Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21°70S×179°55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21°76S×179°70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:41.7±1.4,**22°1S**±0°2×**179°3W**±0°2,**h600**km,**n22,**
σ1§55/24,**mb4.4**/9,**1C,South of Fiji Islands**

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*IDC **01** 00:14:45.2±0.9,21°.64N×121°.10E,h0km,mb4.0/9, mbtmp4.0/9,MS3.0/5,Error ellipse: s-maj=38.0km s-min=17.9km az=65.0*
*NEIC **01** 00:14:46.9±1.2,21°.50N±0°.07×120°.50E±0°.08,h10km±1km, mb4.2/12,Error ellipse: s-maj=14.2km s-min=10.5km az=124.0*
*TAP **01** 00:14:49.4,21°.59N×120°.66E,h55km,ML4.2,D*
ISC 01 00:14:47.6±1.1,21°.50N±0°.04×120°.56E±0°.03,h18km±4km, n161,σ1§21/240,mb4.0/14,MS3.2/4,3C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK1	**Hengchun**	**0.50**	**27**	*i* P	**Pn**	**00 15 00.0**	**+0.2**
TWK1				*i* S	**Sn**	**00 15 07.7**	**-0.3**
TWKBT	**Hengchun**	**0.50**	**28⇑**	*i* P	**Pn**	**00 15 00.0**	**+0.2**
TWKBT				*i* S	**Sn**	**00 15 07.7**	**-0.3**
TSEB	**Hengchuen, Pin**	**0.51**	**39**	*e* P	**Pg**	**00 14 57.0**	**-0.9**
TSEB				*e* S	**Sg**	**00 15 05.0**	**+0.2**
HEN	**Hengchun**	**0.53**	**18**	*i* P	**Pn**	**00 15 00.7**	**+0.4**
HEN				*i* S	**Sn**	**00 15 09.2**	**+0.4**
SMST	**Manzhou Townsh**	**0.58**	**27**	*i* P	**Pn**	**00 15 00.9**	**-0.1**
SMST				S	**Sn**	**00 15 09.9**	**-0.1**
SLIU	**Shizi**	**0.75**	**17⇑**	*i* P	**Pn**	**00 15 03.3**	**0.0**
SLIU				*i* S	**Sg**	**00 15 12.9**	**+0.7**
TWP	**Hsiaoliuchiu**	**0.86**	**348**	P	**Pn**	**00 15 06.7**	**+1.9**
TWP				S	**Sn**	**00 15 20.0**	**+3.1**
SCZT	**Fangliau**	**0.87**	**4⇑**	*i* P	**Pg**	**00 15 04.9**	**+0.3**
SCZT				S	**Sb**	**00 15 15.8**	**+0.3**
TAWH	**Dawu Township**	**0.89**	**20**	*i* P	**Pn**	**00 15 05.3**	**+0.1**
TAWH				*i* S	**Sb**	**00 15 16.4**	**+0.4**
TAW	**Tawu**	**0.91**	**20**	*i* P	**Pg**	**00 15 05.6**	**+0.2**
TAW				*i* S	**Sb**	**00 15 16.7**	**+0.1**
EAST	**Anshuo**	**0.92**	**17**	*i* P	**Pg**	**00 15 05.7**	**+0.1**
EAST				S	**Sb**	**00 15 17.0**	**+0.1**
LYUB	**Lan-yu**	**1.08**	**62**	P	**Pb**	**00 15 06.2**	**-1.5**
LYUB				*i* S	**Sb**	**00 15 19.2**	**-2.2**
MASBT	**Mashibuluo**	**1.11**	**4**	*i* P	**Pb**	**00 15 08.0**	**-0.3**
MASBT				S	**Sb**	**00 15 21.2**	**-1.1**
ECL	**Taimali**	**1.15**	**19**	P	**Pn**	**00 15 08.6**	**-0.2**
ECL				S	**Sb**	**00 15 21.7**	**-1.9**
WSSB	**Gushan**	**1.17**	**346**	P	**Pn**	**00 15 09.1**	**0.0**
WSSB				S	**Sb**	**00 15 24.2**	**+0.1**
TSMG	**Majia**	**1.20**	**4**	P	**Pn**	**00 15 09.4**	**-0.1**
TSMG				*i* S	**Sb**	**00 15 23.8**	**-1.3**
SGLT	**Jiouru**	**1.22**	**357**	*i* P	**Pb**	**00 15 10.9**	**+0.7**
SGLT				*e* S	**Sg**	**00 15 27.3**	**+0.1**
SSD	**Sandimen**	**1.24**	**3**	*i* P	**Pn**	**00 15 09.9**	**-0.1**
SSD				S	**Sb**	**00 15 24.4**	**-1.8**
SNJT	**Kaohsiung City**	**1.26**	**351**	*e* S	**Sb**	**00 15 26.5**	**-0.3**
TWM1	**Shoushan**	**1.32**	**355**	P	**Pb**	**00 15 11.9**	**0.0**
TWM1				*e* S	**Sg**	**00 15 29.9**	**-0.6**
SCST	**Cishan**	**1.38**	**358**	*e* P	**Pn**	**00 15 12.3**	**+0.3**
SCST				*e* S	**Sn**	**00 15 29.9**	**+0.1**
TWG	**Pinlang**	**1.40**	**20**		**Pb**	**00 15 13.0**	**-0.2**
TWG				Sn	**Sn**	**00 15 29.1**	**-1.1**
TWG	**Pinlang**	**1.40**	**20**	*e* P	**Pn**	**00 15 12.8**	**+0.6**
TWG				*e* S	**Sn**	**00 15 28.4**	**-1.8**
TWGBT	**Beinan**	**1.40**	**20**	P	**Pn**	**00 15 12.9**	**+0.7**
LDUT	**Ludao**	**1.44**	**36**	*e* P	**Pn**	**00 15 11.2**	**-1.6**
LDUT				*e* S	**Sn**	**00 15 29.5**	**-1.8**
SLGT	**Liugui**	**1.49**	**3**	*e* P	**Pn**	**00 15 12.8**	**-0.7**
SLGT				*e* S	**Sn**	**00 15 30.4**	**-2.0**
LONT	**Longtian**	**1.50**	**21**	*e* P	**Pn**	**00 15 13.5**	**-0.1**
LONT				*e* S	**Sn**	**00 15 31.7**	**-1.0**
TAI1	**Yung-k'ang**	**1.56**	**349**	*e* S	**Sn**	**00 15 34.0**	**-0.2**
SGST	**Jiashian**	**1.57**	**1**	P	**Pn**	**00 15 13.9**	**-0.8**
SGST				*e* S	**Sn**	**00 15 32.5**	**-2.1**
CHN3	**Shinhua**	**1.58**	**354**	*e* S	**Sn**	**00 15 35.0**	**+0.4**
EDH	**Donghe**	**1.62**	**25**	*e* P	**Pn**	**00 15 15.0**	**-0.3**
STYH	**Taoyuan**	**1.67**	**7**	P	**Pn**	**00 15 16.4**	**+0.4**
STYH				S	**Sn**	**00 15 35.6**	**-1.4**
CHN1	**Nanshi**	**1.68**	**359**	*i* P	**Pn**	**00 15 16.1**	**0.0**
CHN1				S	**Sn**	**00 15 35.5**	**-1.6**
TSCK	**Chigu Township**	**1.70**	**345**	*e* P	**Pn**	**00 15 15.8**	**-0.5**
TSCK				*e* S	**Sn**	**00 15 35.2**	**-2.3**
SCLT	**Jiali**	**1.70**	**349**	*e* S	**Sn**	**00 15 36.7**	**-1.0**
ECS	**Chishang**	**1.70**	**21**	*e* P	**Pn**	**00 15 16.6**	**+0.2**
ECS				*e* S	**Sn**	**00 15 36.8**	**-0.9**
SNST	**Tainan City**	**1.71**	**358**	*e* P	**Pn**	**00 15 16.5**	**0.0**
SNST				*e* S	**Sn**	**00 15 36.5**	**-1.4**
ELDTW	**Lidau**	**1.73**	**14**	P	**Pn**	**00 15 17.4**	**+0.5**
ELDTW				S	**Sn**	**00 15 36.9**	**-1.8**
EHD	**Haiduan**	**1.75**	**20**	*e* P	**Pn**	**00 15 18.3**	**+1.2**
EHD				*e* S	**Sn**	**00 15 37.8**	**-1.1**
TWK	**Hsinying**	**1.76**	**358**	*e* P	**Pn**	**00 15 17.0**	**-0.2**
TWK				*e* S	**Sn**	**00 15 37.5**	**-1.8**
TPUB	**Ta-pu**	**1.79**	**2**		**Pn**	**00 15 17.5**	**-0.2**
TPUB				Sn	**Sn**	**00 15 38.5**	**-1.5**
TPUB	**Ta-pu**	**1.79**	**2**	P	**Pn**	**00 15 17.1**	**-0.6**
TPUB	**Ta-pu**	**1.79**	**2**	*e* P	**Pn**	**00 15 17.3**	**-0.4**
TPUB				*e* S	**Sn**	**00 15 37.5**	**-2.5**
FULB	**Fuli**	**1.82**	**22**	*e* P	**Pn**	**00 15 19.2**	**+1.1**
FULB				*e* S	**Sn**	**00 15 40.4**	**-0.4**
CHN4	**Tsaushan**	**1.84**	**1**	P	**Pn**	**00 15 18.2**	**-0.2**
CHN4				S	**Sn**	**00 15 39.1**	**-2.1**
CHKH	**Chenggong**	**1.85**	**25**	*e* P	**Pn**	**00 15 18.7**	**+0.3**
CHKH				*e* S	**Sn**	**00 15 39.8**	**-1.7**
CHN8	**Yiju**	**1.86**	**350**	*e* S	**Sn**	**00 15 40.2**	**-1.5**
ICHU	**Yijhu**	**1.87**	**352**	*e* P	**Pn**	**00 15 18.1**	**-0.6**
ICHU				*e* S	**Sn**	**00 15 40.6**	**-1.3**
WCKO	**Fanlu**	**1.93**	**1**	*e* P	**Pn**	**00 15 19.2**	**-0.3**
WCKO				*e* S	**Sn**	**00 15 41.4**	**-2.0**
EYUL	**Yuli**	**1.97**	**21**	*e* P	**Pn**	**00 15 20.4**	**+0.3**
ECBN	**Changbin**	**1.99**	**24**	*e* P	**Pn**	**00 15 20.4**	**+0.1**
ECBN				*e* S	**Sn**	**00 15 44.4**	**-0.4**
CHY	**Chiayi**	**1.99**	**356**	*e* P	**Pn**	**00 15 19.7**	**-0.7**
CHY				*e* S	**Sn**	**00 15 42.3**	**-2.6**
VCHM	**Qimei**	**2.00**	**329**	*e* P	**Pn**	**00 15 19.3**	**-1.1**
VCHM				*e* S	**Sn**	**00 15 42.1**	**-2.9**
YULB	**Yu-li**	**2.00**	**20**	Pn	**Pn**	**00 15 21.9**	**+1.3**
ALS	**Alishan**	**2.01**	**6**	P	**Pn**	**00 15 21.2**	**+0.2**
ALS				*e* S	**Sn**	**00 15 44.1**	**-1.7**
CHN2	**Minshiung**	**2.02**	**358**	*e* S	**Sn**	**00 15 44.0**	**-1.7**
WSL	**Shuilin Townsh**	**2.04**	**351**	*e* P	**Pn**	**00 15 22.0**	**+1.1**
WSL				*e* S	**Sn**	**00 15 44.4**	**-1.5**
CHN5	**Tsauling**	**2.09**	**3**	*e* P	**Pn**	**00 15 21.7**	**-0.1**
CHN5				S	**Sn**	**00 15 46.3**	**-1.1**
EHYH	**Wanrong**	**2.11**	**20**	*e* P	**Pn**	**00 15 22.4**	**+0.4**
EHYH				*e* S	**Sn**	**00 15 46.0**	**-1.9**
EHY	**Hungye**	**2.12**	**19**	*e* P	**Pn**	**00 15 22.2**	**+0.1**
HGSD	**Ruisui**	**2.14**	**22**	*e* P	**Pn**	**00 15 23.3**	**+0.9**
HGSD				*e* S	**Sn**	**00 15 48.6**	**+0.1**
WSF	**Szhu**	**2.15**	**352**	*e* S	**Sn**	**00 15 46.5**	**-2.2**
WGK	**Gukeng**	**2.18**	**0**	*e* P	**Pn**	**00 15 22.8**	**-0.1**
WGK				*e* S	**Sn**	**00 15 47.8**	**-1.6**
WDLH	**Douliu**	**2.18**	**360**	P	**Pn**	**00 15 22.8**	**-0.1**
WDLH				S	**Sn**	**00 15 47.9**	**-1.5**
WTK	**Tuku**	**2.18**	**356**	*e* P	**Pn**	**00 15 22.2**	**-0.8**
WTK				*e* S	**Sn**	**00 15 46.6**	**-3.0**
PHUB	**P'eng-hu**	**2.20**	**336**	P	**Pn**	**00 15 22.6**	**-0.6**
PHUB				*e* S	**Sn**	**00 15 46.8**	**-3.2**
WHYT	**Xinyi Township**	**2.20**	**7**	P	**Pn**	**00 15 23.5**	**+0.2**
WHYT				*e* S	**Sn**	**00 15 48.5**	**-1.6**
PNG	**Penghu**	**2.26**	**336**	P	**Pn**	**00 15 24.0**	**0.0**
PNG				*e* S	**Sn**	**00 15 48.2**	**-3.2**
EGFH	**Guangfu**	**2.30**	**20**	*e* P	**Pn**	**00 15 26.2**	**+1.5**
SSLB	**Suanglung**	**2.31**	**9**		**Pn**	**00 15 24.7**	**0.0**
SSLB	**Suanglung**	**2.31**	**9**	P	**Pn**	**00 15 25.0**	**+0.3**
SSLB	**Suanglung**	**2.31**	**9**	*e* P	**Pn**	**00 15 24.7**	**0.0**
SSLB				*e* S	**Sn**	**00 15 50.2**	**-2.4**
WJS	**Zhushan**	**2.32**	**4**	*e* P	**Pn**	**00 15 24.4**	**-0.4**
WJS				*e* S	**Sn**	**00 15 51.6**	**-1.3**
WARBT	**Fenglin Townsh**	**2.34**	**19**	*e* P	**Pn**	**00 15 26.3**	**+1.2**
WARBT				*e* S	**Sn**	**00 15 50.4**	**-3.0**
WTCT	**Ta-ch'eng**	**2.37**	**354**	*e* P	**Pn**	**00 15 27.0**	**+1.5**
WNT	**Mingjian**	**2.37**	**3**	*e* P	**Pn**	**00 15 25.3**	**-0.3**
WNT				*e* S	**Sn**	**00 15 52.3**	**-1.9**
SMLT	**Sun Moon Lake**	**2.39**	**8**	P	**Pn**	**00 15 26.3**	**+0.3**
SMLT				*e* S	**Sn**	**00 15 53.4**	**-1.5**
ESL	**Shilin**	**2.44**	**19**	*e* P	**Pn**	**00 15 28.1**	**+1.6**
ESL				*e* S	**Sn**	**00 15 53.0**	**-3.0**
SHUL	**Shoufeng**	**2.46**	**22**	*e* P	**Pn**	**00 15 28.2**	**+1.4**
SHUL				*e* S	**Sn**	**00 15 55.1**	**-1.3**
OWD	**Renai**	**2.51**	**13**	P	**Pn**	**00 15 28.3**	**+0.7**
OWD				*e* S	**Sn**	**00 15 55.7**	**-2.2**
WUSB	**Renai**	**2.53**	**12**	P	**Pn**	**00 15 28.3**	**+0.4**
WUSB				*e* S	**Sn**	**00 15 56.8**	**-1.6**
WCS	**Beigang Elemen**	**2.57**	**7**	P	**Pn**	**00 15 28.3**	**0.0**
WCS				*e* S	**Sn**	**00 15 56.7**	**-2.4**
WCHH	**Zhanghua**	**2.57**	**0**	*e* P	**Pn**	**00 15 28.2**	**-0.1**
WCHH				*e* S	**Sn**	**00 15 58.2**	**-0.9**
ETM	**Tongmen**	**2.60**	**19**	*e* P	**Pn**	**00 15 29.2**	**+0.4**
LXIB	**Xiulin Townshi**	**2.63**	**17**	*e* P	**Pn**	**00 15 30.2**	**+0.9**
LXIB				*e* S	**Sn**	**00 15 59.1**	**-1.8**
WHF	**Hehuan Shan**	**2.71**	**14**	P	**Pn**	**00 15 31.5**	**+0.8**
WHF				*e* S	**Sn**	**00 16 01.2**	**-2.1**
TWD	**Chiawan**	**2.74**	**20**	*e* P	**Pn**	**00 15 31.1**	**+0.4**
WHP	**Taichung City**	**2.79**	**7**	P	**Pn**	**00 15 31.9**	**+0.5**
WHP				*e* S	**Sn**	**00 16 03.6**	**-1.0**
TDCB	**Techi**	**2.79**	**11**	P	**Pn**	**00 15 32.0**	**+0.4**
TDCB				*e* S	**Sn**	**00 16 03.8**	**-1.1**
TWT	**Tachien**	**2.80**	**12**	*e* P	**Pn**	**00 15 32.3**	**+0.7**
TWT				*e* S	**Sn**	**00 16 04.3**	**-0.8**
FUSS	**Fushou**	**2.81**	**13**	*e* P	**Pn**	**00 15 32.4**	**+0.6**
FUSS				*e* S	**Sn**	**00 16 04.5**	**-0.8**
ETLH	**Xiulin Townshi**	**2.83**	**17**	*e* P	**Pn**	**00 15 33.4**	**+1.5**
NACB	**Ninganchiao**	**2.83**	**20**	Pn	**Pn**	**00 15 32.6**	**+0.7**
NACB	**Ninganchiao**	**2.83**	**20**	P	**Pn**	**00 15 33.7**	**+1.8**
NACB	**Ninganchiao**	**2.83**	**20**	*e* P	**Pn**	**00 15 32.5**	**+0.6**
WDJ	**Dajia District**	**2.83**	**2**	*e* S	**Sn**	**00 16 05.0**	**-0.7**
TWQ1	**Liyutan**	**2.84**	**4**	*e* P	**Pn**	**00 15 32.2**	**+0.1**
TWQ1				*e* S	**Sn**	**00 16 04.4**	**-1.5**
NSY	**Sanyi**	**2.91**	**4**	*e* P	**Pn**	**00 15 33.6**	**+0.6**
NSY				*e* S	**Sn**	**00 16 06.2**	**-1.3**
NNSB	**Datong**	**3.01**	**14**	*e* P	**Pn**	**00 15 35.3**	**+0.8**
NNSB				*e* S	**Sn**	**00 16 09.3**	**-0.9**
NNS	**Nan Shan**	**3.02**	**14**	*e* P	**Pn**	**00 15 35.8**	**+1.2**
NNS				*e* S	**Sn**	**00 16 09.8**	**-0.6**
NMLH	**Miaoli**	**3.03**	**4**	*e* P	**Pn**	**00 15 35.0**	**+0.3**
NMLH				*e* S	**Sn**	**00 16 10.2**	**-0.3**
EOS4	**EOS4**	**3.07**	**32**	*e* P	**Pn**	**00 15 36.3**	**+1.4**
ENA	**Nanau**	**3.11**	**20**	*e* P	**Pn**	**00 15 36.2**	**+0.4**
NSTT	**Nanjuang**	**3.14**	**7**	*e* P	**Pn**	**00 15 35.8**	**-0.4**
NSTT				*e* S	**Sn**	**00 16 11.3**	**-2.0**
LATG	**Datong**	**3.15**	**16**	*e* P	**Pn**	**00 15 37.3**	**+0.8**
NFF	**Wufeng Townshi**	**3.16**	**9**	*e* P	**Pn**	**00 15 36.1**	**-0.4**
NFF				*e* S	**Sn**	**00 16 10.6**	**-3.2**
EOS3	**EOS3**	**3.21**	**30**	*e* P	**Pn**	**00 15 38.2**	**+1.2**
YHNB	**Yeheng**	**3.24**	**13**		**Pn**	**00 15 38.9**	**+1.3**
YHNB	**Yeheng**	**3.24**	**13**	P	**Pn**	**00 15 38.8**	**+1.1**
YHNB	**Yeheng**	**3.24**	**13**	*e* P	**Pn**	**00 15 38.0**	**+0.3**
YHNB				*e* S	**Sn**	**00 16 15.4**	**-0.5**
NSK	**Sanguang**	**3.25**	**13**	*e* P	**Pn**	**00 15 38.8**	**+1.1**
NSK				*e* S	**Sn**	**00 16 15.7**	**-0.2**
ENTT	**Nioudou**	**3.26**	**16**	*e* P	**Pn**	**00 15 39.0**	**+1.1**
ENTT				*e* S	**Sn**	**00 16 16.3**	**+0.1**
EOS2	**EOS2**	**3.29**	**28**	*e* P	**Pn**	**00 15 38.8**	**+0.7**
KSHI	**Guanxi Townshi**	**3.31**	**10**	*e* P	**Pn**	**00 15 39.1**	**+0.6**
KSHI				*e* S	**Sn**	**00 16 15.8**	**-1.6**
TWC	**Suao**	**3.31**	**21**	*e* P	**Pn**	**00 15 39.1**	**+0.5**
TWE	**Neicheng**	**3.37**	**17**	*e* P	**Pn**	**00 15 41.2**	**+2.0**
NWLT	**Wulai**	**3.38**	**15**	*e* P	**Pn**	**00 15 41.6**	**+2.2**
NWLT				*e* S	**Sn**	**00 16 18.1**	**-0.9**
FUSB	**Fushanzhiwuyua**	**3.38**	**16**	*e* P	**Pn**	**00 15 40.5**	**+1.0**
KNM	**Kinmen**	**3.50**	**326**	*e* P	**Pn**	**00 15 41.7**	**+0.6**
ZPLA	**Ao Xicun**	**3.54**	**314**	*e* P	**Pn**	**00 15 43.8**	**+2.0**
TATO	**Taipei**	**3.56**	**14**	Pn	**Pn**	**00 15 43.6**	**+1.6**
KNMB	**Chin-men Tao**	**3.56**	**326**	Pn	**Pn**	**00 15 41.5**	**-0.5**
KNMB	**Chin-men Tao**	**3.56**	**326**	*e* P	**Pn**	**00 15 41.7**	**-0.3**
VWUC	**VWUC**	**3.62**	**344**	*e* P	**Pn**	**00 15 42.3**	**-0.4**
TIPB	**Shuangxi**	**3.65**	**18**	*e* P	**Pn**	**00 15 44.6**	**+1.4**
PTMZ	**Houxiangcun**	**3.76**	**340**	*e* P	**Pn**	**00 15 44.5**	**-0.2**
SXI1	**Grass Mountain**	**3.78**	**18**	*e* P	**Pn**	**00 15 48.2**	**+3.2**
MATB	**Ma-tsu**	**4.66**	**353**	*e* P	**Pn**	**00 15 56.1**	**-1.1**
MHZQ	**Yeshan**	**4.79**	**343**	*e* P	**Pn**	**00 15 58.1**	**-0.7**
XPSS	**Dashiqiu**	**5.42**	**357**	*e* P	**Pn**	**00 16 05.8**	**-1.6**
SXFK	**Yanhouchang**	**5.56**	**332**	*e* P	**Pn**	**00 16 09.2**	**-0.2**
HKPS	**Hong Kong Po S**	**6.01**	**279**	Pn	**Pn**	**00 16 15.5**	**-0.2**
KSRS	**Korea Array**	**17.13**	**20**	LR	LR	00 25 56.8	
	comp=Z,25nm,20.4s,baz=170,slow=40						
CMAR	**Chiang Mai Arr**	**20.54**	**265**	P	Pn	00 19 32.0	+4.5
	1.1nm,0.3s,baz=68,slow=8.1,SNR=6.3						
CMAR				LR	LR	00 28 06.6	
	comp=Z,31nm,18.5s,baz=110,slow=38						
	1.1nm,0.3s						
LUWI	**Luwuk**	**22.51**	**174**	P	**P**	**00 19 46.8**	**+0.4**
KLR	**Kul'dur**	**29.07**	**15**	LR	LR	00 34 00.6	
	comp=Z,69nm,19.9s,baz=177,slow=40						
MK31	**Makanchi Array**	**39.91**	**318**	P	**P**	**00 22 20.0**	**-0.5**
MK31				IAmb	IAmb	00 22 24.8	
	comp=Z,6.1nm,1.4s						
MKAR	**Makanchi Array**	**39.91**	**318**	P	**P**	**00 22 21.9**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=115,slow=8.7,SNR=4.0						
	comp=Z,0.8nm,0.8s						
YAK	**Yakutsk**	**40.99**	**7**	LR	LR	00 41 21.9	
	comp=Z,40nm,20.9s,baz=228,slow=39						
ZAA0	**Zalesovo Array**	**42.21**	**329**	P	**P**	**00 22 39.1**	**-0.2**
ZAA0				IAmb	IAmb	00 22 41.5	
	comp=Z,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**42.21**	**329**	P	**P**	**00 22 39.3**	**0.0**
ZALV	**Zalesovo Beam**	**42.21**	**329**	P	**P**	**00 22 40.4**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=108,slow=9.5,SNR=9.8						
	comp=Z,1.6nm,0.6s						
WRA	**Warramunga Arr**	**43.34**	**161**	P	**P**	**00 22 48.5**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=344,slow=9.0,SNR=20						
	comp=Z,1.9nm,0.6s						
WR0	**Warramunga Arr**	**43.41**	**161**	P	**P**	**00 22 48.5**	**-0.9**
WR0				IAmb	IAmb	00 22 50.5	
	comp=Z,4.9nm,1.0s						
KURBB	**Kurchatov Arra**	**43.82**	**322**	P	**P**	**00 22 53.9**	**+1.5**
	comp=Z,1.8nm,0.2s,baz=112,slow=7.7,SNR=2.5						
	comp=Z,1.8nm,0.2s						
AS31	**Alice Springs**	**46.74**	**163**	P	**P**	**00 23 15.4**	**-0.4**
ASAR	**Alice Springs**	**46.74**	**163**	P	**P**	**00 23 16.1**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=342,slow=6.9,SNR=7.2						
	comp=Z,0.4nm,0.3s						
BVAR	**Borovoye Array**	**49.41**	**322**	P	**P**	**00 23 38.1**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=109,slow=8.1,SNR=4.9						
	comp=Z,0.5nm,0.5s						
BRVK	**Borovoye**	**49.48**	**322**	P	**P**	**00 23 36.8**	**+0.1**
BRVK				IAmb	IAmb	00 23 42.9	
	comp=Z,1.4nm,0.8s						
NRIK	**Noril'sk**	**51.84**	**346**	P	**P**	**00 23 55.1**	**+0.8**
	comp=Z,3.8nm,0.6s,baz=132,slow=7.7,SNR=6.8						
	comp=Z,3.8nm,0.6s						
ABKAR	**Akbulak array**	**54.92**	**316**	P	**P**	**00 24 17.6**	**+0.4**
ABKAR	**Akbulak array**	**54.92**	**316**	P	**P**	**00 24 17.0**	**-0.2**
ABKAR				IAmb	IAmb	00 24 19.6	
	comp=Z,1.5nm,1.1s						
STKA	**Stephens Creek**	**56.77**	**159**	P	**P**	**00 24 30.3**	**-0.3**
ILAR	**Eielson Array**	**71.86**	**27**	P	**P**	**00 26 08.2**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=278,slow=5.7,SNR=2.8						
	comp=Z,0.7nm,0.7s						
BMAR	**Burnt Mountain**	**72.20**	**24**	P	**P**	**00 26 12.2**	**+0.9**
SCM	**Sheep Creek Mo**	**72.28**	**30**	P	**P**	**00 26 11.4**	**-0.4**
F26K	**Sheenjek River**	**72.30**	**24**	P	**P**	**00 26 12.2**	**+0.4**
F26K				IAmb	IAmb	00 26 13.8	
	comp=Z,2.5nm,0.6s						
I26K	**Coal Creek Min**	**73.27**	**26**	P	**P**	**00 26 17.3**	**-0.2**
I26K				IAmb	IAmb	00 26 35.7	
	comp=Z,4.4nm,1.1s						
E28M	**Babbage River**	**73.73**	**22**	P	**P**	**00 26 20.8**	**+0.6**
BCAR	**Beaver Creek A**	**74.46**	**28**	P	**P**	**00 26 25.7**	**+1.1**
YKA	**Yellowknife Ar**	**85.66**	**22**	LR	LR	01 05 23.8	
	comp=Z,8.4nm,21.8s,baz=306,slow=36						

*AEIC **01** 00:21:16.0±1.4,69°.50N±0°.02×144°.20W±0°.05,h5km±4km, ML3.4,mb3.5/2(NEIC),ML3.4/90(NEIC),Error ellipse: s-maj=3.3km s-min=2.4km az=174.0*
*NEIC **01** 00:21:18.5±0.7,69°.54N±0°.02×144°.13W±0°.07,h10km±1km, Error ellipse: s-maj=5.0km s-min=3.4km az=323.0*
ISC 01 00:21:18.0±0.7,69°.53N±0°.03×144°.14W±0°.02,h10km, n164,σ0§94/164,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.18**	**58**	Pg	**Pg**	**00 21 21.4**	**-0.4**
C27K					**Sg**	**00 21 24.5**	**+0.1**
C27K				IAML		00 21 24.9	
	comp=E,9μm,0.3s						
C27K	**Jago River**	**0.18**	**58**	P	**Pg**	**00 21 21.4**	**-0.4**
	baz=233						
C27K				S	**Sg**	**00 21 24.6**	**+0.1**
	baz=233						
C26K	**Camden Bay**	**0.47**	**326**		**Pg**	**00 21 27.6**	**+0.5**
C26K					**Sb**	**00 21 35.4**	**+0.1**
C26K	**Camden Bay**	**0.47**	**326**	P	**Pg**	**00 21 27.0**	**-0.1**
	baz=150						
C26K				S	**Sb**	**00 21 35.5**	**+0.1**
	baz=150						
D25K	**Kavik River**	**0.82**	**256**		**Pg**	**00 21 31.8**	**-1.9**
D25K					**Sg**	**00 21 44.0**	**-0.3**
D25K	**Kavik River**	**0.82**	**256**	P	**Pg**	**00 21 31.5**	**-2.2**
	baz=76						
D25K				S	**Sg**	**00 21 43.5**	**-0.8**
	baz=76						
D27M	**Malcolm River**	**1.16**	**103**		**Pb**	**00 21 38.2**	**-2.0**
D27M				IAML		00 22 02.3	
	comp=N,784nm,0.5s						
D27M				IAML		00 22 02.9	
	comp=E,705nm,0.5s						
D27M	**Malcolm River**	**1.16**	**103**		**Sg**	**00 21 56.0**	**+0.6**
D27M	**Malcolm River**	**1.16**	**103**	P	**Pb**	**00 21 38.7**	**-1.5**
	baz=284						
D27M				S	**Sn**	**00 21 56.3**	**0.0**
	baz=284						
E25K	**Arctic Village**	**1.51**	**201**		**Pn**	**00 21 45.0**	**-0.1**
E25K	**Arctic Village**	**1.51**	**201**		**Sn**	**00 22 05.7**	**+0.9**
E25K	**Arctic Village**	**1.51**	**201**	IAML		00 22 07.1	
	comp=N,547nm,0.9s						
E25K				IAML		00 22 08.5	
	comp=E,599nm,1.2s						
E25K	**Arctic Village**	**1.51**	**201**	P	**Pn**	**00 21 45.4**	**+0.3**
	baz=19						
E25K				S	**Sn**	**00 22 05.7**	**+0.9**
	baz=19						
C24K	**Franklin Bluff**	**1.61**	**279**		**Pn**	**00 21 46.9**	**+0.6**
C24K				IAML		00 22 10.7	
	comp=N,646nm,0.4s						
C24K				IAML		00 22 26.0	
	comp=E,576nm,0.8s						
C24K	**Franklin Bluff**	**1.61**	**279**		**Sn**	**00 22 07.6**	**+0.5**
C24K	**Franklin Bluff**	**1.61**	**279**	P	**Pn**	**00 21 47.2**	**+0.9**
	baz=96						
C24K				S	**Sb**	**00 22 08.7**	**+0.7**
	baz=96						
E27K	**Coleen River**	**1.64**	**144**	Pn	**Pn**	**00 21 47.0**	**+0.1**
E27K	**Coleen River**	**1.64**	**144**		**Sn**	**00 22 08.7**	**+0.7**
E27K	**Coleen River**	**1.64**	**144**	IAML		00 22 10.6	
	comp=E,445nm,0.5s						
E27K				IAML		00 22 12.1	
	comp=N,392nm,0.6s						
E27K	**Coleen River**	**1.64**	**144**	P	**Pn**	**00 21 47.6**	**+0.7**
	baz=325						
E27K				S	**Sb**	**00 22 09.4**	**+0.5**
	baz=325						
D24K	**Happy Valley**	**1.70**	**259**		**Pn**	**00 21 48.3**	**+0.6**
D24K	**Happy Valley**	**1.70**	**259**	P	**Pb**	**00 21 49.5**	**+0.2**
	baz=76						
D24K				S	**Sg**	**00 22 13.0**	**+0.4**
	baz=76						
F26K	**Sheenjek River**	**1.85**	**180**		**Pn**	**00 21 50.8**	**+1.1**
F26K				IAML		00 22 16.4	
	comp=E,345nm,0.7s						
F26K				IAML		00 22 19.8	

I23K	**Minto, Yukon-K**	**4.84 207**		**Pn**	**00 22 31.4 +0.6**
I23K	**Minto, Yukon-K**	**4.84 207**	IAML		00 23 58.0
	comp=E,32nm,1.1s				
I23K			IAML		00 24 09.2
	comp=N,35nm,1.2s				
I23K	**Minto, Yukon-K**	**4.84 207**	P	**Pn**	**00 22 31.8 +1.0**
	baz=22				
IL31		**4.90 194**		**Pn**	**00 22 32.6 +1.0**
ILAR	**Eielson Array**	**4.90 194**		**Pn**	**00 22 32.2 +0.6**
EGAK	**Eagle**	**4.92 165**	P	**Pn**	**00 22 32.9 +1.1**
	baz=347				
J25K	**Salcha River,**	**4.97 186**	P	**Pn**	**00 22 33.6 +1.1**
	baz=4.8				
F20K	**Avaraart Lake**	**4.97 245**		**Pn**	**00 22 33.4 +0.9**
F20K	**Avaraart Lake**	**4.97 245**	IAML		00 24 01.0
	comp=E,23nm,1.4s				
F20K			IAML		00 24 10.2
	comp=N,23nm,1.9s				
J26L	**Joseph Creek**	**5.06 177**		**Pn**	**00 22 34.8 +0.9**
J26L			IAML		00 23 36.4
	comp=N,25nm,0.5s				
J26L			IAML		00 24 03.4
	comp=E,29nm,0.6s				
CCB	**Clear Creek Bu**	**5.11 198**		**Pn**	**00 22 34.6 +0.1**
CCB	**Clear Creek Bu**	**5.11 198**	IAML		00 23 37.4
	comp=N,20nm,0.8s				
CCB			IAML		00 24 05.4
	comp=E,29nm,0.8s				
D19K	**Kuna River**	**5.13 265**		**Pn**	**00 22 35.8 +1.0**
MLY	**Manley**	**5.19 213**		**Pn**	**00 22 36.1 +0.5**
MLY	**Manley**	**5.19 213**	IAML		00 24 12.4
	comp=N,19nm,1.3s				
E19K	**Redstone River**	**5.24 253**	Pn	**Pn**	**00 22 37.0 +0.7**
E19K			IAML		00 24 16.2
	comp=E,24nm,1.4s				
I30M	**Mount Dempster**	**5.26 142**		**Pn**	**00 22 37.2 +0.5**
I30M	**Mount Dempster**	**5.26 142**	IAML		00 24 05.9
	comp=N,22nm,0.5s				
H31M	**Peel River**	**5.29 130**		**Pn**	**00 22 37.2 +0.3**
H31M	**Peel River**	**5.29 130**	IAML		00 24 11.9
	comp=E,21nm,0.9s				
H31M			IAML		00 24 16.9
	comp=N,28nm,1.6s				
WRH	**Wood River Hil**	**5.31 199**		**Pn**	**00 22 38.2 +0.9**
WRH	**Wood River Hil**	**5.31 199**	IAML		00 23 40.0
	comp=N,24nm,0.9s				
WRH			IAML		00 24 14.5
	comp=E,29nm,1.3s				
NEA2	**Nenana**	**5.32 204**		**Pn**	**00 22 38.1 +0.7**
NEA2	**Nenana**	**5.32 204**	IAML		00 23 41.2
	comp=N,17nm,0.4s				
NEA2			IAML		00 24 13.1
	comp=E,18nm,1.3s				
C19K	**Lookout Ridge**	**5.49 273**		**Pn**	**00 22 40.8 +1.0**
SCRK	**Sand Creek**	**5.58 179**		**Pn**	**00 22 42.5 +1.5**
K27K	**Chicken**	**5.59 171**		**Pn**	**00 22 42.0 +1.0**
F19K	**Shaleruckik Mo**	**5.75 248**		**Pn**	**00 22 44.2 +0.9**
H20K	**Anotleneega Mo**	**5.78 231**		**Pn**	**00 22 43.7 +0.1**
K24K	**Donnelly Dome**	**5.79 187**		**Pn**	**00 22 45.1 +1.3**
DAWY	**Dawson**	**5.80 159**		**Pn**	**00 22 45.3 +1.3**
J30M	**Hart River**	**5.84 145**		**Pn**	**00 22 45.6 +1.1**
A19K	**Wainwright**	**5.88 284**		**Pn**	**00 22 45.8 +0.9**
DOT	**Dot Lake**	**5.91 180**		**Pn**	**00 22 46.5 +0.9**
G19K	**Purcell Mounta**	**5.96 241**	Pn	**Pn**	**00 22 46.4 +0.3**
BPAW	**Bear Paw Mtn.**	**6.08 210**		**Pn**	**00 22 48.4 +0.5**
MCK	**McKinley**	**6.13 200**		**Pn**	**00 22 49.6 +1.1**
C18K	**Utukok River**	**6.16 270**		**Pn**	**00 22 49.4 +0.4**
H19K	**Roundabout Mou**	**6.19 235**		**Pn**	**00 22 49.3 +0.1**
B18K	**Kokolik River**	**6.22 277**		**Pn**	**00 22 50.4 +0.7**
K29M	**Barlow Dome**	**6.29 152**		**Pn**	**00 22 52.1 +1.4**
E18K	**Tukpahlearik C**	**6.41 259**		**Pn**	**00 22 53.1 +0.8**
RND	**Reindeer**	**6.43 199**		**Pn**	**00 22 53.6 +0.9**
CHUM	**Lake Minchumin**	**6.53 214**		**Pn**	**00 22 54.7 +0.8**
L26K	**Log Cabin Wild**	**6.54 177**		**Pn**	**00 22 55.4 +1.2**
L27K	**Beaver Creek,**	**6.57 171**		**Pn**	**00 22 55.8 +1.3**
TRF	**Thorofare Moun**	**6.58 205**		**Pn**	**00 22 55.4 +0.5**
KTH	**Kantishna Hill**	**6.58 207**		**Pn**	**00 22 55.4 +0.6**
G18K	**Tagagawik**	**6.61 243**		**Pn**	**00 22 55.8 +0.7**
PAX	**Paxson**	**6.61 185**		**Pn**	**00 22 55.7 +0.5**
MENT	**Mentasta**	**6.63 178**		**Pn**	**00 22 56.4 +1.1**
J20K	**Nowinta River**	**6.66 221**		**Pn**	**00 22 56.0 +0.2**
L29M	**L29M**	**6.89 157**		**Pn**	**00 23 00.1 +1.2**
CAST	**Castle Rocks**	**6.91 211**		**Pn**	**00 22 59.7 +0.5**
C17K	**DeLong Mountai**	**6.91 270**		**Pn**	**00 22 58.7 -0.5**
RDOG	**Red Dog Mine**	**6.96 267**		**Pn**	**00 22 59.6 -0.2**
E17K	**Hotham Inlet**	**6.99 258**		**Pn**	**00 22 60.0 -0.3**
WAT7	**Susitna Watana**	**6.99 198**		**Pn**	**00 23 00.4 0.0**
C36M	**Paulatuk**	**7.06 82**	Pn	**Pn**	**00 23 00.3 -0.9**
D17K	**Noatak River**	**7.15 264**		**Pn**	**00 23 01.5 -1.0**
J19K	**Poorman**	**7.17 225**		**Pn**	**00 23 02.6 -0.1**
HARP	**HAARP**	**7.18 184**		**Pn**	**00 23 03.8 +0.9**
M26K	**Nabesna, AK**	**7.18 176**		**Pn**	**00 23 04.0 +1.1**
M27K	**Edge Creek, AK**	**7.27 172**	Pn	**Pn**	**00 23 05.6 +1.4**
K20K	**Telida**	**7.36 217**		**Pn**	**00 23 05.5 +0.2**
PPLA	**Purkeypile**	**7.41 210**		**Pn**	**00 23 06.8 +0.7**
G17K	**Kiwalik Mounta**	**7.50 245**		**Pn**	**00 23 07.8 +0.6**
C16K	**Lisburne Hills**	**7.74 271**		**Pn**	**00 23 10.0 -0.4**
J18K	**Innoko River**	**7.88 225**		**Pn**	**00 23 12.1 -0.3**
L20K	**Farewell, AK**	**8.11 214**		**Pn**	**00 23 15.8 +0.2**
TTA	**Tatalina**	**8.16 221**		**Pn**	**00 23 16.9 +0.4**
M2K	**Styx River**	**8.52 210**		**Pn**	**00 23 22.4 +1.2**
J17K	**VABM Dome**	**8.56 231**		**Pn**	**00 23 21.6 -0.2**
L19K	**White Mountain**	**8.57 216**		**Pn**	**00 23 22.2 +0.3**
H16K	**Elim**	**8.57 244**		**Pn**	**00 23 22.2 +0.3**
MMPY	**Sheldon Lake,**	**8.67 137**	Pn	**Pn**	**00 23 24.4 +1.0**
CTGM	**Chitina Glacie**	**8.68 171**		**Pn**	**00 23 25.2 +1.6**
M19K	**Big River Lodg**	**8.73 214**		**Pn**	**00 23 25.5 +1.3**
YUK5	**Granite Creek**	**8.83 160**		**Pn**	**00 23 27.4 +1.8**
M18K	**Stony River**	**9.40 217**		**Pn**	**00 23 33.3 +0.1**
O30N	**Mendenhall**	**9.42 155**	Pn	**Pn**	**00 23 34.6 +1.1**
N18K	**Kilae Creek**	**10.15 215**	Pn	**Pn**	**00 23 45.4 +1.8**
Q32M	**Nakina River**	**11.77 148**	Pn	**Pn**	**00 24 07.9 +2.0**
RES	**Resolute Bay**	**15.54 49**	Pn	**Pn**	**00 24 54.4 -2.3**
RES			IAmb	IAmb	00 25 19.9
	comp=Z,7.8nm,1.4s				
EUNU	**Eureka**	**17.35 30**		**Pn**	**00 25 20.3 +0.5**
EUNU			IAmb	IAmb	00 25 28.7
	comp=Z,1.8nm,0.8s				

*ATH **01** 00:25:43.3,37.°63N×20.°62E,h11km±2km,ML3.4/7,Error ellipse: s-maj=3.6km s-min=1.0km az=43.0*
*THE **01** 00:25:43.2,37.°60N×20.°64E,h6km±1km,ML3.4/11,Error ellipse: s-maj=2.5km s-min=0.8km az=33.0*
ISC 01 00:25:43.2±1.4,37.°62N±0.°05×20.°64E±0.°05,h11km±7km, n34,σ0§62/56,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.14**	**74**	P	**Pg**	**00 25 46.5**	**-0.1**
KRI1				S	**Sg**	**00 25 49.2**	**+0.2**
	31μm,0.4s						
LTHK	**Lithakia**	**0.18**	**60**	P	**Pg**	**00 25 46.8**	**-0.3**
LTHK				S	**Sg**	**00 25 49.1**	**-0.7**
	24μm,0.3s						
LTHK	**Lithakia**	**0.18**	**60**	P	**Pg**	**00 25 46.9**	**-0.2**
LTHK				AML	AML	00 25 50.2	
	comp=E,53433μm,0.2s						
LTHK				S	**Sg**	**00 25 50.6**	**+0.8**
LTHK				AML	AML	00 25 54.2	
	comp=N,42918μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.47**	**13**	P	**Pg**	**00 25 52.2**	**-0.1**
RTZL				S	**Sg**	**00 25 59.7**	**+1.2**
	comp=N,8μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.49**	**355**	P	**Pg**	**00 25 52.8**	**-0.1**
PSDA				S	**Sb**	**00 26 00.7**	**-0.3**
	comp=N,7μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.49**	**355**	P	**Pg**	**00 25 53.1**	**+0.2**
PSDA				S	**Sg**	**00 25 59.9**	**+0.5**
VLS	**Valsamata**	**0.56**	**356**	P	**Pg**	**00 25 53.9**	**-0.2**
VLS				S	**Sb**	**00 26 02.7**	**-0.2**
	comp=N,3μm,0.4s						
VLS	**Valsamata**	**0.56**	**356**	P	**Pg**	**00 25 53.7**	**-0.3**
VLS				S	**Sg**	**00 26 01.1**	**-0.3**
VLS				AML	AML	00 26 03.0	
	comp=N,7583μm,0.4s						
VLS				AML	AML	00 26 07.5	
	comp=E,4523μm,0.4s						
LXR1	**Lixouri, Cepha**	**0.60**	**344**	P	**Pg**	**00 25 55.3**	**+0.4**
LXR1				S	**Sb**	**00 26 05.0**	**+0.9**
	comp=E,13μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.60**	**344**	P	**Pg**	**00 25 55.2**	**+0.3**
LXRA				S	**Sg**	**00 26 01.6**	**-1.2**
LXRA				AML	AML	00 26 15.6	
	comp=E,12071μm,0.4s						
LXRA				AML	AML	00 26 15.8	
	comp=N,19649μm,1.0s						
SMHA	**Samh**	**0.63**	**0**	P	**Pg**	**00 25 54.6**	**-0.8**
SMHA				S	**Sg**	**00 26 03.8**	**+0.1**
SMHA				AML	AML	00 26 07.8	
	comp=E,19116μm,0.4s						
SMHA				AML	AML	00 26 09.6	
	comp=N,20243μm,0.3s						
DMLN	**Damoulianata-K**	**0.65**	**341**	P	**Pg**	**00 25 56.1**	**+0.2**
DMLN				S	**Sb**	**00 26 06.5**	**+0.9**
	comp=N,5μm,0.4s						
DMLN	**Damoulianata-K**	**0.65**	**341**	P	**Pg**	**00 25 56.0**	**+0.2**
DMLN				S	**Sg**	**00 26 04.9**	**+0.5**
RLS	**Riolos of Patr**	**0.78**	**56**	P	**Pg**	**00 25 58.2**	**-0.1**
RLS				S	**Sg**	**00 26 08.9**	**+0.3**
	comp=N,932nm,0.5s						
RLS	**Riolos of Patr**	**0.78**	**56**	P	**Pg**	**00 25 57.9**	**-0.4**
VSK1	**VASILIKIADES**	**0.79**	**355**	P	**Pg**	**00 25 58.1**	**-0.3**
VSK1				S	**Sb**	**00 26 10.1**	**+0.5**
	comp=N,3μm,0.4s						
FSK	**Fiskardo**	**0.84**	**356**	P	**Pg**	**00 25 58.8**	**-0.6**
FSK				S	**Sb**	**00 26 11.8**	**+0.8**
	comp=N,2μm,0.9s						
FSK	**Fiskardo**	**0.84**	**356**	P	**Pg**	**00 25 58.8**	**-0.6**
FSK				S	**Sb**	**00 26 11.2**	**+0.2**
FSK				AML	AML	00 26 16.8	
	comp=N,3239μm,1.3s						
FSK				AML	AML	00 26 18.2	
	comp=E,3793μm,0.5s						
AMT	**Artemida-Makis**	**0.85**	**96**	P	**Pg**	**00 25 59.6**	**0.0**
AMT				S	**Sb**	**00 26 12.0**	**+0.6**
AMT				AML	AML	00 26 21.0	
	comp=E,6638μm,0.4s						
AMT				AML	AML	00 26 22.8	
	comp=N,6858μm,0.6s						
DRO	**Drossia**	**0.91**	**68**	P	**Pg**	**00 26 00.9**	**+0.2**
DRO				S	**Sn**	**00 26 14.8**	**-0.1**
DRO	**Drossia**	**0.91**	**68**	P	**Pg**	**00 26 00.1**	**-0.6**
EVGI	**Lefkada island**	**1.00**	**1**	P	**Pg**	**00 26 01.6**	**-0.8**
EVGI				S	**Sb**	**00 26 17.0**	**+1.4**
	comp=N,1μm,0.4s						
EVGI	**Lefkada island**	**1.00**	**1**	P	**Pg**	**00 26 01.3**	**-1.1**
EVGI				S	**Sb**	**00 26 16.4**	**+0.8**
DRAG	**Dragano-Lefkad**	**1.06**	**357**	P	**Pg**	**00 26 02.3**	**-1.3**
NYDR	**Nydri-Lefkada**	**1.09**	**2**	P	**Pg**	**00 26 03.1**	**-1.1**
ITM	**Ithomi**	**1.11**	**113**	P	**Pg**	**00 26 04.7**	**+0.1**
PYL	**PYLOS**	**1.14**	**129**	P	**Pg**	**00 26 04.1**	**-0.9**
PYL				S	**Sb**	**00 26 20.4**	**+0.8**
PYL				AML	AML	00 26 30.2	
	comp=N,831μm,0.6s						
PYL				AML	AML	00 26 31.3	
	comp=E,1276μm,0.7s						
LKD2	**Lefkada island**	**1.17**	**1**	P	**Pn**	**00 26 05.9**	**+0.5**
TSLK	**Tsoukalades, L**	**1.20**	**0**	P	**Pb**	**00 26 05.4**	**-0.5**
KLV	**Kalavryta, Ach**	**1.27**	**70**	P	**Pn**	**00 26 06.9**	**+0.1**
KLV	**Kalavryta, Ach**	**1.27**	**70**	P	**Pn**	**00 26 06.5**	**-0.3**
EFP	**Efpalio**	**1.28**	**51**	P	**Pn**	**00 26 06.8**	**-0.2**
ANX	**Ano Chora**	**1.40**	**46**	P	**Pn**	**00 26 09.0**	**+0.3**
KALE	**Kalithea**	**1.41**	**57**	P	**Pn**	**00 26 08.7**	**-0.1**

*GCMT **01** 00:27:28.6±0.4,41.°25S±0.°04×87.°72W±0.°03,h20km±1km, MW4.8/79,Moment Tensor Solution. s25,c26; s79,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.39±.19; $M_{\theta\theta}$0.18±.10; $M_{\phi\phi}$2.21±.12; $M_{r\theta}$0.75±.27; $M_{\theta\phi}$0.10±.07; $M_{\phi r}$0.05±.19; Best double couple: $M_0$2.40500×10^{16} NP1:ϕ_s197.00000°,δ48.00000°,λ-69.00000°. NP2: ϕ_s348.00000°,δ46.00000°,λ-111.00000°. Principal axes: T 2.2160, Plg1.0000°, Azm273.0000°; N 0.3780, Plg15.0000°, Azm3.0000°; P -2.5940, Plg75.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **01** 00:27:28.1±0.6,41.°38S×87.°49W,h0km,mb4.5/13, mbtmp4.4/14,ML3.4/1,MS3.8/19 Error ellipse: s-maj=26.3km s-min=15.7km az=88.0*
*NEIC **01** 00:27:29.6±1.1,41.°32S±0.°10×87.°4W±0.°1,h10km±1km, mb4.9/81,Error ellipse: s-maj=19.9km s-min=15.2km az=63.0*
ISC 01 00:27:29.7±0.5,41.°32S±0.°07×87.°39W±0.°09,h10km,n169, σ1§12/141,mb4.9/49,MS3.8/18,3C-5D,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**10.04**	**45**	T	T	00 40 21.9	
	baz=218,slow=73,SNR=351						
H03S1	**Juan Fernandez**	**10.05**	**45**	T	T	00 40 26.6	
	baz=218,slow=73,SNR=396						
H03S3	**Juan Fernandez**	**10.06**	**45**	T	T	00 40 22.4	
	baz=218,slow=73,SNR=287						
H03N3	**Juan Fernandez**	**10.34**	**43**	T	T	00 40 42.3	
	baz=220,slow=73,SNR=129						
H03N2	**Juan Fernandez**	**10.35**	**43**	T	T	00 40 57.9	
	baz=220,slow=73,SNR=294						
H03N1	**Juan Fernandez**	**10.36**	**43**	T	T	00 40 52.9	
	baz=220,slow=73,SNR=118						
AY02	**Valle Explorad**	**11.46**	**122**	Pn	**Pn**	**00 30 13.4**	**+0.1**
LL02	**Futaleuf**	**11.67**	**104**	Pn	**Pn**	**00 30 16.8**	**+0.5**
LR05	**Currie**	**11.72**	**90**	Pn	**Pn**	**00 30 16.5**	**-0.4**
COYC	**Coyhaique**	**11.91**	**116**		Pn	00 30 16.7	-2.8
AY03	**Cochrane**	**12.14**	**124**	Pn	**Pn**	**00 30 22.8**	**+0.2**
GO06	**Curarrehue**	**12.25**	**87**	Pn	**Pn**	**00 30 25.2**	**+0.8**
PLCA	**Paso Flores**	**12.74**	**93**	Pn	**Pn**	**00 30 32.0**	**+1.1**
PLCA	**Paso Flores**	**12.74**	**93**	Pn	**Pn**	**00 30 33.3**	**+2.4**
	0.1nm,0.3s,baz=239,slow=20,SNR=3.1						
PLCA				LR	LR	00 34 29.7	
	comp=Z,1μm,19.3s,baz=246,slow=33						
	3.7nm,1.1s						
PLCA	**Paso Flores**	**12.74**	**93**	*e*P	Pn	00 30 37.3	+6.4
BI02	**San Fabin de**	**13.37**	**75**	Pn	**Pn**	**00 30 38.4**	**-1.2**
ML02	**Panimavida**	**13.67**	**71**	Pn	**Pn**	**00 30 43.0**	**-0.7**
BO02	**Sierra Bellavi**	**14.61**	**69**	Pn	**Pn**	**00 30 57.4**	**+0.8**
BO01	**Tunca**	**14.61**	**67**	Pn	**Pn**	**00 30 57.3**	**+0.8**
MT01	**Popeta**	**14.79**	**65**	Pn	Pn	00 30 56.6	-2.3
MT09	**Talagante**	**15.02**	**65**		**Pn**	**00 31 02.2**	**+0.1**
MT09				IAmb	IAmb	00 31 07.1	
	comp=Z,44nm,1.3s						
BO04	**La Punta**	**15.16**	**67**		**Pn**	**00 31 03.1**	**-0.8**
MT02	**Curacav**	**15.22**	**63**		**Pn**	**00 31 04.6**	**-0.1**
MT02				IAmb	IAmb	00 31 08.5	
	comp=Z,84nm,1.9s						
MT05	**Renca**	**15.41**	**64**	Pn	**Pn**	**00 31 07.2**	**0.0**
MT05				IAmb	IAmb	00 31 12.3	
	comp=Z,90nm,1.6s						
LMEL	**Las Melosas**	**15.52**	**67**	P	**Pn**	**00 31 11.1**	**+2.3**
MT16	**CCHEN**	**15.54**	**65**	P	**Pn**	**00 31 12.0**	**+3.1**
MT08	**Bocatoma Ro**	**15.87**	**66**		**Pn**	**00 31 11.6**	**-1.9**
VA03	**San Esteban**	**15.91**	**63**		**Pn**	**00 31 13.4**	**-0.4**
CO03	**El Pedregal**	**17.05**	**57**		**Pn**	**00 31 29.8**	**+1.5**
ZON	**Zonda**	**17.91**	**63**	P	**Pn**	**00 31 39.3**	**+0.3**
LCO	**Las Campanas**	**18.32**	**53**	P	**Pn**	**00 31 43.6**	**-0.6**
LCO				IAmb	IAmb	00 31 48.3	
	comp=Z,94nm,1.8s						
TRQA	**Tornquist**	**19.80**	**89**	P	**P**	**00 32 00.6**	**+0.3**
TRQA				IAmb	IAmb	00 32 08.4	
	comp=Z,48nm,1.3s						
GO02	**Mina Guanaco**	**21.87**	**48**	P	**P**	**00 32 21.5**	**-1.5**
EFI	**East Falkland**	**22.54**	**127**	P	**P**	**00 32 28.5**	**-1.1**
EFI				IAmb	IAmb	00 32 36.0	
	comp=Z,66nm,1.3s						
LVC	**Limon Verde**	**24.28**	**45**	P	**P**	**00 32 46.0**	**-1.6**
LVC	**Limon Verde**	**24.28**	**45**	LR	LR	00 39 58.8	
	comp=Z,269nm,20.1s,baz=226,slow=31						
LVC	**Limon Verde**	**24.28**	**45**	*e*P	**P**	**00 32 49.4**	**+1.9**
AF01	**San Pedro de A**	**24.40**	**47**	P	**P**	**00 32 46.5**	**-2.2**
PMSA	**Palmer Station**	**27.04**	**158**	LR	LR	00 41 13.1	
	comp=Z,106nm,21.6s,baz=228,slow=30						
CPUP	**Villa Florida**	**28.93**	**68**	LR	LR	00 44 23.7	
	comp=Z,393nm,18.6s,baz=234,slow=35						
LPAZ	**La Paz**	**29.98**	**39**	P	**P**	**00 33 40.4**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=118,slow=2.3,SNR=4.1						
LPAZ				LR	LR	00 43 28.2	
	comp=Z,73nm,19.0s,baz=160,slow=32						
	comp=Z,1.4nm,0.8s						
MURT	**Porto Murtinho**	**31.84**	**61**	*e*P	**P**	**00 33 54.9**	**+0.1**
BDQN	**Bodoquena, MS**	**33.26**	**61**	*e*P	**P**	**00 34 08.3**	**+1.1**
BBSD	**Serra de San D**	**33.28**	**52**	*e*P	**P**	**00 34 08.3**	**+0.8**
AQDB	**Aquidauana**	**33.94**	**62**	P	**P**	**00 34 13.6**	**+0.5**
AQDB				IAmb	IAmb	00 34 17.3	
	comp=Z,16nm,1.0s						
AQDB	**Aquidauana**	**33.94**	**62**	*e*P	**P**	**00 34 14.7**	**+1.6**
SIV	**San Ignacio**	**33.96**	**50**	LR	LR	00 46 53.1	
	comp=Z,136nm,19.4s,baz=269,slow=34						
ATAH	**Atahualpa**	**34.97**	**16**	LR	LR	00 43 42.4	
	comp=Z,51nm,20.2s,baz=177,slow=28						
PTLB	**Pontes e Lacer**	**35.52**	**52**	P	**P**	**00 34 26.4**	**-0.4**
PTLB	**Pontes e Lacer**	**35.52**	**52**	*e*P	**P**	**00 34 28.1**	**+1.3**
CZSB	**Cruzeiro do Su**	**35.91**	**25**	P	**P**	**00 34 28.8**	**-1.3**
CZSB				IAmb	IAmb	00 34 32.4	
	comp=Z,16nm,1.1s						
CZSB	**Cruzeiro do Su**	**35.91**	**25**	*e*P	**P**	**00 34 31.3**	**+1.1**
ETMB	**Extrema**	**36.52**	**37**	P	**P**	**00 34 35.0**	**-0.4**
ETMB	**Extrema**	**36.52**	**37**	*e*P	**P**	**00 34 36.5**	**+1.1**
VILB	**Vilhena**	**36.90**	**48**	P	**P**	**00 34 37.7**	**-1.0**
VILB	**Vilhena**	**36.90**	**48**	*e*P	**P**	**00 34 39.7**	**+0.9**
SAML	**Samuel**	**38.70**	**40**	P	**P**	**00 34 53.1**	**-0.8**
SAML	**Samuel**	**38.70**	**40**	*e*P	**P**	**00 34 54.9**	**+1.0**
PDRB	**Porto dos Gac**	**39.97**	**51**	*e*P	**P**	**00 35 05.7**	**+1.2**
OTAV	**Otavalo**	**42.15**	**13**	P	**P**	**00 35 22.3**	**-0.7**
OTAV	**Otavalo**	**42.15**	**13**	*e*P	**P**	**00 35 25.3**	**+2.4**
BELA	**Belgrano 2**	**42.33**	**166**	P	**P**	**00 35 23.1**	**-0.1**
BDFB	**Brasilia**	**42.51**	**65**	P	**P**	**00 35 25.6**	**+0.1**
	comp=Z,5.5nm,0.9s,baz=252,slow=4.4,SNR=6.4						
BDFB				LR	LR	00 52 29.9	
	comp=Z,333nm,19.7s,baz=159,slow=35						
	comp=Z,5.5nm,0.9s						
SNDB	**Serra Nova Dou**	**43.02**	**58**	*e*P	**P**	**00 35 31.2**	**+1.7**
RKT	**Rikitea**	**43.57**	**280**	*e*LR	LR	00 47 17.4	
	comp=Z,2μm,25.8s						
NPGB	**Novo Progresso**	**44.45**	**49**	*e*P	**P**	**00 35 41.5**	**+0.5**
JANB	**Januaria**	**45.47**	**68**	*e*P	**P**	**00 35 49.8**	**+0.6**
ROSC	**El Rosal**	**47.47**	**18**	P	P	00 36 00.8	-4.4
ROSC	**El Rosal**	**47.47**	**18**	P	**P**	**00 36 07.3**	**+2.1**
	comp=Z,5.2nm,0.4s,baz=123,slow=7.9,SNR=5.2						
ROSC				LR	LR	00 53 24.6	
	comp=Z,164nm,20.5s,baz=161,slow=33						
	comp=Z,5.2nm,0.4s						
VNA3	**Neumayer Olymp**	**47.61**	**155**	P	**P**	**00 36 05.9**	**+0.6**
VNA3	**Neumayer Olymp**	**47.61**	**155**	⇓P	**P**	**00 36 05.9**	**+0.6**
	comp=Z,12nm,0.8s						
VNA3				⇑PcP	**PcP**	**00 37 34.1**	**-0.8**
	comp=Z,4.8nm,0.7s						
SMTB	**Santa Maria do**	**47.74**	**59**	*e*P	**P**	**00 36 09.2**	**+2.2**
VNA1	**Neumayer--Stat**	**48.13**	**154**	P	**P**	**00 36 10.2**	**+0.9**
VNA1	**Neumayer--Stat**	**48.13**	**154**	⇓P	**P**	**00 36 10.2**	**+0.9**
	comp=Z,15nm,0.9s						
VNA2	**Neumayer--Watz**	**48.38**	**154**	P	**P**	**00 36 12.0**	**+0.7**
	baz=278,slow=8.7						
VNA2	**Neumayer--Watz**	**48.38**	**154**	⇓P	**P**	**00 36 12.0**	**+0.7**
	comp=Z,12nm,0.8s,baz=278,slow=8.7						
VNA2				⇑PcP	**PcP**	**00 37 35.6**	**-1.9**
	comp=Z,2.7nm,0.7s,baz=279,slow=3.3						
QSPA	**South Pole Qui**	**48.91**	**180**	P	P	00 36 13.2	-2.4
QSPA				IAmb	IAmb	00 36 17.2	
	comp=Z,7.8nm,1.0s						
QSPA	**South Pole Qui**	**48.91**	**180**	P	**P**	**00 36 16.0**	**+0.4**
	comp=Z,4.8nm,0.9s,baz=135,slow=3.6,SNR=14						
QSPA				PcP	**PcP**	**00 37 39.1**	**-0.7**
	comp=Z,4.9nm,1.1s,baz=166,slow=2.9,SNR=5.3						
QSPA				LR	LR	00 53 23.1	
	comp=Z,40nm,20.7s,baz=136,slow=32						
	comp=Z,4.8nm,0.9s						
SNAA	**Sanae**	**49.72**	**156**	P	**P**	**00 36 21.9**	**+0.4**
SNAA	**Sanae**	**49.72**	**156**	P	P	00 36 20.4	-1.2
SNAA				IAmb	IAmb	00 36 23.1	
	comp=Z,14nm,1.0s						
SNAA	**Sanae**	**49.72**	**156**	⇓P	**P**	**00 36 21.9**	**+0.4**
	comp=Z,199nm,0.9s						
SNAA	**Sanae**	**49.72**	**156**	P	**P**	**00 36 22.0**	**+0.4**
	comp=Z,9.7nm,0.9s,baz=260,slow=6.0,SNR=33						
	comp=Z,9.7nm,0.9s						
BOAV	**Boa Vista**	**49.91**	**36**	P	**P**	**00 36 21.7**	**-1.8**
BOAV	**Boa Vista**	**49.91**	**36**	*e*P	**P**	**00 36 23.2**	**-0.4**
TROLL	**Troll, Antarti**	**51.28**	**157**	P	**P**	**00 36 34.0**	**+0.5**
TROLL	**Troll, Antarti**	**51.28**	**157**	⇓P	**P**	**00 36 34.0**	**+0.5**
	comp=Z,428nm,0.8s						
TROLL				⇑PcP	**PcP**	**00 37 47.5**	**-0.8**
	comp=Z,93nm,0.8s						
JTS	**Las Juntas de**	**51.40**	**3**	LR	LR	00 53 12.3	
	comp=Z,40nm,18.5s,baz=175,slow=30						
SDV	**Santo Domingo**	**52.28**	**21**

AMTX	Amarillo	76.96	348	P		P	00 39 22.2	-0.1
WVT	Waverly	77.08	360	P		P	00 39 22.1	-0.7
WVT				IAmb		IAmb	00 39 23.4	
comp=Z,13nm,1.2s								
OK031	S. Brethren Rd	77.39	352			P	00 39 24.2	-0.3
PBMO	Poplar Bluff	77.77	358	P		P	00 39 25.6	-1.1
PBMO				IAmb		IAmb	00 39 27.2	
comp=Z,9.6nm,0.8s								
ANMO	Albuquerque	77.89	344	P		P	00 39 27.5	-0.1
ANMO				IAmb		IAmb	00 39 29.7	
comp=Z,8.4nm,1.1s								
X18A	Snowflake	78.28	341	P		P	00 39 30.0	+0.2
X18A				IAmb		IAmb	00 39 32.5	
comp=Z,17nm,1.7s								
KAN13	South Haven SW	78.50	352			P	00 39 30.8	+0.1
KAN01	Argonia South	78.67	352			P	00 39 32.1	+0.4
BLYC	Blythe	78.77	337	P		P	00 39 32.3	+0.1
CCM	Cathedral Cave	79.08	357	P		P	00 39 33.4	-0.5
T25A	Trinidad	79.62	346	P		P	00 39 37.1	-0.1
T25A				IAmb		IAmb	00 39 39.7	
comp=Z,22nm,1.2s								
SDCO	Great Sand Dun	80.41	346	P		P	00 39 41.1	-0.4
CBKS	Cedar Bluff	80.55	350	P		P	00 39 41.8	0.0
CBKS				IAmb		IAmb	00 39 43.8	
comp=Z,14nm,1.0s								
S22A	4UR Ranch, Cre	80.67	344	P		P	00 39 42.3	-0.6
S22A				IAmb		IAmb	00 39 45.6	
comp=Z,15nm,1.3s								
KNB	Kanab	81.36	340	P		P	00 39 46.2	-0.3
KNB				IAmb		IAmb	00 39 56.4	
comp=Z,33nm,1.9s								
Q24A	Divide	81.53	346	P		P	00 39 47.5	0.0
Q24A				IAmb		IAmb	00 39 49.9	
comp=Z,17nm,1.2s								
HMU	Henry Mountain	81.72	342	P		P	00 39 48.2	-0.2
HMU				IAmb		IAmb	00 39 51.0	
comp=Z,16nm,1.3s								
PRN	Pahroc Range	82.33	338	P		P	00 39 51.8	+0.2
PRN				IAmb		IAmb	00 39 54.4	
comp=Z,15nm,1.3s								
ISCO	Idaho Springs	82.43	346	P		P	00 39 51.8	-0.4
SCIA	State Center	83.01	356	P		P	00 39 54.5	-0.2
N23A	Red Feather La	83.55	346	P		P	00 39 57.9	0.0
N23A				IAmb		IAmb	00 40 00.4	
comp=Z,14nm,1.1s								
JFWS	Jewell Farm	83.89	358	P		P	00 39 58.8	-0.4
NVAR	Mina Array Bea	84.24	336	P		P	00 40 02.9	+1.4
comp=Z,3.4nm,1.0s,baz=172,slow=6.3,SNR=14								
comp=Z,3.4nm,1.0s								
DUG	Dugway, Tooele	84.36	341	P		P	00 40 02.5	+0.6
DUG				IAmb		IAmb	00 40 04.3	
comp=Z,10nm,1.0s								
ECSD	EROS Data Cent	85.08	353	P		P	00 40 05.0	-0.3
ELK	Elko	85.51	339	P		P	00 40 07.7	-0.1
ELK				IAmb		IAmb	00 40 09.8	
comp=Z,10nm,1.4s								
DELO	Deloro Mine	85.90	7	P		P	00 40 09.0	-0.3
PDAR	Pinedale Array	86.06	344	P		P	00 40 11.2	+0.7
comp=Z,1.2nm,0.8s,baz=150,slow=6.2,SNR=12								
comp=Z,1.2nm,0.8s								
RSSD	Black Hills	86.36	348	P		P	00 40 11.7	-0.2
RSSD				IAmb		IAmb	00 40 13.8	
comp=Z,11nm,1.1s								
BOSA	Boshof	86.65	126	P		P	00 40 14.3	+0.4
comp=Z,2.8nm,0.9s,baz=0.4,slow=6.1,SNR=2.2								
comp=Z,2.8nm,0.9s								
DZM	Mont Dzumac	87.06	243	eLR		LR	01 07 32.9	
comp=Z,185nm,24.6s								
DZM	Mont Dzumac	87.06	243	LR		LR	01 09 29.6	
comp=Z,103nm,21.4s,baz=108,slow=29								
E46A	Sault Ste Mari	87.35	2	P		P	00 40 16.0	-0.3
HLID	Hailey	87.93	341	P		P	00 40 19.9	+0.4
HLID				IAmb		IAmb	00 40 21.8	
comp=Z,6.1nm,1.0s								
YMR	Madison River	88.18	343	P		P	00 40 21.0	+0.3
RLMT	Red Lodge	88.26	345	P		P	00 40 21.0	0.0
MDND	Maddock	89.44	352	P		P	00 40 25.6	-0.6
ULM	Lac du Bonnet	91.49	355	P		P	00 40 35.2	-0.5
comp=Z,4.7nm,0.8s,baz=160,slow=3.8,SNR=5.7								
comp=Z,4.7nm,0.8s								
TORD	Torodi Ar. Bea	97.87	80	P		P	00 41 04.7	-1.2
comp=Z,1.1nm,1.1s,baz=233,slow=4.3,SNR=3.6								
comp=Z,1.1nm,1.1s								
SEY	Seymchan	139.32	323	PKP		PKPdf	00 46 55.4	-0.5
comp=Z,1.9nm,0.4s,baz=34,slow=11,SNR=5.0								
KBZ	Khabaz	143.72	69	PKP		PKPab	00 47 02.7	+1.4
comp=Z,4.8nm,0.9s,baz=246,slow=4.0,SNR=8.0								
TIXI	Tiksi	144.71	341	PKPdf		PKPab	00 47 03.0	-1.2
BELG	Belogornoye	147.81	54	PKPbc		PKPdf	00 47 12.2	+1.1
comp=Z,19nm,0.9s,baz=89,slow=7.3,SNR=4.2								
YAK	Yakutsk	149.70	326	PKPbc		PKPdf	00 47 17.0	+3.1
YAK	Yakutsk	149.70	326	PKPbc		PKPdf	00 47 17.2	+3.3
comp=Z,27nm,0.5s,baz=115,slow=2.9,SNR=6.0								
KLR	Kul'dur	151.60	300	PKPbc		PKPdf	00 47 22.2	+4.9
comp=Z,4.1nm,0.8s,baz=49,slow=3.0,SNR=9.2								
ABKAR	Akbulak array	155.84	60	PKPdf		PKPdf	00 47 22.4	-0.9
ABKAR	Akbulak array	155.84	60	PKPdf		PKPdf	00 47 21.6	-1.7
CMAR	Chiang Mai Arr	156.57	195	PKPdf		PKPdf	00 47 22.9	-2.4
CMAR	Chiang Mai Arr	156.57	195	PKPab		PKPab	00 47 53.4	-0.7
comp=Z,0.9nm,0.4s,baz=196,slow=5.3,SNR=7.1								
KURBB	Kurchatov Arra	166.52	42	PKPab		PKPab	00 48 36.4	-0.3
comp=Z,0.7nm,0.8s,baz=310,slow=4.6,SNR=6.0								

NEIC ***01*** *00:36:11.6±2.4, 13°.09N±0°.08×90°.33W±0°.07, h18km±9km, mb4.2/2, Error ellipse: s-maj=13.2km s-min=7.5km az=219.0*

GCG ***01*** *00:36:12.9±0.5, 13°.08N×90°.38W, h28km±64km, MD4.1*

IDC ***01*** *00:36:12.6±2.6, 13°.23N×90°.54W, h0km, mb4.1/3, mbtmp4.0/5, ML3.6/2, MS3.5/2, Error ellipse: s-maj=41.8km s-min=32.9km az=139.0*

SNET ***01*** *00:36:13.6±0.9, 13°.15N×90°.15W, h24km, ML4.3*

ISC 01 00:36:10.2±1.6, 13°.07N±0°.05×90°.27W±0°.04, h5km±10km, n72, σ1§14/93, mb4.1/5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	Las Nubes	0.96	30	eP	Pg	00 36 29.1	+0.5
NUBE				eS	Sg	00 36 40.4	-0.7
CEVE	Cerro Verde	0.98	40	eP	Pb	00 36 30.1	+0.2
CEVE				eS	Sb	00 36 43.1	-0.1
JAYA	Jayaque - finc	0.99	54	eP	Pg	00 36 29.9	+0.7
JAYA				eS	Sg	00 36 41.5	-0.7
SBLS	San Blas	0.99	40	eP	Pg	00 36 30.1	+0.8
SBLS				eS	Sg	00 36 42.9	+0.7
LALI	Alcalda de L	1.02	66	eP	Pg	00 36 30.1	+0.3
LALI				eS	Sg	00 36 41.7	-1.2
RTR	El Retiro	1.02	37	eP	Pb	00 36 30.9	+0.4
SNJE	San Jose	1.03	39	eP	Pb	00 36 30.7	+0.1
LOAL	Lomas de Alarc	1.04	27	eP	Pg	00 36 30.6	+0.3
LOAL				eS	Sg	00 36 42.9	-0.8
SLOZ	Alcaldia de Sa	1.06	27	eP	Pg	00 36 30.9	+0.3
SLOZ				eS	Sg	00 36 43.8	-0.7
CEDA	San Andres	1.12	49	eP	Pb	00 36 31.1	-1.1
CEDA				eS	Sb	00 36 44.8	-2.3
PMON	Piamonte	1.13	56	eP	Pb	00 36 32.2	-0.1
PMON				eS	Sb	00 36 46.0	-1.4
UNIC	Universidad Ca	1.15	38	eP	Pb	00 36 32.1	-0.5
BOQS	Boqueron	1.17	56	eP	Pb	00 36 32.9	-0.2
BOQS				eS	Sb	00 36 47.0	-1.7
SNET	Serv Nac Est T	1.19	59	Pn	Pb	00 36 32.8	-0.4
SNET					Sb	00 36 49.2	+0.3
SNET	Serv Nac Est T	1.19	59	eP	Pb	00 36 32.7	-0.5
PANCS	Alcalda de	1.19	63	eP	Pn	00 36 32.9	-0.8
UEES	Universidad Ev	1.19	57	eP	Pn	00 36 33.0	-0.7
UEES				eS	Sb	00 36 48.5	-0.7
PIC2	El Picacho	1.20	56	eP	Pb	00 36 33.0	-0.5
UTEC	Universidad Te	1.22	59	eP	Pn	00 36 33.5	-0.4
UESS	Universidad de	1.23	58	eP	Pn	00 36 33.8	-0.3
IGN	Direccin Gen	1.25	59	eP	Pn	00 36 33.8	-0.6
AEIL	Aeropuerto Ilo	1.29	61	eP	Pn	00 36 34.4	-0.5
LFRS	El Faro	1.30	65	eP	Pn	00 36 34.2	-1.0
LFRS				eS	Sb	00 36 50.8	-1.5
LFU	La Fuente	1.31	59	eP	Pn	00 36 35.0	-0.4
PCG	Pacaya	1.35	346	i P	Pg	00 36 36.4	+0.1
PAVA	Las Pavas	1.45	64	eP	Pn	00 36 36.9	-0.2
FUG	Fuego 3	1.48	338	i P	Pn	00 36 37.1	-0.5
SNVI	San Vicente	1.50	69	eP	Pn	00 36 37.8	-0.1
NBG	Las Nubes	1.51	357	i P	Pb	00 36 39.0	+0.1
NBG				i S	Sg	00 36 58.9	+0.1
TECO	Alcaldia de Te	1.53	72	eP	Pn	00 36 37.3	-0.8
UESV	Universidad de	1.55	69	eP	Pn	00 36 38.4	-0.1
MTO3	Montecristo	1.59	34	Pn	Pn	00 36 39.2	-0.1
MTO3				Sn	Sn	00 36 58.8	-1.5
MTO3	Montecristo	1.59	34	eP	Pn	00 36 39.0	-0.2
SCLA	Alcaldia de Sa	1.63	67	eP	Pn	00 36 39.4	-0.2
LLGN	La Laguna	1.69	50	eP	Pn	00 36 39.8	-0.7
LLGN				eS	Sn	00 37 00.7	-1.8
ESQI	Esquipulas	1.74	31	Pn	Pn	00 36 41.1	-0.1
ESQI				Sn	Sn	00 37 03.8	0.0
ESQI	Esquipulas	1.74	31	eP	Pn	00 36 41.1	-0.1
PQSS	Presa 15 de Se	1.76	72	eP	Pn	00 36 41.2	-0.1
PQSS				eS	Sn	00 37 00.9	-3.1
TECA	Tecapa	1.78	76	eP	Pn	00 36 41.3	-0.4
TECA				eP	Pb	00 36 41.4	-2.0
TECA				eS	Sn	00 37 03.7	-1.1
LCY	Lacayo	1.96	79	eP	Pn	00 36 44.0	-0.2
RANC	El Ranchito	1.97	79	eP	Pn	00 36 44.5	+0.2
VSM	San Miguel	1.98	79	eP	Pn	00 36 44.8	+0.1
RTAL	Retalhuleu	2.00	316	Pn	Pn	00 36 43.0	-1.7
BLLM	Bellamira	2.02	79	eP	Pn	00 36 44.7	-0.3
STG3	Santiaguito 3,	2.06	322	i P	Pn	00 36 45.5	-0.2
MRL	Marmol	2.08	16	i P	Pn	00 36 46.9	+0.9
CAHU	Cacacuatique	2.12	71	eP	Pn	00 36 46.3	-0.2
LCND	La Caada	2.33	84	eP	Pn	00 36 48.9	-0.3
LCND				eS	Sn	00 37 16.0	-2.3
CNCH	Conchagua	2.39	85	eP	Pn	00 36 49.5	-0.6
HUEH	Huehuetenango	2.53	332	Pn	Pn	00 36 50.2	-1.9
TGUH	Tegucigalpa,Un	3.08	71	Pn	Pn	00 36 58.7	-0.9
CRIN	San Cristobal	3.17	96	Pn	Pn	00 37 01.4	+0.6
CCIG	Comitan	3.67	331	Pn	Pn	00 37 08.8	+1.0
PETF	Flores	3.84	6	Pn	Pn	00 37 11.2	+1.1
MGAN	Managua	4.04	103	Pn	Pn	00 37 13.0	+0.3
ACON	Acoyapa	5.10	102	Pn	Pn	00 37 27.4	+0.1
ESPN	Las Esperanzas	5.89	98	Pn	Pn	00 37 38.2	0.0
JTS	Las Juntas de	5.90	117	Pn	Pn	00 37 40.2	+1.9
3.4nm,0.3s,baz=301,slow=19,SNR=9.4							
JTS				Sn	Sn	00 38 45.2	-1.2
1.1nm,0.3s,baz=282,slow=20,SNR=1.0							
CMIG	Matias Romero	5.98	312	Pn	Pn	00 37 39.1	-0.3
1.0nm,0.3s,baz=135,slow=12,SNR=11							
CMIG				Sn	Sn	00 38 44.2	-4.2
1.7nm,0.3s,baz=174,slow=19,SNR=1.7							
3.0nm,0.4s							
SOCE	Pocosol	6.15	115	Pn	Pn	00 37 42.6	+0.8
LCR2	La Lucha 2	6.98	118	Pn	Pn	00 37 55.3	+2.0
TEIG	Tepich	7.37	15	Pn	Pn	00 37 58.2	-0.3
TEIG	Tepich	7.37	15	Pn	Pn	00 37 59.6	+1.1
2.0nm,0.3s,baz=178,slow=1.5,SNR=9.3							
TEIG				Lg	Lg	00 40 03.3	
1.1nm,0.3s,baz=76,slow=22,SNR=3.0							
8.7nm,0.5s							
BRU2	Volcan	8.57	119	Pn	Pn	00 38 17.7	+2.6
SJG	San Juan	23.76	75	LR	LR	00 51 45.0	
comp=Z,46nm,19.2s,baz=298,slow=39							
ETMB	Extrema	32.98	132	P	P	00 42 47.5	+1.2
ETMB				IAmb	IAmb	00 42 50.4	
comp=Z,4.3nm,0.8s							
SAML	Samuel	34.68	128	P	P	00 43 00.0	-1.0
SAML				IAmb	IAmb	00 43 03.9	
comp=Z,2.0nm,0.9s							
NVAR	Mina Array Bea	35.45	320	P	P	00 43 08.3	+0.5
comp=Z,1.0nm,0.7s,baz=128,slow=8.2,SNR=8.6							
comp=Z,1.0nm,0.7s							
ULM	Lac du Bonnet	37.36	354	P	P	00 43 25.9	+2.3
comp=Z,2.6nm,0.8s,baz=180,slow=9.1,SNR=3.1							
comp=Z,2.6nm,0.8s							
SCHQ	Schefferville	45.53	19	P	P	00 44 33.5	+2.8
comp=Z,1.7nm,0.5s,baz=229,slow=7.7,SNR=5.1							
comp=Z,1.7nm,0.5s							
BBTS	Babate	71.30	79	LR	LR	01 15 32.8	
comp=Z,81nm,21.1s,baz=130,slow=33							
WRA	Warramunga Arr	136.78	255	PKP	PKiKP	00 55 36.0	-0.6
comp=Z,0.5nm,0.9s,baz=85,slow=2.3,SNR=2.8							

BEO ***01*** *00:39:10.3±0.6, 39°.68N×20°.13E, h0km, ML3.5/13*

IDC ***01*** *00:39:13.8±0.9, 40°.03N×20°.34E, h0km, mb3.7/10, mbtmp3.7/15, ML1.9/3, MS2.9/7, Error ellipse: s-maj=20.7km s-min=14.4km az=131.0*

THE ***01*** *00:39:13.6, 40°.11N×20°.25E, h2km±1km, ML3.5/10, Error ellipse: s-maj=2.5km s-min=0.9km az=325.0*

TIR ***01*** *00:39:13.2, 40°.02N×20°.32E, h0km±1km, Md3.7, Ml3.7*

ATH ***01*** *00:39:14.3, 40°.04N×20°.31E, h9km±3km, ML3.4/14, Error ellipse: s-maj=3.2km s-min=1.0km az=160.0*

PDG ***01*** *00:39:14.1±0.2, 39°.97N×20°.22E, h10km, ML3.7/13, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0*

NEIC ***01*** *00:39:15.1±1.5, 39°.92N±0°.04×20°.27E±0°.05, h10km±1km, mb4.1/3, Error ellipse: s-maj=8.2km s-min=5.4km az=215.0*

NAO ***01*** *00:39:20.4, 40°.74N×21°.32E, h10km, mb3.1*

SOF ***01*** *00:39:28, 40°.65N±0°.09×21°.2E±0°.1, h2km, MD3.3/12*

ISC 01 00:39:14.3±1.0, 40°.02N±0°.01×20°.33E±0°.02, h3km±8km, n226, σ1§65/252, mb3.8/11, 19C-27D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	Leskovik	0.25	58	P	Pg	00 39 18.9	-0.1
LSK				S	Sg	00 39 23.4	+1.2
LSK				AMP			
comp=E,58nm,0.8s,baz=59							
LSK	Leskovik	0.25	58	P	Pg	00 39 18.8	-0.3
LSK				S	Sg	00 39 23.5	+1.2
comp=E,14μm,0.8s							
SRN	Sarande	0.29	241	P	Pg	00 39 19.4	-0.5
SRN				S	Sg	00 39 24.4	+0.8
SRN				AMP			
comp=N,53nm,1.4s,baz=241							
SRN	Sarande	0.29	241	P	Pg	00 39 19.2	-0.6
SRN				S	Sg	00 39 24.4	+0.8
comp=N,12μm,1.2s							
IGT	Igoumenitsa	0.49	180	P	Pg	00 39 23.4	-0.2
IGT				S	Sb	00 39 32.5	-0.5
IGT				AMP			
comp=E,18nm,0.9s,baz=179							
IGT	Igoumenitsa	0.49	180	P	Pg	00 39 23.2	-0.4
IGT				S	Sb	00 39 33.7	+0.7
comp=E,4μm,0.8s							
IGT	Igoumenitsa	0.49	180	P	Pg	00 39 23.2	-0.4
IGT				S	Sb	00 39 31.9	-1.1
IGT				AML	AML	00 39 37.4	
comp=N,7711μm,0.5s							
IGT				AML	AML	00 39 44.0	
comp=E,9421μm,1.2s							
KEK	Kerkira	0.51	233	Pg	Pg	00 39 23.3	-0.8
KEK	Kerkira	0.51	233	P	Pg	00 39 23.1	-1.0
KEK				S	Sb	00 39 32.3	-1.4
comp=E,8μm,1.3s							
KEK	Kerkira	0.51	233	P	Pg	00 39 23.1	-1.0
KEK				S	Sb	00 39 32.3	-1.4
KEK				AML	AML	00 39 37.5	
comp=N,17463μm,1.5s							
KEK				AML	AML	00 39 41.3	
comp=E,13210μm,1.2s							
JAN	Janina	0.54	132	P	Pg	00 39 24.8	+0.1
JAN				S	Sb	00 39 35.2	+0.5
comp=E,9μm,1.3s							
JAN	Janina	0.54	132	P	Pg	00 39 24.7	+0.1
JAN				S	Sb	00 39 33.6	-1.1
JAN				AML	AML	00 39 43.3	
comp=N,18011μm,1.2s							
JAN				AML	AML	00 39 43.9	
comp=E,15488μm,0.7s							
PENT	Pentalofos	0.65	74	P	Pg	00 39 26.5	-0.2
PENT	Pentalofos	0.65	74	P	Pg	00 39 26.6	-0.2
NEST	Nestorio	0.68	54	P	Pg	00 39 27.3	0.0
NEST				S	Sb	00 39 37.5	-1.2
NEST	Nestorio	0.68	54	P	Pg	00 39 25.7	-1.6
NEST				S	Sb	00 39 37.3	-1.4
comp=E,1μm,1.1s							
NEST	Nestorio	0.68	54	P	Pg	00 39 27.2	-0.1
NEST				S	Sb	00 39 37.6	-1.2
NEST				AML	AML	00 39 45.5	
comp=N,3218μm,0.9s							
NEST				AML	AML	00 39 53.1	
comp=E,3062μm,0.7s							
KPRO	Kipourio	0.80	94	P	Pg	00 39 28.9	-0.7
KPRO	Kipourio	0.80	94	P	Pg	00 39 29.3	-0.3
KPRO				AML	AML	00 39 51.4	
comp=N,4841μm,0.8s							
KPRO				AML	AML	00 39 53.1	
comp=E,4876μm,1.1s							
FNA	Florina	1.11	46	P	Pn	00 39 35.7	-1.1
FNA				S	Sn	00 39 52.7	+0.1
FNA				AMP			
comp=E,3.6nm,0.5s,baz=46							
FNA	Florina	1.11	46		Pb	00 39 35.3	-0.8
FNA	Florina	1.11	46	P	Pb	00 39 34.7	-1.4
FNA	Florina	1.11	46	ePn	Pn	00 39 36.1	-0.7
FNA				eSn	Sn	00 39 57.2	+4.6
FNA	Florina	1.11	46	P	Pb	00 39 34.7	-1.4
FNA				S	Sn	00 39 51.3	-1.3
KZN	Kozani	1.14	75	P	Pb	00 39 35.0	-1.7
KZN	Kozani	1.14	75	P	Pb	00 39 35.7	-1.1
KZN				AML	AML	00 40 03.0	
comp=E,2496μm,0.5s							
KZN				AML	AML	00 40 03.2	
comp=N,1432μm,0.6s							
OHR	Ohrid	1.15	18	ePn	Pn	00 39 37.9	+0.5
OHR				eSn	Sn	00 39 59.3	+5.6
OHR	Ohrid	1.15	18	i Pn	Pn	00 39 36.6	-0.8
TSLK	Tsoukalades, L	1.22	168	P	Pn	00 39 36.9	-1.4
LKD2	Lefkada island	1.25	168	P	Pg	00 39 38.6	+0.3
LKD2				S	Sn	00 39 58.3	+2.1
comp=N,2μm,1.1s							
LKD2	Lefkada island	1.25	168	P	Pg	00 39 38.9	+0.6
LKD2				AML	AML	00 40 02.6	
comp=N,3688μm,0.8s							
LKD2				AML	AML	00 40 05.2	
comp=E,5580μm,1.3s							
NYDR	Nydri-Lefkada	1.33	167	P	Pg	00 39 39.8	-0.1
NYDR				S	Sg	00 39 59.3	+2.1
comp=E,2μm,0.8s							
NYDR	Nydri-Lefkada	1.33	167	P	Pg	00 39 39.7	-0.2
TIR	Tirane	1.37	345	P	Pg	00 39 41.3	+0.6
TIR				S	Sg	00 40 01.5	+3.0
TIR				AMP			
comp=N,3.5nm,1.1s,baz=346							
TIR	Tirane	1.37	345	Pn	Pg	00 39 40.7	+0.1
TIR	Tirane	1.37	345	ePn	Pg	00 39 40.5	-0.1
TIR				eSn	Sg	00 40 04.5	+6.1
TIR	Tirane	1.37	345	↑P	Pg	00 39 43.1	+2.5
THL	Klokotos Trika	1.38	109	P	Pn	00 39 39.6	-0.8
THL				S	Sg	00 40 01.0	+2.5
comp=N,1μm,0.8s							
THL	Klokotos Trika	1.38	109	P	Pb	00 39 40.1	-0.6
THL				AML	AML	00 40 07.5	
comp=E,2329μm,0.9s							
THL				AML	AML	00 40 10.8	
comp=N,2951μm,0.6s							
EVGI	Lefkada island	1.42	170	P	Pg	00 39 41.4	-0.1
SCTE	Santa Cesarea	1.43	273		Pb	00 39 40.7	-0.9
SCTE	Santa Cesarea	1.43	273	P	Pn	00 39 40.2	-0.9
SCTE				S	Sb	00 39 59.2	-1.0
SCTE				AML	AML	00 40 04.3	
comp=E,1054μm,0.8s							
SCTE				AML	AML	00 40 04.6	
comp=N,993μm,0.9s							
TYRN	Tyrnavos	1.50	101	P	Pg	00 39 42.5	-0.5
TYRN	Tyrnavos	1.50	101	P	Pg	00 39 42.8	-0.2
FSK	Fiskardo	1.57	173	P	Pn	00 39 42.4	-0.6
FSK				S	Sg	00 40 05.5	+0.8
comp=N,1μm,1.0s							
EVR	Evrytania	1.59	133	P	Pg	00 39 44.6	-0.2
EVR	Evrytania	1.59	133	P	Pg	00 39 44.6	-0.2
EVR				AML	AML	00 40 16.2	
comp=N,3157μm,0.6s							
EVR				AML	AML	00 40 19.6	
comp=E,4048μm,1.2s							
LRSO	Larissa Observ	1.63	102	P	Pg	00 39 44.8	-0.6
LIT	Litokhoron	1.66	86		Pg	00 39 45.8	-0.3
MAKR	Makrakomi, Fth	1.72	125	P	Pb	00 39 45.5	-1.0
MAKR	Makrakomi, Fth	1.72	125	P	Pb	00 39 45.3	-1.2
MAKR				AML	AML	00 40 24.7	
comp=N,5764μm,0.9s							
MAKR				AML	AML	00 40 26.0	
comp=E,5992μm,0.6s							
PUK	Puka	2.05	351	P	Pb	00 39 51.7	-0.5
PUK				S	Sg	00 40 22.5	+2.4
PUK				AMP			
comp=N,1.5nm,0.6s,baz=352							
PUK	Puka	2.05	351	Pn	Pb	00 39 51.1	-1.1
ULC	Ulcinj	2.11	337	⇓i Pn	Pn	00 39 50.7	+0.2
ULC				i Sn	Sb	00 40 19.6	-0.2
RLS	Riolos of Patr	2.15	155	P	Pb	00 39 52.7	-1.1
KALE	Kalithea	2.15	139	P	Pb	00 39 52.6	-1.3
KALE				AML	AML	00 40 37.5	
comp=N,2331μm,0.8s							
KALE				AML	AML	00 40 39.4	
comp=E,2338μm,0.9s							
HORT	Hortiatis	2.20	74	P	Pb	00 39 52.8	-1.9
HORT				AML	AML	00 40 35.8	
comp=E,276μm,1.1s							
HORT				AML	AML	00 40 44.1	
comp=N,330μm,1.0s							
DRME	Dracevica, Mon	2.33	339	↑i Pn	Pn	00 39 54.3	+0.7
DRME				i Sn	Sb	00 40 25.0	-1.2
NEO	Neokhori	2.34	107	P	Pb	00 39 55.2	-2.0
BCI	Bajram Curri	2.35	355	P	Pb	00 39 56.6	-0.8
BCI				AMP			
comp=E,3.1nm,1.2s,baz=356							
KLV	Kalavryta, Ach	2.43	144	P	Pn	00 39 55.2	+0.3
SOH	Sokhos	2.44	70	P	Pn	00 39 56.1	+0.9
SOH				AML	AML	00 40 46.7	
comp=N,584μm,0.9s							
SOH				AML	AML	00 40 57.7	
comp=E,500μm,0.8s							
BUM	Brajici-Budva	2.52	335	⇓i Pn	Pn	00 39 56.8	+0.5
BUM				i Sn	Sb	00 40 29.5	-2.3
PDG	Podgorica	2.54	342	Pn	Pn

IVAS	Ivanjica	3.56	358	*e*Pn	Pn	00 40 11.2 +0.7
ZAPS	Zavoj	3.68	27	*e*Pn	Pn	00 40 14.3 +2.1
RZN	Rozhen	3.74	62	P	Pb	00 40 16.9 -4.2
BOVS	Bovan	3.76	15	*e*Pn	Pn	00 40 14.1 +0.9
BOVS	Bovan	3.76	15	⇑P	Pn	00 40 13.9 +0.7
PGB	Panagyurishte	3.82	48	P	Pn	00 40 17.1 +3.0
CEL	Celeste	3.87	244	Pn	Pn	00 40 13.5 -1.3
GRUS	Gruza	3.88	4	*e*Pn	Pn	00 40 16.2 +1.4
VLI	Veliai	3.88	147	P	Pn	00 40 15.5 +0.7
BBLS	Lazi&#263i	3.91	350	*e*Pn	Pn	00 40 15.5 +0.2
BBLS	Lazi&#263i	3.91	350	*e*Pn	Pn	00 40 15.2 -0.1
PLD	Plovdiv	3.96	56	P	Pn	00 40 19.2 +3.3
PLD	Plovdiv	3.96	56	*e*Pn	Pn	00 40 15.8 -0.1
ZAGS	Zajecar	4.05	20	*e*Pn	Pn	00 40 18.5 +1.3
DIVS	Divibare	4.08	357	*e*Pn	Pn	00 40 18.4 +0.7
KDZ	Kurdzhali	4.13	65	P	Pn	00 40 21.9 +3.6
HAPS	Han Pijesak,BI	4.19	346	*e*Pn	Pn	00 40 19.4 +0.2
HAPS	Han Pijesak,BI	4.19	346	*e*Pn	Pn	00 40 19.5 +0.2
MPEP	Malo Peshtene	4.20	36	P	Pn	00 40 22.7 +3.4
TRUS	Trudelj	4.20	1	*e*Pn	Pn	00 40 20.0 +0.7
ALN	Alexandroupoli	4.45	77	Pn	Pn	00 40 23.9 +1.2
KUBS	Kucevo	4.50	12	*e*Pn	Pn	00 40 23.6 +0.2
TEKS	Tekeris	4.57	353	*e*Pn	Pn	00 40 23.6 -0.7
TEKS	Tekeris	4.57	353	*e*Pn	Pn	00 40 23.3 -1.0
PUNG	Punghina	4.67	24	⇓P	Pn	00 40 27.0 +1.3
AVAS	Avala Beograd	4.68	2	*e*Pn	Pn	00 40 25.2 -0.6
PVL	Pavlikeni	4.78	48	P	Pn	00 40 30.6 +3.4
MDVR	Moldovita	4.87	12	⇑P	Pn	00 40 30.4 +1.9
APE	Apeiranthos	5.03	124	⇓P	Pn	00 40 32.1 +1.4
ELND	Elena	5.08	53	⇓P	Pn	00 40 34.1 +2.8
FRGS	Fruska Gora	5.15	356	*e*Pn	Pn	00 40 31.6 -0.7
FRGS	Fruska Gora	5.15	356	*e*Pn	Pn	00 40 30.9 -1.4
INTR	Introdacqua	5.25	294	Pn	Pn	00 40 33.9 +0.1
BLY	Banja Luka	5.27	335	*e*Pn	Pn	00 40 33.5 -0.4
BLY	Banja Luka	5.27	335	*e*Pn	Pn	00 40 32.7 -1.2
A050A	Klekovaca	5.28	329	*e*Pn	Pn	00 40 33.8 -0.3
VAE	Valguarnera	5.28	243	Pn	Pn	00 40 33.9 -0.2
	comp=E,0.4nm,0.3s,baz=223,slow=21,SNR=1.6					
VAE				Sn	Sn	00 41 38.6 +3.2
	comp=E,0.7nm,0.3s,baz=22,slow=20,SNR=1.4					
	comp=E,9.8nm,0.9s					
JMB	Yambol	5.29	60	P	Pn	00 40 37.7 +3.5
SZH	Strazhitsa	5.33	51	P	Pn	00 40 37.9 +3.1
RAFF	Raffo Rosso	5.44	241	Pn	Pn	00 40 33.6 -2.7
A051A	Mrakovica	5.59	334	*e*Pn	Pn	00 40 38.0 -0.5
GZR	Gura Zlata	5.67	18	⇓P	Pn	00 40 42.0 +2.5
BZS	Buzias	5.67	9	⇓P	Pn	00 40 41.0 +1.5
HUMR	Humele	5.67	36	⇓P	Pn	00 40 44.3 +4.8
CAMP	Campotosto	5.79	298		Pn	00 40 40.5 -0.7
SURR	Surduc	5.88	12	⇑P	Pn	00 40 45.4 +3.1
IDI	Anoyia	5.95	141	Pn	Pn	00 40 42.0 -1.4
IDI	Anoyia	5.95	141	Pn	Pn	00 40 43.1 -0.3
	comp=E,1.3nm,0.3s,baz=316,slow=15,SNR=12					
IDI				Sn	Sn	00 41 49.3 -2.8
	comp=E,2.1nm,0.3s,baz=84,slow=22,SNR=6.8					
	comp=E,3.4nm,0.4s					
LOT	Lotru	5.99	24	⇓P	Pn	00 40 46.6 +2.7
NRCA	Norcia	6.11	300	Pn	Pn	00 40 45.4 -0.1
ARR	Arges	6.21	29	⇓P	Pn	00 40 49.9 +2.9
FDMO	Fiordimonte	6.21	301	Pn	Pn	00 40 46.9 0.0
MORH	Mrgy, Hungar	6.31	349	*e*Pn	Pn	00 40 48.4 +0.1
MORH	Mrgy, Hungar	6.31	349	⇑P	Pn	00 40 54.3 +6.0
SIRR	Siria	6.32	8	⇓P	Pn	00 40 50.9 +2.5
VOIR		6.43	31	⇑P	Pn	00 40 54.0 +4.0
MLR	Muntele Rosu	6.85	35	Pn	Pn	00 40 58.2 +2.4
MLR	Muntele Rosu	6.85	35	Pn	Pn	00 40 57.0 +1.2
	comp=E,0.9nm,0.4s,baz=313,slow=18					
MLR				LR	LR	00 44 27.5
	comp=E,93nm,18.5s,baz=216,slow=46					
MLR	Muntele Rosu	6.85	35	⇑P	Pn	00 41 02.9 +7.1
ISR	Istrita	6.86	40	⇓P	Pn	00 41 00.8 +5.1
NEHR	Nehoiu	6.96	37	⇓P	Pn	00 41 00.7 +3.4
DRGR		6.99	14	⇑P	Pn	00 40 59.3 +1.7
DOPR	Dopca	7.01	30	⇑P	Pn	00 41 04.9 +7.1
KARP	Karpathos	7.01	127	Pn	Pn	00 40 57.8 -0.1
CEY	Cerknica	7.17	325	*e*Pn	Pn	00 40 59.3 -0.8
COVR	Voineasa-Covas	7.24	35	⇓P	Pn	00 41 05.6 +4.5
OZUR		7.27	32	⇑P	Pn	00 41 05.9 +4.4
TLBR	Topalu	7.29	49	⇑P	Pn	00 41 05.2 +3.5
HARR	Harsova	7.31	48	⇓P	Pn	00 41 04.7 +2.8
TURR	Turia	7.33	33	⇑P	Pn	00 41 06.4 +4.2
PLOR	Plostina	7.45	36	⇑P	Pn	00 41 07.4 +3.6
VRI	Vrincioaia	7.49	37	⇓P	Pn	00 41 08.8 +4.3
TPGR	Topolog	7.69	48	⇑P	Pn	00 40 55.1 -12
SOKA	Soboth	7.69	332	*i* Pn	Pn	00 41 06.5 -0.8
	comp=E,2.6nm,0.6s					
CFR	Carcaliu	7.73	46	⇓P	Pn	00 41 13.3 +5.7
SABO	M.te Sabotino	7.73	323	Pn	Pn	00 41 08.0 +0.3
OBKA	Obir	7.74	329	*i* Pn	Pn	00 41 06.7 -1.2
	comp=E,4.6nm,0.4s					
PSZ	Piszkesteto	7.90	358	Pn	Pn	00 41 11.5 +1.3
PSZ	Piszkesteto	7.90	358	⇓P	Pn	00 41 15.4 +5.2
ARSA	Arzberg	8.02	336	*i* Pn	Pn	00 41 10.7 -1.1
	comp=E,0.6nm,0.3s					
VLDR	Vladesti	8.14	42	⇑P	Pn	00 41 01.1 -12
RONA	Rosalia, Austr	8.21	341	*i* Pn	Pn	00 41 14.1 -0.2
	comp=E,0.7nm,0.2s					
TEOL	Teolo	8.31	313	Pn	Pn	00 41 14.8 -0.9
BURAR	Bucovina Array	8.37	23	⇑P	Pn	00 41 20.6 +4.0
BUR08	Bucovina Ar. S	8.39	23	Pn	Pn	00 41 18.8 +1.9
CONA	Conrad Observa	8.54	339	*i* Pn	Pn	00 41 17.7 -1.2
	comp=E,0.1nm,0.2s					
VYHS	Vyhne	8.54	353	*e*PN	Pn	00 41 18.2 -0.6
MODS	Modra-Piesok	8.63	346	*e*PN	Pn	00 41 21.1 +1.0
KBA	Koelnbreinsper	8.69	327	*i* Pn	Pn	00 41 19.4 -1.6
	comp=E,0.7nm,0.3s					
MOA	Molln	8.96	333	*e*Pn	Pn	00 41 25.0 +0.3
	comp=E,1.9nm,0.6s					
BIOA	Bad Ischl, Aus	9.06	330	*i* Pn	Pn	00 41 25.8 -0.2
	comp=E,0.7nm,0.2s					
LESA	Schwarzleotal	9.24	326	*i* Pn	Pn	00 41 28.6 +0.1
	comp=E,0.4nm,0.2s					
WTTA	Wattenberg	9.59	322	*i* Pn	Pn	00 41 33.1 -0.3
	comp=E,2.5nm,0.5s					
WATA	Walderalm	9.67	322	*e*Pn	Pn	00 41 34.0 -0.5
	comp=E,1.2nm,0.4s					
KEST	Kesra	9.68	247	Pn	Pn	00 41 34.8 +0.3
	comp=E,0.1nm,0.3s,baz=11,slow=19,SNR=2.1					
KEST				LR	LR	00 46 15.6
	comp=E,77nm,18.4s,baz=258,slow=44					
	comp=E,6.1nm,1.0s					
SQTA	Sankt Quirin	9.77	320	*e*Pn	Pn	00 41 34.3 -1.5
	comp=E,1.1nm,0.3s					
FUORN	Ofenpass-Fuorn	9.86	315	Pn	Pn	00 41 37.3 +0.2
FETA	Feichten	9.87	318	*i* Pn	Pn	00 41 37.2 0.0
	comp=E,1.1nm,0.4s					
MOTA	Moosalm	9.91	321	*e*Pn	Pn	00 41 37.6 -0.1
	comp=E,1.2nm,0.4s					
TUE	Stuetta	10.28	312	Pn	Pn	00 41 42.1 -0.7
KHC	Kasperske Hory	10.30	334	*e*PN	Pn	00 41 43.5 +0.5
SENIN	Lac Senin/Sane	11.42	308	Pn	Pn	00 42 00.1 +1.5
MMAI	Mount Meron Ar	13.98	115	Pn	Pn	00 42 32.8 -0.6
	comp=E,0.6nm,0.4s,baz=310,slow=12,SNR=7.5					
EIL	Elat	15.81	126	LR	LR	00 50 07.9
	comp=E,15nm,21.6s,baz=64,slow=41					
ESDC	Sonseca Array	18.65	277	LR	LR	00 49 52.8
	comp=E,54nm,19.6s,baz=67,slow=34					
GNI	Garni	18.67	82	LR	LR	00 51 13.7
	comp=E,18nm,19.4s,baz=276,slow=39					
HFS	Hagfors	20.56	351	P	P	00 43 53.3 -0.6
	comp=E,4.5nm,1.0s,baz=163,slow=10,SNR=2.0					
HFS				LR	LR	00 52 19.1
	comp=E,113nm,19.4s,baz=254,slow=38					
	comp=E,4.5nm,1.0s					
FINES	FINESS Array B	21.74	7	P	P	00 44 05.9 -0.7
	comp=E,1.7nm,0.5s,baz=169,slow=12,SNR=9.4					
	comp=E,1.7nm,0.5s					
NB201	NORSAR Array S	21.78	348	P	P	00 44 07.2 +0.1
NB201				IAmb	IAmb	00 44 29.2
	comp=Z,28nm,1.3s					
NB2	NORSAR Subarra	21.79	348	P	P	00 44 06.2 -1.0
	comp=Z,0.5nm,0.5s,baz=158,slow=11					
NOA	NORSAR Array B	21.79	348	P	P	00 44 07.2 0.0
	comp=Z,1.4nm,0.9s,baz=160,slow=11,SNR=3.9					
NOA				LR	LR	00 53 45.5
	comp=Z,23nm,19.9s,baz=325,slow=40					
	comp=Z,1.4nm,0.9s					
EKA	Eskdalemuir Ar	21.86	322	P	P	00 44 08.6 +0.7
	comp=Z,1.9nm,0.7s,baz=124,slow=12,SNR=5.3					
	comp=Z,1.9nm,0.7s					
ARCES	ARCESS Array B	29.71	4	P	P	00 45 19.5 -1.7
	comp=Z,1.2nm,0.8s,baz=190,slow=11,SNR=1.2					
	comp=Z,1.2nm,0.8s					
TORD	Torodi Ar. Bea	31.39	217	P	P	00 45 36.5 -0.1
	comp=Z,0.7nm,0.5s,baz=17,slow=10,SNR=12					
	comp=Z,0.7nm,0.5s					
MK31	Makanchi Array	44.49	60	P	P	00 47 26.1 -0.7
MK31				IAmb	IAmb	00 47 26.5
	comp=Z,2.9nm,1.1s					
MKAR	Makanchi Array	44.49	60	P	P	00 47 26.4 -0.5
	comp=Z,0.8nm,0.5s,baz=273,slow=7.6,SNR=14					
	comp=Z,0.8nm,0.5s					
ZALV	Zalesovo Beam	44.59	49	P	P	00 47 27.0 -0.5
	comp=Z,0.5nm,0.4s,baz=280,slow=8.6,SNR=3.6					
	comp=Z,0.5nm,0.4s					
SONM	Songino Array	59.42	51	P	P	00 49 19.3 +1.1
	comp=Z,0.5nm,0.5s,baz=302,slow=6.5,SNR=4.4					
	comp=Z,0.5nm,0.5s					
ILAR	Eielson Array	75.06	354	P	P	00 50 57.4 +0.4
	comp=Z,0.3nm,0.8s,baz=13,slow=4.9,SNR=4.6					
	comp=Z,0.3nm,0.8s					

AZER ***01*** *00:39:36.1,41°.11N×47°.93E,h12km,ml2.8*
MOS ***01*** *00:39:37.2,41°.16N×47°.88E,h9km,MPVA3.7*
DRS ***01*** *00:39:37.7,41°.10N×47°.86E,h60km*
TIF ***01*** *00:39:37.6,40°.84N×47°.92E,h33km±2km*
ISC 01 00:39:38.3±0.8,41°.09N±0°.01×47°.90E±0°.02,h12km±6km, n52,σ1°08/104,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QBL	Gabala	0.15	198	P	Pg	00 39 42.1	+0.2
QBL				S	Sg	00 39 45.9	+1.5
XNQ	Khinaliq	0.20	65	P	Pg	00 39 42.1	-0.8
XNQ				S	Sg	00 39 45.5	-0.5
IML	Ismayilli	0.36	144	P	Pg	00 39 45.6	0.0
IML				S	Sb	00 39 52.4	-0.1
AKT	Akhty	0.41	342	*e*Pg	Pg	00 39 45.7	-0.8
	243nm,0.3s						
AKT				*e*Sg	Sg	00 39 51.5	-0.6
	863nm,0.4s						
QSAR	Qusar	0.51	33	P	Pg	00 39 47.5	-0.8
QSAR				S	Sg	00 39 55.2	+0.1
QUBA	Quba, Azerbaij	0.52	59	P	Pg	00 39 48.1	-0.5
QUBA				S	Sg	00 39 55.5	-0.1
SEKA	Sheki	0.54	283	P	Pg	00 39 47.9	-1.0
SEKA				S	Sg	00 39 56.1	0.0
KSMR	Kasumkent	0.54	19	*e*Pg	Pg	00 39 48.0	-1.0
KSMR				*e*Sg	Sg	00 39 55.5	-0.7
PQL	Pirkuli	0.61	119	P	Pg	00 39 49.9	-0.3
PQL				S	Sb	00 40 00.0	+0.6
MNGR	Mingechevir, A	0.69	243	P	Pb	00 39 52.2	0.0
MNGR				S	Sb	00 40 02.6	+0.9
KDMR	Kurdemir	0.74	163	P	Pg	00 39 52.5	-0.2
KDMR				S	Sb	00 40 05.1	+1.9
SIZA	Siyzn	0.76	91	P	Pg	00 39 52.4	-0.6
SIZA				S	Sg	00 40 02.6	-0.3
ATGJ	Altiaghaj	0.82	106	P	Pg	00 39 53.4	-0.8
ATGJ				S	Sg	00 40 05.3	+0.3
ZRD	Zardab	0.82	191	P	Pb	00 39 54.6	+0.1
ZRD				S	Sn	00 40 08.8	+1.1
GBS	Qobustan	0.97	124	P	Pb	00 39 57.4	+0.4
GBS				S	Sn	00 40 12.3	+0.8
BRDA	Brd	0.99	214	P	Pb	00 39 57.5	+0.1
BRDA				S	Sn	00 40 14.1	+2.2
DRN	Derbent	1.00	19	*e*Pg	Pg	00 39 56.3	-1.3
	79nm,0.3s						
DRN				*e*Sg	Sg	00 40 10.1	-0.4
	353nm,0.6s						
URKR	Urkarakh	1.10	350	*e*Pg	Pg	00 39 58.2	-1.2
	30nm,0.3s						
URKR				*e*Sg	Sb	00 40 13.6	0.0
	100nm,0.6s						
ZKTA	Zakatala	1.11	300	P	Pg	00 39 58.0	-1.6
ZKTA				S	Sn	00 40 15.2	+0.4
VSHL	Vashlovani	1.14	278	P	Pb	00 39 60.0	0.0
VSHL				S	Sn	00 40 16.2	+0.6
AGDM	Agdam	1.15	212	P	Pg	00 39 59.2	-1.2
AGDM				S	Sn	00 40 16.6	+0.8
KMKR	Kumukh	1.20	330	*e*Pg	Pg	00 40 00.2	-1.3
	40nm,0.2s						
KMKR				*e*Sg	Sb	00 40 17.5	+0.8
	134nm,0.3s						
GANJ	Ganja	1.27	250	P	Pg	00 40 00.2	-2.6
GANJ				S	Sg	00 40 17.9	-1.4
SAAT	Saatly	1.29	162	P	Pg	00 40 00.7	-2.3
SAAT				S	Sg	00 40 19.1	-0.7
SGKR	Sergokala	1.38	353	*e*Pg	Pn	00 40 03.4	0.0
	39nm,0.9s						
SGKR				*e*Sg	Sb	00 40 22.1	+0.4
	72nm,0.4s						
BLQ	Beylaqan	1.39	191	Pn	Pn	00 40 02.3	-1.2
BLQ				Sn	Sg	00 40 22.3	-0.7
ALIB	&Aumlli-Bayram	1.41	143	Pn	Pn	00 40 02.2	-1.6
ALIB				Sn	Sg	00 40 22.5	-1.1
LGD	Lagodekhi	1.45	302	P	Pn	00 40 04.6	+0.3
LGD				S	Sn	00 40 25.3	+2.0
GNBR	Gunib	1.48	332	*e*Pg	Pn	00 40 05.3	+0.5
	16nm,0.3s						
GNBR				*e*Sg	Sn	00 40 25.3	+1.3
	54nm,0.6s						
ARKR	Arakani	1.66	336	*e*Pg	Pn	00 40 08.2	+0.9
	25nm,0.4s						
ARKR				*e*Sg	Sb	00 40 30.2	+0.5
	44nm,0.4s						
GDB	GEDABAY	1.67	258	Pn	Pn	00 40 06.2	-1.2
GDB				Sn	Sn	00 40 28.7	-0.1
QRD	Qoradiz	1.68	195	Pn	Pn	00 40 06.1	-1.4
QRD				Sn	Sn	00 40 29.3	+0.3
XNZR	Khunzakh	1.71	329	*e*Pg	Pb	00 40 09.4	-0.3
	23nm,0.5s						
XNZR				*e*Sg	Sg	00 40 33.1	-0.1
	26nm,0.4s						
UNCR	Uncukul	1.82	334	*e*Pg	Pn	00 40 10.5	+1.0
	13nm,0.4s						
UNCR				*e*Sg	Sb	00 40 34.6	+0.2
	60nm,0.6s						
BUJR	Buynaksk	1.83	342	*e*Pg	Pn	00 40 09.9	+0.3
	24nm,0.3s						
BUJR				*e*Sg	Sb	00 40 35.3	+0.6
	110nm,0.4s						
GLBA	Clilabad	1.88	168	Pn	Pn	00 40 09.4	-0.9
GLBA				Sn	Sn	00 40 34.8	+0.9
KRNR	Karanay	1.89	337	*e*Pg	Pn	00 40 11.2	+0.7
	11nm,0.5s						
KRNR				*e*Sg	Sb	00 40 36.9	+0.5
	32nm,0.6s						
QZX	Qazax, Azerbai	1.91	270	Pn	Pn	00 40 10.5	-0.2
QZX				Sn	Sn	00 40 36.4	+1.7
BTLR	Botlikh	2.01	322	*e*Pg	Pb	00 40 13.8	-1.1
	14nm,0.6s						
BTLR				*e*Sg	Sb	00 40 39.9	0.0
	26nm,0.6s						
DBC	Dubki	2.09	338	*e*Pg	Pb	00 40 15.5	-0.7
	21nm,0.6s						
DBC				*e*Sg	Sg	00 40 44.3	-1.2
	46nm,0.6s						
YRD	Yardimli	2.18	173	Pn	Pn	00 40 13.1	-1.5
YRD				Sn	Sn	00 40 43.1	+1.4
DLMR	Dylym	2.19	335	*e*Pg	Pb	00 40 16.7	-1.2
	19nm,0.2s						
DLMR				*e*Sg	Sb	00 40 45.9	+0.8
	129nm,0.4s						
DVE	Vedeno	2.29	325	*i* Pg	Pn	00 40 17.9	+1.9
DVE				*e*Sg	Sb	00 40 48.6	+0.8
SBZ	Shahbuz	2.46	228	Pn	Pn	00 40 20.1	+1.7
SBZ				Sn	Sn	00 40 51.1	+2.7
LRK	Lerik	2.46	172	Pn	Pn	00 40 17.4	-1.1
LRK				Sn	Sn	00 40 50.4	+1.9
LKRN	Lenkeran, Azer	2.47	164	Pn	Pn	00 40 18.1	-0.2
LKRN				Sn	Sn	00 40 48.6	+0.3
CHRG	Chargali	2.55	300	P	Pn	00 40 20.7	+1.2
CHRG				S	Sn	00 40 53.5	+2.9
GNI	Garni	2.58	250	*e*Pn	Pn	00 40 22.6	+2.5
GNI				*e*Sn	Sb	00 40 56.7	+0.5
ORD	Ordubad	2.60	215	Pn	Pn	00 40 20.6	+0.3
ORD				Sn	Sb	00 40 56.8	-0.1
ASTR	Astara	2.62	164	Pn	Pn	00 40 19.6	-0.8
ASTR				Sn	Sn	00 40 52.8	+0.7
TRLG	Trialeti	2.89	280	P	Pn	00 40 24.5	+0.1
TRLG				S	Sn	00 40 59.7	+0.6
ALIG	Mtskhetisjvari	3.34	289	P	Pn	00 40 31.3	+0.9
ALIG				S	Sn	00 41 11.0	+0.9

NEIC ***01*** *00:52:38.0±2.2,32°.85N±0°.03×100°.91W±0°.03,h5km±5km,*
Error ellipse: s-maj=5.5km s-min=2.3km az=149.0
NEIC 01 00:52:39.1±1.1,32°.87N±0°.03×100°.91W±0°.03,h2km±6km, mb_Lg2.4/30,ML2.5/3,ML2.7/12,Error ellipse: s-maj=8.7km s-min=3.4km az=187.0,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SN02	Snyder 2	0.01	214		Pg	00 52 39.0	-0.5
SN01	Snyder 1	0.02	132		Pg	00 52 39.8	+0.1
SN05	Snyder 5	0.02	71		Pg	00 52 39.3	-0.4
SN05					Sg	00 52 39.9	-0.1
SN05				IAML		00 52 40.1	
	50μm,0.1s						
SN06	Snyder 6	0.03	282		Pg	00 52 39.9	+0.1
SN04	Snyder 4	0.04	48		Pg	00 52 39.6	-0.3
SN03	Snyder 3	0.06	329		Pg	00 52 39.9	-0.4
SN07	Snyder 07	0.22	3		Pg	00 52 42.8	-0.4
SN07				Sg	Sg	00 52 46.1	-0.1
SN07				IAML		00 52 46.3	
	2μm,0.1s						
SN07				IAML		00 52 49.0	
	2μm,0.2s						
POST	Post	0.54	291		Pg	00 52 48.6	-0.8
POST				Sg	Sg	00 52 55.8	-0.5
DKNS	Dickens	0.79	359	Pg	Pg	00 52 53.2	-1.0
DKNS				Sg	Sg	00 53 04.0	-0.6
DKNS				IAML		00 53 14.2	
	236nm,0.7s						
APMT	Aspermont	0.80	55	Pg	Pg	00 52 53.4	-0.9
APMT					Sg	00 53 03.9	-0.9
APMT				IAML		00 53 05.6	
	306nm,0.1s						
APMT				IAML		00 53 08.2	
	205nm,0.2s						
SGCY	Sterling City	0.97	191		Pg	00 52 56.4	-1.4
SGCY					Sg	00 53 09.0	-1.3
ABTX	Abilene, Hawle	1.09	103		Pg	00 52 58.8	-1.2
ABTX					Sg	00 53 13.7	-0.5
ODSA	Odessa	1.58	242	Pg	Pn	00 53 07.2	-1.0
MSTX	Muleshoe	1.91	306		Pn	00 53 12.1	-0.7
OZNA	Ozona	1.95	186		Pn	00 53 13.0	-0.3
OZNA				IAmb_Lg		00 53 39.7	
	comp=Z,14nm,0.8s						
AMTX	Amarillo	2.11	342		Pn	00 53 15.7	+0.2
PLPT	Palo Pinto	2.18	91	Pn	Pn	00 53 16.7	+0.3
PLPT				IAmb_Lg		00 53 53.3	
	comp=Z,22nm,0.7s						
MNHN	Monahans	2.19	226		Pn	00 53 16.0	-0.6
MNHN				IAmb_Lg		00 53 48.9	
	comp=Z,14nm,0.8s						
WTFS	Witchita Falls	2.23	66	Pn	Pn	00 53 17.1	+0.1
BRDY	Brady	2.26	134		Pn	00 53 17.1	-0.5
BRDY				IAmb_Lg		00 53 52.2	
	comp=Z,20nm,0.8s						
SMWD	Samnorwood	2.29	14		Pn	00 53 18.1	+0.1
FW03	Perrin-Whitt E	2.39	85	Pn	Pn	00 53 19.3	0.0
JCT	Junction City	2.56	158		Pn	00 53 21.5	-0.2
WMOK	Wichita Mounta	2.57	43		Pn	00 53 21.2	-0.5
FW07	Weatherford	2.63	93		Pn	00 53 22.4	-0.2
PECS	Pecos	2.93	240		Pn	00 53 26.8	+0.1
PECS				IAmb_Lg		00 54 18.7	
	comp=Z,9.0nm,0.7s						
X34A	Smith Ranch, M	3.09	55	IAmb_Lg		00 54 19.0	
	comp=Z,14nm,0.9s						
SAND	Sanderson	3.09	200		Pn	00 53 28.2	-0.7
SAND				IAmb_Lg		00 54 23.5	
	comp=Z,8.7nm,0.8s						
Z35A	Perchaven, San	3.10	81	IAmb_Lg		00 54 20.1	
	comp=Z,14nm,0.8s						
LOOK	Love County	3.31	69	IAmb_Lg		00 54 24.4	
	comp=Z,13nm,0.7s						
ALPN	Alpine	3.41	224		Pn	00 53 32.9	-0.6
DRIO	Del Rio	3.45	176		Pn	00 53 33.8	0.0
DRIO				IAmb_Lg		00 54 34.2	
	comp=Z,12nm,0.9s						
HNDO	Hondo	3.61	157	Pn	Pn	00 53 35.9	-0.2
HNDO				IAmb_Lg		00 54 42.9	
	comp=Z,12nm,0.8s						
RTBA	Rita Blanca	3.86	337		Pn	00 53 40.0	+0.4
VHRN	Van Horn	4.05	240		Pn	00 53 41.7	-0.5
TX31	Lajitas Ar. Si	4.25	215		Pn	00 53 44.5	-0.4
TXAR	Lajitas Array	4.25	215		Pn	00 53 44.6	-0.3
833A	Chaparral WMA,	4.72	164	IAmb_Lg		00 55 10.1	
	comp=Z,8.8nm,1.0s						
X37A	Clayton	4.92	68	IAmb_Lg		00 55 20.4	
	comp=Z,10nm,0.8s						

IDC ***01*** *00:57:52.4±0.9,0°.90N×96°.75E,h0km,mb4.2/15, mbtmp4.2/16,ML4.4/1,MS3.4/13,Error ellipse: s-maj=31.9km s-min=14.9km az=56.0*
DJA ***01*** *00:57:55.6±1.0,1°.N±3°×9°.7E±°,h27km±8km,M4.7/11, mb5.0/3,mB5.7/1,MLv4.5/11,Mw(mB)5.3/1*
NEIC ***01*** *00:57:55.2±1.2,1°.03N±0°.04×96°.84E±0°.03,h10km±1km, mb4

ASAR	**Alice Springs**	**43.59**	**127**	P	**P**	**01 05 58.8**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=303,slow=8.1,SNR=9.6						
ASAR				PcP	**PcP**	**01 07 46.1**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=305,slow=3.3,SNR=1.8						
	comp=Z,0.8nm,0.6s						
TARG	**Taragay, Kyrgy**	**43.99**	**339**	P	**P**	**01 06 03.2**	**+0.9**
NRN	**Naryn**	**44.40**	**338**	P	**P**	**01 06 06.3**	**+0.9**
NRN				IAmb	IAmb	01 06 19.1	
	comp=Z,21nm,1.4s						
SIMJ	**Simiganj**	**45.29**	**329**	P	**P**	**01 06 13.0**	**+0.6**
SIMJ				IAmb	IAmb	01 06 24.1	
	comp=Z,4.4nm,0.9s						
BOOM	**Boomskoye usch**	**45.33**	**338**	P	**P**	**01 06 13.1**	**+0.4**
BTK	**Batken**	**45.48**	**332**	P	**P**	**01 06 14.7**	**+0.9**
BTK				IAmb	IAmb	01 06 29.2	
	comp=Z,6.6nm,0.9s						
KSRS	**Korea Array**	**46.19**	**35**	P	**P**	**01 06 20.1**	**+0.8**
	comp=Z,15nm,0.5s,baz=217,slow=9.0,SNR=7.5						
KSRS				LR	LR	01 26 03.5	
	comp=Z,23nm,20.5s,baz=95,slow=36						
	comp=Z,15nm,0.5s						
MK31	**Makanchi Array**	**47.31**	**346**	P	**P**	**01 06 28.3**	**+0.3**
MK31				IAmb	IAmb	01 06 38.6	
	comp=Z,10nm,1.4s						
MKAR	**Makanchi Array**	**47.31**	**346**	P	**P**	**01 06 28.9**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=160,slow=7.4,SNR=12						
MKAR				LR	LR	01 30 27.2	
	comp=Z,33nm,18.1s,baz=165,slow=41						
	comp=Z,2.5nm,0.8s						
SONM	**Songino Array**	**47.34**	**9**	P	**P**	**01 06 29.3**	**+0.9**
	comp=Z,2.9nm,0.9s,baz=192,slow=7.0,SNR=10						
SONM				PcP	**PcP**	**01 07 59.8**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=189,slow=3.3,SNR=1.3						
SONM				LR	LR	01 26 53.8	
	comp=Z,66nm,19.3s,baz=221,slow=37						
	comp=Z,2.9nm,0.9s						
MAKZ	**Makanchi**	**47.40**	**346**	P	**P**	**01 06 29.4**	**+0.8**
MAKZ				IAmb	IAmb	01 06 41.7	
	comp=Z,4.9nm,0.8s						
KKAR	**Karatay Array**	**48.04**	**334**	P	**P**	**01 06 34.6**	**+0.8**
KKAR				IAmb	IAmb	01 06 50.8	
	comp=Z,7.9nm,1.5s						
PMG	**Port Moresby**	**51.18**	**103**	P	**P**	**01 06 58.2**	**+0.1**
	comp=Z,5.2nm,0.3s,baz=190,slow=14,SNR=1.3						
	comp=Z,5.2nm,0.3s						
KURBB	**Kurchatov Arra**	**51.79**	**345**	P	**P**	**01 07 02.8**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=166,slow=6.9,SNR=7.5						
	comp=Z,0.7nm,0.3s						
KURK	**Kurchatov**	**51.85**	**345**	P	**P**	**01 07 03.1**	**+0.6**
KURK				IAmb	IAmb	01 07 16.9	
	comp=Z,6.8nm,1.1s						
CTA	**Charters Tower**	**52.76**	**116**	LR	LR	01 32 56.6	
	comp=Z,5.3nm,18.1s,baz=276,slow=40						
USRK	**Ussuriysk Ar.**	**53.10**	**31**	P	**P**	**01 07 12.8**	**+1.0**
	comp=Z,7.9nm,0.9s,baz=229,slow=8.3,SNR=6.1						
	comp=Z,7.9nm,0.9s						
STKA	**Stephens Creek**	**53.52**	**132**	P	**P**	**01 07 15.4**	**+0.2**
STKA	**Stephens Creek**	**53.52**	**132**	P	**P**	**01 07 14.9**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=306,slow=11,SNR=3.2						
	comp=Z,2.2nm,0.9s						
ZAA0	**Zalesovo Array**	**53.66**	**351**		**P**	**01 07 16.9**	**+1.1**
ZALV	**Zalesovo Beam**	**53.66**	**351**	P	**P**	**01 07 16.7**	**+0.9**
	comp=Z,5.5nm,0.7s,baz=163,slow=7.6,SNR=18						
ZALV				LR	LR	01 32 38.3	
	comp=Z,19nm,19.9s,baz=40,slow=39						
	comp=Z,5.5nm,0.7s						
BVAR	**Borovoye Array**	**56.28**	**341**	P	**P**	**01 07 34.7**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=146,slow=6.9,SNR=4.9						
	comp=Z,0.8nm,0.6s						
KLR	**Kul'dur**	**56.56**	**27**	P	**P**	**01 07 37.3**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=238,slow=7.3,SNR=6.8						
	comp=Z,2.6nm,0.9s						
ABKAR	**Akbulak array**	**57.48**	**332**	P	**P**	**01 07 43.4**	**0.0**
H04N2	**CROZET ISLANDS**	**61.44**	**214**	T	T	02 15 02.9	
	baz=54,slow=75,SNR=435						
H04N1	**CROZET ISLANDS**	**61.45**	**214**	T	T	02 14 54.4	
	baz=54,slow=75,SNR=266						
H04N3	**CROZET ISLANDS**	**61.45**	**214**	T	T	02 14 54.7	
	baz=54,slow=75,SNR=257						
H04S1	**CROZET ISLANDS**	**61.78**	**213**	T	T	02 15 22.2	
	baz=54,slow=75,SNR=113						
H04S3	**CROZET ISLANDS**	**61.79**	**213**	T	T	02 15 18.5	
	baz=54,slow=75,SNR=138						
H04S2	**CROZET ISLANDS**	**61.80**	**213**	T	T	02 15 16.3	
	baz=54,slow=75,SNR=77						
MMAI	**Mount Meron Ar**	**65.70**	**306**	P	**P**	**01 08 39.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=104,slow=6.7,SNR=1.6						
MMAI				LR	LR	01 39 30.7	
	comp=Z,31nm,18.8s,baz=182,slow=38						
	comp=Z,0.2nm,0.3s						
TIXI	**Tiksi**	**73.41**	**10**	P	**P**	**01 09 25.3**	**-0.7**
TIXI				IAmb	IAmb	01 09 26.4	
	comp=Z,5.4nm,0.8s						
AKASG	**Malin Array Be**	**75.16**	**323**	P	**P**	**01 09 37.2**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=2.7,slow=21,SNR=1.6						
AKASG				LR	LR	01 45 45.5	
	comp=Z,30nm,20.0s,baz=264,slow=38						
	comp=Z,0.4nm,0.6s						
MLR	**Muntele Rosu**	**75.93**	**317**	LR	LR	01 47 07.2	
	comp=Z,41nm,19.4s,baz=232,slow=39						
HFS	**Hagfors**	**85.68**	**330**	P	**P**	**01 10 33.6**	**+0.7**
	comp=Z,4.1nm,1.0s,baz=117,slow=5.2,SNR=2.0						
	comp=Z,4.1nm,1.0s						
CPUP	**Villa Florida**	**144.64**	**223**	PKP	**PKPab**	**01 17 30.6**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=203,slow=5.4,SNR=4.0						

*IDC **01** 01:05:17.7±0.6,55°.77S×26°.65W,h0km,mb4.5/10, mbtmp4.5/11,ML4.0/1,MS3.9/28,Error ellipse: s-maj=22.9km s-min=16.2km az=64.0*
*NEIC **01** 01:05:19.2±1.5,55°.9S±0°.1×26°.65W±0°.08,h10km±1km, mb5.0/33,Error ellipse: s-maj=21.8km s-min=7.6km az=182.0*
ISC 01 01:05:19.0±0.4,55°.83S±0°.07×26°.60W±0°.08,h10km,n278,σ1§12/244,mb5.0/24,MS4.0/27,9C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.89**	**281**	Pn	**Pn**	**01 06 45.3**	**-1.0**
VNA1	**Neumayer--Stat**	**16.88**	**159**	⇑P	**P**	**01 09 17.8**	**+0.8**
VNA1				⇑ScP	**ScP**	**01 17 34.9**	**-1.0**
	comp=Z,0.2nm,0.3s						
VNA3	**Neumayer Olymp**	**17.09**	**161**	⇑P	**P**	**01 09 20.0**	**+0.6**
	comp=Z,2.6nm,0.4s						
VNA3				⇑ScP	**ScP**	**01 17 35.3**	**-1.1**
	comp=Z,1.8nm,0.9s						
VNA2	**Neumayer--Watz**	**17.27**	**159**	⇑P	**P**	**01 09 23.1**	**+1.6**
	comp=Z,1.8nm,0.3s,baz=319,slow=13						
VNA2				⇑ScP	**ScP**	**01 17 35.8**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=14,slow=1.4						
SNAA	**Sanae**	**18.81**	**157**		**P**	**01 09 37.7**	**-0.7**
SNAA	**Sanae**	**18.81**	**157**	⇑P	**Pn**	**01 09 39.2**	**+0.3**
	comp=Z,27nm,0.4s						
SNAA				⇑ScP	**ScP**	**01 17 39.0**	**-1.1**
	comp=Z,37nm,1.2s						
SNAA	**Sanae**	**18.81**	**157**	P	**Pn**	**01 09 39.6**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=301,slow=11,SNR=42						
SNAA				LR	LR	01 15 21.8	
	comp=Z,275nm,20.4s,baz=12,slow=32						
	comp=Z,3.0nm,0.5s						
EFI	**East Falkland**	**18.97**	**269**	P	**P**	**01 09 40.2**	**+0.1**
PMSA	**Palmer Station**	**20.29**	**229**	P	**P**	**01 09 54.5**	**0.0**
PMSA				IAmb	IAmb	01 10 02.8	
	comp=Z,163nm,1.8s						
PMSA	**Palmer Station**	**20.29**	**229**	P	**P**	**01 09 54.7**	**+0.2**
	comp=Z,12nm,0.6s,baz=195,slow=16,SNR=2.1						
	comp=Z,12nm,0.6s						
TROLL	**Troll, Antarti**	**20.30**	**154**	⇑P	Pn	01 09 55.5	-1.1
	comp=Z,93nm,0.5s						
BELA	**Belgrano 2**	**22.32**	**184**	P	**P**	**01 10 14.2**	**-2.0**
MG02	**Cerro Sombrero**	**24.77**	**259**	P	**P**	**01 10 38.8**	**-1.8**
MG03	**Isla Dawson**	**25.02**	**256**	P	**P**	**01 10 42.4**	**-0.5**
MG03				IAmb	IAmb	01 11 13.8	
	comp=Z,86nm,1.6s						
GO09	**Cerro Castillo**	**27.16**	**260**	P	**P**	**01 11 00.1**	**-2.1**
GO09				IAmb	IAmb	01 11 03.7	
	comp=Z,94nm,1.8s						
GO08	**Villa O'Higgin**	**28.69**	**265**	P	**P**	**01 11 14.6**	**-1.2**
GO08				IAmb	IAmb	01 11 38.7	
	comp=Z,29nm,1.4s						
AY03	**Cochrane**	**29.37**	**267**	P	**P**	**01 11 24.7**	**+2.8**
AY03				IAmb	IAmb	01 11 25.1	
	comp=Z,12nm,0.4s						
TRQA	**Tornquist**	**29.54**	**292**	P	**P**	**01 11 23.3**	**-0.3**
TRQA				IAmb	IAmb	01 11 44.0	
	comp=Z,47nm,1.8s						
PLTB	**Pedras Altas**	**30.60**	**311**	*e*P	**P**	**01 11 33.0**	**0.0**
PLCA	**Paso Flores**	**32.29**	**279**	LR	LR	01 25 23.8	
	comp=Z,150nm,18.3s,baz=148,slow=37						
QSPA	**South Pole Qui**	**34.42**	**180**	P	**P**	**01 12 06.9**	**+0.7**
	comp=Z,5.5nm,0.6s,baz=199,slow=3.0,SNR=17						
QSPA				LR	LR	01 25 48.1	
	comp=Z,440nm,19.3s,baz=192,slow=36						
	comp=Z,5.5nm,0.6s						
PTGB	**Pitanga**	**36.24**	**319**	*e*P	**P**	**01 12 22.3**	**+0.1**
CPUP	**Villa Florida**	**36.92**	**310**	P	**P**	**01 12 27.3**	**-0.6**
	comp=Z,5.6nm,0.8s,baz=156,slow=7.0,SNR=12						
CPUP				LR	LR	01 25 24.3	
	comp=Z,85nm,20.8s,baz=162,slow=33						
	comp=Z,5.6nm,0.8s						
CPUP	**Villa Florida**	**36.92**	**310**	*e*P	**P**	**01 12 27.5**	**-0.4**
SJPY	**San Joaquin**	**37.58**	**313**	*e*P	**P**	**01 12 32.7**	**-0.8**
PEL	**Peldehue**	**37.88**	**288**	P	**P**	**01 12 35.8**	**-0.2**
AMBA	**Amambai (Brazi**	**38.98**	**316**	*e*P	**P**	**01 12 44.7**	**-0.6**
NAN01	**Guarapari, ES**	**39.29**	**339**	*e*P	**P**	**01 12 47.5**	**-0.4**
DIAM	**Diamantina, MG**	**39.64**	**334**	*e*P	**P**	**01 12 51.6**	**+0.6**
CO01	**Juntas del Tor**	**40.04**	**292**	P	**P**	**01 12 54.3**	**-0.1**
MAW	**Mawson**	**40.13**	**144**	P	**P**	**01 12 55.2**	**+0.9**
	comp=Z,3.6nm,0.7s,baz=222,slow=7.6,SNR=21						
MAW				LR	LR	01 27 10.9	
	comp=Z,127nm,21.3s,baz=262,slow=33						
	comp=Z,3.6nm,0.7s						
SUR	**Sutherland**	**40.26**	**75**	LR	LR	01 25 36.7	
	comp=Z,371nm,18.2s,baz=216,slow=30						
RPRD	**Ribeirao Rio P**	**40.70**	**319**	*e*P	**P**	**01 13 00.1**	**+0.5**
AQDB	**Aquidauana**	**41.47**	**316**	*e*P	**P**	**01 13 05.1**	**-0.8**
CMC01	**Camacan, BA**	**41.59**	**341**	*e*P	**P**	**01 13 06.9**	**-0.1**
BDQN	**Bodoquena, MS**	**41.90**	**315**	*e*P	**P**	**01 13 08.6**	**-0.9**
JANB	**Januaria**	**42.91**	**334**	*e*P	**P**	**01 13 18.0**	**+0.2**
BDFB	**Brasilia**	**43.34**	**329**	P	**P**	**01 13 21.2**	**-0.2**
	comp=Z,1.4nm,0.4s,baz=126,slow=8.7,SNR=4.4						
	comp=Z,1.4nm,0.4s						
GO02	**Mina Guanaco**	**43.69**	**297**	P	**P**	**01 13 24.0**	**-0.3**
GO02				IAmb	IAmb	01 13 26.0	
	comp=Z,22nm,0.7s						
ARAG	**Araguaiana, MT**	**44.46**	**324**	*e*P	**P**	**01 13 30.8**	**+0.6**
LVC	**Limon Verde**	**45.48**	**299**	P	**P**	**01 13 38.2**	**-0.5**
LVC	**Limon Verde**	**45.48**	**299**	LR	LR	01 32 03.5	
	comp=Z,50nm,21.5s,baz=170,slow=35						
LVC	**Limon Verde**	**45.48**	**299**	*e*P	**P**	**01 13 39.5**	**+0.8**
BOSA	**Boshof**	**45.59**	**75**	P	**P**	**01 13 39.4**	**+0.1**
	comp=Z,7.5nm,1.1s,baz=199,slow=8.4,SNR=4.2						
BOSA				LR	LR	01 29 03.1	
	comp=Z,430nm,19.2s,baz=206,slow=31						
	comp=Z,7.5nm,1.1s						
SDBA	**SAO DESIDERIO**	**45.61**	**335**	*e*P	**P**	**01 13 38.7**	**-0.7**
SALV	**Santo Antonio**	**45.64**	**319**	*e*P	**P**	**01 13 40.0**	**+0.4**
SBA	**Scott Base**	**46.32**	**184**	P	**P**	**01 13 44.8**	**+0.5**
BBSD	**Serra de San D**	**46.41**	**312**	*e*P	**P**	**01 13 45.2**	**-0.4**
PB01	**IPOC Station P**	**47.09**	**300**	IAmb	IAmb	01 13 52.9	
	comp=Z,16nm,0.8s						
H04S2	**CROZET ISLANDS**	**47.33**	**114**	T	T	02 05 42.6	
	baz=230,slow=75,SNR=8.3						
H04S3	**CROZET ISLANDS**	**47.34**	**114**	T	T	02 05 45.9	
	baz=230,slow=75,SNR=6.7						
H04S1	**CROZET ISLANDS**	**47.35**	**114**	T	T	02 05 33.2	
	baz=230,slow=75,SNR=7.9						
PTLB	**Pontes e Lacer**	**47.37**	**315**	P	**P**	**01 13 52.5**	**-0.7**
PTLB	**Pontes e Lacer**	**47.37**	**315**	*e*P	**P**	**01 13 52.6**	**-0.5**
PB08	**IPOC Station P**	**47.69**	**301**	IAmb	IAmb	01 13 59.3	
	comp=Z,7.1nm,0.6s						
H10S2	**ASCENSION HYDR**	**47.70**	**16**	T	T	02 05 21.1	
	baz=31,slow=74,SNR=68						
H10S3	**ASCENSION HYDR**	**47.70**	**16**	T	T	02 05 16.6	
	baz=189,slow=74,SNR=80						
SNDB	**Serra Nova Dou**	**47.79**	**327**	*e*P	**P**	**01 13 56.5**	**+0.1**
HMBC	**Humberstone**	**47.93**	**300**	P	**P**	**01 13 57.2**	**-0.4**
GO01	**Chusmiza**	**48.11**	**301**	P	**P**	**01 13 59.8**	**+0.3**
GO01				IAmb	IAmb	01 14 01.6	
	comp=Z,12nm,0.6s						
LBTB	**Lobatse**	**48.63**	**73**	LR	LR	01 31 10.4	
	comp=Z,76nm,19.3s,baz=208,slow=32						
H10N1	**ASCENSION HYDR**	**48.81**	**16**	T	T	02 06 39.1	
	baz=188,SNR=24						
H10N3	**ASCENSION HYDR**	**48.82**	**16**	T	T	02 06 45.5	
	baz=188,slow=74,SNR=56						
H10N2	**ASCENSION HYDR**	**48.83**	**16**	T	T	02 06 40.0	
	baz=188,slow=74,SNR=43						
SMTB	**Santa Maria do**	**49.69**	**332**	*e*P	**P**	**01 14 11.8**	**+0.7**
PDRB	**Porto dos Gac**	**49.97**	**320**	*e*P	**P**	**01 14 12.6**	**-0.5**
VILB	**Vilhena**	**50.06**	**315**	P	**P**	**01 14 13.4**	**-0.5**
VILB				IAmb	IAmb	01 14 13.6	
	comp=Z,10nm,0.7s						
VILB	**Vilhena**	**50.06**	**315**	*e*P	**P**	**01 14 13.1**	**-0.8**
RCBR	**Riachuelo**	**50.41**	**348**	LR	LR	01 33 23.9	
	comp=Z,18nm,18.6s,baz=152,slow=34						
LPAZ	**La Paz**	**50.52**	**304**	P	**P**	**01 14 18.3**	**+0.3**
LPAZ	**La Paz**	**50.52**	**304**	P	**P**	**01 14 18.2**	**+0.1**
	comp=Z,8.3nm,0.4s,baz=140,slow=4.3,SNR=46						
	comp=Z,8.3nm,0.4s						
LPAZ	**La Paz**	**50.52**	**304**	*e*P	**P**	**01 14 18.1**	**0.0**
NPGB	**Novo Progresso**	**53.73**	**324**	*e*P	**P**	**01 14 40.5**	**-0.8**
SAML	**Samuel**	**54.89**	**314**	P	**P**	**01 14 48.9**	**-0.7**
SAML				IAmb	IAmb	01 14 50.1	
	comp=Z,29nm,1.6s						
SAML	**Samuel**	**54.89**	**314**	*e*P	**P**	**01 14 49.0**	**-0.7**
ETMB	**Extrema**	**55.37**	**310**	IAmb	IAmb	01 14 53.8	
	comp=Z,28nm,1.5s						
ETMB	**Extrema**	**55.37**	**310**	*e*P	**P**	**01 14 52.5**	**-0.7**
TMAB	**Tom-Au,PA,Br**	**56.05**	**334**	*e*P	**P**	**01 14 59.5**	**+1.5**
ITTB	**Itaituba**	**56.37**	**324**	*e*P	**P**	**01 15 00.2**	**-0.1**
MACA	**Macapuru-AM**	**59.22**	**319**	*e*P	**P**	**01 15 18.9**	**-1.4**
CZSB	**Cruzeiro do Su**	**60.13**	**305**	P	**P**	**01 15 26.8**	**+0.2**
CZSB				IAmb	IAmb	01 16 55.9	
	comp=Z,7.6nm,0.5s						
CZSB	**Cruzeiro do Su**	**60.13**	**305**	*e*P	**P**	**01 15 26.8**	**+0.2**
BOAV	**Boa Vista**	**64.31**	**322**	P	**P**	**01 15 53.5**	**-1.0**
BOAV				IAmb	IAmb	01 15 55.2	
	comp=Z,12nm,1.2s						
BOAV	**Boa Vista**	**64.31**	**322**	*e*P	**P**	**01 15 53.6**	**-1.0**
MDP	**Montagnes des**	**64.40**	**331**	LR	LR	01 41 22.2	
	comp=Z,75nm,20.0s,baz=110,slow=34						
DBIC	**Dimbokro**	**64.83**	**24**	P	**P**	**01 15 57.9**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=352,slow=12,SNR=1.6						
DBIC				LR	LR	01 37 30.9	
	comp=Z,203nm,20.2s,baz=157,slow=30						
	comp=Z,2.6nm,0.7s						
OTAV	**Otavalo**	**69.81**	**303**	P	**P**	**01 16 31.3**	**+1.1**
OTAV				IAmb	IAmb	01 16 31.9	
	comp=Z,17nm,1.6s						
OTAV	**Otavalo**	**69.81**	**303**	*e*P	**P**	**01 16 31.1**	**+0.9**
BBTS	**Babate**	**70.73**	**10**	LR	LR	01 41 20.7	
	comp=Z,79nm,20.6s,baz=122,slow=31						
MBAR	**Mbarara**	**71.75**	**62**	LR	LR	01 46 27.3	
	comp=Z,68nm,18.1s,baz=198,slow=34						
ROSC	**El Rosal**	**72.00**	**309**	LR	LR	01 49 53.7	
	comp=Z,36nm,19.6s,baz=136,slow=37						
TORD	**Torodi Ar. Bea**	**72.70**	**29**	P	**P**	**01 16 47.0**	**0.0**
	comp=Z,3.3nm,0.7s,baz=203,slow=6.2,SNR=37						
TORD				LR	LR	01 41 29.3	
	comp=Z,69nm,20.8s,baz=160,slow=30						
	comp=Z,3.3nm,0.7s						
PCRV	**Puerto La Cruz**	**72.99**	**321**	LR	LR	01 48 26.6	
	comp=Z,52nm,21.3s,slow=36						
BAUV	**El Baul**	**73.12**	**317**	P	**P**	**01 16 49.4**	**-0.1**
SDV	**Santo Domingo**	**74.09**	**314**	LR	LR	01 51 16.7	
	comp=Z,89nm,18.5s,baz=144,slow=37						
KMBO	**Kilima Mbogo**	**74.65**	**69**	LR	LR	01 46 45.7	
	comp=Z,114nm,20.2s,baz=90,slow=33						
SJG	**San Juan**	**80.87**	**322**	LR	LR	01 57 06.8	
	comp=Z,14nm,18.5s,baz=149,slow=38						
JTS	**Las Juntas de**	**81.67**	**302**	LR	LR	01 53 45.0	
	comp=Z,16nm,21.5s,baz=128,slow=36						
FURI	**Furi**	**83.90**	**65**	LR	LR	01 53 00.4	
	comp=Z,110nm,19.3s,baz=186,slow=34						
URZ	**Urewera**	**84.12**	**199**	LR	LR	01 52 16.6	
	comp=Z,100nm,19.0s,baz=212,slow=34						
MTO3	**Montecristo**	**87.35**	**300**	IAmb	IAmb	01 21 19.2	
	comp=Z,14nm,1.3s						
TBI	**Tubuai**	**87.48**	**231**	*e*LR	LR	01 45 52.3	
	comp=Z,862nm,30.8s						
MDT	**Midelt**	**90.27**	**18**	LR	LR	01 53 05.3	
	comp=Z,89nm,19.1s,baz=150,slow=32						
PPT2	**Papeete2**	**92.58**	**233**	*e*LR	LR	01 48 09.9	
	comp=Z,75nm,27.0s						
PPT	**Papeete**	**92.59**	**233**	LR	LR	01 53 15.8	
	comp=Z,28nm,18.1s,baz=184,slow=31						
TAOE	**Nuku Hiva Isla**	**95.54**	**246**	*e*LR	LR	01 49 33.6	
	comp=Z,63nm,23.3s						
ASAR	**Alice Springs**	**99.10**	**162**	P	**Pdif**	**01 18 60.0**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=182,slow=4.1,SNR=6.0						
ASAR				LR	LR	02 01 48.4	
	comp=Z,48nm,19.6s,baz=176,slow=34						
	comp=Z,0.6nm,0.7s						
VAE	**Valguarnera**	**99.30**	**32**	LR	LR	01 59 04.9	
	comp=Z,78nm,18.3s,baz=174,slow=32						
EIL	**Elat**	**99.95**	**51**	LR	LR	01 59 16.8	
	comp=Z,111nm,21.6s,baz=248,slow=32						
DZM	**Mont Dzumac**	**101.62**	**192**	*e*LR	LR	01 52 22.2	
	comp=Z,146nm,22.6s						
WRA	**Warramunga Arr**	**102.81**	**162**	P	**Pdif**	**01 19 16.6**	**-0.4**
	comp=Z,0.4nm,1.0s,baz=188,slow=4.6,SNR=1.7						
NVAR	**Mina Array Bea**	**121.62**	**293**	PKP	**PKiKP**	**01 24 13.3**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=124,slow=1.9,SNR=2.2						
FINES	**FINESS Array B**	**124.04**	**27**	PKP	**PKPdf**	**01 24 15.5**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=198,slow=1.6,SNR=11						
ABKAR	**Akbulak array**	**126.97**	**55**		**PKPdf**	**01 24 22.0**	**0.0**
ARCES	**ARCESS Array B**	**130.62**	**21**	PKP	**PKPdf**	**01 24 28.3**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=200,slow=2.1,SNR=6.9						
PZH	**PanZhiHua**	**132.85**	**107**	PKP	**PKiKP**	**01 24 35.0**	**-0.3**
KURBB	**Kurchatov Arra**	**136.91**	**64**	PKP	**PKPdf**	**01 24 40.5**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=234,slow=2.6,SNR=2.9						
WMQ	**Urumqi**	**137.54**	**78**	*e*PKP	**PKPdf**	**01 24 43.3**	**+1.0**
U35K	**Hyder**	**139.12**	**303**		**PKiKP**	**01 24 46.1**	**-0.8**
LZH	**Lanzhou**	**141.32**	**99**	*e*PKP	**PKPdf**	**01 24 45.4**	**-4.1**
LZH				sPKP		01 25 04.1	
ZALV	**Zalesovo Beam**	**141.98**	**63**	PKP	**PKPdf**	**01 24 51.2**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=225,slow=1.8,SNR=4.0						
A36M	**Sachs Harbour**	**144.20**	**328**	PKPdf	PKPbc	01 24 51.7	+0.2
HYT	**Haines Junctio**	**144.92**	**307**	P	PKPbc	01 24 54.6	+0.2
	baz=114						
N30M	**Aishikik Lake**	**144.99**	**308**	P	**PKPab**	**01 24 54.8**	**+0.3**
	baz=113,SNR=6.1						
O29M	**Mount Kennedy**	**145.20**	**306**	P	**PKPbc**	**01 24 55.2**	**0.0**
	baz=114						
M30M	**Minto, Yukon**	**145.28**	**310**	P	**PKPbc**	**01 24 54.8**	**-0.5**
	baz=112,SNR=6.4						
PNL	**Peninsula**	**145.32**	**305**	P	**PKPbc**	**01 24 55.3**	**-0.2**
	baz=114						
YUK6	**Outpost Mounta**	**145.35**	**307**	P	**PKPbc**	**01 24 55.3**	**-0.6**
	baz=113						
H31M	**Peel River**	**145.40**	**316**		**PKPdf**	**01 24 55.4**	**-0.2**
H31M	**Peel River**	**145.40**	**316**	P	**PKPdf**	**01 24 54.9**	**-0.7**
	baz=109,SNR=7.9						
YUK4	**Talbot Arm**	**145.64**	**308**	P	**PKPdf**	**01 24 56.4**	**0.0**
	baz=112						
F31M	**Tsiigehtchic**	**145.68**	**319**	P	**PKPdf**	**01 24 56.1**	**+0.2**
	baz=107,SNR=8.8						
G31M	**Satah River**	**145.72**	**318**	P	**PKPdf**	**01 24 55.6**	**-0.4**
	baz=108,SNR=7.0						
J30M	**Hart River**	**145.79**	**314**	PKPdf	**PKPbc**	**01 24 57.0**	**+0.1**
J30M	**Hart River**	**145.79**	**314**	P	**PKPdf**	**01 24 56.1**	**-0.3**
	baz=109						
INK	**Inuvik**	**145.84**	**321**	PKPdf	**PKPdf**	**01 24 56.6**	**+0.4**
INK	**Inuvik**	**145.84**	**321**	P	**PKPdf**	**01 24 56.6**	**+0.4**
	baz=106,SNR=7.6						
PINM	**Pinnacle**	**145.89**	**305**	P	**PKPdf**	**01 24 56.7**	**+0.1**
	baz=113						
M29M	**Somme Creek**	**145.96**	**310**	P	**PKPab**	**01 24 58.1**	**0.0**
	baz=111						
I30M	**Mount Dempster**	**146.01**	**315**	P	**PKPdf**	**01 24 57.1**	**+0.4**
	baz=108,SNR=9.6						
K29M	**Barlow Dome**	**146.04**	**312**	P	**PKPdf**	**01 24 57.2**	**+0.4**
	baz=110,SNR=5.6						
L29M	**L29M**	**146.05**	**311**	P	**PKPdf**	**01 24 57.3**	**+0.5**
	baz=110,SNR=18						
YUK8	**Steele Glacier**	**146.11**	**307**	P	**PKPdf**	**01 24 57.2**	**0.0**
	baz=112

KNK	Knik Glacier	150.12 305	P	PKiKP	01 25 09.6	+0.2
	baz=106					
C26K	Camden Bay	150.14 322	P	PKiKP	01 25 09.6	+0.5
	baz=94					
HDA	Harding Lake	150.17 311	P	PKiKP	01 25 09.9	+0.5
	baz=102					
SML	Sawmill	150.17 306	P	PKiKP	01 25 09.9	+0.3
	baz=105					
F25K	Christian Rive	150.18 318	P	PKiKP	01 25 09.9	+0.5
	baz=98					
E25K	Arctic Village	150.21 319	P	PKiKP	01 25 09.3	-0.1
	baz=97					
SEW	Seward	150.22 302	P	PKiKP	01 25 09.5	-0.1
	baz=108					
ILAR	Eielson Array	150.22 312	PKPbc	PKPbc	01 25 08.0	-0.7
	comp=Z,4.6nm,0.8s,baz=97,slow=2.9,SNR=36					
G25K	Bearman Lake	150.24 316	P	PKiKP	01 25 09.4	0.0
	baz=98					
SONM	Songino Array	150.38 86	PKPbc	PKPbc	01 25 10.0	+0.3
	comp=Z,2.7nm,0.5s,baz=218,slow=2.7,SNR=13					
WAT1	Susitna Watana	150.52 308	P	PKPbc	01 25 09.6	+0.1
	baz=104					
D25K	Kavik River	150.61 321	P	PKiKP	01 25 10.2	0.0
	baz=94					
COLA	College	150.64 312	P	PKiKP	01 25 10.2	-0.1
	baz=100					
BRSE	Bradley Lake S	150.73 301	P	PKPbc	01 25 10.0	0.0
	baz=107					
G24K	Hadweenzic Riv	150.77 316	P	PKiKP	01 25 10.7	+0.1
	baz=98					
H24K	Noodor Dome	150.81 314	P	PKiKP	01 25 10.6	-0.1
	baz=99					
MCK	McKinley	150.89 309	P	PKiKP	01 25 11.2	+0.3
	baz=102					
M22K	Willow	150.98 305	P	PKiKP	01 25 12.0	+1.0
	baz=104					
KDAK	Kodiak Island	151.02 297	P	PKPbc	01 25 10.8	+0.1
	baz=110					
F24K	Squaw Lake	151.02 317	P	PKiKP	01 25 11.7	+0.5
	baz=96					
NEA2	Nenana	151.11 311	P	PKPbc	01 25 10.4	-0.4
	baz=100					
OHAK	Old Harbor	151.18 295	P	PKiKP	01 25 12.1	+0.4
	baz=110					
SUA	Susitna One	151.20 304	P	PKiKP	01 25 12.5	+0.7
	baz=104					
CAPN	Captain Cook N	151.21 303	P	PKiKP	01 25 12.5	+0.9
	baz=105					
E24K	Your Creek	151.30 318	P	PKiKP	01 25 12.5	+0.8
	baz=94					
I23K	Minto, Yukon-K	151.32 312	P	PKiKP	01 25 13.0	+1.3
	baz=99					
SII	Sitkinak Islan	151.41 294	P	PKiKP	01 25 13.4	+1.2
	baz=111					
C24K	Franklin Bluff	151.44 322	P	PKiKP	01 25 13.4	+1.6
	baz=91					
H23K	Yukon River	151.49 314	P	PKiKP	01 25 13.0	+0.9
	baz=97					
SKT	Skwentna	151.68 305	P	PKPbc	01 25 12.3	+0.1
	baz=103					
E23K	Chandalar	151.72 318	P	PKPbc	01 25 12.4	+0.2
	baz=93					
TOLK	Toolik Lake Re	151.73 320	P	PKiKP	01 25 12.8	+0.3
	baz=92					
G23K	Bananza Creek	151.78 315	P	PKiKP	01 25 13.7	+1.0
	baz=95					
N20K	Mount Spurr	151.82 304	P	PKiKP	01 25 13.7	+0.8
	baz=104					
SPCR	Spurr Chakacha	151.82 304	P	PKiKP	01 25 13.6	+0.6
	baz=104					
BPAW	Bear Paw Mtn.	151.85 310	P	PKiKP	01 25 13.1	+0.2
	baz=100					
COLD	Coldfoot	151.89 317	P	PKiKP	01 25 14.4	+1.6
	baz=94					
R18K	Karluk	151.89 295	P	PKiKP	01 25 13.4	+0.3
	baz=109					
C23K	Itkillik River	152.11 322	P	PKiKP	01 25 14.5	+1.3
	baz=89					
D23K	Nanushuk River	152.14 320	P	PKiKP	01 25 14.4	+1.0
	baz=90					
PPLA	Purkeypile	152.17 307	P	PKPbc	01 25 13.5	0.0
	baz=101					
CAST	Castle Rocks	152.22 308	P	PKPbc	01 25 13.0	-0.4
	baz=100					
H22K	Ishtalitna Cre	152.25 314	P	PKPbc	01 25 13.7	+0.3
	baz=96					
G22K	Bettles	152.38 316	P	PKiKP	01 25 14.2	+0.4
	baz=94					
CHUM	Lake Minchumin	152.39 309	P	PKPbc	01 25 13.5	-0.2
	baz=99					
M20K	Styx River	152.40 305	P	PKPbc	01 25 12.9	-1.0
	baz=102					
I21K	Tanana	152.42 312	P	PKPbc	01 25 13.3	-0.5
	baz=97					
E22K	Anaktuvuk Pass	152.55 318	P	PKiKP	01 25 15.5	+1.3
	baz=91					
F22K	John River	152.67 317	P	PKiKP	01 25 15.9	+1.4
	baz=92					
H21K	Melozitna Rive	152.81 313	P	PKiKP	01 25 16.1	+1.3
	baz=95					
P18K	Big Mountain,	152.82 299	P	PKiKP	01 25 15.8	+0.7
	baz=105					
Q17K	Contact Creek	152.84 296	P	PKiKP	01 25 16.0	+0.8
	baz=107					
D22K	Ayikyak River	152.86 320	P	PKiKP	01 25 16.8	+1.9
	baz=89					
O18K	Koktuh Hills	152.93 300	P	PKiKP	01 25 16.7	+1.5
	baz=104					
M19K	Big River Lodg	152.99 305	P	PKiKP	01 25 16.7	+1.4
	baz=101					
B22K	Teshekpuk Lake	153.04 323	P	PKiKP	01 25 16.9	+1.8
	baz=85					
K20K	Telida	153.09 308	P	PKiKP	01 25 16.6	+1.2
	baz=98					
G21K	Allakaket	153.15 315	P	PKiKP	01 25 17.0	+1.5
	baz=93					
F21K	Alatna River	153.17 316	P	PKiKP	01 25 17.4	+1.9
	baz=91					
N18K	Kilae Creek	153.45 302	P	PKiKP	01 25 18.0	+1.7
	baz=102					
B21K	Ikpikpuk River	153.51 322	P	PKiKP	01 25 18.4	+2.3
	baz=86					
C21K	Knifeblade Rid	153.61 321	P	PKiKP	01 25 18.8	+2.4
	baz=86					
H20K	Anotleneega Mo	153.66 312	P	PKiKP	01 25 18.6	+2.0
	baz=94					
J19K	Poorman	153.85 309	P	PKiKP	01 25 19.8	+2.8
	baz=96					
TTA	Tatalina	153.90 307	P	PKiKP	01 25 19.8	+2.6
	baz=98					
P16K	Nushagak River	154.10 297	P	PKiKP	01 25 19.5	+1.9
	baz=104					
L18K	Granite Mounta	154.11 305	P	PKiKP	01 25 20.1	+2.5
	baz=99					
J18K	Innoko River	154.28 308	P	PKiKP	01 25 20.6	+2.7
	baz=96					
O16K	Kokwok River B	154.29 299	P	PKiKP	01 25 20.6	+2.6
	baz=103					
D20K	Etivluk River	154.30 320	P	PKiKP	01 25 20.2	+2.3
	baz=85					
H19K	Roundabout Mou	154.31 312	P	PKiKP	01 25 20.2	+2.3
	baz=92					
M17K	Holitna River	154.33 303	P	PKiKP	01 25 19.6	+1.6
	baz=100					
B20K	Meade River	154.35 323	P	PKiKP	01 25 20.6	+2.8
	baz=82					
G19K	Purcell Mounta	154.59 314	P	PKiKP	01 25 20.5	+2.0
	baz=90					
L17K	Donlin	154.84 304	P	PKiKP	01 25 21.8	+2.7
	baz=98					
D19K	Kuna River	154.87 319	P	PKiKP	01 25 22.3	+3.3
	baz=84					
S12K	Black Hills	155.27 288	P	PKPdf	01 25 23.0	+12
	baz=109					
N15K	Kwethluk River	155.39 299	P	PKPab	01 25 38.6	+1.7
	baz=101					
A19K	Wainwright	155.63 324	P	PKPab	01 25 39.4	+1.8
	baz=78					
E18K	Tukpahlearik C	155.92 317	P	PKPab	01 25 39.5	+0.6
	baz=84					
G17K	Kiwalik Mounta	156.06 312	P	PKPab	01 25 41.1	+1.5
	baz=88					
M14K	Bethel	156.40 300	P	PKPab	01 25 43.0	+1.9
	baz=98					
UNV	Unalaska Valle	157.05 282	P	PKPab	01 25 44.2	+0.1
	baz=112					
G15K	Niukluk	157.51 311	P	PKPab	01 25 45.8	-0.1
	baz=86					
C16K	Lisburne Hills	157.55 320	P	PKPab	01 25 47.1	+1.2
	baz=77					

*IDC **01** 01:28:31.8±1.2, 8°.31S×116°.93E, h0km, mb3.8/5, mbtmp4.0/8, ML3.9/3, MS3.6/3, Error ellipse: s-maj=24.0km s-min=18.2km az=76.0*
*NEIC **01** 01:28:33.9±1.1, 8°.32S±0°.10×116°.89E±0°.07, h10km±1km, mb4.3/10, Error ellipse: s-maj=16.4km s-min=11.5km az=357.0*
*DJA **01** 01:28:35.1±0.2, 8°.S±4°.×11°.7E±°, h10km, M4.3/13, mb4.5/4, MLv4.2/13*
ISC 01 01:28:36.9±0.6, 8°.32S±0°.06×116°.95E±0°.04, h35km, n45, σ1§46/49, mb4.2/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.96	122	P	Pn	01 28 53.0	-0.9
PLAI				S	Sn	01 29 07.0	+0.7
SRBI	Singaraja	1.74	278	P	Pn	01 29 05.0	+0.4
SRBI				S	Sn	01 29 27.0	+1.5
DNP	Denpasar	1.76	258	P	Pn	01 29 05.3	+0.4
ABJI	Asem Bagus	2.74	281	P	Pn	01 29 20.8	+2.4
WBSI	Waikabubak, Su	2.74	119	P	Pn	01 29 20.2	+1.7
WBSI				S	Sn	01 29 54.9	+4.4
JAGI	Jajag, Banyuwa	2.77	267		Pn	01 29 16.8	-2.0
JAGI	Jajag, Banyuwa	2.77	267	P	Pn	01 29 16.8	-2.0
BLJI	Banyuglugur	3.37	279	P	Pn	01 29 26.8	-0.3
GMJI	Gumukmas	3.47	270	P	Pn	01 29 29.9	+1.5
BASI	Baing, Sumba	4.05	118	P	Pn	01 29 38.0	+1.7
BSSI	Bau Bau, Buton	4.12	59	P	Pn	01 29 37.3	-0.1
KAPI	Kappang	4.30	40	Pn	Pn	01 29 39.4	-0.4
KAPI	Kappang	4.30	40	Pn	Pn	01 29 39.5	-0.3
	4.3nm,0.3s,baz=215,slow=8.6,SNR=8.3						
KAPI				Sn	Sn	01 30 28.1	-0.8
	6.6nm,0.3s,baz=197,slow=22,SNR=5.2						
KAPI				Lg	Lg	01 30 48.4	
	7.2nm,0.3s,baz=293,slow=23,SNR=5.8						
	10nm,0.2s						
BKSI	Bulukumba	4.33	47	P	Pn	01 29 39.9	-0.4
BNSI	Bone	5.00	39	P	Pn	01 29 52.6	+3.2
	27nm,0.7s,0.4nm						
PWJI	Pagerwojo	5.11	273	P	Pn	01 29 52.9	+2.0
	26nm,0.6s,0.3nm						
PCJI	Pacitan	5.72	271	P	Pn	01 29 59.4	+0.1
	44nm,0.8s,0.2nm						
UGM	Wanagama	6.38	273	Pn	Pn	01 30 06.8	-1.7
UGM	Wanagama	6.38	273	P	Pn	01 30 09.8	+1.4
BATI	Baumata	6.88	106	Pn	Pn	01 30 14.8	-0.6
	6.6nm,0.3s,baz=127,slow=11,SNR=1.7						
BATI				Sn	Sn	01 31 34.9	+2.2
	2.4nm,0.3s,baz=21,slow=17,SNR=1.1						
	14nm,0.3s						
FITZ	Fitzroy Crossi	12.88	140	Pn	Pn	01 31 36.8	-0.7
FITZ	Fitzroy Crossi	12.88	140	Pn	Pn	01 31 37.0	-0.6
	0.4nm,0.3s,baz=326,slow=8.9,SNR=12						
FITZ				Sn	Sn	01 33 56.7	-3.0
	0.3nm,0.3s,baz=318,slow=15,SNR=4.3						
FITZ				LR	LR	01 37 03.6	
	comp=Z,58nm,20.4s,baz=354,slow=40						
	1.1nm,0.3s						
MBWA	Marble Bar	13.04	168	Pn	Pn	01 31 38.4	-1.3
PSA00	Pilbara Seismi	13.47	168	Pn	Pn	01 31 45.2	-0.4
PSA00	Pilbara Seismi	13.47	168	Pn	Pn	01 31 44.8	-0.8
WB0	Warramunga Arr	20.37	126	P	P	01 33 10.7	+0.1
WB0				IAmb	IAmb	01 33 11.4	
	comp=Z,6.6nm,0.6s						
WRA	Warramunga Arr	20.41	126	P	P	01 33 11.0	-0.2
WRA	Warramunga Arr	20.41	126	P	P	01 33 11.2	+0.1
	comp=Z,6.0nm,0.6s,baz=300,slow=12,SNR=99						
WRA				S	S	01 36 55.5	-2.6
	comp=Z,0.7nm,1.1s,baz=302,slow=19,SNR=2.6						
	comp=Z,6.0nm,0.6s						
WRAB	Tennant Creek	20.42	126	P	P	01 33 11.5	+0.3
WRAB				IAmb	IAmb	01 33 12.1	
	comp=Z,7.3nm,0.8s						
WB2	Warramunga Arr	20.42	126	P	P	01 33 11.5	+0.2
WR0	Warramunga Arr	20.59	126	P	P	01 33 13.2	+0.2
WR0				IAmb	IAmb	01 33 13.9	
	comp=Z,9.8nm,0.7s						
ASAR	Alice Springs	22.29	135	P	P	01 33 31.1	-0.2
	comp=Z,1.9nm,0.7s,baz=311,slow=8.9,SNR=18						
	comp=Z,1.9nm,0.7s						
BBOO	Buckleboo	30.12	147	P	P	01 34 41.8	-1.6
STKA	Stephens Creek	32.78	139	P	P	01 35 06.8	+0.1
	comp=Z,2.3nm,0.7s,baz=301,slow=14,SNR=4.2						
	comp=Z,2.3nm,0.7s						
DZM	Mont Dzumac	49.46	112	LR	LR	01 59 36.1	
	comp=Z,141nm,18.1s,baz=116,slow=38						
SONM	Songino Array	56.68	352	P	P	01 38 16.9	0.0
	comp=Z,0.3nm,0.3s,baz=142,slow=7.3,SNR=2.5						
	comp=Z,0.3nm,0.3s						
LTZ	Lake Taylor	59.21	135	P	P	01 38 35.8	+1.1
OXZ	Oxford	59.23	136	P	P	01 38 35.8	+1.0
MKAR	Makanchi Array	62.95	334	P	P	01 39 00.1	+0.3
MKAR	Makanchi Array	62.95	334	P	P	01 39 00.3	+0.4
	comp=Z,0.5nm,0.7s,baz=141,slow=7.1,SNR=2.6						
	comp=Z,0.5nm,0.7s						
AKTO	Aktyubinsk	77.52	326	LR	LR	02 19 23.5	
	comp=Z,73nm,18.7s,baz=171,slow=39						
SNAA	Sanae	91.10	196	P	P	01 41 38.7	+1.1
SNAA				IAmb	IAmb	01 41 41.3	
	comp=Z,2.7nm,1.5s						
N17K	Nushagak Hills	95.14	30	P	P	01 41 56.1	-0.1
N17K				IAmb	IAmb	01 42 03.2	
	comp=Z,5.8nm,1.2s						
BURAR	Bucovina Array	97.25	317	P	Pdif	01 42 07.0	+0.6
BURAR				IAmb	IAmb	01 42 16.1	
	comp=Z,1.7nm,1.4s						
CPUP	Villa Florida	145.11	189	PKPbc	PKPbc	01 48 10.1	-0.8
	comp=Z,3.2nm,0.9s,baz=79,slow=5.2,SNR=5.1						

IDC 01 01:29:04.1±2.6, 15°.89S×174°.28W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=156.0km s-min=31.5km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	49.15	252	P	P	01 37 54.2	0.0
	0.6nm,0.5s,baz=88,slow=8.8,SNR=6.8						
	0.6nm,0.5s						
NVAR	Mina Array Bea	75.26	42	P	P	01 40 50.0	+0.7
	0.9nm,0.7s,baz=223,slow=9.4,SNR=8.3						
	0.9nm,0.7s						
ILAR	Eielson Array	83.09	11	P	P	01 41 31.0	-0.3
	0.3nm,0.5s,baz=212,slow=4.4,SNR=13						
	0.3nm,0.5s						
PDAR	Pinedale Array	83.19	42	P	P	01 41 32.1	-0.5
	0.6nm,0.6s,baz=206,slow=3.6,SNR=7.6						
	0.6nm,0.6s						

*JMA **01** 01:36:09.5±0.1, 42°.8N±0°.3×142°.0E±0°.4, h37km, MV3.5/39, ISHIKARI DEPRESSION*
JMA Felt II J1 at ISHIKARI DEPRESSION .
*IDC **01** 01:36:10.6±1.4, 42°.77N×141°.89E, h46km±13km, mb3.5/13, mbtmp3.7/16, ML3.2/4, MS3.3/3, Error ellipse: s-maj=16.2km s-min=10.0km az=124.0*
ISC 01 01:36:09.4±1.0, 42°.76N±0°.03×141°.96E±0°.04, h33km±3km, n41, σ0§74/41, mb3.8/13, MS3.6/3, 14D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIAM	Iburiatsuma	0.14	192	S	Sb	01 36 21.5	+2.0
JBT2	Biratori 2	0.30	86	⇓iP	Pb	01 36 16.9	-0.3
JBT2				⇓S	Sb	01 36 22.6	+0.1
JEW	Eniwo	0.38	283	⇓iP	Pn	01 36 18.7	0.0
JEW				⇓S	Sn	01 36 25.4	+0.8
JSHD	Hidakashinhida	0.51	133	⇓iP	Pn	01 36 20.7	+0.4
JFR	Furan	0.62	49	⇓iP	Pn	01 36 21.0	-0.7
JISS	Ishikarishitsu	0.65	323	⇓iP	Pn	01 36 22.3	+0.1
JISS				⇓S	Sb	01 36 32.1	+0.8
JNB	Noboribetsu	0.74	247	P	Pn	01 36 23.2	-0.3
JNB				S	Sn	01 36 33.5	0.0
JNBK	Urakawa-nobuka	0.76	129	⇓iP	Pn	01 36 23.9	+0.1
JNBK				⇓S	Sb	01 36 35.6	+1.4
JAB	Ashibetsu	0.77	14	⇓iP	Pb	01 36 24.5	0.0
JAB				⇓S	Sb	01 36 35.8	+1.1
JHR	Hokuryu	1.00	350	⇓iP	Pn	01 36 27.4	+0.4
JCH	Churui	1.04	97	P	Pn	01 36 27.2	-0.4
JKB	Kayabe	1.11	219	iP	Pn	01 36 28.7	+0.2
JKB				S	Sn	01 36 43.2	+0.5
JEM	Erimo	1.16	129	P	Pb	01 36 30.4	-0.5
JKK2	Kamakawa 2	1.25	27	⇓iP	Pn	01 36 30.9	+0.3
ASAJ	Asahikawa	1.44	19	P	Pn	01 36 33.7	+0.7
	117nm,0.4s,baz=224,slow=17,SNR=42						
ASAJ				S	Sn	01 36 52.1	+1.3
	134nm,0.4s,baz=54,slow=31,SNR=10						
MJAR	Matsushiro Arr	6.85	206	P	Pn	01 37 48.7	+1.2
	0.1nm,0.3s,baz=24,slow=12,SNR=1.7						
	1.0nm,0.3s						
USRK	Ussuriysk Ar.	7.39	285	P	Pn	01 37 55.3	+0.4
	0.3nm,0.3s,baz=108,slow=14,SNR=1.9						
USRK				S	Sn	01 39 17.3	-0.3
	1.7nm,0.6s,baz=127,slow=23,SNR=5.8						
	1.6nm,0.6s						
KLR	Kul'dur	9.61	316	P	Pn	01 38 26.1	+0.9
	0.1nm,0.3s,baz=291,slow=17,SNR=1.8						
	0.8nm,0.6s						
JHJ	Hachijo jima 2	9.77	191	P	Pn	01 38 28.6	+1.0
	5.8nm,0.3s,baz=61,slow=21,SNR=2.7						
GUMO	Guam	29.17	174	LR	LR	01 53 45.8	
	comp=Z,15nm,21.0s,baz=92,slow=36						
H11N2	WAKE ISLAND Hy 31.12	130		T	T	02 15 50.6	
	baz=322,slow=76,SNR=5.1						
H11N1	WAKE ISLAND Hy 31.13	130		T	T	02 15 50.7	
	baz=322,SNR=2.7						
H11N3	WAKE ISLAND Hy 31.14	130		T	T	02 15 52.5	
	baz=322,slow=76,SNR=7.1						
H11S1	WAKE ISLAND Hy 31.99	131		T	T	02 16 53.3	
	baz=324,slow=76,SNR=14						
H11S3	WAKE ISLAND Hy 31.99	131		T	T	02 16 53.4	
	baz=324,slow=76,SNR=13						
H11S2	WAKE ISLAND Hy 32.01	131		T	T	02 16 56.6	
	baz=324,slow=76,SNR=13						
MKAR	Makanchi Array	41.66	297	P	P	01 43 53.5	-1.0
	0.2nm,0.5s,baz=54,slow=6.9,SNR=1.4						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	43.00	303	P	P	01 44 05.2	-0.1
	0.6nm,0.6s,baz=75,slow=8.7,SNR=5.6						
	0.6nm,0.6s						
ILAR	Eielson Array	44.51	35	P	P	01 44 16.8	-0.5
	0.5nm,0.8s,baz=276,slow=7.1,SNR=5.8						
	0.5nm,0.8s						
BVAR	Borovoye Array	47.18	309	P	P	01 44 37.9	-0.6
	0.5nm,0.6s,baz=70,slow=8.8,SNR=2.7						
	0.5nm,0.6s						
HNR	Honiara	54.48	158	LR	LR	02 07 22.0	
	comp=Z,63nm,20.7s,baz=168,slow=34						
ARCES	ARCESS Array B	58.81	338	LR	LR	02 17 15.7	
	comp=Z,43nm,18.0s,baz=228,slow=42						
WRA	Warramunga Arr	62.78	188	P	P	01 46 30.6	-0.8
	1.0nm,0.5s,baz=5.2,slow=7.0,SNR=25						
	1.0nm,0.5s						
FINES	FINESS Array B	63.98	331	P	P	01 46 38.3	-0.6
	1.9nm,0.8s,baz=52,slow=6.7,SNR=5.9						
	1.9nm,0.8s						
ASAR	Alice Springs	66.51	188	P	P	01 46 56.1	+0.4
	0.5nm,0.6s,baz=4.8,slow=5.6,SNR=5.7						
	0.5nm,0.6s						
KBZ	Khabaz	67.55	309	P	P	01 47 02.1	-0.1
	1.2nm,0.8s,baz=324,slow=22,SNR=2.6						
	1.2nm,0.8s						
HFS	Hagfors	69.06	335	P	P	01 47 10.6	-0.8
	2.1nm,0.8s,baz=50,slow=5.3,SNR=4.2						
	2.1nm,0.8s						
NOA	NORSAR Array B	69.09	337	P	P	01 47 11.0	-0.6
	0.6nm,0.6s,baz=32,slow=6.1,SNR=3.4						
	0.6nm,0.6s						
AKASG	Malin Array Be	70.06	321	P	P	01 47 17.0	-0.7
	0.5nm,0.5s,baz=49,slow=6.3,SNR=2.0						
	0.5nm,0.5s						
NVAR	Mina Array Bea	71.28	55	P	P	01 47 26.2	+0.5
	0.2nm,0.5s,baz=299,slow=6.1,SNR=3.6						
	0.2nm,0.5s						
PDAR	Pinedale Array	73.40	47	P	P	01 47 38.1	-0.2
	0.4nm,0.7s,baz=270,slow=1.5,SNR=4.1						
	0.4nm,0.7s						

*JMA **01** 01:38:13.2±0.2, 23°.5N±1°.0×124°.8E±0°.7, h41km, MV3.3/10, NEAR ISHIGAKIJIMA ISLAND*
ISC 01 01:38:10.2±2.4, 23°.45N±0°.09×124°.80E±0°.06, h15km±11km, n15, σ0§86/23, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKRS	Kuro-shima	1.07	317	P	Pg	01 38 31.7	+0.7
JKRS				S	Sg	01 38 45.0	0.0
JIJ	Ishigaki jima	1.10	327	P	Pg	01 38 31.5	+0.1
JIJ				S	Sg	01 38 44.8	-1.0
HATJ	Hateruma jima	1.10	304	eP	Pg	01 38 31.7	+0.3
HATJ				S	Sg	01 38 44.6	-1.3
JTJ	Tarama	1.19	356	P	Pn	01 38 33.1	+0.7
JTJ				eS	Sb	01 38 47.9	+0.1
JISG	Ishigakijimahi	1.22	338	P	Pn	01 38 33.3	+0.5
JISG				S	Sb	01 38 48.3	-0.4
IRIF	Iriomote-Funau	1.32	312	P	Pn	01 38 35.3	+1.1
IRIF				eS	Sb	01 38 51.1	-0.5
JMJ2	Miyako jima3	1.38	20	eP	Pn	01 38 35.9	+1.0
JMJ2				S	Sn	01 38 52.5	-0.4
JIRB	Irabujima	1.42	14	eS	Sn	01 38 53.2	-0.7
JYNG	Yonagunijimaku	1.97	301	P	Pn	01 38 44.6	+1.5
JYNG				eS	Sn	01 39 06.8	-0.8
NACB	Ninganchiao	3.03	285	P	Pn	01 38 58.1	+0.5
YULB	Yu-li	3.22	270	P	Pn	01 39 00.4	+0.1
YHNB	Yeheng	3.36	292	P	Pn	01 39 04.3	+2.0
TWGBT	Beinan	3.48	260	P	Pn	01 39 03.9	0.0
SSLB	Suanglung	3.55	276	P	Pn	01 39 05.3	+0.5
JOW	Kunigami	4.61	42	P	Pn	01 39 19.5	+0.1

*IDC **01** 01:54:47.9±14.0, 19°.08N×145°.40E, h170km±136km, mb3.6/8, mbtmp4.0/8, Error ellipse: s-maj=36.3km s-min=21.3km az=82.0*
*NEIC **01** 01:55:15.3±0.8, 18°.9N±0°.1×145°.1E±0°.2, h457km±10km, mb4.2/19, Error ellipse: s-maj=32.9km s-min=12.7km az=105.0*
ISC 01 01:54:51.4±0.7, 19°.1N±0°.1×145°.1E±0°.2, h200km, n32, σ0§96/32, mb4.2/19, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	28.36	176	P	P	02 00 28.5	+1.5
COEN	Coen	32.86	183	P	P	02 01 06.2	-0.4
COEN				IAmb	IAmb	02 01 07.3	
	comp=Z,22nm,1.4s						
WB0	Warramunga Arr	39.98	196	P	P	02 02 07.0	+0.2
WB0				IAmb	IAmb	02 02 07.4	
	comp=Z,5.8nm,0.7s						
WR0	Warramunga Arr	40.13	195	P	P	02 02 08.4	+0.5
WR0				IAmb	IAmb	02 02 08.6	
	comp=Z,4.5nm,0.6s						
WRAB	Tennant Creek	40.15	196	P	P	02 02 08.8	+0.7
WB2	Warramunga Arr	40.16	196	P	P	02 02 08.7	+0.5
WB2				IAmb	IAmb	02 02 09.5	
	comp=Z,9.9nm,0.8s						
WRA	Warramunga Arr	40.16	196	P	P	02 02 08.4	+0.1
WRA	Warramunga Arr	40.16	196	P	P	02 02 08.8	+0.6
	comp=Z,5.4nm,0.5s,baz=7.0,slow=8.8,SNR=93						
	comp=Z,5.4nm,0.5s						
FITZ	Fitzroy Crossi	41.57	209

I23K				IAmb	IAmb	02 05 35.2	
	comp=Z,4.4nm,1.4s						
C23K	**Itkillik River**	**63.47**	**20**	P	**P**	**02 05 00.1**	**+0.4**
C23K				IAmb	IAmb	02 05 28.4	
	comp=Z,12nm,1.5s						
TOLK	**Toolik Lake Re**	**63.48**	**22**	P	**P**	**02 05 00.2**	**+0.4**
TOLK				IAmb	IAmb	02 05 03.8	
	comp=Z,10nm,1.5s						
ILAR	**Eielson Array**	**63.58**	**26**	P	**P**	**02 04 58.8**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=247,slow=5.4,SNR=6.8						
	comp=Z,0.4nm,0.7s						
BMAR	**Burnt Mountain**	**65.02**	**24**	P	**P**	**02 05 10.7**	**+0.8**
BVAR	**Borovoye Array**	**65.83**	**320**	P	**P**	**02 05 16.6**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=83,slow=5.5,SNR=3.7						
	comp=Z,1.0nm,0.5s						
ABKAR	**Akbulak array**	**72.69**	**317**	P	**P**	**02 05 57.7**	**+0.4**
ABKAR	**Akbulak array**	**72.69**	**317**	P	**P**	**02 05 57.9**	**+0.5**
ABKAR				IAmb	IAmb	02 06 36.1	
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**83.37**	**52**	P	**P**	**02 06 55.9**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=270,slow=4.7,SNR=7.1						
	comp=Z,0.6nm,0.6s						
FINES	**FINESS Array B**	**86.32**	**335**	P	**P**	**02 07 09.8**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=62,slow=5.0,SNR=7.2						
	comp=Z,0.9nm,0.5s						
LPAZ	**La Paz**	**148.25**	**90**	PKPbc	**PKPdf**	**02 14 14.5**	**+2.7**
	comp=Z,0.6nm,0.5s,baz=308,slow=2.2,SNR=4.9						

*MDD **01** 02:16:27.9±0.7, 35°.03N×3°.72W, h0km±5km, mb_Lg2.8/15, Error ellipse: s-maj=5.5km s-min=3.1km az=135.0*
*CNRM **01** 02:16:29.0, 35°.04N×3°.72W, h20km, ML2.7*
*INMG **01** 02:16:28.5±1.1, 35°.00N×3°.63W, h15km, ML2.1, Error ellipse: s-maj=3.2km s-min=2.3km az=135.0*
*SFS **01** 02:16:28.9, 35°.06N×3°.80W, h0km, ML2.9/8, ML3.0/8, MLv2.9/8*

ISC 01 02:16:28.3±0.9, 35°.07N±0°.02×3°.71W±0°.03, h12km±7km, n49, σ1°.12/76, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.24**	**307**	P		**Pb**	**02 16 35.7**	**+1.1**
PALE	**Palemas**	**0.24**	**307**	S		**Sb**	**02 16 39.3**	**+2.5**
AKLM	**AKL**	**0.58**	**193**	P		**Pg**	**02 16 38.3**	**-1.3**
AKLM	**AKL**	**0.58**	**193**	S		**Sg**	**02 16 45.9**	**-1.3**
GOG	**Mont Gurugu**	**0.60**	**76**	P		**Pg**	**02 16 40.5**	**+0.3**
GOG	**Mont Gurugu**	**0.60**	**76**	S		**Sb**	**02 16 50.4**	**+1.1**
EMEL	**Melilla**	**0.66**	**70**	Pg		**Pg**	**02 16 40.1**	**-1.0**
EMEL				Sg		**Sg**	**02 16 48.4**	**-1.3**
EMLI	**Melilla**	**0.66**	**70**	P		**Pg**	**02 16 40.4**	**-0.8**
EMLI				S		**Sb**	**02 16 52.6**	**+1.7**
WMELI	**Melilla**	**0.67**	**68**	P		**Pg**	**02 16 41.5**	**+0.2**
WMELI				S		**Sb**	**02 16 52.8**	**+1.7**
EALB	**Alboran**	**1.02**	**32**	Pg		**Pb**	**02 16 47.8**	**-0.2**
EALB				Sg		**Sb**	**02 17 01.7**	**+0.2**
EALB				*i*	Vmb_Lg		02 17 11.3	
CEU	**Ceuta**	**1.59**	**302**	P		**Pn**	**02 16 55.5**	**-0.8**
CEU				S		**Sn**	**02 17 14.5**	**-2.2**
ECEU	**Ceuta**	**1.59**	**302**	P		**Pn**	**02 16 55.6**	**-0.7**
ECEU				S		**Sn**	**02 17 15.0**	**-1.8**
ECEU	**Ceuta**	**1.59**	**302**	Pn		**Pn**	**02 16 55.9**	**-0.4**
ECEU				Sn		**Sn**	**02 17 15.3**	**-1.5**
ECEU				*i*	Vmb_Lg		02 17 23.9	
LCRM	**LCR**	**1.68**	**215**	P		**Pb**	**02 16 58.9**	**-0.4**
LCRM	**LCR**	**1.68**	**215**	S		**Sg**	**02 17 21.6**	**-0.8**
EMAL	**Malaga-Limoner**	**1.78**	**341**	S		**Sn**	**02 17 22.7**	**+1.2**
EMAL				P		**Pn**	**02 16 59.2**	**+0.3**
ELGU	**Los Guajares,**	**1.79**	**2**	P		**Pn**	**02 16 59.0**	**-0.1**
ELGU				S		**Sn**	**02 17 22.2**	**+0.3**
ELGU	**Los Guajares,**	**1.79**	**2**	Pn		**Pn**	**02 16 59.1**	**-0.1**
ELGU				Sn		**Sn**	**02 17 21.1**	**-0.8**
ELGU				*i*	Vmb_Lg		02 17 28.0	
IFR	**Ifrane**	**1.95**	**217**	P		**Pb**	**02 17 02.4**	**-1.4**
IFR				S		**Sn**	**02 17 25.5**	**-0.3**
EJIF	**Jimena Fronter**	**1.98**	**314**	Pn		**Pn**	**02 17 01.0**	**-0.7**
EJIF				Sn		**Sn**	**02 17 27.2**	**+0.7**
EGOR	**Sierra Gorda,**	**2.06**	**351**	P		**Pn**	**02 17 03.6**	**+0.7**
EGOR				S		**Sb**	**02 17 30.9**	**-0.4**
EGOR	**Sierra Gorda,**	**2.06**	**351**	Pn		**Pn**	**02 17 02.3**	**-0.6**
EGOR				Sn		**Sn**	**02 17 27.7**	**-0.8**
EGOR				*i*	Vmb_Lg		02 17 41.6	
ENIJ	**Nijar**	**2.25**	**32**	Pn		**Pn**	**02 17 03.9**	**-1.5**
ENIJ				Sn		**Sn**	**02 17 32.6**	**-0.6**
ENIJ				*i*	Vmb_Lg		02 17 41.1	
MD31	**MD31**	**2.37**	**202**	P		**Pn**	**02 17 07.1**	**0.0**
MD31	**MD31**	**2.37**	**202**	S		**Sn**	**02 17 35.4**	**-0.7**
EADA	**Adamuz**	**3.17**	**348**	P		**Pn**	**02 17 19.8**	**+1.8**
EADA	**Adamuz**	**3.17**	**348**	Pn		**Pn**	**02 17 19.2**	**+1.2**
EADA				*i*	Vmb_Lg		02 17 56.8	
EADA				Sn		**Sn**	**02 17 57.0**	**+1.3**
EZAR	**Zarzadilla de**	**3.23**	**30**	Sn		**Sn**	**02 17 56.3**	**-1.2**
EZAR				*i*	Vmb_Lg		02 17 57.3	
ECAB	**El Cabril**	**3.30**	**336**	P		**Pn**	**02 17 21.3**	**+1.5**
ECAB				S		**Sn**	**02 17 59.8**	**+0.9**
ECAB	**El Cabril**	**3.30**	**336**	Pn		**Pn**	**02 17 19.6**	**-0.2**
ECAB				Sn		**Sn**	**02 17 59.4**	**+0.4**
ECAB				*i*	Vmb_Lg		02 18 09.4	
GOLM	**Goulmima**	**3.52**	**198**	P		**Pn**	**02 17 24.2**	**+1.3**
GOLM	**Goulmima**	**3.52**	**198**	S		**Sn**	**02 18 07.0**	**+2.5**
EMIN	**Mina Concepcio**	**3.60**	**319**	Pn		**Pn**	**02 17 23.8**	**-0.1**
EMIN				Sn		**Sn**	**02 18 05.4**	**-0.9**
EMIN				*i*	Vmb_Lg		02 18 15.6	
EGRO	**El Granado**	**3.91**	**310**	Pn		**Pn**	**02 17 27.5**	**-0.7**
EGRO				*i*	Vmb_Lg		02 18 13.2	
EGRO				Sn		**Sn**	**02 18 13.4**	**-0.7**
PVAQ	**Vaqueiros**	**3.99**	**307**	*e*P		**Pn**	**02 17 29.7**	**+0.4**
PVAQ				*e*S		**Sn**	**02 18 15.4**	**-0.5**
PVAQ				A		A	02 18 17.1	
	4.0nm,0.5s							
PVAQ	**Vaqueiros**	**3.99**	**307**	P		**Pn**	**02 17 29.4**	**+0.1**
PVAQ	**Vaqueiros**	**3.99**	**307**	S		**Sn**	**02 18 16.1**	**+0.1**
PBDV	**Barranco-do-Ve**	**4.04**	**304**	*e*P		**Pn**	**02 17 30.5**	**+0.4**
PBDV				*e*S		**Sn**	**02 18 17.7**	**+0.3**
PBAR	**Barrancos**	**4.09**	**320**	*e*P		**Pn**	**02 17 31.4**	**+0.7**
PBAR				*e*S		**Sn**	**02 18 17.8**	**-0.7**
PBAR				A		A	02 18 27.0	
	2.0nm,0.6s							
PAB	**San Pablo**	**4.49**	**354**	Pn		**Pn**	**02 17 37.9**	**+1.7**
PAB				Sn		**Sn**	**02 18 27.3**	**-1.3**
PAB				*i*	Vmb_Lg		02 18 28.2	
EBAD	**Badajoz**	**4.53**	**325**	Pn		**Pn**	**02 17 36.8**	**+0.2**
EBAD				Sn		**Sn**	**02 18 28.5**	**-0.8**
EBAD				*i*	Vmb_Lg		02 18 35.5	
MESJ	**Messejana**	**4.56**	**309**	*e*P		**Pn**	**02 17 38.8**	**+1.6**
MESJ				*e*S		**Sn**	**02 18 29.8**	**-0.3**
MESJ				A		A	02 18 34.5	
	3.0nm,0.7s							
MORF	**Marmelete**	**4.58**	**301**	*e*P		**Pn**	**02 17 38.5**	**+1.1**
ESDC	**Sonseca Array**	**4.60**	**358**	Pn		**Pn**	**02 17 38.4**	**+0.8**
ESDC				*i*	Vmb_Lg		02 18 34.5	
OUZM	**OUZ**	**4.88**	**213**	P		**Pn**	**02 17 42.6**	**+1.0**
OUZM	**OUZ**	**4.88**	**213**	S		**Sn**	**02 18 41.0**	**+2.8**
EVO	**Evora**	**4.88**	**316**	*e*P		**Pn**	**02 17 43.0**	**+1.5**
EVO				*e*S		**Sn**	**02 18 38.3**	**+0.3**
PMRV	**Marv??o**	**5.25**	**327**	*e*P		**Pn**	**02 17 48.1**	**+1.5**
PMTG	**Montargil**	**5.38**	**319**	*e*P		**Pn**	**02 17 49.2**	**+0.8**

*NIED **01** 02:17:49.1, 38°.70N×142°.25E, h38km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr0.92; Mθθ-0.14; Mφφ-0.78; Mrθ1.02; Mθφ-0.03; Mφr1.76; Fault plane solution: M0 2.20000×10^14 NP1:φs27.00000°, δ79.00000°, λ97.00000°. NP2:φs175.00000°, δ13.00000°, λ58.00000°.*

JMA 01 02:17:49.1±0.1, 38°.7N±0°.3×142°.2E±0°.7, h38km±1km, MV3.8/36, 12D, E OFF MIYAGI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.59**	**310**	⇓P		Pn	02 18 01.1	0.0
OFUJ				⇓*e*S		Sn	02 18 09.3	-0.2
JKMT	**Kesennumamotoy**	**0.61**	**280**	⇓*i*P		Pn	02 18 01.4	-0.1
JKMT				⇓S		Sn	02 18 09.7	-0.3
JIKH	**Ishinomakikobu**	**0.73**	**238**	⇓*i*P		Pn	02 18 02.8	-0.1
JIKH				⇓S		Sn	02 18 12.3	-0.4
JIO	**Ouri**	**0.74**	**251**	⇓P		Pn	02 18 03.0	-0.1
JIO				⇓S		Sn	02 18 12.8	-0.4
JMK	**Ichinoseki**	**0.84**	**288**	⇓P		Pn	02 18 04.7	+0.3
JMK				⇓S		Sn	02 18 15.7	+0.1
JOM	**Ohasama**	**1.07**	**316**	⇓P		Pn	02 18 08.2	+0.6
JOM				⇓S		Sn	02 18 21.9	+0.8
JOM	**Ohasama**	**1.07**	**316**	A		A	02 18 08.2	
	comp=E,5.0nm,0.3s,comp=N,4.0nm,0.2s							
JTH	**Tanohata**	**1.27**	**347**	P		Pn	02 18 10.8	+0.4
JOU	**Okura**	**1.28**	**255**	*i*P		Pn	02 18 11.2	+0.6
JOU				S		Sn	02 18 27.7	+1.1
JMM	**Marumori**	**1.42**	**234**	P		Pn	02 18 12.4	+0.1

ISC 01 02:33:32.5±1.0, 61°.17N±0°.03×139°.86W±0°.02, h8km±8km, n17, σ0°.63/26, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YUK8	**Steele Glacier**	**0.12**	**22**	Pg		**Pg**	**02 33 35.4**	**0.0**
	baz=210,SNR=1000							
YUK8				S		**Sg**	**02 33 37.4**	**-0.1**
	baz=210							
O28M	**Mount Upton**	**0.43**	**202**	Pg		**Pg**	**02 33 41.0**	**+0.1**
	baz=19,SNR=44							
O28M				Sg		**Sg**	**02 33 46.9**	**+0.3**
	baz=19							
YUK4	**Talbot Arm**	**0.61**	**73**	Pg		**Pb**	**02 33 45.6**	**+0.1**
	baz=248,SNR=13							
YUK3	**Moose Creek**	**0.67**	**335**	Pg		**Pg**	**02 33 44.8**	**-0.7**
	baz=156,SNR=37							
YUK3				Sg		**Sg**	**02 33 54.0**	**-0.2**
	baz=156							
CTG	**Chitna Glacier**	**0.75**	**255**	Pg		**Pg**	**02 33 46.3**	**-0.6**
	baz=73,SNR=12							
CTG				Sg		**Sg**	**02 33 56.4**	**-0.2**
	baz=73							
YUK6	**Outpost Mounta**	**0.76**	**107**	Pg		**Pg**	**02 33 47.1**	**-0.1**
	baz=288,SNR=94							
YUK6				Sg		**Sg**	**02 33 57.7**	**+0.5**
	baz=288							
O29M	**Mount Kennedy**	**1.08**	**144**	Pb		**Pg**	**02 33 52.7**	**-0.4**
	baz=324							
O29M				Sb		**Sg**	**02 34 07.0**	**-0.1**
	baz=324							
PINM	**Pinnacle**	**1.10**	**190**	Pg		**Pb**	**02 33 53.7**	**0.0**
	baz=8.9							
HYT	**Haines Junctio**	**1.20**	**106**	Pb		**Pg**	**02 33 54.9**	**-0.6**
	baz=288,SNR=8.1							
N30M	**Aishikik Lake**	**1.37**	**77**	Pb		**Pn**	**02 33 57.4**	**-0.4**
	baz=259,SNR=11							
N30M				Sb		**Sg**	**02 34 16.0**	**-0.4**
	baz=259							
M29M	**Somme Creek**	**1.44**	**27**	Pb		**Pn**	**02 33 59.1**	**+0.2**
	baz=209							
M29M				Sb		**Sg**	**02 34 18.1**	**-0.6**
	baz=209							
M27K	**Edge Creek, AK**	**1.53**	**322**	Sb		**Sb**	**02 34 20.4**	**-0.3**
	baz=141							
MCARA	**McCarthy VSAT**	**1.54**	**279**	Pb		**Pn**	**02 34 00.5**	**+0.2**
	baz=97							
MCARA				Sg		**Sg**	**02 34 22.8**	**+0.8**
	baz=97							
CRQE	**Cirque**	**1.63**	**256**	Sn		**Sn**	**02 34 22.7**	**-0.1**
	baz=74							
P29M	**Windy Craggy**	**1.87**	**145**	Sn		**Sn**	**02 34 27.7**	**-0.8**
	baz=326							
M30M	**Minto, Yukon**	**2.02**	**45**	Sb		**Sb**	**02 34 36.2**	**+1.3**
	baz=228							
L29M	**L29M**	**2.11**	**22**	Sb		**Sb**	**02 34 39.0**	**+1.7**
	baz=204							

*SIGU **01** 02:33:37.0, 46°.74N×27°.58E, h2km, mb2.2*
*BUC **01** 02:33:37.6±0.1, 46°.73N×27°.57E, h4km±1km, ml2.7/30, Error ellipse: s-maj=1.0km s-min=0.9km az=71.0*
*MCSM **01** 02:33:40.9±3.6, 47°.N±20°.×2°.7E±1°.7, h5km, MLv2.5*

ISC 01 02:33:37.7±1.1, 46°.73N±0°.02×27°.57E±0°.02, h4km±10km, n49, σ0°.61/81, 38C-23D, Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IAS	**Iasi**	**0.46**	**359**	⇑P		**Pg**	**02 33 47.0**	**+0.4**
IAS				⇓S		**Sg**	**02 33 53.5**	**+0.9**
BIR	**Birlad**	**0.47**	**175**	⇑P		**Pb**	**02 33 47.7**	**-0.8**
BIR				⇑S		**Sb**	**02 33 54.6**	**-1.2**
LEOM	**Leova**	**0.54**	**119**	⇑P		**Pg**	**02 33 48.2**	**+0.2**
LEOM				⇓S		**Sg**	**02 33 55.4**	**+0.4**
LEOM	**Leova**	**0.54**	**119**	P		**Pg**	**02 33 48.2**	**+0.2**
LEOM				S		**Sg**	**02 33 55.4**	**+0.4**
TESR	**Tescani**	**0.67**	**251**	⇓P		**Pg**	**02 33 50.5**	**-0.1**
TESR				⇑S		**Sg**	**02 33 59.5**	**+0.3**
TESR	**Tescani**	**0.67**	**251**	P		**Pg**	**02 33 50.5**	**-0.1**
GHRR		**0.68**	**189**	P		**Pb**	**02 33 52.0**	**-0.1**
GIRR	**Girov**	**0.76**	**287**	⇓P		**Pg**	**02 33 52.2**	**-0.2**
VARL	**Varlezi**	**0.86**	**167**	⇑P		**Pg**	**02 33 54.3**	**+0.1**
VARL				⇓S		**Sb**	**02 34 06.0**	**-0.8**
MILM	**Milestii Mici**	**0.88**	**77**	⇓P		**Pg**	**02 33 54.6**	**+0.1**
MILM				⇑S		**Sg**	**02 34 06.0**	**+0.1**
MILM	**Milestii Mici**	**0.88**	**77**	P		**Pg**	**02 33 54.6**	**+0.1**
MILM				S		**Sg**	**02 34 06.0**	**+0.1**
COSR	**Cosmesti PH**	**0.90**	**191**	⇑P		**Pb**	**02 33 55.6**	**-0.1**
COSR				⇑S		**Sb**	**02 34 07.9**	**-0.1**
KIS	**Kishinev**	**0.90**	**72**	⇑P		**Pg**	**02 33 54.9**	**-0.1**
KIS				⇑S		**Sb**	**02 34 07.3**	**-0.9**
KIS	**Kishinev**	**0.90**	**72**	P		**Pg**	**02 33 54.9**	**-0.1**
KIS				S		**Sb**	**02 34 07.3**	**-0.9**
PANC	**Panciu**	**0.91**	**199**	⇑P		**Pb**	**02 33 55.7**	**-0.3**
PANC				⇓S		**Sb**	**02 34 08.1**	**-0.2**
VLDR	**Vladesti**	**0.96**	**158**	⇑P		**Pg**	**02 33 56.2**	**+0.2**
VLDR				⇑S		**Sb**	**02 34 09.4**	**-0.4**
BIZ	**Bicaz**	**1.02**	**282**	⇓S		**Sg**	**02 34 10.9**	**+0.2**
ODBI	**Odobesti**	**1.03**	**200**	P		**Pn**	**02 33 59.3**	**+0.4**
VRI	**Vrincioaia**	**1.04**	**214**	⇓P		**Pg**	**02 33 57.7**	**-0.1**
VRI				⇓S		**Sb**	**02 34 12.7**	**+0.3**
VRI	**Vrincioaia**	**1.04**	**214**	P		**Pg**	**02 33 57.4**	**-0.3**
PLOR5	**Plostina Array**	**1.08**	**216**	P		**Pn**	**02 33 59.4**	**-0.3**
PLOR	**Plostina**	**1.09**	**216**	⇑P		**Pg**	**02 33 58.5**	**-0.1**
PLOR				⇑S		**Sb**	**02 34 13.6**	**0.0**
SCTR	**Scanteiesti**	**1.10**	**164**	⇑P		**Pg**	**02 33 58.8**	**0.0**
SCTR				⇑S		**Sb**	**02 34 13.6**	**-0.3**
PRAR	**RASCA**	**1.11**	**305**	⇑P		**Pg**	**02 33 58.5**	**-0.5**
SPBR	**Spulber**	**1.13**	**210**	⇑P		**Pg**	**02 33 59.5**	**+0.1**
TUDR		**1.14**	**176**	⇑P		**Pg**	**02 33 59.4**	**-0.2**
TUDR				⇑S		**Sn**	**02 34 15.7**	**-0.7**
SLCR	**Slobozia Conac**	**1.15**	**173**	⇓P		**Pg**	**02 33 59.5**	**-0.3**
SLCR				⇓S		**Sb**	**02 34 15.4**	**0.0**
TATR	**Tatarca**	**1.18**	**163**	⇓P		**Pg**	**02 34 00.1**	**-0.3**
TATR				⇓S		**Sb**	**02 34 15.9**	**-0.4**
IZVR	**Izvoarele**	**1.20**	**173**	⇑P		**Pg**	**02 34 00.2**	**-0.4**
IZVR				⇑S		**Sb**	**02 34 16.5**	**-0.2**
NEGRR	**Negrea**	**1.22**	**170**	⇑P		**Pg**	**02 34 00.6**	**-0.4**
NEGRR				⇓S		**Sb**	**02 34 17.4**	**+0.2**
SCHL	**Schela**	**1.25**	**171**	⇑P		**Pg**	**02 34 01.5**	**-0.1**
SCHL				⇓S		**Sb**	**02 34 18.2**	**+0.1**
SCHLR	**Schela**	**1.28**	**172**	⇑S		**Sb**	**02 34 18.9**	**0.0**
SCHLR				⇓P		**Pg**	**02 34 01.8**	**-0.4**
COVR	**Voineasa-Covas**	**1.29**	**227**	⇑P		**Pb**	**02 34 02.8**	**+0.2**
COVR				⇑S		**Sn**	**02 34 20.6**	**+0.3**
BISRR	**Bisoca**	**1.32**	**207**	⇓P		**Pb**	**02 34 03.7**	**+0.6**
BISRR				⇑S		**Sn**	**02 34 21.2**	**+0.1**
BISRR	**Bisoca**	**1.32**	**207**	P		**Pb**	**02 34 03.8**	**+0.6**
JOSR	**Joseni**	**1.41**	**270**	⇑P		**Pn**	**02 34 03.6**	**-0.6**
JOSR				⇓S		**Sn**	**02 34 24.0**	**+0.8**
GRER		**1.41**	**197**	⇑S		**Sn**	**02 34 24.3**	**+1.1**
PURM	**Purcari**	**1.60**	**96**	⇓P		**Pn**	**02 34 07.0**	**+0.3**
PURM				⇑S		**Sb**	**02 34 28.1**	**-0.3**
CFR	**Carcaliu**	**1.60**	**165**	⇑P		**Pn**	**02 34 06.2**	**-0.6**
CFR				⇓S		**Sn**	**02 34 27.7**	**-0.2**
MLR	**Muntele Rosu**	**1.68**	**223**	P		**Pb**	**02 34 09.2**	**0.0**
TLCR		**1.77**	**150**	⇑P		**Pn**	**02 34 09.8**	**+0.7**
TLCR				⇓S		**Sn**	**02 34 32.3**	**+0.3**
BURAR	**Bucovina Array**	**1.83**	**300**	⇑P		**Pn**	**02 34 09.8**	**-0.2**
BURAR				⇑S		**Sb**	**02 34 35.6**	**+0.6**
NDNU	**Novodnistrovsk**	**1.87**	**356**	*e*Pg		**Pb**	**02 34 11.9**	**-0.5**
NDNU				Pm			02 34 16.3	
NDNU				*e*Sg		**Sn**	**02 34 35.0**	**+0.6**
NDNU				Sm			02 34 36.1	
CHRU	**Chernivtsi**	**1.92**	**325**	*e*Sg		**Sb**	**02 34 36.9**	**-0.7**
TPGR	**Topolog**	**1.97**	**162**	⇓S		**Sb**	**02 34 38.4**	**-0.5**
AMRR	**Amara**	**2.13**	**184**	⇑S		**Sb**	**02 34 42.5**	**-1.0**
KSV	**Kosov**	**2.32**	**314**	*e*Pg		**Pn**	**02 34 18.1**	**+1.5**
KSV				Pm			02 34 23.1	
KSV				*e*Sg		**Sb**	**02 34 47.9**	**-1.1**
KSV				Sm			02 35 00.2	
HORU	**Horodok**	**2.60**	**343**	*e*Sg		**Sn**	**02 34 54.5**	**+2.1**
STNU	**Starunia**	**2.86**	**315**	*e*Pg		**Pb**	**02 34 27.0**	**-2.3**

*IDC **01** 02:42:35.6±2.7, 6°.25S×104°.94E, h0km, mb3.8/4, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=59.9km s-min=30.4km az=59.0*
*DJA **01** 02:42:39.1±0.3, 6°.5±8°.×10°.5E±°, h10km, M4.1/10, MLv4.1/10*
*NEIC **01** 02:42:40.7±1.8, 6°.35S±0°.05×105°.05E±0°.09, h40km±9km, mb4.6/15, Error ellipse: s-maj=14.7km s-min=4.6km az=66.0*

ISC 01 02:42:39.2±1.4, 6°.16S±0°.10×105°.10E±0°.06, h27km±10km, n42, σ1°.75/39, mb4.5/12, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.87**	**316**	P		**Pb**	**02 42 54.0**	**-1.7**
LWLI	**Liwa**	**1.53**	**318**	P		**Pn**	**02 43 05.3**	**+0.4**
TNG	**Tangerang**	**1.54**	**91**	P		**Pb**	**02 43 05.1**	**-2.0**
TNG				P		**Pn**	**02 43 04.9**	**0.0**
TNG				S		**Sn**	**02 43 23.8**	**-0.2**
SKJI	**Sukabumi**	**1.68**	**120**	P		**Pb**	**02 43 08.7**	**-0.8**
SKJI				S		**Sb**	**02 43 32.7**	**+2.5**
CNJI	**Cibinong**	**2.32**	**120**	P		**Pn**	**02 43 16.7**	**+1.0**
CNJI				S		**Sb**	**02 43 50.9**	**+2.2**
LEM	**Lembang**	**2.59**	**105**	Pn		**Pn**	**02 43 20.1**	**+0.6**
	10nm,0.3s,baz=314,slow=19,SNR=4.4							
LEM				Sn		**Sb**	**02 43 57.3**	**+0.6**
	26nm,0.3s,baz=311,slow=20,SNR=2.1							
	11nm,0.3s							
LEM	**Lembang**	**2.59**	**105**	P		**Pb**	**02 43 22.4**	**-2.7**
MNAI	**Manna**	**2.78**	**310**			**Pn**	**02 43 23.6**	**+1.6**
MNAI						**Sn**	**02 43 57.2**	**+2.5**
MNAI	**Manna**	**2.78**	**310**	P		**Pn**	**02 43 23.4**	**+1.4**
CMJI	**Cimerak**	**3.70**	**116**	P		**Pn**	**02 43 36.7**	**+2.1**
KPJI	**Karang Pucung**	**3.98**	**107**	P		**Pn**	**02 43 43.1**	**+4.6**
PHRA	**Phrae**	**24.96**	**349**	P		**P**	**02 48 01.8**	**+1.1**
PHRA				IAmb		IAmb	02 48 05.4	
	comp=Z,37nm,1.2s							
NWAO	**Narrogin (SRO)**	**28.93**	**159**	P		**P**	**02 48 33.5**	**-2.8**
NWAO				IAmb		IAmb	02 48 40.0	
	comp=Z,9.5nm,0.9s							
WRA	**Warramunga Arr**	**31.53**	**119**	P		**P**	**02 49 00.2**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=291,slow=8.8,SNR=1.6							
	comp=Z,0.2nm,0.5s							
WB2	**Warramunga Arr**	**31.55**	**119**	P		**P**	**02 48 57.9**	**-1.6**
H08S2	**Diego Garcia H**	**32.40**	**265**	T		T	03 22 42.5	
	baz=88,slow=75,SNR=13							
H08S3	**Diego Garcia H**	**32.41**	**265**	T		T	03 22 46.5	
	baz=88,slow=75,SNR=15							
H08S1	**Diego Carcia H**	**32.42**	**265**	T		T	03 22 46.7	
	baz=88,slow=75,SNR=10							
ASAR	**Alice Springs**	**32.72**	**125**	P		**P**	**02 49 10.6**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=300,slow=8.2,SNR=3.1							
	comp=Z,0.3nm,0.6s							
STKA	**Stephens Creek**	**42.61**	**132**	P		**P**	**02 50 31.5**	**-1.9**
STKA	**Stephens Creek**	**42.61**	**132**	P		**P**	**02 50 34.7**	**+1.3**
	comp=Z,1.6nm,0.5s,baz=303,slow=9.0,SNR=3.9							
	comp=Z,1.6nm,0.5s							
KSAR	**Wonju Array Be**	**48.31**	**24**	P		**P**	**02 51 19.0**	**+0.7**
KSRS	**Korea Array**	**48.33**	**24**	P		**P**	**02 51 19.9**	**+1.4**
	comp=Z,3.5nm,0.7s,baz=199,slow=8.2,SNR=8.0							
	comp=Z,3.5nm,0.7s							
KBL	**Kabul**	**52.88**	**322**	P		**P**	**02 51 54.2**	**+1.0**
KBL				IAmb		IAmb	02 51 57.2	
	comp=Z,4.7nm,0.5s							
SONM	**Songino Array**	**53.77**	**1**	P		**P**	**02 52 01.1**	**+1.7**
NRN	**Naryn**	**54.33**	**333**	P		**P**	**02 52 03.0**	**-0.9**
KDJ	**Kajisay**	**54.38**	**335**	P		**P**	**02 52 05.0**	**+0.9**
GAR	**Garm**	**55.28**	**327**	P		**P**	**02 52 11.6**	**+1.1**
GAR				IAmb		IAmb	02 52 17.7

Code	Sea Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.25**	**30**	P	**Pg**	**02 44 55.2**	**+1.3**
KRI1				S	**Sg**	**02 45 00.3**	**+2.9**
	257μm,0.5s						
LTHK	**Lithakia**	**0.30**	**28**	P	**Pb**	**02 44 56.0**	**0.0**
LTHK				S	**Sb**	**02 45 01.7**	**+0.8**
	222μm,0.6s						
LTHK	**Lithakia**	**0.30**	**28**	P	**Pb**	**02 44 55.7**	**-0.3**
LTHK				S	**Sb**	**02 45 01.9**	**+0.9**
LTHK				AML	AML	02 45 02.2	
LTHK				AML	AML	02 45 02.5	
RTZL	**Ratzakli, Kefa**	**0.64**	**8**	P	**Pb**	**02 45 01.4**	**-0.3**
RTZL				S	**Sn**	**02 45 12.1**	**-1.5**
	74μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.67**	**355**	P	**Pg**	**02 45 01.6**	**-0.1**
PSDA				S	**Sb**	**02 45 11.5**	**-0.1**
	68μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.67**	**355**	P	**Pb**	**02 45 02.2**	**-0.1**
PSDA				S	**Sb**	**02 45 12.5**	**+0.9**
VLS	**Valsamata**	**0.73**	**356**	P	**Pb**	**02 45 02.8**	**-0.6**
VLS				S	**Sb**	**02 45 13.8**	**+0.3**
	43μm,0.5s						
VLS	**Valsamata**	**0.73**	**356**	P	**Pb**	**02 45 02.8**	**-0.6**
VLS				S	**Sb**	**02 45 13.8**	**+0.3**
VLS	**Valsamata**	**0.73**	**356**	P	**Pb**	**02 45 02.8**	**-0.2**
VLS				S	**Sn**	**02 45 15.4**	**-0.6**
VLS				AML	AML	02 45 20.2	
	comp=E,84721μm,0.7s						
VLS				AML	AML	02 45 21.0	
	comp=N,93988μm,0.6s						
LXR1	**Lixouri, Cepha**	**0.78**	**347**	P	**Pb**	**02 45 04.0**	**-0.1**
LXRA	**Lixouri, Kepha**	**0.78**	**347**	P	**Pb**	**02 45 04.2**	**+0.2**
SMHA	**Samh**	**0.81**	**359**	P	**Pg**	**02 45 03.9**	**-0.3**
SMHA				S	**Sn**	**02 45 17.6**	**-0.2**
DMLN	**Damoulianata-K**	**0.82**	**344**	P	**Pg**	**02 45 03.7**	**-0.9**
DMLN				S	**Sn**	**02 45 18.9**	**+0.6**
DMLN	**Damoulianata-K**	**0.82**	**344**	P	**Pb**	**02 45 05.0**	**0.0**
AMT	**Artemida-Makis**	**0.84**	**84**	P	**Pn**	**02 45 05.8**	**-0.6**
AMT				AML	AML	02 45 28.6	
AMT				AML	AML	02 45 28.9	
RLS	**Riolos of Patr**	**0.89**	**46**	P	**Pn**	**02 45 06.8**	**-0.2**
RLS	**Riolos of Patr**	**0.89**	**46**	P	**Pn**	**02 45 06.7**	**-0.2**
RLS				S	**Sn**	**02 45 19.7**	**-0.1**
RLS				AML	AML	02 45 26.4	
	comp=N,32681μm,0.4s						
RLS				AML	AML	02 45 30.3	
	comp=E,38855μm,0.8s						
VSK1	**VASILIKIADES**	**0.97**	**356**	P	**Pg**	**02 45 06.9**	**-0.4**
VSK1				S	**Sn**	**02 45 21.2**	**-0.6**
DRO	**Drossia**	**0.98**	**58**	P	**Pn**	**02 45 08.7**	**+0.5**
DRO	**Drossia**	**0.98**	**58**	P	**Pn**	**02 45 08.0**	**-0.2**
DRO				S	**Sn**	**02 45 23.4**	**+1.6**
DRO				AML	AML	02 45 36.4	
	comp=E,72224μm,0.4s						
DRO				AML	AML	02 45 39.5	
	comp=N,57601μm,0.4s						
FSK	**Fiskardo**	**1.02**	**356**	P	**Pg**	**02 45 07.8**	**-0.5**
FSK				S	**Sn**	**02 45 23.1**	**+0.1**
FSK				AML	AML	02 45 33.2	
	comp=N,88662μm,1.0s						
FSK				AML	AML	02 45 34.4	
PYL	**PYLOS**	**1.02**	**122**	P	**Pb**	**02 45 08.3**	**0.0**
PYL	**PYLOS**	**1.02**	**122**	P	**Pg**	**02 45 08.1**	**-0.3**
PYL				AML	AML	02 45 31.4	
	comp=N,28678μm,0.6s						
PYL				AML	AML	02 45 31.5	
	comp=E,30329μm,0.5s						
ITM	**Ithomi**	**1.04**	**104**	P	**Pg**	**02 45 07.9**	**-0.8**
ITM				AML	AML	02 45 31.4	
	comp=N,29655μm,1.0s						
ITM				AML	AML	02 45 31.9	
	comp=E,35641μm,0.6s						
EVGI	**Lefkada island**	**1.18**	**360**	P	**Pg**	**02 45 11.1**	**-0.2**
UPR	**University Cam**	**1.22**	**46**	P	**Pg**	**02 45 12.7**	**+0.5**
DRAG	**Dragano-Lefkad**	**1.24**	**357**	P	**Pg**	**02 45 12.2**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.27**	**1**	P	**Pg**	**02 45 13.1**	**0.0**
KLV	**Kalavryta, Ach**	**1.32**	**63**	P	**Pg**	**02 45 13.8**	**-0.3**
KLV				AML	AML	02 45 44.7	
	comp=N,14670μm,0.7s						
KLV				AML	AML	02 45 48.9	
	comp=E,13914μm,0.8s						
LKD2	**Lefkada island**	**1.34**	**360**	*e*P	**Pg**	**02 45 14.5**	**0.0**
LKD2	**Lefkada island**	**1.34**	**360**	P	**Pg**	**02 45 12.5**	**+0.7**
LKD2				AML	AML	02 45 44.9	
	comp=N,64033μm,0.8s						
LKD2				AML	AML	02 45 46.6	
	comp=E,43452μm,0.7s						
TSLK	**Tsoukalades, L**	**1.38**	**360**	P	**Pg**	**02 45 14.8**	**-0.3**
TSLK				AML	AML	02 45 45.9	
	comp=E,42594μm,1.1s						
TSLK				AML	AML	02 45 47.5	
	comp=N,45970μm,0.7s						
EFP	**Efpalio**	**1.39**	**45**	P	**Pg**	**02 45 15.6**	**+0.2**
EFP				AML	AML	02 45 51.1	
	comp=N,18829μm,0.8s						
EFP				AML	AML	02 45 54.2	
	comp=E,22415μm,1.1s						
GUR	**Goura**	**1.42**	**69**	P	**Pn**	**02 45 14.6**	**+0.1**
GUR				AML	AML	02 45 49.5	
	comp=N,32487μm,0.5s						
GUR				AML	AML	02 45 50.5	
	comp=E,28508μm,0.6s						
KALE	**Kalithea**	**1.50**	**51**	P	**Pb**	**02 45 16.6**	**0.0**
KALE				AML	AML	02 45 52.0	
	comp=E,20444μm,0.5s						
KALE				AML	AML	02 45 52.6	
	comp=N,19596μm,0.6s						
ANX	**Ano Chora**	**1.52**	**41**	P	**Pg**	**02 45 17.1**	**-0.8**
ANX				AML	AML	02 45 47.9	
	comp=N,38664μm,0.5s						
ANX				AML	AML	02 45 55.8	
	comp=E,29099μm,0.6s						
EVR	**Evrytania**	**1.73**	**31**	P	**Pn**	**02 45 18.8**	**+0.2**
EVR				AML	AML	02 45 55.9	
	comp=E,19735μm,1.7s						
EVR				AML	AML	02 46 03.2	
	comp=N,18027μm,0.8s						
DLFA	**Delphi**	**1.78**	**54**	P	**Pb**	**02 45 21.5**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.95**	**36**	P	**Pb**	**02 45 22.9**	**-1.3**
MAKR				AML	AML	02 46 03.2	
	comp=E,40941μm,0.8s						
MAKR				AML	AML	02 46 09.6	
	comp=N,32558μm,1.2s						
VLI	**Velíai**	**1.96**	**111**	P	**Pn**	**02 45 21.7**	**0.0**
AXAR	**Agios Charalam**	**2.06**	**49**	P	**Pb**	**02 45 25.1**	**-0.9**
IGT	**Igoumenitsa**	**2.10**	**353**	P	**Pb**	**02 45 26.3**	**-0.4**
IGT	**Igoumenitsa**	**2.10**	**353**	P	**Pn**	**02 45 24.2**	**+0.5**
IGT				AML	AML	02 46 12.1	
	comp=E,13387μm,0.8s						
IGT				AML	AML	02 46 14.4	
	comp=N,10714μm,0.6s						
VIL2	**Platees**	**2.20**	**69**	P	**Pn**	**02 45 26.0**	**+0.9**
JAN	**Janina**	**2.21**	**4**	P	**Pb**	**02 45 27.7**	**-1.0**
JAN	**Janina**	**2.21**	**4**	P	**Pn**	**02 45 26.3**	**+1.0**
KEK	**Kerkira**	**2.36**	**344**	*e*P	**Pb**	**02 45 31.6**	**+0.4**
KEK	**Kerkira**	**2.36**	**344**	Pn	**Pn**	**02 45 27.8**	**+0.5**
KEK	**Kerkira**	**2.36**	**344**	P	**Pn**	**02 45 27.1**	**-0.2**
THL	**Klokotos Trika**	**2.37**	**26**	P	**Pn**	**02 45 28.4**	**+1.1**
ATH	**Athens Observa**	**2.48**	**77**	P	**Pb**	**02 45 31.6**	**-1.6**
ATH	**Athens Observa**	**2.48**	**77**	P	**Pn**	**02 45 29.9**	**+1.0**
VLY	**Voula,Athens**	**2.52**	**80**	P	**Pn**	**02 45 30.0**	**+0.6**
ATHU	**Athens Univers**	**2.53**	**77**	P	**Pn**	**02 45 30.9**	**+1.3**
KPRO	**Kipourio**	**2.57**	**12**	P	**Pn**	**02 45 32.2**	**+2.0**
TYRN	**Tyrnavos**	**2.58**	**28**	P	**Pn**	**02 45 32.2**	**+2.0**
LRSO	**Larissa Observ**	**2.61**	**31**	P	**Pn**	**02 45 32.2**	**+1.6**
PTL	**Penteli**	**2.61**	**76**	P	**Pn**	**02 45 32.4**	**+1.7**
ANKY	**Antikythira Is**	**2.64**	**126**	P	**Pn**	**02 45 31.9**	**+0.7**
DION	**Dionisos Attik**	**2.67**	**75**	P	**Pn**	**02 45 31.9**	**+0.3**
NEO	**Neokhori**	**2.74**	**47**	P	**Pn**	**02 45 34.1**	**+1.5**
KZN	**Kozani**	**2.99**	**17**	P	**Pn**	**02 45 35.6**	**-0.3**
KZN	**Kozani**	**2.99**	**17**	P	**Pn**	**02 45 37.9**	**+2.0**
LIT	**Litokhoron**	**3.01**	**28**	P	**Pn**	**02 45 37.3**	**+1.0**
LIT				S	**Sb**	**02 46 19.5**	**+0.4**
LIT	**Litokhoron**	**3.01**	**28**	*e*P	**Pn**	**02 45 38.1**	**+1.8**
LIT	**Litokhoron**	**3.01**	**28**	Pn	**Pn**	**02 45 37.1**	**+0.8**
LIT	**Litokhoron**	**3.01**	**28**	P	**Pn**	**02 45 37.1**	**+0.8**
AOS2	**Alonissos-2**	**3.03**	**55**	P	**Pn**	**02 45 38.0**	**+1.6**
SCTE	**Santa Cesarea**	**3.13**	**328**		**Pn**	**02 45 37.5**	**-0.4**
SCTE	**Santa Cesarea**	**3.13**	**328**	P	**Pn**	**02 45 36.8**	**-1.1**
KNDR	**Palaiochora Ch**	**3.29**	**131**	*e*P	**Pb**	**02 45 47.5**	**+0.5**
IMMV	**Iera Moni Meta**	**3.33**	**125**	*e*P	**Pn**	**02 45 41.5**	**+0.9**
IMMV	**Iera Moni Meta**	**3.33**	**125**	P	**Pn**	**02 45 41.2**	**+0.6**
FNA	**Florina**	**3.38**	**9**	P	**Pn**	**02 45 42.1**	**+0.7**
FNA				S	**Sb**	**02 46 25.6**	**-4.1**
FNA	**Florina**	**3.38**	**9**	*e*P	**Pn**	**02 45 43.1**	**+1.8**
FNA	**Florina**	**3.38**	**9**		**Pn**	**02 45 42.5**	**+1.1**
FNA	**Florina**	**3.38**	**9**	*e*Pn	**Pn**	**02 45 42.8**	**+1.5**
FNA				*e*Sn	**Sn**	**02 46 23.0**	**+1.6**
FNA	**Florina**	**3.38**	**9**	P	**Pn**	**02 45 42.5**	**+1.1**
FNA	**Florina**	**3.38**	**9**	P	**Pn**	**02 45 43.0**	**+1.6**
PAIG	**Paliouri**	**3.42**	**43**	*e*P	**Pn**	**02 45 42.4**	**+0.5**
PAIG	**Paliouri**	**3.42**	**43**	P	**Pn**	**02 45 43.0**	**+1.1**
TIP	**Timpagrande**	**3.52**	**301**		**Pn**	**02 45 42.0**	**-1.3**
TIP	**Timpagrande**	**3.52**	**301**	⇓P	**Pn**	**02 45 42.0**	**-1.3**
TIP	**Timpagrande**	**3.52**	**301**	P	**Pn**	**02 45 41.7**	**-1.6**
OHR	**Ohrid**	**3.66**	**2**	*e*Pn	**Pn**	**02 45 45.2**	**0.0**
OHR	**Ohrid**	**3.66**	**2**	*i* Pn	**Pn**	**02 45 47.9**	**+2.6**
OHR	**Ohrid**	**3.66**	**2**	P	**Pn**	**02 45 47.8**	**+2.6**
HORT	**Hortiatis**	**3.68**	**30**	*e*P	**Pn**	**02 45 48.6**	**+3.2**
HORT	**Hortiatis**	**3.68**	**30**	P	**Pn**	**02 45 46.8**	**+1.4**
GVD	**Gavdhos**	**3.80**	**132**	*e*P	**Pn**	**02 45 50.5**	**+3.4**
CEL	**Celeste**	**3.86**	**284**		**Pn**	**02 45 46.9**	**-1.0**
CEL	**Celeste**	**3.86**	**284**	P	**Pn**	**02 45 47.2**	**-0.7**
OUR	**Ouranopolis**	**3.88**	**41**	*e*P	**Pn**	**02 45 49.2**	**+1.1**
OUR	**Ouranopolis**	**3.88**	**41**	P	**Pn**	**02 45 49.9**	**+1.8**
APE	**Apeiranthos**	**3.91**	**94**	*e*P	**Pn**	**02 45 50.3**	**+1.8**
APE	**Apeiranthos**	**3.91**	**94**	⇑P	**Pn**	**02 45 52.4**	**+3.9**
APE	**Apeiranthos**	**3.91**	**94**	P	**Pn**	**02 45 52.4**	**+3.9**
APE	**Apeiranthos**	**3.91**	**94**	P	**Pn**	**02 45 48.6**	**+0.1**
TIR	**Tirane**	**3.95**	**351**	*e*P	**Pn**	**02 45 52.7**	**+3.6**
TIR	**Tirane**	**3.95**	**351**	*e*Pn	**Pn**	**02 45 49.6**	**+0.5**
TIR	**Tirane**	**3.95**	**351**	⇓P	**Pn**	**02 45 51.0**	**+1.9**
TIR	**Tirane**	**3.95**	**351**	P	**Pn**	**02 45 50.9**	**+1.9**
TIR	**Tirane**	**3.95**	**351**	P	**Pn**	**02 45 50.1**	**+1.0**
IDI	**Anoyia**	**4.04**	**121**	*e*P	**Pb**	**02 45 56.9**	**-2.8**
IDI	**Anoyia**	**4.04**	**121**	Pn	**Pn**	**02 45 51.5**	**+1.1**
IDI	**Anoyia**	**4.04**	**121**	Pn	**Pn**	**02 45 51.3**	**+1.0**
	comp=N,7.3nm,0.4s,baz=315,slow=14,SNR=30						
IDI				Sn	**Sn**	**02 46 38.2**	**+0.6**
	comp=N,15nm,0.3s,baz=279,slow=14,SNR=6.6						
SRS	**Serrai**	**4.32**	**31**	*e*P	**Pn**	**02 45 55.7**	**+1.5**
SRS	**Serrai**	**4.32**	**31**	*e*Pn	**Pn**	**02 45 55.6**	**+1.4**
SRS	**Serrai**	**4.32**	**31**	P	**Pn**	**02 45 55.4**	**+1.2**
CHOS	**Chios island**	**4.37**	**76**	*e*P	**Pn**	**02 45 55.9**	**+1.0**
MATE	**Matera**	**4.44**	**317**	*e*P	**Pn**	**02 45 57.9**	**+2.1**
MATE	**Matera**	**4.44**	**317**	⇑P	**Pn**	**02 45 54.4**	**-1.4**
SIGR	**SIGRI**	**4.45**	**65**	*e*P	Pn	02 46 00.9	+4.9
CUC	**Castrocucco**	**4.56**	**305**		**Pn**	**02 45 58.9**	**+1.4**
CUC	**Castrocucco**	**4.56**	**305**	P	**Pn**	**02 45 57.1**	**-0.5**
PUK	**Puka**	**4.63**	**353**		**Pn**	**02 45 59.1**	**+0.6**
ULC	**Ulcinj**	**4.64**	**347**	⇑*i*Pn	**Pn**	**02 45 58.8**	**+0.1**
ULC				*i* Sn	**Sn**	**02 46 52.7**	**+0.2**
PEHC	**Pehcevo**	**4.66**	**21**	*i* Pn	**Pn**	**02 46 01.2**	**+2.2**
ZEYE	**Izmir, Urla-Ze**	**4.69**	**78**	P	**Pn**	**02 45 58.3**	**-1.0**
ZEYE				S	**Sn**	**02 46 58.4**	**+4.7**
KARB	**zmir-Karabur**	**4.70**	**73**	P	**Pn**	**02 46 02.2**	**+2.7**
KARB				S	**Sn**	**02 47 00.1**	**+6.2**
KOCA	**Canakkale, Ayv**	**4.77**	**63**	P	**Pn**	**02 46 01.2**	**+0.9**
KOCA				S	**Sn**	**02 46 58.5**	**+3.0**
BOZC	**Bozcaada**	**4.85**	**59**	P	**Pn**	**02 46 01.7**	**+0.2**
DRME	**Dracevica, Mon**	**4.87**	**347**	⇓*i*Pn	**Pn**	**02 46 02.3**	**+0.5**
DRME				*i* Sn	**Sn**	**02 46 58.6**	**+0.5**
GOAD	**anakkale-G¶**	**4.92**	**55**	P	**Pn**	**02 46 02.8**	**+0.4**
GOAD				S	**Sb**	**02 47 09.6**	**-4.2**
GADA	**Gvkgeada**	**4.93**	**55**	*e*P	**Pn**	**02 46 02.9**	**+0.4**
DGB	**zmir**	**4.97**	**81**	P	**Pn**	**02 46 03.4**	**+0.3**
DGB				S	**Sn**	**02 47 07.9**	**+7.4**
VAE	**Valguarnera**	**4.97**	**272**	**Pn**	**Pn**	**02 46 03.9**	**+0.7**
	comp=N,40nm,0.7s,baz=93,slow=17,SNR=27						
VAE				Sn	**Sn**	**02 47 03.8**	**+3.2**
	comp=N,26nm,0.3s,baz=11,slow=22,SNR=4.3						
VAE				LR	LR	02 47 56.7	
	comp=N,2μm,20.7s,baz=96,slow=38						
RAFF	**Raffo Rosso**	**5.02**	**269**	Pn	**Pn**	**02 46 02.5**	**-1.4**
ECEA	**Canakkale, Ece**	**5.03**	**57**	P	**Pn**	**02 46 07.8**	**+3.8**
ECEA				S	**Sb**	**02 47 21.7**	**+4.6**
EZN	**Ezine**	**5.03**	**60**	P	**Pn**	**02 46 07.3**	**+3.3**
EZN				S	**Sb**	**02 47 14.3**	**-2.9**
EZN	**Ezine**	**5.03**	**60**	*e*P	**Pn**	**02 46 05.9**	**+1.9**
EZN	**Ezine**	**5.03**	**60**	P	**Pn**	**02 46 03.6**	**-0.4**
EZN	**Ezine**	**5.03**	**60**	P	**Pn**	**02 46 03.6**	**-0.4**
	comp=N,57nm,1.1s						
BUM	**Brajici-Budva**	**5.04**	**345**	*e*Pn	**Pn**	**02 46 03.8**	**-0.3**
BUM				*i* Sn	**Sn**	**02 47 02.2**	**-0.1**
ZKR	**Zakros**	**5.06**	**116**	*e*P	Pn	02 46 09.7	+5.4
AYVA	**Ayvalik**	**5.09**	**67**	P	**Pn**	**02 46 00.6**	**-4.2**
PDG	**Podgorica**	**5.09**	**348**	*e*P	**Pn**	**02 46 04.9**	**+0.1**
PDG	**Podgorica**	**5.09**	**348**		**Pn**	**02 46 04.2**	**-0.6**
PDG	**Podgorica**	**5.09**	**348**	*e*Pn	**Pn**	**02 46 04.2**	**-0.6**
PDG				*e*Sn	**Sn**	**02 47 02.8**	**-0.8**
PDG	**Podgorica**	**5.09**	**348**	*e*Pn	**Pn**	**02 46 04.4**	**-0.4**
PDG	**Podgorica**	**5.09**	**348**	⇑P	**Pn**	**02 46 05.6**	**+0.8**
PDG	**Podgorica**	**5.09**	**348**	⇓*i*Pn	**Pn**	**02 46 04.6**	**-0.2**
PDG				*i* Sn	**Sn**	**02 47 03.7**	**+0.1**
BLCB	**Balcova**	**5.13**	**78**	*e*P	**Pn**	**02 46 06.2**	**+0.8**
BAYC	**CANAKKALE_Bayr**	**5.15**	**62**	P	**Pn**	**02 46 04.5**	**-1.1**
BAYC				S	**Sb**	**02 47 26.1**	**+5.6**
IZMD	**zmir-Dikili-**	**5.17**	**71**	P	**Pn**	**02 46 09.4**	**+3.5**
IZMD				S	**Sb**	**02 47 20.6**	**-0.6**
PVY	**Plav**	**5.17**	**354**	⇑*i*Pn	**Pn**	**02 46 05.9**	**-0.1**
PVY				*i* Sn	**Sn**	**02 47 05.7**	**0.0**
DKL	**Dikili**	**5.18**	**70**	P	Pn	02 46 10.8	+4.8
DKL	**Dikili**	**5.18**	**70**	*e*P	**Pn**	**02 46 07.6**	**+1.6**
CNKL	**anakkale-Mer**	**5.19**	**58**	P	**Pn**	**02 46 07.2**	**+1.2**
CNKL				S	**Sg**	**02 47 31.1**	**-4.0**
WDD	**Wied Dalam**	**5.19**	**254**	Pn	**Pn**	**02 46 05.4**	**-0.7**
GCAM	**G?zelcaml?**	**5.23**	**85**	P	**Pn**	**02 46 11.1**	**+4.4**
GCAM				S	**Sn**	**02 47 11.2**	**+4.3**
GCAM	**G?zelcaml?**	**5.23**	**85**	*e*P	Pb	02 46 14.4	-5.6
BOSS	**Bosilegrad**	**5.24**	**15**	*e*Pn	**Pn**	**02 46 07.9**	**+1.1**
HCY	**Herceg Novi**	**5.27**	**342**	*e*Pn	**Pn**	**02 46 04.7**	**-2.5**
HCY	**Herceg Novi**	**5.27**	**342**	⇓*i*Pn	**Pn**	**02 46 06.1**	**-1.1**
HCY				*i* Sn	**Sn**	**02 47 07.4**	**-0.4**
CEME	**Cevo**	**5.27**	**346**	⇓*i*Pn	**Pn**	**02 46 06.5**	**-0.8**
CEME				*i* Sn	**Sn**	**02 47 08.0**	**0.0**
ZEDA	**zmir-Bergama**	**5.28**	**71**	P	Pn	02 46 13.3	+5.9
BODT	**Bodrum**	**5.32**	**92**	*e*P	**Pn**	**02 46 08.4**	**+0.4**
CAVK	**Edirne/Enez-Ca**	**5.38**	**51**	P	**Pn**	**02 46 08.9**	**+0.2**
CAVK	**Edirne/Enez-Ca**	**5.38**	**51**	⇑P	**Pn**	**02 46 12.9**	**+4.2**
ENEZ	**Enez**	**5.39**	**51**	*e*P	**Pn**	**02 46 09.3**	**+0.4**
GELI	**Tayfur-Gelibol**	**5.41**	**55**	*e*P	**Pn**	**02 46 11.3**	**+2.2**
ALN	**Alexandroupoli**	**5.42**	**49**	P	**Pn**	**02 46 10.3**	**+1.0**
ALN				S	**Sb**	**02 47 22.9**	**-5.4**
ALN	**Alexandroupoli**	**5.42**	**49**	*e*P	**Pn**	**02 46 10.5**	**+1.2**
ALN	**Alexandroupoli**	**5.42**	**49**	Pn	**Pn**	**02 46 10.1**	**+0.8**
ALN	**Alexandroupoli**	**5.42**	**49**	P	**Pn**	**02 46 10.1**	**+0.8**
BARS	**Barje**	**5.44**	**9**	*e*Pn	**Pn**	**02 46 09.9**	**+0.3**
BUHA	**Balikesir, Bur**	**5.44**	**66**	P	Pn	02 46 14.4	+4.8
BUHA				S	**Sg**	**02 47 38.2**	**-5.0**
IVA	**Berane**	**5.45**	**354**	⇑*i*Pn	**Pn**	**02 46 10.2**	**+0.4**
IVA				*i* Sn	**Sn**	**02 47 12.8**	**+0.3**
KOME	**Kolasin**	**5.47**	**351**	⇑*i*Pn	**Pn**	**02 46 10.4**	**+0.3**
KOME				*i* Sn	**Sn**	**02 47 13.0**	**0.0**
NKME	**Niksic**	**5.47**	**347**	⇑*i*Pn	**Pn**	**02 46 10.2**	**+0.1**
NKME				*i* Sn	**Sn**	**02 47 12.7**	**-0.3**
YAZI	**Mula-Dat§a-**	**5.49**	**96**	P	**Pn**	**02 46 10.0**	**-0.2**
YAZI				S	**Sn**	**02 47 17.3**	**+4.0**
KDZ	**Kurdzhali**	**5.53**	**39**	*e*P	**Pn**	**02 46 12.2**	**+1.4**
VTS	**Vitosha**	**5.53**	**20**	*e*Pn	**Pn**	**02 46 12.0**	**+1.0**
VTS				*e*Sn	**Sn**	**02 47 15.1**	**+0.5**
TREB	**Trebinje**	**5.56**	**342**	*e*Pn	**Pn**	**02 46 09.0**	**-2.2**
TREB				*e*Sn	**Sn**	**02 47 11.1**	**-3.9**
TREB	**Trebinje**	**5.56**	**342**	*e*Pn	**Pn**	**02 46 09.3**	**-1.9**
KARP	**Karpathos**	**5.57**	**108**	*e*P	**Pn**	**02 46 13.9**	**+2.5**
KARP	**Karpathos**	**5.57**	**108**	Pn	**Pn**	**02 46 11.9**	**+0.5**
KARP	**Karpathos**	**5.57**	**108**	P	**Pn**	**02 46 12.9**	**+1.5**
KARP	**Karpathos**	**5.57**	**108**	P	**Pn**	**02 46 12.5**	**+1.1**
	comp=N,108nm,0.6s,comp=N,2μmcomp=N,1.1nm						
DAT	**Datca**	**5.58**	**95**	P	**Pn**	**02 46 11.6**	**+0.1**
DAT				S	**Sn**	**02 47 19.5**	**+3.8**
DAT	**Datca**	**5.58**	**95**	*e*P	**Pn**	**02 46 13.5**	**+1.9**
ERIK	**Erikli-Kesan**	**5.58**	**53**	P	Pn	02 46 06.0	-5.5
ERIK				S	**Sn**	**02 47 19.5**	**+4.0**
ERIK	**Erikli-Kesan**	**5.58**	**53**	*e*P	**Pn**	**02 46 10.5**	**-1.0**
LPK	**Lapseki**	**5.58**	**57**	*e*P	**Pn**	**02 46 13.5**	**+1.9**
CANM	**Can-anakkale**	**5.62**	**61**	*e*P	**Pn**	**02 46 13.1**	**+1.1**
PLD	**Plovdiv**	**5.65**	**33**	*e*P	**Pn**	**02 46 14.2**	**+1.7**
PLD	**Plovdiv**	**5.65**	**33**	*e*Pn	**Pn**	**02 46 13.7**	**+1.2**
PLD	**Plovdiv**	**5.65**	**33**	P	**Pn**	**02 46 15.3**	**+2.8**
PLD				pmax	pmax		
	comp=Z,180nm,1.0s						
BRY	**Bratogost**	**5.69**	**344**	*e*Pn	**Pn**	**02 46 12.1**	**-1.0**
BRY	**Bratogost**	**5.69**	**344**	⇑*i*Pn	**Pn**	**02 46 13.0**	**-0.1**
BRY				*i* Sn	**Sn**	**02 47 17.7**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**5.76**	**83**	*e*P	Pn	02 46 20.1	+6.0
SELS	**Selova**	**5.78**	**3**	*e*Pn	**Pn**	**02 46 14.3**	**0.0**
AKHS	**Akhisar**	**5.82**	**74**	P	**Pn**	**02 46 10.0**	**-4.8**
IZMR	**zmir-demi**	**5.82**	**81**	P	Pb	02 46 22.7	-7.4
IZMR				S	**Sb**	**02 47 34.9**	**-4.8**
SJES	**Sjenica**	**5.83**	**355**	*e*Pn	**Pn**	**02 46 15.3**	**+0.2**
SJES				*e*Sn	**Sn**	**02 47 19.6**	**-2.4**
SJES	**Sjenica**	**5.83**	**355**	*e*Pn	**Pn**	**02 46 15.3**	**+0.2**
STEP	**BALIKESIR_Sava**	**5.87**	**69**	P	**Pn**	**02 46 15.5**	**0.0**
STEP				S	**Sn**	**02 47 23.9**	**+1.1**
STON	**Ston**	**5.88**	**338**	*e*Pn	**Pn**	**02 46 13.8**	**-1.7**
STON	**Ston**	**5.88**	**338**	*e*Pn	**Pn**	**02 46 13.4**	**-2.2**
UPM	**Unac-Piva**	**5.91**	**347**	*e*Pn	**Pn**	**02 46 18.3**	**+2.1**
UPM	**Unac-Piva**	**5.91**	**347**	⇓*i*Pn	**Pn**	**02 46 16.0**	**-0.2**
UPM				*i* Sn	**Sn**	**02 47 23.6**	**-0.3**
BALY	**Balya**	**5.92**	**65**	P	**Pn**	**02 46 17.7**	**+1.6**
UKOP	**Uzunkopru-Edir**	**5.92**	**50**	*e*P	**Pn**	**02 46 20.0**	**+3.9**
KRBG	**Karabiga-Canak**	**5.96**	**58**	*e*P	Pn	02 46 22.0	+5.4
PLE	**Pljevlja**	**5.96**	**351**	⇓*i*Pn	**Pn**	**02 46 17.2**	**+0.4**
PLE				*i* Sn	**Sn**	**02 47 24.6**	**-0.4**
ZAPS	**Zavoj**	**6.01**	**14**	*e*Pn	**Pn**	**02 46 18.8**	**+1.3**
RKY	**Sarkoy-Tekirda**	**6.02**	**55**	P	**Pn**	**02 46 17.3**	**-0.3**
RKY	**Sarkoy-Tekirda**	**6.02**	**55**	*e*P	**Pn**	**02 46 18.6**	**+1.0**
SART	**Tekirdag**	**6.02**	**55**	P	**Pn**	**02 46 18.8**	**+1.2**
NAZL	**Nazilli-Aydin**	**6.08**	**83**	*e*P	Pn	02 46 23.7	+5.4
YER	**Yerkesik**	**6.09**	**91**	*e*P	Pn	02 46 23.7	+5.2
YER	**Yerkesik**	**6.09**	**91**	P	Pn	02 46 25.0	+6.5
TURN	**Turunc**	**6.10**	**94**	*e*P	**Pn**	**02 46 21.5**	**+2.9**
GORD	**Gordes-Manisa**	**6.10**	**74**	*e*P	**Pn**	**02 46 21.5**	**+2.8**
ARG	**Arkhangelos**	**6.11**	**99**	P	**Pn**	**02 46 23.0**	**+4.2**
ARG				pmax	pmax		
	comp=Z,141nm,1.3s						
ESEN	**Aydn-Nazilli**	**6.11**	**84**	P	Pn	02 46 25.4	+6.6
ESEN				S	**Sn**

comp=Z,120nm,1.1s,comp=Z,1µm
NEHR Nehoiu 9.03 26 ⇑P **Pn 02 47 02.1 +3.3**
YUVA Yuva-Kibriscik 9.09 68 *e*P Pn 02 47 04.5 +4.8
PTJ Puntijarka 9.15 339 P **Pn 02 47 03.0 +2.4**
DOPR Dopca 9.22 21 ⇑P **Pn 02 47 04.5 +3.1**
KEST Kesra 9.26 263 Pn **Pn 02 47 01.3 -0.8**
KEST Kesra 9.26 263 Pn **Pn 02 47 02.1 0.0**
comp=Z,0.9nm,0.3s,baz=94,slow=7.6,SNR=16
KEST Sn **Sn 02 48 44.5 -1.7**
comp=Z,0.2nm,0.3s,baz=61,slow=21,SNR=1.3
KEST LR LR 02 50 40.3
comp=Z,992nm,21.6s,baz=68,slow=38
comp=Z,22nm,0.9s
BISRR Bisoca 9.28 27 ⇑P **Pn 02 47 06.1 +3.8**
BISRR Bisoca 9.28 27 P **Pn 02 47 05.5 +3.2**
comp=Z,212nm,1.6s,comp=Z,4µm
COVR Voineasa-Covas 9.36 25 ⇑P **Pn 02 47 07.1 +3.7**
MARR Marisel-Cluj 9.40 10 ⇑P **Pn 02 47 06.2 +2.1**
GAZI Gazipasa 9.42 94 *e*P **Pn 02 47 05.9 +1.6**
TPGR Topolog 9.44 36 ⇓P **Pn 02 47 07.3 +2.9**
HDMB Hadim 9.45 89 *e*P Pn 02 47 12.6 +7.8
OZUR 9.45 22 ⇑P **Pn 02 47 07.4 +2.7**
DRGR 9.46 9 *e*Pn **Pn 02 47 04.7 -0.1**
DRGR 9.46 9 ⇓P **Pn 02 47 07.8 +3.0**
DRGR 9.46 9 P **Pn 02 47 07.8 +3.0**
SPBR Spulber 9.47 27 ⇑P **Pn 02 47 08.4 +3.5**
TURR Turia 9.49 23 ⇑P **Pn 02 47 09.0 +3.9**
CEY Cerknica 9.51 333 *e*Pn **Pn 02 47 04.4 -1.0**
CJR Cluj-Napoca 9.52 12 ⇓P **Pn 02 47 08.2 +2.6**
CJR Cluj-Napoca 9.52 12 P **Pn 02 47 08.1 +2.6**
PLOR Plostina 9.52 26 ⇓P **Pn 02 47 08.7 +3.1**
PLOR Plostina 9.52 26 P **Pn 02 47 09.7 +4.1**
PLOR5 Plostina Array 9.52 26 P **Pn 02 47 09.9 +4.3**
CFR Carcaliu 9.55 34 ⇓P **Pn 02 47 08.4 +2.4**
CFR Carcaliu 9.55 34 P **Pn 02 47 08.3 +2.4**
VRI Vrincioaia 9.56 26 *e*P **Pn 02 47 10.2 +4.1**
VRI Vrincioaia 9.56 26 ⇑P **Pn 02 47 10.1 +4.0**
VRI Vrincioaia 9.56 26 P **Pn 02 47 10.7 +4.6**
CHBY Cihanbeyli 9.72 80 *e*P Pn 02 47 19.5 +11
MESR Meseseni 9.85 9 ⇓P **Pn 02 47 12.1 +2.1**
SABO M.te Sabotino 10.02 331 Pn **Pn 02 47 11.6 -0.9**
VLDR Vladesti 10.06 31 ⇓P **Pn 02 47 15.6 +2.7**
TESR Tescani 10.10 24 ⇓P **Pn 02 47 17.0 +3.6**
BUD Budapest 10.11 354 P **Pn 02 47 17.4 +3.9**
BUD pmax pmax
comp=Z,25nm,0.9s
BERE Bereket-Mersin 10.12 92 *e*P **Pn 02 47 18.6 +4.6**
SOKA Soboth 10.13 337 *e*Pn **Pn 02 47 12.8 -1.2**
comp=Z,3.0nm,0.4s
SOKA *e*Sn **Sn 02 48 58.9 -8.5**
comp=Z,6.0nm,0.6s
OBKA Obir 10.13 335 *e*Pn **Pn 02 47 16.5 +2.5**
comp=Z,2.2nm,0.4s
OBKA *e*Sn **Sn 02 49 04.0 -3.6**
comp=Z,36nm,0.6s
OBKA Obir 10.13 335 *e*Pn **Pn 02 47 15.8 +1.8**
SULT Sultanhani-AKS 10.20 82 *e*P **Pn 02 47 17.9 +2.9**
BR131 Keskin Array S 10.41 73 *i* P **Pn 02 47 17.7 -0.3**
BRTR Keskin Array B 10.41 73 Pn **Pn 02 47 19.3 +1.3**
comp=Z,0.2nm,0.3s,baz=278,slow=11,SNR=2.2
BRTR LR LR 02 51 36.0
comp=Z,2µm,20.2s,baz=260,slow=40
comp=Z,0.9nm,0.5s
AKKU Akkuyu-Mersin 10.42 93 *e*P **Pn 02 47 20.8 +2.9**
PRED Cave del Predi 10.42 332 Pn **Pn 02 47 18.1 +0.1**
BMR Baia Mare 10.43 11 P **Pn 02 47 20.8 +2.8**
BMR pmax pmax
comp=Z,49nm,1.1s
PSZ Piszkesteto 10.48 357 Pn **Pn 02 47 19.2 +0.4**
PSZ Piszkesteto 10.48 357 *e*P **Pn 02 47 19.7 +0.9**
PSZ Piszkesteto 10.48 357 ⇓P **Pn 02 47 19.9 +1.1**
PSZ Piszkesteto 10.48 357 P **Pn 02 47 19.8 +1.1**
KEBE Keben-Mersin 10.50 91 *e*P Pn 02 47 25.8 +6.8
SRO Srobarova 10.51 351 *e*P **Pn 02 47 22.6 +3.6**
SRO Srobarova 10.51 351 *e*PN **Pn 02 47 22.6 +3.6**
ARSA Arzberg 10.51 340 *i* Pn **Pn 02 47 18.4 -0.7**
comp=Z,1.0nm,0.3s
ARSA *e*Sn **Sn 02 49 10.4 -6.3**
comp=Z,4.2nm,0.7s
CSS Mathiatis 10.54 100 *e*P **Pn 02 47 22.1 +2.6**
CSS Mathiatis 10.54 100 P **Pn 02 47 20.6 +1.1**
MYKA Terra Mystica 10.55 333 *i* Pn **Pn 02 47 21.7 +1.9**
comp=Z,2.5nm,0.4s
MYKA *e*Sn **Sn 02 49 11.8 -6.1**
comp=Z,9.7nm,0.8s
KIRS Kirsehir-Merke 10.56 77 ⇓P **Pn 02 47 24.2 +4.3**
BURAR Bucovina Array 10.70 17 Pn **Pn 02 47 22.6 +0.8**
BURAR Bucovina Array 10.70 17 ⇓P **Pn 02 47 25.6 +3.8**
BURAR Bucovina Array 10.70 17 P **Pn 02 47 25.6 +3.8**
BUR08 Bucovina Ar. S 10.73 17 Pn **Pn 02 47 23.6 +1.4**
RONA Rosalia, Austr 10.74 344 *i* Pn Pn 02 47 27.1 +4.8
comp=Z,2.5nm,0.5s
RONA *e*Sn Sn 02 49 08.8 -14
comp=Z,25nm,1.4s
KIZK Mersin 10.83 91 *e*P **Pn 02 47 25.8 +2.2**
KBA Koelnbreinsper 11.04 333 *i* Pn **Pn 02 47 29.2 +2.7**
comp=Z,8.2nm,0.7s
KBA *e*Sn Sn 02 49 19.9 -10
comp=Z,8.4nm,0.7s
KBA Koelnbreinsper 11.04 333 P **Pn 02 47 29.0 +2.5**
KBA pmax pmax
comp=Z,38nm,1.2s
CONA Conrad Observa 11.05 343 *e*Pn Pn 02 47 32.3 +5.6
comp=Z,3.2nm,0.8s
CONA *e*Sn Sn 02 49 17.8 -12
comp=Z,3.2nm,0.6s
MERS Mersin 11.08 89 *e*P Pn 02 47 21.7 -5.3
ABTA Abfaltersbach 11.09 330 *i* Pn Pn 02 47 32.2 +5.1
comp=Z,4.7nm,0.5s
ABTA *e*Sn **Sn 02 49 24.5 -6.5**
comp=Z,4.4nm,0.4s
VYHS Vyhne 11.12 354 *e*P **Pn 02 47 27.3 -0.2**
VYHS Vyhne 11.12 354 *e*PN **Pn 02 47 27.3 -0.2**
MODS Modra-Piesok 11.20 348 *e*P **Pn 02 47 29.0 +0.5**
MODS *e* 02 49 34.7
MODS MLR MLR
comp=Z,9µm,15.1s
MODS Modra-Piesok 11.20 348 *e*PN **Pn 02 47 29.0 +0.5**
MODS Modra-Piesok 11.20 348 *e*SN **Sn 02 49 34.7 +1.1**
MODS *e*SG 02 50 46.2
MODS eL L 02 53 03.7
CMRD Camardi-Nigde 11.38 85 *e*P Pn 02 47 37.5 +6.3
MOA Molln 11.41 338 *i* Pn **Pn 02 47 31.6 +0.2**
comp=Z,3.1nm,0.4s
MOA *i* Sn **Sn 02 49 34.0 -4.8**
comp=Z,4.5nm,0.4s
MOA Molln 11.41 338 *e*Pn **Pn 02 47 30.4 -1.0**
BIOA Bad Ischl, Aus 11.47 335 *i* Pn **Pn 02 47 33.1 +0.8**
comp=Z,13nm,1.0s
BIOA *i* Sn **Sn 02 49 37.2 -3.1**
comp=Z,12nm,0.6s
KOLS Kolonicke sedl 11.54 5 *e*P **Pn 02 47 35.3 +2.1**
KOLS Kolonicke sedl 11.54 5 *e*PN **Pn 02 47 35.3 +2.1**
LESA Schwarzleotal 11.58 332 *i* Pn **Pn 02 47 37.0 +3.2**
comp=Z,9.0nm,0.6s
LESA *e*Sn **Sn 02 49 37.7 -5.3**
comp=Z,18nm,0.6s
JAVC Velka Javorina 11.62 350 *e*PN **Pn 02 47 32.7 -1.6**
WTTA Wattenberg 11.86 329 *e*Pn **Pn 02 47 39.9 +2.2**
comp=Z,1.8nm,0.4s
WTTA *i* Sn **Sn 02 49 48.1 -1.9**
comp=Z,12nm,0.5s
WATA Walderalm 11.94 329 *i* Pn **Pn 02 47 41.0 +2.3**
comp=Z,9.8nm,0.8s
WATA *i* Sn **Sn 02 49 47.6 -4.3**
comp=Z,14nm,0.5s
NIE Niedzica 11.97 359 *e*P **Pn 02 47 40.9 +1.8**
NIE Niedzica 11.97 359 P **Pn 02 47 41.2 +2.1**
NIE pmax pmax
comp=Z,9.0nm,1.0s
STHS Stebnicka Huta 11.97 2 *e*P **Pn 02 47 42.4 +3.3**
STHS Stebnicka Huta 11.97 2 *e*PN **Pn 02 47 42.4 +3.3**
FUORN Ofenpass-Fuorn 11.98 323 Pn **Pn 02 47 39.7 +0.3**
SQTA Sankt Quirin 12.00 327 *i* Pn **Pn 02 47 42.0 +2.4**
comp=Z,1.1nm,0.3s
SQTA *i* Sn **Sn 02 49 46.7 -6.8**
comp=Z,9.5nm,0.7s
KRUC Moravsky 12.02 346 *e*PN **Pn 02 47 38.6 -1.1**
KRUC Moravsky 12.02 346 P **Pn 02 47 39.4 -0.3**
KRUC pmax pmax
comp=Z,11nm,1.1s
BNN Bunyan 12.04 79 *e*P Pn 02 47 50.9 +11
KOZT Kozan 12.06 85 *e*P **Pn 02 47 38.3 -2.0**
FETA Feichten 12.06 326 *e*Pn **Pn 02 47 42.4 +2.0**
comp=Z,3.7nm,0.7s
FETA *e*Sn **Sn 02 49 50.6 -4.3**
comp=Z,7.0nm,0.6s
MOTA Moosalm 12.14 328 *i* Pn **Pn 02 47 43.1 +1.5**
comp=Z,4.9nm,0.8s
MOTA *i* Sn **Sn 02 49 49.7 -7.3**
comp=Z,12nm,1.2s
VRAC Vranov 12.22 347 Pn **Pn 02 47 41.9 -0.6**
comp=Z,0.4nm,0.3s,baz=187,slow=14,SNR=5.4
VRAC LR LR 02 52 53.3
comp=Z,1µm,19.1s,baz=172,slow=40
comp=Z,5.1nm,0.9s
VRAC Vranov 12.22 347 *e*PN **Pn 02 47 41.2 -1.3**
VRAC Vranov 12.22 347 ⇓P **Pn 02 47 42.9 +0.4**
VRAC Vranov 12.22 347 P **Pn 02 47 42.9 +0.4**
KWP Kalwaria Pacla 12.27 6 *e*P **Pn 02 47 45.2 +2.0**
KWP Kalwaria Pacla 12.27 6 **Pn 02 47 44.1 +0.9**
KWP Kalwaria Pacla 12.27 6 P **Pn 02 47 44.1 +0.9**
CKRC Cesky Krumlov 12.27 340 *e*PN **Pn 02 47 42.7 -0.5**
CKRC AMS AMS 02 53 30.0
comp=Z,4µm,11.4s
CKRC Cesky Krumlov 12.27 340 *e*P **Pn 02 47 42.7 -0.5**
CKRC MLR MLR
comp=Z,4µm,11.4s
SET Setif 12.29 269 P Pn 02 47 50.0 +6.4
TUE Stuetta 12.33 321 Pn **Pn 02 47 43.8 -0.3**
RETA Reutte 12.40 327 *i* Pn **Pn 02 47 48.2 +3.1**
comp=Z,3.3nm,0.5s
RETA *i* Sn **Sn 02 49 56.9 -6.3**
comp=Z,2.6nm,0.6s
TREC Trest 12.42 344 AMS AMS 02 53 50.0
comp=Z,3µm,12.4s
TREC Trest 12.42 344 P **Pn 02 47 45.9 +0.6**
GEC2 GERESS Array S 12.47 338 Pn **Pn 02 47 46.9 +1.0**
GEC2 GERESS Array S 12.47 338 P **Pn 02 47 47.0 +1.0**
GEC2 pmax pmax
comp=Z,18nm,1.3s
GERES GERESS Array B 12.47 338 Pn **Pn 02 47 47.3 +1.3**
comp=Z,4.5nm,0.9s
GERES LR LR 02 53 13.7
comp=Z,837nm,22.0s,baz=139,slow=41
OKC Ostrava-Krasne 12.52 352 P **Pn 02 47 47.1 +0.5**
OKC pmax pmax
comp=Z,25nm,1.4s
MORC Moravsky Berou 12.53 351 Pn **Pn 02 47 46.9 +0.1**
MORC Moravsky Berou 12.53 351 *e*PN **Pn 02 47 48.3 +1.5**
MORC Moravsky Berou 12.53 351 P **Pn 02 47 46.9 +0.1**
SIM Simferopol' 12.60 49 *e*P Pn 02 47 53.5 +5.9
SIM pmax pmax
comp=Z,25nm,1.0s
HNTI Hanita 12.63 106 P **Pn 02 47 49.1 +0.9**
DAVA Damuels 12.65 324 *e*Pn **Pn 02 47 51.3 +2.8**
comp=Z,1.2nm,0.4s
DAVA *e*Sn **Sn 02 50 02.1 -7.1**
comp=Z,7.8nm,0.6s
OFRI `Ofer 12.69 108 P **Pn 02 47 50.1 +1.1**
FUR Furstenfeldbru 12.73 330 P Pn 02 47 55.2 +5.8
FUR pmax pmax
comp=Z,37nm,1.1s
KHC Kasperske Hory 12.76 338 Pn **Pn 02 47 50.0 +0.1**
KHC Kasperske Hory 12.76 338 *e*PN **Pn 02 47 48.0 -1.9**
KHC AMS AMS 02 53 40.0
comp=Z,4µm,10.8s
KHC Kasperske Hory 12.76 338 *c e*P **Pn 02 47 51.2 +1.3**
KHC pmax pmax
comp=Z,53nm,2.5s
OJC Ojcow 12.79 358 *e*P **Pn 02 47 50.5 +0.2**
OJC Ojcow 12.79 358 Pn **Pn 02 47 49.9 -0.3**
OJC Ojcow 12.79 358 P **Pn 02 47 49.9 -0.3**
MMAI Mount Meron Ar 12.84 106 Pn **Pn 02 47 48.0 -3.1**
comp=Z,1.7nm,0.3s,baz=312,slow=12,SNR=9.5
MMAI Sn **Sn 02 50 07.0 -6.9**
comp=Z,3.6nm,0.3s,baz=306,slow=32,SNR=7.8
comp=Z,1.3nm,0.4s
SLTI Sal'it 12.90 109 P **Pn 02 47 52.4 +0.6**
KMRS Kahramanmaras 12.91 85 *e*P Pn 02 48 01.3 +9.4
GEM Giv'at Ha'Em 12.96 105 P **Pn 02 47 53.3 +0.7**
WET Wettzell 12.98 337 P **Pn 02 47 51.8 -1.2**
WET pmax pmax
comp=Z,24nm,1.1s
SALP Salfit 13.09 110 P **Pn 02 47 54.9 +0.4**
KZIT Kziot 13.11 116 P **Pn 02 47 55.4 +0.8**
AMAZ Amatzia 13.15 112 P **Pn 02 47 55.7 +0.4**
GOPC GO Pecny, Ondr 13.16 343 AMS AMS 02 54 10.0
comp=Z,4µm,10.6s
SHMJ Saham 13.23 106 P **Pn 02 47 57.6 +1.2**
HMDT Nahal Hemdat 13.26 109 P **Pn 02 47 58.3 +1.6**
QRNJ Al-Qirein 13.26 108 P **Pn 02 47 57.8 +1.1**
DPC Dobruska-Polom 13.27 348 AMS AMS 02 54 10.0
comp=Z,4µm,11.5s
DPC Dobruska-Polom 13.27 348 P **P 02 48 02.0 -4.7**
DPC pmax pmax
comp=Z,16nm,1.1s
PRU Pruhonice 13.29 343 AMS AMS 02 54 10.0
comp=Z,4µm,10.9s
PRU Pruhonice 13.29 343 P **Pn 02 47 56.7 -0.4**
RSDY Resadiye-TOKAT 13.31 72 *e*P **P 02 48 02.6 -4.6**
DARE Darende-Malaty 13.32 80 *e*P **P 02 48 06.1 -1.3**
SENIN Lac Senin/Sane 13.34 316 Pn **Pn 02 47 57.8 -0.2**
YTIR Yattir 13.38 113 P **Pn 02 47 59.3 +0.8**
BALJ Balqa 13.42 109 **Pn 02 47 59.3 +0.3**
BALJ Balqa 13.42 109 P **Pn 02 47 59.2 +0.2**
DSI Dead Sea 13.47 111 P **Pn 02 48 00.3 +0.6**
UPC Upice 13.48 347 AMS AMS 02 54 20.0
comp=Z,5µm,11.1s
OSTC Ostas 13.49 348 AMS AMS 02 54 20.0
comp=Z,4µm,11.2s
MSBI Mazada 13.59 112 P **Pn 02 48 02.6 +1.4**
SLE Schleitheim 13.64 323 P **Pn 02 48 03.1 +1.2**
LISJ El Lisan 13.71 112 P **Pn 02 48 03.4 +0.5**
GHAJ Ghor Haditha 13.75 112 Pn **Pn 02 48 02.4 -1.0**
KSP Ksiaz 13.75 348 P **Pn 02 48 02.4 -1.0**
KRMI Paran Flat 13.79 118 P **Pn 02 48 04.1 +0.1**
PVCC Panska Ves 13.79 343 AMS AMS 02 54 30.0
comp=Z,2µm,10.6s
PVCC Panska Ves 13.79 343 P **Pn 02 48 06.4 +2.5**
PVCC pmax pmax
comp=Z,23nm,0.9s
HSUJ Al Zarqa 13.83 108 P **Pn 02 48 06.2 +1.6**
PRNI Paran 13.85 117 P **Pn 02 48 06.4 +1.6**
ZFRI Zfri 13.86 115 P **Pn 02 48 06.6 +1.7**
RICC Richard 13.91 342 AMS AMS 02 54 40.0
comp=Z,3µm,12.6s
ARPR Arapgir-MALATY 13.99 78 *e*P Pn 02 47 59.1 -7.7
GRFO Grafenberg 14.01 334 P **Pn 02 48 06.1 -0.8**
HRFI Mount Harif 14.05 118 P **Pn 02 48 08.1 +0.5**
STU Stuttgart 14.06 327 *e*P **Pn 02 48 11.1 +3.5**
NKC Novy Kostel 14.08 338 AMS AMS 02 54 40.0
comp=Z,4µm,11.5s
NKC Novy Kostel 14.08 338 P **Pn 02 48 08.2 +0.3**
MBRI Mt Berech 14.11 119 P **Pn 02 48 08.8 +0.4**
BFO Black Forest 14.12 324 Pn **Pn 02 48 08.3 -0.2**
BFO Black Forest 14.12 324 P **Pn 02 48 08.3 -0.2**
HSKC Hora Svate Kat 14.14 341 AMS AMS 02 54 40.0
comp=Z,2µm,10.9s
EIL Elat 14.21 119 Pn **Pn 02 48 07.5 -2.2**
comp=Z,0.8nm,0.3s,baz=287,slow=17,SNR=9.8
EIL Sn Sn 02 50 37.5 -10
comp=Z,1.7nm,0.3s,baz=307,slow=20,SNR=6.5
comp=Z,1.9nm,0.4s
EIL Elat 14.21 119 P **Pn 02 48 10.2 +0.5**
AQBJ Aqaba 14.24 119 P **Pn 02 48 10.9 +0.7**
BRG Berggiesshubel 14.26 342 *e*P **P 02 48 18.5 +0.9**
BRG Amp 02 48 20.1
comp=Z,21nm,1.4s
BRG Berggiesshubel 14.26 342 P P 02 48 24.0 +6.4
BRG Amp 02 48 26.7
comp=Z,16nm,1.1s
BRG Berggiesshubel 14.26 342 *e*P **P 02 48 18.4 +0.9**
BRG pmax pmax
comp=Z,21nm,1.4s
BRG MLR MLR
comp=E,1µm,8.9s
BRG MLR MLR
comp=Z,4µm,11.7s
BRG MLR MLR
comp=N,2µm,10.0s
ASF Jabal al Asfar 14.34 107 Pn **Pn 02 48 12.2 +0.6**
comp=N,0.3nm,0.3s,baz=278,slow=18,SNR=7.8
comp=N,0.8nm,0.3s
URFA Urfa 14.43 84 *e*P **P 02 48 19.9 +0.2**
KIEV Kiev 14.59 22 Pn **Pn 02 48 15.6 +0.8**
KIEV Kiev 14.59 22 P **Pn 02 48 15.6 +0.8**
AKASG Malin Array Be 14.60 22 Pn **Pn 02 48 15.4 +0.5**
AKASG Malin Array Be 14.60 22 Pn **Pn 02 48 13.2 -1.7**
comp=N,1.2nm,0.3s,baz=211,slow=12,SNR=11
AKASG LR LR 02 55 10.5
comp=N,3µm,18.2s,baz=202,slow=43
comp=N,2.1nm,0.6s
AKASG Malin Array Be 14.60 22 *i* P **Pn 02 48 13.8 -1.1**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 14.60 22 Pn **Pn 02 48 15.6 +0.7**
AKBB Malin Array Si 14.60 22 *c e*P **Pn 02 48 15.9 +1.0**
ECH Echery 14.60 322 Pn **Pn 02 48 13.7 -1.4**
ECH Echery 14.60 322 P **Pn 02 48 13.7 -1.4**
ANN Anapa 14.61 55 *e*P **Pn 02 48 14.9 -0.2**
ANN *e*S **Sn 02 50 57.6 +0.7**
ANN pmax pmax
comp=Z,60nm,1.4s
MOX Moxa 14.70 337 P **P 02 48 19.4 -3.1**
MOX pmax pmax
comp=Z,34nm,1.1s
SVRC Sivrice-ELAZID 14.75 81 *e*P **P 02 48 22.1 -1.3**
PTK Pertek 14.81 79 *e*P **P 02 48 22.3 -1.7**
CLL Collm 14.89 341 **Pn 02 48 19.2 +0.3**
CLL Collm 14.89 341 *e*P **Pn 02 48 19.0 +0.1**
CLL Collm 14.89 341 *e*P **Pn 02 48 19.0 +0.1**
CLL *i* pP **P 02 48 22.6 -2.0**
CLL *i* (sP) 02 48 25.7
comp=Z,36nm,1.3s
CLL *i* PP **PnPn 02 48 28.4 +1.5**
CLL *i* (sPP) 02 48 34.1
comp=Z,71nm,1.3s
CLL *e*SS **S 02 51 24.0 +2.2**
CLL *e*x x 02 51 44.0
CLL AMS AMS 02 55 00.0
KTUT Trabzon 15.23 71 *e*P **Pn 02 48 22.1 -1.3**
TNS Taunus Mts 15.49 329 P **P 02 48 30.0 -1.4**
TNS pmax pmax
comp=Z,51nm,1.2s
SOC Sochi 15.72 61 *e*P **Pn 02 48 29.7 -0.2**
SOC *e* 02 51 24.8
SOC pmax pmax
comp=Z,13nm,0.8s
SOC MLR MLR
comp=Z,329nm,16.0s
RUE Ruedersdorf 15.79 344 *e*P **P 02 48 35.9 +1.4**
BNGB Bingl 15.81 78 *e*P **Pn 02 48 32.2 +1.0**
GKP Gorka Klasztor 16.00 353 P **P 02 48 38.7 +1.8**
GKP pmax pmax
comp=Z,50nm,1.1s
WLF Walferdange 16.08 324 *d*P **P 02 48 40.0 +2.2**
comp=Z,54nm,1.3s
VRTB Varto-Mus 16.42 78 *e*P **P 02 48 44.1 +2.3**
BHOU Houvegnez 16.63 326 *d*P **P 02 48 47.9 +3.9**
comp=Z,11nm,1.4s
SUW Suwalki 16.66 5 *e*P **Pn 02 48 41.1 -0.8**
SUW Suwalki 16.66 5 **Pn 02 48 41.2 -0.6**
SUW Suwalki 16.66 5 *e*P **Pn 02 48 42.5 +0.6**
SUW Suwalki 16.66 5 P **Pn 02 48 41.3 -0.6**
SUW pmax pmax
comp=Z,371nm,1.1s
LABN Labinsk 16.73 58 *e*P **P 02 48 49.1 +4.0**
LABN pmax pmax
comp=Z,48nm,1.1s
LABN MLR MLR
comp=E,1µm,12.0s
LABN MLR MLR
comp=N,2µm,11.0s
LABN MLR MLR
comp=Z,923nm,12.0s
BTNL Ternell 16.75 326 *d*P **P 02 48 50.3 +5.0**
comp=Z,22nm,1.1s
MEM Membach 16.81 326 P **P 02 48 49.9 +3.9**
MEM pmax pmax
comp=Z,37nm,1.6s
MEM Membach 16.81 326 *d*P **P 02 48 48.3 +2.4**
comp=Z,22nm,1.1s
RCHB Rochefort 16.85 324 *d*P **P 02 48 47.7 +1.3**
comp=Z,15nm,1.0s
GURO Guroymak-BITLI 16.88 80 Pn **Pn 02 48 45.7 +0.7**
BUG Bochum--Univer 16.91 330 P **P 02 48 50.5 +3.5**
BUG pmax pmax
comp=Z,23nm,1.1s
BSTI Sart Tilman 17.00 325 *d*P **P 02 48 54.1 +6.2**
comp=Z,6.6nm,1.2s
BCLA Clavier 17.00 325 *d*P **P 02 48 51.4 +3.4**
comp=Z,15nm,1.2s
BCLA *d*PP 02 49 43.7
BGES Gesves 17.08 324 *d*P **P 02 48 51.2 +2.3**
BEBN Eben Emael 17.10 326 *d*P **P 02 48 53.1 +4.0**
DOU Dourbes 17.11 323 P **Pn 02 48 47.0 -0.6**
DOU Dourbes 17.11 323 *d*P **P 02 48 50.6 +1.4**
comp=Z,17nm,1.3s
SENK Senkaya-Erzuru 17.14 73 *e*P **Pn 02 48 47.9 -0.3**
BMRD Maredsous 17.17 324 *d*P **P 02 48 56.0 +6.1**
UCC Uccle 17.70 324 **Pn 02 48 54.6 -0.2**
UCC Uccle 17.70 324 P **Pn 02 48 54.6 -0.2**
UCC pmax pmax
comp=Z,5.0nm,0.9s
UCC Uccle 17.70 324 *d*P **P 02 48 57.3 +1.6**
comp=Z,22nm,0.9s
MNK Minsk 17.77 14 *i* P **Pn 02 48 53.0 -2.6**
comp=E,51nm,0.9s
MNK *i* P **Pn 02 48 53.0 -2.6**
comp=N,9.0nm,0.9s
MNK *i* P **Pn 02 48 53.0 -2.6**
comp=Z,35nm,0.8s,baz=199
MNK *i* PP **pwP 02 49 03.5 +1.8**
MNK *i* S **Sn 02 52 10.6 -2.8**
MNK *i* SS **SnSn 02 52 25.6 -1.4**
MNK *i* LQ LQ 02 54 24.1
MNK *i* LR LR 02 55 20.9
MNK *i* LRM MLR 02 57 10.7
comp=E,1µm,12.8s
MNK *i* LRM MLR 02 57 15.3
comp=Z,2µm,13.5s
MNK *i* LRM MLR 02 57 31.9
comp=N,729nm,15.1s
MNK Minsk 17.77 14 *i* P **Pn 02 48 53.0 -2.6**
MNK *i* S **Sn 02 52 10.6 -2.8**
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=E,51nm,0.9s
MNK pmax pmax
comp=Z,35nm,0.8s
MNK MLR MLR
comp=E,1µm,13.0s
MNK MLR MLR
comp=Z,2µm,14.0s
MNK MLR MLR
comp=N,729nm,15.0s
SHA1 Shidzhatmaz 17.83 62 *i* P **P 02 48 58.2 +0.7**
KIV Kislovodsk 17.90 62 *e*P **Pn 02 48 56.6 -0.9**
KIV Kislovodsk 17.90 62 **P 02 48 58.0 0.0**
KIV Kislovodsk 17.90 62 *e*P **P 02 48 59.0 +0.9**
KIV *e*S **Sn 02 52 20.1 +3.1**
KIV pmax pmax
comp=Z,17nm,1.0s
KIV MLR MLR
comp=Z,226nm,14.0s
KVAR Kislovodsk Arr 17.91 62 Pn **P 02 48 58.8 +0.6**
baz=267,slow=17
comp=Z,1.7nm,0.5s
MFF Saint Martin d 17.92 307 P **P 02 49 02.7 +4.5**
MFF pmax pmax
comp=Z,49nm,1.0s
NACGM Naroch 17.96 12 *e*P **Pn 02 48 57.8 -0.2**
comp=E,2µm,1.2s
BSEG Bad Segeberg 17.97 340 P **P 02 48 59.7 +1.0**
BSEG pmax pmax
comp=Z,38nm,1.2s
KBZ Khabaz 18.00 63 P **P 02 48 59.1 0.0**
comp=Z,0.3nm,0.3s,baz=210,slow=5.2,SNR=8.1
KBZ LR LR 02 57 35.8
comp=Z,576nm,20.5s,baz=262,slow=43
comp=Z,1.6nm,0.5s
KBZ Khabaz 18.00 63 *i* P **P 02 49 00.3 +1.3**
KBZ pmax pmax
comp=Z,56nm,3.0s
BSD Bornholm Skovb 18.10 349 *i* P **Pn 02 48 57.6 -2.2**
BSD IAmb IAmb 02 49 02.8
comp=Z,31nm,1.0s
PABE Paberze 18.21 6 **Pn 02 49 00.2 -0.9**
PABE IAmb IAmb 02 49 04.1
comp=Z,115nm,1.0s
PABE Paberze 18.21 6 *e*P **Pn 02 49 00.5 -0.5**

GOF Gofitskoye 18.43 59*ce*P Pn 02 49 06.0 +2.1
TRLG Trialeti 18.53 70 P Pn 02 49 05.8 +0.4
TASB TASBURUN-IGDIR 18.57 75 *e*P P 02 49 03.6 -1.9
PBUR Paburge 18.61 2 *e*P P 02 49 05.3 -0.4
VSVD Vaisvydziai 18.68 6 *e*P Pn 02 49 06.5 -0.2
LUNU Lund 18.84 347 *i* P Pn 02 49 09.0 +0.3
VORD Divnogorie 18.93 39 *e*P Pn 02 49 10.9 +1.0
VORD pmax pmax
comp=Z,30nm,0.8s
VORD MLR MLR
comp=Z,2μm,10.0s
GNI Garni 18.95 74 P Pn 02 49 10.6 +0.2
comp=Z,0.5nm,0.3s,baz=241,slow=13,SNR=1.4
GNI LR LR 02 56 40.9
comp=Z,1μm,18.9s,baz=284,slow=38
comp=Z,12nm,1.0s
GNI Garni 18.95 74 *i* P Pn 02 49 11.0 +0.5
GNI pmax pmax
comp=Z,46nm,1.2s
VSR Storozhevoye 19.03 38 *e*P P 02 49 10.4 +0.1
VSR *e*S **Sn 02 52 42.9 -1.0**
VSR pmax pmax
comp=Z,30nm,1.1s
VSR smax smax
comp=N,270nm,10.5s
VSR MLR MLR
comp=Z,5μm,11.0s
COP Copenhagen 19.08 346 *i* P P 02 49 09.5 -1.3
COP IAmb IAmb 02 49 16.8
comp=Z,83nm,1.0s
VORR Voronezh 19.34 37 *e*P Pn 02 49 16.6 +1.8
VORR pmax pmax
comp=Z,35nm,0.4s
ESDC Sonseca Array 19.37 284 P Pn 02 49 15.0 -0.4
comp=Z,0.1nm,0.3s,baz=78,slow=12,SNR=16
comp=Z,7.2nm,1.1s
GUD Guadarrama 19.52 287 P P 02 49 12.5 -3.5
DEL Delary 19.57 349 *i* P P 02 49 15.0 -1.2
TAM Tamanrasset 19.57 226 P P 02 49 15.5 -1.2
TAM Tamanrasset 19.57 226 P P 02 49 15.5 -1.2
TAM pmax pmax
comp=Z,6.0nm,1.1s
PAB San Pablo 19.67 284 P P 02 49 16.8 -0.8
PAB San Pablo 19.67 284 P P 02 49 16.8 -0.8
PAB pmax pmax
comp=Z,18nm,1.2s
LPSR Galich'ya Gora 19.82 34 *e*P Pn 02 49 19.8 -0.8
LPSR *e*S **S 02 52 57.1 -4.9**
LPSR pmax pmax
comp=Z,90nm,1.0s
LPSR smax smax
comp=E,380nm,11.8s
LPSR MLR MLR
comp=Z,3μm,11.0s
SLIT Slitere, Latvi 20.23 3 *e*P P 02 49 24.0 +0.7
VRH Novokhopyorsk 20.30 41 *e*P Pn 02 49 26.6 +0.3
VRH *e*S **S 02 53 05.7 -5.9**
VRH pmax pmax
comp=Z,30nm,0.6s
VRH smax smax
comp=E,400nm,9.7s
VRH MLR MLR
comp=Z,2μm,11.0s
MUD Monsted U'grnd 20.52 342 P Pn 02 49 28.3 -0.4
MUD pmax pmax
comp=Z,76nm,1.1s
MUD Monsted U'grnd 20.52 342 *i* P P 02 49 24.5 -2.0
MUD IAmb IAmb 02 49 35.8
comp=Z,108nm,1.2s
OBN Obninsk 20.73 26 P P 02 49 28.7 -0.1
OBN IAmb IAmb 02 49 36.5
comp=Z,65nm,1.0s
OBN Obninsk 20.73 26 P P 02 49 28.0 -0.7
comp=Z,23nm,0.4s,baz=330,slow=7.5,SNR=6.9
OBN LR LR 02 57 56.5
comp=Z,1μm,19.1s,baz=208,slow=38
comp=Z,23nm,0.4s
OBN Obninsk 20.73 26‖*e*P Pn 02 49 30.4 -0.8
OBN *e* 02 49 48.9
OBN *e*S Sn 02 53 25.9 +1.1
OBN pmax pmax
comp=Z,56nm,1.0s
OBN MLR MLR
comp=Z,2μm,14.0s
GOET G??ttrup 21.03 342 *i* P P 02 49 30.6 -1.4
GOET IAmb IAmb 02 49 37.2
comp=Z,390nm,1.7s
MDT Midelt 21.15 265 P P 02 49 34.0 +0.3
comp=Z,16nm,0.8s,baz=95,slow=9.7,SNR=14
MDT LR LR 02 59 14.3
comp=Z,186nm,18.8s,baz=134,slow=41
comp=Z,16nm,0.8s
MAK Makhachkala 21.19 67 *e*P P 02 49 30.5 -3.4
MAK *e*S **S 02 53 24.4 -4.8**
MAK pmax pmax
comp=Z,181nm,0.7s
MAK MLR MLR
comp=Z,849nm,10.0s
AKT Akhty 21.25 71 *e*P P 02 49 35.6 +0.8
AKT *e* 02 49 56.1
AKT *e*PPP PPP 02 50 04.2
AKT *e*S **S 02 53 34.0 +3.2**
AKT *e*SS **SnSn 02 53 56.2 +3.5**
AKT *e*SSS SSS 02 54 10.6
AKT pmax pmax
comp=Z,39nm,1.4s
MTSE Matsula 21.38 5 *e*P P 02 49 38.0 +2.2
VSU Vasula 21.40 9*ce*P P 02 49 36.6 +0.5
VSU pmax pmax
comp=Z,159nm,1.0s
PBRG Braganca 21.51 290 *e*P P 02 49 38.5 +1.0
PBRG A A 02 49 48.5
comp=Z,52nm,1.8s
MOS Moscow 21.59 27 *e*P P 02 49 35.8 -2.3
MOS *e*S **S 02 53 35.0 -2.0**
MOS pmax pmax
comp=Z,68nm,0.8s
MOS MLR MLR
comp=Z,3μm,11.0s
MOS MLR MLR
comp=E,2μm,13.0s
MOS MLR MLR
comp=N,2μm,12.0s
MVO Moncorvo 21.71 288 *e*P P 02 49 39.5 -0.1
MVO A A 02 49 50.5
comp=N,67nm,1.2s
PBAR Barrancos 21.87 280 *e*P P 02 49 41.5 +0.2
PBAR A A 02 49 54.4
comp=N,51nm,1.6s
PMRV Marv??o 22.03 284 *e*P P 02 49 45.0 +2.0
PMRV A A 02 50 10.3
comp=N,42nm,1.3s
PCBR Castelo Branco 22.07 285 *e*P P 02 49 43.1 -0.3
PCBR A A 02 50 00.3
comp=N,45nm,1.7s
MTE Manteigas 22.10 286 *e*P P 02 49 47.3 +3.4
MTE A A 02 49 51.8
comp=N,61nm,1.6s
MTE Manteigas 22.10 286 *e*P P 02 49 44.0 +0.2
ARBE Arbavere 22.28 7 *e*P P 02 49 46.0 +0.5
POLO Lamas de Olo 22.29 289 *e*P P 02 49 45.8 -0.1
POLO A A 02 50 01.2
comp=N,29nm,1.7s
PVIS Viseu 22.36 287 *e*P P 02 49 46.7 +0.1
PCAB Cabril 22.47 290 *e*P P 02 49 47.1 -0.6
PCAB A A 02 50 05.3
comp=N,87nm,1.7s
PBEJ Beja 22.54 280 *e*P P 02 49 52.7 +4.3
PBEJ A A 02 49 57.2
comp=N,51nm,1.7s
PGAV Gavieira, Arco 22.66 291 *e*P P 02 49 56.0 +6.2
PGAV A A 02 50 10.8
comp=N,5.8nm,0.7s
PMTG Montargil 22.70 283 *e*P P 02 49 50.3 +0.1
PMTG A A 02 49 57.9
comp=N,68nm,1.7s
PCAS Casmilo, Conde 22.84 286 *e*P P 02 49 52.1 +0.4
PCAS A A 02 50 21.6
comp=N,84nm,1.8s
PSBE So Bento 23.11 284 *e*P P 02 49 55.1 +0.6
PSBE A A 02 50 09.2
comp=N,91nm,1.8s
HFS Hagfors 23.14 351 P P 02 49 53.9 -0.6
comp=N,13nm,0.7s,baz=166,slow=10,SNR=24
HFS LR LR 02 59 07.8
comp=N,475nm,21.4s,baz=168,slow=37
comp=N,13nm,0.7s
PUL Pulkovo 23.19 12*ce*P P 02 49 56.5 +1.5
PUL pmax pmax
comp=Z,80nm,0.9s
NC602 NORSAR Array S 24.02 349 P P 02 50 02.4 -0.7
BELG Belogornoye 24.06 43 LR LR 03 01 28.6
comp=Z,837nm,18.5s,baz=237,slow=42
BELG Belogornoye 24.06 43 *i* P P 02 50 04.0 +0.4
BELG pmax pmax
comp=Z,15nm,0.9s
EKA Eskdalemuir Ar 24.09 326 P P 02 50 03.6 -0.3
comp=Z,18nm,0.8s,baz=124,slow=8.2,SNR=20
comp=Z,18nm,0.8s
ESK Eskdalemuir 24.10 326 P P 02 50 08.6 +4.6
ESK pmax pmax
comp=Z,49nm,1.5s
NAO01 NORSAR Array S 24.22 348 P P 02 50 04.8 -0.3
NAO01 IAmb IAmb 02 50 30.7
comp=Z,46nm,1.1s
FINES FINESS Array B 24.26 6 P P 02 50 04.1 -1.2
comp=Z,11nm,0.8s,baz=160,slow=14,SNR=22
FINES LR LR 03 00 55.2
comp=Z,1μm,19.0s,baz=192,slow=40
comp=Z,11nm,0.8s
FIA1 FINESS Array S 24.26 6 P P 02 50 05.4 +0.1
NC405 NORSAR Array S 24.35 349 P P 02 50 05.4 -0.8
NB201 NORSAR Array S 24.36 349 P P 02 50 06.0 -0.3
NB2 NORSAR Subarra 24.36 349 P P 02 50 05.4 -0.9
comp=Z,205nm,3.3s,baz=160,slow=10
NB2 NORSAR Subarra 24.36 349 P P 02 50 05.4 -0.9
baz=160,slow=10
NB2 NORSAR Subarra 24.36 349 P P 02 50 04.6 -1.7
NB2 pmax pmax
comp=Z,622nm,2.9s
NOA NORSAR Array B 24.36 349 P P 02 50 05.2 -1.2
comp=Z,7.3nm,0.9s,baz=159,slow=9.3,SNR=13
NOA LR LR 03 00 38.0
comp=Z,464nm,19.1s,baz=165,slow=39
comp=Z,7.3nm,0.9s
NBO00 NORSAR Array S 24.42 348 P P 02 50 06.2 -0.6
NBO00 IAmb IAmb 02 50 28.6
comp=Z,35nm,1.0s
NC303 NORSAR Array S 24.51 349 P P 02 50 07.5 -0.2
NC204 NORSAR Array S 24.65 349 P P 02 50 08.8 -0.3
KEF Keuruu 24.89 5 *e*P P 02 50 12.7 +1.6
RAYN Ar Rayn 25.42 116 P P 02 50 16.0 -0.3
RAYN Ar Rayn 25.42 116 P P 02 50 16.0 -0.3
RAYN pmax pmax
comp=Z,14nm,1.3s
VAF Ylistaro 25.66 2 *e*P P 02 50 18.6 +0.7
KLMR Klimovskoe 26.28 21*d i*P P 02 50 25.6 +1.9
KLMR S **S 02 55 04.9 +9.0**
KLMR pmax pmax
comp=Z,45nm,1.1s
JOF Joensuu 26.33 11 *e*P P 02 50 26.1 +2.0
KIRV Kirov 28.21 32 LR LR 03 01 54.6
comp=Z,705nm,21.3s,baz=231,slow=36
KIRV Kirov 28.21 32 *i* P P 02 50 42.5 +1.5
TORD Torodi Ar. Bea 29.53 220 P P 02 50 52.7 -0.5
comp=Z,3.4nm,0.9s,baz=30,slow=8.7,SNR=15
TORD LR LR 03 04 04.5
comp=Z,459nm,18.0s,baz=30,slow=39
comp=Z,3.4nm,0.9s
AKTO Aktyubinsk 29.54 52 LR LR 03 05 07.8
comp=Z,663nm,19.2s,baz=236,slow=41
ABKAR Akbulak array 30.57 55 P P 02 51 01.2 -0.8
ABKAR IAmb IAmb 02 52 07.0
comp=Z,8.5nm,1.1s
ARTI Arti 31.43 41 P P 02 51 08.3 -1.3
ARTI Arti 31.43 41 LR LR 03 04 14.8
comp=Z,546nm,20.4s,baz=242,slow=37
ARTI Arti 31.43 41*d i*P P 02 51 08.1 -1.5
ARTI S **S 02 56 15.1 -1.8**
ARTI pmax pmax
comp=Z,18nm,0.8s
ARTI MLR MLR
comp=Z,1μm,13.0s
ARCES ARCESS Array B 32.26 3 P P 02 51 15.8 -0.9
comp=Z,6.8nm,1.0s,baz=192,slow=9.5,SNR=12
ARCES LR LR 03 05 35.8
comp=Z,895nm,19.0s,baz=184,slow=39
comp=Z,6.8nm,1.0s
UOSS Minazif 32.67 102 P P 02 51 22.1 +1.3
UOSS IAmb IAmb 02 51 34.0
comp=Z,12nm,0.8s
SVE Sverdlovsk 32.75 41 *e*P P 02 51 21.1 -0.1
SVE pmax pmax
comp=Z,36nm,0.9s
SVE MLR MLR
comp=Z,2μm,12.0s
WSAR Wadi Sarin 35.45 103 LR LR 03 08 38.4
comp=Z,211nm,20.0s,baz=326,slow=40
BORG Borgarnes 36.81 331 LR LR 03 09 46.5
comp=Z,385nm,18.4s,baz=133,slow=41
BRVK Borovoye 37.45 49 P P 02 52 02.7 +1.1
BRVK Borovoye 37.45 49*ce*P P 02 52 02.9 +1.2
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BVAR Borovoye Array 37.51 49 P P 02 52 01.6 -0.7
comp=Z,2.5nm,0.6s,baz=254,slow=5.0,SNR=10
BVAR LR LR 03 10 43.4
comp=Z,281nm,18.4s,baz=255,slow=42
comp=Z,2.5nm,0.6s
CHGR Chuyangaron 37.86 73 P P 02 52 05.7 +0.3
CHGR IAmb IAmb 02 52 19.2
comp=Z,20nm,0.7s
CHGR Chuyangaron 37.86 73 P P 02 52 05.7 +0.3
CHGR pmax pmax
comp=Z,19nm,0.7s
KKAR Karatay Array 38.00 65 P P 02 52 06.9 +0.4
KKAR Karatay Array 38.00 65 P P 02 52 06.9 +0.4
KKAR pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 38.43 224 P P 02 52 10.9 +0.6
comp=Z,5.2nm,0.9s,baz=43,slow=9.7,SNR=4.2
DBIC LR LR 03 08 16.4
comp=Z,301nm,21.7s,baz=21,slow=37
comp=Z,5.2nm,0.9s
MBAR Mbarara 38.99 164 LR LR 03 09 53.3
comp=Z,361nm,20.0s,baz=348,slow=39
BBTS Babate 40.01 246 LR LR 03 11 20.1
comp=Z,973nm,18.6s,baz=294,slow=40
SPITS Spitsbergen Ar 40.88 359 P P 02 52 30.1 0.0
comp=Z,19nm,1.2s,baz=151,slow=12,SNR=2.0
SPITS LR LR 03 11 50.8
comp=Z,594nm,18.2s,baz=142,slow=40
comp=Z,19nm,1.2s
AAK Ala-Archa 40.96 65 LR LR 03 12 49.3
comp=Z,412nm,19.0s,baz=290,slow=41
KMBO Kilima Mbogo 41.34 154 P P 02 52 35.0 +0.2
comp=Z,0.3nm,0.3s,baz=53,slow=10,SNR=2.4
KMBO LR LR 03 12 52.3
comp=Z,268nm,18.3s,baz=288,slow=41
comp=Z,0.3nm,0.3s
NIL Nilore 42.51 79 P P 02 52 45.2 +1.2
NIL IAmb IAmb 02 52 53.1
comp=Z,13nm,0.8s
NIL Nilore 42.51 79 P P 02 52 45.2 +1.2
NIL pmax pmax
comp=Z,13nm,0.8s
KURBB Kurchatov Arra 42.58 53 P P 02 52 43.0 -1.3
comp=Z,2.3nm,0.5s,baz=280,slow=8.8,SNR=17
KURBB LR LR 03 13 39.6
comp=Z,636nm,19.0s,baz=194,slow=41
comp=Z,2.3nm,0.5s
KURK Kurchatov 42.63 53 P P 02 52 44.2 -0.5
KURK Kurchatov 42.63 53*ce*P P 02 52 45.9 +1.2
KURK pmax pmax
comp=Z,5.0nm,0.8s
SUMG Summit 45.54 339 *i* P P 02 53 08.6 +0.3
SUMG IAmb IAmb 02 53 10.9
comp=Z,53nm,2.0s
MK31 Makanchi Array 45.60 58 P P 02 53 07.7 -0.9
MK31 Makanchi Array 45.60 58 P P 02 53 07.7 -0.9
MK31 pmax pmax
comp=Z,10.0nm,1.4s
MKAR Makanchi Array 45.60 58 P P 02 53 07.1 -1.5
comp=Z,3.5nm,0.5s,baz=272,slow=7.4,SNR=26
MKAR LR LR 03 15 40.4
comp=Z,329nm,18.0s,baz=268,slow=41
comp=Z,3.5nm,0.5s
MKAR Makanchi Array 45.60 58*ce*P P 02 53 07.0 -1.6
MKAR pmax pmax
comp=Z,4.0nm,0.5s
ZAA0 Zalesovo Array 46.10 48 P P 02 53 11.6 -0.8
ZAA0 IAmb IAmb 02 53 32.6
comp=Z,14nm,1.0s
ZALV Zalesovo Beam 46.10 48 P P 02 53 10.8 -1.7
comp=Z,7.6nm,0.6s,baz=272,slow=8.9,SNR=12
ZALV LR LR 03 14 05.7
comp=Z,218nm,18.5s,baz=304,slow=38
comp=Z,7.6nm,0.6s
ZALV Zalesovo Beam 46.10 48 *i* P P 02 53 13.1 +0.7
ZALV pmax pmax
comp=Z,8.0nm,0.6s
NOR Nord 46.22 353 *i* P P 02 53 10.5 -2.5
NOR IAmb IAmb 02 53 13.8
comp=Z,230nm,3.3s
DY2G Dye2 47.18 330 *i* P P 02 53 21.7 +0.7
DY2G IAmb IAmb 02 53 24.5
comp=Z,34nm,1.5s
NRIK Noril'sk 47.40 26 P P 02 53 23.5 +1.1
NRIK IAmb IAmb 02 53 55.8
comp=Z,7.4nm,0.9s
NRIK Noril'sk 47.40 26 P P 02 53 20.6 -1.8
comp=Z,1.4nm,0.4s,baz=188,slow=14,SNR=2.1
NRIK LR LR 03 16 45.8
comp=Z,510nm,18.0s,baz=264,slow=40
comp=Z,1.4nm,0.4s
NRIK Noril'sk 47.40 26*ce*P P 02 53 24.6 +2.2
NRIK pmax pmax
comp=Z,29nm,3.0s
SFJD Kangerlussuaq 48.92 330 LR LR 03 15 14.2
comp=Z,200nm,18.3s,baz=86,slow=37
NEEM North Greenlan 49.81 344 *i* P P 02 53 40.4 -0.8
NEEM IAmb IAmb 02 53 45.8
comp=Z,10.0nm,0.9s
WMQ Urumqi 50.02 60 *e*P P 02 53 49.0 +6.0
WMQ pmax pmax
comp=Z,27nm,0.6s
WMQ LR LR
comp=N,520nm,13.3s
WMQ LR LR
comp=E,540nm,13.3s
WMQ LR LR
comp=Z,290nm,17.1s
EUNU Eureka 56.25 348 P P 02 54 29.4 +1.0
EUNU IAmb IAmb 02 54 48.8
comp=Z,12nm,1.0s
TSUM Tsumeb 56.42 183 LR LR 03 20 52.3
comp=Z,681nm,19.6s,baz=331,slow=38
FRB Frobisher Bay 56.83 328 LR LR 03 20 22.7
comp=Z,195nm,19.1s,baz=84,slow=38
SCHQ Schefferville 59.07 318 P P 02 54 47.5 -1.0
comp=Z,3.6nm,0.7s,baz=41,slow=8.0,SNR=3.7
SCHQ LR LR 03 20 01.2
comp=Z,159nm,18.4s,baz=326,slow=36
comp=Z,3.6nm,0.7s
TIXI Tiksi 60.30 20 P P 02 54 57.2 +0.6
TIXI Tiksi 60.30 20 P P 02 54 57.2 +0.6
TIXI pmax pmax
comp=Z,13nm,0.4s
RES Resolute Bay 60.50 344 P P 02 54 58.4 +0.4
RES IAmb IAmb 02 55 07.1
comp=Z,23nm,1.6s
RES Resolute Bay 60.50 344 P P 02 54 58.4 +0.4
RES pmax pmax
comp=Z,23nm,1.7s
SHL Shillong 60.58 79 P P 02 54 58.9 -0.6
SHL Shillong 60.58 79 P P 02 54 58.9 -0.6
SHL pmax pmax
comp=Z,88nm,1.9s
SONM Songino Array 60.84 50 P P 02 55 00.1 -0.8
comp=Z,2.4nm,0.8s,baz=269,slow=8.7,SNR=7.9
SONM LR LR 03 23 31.6
comp=Z,236nm,19.3s,baz=283,slow=38
comp=Z,2.4nm,0.8s
BOD Bodaibo 60.88 38 *e*P P 02 55 01.1 +0.2
BOD pmax pmax
comp=Z,11nm,0.8s
ULN Ulaanbaatar 61.23 50 P P 02 55 04.3 +0.7
ULN Ulaanbaatar 61.23 50‖*e*P P 02 55 04.3 +0.7
ULN pmax pmax
comp=Z,3.0nm,0.9s
LBTB Lobatse 62.30 175 LR LR 03 24 04.1
comp=Z,276nm,18.7s,baz=3.0,slow=38
YAK Yakutsk 65.69 29 LR LR 03 28 38.8
comp=Z,449nm,20.5s,baz=310,slow=40
YAK Yakutsk 65.69 29 *e*P P 02 55 39.7 +7.1
YAK *e**PP pwP 02 55 42.8 +3.3
YAK *e* 02 58 06.5
YAK *e*PPP PPP 02 59 30.3
YAK *e*S **S 03 04 26.1 +8.0**
YAK *e*SS **SS 03 08 40.6 +9.2**
YAK pmax pmax
comp=Z,9.0nm,0.7s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,12nm,0.5s
YAK smax smax
comp=N,58nm,2.8s
YAK smax smax
comp=E,112nm,2.5s
YAK MLR MLR
comp=Z,708nm,17.0s
YAK MLR MLR
comp=E,178nm,17.0s
YAK MLR MLR
comp=N,213nm,14.0s
BOSA Boshof 65.85 176 P P 02 55 35.0 +0.9
comp=N,1.7nm,0.8s,baz=229,slow=8.6,SNR=1.5
BOSA LR LR 03 26 12.9
comp=N,480nm,19.2s,baz=7.5,slow=38
comp=N,1.7nm,0.8s
CD2 Chengdu 66.94 68 P P 02 55 42.2 +0.9
CD2 pmax pmax
comp=Z,10.0nm,0.4s
HHC Hu-ho-hao-te 67.36 55 *e*P P 02 55 44.5 +0.7
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,170nm,6.3s
HHC LR LR
comp=N,390nm,11.3s
HHC LR LR
comp=E,390nm,11.8s
HHC LR LR
comp=Z,290nm,10.4s
RCBR Riachuelo 67.96 244 LR LR 03 25 11.5
comp=Z,139nm,20.3s,baz=140,slow=36
A36M Sachs Harbour 68.27 349 P P 02 55 49.5 +0.7
ZEA Zeya 69.39 37 *e*P P 02 55 52.8 -3.4
SUR Sutherland 69.47 180 LR LR 03 26 59.8
comp=Z,215nm,20.6s,baz=360,slow=36
CMAR Chiang Mai Arr 69.88 82 P P 02 55 59.6 -0.1
comp=Z,1.2nm,0.4s,baz=304,slow=7.7,SNR=6.9
CMAR LR LR 03 29 22.9
comp=Z,70nm,21.8s,baz=285,slow=38
comp=Z,1.2nm,0.4s
CMAR Chiang Mai Arr 69.88 82*ce*P P 02 56 00.1 +0.3
CMAR pmax pmax
comp=Z,2.0nm,0.3s
SADO Sadowa 70.83 312 LR LR 03 28 03.8
comp=Z,129nm,18.1s,baz=37,slow=37
HEH HeiHe 71.52 40 *e*P P 02 56 11.0 +1.8
HEH pmax pmax
comp=Z,14nm,1.3s
HEH LR LR
comp=N,760nm,11.6s
HEH LR LR
comp=E,620nm,11.2s
HEH LR LR
comp=Z,1μm,12.6s
BILL Bilibino 71.71 13 *i* P P 02 56 10.8 +0.8
BILL pmax pmax
comp=Z,4.0nm,0.9s
C27K Jago River 72.62 354 P P 02 56 16.5 +0.9
C27K IAmb IAmb 02 56 38.6
comp=Z,15nm,1.1s
D27M Malcolm River 72.76 353 P P 02 56 16.9 +0.5
D27M IAmb IAmb 02 56 38.8
comp=Z,9.2nm,1.0s
E28M Babbage River 73.24 353 P P 02 56 20.1 +1.0
E29M Blow River 73.27 352 P P 02 56 19.9 +0.6
E29M IAmb IAmb 02 56 30.4
comp=Z,11nm,0.8s
F31M Tsiigehtchic 73.64 350 P P 02 56 21.3 -0.2
F31M IAmb IAmb 02 56 31.8
comp=Z,8.7nm,0.8s
E27K Coleen River 73.85 353 P P 02 56 23.2 +0.4
E27K IAmb IAmb 02 56 45.6
comp=Z,11nm,1.1s

YKA	**Yellowknife Ar**	**74.12**	**340**	LR	LR	03 32 11.5	
	comp=Z,115nm,18.0s,baz=311,slow=38						
G31M	**Satah River**	**74.20**	**350**	P	**P**	**02 56 25.8**	**+0.9**
F28M	**Old Crow**	**74.23**	**352**	P	**P**	**02 56 26.1**	**+1.0**
BNX	**BinXian**	**74.24**	**44**	⇑P	**P**	**02 56 26.4**	**+0.9**
BNX				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CN2	**Changchun**	**74.31**	**47**	*e*P	**P**	**02 56 26.3**	**+0.4**
CN2				*e*S	**S**	**03 05 55.8**	**-3.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,10.0s						
CN2				LR	LR		
	comp=E,300nm,10.0s						
CN2				LR	LR		
	comp=Z,200nm,11.0s						
KLR	**Kul'dur**	**74.37**	**39**	P	**P**	**02 56 25.8**	**-0.3**
	comp=Z,7.0nm,0.8s,baz=313,slow=9.7,SNR=8.2						
KLR				LR	LR	03 34 30.6	
	comp=Z,207nm,20.8s,baz=322,slow=40						
	comp=Z,7.0nm,0.8s						
KLR	**Kul'dur**	**74.37**	**39**	*ce*P	**P**	**02 56 26.2**	**+0.1**
KLR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
G30M	**tAoh Zraii Nji**	**74.41**	**351**	P	**P**	**02 56 26.3**	**+0.2**
G30M				IAmb	IAmb	02 56 41.4	
	comp=Z,14nm,1.4s						
G29M	**Pine Creek**	**74.70**	**351**	P	**P**	**02 56 27.9**	**+0.1**
G29M				IAmb	IAmb	02 56 39.8	
	comp=Z,15nm,1.0s						
MA2	**Magadan**	**74.92**	**24**	LR	LR	03 31 43.2	
	comp=Z,195nm,21.3s,baz=318,slow=38						
MA2	**Magadan**	**74.92**	**24**	*ce*P	**P**	**02 56 30.6**	**+1.5**
MA2				pmax	pmax		
	comp=Z,31nm,1.7s						
F24K	**Squaw Lake**	**75.00**	**355**	P	**P**	**02 56 31.1**	**+1.6**
F24K				IAmb	IAmb	02 56 51.9	
	comp=Z,14nm,1.3s						
EPYK	**Eagle Plains**	**75.05**	**351**	P	**P**	**02 56 31.1**	**+1.2**
G27K	**Doyon Strip**	**75.19**	**353**	P	**P**	**02 56 31.5**	**+0.9**
G27K				IAmb	IAmb	02 56 51.0	
	comp=Z,22nm,1.8s						
H29M	**Whitestone**	**75.40**	**351**	P	**P**	**02 56 32.3**	**+0.5**
H29M				IAmb	IAmb	02 58 10.3	
	comp=Z,30nm,1.8s						
I30M	**Mount Dempster**	**76.10**	**350**	P	**P**	**02 56 36.1**	**+0.1**
I30M				IAmb	IAmb	02 56 46.7	
	comp=Z,8.3nm,0.9s						
I29M	**Ogilvie Camp,**	**76.22**	**351**	P	**P**	**02 56 37.3**	**+0.7**
I29M				IAmb	IAmb	02 56 47.6	
	comp=Z,8.0nm,0.9s						
I28M	**Miner Creek**	**76.33**	**352**	P	**P**	**02 56 37.2**	**0.0**
I28M				IAmb	IAmb	02 57 05.2	
	comp=Z,27nm,1.9s						
ULM	**Lac du Bonnet**	**76.35**	**324**	P	**P**	**02 56 39.1**	**+1.6**
	comp=Z,1.2nm,0.5s,baz=329,slow=7.0,SNR=2.5						
ULM				LR	LR	03 32 53.7	
	comp=Z,133nm,18.3s,baz=29,slow=38						
	comp=Z,1.2nm,0.5s						
J30M	**Hart River**	**76.71**	**350**	P	**P**	**02 56 40.0**	**+0.5**
J30M				IAmb	IAmb	02 56 58.9	
	comp=Z,11nm,1.1s						
PRP	**Porcupine Dome**	**76.81**	**354**	P	**P**	**02 56 40.6**	**+0.6**
NJ2	**Nanjing**	**77.09**	**60**	*e*P	**P**	**02 56 42.2**	**+0.2**
NJ2				pP	**sP**	**02 56 45.3**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
H21K	**Melozitna Rive**	**77.10**	**357**	P	**P**	**02 56 42.4**	**+0.8**
H21K				IAmb	IAmb	02 57 04.6	
	comp=Z,12nm,1.2s						
K29M	**Barlow Dome**	**77.57**	**350**	P	**P**	**02 56 45.3**	**+1.0**
DAWY	**Dawson**	**77.60**	**351**	P	**P**	**02 56 45.0**	**+0.6**
DAWY				IAmb	IAmb	02 57 01.0	
	comp=Z,12nm,1.2s						
J26L	**Joseph Creek**	**77.63**	**353**	P	**P**	**02 56 45.1**	**+0.6**
J26L				IAmb	IAmb	02 57 00.8	
	comp=Z,19nm,1.6s						
MLY	**Manley**	**77.64**	**356**	P	**P**	**02 56 45.2**	**+0.6**
MLY				IAmb	IAmb	02 57 07.1	
	comp=Z,9.6nm,1.3s						
IL31		**77.65**	**355**	P	**P**	**02 56 45.5**	**+1.0**
IL31				IAmb	IAmb	02 57 00.6	
	comp=Z,12nm,1.4s						
ILAR	**Eielson Array**	**77.65**	**355**	P	**P**	**02 56 45.1**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=355,slow=4.3,SNR=14						
ILAR				LR	LR	03 33 53.3	
	comp=Z,117nm,18.9s,baz=348,slow=38						
	comp=Z,1.2nm,0.9s						
USRK	**Ussuriysk Ar.**	**77.74**	**43**	P	**P**	**02 56 44.7**	**-0.7**
	comp=Z,5.8nm,0.8s,baz=340,slow=5.5,SNR=8.8						
USRK				LR	LR	03 35 10.5	
	comp=Z,463nm,18.5s,baz=332,slow=39						
	comp=Z,5.8nm,0.8s						
MMPY	**Sheldon Lake,**	**77.75**	**347**	P	**P**	**02 56 45.7**	**+0.5**
MMPY				IAmb	IAmb	02 57 03.0	
	comp=Z,15nm,1.3s						
K27K	**Chicken**	**77.94**	**352**	P	**P**	**02 56 47.0**	**+0.8**
K27K				IAmb	IAmb	02 57 08.8	
	comp=Z,18nm,1.3s						
HDA	**Harding Lake**	**78.01**	**355**	P	**P**	**02 56 47.2**	**+0.6**
HDA				IAmb	IAmb	02 57 08.6	
	comp=Z,7.5nm,1.0s						
WRH	**Wood River Hil**	**78.03**	**355**	P	**P**	**02 56 47.5**	**+0.8**
FARO	**Faro, Yukon**	**78.47**	**348**	P	**P**	**02 56 48.9**	**-0.3**
FARO				IAmb	IAmb	02 56 60.0	
	comp=Z,14nm,1.4s						
BCAR	**Beaver Creek A**	**78.85**	**352**	P	**P**	**02 56 52.1**	**+0.8**
L27K	**Beaver Creek,**	**78.86**	**352**	P	**P**	**02 56 52.5**	**+1.2**
M29M	**Somme Creek**	**79.04**	**350**	P	**P**	**02 56 52.7**	**+0.3**
M29M				IAmb	IAmb	02 57 04.0	
	comp=Z,8.6nm,0.8s						
TKL	**Tuckaleechee C**	**79.06**	**307**	LR	LR	03 32 29.1	
	comp=Z,101nm,19.0s,baz=82,slow=36						
DHY	**Denali Highway**	**79.36**	**354**	P	**P**	**02 56 54.9**	**+0.7**
KSAR	**Wonju Array Be**	**79.69**	**51**	P	**P**	**02 56 56.4**	**+0.1**
KSRS	**Korea Array**	**79.71**	**51**	P	**P**	**02 56 55.6**	**-0.8**
	comp=Z,3.6nm,0.8s,baz=312,slow=4.6,SNR=5.1						
KSRS				LR	LR	03 37 02.4	
	comp=Z,270nm,19.5s,baz=315,slow=39						
	comp=Z,3.6nm,0.8s						
R33M	**Jennings River**	**80.69**	**346**	P	**P**	**02 57 02.0**	**+0.6**
R33M				IAmb	IAmb	02 57 19.4	
	comp=Z,14nm,1.1s						
CTGM	**Chitina Glacie**	**80.84**	**351**	P	**P**	**02 57 03.0**	**+0.7**
GRNC	**Granite Creek**	**81.11**	**351**	P	**P**	**02 57 03.1**	**-0.7**
YSS	**Yuzh-Sakhalins**	**81.30**	**36**	*e*P	**P**	**02 57 05.1**	**+0.4**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,600nm,16.0s						
X48A	**Hartselle**	**81.90**	**307**	P	**P**	**02 57 07.6**	**-0.6**
X48A				IAmb	IAmb	02 57 17.5	
	comp=Z,17nm,1.3s						
PETK	**Petropavlovsk-**	**82.42**	**24**	LR	LR	03 39 01.6	
	comp=Z,280nm,18.9s,baz=329,slow=40						
LRAL	**Lakeview Retre**	**82.78**	**306**	P	**P**	**02 57 13.1**	**+0.3**
LRAL				IAmb	IAmb	02 57 22.3	
	comp=Z,9.2nm,1.1s						
ASAJ	**Asahikawa**	**83.30**	**38**	LR	LR	03 38 22.1	
	comp=Z,350nm,19.6s,baz=338,slow=39						
BDFB	**Brasilia**	**83.30**	**245**	LR	LR	03 36 06.1	
	comp=Z,242nm,18.6s,baz=90,slow=37						
EGMT	**Eagleton**	**84.13**	**329**	P	**P**	**02 57 19.6**	**0.0**
JNU	**Nakatsue**	**84.35**	**52**	LR	LR	03 38 38.8	
	comp=Z,118nm,18.5s,baz=319,slow=38						
KDAK	**Kodiak Island**	**84.96**	**356**	LR	LR	03 38 43.3	
	comp=Z,67nm,18.9s,baz=26,slow=38						
SDV	**Santo Domingo**	**85.69**	**278**	LR	LR	03 31 40.4	
	comp=Z,54nm,21.6s,baz=110,slow=33						
T35A	**Sooner Cattle**	**85.94**	**314**	P	**P**	**02 57 29.3**	**+0.5**
T35A				IAmb	IAmb	02 57 39.4	
	comp=Z,12nm,0.9s						
MJAR	**Matsushiro Arr**	**86.42**	**46**	P	**P**	**02 57 30.3**	**-0.9**
	comp=Z,2.3nm,0.8s,baz=327,slow=4.5,SNR=3.3						
MJAR				LR	LR	03 39 40.7	
	comp=Z,182nm,18.3s,baz=329,slow=38						
	comp=Z,2.3nm,0.8s						
YNE	**Yellowstone No**	**86.63**	**327**	P	**P**	**02 57 32.5**	**+0.1**
YNE				IAmb	IAmb	02 58 09.2	
	comp=Z,7.7nm,1.0s						
BBB	**Bella Bella**	**86.67**	**341**	LR	LR	03 37 26.9	
	comp=Z,61nm,19.9s,baz=28,slow=36						
JOW	**Kunigami**	**86.76**	**59**	LR	LR	03 42 28.2	
	comp=Z,171nm,18.5s,baz=62,slow=40						
NEW	**Newport**	**86.76**	**333**	P	**P**	**02 57 32.9**	**+0.2**
NEW	**Newport**	**86.76**	**333**	LR	LR	03 42 18.8	
	comp=Z,85nm,18.1s,baz=24,slow=40						
NEW	**Newport**	**86.76**	**333**	P	**P**	**02 57 32.9**	**+0.2**
NEW				pmax	pmax		
	comp=Z,39nm,1.9s						
SHEM	**Shemya Is, Ala**	**87.27**	**16**	LR	LR	03 42 33.2	
	comp=Z,95nm,18.2s,baz=320,slow=40						
PDAR	**Pinedale Array**	**88.21**	**326**	P	**P**	**02 57 40.1**	**+0.1**
	comp=Z,0.6nm,1.0s,baz=46,slow=4.3,SNR=3.6						
PDAR				LR	LR	03 36 52.4	
	comp=Z,66nm,21.7s,baz=26,slow=35						
	comp=Z,0.6nm,1.0s						
BMO	**Blue Mountains**	**89.71**	**332**	P	**P**	**02 57 48.2**	**+1.4**
BMO				IAmb	IAmb	02 58 02.4	
	comp=Z,9.7nm,1.6s						
BMO	**Blue Mountains**	**89.71**	**332**	P	**P**	**02 57 48.2**	**+1.4**
BMO				pmax	pmax		
	comp=Z,10.0nm,1.6s						
JHJ	**Hachijo jima 2**	**89.76**	**47**	LR	LR	03 41 14.7	
	comp=Z,111nm,20.1s,baz=268,slow=38						
RDMU	**Red Mountain**	**89.96**	**324**	P	**P**	**02 57 47.8**	**-0.5**
RDMU				IAmb	IAmb	02 57 57.3	
	comp=Z,6.7nm,0.9s						
ANMO	**Albuquerque**	**92.83**	**319**	LR	LR	03 40 18.9	
	comp=Z,104nm,19.3s,baz=206,slow=36						
SIV	**San Ignacio**	**93.19**	**252**	LR	LR	03 39 31.7	
	comp=Z,140nm,21.2s,baz=104,slow=35						
YBH	**Yreka Blue Hor**	**94.39**	**333**	LR	LR	03 44 50.0	
	comp=Z,96nm,18.1s,baz=16,slow=38						
JCJ	**Chichijima**	**95.55**	**50**	LR	LR	03 46 07.5	
	comp=Z,137nm,18.4s,baz=132,slow=38						
NVAR	**Mina Array Bea**	**95.55**	**329**	LR	LR	03 42 46.1	
	comp=Z,155nm,18.8s,baz=64,slow=36						
TXAR	**Lajitas Array**	**95.56**	**314**	P	**P**	**02 58 14.4**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=83,slow=2.8,SNR=2.0						
	comp=Z,0.2nm,0.4s						
JTS	**Las Juntas de**	**95.93**	**288**	LR	LR	03 37 24.7	
	comp=Z,60nm,19.9s,baz=38,slow=33						
CPUP	**Villa Florida**	**96.80**	**242**	LR	LR	03 41 47.1	
	comp=Z,326nm,21.5s,baz=46,slow=35						
DAV	**Davao City (W)**	**97.43**	**75**	LR	LR	03 49 35.0	
	comp=Z,99nm,18.1s,baz=345,slow=40						
HPIG		**98.52**	**313**	P	**P**	**02 58 25.5**	**-2.2**
CMIG	**Matias Romero**	**98.71**	**299**	LR	LR	03 40 47.8	
	comp=Z,25nm,20.5s,baz=26,slow=34						
LPAZ	**La Paz**	**98.78**	**256**	LR	LR	03 43 53.6	
	comp=Z,34nm,20.7s,baz=48,slow=36						
PFO	**Pinyon Flats O**	**98.81**	**325**	LR	LR	03 45 54.6	
	comp=Z,98nm,18.9s,baz=31,slow=37						
WRA	**Warramunga Arr**	**120.40**	**93**	PKP	**PKPdf**	**03 03 39.5**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=329,slow=2.0,SNR=1.8						
ASAR	**Alice Springs**	**121.98**	**97**	PKP	**PKPdf**	**03 03 43.0**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=341,slow=1.6,SNR=6.2						
QSPA	**South Pole Qui**	**127.30**	**180**	PKP	**PKPdf**	**03 03 51.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=173,slow=1.8,SNR=1.5						
TAOE	**Nuku Hiva Isla**	**146.66**	**324**	*e*LR	LR	03 52 45.1	
	comp=Z,71nm,23.4s						
DZM	**Mont Dzumac**	**146.79**	**72**	*e*LR	LR	03 52 42.0	
	comp=Z,115nm,24.0s						
RKT	**Rikitea**	**154.67**	**297**	*e*LR	LR	03 56 12.7	
	comp=Z,1μm,34.5s						
PPT2	**Papeete2**	**158.44**	**334**	*e*LR	LR	03 58 07.2	
	comp=Z,100nm,23.0s						
TBI	**Tubuai**	**163.58**	**326**	*e*LR	LR	04 00 37.8	
	comp=Z,597nm,26.2s						

TEH ***01*** *03:04:15.7, 34°.63N×46°.29E, h8km±22km, ML2.8*
ISN ***01*** *03:04:15.3±0.5, 34°.63N×46°.30E, h10km±7km, ML2.8*
ISC 01 03:04:15.6±1.0, 34°.65N±0°.04×46°.29E±0°.03, h9km±9km, n13, σ0ˢ50/17, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.10**	**58**	P	**Pg**	**03 04 18.1**	**-0.1**
IDHR				Sg	**Sg**	**03 04 20.4**	**+0.2**
IGHG	**Ghaleghazi**	**0.40**	**144**	Pg	**Pg**	**03 04 23.7**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.59**	**256**	Pg	**Pb**	**03 04 27.7**	**-0.4**
GLG1	**Gilan-e-Gharb**	**0.62**	**210**	Pg	**Pg**	**03 04 27.4**	**-0.1**
ILIN	**Lien**	**0.62**	**64**	Pg	**Pg**	**03 04 27.6**	**0.0**
KCHF	**Cheshme Sefid,**	**0.73**	**121**	Pg	**Pb**	**03 04 29.8**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.02**	**184**	Pg	**Pb**	**03 04 35.2**	**-0.3**
SNQR	**Sonqor, Kerman**	**1.12**	**79**	Pg	**Pn**	**03 04 38.1**	**+0.3**
IBZA	**Bozab**	**1.31**	**97**	Pg	**Pg**	**03 04 40.5**	**-0.3**
IBDR	**Badra**	**1.56**	**191**	*e*Pn	**Pg**	**03 04 45.0**	**-0.5**
IBDR				*e*Sn	**Sg**	**03 05 06.0**	**+0.2**
IKRK	**Kirkuk**	**1.76**	**296**	*e*Pn	**Pb**	**03 04 48.0**	**-0.1**
IKRK				*e*Sn	**Sg**	**03 05 12.0**	**-0.3**
IDOB	**Doab**	**1.79**	**118**	Pg	**Pb**	**03 04 48.6**	**0.0**
BHDC	**Baghdad**	**2.10**	**230**	*e*Pn	**Pn**	**03 04 52.0**	**+1.2**
BHD				*e*Sn	**Sb**	**03 05 19.3**	**-0.6**

IDC ***01*** *03:12:18.7±1.6, 37°.30N×20°.55E, h0km, mb3.6/6, mbtmp3.6/6, MS2.8/1, Error ellipse: s-maj=46.0km s-min=27.6km az=111.0*
BEO ***01*** *03:12:22.2±0.8, 37°.31N×20°.44E, h10km, ML3.3/8*
ATH ***01*** *03:12:22.8, 37°.38N×20°.58E, h6km±2km, ML3.6/9, Error ellipse: s-maj=3.3km s-min=1.3km az=44.0*
THE ***01*** *03:12:23.6, 37°.40N×20°.62E, h0km±2km, ML3.6/8, Error ellipse: s-maj=3.1km s-min=0.9km az=226.0*
ISC 01 03:12:21.6±1.4, 37°.34N±0°.04×20°.55E±0°.05, h15km±8km, n57, σ1ˢ05/75, mb3.8/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.38**	**34**	P	**Pb**	**03 12 29.9**	**-0.2**
KRI1				S	**Sb**	**03 12 34.5**	**-1.3**
	35μm,0.3s						
LTHK	**Lithakia**	**0.43**	**32**	P	**Pg**	**03 12 30.5**	**+0.1**
LTHK				S	**Sg**	**03 12 35.7**	**-0.5**
LTHK	**Lithakia**	**0.43**	**32**	P	**Pg**	**03 12 30.4**	**+0.1**
LTHK				S	**Sg**	**03 12 35.5**	**-0.7**
LTHK				AML	AML	03 12 36.3	
	comp=N,74373μm,0.3s						
LTHK				AML	AML	03 12 37.0	
	comp=E,41722μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.75**	**13**	P	**Pb**	**03 12 36.7**	**+0.3**
RTZL				S	**Sb**	**03 12 46.4**	**-0.1**
	comp=E,5μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.77**	**2**	P	**Pb**	**03 12 37.6**	**+0.9**
PSDA				S	**Sb**	**03 12 47.5**	**+0.5**
	comp=E,6μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.77**	**2**	P	**Pb**	**03 12 37.2**	**+0.5**
PSDA				S	**Sg**	**03 12 46.6**	**-0.3**
VLS	**Valsamata**	**0.83**	**2**	P	**Pg**	**03 12 37.5**	**-0.4**
VLS				S	**Sb**	**03 12 49.6**	**+0.8**
	comp=E,4μm,0.3s						
VLS	**Valsamata**	**0.83**	**2**	P	**Pg**	**03 12 37.8**	**0.0**
VLS				S	**Sb**	**03 12 49.4**	**+0.5**
VLS				AML	AML	03 12 53.2	
	comp=N,7161μm,0.3s						
VLS				AML	AML	03 12 53.6	
	comp=E,8548μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.86**	**354**	P	**Pg**	**03 12 38.6**	**+0.2**
LXRA				S	**Sg**	**03 12 49.4**	**-0.3**
LXRA				AML	AML	03 12 57.5	
	comp=N,14067μm,0.5s						
LXRA				AML	AML	03 12 59.6	
	comp=E,7865μm,0.3s						
DMLN	**Damoulianata-K**	**0.91**	**351**	P	**Pn**	**03 12 40.6**	**+0.8**
DMLN				S	**Sn**	**03 12 52.6**	**0.0**
	comp=E,5μm,0.4s						
DMLN	**Damoulianata-K**	**0.91**	**351**	P	**Pg**	**03 12 39.4**	**+0.2**
SMHA	**Samh**	**0.91**	**5**	P	**Pg**	**03 12 38.4**	**-0.9**
SMHA				AML	AML	03 12 56.1	
	comp=N,22211μm,0.4s						
SMHA				AML	AML	03 12 57.2	
	comp=E,14878μm,0.4s						
AMT	**Artemida-Makis**	**0.94**	**78**	P	**Pb**	**03 12 40.4**	**+0.7**
AMT				AML	AML	03 13 00.3	
	comp=N,11168μm,0.4s						
AMT				AML	AML	03 13 01.8	
	comp=E,8508μm,0.4s						
RLS	**Riolos of Patr**	**1.02**	**45**	P	**Pb**	**03 12 41.1**	**+0.2**
RLS				S	**Sn**	**03 12 55.4**	**+0.1**
	comp=E,2μm,0.4s						
RLS	**Riolos of Patr**	**1.02**	**45**	P	**Pb**	**03 12 41.1**	**+0.2**
RLS				AML	AML	03 12 56.3	
	comp=N,3730μm,0.4s						
RLS				AML	AML	03 12 58.1	
	comp=E,2696μm,0.3s						
PYL	**PYLOS**	**1.05**	**115**	P	**Pb**	**03 12 41.5**	**0.0**
PYL				S	**Sn**	**03 12 58.6**	**+2.5**
PYL	**PYLOS**	**1.05**	**115**	P	**Pb**	**03 12 41.9**	**+0.5**
VSK1	**VASILIKIADES**	**1.06**	**1**	P	**Pb**	**03 12 42.1**	**+0.4**
VSK1				S	**Sn**	**03 12 57.3**	**+0.8**
	comp=E,3μm,0.3s						
DRO	**Drossia**	**1.10**	**56**	P	**Pn**	**03 12 42.9**	**+0.4**
DRO	**Drossia**	**1.10**	**56**	P	**Pg**	**03 12 42.7**	**-0.3**
DRO				AML	AML	03 13 05.6	
	comp=E,6152μm,0.4s						
DRO				AML	AML	03 13 06.3	
	comp=N,5598μm,0.5s						
ITM	**Ithomi**	**1.11**	**98**	P	**Pb**	**03 12 42.7**	**+0.2**
FSK	**Fiskardo**	**1.12**	**0**	P	**Pn**	**03 12 43.6**	**+0.9**
FSK				S	**Sn**	**03 12 59.3**	**+1.6**
FSK	**Fiskardo**	**1.12**	**0**	P	**Pb**	**03 12 42.2**	**-0.3**
FSK				AML	AML	03 13 00.4	
	comp=E,3416μm,0.2s						
FSK				AML	AML	03 13 04.1	
	comp=N,2414μm,0.7s						
EVGI	**Lefkada island**	**1.28**	**4**	P	**Pg**	**03 12 47.3**	**+1.0**
EVGI	**Lefkada island**	**1.28**	**4**	P	**Pn**	**03 12 45.7**	**+0.8**
DRAG	**Dragano-Lefkad**	**1.34**	**1**	P	**Pn**	**03 12 46.4**	**+0.6**
NYDR	**Nydri-Lefkada**	**1.37**	**5**	P	**Pg**	**03 12 48.9**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.37**	**5**	P	**Pn**	**03 12 47.0**	**+0.8**
TSLK	**Tsoukalades, L**	**1.48**	**3**	P	**Pg**	**03 12 50.4**	**+0.2**
TSLK				S	**Sg**	**03 13 11.0**	**+1.5**
	comp=N,1μm,0.7s						
TSLK	**Tsoukalades, L**	**1.48**	**3**	P	**Pn**	**03 12 48.3**	**+0.6**
EFP	**Efpalio**	**1.52**	**44**	P	**Pn**	**03 12 49.0**	**+0.8**
GUR	**Goura**	**1.54**	**67**	P	**Pb**	**03 12 49.7**	**-0.2**
ANX	**Ano Chora**	**1.65**	**41**	P	**Pb**	**03 12 51.6**	**-0.3**
ANX				AML	AML	03 13 21.1	
	comp=E,3859μm,0.5s						
ANX				AML	AML	03 13 21.9	
	comp=N,3250μm,0.5s						
IGT	**Igoumenitsa**	**2.19**	**356**	*e*Pn	**Pb**	**03 13 01.0**	**0.0**
IGT				*e*Sn	**Sb**	**03 13 27.5**	**-0.5**
FNA	**Florina**	**3.50**	**10**	*e*Pn	**Pn**	**03 13 17.8**	**+2.3**
FNA				*e*Sn	**Sn**	**03 13 59.0**	**+2.4**
OHR	**Ohrid**	**3.77**	**3**	*e*Pn	**Pn**	**03 13 21.9**	**+2.7**
TIR	**Tirane**	**4.04**	**353**	*e*Pn	**Pn**	**03 13 25.4**	**+2.6**
IDI	**Anoyia**	**4.06**	**119**	LR	LR	03 15 09.3	
	comp=N,109nm,19.6s,baz=301,slow=42						
SRS	**Serrai**	**4.45**	**31**	*e*Pn	**Pn**	**03 13 30.2**	**+1.7**
BOSS	**Bosilegrad**	**5.36**	**15**	*e*Pn	**Pn**	**03 13 42.1**	**+1.1**
BARS	**Barje**	**5.55**	**10**	*e*Pn	**Pn**	**03 13 44.5**	**+0.8**
TREB	**Trebinje**	**5.63**	**343**	*e*Pn	**Pn**	**03 13 45.5**	**+0.8**
VTS	**Vitosha**	**5.66**	**21**	*e*Pn	**Pn**	**03 13 46.9**	**+1.7**
SELS	**Selova**	**5.89**	**4**	*e*Pn	**Pn**	**03 13 48.9**	**+0.6**
SELS				*e*Sn	**Sn**	**03 14 53.6**	**-1.8**
SJES	**Sjenica**	**5.93**	**356**	*e*Pn	**Pn**	**03 13 49.4**	**+0.5**
SJES				*e*Sn	**Sn**	**03 14 55.2**	**-1.4**
STON	**Ston**	**5.94**	**339**	*e*Pn	**Pn**	**03 13 48.1**	**-0.8**
ZAPS	**Zavoj**	**6.13**	**14**	*e*Pn	**Pn**	**03 13 51.3**	**-0.4**
IVAS	**Ivanjica**	**6.24**	**357**	*e*Pn	**Pn**	**03 13 53.1**	**0.0**
GRUS	**Gruza**	**6.54**	**1**	*e*Pn	**Pn**	**03 13 58.4**	**+1.2**
HAPS	**Han Pijesak,Bl**	**6.85**	**350**	*e*Pn	**Pn**	**03 14 02.2**	**+0.7**
AKASG	**Malin Array Be**	**14.72**	**22**	Pn	**P**	**03 15 53.1**	**-2.1**
	comp=N,0.7nm,0.3s,baz=211,slow=8.9,SNR=6.0						
HFS	**Hagfors**	**23.23**	**351**	P	**P**	**03 17 27.9**	**+0.1**
	comp=N,2.8nm,0.8s,baz=171,slow=10,SNR=6.4						
	comp=N,2.8nm,0.8s						
FINES	**FINESS Array B**	**24.37**	**6**	P	**P**	**03 17 36.9**	**-1.9**
	comp=N,1.8nm,0.8s,baz=185,slow=9.3,SNR=4.3						
	comp=N,1.8nm,0.8s						
NOA	**NORSAR Array B**	**24.44**	**349**	P	**P**	**03 17 40.0**	**+0.5**
	comp=N,0.7nm,0.9s,baz=156,slow=9.9,SNR=1.5						
	comp=N,0.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**29.40**	**220**	P	**P**	**03 18 23.2**	**-1.1**
	comp=N,0.1nm,0.4s,baz=25,slow=9.8,SNR=1.7						
	comp=N,0.1nm,0.4s						
ARCES	**ARCESS Array B**	**32.36**	**3**	P	**P**	**03 18 50.7**	**+0.7**
	comp=N,1.4nm,0.9s,baz=189,slow=8.9,SNR=1.3						
	comp=N,1.4nm,0.9s						
MKAR	**Makanchi Array**	**45.72**	**58**	P	**P**	**03 20 41.8**	**-0.2**
	comp=N,0.6nm,0.5s,baz=275,slow=8.5,SNR=6.0						
	comp=N,0.6nm,0.5s						

IDC ***01*** *03:15:27.8±1.3, 32°.14N×71°.97E, h0km, mb3.4/4, mbtmp3.4/6, ML3.2/2, MS3.2/1, Error ellipse: s-maj=39.5km s-min=30.1km az=97.0*
ISC 01 03:15:29.4±1.3, 32°.2N±0°.2×72°.0E±0°.2, h10km, n9, σ0ˢ36/6, mb3.5/4, 2C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**10.95**	**354**	⇑P	Pn	03 18 14.3	+8.0
	2.5nm,0.4s,baz=176,slow=14,SNR=36						
KK31				⇓S	Sn	03 20 18.8

LTHK AML AML 03 22 40.1
comp=N,70098µm,1.0s
RTZL Ratzakli, Kefa 0.63 18 P **Pg 03 22 38.1 0.0**
RTZL S Sg 03 22 46.8 +0.5
comp=N,14µm,0.6s
PSDA Pessada-Kefalo 0.64 5 P **Pg 03 22 38.2 -0.1**
PSDA S Sb 03 22 47.2 -1.6
comp=N,17µm,0.8s
PSDA Pessada-Kefalo 0.64 5 P **Pg 03 22 38.6 +0.4**
PSDA S Sb 03 22 48.9 +0.1
VLS Valsamata 0.70 4 P **Pg 03 22 39.4 -0.1**
VLS S Sg 03 22 49.1 +0.5
comp=N,12µm,0.6s
VLS Valsamata 0.70 4 P **Pg 03 22 39.4 -0.1**
VLS S Sg 03 22 49.1 +0.5
VLS Valsamata 0.70 4 P **Pg 03 22 39.2 -0.2**
VLS S Sb 03 22 50.3 -0.4
VLS AML AML 03 22 56.6
comp=E,19872µm,0.5s
VLS AML AML 03 22 58.0
comp=N,26872µm,0.8s
LXR1 Lixouri, Cepha 0.72 355 P **Pg 03 22 39.9 0.0**
LXRA Lixouri, Kepha 0.72 355 P **Pb 03 22 40.3 -0.8**
DMLN Damoulianata-K 0.77 351 P **Pg 03 22 40.5 -0.3**
DMLN Damoulianata-K 0.77 351 P **Pg 03 22 40.7 0.0**
SMHA Samh 0.78 7 P **Pg 03 22 40.5 -0.4**
VSK1 VASILIKIADES 0.93 2 P **Pg 03 22 43.6 -0.3**
AMT Artemida-Makis 0.95 86 P **Pg 03 22 44.2 0.0**
AMT AML AML 03 23 04.9
comp=N,19545µm,0.6s
AMT AML AML 03 23 05.0
comp=E,18433µm,0.4s
RLS Riolos of Patr 0.95 52 P **Pg 03 22 44.1 -0.1**
RLS Riolos of Patr 0.95 52 P **Pg 03 22 43.9 -0.3**
RLS S Sb 03 22 57.1 -0.6
RLS AML AML 03 23 05.2
comp=N,6580µm,0.8s
RLS AML AML 03 23 09.7
comp=E,6292µm,0.8s
FSK Fiskardo 0.98 2 P **Pg 03 22 44.5 -0.3**
FSK Fiskardo 0.98 2 P **Pg 03 22 43.8 -1.0**
FSK S Sn 03 23 00.1 -0.6
FSK AML AML 03 23 08.1
comp=N,18435µm,1.1s
FSK AML AML 03 23 12.2
comp=E,15734µm,0.7s
DRO Drossia 1.06 63 P **Pg 03 22 46.4 +0.1**
DRO Drossia 1.06 63 P **Pg 03 22 44.9 -1.4**
DRO AML AML 03 23 16.2
comp=N,11122µm,0.8s
DRO AML AML 03 23 18.6
comp=E,10949µm,0.9s
PYL PYLOS 1.14 120 P **Pg 03 22 46.8 -1.0**
PYL PYLOS 1.14 120 P **Pg 03 22 46.8 -1.0**
EVGI Lefkada island 1.15 5 P **Pg 03 22 46.5 -1.5**
EVGI S Sn 03 23 04.9 0.0
ITM Ithomi 1.16 104 P **Pg 03 22 47.5 -0.7**
ITM AML AML 03 23 15.8
comp=N,6599µm,1.0s
ITM AML AML 03 23 21.5
comp=E,4883µm,1.3s
DRAG Dragano-Lefkad 1.20 2 P **Pg 03 22 48.4 -0.7**
NYDR Nydri-Lefkada 1.24 6 P **Pg 03 22 49.0 -0.8**
UPR University Cam 1.28 51 P **Pg 03 22 51.1 +0.5**
LKD2 Lefkada island 1.31 5 *e*P **Pg 03 22 53.2 +2.0**
LKD2 Lefkada island 1.31 5 P **Pg 03 22 52.1 +0.9**
LKD2 S Sn 03 23 08.6 -0.4
LKD2 AML AML 03 23 19.6
comp=E,15678µm,0.6s
LKD2 AML AML 03 23 21.4
comp=N,16029µm,0.8s
TSLK Tsoukalades, L 1.35 4 P **Pn 03 22 50.8 -0.7**
TSLK AML AML 03 23 21.5
comp=E,14862µm,0.8s
TSLK AML AML 03 23 23.1
comp=N,12939µm,0.8s
KLV Kalavryta, Ach 1.41 66 P **Pn 03 22 52.6 +0.1**
KLV AML AML 03 23 26.6
comp=E,2411µm,0.9s
KLV AML AML 03 23 26.6
comp=N,3881µm,0.9s
EFP Efpalio 1.45 49 P **Pn 03 22 52.6 -0.3**
EFP AML AML 03 23 21.9
comp=E,5494µm,0.6s
EFP AML AML 03 23 30.3
comp=N,4743µm,0.9s
GUR Goura 1.52 72 P **Pn 03 22 53.7 -0.2**
ANX Ano Chora 1.57 44 P **Pn 03 22 54.7 +0.1**
ANX AML AML 03 23 27.2
comp=N,15905µm,0.7s
ANX AML AML 03 23 27.4
comp=E,8712µm,0.7s
KALE Kalithea 1.57 54 P **Pn 03 22 53.8 -0.9**
KALE AML AML 03 23 24.8
comp=E,3813µm,0.9s
KALE AML AML 03 23 27.8
comp=N,4316µm,0.7s
EVR Evrytania 1.76 35 P **Pb 03 22 58.6 -0.3**
EVR AML AML 03 23 41.4
comp=N,3023µm,1.4s
EVR AML AML 03 23 42.5
comp=E,3607µm,1.0s
MAKR Makrakomi, Fth 1.99 39 P **Pn 03 23 01.3 +0.9**
MAKR AML AML 03 23 40.6
comp=N,6035µm,0.8s
MAKR AML AML 03 23 42.3
comp=E,7248µm,0.9s
IGT Igoumenitsa 2.06 356 *e*Pn **Pn 03 23 01.9 +0.6**
IGT *e*Sn **Sn 03 23 25.4 -1.9**
IGT Igoumenitsa 2.06 356 P **Pg 03 23 04.6 -0.8**
IGT Igoumenitsa 2.06 356 P **Pb 03 23 02.5 -1.4**
IGT AML AML 03 23 44.2
comp=E,3551µm,0.7s
IGT AML AML 03 23 51.5
comp=N,2251µm,0.9s
VLI Velíai 2.08 111 P **Pn 03 23 02.3 +0.8**
AXAR Agios Charalam 2.12 52 P **Pn 03 23 02.4 +0.3**
JAN Janina 2.19 7 P **Pb 03 23 05.7 -0.5**
JAN Janina 2.19 7 P **Pn 03 23 03.8 +0.6**
JAN AML AML 03 23 45.8
comp=E,3016µm,1.1s
JAN AML AML 03 23 52.9
comp=N,2010µm,1.0s
VIL2 Platees 2.29 71 P **Pn 03 23 04.7 +0.1**
KEK Kerkira 2.30 346 *e*P **Pg 03 23 09.4 -0.7**
KEK Kerkira 2.30 346 **Pn 03 23 03.7 -0.9**
KEK Kerkira 2.30 346 P **Pn 03 23 03.7 -0.9**
KEK AML AML 03 24 02.7
comp=N,2032µm,0.6s
KEK AML AML 03 24 08.7
comp=E,1813µm,0.9s
THL Klokotos Trika 2.39 29 P **Pn 03 23 07.2 +1.4**
THL AML AML 03 23 55.3
comp=E,1618µm,1.3s
THL AML AML 03 24 05.9
comp=N,1722µm,1.3s
KPRO Kipourio 2.56 15 P **Pn 03 23 09.8 +1.5**
VLY Voula,Athens 2.62 81 P **Pn 03 23 09.6 +0.5**
ATHU Athens Univers 2.63 78 P **Pn 03 23 09.4 +0.2**
PTL Penteli 2.71 77 P **Pn 03 23 10.5 +0.2**
ANKY Antikythira Is 2.75 125 P **Pn 03 23 11.7 +0.9**
DION Dionisos Attik 2.77 76 P **Pn 03 23 11.2 +0.2**
NEO Neokhori 2.80 48 P **Pn 03 23 11.1 -0.4**
NEST Nestorio 2.96 8 P **Pn 03 23 14.5 +0.7**
KZN Kozani 2.99 19 P **Pn 03 23 15.1 +1.0**
LIT Litokhoron 3.04 30 *e*P **Pn 03 23 15.8 +1.0**
LIT Litokhoron 3.04 30 Pn **Pn 03 23 15.1 +0.3**
LIT Litokhoron 3.04 30 P **Pn 03 23 15.1 +0.3**
SCTE Santa Cesarea 3.05 329 **Pn 03 23 13.4 -1.5**
SCTE Santa Cesarea 3.05 329 P **Pn 03 23 13.3 -1.5**
KYMI Kymi, Euboea I 3.05 67 P **Pn 03 23 14.1 -0.9**
AOS2 Alonissos-2 3.10 56 P **Pn 03 23 15.5 -0.1**
FNA Florina 3.37 11 *e*P **Pn 03 23 20.3 +0.9**
FNA Florina 3.37 11 Pn **Pn 03 23 20.5 +1.2**
FNA Florina 3.37 11 *e*Pn **Pn 03 23 20.2 +0.9**
FNA Florina 3.37 11 P **Pn 03 23 20.5 +1.2**
KNDR Palaiochora Ch 3.40 130 *e*P **Pb 03 23 26.7 0.0**
TIP Timpagrande 3.41 301 **Pn 03 23 19.5 -0.4**
TIP Timpagrande 3.41 301 ⇓P **Pg 03 23 30.7 -0.6**
TIP Timpagrande 3.41 301 P Pn 03 23 13.8 -6.1
IMMV Iera Moni Meta 3.44 125 *e*P **Pb 03 23 24.7 -2.7**
IMMV Iera Moni Meta 3.44 125 P **Pn 03 23 20.6 +0.3**
SKY Skiros Island 3.47 65 P **Pn 03 23 21.3 +0.6**
PAIG Paliouri 3.48 44 *e*P **Pn 03 23 20.8 0.0**
PAIG Paliouri 3.48 44 P **Pn 03 23 21.4 +0.6**
OHR Ohrid 3.63 3 *e*Pn **Pn 03 23 23.7 +0.7**
OHR Ohrid 3.63 3 *i* Pn **Pn 03 23 24.8 +1.8**
OHR Ohrid 3.63 3 P **Pn 03 23 25.3 +2.3**
THE Thessaloniki 3.68 30 P **Pn 03 23 25.1 +1.6**
HORT Hortiatis 3.71 32 *e*P **Pn 03 23 24.4 +0.4**
CEL Celeste 3.74 283 **Pn 03 23 25.5 +1.0**
TIR Tirane 3.90 353 *e*P **Pn 03 23 27.7 +1.1**
TIR Tirane 3.90 353 Pn **Pn 03 23 26.7 +0.1**
TIR Tirane 3.90 353 *e*Pn **Pn 03 23 26.4 -0.2**
TIR Tirane 3.90 353 ⇑P **Pn 03 23 28.4 +1.9**
TIR Tirane 3.90 353 P **Pn 03 23 26.7 +0.1**
GVD Gavdhos 3.91 131 *e*P **Pn 03 23 28.4 +1.7**
OUR Ouranopolis 3.93 42 *e*P **Pn 03 23 27.9 +1.0**
OUR Ouranopolis 3.93 42 P **Pn 03 23 27.9 +1.0**
SOH Sokhos 4.00 33 P **Pn 03 23 29.7 +1.7**
APE Apeiranthos 4.02 94 ⇑P **Pg 03 23 44.4 +1.4**
KNT Kendrikon 4.12 26 P **Pn 03 23 30.5 +0.9**
IDI Anoyia 4.15 120 *e*P **Pn 03 23 30.4 +0.3**
IDI Anoyia 4.15 120 Pn **Pn 03 23 31.3 +1.3**
IDI Anoyia 4.15 120 Pn **Pn 03 23 30.8 +0.7**
comp=N,2.1nm,0.3s,baz=250,slow=7.5,SNR=10.0
IDI Sn **Sn 03 24 18.8 -0.2**
comp=N,2.6nm,0.3s,baz=296,slow=11,SNR=6.6
MATE Matera 4.34 318 *e*P **Pn 03 23 33.7 +1.1**
SRS Serrai 4.34 32 *e*P **Pn 03 23 32.4 -0.3**
SRS Serrai 4.34 32 *e*Pn **Pn 03 23 33.3 +0.6**
SRS Serrai 4.34 32 P **Pn 03 23 32.8 +0.1**
CUC Castrocucco 4.45 306 Pn **Pn 03 23 34.9 +0.6**
CUC Castrocucco 4.45 306 P **Pn 03 23 34.4 +0.1**
CHOS Chios island 4.47 77 *e*P **Pb 03 23 41.7 -3.3**
SIGR SIGRI 4.54 66 *e*P **Pb 03 23 42.4 -3.7**
PUK Puka 4.58 354 Pn **Pn 03 23 35.7 -0.3**
ULC Ulcinj 4.59 348 ⇓*i*Pn **Pn 03 23 35.3 -0.7**
ULC *i* Sn **Sn 03 24 30.1 +0.4**
NVR Nevrokopi 4.65 33 P **Pn 03 23 38.4 +1.4**
PEHC Pehcevo 4.67 22 *i* Pn **Pn 03 23 38.0 +0.8**
MMB Musomishta 4.77 31 P **Pn 03 23 39.5 +0.9**
DRME Dracevica, Mon 4.81 348 ⇑*i*Pn **Pn 03 23 37.8 -1.3**
DRME *i* Sn **Sn 03 24 35.2 -0.1**
VAE Valguarnera 4.86 272 Pn **Pn 03 23 41.6 +1.8**
comp=N,6.3nm,0.7s,baz=16,slow=23,SNR=1.5
VAE Sn **Sn 03 24 38.7 +2.2**
comp=N,4.2nm,0.3s,baz=31,slow=18,SNR=2.3
RAFF Raffo Rosso 4.91 269 Pn **Pn 03 23 39.1 -1.4**
BUM Brajici-Budva 4.98 346 ⇓*i*Pn **Pn 03 23 40.7 -0.7**
BUM *i* Sn **Sn 03 24 39.2 -0.2**
GADA Gvkgeada 5.00 56 *e*P **Pn 03 23 39.7 -1.9**
PDG Podgorica 5.04 349 *e*P **Pn 03 23 40.7 -1.5**
PDG Podgorica 5.04 349 Pn **Pn 03 23 40.3 -1.9**
PDG Podgorica 5.04 349 *e*Pn **Pn 03 23 40.0 -2.2**
PDG *e*Sn **Sn 03 24 35.5 -5.3**
PDG Podgorica 5.04 349 *e*Pn **Pn 03 23 39.8 -2.4**
PDG Podgorica 5.04 349 ⇓P **Pn 03 23 42.7 +0.4**
PDG Podgorica 5.04 349 ⇑*i*Pn **Pn 03 23 42.5 +0.3**
PDG *i* Sn **Sn 03 24 40.5 -0.3**
WDD Wied Dalam 5.09 253 Pn **Pn 03 23 42.6 -0.3**
EZN Ezine 5.11 61 *e*P **Pn 03 23 45.2 +2.0**
EZN Ezine 5.11 61 P **Pn 03 23 46.1 +2.9**
EZN Ezine 5.11 61 P **Pn 03 23 46.1 +2.9**
comp=N,27nm,0.9s,comp=N,355nmcomp=N,0.1nm
PVY Plav 5.13 355 *e*Pn **Pn 03 23 44.2 +0.6**
PVY *i* Sn **Sn 03 24 43.4 +0.2**
HCY Herceg Novi 5.20 343 *e*Pn **Pn 03 23 40.5 -4.0**
HCY Herceg Novi 5.20 343 *e*Pn **Pn 03 23 42.6 -1.9**
HCY *i* Sn **Sn 03 24 44.8 0.0**
CEME Cevo 5.21 347 ⇓*i*Pn **Pn 03 23 43.2 -1.4**
CEME *i* Sn **Sn 03 24 45.3 +0.2**
BOSS Bosilegrad 5.23 16 *e*Pn **Pn 03 23 44.5 -0.4**
DKL Dikili 5.27 70 *e*P Pn 03 23 51.4 +6.0
GCAM G?zelcaml? 5.34 86 *e*P **Pn 03 23 49.7 +3.4**
IVA Berane 5.41 355 ⇓*i*Pn **Pn 03 23 46.3 -1.1**
IVA *i* Sn **Sn 03 24 50.8 +0.7**
NKME Niksic 5.42 348 *e*Pn **Pn 03 23 48.1 +0.6**
NKME *i* Sn **Sn 03 24 50.2 0.0**
KOME Kolasin 5.42 352 ⇑*i*Pn **Pn 03 23 47.8 +0.2**
KOME *i* Sn **Sn 03 24 49.8 -0.6**
BARS Barje 5.42 10 *e*Pn **Pn 03 23 46.5 -1.0**
BODT Bodrum 5.43 92 *e*P Pb 03 23 56.3 -5.1
ENEZ Enez 5.46 52 *e*P **Pn 03 23 50.0 +2.0**
GELI Tayfur-Gelibol 5.48 56 *e*P **Pn 03 23 48.4 +0.1**
ALN Alexandroupoli 5.48 50 *e*P **Pn 03 23 48.0 -0.3**
ALN Alexandroupoli 5.48 50 Pn **Pn 03 23 49.1 +0.8**
ALN Alexandroupoli 5.48 50 P **Pn 03 23 49.1 +0.8**
TREB Trebinje 5.49 343 *e*Pn **Pn 03 23 45.5 -2.9**
TREB *e*Sn **Sn 03 24 44.3 -7.7**
TREB Trebinje 5.49 343 *e*Pn **Pn 03 23 45.3 -3.1**
VTS Vitosha 5.54 21 *e*Pn **Pn 03 23 49.6 +0.3**
VTS *e*Sn **Sn 03 24 50.9 -2.5**
KDZ Kurdzhali 5.57 40 *e*P **Pn 03 23 46.4 -3.2**
KDZ Kurdzhali 5.57 40 P **Pn 03 23 51.2 +1.6**
BRY Bratogost 5.62 345 *e*Pn **Pn 03 23 48.1 -2.3**
BRY Bratogost 5.62 345 ⇓*i*Pn **Pn 03 23 48.3 -2.1**
BRY *i* Sn **Sn 03 24 55.5 0.0**
ERIK Erikli-Kesan 5.65 54 *e*P **Pn 03 23 54.0 +3.4**
LPK Lapseki 5.66 57 *e*P **Pn 03 23 47.7 -3.0**
KARP Karpathos 5.69 108 *e*P **Pn 03 23 51.4 +0.2**
KARP Karpathos 5.69 108 Pn **Pn 03 23 53.4 +2.3**
PLD Plovdiv 5.69 34 *e*P **Pn 03 23 51.7 +0.6**
PLD Plovdiv 5.69 34 P **Pn 03 23 55.1 +4.0**
PLD pmax pmax
comp=Z,80nm,0.8s
DAT Datca 5.69 95 *e*P **Pn 03 23 51.5 +0.2**
SELS Selova 5.75 4 *e*Pn **Pn 03 23 51.2 -0.9**
SJES Sjenica 5.79 356 *e*Pn **Pn 03 23 52.7 0.0**
SJES *e*Sn **Sn 03 24 52.7 -6.8**
SJES Sjenica 5.79 356 *e*Pn **Pn 03 23 52.7 0.0**
STON Ston 5.80 339 *e*Pn **Pn 03 23 50.6 -2.1**
STON *e*Sn Sn 03 24 49.9 -10
STON Ston 5.80 339 *e*Pn **Pn 03 23 50.4 -2.3**
UPM Unac-Piva 5.85 348 ⇑*i*Pn **Pn 03 23 54.6 +1.0**
UPM *i* Sn **Sn 03 25 00.8 -0.3**
AYDB Zeytinkoy-Aydi 5.86 83 *e*P Pn 03 23 58.7 +5.0
PLE Pljevlja 5.91 352 ⇓*i*Pn **Pn 03 23 52.7 -1.6**
PLE *i* Sn **Sn 03 25 02.0 -0.4**
UKOP Uzunkopru-Edir 5.98 51 *e*P **Pn 03 23 53.4 -1.7**
ZAPS Zavoj 6.01 15 *e*Pn **Pn 03 23 55.3 -0.3**
RKY Sarkoy-Tekirda 6.09 56 *e*P Pn 03 24 03.7 +7.0
IVAS Ivanjica 6.10 357 *e*Pn **Pn 03 23 55.7 -1.1**
RUDO Rudo 6.20 352 *e*Pn **Pn 03 23 59.7 +1.6**
BOVS Bovan 6.22 8 ⇓P **Pn 03 23 56.7 -1.7**
GRUS Gruza 6.41 1 *e*Pn **Pn 03 24 00.0 -1.0**
BBLS Lazi&#263i 6.44 353 *e*Pn **Pn 03 24 01.0 -0.5**
BBLS Lazi&#263i 6.44 353 *e*Pn **Pn 03 24 01.3 -0.2**
EDRB Edirne 6.49 46 *e*P **Pn 03 23 58.7 -3.4**
KULA Kula-Manisa 6.51 78 *e*P **Pn 03 24 02.1 -0.5**
DALY Dalyan (Mula) 6.53 93 *e*P Pn 03 23 54.0 -8.7
BAND Balkesir-Ban 6.57 62 ⇑P **Pb 03 24 18.2 -2.6**
DIVS Divibare 6.62 357 *e*Pn **Pn 03 24 03.5 -0.6**
HAPS Han Pijesak,Bl 6.71 350 *e*Pn **Pn 03 24 03.5 -1.8**
HAPS Han Pijesak,Bl 6.71 350 *e*Pn **Pn 03 24 02.9 -2.4**
KCTX Karacabey (Bur 6.72 63 *e*P **Pn 03 24 05.7 +0.4**
ELND Elena 6.81 35 ⇓P **Pn 03 24 08.3 +1.7**
INTR Introdacqua 6.82 314 Pn **Pn 03 24 06.1 -0.7**
FETY Fethiye 6.90 94 *e*P **Pn 03 24 10.3 +2.5**
CAME Cameli-Denizli 7.03 92 *e*P **Pn 03 24 13.9 +4.2**
TEKS Tekeris 7.10 354 *e*Pn **Pn 03 24 06.3 -4.3**
ARMT Armutlu 7.19 62 *e*P **Pn 03 24 15.5 +3.7**
TVSB Tavsanli 7.29 72 *e*P Pn 03 24 18.3 +5.1
AKAS Kas 7.39 97 *e*P **Pn 03 24 13.9 -0.8**
HERR Herculane 7.53 10 ⇑P **Pn 03 24 15.5 -0.9**
ELL Elmali 7.54 93 Pn **Pn 03 24 20.8 +4.1**
ELL Elmali 7.54 93 P **Pn 03 24 20.8 +4.1**
A050A Klekovaca 7.62 338 *e*Pn **Pn 03 24 16.5 -1.2**
BLY Banja Luka 7.69 342 *e*Pn **Pn 03 24 16.6 -2.0**
BLY Banja Luka 7.69 342 *e*Pn **Pn 03 24 18.8 +0.2**
FRGS Fruska Gora 7.69 356 *e*Pn **Pn 03 24 14.8 -3.9**
NRCA Norcia 7.79 316 Pn **Pn 03 24 20.3 +0.1**
HUMR Humele 7.81 24 ⇓P **Pn 03 24 21.4 +1.1**
SGRR Singureni 7.90 30 ⇑P **Pn 03 24 18.7 -2.9**
FDMO Fiordimonte 7.94 317 Pn **Pn 03 24 21.9 -0.2**
A052A Srbac 7.95 344 *e*Pn **Pn 03 24 23.6 +1.5**
SHUT Suhut-Afyon 7.99 79 *e*P **Pn 03 24 26.3 +3.4**
A051A Mrakovica 8.00 341 *e*Pn Pn 03 24 18.0 -5.0
STFAR Stefanesti-Arg 8.10 23 ⇓P Pn 03 24 29.3 +5.0
BORA Eskisehir 8.13 70 Pn **Pn 03 24 26.3 +1.5**
BZS Buzias 8.17 5 *e*Pn **Pn 03 24 25.0 -0.2**
BZS Buzias 8.17 5 ⇑P **Pn 03 24 26.1 +0.9**
BZS Buzias 8.17 5 ⇑P **Pn 03 24 26.1 +0.9**
SRCK Saricakaya, Es 8.30 69 *e*P **Pn 03 24 29.4 +2.4**
LOT Lotru 8.33 16 ⇑P **Pn 03 24 27.5 0.0**
MTUR Matau 8.46 22 ⇓P **Pn 03 24 28.1 -1.2**
MTUR Matau 8.46 22 ⇓P **Pn 03 24 28.1 -1.2**
ARR Arges 8.46 20 ⇓P **Pn 03 24 29.6 +0.3**
ICOR Ion Corvin 8.63 37 ⇑P Pn 03 24 38.1 +6.7
TNR Turnu Rosu 8.64 18 ⇑P Pn 03 24 44.1 +13
VOIR 8.65 22 ⇑P **Pn 03 24 31.8 0.0**
VOIR 8.65 22 ⇑P **Pn 03 24 31.8 0.0**
SIRR Siria 8.82 5 ⇑P **Pn 03 24 35.4 +1.2**
MORH Mrgy, Hungar 8.84 351 *e*Pn **Pn 03 24 33.2 -1.2**
MORH Mrgy, Hungar 8.84 351 ⇓P **Pn 03 24 33.3 -1.2**
ISR Istrita 8.88 29 ⇓P Pn 03 24 39.8 +4.9
ISR Istrita 8.88 29 ⇓P Pn 03 24 39.8 +4.9
MLR Muntele Rosu 8.98 25 Pn **Pn 03 24 36.4 0.0**
MLR Muntele Rosu 8.98 25 Pn **Pn 03 24 35.0 -1.4**
comp=Z,0.2nm,0.3s,baz=246,slow=6.3,SNR=6.8
MLR LR LR 03 28 54.1
comp=Z,225nm,19.3s,baz=209,slow=44
comp=Z,6.8nm,1.1s
MLR Muntele Rosu 8.98 25 ⇑P **Pn 03 24 38.5 +2.1**
MLR Muntele Rosu 8.98 25 ⇑P **Pn 03 24 38.5 +2.1**
TLBR Topalu 9.06 36 ⇓P **Pn 03 24 41.9 +4.5**
HARR Harsova 9.12 35 ⇓P **Pn 03 24 41.3 +3.1**
HARR Harsova 9.12 35 ⇓P **Pn 03 24 41.3 +3.1**
KEST Kesra 9.15 262 Pn **Pn 03 24 38.7 -0.1**
KEST Kesra 9.15 262 Pn **Pn 03 24 38.9 +0.1**
comp=Z,0.1nm,0.3s,baz=148,slow=22,SNR=1.7
KEST Sn **Sn 03 26 22.4 +0.1**
comp=Z,0.1nm,0.3s,baz=112,slow=20,SNR=2.1
comp=Z,4.5nm,1.0s
DOPR Dopca 9.23 22 ⇓P **Pn 03 24 40.6 +0.9**
BISRR Bisoca 9.30 28 ⇑P Pn 03 24 50.3 +9.5
COVR Voineasa-Covas 9.38 25 ⇓P **Pn 03 24 45.0 +3.2**
MARR Marisel-Cluj 9.39 11 ⇓P **Pn 03 24 42.7 +0.6**
CEY Cerknica 9.43 333 *e*Pn **Pn 03 24 39.8 -2.7**
DRGR 9.45 9 ⇑P **Pn 03 24 40.8 -2.0**
DRGR 9.45 9 ⇑P **Pn 03 24 40.8 -2.0**
OZUR 9.46 23 ⇓P **Pn 03 24 44.9 +1.9**
PLOR Plostina 9.54 27 ⇑P **Pn 03 24 45.5 +1.5**
PLOR Plostina 9.54 27 ⇑P **Pn 03 24 45.5 +1.5**
PLOR5 Plostina Array 9.54 27 P **Pn 03 24 45.6 +1.6**
comp=Z,40nm,1.1s
PLOR3 Plostina Array 9.54 27 P **Pn 03 24 45.7 +1.7**
comp=Z,42nm,1.2s,comp=Z,632nm
VRI Vrincioaia 9.58 27 ⇑P **Pn 03 24 47.1 +2.6**
VRI Vrincioaia 9.58 27 ⇑P **Pn 03 24 47.1 +2.6**
VRI Vrincioaia 9.58 27 P **Pn 03 24 46.2 +1.7**
comp=Z,20nm,1.1s,comp=Z,207nm
CFR Carcaliu 9.59 34 ⇓P **Pn 03 24 44.8 +0.2**
CFR Carcaliu 9.59 34 ⇓P **Pn 03 24 44.8 +0.2**
ODBI Odobesti 9.61 29 ⇑P **Pn 03 24 45.5 +0.6**
ONER Baraj Valea Uz 9.87 24 ⇓P **Pn 03 24 50.9 +2.4**
ANTO Ankara 9.89 72 Pn **Pn 03 24 49.8 +0.9**
ANTO Ankara 9.89 72 P **Pn 03 24 49.8 +0.9**
MPLH Magyarpolny 9.93 348 P **Pn 03 24 47.4 -2.0**
comp=Z,29nm,1.1s
SABO M.te Sabotino 9.94 331 Pn **Pn 03 24 48.2 -1.3**
ARCR ARCALIA 10.01 15 ⇑P Pn 03 24 56.6 +6.2
SOKA Soboth 10.05 338 *i* Pn **Pn 03 24 49.4 -1.7**
comp=Z,2.1nm,0.6s
OBKA Obir 10.05 336 *i* Pn Pn 03 25 00.8 +10
comp=Z,6.7nm,0.6s
ARSA Arzberg 10.44 341 *i* Pn **Pn 03 24 56.7 +0.4**
comp=Z,1.0nm,0.3s
PSZ Piszkesteto 10.44 358 Pn **Pn 03 24 55.9 -0.6**
PSZ Piszkesteto 10.44 358 ⇑P **Pn 03 24 57.1 +0.7**
PSZ Piszkesteto 10.44 358 ⇑P **Pn 03 24 57.1 +0.7**
MYKA Terra Mystica 10.47 333 *e*Pn **Pn 03 24 58.8 +2.0**
comp=Z,1.1nm,0.4s
BR131 Keskin Array S 10.51 74 *i* P **Pn 03 25 02.2 +4.7**
BRTR Keskin Array B 10.51 74 Pn **Pn 03 24 56.5 -1.0**
comp=Z,0.1nm,0.3s,baz=272,slow=11,SNR=1.6
BRTR LR LR 03 29 02.1
comp=Z,92nm,19.3s,baz=267,slow=38
comp=Z,0.7nm,0.5s
RONA Rosalia, Austr 10.68 344 *i* Pn **Pn 03 25 03.3 +3.7**
comp=Z,3.1nm,0.6s
BURAR Bucovina Array 10.70 17 ⇓P Pn 03 25 05.9 +5.9
BURAR Bucovina Array 10.70 17 ⇓P Pn 03 25 05.9 +5.9
BUR08 Bucovina Ar. S 10.73 17 Pn **Pn 03 25 00.8 +0.4**
PRAR RASCA 10.74 21 ⇑P Pn 03 25 09.9 +9.5
KBA Koelnbreinsper 10.96 333 *i* Pn Pn 03 25 08.5 +4.9
comp=Z,1.0nm,0.4s
KBA Koelnbreinsper 10.96 333 P **Pn 03 25 05.0 +1.4**
KBA pmax pmax
comp=Z,14nm,1.1s
CONA Conrad Observa 10.99 343 *e*Pn **Pn 03 25 04.5 +0.6**
comp=Z,0.3nm,0.3s
ABTA Abfaltersbach 11.00 330 *e*Pn Pn 03 25 12.7 +8.6
comp=Z,3.3nm,0.6s
BRIU Brid 11.01 9 P **Pn 03 25 03.7 -0.3**
VYHS Vyhne 11.08 354 *e*P **Pn 03 25 04.0 -1.1**
VYHS Vyhne 11.08 354 *e*PN **Pn 03 25 04.0 -1.1**
MUKU Mukachevo 11.08 8 P **Pn 03 25 04.8 -0.3**
NSLU Nyzhne Selyshc 11.09 14 P **Pn 03 25 02.7 -2.6**
HOLU Holmets 11.13 6 P **Pn 03 25 05.4 -0.3**
MOA Molln 11.34 338 *e*Pn **Pn 03 25 08.4 -0.2**
comp=Z,1.1nm,0.3s
BIOA Bad Ischl, Aus 11.39 336 *i* Pn **Pn 03 25 10.7 +1.3**
comp=Z,1.4nm,0.3s
LESA Schwarzleotal 11.50 332 *i* Pn **Pn 03 25 12.3 +1.4**
comp=Z,0.7nm,0.3s
KOLS Kolonicke sedl 11.52 6 *e*P **Pn 03 25 10.7 -0.4**
KOLS Kolonicke sedl 11.52 6 *e*PN **Pn 03 25 10.7 -0.4**
WTTA Wattenberg 11.77 329 *e*Pn **Pn 03 25 17.7 +3.0**
comp=Z,8.3nm,1.1s
WATA Walderalm 11.85 329 *i* Pn **Pn 03 25 17.0 +1.2**
comp=Z,4.8nm,1.0s
FUORN Ofenpass-Fuorn 11.89 323 **Pn 03 25 14.0 -2.4**
SQTA Sankt Quirin 11.92 328 *e*Pn **Pn 03 25 18.4 +1.8**
comp=Z,1.6nm,0.5s
FETA Feichten 11.97 326 *e*Pn **Pn 03 25 18.9 +1.4**
comp=Z,7.3nm,1.4s
MOTA Moosalm 12.06 328 *e*Pn **Pn 03 25 18.7 +0.1**
comp=Z,2.3nm,0.6s
VRAC Vranov 12.16 348 Pn **Pn 03 25 18.2 -1.6**
comp=Z,0.1nm,0.3s,baz=152,slow=17,SNR=1.7
comp=Z,1.0nm,0.4s
TUE Stuetta 12.23 321 Pn **Pn 03 25 19.9 -1.1**
TUE Stuetta 12.23 321 P **Pn 03 25 17.1 -3.9**
comp=Z,39nm,1.3s
RETA Reutte 12.31 327 *i* Pn Pn 03 25 26.9 +4.9
comp=Z,8.0nm,1.9s
GERES GERESS Array B 12.40 339 Pn **Pn 03 25 22.3 -0.9**
comp=Z,0.6nm,0.5s
GERES Sn **Sn 03 27 36.8 -4.9**
DAVA Damuels 12.55 325 *e*Pn Pn 03 25 32.0 +6.6
comp=Z,3.1nm,0.6s
KHC Kasperske Hory 12.69 339 Pn **Pn 03 25 24.4 -2.7**
KHC Kasperske Hory 12.69 339 *e*PN **Pn 03 25 26.0 -1.1**
KHC Kasperske Hory 12.69 339 *i* P Pn 03 25 32.3 +5.2
MMAI Mount Meron Ar 12.95 106 Pn **Pn 03 25 30.4 -0.4**
comp=Z,0.6nm,0.3s,baz=274,slow=15,SNR=2.8
comp=Z,0.5nm,0.4s
SENIN Lac Senin/Sane 13.24 316 Pn **Pn 03 25 31.8 -3.0**
ARPR Arapgir-MALATY 14.09 78 Pn **Pn 03 25 49.9 +3.5**
BRG Berggiesshubel 14.19 343 *e*P **P 03 25 54.1 -1.0**
BRG Amp 03 25 57.1
comp=Z,4.0nm,1.1s
BRG Berggiesshubel 14.19 343 *e*P **P 03 25 54.1 -1.0**
BRG pmax pmax
comp=Z,4.0nm,1.1s
EIL Elat 14.32 119 Pn **Pn 03 25 49.0 -0.4**
comp=Z,0.4nm,0.3s,baz=314,slow=13,SNR=3.5
EIL Sn **Sn 03 28 21.1 -7.6**
comp=Z,0.3nm,0.3s,baz=250,slow=22,SNR=3.0
comp=Z,2.8nm,0.6s
BEL Belsk 14.36 1 P **P 03 25 56.1 -0.9**
BEL pmax pmax
comp=Z,47nm,1.6s
ECH Echery 14.51 322 Pn **Pn 03 25 50.3 -1.7**
ECH Echery 14.51 322 P **Pn 03 25 50.3 -1.7**
KIEV Kiev 14.60 22 Pn **Pn 03 25 54.6 +1.5**
KIEV Kiev 14.60 22 ⇑P **Pn 03 25 52.9 -0.2**
KIEV Kiev 14.60 22 P **Pn 03 25 54.6 +1.5**
AKASG Malin Array Be 14.61 22 P **Pn 03 25 52.0 -1.3**
comp=Z,0.7nm,0.3s,baz=212,slow=9.4,SNR=2.9
AKASG LR LR 03 32 41.5
comp=Z,118nm,20.3s,baz=219,slow=43
comp=Z,0.4nm,0.4s
AKASG Malin Array Be 14.61 22 *ce*P **P 03 25 58.7 -1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 14.61 22 Pn **Pn 03 25 53.5 +0.3**

AKBB	**Malin Array Si**	**14.61**	**22**	*ce*P	**Pn**	**03 25 55.1**	**+1.9**
AKBB	**Malin Array Si**	**14.61**	**22**	P	**Pn**	**03 25 53.5**	**+0.3**
MOX	**Moxa**	**14.62**	**337**	P	**P**	**03 25 59.1**	**-0.9**
MOX				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CLL	**Collm**	**14.82**	**341**	Pn	**Pn**	**03 25 54.3**	**-1.8**
CLL	**Collm**	**14.82**	**341**	*i* P	**Pn**	**03 25 56.7**	**+0.6**
CLL	**Collm**	**14.82**	**341**	*i* P	**Pn**	**03 25 56.7**	**+0.6**
CLL				*es*P	**P**	**03 26 00.0**	**-2.2**
CLL				*i* (PP)		03 26 03.1	
	comp=Z,11nm,1.2s						
CLL				*i* sPP		03 26 09.6	
	comp=Z,37nm,1.8s						
CEST	**Esterri de Car**	**15.61**	**295**	Pn	**Pn**	**03 26 07.0**	**+0.2**
CEST				IAmb	IAmb	03 26 12.2	
	comp=Z,34nm,1.4s						
WLF	**Walferdange**	**15.99**	**324**	Pn	**Pn**	**03 26 10.7**	**-0.8**
WLF				IAmb	IAmb	03 26 29.5	
	comp=Z,56nm,1.5s						
WLF	**Walferdange**	**15.99**	**324**	P	**Pn**	**03 26 10.7**	**-0.8**
WLF				pmax	pmax		
	comp=Z,56nm,1.5s						
WLF	**Walferdange**	**15.99**	**324**	*d*P	P	03 26 23.6	+8.5
SUW	**Suwalki**	**16.64**	**5**	Pn	**Pn**	**03 26 17.6**	**-2.2**
SUW				IAmb	IAmb	03 26 26.6	
	comp=Z,66nm,1.0s						
SUW	**Suwalki**	**16.64**	**5**	*e*P	**Pn**	**03 26 19.4**	**-0.4**
SUW	**Suwalki**	**16.64**	**5**	P	**Pn**	**03 26 17.6**	**-2.2**
SUW				pmax	pmax		
	comp=Z,66nm,1.0s						
MEM	**Membach**	**16.73**	**326**	*d*P	**P**	**03 26 25.8**	**+2.5**
GURO	**Guroymak-BITLI**	**16.99**	**80**		**P**	**03 26 26.7**	**+0.3**
DOU	**Dourbes**	**17.02**	**323**	*d*P	P	03 26 40.8	+14
MNK	**Minsk**	**17.76**	**14**	*i* P	**P**	**03 26 35.1**	**+0.4**
	comp=E,28nm,0.9s						
MNK				*i* P	**P**	**03 26 35.1**	**+0.4**
	comp=N,3.0nm,0.6s						
MNK				*i* P	**P**	**03 26 35.1**	**+0.4**
	comp=Z,17nm,0.8s,baz=200						
MNK				*i* PP	**PnPn**	**03 26 44.3**	**-0.1**
MNK				*i* S	**Sn**	**03 29 49.8**	**-2.2**
MNK				*i* SS	**SnSn**	**03 30 04.7**	**-0.8**
MNK				*i* LQ	LQ	03 31 59.1	
MNK				*i* LR	LR	03 32 50.9	
MNK				*i* LRM	MLR	03 34 13.2	
	comp=E,332nm,16.5s						
MNK				*i* LRM	MLR	03 34 13.9	
	comp=N,303nm,18.1s						
MNK				*i* LRM	MLR	03 35 12.6	
	comp=Z,67nm,16.1s						
MNK	**Minsk**	**17.76**	**14**	*i* P	**P**	**03 26 35.1**	**+0.4**
MNK				*i* S	**Sn**	**03 29 49.7**	**-2.2**
MNK				pmax	pmax		
	comp=Z,17nm,0.8s						
MNK				pmax	pmax		
	comp=E,28nm,0.9s						
MNK				pmax	pmax		
	comp=N,3.0nm,0.6s						
MNK				MLR	MLR		
	comp=E,332nm,16.0s						
MNK				MLR	MLR		
	comp=N,303nm,18.0s						
MNK				MLR	MLR		
	comp=Z,67nm,16.0s						
SHA1	**Shidzhatmaz**	**17.91**	**63**	*i* P	**P**	**03 26 41.3**	**+4.6**
NACGM	**Naroch**	**17.95**	**12**	*e*P	**Pn**	**03 26 33.9**	**-2.3**
	comp=Z,32nm,1.1s,baz=197						
KIV	**Kislovodsk**	**17.98**	**62**	*e*P	**P**	**03 26 41.6**	**+4.3**
KIV				pmax	pmax		
	comp=Z,12nm,1.1s						
KBZ	**Khabaz**	**18.08**	**63**	P	**Pn**	**03 26 35.6**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=274,slow=16,SNR=2.1						
	comp=Z,0.7nm,0.7s						
KBZ	**Khabaz**	**18.08**	**63**	*i* P	**P**	**03 26 42.8**	**+4.5**
KBZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PABE	**Paberze**	**18.18**	**6**	Pn	**Pn**	**03 26 36.6**	**-2.4**
PABE				IAmb	IAmb	03 26 45.0	
	comp=Z,46nm,1.0s						
PABE	**Paberze**	**18.18**	**6**	*e*P	**Pn**	**03 26 36.9**	**-2.2**
PBUR	**Paburge**	**18.58**	**2**	*e*P	**P**	**03 26 37.5**	**-6.2**
VSVD	**Vaisvydziai**	**18.65**	**6**	*e*P	**Pn**	**03 26 44.3**	**-0.4**
VORD	**Divnogorie**	**18.97**	**39**	*e*P	**P**	**03 26 45.9**	**-2.2**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VSR	**Storozhevoye**	**19.07**	**38**	*e*P	**P**	**03 26 46.4**	**-2.7**
VSR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ESDC	**Sonseca Array**	**19.25**	**284**	P	**Pn**	**03 26 52.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=106,slow=9.5,SNR=3.4						
	comp=Z,1.2nm,0.9s						
VORR	**Voronezh**	**19.38**	**37**	*e*P	**Pn**	**03 26 57.9**	**+4.4**
VORR				pmax	pmax		
	comp=Z,45nm,0.4s						
LPSR	**Galich'ya Gora**	**19.86**	**35**	*e*P	**P**	**03 26 54.9**	**-2.8**
LPSR				pmax	pmax		
	comp=Z,20nm,0.9s						
VRH	**Novokhopyorsk**	**20.35**	**41**	*e*P	Pn	03 27 04.9	-0.2
VRH				pmax	pmax		
	comp=Z,17nm,0.5s						
OBN	**Obninsk**	**20.75**	**27**	*ce*P	Pn	03 27 09.8	+0.1
OBN				*e*		03 27 31.7	
OBN				pmax	pmax		
	comp=Z,45nm,1.7s						
OBN				MLR	MLR		
	comp=Z,58nm,13.0s						
AKT	**Akhty**	**21.34**	**71**	*e*P	**P**	**03 27 15.4**	**+1.3**
AKT				*e*		03 27 34.7	
AKT				pmax	pmax		
	comp=Z,25nm,1.3s						
MTSE	**Matsula**	**21.36**	**5**	*e*P	**P**	**03 27 13.5**	**-0.4**
VSU	**Vasula**	**21.39**	**9**	*ce*P	**P**	**03 27 19.1**	**+4.9**
VSU				pmax	pmax		
	comp=Z,78nm,1.3s						
MOS	**Moscow**	**21.61**	**27**	*e*P	**P**	**03 27 19.8**	**+3.2**
MOS				*e*		03 27 42.6	
MOS				*e*S	**S**	**03 31 15.1**	**-1.2**
MOS				pmax	pmax		
	comp=Z,31nm,0.6s						
ARBE	**Arbavere**	**22.26**	**7**	*e*P	**P**	**03 27 28.2**	**+4.7**
HFS	**Hagfors**	**23.09**	**351**	P	**P**	**03 27 31.1**	**-1.3**
	comp=Z,5.5nm,0.7s,baz=164,slow=9.6,SNR=12						
	comp=Z,5.5nm,0.7s						
PUL	**Pulkovo**	**23.18**	**13**	*ce*P	**P**	**03 27 37.8**	**+4.5**
PUL				pmax	pmax		
	comp=Z,38nm,0.4s						
RAF	**Rauma**	**23.58**	**2**	*e*P	**P**	**03 27 35.6**	**-1.6**
EKA	**Eskdalemuir Ar**	**24.00**	**326**	P	**P**	**03 27 40.5**	**-1.0**
	comp=Z,3.3nm,0.8s,baz=125,slow=10,SNR=6.3						
	comp=Z,3.3nm,0.8s						
BELG	**Belogornoye**	**24.11**	**43**	LR	LR	03 37 24.0	
	comp=Z,76nm,19.2s,baz=262,slow=38						
BELG	**Belogornoye**	**24.11**	**43**	*i* P	**P**	**03 27 46.5**	**+4.1**
BELG				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NAO01	**NORSAR Array S**	**24.17**	**348**	P	**P**	**03 27 42.6**	**-0.4**
NAO01				IAmb	IAmb	03 27 49.0	
	comp=Z,34nm,1.1s						
FINES	**FINESS Array B**	**24.24**	**7**	P	**P**	**03 27 41.5**	**-2.1**
	comp=Z,4.0nm,0.6s,baz=176,slow=8.6,SNR=16						
FINES				LR	LR	03 38 31.6	
	comp=Z,27nm,20.1s,baz=342,slow=40						
	comp=Z,4.0nm,0.6s						
FIA1	**FINESS Array S**	**24.24**	**7**	P	**P**	**03 27 41.6**	**-1.9**
NC405	**NORSAR Array S**	**24.30**	**350**	P	**P**	**03 27 42.5**	**-1.6**
NC405				IAmb	IAmb	03 27 55.4	
	comp=Z,18nm,1.1s						
NB201	**NORSAR Array S**	**24.30**	**349**	P	**P**	**03 27 45.0**	**+0.8**
NB201				IAmb	IAmb	03 27 51.0	
	comp=Z,26nm,1.2s						
NB2	**NORSAR Subarra**	**24.30**	**349**	P	**P**	**03 27 42.1**	**-2.1**
	comp=Z,20nm,1.2s,baz=162,slow=9.3						
NB2	**NORSAR Subarra**	**24.30**	**349**	P	**P**	**03 27 48.8**	**+4.6**
NB2				pmax	pmax		
	comp=Z,126nm,2.4s						
NOA	**NORSAR Array B**	**24.30**	**349**	P	**P**	**03 27 42.4**	**-1.8**
	comp=Z,2.4nm,0.9s,baz=156,slow=9.8,SNR=5.9						
NOA				LR	LR	03 37 05.8	
	comp=Z,35nm,20.3s,baz=305,slow=36						
	comp=Z,2.4nm,0.9s						
NBO00	**NORSAR Array S**	**24.36**	**348**	P	**P**	**03 27 43.6**	**-1.2**
NBO00				IAmb	IAmb	03 27 51.0	
	comp=Z,28nm,1.1s						
NC303	**NORSAR Array S**	**24.46**	**349**	P	**P**	**03 27 45.2**	**-0.3**
NC303				IAmb	IAmb	03 27 53.0	
	comp=Z,12nm,1.0s						
KLMR	**Klimovskoe**	**26.29**	**21**	*e*P	**P**	**03 28 04.7**	**+2.6**
KLMR				pmax	pmax		
	comp=Z,40nm,1.7s						
KIRV	**Kirov**	**28.24**	**32**	LR	LR	03 39 31.5	
	comp=Z,73nm,21.0s,baz=246,slow=37						
TORD	**Torodi Ar. Bea**	**29.49**	**220**	P	**P**	**03 28 30.4**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=32,slow=9.3,SNR=4.5						
TORD				LR	LR	03 41 05.4	
	comp=Z,69nm,19.4s,baz=263,slow=38						
	comp=Z,0.8nm,0.8s						
AKTO	**Aktyubinsk**	**29.61**	**52**	P	**P**	**03 28 29.6**	**-2.4**
	comp=Z,0.7nm,0.4s,baz=24,slow=5.5,SNR=2.1						
	comp=Z,0.7nm,0.4s						
ABKAR	**Akbulak array**	**30.64**	**55**	P	**P**	**03 28 40.6**	**-0.5**
ABKAR				IAmb	IAmb	03 28 51.1	
	comp=Z,2.1nm,0.8s						
ARTI	**Arti**	**31.48**	**41**	P	**P**	**03 28 46.0**	**-2.4**
	comp=Z,1.1nm,0.4s,baz=204,slow=7.6,SNR=2.7						
	comp=Z,1.1nm,0.4s						
ARTI	**Arti**	**31.48**	**41**	*d i*P	**P**	**03 28 52.2**	**+3.8**
ARTI						03 29 49.3	
ARTI						03 31 42.3	
ARTI				S	**S**	**03 34 00.2**	**+3.5**
ARTI				SS	**SnSn**	**03 35 40.9**	**+0.2**
ARTI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ARCES	**ARCESS Array B**	**32.23**	**3**	P	**P**	**03 28 53.5**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=199,slow=7.4,SNR=2.0						
ARCES				LR	LR	03 43 12.8	
	comp=Z,55nm,18.7s,baz=164,slow=39						
	comp=Z,1.7nm,0.8s						
SVE	**Sverdlovsk**	**32.80**	**41**	*e*P	**P**	**03 28 58.8**	**-1.2**
SVE				pmax	pmax		
	comp=Z,15nm,0.9s						
FURI	**Furi**	**32.85**	**145**	LR	LR	03 43 11.2	
	comp=Z,47nm,20.1s,baz=324,slow=38						
WSAR	**Wadi Sarin**	**35.56**	**103**	P	**P**	**03 29 23.6**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=359,slow=11,SNR=2.1						
	comp=Z,1.0nm,0.6s						
BORG	**Borgarnes**	**36.72**	**331**	P	**P**	**03 29 32.9**	**-0.9**
BORG	**Borgarnes**	**36.72**	**331**	P	**P**	**03 29 32.9**	**-0.9**
BORG				pmax	pmax		
	comp=Z,51nm,1.3s						
BRVK	**Borovoye**	**37.51**	**49**	*ce*P	P	03 29 45.6	+5.0
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BVAR	**Borovoye Array**	**37.57**	**49**	P	**P**	**03 29 39.8**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=280,slow=4.0,SNR=2.1						
	comp=Z,0.7nm,0.7s						
KKAR	**Karatay Array**	**38.08**	**65**	P	**P**	**03 29 46.7**	**+1.1**
BBTS	**Babate**	**39.92**	**245**	LR	LR	03 47 59.1	
	comp=Z,65nm,19.4s,baz=324,slow=38						
KURBB	**Kurchatov Arra**	**42.65**	**53**	P	**P**	**03 30 20.9**	**-2.4**
	comp=Z,1.7nm,0.2s,baz=46,slow=8.2,SNR=1.6						
	comp=Z,1.7nm,0.2s						
KURK	**Kurchatov**	**42.70**	**53**	*i* P	**P**	**03 30 27.7**	**+4.0**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**45.67**	**58**	P	**P**	**03 30 48.0**	**+0.4**
MK31	**Makanchi Array**	**45.67**	**58**	P	**P**	**03 30 48.0**	**+0.4**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**45.67**	**58**	P	**P**	**03 30 46.2**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=272,slow=7.0,SNR=5.6						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**45.67**	**58**	*ce*P	**P**	**03 30 51.7**	**+4.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAA0	**Zalesovo Array**	**46.16**	**48**	P	**P**	**03 30 52.6**	**+1.2**
ZAA0				IAmb	IAmb	03 30 55.9	
	comp=Z,5.3nm,0.8s						
ZALV	**Zalesovo Beam**	**46.16**	**48**	P	**P**	**03 30 49.1**	**-2.2**
	comp=Z,1.3nm,0.5s,baz=266,slow=8.2,SNR=5.3						
	comp=Z,1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.16**	**48**	P	**P**	**03 30 52.4**	**+1.1**
NRIK	**Noril'sk**	**47.42**	**26**	*i* P	P	03 31 06.2	+5.2
NRIK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WMQ	**Urumqi**	**50.10**	**60**	*e*P	**P**	**03 31 26.3**	**+4.2**
WMQ				pmax	pmax		
	comp=Z,22nm,0.6s						
MSEY	**Mahe Island**	**53.07**	**134**	P	**P**	**03 31 45.1**	**+0.7**
MSEY	**Mahe Island**	**53.07**	**134**	P	**P**	**03 31 45.2**	**+0.7**
MSEY				pmax	pmax		
	comp=Z,76nm,1.4s						
EUNU	**Eureka**	**56.20**	**348**	P	**P**	**03 32 07.3**	**+0.8**
EUNU				IAmb	IAmb	03 32 20.5	
	comp=Z,9.5nm,1.2s						
SONM	**Songino Array**	**60.90**	**50**	P	**P**	**03 32 37.0**	**-2.8**
	comp=Z,0.6nm,0.4s,baz=316,slow=6.0,SNR=2.6						
	comp=Z,0.6nm,0.4s						
SONM	**Songino Array**	**60.90**	**50**	P	**P**	**03 32 37.0**	**-2.8**
ULN	**Ulaanbaatar**	**61.29**	**50**	*ce*P	**P**	**03 32 46.9**	**+4.4**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.7s						
YAK	**Yakutsk**	**65.72**	**29**	*i* P	P	03 33 16.2	+5.0
YAK				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC	**Hu-ho-hao-te**	**67.43**	**55**	*e*P	**P**	**03 33 23.6**	**+0.8**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,220nm,5.6s						
A36M	**Sachs Harbour**	**68.21**	**349**	P	**P**	**03 33 27.9**	**+0.9**
A36M				IAmb	IAmb	03 33 34.3	
	comp=Z,8.7nm,0.9s						
SUR	**Sutherland**	**69.50**	**180**	P	**P**	**03 33 37.5**	**+1.9**
CMAR	**Chiang Mai Arr**	**69.99**	**82**	P	**P**	**03 33 38.0**	**-0.9**
	comp=Z,2.1nm,0.3s,baz=306,slow=5.9,SNR=4.5						
	comp=Z,2.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**69.99**	**82**	P	**P**	**03 33 38.0**	**-0.9**
HEH	**HeiHe**	**71.57**	**40**	*e*P	**P**	**03 33 47.2**	**-0.8**
HEH	**HeiHe**	**71.57**	**40**	*e*P	P	03 33 53.5	+5.5
HEH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HEH				pmax	pmax		
	comp=Z,19nm,0.8s						
BILL	**Bilibino**	**71.70**	**13**	*i* P	P	03 33 54.0	+5.5
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
C23K	**Itkillik River**	**72.80**	**357**	P	**P**	**03 33 55.5**	**+0.5**
KLR	**Kul'dur**	**74.41**	**39**	*ce*P	**P**	**03 34 09.1**	**+4.2**
KLR				pmax	pmax		
	comp=Z,8.0nm,2.5s						
ILAR	**Eielson Array**	**77.60**	**355**	P	**P**	**03 34 22.7**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=352,slow=5.5,SNR=2.9						
	comp=Z,0.4nm,0.9s						
KSRS	**Korea Array**	**79.77**	**51**	P	**P**	**03 34 34.0**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=308,slow=5.0,SNR=5.7						
	comp=Z,1.6nm,0.8s						
KSRS	**Korea Array**	**79.77**	**51**	P	**P**	**03 34 34.0**	**-1.2**
TJN	**Taejon**	**80.11**	**52**	*ce*P	**P**	**03 34 41.3**	**+4.2**

*IDC **01** 03:35:25.3±1.4, 11°.17S×161°.63E, h0km, mb3.7/5, mbtmp3.8/6, ML4.3/1, MS3.3/1, Error ellipse: s-maj=34.0km s-min=27.4km az=139.0*

ISC 01 03:35:29.4±1.2, 11°.2S±0°.2×161°.6E±0°.2, h28km, n6, σ1º04/7, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.42**	**317**	Pn	**Pn**	**03 36 05.8**	**-1.3**
	72nm,0.3s,baz=183,slow=18,SNR=2.4						
HNR				Sn	**Sn**	**03 36 36.9**	**+1.1**
	96nm,0.3s,baz=127,slow=18,SNR=3.1						
	152nm,0.5s						
WRA	**Warramunga Arr**	**27.63**	**248**	P	**P**	**03 41 15.8**	**+0.9**
	1.2nm,0.9s,baz=76,slow=9.2,SNR=7.9						
WRA				LR	LR	03 52 06.3	
	comp=Z,56nm,18.9s,baz=344,slow=36						
	1.2nm,0.9s						
ASAR	**Alice Springs**	**29.12**	**241**	P	**P**	**03 41 27.9**	**-0.3**
	0.9nm,0.8s,baz=74,slow=9.7,SNR=7.6						
	0.9nm,0.8s						
SONM	**Songino Array**	**76.45**	**325**	P	**P**	**03 47 17.2**	**+0.5**
	0.4nm,0.4s,baz=116,slow=6.6,SNR=2.3						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**85.00**	**20**	P	**P**	**03 48 01.6**	**-0.3**
	0.3nm,0.8s,baz=237,slow=5.1,SNR=4.9						
	0.3nm,0.8s						
NVAR	**Mina Array Bea**	**89.26**	**51**	P	**P**	**03 48 23.8**	**+0.4**
	0.4nm,0.7s,baz=225,slow=5.7,SNR=2.7						
	0.4nm,0.7s						

*THE **01** 03:49:35.6, 37°.40N×20°.58E, h0km±2km, ML3.6/10, Error ellipse: s-maj=2.4km s-min=0.6km az=230.0*
*ATH **01** 03:49:36.1, 37°.44N×20°.62E, h14km±1km, ML3.5/7, Error ellipse: s-maj=2.6km s-min=1.0km az=41.0*

ISC 01 03:49:35.0±1.6, 37°.40N±0°.05×20°.55E±0°.05, h11km±9km, n28, σ0º75/53, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.34**	**39**	P	**Pg**	**03 49 42.1**	**+0.2**
KRI1				S	**Sg**	**03 49 46.5**	**+0.1**
	23μm,0.2s						
LTHK	**Lithakia**	**0.39**	**36**	P	**Pg**	**03 49 42.8**	**+0.1**
LTHK				S	**Sg**	**03 49 47.8**	**0.0**
LTHK	**Lithakia**	**0.39**	**36**	P	**Pg**	**03 49 42.8**	**+0.1**
LTHK				S	**Sg**	**03 49 46.6**	**-1.2**
LTHK				AML	AML	03 49 48.3	
	comp=N,25649μm,0.3s						
LTHK				AML	AML	03 49 49.4	
	comp=E,15922μm,0.1s						
RTZL	**Ratzakli, Kefa**	**0.70**	**15**	P	**Pg**	**03 49 48.6**	**0.0**
RTZL				S	**Sb**	**03 49 58.8**	**-0.1**
	comp=E,8μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.71**	**2**	P	**Pg**	**03 49 49.4**	**+0.5**
PSDA				S	**Sb**	**03 50 00.0**	**+0.6**
	comp=E,7μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.71**	**2**	P	**Pg**	**03 49 49.4**	**+0.5**
PSDA				S	**Sg**	**03 49 57.7**	**-0.6**
VLS	**Valsamata**	**0.78**	**2**	P	**Pg**	**03 49 50.3**	**+0.2**
VLS				S	**Sb**	**03 50 01.7**	**+0.5**
	comp=E,3μm,0.2s						
VLS	**Valsamata**	**0.78**	**2**	P	**Pg**	**03 49 50.1**	**0.0**
VLS				S	**Sg**	**03 50 00.1**	**-0.2**
VLS				AML	AML	03 50 02.5	
	comp=E,7245μm,0.2s						
VLS				AML	AML	03 50 04.7	
	comp=N,6321μm,0.2s						
LXRA	**Lixouri, Kepha**	**0.81**	**354**	P	**Pg**	**03 49 50.4**	**-0.2**
LXRA				S	**Sg**	**03 50 00.8**	**-0.3**
DMLN	**Damoulianata-K**	**0.85**	**351**	P	**Pg**	**03 49 51.7**	**+0.2**
DMLN				S	**Sn**	**03 50 04.6**	**-0.9**
	comp=N,5μm,0.4s						
DMLN	**Damoulianata-K**	**0.85**	**351**	P	**Pg**	**03 49 51.6**	**+0.1**
SMHA	**Samh**	**0.85**	**5**	P	**Pg**	**03 49 51.1**	**-0.5**
SMHA				S	**Sg**	**03 50 03.3**	**+0.6**
SMHA				AML	AML	03 50 06.4	
	comp=E,15475μm,0.2s						
SMHA				AML	AML	03 50 06.7	
	comp=N,13670μm,0.2s						
AMT	**Artemida-Makis**	**0.93**	**81**	P	**Pb**	**03 49 52.6**	**-0.7**
AMT				S	**Sb**	**03 50 04.5**	**-1.2**
AMT				AML	AML	03 50 11.0	
	comp=E,14605μm,0.3s						
AMT				AML	AML	03 50 15.4	
	comp=N,12648μm,0.3s						
RLS	**Riolos of Patr**	**0.98**	**48**	P	**Pb**	**03 49 53.3**	**-0.8**
RLS				S	**Sg**	**03 50 07.6**	**+0.9**
RLS	**Riolos of Patr**	**0.98**	**48**	P	**Pb**	**03 49 52.4**	**-1.7**
RLS				S	**Sb**	**03 50 06.3**	**-0.7**
RLS				AML	AML	03 50 11.4	
	comp=N,1677μm,0.3s						
RLS				AML	AML	03 50 13.8	
	comp=E,1703μm,0.5s						
VSK1	**VASILIKIADES**	**1.01**	**1**	P	**Pb**	**03 49 54.4**	**-0.2**
VSK1				S	**Sn**	**03 50 09.4**	**0.0**
FSK	**Fiskardo**	**1.06**	**1**	P	**Pb**	**03 49 55.1**	**-0.3**
FSK				S	**Sn**	**03 50 10.8**	**+0.2**
	comp=E,3μm,0.2s						
FSK	**Fiskardo**	**1.06**	**1**	P	**Pb**	**03 49 55.1**	**-0.3**
FSK				S	**Sb**	**03 50 09.2**	**-0.1**
FSK				AML	AML	03 50 12.2	
	comp=N,5134μm,0.3s						
FSK				AML	AML	03 50 12.7	
	comp=E,7634μm,0.2s						
DRO	**Drossia**	**1.07**	**59**	P	**Pb**	**03 49 55.5**	**-0.2**
DRO				S	**Sn**	**03 50 11.4**	**+0.4**
	comp=E,2μm,0.5s						
PYL	**PYLOS**	**1.08**	**117**	P	**Pb**	**03 49 55.2**	**-0.5**
PYL				S	**Sn**	**03 50 11.9**	**+0.9**
	comp=E,972nm,0.2s						
PYL	**PYLOS**	**1.08**	**117**	P	**Pb**	**03 49 55.3**	**-0.4**
PYL				S	**Sb**	**03 50 09.4**	**-0.4**
PYL				AML	AML	03 50 13.3	
	comp=N,1670μm,0.2s						
PYL				AML	AML	03 50 13.6	
	comp=E,2206μm,0.2s						
ITM	**Ithomi**	**1.12**	**101**	P	**Pb**	**03 49 56.0**	**-0.5**
ITM				S	**Sn**	**03 50 13.0**	**+0.9**
	comp=E,960nm,0.4s						
ITM	**Ithomi**	**1.12**	**101**	P	**Pb**	**03 49 56.0**	**-0.5**
EVGI	**Lefkada island**	**1.22**	**4**	P	**Pn**	**03 49 58.1**	**0.0**
EVGI				S	**Sg**	**03 50 16.8**	**+2.3**
	comp=E,3μm,0.1s						
EVGI	**Lefkada island**	**1.22**	**4**	P	**Pn**	**03 49 57.8**	**-0.3**
EVGI				S	**Sb**	**03 50 12.9**	**-1.2**
KLV	**Kalavryta, Ach**	**1.42**	**63**	P	**Pb**	**03 50 02.2**	**+0.5**
KLV				S	**Sg**	**03 50 22.3**	**+1.4**
TSLK	**Tsoukalades, L**	**1.43**	**3**	P	**Pg**	**03 50 02.9**	**+0.4**
TSLK				S	**Sg**	**03 50 23.0**	**+2.0**
GUR	**Goura**	**1.52**	**69**	P	**Pb**	**03 50 03.7**	**+0.3**

*ISN **01** 04:00:01.5±0.6, 33°.04N×46°.21E, h16km±2km, ML3.2*
*TEH **01** 04:00:03.6, 33°.14N×46°.27E, h11km±37km, ML3.0*

ISC 01 04:00:02.6±0.9, 33°.06N±0°.04×46°.21E±0°.04, h10km, n17, σ0º72/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.24**	**283**	*e*Pg	**Pg**	**04 00 06.7**	**-0.8**
IBDR				*e*Sg	**Sg**	**04 00 11.0**	**+0.2**
IBDR				AML	AML	04 00 17.1	
	comp=N,6μm,0.8s						
IBDR				AML	AML	04 00 20.7	
	comp=E,3μm,0.5s						
ILBA	**Ilam Banvizeh**	**0.57**	**360**	Pg	**Pb**	**04 00 13.8**	**-0.9**
GLG1	**Gilan-e-Gharb**	**1.08**	**347**	Pg	**Pn**	**04 00 24.5**	**+0.6**
IGHG	**Ghaleghazi**	**1.31**	**13**	Pg

*PGC **01** 04:22:15.9±2.2, 48°.99N×129°.82W, h10km, mb4.9, MLSn3.9/27, Mw5.0, 256km southwest of Pt. Hardy, Bc Vancouver Island Region*
*IDC **01** 04:22:16.5±0.6, 49°.06N×129°.77W, h0km, mb4.5/18, mbtmp4.5/30, ML4.0/11, MS4.1/65, Error ellipse: s-maj=15.8km s-min=8.9km az=47.0*
*GCMT **01** 04:22:19.8±0.2, 49°.01N±0°.01×129°.70W±0°.02, h14km±1km, MW5.0/120, Moment Tensor Solution. s44, c55; s120, c184; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.62±.10; Mθθ=3.14±.09; Mφφ=3.77±.10; Mrθ=0.56±.20; Mθφ=-1.36±.08; Mφr=0.10±.17; Best double couple: M0=3.76800×10^16^ NP1:φs=125.00000°, δ82.00000°, λ=-172.00000°. NP2:φs=34.00000°, δ82.00000°, λ=-8.00000°. Principal axes: T 4.0280, Plg0.0000°, Azm259.0000°; N -0.5150, Plg79.0000°, Azm169.0000°; P -3.5090, Plg11.0000°, Azm349.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **01** 04:22:19.8±1.7, 49°.34N±0°.06×129°.3W±0°.1, h10km±1km, mb4.9/434, Mww4.9/63 Error ellipse: s-maj=13.1km s-min=9.2km az=232.0*
*NEIC **01** 04:22:20.5, 49°.10N×129°.55W, h12km, Moment Tensor Solution. Duration: 1±6 Moment tensor: Scale 10^16^Nm; Mrr=0.59; Mθθ=2.60; Mφφ=3.20; Mrθ=0.14; Mφθ=0.82; Mφr=0.40; Fault plane solution: M0=3.04000×10^16^ NP1: φs=217.02000°, δ=89.73000°, λ=7.51000°. NP2:φs=126.98000°, δ82.49000°, λ=179.72000°. Principal axes: T 3.3486, Plg5.0000°, Azm82.0000°; N -0.6120, Plg82.0000°, Azm219.0000°; P -2.7366, Plg5.0000°, Azm352.0000°;*
*NEIC **01** 04:22:20.5, 49°.30N×129°.40W, h12km*
ISC 01 04:22:17.9±0.3, 49°.06N±0°.04×129°.60W±0°.04, h10km, n697, σ1§65/495, mb4.9/154, MS4.1/56, 2C-8D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NCHR	**NEPTUNE Canada**	**1.14**	**162**	P	**Pb**	**04 22 35.2**	**-4.3**
NCHR				S	**Sb**	**04 22 48.3**	**-5.8**
KEMF	**NEPTUNE Canada**	**1.16**	**163**	P	Pb	04 22 34.7	-5.1
KEMF				S	**Sb**	**04 22 48.3**	**-6.5**
NC27	**ODP1027**	**1.78**	**136**	Pn	**Pn**	**04 22 45.3**	**-3.1**
NC27				Sn	**Sn**	**04 23 07.3**	**-3.7**
EDB	**Eliza Dome**	**1.81**	**62**	Pn	**Pn**	**04 22 47.0**	**-2.1**
EDB				Sn	**Sn**	**04 23 08.6**	**-3.5**
HOLB	**Holberg**	**1.85**	**30**		**Pn**	**04 22 47.3**	**-2.4**
HOLB	**Holberg**	**1.85**	**30**	Pn	**Pn**	**04 22 47.6**	**-2.0**
NC89	**ODP889**	**1.86**	**101**	Pn	**Pn**	**04 22 48.0**	**-1.6**
NC89				Sn	**Sn**	**04 23 11.6**	**-1.4**
PACB	**Port Alice, BC**	**1.94**	**44**	Pn	**Pn**	**04 22 48.7**	**-2.2**
PACB				Sn	**Sn**	**04 23 12.1**	**-3.3**
ETB	**Estevan Point**	**2.03**	**80**	Pn	**Pn**	**04 22 50.7**	**-1.4**
PHC	**Port Hardy**	**2.16**	**40**	Pn	**Pn**	**04 22 52.1**	**-1.9**
PHC				Sn	**Sn**	**04 23 17.9**	**-3.0**
NCBC	**Barkley Canyon**	**2.35**	**104**	Pn	**Pn**	**04 22 55.4**	**-1.1**
NCBC				Sn	**Sn**	**04 23 23.2**	**-2.1**
GDR	**Gold River**	**2.44**	**71**	Pn	**Pn**	**04 22 56.1**	**-1.6**
GDR				Sn	**Sn**	**04 23 26.1**	**-1.5**
NCSB	**Newcastle Ridg**	**2.66**	**58**	Pn	**Pn**	**04 23 00.1**	**-0.9**
NCSB				Sn	**Sn**	**04 23 30.1**	**-3.2**
B012	**Ucluelet**	**2.67**	**91**	Pn	**Pn**	**04 22 59.2**	**-1.8**
B012				Sn	**Sn**	**04 23 29.8**	**-3.6**
OZB	**Mount Ozzard**	**2.70**	**91**		**Pn**	**04 22 59.6**	**-1.9**
OZB	**Mount Ozzard**	**2.70**	**91**	Pn	**Pn**	**04 22 59.6**	**-1.9**
OZB				Sn	**Sn**	**04 23 30.6**	**-3.6**
CBB	**Campbell River**	**2.92**	**69**		**Pn**	**04 23 02.3**	**-2.2**
CBB	**Campbell River**	**2.92**	**69**	Pn	**Pn**	**04 23 03.7**	**-0.7**
BFSB	**Bamfield**	**2.95**	**93**	Pn	**Pn**	**04 23 02.8**	**-1.9**
BFSB				Sn	**Sn**	**04 23 36.5**	**-3.7**
B928	**Bamfield**	**2.95**	**93**	Pn	**Pn**	**04 23 02.9**	**-1.9**
B928				Sn	**Sn**	**04 23 36.2**	**-4.0**
B927	**Port Alberni**	**3.15**	**85**	Pn	**Pn**	**04 23 06.5**	**-1.0**
BBB	**Bella Bella**	**3.27**	**16**	Pn	**Pn**	**04 23 07.9**	**-1.3**
	20nm,0.3s,baz=216,slow=8.1,SNR=158						
BBB				Sn	**Sn**	**04 23 45.9**	**-2.2**
	67nm,0.3s,baz=312,slow=7.6,SNR=9.9						
BBB				LR	LR	04 24 24.5	
	comp=Z,3μm,18.7s,baz=209,slow=39 67nm,0.4s						
BBB	**Bella Bella**	**3.27**	**16**	Pn	**Pn**	**04 23 07.8**	**-1.3**
PFB	**Port Renfrew**	**3.44**	**96**	Pn	**Pn**	**04 23 10.4**	**-1.2**
PFB				Sn	**Sn**	**04 23 49.4**	**-3.1**
PTRF	**Port Renfrew**	**3.47**	**97**	Pn	**Pn**	**04 23 10.5**	**-1.4**
PTRF				Sn	**Sn**	**04 23 49.4**	**-3.6**
B926	**Mesachie Lake**	**3.61**	**92**	Pn	**Pn**	**04 23 12.3**	**-1.6**
CLRS	**Cowichan Lake**	**3.61**	**92**		**Pn**	**04 23 12.5**	**-1.4**
CLRS	**Cowichan Lake**	**3.61**	**92**	Pn	**Pn**	**04 23 12.4**	**-1.4**
NLLB	**Nanaimo Lost L**	**3.69**	**85**	Pn	**Pn**	**04 23 14.7**	**-0.2**
BAIB	**Barry Inlet**	**3.78**	**340**	Pn	**Pn**	**04 23 14.2**	**-2.1**
BNB	**Barry Inlet**	**3.78**	**340**	Pn	**Pn**	**04 23 14.2**	**-2.0**
SHB	**Sechelt**	**3.78**	**80**	Pn	**Pn**	**04 23 15.8**	**-0.5**
OBC	**Olympics--Boni**	**3.81**	**104**	Pn	**Pn**	**04 23 15.9**	**-0.7**
SYMB	**Survey Mountai**	**3.87**	**95**	Pn	**Pn**	**04 23 16.0**	**-1.5**
SYMB				Sn	**Sn**	**04 23 59.0**	**-3.9**
GOBB	**Galiano Island**	**4.01**	**89**	Pn	**Pn**	**04 23 19.4**	**+0.1**
STW	**Striped Peak**	**4.04**	**101**	Pn	**Pn**	**04 23 18.9**	**-0.8**
BUTB	**Butedale**	**4.07**	**10**	Pn	**Pn**	**04 23 19.0**	**-1.3**
BUTB				Sn	**Sn**	**04 24 03.6**	**-4.4**
B009	**North Saanich**	**4.08**	**93**	Pn	**Pn**	**04 23 19.6**	**-0.7**
B009				Sn	**Sn**	**04 24 05.7**	**-2.4**
B010	**North Saanich**	**4.08**	**93**	Pn	**Pn**	**04 23 19.5**	**-0.8**
PGC	**Sidney**	**4.08**	**93**		**Pn**	**04 23 19.6**	**-0.8**
PGC	**Sidney**	**4.08**	**93**	Pn	**Pn**	**04 23 19.5**	**-0.8**
PGC				Sn	**Sn**	**04 24 05.8**	**-2.2**
B011	**North Saanich**	**4.08**	**93**	Pn	**Pn**	**04 23 19.6**	**-0.7**
B011				Sn	**Sn**	**04 24 07.2**	**-0.8**
BIB	**Bowen Island**	**4.14**	**83**	Pn	**Pn**	**04 23 20.5**	**-0.6**
B04A	**Port Angeles**	**4.17**	**102**		**Pn**	**04 23 20.9**	**-0.6**
NLWA	**Neilton Lookou**	**4.18**	**111**		**Pn**	**04 23 21.6**	**-0.1**
VGZ	**Gonzales**	**4.20**	**96**	Pn	**Pn**	**04 23 21.0**	**-1.0**
SNB	**Saturna Island**	**4.25**	**91**	Pn	**Pn**	**04 23 22.2**	**-0.4**
WISH	**Wishkah**	**4.36**	**114**		**Pn**	**04 23 24.6**	**+0.5**
DIB	**Dawson Inlet,**	**4.53**	**337**		**Pn**	**04 23 25.4**	**-1.0**
GNW	**Green Mountain**	**4.76**	**106**		**Pn**	**04 23 29.8**	**+0.2**
GRNB	**Grenville Isla**	**4.80**	**357**		**Pn**	**04 23 28.8**	**-1.4**
LLLB	**Lillooet**	**5.23**	**70**		**Pn**	**04 23 36.7**	**+0.5**
RUBB	**Prince Rupert**	**5.29**	**356**		**Pn**	**04 23 35.9**	**-1.1**
D05A	**Enumclaw**	**5.43**	**107**		**Pn**	**04 23 40.9**	**+2.1**
LON	**Longmire**	**5.72**	**111**		**Pn**	**04 23 44.7**	**+1.8**
F04A	**Amboy**	**5.78**	**120**		**Pn**	**04 23 45.7**	**+2.0**
G03D	**McMinnville, O**	**5.79**	**129**		**Pn**	**04 23 46.1**	**+2.3**
COR	**Corvallis**	**6.22**	**134**		**Pn**	**04 23 52.7**	**+3.0**
V35K	**Ketchikan**	**6.40**	**350**	P	**Pn**	**04 23 51.2**	**-1.0**
	baz=166,SNR=7.1						
H04A	**Detroit Lake**	**6.70**	**128**		**Pn**	**04 23 59.2**	**+2.7**
CRAG	**Craig**	**6.77**	**343**	P	**Pn**	**04 23 56.4**	**-0.9**
	baz=158						
U35K	**Hyder**	**6.87**	**358**	P	**Pn**	**04 23 57.3**	**-1.4**
	baz=176						
U33K	**Whale Pass**	**7.38**	**344**	P	**Pn**	**04 24 05.8**	**+0.2**
	baz=160						
WRAK	**Wrangell Islan**	**7.56**	**348**	P	**Pn**	**04 24 08.5**	**+0.5**
	baz=165						
T35M	**Bob Quinn**	**7.95**	**357**	P	**Pn**	**04 24 14.3**	**+0.9**
	baz=176,SNR=10						
NEW	**Newport**	**8.30**	**91**	Pn	**Pn**	**04 24 18.7**	**+0.4**
	3.6nm,0.3s,baz=283,slow=13,SNR=43						
NEW				Sn	**Sn**	**04 25 57.1**	**+5.1**
	baz=292,slow=10,SNR=1.2						
NEW				LR	LR	04 27 32.1	
	comp=Z,5μm,18.9s,baz=260,slow=38 11nm,0.4s						
SIT	**Sitka**	**8.72**	**339**	P	**Pn**	**04 24 24.4**	**+0.5**
	baz=153						
YBH	**Yreka Blue Hor**	**8.78**	**144**	Pn	Pn	04 24 28.3	+3.4
	1.0nm,0.3s,baz=343,slow=13,SNR=102						
YBH				LR	LR	04 27 29.6	
	comp=Z,3μm,18.1s,baz=330,slow=35 73nm,0.9s						
S34M	**Telegraph Cree**	**8.92**	**355**	P	**Pn**	**04 24 27.1**	**+0.5**
	baz=172,SNR=9.1						
S32K	**Killisnoo**	**8.94**	**342**	P	**Pn**	**04 24 27.0**	**+0.1**
	baz=157						
DLBC	**Dease Lake**	**9.40**	**359**	Pn	**Pn**	**04 24 34.7**	**+1.4**
	0.4nm,0.3s,baz=190,slow=11,SNR=15						
DLBC				Sn	**Sn**	**04 26 21.3**	**+2.2**
	baz=235,slow=26						
DLBC				LR	LR	04 28 04.8	
	comp=Z,3μm,20.3s,baz=178,slow=37 6.6nm,0.8s						
DLBC	**Dease Lake**	**9.40**	**359**	P	**Pn**	**04 24 34.1**	**+0.7**
	baz=177,SNR=7.6						
JIS	**Juneau Island**	**9.66**	**345**	P	**Pn**	**04 24 39.0**	**+2.2**
R32K	**Eaglecrest**	**9.68**	**344**	P	**Pn**	**04 24 37.5**	**+0.4**
	baz=159						
S31K	**Pelican**	**9.75**	**339**	P	**Pn**	**04 24 37.9**	**-0.1**
	baz=152						
Q32M	**Nakina River**	**10.04**	**352**	P	**Pn**	**04 24 41.7**	**-0.6**
	baz=169						
O02D	**Mt. Diablo Mer**	**10.12**	**149**		Pn	04 24 48.8	+5.5
TOAD	**Toad River Com**	**10.14**	**13**	P	**Pn**	**04 24 44.4**	**+0.9**
	baz=196,SNR=26						
R33M	**Jennings River**	**10.39**	**356**	P	**Pn**	**04 24 47.2**	**+0.3**
	baz=174,SNR=24						
LIRD	**Liard River Hi**	**10.57**	**10**	P	**Pn**	**04 24 50.2**	**+0.9**
	baz=192,SNR=5.7						
MSO	**Missoula**	**10.74**	**96**		**Pn**	**04 24 51.4**	**-0.4**
P32M	**Atlin**	**10.82**	**349**	P	**Pn**	**04 24 53.7**	**+0.9**
	baz=164						
PLBC	**Pleasant Camp**	**11.14**	**342**	P	**Pn**	**04 24 57.7**	**+0.7**
	baz=155						
P33M	**Teslin, Yukon**	**11.33**	**352**	P	**Pn**	**04 24 59.5**	**-0.3**
	baz=168,SNR=6.8						
KOTAN	**Kotaneelee Air**	**11.54**	**14**	P	**Pn**	**04 25 01.1**	**-1.6**
	baz=198,SNR=15						
P29M	**Windy Craggy**	**11.60**	**339**	P	**Pn**	**04 25 04.0**	**+0.6**
	baz=151						
HLID	**Hailey**	**11.85**	**112**		**Pn**	**04 25 09.9**	**+2.9**
P30M	**Million Dollar**	**11.87**	**342**	P	**Pn**	**04 25 07.2**	**0.0**
	baz=155						
WHY	**Whitehorse**	**12.01**	**347**	P	**Pn**	**04 25 09.2**	**+0.1**
	baz=162,SNR=40						
PNL	**Peninsula**	**12.05**	**336**	P	**Pn**	**04 25 10.3**	**+0.7**
	baz=146						
PNL	**Peninsula**	**12.05**	**336**	P	**Pn**	**04 25 12.3**	**+2.7**
PNTR	**Pine Nut**	**12.28**	**141**		Pn	04 25 19.8	+6.9
N32M	**Quiet Lake**	**12.28**	**352**	P	**Pn**	**04 25 13.1**	**-0.4**
	baz=168						
O30N	**Mendenhall**	**12.31**	**345**	P	**Pn**	**04 25 13.6**	**+0.5**
	baz=159,SNR=26						
O29M	**Mount Kennedy**	**12.39**	**339**	P	**Pn**	**04 25 16.1**	**+1.8**
	baz=150,SNR=6.8						
HYT	**Haines Junctio**	**12.62**	**342**	P	**Pn**	**04 25 18.1**	**+0.6**
	baz=155,SNR=13						
PINM	**Pinnacle**	**12.65**	**335**	P	**Pn**	**04 25 18.6**	**+0.9**
	baz=145,SNR=7.3						
YUK6	**Outpost Mounta**	**12.91**	**341**	P	**Pn**	**04 25 23.3**	**+1.8**
	baz=152,SNR=7.0						
N31M	**Braeburn, Yuko**	**12.94**	**347**	P	**Pn**	**04 25 21.8**	**+0.1**
	baz=161,SNR=34						
ELK	**Elko**	**13.12**	**124**	Pn	P	04 25 29.4	-5.4
	3.8nm,0.8s,baz=316,slow=8.7,SNR=16						
N30M	**Aishikik Lake**	**13.13**	**344**	P	**Pn**	**04 25 26.2**	**+1.9**
	baz=157,SNR=31						
O28M	**Mount Upton**	**13.20**	**337**	P	**Pn**	**04 25 27.5**	**+2.1**
	baz=147,SNR=11						
MESA	**MESA**	**13.21**	**332**	P	**Pn**	**04 25 27.6**	**+2.0**
	baz=141						
YUK4	**Talbot Arm**	**13.33**	**341**	P	**Pn**	**04 25 29.9**	**+2.7**
	baz=153,SNR=8.4						
FARO	**Faro, Yukon**	**13.37**	**352**	P	**Pn**	**04 25 29.6**	**+2.1**
	baz=168,SNR=14						
NVAR	**Mina Array Bea**	**13.38**	**138**		P	04 25 32.7	-4.9
NVAR	**Mina Array Bea**	**13.38**	**138**	Pn	P	04 25 32.1	-5.5
	0.1nm,0.3s,baz=317,slow=11,SNR=44						
NVAR				LR	LR	04 30 27.5	
	comp=Z,2μm,18.0s,baz=320,slow=36 16nm,0.9s						
M31M	**Drury Creek, Y**	**13.44**	**350**	P	**Pn**	**04 25 31.0**	**+2.5**
	baz=166,SNR=19						
YUK8	**Steele Glacier**	**13.54**	**339**	P	**Pn**	**04 25 32.0**	**+2.0**
	baz=149,SNR=9.6						
BGLC	**Bering Glacier**	**13.59**	**330**	P	**Pn**	**04 25 31.3**	**+0.8**
	baz=138						
SAO	**San Andreas Ge**	**13.65**	**151**		**P**	**04 25 35.8**	**-4.6**
CTG	**Chitna Glacier**	**13.67**	**335**	P	**Pn**	**04 25 33.6**	**+1.8**
	baz=144,SNR=11						
KAIM	**Kayak Island**	**13.84**	**327**	P	**Pn**	**04 25 35.7**	**+1.8**
	baz=134						
CRQE	**Cirque**	**14.02**	**332**	P	**Pn**	**04 25 37.6**	**+1.1**
	baz=140,SNR=14						
MOOW	**Moose Ponds**	**14.04**	**105**		**P**	**04 25 41.7**	**-3.2**
M30M	**Minto, Yukon**	**14.12**	**346**	P	P	04 25 40.3	-5.3
	baz=159,SNR=32						
YUK3	**Moose Creek**	**14.13**	**338**	P	**Pn**	**04 25 39.7**	**+1.7**
	baz=149,SNR=23						
Q23K	**Middleton Isla**	**14.23**	**323**	P	**P**	**04 25 42.2**	**-4.4**
	baz=128						
M29M	**Somme Creek**	**14.29**	**343**		**Pn**	**04 25 40.8**	**+0.6**
M29M	**Somme Creek**	**14.29**	**343**	P	**Pn**	**04 25 41.9**	**+1.7**
	baz=155,SNR=56						
MCARA	**McCarthy VSAT**	**14.49**	**333**	P	P	04 25 44.4	-5.2
	baz=141						
WRGLY	**Wrigley**	**14.60**	**11**	P	**P**	**04 25 46.7**	**-4.0**
WRGLY	**Wrigley**	**14.60**	**11**	P	**Pn**	**04 25 44.9**	**+0.6**
	baz=196						
BMRM	**Bremner River**	**14.66**	**330**	P	**Pn**	**04 25 46.2**	**+0.9**
	baz=137,SNR=9.2						
R11B	**Troy Canyon, C**	**14.71**	**131**	P	**P**	**04 25 50.7**	**-1.7**
	baz=322,SNR=9.2						
BVCY	**Beaver Creek**	**14.78**	**339**	P	**Pn**	**04 25 47.2**	**+0.4**
	baz=149						
L29M	**L29M**	**14.85**	**345**		**P**	**04 25 49.9**	**-3.7**
L29M	**L29M**	**14.85**	**345**	P	**P**	**04 25 49.5**	**-4.1**
	baz=157,SNR=49						
M27K	**Edge Creek, AK**	**14.98**	**337**	P	**P**	**04 25 50.9**	**-4.2**
	baz=146,SNR=14						
P23K	**Montague Islan**	**15.00**	**324**	P	**P**	**04 25 51.7**	**-3.6**
	baz=128						
TCUT	**Toone Canyon**	**15.08**	**115**	IAmb	IAmb	04 25 58.4	
	comp=Z,78nm,1.9s						
N25K	**Chitina, Valde**	**15.14**	**332**	P	**P**	**04 25 52.5**	**-4.3**
	baz=138,SNR=13						
PDAR	**Pinedale Array**	**15.28**	**107**	P	**P**	**04 25 56.8**	**-2.0**
PDAR	**Pinedale Array**	**15.28**	**107**	Pn	**P**	**04 25 57.7**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=312,slow=13,SNR=33						
PDAR				LR	LR	04 32 01.3	
	comp=Z,957nm,19.9s,baz=289,slow=38 comp=Z,5.0nm,0.8s						
M26K	**Nabesna, AK**	**15.30**	**336**	P	**P**	**04 25 55.2**	**-3.5**
	baz=144,SNR=12						
K29M	**Barlow Dome**	**15.43**	**347**	IAmb	IAmb	04 25 59.6	
	comp=Z,119nm,1.5s						
K29M	**Barlow Dome**	**15.43**	**347**	P	**P**	**04 25 57.5**	**-2.7**
	baz=159,SNR=38						
GLI	**Glacier Island**	**15.46**	**327**	P	**P**	**04 25 57.0**	**-3.4**
	baz=131						
KLU	**Klutina**	**15.48**	**330**	P	**P**	**04 25 57.3**	**-3.4**
	baz=135,SNR=7.9						
L27K	**Beaver Creek,**	**15.56**	**339**	P	**P**	**04 25 57.8**	**-3.7**
	baz=148,SNR=16						
YKA	**Yellowknife Ar**	**15.82**	**26**	Pn	**Pn**	**04 25 59.4**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=222,slow=19,SNR=6.0						
YKA				LR	LR	04 32 32.6	
	comp=Z,738nm,18.4s,baz=189,slow=39 comp=Z,5.3nm,0.9s						
SEW	**Seward**	**15.89**	**322**	P	**P**	**04 26 02.9**	**-2.1**
	baz=124						
PWL	**Port Wells**	**15.91**	**325**	P	**P**	**04 26 02.7**	**-2.7**
	baz=129						
L26K	**Log Cabin Wild**	**15.91**	**337**	P	**P**	**04 26 02.8**	**-2.6**
	baz=144,SNR=11						
HARP	**HAARP**	**15.92**	**333**	P	**P**	**04 26 03.4**	**-2.1**
	baz=139						
DAWY	**Dawson**	**15.95**	**344**	P	**P**	**04 26 03.5**	**-2.3**
DAWY				IAmb	IAmb	04 26 06.1	
	comp=Z,193nm,1.8s						
DAWY	**Dawson**	**15.95**	**344**	P	**P**	**04 26 03.9**	**-1.9**
	baz=155,SNR=27						
J30M	**Hart River**	**15.97**	**349**	P	**P**	**04 26 04.3**	**-1.8**
	baz=163,SNR=41						
BCW	**Bitter Crk WRg**	**15.99**	**148**	IAmb	IAmb	04 26 14.1	
	comp=Z,126nm,1.6s						
M24K	**Tolsona, Glenn**	**16.01**	**331**	P	**P**	**04 26 04.4**	**-2.1**
	baz=136						
J29N	**Klondike Camp**	**16.11**	**346**	IAmb	IAmb	04 26 08.4	
	comp=Z,117nm,1.7s						
J29N	**Klondike Camp**	**16.11**	**346**	P	**P**	**04 26 06.0**	**-1.6**
	baz=158,SNR=9.2						
KDAK	**Kodiak Island**	**16.18**	**311**	Pn	**Pn**	**04 26 03.7**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=141,slow=9.1,SNR=4.3						
KDAK				LR	LR	04 30 35.3	
	comp=Z,804nm,21.5s,baz=138,slow=31 comp=Z,14nm,1.0s						
KDAK	**Kodiak Island**	**16.18**	**311**	P	**P**	**04 26 06.6**	**-1.7**
	baz=112						
SCM	**Sheep Creek Mo**	**16.20**	**329**	P	**P**	**04 26 07.3**	**-1.3**
	baz=133						
O22K	**Cooper Landing**	**16.22**	**322**	P	**P**	**04 26 07.9**	**-0.8**
	baz=125						
BRSE	**Bradley Lake S**	**16.23**	**319**	P	**P**	**04 26 07.8**	**-1.0**
	baz=121						
BRLK	**Bradley Lake**	**16.30**	**319**	P	**P**	**04 26 08.1**	**-1.6**
BRLK				IAmb	IAmb	04 26 16.1	
	comp=Z,78nm,1.0s						
M23K	**Glacier View**	**16.31**	**328**	P	**P**	**04 26 07.0**	**-2.7**
	baz=132						
CCAC	**Calif City Air**	**16.31**	**144**	IAmb	IAmb	04 26 17.5	
	comp=Z,128nm,1.5s						
KNK	**Knik Glacier**	**16.31**	**326**	IAmb	IAmb	04 26 14.3	
	comp=Z,69nm,1.2s						
KNK	**Knik Glacier**	**16.31**	**326**	P	**P**	**04 26 06.8**	**-3.0**
	baz=130						
OHAK	**Old Harbor**	**16.33**	**309**	P	**P**	**04 26 08.1**	**-1.8**
	baz=109						
OHAK	**Old Harbor**	**16.33**	**309**	P	**P**	**04 26 12.0**	**+2.1**
CNPM	**China Poot**	**16.33**	**318**	IAmb	IAmb	04 26 16.3	
	comp=Z,114nm,1.0s						
Q20K	**Shuyak Island**	**16.43**	**314**	P	**P**	**04 26 08.1**	**-2.9**
	baz=115						
PAX	**Paxson**	**16.45**	**334**	P	**P**	**04 26 10.1**	**-1.3**
	baz=140,SNR=9.7						
K27K	**Chicken**	**16.45**	**340**	P	**P**	**04 26 10.3**	**-1.1**
	baz=149						
SML	**Sawmill**	**16.53**	**328**	P	**P**	**04 26 09.9**	**-2.3**
	baz=131						
SZCU	**Shurtz Canyon**	**16.56**	**128**	IAmb	IAmb	04 26 20.2	
	comp=Z,131nm,1.9s						
HOM	**Homer**	**16.57**	**318**	P	**P**	**04 26 10.8**	**-1.9**
	baz=119						
RC01	**Rabbit Creek A**	**16.59**	**324**	P	**P**	**04 26 10.1**	**-2.7**
	baz=127						
SII	**Sitkinak Islan**	**16.59**	**306**	P	**P**	**04 26 12.0**	**-0.9**
	baz=106						
I30M	**Mount Dempster**	**16.60**	**350**	P	**P**	**04 26 13.1**	**0.0**
	baz=164,SNR=26						
Q16A	**Castle Valley**	**16.65**	**121**	IAmb	IAmb	04 26 21.8	
	comp=Z,73nm,1.2s						
GSC	**Goldstone, Bar**	**16.66**	**141**	IAmb	IAmb	04 26 22.5	
	comp=Z,79nm,1.2s						
PMR	**Palmer**	**16.67**	**326**	P	**P**	**04 26 12.5**	**-1.3**
	baz=129						
DGMT	**Dagmar**	**16.74**	**82**	IAmb	IAmb	04 26 19.6	
	comp=Z,96nm,1.1s						
SCRK	**Sand Creek**	**16.86**	**338**	P	**P**	**04 26 14.6**	**-1.4**
	baz=145,SNR=22						
WAT6	**Susitna Watana**	**16.86**	**330**	P	**P**	**04 26 14.5**	**-1.5**
	baz=134,SNR=13						
RIDG	**Independent Ri**	**16.89**	**336**	P	**P**	**04 26 15.5**	**-0.7**
	baz=143,SNR=11						
EGAK	**Eagle**	**16.93**	**343**	IAmb	IAmb	04 26 18.6	
	comp=Z,79nm,1.3s						
EGAK	**Eagle**	**16.93**	**343**	P	**P**	**04 26 16.5**	**0.0**
	baz=152,SNR=39						
H31M	**Peel River**	**16.98**	**353**	IAmb	IAmb	04 26 22.1	
	comp=Z,78nm,1.3s						
H31M	**Peel River**	**16.98**	**353**	P	**P**	**04 26 16.8**	**-0.4**
	baz=169,SNR=22						
I29M	**Ogilvie Camp,**	**16.98**	**347**	P	**P**	**04 26 17.5**	**+0.3**
	baz=159,SNR=9.9						
R18K	**Karluk**	**17.04**	**309**	P	**P**	**04 26 18.4**	**+0.6**
	baz=108						
DHY	**Denali Highway**	**17.10**	**332**	P	**P**	**04 26 18.2**	**-0.5**
	baz=136,SNR=15						
PASC	**Pasadena Art C**	**17.12**	**146**	IAmb	IAmb	04 26 25.7	
	comp=Z,280nm,1.9s						
M22K	**Willow**	**17.14**	**326**	IAmb	IAmb	04 26 22.9	
	comp=Z,73nm,1.2s						
M22K	**Willow**	**17.14**	**326**	P	**P**	**04 26 18.5**	**-0.4**
	baz=128						
Q19K	**Cape Douglas,**	**17.15**	**314**	P	**P**	**04 26 18.3**	**-0.8**
	baz=114						
CHIR	**Chirikof Islan**	**17.18**	**303**	P	**P**	**04 26 19.3**	**-0.1**
	baz=101						
K24K	**Donnelly Dome**	**17.19**	**335**	P	**P**	**04 26 20.1**	**+0.6**
	baz=141,SNR=8.1						
J26L	**Joseph Creek**	**17.20**	**339**	P	**P**	**04 26 18.6**	**-1.1**
	baz=147,SNR=35						
SUA	**Susitna One**	**17.20**	**324**	P	**P**	**04 26 19.5**	**-0.3**
	baz=126						
O20K	**Slope Mountain**	**17.21**	**319**	P	**P**	**04 26 19.1**	**-0.7**
	baz=119						
K22A	**Casper**	**17.27**	**103**	IAmb	IAmb	04 26 25.6	
	comp=Z,103nm,1.2s						
P19K	**Oil Pt**	**17.28**	**317**	P	**P**	**04 26 19.6**	**-1.0**
	baz=116						
WAT1	**Susitna Watana**	**17.30**	**330**	P	**P**	**04 26 20.0**	**-0.8**
	baz=133						
I28M	**Miner Creek**	**17.32**	**345**	P	**P**	**04 26 20.4**	**-0.6**
	baz=156,SNR=22						
CUT	**Chulitna**	**17.61**	**327**	P	**P**	**04 26 23.4**	**-0.7**
	baz=129						
N20K	**Mount Spurr**	**17.63**

	comp=Z,94nm,1.1s				
N19K	Bonanza Creek	18.38 319	P	P	04 26 33.7 +1.0
	baz=118,SNR=17				
CCB	Clear Creek Bu	18.41 335	IAmb	IAmb	04 26 36.2
	comp=Z,146nm,1.3s				
G29M	Pine Creek	18.42 349	IAmb	IAmb	04 26 38.0
	comp=Z,80nm,1.2s				
G29M	Pine Creek	18.42 349	P	Pn	04 26 34.6 +1.5
	baz=162				
PRP	Porcupine Dome	18.51 339	P	Pn	04 26 35.9 +1.6
	baz=145,SNR=27				
Q16K	King Salmon	18.51 312	P	Pn	04 26 35.3 +1.1
	baz=109				
BWN	Browne	18.54 332	IAmb	IAmb	04 26 37.1
	comp=Z,122nm,1.2s				
F31M	Tsiigehtchic	18.56 355	IAmb	IAmb	04 26 38.3
	comp=Z,206nm,1.4s				
F31M	Tsiigehtchic	18.56 355	P	Pn	04 26 36.0 +1.4
	baz=171,SNR=44				
N23A	Red Feather La	18.56 107	P	Pn	04 26 37.6 +2.3
	baz=305,SNR=27				
P17K	Kvichak River	18.59 313	P	Pn	04 26 35.8 +0.7
	baz=110,SNR=6.3				
COLA	College	18.59 335	P	Pn	04 26 36.7 +1.6
	baz=139				
COLA	College	18.59 335	P	Pn	04 26 36.5 +1.4
PPLA	Purkeypile	18.61 327	P	Pn	04 26 36.3 +0.8
	baz=127				
R16K	Pilot Point	18.64 308	P	Pn	04 26 38.2 +2.4
	baz=104				
POKR	Poker Plat Res	18.67 336	IAmb	IAmb	04 26 39.8
	comp=Z,120nm,1.5s				
POKR	Poker Plat Res	18.67 336	P	Pn	04 26 38.2 +2.1
	baz=140,SNR=9.9				
NEA2	Nenana	18.73 333	IAmb	IAmb	04 26 41.5
	comp=Z,182nm,2.0s				
NEA2	Nenana	18.73 333	P	Pn	04 26 37.7 +0.9
	baz=136,SNR=22				
CHGN	Chignik	18.81 304	P	Pn	04 26 40.0 +2.1
	baz=100				
G27K	Doyon Strip	18.85 345	IAmb	IAmb	04 26 45.4
	comp=Z,100nm,1.4s				
G27K	Doyon Strip	18.85 345	P	Pn	04 26 39.7 +1.4
	baz=154				
F30M	Barrier River	18.87 353	P	Pn	04 26 39.0 +0.5
	baz=167				
M19K	Big River Lodg	18.89 322	IAmb	IAmb	04 26 41.7
	comp=Z,69nm,1.2s				
M19K	Big River Lodg	18.89 322	P	Pn	04 26 39.6 +0.8
	baz=121				
CAST	Castle Rocks	18.90 328	P	Pn	04 26 39.3 +0.4
	baz=128,SNR=10				
N18K	Kilae Creek	18.93 318	P	Pn	04 26 40.2 +0.8
N18K			IAmb	IAmb	04 26 44.6
	comp=Z,118nm,1.1s				
N18K	Kilae Creek	18.93 318	P	Pn	04 26 40.1 +0.8
	baz=115,SNR=28				
BPAW	Bear Paw Mtn.	18.97 330	IAmb	IAmb	04 26 43.0
	comp=Z,139nm,1.7s				
BPAW	Bear Paw Mtn.	18.97 330	P	Pn	04 26 39.8 0.0
	baz=132,SNR=18				
SVW2	Sparrevohn	18.98 319	P	Pn	04 26 41.0 +1.0
L20K	Farewell, AK	19.00 324	P	Pn	04 26 39.6 -0.6
	baz=123,SNR=16				
O17K	Koliganek Bris	19.11 314	P	Pn	04 26 41.8 +0.3
	baz=111				
H25L	Birch Creek	19.20 340	P	Pn	04 26 41.9 -0.6
	baz=145,SNR=20				
L19K	White Mountain	19.22 323	IAmb	IAmb	04 26 56.6
	comp=Z,49nm,0.9s				
L19K	White Mountain	19.22 323	P	Pn	04 26 43.8 +1.0
	baz=121,SNR=17				
I23K	Minto, Yukon-K	19.22 334	IAmb	IAmb	04 26 46.3
	comp=Z,158nm,1.5s				
I23K	Minto, Yukon-K	19.22 334	P	Pn	04 26 43.5 +0.7
	baz=137,SNR=41				
CHUM	Lake Minchumin	19.27 329	P	Pn	04 26 43.2 -0.1
	baz=129,SNR=13				
CHNA	Chernabura Isl	19.27 299	P	Pn	04 26 42.0 -1.5
	baz=94				
M18K	Stony River	19.27 320	P	Pn	04 26 43.8 +0.4
	baz=118,SNR=15				
P16K	Nushagak River	19.28 312	P	Pn	04 26 45.0 +1.5
	baz=106				
F28M	Old Crow	19.32 348	P	Pn	04 26 44.7 +0.7
	baz=159,SNR=11				
YUH	Yuha Desert	19.33 143	IAmb	IAmb	04 26 52.3
	comp=Z,70nm,1.6s				
CBX	Cerro Bola	19.34 145	IAmb	IAmb	04 26 56.9
	comp=Z,62nm,1.0s				
H24K	Noodor Dome	19.35 337	P	Pn	04 26 45.0 +0.6
	baz=141,SNR=43				
MVCO	Mesa Verde	19.35 120	IAmb	IAmb	04 26 51.8
	comp=Z,51nm,0.8s				
G26K	Porcupine Rive	19.36 343	P	Pn	04 26 44.4 0.0
	baz=150				
INK	Inuvik	19.41 356	IAmb	IAmb	04 26 47.9
	comp=Z,106nm,1.4s				
INK	Inuvik	19.41 356	P	Pn	04 26 44.5 -0.5
	comp=Z,0.2nm,0.3s,baz=170,slow=12,SNR=36				
INK			LR	LR	04 34 17.8
	comp=Z,2µm,18.6s,baz=199,slow=37				
	comp=Z,39nm,1.1s				
INK	Inuvik	19.41 356	P	Pn	04 26 45.4 +0.5
	baz=172,SNR=45				
GLA	Glamis	19.43 140	IAmb	IAmb	04 26 55.9
	comp=Z,92nm,1.4s				
S14K	Fog Glacier	19.43 303	P	Pn	04 26 46.5 +1.1
	baz=98				
N17K	Nushagak Hills	19.45 317	IAmb	IAmb	04 26 52.2
	comp=Z,60nm,1.1s				
N17K	Nushagak Hills	19.45 317	P	Pn	04 26 45.8 +0.4
	baz=113,SNR=11				
O16K	Kokwok River B	19.52 313	P	Pn	04 26 46.1 -0.2
O16K			IAmb	IAmb	04 26 56.6
	comp=Z,66nm,1.1s				
O16K	Kokwok River B	19.52 313	P	Pn	04 26 47.7 +1.4
	baz=109				
MLY	Manley	19.54 333	IAmb	IAmb	04 26 56.6
	comp=Z,61nm,1.0s				
MLY	Manley	19.54 333	P	Pn	04 26 46.8 +0.2
	baz=134,SNR=37				
K20K	Telida	19.57 326	IAmb	IAmb	04 26 50.0
	comp=Z,168nm,1.6s				
K20K	Telida	19.57 326	P	Pn	04 26 47.3 +0.3
	baz=125,SNR=22				
G25K	Bearman Lake	19.68 340	P	Pn	04 26 48.1 0.0
	baz=146				
H23K	Yukon River	19.78 335	IAmb	IAmb	04 27 02.0
	comp=Z,81nm,1.4s				
H23K	Yukon River	19.78 335	P	Pn	04 26 49.9 +0.5
	baz=138				
E29M	Blow River	19.82 351	IAmb	IAmb	04 26 53.6
	comp=Z,103nm,1.3s				
E29M	Blow River	19.82 351	P	Pn	04 26 50.0 +0.1
	baz=163				
X16A	Lo Mia Camp, P	19.86 131	IAmb	IAmb	04 26 59.0
	comp=Z,177nm,2.0s				
ESJX	Sierra Juarez	19.89 144	P	Pn	04 26 54.7 +3.5
ESJX			IAmb	IAmb	04 27 01.3
	comp=Z,63nm,1.4s				
M17K	Holitna River	19.92 319	P	Pn	04 26 51.9 +0.7
	baz=115,SNR=16				
G24K	Hadweenzic Riv	19.94 339	P	Pn	04 26 50.3 -1.0
	baz=143				
S22A	4UR Ranch, Cre	19.96 116	P	Pn	04 26 53.7 +1.6
	baz=313,SNR=32				
L18K	Granite Mounta	19.98 321	IAmb	IAmb	04 26 55.9
	comp=Z,133nm,1.4s				
L18K	Granite Mounta	19.98 321	P	Pn	04 26 51.6 -0.3
	baz=118,SNR=23				
I21K	Tanana	20.02 332	IAmb	IAmb	04 26 55.6
	comp=Z,72nm,1.1s				
I21K	Tanana	20.02 332	P	Pn	04 26 52.1 -0.2
	baz=132				
TTA	Tatalina	20.07 324	P	Pn	04 26 53.7 +0.8
	baz=121,SNR=37				
TTA	Tatalina	20.07 324	P	Pn	04 26 54.0 +1.0
F26K	Sheenjek River	20.08 344	IAmb	IAmb	04 26 57.1
	comp=Z,46nm,1.2s				
F26K	Sheenjek River	20.08 344	P	Pn	04 26 53.3 +0.3
	baz=151				
J20K	Nowinta River	20.09 328	IAmb	IAmb	04 26 59.3
	comp=Z,112nm,1.4s				
J20K	Nowinta River	20.09 328	P	Pn	04 26 53.9 +0.9
	baz=127,SNR=25				
E27K	Coleen River	20.10 347	IAmb	IAmb	04 26 56.7
	comp=Z,62nm,1.5s				
E27K	Coleen River	20.10 347	P	Pn	04 26 53.2 -0.1
	baz=156				
N16K	Nishlik Lake	20.15 315	P	Pn	04 26 53.4 -0.5
	baz=111,SNR=8.4				
Q24A	Divide	20.19 111	IAmb	IAmb	04 27 01.0
	comp=Z,107nm,1.9s				
Q24A	Divide	20.19 111	P	Pn	04 26 55.8 +1.0
	baz=309,SNR=10				
E28M	Babbage River	20.21 349	IAmb	IAmb	04 26 59.5
	comp=Z,36nm,0.9s				
E28M	Babbage River	20.21 349	P	Pn	04 26 54.6 0.0
	baz=160				
O15K	Ungalikthiuk R	20.23 311	P	Pn	04 26 55.5 +0.7
	baz=106				
F25K	Christian Rive	20.28 342	IAmb	IAmb	04 26 59.7
	comp=Z,81nm,1.4s				
F25K	Christian Rive	20.28 342	P	Pn	04 26 55.6 +0.2
	baz=148				
H22K	Ishtalitna Cre	20.34 334	P	Pn	04 26 55.4 -0.7
	baz=135,SNR=23				
M16K	Timber Creek	20.44 317	P	Pn	04 26 56.9 -0.4
	baz=112,SNR=14				
VTX	Valle De La Tr	20.50 144	IAmb	IAmb	04 27 06.1
	comp=Z,172nm,1.9s				
J19K	Poorman	20.50 326	P	Pn	04 26 55.3 -2.7
J19K			IAmb	IAmb	04 27 01.1
	comp=Z,82nm,1.1s				
J19K	Poorman	20.50 326	P	Pn	04 26 58.1 +0.1
	baz=124,SNR=22				
C36M	Paulatuk	20.53 6	P	P	04 26 55.7 -0.3
C36M			IAmb	IAmb	04 27 00.4
	comp=Z,50nm,1.4s				
C36M	Paulatuk	20.53 6	P	Pn	04 26 56.2 -1.9
	baz=190				
G23K	Bananza Creek	20.58 337	P	Pn	04 26 58.7 -0.2
	baz=139				
I20K	Naaghedeneel	20.58 329	P	Pn	04 26 57.8 -1.0
	baz=127				
H21K	Melozitna Rive	20.60 332	IAmb	IAmb	04 27 02.2
	comp=Z,55nm,1.1s				
H21K	Melozitna Rive	20.60 332	P	Pn	04 26 58.2 -1.0
	baz=132,SNR=28				
L17K	Donlin	20.61 320	P	Pn	04 26 57.3 -2.0
	baz=116,SNR=12				
J18K	Innoko River	20.62 324	P	Pn	04 26 58.1 -1.3
	baz=121,SNR=32				
N15K	Kwethluk River	20.66 314	P	Pn	04 27 01.6 +1.8
N15K	Kwethluk River	20.66 314	P	Pn	04 26 58.2 -1.7
	baz=108				
F24K	Squaw Lake	20.70 340	IAmb	IAmb	04 27 14.1
	comp=Z,40nm,1.0s				
F24K	Squaw Lake	20.70 340	P	Pn	04 26 58.2 -2.1
	baz=144				
E25K	Arctic Village	20.72 343	IAmb	IAmb	04 27 10.2
	comp=Z,65nm,1.4s				
E25K	Arctic Village	20.72 343	P	Pn	04 26 58.8 -1.7
	baz=149,SNR=13				
S12K	Black Hills	20.76 301	IAmb	IAmb	04 27 05.0
	comp=Z,94nm,1.0s				
S12K	Black Hills	20.76 301	P	Pn	04 26 58.2 -2.8
	baz=94				
D28M	Stokes Point	20.82 351	P	Pn	04 27 00.2 -1.4
	baz=162				
K17K	Iditarod	20.88 322	P	Pn	04 27 01.0 -1.4
K17K	Iditarod	20.88 322	P	Pn	04 27 01.0 -1.3
	baz=117,SNR=26				
L16K	Owhat River	20.94 318	P	Pn	04 27 03.7 +0.6
	baz=113				
O14K	Tigyukauivet M	20.96 311	P	Pn	04 27 03.7 +0.4
	baz=104				
D27M	Malcolm River	21.00 349	IAmb	IAmb	04 27 08.0
	comp=Z,98nm,1.4s				
D27M	Malcolm River	21.00 349	P	P	04 27 01.7 +0.6
	baz=158				
COLD	Coldfoot	21.02 338	P	P	04 27 02.9 +1.6
	baz=139,SNR=25				
IMAR	Indian Mountai	21.11 332	P	P	04 27 02.6 +0.3
M15K	Kasigluk River	21.11 315	P	P	04 27 04.2 +1.9
	baz=109,SNR=21				
G22K	Bettles	21.13 336	P	P	04 27 04.0 +1.6
	baz=136				
H20K	Anotleneega Mo	21.15 330	P	P	04 27 03.7 +0.9
	baz=128,SNR=9.5				
E24K	Your Creek	21.28 340	IAmb	IAmb	04 27 21.9
	comp=Z,62nm,1.2s				
E24K	Your Creek	21.28 340	P	P	04 27 04.8 +0.6
	baz=144				
N14K	Kuskokwak Cree	21.35 313	P	P	04 27 06.0 +1.1
	baz=106				
GCSA	Galena City Sc	21.38 327	P	P	04 27 06.1 +0.8
	baz=124				
G21K	Allakaket	21.40 334	IAmb	IAmb	04 27 14.3
	comp=Z,43nm,1.1s				
G21K	Allakaket	21.40 334	P	P	04 27 05.7 +0.3
	baz=132				
SUSD	Miller	21.41 91	IAmb	IAmb	04 27 11.4
	comp=Z,117nm,1.3s				
FALS	False Pass	21.48 299	P	P	04 27 07.3 +0.9
	baz=91				
J17K	VABM Dome	21.51 323	IAmb	IAmb	04 27 23.2
	comp=Z,95nm,1.1s				
J17K	VABM Dome	21.51 323	P	P	04 27 07.1 +0.4
	baz=117				
E23K	Chandalar	21.52 339	IAmb	IAmb	04 27 24.5
	comp=Z,70nm,1.2s				
E23K	Chandalar	21.52 339	P	P	04 27 08.4 +1.5
	baz=142,SNR=14				
H19K	Roundabout Mou	21.69 329	P	P	04 27 09.4 +0.9
	baz=126,SNR=7.8				
M14K	Bethel	21.72 315	P	P	04 27 10.1 +1.2
M14K	Bethel	21.72 315	P	P	04 27 09.9 +1.0
	baz=107				
C27K	Jago River	21.73 347	IAmb	IAmb	04 27 22.5
	comp=Z,70nm,1.4s				
C27K	Jago River	21.73 347	P	P	04 27 09.3 +0.3
	baz=154				
F22K	John River	21.74 336	P	P	04 27 08.6 -0.5
	baz=136				
ULM	Lac du Bonnet	21.76 74	P	P	04 27 09.9 +0.4
ULM	Lac du Bonnet	21.76 74	P	P	04 27 10.5 +1.0
	comp=Z,137nm,0.9s,baz=281,slow=11,SNR=49				
ULM			LR	LR	04 35 47.2
	comp=Z,2µm,19.4s,baz=280,slow=37				
	comp=Z,137nm,0.9s				
T25A	Trinidad	21.80 114	P	P	04 27 12.7 +2.5
T25A	Trinidad	21.80 114	P	P	04 27 13.3 +3.1
	baz=312,SNR=29				
L15K	Ungalak Mounta	21.82 317	P	P	04 27 12.5 +2.5
	baz=110,SNR=15				
F21K	Alatna River	21.88 335	IAmb	IAmb	04 27 24.1
	comp=Z,53nm,1.1s				
F21K	Alatna River	21.88 335	P	P	04 27 11.6 +0.9
	baz=134				
TUC	Tucson	21.89 133	P	P	04 27 13.8 +2.7
TUC			IAmb	IAmb	04 27 19.9
	comp=Z,46nm,1.1s				
D25K	Kavik River	21.91 344	P	P	04 27 12.1 +1.1
	baz=149				
TOLK	Toolik Lake Re	21.98 340	IAmb	IAmb	04 27 19.3
	comp=Z,92nm,1.4s				
TOLK	Toolik Lake Re	21.98 340	P	P	04 27 12.4 +0.6
	baz=142,SNR=14				
K15K	Wolf Creek Mou	22.06 319	P	P	04 27 12.8 +0.2
	baz=111				
J16K	Anvik River	22.07 322	IAmb	IAmb	04 27 26.3
	comp=Z,80nm,1.3s				
J16K	Anvik River	22.07 322	P	P	04 27 13.1 +0.4
	baz=115				
E22K	Anaktuvuk Pass	22.11 338	IAmb	IAmb	04 27 25.6
	comp=Z,74nm,1.7s				
E22K	Anaktuvuk Pass	22.11 338	P	P	04 27 13.6 +0.5
	baz=138				
ANMO	Albuquerque	22.12 121	P	P	04 27 16.4 +2.7
ANMO			IAmb	IAmb	04 27 24.0
	comp=Z,31nm,0.8s				
ANMO	Albuquerque	22.12 121	LR	LR	04 35 28.6
	comp=Z,131nm,21.9s,baz=116,slow=36				
H18K	Honhosa River	22.14 327	P	P	04 27 14.1 +0.7
	baz=122				
C26K	Camden Bay	22.18 346	P	P	04 27 13.2 -0.6
	baz=152				
AGMN	Agassiz Nation	22.19 79	P	P	04 27 14.8 +0.7
D24K	Happy Valley	22.24 342	P	P	04 27 13.8 -0.6
	baz=144				
L14K	Kuka Creek	22.24 316	P	P	04 27 16.6 +2.2
L14K	Kuka Creek	22.24 316	P	P	04 27 15.1 +0.6
	baz=108,SNR=7.7				
G19K	Purcell Mounta	22.27 330	IAmb	IAmb	04 27 21.8
	comp=Z,138nm,1.8s				
G19K	Purcell Mounta	22.27 330	P	P	04 27 14.8 0.0
	baz=126				
M13K	Dall Lake	22.28 313	P	P	04 27 16.8 +1.9
	baz=105				
I17K	Unalakleet	22.38 323	P	P	04 27 17.8 +1.8
	baz=116				
F20K	Avaraart Lake	22.41 333	IAmb	IAmb	04 27 38.0
	comp=Z,36nm,1.1s				
F20K	Avaraart Lake	22.41 333	P	P	04 27 17.4 +1.1
	baz=130				
D23K	Nanushuk River	22.48 340	P	P	04 27 18.4 +1.3
	baz=141				
Y22D	IRIS PASSCAL I	22.51 123	P	P	04 27 21.8 +4.1
	baz=319				
H17K	Granite Mounta	22.58 326	P	P	04 27 18.7 +0.5
	baz=120				
G18K	Tagagawik	22.65 329	IAmb	IAmb	04 27 34.0
	comp=Z,123nm,2.0s				
G18K	Tagagawik	22.65 329	P	P	04 27 19.2 +0.3
	baz=123				
C24K	Franklin Bluff	22.68 343	IAmb	IAmb	04 27 28.0
	comp=Z,36nm,0.9s				
C24K	Franklin Bluff	22.68 343	P	P	04 27 19.8 +0.7
	baz=146				
E21K	Killik River	22.88 337	P	P	04 27 21.8 +0.5
	baz=135				
D22K	Ayikyak River	22.88 339	P	P	04 27 22.6 +1.3
	baz=138				
F19K	Shaleruckik Mo	22.91 331	IAmb	IAmb	04 27 36.6
	comp=Z,32nm,1.2s				
F19K	Shaleruckik Mo	22.91 331	P	P	04 27 23.3 +1.9
	baz=126				
A36M	Sachs Harbour	23.09 3	P	P	04 27 24.4 +1.1
A36M			IAmb	IAmb	04 27 39.4
	comp=Z,31nm,0.8s				
A36M	Sachs Harbour	23.09 3	P	P	04 27 24.6 +1.3
	baz=187,SNR=13				
J14K	Nanvaranak Lak	23.10 319	P	P	04 27 25.0 +1.5
	baz=110				
E19K	Redstone River	23.12 333	P	P	04 27 25.1 +1.3
	baz=128				
G17K	Kiwalik Mounta	23.14 327	P	P	04 27 24.0 +0.1
	baz=120				
C23K	Itkillik River	23.16 342	P	P	04 27 25.0 +0.9
	baz=143				
121A	Cookes Peak, D	23.22 127	IAmb	IAmb	04 27 33.0
	comp=Z,54nm,1.1s				
121A	Cookes Peak, D	23.22 127	P	P	04 27 28.9 +3.7
	baz=323,SNR=22				
ECSD	EROS Data Cent	23.24 91	P	P	04 27 25.9 +0.7
ECSD			IAmb	IAmb	04 27 29.2
	comp=Z,93nm,1.5s				
UNV	Unalaska Valle	23.31 296	P	P	04 27 27.2 +1.5
	baz=86				
H16K	Elim	23.32 324	P	P	04 27 25.7 0.0
	baz=116				
K13K	Kusilvak Mount	23.32 317	IAmb	IAmb	04 27 49.5
	comp=Z,58nm,1.4s				
K13K	Kusilvak Mount	23.32 317	P	P	04 27 27.0 +1.2
	baz=107				
E20K	Nigu River	23.35 335	P	P	04 27 26.3 +0.2
	baz=131				
F18K	Selawik	23.38 330	P	P	04 27 27.2 +0.9
	baz=123				
C21K	Knifeblade Rid	23.60 338	P	P	04 27 30.0 +1.5
	baz=135				
M11K	Mekoryuk	23.65 312	P	P	04 27 30.3 +1.2
	baz=101				
CBKS	Cedar Bluff	23.67 104	P	P	04 27 32.0 +2.4
G16K	Koyuk River	23.71 326	P	P	04 27 30.5 +0.9
	baz=117				
D20K	Etivluk River	23.77 336	P	P	04 27 30.6 +0.4
	baz=132				
F17K	Baldwin Pennin	23.83 329	P	P	04 27 31.2 +0.5
	baz=121				
B21K	Ikpikpuk River	23.90 339	P	P	04 27 32.1 +0.8
	baz=136				
D19K	Kuna River	24.04 334	P	P	04 27 33.2 +0.4
	baz=129				
E18K	Tukpahlearik C	24.15 331	P	P	04 27 34.0 +0.2
	baz=124				
B22K	Teshekpuk Lake	24.16 340	P	P	04 27 33.5 -0.3
	baz=139				
G15K	Niukluk	24.17 324	P	P	04 27 34.9 +0.9
	baz=114				
E17K	Hotham Inlet	24.36 330	P	P	04 27 37.3 +1.6
	baz=121				
ANM	Nome	24.52 323	P	P	04 27 38.0 +0.8
	baz=112				
R32A	Long Quarter,	24.56 104	IAmb	IAmb	04 27 48.2
	comp=Z,54nm,1.4s				
F15K	North Star Dit	24.70 325	P	P	04 27 39.7 +0.9
	baz=115				
B20K	Meade River	24.80 338	P	P	04 27 41.1 +1.5
	baz=133				
MSTX	Muleshoe	24.94 117	IAmb	IAmb	04 27 49.2
	comp=Z,37nm,0.9s				
EYMN	Ely	25.10 78	P	P	04 27 44.4 +1.8
I37A	Lemond, Waseca	25.24 88	IAmb	IAmb	04 28 03.5
	comp=Z,39nm,1.0s				
E38A	The Farm, Brul	25.48 81	IAmb	IAmb	04 28 13.6
	comp=Z,38nm,1.1s				
ELIS	Ellis County	25.55 109	IAmb	IAmb	04 28 09.3
	comp=Z,30nm,1.0s				
KAN14	Manchester OK	25.91 106	IAmb	IAmb	04 28 00.4
	comp=Z,14nm,0.9s				
KAN17	Caldwell West	25.98 106	IAmb	IAmb	04 28 26.9
	comp=Z,29nm,1.2s				
KAN09	Caldwell North	26.02 105	IAmb	IAmb	04 27 56.7
	comp=Z,65nm,1.7s				
VHRN	Van Horn	26.07 125	IAmb	IAmb	04 28 00.7
	comp=Z,28nm,1.0s				
KAN13	South Haven SW	26.18 105	IAmb	IAmb	04 27 59.0
	comp=Z,12nm,0.7s				
PECS	Pecos	26.23 123	IAmb	IAmb	04 28 00.9
	comp=Z,28nm,1.3s				
SCIA	State Center	26.30 92	IAmb	IAmb	04 28 12.5
	comp=Z,32nm,0.8s				
POST	Post	26.33 117	IAmb	IAmb	04 28 00.5
	comp=Z,16nm,0.9s				
SN07	Snyder 07	26.67 116	IAmb	IAmb	04 28 05.0
	comp=Z,28nm,0.8s				
WMOK	Wichita Mounta	26.81 111	IAmb	IAmb	04 28 06.7
	comp=Z,21nm,1.1s				
SN05	Snyder 5	26.82 116	IAmb	IAmb	04 28 24.1
	comp=Z,16nm,1.0s				
G40A	Rib Lake	26.84 83	IAmb	IAmb	04 28 17.8
	comp=Z,57nm,1.5s				
T35A	Sooner Cattle	26.85 104	IAmb	IAmb	04 28 07.0
	comp=Z,25nm,0.9s				
OK048	Pawnee Station	26.89 106	IAmb	IAmb	04 28 02.1
	comp=Z,40nm,1.3s				
APMT	Aspermont	26.96 115	IAmb	IAmb	04 28 07.5
	comp=Z,18nm,1.0s				
ALPN	Alpine	27.12 124	IAmb	IAmb	04 28 10.5
	comp=Z,47nm,1.7s				
QUOK	Quay	27.19 106	IAmb	IAmb	04 28 04.8
	comp=Z,50nm,1.4s				
COWI	Conover	27.23 81	IAmb	IAmb	04 28 17.4
	comp=Z,23nm,0.8s				
OK052	Battle Ridge R	27.24 106	IAmb	IAmb	04 28 08.3
	comp=Z,32nm,0.9s				
P38A	Dawn	27.24 97	IAmb	IAmb	04 28 05.3
	comp=Z,42nm,1.3s				
OK031	S. Brethren Rd	27.24 106	IAmb	IAmb	04 28 08.3
	comp=Z,29nm,0.9s				
FNO	Franklin	27.33 108	IAmb	IAmb	04 28 10.5
	comp=Z,39nm,1.1s				
SGCY	Sterling City	27.38 118	IAmb	IAmb	04 28 11.1
	comp=Z,14nm,0.8s				
DEOK	Depew	27.52 106	IAmb	IAmb	04 28 17.5
	comp=Z,27nm,1.0s				
WTFS	Witchita Falls	27.66 112	IAmb	IAmb	04 28 12.1
	comp=Z,51nm,1.5s				
ABTX	Abilene, Hawle	27.74 115	IAmb	IAmb	04 28 09.7
	comp=Z,26nm,1.4s				
JFWS	Jewell Farm	27.79 88	IAmb	IAmb	04 28 20.5
	comp=Z,28nm,0.8s				
TX31	Lajitas Ar. Si	27.91 125	IAmb	IAmb	04 28 17.2
	comp=Z,20nm,1.2s				
TXAR	Lajitas Array	27.91 125	P	P	04 28 09.2 +1.0
	comp=Z,2.6nm,0.8s,baz=322,slow=7.9,SNR=19				
	comp=Z,2.6nm,0.8s				
TUL3	Leonard	27.93 105	IAmb	IAmb	04 28 14.6
	comp=Z,16nm,0.8s				
OZNA	Ozona	28.11 120	P	P	04 28 14.0 +4.1
P40A	Paris	28.26 95	IAmb	IAmb	04 28 47.9

comp=Z,33nm,1.2s
S39A Bolivar 28.45 100 IAmb IAmb 04 28 15.9
comp=Z,45nm,1.5s
U38A Gravette 28.50 103 IAmb IAmb 04 28 16.7
comp=Z,46nm,1.6s
Z35A Perchaven, San 28.70 111 IAmb IAmb 04 28 21.1
comp=Z,33nm,1.0s
FW06 Azle 28.75 112 IAmb IAmb 04 28 21.1
comp=Z,15nm,0.8s
R40A Maddies Statio 28.79 98 IAmb IAmb 04 28 46.0
comp=Z,14nm,1.0s
X37A Clayton 29.03 107 IAmb IAmb 04 28 41.3
comp=Z,32nm,1.3s
LPIG La Paz 29.16 142 LR LR 04 38 54.3
comp=Z,305nm,19.0s,baz=332,slow=34
CCM Cathedral Cave 29.59 97 P **P 04 28 24.1 +1.1**
CCM IAmb IAmb 04 28 53.0
comp=Z,19nm,1.1s
L44A Lake County Fo 29.66 87 P **P 04 28 23.5 0.0**
baz=298
FVM French Village 30.17 97 IAmb IAmb 04 28 50.5
comp=Z,12nm,1.0s
HNDO Hondo 30.21 119 IAmb IAmb 04 28 33.7
comp=Z,39nm,1.7s
E46A Sault Ste Mari 30.25 78 IAmb IAmb 04 28 40.1
comp=Z,31nm,1.1s
FCAR Ozark Folk Cen 30.29 102 IAmb IAmb 04 28 35.1
comp=Z,17nm,0.8s
WHAR Wooly Hollow 30.55 103 IAmb IAmb 04 28 37.1
comp=Z,17nm,0.9s
L46A Eue Claire 30.80 87 IAmb IAmb 04 28 36.4
comp=Z,15nm,0.6s
LCAR Lake Charles 30.80 100 IAmb IAmb 04 28 36.2
comp=Z,37nm,1.3s
PBMO Poplar Bluff 30.86 99 IAmb IAmb 04 29 18.8
comp=Z,51nm,2.0s
833A Chaparral WMA, 31.05 121 P **P 04 28 37.4 +1.5**
baz=321,SNR=5.6
CGM3 Cape Girardeau 31.06 97 IAmb IAmb 04 28 38.1
comp=Z,30nm,1.5s
SFIN Lafayette 31.07 90 IAmb IAmb 04 28 47.2
comp=Z,19nm,0.8s
S44A Carbondale 31.09 96 IAmb IAmb 04 28 45.2
comp=Z,21nm,0.8s
P46A Rosedale 31.39 91 IAmb IAmb 04 28 49.9
comp=Z,14nm,0.8s
BLO Bloomington 32.08 91 P **P 04 28 44.2 -0.6**
BLO IAmb IAmb 04 28 52.7
comp=Z,12nm,0.7s
AAM Ann Arbor 32.39 84 P **P 04 28 46.4 -1.2**
AAM IAmb IAmb 04 28 55.7
comp=Z,17nm,0.7s
O48B Farmland 32.41 89 P **P 04 28 47.8 +0.1**
O48B Farmland 32.41 89 P **P 04 28 48.4 +0.7**
baz=301,SNR=13
HBVL Hebbronville 32.43 121 P **P 04 28 49.3 +1.2**
P48A Milroy 32.65 90 P **P 04 28 50.4 +0.5**
N49A Columbus Grove 32.71 87 P **P 04 28 49.9 -0.5**
N49A IAmb IAmb 04 28 52.8
comp=Z,27nm,1.2s
WCI Wyandotte Cave 32.74 93 P **P 04 28 50.8 +0.1**
WCI IAmb IAmb 04 29 01.6
comp=Z,12nm,0.7s
K50A Casco 32.85 83 P **P 04 28 51.2 -0.4**
T47A Sharon Grove 32.90 95 P **P 04 28 52.2 +0.1**
T47A IAmb IAmb 04 28 54.5
comp=Z,25nm,1.4s
WVT Waverly 32.93 97 P **P 04 28 53.6 +1.3**
WVT IAmb IAmb 04 28 55.0
comp=Z,29nm,1.4s
O49A Covington 32.98 88 P **P 04 28 52.3 -0.5**
O49A IAmb IAmb 04 29 00.3
comp=Z,12nm,0.8s
P49A Miami Univ. Ec 33.07 90 P **P 04 28 53.1 -0.4**
P49A IAmb IAmb 04 29 04.4
comp=Z,21nm,1.0s
P49A Miami Univ. Ec 33.07 90 P **P 04 28 53.7 +0.1**
baz=302,SNR=5.5
Y45A Yeager Farm, C 33.20 102 P **P 04 28 54.2 -0.6**
M50A Fremont 33.23 85 P **P 04 28 55.1 +0.2**
R49A Shelbyville 33.44 92 P **P 04 28 55.8 -1.0**
R49A IAmb IAmb 04 28 59.5
comp=Z,40nm,1.6s
PLAL Pickwick Lake 33.46 99 P **P 04 28 56.9 -0.1**
V48A Smith Brothers 33.82 97 P **P 04 29 00.8 +0.7**
ZAIG Zacatecas 33.83 131 P **P 04 29 01.5 +0.8**
ACSO Alum Creek Sta 33.85 87 P **P 04 28 58.8 -1.6**
N51A Ashland 33.90 86 P **P 04 28 60.0 -0.8**
CLTN Cedars of Leba 33.93 96 P **P 04 28 60.0 -1.1**
CLTN IAmb IAmb 04 29 08.7
comp=Z,43nm,2.0s
VLDQ Val d'Or 33.95 71 P **P 04 28 58.5 -2.6**
VLDQ IAmb IAmb 04 29 18.2
comp=Z,19nm,1.2s
R50A Paris 34.00 91 P **P 04 29 01.1 -0.6**
SADO Sadowa 34.21 78 P **P 04 29 02.6 -0.8**
SADO IAmb IAmb 04 29 13.5
comp=Z,28nm,1.4s
EUNU Eureka 34.40 12 P **P 04 29 04.0 -0.8**
EUNU IAmb IAmb 04 29 32.9
comp=Z,25nm,1.6s
X48A Hartselle 34.45 99 P **P 04 29 05.5 -0.2**
X48A IAmb IAmb 04 29 11.0
comp=Z,12nm,0.7s
SSFO Shawnee State 34.52 90 P **P 04 29 05.5 -0.7**
SWET Sewanee 34.71 97 P **P 04 29 08.3 +0.4**
SWET IAmb IAmb 04 29 09.5
comp=Z,17nm,1.4s
S51A Beattyville 34.84 92 P **P 04 29 09.0 +0.1**
SHEM Shemya Is, Ala 34.93 298 LR LR 04 40 04.6
comp=Z,183nm,21.2s,baz=87,slow=31
N53A Lisbon 34.97 85 P **P 04 29 10.4 +0.4**
N53A IAmb IAmb 04 29 17.7
comp=Z,20nm,0.8s
Q52A Bidwell 34.99 89 P **P 04 29 09.7 -0.5**
Q52A IAmb IAmb 04 29 17.1
comp=Z,11nm,0.8s
W50A Signal Mountai 35.13 96 P **P 04 29 11.3 -0.2**
W50A IAmb IAmb 04 29 19.3
comp=Z,11nm,0.8s
Y49A Blount Mountai 35.23 99 P **P 04 29 12.8 +0.4**
Y49A IAmb IAmb 04 29 21.4
comp=Z,11nm,0.9s
P53A Whipple 35.29 87 P **P 04 29 12.7 0.0**
P53A IAmb IAmb 04 29 15.0
comp=Z,27nm,1.2s
FRB Frobisher Bay 35.29 42 LR LR 04 43 54.3
comp=Z,425nm,18.4s,baz=276,slow=37
FPAL Fort Paine 35.33 98 P **P 04 29 13.2 -0.1**
FPAL IAmb IAmb 04 29 22.9
comp=Z,16nm,0.9s
LRAL Lakeview Retre 35.37 101 P **P 04 29 13.2 -0.3**
LRAL IAmb IAmb 04 29 24.4
comp=Z,16nm,0.9s
TZTN Tazewell 35.49 93 P **P 04 29 13.7 -0.9**
TZTN IAmb IAmb 04 29 26.2
comp=Z,44nm,1.6s
O54A Avella 35.59 85 P **P 04 29 14.5 -0.9**
O54A IAmb IAmb 04 29 23.8
comp=Z,15nm,0.9s
X51A Calhoun 35.81 97 P **P 04 29 17.1 -0.2**
TKL Tuckaleechee C 35.86 94 P **P 04 29 17.6 -0.2**
TKL IAmb IAmb 04 29 26.4
comp=Z,12nm,0.9s
TKL Tuckaleechee C 35.86 94 LR LR 04 45 06.1
comp=Z,231nm,20.7s,baz=296,slow=38
Q54A Coxs Mills 35.92 88 P **P 04 29 17.4 -0.8**
W52A Murphy 36.10 95 P **P 04 29 19.2 -0.6**
W52A IAmb IAmb 04 29 28.8
comp=Z,10nm,0.8s
MCWV Mont Chateau 36.21 86 P **P 04 29 19.8 -0.9**
MCWV IAmb IAmb 04 29 28.0
comp=Z,17nm,0.8s
V53A Saluda 36.49 94 P **P 04 29 22.5 -0.7**
250A Grady 36.52 102 P **P 04 29 23.7 +0.2**
JRQG Juriquilla Cam 36.63 130 P **P 04 29 25.9 +1.2**
JRQG IAmb IAmb 04 29 31.9
comp=Z,22nm,1.2s
U54A Nelsons Funny 36.64 92 P **P 04 29 25.1 +0.6**
Y52A Lilburn 36.76 97 P **P 04 29 25.9 +0.5**
Y52A IAmb IAmb 04 29 36.2
comp=Z,22nm,0.9s
BG3 Lake Jocassee 36.81 95 P **P 04 29 26.2 +0.3**
BG3 IAmb IAmb 04 29 35.8
comp=Z,18nm,0.8s
152A Waverly Hall 37.08 99 P **P 04 29 28.6 +0.4**
152A IAmb IAmb 04 29 37.8
comp=Z,24nm,0.9s
BLA Blacksburg 37.17 90 P **P 04 29 29.2 +0.3**
BLA IAmb IAmb 04 29 39.3
comp=Z,11nm,0.8s
V55A Taylorsville 37.43 92 P **P 04 29 30.9 -0.3**
V55A IAmb IAmb 04 29 34.1
comp=Z,28nm,1.4s
GOGA Godfrey 37.43 97 P **P 04 29 30.5 -0.6**
GOGA IAmb IAmb 04 29 42.1
comp=Z,26nm,0.9s
P57A Homestead Farm 37.50 85 P **P 04 29 31.8 +0.1**
P57A IAmb IAmb 04 29 39.6
comp=Z,16nm,0.8s
PAULI Pauline 37.65 94 P **P 04 29 33.7 +0.7**
PAULI IAmb IAmb 04 29 40.9
comp=Z,18nm,0.9s
HODGE Hodges 37.71 95 P **P 04 29 32.9 -0.6**
HODGE IAmb IAmb 04 29 36.1
comp=Z,20nm,1.3s
352A Blakely 37.71 101 P **P 04 29 33.7 +0.1**
352A IAmb IAmb 04 29 41.3
comp=Z,25nm,0.8s
KMSC Kings Mountain 37.77 93 P **P 04 29 33.9 -0.2**
KMSC IAmb IAmb 04 29 36.5
comp=Z,45nm,1.4s
J59A Piesco 37.78 77 P **P 04 29 33.1 -0.9**
J59A IAmb IAmb 04 29 53.9
comp=Z,30nm,1.1s
S57A Dark Hollow, R 37.82 88 P **P 04 29 34.1 -0.3**
LDAQ Lac Daran 37.84 69 P **P 04 29 33.8 -0.8**
SCHQ Schefferville 37.95 57 P **P 04 29 36.0 +0.6**
comp=Z,2.7nm,0.8s,baz=282,slow=11,SNR=2.4
SCHQ LR LR 04 45 36.0
comp=Z,1μm,18.9s,baz=286,slow=37
comp=Z,2.7nm,0.8s
MVL Millersville 38.32 83 P **P 04 29 37.3 -1.2**
MVL IAmb IAmb 04 29 54.5
comp=Z,32nm,1.5s
JSC Jenkinsville 38.34 94 P **P 04 29 38.1 -0.6**
JSC IAmb IAmb 04 29 41.3
comp=Z,26nm,1.2s
R58B Mineral 38.42 87 P **P 04 29 39.0 -0.5**
R58B IAmb IAmb 04 29 42.7
comp=Z,50nm,1.4s
TIGA Tifton 38.61 100 P **P 04 29 42.4 +1.3**
TIGA IAmb IAmb 04 29 47.6
comp=Z,43nm,1.3s
CBN Corbin Frederi 38.62 86 P **P 04 29 41.3 +0.2**
CBN IAmb IAmb 04 29 49.1
comp=Z,23nm,0.7s
BIRD Birdtown, Kers 38.64 93 P **P 04 29 42.4 +1.1**
BIRD IAmb IAmb 04 29 59.0
comp=Z,18nm,1.1s
WUPA West Chester U 38.84 83 P **P 04 29 41.6 -1.3**
V58A Windy Hill, Pi 38.84 91 P **P 04 29 44.0 +0.9**
ODNJ Ogdensburg 38.89 80 P **P 04 29 42.5 -0.9**
ODNJ IAmb IAmb 04 29 45.3
comp=Z,30nm,1.3s
T59A Double "B" Far 39.19 88 P **P 04 29 46.8 +0.9**
X58A Rowland 39.43 92 P **P 04 29 47.8 -0.2**
X58A IAmb IAmb 04 29 54.4
comp=Z,17nm,0.8s
SFJD Kangerlussuaq 42.10 35 LR LR 04 47 33.3
comp=Z,487nm,18.5s,baz=278,slow=36
CMIG Matias Romero 42.51 126 LR LR 04 50 19.4
comp=Z,155nm,18.7s,baz=316,slow=40
TEIG Tepich 43.72 116 LR LR 04 51 41.1
comp=Z,158nm,21.0s,baz=20,slow=40
PEA0B Petropavlovsk- 44.04 304 P P 04 30 27.8 +2.3
PETK Petropavlovsk- 44.04 304 P **P 04 30 27.3 +1.8**
PETK Petropavlovsk- 44.04 304 P **P 04 30 25.3 -0.2**
comp=Z,19nm,0.9s,baz=71,slow=13,SNR=12
PETK LR LR 04 46 05.4
comp=Z,117nm,19.2s,baz=83,slow=32
comp=Z,19nm,0.9s
MA2 Magadan 44.88 315 LR LR 04 47 36.9
comp=Z,110nm,20.7s,baz=74,slow=34
TIXI Tiksi 47.72 335 P **P 04 30 53.7 -0.5**
TIXI IAmb IAmb 04 30 54.7
comp=Z,8.9nm,1.1s
SPITS Spitsbergen Ar 51.35 8 LR LR 04 53 59.9
comp=Z,207nm,18.3s,baz=298,slow=37
YAK Yakutsk 52.66 324 LR LR 04 54 04.3
comp=Z,203nm,19.0s,baz=54,slow=36
JTS Las Juntas de 53.54 121 P **P 04 31 40.0 +1.1**
comp=Z,3.2nm,0.7s,baz=310,slow=23,SNR=2.7
JTS LR LR 04 56 02.3
comp=Z,139nm,21.7s,baz=334,slow=38
comp=Z,3.2nm,0.7s
BORG Borgarnes 53.71 30 LR LR 04 52 25.3
comp=Z,227nm,19.7s,baz=313,slow=34
ASAJ Asahikawa 57.27 301 LR LR 04 52 16.8
comp=Z,96nm,21.6s,baz=134,slow=32
H11N2 WAKE ISLAND Hy 58.05 264 T T 05 34 56.7
baz=43,slow=75,SNR=350
H11N3 WAKE ISLAND Hy 58.05 263 T T 05 34 56.5
baz=43,slow=75,SNR=460
H11N1 WAKE ISLAND Hy 58.06 264 T T 05 34 57.7
baz=43,slow=75,SNR=358
TAOE Nuku Hiva Isla 58.41 192 *e*LR LR 04 49 32.9
comp=Z,461nm,26.0s
NRIK Noril'sk 58.80 345 P **P 04 32 15.4 -0.3**
comp=Z,4.4nm,0.7s,baz=56,slow=6.4,SNR=4.9
NRIK LR LR 04 58 46.8
comp=Z,171nm,20.5s,baz=344,slow=37
comp=Z,4.4nm,0.7s
CELP Cerrillos 58.92 98 P **P 04 32 16.9 -0.4**
H11S1 WAKE ISLAND Hy 59.06 263 T T 05 36 09.5
baz=41,slow=75,SNR=20
H11S2 WAKE ISLAND Hy 59.07 263 T T 05 36 12.3
baz=41,slow=75,SNR=20
H11S3 WAKE ISLAND Hy 59.07 263 T T 05 36 17.4
baz=41,slow=75,SNR=18
SJG San Juan 59.18 98 LR LR 04 58 00.9
comp=Z,78nm,21.5s,baz=339,slow=36
KLR Kul'dur 59.74 311 LR LR 04 57 12.2
comp=Z,116nm,20.2s,baz=60,slow=35
HEH HeiHe 61.14 314 *e*P **P 04 32 30.7 -1.4**
HEH pmax pmax
comp=Z,9.0nm,1.3s
USRK Ussuriysk Ar. 63.00 307 P **P 04 32 44.3 -0.3**
USRK Ussuriysk Ar. 63.00 307 P **P 04 32 43.7 -0.9**
comp=Z,7.2nm,0.8s,baz=49,slow=6.3,SNR=8.2
USRK LR LR 04 58 13.0
comp=Z,59nm,21.3s,baz=39,slow=34
comp=Z,7.2nm,0.8s
SDV Santo Domingo 63.21 108 LR LR 05 04 00.4
comp=Z,95nm,19.1s,baz=338,slow=40
ROSC El Rosal 64.12 114 P **P 04 32 54.5 +1.7**
comp=Z,6.0nm,0.5s,baz=48,slow=23,SNR=2.6
comp=Z,6.0nm,0.5s
MJAR Matsushiro Arr 64.77 297 P **P 04 32 55.6 -0.9**
comp=Z,0.9nm,0.3s,baz=35,slow=4.5,SNR=1.6
comp=Z,0.9nm,0.3s
BAUV El Baul 64.79 106 P **P 04 32 56.8 0.0**
OTAV Otavalo 65.43 121 P **P 04 33 02.0 +0.5**
OTAV IAmb IAmb 04 33 08.3
comp=Z,14nm,1.1s
NOA NORSAR Array B 65.81 20 P **P 04 33 03.5 +0.7**
comp=Z,2.8nm,1.1s,baz=334,slow=6.4,SNR=3.8
NOA LR LR 05 02 46.9
comp=Z,92nm,19.1s,baz=335,slow=37
comp=Z,2.8nm,1.1s
PCRV Puerto La Cruz 66.03 103 LR LR 05 02 36.4
comp=Z,101nm,20.7s,slow=37
JHJ Hachijo jima 2 66.19 293 LR LR 04 59 39.0
comp=Z,41nm,19.7s,baz=258,slow=34
CN2 Changchun 66.63 310 *e*P **P 04 33 10.3 +1.9**
CN2 *e*S **S 04 41 57.0 -2.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,100nm,11.0s
CN2 LR LR
comp=E,200nm,11.0s
CN2 LR LR
comp=Z,100nm,10.0s
HFS Hagfors 67.16 19 LR LR 05 02 54.6
comp=Z,155nm,19.5s,baz=330,slow=36
FINES FINESS Array B 68.13 12 P **P 04 33 18.8 +1.3**
comp=Z,9.1nm,1.1s,baz=12,slow=7.1,SNR=5.2
FINES LR LR 05 04 13.0
comp=Z,209nm,19.1s,baz=312,slow=37
comp=Z,9.1nm,1.1s
PPT2 Papeete2 68.69 200 *e*LR LR 04 54 13.7
comp=Z,136nm,25.5s
PPT2 *e*LR LR 04 54 14.0
comp=Z,143nm,26.2s
JCJ Chichijima 68.93 287 LR LR 05 05 14.3
comp=Z,60nm,18.1s,baz=314,slow=38
KSRS Korea Array 69.94 304 LR LR 05 01 52.6
comp=Z,36nm,21.2s,baz=110,slow=34
ATAH Atahualpa 71.58 125 LR LR 05 05 17.5
comp=Z,108nm,20.0s,baz=345,slow=36
RKT Rikitea 72.01 185 *e*LR LR 04 55 49.1
comp=Z,2μm,27.8s
SONM Songino Array 72.02 324 P **P 04 33 40.9 -1.0**
comp=Z,1.0nm,0.8s,baz=53,slow=5.6,SNR=3.1
SONM LR LR 05 04 39.8
comp=Z,253nm,19.8s,baz=19,slow=35
comp=Z,1.0nm,0.8s
KIRV Kirov 72.72 1 LR LR 05 08 27.0
comp=Z,103nm,21.0s,baz=342,slow=38
ZAA0 Zalesovo Array 73.34 340 P **P 04 33 49.1 -0.3**
ZAA0 IAmb IAmb 04 33 53.4
comp=Z,13nm,1.5s
ZALV Zalesovo Beam 73.34 340 P **P 04 33 48.9 -0.4**
ZALV Zalesovo Beam 73.34 340 P **P 04 33 48.8 -0.5**
comp=Z,2.2nm,0.7s,baz=34,slow=5.9,SNR=7.0
comp=Z,2.2nm,0.7s
TBTG Tabatinga, AM 73.95 116 P **P 04 33 54.1 +0.6**
TBI Tubuai 74.23 199 *e*LR LR 04 56 49.3
comp=Z,620nm,33.5s
BOAV Boa Vista 74.57 105 P **P 04 34 00.6 +3.4**
BOAV IAmb IAmb 04 34 07.7
comp=Z,9.7nm,1.3s
ARTI Arti 74.71 355 LR LR 05 09 20.1
comp=Z,99nm,19.6s,baz=359,slow=38
CZSB Cruzeiro do Su 75.20 121 P **P 04 34 01.9 +1.2**
HHC Hu-ho-hao-te 75.52 317 *e*P **P 04 34 00.7 -1.7**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,250nm,5.2s
HNS HongShan 76.80 313 ⇓P P 04 34 12.8 +3.2
HNS pmax pmax
comp=Z,11nm,1.2s
BVAR Borovoye Array 76.89 348 P **P 04 34 09.2 -0.7**
comp=Z,0.9nm,0.6s,baz=35,slow=5.4,SNR=6.5
comp=Z,0.9nm,0.6s
GUMO Guam 76.96 276 LR LR 05 02 01.2
comp=Z,122nm,21.2s,baz=98,slow=31
GERES GERESS Array B 77.46 24 LR LR 05 09 32.3
comp=Z,217nm,18.0s,baz=334,slow=37
MDP Montagnes des 77.62 97 LR LR 05 13 11.8
comp=Z,49nm,18.3s,baz=301,slow=39
VRAC Vranov 77.78 22 LR LR 05 08 50.7
comp=Z,80nm,19.3s,baz=328,slow=36
KURBB Kurchatov Arra 77.81 342 P **P 04 34 14.6 -0.4**
comp=Z,3.8nm,0.8s,baz=18,slow=5.4,SNR=9.7
KURBB LR LR 05 12 16.8
comp=Z,95nm,18.2s,baz=174,slow=39
comp=Z,3.8nm,0.8s
RPN Rapa Nui 77.97 162 LR LR 05 02 34.0
comp=Z,41nm,18.8s,baz=234,slow=31
NJ2 Nanjing 78.89 306 *e*P **P 04 34 21.1 -0.2**
NJ2 pmax pmax
comp=Z,14nm,0.6s
BELG Belogornoye 78.90 2 LR LR 05 14 44.9
comp=Z,80nm,18.6s,baz=348,slow=40
AKASG Malin Array Be 78.97 14 LR LR 05 09 41.1
comp=Z,192nm,20.4s,baz=352,slow=36
MKAR Makanchi Array 80.59 338 P **P 04 34 29.8 -0.6**
comp=Z,1.7nm,0.6s,baz=13,slow=3.8,SNR=8.8
comp=Z,1.7nm,0.6s
ETMB Extrema 80.63 117 P **P 04 34 30.8 -0.1**
ETMB IAmb IAmb 04 34 34.4
comp=Z,9.7nm,0.8s
MAKZ Makanchi 80.65 339 P **P 04 34 30.2 -0.5**
MAKZ IAmb IAmb 04 34 31.4
comp=Z,21nm,1.4s
AKTO Aktyubinsk 80.67 355 LR LR 05 13 06.8
comp=Z,87nm,19.8s,baz=228,slow=38
MSVF Nonsavu 81.09 230 LR LR 05 03 27.2
comp=Z,212nm,18.9s,baz=3.9,slow=30
SORM Soroca 81.32 15 ⇑P P 04 34 22.3 -12
ABKAR Abkulak array 81.72 354 P **P 04 34 36.0 -0.3**
ABKAR Abkulak array 81.72 354 P **P 04 34 36.1 -0.2**
SAML Samuel 81.74 114 P **P 04 34 36.8 0.0**
WMQ Urumqi 81.90 334 *e*P **P 04 34 40.1 +2.7**
WMQ LR LR
comp=N,260nm,17.1s
WMQ LR LR
comp=E,460nm,16.1s
WMQ LR LR
comp=Z,200nm,21.5s
HNR Honiara 84.58 249 LR LR 05 07 04.9
comp=Z,198nm,18.8s,baz=26,slow=32
LPAZ La Paz 84.73 122 P **P 04 34 52.8 -0.1**
LPAZ La Paz 84.73 122 P **P 04 34 53.0 +0.1**
comp=Z,3.8nm,0.7s,baz=308,slow=2.1,SNR=13
comp=Z,3.8nm,0.7s
PB18 Visviri 85.05 124 P P 04 34 58.7 +4.4
AAK Ala-Archa 86.26 342 LR LR 05 18 04.0
comp=Z,121nm,18.1s,baz=7.5,slow=39
VILB Vilhena 86.68 114 P **P 04 35 03.6 +1.7**
TIP Timpagrande 87.23 26 P **P 04 35 04.8 +0.3**
KBZ Khabaz 87.36 5 P **P 04 35 05.1 +0.2**
comp=Z,2.5nm,0.8s,baz=1.4,slow=8.1,SNR=3.8
KBZ LR LR 05 17 41.4
comp=Z,136nm,19.1s,baz=354,slow=38
comp=Z,2.5nm,0.8s
RAFF Raffo Rosso 88.33 28 P **P 04 35 09.4 -0.3**
SIV San Ignacio 88.55 116 LR LR 05 19 33.1
comp=Z,73nm,18.1s,baz=288,slow=39
BTK Batken 89.45 344 P **P 04 35 14.7 -0.3**
BTK IAmb IAmb 04 38 35.2
comp=Z,5.1nm,0.8s
GAR Garm 90.56 345 P **P 04 35 21.1 +0.8**
DZM Mont Dzumac 90.77 236 *e*LR LR 05 04 32.2
comp=Z,248nm,21.4s
DZM Mont Dzumac 90.77 236 P P 04 35 25.2 +4.0
DZM Mont Dzumac 90.77 236 LR LR 05 09 34.5
comp=Z,200nm,18.9s,baz=22,slow=31
GNI Garni 91.03 4 LR LR 05 18 42.4
comp=Z,82nm,21.7s,baz=345,slow=37
CHGR Chuyangaron 91.09 345 P **P 04 35 23.8 +1.0**
SIMJ Simiganj 91.12 346 P **P 04 35 23.3 +0.4**
GO02 Mina Guanaco 91.17 128 P **P 04 35 25.2 +1.9**
PZH PanZhiHua 91.94 316 P **P 04 35 28.8 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,360nm,5.5s
PMG Port Moresby 92.63 259 LR LR 05 08 59.9
comp=Z,68nm,20.7s,baz=111,slow=30
BBTS Babate 93.44 63 LR LR 05 17 05.2
comp=Z,202nm,18.0s,baz=146,slow=35
CO05 La Serena 94.25 132 P **P 04 35 39.2 +2.2**
DAV Davao City (W) 94.30 286 LR LR 05 15 20.5
comp=Z,58nm,18.6s,baz=350,slow=34
BDFB Brasília 96.26 107 LR LR 05 22 57.7
comp=Z,55nm,20.1s,baz=323,slow=38
RCBR Riachuelo 96.79 91 LR LR 05 16 44.2
comp=Z,37nm,19.7s,baz=336,slow=34
QSPA South Pole Qui 138.86 180 PKP **PKPdf 04 41 41.5 -1.6**
comp=Z,1.0nm,0.7s,baz=203,slow=0.4,SNR=3.5
VNA3 Neumayer Olymp 144.97 151 ⇓PKPdf **PKPdf 04 41 53.2 -0.6**
comp=Z,7.4nm,0.7s
VNA1 Neumayer--Stat 145.50 150 ⇓PKPdf **PKPab 04 41 54.4 -0.7**
comp=Z,7.4nm,0.7s
VNA2 Neumayer--Watz 145.75 150 ⇓PKPdf **PKPab 04 41 54.8 -1.2**
comp=Z,14nm,0.6s,baz=287,slow=3.7
SNAA Sanae 147.04 152 ⇓PKPdf **PKPab 04 41 59.0 -2.1**
comp=Z,193nm,0.8s
SNAA Sanae 147.04 152 PKPbc **PKPab 04 41 58.5 -2.5**
comp=Z,10.0nm,0.9s,baz=276,slow=1.7,SNR=24
TROLL Troll, Antarti 148.54 154 ⇑PKPdf **PKPbc 04 42 02.1 -1.6**
comp=Z,405nm,0.9s
BOSA Boshof 151.93 53 PKPbc **PKiKP 04 42 13.2 -0.2**
comp=Z,4.0nm,0.7s,baz=288,slow=2.1,SNR=8.3
ELIB Princess Elisa 153.94 161 *d*PKPdf **PKPbc 04 42 11.4 -4.8**
ELIB *d*PKiKP **sPKPbc 04 42 19.7 0.0**
ELIB *d*PKP **sPKPab 04 42 32.9 -0.1**

*NOU **01** 04:26:47.7, 41°.79S×171°.84E, h0km, MLv3.4/6, South Island, New Zealand*
*WEL **01** 04:26:47.3±0.4, 42°.5±2°.×17°.2E±°, h5km, M3.4/11, ML3.5/12, MLv3.4/11, Error ellipse: s-maj=4.7km*

s-min=2.4km az=119.9,confirmed

ISC 01 04:26:46.1±1.0,41°80S±0°.03×171°83E±0°.03,h13km±8km, n45,σ1§09/57,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INGS	**Inangahua Fire**	**0.11**	**122**	P	**Pg**	**04 26 49.5**	**+0.3**
WBCS	**Westport Bulle**	**0.18**	**284**	P	**Pb**	**04 26 52.4**	**+1.2**
RDCS	**Reefton DOC Ce**	**0.32**	**175**	P	**Pg**	**04 26 52.2**	**-0.4**
KASC	**Karamea School**	**0.59**	**22**	P	**Pn**	**04 26 59.8**	**-0.3**
SJFS	**Springs Juncti**	**0.60**	**154**	P	**Pg**	**04 26 57.8**	**+0.1**
KLDS	**Kikiwa Line De**	**0.79**	**81**	P	**Pg**	**04 27 00.2**	**-1.2**
MRNZ	**Matariki Terra**	**0.80**	**60**	P	**Pb**	**04 27 02.2**	**+0.2**
MRNZ				S	**Sb**	**04 27 12.5**	**-0.1**
THZ	**Tophouse**	**0.81**	**88**	P	**Pg**	**04 27 01.2**	**-0.5**
THZ				S	**Sg**	**04 27 11.5**	**-0.8**
IFPS	**Inchbonnie Fit**	**0.96**	**196**	P	**Pg**	**04 27 04.9**	**+0.2**
INZ	**Inchbonnie**	**0.97**	**197**	P	**Pn**	**04 27 05.6**	**+0.2**
INZ				S	**Sn**	**04 27 18.4**	**-0.6**
LTZ	**Lake Taylor**	**1.03**	**162**	P	**Pb**	**04 27 06.2**	**+0.3**
LTZ				S	**Sb**	**04 27 19.2**	**-0.3**
QRZ	**Quartz Range**	**1.11**	**29**	P	**Pg**	**04 27 07.9**	**+0.6**
QRZ				S	**Sn**	**04 27 23.3**	**+0.8**
QRZ	**Quartz Range**	**1.11**	**29**	P	**Pg**	**04 27 08.0**	**+0.6**
TKNZ	**Takaka Hill**	**1.15**	**48**	P	**Pg**	**04 27 08.2**	**0.0**
TKNZ				S	**Sn**	**04 27 23.3**	**-0.1**
NNZ	**Nelson**	**1.30**	**64**	P	**Pb**	**04 27 10.5**	**+0.1**
NNZ				S	**Sg**	**04 27 27.7**	**-0.3**
KHZ	**Kahutara**	**1.41**	**116**	P	**Pb**	**04 27 12.8**	**+0.5**
KHZ	**Kahutara**	**1.41**	**116**	P	**Pb**	**04 27 13.0**	**+0.7**
GVZ	**Greta Valley S**	**1.47**	**143**	P	**Pb**	**04 27 13.4**	**+0.1**
GVZ				S	**Sb**	**04 27 32.9**	**+1.0**
AMCZ	**Amberley**	**1.50**	**156**	P	**Pb**	**04 27 13.9**	**+0.1**
WVZ	**Waitaha Valley**	**1.51**	**212**	P	**Pg**	**04 27 16.0**	**+0.9**
WVZ				S	**Sg**	**04 27 35.6**	**+0.9**
OXZ	**Oxford**	**1.53**	**174**	P	**Pn**	**04 27 13.8**	**+0.6**
OXZ				S	**Sb**	**04 27 34.6**	**+0.9**
BSWZ	**Blackbirch Sta**	**1.53**	**88**	P	**Pb**	**04 27 15.0**	**+0.6**
TUWZ	**Tuamarina**	**1.63**	**78**	P	**Pb**	**04 27 16.4**	**+0.4**
MHCZ	**Mount Hutt**	**1.74**	**186**	P	**Pb**	**04 27 17.3**	**-0.6**
DUWZ	**D'Urville Isla**	**1.87**	**58**	P	**Pb**	**04 27 19.8**	**-0.3**
DUWZ				S	**Sb**	**04 27 43.1**	**-0.2**
GCSZ	**Gaunt Creek Bo**	**1.88**	**216**	P	**Pg**	**04 27 21.5**	**-0.6**
TCW	**Tory Channel**	**1.93**	**73**	P	**Pb**	**04 27 20.9**	**-0.2**
RACZ	**Rakaia**	**1.94**	**173**	P	**Pb**	**04 27 20.7**	**-0.6**
RPZ	**Rata Peaks**	**2.00**	**196**	P	**Pg**	**04 27 24.1**	**-0.3**
RPZ	**Rata Peaks**	**2.00**	**196**	P	**Pg**	**04 27 23.4**	**-1.0**
MQZ	**McQueen's Vall**	**2.00**	**163**	P	**Pn**	**04 27 19.6**	**+0.1**
MQZ				S	**Sn**	**04 27 43.4**	**-1.0**
OKCZ	**Okains Bay**	**2.13**	**155**	P	**Pn**	**04 27 22.0**	**+0.6**
SNZO	**South Karori**	**2.21**	**78**	P	**Pb**	**04 27 26.5**	**+0.6**
AKCZ	**Akaroa Harbour**	**2.22**	**159**	P	**Pn**	**04 27 23.2**	**+0.6**
FOZ	**Fox Glacier**	**2.28**	**220**	P	**Pb**	**04 27 26.9**	**-0.2**
CAW	**Cannon Point**	**2.53**	**75**	P	**Pn**	**04 27 28.5**	**+1.7**
TMZ	**Timaru**	**2.65**	**193**	P	**Pn**	**04 27 29.8**	**+1.2**
LBZ	**Lake Benmore**	**2.85**	**204**	P	**Pb**	**04 27 34.5**	**-2.4**
HOWZ	**Holdsworth Sta**	**2.92**	**73**	P	**Pb**	**04 27 38.1**	**+0.1**
MRZ	**Mangatainoka R**	**3.05**	**69**	P	**Pb**	**04 27 39.4**	**-0.8**
JCZ	**Jackson Bay**	**3.19**	**223**	P	**Pn**	**04 27 37.7**	**+1.8**
JCZ	**Jackson Bay**	**3.19**	**223**	P	**Pb**	**04 27 39.4**	**-3.2**
ODZ	**Otahua Downs**	**3.36**	**194**	P	**Pn**	**04 27 38.7**	**+0.5**
ODZ	**Otahua Downs**	**3.36**	**194**	P	**Pn**	**04 27 40.7**	**+2.5**
WNVZ	**Wahianoa**	**3.79**	**51**	P	**Pb**	**04 27 48.8**	**-4.1**

*LDG **01** 04:27:35.6±0.2,40°.39N×14°.91W,h10km,Ml5.0/41,Error ellipse: s-maj=4.1km s-min=2.8km az=75.0*
*BJI **01** 04:27:37.9,40°.27N×14°.94W,h10km,mb5.0/29,mB5.5/4, Ms4.9/7,Ms7 4.6/8*
*MDD **01** 04:27:39.1±0.4,40°.25N×14°.90W,h12km±3km,Mb5.9/62, M_mb5.6/62,Error ellipse: s-maj=2.7km s-min=2.1km az=77.0*
*MOS **01** 04:27:39.5±0.9,40°.16N×14°.66W,h13km,mb5.2/65, MS4.2/7,Error ellipse: s-maj=7.7km s-min=3.2km az=136.5*
*IDC **01** 04:27:39.7±0.5,40°.19N×14°.69W,h0km,mb4.7/28, mbtmp4.7/30,ML5.7/3,MS3.8/35,Error ellipse: s-maj=13.4km s-min=11.4km az=172.0*
*NEIC **01** 04:27:41.3,40°.19N×14°.71W,h22km*
*NEIC **01** 04:27:41.3,40°.19N×14°.71W,h22km,Moment Tensor Solution. Duration: 1§2 Moment tensor: Scale 10^{16}Nm; M_{rr}~0.17; $M_{\theta\theta}$~0.51; $M_{\phi\phi}$0.68; $M_{r\theta}$~0.56; $M_{\theta\phi}$~1.28; $M_{\phi r}$~0.29; Fault plane solution: $M_0$1.55000×10^{16} NP1: ϕ_s104.96000°,δ75.15000°,λ-161.23000°. NP2:ϕ_s9.99000°, δ71.88000°,λ-15.65000°. Principal axes: T 1.4977, Plg2.0000°, Azm237.0000°; N 0.1013, Plg66.0000°, Azm142.0000°; P -1.5991, Plg24.0000°, Azm328.0000°;*
*NEIC **01** 04:27:41.3±1.0,40°.18N±0°.08×14°.72W±0°.08,h10km±1km, mb5.0/203,Mww4.7/18 Error ellipse: s-maj=13.1km s-min=10.8km az=172.0*
*IGIL **01** 04:27:42.2,40°.33N×14°.77W,h23km,ML5.4*
*GCMT **01** 04:27:43.3±0.4,40°.18N±0°.03×14°.77W±0°.02,h12km, MW4.7/84,Moment Tensor Solution. s15,c16; s84,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}~0.17±.06; $M_{\theta\theta}$~0.48±.07; $M_{\phi\phi}$0.64±.06; $M_{r\theta}$~0.24±.20; $M_{\theta\phi}$~1.36±.05; $M_{\phi r}$~0.61±.17; Best double couple: $M_0$1.61800×10^{16} NP1:ϕ_s10.00000°,δ84.00000°,λ-24.00000°. NP2: ϕ_s102.00000°,δ66.00000°,λ-173.00000°. Principal axes: T 1.6410, Plg12.0000°, Azm58.0000°; N -0.0470, Plg65.0000°, Azm177.0000°; P -1.5950, Plg21.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SVSA **01** 04:27:45.4,40°.33N×14°.77W,h25km,MW4.8(INMG)*
*INMG **01** 04:27:45.7±2.4,40°.35N×14°.74W,h37km,ML5.1,MW4.8, Error ellipse: s-maj=6.7km s-min=4.8km az=93.0*
*CNRM **01** 04:27:46.9,39°.63N×14°.67W,h55km,ML5.4*
*BGS **01** 04:27:53.7±1.9,41°.14N×13°.98W,h10km,MW4.7(NEIC)*
*NAO **01** 04:27:59.1,41°.70N×13°.97W,h33km,mb4.7*
*BGR **01** 04:28:04.0,40°.67N×12°.27W,h33km,mb4.7*

ISC 01 04:27:40.4±0.3,40°.17N±0°.03×14°.59W±0°.03,h10km,n960, σ2§23/990,mb5.0/229,MS3.9/45,104C-30D,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCASC	**Cascais**	**4.19**	**108**	*eP*	**Pb**	**04 28 52.2**	**-2.0**
PCASC				*eS*	**Sn**	**04 29 37.6**	**+4.3**
PCASC				A	A	04 29 41.2	
	4μm,0.5s						
PCDRA	**Caldas da Rain**	**4.27**	**98**	*eS*	**Sn**	**04 29 32.5**	**-2.8**
PCDRA				A	A	04 29 36.3	
	17μm,0.4s						
PVERD	**Verdizela**	**4.27**	**107**	*eP*	**Pn**	**04 28 45.2**	**-0.3**
PVERD				*eS*	**Sn**	**04 29 34.3**	**-1.1**
PVERD				A	A	04 29 45.7	
	11μm,0.3s						
PMAFR	**Mafra**	**4.28**	**105**	⇑*eP*	**Pn**	**04 28 47.5**	**+1.9**
PMAFR				*eS*	**Sn**	**04 29 33.0**	**-2.5**
PMAFR				A	A	04 29 36.9	
	16μm,0.5s						
PMAFR	**Mafra**	**4.28**	**105**	P	**Pn**	**04 28 47.4**	**+1.8**
PMAFR				S	**Sn**	**04 29 34.0**	**-1.5**
PMST	**Lisbon--Monsan**	**4.42**	**107**	⇑*iP*	**Pb**	**04 28 57.5**	**-0.7**
PMST				*eS*	**Sb**	**04 29 45.0**	**-6.5**
PMST				A	A	04 35 16.7	
	17nm,1.2s						
INMG	**Instituto de M**	**4.45**	**106**	*eP*	**Pn**	**04 28 50.8**	**+2.9**
INMG				*eS*	**Sn**	**04 29 39.3**	**-0.5**
INMG				A	A	04 29 48.3	
	7μm,0.6s						
LIS	**Lisbon**	**4.45**	**107**	⇑*iP*	**Pn**	**04 28 50.2**	**+2.2**
LIS				*eS*	**Sn**	**04 29 39.1**	**-0.8**
LIS				A	A	04 29 41.9	
	16μm,0.5s						
LIS	**Lisbon**	**4.45**	**107**	*eP*	**Pn**	**04 28 50.1**	**+2.1**
LIS				*eS*	**Sn**	**04 29 39.0**	**-0.8**
LIS				IAML		04 29 41.7	
	comp=N,24μm,0.4s						
LIS	**Lisbon**	**4.45**	**107**	*eP*	**Pn**	**04 28 50.1**	**+2.1**
LIS				*eS*	**Sn**	**04 29 39.0**	**-0.8**
PVFX	**Vila Franca de**	**4.50**	**104**	A	A	04 29 42.6	
	comp=N,9μm,0.5s						
PSBE	**So Bento**	**4.51**	**96**	⇑*eP*	**Pn**	**04 28 50.1**	**+1.3**
PSBE				*eS*	**Sn**	**04 29 37.8**	**-3.5**
PSBE				A	A	04 29 44.3	
	comp=N,3μm,0.4s						
PSANT	**Santarm**	**4.64**	**100**	*eP*	**Pn**	**04 28 52.6**	**+2.0**
PSANT				*eS*	**Sn**	**04 29 42.4**	**-2.1**
PSANT				A	A	04 29 44.8	
	comp=N,7μm,0.3s						
PTO	**Porto**	**4.66**	**76**	*eP*	**Pn**	**04 28 50.8**	**0.0**
PTO				*eS*	**Sn**	**04 29 39.5**	**-5.4**
PTO				A	A	04 29 42.0	
	comp=N,3μm,0.3s						
PCAS	**Casmilo, Conde**	**4.67**	**89**	⇑*iP*	**Pn**	**04 28 52.0**	**+1.0**
PCAS				*eS*	**Sn**	**04 29 41.2**	**-4.1**
PCAS				A	A	04 29 47.7	
	comp=N,2μm,0.4s						
PSETU	**Setᵈbal**	**4.73**	**108**	*eP*	**Pn**	**04 28 55.2**	**+3.5**
PSETU				*eS*	**Sn**	**04 29 45.7**	**-0.8**
PSETU				A	A	04 29 56.9	
	comp=N,10μm,0.5s						
COI	**Coimbra**	**4.73**	**88**	Pn	**Pn**	**04 28 53.5**	**+1.7**
COI	**Coimbra**	**4.73**	**88**	⇑*iP*	**Pn**	**04 28 53.4**	**+1.7**
COI				*eS*	**Sn**	**04 29 43.4**	**-3.3**
COI				A	A	04 29 48.9	
	comp=N,5μm,0.4s						
COI	**Coimbra**	**4.73**	**88**	P	**Pn**	**04 28 53.5**	**+1.7**
EZAM	**Zamans**	**4.87**	**64**	P	**Pn**	**04 28 53.2**	**-0.5**
EZAM				⇑*iVmb_V*		04 28 54.7	
	comp=N,17μm,SNR=67						
EZAM				S	**Sn**	**04 29 42.6**	**-7.6**
PSINE	**Sines**	**4.97**	**114**	*eP*	**Pn**	**04 28 56.6**	**+1.5**
PSINE				*eS*	**Sn**	**04 29 49.8**	**-2.8**
PSINE				A	A	04 29 54.3	
	comp=N,3μm,0.4s						
PMTG	**Montargil**	**5.04**	**101**	⇑*eP*	**Pn**	**04 28 57.3**	**+1.3**
PMTG				*eS*	**Sn**	**04 29 51.1**	**-3.1**
PMTG				A	A	04 30 06.3	
	comp=N,2μm,0.6s						
EMAZ	**Mazaricos**	**5.05**	**55**	P	**Pn**	**04 28 55.4**	**-0.7**
EMAZ				⇑*iVmb_V*		04 28 57.3	
	comp=N,12μm,SNR=40						
EMAZ				S	**Sn**	**04 29 47.1**	**-7.4**
PGAV	**Gavieira, Arco**	**5.11**	**67**	*eP*	**Pn**	**04 28 57.0**	**0.0**
PGAV				*eS*	**Sn**	**04 29 50.1**	**-6.0**
PGAV				A	A	04 29 53.5	
	comp=N,1μm,0.3s						
PVIS	**Viseu**	**5.14**	**82**	*eP*	**Pn**	**04 28 57.9**	**+0.4**
PVIS				*eS*	**Sn**	**04 29 52.0**	**-4.8**
PCAB	**Cabril**	**5.21**	**71**	*eP*	**Pn**	**04 28 58.4**	**+0.1**
PCAB				*eS*	**Sn**	**04 29 53.1**	**-5.3**
PCAB				A	A	04 29 58.3	
	comp=N,1μm,0.4s						
ELOB	**Lobios**	**5.22**	**69**	P	**Pn**	**04 28 58.5**	**-0.1**
ELOB				S	**Sn**	**04 29 52.6**	**-6.4**
PTEO	**Sao Teotonio**	**5.27**	**118**	*eP*	**Pn**	**04 29 00.2**	**+1.0**
PTEO				*eS*	**Sn**	**04 29 54.6**	**-5.5**
PTEO				A	A	04 29 59.3	
	comp=N,3μm,0.5s						
POLO	**Lamas de Olo**	**5.30**	**75**	*eP*	**Pn**	**04 28 59.6**	**-0.1**
POLO				*eS*	**Sn**	**04 29 55.3**	**-5.6**
POLO				A	A	04 30 03.5	
	comp=N,562nm,0.6s						
PVRL	**Vila Real**	**5.34**	**76**	*eP*	**Pn**	**04 29 00.1**	**-0.1**
PVRL				*eS*	**Sn**	**04 29 56.0**	**-5.8**
PVRL				A	A	04 30 02.5	
	comp=N,1μm,0.4s						
PALJ	**Aljezur**	**5.35**	**120**	*eP*	**Pn**	**04 29 01.9**	**+1.7**
PALJ				*eS*	**Sn**	**04 29 57.1**	**-4.8**
EVO	**Evora**	**5.35**	**106**	⇑*eP*	**Pn**	**04 29 01.9**	**+1.6**
EVO				*eS*	**Sn**	**04 29 58.9**	**-3.2**
EVO				A	A	04 30 02.8	
	comp=N,2μm,1.1s						
EVO	**Evora**	**5.35**	**106**	P	**Pn**	**04 29 01.8**	**+1.4**
EVO				S	**Sn**	**04 29 59.3**	**-2.7**
PSVI	**Cabo S. Vicent**	**5.39**	**124**	*eP*	**Pn**	**04 29 02.5**	**+1.7**
PSVI				*eS*	**Sn**	**04 29 58.6**	**-4.3**
PSVI				A	A	04 30 08.4	
	comp=N,2μm,0.6s						
MTE	**Manteigas**	**5.39**	**85**	Pn	**Pn**	**04 29 01.2**	**+0.2**
MTE	**Manteigas**	**5.39**	**85**	⇑*iP*	**Pn**	**04 29 01.2**	**+0.2**
MTE				*eS*	**Sn**	**04 29 57.5**	**-5.7**
MTE				A	A	04 30 03.2	
	comp=N,2μm,0.4s						
PFVI	**Vila Bisbo**	**5.43**	**122**		**Pn**	**04 29 02.1**	**+0.6**
PFVI	**Vila Bisbo**	**5.43**	**122**	⇓*eP*	**Pn**	**04 29 02.0**	**+0.6**
PFVI				*eS*	**Sn**	**04 29 59.3**	**-4.7**
PFVI				A	A	04 30 08.1	
	comp=N,919nm,0.5s						
PFVI	**Vila Bisbo**	**5.43**	**122**	P	**Pn**	**04 29 02.0**	**+0.6**
PFVI				S	**Sn**	**04 29 59.5**	**-4.5**
PFVI	**Vila Bisbo**	**5.43**	**122**	P	**Pn**	**04 29 02.0**	**+0.6**
PFVI	**Vila Bisbo**	**5.43**	**122**	S	**Sn**	**04 30 00.8**	**-3.2**
MORF	**Marmelete**	**5.45**	**120**	Pn	**Pn**	**04 29 02.4**	**+0.7**
MORF	**Marmelete**	**5.45**	**120**	*eP*	**Pn**	**04 29 02.5**	**+0.7**
MORF				*eS*	**Sn**	**04 29 59.3**	**-5.2**
MORF				A	A	04 30 04.3	
	comp=N,1μm,0.2s						
MORF	**Marmelete**	**5.45**	**120**	*eP*	**Pn**	**04 29 02.5**	**+0.7**
MORF				*eS*	**Sn**	**04 29 59.4**	**-5.1**
MORF				IAML		04 30 04.2	
	comp=E,3μm,0.2s						
MORF	**Marmelete**	**5.45**	**120**	*eP*	**Pn**	**04 29 02.5**	**+0.7**
MORF				*eS*	**Sn**	**04 29 59.4**	**-5.1**
PCBR	**Castelo Branco**	**5.47**	**91**	⇑*eP*	**Pn**	**04 29 02.6**	**+0.6**
PCBR				*eS*	**Sn**	**04 29 59.6**	**-5.4**
PCBR				A	A	04 30 07.3	
	comp=E,2μm,0.5s						
MESJ	**Messejana**	**5.48**	**113**		**Pn**	**04 29 02.8**	**+0.8**
MESJ	**Messejana**	**5.48**	**113**	*eP*	**Pn**	**04 29 03.1**	**+1.0**
MESJ				*eS*	**Sn**	**04 30 02.4**	**-2.8**
MESJ				A	A	04 30 06.7	
	comp=E,3μm,0.5s						
MESJ	**Messejana**	**5.48**	**113**	*eP*	**Pn**	**04 29 03.1**	**+1.0**
MESJ				*eS*	**Sn**	**04 30 02.1**	**-3.1**
MESJ				IAML		04 30 06.8	
	comp=N,3μm,0.3s						
MESJ	**Messejana**	**5.48**	**113**	*eP*	**Pn**	**04 29 03.1**	**+1.0**
MESJ				*eS*	**Sn**	**04 30 02.1**	**-3.1**
PLAGO	**Lagos**	**5.55**	**122**	*eP*	**Pn**	**04 29 04.3**	**+1.3**
PLAGO				*eS*	**Sn**	**04 30 02.2**	**-4.5**
PLAGO				A	A	04 30 07.8	
	comp=N,2μm,0.6s						
EAGO	**Agolada(Pontev**	**5.55**	**60**	P	**Pn**	**04 29 02.4**	**-0.6**
EAGO				S	**Sn**	**04 30 01.1**	**-5.8**
PMRV	**Marv??o**	**5.59**	**95**	⇑*eP*	**Pn**	**04 29 04.4**	**+0.7**
PMRV				*eS*	**Sn**	**04 30 03.3**	**-4.7**
PMRV				A	A	04 30 10.1	
	comp=N,3μm,0.8s						
PPOR	**Portimao**	**5.62**	**121**	*eP*	**Pn**	**04 29 05.7**	**+1.7**
PPOR				*eS*	**Sn**	**04 30 05.0**	**-3.7**
PBEJ	**Beja**	**5.65**	**110**	⇑*eP*	**Pn**	**04 29 05.9**	**+1.5**
PBEJ				*eS*	**Sn**	**04 30 05.8**	**-3.6**
PBEJ				A	A	04 30 09.8	
	comp=N,2μm,0.4s						
PALBU	**Albufeira**	**5.83**	**120**	*eP*	**Pn**	**04 29 08.7**	**+1.8**
PALBU				*eS*	**Sn**	**04 30 09.3**	**-4.6**
PALBU				A	A	04 30 13.3	
	comp=N,2μm,0.5s						
MVO	**Moncorvo**	**5.84**	**78**	⇑*iP*	**Pn**	**04 29 07.3**	**+0.3**
MVO				*eS*	**Sn**	**04 30 07.9**	**-6.2**
MVO				A	A	04 30 15.2	
	comp=N,2μm,0.4s						
PBDV	**Barranco-do-Ve**	**5.97**	**117**	*eP*	**Pn**	**04 29 10.2**	**+1.4**
PBDV				*eS*	**Sn**	**04 30 12.2**	**-5.1**
PBDV				A	A	04 30 31.5	
	comp=N,1μm,0.5s						
PBDV	**Barranco-do-Ve**	**5.97**	**117**	P	**Pn**	**04 29 09.9**	**+1.1**
PBDV				S	**Sn**	**04 30 13.3**	**-4.0**
EBAD	**Badajoz**	**6.03**	**101**	P	**Pn**	**04 29 10.5**	**+0.8**
EBAD				S	**Sn**	**04 30 13.8**	**-5.0**
EBAD	**Badajoz**	**6.03**	**101**	P	**Pn**	**04 29 10.4**	**+0.8**
EBAD				⇑*iVmb_V*		04 29 14.2	
	comp=N,10μm,SNR=80						
EBAD				S	**Sn**	**04 30 14.3**	**-4.4**
PVAQ	**Vaqueiros**	**6.04**	**115**	Pn	**Pn**	**04 29 11.2**	**+1.4**
PVAQ	**Vaqueiros**	**6.04**	**115**	*eP*	**Pn**	**04 29 11.1**	**+1.4**
PVAQ				*eS*	**Sn**	**04 30 14.5**	**-4.4**
PVAQ				A	A	04 30 21.1	
	comp=N,1μm,0.5s						
PVAQ	**Vaqueiros**	**6.04**	**115**	P	**Pn**	**04 29 11.2**	**+1.4**
PVAQ				S	**Sn**	**04 30 14.3**	**-4.6**
PVAQ	**Vaqueiros**	**6.04**	**115**	P	**Pn**	**04 29 10.8**	**+1.1**
PVAQ	**Vaqueiros**	**6.04**	**115**	S	**Sn**	**04 30 16.9**	**-1.9**
PFARO	**Faro**	**6.09**	**119**	*eP*	**Pn**	**04 29 13.4**	**+2.9**
PFARO				*eS*	**Sn**	**04 30 17.4**	**-2.8**
EGRO	**El Granado**	**6.14**	**113**	P	**Pn**	**04 29 12.3**	**+1.2**
EGRO				S	**Sn**	**04 30 18.0**	**-3.4**
EGRO	**El Granado**	**6.14**	**113**	P	**Pn**	**04 29 12.1**	**+0.9**
EGRO				S	**Sn**	**04 30 19.0**	**-2.4**
PBRG	**Braganca**	**6.16**	**72**	*eP*	**Pn**	**04 29 11.2**	**-0.3**
PBRG				*eS*	**Sn**	**04 30 15.1**	**-6.9**
PBRG				A	A	04 30 22.5	
	comp=N,584nm,0.3s						
PBAR	**Barrancos**	**6.20**	**106**	⇑*eP*	**Pn**	**04 29 13.6**	**+1.7**
PBAR				*eS*	**Sn**	**04 30 18.9**	**-3.9**
PBAR				A	A	04 30 21.5	
	comp=N,2μm,0.5s						
PBAR	**Barrancos**	**6.20**	**106**	P	**Pn**	**04 29 13.5**	**+1.7**
PBAR				S	**Sn**	**04 30 19.6**	**-3.2**
ECAL	**Calabor**	**6.20**	**71**	P	**Pn**	**04 29 11.9**	**-0.1**
ECAL				S	**Sn**	**04 30 16.5**	**-6.4**
ECAL	**Calabor**	**6.20**	**71**	P	**Pn**	**04 29 11.8**	**-0.2**
ECAL				⇑*iVmb_V*		04 29 14.0	
	comp=N,10μm,SNR=45						
ECAL				S	**Sn**	**04 30 17.4**	**-5.5**
EPON	**Pontenova**	**6.40**	**58**	P	**Pn**	**04 29 14.0**	**-0.7**
EPON				⇑*iVmb_V*		04 29 15.6	
	comp=N,7μm,SNR=28						
EPON				S	**Sn**	**04 30 21.0**	**-6.9**
EPLA	**Plasencia**	**6.53**	**88**	P	**Pn**	**04 29 16.9**	**+0.4**
EPLA				⇑*iVmb_V*		04 29 19.7	
	comp=N,7μm,SNR=65						
EPLA				S	**Sn**	**04 30 25.2**	**-5.8**
EMIN	**Mina Concepcio**	**6.62**	**109**	P	**Pn**	**04 29 19.1**	**+1.4**
EMIN				S	**Sn**	**04 30 29.5**	**-3.7**
EMIN	**Mina Concepcio**	**6.62**	**109**	P	**Pn**	**04 29 19.1**	**+1.4**
EMIN				⇑*iVmb_V*		04 29 21.2	
	comp=N,8μm,SNR=73						
EMIN				S	**Sn**	**04 30 30.4**	**-2.8**
EJUZ	**Juzbado, Salam**	**6.68**	**79**	P	**Pn**	**04 29 19.0**	**+0.3**
EJUZ				S	**Sn**	**04 30 28.4**	**-6.5**
ARNO	**Arenosillo**	**6.87**	**114**	P	**Pn**	**04 29 23.4**	**+2.2**
PMPST	**Porto Santo, M**	**7.21**	**192**	*eP*	**Pn**	**04 29 24.7**	**-1.2**
PMPST				*eS*	Sn	04 30 35.8	-12
PMPST				A	A	04 30 48.5	
	comp=N,327nm,0.5s						
PMPS	**Porto Santo**	**7.23**	**192**	*eP*	**Pn**	**04 29 24.2**	**-1.9**
PMPS				*eS*	Sn	04 30 35.9	-12
PMPS				A	A	04 30 42.9	
	comp=N,208nm,0.2s						
ECAB	**El Cabril**	**7.43**	**103**	P	**Pn**	**04 29 30.0**	**+1.1**
ECAB				S	**Sn**	**04 30 47.8**	**-5.5**
ECAB	**El Cabril**	**7.43**	**103**	P	**Pn**	**04 29 30.0**	**+1.1**
ECAB				⇑*iVmb_V*		04 29 32.0	
	comp=N,3μm,SNR=32						
ECAB				S	**Sn**	**04 30 48.8**	**-4.5**
SFS	**San Fernando**	**7.56**	**117**		**Pn**	**04 29 32.1**	**+1.5**
SFS	**San Fernando**	**7.56**	**117**	P	**Pn**	**04 29 31.7**	**+1.2**
SFS	**San Fernando**	**7.56**	**117**	S	**Sn**	**04 30 55.7**	**-0.5**
SFS	**San Fernando**	**7.56**	**117**	P	**Pn**	**04 29 32.1**	**+1.5**
ESPR	**Espera**	**7.60**	**113**	P	**Pn**	**04 29 33.2**	**+2.1**
ESPR				S	**Sn**	**04 30 54.3**	**-3.0**
ESPR	**Espera**	**7.60**	**113**	P	**Pn**	**04 29 33.3**	**+2.1**
ESPR				⇑*iVmb_V*		04 29 39.2	
	comp=N,6μm,SNR=35						
ESPR				S	**Sn**	**04 30 54.6**	**-2.7**
PMAR	**Madeira**	**7.66**	**195**	*eP*	**Pn**	**04 29 30.4**	**-1.8**
PMAR				*eS*	Sn	04 30 46.7	-12
PMAR				A	A	04 31 03.5	
	comp=N,380nm,0.3s						
PMAR	**Madeira**	**7.66**	**195**	P	**Pn**	**04 29 30.2**	**-2.0**
PMAR	**Madeira**	**7.66**	**195**	S	Sn	04 30 48.9	-10
EARI	**Arriondas**	**7.68**	**63**	P	**Pn**	**04 29 33.1**	**+0.7**
EARI				⇑*iVmb_V*		04 29 34.5	
	comp=N,8μm,SNR=22						
EARI				S	**Sn**	**04 30 54.2**	**-5.3**
FUL	**Funchal**	**7.73**	**195**	*eP*	**Pn**	**04 29 30.9**	**-2.1**
FUL				*eS*	Sn	04 30 48.0	-13
FUL				A	A	04 30 55.7	
	comp=N,243nm,0.2s						
PAB	**San Pablo**	**7.91**	**91**		**Pn**	**04 29 36.0**	**+0.5**
PAB	**San Pablo**	**7.91**	**91**	P	**Pn**	**04 29 36.0**	**+0.5**
PAB				⇑*iVmb_V*		04 29 36.9	
	comp=N,4μm,SNR=45						
PAB				S	**Sn**	**04 30 56.7**	**-8.3**
PAB	**San Pablo**	**7.91**	**91**	P	**Pn**	**04 29 36.0**	**+0.5**
GUD	**Guadarrama**	**7.98**	**83**	P	**Pn**	**04 29 37.0**	**+0.4**
GUD				⇑*iVmb_V*		04 29 38.0	
	comp=N,5μm,SNR=63						
GUD				S	**Sn**	**04 31 01.0**	**-5.9**
EADA	**Adamuz**	**8.03**	**101**	P	**Pn**	**04 29 37.8**	**+0.6**
EADA				S	**Sn**	**04 31 03.1**	**-4.9**
EADA	**Adamuz**	**8.03**	**101**	P	**Pn**	**04 29 37.8**	**+0.6**
EADA				⇑*iVmb_V*		04 29 38.7	
	comp=N,5μm,SNR

ETOR ⇑iVmb_V 04 30 00.3
comp=N,6µm,SNR=34
ETOR S **Sn** **04 31 41.9 -4.2**
PALE Palemas 9.78 117 P **Pn** **04 30 02.0 +0.9**
PALE Palemas 9.78 117 S **Sn** **04 31 49.0 -2.0**
PSCM Serra do Cume 9.80 265 *eP* **Pn** **04 29 57.6 -3.8**
PAGU Agualva, Azore 9.84 266 *eP* Pn 04 29 57.9 -4.0
ADH Angra Heroismo 9.90 265 *eP* Pn 04 29 56.2 -6.5
IFR Ifrane 10.07 128 S Sn 04 31 49.1 -9.3
IFR P **Pn** **04 30 04.6 -0.7**
EARA Aranguren 10.11 71 P **Pn** **04 30 06.9 +1.3**
EARA ⇑iVmb_V 04 30 09.6
comp=N,2µm,SNR=9.0
EARA S **Sn** **04 31 55.1 -3.9**
LCRM LCR 10.12 127 P **Pn** **04 30 05.3 -0.6**
LCRM LCR 10.12 127 S **Sn** **04 31 58.2 -1.3**
ENIJ Nijar 10.21 104 S **Sn** **04 31 57.1 -4.4**
ENIJ P **Pn** **04 30 08.5 +1.6**
ENIJ Nijar 10.21 104 P **Pn** **04 30 08.5 +1.6**
ENIJ ⇑iVmb_V 04 30 10.9
comp=N,3µm,SNR=16
ENIJ S **Sn** **04 31 58.7 -2.8**
EALK Alkurruntz 10.25 68 P **Pn** **04 30 08.2 +0.6**
EALK ⇑iVmb_V 04 30 12.9
comp=N,2µm,SNR=10
EALK S **Sn** **04 31 58.9 -3.7**
CGR Cap Guir 10.26 157 P **Pn** **04 30 05.3 -2.3**
CGR Cap Guir 10.26 157 S Sn 04 31 53.5 -9.2
E0901 Celadas (Terue 10.29 84 P **Pn** **04 30 08.0 -0.1**
E0901 S **Sn** **04 32 00.6 -2.9**
ELOR Lorca, Murcia 10.33 100 P **Pn** **04 30 09.7 +1.1**
ELOR ⇑iVmb_V 04 30 14.4
comp=N,2µm,SNR=4.5
ELOR S **Sn** **04 31 59.4 -5.0**
TLOR Lorca, Murcia 10.36 100 S **Sn** **04 32 00.4 -4.9**
TLOR P **Pn** **04 30 10.0 +1.0**
TLOR Lorca, Murcia 10.36 100 P **Pn** **04 30 10.2 +1.1**
TLOR S **Sn** **04 32 02.0 -3.2**
PGRA Graciosa 10.40 268 *eP* Pn 04 30 16.4 +6.9
EVIV Cofrentes, Val 10.42 91 P **Pn** **04 30 08.5 -1.4**
EVIV S **Sn** **04 32 00.5 -6.2**
GOG Mont Gurugu 10.43 115 P **Pn** **04 30 11.2 +1.1**
GOG Mont Gurugu 10.43 115 S **Sn** **04 32 06.2 -0.7**
SJPF Ste Jean 10.43 69 *eP* **Pn** **04 30 10.7 +0.7**
SJPF *eSn* Sn 04 31 55.6 -11
comp=N,59nm,0.5s
CZD Col de Zad 10.46 130 P **Pn** **04 30 10.9 +0.2**
CZD Col de Zad 10.46 130 S **Sn** **04 32 05.5 -2.7**
ECHE Chera 10.49 89 S **Sn** **04 32 01.1 -7.3**
ECHE P **Pn** **04 30 10.6 -0.3**
ECHE Chera 10.49 89 P **Pn** **04 30 10.5 -0.3**
ECHE ⇑iVmb_V 04 30 20.1
comp=N,2µm,SNR=7.8
ECHE S **Sn** **04 32 04.1 -4.3**
PMAN Manadas 10.56 266 *eP* **Pn** **04 30 08.1 -3.6**
PID Ribeirinha 10.62 265 *eP* **Pn** **04 30 09.2 -3.5**
EMUR La Murta 10.65 98 S **Sn** **04 32 06.6 -5.7**
EMUR P **Pn** **04 30 13.1 +0.1**
EMUR La Murta 10.65 98 P **Pn** **04 30 12.8 -0.2**
EMUR S **Sn** **04 32 12.3 0.0**
ROSA Rosais 10.66 267 *eP* **Pn** **04 30 09.4 -3.7**
PPNO Prainha do Nor 10.73 265 *eP* **Pn** **04 30 10.6 -3.5**
MD31 MD31 10.75 130 P **Pn** **04 30 14.7 +0.2**
MD31 MD31 10.75 130 S **Sn** **04 32 10.8 -4.1**
EMOS Mosqueruela 10.79 84 P **Pn** **04 30 15.5 +0.4**
EMOS ⇑iVmb_V 04 30 18.4
comp=N,2µm,SNR=8.5
EMOS S **Sn** **04 32 12.9 -3.2**
ESAC San Caprasio 10.80 77 P **Pn** **04 30 12.0 -3.1**
ESAC S **Sn** **04 32 08.8 -7.2**
TTIG Tnine Tigouga, 10.83 151 P **Pn** **04 30 12.3 -3.3**
TTIG Tnine Tigouga, 10.83 151 S **Sn** **04 32 09.8 -7.1**
PICO Pico 10.85 266 *eP* **Pn** **04 30 12.3 -3.4**
ETSF Etsaut 10.87 71 *eP* **Pn** **04 30 17.1 +1.1**
ETSF *eSn* Sn 04 32 07.1 -11
comp=N,7.8nm,0.2s
MDT Midelt 10.88 129 Pn **Pn** **04 30 16.8 +0.6**
comp=N,84nm,0.3s,baz=322,slow=9.2,SNR=521
MDT Sn Sn 04 32 06.2 -12
comp=N,61nm,0.3s,baz=36,slow=20,SNR=14
PCAN Candelaria 10.90 265 *eP* **Pn** **04 30 13.0 -3.4**
CART Cartagena 10.90 99 Pn **Pn** **04 30 16.5 0.0**
CART Cartagena 10.90 99 S **Sn** **04 32 10.2 -8.2**
CART P **Pn** **04 30 17.0 +0.5**
AFON Font Roja 10.97 93 P **Pn** **04 30 18.4 +0.8**
AFON S **Sn** **04 32 13.7 -6.7**
TIO Tiouine 10.98 145 S Sn 04 32 11.4 -9.1
TIO P **Pn** **04 30 17.0 -0.6**
TIO Tiouine 10.98 145 P **Pn** **04 30 16.8 -0.9**
TIO Tiouine 10.98 145 S **Sn** **04 32 13.9 -6.7**
HOR Horta 11.00 266 *eP* **Pn** **04 30 14.2 -3.5**
PCED Cedros 11.03 267 *eP* **Pn** **04 30 14.7 -3.5**
CALA Caldeira 11.04 266 *eP* **Pn** **04 30 14.9 -3.5**
PFCBR Castelo Branco 11.06 266 *eP* **Pn** **04 30 14.9 -3.7**
OUZM OUZ 11.22 143 P **Pn** **04 30 20.3 -0.7**
OUZM OUZ 11.22 143 S **Sn** **04 32 21.0 -5.5**
EBEN2 Beniarda presa 11.24 93 P **Pn** **04 30 21.3 +0.2**
EBEN2 ⇑iVmb_V 04 30 26.2
comp=N,2µm,SNR=3.3
EBEN2 S **Sn** **04 32 20.6 -6.2**
QUIF Quistinic 11.29 43 *eP* **Pn** **04 30 20.2 -1.5**
QUIF *eSn* Sn 04 32 13.3 -15
comp=N,210nm,0.5s
ECHI Chisagues Biel 11.38 73 P **Pn** **04 30 23.8 +0.7**
ECHI ⇑iVmb_V 04 30 25.9
comp=N,2µm,SNR=15
ECHI S **Sn** **04 32 22.3 -8.1**
ERTA Horta de San J 11.38 81 P **Pn** **04 30 23.0 0.0**
ERTA ⇑iVmb_V 04 30 25.5
comp=N,2µm,SNR=7.0
ERTA S **Sn** **04 32 22.9 -7.4**
GOLM Goulmima 11.50 134 P **Pn** **04 30 25.1 +0.3**
GOLM Goulmima 11.50 134 S **Sn** **04 32 29.2 -4.0**
CFUE Fuerteventura 11.50 177 P **Pn** **04 30 22.7 -2.0**
CFUE S Sn 04 32 22.6 -11
ROSF Rostrenen 11.50 41 *eP* **Pn** **04 30 23.2 -1.4**
ROSF *eSn* Sn 04 32 18.2 -15
comp=N,257nm,0.3s
EPF Esparros 11.54 71 *eP* **Pn** **04 30 26.8 +1.6**
EPF *eSn* Sn 04 32 22.8 -11
comp=N,7.0nm,0.1s
TBT Taburiente 11.78 194 P **Pn** **04 30 25.0 -3.5**
TBT S Sn 04 32 23.7 -16
SGMF Saint Gilles 11.82 43 *eP* **Pn** **04 30 27.4 -1.5**
SGMF *eSn* Sn 04 32 26.1 -15
comp=N,160nm,0.5s
CGIN Giniginamar, F 11.94 178 P **Pn** **04 30 28.1 -2.6**
CGIN S Sn 04 32 31.6 -12
EPOB Poblet 11.95 79 P **Pn** **04 30 30.0 -0.8**
EPOB ⇑iVmb_V 04 30 32.9
comp=N,1µm,SNR=5.3
EPOB S Sn 04 32 34.8 -9.3
CCA1 Carnmenellis 11.99 30 *eP* **Pn** **04 30 29.2 -2.1**
CCA1 Carnmenellis 11.99 30 P **Pn** **04 30 29.2 -2.1**
CCA1 S Sn 04 32 33.2 -12
TANT Tantan 12.05 166 P **Pn** **04 30 30.1 -2.1**
EOSO Osorio 12.09 184 S Sn 04 32 34.5 -13
EOSO P **Pn** **04 30 32.0 -0.8**
CEST Esterri de Car 12.15 73 Pn **Pn** **04 30 35.1 +1.5**
VAL Valentia 12.15 13 P **Pn** **04 30 31.6 -1.9**
VAL S Sn 04 32 37.4 -12
VAL Valentia 12.15 13 P **Pn** **04 30 31.8 -1.6**
VAL S Sn 04 32 37.8 -11
LFF La Frestale 12.27 62 *eP* **Pn** **04 30 34.3 -0.8**
LFF *eSn* Sn 04 32 39.0 -13
comp=N,47nm,0.3s
EMIR Miracle 12.30 77 P **Pn** **04 30 35.7 +0.1**
EMIR ⇑iVmb_V 04 30 37.5
comp=N,3µm,SNR=5.8
EMIR S **Sn** **04 32 47.0 -5.7**
MFF Saint Martin d 12.31 54 *eP* **Pn** **04 30 34.2 -1.5**
MFF *eSn* Sn 04 32 39.2 -14
comp=N,101nm,0.5s
EIBI Ibiza 12.35 90 S Sn 04 32 44.4 -9.5
EIBI P **Pn** **04 30 37.2 +1.0**
EIBI Ibiza 12.35 90 P **Pn** **04 30 34.6 -1.6**
EIBI S **Sn** **04 32 48.8 -5.1**
ZGR Zagora 12.42 141 P **Pn** **04 30 35.0 -2.3**
ZGR Zagora 12.42 141 S **Sn** **04 32 48.1 -7.7**
SBD Saint Breward 12.50 30 *eP* **Pn** **04 30 36.3 -1.9**
JSA Saint Aubin 12.61 40 *eP* **Pn** **04 30 38.8 -0.9**
JSA Saint Aubin 12.61 40 P **Pn** **04 30 38.1 -1.6**

JSA S Sn 04 32 49.3 -11
JLP Les Platons 12.68 40 *eP* **Pn** **04 30 39.4 -1.3**
DYA Yadsworthy 12.70 33 *eP* **Pn** **04 30 39.2 -1.8**
GRR Gorron 12.81 46 *eP* **Pn** **04 30 40.1 -2.3**
GRR *eSn* Sn 04 32 50.0 -15
comp=N,151nm,0.5s
RJF Les Rejaudoux 12.90 61 *eP* **Pn** **04 30 43.1 -0.7**
RJF *eSn* Sn 04 32 54.0 -13
comp=N,63nm,0.4s
HTL Hartland 12.92 30 *eP* **Pn** **04 30 42.3 -1.7**
HTL Hartland 12.92 30 P **Pn** **04 30 41.2 -2.8**
HTL S Sn 04 32 52.7 -15
MTLF Montolieu 12.95 70 *eP* **Pn** **04 30 43.8 -0.6**
MTLF *eSn* Sn 04 32 56.5 -12
comp=N,32nm,0.4s
CAF Calviac 13.17 63 *eP* **Pn** **04 30 46.3 -1.1**
CAF *eSn* Sn 04 33 01.1 -13
comp=N,35nm,0.4s
FLN La Foliniere 13.23 45 *eP* **Pn** **04 30 46.3 -1.9**
baz=234
FLN *eSn* Sn 04 32 59.9 -15
comp=N,101nm,0.4s,baz=228
LDF La Druitiere 13.33 46 *eP* **Pn** **04 30 47.5 -2.0**
LDF *eSn* Sn 04 33 02.7 -15
comp=N,62nm,0.4s
EJON La Jonquera 13.34 74 P **Pn** **04 30 49.1 -0.6**
S Sn 04 33 08.9 -9.2
IWEX Carrickbyrne, 13.34 21 P **Pn** **04 30 48.2 -1.5**
IWEX S Sn 04 33 00.8 -17
IWEX Carrickbyrne, 13.34 21 *eP* **Pn** **04 30 48.0 -1.7**
ETOS Mallorca 13.36 86 S Sn 04 33 07.3 -11
ETOS P **Pn** **04 30 49.7 -0.4**
ETOS Mallorca 13.36 86 P **Pn** **04 30 48.4 -1.7**
ETOS ⇑iVmb_V 04 30 56.2
comp=N,1µm,SNR=2.4
ETOS S Sn 04 33 09.5 -9.2
FIGM Figuig 13.41 123 P **Pn** **04 30 51.4 +0.4**
RSBS Rosebush, Pemb 13.61 27 *eP* **Pn** **04 30 51.3 -2.1**
TCF Toulx Ste Croi 13.68 58 *eP* **Pn** **04 30 51.6 -2.8**
TCF *eSn* Sn 04 33 12.3 -14
comp=N,52nm,0.3s
IGLA Glengowla, Co 13.73 13 P **Pn** **04 30 52.3 -2.6**
IGLA S Sn 04 33 09.3 -18
BGF Bois d'Agland 14.19 58 *eP* **Pn** **04 30 59.0 -2.4**
BGF *eSn* Sn 04 33 24.1 -15
comp=N,79nm,0.4s
OLDB Oldbury-Upon-S 14.20 32 *eP* **Pn** **04 31 00.6 -0.8**
DSB Dublin 14.23 20 P **Pn** **04 31 00.1 -1.8**
DSB S Sn 04 33 24.6 -15
DSB Dublin 14.23 20 **Pn** **04 31 00.1 -1.8**
DSB Dublin 14.23 20 P **Pn** **04 30 59.5 -2.4**
DSB S Sn 04 33 24.6 -15
LASF Ste Croix 14.24 68 *eP* **Pn** **04 31 01.0 -1.0**
LASF *eSn* Sn 04 33 26.8 -13
comp=N,38nm,0.5s
MONM Monmouth 14.24 31 *eP* **Pn** **04 31 00.3 -1.6**
MCH1 Michaelchurch 14.29 30 *eP* **Pn** **04 31 00.8 -1.8**
MCH1 Michaelchurch 14.29 30 P **Pn** **04 31 00.4 -2.2**
MCH1 S Sn 04 33 28.2 -13
HYF Humbligny 14.32 55 *eP* **Pn** **04 31 01.2 -2.0**
HYF *eSn* Sn 04 33 27.3 -15
SWN1 Swindon 14.40 34 *eP* **Pn** **04 31 03.9 -0.4**
SWN1 Swindon 14.40 34 P **Pn** **04 31 02.0 -2.2**
SWN1 S Sn 04 33 31.1 -13
CLF Chambon-Foret 14.41 51 Pn **Pn** **04 31 02.9 -1.5**
CLF Chambon-Foret 14.41 51 P **Pn** **04 31 02.4 -2.0**
CLF S Sn 04 33 32.1 -12
STRD Stroud 14.45 32 *eP* **Pn** **04 31 04.2 -0.6**
WOL Wolverton 14.51 35 *eP* **Pn** **04 31 04.9 -0.8**
AVF Avril sur Loir 14.60 57 *eP* **Pn** **04 31 04.5 -2.4**
AVF *eSn* Sn 04 33 34.2 -14
comp=N,23nm,0.3s
LLW Llanuwychllyn 14.72 27 *eP* **Pn** **04 31 06.2 -2.4**
HLM1 Long Mynd 14.74 29 *eP* **Pn** **04 31 06.4 -2.5**
SSF Saint Saulge 14.79 56 *eP* **Pn** **04 31 06.8 -2.8**
SSF *eSn* Sn 04 33 38.9 -15
comp=N,38nm,0.4s
YLL Llanberis 14.80 25 *eP* **Pn** **04 31 07.5 -2.1**
WLF1 Llynfaes 14.85 24 *eP* **Pn** **04 31 08.1 -2.2**
WLF1 Llynfaes 14.85 24 P **Pn** **04 31 07.4 -2.9**
WLF1 S Sn 04 33 40.3 -14
SMF Signal de Mont 14.87 58 *eP* **Pn** **04 31 08.1 -2.5**
SMF *eSn* Sn 04 33 40.4 -15
comp=N,38nm,0.6s
WPS Cemaes, Angles 14.91 24 *eP* **Pn** **04 31 08.9 -2.2**
FOEL Foel Wylfa 14.92 28 *eP* **Pn** **04 31 09.1 -2.2**
FOEL Foel Wylfa 14.92 28 P **Pn** **04 31 09.0 -2.3**
FOEL S Sn 04 33 43.2 -13
HMNX Herstmonceux 14.94 39 *eP* **Pn** **04 31 10.8 -0.6**
HMNX Herstmonceux 14.94 39 P **Pn** **04 31 10.6 -0.9**
HMNX S Sn 04 33 40.6 -16
ILTH Belurgan, Co L 14.95 19 P **Pn** **04 31 09.5 -2.1**
ILTH S Sn 04 33 41.4 -16
SSB Saint Sauveur 14.95 64 Pn **Pn** **04 31 10.6 -1.2**
SSB Saint Sauveur 14.95 64 P **Pn** **04 31 10.6 -1.2**
SSB pmax pmax
comp=Z,67nm,0.6s
VIVF Saint-Julien-l 14.95 65 *eP* **Pn** **04 31 10.5 -1.3**
VIVF *eSn* Sn 04 33 43.8 -14
comp=Z,91nm,0.7s
WME Myndd Eilian 14.97 24 *eP* **Pn** **04 31 10.6 -1.3**
LOR Lormes 15.09 56 *eP* **Pn** **04 31 11.0 -2.6**
baz=247
LOR *eSn* Sn 04 33 45.8 -15
comp=Z,17nm,0.3s
STNC Stoke 15.45 29 *eP* **Pn** **04 31 17.1 -1.1**
STNC Stoke 15.45 29 P **Pn** **04 31 16.6 -1.6**
STNC S Sn 04 33 56.5 -13
SMRF Simiane la Rot 15.45 69 *eP* **Pn** **04 31 18.5 +0.2**
SMRF *eSn* Sn 04 33 56.0 -13
CWF Charnwood Fore 15.52 31 *eP* **Pn** **04 31 17.6 -1.6**
IOMK Kirk Michael 15.63 22 *eP* **Pn** **04 31 18.8 -1.8**
IDGL Inch Island, C 15.65 15 P **Pn** **04 31 19.0 -1.8**
IDGL S Sn 04 33 58.7 -15
ORIF Oris-en-Rattie 15.81 66 *eP* **Pn** **04 31 23.4 +0.3**
ORIF *eSn* Sn 04 34 04.2 -14
comp=Z,26nm,0.7s
LBWR Ladybower, Pea 15.87 29 *eP* **Pn** **04 31 23.4 -0.3**
LBWR Ladybower, Pea 15.87 29 P **Pn** **04 31 23.7 0.0**
ELMS Elmsett, Ipswi 16.05 37 *eP* **Pn** **04 31 26.3 +0.3**
LMR La Mourre 16.06 72 *eSn* Sn 04 34 10.4 -14
comp=Z,38nm,0.9s
GAL1 Galloway 16.12 21 *eP* **Pn** **04 31 25.6 -1.4**
SFTF Sexfontaines 16.18 54 *eP* **Pn** **04 31 26.1 -1.7**
SFTF *eSn* Sn 04 34 09.4 -18
comp=Z,24nm,0.4s
MEZF Maizieres J'vi 16.31 53 *eP* **Pn** **04 31 26.4 -2.9**
baz=247
MEZF *eSn* Sn 04 34 11.8 -18
comp=Z,14nm,0.2s,baz=250
WACR West Acre 16.32 35 *eP* **Pn** **04 31 30.4 +0.9**
CABF La Chapelle 16.33 60 *eP* **Pn** **04 31 28.3 -1.5**
CABF *eSn* Sn 04 34 15.9 -15
comp=Z,42nm,0.7s
HPK Haverah Park 16.34 28 *eP* **Pn** **04 31 28.9 -0.9**
KESW Keswick, Cumbr 16.36 24 *eP* **Pn** **04 31 29.5 -0.5**
BNI Bardonecchia 16.39 66 **P** **04 31 31.9 -1.5**
BNI Bardonecchia 16.39 66 P **P** **04 31 32.0 -1.5**
BNI Bardonecchia 16.39 66 P **P** **04 31 32.0 -1.5**
BNI pmax pmax
comp=Z,40nm,1.0s
LMK Market Rasen 16.45 31 *eP* **Pn** **04 31 30.6 -0.5**
NEWG New Galloway 16.48 21 *eP* **Pn** **04 31 30.2 -1.3**
BAIF Baives 16.51 47 *eP* **Pn** **04 31 31.1 -0.8**
BAIF *eSn* Sn 04 34 18.6 -16
comp=Z,5.8nm,0.2s
LPL La Plagne 16.51 64 *eP* **Pn** **04 31 33.2 +1.0**
LPG La Plagne 16.52 64 *eP* **Pn** **04 31 33.6 +1.2**
ISO Isola 16.53 69 P **P** **04 31 34.3 -0.6**
BRANT Les Verrieres 16.68 59 P **Pn** **04 31 33.6 -0.6**
PAGF Fort de Pagny 16.74 53 *eP* **Pn** **04 31 31.7 -3.2**
baz=247
PAGF *eSn* Sn 04 34 24.8 -16
comp=Z,61nm,0.7s
DOU Dourbes 16.74 47 P **Pn** **04 31 34.0 -0.9**
DOU S **Sn** **04 34 30.6 -10**
SBF Sospel 16.77 70 *eSn* Sn 04 34 27.9 -14
comp=Z,83nm,0.9s
GIVF Givet 16.88 48 *eP* **Pn** **04 31 35.9 -0.7**
GIVF *eSn* Sn 04 34 27.2 -17
comp=Z,69nm,0.6s
HAU Haudompre 16.93 56 *eP* **Pn** **04 31 34.5 -2.8**

HAU *eSn* Sn 04 34 29.6 -16
comp=Z,7.0nm,0.2s
EDMD Edmundbyers 16.93 26 *eP* **Pn** **04 31 36.8 -0.4**
ESK Eskdalemuir 16.95 23 **Pn** **04 31 37.0 -0.4**
ESK Eskdalemuir 16.95 23 *eP* **Pn** **04 31 37.5 +0.1**
ESK Eskdalemuir 16.95 23 P **Pn** **04 31 36.2 -1.2**
ESK S Sn 04 34 30.1 -16
ESK Eskdalemuir 16.95 23 P **Pn** **04 31 37.0 -0.4**
ESK pmax pmax
comp=Z,30nm,0.7s
UCC Uccle 16.97 45 **Pn** **04 31 37.4 -0.3**
UCC Uccle 16.97 45 P **Pn** **04 31 37.4 -0.3**
UCC pmax pmax
comp=Z,13nm,1.2s
EKA Eskdalemuir Ar 16.97 23 Pn **Pn** **04 31 37.5 -0.3**
baz=200,slow=14
EKA Sn Sn 04 34 32.6 -14
baz=214,slow=23
comp=Z,8.8nm,0.5s
SENIN Lac Senin/Sane 17.08 62 **P** **04 31 41.0 -0.2**
SENIN IAmb IAmb 04 31 44.2
comp=Z,117nm,0.8s
HINF Hinteralfeld 17.19 57 *eP* **Pn** **04 31 38.0 -2.5**
HINF *eSn* Sn 04 34 36.2 -15
comp=Z,24nm,0.7s
LAWE Loch Awe, Argy 17.20 18 *eP* **Pn** **04 31 41.2 +0.6**
WLF Walferdange 17.44 50 P **Pn** **04 31 44.2 +0.6**
WLF S Sn 04 34 43.9 -14
WLF Walferdange 17.44 50 P **Pn** **04 31 41.8 -1.9**
WLF S Sn 04 34 43.8 -14
WLF Walferdange 17.44 50 P **Pn** **04 31 43.8 +0.1**
WLF pmax pmax
comp=Z,66nm,0.9s
WLF Walferdange 17.44 50 *eP* **Pn** **04 31 43.7 +0.1**
comp=Z,232nm,1.6s,baz=250,slow=11
EDI Edinburgh 17.47 22 *eP* **P** **04 31 44.9 -0.3**
ECH Echery 17.51 55 Pn **Pn** **04 31 44.0 -0.5**
ECH Echery 17.51 55 P **Pn** **04 31 44.1 -0.5**
ECH pmax pmax
comp=Z,54nm,1.1s
CDF Champ du Feu 17.65 55 *eP* **Pn** **04 31 44.0 -2.4**
CDF *eSn* Sn 04 34 47.0 -16
comp=Z,9.0nm,0.5s
INVG Invergeldie, C 17.68 20 *eP* **P** **04 31 47.5 -0.1**
MEM Membach 17.79 47 P **Pn** **04 31 48.1 +0.2**
MEM pmax pmax
comp=Z,93nm,0.8s
PGF Pioggiola 17.86 75 *ePn* **Pn** **04 31 49.0 0.0**
PGF *eSn* Sn 04 34 53.9 -14
comp=Z,261nm,1.5s
KPL Plockton 18.14 16 *eP* **P** **04 31 54.3 +1.8**
KPL Plockton 18.14 16 P **Pn** **04 31 49.6 -2.5**
KPL S Sn 04 34 47.8 -27
SLE Schleitheim 18.23 58 P **Pn** **04 31 52.7 -0.7**
SLE Schleitheim 18.23 58 P **P** **04 31 55.5 +1.9**
SLE pmax pmax
comp=Z,30nm,1.0s
BFO Black Forest 18.29 56 P **P** **04 31 54.6 +0.3**
BFO Black Forest 18.29 56 P **P** **04 31 54.6 +0.3**
BFO pmax pmax
comp=Z,30nm,0.8s
BFO Black Forest 18.29 56 *eP* **P** **04 31 55.2 +0.9**
comp=Z,22nm,0.8s,baz=250,slow=11
TUE Stuetta 18.49 62 P **Pn** **04 31 58.5 +1.7**
TUE Stuetta 18.49 62 P **Pn** **04 31 58.8 +2.0**
BUG Bochum--Univer 18.88 46 P **Pn** **04 32 01.6 +0.4**
BUG pmax pmax
comp=Z,77nm,0.7s
BUG Bochum--Univer 18.88 46 *eP* **Pn** **04 32 01.4 +0.1**
comp=Z,56nm,1.0s,baz=250,slow=11
STU Stuttgart 18.97 55 P **Pn** **04 32 02.6 +0.2**
STU Stuttgart 18.97 55 P **Pn** **04 32 02.6 +0.2**
STU pmax pmax
comp=Z,54nm,0.9s
STU Stuttgart 18.97 55 *eP* **Pn** **04 32 03.8 +1.4**
comp=Z,141nm,0.9s,baz=250,slow=11
DAVA Damuels 19.02 60 *i* Pn **Pn** **04 32 04.8 +1.6**
comp=Z,27nm,1.3s
TNS Taunus Mts 19.02 50 P **Pn** **04 32 03.0 -0.1**
TNS pmax pmax
comp=Z,36nm,0.8s
TNS Taunus Mts 19.02 50 *eP* **Pn** **04 32 02.9 -0.3**
comp=Z,20nm,0.6s,baz=250,slow=11
FUORN Ofenpass-Fuorn 19.14 62 P **Pn** **04 32 06.1 +1.4**
UBR Ueberruh 19.26 59 *eP* **Pn** **04 32 07.2 +1.3**
comp=Z,23nm,0.7s,baz=250,slow=11
ZCCA Zocca 19.35 69 P **Pn** **04 32 09.2 +2.2**
ZCCA IAmb IAmb 04 32 12.8
comp=Z,84nm,1.0s
KEST Kesra 19.37 96 P **Pn** **04 32 09.1 +1.7**
KEST IAmb IAmb 04 32 12.7
comp=Z,76nm,1.1s
KEST Kesra 19.37 96 P **Pn** **04 32 08.9 +1.5**
comp=Z,39nm,0.8s,baz=322,slow=2.6,SNR=23
KEST S **Sn** **04 35 41.4 -3.3**
comp=Z,5.3nm,0.9s,baz=42,slow=16,SNR=2.3
KEST LR LR 04 38 46.4
comp=Z,428nm,19.9s,baz=297,slow=34
KASTN Kahler Asten 19.41 48 *eP* **Pn** **04 32 08.5 +0.8**
comp=Z,32nm,1.1s,baz=250,slow=11
FETA Feichten 19.53 61 *i* Pn **Pn** **04 32 10.4 +1.1**
comp=Z,21nm,0.7s
IBBN Ibbenburen 19.56 44 *eP* **Pn** **04 32 09.1 -0.3**
comp=Z,39nm,0.8s,baz=250,slow=11
RETA Reutte 19.64 60 *i* Pn **Pn** **04 32 11.3 +0.7**
comp=Z,6.2nm,0.5s
MOTA Moosalm 19.84 60 *i* Pn **Pn** **04 32 13.6 +0.5**
comp=Z,27nm,0.6s
SQTA Sankt Quirin 19.89 61 *i* Pn **Pn** **04 32 14.1 +0.6**
comp=Z,13nm,0.7s
TEOL Teolo 19.93 66 P **Pn** **04 32 14.0 +0.1**
FUR Furstenfeldbru 20.14 58 P Pn 04 32 16.5 +0.1
FUR pmax pmax
comp=Z,69nm,0.7s
FUR Furstenfeldbru 20.14 58 *eP* Pn 04 32 16.1 -0.3
comp=Z,44nm,0.9s,baz=250,slow=11
WATA Walderalm 20.16 61 *i* P Pn 04 32 16.6 -0.1
comp=Z,17nm,0.6s
UBBA Unterbreizbach 20.17 50 *eP* Pn 04 32 18.1 +1.5
comp=Z,57nm,1.6s,baz=250,slow=11
WTTA Wattenberg 20.18 61 *i* P Pn 04 32 17.2 +0.2
comp=Z,105nm,0.7s
WTTA Wattenberg 20.18 61 P Pn 04 32 17.2 +0.1
WTTA pmax pmax
comp=Z,214nm,0.8s
GRFO Grafenberg 20.52 54 P Pn 04 32 19.8 -1.0
GRFO Grafenberg 20.52 54 P Pn 04 32 19.8 -1.0
GRFO pmax pmax
comp=Z,100nm,0.7s
GRF Grafenberg Arr 20.52 54 P Pn 04 32 20.4 -0.4
GRF pmax pmax
comp=Z,156nm,0.8s
GRF Grafenberg Arr 20.52 54 *eP* Pn 04 32 20.6 -0.3
comp=Z,107nm,0.7s,baz=250,slow=11
ABTA Abfaltersbach 20.68 62 *i* P Pn 04 32 22.2 -0.6
comp=Z,16nm,0.6s
CLZ Clausthal 20.79 48 *eP* Pn 04 32 23.1 -0.9
comp=Z,46nm,1.3s,baz=250,slow=11
FDMO Fiordimonte 20.86 73 P Pn 04 32 24.1 -0.7
FDMO IAmb IAmb 04 32 27.6
comp=Z,37nm,0.8s
LESA Schwarzleotal 20.91 61 *i* P Pn 04 32 24.7 -0.8
comp=Z,34nm,0.6s
NRDL Niedersach Rie 20.92 46 *eP* Pn 04 32 25.0 -0.4
comp=Z,83nm,1.2s,baz=250,slow=11
RJOB Jochberg 21.04 60 *eP* **P** **04 32 26.0 +1.6**
comp=Z,86nm,0.8s,baz=250,slow=11
MOX Moxa 21.07 51 P **P** **04 32 26.4 +1.8**
MOX pmax pmax
comp=Z,90nm,0.9s
MOX Moxa 21.07 51 *eP* **P** **04 32 26.0 +1.4**
comp=Z,52nm,0.9s,baz=250,slow=11
CAMP Campotosto 21.12 74 P **P** **04 32 27.2 +1.9**
CAMP IAmb IAmb 04 32 34.2
comp=Z,121nm,1.4s
ROTZ Rotzenmuhle 21.15 54 *eP* **P** **04 32 26.3 +0.8**
comp=Z,12nm,0.7s,baz=250,slow=11
MANZ Manzenberg 21.16 53 *eP* **P** **04 32 26.3 +0.8**
comp=Z,14nm,0.9s,baz=250,slow=11
KBA Koelnbreinsper 21.30 62 *i* P **P** **04 32 29.1 +1.8**
comp=Z,46nm,0.7s
KBA Koelnbreinsper 21.30 62 P **P** **04 32 28.7 +1.4**
KBA pmax pmax
comp=Z,119nm,0.9s
PLN Plauen 21.34 52 *eP* **P** **04 32 28.5 +1.0**
comp=Z,85nm,1.1s,baz=250,slow=11

NEUB Neuenburg 21.36 50 *eP* **P 04 32 29.4 +1.7**
comp=Z,73nm,0.9s,baz=250,slow=11
PRED Cave del Predi 21.36 64 IAmb IAmb 04 32 29.6
comp=Z,44nm,0.7s
WET Wettzell 21.41 56 P **P 04 32 29.2 +1.0**
WET pmax pmax
comp=Z,49nm,0.9s
WET Wettzell 21.41 56 *eP* **P 04 32 29.0 +0.8**
comp=Z,34nm,0.8s,baz=250,slow=11
TRI Trieste 21.42 66 P **P 04 32 30.6 +2.2**
MYKA Terra Mystica 21.44 63 *i* P **P 04 32 29.9 +1.3**
comp=Z,20nm,0.6s
NKC Novy Kostel 21.44 53 *eP* **P 04 32 29.8 +1.2**
NKC Novy Kostel 21.44 53 P **P 04 32 29.3 +0.7**
NKC pmax pmax
comp=Z,28nm,0.8s
CADS Cadrg 21.45 64 *i* P **P 04 32 29.9 +1.1**
TANN Tannenbergstha 21.50 53 *eP* **P 04 32 30.5 +1.2**
comp=Z,33nm,0.8s,baz=250,slow=11
BIOA Bad Ischl, Aus 21.59 60 *i* P **P 04 32 31.6 +1.3**
comp=Z,13nm,0.6s
BSEG Bad Segeberg 21.71 42 P **P 04 32 32.7 +1.4**
BSEG pmax pmax
comp=Z,101nm,1.2s
BSEG Bad Segeberg 21.71 42 *eP* **P 04 32 32.4 +1.1**
comp=Z,92nm,0.9s,baz=250,slow=11
GORT1 Trebel 21.80 45 *eP* **P 04 32 33.9 +1.6**
comp=Z,162nm,1.6s,baz=250,slow=11
KHC Kasperske Hory 21.85 56 P **P 04 32 34.1 +1.1**
KHC Kasperske Hory 21.85 56 *eP* **P 04 32 33.5 +0.5**
KHC AMS AMS 04 43 10.0
comp=Z,400nm,13.1s
KHC Kasperske Hory 21.85 56 *ceP* **P 04 32 33.9 +0.9**
KHC pmax pmax
comp=Z,71nm,1.7s
GEC2 GERESS Array S 21.86 57 P **P 04 32 33.9 +0.7**
GEC2 IAmb IAmb 04 32 37.4
comp=Z,68nm,0.9s
GEC2 GERESS Array S 21.86 57 *eP* **P 04 32 34.2 +1.0**
comp=Z,76nm,1.0s,baz=250,slow=11
GERES GERESS Array B 21.86 57 P **P 04 32 34.2 +1.0**
comp=Z,34nm,0.8s
GERES S **S 04 36 34.7 -0.1**
comp=Z,34nm,0.8s
CEY Cerknica 21.89 66⇑ *iP* **P 04 32 34.8 +1.3**
LJU Ljubljana 21.98 65 *i* P **P 04 32 35.8 +1.3**
MOA Molln 22.04 60 *i* P **P 04 32 36.4 +1.4**
comp=Z,17nm,0.6s
OBKA Obir 22.05 64 *i* P **P 04 32 36.6 +1.4**
comp=Z,123nm,0.7s
OBKA Obir 22.05 64⇑ *iP* **P 04 32 36.1 +0.9**
CLL Collm 22.11 51 *i* P **P 04 32 36.6 +0.8**
CLL *i* 04 32 38.7
CLL *eS* **S 04 36 42.0 +2.6**
CLL pmax pmax
comp=Z,20nm,0.9s
CLL Collm 22.11 51 *eP* **P 04 32 36.9 +1.1**
comp=Z,25nm,0.8s,baz=250,slow=11
CLL Collm 22.11 51 *i* P **P 04 32 36.6 +0.8**
comp=Z,20nm,0.9s
CLL *i* x x 04 32 38.7
comp=Z,28nm,0.8s
CLL *i* x x 04 32 42.2
CLL *ex* x 04 32 59.0
CLL *e*PP **PnPn 04 33 03.0 +5.3**
CLL *e*PPP PPP 04 33 07.0
CLL *e*S **S 04 36 42.0 +2.6**
CLL *e*SSS SSS 04 37 26.0
CLL AMS AMS 05 07 00.0
comp=Z,200nm,18.0s
CLL Collm 22.11 51 P **P 04 32 36.1 +0.3**
comp=Z,33nm,0.9s
HSKC Hora Svate Kat 22.15 53 *eP* **P 04 32 37.3 +1.1**
SSRD Sdr. Stenderup 22.17 38 *i* P **P 04 32 37.4 +1.1**
SSRD IAmb IAmb 04 32 39.3
comp=Z,224nm,0.9s
CKRC Cesky Krumlov 22.25 58 *eP* **P 04 32 38.1 +0.8**
CKRC AMS AMS 04 43 20.0
comp=Z,400nm,10.2s
CKRC Cesky Krumlov 22.25 58 *eP* **P 04 32 38.1 +0.8**
CKRC MLR MLR
comp=Z,400nm,10.2s
ZVC Zvikov 22.31 56 *eP* **P 04 32 38.9 +1.0**
ZVC AMS AMS 04 43 30.0
comp=Z,300nm,13.2s
SOKA Soboth 22.39 63 *i* P **P 04 32 39.6 +0.6**
comp=Z,28nm,0.8s
MUD Monsted U'grnd 22.52 36 P **P 04 32 41.1 +1.0**
MUD pmax pmax
comp=Z,149nm,1.2s
MUD Monsted U'grnd 22.52 36 *i* P **P 04 32 39.7 -0.4**
MUD IAmb IAmb 04 32 43.4
comp=Z,99nm,0.8s
RICC Richard 22.54 53 *eP* **P 04 32 43.1 +2.8**
BRG Berggiesshubel 22.54 52 *i* P **P 04 32 42.3 +2.0**
BRG Amp 04 32 44.3
comp=Z,58nm,0.9s
BRG PP **PnPn 04 33 06.6 +3.0**
BRG Amp 04 33 07.5
comp=Z,14nm,0.9s
BRG Berggiesshubel 22.54 52 *i* P **P 04 32 42.3 +2.0**
BRG 04 33 06.5
BRG S **S 04 36 53.0 +5.6**
BRG pmax pmax
comp=Z,58nm,0.9s
BRG pmax pmax
comp=Z,14nm,0.9s
BRG smax smax
comp=N,283nm,11.2s
BRG MLR MLR
comp=E,212nm,10.3s
BRG MLR MLR
comp=Z,312nm,10.5s
BRG Berggiesshubel 22.54 52 *eP* **P 04 32 42.3 +2.0**
comp=Z,64nm,1.0s,baz=250,slow=11
PRU Pruhonice 22.67 55 *eP* **P 04 32 43.6 +1.9**
PRU AMS AMS 04 45 10.0
comp=Z,300nm,9.2s
PRU Pruhonice 22.67 55 *eP* **P 04 32 43.6 +1.9**
PRU MLR MLR
comp=Z,300nm,9.2s
VAE Valguarnera 22.71 87 LR LR 04 40 51.1
comp=Z,720nm,21.5s,baz=248,slow=35
RAFF Raffo Rosso 22.75 88 P **P 04 32 43.8 +1.1**
RAFF IAmb IAmb 04 33 24.4
comp=Z,101nm,1.3s
ARSA Arzberg 22.79 62 *i* P **P 04 32 43.2 0.0**
comp=Z,23nm,0.6s
GOPC GO Pecny, Ondr 22.80 55 *eP* **P 04 32 43.3 +0.1**
GOPC AMS AMS 04 43 50.0
comp=Z,300nm,16.6s
GOPC GO Pecny, Ondr 22.80 55 *eP* **P 04 32 43.3 +0.1**
GOPC MLR MLR
comp=Z,300nm,16.6s
GOET G??ttrup 22.89 35 *i* P **P 04 32 43.6 -0.4**
GOET IAmb IAmb 04 32 47.7
comp=Z,88nm,0.8s
SNART Snartemo 22.91 30 *eP* **P 04 32 44.5 +0.4**
SNART IAmb IAmb 04 32 46.9
comp=Z,270nm,1.4s
SNART Snartemo 22.91 30 *i* P **P 04 32 43.0 -1.2**
RUE Ruedersdorf 22.97 48 *eP* **P 04 32 45.9 +1.1**
comp=Z,42nm,0.7s,baz=250,slow=11
PTJ Puntijarka 22.98 65 P **P 04 32 46.5 +1.4**
ZAG Zagreb 22.98 66 P **P 04 32 46.2 +1.1**
ZAG pmax pmax
comp=Z,76nm,0.9s
TREC Trest 23.11 57 *eP* **P 04 32 46.6 +0.3**
TREC Trest 23.11 57 *eP* **P 04 32 46.6 +0.3**
CONA Conrad Observa 23.11 60 *i* P **P 04 32 46.9 +0.5**
comp=Z,40nm,0.6s
KOGS Kog 23.21 64 *i* P **P 04 32 47.5 +0.1**
CUC Castrocucco 23.22 81 P **P 04 32 48.8 +1.2**
A050A Klekovaca 23.33 69⇑ *iP* **P 04 32 49.5 +0.8**
RONA Rosalia, Austr 23.37 61 *i* P **P 04 32 49.6 +0.5**
comp=Z,14nm,0.6s
HOMB Homborsund 23.37 32 *eP* **P 04 32 49.9 +1.1**
HOMB IAmb IAmb 04 32 52.1
comp=Z,88nm,1.3s
HOMB Homborsund 23.37 32 *i* P **P 04 32 48.0 -0.9**
BLS5 Blasjo 23.39 28 *eP* **P 04 32 50.1 +0.9**
BLS5 IAmb IAmb 04 32 53.0
comp=Z,53nm,0.9s
SOP Sopron 23.54 61 P **P 04 32 51.7 +1.0**
SOP pmax pmax
comp=Z,43nm,0.9s
A051A Mrakovica 23.60 68⇑ *iP* **P 04 32 51.9 +0.5**
CEL Celeste 23.64 85 P **P 04 32 52.6 +0.8**
CEL IAmb IAmb 04 33 02.1
comp=Z,29nm,1.0s
KRUC Moravsky 23.65 58 *eP* **P 04 32 52.1 +0.4**
KRUC Moravsky 23.65 58 P **P 04 32 52.2 +0.5**
KRUC pmax pmax
comp=Z,98nm,0.8s
UPC Upice 23.71 54 *eP* **P 04 32 53.4 +1.1**
UPC Upice 23.71 54 P **P 04 32 53.4 +1.1**
UPC pmax pmax
comp=Z,73nm,0.9s
CHVC Chvalec 23.75 54 *eP* **P 04 32 54.3 +1.5**
CHVC Chvalec 23.75 54 *eP* **P 04 32 54.3 +1.5**
BLY Banja Luka 23.80 68⇑ *iP* **P 04 32 53.9 +0.7**
ODD1 Odda 23.81 27 *eP* **P 04 32 54.0 +0.8**
ODD1 IAmb IAmb 04 32 55.6
comp=Z,75nm,0.9s
VRAC Vranov 23.82 57 *eP* **P 04 32 53.8 +0.4**
OSTC Ostas 23.85 54 *eP* **P 04 32 54.9 +1.2**
OSTC Ostas 23.85 54 *eP* **P 04 32 54.9 +1.2**
DPC Dobruska-Polom 23.86 54 *eP* **P 04 32 55.1 +1.2**
DPC Dobruska-Polom 23.86 54 *eP* **P 04 32 55.1 +1.2**
DPC Dobruska-Polom 23.86 54 P **P 04 32 53.6 -0.3**
comp=Z,46nm,1.0s
KSP Ksiaz 23.96 53 *eP* **P 04 32 55.6 +0.8**
KSP Ksiaz 23.96 53 P **P 04 32 55.7 +0.9**
KSP pmax pmax
comp=Z,27nm,1.9s
KSP Ksiaz 23.96 53 P **P 04 32 54.5 -0.3**
comp=Z,27nm,1.9s,comp=Z,394nm
A052A Srbac 24.04 68 *eP* **P 04 32 56.1 +0.7**
TIP Timpagrande 24.09 82 P **P 04 32 57.2 +1.1**
TIP IAmb IAmb 04 33 00.2
comp=Z,23nm,0.8s
TIP Timpagrande 24.09 82⇑ P **P 04 32 59.8 +3.7**
KRLC Kraliky 24.09 55 *eP* **P 04 32 57.4 +1.4**
KRLC Kraliky 24.09 55 *eP* **P 04 32 57.4 +1.4**
MODS Modra-Piesok 24.11 60 *eP* **P 04 32 57.4 +1.2**
MODS pmax pmax
comp=Z,285nm,1.2s
MODS Modra-Piesok 24.11 60 *eP* **P 04 32 57.4 +1.2**
LUNU Lund 24.11 41 *i* P **P 04 32 56.0 -0.1**
MPLH Magyarpolny 24.15 62 P **P 04 32 56.7 +0.2**
comp=Z,590nm,0.9s,comp=Z,5μm
SMOL Smolenice 24.23 59 *eP* **P 04 32 58.5 +1.2**
SMOL pmax pmax
comp=Z,33nm,0.9s
STON Ston 24.25 73 *eP* **P 04 32 57.8 +0.4**
TAM Tamanrasset 24.29 129 P **P 04 32 58.3 +0.2**
TAM Tamanrasset 24.29 129 P **P 04 32 58.3 +0.2**
TAM pmax pmax
comp=Z,11nm,0.9s
JAVC Velka Javorina 24.44 58 *eP* **P 04 33 00.6 +1.3**
MORC Moravsky Berou 24.51 56 P **P 04 33 00.8 +0.9**
MORC Moravsky Berou 24.51 56 *eP* **P 04 33 00.4 +0.5**
MORC Moravsky Berou 24.51 56⇑ P **P 04 33 00.4 +0.5**
MORC Moravsky Berou 24.51 56 P **P 04 33 00.8 +0.9**
MORC pmax pmax
comp=Z,69nm,0.8s
MAUC Maruska 24.62 57 *eP* **P 04 33 02.1 +1.2**
BSD Bornholm Skovb 24.63 43⇓ *iP* **P 04 33 00.5 -0.3**
BSD IAmb IAmb 04 33 02.6
comp=Z,44nm,1.2s
KONO Kongsberg 24.71 30 P **P 04 33 02.3 +0.9**
KONO IAmb IAmb 04 33 04.2
comp=Z,24nm,0.8s
KONO Kongsberg 24.71 30 *eP* **P 04 33 02.3 +0.9**
KONO Kongsberg 24.71 30 *ceP* **P 04 33 03.1 +1.6**
KONO pmax pmax
comp=Z,48nm,1.7s
DEL Delary 24.73 39 *i* P **P 04 33 03.0 +1.4**
SRO Srobarova 24.74 61 *eP* **P 04 33 03.3 +1.5**
SRO pmax pmax
comp=Z,31nm,0.8s
SRO Srobarova 24.74 61 *eP* **P 04 33 03.3 +1.5**
TREB Trebinje 24.74 73 *eP* **P 04 33 01.4 -0.5**
MORH Mrgy, Hungar 24.85 65⇑ P **P 04 33 03.4 +0.5**
MORH Mrgy, Hungar 24.85 65 P **P 04 33 02.4 -0.5**
comp=Z,47nm,1.2s,comp=Z,536nm
BRY Bratogost 24.86 73 *eP* **P 04 33 03.0 -0.2**
HCY Herceg Novi 24.87 74 *eP* **P 04 33 03.1 0.0**
OKC Ostrava-Krasne 24.91 56 *eP* **P 04 33 04.0 +0.6**
OKC Ostrava-Krasne 24.91 56 *eP* **P 04 33 04.0 +0.6**
OKC e 04 33 04.0
SKAR Skarslia 24.95 27 *eP* **P 04 33 05.3 +1.6**
HAPS Han Pijesak,BI 25.08 70⇑ *iP* **P 04 33 05.5 +0.4**
UPM Unac-Piva 25.11 72 *eP* **P 04 33 06.4 +1.0**
VYHS Vyhne 25.16 60 *eP* **P 04 33 05.8 +0.1**
VYHS pmax pmax
comp=Z,43nm,1.1s
VYHS Vyhne 25.16 60 *eP* **P 04 33 05.8 +0.1**
BUD Budapest 25.18 62 P **P 04 33 06.6 +0.7**
BUD pmax pmax
comp=Z,30nm,0.8s
OSL Oslo 25.33 30 *eP* **P 04 33 08.4 +1.4**
RUDO Rudo 25.41 71 *eP* **P 04 33 07.5 -0.5**
BBLS Lazi&#263i 25.42 70⇑ *iP* **P 04 33 08.6 +0.4**
PDG Podgorica 25.43 74 P **P 04 33 09.2 +1.0**
PDG IAmb IAmb 04 33 11.8
comp=Z,16nm,0.7s
PDG Podgorica 25.43 74 *eP* **P 04 33 08.2 0.0**
PDG Podgorica 25.43 74⇓ P **P 04 33 08.7 +0.5**
BBTS Babate 25.47 184 LR LR 04 41 57.2
comp=Z,199nm,20.4s,baz=242,slow=34
TEKS Tekeris 25.48 69⇑ *iP* **P 04 33 07.9 -0.7**
LANS Liptovska Anna 25.65 58 *eP* **P 04 33 11.6 +1.4**
LANS pmax pmax
comp=Z,12nm,0.8s
LANS Liptovska Anna 25.65 58 *eP* **P 04 33 11.6 +1.4**
FRGS Fruska Gora 25.66 67⇑ *iP* **P 04 33 09.3 -1.0**
PSZ Piszkesteto 25.80 61 P **P 04 33 12.3 +0.7**
PSZ IAmb IAmb 04 33 15.6
comp=Z,80nm,1.5s
PSZ Piszkesteto 25.80 61 *eP* **P 04 33 12.0 +0.4**
PSZ Piszkesteto 25.80 61⇑ P **P 04 33 13.1 +1.5**
PSZ Piszkesteto 25.80 61⇑ P **P 04 33 13.1 +1.5**
SJES Sjenica 25.88 72 *eP* **P 04 33 12.0 -0.4**
PUK Puka 25.95 75 P **P 04 33 14.3 +1.3**
PUK IAmb IAmb 04 33 34.4
comp=Z,20nm,0.9s
NAO01 NORSAR Array S 25.98 29 P **P 04 33 14.0 +1.0**
NAO01 IAmb IAmb 04 33 16.7
comp=Z,38nm,1.1s
OJC Ojcow 26.02 56 *eP* **P 04 33 14.9 +1.4**
OJC Ojcow 26.02 56 P **P 04 33 14.2 +0.7**
OJC IAmb IAmb 04 33 15.5
comp=Z,24nm,0.8s
OJC Ojcow 26.02 56 P **P 04 33 14.2 +0.7**
OJC pmax pmax
comp=Z,24nm,0.8s
OJC Ojcow 26.02 56 P **P 04 33 13.0 -0.5**
comp=Z,31nm,0.7s
TIR Tirane 26.03 76⇓ P **P 04 33 20.3 +6.7**
TIR Tirane 26.03 76⇓ P **P 04 33 20.3 +6.7**
NBO00 NORSAR Array S 26.07 28 P **P 04 33 14.8 +1.0**
NBO00 IAmb IAmb 04 33 17.5
comp=Z,37nm,0.9s
NC602 NORSAR Array S 26.16 29 P **P 04 33 15.5 +1.0**
NC602 IAmb IAmb 04 33 18.9
comp=Z,35nm,1.1s
NC602 NORSAR Array S 26.16 29 *eP* **P 04 33 15.6 +1.0**
NC602 IAmb IAmb 04 33 18.6
comp=Z,28nm,1.0s
NORES NORESS Array B 26.16 29 P **P 04 33 15.5 +0.9**
DOMB Dombas 26.18 25 *eP* **P 04 33 17.2 +2.4**
NC204 NORSAR Array S 26.23 28 P **P 04 33 16.1 +0.8**
NC204 IAmb IAmb 04 33 17.7
comp=Z,45nm,1.2s
NIE Niedzica 26.23 58 *eP* **P 04 33 18.1 +2.7**
NIE Niedzica 26.23 58 P **P 04 33 17.4 +2.0**
NIE Niedzica 26.23 58 P **P 04 33 15.8 +0.4**
comp=Z,12nm,1.1s
NB2 NORSAR Subarra 26.23 29 P **P 04 33 16.0 +0.7**
comp=Z,19nm,0.9s,baz=230,slow=10
NB2 NORSAR Subarra 26.23 29 P **P 04 33 16.0 +0.7**
baz=230,slow=10
NOA NORSAR Array B 26.23 29 P **P 04 33 16.3 +1.0**
comp=Z,5.2nm,0.7s,baz=230,slow=9.7,SNR=18
NOA LR LR 04 43 03.5
comp=Z,202nm,20.3s,baz=245,slow=35
comp=Z,5.2nm,0.7s
KECS Kecovo 26.25 60 *eP* **P 04 33 16.7 +1.2**
KECS pmax pmax
comp=Z,30nm,1.0s
KECS Kecovo 26.25 60 *eP* **P 04 33 16.7 +1.2**
NC303 NORSAR Array S 26.41 28 P **P 04 33 17.9 +1.0**
NC303 IAmb IAmb 04 33 20.6
comp=Z,18nm,0.8s
HFS Hagfors 26.63 32 P **P 04 33 19.9 +1.1**
comp=Z,38nm,0.8s,baz=224,slow=10,SNR=35
HFS LR LR 04 43 38.4
comp=Z,54nm,21.3s,baz=252,slow=36
comp=Z,38nm,0.8s
OHR Ohrid 26.76 76 *i* Pn **P 04 33 23.1 +2.7**
OHR Ohrid 26.76 76 P **P 04 33 23.0 +2.7**
OHR pmax pmax
comp=Z,28nm,0.8s
STHS Stebnicka Huta 26.84 58 *eP* **P 04 33 22.0 +1.1**
STHS pmax pmax
comp=Z,11nm,1.1s
STHS Stebnicka Huta 26.84 58 *eP* **P 04 33 22.0 +1.1**
BZS Buzias 26.92 66⇑ P **P 04 33 22.4 +0.8**
BZS Buzias 26.92 66⇑ P **P 04 33 22.4 +0.8**
BEL Belsk 26.94 52 *eP* **P 04 33 23.5 +1.8**
BEL Belsk 26.94 52 P **P 04 33 23.8 +2.1**
SIRR Siria 26.95 65⇓ P **P 04 33 22.1 +0.2**
MDVR Moldovita 27.02 68⇓ P **P 04 33 22.0 -0.6**
BORR Bors 27.04 63⇑ P **P 04 33 24.1 +1.4**
BOVS Bovan 27.10 71⇓ P **P 04 33 22.8 -0.5**
SURR Surduc 27.28 66⇑ P **P 04 33 25.7 +0.8**
KOLS Kolonicke sedl 27.47 59 *eP* **P 04 33 27.5 +1.0**
KOLS pmax pmax
comp=Z,13nm,0.7s
KOLS Kolonicke sedl 27.47 59 *eP* **P 04 33 27.5 +1.0**
HERR Herculane 27.52 68⇓ P **P 04 33 27.0 0.0**
DJES Djerdap 27.60 68⇑ P **P 04 33 29.5 +1.7**
BERU Beregovo 27.67 61 P **P 04 33 28.8 +0.5**
DRGR 27.67 64⇑ P **P 04 33 28.7 +0.2**
DRGR 27.67 64⇑ P **P 04 33 28.7 +0.2**
MUKU Mukachevo 27.71 60 P **P 04 33 29.1 +0.5**
GZR Gura Zlata 27.75 67⇓ P **P 04 33 30.2 +1.1**
KWP Kalwaria Pacla 27.81 58 *eP* **P 04 33 31.1 +1.4**
KWP Kalwaria Pacla 27.81 58 P **P 04 33 30.9 +1.4**
KWP IAmb IAmb 04 33 32.8
comp=Z,24nm,0.9s
KWP Kalwaria Pacla 27.81 58 P **P 04 33 31.0 +1.4**
KWP pmax pmax
comp=Z,24nm,0.9s
KWP Kalwaria Pacla 27.81 58 P **P 04 33 30.1 +0.5**
comp=Z,30nm,0.9s
MESR Meseseni 27.84 63⇓ P **P 04 33 30.9 +1.1**
TRSU Trosnyk 27.87 61 P **P 04 33 31.2 +1.1**
BRIU Brid 27.92 60 P **P 04 33 30.7 +0.1**
MARR Marisel-Cluj 27.95 64⇑ P **P 04 33 31.6 +0.6**
KORU Korolevo 27.99 61 P **P 04 33 31.1 -0.1**
PEHC Pehcevo 28.21 74 *i* Pn **P 04 33 34.2 +0.8**
CBBR Cluj-Babes-Bol 28.25 64⇑ P **P 04 33 34.3 +0.8**
MEZ Mezhgor'ye 28.26 60 P **P 04 33 33.4 -0.2**
CJR Cluj-Napoca 28.28 64⇑ P **P 04 33 33.7 -0.2**
CJR Cluj-Napoca 28.28 64⇑ P **P 04 33 33.7 -0.2**
LOT Lotru 28.44 67⇓ P **P 04 33 35.6 +0.2**
MORS Morshin 28.55 59 P **P 04 33 35.5 -0.7**
MORS Morshin 28.55 59 P **P 04 33 35.4 -0.7**
PBUR Paburge 28.67 44 *eP* **P 04 33 38.0 +0.9**
RAKU Rahkiv 28.68 61 P **P 04 33 37.8 +0.5**
LVV L'vov 28.68 57 P **P 04 33 38.6 +1.2**
ARCR ARCALIA 28.80 63⇓ P **P 04 33 36.8 -1.6**
SUW Suwalki 28.82 49 *eP* **P 04 33 39.1 +0.6**
SUW Suwalki 28.82 49 P **P 04 33 39.6 +1.1**
SUW Suwalki 28.82 49 *eP* **P 04 33 39.1 +0.6**
SUW Suwalki 28.82 49 P **P 04 33 39.6 +1.1**
SUW pmax pmax
comp=Z,164nm,1.0s
STNU Starunia 28.92 60 P **P 04 33 39.6 +0.1**
VLAD Vladila 29.01 69⇓ P **P 04 33 43.9 +3.6**
ARR Arges 29.05 67⇑ P **P 04 33 40.9 +0.1**
KSV Kosov 29.29 61 P **P 04 33 43.5 +0.8**
KSV Kosov 29.29 61 P **P 04 33 42.1 -0.6**
VOIR 29.34 66⇑ P **P 04 33 44.2 +0.9**
VOIR 29.34 66⇑ P **P 04 33 44.2 +0.9**
VOIR 29.34 66 P **P 04 33 43.4 +0.1**
BUR08 Bucovina Ar. S 29.37 62 P **P 04 33 44.9 +1.3**
BURAR Bucovina Array 29.38 62⇓ P **P 04 33 43.2 -0.5**
BURAR Bucovina Array 29.38 62⇓ P **P 04 33 43.2 -0.5**
SLIT Slitere, Latvi 29.39 41 *eP* **P 04 33 43.1 -0.3**
PLD Plovdiv 29.51 73 P **P 04 33 46.0 +1.2**
PLD pmax pmax
comp=Z,92nm,1.1s
DOPR Dopca 29.55 65⇓ P **P 04 33 47.1 +2.0**
PABE Paberze 29.63 46 P **P 04 33 46.4 +0.8**
PABE IAmb IAmb 04 33 46.8
comp=Z,17nm,0.6s
PABE Paberze 29.63 46 *eP* **P 04 33 46.4 +0.8**
VSVD Vaisvydziai 29.73 45 *eP* **P 04 33 47.0 +0.4**
OZUR 29.82 65⇑ P **P 04 33 48.7 +1.2**
MLR Muntele Rosu 29.97 66 P **P 04 33 50.1 +1.2**
MLR Muntele Rosu 29.97 66 LR LR 04 49 01.5
comp=Z,219nm,18.3s,baz=264,slow=43
MLR Muntele Rosu 29.97 66⇑ P **P 04 33 52.7 +3.7**
MLR Muntele Rosu 29.97 66⇑ P **P 04 33 52.7 +3.7**
TURR Turia 29.98 65⇓ P **P 04 33 49.7 +0.8**
RNPP8 Varash 29.98 55 P **P 04 33 48.5 -0.3**
RNPP5 Staryi Chortor 29.99 55 P **P 04 33 48.5 -0.4**
RNPP9 Sopachiv 30.01 54 P **P 04 33 48.7 -0.4**
COVR Voineasa-Covas 30.12 66⇑ P **P 04 33 52.0 +1.8**
ELND Elena 30.21 71⇓ P **P 04 33 51.5 +0.6**
HORU Horodok 30.21 59 P **P 04 33 51.0 +0.1**
HORU Horodok 30.21 59 P **P 04 33 50.5 -0.4**
ONER Baraj Valea Uz 30.22 65⇑ P **P 04 33 51.5 +0.4**
TESR Tescani 30.39 64⇓ P **P 04 33 51.7 -0.8**
PLOR3 Plostina Array 30.43 65 P **P 04 33 52.1 -0.8**
comp=Z,12nm,0.9s
PLOR Plostina 30.43 65⇑ P **P 04 33 52.7 -0.2**
PLOR Plostina 30.43 65⇑ P **P 04 33 52.7 -0.2**
VRI Vrincioaia 30.49 65⇓ P **P 04 33 54.3 +0.9**
VRI Vrincioaia 30.49 65⇓ P **P 04 33 54.3 +0.9**
VRI Vrincioaia 30.49 65 P **P 04 33 53.1 -0.3**
comp=Z,7.2nm,0.9s
TORD Torodi Ar. Bea 30.49 147 P **P 04 33 54.7 +1.1**
comp=Z,10nm,0.8s,baz=336,slow=10,SNR=66
TORD LR LR 04 45 30.6
comp=Z,124nm,18.8s,baz=320,slow=35
comp=Z,10nm,0.8s
MTSE Matsula 30.52 40 *eP* **P 04 33 54.5 +1.0**
ODBI Odobesti 30.72 66⇑ P **P 04 33 53.6 -1.8**
PANC Panciu 30.78 65⇓ P P 04 33 50.1 -5.8
GHRR 30.95 65⇑ P **P 04 33 57.6 +0.2**
GHRR 30.95 65 P **P 04 33 57.4 0.0**
NACGM Naroch 31.06 48⇓ *iP* **P 04 33 59.3 +1.0**
comp=Z,44nm,0.9s,baz=259
MI28 Mi28,Pidlybu 31.09 56 P **P 04 33 58.6 0.0**
comp=Z,561nm,0.8s
LUBAR Lubar, Ukraine 31.10 57 P **P 04 33 57.8 -0.9**
comp=Z,33μm,1.1s,comp=Z,239μm
EZN Ezine 31.15 77 P **P 04 33 59.4 +0.1**
SCTR Scanteiesti 31.39 66⇑ P **P 04 34 01.5 +0.2**
ICOR Ion Corvin 31.43 69⇑ P **P 04 34 01.5 -0.2**
HARR Harsova 31.45 68⇑ P **P 04 34 00.6 -1.2**
HARR Harsova 31.45 68⇑ P **P 04 34 00.6 -1.2**
CFR Carcaliu 31.53 67⇓ P **P 04 34 01.3 -1.3**
CFR Carcaliu 31.53 67⇓ P **P 04 34 01.3 -1.3**
TLBR Topalu 31.55 68⇑ P **P 04 34 01.9 -0.8**
MNK Minsk 31.62 49 *i* P **P 04 34 02.5 -0.7**
comp=E,15nm,0.8s
MNK *i* P **P 04 34 02.5 -0.7**
comp=N,19nm,0.8s
MNK *i* P **P 04 34 02.5 -0.7**
comp=Z,28nm,0.6s,baz=345
MNK *i* PcP **pwP 04 34 16.3 +5.4**
MNK *i* PP **PcP 04 36 49.6 -5.6**
MNK *i* PPP PPP 04 38 35.2
MNK *i* SS SKiKP 04 48 28.9 +34
MNK *i* SSS SSS 04 51 30.4
MNK *i* LQ LQ 05 02 35.1
MNK *i* LR LR 05 07 16.1
MNK *i* LRM MLR 05 09 39.6
comp=E,330nm,18.2s
MNK *i* LRM MLR 05 09 44.2
comp=Z,126nm,16.4s
MNK *i* LRM MLR 05 09 50.7
comp=N,262nm,17.1s
MNK Minsk 31.62 49 *i* P **P 04 34 03.2 0.0**
comp=E,13nm,0.7s
MNK *i* P **P 04 34 03.2 0.0**
comp=N,19nm,0.8s

MNK *i* P **P** **04 34 03.2 0.0**
comp=Z,33nm,0.7s,baz=261
MNK *i* PP **PnPn** **04 35 06.9 +0.3**
MNK *i* S **S** **04 39 13.4 +1.3**
MNK *i* SS **SnSn** **04 40 50.5 -7.0**
MNK *i* LQ LQ 04 43 56.2
MNK *i* LR LR 04 45 34.6
MNK *i* LRM MLR 04 48 39.7
comp=N,257nm,16.8s
MNK *i* LRM MLR 04 48 50.9
comp=E,175nm,17.7s
MNK *i* LRM MLR 04 48 52.7
comp=Z,144nm,14.6s
MNK Minsk 31.62 49 *i* P **P** **04 34 02.5 -0.7**
MNK *i* 04 36 49.5
MNK pmax pmax
comp=Z,28nm,0.6s
MNK pmax pmax
comp=N,19nm,0.8s
MNK pmax pmax
comp=E,15nm,0.8s
TPGR Topolog 31.77 67 ⇑P **P** **04 34 03.0 -1.7**
VAF Ylistaro 31.81 32 *e*P **P** **04 34 05.8 +1.1**
MILM Milestii Mici 31.85 63 ⇓P **P** **04 34 03.9 -1.5**
MILM Milestii Mici 31.85 63 ⇓P **P** **04 34 03.9 -1.5**
VSU Vasula 31.89 41 *i* P **P** **04 34 06.1 +0.5**
VSU pmax pmax
comp=Z,17nm,1.0s
AK19 Malin Array Si 31.93 56 P **P** **04 34 06.2 +0.2**
AK20 Malin Array Si 31.93 56 P **P** **04 34 06.2 +0.2**
AK21 Malin Array Si 31.95 56 P **P** **04 34 06.1 -0.1**
AK13 Malin Array Si 31.96 56 P **P** **04 34 05.9 -0.3**
AK18 Malin Array Si 31.96 56 P **P** **04 34 05.9 -0.4**
AK22 Malin Array Si 31.97 56 P **P** **04 34 06.0 -0.3**
AK14 Malin Array Si 31.99 56 P **P** **04 34 06.1 -0.4**
AK15 Malin Array Si 32.00 56 P **P** **04 34 06.2 -0.4**
AK23 Malin Array Si 32.00 56 P **P** **04 34 06.3 -0.3**
AK12 Malin Array Si 32.02 56 P **P** **04 34 06.4 -0.4**
AK04 Malin Array Si 32.03 56 P **P** **04 34 06.5 -0.4**
AK11 Malin Array Si 32.03 56 P **P** **04 34 06.5 -0.4**
AK07 Malin Array Si 32.05 56 P **P** **04 34 06.7 -0.3**
AK05 Malin Array Si 32.05 56 P **P** **04 34 06.7 -0.3**
AK02 Malin Array Si 32.05 56 P **P** **04 34 06.7 -0.4**
KIEV Kiev 32.05 56 P **P** **04 34 07.9 +0.8**
KIEV Kiev 32.05 56 ⇑P **P** **04 34 07.7 +0.7**
KIEV Kiev 32.05 56 P **P** **04 34 07.9 +0.8**
KIEV pmax pmax
comp=Z,76nm,0.8s
KIEV Kiev 32.05 56 P **P** **04 34 06.8 -0.3**
comp=Z,411nm,0.8s,comp=Z,3μm
AK01 Malin Array Si 32.06 56 P **P** **04 34 06.7 -0.4**
AK03 Malin Array Si 32.06 56 P **P** **04 34 06.8 -0.4**
AKASG Malin Array Be 32.06 56 P **P** **04 34 07.7 +0.5**
comp=Z,28nm,0.7s,baz=268,slow=9.6,SNR=38
AKASG LR LR 04 45 44.0
comp=Z,116nm,21.8s,baz=206,slow=34
comp=Z,28nm,0.7s
AKASG Malin Array Be 32.06 56 P **P** **04 34 07.7 +0.5**
AKASG pmax pmax
comp=Z,49nm,0.9s
AKBB Malin Array Si 32.06 56*ce*P **P** **04 34 07.1 -0.1**
AKBB pmax pmax
comp=Z,72nm,0.9s
AKBB Malin Array Si 32.06 56 P **P** **04 34 06.8 -0.4**
AK10 Malin Array Si 32.08 56 P **P** **04 34 06.9 -0.4**
AK08 Malin Array Si 32.08 56 P **P** **04 34 07.0 -0.3**
AK09 Malin Array Si 32.10 56 P **P** **04 34 07.1 -0.4**
KEF Keuruu 32.33 34 *e*P **P** **04 34 09.6 +0.2**
FINES FINESS Array B 32.57 36 P **P** **04 34 12.4 +0.9**
comp=Z,14nm,0.7s,baz=241,slow=6.9,SNR=47
FINES LR LR 04 47 36.8
comp=Z,217nm,19.4s,baz=254,slow=37
comp=Z,14nm,0.7s
PURM Purcari 32.61 64 ⇑P **P** **04 34 13.4 +1.4**
PURM Purcari 32.61 64 P **P** **04 34 11.6 -0.4**
comp=Z,82nm,0.8s
KARP Karpathos 33.06 84 IAmb IAmb 04 34 19.0
comp=Z,24nm,0.8s
KARP Karpathos 33.06 84 *e*P **P** **04 34 17.2 +1.0**
KARP Karpathos 33.06 84 P **P** **04 34 16.0 -0.2**
comp=Z,37nm,0.8s
YER Yerkesik 33.38 81 P **P** **04 34 16.3 -2.7**
PUL Pulkovo 34.03 40 *i* P **P** **04 34 25.8 +1.6**
PUL pmax pmax
comp=Z,26nm,0.7s
DBIC Dimbokro 34.48 163 P **P** **04 34 29.1 +0.6**
DBIC IAmb IAmb 04 34 46.0
comp=Z,20nm,1.1s
DBIC Dimbokro 34.48 163 P **P** **04 34 29.4 +0.9**
comp=Z,8.6nm,0.6s,baz=333,slow=9.3,SNR=17
comp=Z,8.6nm,0.6s
JETT Jettan, Norway 34.71 21 *e*P **P** **04 34 31.5 +1.4**
VALR Valaam 34.73 37 *i* P **P** **04 34 31.7 +1.5**
VALR pmax pmax
comp=Z,64nm,0.9s
KTK1 Kautokeino 35.18 23 *e*P **P** **04 34 34.9 +0.9**
KTK1 IAmb IAmb 04 34 36.0
comp=Z,26nm,1.0s
JOF Joensuu 35.38 35 *e*P **P** **04 34 36.2 +0.3**
ARA0 ARCESS Array S 36.14 23 *e*P **P** **04 34 42.8 +0.4**
ARA0 IAmb IAmb 04 34 44.2
comp=Z,62nm,1.4s
ARCES ARCESS Array B 36.14 23 P **P** **04 34 42.6 +0.2**
comp=Z,6.2nm,0.5s,baz=232,slow=9.0,SNR=45
comp=Z,6.2nm,0.5s
ARCES ARCESS Array B 36.14 23 P **P** **04 34 42.9 +0.6**
ARCES pmax pmax
comp=Z,34nm,1.3s
HAMF Hammerfest 36.26 20 *e*P **P** **04 34 44.6 +1.3**
HAMF IAmb IAmb 04 34 45.6
comp=Z,26nm,0.9s
KHAM Kharkiv 36.58 57 P **P** **04 34 45.7 -0.6**
BR106 Keskin Array S 36.60 75 P **P** **04 34 46.1 -0.7**
comp=Z,18nm,0.9s,comp=Z,135nm
BR105 Keskin Array S 36.60 75 P **P** **04 34 46.6 -0.2**
comp=Z,23nm,0.9s,comp=Z,152nm
BR131 Keskin Array S 36.62 75 IAmb IAmb 04 34 49.2
comp=Z,19nm,0.8s
BR131 Keskin Array S 36.62 75 *i* P **P** **04 34 48.4 +1.5**
BRTR Keskin Array B 36.62 75 P **P** **04 34 48.0 +1.0**
BRTR Keskin Array B 36.62 75 P **P** **04 34 48.2 +1.3**
comp=Z,14nm,0.8s,baz=280,slow=6.7,SNR=31
BRTR LR LR 04 51 43.9
comp=Z,58nm,19.7s,baz=296,slow=39
comp=Z,14nm,0.8s
BR104 Keskin Array S 36.62 75 P **P** **04 34 46.8 -0.2**
comp=Z,21nm,0.8s,comp=Z,139nm
OBN Obninsk 36.68 49 P **P** **04 34 48.0 +0.9**
OBN Obninsk 36.68 49 LR LR 04 50 13.2
comp=Z,208nm,20.6s,baz=136,slow=37
OBN Obninsk 36.68 49*ce*P **P** **04 34 47.4 +0.3**
OBN *e* 04 36 16.1
OBN *e*S S 04 40 39.1 +9.0
OBN pmax pmax
comp=Z,30nm,0.5s
OBN MLR MLR
comp=Z,169nm,15.0s
OBN Obninsk 36.68 49 P **P** **04 34 46.2 -0.9**
comp=Z,92nm,0.6s
DAG Danmarks Havn 36.75 358 *i* P **P** **04 34 48.0 +0.5**
DAG IAmb IAmb 04 34 50.0
comp=Z,7.6nm,0.9s
KIRS Kirsehir-Merke 36.99 76 ⇑P **P** **04 34 51.8 +1.7**
DIKM Dikmen 37.28 71 ⇓P **P** **04 34 53.7 +1.3**
DIKM Dikmen 37.28 71 P **P** **04 34 52.5 +0.1**
comp=Z,12nm,0.8s
BATG Bathurst New B 37.29 298 P **P** **04 34 52.0 -0.4**
BATG IAmb IAmb 04 35 12.7
comp=Z,35nm,1.4s
SCHQ Schefferville 37.30 311 P **P** **04 34 52.1 -0.3**
comp=Z,3.9nm,0.6s,baz=65,slow=6.6,SNR=6.8
comp=Z,3.9nm,0.6s
MOS Moscow 37.31 48 *e*P **P** **04 34 51.6 -0.8**
MOS *e* 04 40 35.9
VADS Vadso 37.59 23 *e*P **P** **04 34 55.7 +1.1**
VADS IAmb IAmb 04 34 56.9
comp=Z,28nm,0.8s
APA Apatity 37.81 28 ⇓*i*P **P** **04 34 56.1 -0.4**
APA *i* 04 36 25.0
APA pmax pmax
comp=Z,15nm,0.9s
APA MLR MLR
comp=Z,800nm,16.0s
CSS Mathiatis 37.98 82 P **P** **04 34 59.5 +1.1**
CSS IAmb IAmb 04 35 02.5
comp=Z,18nm,0.9s
CSS Mathiatis 37.98 82 P **P** **04 34 58.6 +0.2**
comp=Z,21nm,1.0s
LPSR Galich'ya Gora 38.09 53 *e*P **P** **04 34 57.8 -1.3**
LPSR pmax pmax
comp=Z,110nm,0.9s
ANN Anapa 38.11 65 *e*P **P** **04 34 58.7 -0.6**
ANN pmax pmax
comp=Z,25nm,0.7s
VORR Voronezh 38.32 54 *e*P **P** **04 35 01.7 +0.7**
VORR pmax pmax
comp=Z,75nm,0.4s
VSR Storozhevoye 38.33 55 *e*P **P** **04 34 59.7 -1.4**
VSR pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 38.43 55 *e*P **P** **04 35 01.3 -0.7**
VORD pmax pmax
comp=Z,40nm,0.9s
BNN Bunyan 38.51 75 IAmb IAmb 04 35 05.7
comp=Z,46nm,0.9s
KLMR Klimovskoe 38.73 39 *e*P **P** **04 35 04.8 +0.5**
KLMR *e* 04 36 30.8
KLMR pmax pmax
comp=Z,46nm,1.4s
KLMR MLR MLR
comp=Z,274nm,12.0s
VRH Novokhopyorsk 39.93 55 *e*P **P** **04 35 14.7 +0.2**
VRH pmax pmax
comp=Z,64nm,1.5s
SOC Sochi 39.98 67 *e*P P 04 35 03.4 -12
GAZ Gaziantep 40.09 77 P **P** **04 35 17.1 +1.0**
GAZ IAmb IAmb 04 35 18.9
comp=Z,32nm,0.8s
SPA0 Spitsbergen Ar 40.17 9 *e*P **P** **04 35 18.5 +2.3**
SPITS Spitsbergen Ar 40.17 9 P **P** **04 35 18.3 +2.1**
comp=Z,7.2nm,0.5s,baz=180,slow=7.5,SNR=17
comp=Z,7.2nm,0.5s
ARPR Arapgir-MALATY 40.27 74 P **P** **04 35 18.7 +1.0**
MMAI Mount Meron Ar 40.33 84 P **P** **04 35 20.4 +2.3**
comp=Z,3.3nm,0.5s,baz=310,slow=6.4,SNR=10
MMAI LR LR 04 54 04.6
comp=Z,81nm,20.4s,baz=234,slow=39
comp=Z,3.3nm,0.5s
LABN Labinsk 40.43 65 *e*P **P** **04 35 20.2 +1.5**
LABN pmax pmax
comp=Z,36nm,0.5s
NOR Nord 41.58 360 *i* P **P** **04 35 27.4 -0.3**
NOR IAmb IAmb 04 35 29.9
comp=Z,11nm,0.7s
KIV Kislovodsk 41.97 65 *e*P **P** **04 35 32.2 +0.7**
KIV pmax pmax
comp=Z,10.0nm,1.0s
SHA1 Shidzhatmaz 42.00 66*ce*P **P** **04 35 34.3 +2.3**
KBZ Khabaz 42.17 66 P **P** **04 35 35.6 +2.5**
comp=Z,20nm,0.9s,baz=304,slow=6.4,SNR=16
KBZ LR LR 04 58 02.1
comp=Z,38nm,19.4s,baz=300,slow=43
comp=Z,20nm,0.9s
KBZ Khabaz 42.17 66*ce*P **P** **04 35 35.3 +2.3**
KBZ pmax pmax
comp=Z,21nm,0.9s
BELG Belogornoye 43.40 52 *i* P **P** **04 35 43.3 +0.4**
BELG pmax pmax
comp=Z,7.0nm,1.0s
KIRV Kirov 43.68 43*ce*P **P** **04 35 44.9 -0.1**
GNI Garni 44.59 70 LR LR 04 57 24.4
comp=Z,48nm,19.4s,baz=326,slow=40
MAK Makhachkala 45.61 65 *e*P **P** **04 35 57.3 -3.4**
MAK *e*S **S** **04 42 38.6 -4.5**
MAK *e*SS **SS** **04 46 03.7 -2.9**
MAK MLR MLR
comp=Z,139nm,16.0s
EUNU Eureka 47.60 347 P **P** **04 36 16.7 +0.8**
ARTI Arti 48.80 45 P **P** **04 36 26.7 +1.3**
ARTI Arti 48.80 45*c i*P **P** **04 36 25.5 +0.1**
ARTI 04 37 49.3
ARTI 04 38 12.5
ARTI S **S** **04 43 29.9 +1.7**
ARTI SS **SS** **04 46 58.2 0.0**
ARTI pmax pmax
comp=Z,53nm,0.9s
ARTI MLR MLR
comp=Z,215nm,17.0s
RES Resolute Bay 49.18 340 P **P** **04 36 28.9 +0.8**
RES IAmb IAmb 04 36 41.7
comp=Z,14nm,1.3s
RES Resolute Bay 49.18 340 P **P** **04 36 28.9 +0.8**
RES pmax pmax
comp=Z,14nm,1.3s
SJG San Juan 49.34 259 P **P** **04 36 30.4 +0.4**
comp=Z,5.9nm,0.8s,baz=295,slow=10,SNR=2.9
comp=Z,5.9nm,0.8s
SVE Sverdlovsk 49.90 44 *e*P **P** **04 36 34.8 +1.0**
SVE pmax pmax
comp=Z,43nm,1.1s
ABKAR Akbulak array 51.74 54 IAmb IAmb 04 36 53.4
comp=Z,4.4nm,0.8s
RAYN Ar Rayn 52.72 89 P **P** **04 36 56.8 +1.3**
RAYN Ar Rayn 52.72 89 P **P** **04 36 56.8 +1.3**
RAYN pmax pmax
comp=Z,8.0nm,1.3s
PCRV Puerto La Cruz 53.33 250 P **P** **04 37 01.8 +1.8**
comp=Z,3.3nm,0.6s,baz=56,slow=11,SNR=1.5
comp=Z,3.3nm,0.6s
CPCT Cooper Cave 54.15 289 P **P** **04 37 05.6 -0.1**
WCI Wyandotte Cave 54.17 293 P **P** **04 37 05.3 -0.5**
WCI IAmb IAmb 04 37 19.0
comp=Z,10.0nm,0.7s
WCI Wyandotte Cave 54.17 293 P **P** **04 37 05.4 -0.5**
WCI pmax pmax
comp=Z,10.0nm,0.7s
CLTN Cedars of Leba 55.16 290 IAmb IAmb 04 37 26.2
comp=Z,9.6nm,0.8s
OLIL Olney 55.22 294 P **P** **04 37 13.4 -0.1**
T47A Sharon Grove 55.30 292 IAmb IAmb 04 37 27.3
comp=Z,9.4nm,0.8s
ULM Lac du Bonnet 55.45 310 P **P** **04 37 15.0 +0.1**
comp=Z,2.3nm,0.8s,baz=114,slow=7.6,SNR=3.5
ULM LR LR 04 58 49.3
comp=Z,85nm,18.2s,baz=28,slow=34
comp=Z,2.3nm,0.8s
BRVK Borovoye 56.39 46 P **P** **04 37 22.9 +1.3**
BRVK IAmb IAmb 04 37 24.2
comp=Z,20nm,0.8s
BRVK Borovoye 56.39 46*ce*P **P** **04 37 22.6 +1.0**
BRVK pmax pmax
comp=Z,26nm,1.0s
X48A Hartselle 56.45 289 IAmb IAmb 04 37 35.5
comp=Z,9.5nm,0.9s
BVAR Borovoye Array 56.46 46 P **P** **04 37 23.6 +1.4**
comp=Z,15nm,0.7s,baz=298,slow=5.8,SNR=42
comp=Z,15nm,0.7s
FURI Furi 56.53 108 LR LR 05 02 27.6
comp=Z,120nm,19.1s,baz=323,slow=37
BAUV El Baul 56.63 252 P **P** **04 37 24.2 +0.4**
PLAL Pickwick Lake 56.94 290 P **P** **04 37 26.1 +0.3**
NRIK Noril'sk 57.08 24 P **P** **04 37 27.9 +1.5**
NRIK IAmb IAmb 04 37 29.2
comp=Z,9.5nm,0.9s
NRIK Noril'sk 57.08 24 P **P** **04 37 27.6 +1.3**
comp=Z,6.6nm,0.8s,baz=307,slow=9.3,SNR=8.3
comp=Z,6.6nm,0.8s
NRIK Noril'sk 57.08 24*ce*P **P** **04 37 28.0 +1.7**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
FVM French Village 57.18 294 P **P** **04 37 27.2 -0.3**
FVM IAmb IAmb 04 37 41.7
comp=Z,9.4nm,0.7s
FVM French Village 57.18 294 P **P** **04 37 27.2 -0.3**
FVM pmax pmax
comp=Z,9.0nm,0.7s
SMTB Santa Maria do 57.53 220 *e*P **P** **04 37 32.5 +2.3**
MBAR Mbarara 57.86 123 LR LR 05 02 38.6
comp=Z,95nm,19.3s,baz=328,slow=36
ITTB Itaituba 58.21 231 *e*P **P** **04 37 37.5 +2.6**
GDU01 Guandu, BA 58.42 209 *e*P **P** **04 37 37.5 +1.1**
SDV Santo Domingo 58.56 254 *e*P **P** **04 37 42.1 +4.4**
SDBA SAO DESIDERIO 59.39 215 *e*P **P** **04 37 45.4 +2.2**
YKA Yellowknife Ar 59.53 328 LR LR 04 59 42.2
comp=Z,64nm,18.4s,baz=318,slow=32
CMC01 Camacan, BA 59.91 208 *e*P **P** **04 37 47.1 +0.5**
NPGB Novo Progresso 60.15 228 *e*P **P** **04 37 49.1 +0.7**
MACA Manacapuru-AM 60.30 236 P **P** **04 37 50.0 +0.6**
MACA IAmb IAmb 04 38 02.8
comp=Z,14nm,0.7s
MACA Manacapuru-AM 60.30 236 *e*P **P** **04 37 50.4 +1.0**
KKAR Karatay Array 60.97 57 IAmb IAmb 04 37 55.2
comp=Z,5.2nm,1.1s
KKAR Karatay Array 60.97 57 P **P** **04 37 54.5 +0.8**
JANB Januaria 61.51 213 *e*P **P** **04 37 58.2 +0.7**
SNDB Serra Nova Dou 62.05 221 *e*P **P** **04 38 02.3 +1.2**
KURBB Kurchatov Arra 62.05 46 P **P** **04 38 01.8 +1.0**
comp=Z,24nm,0.7s,baz=301,slow=7.4,SNR=126
comp=Z,24nm,0.7s
KURK Kurchatov 62.05 46 P **P** **04 38 02.1 +1.3**
KURK Kurchatov 62.05 46*ce*P **P** **04 38 02.0 +1.1**
KURK pmax pmax
comp=Z,49nm,1.7s
SIMJ Simiganj 62.19 62 P **P** **04 38 03.2 +1.1**
CHGR Chuyangaron 62.29 62 P **P** **04 38 01.4 -1.4**
NAN01 Guarapari, ES 62.42 208 *e*P **P** **04 38 03.3 -0.3**
KMBO Kilima Mbogo 62.56 118 LR LR 05 07 35.3
comp=Z,117nm,18.3s,baz=87,slow=38
OK031 S. Brethren Rd 62.65 295 P **P** **04 38 04.7 -0.4**
INK Inuvik 62.70 339 P **P** **04 38 04.7 -0.2**
INK Inuvik 62.70 339 P **P** **04 38 04.2 -0.7**
comp=Z,2.6nm,0.8s,baz=22,slow=8.5,SNR=9.2
INK LR LR 05 01 06.3
comp=Z,54nm,21.7s,baz=238,slow=32
comp=Z,2.6nm,0.8s
INK Inuvik 62.70 339 P **P** **04 38 04.7 -0.2**
INK pmax pmax
comp=Z,6.0nm,1.0s
GAR Garm 62.89 61 P **P** **04 38 08.1 +1.3**
KAN14 Manchester OK 62.91 297 P **P** **04 38 06.8 0.0**
F31M Tsiigehtchic 63.34 338 P **P** **04 38 09.6 +0.4**
F31M IAmb IAmb 04 38 21.7
comp=Z,13nm,0.8s
CLDB Colider 63.52 226 *e*P **P** **04 38 11.9 +0.9**
OGNE Ogallala 63.56 302 P **P** **04 38 11.3 +0.2**
SJMB Sao Joao De Ma 63.59 208 *e*P **P** **04 38 11.0 -0.4**
ZAA0 Zalesovo Array 63.63 41 IAmb IAmb 04 38 13.4
comp=Z,15nm,0.9s
ZALV Zalesovo Beam 63.63 41 P **P** **04 38 12.1 +0.8**
comp=Z,11nm,0.8s,baz=308,slow=7.3,SNR=34
ZALV PP **PP** **04 40 32.3 +1.5**
comp=Z,1.0nm,0.3s,baz=307,slow=11,SNR=3.7
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 63.63 41 *i* P **P** **04 38 12.3 +1.0**
ZALV pmax pmax
comp=Z,11nm,0.8s
BDFB Brasilia 63.64 216 P **P** **04 38 12.0 +0.1**
BDFB Brasilia 63.64 216 P **P** **04 38 12.0 +0.1**
comp=Z,1.9nm,0.7s,baz=7.6,slow=15,SNR=1.7
comp=Z,1.9nm,0.7s
BDFB Brasilia 63.64 216 P **P** **04 38 12.0 +0.1**
BDFB pmax pmax
comp=Z,26nm,1.4s
AAK Ala-Archa 63.73 55 P **P** **04 38 13.0 +0.6**
AAK IAmb IAmb 04 38 15.2
comp=Z,7.1nm,0.5s
AAK Ala-Archa 63.73 55*ce*P **P** **04 38 14.1 +1.7**
AAK pmax pmax
comp=Z,4.0nm,0.6s
E29M Blow River 63.84 340 IAmb IAmb 04 38 35.3
comp=Z,15nm,1.4s
G31M Satah River 63.84 338 IAmb IAmb 04 38 26.0
comp=Z,17nm,1.1s
DIAM Diamantina, MG 64.16 211 *e*P **P** **04 38 14.9 -0.5**
G30M tAoh Zraii Nji 64.36 338 IAmb IAmb 04 38 38.7
comp=Z,8.2nm,1.0s
H31M Peel River 64.62 337 IAmb IAmb 04 38 32.0
comp=Z,14nm,1.1s
PDRB Porto dos Gac 64.64 227 *e*P **P** **04 38 19.3 +0.9**
F28M Old Crow 64.92 340 IAmb IAmb 04 38 33.1
comp=Z,7.9nm,0.8s
E27K Coleen River 64.94 341 IAmb IAmb 04 38 32.5
comp=Z,8.7nm,0.8s
H29M Whitestone 65.51 338 IAmb IAmb 04 38 36.5
comp=Z,9.1nm,0.8s
TIXI Tiksi 65.52 12 P **P** **04 38 24.8 +1.4**
TIXI IAmb IAmb 04 38 25.3
comp=Z,10nm,1.1s
TIXI Tiksi 65.52 12 P **P** **04 38 24.8 +1.4**
TIXI pmax pmax
comp=Z,10.0nm,1.1s
I30M Mount Dempster 65.64 337 IAmb IAmb 04 38 38.3
comp=Z,12nm,0.9s
IPMB Ipameri, GO 65.78 215 *e*P **P** **04 38 26.5 +0.8**
E25K Arctic Village 65.97 342 IAmb IAmb 04 38 40.5
comp=Z,12nm,0.8s
J30M Hart River 66.08 336 IAmb IAmb 04 38 48.2
comp=Z,13nm,0.8s
MK31 Makanchi Array 66.19 48 IAmb IAmb 04 38 30.0
comp=Z,9.1nm,0.7s
MK31 Makanchi Array 66.19 48 *i* P **P** **04 38 28.7 +0.5**
MKAR Makanchi Array 66.19 48 P **P** **04 38 29.1 +0.9**
comp=Z,9.8nm,0.6s,baz=300,slow=5.3,SNR=55
comp=Z,9.8nm,0.6s
SAML Samuel 66.33 234 P **P** **04 38 29.4 +0.1**
SAML Samuel 66.33 234 P **P** **04 38 29.5 +0.1**
SAML pmax pmax
comp=Z,6.0nm,1.1s
SAML Samuel 66.33 234 *e*P **P** **04 38 30.6 +1.2**
KSH Kashi 66.34 58 P **P** **04 38 30.6 +1.2**
KSH pP pwP 04 38 36.6 -0.6
KSH PcP **PcP** **04 39 02.2 +3.0**
KSH pmax pmax
comp=Z,34nm,0.7s
APMT Aspermont 66.34 294 P **P** **04 38 29.5 +0.1**
APMT IAmb IAmb 04 38 41.8
comp=Z,16nm,1.2s
F25K Christian Rive 66.39 342 IAmb IAmb 04 38 53.0
comp=Z,19nm,1.4s
RTBA Rita Blanca 66.43 298 P **P** **04 38 30.0 +0.1**
RTBA IAmb IAmb 04 38 43.2
comp=Z,17nm,1.1s
ISCO Idaho Springs 66.48 303 P **P** **04 38 33.0 +2.5**
I28M Miner Creek 66.52 338 P **P** **04 38 30.3 +0.3**
E24K Your Creek 66.68 343 IAmb IAmb 04 38 45.0
comp=Z,7.1nm,0.8s
K29M Barlow Dome 66.97 336 IAmb IAmb 04 38 47.3
comp=Z,9.7nm,0.9s
F24K Squaw Lake 66.99 342 P **P** **04 38 33.8 +0.9**
F24K IAmb IAmb 04 38 48.4
comp=Z,6.2nm,0.8s
TBTG Tabatinga, AM 67.15 243 P **P** **04 38 35.4 +0.7**
TBTG Tabatinga, AM 67.15 243 *e*P **P** **04 38 35.6 +1.0**
PDAR Pinedale Array 67.31 307 P **P** **04 38 36.2 +0.6**
comp=Z,1.6nm,0.6s,baz=64,slow=6.6,SNR=13
PDAR LR LR 05 06 32.3
comp=Z,38nm,18.4s,baz=44,slow=35
comp=Z,1.6nm,0.6s
E22K Anaktuvuk Pass 67.36 344 IAmb IAmb 04 38 48.8
comp=Z,11nm,0.9s
EGAK Eagle 67.36 338 IAmb IAmb 04 38 55.9
comp=Z,9.8nm,0.9s
DAWY Dawson 67.37 337 IAmb IAmb 04 38 49.8
comp=Z,11nm,1.1s
I26K Coal Creek Min 67.52 339 IAmb IAmb 04 38 51.0
comp=Z,16nm,1.1s
SALV Santo Antonio 67.62 223 *e*P **P** **04 38 38.3 +0.8**
DLMT Dillon 67.64 311 IAmb IAmb 04 38 51.3
comp=Z,9.8nm,0.8s
L29M L29M 67.69 336 IAmb IAmb 04 38 52.1
comp=Z,19nm,1.1s
PRP Porcupine Dome 67.99 340 IAmb IAmb 04 38 53.8
comp=Z,10nm,0.8s
G23K Bananza Creek 68.14 343 IAmb IAmb 04 38 55.3
comp=Z,13nm,1.0s
F21K Alatna River 68.47 344 IAmb IAmb 04 38 56.7
comp=Z,12nm,0.8s
NEW Newport 68.48 315 IAmb IAmb 04 38 55.3
comp=Z,9.8nm,0.9s
NEW Newport 68.48 315 LR LR 05 04 48.7
comp=Z,47nm,20.2s,baz=66,slow=33
J25K Salcha River, 68.66 339 IAmb IAmb 04 38 57.5
comp=Z,6.8nm,0.9s
H23K Yukon River 68.75 342 IAmb IAmb 04 38 59.0
comp=Z,15nm,0.9s
SCRK Sand Creek 68.77 339 IAmb IAmb 04 38 58.7
comp=Z,8.8nm,0.9s
ETMB Extrema 68.90 236 P **P** **04 38 46.3 +0.7**
ETMB IAmb IAmb 04 38 58.8
comp=Z,12nm,0.9s
ETMB Extrema 68.90 236 *e*P **P** **04 38 46.5 +1.0**
ILAR Eielson Array 68.93 340 P **P** **04 38 45.6 +0.5**
comp=Z,1.5nm,0.5s,baz=27,slow=5.7,SNR=36
ILAR LR LR 05 07 57.6
comp=Z,48nm,18.5s,baz=334,slow=35
comp=Z,1.5nm,0.5s
F20K Avaraart Lake 69.08 345 IAmb IAmb 04 39 00.5

comp=Z,11nm,0.9s
PTLB Pontes e Lacer 69.11 226 P **P 04 38 48.3 +1.5**
PTLB Pontes e Lacer 69.11 226 *eP* **P 04 38 47.4 +0.6**
HWUT Hardware Ranch 69.19 307 IAmb IAmb 04 39 00.4
comp=Z,11nm,0.9s
RIDG Independent Ri 69.20 339 IAmb IAmb 04 39 02.0
comp=Z,15nm,0.9s
HDA Harding Lake 69.24 340 IAmb IAmb 04 39 01.4
comp=Z,12nm,0.8s
CCB Clear Creek Bu 69.27 340 IAmb IAmb 04 39 01.6
comp=Z,14nm,1.2s
SLP01 Ubatuba-SP 69.29 210 *eP* **P 04 38 47.0 -0.9**
MNHN Monahans 69.30 294 IAmb IAmb 04 39 00.9
comp=Z,14nm,1.1s
WRH Wood River Hil 69.48 340 IAmb IAmb 04 39 02.4
comp=Z,14nm,0.8s
P18A Preston Nutter 69.52 305 IAmb IAmb 04 39 08.9
comp=Z,12nm,1.0s
F19K Shaleruckik Mo 69.68 345 IAmb IAmb 04 39 03.8
comp=Z,13nm,0.8s
MLY Manley 69.69 342 P **P 04 38 50.3 +0.5**
ANMO Albuquerque 69.77 299 LR LR 05 08 28.6
comp=Z,63nm,18.8s,baz=224,slow=35
I21K Tanana 69.86 342 IAmb IAmb 04 39 05.2
comp=Z,12nm,0.8s
BGU Big Grassy Mou 70.49 307 IAmb IAmb 04 39 08.4
comp=Z,11nm,0.9s
RND Reindeer 70.55 340 IAmb IAmb 04 39 09.0
comp=Z,7.8nm,0.8s
G18K Tagagawik 70.67 345 P **P 04 38 56.7 +0.8**
G18K IAmb IAmb 04 39 09.0
comp=Z,29nm,1.5s
DUG Dugway, Tooele 70.79 307 IAmb IAmb 04 39 10.9
comp=Z,7.9nm,0.9s
KTH Kantishna Hill 70.96 341 P **P 04 38 58.0 +0.3**
WMQ Urumqi 71.02 48 *eP* **P 04 39 00.1 +1.7**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ LR LR
comp=Z,150nm,15.7s
TXAR Lajitas Array 71.10 293 P **P 04 38 59.8 +0.6**
comp=Z,1.0nm,0.7s,baz=64,slow=6.8,SNR=6.4
comp=Z,1.0nm,0.7s
J20K Nowinta River 71.21 343 P **P 04 38 59.0 -0.1**
J20K IAmb IAmb 04 39 14.1
comp=Z,9.3nm,0.9s
KLU Klutina 71.28 338 P **P 04 39 00.6 +0.9**
KLU IAmb IAmb 04 39 14.3
comp=Z,15nm,0.8s
BBSD Serra de San D 71.34 227 *eP* **P 04 39 01.5 +1.1**
CAST Castle Rocks 71.36 341 P **P 04 38 59.5 -0.6**
BBB Bella Bella 71.46 323 LR LR 05 09 11.3
comp=Z,69nm,18.6s,baz=357,slow=35
AQDB Aquidauana 71.46 221 *eP* **P 04 39 02.1 +0.9**
CZSB Cruzeiro do Su 71.62 242 P **P 04 39 03.2 +0.9**
CZSB Cruzeiro do Su 71.62 242 *eP* **P 04 39 04.9 +2.6**
MTPU Mount Pierson 71.68 304 P **P 04 39 02.5 -0.4**
SML Sawmill 71.71 339 IAmb IAmb 04 39 23.0
comp=Z,10nm,0.8s
CMIG Matias Romero 71.87 277 LR LR 05 06 11.4
comp=Z,71nm,20.4s,baz=42,slow=32
K20K Telida 71.89 342 IAmb IAmb 04 39 17.6
comp=Z,11nm,0.9s
ELK Elko 71.93 308 LR LR 05 08 03.9
comp=Z,36nm,19.6s,baz=51,slow=34
BDQN Bodoquena, MS 71.97 221 *eP* **P 04 39 05.3 +1.1**
TRCB Terra Rica 71.97 217 *eP* **P 04 39 05.3 +1.1**
BILL Bilibino 72.12 360 *ceP* **P 04 39 05.1 +0.6**
BILL pmax pmax
comp=Z,16nm,2.5s
SPR3 Spring Creek 3 72.44 306 P **P 04 39 07.4 0.0**
SUA Susitna One 72.65 340 IAmb IAmb 04 39 22.8
comp=Z,16nm,0.9s
TTA Tatalina 72.71 343 IAmb IAmb 04 39 23.0
comp=Z,16nm,1.3s
U15A North Rim 72.72 303 P **P 04 39 09.2 +0.2**
YAK Yakutsk 74.14 17 *eP* **P 04 39 17.3 +0.8**
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.1s
N19K Bonanza Creek 74.17 341 IAmb IAmb 04 39 30.6
comp=Z,14nm,1.0s
TPH Tonopah 74.79 307 IAmb IAmb 04 39 33.7
comp=Z,23nm,1.2s
LPAZ La Paz 75.03 233 LR LR 05 09 00.1
comp=Z,95nm,20.8s,baz=358,slow=33
NVAR Mina Array Bea 75.23 308 P **P 04 39 25.3 +1.7**
comp=Z,0.4nm,0.6s,baz=54,slow=5.5,SNR=3.6
NVAR LR LR 05 10 18.0
comp=Z,61nm,18.8s,baz=69,slow=34
SEY Seymchan 76.72 6 *i P* **P 04 39 32.1 +0.8**
SEY pmax pmax
comp=Z,5.0nm,0.8s
PFO Pinyon Flats O 77.15 303 LR LR 05 12 29.8
comp=Z,67nm,18.6s,baz=52,slow=35
BOSA Boshof 77.81 145 P **P 04 39 38.5 +0.6**
BOSA IAmb IAmb 04 39 55.2
comp=Z,11nm,1.2s
BOSA Boshof 77.81 145 P **P 04 39 38.6 +0.6**
BOSA pmax pmax
comp=Z,11nm,1.2s
SONM Songino Array 77.94 36 P **P 04 39 39.7 +1.1**
comp=Z,2.4nm,0.6s,baz=304,slow=6.4,SNR=12
comp=Z,2.4nm,0.6s
ULN Ulaanbaatar 78.21 36 *i P* **P 04 39 40.8 +0.6**
ULN pmax pmax
comp=Z,5.0nm,1.0s
LPIG La Paz 78.98 292 LR LR 05 13 20.3
comp=Z,77nm,18.5s,baz=32,slow=35
SUR Sutherland 79.28 150 P **P 04 39 46.9 +0.9**
SUR IAmb IAmb 04 40 02.5
comp=Z,18nm,1.1s
GTA Gaotai 80.74 46 *eP* **P 04 39 55.2 +1.1**
GTA pmax pmax
comp=Z,7.0nm,0.9s
ZEA Zeya 80.86 22 *i P* **P 04 39 55.1 +0.8**
HEH HeiHe 83.97 23 *eP* **P 04 40 11.3 +0.7**
BTO Baotou 85.12 39 *eP* **P 04 40 12.4 -4.3**
BTO S **SKSac 04 50 38.7 -3.0**
BTO pmax pmax
comp=Z,20nm,0.6s
LZH Lanzhou 85.34 46 *eP* **P 04 40 19.6 +1.6**
LZH pP pwP 04 40 28.2 +2.4
LZH pmax pmax
comp=Z,22nm,1.4s
SHL Shillong 85.44 60 IAmb IAmb 04 40 19.7
comp=Z,13nm,1.0s
HHC Hu-ho-hao-te 85.66 38 *eP* **P 04 40 17.8 -1.7**
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,370nm,4.9s
KLR Kul'dur 86.16 21 *i P* **P 04 40 21.2 -0.4**
KLR pmax pmax
comp=Z,2.0nm,1.0s
PETK Petropavlovsk- 86.86 5 P **P 04 40 25.1 +0.1**
comp=Z,2.0nm,0.7s,baz=68,slow=8.2,SNR=4.7
comp=Z,2.0nm,0.7s
YSS Yuzh-Sakhalins 90.94 15 *eP* **P 04 40 43.7 -0.6**
YSS pmax pmax
comp=Z,20nm,0.6s
PZH PanZhiHua 91.11 53 P **P 04 40 45.7 0.0**
PZH pmax pmax
comp=Z,20nm,1.1s
MSHR Mys Shultsa 91.99 25 *i P* **P 04 40 48.0 -1.3**
MSHR pmax pmax
comp=Z,27nm,1.1s
CMAR Chiang Mai Arr 95.06 61 LR LR 05 28 12.1
comp=Z,48nm,19.4s,baz=35,slow=38
PLCA Paso Flores 95.26 219 LR LR 05 22 47.4
comp=Z,61nm,18.5s,baz=16,slow=35
KSRS Korea Array 95.44 29 LR LR 05 28 01.8
comp=Z,59nm,19.0s,baz=15,slow=38
NJ2 Nanjing 96.21 38 *eP* **P 04 41 07.6 -1.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
EFI East Falkland 99.00 206 P **P 04 41 18.4 -2.3**
EFI East Falkland 99.00 206 P **P 04 41 18.4 -2.3**
EFI pmax pmax
comp=Z,46nm,1.4s
RPN Rapa Nui 110.36 251 *i* PKIKP **PKiKP 04 46 11.8 -1.0**
QSPA South Pole Qui 130.04 180 PKPdf **PKiKP 04 46 50.4 +0.2**
QSPA South Pole Qui 130.04 180 PKP **PKiKP 04 46 50.1 -0.1**
comp=Z,2.3nm,1.0s,baz=247,slow=0.3,SNR=6.3
PMG Port Moresby 145.33 33 PKPbc **PKPbc 04 47 18.6 -0.1**
comp=Z,19nm,0.5s,baz=311,slow=5.3,SNR=3.6
WB0 Warramunga Arr 146.56 62 PKPbc **PKPbc 04 47 22.3 0.0**
WRA Warramunga Arr 146.65 62 PKPbc **PKPbc 04 47 23.1 +0.5**
WRA Warramunga Arr 146.65 62 PKPbc **PKPbc 04 47 22.7 +0.1**
comp=Z,8.9nm,0.7s,baz=329,slow=2.7,SNR=95
WRAB Tennant Creek 146.65 62 PKPbc **PKPbc 04 47 22.9 +0.3**
WRAB Tennant Creek 146.65 62 PKP2 **PKPbc 04 47 22.9 +0.3**
FORT Forrest 148.37 85 PKPdf **PKPdf 04 47 25.0 +1.5**
ASAR Alice Springs 148.81 68 PKPbc **PKPbc 04 47 29.0 +0.6**
ASAR Alice Springs 148.81 68 PKPbc **PKPbc 04 47 28.7 +0.3**
comp=Z,8.6nm,0.7s,baz=330,slow=1.9,SNR=84

NEIC 01 04:30:19.4±1.6, 34°.05N±0°.04×106°.34W±0°.05, h9km±8km, mb_Lg3.1/100, ML3.2/8, Error ellipse: s-maj=6.7km s-min=4.8km az=47.0, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNM	**Barren Site**	**0.26**	**293**	Pg	Pg	04 30 25.1	+0.4
CRNM	**Carthage**	**0.34**	**254**	Pg	Pb	04 30 27.0	-0.8
Y22D	**IRIS PASSCAL I**	**0.49**	**273**	Pg	Pb	04 30 29.9	-0.3
Y22D				Sg	Sb	04 30 37.2	-0.4
Y22D				IAML		04 30 38.6	
	comp=E,4μm,0.4s						
Y22D				IAML		04 30 38.6	
	comp=N,3μm,0.5s						
LENM	**Lemitar**	**0.54**	**283**	Pg	Pg	04 30 30.4	+0.5
SBM	**South Baldy**	**0.70**	**265**	Pg	Pb	04 30 33.7	-0.4
ANMO	**Albuquerque**	**0.90**	**354**	Pg	Pg	04 30 35.2	-1.6
ANMO				Sg	Sg	04 30 47.3	-1.3
121A	**Cookes Peak, D**	**1.94**	**219**		Pn	04 30 53.3	+0.6
EPT	**El Paso**	**2.27**	**184**	Pn	Pn	04 30 58.8	+1.5
DUN6	**Lazy B Ranch**	**2.74**	**238**	Pn	Pn	04 31 04.6	+0.8
MSTX	**Muleshoe**	**2.96**	**90**	Pn	Pn	04 31 07.7	+1.0
X18A	**Snowflake**	**3.03**	**280**	Pn	Pn	04 31 09.7	+1.9
PECS	**Pecos**	**3.38**	**141**	Pn	Pn	04 31 14.7	+2.2
VHRN	**Van Horn**	**3.44**	**160**	Pn	Pn	04 31 15.4	+2.0
T25A	**Trinidad**	**3.46**	**26**	Pn	Pn	04 31 14.8	+1.1
MVCO	**Mesa Verde**	**3.62**	**331**	Pn	Pn	04 31 17.2	+1.4
ODSA	**Odessa**	**3.71**	**120**	Pn	Pn	04 31 19.0	+2.0
S22A	**4UR Ranch, Cre**	**3.71**	**354**	Pn	Pn	04 31 18.4	+1.2
SDCO	**Great Sand Dun**	**3.75**	**10**	Pn	Pn	04 31 19.2	+1.4
RTBA	**Rita Blanca**	**3.79**	**50**	Pn	Pn	04 31 19.4	+1.3
AMTX	**Amarillo**	**3.94**	**76**	Pn	Pn	04 31 21.3	+1.2
MNHN	**Monahans**	**4.04**	**131**	Pn	Pn	04 31 24.2	+2.6
TUC	**Tucson**	**4.11**	**246**	Pn	Pn	04 31 22.7	+0.1
TUC	**Tucson**	**4.11**	**246**	IAML		04 32 33.8	
	comp=N,20nm,0.5s						
TUC				IAmb_Lg		04 32 39.1	
	comp=Z,12nm,0.8s						
TUC				IAML		04 32 42.9	
	comp=Z,14nm,0.8s						
POST	**Post**	**4.15**	**102**	Pn	Pn	04 31 23.7	+0.6
POST				IAmb_Lg		04 32 32.3	
	comp=Z,39nm,0.8s						
X16A	**Lo Mia Camp, P**	**4.25**	**276**	Pn	Pn	04 31 26.3	+1.8
ALPN	**Alpine**	**4.32**	**147**	Pn	Pn	04 31 28.2	+2.8
ALPN				IAmb_Lg		04 32 37.1	
	comp=Z,44nm,0.8s						
WUAZ	**Wupatki**	**4.40**	**291**	Pn	Pn	04 31 29.7	+3.2
DKNS	**Dickens**	**4.52**	**93**	Pn	Pn	04 31 29.9	+1.7
DKNS				IAmb_Lg		04 32 43.3	
	comp=Z,50nm,0.7s						
SN07	**Snyder 07**	**4.64**	**100**	Pn	Pn	04 31 31.0	+1.2
SN05	**Snyder 5**	**4.70**	**103**	Pn	Pn	04 31 32.2	+1.5
SN05				IAmb_Lg		04 32 47.2	
	comp=Z,49nm,1.1s						
SGCY	**Sterling City**	**4.87**	**114**	Pn	Pn	04 31 31.9	-1.0
SGCY				IAmb_Lg		04 33 03.2	
	comp=Z,30nm,0.8s						
Q24A	**Divide**	**5.00**	**11**	Pn	Pn	04 31 37.4	+2.4
SMWD	**Samnorwood**	**5.14**	**76**	Pn	Pn	04 31 37.4	+0.8
TX31	**Lajitas Ar. Si**	**5.22**	**153**	Pn	Pn	04 31 38.0	+0.3
TXAR	**Lajitas Array**	**5.22**	**153**	Pn	Pn	04 31 38.1	+0.3
APMT	**Aspermont**	**5.23**	**96**	Pn	Pn	04 31 37.4	-0.5
HMU	**Henry Mountain**	**5.28**	**319**	Pn	Pn	04 31 39.3	+0.6
OZNA	**Ozona**	**5.39**	**124**	Pn	Pn	04 31 41.7	+1.6
OZNA				IAmb_Lg		04 33 21.0	
	comp=Z,24nm,0.9s						
U15A	**North Rim**	**5.42**	**298**	Pn	Pn	04 31 40.1	-0.6
SAND	**Sanderson**	**5.43**	**138**	Pn	Pn	04 31 42.4	+1.8
SAND				IAmb_Lg		04 33 12.9	
	comp=Z,31nm,0.8s						
Y14A	**Wickenburg**	**5.54**	**271**	Pn	Pn	04 31 44.2	+2.0
ABTX	**Abilene, Hawle**	**5.78**	**102**	Pn	Pn	04 31 48.1	+2.7
ABTX				IAmb_Lg		04 33 25.6	
	comp=Z,33nm,1.0s						
ELIS	**Ellis County**	**6.02**	**68**	IAmb_Lg		04 33 46.2	
	comp=Z,30nm,0.7s						
KNB	**Kanab**	**6.06**	**301**	Pn	Pn	04 31 51.6	+2.2
WMOK	**Wichita Mounta**	**6.29**	**82**	Pn	Pn	04 31 54.1	+1.8
WMOK				IAmb_Lg		04 33 42.8	
	comp=Z,30nm,0.8s						
WTFS	**Witchita Falls**	**6.55**	**90**	Pn	Pn	04 31 58.9	+2.9
JCT	**Junction City**	**6.58**	**121**	Pn	Pn	04 31 58.7	+2.3
NOKA	**Waynoka**	**6.58**	**65**	IAmb_Lg		04 33 54.0	
	comp=Z,21nm,0.9s						
DRIO	**Del Rio**	**6.70**	**132**	IAmb_Lg		04 33 59.0	
	comp=Z,18nm,0.7s						
BRDY	**Brady**	**6.77**	**112**	Pn	Pn	04 31 59.0	0.0
BRDY				IAmb_Lg		04 33 50.0	
	comp=Z,17nm,0.7s						
PLPT	**Palo Pinto**	**6.82**	**98**	IAmb_Lg		04 34 10.2	
	comp=Z,32nm,1.0s						
FW03	**Perrin-Whitt E**	**6.98**	**96**	IAmb_Lg		04 34 02.5	
	comp=Z,30nm,1.0s						
X34A	**Smith Ranch, M**	**7.06**	**83**	IAmb_Lg		04 34 12.2	
	comp=Z,24nm,0.7s						
CBKS	**Cedar Bluff**	**7.14**	**46**	IAmb_Lg		04 34 19.6	
	comp=Z,13nm,0.7s						
CROK	**Carrier**	**7.26**	**68**	IAmb_Lg		04 34 11.0	
	comp=Z,18nm,0.7s						
FW07	**Weatherford**	**7.28**	**98**	IAmb_Lg		04 34 15.5	
	comp=Z,20nm,0.9s						
FW06	**Azle**	**7.41**	**96**	IAmb_Lg		04 34 28.4	
	comp=Z,17nm,0.8s						
FNO	**Franklin**	**7.46**	**78**	IAmb_Lg		04 34 15.2	
	comp=Z,22nm,0.8s						
HNDO	**Hondo**	**7.51**	**125**	IAmb_Lg		04 34 31.6	
	comp=Z,23nm,0.9s						
KAN12	**Harper NE Stat**	**7.52**	**62**	IAmb_Lg		04 34 17.9	
	comp=Z,20nm,0.9s						
R32A	**Long Quarter,**	**7.55**	**52**	IAmb_Lg		04 34 34.1	
	comp=Z,20nm,0.9s						
KAN01	**Argonia South**	**7.64**	**64**	IAmb_Lg		04 34 21.1	
	comp=Z,17nm,0.9s						
FW13	**Cleburne**	**7.65**	**100**	IAmb_Lg		04 34 21.9	
	comp=Z,16nm,0.8s						
W35A	**Tecumseh**	**7.88**	**79**	IAmb_Lg		04 34 43.2	
	comp=Z,13nm,0.8s						
BLOK	**Blackwell**	**7.92**	**67**	IAmb_Lg		04 34 45.7	
	comp=Z,18nm,0.8s						
435B	**Jarrell**	**8.08**	**111**	IAmb_Lg		04 34 38.2	
	comp=Z,22nm,0.7s						
BGNE	**Belgrade**	**9.80**	**39**	IAmb_Lg		04 35 56.3	
	comp=Z,14nm,0.8s						

ATH 01 04:32:03.0, 37°.41N×20°.48E, h10km±2km, ML2.8/9, Error ellipse: s-maj=3.2km s-min=1.0km az=16.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.41**	**44**	P	Pg	04 32 10.6	-0.5
LTHK				S	Sg	04 32 16.2	-0.4
LTHK				AML	AML	04 32 16.8	
	comp=E,14212μm,0.2s						
LTHK				AML	AML	04 32 17.6	
	comp=N,10537μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.71**	**7**	P	Pg	04 32 16.3	-0.3
PSDA				S	Sg	04 32 26.0	+0.2
VLS	**Valsamata**	**0.77**	**7**	P	Pg	04 32 17.7	-0.1
VLS				S	Sg	04 32 27.3	-0.5
VLS				AML	AML	04 32 31.7	
	comp=N,1447μm,0.5s						
VLS				AML	AML	04 32 32.1	
	comp=E,641μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.79**	**358**	P	Pg	04 32 18.0	-0.2
LXRA				S	Sg	04 32 28.8	+0.4
LXRA				AML	AML	04 32 37.2	
	comp=E,2627μm,0.5s						
LXRA				AML	AML	04 32 40.6	
	comp=N,3371μm,0.5s						
DMLN Damoulianata-K 0.83 354 P Pg 04 32 19.0 +0.1
DMLN S Sb 04 32 30.3 -0.5
SMHA Samh 0.85 9 P Pg 04 32 18.7 -0.6
SMHA S Sg 04 32 30.1 -0.3
AMT Artemida-Makis 0.99 83 P Pg 04 32 21.5 -0.5
AMT S Sb 04 32 35.5 +0.2
AMT AML AML 04 32 44.0
comp=N,2425μm,0.4s
AMT AML AML 04 32 46.3
comp=E,2035μm,0.4s
RLS Riolos of Patr 1.02 50 P Pg 04 32 21.6 -0.9
RLS S Sg 04 32 35.4 -0.4
RLS AML AML 04 32 40.6
comp=N,582μm,0.5s
RLS AML AML 04 32 40.6
comp=E,861μm,0.4s
FSK Fiskardo 1.05 4 P Pb 04 32 23.2 0.0
FSK S Sg 04 32 36.7 0.0
FSK AML AML 04 32 38.0
comp=E,470μm,0.2s
FSK AML AML 04 32 43.5
comp=N,689μm,0.9s
DRO Drossia 1.12 61 P Pb 04 32 23.0 -1.4
DRO S Sb 04 32 39.1 0.0
DRO AML AML 04 32 43.2
comp=N,830μm,0.4s
DRO AML AML 04 32 43.9
comp=E,1111μm,0.4s
PYL PYLOS 1.14 117 P Pb 04 32 23.8 -0.9
PYL S Sn 04 32 40.1 -0.5
PYL AML AML 04 32 42.7
comp=E,369μm,0.6s
PYL AML AML 04 32 46.1
comp=N,235μm,0.4s
ITM Ithomi 1.18 101 P Pb 04 32 24.6 -0.9
ITM S Sb 04 32 40.2 -0.6
ITM AML AML 04 32 45.4
comp=E,443μm,0.5s
ITM AML AML 04 32 49.1
comp=N,358μm,0.5s

ISK 01 04:33:01.1, 36°.45N×28°.75E, h14km, ML1.2/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.32**	**56**	Pg	Pg	04 33 07.9	+0.1
FETY				Sg	Sb	04 33 13.4	-0.4
TURN	**Turunc**	**0.52**	**308**	Pg	Pg	04 33 11.6	+0.3
TURN				Sg	Sb	04 33 19.5	+0.1
CAME	**Cameli-Denizli**	**0.66**	**42**	Pg	Pb	04 33 14.3	-0.2
CAME				Sg	Sb	04 33 23.9	+0.3
AKAS	**Kas**	**0.72**	**107**	Pg	Pb	04 33 15.6	0.0
AKAS				Sg	Sb	04 33 26.0	+0.6
DAT	**Datca**	**0.98**	**287**	Pg	Pn	04 33 20.6	0.0
APMY	**Acipayam-Deniz**	**1.11**	**23**	Pn	Pg	04 33 22.9	+0.4
APMY				Sn	Sn	04 33 38.5	+1.0

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*IDC **01** 04:50:31.1±0.8, 7°.03S×144°.92E, h0km, mb4.1/11, mbtmp4.1/14, ML4.3/2, MS3.7/19, Error ellipse: s-maj=28.0km s-min=16.8km az=90.0*
*NEIC **01** 04:50:37.1±1.3, 7°.19S±0°.06×144°.88E±0°.10, h32km±4km, mb4.3/20, Error ellipse: s-maj=14.0km s-min=8.6km az=90.0*
ISC 01 04:50:33.8±0.6, 7°.17S±0°.06×144°.94E±0°.08, h10km, n69, σ1°48/50, mb4.3/19, MS3.7/16, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.12 135**			**Pn**	**04 51 24.2**	**+1.0**
PMG	**Port Moresby**	**3.12 135**		Pn	**Pn**	**04 51 24.3**	**+1.2**
	50nm,0.5s,baz=318,slow=14,SNR=10						
PMG				Sn	**Sn**	**04 52 00.5**	**0.0**
	17nm,0.3s,baz=310,slow=9.6,SNR=6.8						
PMG				LR	LR	04 53 12.9	
	comp=Z,1μm,21.1s,baz=324,slow=50						
PMG	**Port Moresby**	**3.12 135**		P	**Pn**	**04 51 24.1**	**+1.0**
PMG	**Port Moresby**	**3.12 135**		P	**Pn**	**04 51 24.3**	**+1.2**
TABU	**Tabubil**	**4.15 297**		P	**Pb**	**04 51 49.0**	**+1.9**
MANU	**Manus Island**	**5.64 25**			**Pn**	**04 51 58.7**	**+0.9**
COEN	**Coen**	**6.96 194**		Pn	**Pn**	**04 52 16.5**	**+0.5**
COEN	**Coen**	**6.96 194**		P	**Pn**	**04 52 17.8**	**+1.8**
CTA	**Charters Tower**	**12.90 174**		LR	LR	04 59 22.9	
	comp=Z,17nm,18.7s,baz=3.5,slow=41						
QIS	**Mount Isa**	**14.28 201**		P	**Pn**	**04 53 57.1**	**+0.9**
MTN	**Manton Dam**	**14.72 246**		P	**P**	**04 54 08.3**	**-0.1**
WB0	**Warramunga Arr**	**16.17 218**		Pn	**Pn**	**04 54 20.8**	**-0.6**
WB0				IAmb	IAmb	04 54 32.8	
	comp=Z,19nm,1.4s						
WR0	**Warramunga Arr**	**16.23 217**		Pn	**Pn**	**04 54 20.8**	**-1.3**
WR0				IAmb	IAmb	04 54 33.9	
	comp=Z,15nm,0.8s						
WRAB	**Tennant Creek**	**16.32 218**		Pn	**Pn**	**04 54 21.6**	**-1.8**
WRAB				IAmb	IAmb	04 54 35.8	
	comp=Z,9.5nm,0.8s						
WB2	**Warramunga Arr**	**16.33 218**		Pn	**Pn**	**04 54 22.5**	**-0.9**
WRA	**Warramunga Arr**	**16.34 218**		Pn	**Pn**	**04 54 21.9**	**-1.6**
WRA	**Warramunga Arr**	**16.34 218**		Pn	**Pn**	**04 54 22.6**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=31,slow=13,SNR=49						
WRA				Sn	Sn	04 57 09.3	-16
	comp=Z,0.1nm,0.3s,baz=43,slow=18,SNR=2.3						
WRA				Lg	Lg	04 59 11.3	
	baz=48,slow=24						
WRA				LR	LR	05 00 23.0	
	comp=Z,368nm,20.8s,baz=42,slow=36						
	comp=Z,2.8nm,0.5s						
KNRA	**Kununurra**	**17.96 241**			**Pn**	**04 54 42.0**	**-1.8**
KNRA				IAmb	IAmb	04 54 48.2	
	comp=Z,11nm,0.7s						
EIDS	**Eidsvold**	**19.02 163**			**P**	**04 54 55.9**	**-0.1**
QLP	**Quilpie**	**19.32 182**		P	**P**	**04 55 01.1**	**+1.9**
AS01	**Alice Springs**	**19.50 212**		P	**P**	**04 55 03.0**	**+1.7**
AS31	**Alice Springs**	**19.52 212**			**P**	**04 55 01.8**	**+0.2**
ASAR	**Alice Springs**	**19.53 212**		Pn	**P**	**04 55 02.7**	**+1.0**
ASAR	**Alice Springs**	**19.53 212**		P	**P**	**04 55 03.0**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=39,slow=10,SNR=70						
ASAR				S	Sn	04 58 32.2	-10
	comp=Z,1.7nm,0.9s,baz=24,slow=26,SNR=3.9						
ASAR				Lg	Lg	05 00 50.7	
	comp=Z,0.1nm,0.3s,baz=20,slow=28,SNR=2.1						
ASAR				LR	LR	05 03 09.5	
	comp=Z,931nm,19.1s,baz=42,slow=39						
	comp=Z,16nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.71 238**		P	**P**	**04 55 24.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**21.71 238**		P	**P**	**04 55 24.2**	**-1.1**
	comp=Z,1.5nm,0.4s,baz=70,slow=13,SNR=9.2						
FITZ				LR	LR	05 04 29.4	
	comp=Z,648nm,18.1s,baz=60,slow=38						
	comp=Z,1.5nm,0.4s						
OOD	**Oodnadatta**	**22.31 202**		P	**P**	**04 55 33.8**	**+2.2**
LUWI	**Luwuk**	**22.93 284**		P	**P**	**04 55 38.4**	**+0.1**
LUWI	**Luwuk**	**22.93 284**		P	P	04 55 47.1	+8.8
WRKA	**Warakurna**	**23.85 220**		P	**P**	**04 55 51.1**	**+3.6**
STKA	**Stephens Creek**	**24.78 187**		P	**P**	**04 55 55.6**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=0.5,slow=7.1,SNR=3.6						
STKA				LR	LR	05 05 50.9	
	comp=Z,187nm,18.2s,baz=14,slow=37						
	comp=Z,2.3nm,0.9s						
KAPI	**Kappang**	**25.14 273**		P	**P**	**04 55 56.9**	**-2.4**
KAPI				IAmb	IAmb	04 56 01.9	
	comp=Z,14nm,1.1s						
TOLI2	**Tolitoli**	**25.47 288**		P	**P**	**04 56 01.3**	**-1.1**
TOLI2				IAmb	IAmb	04 56 18.4	
	comp=Z,11nm,0.9s						
NWAO	**Narrogin (SRO)**	**36.30 221**		LR	LR	05 13 45.6	
	comp=Z,321nm,18.7s,baz=61,slow=38						
JHJ	**Hachijo jima 2**	**40.37 353**		LR	LR	05 12 50.7	
	comp=Z,70nm,19.1s,baz=261,slow=33						
JNU	**Nakatsue**	**42.24 342**		LR	LR	05 13 31.6	
	comp=Z,63nm,21.0s,baz=147,slow=33						
KSRS	**Korea Array**	**47.16 341**		P	P	04 59 03.5	-2.9
	comp=Z,2.4nm,0.8s,baz=164,slow=9.0,SNR=3.9						
KSRS				LR	LR	05 17 15.7	
	comp=Z,63nm,19.8s,baz=160,slow=34						
	comp=Z,2.4nm,0.8s						
KSAR	**Wonju Array Be**	**47.16 341**		P	**P**	**04 59 05.4**	**-1.1**
JKA	**Kamikawa-asahi**	**51.09 358**		P	**P**	**04 59 36.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**52.03 300**		P	**P**	**04 59 44.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**52.03 300**		P	P	04 59 42.1	-1.9
	comp=Z,2.3nm,0.6s,baz=126,slow=5.7,SNR=8.9						
	comp=Z,2.3nm,0.6s						

USRK	**Ussuriysk Ar.**	**52.46**	**348**	LR	LR	05 20 41.4	
	comp=Z,22nm,20.8s,baz=101,slow=35						
HHC	**Hu-ho-hao-te**	**56.79**	**330**	*e*P	**P**	**05 00 21.3**	**+2.9**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,270nm,5.3s						
KLR	**Kul'dur**	**57.34**	**350**	LR	LR	05 22 18.8	
	comp=Z,86nm,19.4s,baz=8.0,slow=33						
PETK	**Petropavlovsk-**	**61.02**	**9**	LR	LR	05 22 54.9	
	comp=Z,35nm,20.8s,baz=196,slow=32						
SONM	**Songino Array**	**64.46**	**332**	P	**P**	**05 01 10.2**	**-0.5**
SONM				IAmb	IAmb	05 01 13.5	
	comp=Z,1.7nm,1.1s						
SHEM	**Shemya Is, Ala**	**64.63**	**19**	LR	LR	05 24 02.6	
	comp=Z,60nm,19.4s,baz=238,slow=31						
MA2	**Magadan**	**66.69**	**3**	LR	LR	05 25 50.2	
	comp=Z,19nm,21.1s,baz=226,slow=32						
MK31	**Makanchi Array**	**77.11**	**321**	P	**P**	**05 02 27.8**	**+0.2**
MK31				IAmb	IAmb	05 02 43.9	
	comp=Z,3.0nm,0.9s						
MKAR	**Makanchi Array**	**77.11**	**321**	P	**P**	**05 02 27.3**	**-0.3**
MKAR	**Makanchi Array**	**77.11**	**321**	P	**P**	**05 02 27.1**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=108,slow=6.5,SNR=7.4						
	comp=Z,1.9nm,0.8s						
KSH	**Kashi**	**78.65**	**313**	P	**P**	**05 02 40.8**	**+4.3**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ZAA0	**Zalesovo Array**	**78.92**	**329**	P	**P**	**05 02 36.5**	**-0.9**
ZAA0				IAmb	IAmb	05 02 47.1	
	comp=Z,3.5nm,0.8s						
ZALV	**Zalesovo Beam**	**78.92**	**329**	P	**P**	**05 02 36.4**	**-1.1**
ZALV	**Zalesovo Beam**	**78.92**	**329**	P	P	05 02 35.5	-1.9
	comp=Z,3.0nm,0.7s,baz=114,slow=4.4,SNR=11						
	comp=Z,3.0nm,0.7s						
NIL	**Nilore**	**78.95**	**306**	P	**P**	**05 02 37.3**	**-0.9**
KURBB	**Kurchatov Arra**	**80.95**	**324**	P	**P**	**05 02 47.1**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=114,slow=4.2,SNR=2.6						
	comp=Z,0.5nm,0.6s						
KDAK	**Kodiak Island**	**81.90**	**29**	LR	LR	05 31 34.4	
	comp=Z,64nm,21.9s,baz=252,slow=30						
GAR	**Garm**	**82.69**	**311**	P	**P**	**05 02 56.6**	**-1.5**
GAR				IAmb	IAmb	05 03 00.3	
	comp=Z,8.9nm,1.1s						
QSPA	**South Pole Qui**	**82.80**	**180**	P	**P**	**05 02 57.8**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=294,slow=1.4,SNR=9.7						
	comp=Z,1.9nm,0.8s						
CHGR	**Chuyangaron**	**83.47**	**310**	P	**P**	**05 03 01.4**	**-0.8**
NRIK	**Noril'sk**	**85.77**	**343**	P	**P**	**05 03 11.9**	**-1.0**
NRIK				IAmb	IAmb	05 03 14.4	
	comp=Z,3.9nm,0.8s						
NRIK	**Noril'sk**	**85.77**	**343**	P	P	05 03 11.3	-1.6
	comp=Z,2.4nm,0.6s,baz=93,slow=3.8,SNR=4.3						
	comp=Z,2.4nm,0.6s						
BVAR	**Borovoye Array**	**86.52**	**324**	P	**P**	**05 03 15.6**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=123,slow=5.3,SNR=2.5						
	comp=Z,0.6nm,0.4s						
ILAR	**Eielson Array**	**87.36**	**23**	P	P	05 03 18.5	-2.4
	comp=Z,0.6nm,0.9s,baz=259,slow=4.6,SNR=9.1						
ILAR				LR	LR	05 37 35.6	
	comp=Z,29nm,21.0s,baz=225,slow=32						
	comp=Z,0.6nm,0.9s						
BBB	**Bella Bella**	**93.74**	**38**	LR	LR	05 42 16.4	
	comp=Z,37nm,18.6s,baz=239,slow=33						
YBH	**Yreka Blue Hor**	**96.47**	**49**	LR	LR	05 38 55.6	
	comp=Z,52nm,21.7s,baz=280,slow=30						
NVAR	**Mina Array Bea**	**99.70**	**52**	LR	LR	05 47 16.1	
	comp=Z,43nm,18.1s,baz=288,slow=34						
TORD	**Torodi Ar. Bea**	**143.37**	**282**	PKP	PKPab	05 10 05.6	-0.1
	comp=Z,0.8nm,0.9s,baz=32,slow=3.8,SNR=4.4						

*NEIC **01** 05:05:16.0±1.4, 35°.23N±0°.01×97°.74W±0°.02, h8km±1km, ML2.0/34, ML2.4, Error ellipse: s-maj=2.2km s-min=1.9km az=67.0*

NEIC 01 05:05:15.7±1.3, 35°.22N±0°.02×97°.73W±0°.02, h5km±1km, Error ellipse: s-maj=3.3km s-min=2.5km az=225.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.27**	**83**	Pg	Pg	05 05 21.6	+0.5
OKCSW	**OKLAHOMA CITY**	**0.30**	**53**	Pg	Pg	05 05 22.1	+0.5
OKCSW				Sg	Sg	05 05 26.8	+1.1
OKCSW				IAML		05 05 27.1	
	comp=E,237nm,0.1s						
OKCSW				IAML		05 05 27.1	
	comp=N,110nm,0.1s						
BCOK	**Bluff Creek, N**	**0.45**	**13**		Pg	05 05 24.4	0.0
BCOK					Sg	05 05 31.1	+1.0
X34A	**Smith Ranch, M**	**0.63**	**188**	Pg	Pg	05 05 28.4	+0.7
X34A				IAML		05 05 39.2	
	comp=N,39nm,0.5s						
W35A	**Tecumseh**	**0.71**	**95**	Pg	Pg	05 05 29.4	+0.1
W35A					Sg	05 05 39.4	+0.9
WMOK	**Wichita Mounta**	**0.99**	**241**	Pg	Pg	05 05 34.4	-0.3
OK031	**S. Brethren Rd**	**1.03**	**45**	Pg	Pg	05 05 35.2	-0.3
OK031					Sg	05 05 48.7	-0.2
OK031				IAML		05 05 54.3	
	comp=N,63nm,0.3s						
OK052	**Battle Ridge R**	**1.08**	**44**		Pg	05 05 36.4	-0.1
OK052					Sg	05 05 50.5	+0.1
DEOK	**Depew**	**1.18**	**58**		Pg	05 05 37.2	-1.2
DEOK					Sg	05 05 53.9	+0.2
DEOK				IAML		05 05 57.0	
	comp=N,44nm,0.5s						
DEOK				IAML		05 05 59.8	
	comp=E,45nm,0.4s						
QUOK	**Quay**	**1.26**	**41**		Pg	05 05 38.9	-1.0
CROK	**Carrier**	**1.29**	**351**		Pn	05 05 39.3	-1.2
CROK				IAML		05 06 07.2	
	comp=E,41nm,0.3s						
LOOK	**Love County**	**1.31**	**159**	Pg	Pn	05 05 40.2	-0.4
LOOK				IAML		05 06 03.3	
	comp=N,29nm,0.2s						
LOOK				IAML		05 06 07.9	
	comp=E,20nm,1.6s						
OK051	**E0350 and S346**	**1.47**	**29**		Pn	05 05 41.7	-1.3
BLOK	**Blackwell**	**1.59**	**15**		Pn	05 05 44.2	-0.3
GC02	**Grant County #**	**1.63**	**356**		Pn	05 05 44.4	-0.7
TUL3	**Leonard**	**1.73**	**66**	Pn	Pn	05 05 45.5	-0.9
KAN14	**Manchester OK**	**1.74**	**354**	Pn	Pn	05 05 46.4	-0.3
KAN09	**Caldwell North**	**1.91**	**3**	Pn	Pn	05 05 49.3	+0.3
KAN01	**Argonia South**	**1.93**	**359**	Pn	Pn	05 05 49.2	0.0

*ATH **01** 05:10:09.7, 37°.43N×20°.46E, h12km±3km, ML3.9/12, Manual Solution by M.Kolligri This location: 2020/07/02 05:25:52 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*

*IDC **01** 05:10:09.1±1.0, 37°.59N×20°.77E, h0km, mb3.7/12, mbtmp3.7/17, ML2.3/4, MS3.5/2, Error ellipse: s-maj=20.3km s-min=15.7km az=176.0*

*THE **01** 05:10:10.8, 37°.45N×20°.49E, h0km±2km, ML3.8/13, Error ellipse: s-maj=2.6km s-min=0.6km az=228.0*

ISC 01 05:10:11.9±1.1, 37°.49N±0°.03×20°.58E±0°.03, h16km±6km, n67, σ1§69/87, mb3.7/12, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.26**	**47**	P	**Pg**	**05 10 17.3**	**-0.4**
KRI1				S	**Sg**	**05 10 21.7**	**+0.1**
	46μm,0.4s						
LTHK	**Lithakia**	**0.30**	**43**	P	**Pg**	**05 10 17.9**	**-0.5**
LTHK				S	**Sg**	**05 10 23.0**	**+0.2**
LTHK	**Lithakia**	**0.30**	**43**	P	**Pg**	**05 10 17.9**	**-0.5**
LTHK				S	**Sg**	**05 10 22.8**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.61**	**15**	P	**Pg**	**05 10 23.0**	**-0.9**
RTZL				S	**Sb**	**05 10 32.7**	**+0.2**
	12μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.63**	**1**	P	**Pb**	**05 10 23.4**	**-1.0**
PSDA				S	**Sb**	**05 10 33.6**	**+0.6**
	9μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.63**	**1**	P	**Pb**	**05 10 23.5**	**-1.0**
PSDA				S	**Sb**	**05 10 32.6**	**-0.4**
VLS	**Valsamata**	**0.69**	**1**	P	**Pg**	**05 10 24.1**	**-1.4**
VLS				S	**Sb**	**05 10 35.1**	**+0.2**
	6μm,0.4s						
VLS	**Valsamata**	**0.69**	**1**	P	**Pg**	**05 10 24.4**	**-1.1**
VLS				S	**Sb**	**05 10 34.8**	**-0.1**
LXRA	**Lixouri, Kepha**	**0.72**	**351**	P	**Pb**	**05 10 25.4**	**-0.7**
LXRA				S	**Sb**	**05 10 35.7**	**-0.1**
SMHA	**Samh**	**0.77**	**4**	P	**Pg**	**05 10 25.2**	**-1.6**
SMHA				S	**Sb**	**05 10 37.2**	**+0.2**
DMLN	**Damoulianata-K**	**0.77**	**348**	P	**Pb**	**05 10 25.7**	**-1.2**
DMLN				S	**Sb**	**05 10 37.5**	**+0.4**
	14μm,0.5s						
DMLN	**Damoulianata-K**	**0.77**	**348**	P	**Pb**	**05 10 26.0**	**-0.9**
AMT	**Artemida-Makis**	**0.90**	**87**	P	**Pb**	**05 10 29.1**	**-0.1**
AMT				S	**Sb**	**05 10 42.9**	**+1.9**
RLS	**Riolos of Patr**	**0.91**	**51**	P	**Pg**	**05 10 28.8**	**-0.8**
RLS				S	**Sb**	**05 10 42.8**	**+1.7**
	4μm,0.3s						
RLS	**Riolos of Patr**	**0.91**	**51**	P	**Pg**	**05 10 28.7**	**-0.8**
VSK1	**VASILIKIADES**	**0.92**	**359**	P	**Pg**	**05 10 28.6**	**-1.2**
VSK1				S	**Sb**	**05 10 43.0**	**+1.5**
	7μm,0.6s						
FSK	**Fiskardo**	**0.97**	**359**	P	**Pg**	**05 10 29.2**	**-1.6**
FSK				S	**Sb**	**05 10 44.5**	**+1.6**
	5μm,0.6s						
FSK	**Fiskardo**	**0.97**	**359**	P	**Pg**	**05 10 29.1**	**-1.7**
DRO	**Drossia**	**1.01**	**62**	P	**Pb**	**05 10 31.5**	**+0.4**
DRO				S	**Sn**	**05 10 48.0**	**+2.6**
	5μm,0.5s						
DRO	**Drossia**	**1.01**	**62**	P	**Pg**	**05 10 30.9**	**-0.7**
DRO				S	**Sb**	**05 10 46.1**	**+1.9**
PYL	**PYLOS**	**1.10**	**122**	P	**Pg**	**05 10 31.7**	**-1.5**
PYL				S	**Sn**	**05 10 49.5**	**+2.0**
PYL	**PYLOS**	**1.10**	**122**	P	**Pg**	**05 10 31.9**	**-1.4**
ITM	**Ithomi**	**1.12**	**105**	P	**Pb**	**05 10 33.0**	**+0.1**
ITM				S	**Sn**	**05 10 49.7**	**+1.7**
	2μm,0.8s						
ITM	**Ithomi**	**1.12**	**105**	P	**Pg**	**05 10 32.5**	**-1.1**
EVGI	**Lefkada island**	**1.14**	**3**	P	**Pg**	**05 10 32.4**	**-1.5**
EVGI				S	**Sn**	**05 10 50.2**	**+1.8**
	3μm,0.5s						
EVGI	**Lefkada island**	**1.14**	**3**	P	**Pg**	**05 10 32.2**	**-1.6**
DRAG	**Dragano-Lefkad**	**1.20**	**360**	P	**Pg**	**05 10 33.3**	**-1.7**
DRAG				S	**Sn**	**05 10 52.6**	**+2.7**
DRAG	**Dragano-Lefkad**	**1.20**	**360**	P	**Pg**	**05 10 33.1**	**-1.9**
NYDR	**Nydri-Lefkada**	**1.23**	**4**	P	**Pg**	**05 10 34.2**	**-1.4**
NYDR				S	**Sn**	**05 10 53.1**	**+2.5**
	2μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.23**	**4**	P	**Pg**	**05 10 33.9**	**-1.8**
LKD2	**Lefkada island**	**1.30**	**3**	P	**Pb**	**05 10 36.4**	**+0.4**
TSLK	**Tsoukalades, L**	**1.34**	**3**	P	**Pb**	**05 10 36.4**	**-0.2**
TSLK				S	**Sn**	**05 10 56.5**	**+3.1**
	4μm,0.7s						
KLV	**Kalavryta, Ach**	**1.37**	**65**	P	**Pb**	**05 10 38.2**	**+1.1**
KLV	**Kalavryta, Ach**	**1.37**	**65**	P	**Pn**	**05 10 37.1**	**+0.7**
EFP	**Efpalio**	**1.41**	**48**	P	**Pn**	**05 10 37.7**	**+0.8**
EFP	**Efpalio**	**1.41**	**48**	P	**Pn**	**05 10 37.5**	**+0.6**
ANX	**Ano Chora**	**1.53**	**43**	P	**Pb**	**05 10 39.9**	**-0.1**
ANX	**Ano Chora**	**1.53**	**43**	P	**Pn**	**05 10 39.6**	**+0.9**
OHR	**Ohrid**	**3.62**	**3**	*i* Pn	**Pn**	**05 11 09.9**	**+2.5**
IDI	**Anoyia**	**4.11**	**121**	Pn	**Pn**	**05 11 14.1**	**0.0**
	1.2nm,0.3s,baz=231,slow=10,SNR=7.7						
IDI				Sn	**Sn**	**05 12 01.6**	**-0.4**
	1.6nm,0.3s,baz=315,slow=11,SNR=3.9						
	4.3nm,0.7s						
PEHC	**Pehcevo**	**4.65**	**22**	*i* Pn	**Pn**	**05 11 23.1**	**+1.6**
VAE	**Valguarnera**	**4.90**	**272**	Pn	**Pn**	**05 11 28.0**	**+3.0**
	1.5nm,0.3s,baz=120,slow=8.1,SNR=3.2						
VAE				Sn	**Sn**	**05 12 26.2**	**+4.9**
	1.9nm,0.3s,baz=348,slow=22,SNR=3.0						
	8.5nm,0.6s						
MLR	**Muntele Rosu**	**8.95**	**25**	Pn	**Pn**	**05 12 25.4**	**+4.8**
	0.3nm,0.3s,baz=148,slow=11,SNR=12						
KEST	**Kesra**	**9.20**	**262**	Pn	**Pn**	**05 12 25.8**	**+1.8**
	0.1nm,0.3s,baz=64,slow=18,SNR=1.8						
	4.5nm,0.9s						
SOKA	**Soboth**	**10.06**	**338**	*i* Pn	**Pn**	**05 12 38.4**	**+2.6**
	2.4nm,0.6s						
OBKA	**Obir**	**10.07**	**335**	*i* Pn	**Pn**	**05 12 37.8**	**+2.0**
	4.7nm,0.6s						
ARSA	**Arzberg**	**10.45**	**341**	*i* Pn	**Pn**	**05 12 42.7**	**+1.8**
	1.0nm,0.4s						
MOA	**Molln**	**11.35**	**338**	*i* Pn	Pn	05 12 59.0	+5.8
	1.0nm,0.4s						
BIOA	**Bad Ischl, Aus**	**11.40**	**336**	*e*Pn	Pn	05 12 60.0	+5.9
	1.3nm,0.4s						
LESA	**Schwarzleotal**	**11.51**	**332**	*i* Pn	Pn	05 13 00.4	+4.9
	1.7nm,0.4s						
MOTA	**Moosalm**	**12.07**	**328**	*e*Pn	**Pn**	**05 13 07.5**	**+4.2**
	1.3nm,0.6s						
AKASG	**Malin Array Be**	**14.58**	**22**	Pn	**Pn**	**05 13 35.5**	**-1.9**
	0.1nm,0.3s,baz=213,slow=17,SNR=1.7						
	0.2nm,0.3s						
CLL	**Collm**	**14.83**	**341**	*e*PP	P	05 13 53.0	+6.5
ESDC	**Sonseca Array**	**19.30**	**284**	P	**Pn**	**05 14 36.4**	**-0.7**
	1.4nm,1.0s,baz=86,slow=7.5,SNR=3.5						
HFS	**Hagfors**	**23.09**	**351**	P	**P**	**05 15 15.6**	**-1.0**
	2.7nm,0.7s,baz=159,slow=9.5,SNR=9.6						
	2.7nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.02**	**326**	P	**P**	**05 15 25.5**	**-0.3**
	0.8nm,0.5s,baz=122,slow=11,SNR=3.8						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**24.23**	**6**	P	**P**	**05 15 26.1**	**-1.5**
	1.6nm,0.5s,baz=168,slow=10,SNR=14						
	1.6nm,0.5s						
NOA	**NORSAR Array B**	**24.30**	**349**	P	**P**	**05 15 27.8**	**-0.6**
	0.7nm,0.7s,baz=148,slow=9.9,SNR=3.6						
	0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.52**	**220**	P	**P**	**05 16 16.6**	**+1.0**
	0.4nm,0.8s,baz=26,slow=9.5,SNR=2.7						
	0.4nm,0.8s						
ARCES	**ARCESS Array B**	**32.22**	**3**	P	**P**	**05 16 37.0**	**-1.9**
	2.0nm,1.0s,baz=189,slow=11,SNR=1.5						
	2.0nm,1.0s						
BVAR	**Borovoye Array**	**37.53**	**49**	P	**P**	**05 17 22.5**	**-2.5**
	0.3nm,0.4s,baz=247,slow=7.4,SNR=2.2						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**42.61**	**53**	P	**P**	**05 18 05.3**	**-1.8**
	0.6nm,0.6s,baz=282,slow=8.6,SNR=6.7						
KURBB				LR	LR	05 40 14.3	
	comp=Z,48nm,18.4s,baz=182,slow=42						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**45.63**	**58**	P	**P**	**05 18 29.4**	**-2.0**
	0.8nm,0.7s,baz=262,slow=3.7,SNR=4.1						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**46.12**	**48**	P	**P**	**05 18 33.0**	**-2.2**
	0.9nm,0.5s,baz=282,slow=9.9,SNR=4.2						
	0.9nm,0.5s						
RES	**Resolute Bay**	**60.44**	**344**	LR	LR	05 47 35.2	
	comp=Z,34nm,18.4s,baz=354,slow=37						
SONM	**Songino Array**	**60.87**	**50**	P	**P**	**05 20 22.1**	**-1.6**
	0.2nm,0.4s,baz=300,slow=12,SNR=1.7						
	0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**69.94**	**82**	P	**P**	**05 21 20.9**	**-1.8**
	0.9nm,0.3s,baz=302,slow=8.4,SNR=2.0						
	0.9nm,0.3s						

*IDC **01** 05:34:28.7±0.8, 37°.23N×20°.72E, h0km, mb3.9/13, mbtmp3.9/25, ML3.5/9, MS3.6/50, Error ellipse: s-maj=15.8km s-min=12.4km az=10.0*

*NEIC **01** 05:34:30.9±1.5, 37°.16N±0°.02×20°.61E±0°.08, h10km±2km, mb4.5/15, Error ellipse: s-maj=10.8km s-min=3.0km az=257.0*

*THE **01** 05:34:30.2, 37°.17N×20°.60E, h0km±1km, ML4.3/11, Error ellipse: s-maj=2.2km s-min=0.7km az=225.0*

*ATH **01** 05:34:30.4, 37°.17N×20°.61E, h9km±1km, ML4.3/14, Error ellipse: s-maj=2.1km s-min=1.1km az=41.0*

*PDG **01** 05:34:31.1±0.6, 37°.18N×20°.60E, h9km±1km, ML4.4/13, Error ellipse: s-maj=1.0km s-min=1.0km az=0.0*

*MED_RC **01** 05:34:31.0±0.5, 37°.14N×20°.71E, h15km±1km, MW4.5/31, Moment Tensor Solution.Mantle waves: s31,c45; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}1.15±.38; $M_{\theta\theta}$-3.10±.26; $M_{\phi\phi}$1.95±.31; $M_{r\theta}$-2.11±.80; $M_{\theta\phi}$5.69±.29; $M_{\phi r}$-0.31±.58; Best double couple: $M_0$6.59000×10^{15} NP1:ϕ_s259.00000°, δ86.00000°, λ20.00000°. NP2:ϕ_s168.00000°, δ70.00000°, λ176.00000°. Principal axes: T 6.0700, Plg17.0000°, Azm125.0000°; N 1.0400, Plg70.0000°, Azm269.0000°; P -7.1200, Plg11.0000°, Azm32.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*BEO **01** 05:34:33.1±0.7, 37°.31N×20°.36E, h20km±3km, ML3.9/11*

*NAO **01** 05:34:37.4, 37°.15N×20°.62E, h10km, mb4.0*

*AFAD **01** 05:34:37.0±0.0, 37°.54N×20°.82E, h32km, MW3.9*

ISC 01 05:34:32.1±0.5, 37°.22N±0°.03×20°.66E±0°.03, h22km±3km, n262, σ1§60/283, mb4.2/23, MS3.6/43, 11C-16D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.46**	**16**	P	**Pb**	**05 34 40.5**	**-0.9**
KRI1				S	**Sb**	**05 34 48.0**	**+0.2**
	66μm,0.4s						
LTHK	**Lithakia**	**0.51**	**16**	P	**Pb**	**05 34 41.1**	**-1.2**
LTHK				S	**Sb**	**05 34 49.7**	**+0.4**
	84μm,0.4s						
LTHK	**Lithakia**	**0.51**	**16**	P	**Pb**	**05 34 40.9**	**-1.4**
LTHK				S	**Sb**	**05 34 48.6**	**-0.7**
LTHK				AML	AML	05 34 50.0	
LTHK				AML	AML	05 34 50.3	
RTZL	**Ratzakli, Kefa**	**0.86**	**6**	P	**Pb**	**05 34 47.0**	**-1.3**
RTZL				S	**Sn**	**05 35 00.6**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.89**	**356**	P	**Pb**	**05 34 47.8**	**-1.1**
PSDA				S	**Sn**	**05 35 01.7**	**+0.1**
	15μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.89**	**356**	P	**Pb**	**05 34 47.7**	**-1.2**
PSDA				S	**Sb**	**05 35 00.7**	**+0.3**
AMT	**Artemida-Makis**	**0.90**	**69**	P	**Pb**	**05 34 48.5**	**-0.4**
AMT				S	**Sn**	**05 35 01.1**	**-0.6**
AMT				AML	AML	05 35 07.9	
AMT				AML	AML	05 35 09.4	
PYL	**PYLOS**	**0.93**	**110**	P	**Pb**	**05 34 48.0**	**-1.4**
PYL				S	**Sn**	**05 35 03.0**	**+0.6**
	8μm,0.7s						
PYL	**PYLOS**	**0.93**	**110**	P	**Pb**	**05 34 48.2**	**-1.2**
PYL				S	**Sb**	**05 35 00.6**	**-0.7**
PYL				AML	AML	05 35 06.8	
	comp=E,16358μm,0.6s						
PYL				AML	AML	05 35 06.9	
	comp=N,15424μm,0.4s						
VLS	**Valsamata**	**0.96**	**357**	P	**Pb**	**05 34 49.0**	**-1.0**
VLS				S	**Sn**	**05 35 03.8**	**+0.6**
	comp=N,9μm,0.4s						
VLS	**Valsamata**	**0.96**	**357**	P	**Pb**	**05 34 49.0**	**-1.0**
VLS				S	**Sb**	**05 35 02.5**	**+0.3**
VLS				AML	AML	05 35 07.0	
	comp=N,14414μm,0.4s						
VLS				AML	AML	05 35 07.3	
	comp=E,22780μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.99**	**350**	P	**Pb**	**05 34 50.1**	**-0.5**
LXRA				S	**Sn**	**05 35 04.3**	**+0.3**
LXRA				AML	AML	05 35 13.1	
	comp=N,45619μm,0.6s						
LXRA				AML	AML	05 35 13.9	
	comp=E,46771μm,0.4s						
ITM	**Ithomi**	**1.02**	**92**	P	**Pb**	**05 34 49.6**	**-1.3**
ITM				S	**Sn**	**05 35 06.0**	**+1.4**
	comp=E,12μm,0.7s						
ITM	**Ithomi**	**1.02**	**92**	P	**Pb**	**05 34 49.4**	**-1.5**
ITM				S	**Sn**	**05 35 04.4**	**-0.3**
ITM				AML	AML	05 35 09.7	
	comp=N,25935μm,0.6s						
ITM				AML	AML	05 35 12.4	
	comp=E,21089μm,0.6s						
SMHA	**Samh**	**1.03**	**360**	P	**Pb**	**05 34 49.8**	**-1.3**
SMHA				AML	AML	05 35 09.0	
	comp=N,65616μm,0.4s						
SMHA				AML	AML	05 35 09.1	
	comp=E,66987μm,0.6s						
DMLN	**Damoulianata-K**	**1.04**	**348**	P	**Pb**	**05 34 50.8**	**-0.6**
DMLN				S	**Sn**	**05 35 07.4**	**+2.1**
	comp=E,17μm,0.8s						
DMLN	**Damoulianata-K**	**1.04**	**348**	P	**Pb**	**05 34 49.9**	**-1.5**
RLS	**Riolos of Patr**	**1.05**	**37**	P	**Pn**	**05 34 50.8**	**-0.8**
RLS				S	**Sn**	**05 35 08.0**	**+2.4**
	comp=E,6μm,0.4s						
RLS	**Riolos of Patr**	**1.05**	**37**	P	**Pn**	**05 34 50.3**	**-1.2**
RLS				S	**Sn**	**05 35 06.2**	**+0.6**
RLS				AML	AML	05 35 10.7	
	comp=N,13522μm,0.6s						
RLS				AML	AML	05 35 11.2	
	comp=E,12267μm,0.4s						
DRO	**Drossia**	**1.11**	**49**	P	**Pn**	**05 34 51.8**	**-0.6**
DRO				S	**Sn**	**05 35 09.9**	**+2.9**
	comp=E,25μm,0.5s						
DRO	**Drossia**	**1.11**	**49**	P	**Pn**	**05 34 51.6**	**-0.7**
DRO				S	**Sn**	**05 35 07.8**	**+0.8**
DRO				AML	AML	05 35 12.5	
	comp=N,46735μm,0.4s						
DRO				AML	AML	05 35 16.4	
	comp=E,34735μm,0.6s						
VSK1	**VASILIKIADES**	**1.19**	**357**	P	**Pn**	**05 34 53.1**	**-0.3**
FSK	**Fiskardo**	**1.24**	**357**	P	**Pn**	**05 34 53.8**	**-0.3**
FSK				S	**Sb**	**05 35 13.2**	**+2.9**
	comp=E,9μm,0.7s						
FSK	**Fiskardo**	**1.24**	**357**	P	**Pn**	**05 34 53.7**	**-0.3**
FSK				AML	AML	05 35 14.7	
	comp=E,15942μm,0.2s						
FSK				AML	AML	05 35 17.4	
	comp=N,13527μm,0.8s						
UPR	**University Cam**	**1.39**	**40**	P	**Pb**	**05 34 56.9**	**-0.4**
EVGI	**Lefkada island**	**1.40**	**0**	P	**Pn**	**05 34 56.4**	**+0.1**
EVGI				S	**Sb**	**05 35 18.4**	**+3.5**
EVGI	**Lefkada island**	**1.40**	**0**	P	**Pn**	**05 34 56.3**	**+0.1**
KLV	**Kalavryta, Ach**	**1.44**	**55**	P	**Pn**	**05 34 57.4**	**+0.4**
KLV	**Kalavryta, Ach**	**1.44**	**55**	P	**Pn**	**05 34 57.2**	**+0.2**
KLV				S	**Sb**	**05 35 16.8**	**+0.5**
KLV				AML	AML	05 35 26.1	
	comp=E,6984μm,0.5s						
KLV				AML	AML	05 35 32.7	
	comp=N,6353μm,0.9s						
DRAG	**Dragano-Lefkad**	**1.46**	**358**	P	**Pb**	**05 34 58.2**	**-0.4**
DRAG				S	**Sb**	**05 35 20.1**	**+3.4**
NYDR	**Nydri-Lefkada**	**1.49**	**1**	P	**Pb**	**05

ULC *i* Sn **Sn** **05 36 39.7 +0.2**
PEHC Pehcevo 4.87 20 *i* Pn **Pn** **05 35 46.4 +2.3**
MMB Musomishta 4.94 28 P **Pn** **05 35 47.1 +2.1**
BOZC Bozcaada 4.98 57 P **Pn** **05 35 48.3 +2.8**
VAE Valguarnera 4.98 275 Pn **Pn** **05 35 47.3 +1.7**
comp=N,8.5nm,0.3s,baz=43,slow=18,SNR=16
VAE Pg **Pb** **05 36 00.5 +1.9**
comp=N,7.8nm,0.3s,baz=121,slow=18,SNR=5.7
VAE Sn **Sn** **05 36 45.7 +3.1**
comp=N,24nm,0.3s,baz=60,slow=20,SNR=8.0
comp=N,21nm,0.3s
KKB Krupnik 5.00 22 P **Pn** **05 35 46.2 +0.5**
RAFF Raffo Rosso 5.02 272 **Pn** **05 35 45.9 -0.2**
GOAD anakkale-G¶ 5.05 53 P **Pn** **05 35 47.8 +1.3**
GOAD S **Sn** **05 36 41.0 -3.2**
DRME Dracevica, Mon 5.09 348 ⇓*i*Pn **Pn** **05 35 47.5 +0.5**
DRME *i* Sn **Sn** **05 36 45.2 +0.1**
WDD Wied Dalam 5.13 256 Pn **Pn** **05 35 47.8 +0.2**
BUM Brajici-Budva 5.25 346 ⇓*i*Pn **Pn** **05 35 49.2 -0.1**
BUM *i* Sn **Sn** **05 36 49.2 0.0**
PDG Podgorica 5.31 349 Pn **Pn** **05 35 51.3 +1.2**
PDG Podgorica 5.31 349 *e*Pn **Pn** **05 35 50.1 0.0**
PDG *e*Sn **Sn** **05 36 47.5 -3.1**
PDG Podgorica 5.31 349 *e*Pn **Pn** **05 35 51.1 +1.0**
PDG Podgorica 5.31 349 ⇓P **Pn** **05 35 51.7 +1.7**
PDG Podgorica 5.31 349 ⇑*i*Pn **Pn** **05 35 51.0 +1.0**
PDG *i* Sn **Sn** **05 36 50.6 0.0**
PVY Plav 5.39 355 ⇓*i*Pn **Pn** **05 35 52.5 +1.2**
PVY *i* Sn **Sn** **05 36 53.2 +0.4**
BOSS Bosilegrad 5.45 14 *e*Pn **Pn** **05 35 52.4 +0.4**
RZN Rozhen 5.47 34 P **Pn** **05 35 56.0 +3.6**
HCY Herceg Novi 5.48 343 *e*Pn **Pn** **05 35 52.1 -0.3**
HCY Herceg Novi 5.48 343 ⇓*i*Pn **Pn** **05 35 53.3 +0.9**
HCY *i* Sn **Sn** **05 36 53.4 -1.3**
CEME Cevo 5.49 346 ⇓*i*Pn **Pn** **05 35 53.3 +0.8**
CEME *i* Sn **Sn** **05 36 54.7 -0.2**
KARP Karpathos 5.51 106 Pn **Pn** **05 35 54.2 +1.4**
KARP Karpathos 5.51 106 P **Pn** **05 35 55.3 +2.5**
CAVK Edirne/Enez-Ca 5.52 49 P **Pb** **05 36 07.7 0.0**
CAVK Edirne/Enez-Ca 5.52 49 ⇓P **Pn** **05 35 53.0 +0.1**
ALN Alexandroupoli 5.57 47 P **Pn** **05 35 54.0 +0.4**
ALN Alexandroupoli 5.57 47 Pn **Pn** **05 35 53.4 -0.2**
BARS Barje 5.66 9 *e*Pn **Pn** **05 35 54.9 0.0**
PLNA Plana 5.67 21 P **Pn** **05 35 54.7 -0.3**
IVA Berane 5.67 354 ⇓*i*Pn **Pn** **05 35 56.0 +0.9**
IVA *i* Sn **Sn** **05 36 59.4 -0.3**
KOME Kolasin 5.69 352 ⇓*i*Pn **Pn** **05 35 56.1 +0.7**
KOME *i* Sn **Sn** **05 36 59.5 -0.6**
NKME Niksic 5.69 347 ⇓*i*Pn **Pn** **05 35 56.2 +0.9**
NKME *i* Sn **Sn** **05 36 59.4 -0.6**
KDZ Kurdzhali 5.70 38 P **Pn** **05 35 59.9 +4.4**
VTS Vitosha 5.74 19 P **Pn** **05 36 00.3 +4.2**
VTS Vitosha 5.74 19 *e*Pn **Pn** **05 35 57.0 +0.9**
VTS *e*Sn **Sn** **05 36 59.4 -2.0**
TREB Trebinje 5.77 343 *e*Pn **Pn** **05 35 55.6 -0.7**
TREB *e*Sn **Sn** **05 36 56.5 -5.3**
TREB Trebinje 5.77 343 *e*Pn **Pn** **05 35 54.7 -1.6**
BRY Bratogost 5.90 345 *e*Pn **Pn** **05 35 58.0 -0.3**
BRY Bratogost 5.90 345 ⇑*i*Pn **Pn** **05 35 59.2 +0.9**
BRY *i* Sn **Sn** **05 37 04.1 -1.2**
SELS Selova 6.00 3 *e*Pn **Pn** **05 35 59.2 -0.4**
SJES Sjenica 6.06 355 *e*Pn **Pn** **05 35 59.5 -0.9**
SJES *e*Sn **Sn** **05 37 04.5 -4.6**
SJES Sjenica 6.06 355 *e*Pn **Pn** **05 35 58.5 -1.9**
STON Ston 6.08 339 *e*Pn **Pn** **05 35 59.5 -1.1**
STON *e*Sn **Sn** **05 37 03.5 -6.0**
STON Ston 6.08 339 *e*Pn **Pn** **05 35 59.8 -0.8**
UPM Unac-Piva 6.12 348 ⇑*i*Pn **Pn** **05 36 02.3 +0.9**
UPM *i* Sn **Sn** **05 37 09.7 -1.2**
PLE Pljevlja 6.18 351 ⇑*i*Pn **Pn** **05 36 03.0 +0.9**
PLE *i* Sn **Sn** **05 37 11.1 -1.0**
ZAPS Zavoj 6.23 13 *e*Pn **Pn** **05 36 03.1 +0.3**
IVAS Ivanjica 6.36 357 *e*Pn **Pn** **05 36 03.4 -1.1**
IVAS *e*Sn **Sn** **05 37 12.7 -3.8**
BOVS Bovan 6.46 7 *e*Pn **Pn** **05 36 04.6 -1.2**
BOVS Bovan 6.46 7 ⇓P **Pn** **05 36 05.1 -0.7**
RUDO Rudo 6.47 352 *e*Pn **Pn** **05 36 03.9 -2.0**
MPEP Malo Peshtene 6.57 20 P **Pn** **05 36 10.9 +3.6**
GRUS Gruza 6.66 0 *e*Pn **Pn** **05 36 07.7 +1.0**
ZAGS Zajecar 6.69 10 *e*Pn **Pn** **05 36 08.4 -0.6**
BBLS Lazi&#263i 6.71 352 *e*Pn **Pn** **05 36 09.0 -0.3**
BBLS Lazi&#263i 6.71 352 *e*Pn **Pn** **05 36 09.5 +0.2**
DIVS Divibare 6.89 356 *e*Pn **Pn** **05 36 10.8 -1.0**
DIVS *e*Sn **Sn** **05 37 23.9 -5.7**
ELND Elena 6.96 33 ⇑P **Pn** **05 36 14.0 +1.2**
HAPS Han Pijesak,Bl 6.98 350 *e*Pn **Pn** **05 36 11.8 -1.3**
HAPS Han Pijesak,Bl 6.98 350 *e*Pn **Pn** **05 36 12.0 -1.1**
TRUS Trudelj 7.00 359 *e*Pn **Pn** **05 36 12.5 -0.7**
INTR Introdacqua 7.07 315 Pn **Pn** **05 36 14.9 +0.5**
SZH Strazhitsa 7.28 32 P **Pn** **05 36 17.8 +0.7**
TEKS Tekeris 7.37 354 *e*Pn **Pn** **05 36 16.5 -1.9**
TEKS Tekeris 7.37 354 *e*Pn **Pn** **05 36 14.4 -4.0**
HERR Herculane 7.77 9 ⇓P **Pn** **05 36 24.4 +0.7**
A050A Klekovaca 7.90 338 *e*Pn **Pn** **05 36 26.4 +0.8**
FRGS Fruska Gora 7.96 356 *e*Pn **Pn** **05 36 25.7 -0.7**
BLY Banja Luka 7.96 342 *e*Pn **Pn** **05 36 28.9 +2.4**
NRCA Norcia 8.05 316 **Pn** **05 36 29.3 +1.5**
A051A Mrakovica 8.28 341 *e*Pn **Pn** **05 36 31.0 +0.1**
VOIR 8.85 21 ⇓P **Pn** **05 36 40.2 +1.6**
MORH Mrgy, Hungar 9.11 351 *e*Pn **Pn** **05 36 40.9 -1.3**
MORH Mrgy, Hungar 9.11 351 ⇑P **Pn** **05 36 42.7 +0.5**
MLR Muntele Rosu 9.17 24 Pn **Pn** **05 36 44.1 +1.1**
comp=N,2.0nm,0.6s,baz=161,slow=14
MLR LR LR 05 40 38.4
comp=N,256nm,21.7s,baz=200,slow=40
MLR Muntele Rosu 9.17 24 ⇓P **Pn** **05 36 42.9 -0.2**
KEST Kesra 9.23 264 Pn **Pn** **05 36 42.4 -1.5**
KEST Kesra 9.23 264 Pn **Pn** **05 36 45.2 +1.2**
comp=N,0.2nm,0.3s,baz=127,slow=10,SNR=3.2
KEST Sn **Sn** **05 38 25.0 -2.2**
comp=N,0.5nm,0.3s,baz=126,slow=19,SNR=1.1
KEST LR LR 05 41 37.1
comp=N,137nm,18.7s,baz=48,slow=46
comp=N,6.1nm,0.8s
CEY Cerknica 9.71 333 *e*Pn **Pn** **05 36 49.8 -0.6**
PLOR Plostina 9.72 26 ⇓P **Pn** **05 36 51.6 +1.0**
VRI Vrincioaia 9.76 26 ⇓P **Pn** **05 36 51.7 +0.6**
SABO M.te Sabotino 10.22 331 Pn **Pn** **05 36 58.0 +0.6**
SOKA Soboth 10.33 338 *i* Pn **Pn** **05 36 59.3 +0.3**
comp=N,0.6nm,0.2s
OBKA Obir 10.33 336 *e*Pn **Pn** **05 36 59.5 +0.5**
comp=N,12nm,0.7s
BRTR Keskin Array B 10.48 72 Pn **Pn** **05 37 01.6 +0.4**
comp=N,0.2nm,0.3s,baz=260,slow=11,SNR=1.8
comp=N,1.0nm,0.5s
TEOL Teolo 10.57 323 Pn **Pn** **05 37 02.0 -0.2**
PSZ Piszkesteto 10.71 357 Pn **Pn** **05 37 03.5 -0.6**
ARSA Arzberg 10.72 341 *e*Pn **Pn** **05 37 05.0 +0.8**
comp=N,0.7nm,0.3s
MYKA Terra Mystica 10.75 333 *e*Pn **Pn** **05 37 05.3 +0.6**
comp=N,2.1nm,0.5s
RONA Rosalia, Austr 10.95 344 *i* Pn **Pn** **05 37 08.2 +0.8**
comp=N,0.9nm,0.4s
KBA Koelnbreinsper 11.24 334 *i* Pn **Pn** **05 37 13.9 +2.4**
comp=N,1.6nm,0.5s
CONA Conrad Observa 11.27 343 *e*Pn **Pn** **05 37 13.5 +1.7**
comp=N,0.2nm,0.2s
VYHS Vyhne 11.35 354 *e*PN **Pn** **05 37 15.2 +2.4**
MODS Modra-Piesok 11.42 349 *e*PN **Pn** **05 37 15.9 +2.1**
MOA Molln 11.62 338 *i* Pn **Pn** **05 37 17.4 +0.9**
comp=N,0.5nm,0.2s
BIOA Bad Ischl, Aus 11.67 336 *i* Pn **Pn** **05 37 19.4 +2.2**
comp=N,1.4nm,0.3s
LESA Schwarzleotal 11.78 332 *i* Pn **Pn** **05 37 22.0 +3.3**
comp=N,0.6nm,0.2s
WTTA Wattenberg 12.05 329 *i* Pn **Pn** **05 37 25.9 +3.4**
comp=N,1.7nm,0.6s
WATA Walderalm 12.13 329 *i* Pn **Pn** **05 37 23.7 +0.1**
comp=N,0.6nm,0.2s
FUORN Ofenpass-Fuorn 12.16 324 Pn **Pn** **05 37 24.0 -0.1**
SQTA Sankt Quirin 12.19 328 *e*Pn **Pn** **05 37 25.4 +0.9**
comp=N,1.0nm,0.3s
FETA Feichten 12.24 326 *i* Pn **Pn** **05 37 25.7 +0.5**
comp=N,0.3nm,0.2s
MOTA Moosalm 12.33 328 *e*Pn **Pn** **05 37 27.2 +0.8**
comp=N,1.3nm,0.6s
VRAC Vranov 12.44 348 LR LR 05 43 10.3
comp=N,336nm,19.6s,baz=172,slow=42
TUE Stuetta 12.50 321 Pn **Pn** **05 37 29.2 +0.4**
GERES GERESS Array B 12.68 339 Pn **Pn** **05 37 30.6 -0.4**
comp=N,0.4nm,0.3s
GERES Sn **Sn** **05 39 45.3 -6.2**
comp=N,0.2nm,0.3s,baz=89,slow=25,SNR=2.4
GERES LR LR 05 43 05.8
comp=N,189nm,18.7s,baz=138,slow=41
MMAI Mount Meron Ar 12.78 105 Pn **Pn** **05 37 29.8 -2.8**
comp=N,1.1nm,0.3s,baz=312,slow=8.8,SNR=2.3
MMAI Sn Sn 05 39 44.0 -10
comp=N,1.2nm,0.3s,baz=309,slow=24,SNR=2.1
MMAI LR LR 05 44 37.0
comp=N,138nm,19.6s,baz=244,slow=48
comp=N,1.2nm,0.3s
DAVA Damuels 12.83 325 *i* Pn **Pn** **05 37 33.6 +0.4**
comp=N,2.2nm,0.6s
GEM Giv'at Ha'Em 12.91 104 P **Pn** **05 37 32.6 -1.6**
KHC Kasperske Hory 12.97 339 *e*PN **Pn** **05 37 38.5 +3.5**
SHMJ Saham 13.17 105 P **Pn** **05 37 36.5 -1.3**
HMDT Nahal Hemdat 13.19 108 P **Pn** **05 37 36.6 -1.5**
UJAP Al Uja 13.28 109 P **Pn** **05 37 36.9 -2.3**
DSI Dead Sea 13.40 111 P **Pn** **05 37 39.5 -1.4**
MSBI Mazada 13.51 112 P **Pn** **05 37 40.4 -1.9**
PRNI Paran 13.75 116 P **Pn** **05 37 43.3 -2.4**
MBRI Mt Berech 14.00 118 P **Pn** **05 37 47.2 -2.0**
EIL Elat 14.10 118 Pn **Pn** **05 37 47.5 -3.0**
comp=N,0.5nm,0.3s,baz=313,slow=19,SNR=6.7
EIL Sn Sn 05 40 14.3 -12
comp=N,1.3nm,0.3s,baz=22,slow=18,SNR=4.7
comp=N,6.3nm,0.8s
EIL Elat 14.10 118 P **Pn** **05 37 48.7 -1.8**
ASF Jabal al Asfar 14.28 106 Pn **Pn** **05 37 49.9 -3.0**
comp=N,0.2nm,0.3s,baz=90,slow=20,SNR=7.2
comp=N,0.7nm,0.3s
ECH Echery 14.78 322 Pn **Pn** **05 38 00.0 +0.3**
KIEV Kiev 14.80 22 Pn **Pn** **05 37 58.7 -1.1**
AKASG Malin Array Be 14.81 22 Pn **Pn** **05 37 59.4 -0.6**
AKASG Malin Array Be 14.81 22 Pn **Pn** **05 37 58.9 -1.1**
comp=N,0.5nm,0.3s,baz=214,slow=11,SNR=1.7
AKASG LR LR 05 44 45.1
comp=N,388nm,18.8s,baz=209,slow=42
comp=N,0.3nm,0.2s
AKBB Malin Array Si 14.81 22 Pn **Pn** **05 37 58.9 -1.1**
CLL Collm 15.10 341 Pn **Pn** **05 38 04.7 +0.8**
CLL Collm 15.10 341 *e*PP **P** **05 38 12.0 +3.0**
comp=Z,9.0nm,1.2s
CLL *ex* x 05 38 31.0
CLL *ex* x 05 38 50.0
CLL AMS AMS 05 43 00.0
comp=Z,200nm,19.7s
SUW Suwalki 16.89 5 **Pn** **05 38 26.5 -0.3**
SUW IAmb IAmb 05 38 39.4
comp=Z,55nm,0.9s
KBZ Khabaz 18.10 62 P **Pn** **05 38 41.2 -0.8**
comp=Z,0.1nm,0.3s,baz=270,slow=17,SNR=2.6
comp=Z,2.4nm,1.0s
NACGM Naroch 18.18 11 *e*P **P** **05 38 44.5 +1.5**
comp=Z,12nm,0.7s,baz=196
GNI Garni 19.02 74 LR LR 05 46 30.1
comp=Z,154nm,18.0s,baz=287,slow=38
ESDC Sonseca Array 19.42 285 P **P** **05 38 56.5 -0.4**
baz=162,slow=18,SNR=2.8
comp=Z,1.0nm,1.1s
OBN Obninsk 20.93 26 LR LR 05 47 43.3
comp=Z,216nm,18.6s,baz=180,slow=38
HFS Hagfors 23.36 351 P **P** **05 39 37.9 -0.8**
comp=Z,3.1nm,0.5s,baz=155,slow=12,SNR=13
HFS LR LR 05 49 03.5
comp=Z,180nm,18.8s,baz=164,slow=38
comp=Z,3.1nm,0.5s
BELG Belogornoye 24.22 43 LR LR 05 49 20.4
comp=Z,131nm,21.1s,baz=232,slow=37
NC602 NORSAR Array 24.24 349 P **P** **05 39 47.3 +0.2**
NC602 IAmb IAmb 05 39 48.9
comp=Z,15nm,1.1s
EKA Eskdalemuir Ar 24.27 326 P **P** **05 39 47.8 +0.3**
comp=Z,3.5nm,0.8s,baz=122,slow=9.5,SNR=6.3
comp=Z,3.5nm,0.8s
FINES FINESS Array B 24.48 6 P **P** **05 39 49.1 -0.3**
comp=Z,1.6nm,0.5s,baz=175,slow=9.0,SNR=8.4
FINES LR LR 05 50 17.3
comp=Z,109nm,20.1s,baz=200,slow=39
comp=Z,1.6nm,0.5s
NC405 NORSAR Array S 24.57 350 P **P** **05 39 49.9 -0.3**
NC405 IAmb IAmb 05 40 08.4
comp=Z,7.9nm,0.8s
NB201 NORSAR Array S 24.57 349 P **P** **05 39 49.2 -1.0**
NB201 IAmb IAmb 05 40 14.9
comp=Z,13nm,1.1s
NB2 NORSAR Subarra 24.58 349 P **P** **05 39 50.1 -0.1**
comp=Z,2.9nm,1.0s,baz=162,slow=9.3
NOA NORSAR Array B 24.58 349 P **P** **05 39 49.7 -0.5**
comp=Z,0.8nm,0.6s,baz=158,slow=8.9,SNR=6.7
NOA LR LR 05 50 22.7
comp=Z,157nm,18.6s,baz=175,slow=39
comp=Z,0.8nm,0.6s
NC303 NORSAR Array S 24.73 349 P **P** **05 39 51.3 -0.3**
NC303 IAmb IAmb 05 40 04.9
comp=Z,8.7nm,0.8s
KIRV Kirov 28.40 32 LR LR 05 51 50.8
comp=Z,134nm,20.8s,baz=246,slow=37
TORD Torodi Ar. Bea 29.36 220 P **P** **05 40 34.0 +0.4**
comp=Z,0.4nm,0.5s,baz=28,slow=9.6,SNR=6.1
TORD LR LR 05 53 27.0
comp=Z,104nm,18.0s,baz=38,slow=39
comp=Z,0.4nm,0.5s
AKTO Aktyubinsk 29.68 52 LR LR 05 54 43.4
comp=Z,116nm,20.9s,baz=254,slow=41
ARTI Arti 31.60 40 LR LR 05 54 30.1
comp=Z,121nm,18.2s,baz=216,slow=38
ARCES ARCESS Array B 32.48 3 P **P** **05 41 00.6 0.0**
comp=Z,1.9nm,0.9s,baz=188,slow=10,SNR=6.1
ARCES LR LR 05 54 23.8
comp=Z,148nm,20.5s,baz=186,slow=37
comp=Z,1.9nm,0.9s
FURI Furi 32.58 145 LR LR 05 56 52.2
comp=Z,77nm,19.0s,baz=350,slow=41
BORG Borgarnes 37.00 332 LR LR 05 57 17.6
comp=Z,20nm,19.4s,baz=84,slow=37
BRVK Borovoye 37.60 49 P **P** **05 41 46.0 +1.1**
BRVK IAmb IAmb 05 42 05.4
comp=Z,2.1nm,0.6s
BVAR Borovoye Array 37.66 49 P **P** **05 41 45.3 -0.1**
comp=Z,0.5nm,0.4s,baz=263,slow=8.6,SNR=2.2
BVAR LR LR 05 59 51.1
comp=Z,58nm,18.4s,baz=265,slow=40
comp=Z,0.5nm,0.4s
CHGR Chuyangaron 37.93 73 P **P** **05 41 47.7 -0.2**
KKAR Karatay Array 38.09 65 P **P** **05 41 50.1 +0.9**
KKAR IAmb IAmb 05 42 02.5
comp=Z,1.6nm,0.9s
DBIC Dimbokro 38.27 224 LR LR 05 58 45.8
comp=Z,70nm,18.3s,baz=28,slow=38
GAR Garm 38.73 72 P **P** **05 41 55.8 +1.1**
GAR IAmb IAmb 05 42 10.4
comp=Z,5.6nm,0.6s
MBAR Mbarara 38.77 164 LR LR 05 59 16.6
comp=Z,106nm,19.2s,baz=7,5,slow=38
BBTS Babate 39.92 246 LR LR 05 59 59.1
comp=Z,35nm,20.2s,baz=303,slow=38
AAK Ala-Archa 41.06 65 LR LR 06 00 23.7
comp=Z,69nm,20.1s,baz=294,slow=38
SPITS Spitsbergen Ar 41.11 359 P **P** **05 42 13.1 -0.8**
comp=Z,8.6nm,1.0s,baz=265,slow=8.2,SNR=2.1
SPITS LR LR 06 00 12.4
comp=Z,168nm,21.7s,baz=142,slow=38
comp=Z,8.6nm,1.0s
KURBB Kurchatov Array 42.72 53 P **P** **05 42 26.4 -0.9**
comp=Z,0.6nm,0.5s,baz=276,slow=8.6,SNR=7.8
KURBB LR LR 06 03 11.7
comp=Z,103nm,19.9s,baz=156,slow=40
comp=Z,0.6nm,0.5s
MK31 Makanchi Array 45.72 58 P **P** **05 42 51.2 -0.2**
MKAR Makanchi Array 45.72 58 P **P** **05 42 50.3 -1.1**
comp=Z,1.2nm,0.5s,baz=273,slow=7.1,SNR=7.3
MKAR LR LR 06 04 36.0
comp=Z,88nm,20.1s,baz=272,slow=40
comp=Z,1.2nm,0.5s
ZAA0 Zalesovo Array 46.26 47 P **P** **05 42 56.0 +0.5**
ZAA0 IAmb IAmb 05 43 21.4
comp=Z,2.4nm,0.8s
ZALV Zalesovo Beam 46.26 47 P **P** **05 42 55.6 +0.1**
comp=Z,1.3nm,0.4s,baz=265,slow=8.4,SNR=6.0
ZALV LR LR 06 04 52.0
comp=Z,80nm,19.8s,baz=284,slow=40
comp=Z,1.3nm,0.4s
SFJD Kangerlussuaq 49.12 331 LR LR 06 05 28.1
comp=Z,105nm,18.2s,baz=52,slow=38
WMQ Urumqi 50.13 60 *e*P **P** **05 43 28.7 +3.0**
WMQ pmax pmax
comp=Z,14nm,0.7s
TSUM Tsumeb 56.19 183 LR LR 06 09 34.8
comp=Z,143nm,19.8s,baz=280,slow=38
FRB Frobisher Bay 57.02 328 LR LR 06 09 57.0
comp=Z,61nm,18.3s,baz=109,slow=37
SONM Songino Array 60.98 50 P **P** **05 44 44.1 +0.4**
comp=Z,0.3nm,0.5s,baz=297,slow=6.3,SNR=1.5
SONM LR LR 06 14 28.1
comp=Z,116nm,18.4s,baz=274,slow=39
comp=Z,0.3nm,0.5s
LBTB Lobatse 62.08 175 LR LR 06 12 52.4
comp=Z,59nm,18.6s,baz=26,slow=37
YAK Yakutsk 65.89 29 LR LR 06 15 36.4
comp=Z,90nm,20.0s,baz=302,slow=38
HHC Hu-ho-hao-te 67.49 55 *e*P **P** **05 45 26.8 +0.3**
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,180nm,3.9s
PZH PanZhiHua 67.78 73 P **P** **05 45 30.0 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.8s
CMAR Chiang Mai Arr 69.92 82 P **P** **05 45 41.4 -0.4**
comp=Z,0.7nm,0.3s,baz=303,slow=6.5,SNR=5.0
CMAR LR LR 06 23 45.6
comp=Z,15nm,19.2s,baz=315,slow=42
comp=Z,0.7nm,0.3s
MA2 Magadan 75.12 24 LR LR 06 23 19.5
comp=Z,54nm,19.1s,baz=324,slow=39
ULM Lac du Bonnet 76.53 324 LR LR 06 22 29.0
comp=Z,39nm,18.9s,baz=20,slow=38
KSRS Korea Array 79.85 51 LR LR 06 26 15.8
comp=Z,51nm,18.3s,baz=235,slow=39
PETK Petropavlovsk- 82.63 24 LR LR 06 27 35.7
comp=Z,58nm,19.2s,baz=317,slow=39
ASAJ Asahikawa 83.47 38 LR LR 06 26 54.8
comp=Z,63nm,18.1s,baz=131,slow=38
JNU Nakatsue 84.49 52 LR LR 06 28 23.0
comp=Z,25nm,20.7s,baz=320,slow=38
KDAK Kodiak Island 85.19 356 LR LR 06 29 28.8
comp=Z,17nm,18.1s,baz=28,slow=39
MJAR Matsushiro Arr 86.58 46 LR LR 06 28 45.4
comp=Z,16nm,20.1s,baz=314,slow=38
BBB Bella Bella 86.89 341 LR LR 06 28 24.4
comp=Z,27nm,19.8s,baz=20,slow=37
NEW Newport 86.96 333 LR LR 06 30 20.9
comp=Z,24nm,18.1s,baz=19,slow=38
SHEM Shemya Is, Ala 87.49 16 LR LR 06 32 40.3
comp=Z,26nm,19.0s,baz=302,slow=40
PDAR Pinedale Array 88.40 326 LR LR 06 29 23.5
comp=Z,23nm,18.2s,baz=24,slow=37
JHJ Hachijo jima 2 89.92 47 LR LR 06 31 41.1
comp=Z,22nm,18.5s,baz=276,slow=38
ANMO Albuquerque 93.00 319 LR LR 06 30 02.5
comp=Z,32nm,18.4s,baz=208,slow=36
YBH Yreka Blue Hor 94.59 333 LR LR 06 31 51.3
comp=Z,42nm,20.6s,baz=26,slow=36
WRA Warramunga Arr 120.39 93 PKP **PKPdf** **05 53 21.8 -0.3**
comp=Z,0.3nm,0.9s,baz=6.0,slow=1.4,SNR=1.8
ASAR Alice Springs 121.96 97 PKP **PKPdf** **05 53 24.9 -0.1**
comp=Z,0.2nm,0.4s,baz=318,slow=1.7,SNR=4.3

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*IDC **01** 05:38:42.5±1.0, 37°.39N×20°.57E, h0km, mb3.7/12, mbtmp3.7/18, ML3.5/3, Error ellipse: s-maj=20.5km s-min=15.6km az=161.0*
*THE **01** 05:38:46.1, 37°.41N×20°.42E, h9km±1km, ML3.7/10, Error ellipse: s-maj=2.0km s-min=1.1km az=45.0*
*ATH **01** 05:38:47.2, 37°.47N×20°.41E, h11km±2km, ML3.7/15, Error ellipse: s-maj=3.8km s-min=1.2km az=23.0*
ISC 01 05:38:46.9±1.1, 37°.46N±0°.04×20°.49E±0°.04, h25km±8km, n55, σ1.9 s54/72, mb3.7/12, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.33**	**52**	P	**Pb**	**Pb**	**05 38 54.1**	**-0.2**
KRI1				S	**Sb**	**Sb**	**05 38 59.3**	**-0.1**
28μm,0.6s								
LTHK	**Lithakia**	**0.37**	**47**	P	**Pb**	**Pb**	**05 38 54.6**	**-0.4**
LTHK				S	**Sb**	**Sb**	**05 39 00.5**	**0.0**
27μm,0.6s								
LTHK	**Lithakia**	**0.37**	**47**	P	**Pb**	**Pb**	**05 38 54.7**	**-0.4**
LTHK				S	**Sb**	**Sb**	**05 39 00.3**	**-0.2**
LTHK				AML	AML	AML	05 39 01.3	
comp=E,45820μm,0.5s								
LTHK				AML	AML	AML	05 39 01.5	
comp=N,58480μm,0.6s								
RTZL	**Ratzakli, Kefa**	**0.66**	**20**	P	**Pn**	**Pn**	**05 38 59.5**	**-1.1**
PSDA	**Pessada-Kefalo**	**0.66**	**6**	P	**Pn**	**Pn**	**05 38 59.6**	**-1.1**
PSDA				S	**Sb**	**Sb**	**05 39 10.1**	**+1.5**
comp=N,8μm,0.7s								
PSDA	**Pessada-Kefalo**	**0.66**	**6**	P	**Pn**	**Pn**	**05 38 59.4**	**-1.3**
VLS	**Valsamata**	**0.72**	**6**	P	**Pn**	**Pn**	**05 39 00.1**	**-1.5**
VLS				S	**Sn**	**Sn**	**05 39 12.0**	**+0.1**
comp=N,6μm,0.6s								
VLS	**Valsamata**	**0.72**	**6**	P	**Pn**	**Pn**	**05 39 00.1**	**-1.5**
VLS				S	**Sn**	**Sn**	**05 39 10.6**	**-1.3**
VLS				AML	AML	AML	05 39 15.2	
comp=E,10002μm,0.5s								
VLS				AML	AML	AML	05 39 15.6	
comp=N,11009μm,0.5s								
LXRA	**Lixouri, Kepha**	**0.74**	**357**	P	**Pn**	**Pn**	**05 39 01.5**	**-0.3**
LXRA				AML	AML	AML	05 39 15.8	
comp=E,31057μm,0.5s								
LXRA				AML	AML	AML	05 39 22.8	
comp=N,23784μm,0.7s								
DMLN	**Damoulianata-K**	**0.79**	**353**	P	**Pn**	**Pn**	**05 39 01.5**	**-0.9**
DMLN				S	**Sb**	**Sb**	**05 39 14.4**	**+2.2**
comp=N,10μm,0.6s								
DMLN	**Damoulianata-K**	**0.79**	**353**	P	**Pn**	**Pn**	**05 39 01.5**	**-0.9**
SMHA	**Samh**	**0.80**	**9**	P	**Pn**	**Pn**	**05 39 01.9**	**-0.7**
SMHA				AML	AML	AML	05 39 17.2	
comp=N,47252μm,0.4s								
SMHA				AML	AML	AML	05 39 18.6	
comp=E,33022μm,0.6s								
VSK1	**VASILIKIADES**	**0.95**	**3**	P	**Pn**	**Pn**	**05 39 04.2**	**-0.5**
VSK1				S	**Sb**	**Sb**	**05 39 19.6**	**+2.6**
comp=E,6μm,0.6s								
AMT	**Artemida-Makis**	**0.97**	**85**	P	**Pn**	**Pn**	**05 39 05.7**	**+0.7**
AMT				S	**Sb**	**Sb**	**05 39 20.3**	**+2.8**
AMT				AML	AML	AML	05 39 29.7	
comp=E,7962μm,0.5s								
AMT				AML	AML	AML	05 39 32.6	
comp=N,9429μm,0.5s								
RLS	**Riolos of Patr**	**0.98**	**52**	P	**Pn**	**Pn**	**05 39 06.0**	**+0.9**
RLS				S	**Sb**	**Sb**	**05 39 21.4**	**+3.7**
comp=N,2μm,1.2s								
RLS	**Riolos of Patr**	**0.98**	**52**	P	**Pn**	**Pn**	**05 39 05.9**	**+0.9**
FSK	**Fiskardo**	**1.00**	**3**	P	**Pn**	**Pn**	**05 39 05.3**	**-0.1**
FSK				S	**Sb**	**Sb**	**05 39 21.5**	**+3.1**
comp=N,3μm,0.8s								
FSK	**Fiskardo**	**1.00**	**3**	P	**Pn**	**Pn**	**05 39 05.1**	**-0.3**
FSK				AML	AML	AML	05 39 28.2	
comp=E,5844μm,0.5s								
FSK				AML	AML	AML	05 39 29.0	
comp=N,6381μm,1.1s								
DRO	**Drossia**	**1.09**	**63**	P	**Pb**	**Pb**	**05 39 08.5**	**+1.5**
DRO	**Drossia**	**1.09**	**63**	P	**Pb**	**Pb**	**05 39 08.2**	**+1.2**
DRO				AML	AML	AML	05 39 32.4	
comp=N,5513μm,1.2s								
DRO				AML	AML	AML	05 39 38.5	
comp=E,7529μm,0.6s								
PYL	**PYLOS**	**1.15**	**119**	P	**Pb**	**Pb**	**05 39 08.9**	**+0.9**
PYL				S	**Sb**	**Sb**	**05 39 25.4**	**+3.0**
PYL				AML	AML	AML	05 39 31.5	
comp=N,1466μm,0.6s								
PYL				AML	AML	AML	05 39 31.6	
comp=E,1570μm,0.4s								
EVGI	**Lefkada island**	**1.17**	**6**	P	**Pn**	**Pn**	**05 39 08.1**	**+0.4**
EVGI				S	**Sb**	**Sb**	**05 39 25.7**	**+2.5**
comp=E,2μm,0.4s								
EVGI	**Lefkada island**	**1.17**	**6**	P	**Pn**	**Pn**	**05 39 08.0**	**+0.4**
ITM	**Ithomi**	**1.18**	**103**	P	**Pb**	**Pb**	**05 39 09.8**	**+1.3**
ITM				S	**Sb**	**Sb**	**05 39 25.7**	**+2.3**
ITM				AML	AML	AML	05 39 33.8	
comp=E,1580μm,0.7s								
ITM				AML	AML	AML	05 39 34.1	
comp=N,1592μm,0.7s								
DRAG	**Dragano-Lefkad**	**1.23**	**3**	P	**Pn**	**Pn**	**05 39 09.5**	**+0.9**
NYDR	**Nydri-Lefkada**	**1.27**	**7**	P	**Pn**	**Pn**	**05 39 09.8**	**+0.8**
NYDR				S	**Sb**	**Sb**	**05 39 28.0**	**+2.1**
comp=N,2μm,0.5s								
NYDR	**Nydri-Lefkada**	**1.27**	**

TSLK	Tsoukalades, L	1.37	5	P	Pb	05 39 13.3	+1.4
KLV	Kalavryta, Ach	1.44	65	P	Pb	05 39 14.3	+1.2
KLV				AML	AML	05 39 43.5	
	comp=N,1188μm,0.7s						
KLV				AML	AML	05 39 45.5	
	comp=E,1565μm,0.9s						
EFP	Efpalio	1.48	49	P	Pb	05 39 14.8	+1.1
EFP				AML	AML	05 39 43.3	
	comp=E,2204μm,0.6s						
EFP				AML	AML	05 39 45.0	
	comp=N,2457μm,0.6s						
GUR	Goura	1.54	71	P	Pb	05 39 16.2	+1.3
GUR				AML	AML	05 39 49.1	
	comp=E,1822μm,0.7s						
GUR				AML	AML	05 39 53.1	
	comp=N,2140μm,0.5s						
ANX	Ano Chora	1.60	44	P	Pb	05 39 17.0	+1.2
ANX				AML	AML	05 39 45.3	
	comp=N,9475μm,0.6s						
ANX				AML	AML	05 39 49.0	
	comp=E,7179μm,0.5s						
KALE	Kalíthea	1.60	54	P	Pb	05 39 17.7	+1.9
MAKR	Makrakomi, Fth	2.02	39	P	Pb	05 39 23.0	+0.1
AXAR	Agios Charalam	2.15	52	P	Pn	05 39 23.6	+2.4
IDI	Anoyia	4.16	120	Pn	Pn	05 39 45.3	-3.5
	comp=E,3.4nm,0.6s,baz=299,slow=18,SNR=1.8						
IDI				Sn	Sn	05 40 35.2	-1.4
	comp=E,2.0nm,0.3s,baz=324,slow=18,SNR=3.6						
VAE	Valguarnera	4.84	272	Pn	Pn	05 39 56.4	-1.7
	comp=E,9.4nm,0.4s,baz=48,slow=12,SNR=2.6						
VAE				Sn	Sn	05 40 56.6	+3.2
	comp=E,1.4nm,0.3s,baz=77,slow=14,SNR=2.1						
MLR	Muntele Rosu	9.01	25	Pn	Pn	05 40 57.7	+2.2
	comp=E,10nm,0.8s,baz=225,slow=5.7,SNR=7.2						
KEST	Kesra	9.13	262	Pn	Pn	05 40 57.9	+0.8
	comp=E,0.1nm,0.3s,baz=101,slow=16,SNR=1.5						
	comp=E,3.4nm,0.8s						
AKASG	Malin Array Be	14.64	22	Pn	Pn	05 42 10.2	-2.1
	comp=E,0.4nm,0.3s,baz=208,slow=12,SNR=1.1						
	comp=E,0.2nm,0.3s						
ESDC	Sonseca Array	19.24	284	P	P	05 43 09.3	0.0
	baz=76,slow=13,SNR=2.4						
	comp=E,0.9nm,1.0s						
HFS	Hagfors	23.11	351	P	P	05 43 50.1	-0.6
	comp=E,4.9nm,0.7s,baz=143,slow=11,SNR=6.7						
	comp=E,4.9nm,0.7s						
EKA	Eskdalemuir Ar	24.01	326	P	P	05 43 58.8	-0.6
	comp=E,2.2nm,0.9s,baz=124,slow=8.7,SNR=2.6						
	comp=E,2.2nm,0.9s						
FINES	FINESS Array B	24.27	7	P	P	05 44 01.1	-0.6
	comp=E,1.9nm,0.7s,baz=183,slow=13,SNR=6.7						
	comp=E,1.9nm,0.7s						
NOA	NORSAR Array B	24.32	349	P	P	05 44 02.8	+0.4
	comp=E,1.4nm,0.9s,baz=165,slow=12,SNR=3.3						
	comp=E,1.4nm,0.9s						
TORD	Torodi Ar. Bea	29.46	220	P	P	05 44 48.6	-0.2
	comp=E,0.7nm,0.8s,baz=26,slow=10.0,SNR=4.4						
	comp=E,0.7nm,0.8s						
ARCES	ARCESS Array B	32.25	3	P	P	05 45 12.2	-0.8
	comp=E,1.8nm,0.8s,baz=193,slow=10,SNR=1.8						
	comp=E,1.8nm,0.8s						
BVAR	Borovoye Array	37.60	49	P	P	05 45 58.0	-1.3
	comp=E,0.6nm,0.6s,baz=267,slow=7.9,SNR=2.3						
	comp=E,0.6nm,0.6s						
KURBB	Kurchatov Arra	42.68	53	P	P	05 46 41.3	-0.1
	comp=E,0.5nm,0.7s,baz=278,slow=8.8,SNR=3.5						
	comp=E,0.5nm,0.7s						
MKAR	Makanchi Array	45.70	58	P	P	05 47 05.0	-0.7
	comp=E,0.5nm,0.5s,baz=284,slow=5.8,SNR=2.3						
	comp=E,0.5nm,0.5s						
ZALV	Zalesovo Beam	46.19	48	P	P	05 47 08.0	-1.5
	comp=E,1.1nm,0.5s,baz=272,slow=9.2,SNR=4.3						
	comp=E,1.1nm,0.5s						
SONM	Songino Array	60.94	50	P	P	05 48 56.9	-0.9
	comp=E,0.3nm,0.4s,baz=302,slow=8.3,SNR=1.5						
	comp=E,0.3nm,0.4s						
ILAR	Eielson Array	77.62	354	P	P	05 50 41.9	+1.3
	comp=E,0.2nm,0.8s,baz=0.8,slow=6.3,SNR=1.9						
	comp=E,0.2nm,0.8s						

*JMA **01** 05:38:52.8±0.4, 37°N±1°×14°2E±°, h42km, MV3.6/36, E OFF FUKUSHIMA PREF*
*NIED **01** 05:38:52.8, 37°.10N×142°.31E, h42km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.89; $M_{\theta\theta}$=0.34; $M_{\phi\phi}$=1.23; $M_{r\theta}$=0.35; $M_{\theta\phi}$=-1.54; $M_{\phi r}$=2.30; Fault plane solution: M_o=2.99000×10^{14} NP1: ϕ_s=184.00000°, δ=79.00000°, λ=-57.00000°. NP2: ϕ_s=290.00000°, δ=35.00000°, λ=-161.00000°.*
*IDC **01** 05:38:57.0±4.3, 36°.86N×142°.33E, h47km±38km, mb3.2/2, mbtmp3.7/5, ML3.2/3, MS2.0/1 Error ellipse: s-maj=38.3km s-min=17.7km az=71.0*
ISC 01 05:38:50.4±1.2, **37°.07N**±0°.04×**142°.35E**±0°.08, **h9**km, **n26**, σ1§**40**/28, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	1.21 285		P	Pb	05 39 12.9	-0.6
JFK				S	Sb	05 39 28.3	-1.0
ONAJ	Iwakimizuishiy	1.24 272		P	Pn	05 39 13.8	-0.1
JMST	Minamisoumatoc	1.33 300		P	Pn	05 39 14.7	-0.5
JMST				S	Sb	05 39 31.0	-1.8
JIKH	Ishinomakikobu	1.43 331		P	Pn	05 39 16.0	-0.5
JMM	Marumori	1.47 303		*i* P	Pn	05 39 16.8	-0.3
JIO	Ouri	1.60 331		P	Pn	05 39 18.6	-0.1
JIO				*e*S	Sn	05 39 38.2	-1.4
JOTO	OTAMA OYAMA	1.68 288		P	Pn	05 39 20.6	+0.7
JOTO				S	Sn	05 39 41.7	+0.1
JOU	Okura	1.86 315		P	Pn	05 39 23.1	+0.6
JOU				*e*S	Sn	05 39 45.5	-0.6
JMK	Ichinoseki	2.08 335		P	Pn	05 39 27.2	+1.7
JYS	Shirataka	2.15 303		P	Pn	05 39 28.0	+1.6
JAG	Ashikaga	2.41 255		P	Pn	05 39 30.6	+0.7
JAG				*e*S	Sn	05 39 59.3	-0.2
JYK	Kaneyama	2.43 320		P	Pn	05 39 31.0	+0.8
JOM	Ohasama	2.54 341		*e*P	Pn	05 39 33.0	+1.2
BSO1	Boso 1	2.65 205		P	Pb	05 39 35.4	-2.3
JRY	Ryogami san	2.96 250		*i* P	Pn	05 39 39.0	+1.4
JRY				S	Sn	05 40 12.6	-0.7
MJAR	Matsushiro Arr	3.36 262		P	Pn	05 39 46.0	+2.9
	0.8nm,0.3s,baz=89,slow=15,SNR=15						
MJAR				S	Sn	05 40 25.2	+2.1
	4.7nm,0.7s,baz=82,slow=30,SNR=4.4						
MJAR				LR	LR	05 40 36.9	
	comp=Z,26nm,21.7s,baz=133,slow=30						
	5.6nm,0.3s						
JHJ	Hachijo jima 2	4.46 209		P	Pn	05 39 59.8	+1.6
	9.9nm,0.3s,baz=68,slow=19,SNR=1.5						
JHJ				S	Sn	05 40 47.5	-2.7
	82nm,0.5s,baz=73,slow=23,SNR=1.2						
	49nm,0.4s						
USRK	Ussuriysk Ar.	10.61 315		P	Pn	05 41 28.7	+6.1
	0.2nm,0.3s,baz=126,slow=14,SNR=3.1						
	2.6nm,0.7s						
H11N2	WAKE ISLAND Hy	27.53 122		T	T	06 13 54.9	
	baz=314,slow=75,SNR=8.2						
H11N1	WAKE ISLAND Hy	27.54 122		T	T	06 13 41.4	
	baz=314,slow=75,SNR=5.5						
H11N3	WAKE ISLAND Hy	27.55 122		T	T	06 13 49.0	
	baz=314,slow=75,SNR=4.9						
H11S1	WAKE ISLAND Hy	28.26 124		T	T	06 14 35.1	
	baz=316,slow=76,SNR=7.0						
H11S3	WAKE ISLAND Hy	28.26 124		T	T	06 14 36.8	
	baz=316,slow=76,SNR=9.9						
H11S2	WAKE ISLAND Hy	28.27 124		T	T	06 14 29.5	
	baz=316,slow=76,SNR=5.1						
KURBB	Kurchatov Arra	46.57 308		P	P	05 47 19.4	+1.0
	0.5nm,0.4s,baz=81,slow=7.9,SNR=4.7						
	0.5nm,0.4s						
WRA	Warramunga Arr	57.20 189		P	P	05 48 38.9	+1.0
	0.2nm,0.6s,baz=7.8,slow=7.7,SNR=5.0						
	0.2nm,0.6s						

*IDC **01** 05:51:26.4±3.8, 53°.56N×90°.75E, h0km, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=37.1km s-min=25.1km az=30.0*
*NNC **01** 05:51:33.8±6.5, 53°.34N×90°.11E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=57.2km s-min=48.1km az=38.0, Suspected Mining explosion.*
ISC 01 05:51:26.1±4.0, **53°.7N**±0°.2×**90°.6E**±0°.2, **h0**km, **n9**, σ1§**04**/11, **8C-4D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	Zalesovo Array	3.42 276		⇓Pn	Pb	05 52 26.4	-1.1
	0.8nm,0.5s						
ZAA0				⇓Lg	Lg	05 53 18.3	
	2.9nm,1.4s						
ZALV	Zalesovo Beam	3.42 276		Pn	Pn	05 52 21.6	+1.0
	0.2nm,0.3s,baz=103,slow=10,SNR=2.5						
ZALV				Lg	Lg	05 53 17.4	
	1.2nm,0.3s,baz=93,slow=25,SNR=6.6						
	1.3nm,0.5s						
KURK	Kurchatov	7.94 253		⇑Pn	Pn	05 53 22.4	-0.2
	0.3nm,0.4s						
KURK				⇓Sn	Sn	05 54 54.6	+1.5
	1.3nm,0.6s						
KURK				⇑Lg	Lg	05 55 36.2	
	9.1nm,1.3s						
KURBB	Kurchatov Arra	8.03 252		⇓Pn	Pn	05 53 25.0	+1.1
	0.7nm,0.4s						
KURBB				⇑Sn	Sn	05 54 54.0	-1.3
	4.3nm,0.7s						
KURBB				⇑Lg	Lg	05 55 39.1	
	17nm,1.1s						
KURBB	Kurchatov Arra	8.03 252		Pn	Pn	05 53 24.5	+0.6
	0.1nm,0.3s,baz=63,slow=14,SNR=4.6						
KURBB				Sn	Sn	05 54 55.9	+0.5
	baz=66,slow=25						
KURBB				Lg	Lg	05 55 44.3	
	baz=71,slow=33,SNR=5.1						
	0.6nm,0.4s						
MK31	Makanchi Array	8.73 221		⇑Pn	Pn	05 53 34.0	+0.5
	0.1nm,0.3s,baz=36,slow=13,SNR=5.4						
MK31				⇑Lg	Lg	05 55 57.6	
	5.8nm,1.1s,baz=24,slow=27						
MKAR	Makanchi Array	8.73 221		Pn	Pn	05 53 34.1	+0.6
	0.2nm,0.3s,baz=40,slow=14,SNR=6.1						
MKAR				Lg	Lg	05 55 58.2	
	baz=38,slow=33						
	0.6nm,0.5s						
MAKZ	Makanchi	8.84 222		⇑Pn	Pn	05 53 35.0	0.0
	0.5nm,0.5s						
MAKZ				⇑Lg	Lg	05 55 57.9	
	5.7nm,1.0s						
I34MN	SONGINO INFRAS	11.63 114		I	I	06 59 10.0	
	baz=312,slow=326,SNR=0.7						

*SOF **01** 05:58:51.6, 42°.01N±0°.01×23°.53E±0°.01, h20km±7km, MD2.5/6*
*BEO **01** 05:58:53.8±0.3, 41°.98N×23°.39E, h4km±2km, ML2.0/9*
*ATH **01** 05:58:56.2, 41°.83N×23°.49E, h8km±1km, ML2.2/8, Error ellipse: s-maj=2.5km s-min=1.4km az=174.0*
ISC 01 05:58:52.6±0.9, **42°.00N**±0°.02×**23°.49E**±0°.03, **h16**km±8km, **n28**, σ0§**75**/54, **Bulgaria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKB	Krupnik	0.31 239		Sg	Sg	05 59 03.9	+0.2
KKB				*i* Pg	Pg	05 58 59.3	+0.1
PLNA	Plana	0.48 355		*i* Pg	Pg	05 59 01.9	-0.3
PLNA				Sg	Sg	05 59 08.8	+0.1
MMB	Musomishta	0.49 156		*i* Pg	Pg	05 59 02.5	0.0
MMB				Sg	Sg	05 59 08.8	-0.3
VTS	Vitosha	0.64 343		*i* Pg	Pb	05 59 04.5	-1.1
VTS				Sg	Sb	05 59 13.1	-1.3
VTS	Vitosha	0.64 343		*e*Pg	Pb	05 59 04.4	-1.1
VTS				*e*Sg	Sb	05 59 12.9	-1.5
NVR	Nevrokopi	0.71 156		P	Pg	05 59 06.9	+0.4
NVR				S	Sb	05 59 14.4	-1.7
NVR				AML	AML	05 59 17.7	
	comp=N,338μm,0.2s						
NVR				AML	AML	05 59 17.7	
	comp=E,312μm,0.2s						
SRS	Serrai	0.89 175		*e*Pg	Pb	05 59 09.8	+0.2
SRS				*e*Sg	Sg	05 59 21.9	+0.4
SRS	Serrai	0.89 175		P	Pb	05 59 09.6	0.0
SRS				S	Sb	05 59 20.2	-1.0
SRS				AML	AML	05 59 26.6	
	comp=N,412μm,0.2s						
SRS				AML	AML	05 59 27.2	
	comp=E,237μm,0.1s						
BOSS	Bosilegrad	0.90 304		*e*Pg	Pb	05 59 10.0	+0.2
BOSS				*e*Sg	Sb	05 59 21.5	0.0
PLD	Plovdiv	0.95 81		*e*Pg	Pg	05 59 12.1	+1.1
PLD				*e*Sg	Sn	05 59 25.7	+1.2
RZN	Rozhen	0.98 108		*i* Pg	Pb	05 59 10.7	-0.7
RZN				Sg	Sg	05 59 24.1	-0.6
SOH	Sokhos	1.18 185		P	Pb	05 59 14.7	0.0
SOH				S	Sb	05 59 28.7	-1.1
SOH				AML	AML	05 59 33.0	
	comp=E,173μm,0.3s						
SOH				AML	AML	05 59 33.7	
	comp=N,300μm,0.3s						
KOKK	Kokkinochori,	1.24 162		P	Pg	05 59 16.9	+0.3
KOKK				S	Sb	05 59 31.1	-0.4
KOKK				AML	AML	05 59 35.0	
	comp=E,455μm,0.4s						
KOKK				AML	AML	05 59 35.5	
	comp=N,371μm,0.5s						
KVLA	Kavala	1.26 147		P	Pg	05 59 17.3	+0.4
KVLA				S	Sn	05 59 32.5	+0.4
KAVA	Kavala	1.27 142		P	Pg	05 59 16.8	-0.2
KAVA				S	Sg	05 59 32.8	-0.7
MPEP	Malo Peshtene	1.37 8		*i* Pg	Pg	05 59 19.1	+0.2
MPEP				Sg	Sg	05 59 37.0	+0.2
ZAPS	Zavoj	1.42 334		*e*Pg	Pg	05 59 19.7	-0.2
ZAPS				*e*Sg	Sg	05 59 39.1	+0.7
HORT	Hortiatis	1.43 192		P	Pg	05 59 20.0	-0.2
HORT				S	Sn	05 59 35.7	-0.8
HORT				AML	AML	05 59 41.1	
	comp=E,76μm,0.2s						
HORT				AML	AML	05 59 41.4	
	comp=N,72μm,0.3s						
KDZ	Kurdzhali	1.43 104		*e*Pg	Pg	05 59 20.1	-0.1
KDZ				Sg	Sg	05 59 39.0	+0.1
BARS	Barje	1.48 304		*e*Pg	Pb	05 59 20.3	+0.5
BARS				*e*Sg	Sb	05 59 39.6	+1.3
THAS	Thassos island	1.68 146		P	Pb	05 59 23.3	+0.3
THAS				S	Sb	05 59 43.5	-0.4
THAS				AML	AML	05 59 48.8	
	comp=E,166μm,0.3s						
THAS				AML	AML	05 59 49.5	
	comp=N,178μm,0.3s						
OUR	Ouranopolis	1.71 167		P	Pb	05 59 23.0	-0.6
OUR				S	Sn	05 59 42.3	-0.8
OUR				AML	AML	05 59 49.0	
	comp=N,367μm,0.3s						
OUR				AML	AML	05 59 49.6	
	comp=E,320μm,0.3s						
RDO	Rodhopi	1.76 118		P	Pb	05 59 24.8	+0.3
RDO				S	Sb	05 59 46.2	-0.1
RDO				AML	AML	05 59 52.5	
	comp=N,172μm,0.2s						
RDO				AML	AML	05 59 53.8	
	comp=E,131μm,0.2s						
ZAGS	Zajecar	2.03 333		*e*Pn	Pb	05 59 28.3	-0.8
ZAGS				*e*Sn	Sb	05 59 54.6	+0.5
BOVS	Bovan	2.09 322		*e*Pn	Pn	05 59 28.1	+1.1
BOVS				*e*Sn	Sb	05 59 54.6	-1.3
SELS	Selova	2.13 306		*e*Pn	Pb	05 59 29.5	-1.3
SELS				*e*Sn	Sb	05 59 56.7	-0.3
ALN	Alexandroupoli	2.22 119		P	Pb	05 59 31.8	-0.5
GRUS	Gruza	2.77 314		*e*Pn	Pn	05 59 37.3	+0.9

*DJA **01** 06:08:23.1±0.5, 2°N±6°×12°2E±°, h552km±4km, M4.4/16, mb4.7/16, mB4.9/8, MLv4.5/11, Mw(mB)4.2/8*
*IDC **01** 06:08:23.6±1.1, 2°.35N×122°.13E, h584km±14km, mb3.3/19, mbtmp4.2/20, Error ellipse: s-maj=22.6km s-min=6.5km az=70.0*
*NEIC **01** 06:08:23.3±1.2, 2°.38N±0°.09×122°.10E±0°.05, h569km±9km, mb4.3/51, Error ellipse: s-maj=15.4km s-min=2.4km az=209.0*
ISC 01 06:08:22.2±0.4, **2°.37N**±0°.05×**122°.12E**±0°.08, **h559**km, **n117**, σ1§**11**/129, **mb4.2**/45, **Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOLI2	Tolitoli	1.84 227		P	P	06 09 32.9	+0.8
TOLI2	Tolitoli	1.84 227		P	P	06 09 32.7	+0.6
MRSI	Marisa	1.89 186		P	P	06 09 33.8	+1.5
MRSI				S	S	06 10 29.5	+0.3
MPSI	Mapaga	3.01 228		P	P	06 09 39.1	+1.0
MPSI				S	S	06 10 40.7	+1.0
MYLDM	Lahad Datu	4.57 308		P	P	06 09 50.3	+1.3
TNTI	Ternate	5.48 107		P	P	06 09 57.7	+1.0
TNTI	Ternate	5.48 107		P	P	06 09 58.5	+1.8
	104nm,0.7s,1μm						
SANI	Sanana	5.85 139		P	P	06 10 00.7	+0.7
SANI	Sanana	5.85 139		P	P	06 09 59.9	-0.1
	81nm,0.6s,2μm0.8nm						
SPSI	Sidrap Palu	6.72 201		P	P	06 10 09.1	+1.1
KKM	Kota Kinabalu	6.93 302		P	P	06 10 10.8	+0.8
KKM	Kota Kinabalu	6.93 302		P	P	06 10 10.7	+0.7
BNSI	Bone	7.02 197		P	P	06 10 10.8	0.0
NLAI	Namlea	7.47 138		P	P	06 10 18.0	+2.9
	102nm,0.7s,0.3nm						
KAPI	Kappang	7.71 198		P	P	06 10 19.8	+2.3
	6.3nm,0.3s,baz=317,slow=11,SNR=2.1						
AAI	Ambon	8.55 135		P	P	06 10 27.5	+1.8
	134nm,0.6s						
MSAI	Masohi	8.86 130		P	P	06 10 31.7	+2.9
	113nm,0.7s,4μm						
SBUM	Sibu	9.89 271		P	P	06 10 40.2	+0.9
SBUM	Sibu	9.89 271		P	P	06 10 41.0	+1.7
	10nm,1.0s						
BNDI	Bandanaira	10.36 131		P	P	06 10 45.7	+1.7
BNDI	Bandanaira	10.36 131		P	P	06 10 45.6	+1.6
FAKI	Fak Fak	11.40 117		P	P	06 10 56.4	+1.7
FAKI	Fak Fak	11.40 117		P	P	06 10 56.5	+1.7
FAKI	Fak Fak	11.40 117		P	P	06 10 55.6	+0.8
	65nm,0.7s						
SOEI	Soe	12.24 170		P	P	06 11 04.0	+0.6
SOEI	Soe	12.24 170		P	P	06 11 05.4	+2.0
	85nm,0.9s						
SOEI	Soe	12.24 170		P	P	06 11 05.4	+2.0
	66nm,0.6s						
BATI	Baumata	12.59 173		P	P	06 11 08.1	+1.1
	173nm,0.4s,baz=339,slow=2.9,SNR=12						
BATI				S	S	06 13 23.4	+0.8
	30nm,0.3s,baz=54,slow=18,SNR=2.1						
BATI	Baumata	12.59 173		P	P	06 11 08.0	+1.1
KMPI	Kaimana, Papua	13.04 117		P	P	06 11 12.5	+1.0
	172nm,0.8s						
SAUI	Saumlaki	13.77 138		P	P	06 11 19.9	+0.8
DRS	Darwin Rock St	17.10 150		P	P	06 11 54.1	+2.6
MTN	Manton Dam	17.57 150		P	P	06 11 56.1	+0.3
MTN	Manton Dam	17.57 150		P	P	06 11 56.8	+1.0
KDU	Kakadu	18.15 146		P	P	06 12 01.9	+0.8
KNRA	Kununurra	19.10 160		P	P	06 12 10.3	+0.6
FITZ	Fitzroy Crossi	20.64 170		P	P	06 12 24.1	+0.5
	3.9nm,0.6s,baz=16,slow=9.4,SNR=16						
FITZ				S	S	06 15 36.7	-2.3
	2.1nm,0.8s,baz=163,slow=15,SNR=2.9						
	3.9nm,0.6s						
FITZ	Fitzroy Crossi	20.64 170		P	P	06 12 24.3	+0.6
TPUB	Ta-pu	20.85 356		P	P	06 12 25.1	-0.5
MBWA	Marble Bar	23.50 186		P	P	06 12 49.2	-0.1
MBWA				IAmb	IAmb	06 13 08.0	
	comp=Z,15nm,1.4s						
PSA00	Pilbara Seismi	23.90 185		P	P	06 12 53.0	+0.1
PSA00				IAmb	IAmb	06 12 53.4	
	comp=Z,14nm,1.2s						
WB0	Warramunga Arr	25.09 152		P	P	06 13 03.2	-0.2
WB0				IAmb	IAmb	06 13 03.8	
	comp=Z,8.8nm,0.9s						
WRAB	Tennant Creek	25.21 152		P	P	06 13 04.4	-0.1
WRAB				IAmb	IAmb	06 13 05.1	
	comp=Z,8.1nm,0.7s						
WRA	Warramunga Arr	25.21 152		P	P	06 13 03.4	-1.1
WRA	Warramunga Arr	25.21 152		P	P	06 13 04.1	-0.4
	comp=Z,6.8nm,0.6s,baz=336,slow=9.6,SNR=63						
WRA				PcP	PcP	06 16 17.9	-1.1
	comp=Z,1.0nm,0.5s,baz=321,slow=2.3,SNR=5.8						
WRA				S	S	06 16 48.9	-2.2
	comp=Z,2.8nm,0.7s,baz=334,slow=16,SNR=9.3						
WRA				ScP	ScP	06 19 03.8	-1.9
	comp=Z,0.7nm,0.8s,baz=336,slow=2.8,SNR=4.4						
	comp=Z,6.8nm,0.6s						
WB2	Warramunga Arr	25.22 152		P	P	06 13 04.5	0.0
WR0	Warramunga Arr	25.32 152		P	P	06 13 05.3	-0.2
WR0				IAmb	IAmb	06 13 06.0	
	comp=Z,6.6nm,0.9s						
COEN	Coen	26.44 128		P	P	06 13 15.2	-0.2
COEN				IAmb	IAmb	06 13 29.8	
	comp=Z,12nm,1.1s						
PHRA	Phrae	26.78 308		P	P	06 13 19.4	+1.1
CMAR	Chiang Mai Arr	27.78 307		P	P	06 13 27.4	+0.4
	comp=Z,1.0nm,0.3s,baz=143,slow=7.5,SNR=7.8						
	comp=Z,1.0nm,0.3s						
AS31	Alice Springs	28.31 157		P	P	06 13 32.3	+0.6
ASAR	Alice Springs	28.31 157		P	P	06 13 32.7	+1.1
ASAR	Alice Springs	28.31 157		P	P	06 13 32.4	+0.7
	comp=Z,2.4nm,0.5s,baz=333,slow=7.2,SNR=40						
ASAR				PcP	PcP	06 16 26.4	-0.1
	comp=Z,1.0nm,0.7s,baz=6.6,slow=1.8,SNR=6.3						
ASAR				S	S	06 17 37.5	-2.0
	comp=Z,4.0nm,1.1s,baz=353,slow=22,SNR=12						
ASAR				ScP	ScP	06 19 13.2	-1.9
	comp=Z,0.3nm,0.4s,baz=331,slow=3.3,SNR=4.1						
	comp=Z,2.4nm,0.5s						
PZH	PanZhiHua	30.96 323		P	P	06 13 56.5	+1.9
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
MORW	Morawa	31.80 190		P	P	06 14 01.8	+0.2
MORW				IAmb	IAmb	06 14 11.8	
	comp=Z,15nm,1.2s						
FORT	Forrest	33.45 171		P	P	06 14 16.3	+0.8
INCN	Inchon	35.19 6		P	P	06 14 31.3	+1.3
KSRS	Korea Array	35.32 8		P	P	06 14 31.1	+0.2
	comp=Z,2.0nm,0.8s,baz=189,slow=9.6,SNR=6.6						
	comp=Z,2.0nm,0.8s						
NWAO	Narrogin (SRO)	35.41 187		P	P	06 14 32.0	+0.1
BBOO	Buckleboo	37.40 160		P	P	06 14 49.0	+0.7
STKA	Stephens Creek	38.76 153		P	P	06 15 00.5	+1.2
STKA	Stephens Creek	38.76 153		P	P	06 14 59.4	+0.1
	comp=Z,2.0nm,0.6s,baz=337,slow=8.5,SNR=4.3						
	comp=Z,2.0nm,0.6s						
HHC	Hu-ho-hao-te	39.47 347		*e*P	P	06 15 05.4	+0.4
HHC				pmax	pmax		
	comp=Z,15nm,0.5s						
HHC				pmax	pmax		
	comp=Z,170nm,5.1s						
LSA	Lhasa	40.04 316		P	P	06 15 12.2	+2.0
LSA				IAmb	IAmb	06 15 12.3	
	comp=Z,8.1nm,0.5s						
USA0B	Ussuriysk Arra	42.56 10		P	P	06 15 29.8	+0.5
USA0B				IAmb	IAmb	06 15 29.9	
	comp=

ABKAR IAmb IAmb 06 18 39.8
comp=Z,1.6nm,0.8s
NRIK Noril'sk 70.70 348 P **P 06 18 41.6 -0.2**
NRIK IAmb IAmb 06 19 14.4
comp=Z,6.7nm,1.4s
NRIK Noril'sk 70.70 348 P **P 06 18 41.0 -0.7**
comp=Z,1.6nm,0.6s,baz=18,slow=12,SNR=2.3
comp=Z,1.6nm,0.6s
VOI Vohitsoka 77.31 247 P **P 06 19 19.2 -1.1**
VOI IAmb IAmb 06 19 20.4
comp=Z,7.5nm,0.9s
L14K Kuka Creek 80.84 28 P **P 06 19 38.7 +0.7**
L14K IAmb IAmb 06 20 17.0
comp=Z,14nm,1.2s
MAW Mawson 80.92 199 P **P 06 19 37.4 -0.8**
comp=Z,1.6nm,0.7s,baz=84,slow=3.4,SNR=11
comp=Z,1.6nm,0.7s
M14K Bethel 81.07 29 P **P 06 19 40.1 +1.0**
N15K Kwethluk River 81.88 30 P **P 06 19 43.5 +0.2**
N15K IAmb IAmb 06 19 45.4
comp=Z,16nm,1.0s
H17K Granite Mounta 82.76 25 P **P 06 19 48.6 +0.9**
H17K IAmb IAmb 06 20 21.2
comp=Z,15nm,1.4s
J18K Innoko River 83.93 27 P **P 06 19 53.7 +0.1**
J18K IAmb IAmb 06 20 00.7
comp=Z,9.1nm,1.4s
G19K Purcell Mounta 84.11 24 P **P 06 19 54.7 +0.4**
G19K IAmb IAmb 06 20 11.4
comp=Z,9.5nm,1.4s
E19K Redstone River 84.23 22 P **P 06 19 55.9 +0.9**
E19K IAmb IAmb 06 20 34.8
comp=Z,15nm,1.4s
H19K Roundabout Mou 84.29 24 P **P 06 19 55.8 +0.5**
H19K IAmb IAmb 06 19 58.4
comp=Z,16nm,1.5s
J19K Poorman 84.47 26 P **P 06 19 56.7 +0.5**
J19K IAmb IAmb 06 19 57.4
comp=Z,3.5nm,0.9s
KMBO Kilima Mbogo 84.92 269 P **P 06 19 59.2 -0.5**
comp=Z,1.9nm,0.6s,baz=52,slow=12,SNR=4.6
comp=Z,1.9nm,0.6s
J20K Nowinta River 85.14 26 P **P 06 19 59.6 +0.2**
J20K IAmb IAmb 06 20 37.2
comp=Z,4.7nm,1.3s
B21K Ikpikpuk River 85.44 20 P **P 06 20 01.0 +0.3**
IMAR Indian Mountai 85.45 24 P **P 06 20 00.7 -0.2**
B22K Teshekpuk Lake 85.91 20 P **P 06 20 03.6 +0.6**
B22K IAmb IAmb 06 20 28.3
comp=Z,10nm,1.4s
CAST Castle Rocks 86.00 27 P **P 06 20 03.6 0.0**
CAST IAmb IAmb 06 20 15.4
comp=Z,4.8nm,1.3s
MLY Manley 86.65 25 P **P 06 20 06.5 -0.1**
C23K Itkillik River 86.84 20 P **P 06 20 07.8 +0.5**
I23K Minto, Yukon-K 87.24 25 P **P 06 20 09.3 0.0**
RND Reindeer 87.46 27 P **P 06 20 09.6 -0.9**
RND IAmb IAmb 06 20 44.1
comp=Z,9.7nm,1.5s
H24K Noodor Dome 87.85 24 P **P 06 20 12.2 -0.1**
ILAR Eielson Array 88.30 25 P **P 06 20 12.4 -1.9**
comp=Z,0.2nm,0.6s,baz=254,slow=5.2,SNR=4.4
comp=Z,0.2nm,0.6s
BMAR Burnt Mountain 89.10 23 P **P 06 20 18.1 0.0**
RIDG Independent Ri 89.24 26 P **P 06 20 18.4 -0.3**
RIDG IAmb IAmb 06 20 40.8
comp=Z,7.6nm,1.3s
ARCES ARCESS Array B 90.11 340 P **P 06 20 20.6 -2.0**
comp=Z,1.3nm,0.7s,baz=66,slow=4.1,SNR=5.4
comp=Z,1.3nm,0.7s
FINES FINESS Array B 90.83 331 P **P 06 20 23.7 -2.3**
comp=Z,3.3nm,1.0s,baz=142,slow=7.2,SNR=2.2
comp=Z,3.3nm,1.0s
QSPA South Pole Qui 92.29 180 P **P 06 20 32.6 -0.3**
comp=Z,0.9nm,0.6s,baz=113,slow=1.3,SNR=6.6
comp=Z,0.9nm,0.6s
TORD Torodi Ar. Bea 118.92 286 PKP **PKPdf 06 26 06.8 -1.8**
comp=Z,0.7nm,0.7s,baz=46,slow=2.2,SNR=4.7
TXAR Lajitas Array 126.04 51 PKP **PKPdf 06 26 21.8 -0.3**
comp=Z,0.2nm,0.7s,baz=101,slow=1.0,SNR=4.0

*SJA **01** 06:31:06.5±0.7, 22°.38S×68°.74W, h120km±5km, ML4.9, MW4.8*
*IDC **01** 06:31:07.5±0.8, 22°.31S×68°.47W, h91km±6km, mb4.2/13, mbtmp4.5/19, MS3.5/17, Error ellipse: s-maj=15.1km s-min=12.3km az=71.0*
*NEIC **01** 06:31:08.4±2.1, 22°.31S±0°.05×68°.69W±0°.05, h98km±4km, mb4.8/207, Error ellipse: s-maj=7.6km s-min=6.8km az=49.0*
*GUC **01** 06:31:09.1±0.7, 22°.29S×68°.75W, h103km±4km, ML4.9*
*VAO **01** 06:31:09.3±0.5, 22°.15S×68°.42W, h98km±4km, mb4.8*
*GCMT **01** 06:31:14.4±0.4, 22°.35S±0°.03×68°.84W±0°.03, h141km±5km, MW4.9/76, Moment Tensor Solution. s14,c16; s76,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.30±.12; $M_{\theta\theta}$-0.27±.12; $M_{\phi\phi}$0.56±.16; $M_{r\theta}$-0.47±.07; $M_{\theta\phi}$-0.11±.12; $M_{\phi r}$-2.49±.11; Best double couple: $M_0$2.57700×10^{16} NP1:ϕ_s11.00000°, δ86.00000°, λ-84.00000°. NP2: ϕ_s139.00000°, δ7.00000°, λ-142.00000°. Principal axes: T 2.6760, Plg40.0000°, Azm96.0000°; N -0.1980, Plg6.0000°, Azm190.0000°; P -2.4770, Plg49.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 06:31:08.1±0.3, 22°.28S±0°.03×68°.62W±0°.04, h99km±3km, h99km:pP-P, n330, σ1:51/294, mb4.8/98, 10C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.43**	**219**		**Pn**	**06 31 23.8**	**0.0**
LVC	**Limon Verde**	**0.43**	**219**	P	**Pn**	**06 31 23.5**	**-0.3**
9μm,0.4s,baz=40,slow=5.6							
LVC				S	**Sn**	**06 31 34.8**	**-0.6**
19μm,0.3s,baz=282,slow=21,SNR=42							
LVC	**Limon Verde**	**0.43**	**219**	⇑*i*P	**Pn**	**06 31 23.8**	**0.0**
LVC				*i* S	**Sn**	**06 31 34.8**	**-0.6**
LVC	**Limon Verde**	**0.43**	**219**	*e*P	Pn	06 31 18.2	-5.6
LVC				IAML		06 31 36.2	
comp=Z,13μm,0.2s							
PB09	**IPOC Station P**	**0.75**	**309**		**Pn**	**06 31 26.7**	**+0.6**
AF01	**San Pedro de A**	**0.79**	**149**		**Pn**	**06 31 28.1**	**+1.5**
AF01				Sn	**Sn**	**06 31 43.0**	**+2.6**
AF01	**San Pedro de A**	**0.79**	**149**	⇓*i*P	**Pn**	**06 31 27.9**	**+1.3**
AF01				*i* S	**Sn**	**06 31 42.8**	**+2.4**
AF01				IAML		06 31 43.9	
comp=N,81μm,0.5s							
AF01	**San Pedro de A**	**0.79**	**149**	*e*P	**Pn**	**06 31 27.2**	**+0.6**
AF01				IAML		06 32 03.7	
comp=Z,48μm,0.9s							
PB06	**IPOC Station P**	**0.98**	**244**		**Pn**	**06 31 27.9**	**-0.6**
PB06				Sn	**Sn**	**06 31 42.5**	**-1.3**
PB06	**IPOC Station P**	**0.98**	**244**	⇑*i*P	**Pn**	**06 31 28.0**	**-0.5**
PB06				*i* S	**Sn**	**06 31 43.2**	**-0.5**
PB06				IAML		06 31 44.0	
comp=E,36μm,0.2s							
PB06	**IPOC Station P**	**0.98**	**244**	*e*P	**Pn**	**06 31 27.8**	**-0.6**
PB06				*e*S	**Sn**	**06 31 43.4**	**-0.3**
PB06				IAML		06 31 44.9	
comp=Z,15μm,0.3s							
PB15	**IPOC Station P**	**1.22**	**220**		**Pn**	**06 31 31.1**	**-0.1**
PB15	**IPOC Station P**	**1.22**	**220**	⇑*i*P	**Pn**	**06 31 31.1**	**-0.1**
PB15				*i* S	**Sn**	**06 31 48.2**	**-0.3**
PB15	**IPOC Station P**	**1.22**	**220**	*e*P	**Pn**	**06 31 30.5**	**-0.7**
PB04	**IPOC Station P**	**1.42**	**267**		**Pn**	**06 31 32.7**	**-0.8**
PB04	**IPOC Station P**	**1.42**	**267**	⇑*i*P	**Pn**	**06 31 32.7**	**-0.8**
PB04				*e*S	**Sn**	**06 31 50.8**	**-1.9**
PB04				IAML		06 31 56.6	
comp=N,31μm,0.4s							
PB04	**IPOC Station P**	**1.42**	**267**	*e*P	**Pn**	**06 31 32.7**	**-0.8**
PB04				*e*S	**Sn**	**06 31 52.1**	**-0.7**
PB04				IAML		06 32 02.4	
comp=Z,18μm,0.3s							
PB01	**IPOC Station P**	**1.47**	**326**		**Pn**	**06 31 34.5**	**+0.4**
PB01	**IPOC Station P**	**1.47**	**326**	⇑*i*P	**Pn**	**06 31 34.5**	**+0.4**
PB01				*e*S	**Sn**	**06 31 54.6**	**+0.9**
PB01				IAML		06 31 57.2	
comp=E,13μm,0.1s							
PB01	**IPOC Station P**	**1.47**	**326**	*e*P	**Pn**	**06 31 34.5**	**+0.4**
PB01				*e*S	**Sn**	**06 31 55.9**	**+2.2**
PB01				IAML		06 31 57.2	
comp=Z,7μm,0.3s							
PATCX	**Punta Patache**	**2.03**	**315**		**Pn**	**06 31 40.9**	**-0.3**
PB08	**IPOC Station P**	**2.18**	**347**		**Pn**	**06 31 45.2**	**+1.7**
PB08	**IPOC Station P**	**2.18**	**347**	⇓*i*P	**Pn**	**06 31 45.2**	**+1.7**
PB08				*e*S	**Sn**	**06 32 12.6**	**+2.3**
PB08	**IPOC Station P**	**2.18**	**347**	*e*P	**Pn**	**06 31 45.1**	**+1.7**
PB08				*e*S	**Sn**	**06 32 06.5**	**-3.8**
TA01	**Diego Aracena**	**2.24**	**319**	Pn	**Pn**	**06 31 43.2**	**-0.6**
TA01	**Diego Aracena**	**2.24**	**319**	⇓*i*P	**Pn**	**06 31 43.2**	**-0.6**
TA01				IAML		06 32 16.7	
comp=E,8μm,0.3s							
TA01	**Diego Aracena**	**2.24**	**319**	*e*P	**Pn**	**06 31 42.5**	**-1.3**
TA01				*e*S	**Sn**	**06 32 04.2**	**-6.9**
TA01				IAML		06 32 17.4	
comp=Z,4μm,0.6s							
HMBC	**Humberstone**	**2.31**	**329**		**Pn**	**06 31 44.7**	**-0.2**
HMBC	**Humberstone**	**2.31**	**329**	⇓*i*P	**Pn**	**06 31 44.6**	**-0.3**
HMBC				*i* S	**Sn**	**06 32 11.3**	**-1.7**
HMBC				IAML		06 32 24.7	
comp=E,9μm,0.6s							
HMBC	**Humberstone**	**2.31**	**329**	*e*P	**Pn**	**06 31 44.6**	**-0.3**
HMBC				*e*S	**Sn**	**06 32 14.6**	**+1.5**
HMBC				IAML		06 32 27.8	
comp=Z,6μm,0.4s							
TA02	**Huaiquique**	**2.44**	**324**		**Pn**	**06 31 45.8**	**-0.7**
TA02	**Huaiquique**	**2.44**	**324**	IAML		06 32 25.8	
comp=N,10μm,0.2s							
TA02	**Huaiquique**	**2.44**	**324**	*e*P	**Pn**	**06 31 46.2**	**-0.2**
TA02				*e*S	**Sn**	**06 32 13.2**	**-2.7**
TA02				IAML		06 32 26.2	
comp=Z,3μm,0.6s							
GO01	**Chusmiza**	**2.65**	**348**	Pn	**Pn**	**06 31 51.1**	**+1.3**
GO01	**Chusmiza**	**2.65**	**348**	⇓*i*P	**Pn**	**06 31 51.0**	**+1.3**
GO01				IAML		06 32 34.6	
comp=N,7μm,0.1s							
GO01	**Chusmiza**	**2.65**	**348**	*e*P	**Pn**	**06 31 51.0**	**+1.3**
GO01				*e*S	**Sn**	**06 32 13.3**	**-8.2**
PB11	**IPOC Station P**	**2.68**	**339**		**Pn**	**06 31 49.8**	**-0.1**
PB11	**IPOC Station P**	**2.68**	**339**	⇓*i*P	**Pn**	**06 31 49.8**	**-0.1**
PB11				IAML		06 32 31.8	
comp=N,4μm,0.3s							
PB11	**IPOC Station P**	**2.68**	**339**	*e*P	**Pn**	**06 31 49.8**	**-0.1**
PB11				*e*S	Sn	06 32 12.2	-10
PB11				IAML		06 32 30.1	
comp=Z,2μm,0.6s							
PB14	**IPOC Station P**	**2.86**	**215**	Pn	**Pn**	**06 31 51.2**	**-1.0**
PB14	**IPOC Station P**	**2.86**	**215**	*e*P	**Pn**	**06 31 50.9**	**-1.3**
PB14				IAML		06 32 33.6	
comp=E,7μm,0.7s							
PB14	**IPOC Station P**	**2.86**	**215**	*e*P	**Pn**	**06 31 51.0**	**-1.3**
PB14				*e*S	Sn	06 32 13.0	-13
PB14				IAML		06 32 34.0	
comp=Z,11μm,0.4s							
YJA	**Yavi**	**2.88**	**89**	*e*P	Pn	06 31 56.8	+4.2
GO02	**Mina Guanaco**	**3.01**	**197**	Pn	**Pn**	**06 31 53.5**	**-0.8**
GO02	**Mina Guanaco**	**3.01**	**197**	⇓*i*P	**Pn**	**06 31 53.5**	**-0.8**
GO02	**Mina Guanaco**	**3.01**	**197**	*e*P	**Pn**	**06 31 52.9**	**-1.3**
SLA	**San Lorenzo**	**3.75**	**131**	*e*P	Pn	06 32 08.0	+3.9
AP01	**Chacalluta**	**4.21**	**337**	Pn	**Pn**	**06 32 10.5**	**+0.4**
AP01	**Chacalluta**	**4.21**	**337**	*e*P	**Pn**	**06 32 10.7**	**+0.6**
AC01	**Pan de Azucar**	**4.26**	**205**	Pn	**Pn**	**06 32 08.8**	**-2.0**
AC01	**Pan de Azucar**	**4.26**	**205**	*e*P	**Pn**	**06 32 08.1**	**-2.7**
AC01				*e*S	**Sn**	**06 32 59.7**	**+0.2**
AC01				IAML		06 33 11.3	
comp=Z,4μm,0.9s							
FSA	**Cafayete**	**4.51**	**148**	*e*P	**Pn**	**06 32 16.7**	**+2.3**
FSA				*e*S	Sn	06 32 51.0	-15
AC06	**Mina Casimiro**	**5.30**	**197**	Pn	**Pn**	**06 32 21.9**	**-3.0**
GO03	**Copiapo**	**5.50**	**195**		**Pn**	**06 32 25.0**	**-2.6**
GO03	**Copiapo**	**5.50**	**195**	*e*P	**Pn**	**06 32 25.1**	**-2.6**
GO03				*e*S	**Sn**	**06 33 30.5**	**+0.9**
LPAZ	**La Paz**	**5.97**	**4**	Pn	**Pn**	**06 32 36.6**	**+1.9**
LPAZ	**La Paz**	**5.97**	**4**	P	**Pn**	**06 32 36.0**	**+1.3**
comp=Z,8.0nm,0.3s,baz=205,slow=6.2,SNR=75							
LPAZ	**La Paz**	**5.97**	**4**	*e*P	**Pn**	**06 32 35.3**	**+0.6**
AC04	**Llanos de Chal**	**6.31**	**200**	Pn	**Pn**	**06 32 34.1**	**-4.5**
AC05	**El Transito**	**6.70**	**193**	Pn	**Pn**	**06 32 41.4**	**-2.7**
LCO	**Las Campanas**	**6.97**	**195**	Pn	**Pn**	**06 32 43.3**	**-4.5**
CO01	**Juntas del Tor**	**7.78**	**190**		**Pn**	**06 32 56.9**	**-2.0**
CO05	**La Serena**	**7.97**	**197**	Pn	Pn	06 32 56.2	-5.0
FDPY	**Filadelfia**	**8.03**	**92**	*e*P	**Pn**	**06 33 02.2**	**+0.1**
GO04	**Toledo Observa**	**8.11**	**194**	Pn	**Pn**	**06 32 59.7**	**-3.6**
CO03	**El Pedregal**	**8.73**	**192**	Pn	Pn	06 33 07.0	-4.7
CO06	**Fray Jorge**	**8.79**	**197**	Pn	Pn	06 33 07.0	-5.4
BBSD	**Serra de San D**	**9.08**	**58**	*e*P	**Pn**	**06 33 14.8**	**-1.6**
BBSD				*e*S	**Sn**	**06 34 50.8**	**-6.1**
SIV	**San Ignacio**	**9.48**	**50**	P	**Pn**	**06 33 20.4**	**-1.5**
comp=Z,60nm,0.6s,baz=243,slow=12,SNR=345							
SIV				S	**Sn**	**06 35 01.5**	**-5.2**
comp=Z,31nm,0.8s,baz=142,slow=23,SNR=7.4							
PAPY	**Pozo Azul**	**9.72**	**103**	*e*P	**Pn**	**06 33 25.9**	**+0.8**
MURT	**Porto Murtinho**	**10.23**	**89**	*e*P	**Pn**	**06 33 30.8**	**-1.3**
VA03	**San Esteban**	**10.59**	**189**		**Pn**	**06 33 34.3**	**-2.6**
CPUP	**Villa Florida**	**11.06**	**114**	Pn	**Pn**	**06 33 42.3**	**-0.8**
CPUP	**Villa Florida**	**11.06**	**114**	P	**Pn**	**06 33 41.8**	**-1.4**
comp=Z,14nm,0.8s,baz=293,slow=12,SNR=25							
CPUP	**Villa Florida**	**11.06**	**114**	*e*P	**Pn**	**06 33 42.4**	**-0.8**
MT02	**Curacav**	**11.17**	**191**		**Pn**	**06 33 41.4**	**-3.3**
MT08	**Bocatoma Ro**	**11.20**	**186**		**Pn**	**06 33 43.6**	**-1.7**
BDQN	**Bodoquena, MS**	**11.21**	**83**	*e*P	**Pn**	**06 33 43.1**	**-2.1**
PTLB	**Pontes e Lacer**	**11.25**	**55**	Pn	**Pn**	**06 33 44.6**	**-1.2**
PTLB	**Pontes e Lacer**	**11.25**	**55**	*e*P	**Pn**	**06 33 43.3**	**-2.6**
LMEL	**Las Melosas**	**11.61**	**187**		**Pn**	**06 33 50.3**	**-0.5**
MT09	**Talagante**	**11.65**	**190**		**Pn**	**06 33 49.3**	**-2.0**
MT01	**Popeta**	**11.78**	**191**		**Pn**	**06 33 51.2**	**-1.7**
SJPY	**San Joaquin**	**11.79**	**106**	*e*P	**Pn**	**06 33 52.3**	**-0.7**
BO04	**La Punta**	**11.80**	**188**	Pn	**Pn**	**06 33 50.7**	**-2.5**
AQDB	**Aquidauana**	**12.17**	**84**		**Pn**	**06 33 56.5**	**-1.6**
AQDB	**Aquidauana**	**12.17**	**84**	*e*P	**Pn**	**06 33 55.7**	**-2.4**
VILB	**Vilhena**	**12.26**	**42**	Pn	**Pn**	**06 33 59.0**	**-0.4**
VILB	**Vilhena**	**12.26**	**42**	*e*P	**Pn**	**06 33 57.8**	**-1.6**
BO01	**Tunca**	**12.27**	**190**	Pn	**Pn**	**06 33 57.1**	**-2.2**
ETMB	**Extrema**	**12.60**	**11**	Pn	**Pn**	**06 34 02.5**	**-1.4**
ETMB	**Extrema**	**12.60**	**11**	*e*P	**Pn**	**06 34 00.3**	**-3.6**
AMBA	**Amambai (Brazi**	**12.61**	**96**	*e*P	**Pn**	**06 34 03.1**	**-0.8**
BO02	**Sierra Bellavi**	**12.62**	**188**	Pn	**Pn**	**06 34 03.5**	**-0.5**
NNA	**Nana**	**12.90**	**321**	P	**Pn**	**06 34 09.0**	**+1.2**
comp=Z,5.7nm,0.5s,baz=97,slow=3.4,SNR=1.8							
NNA				S	**Sn**	**06 36 35.9**	**+6.2**
comp=Z,5.4nm,0.5s,baz=65,slow=14,SNR=1.8							
GO05	**Hualane**	**13.02**	**192**	Pn	**Pn**	**06 34 08.7**	**-0.6**
ITQB	**Itaqui**	**13.05**	**127**	Pn	**Pn**	**06 34 08.9**	**-0.8**
ITQB	**Itaqui**	**13.05**	**127**	*e*P	**Pn**	**06 34 10.1**	**+0.4**
PSAL	**Palomas, Salto**	**13.18**	**134**	*e*P	**Pn**	**06 34 10.7**	**-0.6**
ML02	**Paniamavida**	**13.66**	**190**	Pn	**Pn**	**06 34 16.8**	**-0.8**
SALV	**Santo Antonio**	**13.76**	**65**	*e*P	**Pn**	**06 34 17.5**	**-1.5**
RPRD	**Ribas do Rio P**	**14.01**	**85**	*e*P	**Pn**	**06 34 22.6**	**+0.2**
SAML	**Samuel**	**14.24**	**22**	Pn	**Pn**	**06 34 25.7**	**+0.4**
SAML	**Samuel**	**14.24**	**22**	*e*P	**Pn**	**06 34 23.7**	**-1.6**
BI02	**San Fabin de**	**14.52**	**189**	Pn	**Pn**	**06 34 27.1**	**-1.8**
TRCB	**Terra Rica**	**14.78**	**95**	Pn	**Pn**	**06 34 33.0**	**+0.8**
TRCB	**Terra Rica**	**14.78**	**95**	*e*P	**Pn**	**06 34 31.4**	**-0.8**
CZSB	**Cruzeiro do Su**	**14.99**	**344**		**Pn**	**06 34 34.1**	**-0.8**
CZSB				IAmb	IAmb	06 34 40.3	
comp=Z,52nm,0.9s							
CZSB	**Cruzeiro do Su**	**14.99**	**344**	*e*P	**Pn**	**06 34 34.6**	**-0.2**
PTGB	**Pitanga**	**15.38**	**102**	*e*P	**Pn**	**06 34 39.8**	**0.0**
PDRB	**Porto dos Gac**	**15.54**	**49**	*e*P	**Pn**	**06 34 39.2**	**-2.6**
ITAB	**Concordia**	**15.77**	**112**	*e*P	**Pn**	**06 34 43.5**	**-1.1**
CPSB	**Cacapava Do Su**	**15.82**	**124**	*e*P	**Pn**	**06 34 45.0**	**-0.3**
LDASE	**Londrina, Braz**	**16.17**	**97**	*e*P	**Pn**	**06 34 50.0**	**+0.3**
PLTB	**Pedras Altas**	**16.36**	**128**		**Pn**	**06 34 50.2**	**-1.8**
PLTB				IAmb	IAmb	06 34 53.0	
comp=Z,50nm,1.1s							
PLTB	**Pedras Altas**	**16.36**	**128**	*e*P	**Pn**	**06 34 50.4**	**-1.6**
CLDB	**Colider**	**16.70**	**49**	*e*P	**Pn**	**06 34 56.4**	**+0.1**
TRQA	**Tornquist**	**16.73**	**162**	P	**Pn**	**06 34 56.0**	**-0.5**
ARAG	**Araguaiana, MT**	**17.18**	**71**	*e*P	**Pn**	**06 34 59.7**	**-2.4**
ITRB	**Iturama**	**17.24**	**85**	*e*P	**P**	**06 35 03.2**	**+0.3**
GO06	**Curarrehue**	**17.43**	**187**	P	**Pn**	**06 35 04.0**	**-1.0**
CNLB	**Canela**	**17.45**	**117**	*e*P	**P**	**06 35 05.2**	**0.0**
FRTB	**Fartura**	**17.60**	**97**	*e*P	**P**	**06 35 06.8**	**0.0**
ATAH	**Atahualpa**	**17.76**	**326**	P	**Pn**	**06 35 10.8**	**+1.2**
comp=Z,12nm,1.0s,baz=165,slow=9.7,SNR=5.8							
TBTG	**Tabatinga, AM**	**18.02**	**356**	*e*P	**Pn**	**06 35 12.8**	**+0.5**
PLCA	**Paso Flores**	**18.47**	**185**	P	**Pn**	**06 35 16.5**	**-1.1**
PLCA	**Paso Flores**	**18.47**	**185**	P	**P**	**06 35 15.1**	**-1.3**
comp=Z,1.1nm,0.6s,baz=8.4,slow=10.0,SNR=8.1							
PLCA				LR	LR	06 42 50.5	
comp=Z,160nm,21.7s,baz=9.0,slow=38							
PLCA	**Paso Flores**	**18.47**	**185**	*e*P	**Pn**	**06 35 18.3**	**+0.7**
TER01	**Tubaro-SC**	**18.67**	**113**	*e*P	**P**	**06 35 18.5**	**0.0**
SNDB	**Serra Nova Dou**	**19.45**	**61**	*e*P	**P**	**06 35 26.5**	**-0.5**
RCLB	**Rio Claro- Sao**	**19.51**	**94**	*e*P	**P**	**06 35 26.8**	**-0.9**
SPB	**Sao Paulo**	**19.56**	**98**	P	**P**	**06 35 28.6**	**+0.5**
SPB				IAmb	IAmb	06 35 29.0	
comp=Z,95nm,1.1s							
SPB	**Sao Paulo**	**19.56**	**98**	*e*P	**P**	**06 35 28.0**	**-0.2**
IPMB	**Ipameri, GO**	**19.63**	**81**	*e*P	**P**	**06 35 28.3**	**-0.7**
VAO	**Valinhos**	**20.00**	**96**	P	**P**	**06 35 32.9**	**-0.2**
VAO	**Valinhos**	**20.00**	**96**	*e*P	**P**	**06 35 32.2**	**-0.9**
MACA	**Manacapuru-AM**	**20.50**	**23**	P	**P**	**06 35 37.2**	**-1.2**
MACA				IAmb	IAmb	06 35 41.7	
comp=Z,84nm,0.9s							
MACA	**Manacapuru-AM**	**20.50**	**23**	*e*P	**P**	**06 35 36.6**	**-1.8**
BDFB	**Brasilia**	**20.56**	**75**		**P**	**06 35 38.6**	**-0.6**
BDFB				IAmb	IAmb	06 35 41.8	
comp=Z,46nm,1.1s							
BDFB	**Brasilia**	**20.56**	**75**	P	**P**	**06 35 37.6**	**-1.6**
comp=Z,25nm,0.8s,baz=260,slow=11,SNR=39							
BDFB				LR	LR	06 44 52.6	
comp=Z,138nm,18.7s,baz=300,slow=40							
comp=Z,25nm,0.8s							
LL02	**Futaleuf**	**21.03**	**187**	P	**P**	**06 35 44.1**	**+0.2**
PMNB	**Patos De Minas**	**21.11**	**84**	*e*P	**P**	**06 35 43.7**	**-1.4**
GO07	**Milladeo Hill,**	**21.20**	**190**	P	**P**	**06 35 45.1**	**-0.6**
GO07				IAmb	IAmb	06 36 10.1	
comp=Z,40nm,0.6s							
ITTB	**Itaituba**	**21.74**	**37**	*e*P	**P**	**06 35 51.1**	**-0.6**
BSCB	**Bom Sucesso**	**22.20**	**91**	*e*P	**P**	**06 35 56.0**	**-0.6**
COHC	**Cochancay**	**22.24**	**331**	P	**P**	**06 35 58.5**	**+1.6**
VAS01	**Vassouras-RJ**	**23.29**	**95**	*e*P	**P**	**06 36 08.0**	**+0.5**
COYC	**Coyhaique**	**23.41**	**186**	P	**P**	**06 36 07.4**	**-0.8**
DIAM	**Diamantina, MG**	**23.72**	**85**	*e*P	**P**	**06 36 11.2**	**-0.3**
JANB	**Januaria**	**24.10**	**77**	*e*P	**P**	**06 36 13.0**	**-1.8**
PRPB	**Parauapebas**	**24.21**	**51**	*e*P	**P**	**06 36 14.8**	**-1.0**
SMTB	**Santa Maria do**	**24.21**	**60**	*e*P	**P**	**06 36 14.8**	**-1.0**
OTAV	**Otavalo**	**24.34**	**336**	*e*P	**P**	**06 36 17.7**	**+0.2**
SDBA	**SAO DESIDERIO**	**24.64**	**70**	*e*P	**P**	**06 36 18.6**	**-1.1**
BOAV	**Boa Vista**	**25.76**	**19**		**P**	**06 36 30.5**	**+0.7**
BOAV				IAmb	IAmb	06 36 31.9	
comp=Z,45nm,1.4s							
BOAV	**Boa Vista**	**25.76**	**19**	*e*P	**P**	**06 36 30.7**	**+0.9**
SJMB	**Sao Joao De Ma**	**25.93**	**87**	*e*P	**P**	**06 36 31.3**	**0.0**
GO08	**Villa O'Higgin**	**26.32**	**186**	P	**P**	**06 36 35.5**	**+0.9**
NAN01	**Guarapari, ES**	**27.10**	**86**	*e*P	**P**	**06 36 40.9**	**-1.1**
TMAB	**Tom-Au,PA,Br**	**28.09**	**48**	*e*P	**P**	**06 36 50.9**	**+0.2**
CMC01	**Camacan, BA**	**28.36**	**81**	*e*P	**P**	**06 36 52.1**	**-1.0**
GDU01	**Guandu, BA**	**28.86**	**78**	*e*P	**P**	**06 36 56.9**	**-0.7**
MG02	**Cerro Sombrero**	**30.46**	**181**	P	**P**	**06 37 11.4**	**+0.2**
BAUV	**El Baul**	**31.03**	**1**	P	**P**	**06 37 17.2**	**+0.5**
BAUV				IAmb	IAmb	06 37 18.6	
comp=Z,10.0nm,0.8s							
SDV	**Santo Domingo**	**31.03**	**356**	LR	LR	06 51 01.6	
comp=Z,76nm,20.6s,baz=189,slow=38							
MDP	**Montagnes des**	**31.38**	**32**	LR	LR	06 51 14.0	
comp=Z,126nm,19.0s,baz=264,slow=38							
MPGF	**Montagnes des**	**31.39**	**32**	P	**P**	**06 37 19.6**	**-0.2**
MPGF				pP	**pP**	**06 37 43.2**	**-0.2**
NBLA	**Lagarto - SE**	**31.53**	**74**	*e*P	**P**	**06 37 19.4**	**-1.8**
MG03	**Isla Dawson**	**31.55**	**182**	P	**P**	**06 37 21.4**	**+0.5**
PCRV	**Puerto La Cruz**	**32.49**	**7**	LR	LR	06 52 50.6	
comp=Z,80nm,19.4s,slow=40							
LCR2	**La Lucha 2**	**35.22**	**333**	P	**P**	**06 37 53.5**	**+0.1**
LCR2				IAmb	IAmb	06 37 57.0	
comp=Z,19nm,0.9s							
RCBR	**Riachuelo**	**35.58**	**68**		**P**	**06 37 56.3**	**0.0**
RCBR	**Riachuelo**	**35.58**	**68**	*e*P	**P**	**06 37 56.4**	**0.0**
RCBR	**Riachuelo**	**35.58**	**68**	P	**P**	**06 37 56.6**	**+0.2**
SOCE	**Pocosol**	**36.05**	**333**	P	**P**	**06 38 00.7**	**+0.4**
SOCE				IAmb	IAmb	06 38 04.5	
comp=Z,42nm,0.9s							
CELP	**Cerrillos**	**40.15**	**3**	P	**P**	**06

comp=Z,1.5nm,0.8s
SNAA Sanae 61.46 161 P **P 06 41 13.9 0.0**
SNAA IAmb IAmb 06 41 41.2
comp=Z,9.4nm,1.2s
SNAA Sanae 61.46 161 ⇑P **P 06 41 14.0 0.0**
comp=Z,78nm,0.8s
SNAA Sanae 61.46 161 P **P 06 41 12.9 -1.0**
comp=Z,4.5nm,0.9s,baz=287,slow=6.0,SNR=12
comp=Z,4.5nm,0.9s
Z35A Perchaven, San 61.67 333 P **P 06 41 16.5 +0.8**
LCAR Lake Charles 61.82 339 P **P 06 41 16.6 -0.1**
LCAR IAmb IAmb 06 41 17.4
comp=Z,9.8nm,1.0s
PBMO Poplar Bluff 62.24 340 P **P 06 41 19.4 -0.1**
PBMO IAmb IAmb 06 41 20.3
comp=Z,9.8nm,0.8s
MNHN Monahans 62.56 327 IAmb IAmb 06 41 23.5
comp=Z,15nm,1.1s
WTFS Witchita Falls 62.56 332 **P 06 41 21.8 +0.1**
SN05 Snyder 5 62.91 330 IAmb IAmb 06 41 25.4
comp=Z,15nm,0.7s
APMT Aspermont 62.93 331 IAmb IAmb 06 41 25.6
comp=Z,21nm,1.0s
HHAR Hobbs 62.97 337 IAmb IAmb 06 41 25.5
comp=Z,22nm,1.1s
SN07 Snyder 07 63.09 330 IAmb IAmb 06 41 26.4
comp=Z,15nm,0.8s
W35A Tecumseh 63.09 334 IAmb IAmb 06 41 26.3
comp=Z,19nm,1.2s
MGMO Mountain Grove 63.18 339 P **P 06 41 25.4 -0.3**
MGMO IAmb IAmb 06 41 26.2
comp=Z,9.2nm,1.1s
TROLL Troll, Antarti 63.18 161 ⇑P **P 06 41 26.2 +0.7**
comp=Z,180nm,0.6s
VHRN Van Horn 63.26 325 IAmb IAmb 06 41 28.3
comp=Z,13nm,1.0s
RLO Rose Lookout 63.26 336 IAmb IAmb 06 41 27.7
comp=Z,17nm,0.9s
POST Post 63.35 329 IAmb IAmb 06 41 29.3
comp=Z,9.7nm,0.9s
CCM Cathedral Cave 63.67 340 P **P 06 41 28.4 -0.5**
CCM IAmb IAmb 06 41 29.8
comp=Z,13nm,0.8s
CCM Cathedral Cave 63.67 340 P **P 06 41 28.5 -0.3**
CCM pP **pP 06 41 54.9 +0.1**
CCM sP **PcP 06 42 06.4 +2.2**
OK031 S. Brethren Rd 63.77 335 **P 06 41 29.8 +0.1**
OK052 Battle Ridge R 63.80 335 **P 06 41 29.4 -0.4**
T35A Sooner Cattle 64.49 335 IAmb IAmb 06 41 35.8
comp=Z,22nm,1.1s
N49A Columbus Grove 64.52 347 IAmb IAmb 06 42 03.6
comp=Z,19nm,1.4s
KAN17 Caldwell West 65.09 335 IAmb IAmb 06 41 39.6
comp=Z,21nm,0.9s
P38A Dawn 65.83 339 IAmb IAmb 06 41 45.1
comp=Z,9.5nm,1.0s
121A Cookes Peak, D 66.11 324 IAmb IAmb 06 41 48.0
comp=Z,21nm,1.5s
KSU1 Kansas State U 66.44 337 IAmb IAmb 06 41 47.8
comp=Z,17nm,1.0s
DUN6 Lazy B Ranch 66.84 323 IAmb IAmb 06 42 20.4
comp=Z,12nm,1.1s
ANMO Albuquerque 67.29 327 **P 06 41 53.8 +1.2**
ANMO IAmb IAmb 06 41 55.1
comp=Z,9.9nm,0.9s
ANMO Albuquerque 67.29 327 P **P 06 41 54.0 +1.4**
ANMO pP **PcP 06 42 19.8 +0.1**
TUC Tucson 67.61 322 **P 06 41 55.0 +0.5**
TUC IAmb IAmb 06 41 57.3
comp=Z,12nm,1.4s
TUC Tucson 67.61 322 P **P 06 41 56.0 +1.5**
TUC pP **PcP 06 42 22.4 +1.5**
N35A Tabor 67.65 338 P **P 06 41 54.1 -0.4**
JFWS Jewell Farm 67.86 343 IAmb IAmb 06 41 56.6
comp=Z,8.5nm,0.7s
QSPA South Pole Qui 67.92 180 P **P 06 41 56.5 +0.5**
comp=Z,3.9nm,0.5s,baz=176,slow=1.8,SNR=63
comp=Z,3.9nm,0.5s
QSPA South Pole Qui 67.92 180 P **P 06 41 56.8 +0.7**
QSPA pP **PcP 06 42 22.9 +1.1**
QSPA sP **sP 06 42 34.1 +1.1**
TRQ Mont Tremblant 68.38 356 IAmb IAmb 06 42 00.5
comp=Z,8.2nm,0.8s
DBIC Dimbokro 68.70 73 **P 06 42 01.4 -0.2**
DBIC Dimbokro 68.70 73 P **P 06 42 01.1 -0.4**
comp=Z,23nm,1.0s,baz=219,slow=5.5,SNR=12
DBIC LR LR 07 13 39.9
comp=Z,34nm,18.1s,baz=118,slow=37
comp=Z,23nm,1.0s
DBIC Dimbokro 68.70 73 P **P 06 42 01.6 0.0**
DBIC sP **sP 06 42 40.0 +0.7**
L34A Svendsen Farm, 68.89 338 P **P 06 42 02.2 0.0**
SDCO Great Sand Dun 69.05 329 P **P 06 42 03.9 +0.3**
SDCO IAmb IAmb 06 42 06.2
comp=Z,17nm,1.1s
Q24A Divide 69.87 330 IAmb IAmb 06 42 11.2
comp=Z,18nm,0.9s
MVCO Mesa Verde 70.09 327 IAmb IAmb 06 42 12.6
comp=Z,15nm,1.1s
WUAZ Wupatki 70.31 324 IAmb IAmb 06 42 14.4
comp=Z,13nm,0.9s
BLYC Blythe 70.82 321 IAmb IAmb 06 42 17.3
comp=Z,14nm,1.2s
N23A Red Feather La 71.78 331 IAmb IAmb 06 42 22.7
comp=Z,12nm,0.9s
HMU Henry Mountain 71.79 326 IAmb IAmb 06 42 23.6
comp=Z,14nm,1.1s
KNB Kanab 72.21 324 IAmb IAmb 06 42 26.2
comp=Z,19nm,1.1s
O20A White River Ci 72.24 329 IAmb IAmb 06 42 25.5
comp=Z,17nm,0.9s
ELS Elsinore Mount 72.48 319 **P 06 42 26.4 +2.1**
ELS IAmb IAmb 06 42 27.1
comp=Z,12nm,1.1s
SRU San Rafael Swe 72.57 327 IAmb IAmb 06 42 27.2
comp=Z,9.8nm,0.8s
P18A Preston Nutter 72.83 328 IAmb IAmb 06 42 29.3
comp=Z,12nm,0.9s
CCUT Cedar City 72.89 324 IAmb IAmb 06 42 30.4
comp=Z,13nm,1.0s
P17A Butcher Ranch, 72.95 327 IAmb IAmb 06 42 29.7
comp=Z,12nm,0.9s
RDMU Red Mountain 73.22 329 IAmb IAmb 06 42 31.0
comp=Z,7.7nm,0.8s
RSSD Black Hills 73.61 334 P **P 06 42 31.3 +0.4**
RSSD IAmb IAmb 06 42 33.2
comp=Z,14nm,1.1s
AGMN Agassiz Nation 74.38 341 P **P 06 42 34.4 -0.5**
ISA Isabella, Lake 74.48 320 **P 06 42 35.7 -0.2**
PDAR Pinedale Array 74.91 330 P **P 06 42 39.1 +0.7**
comp=Z,0.7nm,0.6s,baz=146,slow=8.2,SNR=7.9
comp=Z,0.7nm,0.6s
TPH Tonopah 75.41 322 IAmb IAmb 06 42 44.1
comp=Z,24nm,1.1s
AHID Auburn Hatcher 75.64 329 IAmb IAmb 06 42 44.8
comp=Z,12nm,0.8s
ULM Lac du Bonnet 76.13 342 P **P 06 42 44.8 -0.1**
comp=Z,3.9nm,0.8s,baz=171,slow=9.0,SNR=6.8
comp=Z,3.9nm,0.8s
NVAR Mina Array Bea 76.27 322 P **P 06 42 47.6 +1.3**
comp=Z,1.1nm,0.8s,baz=163,slow=6.1,SNR=9.2
comp=Z,1.1nm,0.8s
LAO LASA Array 76.60 334 IAmb IAmb 06 42 50.0
comp=Z,12nm,1.1s
YNE Yellowstone No 76.86 331 IAmb IAmb 06 42 52.1
comp=Z,14nm,1.0s
YMR Madison River 77.03 330 IAmb IAmb 06 42 53.8
comp=Z,15nm,1.1s
YHB Horse Butte 77.20 330 IAmb IAmb 06 42 54.5
comp=Z,9.8nm,0.9s
DGMT Dagmar 77.29 337 P **P 06 42 51.9 +0.4**
DGMT IAmb IAmb 06 42 54.1
comp=Z,19nm,0.9s
TORD Torodi Ar. Bea 77.36 70 P **P 06 42 52.0 -0.7**
comp=Z,8.7nm,0.8s,baz=266,slow=5.0,SNR=51
TORD LR LR 07 17 16.9
comp=Z,26nm,18.2s,baz=280,slow=36
comp=Z,8.7nm,0.8s
PAHR Pah Rah Range 77.75 322 IAmb IAmb 06 42 57.4
comp=Z,9.6nm,0.9s
HLID Hailey 77.84 328 IAmb IAmb 06 42 58.0
comp=Z,9.9nm,0.9s
SUR Sutherland 77.95 120 LR LR 07 14 33.9
comp=Z,38nm,19.8s,baz=178,slow=34
DLMT Dillon 78.31 330 IAmb IAmb 06 43 00.2
comp=Z,12nm,1.2s
MFID Camas Ranch 78.44 327 IAmb IAmb 06 43 01.1
comp=Z,14nm,1.4s
LRM Limekiln Ridge 78.59 330 P **P 06 42 59.6 +0.5**
TSUM Tsumeb 79.56 106 P **P 06 43 04.1 -0.9**
TSUM IAmb IAmb 06 43 06.9
comp=Z,22nm,0.9s
TSUM Tsumeb 79.56 106 LR LR 07 14 22.8
comp=Z,43nm,21.4s,baz=84,slow=33
PLID Pearl Lake 79.73 328 IAmb IAmb 06 43 07.7
comp=Z,9.2nm,0.8s
PINE Pine Mountain 81.37 325 IAmb IAmb 06 43 16.8
comp=Z,10nm,0.8s
I05D Terrebonne, OR 81.95 325 IAmb IAmb 06 43 19.5
comp=Z,12nm,0.7s
BOSA Boshof 82.84 118 P **P 06 43 21.6 -0.6**
BOSA IAmb IAmb 06 43 24.0
comp=Z,24nm,1.2s
BOSA Boshof 82.84 118 P **P 06 43 21.6 -0.6**
comp=Z,11nm,0.9s,baz=280,slow=4.5,SNR=9.0
BOSA LR LR 07 19 43.3
comp=Z,21nm,19.1s,baz=214,slow=35
comp=Z,11nm,0.9s
MAW Mawson 83.51 163 P **P 06 43 25.0 +0.4**
comp=Z,1.5nm,0.5s,baz=212,slow=6.4,SNR=14
comp=Z,1.5nm,0.5s
LBTB Lobatse 84.45 115 P **P 06 43 29.6 -0.8**
LBTB IAmb IAmb 06 43 31.9
comp=Z,8.9nm,0.8s
LBTB Lobatse 84.45 115 LR LR 07 19 03.5
comp=Z,22nm,18.8s,baz=213,slow=34
TAM Tamanrasset 84.93 63 **P 06 43 32.2 -0.6**
TAM IAmb IAmb 06 43 34.6
comp=Z,10nm,1.2s
ESDC Sonseca Array 86.19 44 P **P 06 43 38.4 -0.2**
comp=Z,6.4nm,1.3s,baz=234,slow=5.1,SNR=8.1
ESDC LR LR 07 17 01.4
comp=Z,26nm,20.0s,baz=242,slow=32
comp=Z,6.4nm,1.3s
YKA Yellowknife Ar 92.00 340 P **P 06 44 05.5 +0.2**
comp=Z,2.8nm,0.8s,baz=134,slow=4.9,SNR=4.2
comp=Z,2.8nm,0.8s
KEST Kesra 93.55 53 LR LR 07 28 35.1
comp=Z,58nm,18.3s,baz=333,slow=37
H11S2 WAKE ISLAND Hyl 28.24 276 T T 09 10 24.3
baz=104,slow=74,SNR=177
H11S1 WAKE ISLAND Hyl 28.25 276 T T 09 10 23.6
baz=104,slow=74,SNR=166
H11S3 WAKE ISLAND Hyl 28.26 276 T T 09 10 26.0
baz=104,slow=74,SNR=133
H11N3 WAKE ISLAND Hyl 28.34 278 T T 09 10 33.8
baz=104,slow=74,SNR=37
H11N2 WAKE ISLAND Hyl 28.35 278 T T 09 10 34.8
baz=104,slow=74,SNR=58
H11N1 WAKE ISLAND Hyl 28.35 278 T T 09 10 35.0
baz=104,slow=74,SNR=21
ASAR Alice Springs 129.35 207 PKP **PKPdf 06 50 06.2 +0.4**
comp=Z,1.0nm,0.6s,baz=152,slow=1.8,SNR=9.6
WRA Warramunga Arr 132.42 210 PKP **PKPdf 06 50 12.2 +0.4**
comp=Z,1.4nm,0.6s,baz=155,slow=1.8,SNR=24
WRA SKPbc **SKPbc 06 53 30.6 +0.9**
comp=Z,2.7nm,1.0s,baz=145,slow=3.6,SNR=8.8
KURBB Kurchatov Arra 141.83 34 PKP **PKPdf 06 50 28.2 +0.1**
comp=Z,0.1nm,0.3s,baz=350,slow=1.0,SNR=1.8
ZALV Zalesovo Beam 142.53 26 PKP **PKPdf 06 50 29.5 +0.3**
comp=Z,1.1nm,0.6s,baz=310,slow=5.6,SNR=5.5
KSH Kashi 145.37 52 PKPbc **PKPab 06 50 35.6 +0.5**
MKAR Makanchi Array 146.09 37 PKPbc **PKPdf 06 50 35.9 +0.2**
comp=Z,2.1nm,0.6s,baz=322,slow=2.9,SNR=9.7
ASAJ Asahikawa 146.31 318 PKPbc **PKPbc 06 50 37.8 +0.4**
comp=Z,2.7nm,0.3s,baz=134,slow=10,SNR=3.6
KLR Kul'dur 148.63 334 PKPbc **PKPbc 06 50 43.7 +0.1**
comp=Z,1.7nm,0.5s,baz=64,slow=6.0,SNR=6.0
HEH HeiHe 149.37 340 *eP* **PKPbc 06 50 45.9 +0.5**
USRK Ussuriysk Ar. 152.31 327 PKPbc **PKiKP 06 50 53.3 +0.6**
comp=Z,3.0nm,0.8s,baz=88,slow=0.9,SNR=4.0
MJAR Matsuhiro Ar 152.76 307 PKPbc **PKiKP 06 50 54.3 +0.3**
comp=Z,2.4nm,0.8s,baz=92,slow=3.6,SNR=4.8
HHC Hu-ho-hao-te 161.48 360 *eP* **PKPdf 06 50 55.1 -2.5**
NJ2 Nanjing 168.21 327 *eP* **PKPdf 06 51 03.1 -0.4**
NJ2 pmax pmax
comp=Z,13nm,0.5s
PZH PanZhiHua 170.26 62 PKP **PKPdf 06 51 03.4 -1.7**

*NOU **01** 06:33:40.9, 36.°88S×179.°60E, h0km, MLv4.3/7, Off E. Coast of N. Island, N.Z.*
*IDC **01** 06:33:43.6±2.5, 36.°66S×179.°11E, h0km, mb4.5/2, mbtmp4.5/3, ML4.1/1, Error ellipse: s-maj=64.6km s-min=39.1km az=134.0*
*NEIC **01** 06:33:45.5±1.0, 37.°07S±0.°07×179.°20E±0.°07, h10km±1km, mb4.5/17, Error ellipse: s-maj=15.0km s-min=2.9km az=324.0*
*WEL **01** 06:33:46.2±1.0, 37.°S±5.°×17.°9E±.°, h12km, M4.0/30, ML4.3/31, MLv4.0/30, Error ellipse: s-maj=11.1km s-min=6.0km az=89.6, confirmed*
ISC 01 06:33:44.6±2.0, 36.°98S±0.°06×179.°34E±0.°07, h12km±10km, n128, σ1§40/137, mb4.4/11, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.01**	**234**		**Pg**	**06 34 01.8**	**-2.3**
MXZ	**Matakaoa Point**	**1.01**	**234**	P	**Pg**	**06 34 03.5**	**-0.6**
MXZ	**Matakaoa Point**	**1.01**	**234**	P	**Pg**	**06 34 03.2**	**-0.8**
PKGZ	**Pakihiroa**	**1.34**	**228**	P	**Pg**	**06 34 11.1**	**+0.8**
PKGZ				S	**Sg**	**06 34 28.4**	**+0.7**
PUZ	**Puketiti**	**1.39**	**218**	P	**Pg**	**06 34 11.6**	**+0.3**
PUZ				S	**Sg**	**06 34 29.8**	**+0.4**
HAZ	**Te Kaha**	**1.46**	**237**	P	**Pn**	**06 34 10.1**	**-0.6**
HAZ				S	**Sg**	**06 34 32.3**	**+0.6**
TWGZ	**Tauwhareparae**	**1.61**	**222**	P	**Pg**	**06 34 15.2**	**-0.3**
TWGZ				S	**Sg**	**06 34 38.6**	**+2.1**
RUGZ	**Raukumara Rang**	**1.65**	**233**	P	**Pb**	**06 34 14.6**	**-0.3**
RUGZ				S	**Sg**	**06 34 37.9**	**+0.3**
CNGZ	**Carnagh Statio**	**1.75**	**210**	P	**Pb**	**06 34 17.5**	**+0.9**
CNGZ				S	**Sg**	**06 34 40.9**	**0.0**
TKGZ	**Te Karaka**	**1.88**	**218**	P	**Pb**	**06 34 18.3**	**-0.5**
MWZ	**Matawai**	**1.97**	**226**	P	**Pb**	**06 34 19.7**	**-0.8**
WHRZ	**Whale Island**	**2.08**	**244**	P	**Pb**	**06 34 21.8**	**-0.4**
RIGZ	**Rimuhau**	**2.13**	**215**	P	**Pn**	**06 34 21.5**	**+1.5**
URZ	**Urewera**	**2.18**	**233**	Pn	**Pn**	**06 34 21.6**	**+1.0**
	54nm,0.3s,baz=145,slow=1.6,SNR=178						
URZ				Sn	**Sn**	**06 34 46.3**	**-1.2**
	49nm,0.3s,baz=113,slow=17,SNR=5.4						
	252nm,0.5s						
URZ	**Urewera**	**2.18**	**233**	P	**Pn**	**06 34 22.0**	**+1.3**
URZ				S	**Sn**	**06 34 49.2**	**+1.7**
URZ	**Urewera**	**2.18**	**233**	P	**Pn**	**06 34 22.2**	**+1.6**
PRGZ	**Paritu Road**	**2.26**	**210**	P	**Pn**	**06 34 23.3**	**+1.5**
EDRZ	**Edgecumbe**	**2.35**	**241**	P	**Pb**	**06 34 26.3**	**-0.6**
OPRZ	**Ohinepanea**	**2.38**	**248**	P	**Pn**	**06 34 24.5**	**+1.2**
SNGZ	**Shannon Statio**	**2.40**	**221**	P	**Pn**	**06 34 25.1**	**+1.5**
SNGZ				S	**Sn**	**06 34 54.6**	**+1.7**
KNZ	**Kokohu**	**2.43**	**212**	P	**Pn**	**06 34 25.2**	**+1.1**
MHGZ	**Mahia Peninsul**	**2.45**	**207**	P	**Pn**	**06 34 25.9**	**+1.6**
RTZ	**Ruatahuna**	**2.48**	**228**		**Pn**	**06 34 24.7**	**-0.1**
RTZ	**Ruatahuna**	**2.48**	**228**	P	**Pn**	**06 34 26.4**	**+1.5**
MYRZ	**Mayor Island**	**2.49**	**262**	P	**Pn**	**06 34 25.8**	**+0.8**
MUGZ	**Murupara**	**2.53**	**233**	P	**Pn**	**06 34 26.5**	**+1.1**
TARZ	**Mount Tarawera**	**2.58**	**240**	P	**Pn**	**06 34 28.0**	**+1.8**
OMRZ	**Omania**	**2.61**	**244**	P	**Pn**	**06 34 28.8**	**+2.2**
RRRZ	**Republican Roa**	**2.62**	**238**	P	**Pn**	**06 34 28.5**	**+1.7**
RAHZ	**Arahi**	**2.63**	**222**	P	**Pn**	**06 34 28.9**	**+2.1**
KARZ	**Kaharoa**	**2.67**	**246**	P	**Pn**	**06 34 28.9**	**+1.5**
MTHZ	**Maungataniwha**	**2.72**	**226**	P	**Pn**	**06 34 29.8**	**+1.7**
PRRZ	**Plateau Road**	**2.78**	**236**	P	**Pn**	**06 34 30.3**	**+1.3**
HRRZ	**Handcock Road**	**2.80**	**239**	P	**Pn**	**06 34 30.8**	**+1.6**
ALRZ	**Allen Road**	**2.85**	**235**	P	**Pn**	**06 34 31.1**	**+1.2**
KUZ	**Kuaotunu**	**2.91**	**273**	P	**Pn**	**06 34 29.1**	**-1.5**
NMHZ	**Naumai**	**2.91**	**223**	P	**Pn**	**06 34 32.8**	**+2.0**
ARHZ	**Aropaoanui**	**2.94**	**218**	P	**Pn**	**06 34 32.2**	**+1.2**
WPRZ	**Whakapapatarin**	**2.95**	**238**	P	**Pn**	**06 34 33.7**	**+2.5**
MRHZ	**Matea Rd**	**2.96**	**230**	P	**Pn**	**06 34 32.9**	**+1.5**
MRHZ				S	**Sn**	**06 35 05.6**	**-1.3**
BKZ	**Black Stump Fm**	**3.13**	**225**		**Pn**	**06 34 35.0**	**+1.2**
BKZ	**Black Stump Fm**	**3.13**	**225**	P	**Pn**	**06 34 34.8**	**+1.0**
BKZ	**Black Stump Fm**	**3.13**	**225**	P	**Pn**	**06 34 34.8**	**+1.0**
TOZ	**Tahuroa Road**	**3.15**	**255**		**Pn**	**06 34 33.4**	**-0.5**
TOZ	**Tahuroa Road**	**3.15**	**255**	P	**Pn**	**06 34 33.4**	**-0.5**
GRZ	**Great Barrier**	**3.20**	**282**	P	**Pn**	**06 34 36.0**	**+1.3**
CKHZ	**Cape Kidnapper**	**3.21**	**213**	P	**Pn**	**06 34 35.0**	**+0.1**
MCHZ	**McNeill Hill**	**3.22**	**219**	P	**Pn**	**06 34 36.3**	**+1.3**
MKAZ	**Moumakai**	**3.34**	**267**	P	**Pn**	**06 34 36.0**	**-0.6**
KWHZ	**Kaweka Forest**	**3.35**	**222**	P	**Pn**	**06 34 37.7**	**+0.9**
WIAZ	**Waiheke Island**	**3.37**	**272**	P	**Pn**	**06 34 36.7**	**-0.4**
RITZ	**Rihia Road**	**3.40**	**233**	P	**Pn**	**06 34 39.5**	**+2.1**
RITZ				S	**Sn**	**06 35 19.1**	**+1.5**
KAHZ	**Kahuranaki**	**3.41**	**214**	P	**Pn**	**06 34 37.9**	**+0.3**
KAHZ				S	**Sn**	**06 35 17.0**	**-1.0**
ETAZ	**East Tamaki Re**	**3.53**	**269**	P	**Pn**	**06 34 39.6**	**+0.4**
MBAZ	**Motutapu North**	**3.56**	**272**	P	**Pn**	**06 34 41.2**	**+1.6**
OTVZ	**Oturere**	**3.63**	**232**	P	**Pn**	**06 34 41.5**	**+0.8**
OTVZ				S	**Sn**	**06 35 21.1**	**-2.3**
SNVZ	**South Ngauruho**	**3.66**	**232**	P	**Pn**	**06 34 42.3**	**+1.2**
NGZ	**Ngauruhoe**	**3.67**	**232**	P	**Pn**	**06 34 42.9**	**+1.6**
NGZ				S	**Sn**	**06 35 25.7**	**+1.1**
EPAZ	**Eden Park BICE**	**3.68**	**270**	P	**Pn**	**06 34 43.2**	**+2.0**
HBAZ	**Herne Bay Bore**	**3.69**	**271**	P	**Pn**	**06 34 43.6**	**+2.2**
TWVZ	**Taurewa**	**3.72**	**235**	P	**Pn**	**06 34 43.9**	**+2.0**
MOVZ	**Moawhango**	**3.72**	**228**	P	**Pn**	**06 34 42.5**	**+0.6**
WHVZ	**Whangaehu Hut**	**3.75**	**231**	P	**Pn**	**06 34 43.3**	**+0.9**
MAVZ	**Matarangi**	**3.75**	**231**	P	**Pn**	**06 34 43.8**	**+1.3**
AWAZ	**Awhitu Peninsu**	**3.76**	**267**	P	**Pn**	**06 34 42.5**	**+0.2**
AWAZ				S	**Sn**	**06 35 25.8**	**-0.6**
WNVZ	**Wahianoa**	**3.77**	**230**	P	**Pn**	**06 34 42.7**	**+0.1**
TRVZ	**Turoa**	**3.78**	**231**	P	**Pn**	**06 34 44.1**	**+1.2**
WTAZ	**Waiatarua**	**3.81**	**269**	P	**Pn**	**06 34 43.5**	**+0.4**
RVAZ	**Riverhead Bore**	**3.82**	**272**	P	**Pn**	**06 34 43.6**	**+0.4**
WPHZ	**Waipukurau**	**3.83**	**215**	P	**Pn**	**06 34 43.2**	**-0.1**
HIZ	**Hauiti**	**3.87**	**245**		**Pn**	**06 34 45.0**	**+1.2**
HIZ	**Hauiti**	**3.87**	**245**	P	**Pn**	**06 34 46.1**	**+2.2**
HIZ	**Hauiti**	**3.87**	**245**	P	**Pn**	**06 34 46.1**	**+2.2**
TSZ	**Takapari Road**	**4.06**	**220**	P	**Pn**	**06 34 46.1**	**-0.4**
DVHZ	**Dannevirke**	**4.14**	**216**	P	**Pn**	**06 34 47.4**	**-0.2**
WCZ	**Waipu Caves**	**4.15**	**283**	P	**Pn**	**06 34 48.0**	**+0.2**
VRZ	**Vera Road**	**4.20**	**238**	P	**Pn**	**06 34 50.4**	**+2.0**
WAZ	**Wanganui**	**4.40**	**230**	P	**Pn**	**06 34 52.4**	**+1.2**
POWZ	**Post Office Ro**	**4.41**	**218**	P	**Pn**	**06 34 52.8**	**+1.6**
BFZ	**Birch Farm**	**4.42**	**212**	Pn	**Pn**	**06 34 49.8**	**-1.6**
BFZ	**Birch Farm**	**4.42**	**212**	P	**Pn**	**06 34 50.6**	**-0.8**
PRWZ	**Pori Road**	**4.44**	**215**	P	**Pn**	**06 34 51.5**	**-0.1**
LREZ	**Lake Rotokare**	**4.61**	**236**	P	**Pn**	**06 34 57.0**	**+3.0**
MRZ	**Mangatainoka R**	**4.71**	**217**	Pn	**Pn**	**06 34 54.4**	**-1.0**
NEZ	**North Egmont**	**4.72**	**239**	P	**Pn**	**06 34 59.9**	**+4.3**
KHEZ	**Kahui Hut**	**4.79**	**240**	P	**Pn**	**06 35 00.8**	**+4.2**
OUZ	**Omahuta**	**4.97**	**289**	P	**Pn**	**06 34 60.0**	**+1.1**
OUZ	**Omahuta**	**4.97**	**289**	P	**Pn**	**06 34 59.7**	**+0.8**
OGWZ	**Otaki Gorge**	**5.03**	**219**	P	**Pn**	**06 34 59.2**	**-0.5**
MSWZ	**Moikau Station**	**5.45**	**214**	Pn	**Pn**	**06 35 04.3**	**-1.3**
PLWZ	**Palliser**	**5.57**	**213**	Pn	**Pn**	**06 35 05.5**	**-1.8**
SNZO	**South Karori**	**5.63**	**218**	Pn	**Pn**	**06 35 07.1**	**-0.9**
TCW	**Tory Channel**	**5.78**	**221**	Pn	**Pn**	**06 35 08.4**	**-1.6**
TUWZ	**Tuamarina**	**6.11**	**222**	Pn	**Pn**	**06 35 13.4**	**-1.2**
NNZ	**Nelson**	**6.28**	**226**	Pn	**Pn**	**06 35 16.1**	**-0.8**
TKNZ	**Takaka Hill**	**6.41**	**229**	Pn	**Pn**	**06 35 18.0**	**-0.7**
TKNZ	**Takaka Hill**	**6.41**	**229**	P	**Pn**	**06 35 17.9**	**-0.9**
QRZ	**Quartz Range**	**6.55**	**232**	Pn	**Pn**	**06 35 19.4**	**-1.3**
CTZ	**Chatham Island**	**7.42**	**157**		**Pn**	**06 35 35.5**	**+2.9**
CTZ	**Chatham Island**	**7.42**	**157**	P	**Pn**	**06 35 35.3**	**+2.7**
MQZ	**McQueen's Vall**	**8.44**	**215**	Pn	**Pn**	**06 35 43.1**	**-3.5**
EIDS	**Eidsvold**	**26.70**	**288**	P	**P**	**06 39 23.6**	**0.0**
CTAO	**Charters Tower**	**33.37**	**291**	P	**P**	**06 40 22.7**	**-0.1**
CTAO				IAmb	IAmb	06 40 43.3	
	comp=Z,5.0nm,1.0s						
COEN	**Coen**	**39.53**	**296**	P	**P**	**06 41 15.9**	**+0.5**
COEN				IAmb	IAmb	06 41 33.9	
	comp=Z,13nm,1.1s						
AS31	**Alice Springs**	**41.03**	**276**	P	**P**	**06 41 27.3**	**-0.6**
ASAR	**Alice Springs**	**41.03**	**276**	P	**P**	**06 41 26.8**	**-1.1**
	comp=Z,4.2nm,0.6s,baz=121,slow=7.9,SNR=53						
	comp=Z,4.2nm,0.6s						
WR0	**Warramunga Arr**	**42.46**	**281**	P	**P**	**06 41 39.2**	**-0.3**
FORT	**Forrest**	**42.60**	**263**	P	**P**	**06 41 40.4**	**-0.2**
WB2	**Warramunga Arr**	**42.61**	**281**	P	**P**	**06 41 40.4**	**-0.4**
WB2				IAmb	IAmb	06 41 40.7	
	comp=Z,5.0nm,0.5s						
WRAB	**Tennant Creek**	**42.62**	**281**	P	**P**	**06 41 40.5**	**-0.4**
WRAB				IAmb	IAmb	06 41 41.9	
	comp=Z,4.1nm,0.6s						
WRA	**Warramunga Arr**	**42.62**	**281**	P	**P**	**06 41 40.5**	**-0.4**
WRA	**Warramunga Arr**	**42.62**	**281**	P	**P**	**06 41 40.3**	**-0.6**
	comp=Z,2.6nm,0.4s,baz=121,slow=7.8,SNR=72						
	comp=Z,2.6nm,0.4s						
WB0	**Warramunga Arr**	**42.68**	**281**	P	**P**	**06 41 40.9**	**-0.4**
WB0				IAmb	IAmb	06 41 41.2	
	comp=Z,4.9nm,0.5s						
MTN	**Manton Dam**	**49.24**	**286**	P	**P**	**06 42 32.4**	**-0.8**
MTN				IAmb	IAmb	06 42 56.8	
	comp=Z,6.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**50.51**	**277**	P	**P**	**06 42 43.0**	**+0.2**
MORW	**Morawa**	**52.80**	**259**	P	**P**	**06 42 59.0**	**-0.9**
MORW				IAmb	IAmb	06 43 08.9	
	comp=Z,10nm,1.1s						
PSA00	**Pilbara Seismi**	**53.32**	**269**	P	**P**	**06 43 03.0**	**-0.7**
PSA00				IAmb	IAmb	06 43 25.9	
	comp=Z,5.0nm,1.0s						
MBWA	**Marble Bar**	**53.62**	**270**	P	**P**	**06 43 04.0**	**-1.9**
BELA	**Belgrano 2**	**63.58**	**172**	P	**P**	**06 44 16.0**	**+1.5**
BELA				IAmb	IAmb	06 44 25.8	
	comp=Z,2.1nm,1.1s						
LL04	**Puerto Octay**	**78.43**	**133**	P	**P**	**06 45 46.3**	**+1.1**
H03S2	**Juan Fernandez**	**78.68**	**124**	T	T	08 12 36.3	
	baz=232						
H03S1	**Juan Fernandez**	**78.69**	**124**	T	T	08 12 37.2	
	baz=232						
H03S3	**Juan Fernandez**	**78.69**	**124**	T	T	08 12 35.5	
	baz=232						
H03N3	**Juan Fernandez**	**78.91**	**123**	T	T	08 12 42.3	
	baz=235,slow=72,SNR=19						
H03N2	**Juan Fernandez**	**78.91**	**123**	T	T	08 12 45.9	
	baz=235,slow=72,SNR=24						
H03N1	**Juan Fernandez**	**78.92**	**123**	T	T	08 12 47.9	
	baz=235,slow=72,SNR=18						
ARCES	**ARCESS Array B**	**144.43**	**345**	PKP	**PKPdf**	**06 53 18.8**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=19,slow=3.8,SNR=12						
FINES	**FINESS Array B**	**150.33**	**334**	PKPbc	**PKPbc**	**06 53 34.9**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=28,slow=3.3,SNR=6.1						

*IDC **01** 06:36:08.1±12.0, 24.°42S×179.°41E, h650km±161km, mb2.7/4, mbtmp3.7/4, Error ellipse: s-maj=69.2km s-min=42.5km az=63.0*
ISC 01 06:36:08.0±1.1, 24.°5S±0.°3×179.°4E±0.°2, h650km, n7, σ0§59/7, mb3.2/4, 2C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.44**	**261**	P	**P**	**06 43 01.5**	**+0.4**
	0.2nm,0.4s,baz=94,slow=7.4,SNR=1.9

ADOK	**Arcadia Dam**	**0.87**	**132**	Pg	Pg	06 37 31.1	+0.2
KAN17	**Caldwell West**	**0.87**	**22**	Pg	Pg	06 37 30.8	-0.1
KAN17					Sg	06 37 42.5	+0.3
KAN17				IAML		06 37 45.8	
	comp=N,372nm,0.2s						
KAN10	**Anthony SW Sta**	**0.89**	**4**		Pg	06 37 31.3	0.0
OK004	**Okla Sci Mus**	**0.90**	**142**		Pg	06 37 31.6	0.0
OK004					Sg	06 37 43.8	+0.5
BLOK	**Blackwell**	**0.93**	**55**	Pg	Pg	06 37 32.0	0.0
BLOK					Sg	06 37 44.3	+0.2
BLOK				IAML		06 37 51.0	
	comp=E,418nm,0.2s						
KAN13	**South Haven SW**	**0.95**	**35**	Pg	Pg	06 37 32.3	-0.2
KAN13					Sg	06 37 45.1	+0.2
KAN13				IAML		06 37 46.2	
	comp=N,400nm,0.3s						
KAN01	**Argonia South**	**0.97**	**19**		Pg	06 37 32.6	-0.3
KAN01					Sg	06 37 45.8	+0.2
KAN01				IAML		06 37 47.1	
	comp=E,211nm,0.1s						
KAN01				IAML		06 37 51.3	
	comp=N,223nm,0.2s						
KAN09	**Caldwell North**	**1.00**	**26**		Pg	06 37 33.1	-0.3
KAN09					Sg	06 37 46.7	+0.2
OK048	**Pawnee Station**	**1.00**	**79**	Pg	Pg	06 37 33.1	-0.3
OK048					Sb	06 37 47.1	-0.5
KAN08	**Anthony NE Sta**	**1.00**	**9**		Pg	06 37 33.3	-0.2
KAN08					Sb	06 37 47.4	-0.3
OKCSW	**OKLAHOMA CITY**	**1.01**	**144**	Pg	Pg	06 37 33.5	-0.2
OKCSW					Sg	06 37 47.1	+0.2
OKCSW				IAML		06 37 53.1	
	comp=E,228nm,0.2s						
ELIS	**Ellis County**	**1.03**	**261**	Pg	Pg	06 37 34.0	0.0
ELIS				IAML		06 37 58.7	
	comp=N,283nm,0.3s						
ELIS				IAML		06 37 58.0	
	comp=E,277nm,0.2s						
KAN12	**Harper NE Stat**	**1.07**	**7**		Pg	06 37 34.4	-0.3
KAN12				IAML		06 37 55.8	
	comp=E,257nm,0.3s						
KAN12				IAML		06 37 59.2	
	comp=N,220nm,0.3s						
OK051	**E0350 and S346**	**1.10**	**75**		Pg	06 37 35.0	-0.4
OK051					Sg	06 37 49.8	0.0
OK031	**S. Brethren Rd**	**1.11**	**104**		Pg	06 37 34.9	-0.6
OK031					Sg	06 37 49.8	-0.1
OK031				IAML		06 37 51.9	
	comp=N,167nm,0.1s						
OK031				IAML		06 37 52.2	
	comp=N,188nm,0.1s						
KS21	**Milan North St**	**1.12**	**21**	Pg	Pg	06 37 35.4	-0.4
KS21	**Milan North St**	**1.12**	**21**		Sg	06 37 50.6	+0.2
OK052	**Battle Ridge R**	**1.13**	**102**		Pg	06 37 35.2	-0.7
OK052					Sg	06 37 50.5	+0.1
OK052				IAML		06 37 55.4	
	comp=N,184nm,0.2s						
OK052				IAML		06 37 56.3	
	comp=N,156nm,0.3s						
FNO	**Franklin**	**1.16**	**147**		Pg	06 37 35.9	-0.5
FNO					Sg	06 37 51.4	0.0
QUOK	**Quay**	**1.18**	**93**		Pg	06 37 36.2	-0.6
QUOK				IAML		06 37 53.3	
	comp=N,265nm,0.2s						
QUOK				IAML		06 37 56.5	
	comp=E,230nm,0.2s						
DEOK	**Depew**	**1.41**	**106**		Pn	06 37 40.1	-0.3
DEOK					Sb	06 37 59.1	0.0
T35A	**Sooner Cattle**	**1.49**	**62**		Pn	06 37 41.7	0.0
W35A	**Tecumseh**	**1.50**	**135**		Pn	06 37 41.9	+0.1
W35A					Sb	06 38 02.1	0.0
WMOK	**Wichita Mounta**	**1.58**	**199**		Pn	06 37 42.5	-0.4
X34A	**Smith Ranch, M**	**1.65**	**170**		Pb	06 37 44.7	-0.5
X34A					Sg	06 38 08.2	+0.9
X34A				IAmb_Lg		06 38 10.2	
	comp=Z,22nm,0.7s						
TUL3	**Leonard**	**1.95**	**99**		Pn	06 37 48.4	+0.4
TUL3					Sb	06 38 15.3	+0.5
TUL3				IAmb_Lg		06 38 17.4	
	comp=Z,38nm,0.9s						
SMWD	**Samnorwood**	**2.03**	**237**	IAmb_Lg		06 38 24.3	
	comp=Z,19nm,0.7s						
LOOK	**Love County**	**2.38**	**160**		Pn	06 37 54.0	+0.2
RLO	**Rose Lookout**	**2.54**	**91**		Pb	06 37 59.1	-1.3
X37A	**Clayton**	**2.81**	**125**	Pn	Pn	06 38 00.3	+0.5
X37A				IAmb_Lg		06 38 45.6	
	comp=Z,11nm,0.8s						
Z35A	**Perchaven, San**	**2.99**	**165**	Pn	Pn	06 38 01.7	-0.6
FW03	**Perrin-Whitt E**	**3.19**	**179**	IAmb_Lg		06 38 55.3	
	comp=Z,11nm,0.9s						
HHAR	**Hobbs**	**3.41**	**88**	Pn	Pn	06 38 08.4	+0.3
RTBA	**Rita Blanca**	**3.70**	**275**		Pn	06 38 11.9	-0.3
ABTX	**Abilene, Hawle**	**3.80**	**199**		Pn	06 38 13.3	-0.2
SN07	**Snyder 07**	**3.86**	**216**	IAmb_Lg		06 39 25.7	
	comp=Z,9.5nm,0.8s						
Z38A	**Mt. Pleasant**	**3.96**	**138**	IAmb_Lg		06 39 27.8	
	comp=Z,14nm,0.9s						
MIAR	**Mount Ida**	**4.11**	**113**	Pn	Pn	06 38 17.9	+0.2
POST	**Post**	**4.19**	**222**	IAmb_Lg		06 39 33.1	
	comp=Z,9.5nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.50**	**309**	IAmb_Lg		06 39 43.7	
	comp=Z,16nm,0.7s						
X40A	**Basin Creek Fa**	**4.69**	**110**	Pn	Pn	06 38 25.6	0.0
X40A				IAmb_Lg		06 39 44.6	
	comp=Z,9.1nm,0.8s						
MGMO	**Mountain Grove**	**4.83**	**77**	IAmb_Lg		06 39 51.8	
	comp=Z,6.4nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.91**	**92**	IAmb_Lg		06 39 58.7	
	comp=Z,6.9nm,1.1s						
P38A	**Dawn**	**4.99**	**46**	IAmb_Lg		06 39 56.5	
	comp=Z,8.5nm,0.7s						
T25A	**Trinidad**	**5.10**	**282**	IAmb_Lg		06 40 06.8	
	comp=Z,14nm,1.1s						
R40A	**Maddies Statio**	**5.13**	**65**	IAmb_Lg		06 39 59.3	
	comp=Z,8.3nm,0.8s						
BGNE	**Belgrade**	**5.17**	**0**	Pn	Pn	06 38 32.0	-0.2
CCM	**Cathedral Cave**	**5.82**	**70**	IAmb_Lg		06 40 22.3	
	comp=Z,8.5nm,0.7s						
L34A	**Svendsen Farm,**	**5.89**	**13**	IAmb_Lg		06 40 38.1	
	comp=Z,12nm,0.8s						
PBMO	**Poplar Bluff**	**6.25**	**83**	IAmb_Lg		06 40 32.3	
	comp=Z,8.2nm,0.7s						
S44A	**Carbondale**	**7.28**	**76**	IAmb_Lg		06 41 24.4	
	comp=Z,7.3nm,0.8s						
735A	**Kenedy**	**7.36**	**178**	IAmb_Lg		06 41 18.1	
	comp=Z,9.8nm,1.1s						
T45A	**Paducah**	**7.69**	**81**	IAmb_Lg		06 41 17.5	
	comp=Z,36nm,1.0s						

*ATH **01** 06:48:28.6,37.°34N×20.°40E,h9km±1km,ML3.5/3,Error ellipse: s-maj=3.1km s-min=1.4km az=46.0*
*THE **01** 06:48:28.5,37.°27N×20.°49E,h0km±2km,ML3.2/12,Error ellipse: s-maj=2.6km s-min=0.6km az=235.0*
ISC 01 06:48:27.6±2.1,37.°28N±0.°05×20.°42E±0.°07,h3km±11km, n23,σ0°54/41,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.50**	**39**	P	**Pg**	**06 48 37.5**	**+0.3**
KRI1				S	**Sg**	**06 48 44.2**	**+0.5**
	7μm,0.3s						
LTHK	**Lithakia**	**0.54**	**37**	P	**Pg**	**06 48 38.2**	**+0.1**
LTHK				S	**Sg**	**06 48 45.4**	**+0.2**
	6μm,0.4s						
LTHK	**Lithakia**	**0.54**	**37**	P	**Pg**	**06 48 38.4**	**+0.4**
LTHK				S	**Sg**	**06 48 45.3**	**+0.2**
LTHK				AML	AML	06 48 45.7	
	comp=N,13193μm,0.4s						
LTHK				AML	AML	06 48 46.0	
	comp=E,8600μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.84**	**9**	P	**Pg**	**06 48 44.5**	**+0.6**
RTZL	**Ratzakli, Kefa**	**0.84**	**19**	P	**Pg**	**06 48 43.9**	**+0.1**
RTZL				S	**Sb**	**06 48 56.3**	**-0.4**
	comp=E,1μm,0.5s						
VLS	**Valsamata**	**0.91**	**8**	P	**Pg**	**06 48 45.2**	**+0.1**
VLS				S	**Sb**	**06 48 59.0**	**+0.5**
	comp=E,930nm,0.4s						
VLS	**Valsamata**	**0.91**	**8**	P	**Pg**	**06 48 44.4**	**-0.7**
DMLN	**Damoulianata-K**	**0.96**	**358**	P	**Pg**	**06 48 46.9**	**+0.8**
DMLN				S	**Sn**	**06 49 01.8**	**-0.4**
	comp=E,3μm,0.6s						
AMT	**Artemida-Makis**	**1.06**	**76**	P	**Pg**	**06 48 48.6**	**+0.6**
AMT				S	**Sb**	**06 49 03.6**	**+0.8**
AMT				AML	AML	06 49 05.1	
	comp=E,9629μm,0.3s						
AMT				AML	AML	06 49 05.3	
	comp=N,12433μm,0.4s						
PYL	**PYLOS**	**1.12**	**109**	P	**Pg**	**06 48 48.3**	**-0.9**
PYL				S	**Sg**	**06 49 04.0**	**+0.3**
	comp=N,988nm,0.2s						
PYL	**PYLOS**	**1.12**	**109**	P	**Pg**	**06 48 49.7**	**+0.6**
PYL				S	**Sb**	**06 49 05.3**	**+0.6**
PYL				AML	AML	06 49 07.4	
	comp=E,2499μm,0.2s						
PYL				AML	AML	06 49 07.7	
	comp=N,1432μm,0.3s						
VSK1	**VASILIKIADES**	**1.14**	**6**	P	**Pg**	**06 48 49.6**	**+0.2**
VSK1				S	**Sn**	**06 49 06.7**	**+0.2**
	comp=N,1μm,0.6s						
RLS	**Riolos of Patr**	**1.14**	**46**	P	**Pg**	**06 48 49.1**	**-0.4**
RLS				S	**Sb**	**06 49 05.1**	**0.0**
	comp=N,512nm,0.6s						
RLS	**Riolos of Patr**	**1.14**	**46**	P	**Pg**	**06 48 48.7**	**-0.7**
FSK	**Fiskardo**	**1.19**	**5**	P	**Pg**	**06 48 50.0**	**-0.4**
FSK				S	**Sg**	**06 49 04.8**	**-1.0**
ITM	**Ithomi**	**1.21**	**94**	P	**Pg**	**06 48 49.6**	**-1.2**
ITM				S	**Sb**	**06 49 07.4**	**+0.3**
	comp=N,730nm,0.3s						
ITM	**Ithomi**	**1.21**	**94**	P	**Pg**	**06 48 50.7**	**-0.1**
ITM				S	**Sb**	**06 49 07.8**	**+0.7**
DRO	**Drossia**	**1.23**	**56**	P	**Pg**	**06 48 50.3**	**-0.8**
DRO				S	**Sb**	**06 49 08.1**	**+0.4**
	comp=N,1μm,0.4s						
DRO	**Drossia**	**1.23**	**56**	P	**Pg**	**06 48 50.7**	**-0.4**
DRO				S	**Sg**	**06 49 07.3**	**+0.2**
KLV	**Kalavryta, Ach**	**1.57**	**60**	P	**Pn**	**06 48 56.3**	**-0.2**
KLV				S	**Sg**	**06 49 17.9**	**-0.2**
	comp=N,205nm,0.7s						
KLV	**Kalavryta, Ach**	**1.57**	**60**	P	**Pn**	**06 48 56.2**	**-0.2**
GUR	**Goura**	**1.66**	**66**	P	**Pn**	**06 48 57.3**	**-0.5**
GUR				S	**Sn**	**06 49 19.9**	**+0.3**
	comp=N,560nm,0.4s						
GUR	**Goura**	**1.66**	**66**	P	**Pn**	**06 48 57.5**	**-0.2**

TAP 01 06:56:23.3,24.°18N×121.°69E,h53km±1km,ML1.9,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.07**	**252**	*e*P	Pn	06 56 31.6	+0.2
ETL				*e*S	Sn	06 56 38.3	+1.1
NACB	**Ninganchiao**	**0.09**	**267**	*i* P	Pn	06 56 31.3	-0.1
NACB				*i* S	Sn	06 56 37.5	+0.3
TWD	**Chiawan**	**0.13**	**222**	P	Pn	06 56 31.7	+0.1
TWD				*i* S	Sn	06 56 38.1	+0.7
EAHA	**Aohua**	**0.16**	**16**	*e*P	Pn	06 56 32.5	+0.8
ETLH	**Xiulin Townshi**	**0.19**	**278**	*e*P	Pn	06 56 32.4	+0.4
ETLH				S	Sn	06 56 39.1	+0.9
HWA	**Hwalien**	**0.22**	**202**	*e*P	Pn	06 56 32.6	+0.6
ENA	**Nanau**	**0.25**	**10**	P	Pn	06 56 32.8	+0.4
ENA				S	Sn	06 56 40.2	+1.5
EWUT	**Wuta**	**0.28**	**17**	P	Pn	06 56 33.4	+0.9
EWUT				*e*S	Sn	06 56 40.7	+1.7
ETM	**Tongmen**	**0.28**	**221**	*e*P	Pn	06 56 33.0	+0.4
ETM				*e*S	Sn	06 56 39.5	+0.4
LXIB	**Xiulin Townshi**	**0.30**	**238**	P	Pn	06 56 33.2	+0.3
LXIB				*e*S	Sn	06 56 39.2	-0.5
NNSB	**Datong**	**0.38**	**311**	*i* P	Pn	06 56 34.0	+0.5
NNSB				*i* S	Sn	06 56 41.6	+0.7
NNSH	**Datong**	**0.38**	**311**	P	Pn	06 56 33.9	+0.4
NNSH				S	Sn	06 56 41.2	+0.3
LATG	**Datong**	**0.39**	**337**	P	Pn	06 56 33.7	+0.1
LATG				S	Sn	06 56 41.2	+0.2
WHF	**Hehuan Shan**	**0.39**	**265**	*e*P	Pn	06 56 34.2	+0.2
WHF				*e*S	Sn	06 56 42.3	+0.6
SHUL	**Shoufeng**	**0.41**	**197**	*e*P	Pn	06 56 33.8	+0.1
SHUL				*e*S	Sn	06 56 41.2	0.0
FUSS	**Fushou**	**0.41**	**280**	P	Pn	06 56 34.6	+0.6
FUSS				*e*S	Sn	06 56 42.7	+0.9
ESL	**Shilin**	**0.43**	**213**	*e*P	Pn	06 56 35.4	+1.4
TWC	**Suao**	**0.45**	**18**	P	Pn	06 56 34.7	+0.5
TWC				*e*S	Sn	06 56 44.0	+2.0
ENTT	**Nioudou**	**0.47**	**346**	P	Pn	06 56 34.9	+0.5
ENTT				*e*S	Sn	06 56 43.0	+0.5
TWT	**Tachien**	**0.48**	**279**	*e*P	Pn	06 56 35.7	+1.1
TWT				*e*S	Sn	06 56 44.2	+1.4
TDCB	**Techi**	**0.49**	**279**	P	Pn	06 56 35.9	+1.1
TDCB				S	Sn	06 56 44.1	+1.0
OWD	**Renai**	**0.52**	**245**	*e*P	Pn	06 56 35.8	+0.7
OWD				*e*S	Sn	06 56 44.6	+0.9
WARBT	**Fenglin Townsh**	**0.54**	**211**	P	Pn	06 56 35.2	0.0
WARBT				*e*S	Sn	06 56 43.7	-0.1
EOS2	**EOS2**	**0.55**	**64**	*e*P	Pn	06 56 36.1	+1.0
WUSB	**Renai**	**0.56**	**251**	*e*P	Pn	06 56 36.0	+0.5
WUSB				*e*S	Sn	06 56 45.2	+0.8
YHNB	**Yeheng**	**0.57**	**330**	*i* P	Pn	06 56 35.9	+0.3
YHNB				*i* S	Sn	06 56 44.8	+0.3
EOS4	**EOS4**	**0.57**	**96**	*e*P	Pn	06 56 35.8	+0.6
EOS3	**EOS3**	**0.58**	**79**	*e*P	Pn	06 56 36.3	+0.8
NSK	**Sanguang**	**0.58**	**328**	P	Pn	06 56 35.6	-0.1
NSK				*e*S	Sn	06 56 44.6	-0.1
FUSB	**Fushanzhiwuyua**	**0.59**	**351**	P	Pn	06 56 36.2	+0.3
FUSB				*e*S	Sn	06 56 45.1	+0.2
NWLT	**Wulai**	**0.62**	**344**	P	Pn	06 56 36.7	+0.5
NWLT				*e*S	Sn	06 56 45.4	-0.2
HGSD	**Ruisui**	**0.73**	**200**	*e*P	Pn	06 56 37.5	0.0
SSLB	**Suanglung**	**0.78**	**240**	*e*P	Pn	06 56 40.0	+1.8
TIPB	**Shuangxi**	**0.80**	**9**	*e*P	Pn	06 56 39.1	+0.7
TYC	**Yuchr**	**0.81**	**250**	*e*P	Pn	06 56 39.9	+1.3
HSN1	**Hsinchu**	**0.86**	**314**	*e*P	Pn	06 56 39.9	+0.7
YULB	**Yu-li**	**0.86**	**205**	*e*P	Pn	06 56 40.4	+1.1

JMA 01 06:56:44.5±0.1,24.°2N±0.°4×123.°8E±0.°3,h13km±1km, MV2.8/12,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.13**	**338**	P	Pg	06 56 47.9	0.0
IRIF				S	Sg	06 56 50.6	+0.2
HATJ	**Hateruma jima**	**0.16**	**173**	P	Pg	06 56 48.1	-0.2
HATJ				S	Sg	06 56 51.3	+0.4
JKRS	**Kuro-shima**	**0.21**	**83**	P	Pg	06 56 49.2	+0.2
JKRS				S	Sb	06 56 53.2	-0.7
JIJ	**Ishigaki jima**	**0.36**	**65**	P	Pg	06 56 51.5	-0.3
JIJ				S	Sg	06 56 56.8	+0.1
JISG	**Ishigakijimahi**	**0.61**	**52**	P	Pg	06 56 56.5	+0.1
JISG				S	Sb	06 57 05.0	-0.4
YOJ	**Yonaguni jima**	**0.75**	**289**	*e*P	Pg	06 56 58.9	-0.1
YOJ				*e*S	Sb	06 57 10.0	+0.5
JYNG	**Yonagunijimaku**	**0.80**	**287**	P	Pg	06 56 59.9	-0.2
JYNG				S	Sb	06 57 11.3	+0.3
JTJ	**Tarama**	**0.94**	**63**	*e*P	Pb	06 57 02.5	-0.2
JTJ				S	Sn	06 57 15.8	-0.8
JMJ2	**Miyako jima3**	**1.50**	**69**	P	Pb	06 57 12.6	+0.4
JMJ2				*e*S	Sg	06 57 33.6	+0.7
JOGS	**Gusukube**	**1.57**	**69**	*e*P	Pn	06 57 12.2	+0.1
JOGS				*e*S	Sg	06 57 35.4	+0.2

*CATAC **01** 07:01:05.8±0.9, 14.°27N×92.°04W,h20km±6km,mb4.4, MB5.4,ML3.6*
*GCG **01** 07:01:05.2±0.6, 14.°50N×92.°01W,h75km±13km,MD3.8*
*SNET **01** 07:01:08.1±0.8, 14.°40N×91.°85W,h34km±999km,ML3.6*
ISC 01 07:01:05.6±2.6,14.°32N±0.°08×92.°1W±0.°1,h26km±15km, n29,σ1°18/44,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.48**	**91**	*i* P	**Pn**	**07 01 18.3**	**+1.6**
SULM	**Suchitepequez,**	**0.48**	**91**	*i* P	**Pn**	**07 01 18.3**	**+1.6**
STG3	**Santiaguito 3,**	**0.61**	**50**	*i* P	**Pn**	**07 01 19.0**	**+0.2**
STG3	**Santiaguito 3,**	**0.61**	**50**	*i* P	**Pn**	**07 01 19.0**	**+0.2**
SOKI	**Kika Raxquin**	**0.81**	**52**	*i* P	**Pb**	**07 01 21.3**	**+0.1**
SOKI				*i* S	**Sn**	**07 01 34.0**	**+1.0**
SOKI				IAML		07 01 37.9	
	comp=Z,730nm,1.0s						
FUG	**Fuego 3**	**1.18**	**84**	*i* P	**Pn**	**07 01 26.7**	**+0.1**
QUIS	**Sacapulas**	**1.34**	**44**	*i* P	**Pn**	**07 01 28.3**	**-0.5**
QUIS				*i* S	**Sb**	**07 01 48.6**	**+1.5**
QUIS				IAML		07 01 50.6	
	comp=Z,630nm,1.0s						
PCG	**Pacaya**	**1.41**	**87**	*i* P	**Pn**	**07 01 29.3**	**-0.4**
PCG				*i* S	**Sb**	**07 01 48.6**	**-0.4**
PCG	**Pacaya**	**1.41**	**87**	*i* P	**Pn**	**07 01 29.3**	**-0.4**
PCG				*i* S	**Sb**	**07 01 48.6**	**-0.4**
NBG	**Las Nubes**	**1.68**	**81**	*i* P	**Pb**	**07 01 34.9**	**-1.0**
CCIG	**Comitan**	**1.96**	**358**	*i* P	**Pn**	**07 01 37.3**	**+0.1**
CCIG				*i* S	**Sb**	**07 02 04.5**	**-0.2**
CCIG				IAML		07 02 07.7	
	comp=Z,140nm,1.0s						
SLOZ	**Alcaldia de Sa**	**2.22**	**97**	*e*P	**Pn**	**07 01 40.2**	**-0.5**
SLOZ				*e*S	**Sn**	**07 02 05.3**	**-2.2**
NUBE	**Las Nubes**	**2.25**	**100**	*e*P	**Pn**	**07 01 40.5**	**-0.8**
NUBE				*e*S	**Sn**	**07 02 05.3**	**-2.9**
NUBE	**Las Nubes**	**2.25**	**100**	*i* P	**Pn**	**07 01 41.2**	**0.0**
NUBE				*i* S	**Sn**	**07 02 08.6**	**+0.4**
NUBE				IAML		07 02 12.9	
	comp=Z,220nm,1.0s						
CEVE	**Cerro Verde**	**2.41**	**101**	*e*P	**Pn**	**07 01 44.0**	**+0.4**
CEVE				*e*S	**Sn**	**07 02 11.7**	**-0.6**
CEVE				IAML		07 02 21.0	
	comp=Z,385nm,0.3s						
CEVE	**Cerro Verde**	**2.41**	**101**	*i* P	**Pn**	**07 01 44.6**	**+1.0**
CEVE				*i* S	**Sn**	**07 02 13.9**	**+1.5**
CEVE				IAML		07 02 20.8	
	comp=Z,320nm,1.0s						
SNJE	**San Jose**	**2.42**	**100**	*e*P	**Pn**	**07 01 43.9**	**+0.3**
UNIC	**Universidad Ca**	**2.46**	**98**	*i* P	**Pn**	**07 01 44.3**	**+0.3**
MTO3	**Montecristo**	**2.61**	**88**	*i* P	**Pn**	**07 01 46.9**	**+0.6**
MTO3				IAML		07 02 35.4	
	comp=Z,27nm,1.0s						
JAYA	**Jayaque - finc**	**2.62**	**104**	*e*P	**Pn**	**07 01 45.2**	**-1.1**
JAYA				*e*S	**Sn**	**07 02 15.0**	**-2.4**
JAYA				IAML		07 02 23.1	
	comp=Z,229nm,0.2s						
JAYA	**Jayaque - finc**	**2.62**	**104**	*i* P	**Pn**	**07 01 46.3**	**0.0**
JAYA				*i* S	**Sn**	**07 02 16.9**	**-0.4**
JAYA				IAML		07 02 22.8	
	comp=Z,510nm,1.0s						
PMON	**Piamonte**	**2.73**	**102**	*e*P	**Pn**	**07 01 47.7**	**-0.1**
PMON				*e*S	**Sn**	**07 02 19.1**	**-0.9**
PMON	**Piamonte**	**2.73**	**102**	*i* P	**Pn**	**07 01 49.4**	**+1.6**
PMON				*i* S	**Sn**	**07 02 21.7**	**+1.7**
PMON				IAML		07 02 25.5	
	comp=Z,260nm,1.0s						
TECO	**Alcaldia de Te**	**3.27**	**103**	*i* P	**Pn**	**07 01 55.8**	**+0.6**
TECO				*i* S	**Sn**	**07 02 33.7**	**+0.3**
TECO				IAML		07 02 44.6	
	comp=Z,52nm,1.0s						
SCLA	**Alcaldia de Sa**	**3.29**	**100**	*i* P	**Pn**	**07 01 55.9**	**+0.4**
LCND	**La Caada**	**4.17**	**103**	*i* P	**Pn**	**07 02 10.5**	**+3.0**
CNCH	**Conchagua**	**4.23**	**104**	*i* P	**Pn**	**07 02 08.8**	**+0.3**
CNCH				IAML		07 03 16.3	
	comp=Z,100nm,1.0s						
PKGN	**Cerro Pekin**	**5.21**	**108**	*i* P	**Pn**	**07 02 23.7**	**+1.9**
PKGN				IVmB_BB		07 02 24.8	
	comp=Z,4μm,1.0s						
PKGN				IAmb	IAmb	07 02 28.1	
	comp=Z,32nm,0.7s						
PKGN				IAML		07 02 29.7	
	comp=Z,73nm,1.0s						
AERN	**Aeropuerto Man**	**6.13**	**110**	*i* P	**Pn**	**07 02 34.6**	**+0.1**

*IDC **01** 07:02:46.1±1.2,26.°57N×129.°44E,h0km,mb3.8/5, mbtmp3.8/6,ML3.6/1,MS2.7/2,Error ellipse: s-maj=24.3km s-min=16.2km az=67.0*
*JMA **01** 07:02:48.2±0.1,26.°6N±0.°6×129.°6E±0.°5,h45km,MV3.3/19, NEAR OKINAWAJIMA ISLAND*
ISC 01 07:02:47.5±3.2,26.°64N±0.°04×129.°58E±0.°04,h17km±21km, n24,σ1°26/32,mb3.7/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.08**	**291**	P	**Pb**	**07 03 07.3**	**-0.4**
JOKE	**Okinoerabujima**	**1.15**	**309**	P	**Pb**	**07 03 08.8**	**-0.2**
JOW	**Kunigami**	**1.18**	**280**	Pn	**Pb**	**07 03 09.2**	**-0.4**
	198nm,0.3s,baz=105,slow=24,SNR=266						
JOW				Sn	**Sb**	**07 03 24.0**	**-0.6**
	63nm,0.3s,baz=107,slow=19,SNR=9.6						
JOW	**Kunigami**	**1.18**	**280**	*e*P	**Pb**	**07 03 09.1**	**-0.4**
JOW				*e*S	**Sb**	**07 03 24.2**	**-0.3**
JTK	**Tokunoshima**	**1.27**	**334**	*e*P	**Pn**	**07 03 10.4**	**-0.1**
JTK				*e*S	**Sb**	**07 03 25.7**	**-1.4**
JNTH	**Nagotoyohara**	**1.40**	**265**	*e*P	**Pn**	**07 03 11.9**	**-0.4**
JNTH				*e*S	**Sn**	**07 03 28.1**	**-2.1**
JIH	**Iheya**	**1.50**	**286**	*e*P	**Pn**	**07 03 13.6**	**+0.1**
JIH				*e*S	**Sn**	**07 03 31.5**	**-1.1**
JAMN	**Amaminishikomi**	**1.64**	**347**	*e*P	**Pn**	**07 03 15.3**	**-0.2**
JJT3	**Tamagusuku3**	**1.69**	**253**	*e*P	**Pn**	**07 03 16.6**	**+0.4**
JJT3				*e*S	**Sn**	**07 03 36.8**	**-0.5**
JKDJ	**Kitadaitoujima**	**1.69**	**114**	P	**Pn**	**07 03 16.0**	**-0.2**
JKDJ				*e*S	**Sn**	**07 03 35.4**	**-1.9**
JMZ	**Minamidaito 2**	**1.69**	**119**	*e*P	**Pn**	**07 03 15.4**	**-0.7**
JZK	**Kikaishima**	**1.71**	**12**	*e*P	**Pn**	**07 03 17.1**	**+0.6**
JZK				*e*S	**Sn**	**07 03 38.2**	**+0.4**
JAM	**Amami Oshima**	**1.77**	**1**	*e*P	**Pn**	**07 03 16.9**	**-0.3**
JAGN	**Aguni-jima**	**2.09**	**269**	*e*P	**Pn**	**07 03 22.1**	**+0.3**
JAGN				*e*S	**Sn**	**07 03 46.0**	**-1.4**
JKE	**Kume jima 2**	**2.52**	**264**	*e*P	**Pn**	**07

comp=E,42539μm,0.5s
DMLN Damoulianata-K 0.85 349 P **Pg 07 03 24.5 +0.2**
DMLN S **Sg 07 03 35.6 +0.2**
comp=E,17μm,0.6s
DMLN Damoulianata-K 0.85 349 P **Pg 07 03 24.7 +0.3**
AMT Artemida-Makis 0.91 81 P **Pg 07 03 25.4 0.0**
AMT AML AML 07 03 44.0
comp=E,9956μm,0.5s
AMT AML AML 07 03 47.7
comp=N,13282μm,0.4s
RLS Riolos of Patr 0.96 47 P **Pg 07 03 26.2 -0.2**
RLS S **Sb 07 03 40.3 -0.5**
RLS Riolos of Patr 0.96 47 P **Pg 07 03 26.7 +0.2**
RLS AML AML 07 03 41.5
comp=E,4300μm,0.5s
RLS AML AML 07 03 42.0
comp=N,6690μm,0.5s
VSK1 VASILIKIADES 1.01 359 P **Pg 07 03 26.4 -0.9**
VSK1 S **Sb 07 03 41.2 -0.9**
comp=N,9μm,0.7s
DRO Drossia 1.05 58 P **Pg 07 03 28.1 -0.1**
DRO Drossia 1.05 58 P **Pg 07 03 28.0 -0.1**
DRO AML AML 07 03 47.3
comp=E,6799μm,0.7s
DRO AML AML 07 03 53.3
comp=N,6188μm,0.4s
FSK Fiskardo 1.06 359 P **Pg 07 03 27.1 -1.1**
FSK S **Sg 07 03 42.5 +0.6**
comp=N,7μm,0.7s
FSK Fiskardo 1.06 359 P **Pg 07 03 27.2 -1.0**
FSK AML AML 07 03 46.2
comp=N,14351μm,0.9s
FSK AML AML 07 03 47.1
comp=E,13367μm,0.6s
PYL PYLOS 1.06 118 P **Pg 07 03 27.3 -0.9**
ITM Ithomi 1.10 101 P **Pn 07 03 30.8 +0.2**
ITM Ithomi 1.10 101 P **Pb 07 03 28.8 -1.0**
EVGI Lefkada island 1.22 3 P **Pb 07 03 31.5 -0.4**
EVGI S **Sn 07 03 48.1 -1.4**
comp=E,3μm,0.6s
EVGI Lefkada island 1.22 3 P **Pn 07 03 30.8 -1.4**
DRAG Dragano-Lefkad 1.28 360 P **Pn 07 03 31.3 -1.8**
NYDR Nydri-Lefkada 1.31 4 P **Pb 07 03 33.2 -0.3**
NYDR S **Sg 07 03 51.1 +0.9**
comp=E,2μm,0.8s
KLV Kalavryta, Ach 1.40 62 P **Pb 07 03 34.9 -0.1**
KLV Kalavryta, Ach 1.40 62 P **Pn 07 03 33.8 -1.1**
TSLK Tsoukalades, L 1.42 2 P **Pg 07 03 35.7 +0.4**
TSLK S **Sg 07 03 55.3 +1.6**
comp=E,4μm,0.8s
NB2 NORSAR Subarra 24.39 349 P **P 07 08 32.2 +4.5**
comp=Z,0.2nm,0.3s,baz=157,slow=9.3

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*NEIC **01** 07:13:06.8±1.1, 35°.234N×0°.010×97°.73W±0°.02, h8km±2km, ML2.1/34, ML2.4, Error ellipse: s-maj=1.8km s-min=1.4km az=100.0*
NEIC 01 07:13:06.6±0.9, 35°.221N±0°.010×97°.71W±0°.02, h5km±1km, Error ellipse: s-maj=3.1km s-min=2.2km az=301.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.25**	**82**	Pg	Pg	07 13 12.1	+0.6
OKCSW	**OKLAHOMA CITY**	**0.29**	**50**	Pg	Pg	07 13 12.7	+0.5
OKCSW				Sg	Sg	07 13 17.1	+1.1
OKCSW				IAML		07 13 17.8	
OKCSW	comp=E,381nm,0.1s			IAML		07 13 17.8	
X34A	**Smith Ranch, M**	**0.63**	**190**	Pg	Pb	07 13 19.6	-0.5
X34A				Sg	Sg	07 13 26.5	-0.3
X34A				IAML		07 13 29.9	
W35A	**Tecumseh**	**0.69**	**95**	Pg	Pg	07 13 19.5	-0.3
W35A					Sb	07 13 30.1	-0.7
W35A				IAML		07 13 38.0	
WMOK	**Wichita Mounta**	**1.00**	**242**		Pg	07 13 24.9	-1.0
WMOK					Sg	07 13 38.6	-0.3
OK031	**S. Brethren Rd**	**1.02**	**44**	Pg	Pg	07 13 25.6	-0.6
OK031				IAML		07 13 45.0	
OK052	**Battle Ridge R**	**1.07**	**43**	Pg	Pg	07 13 26.5	-0.5
QUOK	**Quay**	**1.25**	**40**		Pg	07 13 29.9	-0.6
CROK	**Carrier**	**1.30**	**350**		Sg	07 13 47.9	-0.5
LOOK	**Love County**	**1.30**	**160**	Pg	Pn	07 13 31.3	-0.1
LOOK				IAML		07 13 54.0	
LOOK	comp=N,44nm,0.2s			IAML		07 13 59.1	
LOOK	comp=E,30nm,1.5s						
OK048	**Pawnee Station**	**1.34**	**27**		Pn	07 13 31.5	-0.6
OK048				IAML		07 13 53.1	
TUL3	**Leonard**	**1.71**	**66**		Pn	07 13 37.3	+0.3

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*JMA **01** 07:45:27.3±0.2, 24°.6N±0°.9×122°.2E±0°.4, h64km±3km, MV2.6/11, TAIWAN REGION*
*TAP **01** 07:45:28.3, 24°.64N×122°.11E, h61km, ML3.0, D*
ISC 01 07:45:28.0±1.3, 24°.63N±0°.03×122°.23E±0°.03, h59km±6km, n80, σ0°99/156, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.21**	**180**	P	**Pn**	**07 45 37.7**	**+0.4**
EOS2				S	**Sn**	**07 45 45.4**	**+1.5**
TWC	**Suao**	**0.35**	**267**	P	**Pn**	**07 45 38.0**	**-0.3**
TWC				S	**Sn**	**07 45 44.9**	**-1.1**
EOS3	**EOS3**	**0.35**	**167**	*eP*	**Pn**	**07 45 38.8**	**+0.6**
EOS3				S	**Sn**	**07 45 47.0**	**+1.4**
ESAO	**Su ao**	**0.36**	**262**	*eP*	**Pn**	**07 45 39.0**	**+0.5**
ESAO				*i* S	**Sn**	**07 45 45.6**	**-0.4**
TWB1	**Santiao Chiao**	**0.44**	**330**	*eP*	**Pn**	**07 45 38.9**	**-0.4**
TWB1				S	**Sn**	**07 45 46.9**	**-0.5**
EWUT	**Wuta**	**0.45**	**246**	P	**Pn**	**07 45 39.3**	**-0.1**
EWUT				S	**Sn**	**07 45 46.8**	**-0.8**
ILA	**Ilan**	**0.46**	**287**	P	**Pn**	**07 45 39.4**	**-0.1**
ILA				*i* S	**Sn**	**07 45 47.6**	**-0.2**
NDS	**Dongshan**	**0.47**	**271**	P	**Pn**	**07 45 40.0**	**+0.4**
NDS				*eS*	**Sn**	**07 45 49.1**	**+1.1**
ENA	**Nanau**	**0.49**	**246**	P	**Pn**	**07 45 39.8**	**0.0**
ENA				*eS*	**Sn**	**07 45 48.8**	**+0.5**
TIPB	**Shuangxi**	**0.50**	**313**	*i P*	**Pn**	**07 45 39.8**	**-0.2**
TIPB				*eS*	**Sn**	**07 45 48.1**	**-0.6**
EOS4	**EOS4**	**0.51**	**171**	*eP*	**Pn**	**07 45 39.6**	**0.0**
EOS4				*eS*	**Sn**	**07 45 48.7**	**+0.6**
TWE	**Neicheng**	**0.52**	**280**	P	**Pn**	**07 45 40.0**	**-0.1**
TWE				S	**Sn**	**07 45 48.7**	**-0.2**
EAHA	**Aohua**	**0.54**	**236**	P	**Pn**	**07 45 40.3**	**0.0**
EAHA				S	**Sn**	**07 45 49.5**	**+0.3**
SXI1	**Grass Mountain**	**0.56**	**325**	*eP*	**Pn**	**07 45 40.6**	**-0.1**
SXI1				*eS*	**Sn**	**07 45 49.9**	**-0.1**
FUSB	**Fushanzhiwuyua**	**0.60**	**283**	*i P*	**Pn**	**07 45 41.1**	**0.0**
FUSB				*i* S	**Sn**	**07 45 50.1**	**-0.5**
NWF	**Wu-fen Shan**	**0.60**	**317**	P	**Pn**	**07 45 41.0**	**-0.1**
NWF				*i* S	**Sn**	**07 45 49.7**	**-0.9**
WFSB	**Wu-fen Shan**	**0.60**	**317**	P	**Pn**	**07 45 41.1**	**0.0**
WFSB				S	**Sn**	**07 45 49.6**	**-0.9**
ENTT	**Nioudou**	**0.60**	**271**	P	**Pn**	**07 45 41.5**	**+0.5**
ENTT				*eS*	**Sn**	**07 45 51.3**	**+0.6**
LATG	**Datong**	**0.65**	**262**	P	**Pn**	**07 45 42.1**	**+0.4**
LATG				*eS*	**Sn**	**07 45 52.2**	**+0.5**
JYNG	**Yonagunijimaku**	**0.67**	**105**	P	**Pn**	**07 45 41.8**	**0.0**
JYNG				*eS*	**Sn**	**07 45 51.7**	**-0.3**
NWLT	**Wulai**	**0.68**	**283**	*eP*	**Pn**	**07 45 42.2**	**+0.2**
NWLT				*eS*	**Sn**	**07 45 51.7**	**-0.5**
TWA	**Mucha**	**0.68**	**301**	*eP*	**Pn**	**07 45 40.9**	**-1.1**
TWA				S	**Sn**	**07 45 50.6**	**-1.7**
ETL	**Fush Village**	**0.72**	**230**	*eP*	**Pn**	**07 45 40.0**	**-2.5**
ETL				*eS*	**Sn**	**07 45 52.8**	**-0.4**
NACB	**Ninganchiao**	**0.74**	**232**	*i P*	**Pn**	**07 45 42.0**	**-0.6**
NACB				S	**Sn**	**07 45 52.7**	**-0.7**
YHNB	**Yeheng**	**0.78**	**273**	*eP*	**Pn**	**07 45 43.7**	**+0.4**
YHNB				*eS*	**Sn**	**07 45 54.8**	**+0.3**
YM01	**YM01**	**0.79**	**311**	*eP*	**Pn**	**07 45 43.3**	**-0.1**
YM01				*eS*	**Sn**	**07 45 54.3**	**-0.4**
NSK	**Sanguang**	**0.80**	**274**	P	**Pn**	**07 45 43.8**	**+0.3**
NSK				*eS*	**Sn**	**07 45 54.5**	**-0.3**
NNSB	**Datong**	**0.80**	**256**	*eP*	**Pn**	**07 45 43.7**	**+0.1**
NNSB				S	**Sn**	**07 45 55.0**	**+0.1**
ETLH	**Xiulin Townshi**	**0.80**	**239**	*eP*	**Pn**	**07 45 42.9**	**-0.6**
ETLH				*eS*	**Sn**	**07 45 53.8**	**-1.1**
NNS	**Nan Shan**	**0.80**	**257**	*eP*	**Pn**	**07 45 42.5**	**-1.1**
NNS				*eS*	**Sn**	**07 45 55.0**	**0.0**
YM08	**YM08**	**0.81**	**314**	*eP*	**Pn**	**07 45 42.5**	**-1.0**
YM08				S	**Sn**	**07 45 53.8**	**-1.2**
ZUZH	**Zhuzihu**	**0.82**	**311**	P	**Pn**	**07 45 43.4**	**-0.3**
ZUZH				*eS*	**Sn**	**07 45 54.2**	**-1.1**
TWY	**Chenhua**	**0.86**	**318**	*eP*	**Pn**	**07 45 45.2**	**+1.0**
TWY				*eS*	**Sn**	**07 45 56.5**	**+0.3**
HWA	**Hwalien**	**0.86**	**221**	*eS*	**Sn**	**07 45 57.9**	**+1.7**
TWS1	**Kuangyinshan**	**0.88**	**303**	*eP*	**Pn**	**07 45 43.4**	**-1.0**
TWS1				S	**Sn**	**07 45 54.8**	**-1.7**
NTST	**Danshui**	**0.89**	**307**	*eP*	**Pn**	**07 45 44.6**	**+0.1**
NTST				*eS*	**Sn**	**07 45 56.8**	**+0.1**
ETM	**Tongmen**	**0.94**	**226**	*eP*	**Pn**	**07 45 44.1**	**-1.2**
ETM				*eS*	**Sn**	**07 45 56.6**	**-1.4**
TEYL	**Yanliau Villag**	**0.95**	**217**	P	**Pn**	**07 45 45.5**	**+0.1**
TEYL				*eS*	**Sn**	**07 45 58.4**	**+0.2**
LXIB	**Xiulin Townshi**	**0.96**	**231**	*eP*	**Pn**	**07 45 44.8**	**-0.9**
LXIB				*eS*	**Sn**	**07 45 57.9**	**-0.7**
KSHI	**Guanxi Townshi**	**0.97**	**279**	*eP*	**Pn**	**07 45 46.2**	**+0.6**
KSHI				*eS*	**Sn**	**07 46 00.1**	**+1.5**
FUSS	**Fushou**	**0.98**	**247**	P	**Pn**	**07 45 45.7**	**-0.3**
FUSS				*i* S	**Sn**	**07 45 58.6**	**-0.6**
WHF	**Hehuan Shan**	**1.00**	**242**	P	**Pn**	**07 45 46.0**	**-0.5**
WHF				S	**Sn**	**07 45 58.9**	**-1.2**
NFF	**Wufeng Townshi**	**1.01**	**270**	P	**Pn**	**07 45 46.6**	**+0.4**
NFF				*i* S	**Sn**	**07 45 59.6**	**-0.1**
TWT	**Tachien**	**1.03**	**249**	*eP*	**Pn**	**07 45 46.4**	**-0.2**
TWT				*i* S	**Sn**	**07 46 00.2**	**-0.1**
SHUL	**Shoufeng**	**1.04**	**216**	*eP*	**Pn**	**07 45 45.7**	**-0.8**
SHUL				*i* S	**Sn**	**07 46 00.3**	**+0.2**
TDCB	**Techi**	**1.05**	**249**	*eP*	**Pn**	**07 45 47.4**	**+0.6**
TDCB				S	**Sn**	**07 46 00.1**	**-0.6**
ESL	**Shilin**	**1.09**	**222**	*eP*	**Pn**	**07 45 46.0**	**-1.2**
ESL				S	**Sn**	**07 45 59.9**	**-1.6**
LIOB	**Emei**	**1.11**	**271**	P	**Pn**	**07 45 47.5**	**+0.1**
LIOB				*eS*	**Sn**	**07 46 02.6**	**+0.8**
NSTT	**Nanjuang**	**1.12**	**270**	P	**Pn**	**07 45 47.3**	**-0.3**
NSTT				*eS*	**Sn**	**07 46 02.4**	**+0.2**
OWD	**Renai**	**1.17**	**235**	P	**Pn**	**07 45 48.0**	**-0.5**
OWD				S	**Sn**	**07 46 02.2**	**-1.4**
WARBT	**Fenglin Townsh**	**1.19**	**221**	*eP*	**Pn**	**07 45 47.0**	**-1.5**
WARBT				*eS*	**Sn**	**07 46 00.9**	**-2.9**
WUSB	**Renai**	**1.20**	**238**	P	**Pn**	**07 45 48.7**	**-0.1**
WUSB				S	**Sn**	**07 46 03.6**	**-0.6**
EGFH	**Guangfu**	**1.21**	**218**	*eP*	**Pn**	**07 45 47.6**	**-1.1**
EGFH				*eS*	**Sn**	**07 46 02.3**	**-1.8**
WHP	**Taichung City**	**1.22**	**254**	P	**Pn**	**07 45 50.0**	**+0.9**
WHP				S	**Sn**	**07 46 04.8**	**+0.1**
WCS	**Beigang Elemen**	**1.33**	**245**	P	**Pn**	**07 45 50.9**	**+0.5**
WCS				*eS*	**Sn**	**07 46 07.5**	**+0.4**
HGSD	**Ruisui**	**1.35**	**213**	*eP*	**Pn**	**07 45 49.7**	**-1.0**
HGSD				*eS*	**Sn**	**07 46 08.7**	**+1.0**
EHY	**Hungye**	**1.39**	**217**	*eP*	**Pn**	**07 45 49.5**	**-1.7**
EHY				*eS*	**Sn**	**07 46 09.7**	**+1.0**
IRIF	**Iriomote-Funau**	**1.40**	**102**	*eP*	**Pn**	**07 45 51.2**	**0.0**
SMLT	**Sun Moon Lake**	**1.42**	**239**	*eP*	**Pn**	**07 45 53.0**	**+1.3**
SMLT				*eS*	**Sn**	**07 46 11.8**	**+2.2**
SSLB	**Suanglung**	**1.44**	**235**	*i P*	**Pn**	**07 45 51.9**	**0.0**
SSLB				S	**Sn**	**07 46 09.4**	**-0.3**
TYC	**Yuchr**	**1.45**	**240**	*eP*	**Pn**	**07 45 53.2**	**+1.3**
TYC				*eS*	**Sn**	**07 46 10.8**	**+0.9**
YULB	**Yu-li**	**1.50**	**215**	*eP*	**Pn**	**07 45 51.0**	**-1.6**
EYUL	**Yuli**	**1.52**	**213**	P	**Pn**	**07 45 52.5**	**-0.5**
EYUL				*eS*	**Sn**	**07 46 11.7**	**-0.1**
WHYT	**Xinyi Township**	**1.56**	**234**	*eP*	**Pn**	**07 45 54.9**	**+1.3**
WHYT				*eS*	**Sn**	**07 46 14.6**	**+1.7**
WJS	**Zhushan**	**1.59**	**240**	*eP*	**Pn**	**07 45 55.8**	**+1.9**
WJS				S	**Sn**	**07 46 15.1**	**+1.7**
FULB	**Fuli**	**1.66**	**211**	*eP*	**Pn**	**07 45 54.2**	**-0.7**
JKRS	**Kuro-shima**	**1.67**	**103**	*eP*	**Pn**	**07 45 55.2**	**+0.3**
JKRS				*eS*	**Sn**	**07 46 15.6**	**+0.4**
ALS	**Alishan**	**1.71**	**230**	P	**Pn**	**07 45 56.6**	**+0.8**
ALS				*eS*	**Sn**	**07 46 19.7**	**+2.9**
CHN5	**Tsauling**	**1.75**	**234**	P	**Pn**	**07 45 57.0**	**+0.9**
CHN5				*eS*	**Sn**	**07 46 19.2**	**+1.7**
JIJ	**Ishigaki jima**	**1.76**	**98**	P	**Pn**	**07 45 56.2**	**0.0**
JIJ				*eS*	**Sn**	**07 46 16.8**	**-0.7**
WDLH	**Douliu**	**1.81**	**239**	P	**Pn**	**07 45 57.1**	**+0.3**
WDLH				*eS*	**Sn**	**07 46 18.5**	**-0.2**
ELDTW	**Lidau**	**1.81**	**218**	*eP*	**Pn**	**07 45 55.9**	**-1.1**
ELDTW				*eS*	**Sn**	**07 46 18.0**	**-1.0**
EDH	**Donghe**	**1.85**	**207**	*eP*	**Pn**	**07 45 55.1**	**-2.4**
EDH				*eS*	**Sn**	**07 46 16.7**	**-3.1**
JISG	**Ishigakijimahi**	**1.89**	**91**	P	**Pn**	**07 45 58.2**	**+0.3**
JISG				*eS*	**Sn**	**07 46 21.3**	**+0.5**
CHN4	**Tsaushan**	**1.96**	**230**	P	**Pn**	**07 46 00.1**	**+1.1**
CHN4				S	**Sn**	**07 46 24.8**	**+2.2**
TPUB	**Ta-pu**	**1.97**	**228**	*i P*	**Pn**	**07 46 00.3**	**+1.2**
TPUB				*eS*	**Sn**	**07 46 24.1**	**+1.3**
TWK	**Hsinying**	**2.09**	**230**	*eP*	**Pn**	**07 46 00.8**	**0.0**
TWK				*eS*	**Sn**	**07 46 25.3**	**-0.4**
CHN1	**Nanshi**	**2.12**	**228**	P	**Pn**	**07 46 01.8**	**+0.7**
CHN1				S	**Sn**	**07 46 27.3**	**+0.9**
SLGT	**Liugui**	**2.18**	**222**	*eP*	**Pn**	**07 46 02.9**	**+1.0**
SLGT				*eS*	**Sn**	**07 46 28.4**	**+0.5**
SLIU	**Shizi**	**2.74**	**209**	*eP*	**Pn**	**07 46 09.8**	**+0.3**
SLIU				*eS*	**Sn**	**07 46 40.0**	**-1.5**

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*THE **01** 07:50:27.6, 37°.39N×20°.72E, h2km±1km, ML3.0/15, Error ellipse: s-maj=1.1km s-min=0.4km az=250.0*
ATH 01 07:50:26.4, 37°.35N×20°.62E, h12km±3km, ML3.1/2, Error ellipse: s-maj=4.7km s-min=1.3km az=32.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.35**	**27**	P	Pg	07 50 32.9	-0.5
KRI1				S	Sg	07 50 37.1	-1.0
LTHK	**Lithakia**	**0.40**	**26**	P	Pg	07 50 33.9	-0.4
LTHK				S	Sg	07 50 38.6	-1.0
LTHK	**Lithakia**	**0.40**	**26**	P	Pg	07 50 33.9	-0.4
LTHK				S	Sg	07 50 39.3	-0.3
LTHK	comp=E,8379μm,0.3s			AML	AML	07 50 40.0	
LTHK	comp=N,12416μm,0.4s			AML	AML	07 50 41.4	
RTZL	**Ratzakli, Kefa**	**0.73**	**10**	P	Pg	07 50 40.2	-0.4
RTZL				S	Sg	07 50 50.5	+0.3
PSDA	**Pessada-Kefalo**	**0.76**	**358**	P	Pg	07 50 41.1	0.0
PSDA				S	Sb	07 50 51.9	0.0
PSDA	**Pessada-Kefalo**	**0.76**	**358**	P	Pg	07 50 41.3	+0.2
VLS	**Valsamata**	**0.82**	**359**	P	Pg	07 50 42.2	-0.1
VLS				S	Sb	07 50 54.3	+0.6
VLS	**Valsamata**	**0.82**	**359**	P	Pg	07 50 42.0	-0.3
AMT	**Artemida-Makis**	**0.89**	**78**	P	Pg	07 50 42.9	-0.6
AMT				S	Sb	07 50 55.5	-0.1
DMLN	**Damoulianata-K**	**0.91**	**348**	P	Pn	07 50 44.5	-0.4
DMLN				S	Sn	07 50 57.4	-0.5
RLS	**Riolos of Patr**	**0.97**	**44**	P	Pg	07 50 44.1	-1.1
RLS	**Riolos of Patr**	**0.97**	**44**	P	Pg	07 50 44.1	-1.1
PYL	**PYLOS**	**1.01**	**117**	P	Pb	07 50 45.2	-0.6
PYL				S	Sb	07 50 59.5	+0.5
PYL	**PYLOS**	**1.01**	**117**	P	Pb	07 50 45.1	-0.7
PYL				S	Sb	07 50 59.5	+0.5
DRO	**Drossia**	**1.05**	**55**	P	Pb	07 50 45.2	-1.4
DRO				S	Sb	07 50 59.5	-0.9
DRO	**Drossia**	**1.05**	**55**	P	Pb	07 50 45.6	-1.0
VSK1	**VASILIKIADES**	**1.05**	**358**	P	Pb	07 50 46.6	0.0
VSK1				S	Sn	07 51 01.7	+0.1
ITM	**Ithomi**	**1.06**	**99**	P	Pb	07 50 45.9	-0.8
ITM				S	Sg	07 51 01.0	+0.4
ITM	**Ithomi**	**1.06**	**99**	P	Pb	07 50 45.8	-0.8
ITM				AML	AML	07 51 03.5	
ITM				AML	AML	07 51 05.5	
FSK	**Fiskardo**	**1.11**	**358**	P	Pb	07 50 47.2	-0.2
FSK				S	Sn	07 51 03.9	+1.1
EVGI	**Lefkada island**	**1.27**	**1**	P	Pg	07 50 50.8	0.0
EVGI				S	Sg	07 51 08.6	+1.4
DRAG	**Dragano-Lefkad**	**1.33**	**359**	P	Pg	07 50 52.7	+0.7

ATH 01 07:50:31.5, 37°.40N×20°.93E, h18km±3km, ML3.1/11, Manual Solution by I.Dede First location: 2018/11/01 07:51:42, This location: 2020/06/05 22:17:11 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 3 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.78**	**33**	P	Pb	07 50 45.9	-0.6
RLS				S	Sg	07 50 57.1	0.0
ITM	**Ithomi**	**0.82**	**105**	P	Pb	07 50 47.5	+0.1
ITM				S	Sb	07 50 58.1	0.0
DRO	**Drossia**	**0.83**	**48**	P	Pg	07 50 47.5	-0.1
DRO				S	Sn	07 51 00.8	+0.8
KLV	**Kalavryta, Ach**	**1.16**	**56**	P	Pn	07 50 51.4	-1.5
KLV				S	Sg	07 51 10.9	+1.7
KLV	275nm,0.7s						
KLV	**Kalavryta, Ach**	**1.16**	**56**	P	Pn	07 50 51.3	-1.6
KLV	**Kalavryta, Ach**	**1.16**	**56**	P	Pn	07 50 51.6	-1.3
KLV				S	Sb	07 51 07.3	-0.5
GUR	**Goura**	**1.24**	**64**	P	Pn	07 50 52.6	-1.4
GUR	**Goura**	**1.24**	**64**	P	Pn	07 50 52.4	-1.7
GUR				S	Sn	07 51 11.0	+0.6
EFP	**Efpalio**	**1.28**	**37**	P	Pn	07 50 53.2	-1.3
EFP				S	Sg	07 51 13.3	+0.3
EFP	365nm,0.8s						
EFP	**Efpalio**	**1.28**	**37**	P	Pn	07 50 54.6	+0.2
EFP				S	Sb	07 51 10.9	-0.3
LKD2	**Lefkada island**	**1.40**	**351**	P	Pn	07 50 56.5	+0.4
ANX	**Ano Chora**	**1.42**	**33**	P	Pn	07 50 55.0	-1.6
ANX	**Ano Chora**	**1.42**	**33**	P	Pb	07 50 57.5	0.0
TSLK	**Tsoukalades, L**	**1.44**	**351**	P	Pn	07 50 55.2	-1.4
EVR	**Evrytania**	**1.66**	**24**	P	Pn	07 50 59.2	-0.7
VLI	**Veliai**	**1.74**	**112**	P	Pn	07 51 01.2	+0.3
MAKR	**Makrakomi, Fth**	**1.86**	**30**	P	Pn	07 51 02.5	-0.1
AXAR	**Agios Charalam**	**1.93**	**45**	P	Pn	07 51 03.5	+0.1
AGG	**Agios Georgios**	**1.96**	**34**	P	Pn	07 51 04.0	+0.2
THL	**Klokotos Trika**	**2.32**	**21**	P	Pn	07 51 08.3	-0.4
TYRN	**Tyrnavos**	**2.52**	**23**	P	Pn	07 51 10.7	-0.8
KYMI	**Kymi, Euboea I**	**2.79**	**63**	P	Pn	07 51 14.8	-0.5

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*THE **01** 07:52:00.5, 37°.43N×20°.54E, h8km, ML3.3/15, Error ellipse: s-maj=0.6km s-min=0.2km az=59.0*
*ATH **01** 07:52:01.5±0.6, 37°.46N×20°.58E, h15km±4km, ML3.5/9, Manual Solution by I.Dede First location: 2018/11/01 07:52:33, This location: 2020/06/05 22:26:57 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
ISC 01 07:52:00.8±1.7, 37°.44N±0°.05×20°.57E±0°.05, h13km±8km, n28, σ0°56/49, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.30**	**42**	P	**Pg**	**07 52 07.0**	**0.0**
KRI1				S	**Sg**	**07 52 11.6**	**+0.5**
LTHK	**Lithakia**	**0.34**	**38**	P	**Pg**	**07 52 07.5**	**-0.3**
LTHK				S	**Sg**	**07 52 13.1**	**+0.7**
RTZL	**Ratzakli, Kefa**	**0.65**	**14**	P	**Pg**	**07 52 12.8**	**-0.8**
RTZL				S	**Sb**	**07 52 23.2**	**0.0**
PSDA	**Pessada-Kefalo**	**0.67**	**1**	P	**Pg**	**07 52 13.6**	**-0.3**
PSDA				S	**Sb**	**07 52 23.7**	**0.0**
VLS	**Valsamata**	**0.73**	**1**	P	**Pg**	**07 52 14.6**	**-0.5**
VLS				S	**Sb**	**07 52 25.6**	**+0.1**
ARG2	**Argostoli**	**0.74**	**355**	P	**Pn**	**07 52 16.9**	**-0.1**
ARG2				S	**Sb**	**07 52 26.4**	**+0.8**
LCHA	**Lechaina**	**0.74**	**48**	P	**Pn**	**07 52 16.8**	**-0.2**
LCHA				S	**Sn**	**07 52 28.3**	**+0.1**
LXR1	**Lixouri, Cepha**	**0.77**	**352**	P	**Pg**	**07 52 15.5**	**-0.2**
LXR1				S	**Sb**	**07 52 26.7**	**+0.3**
DMLN	**Damoulianata-K**	**0.81**	**349**	P	**Pg**	**07 52 15.9**	**-0.7**
DMLN				S	**Sb**	**07 52 28.1**	**+0.4**
DMLN	**Damoulianata-K**	**0.81**	**349**	P	**Pn**	**07 52 17.9**	**-0.1**
DMLN				S	**Sb**	**07 52 29.0**	**+1.2**
SMHA	**Samh**	**0.81**	**4**	P	**Pb**	**07 52 17.6**	**+0.8**
SMHA				S	**Sb**	**07 52 28.6**	**+0.9**
ZARO	**Zacharo**	**0.86**	**87**	Pg_2		07 52 18.4	
RLS	**Riolos of Patr**	**0.94**	**49**	P	**Pg**	**07 52 18.6**	**-0.4**
RLS				S	**Sn**	**07 52 32.8**	**-0.3**
RLS	802nm,0.5s						
RLS	**Riolos of Patr**	**0.94**	**49**	P	**Pg**	**07 52 18.7**	**-0.3**
RLS				S	**Sg**	**07 52 31.4**	**+0.1**
VSK1	**VASILIKIADES**	**0.97**	**360**	P	**Pg**	**07 52 18.6**	**-0.9**
VSK1				S	**Sb**	**07 52 33.2**	**+1.0**
VSK1	2μm,0.7s						
AXS	**Araxos**	**0.99**	**40**	P	**Pg**	**07 52 19.4**	**-0.5**
AXS				S	**Sn**	**07 52 34.1**	**-0.3**
FSK	**Fiskardo**	**1.02**	**360**	P	**Pg**	**07 52 19.7**	**-0.8**
FSK				S	**Sn**	**07 52 34.8**	**-0.2**
FSK	2μm,0.8s						
FSK	**Fiskardo**	**1.02**	**360**	Pg_2		07 52 19.8	
DRO	**Drossia**	**1.04**	**60**	P	**Pb**	**07 52 20.4**	**-0.3**
DRO				S	**Sn**	**07 52 36.0**	**+0.4**
DRO	2μm,0.3s						
DRO	**Drossia**	**1.04**	**60**	P	**Pb**	**07 52 20.2**	**-0.5**
DRO				S	**Sg**	**07 52 34.5**	**0.0**
PYL	**PYLOS**	**1.08**	**120**	P	**Pb**	**07 52 21.1**	**-0.4**
PYL				S	**Sn**	**07 52 37.1**	**+0.4**
PYL	1μm,0.4s						
ITM	**Ithomi**	**1.11**	**103**	P	**Pb**	**07 52 21.7**	**-0.3**
ITM				S	**Sn**	**07 52 38.2**	**+0.8**
ITM	895nm,0.8s						
ITM	**Ithomi**	**1.11**	**103**	P	**Pb**	**07 52 22.4**	**+0.4**
ITM				S	**Sn**	**07 52 37.6**	**+0.2**
EVGI	**Lefkada island**	**1.18**	**3**	P	**Pb**	**07 52 22.5**	**-0.

*IDC **01** 08:08:39.8±1.1, 36°.34N×28°.76E, h0km, mb3.7/6, mbtmp3.7/12, ML3.5/4, MS2.5/2, Error ellipse: s-maj=22.3km s-min=15.4km az=162.0*
*AFAD **01** 08:08:40.9±0.0, 36°.37N×28°.75E, h7km±2km, ML3.4*
*ISK **01** 08:08:40.9, 36°.48N×28°.72E, h5km, ML3.4/38*
*ATH **01** 08:08:42.8, 36°.30N×28°.82E, h8km±3km, ML3.3/3, Error ellipse: s-maj=6.5km s-min=4.0km az=308.0*
*THE **01** 08:08:44.2, 36°.52N×28°.64E, h0km, ML3.4/3, Error ellipse: s-maj=1.1km s-min=0.5km az=114.0*

ISC 01 08:08:42.0±0.9, 36°.43N±0°.02×28°.73E±0°.02, h13km±7km, n80, σ1°.23/112, mb3.6/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.35**	**53**	P	**Pg**	**08 08 48.3**	**-0.8**
FETY				S	**Sg**	**08 08 54.4**	**+0.4**
FETY	**Fethiye**	**0.35**	**53**	Pg	**Pg**	**08 08 48.1**	**-1.1**
DALY	**Dalyan (Mula)**	**0.40**	**351**	Pg	**Pg**	**08 08 48.7**	**-1.3**
DALY				Sg	**Sg**	**08 08 55.0**	**-0.3**
MRSB	**Marmaris-Mugla**	**0.52**	**304**	Pg	**Pg**	**08 08 51.8**	**-0.5**
MRSB				Sg	**Sb**	**08 08 59.9**	**-0.5**
TURN	**Turunc**	**0.53**	**312**	Pg	**Pg**	**08 08 51.3**	**-1.1**
TURN				Sg	**Sg**	**08 08 59.5**	**+0.1**
ARG	**Arkhangelos**	**0.53**	**247**	P	**Pg**	**08 08 52.5**	**0.0**
ARG				S	**Sb**	**08 09 02.0**	**+1.3**
ARG				AML	AML	08 09 03.0	
	comp=E,6142μm,0.3s						
ARG				AML	AML	08 09 04.9	
	comp=N,5467μm,0.4s						
ARG	**Arkhangelos**	**0.53**	**247**	P	**Pg**	**08 08 51.9**	**-0.6**
ARG				S	**Sb**	**08 09 00.7**	**0.0**
CAME	**Cameli-Denizli**	**0.69**	**41**	Pg	**Pg**	**08 08 54.5**	**-1.0**
AKAS	**Kas**	**0.73**	**105**	Pg	**Pb**	**08 08 56.4**	**-0.2**
KSL	**Kastellorizon**	**0.74**	**111**	P	**Pg**	**08 08 55.3**	**-1.0**
KSL				S	**Sb**	**08 09 06.8**	**+0.2**
KNIK	**Mula-Seydike**	**0.80**	**58**	P	**Pg**	**08 08 56.6**	**-0.9**
KNIK				S	**Sb**	**08 09 08.3**	**-0.1**
YER	**Yerkesik**	**0.80**	**333**	Pg	**Pg**	**08 08 57.1**	**-0.4**
YER				Sg	**Sg**	**08 09 07.8**	**-0.1**
CAEL	**Denizli, Camel**	**0.84**	**34**	P	**Pn**	**08 08 59.7**	**+0.1**
DATC	**Datca-Mugla**	**0.93**	**291**	Pg	**Pg**	**08 08 59.5**	**-0.4**
DEMR	**Demre-Antalya**	**0.96**	**101**	Pg	**Pn**	**08 09 01.3**	**+0.1**
DAT	**Datca**	**0.98**	**288**	P	**Pg**	**08 09 00.7**	**-0.1**
DAT				S	**Sn**	**08 09 15.0**	**-0.3**
DAT				*i* AML	AML	08 09 22.0	
	comp=N,1μm,0.4s						
DAT	**Datca**	**0.98**	**288**	Pg	**Pg**	**08 09 00.5**	**-0.4**
DAT	**Datca**	**0.98**	**288**	P	**Pg**	**08 09 00.8**	**-0.1**
DAT				S	**Sn**	**08 09 15.1**	**-0.1**
ELL	**Elmali**	**1.00**	**71**	Pg	**Pb**	**08 09 01.4**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.05**	**8**	P	**Pg**	**08 09 00.9**	**-1.4**
TAVA				S	**Sn**	**08 09 18.1**	**+1.1**
YAZI	**Mula-Dat§a-**	**1.06**	**284**	P	**Pb**	**08 09 01.5**	**-0.7**
YAZI				S	**Sn**	**08 09 17.4**	**+0.2**
APMY	**Acipayam-Deniz**	**1.14**	**23**	Pn	**Pb**	**08 09 03.3**	**-0.3**
DNIZ	**Denizli-Tavas-**	**1.22**	**11**	P	**Pn**	**08 09 04.1**	**-0.8**
DNIZ				S	**Sn**	**08 09 22.9**	**+1.6**
DNIZ				*i* AML	AML	08 09 26.0	
	comp=N,2μm,0.5s						
DNIZ				*i* AML	AML	08 09 26.0	
	comp=N,2μm,0.3s						
AKUM	**Antalya-Kumluc**	**1.30**	**94**	P	**Pg**	**08 09 07.0**	**0.0**
AKUM				S	**Sg**	**08 09 28.1**	**+4.1**
NISR	**Nisiros**	**1.31**	**279**	P	**Pg**	**08 09 07.5**	**+0.4**
NISR	**Nisiros**	**1.31**	**279**	P	**Pg**	**08 09 07.2**	**0.0**
NISR				S	**Sg**	**08 09 26.6**	**+2.5**
NISR				AML	AML	08 09 29.6	
	comp=N,1368μm,0.7s						
NISR				AML	AML	08 09 31.9	
	comp=E,2328μm,0.6s						
BODT	**Bodrum**	**1.31**	**300**	Pn	**Pb**	**08 09 06.4**	**0.0**
BODT				Sn	**Sg**	**08 09 24.9**	**+0.7**
BODT	**Bodrum**	**1.31**	**300**	P	**Pn**	**08 09 06.3**	**+0.4**
BODT				S	**Sg**	**08 09 23.9**	**-0.3**
YKAV	**Yalikavak-Bodr**	**1.36**	**301**	Pn	**Pb**	**08 09 07.6**	**+0.3**
YKAV				Sn	**Sg**	**08 09 26.9**	**+1.1**
KORT	**Korkueli**	**1.42**	**66**	Pn	**Pg**	**08 09 09.7**	**+0.4**
INCE	**Denizli-Bozkur**	**1.45**	**27**	P	**Pg**	**08 09 09.7**	**-0.2**
INCE				S	**Sg**	**08 09 29.5**	**+0.8**
INCE				*i* AML	AML	08 09 32.0	
	comp=E,579nm,0.5s						
INCE				*i* AML	AML	08 09 36.0	
	comp=E,530nm,1.2s						
KEMT	**Kemer-ANTALYA**	**1.48**	**83**	Pn	**Pg**	**08 09 09.9**	**-0.5**
DIDI	**Didim-Aydin**	**1.53**	**309**	Pn	**Pb**	**08 09 10.5**	**+0.4**
KARP	**Karpathos**	**1.55**	**236**	Pn	**Pg**	**08 09 11.2**	**-0.5**
KARP	**Karpathos**	**1.55**	**236**	P	**Pg**	**08 09 11.3**	**-0.5**
KARP				S	**Sg**	**08 09 32.5**	**+0.7**
	comp=E,1μm,0.8s						
KARP	**Karpathos**	**1.55**	**236**	P	**Pb**	**08 09 10.5**	**0.0**
KARP				S	**Sn**	**08 09 27.9**	**-1.3**
KARP				AML	AML	08 09 37.0	
	comp=N,2439μm,0.9s						
KARP				AML	AML	08 09 37.1	
	comp=E,1952μm,0.6s						
KARP	**Karpathos**	**1.55**	**236**	P	Pn	08 09 01.5	-7.7
KARP				S	Sn	08 09 17.7	-11
NAZL	**Nazilli-Aydin**	**1.58**	**347**	Pn	**Pb**	**08 09 10.7**	**-0.3**
NAZL				Sn	**Sb**	**08 09 31.9**	**+1.1**
ANTB	**Antalya**	**1.62**	**72**	Pn	**Pb**	**08 09 11.6**	**0.0**
BRDR	**BURDUR-Merkez**	**1.66**	**40**	P	**Pb**	**08 09 12.0**	**-0.4**
BRDR				S	**Sg**	**08 09 36.2**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**1.66**	**336**	Pn	**Pb**	**08 09 12.0**	**-0.5**
AYDB				Sn	**Sb**	**08 09 34.1**	**+0.7**
GCAM	**G?zelcaml?**	**1.75**	**317**	Pn	**Pb**	**08 09 12.9**	**+0.9**
KIRA	**zmir-Kiraz**	**1.79**	**352**	P	**Pb**	**08 09 14.1**	**-0.6**
KIRA				S	**Sn**	**08 09 36.3**	**+1.1**
BCK	**Bucak**	**1.81**	**55**	Pn	**Pb**	**08 09 14.9**	**-0.1**
BASM	**Basmaki-Afyon**	**1.83**	**35**	Pn	**Pn**	**08 09 14.3**	**+1.2**
SMG	**Samos**	**1.98**	**311**	P	**Pn**	**08 09 15.8**	**+0.5**
SMG				S	**Sn**	**08 09 41.1**	**+1.1**
	comp=E,750nm,0.6s						
SMG	**Samos**	**1.98**	**311**	P	**Pb**	**08 09 17.3**	**-0.6**
SMG	**Samos**	**1.98**	**311**	P	**Pb**	**08 09 16.9**	**-1.1**
SMG				S	**Sb**	**08 09 43.6**	**+1.1**
KHL	**Karahalli**	**2.00**	**18**	Pn	**Pn**	**08 09 16.5**	**+1.0**
ISP	**Isparta**	**2.00**	**45**	Pn	**Pb**	**08 09 17.5**	**-0.7**
KULA	**Kula-Manisa**	**2.09**	**358**	Pn	**Pn**	**08 09 17.9**	**+1.2**
KULA	**Kula-Manisa**	**2.09**	**358**	P	**Pn**	**08 09 17.8**	**+1.1**
KULA				S	**Sn**	**08 09 43.6**	**+1.0**
GMLD	**Gumuldur**	**2.20**	**319**	Pn	**Pn**	**08 09 19.9**	**+1.8**
BLCB	**Balcova**	**2.38**	**326**	Pn	**Pn**	**08 09 22.0**	**+1.4**
BLCB	**Balcova**	**2.38**	**326**	P	**Pn**	**08 09 21.2**	**+0.6**
BLCB				S	**Sn**	**08 09 50.0**	**+0.4**
ZKR	**Zakros**	**2.43**	**238**	Pn	**Pb**	**08 09 23.8**	**-1.7**
ZKR	**Zakros**	**2.43**	**238**	P	**Pn**	**08 09 23.4**	**+2.0**
SHUT	**Suhut-Afyon**	**2.57**	**34**	Pn	**Pn**	**08 09 25.1**	**+1.7**
APE	**Apeiranthos**	**2.65**	**285**	Pn	**Pn**	**08 09 25.7**	**+1.3**
SEYD	**Seydisehir-KON**	**2.67**	**68**	Pn	**Pn**	**08 09 27.0**	**+2.2**
CHOS	**Chios island**	**2.90**	**313**	Pn	**Pn**	**08 09 28.7**	**+0.9**
CHOS	**Chios island**	**2.90**	**313**	P	**Pn**	**08 09 28.6**	**+0.8**
CHOS				S	**Sn**	**08 10 03.3**	**+0.8**
	comp=E,215nm,0.7s						
IDI	**Anoyia**	**3.32**	**251**	Pn	**Pn**	**08 09 34.9**	**+1.2**
IDI	**Anoyia**	**3.32**	**251**	Pn	**Pn**	**08 09 34.3**	**+0.7**
	comp=E,35nm,0.6s,baz=68,slow=15,SNR=18						
IDI				Sn	**Sn**	**08 10 14.3**	**+1.3**
	comp=E,8.6nm,0.3s,baz=348,slow=5.9,SNR=12						
IDI	**Anoyia**	**3.32**	**251**	P	**Pn**	**08 09 35.4**	**+1.7**
IMMV	**Iera Moni Meta**	**3.97**	**257**	Pn	**Pn**	**08 09 45.9**	**+3.3**
GVD	**Gavdhos**	**4.10**	**249**	Pn	**Pn**	**08 09 46.9**	**+2.6**
KNDR	**Palaiochora Ch**	**4.27**	**255**	Pn	**Pn**	**08 09 50.2**	**+3.6**
BRTR	**Keskin Array B**	**5.08**	**48**	Pn	**Pn**	**08 09 59.3**	**+1.3**
	comp=E,0.4nm,0.3s,baz=231,slow=14,SNR=11						
BRTR				Sn	**Sn**	**08 10 59.2**	**+2.6**
	comp=E,0.1nm,0.3s,baz=326,slow=34,SNR=2.1						
	comp=E,4.7nm,0.7s						
MMAI	**Mount Meron Ar**	**6.46**	**120**	Pn	**Pn**	**08 10 16.2**	**-0.6**
	comp=E,2.7nm,0.3s,baz=305,slow=13,SNR=7.7						
MMAI				LR	LR	08 13 44.1	
	comp=E,24nm,21.5s,baz=256,slow=48						
	comp=E,2.3nm,0.4s						
EIL	**Elat**	**8.52**	**140**	Pn	**Pn**	**08 10 43.8**	**-1.2**
	comp=E,1.3nm,0.3s,baz=1.4,slow=3.2,SNR=5.9						
EIL				Sn	**Sn**	**08 12 16.0**	**-5.0**
	comp=E,1.4nm,0.3s,baz=51,slow=9.7,SNR=4.5						
	comp=E,3.1nm,0.4s						
GNI	**Garni**	**13.11**	**69**	LR	LR	08 17 57.6	
	comp=E,36nm,21.9s,baz=246,slow=42						
KEST	**Kesra**	**15.69**	**273**	Pn	**Pn**	**08 12 23.0**	**+0.2**
	comp=E,0.2nm,0.3s,baz=222,slow=22,SNR=1.6						
	comp=E,4.0nm,1.0s						
GERES	**GERESS Array B**	**16.59**	**323**	Pn	**P**	**08 12 36.1**	**-0.6**
	comp=E,0.6nm,0.5s						
FINES	**FINESS Array B**	**25.10**	**357**	P	**P**	**08 14 07.0**	**+1.0**
	comp=E,3.7nm,0.9s,baz=151,slow=13,SNR=6.9						
	comp=E,3.7nm,0.9s						
HFS	**Hagfors**	**25.62**	**343**	P	**P**	**08 14 11.6**	**+0.7**
	comp=E,1.1nm,0.7s,baz=163,slow=10,SNR=1.3						
	comp=E,1.1nm,0.7s						
ESDC	**Sonseca Array**	**25.87**	**287**	P	**P**	**08 14 13.7**	**+0.3**
	comp=E,0.7nm,0.8s,baz=79,slow=10.0,SNR=4.5						
	comp=E,0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**33.55**	**233**	P	**P**	**08 15 19.8**	**-1.8**
	comp=E,0.3nm,0.5s,baz=27,slow=9.7,SNR=2.5						
	comp=E,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**38.06**	**52**	P	**P**	**08 15 59.7**	**-0.3**
	comp=E,0.8nm,0.7s,baz=277,slow=8.9,SNR=4.5						
	comp=E,0.8nm,0.7s						
MKAR	**Makanchi Array**	**40.65**	**58**	P	**P**	**08 16 21.7**	**0.0**
	comp=E,0.8nm,0.6s,baz=284,slow=8.8,SNR=5.2						
	comp=E,0.8nm,0.6s						

RSNC 01 08:09:35.6±0.0, 5°N±1°×7°4W±°, h148km±2km, M3.0, mb3.8, ML2.8, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.51**	**318**	P	Pn	08 09 56.8	-0.1
SPBC				S	Sn	08 10 13.0	-0.1
CHIC	**Chingaza**	**0.64**	**180**	P	Pn	08 09 57.9	-0.1
CHIC				S	Sn	08 10 14.3	-0.8
ROSC	**El Rosal**	**0.73**	**234**	P	Pn	08 09 59.6	+1.1
ROSC				S	Sn	08 10 16.4	+0.5
CVER	**Cruz Verde, Cu**	**0.82**	**205**	P	Pn	08 09 59.8	+0.5
CVER				S	Sn	08 10 16.8	-0.5
RUSC	**La Rusia**	**0.89**	**46**	P	Pn	08 10 00.2	+0.3
RUSC				S	Sn	08 10 18.3	0.0
VILC	**Villavicencio,**	**1.15**	**178**	P	Pn	08 10 01.2	-0.5
VILC				S	Sn	08 10 21.0	-0.7
NORC	**Norcasia**	**1.17**	**284**	P	Pn	08 10 01.3	-0.5
NORC				S	Sn	08 10 21.6	-0.1
BARC	**Barichara**	**1.42**	**22**	P	Pn	08 10 04.1	-0.4
BARC				S	Sn	08 10 25.2	-1.4
PTBC	**PUERTO BERRIO,**	**1.45**	**330**	P	Pn	08 10 03.4	-1.2
PTBC				S	Sn	08 10 25.8	-1.0
GUY2C	**Guyana, Caldas**	**1.63**	**268**	P	Pn	08 10 06.6	-0.3
RECRC	**Villamaria, Ca**	**1.65**	**259**	P	Pn	08 10 07.0	-0.2
RECRC				S	Sn	08 10 31.4	+0.2
BRJC	**Barrancabermej**	**1.69**	**360**	P	Pn	08 10 07.1	0.0
BRJC				S	Sn	08 10 31.5	+0.2
NIZA	**Niza - Manizal**	**1.75**	**263**	P	Pn	08 10 08.2	+0.2
NIZA				S	Sn	08 10 34.0	+1.2
PRAC	**Prado**	**1.93**	**217**	P	Pn	08 10 09.6	-0.3
PRAC				S	Sn	08 10 35.0	-1.1
HELC	**Santa Helena**	**2.01**	**297**	P	Pn	08 10 10.7	-0.4
HELC				S	Sn	08 10 37.4	-0.9
ORTC	**Ortega, Tolima**	**2.03**	**228**	P	Pn	08 10 10.4	-0.6
ORTC				S	Sn	08 10 37.1	-1.1
URMC	**La Uribe, Meta**	**2.11**	**198**	P	Pn	08 10 12.1	+0.1
URMC				S	Sn	08 10 40.0	-0.1
TAMC	**Tame, Arauca**	**2.25**	**59**	P	Pn	08 10 13.8	+0.2
TAMC				S	Sn	08 10 41.3	-1.6
PAMC	**Pamplona, Colo**	**2.30**	**26**	P	Pn	08 10 15.0	+0.3
PAMC				S	Sn	08 10 44.3	-0.4
CBOC	**Ciudad Bolivar**	**2.35**	**285**	P	Pn	08 10 14.7	-0.2
CBOC				S	Sn	08 10 44.6	-0.6
ZARC	**Zaragoza, Cauc**	**2.48**	**333**	P	Pn	08 10 14.4	-2.0
ZARC				S	Sn	08 10 45.9	-1.9
YOTC	**Yotoco, Valle**	**2.90**	**244**	P	Pn	08 10 21.0	-0.8
YOTC				S	Sn	08 10 56.3	-1.2
GUVC	**San Jose del G**	**2.92**	**158**	P	Pn	08 10 21.0	-1.0
GUVC				S	Sn	08 10 56.0	-1.8
OCAC	**Ocana**	**2.98**	**8**	P	Pn	08 10 22.5	-0.3
OCAC				S	Sn	08 10 58.8	-0.5
DBBC	**Dabeiba**	**3.02**	**305**	P	Pn	08 10 23.1	-0.1
DBBC				S	Sn	08 10 59.4	-0.6
UREC	**San Jos de Ur**	**3.05**	**324**	P	Pn	08 10 21.1	-2.4
UREC				S	Sn	08 10 57.3	-3.3
MACC	**Macarena, Meta**	**3.11**	**182**	P	Pn	08 10 22.7	-1.6
MACC				S	Sn	08 10 58.9	-3.1
GARC	**Garzon, Huila**	**3.53**	**210**	P	Pn	08 10 28.8	-1.2
GARC				S	Sn	08 11 10.4	-1.7
JAMC	**Jamundi, Valle**	**3.58**	**235**	P	Pn	08 10 29.4	-1.1
JAMC				S	Sn	08 11 11.4	-1.6
APAC	**Apartado, Choc**	**3.85**	**313**	P	Pn	08 10 33.5	-0.4
APAC				S	Sn	08 11 16.5	-2.7
FLOC	**Florencia**	**4.13**	**208**	P	Pn	08 10 37.3	-0.4
ARGC	**Ariguani, Magd**	**4.59**	**354**	P	Pn	08 10 43.4	-0.2
ARGC				S	Sn	08 11 33.9	-2.6
BBAC	**Balboa, Cauca**	**4.77**	**228**	P	Pn	08 10 46.8	+0.6
SJCC	**San Jacinto, C**	**4.82**	**343**	P	Pn	08 10 43.3	-3.3
SJCC				S	Sn	08 11 35.5	-6.5
CAPC	**Capurgana**	**4.91**	**313**	P	Pn	08 10 45.4	-2.4
CAPC				S	Sn	08 11 37.8	-6.3
CRJC	**Cerrejon, Guaj**	**5.77**	**8**	P	Pn	08 10 56.9	-2.5
CRJC				S	Sn	08 11 57.7	-7.2
URIC	**Uribia, Colomb**	**6.62**	**15**	P	Pn	08 11 07.1	-3.5

DJA 01 08:14:25.0±0.4, 0°S±2°×120°E±°, h10km, M3.8/6, mb4.2/1, MLv3.7/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.54**	**4**	P	Pg	08 14 34.6	-0.8
MPSI				S	Sb	08 14 43.6	-0.7
APSI	**Ampana**	**1.92**	**112**	P	Pn	08 14 56.8	-1.0
TTSI	**Tana Toraja**	**2.83**	**181**	P	Pn	08 15 11.4	+1.1
LUWI	**Luwuk**	**3.03**	**106**	P	Pn	08 15 13.2	+0.2
LUWI				S	Sn	08 15 50.6	+1.2
SPSI	**Sidrap Palu**	**3.74**	**181**	P	Pn	08 15 22.1	-0.7

*IGQ **01** 08:17:38.8±0.2, 1°N±1°×7°9W±°, h4km, M4.3/49*
*RSNC **01** 08:17:39.8±0.0, 1°N±2°×7°9W±°, h36km±10km, M3.7, mb4.5, mB5.5, ML3.4, Mw(mB)5.0*

ISC 01 08:17:39.2±1.2, 1°.12N±0°.02×78°.76W±0°.03, h34km±2km, n135, σ1°.84/146, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNLR	**San Lorenzo-Es**	**0.20**	**334**	S	**Sb**	**08 17 52.6**	**+2.2**
SNLR				P	**Pn**	**08 17 46.6**	**+2.0**
ALIT	**Ecuador-Imbabu**	**0.51**	**128**	P	**Pb**	**08 17 49.3**	**-0.9**
ALIT				S	**Sb**	**08 17 57.0**	**-0.8**
LITE1	**Lita**	**0.51**	**128**	P	Pb	08 17 48.3	-1.9
LITE1				S	**Sb**	**08 17 56.0**	**-1.8**
RVRD	**Rio Verde**	**0.62**	**266**	P	**Pn**	**08 17 51.6**	**-0.1**
RVRD				S	**Sb**	**08 18 01.3**	**+0.8**
TUMC	**Tumaco**	**0.70**	**3**	P	**Pn**	**08 17 52.6**	**-0.2**
TUMC				S	**Sb**	**08 18 02.9**	**+0.2**
TUMC	**Tumaco**	**0.70**	**3**	P	**Pn**	**08 17 52.7**	**-0.1**
TUMC				S	**Sb**	**08 18 03.5**	**+0.8**
CHMA	**Chilma**	**0.74**	**110**	P	Pn	08 17 51.7	-1.9
CHMA				S	**Sb**	**08 18 01.7**	**-2.4**
URCU	**Urcuqui**	**0.84**	**143**	P	**Pn**	**08 17 54.9**	**-0.2**
ECEN	**Cerro Negro**	**0.84**	**110**	P	**Pn**	**08 17 54.8**	**-0.4**
PAC1	**Pacto, Paraso**	**0.84**	**182**	P	**Pn**	**08 17 53.4**	**-1.5**
PAC1				S	**Sn**	**08 18 03.7**	**-2.5**
PAC1	**Pacto, Paraso**	**0.84**	**182**	S	**Sn**	**08 18 04.2**	**-2.0**
PAC1				P	**Pn**	**08 17 53.5**	**-1.3**
LNGL	**El Angel-Carch**	**0.85**	**116**	P	**Pn**	**08 17 54.1**	**-1.2**
LNGL				S	**Sn**	**08 18 05.8**	**-0.9**
CHL1	**Volc¡n Chiles**	**0.88**	**111**	P	**Pn**	**08 17 55.4**	**-0.3**
CUSE	**Cuicocha Este**	**0.88**	**156**	P	**Pn**	**08 17 55.4**	**-0.3**
CUSE				S	**Sn**	**08 18 07.1**	**-0.4**
CUSE	**Cuicocha Este**	**0.88**	**156**	P	**Pn**	**08 17 55.4**	**-0.3**
COTA	**Cotacachi**	**0.88**	**151**	P	**Pn**	**08 17 55.8**	**0.0**
AES2	**Ecuador-Puerto**	**0.89**	**262**	P	**Pn**	**08 17 54.6**	**-0.8**
CHL2	**Volc¡n Chiles**	**0.90**	**110**	P	**Pn**	**08 17 55.6**	**-0.4**
CUIC	**Cuicocha-Domo**	**0.90**	**154**	P	**Pn**	**08 17 55.7**	**-0.2**
AV21	**Acelerografo,**	**0.91**	**240**	P	**Pn**	**08 17 55.5**	**0.0**
CUSW	**Cuicocha Oeste**	**0.92**	**153**	P	**Pn**	**08 17 58.1**	**+1.9**
OTAV	**Otavalo**	**0.93**	**160**	P	**Pn**	**08 17 55.9**	**-0.4**
OTAV				S	**Sn**	**08 18 07.2**	**-1.4**
OTAV	**Otavalo**	**0.93**	**160**	P	**Pn**	**08 17 55.8**	**-0.4**
ACOT	**Cotacachi (Cas**	**0.95**	**149**	P	**Pn**	**08 17 57.1**	**+0.6**
AAT1	**Ecuador-Atunta**	**0.95**	**145**	P	**Pn**	**08 17 57.1**	**+0.6**
CMBC	**Cumbal**	**0.95**	**101**	P	**Pn**	**08 17 56.1**	**-0.5**
CMBC				S	**Sn**	**08 18 08.3**	**-1.0**
CMBC	**Cumbal**	**0.95**	**101**	P	**Pn**	**08 17 56.4**	**-0.3**
AMA1	**Acelerografo,**	**0.98**	**259**	P	**Pn**	**08 17 57.0**	**+0.4**
IMBA	**Imbabura, San**	**1.01**	**146**	P	**Pn**	**08 17 58.3**	**+0.9**
AIB2	**Ibarra (Univer**	**1.01**	**139**	P	**Pn**	**08 17 57.9**	**+0.5**
YAHU	**Yahuarcocha**	**1.01**	**137**	P	**Pn**	**08 17 58.0**	**+0.5**
APR2	**Miler**	**1.05**	**191**	P	**Pn**	**08 17 57.1**	**-0.6**
TULM	**Tulcn-Chalpat**	**1.05**	**112**	P	**Pn**	**08 17 58.4**	**+0.3**
TULM	**Tulcn-Chalpat**	**1.05**	**112**	P	**Pn**	**08 17 58.7**	**+0.6**
AV18	**Acelerografo,**	**1.07**	**222**	P	**Pn**	**08 17 58.6**	**+0.7**
ATON	**Ecuador-Tonsup**	**1.07**	**258**	P	**Pn**	**08 17 57.2**	**-0.7**
ATLC	**Ecuador-Tulcan**	**1.09**	**105**	P	**Pn**	**08 17 59.9**	**+1.4**
ATUL	**Tulcn**	**1.09**	**108**	P	**Pn**	**08 17 59.8**	**+1.4**
PULU	**Pululahua**	**1.12**	**167**	P	**Pn**	**08 17 59.2**	**+0.3**
AATC	**Ecuador-Atacam**	**1.13**	**257**	P	**Pn**	**08 17 58.8**	**+0.1**
YANA	**Yana**	**1.24**	**171**	P	**Pn**	**08 18 01.2**	**+0.6**
AV11	**Acelerografo,**	**1.24**	**162**	P	**Pn**	**08 18 02.2**	**+1.7**
PINO	**Pino**	**1.27**	**173**	P	**Pn**	**08 18 01.9**	**+0.7**
TERV	**Terraza Guagua**	**1.29**	**173**	P	**Pn**	**08 18 02.1**	**+0.7**
CAYA	**Cayambe**	**1.29**	**143**	P	**Pn**	**08 18 02.3**	**+0.8**
GGPC	**Guagua Pichinc**	**1.30**	**173**	P	**Pn**	**08 18 02.2**	**+0.7**
ANGU	**Angureal**	**1.30**	**145**	P	**Pn**	**08 18 03.0**	**+1.4**
PUEM	**Granja Avicola**	**1.31**	**162**	P	**Pn**	**08 18 03.1**	**+1.7**
PTGL	**Punta Galera**	**1.31**	**255**	P	**Pn**	**08 18 01.4**	**+0.2**
CAYR	**Refugio Cayamb**	**1.33**	**145**	P	**Pn**	**08 18 03.4**	**+1.4**
JUA2	**San Juan 2**	**1.33**	**173**	P	**Pn**	**08 18 02.5**	**+0.6**
GGPT	**Toaza - Volcan**	**1.34**	**174**	P	**Pn**	**08 18 02.6**	**+0.7**
BONI	**La Bonita**	**1.40**	**118**	P	**Pn**	**08 18 03.9**	**+1.3**
BONI				S	**Sn**	**08 18 21.9**	**+1.9**
BONI	**La Bonita**	**1.40**	**118**	P	**Pn**	**08 18 04.0**	**+1.4**
ASDO	**Santo Domingo**	**1.42**	**195**	P	**Pn**	**08 18 03.1**	**+0.4**
GCUF	**Volcan Galeras**	**1.42**	**86**	P	**Pn**	**08 18 03.3**	**+0.2**
GCUF				S	**Sn**	**08 18 21.3**	**+0.4**
TING	**Casa Alexandra**	**1.42**	**167**	P	**Pn**	**08 18 04.8**	**+1.8**
REVN	**San Rafael**	**1.64**	**136**	P	**Pn**	**08 18 08.1**	**+2.2**
ANTI	**Antisana**	**1.67**	**159**	P	**Pn**	**08 18 08.8**	**+2.1**
ANTG	**Antisana-Guama**	**1.69**	**162**	P	**Pn**	**08 18 08.7**	**+1.9**
PITA	**Cotopaxi Volc**	**1.70**	**169**	P	**Pn**	**08 18 09.2**	**+2.3**
ANTS	**Antisana-Sarah**	**1.71**	**160**	P	**Pn**	**08 18 09.2**	**+2.0**
CASC	**Dorado de Casc**	**1.72**	**124**	P	**Pn**	**08 18 09.4**	**+2.4**
ANTM	**Antisana-La Mi**	**1.73**	**162**	P	**Pn**	**08 18 09.4**	**+2.0**
BBAC	**Balboa, Cauca**	**1.76**	**59**	P	**Pn**	**08 18 07.1**	**-0.5**
BBAC				S	**Sn**	**08 18 28.2**	**-0.8**
BBAC	**Balboa, Cauca**	**1.76**	**59**	P	**Pn**	**08 18 07.2**	**-0.4**
VC1	**Cotopaxi 1**	**1.78**	**168**	P	**Pn**	**08 18 09.4**	**+1.2**
BVC2	**Cotopaxi Volca**	**1.80**	**169**	P	**Pn**	**08 18 11.1**	**+2.7**
BNAS	**Cotopaxi Volca**	**1.80**	**171**	P	**Pn**	**08 18 12.3**	**+4.0**
CAMI	**Rancho Maria**	**1.80**	**172**	P	**Pn**	**08 18 11.3**	**+2.9**
PAST	**Pastocalle**	**1.80**	**176**	P	**Pn**	**08 18 11.4**	**+3.1**
BREF	**Cotopaxi Volca**	**1.80**	**170**	P	**Pn**	**08 18 11.4**	**+2.9**
BTAM	**Cotopaxi Volca**	**1.82**	**168**	P	**Pn**	**08 18 11.4**	**+2.7**
FLF1	**Flavio Alfaro-**	**1.82**	**

GC02	Grant County #	1.62	356		Pn	08 42 47.1 -0.1
TUL3	Leonard	1.72	66		Pn	08 42 48.8 +0.3
KAN14	Manchester OK	1.73	354		Pn	08 42 48.9 +0.2
KAN14				IAmb_Lg		08 43 13.6
	comp=Z,15nm,1.3s					
KAN13	South Haven SW	1.79	6		Pn	08 42 50.2 +0.7
KAN17	Caldwell West	1.81	359		Pn	08 42 50.5 +0.7
KAN09	Caldwell North	1.90	3		Pn	08 42 51.8 +0.7
KAN01	Argonia South	1.92	359		Pn	08 42 51.8 +0.4
KAN01				IAmb_Lg		08 43 21.5
	comp=Z,14nm,0.7s					
Z35A	Perchaven, San	1.94	168		Pn	08 42 52.1 +0.6
T35A	Sooner Cattle	1.95	30		Pn	08 42 51.7 -0.1
KAN08	Anthony NE Sta	2.00	354		Pn	08 42 53.3 +0.8
SMWD	Samnorwood	2.06	267		Pn	08 42 54.5 +1.1
SMWD				IAmb_Lg		08 43 23.5
	comp=Z,17nm,0.7s					
KAN12	Harper NE Stat	2.07	354	IAmb_Lg		08 43 25.2
	comp=Z,17nm,1.1s					
FW03	Perrin-Whitt E	2.20	187		Pn	08 42 56.3 +1.1
FW06	Azle	2.26	176		Pb	08 42 57.9 -1.3
PLPT	Palo Pinto	2.46	192	IAmb_Lg		08 43 42.4
	comp=Z,9.8nm,1.0s					
FW07	Weatherford	2.52	181	IAmb_Lg		08 43 39.5
	comp=Z,12nm,0.7s					
APMT	Aspermont	2.75	227	IAmb_Lg		08 43 47.8
	comp=Z,8.7nm,0.9s					
U38A	Gravette	2.97	65	IAmb_Lg		08 44 01.0
	comp=Z,7.4nm,0.9s					
ABTX	Abilene, Hawle	3.05	212	IAmb_Lg		08 43 55.3
	comp=Z,8.8nm,0.8s					
DKNS	Dickens	3.07	240	IAmb_Lg		08 44 03.7
	comp=Z,10nm,0.8s					
AMTX	Amarillo	3.26	265	IAmb_Lg		08 44 00.9
	comp=Z,10nm,0.8s					
SN07	Snyder 07	3.38	232	IAmb_Lg		08 44 13.9
	comp=Z,10nm,0.9s					
SN05	Snyder 5	3.52	229	IAmb_Lg		08 44 19.0
	comp=Z,12nm,0.9s					
KSU1	Kansas State U	3.97	13	IAmb_Lg		08 44 33.0
	comp=Z,11nm,0.7s					
BRDY	Brady	4.08	196	IAmb_Lg		08 44 31.8
	comp=Z,9.8nm,0.8s					
X40A	Basin Creek Fa	4.09	99	IAmb_Lg		08 44 35.0
	comp=Z,9.4nm,0.8s					
S39A	Bolivar	4.32	54	IAmb_Lg		08 44 36.2
	comp=Z,7.9nm,0.8s					
R40A	Maddies Statio	5.34	54	IAmb_Lg		08 45 15.3
	comp=Z,5.0nm,0.8s					
KSCO	Kaye Shedlock'	5.44	315	IAmb_Lg		08 45 11.2
	comp=Z,5.8nm,0.8s					
MNHN	Monahans	5.73	229	IAmb_Lg		08 45 36.2
	comp=Z,4.8nm,0.7s					
T25A	Trinidad	5.73	291	IAmb_Lg		08 45 35.5
	comp=Z,6.9nm,0.9s					
SDCO	Great Sand Dun	6.75	294	IAmb_Lg		08 45 58.4
	comp=Z,2.9nm,0.9s					
Q24A	Divide	7.00	304	IAmb_Lg		08 46 04.1
	comp=Z,6.0nm,0.7s					

DJA 01 08:50:43.1±0.7, 11°S±6°×11°8E±°, h10km, M3.8/7, mb4.2/1, MLv3.6/7, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	2.27	46	P	Pn	08 51 20.7	-0.1
WBSI				S	Sn	08 51 47.3	-1.6
PLAI	Plampang	2.40	1	P	Pn	08 51 22.3	-0.2
PLAI				S	Sn	08 51 52.3	+0.4
BASI	Baing, Sumba	2.97	70	P	Pn	08 51 30.0	-0.3
JAGI	Jajag, Banyuwa	4.48	308	P	Pn	08 51 51.2	+0.1
GMJI	Gumukmas	5.16	304	P	Pn	08 51 59.5	-0.9

MEX 01 08:55:30.6±0.6, 17°89N×100°21W, h53km±11km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.41	342	eP	Pn	08 55 39.5	-1.7
ARIG				eS	Sn	08 55 47.1	-1.6
MEIG	Mezcala	0.56	86	eP	Pn	08 55 41.2	-1.7
MEIG				eS	Sn	08 55 50.1	-1.7
PLIG	Platanillo	0.84	53	eP	Pn	08 55 44.8	-1.6
PLIG				eS	Sn	08 55 56.0	-2.0
TEJU	Tejupilco	1.01	3	eP	Pn	08 55 46.1	-2.6
TEJU				i S	Sn	08 55 58.9	-3.2
ZIIG	Zihuatanejo	1.23	257	eP	Pn	08 55 50.4	-1.1
ZIIG				eS	Sn	08 56 04.3	-2.8
FTIG	Fresnillo de T	1.98	89	eP	Pn	08 56 01.1	-0.7
FTIG				eS	Sn	08 56 23.1	-2.5
FTIG	Fresnillo de T	1.98	89	eP	Pn	08 56 00.6	-1.2
FTIG				eS	Sn	08 56 23.1	-2.4
HLIG	Huajuapan de L	2.29	91	eP	Pn	08 56 05.6	-0.6
HLIG				eS	Sn	08 56 30.5	-2.9
HLIG	Huajuapan de L	2.29	91	eP	Pn	08 56 05.6	-0.6
HLIG				eS	Sn	08 56 30.1	-3.2
TXIG	Tlaxiaco	2.42	105	eS	Sn	08 56 34.5	-2.0
YOIG	Yosondua	2.75	112	eS	Sn	08 56 42.7	-1.9

MEX 01 08:55:36.0±0.6, 17°11N×100°04W, h11km±4km, MD3.4, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.22	254	eP	Pg	08 55 40.0	-0.6
CAIG				eS	Sg	08 55 43.8	0.0
ACP2	Acapulco	0.28	147	i P	Pg	08 55 39.2	-2.4
ACP2				eS	Sg	08 55 43.0	-2.4
DAIG	Los Arroyos	0.39	103	eP	Pg	08 55 42.9	-0.8
DAIG				eS	Sg	08 55 49.3	+0.5
CRIG	Cruz Grande	0.95	113	eP	Pg	08 55 50.9	-3.4
CRIG				eS	Sg	08 56 03.8	-2.9
MGIG	Malinaltepec	1.35	84	eP	Pn	08 55 58.1	-3.0
MGIG				eS	Sb	08 56 13.5	-5.5
TLIG	Tlapa	1.48	72	eP	Pn	08 55 58.9	-3.8
TLIG				eS	Sn	08 56 16.1	-6.2

IDC 01 08:56:16.5±3.4, 4°11N×123°33E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=146.2km s-min=55.6km az=78.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.19	174	P	P	09 01 13.9	-0.5
	0.8nm,0.3s,baz=15,slow=9.1,SNR=5.9						
	0.8nm,0.3s						
WRA	Warramunga Arr	26.24	156	P	P	09 01 53.6	+0.1
	0.4nm,0.4s,baz=335,slow=9.6,SNR=16						
	0.4nm,0.4s						
ASAR	Alice Springs	29.47	160	P	P	09 02 22.2	-0.3
	0.3nm,0.6s,baz=340,slow=7.4,SNR=6.6						
	0.3nm,0.6s						
STKA	Stephens Creek	39.79	155	P	P	09 03 51.9	+0.4
	1.0nm,0.4s,baz=325,slow=11,SNR=4.9						
	1.0nm,0.4s						
LPAZ	La Paz	163.47	138	PKP	PKPdf	09 16 22.6	-0.7
	6.6nm,0.3s,baz=243,slow=1.0,SNR=65						

*IDC **01** 08:56:57.4±22.0, 37°69N×20°83E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=430.5km s-min=47.8km az=37.0*
*ATH **01** 08:56:58.5, 37°51N×20°47E, h11km±1km, ML3.2/7, Error ellipse: s-maj=2.6km s-min=1.0km az=35.0*
*THE **01** 08:56:58.6, 37°52N×20°46E, h2km±1km, ML3.2/9, Error ellipse: s-maj=1.2km s-min=0.4km az=40.0*

ISC 01 08:56:58.7±1.3, 37°56N±0°05×20°51E±0°05, h18km±5km, n40, σ0°66/60, mb3.6/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.26	67	P	Pb	08 57 04.9	0.0
KRI1				S	Sb	08 57 09.5	+0.5
	17μm,0.6s						
LTHK	Lithakia	0.30	60	P	Pb	08 57 05.5	0.0
LTHK				S	Sb	08 57 10.7	+0.6
	20μm,0.4s						
LTHK	Lithakia	0.30	60	P	Pb	08 57 05.5	0.0
LTHK				S	Sb	08 57 10.0	-0.1
RTZL	Ratzakli, Kefa	0.55	22	P	Pb	08 57 10.1	+0.2
RTZL				S	Sn	08 57 18.8	-1.7
	2μm,0.5s						
PSDA	Pessada-Kefalo	0.56	6	P	Pb	08 57 10.3	+0.4
PSDA				S	Sb	08 57 18.6	+1.1
	2μm,0.5s						
PSDA	Pessada-Kefalo	0.56	6	P	Pb	08 57 10.2	+0.3
PSDA				S	Sb	08 57 18.3	+0.8
VLS	Valsamata	0.62	6	P	Pb	08 57 11.2	+0.2
VLS				S	Sn	08 57 21.2	-1.0
	2μm,0.6s						
VLS	Valsamata	0.62	6	P	Pb	08 57 11.2	+0.2
VLS				S	Sb	08 57 19.6	+0.2
VLS				AML	AML	08 57 25.0	
	comp=N,4056μm,0.6s						
VLS				AML	AML	08 57 26.4	
	comp=E,2208μm,0.7s						
DMLN	Damoulianata-K	0.69	351	P	Pb	08 57 12.5	+0.3
DMLN				S	Sn	08 57 22.8	-1.0
	comp=E,4μm,0.6s						
DMLN	Damoulianata-K	0.69	351	P	Pb	08 57 12.4	+0.2
DMLN				S	Sb	08 57 21.9	+0.6
VSK1	VASILIKIADES	0.85	3	P	Pn	08 57 15.6	-0.2
VSK1				S	Sn	08 57 28.4	+0.6
	comp=E,2μm,0.7s						
FSK	Fiskardo	0.90	2	P	Pg	08 57 16.1	-0.1
FSK				S	Sn	08 57 29.6	+0.6
	comp=E,1μm,0.5s						
FSK	Fiskardo	0.90	2	P	Pb	08 57 15.8	0.0
FSK				S	Sn	08 57 29.7	+0.6
FSK				AML	AML	08 57 37.7	
	comp=E,2243μm,0.5s						
FSK				AML	AML	08 57 39.4	
	comp=N,1719μm,0.5s						
RLS	Riolos of Patr	0.90	56	P	Pg	08 57 16.3	0.0
RLS	Riolos of Patr	0.90	56	P	Pg	08 57 16.1	-0.3
RLS				S	Sn	08 57 28.9	-0.2
RLS				AML	AML	08 57 35.1	
	comp=N,1910μm,0.7s						
RLS				AML	AML	08 57 37.8	
	comp=E,1698μm,0.4s						
AMT	Artemida-Makis	0.95	91	P	Pb	08 57 16.9	+0.2
AMT				S	Sg	08 57 29.5	-0.3
AMT				AML	AML	08 57 37.9	
	comp=E,8457μm,0.5s						
AMT				AML	AML	08 57 40.4	
	comp=N,8836μm,0.4s						
DRO	Drossia	1.03	67	P	Pg	08 57 18.9	+0.2
DRO	Drossia	1.03	67	P	Pg	08 57 18.7	+0.1
DRO				S	Sn	08 57 33.7	+1.5
DRO				AML	AML	08 57 38.2	
	comp=E,4147μm,0.5s						
DRO				AML	AML	08 57 45.4	
	comp=N,4434μm,0.5s						
EVGI	Lefkada island	1.06	6	P	Pg	08 57 19.1	-0.3
EVGI	Lefkada island	1.06	6	P	Pn	08 57 18.9	+0.1
EVGI				S	Sn	08 57 34.8	+1.7
NYDR	Nydri-Lefkada	1.16	7	P	Pg	08 57 20.9	-0.3
NYDR	Nydri-Lefkada	1.16	7	P	Pg	08 57 20.6	-0.6
PYL	PYLOS	1.19	124	P	Pn	08 57 20.5	+0.1
PYL				S	Sg	08 57 37.8	+0.6
	comp=N,648nm,0.4s						
PYL	PYLOS	1.19	124	P	Pn	08 57 20.2	-0.2
PYL				S	Sb	08 57 35.5	-0.2
PYL				AML	AML	08 57 39.4	
	comp=E,1521μm,0.5s						
PYL				AML	AML	08 57 43.0	
	comp=N,1066μm,0.4s						
ITM	Ithomi	1.19	108	P	Pn	08 57 21.2	+0.7
ITM	Ithomi	1.19	108	P	Pn	08 57 20.9	+0.4
ITM				S	Sb	08 57 36.3	+0.5
ITM				AML	AML	08 57 44.6	
	comp=E,1886μm,0.6s						
ITM				AML	AML	08 57 49.9	
	comp=N,1346μm,0.5s						
LKD2	Lefkada island	1.23	5	P	Pg	08 57 23.5	+0.9
TSLK	Tsoukalades, L	1.27	5	P	Pg	08 57 23.4	+0.2
KLV	Kalavryta, Ach	1.38	69	P	Pg	08 57 25.1	-0.3
EFP	Efpalio	1.40	51	P	Pb	08 57 24.9	+0.6
ALIK	Aliki, Aigiali	1.44	61	P	Pb	08 57 25.7	+0.6
GUR	Goura	1.50	75	P	Pb	08 57 26.7	+0.6
ANX	Ano Chora	1.52	47	P	Pb	08 57 27.0	+0.6
KALE	Kalithea	1.53	57	P	Pb	08 57 26.7	+0.1
AGIO	Agios Georgios	2.04	44	P	Pb	08 57 34.0	-1.3
AXAR	Agios Charalam	2.08	54	P	Pb	08 57 34.7	-1.2
HFS	Hagfors	23.01	351	P	P	09 02 02.6	+0.2
	comp=N,1.7nm,0.7s,baz=163,slow=11,SNR=4.2						
	comp=N,1.7nm,0.7s						
FINES	FINESS Array B	24.16	7	P	P	09 02 13.5	-0.1
	comp=N,0.8nm,0.5s,baz=182,slow=9.7,SNR=6.3						
	comp=N,0.8nm,0.5s						
MKAR	Makanchi Array	45.63	58	P	P	09 05 16.5	-1.5
	comp=N,0.3nm,0.5s,baz=268,slow=7.3,SNR=2.4						
	comp=N,0.3nm,0.5s						
ZALV	Zalesovo Beam	46.11	48	P	P	09 05 21.3	-0.3
	comp=N,1.0nm,0.4s,baz=296,slow=6.8,SNR=4.4						
	comp=N,1.0nm,0.4s						

*NEIC **01** 09:24:20.2±1.5, 24°22N±0°06×123°58E±0°04, h35km±2km, mb4.7/25, Error ellipse: s-maj=11.8km s-min=3.0km az=151.0*
*IDC **01** 09:24:20.3±0.8, 24°33N×123°75E, h48km±8km, mb3.9/17, mbtmp4.2/18, ML3.4/1, MS2.9/11, Error ellipse: s-maj=16.2km s-min=12.6km az=87.0*
*JMA **01** 09:24:20.6±0.2, 24°3N±0°7×123°7E±0°5, h46km±1km, MD4.2/14, MV3.9/14, NEAR ISHIGAKIJIMA ISLAND*
JMA Felt II J1 at NEAR ISHIGAKIJIMA ISLAND.

ISC 01 09:24:20.4±0.6, 24°21N±0°05×123°72E±0°03, h48km±4km, n99, σ0°98/99, mb4.4/30, MS2.9/8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.13	5	P	Pn	09 24 27.7	-0.4
IRIF				S	Sn	09 24 33.1	-0.4
IRIF	Iriomote-Funau	0.13	5	A	A	09 24 27.7	
	comp=E,23nm,0.3s,comp=N,26nm,1.8s						
HATJ	Hateruma jima	0.17	152	P	Pn	09 24 28.3	0.0
HATJ				S	Sn	09 24 34.2	+0.3
HATJ	Hateruma jima	0.17	152	A	A	09 24 28.3	
	comp=E,43nm,1.2s,comp=N,45nm,3.6s						
JKRS	Kuro-shima	0.27	83	P	Pn	09 24 29.1	+0.1
JKRS				S	Sn	09 24 35.5	+0.4
JKRS	Kuro-shima	0.27	83	A	A	09 24 29.1	
	comp=E,101nm,0.9s,comp=N,96nm,0.6s						
JIJ	Ishigaki jima	0.42	68	i P	Pn	09 24 30.2	-0.4
JIJ				S	Sn	09 24 36.2	-1.6
JIJ	Ishigaki jima	0.42	68	A	A	09 24 30.2	
	comp=E,34nm,0.6s,comp=N,21nm,0.7s						
JISG	Ishigakijimahi	0.66	55	i P	Pn	09 24 33.2	-0.4
JISG				S	Sn	09 24 42.1	-0.9
JISG	Ishigakijimahi	0.66	55	A	A	09 24 33.2	
	comp=E,26nm,0.6s,comp=N,28nm,0.4s						
YOJ	Yonaguni jima	0.69	292		Pn	09 24 34.4	+0.4
YOJ	Yonaguni jima	0.69	292	P	Pn	09 24 34.1	+0.1
YOJ	Yonaguni jima	0.69	292	i P	Pn	09 24 34.4	+0.4
YOJ				S	Sn	09 24 43.7	-0.1
JYNG	Yonagunijimaku	0.75	289	i P	Pn	09 24 35.1	+0.5
JYNG				S	Sn	09 24 45.6	+0.5
JYNG	Yonagunijimaku	0.75	289	A	A	09 24 35.1	
	comp=E,15nm,0.5s,comp=N,18nm,0.5s						
JTJ	Tarama	1.00	64	i P	Pn	09 24 38.3	+0.2
JTJ				S	Sn	09 24 51.7	+0.7
JTJ	Tarama	1.00	64	A	A	09 24 38.3	
	comp=E,11nm,1.3s,comp=N,11nm,0.7s						
JIRB	Irabujima	1.46	65	P	Pn	09 24 44.6	+0.2
JIRB				eS	Sn	09 25 02.4	0.0
JMJ	Miyako jima 2	1.56	67	P	Pn	09 24 46.6	+0.9
JMJ2	Miyako jima3	1.56	70	P	Pn	09 24 46.6	+0.9
JMJ2				eS	Sn	09 25 06.4	+1.6
JIKM	Ikemajima	1.56	63	P	Pn	09 24 46.1	+0.3
JOGS	Gusukube	1.63	70	P	Pn	09 24 47.7	+1.0
NACB	Ninganchiao	1.94	269		Pn	09 24 50.8	-0.1
NACB	Ninganchiao	1.94	269	P	Pn	09 24 50.9	0.0
TATO	Taipei	2.17	291		Pn	09 24 55.4	+1.4
TATO	Taipei	2.17	291	P	Pn	09 24 55.5	+1.4
YHNB	Yeheng	2.19	283		Pn	09 24 55.9	+1.5
YHNB	Yeheng	2.19	283	P	Pn	09 24 56.4	+2.0
YULB	Yu-li	2.36	250		Pn	09 24 56.0	-0.7
YULB	Yu-li	2.36	250	P	Pn	09 24 56.3	-0.4
SSLB	Suanglung	2.56	261		Pn	09 24 58.7	-0.9
SSLB	Suanglung	2.56	261	P	Pn	09 25 00.0	+0.5
TWGBT	Beinan	2.79	241	P	Pn	09 25 02.0	-0.6
TWG	Pinlang	2.79	241		Pn	09 25 01.8	-0.9
TPUB	Ta-pu	2.97	253		Pn	09 25 06.5	+1.4
TPUB	Ta-pu	2.97	253	P	Pn	09 25 06.2	+1.1
KNMB	Chin-men Tao	4.87	274	Pn	Pn	09 25 29.1	-2.0
JOW	Kunigami	4.88	57		Pn	09 25 31.6	+0.4
JOW	Kunigami	4.88	57	P	Pn	09 25 30.2	-1.0
	comp=N,3.4nm,0.3s,baz=180,slow=5.1,SNR=13						
JOW				S	Sn	09 26 25.1	-1.3
	comp=N,20nm,0.3s,baz=306,slow=19,SNR=1.7						
	comp=N,11nm,0.3s						
JOW	Kunigami	4.88	57	P	Pn	09 25 31.1	-0.2
JMZ	Minamidaito 2	7.00	75	Pn	Pn	09 26 06.1	+5.8
JNU	Nakatsue	10.88	34	LR	LR	09 31 50.4	
	comp=N,28nm,18.7s,baz=210,slow=42						
KSRS	Korea Array	13.69	14	P	Pn	09 27 33.9	+2.1
	comp=N,3.0nm,0.8s,baz=192,slow=11,SNR=9.9						
KSRS				LR	LR	09 32 24.6	
	comp=N,47nm,18.3s,baz=205,slow=36						
MJAR	Matsushiro Arr	17.51	42	LR	LR	09 35 10.9	
	comp=N,42nm,20.2s,baz=216,slow=37						
GUMO	Guam	22.59	114	LR	LR	09 37 16.1	
	comp=N,20nm,19.8s,baz=69,slow=34						
ASAJ	Asahikawa	25.16	33	LR	LR	09 39 25.3	
	comp=N,34nm,18.6s,baz=216,slow=36						
KLR	Kul'dur	25.76	12	LR	LR	09 41 51.4	
	comp=N,28nm,18.7s,baz=194,slow=41						
SONM	Songino Array	27.30	334	P	P	09 29 59.6	-1.1
	comp=N,1.1nm,0.5s,baz=140,slow=9.1,SNR=3.8						
SONM				LR	LR	09 42 29.1	
	comp=N,13nm,19.3s,baz=196,slow=40						
	comp=N,1.1nm,0.5s						
YAK	Yakutsk	38.03	5	LR	LR	09 49 45.2	
	comp=N,16nm,19.5s,baz=216,slow=40						
MKAR	Makanchi Array	39.95	315	P	P	09 31 49.8	-0.3
	comp=N,3.3nm,0.4s,baz=99,slow=10.0,SNR=13						
MKAR				PcP	PcP	09 33 54.8	+0.1
	comp=N,0.6nm,0.7s,baz=92,slow=4.9,SNR=2.9						
	comp=N,3.3nm,0.4s						
MA2	Magadan	40.11	21	LR	LR	09 48 27.9	
	comp=N,18nm,18.8s,baz=263,slow=36						
ZALV	Zalesovo Beam	41.50	326	P	P	09 32 03.8	+1.0
	comp=N,1.5nm,0.6s,baz=104,slow=8.9,SNR=5.2						
	comp=N,1.5nm,0.6s						
KURBB	Kurchatov Arra	43.59	319	P	P	09 32 18.6	-1.2
	comp=N,1.0nm,0.3s,baz=115,slow=8.4,SNR=6.6						
	comp=N,1.0nm,0.3s						
WB0	Warramunga Arr	44.93	166	P	P	09 32 31.2	+0.4
WRAB	Tennant Creek	45.08	166	P	P	09 32 32.0	0.0
WRAB				IAmb	IAmb	09 32 33.3	
	comp=Z,6.3nm,0.9s						
WRA	Warramunga Arr	45.09	166	P	P	09 32 32.5	+0.5
WRA	Warramunga Arr	45.09	166	P	P	09 32 32.5	+0.5
	comp=Z,5.1nm,0.7s,baz=348,slow=8.8,SNR=62						
WRA				pP	pP	09 32 45.7	+1.4
	comp=Z,1.7nm,0.6s,baz=346,slow=8.9,SNR=6.0						
WRA				PcP	PcP	09 34 11.3	-0.8
	comp=Z,0.6nm,0.7s,baz=348,slow=3.9,SNR=3.4						
	comp=Z,5.1nm,0.7s						
WB2	Warramunga Arr	45.09	166	P	P	09 32 32.6	+0.6
WB2				IAmb	IAmb	09 32 32.9	
	comp=Z,6.5nm,0.7s						
WR0	Warramunga Arr	45.15	166	P	P	09 32 33.1	+0.6
WR0				IAmb	IAmb	09 32 33.8	
	comp=Z,8.1nm,0.8s						
GAR	Garm	47.18	301	P	P	09 32 48.6	+0.1
GAR				IAmb	IAmb	09 32 58.4	
	comp=Z,7.0nm,1.3s						
TIXI	Tiksi	47.56	2	LR	LR	09 53 30.7	
	comp=Z,24nm,20.0s,baz=192,slow=37						
AS31	Alice Springs	48.60	168	P	P	09 33 00.7	+1.2
ASAR	Alice Springs	48.60	168	P	P	09 33 00.6	+1.1
ASAR	Alice Springs	48.60	168	P	P	09 33 00.4	+0.9
	comp=Z,2.1nm,0.5s,baz=350,slow=7.3,SNR=70						
ASAR				pP	pP	09 33 13.7	+1.9
	comp=Z,1.0nm,0.6s,baz=359,slow=7.2,SNR=5.6						
ASAR				PcP	PcP	09 34 24.4	-0.2
	comp=Z,0.6nm,0.5s,baz=339,slow=3.5,SNR=5.7						
	comp=Z,2.1nm,0.5s						
BVAR	Borovoye Array	49.13	320	P	P	09 33 02.5	-0.7
	comp=Z,1.1nm,0.5s,baz=106,slow=8.9,SNR=5.4						
	comp=Z,1.1nm,0.5s						
NRIK	Noril'sk	50.00	344	P	P	09 33 08.0	-1.6
	comp=Z,2.1nm,0.5s,baz=121,slow=9.2,SNR=4.4						
	comp=Z,2.1nm,0.5s						
ABKAR	Akbulak array	55.08	314	P	P	09 33 47.7	+0.2
ARTI	Arti	56.58	323	P	P	09 33 56.6	-1.5
	comp=Z,1.5nm,0.5s,baz=63,slow=3.8,SNR=3.2						
	comp=Z,1.5nm,0.5s						
NWAO	Narrogin (SRO)	57.15	186	P	P	09 34 03.0	+0.7
BBOO	Buckleboo	57.91	168	P	P	09 34 08.3	+0.6
J14K	Nanvaranak Lak	60.87	30	P	P	09 34 28.8	+1.0
L14K	Kuka Creek	61.22	32	P	P	09 34 31.4	+1.3
L14K				IAmb	IAmb	09 34 37.8	
	comp=Z,9.4nm,0.9s						
M14K	Bethel	61.55	33	P	P	09 34 33.6	+1.2
L16K	Owhat River	62.76	31	P	P	09 34 40.8	+0.3
J17K	VABM Dome	62.93	30	P	P	09 34 43.3	+1.7
IMAR	Indian Mountai	65.13	27	P	P	09 34 57.1	+1.1
BPAW	Bear Paw Mtn.	66.47	29	P	P	09 35 05.7	+0.9
BPAW				IAmb	IAmb	09 35 06.1	
	comp=Z,3.9nm,0.7s						
SKT	Skwentna	66.49	31	P	P	09 35 05.2	+0.3
SKT				IAmb	IAmb	09 35 38.5	
	comp=Z,9.2nm,1.2s						
SUA	Susitna One	66.94	31	P	P	09 35 08.7	+0.9
SUA				IAmb	IAmb	09 35 09.4	
	comp=Z,9.5nm,0.8s						
KBZ	Khabaz	67.27	309	P	P	09 35 10.0	-0.1
	comp=Z,2.1nm,0.8s,baz=56,slow=15,SNR=3.7						
	comp=Z,2.1nm,0.8s						
G24K	Hadweenziz Riv	67.56	25	P	P	09 35 13.2	+1.6
SML	Sawmill	68.02	31	P	P	09 35 15.5	+0.9
SML				IAmb	IAmb	09 35 33.1	
	comp=Z,18nm,1.3s						
IL31		68.13	28	P	P	09 35 16.3	+1.2
ILAR	Eielson Array	68.13	28	P	P	09 35 14.2	-1.0
	comp=Z,0.5nm,0.5s,baz=271,slow=7.4,SNR=14						
ILAR				pP	pP	09 35 27.0	-1.8
	comp=Z,0.2nm,0.5s,baz=266,slow=5.5,SNR=2.2						
	comp=Z,0.5nm,0.5s						
SCM	Sheep Creek Mo	68.48	31	P	P	09 35 17.6	0.0
SCM				IAmb

ISC 01 09:42:49.4±0.8, 37°65N±0°03×20°86E±0°03, h13km±4km, n48, σ0°71/58, mb3.7/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.04**	**284**	P	**Pg**	**09 42 52.0**	**+0.2**
KRI1				S	**Sg**	**09 42 53.9**	**+0.4**
	174μm,0.3s						
LTHK	**Lithakia**	**0.06**	**340**	P	**Pg**	**09 42 51.8**	**-0.2**
LTHK				S	**Sg**	**09 42 53.3**	**-0.5**
	229μm,0.3s						
LTHK	**Lithakia**	**0.06**	**340**	P	**Pg**	**09 42 51.8**	**-0.2**
LTHK				S	**Sg**	**09 42 53.3**	**-0.5**
LTHK				AML	AML	09 42 53.7	
LTHK				AML	AML	09 42 56.1	
RTZL	**Ratzakli, Kefa**	**0.43**	**350**	P	**Pg**	**09 42 58.0**	**+0.1**
RTZL				S	**Sg**	**09 43 03.8**	**+0.1**
	11μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.51**	**334**	S	**Sg**	**09 43 06.0**	**-0.2**
	8μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.51**	**334**	P	**Pg**	**09 42 58.2**	**-1.3**
VLS	**Valsamata**	**0.57**	**338**	P	**Pg**	**09 43 00.5**	**0.0**
VLS				S	**Sg**	**09 43 08.0**	**0.0**
	5μm,0.3s						
VLS	**Valsamata**	**0.57**	**338**	P	**Pg**	**09 42 59.6**	**-0.9**
RLS	**Riolos of Patr**	**0.63**	**50**	P	**Pg**	**09 43 01.5**	**-0.1**
RLS				S	**Sg**	**09 43 09.3**	**-0.6**
	2μm,0.5s						
RLS	**Riolos of Patr**	**0.63**	**50**	P	**Pb**	**09 43 02.4**	**+0.2**
RLS				S	**Sb**	**09 43 11.8**	**+0.9**
RLS				AML	AML	09 43 13.3	
	comp=E,3178μm,0.5s						
RLS				AML	AML	09 43 13.7	
	comp=N,6320μm,0.6s						
LXRA	**Lixouri, Kepha**	**0.64**	**328**	P	**Pg**	**09 43 01.9**	**0.0**
LXRA				AML	AML	09 43 16.1	
	comp=E,25192μm,0.6s						
LXRA				AML	AML	09 43 19.1	
	comp=N,28028μm,0.5s						
AMT	**Artemida-Makis**	**0.68**	**100**	P	**Pn**	**09 43 04.2**	**-0.6**
AMT				S	**Sn**	**09 43 14.1**	**-1.2**
AMT				AML	AML	09 43 17.0	
	comp=N,12812μm,0.5s						
AMT				AML	AML	09 43 19.2	
	comp=E,16884μm,0.5s						
DMLN	**Damoulianata-K**	**0.70**	**327**	P	**Pg**	**09 43 02.7**	**-0.3**
DMLN				S	**Sg**	**09 43 12.0**	**-0.3**
	comp=E,9μm,0.5s						
DRO	**Drossia**	**0.73**	**66**	P	**Pb**	**09 43 04.0**	**0.0**
DRO	**Drossia**	**0.73**	**66**	P	**Pb**	**09 43 04.6**	**+0.6**
DRO				S	**Sn**	**09 43 15.8**	**-0.8**
DRO				AML	AML	09 43 21.4	
	comp=N,5322μm,0.4s						
DRO				AML	AML	09 43 22.5	
	comp=E,6738μm,0.6s						
VSK1	**VASILIKIADES**	**0.79**	**343**	P	**Pg**	**09 43 04.9**	**+0.2**
FSK	**Fiskardo**	**0.84**	**344**	P	**Pg**	**09 43 05.4**	**-0.2**
FSK	**Fiskardo**	**0.84**	**344**	P	**Pb**	**09 43 06.0**	**+0.2**
FSK				AML	AML	09 43 21.2	
	comp=E,3808μm,0.6s						
FSK				AML	AML	09 43 25.5	
	comp=N,2955μm,0.6s						
ITM	**Ithomi**	**0.97**	**119**	P	**Pb**	**09 43 08.5**	**+0.5**
ITM	**Ithomi**	**0.97**	**119**	P	**Pb**	**09 43 08.6**	**+0.5**
EVGI	**Lefkada island**	**0.98**	**350**	P	**Pb**	**09 43 07.5**	**-0.7**
PYL	**PYLOS**	**1.03**	**137**	P	**Pn**	**09 43 10.1**	**+0.6**
PYL	**PYLOS**	**1.03**	**137**	P	**Pb**	**09 43 09.0**	**0.0**
NYDR	**Nydri-Lefkada**	**1.07**	**353**	P	**Pb**	**09 43 08.9**	**-0.8**
KLV	**Kalavryta, Ach**	**1.09**	**69**	P	**Pn**	**09 43 10.7**	**+0.3**
KLV	**Kalavryta, Ach**	**1.09**	**69**	P	**Pn**	**09 43 11.3**	**+0.9**
EFP	**Efpalio**	**1.13**	**46**	P	**Pb**	**09 43 10.3**	**-0.5**
EFP	**Efpalio**	**1.13**	**46**	P	**Pg**	**09 43 11.1**	**0.0**
LKD2	**Lefkada island**	**1.15**	**352**	P	**Pb**	**09 43 11.1**	**0.0**
TSLK	**Tsoukalades, L**	**1.18**	**352**	P	**Pg**	**09 43 12.5**	**+0.4**
GUR	**Goura**	**1.21**	**76**	P	**Pg**	**09 43 12.7**	**+0.1**
KALE	**Kalithea**	**1.25**	**53**	P	**Pb**	**09 43 12.9**	**+0.1**
ANX	**Ano Chora**	**1.26**	**41**	P	**Pn**	**09 43 12.8**	**+0.1**
EVR	**Evrytania**	**1.47**	**30**	P	**Pn**	**09 43 15.7**	**+0.1**
LOUT	**Loutraki**	**1.71**	**78**	P	**Pn**	**09 43 19.1**	**+0.3**
IDI	**Anoyia**	**4.01**	**125**	Pn	**Pn**	**09 43 48.0**	**-2.5**
	comp=N,2.2nm,0.2s,baz=301,slow=11,SNR=1.8						
IDI				Sn	**Sn**	**09 44 35.5**	**-2.0**
	comp=N,0.7nm,0.3s,baz=325,slow=18,SNR=2.3						
MLR	**Muntele Rosu**	**8.71**	**24**	LR	LR	09 49 08.0	
	comp=N,78nm,21.6s,baz=228,slow=44						
ESDC	**Sonseca Array**	**19.48**	**284**	P	**Pn**	**09 47 17.6**	**+0.3**
	comp=N,0.1nm,0.3s,baz=97,slow=10,SNR=2.7						
	comp=N,0.7nm,0.9s						
HFS	**Hagfors**	**22.96**	**351**	P	**P**	**09 47 53.6**	**+0.4**
	comp=N,2.1nm,0.5s,baz=153,slow=11,SNR=7.4						
	comp=N,2.1nm,0.5s						
EKA	**Eskdalemuir Ar**	**24.01**	**325**	P	**P**	**09 48 04.1**	**+0.5**
	comp=N,1.6nm,0.7s,baz=118,slow=9.1,SNR=3.8						
	comp=N,1.6nm,0.7s						
FINES	**FINESS Array B**	**24.04**	**6**	P	**P**	**09 48 04.1**	**+0.3**
	comp=N,3.2nm,1.0s,baz=191,slow=13,SNR=1.6						
FINES				LR	LR	09 58 35.9	
	comp=N,43nm,18.5s,baz=359,slow=40						
	comp=N,3.2nm,1.0s						
NB2	**NORSAR Subarra**	**24.18**	**349**	P	**P**	**09 48 06.3**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=159,slow=9.3						
NOA	**NORSAR Array B**	**24.18**	**349**	P	**P**	**09 48 05.4**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=161,slow=8.7,SNR=3.8						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.80**	**220**	P	**P**	**09 48 57.4**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=19,slow=10,SNR=2.0						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**37.25**	**49**	P	**P**	**09 50 01.4**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=270,slow=8.6,SNR=3.7						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**42.33**	**53**	P	**P**	**09 50 41.5**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=282,slow=8.2,SNR=5.1						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**45.35**	**58**	P	**P**	**09 51 06.9**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=267,slow=7.5,SNR=4.9						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**45.84**	**48**	P	**P**	**09 51 10.4**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=293,slow=9.4,SNR=6.7						
	comp=Z,1.2nm,0.5s						

*PGC **01** 09:59:48.8±0.9, 48°90N×129°71W, h10km, MLSn3.3/37, Mw4.3, 259km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **01** 09:59:51.4±1.7, 49°16N×129°34W, h0km, mb4.0/3, mbtmp3.9/13, ML3.6/10, MS3.5/26, Error ellipse: s-maj=29.4km s-min=10.5km az=71.0*

ISC 01 09:59:50.0±3.3, 48°97N±0°06×129°59W±0°06, h10km±25km, n272, σ2°22/252, mb3.8/3, MS3.5/16, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NCHR	**NEPTUNE Canada**	**1.05**	**161**	P	**Pb**	**10 00 06.8**	**-3.3**
KEMF	**NEPTUNE Canada**	**1.07**	**162**	P	**Pb**	**10 00 06.2**	**-4.3**
NC27	**ODP1027**	**1.71**	**134**	P	**Pn**	**10 00 16.7**	**-2.9**
NC89	**ODP889**	**1.83**	**98**	Pn	**Pn**	**10 00 20.2**	**-1.2**
EDB	**Eliza Dome**	**1.85**	**60**	Pn	**Pn**	**10 00 19.8**	**-2.0**
HOLB	**Holberg**	**1.92**	**29**	Pn	**Pn**	**10 00 20.9**	**-1.9**
HOLB				Sn	**Sn**	**10 00 42.4**	**-4.7**
PACB	**Port Alice, BC**	**2.00**	**42**	Pn	**Pn**	**10 00 21.8**	**-2.0**
PACB				Sn	**Sn**	**10 00 45.5**	**-3.5**
ETB	**Estevan Point**	**2.04**	**77**	Pn	**Pn**	**10 00 23.1**	**-1.3**
PHC	**Port Hardy**	**2.23**	**38**	Pn	**Pn**	**10 00 25.6**	**-1.5**
NCBC	**Barkley Canyon**	**2.32**	**102**	Pn	**Pn**	**10 00 28.2**	**0.0**
NCBC				Sn	**Sn**	**10 00 53.4**	**-3.4**
GDR	**Gold River**	**2.46**	**69**	Pn	**Pn**	**10 00 28.9**	**-1.4**
B012	**Ucluelet**	**2.67**	**89**	Pn	**Pn**	**10 00 31.4**	**-1.6**
B012				Sn	**Sn**	**10 01 01.7**	**-3.7**
OZB	**Mount Ozzard**	**2.70**	**89**	Pn	**Pn**	**10 00 31.9**	**-1.6**
OZB				Sn	**Sn**	**10 01 03.1**	**-3.1**
NCSB	**Newcastle Ridg**	**2.71**	**57**	Pn	**Pn**	**10 00 33.0**	**-0.7**
NCSB				Sn	**Sn**	**10 01 06.2**	**-0.3**
BFSB	**Bamfield**	**2.94**	**91**	Pn	**Pn**	**10 00 35.2**	**-1.5**
BFSB				Sn	**Sn**	**10 01 07.8**	**-4.2**
B928	**Bamfield**	**2.94**	**91**	Pn	**Pn**	**10 00 35.3**	**-1.4**
B928				Sn	**Sn**	**10 01 08.3**	**-3.8**
CBB	**Campbell River**	**2.95**	**67**	Pn	**Pn**	**10 00 36.4**	**-0.6**
B927	**Port Alberni**	**3.15**	**84**	Pn	**Pn**	**10 00 38.2**	**-1.4**
B927				Sn	**Sn**	**10 01 14.9**	**-2.4**
BBB	**Bella Bella**	**3.35**	**16**	Pn	**Pn**	**10 00 41.7**	**-0.8**
	7.4nm,0.3s,baz=231,slow=7.1,SNR=71						
BBB				Sn	**Sn**	**10 01 17.6**	**-4.7**
	18nm,0.3s,baz=297,slow=23,SNR=7.1						
BBB				LR	LR	10 01 53.2	
	comp=Z,292nm,18.9s,baz=199,slow=39						
	22nm,0.3s						
BBB	**Bella Bella**	**3.35**	**16**	Pn	**Pn**	**10 00 41.6**	**-0.8**
BBB				Sn	**Sn**	**10 01 18.1**	**-4.2**
PFB	**Port Renfrew**	**3.43**	**95**	Pn	**Pn**	**10 00 42.4**	**-1.1**
PFB				Sn	**Sn**	**10 01 20.6**	**-3.6**
PTRF	**Port Renfrew**	**3.45**	**95**	Pn	**Pn**	**10 00 42.3**	**-1.5**
PTRF				Sn	**Sn**	**10 01 21.4**	**-3.3**
B926	**Mesachie Lake**	**3.60**	**90**	Pn	**Pn**	**10 00 45.2**	**-0.7**
B926				Sn	**Sn**	**10 01 25.7**	**-2.8**
CLRS	**Cowichan Lake**	**3.60**	**90**	Pn	**Pn**	**10 00 44.8**	**-1.1**
CLRS				Sn	**Sn**	**10 01 25.8**	**-2.7**
NLLB	**Nanaimo Lost L**	**3.69**	**84**	Pn	**Pn**	**10 00 46.8**	**-0.3**
NLLB				Sn	**Sn**	**10 01 28.9**	**-1.7**
OBC	**Olympics--Boni**	**3.78**	**102**	Pn	**Pn**	**10 00 47.7**	**-0.7**
SHB	**Sechelt**	**3.79**	**78**	Pn	**Pn**	**10 00 48.3**	**-0.3**
SYMB	**Survey Mountai**	**3.85**	**94**	Pn	**Pn**	**10 00 48.4**	**-1.0**
SYMB				Sn	**Sn**	**10 01 31.9**	**-2.9**
BNB	**Barry Inlet**	**3.87**	**340**	Pn	**Pn**	**10 00 47.9**	**-1.7**
BAIB	**Barry Inlet**	**3.87**	**340**	Pn	**Pn**	**10 00 47.7**	**-1.8**
GOBB	**Galiano Island**	**4.00**	**88**	Pn	**Pn**	**10 00 51.8**	**+0.4**
STW	**Striped Peak**	**4.01**	**100**	Pn	**Pn**	**10 00 51.2**	**-0.4**
B009	**North Saanich**	**4.07**	**92**	Pn	**Pn**	**10 00 51.9**	**-0.3**
B009				Sn	**Sn**	**10 01 36.4**	**-3.5**
B010	**North Saanich**	**4.07**	**92**	Pn	**Pn**	**10 00 51.6**	**-0.6**
B010				Sn	**Sn**	**10 01 37.8**	**-2.1**
PGC	**Sidney**	**4.07**	**92**	Pn	**Pn**	**10 00 51.5**	**-0.7**
B011	**North Saanich**	**4.07**	**92**	Pn	**Pn**	**10 00 51.6**	**-0.7**
B011				Sn	**Sn**	**10 01 37.6**	**-2.4**
BIB	**Bowen Island**	**4.14**	**82**	Pn	**Pn**	**10 00 52.8**	**-0.5**
BUTB	**Butedale**	**4.16**	**9**	Pn	**Pn**	**10 00 52.9**	**-0.7**
BUTB				Sn	**Sn**	**10 01 38.1**	**-4.3**
VGZ	**Gonzales**	**4.18**	**95**	Pn	**Pn**	**10 00 53.2**	**-0.7**
VGZ				Sn	**Sn**	**10 01 39.5**	**-3.4**
SNB	**Saturna Island**	**4.24**	**90**	Pn	**Pn**	**10 00 54.7**	**0.0**
MGMB	**Mountain Meage**	**4.33**	**65**	Pn	**Pn**	**10 00 57.1**	**+1.1**
GRIB	**Gribbell Islan**	**4.39**	**4**	Pn	**Pn**	**10 00 55.0**	**-1.7**
GRIB				Sn	**Sn**	**10 01 43.9**	**-4.0**
MCW	**Mount Constitu**	**4.47**	**91**	Pn	**Pn**	**10 00 57.9**	**0.0**
WSLR	**Whistler**	**4.49**	**73**	Pn	**Pn**	**10 00 58.6**	**+0.4**
HDW	**Hoodsport**	**4.55**	**104**	Pn	**Pn**	**10 00 59.6**	**+0.5**
BNAB	**Bonilla**	**4.58**	**352**	Pn	**Pn**	**10 00 58.1**	**-1.2**
DIB	**Dawson Inlet,**	**4.62**	**338**	Pn	**Pn**	**10 00 58.7**	**-1.1**
H02S1	**DAWSON INLET T**	**4.62**	**338**	Pn	**Pn**	**10 00 57.8**	**-2.0**
HNBB	**Haney**	**4.62**	**83**	Pn	**Pn**	**10 00 59.9**	**0.0**
HWKB	**Hawksbury Isla**	**4.64**	**3**	Sn	**Sn**	**10 01 48.7**	**-5.6**
GNW	**Green Mountain**	**4.73**	**105**	Sn	**Sn**	**10 01 54.2**	**-2.0**
GRNB	**Grenville Isla**	**4.89**	**357**	Pn	**Pn**	**10 01 03.0**	**-0.6**
GRNB				Sn	**Sn**	**10 01 56.4**	**-3.9**
MBW	**Mount Baker**	**5.08**	**89**	Pn	**Pn**	**10 01 07.0**	**+0.7**
UBRB	**Upper Baezaeko**	**5.25**	**39**	Pn	**Pn**	**10 01 09.7**	**+1.1**
LLLB	**Lillooet**	**5.25**	**69**	Pn	**Pn**	**10 01 09.3**	**+0.6**
RPW	**Rockport**	**5.37**	**93**	Pn	**Pn**	**10 01 10.6**	**+0.4**
HOPB	**Hope**	**5.37**	**82**	Pn	**Pn**	**10 01 10.6**	**+0.4**
RUBB	**Prince Rupert**	**5.38**	**356**	Pn	**Pn**	**10 01 09.5**	**-0.8**
FSJB	**Fort St James**	**6.41**	**29**	Pn	**Pn**	**10 01 25.2**	**+0.8**
V35K	**Ketchikan**	**6.49**	**350**	Pn	**Pn**	**10 01 25.1**	**-0.5**
V35K				Sn	**Sn**	**10 02 35.3**	**-4.3**
B08A	**Colville Reser**	**6.82**	**91**	Pn	**Pn**	**10 01 30.0**	**-0.2**
T35M	**Bob Quinn**	**8.04**	**357**	Pn	**Pn**	**10 01 46.9**	**+0.1**
T35M	**Bob Quinn**	**8.04**	**357**	P	**Pn**	**10 01 49.9**	**+3.1**
	baz=178						
NEW	**Newport**	**8.29**	**90**	Pn	**Pn**	**10 01 50.3**	**0.0**
	0.5nm,0.3s,baz=282,slow=13,SNR=7.5						
NEW				LR	LR	10 05 03.2	
	comp=Z,448nm,18.8s,baz=273,slow=38						
	1.4nm,0.2s						
BMTB	**Bullhead Mount**	**8.42**	**30**	Sn	**Sn**	**10 03 26.5**	**-0.6**
YBH	**Yreka Blue Hor**	**8.70**	**144**	Pn	Pn	10 02 01.8	+5.7
	0.3nm,0.3s,baz=338,slow=13,SNR=52						
YBH				LR	LR	10 05 02.1	
	comp=Z,372nm,20.2s,baz=348,slow=35						
	27nm,0.9s						
SIT	**Sitka**	**8.81**	**339**	P	**Pn**	**10 01 59.2**	**+2.0**
	baz=155						
BDMTA	**Bald Mountain**	**8.81**	**44**	Pn	**Pn**	**10 01 59.2**	**+1.7**
S34M	**Telegraph Cree**	**9.01**	**355**	P	**Pn**	**10 02 03.6**	**+3.5**
	baz=174						
DLBC	**Dease Lake**	**9.49**	**359**	Pn	**Pn**	**10 02 06.8**	**+0.1**
	0.1nm,0.3s,baz=180,slow=15,SNR=2.4						
DLBC				LR	LR	10 05 38.6	
	comp=Z,431nm,19.2s,baz=184,slow=37						
	1.6nm,0.7s						
DLBC	**Dease Lake**	**9.49**	**359**	Pn	**Pn**	**10 02 06.7**	**-0.1**
DLBC	**Dease Lake**	**9.49**	**359**	P	**Pn**	**10 02 09.7**	**+2.9**
	baz=179						
TOAD	**Toad River Com**	**10.23**	**13**	P	**Pn**	**10 02 20.0**	**+3.3**
	baz=197						
R33M	**Jennings River**	**10.48**	**356**	P	**Pn**	**10 02 23.3**	**+3.0**
	baz=176						
FNSB	**Fort Nelson**	**10.65**	**20**	Pn	**Pn**	**10 02 23.3**	**+0.8**
PLBC	**Pleasant Camp**	**11.23**	**342**	P	**Pn**	**10 02 33.3**	**+2.9**
	baz=157						
P33M	**Teslin, Yukon**	**11.42**	**352**	P	**Pn**	**10 02 36.1**	**+3.0**
	baz=170						
P30M	**Million Dollar**	**11.96**	**342**	P	**Pn**	**10 02 43.8**	**+3.4**
	baz=156						
WHY	**Whitehorse**	**12.10**	**347**	Pn	**Pn**	**10 02 42.7**	**+0.2**
WHY	**Whitehorse**	**12.10**	**347**	P	**Pn**	**10 02 45.1**	**+2.7**
	baz=164,SNR=7.2						
N32M	**Quiet Lake**	**12.37**	**352**	P	**Pn**	**10 02 49.2**	**+3.1**
	baz=170						
O30N	**Mendenhall**	**12.40**	**345**	P	**Pn**	**10 02 49.7**	**+3.2**
	baz=160,SNR=5.4						
O29M	**Mount Kennedy**	**12.48**	**339**	P	**Pn**	**10 02 50.7**	**+3.1**
	baz=152						
HYT	**Haines Junctio**	**12.71**	**342**	P	**Pn**	**10 02 53.2**	**+2.4**
	baz=156						
PINM	**Pinnacle**	**12.73**	**335**	P	**Pn**	**10 02 52.7**	**+1.6**
	baz=147						
YUK6	**Outpost Mounta**	**13.00**	**341**	P	**Pn**	**10 02 58.0**	**+3.2**
	baz=154						
N31M	**Braeburn, Yuko**	**13.03**	**347**	Pn	**Pn**	**10 02 58.5**	**+3.5**
N31M	**Braeburn, Yuko**	**13.03**	**347**	P	**Pn**	**10 02 57.5**	**+2.5**
	baz=162,SNR=8.0						
ELK	**Elko**	**13.07**	**124**	LR	LR	10 08 01.5	
	comp=Z,97nm,19.4s,baz=316,slow=38						
N30M	**Aishikik Lake**	**13.22**	**344**	P	**Pn**	**10 03 00.7**	**+3.1**
	baz=158,SNR=6.9						
O28M	**Mount Upton**	**13.29**	**337**	P	**Pn**	**10 03 01.4**	**+2.6**
	baz=149						
MESA	**MESA**	**13.30**	**332**	P	**Pn**	**10 03 01.2**	**+2.3**
	baz=143						
NVAR	**Mina Array Bea**	**13.31**	**138**	Pn	P	10 03 03.9	-5.1
	baz=314,slow=12,SNR=13						
NVAR				LR	LR	10 07 59.4	
	comp=Z,288nm,19.1s,baz=316,slow=36						
	3.0nm,0.7s						
FARO	**Faro, Yukon**	**13.46**	**352**	P	**Pn**	**10 03 04.1**	**+3.2**
	baz=170,SNR=5.6						
BRWY	**Burwash Landin**	**13.53**	**340**	Sn	**Sn**	**10 05 30.4**	**-1.7**
M31M	**Drury Creek, Y**	**13.54**	**350**	P	**Pn**	**10 03 04.5**	**+2.5**
	baz=167						
YUK8	**Steele Glacier**	**13.62**	**339**	P	**Pn**	**10 03 06.5**	**+3.2**
	baz=151						
KAIM	**Kayak Island**	**13.92**	**328**	P	**Pn**	**10 03 09.5**	**+2.3**
	baz=136						
CRQE	**Cirque**	**14.10**	**332**	P	**Pn**	**10 03 12.6**	**+2.8**
	baz=141						
M30M	**Minto, Yukon**	**14.22**	**346**	P	**Pn**	**10 03 13.6**	**+2.4**
	baz=161						
YUK3	**Moose Creek**	**14.22**	**339**	P	**Pn**	**10 03 14.3**	**+2.8**
	baz=150						
Q23K	**Middleton Isla**	**14.31**	**323**	P	**Pn**	**10 03 14.1**	**+1.7**
	baz=130						
M29M	**Somme Creek**	**14.38**	**343**	P	**P**	**10 03 16.4**	**-4.2**
	baz=156,SNR=7.3						
MCARA	**McCarthy VSAT**	**14.57**	**334**	P	**P**	**10 03 19.2**	**-3.5**
	baz=143						
R11B	**Troy Canyon, C**	**14.65**	**131**	P	**P**	**10 03 20.7**	**-3.1**
	baz=321						
BMRM	**Bremner River**	**14.74**	**330**	P	**P**	**10 03 21.0**	**-3.6**
	baz=138						
EYAK	**Cordova Ski Ar**	**14.83**	**327**	P	**P**	**10 03 22.1**	**-3.4**
	baz=135						
BVCY	**Beaver Creek**	**14.87**	**339**	P	**P**	**10 03 23.2**	**-2.7**
	baz=150						
L29M	**L29M**	**14.94**	**345**	P	**P**	**10 03 23.7**	**-3.0**
	baz=158,SNR=9.2						
M27K	**Edge Creek, AK**	**15.06**	**338**	P	**P**	**10 03 24.9**	**-3.3**
	baz=148						
N25K	**Chitina, Valde**	**15.22**	**332**	P	**P**	**10 03 27.1**	**-2.8**
	baz=140						
PDAR	**Pinedale Array**	**15.25**	**106**	Pn	**P**	**10 03 28.9**	**-1.7**
	0.1nm,0.3s,baz=308,slow=17,SNR=4.0						
PDAR				LR	LR	10 09 20.1	
	comp=Z,78nm,21.6s,baz=288,slow=38						
	0.7nm,0.9s						
M26K	**Nabesna, AK**	**15.39**	**336**	P	**P**	**10 03 29.7**	**-2.1**
	baz=145						
K29M	**Barlow Dome**	**15.52**	**347**	P	**P**	**10 03 31.2**	**-2.1**
	baz=160						
GLI	**Glacier Island**	**15.54**	**327**	P	**P**	**10 03 31.9**	**-1.5**
	baz=133						
KLU	**Klutina**	**15.56**	**330**	P	**P**	**10 03 32.0**	**-1.7**
	baz=137						
L27K	**Beaver Creek,**	**15.65**	**339**	P	**P**	**10 03 32.8**	**-1.8**
	baz=149						
YKA	**Yellowknife Ar**	**15.90**	**26**	Pn	**Pn**	**10 03 30.6**	**-3.0**
	0.7nm,0.3s,baz=243,slow=14,SNR=13						
	1.1nm,0.5s						
SEW	**Seward**	**15.96**	**322**	P	**P**	**10 03 37.5**	**-0.5**
	baz=126						
L26K	**Log Cabin Wild**	**16.00**	**337**	P	**P**	**10 03 37.6**	**-0.9**
	baz=146						
HARP	**HAARP**	**16.00**	**333**	P	**P**	**10 03 37.7**	**-0.8**
	baz=140						
DAWY	**Dawson**	**16.04**	**344**	P	**P**	**10 03 38.3**	**-0.7**
	baz=156						
J30M	**Hart River**	**16.06**	**349**	P	**P**	**10 03 38.0**	**-1.3**
	baz=164						
J29N	**Klondike Camp**	**16.20**	**347**	P	**P**	**10 03 40.3**	**-0.5**
	baz=160						
KDAK	**Kodiak Island**	**16.24**	**312**	LR	LR	10 08 06.9	
	comp=Z,169nm,21.2s,baz=130,slow=30						
KDAK	**Kodiak Island**	**16.24**	**312**	P	**P**	**10 03 41.2**	**+0.1**
	baz=113						
BRSE	**Bradley Lake S**	**16.30**	**319**	P	**P**	**10 03 42.3**	**+0.5**
	baz=122						
M23K	**Glacier View**	**16.39**	**328**	P	**P**	**10 03 42.9**	**+0.1**
	baz=134						
KNK	**Knik Glacier**	**16.39**	**327**	P	**P**	**10 03 43.1**	**+0.3**
	baz=131						
PAX	**Paxson**	**16.54**	**334**	P	**P**	**10 03 44.3**	**-0.2**
	baz=141						
I30M	**Mount Dempster**	**16.69**	**350**	P	**P**	**10 03 47.1**	**+0.9**
	baz=165						
PMR	**Palmer**	**16.75**	**326**	P	**P**	**10 03 48.0**	**+1.2**
	baz=130						
WAT6	**Susitna Watana**	**16.95**	**330**	P	**P**	**10 03 50.5**	**+1.4**
	baz=136						
SCRK	**Sand Creek**	**16.95**	**338**	P	**P**	**10 03 49.6**	**+0.5**
	baz=146						
RIDG	**Independent Ri**	**16.97**	**336**	P	**P**	**10 03 49.9**	**+0.6**
	baz=144						
EGAK	**Eagle**	**17.01**	**343**	P	**P**	**10 03 51.4**	**+1.7**
	baz=154,SNR=6.1						
H31M	**Peel River**	**17.07**	**353**	P	**P**	**10 03 51.9**	**+1.6**
	baz=170						
I29M	**Ogilvie Camp,**	**17.07**	**347**	P	**P**	**10 03 51.7**	**+1.3**
	baz=160						
SUA	**Susitna One**	**17.28**	**324**	P	**P**	**10 03 54.0**	**+1.3**
	baz=127						
J26L	**Joseph Creek**	**17.29**	**339**	P	**P**	**10 03 54.1**	**+1.3**
	baz=148						
I28M	**Miner Creek**	**17.41**	**345**	P	**P**	**10 03 55.4**	**+1.3**
	baz=157						
CUT	**Chulitna**	**17.69**	**327**	P	**P**	**10 03 58.7**	**+1.6**
	baz=130						
N20K	**Mount Spurr**	**17.70**	**322**	P	**P**	**10 03 58.9**	**+1.4**
	baz=124						
Q18K	**Katmai Hardscr**	**17.76**	**313**	P	**P**	**10 03 59.7**	**+1.6**
	baz=112						
J25K	**Salcha River,**	**17.82**	**337**	P	**P**	**10 04 00.1**	**+1.5**
	baz=144						
EPYK	**Eagle Plains**	**17.84**	**351**	P	**P**	**10 04 00.1**	**+1.3**
	baz=165						
I27K	**Kandik River**	**17.84**	**344**	P	**P**	**10 03 59.7**	**+0.8**
	baz=154						
I26K	**Coal Creek Min**	**17.89**	**341**	P	**P**	**10 04 00.9**	**+1.6**
	baz=150						
H29M	**Whitestone**	**17.89**	**348**	P	**P**	**10 04 01.0**	**+1.6**
	baz=161						
Q17K	**Contact Creek**	**18.05**	**311**	P	**P**	**10 04 03.1**	**+1.8**
	baz=110						
HDA	**Harding Lake**	**18.07**	**335**	P	**P**	**10 04 03.6**	**+2.3**

E29M	**Blow River**	19.92	351	P	Pn	10 04 24.0 +0.8
	baz=164				
G24K	**Hadweenzic Riv**	20.02	339	P	Pn	10 04 24.7 +0.2
	baz=144				
L18K	**Granite Mounta**	20.06	322	P	Pn	10 04 26.0 +1.1
	baz=119				
TTA	**Tatalina**	20.15	324	P	Pn	10 04 27.1 +1.0
	baz=122				
J20K	**Nowinta River**	20.17	328	P	Pn	10 04 26.8 +0.6
	baz=128				
F26K	**Sheenjek River**	20.17	344	P	Pn	10 04 26.8 +0.6
	baz=152				
E27K	**Coleen River**	20.19	347	P	Pn	10 04 26.9 +0.4
	baz=157				
O15K	**Ungalikthiuk R**	20.29	312	P	Pn	10 04 28.4 +0.8
	baz=107				
E28M	**Babbage River**	20.31	349	P	Pn	10 04 27.7 0.0
	baz=161				
F25K	**Christian Rive**	20.37	342	P	Pn	10 04 28.8 +0.2
	baz=149				
H22K	**Ishtalitna Cre**	20.43	334	P	Pn	10 04 29.4 +0.1
	baz=136				
M16K	**Timber Creek**	20.51	317	P	Pn	10 04 30.9 +0.6
	baz=113				
J19K	**Poorman**	20.59	327	P	Pn	10 04 31.2 +0.1
	baz=125,SNR=5.1				
G23K	**Bananza Creek**	20.66	337	P	Pn	10 04 32.0 0.0
	baz=140				
I20K	**Naaghedeneel**	20.66	329	P	Pn	10 04 31.9 -0.1
	baz=128				
H21K	**Melozitna Rive**	20.69	332	P	Pn	10 04 32.8 +0.5
	baz=133				
L17K	**Donlin**	20.69	320	P	Pn	10 04 32.4 +0.2
	baz=117				
J18K	**Innoko River**	20.70	325	P	Pn	10 04 32.8 +0.3
	baz=122				
F24K	**Squaw Lake**	20.79	340	P	Pn	10 04 33.0 -0.4
	baz=145				
E25K	**Arctic Village**	20.81	343	P	Pn	10 04 33.8 +0.1
	baz=150				
D28M	**Stokes Point**	20.91	351	P	Pn	10 04 34.5 -0.3
	baz=163				
K17K	**Iditarod**	20.95	322	P	Pn	10 04 35.5 +0.1
	baz=118				
L16K	**Owhat River**	21.01	319	P	**P**	**10 04 36.2 +2.8**
	baz=114				
D27M	**Malcolm River**	21.09	349	P	**P**	**10 04 36.2 +1.9**
	baz=159				
COLD	**Coldfoot**	21.10	338	P	**P**	**10 04 36.6 +2.2**
	baz=140				
M15K	**Kasigluk River**	21.18	315	P	**P**	**10 04 37.9 +2.6**
	baz=110				
G22K	**Bettles**	21.21	336	P	**P**	**10 04 37.5 +2.0**
	baz=138				
H20K	**Anotleneega Mo**	21.23	331	P	**P**	**10 04 38.7 +2.8**
	baz=129				
E24K	**Your Creek**	21.37	340	P	**P**	**10 04 39.4 +2.0**
	baz=144				
GCSA	**Galena City Sc**	21.46	327	P	**P**	**10 04 41.4 +3.2**
	baz=125				
G21K	**Allakaket**	21.48	334	P	**P**	**10 04 40.6 +2.1**
	baz=134				
J17K	**VABM Dome**	21.59	323	P	**P**	**10 04 42.2 +2.6**
	baz=118				
E23K	**Chandalar**	21.61	340	P	**P**	**10 04 43.2 +3.3**
	baz=142				
T25A	**Trinidad**	21.76	113	P	**P**	**10 04 44.7 +2.8**
	baz=311				
H19K	**Roundabout Mou**	21.77	330	P	**P**	**10 04 45.0 +3.5**
	baz=127				
ULM	**Lac du Bonnet**	21.78	74	P	**P**	**10 04 44.0 +2.2**
	40nm,1.0s,baz=285,slow=11,SNR=23				
ULM				LR	LR	10 13 19.4
	comp=Z,171nm,20.8s,baz=266,slow=38				
	40nm,1.0s				
M14K	**Bethel**	21.79	315	P	**P**	**10 04 43.9 +2.1**
	baz=108				
F22K	**John River**	21.82	337	P	**P**	**10 04 45.3 +3.1**
	baz=137				
C27K	**Jago River**	21.82	347	P	**P**	**10 04 44.6 +2.4**
	baz=155				
L15K	**Ungalak Mounta**	21.89	317	P	**P**	**10 04 46.1 +3.2**
	baz=111				
F21K	**Alatna River**	21.97	335	P	**P**	**10 04 46.7 +3.0**
	baz=135				
TOLK	**Tolik Lake Re**	22.07	341	P	**P**	**10 04 47.6 +2.8**
	baz=143				
ANMO	**Albuquerque**	22.07	121	P	**P**	**10 04 48.6 +3.4**
	3.1nm,0.8s,baz=122,slow=9.6,SNR=17				
ANMO				LR	LR	10 14 19.9
	comp=Z,29nm,18.9s,baz=116,slow=39				
	3.1nm,0.8s				
K15K	**Wolf Creek Mou**	22.14	319	P	**P**	**10 04 49.2 +3.7**
	baz=113				
C26K	**Camden Bay**	22.27	346	P	**P**	**10 04 49.1 +2.2**
	baz=153,SNR=6.2				
L14K	**Kuka Creek**	22.31	316	P	**P**	**10 04 50.2 +2.9**
	baz=109				
G19K	**Purcell Mounta**	22.35	330	P	**P**	**10 04 50.5 +2.7**
	baz=127				
F20K	**Avaraart Lake**	22.50	333	P	**P**	**10 04 51.2 +1.9**
	baz=131				
H17K	**Granite Mounta**	22.66	326	P	**P**	**10 04 53.5 +2.3**
	baz=121				
C24K	**Franklin Bluff**	22.77	343	P	**P**	**10 04 54.8 +2.6**
	baz=146				
F19K	**Shaleruckik Mo**	22.99	331	P	**P**	**10 04 56.8 +2.3**
	baz=128				
121A	**Cookes Peak, D**	23.16	127	P	**P**	**10 04 59.5 +2.8**
	baz=321				
A36M	**Sachs Harbour**	23.18	3	P	**P**	**10 04 58.8 +2.4**
	baz=188				
E19K	**Redstone River**	23.21	333	P	**P**	**10 04 59.2 +2.4**
	baz=129				
D20K	**Etivluk River**	23.86	336	P	**P**	**10 05 05.8 +2.6**
	baz=132				
F17K	**Baldwin Pennin**	23.91	329	P	**P**	**10 05 06.2 +2.6**
	baz=122				
B21K	**Ikpikpuk River**	23.98	339	P	**P**	**10 05 06.9 +2.6**
	baz=137				
B22K	**Teshekpuk Lake**	24.25	341	P	**P**	**10 05 09.6 +2.8**
	baz=140				
D17K	**Noatak River**	25.18	330	P	**P**	**10 05 17.7 +2.5**
	baz=122				
RDOG	**Red Dog Mine**	25.31	331	P	**P**	**10 05 19.4 +2.9**
	baz=122				
TXAR	**Lajitas Array**	27.86	125	P	**P**	**10 05 42.2 +2.3**
	0.7nm,0.9s,baz=294,slow=6.7,SNR=4.9				
	0.7nm,0.9s				
LPIG	**La Paz**	29.09	142	LR	LR	10 18 01.7
	comp=Z,55nm,18.1s,baz=329,slow=37				
FRB	**Frobisher Bay**	35.35	42	LR	LR	10 21 28.9
	comp=Z,132nm,19.0s,baz=104,slow=37				
TKL	**Tuckaleechee C**	35.85	94	LR	LR	10 22 07.3
	comp=Z,81nm,19.2s,baz=319,slow=37				
SCHQ	**Schefferville**	38.00	57	LR	LR	10 23 09.8
	comp=Z,249nm,19.4s,baz=298,slow=37				
SFJD	**Kangerlussuaq**	42.17	35	LR	LR	10 24 37.8
	comp=Z,120nm,18.4s,baz=320,slow=36				
CMIG	**Matias Romero**	42.45	126	LR	LR	10 27 03.3
	comp=Z,41nm,18.5s,baz=10.0,slow=38				
MA2	**Magadan**	44.95	315	LR	LR	10 24 54.6
	comp=Z,36nm,20.9s,baz=74,slow=34				
YAK	**Yakutsk**	52.74	324	LR	LR	10 30 32.5
	comp=Z,45nm,19.3s,baz=12,slow=35				
BORG	**Borgarnes**	53.78	30	LR	LR	10 31 57.0
	comp=Z,68nm,18.2s,baz=314,slow=36				
H11N2	**WAKE ISLAND Hy**	58.05	264	T	T	11 12 30.9
	baz=43,slow=75				
H11N3	**WAKE ISLAND Hy**	58.05	264	T	T	11 12 27.4
	baz=43,slow=75				
H11N1	**WAKE ISLAND Hy**	58.06	264	T	T	11 12 30.8
	baz=43,slow=75				
H11S1	**WAKE ISLAND Hy**	59.05	263	T	T	11 13 45.0
	baz=34,slow=74				
H11S2	**WAKE ISLAND Hy**	59.06	263	T	T	11 13 43.2
	baz=34				
H11S3	**WAKE ISLAND Hy**	59.07	263	T	T	11 13 47.3
	baz=34,slow=74				
SDV	**Santo Domingo**	63.17	108	LR	LR	10 42 41.5
	comp=Z,19nm,18.5s,baz=290,slow=41				
NOA	**NORSAR Array B**	65.89	20	LR	LR	10 40 04.7
	comp=Z,20nm,16.6s,baz=335,slow=37				
ZALV	**Zalesovo Beam**	73.42	340	LR	LR	10 45 34.8
	comp=Z,40nm,18.5s,baz=344,slow=37				
AAK	**Ala-Archa**	86.35	342	LR	LR	10 57 12.2
	comp=Z,18nm,18.0s,baz=354,slow=40				
TGY	**Tagaytay City**	91.78	294	LR	LR	10 46 31.8
	comp=Z,55nm,21.2s,baz=315,slow=30				

*IDC **01** 10:01:48.7±1.1, 37°.32N×20°.43E, h0km, mb3.8/9, mbtmp3.6/16, ML3.6/4, MS3.2/17, Error ellipse: s-maj=20.0km s-min=16.7km az=5.0*
*THE **01** 10:01:52.4, 37°.30N×20°.55E, h0km±2km, ML4.0/13, Error ellipse: s-maj=3.2km s-min=0.8km az=229.0*
*ATH **01** 10:01:53.2, 37°.30N×20°.57E, h12km±1km, ML3.8/6, Error ellipse: s-maj=3.2km s-min=1.2km az=40.0*
*TIR **01** 10:01:54.6, 37°.65N×21°.65E, h0km±5km, Md4.5, Ml4.1*
*NAO **01** 10:01:57.2, 37°.15N×20°.62E, h10km, mb3.7*

ISC 01 10:01:52.2±0.7, 37°.29N±0°.03×20°.55E±0°.03, h10km±5km, n93, σ1°96/104, mb3.7/9, MS3.1/14, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.43**	**30**	P	**Pg**	**10 02 00.6**	**0.0**
KRI1				S	**Sg**	**10 02 06.8**	**+0.5**
	34μm,0.4s						
LTHK	**Lithakia**	**0.47**	**29**	P	**Pg**	**10 02 01.3**	**-0.2**
LTHK				S	**Sg**	**10 02 07.7**	**-0.1**
	31μm,0.6s						
LTHK	**Lithakia**	**0.47**	**29**	P	**Pg**	**10 02 01.6**	**+0.1**
LTHK				S	**Sg**	**10 02 08.1**	**+0.3**
LTHK				AML	AML	10 02 08.6	
	comp=N,7597μm,0.9s						
LTHK				AML	AML	10 02 08.8	
	comp=E,64566μm,0.5s						
RTZL	**Ratzakli, Kefa**	**0.80**	**13**	P	**Pg**	**10 02 07.1**	**-0.6**
RTZL				S	**Sb**	**10 02 19.8**	**+0.6**
	comp=E,15μm,0.8s						
PSDA	**Pessada-Kefalo**	**0.82**	**2**	P	**Pg**	**10 02 08.4**	**+0.4**
PSDA				S	**Sg**	**10 02 19.5**	**+0.8**
	comp=E,11μm,0.6s						
VLS	**Valsamata**	**0.88**	**2**	P	**Pg**	**10 02 09.1**	**-0.1**
VLS				S	**Sg**	**10 02 21.0**	**+0.2**
	comp=E,9μm,0.7s						
VLS	**Valsamata**	**0.88**	**2**	P	**Pg**	**10 02 09.1**	**-0.1**
VLS				S	**Sb**	**10 02 22.4**	**+0.9**
VLS				AML	AML	10 02 24.9	
	comp=E,15452μm,0.5s						
VLS				AML	AML	10 02 29.1	
	comp=N,14628μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.91**	**355**	P	**Pb**	**10 02 10.8**	**+0.7**
DMLN	**Damoulianata-K**	**0.95**	**352**	P	**Pg**	**10 02 10.7**	**+0.1**
DMLN				S	**Sb**	**10 02 25.0**	**+1.4**
	comp=N,22μm,0.6s						
DMLN	**Damoulianata-K**	**0.95**	**352**	P	**Pb**	**10 02 11.4**	**+0.5**
AMT	**Artemida-Makis**	**0.96**	**75**	P	**Pg**	**10 02 10.9**	**+0.2**
AMT				S	**Sb**	**10 02 24.1**	**+0.4**
PYL	**PYLOS**	**1.04**	**112**	P	**Pg**	**10 02 11.4**	**-0.8**
PYL				S	**Sb**	**10 02 27.6**	**+1.7**
	comp=N,5μm,0.4s						
PYL	**PYLOS**	**1.04**	**112**	P	**Pg**	**10 02 12.0**	**-0.1**
PYL				S	**Sb**	**10 02 26.6**	**+0.7**
PYL				AML	AML	10 02 30.4	
	comp=E,11602μm,0.4s						
PYL				AML	AML	10 02 31.3	
	comp=N,7844μm,0.4s						
RLS	**Riolos of Patr**	**1.06**	**44**	P	**Pg**	**10 02 11.0**	**-1.6**
RLS				S	**Sb**	**10 02 27.3**	**+0.8**
	comp=N,4μm,0.5s						
RLS	**Riolos of Patr**	**1.06**	**44**	P	**Pg**	**10 02 11.5**	**-1.1**
RLS				AML	AML	10 02 31.3	
	comp=E,7502μm,0.4s						
RLS				AML	AML	10 02 36.7	
	comp=N,7291μm,0.7s						
ITM	**Ithomi**	**1.11**	**95**	P	**Pg**	**10 02 13.2**	**-0.3**
ITM				S	**Sb**	**10 02 30.0**	**+2.0**
	comp=N,4μm,0.4s						
ITM	**Ithomi**	**1.11**	**95**	P	**Pg**	**10 02 13.5**	**0.0**
ITM				S	**Sg**	**10 02 27.9**	**-0.1**
ITM				AML	AML	10 02 33.2	
	comp=E,6692μm,0.3s						
ITM				AML	AML	10 02 34.2	
	comp=N,7409μm,0.4s						
VSK1	**VASILIKIADES**	**1.11**	**1**	P	**Pg**	**10 02 12.7**	**-0.9**
VSK1				S	**Sb**	**10 02 29.4**	**+1.2**
	comp=N,11μm,0.7s						
DRO	**Drossia**	**1.14**	**54**	P	**Pg**	**10 02 12.8**	**-1.3**
DRO				S	**Sb**	**10 02 30.1**	**+1.3**
	comp=N,7μm,0.3s						
DRO	**Drossia**	**1.14**	**54**	P	**Pg**	**10 02 13.6**	**-0.5**
FSK	**Fiskardo**	**1.16**	**1**	P	**Pg**	**10 02 13.7**	**-0.9**
FSK				S	**Sb**	**10 02 31.0**	**+1.4**
FSK	**Fiskardo**	**1.16**	**1**	P	**Pg**	**10 02 14.2**	**-0.4**
FSK				S	**Sg**	**10 02 29.0**	**-0.8**
FSK				AML	AML	10 02 35.3	
	comp=E,14064μm,0.6s						
FSK				AML	AML	10 02 36.0	
	comp=N,11265μm,0.7s						
EVGI	**Lefkada island**	**1.33**	**4**	P	**Pg**	**10 02 16.4**	**-1.3**
EVGI				S	**Sn**	**10 02 36.6**	**+2.0**
	comp=N,4μm,0.8s						
EVGI	**Lefkada island**	**1.33**	**4**	P	**Pg**	**10 02 16.9**	**-0.8**
KLV	**Kalavryta, Ach**	**1.48**	**59**	P	**Pn**	**10 02 19.0**	**0.0**
KLV	**Kalavryta, Ach**	**1.48**	**59**	P	**Pn**	**10 02 18.9**	**-0.1**
LKD2	**Lefkada island**	**1.50**	**3**	P	**Pb**	**10 02 21.3**	**+1.2**
LKD2				S	**Sn**	**10 02 42.2**	**+3.4**
LKD2				AMP			
	comp=E,15nm,0.6s,baz=326						
TSLK	**Tsoukalades, L**	**1.53**	**3**	P	**Pb**	**10 02 21.3**	**+0.6**
TSLK				S	**Sn**	**10 02 41.9**	**+2.3**
	comp=E,6μm,0.8s						
TSLK	**Tsoukalades, L**	**1.53**	**3**	P	**Pn**	**10 02 19.8**	**+0.2**
EFP	**Efpalio**	**1.56**	**43**	P	**Pn**	**10 02 20.9**	**+0.8**
EFP				S	**Sg**	**10 02 43.4**	**+0.9**
EFP	**Efpalio**	**1.56**	**43**	P	**Pn**	**10 02 20.3**	**+0.2**
GUR	**Goura**	**1.56**	**65**	P	**Pn**	**10 02 20.4**	**+0.2**
ALIK	**Aliki, Aigiali**	**1.57**	**52**	P	**Pn**	**10 02 21.0**	**+0.8**
IGT	**Igoumenitsa**	**2.24**	**356**	P	**Pb**	**10 02 34.0**	**+1.1**
IGT				S	**Sg**	**10 03 08.9**	**+4.6**
IGT				AMP			
	comp=E,4.0nm,0.7s,baz=332						
SRN	**Sarande**	**2.62**	**351**	P	**Pg**	**10 02 42.1**	**-0.3**
SRN				S	**Sg**	**10 03 16.8**	**+0.5**
SRN				AMP			
	comp=E,1.5nm,1.0s,baz=331						
LSK	**Leskovik**	**2.85**	**1**	P	**Pb**	**10 02 42.0**	**-1.3**
LSK				S	**Sn**	**10 03 16.0**	**+3.6**
LSK				AMP			
	comp=E,4.2nm,0.8s,baz=343						
NEST	**Nestorio**	**3.14**	**7**	P	**Pn**	**10 02 45.8**	**+3.9**
NEST				S	**Sn**	**10 03 22.1**	**+2.6**
SCTE	**Santa Cesarea**	**3.21**	**330**	P	**Pb**	**10 02 51.5**	**+2.1**
SCTE				S	**Sg**	**10 03 40.6**	**+5.1**
FNA	**Florina**	**3.54**	**10**	P	**Pn**	**10 02 49.4**	**+2.0**
FNA				S	**Sb**	**10 03 35.4**	**-2.8**
FNA				AMP			
	comp=N,0.4nm,0.9s,baz=357						
OHR	**Ohrid**	**3.82**	**3**	*i* Pn	**Pn**	**10 02 53.8**	**+2.6**
THE	**Thessaloniki**	**3.83**	**29**	P	**Pn**	**10 02 51.0**	**-0.3**
THE				S	**Sn**	**10 03 31.3**	**-5.0**
THE				AMP			
	comp=N,0.3nm,0.9s,baz=18						
IDI	**Anoyia**	**4.04**	**118**	Pn	**Pn**	**10 02 54.2**	**0.0**
	comp=N,1.6nm,0.3s,baz=310,slow=15,SNR=2.3						
IDI				Sn	**Sn**	**10 03 42.5**	**+0.8**
	comp=N,11nm,0.3s,baz=98,slow=22,SNR=5.6						
TIR	**Tirane**	**4.08**	**353**	P	**Pb**	**10 03 01.6**	**-2.6**
TIR				S	**Sb**	**10 03 53.8**	**+0.2**
TIR				AMP			
	comp=E,0.6nm,0.9s,baz=341						
NOCI	**Noci**	**4.42**	**323**	P	**Pb**	**10 03 13.6**	**+3.6**
PUK	**Puka**	**4.77**	**354**	P	**Pb**	**10 03 14.0**	**-2.0**
PUK				S	**Sb**	**10 04 08.7**	**-4.7**
PUK				AMP			
	comp=E,0.5nm,0.6s,baz=344						
PEHC	**Pehcevo**	**4.83**	**21**	*i* Pn	**Pn**	**10 03 05.9**	**+0.8**
VAE	**Valguarnera**	**4.89**	**274**	Pn	**Pn**	**10 03 03.4**	**-2.5**
	comp=E,8.7nm,0.8s,baz=180,slow=20,SNR=2.4						
VAE				Sn	**Sn**	**10 04 01.7**	**-0.8**
	comp=E,0.8nm,0.3s,baz=245,slow=17,SNR=1.8						
MMB	**Musomishta**	**4.92**	**29**	P	**Pn**	**10 03 07.2**	**+0.9**
KKB	**Krupnik**	**4.96**	**23**	P	**Pn**	**10 03 11.0**	**+4.2**
BCI	**Bajram Curri**	**5.08**	**356**	P	Pn	10 03 15.4	+7.0
PLNA	**Plana**	**5.63**	**22**	P	**Pn**	**10 03 13.2**	**-2.9**
KDZ	**Kurdzhali**	**5.70**	**39**	P	**Pn**	**10 03 19.6**	**+2.6**
VTS	**Vitosha**	**5.71**	**20**	P	**Pn**	**10 03 21.3**	**+4.1**
MPEP	**Malo Peshtene**	**6.53**	**21**	P	Pn	10 03 33.7	+5.4
MLR	**Muntele Rosu**	**9.14**	**25**	Pn	**Pn**	**10 04 04.3**	**+0.1**
	comp=E,0.2nm,0.3s,baz=197,slow=11,SNR=1.3						
	comp=E,1.4nm,0.5s						
OBKA	**Obir**	**10.23**	**336**	*e*Pn	Pn	10 04 31.6	+12
	comp=E,0.2nm,0.1s						
SOKA	**Soboth**	**10.23**	**338**	*e*Pn	**Pn**	**10 04 21.2**	**+2.0**
	comp=E,2.9nm,0.6s						
ARSA	**Arzberg**	**10.62**	**341**	*e*Pn	Pn	10 04 32.8	+8.4
	comp=E,0.1nm,0.2s						
MYKA	**Terra Mystica**	**10.65**	**333**	*i* Pn	Pn	10 04 35.5	+11
	comp=E,1.8nm,0.4s						
KBA	**Koelnbreinsper**	**11.13**	**334**	*i* Pn	Pn	10 04 36.2	+4.6
	comp=E,1.3nm,0.4s						
VYHS	**Vyhne**	**11.26**	**354**	*e*PN	Pn	10 04 42.1	+8.9
MOA	**Molln**	**11.51**	**338**	*i* Pn	**Pn**	**10 04 39.9**	**+3.3**
	comp=E,0.5nm,0.3s						
BIOA	**Bad Ischl, Aus**	**11.57**	**336**	*e*Pn	**Pn**	**10 04 38.9**	**+1.5**
	comp=E,1.3nm,0.3s						
WATA	**Walderalm**	**12.02**	**329**	*e*Pn	**Pn**	**10 04 45.8**	**+2.1**
	comp=E,0.4nm,0.2s						
SQTA	**Sankt Quirin**	**12.08**	**328**	*i* Pn	Pn	10 04 50.0	+5.4
	comp=E,0.7nm,0.2s						
FETA	**Feichten**	**12.13**	**326**	*e*Pn	Pn	10 04 50.5	+5.2
	comp=E,0.1nm,0.2s						
MOTA	**Moosalm**	**12.22**	**328**	*i* Pn	**Pn**	**10 04 48.9**	**+2.4**
	comp=E,0.9nm,0.5s						
VRAC	**Vranov**	**12.35**	**348**	LR	LR	10 10 19.5	
	comp=E,62nm,21.6s,baz=163,slow=42						
MMAI	**Mount Meron Ar**	**12.88**	**105**	Pn	**Pn**	**10 04 56.2**	**+0.7**
	comp=E,0.7nm,0.3s,baz=309,slow=9.1,SNR=2.5						
EIL	**Elat**	**14.21**	**118**	Pn	**Pn**	**10 05 12.8**	**-0.8**
	comp=E,0.2nm,0.3s,baz=324,slow=17,SNR=1.7						
EIL				Sn	Sn	10 07 38.4	-13
	comp=E,0.5nm,0.3s,baz=18,slow=20,SNR=2.2						
	comp=E,2.8nm,0.7s						
AKASG	**Malin Array Be**	**14.77**	**22**	Pn	**Pn**	**10 05 19.8**	**-1.3**
	comp=E,0.2nm,0.3s,baz=211,slow=8.7,SNR=1.0						
	comp=E,0.2nm,0.2s						
KBZ	**Khabaz**	**18.14**	**62**	LR	LR	10 14 36.8	
	comp=E,44nm,18.3s,baz=246,slow=42						
GNI	**Garni**	**19.08**	**74**	LR	LR	10 13 42.6	
	comp=E,71nm,20.3s,baz=280,slow=37						
ESDC	**Sonseca Array**	**19.32**	**285**	P	**P**	**10 06 13.6**	**-3.9**
	comp=E,0.1nm,0.3s,baz=82,slow=9.2,SNR=2.2						
	comp=E,0.4nm,0.8s						
HFS	**Hagfors**	**23.27**	**351**	P	**P**	**10 06 57.6**	**-2.2**
	comp=E,8.6nm,1.1s,baz=149,slow=11,SNR=3.5						
HFS				LR	LR	10 16 22.1	
	comp=E,51nm,19.4s,baz=174,slow=38						
	comp=E,8.6nm,1.1s						
EKA	**Eskdalemuir Ar**	**24.16**	**326**	P	**P**	**10 07 04.7**	**-3.8**
	comp=E,1.8nm,0.9s,baz=129,slow=7.8,SNR=2.2						
	comp=E,1.8nm,0.9s						
BELG	**Belogornoye**	**24.23**	**43**	LR	LR	10 16 53.2	
	comp=E,38nm,21.9s,baz=239,slow=37						
FINES	**FINESS Array B**	**24.42**	**6**	P	**P**	**10 07 09.1**	**-1.6**
	comp=E,4.5nm,1.1s,baz=186,slow=9.8,SNR=2.0						
FINES				LR	LR	10 17 48.8	
	comp=E,73nm,20.7s,baz=218,slow=39						
	comp=E,4.5nm,1.1s						
NB2	**NORSAR Subarra**	**24.49**	**349**	P	**P**	**10 07 12.8**	**+1.4**
	comp=Z,1.0nm,0.7s,baz=162,slow=9.3						
NOA	**NORSAR Array B**	**24.49**	**349**	P	**P**	**10 07 08.7**	**-2.7**
	comp=Z,1.1nm,0.8s,baz=160,slow=9.1,SNR=2.0						
NOA				LR	LR	10 17 31.3	
	comp=Z,52nm,18.2s,baz=180,slow=39						
	comp=Z,1.1nm,0.8s						
KIRV	**Kirov**	**28.39**	**32**	LR	LR	10 20 32.5	
	comp=Z,52nm,18.4s,baz=240,slow=40						
TORD	**Torodi Ar. Bea**	**29.36**	**220**	P	**P**	**10 07 53.9**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=26,slow=9.0,SNR=1.5						
TORD				LR	LR	10 20 41.1	
	comp=Z,39nm,19.4s,baz=342,slow=39						
	comp=Z,0.3nm,0.6s						
AKTO	**Aktyubinsk**	**29.70**	**52**	LR	LR	10 22 02.5	
	comp=Z,49nm,19.1s,baz=102,slow=41						
ARTI	**Arti**	**31.61**	**41**	LR	LR	10 22 04.7	
	comp=Z,45nm,19.7s,baz=207,slow=38						
ARCES	**ARCESS Array B**	**32.41**	**3**	P	**P**	**10 08 20.6**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=190,slow=10,SNR=1.3						
	comp=Z,1.3nm,0.8s						
DBIC	**Dimbokro**	**38.26**	**223**	LR	LR	10 24 40.3	
	comp=Z,27nm,19.9s,baz=292,slow=36						
BBTS	**Babate**	**39.87**	**246**	LR	LR	10 27 46.9	
	comp=Z,45nm,18.0s,baz=306,slow=39						
KURBB	**Kurchatov Arra**	**42.74**	**53**	P	**P**	**10 09 46.9**	**-2.6**
	comp=Z,0.8nm,0.6s,baz=281,slow=8.6,SNR=5.6						
KURBB				LR	LR	10 30 33.3	
	comp=Z,33nm,19.6s,baz=180,slow=40						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**45.75**	**58**	P	**P**	**10 10 11.7**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=273,slow=7.2,SNR=5.9						
	comp=Z,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**46.27**	**47**	P	P	10 10 14.3	-3.3
	comp=Z,0.4nm,0.3s,baz=262,slow=10.0,SNR=2.1						
	comp=Z,0.4nm,0.3s						
BOSA	**Boshof**	**65.71**	**175**	LR	LR	10 43 19.0	
	comp=Z,59nm,18.1s,baz=22,slow=38						
KSRS	**Korea Array**	**79.88**	**50**	LR	LR	10 54 55.3	
	comp=Z,12nm,21.3s,baz=285,slow=40						
PETK	**Petropavlovsk-**	**82.60**	**24**	LR	LR	10 55 10.1	
	comp=Z,26nm,19.1s,baz=71,slow=39						

IDC 01 10:14:04.8±7.9, 5°.37S×146°.46E, h187km±84km, mb2.8/2, mbtmp3.3/4, Error ellipse: s-maj=110.4km s-min=29.9km az=133.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.07**	**170**	P	Pn	10 15 07.3	+0.3
	10nm,1.0s,baz=359,slow=17,SNR=1.5						
PMG				S	Sn	10 15 56.1	+0.2
	5.6nm,0.3s,baz=298,slow=23,SNR=10						
WRA	**Warramunga Arr**	**18.68**	**218**	P	P	10 18 08.9	-0.1
	0.2nm,0.2s,baz=42,slow=10,SNR=11						
ASAR	**Alice Springs**	**21.85**	**212**	P	P	10 18 42.6	-0.1
	0.2nm,0.3s,baz=38,slow=7.1,SNR=12						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**85.12**	**23**	P	P	10 26 19.6	+0.2
	0.4nm,0.8s,baz=251,slow=5.6,SNR=3.1						

*NEIC **01** 10:29:50.3±1.0, 38°.05N±0°.01×112°.81W±0°.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.3km az=172.0*
UUSS 01 10:29:50.6±0.9, 38°.06N±0°.02×112°.81W±0°.02, h12km±8km, ML2.5/11, ML2.6/64(NEIC), Error ellipse: s-maj=2.3km s-min=2.1km az=192.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWU	**Dry Willow Pea**	**0.15**	**288**		Pg	10 29 54.8	+0.4
BHUT	**Beaver**	**0.26**	**32**		Pg	10 29 56.0	-0.1
BHUT					Sg	10 30 00.5	+0.8
NMUT	**North Mineral**	**0.46**	**356**		Pg	10 29 59.9	+0.1
NMUT					Sg	10 30 06.4	+0.5
MTPU	**Mount Pierson**	**0.49**	**92**		Pg	10 30 00.0	-0.4
MTPU					Sg	10 30 07.1	0.0
MTPU	**Mount Pierson**	**0.49**	**92**	IAML		10 30 07.5	
	comp=N,228nm,0.3s						
MTPU				IAML		10 30 09.3	
	comp=E,177nm,0.3s						
SZCU	**Shurtz Canyon**	**0.51**	**205**		Pg	10 30 00.4	-0.3
SZCU	**Shurtz Canyon**	**0.51**	**205**	IAML		10 30 10.2	
	comp=N,578nm,0.3s						
SZCU				IAML		10 30 11.8	
	comp=E,636nm,0.3s						
ARUT	**Antelope Range**	**0.57**	**242**		Pg	10 30 01.9	+0.2
TCRU	**Three Creeks R**	**0.62**	**27**		Pg	10 30 02.7	-0.1
TCRU					Sg	10 30 11.5	+0.4
TCRU	**Three Creeks R**	**0.62**	**27**	IAML		10 30 11.6	
	comp=N,331nm,0.3s						
TCRU				IAML		10 30 13.3	
	comp=E,354nm,0.5s						
IMU	**Iron Mountain**	**0.64**	**335**		Pg	10 30 03.1	0.0
MVU	**Marysvale**	**0.65**	**46**		Pg	10 30 03.3	0.0
CCUT	**Cedar City**	**0.67**	**221**		Pg	10 30 03.6	-0.1
MSU	**Marysvale**	**0.67**	**48**		Pg	10 30 03.6	-0.2
PKCU	**Pink Cliffs**	**0.73**	**147**		Pg	10 30 04.4	-0.4
ZNPU	**Zion National**	**0.74**	**200**		Pg	10 30 04.7	-0.4
BTU	**Barney Top**	**0.80**	**112**		Pg	10 30 06.0	-0.1
PSUT	**Pine Spring**	**0.95**	**300**		Pb	10 30 09.2	0.0
PSUT	**Pine Spring**	**0.95**	**300**	IAML		10 30 26.2	
	comp=E,258nm,0.4s						
EKU	**East Kanab**	**1.01**	**166**		Pg	10 30 09.3	-0.9
KNB	**Kanab**	**1.04**	**180**		Pg	10 30 09.7	-1.0
KNB	**Kanab**	**1.04**	**180**	IAML		10 30 23.4	
	comp=E,93nm,0.3s						
WCU	**Willow Creek**	**1.07**	**32**		Pg	10 30 10.6	-0.7
LCMT	**Little Creek M**	**1.10**	**198**		Pb	10 30 10.8	-0.9
LCMT	**Little Creek M**	**1.10**	**198**	IAML		10 30 29.6	
	comp=N,155nm,0.1s						
ICU	**Indian Springs**	**1.27**	**225**		Pb	10 30 14.6	0.0
FLU	**Fool Peak**	**1.41**	**21**		Pn	10 30 16.6	+0.2
SPR3	**Spring Creek 3**	**1.52**	**309**		Pn	10 30 18.0	0.0
SPR3	**Spring Creek 3**	**1.52**	**309**	IAML		10 30 40.7	
	comp=E,73nm,0.3s						
SPR3				IAML		10 30 41.1	
	comp=N,106nm,0.4s						
Q16A	**Castle Valley**	**1.55**	**56**		Pb	10 30 19.1	-0.3
Q16A	**Castle Valley**	**1.55**	**56**	IAML		10 30 40.5	
	comp=E,47nm,0.3s						
HMU	**Henry Mountain**	**1.64**	**94**		Pn	10 30 20.2	+0.6
HMU				IAML		10 30 46.3	
	comp=E,74nm,0.5s						
HMU				IAML		10 30 48.2	
	comp=N,82nm,0.5s						
U15A	**North Rim**	**1.68**	**166**		Pb	10 30 21.0	-0.7
U15A				IAML		10 30 47.6	
	comp=E,60nm,0.8s						
U15A				IAML		10 30 49.1	
	comp=N,61nm,0.5s						
TMUT	**Trail Mountain**	**1.76**	**45**		Pn	10 30 22.0	+0.7
TMUT				IAML		10 30 47.6	
	comp=N,86nm,0.5s						
TMUT				IAML		10 30 48.6	
	comp=E,52nm,0.5s						
Q12A	**Willow Creek R**	**1.86**	**302**		Pn	10 30 23.5	+0.9
PRN	**Pahroc Range**	**1.89**	**251**	Pn	Pb	10 30 25.5	+0.3
SRU	**San Rafael Swe**	**2.08**	**59**	Pn	Pb	10 30 27.7	-0.7
SRU				IAML		10 30 57.7	
	comp=E,46nm,0.4s						
SRU				IAML		10 30 58.5	
	comp=N,34nm,0.5s						
DUG	**Dugway, Tooele**	**2.13**	**360**	Pn	Pn	10 30 26.0	-0.3
MPU	**Maple Canyon**	**2.16**	**25**		Pn	10 30 27.9	+1.2
R11B	**Troy Canyon, C**	**2.21**	**278**		Pn	10 30 27.8	+0.5
R11B				IAML		10 31 01.9	
	comp=N,29nm,0.7s						
R11B				IAML		10 31 02.8	
	comp=E,30nm,0.5s						
S11A	**Rachel**	**2.36**	**261**	Pn	Pn	10 30 30.6	+1.2
SHPR	**Sheep Range**	**2.43**	**231**	Pn	Pn	10 30 31.8	+1.4
P18A	**Preston Nutter**	**2.54**	**51**	Pn	Pb	10 30 34.5	-2.0
P18A				IAML		10 31 10.6	
	comp=E,19nm,0.5s						
WUAZ	**Wupatki**	**2.79**	**155**	Pn	Pn	10 30 36.0	+0.7
TPNV	**Topopah Spring**	**2.95**	**249**		Pn	10 30 38.2	+0.7
TPNV				IAML		10 31 09.1	
	comp=E,15nm,4.6s						
TPNV				IAML		10 31 30.1	
	comp=E,22nm,0.4s						
GWY	**Greenwater Val**	**3.60**	**240**	Pn	Pn	10 30 47.0	+0.5
GWY				IAML		10 32 13.0	
	comp=N,8.5nm,4.1s						
GWY				IAML		10 32 40.9	
	comp=E,7.6nm,4.7s						

*IDC **01** 10:30:37.1±2.1, 20°.04S×178°.07W, h561km±24km, mb2.8/6, mbtmp3.7/7, Error ellipse: s-maj=29.3km s-min=21.9km az=134.0*
ISC 01 10:30:37.2±0.8, 20°.1S±0°.2×178°.1W±0°.2, h569km, n12, σ1.9 65/12, mb3.5/8, 4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.32**	**303**	P	**P**	**10 32 02.0**	**-0.9**
	31nm,0.7s,baz=102,slow=24,SNR=30						
ASAR	**Alice Springs**	**44.48**	**256**	P	**P**	**10 38 00.7**	**+1.8**
	0.3nm,0.5s,baz=83,slow=8.6,SNR=4.7						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**44.52**	**262**	P	**P**	**10 38 00.1**	**+0.8**
	0.2nm,0.3s,baz=96,slow=7.6,SNR=14						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**69.94**	**180**	P	**P**	**10 40 52.7**	**+1.1**
	1.6nm,0.8s,baz=80,slow=0.7,SNR=15						
	1.6nm,0.8s						
TXAR	**Lajitas Array**	**86.97**	**57**	P	**P**	**10 42 23.2**	**+0.4**
	0.1nm,0.6s,baz=216,slow=7.5,SNR=2.3						
	0.1nm,0.6s						
ILAR	**Eielson Array**	**87.98**	**13**	P	**P**	**10 42 26.8**	**+0.1**
	0.4nm,0.4s,baz=215,slow=5.1,SNR=9.2						
	0.4nm,0.4s						
TROLL	**Troll, Antarti**	**88.10**	**180**	⇓P	**P**	**10 42 24.4**	**-3.1**
	comp=Z,21nm,0.8s						
SNAA	**Sanae**	**88.38**	**179**	⇓P	**P**	**10 42 26.9**	**-1.8**
	comp=Z,19nm,1.0s						
VNA3	**Neumayer Olymp**	**88.52**	**176**	⇓P	**P**	**10 42 28.9**	**-0.4**
	comp=Z,0.3nm,0.2s						
PDAR	**Pinedale Array**	**88.78**	**43**	P	**P**	**10 42 32.3**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=197,slow=2.8,SNR=2.3						
	comp=Z,0.3nm,0.6s						
VNA2	**Neumayer--Watz**	**88.96**	**177**	⇓P	**P**	**10 42 31.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=178,slow=4.8						
AKASG	**Malin Array Be**	**142.63**	**331**	PKP	**PKPdf**	**10 49 03.8**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=41,slow=4.6,SNR=4.8						

*IDC **01** 10:31:10.9±5.7, 37°.45N×20°.82E, h0km, mb3.7/5, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=99.9km s-min=44.9km az=43.0*
ISC 01 10:31:14.2±4.2, 37°.6N±0°.3×20°.9E±0°.4, h12km, n7, σ0.9 40/7, mb3.8/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**3.96**	**125**	Sn	**Sn**	**10 33 01.5**	**+0.2**
	0.7nm,0.3s,baz=118,slow=23,SNR=2.3						
AKASG	**Malin Array Be**	**14.35**	**22**	Pn	**Pn**	**10 34 37.2**	**+0.1**
	0.3nm,0.3s,baz=209,slow=9.0,SNR=1.7						
	0.3nm,0.5s						
HFS	**Hagfors**	**23.00**	**351**	P	**P**	**10 36 18.9**	**+0.3**
	1.8nm,0.6s,baz=179,slow=12,SNR=2.2						
	1.8nm,0.6s						
FINES	**FINESS Array B**	**24.06**	**6**	P	**P**	**10 36 29.0**	**0.0**
	3.8nm,0.9s,baz=163,slow=10.0,SNR=3.4						
	3.8nm,0.9s						
KURBB	**Kurchatov Arra**	**42.31**	**53**	P	**P**	**10 39 07.8**	**+0.2**
	0.3nm,0.5s,baz=282,slow=8.9,SNR=2.7						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.32**	**58**	P	**P**	**10 39 31.3**	**-0.7**
	0.6nm,0.8s,baz=284,slow=7.3,SNR=2.9						
	0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**45.83**	**48**	P	**P**	**10 39 35.7**	**-0.1**
	0.9nm,0.5s,baz=287,slow=8.4,SNR=3.6						
	0.9nm,0.5s						

*IDC **01** 10:32:20.7±1.4, 37°.45N×20°.77E, h0km, mb3.7/9, mbtmp3.6/12, ML3.6/3, Error ellipse: s-maj=29.8km s-min=21.1km az=139.0*
*ATH **01** 10:32:22.9, 37°.38N×20°.67E, h12km±4km, ML3.7/6, Error ellipse: s-maj=4.5km s-min=1.3km az=29.0*
*THE **01** 10:32:23.7, 37°.39N×20°.72E, h12km, ML3.7/11, Error ellipse: s-maj=0.9km s-min=0.4km az=53.0*
ISC 01 10:32:23.3±1.1, 37°.41N±0°.04×20.74E±0°.04, h16km±7km, n34, σ1.9 06/54, mb3.9/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.26**	**13**	P	**Pb**	**10 32 29.7**	**+0.1**
KRI1				S	**Sg**	**10 32 33.6**	**+0.6**
	32μm,0.4s						
LTHK	**Lithakia**	**0.31**	**14**	P	**Pg**	**10 32 30.2**	**+0.3**
LTHK				S	**Sg**	**10 32 35.0**	**+0.6**
	39μm,0.6s						
RTZL	**Ratzakli, Kefa**	**0.67**	**2**	P	**Pg**	**10 32 36.5**	**+0.1**
RTZL				S	**Sb**	**10 32 46.8**	**+1.3**
	9μm,0.7s						
PSDA	**Pessada-Kefalo**	**0.72**	**350**	P	**Pb**	**10 32 37.5**	**+0.2**
PSDA				S	**Sb**	**10 32 48.7**	**+1.8**
	15μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.72**	**350**	P	**Pg**	**10 32 36.0**	**-1.3**
PSDA				S	**Sg**	**10 32 46.6**	**-0.2**
VLS	**Valsamata**	**0.78**	**351**	P	**Pb**	**10 32 38.5**	**+0.1**
VLS				S	**Sb**	**10 32 50.5**	**+1.8**
	4μm,0.7s						
VLS	**Valsamata**	**0.78**	**351**	P	**Pg**	**10 32 37.7**	**-0.8**
VLS				S	**Sg**	**10 32 48.6**	**-0.1**
VLS				AML	AML	10 32 51.7	
	comp=N,8466μm,0.3s						
VLS				AML	AML	10 32 55.9	
	comp=E,7744μm,0.3s						
AMT	**Artemida-Makis**	**0.78**	**80**	P	**Pb**	**10 32 39.0**	**+0.5**
AMT				S	**Sb**	**10 32 50.4**	**+1.6**
AMT				AML	AML	10 32 54.0	
	comp=E,22573μm,0.3s						
AMT				AML	AML	10 32 58.6	
	comp=N,29148μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.83**	**343**	P	**Pg**	**10 32 39.2**	**-0.2**
LXRA				S	**Sg**	**10 32 49.2**	**-1.1**
LXRA				AML	AML	10 32 58.0	
	comp=N,23756μm,0.5s						
LXRA				AML	AML	10 32 58.3	
	comp=E,16346μm,0.3s						
RLS	**Riolos of Patr**	**0.87**	**41**	P	**Pb**	**10 32 40.4**	**+0.5**
RLS				S	**Sn**	**10 32 53.2**	**+0.1**
	comp=E,2μm,0.4s						
RLS	**Riolos of Patr**	**0.87**	**41**	P	**Pg**	**10 32 40.2**	**0.0**
RLS				S	**Sb**	**10 32 53.1**	**+1.8**
RLS				AML	AML	10 32 55.5	
	comp=N,5440μm,0.3s						
RLS				AML	AML	10 32 58.3	
	comp=E,4353μm,0.4s						
DMLN	**Damoulianata-K**	**0.88**	**341**	P	**Pb**	**10 32 40.4**	**+0.3**
DMLN				S	**Sn**	**10 32 53.9**	**+0.5**
	comp=E,8μm,0.6s						
DMLN	**Damoulianata-K**	**0.88**	**341**	P	**Pg**	**10 32 40.2**	**-0.2**
DMLN				S	**Sb**	**10 32 52.9**	**+1.3**
DRO	**Drossia**	**0.94**	**54**	P	**Pn**	**10 32 42.1**	**+0.3**
DRO				S	**Sn**	**10 32 56.1**	**+1.1**
PYL	**PYLOS**	**0.95**	**122**	P	**Pb**	**10 32 41.5**	**+0.2**
PYL				S	**Sn**	**10 32 55.5**	**+0.4**
	comp=E,3μm,0.7s						
PYL	**PYLOS**	**0.95**	**122**	P	**Pg**	**10 32 41.0**	**-0.6**
PYL				S	**Sb**	**10 32 54.7**	**+1.1**
PYL				AML	AML	10 32 57.6	
	comp=N,4712μm,0.6s						
PYL				AML	AML	10 32 58.4	
	comp=E,6423μm,0.6s						
ITM	**Ithomi**	**0.97**	**103**	P	**Pn**	**10 32 42.3**	**+0.1**
ITM				S	**Sn**	**10 32 57.2**	**+1.5**
	comp=E,2μm,0.5s						
VSK1	**VASILIKIADES**	**1.01**	**352**	P	**Pb**	**10 32 42.3**	**-0.1**
VSK1				S	**Sn**	**10 32 57.9**	**+1.3**
	comp=E,5μm,0.6s						
FSK	**Fiskardo**	**1.06**	**352**	P	**Pb**	**10 32 43.4**	**+0.2**
FSK				S	**Sn**	**10 32 59.0**	**+1.2**
	comp=E,3μm,1.0s						
FSK	**Fiskardo**	**1.06**	**352**	P	**Pb**	**10 32 43.1**	**-0.1**
FSK				S	**Sb**	**10 32 57.5**	**+0.7**
FSK				AML	AML	10 33 05.1	
	comp=E,5743μm,0.5s						
FSK				AML	AML	10 33 07.3	
	comp=N,4519μm,0.5s						
IDI	**Anoyia**	**3.96**	**121**	Sn	**Sn**	**10 34 11.4**	**+1.9**
	comp=N,3.9nm,0.3s,baz=319,slow=19,SNR=2.4						
VAE	**Valguarnera**	**5.04**	**273**	Sn	**Sn**	**10 34 39.7**	**+3.7**
	comp=N,1.7nm,0.3s,baz=151,slow=23,SNR=1.9						
MLR	**Muntele Rosu**	**8.97**	**24**	Pn	**Pn**	**10 34 32.7**	**+0.6**
	comp=N,0.2nm,0.3s,baz=170,slow=17,SNR=1.5						
	comp=N,1.0nm,0.3s						
AKASG	**Malin Array Be**	**14.61**	**22**	Pn	**Pn**	**10 35 47.0**	**-2.1**
	comp=N,0.3nm,0.3s,baz=212,slow=9.2,SNR=1.4						
	comp=N,0.2nm,0.3s						
ESDC	**Sonseca Array**	**19.44**	**284**	P	**P**	**10 36 48.6**	**-0.4**
	baz=77,slow=9.7,SNR=2.7						
	comp=N,0.5nm,0.9s						
HFS	**Hagfors**	**23.19**	**351**	P	**P**	**10 37 28.4**	**-0.6**
	comp=N,4.4nm,0.9s,baz=156,slow=8.1,SNR=7.9						
	comp=N,4.4nm,0.9s						
EKA	**Eskdalemuir Ar**	**24.16**	**326**	P	**P**	**10 37 39.0**	**+0.5**
	comp=N,3.1nm,0.7s,baz=126,slow=9.4,SNR=8.1						
	comp=N,3.1nm,0.7s						
FINES	**FINESS Array B**	**24.29**	**6**	P	**P**	**10 37 38.8**	**-0.8**
	comp=N,5.5nm,1.1s,baz=185,slow=9.6,SNR=5.3						
	comp=N,5.5nm,1.1s						
NOA	**NORSAR Array B**	**24.41**	**349**	P	**P**	**10 37 39.5**	**-1.2**
	comp=N,0.5nm,0.6s,baz=159,slow=8.8,SNR=3.5						
	comp=N,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.55**	**220**	P	**P**	**10 38 27.6**	**+0.4**
	comp=N,0.2nm,0.5s,baz=38,slow=9.4,SNR=2.4						
	comp=N,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**32.29**	**3**	P	**P**	**10 38 50.1**	**-0.8**
	comp=N,2.6nm,0.9s,baz=199,slow=8.2,SNR=2.7						
	comp=N,2.6nm,0.9s						
KURBB	**Kurchatov Arra**	**42.55**	**53**	P	**P**	**10 40 17.2**	**-0.8**
	comp=N,0.4nm,0.6s,baz=280,slow=8.8,SNR=3.2						
	comp=N,0.4nm,0.6s						
MKAR	**Makanchi Array**	**45.56**	**58**	P	**P**	**10 40 41.6**	**-0.6**
	comp=N,0.2nm,0.4s,baz=276,slow=7.8,SNR=2.1						
	comp=N,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**46.08**	**48**	P	**P**	**10 40 46.1**	**0.0**
	comp=N,0.5nm,0.4s,baz=258,slow=10,SNR=2.0						
	comp=N,0.5nm,0.4s						

*NAO **01** 10:41:08.9, 37°.17N×20°.79E, h10km, mb4.0*
*IDC **01** 10:41:08.8±0.9, 37°.38N×20°.89E, h0km, mb3.8/12, mbtmp3.7/20, ML3.8/5, MS3.3/19, Error ellipse: s-maj=19.2km s-min=14.8km az=167.0*
*THE **01** 10:41:09.8, 37°.17N×20°.60E, h0km±2km, ML4.0/14, Error ellipse: s-maj=2.7km s-min=0.7km az=225.0*
*ATH **01** 10:41:10.8, 37°.22N×20°.66E, h8km±2km, ML3.9/14, Error ellipse: s-maj=2.7km s-min=1.0km az=40.0*
*BEO **01** 10:41:18.1±1.0, 37°.87N×21°.91E, h2km±4km, ML3.5/9*
ISC 01 10:41:11.3±1.3, 37°.26N±0°.03×20.71E±0°.03, h17km±8km, n93, σ1.9 79/109, mb3.8/12, MS3.3/16, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.41**	**11**	P	**Pb**	**10 41 19.9**	**-0.3**
KRI1				S	**Sb**	**10 41 28.0**	**+1.8**
	32μm,0.6s						
LTHK	**Lithakia**	**0.46**	**12**	P	**Pb**	**10 41 20.8**	**-0.2**
LTHK				S	**Sb**	**10 41 29.4**	**+1.8**
LTHK	**Lithakia**	**0.46**	**12**	P	**Pb**	**10 41 20.7**	**-0.3**
LTHK				S	**Sb**	**10 41 27.9**	**+0.4**
LTHK				AML	AML	10 41 29.5	
	comp=N,45476μm,0.4s						
LTHK				AML	AML	10 41 29.7	
	comp=E,66814μm,0.6s						
RTZL	**Ratzakli, Kefa**	**0.82**	**3**	P	**Pb**	**10 41 26.8**	**-0.3**
RTZL				S	**Sn**	**10 41 40.4**	**+0.6**
	comp=E,13μm,0.6s						
AMT	**Artemida-Makis**	**0.84**	**71**	P	**Pb**	**10 41 28.0**	**+0.6**
AMT				S	**Sb**	**10 41 39.5**	**+1.0**
AMT				AML	AML	10 41 46.3	
	comp=N,69963μm,0.3s						
AMT				AML	AML	10 41 50.8	
	comp=E,99428μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.86**	**353**	P	**Pb**	**10 41 27.5**	**-0.3**
PSDA				S	**Sb**	**10 41 40.8**	**+1.7**
	comp=E,9μm,0.8s						
PSDA	**Pessada-Kefalo**	**0.86**	**353**	P	**Pb**	**10 41 27.5**	**-0.3**
PYL	**PYLOS**	**0.90**	**113**	P	**Pb**	**10 41 27.8**	**-0.6**
PYL				S	**Sn**	**10 41 42.3**	**+0.6**
	comp=E,6μm,0.4s						
PYL	**PYLOS**	**0.90**	**113**	P	**Pb**	**10 41 27.8**	**-0.6**
PYL				S	**Sb**	**10 41 41.5**	**+1.5**
PYL				AML	AML	10 41 44.5	
	comp=N,10200μm,0.3s						
PYL				AML	AML	10 41 45.7	
	comp=E,12273μm,0.4s						
VLS	**Valsamata**	**0.93**	**354**	P	**Pb**	**10 41 28.6**	**-0.3**
VLS				S	**Sn**	**10 41 43.2**	**+0.7**
	comp=E,5μm,0.6s						
VLS	**Valsamata**	**0.93**	**354**	P	**Pg**	**10 41 28.2**	**-1.1**
VLS				S	**Sb**	**10 41 42.1**	**+1.1**
VLS				AML	AML	10 41 46.4	
	comp=N,8052μm,0.5s						
VLS				AML	AML	10 41 46.8	
	comp=E,12325μm,0.6s						
LXRA	**Lixouri, Kepha**	**0.97**	**347**	P	**Pn**	**10 41 30.0**	**-0.1**
LXRA				S	**Sb**	**10 41 42.9**	**+0.8**
LXRA				AML	AML	10 41 53.2	
	comp=E,16076μm,0.8s						
LXRA				AML	AML	10 41 53.7	
	comp=N,22490μm,0.4s						
ITM	**Ithomi**	**0.97**	**94**	P	**Pb**	**10 41 29.4**	**-0.3**
ITM				S	**Sn**	**10 41 46.0**	**+2.4**
	comp=N,7μm,0.5s						
ITM	**Ithomi**	**0.97**	**94**	P	**Pb**	**10 41 29.7**	**0.0**
ITM				S	**Sb**	**10 41 43.5**	**+1.3**
ITM				AML	AML	10 41 48.6	
	comp=N,16405μm,0.6s						
ITM				AML	AML	10 41 50.9	
	comp=E,12209μm,0.5s						
SMHA	**Samh**	**0.99**	**357**	P	**Pg**	**10 41 29.5**	**-1.1**
SMHA				AML	AML	10 41 46.1	
	comp=N,38697μm,0.4s						
SMHA				AML	AML	10 41 49.5	
	comp=E,38619μm,0.5s						
RLS	**Riolos of Patr**	**1.00**	**37**	P	**Pb**	**10 41 30.3**	**+0.2**
RLS				S	**Sn**	**10 41 48.2**	**+4.0**
	comp=E,3μm,0.6s						
RLS	**Riolos of Patr**	**1.00**	**37**	P	**Pg**	**10 41 29.9**	**-0.7**
RLS				AML	AML	10 41 52.2	
	comp=E,5951μm,0.5s						
RLS				AML	AML	10 41 56.0	
	comp=N,6133μm,0.7s						
DMLN	**Damoulianata-K**	**1.02**	**345**	P	**Pb**	**10 41 30.5**	**0.0**
DMLN				S	**Sn**	**10 41 47.0**	**+2.3**
	comp=N,16μm,0.9s						
DMLN	**Damoulianata-K**	**1.02**	**345**	P	**Pb**	**10 41 30.3**	**-0.1**
DMLN				S	**Sn**	**10 41 45.2**	**+0.5**
DRO	**Drossia**	**1.05**	**48**	P	**Pn**	**10 41 31.6**	**+0.3**
DRO				S	**Sn**	**10 41 48.9**	**+3.3**
	comp=N,10μm,0.6s						
DRO	**Drossia**	**1.05**	**48**	P	**Pb**	**10 41 31.3**	**+0.2**
DRO				S	**Sn**	**10 41 47.3**	**+1.7**
DRO				AML	AML	10 41 58.5	
	comp=E,16392μm,0.5s						
DRO				AML	AML	10 42 00.1	
	comp=N,16330μm,0.6s						
VSK1	**VASILIKIADES**	**1.16**	**354**	P	**Pb**	**10 41 32.8**	**0.0**
VSK1				S	**Sn**	**10 41 51.0**	**+2.8**
	comp=N,8μm,0.7s						
FSK	**Fiskardo**	**1.21**	**354**	P	**Pb**	**10 41 33.6**	**-0.1**
FSK				S	**Sn**	**10 41 52.5**	**+3.1**
	comp=N,5μm,0.7s						
FSK	**Fiskardo**	**1.21**	**354**	P	**Pg**	**10 41 33.0**	**-1.6**
FSK				AML	AML	10 41 56.1	
	comp=E,10287μm,0.6s						
FSK				AML	AML	10 42 01.4	
	comp=N,6324μm,1.0s						
EVGI	**Lefkada island**	**1.36**	**358**	P	**Pg**	**10 41 36.6**	**-0.9**
EVGI				S	**Sn**	**10 41 58.3**	**+5.0**
	comp=N,3μm,0.6s						
KLV	**Kalavryta, Ach**	**1.39**	**55**	P	**Pg**	**10 41 37.2**	**-0.8**
KLV	**Kalavryta, Ach**	**1.39**	**55**	P	**Pg**	**10 41 36.9**	**-1.0**
KLV				S	**Sb**	**10 41 54.5**	**+0.3**
KLV				AML	AML	10 42 07.7	
	comp=E,3212μm,0.7s						
KLV				AML	AML	10 42 12.1	
	comp=N,3322μm,0.8s						
NYDR	**Nydri-Lefkada**	**1.46**	**360**	P	**Pb**	**10 41 37.9**	**0.0**
GUR	**Goura**	**1.46**	**62**	P	**Pg**	**10 41 38.3**	**-1.1**
GUR	**Goura**	**1.46**	**62**	P	**Pn**	**10 41 37.7**	**+0.7**
GUR				AML	AML	10 42 07.8	
	comp=E,7830μm,0.5s						
GUR				AML	AML	10 42 10.8	
	comp=N,7217μm,0.7s						
ALIK	**Aliki, Aigiali**	**1.49**	**47**	P	**Pg**	**10 41 39.7**	**-0.3**
EFP	**Efpalio**	**1.50**	**39**	P	**Pb**	**10 41 38.8**	**+0.1**
EFP	**Efpalio**	**1.50**	**39**	P	**Pn**	**10 41 38.1**	**+0.7**
LKD2	**Lefkada island**	**1.53**	**358**	P	**Pg**	**10 41 39.6**	**-1.1**
LKD2				S	**Sg**	**10 42 02.7**	**+2.0**
	comp=N,4μm,0.8s						
TSLK	**Tsoukalades, L**	**1.57**	**358**	P	**Pg**	**10 41 40.2**	**-1.2**
KALE	**Kalithea**	**1.60**	**44**	P	**Pg**	**10 41 41.1**	**-0.9**
KALE				S	**Sg**	**10 42 05.0**	**+2.1**
	comp=N,2μm,0.7s						
ANX	**Ano Chora**	**1.64**	**35**	P	**Pb**	**10 41 41.4**	**+0.3**
ANX	**Ano Chora**	**1.64**	**35**	P	**Pb**	**10 41 41.1**	**-0.1**
ANX				AML	AML	10 42 15.8	
	comp=E,6681μm,0.7s						
ANX				AML	AML	10 42 18.0	
	comp=N,4500μm,1.0s						
EVR	**Evrytania**	**1.87**	**27**	P	**Pb**	**10 41 45.6**	**+0.6**
EVR				AML	AML	10 42 20.8	
	comp=E,2269μm,0.8s						
EVR				AML	AML	10 42 23.9	
	comp=N,3154μm,0.7s						
IGT	**Igoumenitsa

VRAC Vranov 12.41 347 LR LR 10 49 00.1
comp=N,56nm,19.5s,baz=176,slow=38
EIL Elat 14.08 118 Pn **Pn 10 44 29.1 -0.9**
comp=N,0.5nm,0.3s,baz=340,slow=16,SNR=2.1
EIL Sn Sn 10 46 44.9 -21
comp=N,0.2nm,0.3s,baz=72,slow=18,SNR=2.2
comp=N,2.5nm,0.6s
AKASG Malin Array Be 14.76 22 Pn **Pn 10 44 36.4 -2.7**
comp=N,0.3nm,0.3s,baz=215,slow=11,SNR=1.8
AKASG LR LR 10 51 34.5
comp=N,101nm,18.0s,baz=231,slow=43
comp=N,0.1nm,0.3s
KBZ Khabaz 18.04 62 P **Pn 10 45 18.9 -2.2**
comp=N,0.1nm,0.3s,baz=246,slow=12,SNR=1.7
comp=N,1.0nm,0.7s
NACGM Naroch 18.13 11 *eP* **Pn 10 45 22.8 +0.7**
comp=Z,15nm,1.0s,baz=196
GNI Garni 18.96 74 LR LR 10 53 00.4
comp=Z,81nm,18.6s,baz=288,slow=38
ESDC Sonseca Array 19.46 285 P **Pn 10 45 39.1 +0.7**
comp=Z,0.1nm,0.3s,baz=71,slow=8.9,SNR=2.4
comp=Z,0.4nm,0.8s
MDT Midelt 21.18 265 P **P 10 45 58.5 +2.5**
comp=Z,1.9nm,0.7s,baz=132,slow=5.3,SNR=2.0
comp=Z,1.9nm,0.7s
HFS Hagfors 23.33 351 P **P 10 46 16.8 -1.6**
comp=Z,2.2nm,0.6s,baz=163,slow=11,SNR=9.9
HFS LR LR 10 57 09.2
comp=Z,58nm,19.3s,baz=146,slow=41
comp=Z,2.2nm,0.6s
BELG Belogornoye 24.17 43 LR LR 10 55 57.9
comp=Z,37nm,20.9s,baz=282,slow=37
EKA Eskdalemuir Ar 24.27 326 P **P 10 46 27.8 +0.4**
comp=Z,1.8nm,0.7s,baz=125,slow=8.3,SNR=5.7
comp=Z,1.8nm,0.7s
FINES FINESS Array B 24.44 6 P **P 10 46 28.4 -0.4**
comp=Z,2.7nm,0.9s,baz=163,slow=10,SNR=1.8
FINES LR LR 10 57 18.0
comp=Z,69nm,19.3s,baz=192,slow=40
comp=Z,2.7nm,0.9s
NB2 NORSAR Subarra 24.55 349 P **P 10 46 29.6 -0.3**
comp=Z,2.8nm,0.9s,baz=161,slow=9.3
NOA NORSAR Array B 24.55 349 P **P 10 46 29.2 -0.7**
comp=Z,0.7nm,0.6s,baz=157,slow=9.1,SNR=7.1
NOA LR LR 10 57 02.1
comp=Z,56nm,18.4s,baz=300,slow=39
comp=Z,0.7nm,0.6s
KIRV Kirov 28.35 32 LR LR 10 59 10.7
comp=Z,56nm,20.0s,baz=256,slow=38
TORD Torodi Ar. Bea 29.42 220 P **P 10 47 14.1 +0.1**
comp=Z,0.3nm,0.5s,baz=21,slow=9.5,SNR=3.0
comp=Z,0.3nm,0.5s
AKTO Aktyubinsk 29.62 52 LR LR 11 01 13.3
comp=Z,47nm,19.4s,baz=228,slow=41
ARTI Arti 31.55 41 LR LR 11 00 42.5
comp=Z,47nm,20.2s,baz=233,slow=37
ARCES ARCESS Array B 32.44 3 P **P 10 47 37.6 -2.6**
comp=Z,0.7nm,0.7s,baz=189,slow=11,SNR=1.2
ARCES LR LR 11 01 57.0
comp=Z,55nm,19.5s,baz=195,slow=39
comp=Z,0.7nm,0.7s
BVAR Borovoye Array 37.60 49 P **P 10 48 21.7 -3.1**
comp=Z,0.5nm,0.5s,baz=296,slow=7.9,SNR=1.4
comp=Z,0.5nm,0.5s
KURBB Kurchatov Arra 42.66 53 P **P 10 49 05.5 -1.3**
comp=Z,1.0nm,0.6s,baz=278,slow=8.6,SNR=6.6
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 45.66 58 P **P 10 49 29.9 -1.0**
comp=Z,0.9nm,0.6s,baz=287,slow=6.2,SNR=3.5
comp=Z,0.9nm,0.6s
ZALV Zalesovo Beam 46.20 47 P **P 10 49 33.3 -1.7**
comp=Z,1.1nm,0.3s,baz=280,slow=8.9,SNR=3.5
ZALV LR LR 11 09 54.8
comp=Z,31nm,19.3s,baz=312,slow=38
comp=Z,1.1nm,0.3s
SONM Songino Array 60.93 50 LR LR 11 21 08.3
comp=Z,45nm,19.6s,baz=210,slow=40
LBTB Lobatse 62.11 175 LR LR 11 23 20.8
comp=Z,49nm,18.4s,baz=358,slow=41
BOSA Boshof 65.66 176 LR LR 11 22 23.9
comp=Z,47nm,19.2s,baz=28,slow=38
YAK Yakutsk 65.84 29 LR LR 11 25 14.3
comp=Z,30nm,18.4s,baz=325,slow=40
KLR Kul'dur 74.49 39 LR LR 11 27 00.9
comp=Z,24nm,19.4s,baz=278,slow=37
KSRS Korea Array 79.80 51 P **P 10 53 18.8 +0.1**
comp=Z,0.4nm,0.3s,baz=311,slow=6.1,SNR=2.1
KSRS LR LR 11 32 45.6
comp=Z,16nm,18.3s,baz=20,slow=39
comp=Z,0.4nm,0.3s
ANMO Albuquerque 93.00 319 LR LR 11 37 22.8
comp=Z,44nm,19.5s,baz=293,slow=36

*IDC **01** 10:54:18.1±1.7, 31°.14S×178°.56W, h0km, mb4.0/4, mbtmp4.0/5, ML3.2/1, Error ellipse: s-maj=41.3km s-min=28.7km az=62.0*
ISC 01 10:54:20.7±1.4, 31°.1S±0°.1×178°.8W±0°.2, h10km, n9, σ1§67/10, mb4.1/6, 3C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.86**	**204**	Pn	**Pn**	**10 56 14.0**	**-1.0**
	0.3nm,0.3s,baz=145,slow=16,SNR=1.0						
URZ				Sn	**Sn**	**10 57 44.1**	**+0.1**
	2.0nm,0.3s,baz=290,slow=21,SNR=6.6						
	3.4nm,0.4s						
ASAR	**Alice Springs**	**42.38**	**268**	P	**P**	**11 02 16.3**	**+0.8**
	2.2nm,0.6s,baz=106,slow=7.2,SNR=54						
	2.2nm,0.6s						
WRA	**Warramunga Arr**	**43.44**	**273**	P	**P**	**11 02 24.7**	**+0.6**
	1.6nm,0.4s,baz=112,slow=8.0,SNR=43						
	1.6nm,0.4s						
QSPA	**South Pole Qui**	**58.98**	**180**	P	**P**	**11 04 19.7**	**-0.5**
	0.7nm,0.6s,baz=60,slow=8.1,SNR=7.3						
	0.7nm,0.6s						
SNAA	**Sanae**	**77.44**	**179**	⇑P	**P**	**11 06 17.6**	**+1.8**
	comp=Z,6.1nm,0.4s						
SNAA	**Sanae**	**77.44**	**179**	P	**P**	**11 06 14.8**	**-1.0**
	comp=Z,0.7nm,1.0s,baz=187,slow=16,SNR=2.0						
	comp=Z,0.7nm,1.0s						
VNA3	**Neumayer Olymp**	**77.62**	**176**	⇑P	**P**	**11 06 18.7**	**+2.0**
	comp=Z,1.9nm,0.6s						
VNA2	**Neumayer--Watz**	**78.04**	**177**	⇑P	**P**	**11 06 21.2**	**+2.1**
	comp=Z,0.8nm,0.4s,baz=185,slow=6.2						
FINES	**FINESS Array B**	**145.59**	**339**	PKPbc	**PKPbc**	**11 13 56.5**	**-2.2**
	comp=Z,3.2nm,0.9s,baz=54,slow=3.6,SNR=5.6						

*UPA **01** 11:03:45.3±1.8, 8°.59N×77°.90W, h20km±6km, MD3.8, MW3.8*
*RSNC **01** 11:03:46.0±0.0, 9°N±2°×7°8W±°, h19km±4km, M2.3, ML2.7*
ISC 01 11:03:45.2±0.9, 8°.59N±0°.04×77°.91W±0°.03, h23km±7km, n20, σ1§31/38, 1D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**0.11**	**248**	‖*i* P	**Pb**	**11 03 50.0**	**+0.3**
UPD2				*i* S	**Sb**	**11 03 52.4**	**-0.4**
TOTI	**Torti**	**0.52**	**310**	*i* P	**Pb**	**11 03 55.5**	**-0.3**
TOTI				*i* S	**Sb**	**11 04 02.0**	**-0.9**
CAPC	**Capurgana**	**0.55**	**85**	P	**Pn**	**11 03 54.8**	**-1.5**
CAPC				S	**Sb**	**11 04 01.7**	**-2.1**
CNTA3	**Canitas, Panam**	**1.15**	**303**	*i* P	**Pn**	**11 04 05.1**	**-0.9**
CNTA3				*eS*	**Sn**	**11 04 19.6**	**-1.4**
PTAC	**Punta Ardita,**	**1.44**	**176**	P	**Pn**	**11 04 10.2**	**+0.3**
PTAC				S	**Sn**	**11 04 28.1**	**+0.1**
PTAC	**Punta Ardita,**	**1.44**	**176**	*i* P	**Pn**	**11 04 10.1**	**+0.3**
PTAC				*eS*	**Sn**	**11 04 26.4**	**-1.6**
APAC	**Apartado, Choc**	**1.48**	**117**	P	**Pn**	**11 04 11.2**	**+0.7**
APAC				S	**Sb**	**11 04 34.7**	**+4.2**
UPA	**Univ. de Panam**	**1.65**	**284**	*eP*	**Pn**	**11 04 12.7**	**-0.2**
UPA				*i* S	**Sn**	**11 04 32.5**	**-0.8**
FRIJ	**El Hiral**	**1.90**	**289**	*i* P	**Pn**	**11 04 18.0**	**+1.7**
FRIJ				*eS*	**Sn**	**11 04 39.8**	**+0.3**
ZANG	**Zanguenga, Cho**	**1.97**	**281**	*i* P	**Pn**	**11 04 18.2**	**+1.0**
ZANG				*eS*	**Sb**	**11 04 44.9**	**+0.4**
BCIP	**Isla Barro Col**	**1.99**	**287**	P	**Pn**	**11 04 18.8**	**+1.3**
BCIP				S	**Sn**	**11 04 43.0**	**+1.3**
BCIP	**Isla Barro Col**	**1.99**	**287**	*i* P	**Pn**	**11 04 18.2**	**+0.8**
BCIP				*eS*	**Sn**	**11 04 42.3**	**+0.6**
AZU	**Azuero**	**2.47**	**251**	*eP*	**Pn**	**11 04 24.4**	**+0.3**
AZU				*i* S	**Sn**	**11 04 52.8**	**-0.8**
UREC	**San Jos de Ur**	**2.50**	**109**	P	**Pn**	**11 04 25.5**	**+1.1**
UREC				S	**Sn**	**11 04 51.9**	**-2.3**
UREC	**San Jos de Ur**	**2.50**	**109**	*eP*	**Pn**	**11 04 24.3**	**-0.1**
UREC				*eS*	**Sn**	**11 04 53.3**	**-0.9**
CHIT3	**Chitre**	**2.56**	**256**	*eP*	**Pn**	**11 04 25.8**	**+0.5**
SJCC	**San Jacinto, C**	**2.99**	**64**	P	**Pn**	**11 04 34.0**	**+2.7**
SJCC				S	**Sn**	**11 05 06.5**	**0.0**
ZARC	**Zaragoza, Cauc**	**3.21**	**110**	P	**Pn**	**11 04 35.0**	**+0.7**
ZARC				S	**Sn**	**11 05 10.7**	**-1.2**
GMAL	**Guarumal, Vera**	**3.39**	**256**	*eP*	**Pn**	**11 04 36.8**	**+0.1**
PTBC	**PUERTO BERRIO,**	**3.98**	**121**	P	**Pn**	**11 04 45.7**	**+0.8**
PTBC				S	**Sn**	**11 05 30.7**	**-0.2**

*CATAC **01** 11:07:57.2±1.1, 14°.92N×94°.46W, h10km, mb4.6, ML4.5*
*NEIC **01** 11:07:57.7±2.0, 15°.23N±0°.07×94°.52W±0°.04, h38km±14km, mb4.3/34, Md4.3/92(MEX), Error ellipse: s-maj=10.0km s-min=5.9km az=187.0*
*MEX **01** 11:07:58.5±1.1, 15°.18N×94°.54W, h26km±18km, MD4.3*
*GCG **01** 11:08:00.9±0.6, 15°.45N×94°.04W, h0km±177km, MD4.6*
*IDC **01** 11:08:01.3±3.0, 15°.57N×94°.04W, h53km±20km, mb3.6/11, mbtmp3.9/13, ML4.0/3, MS3.8/2, Error ellipse: s-maj=31.5km s-min=13.5km az=31.0*
ISC 01 11:07:57.5±1.0, 15°.18N±0°.05×94°.55W±0°.03, h43km±11km, n129, σ2§34/184, mb4.2/20, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.23**	**30**	*eP*	**Pn**	**11 08 17.5**	**-0.7**
CARR				*eS*	**Sn**	**11 08 31.7**	**-1.8**
PCIG		**1.39**	**68**		**Pn**	**11 08 19.9**	**-0.5**
PCIG					**Sn**	**11 08 35.9**	**-1.5**
PCIG		**1.39**	**68**	*eP*	**Pn**	**11 08 19.9**	**-0.5**
PCIG				*eS*	**Sn**	**11 08 35.9**	**-1.5**
HUIG	**Huatulco**	**1.61**	**291**		**Pn**	**11 08 23.5**	**0.0**
HUIG					**Sn**	**11 08 41.3**	**-1.7**
HUIG	**Huatulco**	**1.61**	**291**	*eP*	**Pn**	**11 08 23.5**	**0.0**
HUIG				*eS*	**Sn**	**11 08 41.3**	**-1.7**
CMIG	**Matias Romero**	**1.93**	**350**		**Pn**	**11 08 27.6**	**-0.2**
CMIG					**Sn**	**11 08 49.3**	**-1.5**
CMIG	**Matias Romero**	**1.93**	**350**	P	**Pn**	**11 08 28.0**	**+0.3**
	85nm,0.4s,baz=184,slow=12,SNR=322						
CMIG				S	**Sn**	**11 08 49.8**	**-1.0**
	2μm,0.6s,baz=108,slow=19,SNR=53						
CMIG				LR	LR	11 08 53.1	
	comp=Z,16nm,20.6s,baz=152,slow=30						
CMIG	**Matias Romero**	**1.93**	**350**	*eP*	**Pn**	**11 08 27.6**	**-0.2**
CMIG				*eS*	**Sn**	**11 08 49.3**	**-1.5**
TGIG		**2.10**	**41**		**Pn**	**11 08 29.9**	**-0.3**
TGIG					**Sn**	**11 08 54.6**	**-0.6**
TGIG		**2.10**	**41**	*eP*	**Pn**	**11 08 29.9**	**-0.3**
TGIG				*eS*	**Sn**	**11 08 54.6**	**-0.6**
TGBT	**Tuxtla Gutierr**	**2.12**	**41**		**Pn**	**11 08 28.5**	**-1.9**
TGBT					**Sn**	**11 08 55.4**	**-0.1**
TGBT	**Tuxtla Gutierr**	**2.12**	**41**	*eP*	**Pn**	**11 08 28.5**	**-1.9**
TGBT				*eS*	**Sn**	**11 08 55.4**	**-0.1**
UXUV	**UXUV**	**2.16**	**10**	*eP*	**Pn**	**11 08 31.4**	**+0.4**
UXUV				*eS*	**Sn**	**11 08 55.6**	**-0.9**
THIG		**2.22**	**97**		**Pn**	**11 08 31.6**	**-0.3**
THIG					**Sn**	**11 08 56.1**	**-2.0**
THIG		**2.22**	**97**	*eP*	**Pn**	**11 08 31.6**	**-0.3**
THIG				*eS*	**Sn**	**11 08 56.1**	**-2.0**
PAVE	**Pavencul**	**2.29**	**89**	*eP*	**Pn**	**11 08 32.6**	**-0.4**
PAVE				*eS*	**Sn**	**11 08 58.3**	**-1.8**
CHUJ	**Union Juarez**	**2.36**	**92**	*eP*	**Pn**	**11 08 33.0**	**-0.9**
CHUJ				*eS*	**Sn**	**11 08 59.7**	**-2.1**
CCIG	**Comitan**	**2.57**	**64**		**Pn**	**11 08 36.8**	**0.0**
CCIG	**Comitan**	**2.57**	**64**	*eP*	**Pn**	**11 08 37.0**	**+0.3**
CCIG				*eS*	**Sn**	**11 09 09.0**	**+2.2**
CCIG	**Comitan**	**2.57**	**64**	*i* P	**Pn**	**11 08 37.3**	**+0.5**
CCIG				IAML		11 09 13.3	
	comp=Z,2μm,1.0s						
PEIG	**Puerto Escondi**	**2.63**	**288**		**Pn**	**11 08 37.8**	**+0.3**
PEIG					**Sn**	**11 09 05.2**	**-3.1**
PEIG	**Puerto Escondi**	**2.63**	**288**	*eP*	**Pn**	**11 08 37.8**	**+0.3**
PEIG				*eS*	**Sn**	**11 09 05.2**	**-3.1**
NEUV	**Arroyo Zacate**	**2.79**	**335**	*eP*	**Pn**	**11 08 39.8**	**+0.2**
NEUV				*eS*	**Sn**	**11 09 10.2**	**-1.9**
OXBJ	**Oaxaca**	**2.81**	**312**		**Pn**	**11 08 41.2**	**+1.2**
OXBJ					**Sn**	**11 09 12.9**	**+0.1**
OXBJ	**Oaxaca**	**2.81**	**312**	*eP*	**Pn**	**11 08 41.2**	**+1.2**
OXBJ				*eS*	**Sn**	**11 09 12.9**	**+0.1**
OXIG	**Oaxaca**	**2.82**	**312**		**Pn**	**11 08 42.4**	**+2.1**
OXIG					**Sn**	**11 09 12.9**	**-0.2**
VHO	**Vista Hermosa**	**2.82**	**312**	*eP*	**Pn**	**11 08 42.4**	**+2.1**
VHO				*eS*	**Sn**	**11 09 12.9**	**-0.2**
TUIG	**Tuzandepetl**	**2.84**	**2**	*eP*	**Pn**	**11 08 40.3**	**0.0**
TUIG				*eS*	**Sn**	**11 09 12.6**	**-0.7**
STG3	**Santiaguito 3,**	**2.92**	**99**	*i* P	**Pn**	**11 08 42.4**	**+0.8**
STG3				*i* S	**Sn**	**11 09 13.4**	**-2.1**
SULM	**Suchitepequez,**	**3.02**	**106**	*i* P	**Pn**	**11 08 44.9**	**+2.2**
SULM				*i* S	**Sn**	**11 09 19.2**	**+1.5**
SOKI	**Kika Raxquin**	**3.06**	**96**	*i* P	**Pn**	**11 08 45.7**	**+2.0**
SOKI				*i* S	**Sn**	**11 09 20.2**	**+0.8**
SOKI				IAML		11 09 26.9	
	comp=Z,650nm,1.0s						
VHSA	**Villahermosa**	**3.19**	**29**	*eP*	**Pn**	**11 08 46.5**	**+1.4**
VHSA				*eS*	**Sn**	**11 09 21.1**	**-0.8**
YOIG	**Yosondua**	**3.33**	**300**		**Pn**	**11 08 49.0**	**+1.7**
YOIG					**Sn**	**11 09 25.3**	**-0.5**
YOIG	**Yosondua**	**3.33**	**300**	*eP*	**Pn**	**11 08 49.0**	**+1.7**
YOIG				*eS*	**Sn**	**11 09 25.3**	**-0.5**
QUIS	**Sacapulas**	**3.34**	**88**	*i* P	**Pn**	**11 08 48.2**	**+0.9**
QUIS				*i* S	**Sn**	**11 09 30.4**	**+4.6**
QUIS				IAML		11 09 47.9	
	comp=Z,800nm,1.0s						
PMUV	**Sontecomapan**	**3.39**	**351**	*eP*	**Pn**	**11 08 48.0**	**+0.1**
PMUV				*eS*	**Sn**	**11 09 20.8**	**-6.2**
PNIG	**Pinotepa**	**3.65**	**290**		**Pn**	**11 08 52.2**	**+0.8**
PNIG					**Sn**	**11 09 30.2**	**-3.1**
PNIG	**Pinotepa**	**3.65**	**290**	*eP*	**Pn**	**11 08 52.2**	**+0.8**
PNIG				*eS*	**Sn**	**11 09 30.2**	**-3.1**
FUG	**Fuego 3**	**3.66**	**101**	*i* P	**Pn**	**11 08 53.8**	**+2.0**
TXIG	**Tlaxiaco**	**3.71**	**304**		**Pn**	**11 08 54.5**	**+1.9**
TXIG					**Sn**	**11 09 32.9**	**-2.4**
TXIG	**Tlaxiaco**	**3.71**	**304**	*eP*	**Pn**	**11 08 54.5**	**+1.9**
TXIG				*eS*	**Sn**	**11 09 32.9**	**-2.4**
TOIG	**Toxpalan**	**3.77**	**321**		**Pn**	**11 08 56.4**	**+3.2**
TOIG					**Sn**	**11 09 34.4**	**-2.0**
TOIG	**Toxpalan**	**3.77**	**321**	*eP*	**Pn**	**11 08 56.4**	**+3.2**
TOIG				*eS*	**Sn**	**11 09 34.4**	**-2.0**
HLIG	**Huajuapan de L**	**4.08**	**311**		**Pn**	**11 09 00.5**	**+2.9**
HLIG					**Sn**	**11 09 43.8**	**-0.5**
HLIG	**Huajuapan de L**	**4.08**	**311**	*eP*	**Pn**	**11 09 00.5**	**+2.9**
HLIG				*eS*	**Sn**	**11 09 43.8**	**-0.5**
NBG	**Las Nubes**	**4.11**	**98**	*i* P	**Pn**	**11 09 01.1**	**+3.2**
TPIG	**Tehuac#an**	**4.20**	**320**		**Sn**	**11 09 53.4**	**+6.3**
TPIG	**Tehuac#an**	**4.20**	**320**	*eS*	**Sn**	**11 09 53.4**	**+6.3**
FTIG	**Fresnillo de T**	**4.38**	**309**		**Pn**	**11 09 04.4**	**+2.8**
FTIG					**Sn**	**11 09 50.5**	**-0.9**
FTIG	**Fresnillo de T**	**4.38**	**309**	*eP*	**Pn**	**11 09 04.4**	**+2.8**
FTIG				*eS*	**Sn**	**11 09 50.5**	**-0.9**
MGIG	**Malinaltepec**	**4.42**	**298**		**Pn**	**11 09 03.9**	**+1.7**
MGIG					**Sn**	**11 09 50.4**	**-2.3**
MGIG	**Malinaltepec**	**4.42**	**298**	*eP*	**Pn**	**11 09 03.9**	**+1.7**
MGIG				*eS*	**Sn**	**11 09 50.4**	**-2.3**
TLIG	**Tlapa**	**4.53**	**302**	Pn	**Pn**	**11 09 06.5**	**+2.8**
TLIG	**Tlapa**	**4.53**	**302**	*eP*	**Pn**	**11 09 06.4**	**+2.8**
TLIG				*eS*	**Sn**	**11 09 52.9**	**-2.1**
CRIG	**Cruz Grande**	**4.67**	**290**		**Pn**	**11 09 06.8**	**+1.3**
CRIG					**Sn**	**11 09 53.4**	**-5.0**
CRIG	**Cruz Grande**	**4.67**	**290**	*eP*	**Pn**	**11 09 06.8**	**+1.3**
CRIG				*eS*	**Sn**	**11 09 53.4**	**-5.0**
JAUV	**Jalcomulco**	**4.69**	**333**	*eP*	**Pn**	**11 09 05.0**	**-0.7**
JAUV				*eS*	**Sn**	**11 09 55.2**	**-3.7**
MRL	**Marmol**	**4.70**	**91**	*i* P	**Pn**	**11 09 07.6**	**+1.5**
NUBE	**Las Nubes**	**4.79**	**105**	*i* P	**Pn**	**11 09 07.3**	**0.0**
NUBE				*i* S	**Sn**	**11 09 58.8**	**-2.9**
NUBE				IAML		11 10 03.8	
	comp=Z,170nm,1.0s						
SCIG	**Sabancuy**	**4.95**	**40**	*eP*	**Pn**	**11 09 08.1**	**-1.2**
SCIG				*eS*	**Sn**	**11 10 00.9**	**-4.4**
CEVE	**Cerro Verde**	**4.96**	**105**	*i* P	**Pn**	**11 09 10.7**	**+1.0**
CEVE				*i* S	**Sn**	**11 10 06.0**	**+0.1**
CEVE				IAML		11 10 14.1	
	comp=Z,270nm,1.0s						
MTO3	**Montecristo**	**5.08**	**98**		**Pn**	**11 09 12.0**	**+0.7**
MTO3	**Montecristo**	**5.08**	**98**	*i* P	**Pn**	**11 09 12.3**	**+1.0**
MTO3				IAML		11 10 39.3	
	comp=Z,58nm,1.0s						
JAYA	**Jayaque - finc**	**5.17**	**106**	*i* P	**Pn**	**11 09 12.4**	**-0.1**
JAYA				IAmb	IAmb	11 09 15.1	
	comp=Z,71nm,0.9s						
JAYA				*i* S	**Sn**	**11 10 09.5**	**-1.5**
JAYA				IAML		11 10 16.9	
	comp=Z,380nm,1.0s						
DAIG	**Los Arroyos**	**5.23**	**291**		**Pn**	**11 09 14.7**	**+1.5**
DAIG					**Sn**	**11 10 06.9**	**-5.5**
DAIG	**Los Arroyos**	**5.23**	**291**	*eP*	**Pn**	**11 09 14.7**	**+1.5**
DAIG				*eS*	**Sn**	**11 10 06.9**	**-5.5**
PBCV	**Popocatepetl**	**5.39**	**315**	*eP*	**Pn**	**11 09 14.9**	**-0.7**
PBCV				*eS*	**Sn**	**11 10 15.3**	**-1.2**
PBXN	**Popocatepetl**	**5.47**	**315**	*eP*	Pn	11 09 01.3	-16
PBXN				*eP*	**Pn**	**11 09 16.9**	**0.0**
PBXN				*eS*	Sn	11 10 09.3	-10
PBXN				*eS*	**Sn**	**11 10 19.9**	**+1.0**
PPM	**Popocatepetl**	**5.49**	**315**	*eP*	**Pn**	**11 09 16.4**	**-0.8**
PPM				*eS*	**Sn**	**11 10 21.4**	**+2.1**
PPIG	**Popocatepetl**	**5.49**	**315**		**Pn**	**11 09 16.4**	**-0.8**
PPIG					**Sn**	**11 10 21.4**	**+2.1**
MEIG	**Mezcala**	**5.58**	**300**		**Pn**	**11 09 21.1**	**+3.1**
MEIG					**Sn**	**11 10 17.3**	**-3.6**
MEIG	**Mezcala**	**5.58**	**300**	*eP*	**Pn**	**11 09 21.1**	**+3.1**
MEIG				*eS*	**Sn**	**11 10 17.3**	**-3.6**
YAIG	**Yautepec**	**5.66**	**311**		**Pn**	**11 09 22.5**	**+3.2**
YAIG					**Sn**	**11 10 20.8**	**-2.3**
YAIG	**Yautepec**	**5.66**	**311**	*eP*	**Pn**	**11 09 22.5**	**+3.2**
YAIG				*eS*	**Sn**	**11 10 20.8**	**-2.3**
PLIG	**Platanillo**	**5.72**	**305**		Pn	11 09 27.9	+7.9
PLIG					**Sn**	**11 10 24.9**	**+0.5**
PLIG	**Platanillo**	**5.72**	**305**	*eP*	Pn	11 09 27.9	+7.9
PLIG				*eS*	**Sn**	**11 10 24.9**	**+0.5**
CXUV	**Coxquihui**	**5.75**	**330**	*eP*	**Pn**	**11 09 18.0**	**-2.3**
CXUV				*eS*	**Sn**	**11 10 23.6**	**-1.4**
CAIG	**El Cayaco**	**5.80**	**289**		**Pn**	**11 09 22.9**	**+1.9**
CAIG					**Sn**	**11 10 20.2**	**-6.1**
CAIG	**El Cayaco**	**5.80**	**289**	*eP*	**Pn**	**11 09 22.9**	**+1.9**
CAIG				*eS*	**Sn**	**11 10 20.2**	**-6.1**
MAVM	**Malinalco, Edo**	**6.04**	**309**	*eP*	Pn	11 09 13.4	-11
RANC	**El Ranchito**	**6.31**	**105**	*i* P	Pn	11 09 22.6	-5.6
ARIG	**Puente Sto Nin**	**6.35**	**300**		**Pn**	**11 09 31.9**	**+3.3**
ARIG					**Sn**	**11 10 36.0**	**-3.9**
ARIG	**Puente Sto Nin**	**6.35**	**300**	*eP*	**Pn**	**11 09 31.9**	**+3.3**
ARIG				*eS*	**Sn**	**11 10 36.0**	**-3.9**
CNCH	**Conchagua**	**6.78**	**105**	*i* P	**Pn**	**11 09 36.4**	**+1.8**
ZIIG	**Zihuatanejo**	**7.06**	**291**		**Pn**	**11 09 41.1**	**+2.8**
ZIIG					**Sn**	**11 10 51.6**	**-5.7**
ZIIG	**Zihuatanejo**	**7.06**	**291**	*i* P	**Pn**	**11 09 41.1**	**+2.8**
ZIIG				*i* S	**Sn**	**11 10 51.6**	**-5.7**
MYIG	**Merida**	**7.34**	**38**	*eP*	Pn	11 09 46.9	+4.8
MYIG				*eS*	**Sn**	**11 11 02.4**	**-1.9**
CRIN	**San Cristobal**	**7.69**	**108**	Pn	**Pn**	**11 09 48.7**	**+1.7**
TEIG	**Tepich**	**7.80**	**49**	Pn	**Pn**	**11 09 45.9**	**-2.6**
TEIG	**Tepich**	**7.80**	**49**	P	Pn	11 09 45.3	-3.2
	comp=Z,14nm,0.3s,baz=18,slow=2.9,SNR=67						
TEIG				S	Sn	11 11 05.4	-10
	comp=Z,15nm,0.4s,baz=22,slow=19,SNR=1.2						
JTS	**Las Juntas de**	**10.55**	**116**	Pn	**Pn**	**11 10 27.6**	**+1.5**
JTS	**Las Juntas de**	**10.55**	**116**	P	**Pn**	**11 10 26.9**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=315,slow=20,SNR=8.3						
	comp=Z,3.7nm,0.3s						
TXAR	**Lajitas Array**	**16.41**	**331**	P	**P**	**11 11 47.8**	**+0.7**
	baz=153,slow=11,SNR=5.9						
	comp=Z,0.5nm,0.8s						
MNHN	**Monahans**	**17.75**	**336**	P	**Pn**	**11 12 00.7**	**-0.9**
SN07	**Snyder 07**	**18.74**	**343**	P	**P**	**11 12 13.8**	**+1.1**
APMT	**Aspermont**	**18.76**	**345**	P	**P**	**11 12 12.1**	**-0.8**
MIAR	**Mount Ida**	**19.30**	**2**	P	**P**	**11 12 16.8**	**-2.0**
WMOK	**Wichita Mounta**	**19.84**	**350**	P	**P**	**11 12 23.8**	**-1.0**
W35A	**Tecumseh**	**20.00**	**354**		**P**	**11 12 26.3**	**-0.2**
W35A				IAmb	IAmb	11 12 31.4	
	comp=Z,13nm,1.0s						
SMWD	**Samnorwood**	**20.49**	**347**	P	**P**	**11 12 32.3**	**+0.5**
SMWD				IAmb	IAmb	11 12 34.4	
	comp=Z,15nm,1.0s						
AMTX	**Amarillo**	**20.64**	**343**	P	**P**	**11 12 33.8**	**+0.3**
AMTX				IAmb	IAmb	11 12 37.3	
	comp=Z,10nm,1.0s						
FCAR	**Ozark Folk Cen**	**20.74**	**6**	P	**P**	**11 12 33.3**	**-1.2**
FCAR				IAmb	IAmb	11 12 37.0	
	comp=Z,7.0nm,0.7s						
OK031	**S. Brethren Rd**	**20.79**	**355**	IAmb	IAmb	11 12 34.9	
	comp=Z,8.2nm,0.9s						
OK052	**Battle Ridge R**	**20.82**	**355**	IAmb	IAmb	11 12 38.3	
	comp=Z,12nm,0.9s						
HHAR	**Hobbs**	**21.02**	**1**	IAmb	IAmb	11 12 39.4	
	comp=Z,11nm,0.5s						
U38A	**Gravette**	**21.17**	**0**	IAmb	IAmb	11 12 41.0	
	comp=Z,7.1nm,0.6s						
BLOK	**Blackwell**	**21.62**	**354**	IAmb	IAmb	11 12

PSDA	**Pessada-Kefalo**	**0.74**	**7**	P	**Pg**	**11 08 29.9**	**+0.6**
PSDA				S	**Sg**	**11 08 38.8**	**-0.1**
	comp=N,7μm,0.4s						
VLS	**Valsamata**	**0.80**	**6**	P	**Pg**	**11 08 31.0**	**+0.5**
VLS				S	**Sg**	**11 08 41.3**	**+0.4**
	comp=N,5μm,0.5s						
VLS	**Valsamata**	**0.80**	**6**	P	**Pg**	**11 08 30.9**	**+0.4**
VLS				S	**Sg**	**11 08 40.1**	**-0.8**
VLS				AML	AML	11 08 43.9	
	comp=E,11656μm,0.5s						
VLS				AML	AML	11 08 46.5	
	comp=N,7817μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.82**	**358**	P	**Pg**	**11 08 31.3**	**+0.5**
LXRA				S	**Sg**	**11 08 41.2**	**-0.3**
LXRA				AML	AML	11 08 45.2	
	comp=E,18491μm,0.5s						
LXRA				AML	AML	11 08 49.2	
	comp=N,12900μm,0.7s						
DMLN	**Damoulianata-K**	**0.86**	**355**	P	**Pg**	**11 08 32.0**	**+0.4**
DMLN				S	**Sb**	**11 08 44.7**	**+0.6**
	comp=N,8μm,0.8s						
DMLN	**Damoulianata-K**	**0.86**	**355**	P	**Pg**	**11 08 31.9**	**+0.2**
DMLN				S	**Sg**	**11 08 43.0**	**+0.2**
SMHA	**Samh**	**0.88**	**9**	P	**Pg**	**11 08 32.1**	**+0.1**
SMHA				S	**Sg**	**11 08 42.5**	**-1.0**
AMT	**Artemida-Makis**	**0.99**	**81**	P	**Pb**	**11 08 35.4**	**+0.8**
RLS	**Riolos of Patr**	**1.04**	**49**	P	**Pg**	**11 08 34.0**	**-1.0**
RLS				S	**Sn**	**11 08 51.2**	**+0.5**
	comp=N,1μm,0.6s						
FSK	**Fiskardo**	**1.08**	**4**	P	**Pg**	**11 08 35.8**	**0.0**
FSK	**Fiskardo**	**1.08**	**4**	P	**Pg**	**11 08 35.6**	**-0.2**
FSK				S	**Sg**	**11 08 50.0**	**+0.1**
FSK				AML	AML	11 08 53.3	
	comp=N,3108μm,0.3s						
FSK				AML	AML	11 08 56.7	
	comp=E,4080μm,0.7s						
PYL	**PYLOS**	**1.12**	**115**	P	**Pb**	**11 08 36.6**	**-0.2**
PYL				S	**Sn**	**11 08 54.0**	**+1.1**
PYL	**PYLOS**	**1.12**	**115**	P	**Pb**	**11 08 36.4**	**-0.4**
DRO	**Drossia**	**1.13**	**59**	P	**Pb**	**11 08 36.1**	**-0.9**
DRO				S	**Sn**	**11 08 53.9**	**+0.7**
ITM	**Ithomi**	**1.17**	**99**	P	**Pb**	**11 08 37.4**	**-0.3**
ITM	**Ithomi**	**1.17**	**99**	P	**Pb**	**11 08 37.9**	**+0.1**
EVGI	**Lefkada island**	**1.25**	**6**	P	**Pn**	**11 08 37.5**	**-1.4**
EVGI				S	**Sg**	**11 08 55.2**	**0.0**
	comp=E,3μm,0.4s						
NYDR	**Nydri-Lefkada**	**1.34**	**7**	P	**Pn**	**11 08 40.1**	**-0.1**
NYDR				S	**Sg**	**11 08 59.1**	**+0.8**
	comp=E,1μm,0.5s						

*IDC **01** 11:13:06.5±0.7, 8.14N×82.97W, h0km, mb4.1/16, mbtmp4.2/23, ML4.2/5, MS3.7/21, Error ellipse: s-maj=22.1km s-min=11.9km az=53.0*
*NEIC **01** 11:13:09.6±2.1, 8.21N±0.04×83.05W±0.05, h10km±1km, mb4.7/120, Error ellipse: s-maj=9.1km s-min=7.4km az=107.0*
*UCR **01** 11:13:09.8±1.2, 8.19N×83.01W, h24km±2km, MW5.3, Fault plane solution: NP1:φs265.77000°, δ60.13000°, λ2.88000°.*
*UPA **01** 11:13:10.3±1.9, 8.26N×83.00W, h11km±3km, MW5.1*
*RSNC **01** 11:13:10.8±0.3, 8.N±3.×8.3W±., h10km±3km, M4.7, mB5.3, mb5.0, ML4.3, Mw(mB)4.7, MwMwp4.5, Mwp4.9*
*CATAC **01** 11:13:11.6±0.7, 8.30N×82.97W, h18km±4km, MB5.4, mb5.4, ML5.3*
*GCMT **01** 11:13:12.6±0.3, 8.24N±0.02×83.06W±0.02, h27km±1km, MW4.8/77, Moment Tensor Solution. s10,c10; s77,c97; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.12±.14; Mθθ-1.47±.09; Mφφ1.35±.10; Mrθ-0.27±.14; Mrφ1.05±.07; Mθφ-0.18±.17; Best double couple: M0 1.78900×10^16 NP1:φs244.00000°, δ88.00000°, λ11.00000°. NP2: φs153.00000°, δ79.00000°, λ178.00000°. Principal axes: T 1.7400, Plg9.0000°, Azm109.0000°; N 0.0960, Plg79.0000°, Azm256.0000°; P -1.8380, Plg6.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 11:13:10.8±0.7, 8.22N±0.03×83.01W±0.02, h28km±4km, n360, σ1$25/350, mb4.7/68, MS3.8/19, 38C-28D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.13**	**97**	i⇑P	**Pb**	**11 13 15.4**	**-0.8**
PTPM				i S	**Sb**	**11 13 20.4**	**+0.7**
LIMO3	**Limones**	**0.19**	**130**	⇓eP	**Pb**	**11 13 15.8**	**-0.9**
LESP3	**La Esperanza,**	**0.28**	**50**	⇓iP	**Pb**	**11 13 16.8**	**-1.2**
LESP3				eS	**Sb**	**11 13 21.1**	**-1.6**
LPPC	**Paso Canoas**	**0.35**	**28**	⇓eP	**Pb**	**11 13 17.8**	**-1.2**
LPPC				eS	**Sb**	**11 13 23.9**	**-0.4**
PIRO	**Carate, Puerto**	**0.37**	**299**	⇑iP	**Pb**	**11 13 17.7**	**-1.5**
PIRO				eS	**Sb**	**11 13 25.1**	**+0.2**
CDITO	**Canoas**	**0.38**	**21**	i P	**Pb**	**11 13 18.0**	**-1.3**
CDITO				IAML		11 13 18.2	
	comp=Z,330μm,1.0s						
CDITO				i S	**Sb**	**11 13 25.2**	**+0.2**
JIME	**Puerto Jimenez**	**0.44**	**315**	⇑eP	**Pb**	**11 13 19.1**	**-1.2**
JIME				eS	**Sb**	**11 13 27.4**	**+0.7**
EDAD	**Golfito**	**0.46**	**340**	⇑eP	**Pb**	**11 13 18.4**	**-2.1**
EDAD				eS	**Sb**	**11 13 25.4**	**-1.7**
DVD	**David**	**0.59**	**69**	⇓eP	**Pb**	**11 13 21.5**	**-1.2**
DVD				eS	**Sb**	**11 13 30.6**	**-0.2**
VITO	**San Vito**	**0.59**	**4**	⇓eP	**Pb**	**11 13 21.9**	**-0.9**
MLIR3	**Monte Lirio, C**	**0.60**	**18**	⇓iP	**Pb**	**11 13 22.2**	**-0.7**
MLIR3				eS	**Sb**	**11 13 30.8**	**-0.3**
LOCO3	**Loma Colorada,**	**0.61**	**72**	⇓eP	**Pb**	**11 13 21.9**	**-1.2**
LOCO3				eS	**Sb**	**11 13 31.2**	**-0.2**
LOMA3	**Las Lomas, Chi**	**0.65**	**71**	⇓eP	**Pb**	**11 13 22.3**	**-1.3**
LOMA3				eS	**Sb**	**11 13 31.8**	**-0.6**
BRU2	**Volcan**	**0.65**	**29**		**Pb**	**11 13 22.8**	**-1.0**
BRU2	**Volcan**	**0.65**	**29**	i P	**Pb**	**11 13 22.9**	**-0.9**
BRU2				IAML		11 13 23.1	
	comp=Z,170μm,1.0s						
BRU2				i S	**Sn**	**11 13 33.7**	**-0.1**
BRU2	**Volcan**	**0.65**	**29**	⇓iP	**Pb**	**11 13 22.8**	**-1.0**
BRU2				eS	**Sb**	**11 13 32.9**	**+0.3**
BRU2	**Volcan**	**0.65**	**29**	⇓eP	**Pb**	**11 13 22.7**	**-1.0**
BCO2	**Palmira**	**0.69**	**44**	⇓iP	**Pb**	**11 13 23.3**	**-1.1**
BCO2				i S	**Sb**	**11 13 33.9**	**+0.3**
PTAR3	**Potrerillos Ar**	**0.69**	**47**	⇓iP	**Pb**	**11 13 23.2**	**-1.2**
PTAR3				eS	**Sb**	**11 13 33.8**	**0.0**
LNBQ3	**Los Naranjos,**	**0.80**	**45**	⇓iP	**Pb**	**11 13 24.4**	**-1.8**
LNBQ3				eS	**Sb**	**11 13 35.9**	**-0.9**
EDP2	**Potrero Grande**	**0.81**	**348**	⇑eP	**Pb**	**11 13 25.0**	**-1.4**
EDP2				eS	**Sn**	**11 13 37.2**	**-0.2**
EDPN	**Palmar Norte**	**0.86**	**329**	⇑eP	**Pn**	**11 13 25.3**	**-1.8**
EDPN				eS	**Sb**	**11 13 37.4**	**-1.0**
EDBA	**Buenos Aires**	**0.97**	**344**	eP	**Pn**	**11 13 27.6**	**-1.1**
BURE	**Buenos Aires**	**1.00**	**341**	⇑eP	**Pn**	**11 13 28.0**	**-1.0**
DRK0	**Durika**	**1.06**	**347**	i P	**Pn**	**11 13 28.8**	**-1.2**
DRK0				i S	**Sn**	**11 13 43.2**	**-0.8**
DRK0				IAML		11 13 45.1	
	comp=Z,250μm,1.0s						
DRK0	**Durika**	**1.06**	**347**	⇓iP	**Pn**	**11 13 28.8**	**-1.2**
DRK0				i S	**Sb**	**11 13 44.1**	**-0.2**
DRK0	**Durika**	**1.06**	**347**	⇑eP	**Pn**	**11 13 28.7**	**-1.4**
OCHAL	**Ojochal**	**1.07**	**324**	i P	**Pn**	**11 13 28.8**	**-1.2**
OCHAL				i S	**Sn**	**11 13 43.9**	**-0.1**
CNI2	**El Empalme, Bo**	**1.31**	**24**	⇓iP	**Pn**	**11 13 32.8**	**-0.4**
CNI2				eS	**Sb**	**11 13 51.0**	**-0.2**
ZELE	**Perez Zeledon**	**1.34**	**329**	eP	**Pn**	**11 13 33.2**	**-0.5**
RGM0	**Gandoca**	**1.42**	**16**		**Pn**	**11 13 35.6**	**+0.9**
RGM0	**Gandoca**	**1.42**	**16**	i P	**Pb**	**11 13 36.1**	**-0.6**
RGM0				IAML		11 14 11.0	
	comp=Z,50μm,1.0s						
RGM0	**Gandoca**	**1.42**	**16**	⇓iP	**Pb**	**11 13 36.0**	**-0.6**
RGM0				eS	**Sn**	**11 13 52.4**	**-0.1**
RGM0	**Gandoca**	**1.42**	**16**	⇓eP	**Pb**	**11 13 35.9**	**-0.8**
BUS1	**Rivas**	**1.51**	**331**	⇑eP	**Pn**	**11 13 35.6**	**-0.8**
LLNJ	**Naranjito**	**1.65**	**319**	eP	**Pn**	**11 13 37.0**	**-0.9**
RAZU	**San Marcos de**	**1.75**	**325**	⇑eP	**Pn**	**11 13 39.1**	**-0.4**
ABE2	**San Pablo**	**1.80**	**325**	eP	**Pn**	**11 13 40.3**	**0.0**
LCR2	**La Lucha 2**	**1.80**	**327**		**Pn**	**11 13 39.9**	**-0.4**
LCR2	**La Lucha 2**	**1.80**	**327**	i P	**Pn**	**11 13 40.4**	**+0.1**
LCR2				IAML		11 13 41.7	
	comp=Z,22μm,1.0s						
LCR2				i S	**Sb**	**11 14 04.6**	**-1.0**
LCR2	**La Lucha 2**	**1.80**	**327**	⇑eP	**Pn**	**11 13 39.5**	**-0.8**
TURIB	**Turrialba**	**1.80**	**338**	⇓eP	**Pn**	**11 13 40.2**	**+0.1**
MESA3	**La Mesa, Verag**	**1.81**	**92**	⇓eP	**Pn**	**11 13 39.6**	**-0.5**
MESA3				eS	**Sn**	**11 14 02.8**	**+0.6**
GMAL	**Guarumal, Vera**	**1.82**	**104**	P	**Pn**	**11 13 38.3**	**-1.9**
GMAL				S	**Sn**	**11 14 03.0**	**+0.6**
GMAL	**Guarumal, Vera**	**1.82**	**104**	⇓eP	**Pn**	**11 13 39.0**	**-1.3**
GMAL				eS	**Sb**	**11 14 04.2**	**-1.6**
GMAL	**Guarumal, Vera**	**1.82**	**104**	⇓eP	**Pn**	**11 13 38.5**	**-1.8**
RITA	**Parrita**	**1.84**	**315**	eP	**Pn**	**11 13 40.2**	**-0.3**
RVSTA	**Santa Teresita**	**1.85**	**340**	eP	**Pn**	**11 13 41.3**	**+0.5**
PCAYA	**Pacayas**	**1.86**	**335**	eP	**Pn**	**11 13 41.3**	**+0.2**
TAAN	**Batan**	**1.88**	**350**	eP	**Pn**	**11 13 41.9**	**+0.8**
VTCV	**VTCV, Calle Va**	**1.89**	**338**	eP	**Pn**	**11 13 41.3**	**-0.1**
CVTV	**Tajo**	**1.92**	**338**	⇓eP	**Pn**	**11 13 42.0**	**+0.1**
CVTQ	**Turrialba Volc**	**1.92**	**337**	⇓eP	**Pn**	**11 13 42.2**	**+0.1**
VTLA	**Turrialba Volc**	**1.93**	**337**	⇓eP	**Pn**	**11 13 42.0**	**0.0**
IRES	**Siquirres**	**1.93**	**345**	eP	**Pn**	**11 13 42.6**	**+0.8**
LCOCO	**El Coco**	**1.93**	**344**	eP	**Pn**	**11 13 42.5**	**+0.6**
VTR0	**Volcan Turrial**	**1.93**	**337**	⇓eP	**Pn**	**11 13 42.2**	**0.0**
CVTR	**Volcan Turrial**	**1.94**	**338**	⇓eP	**Pn**	**11 13 42.2**	**-0.1**
ACOS	**Acosta**	**1.94**	**324**	⇓eP	**Pn**	**11 13 41.7**	**-0.3**
VICA	**Volcano Irazu**	**1.94**	**335**	⇓eP	**Pn**	**11 13 41.9**	**-0.4**
AMPA	**Desamparados**	**1.96**	**328**	eP	**Pn**	**11 13 42.2**	**-0.2**
LUJA	**Lujan**	**1.99**	**328**	eP	**Pn**	**11 13 43.9**	**+1.1**
CORON	**Coronado**	**2.00**	**331**	eP	**Pn**	**11 13 43.5**	**+0.6**
CENT	**San Jose**	**2.00**	**328**	eP	**Pn**	**11 13 44.3**	**+1.3**
LUPE	**Guadalupe**	**2.00**	**329**	eP	**Pn**	**11 13 43.0**	**0.0**
CVIMO	**Finca Echandi**	**2.02**	**333**	⇓eP	**Pn**	**11 13 43.2**	**0.0**
STIA3	**Santiago, Vera**	**2.02**	**93**	⇓eP	**Pn**	**11 13 42.9**	**-0.1**
STIA3				eS	**Sn**	**11 14 08.9**	**+1.5**
SANTA	**Santa Ana**	**2.06**	**326**	⇑eP	**Pn**	**11 13 43.6**	**-0.1**
HDC	**Heredia**	**2.08**	**328**		**Pn**	**11 13 44.4**	**+0.4**
HDC	**Heredia**	**2.08**	**328**	eP	**Pn**	**11 13 44.3**	**+0.4**
HDC	**Heredia**	**2.08**	**328**	⇓eP	**Pn**	**11 13 44.0**	**+0.1**
MARI3	**Mariato, Verag**	**2.08**	**106**	⇓eP	**Pn**	**11 13 44.0**	**+0.1**
MARI3				eS	**Sn**	**11 14 09.3**	**+0.5**
BELE	**Belen**	**2.10**	**326**	⇑eP	**Pn**	**11 13 44.2**	**0.0**
CACAO	**El Cacao, Vera**	**2.30**	**112**	P	**Pn**	**11 13 45.5**	**-1.4**
CACAO				S	**Sn**	**11 14 14.1**	**-0.2**
VPS6	**Volcano Poas**	**2.30**	**328**	eP	**Pn**	**11 13 47.1**	**0.0**
TRT2	**Tortugero**	**2.43**	**343**	i P	**Pn**	**11 13 49.6**	**+0.9**
TRT2				IAML		11 14 38.6	
	comp=Z,8μm,1.0s						
CBL1	**Cabuya**	**2.47**	**304**	⇑eP	**Pn**	**11 13 47.5**	**-1.7**
ITAL	**Pital**	**2.54**	**331**	⇑eP	**Pn**	**11 13 50.9**	**+0.7**
CHIT3	**Chitre**	**2.58**	**96**	⇓eP	**Pn**	**11 13 50.8**	**+0.1**
CHIT3				eS	**Sn**	**11 14 23.2**	**+2.0**
TOSI3	**Tonosi**	**2.67**	**107**	eP	**Pn**	**11 13 52.0**	**+0.1**
TOSI3				eS	**Sn**	**11 14 25.9**	**+2.5**
SOCE	**Pocosol**	**2.67**	**324**		**Pn**	**11 13 52.4**	**+0.4**
SOCE	**Pocosol**	**2.67**	**324**	i P	**Pn**	**11 13 52.7**	**+0.6**
SOCE				IAML		11 14 43.3	
	comp=Z,13μm,1.0s						
SOCE	**Pocosol**	**2.67**	**324**	⇑eP	**Pn**	**11 13 52.1**	**0.0**
AZU	**Azuero**	**2.74**	**99**	P	**Pn**	**11 13 52.9**	**-0.1**
AZU				S	**Sn**	**11 14 26.3**	**+1.1**
AZU	**Azuero**	**2.74**	**99**	⇑eP	**Pn**	**11 13 53.3**	**+0.3**
AZU				eS	**Sn**	**11 14 27.7**	**+2.5**
AZU	**Azuero**	**2.74**	**99**	eP	**Pn**	**11 13 52.8**	**-0.1**
VACR	**Volcan Arenal**	**2.78**	**324**	⇑eP	**Pn**	**11 13 53.5**	**0.0**
ARE1	**Arenal 1**	**2.79**	**323**	⇑eP	**Pn**	**11 13 53.9**	**+0.2**
JTS	**Las Juntas de**	**2.81**	**317**		**Pn**	**11 13 53.1**	**-0.9**
JTS	**Las Juntas de**	**2.81**	**317**	Pn	**Pn**	**11 13 54.5**	**+0.6**
	comp=Z,487nm,0.3s,baz=301,slow=20,SNR=878						
JTS				Sn	**Sn**	**11 14 30.0**	**+3.0**
	comp=Z,254nm,0.3s,baz=294,slow=19,SNR=11						
JTS	**Las Juntas de**	**2.81**	**317**	P	**Pn**	**11 13 53.6**	**-0.4**
JTS				S	**Sn**	**11 14 29.6**	**+2.6**
JTS	**Las Juntas de**	**2.81**	**317**	⇑iP	**Pn**	**11 13 52.9**	**-1.1**
JTS				eS	**Sb**	**11 14 31.7**	**-2.8**
JTS	**Las Juntas de**	**2.81**	**317**	⇑eP	**Pn**	**11 13 52.7**	**-1.3**
COVE	**Coope Vega, Sa**	**2.84**	**331**	i P	**Pn**	**11 13 55.0**	**+0.7**
COVE				IAML		11 15 02.8	
	comp=Z,10μm,1.0s						
PCRI3	**Pocri, Los San**	**2.92**	**101**	⇓iP	**Pn**	**11 13 56.3**	**+0.9**
PCRI3				eS	**Sn**	**11 14 31.3**	**+1.8**
ACHO3	**Achotines, Los**	**2.92**	**106**	⇓eP	**Pn**	**11 13 55.3**	**-0.1**
ACHO3				eS	**Sn**	**11 14 31.7**	**+2.0**
PEDA3	**Pedasi**	**3.04**	**103**	⇓eP	**Pn**	**11 13 56.7**	**-0.3**
PEDA3				eS	**Sn**	**11 14 33.6**	**+1.2**
ZANG	**Zanguenga, Cho**	**3.19**	**77**	⇓eP	**Pn**	**11 13 59.4**	**+0.2**
ZANG				eS	**Sn**	**11 14 37.6**	**+1.2**
BCIP	**Isla Barro Col**	**3.27**	**73**		**Pn**	**11 14 00.4**	**+0.1**
BCIP	**Isla Barro Col**	**3.27**	**73**	P	**Pn**	**11 14 00.7**	**+0.4**
BCIP				S	**Sn**	**11 14 38.6**	**+0.3**
BCIP	**Isla Barro Col**	**3.27**	**73**	i P	**Pn**	**11 14 00.7**	**+0.4**
BCIP				IAML		11 15 09.9	
	comp=Z,3μm,1.0s						
BCIP	**Isla Barro Col**	**3.27**	**73**	⇑iP	**Pn**	**11 14 00.2**	**-0.1**
BCIP				eS	**Sn**	**11 14 39.5**	**+1.2**
BCIP	**Isla Barro Col**	**3.27**	**73**	⇑eP	**Pn**	**11 13 60.0**	**-0.3**
ARRA3	**Arraijan, Pana**	**3.40**	**77**	⇓eP	**Pn**	**11 14 02.9**	**+0.9**
ARRA3				eS	**Sn**	**11 14 42.0**	**+0.7**
GPS3	**Bodega del ICE**	**3.43**	**317**	eP	**Pn**	**11 14 03.6**	**+1.1**
VRLE	**La Escondida,**	**3.45**	**318**	⇑eP	**Pn**	**11 14 02.9**	**+0.1**
UPA	**Univ. de Panam**	**3.52**	**77**	eP	**Pn**	**11 14 04.7**	**+1.0**
UPA				eS	**Sn**	**11 14 45.0**	**+0.6**
LCRUZ	**La Cruz**	**3.84**	**318**	⇑eP	**Pn**	**11 14 09.7**	**+1.6**
CARN	**Rivas**	**3.85**	**320**	i P	**Pn**	**11 14 09.8**	**+1.6**
CARN				IAML		11 15 12.7	
	comp=Z,4μm,1.0s						
ESPN	**Las Esperanzas**	**4.15**	**342**		**Pn**	**11 14 12.9**	**+0.6**
ESPN	**Las Esperanzas**	**4.15**	**342**	i P	**Pn**	**11 14 13.0**	**+0.6**
ESPN				IAML		11 15 37.7	
	comp=Z,2μm,1.0s						
ESPN	**Las Esperanzas**	**4.15**	**342**	eP	**Pn**	**11 14 12.4**	**0.0**
CONN	**Concepcion**	**4.21**	**322**	i P	**Pn**	**11 14 13.8**	**+0.7**
CONN				IAML		11 14 49.2	
	comp=Z,13μm,1.0s						
MORN	**Al O del Volca**	**4.21**	**322**	i P	**Pn**	**11 14 15.7**	**+2.6**
MORN				IAML		11 14 39.7	
	comp=Z,190nm,1.0s						
JAPN	**Al SSO del Vol**	**4.21**	**322**	i P	**Pn**	**11 14 13.9**	**+0.7**
JAPN				i S	**Pb**	**11 14 22.6**	**-1.6**
JAPN				IAML		11 14 34.7	
	comp=Z,1μm,1.0s						
ACON	**Acoyapa**	**4.29**	**330**	Pn	**Pn**	**11 14 14.3**	**0.0**
ACON	**Acoyapa**	**4.29**	**330**	P	**Pn**	**11 14 14.6**	**+0.3**
ACON	**Acoyapa**	**4.29**	**330**	i P	**Pn**	**11 14 15.0**	**+0.7**
ACON				i S	**Pb**	**11 14 21.7**	**-3.9**
ACON				IAML		11 14 22.9	
	comp=Z,2μm,1.0s						
ACON	**Acoyapa**	**4.29**	**330**	eP	**Pn**	**11 14 14.1**	**-0.2**
TOTI	**Torti**	**4.70**	**81**	eP	**Pn**	**11 14 20.3**	**+0.4**
TOTI				eS	**Sn**	**11 15 13.8**	**+0.3**
NANN	**Nandasmo**	**4.80**	**321**	i P	**Pn**	**11 14 23.4**	**+2.1**
NANN				IAML		11 14 35.7	
	comp=Z,12μm,1.0s						
UPD2	**Meteti**	**4.95**	**86**	⇑eP	**Pn**	**11 14 23.9**	**+0.5**
UPD2				eS	**Sn**	**11 15 18.6**	**-1.2**
UNAN	**Cigeo UNAN**	**5.03**	**321**	i P	**Pn**	**11 14 25.9**	**+1.5**
UNAN				IAML		11 14 49.4	
	comp=Z,4μm,1.0s						
MGAN	**Managua**	**5.04**	**321**		**Pn**	**11 14 24.5**	**0.0**
APQ2	**Apoyeque**	**5.12**	**321**	i P	**Pn**	**11 14 27.1**	**+1.3**
APQ2				IAmb	IAmb	11 14 40.8	
	comp=Z,330nm,1.1s						
APQ2				IAML		11 15 04.3	
	comp=Z,590nm,1.0s						
APQ2				IVmB_BB		11 15 04.3	
	comp=Z,5μm,1.0s						
PTAC	**Punta Ardita,**	**5.26**	**101**	P	**Pn**	**11 14 25.7**	**-2.0**
	comp=Z,146nm,0.8s,comp=Z,3μm						
COPN	**Copaltepe**	**5.28**	**318**	i P	**Pn**	**11 14 29.2**	**+1.3**
COPN				IAML		11 14 40.5	
	comp=Z,480nm,1.0s						
COPN				IAmb	IAmb	11 14 42.7	
	comp=Z,300nm,0.9s						
COPN				IVmB_BB		11 14 51.4	
	comp=Z,4μm,1.0s						
PRVC	**Isla de Provid**	**5.37**	**17**	P	**Pn**	**11 14 28.3**	**-0.9**
	comp=Z,512nm,0.6s,comp=Z,6μmcomp=Z,2μm						
PRVC				S	**Sn**	**11 15 29.4**	**-0.7**
	comp=Z,512nm,0.6s,comp=Z,6μmcomp=Z,2μm						
PRVC	**Isla de Provid**	**5.37**	**17**	i P	**Pn**	**11 14 29.0**	**-0.2**
PRVC				IAML		11 14 31.3	
	comp=Z,210nm,1.0s						
PRVC				IVmB_BB		11 14 34.1	
	comp=Z,2μm,1.0s						
PRVC				IAmb	IAmb	11 14 35.3	
	comp=Z,160nm,0.7s						
PRVC	**Isla de Provid**	**5.37**	**17**	eP	**Pn**	**11 14 29.0**	**-0.2**
PRVC				eS	**Sn**	**11 15 29.1**	**-1.0**
MOM2	**El Cardon**	**5.41**	**321**	i P	**Pn**	**11 14 30.0**	**+0.3**
MOM2				IAmb	IAmb	11 14 40.9	
	comp=Z,310nm,0.9s						
MOM2				IVmB_BB		11 15 06.7	
	comp=Z,5μm,1.0s						
MOM2				IAML		11 15 07.0	
	comp=Z,640nm,1.0s						
LEVN	**Ruinas Leon Vi**	**5.46**	**320**	i P	**Pn**	**11 14 32.1**	**+1.7**
LEVN				IVmB_BB		11 14 40.0	
	comp=Z,6μm,1.0s						
LEVN				IAML		11 14 40.1	
	comp=Z,590nm,1.0s						
LEVN				IAmb	IAmb	11 14 40.4	
	comp=Z,430nm,0.6s						
CNGA	**AI SSO del Vol**	**5.59**	**320**	i P	**Pn**	**11 14 33.4**	**+1.2**
CNGA				IVmB_BB		11 14 42.0	
	comp=Z,5μm,1.0s						
CNGA				IAML		11 14 42.1	
	comp=Z,480nm,1.0s						
CAPC	**Capurgana**	**5.61**	**85**	P	Pn	11 14 38.4	+5.9
LIMN	**Finca el Limon**	**5.83**	**326**	i P	**Pn**	**11 14 36.9**	**+1.3**
LIMN				IVmB_BB		11 14 45.5	
	comp=Z,5μm,1.0s						
LIMN				IAML		11 14 45.7	
	comp=Z,730nm,1.0s						
LIMN				IAmb	IAmb	11 14 45.8	
	comp=Z,600nm,0.7s						
PKGN	**Cerro Pekin**	**5.90**	**319**	i P	**Pn**	**11 14 37.8**	**+1.4**
PKGN				IVmB_BB		11 14 52.1	
	comp=Z,8μm,1.0s						
PKGN				IAML		11 14 55.6	
	comp=Z,970nm,1.0s						
PKGN				IAmb	IAmb	11 14 55.7	
	comp=Z,680nm,0.6s						
SOLC	**Bahia Solano**	**5.90**	**109**	P	**Pn**	**11 14 34.4**	**-2.0**
	comp=Z,681nm,0.5s,comp=Z,24μm						
SOLC				S	**Sn**	**11 15 37.1**	**-6.0**
	comp=Z,681nm,0.5s,comp=Z,24μm						
CRIN	**San Cristobal**	**5.97**	**319**		**Pn**	**11 14 37.9**	**+0.5**
CRIN	**San Cristobal**	**5.97**	**319**	P	**Pn**	**11 14 38.0**	**+0.6**
	comp=Z,662nm,0.6s,comp=Z,7μm						
CRIN	**San Cristobal**	**5.97**	**319**	i P	**Pn**	**11 14 38.6**	**+1.2**
CRIN				IVmB_BB		11 14 51.6	
	comp=Z,7μm,1.0s						
CRIN				IAML		11 14 52.5	
	comp=Z,980nm,1.0s						
CRIN				IAmb	IAmb	11 15 05.2	
	comp=Z,670nm,0.6s						
RNCC	**Cayo Roncador,**	**6.04**	**28**	P	**Pn**	**11 14 37.2**	**-1.2**
	comp=Z,470nm,0.8s						
RNCC				S	**Sn**	**11 15 45.6**	**-1.1**
	comp=Z,470nm,0.8s						
RCPN	**Sur Rio San Ju**	**6.08**	**330**	i P	**Pn**	**11 14 41.0**	**+2.0**
RCVN	**Varillal2**	**6.18**	**330**	i P	**Pn**	**11 14 41.8**	**+1.4**
RCVN				i S	Pn	11 14 48.0	+7.6
RCVN				IAmb	IAmb	11 14 50.6	
	comp=Z,5μm,0.7s						
RCVN				IAML		11 14 51.6	
	comp=Z,8μm,1.0s						
RCVN				IVmB_BB		11 14 51.6	
	comp=Z,72μm,1.0s						
APAC	**Apartado, Choc**	**6.37**	**92**	P	**Pn**	**11 14 46.0**	**+3.0**
	comp=Z,221nm,0.9s,comp=Z,3μm						
CSGN	**Cosiguina Volc**	**6.51**	**317**	i P	**Pn**	**11 14 46.3**	**+1.5**
CSGN				IVmB_BB		11 14 53.8	
	comp=Z,950nm,1.0s						
CSGN				IAmb	IAmb	11 14 54.2	
	comp=Z,78nm,0.6s						
CSGN				IAML		11 14 54.8	
	comp=Z,120nm,1.0s						
DBBC	**Dabeiba**	**6.84**	**100**	P	**Pn**	**11 14 49.9**	**+0.4**
	comp=Z,57nm,0.7s,comp=Z,625nm						
CNCH	**Conchagua**	**6.91**	**317**	i P	**P

MTDJ Mount Denham 11.28 28 Pn 11 15 50.9 +0.6
MTDJ Mount Denham 11.28 28⇑ *i*P Pn 11 15 51.4 +1.1
MTDJ Mount Denham 11.28 28 *e*P Pn 11 15 51.5 +1.1
MTDJ IAmb IAmb 11 15 52.1
comp=Z,210nm,0.7s
STH Stony Hill 11.50 31⇑ *i*P Pn 11 15 54.1 +0.7
GWJ Greenwich 11.54 31 *i* P Pn 11 15 54.7 +0.7
CBCY The Bluff, Cay 11.87 15 *e*P Pn 11 15 58.7 +0.4
CBCY IAmb IAmb 11 16 03.0
comp=Z,160nm,0.8s
CCIG Comitan 11.98 313 Pn **Pn 11 16 00.5 +0.4**
SDV Santo Domingo 12.26 86 Pn **Pn 11 16 05.4 +1.6**
SDV Santo Domingo 12.26 86 Pn **Pn 11 16 02.8 -1.0**
comp=Z,8.0nm,0.5s,baz=64,slow=12,SNR=3.7
SDV Sn **Sn 11 18 16.9 -2.8**
comp=Z,1.6nm,0.3s,baz=15,slow=16,SNR=1.2
SDV Santo Domingo 12.26 86 *e*P Pn 11 15 59.6 -4.3
TEIG Tepich 12.98 337 Pn **Pn 11 16 12.3 -1.1**
TEIG Tepich 12.98 337 Pn **Pn 11 16 14.5 +1.0**
comp=Z,0.5nm,0.3s,baz=146,slow=15,SNR=1.3
TEIG LR LR 11 20 53.6
comp=Z,317nm,21.6s,baz=188,slow=36
comp=Z,4.6nm,0.7s
CHIV Chivirico 13.32 28 Pn 11 16 18.1 0.0
CHIV Chivirico 13.32 28 *e*P Pn 11 16 18.6 +0.5
CHIV IAmb IAmb 11 16 41.5
comp=Z,43nm,0.5s
MARVS Santiago de Cu 13.58 30 *e*P Pn 11 16 22.4 +0.7
RCC Rio Carpintero 13.68 30 *e*P Pn 11 16 24.7 +1.6
RCC IAmb IAmb 11 16 27.8
comp=Z,54nm,1.0s
GTBY Guantanamo Bay 13.93 32 Pn **Pn 11 16 27.6 +1.3**
GTBY Guantanamo Bay 13.93 32 *e*P Pn 11 16 27.7 +1.3
GTBY IAmb IAmb 11 16 32.7
comp=Z,35nm,0.9s
GTBY IVmB_BB 11 16 52.3
comp=Z,810nm,1.0s
PINC Pinares de May 14.05 29 *e*P Pn 11 16 29.6 +1.5
PINC IVmB_BB 11 16 31.2
comp=Z,1μm,1.0s
PINC IAmb IAmb 11 16 31.4
comp=Z,110nm,0.7s
HLGC Holguin 14.27 27 *e*P Pn 11 16 32.9 +1.8
HLGC IVmB_BB 11 16 35.8
comp=Z,2μm,1.0s
HLGC IAmb IAmb 11 16 43.4
comp=Z,210nm,0.9s
QMBU Quimbuelo 14.31 33 *e*P Pn 11 16 32.4 +0.7
QMBU IAmb IAmb 11 16 44.8
comp=Z,27nm,0.8s
CMIG Matias Romero 14.55 308 Pn **Pn 11 16 35.7 +0.7**
comp=Z,1.9nm,0.3s,baz=150,slow=8.9,SNR=14
CMIG Sn **Sn 11 19 16.8 +1.3**
comp=Z,0.2nm,0.3s,baz=322,slow=17,SNR=1.9
comp=Z,7.1nm,0.5s
BAUV El Baul 14.82 86 Pn **Pn 11 16 37.6 -1.0**
CAMR Camarioca 14.84 6 *e*P P 11 16 42.7 -1.6
CAMR IAmb IAmb 11 16 55.8
comp=Z,76nm,0.9s
SDDR Presa de Saban 15.62 46 Pn 11 16 49.6 +0.5
SDDR IAmb IAmb 11 17 07.9
comp=Z,34nm,0.8s
ATAH Atahualpa 15.93 163 Pn **Pn 11 16 51.6 -2.0**
comp=Z,0.3nm,0.3s,baz=285,slow=20,SNR=1.4
comp=Z,3.0nm,0.7s
TLIG Tlapa 17.77 303 P **Pn 11 17 15.0 -1.4**
TBTG Tabatinga, AM 17.96 133 *e*P Pn 11 17 18.3 -0.4
PCRV Puerto La Cruz 18.24 82 P **P 11 17 22.3 +0.1**
comp=Z,2.5nm,0.3s,baz=215,slow=7.2,SNR=11
comp=Z,12nm,0.5s
CELP Cerrillos 18.74 57 Pn 11 17 28.4 +0.2
IGPR InterUniversit 19.08 58 P 11 17 31.1 -0.2
IGPR IAmb IAmb 11 17 47.3
comp=Z,43nm,1.1s
SJG San Juan 19.12 57 P **Pn 11 17 33.1 +0.4**
SJG San Juan 19.12 57 P **Pn 11 17 32.8 +0.1**
comp=Z,1.1nm,0.3s,baz=243,slow=7.4,SNR=8.2
comp=Z,17nm,0.8s
PDPR Patillas Dam, 19.18 58 P **Pn 11 17 34.5 +1.0**
NNA Nana 20.99 163 P **P 11 17 53.0 +0.8**
NNA IAmb IAmb 11 17 54.5
comp=Z,36nm,0.9s
NNA Nana 20.99 163 P **P 11 17 52.4 +0.2**
comp=Z,33nm,0.9s,baz=347,slow=9.8,SNR=7.0
comp=Z,33nm,0.9s
BOAV Boa Vista 23.12 103 P **P 11 18 13.9 -1.0**
BOAV Boa Vista 23.12 103 *e*P P 11 18 14.4 -0.5
152A Waverly Hall 24.38 357 IAmb IAmb 11 18 40.1
comp=Z,23nm,0.9s
ETMB Extrema 24.51 137 P **P 11 18 27.8 -0.3**
ETMB IAmb IAmb 11 18 37.3
comp=Z,15nm,1.2s
ETMB Extrema 24.51 137 *e*P P 11 18 27.9 -0.2
LRAL Lakeview Retre 24.97 352 IAmb IAmb 11 18 41.2
comp=Z,39nm,1.2s
MACA Manacapuru-AM 24.97 116 *e*P P 11 18 32.4 +0.1
HODGE Hodges 25.89 1 P **P 11 18 41.2 +0.8**
JSC Jenkinsville 25.99 3 P **P 11 18 43.2 +1.9**
SAML Samuel 26.10 130 P **P 11 18 41.5 -1.0**
SAML IAmb IAmb 11 18 57.5
comp=Z,10nm,0.9s
SAML Samuel 26.10 130 *e*P P 11 18 41.2 -1.3
Y45A Yeager Farm, C 26.22 348 P **P 11 18 44.7 +1.3**
435B Jarrell 26.26 331 P **P 11 18 45.1 +1.3**
435B IAmb IAmb 11 18 54.8
comp=Z,20nm,0.8s
TKL Tuckaleechee C 27.32 359 P **P 11 18 55.3 +2.0**
comp=Z,1.9nm,0.6s,baz=174,slow=9.9,SNR=2.0
TKL LR LR 11 29 29.9
comp=Z,148nm,19.5s,baz=204,slow=36
comp=Z,1.9nm,0.6s
BRDY Brady 27.37 329 P **P 11 18 54.1 +0.3**
BRDY IAmb IAmb 11 19 06.3
comp=Z,9.7nm,0.8s
MIAR Mount Ida 27.94 341 P **P 11 19 00.1 +1.2**
MIAR IAmb IAmb 11 19 05.9
comp=Z,8.1nm,0.8s
WVT Waverly 28.13 352 P **P 11 19 01.1 +0.6**
WVT IAmb IAmb 11 19 06.7
comp=Z,8.2nm,0.9s
WHAR Wooly Hollow 28.25 344 P **P 11 19 00.4 -1.2**
WHAR IAmb IAmb 11 19 06.9
comp=Z,15nm,0.8s
LPAZ La Paz 28.46 149 P **P 11 19 04.1 -0.2**
comp=Z,1.6nm,0.9s,baz=356,slow=4.1,SNR=3.7
comp=Z,1.6nm,0.9s
LPAZ La Paz 28.46 149 *e*P P 11 19 04.3 0.0
TXAR Lajitas Array 28.60 320 LR LR 11 31 28.3
comp=Z,56nm,21.1s,baz=107,slow=38
LCAR Lake Charles 28.70 346 P **P 11 19 05.1 -0.5**
LCAR IAmb IAmb 11 19 10.9
comp=Z,18nm,0.8s
FCAR Ozark Folk Cen 28.77 344 P **P 11 19 07.5 +1.2**
FCAR IAmb IAmb 11 19 11.3
comp=Z,11nm,0.8s
LOOK Love County 28.78 335 P **P 11 19 07.7 +1.3**
LOOK IAmb IAmb 11 19 30.9
comp=Z,16nm,0.9s
H06E1 SOCORRO T-PHAS 29.06 294 T T 11 49 21.6
SNR=133
H06S1 SOCORRO T 29.07 294 T T 11 49 23.9
SNR=16
ITTB Itaituba 29.94 114 *e*P P 11 19 16.8 -0.1
R49A Shelbyville 30.00 357 P **P 11 19 18.8 +1.7**
MGMO Mountain Grove 30.00 345 P **P 11 19 17.9 +0.7**
MGMO IAmb IAmb 11 19 22.7
comp=Z,15nm,0.8s
WCI Wyandotte Cave 30.02 355 P **P 11 19 18.7 +1.4**
WCI IAmb IAmb 11 19 30.0
comp=Z,16nm,0.9s
WMOK Wichita Mounta 30.11 333 P **P 11 19 19.1 +0.9**
OK031 S. Brethren Rd 30.36 337 P 11 19 20.9 +0.5
OK031 IAmb IAmb 11 19 31.6
comp=Z,14nm,0.8s
OK052 Battle Ridge R 30.38 338 P 11 19 21.6 +1.1
CCM Cathedral Cave 30.62 347 P **P 11 19 23.3 +0.7**
CCM IAmb IAmb 11 19 29.0
comp=Z,16nm,0.8s
S39A Bolivar 30.79 344 IAmb IAmb 11 19 29.1
comp=Z,10nm,0.8s
VILB Vilhena 30.92 133 *e*P P 11 19 25.4 -0.2
P48A Milroy 31.18 356 IAmb IAmb 11 19 32.1
comp=Z,14nm,0.8s
NPGB Novo Progresso 31.46 118 *e*P P 11 19 29.1 -1.2
P40A Paris 32.21 347 IAmb IAmb 11 19 41.4
comp=Z,9.8nm,0.9s
P38A Dawn 32.66 345 IAmb IAmb 11 19 49.6
comp=Z,8.5nm,0.7s
PDRB Porto dos Gac 32.73 127 *e*P P 11 19 40.3 -1.1
CLDB Colider 33.06 125 *e*P P 11 19 43.3 -1.1
PTLB Pontes e Lacer 33.35 135 *e*P P 11 19 46.1 -0.7
BBSD Serra de San D 33.58 139 *e*P P 11 19 48.3 -0.5
ANMO Albuquerque 34.21 324 P **P 11 19 55.8 +1.5**
comp=Z,0.4nm,0.4s,baz=180,slow=14,SNR=2.5
comp=Z,0.4nm,0.4s
I42A Draeger Farm, 35.90 353 IAmb IAmb 11 20 21.3
comp=Z,18nm,1.1s
SALV Santo Antonio 36.14 132 *e*P P 11 20 10.2 -0.7
I40A Norwalk 36.15 351 IAmb IAmb 11 20 15.7
comp=Z,9.4nm,0.9s
SADO Sadowa 36.56 5 LR LR 11 35 26.3
comp=Z,136nm,19.0s,baz=241,slow=37
X16A Lo Mia Camp, P 36.91 319 P **P 11 20 17.9 +0.3**
SNDB Serra Nova Dou 37.38 122 *e*P P 11 20 21.0 -0.5
G40A Rib Lake 37.43 352 IAmb IAmb 11 20 31.7
comp=Z,12nm,1.0s
SPMN Marine on St. 37.83 349 IAmb IAmb 11 20 36.2
comp=Z,20nm,1.0s
BDQN Bodoquena, MS 38.45 138 *e*P P 11 20 29.4 -1.1
SUSD Miller 38.66 342 IAmb IAmb 11 20 39.4
comp=Z,19nm,1.0s
MURT Porto Murtinho 38.77 140 *e*P P 11 20 32.1 -1.0
ARAG Araguaiana, MT 38.99 128 *e*P P 11 20 33.8 -1.2
AQDB Aquidauana 39.17 137 *e*P P 11 20 36.3 -0.2
F33A 5 Mile Ranch, 39.19 345 IAmb IAmb 11 20 44.6
comp=Z,20nm,1.3s
V12A Nelson 39.93 318 P **P 11 20 44.0 +1.2**
MSU Marysvale 39.99 323 P **P 11 20 45.4 +1.9**
E28A Huff 41.11 341 IAmb IAmb 11 21 03.0
comp=Z,11nm,0.7s
AMBA Amambai (Brazi 41.36 139 *e*P P 11 20 53.8 -0.8
PDAR Pinedale Array 41.57 330 P **P 11 20 55.5 -0.9**
comp=Z,0.5nm,0.5s,baz=128,slow=9.7,SNR=7.6
comp=Z,0.5nm,0.5s
SPR3 Spring Creek 3 41.59 322 P **P 11 20 58.5 +1.8**
H03N2 Juan Fernandez 41.61 175 T T 12 05 31.3
baz=355,slow=76
H03N1 Juan Fernandez 41.61 175 T T 12 05 31.1
baz=355,slow=76
H03N3 Juan Fernandez 41.63 175 T T 12 05 30.2
baz=355,slow=76
BDFB Brasilia 42.00 124 P **P 11 20 58.7 -1.4**
comp=Z,3.8nm,0.7s,baz=275,slow=11,SNR=5.0
BDFB LR LR 11 38 18.1
comp=Z,137nm,18.5s,baz=317,slow=36
comp=Z,3.8nm,0.7s
SJPY San Joaquin 42.16 142 *e*P P 11 21 00.4 -0.8
DSP Deep Springs 42.93 318 P **P 11 21 08.9 +1.6**
MT16 CCHEN 43.09 165 P **P 11 21 09.0 +0.3**
MT16 IAmb IAmb 11 21 40.7
comp=Z,34nm,1.2s
IPMB Ipameri, GO 43.11 127 *e*P P 11 21 07.7 -1.4
MT08 Bocatoma Ro 43.24 164 P **P 11 21 10.3 +0.2**
MT08 IAmb IAmb 11 21 22.2
comp=Z,17nm,0.9s
ULM Lac du Bonnet 43.24 348 IAmb IAmb 11 21 19.9
comp=Z,14nm,0.9s
ULM Lac du Bonnet 43.24 348 P **P 11 21 09.9 +0.2**
comp=Z,6.8nm,0.5s,baz=173,slow=6.4,SNR=11
comp=Z,6.8nm,0.5s
RPN Rapa Nui 43.42 215 LR LR 11 35 28.3
comp=Z,78nm,18.5s,baz=88,slow=31
NVAR Mina Array Bea 43.74 319 P **P 11 21 15.3 +1.2**
comp=Z,1.9nm,0.8s,baz=127,slow=6.3,SNR=13
NVAR LR LR 11 43 16.7
comp=Z,106nm,18.9s,baz=119,slow=41
comp=Z,1.9nm,0.8s
DGMT Dagmar 43.92 340 IAmb IAmb 11 21 23.1
comp=Z,13nm,0.8s
BMN Battle Mountai 44.23 322 IAmb IAmb 11 21 34.8
comp=Z,6.6nm,0.8s
WAKR Walker 44.52 318 P **P 11 21 22.1 +1.7**
HLID Hailey 44.63 327 P **P 11 21 21.4 +0.3**
YERR Yerington 44.66 319 P **P 11 21 20.3 -1.2**
BOZ Bozeman (W) 44.67 331 P **P 11 21 21.0 -0.3**
WVOR Wild Horse Val 46.28 323 IAmb IAmb 11 21 39.9
comp=Z,7.3nm,0.7s
PLID Pearl Lake 46.50 328 P **P 11 21 37.0 +1.1**
F10A Beach Ranch, E 47.73 328 IAmb IAmb 11 21 57.9
comp=Z,4.5nm,0.9s
I07A Izee 47.78 325 IAmb IAmb 11 21 51.2
comp=Z,4.7nm,1.0s
SCHQ Schefferville 48.25 12 P **P 11 21 48.9 -0.2**
comp=Z,3.3nm,0.8s,baz=220,slow=16,SNR=2.6
comp=Z,3.3nm,0.8s
YBH Yreka Blue Hor 48.38 320 LR LR 11 43 34.8
comp=Z,85nm,19.5s,baz=150,slow=38
PINE Pine Mountain 48.44 323 IAmb IAmb 11 21 57.7
comp=Z,6.7nm,0.8s
J04A Umpqua Nationa 48.83 322 IAmb IAmb 11 22 08.3
comp=Z,9.6nm,0.7s
CMC01 Camacan, BA 49.05 118 *e*P P 11 21 55.0 -0.9
SJMB Sao Joao De Ma 49.16 123 *e*P P 11 21 56.0 -0.6
H04A Detroit Lake 49.69 324 IAmb IAmb 11 22 07.0
comp=Z,6.1nm,0.7s
NBAN Anadia - AL 49.82 110 *e*P P 11 22 00.6 -1.1
PLCA Paso Flores 50.05 168 P **P 11 22 03.1 0.0**
PLCA IAmb IAmb 11 22 04.2
comp=Z,7.4nm,1.1s
PLCA Paso Flores 50.05 168 P **P 11 22 01.6 -1.6**
comp=Z,3.8nm,0.7s,baz=344,slow=11,SNR=9.3
comp=Z,3.8nm,0.7s
PLCA Paso Flores 50.05 168 *e*P P 11 22 03.5 +0.4
FRB Frobisher Bay 56.39 8 LR LR 11 47 50.4
comp=Z,82nm,18.0s,baz=117,slow=37
BBB Bella Bella 57.17 329 LR LR 11 50 17.0
comp=Z,42nm,18.4s,baz=165,slow=39
YKA Yellowknife Ar 58.85 343 P **P 11 23 07.3 +0.6**
comp=Z,2.2nm,0.8s,baz=133,slow=8.0,SNR=5.2
comp=Z,2.2nm,0.8s
DLBC Dease Lake 61.59 334 LR LR 11 52 53.8
comp=Z,64nm,18.5s,baz=236,slow=39
SFJD Kangerlussuaq 62.67 14 LR LR 11 51 41.5
comp=Z,62nm,19.8s,baz=182,slow=37
BBTS Babate 65.28 78 LR LR 11 51 34.8
comp=Z,30nm,20.8s,baz=155,slow=35
RES Resolute Bay 66.77 357 P **P 11 23 59.4 +0.1**
RES IAmb IAmb 11 24 10.0
comp=Z,8.3nm,1.0s
RES Resolute Bay 66.77 357 LR LR 11 52 28.9
comp=Z,73nm,20.4s,baz=32,slow=35
K29M Barlow Dome 67.54 337 IAmb IAmb 11 24 43.5
comp=Z,4.6nm,1.1s
DAWY Dawson 68.37 337 IAmb IAmb 11 24 36.2
comp=Z,10nm,1.4s
BCAR Beaver Creek A 68.89 335 P **P 11 24 14.8 +1.9**
L26K Log Cabin Wild 69.52 335 IAmb IAmb 11 24 32.6
comp=Z,7.7nm,1.2s
SUMG Summit 69.64 13 P **P 11 24 17.8 +0.1**
SCRK Sand Creek 70.16 336 IAmb IAmb 11 24 33.6
comp=Z,3.3nm,0.7s
J26L Joseph Creek 70.20 336 IAmb IAmb 11 24 37.5
comp=Z,9.3nm,0.9s
F28M Old Crow 70.22 340 IAmb IAmb 11 24 33.7
comp=Z,5.1nm,0.8s
PPT Papeete 70.56 248 LR LR 11 48 51.4
comp=Z,36nm,19.1s,baz=108,slow=30
E28M Babbage River 70.58 341 IAmb IAmb 11 24 33.8
comp=Z,6.1nm,0.9s
BORG Borgarnes 70.75 24 LR LR 11 53 09.6
comp=Z,58nm,19.6s,baz=249,slow=34
J25K Salcha River, 70.97 336 IAmb IAmb 11 24 38.4
comp=Z,6.5nm,0.8s
D27M Malcolm River 71.34 341 IAmb IAmb 11 24 39.5
comp=Z,7.2nm,1.0s
IL31 71.63 336 IAmb IAmb 11 24 40.7
comp=Z,9.9nm,1.1s
ILAR Eielson Array 71.63 336 P **P 11 24 29.9 +0.4**
comp=Z,1.0nm,0.6s,baz=108,slow=4.5,SNR=27
ILAR LR LR 11 59 52.1
comp=Z,29nm,18.6s,baz=103,slow=39
comp=Z,1.0nm,0.6s
F25K Christian Rive 72.20 339 IAmb IAmb 11 24 44.9
comp=Z,6.3nm,0.9s
KDAK Kodiak Island 72.24 328 LR LR 11 57 10.2
comp=Z,32nm,21.5s,baz=134,slow=36
E25K Arctic Village 72.38 340 IAmb IAmb 11 24 46.1
comp=Z,5.8nm,0.8s
G23K Bananza Creek 73.50 338 IAmb IAmb 11 24 53.2
comp=Z,9.0nm,0.9s
TOLK Toolik Lake Re 73.95 340 IAmb IAmb 11 25 09.1
comp=Z,12nm,1.4s
ESDC Sonseca Array 76.38 51 P **P 11 24 57.2 -0.7**
comp=Z,0.7nm,0.8s,baz=276,slow=5.8,SNR=4.5
comp=Z,0.7nm,0.8s
EKA Eskdalemuir Ar 77.51 35 P **P 11 25 04.3 +0.4**
comp=Z,0.3nm,0.4s,baz=266,slow=5.7,SNR=1.7
comp=Z,0.3nm,0.4s
TORD Torodi Ar. Bea 83.04 78 P **P 11 25 33.5 -1.0**
comp=Z,1.1nm,1.0s,baz=314,slow=8.0,SNR=5.6
comp=Z,1.1nm,1.0s
SPITS Spitsbergen Ar 83.93 12 LR LR 12 04 39.7
comp=Z,60nm,19.3s,baz=245,slow=37
NB2 NORSAR Subarra 84.92 29 P P 11 25 52.3 +9.2
comp=Z,5.3nm,1.0s,baz=279,slow=5.3
GERES GERESS Array B 88.27 41 LR LR 11 59 45.3
comp=Z,51nm,19.5s,baz=261,slow=32
ARCES ARCESS Array B 88.72 19 P **P 11 26 02.8 +1.3**
comp=Z,1.8nm,1.0s,baz=310,slow=5.8,SNR=1.3
comp=Z,1.8nm,1.0s
VYHS Vyhne 91.67 41 *e*P P 11 26 22.2 +6.5
H11S2 WAKE ISLAND Hyl 06.31 292 T T 13 26 00.7
baz=77,slow=74,SNR=11
H11S1 WAKE ISLAND Hyl 06.31 292 T T 13 26 02.5
baz=77,slow=74,SNR=9.2
H11S3 WAKE ISLAND Hyl 06.33 292 T T 13 25 57.8
baz=77,slow=74,SNR=9.4
KSRS Korea Array 126.13 330 PKP **PKiKP 11 32 11.5 0.0**
comp=Z,0.5nm,0.7s,baz=7.7,slow=1.6,SNR=1.9
HHC Hu-ho-hao-te 129.36 346 *e*P PKPdf 11 32 16.2 -1.1
NJ2 Nanjing 134.84 334 *e*P PKiKP 11 32 29.2 0.0
NJ2 pmax pmax
comp=Z,17nm,0.7s
ASAR Alice Springs 141.48 242 PKhKP PKPpre 11 32 32.4
comp=Z,0.2nm,0.8s,baz=123,slow=3.6,SNR=2.0
WRA Warramunga Arr 142.04 248 PKhKP PKPpre 11 32 36.3
comp=Z,0.5nm,0.7s,baz=282,slow=0.6,SNR=3.0
PZH PanZhiHua 145.18 353 PKPbc **PKPdf 11 32 47.5 +0.7**
FITZ Fitzroy Crossi 150.47 248 PKPbc **PKPbc 11 33 00.8 0.0**
comp=Z,1.3nm,0.7s,baz=184,slow=4.8,SNR=2.5
CMAR Chiang Mai Arr 153.42 356 PKPbc **PKPbc 11 33 07.2 -0.3**
comp=Z,0.4nm,0.3s,baz=322,slow=1.9,SNR=5.1

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*SJA **01** 11:21:37.0±0.6,24°.15S×69°.48W,h97km±4km,ML3.4, MW3.4*
*GUC **01** 11:21:38.3±0.8,24°.15S×69°.51W,h94km±8km,ML3.6*
ISC 01 11:21:36.9±1.4,24°.17S±0°.03×69°.50W±0°.07,
h110km±10km,n29,e0°78/46,4C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.94**	**241**	⇑*i*P	**Pn**	**11 21 58.2**	**+0.5**
PB14				*e*S	**Sn**	**11 22 13.3**	**-0.2**
PB14	**IPOC Station P**	**0.94**	**241**	*e*P	**Pn**	**11 21 58.3**	**+0.5**
PB14				*e*S	**Sn**	**11 22 13.7**	**+0.2**
PB14				IAML		11 22 14.8	
comp=Z,496nm,0.3s							
PB15	**IPOC Station P**	**0.96**	**2**	⇓*i*P	**Pn**	**11 21 57.9**	**-0.1**
PB15				*i* S	**Sn**	**11 22 12.3**	**-1.4**
PB15	**IPOC Station P**	**0.96**	**2**	*e*P	**Pn**	**11 21 57.8**	**-0.1**
PB15				*e*S	**Sn**	**11 22 12.7**	**-1.1**
GO02	**Mina Guanaco**	**0.99**	**185**	⇑*i*P	**Pn**	**11 21 58.8**	**+0.4**
GO02				*e*S	**Sn**	**11 22 13.9**	**-0.5**
GO02				IAML		11 22 16.2	
comp=E,2μm,0.2s							
GO02	**Mina Guanaco**	**0.99**	**185**	*e*P	**Pn**	**11 21 58.6**	**+0.4**
GO02				*e*S	**Sn**	**11 22 14.3**	**-0.1**
PB06	**IPOC Station P**	**1.46**	**357**	⇓*i*P	**Pn**	**11 22 03.8**	**+0.3**
PB06				*i* S	**Sn**	**11 22 22.7**	**-0.8**
PB06				IAML		11 22 24.3	
comp=N,1μm,0.6s							
PB06	**IPOC Station P**	**1.46**	**357**	*e*P	**Pn**	**11 22 03.6**	**+0.2**
PB06				*e*S	**Sn**	**11 22 23.3**	**-0.2**
PB06				IAML		11 22 25.4	
comp=Z,719nm,0.1s							
LVC	**Limon Verde**	**1.65**	**19**	*i* P	**Pn**	**11 22 06.3**	**+0.4**
LVC				*i* S	**Sn**	**11 22 27.0**	**-0.8**
LVC	**Limon Verde**	**1.65**	**19**	*e*P	**Pn**	**11 22 06.3**	**+0.4**
LVC				*e*S	**Sn**	**11 22 27.9**	**0.0**
LVC				IAML		11 22 29.5	
comp=Z,241nm,0.2s							
AF01	**San Pedro de A**	**1.72**	**45**	⇑*i*P	**Pn**	**11 22 07.6**	**+0.9**
AF01				*i* S	**Sn**	**11 22 29.6**	**+0.4**
AF01	**San Pedro de A**	**1.72**	**45**	*e*P	**Pn**	**11 22 07.0**	**+0.4**
AF01				IAML		11 22 34.6	
comp=Z,1μm,0.4s							
PB04	**IPOC Station P**	**1.93**	**342**	*i* P	**Pn**	**11 22 09.1**	**0.0**
PB04	**IPOC Station P**	**1.93**	**342**	*e*P	**Pn**	**11 22 09.8**	**+0.6**
PB04				*e*S	**Sn**	**11 22 36.3**	**+2.6**
PB04				IAML		11 22 42.0	
comp=Z,309nm,0.1s							
AC01	**Pan de Azucar**	**2.20**	**207**	⇑*i*P	**Pn**	**11 22 13.0**	**+0.6**
AC01				*e*S	**Sn**	**11 22 39.0**	**-0.7**
AC01				IAML		11 22 43.5	
comp=E,550nm,0.1s							
AC01	**Pan de Azucar**	**2.20**	**207**	*e*P	**Pn**	**11 22 13.1**	**+0.6**
AC01				*e*S	Sn	11 22 30.4	-9.4
AC01				IAML		11 22 43.0	
comp=Z,156nm,0.3s							
PB01	**IPOC Station P**	**3.12**	**0**	*i* P	**Pn**	**11 22 24.8**	**+0.3**
PB01	**IPOC Station P**	**3.12**	**0**	*e*P	**Pn**	**11 22 24.8**	**+0.3**
PB01				IAML		11 23 06.0	
comp=Z,103nm,0.2s							
AC06	**Mina Casimiro**	**3.26**	**193**	*i* P	**Pn**	**11 22 26.5**	**+0.1**
PATCX	**Punta Patache**	**3.39**	**350**	*e*P	**Pn**	**11 22 27.5**	**-0.7**
PATCX	**Punta Patache**	**3.39**	**350**	*e*P	**Pn**	**11 22 27.9**	**-0.4**
PATCX				IAML		11 23 42.5	
comp=Z,51nm,0.5s							
GO03	**Copiapo**	**3.47**	**191**	*e*P	**Pn**	**11 22 29.4**	**+0.2**
GO03	**Copiapo**	**3.47**	**191**	*e*P	**Pn**	**11 22 29.8**	**+0.6**
GO03				*e*S	**Sn**	**11 23 10.7**	**+1.1**
HMBC	**Humberstone**	**3.89**	**355**	*e*P	**Pn**	**11 22 34.3**	**-0.7**
PB08	**IPOC Station P**	**4.03**	**5**	⇓*e*P	**Pn**	**11 22 37.6**	**+0.6**
AC04	**Llanos de Chal**	**4.26**	**199**	*e*P	**Pn**	**11 22 38.8**	**-0.9**
AC04				*e*S	**Sn**	**11 23 26.6**	**-1.8**
AC04				IAML		11 24 01.4	
comp=Z,28nm,1.2s							
VCA	**Vinchina**	**4.69**	**166**	*e*P	**Pn**	**11 22 44.7**	**-1.0**
VCA				IAML		11 24 20.1	
comp=Z,20nm,3.7s							
AC05	**El Transito**	**4.70**	**188**	*e*P	**Pn**	**11 22 46.8**	**+1.1**
AC05				*e*S	**Sn**	**11 23 40.0**	**+0.8**
AC05				IAML		11 24 06.0	
comp=Z,29nm,0.8s							
LCO	**Las Campanas**	**4.94**	**192**	*e*P	**Pn**	**11 22 49.0**	**-0.1**
LCO				*e*S	**Sn**	**11 23 45.0**	**-0.2**
LCO				IAML		11 24 15.1	
comp=Z,64nm,1.4s							

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*NEIC **01** 11:37:39.3±1.2,35°.23N±0°.01×97°.71W±0°.01,h5km±1km, Error ellipse: s-maj=2.5km s-min=2.2km az=22.0*
NEIC 01 11:37:39.5±1.2,35°.23N±0°.01×97°.74W±0°.02,h8km±8km,
ML2.2/33,ML2.4,Error ellipse: s-maj=2.1km
s-min=1.8km az=165.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.28**	**85**	Pg	Pg	11 37 45.2	+0.2
FNO				Sg	Sg	11 37 48.9	+0.3
ADOK	**Arcadia Dam**	**0.51**	**35**	Pg	Pg	11 37 49.7	+0.2
ADOK				Sg	Sg	11 37 57.0	+0.8
W35A	**Tecumseh**	**0.71**	**96**	Pg	Pg	11 37 53.0	-0.2
W35A				Sg	Sg	11 38 02.1	-0.3
WMOK	**Wichita Mounta**	**0.99**	**240**	Pg	Pg	11 37 57.8	-0.8
WMOK	**Wichita Mounta**	**0.99**	**240**		Sg	11 38 11.4	-0.1
OK031	**S. Brethren Rd**	**1.02**	**45**	Pg	Pg	11 37 58.0	-1.2
OK031					Sg	11 38 12.3	-0.2
OK031				IAML		11 38 17.8	
82nm,0.2s							
OK052	**Battle Ridge R**	**1.07**	**45**	Pg	Pg	11 37 59.1	-1.0
DEOK	**Depew**	**1.18**	**59**	Pg	Pb	11 38 00.7	-1.4
DEOK					Sg	11 38 17.1	-0.3
DEOK				IAML		11 38 23.2	
comp=N,57nm,0.5s							
DEOK				IAML		11 38 23.2	
comp=E,57nm,0.5s							
QUOK	**Quay**	**1.25**	**42**		Pn	11 38 02.5	-0.9
CROK	**Carrier**	**1.28**	**351**		Pg	11 38 04.6	+0.4
CROK				IAML		11 38 25.9	
comp=E,63nm,0.3s							
CROK				IAML		11 38 28.3	
comp=N,63nm,0.3s							
LOOK	**Love County**	**1.32**	**160**		Pn	11 38 04.1	-0.1
LOOK				IAML		11 38 26.3	
comp=E,42nm,0.2s							

LOOK				IAML		11 38 26.7	
	comp=N,61nm,0.2s						
WTFS	**Witchita Falls**	**1.58**	**203**		Pn	11 38 08.0	+0.2
GC02	**Grant County #**	**1.62**	**356**		Pn	11 38 08.4	+0.1
TUL3	**Leonard**	**1.72**	**66**	Pn	Pn	11 38 08.8	-0.9
KAN13	**South Haven SW**	**1.79**	**7**	Pn	Pb	11 38 11.6	-0.9
KAN17	**Caldwell West**	**1.81**	**359**	Pn	Pb	11 38 12.1	-0.7
KAN09	**Caldwell North**	**1.90**	**3**	Pn	Pn	11 38 13.2	+0.9
KAN01	**Argonia South**	**1.92**	**359**	Pn	Pb	11 38 13.8	-0.9
T35A	**Sooner Cattle**	**1.95**	**30**	Pn	Pn	11 38 12.9	0.0
X37A	**Clayton**	**2.05**	**108**	Pn	Pn	11 38 14.8	+0.6
SMWD	**Samnorwood**	**2.06**	**267**	Pn	Pn	11 38 15.6	+1.2
FW06	**Azle**	**2.26**	**176**	Pn	Pn	11 38 18.4	+1.2
BRDY	**Brady**	**4.08**	**195**	Pn	Pn	11 38 42.5	+0.4

*IDC **01** 11:44:31.0±1.2, 37.°16N×20.°66E, h0km, mb3.5/7, mbtmp3.5/12, ML3.9/4, MS3.2/4, Error ellipse: s-maj=21.1km s-min=20.3km az=65.0*
*ATH **01** 11:44:32.9, 37.°15N×20.°53E, h6km±1km, ML3.8/26, Error ellipse: s-maj=3.0km s-min=1.0km az=52.0*
*THE **01** 11:44:32.5, 37.°16N×20.°56E, h7km, ML3.8/13, Error ellipse: s-maj=0.8km s-min=0.4km az=53.0*
ISC 01 11:44:32.9±1.3, 37.°17N±0.°04×20.°59E±0.°04, h11km±9km, n65, σ0°92/83, mb3.5/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.52**	**20**	P	**Pg**	**11 44 43.2**	**+0.2**
KRI1				S	**Sb**	**11 44 51.3**	**-0.3**
	23μm,0.5s						
LTHK	**Lithakia**	**0.57**	**20**	P	**Pg**	**11 44 43.9**	**0.0**
LTHK				S	**Sg**	**11 44 52.2**	**+0.8**
	34μm,0.3s						
LTHK	**Lithakia**	**0.57**	**20**	P	**Pg**	**11 44 44.0**	**0.0**
LTHK				S	**Sg**	**11 44 52.3**	**+0.8**
LTHK				AML	AML	11 44 52.8	
	comp=N,92728μm,0.4s						
LTHK				AML	AML	11 44 53.0	
	comp=E,39273μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.91**	**9**	P	**Pg**	**11 44 49.7**	**-0.7**
RTZL				S	**Sb**	**11 45 03.6**	**+0.8**
	comp=E,7μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.94**	**360**	P	**Pg**	**11 44 50.6**	**-0.3**
PSDA				S	**Sb**	**11 45 04.5**	**+0.9**
	comp=E,5μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.94**	**360**	P	**Pg**	**11 44 50.7**	**-0.2**
PSDA				S	**Sb**	**11 45 04.9**	**+1.3**
AMT	**Artemida-Makis**	**0.96**	**68**	P	**Pb**	**11 44 51.9**	**+0.3**
AMT				AML	AML	11 45 15.3	
	comp=E,43028μm,0.5s						
AMT				AML	AML	11 45 15.8	
	comp=N,39015μm,0.4s						
PYL	**PYLOS**	**0.96**	**106**	P	**Pg**	**11 44 51.0**	**-0.4**
PYL				S	**Sb**	**11 45 05.9**	**+1.7**
	comp=N,3μm,0.6s						
PYL	**PYLOS**	**0.96**	**106**	P	**Pg**	**11 44 51.3**	**0.0**
PYL				S	**Sb**	**11 45 06.0**	**+1.7**
PYL				AML	AML	11 45 08.7	
	comp=E,7257μm,0.5s						
PYL				AML	AML	11 45 08.8	
	comp=N,5938μm,0.7s						
VLS	**Valsamata**	**1.00**	**360**	P	**Pg**	**11 44 51.3**	**-0.9**
VLS				S	**Sb**	**11 45 06.3**	**+0.8**
	comp=N,3μm,0.3s						
VLS	**Valsamata**	**1.00**	**360**	P	**Pg**	**11 44 51.8**	**-0.4**
VLS				S	**Sb**	**11 45 06.2**	**+0.8**
VLS				AML	AML	11 45 10.2	
	comp=E,7084μm,0.3s						
VLS				AML	AML	11 45 14.9	
	comp=N,5146μm,0.7s						
LXRA	**Lixouri, Kepha**	**1.03**	**353**	P	**Pg**	**11 44 52.6**	**-0.1**
LXRA				AML	AML	11 45 14.8	
	comp=E,20147μm,0.4s						
LXRA				AML	AML	11 45 16.2	
	comp=N,23217μm,0.5s						
ITM	**Ithomi**	**1.07**	**89**	P	**Pg**	**11 44 52.8**	**-0.6**
ITM				S	**Sb**	**11 45 09.0**	**+1.7**
	comp=N,4μm,0.5s						
ITM	**Ithomi**	**1.07**	**89**	P	**Pg**	**11 44 53.6**	**+0.2**
ITM				AML	AML	11 45 12.3	
	comp=N,8618μm,0.6s						
ITM				AML	AML	11 45 15.6	
	comp=E,7032μm,0.5s						
DMLN	**Damoulianata-K**	**1.08**	**351**	P	**Pg**	**11 44 52.9**	**-0.7**
DMLN				S	**Sb**	**11 45 08.8**	**+1.2**
	comp=E,7μm,0.5s						
DMLN	**Damoulianata-K**	**1.08**	**351**	P	**Pg**	**11 44 53.2**	**-0.4**
DMLN				S	**Sg**	**11 45 07.6**	**0.0**
RLS	**Riolos of Patr**	**1.12**	**38**	P	**Pg**	**11 44 53.5**	**-1.0**
RLS				S	**Sn**	**11 45 10.7**	**+0.7**
	comp=E,1μm,0.7s						
RLS	**Riolos of Patr**	**1.12**	**38**	P	**Pg**	**11 44 53.7**	**-0.8**
RLS				AML	AML	11 45 13.1	
	comp=N,3394μm,0.4s						
RLS				AML	AML	11 45 13.7	
	comp=E,3241μm,0.5s						
DRO	**Drossia**	**1.18**	**49**	P	**Pg**	**11 44 54.7**	**-0.9**
DRO				S	**Sn**	**11 45 12.4**	**+1.0**
	comp=E,7μm,0.4s						
DRO	**Drossia**	**1.18**	**49**	P	**Pg**	**11 44 54.8**	**-0.7**
DRO				AML	AML	11 45 17.6	
	comp=N,14120μm,0.4s						
DRO				AML	AML	11 45 21.0	
	comp=E,14571μm,0.4s						
VSK1	**VASILIKIADES**	**1.23**	**359**	P	**Pg**	**11 44 55.3**	**-1.3**
VSK1				S	**Sn**	**11 45 13.3**	**+0.6**
	comp=E,5μm,0.5s						
FSK	**Fiskardo**	**1.28**	**359**	P	**Pn**	**11 44 56.1**	**-0.6**
FSK				S	**Sn**	**11 45 14.8**	**+0.9**
	comp=E,3μm,0.9s						
FSK	**Fiskardo**	**1.28**	**359**	P	**Pn**	**11 44 56.2**	**-0.5**
FSK				AML	AML	11 45 22.1	
	comp=E,5427μm,0.7s						
FSK				AML	AML	11 45 24.2	
	comp=N,5470μm,0.9s						
EVGI	**Lefkada island**	**1.45**	**2**	P	**Pn**	**11 44 59.1**	**+0.1**
EVGI				S	**Sn**	**11 45 18.5**	**+0.5**
	comp=N,2μm,0.4s						
EVGI	**Lefkada island**	**1.45**	**2**	P	**Pn**	**11 44 59.2**	**+0.3**
UPR	**University Cam**	**1.46**	**40**	P	**Pn**	**11 44 60.0**	**+0.8**
DRAG	**Dragano-Lefkad**	**1.51**	**359**	P	**Pn**	**11 44 59.9**	**+0.1**
KLV	**Kalavryta, Ach**	**1.51**	**54**	P	**Pn**	**11 45 00.4**	**+0.5**
KLV				AML	AML	11 45 30.6	
	comp=N,1967μm,0.6s						
KLV				AML	AML	11 45 30.8	
	comp=E,2592μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.54**	**3**	P	**Pb**	**11 45 01.3**	**-0.1**
GUR	**Goura**	**1.59**	**61**	P	**Pn**	**11 45 01.9**	**+0.9**
GUR				AML	AML	11 45 33.6	
	comp=N,6773μm,0.5s						
GUR				AML	AML	11 45 34.3	
	comp=E,5584μm,0.5s						
LKD2	**Lefkada island**	**1.61**	**2**	P	**Pn**	**11 45 02.2**	**+0.9**
LKD2				AML	AML	11 45 34.8	
	comp=N,3747μm,0.7s						
LKD2				AML	AML	11 45 35.0	
	comp=E,4120μm,0.5s						
EFP	**Efpalio**	**1.63**	**39**	P	**Pn**	**11 45 02.3**	**+0.8**
EFP				AML	AML	11 45 33.8	
	comp=N,1524μm,0.8s						
EFP				AML	AML	11 45 41.3	
	comp=E,2096μm,0.8s						
TSLK	**Tsoukalades, L**	**1.65**	**2**	P	**Pn**	**11 45 01.5**	**-0.3**
TSLK	**Tsoukalades, L**	**1.65**	**2**	P	**Pn**	**11 45 01.8**	**0.0**
TSLK				AML	AML	11 45 34.9	
	comp=E,3795μm,0.8s						
TSLK				AML	AML	11 45 35.9	
	comp=N,4240μm,0.7s						
KALE	**Kalithea**	**1.73**	**45**	P	**Pn**	**11 45 03.6**	**+0.7**
KALE				AML	AML	11 45 35.0	
	comp=E,2792μm,0.5s						
KALE				AML	AML	11 45 43.0	
	comp=N,2743μm,0.7s						
ANX	**Ano Chora**	**1.76**	**36**	P	**Pn**	**11 45 03.8**	**+0.4**
ANX				AML	AML	11 45 39.5	
	comp=E,3130μm,0.6s						
ANX				AML	AML	11 45 44.5	
	comp=N,3372μm,0.5s						
VLI	**Veliai**	**1.93**	**103**	P	**Pn**	**11 45 05.8**	**+0.1**
VLI				AML	AML	11 45 41.7	
	comp=E,1668μm,0.7s						
VLI				AML	AML	11 45 52.5	
	comp=N,1613μm,1.1s						
EVR	**Evrytania**	**1.99**	**29**	P	**Pn**	**11 45 08.0**	**+1.5**
EVR				AML	AML	11 45 53.8	
	comp=E,1478μm,1.2s						
EVR				AML	AML	11 45 59.2	
	comp=N,1822μm,1.6s						
LOUT	**Loutraki**	**2.06**	**66**	P	**Pn**	**11 45 08.7**	**+1.2**
LOUT				AML	AML	11 45 46.1	
	comp=N,375μm,0.7s						
LOUT				AML	AML	11 45 50.7	
	comp=E,438μm,0.6s						
MAKR	**Makrakomi, Fth**	**2.20**	**33**	P	**Pn**	**11 45 10.1**	**+0.7**
MAKR				AML	AML	11 45 55.2	
	comp=E,3522μm,0.8s						
MAKR				AML	AML	11 46 05.6	
	comp=N,2569μm,1.0s						
AXAR	**Agios Charalam**	**2.28**	**45**	P	**Pn**	**11 45 10.9**	**+0.5**
AXAR				AML	AML	11 45 55.8	
	comp=E,3013μm,0.5s						
AXAR				AML	AML	11 45 57.5	
	comp=N,2911μm,0.7s						
VIL2	**Platees**	**2.36**	**63**	P	**Pn**	**11 45 12.8**	**+1.2**
VIL2				AML	AML	11 46 06.8	
	comp=N,963μm,0.9s						
VIL2				AML	AML	11 46 11.8	
	comp=E,2344μm,0.9s						
ANKY	**Antikythira Is**	**2.54**	**120**	P	**Pn**	**11 45 15.4**	**+1.4**
ANKY				AML	AML	11 46 18.6	
	comp=E,989μm,0.9s						
ANKY				AML	AML	11 46 22.4	
	comp=N,780μm,0.8s						
VLY	**Voula,Athens**	**2.63**	**74**	P	**Pn**	**11 45 16.0**	**+0.7**
THL	**Klokotos Trika**	**2.64**	**25**	P	**Pn**	**11 45 16.1**	**+0.8**
ATHU	**Athens Univers**	**2.66**	**72**	P	**Pn**	**11 45 16.8**	**+1.2**
ATHU				AML	AML	11 46 08.2	
	comp=N,294μm,1.2s						
ATHU				AML	AML	11 46 11.7	
	comp=E,184μm,0.6s						
TYRN	**Tyrnavos**	**2.84**	**26**	P	**Pn**	**11 45 19.6**	**+1.5**
NEO	**Neokhori**	**2.97**	**43**	P	**Pn**	**11 45 21.1**	**+1.1**
FNA	**Florina**	**3.66**	**9**	P	**Pn**	**11 45 30.9**	**+1.5**
HORT	**Hortiatis**	**3.94**	**29**	P	**Pn**	**11 45 33.9**	**+0.6**
IDI	**Anoyia**	**3.95**	**117**	Pn	**Pn**	**11 45 32.2**	**-1.3**
	comp=E,1.7nm,0.4s,baz=333,slow=15,SNR=2.1						
IDI				Sn	**Sn**	**11 46 20.1**	**+0.2**
	comp=E,2.7nm,0.3s,baz=232,slow=21,SNR=4.0						
VAE	**Valguarnera**	**4.94**	**275**	Pn	**Pn**	**11 45 50.2**	**+3.3**
	comp=E,2.3nm,0.3s,baz=156,slow=2.8,SNR=1.7						
VAE				Sn	**Sn**	**11 46 43.2**	**-0.9**
	comp=E,5.0nm,0.3s,baz=176,slow=20,SNR=3.8						
MLR	**Muntele Rosu**	**9.23**	**24**	Pn	**Pn**	**11 46 45.9**	**-0.1**
	comp=E,0.5nm,0.3s,baz=173,slow=13,SNR=2.6						
MLR				LR	LR	11 51 08.8	
	comp=E,125nm,19.8s,baz=198,slow=43						
	comp=E,2.8nm,1.0s						
EIL	**Elat**	**14.13**	**118**	Pn	**Pn**	**11 47 50.8**	**-2.1**
	comp=E,0.2nm,0.3s,baz=46,slow=15,SNR=1.5						
EIL				Sn	Sn	11 50 12.5	-17
	comp=E,0.4nm,0.3s,baz=28,slow=15,SNR=1.7						
	comp=E,2.4nm,0.6s						
AKASG	**Malin Array Be**	**14.87**	**22**	Pn	**Pn**	**11 48 01.9**	**-1.0**
	comp=E,0.7nm,0.3s,baz=209,slow=9.6,SNR=1.9						
AKASG				LR	LR	11 55 04.2	
	comp=E,36nm,18.4s,baz=214,slow=43						
	comp=E,0.1nm,0.3s						
ESDC	**Sonseca Array**	**19.39**	**285**	P	**P**	**11 48 58.3**	**-0.5**
	comp=E,0.1nm,0.3s,baz=86,slow=9.1,SNR=2.4						
	comp=E,0.6nm,0.8s						
OBN	**Obninsk**	**20.99**	**26**	LR	LR	11 57 29.5	
	comp=E,107nm,21.1s,baz=113,slow=37						
HFS	**Hagfors**	**23.40**	**351**	P	**P**	**11 49 41.8**	**+0.4**
	comp=E,2.8nm,0.7s,baz=154,slow=12,SNR=5.6						
	comp=E,2.8nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.28**	**326**	P	**P**	**11 49 50.6**	**+0.6**
	comp=E,0.3nm,0.4s,baz=131,slow=7.6,SNR=1.4						
	comp=E,0.3nm,0.4s						
FINES	**FINESS Array B**	**24.54**	**6**	P	**P**	**11 49 51.9**	**-0.3**
	comp=E,1.2nm,0.6s,baz=184,slow=11,SNR=5.8						
	comp=E,1.2nm,0.6s						
NOA	**NORSAR Array B**	**24.61**	**349**	P	**P**	**11 49 52.8**	**-0.2**
	comp=E,0.6nm,0.6s,baz=157,slow=9.2,SNR=3.9						
	comp=E,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.29**	**220**	P	**P**	**11 50 35.6**	**+0.2**
	comp=E,0.5nm,0.5s,baz=30,slow=9.6,SNR=4.6						
	comp=E,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**42.79**	**53**	P	**P**	**11 52 29.8**	**-0.6**
	comp=E,0.2nm,0.3s,baz=278,slow=8.3,SNR=1.2						
	comp=E,0.2nm,0.3s						
MKAR	**Makanchi Array**	**45.78**	**58**	P	**P**	**11 52 53.9**	**-0.5**
	comp=E,0.2nm,0.3s,baz=279,slow=7.9,SNR=2.1						
	comp=E,0.2nm,0.3s						
SONM	**Songino Array**	**61.05**	**50**	LR	LR	12 22 58.5	
	comp=E,38nm,18.4s,baz=4.5,slow=38						

UPA 01 12:22:16.9±0.5, 8.°28N×82.°80W, h16km±2km, MW4.4, 2C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.11**	**226**	⇑*i*P	Pb	12 22 21.0	+0.4
PTPM				*e*S	Sb	12 22 23.2	+0.1
BCO2	**Palmira**	**0.51**	**32**	⇑*i*P	Pb	12 22 27.8	+0.2
BCO2				*e*S	Sb	12 22 36.4	+1.5
BRU2	**Volcan**	**0.52**	**12**	⇓*i*P	Pb	12 22 28.2	+0.4
BRU2				*e*S	Sb	12 22 36.4	+1.2
CHGR2	**Aguacate**	**0.92**	**45**	*e*P	Pb	12 22 33.3	-1.2
CHGR2				*e*S	Sb	12 22 46.5	0.0

DNK 01 12:23:34.0±1.7, 56.°76N×16.°31E, h0km±13km, ML2.2, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSKU	**Oskarshamn**	**0.45**	**345**	P	Pg	12 23 40.3	-2.3
OSKU				S	Sg	12 23 45.5	-3.0
BLEU	**Blekinge**	**0.54**	**211**	*i*P	Pg	12 23 43.5	-0.7
BLEU				*e*S	Sg	12 23 51.8	+0.6
BLEU	**Blekinge**	**0.54**	**211**	P	Pg	12 23 44.0	-0.3
BLEU				S	Sg	12 23 51.8	+0.6
BYXU	**Byxelkrok**	**0.65**	**35**	P	Pg	12 23 44.4	-2.1
VXJU	**Vaexsjoe**	**0.77**	**283**	P	Pg	12 23 47.0	-1.7
VXJU				S	Sg	12 23 56.6	-2.1
EKSU	**Eksjoe**	**0.98**	**326**	P	Pg	12 23 50.2	-2.6
DEL	**Delary**	**1.38**	**259**	*i*P	Pg	12 23 58.2	-2.2
DEL				*e*S	Sg	12 24 16.6	-1.8
DEL	**Delary**	**1.38**	**259**	P	Pg	12 23 58.5	-2.0
GNOU	**Gnosjoe**	**1.50**	**292**	P	Pn	12 23 59.6	-2.5
BJUU	**Bjuv**	**1.95**	**251**	*e*S	Sn	12 24 34.3	+0.7
FABU	**Falkenberg**	**1.99**	**278**	*e*S	Sn	12 24 34.6	+0.2
BORU	**Boraas**	**2.12**	**296**	*e*S	Sn	12 24 38.4	+0.8

IDC 01 12:24:44.1±3.3, 5.°65S×150.°96E, h0km, mb3.2/2, mbtmp3.4/3, ML1.2/1, Error ellipse: s-maj=129.5km s-min=40.6km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.30**	**225**	Pn	Pn	12 26 05.3	+0.7
	0.5nm,0.3s,baz=42,slow=12,SNR=0.9						
PMG				Sn	Sn	12 27 06.4	0.0
	0.8nm,0.3s,baz=184,slow=16,SNR=2.6						
	12nm,0.9s						
WRA	**Warramunga Arr**	**21.51**	**227**	P	P	12 29 34.8	-0.2
	0.5nm,0.8s,baz=52,slow=11,SNR=6.9						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**24.30**	**221**	P	P	12 30 03.7	+0.1
	0.7nm,0.8s,baz=60,slow=10,SNR=11						
	0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.80**	**286**	PKPbc	PKPbc	12 44 34.1	-0.7
	0.2nm,0.4s,baz=90,slow=2.4,SNR=2.0						

*IDC **01** 12:27:08.1±5.3, 31.°75S×179.°68W, h140km±45km, mb4.0/4, mbtmp4.3/5, Error ellipse: s-maj=38.0km s-min=23.5km az=51.0*
*WEL **01** 12:27:16.4±0.6, 33.°5±8.°×17.°9W±2.°0, h33km, M4.8/12, mB5.2/4, ML5.2/20, MLv4.8/12, Mw(mB)4.5/4, Error ellipse: s-maj=28.5km s-min=3.8km az=111.5, confirmed*
ISC 01 12:27:09.5±0.8, 32.°04S±0.°06×179.°6W±0.°2, h150km, n40, σ2°59/45, mb4.2/6, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.14**	**28**	P	Pn	12 28 07.2	+8.6
GLKZ				S	Sn	12 28 44.2	+7.6
MXZ	**Matakaoa Point**	**5.76**	**197**	P	Pn	12 28 40.0	+7.0
MXZ				S	**Sn**	**12 29 40.4**	**+2.1**
HAZ	**Te Kaha**	**6.08**	**200**	P	**Pn**	**12 28 41.0**	**+3.7**
HAZ				S	**Sn**	**12 29 48.1**	**+2.2**
PKGZ	**Pakihiroa**	**6.11**	**197**	P	Pn	12 28 45.0	+7.3
PKGZ				S	**Sn**	**12 29 49.3**	**+2.7**
PUZ	**Puketiti**	**6.26**	**195**	P	Pn	12 28 46.4	+6.7
PUZ				S	**Sn**	**12 29 49.2**	**-1.1**
RUGZ	**Raukumara Rang**	**6.31**	**200**	P	Pn	12 28 46.7	+6.2
RUGZ				S	**Sn**	**12 29 51.4**	**-0.2**
OPRZ	**Ohinepanea**	**6.58**	**207**	P	Pn	12 28 50.2	+6.3
OPRZ				S	**Sn**	**12 30 04.4**	**+6.5**
MWZ	**Matawai**	**6.70**	**200**	P	Pn	12 28 51.2	+5.7
MWZ				S	**Sn**	**12 30 00.1**	**-0.6**
TKGZ	**Te Karaka**	**6.71**	**197**	P	**Pn**	**12 28 50.3**	**+4.7**
TKGZ				S	**Sn**	**12 30 00.7**	**-0.2**
URZ	**Urewera**	**6.75**	**202**	P	**Pn**	**12 28 47.7**	**+1.5**
	5.7nm,0.3s,baz=353,slow=4.6,SNR=35						
URZ				S	**Sn**	**12 30 00.6**	**-1.4**
	89nm,0.4s,baz=344,slow=23,SNR=16						
URZ	**Urewera**	**6.75**	**202**	P	**Pn**	**12 28 47.2**	**+1.0**
URZ				S	**Sn**	**12 30 00.7**	**-1.4**
TOZ	**Tahuroa Road**	**6.94**	**214**	P	Pn	12 28 59.2	+10
RIGZ	**Rimuhau**	**6.98**	**197**	P	Pn	12 28 55.2	+5.9
RIGZ				S	**Sn**	**12 30 04.8**	**-2.8**
MUGZ	**Murupara**	**7.06**	**204**	P	**Pn**	**12 28 51.8**	**+1.4**
MUGZ				S	**Sn**	**12 30 09.1**	**-0.4**
PRRZ	**Plateau Road**	**7.22**	**206**	P	Pn	12 28 58.2	+5.8
PRRZ				S	**Sn**	**12 30 14.7**	**+1.5**
ALRZ	**Allen Road**	**7.29**	**206**	P	**Pn**	**12 28 58.1**	**+4.6**
BKZ	**Black Stump Fm**	**7.78**	**203**	P	**Pn**	**12 29 03.5**	**+3.5**
BKZ				S	**Sn**	**12 30 26.0**	**-0.7**
HIZ	**Hauiti**	**7.87**	**213**	P	Pn	12 29 09.4	+8.2
KWHZ	**Kaweka Forest**	**8.04**	**202**	P	**Pn**	**12 29 06.7**	**+3.4**
KAHZ	**Kahuranaki**	**8.24**	**199**	P	**Pn**	**12 29 09.6**	**+3.5**
WNVZ	**Wahianoa**	**8.24**	**207**	P	**Pn**	**12 29 10.0**	**+3.8**
MOVZ	**Moawhango**	**8.25**	**206**	P	**Pn**	**12 29 09.2**	**+2.9**
VRZ	**Vera Road**	**8.41**	**211**	P	Pn	12 29 14.8	+6.4
PXZ	**Pawanui**	**8.46**	**199**	P	**Pn**	**12 29 11.4**	**+2.4**
PXZ				S	Sn	12 30 37.9	-5.2
TSZ	**Takapari Road**	**8.76**	**203**	P	**Pn**	**12 29 14.8**	**+1.8**
TSZ				S	**Sn**	**12 30 46.4**	**-3.9**
LREZ	**Lake Rotokare**	**8.85**	**212**	P	**Pn**	**12 29 18.9**	**+4.8**
DVHZ	**Dannevirke**	**8.91**	**201**	P	**Pn**	**12 29 16.3**	**+1.3**
BFZ	**Birch Farm**	**9.24**	**200**	P	**Pn**	**12 29 20.6**	**+1.2**
BFZ				S	Sn	12 30 54.7	-7.1
ASAR	**Alice Springs**	**41.66**	**270**	P	**P**	**12 34 42.5**	**-1.0**
	5.7nm,0.8s,baz=106,slow=7.5,SNR=93						
	5.7nm,0.8s						
WRA	**Warramunga Arr**	**42.80**	**275**	P	**P**	**12 34 51.5**	**-1.1**
	7.3nm,0.7s,baz=115,slow=7.6,SNR=66						
	7.3nm,0.7s						
QSPA	**South Pole Qui**	**58.07**	**180**	P	**P**	**12 36 48.6**	**+1.9**
	1.8nm,0.7s,baz=348,slow=1.1,SNR=20						
	1.8nm,0.7s						
TROLL	**Troll, Antarti**	**76.23**	**181**	⇑P	**P**	**12 38 39.5**	**-1.6**
	comp=Z,56nm,1.0s						
SNAA	**Sanae**	**76.55**	**179**	⇑P	**P**	**12 38 41.8**	**-1.0**
	comp=Z,22nm,0.9s						
VNA3	**Neumayer Olymp**	**76.76**	**177**	⇑P	**P**	**12 38 43.5**	**-0.4**
	comp=Z,4.7nm,0.8s						
VNA2	**Neumayer--Watz**	**77.18**	**177**	⇑P	**P**	**12 38 46.3**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=173,slow=5.1						
KSRS	**Korea Array**	**84.71**	**321**	P	**P**	**12 39 25.4**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=145,slow=5.3,SNR=6.9						
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**121.20**	**313**	PKP	**PKPdf**	**12 45 41.7**	**-2.4**
	comp=Z,0.3nm,0.6s,baz=115,slow=1.7,SNR=2.2						
FINES	**FINESS Array B**	**146.17**	**338**	PKPbc	**PKPab**	**12 46 29.6**	**-2.7**
	comp=Z,9.1nm,0.6s,baz=46,slow=4.0,SNR=24						
NOA	**NORSAR Array B**	**150.13**	**349**	PKPbc	**PKPbc**	**12 46 39.7**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=43,slow=2.6,SNR=1.3						
NOA				PKPab	**PKPab**	**12 46 47.6**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=18,slow=3.1,SNR=4.0						
HFS	**Hagfors**	**150.54**	**346**	PKPbc	**PKPbc**	**12 46 40.7**	**-2.1**
	comp=Z,0.8nm,0.4s,baz=32,slow=5.8,SNR=5.2						
HFS				PKPab	**PKPab**	**12 46 48.5**	**-1.5**

TRN 01 12:40:48.5, 10.°12N×60.°75W, h68km, MD3.8, East of Trinidad. Felt in Trinidad, MMI IV., Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.47**	**319**	*e*P	Pn	12 41 02.0	+1.0
TPP	**Pointe-a-Pierr**	**0.71**	**286**	*e*P	Pn	12 41 04.1	+0.6
TRN	**Trinidad (W)**	**0.83**	**309**	*e*P	Pn	12 41 05.3	+0.5
TRN				*e*S	Sn	12 41 16.1	-0.7
TOSP	**Speyside**	**1.19**	**10**	*e*P	Pn	12 41 09.0	-0.4
TOSP				*e*S	Sn	12 41 24.1	-0.8
GRFF	**Grenada Fort F**	**2.15**	**333**	*e*P	Pn	12 41 22.6	+0.4
GRFF				*e*S	Sn	12 41 48.2	+0.4
GRGR	**Grenville**	**2.19**	**336**	*e*P	Pn	12 41 22.9	+0.2
GRGR				*e*S	Sn	12 41 47.9	-0.9
GRW	**Mount Saint Ca**	**2.21**	**336**	*e*P	Pn	12 41 23.7	+0.6
GRW				*e*S	Sn	12 41 49.2	-0.3
GRHS	**Sauteurs**	**2.26**	**337**	*e*P	Pn	12 41 23.6	-0.1
GRHS				*e*S	Sn	12 41 49.9	-0.7
GRSS	**Sisters**	**2.32**	**339**	*e*P	Pn	12 41 24.9	+0.4
GRSS				*e*S	Sn	12 41 52.0	0.0
GCMP	**Grenada, Carri**	**2.44**	**344**	*e*P	Pn	12 41 25.8	-0.3
GCMP				*e*S	Sn	12 41 53.6	-

AMT AML AML 12 44 09.1
comp=N,62957µm,0.4s
AMT AML AML 12 44 09.2
comp=E,87145µm,0.4s
VLS Valsamata 0.89 354 P **Pn 12 43 50.1 -0.8**
VLS S **Sn 12 44 04.1 +1.3**
comp=E,4µm,0.5s
VLS Valsamata 0.89 354 P **Pn 12 43 50.0 -0.8**
VLS S **Sn 12 44 03.2 +0.4**
VLS AML AML 12 44 07.8
comp=N,9022µm,0.2s
VLS AML AML 12 44 08.8
comp=E,7345µm,0.4s
PYL PYLOS 0.92 115 P **Pn 12 43 49.3 -2.1**
PYL S **Sn 12 44 04.5 +0.8**
comp=E,3µm,0.4s
PYL PYLOS 0.92 115 P **Pn 12 43 48.9 -2.4**
PYL S **Sn 12 44 02.3 -1.4**
PYL AML AML 12 44 06.6
comp=E,5747µm,0.4s
PYL AML AML 12 44 08.0
comp=N,4764µm,0.6s
LXRA Lixouri, Kepha 0.93 347 P **Pb 12 43 51.5 -0.3**
LXRA S **Sn 12 44 05.2 +1.5**
LXRA AML AML 12 44 13.3
comp=N,17398µm,0.5s
LXRA AML AML 12 44 16.9
comp=E,17524µm,0.5s
SMHA Samh 0.96 357 P **Pn 12 43 50.5 -1.3**
SMHA AML AML 12 44 11.5
comp=E,24605µm,0.7s
SMHA AML AML 12 44 12.5
comp=N,24876µm,0.4s
RLS Riolos of Patr 0.97 38 P **Pn 12 43 51.3 -0.8**
RLS S **Sb 12 44 09.0 +3.9**
comp=N,3µm,0.5s
RLS Riolos of Patr 0.97 38 P **Pn 12 43 51.7 -0.4**
RLS S **Sb 12 44 07.0 +2.0**
RLS AML AML 12 44 12.0
comp=N,6131µm,0.6s
RLS AML AML 12 44 14.9
comp=E,7028µm,0.4s
DMLN Damoulianata-K 0.98 345 P **Pb 12 43 51.9 -0.7**
DMLN S **Sn 12 44 06.5 +1.4**
comp=E,7µm,0.5s
DMLN Damoulianata-K 0.98 345 P **Pb 12 43 51.9 -0.7**
DMLN S **Sn 12 44 05.9 +0.8**
ITM Ithomi 0.98 96 P **Pn 12 43 50.9 -1.3**
ITM S **Sn 12 44 06.8 +1.6**
comp=E,5µm,0.6s
ITM Ithomi 0.98 96 P **Pn 12 43 51.0 -1.3**
ITM S **Sn 12 44 05.8 +0.5**
ITM AML AML 12 44 10.5
comp=N,10190µm,0.5s
ITM AML AML 12 44 13.8
comp=E,10514µm,0.7s
DRO Drossia 1.04 50 P **Pn 12 43 52.7 -0.2**
DRO S **Sb 12 44 10.9 +4.1**
comp=E,9µm,0.4s
DRO Drossia 1.04 50 P **Pn 12 43 52.7 -0.2**
DRO S **Sb 12 44 09.2 +2.4**
DRO AML AML 12 44 20.4
comp=N,22515µm,0.5s
DRO AML AML 12 44 21.9
comp=E,23794µm,0.4s
VSK1 VASILIKIADES 1.12 354 P **Pb 12 43 54.0 -1.0**
VSK1 S **Sb 12 44 11.8 +2.6**
comp=E,5µm,0.5s
FSK Fiskardo 1.17 355 P **Pb 12 43 54.9 -0.9**
FSK S **Sb 12 44 14.3 +3.7**
comp=E,3µm,0.4s
FSK Fiskardo 1.17 355 P **Pb 12 43 54.5 -1.3**
FSK AML AML 12 44 17.6
comp=E,6280µm,0.4s
FSK AML AML 12 44 18.9
comp=N,6388µm,0.7s
UPR University Cam 1.31 41 P **Pb 12 43 59.5 +1.3**
UPR S **Sb 12 44 19.3 +4.7**
EVGI Lefkada island 1.32 358 P **Pb 12 43 58.3 -0.2**
EVGI S **Sb 12 44 19.1 +4.0**
EVGI Lefkada island 1.32 358 P **Pb 12 43 57.5 -1.0**
KLV Kalavryta, Ach 1.37 57 P **Pn 12 43 58.5 +0.9**
KLV S **Sb 12 44 20.3 +3.8**
comp=N,1µm,0.5s
KLV Kalavryta, Ach 1.37 57 P **Pn 12 43 58.3 +0.7**
KLV AML AML 12 44 29.8
comp=N,2586µm,0.7s
KLV AML AML 12 44 36.8
comp=E,2345µm,0.8s
NYDR Nydri-Lefkada 1.42 360 P **Pb 12 44 00.2 +0.2**
NYDR S **Sb 12 44 20.6 +2.9**
comp=E,1µm,0.5s
NYDR Nydri-Lefkada 1.42 360 P **Pb 12 43 59.6 -0.5**
GUR Goura 1.45 63 P **Pn 12 43 59.5 +0.8**
GUR Goura 1.45 63 P **Pn 12 43 59.2 +0.4**
GUR S **Sn 12 44 18.7 +1.8**
GUR AML AML 12 44 31.3
comp=N,8202µm,0.4s
GUR AML AML 12 44 37.3
comp=E,10923µm,0.5s
ALIK Aliki, Aigiali 1.48 49 P **Pb 12 44 01.3 +0.3**
EFP Efpalio 1.48 40 P **Pb 12 44 01.0 -0.1**
EFP Efpalio 1.48 40 P **Pb 12 44 00.3 -0.8**
TSLK Tsoukalades, L 1.53 359 P **Pb 12 44 01.4 -0.6**
TSLK Tsoukalades, L 1.53 359 P **Pb 12 44 01.1 -0.9**
KALE Kalithea 1.58 46 P **Pb 12 44 02.9 0.0**
KALE Kalithea 1.58 46 P **Pb 12 44 02.3 -0.5**
ANX Ano Chora 1.62 36 P **Pb 12 44 02.8 -0.7**
ANX S **Sb 12 44 26.3 +2.8**
EVR Evrytania 1.84 28 P **Pb 12 44 07.8 +0.5**
VLI Velíai 1.88 107 P **Pn 12 44 06.0 +1.5**
MAKR Makrakomi, Fth 2.05 33 P **Pb 12 44 10.6 -0.3**
AXAR Agios Charalam 2.13 46 P **Pb 12 44 11.1 -1.2**
AGG Agios Georgios 2.15 36 P **Pb 12 44 11.2 -1.4**
VILL Villia 2.25 66 P **Pn 12 44 10.7 +1.1**
IGT Igoumenitsa 2.25 353 *e*Pg **Pb 12 44 14.6 +0.3**
THL Klokotos Trika 2.49 24 P **Pn 12 44 15.3 +2.4**
VLY Voula,Athens 2.52 76 P **Pn 12 44 13.9 +0.6**
ANKY Antikythira Is 2.53 123 P **Pn 12 44 14.3 +0.8**
ATHU Athens Univers 2.54 74 P **Pn 12 44 15.9 +2.3**
DION Dionisos Attik 2.68 72 P **Pn 12 44 17.2 +1.6**
TYRN Tyrnavos 2.69 26 P **Pn 12 44 17.7 +2.0**
KPRO Kipourio 2.71 11 P **Pb 12 44 18.9 -3.2**
NEO Neokhori 2.82 44 P **Pn 12 44 19.1 +1.6**
LSK Leskovik 2.85 358 P **Pn 12 44 19.9 +1.9**
AOS2 Alonissos-2 3.09 52 P **Pn 12 44 22.5 +1.3**
AOS Alonnisos 3.13 52 P **Pn 12 44 22.8 +1.1**
NEST Nestorio 3.13 5 P **Pb 12 44 25.1 -4.1**
LIT Litokhoron 3.13 26 P **Pn 12 44 23.8 +2.0**
FNA Florina 3.52 8 P **Pn 12 44 28.7 +1.5**
FNA Florina 3.52 8 *e*Pn **Pn 12 44 29.0 +1.8**
FNA *e*Sg Sn 12 44 57.3 -11
OHR Ohrid 3.81 1 *e*Pn **Pn 12 44 34.5 +3.3**
OHR *e*Sg **Sn 12 45 10.9 -4.2**
OHR Ohrid 3.81 1 *i* Pn **Pn 12 44 34.4 +3.3**
IDI Anoyia 3.93 119 Pn **Pn 12 44 32.9 +0.1**
comp=E,0.7nm,0.3s,baz=330,slow=14,SNR=2.5
IDI Sn **Sn 12 45 19.1 +1.1**
comp=E,5.9nm,0.3s,baz=102,slow=23,SNR=7.4
comp=E,4.1nm,0.5s
SOH Sokhos 4.08 30 P **Pn 12 44 36.8 +1.9**
KNT Kendrikon 4.22 23 P **Pn 12 44 38.6 +1.9**
SRS Serrai 4.43 30 P **Pn 12 44 41.4 +1.8**
SRS Serrai 4.43 30 *e*Pn **Pn 12 44 40.4 +0.8**
SRS *e*Sg **Sn 12 45 21.8 -8.4**
PEHC Pehcevo 4.79 20 *i* Pn **Pn 12 44 47.3 +2.7**
VAE Valguarnera 5.01 274 Pn **Pn 12 44 50.4 +2.8**
comp=E,2.4nm,0.3s,baz=19,slow=6.6,SNR=6.4
VAE Sn **Sn 12 45 43.5 -1.2**
comp=E,3.0nm,0.3s,baz=18,slow=20,SNR=1.7
comp=E,10nm,0.5s
BARS Barje 5.58 8 *e*Pn **Pn 12 44 56.2 +0.8**
BARS *e*Sn Sn 12 45 42.0 -17
SELS Selova 5.93 3 *e*Pn **Pn 12 45 02.0 +1.8**
SELS *e*Sn Sn 12 45 50.8 -16
ZAPS Zavoj 6.15 13 *e*Pn **Pn 12 45 02.2 -1.1**
IVAS Ivanjica 6.29 356 *e*Pn **Pn 12 45 06.1 +0.9**
IVAS *e*Sn Sn 12 46 01.4 -15
GRUS Gruza 6.59 0 *e*Pn **Pn 12 45 11.6 +2.4**
DIVS Divibare 6.82 356 *e*Pn **Pn 12 45 13.5 +1.1**
DIVS *e*Sn Sn 12 46 17.4 -12
MLR Muntele Rosu 9.09 24 Pn **Pn 12 45 41.0 -2.6**
comp=E,3.1nm,0.4s,baz=179,slow=12,SNR=4.4
MLR LR LR 12 49 39.3
comp=E,110nm,19.7s,baz=200,slow=42
SOKA Soboth 10.28 338 *i* Pn **Pn 12 46 01.7 +1.9**
comp=E,0.5nm,0.2s
MOA Molln 11.56 338 *e*Pn **Pn 12 46 20.2 +2.8**
comp=E,0.7nm,0.3s
EIL Elat 14.11 118 Pn **Pn 12 46 50.8 -1.4**
comp=E,1.7nm,0.5s,baz=211,slow=19,SNR=1.4
EIL Sn Sn 12 49 18.9 -8.8
comp=E,0.5nm,0.3s,baz=304,slow=7.3,SNR=1.9
ESDC Sonseca Array 19.44 285 P **Pn 12 47 58.5 -1.4**
comp=E,0.9nm,1.1s,baz=81,slow=7.9,SNR=2.6
MDT Midelt 21.17 265 LR LR 12 57 05.9
comp=E,42nm,19.9s,baz=347,slow=38
HFS Hagfors 23.29 351 P **P 12 48 38.0 -1.5**
comp=E,1.4nm,0.6s,baz=164,slow=12,SNR=1.9
comp=E,1.4nm,0.6s
BELG Belogornoye 24.14 43 LR LR 12 58 32.3
comp=E,35nm,19.0s,baz=256,slow=38
EKA Eskdalemuir Ar 24.23 326 P **P 12 48 48.9 +0.4**
comp=E,1.6nm,0.8s,baz=127,slow=11,SNR=3.8
comp=E,1.6nm,0.8s
FINES FINESS Array B 24.41 6 P **P 12 48 48.1 -1.8**
comp=E,2.0nm,0.8s,baz=187,slow=14,SNR=4.1
FINES LR LR 12 59 49.8
comp=E,48nm,19.8s,baz=192,slow=40
comp=E,2.0nm,0.8s
NB2 NORSAR Subarra 24.51 349 P **P 12 48 51.0 0.0**
comp=Z,3.4nm,1.2s,baz=162,slow=9.3
NOA NORSAR Array B 24.51 349 P **P 12 48 49.0 -2.0**
comp=Z,0.5nm,0.5s,baz=156,slow=8.9,SNR=2.2
NOA LR LR 12 59 24.4
comp=Z,62nm,19.9s,baz=175,slow=39
comp=Z,0.5nm,0.5s
KIRV Kirov 28.32 32 LR LR 13 00 24.0
comp=Z,60nm,18.5s,baz=246,slow=36
TORD Torodi Ar. Bea 29.44 220 P **P 12 49 36.5 +0.9**
comp=Z,0.4nm,0.8s,baz=26,slow=10.0,SNR=2.2
TORD LR LR 13 02 46.8
comp=Z,46nm,18.1s,baz=343,slow=39
comp=Z,0.4nm,0.8s
AKTO Aktyubinsk 29.61 52 LR LR 13 04 07.8
comp=Z,61nm,20.2s,baz=310,slow=42
ARTI Arti 31.52 41 LR LR 13 03 31.2
comp=Z,55nm,18.3s,baz=12,slow=38
ARCES ARCESS Array B 32.41 3 LR LR 13 04 51.2
comp=Z,69nm,18.8s,baz=198,slow=40
BVAR Borovoye Array 37.58 49 LR LR 13 08 28.7
comp=Z,29nm,18.4s,baz=277,slow=40
DBIC Dimbokro 38.35 224 P **P 12 50 54.1 +1.3**
comp=Z,4.5nm,1.0s,baz=90,slow=2.0,SNR=2.9
comp=Z,4.5nm,1.0s
BBTS Babate 39.98 246 LR LR 13 09 33.3
comp=Z,35nm,19.5s,baz=50,slow=39
AAK Ala-Archa 40.99 65 LR LR 13 09 11.6
comp=Z,46nm,19.9s,baz=340,slow=38
KURBB Kurchatov Arra 42.64 53 P **P 12 51 26.4 -1.7**
comp=Z,0.4nm,0.5s,baz=278,slow=8.5,SNR=4.2
comp=Z,0.4nm,0.5s
MKAR Makanchi Array 45.65 58 P **P 12 51 50.2 -2.0**
comp=Z,0.3nm,0.4s,baz=280,slow=6.6,SNR=5.2
MKAR LR LR 13 13 57.9
comp=Z,36nm,18.5s,baz=304,slow=40
comp=Z,0.3nm,0.4s
ZALV Zalesovo Beam 46.18 47 P **P 12 51 54.7 -1.6**
comp=Z,0.7nm,0.3s,baz=284,slow=5.8,SNR=1.1
comp=Z,0.7nm,0.3s
TSUM Tsumeb 56.27 184 LR LR 13 19 53.7
comp=Z,55nm,18.0s,baz=334,slow=39
BOSA Boshof 65.70 176 LR LR 13 25 49.8
comp=Z,48nm,19.3s,baz=22,slow=39
YAK Yakutsk 65.81 29 LR LR 13 24 25.9
comp=Z,42nm,19.4s,baz=311,slow=37
CMAR Chiang Mai Arr 69.87 82 P **P 12 54 43.1 +0.3**
comp=Z,0.4nm,0.3s,baz=306,slow=6.6,SNR=4.1
comp=Z,0.4nm,0.3s
KLR Kul'dur 74.46 39 LR LR 13 32 35.3
comp=Z,30nm,18.4s,baz=280,slow=40
USRK Ussuriysk Ar. 77.82 43 LR LR 13 33 48.9
comp=Z,36nm,19.2s,baz=261,slow=39
PETK Petropavlovsk- 82.55 24 LR LR 13 37 22.2
comp=Z,34nm,20.9s,baz=343,slow=39
ASAR Alice Springs 121.93 97 PKP **PKiKP 13 02 26.2 -0.2**
comp=Z,0.4nm,1.0s,baz=326,slow=2.1,SNR=2.8

*IDC **01** 12:52:26.4±0.8, 11°.24N×86°.50W, h0km, mb4.0/9, mbtmp4.1/12, ML3.5/3, MS3.3/4, Error ellipse: s-maj=34.1km s-min=13.2km az=43.0*
*NEIC **01** 12:52:27.8±1.5, 10°.93N±0°.07×86°.73W±0°.07, h10km±2km, mb4.5/39, Error ellipse: s-maj=13.8km s-min=9.1km az=231.0*
*UCR **01** 12:52:30.8±1.0, 10°.94N×86°.56W, h14km±7km, MW4.6*
ISC 01 12:52:30.3±0.6, 11°.05N±0°.07×86°.68W±0°.07, h31km, n86, σ0°93/83, mb4.4/29, MS3.3/4, 2C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	**La Cruz**	**1.03**	**88**	*e*P	**Pb**	**12 52 50.0**	**+0.4**
MGAN	**Managua**	**1.17**	**21**		**Pb**	**12 52 52.5**	**+0.5**
MGAN	**Managua**	**1.17**	**21**	*e*P	**Pb**	**12 52 52.7**	**+0.7**
ELI1	**Hacienda Flor**	**1.18**	**110**	*e*P	**Pn**	**12 52 50.0**	**-0.6**
DELF	**Filadelfia**	**1.26**	**118**	*e*P	**Pn**	**12 52 49.7**	**-2.1**
DELF				*e*S	**Sn**	**12 53 05.6**	**-2.0**
VRLE	**La Escondida,**	**1.32**	**101**	*e*P	**Pn**	**12 52 52.0**	**-0.6**
VORI	**VORI**	**1.33**	**100**	*e*P	**Pn**	**12 52 52.5**	**-0.4**
GPS2	**Hotel Rincn d**	**1.34**	**103**	*e*P	**Pn**	**12 52 52.0**	**-0.9**
BAGA	**Bagaces**	**1.49**	**110**	*e*P	**Pn**	**12 52 54.3**	**-0.6**
COLC	**Colonia**	**1.50**	**105**	*e*P	**Pn**	**12 52 54.5**	**-0.6**
HORNC	**Hornillas**	**1.51**	**103**	*e*P	**Pn**	**12 52 54.7**	**-0.7**
CUI	**Cuipilapa**	**1.54**	**104**	*e*P	**Pn**	**12 52 55.2**	**-0.5**
CRIN	**San Cristobal**	**1.68**	**348**		**Pb**	**12 52 59.3**	**-1.4**
TENO	**El Achiote**	**1.71**	**101**	*e*P	**Pn**	**12 52 57.3**	**-0.7**
ACON	**Acoyapa**	**1.74**	**58**		**Pn**	**12 52 59.3**	**+0.9**
JTS	**Las Juntas de**	**1.86**	**114**		**Pn**	**12 52 58.5**	**-1.5**
JTS	**Las Juntas de**	**1.86**	**114**	Pn	**Pn**	**12 52 58.9**	**-1.1**
	9.7nm,0.3s,baz=24,slow=20,SNR=23						
JTS				Sn	**Sn**	**12 53 22.5**	**0.0**
	52nm,0.3s,baz=275,slow=19,SNR=6.8						
ARE1	**Arenal 1**	**2.01**	**107**	*e*P	**Pn**	**12 53 02.3**	**+0.1**
SOCE	**Pocosol**	**2.13**	**108**		**Pn**	**12 53 04.2**	**+0.4**
ESPN	**Las Esperanzas**	**2.60**	**64**		**Pn**	**12 53 11.5**	**+1.3**
HDC	**Heredia**	**2.73**	**112**		**Pn**	**12 53 12.4**	**+0.3**
ACOS	**Acosta**	**2.77**	**116**	*e*P	**Pn**	**12 53 13.1**	**+0.4**
LCR2	**La Lucha 2**	**2.93**	**116**		**Pn**	**12 53 15.4**	**+0.5**
LCR2	**La Lucha 2**	**2.93**	**116**	*e*P	**Pn**	**12 53 15.5**	**+0.5**
VTLA	**Turrialba Volc**	**3.04**	**110**	*e*P	**Pn**	**12 53 17.1**	**+0.5**
CVTQ	**Turrialba Volc**	**3.05**	**110**	*e*P	**Pn**	**12 53 17.6**	**+0.9**
TGUH	**Tegucigalpa,Un**	**3.05**	**349**	Pn	**Pn**	**12 53 17.5**	**+1.0**
BUS1	**Rivas**	**3.25**	**117**	*e*P	**Pn**	**12 53 19.4**	**-0.2**
EDAD	**Golfito**	**4.20**	**124**	*e*P	**Pn**	**12 53 32.3**	**0.0**
PIRO	**Carate, Puerto**	**4.21**	**128**	*e*P	**Pn**	**12 53 32.3**	**-0.2**
MTO3	**Montecristo**	**4.24**	**322**		**Pn**	**12 53 32.9**	**0.0**
CCIG	**Comitan**	**7.43**	**315**	Pn	**Pn**	**12 54 18.3**	**+1.5**
TEIG	**Tepich**	**9.26**	**351**	Pn	**Pn**	**12 54 39.1**	**-2.6**
	0.4nm,0.3s,baz=252,slow=20,SNR=1.5						
	4.2nm,0.6s						
CMIG	**Matias Romero**	**9.97**	**308**	Pn	**Pn**	**12 54 51.5**	**0.0**
	1.3nm,0.3s,baz=137,slow=6.1,SNR=12						
	3.2nm,0.3s						
SDV	**Santo Domingo**	**15.95**	**96**	Pn	**Pn**	**12 56 11.6**	**-1.2**
	0.6nm,0.3s,baz=338,slow=6.3,SNR=1.3						
	4.7nm,0.4s						
ATAH	**Atahualpa**	**19.86**	**155**	LR	LR	13 03 29.1	
	comp=Z,99nm,19.0s,baz=339,slow=33						
152A	**Waverly Hall**	**21.59**	**4**	P	**P**	**12 57 17.8**	**+0.1**
152A				IAmb	IAmb	12 57 22.6	
	comp=Z,23nm,0.9s						
PCRV	**Puerto La Cruz**	**21.68**	**90**	P	**P**	**12 57 18.7**	**-0.1**
	comp=Z,9.6nm,0.6s,baz=203,slow=7.8,SNR=7.0						
PCRV				LR	LR	13 08 38.5	
	comp=Z,76nm,18.9s,slow=45						
	comp=Z,9.6nm,0.6s						
DRIO	**Del Rio**	**22.44**	**327**	P	**P**	**12 57 26.9**	**+0.2**
DRIO				IAmb	IAmb	12 57 43.1	
	comp=Z,11nm,1.1s						
GOGA	**Godfrey**	**22.45**	**7**	P	**P**	**12 57 27.4**	**+0.5**
Y49A	**Blount Mountai**	**22.71**	**1**	P	**P**	**12 57 30.6**	**+1.0**
Y49A				IAmb	IAmb	12 57 32.2	
	comp=Z,13nm,0.7s						
FPAL	**Fort Paine**	**23.41**	**2**	P	**P**	**12 57 38.1**	**+1.4**
HODGE	**Hodges**	**23.43**	**9**	P	**P**	**12 57 38.5**	**+1.6**
HODGE				IAmb	IAmb	12 57 39.2	
	comp=Z,8.8nm,0.8s						
JSC	**Jenkinsville**	**23.65**	**11**	P	**P**	**12 57 38.9**	**-0.1**
JSC				IAmb	IAmb	12 57 41.5	
	comp=Z,13nm,0.8s						
PLAL	**Pickwick Lake**	**23.86**	**357**	P	**P**	**12 57 40.9**	**-0.1**
W52A	**Murphy**	**24.07**	**6**	P	**P**	**12 57 43.3**	**+0.3**
W52A				IAmb	IAmb	12 58 21.8	
	comp=Z,16nm,0.8s						
W50A	**Signal Mountai**	**24.08**	**3**	P	**P**	**12 57 43.6**	**+0.6**
W50A				IAmb	IAmb	12 57 56.8	
	comp=Z,14nm,0.7s						
BG3	**Lake Jocassee**	**24.08**	**8**	P	**P**	**12 57 43.4**	**+0.3**
BG3				IAmb	IAmb	12 57 46.3	
	comp=Z,12nm,0.8s						
TX31	**Lajitas Ar. Si**	**24.13**	**321**	P	**P**	**12 57 44.9**	**+1.1**
TXAR	**Lajitas Array**	**24.13**	**321**	P	**P**	**12 57 44.0**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=134,slow=9.9,SNR=30						
TXAR				PcP	**PcP**	**13 01 26.9**	**+2.4**
	comp=Z,0.9nm,0.8s,baz=145,slow=4.6,SNR=8.2						
	comp=Z,3.5nm,0.8s						
MIAR	**Mount Ida**	**24.22**	**346**	P	**P**	**12 57 45.0**	**+0.7**
H06E1	**SOCORRO T-PHAS**	**24.64**	**291**	T	T	13 23 15.8	
	SNR=6.9						
TKL	**Tuckaleechee C**	**24.64**	**6**	P	**P**	**12 57 49.8**	**+1.6**
TKL				IAmb	IAmb	12 58 07.4	
	comp=Z,19nm,1.1s						
X37A	**Clayton**	**24.74**	**343**	P	**P**	**12 57 50.1**	**+1.1**
X37A				IAmb	IAmb	12 57 56.7	
	comp=Z,8.3nm,0.8s						
W57A	**Gilead**	**24.76**	**13**	P	**P**	**12 57 49.6**	**+0.4**
W57A				IAmb	IAmb	12 57 51.0	
	comp=Z,12nm,0.7s						
V53A	**Saluda**	**24.76**	**8**	P	**P**	**12 57 50.2**	**+0.9**
V53A				IAmb	IAmb	12 58 29.7	
	comp=Z,9.1nm,0.6s						
MNHN	**Monahans**	**25.09**	**326**	P	**P**	**12 57 52.9**	**+0.5**
MNHN				IAmb	IAmb	12 58 08.7	
	comp=Z,8.0nm,1.0s						
LCAR	**Lake Charles**	**25.24**	**351**	P	**P**	**12 57 53.8**	**+0.2**
LCAR				IAmb	IAmb	12 57 57.8	
	comp=Z,9.7nm,0.6s						
V58A	**Windy Hill, Pi**	**25.57**	**14**	P	**P**	**12 57 56.3**	**-0.3**
FNO	**Franklin**	**26.00**	**340**	P	**P**	**12 58 00.8**	**+0.4**
WMOK	**Wichita Mounta**	**26.04**	**337**	P	**P**	**12 58 02.3**	**+1.5**
WMOK				IAmb	IAmb	12 58 05.0	
	comp=Z,12nm,0.9s						
QUOK	**Quay**	**26.61**	**342**	P	**P**	**12 58 05.9**	**-0.1**
T57A	**Hurt**	**26.69**	**13**	P	**P**	**12 58 07.3**	**+0.6**
T57A				IAmb	IAmb	12 58 08.7	
	comp=Z,9.7nm,0.9s						
MNTX	**Cornudas Mount**	**26.85**	**323**	P	**P**	**12 58 09.4**	**+1.1**
SMWD	**Samnorwood**	**26.94**	**335**	IAmb	IAmb	12 58 14.4	
	comp=Z,11nm,0.7s						
MSTX	**Muleshoe**	**27.15**	**330**	P	**P**	**12 58 10.7**	**-0.4**
MSTX				IAmb	IAmb	12 58 15.4	
	comp=Z,6.8nm,0.9s						
S39A	**Bolivar**	**27.19**	**348**	P	**P**	**12 58 11.1**	**-0.2**
Q54A	**Coxs Mills**	**28.30**	**10**	P	**P**	**12 58 21.5**	**+0.4**
N58A	**Sunbury**	**30.95**	**15**	P	**P**	**12 58 45.2**	**+0.6**
SRU	**San Rafael Swe**	**35.10**	**327**	IAmb	IAmb	12 59 24.2	
	comp=Z,3.0nm,0.7s						
PDAR	**Pinedale Array**	**37.36**	**332**	P	**P**	**12 59 40.8**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=132,slow=11,SNR=11						
PDAR				PcP	**PcP**	**13 01 58.8**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=107,slow=3.1,SNR=2.2						
	comp=Z,0.8nm,0.6s						
HWUT	**Hardware Ranch**	**37.46**	**329**	P	**P**	**12 59 41.5**	**+0.3**
HWUT				IAmb	IAmb	12 59 44.3	
	comp=Z,4.1nm,0.8s						
LOHW	**Long Hollow**	**38.50**	**332**	P	**P**	**12 59 51.0**	**+1.0**
MOOW	**Moose Ponds**	**38.67**	**332**	P	**P**	**12 59 51.5**	**+0.1**
NVAR	**Mina Array Bea**	**39.25**	**319**	P	**P**	**12 59 56.9**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=150,slow=7.2,SNR=8.1						
NVAR				PcP	**PcP**	**13 02 06.2**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=131,slow=4.2,SNR=13						
	comp=Z,0.8nm,0.8s						
ULM	**Lac du Bonnet**	**39.82**	**351**	P	**P**	**12 59 59.2**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=173,slow=11,SNR=3.7						
	comp=Z,2.2nm,0.6s						
SCHQ	**Schefferville**	**46.41**	**16**	P	**P**	**13 00 51.7**	**-2.1**
	comp=Z,3.0nm,0.7s,baz=209,slow=19,SNR=2.6						
SCHQ				LR	LR	13 20 14.1	
	comp=Z,48nm,18.7s,baz=300,slow=36						
	comp=Z,3.0nm,0.7s						
BDFB	**Brasília**	**46.57**	**124**	P	**P**	**13 00 55.5**	**-0.2**
	comp=Z,6.1nm,0.8s,baz=279,slow=7.6,SNR=7.2						
	comp=Z,6.1nm,0.8s						
CPUP	**Villa Florida**	**46.85**	**143**	LR	LR	13 21 26.9	
	comp=Z,24nm,19.1s,baz=74,slow=37						
PLCA	**Paso Flores**	**53.64**	**165**	P	**P**	**13 01 50.1**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=9.5,slow=6.1,SNR=3.7						
	comp=Z,1.7nm,0.8s						
ILAR	**Eielson Array**	**67.60**	**336**	P	**P**	**13 03 23.6**	**-0.1**
	comp=Z,0.5nm,1.0s,baz=164,slow=5.4,SNR=4.1						
	comp=Z,0.5nm,1.0s						
RAO	**Raoul Island**	**96.38**	**242**	LR	LR	13 36 59.3	
	comp=Z,486nm,21.8s,baz=232,slow=28						
KSRS	**Korea Array**	**121.86**	**328**	PKP	**PKPdf**	**13 11 21.9**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=357,slow=1.7,SNR=7.0						
ASAR	**Alice Springs**	**139.43**	**247**	PKhKP	PKPpre	13 11 55.5	
	comp=Z,0.6nm,1.1s,baz=100,slow=2.3,SNR=2.3						
WRA	**Warramunga Arr**	**139.59**	**252**	PKhKP	PKPpre	13 11 55.3	
	comp=Z,0.3nm,0.6s,baz=96,slow=2.5,SNR=5.2						
CMAR	**Chiang Mai Arr**	**150.16**	**349**	PKPbc	**PKiKP**	**13 12 19.9**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=344,slow=3.5,SNR=6.8						

ATH 01 12:52:50.4, 37°.34N×20°.70E, h16km±6km, ML2.9/2, Error ellipse: s-maj=8.1km s-min=1.6km az=308.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.38**	**16**	P	Pg	12 52 57.9	-0.4
LTHK				AML	AML	12 53 03.6	
	comp=E,12570µm,0.4s						
LTHK				S	Sg	12 53 03.6	0.0
LTHK				AML	AML	12 53 05.2	
	comp=N,13682µm,0.4s						
AMT	**Artemida-Makis**	**0.82**	**76**	P	Pb	12 53 05.9	-0.5
RLS	**Riolos of Patr**	**0.94**	**40**	P	Pb	12 53 07.4	-1.0
RLS				AML	AML	12 53 22.2	
	comp=N,601µm,0.4s						
RLS				AML	AML	12 53 26.5	
	comp=E,577µm,0.4s						
PYL	**PYLOS**	**0.94**	**118**	P	Pb	12 53 08.2	-0.2
ITM	**Ithomi**	**0.99**	**99**	P	Pb	12 53 08.8	-0.5
DRO	**Drossia**	**1.01**	**52**	P	Pb	12 53 08.6	-0.9

THE 01 12:53:41.5, 37°.44N×20°.56E, h2km±25km, ML3.1/9, Error ellipse: s-maj=25.7km s-min=0.7km az=53.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.30**	**43**	P	Pg	12 53 46.6	-0.7
KRI1				S	Sg	12 53 51.8	+0.6
	24µm,0.2s						
LTHK	**Lithakia**	**0.34**	**39**	P	Pg	12 53 47.9	-0.3
LTHK				S	Sg	12 53 53.1	+0.5
	12µm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.65**	**15**	P	Pg	12 53 53.1	-1.0
RTZL				S	Sg	12 54 03.6	+1.0
	2µm,0.6s						
PSDA	**Pessada-Kefalo**	**0.67**	**2**	P	Pg	12 53 54.0	-0.4
PSDA				S	Sg	12 54 04.2	+1.1
	2µm,0.3s						
VLS	**Valsamata**	**0.73**	**2**	P	Pg	12 53 55.9	+0.3
VLS				S	Sg	12 54 05.5	+0.4
	838nm,0.3s						
RLS	**Riolos of Patr**	**0.94**	**49**	P	Pg	12 53 59.0	-0.6
RLS				S	Sb	12 54 12.8	-0.7
	585nm,0.5s						
DRO	**Drossia**	**1.04**	**60**	P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.37**	**144**	*e*P	**Pb**	**13 07 45.9**	**+0.2**
YUK				AMB	AMB	13 07 46.3	
	30nm,0.2s						
YUK				S	**Sb**	**13 07 52.7**	**+1.0**
YUK				A	A	13 07 53.2	
	340nm,0.2s						
YUK				A	A	13 07 53.2	
	250nm,0.2s						
JRA	**Rausu**	**0.51**	**218**	P	**Pn**	**13 07 49.1**	**-1.3**
JRA				S	**Sn**	**13 07 58.4**	**-1.1**
JNSB	**Nemuroshibetsu**	**0.69**	**216**	P	**Pn**	**13 07 52.1**	**-0.8**
JNSB				S	**Sn**	**13 08 04.0**	**+0.1**
JNK	**Nakash**	**0.97**	**219**	S	**Sn**	**13 08 11.0**	**+0.2**
NEM2	**Nemuro 2**	**0.98**	**172**	P	**Pb**	**13 07 56.0**	**0.0**
NEM2				S	**Sn**	**13 08 11.1**	**0.0**
SHO	**Shikotan**	**1.03**	**117**	*e*P	**Pg**	**13 07 55.5**	**-0.9**
SHO				AMB	AMB	13 07 55.7	
	40nm,0.4s						
SHO				*e*S	**Sg**	**13 08 09.6**	**-0.1**
SHO				A	A	13 08 10.4	
	150nm,0.5s						
SHO				A	A	13 08 10.4	
	350nm,0.5s						
JTKR	**Abashiri--Toko**	**1.24**	**253**	P	**Pn**	**13 08 00.1**	**-0.4**
JTKR				S	**Sn**	**13 08 18.2**	**+0.6**
JKHN	**Kushirohamanak**	**1.29**	**193**	S	**Sn**	**13 08 20.3**	**+1.7**
JAK	**Akkeshi**	**1.48**	**205**	P	**Pg**	**13 08 04.9**	**-0.1**
JAK				*e*S	**Sg**	**13 08 25.7**	**+1.5**
JMP	**Maruseppu**	**1.62**	**259**	P	**Pn**	**13 08 05.3**	**-0.4**
JMP				S	**Sb**	**13 08 27.2**	**-0.3**
KUR	**Kuril'sk**	**1.87**	**61**	*e*P	**Pb**	**13 08 11.7**	**+0.5**
KUR				AMB	AMB	13 08 14.0	
	20nm,0.7s						
KUR				*e*S	**Sg**	**13 08 37.7**	**+0.9**
KUR				A	A	13 08 42.6	
	40nm,0.5s						
KUR				A	A	13 08 42.6	
	40nm,0.5s						

*IDC **01** 13:57:55.6±1.2, 37°.70N×20°.42E, h0km, mb3.9/8, mbtmp3.8/12, ML3.4/2, MS2.8/3, Error ellipse: s-maj=23.7km s-min=19.4km az=149.0*
*NEIC **01** 13:57:56.9±2.7, 37°.44N±0°.07×20°.35E±0°.08, h10km±2km, mb4.4/4, Error ellipse: s-maj=13.1km s-min=9.7km az=157.0*
*ATH **01** 13:57:57.5, 37°.53N×20°.42E, h4km±3km, ML3.8/3, Error ellipse: s-maj=3.6km s-min=1.1km az=46.0*
*THE **01** 13:57:57.5, 37°.53N×20°.45E, h1km±3km, ML3.8/14, Error ellipse: s-maj=3.8km s-min=0.7km az=236.0*

ISC 01 13:57:57.1±1.2, 37°.51N±0°.03×20°.43E±0°.04, h11km±8km, n99, σ1§35/116, mb4.0/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.34**	**64**	P	**Pg**	**13 58 04.3**	**+0.2**
KRI1				S	**Sg**	**13 58 07.7**	**-1.0**
	23μm,0.3s						
LTHK	**Lithakia**	**0.38**	**58**	P	**Pg**	**13 58 04.8**	**0.0**
LTHK	**Lithakia**	**0.38**	**58**	P	**Pg**	**13 58 04.7**	**0.0**
PSDA	**Pessada-Kefalo**	**0.62**	**12**	S	**Sg**	**13 58 17.0**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.62**	**12**	P	**Pg**	**13 58 09.1**	**-0.1**
PSDA				S	**Sg**	**13 58 17.1**	**-0.2**
RTZL	**Ratzakli, Kefa**	**0.63**	**26**	P	**Pg**	**13 58 09.1**	**-0.3**
RTZL				S	**Sg**	**13 58 17.4**	**-0.2**
	19μm,0.5s						
VLS	**Valsamata**	**0.68**	**11**	P	**Pg**	**13 58 09.8**	**-0.5**
VLS				S	**Sg**	**13 58 19.0**	**-0.3**
	8μm,0.5s						
VLS	**Valsamata**	**0.68**	**11**	P	**Pg**	**13 58 10.0**	**-0.4**
VLS				S	**Sg**	**13 58 19.1**	**-0.1**
VLS				AML	AML	13 58 22.4	
	comp=N,15116μm,0.3s						
VLS				AML	AML	13 58 24.0	
	comp=E,17568μm,0.2s						
LXRA	**Lixouri, Kepha**	**0.69**	**1**	P	**Pg**	**13 58 10.6**	**+0.1**
LXRA				S	**Sg**	**13 58 19.1**	**-0.5**
LXRA				AML	AML	13 58 24.4	
	comp=E,35797μm,0.4s						
LXRA				AML	AML	13 58 24.7	
	comp=N,37765μm,0.6s						
LXR1	**Lixouri, Cepha**	**0.69**	**1**	P	**Pg**	**13 58 10.6**	**+0.1**
DMLN	**Damoulianata-K**	**0.73**	**357**	P	**Pg**	**13 58 11.1**	**-0.2**
DMLN	**Damoulianata-K**	**0.73**	**357**	P	**Pg**	**13 58 11.1**	**-0.2**
SMHA	**Samh**	**0.76**	**13**	P	**Pg**	**13 58 11.0**	**-0.8**
SMHA				S	**Sg**	**13 58 21.4**	**-0.5**
VSK1	**VASILIKIADES**	**0.91**	**7**	P	**Pg**	**13 58 13.9**	**-0.7**
VSK1				S	**Sb**	**13 58 27.4**	**+0.5**
	comp=N,9μm,0.6s						
FSK	**Fiskardo**	**0.95**	**6**	P	**Pg**	**13 58 14.7**	**-0.9**
FSK				S	**Sg**	**13 58 28.2**	**+0.2**
	comp=N,5μm,0.5s						
FSK	**Fiskardo**	**0.95**	**6**	P	**Pg**	**13 58 14.6**	**-0.9**
FSK				S	**Sg**	**13 58 28.1**	**+0.2**
FSK				AML	AML	13 58 31.5	
	comp=N,8617μm,0.7s						
FSK				AML	AML	13 58 33.4	
	comp=E,11258μm,0.3s						
RLS	**Riolos of Patr**	**0.99**	**56**	P	**Pg**	**13 58 15.1**	**-1.1**
RLS				S	**Sb**	**13 58 30.0**	**+0.7**
	comp=E,4μm,0.5s						
RLS	**Riolos of Patr**	**0.99**	**56**	P	**Pg**	**13 58 15.4**	**-0.8**
AMT	**Artemida-Makis**	**1.02**	**88**	P	**Pg**	**13 58 16.6**	**-0.1**
DRO	**Drossia**	**1.11**	**66**	P	**Pg**	**13 58 18.1**	**-0.4**
DRO	**Drossia**	**1.11**	**66**	P	**Pg**	**13 58 18.3**	**-0.2**
EVGI	**Lefkada island**	**1.12**	**9**	P	**Pg**	**13 58 17.3**	**-1.5**
EVGI				S	**Sb**	**13 58 34.1**	**+0.8**
	comp=E,5μm,0.4s						
EVGI	**Lefkada island**	**1.12**	**9**	P	**Pg**	**13 58 18.0**	**-0.8**
EVGI				S	**Sb**	**13 58 34.2**	**+1.0**
DRAG	**Dragano-Lefkad**	**1.18**	**6**	P	**Pg**	**13 58 18.8**	**-1.0**
PYL	**PYLOS**	**1.22**	**120**	P	**Pg**	**13 58 20.2**	**-0.3**
PYL				S	**Sg**	**13 58 36.5**	**+0.2**
	comp=E,3μm,0.5s						
PYL	**PYLOS**	**1.22**	**120**	P	**Pg**	**13 58 20.8**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.22**	**10**	P	**Pg**	**13 58 19.1**	**-1.5**
NYDR				S	**Sn**	**13 58 37.8**	**+1.2**
	comp=E,4μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.22**	**10**	P	**Pg**	**13 58 19.6**	**-1.0**
ITM	**Ithomi**	**1.24**	**105**	P	**Pg**	**13 58 21.0**	**0.0**
ITM				S	**Sb**	**13 58 38.3**	**+1.8**
	comp=E,2μm,0.7s						
ITM	**Ithomi**	**1.24**	**105**	P	**Pg**	**13 58 21.3**	**+0.3**
LKD2	**Lefkada island**	**1.29**	**8**	P	**Pg**	**13 58 22.0**	**0.0**
LKD2				S	**Sn**	**13 58 40.4**	**+2.0**
	comp=E,6μm,0.6s						
TSLK	**Tsoukalades, L**	**1.33**	**8**	P	**Pg**	**13 58 21.4**	**-1.2**
TSLK				S	**Sn**	**13 58 40.9**	**+1.6**
	comp=E,6μm,0.5s						
TSLK	**Tsoukalades, L**	**1.33**	**8**	P	**Pg**	**13 58 21.4**	**-1.2**
KLV	**Kalavryta, Ach**	**1.47**	**68**	P	**Pn**	**13 58 23.8**	**+0.2**
EFP	**Efpalio**	**1.48**	**51**	P	**Pn**	**13 58 23.9**	**+0.1**
EFP				S	**Sg**	**13 58 45.9**	**+1.0**
	comp=E,3μm,0.6s						
GUR	**Goura**	**1.58**	**74**	P	**Pn**	**13 58 26.0**	**+0.9**
ANX	**Ano Chora**	**1.60**	**47**	P	**Pn**	**13 58 26.1**	**+0.6**
AGG	**Agios Georgios**	**2.13**	**44**		**Pn**	**13 58 34.4**	**+1.8**
KEK	**Kerkira**	**2.25**	**348**		**Pn**	**13 58 34.4**	**0.0**
SCTE	**Santa Cesarea**	**2.98**	**330**		**Pn**	**13 58 44.1**	**-0.3**
LIT	**Litokhoron**	**3.05**	**31**		**Pn**	**13 58 46.0**	**+0.7**
TIP	**Timpagrande**	**3.33**	**301**		**Pn**	**13 58 48.8**	**-0.4**
FNA	**Florina**	**3.35**	**12**		**Pn**	**13 58 50.9**	**+1.4**
OHR	**Ohrid**	**3.61**	**4**	*i* Pn	**Pn**	**13 58 55.4**	**+2.4**
CEL	**Celeste**	**3.66**	**283**		**Pn**	**13 58 54.4**	**+0.6**
TIR	**Tirane**	**3.86**	**354**		**Pn**	**13 58 57.1**	**+0.7**
IDI	**Anoyia**	**4.23**	**120**	Pn	**Pn**	**13 59 02.5**	**+1.0**
	comp=E,2.8nm,0.4s,baz=305,slow=13,SNR=8.6						
IDI				Sn	**Sn**	**13 59 46.8**	**-4.1**
	comp=E,2.4nm,0.3s,baz=239,slow=22,SNR=3.5						
CUC	**Castrocucco**	**4.38**	**306**		**Pn**	**13 59 05.1**	**+1.6**
PUK	**Puka**	**4.55**	**355**		**Pn**	**13 59 06.3**	**+0.3**
VAE	**Valguarnera**	**4.78**	**271**	Pn	**Pn**	**13 59 10.4**	**+1.2**
	comp=E,8.2nm,0.5s,baz=90,slow=18,SNR=1.8						
VAE				Sn	**Sn**	**14 00 05.3**	**+0.6**
	comp=E,1.9nm,0.3s,baz=138,slow=12,SNR=2.6						
RAFF	**Raffo Rosso**	**4.84**	**268**		**Pn**	**13 59 10.2**	**+0.2**
PDG	**Podgorica**	**5.00**	**350**		**Pn**	**13 59 12.1**	**0.0**
PDG	**Podgorica**	**5.00**	**350**	*e*Pn	**Pn**	**13 59 11.4**	**-0.6**
WDD	**Wied Dalam**	**5.03**	**252**	Pn	**Pn**	**13 59 12.0**	**-0.5**
TREB	**Trebinje**	**5.44**	**344**	*e*Pn	**Pn**	**13 59 17.0**	**-1.1**
ALN	**Alexandroupoli**	**5.52**	**50**	Pn	**Pn**	**13 59 19.2**	**0.0**
STON	**Ston**	**5.75**	**340**	*e*Pn	**Pn**	**13 59 20.8**	**-1.5**
SJES	**Sjenica**	**5.76**	**357**	*e*Pn	**Pn**	**13 59 22.1**	**-0.5**
KARP	**Karpathos**	**5.76**	**108**	Pn	**Pn**	**13 59 22.3**	**-0.3**
RUDO	**Rudo**	**6.16**	**353**	*e*Pn	**Pn**	**13 59 26.5**	**-1.5**
BBLS	**Lazi&#263i**	**6.40**	**353**	*e*Pn	**Pn**	**13 59 30.2**	**-1.2**
HAPS	**Han Pijesak,Bl**	**6.67**	**351**	*e*Pn	**Pn**	**13 59 33.4**	**-1.7**
INTR	**Introdacqua**	**6.74**	**314**	Pn	**Pn**	**13 59 38.6**	**+2.5**
TEKS	**Tekeris**	**7.07**	**355**	*e*Pn	**Pn**	**13 59 39.4**	**-1.1**
A050A	**Klekovaca**	**7.56**	**338**	*e*Pn	**Pn**	**13 59 47.5**	**+0.1**
BLY	**Banja Luka**	**7.63**	**342**	*e*Pn	**Pn**	**13 59 51.4**	**+3.1**
NRCA	**Norcia**	**7.72**	**316**		**Pn**	**13 59 50.9**	**+1.3**
FDMO	**Fiordimonte**	**7.87**	**317**	Pn	**Pn**	**13 59 53.2**	**+1.7**
A051A	**Mrakovica**	**7.95**	**342**	*e*Pn	**Pn**	**13 59 51.5**	**-1.2**
MLR	**Muntele Rosu**	**8.98**	**26**	Pn	**Pn**	**14 00 04.5**	**-2.3**
	comp=E,0.1nm,0.3s,baz=155,slow=14,SNR=1.2						
	comp=E,1.6nm,0.7s						
CEY	**Cerknica**	**9.37**	**333**	*e*Pn	**Pn**	**14 00 12.3**	**+0.3**
SABO	**M.te Sabotino**	**9.88**	**331**	Pn	**Pn**	**14 00 19.0**	**-0.1**
OBKA	**Obir**	**10.00**	**336**	*i* Pn	**Pn**	**14 00 23.7**	**+3.0**
	comp=E,3.3nm,0.5s						
OBKA	**Obir**	**10.00**	**336**	*e*Pn	**Pn**	**14 00 20.5**	**-0.2**
SOKA	**Soboth**	**10.00**	**338**	*i* Pn	**Pn**	**14 00 20.2**	**-0.5**
	comp=E,2.0nm,0.3s						
MYKA	**Terra Mystica**	**10.41**	**333**	*i* Pn	**Pn**	**14 00 31.1**	**+4.7**
	comp=E,1.0nm,0.4s						
RONA	**Rosalia, Austr**	**10.63**	**345**	*i* Pn	**Pn**	**14 00 31.2**	**+1.9**
	comp=E,1.6nm,0.5s						
KBA	**Koelnbreinsper**	**10.90**	**334**	*i* Pn	**Pn**	**14 00 35.5**	**+2.3**
	comp=E,1.2nm,0.5s						
MOA	**Molln**	**11.28**	**338**	*i* Pn	**Pn**	**14 00 38.9**	**+0.7**
	comp=E,1.8nm,0.3s						
BIOA	**Bad Ischl, Aus**	**11.33**	**336**	*e*Pn	**Pn**	**14 00 40.1**	**+1.1**
	comp=E,1.7nm,0.4s						
LESA	**Schwarzleotal**	**11.44**	**332**	*i* Pn	**Pn**	**14 00 42.0**	**+1.6**
	comp=E,2.8nm,0.4s						
WTTA	**Wattenberg**	**11.71**	**329**	*i* Pn	**Pn**	**14 00 45.2**	**+0.9**
	comp=E,0.9nm,0.3s						
SQTA	**Sankt Quirin**	**11.85**	**328**	*e*Pn	Pn	14 00 57.6	+11
MOTA	**Moosalm**	**11.99**	**328**	*e*Pn	**Pn**	**14 00 51.4**	**+3.3**
MMAI	**Mount Meron Ar**	**13.03**	**106**	LR	LR	14 07 07.9	
	comp=E,13nm,21.6s,baz=154,slow=42						
CLL	**Collm**	**14.77**	**341**	*e*PP	**P**	**14 01 35.0**	**+3.2**
GNI	**Garni**	**19.11**	**75**	P	**P**	**14 02 20.7**	**+0.6**
GNI				IAmb	IAmb	14 02 60.0	
	comp=Z,34nm,1.4s						
GNI	**Garni**	**19.11**	**75**	LR	LR	14 10 03.5	
	comp=Z,19nm,19.9s,baz=274,slow=38						
ESDC	**Sonseca Array**	**19.18**	**284**	P	**P**	**14 02 21.7**	**+0.9**
	baz=69,slow=12,SNR=3.2						
	comp=Z,0.8nm,1.0s						
PVAQ	**Vaqueiros**	**22.31**	**278**	P	**P**	**14 02 51.5**	**-3.2**
HFS	**Hagfors**	**23.05**	**351**	P	**P**	**14 03 00.2**	**-1.9**
	comp=Z,2.3nm,0.5s,baz=163,slow=11,SNR=9.0						
	comp=Z,2.3nm,0.5s						
EKA	**Eskdalemuir Ar**	**23.93**	**326**	P	**P**	**14 03 08.9**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=187,slow=27,SNR=2.0						
	comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**24.22**	**7**	P	**P**	**14 03 11.4**	**-2.2**
	comp=Z,3.5nm,0.9s,baz=154,slow=20,SNR=2.7						
	comp=Z,3.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**29.47**	**219**	P	**P**	**14 04 01.5**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=24,slow=9.8,SNR=3.7						
	comp=Z,0.5nm,0.5s						
ARCES	**ARCESS Array B**	**32.20**	**3**	P	**P**	**14 04 23.0**	**-1.9**
	comp=Z,2.6nm,0.9s,baz=184,slow=11,SNR=5.9						
	comp=Z,2.6nm,0.9s						
KURBB	**Kurchatov Arra**	**42.69**	**53**	P	**P**	**14 05 53.7**	**-0.1**
	comp=Z,1.8nm,0.2s,baz=280,slow=9.1,SNR=2.4						
	comp=Z,1.8nm,0.2s						
MKAR	**Makanchi Array**	**45.72**	**58**	P	**P**	**14 06 16.6**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=265,slow=8.3,SNR=1.8						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**46.19**	**48**	P	**P**	**14 06 22.7**	**+0.9**
	comp=Z,1.4nm,0.4s,baz=252,slow=8.5,SNR=4.6						
	comp=Z,1.4nm,0.4s						
ANMO	**Albuquerque**	**92.66**	**319**	LR	LR	14 52 27.4	
	comp=Z,18nm,18.4s,baz=212,slow=35						

*IDC **01** 14:01:34.9±3.8, 36°.35N×71°.03E, h185km±33km, mb3.6/12, mbtmp4.1/17, Error ellipse: s-maj=23.3km s-min=14.0km az=24.0*
*MOS **01** 14:01:38.1±0.9, 36°.64N×71°.06E, h223km, mb4.1/6, Error ellipse: s-maj=12.5km s-min=5.2km az=83.2*
*NEIC **01** 14:01:38.8±0.9, 36°.62N±0°.07×71°.0E±0°.1, h213km±6km, mb4.0/11, Error ellipse: s-maj=12.6km s-min=10.0km az=88.0*
*BJI **01** 14:01:38.6, 36°.71N×71°.04E, h230km, mb4.1/11*
*NNC **01** 14:01:43.7±2.3, 37°.09N×71°.17E, h215km±18km, mb2.9, mpv4.1, Error ellipse: s-maj=20.3km s-min=12.3km az=26.0*

ISC 01 14:01:37.3±0.5, 36°.64N±0°.05×71°.06E±0°.06, h200km, n121, σ1§71/134, mb4.0/20, 13C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.43**	**346**		**Pn**	**14 02 23.0**	**+2.5**
CHGR	**Chuyangaron**	**2.52**	**324**	Pn	**Pn**	**14 02 25.5**	**+4.0**
CHGR	**Chuyangaron**	**2.52**	**324**	PN	**Pn**	**14 02 25.5**	**+4.0**
SIMJ	**Simiganj**	**2.59**	**322**	Pn	**Pn**	**14 02 24.3**	**+1.9**
KBL	**Kabul**	**2.66**	**219**	Pn	**Pn**	**14 02 25.3**	**+2.0**
KBL	**Kabul**	**2.66**	**219**	PN	**Pn**	**14 02 25.3**	**+2.0**
DRK	**Karamyk**	**2.90**	**11**		**Pn**	**14 02 28.8**	**+2.7**
DRK	**Karamyk**	**2.90**	**11**	PN	**Pn**	**14 02 28.8**	**+2.7**
BTK	**Batken**	**3.42**	**357**	Pn	**Pn**	**14 02 35.4**	**+3.4**
BTK	**Batken**	**3.42**	**357**	PN	**Pn**	**14 02 35.4**	**+3.4**
NIL	**Nilore**	**3.48**	**148**		**Pn**	**14 02 35.4**	**+2.6**
NIL	**Nilore**	**3.48**	**148**	PN	**Pn**	**14 02 35.4**	**+2.6**
SRNI	**Srinagar**	**4.00**	**128**	*e*S	**Sn**	**14 03 29.4**	**+1.9**
SRNI				IAML		14 03 30.9	
	comp=E,4μm,0.9s						
SRNI				IAML		14 03 32.0	
	comp=N,2μm,0.4s						
KSH	**Kashi**	**4.83**	**52**	P	**Pn**	**14 02 46.8**	**-2.8**
KSH				S	Sn	14 03 37.3	-9.3
JMU	**Jammu**	**5.03**	**140**	*e*P	**Pn**	**14 02 52.9**	**+0.7**
JMU				*e*S	**Sn**	**14 03 50.5**	**-0.6**
JMU				IAML		14 03 52.6	
	comp=N,836nm,0.2s						
THN	**Thein Dam**	**5.69**	**136**	*e*P	**Pn**	**14 03 02.3**	**+1.7**
THN				*e*S	**Sn**	**14 04 05.7**	**-0.6**
THN				IAML		14 04 07.2	
	comp=N,206nm,0.4s						
THN				IAML		14 04 07.4	
	comp=E,430nm,0.5s						
AML	**Almayashu**	**5.86**	**20**	P	**Pn**	**14 03 04.7**	**+1.7**
	SNR=87						
NRN	**Naryn**	**6.14**	**37**		**Pn**	**14 03 06.8**	**+0.1**
NRN	**Naryn**	**6.14**	**37**	PN	**Pn**	**14 03 06.8**	**+0.1**
DHRM	**DHARAMSHALA**	**6.16**	**134**	*e*P	**Pn**	**14 03 08.2**	**+1.4**
DHRM				IAML		14 04 16.6	
	comp=E,543nm,0.8s						
DHRM				*e*S	**Sn**	**14 04 17.3**	**-0.4**
DHRM				IAML		14 04 19.3	
	comp=E,413nm,0.3s						
UCH	**Uchtor**	**6.19**	**25**	P	**Sn**	**14 04 17.3**	**-1.4**
	SNR=16						
EKS2	**Erkin-Say**	**6.37**	**18**	P	**Pn**	**14 03 11.5**	**+2.0**
	SNR=43						
KK31	**Karatay Array**	**6.47**	**356**	⇓P	**Pn**	**14 03 11.5**	**+0.9**
	comp=E,11nm,0.3s,baz=178,slow=12,SNR=200						
KK31				⇑S	**Sn**	**14 04 21.1**	**-3.5**
	comp=E,31nm,0.4s,baz=186,slow=26,SNR=8.9						
KK31	**Karatay Array**	**6.47**	**356**	PN	**Pn**	**14 03 11.5**	**+0.9**
KKAR	**Karatay Array**	**6.47**	**356**		**Pn**	**14 03 11.8**	**+1.2**
KKAR	**Karatay Array**	**6.47**	**356**		**Pn**	**14 03 11.8**	**+1.2**
KKAR	**Karatay Array**	**6.47**	**356**	PN	**Pn**	**14 03 11.8**	**+1.2**
AAK	**Ala-Archa**	**6.55**	**23**	P	**Pn**	**14 03 13.9**	**+2.1**
	SNR=17						
AAK	**Ala-Archa**	**6.55**	**23**	Pn	**Pn**	**14 03 13.7**	**+1.8**
AAK	**Ala-Archa**	**6.55**	**23**	P	**Pn**	**14 03 13.1**	**+1.2**
	comp=E,10nm,0.4s,baz=178,slow=5.9,SNR=40						
AAK				S	**Sn**	**14 04 27.0**	**+0.3**
	comp=E,16nm,0.4s,baz=120,slow=20,SNR=17						
AAK	**Ala-Archa**	**6.55**	**23**	*d i* PN	**Pn**	**14 03 13.6**	**+1.8**
KBK	**Karagaybulak**	**6.72**	**25**	P	**Pn**	**14 03 15.9**	**+2.0**
	SNR=11						
BHK	**Bhakra**	**6.85**	**138**	*e*P	**Pn**	**14 03 17.0**	**+1.4**
BHK				*e*S	**Sn**	**14 04 33.6**	**0.0**
ULHL	**Ulahol**	**6.89**	**34**	P	**Pn**	**14 03 18.4**	**+2.2**
	SNR=9.9						
BOOM	**Boomskoye usch**	**6.96**	**31**	Pn	**Pn**	**14 03 18.7**	**+1.6**
BOOM	**Boomskoye usch**	**6.96**	**31**	PN	**Pn**	**14 03 18.7**	**+1.6**
CHMS	**Chumysh**	**6.96**	**23**	P	**Pn**	**14 03 19.4**	**+2.4**
	SNR=6.0						
CHMS	**Chumysh**	**6.96**	**23**	⇓P	**Pn**	**14 03 18.6**	**+1.6**
	comp=E,2.7nm,0.3s						
CHMS				⇑S	**Sn**	**14 04 33.8**	**-2.3**
	comp=E,10nm,0.7s						
CHMS	**Chumysh**	**6.96**	**23**	PN	**Pn**	**14 03 18.6**	**+1.6**
USP	**Ospenovka**	**7.13**	**21**	P	**Pn**	**14 03 20.6**	**+1.4**
	SNR=16						
TKM2	**Tokmak 2**	**7.18**	**28**	P	**Pn**	**14 03 21.7**	**+1.7**
	SNR=7.9						
TKM2	**Tokmak 2**	**7.18**	**28**	⇑P	**Pn**	**14 03 21.6**	**+1.6**
	comp=E,3.9nm,0.4s						
TKM2				⇓S	**Sn**	**14 04 37.5**	**-4.1**
	comp=E,17nm,0.9s						
TKM2	**Tokmak 2**	**7.18**	**28**	PN	**Pn**	**14 03 21.6**	**+1.6**
SMLA	**Simla**	**7.48**	**135**	*e*P	**Pn**	**14 03 24.4**	**+0.6**
SMLA				*e*S	**Sn**	**14 04 44.8**	**-3.7**
SMLA				IAML		14 04 46.9	
	comp=E,178nm,0.1s						
SMLA				IAML		14 04 48.3	
	comp=E,95nm,0.1s						
HRA	**Herat**	**7.53**	**255**	Pn	**Pn**	**14 03 26.0**	**+1.3**
HNLY	**HANLEY**	**7.57**	**118**	*e*P	**Pn**	**14 03 26.4**	**+0.9**
KLP	**Kalpa**	**7.84**	**128**	*e*P	**Pn**	**14 03 29.4**	**+0.6**
KLP				*e*S	**Sn**	**14 04 52.1**	**-5.4**
MDOK	**Medeo**	**7.98**	**33**	P	**Pn**	**14 03 31.1**	**+0.8**
	comp=E,12nm,0.8s						
MDOK	**Medeo**	**7.98**	**33**	PN	**Pn**	**14 03 31.1**	**+0.8**
PDGK	**Podgornoye**	**9.30**	**41**	P	**Pn**	**14 03 47.8**	**+0.3**
	comp=E,5.0nm,0.8s						
PDGK	**Podgornoye**	**9.30**	**41**	P	**Pn**	**14 03 47.8**	**+0.3**
JOSI	**Joshimath**	**9.33**	**128**	*e*P	**Pn**	**14 03 48.4**	**+0.3**
NDI	**New Delhi**	**9.48**	**145**	*e*P	**Pn**	**14 03 49.6**	**-0.2**
NDI				IAML		14 03 51.2	
	comp=N,50nm,0.1s						
KUDL	**Kundal**	**9.63**	**150**	*e*P	**Pn**	**14 03 51.1**	**-0.7**
KUDL				IAML		14 03 52.1	
	comp=N,23nm,0.3s						
KUDL				IAML		14 03 52.6	
	comp=E,20nm,0.4s						
KUDL				*e*S	Sn	14 05 30.9	-8.7
MAKZ	**Makanchi**	**13.02**	**35**	⇓P	**Pn**	**14 04 34.4**	**-0.5**
	comp=E,3.5nm,0.9s						
MAKZ	**Makanchi**	**13.02**	**35**		**Pn**	**14 04 35.6**	**+0.7**
MAKZ	**Makanchi**	**13.02**	**35**	P	**Pn**	**14 04 35.6**	**+0.7**
MK31	**Makanchi Array**	**13.15**	**36**	⇓P	**Pn**	**14 04 37.3**	**+0.7**
	comp=E,0.5nm,0.5s,baz=199,slow=29,SNR=22						
MK31	**Makanchi Array**	**13.15**	**36**	Pn	**Pn**	**14 04 36.9**	**+0.3**
MK31	**Makanchi Array**	**13.15**	**36**	⇑*e*P	**Pn**	**14 04 37.3**	**+0.7**
MKAR	**Makanchi Array**	**13.15**	**36**	Pn	**Pn**	**14 04 37.6**	**+1.1**
MKAR	**Makanchi Array**	**13.15**	**36**	P	**Pn**	**14 04 37.5**	**+0.9**
	comp=E,0.5nm,0.3s,baz=204,slow=10,SNR=16						
MKAR	**Makanchi Array**	**13.15**	**36**	P	**Pn**	**14 04 37.7**	**+1.1**
WMQ	**Urumqi**	**14.58**	**55**	*e*P	**Pn**	**14 04 56.7**	**+2.3**
KURBB	**Kurchatov Arra**	**14.98**	**19**	⇑P	**Pn**	**14 04 59.4**	**+0.3**
	comp=E,3.7nm,1.0s						
KURBB	**Kurchatov Arra**	**14.98**	**19**	P	**Pn**	**14 04 59.8**	**+0.7**
	comp=E,1.4nm,0.2s,baz=207,slow=10,SNR=4.0						
KURBB	**Kurchatov Arra**	**14.98**	**19**	P	**Pn**	**14 04 59.4**	**+0.3**
AB31	**Akbulak array**	**14.99**	**331**	⇓P	**Pn**	**14 04 58.7**	**-0.5**
	comp=E,3.6nm,0.4s,baz=140,slow=14,SNR=66						
AB31				⇓S	**S**	**14 07 45.0**	**-0.4**
	comp=E,1.4nm,0.5s,baz=155,slow=22,SNR=4.5						
AB31	**Akbulak array**	**14.99**	**331**	P	**Pn**	**14 04 58.7**	**-0.5**
AB31				S	**S**	**14 07 45.1**	**-0.4**
KURK	**Kurchatov**	**15.09**	**19**	⇑P	**Pn**	**14 04 58.7**	**-1.7**
	comp=E,2.7nm,1.1s						
KURK	**Kurchatov**	**15.09**	**19**	Pn	**Pn**	**14 04 58.9**	**-1.4**
KURK	**Kurchatov**	**15.09

L18K	**Granite Mounta**	**74.25**	**21**	P	**P**	**14 12 51.6**	**-0.4**
L18K				IAmb	IAmb	14 13 06.6	
	comp=Z,1.8nm,0.9s						
COLA	**College**	**74.33**	**16**	⇑*i*P	P	14 12 49.0	-3.4
COLA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CAST	**Castle Rocks**	**74.54**	**19**	P	**P**	**14 12 53.9**	**+0.2**
CAST				IAmb	IAmb	14 12 55.6	
	comp=Z,4.6nm,1.0s						
ILAR	**Eielson Array**	**74.64**	**16**	P	**P**	**14 12 54.0**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=327,slow=4.6,SNR=9.1						
	comp=Z,0.7nm,0.7s						
YKA	**Yellowknife Ar**	**81.11**	**3**	*i*P	**P**	**14 13 31.2**	**+1.4**
WRA	**Warramunga Arr**	**82.02**	**122**	P	**P**	**14 13 33.7**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=324,slow=4.9,SNR=24						
	comp=Z,1.3nm,0.7s						
WRA	**Warramunga Arr**	**82.02**	**122**	*i*P	**P**	**14 13 33.9**	**-1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**84.30**	**125**	P	**P**	**14 13 45.5**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=308,slow=5.0,SNR=30						
	comp=Z,1.8nm,0.7s						
PLCA	**Paso Flores**	**149.92**	**250**	PKPbc	**PKPbc**	**14 21 03.2**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=183,slow=2.2,SNR=3.7						

*IDC **01** 14:09:23.7±1.0, 15°.12S×66°.88E, h0km, mb3.8/11, mbtmp3.8/11, MS3.3/4, Error ellipse: s-maj=34.1km s-min=22.2km az=68.0*

ISC 01 14:09:26.3±1.0, 15°.11S±0°.2×66°.9E±0°.2, h16km, n23, σ0s86/13, mb3.8/12, MS3.2/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.25**	**37**	T	T	14 20 59.7	
	baz=216,slow=75,SNR=119						
H08S2	**Diego Garcia H**	**9.26**	**37**	T	T	14 21 00.7	
	baz=216,slow=75,SNR=228						
H08S3	**Diego Garcia H**	**9.27**	**37**	T	T	14 20 58.9	
	baz=216,slow=75,SNR=199						
KMBO	**Kilima Mbogo**	**32.38**	**293**	LR	LR	14 27 08.7	
	comp=Z,34nm,18.4s,baz=87,slow=33						
H04N2	**CROZET ISLANDS**	**33.42**	**199**	T	T	14 51 30.9	
	baz=28,slow=75,SNR=28						
H04N1	**CROZET ISLANDS**	**33.43**	**199**	T	T	14 51 35.9	
	baz=28,slow=75,SNR=25						
H04N3	**CROZET ISLANDS**	**33.44**	**199**	T	T	14 51 40.3	
	baz=28,slow=75,SNR=28						
MBAR	**Mbarara**	**38.49**	**289**	LR	LR	14 29 54.1	
	comp=Z,62nm,18.8s,baz=130,slow=32						
LBTB	**Lobatse**	**39.86**	**249**	LR	LR	14 32 13.1	
	comp=Z,43nm,18.0s,baz=88,slow=34						
BRDH	**Bariadhala**	**44.73**	**33**	LR	LR	14 37 17.0	
	comp=Z,26nm,18.8s,baz=322,slow=37						
CMAR	**Chiang Mai Arr**	**45.96**	**45**	P	**P**	**14 17 50.0**	**+1.1**
	0.4nm,0.5s,baz=240,slow=9.0,SNR=4.3						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**63.18**	**12**	P	**P**	**14 19 53.5**	**0.0**
	0.6nm,0.8s,baz=243,slow=8.0,SNR=4.3						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**63.32**	**109**	P	**P**	**14 19 54.1**	**-1.0**
	0.7nm,0.9s,baz=264,slow=6.7,SNR=6.1						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**64.15**	**105**	P	**P**	**14 20 00.6**	**0.0**
	1.3nm,0.9s,baz=270,slow=6.3,SNR=8.8						
	1.3nm,0.9s						
KURBB	**Kurchatov Arra**	**66.26**	**8**	P	**P**	**14 20 13.3**	**-0.2**
	0.9nm,0.2s,baz=201,slow=4.8,SNR=1.8						
BVAR	**Borovoye Array**	**67.94**	**2**	P	**P**	**14 20 24.2**	**+0.1**
	1.6nm,0.8s,baz=175,slow=6.7,SNR=6.2						
	1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**70.49**	**11**	P	**P**	**14 20 39.6**	**-0.3**
	0.7nm,0.7s,baz=197,slow=4.5,SNR=3.5						
	0.7nm,0.7s						
SONM	**Songino Array**	**71.93**	**27**	P	**P**	**14 20 49.8**	**+0.9**
	0.6nm,0.6s,baz=235,slow=4.6,SNR=1.9						
	0.6nm,0.6s						
AKASG	**Malin Array Be**	**73.37**	**336**	P	**P**	**14 20 57.8**	**+0.6**
	0.2nm,0.3s,baz=134,slow=5.3,SNR=1.6						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**74.95**	**180**	P	**P**	**14 21 07.5**	**+0.9**
	1.7nm,1.0s,baz=334,slow=3.2,SNR=6.3						
	1.7nm,1.0s						
KSRS	**Korea Array**	**77.59**	**45**	P	**P**	**14 21 20.4**	**-1.3**
	0.5nm,0.5s,baz=226,slow=6.7,SNR=4.7						
	0.5nm,0.5s						
ESDC	**Sonseca Array**	**85.42**	**313**	P	**P**	**14 22 02.7**	**-0.7**
	0.3nm,0.7s,baz=151,slow=11,SNR=1.1						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**152.28**	**354**	PKPbc	**PKPbc**	**14 29 21.1**	**-0.9**
	0.3nm,0.7s,baz=347,slow=6.1,SNR=3.2						

CATAC 01 14:09:37.1±0.6, 10°.45N×87°.10W, h15km±7km, ML3.8, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADN	**Granada**	**1.66**	**39**	*i*P	Pn	14 10 05.2	-0.6
NADN				*i*S	Sb	14 10 27.8	-0.5
NADN				IAML		14 10 35.9	
	comp=Z,2μm,1.0s						
RA5A7	**El Crucero**	**1.72**	**27**	*i*P	Pn	14 10 06.1	-0.5
RA5A7				IAML		14 10 16.0	
	comp=Z,4μm,1.0s						
CARN	**Rivas**	**1.72**	**65**	*i*P	Pn	14 10 06.7	+0.2
CARN				IAML		14 10 47.3	
	comp=Z,770nm,1.0s						
SABN	**Sabanita**	**1.76**	**32**	*i*P	Pn	14 10 07.4	+0.3
SABN				IAML		14 10 19.4	
	comp=Z,4μm,1.0s						
JAPN	**Al SSO del Vol**	**1.76**	**53**	*i*P	Pn	14 10 07.1	0.0
JAPN				IAML		14 10 14.2	
	comp=Z,760nm,1.0s						
JAPN				*i*S	Sn	14 10 29.9	+0.6
NANN	**Nandasmo**	**1.77**	**33**	*i*P	Pn	14 10 07.4	+0.2
NANN				IAML		14 10 19.5	
	comp=Z,18μm,1.0s						
NANN				*i*S	Sn	14 10 30.2	+0.8
COPN	**Copaltepe**	**1.79**	**16**	*i*P	Pn	14 10 07.1	-0.4
COPN				IAML		14 10 28.6	
	comp=Z,320nm,1.0s						
MASN	**Masaya**	**1.79**	**31**	*i*P	Pn	14 10 07.8	+0.3
MASN				*i*S	Sn	14 10 30.9	+0.8
MASN				IAML		14 10 38.4	
	comp=Z,290nm,1.0s						
MORN	**Al O del Volca**	**1.80**	**53**	*i*P	Pn	14 10 07.4	-0.2
MORN				IAML		14 10 14.4	
	comp=Z,120nm,1.0s						
MORN				*i*S	Sn	14 10 30.4	+0.2
MAS3	**Al N del Volca**	**1.81**	**30**	*i*P	Pn	14 10 07.0	-0.8
MAS3				IAML		14 10 24.7	
	comp=Z,700nm,1.0s						
MAS3				*i*S	Sn	14 10 30.9	+0.4
CONN	**Concepcion**	**1.82**	**53**	*i*P	Pn	14 10 07.7	-0.3
CONN				IAML		14 10 14.7	
	comp=Z,4μm,1.0s						
CONN				*i*S	Sn	14 10 31.9	+1.0
SAPS	**Ciudad Sandino**	**1.84**	**22**	*i*P	Pn	14 10 07.8	-0.4
SAPS				*i*S	Sb	14 10 32.4	-1.0
SAPS				IAML		14 10 38.0	
	comp=Z,770nm,1.0s						
UNAN	**Cigeo UNAN**	**1.84**	**26**	*i*P	Pn	14 10 07.8	-0.4
UNAN				IAML		14 10 17.8	
	comp=Z,3μm,1.0s						
UNAN				*i*S	Sn	14 10 31.8	+0.5
MGAN	**Managua**	**1.88**	**26**	*i*P	Pn	14 10 08.5	-0.3
MGAN				IAML		14 10 16.1	
	comp=Z,760nm,1.0s						
MGAN				*i*S	Sb	14 10 33.7	-0.9
R4DEC	**Barrio San Lui**	**1.89**	**26**	*i*P	Pn	14 10 08.7	-0.1
R4DEC				IAML		14 10 16.1	
	comp=Z,760nm,1.0s						
R4DEC				*i*S	Sn	14 10 33.3	+1.0
APQ2	**Apoyeque**	**1.90**	**24**	*i*P	Pn	14 10 08.6	-0.4
APQ2				*i*S	Sn	14 10 33.0	+0.4
APQ2				IAML		14 10 35.0	
	comp=Z,490nm,1.0s						
APYN	**Apoyeque**	**1.92**	**23**	*i*S	Sn	14 10 33.7	+0.5
WILN	**Americas 2**	**1.92**	**28**	*i*P	Pn	14 10 08.7	-0.6
WILN				IAML		14 10 22.1	
	comp=Z,460nm,1.0s						
WILN				*i*S	Sn	14 10 34.1	+0.9
MACN	**El Madrono**	**2.05**	**12**	*i*P	Pn	14 10 11.3	+0.2
MACN				*i*S	Sn	14 10 36.6	+0.2
MACN				IAML		14 10 37.1	
	comp=Z,220nm,1.0s						
MOM2	**El Cardon**	**2.06**	**17**	*i*P	Pn	14 10 11.4	+0.1
MOM2				IAML		14 10 27.0	
	comp=Z,310nm,1.0s						
MOM2				*i*S	Sn	14 10 37.2	+0.4
CNGA	**Al SSO del Vol**	**2.07**	**11**	*i*P	Pn	14 10 11.6	+0.2
CNGA				IAML		14 10 37.4	
	comp=Z,350nm,1.0s						
PKGN	**Cerro Pekin**	**2.21**	**3**	*i*P	Pn	14 10 14.0	+0.8
PKGN				IAML		14 10 47.1	
	comp=Z,510nm,1.0s						
CRIN	**San Cristobal**	**2.24**	**1**	*i*P	Pn	14 10 14.5	+0.8
CRIN				*i*S	Sn	14 10 41.4	+0.3
CRIN				IAML		14 10 51.6	
	comp=Z,490nm,1.0s						
DRK0	**Durika**	**3.98**	**107**	*i*S	Sn	14 11 25.0	+0.6

*JMA **01** 14:11:42.8±0.2, 24°.1N±0°.8×122°.7E±0°.5, h14km±2km, MV3.3/14, NW OFF ISHIGAKIJIMA IS TAP **01** 14:11:42.5, 24°.10N×122°.68E, h24km, ML3.5, D*

ISC 01 14:11:42.1±0.9, 24°.04N±0°.02×122°.67E±0°.02, h17km±8km, n133, σ0s92/258, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.33**	**284**	*e*P	**Pg**	**14 11 49.1**	**+0.1**
EOS4				*e*S	**Sb**	**14 11 55.8**	**+1.5**
EOS3	**EOS3**	**0.41**	**307**	*e*P	**Pg**	**14 11 50.5**	**+0.1**
EOS3				*e*S	**Sb**	**14 11 56.9**	**+0.2**
JYNG	**Yonagunijimaku**	**0.48**	**31**	P	**Pg**	**14 11 51.7**	**-0.1**
JYNG				S	**Sg**	**14 11 58.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.52**	**36**	P	**Pg**	**14 11 52.5**	**0.0**
YOJ	**Yonaguni jima**	**0.52**	**36**	P	**Pb**	**14 11 52.6**	**-0.2**
YOJ				*e*S	**Sb**	**14 11 59.4**	**-0.6**
YOJ	**Yonaguni jima**	**0.52**	**36**	*i*P	**Pg**	**14 11 52.5**	**0.0**
YOJ				S	**Sb**	**14 11 59.4**	**-0.6**
EOS2	**EOS2**	**0.55**	**313**	*e*P	**Pg**	**14 11 53.5**	**+0.4**
EOS2				*e*S	**Sn**	**14 12 02.0**	**-1.9**
EAHA	**Aohua**	**0.90**	**289**	*i*P	**Pb**	**14 11 58.7**	**-0.6**
EAHA				S	**Sn**	**14 12 12.8**	**+0.2**
EWUT	**Wuta**	**0.91**	**296**	*i*P	**Pb**	**14 11 58.8**	**-0.7**
EWUT				*i*S	**Sb**	**14 12 11.3**	**0.0**
ESAO	**Su ao**	**0.93**	**305**	*i*P	**Pb**	**14 11 59.3**	**-0.4**
ESAO				*i*S	**Sb**	**14 12 11.0**	**-0.7**
ENA	**Nanau**	**0.93**	**294**	*i*P	**Pb**	**14 11 58.9**	**-0.9**
ENA				*i*S	**Sb**	**14 12 11.9**	**-0.1**
TWC	**Suao**	**0.94**	**307**	*i*P	**Pb**	**14 11 59.1**	**-0.9**
TWC				S	**Sb**	**14 12 11.3**	**-0.8**
ETL	**Fush Village**	**0.97**	**277**	*i*P	**Pn**	**14 12 01.2**	**+0.2**
ETL				S	**Sn**	**14 12 15.7**	**+1.4**
TWD	**Chiawan**	**0.99**	**272**	*i*P	**Pb**	**14 12 00.8**	**0.0**
TWD				*i*S	**Sb**	**14 12 14.0**	**+0.6**
NACB	**Ninganchiao**	**0.99**	**278**	P	**Pb**	**14 12 01.0**	**+0.1**
NACB	**Ninganchiao**	**0.99**	**278**	*i*P	**Pb**	**14 12 01.0**	**+0.1**
NACB				S	**Sb**	**14 12 14.5**	**+0.7**
IRIF	**Iriomote-Funau**	**1.01**	**73**	P	**Pb**	**14 12 01.4**	**+0.3**
IRIF				*e*S	**Sg**	**14 12 16.8**	**-0.1**
HATJ	**Hateruma jima**	**1.03**	**89**	P	**Pb**	**14 12 02.0**	**+0.4**
HATJ				*e*S	**Sg**	**14 12 16.3**	**+0.5**
EGS		**1.05**	**320**	*i*P	**Pg**	**14 12 02.3**	**-0.2**
EGS				S	**Sg**	**14 12 16.2**	**0.0**
SHUL	**Shoufeng**	**1.05**	**256**	*i*P	**Pb**	**14 12 01.6**	**-0.2**
SHUL				S	**Sb**	**14 12 16.3**	**+1.1**
ETM	**Tongmen**	**1.08**	**266**	*i*P	**Pb**	**14 12 02.0**	**-0.4**
ETM				S	**Sb**	**14 12 16.5**	**+0.2**
ETLH	**Xiulin Townshi**	**1.10**	**279**	*i*P	**Pb**	**14 12 03.0**	**+0.2**
ETLH				S	**Sn**	**14 12 17.6**	**-0.1**
ILA	**Ilan**	**1.11**	**311**	*i*P	**Pb**	**14 12 02.5**	**-0.3**
ILA				*i*S	**Sg**	**14 12 18.3**	**+0.1**
TWE	**Neicheng**	**1.14**	**307**	*i*P	**Pn**	**14 12 02.8**	**-0.5**
TWE				*i*S	**Sb**	**14 12 17.7**	**-0.2**
TWB1	**Santiao Chiao**	**1.15**	**327**	*i*P	**Pn**	**14 12 03.1**	**-0.3**
TWB1				S	**Sn**	**14 12 18.0**	**-0.7**
LXIB	**Xiulin Townshi**	**1.15**	**269**	*i*P	**Pn**	**14 12 03.4**	**-0.2**
LXIB				S	**Sn**	**14 12 19.4**	**+0.3**
LATG	**Datong**	**1.16**	**295**	*i*P	**Pn**	**14 12 03.4**	**-0.2**
LATG				S	**Sn**	**14 12 18.8**	**-0.3**
ESL	**Shilin**	**1.16**	**259**	*i*P	**Pn**	**14 12 02.4**	**-1.2**
ESL				S	**Sb**	**14 12 18.7**	**+0.3**
ENTT	**Nioudou**	**1.17**	**301**	*i*P	**Pn**	**14 12 03.5**	**-0.3**
ENTT				*i*S	**Sn**	**14 12 19.1**	**-0.3**
EGFH	**Guangfu**	**1.20**	**252**	*i*P	**Pn**	**14 12 03.9**	**-0.2**
EGFH				*i*S	**Sb**	**14 12 20.4**	**+0.8**
TIPB	**Shuangxi**	**1.21**	**320**	*i*P	**Pb**	**14 12 04.8**	**+0.2**
TIPB				*i*S	**Sn**	**14 12 19.6**	**-0.7**
FUSB	**Fushanzhiwuyua**	**1.22**	**306**	*i*P	**Pb**	**14 12 05.1**	**+0.2**
FUSB				S	**Sn**	**14 12 20.4**	**-0.3**
WARBT	**Fenglin Townsh**	**1.22**	**255**	*i*P	**Pn**	**14 12 03.7**	**-0.8**
WARBT				S	**Sb**	**14 12 20.8**	**+0.5**
JKRS	**Kuro-shima**	**1.24**	**81**	*i*P	**Pn**	**14 12 05.7**	**+0.7**
JKRS				*e*S	**Sg**	**14 12 22.4**	**+0.2**
NNSB	**Datong**	**1.24**	**288**	*i*P	**Pb**	**14 12 05.4**	**+0.3**
NNSB				S	**Sg**	**14 12 22.2**	**-0.1**
NNSH	**Datong**	**1.24**	**288**	*i*P	**Pb**	**14 12 05.3**	**+0.1**
NNSH				*i*S	**Sg**	**14 12 21.9**	**-0.4**
NNS	**Nan Shan**	**1.25**	**289**	*i*P	**Pb**	**14 12 05.4**	**0.0**
NNS				*i*S	**Sn**	**14 12 22.2**	**+0.7**
HGSD	**Ruisui**	**1.27**	**245**	*i*P	**Pn**	**14 12 04.4**	**-0.7**
HGSD				*i*S	**Sn**	**14 12 21.0**	**-0.7**
SXI1	**Grass Mountain**	**1.27**	**325**	*i*P	**Pb**	**14 12 05.5**	**-0.3**
SXI1				*e*S	**Sb**	**14 12 21.4**	**-0.5**
WHF	**Hehuan Shan**	**1.29**	**275**	*i*P	**Pn**	**14 12 06.2**	**+0.4**
WHF				*i*S	**Sn**	**14 12 23.4**	**+0.5**
NWLT	**Wulai**	**1.29**	**305**	*i*P	**Pb**	**14 12 06.3**	**+0.3**
NWLT				*i*S	**Sn**	**14 12 22.0**	**-0.4**
NWF	**Wu-fen Shan**	**1.31**	**322**	*i*P	**Pn**	**14 12 05.4**	**-0.3**
NWF				*e*S	**Sb**	**14 12 22.3**	**-0.6**
WFSB	**Wu-fen Shan**	**1.31**	**322**	*e*P	**Pn**	**14 12 05.4**	**-0.2**
WFSB				*e*S	**Sn**	**14 12 21.9**	**-0.8**
FUSS	**Fushou**	**1.32**	**279**	*i*P	**Pn**	**14 12 06.3**	**+0.6**
FUSS				*e*S	**Sb**	**14 12 24.2**	**+0.8**
ECBN	**Changbin**	**1.33**	**237**	*i*P	**Pn**	**14 12 05.4**	**-0.6**
ECBN				*i*S	**Sn**	**14 12 22.4**	**-0.9**
EHYH	**Wanrong**	**1.33**	**246**	*i*P	**Pn**	**14 12 06.0**	**+0.1**
EHYH				*i*S	**Sn**	**14 12 23.4**	**+0.1**
YHNB	**Yeheng**	**1.34**	**298**	*i*P	**Pb**	**14 12 07.0**	**+0.2**
YHNB				*i*S	**Sb**	**14 12 24.1**	**+0.4**
EHY	**Hungye**	**1.35**	**247**	*i*P	**Pn**	**14 12 05.7**	**-0.5**
EHY				*i*S	**Sn**	**14 12 23.4**	**-0.3**
NSK	**Sanguang**	**1.36**	**298**	*i*P	**Pb**	**14 12 07.3**	**+0.2**
NSK				*i*S	**Sb**	**14 12 24.2**	**0.0**
TWA	**Mucha**	**1.36**	**313**	*i*P	**Pb**	**14 12 07.0**	**-0.2**
TWA				*i*S	**Sb**	**14 12 23.9**	**-0.5**
OWD	**Renai**	**1.37**	**267**	*i*P	**Pn**	**14 12 06.5**	**-0.1**
OWD				S	**Sn**	**14 12 24.9**	**+0.4**
JIJ	**Ishigaki jima**	**1.38**	**76**	P	**Pn**	**14 12 07.0**	**+0.4**
JIJ				*e*S	**Sb**	**14 12 25.1**	**+0.3**
TDCB	**Techi**	**1.40**	**279**	*i*P	**Pn**	**14 12 07.4**	**+0.4**
TDCB				*e*S	**Sn**	**14 12 25.5**	**+0.3**
YULB	**Yu-li**	**1.42**	**243**	P	**Pn**	**14 12 06.7**	**-0.5**
YULB	**Yu-li**	**1.42**	**243**	*i*P	**Pn**	**14 12 06.9**	**-0.3**
YULB				*i*S	**Sn**	**14 12 25.2**	**-0.2**
EYUL	**Yuli**	**1.42**	**241**	*i*P	**Pn**	**14 12 07.0**	**-0.2**
EYUL				*i*S	**Sn**	**14 12 25.0**	**-0.5**
WUSB	**Renai**	**1.42**	**268**	*i*P	**Pn**	**14 12 07.6**	**+0.3**
WUSB				S	**Sb**	**14 12 27.3**	**+1.1**
TATO	**Taipei**	**1.43**	**311**	P	**Pg**	**14 12 09.2**	**-0.4**
CHKH	**Chenggong**	**1.45**	**234**	*i*P	**Pn**	**14 12 06.9**	**-0.6**
CHKH				*i*S	**Sn**	**14 12 23.8**	**-2.3**
YM01	**YM01**	**1.49**	**318**	*i*P	**Pb**	**14 12 09.8**	**+0.4**
YM01				S	**Sn**	**14 12 26.6**	**-0.7**
YM08	**YM08**	**1.51**	**319**	*i*P	**Pb**	**14 12 09.4**	**-0.3**
YM08				*e*S	**Sn**	**14 12 27.4**	**-0.3**
ZUZH	**Zhuzihu**	**1.52**	**318**	*i*P	**Pb**	**14 12 09.3**	**-0.6**
ZUZH				S	**Sn**	**14 12 27.4**	**-0.5**
FULB	**Fuli**	**1.52**	**237**	*i*P	**Pn**	**14 12 07.6**	**-1.0**
FULB				*i*S	**Sn**	**14 12 27.0**	**-1.0**
NFF	**Wufeng Townshi**	**1.54**	**293**	*i*P	**Pb**	**14 12 10.3**	**+0.1**
NFF				S	**Sg**	**14 12 31.1**	**-0.7**
ANP	**Anpu**	**1.55**	**318**	P	**Pn**	**14 12 09.6**	**+0.6**
ANP				*e*S	**Sn**	**14 12 27.1**	**-1.7**
KSHI	**Guanxi Townshi**	**1.55**	**298**	*i*P	**Pb**	**14 12 11.0**	**+0.6**
KSHI				*e*S	**Sb**	**14 12 29.9**	**+0.2**
TWS1	**Kuangyinshan**	**1.56**	**313**	*i*P	**Pb**	**14 12 10.2**	**-0.3**
TWS1				S	**Sb**	**14 12 29.9**	**+0.1**
WPL	**Puli Township**	**1.57**	**269**	*e*P	**Pb**	**14 12 10.8**	**+0.1**
WPL				*e*S	**Sn**	**14 12 29.9**	**+0.8**
NTST	**Danshui**	**1.58**	**315**	*e*P	**Pn**	**14 12 09.1**	**-0.2**
NTST				*e*S	**Sn**	**14 12 29.4**	**0.0**
JISG	**Ishigakijimahi**	**1.59**	**70**	P	**Pn**	**14 12 09.8**	**+0.3**
SSLB	**Suanglung**	**1.59**	**261**	P	**Pn**	**14 12 10.8**	**+1.2**
SSLB	**Suanglung**	**1.59**	**261**	*i*P	**Pn**	**14 12 10.0**	**+0.4**
SSLB				*e*S	**Sn**	**14 12 30.8**	**+1.0**
WHP	**Taichung City**	**1.60**	**279**	*i*P	**Pn**	**14 12 10.7**	**+1.1**
WHP				*i*S	**Sb**	**14 12 31.1**	**-0.1**
DPDB	**Guoxing**	**1.60**	**270**	*i*P	**Pn**	**14 12 10.6**	**+0.9**
DPDB				*e*S	**Sb**	**14 12 31.9**	**+0.7**
WCS	**Beigang Elemen**	**1.61**	**271**	*i*P	**Pn**	**14 12 10.6**	**+0.8**
WCS				*e*S	**Sb**	**14 12 32.4**	**+0.9**
EHD	**Haiduan**	**1.61**	**237**	*i*P	**Pn**	**14 12 09.5**	**-0.3**
EHD				*i*S	**Sn**	**14 12 28.8**	**-1.5**
LIOB	**Emei**	**1.63**	**292**	*i*P	**Pb**	**14 12 12.1**	**+0.4**
LIOB				S	**Sb**	**14 12 32.4**	**+0.4**
SMLT	**Sun Moon Lake**	**1.63**	**265**	*i*P	**Pn**	**14 12 10.8**	**+0.6**
SMLT				S	**Sn**	**14 12 31.2**	**+0.4**
ECS	**Chishang**	**1.63**	**235**	*i*P	**Pn**	**14 12 10.2**	**+0.1**
ECS				*i*S	**Sn**	**14 12 31.7**	**+0.9**
NSTT	**Nanjuang**	**1.63**	**291**	*i*P	**Pb**	**14 12 12.4**	**+0.5**
NSTT				*i*S	**Sg**	**14 12 34.0**	**-0.9**
NCUH	**Zhongli**	**1.64**	**305**	*i*P	**Pb**	**14 12 11.9**	**0.0**
NCUH				*e*S	**Sb**	**14 12 32.7**	**+0.4**
EDH	**Donghe**	**1.65**	**230**	*i*P	**Pn**	**14 12 09.2**	**-1.0**
EDH				*i*S	**Sn**	**14 12 29.1**	**-2.0**
TYC	**Yuchr**	**1.67**	**266**	*i*P	**Pn**	**14 12 11.1**	**+0.5**
TYC				*e*S	**Sb**	**14 12 33.3**	**+0.2**
WHYT	**Xinyi Township**	**1.70**	**259**	*i*P	**Pn**	**14 12 11.9**	**+0.9**
WHYT				S	**Sb**	**14 12 34.9**	**+0.7**
SBCB	**Hsinchu**	**1.71**	**296**	*e*P	**Pb**	**14 12 13.3**	**+0.1**
SBCB				*e*S	**Sb**	**14 12 35.2**	**+0.9**
ELDTW	**Lidau**	**1.74**	**241**	*i*P	**Pn**	**14 12 11.0**	**-0.7**
ELDTW				*i*S	**Sn**	**14 12 32.0**	**-1.5**
LDUT	**Ludao**	**1.75**	**219**	*i*P	**Pn**	**14 12 09.4**	**-2.4**
LDUT				*i*S	**Sn**	**14 12 33.6**	**-2.1**
TWQ1	**Liyutan**	**1.76**	**280**	*i*P	**Pb**	**14 12 13.8**	**-0.2**
TWQ1				*e*S	**Sb**	**14 12 35.7**	**-0.1**
NSY	**Sanyi**	**1.79**	**282**	*i*P	**Pb**	**14 12 15.0**	**+0.6**
NSY				*e*S	**Sb**	**14 12 36.0**	**-0.5**
NMLH	**Miaoli**	**1.79**	**286**	*i*P	**Pb**	**14 12 14.4**	**-0.1**
NMLH				S	**Sb**	**14 12 38.3**	**+1.7**
ALS	**Alishan**	**1.79**	**253**	*i*P	**Pn**	**14 12 13.7**	**+1.1**
ALS				S	**Sn**	**14 12 36.2**	**+1.1**
WJS	**Zhushan**	**1.79**	**263**	*i*P	**Pb**	**14 12 14.2**	**-0.3**
WJS				*i*S	**Sb**	**14 12 38.2**	**+1.5**
LONT	**Longtian**	**1.81**	**232**	*i*P	**Pn**	**14 12 12.1**	**-0.5**
LONT				*i*S	**Sn**	**14 12 35.3**	**+0.1**
WNT	**Mingjian**	**1.83**	**265**	*i*P	**Pb**	**14 12 14.6**	**-0.5**
WNT				*i*S	**Sb**	**14 12 39.5**	**+1.8**
CHN5	**Tsauling**	**1.88**	**257**	*i*P	**Pn**	**14 12 14.9**	**+1.3**
CHN5				S	**Sn**	**14 12 38.5**	**+1.5**
WDJ	**Dajia District**	**1.88**	**280**	*i*P	**Pn**	**14 12 14.9**	**+1.4**
WDJ				S	**Sb**	**14 12 40.4**	**+1.1**
TWGBT	**Beinan**	**1.91**	**231**	P	**Pn**	**14 12 13.7**	**-0.1**
TWGBT	**Beinan**	**1.91**	**231**	*i*P	**Pn**	**14 12 12.7**	**-1.2**
TWGBT				*i*S	**Sn**	**14 12 36.1**	**-1.4**
TWG	**Pinlang**	**1.91**	**231**	*i*P	**Pn**	**14 12 13.4**	**-0.5**
TWG				*i*S	**Sn**	**14 12 35.4**	**-2.1**
WCHH	**Zhanghua**	**1.93**	**272**	*e*P	**Pn**	**14 12 15.8**	**+1.6**
WCHH				S	**Sb**	**14 12 40.8**	**0.0**
JTJ	**Tarama**	**1.94**	**72**	*e*P	**Pn**	**14 12 15.3**	**+1.0**
JTJ				*e*S	**Sn**	**14 12 39.4**	**+1.0**
STYH	**Taoyuan**	**1.94**	**244**	*i*P	**Pn**	**14 12 15.1**	**+0.7**
STYH				*i*S	**Sn**	**14 12 39.5**	**+1.1**
WGK	**Gukeng**	**1.96**	**260**	*i*P	**Pb**	**14 12 16.8**	**-0.7**
WGK				S	**Sb**	**14 12 41.4**	**-0.2**
WDLH	**Douliu**	**1.99**	**260**	*i*P	**Pn**	**14 12 15.9**	**+0.9**
WDLH				*i*S	**Sb**	**14 12 41.6**	**-0.7**
WCKO	**

ASAR	**Alice Springs**	**43.24 197**	P		**P**		**14 30 26.7 +0.7**
	0.8nm,0.6s,baz=8.4,slow=7.0,SNR=29						
ASAR			PcP		**PcP**		**14 32 14.4 +0.1**
	0.4nm,0.6s,baz=17,slow=3.8,SNR=5.5						
	0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.97 278**	P		**P**		**14 30 41.0 +0.9**
	0.6nm,0.8s,baz=74,slow=6.7,SNR=4.6						
	0.6nm,0.8s						
STKA	**Stephens Creek**	**49.87 185**	P		**P**		**14 31 16.3 -1.5**
	0.7nm,0.4s,baz=349,slow=16,SNR=3.5						
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**58.92 323**	P		**P**		**14 32 22.0 -1.2**
	0.3nm,0.4s,baz=100,slow=6.8,SNR=1.6						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**63.91 26**	P		**P**		**14 32 57.8 +1.0**
	0.4nm,0.4s,baz=261,slow=6.0,SNR=12						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**67.38 321**	P		**P**		**14 33 18.1 -1.3**
	0.2nm,0.4s,baz=132,slow=2.1,SNR=1.9						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**97.64 56**	LR		LR		15 18 07.9
	comp=Z,20nm,18.2s,baz=39,slow=34						

TRN 01 14:26:48.5, 10°.13N×60°.70W, h69km, MD3.7, East of Trinidad., Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.50**	**314**	*e*P	Pn	14 27 02.1	+0.9
TPP	**Pointe-a-Pierr**	**0.76**	**284**	*e*P	Pn	14 27 04.3	+0.3
TRN	**Trinidad (W)**	**0.86**	**307**	*e*P	Pn	14 27 05.3	+0.1
TRN				*e*S	Sn	14 27 16.5	-1.1
TOSP	**Speyside**	**1.17**	**8**	*e*P	Pn	14 27 09.4	+0.2
TOSP				*e*S	Sn	14 27 23.7	-0.8
GRFF	**Grenada Fort F**	**2.16**	**332**	*e*P	Pn	14 27 22.7	+0.3
GRFF				*e*S	Sn	14 27 48.0	-0.1
GRGR	**Grenville**	**2.20**	**335**	*e*P	Pn	14 27 23.9	+1.1
GRGR				*e*S	Sn	14 27 49.6	+0.5
GRW	**Mount Saint Ca**	**2.23**	**335**	*e*P	Pn	14 27 23.9	+0.6
GRW				*e*S	Sn	14 27 50.6	+0.8
GRHS	**Sauteurs**	**2.27**	**336**	*e*P	Pn	14 27 24.5	+0.6
GRHS				*e*S	Sn	14 27 50.7	-0.2
GRSS	**Sisters**	**2.33**	**338**	*e*P	Pn	14 27 25.1	+0.4
GRSS				*e*S	Sn	14 27 51.6	-0.7
GCMP	**Grenada, Carri**	**2.44**	**343**	*e*P	Pn	14 27 26.0	-0.2
GCMP				*e*S	Sn	14 27 54.3	-0.7
SVOC	**Richmond Hill,**	**3.05**	**350**	*e*P	Pn	14 27 35.0	+0.7
SVOC				*e*S	Sn	14 28 09.0	-0.7
SVT	**Saint Vincent**	**3.06**	**350**	*e*P	Pn	14 27 35.1	+0.5
SVT				*e*S	Sn	14 28 08.8	-1.4
SVB	**Belmont**	**3.17**	**350**	*e*P	Pn	14 27 36.8	+0.7
SVB				*e*S	Sn	14 28 11.7	-1.0
SLB	**Belfond**	**3.69**	**355**	*e*P	Pn	14 27 44.6	+1.4
SLB				*e*S	Sn	14 28 22.0	-3.5
SLAC	**Saint Lucia, A**	**3.75**	**357**	*e*P	Pn	14 27 44.0	0.0
SLAC				*e*S	Sn	14 28 24.9	-2.0
PCRV	**Puerto La Cruz**	**3.88**	**271**	*e*P	Pn	14 27 46.4	+0.7
PCRV				*e*S	Sn	14 28 27.9	-2.1
SLBI	**Saint Lucia, B**	**3.88**	**356**	*e*P	Pn	14 27 46.2	+0.5
SLBI				*e*S	Sn	14 28 27.8	-2.2
BAUV	**El Baul**	**7.34**	**261**	*e*P	Pn	14 28 33.0	0.0
BAUV				*e*S	Sn	14 29 50.1	-4.8

IDC 01 14:29:43.4±3.3, 15°.39S×66°.80E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=121.0km s-min=35.8km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.49**	**36**	T	T	14 41 20.3	
	baz=216,slow=76,SNR=460						
H08S2	**Diego Garcia H**	**9.50**	**37**	T	T	14 41 20.1	
	baz=216,slow=76,SNR=732						
H08S3	**Diego Garcia H**	**9.51**	**36**	T	T	14 41 21.9	
	baz=216,slow=76,SNR=563						
H04N2	**CROZET ISLANDS**	**33.16**	**199**	T	T	15 11 47.7	
	baz=28,slow=75,SNR=59						
H04N1	**CROZET ISLANDS**	**33.16**	**199**	T	T	15 12 04.4	
	baz=28,slow=75,SNR=56						
H04N3	**CROZET ISLANDS**	**33.17**	**199**	T	T	15 12 01.8	
	baz=28,slow=75,SNR=60						
ASAR	**Alice Springs**	**63.30**	**109**	P	P	14 40 14.4	-0.2
	0.4nm,0.9s,baz=269,slow=5.0,SNR=4.3						
	0.4nm,0.9s						
WRA	**Warramunga Arr**	**64.15**	**105**	P	P	14 40 20.1	-0.1
	1.1nm,0.9s,baz=265,slow=6.1,SNR=6.7						
	1.1nm,0.9s						
BVAR	**Borovoye Array**	**68.20**	**2**	P	P	14 40 44.5	-0.9
	0.6nm,0.6s,baz=177,slow=7.2,SNR=2.8						
	0.6nm,0.6s						
SONM	**Songino Array**	**72.19**	**27**	P	P	14 41 10.9	+0.7
	0.2nm,0.3s,baz=212,slow=5.1,SNR=2.1						
	0.2nm,0.3s						
PDAR	**Pinedale Array**	**152.53**	**354**	PKPbc	PKiKP	14 49 42.7	+0.1
	0.4nm,0.7s,baz=45,slow=2.9,SNR=3.6						

*IDC **01** 14:36:57.8±1.1, 34°.07N×78°.52E, h0km, mb3.4/8, mbtmp3.4/11, ML2.8/3, Error ellipse: s-maj=33.6km s-min=18.6km az=57.0*

ISC 01 14:37:03.2±1.0, 34°.2N±0°.1×78°.6E±0°.2, h35km, n11, σ0°55/10, mb3.4/7, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.03**	**341**	Pn	Pn	14 39 15.3	+4.2
	0.1nm,0.3s,baz=180,slow=22,SNR=2.0						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**12.93**	**12**	Pn	**Pn**	**14 40 03.7**	**-0.6**
	0.1nm,0.3s,baz=197,slow=15,SNR=2.1						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**19.73**	**345**	P	**P**	**14 41 29.3**	**-0.3**
	baz=146,slow=13,SNR=3.4						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**20.26**	**11**	P	**P**	**14 41 35.4**	**0.0**
	0.3nm,0.4s,baz=196,slow=15,SNR=1.6						
	0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**23.99**	**126**	P	**P**	**14 42 14.8**	**+0.1**
	0.6nm,0.8s,baz=331,slow=14,SNR=1.8						
	0.6nm,0.8s						
SONM	**Songino Array**	**24.90**	**48**	P	**P**	**14 42 23.7**	**+0.9**
	0.3nm,0.4s,baz=251,slow=9.3,SNR=2.5						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**42.86**	**326**	P	**P**	**14 44 57.9**	**+0.2**
	0.8nm,0.8s,baz=110,slow=14,SNR=4.4						
	0.8nm,0.8s						
ARCES	**ARCESS Array B**	**45.68**	**337**	P	**P**	**14 45 20.7**	**+0.6**
	0.7nm,0.5s,baz=94,slow=7.3,SNR=5.5						
	0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**71.94**	**274**	P	**P**	**14 48 23.4**	**+0.1**
	0.3nm,0.4s,baz=54,slow=3.9,SNR=2.7						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**75.58**	**127**	P	**P**	**14 48 44.0**	**-0.6**
	0.4nm,0.8s,baz=318,slow=5.6,SNR=5.1						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**77.94**	**130**	P	**P**	**14 48 57.4**	**-0.3**
	0.2nm,0.6s,baz=320,slow=5.7,SNR=1.7						
	0.2nm,0.6s						

*IDC **01** 14:38:52.8±0.6, 15°.18S×67°.01E, h0km, mb4.2/19, mbtmp4.2/20, ML3.6/1, MS4.1/58, Error ellipse: s-maj=20.6km s-min=17.9km az=67.0*

*NEIC **01** 14:38:54.5±2.8, 15°.1S±0°.1×66°.7E±0°.1, h10km±1km, mb4.7/29, Error ellipse: s-maj=21.8km s-min=15.9km az=203.0*

*GCMT **01** 14:38:56.5±0.2, 15°.03S±0°.02×66°.84E±0°.02, h12km, MW5.0/115, Moment Tensor Solution. s39,c49; s115,c174; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.15±.07; $M_{\theta\theta}$1.06±.07; $M_{\phi\phi}$2.09±.07; $M_{r\theta}$0.14±.27; $M_{\theta\phi}$=-1.11±.06; $M_{\phi r}$2.26±.30; Best double couple: M_0=3.70400×10^{16} NP1:ϕ_s166.00000°, δ63.00000°, λ=-75.00000°. NP2:ϕ_s315.00000°, δ30.00000°, λ=-118.00000°. Principal axes: T 3.3630, Plg17.0000°, Azm245.0000°; N 0.6820, Plg14.0000°, Azm340.0000°; P -4.0450, Plg68.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 14:38:55.4±0.5, 15°.15S±0°.09×66°.81E±0°.09, h16km, n134, σ1°51/88, mb4.6/56, MS4.1/60, 7C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**9.30**	**37**	T	T	14 50 29.5	
	baz=216,slow=76,SNR=1562						
H08S2	**Diego Garcia H**	**9.31**	**37**	T	T	14 50 29.9	
	baz=216,slow=76,SNR=2457						
H08S3	**Diego Garcia H**	**9.32**	**37**	T	T	14 50 30.3	
	baz=216,slow=76,SNR=2077						
MSEY	**Mahe Island**	**15.25**	**312**	Pn	**Pn**	**14 42 27.8**	**-2.5**
MSEY				IAmb	IAmb	14 42 50.1	
	comp=Z,39nm,1.1s						
OPO	**Ambohidratompo**	**19.09**	**257**	P	**Pn**	**14 43 19.7**	**+1.2**
	baz=90,slow=6.7,SNR=5.2						
OPO				LR	LR	14 48 44.6	
	comp=Z,310nm,18.9s,baz=232,slow=31						
	comp=Z,1.0nm,0.3s						
ABPO	**Ambohimpanom**	**19.11**	**256**	P	**P**	**14 43 15.0**	**-2.9**
KIBK	**Kibwezi**	**31.09**	**291**	P	**P**	**14 45 12.0**	**-1.3**
KMBO	**Kilima Mbogo**	**32.34**	**293**	LR	LR	14 55 27.5	
	comp=Z,340nm,21.9s,baz=96,slow=31						
H04N2	**CROZET ISLANDS**	**33.38**	**199**	T	T	15 21 04.3	
	baz=28,slow=75,SNR=371						
H04N1	**CROZET ISLANDS**	**33.39**	**199**	T	T	15 20 56.3	
	baz=28,slow=75,SNR=358						
H04N3	**CROZET ISLANDS**	**33.40**	**199**	T	T	15 21 17.6	
	baz=28,slow=75,SNR=487						
ATD	**Arta Tunnel**	**35.58**	**317**	LR	LR	14 58 40.3	
	comp=Z,12nm,20.2s,baz=156,slow=33						
FURI	**Furi**	**36.72**	**309**	LR	LR	14 58 53.2	
	comp=Z,179nm,21.9s,baz=134,slow=32						
MBAR	**Mbarara**	**38.45**	**289**	LR	LR	15 00 23.6	
	comp=Z,556nm,18.4s,baz=114,slow=33						
WSAR	**Wadi Sarin**	**38.98**	**348**	LR	LR	14 59 39.0	
	comp=Z,155nm,18.5s,baz=187,slow=32						
LBTB	**Lobatse**	**39.80**	**249**	LR	LR	15 00 52.1	
	comp=Z,585nm,18.2s,baz=86,slow=33						
BOSA	**Boshof**	**40.62**	**244**	LR	LR	15 00 21.4	
	comp=Z,528nm,20.9s,baz=58,slow=32						
LEM	**Lembang**	**40.84**	**83**	LR	LR	15 00 32.6	
	comp=Z,468nm,21.9s,baz=248,slow=32						
BRDH	**Bariadhala**	**44.77**	**33**	LR	LR	15 07 23.8	
	comp=Z,351nm,18.2s,baz=180,slow=38						
SUR	**Sutherland**	**45.09**	**239**	LR	LR	15 03 20.4	
	comp=Z,349nm,19.5s,baz=84,slow=32						
CM31	**Chiang Mai Arr**	**46.01**	**45**	P	**P**	**14 47 15.6**	**-2.8**
CM31				IAmb	IAmb	14 47 38.2	
	comp=Z,6.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**46.01**	**45**	P	**P**	**14 47 18.9**	**+0.4**
	comp=Z,3.5nm,1.0s,baz=237,slow=8.5,SNR=14						
CMAR				LR	LR	15 04 16.7	
	comp=Z,450nm,20.2s,baz=230,slow=33						
	comp=Z,3.5nm,1.0s						
TSUM	**Tsumeb**	**47.09**	**258**	LR	LR	15 06 11.4	
	comp=Z,340nm,18.3s,baz=142,slow=35						
SHL	**Shillong**	**47.27**	**31**	P	**P**	**14 47 26.1**	**-2.2**
NWAO	**Narrogin (SRO)**	**48.86**	**121**	LR	LR	15 03 17.3	
	comp=Z,188nm,21.7s,baz=34,slow=30						
HRA	**Herat**	**49.45**	**355**	P	**P**	**14 47 44.0**	**-1.1**
KBL	**Kabul**	**49.46**	**2**	P	**P**	**14 47 42.9**	**-2.3**
KBL				IAmb	IAmb	14 47 53.7	
	comp=Z,9.4nm,1.1s						
MAW	**Mawson**	**52.48**	**182**	LR	LR	15 05 04.4	
	comp=Z,186nm,21.1s,baz=351,slow=30						
KAPI	**Kappang**	**52.96**	**85**	LR	LR	15 07 27.7	
	comp=Z,340nm,21.2s,baz=234,slow=32						
GAR	**Garm**	**53.97**	**3**	P	**P**	**14 48 17.0**	**-1.6**
GAR				IAmb	IAmb	14 48 25.7	
	comp=Z,10nm,1.1s						
EIL	**Elat**	**54.13**	**325**	LR	LR	15 08 13.3	
	comp=Z,75nm,20.7s,baz=152,slow=32						
FITZ	**Fitzroy Crossi**	**56.25**	**102**	P	**P**	**14 48 37.1**	**+1.7**
FITZ	**Fitzroy Crossi**	**56.25**	**102**	LR	LR	15 09 31.9	
	comp=Z,439nm,20.3s,baz=271,slow=33						
MMAI	**Mount Meron Ar**	**56.52**	**328**	LR	LR	15 09 46.6	
	comp=Z,125nm,21.8s,baz=94,slow=33						
AAK	**Ala-Archa**	**57.93**	**7**	LR	LR	15 13 11.3	
	comp=Z,192nm,19.1s,baz=186,slow=36						
GURO	**Guroymak-BITLI**	**58.25**	**337**	P	**P**	**14 48 50.9**	**+1.6**
GURO				IAmb	IAmb	14 48 59.2	
	comp=Z,6.2nm,0.8s						
ARPR	**Arapgir-MALATY**	**60.17**	**335**	P	**P**	**14 49 03.1**	**+0.5**
ARPR				IAmb	IAmb	14 49 16.9	
	comp=Z,6.2nm,1.1s						
TGY	**Tagaytay City**	**60.91**	**64**	LR	LR	15 12 05.5	
	comp=Z,129nm,22.0s,baz=229,slow=33						
DAV	**Davao City (W)**	**62.28**	**73**	LR	LR	15 15 15.2	
	comp=Z,108nm,19.8s,baz=267,slow=35						
GTA	**Gaotai**	**62.41**	**28**	*e*P	**P**	**14 49 18.3**	**+0.5**
GTA				pP	pwP	14 49 24.9	-0.7
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**62.55**	**341**	P	**P**	**14 49 20.6**	**+2.3**
	comp=Z,1.5nm,0.9s,baz=170,slow=16,SNR=1.6						
	comp=Z,1.5nm,0.9s						
BRTR	**Keskin Array B**	**62.74**	**332**	P	**P**	**14 49 15.4**	**-4.6**
BRTR	**Keskin Array B**	**62.74**	**332**	P	**P**	**14 49 19.1**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=160,slow=4.6,SNR=1.8						
	comp=Z,0.8nm,0.5s						
MKAR	**Makanchi Array**	**63.21**	**12**	P	**P**	**14 49 22.4**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=209,slow=8.2,SNR=9.3						
MKAR				LR	LR	15 15 53.9	
	comp=Z,130nm,21.8s,baz=183,slow=35						
	comp=Z,1.1nm,0.7s						
XAN	**Xi'an**	**63.24**	**39**	⇑P	**P**	**14 49 25.2**	**+1.9**
XAN				pP	pwP	14 49 29.9	-1.3
XAN				pmax	pmax		
	comp=Z,15nm,1.4s						
ASAR	**Alice Springs**	**63.36**	**109**	P	**P**	**14 49 23.2**	**-1.3**
	comp=Z,1.0nm,0.9s,baz=263,slow=5.5,SNR=8.1						
ASAR				LR	LR	15 14 44.2	
	comp=Z,342nm,18.1s,baz=272,slow=34						
	comp=Z,1.0nm,0.9s						
AS31	**Alice Springs**	**63.37**	**109**	P	**P**	**14 49 22.6**	**-1.8**
WRA	**Warramunga Arr**	**64.19**	**105**	P	**P**	**14 49 27.0**	**-2.9**
	comp=Z,0.6nm,0.8s,baz=260,slow=5.2,SNR=7.1						
WRA				LR	LR	15 15 19.0	
	comp=Z,133nm,19.8s,baz=266,slow=34						
	comp=Z,0.6nm,0.8s						
WB2	**Warramunga Arr**	**64.21**	**105**	P	**P**	**14 49 29.7**	**-0.3**
WB2				IAmb	IAmb	14 49 52.4	
	comp=Z,6.5nm,1.1s						
ABKAR	**Akbulak array**	**64.41**	**355**	P	**P**	**14 49 30.2**	**-0.4**
ABKAR				IAmb	IAmb	14 49 31.8	
	comp=Z,6.9nm,1.1s						
KURBB	**Kurchatov Arra**	**66.29**	**8**	P	**P**	**14 49 42.6**	**-0.1**
	comp=Z,1.0nm,0.2s,baz=203,slow=6.7,SNR=9.2						
KURBB				LR	LR	15 16 01.0	
	comp=Z,210nm,21.6s,baz=182,slow=34						
	comp=Z,1.0nm,0.2s						
KURK	**Kurchatov**	**66.40**	**8**	P	**P**	**14 49 41.5**	**-1.9**
KURK				IAmb	IAmb	14 49 51.2	
	comp=Z,7.9nm,1.1s						
TROLL	**Troll, Antarti**	**67.85**	**198**	⇑P	**P**	**14 49 54.5**	**+1.9**
	comp=Z,73nm,0.8s						
BVAR	**Borovoye Array**	**67.96**	**2**	P	**P**	**14 49 53.4**	**0.0**
	comp=Z,4.8nm,0.9s,baz=165,slow=6.2,SNR=18						
BVAR				LR	LR	15 19 24.7	
	comp=Z,63nm,18.4s,baz=181,slow=36						
	comp=Z,4.8nm,0.9s						
BRVK	**Borovoye**	**67.99**	**2**	P	**P**	**14 49 53.4**	**-0.1**
BRVK				IAmb	IAmb	14 49 55.9	
	comp=Z,6.9nm,0.9s						
BELG	**Belogornoye**	**69.29**	**348**	LR	LR	15 20 14.5	
	comp=Z,79nm,21.8s,baz=141,slow=36						
SNAA	**Sanae**	**69.35**	**198**	⇑P	P	14 50 08.4	+6.4
	comp=Z,30nm,1.1s						
SNAA	**Sanae**	**69.35**	**198**	P	**P**	**14 50 02.9**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=54,slow=11,SNR=2.0						
SNAA				LR	LR	15 14 43.1	
	comp=Z,261nm,18.6s,baz=13,slow=31						
	comp=Z,0.4nm,0.6s						
STKA	**Stephens Creek**	**69.38**	**119**	LR	LR	15 15 34.7	
	comp=Z,182nm,22.0s,baz=216,slow=32						
TORD	**Torodi Ar. Bea**	**70.30**	**290**	LR	LR	15 19 32.1	
	comp=Z,100nm,18.1s,baz=132,slow=35						
ZALV	**Zalesovo Beam**	**70.53**	**11**	P	**P**	**14 50 07.8**	**-1.4**
	comp=Z,2.7nm,0.8s,baz=207,slow=6.0,SNR=12						
ZALV				LR	LR	15 21 09.9	
	comp=Z,78nm,18.2s,baz=210,slow=36						
	comp=Z,2.7nm,0.8s						
VNA2	**Neumayer--Watz**	**70.63**	**200**	⇑P	**P**	**14 50 11.6**	**+1.8**
	comp=Z,7.6nm,0.8s,baz=90,slow=5.4						
VNA1	**Neumayer--Stat**	**70.86**	**200**	⇑P	**P**	**14 50 12.6**	**+1.5**
	comp=Z,3.8nm,1.2s						
VNA3	**Neumayer Olymp**	**71.41**	**199**	⇑P	**P**	**14 50 16.0**	**+1.5**
	comp=Z,2.6nm,0.7s						
SONM	**Songino Array**	**71.97**	**27**	P	**P**	**14 50 18.8**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=220,slow=6.4,SNR=7.4						
	comp=Z,2.4nm,0.9s						
JOW	**Kunigami**	**72.81**	**55**	LR	LR	15 21 11.5	
	comp=Z,155nm,20.1s,baz=22,slow=35						
AKASG	**Malin Array Be**	**73.37**	**336**	P	**P**	**14 50 26.7**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=144,slow=5.2,SNR=8.8						
AKASG				LR	LR	15 22 58.8	
	comp=Z,40nm,20.7s,baz=68,slow=36						
	comp=Z,2.1nm,0.7s						
AKBB	**Malin Array Si**	**73.37**	**336**	IAmb	IAmb	14 50 28.6	
	comp=Z,4.7nm,0.8s						
KIEV	**Kiev**	**73.37**	**336**	P	**P**	**14 50 25.8**	**-0.5**
KIEV				IAmb	IAmb	14 50 28.6	
	comp=Z,4.2nm,0.8s						
DBIC	**Dimbokro**	**74.23**	**282**	LR	LR	15 22 28.6	
	comp=Z,126nm,18.3s,baz=103,slow=35						
KEST	**Kesra**	**74.24**	**315**	LR	LR	15 22 43.1	
	comp=Z,118nm,20.8s,baz=35,slow=35						
KIRV	**Kirov**	**74.85**	**351**	LR	LR	15 23 33.9	
	comp=Z,74nm,20.3s,baz=148,slow=36						
QSPA	**South Pole Qui**	**74.93**	**180**	P	**P**	**14 50 35.1**	**-0.4**
QSPA	**South Pole Qui**	**74.93**	**180**	P	**P**	**14 50 35.4**	**-0.1**
	comp=Z,1.9nm,1.0s,baz=299,slow=5.6,SNR=5.2						
QSPA				LR	LR	15 18 32.1	
	comp=Z,111nm,21.6s,baz=272,slow=32						
	comp=Z,1.9nm,1.0s						
CTA	**Charters Tower**	**75.23**	**107**	LR	LR	15 20 07.1	
	comp=Z,23nm,21.8s,baz=268,slow=33						
MNK	**Minsk**	**76.87**	**338**	*i* P	**P**	**14 50 46.8**	**+0.4**
	comp=E,15nm,0.9s						
MNK				*i* P	**P**	**14 50 46.8**	**+0.4**
	comp=N,7.0nm,0.8s						
MNK				*i* P	**P**	**14 50 46.8**	**+0.4**
	comp=Z,8.0nm,0.8s,baz=141						
MNK				*i* PcP	**PcP**	**14 50 57.7**	**+0.2**
MNK				*i* PP	**PP**	**14 53 39.3**	**-0.4**
MNK				*i* PPP	PPP	14 55 39.6	
MNK				*i* S	**S**	**15 00 37.1**	**+3.7**
MNK				*i* SS	**SS**	**15 05 32.0**	**+1.7**
MNK				*i* LQ	LQ	15 19 35.7	
MNK				*i* LR	LR	15 23 38.5	
MNK				*i* LRM	MLR	15 26 14.4	
	comp=Z,61nm,17.6s						
MNK				*i* LRM	MLR	15 26 28.2	
	comp=N,187nm,15.6s						
MNK				*i* LRM	MLR	15 26 34.4	
	comp=E,216nm,19.2s						
RONA	**Rosalia, Austr**	**77.10**	**328**	*e*pP	pP	14 50 55.6	+3.2
	comp=E,14nm,1.4s						
SOKA	**Soboth**	**77.11**	**326**	*e*P	**P**	**14 50 50.1**	**+2.0**
	comp=E,10nm,1.6s						
JAVC	**Velka Javorina**	**77.16**	**329**	*e*P	**P**	**14 50 50.5**	**+2.2**
ARSA	**Arzberg**	**77.22**	**327**	*e*P	**P**	**14 50 50.8**	**+2.1**
	comp=E,8.7nm,1.1s						
OBKA	**Obir**	**77.27**	**326**	*e*P	**P**	**14 50 50.6**	**+1.6**
	comp=E,9.3nm,1.1s						
CONA	**Conrad Observa**	**77.47**	**328**	*e*P	**P**	**14 50 51.5**	**+1.4**
	comp=E,13nm,1.3s						
NACGM	**Naroch**	**77.58**	**338**	*e*P	**P**	**14 50 51.0**	**+0.5**
	comp=Z,22nm,1.0s,baz=141						
KSRS	**Korea Array**	**77.64**	**46**	P	**P**	**14 50 51.0**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=247,slow=5.8,SNR=11						
KSRS				LR	LR	15 26 44.3	
	comp=Z,127nm,18.1s,baz=240,slow=37						
	comp=Z,3.5nm,0.9s						
JNU	**Nakatsue**	**77.69**	**51**	LR	LR	15 26 00.2	
	comp=Z,154nm,19.0s,baz=232,slow=36						
MORC	**Moravsky Berou**	**77.83**	**330**	*e*P	**P**	**14 50 53.1**	**+1.0**
KRUC	**Moravsky**	**77.93**	**329**	*e*P	**P**	**14 50 53.8**	**+1.3**
VRAC	**Vranov**	**77.99**	**329**	P	**P**	**14 50 53.3**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=146,slow=9.5,SNR=3.9						
VRAC				LR	LR	15 24 45.4	
	comp=Z,27nm,21.6s,baz=90,slow=35						
	comp=Z,1.5nm,0.3s						
VRAC	**Vranov**	**77.99**	**329**	*e*P	**P**	**14 50 54.3**	**+1.4**
MOA	**Molln**	**78.25**	**327**	*e*P	**P**	**14 50 55.8**	**+1.4**
	comp=Z,13nm,1.2s						
KBA	**Koelnbreinsper**	**78.27**	**326**	*e*pP	pP	14 51 02.9	+3.8
	comp=Z,11nm,1.6s						
PMG	**Port Moresby**	**78.35**	**97**	LR	LR	15 22 37.1	
	comp=Z,122nm,19.9s,baz=248,slow=34						
BIOA	**Bad Ischl, Aus**	**78.49**	**327**	*e*P	**P**	**14 50 55.8**	**0.0**
	comp=Z,17nm,1.3s						
ABTA	**Abfaltersbach**	**78.53**	**325**	*i* P	**P**	**14 50 58.8**	**+2.8**
	comp=Z,22nm,1.4s						
DPC	**Dobruska-Polom**	**78.80**	**330**	*e*P	**P**	**14 50 59.1**	**+1.7**
DPC				*e*x	x	14 51 05.0	
LESA	**Schwarzleotal**	**78.84**	**326**	*e*P	**P**	**14 50 58.5**	**+0.7**
	comp=Z,4.9nm,1.1s						
OSTC	**Ostas**	**78.99**	**330**	*e*P	**P**	**14 50 59.3**	**+0.9**
GOPC	**GO Pecny, Ondr**	**79.28**	**329**	*e*P	**P**	**14 51 01.4**	**+1.4**
ZVC	**Zvikov**	**79.28**	**328**	*e*P	**P**	**14 51 01.3**	**+1.3**
ZVC				*e*x	x	14 51 06.9	
WTTA	**Wattenberg**	**79.31**	**325**	*i* P	**P**	**14 51 01.4**	**+1.0**
	comp=Z,15nm,1.2s						
CN2	**Changchun**	**79.35**	**39**	*e*P	**P**	**14 51 01.7**	**+1.2**
CN2				*

TIXI	Tiksi	95.91	16	LR	LR	15 35 54.0	
	comp=Z,189nm,20.9s,baz=204,slow=36						
SPITS	Spitsbergen Ar	97.32	351	LR	LR	15 38 58.1	
	comp=Z,56nm,20.2s,baz=91,slow=37						
ILAR	Eielson Array	125.38	17	PKP	PKiKP	14 57 55.6	+0.1
	comp=Z,0.6nm,1.0s,baz=339,slow=4.1,SNR=4.8						
R49A	Shelbyville	146.21	318		PKPdf	14 58 34.4	+0.1
RSSD	Black Hills	150.09	347	PKPdf	PKiKP	14 58 46.5	-0.3
PDAR	Pinedale Array	152.30	354		PKiKP	14 58 50.9	-0.4
PDAR	Pinedale Array	152.30	354	PKPbc	PKPbc	14 58 50.5	-0.5
	comp=Z,1.6nm,0.9s,baz=104,slow=6.3,SNR=10.0						
NVAR	Mina Array Bea	156.38	10	PKP	PKPdf	14 58 51.7	+1.6
	comp=Z,0.1nm,0.3s,baz=159,slow=2.2,SNR=2.1						
NVAR				PKPab	PKPab	14 59 16.7	-1.6
	comp=Z,1.8nm,1.1s,baz=355,slow=1.8,SNR=3.9						
TXAR	Lajitas Array	163.37	330	PKPab	PKPab	14 59 49.9	+1.0
	comp=Z,0.9nm,0.9s,baz=35,slow=4.6,SNR=3.8						

*IDC **01** 14:44:06.5±0.9, 37°.55N×20°.93E, h0km, mb3.8/11, mbtmp3.7/15, ML3.7/3, MS3.1/8, Error ellipse: s-maj=22.1km s-min=16.3km az=134.0*
*ATH **01** 14:44:11.9, 37°.58N×20°.81E, h10km±3km, ML3.9/5, Error ellipse: s-maj=3.8km s-min=1.0km az=41.0*
*THE **01** 14:44:11.9, 37°.60N×20°.84E, h6km±2km, ML3.6/10, Error ellipse: s-maj=2.2km s-min=0.7km az=15.0*
ISC 01 14:44:10.3±0.9,**37°.60N**±0°.03×**20°.85E**±0°.03,**h18**km±3km, **n55**,σ1§**56**/67,**mb3.8**/11,**MS2.9**/4,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.11	355	P	Pg	14 44 14.6	+0.4
LTHK				S	Sg	14 44 16.4	-0.3
LTHK				AML	AML	14 44 16.9	
LTHK				AML	AML	14 44 16.9	
RTZL	Ratzakli, Kefa	0.48	353	P	Pb	14 44 20.9	+0.7
RTZL				S	Sb	14 44 28.5	+1.6
PSDA	Pessada-Kefalo	0.55	338	P	Pg	14 44 22.2	+0.8
PSDA				S	Sg	14 44 30.5	+1.7
	12μm,0.5s						
PSDA	Pessada-Kefalo	0.55	338	P	Pg	14 44 22.3	+0.9
PSDA				S	Sn	14 44 31.1	-0.8
VLS	Valsamata	0.61	340	P	Pg	14 44 23.0	+0.5
VLS				S	Sg	14 44 32.2	+1.6
	8μm,0.3s						
VLS	Valsamata	0.61	340	P	Pg	14 44 23.3	+0.8
VLS				S	Sn	14 44 32.8	-0.6
VLS				AML	AML	14 44 32.9	
	comp=E,14208μm,0.3s						
VLS				AML	AML	14 44 37.7	
	comp=N,15970μm,0.5s						
SMHA	Samh	0.67	346	P	Pb	14 44 23.8	+0.4
SMHA				S	Sg	14 44 33.5	+1.0
SMHA				AML	AML	14 44 37.0	
	comp=E,45721μm,0.6s						
SMHA				AML	AML	14 44 39.7	
	comp=N,29625μm,0.6s						
RLS	Riolos of Patr	0.67	47	P	Pg	14 44 24.2	+0.7
RLS				S	Sg	14 44 33.6	+1.2
	comp=N,3μm,0.4s						
RLS	Riolos of Patr	0.67	47	P	Pg	14 44 24.5	+0.9
LXR1	Lixouri, Cepha	0.68	332	P	Pn	14 44 25.4	+0.4
LXR1				S	Sn	14 44 35.6	+0.5
	comp=N,35μm,0.6s						
LXRA	Lixouri, Kepha	0.68	332	P	Pn	14 44 25.1	+0.1
LXRA				S	Sn	14 44 34.9	-0.2
AMT	Artemida-Makis	0.69	96	P	Pn	14 44 25.7	+0.6
AMT				S	Sn	14 44 35.2	-0.1
AMT				AML	AML	14 44 42.2	
	comp=E,24232μm,0.4s						
AMT				AML	AML	14 44 44.0	
	comp=N,22536μm,0.5s						
DMLN	Damoulianata-K	0.74	330	P	Pg	14 44 25.4	+0.6
DMLN				S	Sn	14 44 37.2	+0.6
	comp=N,14μm,0.5s						
DMLN	Damoulianata-K	0.74	330	P	Pn	14 44 26.0	+0.2
DRO	Drossia	0.77	63	P	Pn	14 44 27.3	+1.1
DRO				S	Sn	14 44 38.4	+1.1
	comp=N,4μm,0.6s						
DRO	Drossia	0.77	63	P	Pn	14 44 27.4	+1.1
VSK1	VASILIKIADES	0.84	344	P	Pg	14 44 27.2	+0.5
VSK1				S	Sn	14 44 40.0	+1.0
	comp=N,6μm,0.7s						
FSK	Fiskardo	0.89	345	P	Pb	14 44 27.4	+0.3
FSK				S	Sn	14 44 41.1	+0.9
	comp=N,5μm,0.7s						
FSK	Fiskardo	0.89	345	P	Pn	14 44 28.5	+0.7
FSK				S	Sn	14 44 41.9	+1.8
FSK				AML	AML	14 44 46.2	
	comp=E,6294μm,0.6s						
FSK				AML	AML	14 44 48.2	
	comp=N,11394μm,0.7s						
ITM	Ithomi	0.96	116	P	Pg	14 44 30.0	+1.1
ITM	Ithomi	0.96	116	P	Pg	14 44 30.2	+1.2
PYL	PYLOS	1.00	134	P	Pg	14 44 30.5	+0.7
PYL				S	Sg	14 44 45.8	+2.8
	comp=N,2μm,0.7s						
PYL	PYLOS	1.00	134	P	Pg	14 44 31.2	+1.4
NYDR	Nydri-Lefkada	1.12	354	P	Pg	14 44 32.0	0.0
KLV	Kalavryta, Ach	1.12	66	P	Pg	14 44 33.2	+1.1
EFP	Efpalio	1.17	45	P	Pg	14 44 33.2	+0.2
LKD2	Lefkada island	1.19	353	P	Pg	14 44 34.6	+1.1
LKD2				S	Sg	14 44 52.8	+3.7
	comp=N,3μm,0.8s						
GUR	Goura	1.23	74	P	Pg	14 44 35.3	+1.2
TSLK	Tsoukalades, L	1.23	353	P	Pg	14 44 34.1	0.0
ANX	Ano Chora	1.30	40	P	Pg	14 44 35.5	0.0
IDI	Anoyia	3.99	124	Pn	Pn	14 45 06.2	-4.4
	comp=N,4.0nm,0.7s,baz=356,slow=23,SNR=1.7						
IDI				Sn	Sn	14 46 01.2	+4.2
	comp=N,1.3nm,0.3s,baz=302,slow=21,SNR=5.6						
VAE	Valguarnera	5.12	271	Pn	Pn	14 45 29.4	+3.4
	comp=N,1.0nm,0.3s,baz=24,slow=19,SNR=2.4						
VAE				Sn	Sn	14 46 29.7	+5.0
	comp=N,1.6nm,0.3s,baz=151,slow=19,SNR=2.9						
MLR	Muntele Rosu	8.76	24	Pn	Pn	14 46 14.5	-1.6
	comp=N,0.2nm,0.3s,baz=176,slow=13,SNR=1.5						
MLR				LR	LR	14 50 40.2	
	comp=N,165nm,19.0s,baz=204,slow=45						
	comp=N,1.3nm,0.5s						
SOKA	Soboth	10.04	336	*i* Pn	Pn	14 46 36.0	+2.4
	comp=N,2.3nm,0.6s						
MOA	Molln	11.32	337	*i* Pn	Pn	14 46 55.3	+4.3
	comp=N,3.1nm,0.6s						
LESA	Schwarzleotal	11.51	331	*i* Pn	Pn	14 46 56.9	+3.1
	comp=N,5.5nm,0.8s						
WTTA	Wattenberg	11.80	328	*i* Pn	Pn	14 47 07.3	+10
	comp=N,1.4nm,0.5s						
MOTA	Moosalm	12.10	327	*i* Pn	P	14 47 08.3	-6.2
	comp=N,0.8nm,0.4s						
VRAC	Vranov	12.10	347	LR	LR	14 52 35.9	
	comp=N,30nm,20.5s,baz=193,slow=42						
GERES	GERESS Array B	12.38	337	LR	LR	14 53 07.9	
	comp=N,77nm,18.0s,baz=92,slow=44						
AKASG	Malin Array Be	14.39	22	Pn	Pn	14 47 32.9	-0.1
	comp=N,0.2nm,0.3s,baz=200,slow=23,SNR=1.4						
AKASG				LR	LR	14 54 18.6	
	comp=N,98nm,19.0s,baz=232,slow=42						
	comp=N,0.4nm,0.5s						
ESDC	Sonseca Array	19.48	284	P	Pn	14 48 36.9	-0.5
	comp=N,0.1nm,0.3s,baz=77,slow=12,SNR=9.5						
	comp=N,1.3nm,0.8s						
HFS	Hagfors	23.01	351	P	P	14 49 13.8	-0.1
	comp=N,2.7nm,0.9s,baz=162,slow=14,SNR=2.4						
HFS				LR	LR	15 00 58.9	
	comp=N,30nm,18.0s,baz=32,slow=44						
	comp=N,2.7nm,0.9s						
EKA	Eskdalemuir Ar	24.05	325	P	P	14 49 23.1	-1.0
	comp=N,3.6nm,0.8s,baz=124,slow=8.7,SNR=8.0						
	comp=N,3.6nm,0.8s						
FINES	FINESS Array B	24.09	6	P	P	14 49 22.7	-1.7
	comp=N,2.0nm,0.9s,baz=230,slow=14,SNR=1.9						
FINES				LR	LR	14 58 56.5	
	comp=N,43nm,18.4s,baz=214,slow=37						
	comp=N,2.0nm,0.9s						
NOA	NORSAR Array B	24.23	349	LR	LR	15 01 08.4	
	comp=N,20nm,18.1s,baz=160,slow=42						
TORD	Torodi Ar. Bea	29.75	220	P	P	14 50 15.5	-0.2
	comp=N,1.1nm,0.7s,baz=26,slow=10,SNR=7.3						
	comp=N,1.1nm,0.7s						
ARCES	ARCESS Array B	32.09	3	LR	LR	15 04 35.5	
	comp=N,64nm,18.2s,baz=209,slow=38						
BVAR	Borovoye Array	37.29	49	P	P	14 51 20.8	-0.2
	comp=N,0.8nm,0.6s,baz=251,slow=10,SNR=3.5						
	comp=N,0.8nm,0.6s						

DBIC	Dimbokro	38.65	224	P	P	14 51 30.5	-2.3
	comp=N,2.0nm,0.6s,baz=130,slow=15,SNR=1.5						
	comp=N,2.0nm,0.6s						
KURBB	Kurchatov Arra	42.37	53	P	P	14 52 02.4	-0.8
	comp=N,0.5nm,0.2s,baz=276,slow=9.2,SNR=2.1						
	comp=N,0.5nm,0.2s						
MKAR	Makanchi Array	45.38	58	P	P	14 52 27.2	-0.4
	comp=N,0.3nm,0.6s,baz=322,slow=7.7,SNR=2.3						
	comp=N,0.3nm,0.6s						
ZALV	Zalesovo Beam	45.88	48	P	P	14 52 29.9	-1.4
	comp=N,0.7nm,0.5s,baz=207,slow=6.0,SNR=2.5						
	comp=N,0.7nm,0.5s						
SONM	Songino Array	60.62	50	P	P	14 54 18.6	-1.4
	comp=N,0.2nm,0.3s,baz=308,slow=7.1,SNR=2.0						
	comp=N,0.2nm,0.3s						
CMAR	Chiang Mai Arr	69.71	82	P	P	14 55 18.3	-0.9
	comp=N,0.3nm,0.4s,baz=268,slow=5.5,SNR=1.6						
	comp=N,0.3nm,0.4s						

*IDC **01** 14:46:45.2±1.1, 65°.40N×20°.79E, h0km, mbtmp2.9/2, ML1.7/2, Error ellipse: s-maj=14.8km s-min=7.4km az=91.0*
*HEL **01** 14:46:46.3±0.4, 65°.44N×20°.68E, h0km, ML1.7, Explosion*
*UPP **01** 14:46:46.3±0.1, 65°.40N×20°.83E, h0km, ML2.1, Unknown*
ISC 01 14:46:44.3±0.9,**65°.45N**±0°.03×**20°.77E**±0°.04,**h0**km,**n23**, σ0§**93**/31,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJUU	Sjulsmark	0.35	81	P	Pb	14 46 53.0	-0.4
SJUU				S	Sb	14 46 57.9	-1.6
LILU	Lilltraesk	0.42	247	P	Pb	14 46 54.5	-0.1
HARU	Harads	0.72	7	P	Pn	14 47 00.9	-0.7
SVAU	Svanoeiden	1.09	208	P	Pb	14 47 06.3	+0.2
KALU	Kalix	1.15	68	P	Pn	14 47 07.7	+0.2
ERTU	Ertsjaerv	1.25	27	P	Pn	14 47 09.9	+0.9
UMAU	Umeaa	1.58	181	P	Pg	14 47 14.5	0.0
TOF	Tornio	1.60	65	*e*P	Pg	14 47 15.7	+0.9
TOF				*e*S	Sg	14 47 36.5	+1.1
TOF				MSG		14 47 40.5	
	comp=Z,4.8nm,0.2s						
OBF0	Syolatti, Pyha	1.76	122	*e*S	Sg	14 47 40.9	+0.2
BREU	Bredtraesk	1.83	212	P	Pg	14 47 19.2	-0.1
OBF4	Vikkela, Lumij	1.94	107	*e*P	Pb	14 47 20.5	+0.1
OBF4				*e*S	Sg	14 47 47.1	+0.6
OUF	Merijarvi	2.01	121	*e*P	Pb	14 47 21.4	-0.2
OUF				*e*S	Sg	14 47 48.2	-0.6
OUF				MSG		14 47 50.0	
	comp=Z,4.8nm,0.2s						
OUL	Oulu	2.19	97	*e*P	Pb	14 47 24.0	-0.6
OUL				*e*S	Sb	14 47 51.6	-0.6
OUL				MSG		14 47 56.9	
	comp=Z,2.5nm,0.2s						
RNF	Rovaniemi	2.44	59	*e*P	Pb	14 47 28.1	-0.8
RANF	Ranua	2.55	75	*e*P	Pb	14 47 29.0	-1.8
VAF	Ylistaro	2.56	160	*e*P	Pb	14 47 29.6	-1.4
VAF				MSG		14 48 05.4	
	comp=Z,1.8nm,0.2s						
KAF	Kangasniemi	4.16	141	*e*P	Pn	14 47 51.0	+2.1
ARCES	ARCESS Array B	4.48	22	Pn	Pn	14 47 53.4	0.0
	comp=Z,0.1nm,0.3s,baz=201,slow=13,SNR=5.9						
ARCES				Pg	Pb	14 48 03.6	-0.2
	comp=Z,0.2nm,0.3s,baz=202,slow=14,SNR=14						
ARCES				Sn	Sn	14 48 46.9	+0.7
	comp=Z,0.1nm,0.3s,baz=202,slow=22,SNR=5.6						
ARCES				Lg	Lg	14 49 05.0	
	comp=Z,0.3nm,0.3s,baz=204,slow=29,SNR=12						
	comp=Z,2.8nm,1.0s						
FINES	FINESS Array B	4.68	147	Pn	Pn	14 47 56.1	+0.1
	comp=Z,0.1nm,0.3s,baz=330,slow=39,SNR=1.9						
FINES				Pg	Pb	14 48 05.7	-1.4
	comp=Z,0.2nm,0.3s,baz=332,slow=15,SNR=6.9						
FINES				Sn	Sn	14 48 51.3	+0.4
	comp=Z,0.2nm,0.3s,baz=336,slow=23,SNR=2.8						
FINES				Lg	Lg	14 49 09.2	
	comp=Z,0.5nm,0.3s,baz=334,slow=26,SNR=10						
	comp=Z,2.1nm,1.0s						
NOA	NORSAR Array B	6.18	229	Pg	Pb	14 48 31.3	-1.4
	baz=37,slow=12,SNR=1.7						
NOA				Lg	Lg	14 49 55.9	
	baz=42,slow=22,SNR=3.2						
HFS	Hagfors	6.25	215	Lg	Lg	14 50 00.4	
	comp=Z,0.3nm,0.3s,baz=26,slow=25,SNR=6.3						
VYHS	Vyhne	17.04	184	*e*P	P	14 50 44.9	-0.7
MODS	Modra-Piesok	17.23	188	*e*P	P	14 50 48.9	+1.2

*IDC **01** 15:01:29.3±1.6, 59°.71N×17°.82E, h0km, mbtmp3.0/3, ML1.8/3, Error ellipse: s-maj=22.4km s-min=6.1km az=177.0*
*HEL **01** 15:01:29.3±0.6, 59°.71N×17°.83E, h0km, ML1.8, Explosion*
ISC 01 15:01:29.3±1.1,**59°.85N**±0°.05×**17°.90E**±0°.04,**h0**km,**n18**, σ1§**44**/26,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	Norrtaelje	0.41	115	*e*P	Pg	15 01 36.3	-0.8
NRTU				*e*S	Sg	15 01 41.7	-0.7
AAL	Aland	1.10	72	*e*P	Pg	15 01 49.5	-0.9
AAL				*e*S	Sg	15 02 04.8	+0.2
ARNU	Arnoeviken	1.86	352	*e*P	Pg	15 02 03.9	-1.1
ARNU				*e*S	Sg	15 02 28.8	-0.2
HFS	Hagfors	2.13	279	Pn	Pn	15 02 05.8	-0.2
	0.7nm,0.3s,baz=99,slow=18,SNR=16						
HFS				Lg	Lg	15 02 34.1	
	3.7nm,0.3s,baz=98,slow=29,SNR=43						
	3.3nm,0.5s						
RAF	Rauma	2.25	57	*e*P	Pb	15 02 09.3	-1.4
HEMU	Hemsoen	2.83	1	*e*P	Pb	15 02 18.7	-1.9
HEMU				*e*S	Sn	15 02 52.4	+1.9
KPF	Kankaanpaa	2.85	44	*e*P	Pb	15 02 19.4	-1.5
KPF				*e*S	Sn	15 02 52.5	+1.6
KPF				MSG		15 03 00.2	
	comp=Z,1.8nm,0.2s						
MEF	Metsahovi	3.28	81	MSG		15 03 14.2	
	comp=Z,2.8nm,0.2s						
NUR	Nurmijarvi	3.44	76	*e*S	Sn	15 03 06.5	+1.1
NOA	NORSAR Array B	3.52	293	Pg	Pb	15 02 32.5	+0.1
	baz=108,slow=17,SNR=2.2						
NOA				Sn	Sn	15 03 07.5	0.0
	baz=122,slow=12,SNR=1.3						
NOA				Lg	Lg	15 03 21.9	
	comp=Z,0.1nm,0.3s,baz=107,slow=15,SNR=8.2						
VAF	Ylistaro	3.94	34	*e*P	Pn	15 02 31.9	+1.1
VAF	Ylistaro	3.94	34	*e*S	Sn	15 03 20.9	+3.2
KEF	Keuruu	4.11	53	*e*S	Sn	15 03 23.9	+1.9
FIA0	FINESS Array S	4.33	65	*e*P	Pn	15 02 37.6	+1.3
FIA0				*e*S	Sn	15 03 28.4	+1.0
FINES	FINESS Array B	4.33	65	Pn	Pn	15 02 37.8	+1.5
	comp=Z,0.1nm,0.3s,baz=253,slow=13,SNR=6.5						
FINES				Sn	Sn	15 03 29.0	+1.6
	comp=Z,0.4nm,0.3s,baz=247,slow=21,SNR=8.4						
FINES				Lg	Lg	15 03 45.8	
	comp=Z,1.0nm,0.3s,baz=252,slow=26,SNR=16						
	comp=Z,1.2nm,0.7s						
FIA1	FINESS Array S	4.33	65	*e*P	Pn	15 02 37.8	+1.5
FIA1				*e*S	Sn	15 03 28.9	+1.5
KAF	Kangasniemi	4.68	57	*e*S	Sn	15 03 36.8	+0.8
ARCES	ARCESS Array B	10.24	15	Pn	Pn	15 03 56.3	-1.0
	baz=198,slow=14,SNR=1.9						
	comp=Z,1.7nm,0.8s						

*ISK **01** 15:04:58.4, 37°.37N×38°.76E, h3km, ML3.0/12*
*AFAD **01** 15:04:59.2±0.0, 37°.44N×38°.73E, h7km±2km, ML2.8*
ISC 01 15:04:58.8±1.0,**37°.41N**±0°.03×**38°.73E**±0°.02,**h5**km±8km, **n24**,σ1§**20**/41,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	Urfa	0.08	63	Pg	Pg	15 05 00.6	0.0
URFA				Sg	Sg	15 05 02.2	+0.4
HANM	anlurfa/Hi	0.21	34	P	Pg	15 05 03.1	+0.1
HANM				S	Sg	15 05 06.1	+0.3
HANM				*i* AML	AML	15 05 08.0	
	comp=N,7μm,0.3s						
HANM				*i* AML	AML	15 05 08.0	
	comp=E,5μm,0.3s						
SANL	SANLIURFA_Merk	0.31	139	P	Pb	15 05 06.1	-0.8
SANL				S	Sb	15 05 11.2	-1.1
SANL				*i* AML	AML	15 05 13.0	
	comp=N,3μm,0.2s						
SANL				*i* AML	AML	15 05 13.0	
	comp=E,4μm,0.3s						

ATAB	Bozova	0.35	281	P	Pg	15 05 06.4	+0.7
ATAB				*i* AML	AML	15 05 14.0	
	comp=E,677nm,0.2s						
ATAB				*i* AML	AML	15 05 15.0	
	comp=N,614nm,0.5s						
NARI	Adyaman-Kaht	0.48	3	P	Pg	15 05 08.3	+0.2
NARI				S	Sg	15 05 14.6	+0.3
NARI				*i* AML	AML	15 05 15.0	
	comp=N,243nm,0.2s						
NARI				*i* AML	AML	15 05 17.0	
	comp=E,161nm,0.4s						
AZEY	Adyaman-Merk	0.56	317	P	Pg	15 05 03.0	-6.6
AZEY				S	Sg	15 05 10.9	-6.0
AKCA	Adyaman/G¶l	0.92	295	P	Pg	15 05 16.5	+0.1
AKCA				S	Sb	15 05 29.7	-0.2
AKCA				*i* AML	AML	15 05 32.0	
	comp=E,640nm,0.2s						
AKCA				*i* AML	AML	15 05 33.0	
	comp=N,1μm,0.6s						
NZIP	Nizip/Gaziante	0.92	247	P	Pb	15 05 17.4	+0.1
NZIP				S	Sn	15 05 31.2	-1.0
NZIP				*i* AML	AML	15 05 33.0	
	comp=N,354nm,0.5s						
NZIP				*i* AML	AML	15 05 36.0	
	comp=E,338nm,0.5s						
GZT	Gaziantep	0.93	267	P	Pg	15 05 17.1	+0.4
GZT				S	Sn	15 05 32.4	-0.2
GZT				*i* AML	AML	15 05 35.0	
	comp=E,298nm,0.4s						
GZT				*i* AML	AML	15 05 37.0	
	comp=N,294nm,0.6s						
MAYA	Malatya/Merkez	0.95	345	P	Pg	15 05 16.8	-0.2
MAYA				*i* AML	AML	15 05 33.0	
	comp=E,180nm,0.3s						
MAYA				*i* AML	AML	15 05 35.0	
	comp=N,201nm,0.2s						
SVRC	Sivrice-ELAZID	1.07	25	Pn	Pb	15 05 20.0	0.0
SVRC				Sn	Sn	15 05 35.8	-0.4
AKCD	Akcadag	1.10	324	P	Pb	15 05 20.4	0.0
AKCD				S	Sg	15 05 34.5	+0.4
AKCD				*i* AML	AML	15 05 38.0	
	comp=N,624nm,0.3s						
AKCD				*i* AML	AML	15 05 39.0	
	comp=E,377nm,0.4s						
ELZG	Elazig	1.11	10	P	Pg	15 05 19.7	-0.4
ELZG				S	Sn	15 05 36.8	-0.3
ELZG				*i* AML	AML	15 05 37.0	
	comp=E,346nm,0.2s						
ELZG				*i* AML	AML	15 05 38.0	
	comp=N,305nm,0.2s						
DIYA	Diyarbakir	1.22	64	P	Pn	15 05 23.6	+0.9
DIYA				S	Sn	15 05 40.2	+0.7
DIYA				*i* AML	AML	15 05 42.0	
	comp=E,309nm,0.6s						
DIYA				*i* AML	AML	15 05 43.0	
	comp=N,261nm,0.3s						
GAZ	Gaziantep	1.24	260	Pn	Pn	15 05 23.1	+0.2
GAZ				Sn	Sn	15 05 41.2	+1.2
DYBB	Diyarbakir	1.24	63	Pn	Pn	15 05 22.8	-0.2
DYBB				Sn	Sn	15 05 40.7	+0.5
KHMN	Narli-Kahraman	1.25	270	Pn	Pn	15 05 23.4	+0.3
MAZI	Mazidag	1.36	87	Pn	Pn	15 05 24.5	-0.2
MAZI				Sn	Sn	15 05 43.9	+0.6
KMRS	Kahramanmaras	1.46	274	Pn	Pn	15 05 25.2	-0.8
KMRS				Sn	Sg	15 05 47.5	+1.7
DARE	Darende-Malaty	1.53	320	Pn	Pb	15 05 27.9	+0.2
DARE				Sn	Sg	15 05 49.4	+1.5
PTK	Pertek	1.57	19	Pn	Pb	15 05 28.4	-0.2
PTK				Sn	Sg	15 05 50.3	+0.9
ARPR	Arapgir-MALATY	1.71	350	Pn	Pb	15 05 30.4	-0.6
BNGB	Bingl	2.20	43	Pn	Pn	15 05 37.2	+0.9
KOZT	Kozan	2.31	273	Pn	Pn	15 05 38.8	+1.1

*IDC **01** 15:05:49.5±7.3, 17°.88S×70°.82W, h184km±46km, mb3.2/2, mbtmp3.6/3, MS3.3/1, Error ellipse: s-maj=104.0km s-min=40.2km az=17.0*
*GUC **01** 15:05:49.6±0.8, 19°.33S×69°.27W, h105km±3km, ML3.5*
ISC 01 15:05:48.2±1.2,**19°.36S**±0°.05×**69°.32W**±0°.08,**h114**km±9km, **n13**,σ0§**80**/21,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	Chusmiza	0.34	159	*e*P	Pn	15 06 05.0	-0.2
GO01				*i* S	Sn	15 06 17.3	-0.6
PB11	IPOC Station P	0.51	218	*e*P	Pn	15 06 06.0	+0.3
PB11				*i* S	Sn	15 06 19.2	+0.3
PB11				IAML		15 06 20.2	
	comp=N,2μm,0.2s						
PB08	IPOC Station P	0.80	168	*e*P	Pn	15 06 08.5	+0.2
PB08				*i* S	Sn	15 06 23.6	+0.3
PB08				IAML		15 06 25.5	
	comp=E,1μm,0.4s						
PX02	IPOC Station P	0.91	295	*e*P	Pn	15 06 08.5	-0.4
PX02				*i* S	Sn	15 06 24.4	-0.2
PX02				IAML		15 06 30.1	
	comp=E,682nm,0.3s						
HMBC	Humberstone	1.06	210	*e*P	Pn	15 06 10.8	+0.3
HMBC				*i* S	Sn	15 06 27.9	+0.6
HMBC				IAML		15 06 31.8	
	comp=N,803nm,0.3s						
TA02	Huaiquique	1.19	220	*e*P	Pn	15 06 12.4	+0.8
TA02				*i* S	Sn	15 06 30.0	+0.6
TA02				IAML		15 06 32.1	
	comp=E,2μm,0.1s						
AP01	Chacalluta	1.37	315	*e*P	Pn	15 06 14.3	+0.6
AP01				*i* S	Sn	15 06 33.6	+0.4
AP01				IAML		15 06 39.2	
	comp=N,2μm,0.3s						
TA01	Diego Aracena	1.45	214	*e*P	Pn	15 06 15.3	+0.7
TA01				*i* S	Sn	15 06 35.2	+0.5
TA01				IAML		15 06 41.9	
	comp=E,399nm,0.3s						
PB01	IPOC Station P	1.69	185	*e*P	Pn	15 06 18.4	+0.8
PB01				*i* S	Sn	15 06 40.8	+0.9
PB01				IAML		15 06 45.8	
	comp=N,786nm,0.3s						
LPAZ	La Paz	3.26	21	P	Pn	15 06 39.3	+1.0
	comp=N,10nm,0.7s,baz=234,slow=19,SNR=

5.4nm,0.3s
PFVI Vila Bisbo 4.29 15 S **Sn 15 08 41.2 -2.4**
PFVI Vila Bisbo 4.29 15 P **Pn 15 07 54.9 +1.4**
MORF Marmelete 4.49 16 *e*P **Pn 15 07 58.2 +1.9**
MORF *e*S **Sn 15 08 47.8 -0.9**
MORF A A 15 08 52.7
11nm,0.1s
MORF Marmelete 4.49 16 *e*P **Pn 15 07 58.1 +1.8**
MORF *e*S **Sn 15 08 47.8 -0.9**
MORF IAML 15 08 49.2
comp=E,9.8nm,0.1s
MD31 MD31 4.56 90 P **Pn 15 07 58.2 +1.0**
MD31 MD31 4.56 90 S **Sn 15 08 49.8 -0.5**
PBDV Barranco-do-Ve 4.64 23 *e*P **Pn 15 08 01.2 +2.9**
PBDV *e*S **Sn 15 08 52.6 +0.4**
PBDV A A 15 08 55.5
comp=E,3.1nm,0.2s
PTEO Sao Teotonio 4.71 14 *e*P **Pn 15 08 01.4 +2.2**
PTEO *e*S **Sn 15 08 53.1 -0.8**
PTEO A A 15 08 57.2
comp=E,10.0nm,0.6s
PVAQ Vaqueiros 4.85 24 *e*P **Pn 15 08 03.8 +2.6**
PVAQ *e*S **Sn 15 08 57.7 +0.2**
PVAQ A A 15 09 02.5
comp=E,3.9nm,0.1s
PVAQ Vaqueiros 4.85 24 P **Pn 15 08 03.7 +2.6**
PVAQ S **Sn 15 08 57.7 +0.2**
PVAQ Vaqueiros 4.85 24 P **Pn 15 08 02.7 +1.5**
PVAQ Vaqueiros 4.85 24 S **Sn 15 08 58.8 +1.4**
PCVE Castro Verde 4.96 20 *e*P **Pn 15 08 05.2 +2.5**
PCVE *e*S **Sn 15 09 00.3 +0.2**
PCVE A A 15 09 04.9
comp=E,3.9nm,0.5s
PCVE Castro Verde 4.96 20 P **Pn 15 08 05.0 +2.3**
PCVE S **Sn 15 09 00.5 +0.4**
EGRO El Granado 5.05 25 P **Pn 15 08 06.0 +2.1**
EGRO S **Sn 15 09 03.2 +0.9**
EGRO El Granado 5.05 25 Pn **Pn 15 08 05.9 +2.0**
EGRO ⇑*i*Vmb_V 15 08 08.1
comp=E,181nm,SNR=1.5
EGRO Sn **Sn 15 09 00.7 -1.6**
MESJ Messejana 5.11 18 *e*P **Pn 15 08 07.5 +2.8**
MESJ *e*S **Sn 15 09 02.6 -1.1**
MESJ A A 15 09 05.9
comp=E,4.6nm,0.1s
MESJ Messejana 5.11 18 *e*P **Pn 15 08 06.7 +2.0**
MESJ *e*S **Sn 15 09 02.6 -1.1**
MESJ IAML 15 09 04.7
comp=N,6.3nm,0.3s
ESPR Espera 5.26 41 S **Sn 15 09 11.7 +4.3**
ESPR P Pn 15 08 11.8 +5.1
ESPR Espera 5.26 41 Pn **Pn 15 08 08.5 +1.7**
ESPR ⇑*i*Vmb_V 15 08 12.7
comp=N,178nm,SNR=1.5
ESPR Sn **Sn 15 09 08.9 +1.4**
PBEJ Beja 5.38 20 *e*P **Pn 15 08 11.1 +2.7**
PBEJ *e*S **Sn 15 09 09.7 -0.7**
PBEJ A A 15 09 11.6
comp=N,4.8nm,0.4s
CFUE Fuerteventura 5.39 218 Pn Pn 15 08 00.1 -8.6
CFUE ⇑*i*Vmb_V 15 08 04.4
comp=N,437nm,SNR=1.9
CFUE Sn Sn 15 08 53.0 -18
EMIN Mina Concepcio 5.57 30 S **Sn 15 09 14.7 -0.4**
EMIN P **Pn 15 08 14.0 +2.9**
EMIN Mina Concepcio 5.57 30⇑*i*Vmb_V 15 08 16.5
comp=N,67nm,SNR=0.7
EMIN Sn **Sn 15 09 13.9 -1.2**
PBAR Barrancos 5.78 25 *e*P **Pn 15 08 17.0 +3.0**
PBAR *e*S **Sn 15 09 20.2 -0.2**
PBAR A A 15 09 23.6
comp=N,2.0nm,0.4s
PBAR Barrancos 5.78 25 S **Sn 15 09 20.1 -0.2**
PBAR P **Pn 15 08 16.2 +2.3**
EVO Evora 5.81 17 *e*S **Sn 15 09 19.6 -1.6**
EVO A A 15 09 24.6
comp=N,5.9nm,0.6s
EVO Evora 5.81 17 S **Sn 15 09 19.8 -1.3**
CGIN Giniginamar, F 5.83 216 Pn Pn 15 08 05.0 -10
CGIN ⇑*i*Vmb_V 15 08 08.9
comp=N,414nm,SNR=0.9
CGIN Sn Sn 15 09 05.5 -16
PMAFR Mafra 6.01 7 *e*S **Sn 15 09 21.4 -4.6**
PMAFR A A 15 09 25.8
comp=N,16nm,0.9s
PMAFR Mafra 6.01 7 S **Sn 15 09 22.1 -3.9**
PMTG Montargil 6.28 14 *e*P **Pn 15 08 22.6 +1.8**
PMTG *e*S **Sn 15 09 29.9 -2.7**
PMTG A A 15 09 33.0
comp=N,4.1nm,0.3s
PMRV Marv??o 6.82 18 *e*P **Pn 15 08 30.1 +1.9**
PMRV *e*S **Sn 15 09 43.9 -2.0**
PMRV A A 15 09 46.9
comp=N,3.2nm,1.0s
PCBR Castelo Branco 7.19 17 *e*S **Sn 15 09 52.2 -2.7**
PCBR A A 15 09 55.0
comp=N,1.9nm,0.3s
PCAS Casmilo, Conde 7.19 10 *e*S **Sn 15 09 52.8 -2.2**
PCAS A A 15 09 56.5
comp=N,1.6nm,0.5s
MVO Moncorvo 8.55 16 *e*S **Sn 15 10 25.9 -2.7**
POLO Lamas de Olo 8.59 12 *e*S **Sn 15 10 26.8 -2.9**

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*DJA **01** 15:16:58.9±1.0,5°N±3°×9°6E±°, h11km±3km, M3.6/5, MLv3.6/5*
*IDC **01** 15:17:02.1±13.0,3°78N×96°20E, h0km, mb3.3/2, mbtmp3.3/3, Error ellipse: s-maj=363.0km s-min=49.2km az=78.0*
ISC 01 15:17:01.7±1.9,**4°74N**±0°07×**96°3E**±0°1,**h31**km,**n13**, σ1º**23**/10,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.49**	**162**	P	**Pb**	**15 17 10.7**	**-1.4**
MLSI				S	**Sb**	**15 17 18.4**	**-0.8**
LHMI	**Lhok Sumawe**	**0.85**	**55**	P	**Pn**	**15 17 16.5**	**-1.1**
LHMI				S	**Sb**	**15 17 30.1**	**+1.0**
KCSI	**Kotacane, Aceh**	**1.94**	**128**	P	**Pn**	**15 17 33.2**	**+0.6**
KCSI				S	**Sb**	**15 17 59.8**	**-0.5**
SNSI	**Sinabang, Aceh**	**2.31**	**178**	P	**Pn**	**15 17 37.8**	**0.0**
SNSI				S	**Sn**	**15 18 06.6**	**+1.4**
CMAR	**Chiang Mai Arr**	**13.89**	**11**	Pn	P	15 20 33.4	+8.9
	0.3nm,0.3s,baz=206,slow=10,SNR=4.1						
H08S2	**Diego Garcia H**	**26.70**	**243**	T	T	15 49 36.4	
	baz=62,slow=74						
H08S3	**Diego Garcia H**	**26.70**	**243**	T	T	15 49 39.4	
	baz=62,slow=74						
H08S1	**Diego Carcia H**	**26.72**	**243**	T	T	15 49 41.3	
	baz=62						
WRA	**Warramunga Arr**	**44.76**	**124**	P	**P**	**15 25 14.6**	**+1.8**
	0.2nm,0.5s,baz=303,slow=9.5,SNR=2.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**46.31**	**129**	P	**P**	**15 25 24.9**	**-0.2**
	0.3nm,0.4s,baz=298,slow=7.4,SNR=5.5						
	0.3nm,0.4s						
H04N2	**CROZET ISLANDS**	**64.18**	**213**	T	T	16 37 07.2	
	baz=48,slow=75,SNR=3.6						
H04N1	**CROZET ISLANDS**	**64.19**	**213**	T	T	16 37 10.9	
	baz=48,slow=75,SNR=3.7						
H04N3	**CROZET ISLANDS**	**64.20**	**213**	T	T	16 37 03.2	
	baz=48,slow=75,SNR=3.3						

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*IDC **01** 15:22:18.2±1.3,30°54S×71°66W, h0km, mb3.8/4, mbtmp3.7/8, ML3.4/4, MS3.5/3, Error ellipse: s-maj=71.8km s-min=20.1km az=100.0*
*SJA **01** 15:22:20.8±1.5,30°53S×71°88W, h20km±7km, ML4.0, MW3.8*
*NEIC **01** 15:22:21.1±1.8,30°60S±0°04×71°89W±0°06, h16km±5km, mb4.1/4, Error ellipse: s-maj=7.7km s-min=5.0km az=101.0*
*GUC **01** 15:22:23.2±0.8,30°63S×71°72W, h32km±2km, ML4.0*
ISC 01 15:22:17.9±1.6,**30°59S**±0°03×**71°97W**±0°05,**h2**km±10km, **n97**, σ1º**51**/107,**mb4.0**/5,**2C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.30**	**106**		**Pb**	**15 22 27.6**	**+1.6**
CO06				Sg	**Sb**	**15 22 31.2**	**-0.2**
CO06	**Fray Jorge**	**0.30**	**106**	⇑*i*P	**Pb**	**15 22 28.1**	**+2.1**
CO06				*i* S	**Sb**	**15 22 31.4**	**0.0**
CO06				IAML		15 22 32.0	
	comp=E,36μm,0.2s						
CO05	**La Serena**	**0.92**	**44**		**Pn**	**15 22 38.0**	**+0.2**
CO05				Sg	**Sg**	**15 22 48.5**	**+0.9**
CO05	**La Serena**	**0.92**	**44**	⇓*i*P	**Pn**	**15 22 38.5**	**+0.6**
CO05				*i* S	**Sb**	**15 22 49.6**	**+0.3**
CO05				IAML		15 22 54.0	
	comp=N,9μm,0.5s						
GO04	**Tololo Observa**	**1.09**	**68**		**Pg**	**15 22 39.6**	**+0.7**
GO04	**Tololo Observa**	**1.09**	**68**	⇓*i*P	**Pg**	**15 22 40.2**	**+1.3**
GO04				*i* S	**Sg**	**15 22 52.9**	**-0.2**
GO04				IAML		15 23 02.3	
	comp=N,14μm,0.5s						
GO04	**Tololo Observa**	**1.09**	**68**	*e*P	**Pg**	**15 22 40.2**	**+1.3**
GO04				*e*S	**Sg**	**15 22 54.0**	**+0.9**
CO03	**El Pedregal**	**1.13**	**103**		**Pg**	**15 22 39.5**	**-0.1**
CO03				Sg	**Sg**	**15 22 52.6**	**-1.7**
CO03	**El Pedregal**	**1.13**	**103**	⇓*i*P	**Pg**	**15 22 39.7**	**0.0**
CO03				*i* S	**Sg**	**15 22 51.7**	**-2.6**
CO04	**Los Peladeros**	**1.68**	**150**	*e*P	**Pn**	**15 22 49.6**	**+1.0**
CO04				*i* S	**Sn**	**15 23 10.0**	**-0.8**
CO04				IAML		15 23 13.4	
	comp=E,5μm,0.3s						
CO01	**Juntas del Tor**	**1.73**	**70**		**Pn**	**15 22 49.7**	**+0.4**
CO01					**Sn**	**15 23 10.7**	**-1.4**
CO01	**Juntas del Tor**	**1.73**	**70**	*e*P	**Pn**	**15 22 50.5**	**+1.2**
CO01				*i* S	**Sn**	**15 23 10.4**	**-1.7**
LCO	**Las Campanas**	**1.92**	**35**	Pn	**Pn**	**15 22 52.9**	**+1.0**
LCO				Sn	**Sn**	**15 23 16.2**	**-0.6**
LCO					**Sb**	**15 23 17.0**	**-1.3**
LCO	**Las Campanas**	**1.92**	**35**	⇑*i*P	**Pn**	**15 22 53.6**	**+1.7**
LCO				*i* S	**Sn**	**15 23 16.8**	**+0.1**
AROD	**Rodeo**	**2.20**	**80**	*e*P	**Pb**	**15 22 58.7**	**+0.1**
AROD				*e*S	**Sb**	**15 23 25.7**	**-0.7**
AC05	**El Transito**	**2.29**	**41**	Pn	**Pn**	**15 22 58.2**	**+1.4**
ACCO	**El Transito**	**2.29**	**41**	*e*P	**Pb**	**15 22 59.2**	**-0.8**
AC05				*i* S	**Sn**	**15 23 26.9**	**+1.3**
AC05				IAML		15 23 37.8	
	comp=E,946nm,0.5s						
VA01	**Torpederas**	**2.44**	**174**		**Pn**	**15 23 00.1**	**+1.3**
VA03	**San Esteban**	**2.48**	**151**		**Pn**	**15 22 59.9**	**+0.4**
VA03	**San Esteban**	**2.48**	**151**	*e*P	**Pn**	**15 23 01.7**	**+2.2**
VA03				*e*S	**Sn**	**15 23 30.9**	**+0.5**
VA03				IAML		15 23 40.8	
	comp=N,1μm,0.7s						
AC04	**Llanos de Chal**	**2.50**	**18**	Pn	**Pn**	**15 23 01.2**	**+1.5**
ACCO	**Cerro Coronel**	**2.50**	**91**	*e*P	**Pb**	**15 23 03.5**	**-0.3**
ACCO				*e*S	**Sb**	**15 23 34.2**	**-1.0**
DOCA	**Reserva Natura**	**2.51**	**99**	*e*P	**Pb**	**15 23 03.1**	**-0.8**
DOCA				*e*S	**Sn**	**15 23 32.8**	**+1.4**
ROC1	**El Roble**	**2.51**	**161**	*e*P	**Pn**	**15 23 01.5**	**+1.5**
ROC1				*e*S	**Sn**	**15 23 32.1**	**+0.7**
RTLS	**Leoncito**	**2.59**	**118**	*e*P	**Pn**	**15 23 04.2**	**+3.1**
RTLS				IAML		15 23 44.8	
	comp=Z,1μm,0.4s						
AUSP	**Uspallata**	**2.74**	**127**	*e*P	**Pn**	**15 23 06.4**	**+3.1**
MT02	**Curacav**	**2.75**	**165**		**Pn**	**15 23 04.3**	**+1.2**
PEL	**Peldehue**	**2.77**	**157**	Pn	**Pn**	**15 23 04.3**	**+0.9**
PEL	**Peldehue**	**2.77**	**157**	*e*P	**Pn**	**15 23 06.2**	**+2.8**
PEL				IAML		15 23 48.0	
	comp=E,876nm,0.4s						
PEL	**Peldehue**	**2.77**	**157**	*e*P	**Pn**	**15 23 06.6**	**+3.2**
MT10	**Hacienda Santa**	**2.94**	**156**	*e*P	**Pn**	**15 23 07.8**	**+2.0**
ZON	**Zonda**	**2.98**	**109**	Pn	**Pn**	**15 23 08.0**	**+1.7**
MT05	**Renca**	**2.98**	**160**	Pn	**Pn**	**15 23 07.2**	**+0.9**
MT05	**Renca**	**2.98**	**160**	*e*P	**Pn**	**15 23 08.7**	**+2.4**
VA05	**Santo Domingo**	**3.07**	**174**		**Pn**	**15 23 08.8**	**+1.3**
MT16	**CCHEN**	**3.08**	**157**		**Pn**	**15 23 09.6**	**+1.8**
RTLL	**Cerro Villicun**	**3.09**	**105**	*e*P	**Pn**	**15 23 10.2**	**+2.4**
MT03	**Universidad Ad**	**3.15**	**157**		**Pn**	**15 23 10.9**	**+2.3**
MT09	**Talagante**	**3.28**	**166**		**Pn**	**15 23 11.6**	**+1.1**
MT08	**Bocatoma Ro**	**3.29**	**150**		**Pn**	**15 23 12.1**	**+1.4**
MT01	**Popeta**	**3.32**	**170**		**Pn**	**15 23 12.0**	**+1.1**
ASAL	**Salagasta**	**3.34**	**128**	*e*P	**Pn**	**15 23 15.0**	**+3.8**
ASAL				IAML		15 24 20.0	
	comp=Z,243nm,0.7s						
GO03	**Copiapo**	**3.35**	**27**		**Pn**	**15 23 12.6**	**+1.2**
GO03	**Copiapo**	**3.35**	**27**	*e*P	**Pn**	**15 23 13.2**	**+1.9**
AC06	**Mina Casimiro**	**3.52**	**24**	Pn	**Pn**	**15 23 14.8**	**+1.2**
LMEL	**Las Melosas**	**3.58**	**156**		**Pn**	**15 23 16.3**	**+1.7**
BO04	**La Punta**	**3.58**	**162**		**Pn**	**15 23 15.3**	**+0.8**
AAGR	**Agrelo**	**3.65**	**134**	*e*P	**Pn**	**15 23 19.7**	**+4.1**
AAGR				IAML		15 24 23.1	
	comp=Z,200nm,0.7s						
BO01	**Tunca**	**3.86**	**169**	Pn	**Pn**	**15 23 18.3**	**-0.1**
BO02	**Sierra Bellavi**	**4.31**	**167**	Pn	**Pn**	**15 23 24.5**	**-0.1**
GO05	**Hualane**	**4.41**	**180**		**Pn**	**15 23 26.0**	**+0.1**
ACLC	**CERRO LA CRUZ**	**4.50**	**76**	*e*P	**Pn**	**15 23 30.3**	**+3.0**
ACLC				IAML		15 24 43.8	
	comp=Z,102nm,0.6s						
AC01	**Pan de Azucar**	**4.59**	**16**		**Pn**	**15 23 28.1**	**-0.2**
ML02	**Panimavida**	**5.18**	**175**		**Pn**	**15 23 36.2**	**-0.3**
GO02	**Mina Guanaco**	**5.80**	**22**	Pn	**Pn**	**15 23 45.5**	**+0.2**
BI02	**San Fabin de**	**6.08**	**175**		**Pn**	**15 23 50.0**	**+1.0**
PB14	**IPOC Station P**	**6.10**	**14**		**Pn**	**15 23 48.9**	**-0.5**
H03N1	**Juan Fernandez**	**6.54**	**242**	T	T	15 30 51.3	
	baz=72,slow=72,SNR=2971						
H03N2	**Juan Fernandez**	**6.56**	**243**	T	T	15 30 52.3	
	baz=72,slow=72,SNR=3395						
H03N3	**Juan Fernandez**	**6.56**	**242**	T	T	15 30 50.6	
	baz=72,slow=72,SNR=2846						
VA04	**Juan Fernndez**	**6.57**	**241**	Pn	**Pn**	**15 23 57.1**	**+1.6**
PB15	**IPOC Station P**	**7.68**	**17**		**Pn**	**15 24 11.9**	**+0.9**
PB06	**IPOC Station P**	**8.14**	**16**	Pn	**Pn**	**15 24 20.4**	**+3.1**
LVC	**Limon Verde**	**8.40**	**20**	Pn	**Pn**	**15 24 20.6**	**-0.5**
LVC	**Limon Verde**	**8.40**	**20**	Pn	**Pn**	**15 24 21.0**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=117,slow=6.8,SNR=1.6						
LVC				Lg	Lg	15 26 26.7	
	comp=Z,1.1nm,0.3s,baz=180,slow=14,SNR=6.8						
LVC				LR	LR	15 27 28.3	
	comp=Z,139nm,18.3s,baz=214,slow=38						
	comp=Z,1.6nm,0.4s						
GO06	**Curarrehue**	**8.98**	**178**	Pn	**Pn**	**15 24 28.4**	**-0.4**
PB09	**IPOC Station P**	**9.09**	**16**	Pn	**Pn**	**15 24 28.7**	**-1.7**
PB01	**IPOC Station P**	**9.77**	**14**	Pn	**Pn**	**15 24 39.1**	**-0.4**
PLCA	**Paso Flores**	**10.19**	**174**	Pn	**Pn**	**15 24 44.5**	**-0.7**
PLCA	**Paso Flores**	**10.19**	**174**	Pn	**Pn**	**15 24 47.2**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=41,slow=2.4,SNR=1.7						
	comp=Z,0.9nm,0.8s						
HMBC	**Humberstone**	**10.44**	**11**		**Pn**	**15 24 49.2**	**+0.4**
PB11	**IPOC Station P**	**10.98**	**12**	Pn	**Pn**	**15 24 55.8**	**-0.5**
TRQA	**Tornquist**	**11.12**	**135**	Pn	**Pn**	**15 24 56.9**	**-1.0**
GO01	**Chusmiza**	**11.16**	**14**		**Pn**	**15 25 00.5**	**+1.5**
ITQB	**Itaqui**	**13.31**	**90**	Pn	**Pn**	**15 25 25.9**	**-2.1**
CPUP	**Villa Florida**	**13.56**	**75**	Pn	Pn	15 25 26.6	-4.7
LPAZ	**La Paz**	**14.66**	**15**	Pn	**Pn**	**15 25 44.4**	**-2.7**
LPAZ	**La Paz**	**14.66**	**15**	Pn	**Pn**	**15 25 44.6**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=201,slow=8.6,SNR=2.6						
	comp=Z,0.4nm,0.4s						
SIV	**San Ignacio**	**17.63**	**37**	P	**Pn**	**15 26 23.3**	**-1.5**
	baz=222,slow=11,SNR=9.4						
	comp=Z,2.6nm,0.9s						
SAML	**Samuel**	**23.04**	**23**	P	**P**	**15 27 25.5**	**+0.9**
BOAV	**Boa Vista**	**34.57**	**20**	P	**P**	**15 29 08.4**	**+0.2**
BOAV				IAmb	IAmb	15 29 16.6	
	comp=Z,2.6nm,1.1s						
PCRV	**Puerto La Cruz**	**41.14**	**11**	LR	LR	15 50 06.8	
	comp=Z,82nm,20.6s,slow=41						
SNAA	**Sanae**	**54.72**	**159**	P	**P**	**15 31 48.9**	**+0.5**
SNAA				IAmb	IAmb	15 31 56.6	
	comp=Z,1.8nm,0.9s						
SNAA	**Sanae**	**54.72**	**159**	P	**P**	**15 31 48.4**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=277,slow=9.0,SNR=6.0						
	comp=Z,1.1nm,0.8s						
QSPA	**South Pole Qui**	**59.64**	**180**	P	**P**	**15 32 24.6**	**+1.3**
QSPA	**South Pole Qui**	**59.64**	**180**	P	**P**	**15 32 24.2**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=201,slow=3.1,SNR=8.8						
	comp=Z,0.4nm,0.6s						
MAW	**Mawson**	**76.43**	**164**	P	**P**	**15 34 09.3**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=190,slow=5.6,SNR=7.0						
	comp=Z,0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**83.00**	**70**	P	**P**	**15 34 43.8**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=287,slow=5.8,SNR=5.5						
	comp=Z,0.5nm,0.5s						
LBTB	**Lobatse**	**83.69**	**115**	LR	LR	16 11 27.3	
	comp=Z,33nm,19.0s,baz=186,slow=35						
WRA	**Warramunga Arr**	**123.75**	**210**	PKP	**PKPdf**	**15 41 18.0**	**0.0**
	comp=Z,0.3nm,0.8s,baz=162,slow=1.5,SNR=2.2						
H11S2	**WAKE ISLAND Hyl**	**25.81**	**272**	T	T	18 00 11.2	
	baz=115,slow=75,SNR=29						
H11S1	**WAKE ISLAND Hyl**	**25.82**	**272**	T	T	18 00 02.4	
	baz=115,slow=75,SNR=32						
H11S3	**WAKE ISLAND Hyl**	**25.83**	**272**	T	T	18 00 05.3	
	baz=115,slow=75,SNR=22						
BVAR	**Borovoye Array**	**144.69**	**40**	PKP	PKPbc	15 41 55.8	+1.2
	comp=Z,1.1nm,0.5s,baz=317,slow=2.9,SNR=6.1						
KURBB	**Kurchatov Arra**	**150.27**	**39**	PKPbc	**PKPbc**	**15 42 09.5**	**-0.8**
	comp=Z,1.6nm,0.2s,baz=298,slow=3.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**151.27**	**29**	PKPbc	**PKPbc**	**15 42 13.2**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=274,slow=2.5,SNR=12						
PZH	**PanZhiHua**	**173.13**	**125**	PKP	**PKPdf**	**15 42 29.4**	**0.0**

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*SJA **01** 15:34:02.0,28°34S×70°38W, h77km, ML3.3*
*GUC **01** 15:34:02.2±0.9,28°41S×70°27W, h105km±5km, ML3.5*
ISC 01 15:34:00.5±1.5,**28°35S**±0°04×**70°38W**±0°07, **h110**km±10km,**n27**,σ1º**65**/37,**4D,Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC05	**El Transito**	**0.50**	**169**	⇓*i*P	**Pn**	**15 34 17.4**	**-0.2**
AC05				*i* S	**Sn**	**15 34 28.7**	**-1.6**
AC05	**El Transito**	**0.50**	**169**	*i* P	**Pn**	**15 34 16.7**	**-0.8**
AC04	**Llanos de Chal**	**0.62**	**283**	⇓*i*P	**Pn**	**15 34 20.0**	**+1.7**
AC04				*i* S	**Sn**	**15 34 33.5**	**+1.9**
AC04				IAML		15 34 34.8	
	comp=E,1μm,0.2s						
AC04	**Llanos de Chal**	**0.62**	**283**	*i* P	**Pn**	**15 34 19.3**	**+1.1**
LCO	**Las Campanas**	**0.72**	**203**	*e*P	**Pn**	**15 34 19.6**	**+0.3**
LCO				*i* S	**Sn**	**15 34 33.6**	**+0.1**
LCO	**Las Campanas**	**0.72**	**203**	*i* P	**Pn**	**15 34 19.4**	**0.0**
GO03	**Copiapo**	**0.76**	**10**	⇓*i*P	**Pn**	**15 34 20.0**	**+0.5**
GO03				*i* S	**Sn**	**15 34 33.6**	**-0.2**
GO03				IAML		15 34 35.2	
	comp=N,3μm,0.3s						
GO03	**Copiapo**	**0.76**	**10**	*i* P	**Pn**	**15 34 19.4**	**-0.1**
AC06	**Mina Casimiro**	**0.99**	**2**	⇓*i*P	**Pn**	**15 34 22.6**	**+1.0**
AC06				*i* S	**Sn**	**15 34 38.1**	**+0.6**
AC06				IAML		15 34 38.8	
	comp=E,1μm,0.2s						
CO01	**Juntas del Tor**	**1.64**	**171**	*e*P	**Pn**	**15 34 30.6**	**+1.3**
CO01				*i* S	**Sn**	**15 34 51.1**	**-0.1**
CO01	**Juntas del Tor**	**1.64**	**171**	*i* P	**Pn**	**15 34 30.3**	**+1.0**
CO05	**La Serena**	**1.73**	**205**	*e*P	**Pn**	**15 34 31.4**	**+1.3**
CO05				*e*S	**Sn**	**15 34 52.7**	**-0.1**
CO05				IAML		15 34 54.9	
	comp=N,376nm,0.5s						
GO04	**Tololo Observa**	**1.85**	**191**	*e*P	**Pn**	**15 34 32.4**	**+0.5**
GO04				*i* S	**Sn**	**15 34 54.2**	**-1.6**
GO04	**Tololo Observa**	**1.85**	**191**	*i* P	**Pn**	**15 34 32.6**	**+0.7**
VCA	**Vinchina**	**1.96**	**102**	*i* P	**Pn**	**15 34 33.3**	**+0.3**
AROD	**Rodeo**	**1.98**	**157**	*i* P	**Pn**	**15 34 35.1**	**+1.6**
AC01	**Pan de Azucar**	**2.20**	**355**	*e*P	**Pn**	**15 34 37.5**	**+1.4**
AC01				*i* S	**Sn**	**15 34 58.6**	**-4.7**
AC01	**Pan de Azucar**	**2.20**	**355**	*i* P	**Pn**	**15 34 37.0**	**+0.9**
CO03	**El Pedregal**	**2.50**	**186**	*e*P	**Pn**	**15 34 40.9**	**+1.0**
CO03	**El Pedregal**	**2.50**	**186**	*i* P	**Pn**	**15 34 40.7**	**+0.7**
ACCO	**Cerro Coronel**	**2.51**	**153**	*i* P	**Pn**	**15 34 42.2**	**+1.9**
CO06	**Fray Jorge**	**2.56**	**205**	*e*P	**Pn**	**15 34 41.2**	**+0.5**
CO06				*e*S	**Sn**	**15 35 06.5**	**-5.2**
CO06				IAML		15 35 31.2	
	comp=E,214nm,1.1s						
DOCA	**Reserva Natura**	**2.83**	**157**	*i* P	**Pn**	**15 34 45.9**	**+1.3**
RTLL	**Cerro Villicun**	**3.40**	**151**	*i* P	**Pn**	**15 34 52.8**	**+0.9**
RTLS	**Leoncito**	**3.57**	**165**	*i* P	**Pn**	**15 34 56.2**	**+1.9**
ASAL	**Salagasta**	**4.44**	**163**	*i* P	**Pn**	**15 35 07.6**	**+1.8**
MT02	**Curacav**	**4.94**	**187**	*i* P	**Pn**	**15 35 13.2**	**+0.7**

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*NEIC **01** 15:39:05.2±1.9, 15°0S±0°2×178°3W±0°1, h399km±11km, mb4.2/9, Error ellipse: s-maj=31.3km s-min=15.0km az=155.0*
*IDC **01** 15:39:06.8±2.9, 15°19S×178°45W, h414km±25km, mb3.2/5, mbtmp4.0/6, Error ellipse: s-maj=36.7km s-min=29.4km az=28.0*
ISC 01 15:39:04.8±0.8,**15°1S**±0°2×**178°3W**±0°1,**h390**km,**n19**, σ1º**32**/19,**mb4.0**/9,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**0.78**	**12**		**Pn**	**15 39 55.5**	**+1.3**
MSVF	**Nonsavu**	**4.40**	**233**		**Pn**	**15 40 21.4**	**+1.2**
MSVF	**Nonsavu**	**4.40**	**233**	P	**Pn**	**15 40 21.9**	**+1.7**
	58nm,0.6s,baz=70,slow=12,SNR=49						
AFI	**Afiamalu**	**6.41**	**80**		**Pn**	**15 40 41.8**	**+0.1**
CTAO	**Charters Tower**	**34.12**	**256**	P	**P**	**15 45 14.6**	**-0.4**
CTAO				IAmb	IAmb	15 45 55.4	
	comp=Z,27nm,1.5s						
MCQ	**Macquarie Isla**	**43.15**	**199**	P	**P**	**15 46 29.9**	**+1.4**
BBOO	**Buckleboo**	**44.93**	**239**	P	**P**	**15 46 42.0**	**-0.8**
BBOO				IAmb	IAmb	15 46 44.1	
	comp=Z,22nm,1.4s						
WB0	**Warramunga Arr**	**45.28**	**257**	P	**P**	**15 46 44.2**	**-1.5**
WB0				IAmb	IAmb	15 47 10.3	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**45.33**	**257**	P	**P**	**15 46 44.4**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=95,slow=7.2,SNR=8.8						
	comp=Z,0.4nm,0.8s						
AS31	**Alice Springs**	**45.73**	**252**	P	**P**	**15 46 48.1**	**-1.2**
ASAR	**Alice Springs**	**45.73**	**252**	P	**P**	**15 46 47.6**	**-1.6**
ASAR	**Alice Springs**	**45.73**	**252**	P	**P**	**15 46 48.0**	**-1.2**
	comp=Z,4.9nm,0.5s,baz=84,slow=8.5,SNR=103						
	comp=Z,4.9nm,0.5s						
FORT	**Forrest**	**51.37**	**243**	P	**P**	**15 47 29.9**	**-1.5**
SOEI	**Soe**	**56.23**	**268**	P	**P**	**15 48 06

5.0nm,0.3s,baz=90,slow=17,SNR=1.7
JHJ Sn **Sn** **15 46 35.4 -0.6**
9.1nm,0.3s,baz=96,slow=18,SNR=1.2
166nm,0.8s
ASAJ Asahikawa 5.79 7 Pn **Pn** **15 45 39.1 0.0**
0.6nm,0.3s,baz=185,slow=15,SNR=11
ASAJ Sn **Sn** **15 46 40.4 -3.8**
0.1nm,0.3s,baz=139,slow=32,SNR=1.2
USRK Ussuriysk Ar. 9.34 312 Pn **Pn** **15 46 28.0 +0.3**
0.3nm,0.3s,baz=119,slow=14,SNR=8.0
1.0nm,0.5s
KSRS Korea Array 10.91 269 Pn **Pn** **15 46 49.0 -0.2**
0.1nm,0.3s,baz=76,slow=14,SNR=2.0
0.5nm,0.3s
H11N2 WAKE ISLAND Hy 28.67 123 T T 16 20 20.8
baz=316,slow=76,SNR=32
H11N1 WAKE ISLAND Hy 28.68 123 T T 16 20 21.5
baz=316,slow=76,SNR=27
H11N3 WAKE ISLAND Hy 28.69 123 T T 16 20 22.1
baz=316,slow=76,SNR=41
H11S1 WAKE ISLAND Hy 29.43 125 T T 16 21 18.6
baz=317,slow=76,SNR=41
H11S3 WAKE ISLAND Hy 29.43 125 T T 16 21 19.3
baz=317,slow=76,SNR=55
H11S2 WAKE ISLAND Hy 29.44 125 T T 16 21 17.8
baz=317,slow=76,SNR=44
ZALV Zalesovo Beam 41.19 311 P **P** **15 51 55.0 +0.2**
0.4nm,0.4s,baz=101,slow=4.3,SNR=2.4
0.4nm,0.4s
MKAR Makanchi Array 43.61 301 P **P** **15 52 14.9 +0.2**
0.5nm,0.6s,baz=71,slow=9.4,SNR=2.9
0.5nm,0.6s
KURBB Kurchatov Arra 45.36 307 P **P** **15 52 28.3 -0.3**
1.9nm,0.6s,baz=81,slow=8.0,SNR=21
1.9nm,0.6s
ILAR Eielson Array 48.27 33 LR LR 16 13 17.4
comp=Z,15nm,20.6s,baz=270,slow=36
YBH Yreka Blue Hor 69.37 53 LR LR 16 20 38.7
comp=Z,30nm,19.3s,baz=102,slow=32

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*AFAD **01** 15:45:44.9±0.0, 37°.92N×44°.22E, h7km±6km, ML2.5*
*TEH **01** 15:45:48.3, 38°.05N×44°.55E, h6km±100km, ML2.5*
ISC 01 15:45:44.8±1.1, 37°.94N±0°.04×44°.28E±0°.03, h7km±12km, n12, σ1§12/18, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YOVA	**Hakkari_Yksek**	**0.35**	**178**	P		**Pg**	**15 45 51.6**	**-0.1**
YOVA				S		**Sg**	**15 45 57.3**	**+0.9**
YOVA				*i* AML		AML	15 46 01.0	
	comp=E,413nm,0.4s							
YOVA				*i* AML		AML	15 46 02.0	
	comp=N,584nm,0.7s							
HAKT	**HAKKARI**	**0.59**	**230**	P		**Pg**	**15 45 55.0**	**-1.2**
HAKT				S		**Sg**	**15 46 05.2**	**+1.2**
HAKT				*i* AML		AML	15 46 07.0	
	comp=E,374nm,0.5s							
HAKT				*i* AML		AML	15 46 08.0	
	comp=N,371nm,0.3s							
OZAP	**Van, Ozalp-Mer**	**0.75**	**343**	P		**Pg**	**15 46 00.6**	**+1.3**
OZAP				S		**Sn**	**15 46 14.9**	**+1.1**
OZAP				*i* AML		AML	15 46 26.0	
	comp=N,86nm,0.6s							
OZAP				*i* AML		AML	15 46 29.0	
	comp=E,92nm,0.7s							
CUKT	**Cukurca**	**0.87**	**218**	P		**Pg**	**15 46 01.2**	**-0.3**
CUKT				S		**Sg**	**15 46 14.0**	**+1.1**
CUKT				*i* AML		AML	15 46 17.0	
	comp=N,342nm,0.7s							
CUKT				*i* AML		AML	15 46 18.0	
	comp=E,285nm,0.4s							
GEVA	**Gevas**	**1.03**	**292**	P		**Pg**	**15 46 02.2**	**-2.4**
GEVA				S		**Sg**	**15 46 17.3**	**-0.7**
GEVA				*i* AML		AML	15 46 18.0	
	comp=N,164nm,0.3s							
GEVA				*i* AML		AML	15 46 22.0	
	comp=E,193nm,0.5s							
ISHB	**Shabestar**	**1.11**	**72**	Pg		**Pg**	**15 46 04.7**	**-1.4**
IMRD	**Marand**	**1.36**	**55**	Pg		**Pn**	**15 46 10.2**	**-0.2**
PERV	**Siirt/Pervari-**	**1.37**	**271**	P		**Pn**	**15 46 10.9**	**+0.5**
PERV				S		**Sn**	**15 46 28.8**	**-0.1**
PERV				*i* AML		AML	15 46 36.0	
	comp=N,262nm,0.5s							
PERV				*i* AML		AML	15 46 40.0	
	comp=E,155nm,0.7s							
IAZR	**Azarshahr**	**1.37**	**100**	Pg		**Pg**	**15 46 11.1**	**0.0**
MAKU	**Maku**	**1.45**	**13**	Pg		**Pb**	**15 46 12.7**	**+0.5**
ITBZ	**Tabriz**	**1.50**	**78**	Pg		**Pn**	**15 46 11.7**	**-0.6**
IHRS	**Heris**	**2.21**	**79**	Pn		**Pb**	**15 46 24.6**	**-0.6**

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*NEIC **01** 15:48:14.7±1.4, 10°.2S±0°.1×161°.44E±0°.07, h70km±9km, mb4.5/15, Error ellipse: s-maj=17.4km s-min=4.0km az=213.0*
*IDC **01** 15:48:16.1±2.3, 10°.18S×161°.35E, h88km±17km, mb3.6/6, mbtmp4.0/7, MS3.2/3, Error ellipse: s-maj=26.9km s-min=17.3km az=70.0*
ISC 01 15:48:15.3±0.6, 10°.17S±0°.08×161°.37E±0°.09, h85km, n29, σ1§04/30, mb4.4/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.58**	**297**			**Pn**	**15 48 41.0**	**-0.9**
HNR					Sn	**Sn**	**15 49 01.5**	**-0.5**
HNR	**Honiara**	**1.58**	**297**	P		**Pn**	**15 48 41.5**	**-0.5**
	1μm,0.3s,baz=180,slow=6.1,SNR=133							
HNR				S		**Sn**	**15 49 03.0**	**+0.9**
	2μm,0.3s,baz=150,slow=20,SNR=16							
HNR				LR		LR	15 49 31.0	
	comp=Z,255nm,19.7s,baz=134,slow=48							
KOUNC	**Koumac, New Ca**	**10.70**	**165**	Pn		**Pn**	**15 50 44.8**	**-0.9**
DZM	**Mont Dzumac**	**12.80**	**158**	Pn		**Pn**	**15 51 14.6**	**+0.4**
DZM	**Mont Dzumac**	**12.80**	**158**	P		**Pn**	**15 51 16.1**	**+1.9**
	3.1nm,0.3s,baz=312,slow=19,SNR=22							
DZM				S		**Sn**	**15 53 34.7**	**-0.2**
	6.3nm,0.9s,baz=302,slow=22,SNR=2.0							
ONTNC	**Ouen Toro**	**13.02**	**159**	Pn		**Pn**	**15 51 16.7**	**-0.3**
PATS	**Pohnpei**	**17.16**	**350**	Pn		**Pn**	**15 52 07.3**	**-2.6**
PATS					IAmb	IAmb	15 52 18.1	
	comp=Z,43nm,1.1s							
COEN	**Coen**	**18.19**	**256**	P		**P**	**15 52 20.2**	**-1.4**
COEN					IAmb	IAmb	15 52 56.2	
	comp=Z,38nm,1.4s							
LHI	**Lord Howe Isla**	**21.36**	**185**	P		**P**	**15 52 54.9**	**-0.8**
WR0	**Warramunga Arr**	**27.64**	**246**	P		**P**	**15 53 56.1**	**+0.8**
WB0	**Warramunga Arr**	**27.72**	**247**	P		**P**	**15 53 56.4**	**+0.4**
WRA	**Warramunga Arr**	**27.82**	**246**	P		**P**	**15 53 57.2**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=76,slow=9.0,SNR=12							
	comp=Z,1.0nm,0.6s							
NIUE	**Niue**	**29.11**	**111**	P		**P**	**15 54 06.9**	**-1.4**
ASAR	**Alice Springs**	**29.43**	**239**	P		**P**	**15 54 11.0**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=62,slow=10,SNR=6.8							
ASAR				LR		LR	16 04 05.2	
	comp=Z,39nm,18.9s,baz=120,slow=32							
	comp=Z,0.4nm,0.6s							
KNRA	**Kununurra**	**32.23**	**257**	P		**P**	**15 54 36.0**	**+0.2**
KNRA					IAmb	IAmb	15 55 16.2	
	comp=Z,13nm,1.4s							
BBOO	**Buckleboo**	**32.43**	**222**	P		**P**	**15 54 38.6**	**+1.2**
FITZ	**Fitzroy Crossi**	**35.48**	**253**	P		**P**	**15 55 03.9**	**-0.2**
MJAR	**Matsushiro Arr**	**51.32**	**336**	P		**P**	**15 57 10.4**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=176,slow=8.3,SNR=4.8							
	comp=Z,0.9nm,0.6s							
JKA	**Kamikawa-asahi**	**56.65**	**344**	P		**P**	**15 57 50.6**	**+0.9**
KSRS	**Korea Array**	**56.80**	**328**	LR		LR	16 22 10.7	
	comp=Z,6.9nm,18.0s,baz=20,slow=36							
USRK	**Ussuriysk Ar.**	**60.32**	**336**	P		**P**	**15 58 15.8**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=158,slow=6.2,SNR=4.2							
	comp=Z,2.5nm,0.8s							
CHGN	**Chignik**	**74.13**	**22**	P		**P**	**15 59 42.9**	**+0.7**
SONM	**Songino Array**	**75.46**	**325**	P		**P**	**15 59 51.1**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=144,slow=5.4,SNR=10							
	comp=Z,3.1nm,0.7s							
BRDH	**Bariadhala**	**75.65**	**297**	LR		LR	16 35 32.5	
	comp=Z,29nm,18.2s,baz=78,slow=38							
YAK	**Yakutsk**	**76.10**	**345**	P		**P**	**15 59 54.1**	**+0.7**
YAK					IAmb	IAmb	15 59 55.2	
	comp=Z,6.5nm,0.9s							
M19K	**Big River Lodg**	**79.66**	**20**	P		**P**	**16 00 14.9**	**+1.6**
M19K					IAmb	IAmb	16 00 35.4	
	comp=Z,11nm,1.2s							
L19K	**White Mountain**	**79.71**	**19**	P		**P**	**16 00 14.9**	**+1.4**
L19K					IAmb	IAmb	16 00 36.8	
	comp=Z,6.5nm,1.2s							
CAST	**Castle Rocks**	**81.49**	**19**	P		**P**	**16 00 23.6**	**+0.5**
CAST					IAmb	IAmb	16 00 55.1	
	comp=Z,7.3nm,1.4s							
ILAR	**Eielson Array**	**84.10**	**20**	P		**P**	**16 00 37.0**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=258,slow=4.9,SNR=8.4							
	comp=Z,0.4nm,0.6s							

NEIC 01 16:00:35.3±1.5, 40°.85N±0°.02×77°.69W±0°.03, h0km±1km, ML1.2/8, Error ellipse: s-maj=4.3km s-min=2.8km az=123.0, Pennsylvania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SSPA	**Standing Stone**	**0.26**	**215**			Pg	16 00 39.6	-0.7
SSPA					Sg	Sg	16 00 43.7	0.0
M57A	**Sunshine Farm,**	**0.64**	**41**	Pg		Pg	16 00 47.2	-0.5
M57A					Sg	Sg	16 00 56.7	+0.7
M57A					IAML		16 01 06.8	
	comp=E,14nm,3.2s							
N58A	**Sunbury**	**0.74**	**91**	Pg		Pg	16 00 48.9	-0.6
N58A					Sg	Sg	16 00 58.2	-0.8
N58A					IAML		16 01 00.9	
	comp=E,11nm,2.9s							
L56A	**Greenwood**	**1.29**	**4**	Pg		Pg	16 00 58.4	-1.6
L56A					Sg	Sg	16 01 16.2	-0.5
MVL	**Millersville**	**1.33**	**129**	Pg		Pg	16 00 59.4	-1.4
P57A	**Homestead Farm**	**1.39**	**190**			Pg	16 01 00.4	-1.5
P57A					Sg	Sb	16 01 20.6	+0.2
SDMD	**Soldier's Deli**	**1.58**	**155**	Pg		Pn	16 01 03.1	-1.4
LUPA	**Lehigh Univers**	**1.78**	**97**			Pn	16 01 06.6	-0.7
BINY	**Binghamton**	**1.86**	**43**			Sn	16 01 32.1	-0.5
O54A	**Avella**	**2.16**	**253**	Pn		Pn	16 01 12.7	+0.2
O54A						Sn	16 01 39.1	-0.8

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*NIED **01** 16:05:19.4, 36°.77N×141°.26E, h31km, MW3.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{13}Nm; M_{rr}=4.31; $M_{\theta\theta}$=1.32; $M_{\phi\phi}$=5.63; $M_{r\theta}$=2.38; $M_{\theta\phi}$=3.79; $M_{\phi r}$=3.06; Fault plane solution: $M_0$7.07000×10^{13} NP1:ϕ_s39.00000°, δ64.00000°, λ-71.00000°. NP2:ϕ_s181.00000°, δ32.00000°, λ-124.00000°.*
JMA 01 16:05:19.4±0.1, 36°.8N±0°.2×141°.3E±0°.4, h31km, MV3.5/39, 10D, E OFF IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**312**	*i* P		Pb	16 05 29.4	-0.4
ONAJ				⇓S		Sb	16 05 36.9	-0.1
JHO	**Hitachi**	**0.57**	**254**	⇓*i* P		Pb	16 05 30.7	-0.4
JHO				⇓S		Sb	16 05 38.8	-0.3
JFFD	**Fukushimafurud**	**0.64**	**300**	*i* P		Pb	16 05 31.4	-0.8
JFFD				S		Sb	16 05 40.5	-0.5
JFK	**Kawauchi**	**0.67**	**333**	⇓*i* P		Pb	16 05 32.2	-0.5
JFK				⇓S		Sb	16 05 41.4	-0.4
JHYU	**Hitachinakayam**	**0.69**	**232**	P		Pn	16 05 32.4	-0.5
JHYU				S		Sb	16 05 41.9	-0.2
JYT	**Yasato**	**1.01**	**238**	⇓*i* P		Pn	16 05 37.2	-0.1
JYT				⇓S		Sn	16 05 50.5	0.0
JOTO	**OTAMA OYAMA**	**1.08**	**317**	*i* P		Pb	16 05 39.1	-0.4
JOTO				S		Sb	16 05 53.0	-0.3
JMM	**Marumori**	**1.16**	**342**	S		Sb	16 05 55.0	-0.5
JFY	**Yanaizu**	**1.39**	**298**	⇓P		Pb	16 05 44.1	-0.7
JFY				⇓S		Sb	16 06 02.0	-0.2
JAG	**Ashikaga**	**1.49**	**257**	*i* P		Pn	16 05 44.6	+0.7

KEA 01 16:05:39.0, 42°.22N×127°.28E, h7km, ML2.8/3, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HYSN	**Hyesan**	**1.07**	**141**	Pg		Pn	16 06 00.8	+0.5
HYSN				Sg		Sn	16 06 18.0	+2.5
HYSN				AML		AML		
	comp=N,977nm,0.3s							
HYSN				AML		AML		
	comp=E,2μm,0.3s							
HYSN				AML		AML		
	comp=Z,244nm,0.2s							
KGE	**Kanggye**	**1.37**	**202**	Pg		Pg	16 06 06.5	+1.3
KGE				Sg		Sg	16 06 25.9	+2.9
KGE				AML		AML		
	comp=N,133nm,0.1s							
KGE				AML		AML		
	comp=E,98nm,0.2s							
KGE				AML		AML		
	comp=Z,56nm,0.2s							
CHJN	**Chongjin**	**1.92**	**102**	Sg		Sg	16 06 42.2	+1.6
CHJN				AML		AML		
	comp=N,72nm,0.2s							
CHJN				AML		AML		
	comp=E,92nm,0.2s							
CHJN				AML		AML		
	comp=Z,14nm,0.2s							

IDC 01 16:06:32.0±2.0, 42°.25N×127°.42E, h0km, mbtmp3.4/4, ML3.3/4, Error ellipse: s-maj=23.9km s-min=14.9km az=111.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Ar.**	**3.87**	**58**	Pn		Pn	16 07 33.1	+0.3
	1.3nm,0.3s,baz=245,slow=14,SNR=9.3							
USRK					Pg	Pb	16 07 42.4	+1.3
	4.6nm,0.3s,baz=237,slow=17,SNR=16							
USRK					Lg	Lg	16 08 33.9	
	36nm,0.3s,baz=243,slow=27,SNR=22							
	2.9nm,0.5s							
KSRS	**Korea Array**	**4.81**	**175**	Pn		Pn	16 07 45.6	0.0
	0.8nm,0.3s,baz=358,slow=13,SNR=8.7							
KSRS					Pg	Pg	16 08 00.8	-3.4
	5.9nm,0.3s,baz=349,slow=17,SNR=42							
KSRS					Lg	Lg	16 09 03.5	
	24nm,0.3s,baz=353,slow=29,SNR=25							
	1.3nm,0.3s							
KLR	**Kul'dur**	**7.61**	**22**	Pn		Pn	16 08 25.5	+1.4
	0.8nm,0.3s,baz=216,slow=13,SNR=8.9							
KLR					Lg	Lg	16 10 31.6	
	0.8nm,0.3s,baz=286,slow=19,SNR=5.8							
	4.9nm,0.7s							
JTU	**Tsushima**	**7.87**	**168**	P		Pg	16 09 02.4	-0.4
SONM	**Songino Array**	**15.85**	**298**	Pn		Pn	16 10 17.1	+0.5
	0.2nm,0.3s,baz=106,slow=11,SNR=1.4							
SONM					Lg	Lg	16 14 55.0	
	baz=91,slow=26							
	0.2nm,0.3s							

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*IDC **01** 16:12:16.4±2.4, 21°.88S×179°.63W, h598km±26km, mb2.6/4, mbtmp3.6/5, Error ellipse: s-maj=40.1km s-min=29.1km az=148.0*
ISC 01 16:12:16.2±1.3, 21°.9S±0°.2×179°.8W±0°.2, h600km, n7, σ1§57/8, mb3.2/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.61**	**334**	P		**P**	**16 13 46.8**	**+0.5**
	5.4nm,0.5s,baz=174,slow=19,SNR=9.5							
ASAR	**Alice Springs**	**42.58**	**258**	P		**P**	**16 19 22.6**	**+1.3**
	0.5nm,0.7s,baz=98,slow=7.6,SNR=8.4							
ASAR					PcP	**PcP**	**16 21 00.6**	**+1.1**
	0.3nm,0.9s,baz=110,slow=3.9,SNR=6.1							
	0.5nm,0.7s							
WRA	**Warramunga Arr**	**42.76**	**264**	P		**P**	**16 19 23.9**	**+1.2**
	0.2nm,0.3s,baz=95,slow=8.2,SNR=15							
	0.2nm,0.3s							
QSPA	**South Pole Qui**	**68.18**	**180**	P		**P**	**16 22 17.8**	**+0.1**
	0.6nm,0.6s,baz=354,slow=9.2,SNR=1.9							
	0.6nm,0.6s							
UGM	**Wanagama**	**68.27**	**270**	P		**P**	**16 22 16.3**	**-2.7**
ILAR	**Eielson Array**	**90.04**	**13**	P		**P**	**16 24 12.6**	**+0.1**
	0.2nm,0.7s,baz=205,slow=4.0,SNR=2.2							
	0.2nm,0.7s							
AKASG	**Malin Array Be**	**143.37**	**329**	PKP		**PKPdf**	**16 30 42.5**	**-0.6**
	0.5nm,0.3s,baz=44,slow=3.4,SNR=6.0							

IDC 01 16:12:43.6±728.0, 29°.52N×104°.75E, h0km, Error ellipse: s-maj=347.6km s-min=170.2km az=69.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**18.30**	**4**	I		I	18 00 20.0	
	baz=183,slow=321,SNR=0.4							
I45RU	**USSURIYSK INFR**	**26.10**	**48**	I		I	18 51 40.0	
	0.1nm,1.2s,baz=245,slow=318,SNR=2.8							
I39PW	**PALAU INFRASON**	**35.53**	**122**	I		I	19 50 00.0	
	baz=311,slow=317,SNR=2.4							
I44RU	**PETROPAVLOVSK**	**44.95**	**43**	I		I	20 50 00.0	
	baz=260,slow=324,SNR=1.9							

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*NEIC **01** 16:17:37.0±2.2, 7°.44S±0°.09×128°.56E±0°.09, h159km±7km, mb4.1/7, Error ellipse: s-maj=14.1km s-min=12.4km az=137.0*
*DJA **01** 16:17:36.0±0.3, 7°.5S±5°×12°.9E±°, h172km±11km, M4.2/8, mb4.2/7, mB4.8/4, MLv4.3/8, Mw(mB)4.0/4*
*IDC **01** 16:17:37.1±8.2, 7°.43S×128°.51E, h165km±73km, mb3.3/4, mbtmp3.9/6, MS3.0/1, Error ellipse: s-maj=99.8km s-min=20.1km az=59.0*
ISC 01 16:17:35.3±0.7, 7°.43S±0°.08×128°.45E±0°.07, h151km, n47, σ1§73/47, mb3.6/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.88**	**101**	Pn		**Pn**	**16 18 21.0**	**-0.2**
SAUI	**Saumlaki**	**2.88**	**101**	P		**Pn**	**16 18 22.6**	**+1.4**
SOEI	**Soe**	**4.74**	**241**			**Pn**	**16 18 48.3**	**+2.9**
SOEI	**Soe**	**4.74**	**241**	P		**Pn**	**16 18 48.4**	**+2.9**
BATI	**Baumata**	**5.48**	**239**	P		**Pn**	**16 18 57.7**	**+2.6**
	84nm,0.3s,baz=173,slow=2.5,SNR=52							
BATI				S		**Sn**	**16 19 55.5**	**-1.9**
	27nm,0.5s,baz=295,slow=17,SNR=1.8							
BATI	**Baumata**	**5.48**	**239**	P		**Pn**	**16 18 57.4**	**+2.3**
	96nm,0.6s,3μm0.6nm							
DRS	**Darwin Rock St**	**5.52**	**154**	P		**Pn**	**16 18 56.0**	**+0.3**
FAKI	**Fak Fak**	**5.86**	**40**	Pn		**Pn**	**16 19 00.1**	**-0.2**
FAKI	**Fak Fak**	**5.86**	**40**	P		**Pn**	**16 18 59.2**	**-1.1**
	17nm,1.2s,618nm0.1nm							
MTN	**Manton Dam**	**5.99**	**154**			**Pn**	**16 19 01.1**	**-0.9**
MTN	**Manton Dam**	**5.99**	**154**	P		**Pn**	**16 19 01.2**	**-0.8**
MMRI	**Maumere**	**6.27**	**259**	Pn		**Pn**	**16 19 06.5**	**+0.9**
KMPI	**Kaimana, Papua**	**6.43**	**55**	P		**Pn**	**16 19 08.1**	**+0.3**
KDU	**Kakadu**	**6.55**	**143**	P		**Pn**	**16 19 08.7**	**-0.7**
SWI	**Sorong**	**7.10**	**23**	P		**Pn**	**16 19 17.6**	**+0.9**
	9.5nm,0.5s,0.1nm							
KNRA	**Kununurra**	**8.20**	**178**			**Pn**	**16 19 29.9**	**-1.5**
BASI	**Baing, Sumba**	**8.26**	**250**	P		**Pn**	**16 19 33.8**	**+1.6**
	52nm,0.7s							
WBSI	**Waikabubak, Su**	**9.22**	**256**	P		**Pn**	**16 19 45.5**	**+0.4**
	18nm,0.6s							
PLAI	**Plampang**	**10.66**	**262**	P		**Pn**	**16 20 04.1**	**0.0**
FITZ	**Fitzroy Crossi**	**10.95**	**194**	Pn		**Pn**	**16 20 04.2**	**-3.7**
FITZ	**Fitzroy Crossi**	**10.95**	**194**	P		**Pn**	**16 20 05.5**	**-2.4**
	1.5nm,0.3s,baz=15,slow=12,SNR=25							
FITZ				S		Sn	16 21 58.7	-10
	3.2nm,0.3s,baz=100,slow=21,SNR=7.3							
WB0	**Warramunga Arr**	**13.55**	**155**	Pn		**Pn**	**16 20 37.8**	**-3.8**
WRA	**Warramunga Arr**	**13.69**	**156**	Pn		**Pn**	**16 20 39.8**	**-3.5**
WRA	**Warramunga Arr**	**13.69**	**156**	P		Pn	16 20 38.4	-4.9
	0.2nm,0.3s,baz=332,slow=14,SNR=7.8							
WRA				S		Sn	16 23 00.6	-14
	1.3nm,0.6s,baz=331,slow=22,SNR=7.4							
WRA				LR		LR	16 25 53.1	
	comp=Z,56nm,19.0s,baz=150,slow=36							
WB2	**Warramunga Arr**	**13.69**	**156**	Pn		**Pn**	**16 20 39.3**	**-4.1**
WR0	**Warramunga Arr**	**13.78**	**155**	Pn		**Pn**	**16 20 40.9**	**-3.7**
COEN	**Coen**	**15.85**	**115**			**P**	**16 21 11.1**	**+0.1**
COEN					IAmb	IAmb	16 21 48.1	
	comp=Z,44nm,1.5s							
AS31	**Alice Springs**	**16.97**	**163**	P		**Pn**	**16 21 24.2**	**+0.3**
AS31					IAmb	IAmb	16 21 25.0	
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**16.97**	**163**			**Pn**	**16 21 23.9**	**0.0**
ASAR	**Alice Springs**	**16.97**	**163**	P		**Pn**	**16 21 24.2**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=340,slow=10,SNR=90							
ASAR				S		S	16 24 20.4	-12
	comp=Z,0.3nm,0.5s,baz=316,slow=20,SNR=2.2							
WRKA	**Warakurna**	**17.51**	**180**	P		**Pn**	**16 21 30.8**	**+0.5**
FORT	**Forrest**	**23.23**	**181**	P		**P**	**16 22 28.5**	**-0.6**
MULG	**Mulgathing**	**23.34**	**168**	P		**P**	**16 22 30.9**	**+0.8**
LCRK	**Leigh Creek**	**24.66**	**159**	P		**P**	**16 22 42.7**	**+0.6**
BBOO	**Buckleboo**	**26.22**	**165**	P		**P**	**16 22 56.5**	**+0.3**
BBOO					IAmb	IAmb	16 23 14.1	
	comp=Z,22nm,1.5s							
BBOO	**Buckleboo**	**26.22**	**165**	P		**P**	**16 22 56.9**	**+0.7**
STKA	**Stephens Creek**	**27.24**	**155**	P		**P**	**16 23 05.6**	**+0.3**
STKA	**Stephens Creek**	**27.24**	**155**	P		**P**	**16 23 05.4**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=336,slow=10.0,SNR=6.0							
	comp=Z,1.0nm,0.5s							
STKA	**Stephens Creek**	**27.24**	**155**	P		**P**	**16 23 05.8**	**+0.5**
HTT	**Hallett**	**27.63**	**161**	P		**P**	**16 23 10.3**	**+1.4**
ARPS	**Mount Arapiles**	**31.65**	**159**	P		**P**	**16 23 45.6**	**+1.3**
TOO	**Toolangi**	**33.76**	**155**	P		**P**	**16 24 03.9**	**+1.3**
TOO					IAmb	IAmb	16 24 31.5	
	comp=Z,8.6nm,1.4s							
MKAR	**Makanchi Array**	**67.75**	**328**	P		**P**	**16 28 17.8**	**+1.1**
MKAR	**Makanchi Array**	**67.75**	**328**	P		**P**	**16 28 16.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=114,slow=8.6,SNR=6.8							
	comp=Z,0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**72.08**	**329**	P		**P**	**16 28 43.6**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=119,slow=5.8,SNR=5.5							
	comp=Z,0.4nm,0.6s							
QSPA	**South Pole Qui**	**82.55**	**180**	P		**P**	**16 29 41.2**	**+0.1**
QSPA					IAmb	IAmb	16 29 55.6	
	comp=Z,1.2nm,1.1s							
QSPA	**South Pole Qui**	**82.55**	**180**	P		**P**	**16 29 41.4**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=359,slow=1.6,SNR=1.6							
	comp=Z,0.4nm,0.6s							

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*NEIC **01** 16:33:53.4±1.5, 3°.84S±0°.06×128°.92E±0°.06, h96km±5km, mb4.4/25, Error ellipse: s-maj=10.3km s-min=7.1km az=47.0*
*IDC **01** 16:33:54.7±3.1, 3°.81S×129°.07E, h120km±27km, mb3.7/8, mbtmp4.2/11, Error ellipse: s-maj=39.9km s-min=13.6km az=66.0*
*DJA **01** 16:33:55.1±0.4, 4°.5S±3°×12°.9E±°, h92km±4km, M4.7/13, mb5.3/1, mB5.5/1, MLv4.3/13, Mw(mB)5.0/1*
**ISC 01 16:33:52.7±0.5, 3°.80S±0°.05×128°.

JAGI Jajag, Banyuwa 15.45 252 Pn **Pn 16 37 21.6 -3.6**
JAGI IAmb IAmb 16 37 29.2
comp=Z,48nm,1.4s
WB0 Warramunga Arr 16.73 162 **Pn 16 37 41.3 +0.3**
WB0 IAmb IAmb 16 37 44.4
comp=Z,25nm,0.9s
WRAB Tennant Creek 16.87 162 P **Pn 16 37 42.6 -0.2**
WRAB IAmb IAmb 16 37 46.1
comp=Z,13nm,0.8s
WRA Warramunga Arr 16.87 162 **Pn 16 37 42.2 -0.6**
WRA Warramunga Arr 16.87 162 P **Pn 16 37 41.9 -1.0**
comp=Z,7.9nm,0.3s,baz=335,slow=13,SNR=152
WRA S **Sn 16 40 40.6 -10**
comp=Z,0.9nm,0.3s,baz=344,slow=24,SNR=5.1
WB2 Warramunga Arr 16.88 162 **Pn 16 37 42.5 -0.4**
WB2 IAmb IAmb 16 37 46.2
comp=Z,15nm,0.8s
WR0 Warramunga Arr 16.95 162 P **Pn 16 37 43.0 -0.8**
COEN Coen 17.26 127 P **P 16 37 48.6 +1.0**
COEN IAmb IAmb 16 38 00.1
comp=Z,14nm,1.0s
COEN Coen 17.26 127 P **Pn 16 37 49.1 +1.5**
MBWA Marble Bar 19.46 207 P **P 16 38 11.3 -0.3**
MBWA Marble Bar 19.46 207 P **P 16 38 11.7 +0.1**
QIS Mount Isa 19.61 149 P **P 16 38 14.8 +1.6**
PSA00 Pilbara Seismi 19.77 206 P **P 16 38 14.9 0.0**
PSA00 IAmb IAmb 16 38 15.6
comp=Z,11nm,0.5s
PSA00 Pilbara Seismi 19.77 206 P **P 16 38 15.3 +0.3**
AS31 Alice Springs 20.31 167 P **P 16 38 21.5 +0.6**
ASAR Alice Springs 20.31 167 P **P 16 38 21.5 +0.6**
ASAR Alice Springs 20.31 167 P **P 16 38 22.0 +1.1**
comp=Z,48nm,0.6s,baz=352,slow=12,SNR=110
ASAR S **S 16 41 59.5 -3.8**
comp=Z,1.1nm,0.8s,baz=348,slow=21,SNR=6.9
ASAR ScP **ScP 16 45 55.5 -2.5**
comp=Z,0.2nm,0.4s,baz=354,slow=1.8,SNR=2.1
comp=Z,48nm,0.6s
AS01 Alice Springs 20.32 167 P **P 16 38 22.5 +1.5**
MTSU Mount Surprise 20.70 135 P **P 16 38 26.7 +1.7**
WRKA Warakurna 21.12 182 P **P 16 38 30.3 +0.7**
BBJI Bungbulang 21.53 259 P **P 16 38 34.3 +0.2**
comp=Z,22nm,1.7s
CTAO Charters Tower 23.36 135 P **P 16 38 53.4 +0.9**
CTAO IAmb IAmb 16 39 13.6
comp=Z,16nm,1.2s
CTAO Charters Tower 23.36 135 P **P 16 38 54.7 +2.2**
OOD Oodnadatta 24.70 166 P **P 16 39 05.7 +1.2**
MULG Mulgathing 26.77 170 P **P 16 39 23.6 +0.3**
FORT Forrest 26.85 182 P **P 16 39 23.8 -0.1**
FORT IAmb IAmb 16 39 24.6
comp=Z,13nm,0.8s
FORT Forrest 26.85 182 P **P 16 39 24.1 +0.2**
BBOO Buckleboo 29.61 168 P **P 16 39 48.6 +0.2**
BBOO IAmb IAmb 16 39 51.2
comp=Z,14nm,1.2s
BBOO Buckleboo 29.61 168 P **P 16 39 48.8 +0.3**
KULM Kulim 29.70 288 P **P 16 39 49.9 +0.3**
STKA Stephens Creek 30.34 158 P **P 16 39 54.7 -0.3**
STKA Stephens Creek 30.34 158 P **P 16 39 55.4 +0.4**
comp=Z,1.9nm,0.6s,baz=343,slow=8.3,SNR=10
comp=Z,1.9nm,0.6s
STKA Stephens Creek 30.34 158 P **P 16 39 55.8 +0.8**
RPSI Rantau Prapat 30.73 282 P **P 16 39 58.3 -0.3**
RPSI IAmb IAmb 16 39 59.0
comp=Z,3.6nm,0.6s
HTT Hallett 30.91 164 P **P 16 40 00.8 +0.8**
CMSA Cobar Meteorol 31.76 152 P **P 16 40 08.6 +1.2**
GSI Gunungsitoli 31.80 279 P **P 16 40 06.8 -1.2**
GSI Gunungsitoli 31.80 279 P **P 16 40 07.7 -0.3**
comp=Z,13nm,1.7s
ARPS Mount Arapiles 34.88 162 P **P 16 40 36.0 +1.5**
PHRA Phrae 35.96 309 P **P 16 40 45.3 +1.2**
CAN Canberra 36.43 152 P **P 16 40 49.3 +1.5**
TOO Toolangi 36.86 158 P **P 16 40 51.9 +0.5**
TOO IAmb IAmb 16 40 54.2
comp=Z,7.6nm,1.5s
CM31 Chiang Mai Arr 36.95 308 P **P 16 40 52.6 +0.2**
CM31 IAmb IAmb 16 40 54.5
comp=Z,3.6nm,0.6s
CMAR Chiang Mai Arr 36.95 308 P **P 16 40 53.7 +1.3**
comp=Z,2.2nm,0.5s,baz=136,slow=7.3,SNR=24
comp=Z,2.2nm,0.5s
CHTO Chiang Mai 37.14 308 P **P 16 40 54.4 +0.4**
CHTO IAmb IAmb 16 40 56.1
comp=Z,5.6nm,0.7s
PZH PanZhiHua 40.02 320 P **P 16 41 21.0 +2.8**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.5s
HHC Hu-ho-hao-te 47.21 342 *e*P **P 16 42 19.0 +3.4**
HHC pmax pmax
comp=Z,20nm,0.5s
HHC pmax pmax
comp=Z,180nm,5.6s
USRK Ussuriysk Ar. 47.86 3 P **P 16 42 21.1 +0.7**
comp=Z,0.6nm,0.5s,baz=162,slow=8.7,SNR=3.0
comp=Z,0.6nm,0.5s
TUWZ Tuamarina 54.95 140 P **P 16 43 13.9 +0.5**
SONM Songino Array 55.11 342 P **P 16 43 13.6 -1.0**
comp=Z,0.5nm,0.6s,baz=167,slow=7.1,SNR=2.5
comp=Z,0.5nm,0.6s
BKZ Black Stump Fm 55.57 136 P **P 16 43 18.7 +0.6**
WMQ Urumqi 60.18 327 *e*P **P 16 43 53.0 +2.9**
WMQ LR LR
comp=Z,70nm,12.7s
MK31 Makanchi Array 65.01 327 P **P 16 44 21.8 -0.4**
MKAR Makanchi Array 65.01 327 P **P 16 44 21.4 -0.8**
MKAR Makanchi Array 65.01 327 P **P 16 44 22.2 0.0**
comp=Z,0.6nm,0.4s,baz=112,slow=8.7,SNR=11
comp=Z,0.6nm,0.4s
KURBB Kurchatov Arra 69.27 328 P **P 16 44 49.1 +0.1**
comp=Z,0.6nm,0.3s,baz=129,slow=5.7,SNR=9.8
comp=Z,0.6nm,0.3s
ABKAR Abkulak array 79.39 322 P **P 16 45 47.0 -0.7**
QSPA South Pole Qui 86.16 180 P **P 16 46 21.1 -1.5**
QSPA South Pole Qui 86.16 180 P **P 16 46 21.7 -0.9**
comp=Z,0.6nm,0.6s,baz=28,slow=7.2,SNR=9.7
comp=Z,0.6nm,0.6s

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*IDC **01** 16:35:51.2±1.5, 33°.86N×46°.34E, h0km, mb3.8/10, mbtmp3.7/14, MLS.4/4, MS2.8/5, Error ellipse: s-maj=25.2km s-min=17.8km az=175.0*
*TEH **01** 16:35:54.5, 33°.99N×46°.43E, h8km±21km, ML3.4*
ISC 01 16:35:53.8±0.6, 33°.96N±0°.04×46°.39E±0°.03, h10km, n51, σ1°73/49, mb3.7/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.37**	**205**	Pg	**Pg**	**16 36 02.6**	**+1.4**
KCHF	**Cheshme Sefid,**	**0.62**	**60**	Pg	**Pg**	**16 36 06.2**	**+0.3**
IDHR	**Dehrash**	**0.73**	**360**	Pg	**Pg**	**16 36 08.3**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**0.86**	**309**	Pg	**Pg**	**16 36 11.2**	**+0.8**
KGS1				Sg	**Sn**	**16 36 24.6**	**0.0**
ILIN	**Lien**	**1.06**	**26**	Pg	**Pg**	**16 36 14.2**	**-0.1**
IKFM	**Kafar-mosalman**	**1.29**	**109**	Pg	**Pg**	**16 36 19.1**	**+0.6**
IBZA	**Bozab**	**1.32**	**67**	Pg	**Pg**	**16 36 19.4**	**+0.3**
SNQR	**Sonqor, Kerman**	**1.36**	**48**	Pg	**Pg**	**16 36 20.0**	**+0.1**
IDOB	**Doab**	**1.49**	**96**	Pg	**Pg**	**16 36 23.0**	**+0.5**
HSAM	**Samen**	**1.85**	**82**	Pn	**Pb**	**16 36 28.2**	**+0.3**
BMDN	**Meydan**	**2.04**	**97**	Pn	**Pb**	**16 36 31.2**	**0.0**
BDRS	**Dareh Seyedi**	**2.07**	**90**	Pn	**Pb**	**16 36 31.6**	**0.0**
SDS1	**Sardasht. Az.**	**2.31**	**341**	Pn	**Pb**	**16 36 34.7**	**-0.9**
MAHB	**Mahabad**	**2.85**	**349**	Pn	**Pn**	**16 36 42.3**	**+2.7**
QABG	**Abgarm-Qazvin**	**3.15**	**56**	Pn	**Pn**	**16 36 46.1**	**+2.4**
IAZR	**Azarshahr**	**3.72**	**355**	Pn	**Pn**	**16 36 54.3**	**+2.7**
ISRB	**Sarab**	**3.99**	**15**	Pn	**Pn**	**16 36 58.0**	**+2.7**
QAMS	**Qamsar**	**4.17**	**92**	Pn	**Pn**	**16 37 00.4**	**+2.7**
ZNGN	**Zangian**	**4.17**	**115**	Pn	**Pn**	**16 37 00.9**	**+3.0**
ISHB	**Shabestar**	**4.36**	**352**	Pn	**Pn**	**16 37 02.8**	**+2.5**
IVRN	**Varamin**	**4.52**	**75**	Pn	**Pn**	**16 37 04.7**	**+2.3**
KLST	**Kelardasht - M**	**4.59**	**55**	Pn	**Pn**	**16 37 06.9**	**+3.4**
KRSH	**Karshahi**	**4.77**	**88**	Pn	**Pn**	**16 37 08.4**	**+2.5**
ISFB	**Sefidab**	**4.86**	**84**	Pn	**Pn**	**16 37 09.7**	**+2.6**
IZEF	**Zefreh**	**5.08**	**100**	Pn	**Pn**	**16 37 13.1**	**+2.9**
IRAM	**Ramesheh**	**5.48**	**111**	Pn	**Pn**	**16 37 18.4**	**+2.7**
GNI	**Garni**	**6.32**	**348**	Pg	**Pb**	**16 37 46.7**	**+2.8**
	0.4nm,0.3s,baz=170,slow=17,SNR=1.3						
GNI				Lg	Lg	16 39 15.5	
	0.4nm,0.3s,baz=224,slow=16,SNR=1.3						
GNI				LR	LR	16 40 15.8	
	comp=Z,48nm,21.8s,baz=148,slow=41						
MMAI	**Mount Meron Ar**	**9.23**	**267**	Pn	**Pn**	**16 38 06.7**	**-0.3**
	0.4nm,0.3s,baz=54,slow=18,SNR=1.3						
MMAI				Lg	Lg	16 40 42.4	
	0.7nm,0.3s,baz=274,slow=27,SNR=2.5						
	0.3nm,0.4s						
EIL	**Elat**	**10.63**	**249**	Pn	**Pn**	**16 38 23.2**	**-3.0**
	0.3nm,0.3s,baz=58,slow=17,SNR=1.4						
EIL				Lg	Lg	16 41 20.7	
	0.2nm,0.3s,baz=252,slow=22,SNR=2.6						
EIL				LR	LR	16 43 41.3	
	comp=Z,49nm,19.9s,baz=16,slow=45						
	1.0nm,0.5s						
BRTR	**Keskin Array B**	**11.72**	**303**	LR	LR	16 43 40.4	
	comp=Z,40nm,20.4s,baz=106,slow=40						
WSAR	**Wadi Sarin**	**15.14**	**132**	Pn	**Pn**	**16 39 25.3**	**-2.5**
	0.3nm,0.3s,baz=324,slow=8.7,SNR=5.2						
	2.0nm,0.8s						
BELG	**Belogornoye**	**18.44**	**2**	LR	LR	16 49 21.5	
	comp=Z,46nm,20.1s,baz=243,slow=44						
AKTO	**Aktyubinsk**	**18.54**	**24**	P	**P**	**16 40 10.5**	**+0.1**
	baz=213,slow=17,SNR=1.7						
	0.4nm,0.5s						
VOIR		**19.96**	**311**	P	**Pn**	**16 40 27.8**	**0.0**
	9.3nm,1.1s						
AK09	**Malin Array Si**	**20.82**	**328**	P	**P**	**16 40 35.5**	**+0.2**
AKASG	**Malin Array Be**	**20.91**	**328**	P	**P**	**16 40 35.5**	**-0.8**
	5.7nm,0.9s,baz=143,slow=10.0,SNR=20						
	5.7nm,0.9s						
KIEV	**Kiev**	**20.91**	**328**	P	**P**	**16 40 35.3**	**-1.0**
	41nm,1.4s						
LUBAR	**Lubar, Ukraine**	**21.04**	**325**	P	**P**	**16 40 37.2**	**-0.5**
MI30	**MI30,Zelenitsa**	**21.40**	**327**	P	**P**	**16 40 40.5**	**-1.1**
	21nm,1.0s,2μm						
MI28	**MI28,Pidlybu**	**21.77**	**327**	P	**P**	**16 40 45.4**	**-0.1**
MORS	**Morshin**	**22.53**	**319**	P	**P**	**16 40 54.7**	**+1.0**
ARTI	**Arti**	**23.89**	**17**	P	**P**	**16 41 06.8**	**-0.7**
	0.9nm,0.4s,baz=210,slow=20,SNR=1.5						
	0.9nm,0.4s						
KIRV	**Kirov**	**24.71**	**4**	LR	LR	16 52 46.2	
	comp=Z,46nm,21.3s,baz=318,slow=41						
BVAR	**Borovoye Array**	**25.60**	**35**	P	**P**	**16 41 23.3**	**+0.2**
	0.7nm,0.6s,baz=225,slow=14,SNR=7.0						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**28.72**	**45**	P	**P**	**16 41 52.8**	**+1.7**
	0.8nm,0.6s,baz=250,slow=9.1,SNR=6.7						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**29.93**	**54**	P	**P**	**16 42 01.3**	**-0.6**
	0.6nm,0.8s,baz=264,slow=10.0,SNR=3.8						
	0.6nm,0.8s						
FINES	**FINESS Array B**	**30.44**	**341**	P	**P**	**16 42 05.7**	**-0.5**
	1.3nm,0.8s,baz=151,slow=12,SNR=1.5						
	1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**33.55**	**42**	P	**P**	**16 42 32.8**	**-0.8**
	0.4nm,0.3s,baz=263,slow=7.1,SNR=4.3						
	0.4nm,0.3s						
HFS	**Hagfors**	**33.75**	**331**	P	**P**	**16 42 36.0**	**+0.7**
	1.0nm,0.5s,baz=123,slow=10,SNR=4.6						
	1.0nm,0.5s						
ARCES	**ARCESS Array B**	**37.47**	**348**	P	**P**	**16 43 04.8**	**-2.3**
	0.7nm,0.7s,baz=163,slow=7.5,SNR=3.6						
	0.7nm,0.7s						
EKA	**Eskdalemuir Ar**	**40.14**	**318**	P	**P**	**16 43 29.0**	**-0.7**
	1.1nm,0.7s,baz=101,slow=10,SNR=2.0						
	1.1nm,0.7s						

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*ATH **01** 16:45:15.6, 37°.45N×20°.68E, h15km±3km, ML2.7/7, Manual Solution by I.Dede This location: 2020/09/16 05:26:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*THE **01** 16:45:16.9, 37°.50N×20°.75E, h11km±1km, ML2.7/8, Error ellipse: s-maj=2.3km s-min=1.0km az=34.0*
ISC 01 16:45:17.0±1.5, 37°.53N±0°.06×20°.74E±0°.05, h18km±6km, n24, σ0°52/40, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.15**	**23**	P	**Pg**	**16 45 20.9**	**-0.3**
KRI1				S	**Sb**	**16 45 23.8**	**-0.2**
	13μm,0.2s						
LTHK	**Lithakia**	**0.20**	**22**	P	**Pg**	**16 45 21.6**	**-0.2**
LTHK				S	**Sg**	**16 45 25.1**	**0.0**
	20μm,0.2s						
LTHK	**Lithakia**	**0.20**	**22**	P	**Pg**	**16 45 21.7**	**-0.1**
LTHK				S	**Sb**	**16 45 25.4**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.55**	**2**	P	**Pg**	**16 45 27.5**	**-0.4**
RTZL				S	**Sb**	**16 45 36.5**	**+0.8**
	1μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.60**	**348**	P	**Pg**	**16 45 28.3**	**-0.6**
PSDA				S	**Sb**	**16 45 38.1**	**+1.0**
	980nm,0.2s						
PSDA	**Pessada-Kefalo**	**0.60**	**348**	P	**Pg**	**16 45 28.4**	**-0.5**
PSDA				S	**Sb**	**16 45 37.9**	**+0.7**
VLS	**Valsamata**	**0.66**	**349**	P	**Pg**	**16 45 29.2**	**-0.8**
VLS	**Valsamata**	**0.66**	**349**	P	**Pg**	**16 45 29.3**	**-0.7**
VLS				S	**Sb**	**16 45 39.0**	**+0.1**
ARG2	**Argostoli**	**0.68**	**343**	P	**Pg**	**16 45 30.3**	**-0.1**
ARG2				S	**Sb**	**16 45 40.0**	**+0.5**
AMT	**Artemida-Makis**	**0.77**	**89**	P	**Pg**	**16 45 31.6**	**-0.4**
AMT				S	**Sb**	**16 45 42.1**	**+0.1**
DMLN	**Damoulianata-K**	**0.77**	**338**	P	**Pn**	**16 45 32.8**	**-0.2**
DMLN				S	**Sn**	**16 45 44.1**	**-0.1**
	800nm,0.5s						
DMLN	**Damoulianata-K**	**0.77**	**338**	P	**Pg**	**16 45 31.4**	**-0.7**
DMLN				S	**Sg**	**16 45 42.0**	**-0.3**
RLS	**Riolos of Patr**	**0.78**	**47**	P	**Pg**	**16 45 31.6**	**-0.6**
RLS				S	**Sn**	**16 45 43.7**	**-0.7**
	245nm,0.2s						
RLS	**Riolos of Patr**	**0.78**	**47**	P	**Pg**	**16 45 32.0**	**-0.2**
RLS				S	**Sn**	**16 45 43.8**	**-0.7**
AXS	**Araxos**	**0.83**	**37**	P	**Pb**	**16 45 32.6**	**-0.3**
AXS				S	**Sn**	**16 45 45.7**	**0.0**
DRO	**Drossia**	**0.88**	**61**	P	**Pb**	**16 45 33.7**	**0.0**
DRO	**Drossia**	**0.88**	**61**	P	**Pg**	**16 45 33.8**	**-0.2**
VSK1	**VASILIKIADES**	**0.89**	**351**	P	**Pn**	**16 45 34.9**	**+0.2**
FSK	**Fiskardo**	**0.94**	**351**	P	**Pb**	**16 45 34.2**	**-0.6**
FSK				S	**Sn**	**16 45 48.8**	**+0.4**
	422nm,0.5s						
ITM	**Ithomi**	**1.00**	**110**	P	**Pn**	**16 45 36.8**	**+0.5**
PYL	**PYLOS**	**1.02**	**128**	P	**Pn**	**16 45 36.5**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.19**	**358**	P	**Pg**	**16 45 39.5**	**-0.4**
NYDR				S	**Sg**	**16 45 56.7**	**+1.3**
	125nm,0.3s						
TSLK	**Tsoukalades, L**	**1.30**	**357**	P	**Pb**	**16 45 41.3**	**+0.4**
GUR	**Goura**	**1.33**	**72**	P	**Pn**	**16 45 41.2**	**+0.4**

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*IDC **01** 16:47:18.1±0.7, 31°.72N×49°.89E, h0km, mb4.1/26, mbtmp4.1/33, ML4.1/6, MS3.7/40, Error ellipse: s-maj=14.9km s-min=12.0km az=163.0*
*NEIC **01** 16:47:19.6±1.7, 31°.67N±0°.08×49°.95E±0°.08, h10km±1km, mb4.3/37, Error ellipse: s-maj=13.9km s-min=11.0km az=197.0*
*DSN **01** 16:47:19.9±0.8, 31°.73N×49°.82E, h15km, ML3.7/10, Error ellipse: s-maj=11.9km s-min=3.8km az=15.0*
*TEH **01** 16:47:20.5, 31°.76N×49°.97E, h12km±13km, ML4.4*
*OMAN **01** 16:47:24.1±0.1, 31°.60N×50°.25E, h10km, mb4.6/32, ms3.7/2, Error ellipse: s-maj=2.1km s-min=1.5km az=351.0*
ISC 01 16:47:21.9±0.3, 31°.70N±0°.04×49°.92E±0°.03, h26km, n268, σ2°04/268, mb4.4/56, MS3.7/37, 11C-2D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHBN	**Jahan bin**	**0.83**	**50**	Pg	Pn	16 47 35.5	-2.8
ZNGN	**Zangian**	**0.90**	**62**	Pg	Pn	16 47 36.7	-2.5
ABEH	**Behbahan**	**1.13**	**165**	Pg	**Pb**	**16 47 43.6**	**+0.7**
ABEH				Sg	**Sb**	**16 48 03.0**	**+5.8**
AHWZ	**Ahwaz**	**1.15**	**252**	Pg	**Pb**	**16 47 45.1**	**+2.0**
AHWZ				Sg	**Sb**	**16 48 03.9**	**+6.3**
IBRJ	**Brojen**	**1.16**	**79**	Pg	**Pn**	**16 47 42.1**	**-0.6**
IPIR	**Pirpir**	**1.28**	**40**	Pg	**Pn**	**16 47 44.1**	**-0.4**
KLNJ	**Kolanjah**	**1.59**	**115**	Pg	**Pn**	**16 47 50.2**	**+1.4**
IGAR	**Garneh**	**1.94**	**68**	Pn	**Pn**	**16 47 55.4**	**+2.0**
IRAM	**Ramesheh**	**2.10**	**86**	Pn	**Pn**	**16 47 57.5**	**+1.8**
IKLH	**Kolahrood**	**2.14**	**41**	Pn	**Pn**	**16 47 58.1**	**+1.9**
BMDN	**Meydan**	**2.17**	**335**	Pn	**Pn**	**16 47 58.7**	**+2.1**
IZEF	**Zefreh**	**2.37**	**59**	Pn	**Pn**	**16 48 01.2**	**+1.9**
QAMS	**Qamsar**	**2.38**	**31**	Pn	**Pn**	**16 48 02.0**	**+2.4**
BDRS	**Dareh Seyedi**	**2.41**	**339**	Pn	**Pn**	**16 48 01.7**	**+1.7**
IKFM	**Kafar-mosalman**	**2.52**	**317**	Pn	**Pn**	**16 48 03.8**	**+2.6**
IDOB	**Doab**	**2.55**	**325**	Pn	**Pn**	**16 48 03.8**	**+2.0**
KAZ2	**Kazeron-Fars-I**	**2.56**	**144**	Pn	**Pn**	**16 48 04.5**	**+2.6**
HSAM	**Samen**	**2.74**	**337**	Pn	**Pn**	**16 48 06.6**	**+2.1**
KRSH	**Karshahi**	**2.94**	**39**	Pn	**Pn**	**16 48 09.4**	**+2.4**
SHI	**Shiraz**	**3.03**	**132**	Pn	**Pn**	**16 48 11.2**	**+2.8**
AHBU	**AHRAM**	**3.06**	**157**	Pn	**Pn**	**16 48 11.6**	**+2.9**
KBD	**Kabd**	**3.16**	**218**	P	**Pb**	**16 48 14.3**	**-3.1**
KBD				S	**Sb**	**16 48 53.2**	**-2.4**
ISAD	**Sadrabad**	**3.21**	**85**	Pn	**Pn**	**16 48 13.4**	**+2.4**
IBZA	**Bozab**	**3.26**	**329**	Pn	**Pn**	**16 48 13.8**	**+2.1**
IQOM	**Qom**	**3.28**	**17**	Pn	**Pn**	**16 48 13.8**	**+1.9**
ISFB	**Sefidab**	**3.29**	**36**	Pn	**Pn**	**16 48 13.8**	**+2.0**
DSBU	**Dashti - Bushe**	**3.52**	**160**	Pn	**Pn**	**16 48 18.1**	**+3.0**
KCHF	**Cheshme Sefid,**	**3.53**	**318**	Pn	**Pn**	**16 48 17.4**	**+2.2**
ANAR	**Anarak**	**3.55**	**64**	Pn	**Pn**	**16 48 17.3**	**+1.8**
IVRN	**Varamin**	**3.62**	**24**	Pn	**Pn**	**16 48 18.8**	**+2.3**
ILBA	**Ilam Banvizeh**	**3.67**	**303**	Pn	**Pn**	**16 48 19.1**	**+2.0**
SNQR	**Sonqor, Kerman**	**3.69**	**329**	Pn	**Pn**	**16 48 19.6**	**+2.1**
IGHG	**Ghaleghazi**	**3.85**	**314**	Pn	**Pn**	**16 48 23.0**	**+3.3**
QABG	**Abgarm-Qazvin**	**4.01**	**356**	Pn	**Pn**	**16 48 24.2**	**+2.2**
IMEH	**Mehriz**	**4.02**	**93**	Pn	**Pn**	**16 48 24.3**	**+2.2**
ILIN	**Lien**	**4.05**	**323**	Pn	**Pn**	**16 48 24.2**	**+1.6**
GLG1	**Gilan-e-Gharb**	**4.14**	**307**	Pn	**Pn**	**16 48 25.8**	**+2.2**
IDHR	**Dehrash**	**4.21**	**316**	Pn	**Pn**	**16 48 26.7**	**+2.1**
IDMV	**Damavand**	**4.25**	**24**	Pn	**Pn**	**16 48 27.2**	**+1.9**
ILAS	**Lasjerd**	**4.47**	**34**	Pn	**Pn**	**16 48 30.2**	**+2.0**
KGS1	**Ghasr-e-Shirin**	**4.59**	**309**	Pn	**Pn**	**16 48 32.6**	**+3.0**
IFIR	**Firoozkooh**	**4.59**	**30**	Pn	**Pn**	**16 48 32.0**	**+2.0**
IGZV	**Ghazvin**	**4.68**	**3**	Pn	**Pn**	**16 48 33.2**	**+2.0**
IBAF	**Bafgh**	**4.82**	**90**	Pn	**Pn**	**16 48 35.8**	**+2.8**
KLST	**Kelardasht - M**	**4.90**	**11**	Pn	**Pn**	**16 48 36.7**	**+2.5**
MZPU	**Pul - Mazandar**	**4.92**	**16**	Pn	**Pn**	**16 48 37.2**	**+2.7**
IPRN	**Peran**	**4.96**	**23**	Pn	**Pn**	**16 48 37.1**	**+2.2**
IANJ	**Anjilo**	**5.03**	**40**	Pn	**Pn**	**16 48 37.4**	**+1.5**
SAKB	**Bahrain**	**5.72**	**174**	P	**Pn**	**16 48 47.9**	**+2.6**
KHGB	**Koh Gabri**	**5.78**	**101**	Pn	**Pn**	**16 48 48.8**	**+2.6**
IGLO	**Ghaloghah**	**5.79**	**33**	Pn	**Pn**	**16 48 48.7**	**+2.4**
TPRV	**Parvadeh(Tabas**	**5.88**	**75**	Pn	**Pn**	**16 48 49.2**	**+1.8**
SHMA	**Al-Shehemyia**	**5.89**	**171**	P	**Pn**	**16 48 50.0**	**+2.4**
	SNR=21						
SHMA				S	**Sn**	**16 49 57.8**	**+3.6**
TNSJ	**Nastanj**	**6.07**	**66**	Pn	**Pn**	**16 48 52.3**	**+2.2**
MAHB	**Mahabad**	**6.14**	**327**	Pn	**Pn**	**16 48 53.6**	**+2.5**
NGRK	**Negar Kerman**	**6.21**	**107**	Pn	**Pn**	**16 48 55.3**	**+3.0**
TKDS	**Koohdasht(Taba**	**6.37**	**71**	Pn	**Pn**	**16 48 56.2**	**+2.0**
TAPT	**Tabas- Tapeh t**	**6.84**	**60**	Pn	**Pn**	**16 49 02.4**	**+1.7**
SMRA	**Abu-Samra**	**6.97**	**173**	P	**Pn**	**16 49 05.4**	**+3.0**
TRNA	**Turayna**	**7.03**	**170**	P	**Pn**	**16 49 05.0**	**+1.8**
	SNR=23						
TRNA				S	**Sn**	**16 50 24.7**	**+2.4**
JRN	**Qarnain Island**	**7.21**	**158**	P	**Pn**	**16 49 07.4**	**+1.8**
JRN				S	**Sn**	**16 50 25.6**	**-1.1**
ITEG	**Tejag**	**7.57**	**79**	Pn	**Pn**	**16 49 13.0**	**+2.2**
IKOO	**Kooshah**	**7.75**	**82**	Pn	**Pn**	**16 49 14.7**	**+1.5**
SLWR	**Sila**	**7.76**	**168**	P	**Pn**	**16 49 13.9**	**+0.7**
MRVT	**Maraveh tapeh**	**7.82**	**39**	Pn	**Pn**	**16 49 15.5**	**+1.4**
SHME	**Shamm**	**7.84**	**134**	P	**Pn**	**16 49 14.2**	**-0.1**
SHME	**Shamm**	**7.84**	**134**	P	**Pn**	**16 49 15.9**	**+1.6**
AFRZ	**Afriz**	**7.87**	**75**	Pn	**Pn**	**16 49 17.1**	**+2.2**
SBZV	**Sabzevar**	**7.91**	**52**	Pn	**Pn**	**16 49 17.6**	**+2.1**
BANOM	**Banah**	**8.03**	**134**	P	**Pn**	**16 49 19.9**	**+3.0**
BANOM				S	**Sn**	**16 50 45.5**	**-1.4**
GHWR	**Ruwais**	**8.14**	**161**	P	**Pn**	**16 49 20.7**	**+2.3**
GHWR				S	**Sn**	**16 50 47.7**	**-1.8**
MASF	**Masafi**	**8.36**	**137**	P	**Pn**	**16 49 21.9**	**+0.4**
	SNR=6.9						
MASF				S	**Sn**	**16 50 54.2**	**-0.8**
	SNR=9.3						
MSFE	**Esma-Masafi**	**8.37**	**137**	*i* P	**Pn**	**16 49 21.7**	**+0.1**
	SNR=6.7						
NAZ	**Nazwa, Dubai**	**8.38**	**141**	*i* P	**Pn**	**16 49 23.0**	**+1.2**
	SNR=17						
NAZ	**Nazwa, Dubai**	**8.38**	**141**	P	**Pn**	**16 49 25.0**	**+3.2**
	SNR=17						
NAZ				S	**Sn**	**16 50 54.8**	**-0.8**
AJN	**Ajban**	**8.40**	**147**	*i* P	**Pn**	**16 49 22.8**	**+0.8**
	SNR=5.8						
AJN	**Ajban**	**8.40**	**147**	P	**Pn**	**16 49 24.3**	**+2.3**
	SNR=7.5						
MDH	**Madha**	**8.49**	**137**	*i* P	**Pn**	**16 49 22.8**	**-0.5**
	SNR=8.1						
MDH	**Madha**	**8.49**	**137**	P	**Pn**	**16 49 24.3**	**+1.0**
	SNR=8.1						
ASUD	**Al Ashush, Dub**	**8.51**	**145**	*i* P	**Pn**	**16 49 24.7**	**+1.2**
	SNR=8.8						
ASUD	**Al Ashush, Dub**	**8.51**	**145**	P	**Pn**	**16 49 26.7**	**+3.2**
	SNR=8.8						
ASUD				S	**Sn**	**16 50 59.8**	**+1.1**
FAQ	**Al Faqa, Dubai**	**8.54**	**143**	*i* P	**Pn**	**16 49 25.2**	**+1.2**
	SNR=10						
FAQ	**Al Faqa, Dubai**	**8.54**	**143**	P	**Pn**	**16 49 25.5**	**+1.5**
	SNR=10						
FAQ				S	**Sn**	**16 50 58.3**	**-1.3**

MHTO **MHTO** 12.87 144 P Pn 16 50 23.5 +0.2
SNR=14
HRFI **Mount Harif** 12.89 266 P P 16 50 30.6 -3.4
EIL **Elat** 13.04 265 Pn Pn 16 50 23.4 -2.2
0.7nm,0.3s,baz=35,slow=11,SNR=4.9
EIL Sn Sn 16 52 44.6 -5.1
0.5nm,0.3s,baz=228,slow=20,SNR=1.8
EIL Lg Lg 16 54 23.5
0.3nm,0.3s,baz=114,slow=22,SNR=1.9
EIL LR LR 16 56 49.6
comp=Z,319nm,18.1s,baz=86,slow=44
3.9nm,0.5s
EIL **Elat** 13.04 265 P Pn 16 50 30.3 +4.8
MBRI **Mt Berech** 13.04 266 P Pn 16 50 24.9 -0.8
KBZ **Khabaz** 13.23 337 Pn Pn 16 50 30.0 +2.0
1.3nm,0.9s,baz=170,slow=6.1,SNR=1.9
KBZ LR LR 16 56 09.1
comp=Z,326nm,19.5s,baz=155,slow=40
DOK **Doka** 13.57 163 P Pn 16 50 32.6 -0.2
SNR=36
DQM **DQM** 13.57 148 P Pn 16 50 32.1 -0.8
WHFO **Wadi Hawf** 14.15 165 P Pn 16 50 39.7 -1.2
SNR=20
CSS **Mathiatis** 14.24 288 Pn Pn 16 50 43.8 +1.9
ABTO **Aybut** 14.61 167 P Pn 16 50 45.8 -1.3
SNR=6.6
DMTO **DMTO** 14.65 161 P Pn 16 50 45.8 -1.7
SNR=11
RBK **Rabkut** 14.66 164 P Pn 16 50 46.5 -1.2
SNR=5.1
BR131 **Keskin Array S** 15.45 306 Pn 16 50 58.6 +0.5
BR131 IAmb IAmb 16 51 14.3
comp=Z,12nm,1.1s
BRTR **Keskin Array B** 15.45 306 Pn Pn 16 50 58.2 +0.1
comp=Z,0.4nm,0.3s,baz=118,slow=13,SNR=4.6
comp=Z,0.5nm,0.4s
ANTO **Ankara** 16.09 305 P Pn 16 51 07.4 +0.9
ANTO IAmb IAmb 16 51 22.5
comp=Z,18nm,0.9s
SIMJ **Simiganj** 17.07 61 P Pn 16 51 19.1 +0.3
ELL **Elmali** 17.29 292 P Pn 16 51 20.3 -1.3
AKAS **Kas** 17.44 291 P Pn 16 51 21.8 -1.8
AKAS IAmb IAmb 16 51 46.8
comp=Z,11nm,0.7s
MDUB **Mudurnu** 17.46 305 P Pn 16 51 23.0 -0.7
BORA **Eskisehir** 17.75 303 P P 16 51 29.4 +1.4
BORA IAmb IAmb 16 51 40.5
comp=Z,14nm,0.8s
GAR **Garm** 18.14 61 P Pn 16 51 32.1 -0.1
MANT **Manisa** 18.73 297 P P 16 51 38.0 -0.8
MANT IAmb IAmb 16 51 51.8
comp=Z,21nm,0.9s
BTK **Batken** 18.85 58 P 16 51 38.7 -1.4
ABKAR **Akbulak array** 19.09 20 P P 16 51 42.3 -0.2
KARP **Karpathos** 19.33 288 P P 16 51 45.0 -0.2
KARP **Karpathos** 19.33 288 P P 16 51 45.8 +0.5
comp=Z,22nm,0.8s
AKTO **Aktyubinsk** 19.67 16 P P 16 51 49.2 +0.4
comp=Z,1.2nm,0.3s,baz=195,slow=11,SNR=12
comp=Z,3.3nm,0.5s
NIL **Nilore** 19.73 78 P P 16 51 46.7 -3.0
NIL IAmb IAmb 16 51 59.2
comp=Z,6.0nm,0.6s
KKAR **Karatay Array** 19.88 49 P 16 51 49.5 -1.6
KKAR IAmb IAmb 16 52 07.9
comp=Z,3.5nm,0.9s
BELG **Belogornoye** 20.75 356 P P 16 52 00.7 +0.2
comp=Z,23nm,0.6s,baz=189,slow=10.0,SNR=5.2
BELG LR LR 17 02 42.6
comp=Z,142nm,18.0s,baz=183,slow=45
comp=Z,23nm,0.6s
ATD **Arta Tunnel** 21.11 200 LR LR 17 00 48.1
comp=Z,8.1nm,21.4s,baz=360,slow=38
IDI **Anoyia** 21.16 287 P P 16 52 04.7 -0.5
IDI **Anoyia** 21.16 287 P P 16 52 05.8 +0.6
comp=Z,18nm,0.7s,baz=85,slow=13,SNR=6.6
comp=Z,18nm,0.7s
ALN **Alexandroupoli** 21.27 302 P P 16 52 06.1 -0.1
ALN IAmb IAmb 16 52 19.9
comp=Z,18nm,1.1s
CFR **Carcaliu** 21.64 315 ⇑P P 16 52 12.2 +2.0
ELND **Elena** 22.09 307 ⇑P P 16 52 19.0 +3.9
AAK **Ala-Archa** 22.34 54 P P 16 52 17.4 -0.5
AAK **Ala-Archa** 22.34 54 P P 16 52 18.1 +0.1
comp=Z,0.7nm,0.5s,baz=185,slow=12,SNR=1.8
AAK LR LR 17 02 23.8
comp=Z,254nm,21.5s,baz=260,slow=40
comp=Z,0.7nm,0.5s
VRI **Vrincioaia** 22.85 315 ⇑P P 16 52 26.7 +3.6
NRN **Naryn** 23.02 58 P P 16 52 23.8 -1.4
NRN IAmb IAmb 16 52 34.6
comp=Z,7.2nm,1.0s
MLR **Muntele Rosu** 23.14 313 P P 16 52 26.1 -0.1
MLR **Muntele Rosu** 23.14 313 ⇑P P 16 52 33.4 +7.1
COVR **Voineasa-Covas** 23.16 314 ⇑P P 16 52 30.3 +4.0
TESR **Tescani** 23.23 316 ⇑P P 16 52 27.6 +0.7
TESR **Tescani** 23.23 316 P P 16 52 28.3 +1.4
comp=Z,12nm,0.6s
TURR **Turia** 23.37 315 ⇑P P 16 52 35.5 +7.0
VOIR 23.68 312 ⇑P P 16 52 33.7 +2.2
VOIR 23.68 312 P P 16 52 33.5 +2.0
comp=Z,10nm,0.8s
NDNU **Novodnistrovsk** 23.98 321 P P 16 52 34.8 +0.6
AK07 **Malin Array Si** 24.32 327 P P 16 52 37.7 +0.4
AK05 **Malin Array Si** 24.36 327 P P 16 52 37.3 -0.4
AK05 IAmb IAmb 16 52 46.1
comp=Z,11nm,0.9s
AKASG **Malin Array Be** 24.41 327 P P 16 52 38.0 -0.1
comp=Z,2.6nm,0.5s,baz=137,slow=9.3,SNR=21
comp=Z,2.6nm,0.5s
AKBB **Malin Array Si** 24.41 327 P P 16 52 38.0 -0.1
AKBB **Malin Array Si** 24.41 327 P P 16 52 39.0 +0.9
KIEV **Kiev** 24.41 327 P P 16 52 37.9 -0.3
KIEV **Kiev** 24.41 327 ⇓P P 16 52 39.3 +1.2
KIEV **Kiev** 24.41 327 P P 16 52 39.0 +0.9
comp=Z,54nm,1.0s
LUBAR **Lubar, Ukraine** 24.60 324 P P 16 52 39.5 -0.4
BURAR **Bucovina Array** 24.64 317 ⇓P P 16 52 41.4 +1.1
FNA **Florina** 24.66 300 P P 16 52 40.7 +0.2
FNA IAmb IAmb 16 52 49.1
comp=Z,7.3nm,0.6s
BUR08 **Bucovina Ar. S** 24.66 317 P P 16 52 40.5 -0.1
BUR08 IAmb IAmb 16 52 46.9
comp=Z,5.4nm,0.8s
MI29 **MI29, Kamyanyy** 24.87 325 P P 16 52 45.1 +2.8
comp=Z,88nm,1.4s
MI30 **MI30,Zelenitsa** 24.93 326 P P 16 52 42.8 0.0
comp=Z,45nm,0.8s
FURI **Furi** 24.98 207 LR LR 17 03 07.3
comp=Z,290nm,18.3s,baz=23,slow=38
KSV **Kosov** 25.09 319 P P 16 52 43.8 -0.5
GZR **Gura Zlata** 25.11 311 ⇑P P 16 52 46.7 +2.1
HERR **Herculane** 25.14 309 ⇑P P 16 52 47.0 +2.1
OBN **Obninsk** 25.25 342 LR LR 17 03 41.0
comp=Z,141nm,20.3s,baz=176,slow=39
MI28 **MI28,Pidlybu** 25.30 326 P P 16 52 47.1 +1.0
comp=Z,339nm,0.7s
ARTI **Arti** 25.38 11 P P 16 52 46.9 0.0
ARTI IAmb IAmb 16 53 07.7
comp=Z,11nm,1.1s
ARTI **Arti** 25.38 11 P P 16 52 46.3 -0.5
comp=Z,4.0nm,0.8s,baz=205,slow=8.6,SNR=5.0
ARTI LR LR 17 05 32.5
comp=Z,102nm,18.2s,baz=210,slow=43
comp=Z,4.0nm,0.8s
MARR **Marisel-Cluj** 25.43 314 ⇑P P 16 52 49.4 +1.8
BRVK **Borovoye** 25.94 29 P P 16 52 52.3 +0.3
BRVK IAmb IAmb 16 53 19.8
comp=Z,8.4nm,1.4s
BRVK **Borovoye** 25.94 29 P P 16 52 52.8 +0.8
BVAR **Borovoye Array** 25.96 29 P P 16 52 51.7 -0.5
comp=Z,3.7nm,0.6s,baz=226,slow=7.9,SNR=23
BVAR LR LR 17 05 15.6
comp=Z,166nm,19.7s,baz=220,slow=42
comp=Z,3.7nm,0.6s
PUK **Puka** 26.02 302 P P 16 52 54.9 +1.9
PUK IAmb IAmb 16 53 08.9
comp=Z,13nm,1.2s
MORS **Morshin** 26.18 319 P P 16 52 55.4 +1.2
BRIU **Brid** 26.27 317 P P 16 52 53.9 -1.1
RNPP5 **Staryi Chortor** 26.35 325 P P 16 52 57.3 +1.6
RNPP8 **Varash** 26.43 325 P P 16 52 58.5 +2.1
RNPP9 **Sopachiv** 26.46 325 P P 16 52 59.3 +2.6
MUKU **Mukachevo** 26.52 317 P P 16 53 01.6 +4.3
SHIU **Shidnytsya** 26.53 319 P P 16 53 01.3 +3.9
HOLU **Holmets** 26.74 317 P P 16 53 03.6 +4.4

KIRV **Kirov** 26.89 359 P P 16 53 00.2 -0.3
comp=Z,9.2nm,0.7s,baz=180,slow=6.1,SNR=4.8
KIRV LR LR 17 06 15.4
comp=Z,196nm,18.0s,baz=179,slow=42
comp=Z,9.2nm,0.7s
KOLS **Kolonicke sedl** 27.00 318 *e*P P 16 53 06.1 +4.5
KURBB **Kurchatov Arra** 28.39 40 P P 16 53 14.9 +0.9
comp=Z,0.8nm,0.7s,baz=244,slow=9.7,SNR=5.5
KURBB LR LR 17 06 06.0
comp=Z,220nm,19.0s,baz=194,slow=40
comp=Z,0.8nm,0.7s
VYHS **Vyhne** 28.83 315 *e*P P 16 53 21.9 +3.9
MK31 **Makanchi Array** 29.01 49 P P 16 53 20.2 +0.7
MK31 IAmb IAmb 16 53 21.6
comp=Z,2.3nm,0.6s
MKAR **Makanchi Array** 29.01 49 P P 16 53 20.6 +1.0
comp=Z,2.1nm,0.6s,baz=243,slow=11,SNR=33
MKAR LR LR 17 06 56.4
comp=Z,164nm,19.0s,baz=226,slow=41
comp=Z,2.1nm,0.6s
ARSA **Arzberg** 30.46 311 *e*P P 16 53 34.6 +2.1
comp=Z,1.6nm,0.7s
CONA **Conrad Observa** 30.47 312 *e*pP pP 16 53 38.1 -2.4
comp=Z,0.7nm,0.7s
MOA **Molln** 31.46 311 *i* P P 16 53 44.7 +3.5
comp=Z,6.1nm,1.0s
BIOA **Bad Ischl, Aus** 31.82 311 *i* P P 16 53 45.5 +1.1
comp=Z,3.1nm,0.5s
KBA **Koelnbreinsper** 31.84 309 *i* P P 16 53 45.9 +1.1
comp=Z,6.0nm,1.2s
WMQ **Urumqi** 31.96 57 *e*P P 16 53 47.8 +2.1
WMQ LR LR
comp=Z,72nm,15.9s
ABTA **Abfaltersbach** 32.30 309 *e*pP P 16 53 52.5 +3.8
comp=Z,3.6nm,0.6s
LESA **Schwarzleotal** 32.37 310 *i* P P 16 53 50.8 +1.5
comp=Z,2.3nm,0.7s
WTTA **Wattberg** 33.01 309 *e*P P 16 53 56.9 +1.9
comp=Z,6.5nm,0.9s
WTTA *e*S S 16 59 12.4 +0.3
comp=Z,5.5nm,1.1s
WATA **Walderalm** 33.07 309 *e*P P 16 53 56.8 +1.3
comp=Z,5.2nm,1.0s
SQTA **Sankt Quirin** 33.28 309 *e*P P 16 53 57.9 +0.5
comp=Z,5.6nm,0.8s
SQTA *i* S S 16 59 13.7 -2.5
comp=Z,2.1nm,0.5s
MOTA **Moosalm** 33.38 309 *e*P P 16 53 58.2 -0.1
comp=Z,4.5nm,0.9s
MOTA *e*S S 16 59 15.7 -2.0
comp=Z,6.1nm,0.9s
ZAA0 **Zalesovo Array** 33.38 38 P P 16 53 57.3 -0.7
ZALV **Zalesovo Beam** 33.38 38 P P 16 53 58.7 +0.7
comp=Z,2.9nm,0.5s,baz=258,slow=11,SNR=20
ZALV LR LR 17 09 14.6
comp=Z,98nm,20.0s,baz=234,slow=39
comp=Z,2.9nm,0.5s
CLL **Collm** 33.40 317 *e*Px Px 16 54 02.0
FETA **Feichten** 33.55 309 *i* P P 16 54 01.3 +1.5
comp=Z,8.3nm,1.1s
FETA *e*S S 16 59 18.4 -2.0
comp=Z,3.2nm,0.8s
FINES **FINESS Array B** 33.57 339 P P 16 53 59.9 +0.4
comp=Z,0.9nm,0.4s,baz=145,slow=8.5,SNR=9.5
FINES LR LR 17 09 22.3
comp=Z,115nm,18.2s,baz=150,slow=40
comp=Z,0.9nm,0.4s
RETA **Reutte** 33.64 309 *e*P P 16 54 03.5 +3.1
comp=Z,1.7nm,0.6s
DAVA **Damuels** 34.18 309 *i* P P 16 54 05.9 +0.8
comp=Z,6.2nm,0.6s
KMBO **Kilima Mbogo** 34.79 203 LR LR 17 09 01.6
comp=Z,112nm,18.8s,baz=89,slow=38
MBAR **Mbarara** 36.91 213 LR LR 17 11 28.5
comp=Z,68nm,19.4s,baz=26,slow=39
HFS **Hagfors** 37.17 331 P P 16 54 30.4 -0.1
comp=Z,3.8nm,0.8s,baz=120,slow=8.8,SNR=10
HFS LR LR 17 10 49.4
comp=Z,106nm,18.5s,baz=84,slow=38
comp=Z,3.8nm,0.8s
NB2 **NORSAR Subarra** 38.69 331 P P 16 54 43.2 -0.2
comp=Z,1.4nm,0.6s,baz=123,slow=8.6
NOA **NORSAR Array B** 38.69 331 P P 16 54 41.3 -2.1
comp=Z,0.9nm,0.7s,baz=122,slow=8.4,SNR=3.1
NOA LR LR 17 11 46.6
comp=Z,81nm,21.3s,baz=120,slow=38
comp=Z,0.9nm,0.7s
TAM **Tamanrasset** 40.23 269 P P 16 54 56.9 +0.1
ARCES **ARCESS Array B** 40.32 347 P P 16 54 56.9 +0.1
comp=Z,1.4nm,0.7s,baz=155,slow=8.8,SNR=12
ARCES LR LR 17 12 59.9
comp=Z,73nm,20.4s,baz=120,slow=38
comp=Z,1.4nm,0.7s
GTA **Gaotai** 40.89 65 *e*P P 16 55 03.9 +1.9
GTA pmax pmax
comp=Z,3.0nm,0.9s
NRIK **Noril'sk** 43.25 18 P P 16 55 20.9 +0.3
comp=Z,0.9nm,0.3s,baz=269,slow=6.8,SNR=3.6
NRIK LR LR 17 17 14.2
comp=Z,129nm,18.1s,baz=162,slow=42
comp=Z,0.9nm,0.3s
EKA **Eskdalemuir Ar** 43.80 319 P P 16 55 25.2 -0.2
comp=Z,0.2nm,0.4s,baz=85,slow=8.7,SNR=1.5
comp=Z,0.2nm,0.4s
ESDC **Sonseca Array** 43.92 296 P P 16 55 26.1 -0.6
comp=Z,0.9nm,1.0s,baz=76,slow=11,SNR=5.3
comp=Z,0.9nm,1.0s
PZH **PanZhiHua** 45.24 83 P P 16 55 37.5 +0.1
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.9s
SONM **Songino Array** 45.29 52 P P 16 55 36.3 -1.2
comp=Z,0.3nm,0.6s,baz=273,slow=8.5,SNR=2.3
SONM LR LR 17 16 33.6
comp=Z,133nm,18.0s,baz=276,slow=39
comp=Z,0.3nm,0.6s
CMAR **Chiang Mai Arr** 45.97 95 P P 16 55 42.5 -0.6
comp=Z,0.5nm,0.6s,baz=286,slow=8.7,SNR=5.2
CMAR LR LR 17 19 45.8
comp=Z,25nm,18.1s,baz=130,slow=42
comp=Z,0.5nm,0.6s
TORD **Torodi Ar. Bea** 47.83 259 P P 16 55 58.2 +0.6
comp=Z,5.1nm,0.7s,baz=52,slow=8.9,SNR=40
TORD LR LR 17 18 24.5
comp=Z,106nm,18.4s,baz=59,slow=39
comp=Z,5.1nm,0.7s
SPITS **Spitsbergen Ar** 48.84 351 P P 16 56 04.0 -0.7
comp=Z,10nm,1.0s,baz=168,slow=7.4,SNR=10
comp=Z,10nm,1.0s
HHC **Hu-ho-hao-te** 49.62 61 *e*P P 16 56 10.6 -0.7
HHC pmax pmax
comp=Z,37nm,0.5s
HHC pmax pmax
comp=Z,200nm,4.7s
BORG **Borgarnes** 53.85 330 LR LR 17 20 33.7
comp=Z,60nm,18.0s,baz=85,slow=37
DBIC **Dimbokro** 56.72 256 P P 16 57 03.0 -0.7
comp=Z,4.2nm,0.8s,baz=65,slow=7.1,SNR=3.5
DBIC LR LR 17 24 30.4
comp=Z,131nm,18.8s,baz=54,slow=39
comp=Z,4.2nm,0.8s
TIXI **Tiksi** 56.79 22 LR LR 17 25 32.0
comp=Z,134nm,19.4s,baz=212,slow=40
YAK **Yakutsk** 57.82 33 LR LR 17 25 43.7
comp=Z,51nm,18.1s,baz=272,slow=40
LBTB **Lobatse** 61.00 205 LR LR 17 24 10.6
comp=Z,95nm,20.6s,baz=32,slow=36
KLR **Kul'dur** 61.69 47 LR LR 17 28 21.0
comp=Z,69nm,18.2s,baz=266,slow=40
KSRS **Korea Array** 62.77 61 P P 16 57 44.8 -0.2
comp=Z,0.8nm,0.5s,baz=265,slow=6.5,SNR=5.5
KSRS LR LR 17 28 32.1
comp=Z,50nm,18.8s,baz=290,slow=39
comp=Z,0.8nm,0.5s
USRK **Ussuriysk Ar.** 63.39 53 LR LR 17 28 36.0
comp=Z,86nm,18.2s,baz=272,slow=39
BOSA **Boshof** 64.41 204 P P 16 57 57.1 +1.1
comp=Z,7.1nm,0.7s,baz=29,slow=7.0,SNR=14
BOSA LR LR 17 25 03.1
comp=Z,56nm,18.5s,baz=20,slow=35
comp=Z,7.1nm,0.7s
JNU **Nakatsue** 66.62 65 LR LR 17 29 24.1
comp=Z,40nm,21.2s,baz=305,slow=38
SUR **Sutherland** 69.42 206 LR LR 17 30 06.9
comp=Z,253nm,18.0s,baz=358,slow=37
ASAJ **Asahikawa** 70.49 50 LR LR 17 32 20.5
comp=Z,121nm,18.1s,baz=330,slow=38
MJAR **Matsushiro Arr** 70.70 59 LR LR 17 32 43.2
comp=Z,32nm,19.8s,baz=302,slow=38
PETK **Petropavlovsk-** 74.92 36 LR LR 17 34 58.9
comp=Z,50nm,18.0s,baz=277,slow=38
SHEM **Shemya Is, Ala** 82.89 30 LR LR 17 40 25.4
comp=Z,54nm,18.7s,baz=334,slow=38
ILAR **Eielson Array** 82.95 7 P P 16 59 42.8 -1.5
comp=Z,0.2nm,0.8s,baz=332,slow=5.1,SNR=1.6
comp=Z,0.2nm,0.8s
WRA **Warramunga Arr** 95.70 110 P P 17 00 45.9 +0.1
comp=Z,0.3nm,0.9s,baz=315,slow=4.0,SNR=1.9
comp=Z,0.3nm,0.9s

IDC 01 16:53:56.7±2.5, 6°.13N×126°.07E, h0km, mb3.3/4, mbtmp3.3/4, MS3.0/1, Error ellipse: s-maj=246.7km s-min=23.2km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.15**	**163**	P	P	16 59 41.0	-1.0
	0.2nm,0.9s,baz=344,slow=9.2,SNR=1.2						
	0.2nm,0.9s						
ASAR	**Alice Springs**	**30.59**	**166**	P	P	17 00 13.1	+0.6
	0.2nm,0.3s,baz=336,slow=7.3,SNR=18						
	0.2nm,0.3s						
HNR	**Honiara**	**37.13**	**114**	LR	LR	17 16 20.3	
	comp=Z,22nm,18.0s,baz=10,slow=36						
MKAR	**Makanchi Array**	**55.23**	**325**	P	P	17 03 32.0	+0.4
	0.2nm,0.3s,baz=118,slow=7.2,SNR=5.3						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**59.38**	**327**	P	P	17 04 00.2	-0.7
	0.3nm,0.5s,baz=119,slow=8.7,SNR=2.5						
	0.3nm,0.5s						

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*IDC **01** 16:54:05.5±1.5, 24°.28S×179°.78W, h493km±14km, mb3.5/12, mbtmp4.3/15, Error ellipse: s-maj=19.6km s-min=11.6km az=89.0*
*NEIC **01** 16:54:07.9±1.8, 24°.38S±0°.10×180°.0W±0°.1, h504km±4km, mb4.5/42, Error ellipse: s-maj=15.6km s-min=12.0km az=220.0*

ISC 01 16:54:06.8±0.4, 24°.30S±0°.06×179°.97E±0°.07, h500km, n88, σ1°.38/95, mb4.3/32, 4C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.28**	**160**	P	P	16 55 37.4	+1.2
MSVF	**Nonsavu**	**6.78**	**344**	P	P	16 55 51.5	+0.5
	10nm,0.5s,baz=229,slow=18,SNR=16						
MSVF				S	S	16 57 15.3	-0.8
	4.5nm,0.8s,baz=244,slow=23,SNR=1.0						
NIUE	**Niue**	**10.73**	**63**	P	P	16 56 36.3	+4.3
PINNC	**Pines Island,**	**11.62**	**276**	P	P	16 56 45.5	+4.1
DZM	**Mont Dzumac**	**12.64**	**277**	P	P	16 56 55.7	+3.4
DZM	**Mont Dzumac**	**12.64**	**277**	P	P	16 56 55.1	+2.8
	5.1nm,0.7s,baz=118,slow=18,SNR=5.8						
URZ	**Urewera**	**14.12**	**189**	P	P	16 57 06.6	-1.0
	5.7nm,0.5s,baz=138,slow=17,SNR=1.0						
URZ				S	S	16 59 35.9	-0.8
	15nm,0.7s,baz=118,slow=23,SNR=11						
BKZ	**Black Stump Fm**	**15.11**	**190**	P	P	16 57 18.1	+0.1
TKNZ	**Takaka Hill**	**17.68**	**198**	P	P	16 57 42.5	-1.6
THZ	**Tophouse**	**18.38**	**197**	P	P	16 57 49.1	-1.4
LTZ	**Lake Taylor**	**19.50**	**197**	P	P	16 57 58.4	-2.3
OXZ	**Oxford**	**20.07**	**197**	P	P	16 58 03.9	-1.9
RPZ	**Rata Peaks**	**20.70**	**199**	P	P	16 58 10.7	-0.9
	12nm,0.5s,baz=357,slow=14,SNR=7.4						
	12nm,0.5s						
ARMA	**Armidale**	**25.86**	**250**	P	P	16 58 59.1	+1.1
ARMA				IAmb	IAmb	16 59 01.1	
	comp=Z,6.9nm,0.8s						
EIDS	**Eidsvold**	**26.22**	**262**	P	P	16 59 01.8	+0.7
EIDS				IAmb	IAmb	16 59 03.5	
	comp=Z,9.6nm,0.8s						
CAN	**Canberra**	**28.92**	**240**	P	P	16 59 25.9	+1.1
CAN				IAmb	IAmb	16 59 27.5	
	comp=Z,24nm,1.5s						
CTAO	**Charters Tower**	**31.45**	**271**	P	P	16 59 48.2	+1.3
TOO	**Toolangi**	**32.21**	**238**	P	P	16 59 53.5	+0.4
TAU	**Tasmania Unive**	**32.64**	**227**	P	P	16 59 57.4	+0.8
STKA	**Stephens Creek**	**34.55**	**249**	P	P	17 00 14.0	+1.0
STKA	**Stephens Creek**	**34.55**	**249**	P	P	17 00 13.9	+1.0
	comp=Z,5.4nm,0.6s,baz=92,slow=10,SNR=26						
	comp=Z,5.4nm,0.6s						
PMG	**Port Moresby**	**34.60**	**290**	P	P	17 00 14.2	+0.6
PMG				IAmb	IAmb	17 00 47.5	
	comp=Z,25nm,1.1s						
COEN	**Coen**	**36.15**	**280**	P	P	17 00 27.6	+1.1
COEN				IAmb	IAmb	17 01 08.4	
	comp=Z,21nm,1.1s						
BBOO	**Buckleboo**	**39.26**	**247**	P	P	17 00 51.5	-0.2
BBOO				IAmb	IAmb	17 00 53.2	
	comp=Z,22nm,1.4s						
AS31	**Alice Springs**	**41.94**	**261**	P	P	17 01 13.7	+0.3
ASAR	**Alice Springs**	**41.95**	**261**	P	P	17 01 13.6	+0.2
ASAR	**Alice Springs**	**41.95**	**261**	P	P	17 01 13.9	+0.6
	comp=Z,3.9nm,0.6s,baz=93,slow=6.8,SNR=111						
ASAR				ScP	ScP	17 06 01.5	+1.5
	comp=Z,0.9nm,0.9s,baz=112,slow=4.5,SNR=6.8						
ASAR				S	S	17 06 54.6	-0.9
	comp=Z,0.4nm,0.8s,baz=98,slow=16,SNR=3.3						
	comp=Z,3.9nm,0.6s						
WR0	**Warramunga Arr**	**42.17**	**267**	P	P	17 01 14.7	-0.5
WR0				IAmb	IAmb	17 01 15.7	
	comp=Z,4.8nm,0.5s						
WB2	**Warramunga Arr**	**42.34**	**267**	P	P	17 01 16.4	-0.1
WB2				IAmb	IAmb	17 01 17.1	
	comp=Z,10nm,0.5s						
WRAB	**Tennant Creek**	**42.35**	**267**	P	P	17 01 16.4	-0.2
WRAB				IAmb	IAmb	17 01 17.4	
	comp=Z,12nm,1.1s						
WB0	**Warramunga Arr**	**42.35**	**267**	P	P	17 01 16.6	0.0
WB0				IAmb	IAmb	17 01 17.5	
	comp=Z,13nm,0.7s						
WRA	**Warramunga Arr**	**42.35**	**267**	P	P	17 01 16.0	-0.7
WRA	**Warramunga Arr**	**42.35**	**267**	P	P	17 01 16.8	+0.1
	comp=Z,9.6nm,0.6s,baz=101,slow=8.2,SNR=156						
WRA				PcP	PcP	17 02 58.7	-0.1
	comp=Z,1.3nm,0.9s,baz=106,slow=3.7,SNR=4.6						
WRA				ScP	ScP	17 06 03.3	+1.7
	comp=Z,2.2nm,0.9s,baz=98,slow=4.1,SNR=12						
WRA				S	S	17 06 57.8	-3.6
	comp=Z,0.3nm,0.9s,baz=99,slow=13,SNR=1.5						
	comp=Z,9.6nm,0.6s						
FORT	**Forrest**	**46.15**	**250**	P	P	17 01 45.6	-0.2
MTN	**Manton Dam**	**47.46**	**275**	P	P	17 01 55.8	-0.2
MTN				IAmb	IAmb	17 02 09.2	
	comp=Z,23nm,1.4s						
KNRA	**Kununurra**	**48.66**	**270**	P	P	17 02 05.3	+0.3
KNRA				IAmb	IAmb	17 02 06.4	
	comp=Z,15nm,0.9s						
SAUI	**Saumlaki**	**49.21**	**281**	P	P	17 02 09.2	0.0
FAKI	**Fak Fak**	**50.67**	**287**	P	P	17 02 19.9	0.0
FAKI				IAmb	IAmb	17 02 58.0	
	comp=Z,13nm,1.0s						
FITZ	**Fitzroy Crossi**	**50.77**	**266**	P	P	17 02 20.9	+0.3
MIDW	**Midway**	**52.28**	**3**	P	P	17 02 29.4	-1.7
SBA	**Scott Base**	**53.98**	**183**	P	P	17 02 43.8	+1.2
SBA				PcP	PcP	17 03 40.8	+0.8
SOEI	**Soe**	**54.85**	**275**	P	P	17 02 50.9	+0.9
SOEI				IAmb	IAmb	17 03 07.6	
	comp=Z,18nm,0.9s						
PSA00	**Pilbara Seismi**	**55.07**	**260**	P	P	17 02 50.7	-0.5
PSA00				IAmb	IAmb	17 03 06.6	
	comp=Z,24nm,1.5s						
MBWA	**Marble Bar**	**55.28**	**260**	P	P	17 02 52.4	-0.3
MORW	**Morawa**	**56.71**	**250**	P	P	17 03 02.1	-0.5
MORW				IAmb	IAmb	17 03 02.8	
	comp=Z,16nm,1.2s						
MORW				PcP	PcP	17 03 48.3	-3.3
CASY	**Casey**	**59.74**	**206**	P	P	17 03 21.9	-0.5
CASY				IAmb	IAmb	17 03 52.8	
	comp=Z,22nm,0.8s						
TOLI2	**Tolitoli**	**62.65**	**285**	P	P	17 03 43.5	+1.1
QSPA	**South Pole Qui**	**65.78**	**180**	P	P	17 04 02.2	+0.6
QSPA	**South Pole Qui**	**65.78**	**180**	P	P	17 04 02.2	+0.6
	comp=Z,3.1nm,0.6s,baz=29,slow=1.5,SNR=38						
	comp=Z,3.1nm,0.6s						
KKM	**Kota Kinabalu**	**69.00**	**287**	P	P	17 04 22.6	+0.4
BELA	**Belgrano 2**	**76.04**	**173**	P	P	17 05 01.1	-0.7
MAW	**Mawson**	**77.36**	**200**	P	P	17 05 09.2	+0.1
	comp=Z,4.0nm,0.6s,baz=132,slow=5.9,SNR=26						
	comp=Z,4.0nm,0.6s						
KSRS	**Korea Array**	**78.54**	**320**	P	P	17 05 15.4	-0.5
	comp=Z,0.6nm,0.6s,baz=136,slow=5.9,SNR=5.1						
	comp=Z,0.6nm,0.6s						

PMSA	Palmer Station	78.55 157	P	P	17 05 17.6	+2.0
PEA0B	Petropavlovsk-	79.48 347	P	P	17 05 20.8	+0.2
PEA0B			IAmb	IAmb	17 05 32.3	
	comp=Z,32nm,1.3s					
PETK	Petropavlovsk-	79.48 347	P	P	17 05 19.3	-1.3
	comp=Z,4.2nm,1.0s,baz=163,slow=12,SNR=5.7					
	comp=Z,4.2nm,1.0s					
USRK	Ussuriysk Ar.	81.09 327	P	P	17 05 29.9	+0.8
	comp=Z,1.2nm,0.6s,baz=131,slow=3.0,SNR=4.8					
	comp=Z,1.2nm,0.6s					
KULM	Kulim	82.48 279	P	P	17 05 37.3	+0.3
KULM			IAmb	IAmb	17 05 59.1	
	comp=Z,20nm,1.3s					
GSI	Gunungsitoli	83.60 274	P	P	17 05 43.4	+0.7
GSI			IAmb	IAmb	17 05 44.4	
	comp=Z,21nm,1.0s					
TROLL	Troll, Antarti	83.93 181	⇑P	P	17 05 43.0	-0.4
	comp=Z,74nm,0.4s					
SNAA	Sanae	84.27 179	P	P	17 05 43.4	-1.6
SNAA	Sanae	84.27 179	⇑P	P	17 05 43.8	-1.2
	comp=Z,11nm,0.5s					
SNAA	Sanae	84.27 179	P	P	17 05 43.5	-1.5
	comp=Z,0.4nm,0.5s,baz=198,slow=15,SNR=6.1					
	comp=Z,0.4nm,0.5s					
VNA3	Neumayer Olymp	84.48 177	⇑P	P	17 05 45.6	-0.4
	comp=Z,0.0nm,0.1s					
VNA2	Neumayer--Watz	84.89 178	⇑P	P	17 05 47.2	-0.7
	comp=Z,1.8nm,0.6s,baz=205,slow=4.4					
CMAR	Chiang Mai Arr	89.64 290	P	P	17 06 12.1	+0.7
	comp=Z,1.2nm,0.8s,baz=139,slow=4.1,SNR=8.3					
	comp=Z,1.2nm,0.8s					
ILAR	Eielson Array	92.43 14	P	P	17 06 21.7	-1.3
	comp=Z,0.2nm,0.6s,baz=234,slow=5.5,SNR=1.8					
	comp=Z,0.2nm,0.6s					
MKAR	Makanchi Array	112.41 313	PKiKP	PKiKP	17 11 42.8	-2.7
	comp=Z,0.3nm,0.5s,baz=239,slow=0.4,SNR=2.4					
KURBB	Kurchatov Arra	115.52 316	PKP	PKPdf	17 11 50.2	-1.1
	comp=Z,0.7nm,0.6s,baz=110,slow=1.5,SNR=4.9					
BVAR	Borovoye Array	120.72 319	PKP	PKPdf	17 11 60.0	-1.3
	comp=Z,1.4nm,0.5s,baz=93,slow=2.1,SNR=11					
ARCES	ARCESS Array B	132.27 348	PKP	PKPdf	17 12 21.0	-1.8
	comp=Z,2.9nm,0.9s,baz=28,slow=4.1,SNR=4.5					
BORG	Borgarnes	137.25 13	PKP	PKPdf	17 12 31.7	-0.5
	comp=Z,15nm,1.0s,baz=308,slow=3.6,SNR=3.2					
FINES	FINESS Array B	138.82 341	PKhKP	PKPpre	17 12 24.9	
	comp=Z,0.9nm,0.7s,baz=195,slow=10,SNR=0.8					
FINES			PKP	PKPdf	17 12 35.2	+0.1
	comp=Z,1.7nm,0.7s,baz=75,slow=2.2,SNR=6.4					
HFS	Hagfors	142.93 349	PKP	PKPdf	17 12 39.1	-3.4
	comp=Z,3.7nm,0.4s,baz=56,slow=2.7,SNR=32					
KONO	Kongsberg	144.04 352	PKPbc	PKPbc	17 12 43.2	-0.6
ARPR	Arapgir-MALATY	144.46 304	PKPdf	PKPbc	17 12 45.0	-1.0
AKASG	Malin Array Be	145.29 327	PKPbc	PKPdf	17 12 47.0	+0.1
	comp=Z,1.7nm,0.5s,baz=47,slow=3.6,SNR=16					
AKBB	Malin Array Si	145.29 327		PKPdf	17 12 46.4	-0.5
KIEV	Kiev	145.31 327	PKPdf	PKPdf	17 12 46.6	-0.3
BRTR	Keskin Array B	147.80 307	PKPbc	PKPbc	17 12 54.2	-1.1
MMAI	Mount Meron Ar	147.84 294	PKPbc	PKPbc	17 12 56.4	+0.8
	comp=Z,4.5nm,0.5s,baz=70,slow=6.6,SNR=16					
ANTO	Ankara	148.37 307	PKPbc	PKPbc	17 12 56.0	-0.6
EKA	Eskdalemuir Ar	148.92 3	PKPbc	PKPbc	17 12 55.9	-1.6
	comp=Z,0.6nm,0.5s,baz=342,slow=4.1,SNR=2.3					
KWP	Kalwaria Pacla	149.10 331		PKPbc	17 12 57.2	-0.8
OJC	Ojcow	149.89 334	PKPbc	PKPbc	17 12 59.0	-0.9
CLL	Collm	151.23 343	PKPbc	PKPbc	17 13 01.9	-1.0
CLL	Collm	151.23 343	*i* PKPbc	PKPbc	17 13 02.8	-0.2
	comp=Z,6.0nm,0.7s					
TORD	Torodi Ar. Bea	168.78 189	PKPab	PKPab	17 14 28.8	-1.7
	comp=Z,0.2nm,0.4s,baz=150,slow=3.2,SNR=3.9					

AUST 01 17:29:01.5±0.4, 22°S±6°×12°2E±°, h10km, mb4.6/2, ML2.5/5, Error ellipse: s-maj=13.4km s-min=4.7km az=16.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSAD2	Pilbara Seismi	2.18	273	P	Pn	17 29 37.2	-0.7
PSAC2	Pilbara Seismi	2.24	274	P	Pn	17 29 38.1	-0.6
PSAC2				S	Sn	17 30 08.0	+1.6
PSAB2	Pilbara Seismi	2.28	275	P	Pn	17 29 38.2	-1.0
PSAB2				S	Sn	17 30 08.9	+1.5
PSAB3	Pilbara Seismi	2.28	274	P	Pn	17 29 38.1	-1.1
PSAB3				S	Sb	17 30 09.4	-1.6
PSAA3	Pilbara Seismi	2.28	274	P	Pn	17 29 38.5	-0.8
PSA00	Pilbara Seismi	2.29	274	P	Pn	17 29 38.9	-0.5
PSA00				S	Sn	17 30 09.2	+1.5
PSAA2	Pilbara Seismi	2.29	274	P	Pn	17 29 38.1	-1.3
PSAA2				S	Sn	17 30 09.3	+1.6
PSAA1	Pilbara Seismi	2.30	274	P	Pn	17 29 38.6	-0.9
PSAA1				S	Sn	17 30 09.4	+1.5
PSAD1	Pilbara Seismi	2.32	277	P	Pn	17 29 39.0	-0.8
PSAD1				S	Sb	17 30 10.6	-1.5
PSAC1	Pilbara Seismi	2.33	275	P	Pn	17 29 39.1	-0.8
PSAD3	Pilbara Seismi	2.35	272	P	Pn	17 29 39.7	-0.5
MBWA	Marble Bar	2.46	283	P	Pn	17 29 40.9	-0.9
MBWA				S	Sb	17 30 14.9	-1.5
FITZ	Fitzroy Crossi	4.81	41	P	Pn	17 30 14.0	0.0
WRKA	Warakurna	6.40	122	P	Pn	17 30 37.8	+1.7
WRKA	Warakurna	6.40	122	S	Sn	17 31 50.0	+0.8
GIRL	Giralia	7.53	262	P	Pn	17 30 51.1	-0.2
	comp=Z,0.3nmcomp=Z,147nm,1.6s						
FORT	Forrest	10.37	151	P	Pn	17 31 29.4	-0.9
	comp=Z,0.1nmcomp=Z,23nm,1.7s						

JMA ***01*** *17:32:46.1±0.1, 23°5N±0°5×12°2E±°, h52km±2km, MV3.4/15, TAIWAN REGION*
TAP ***01*** *17:32:46.6, 23°57N×121°64E, h47km, ML4.0, B*
ISC 01 17:32:47.1±1.4, 23°55N±0°02×121°69E±0°02, h36km±1km, n162, σ0°94/297, 22C-20D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	Jichi Village	0.21	320	⇑*i*P	Pn	17 32 54.7	-0.7
TEGC				*e*S	Sn	17 33 01.5	-1.3
HGSD	Ruisui	0.25	257	⇑*i*P	Pn	17 32 54.9	-0.2
HGSD				S	Sn	17 33 02.9	+0.9
SHUL	Shoufeng	0.26	334	⇑*i*P	Pn	17 32 55.2	+0.1
SHUL				*e*S	Sn	17 33 01.8	0.0
EGFH	Guangfu	0.27	297	*i* P	Pn	17 32 54.8	-0.3
EGFH				*e*S	Sn	17 33 00.5	-1.3
ECBN	Changbin	0.32	223	⇑P	Pn	17 32 55.9	+0.6
ECBN				*e*S	Sn	17 33 02.6	+0.9
EHYH	Wanrong	0.32	260	P	Pn	17 32 55.3	0.0
EHYH				*e*S	Sn	17 33 01.7	-0.1
WARBT	Fenglin Townsh	0.32	301	⇑*i*P	Pn	17 32 55.0	-0.3
WARBT				S	Sn	17 33 00.9	-1.0
TEYL	Yanliau Villag	0.33	346	⇑*e*P	Pn	17 32 57.1	+1.8
EHY	Hungye	0.34	263	⇑*i*P	Pn	17 32 55.2	-0.3
EHY				*e*S	Sn	17 33 01.6	-0.4
ESL	Shilin	0.35	319	⇑*i*P	Pn	17 32 55.4	-0.2
ESL				*e*S	Sn	17 33 01.2	-0.9
YULB	Yu-li	0.39	247	P	Pn	17 32 55.8	-0.3
YULB	Yu-li	0.39	247	⇑*i*P	Pn	17 32 55.8	-0.3
YULB				*e*S	Sn	17 33 01.8	-0.9
EYUL	Yuli	0.39	239	P	Pn	17 32 56.2	+0.1
EYUL				*e*S	Sn	17 33 05.1	+2.4
HWA	Hwalien	0.43	350	⇑*i*P	Pn	17 32 56.9	+0.2
HWA				*e*S	Sn	17 33 04.4	+0.9
CHKH	Chenggong	0.45	217	*e*P	Pn	17 32 57.0	+0.2
CHKH				*e*S	Sn	17 33 04.9	+1.1
ETM	Tongmen	0.45	337	⇑*i*P	Pn	17 32 56.6	-0.4
ETM				*e*S	Sn	17 33 04.2	+0.3
FULB	Fuli	0.50	226	*e*P	Pn	17 32 57.7	-0.1
FULB				*e*S	Sn	17 33 06.8	+1.5
LXIB	Xiulin Townshi	0.53	332	⇓*i*P	Pn	17 32 57.5	-0.9
LXIB				*i* S	Sn	17 33 05.6	-0.6
TWD	Chiawan	0.54	351	*e*P	Pn	17 32 57.8	-0.5
TWD				*e*S	Sn	17 33 07.0	+0.9
EHD	Haiduan	0.60	228	*e*P	Pn	17 32 57.8	-1.4
ETL	Fush Village	0.61	354	P	Pn	17 32 58.6	-0.8
ETL				*e*S	Sn	17 33 08.6	+0.6
OWD	Renai	0.62	311	⇑*i*P	Pn	17 32 59.0	-0.6
OWD				*e*S	Sn	17 33 07.3	-1.0
ECS	Chishang	0.62	224	*e*P	Pn	17 32 58.6	-0.9
NACB	Ninganchiao	0.63	352	P	Pn	17 32 58.9	-0.7
NACB	Ninganchiao	0.63	352	⇑*i*P	Pn	17 32 58.8	-0.8
NACB				*e*S	Sn	17 33 07.1	-1.3
EDH	Donghe	0.67	212	*i* P	Pn	17 32 59.5	-0.7
EDH				*e*S	Sn	17 33 09.7	+0.2
ETLH	Xiulin Townshi	0.68	344	⇑*i*P	Pn	17 32 59.4	-1.0
ETLH				*e*S	Sn	17 33 08.8	-1.0
WUSB	Renai	0.68	310	⇓*i*P	Pn	17 33 00.1	-0.4
WUSB				S	Sn	17 33 08.9	-1.0
WHF	Hehuan Shan	0.71	327	*e*P	Pn	17 33 00.1	-0.9
WHF				*e*S	Sn	17 33 09.9	-1.0
ELDTW	Lidau	0.71	240	P	Pn	17 32 59.5	-1.3
ELDTW				*e*S	Sn	17 33 10.5	0.0
SSLB	Suanglung	0.71	290	P	Pn	17 33 00.1	-0.7
SSLB	Suanglung	0.71	290	⇓*i*P	Pn	17 33 00.1	-0.7
SSLB				*e*S	Sn	17 33 09.3	-1.2
EAHA	Aohua	0.78	3	*i* P	Pn	17 33 01.0	-0.6
EAHA				*e*S	Sn	17 33 12.2	+0.1
WHYT	Xinyi Township	0.78	281	⇓*i*P	Pn	17 33 01.4	-0.2
WHYT				*i* S	Sn	17 33 12.1	-0.1
SMLT	Sun Moon Lake	0.80	295	*i* P	Pn	17 33 01.6	-0.3
SMLT				*i* S	Sn	17 33 12.4	-0.2
FUSS	Fushou	0.81	330	*e*P	Pn	17 33 01.8	-0.4
FUSS				*i* S	Sn	17 33 12.4	-0.7
EOS4	EOS4	0.81	45	⇑*i*P	Pn	17 33 01.9	+0.2
ALS	Alishan	0.81	267	⇓*i*P	Pn	17 33 02.2	-0.1
ALS				*e*S	Sn	17 33 13.0	-0.3
LONT	Longtian	0.82	219	*e*P	Pn	17 33 00.8	-1.4
LONT				*e*S	Sn	17 33 12.6	-0.5
TYC	Yuchr	0.84	295	⇓*i*P	Pn	17 33 02.2	-0.2
TYC				*i* S	Sn	17 33 13.3	-0.3
TWT	Tachien	0.84	326	⇓*i*P	Pn	17 33 02.5	-0.1
TWT				*i* S	Sn	17 33 13.4	-0.6
TDCB	Techi	0.85	325	⇓*i*P	Pn	17 33 02.5	-0.2
TDCB				*i* S	Sn	17 33 13.3	-0.8
WCS	Beigang Elemen	0.87	306	⇓P	Pn	17 33 02.6	-0.2
WCS				*e*S	Sn	17 33 13.6	-0.8
ENA	Nanau	0.88	3	*e*P	Pn	17 33 02.4	-0.6
ENA				*e*S	Sn	17 33 14.7	+0.2
LDUT	Ludao	0.90	193	*e*P	Pn	17 33 01.8	-1.3
LDUT				*e*S	Sn	17 33 14.7	-0.2
EWUT	Wuta	0.90	5	P	Pn	17 33 02.7	-0.5
EWUT				S	Sn	17 33 15.0	0.0
NNSB	Datong	0.92	342	*e*P	Pn	17 33 02.9	-0.7
NNSB				*e*S	Sn	17 33 13.8	-1.9
TWGBT	Beinan	0.92	218	P	Pn	17 33 02.4	-1.1
TWGBT	Beinan	0.92	218	*e*P	Pn	17 33 01.9	-1.6
TWGBT				*e*S	Sn	17 33 15.4	-0.1
STYH	Taoyuan	0.92	246	P	Pn	17 33 03.2	-0.3
STYH				*i* S	Sn	17 33 16.4	+0.9
TWG	Pinlang	0.92	218	*e*P	Pn	17 33 02.2	-1.3
TWG				*e*S	Sn	17 33 14.4	-1.2
WJS	Zhushan	0.92	287	*e*P	Pn	17 33 03.7	+0.2
WJS				*e*S	Sn	17 33 16.5	+0.9
CHN5	Tsauling	0.93	273	⇓*i*P	Pn	17 33 03.7	0.0
CHN5				*i* S	Sn	17 33 16.4	+0.5
NNS	Nan Shan	0.93	342	*e*P	Pn	17 33 03.3	-0.6
NNS				*e*S	Sn	17 33 15.2	-0.9
EOS3	EOS3	0.93	38	⇑*i*P	Pn	17 33 04.0	+0.4
TTN	Taitung	0.94	212	*e*P	Pn	17 33 03.3	-0.5
TTN				*e*S	Sn	17 33 16.3	+0.4
WNT	Mingjian	0.98	290	⇑*i*P	Pn	17 33 04.5	+0.3
WNT				S	Sn	17 33 18.1	+1.2
LATG	Datong	0.99	351	⇑*i*P	Pn	17 33 03.9	-0.7
LATG				*e*S	Sn	17 33 17.2	-0.3
WHP	Taichung City	0.99	317	*e*P	Pn	17 33 04.7	+0.1
WHP				*e*S	Sn	17 33 17.7	+0.2
EOS2	EOS2	1.00	30	⇑*e*P	Pn	17 33 05.2	+0.7
WCKO	Fanlu	1.00	264	⇑*i*P	Pn	17 33 05.3	+0.7
WCKO				S	Sn	17 33 18.5	+1.0
TPUB	Ta-pu	1.00	256	P	Pn	17 33 04.9	+0.2
TPUB	Ta-pu	1.00	256	⇓P	Pn	17 33 04.9	+0.2
TPUB				*e*S	Sn	17 33 18.8	+1.2
CHN4	Tsaushan	1.02	259	⇑P	Pn	17 33 05.2	+0.2
CHN4				*e*S	Sn	17 33 19.3	+1.2
ESAO	Su ao	1.03	8	*e*P	Pn	17 33 05.1	+0.1
ESAO				*e*S	Sn	17 33 18.6	+0.4
WGK	Gukeng	1.04	278	*e*P	Pn	17 33 05.3	+0.1
WGK				*e*S	Sn	17 33 19.6	+1.1
WDLH	Douliu	1.06	278	*e*P	Pn	17 33 06.3	+0.9
WDLH				*e*S	Sn	17 33 19.4	+0.4
TWC	Suao	1.06	8	*e*P	Pn	17 33 05.7	+0.2
TWC				*e*S	Sn	17 33 19.3	+0.2
WDL	Douliou City	1.07	279	*e*P	Pn	17 33 06.0	+0.5
WDL				*e*S	Sn	17 33 20.7	+1.6
NDS	Dongshan	1.08	1	*e*P	Pn	17 33 05.2	-0.6
NDS				*e*S	Sn	17 33 19.5	0.0
ENTT	Nioudou	1.09	354	⇓*i*P	Pn	17 33 05.3	-0.6
ENTT				*e*S	Sn	17 33 20.0	+0.2
SLGT	Liugui	1.11	240	*e*P	Pn	17 33 05.8	-0.3
SLGT				*e*S	Sn	17 33 21.1	+1.0
CHN2	Minshiung	1.11	269	*e*P	Pn	17 33 06.7	+0.6
CHN2				*e*S	Sn	17 33 21.8	+1.3
SGST	Jiashian	1.12	246	*e*P	Pn	17 33 06.0	-0.3
SGST				S	Sn	17 33 22.1	+1.7
CHN1	Nanshi	1.13	251	⇑*i*P	Pn	17 33 06.8	+0.4
CHN1				S	Sn	17 33 22.0	+1.4
TWK	Hsinying	1.14	256	*e*P	Pn	17 33 06.6	0.0
TWK				*e*S	Sn	17 33 21.8	+0.9
SNST	Tainan City	1.14	254	*e*P	Pn	17 33 06.8	+0.2
SNST				S	Sn	17 33 22.3	+1.4
YHNB	Yeheng	1.15	346	P	Pn	17 33 06.6	-0.2
YHNB	Yeheng	1.15	346	⇓*i*P	Pn	17 33 06.5	-0.3
YHNB				*e*S	Sn	17 33 20.6	-0.8
TWQ1	Liyutan	1.15	314	⇓*i*P	Pn	17 33 07.2	+0.4
TWQ1				S	Sn	17 33 22.6	+1.3
CHY	Chiayi	1.16	268	*e*P	Pn	17 33 07.0	+0.1
CHY				*e*S	Sn	17 33 22.3	+0.8
NSK	Sanguang	1.16	345	⇓*i*P	Pn	17 33 06.7	-0.2
NSK				*i* S	Sn	17 33 21.1	-0.5
WCHH	Zhanghua	1.16	297	⇓*i*P	Pn	17 33 07.4	+0.6
WCHH				S	Sn	17 33 23.2	+1.8
ECL	Taimali	1.16	216	*e*P	Pn	17 33 05.3	-1.6
ECL				S	Sn	17 33 19.8	-1.7
TWE	Neicheng	1.17	359	*e*P	Pn	17 33 06.5	-0.4
TWE				*e*S	Sn	17 33 21.6	0.0
WCH1	Changhua City	1.17	297	*e*P	Pn	17 33 07.5	+0.6
WCH1				*i* S	Sn	17 33 23.1	+1.5
NFF	Wufeng Townshi	1.20	334	⇓*i*P	Pn	17 33 07.8	+0.4
NFF				*i* S	Sn	17 33 22.0	-0.4
WTK	Tuku	1.20	277	*e*P	Pn	17 33 07.4	+0.1
WTK				*e*S	Sn	17 33 23.8	+1.4
FUSB	Fushanzhiwuyua	1.21	356	*e*P	Pn	17 33 07.2	-0.4
FUSB				*e*S	Sn	17 33 22.8	0.0
NSY	Sanyi	1.21	316	⇓*i*P	Pn	17 33 08.0	+0.5
NSY				*i* S	Sn	17 33 24.1	+1.5
ILA	Ilan	1.21	3	*e*P	Pn	17 33 08.3	+0.7
ILA				*e*S	Sn	17 33 22.9	+0.2
NWLT	Wulai	1.23	352	P	Pn	17 33 07.6	-0.3
NWLT				*e*S	Sn	17 33 23.1	-0.3
WDJ	Dajia District	1.25	310	*e*P	Pn	17 33 08.4	+0.4
WDJ				*e*S	Sn	17 33 25.2	+1.7
NSTT	Nanjuang	1.25	330	⇓*i*P	Pn	17 33 08.3	+0.3
NSTT				*e*S	Sn	17 33 23.7	+0.1
WRL	Guolierlin Hig	1.25	287	*e*P	Pn	17 33 08.7	+0.6
WRL				S	Sn	17 33 24.9	+1.2
LIOB	Emei	1.25	331	⇓*i*P	Pn	17 33 08.6	+0.5
LIOB				S	Sn	17 33 25.4	+1.6
TSMG	Majia	1.28	229	*e*P	Pn	17 33 08.8	+0.4
TSMG				*e*S	Sn	17 33 24.8	+0.5
NMLH	Miaoli	1.28	320	*e*P	Pn	17 33 08.7	+0.2
NMLH				S	Sn	17 33 25.0	+0.6
SCST	Cishan	1.28	239	*e*P	Pn	17 33 09.8	+1.3
SCST				*e*S	Sn	17 33 27.6	+3.2
CHN3	Shinhua	1.30	249	*e*P	Pn	17 33 09.4	+0.6
CHN3				*e*S	Sn	17 33 28.0	+3.0
ICHU	Yijhu	1.31	262	*e*P	Pn	17 33 09.0	+0.2
ICHU				*e*S	Sn	17 33 26.2	+1.2
KSHI	Guanxi Townshi	1.31	339	*e*P	Pn	17 33 10.1	+1.3
KSHI				*e*S	Sn	17 33 25.4	+0.3
EGS		1.31	10	*e*P	Pn	17 33 10.6	+1.8
WTCT	Ta-ch'eng	1.33	284	*e*P	Pn	17 33 09.5	+0.4
WTCT				*i* S	Sn	17 33 26.9	+1.3
WSL	Shuilin Townsh	1.34	269	*e*P	Pn	17 33 09.4	+0.1
WSL				S	Sn	17 33 26.6	+0.7
MASBT	Mashibuluo	1.35	226	*e*P	Pn	17 33 09.3	-0.1
WSF	Szhu	1.35	274	P	Pn	17 33 09.0	-0.3
WSF				S	Sn	17 33 26.6	+0.5
SSHA	Shanhua	1.35	253	*e*P	Pn	17 33 09.8	+0.4
SSHA				*e*S	Sn	17 33 26.3	+0.2
TWM1	Shoushan	1.37	238	P	Pn	17 33 11.7	+2.0
TWM1				*e*S	Sn	17 33 29.6	+3.0
CHN8	Yiju	1.37	262	*e*P	Pn	17 33 09.8	+0.1
CHN8				*e*S	Sn	17 33 27.6	+1.0
SGLT	Jiouru	1.37	234	*e*P	Pn	17 33 11.6	+1.9
SGLT				*e*S	Sn	17 33 29.9	+3.2
TAW	Tawu	1.39	212	*e*P	Pn	17 33 10.1	+0.1
TAW				*e*S	Sn	17 33 25.7	-1.5
SBCB	Hsinchu	1.39	333	*e*P	Pn	17 33 10.6	+0.6
SBCB				*e*S	Sn	17 33 27.9	+0.7
EAST	Anshuo	1.40	214	*e*P	Pn	17 33 09.1	-1.0
EAST				*e*S	Sn	17 33 26.2	-1.1
HSN	Hsinchu	1.41	332	*e*P	Pn	17 33 10.4	+0.1
HSN				*e*S	Sn	17 33 28.6	+1.0
TAWH	Dawu Township	1.41	212	*e*P	Pn	17 33 09.3	-1.0
TAWH				*e*S	Sn	17 33 26.1	-1.6
SCLT	Jiali	1.42	255	*e*P	Pn	17 33 11.1	+0.7
SCLT				*e*S	Sn	17 33 29.7	+1.8
TIPB	Shuangxi	1.42	5	*e*P	Pn	17 33 11.0	+0.5
TIPB				*e*S	Sn	17 33 28.0	0.0
TWA	Mucha	1.43	356	*e*P	Pn	17 33 10.3	-0.2
TWA				S	Sn	17 33 27.9	-0.2
TATO	Taipei	1.43	353	P	Pn	17 33 10.5	-0.1
JYNG	Yonagunijimaku	1.46	52	*e*P	Pn	17 33 11.4	+0.5
JYNG				*e*S	Sn	17 33 29.6	+0.8
TWB1	Santiao Chiao	1.48	11	*e*P	Pn	17 33 11.6	+0.4
TWB1				*e*S	Sn	17 33 29.8	+0.5
NCUH	Zhongli	1.48	342	*e*P	Pn	17 33 11.7	+0.4
NCUH				*e*S	Sn	17 33 31.3	+1.8
NHY	Taipei	1.49	356	*e*P	Pn	17 33 11.3	0.0
NHY				*e*S	Sn	17 33 29.2	-0.3
TAP	Taipei	1.49	354	*e*P	Pn	17 33 11.5	+0.1
TAP				*e*S	Sn	17 33 28.8	-0.8
LAY	Lan-yu	1.51	185	*i* P	Pn	17 33 10.3	-1.4
YOJ	Yonaguni jima	1.51	53	P	Pn	17 33 12.5	+0.8
YOJ	Yonaguni jima	1.51	53	*e*P	Pn	17 33 12.4	+0.7
YOJ				*e*S	Sn	17 33 30.9	+0.8
YOJ	Yonaguni jima	1.51	53	*e*P	Pn	17 33 12.6	+1.0
YOJ				S	Sn	17 33 31.2	+1.2
NWF	Wu-fen Shan	1.52	3	*e*P	Pn	17 33 12.2	+0.4
NWF				*e*S	Sn	17 33 30.2	-0.1
WFSB	Wu-fen Shan	1.52	3	*e*P	Pn	17 33 12.5	+0.7
WFSB				*e*S	Sn	17 33 29.9	-0.4
TSCK	Chigu Township	1.52	255	P	Pn	17 33 11.9	0.0
TSCK				*e*S	Sn	17 33 31.6	+1.1
SCZT	Fangliau	1.53	220	*e*P	Pn	17 33 12.1	+0.2
SCZT				S	Sn	17 33 32.9	+2.3
LYUB	Lan-yu	1.54	184	*e*P	Pn	17 33 10.1	-1.9
SXI1	Grass Mountain	1.55	6	*e*P	Pn	17 33 13.0	+0.7
SXI1				*e*S	Sn	17 33 31.2	0.0
SLIU	Shizi	1.56	212	*e*P	Pn	17 33 12.6	+0.3
SLIU				*e*S	Sn	17 33 32.3	+1.0
TWS1	Kuangyinshan	1.56	351	*e*P	Pn	17 33 11.9	-0.5
TWS1				*e*S	Sn	17 33 32.4	+1.0
WSSB	Gushan	1.59	236	*e*P	Pn	17 33 13.7	+0.9
WSSB				*e*S	Sn	17 33 34.0	+1.8
YM01	YM01	1.59	356	*e*P	Pn	17 33 12.5	-0.3
YM01				*e*S	Sn	17 33 32.0	-0.2
ZUZH	Zhuzihu	1.61	355	*e*P	Pn	17 33 12.9	-0.2
ZUZH				*e*S	Sn	17 33 31.4	-1.2
NTST	Danshui	1.62	352	P	Pn	17 33 13.1	0.0
NTST				*e*S	Sn	17 33 33.4	+0.6
YM08	YM08	1.63	357	*e*P	Pn	17 33 12.6	-0.8
YM08				*e*S	Sn	17 33 32.7	-0.5
ANP	Anpu	1.64	355	*e*P	Pn	17 33 13.1	-0.4
ANP				*e*S	Sn	17 33 33.0	-0.4
TWKBT	Hengchun	1.79	207	*e*P	Pn	17 33 14.0	-1.5
TWKBT				*e*S	Sn	17 33 37.6	+0.6
WDGT	Dungji	1.89	262	*e*P	Pn	17 33 16.2	-0.6
WDGT				*e*S	Sn	17 33 38.5	-0.8
PHUB	P'eng-hu	1.94	269	*e*P	Pn	17 33 16.9	-0.7
PHUB				S	Sn	17 33 39

comp=N,572nm,0.4s
NYDR Nydri-Lefkada 1.18 358 P **Pg 17 34 08.0 -0.4**
NYDR S **Sn 17 34 25.6 +0.7**
comp=N,430nm,0.3s
KLV Kalavryta, Ach 1.23 65 P **Pg 17 34 08.7 -0.5**
KLV Kalavryta, Ach 1.23 65 P **Pg 17 34 08.8 -0.4**
TSLK Tsoukalades, L 1.30 357 P **Pn 17 34 10.0 -0.2**
ALIK Aliki, Aigiali 1.30 55 P **Pn 17 34 09.9 -0.4**
GUR Goura 1.33 72 P **Pn 17 34 09.8 -0.9**
KALE Kalithea 1.40 52 P **Pn 17 34 11.7 +0.1**
ANX Ano Chora 1.41 41 P **Pn 17 34 11.8 0.0**

*IDC **01** 17:48:06.5±5.8, 37°.18N×71°.79E, h116km±52km, mb3.4/4, mbtmp3.7/8, MS3.3/1, Error ellipse: s-maj=42.8km s-min=28.4km az=27.0*
*NNC **01** 17:48:11.7±1.7, 37°.74N×71°.57E, h232km±17km, mb2.2, mpv3.3, Error ellipse: s-maj=15.7km s-min=10.6km az=19.0*
ISC 01 17:48:06.6±1.1, 37°.38N±0°.09×71°.32E±0°.09, h109km, n15, σ2§83/20, mb3.6/4, 3C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.75**	**354**	⇑P	**Pn**	**17 49 32.0**	**+2.5**
	1.5nm,0.2s,baz=178,slow=13,SNR=28						
KK31				⇓S	**Sn**	**17 50 36.9**	**+2.7**
	9.4nm,0.6s,baz=173,slow=23,SNR=7.1						
AAK	**Ala-Archa**	**5.79**	**24**	P	**Pn**	**17 49 32.2**	**+2.0**
	3.5nm,0.4s,baz=199,slow=7.3,SNR=21						
AAK				S	**Sn**	**17 50 35.3**	**0.0**
	8.3nm,0.7s,baz=348,slow=21,SNR=15						
CHMS	**Chumysh**	**6.20**	**24**	⇓P	**Pn**	**17 49 36.2**	**+0.6**
	1.9nm,0.4s						
CHMS				⇓S	**Sn**	**17 50 45.0**	**0.0**
	5.2nm,0.6s						
TKM2	**Tokmak 2**	**6.43**	**29**	⇓P	**Pn**	**17 49 40.3**	**+1.4**
	0.6nm,0.3s						
TKM2				⇓S	**Sn**	**17 50 50.7**	**-0.2**
	3.5nm,0.7s						
MKAR	**Makanchi Array**	**12.43**	**37**	P	**Pn**	**17 50 58.8**	**-0.8**
	0.7nm,0.7s,baz=226,slow=15,SNR=5.1						
KURBB	**Kurchatov Arra**	**14.21**	**19**	P	**P**	**17 51 26.4**	**-0.3**
	1.0nm,0.6s,baz=206,slow=11,SNR=7.3						
AB31	**Akbulak array**	**14.45**	**329**	⇑P	**Pn**	**17 51 24.9**	**-0.9**
	0.2nm,0.4s,baz=280,slow=11,SNR=8.9						
AB31				⇓S	**Sn**	**17 54 00.7**	**-4.3**
	0.9nm,0.7s,baz=150,slow=23,SNR=2.7						
AKTO	**Aktyubinsk**	**16.16**	**328**	⇓P	**Pn**	**17 51 42.6**	**-4.6**
	0.8nm,0.5s						
AKTO				⇑S	**Sn**	**17 54 39.6**	**-6.6**
	0.4nm,0.8s						
AKTO	**Aktyubinsk**	**16.16**	**328**	P	**P**	**17 51 51.2**	**+2.9**
	2.0nm,0.5s,baz=132,slow=6.9,SNR=6.6						
ZALV	**Zalesovo Beam**	**19.01**	**25**	P	**P**	**17 52 19.7**	**+0.1**
	1.1nm,0.4s,baz=216,slow=10,SNR=8.2						
ARCES	**ARCESS Array B**	**40.43**	**337**	P	**P**	**17 55 36.0**	**+2.2**
	2.7nm,1.1s,baz=114,slow=10.0,SNR=1.8						
	2.7nm,1.1s						
HFS	**Hagfors**	**42.54**	**321**	P	**P**	**17 55 53.7**	**+2.6**
	0.7nm,0.3s,baz=90,slow=12,SNR=7.0						
	0.7nm,0.3s						
KMBO	**Kilima Mbogo**	**49.61**	**227**	LR	LR	18 21 18.8	
	comp=Z,29nm,20.6s,baz=90,slow=40						
TORD	**Torodi Ar. Bea**	**66.00**	**268**	P	**P**	**17 58 42.1**	**+0.4**
	0.2nm,0.5s,baz=40,slow=6.1,SNR=2.0						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**84.55**	**125**	P	**P**	**18 00 24.4**	**-3.3**
	0.4nm,0.9s,baz=325,slow=4.7,SNR=4.1						
	0.4nm,0.9s						

*JMA **01** 17:53:36.9±0.1, 23°.7N±0°.6×122°.9E±0°.5, h46km, MV2.7/13, NEAR ISHIGAKIJIMA ISLAND*
*TAP **01** 17:53:37.3, 23°.78N×122°.99E, h50km, ML3.3, D*
ISC 01 17:53:33.0±1.3, 23°.69N±0°.03×122°.98E±0°.02, h7km±10km, n107, σ1§07/171, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.74**	**305**	*e*P	**Pn**	**17 53 51.2**	**+1.7**
EOS4				S	**Sn**	**17 54 01.5**	**+0.6**
JYNG	**Yonagunijimaku**	**0.76**	**358**	P	**Pn**	**17 53 50.7**	**+0.6**
JYNG				S	**Sn**	**17 54 00.8**	**-1.0**
YOJ	**Yonaguni jima**	**0.77**	**2**	*e*P	**Pn**	**17 53 50.7**	**+0.4**
YOJ				*e*S	**Sn**	**17 54 01.7**	**-0.4**
YOJ	**Yonaguni jima**	**0.77**	**2**	*i* P	**Pn**	**17 53 51.1**	**+0.8**
YOJ				*i* S	**Sn**	**17 54 01.3**	**-0.8**
HATJ	**Hateruma jima**	**0.84**	**64**	P	**Pn**	**17 53 52.7**	**+1.4**
HATJ				*e*S	**Sn**	**17 54 04.3**	**+0.4**
EOS3	**EOS3**	**0.84**	**315**	P	**Pn**	**17 53 53.3**	**+2.1**
EOS3				*e*S	**Sn**	**17 54 05.0**	**+1.2**
IRIF	**Iriomote-Funau**	**0.94**	**47**	P	**Pn**	**17 53 54.1**	**+1.4**
IRIF				S	**Sn**	**17 54 06.6**	**+0.3**
EOS2	**EOS2**	**0.99**	**317**	*e*P	**Pn**	**17 53 55.7**	**+2.4**
EOS2				*e*S	**Sn**	**17 54 09.3**	**+1.8**
JKRS	**Kuro-shima**	**1.09**	**60**	P	**Pn**	**17 53 56.6**	**+1.9**
JKRS				S	**Sn**	**17 54 10.5**	**+0.4**
JIJ	**Ishigaki jima**	**1.26**	**58**	*e*P	**Pn**	**17 53 58.3**	**+1.3**
JIJ				S	**Sn**	**17 54 13.9**	**-0.3**
HWA	**Hwalien**	**1.29**	**283**	*e*P	**Pg**	**17 53 59.5**	**+1.8**
EAHA	**Aohua**	**1.30**	**300**	*e*P	**Pn**	**17 53 59.3**	**+1.7**
EAHA				*e*S	**Sn**	**17 54 15.8**	**+0.6**
SHUL	**Shoufeng**	**1.30**	**274**	*e*P	**Pg**	**17 53 59.2**	**+1.3**
SHUL				*e*S	**Sg**	**17 54 14.8**	**0.0**
TWU	**Chiawan**	**1.32**	**287**	*e*P	**Pg**	**17 53 58.9**	**+0.5**
TWD				*e*S	**Sg**	**17 54 13.9**	**-1.6**
ETL	**Fush Village**	**1.32**	**291**	*e*P	**Pg**	**17 53 59.0**	**+0.7**
ETL				*e*S	**Sg**	**17 54 14.9**	**-0.6**
EWUT	**Wuta**	**1.33**	**305**	*e*P	**Pg**	**17 53 59.1**	**+0.6**
EWUT				*e*S	**Sn**	**17 54 16.0**	**0.0**
ENA	**Nanau**	**1.35**	**303**	P	**Pg**	**17 53 59.9**	**+1.1**
ENA				S	**Sn**	**17 54 16.4**	**0.0**
NACB	**Ninganchiao**	**1.35**	**291**	P	**Pg**	**17 53 59.1**	**+0.2**
NACB				S	**Sb**	**17 54 14.7**	**-1.5**
ESAO	**Su ao**	**1.36**	**311**	*e*P	**Pg**	**17 54 00.4**	**+1.4**
TWC	**Suao**	**1.38**	**312**	*e*P	**Pg**	**17 54 00.3**	**+0.9**
TWC				*e*S	**Sn**	**17 54 16.6**	**-0.5**
ETM	**Tongmen**	**1.39**	**282**	*e*P	**Pn**	**17 53 59.5**	**+0.7**
ESL	**Shilin**	**1.42**	**275**	P	**Pn**	**17 54 00.0**	**+0.8**
ESL				*e*S	**Sb**	**17 54 16.4**	**-1.7**
HGSD	**Ruisui**	**1.44**	**262**	*e*P	**Pn**	**17 54 00.3**	**+0.8**
HGSD				*e*S	**Sb**	**17 54 16.5**	**-2.2**
ECBN	**Changbin**	**1.45**	**255**	*e*P	**Pn**	**17 54 00.1**	**+0.5**
ECBN				*e*S	**Sn**	**17 54 17.7**	**-1.2**
WARBT	**Fenglin Townsh**	**1.46**	**271**	P	**Pn**	**17 54 00.6**	**+0.8**
WARBT				S	**Sn**	**17 54 17.6**	**-1.6**
ETLH	**Xiulin Townshi**	**1.46**	**291**	*e*P	**Pg**	**17 54 01.2**	**+0.2**
ETLH				*e*S	**Sb**	**17 54 18.6**	**-0.8**
LXIB	**Xiulin Townshi**	**1.47**	**283**	P	**Pg**	**17 54 01.3**	**+0.2**
LXIB				*e*S	**Sb**	**17 54 18.3**	**-1.4**
NDS	**Dongshan**	**1.48**	**309**	*e*P	**Pg**	**17 54 02.4**	**+0.9**
EHYH	**Wanrong**	**1.51**	**263**	*e*P	**Pb**	**17 54 02.0**	**+0.7**
EHYH				*e*S	**Sn**	**17 54 20.5**	**+0.1**
JISG	**Ishigakijimahi**	**1.51**	**54**	P	**Pg**	**17 54 01.7**	**-0.2**
JISG				*e*S	**Sn**	**17 54 19.6**	**-0.8**
EHY	**Hungye**	**1.53**	**263**	P	**Pb**	**17 54 02.3**	**+0.6**
EHY				S	**Sn**	**17 54 20.0**	**-1.0**
EYUL	**Yuli**	**1.56**	**258**	P	**Pn**	**17 54 02.4**	**+1.2**
EYUL				*e*S	**Sn**	**17 54 21.2**	**-0.5**
LATG	**Datong**	**1.57**	**303**	*i* P	**Pg**	**17 54 03.4**	**-0.3**
YULB	**Yu-li**	**1.57**	**259**	*i* P	**Pn**	**17 54 02.7**	**+1.4**
YULB				*e*S	**Sn**	**17 54 20.5**	**-1.5**
TWE	**Neicheng**	**1.57**	**311**	P	**Pg**	**17 54 03.6**	**+0.4**
TWB1	**Santiao Chiao**	**1.59**	**326**	*e*P	**Pg**	**17 54 03.3**	**-0.2**
ENTT	**Nioudou**	**1.60**	**307**	*e*P	**Pg**	**17 54 03.8**	**+0.2**
ENTT				*e*S	**Sb**	**17 54 22.7**	**-0.6**
FULB	**Fuli**	**1.62**	**253**	*e*P	**Pn**	**17 54 03.3**	**+1.2**
FULB				*e*S	**Sn**	**17 54 21.5**	**-1.8**
WHF	**Hehuan Shan**	**1.63**	**286**	P	**Pb**	**17 54 03.6**	**0.0**
NNSB	**Datong**	**1.63**	**297**	P	**Pg**	**17 54 04.0**	**-0.3**
NNSB				*i* S	**Sn**	**17 54 22.9**	**-0.8**
NNSH	**Datong**	**1.63**	**297**	*e*P	**Pb**	**17 54 03.8**	**+0.3**
NNS	**Nan Shan**	**1.64**	**297**	*e*P	**Pg**	**17 54 04.4**	**-0.2**
NNS				S	**Sn**	**17 54 23.1**	**-0.9**
TIPB	**Shuangxi**	**1.65**	**321**	*e*P	**Pg**	**17 54 03.8**	**-0.9**
FUSB	**Fushanzhiwuyua**	**1.66**	**310**	P	**Pg**	**17 54 05.0**	**+0.3**
FUSB				S	**Sb**	**17 54 24.4**	**-0.6**
OWD	**Renai**	**1.67**	**279**	*e*P	**Pb**	**17 54 04.2**	**0.0**
OWD				*e*S	**Sn**	**17 54 23.4**	**-1.2**
FUSS	**Fushou**	**1.68**	**290**	P	**Pb**	**17 54 04.9**	**+0.5**
FUSS				*e*S	**Sn**	**17 54 24.4**	**-0.6**
EDH	**Donghe**	**1.70**	**245**	*e*P	**Pn**	**17 54 04.0**	**+1.0**
EDH				*e*S	**Sn**	**17 54 23.1**	**-1.9**
EHD	**Haiduan**	**1.71**	**252**	*e*P	**Pn**	**17 54 04.5**	**+1.2**
EHD				*e*S	**Sn**	**17 54 24.4**	**-1.1**
LDUT	**Ludao**	**1.72**	**234**	P	**Pn**	**17 54 04.2**	**+0.8**
LDUT				*e*S	**Sn**	**17 54 23.4**	**-2.2**
ECS	**Chishang**	**1.72**	**250**	*e*P	**Pn**	**17 54 05.2**	**+1.8**
SXI1	**Grass Mountain**	**1.72**	**324**	P	**Pg**	**17 54 05.1**	**-0.9**
NWLT	**Wulai**	**1.73**	**309**	*e*P	**Pg**	**17 54 05.3**	**-0.8**
NWLT				S	**Sb**	**17 54 26.0**	**-1.0**
WUSB	**Renai**	**1.73**	**280**	*e*P	**Pb**	**17 54 05.4**	**+0.2**
WFSB	**Wu-fen Shan**	**1.75**	**322**	*e*P	**Pg**	**17 54 06.1**	**-0.5**
YHNB	**Yeheng**	**1.76**	**304**	*e*P	**Pb**	**17 54 05.8**	**+0.2**
YHNB				*e*S	**Sn**	**17 54 26.5**	**-0.2**
NSK	**Sanguang**	**1.77**	**304**	*e*P	**Pb**	**17 54 05.9**	**0.0**
NSK				*e*S	**Sn**	**17 54 26.3**	**-0.8**
TWA	**Mucha**	**1.81**	**316**	*e*P	**Pg**	**17 54 06.6**	**-1.0**
TWA				*e*S	**Sn**	**17 54 27.3**	**-0.4**
SSLB	**Suanglung**	**1.86**	**273**	P	**Pb**	**17 54 07.2**	**-0.1**
TATO	**Taipei**	**1.86**	**314**	P	**Pg**	**17 54 07.8**	**-0.9**
TATO				*e*S	**Sn**	**17 54 29.3**	**+0.1**
ELDTW	**Lidau**	**1.87**	**255**	*e*P	**Pn**	**17 54 07.0**	**+1.5**
ELDTW				*e*S	**Sn**	**17 54 27.4**	**-2.0**
LONT	**Longtian**	**1.87**	**246**	*e*P	**Pn**	**17 54 07.0**	**+1.6**
LONT				*e*S	**Sn**	**17 54 28.6**	**-0.7**
DPDB	**Guoxing**	**1.91**	**281**	*e*P	**Pb**	**17 54 08.6**	**+0.4**
SMLT	**Sun Moon Lake**	**1.91**	**276**	P	**Pb**	**17 54 08.2**	**0.0**
SMLT				S	**Sn**	**17 54 30.1**	**-0.4**
WCS	**Beigang Elemen**	**1.93**	**281**	*e*P	**Pb**	**17 54 08.4**	**0.0**
YM01	**YM01**	**1.93**	**319**	*e*P	**Pb**	**17 54 08.3**	**-0.3**
NFF	**Wufeng Townshi**	**1.94**	**299**	*e*P	**Pb**	**17 54 09.1**	**+0.4**
NFF				*e*S	**Sn**	**17 54 31.4**	**+0.3**
WHP	**Taichung City**	**1.95**	**288**	*e*P	**Pg**	**17 54 10.4**	**0.0**
WHP				*e*S	**Sn**	**17 54 32.0**	**+0.6**
WHYT	**Xinyi Township**	**1.95**	**271**	*e*P	**Pb**	**17 54 09.5**	**+0.6**
WHYT				*e*S	**Sn**	**17 54 31.8**	**+0.5**
TWGBT	**Beinan**	**1.95**	**244**	*e*P	**Pn**	**17 54 08.0**	**+1.4**
TWGBT				S	**Sn**	**17 54 30.2**	**-1.1**
TYC	**Yuchr**	**1.95**	**277**	*e*P	**Pb**	**17 54 08.9**	**0.0**
TWG	**Pinlang**	**1.96**	**244**	*e*P	**Pn**	**17 54 08.1**	**+1.5**
TWG				S	**Sn**	**17 54 30.1**	**-1.3**
ZUZH	**Zhuzihu**	**1.96**	**319**	*e*P	**Pb**	**17 54 08.2**	**-0.9**
KSHI	**Guanxi Townshi**	**1.97**	**304**	*e*P	**Pb**	**17 54 08.8**	**-0.3**
KSHI				*e*S	**Sb**	**17 54 32.7**	**-1.2**
TWS1	**Kuangyinshan**	**2.00**	**315**	*e*P	**Pb**	**17 54 08.9**	**-0.8**
TWS1				*e*S	**Sn**	**17 54 32.6**	**+0.2**
ALS	**Alishan**	**2.00**	**265**	*e*P	**Pb**	**17 54 09.9**	**0.0**
ALS				S	**Sn**	**17 54 33.2**	**+0.3**
LIOB	**Emei**	**2.03**	**298**	*e*P	**Pb**	**17 54 10.8**	**+0.6**
LIOB				*e*S	**Sb**	**17 54 34.7**	**-0.9**
NSTT	**Nanjuang**	**2.03**	**298**	P	**Pb**	**17 54 10.1**	**-0.2**
NSTT				*e*S	**Sn**	**17 54 34.0**	**+0.7**
WJS	**Zhushan**	**2.06**	**274**	*e*P	**Pb**	**17 54 12.2**	**+1.3**
STYH	**Taoyuan**	**2.09**	**256**	*e*P	**Pn**	**17 54 10.6**	**+2.2**
STYH				*e*S	**Sn**	**17 54 34.6**	**0.0**
LAY	**Lan-yu**	**2.11**	**219**	*e*P	**Pb**	**17 54 11.9**	**+0.4**
CHN5	**Tsauling**	**2.11**	**268**	*e*P	**Pb**	**17 54 11.9**	**+0.3**
WNT1	**Nantou City**	**2.12**	**276**	*e*P	**Pb**	**17 54 12.7**	**+1.0**
WWF	**Wufeng**	**2.12**	**280**	*e*P	**Pb**	**17 54 12.7**	**+1.0**
LYUB	**Lan-yu**	**2.12**	**218**	*e*P	**Pn**	**17 54 10.0**	**+1.2**
TWQ1	**Liyutan**	**2.12**	**288**	*e*P	**Pb**	**17 54 11.0**	**-0.7**
TCU	**Taichung**	**2.15**	**283**	*e*P	**Pb**	**17 54 13.2**	**+0.9**
ECL	**Taimali**	**2.16**	**240**	P	**Pn**	**17 54 10.4**	**+1.0**
ECL				*e*S	**Sn**	**17 54 34.3**	**-2.1**
TPUB	**Ta-pu**	**2.19**	**260**	P	**Pb**	**17 54 12.9**	**-0.1**
TPUB				S	**Sn**	**17 54 38.5**	**+1.3**
WCKO	**Fanlu**	**2.19**	**264**	*e*P	**Pb**	**17 54 13.7**	**+0.7**
WCKO				*e*S	**Sn**	**17 54 39.6**	**+2.3**
CHN4	**Tsaushan**	**2.21**	**262**	*e*P	**Pb**	**17 54 13.3**	**0.0**
WGK	**Gukeng**	**2.21**	**270**	*e*P	**Pb**	**17 54 13.8**	**+0.4**
WDLH	**Douliu**	**2.23**	**270**	*e*P	**Pb**	**17 54 13.8**	**0.0**
SLGT	**Liugui**	**2.25**	**252**	*e*P	**Pb**	**17 54 13.8**	**-0.2**
SLGT				*e*S	**Sn**	**17 54 40.1**	**+1.3**
SGST	**Jiashian**	**2.28**	**255**	*e*P	**Pn**	**17 54 13.7**	**+2.5**
CHN1	**Nanshi**	**2.31**	**258**	*e*P	**Pb**	**17 54 14.9**	**0.0**
TWK	**Hsinying**	**2.32**	**260**	*e*P	**Pb**	**17 54 15.2**	**-0.1**
TWK				*e*S	**Sn**	**17 54 42.8**	**+2.1**
TAWH	**Dawu Township**	**2.35**	**235**	*e*P	**Pb**	**17 54 15.3**	**-0.3**
EAST	**Anshuo**	**2.35**	**237**	*e*P	**Pn**	**17 54 13.5**	**+1.4**
SSD	**Sandimen**	**2.35**	**247**	*e*P	**Pb**	**17 54 15.5**	**-0.2**
TSMG	**Majia**	**2.36**	**246**	*e*P	**Pn**	**17 54 15.1**	**+2.9**
WTK	**Tuku**	**2.37**	**270**	*e*P	**Pb**	**17 54 16.6**	**+0.6**
JMJ	**Miyako jima 2**	**2.39**	**62**	*e*P	**Pn**	**17 54 14.1**	**+1.5**
MASBT	**Mashibuluo**	**2.41**	**244**	P	**Pn**	**17 54 15.0**	**+2.1**
SCST	**Cishan**	**2.42**	**251**	*e*P	**Pb**	**17 54 17.0**	**+0.1**
TWM1	**Shoushan**	**2.50**	**250**	*e*P	**Pb**	**17 54 18.4**	**+0.1**
SCZT	**Fangliau**	**2.54**	**239**	*e*P	**Pn**	**17 54 16.9**	**+2.3**
PHUB	**P'eng-hu**	**3.13**	**267**	*e*P	**Pn**	**17 54 23.4**	**+0.7**
PHUB				*e*S	**Sn**	**17 54 60.0**	**-0.4**

*IDC **01** 17:59:17.3±1.2, 1°.20S×121°.23E, h0km, mb3.4/5, mbtmp3.4/6, ML3.5/1, MS3.0/3, Error ellipse: s-maj=57.5km s-min=21.9km az=70.0*
*DJA **01** 17:59:19.4±0.3, 1°S±3°×12°1E±°, h10km, M3.8/12, mb3.8/1, MLv3.9/12*
ISC 01 17:59:18.5±0.8, 1°.14S±0°.05×120°.63E±0°.06, h10km, n18, σ2§09/20, mb3.6/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.04**	**78**	P	**Pb**	**17 59 38.5**	**-0.2**
MPSI	**Mapaga**	**1.64**	**333**	P	**Pn**	**17 59 46.7**	**-0.7**
TTSI	**Tana Toraja**	**2.06**	**203**	P	**Pn**	**17 59 54.6**	**+1.4**
MRSI	**Marisa**	**2.07**	**39**	P	**Pn**	**17 59 53.7**	**+0.3**
MRSI				S	**Sb**	**18 00 22.3**	**+0.3**
LUWI	**Luwuk**	**2.14**	**87**	P	**Pn**	**17 59 54.4**	**0.0**
LUWI				S	**Sb**	**18 00 26.2**	**+2.1**
SPSI	**Sidrap Palu**	**2.94**	**197**	P	**Pn**	**18 00 06.6**	**+1.3**
SPSI				S	**Sn**	**18 00 42.8**	**+2.1**
BNSI	**Bone**	**3.28**	**189**	P	**Pn**	**18 00 11.7**	**+1.6**
KAPI	**Kappang**	**3.95**	**193**	Pn	**Pn**	**18 00 18.9**	**-0.3**
	2.9nm,0.3s,baz=184,slow=15,SNR=2.3						
KAPI				Sn	**Sn**	**18 01 02.7**	**-2.9**
	2.8nm,0.3s,baz=112,slow=19,SNR=1.5						
KAPI				LR	LR	18 01 58.3	
	comp=Z,122nm,18.3s,baz=358,slow=40						
	9.5nm,0.4s						
BKSI	**Bulukumba**	**4.19**	**187**	P	**Pn**	**18 00 22.3**	**-0.2**
BSSI	**Bau Bau, Buton**	**4.97**	**182**	P	**Pn**	**18 00 32.7**	**-0.6**
SANI	**Sanana**	**5.43**	**100**	P	**Pn**	**18 00 40.8**	**+1.2**
BATI	**Baumata**	**9.50**	**162**	LR	LR	18 05 30.4	
	comp=Z,124nm,18.8s,baz=336,slow=40						
FITZ	**Fitzroy Crossi**	**17.56**	**164**	LR	LR	18 10 38.7	
	comp=Z,36nm,18.9s,baz=18,slow=39						
WRA	**Warramunga Arr**	**23.00**	**145**	P	**P**	**18 04 19.3**	**-4.5**
	0.7nm,0.8s,baz=323,slow=11,SNR=5.1						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**25.83**	**151**	P	**P**	**18 04 49.0**	**-1.3**
	0.3nm,0.6s,baz=334,slow=9.0,SNR=6.6						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**58.37**	**330**	P	**P**	**18 09 17.2**	**+3.1**
	0.4nm,0.7s,baz=134,slow=8.3,SNR=1.1						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**62.40**	**337**	P	**P**	**18 09 44.7**	**+3.2**
	0.3nm,0.4s,baz=121,slow=7.9,SNR=2.1						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**92.08**	**25**	P	**P**	**18 12 25.3**	**-2.5**
	0.2nm,0.6s,baz=280,slow=5.1,SNR=1.5						
	0.2nm,0.6s						

ISC 01 18:02:55.6±1.5, 25°.12N×97°.30E, h0km, mb3.3/4, mbtmp3.3/5, ML3.6/1, MS3.0/5, Error ellipse: s-maj=63.8km s-min=19.3km az=74.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.80**	**167**	Pn	Pn	18 04 36.7	0.0
	0.3nm,0.3s,baz=340,slow=13,SNR=7.4						
CMAR				Lg	Lg	18 06 31.4	
	baz=345,slow=24						
CMAR				LR	LR	18 07 57.8	
	comp=Z,39nm,18.1s,baz=125,slow=44						
	0.7nm,0.4s						
SONM	**Songino Array**	**23.79**	**15**	P	P	18 08 10.2	+0.2
	0.3nm,0.4s,baz=211,slow=8.1,SNR=3.0						
SONM				LR	LR	18 17 21.9	
	comp=Z,16nm,19.0s,baz=176,slow=36						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**24.72**	**335**	P	P	18 08 18.4	-0.2
	0.3nm,0.5s,baz=140,slow=8.3,SNR=4.5						
	0.3nm,0.5s						
JOW	**Kunigami**	**27.87**	**80**	LR	LR	18 21 24.1	
	comp=Z,79nm,18.9s,baz=344,slow=40						
KSRS	**Korea Array**	**28.79**	**57**	LR	LR	18 21 55.7	
	comp=Z,18nm,19.8s,baz=205,slow=40						
BELG	**Belogornoye**	**46.12**	**320**	LR	LR	18 34 53.4	
	comp=Z,36nm,19.8s,baz=62,slow=42						
WRA	**Warramunga Arr**	**57.48**	**138**	P	P	18 12 47.2	+0.5
	0.4nm,0.9s,baz=327,slow=7.3,SNR=5.0						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**60.09**	**141**	P	P	18 13 04.5	-0.4
	0.2nm,0.5s,baz=324,slow=7.1,SNR=6.2						
	0.2nm,0.5s						

*KRNET **01** 18:12:07.6±0.1, 41°.01N×78°.94E, h16km, mb2.7*
*SOME **01** 18:12:10.3, 41°.00N×78°.67E, h0km*
ISC 01 18:12:10.0±2.5, 40°.95N±0°.10×78°.65E±0°.06, h12km±12km, n12, σ1§55/24, 8C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.01**	**321**	⇑*i*P	**Pg**	**18 12 29.1**	**-0.4**
TARG				⇑*i*S	**Sb**	**18 12 44.7**	**+1.6**
PRZ	**Przheval'sk**	**1.55**	**353**	⇑*e*P	**Pn**	**18 12 36.7**	**-1.0**
PRZ				⇑*e*S	**Sn**	**18 12 57.9**	**+0.1**
KDJ	**Kajisay**	**1.62**	**318**	⇑*i*P	**Pb**	**18 12 39.7**	**-0.3**
KDJ				⇑*i*S	**Sg**	**18 13 03.4**	**+1.3**
NRN	**Naryn**	**2.06**	**285**	⇑*i*P	**Pg**	**18 12 48.8**	**-0.7**
NRN				⇑*i*S	**Sg**	**18 13 18.4**	**+2.2**
UZB	**Uzynbulak**	**2.22**	**7**	*e*P	**Pb**	**18 12 49.8**	**-0.4**
	2.1nm,0.4s						
UZB				*e*S	**Sb**	**18 13 18.2**	**+0.5**
	6.4nm,0.8s						
ULHL	**Ulahol**	**2.23**	**307**	⇓*i*P	**Pb**	**18 12 50.0**	**-0.3**
ULHL				⇓*i*S	**Sb**	**18 13 20.9**	**+3.0**
SHLS	**Shalkode**	**2.29**	**15**	*e*P	**Pg**	**18 12 55.0**	**+1.0**
	3.3nm,0.3s						
SHLS				*e*S	**Sg**	**18 13 27.2**	**+3.5**
	19nm,0.5s						
TNSS	**Tian-Shan**	**2.44**	**329**	*e*P	**Pg**	**18 12 56.2**	**-0.7**
	1.4nm,0.2s						
TNSS				*e*S	**Sg**	**18 13 29.4**	**+0.7**
	2.6nm,0.4s						
KPKS	**Kokpek**	**2.52**	**1**	*e*P	**Pg**	**18 12 57.5**	**-0.8**
	1.3nm,0.2s						
KPKS				*e*S	**Sg**	**18 13 31.5**	**+0.5**
	8.1nm,0.3s						
BOOM	**Boomskoye usch**	**2.55**	**308**	⇓*e*P	**Pb**	**18 12 54.3**	**-1.5**
BOOM				⇓*e*S	**Sb**	**18 13 28.5**	**+1.3**
CHKK	**Chushkaly**	**3.16**	**338**	*e*P	**Pg**	**18 13 08.9**	**-1.6**
	5.9nm,0.4s						
CHKK				*e*S	**Sg**	**18 13 50.9**	**-0.5**
	10.0nm,0.6s						
ARXS	**Arharly**	**3.32**	**350**	*e*P	**Pg**	**18 13 11.5**	**-2.2**
	0.6nm,0.5s						
ARXS				*e*S	**Sg**	**18 13 55.6**	**-1.1**
	3.7nm,0.7s						

*IDC **01** 18:12:43.9±0.6, 23°.79N×45°.32W, h0km, mb4.1/26, mbtmp4.1/26, MS3.9/76, Error ellipse: s-maj=18.3km s-min=13.7km az=158.0*
*NEIC **01** 18:12:46.6±2.6, 23°.6N±0°.1×45°.2W±0°.1, h10km±1km, mb4.8/93, Error ellipse: s-maj=20.6km s-min=16.0km az=154.0*
*GCMT **01** 18:12:49.6±0.2, 23°.80N±0°.01×45°.35W±0°.01, h21km±1km, MW4.9/119, Moment Tensor Solution. s35,c37; s119,c162; Duration: 0 Moment tensor: Scale 10^{16}Nm; $

ETMB	Extrema	39.06 214	P	P	18 20 12.6	-0.6
ETMB	Extrema	39.06 214	eP	P	18 20 14.2	+1.0
BDFB	Brasilia	39.17 184	LR	LR	18 35 14.4	
	comp=Z,263nm,18.7s,baz=343,slow=34					
ARAG	Araguaiana, MT	39.66 190	eP	P	18 20 20.5	+2.4
OTAV	Otavalo	39.71 239	P	P	18 20 19.5	+0.3
OTAV	Otavalo	39.71 239	eP	P	18 20 19.5	+0.3
S44A	Carbondale	39.93 301	IAmb	IAmb	18 20 30.1	
	comp=Z,21nm,1.1s					
JTS	Las Juntas de	40.04 257	LR	LR	18 33 12.6	
	comp=Z,116nm,21.0s,baz=68,slow=31					
SALV	Santo Antonio	40.63 195	eP	P	18 20 28.1	+2.0
PBMO	Poplar Bluff	40.76 299	P	P	18 20 28.9	+1.8
CZSB	Cruzeiro do Su	41.12 224	eP	P	18 20 30.4	+0.1
CCM	Cathedral Cave	41.54 301	P	P	18 20 34.2	+0.6
CCM			IAmb	IAmb	18 20 42.9	
	comp=Z,25nm,1.2s					
WHAR	Wooly Hollow	42.15 297	P	P	18 20 39.6	+1.0
WHAR			IAmb	IAmb	18 20 47.5	
	comp=Z,27nm,1.1s					
SIV	San Ignacio	42.33 203	LR	LR	18 38 18.5	
	comp=Z,129nm,20.7s,baz=105,slow=36					
DBIC	Dimbokro	42.35 107	P	P	18 20 41.2	+0.8
	comp=Z,3.4nm,0.8s,baz=292,slow=11,SNR=3.2					
	comp=Z,3.4nm,0.8s					
MTO3	Montecristo	42.51 266	P	P	18 20 43.3	+1.3
MTO3			IAmb	IAmb	18 21 34.1	
	comp=Z,34nm,1.9s					
FRB	Frobisher Bay	42.92 345	LR	LR	18 36 45.0	
	comp=Z,237nm,20.9s,baz=130,slow=34					
BBSD	Serra de San D	43.28 202	eP	P	18 20 48.8	+1.0
H10N2	ASCENSION HYDR	43.44 132	T	T	19 06 53.4	
	baz=317,slow=75,SNR=401					
H10N3	ASCENSION HYDR	43.44 132	T	T	19 06 53.4	
	baz=317,slow=75,SNR=470					
SFJD	Kangerlussuaq	43.45 357	LR	LR	18 35 31.0	
	comp=Z,120nm,18.4s,baz=180,slow=32					
H10N1	ASCENSION HYDR	43.46 132	T	T	19 06 54.7	
	baz=317,slow=75,SNR=622					
H10S3	ASCENSION HYDR	44.15 134	T	T	19 07 56.1	
	baz=315,slow=74,SNR=1582					
H10S2	ASCENSION HYDR	44.17 134	T	T	19 07 57.4	
	baz=265,slow=74,SNR=1282					
EKA	Eskdalemuir Ar	44.27 33	P	P	18 20 54.7	-0.7
	comp=Z,1.6nm,0.9s,baz=233,slow=7.0,SNR=2.1					
	comp=Z,1.6nm,0.9s					
RLO	Rose Lookout	44.41 298	P	P	18 20 59.3	+2.4
RLO			IAmb	IAmb	18 21 05.5	
	comp=Z,17nm,1.1s					
ATAH	Atahualpa	44.52 231	LR	LR	18 39 40.3	
	comp=Z,134nm,21.8s,baz=29,slow=36					
LPAZ	La Paz	45.55 211	P	P	18 21 08.0	+1.2
LPAZ	La Paz	45.55 211	P	P	18 21 07.3	+0.5
	comp=Z,4.0nm,1.0s,baz=19,slow=7.2,SNR=9.0					
LPAZ			LR	LR	18 39 55.2	
	comp=Z,265nm,19.6s,baz=28,slow=36					
	comp=Z,4.0nm,1.0s					
LPAZ	La Paz	45.55 211	eP	P	18 21 07.5	+0.7
TORD	Torodi Ar. Bea	45.63 95	P	P	18 21 06.5	-0.3
	comp=Z,4.2nm,1.0s,baz=304,slow=9.3,SNR=17					
TORD			LR	LR	18 37 15.1	
	comp=Z,181nm,21.9s,baz=285,slow=32					
	comp=Z,4.2nm,1.0s					
W35A	Tecumseh	45.90 297	P	P	18 21 09.7	+0.9
OK048	Pawnee Station	45.97 298	P	P	18 21 11.8	+2.5
TAM	Tamanrasset	46.51 80	P	P	18 21 14.2	+0.3
TAM			IAmb	IAmb	18 21 17.3	
	comp=Z,17nm,1.6s					
TRCB	Terra Rica	46.74 189	P	P	18 21 14.4	-1.0
CMIG	Matias Romero	46.75 272	LR	LR	18 38 35.4	
	comp=Z,185nm,21.9s,baz=143,slow=33					
NNA	Nana	46.98 224	LR	LR	18 40 35.1	
	comp=Z,117nm,21.3s,baz=12,slow=36					
ULM	Lac du Bonnet	47.15 317	P	P	18 21 18.1	-0.2
	comp=Z,2.0nm,0.7s,baz=85,slow=12,SNR=2.3					
ULM			LR	LR	18 38 42.6	
	comp=Z,177nm,20.9s,baz=107,slow=33					
	comp=Z,2.0nm,0.7s					
WMOK	Wichita Mounta	47.47 296	IAmb	IAmb	18 21 30.3	
	comp=Z,13nm,1.1s					
KEST	Kesra	48.42 63	P	P	18 21 27.0	-1.4
	comp=Z,11nm,0.9s,baz=243,slow=9.0,SNR=5.7					
KEST			LR	LR	18 39 05.8	
	comp=Z,164nm,21.8s,baz=310,slow=33					
	comp=Z,11nm,0.9s					
PB11	IPOC Station P	49.27 211	P	P	18 21 33.3	-1.9
DAVA	Damuels	49.55 47	eP	P	18 21 37.2	+0.2
	comp=Z,14nm,1.2s					
FETA	Feichten	50.08 48	eP	P	18 21 41.8	+0.6
	comp=Z,13nm,1.1s					
SQTA	Sankt Quirin	50.44 48	eP	P	18 21 43.9	+0.1
	comp=Z,15nm,1.2s					
WTTA	Wattenberg	50.73 48	eP	P	18 21 46.5	+0.5
	comp=Z,8.6nm,0.8s					
CPUP	Villa Florida	51.06 194	P	P	18 21 48.0	-0.4
	comp=Z,1.0nm,0.5s,baz=352,slow=7.1,SNR=1.9					
CPUP			LR	LR	18 44 16.0	
	comp=Z,86nm,18.1s,baz=14,slow=37					
	comp=Z,1.0nm,0.5s					
ABTA	Abfaltersbach	51.27 48	eP	P	18 21 50.3	+0.3
	comp=Z,11nm,1.1s					
LVC	Limon Verde	51.42 208	LR	LR	18 43 35.8	
	comp=Z,175nm,18.9s,baz=13,slow=36					
PRED	Cave del Predi	51.96 49	P	P	18 21 55.6	+0.4
PRED			IAmb	IAmb	18 22 12.9	
	comp=Z,17nm,1.2s					
TXAR	Lajitas Array	52.08 290	P	P	18 21 54.9	-1.4
	comp=Z,1.0nm,0.7s,baz=108,slow=8.6,SNR=4.6					
TXAR			LR	LR	18 44 09.0	
	comp=Z,32nm,19.8s,baz=80,slow=36					
	comp=Z,1.0nm,0.7s					
BIOA	Bad Ischl, Aus	52.13 47	eP	P	18 21 56.0	-0.3
	comp=Z,7.6nm,1.1s					
CLL	Collm	52.18 43	i P	P	18 21 56.6	0.0
	comp=Z,12nm,1.2s					
CLL			i x	x	18 22 11.1	
CLL			eS	S	18 29 27.0	+5.9
CLL			eSSS	SSS	18 34 36.0	
CLL			AMS	AMS	18 39 00.0	
	comp=Z,200nm,21.3s					
KHC	Kasperske Hory	52.24 45	P	P	18 21 57.2	0.0
GEC2	GERESS Array S	52.29 46	P	P	18 21 57.7	+0.1
GERES	GERESS Array B	52.29 46	P	P	18 21 56.7	-1.0
	comp=Z,2.1nm,0.9s,baz=239,slow=9.1,SNR=2.9					
GERES			LR	LR	18 41 41.7	
	comp=Z,77nm,18.6s,baz=255,slow=33					
	comp=Z,2.1nm,0.9s					
VAE	Valguarnera	52.43 60	LR	LR	18 41 29.8	
	comp=Z,247nm,20.1s,baz=315,slow=33					
Q24A	Divide	52.47 302	IAmb	IAmb	18 22 09.8	
	comp=Z,15nm,1.2s					
MOA	Molln	52.56 47	eP	P	18 21 58.9	-0.7
	comp=Z,4.3nm,1.5s					
OBKA	Obir	52.64 49	eP	P	18 22 00.9	+0.7
	comp=Z,20nm,1.6s					
BRG	Berggiesshubel	52.70 43	eP	P	18 22 01.1	+0.5
BRG			Amp		18 22 02.1	
	comp=Z,4.7nm,1.0s					
VHRN	Van Horn	53.01 292	IAmb	IAmb	18 22 12.8	
	comp=Z,11nm,1.3s					
ARSA	Arzberg	53.36 48	eP	P	18 22 04.8	-0.7
	comp=Z,12nm,1.4s					
NB2	NORSAR Subarra	53.49 30	P	P	18 22 07.4	+1.2
	comp=Z,6.5nm,1.0s,baz=252,slow=7.9					
NOA	NORSAR Array B	53.49 30	P	P	18 22 05.3	-0.9
	comp=Z,1.7nm,1.0s,baz=252,slow=7.5,SNR=3.8					
NOA			LR	LR	18 40 39.0	
	comp=Z,107nm,22.0s,baz=250,slow=31					
	comp=Z,1.7nm,1.0s					
CONA	Conrad Observa	53.64 47	eP	P	18 22 07.0	-0.5
	comp=Z,5.9nm,1.2s					
ANMO	Albuquerque	53.76 297	LR	LR	18 42 33.0	
	comp=Z,110nm,21.6s,baz=255,slow=33					
RONA	Rosalia, Austr	53.92 47	eP	P	18 22 09.5	-0.1
	comp=Z,12nm,1.2s					
VRAC	Vranov	54.23 45	LR	LR	18 43 22.1	
	comp=Z,63nm,18.9s,baz=251,slow=34					
HFS	Hagfors	54.41 32	P	P	18 22 11.6	-1.3
	comp=Z,2.3nm,0.7s,baz=218,slow=9.0,SNR=4.3					
HFS			LR	LR	18 41 14.6	
	comp=Z,232nm,20.1s,baz=252,slow=32					
	comp=Z,2.3nm,0.7s					
MODS	Modra-Piesok	54.62 47	eP	P	18 22 14.3	-0.3
SRO	Sroba rova	55.28 47	eP	P	18 22 19.5	+0.1
RLMT	Red Lodge	55.46 309	IAmb	IAmb	18 22 30.9	
	comp=Z,16nm,1.2s					
VYHS	Vyhne	55.66 46	eP	P	18 22 21.7	-0.4
PD31	Pinedale Array	55.70 307	P	P	18 22 21.4	-1.4
PD31			IAmb	IAmb	18 22 31.5	
	comp=Z,11nm,1.2s					
PDAR	Pinedale Array	55.70 307	P	P	18 22 21.6	-1.2
	comp=Z,2.0nm,0.9s,baz=92,slow=5.8,SNR=10					
PDAR			LR	LR	18 43 50.9	
	comp=Z,97nm,21.6s,baz=82,slow=34					
	comp=Z,2.0nm,0.9s					
YNE	Yellowstone No	55.98 309	IAmb	IAmb	18 22 34.3	
	comp=Z,12nm,1.2s					
SRU	San Rafael Swe	56.64 302	IAmb	IAmb	18 22 39.1	
	comp=Z,8.5nm,1.0s					
YHL	Hebgen Lake	56.82 309	P	P	18 22 29.8	-1.1
YHL			IAmb	IAmb	18 22 41.7	
	comp=Z,14nm,1.3s					
RES	Resolute Bay	57.12 346	LR	LR	18 44 42.1	
	comp=Z,133nm,20.7s,baz=24,slow=34					
BOZ	Bozeman (W)	57.12 310	P	P	18 22 36.5	+3.7
HWUT	Hardware Ranch	57.25 305	IAmb	IAmb	18 22 42.5	
	comp=Z,14nm,1.4s					
TUC	Tucson	57.68 294	P	P	18 22 37.5	+0.6
TUC			IAmb	IAmb	18 22 52.0	
	comp=Z,13nm,1.5s					
WUAZ	Wupatki	57.70 298	IAmb	IAmb	18 22 48.1	
	comp=Z,12nm,1.1s					
X16A	Lo Mia Camp, P	57.90 297		P	18 22 41.6	+3.1
X16A			IAmb	IAmb	18 22 49.7	
	comp=Z,12nm,1.4s					
DUG	Dugway, Tooele	58.30 304	IAmb	IAmb	18 22 51.2	
	comp=Z,9.5nm,1.1s					
U15A	North Rim	58.32 299	P	P	18 22 46.4	+4.8
BGU	Big Grassy Mou	58.40 305	IAmb	IAmb	18 22 51.1	
	comp=Z,8.6nm,1.1s					
LPIG	La Paz	58.92 285	LR	LR	18 49 11.4	
	comp=Z,47nm,19.6s,baz=58,slow=37					
CCUT	Cedar City	59.02 301	IAmb	IAmb	18 22 57.0	
	comp=Z,14nm,1.3s					
PSUT	Pine Spring	59.29 302	IAmb	IAmb	18 22 58.2	
	comp=Z,8.1nm,1.1s					
YKA	Yellowknife Ar	59.72 330	P	P	18 22 48.8	-1.6
	comp=Z,1.0nm,0.8s,baz=94,slow=9.0,SNR=2.6					
YKA			LR	LR	18 47 34.9	
	comp=Z,112nm,20.3s,baz=91,slow=35					
	comp=Z,1.0nm,0.8s					
BUR08	Bucovina Ar. S	59.93 47	P	P	18 22 53.3	+1.0
BUR08			IAmb	IAmb	18 23 03.5	
	comp=Z,12nm,1.3s					
ELK	Elko	60.09 305	P	P	18 22 55.5	+1.9
ELK			IAmb	IAmb	18 23 02.7	
	comp=Z,6.6nm,1.1s					
PLID	Pearl Lake	60.22 310	IAmb	IAmb	18 23 03.6	
	comp=Z,6.0nm,0.9s					
MFID	Camas Ranch	60.24 308	pP	pP	18 22 57.4	+0.9
PRN	Pahroc Range	60.37 301		P	18 22 58.6	+3.0
V12A	Nelson	60.47 299	pP	P	18 22 57.8	+1.6
MLR	Muntele Rosu	60.59 50	P	P	18 22 57.6	+0.7
MLR	Muntele Rosu	60.59 50	LR	LR	18 47 58.7	
	comp=Z,168nm,18.1s,baz=262,slow=35					
FINES	FINESS Array B	60.60 32	P	P	18 22 56.2	-0.3
	comp=Z,1.8nm,0.9s,baz=245,slow=5.5,SNR=1.6					
FINES			LR	LR	18 44 24.5	
	comp=Z,252nm,22.0s,baz=260,slow=31					
	comp=Z,1.8nm,0.9s					
NEW	Newport	60.77 313	P	P	18 23 00.5	+2.6
NEW			IAmb	IAmb	18 23 07.2	
	comp=Z,8.7nm,0.9s					
NEW	Newport	60.77 313	LR	LR	18 47 04.2	
	comp=Z,140nm,21.0s,baz=86,slow=34					
IDI	Amoyia	61.07 62	P	P	18 23 00.7	+0.4
	comp=Z,13nm,1.1s,baz=248,slow=12,SNR=3.4					
	comp=Z,13nm,1.1s					
SPITS	Spitsbergen Ar	61.28 12	LR	LR	18 43 13.4	
	comp=Z,78nm,21.4s,baz=210,slow=30					
ARCES	ARCESS Array B	61.33 22	P	P	18 23 01.3	0.0
	comp=Z,2.3nm,0.7s,baz=265,slow=4.3,SNR=5.9					
ARCES			LR	LR	18 42 53.4	
	comp=Z,74nm,20.9s,baz=263,slow=30					
	comp=Z,2.3nm,0.7s					
TPNV	Topopah Spring	61.39 300	P	P	18 23 03.1	+0.6
TPNV			IAmb	IAmb	18 23 18.0	
	comp=Z,12nm,1.3s					
PFO	Pinyon Flats O	62.15 297	LR	LR	18 48 00.1	
	comp=Z,84nm,21.8s,baz=82,slow=34					
AKASG	Malin Array Be	62.38 44	P	P	18 23 07.3	-1.4
	comp=Z,2.7nm,0.9s,baz=278,slow=5.8,SNR=7.2					
AKASG			LR	LR	18 46 41.6	
	comp=Z,132nm,20.3s,baz=239,slow=33					
	comp=Z,2.7nm,0.9s					
NVAR	Mina Array Bea	62.76 302	P	P	18 23 11.7	0.0
	comp=Z,0.4nm,0.6s,baz=61,slow=7.3,SNR=1.9					
NVAR			LR	LR	18 48 15.7	
	comp=Z,219nm,21.2s,baz=85,slow=34					
	comp=Z,0.4nm,0.6s					
ISA	Isabella, Lake	63.38 299	P	P	18 23 15.9	+0.2
OMMB	Old Mammoth Mi	63.44 302	IAmb	IAmb	18 23 27.1	
	comp=Z,6.5nm,1.2s					
A36M	Sachs Harbour	64.57 340	IAmb	IAmb	18 23 34.7	
	comp=Z,6.5nm,0.8s					
YBH	Yreka Blue Hor	65.51 307	LR	LR	18 50 33.4	
	comp=Z,123nm,20.4s,baz=72,slow=35					
OBN	Obninsk	66.34 38	LR	LR	18 49 11.1	
	comp=Z,272nm,20.7s,baz=353,slow=33					
BRTR	Keskin Array B	67.06 55	P	P	18 23 37.7	-2.0
BRTR	Keskin Array B	67.06 55	P	P	18 23 39.0	-0.7
	comp=Z,1.7nm,0.8s,baz=251,slow=4.4,SNR=5.0					
BRTR			LR	LR	18 52 40.0	
	comp=Z,47nm,18.1s,baz=298,slow=36					
	comp=Z,1.7nm,0.8s					
BBB	Bella Bella	67.33 319	LR	LR	18 51 50.7	
	comp=Z,102nm,19.4s,baz=40,slow=35					
DLBC	Dease Lake	67.42 325	LR	LR	18 52 35.5	
	comp=Z,102nm,18.9s,baz=80,slow=36					
INK	Inuvik	67.58 336	LR	LR	18 51 13.6	
	comp=Z,146nm,21.6s,baz=46,slow=34					
G31M	Satah River	68.06 335	IAmb	IAmb	18 23 50.1	
	comp=Z,7.1nm,1.0s					
PLCA	Paso Flores	68.25 200	P	P	18 23 47.5	+0.7
	comp=Z,1.2nm,0.8s,baz=36,slow=14,SNR=3.0					
PLCA			LR	LR	18 53 02.6	
	comp=Z,99nm,20.9s,baz=27,slow=35					
	comp=Z,1.2nm,0.8s					
J30M	Hart River	69.32 333	P	P	18 23 53.9	+0.6
J30M			IAmb	IAmb	18 24 09.0	
	comp=Z,12nm,1.4s					
F28M	Old Crow	70.06 336	IAmb	IAmb	18 24 14.6	
	comp=Z,7.1nm,1.1s					
D27M	Malcolm River	70.07 338	P	P	18 23 58.5	+0.7
EIL	Elat	70.63 65	LR	LR	18 54 44.1	
	comp=Z,105nm,20.7s,baz=253,slow=36					
E25K	Arctic Village	72.00 337	IAmb	IAmb	18 24 19.5	
	comp=Z,10nm,1.2s					
KIRV	Kirov	72.50 33	LR	LR	18 51 54.5	
	comp=Z,142nm,21.3s,baz=292,slow=32					
KBZ	Khabaz	72.79 49	P	P	18 24 13.5	-1.1
	comp=Z,1.8nm,0.9s,baz=264,slow=9.2,SNR=2.5					
KBZ			LR	LR	18 56 46.5	
	comp=Z,31nm,18.1s,baz=323,slow=36					
	comp=Z,1.8nm,0.9s					
BELG	Belogornoye	73.33 40	LR	LR	18 54 01.7	
	comp=Z,99nm,19.9s,baz=279,slow=34					
ILAR	Eielson Array	73.62 334	P	P	18 24 18.1	-1.1
	comp=Z,1.5nm,0.8s,baz=83,slow=4.4,SNR=13					
ILAR			LR	LR	18 57 07.6	
	comp=Z,184nm,18.0s,baz=66,slow=36					
	comp=Z,1.5nm,0.8s					
GNI	Garni	75.17 52	LR	LR	18 57 04.3	
	comp=Z,24nm,19.3s,baz=288,slow=35					
MBAR	Mbarara	77.47 96	LR	LR	18 57 44.3	
	comp=Z,49nm,18.2s,baz=292,slow=35					
ARTI	Arti	77.81 34	LR	LR	18 56 20.9	
	comp=Z,129nm,19.7s,baz=266,slow=34					
KDAK	Kodiak Island	78.97 329	LR	LR	18 59 55.6	
	comp=Z,111nm,19.2s,baz=71,slow=36					
RPN	Rapa Nui	79.82 234	LR	LR	18 58 42.8	
	comp=Z,24nm,20.7s,baz=124,slow=34					
AKTO	Aktyubinsk	80.10 39	LR	LR	18 57 10.3	
	comp=Z,168nm,21.7s,baz=98,slow=33					
FURI	Furi	81.01 84	LR	LR	19 00 50.9	
	comp=Z,100nm,18.8s,baz=345,slow=36					
KMBO	Kilima Mbogo	83.64 94	LR	LR	19 03 38.2	
	comp=Z,84nm,18.1s,baz=91,slow=36					
LBTB	Lobatse	84.02 120	LR	LR	18 55 12.3	
	comp=Z,96nm,22.0s,baz=302,slow=30					
SUR	Sutherland	84.19 129	LR	LR	18 54 19.7	
	comp=Z,63nm,21.9s,baz=318,slow=30					
TIXI	Tiksi	84.84 2	P	P	18 25 20.0	-0.3
	baz=338,slow=4.9,SNR=4.3					
TIXI			LR	LR	19 00 05.2	
	comp=Z,20nm,18.4s,baz=24,slow=34					
BVAR	Borovoye Array	85.52 33	P	P	18 25 21.9	-2.2
	comp=Z,0.2nm,0.4s,baz=318,slow=1.9,SNR=2.6					
BVAR			LR	LR	19 00 34.7	
	comp=Z,104nm,20.2s,baz=303,slow=34					
	comp=Z,0.2nm,0.4s					
BOSA	Boshof	85.53 124	LR	LR	18 55 43.3	
	comp=Z,48nm,19.1s,baz=316,slow=30					
KURBB	Kurchatov Arra	90.99 32	P	P	18 25 49.7	-0.6
	comp=Z,0.2nm,0.3s,baz=308,slow=4.6,SNR=3.4					
KURBB			LR	LR	19 02 44.1	
	comp=Z,115nm,21.2s,baz=178,slow=33					
	comp=Z,0.2nm,0.3s					
ZALV	Zalesovo Beam	91.56 27	LR	LR	19 04 56.8	
	comp=Z,85nm,19.9s,baz=310,slow=34					
WSAR	Wadi Sarin	92.66 63	LR	LR	19 10 34.3	
	comp=Z,67nm,18.8s,baz=301,slow=38					
AAK	Ala-Archa	93.83 40	LR	LR	19 07 37.9	
	comp=Z,71nm,18.2s,baz=324,slow=35					
MKAR	Makanchi Array	95.40 33	LR	LR	19 05 57.9	
	comp=Z,109nm,21.2s,baz=311,slow=34					
SHEM	Shemya Is, Ala	96.53 337	LR	LR	19 10 57.6	
	comp=Z,58nm,19.0s,baz=122,slow=36					
WMQ	Urumqi	100.20 33	eP	Pdif	18 26 34.7	+2.3
WMQ			LR	LR		
	comp=Z,160nm,24.9s					
PPT2	Papeete2	109.60 259	eLR	LR	19 03 33.0	
	comp=Z,30nm,24.0s					
BJI	Beijing	114.30 16	PKP	PKPdf	18 31 29.8	+3.8
PZH	PanZhiHua	120.81 35	PKP	PKPdf	18 31 38.2	-0.9
DZM	Mont Dzumac	150.73 267	eLR	LR	19 22 40.2	
	comp=Z,51nm,25.2s					

*IDC **01** 18:40:08.6±1.7, 0°.49S×124°.01E, h0km, mb3.2/3, mbtmp3.3/3, MS2.9/1, Error ellipse: s-maj=198.7km s-min=26.2km az=63.0*
*DJA **01** 18:40:19.0±1.0, 0°.N±6°×12°.4E±°, h28km±8km, M3.6/7, MLv3.6/7*
ISC 01 18:40:12.9±1.5, 0°.1N±0°.1×124°.8E±0°.1, h35km, n8, σ1°75/9, mb3.2/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.97	303	P	Pn	18 40 33.2	+3.1
KMSI				S	Sn	18 40 42.5	-0.2
LUWI	Luwuk	2.30	242	P	Pn	18 40 49.6	+1.3
LUWI				S	Sn	18 41 14.8	-0.6
SANI	Sanana	2.40	150	P	Pn	18 40 48.6	-1.1
MRSI	Marisa	2.89	278	P	Pn	18 40 56.2	-0.3
MRSI				S	Sn	18 41 27.7	-2.4
APSI	Ampana	3.29	253	P	Pn	18 41 03.9	+1.9
WRA	Warramunga Arr	21.95	155	P	P	18 45 01.4	-2.3
	0.3nm,0.7s,baz=331,slow=11,SNR=2.0						
WRA				LR	LR	18 54 09.3	
	comp=Z,29nm,18.4s,baz=187,slow=38						
	0.3nm,0.7s						
ASAR	Alice Springs	25.18	160	P	P	18 45 34.7	-0.5
	0.5nm,0.6s,baz=336,slow=8.4,SNR=8.3						
	0.5nm,0.6s						
MKAR	Makanchi Array	59.53	327	P	P	18 50 14.0	+1.2
	0.4nm,0.6s,baz=126,slow=7.7,SNR=6.3						
	0.4nm,0.6s						

*IDC **01** 18:48:37.9±1.0, 10°.30S×161°.58E, h70km±7km, mb3.5/6, mbtmp3.8/6, MS3.1/1, Error ellipse: s-maj=21.3km s-min=10.1km az=33.0*
*NEIC **01** 18:48:38.2±1.4, 10°.11S±0°.07×161°.7E±0°.1, h78km±9km, mb4.4/18, Error ellipse: s-maj=16.4km s-min=9.6km az=75.0*
ISC 01 18:48:36.3±0.6, 10°.32S±0°.07×161°.71E±0°.09, h61km, n30, σ1°79/34, mb4.1/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.94	297	Pn	Pn	18 49 07.0	0.0
HNR	Honiara	1.94	297	P	Pn	18 49 07.3	+0.2
	489nm,0.3s,baz=170,slow=8.4,SNR=54						
HNR				S	Sn	18 49 29.8	-0.6
	2μm,0.3s,baz=169,slow=20,SNR=18						
KOUNC	Koumac, New Ca	10.47	167	Pn	Pn	18 51 06.0	+2.2
DZM	Mont Dzumac	12.54	159	Pn	Pn	18 51 37.5	+5.5
DZM	Mont Dzumac	12.54	159	P	P	18 51 37.9	-3.7
	3.4nm,0.4s,baz=57,slow=4.6,SNR=8.6						
DZM				S	Sn	18 53 47.3	-2.8
	8.3nm,1.0s,baz=323,slow=20,SNR=2.4						
PMG	Port Moresby	14.36	272	LR	LR	18 56 40.7	
	comp=Z,72nm,19.4s,baz=94,slow=34						
TARA	Tarawa	16.10	45	P	P	18 52 20.8	-0.3
TARA				IAmb	IAmb	18 52 31.8	
	comp=Z,82nm,1.1s						
PATS	Pohnpei	17.37	349		P	18 52 34.8	-0.5
PATS				IAmb	IAmb	18 52 52.4	
	comp=Z,57nm,1.3s						
EIDS	Eidsvold	18.05	213	P	Pn	18 52 45.4	+2.5
ARMA	Armidale	22.09	204	P	P	18 53 28.9	+2.3
ARMA				IAmb	IAmb	18 54 07.1	
	comp=Z,9.3nm,1.1s						
WR0	Warramunga Arr	27.88	247	P	P	18 54 20.4	-0.3
WB0	Warramunga Arr	27.96	247	P	P	18 54 20.9	-0.5
WB2	Warramunga Arr	28.05	247	P	P	18 54 21.5	-0.6
WB2				IAmb	IAmb	18 54 39.8	
	comp=Z,7.8nm,1.4s						
WRA	Warramunga Arr	28.06	247	P	P	18 54 21.4	-0.8
	comp=Z,0.8nm,0.4s,baz=78,slow=9.0,SNR=18						
WRA				pP	pwP	18 54 40.0	+2.8
	comp=Z,1.5nm,0.7s,baz=76,slow=9.6,SNR=8.2						
	comp=Z,0.8nm,0.4s						
AS31	Alice Springs	29.64	240	P	P	18 54 35.3	-1.0
ASAR	Alice Springs	29.64	240	P	P	18 54 35.2	-1.0
	comp=Z,0.3nm,0.6s,baz=62,slow=10.0,SNR=13						
ASAR				pP	sP	18 54 54.0	-3.8
	comp=Z,0.5nm,0.8s,baz=65,slow=10.0,SNR=3.2						
	comp=Z,0.3nm,0.6s						
KNRA	Kununurra	32.51	257	P	P	18 55 01.4	-0.2
KNRA				IAmb	IAmb	18 55 32.5	
	comp=Z,5.2nm,1.0s						
BBOO	Buckleboo	32.54	223	P	P	18 55 02.5	+0.8
BBOO				IAmb	IAmb	18 55 05.5	
	comp=Z,15nm,1.3s						
FITZ	Fitzroy Crossi	35.76	253	P	P	18 55 28.6	-1.0
SOEI	Soe	36.86	267	P	P	18 55 38.5	-0.8
JM

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.62**	**38**	Pn	**Pb**	**18 55 24.2**	**-0.2**
AFI				Sn	**Sb**	**18 55 43.4**	**-1.1**
NIUE	**Niue**	**4.73**	**145**	Pn	**Pn**	**18 56 03.1**	**-1.3**
NIUE				Sn	**Sn**	**18 56 58.9**	**+0.5**
MSVF	**Nonsavu**	**9.13**	**253**	LR	LR	19 00 05.2	
	comp=Z,180nm,21.1s,baz=177,slow=36						
DZM	**Mont Dzumac**	**20.81**	**248**	LR	LR	19 06 10.3	
	comp=Z,118nm,18.8s,baz=59,slow=33						
URZ	**Urewera**	**24.64**	**199**	LR	LR	19 07 55.4	
	comp=Z,66nm,18.3s,baz=16,slow=32						
LTZ	**Lake Taylor**	**30.33**	**202**	P	**P**	**19 01 03.7**	**-0.4**
H11S2	**WAKE ISLAND Hy**	**39.10**	**328**	T	T	19 43 47.3	
	baz=150,slow=74,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**39.11**	**328**	T	T	19 44 03.5	
	baz=150,slow=74,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**39.12**	**328**	T	T	19 43 27.1	
	baz=150,SNR=6.0						
H11N3	**WAKE ISLAND Hy**	**40.03**	**329**	T	T	19 45 09.0	
	baz=150,slow=76,SNR=6.0						
H11N1	**WAKE ISLAND Hy**	**40.04**	**329**	T	T	19 45 12.5	
	baz=150,slow=76,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**40.05**	**329**	T	T	19 45 13.6	
	baz=150,slow=76,SNR=5.0						
STKA	**Stephens Creek**	**44.64**	**240**	P	**P**	**19 03 05.3**	**+0.1**
	3.0nm,0.9s,baz=54,slow=9.4,SNR=5.6						
	3.0nm,0.9s						
WB0	**Warramunga Arr**	**50.41**	**257**	P	**P**	**19 03 48.7**	**-1.6**
WB0				IAmb	IAmb	19 03 50.5	
	comp=Z,2.8nm,0.8s						
WB2	**Warramunga Arr**	**50.44**	**257**	P	**P**	**19 03 48.7**	**-1.8**
WRA	**Warramunga Arr**	**50.45**	**257**	P	**P**	**19 03 48.6**	**-2.0**
	comp=Z,1.1nm,0.7s,baz=92,slow=6.9,SNR=24						
WRA				PcP	**PcP**	**19 05 10.1**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=94,slow=3.2,SNR=4.6						
	comp=Z,1.1nm,0.7s						
AS31	**Alice Springs**	**50.72**	**252**	P	**P**	**19 03 51.0**	**-1.7**
ASAR	**Alice Springs**	**50.72**	**252**	P	**P**	**19 03 50.4**	**-2.3**
	comp=Z,2.2nm,0.6s,baz=89,slow=7.6,SNR=45						
ASAR				PcP	**PcP**	**19 05 10.9**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=87,slow=5.7,SNR=0.9						
	comp=Z,2.2nm,0.6s						
NVAR	**Mina Array Bea**	**73.80**	**42**	P	P	19 06 31.5	+4.4
	comp=Z,0.5nm,0.6s,baz=241,slow=9.2,SNR=3.9						
	comp=Z,0.5nm,0.6s						
QSPA	**South Pole Qui**	**74.84**	**180**	P	**P**	**19 06 32.3**	**-0.5**
QSPA				IAmb	IAmb	19 06 49.0	
	comp=Z,4.6nm,1.4s						
QSPA	**South Pole Qui**	**74.84**	**180**	P	**P**	**19 06 36.6**	**+3.9**
	comp=Z,1.4nm,0.9s,baz=48,slow=2.6,SNR=5.6						
	comp=Z,1.4nm,0.9s						
HLID	**Hailey**	**79.11**	**39**	P	**P**	**19 06 56.0**	**-1.1**
HLID				IAmb	IAmb	19 07 04.5	
	comp=Z,2.2nm,0.9s						
CCB	**Clear Creek Bu**	**81.86**	**11**	P	**P**	**19 07 10.3**	**-0.8**
CCB				IAmb	IAmb	19 07 15.7	
	comp=Z,4.0nm,1.1s						
ILAR	**Eielson Array**	**82.14**	**11**	P	**P**	**19 07 16.2**	**+3.6**
	comp=Z,1.8nm,1.2s,baz=223,slow=4.9,SNR=7.5						
	comp=Z,1.8nm,1.2s						
G31M	**Satah River**	**86.66**	**14**	P	**P**	**19 07 39.0**	**+3.5**
GERES	**GERESS Array B**	**146.03**	**352**	PKPbc	**PKiKP**	**19 14 35.1**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=80,slow=4.2,SNR=2.2						
BRTR	**Keskin Array B**	**146.37**	**322**	PKPbc	**PKiKP**	**19 14 36.5**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=79,slow=3.1,SNR=5.5						

*NIED **01** 19:17:35.0, 37°.81N×135°.38E, h362km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.81; $M_{\theta\theta}$-1.01; $M_{\phi\phi}$0.20; $M_{r\theta}$0.92; $M_{\theta\phi}$0.05; $M_{\phi r}$-1.02; Fault plane solution: $M_0$1.65000×10^{15} NP1: ϕ_s126.00000°, δ76.00000°, λ112.00000°. NP2: ϕ_s248.00000°, δ26.00000°, λ35.00000°.*
*JMA **01** 19:17:35.0±0.2, 38°N±1°×13°5E±°, h362km±2km, MV3.8/26, SEA OF JAPAN*
*IDC **01** 19:17:35.2±0.9, 37°.83N×135°.25E, h351km±10km, mb3.3/17, mbtmp4.0/24, Error ellipse: s-maj=12.0km s-min=9.7km az=71.0*
*NEIC **01** 19:17:35.3±1.9, 37°.88N±0°.08×135°.3E±0°.1, h349km±9km, mb4.0/65, Error ellipse: s-maj=13.1km s-min=10.8km az=131.0*

ISC 01 19:17:35.6±0.4, 37°.82N±0°.05×135°.41E±0°.06, h366km, n138, σ1^{s}53/142, mb3.9/51, 2C, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**1.20**	**88**	P	**Pn**	**19 18 23.2**	**-0.6**
JHG				*e*S	**S**	**19 19 00.9**	**-1.7**
JSZ	**Suzu**	**1.60**	**103**	P	**Pn**	**19 18 25.3**	**-0.5**
JKG	**Kaga**	**1.71**	**154**	*e*P	**Pn**	**19 18 25.6**	**-1.0**
JSD	**Sado**	**2.27**	**84**		**Pn**	**19 18 28.6**	**-1.6**
JSD	**Sado**	**2.27**	**84**	P	**Pn**	**19 18 29.5**	**-0.7**
JSD	**Sado**	**2.27**	**84**	P	**Pn**	**19 18 29.5**	**-0.7**
JOI	**OKI**	**2.31**	**229**	P	**Pn**	**19 18 29.2**	**-1.4**
JYTA	**Yamagatataniai**	**2.47**	**154**	P	**Pn**	**19 18 30.7**	**-1.2**
JYTA				*e*S	**S**	**19 19 15.0**	**-2.1**
JWT	**Wachi**	**2.54**	**180**	P	**Pn**	**19 18 31.5**	**-0.9**
JWT				*e*S	**S**	**19 19 15.3**	**-2.8**
MJB9	**Matsu-Tunnel**	**2.57**	**119**		**Pn**	**19 18 32.6**	**0.0**
MAJO	**Matsushiro**	**2.58**	**119**		**Pn**	**19 18 31.5**	**-1.2**
MAJO	**Matsushiro**	**2.58**	**119**	P	**Pn**	**19 18 32.1**	**-0.6**
MAT	**Matsushiro**	**2.58**	**119**	P	**Pn**	**19 18 31.8**	**-0.9**
MJAR	**Matsushiro Arr**	**2.58**	**119**	P	**Pn**	**19 18 32.3**	**-0.4**
	56nm,0.6s,baz=301,slow=9.7,SNR=131						
JGF	**Kuroka**	**2.71**	**144**		**Pn**	**19 18 32.4**	**-1.5**
JGF	**Kuroka**	**2.71**	**144**	P	**Pn**	**19 18 33.2**	**-0.7**
INU	**Inuyama**	**2.79**	**152**		**Pn**	**19 18 32.2**	**-2.2**
INU	**Inuyama**	**2.79**	**152**	P	**Pn**	**19 18 33.3**	**-1.1**
JRY	**Ryogami san**	**3.33**	**122**	P	**Pn**	**19 18 39.0**	**-0.2**
JHS	**Saijyo**	**3.37**	**214**	P	**Pn**	**19 18 38.8**	**-0.9**
JIE	**Ise**	**3.58**	**163**	P	**Pn**	**19 18 41.3**	**-0.3**
JOD2	**Odawara 2**	**3.91**	**130**	P	**Pn**	**19 18 44.3**	**-0.4**
JMM	**Marumori**	**4.26**	**88**		**Pn**	**19 18 47.5**	**-0.6**
JMM	**Marumori**	**4.26**	**88**	P	**Pn**	**19 18 47.8**	**-0.4**
JMN	**Monobe**	**4.27**	**197**	Pn	**Pn**	**19 18 47.0**	**-1.4**
JMK	**Ichinoseki**	**4.70**	**74**	P	**Pn**	**19 18 52.4**	**-0.3**
JTM	**Tenmabayashi**	**5.29**	**54**	Pn	**Pn**	**19 18 58.0**	**-1.1**
JTM	**Tenmabayashi**	**5.29**	**54**	P	**Pn**	**19 18 59.7**	**+0.7**
BSO1	**Boso 1**	**5.50**	**123**	P	**Pn**	**19 18 59.3**	**-1.6**
BSO1				*e*S	**S**	**19 20 08.1**	**-2.0**
JTU	**Tsushima**	**5.87**	**238**	P	**Pn**	**19 19 04.7**	**-0.8**
JHJ	**Hachijo jima 2**	**5.90**	**141**	P	**Pn**	**19 19 04.8**	**-1.1**
	106nm,0.6s,baz=334,slow=23,SNR=8.2						
JHJ				S	**S**	**19 20 19.0**	**-0.2**
	84nm,0.3s,baz=285,slow=12,SNR=1.9						
KSRS	**Korea Array**	**5.95**	**269**	P	**Pn**	**19 19 06.2**	**-0.2**
	3.2nm,0.6s,baz=88,slow=12,SNR=17						
JNU	**Nakatsue**	**5.97**	**220**		**Pn**	**19 19 05.6**	**-1.2**
JNU	**Nakatsue**	**5.97**	**220**	P	**Pn**	**19 19 05.8**	**-0.9**
	18nm,0.7s,baz=15,slow=4.8,SNR=23						
JNU	**Nakatsue**	**5.97**	**220**	P	**Pn**	**19 19 06.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**6.88**	**339**	P	**Pn**	**19 19 15.2**	**-1.5**
	3.9nm,0.6s,baz=149,slow=10,SNR=6.8						
ERM	**Erimo**	**7.28**	**52**		**Pn**	**19 19 20.1**	**-1.3**
ERM	**Erimo**	**7.28**	**52**	P	**Pn**	**19 19 21.0**	**-0.4**
ASAJ	**Asahikawa**	**8.31**	**39**	P	**Pn**	**19 19 32.5**	**-0.9**
	8.1nm,0.2s,baz=231,slow=12,SNR=67						
ASAJ				S	**S**	**19 21 03.0**	**-6.9**
	18nm,0.8s,baz=255,slow=20,SNR=12						
JKA	**Kamikawa-asahi**	**8.31**	**39**	Pn	**Pn**	**19 19 32.8**	**-0.7**
BNX	**BinXian**	**9.91**	**325**	⇑P	**Pn**	**19 19 52.2**	**-0.1**
BNX				pmax	pmax		
	comp=Z,11nm,0.9s						
YSS	**Yuzh-Sakhalins**	**10.62**	**28**		**P**	**19 20 01.3**	**+0.4**
KLR	**Kul'dur**	**11.71**	**348**	P	**Pn**	**19 20 13.6**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=166,slow=12,SNR=5.2						
JCJ	**Chichijima**	**12.12**	**150**	P	**P**	**19 20 16.7**	**-1.3**
HEH	**HeiHe**	**13.68**	**338**	*e*P	**P**	**19 20 33.6**	**-1.2**
HIA	**Hailar**	**16.08**	**320**	P	**P**	**19 20 58.9**	**-2.1**
HHC	**Hu-ho-hao-te**	**18.68**	**287**	*e*P	**P**	**19 21 25.2**	**-3.7**
HHC				pmax	pmax		
	comp=Z,47nm,0.5s						
HHC				pmax	pmax		
	comp=Z,170nm,4.7s						
XAN	**Xi'an**	**21.75**	**268**	⇑P	**P**	**19 21 57.8**	**-0.6**
XAN				pmax	pmax		
	comp=Z,13nm,0.5s						
ENH	**Enshi**	**22.71**	**258**	P	**P**	**19 22 05.6**	**-1.6**
SONM	**Songino Array**	**23.39**	**305**	P	**P**	**19 22 12.5**	**-0.7**
SONM	**Songino Array**	**23.39**	**305**	P	**P**	**19 22 13.2**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=114,slow=9.5,SNR=9.3						
	comp=Z,1.3nm,0.4s						
PZH	**PanZhiHua**	**30.50**	**258**	P	**P**	**19 23 17.5**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
WMQ	**Urumqi**	**36.20**	**295**	*e*P	**P**	**19 24 04.2**	**-0.6**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CHTO	**Chiang Mai**	**36.96**	**249**	P	**P**	**19 24 11.3**	**-0.1**
CHTO				IAmb	IAmb	19 24 12.6	
	comp=Z,3.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**37.19**	**249**	P	**P**	**19 24 13.8**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=42,slow=7.8,SNR=10						
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**37.84**	**312**	P	**P**	**19 24 16.3**	**-2.0**
ZALV	**Zalesovo Beam**	**37.84**	**312**	P	**P**	**19 24 17.2**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=90,slow=8.9,SNR=4.9						
	comp=Z,0.4nm,0.4s						
MK31	**Makanchi Array**	**39.62**	**300**	P	**P**	**19 24 32.5**	**-0.6**
MKAR	**Makanchi Array**	**39.62**	**300**	P	**P**	**19 24 32.3**	**-0.8**
MKAR	**Makanchi Array**	**39.62**	**300**	P	**P**	**19 24 32.5**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=84,slow=11,SNR=17						
	comp=Z,1.7nm,0.5s						
MAKZ	**Makanchi**	**39.84**	**301**	P	**P**	**19 24 34.3**	**-0.6**
NRIK	**Noril'sk**	**40.58**	**336**	P	**P**	**19 24 40.1**	**-0.3**
NRIK				IAmb	IAmb	19 24 41.6	
	comp=Z,11nm,1.4s						
NRIK	**Noril'sk**	**40.58**	**336**	P	**P**	**19 24 40.1**	**-0.3**
	comp=Z,2.8nm,0.3s,baz=102,slow=5.4,SNR=6.2						
	comp=Z,2.8nm,0.3s						
FAKI	**Fak Fak**	**40.64**	**185**	P	**P**	**19 24 43.0**	**+1.4**
KURBB	**Kurchatov Arra**	**41.72**	**307**	P	**P**	**19 24 49.1**	**-0.8**
	comp=Z,3.1nm,0.6s,baz=85,slow=8.3,SNR=25						
	comp=Z,3.1nm,0.6s						
BOOM	**Boomskoye usch**	**44.88**	**295**	P	**P**	**19 25 15.7**	**+0.4**
NRN	**Naryn**	**45.12**	**294**	P	**P**	**19 25 17.6**	**+0.3**
C18K	**Utukok River**	**45.73**	**27**	P	**P**	**19 25 22.1**	**+0.8**
C19K	**Lookout Ridge**	**46.37**	**27**	P	**P**	**19 25 26.4**	**+0.3**
G18K	**Tagagawik**	**46.42**	**31**	P	**P**	**19 25 26.6**	**0.0**
G18K				IAmb	IAmb	19 26 05.2	
	comp=Z,11nm,1.4s						
BVAR	**Borovoye Array**	**46.48**	**311**	P	**P**	**19 25 26.7**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=104,slow=10,SNR=12						
	comp=Z,0.8nm,0.3s						
H18K	**Honhosa River**	**46.50**	**32**	P	**P**	**19 25 29.6**	**+2.4**
H18K				IAmb	IAmb	19 25 35.5	
	comp=Z,18nm,1.5s						
BRVK	**Borovoye**	**46.53**	**311**	P	**P**	**19 25 26.9**	**-0.7**
D19K	**Kuna River**	**46.83**	**28**	P	**P**	**19 25 32.2**	**+2.5**
D19K				IAmb	IAmb	19 25 54.6	
	comp=Z,19nm,1.5s						
G19K	**Purcell Mounta**	**47.07**	**31**	P	**P**	**19 25 33.4**	**+1.8**
G19K				IAmb	IAmb	19 25 35.5	
	comp=Z,12nm,1.4s						
E19K	**Redstone River**	**47.08**	**29**	P	**P**	**19 25 34.1**	**+2.5**
E19K				IAmb	IAmb	19 25 47.5	
	comp=Z,13nm,1.4s						
J19K	**Poorman**	**47.67**	**34**	P	**P**	**19 25 38.5**	**+2.3**
I20K	**Naaghedeneel**	**48.15**	**33**	P	**P**	**19 25 40.6**	**+0.9**
I20K				IAmb	IAmb	19 25 58.4	
	comp=Z,14nm,1.1s						
B21K	**Ikpikpuk River**	**48.17**	**26**	P	**P**	**19 25 41.8**	**+2.0**
B21K				IAmb	IAmb	19 25 48.3	
	comp=Z,13nm,1.3s						
IMAR	**Indian Mountai**	**48.43**	**31**	P	**P**	**19 25 43.9**	**+2.1**
KKAR	**Karatay Array**	**48.56**	**298**	P	**P**	**19 25 42.7**	**-0.5**
DRK	**Karamyk**	**48.77**	**293**	P	**P**	**19 25 45.7**	**+0.5**
DRK				IAmb	IAmb	19 25 46.5	
	comp=Z,5.8nm,0.6s						
CAST	**Castle Rocks**	**49.27**	**34**	P	**P**	**19 25 50.8**	**+2.6**
BTK	**Batken**	**49.29**	**294**	P	**P**	**19 25 47.5**	**-1.4**
NIL	**Nilore**	**49.81**	**285**	P	**P**	**19 25 53.1**	**+0.3**
NIL				IAmb	IAmb	19 25 54.2	
	comp=Z,8.9nm,0.8s						
TOLK	**Toolik Lake Re**	**49.97**	**28**	P	**P**	**19 25 54.1**	**+0.7**
TOLK				IAmb	IAmb	19 26 31.5	
	comp=Z,6.8nm,1.5s						
E23K	**Chandalar**	**49.98**	**28**	P	**P**	**19 25 55.6**	**+2.0**
E23K				IAmb	IAmb	19 25 59.0	
	comp=Z,7.8nm,1.4s						
GAR	**Garm**	**50.01**	**293**	P	**P**	**19 25 54.2**	**-0.1**
GAR				IAmb	IAmb	19 25 55.8	
	comp=Z,7.5nm,0.8s						
SUA	**Susitna One**	**50.10**	**37**	P	**P**	**19 25 55.2**	**+0.7**
CNPM	**China Poot**	**50.13**	**40**	P	**P**	**19 25 55.0**	**+0.2**
D24K	**Happy Valley**	**50.22**	**27**	P	**P**	**19 25 57.0**	**+1.8**
C24K	**Franklin Bluff**	**50.24**	**26**	P	**P**	**19 25 57.0**	**+1.7**
BRLK	**Bradley Lake**	**50.27**	**39**	P	**P**	**19 25 56.6**	**+0.8**
BRLK				IAmb	IAmb	19 26 32.8	
	comp=Z,13nm,1.1s						
I23K	**Minto, Yukon-K**	**50.30**	**32**	P	**P**	**19 25 58.5**	**+2.7**
MTN	**Manton Dam**	**50.56**	**185**	P	**P**	**19 25 58.1**	**-0.2**
MTN				IAmb	IAmb	19 26 35.5	
	comp=Z,18nm,1.5s						
F24K	**Squaw Lake**	**50.67**	**29**	P	**P**	**19 26 00.9**	**+2.2**
F24K				IAmb	IAmb	19 26 27.1	
	comp=Z,7.1nm,1.5s						
H24K	**Noodor Dome**	**50.84**	**31**	P	**P**	**19 26 02.0**	**+2.0**
H24K				IAmb	IAmb	19 26 18.8	
	comp=Z,8.1nm,1.4s						
G24K	**Hadweenzic Riv**	**50.91**	**30**	P	**P**	**19 26 02.3**	**+2.0**
CHGR	**Chuyangaron**	**50.98**	**293**	P	**P**	**19 26 01.4**	**-0.1**
SIMJ	**Simiganj**	**51.09**	**293**	P	**P**	**19 26 02.3**	**0.0**
SIMJ				IAmb	IAmb	19 26 03.3	
	comp=Z,6.8nm,0.9s						
SML	**Sawmill**	**51.19**	**36**	P	**P**	**19 26 03.6**	**+1.1**
PWL	**Port Wells**	**51.35**	**38**	P	**P**	**19 26 05.4**	**+1.7**
IL31		**51.39**	**32**	P	**P**	**19 26 05.5**	**+1.6**
ILAR	**Eielson Array**	**51.39**	**32**	P	**P**	**19 26 05.4**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=265,slow=6.1,SNR=14						
	comp=Z,0.7nm,0.6s						
HDA	**Harding Lake**	**51.42**	**33**	P	**P**	**19 26 05.4**	**+1.3**
HDA				IAmb	IAmb	19 26 07.0	
	comp=Z,4.2nm,0.9s						
DHY	**Denali Highway**	**51.43**	**35**	P	**P**	**19 26 05.9**	**+1.5**
DHY				IAmb	IAmb	19 26 38.7	
	comp=Z,11nm,1.5s						
E25K	**Arctic Village**	**51.49**	**28**	P	**P**	**19 26 06.9**	**+2.3**
F25K	**Christian Rive**	**51.52**	**29**	P	**P**	**19 26 06.9**	**+2.0**
SCM	**Sheep Creek Mo**	**51.66**	**36**	P	**P**	**19 26 08.4**	**+2.4**
SCM				IAmb	IAmb	19 26 08.8	
	comp=Z,14nm,1.0s						
PRP	**Porcupine Dome**	**51.85**	**31**	P	**P**	**19 26 10.5**	**+3.1**
PRP				IAmb	IAmb	19 26 11.3	
	comp=Z,5.9nm,1.2s						
BMAR	**Burnt Mountain**	**51.95**	**29**	P	**P**	**19 26 11.5**	**+3.5**
ARTI	**Arti**	**52.67**	**317**	P	**P**	**19 26 12.8**	**-0.6**
SCRK	**Sand Creek**	**52.77**	**33**	P	**P**	**19 26 16.5**	**+2.5**
SCRK				IAmb	IAmb	19 26 16.8	
	comp=Z,3.0nm,0.7s						
ABKAR	**Akbulak array**	**53.73**	**308**	P	**P**	**19 26 20.5**	**-0.6**
ABKAR				IAmb	IAmb	19 26 21.9	
	comp=Z,3.9nm,0.7s						
BCAR	**Beaver Creek A**	**53.93**	**34**	P	**P**	**19 26 25.3**	**+3.0**
ISLE	**Juniper Island**	**54.28**	**37**	P	**P**	**19 26 26.3**	**+1.2**
I29M	**Ogilvie Camp,**	**54.84**	**31**	P	**P**	**19 26 30.3**	**+1.5**
I29M				IAmb	IAmb	19 26 34.8	
	comp=Z,5.9nm,1.5s						
G30M	**tAoh Zraii Nji**	**55.23**	**29**	IAmb	IAmb	19 26 34.9	
	comp=Z,9.4nm,1.2s						
I30M	**Mount Dempster**	**55.66**	**31**	P	**P**	**19 26 37.6**	**+2.9**
I30M				IAmb	IAmb	19 26 38.4	
	comp=Z,5.5nm,0.7s						
H31M	**Peel River**	**56.29**	**30**	IAmb	IAmb	19 26 42.6	
	comp=Z,5.2nm,0.8s						
WB0	**Warramunga Arr**	**57.29**	**181**	P	**P**	**19 26 47.1**	**+0.6**
WB0				IAmb	IAmb	19 26 47.7	
	comp=Z,2.8nm,0.8s						
M31M	**Drury Creek, Y**	**57.45**	**34**	P	**P**	**19 26 47.9**	**+0.8**
M31M				IAmb	IAmb	19 27 26.9	
	comp=Z,7.2nm,0.9s						
WB2	**Warramunga Arr**	**57.46**	**181**	P	**P**	**19 26 48.3**	**+0.6**
WB2				IAmb	IAmb	19 27 18.2	
	comp=Z,6.9nm,1.4s						
WRA	**Warramunga Arr**	**57.46**	**181**	P	**P**	**19 26 48.3**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=356,slow=7.6,SNR=36						
	comp=Z,1.7nm,0.5s						
EUNU	**Eureka**	**60.08**	**8**	P	**P**	**19 27 06.7**	**+1.9**
AS31	**Alice Springs**	**61.18**	**182**	P	**P**	**19 27 13.5**	**+0.8**
ASAR	**Alice Springs**	**61.18**	**182**	P	**P**	**19 27 13.7**	**+1.0**
ASAR	**Alice Springs**	**61.18**	**182**	P	**P**	**19 27 13.6**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=0.9,slow=5.9,SNR=16						
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**61.52**	**338**	P	**P**	**19 27 14.6**	**+0.2**
ARCES	**ARCESS Array B**	**61.52**	**338**	P	**P**	**19 27 15.5**	**+1.0**
	comp=Z,2.8nm,1.0s,baz=60,slow=7.2,SNR=5.1						
	comp=Z,2.8nm,1.0s						
FINES	**FINESS Array B**	**65.82**	**330**	P	**P**	**19 27 42.9**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=69,slow=4.9,SNR=15						
	comp=Z,1.3nm,0.5s						
AKASG	**Malin Array Be**	**70.68**	**320**	P	**P**	**19 28 12.7**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=51,slow=6.1,SNR=9.0						
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**71.32**	**333**	P	**P**	**19 28 16.8**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=68,slow=8.2,SNR=7.7						
	comp=Z,1.3nm,0.6s						
NOA	**NORSAR Array B**	**71.53**	**335**	P	**P**	**19 28 17.7**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=44,slow=5.8,SNR=3.6						
	comp=Z,0.7nm,0.6s						
STHS	**Stebnicka Huta**	**75.48**	**322**	*e*P	**P**	**19 28 42.2**	**+1.9**
VYHS	**Vyhne**	**77.27**	**322**	*e*P	**P**	**19 28 51.4**	**+1.1**
NVAR	**Mina Array Bea**	**78.26**	**50**	P	**P**	**19 28 59.0**	**+2.9**
	comp=Z,0.6nm,0.5s,baz=283,slow=5.8,SNR=6.4						
	comp=Z,0.6nm,0.5s						
PDAR	**Pinedale Array**	**80.42**	**43**	P	**P**	**19 29 09.2**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=29,slow=0.6,SNR=6.5						
	comp=Z,0.7nm,0.7s						

KRSC 01 19:19:21.3±2.0, 49°.62N×156°.91E, h40km±26km, MI3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.18**	**335**	*e*P	Pn	19 19 41.1	-0.1
SKR				*e*S	Sn	19 19 56.0	0.0
PAU	**Pauzhetka**	**1.85**	**358**	*e*P	Pn	19 19 52.5	+2.0
PAU				*e*S	Sn	19 20 16.1	+3.5
KDTR	**Khodutka, Kamc**	**2.31**	**18**	*e*P	Pn	19 19 59.4	+2.6
KDTR				*e*S	Sn	19 20 27.4	+3.4
ASAK	**Asacha**	**2.83**	**12**	*e*P	Pn	19 20 08.5	+4.4
MTVR	**Mutnovka**	**2.97**	**15**	*e*P	Pn	19 20 09.6	+3.6
MTVR				*e*S	Sn	19 20 45.3	+4.8
RUS	**Russkaya**	**2.99**	**19**	*e*S	Sn	19 20 44.4	+3.7
GRL	**Gorelyy**	**3.02**	**14**	*e*P	Pn	19 20 09.8	+3.1
KRMR	**Karymshinskiy**	**3.30**	**13**	*e*P	Pn	19 20 14.7	+4.3
KRMR				*e*S	Sn	19 20 54.4	+6.0
AVH	**Avacha**	**3.82**	**17**	*e*P	Pn	19 20 23.3	+5.7
KOK	**Koryaka**	**3.83**	**16**	*e*P	Pn	19 20 21.9	+4.1
SMAR	**Somma**	**3.83**	**17**	*e*P	Pn	19 20 23.1	+5.2
KRER	**Koryakskii**	**3.86**	**17**	*e*P	Pn	19 20 22.7	+4.4
SDLR	**Sedlovina**	**3.86**	**18**	*e*P	Pn	19 20 21.6	+3.4
KRX	**Arik**	**3.90**	**16**	*e*P	Pn	19 20 23.1	+4.4
KBTR	**Krutoberegovo**	**7.50**	**26**	*e*P	Pn	19 21 11.0	+3.1

*NEIC **01** 19:25:05.5±2.0, 35°.231N±0°.007×97°.74W±0°.01, h8km±2km, ML1.9/38, ML2.3/15, Error ellipse: s-maj=1.7km s-min=1.0km az=112.0*

NEIC 01 19:25:04.3±1.5, 35°.18N±0°.01×97°.70W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=2.3km az=324.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.25**	**73**	Pg	Pg	19 25 09.9	+0.7
BCOK	**Bluff Creek, N**	**0.48**	**8**		Pb	19 25 14.5	-0.7
BCOK					Sg	19 25 20.3	+0.6
X34A	**Smith Ranch, M**	**0.59**	**191**	Pg	Pb	19 25 17.9	+0.8
X34A				IAML		19 25 28.3	
	comp=N,52nm,0.5s						
W35A	**Tecumseh**	**0.67**	**92**	Pg	Pb	19 25 18.2	-0.3
W35A				Sg	Sg	19 25 26.0	+0.1
WMOK	**Wichita Mounta**	**1.00**	**244**	Pg	Pg	19 25 23.5	+0.1
WMOK				Sg	Sg	19

21nm,0.6s,0.1nm
SWI Sorong 5.54 21 P **Pn 19 30 33.0 -1.2**
40nm,0.5s,5μm
SOEI Soe 6.18 233 P **Pn 19 30 42.7 +0.5**
SOEI Soe 6.18 233 P **Pn 19 30 41.7 -0.5**
DRS Darwin Rock St 6.51 166 P **Pn 19 30 46.4 +0.2**
RKPI Ransiki, Papua 6.66 47 P **Pn 19 30 46.9 -1.2**
34nm,0.8s
BATI Baumata 6.92 233 P **Pn 19 30 51.5 0.0**
19nm,0.9s,0.2nm
MTN Manton Dam 6.96 165 P **Pn 19 30 51.8 -0.1**
KDU Kakadu 7.28 155 P **Pn 19 30 55.6 -0.3**
FITZ Fitzroy Crossi 12.47 196 P **Pn 19 32 01.1 0.0**
9.4nm,1.9s
COEN Coen 15.74 121 P **Pn 19 32 42.1 +1.2**
QIS Mount Isa 17.53 146 P **Pn 19 33 01.6 -0.3**
WRKA Warakurna 18.88 183 P **Pn 19 33 16.0 -1.7**

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*BJI **01** 19:30:17.3, 58.20S×25.40W, h30km, mB5.8/31, Ms5.9/48, Ms7 5.7/46*
*NEIC **01** 19:30:20.6, 58.06S×25.32W, h24km*
*NEIC **01** 19:30:20.9±2.0, 58.1S±0.1×25.2W±0.2, h29km±1km, mb6.1/223, Ms_20 5.7/623, Mwb5.7/36, Mww5.8/19, Error ellipse: s-maj=19.6km s-min=12.4km az=39.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr3.79; Mθθ-3.55; Mφφ-0.24; Mrθ2.31; Mθφ-1.48; Mφr-1.74; Fault plane solution: M0 4.90000×10^17 NP1:φs95.37000°, δ61.60000°, λ117.93000°. NP2:φs227.26000°, δ39.00000°, λ49.09000°. Principal axes: T 5.2563, Plg62.0000°, Azm51.0000°; N -0.8050, Plg24.0000°, Azm261.0000°; P -4.4514, Plg12.0000°, Azm166.0000°;*
*NEIC **01** 19:30:20.6, 58.26S×25.89W, h24km, Moment Tensor Solution. Duration: 3s5 Moment tensor: Scale 10^17Nm; Mrr3.73; Mθθ-4.69; Mφφ0.97; Mrθ4.22; Mθφ-1.34; Mφr-1.98; Fault plane solution: M0 6.47000×10^17 NP1: φs104.08000°, δ70.41000°, λ114.35000°. NP2: φs230.61000°, δ30.88000°, λ40.80000°. Principal axes: T 6.4716, Plg58.0000°, Azm47.0000°; N 0.0006, Plg23.0000°, Azm275.0000°; P -6.4723, Plg22.0000°, Azm176.0000°;*
*NEIC **01** 19:30:20.5, 58.06S×25.20W, h26km*
*IPGP **01** 19:30:20.0, 58.09S×25.23W, h33km, Mw5.8, Fault plane solution: NP1:φs111.00000°, δ66.00000°, λ111.00000°. NP2:φs247.00000°, δ31.00000°, λ51.00000°.*
*MOS **01** 19:30:21.9±0.9, 58.07S×25.28W, h46km, mb6.3/27, MS5.6/41, Error ellipse: s-maj=15.4km s-min=9.1km az=103.8*
*GCMT **01** 19:30:22.9±0.1, 58.29S±0.01×24.74W±0.01, h34km, MW5.8/164, Moment Tensor Solution. s162, c316; s164, c489; Duration: 2s0 Moment tensor: Scale 10^17 Nm; Mrr4.26±.05; Mθθ-4.98±.04; Mφφ0.71±.04; Mrθ4.71±.08; Mθφ-1.97±.03; Mφr-2.05±.07; Best double couple: M0 7.20800×10^17 NP1:φs100.00000°, δ70.00000°, λ115.00000°. NP2:φs226.00000°, δ32.00000°, λ41.00000°. Principal axes: T 7.3160, Plg58.0000°, Azm44.0000°; N -0.2200, Plg24.0000°, Azm271.0000°; P -7.1010, Plg21.0000°, Azm171.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*IDC **01** 19:30:24.7±1.2, 58.04S×25.06W, h57km±9km, mb5.7/16, mbtmp5.9/18, MS5.5/47 Error ellipse: s-maj=14.3km s-min=11.6km az=58.0*
ISC 01 19:30:21.7±0.3, 58.24S±0.04×25.39W±0.04, h37km±2km, n1525, σ1993/1254, mb6.0/194, MS5.7/406, 134C-32D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.34 298**		Pn	**Pn**	**19 32 09.7**	**+3.5**
HOPE	**Hope Point**	**7.34 298**		P	**Pn**	**19 32 09.7**	**+3.5**
ORCD	**Orcadas**	**10.14 248**			Pn	19 32 37.6	-6.9
VNA1	**Neumayer--Stat**	**14.39 157**		⇓P	**Pn**	**19 33 43.5**	**+1.1**
	comp=Z,3μm,0.8s						
VNA1				⇑S	**Sn**	**19 36 14.2**	**-6.1**
	comp=Z,88nm,0.9s						
VNA1				⇑PcP	**PcP**	**19 38 56.4**	**+0.3**
	comp=Z,35nm,1.0s						
VNA1				⇑ScP	**ScP**	**19 42 26.7**	**+0.1**
	comp=Z,23nm,1.0s						
I27DE	**GEORG VON NEUM**	**14.42 157**		P	**Pn**	**19 33 44.5**	**+1.7**
	baz=324,slow=11,SNR=4.1						
VNA3	**Neumayer Olymp**	**14.59 160**		⇓P	**Pn**	**19 33 45.5**	**+0.4**
	comp=Z,213nm,0.3s						
VNA3				⇑S	Sn	19 36 14.9	-10
	comp=Z,24nm,0.4s						
VNA3				⇑x	x	19 36 44.9	
	comp=Z,2.6nm,0.2s						
VNA3				⇑PcP	**PcP**	**19 38 56.4**	**-0.1**
	comp=Z,32nm,1.0s						
VNA3				⇑ScP	**ScP**	**19 42 25.6**	**-1.4**
	comp=Z,19nm,0.8s						
VNA2	**Neumayer--Watz**	**14.79 157**		⇓P	**Pn**	**19 33 47.9**	**+0.2**
	comp=Z,45nm,0.2s,baz=325,slow=17						
VNA2				⇑S	Sn	19 36 20.3	-10
	comp=Z,2.2nm,0.2s,baz=339,slow=19						
VNA2				⇓x	x	19 36 48.9	
	comp=Z,4.0nm,0.3s,baz=331,slow=13						
VNA2				⇑PcP	**PcP**	**19 38 56.7**	**0.0**
	comp=Z,33nm,0.7s,baz=294,slow=3.6						
VNA2				⇑ScP	**ScP**	**19 42 26.5**	**-0.8**
	comp=Z,9.6nm,0.8s,baz=319,slow=7.3						
SNAA	**Sanae**	**16.34 154**			**Pn**	**19 34 08.1**	**+0.2**
SNAA				IAmb	IAmb	19 34 13.9	
	comp=Z,3μm,1.5s						
SNAA	**Sanae**	**16.34 154**		⇓*i*P	**P**	**19 34 09.6**	**-0.9**
SNAA				IAmb	IAmb	19 34 11.0	
	comp=Z,385μm,2.0s						
SNAA	**Sanae**	**16.34 154**		⇓P	**P**	**19 34 09.4**	**-1.0**
	comp=Z,10μm,0.4s						
SNAA				⇑S	Sn	19 36 56.6	-11
SNAA				⇓x	x	19 37 20.3	
	comp=Z,445nm,0.4s						
SNAA				⇑PcP	**PcP**	**19 38 59.3**	**+0.3**
	comp=Z,534nm,0.9s						
SNAA				⇑ScP	**ScP**	**19 42 29.2**	**-1.1**
	comp=Z,282nm,1.0s						
SNAA	**Sanae**	**16.34 154**		⇑ScS	ScS	19 46 08.0	-0.9
SNAA	**Sanae**	**16.34 154**		P	**P**	**19 34 09.5**	**-0.9**
	comp=Z,406nm,0.4s,baz=328,slow=14,SNR=2042						
SNAA				S	**Sn**	**19 36 58.4**	**-9.3**
	comp=Z,40nm,0.5s,baz=336,slow=19,SNR=1.7						
SNAA				PcP	**PcP**	**19 38 59.5**	**+0.4**
	comp=Z,23nm,0.8s,baz=296,slow=6.0,SNR=3.2						
SNAA				LR	LR	19 39 11.9	
	comp=Z,26μm,20.7s,baz=321,slow=32						
SNAA				ScP	**ScP**	**19 42 29.2**	**-1.1**
	comp=Z,13nm,0.9s,baz=335,slow=2.0,SNR=5.1						
SNAA				P3KPbc		20 09 21.3	
	comp=Z,6.4nm,1.3s,baz=127,slow=2.2,SNR=9.2						
SNAA	**Sanae**	**16.34 154**	*d*	*i*P	**Pn**	**19 34 09.0**	**+1.1**
SNAA				pmax	pmax		
	comp=Z,4μm,2.5s						
SNAA				MLR	MLR		
	comp=Z,26μm,20.0s						
TROLL	**Troll, Antarti**	**17.84 152**		⇓P	**P**	**19 34 28.8**	**+1.7**
	comp=Z,6μm,0.8s						
TROLL				⇑S	**Sn**	**19 37 35.3**	**-9.0**
	comp=Z,3μm,0.9s						
TROLL				⇑x	x	19 37 52.0	
	comp=Z,562nm,0.7s						
TROLL				⇑ScP	**ScP**	**19 42 32.1**	**-1.3**
	comp=Z,545nm,1.1s						
TROLL	**Troll, Antarti**	**17.84 152**		⇑ScS	ScS	19 46 14.2	+0.7
	comp=Z,143nm,1.2s						
PMSA	**Palmer Station**	**19.30 234**			**Pn**	**19 34 44.1**	**-0.1**
PMSA	**Palmer Station**	**19.30 234**		P	**Pn**	**19 34 46.2**	**+1.9**
	comp=Z,66nm,0.8s,baz=76,slow=6.4,SNR=14						
PMSA				PcP	**PcP**	**19 39 04.4**	**+0.5**
	comp=Z,24nm,0.8s,baz=129,slow=13,SNR=2.5						
PMSA				LR	LR	19 41 03.0	
	comp=Z,35μm,21.4s,baz=84,slow=33						
PMSA				ScP	**ScP**	**19 42 33.2**	**-3.3**
	comp=Z,47nm,1.1s,baz=98,slow=7.1,SNR=3.9						
PMSA	**Palmer Station**	**19.30 234**	*e*	P	**Pn**	**19 34 48.4**	**+4.1**
EFI	**East Falkland**	**19.73 275**		P	**Pn**	**19 34 49.1**	**-0.4**
EFI				IAmb	IAmb	19 34 55.8	
	comp=Z,590nm,0.9s						
EFI	**East Falkland**	**19.73 275**	*c*	*i*P	**Pn**	**19 34 50.9**	**+1.4**
EFI				pmax	pmax		
	comp=Z,337nm,1.0s						
EFI				MLR	MLR		
	comp=Z,5μm,21.0s						
NVL	**N'lazarevskaya**	**19.90 144**	*e*	P	**P**	**19 34 48.3**	**-1.2**
NVL			*e*	S	**S**	**19 38 22.5**	**-8.5**
NVL				pmax	pmax		
	comp=Z,603nm,1.4s						
NVL				MLR	MLR		
	comp=Z,10μm,16.0s						
SMAI	**San Martin Ant**	**20.81 225**		P	Pn	19 35 02.9	+0.9
TRIS	**Tristan da Cun**	**22.86 28**		P	**P**	**19 35 18.2**	**-3.3**
TRIS				IAMs_20	IAMs_20	19 41 23.0	
	comp=Z,27μm,22.0s						
MG01	**Puerto William**	**23.21 260**		P	**P**	**19 35 25.4**	**+0.5**
MG01				IAmb	IAmb	19 35 34.7	
	comp=Z,336nm,0.9s						
USHA	**Ushuaia**	**23.67 260**		LR	LR	19 42 42.6	
	comp=Z,25μm,21.0s,baz=106,slow=31						
ELIB	**Princess Elisa**	**23.77 144**	*d*	P	**P**	**19 35 31.2**	**+0.8**
	comp=Z,102nm,1.0s						
ELIB			*d*	S	**S**	**19 39 44.6**	**+1.5**
ELIB			*d*	ScP	**ScP**	**19 42 44.8**	**-3.0**
ELIB			*d*	ScS	**ScS**	**19 46 33.2**	**-1.1**
ELIB			*d*	PKiKP	**PKiKP**	**19 46 52.8**	**-2.5**
MG02	**Cerro Sombrero**	**25.05 263**		P	**P**	**19 35 43.4**	**+1.4**
MG02				IAmb	IAmb	19 36 06.2	
	comp=Z,593nm,0.8s						
MG03	**Isla Dawson**	**25.18 260**		P	**P**	**19 35 44.3**	**+1.1**
GO10	**Punta Arenas**	**25.82 261**		P	**P**	**19 35 48.6**	**-0.5**
GO10				IAmb	IAmb	19 36 15.4	
	comp=Z,286nm,1.0s						
MG04	**Isla Riesco**	**26.25 262**		P	**P**	**19 35 53.6**	**+0.7**
MG04				IAmb	IAmb	19 36 22.0	
	comp=Z,353nm,1.1s						
GO09	**Cerro Castillo**	**27.48 264**		P	**P**	**19 36 03.1**	**-0.9**
GO08	**Villa O'Higgin**	**29.22 269**		P	**P**	**19 36 21.2**	**+1.6**
AY03	**Cochrane**	**29.99 271**		P	**P**	**19 36 26.8**	**+0.4**
AY02	**Valle Explorad**	**30.80 271**		P	**P**	**19 36 33.9**	**+0.4**
AY02				IAmb	IAmb	19 37 34.8	
	comp=Z,414nm,0.9s						
COYC	**Coyhaique**	**30.81 274**		P	**P**	**19 36 34.1**	**+0.5**
COYC				IAmb	IAmb	19 36 53.3	
	comp=Z,260nm,1.1s						
COYC	**Coyhaique**	**30.81 274**		P	**P**	**19 36 35.5**	**+2.0**
COYC				PcP	**PcP**	**19 39 31.1**	**+1.2**
COYC				ScP	**ScP**	**19 43 08.4**	**-0.8**
TRQA	**Tornquist**	**31.11 294**		P	**P**	**19 36 35.8**	**-0.5**
TRQA				PcP	**PcP**	**19 39 31.5**	**+0.6**
QSPA	**South Pole Qui**	**32.00 180**		P	**P**	**19 36 46.6**	**+2.5**
QSPA				IAmb	IAmb	19 37 46.6	
	comp=Z,276nm,1.0s						
QSPA	**South Pole Qui**	**32.00 180**		IAMs_20	IAMs_20	19 49 08.3	
	comp=Z,21μm,20.0s						
QSPA	**South Pole Qui**	**32.00 180**		P	**P**	**19 36 47.3**	**+3.2**
	comp=Z,157nm,1.0s,baz=204,slow=4.2,SNR=287						
QSPA				PcP	**PcP**	**19 39 34.1**	**+1.2**
	comp=Z,40nm,0.9s,baz=210,slow=8.1,SNR=1.3						
QSPA				LR	LR	19 49 29.3	
	comp=Z,21μm,20.0s,baz=194,slow=36						
QSPA				P3KPbc		20 08 15.2	
	comp=Z,7.0nm,1.0s,baz=356,slow=2.4,SNR=14						
	comp=Z,157nm,1.0s						
QSPA	**South Pole Qui**	**32.00 180**		P	**P**	**19 36 47.3**	**+3.2**
QSPA				ScP	**ScP**	**19 43 12.5**	**-0.6**
LL02	**Futaleuf**	**32.30 277**		P	**P**	**19 36 46.9**	**+0.2**
LL02				IAmb	IAmb	19 36 51.2	
	comp=Z,265nm,1.0s						
PLTB	**Pedras Altas**	**32.69 312**		P	**P**	**19 36 49.9**	**-0.4**
PLTB				IAmb	IAmb	19 36 52.3	
	comp=Z,170nm,0.7s						
PLTB	**Pedras Altas**	**32.69 312**	*e*	P	**P**	**19 36 49.9**	**-0.4**
LL01	**San Ignacio de**	**33.17 278**		P	**P**	**19 36 51.0**	**-3.3**
GO07	**Milladeo Hill,**	**33.31 276**		P	**P**	**19 36 55.1**	**-0.4**
GO07				IAmb	IAmb	19 37 05.7	
	comp=Z,150nm,0.6s						
PLCA	**Paso Flores**	**33.38 282**		P	**P**	**19 36 56.6**	**+0.3**
PLCA	**Paso Flores**	**33.38 282**		P	**P**	**19 36 56.9**	**+0.6**
	comp=Z,306nm,0.9s,baz=141,slow=7.9,SNR=450						
PLCA				PcP	**PcP**	**19 39 38.1**	**+1.0**
	comp=Z,40nm,0.9s,baz=123,slow=4.1,SNR=3.8						
PLCA				ScP	**ScP**	**19 43 15.8**	**-2.4**
	comp=Z,31nm,1.0s,baz=140,slow=3.8,SNR=11						
PLCA				LR	LR	19 50 21.5	
	comp=Z,6μm,19.2s,baz=135,slow=36						
	comp=Z,306nm,0.9s						
PLCA	**Paso Flores**	**33.38 282**	*e*	P	**P**	**19 36 56.7**	**+0.4**
PLCA	**Paso Flores**	**33.38 282**		P	**P**	**19 36 56.9**	**+0.6**
PLCA				PcP	**PcP**	**19 39 38.1**	**+1.0**
PLCA				ScP	**ScP**	**19 43 17.0**	**-1.3**
LL07	**Hotel Espejo d**	**33.41 276**		P	**P**	**19 36 55.4**	**-0.9**
CPSB	**Cacapava Do Su**	**33.83 313**	*e*	P	**P**	**19 37 00.1**	**-0.1**
CNLB	**Canela**	**33.86 318**	*e*	P	**P**	**19 37 00.8**	**+0.3**
LL06	**Loncomilla**	**33.92 277**		P	**P**	**19 36 59.3**	**-1.6**
LL06				IAmb	IAmb	19 37 03.0	
	comp=Z,178nm,0.9s						
TER01	**Tubaro-SC**	**33.98 321**	*e*	P	**P**	**19 37 02.1**	**+0.6**
LL04	**Puerto Octay**	**34.22 280**		P	**P**	**19 37 03.5**	**+0.1**
LL04				IAmb	IAmb	19 37 05.2	
	comp=Z,264nm,0.8s						
LL05	**Los Muermos**	**34.42 278**		P	**P**	**19 37 04.5**	**-0.6**
LL05				IAmb	IAmb	19 37 08.8	
	comp=Z,280nm,0.9s						
GO06	**Curarrehue**	**34.70 282**		P	**P**	**19 37 06.5**	**-1.3**
PSAL	**Palomas, Salto**	**34.93 307**	*e*	P	**P**	**19 37 08.4**	**-1.2**
MAJ01	**Sao Joao Batis**	**34.98 322**	*e*	P	**P**	**19 37 11.4**	**+1.2**
LR03	**Panguipulli**	**35.12 281**		P	**P**	**19 37 10.9**	**-0.3**
LR03				IAmb	IAmb	19 37 12.6	
	comp=Z,218nm,1.0s						
ITQB	**Itaqui**	**35.75 309**		P	**P**	**19 37 15.2**	**-1.5**
ITQB				IAmb	IAmb	19 37 17.1	
	comp=Z,281nm,0.8s						
ITQB	**Itaqui**	**35.75 309**	*e*	P	**P**	**19 37 15.8**	**-0.9**
ITAB	**Concordia**	**36.21 317**		P	**P**	**19 37 20.6**	**0.0**
ITAB				IAmb	IAmb	19 37 23.2	
	comp=Z,440nm,1.1s						
ITAB	**Concordia**	**36.21 317**	*e*	P	**P**	**19 37 21.2**	**+0.6**
BI02	**San Fabin de**	**36.81 286**		P	**P**	**19 37 24.5**	**-1.3**
ML02	**Panimavida**	**37.59 286**		P	**P**	**19 37 31.8**	**-0.5**
SLP01	**Ubatuba-SP**	**37.66 329**	*e*	P	**P**	**19 37 33.8**	**+0.7**
BI05	**Punta Hualpn**	**37.73 283**		P	**P**	**19 37 34.1**	**+0.6**
PARB	**Paraibuna**	**37.77 329**	*e*	P	**P**	**19 37 35.0**	**+0.9**
MAN01	**Angra dos Reis**	**37.78 331**	*e*	P	**P**	**19 37 35.5**	**+1.4**
MAW	**Mawson**	**37.81 141**		P	**P**	**19 37 34.9**	**+1.1**
	comp=Z,29nm,1.2s						
MAW	**Mawson**	**37.81 141**		P	**P**	**19 37 34.9**	**+1.1**
	comp=Z,28nm,0.4s,baz=229,slow=7.8,SNR=198						
MAW				PcP	**PcP**	**19 39 50.5**	**+0.9**
	comp=Z,32nm,1.0s,baz=207,slow=2.3,SNR=2.8						
MAW				ScP	**ScP**	**19 43 31.7**	**-2.0**
	comp=Z,17nm,1.0s,baz=274,slow=4.5,SNR=5.9						
MAW				LR	LR	19 51 15.0	
	comp=Z,8μm,20.3s,baz=256,slow=33						
	comp=Z,28nm,0.4s						
SPB	**Sao Paulo**	**38.05 326**		P	**P**	**19 37 37.2**	**+0.9**
SPB	**Sao Paulo**	**38.05 326**	*e*	P	**P**	**19 37 37.7**	**+1.4**
SPB	**Sao Paulo**	**38.05 326**	⇑	P	**P**	**19 37 37.5**	**+1.2**
ELIM	**Elim**	**38.05 72**	⇑	*i*P	**P**	**19 37 35.9**	**-0.3**
ELIM				IAmb	IAmb	19 37 36.9	
	comp=Z,600nm,0.9s						
DUB01	**Friburgo-RJ**	**38.15 334**	*e*	P	**P**	**19 37 38.6**	**+1.4**
VAS01	**Vassouras-RJ**	**38.22 332**	*e*	P	**P**	**19 37 39.1**	**+1.3**
CAM01	**Campos-RJ**	**38.24 335**	*e*	P	**P**	**19 37 39.1**	**+1.2**
AAGR	**Agrelo**	**38.42 292**	*i*	P	**P**	**19 37 40.8**	**+1.3**
VAO	**Valinhos**	**38.47 327**		P	**P**	**19 37 40.8**	**+0.8**
VAO	**Valinhos**	**38.47 327**	*e*	P	**P**	**19 37 41.2**	**+1.3**
PTGB	**Pitanga**	**38.49 319**	*e*	P	**P**	**19 37 40.1**	**-0.1**
BO01	**Tunca**	**38.49 288**		P	**P**	**19 37 39.0**	**-0.9**
CER	**Ceres**	**38.81 70**	⇑	*i*P	**P**	**19 37 42.4**	**-0.2**
CER				IAmb	IAmb	19 37 43.2	
	comp=Z,242nm,0.8s						
ASAL	**Salagasta**	**38.82 292**	*i*	P	**P**	**19 37 41.7**	**-1.2**
FRTB	**Fartura**	**38.93 323**	*e*	P	**P**	**19 37 44.9**	**+1.1**
PRTV	**Porterville,We**	**38.95 69**	⇑	*i*P	**P**	**19 37 43.7**	**-0.1**
PRTV				IAmb	IAmb	19 37 44.8	
	comp=Z,385nm,1.0s						
MT16	**CCHEN**	**38.98 290**		IAmb	IAmb	19 38 03.4	
	comp=Z,480nm,1.6s						
MT16					**ScP**	**19 43 37.7**	**-1.2**
CPUP	**Villa Florida**	**39.00 311**		IAmb	IAmb	19 37 46.4	
	comp=Z,203nm,1.1s						
CPUP	**Villa Florida**	**39.00 311**		P	**P**	**19 37 43.4**	**-0.9**
	comp=Z,130nm,0.9s,baz=154,slow=8.2,SNR=92						
CPUP				PcP	**PcP**	**19 39 54.4**	**+0.5**
	comp=Z,60nm,0.9s,baz=148,slow=2.5,SNR=4.2						
CPUP				ScP	**ScP**	**19 43 36.2**	**-2.7**
	comp=Z,15nm,0.8s,baz=158,slow=4.5,SNR=7.2						
CPUP				LR	LR	19 52 49.2	
	comp=Z,6μm,20.7s,baz=154,slow=34						
	comp=Z,130nm,0.9s						
CPUP	**Villa Florida**	**39.00 311**	*e*	P	**P**	**19 37 43.3**	**-0.9**
CPUP	**Villa Florida**	**39.00 311**		P	**P**	**19 37 43.3**	**-0.9**
CPUP				PcP	**PcP**	**19 39 54.4**	**+0.5**
CPUP				ScP	**ScP**	**19 43 37.6**	**-1.4**
MT05	**Renca**	**39.12 289**		IAmb	IAmb	19 38 14.1	
	comp=Z,233nm,1.2s						
RCLB	**Rio Claro- Sao**	**39.18 326**	*e*	P	**P**	**19 37 47.2**	**+1.3**
ALF01	**Guarapari-ES**	**39.21 337**	*e*	P	**P**	**19 37 47.2**	**+1.2**
PEL	**Peldehue**	**39.29 290**		IAmb	IAmb	19 38 05.8	
	comp=Z,296nm,1.2s						
PEL	**Peldehue**	**39.29 290**	*i*	P	**P**	**19 37 46.2**	**-0.5**
PEL	**Peldehue**	**39.29 290**		P	**P**	**19 37 47.2**	**+0.5**
PEL				pmax	pmax		
	comp=Z,115nm,0.9s						
VA05	**Santo Domingo**	**39.34 288**		IAmb	IAmb	19 38 23.9	
	comp=Z,540nm,1.4s						
AUSP	**Uspallata**	**39.39 292**	*i*	P	**P**	**19 37 47.0**	**-0.9**
MT02	**Curacav**	**39.42 289**		IAmb	IAmb	19 38 06.3	
	comp=Z,298nm,1.2s						
VA03	**San Esteban**	**39.53 290**		IAmb	IAmb	19 38 10.4	
	comp=Z,701nm,1.9s						
VA03	**San Esteban**	**39.53 290**	*i*	P	**P**	**19 37 48.3**	**-0.5**
MATJ	**Matjiesfontein**	**39.53 71**	⇑	*i*P	**P**	**19 37 48.4**	**-0.3**
MATJ				IAmb	IAmb	19 37 49.6	
	comp=Z,1μm,1.4s						
ROC1	**El Roble**	**39.59 289**	*i*	P	**P**	**19 37 46.5**	**-3.0**
ZON	**Zonda**	**39.60 293**	*i*	P	**P**	**19 37 46.4**	**-3.0**
RTLS	**Leoncito**	**39.69 292**	*i*	P	**P**	**19 37 49.0**	**-1.4**
SJPY	**San Joaquin**	**39.71 313**	*e*	P	**P**	**19 37 48.9**	**-1.4**
BSCB	**Bom Sucesso**	**39.78 331**	*e*	P	**P**	**19 37 51.7**	**+0.8**
SUR	**Sutherland**	**40.35 71**		P	**P**	**19 37 55.9**	**+0.2**
SUR				IAmb	IAmb	19 37 57.2	
	comp=Z,322nm,1.1s						
SUR	**Sutherland**	**40.35 71**		IAMs_20	IAMs_20	19 49 55.4	
	comp=Z,13μm,22.0s						
SUR	**Sutherland**	**40.35 71**	⇑	*i*P	**P**	**19 37 56.0**	**+0.3**
SUR				IAmb	IAmb	19 37 56.3	
	comp=Z,356nm,1.1s						
SUR	**Sutherland**	**40.35 71**		LR	LR	19 50 26.6	
	comp=Z,12μm,21.8s,baz=222,slow=30						
SUR	**Sutherland**	**40.35 71**		P	**P**	**19 37 55.9**	**+0.2**
SUR				P	**P**	**19 37 55.9**	**+0.2**
SUR	**Sutherland**	**40.35 71**		P	**P**	**19 37 55.8**	**+0.2**
SUR				PcP	**PcP**	**19 39 59.7**	**+1.2**
RIB01	**Linhares ES**	**40.40 338**	*e*	P	**P**	**19 37 56.8**	**+0.8**
MERW	**Merweville**	**40.47 72**	⇑	*i*P	**P**	**19 37 56.3**	**-0.3**
MERW				IAmb	IAmb	19 37 57.2	
	comp=Z,393nm,1.0s						
ACLC	**CERRO LA CRUZ**	**40.53 297**	*i*	P	**P**	**19 37 55.6**	**-1.6**
CVNA	**Calvinia**	**40.56 69**	⇑	*i*P	**P**	**19 37 57.7**	**+0.4**
CVNA				IAmb	IAmb	19 37 58.7	
	comp=Z,355nm,0.8s						
CYA	**Choya**	**40.82 299**	*i*	P	**P**	**19 37 56.6**	**-2.8**
KOMG	**Komaggas**	**40.84 65**	⇑	*i*P	**P**	**19 37 59.5**	**-0.1**
KOMG				IAmb	IAmb	19 38 00.6	
	comp=Z,899nm,1.6s						
BUFB	**Buffelsbos**	**40.94 76**	*e*	P	**P**	**19 37 59.9**	**-0.3**
BUFB				IAmb	IAmb	19 38 01.1	
	comp=Z,303nm,1.0s						
ACDV	**Cuesta del Vie**	**40.94 294**	*i*	P	P	19 37 47.3	-13
FRAZ	**Fraserburg**	**41.01 71**	⇑	*i*P	**P**	**19 38 01.2**	**+0.1**
FRAZ				IAmb	IAmb	19 38 02.3	
	comp=Z,589nm,1.1s						
GRAN	**Grantham**	**41.10 72**	⇑	*i*P	**P**	**19 38 01.4**	**-0.3**
GRAN				IAmb	IAmb	19 38 02.3	
	comp=Z,364nm,0.9s						
SJMB	**Sao Joao De Ma**	**41.16 337**	*e*	P	**P**	**19 38 02.5**	**+0.3**
AMBA	**Amambai (Brazi**	**41.17 316**	*e*	P	**P**	**19 38 01.6**	**-0.7**
PAPY	**Pozo Azul**	**41.36 311**	*e*	P	**P**	**19 38 03.9**	**0.0**
ABR01	**Abrolhos, BA**	**41.40 341**	*e*	P	**P**	**19 38 04.7**	**+0.5**
NMMU	**Nelson Mandela**	**41.53 77**	*e*	P	**P**	**19 38 04.8**	**-0.3**
ROOI	**Rooidraai Farm**	**41.64 74**	⇑	*i*P	**P**	**19 38 05.6**	**-0.5**
ROOI				IAmb	IAmb	19 38 06.7	
	comp=Z,1μm,2.1s						
VCA	**Vinchina**	**41.70 296**	*i*	P	**P**	**19 38 06.3**	**-0.5**
NAN01	**Guarapari, ES**	**41.78 339**	*e*	P	**P**	**19 38 07.3**	**0.0**
BRAK	**Brakfontein**	**41.88 72**	*e*	P	**P**	**19 38 07.6**	**-0.6**
BRAK				IAmb	IAmb	19 38 08.1	
	comp=Z,238nm,1.0s						
AHML	**Horco Molle**	**42.02 301**	*i*	P	**P**	**19 38 06.6**	**-2.7**
AHML			*i*	P	**P**	**19 38 06.8**	**-2.5**
DIAM	**Diamantina, MG**	**42.10 334**	*e*	P	**P**	**19 38 10.7**	**+0.5**
BFON	**Badsfontein, M**	**42.27 73**	⇑	*i*P	**P**	**19 38 10.9**	**-0.4**
BFON				IAmb	IAmb	19 38 11.2	
	comp=Z,232nm,1.0s						
GRAF	**Camdeboo Natio**	**42.29 74**	⇑	*i*P	**P**	**19 38 11.4**	**0.0**
GRAF				IAmb	IAmb	19 38 11.8	
	comp=Z,454nm,1.0s						
GRHM	**Grahamstown, E**	**42.47 77**		P	**P**	**19 38 11.7**	**-1.2**
GRHM				IAMs_20	IAMs_20	19 50 51.8	
	comp=Z,11μm,22.0s						
GRHM	**Grahamstown, E**	**42.47 77**	⇑	*i*P

SHEL Horse Pasture 44.68 27 P **P 19 38 30.9 +0.2**
CCD Concordia, Ant 45.34 169 P **P 19 38 37.9 +2.0**
JANB Januaria 45.38 334 *eP* **P 19 38 36.7 +0.3**
BOSA Boshof 45.64 72 P **P 19 38 37.3 -1.1**
BOSA Boshof 45.64 72⇑*iP* **P 19 38 36.9 -1.5**
BOSA IAmb IAmb 19 38 37.7
comp=Z,356nm,1.0s
BOSA Boshof 45.64 72 P **P 19 38 37.3 -1.1**
comp=Z,221nm,0.9s,baz=211,slow=7.5,SNR=194
BOSA PcP **PcP 19 40 14.4 -1.8**
comp=Z,47nm,1.0s,baz=192,slow=8.0,SNR=3.4
BOSA LR LR 19 53 54.7
comp=Z,5μm,21.5s,baz=216,slow=31
comp=Z,221nm,0.9s
BOSA Boshof 45.64 72 P **P 19 38 37.3 -1.1**
BOSA pmax pmax
comp=Z,790nm,1.5s
BOSA Boshof 45.64 72⇑P **P 19 38 37.2 -1.1**
BOSA PcP **PcP 19 40 16.9 +0.7**
GDU01 Guandu, BA 45.71 341 *eP* **P 19 38 38.5 -0.4**
BDFB Brasilia 45.75 329 P **P 19 38 39.2 -0.2**
BDFB IAmb IAmb 19 38 41.6
comp=Z,417nm,1.0s
BDFB Brasilia 45.75 329 P **P 19 38 40.4 +1.0**
comp=Z,255nm,0.9s,baz=152,slow=6.8,SNR=270
BDFB LR LR 19 57 16.0
comp=Z,10μm,19.4s,baz=158,slow=35
comp=Z,255nm,0.9s
H04S2 CROZET ISLANDS 45.80 111 T T 20 28 15.6
baz=225,slow=75,SNR=172
H04S3 CROZET ISLANDS 45.81 111 T T 20 28 16.5
baz=225,slow=75,SNR=555
H04S1 CROZET ISLANDS 45.82 111 T T 20 28 13.8
baz=225,slow=75,SNR=334
H04N3 CROZET ISLANDS 46.22 110 T T 20 29 04.7
baz=227,slow=75,SNR=8.6
H04N1 CROZET ISLANDS 46.23 110 T T 20 28 54.4
baz=227,slow=75,SNR=6.7
H04N2 CROZET ISLANDS 46.23 110 T T 20 28 59.0
baz=227,slow=75,SNR=9.0
AF01 San Pedro de A 46.62 301 IAmb IAmb 19 38 47.8
comp=Z,244nm,0.8s
ARAG Araguaiana, MT 46.80 324 *eP* **P 19 38 48.1 +0.6**
WIN Windhoek 46.82 59 IAmb IAmb 19 38 49.0
comp=Z,486nm,1.6s
WIN IAMs_20 IAMs_20 19 53 41.8
comp=Z,9μm,21.0s
WIN Windhoek 46.82 59⇑*iP* **P 19 38 47.2 -0.6**
WIN IAmb IAmb 19 38 48.6
comp=Z,158nm,1.5s
WIN Windhoek 46.82 59 P **P 19 38 47.3 -0.6**
WIN pmax pmax
comp=Z,171nm,1.3s
SWZ Schweizer 46.85 71 *eP* **P 19 38 46.6 -1.4**
SWZ IAmb IAmb 19 38 47.3
comp=Z,336nm,0.9s
SNKL Senekal, Frees 47.19 74⇑*iP* **P 19 38 49.7 -0.9**
SNKL IAmb IAmb 19 38 50.4
comp=Z,370nm,1.0s
LVC Limon Verde 47.25 300 P **P 19 38 51.2 -0.2**
LVC IAmb IAmb 19 40 24.4
comp=Z,100nm,0.9s
LVC Limon Verde 47.25 300 LR LR 20 00 23.0
comp=Z,4μm,19.3s,baz=165,slow=38
LVC Limon Verde 47.25 300 P **P 19 38 51.2 -0.2**
LVC pmax pmax
comp=Z,100nm,1.0s
LVC MLR MLR
comp=Z,4μm,19.0s
LVC Limon Verde 47.25 300 *eP* **P 19 38 50.9 -0.5**
LKGWB Lokgwabe 47.41 64 *iP* **P 19 38 52.0 -0.3**
PB06 IPOC Station P 47.47 299 IAmb IAmb 19 40 24.6
comp=Z,112nm,0.9s
PMBG Pietermaritzbu 47.59 78⇑*iP* **P 19 38 53.3 -0.3**
PMBG IAmb IAmb 19 38 53.8
comp=Z,197nm,1.0s
MAKGR Makgori 47.72 69 *iP* **P 19 38 53.5 -1.2**
SALV Santo Antonio 47.90 319 *eP* **P 19 38 56.0 -0.1**
PB04 IPOC Station P 48.06 299 IAmb IAmb 19 38 57.8
comp=Z,305nm,1.5s
SDBA SAO DESIDERIO 48.07 334 *eP* **P 19 38 57.5 +0.1**
PRYS Parys 48.08 73⇑*iP* **P 19 38 56.4 -1.2**
PRYS IAmb IAmb 19 38 57.3
comp=Z,620nm,1.3s
NBLA Lagarto - SE 48.09 344 *eP* **P 19 38 57.1 -0.4**
PB09 IPOC Station P 48.10 300 IAmb IAmb 19 38 59.2
comp=Z,327nm,1.5s
SKOMA Sekoma 48.38 68 *iP* **P 19 38 58.8 -1.0**
WDLM Western Deep L 48.52 72⇑*iP* **P 19 38 59.8 -1.2**
WDLM IAmb IAmb 19 39 00.8
comp=Z,4μm,2.5s
BBSD Serra de San D 48.53 313 *eP* **P 19 38 60.0 -0.9**
LBTB Lobatse 48.78 70 P **P 19 39 01.9 -1.0**
LBTB Lobatse 48.78 70⇑*iP* **P 19 39 01.7 -1.1**
LBTB IAmb IAmb 19 39 02.8
comp=Z,2μm,1.9s
LBTB Lobatse 48.78 70 LR LR 19 55 33.3
comp=Z,10μm,20.3s,baz=214,slow=31
LBTB Lobatse 48.78 70 P **P 19 39 01.9 -1.0**
LBTB pmax pmax
comp=Z,380nm,1.0s
LBTB Lobatse 48.78 70 P **P 19 39 01.8 -1.1**
LBTB PcP **PcP 19 40 27.5 +0.2**
LBTB ScP **ScP 19 44 16.5 -2.4**
MRCO Marico , North 48.80 71⇑*iP* **P 19 39 02.1 -1.0**
MRCO IAmb IAmb 19 39 03.1
comp=Z,584nm,0.9s
PB01 IPOC Station P 48.87 300 IAmb IAmb 19 39 04.4
comp=Z,174nm,1.3s
KGCAE Kacgae 48.95 65 *iP* **P 19 39 03.1 -1.1**
HRAO HartRAO 49.10 72⇑*iP* **P 19 39 04.2 -1.2**
PATCX Punta Patache 49.37 300 IAmb IAmb 19 39 09.7
comp=Z,148nm,1.4s
NYAT Nyati, Northwe 49.47 72⇑*iP* **P 19 39 07.0 -1.1**
NYAT IAmb IAmb 19 39 08.2
comp=Z,536nm,1.4s
PTLB Pontes e Lacer 49.55 315 P **P 19 39 08.4 -0.3**
PTLB IAmb IAmb 19 39 09.7
comp=Z,314nm,1.0s
PTLB Pontes e Lacer 49.55 315 *eP* **P 19 39 08.3 -0.3**
TSWA Tswaing Meteor 49.68 72⇑*iP* **P 19 39 08.7 -1.1**
TSWA IAmb IAmb 19 39 09.7
comp=Z,534nm,1.1s
KDWAN Kaudwane 49.69 67 *iP* **P 19 39 08.0 -1.8**
NHAM Northam, North 49.72 71⇑*iP* **P 19 39 08.9 -1.1**
NHAM IAmb IAmb 19 39 10.1
comp=Z,1μm,1.8s
GRTLG Ghanzi 49.76 63 *iP* **P 19 39 09.3 -1.1**
SIV San Ignacio 49.79 313 LR LR 19 58 24.2
comp=Z,3μm,22.0s,baz=160,slow=34
H10S2 ASCENSION HYDR 49.86 14 T T 20 32 48.9
baz=187,slow=74,SNR=760
H10S3 ASCENSION HYDR 49.86 14 T T 20 32 52.3
baz=33,slow=74,SNR=675
GO01 Chusmiza 49.94 302 IAmb IAmb 19 39 31.5
comp=Z,76nm,0.8s
TSUM Tsumeb 49.97 57 P **P 19 39 11.4 -0.6**
TSUM IAmb IAmb 19 39 12.2
comp=Z,202nm,1.0s
TSUM Tsumeb 49.97 57 IAMs_20 IAMs_20 19 55 01.4
comp=Z,8μm,22.0s
TSUM Tsumeb 49.97 57⇑*iP* **P 19 39 11.5 -0.6**
TSUM IAmb IAmb 19 39 12.0
comp=Z,215nm,1.0s
TSUM Tsumeb 49.97 57 LR LR 19 55 25.0
comp=Z,7μm,21.8s,baz=198,slow=30
TSUM Tsumeb 49.97 57 P **P 19 39 11.2 -0.9**
TSUM PcP **PcP 19 40 31.8 +0.1**
RUST Rust De Winter 50.06 73⇑*iP* **P 19 39 11.7 -0.9**
RUST IAmb IAmb 19 39 12.1
comp=Z,227nm,0.9s
PB11 IPOC Station P 50.06 301 IAmb IAmb 19 40 34.2
comp=Z,91nm,0.8s
SNDB Serra Nova Dou 50.17 326 *eP* **P 19 39 14.2 +0.8**
CRLN Carolina, Mapu 50.20 75⇑*iP* **P 19 39 12.4 -1.4**
CRLN IAmb IAmb 19 39 13.4
comp=Z,95nm,0.7s
LPHEP Lephephe 50.29 69 *iP* **P 19 39 13.2 -1.2**
MTLB Matlabas, Limp 50.51 70⇑*iP* **P 19 39 15.0 -1.0**
MTLB IAmb IAmb 19 39 15.3
comp=Z,236nm,0.9s
NBCA Caruaru-PE 50.57 346 *eP* **P 19 39 16.3 -0.2**
TEMBE Tembe Elephant 50.58 78 *eP* **P 19 39 16.2 -0.2**
TEMBE IAmb IAmb 19 39 17.1
comp=Z,317nm,1.1s

LEPH Lephalale, Lim 50.84 71⇑*iP* **P 19 39 17.4 -1.2**
LEPH IAmb IAmb 19 39 18.4
comp=Z,1μm,1.8s
CKGRV CKGRV 50.93 65 *iP* **P 19 39 18.4 -0.9**
H10N1 ASCENSION HYDR 50.98 14 P **P 19 39 19.8 +0.7**
baz=191,slow=8.8,SNR=25
H10N3 ASCENSION HYDR 50.98 14 P **P 19 39 19.9 +0.7**
baz=191,slow=8.8,SNR=28
H10N2 ASCENSION HYDR 50.99 14 P **P 19 39 20.1 +0.8**
baz=191,slow=8.8,SNR=34
WTBG Waterberg Wild 51.09 72⇑*iP* **P 19 39 18.5 -2.0**
WTBG IAmb IAmb 19 39 19.1
comp=Z,85nm,0.9s
QNGWA Qangwa 51.32 61 *iP* **P 19 39 21.7 -0.5**
PILG Pilgrimsrest, 51.42 75⇑*iP* **P 19 39 22.1 -0.9**
PILG IAmb IAmb 19 39 22.4
comp=Z,183nm,0.9s
CASY Casey 51.51 159 P **P 19 39 25.3 +2.4**
CASY IAmb IAmb 19 39 43.9
comp=Z,139nm,1.1s
CASY Casey 51.51 159 P **P 19 39 25.0 +2.1**
MREMI Moremi 51.74 70 *iP* **P 19 39 24.3 -1.0**
PB18 Visviri 51.88 302 IAmb IAmb 19 40 42.3
comp=Z,155nm,1.0s
CRAIL Swartwater, Li 51.94 71⇑*iP* **P 19 39 25.6 -1.2**
HOED Hoedspruit, Li 51.96 74⇑*eP* **P 19 39 25.5 -1.3**
HOED IAmb IAmb 19 39 26.8
comp=Z,1μm,2.1s
SMTB Santa Maria do 52.13 332 *eP* **P 19 39 28.6 +0.5**
VILB Vilhena 52.24 315 *eP* **P 19 39 28.3 -0.6**
PDRB Porto dos Gac 52.24 320 *eP* **P 19 39 28.7 -0.3**
PHDHD Phuduhudu 52.33 65 *iP* **P 19 39 28.9 -0.8**
LPAZ La Paz 52.44 305 P **P 19 39 30.9 -0.2**
comp=Z,51nm,0.5s,baz=149,slow=6.1,SNR=166
LPAZ LR LR 20 00 20.0
comp=Z,1μm,20.7s,baz=137,slow=34
comp=Z,51nm,0.5s
LPAZ La Paz 52.44 305 P **P 19 39 31.0 -0.2**
LPAZ La Paz 52.44 305 *eP* **P 19 39 30.7 -0.5**
LPAZ La Paz 52.44 305 P **P 19 39 30.9 -0.2**
CLDB Colider 52.62 321 *eP* **P 19 39 31.4 -0.4**
MPHEP Siloam, Limpop 52.83 73⇑*iP* **P 19 39 32.1 -1.3**
MPHEP IAmb IAmb 19 39 33.3
comp=Z,1μm,1.9s
SOOWA Sowa 52.83 67 *iP* **P 19 39 32.8 -0.6**
RCBR Riachuelo 52.92 347 P **P 19 39 33.7 -0.3**
RCBR Riachuelo 52.92 347 LR LR 19 57 13.8
comp=Z,2μm,21.9s,baz=154,slow=30
RCBR Riachuelo 52.92 347 P **P 19 39 33.7 -0.3**
RCBR pmax pmax
comp=Z,31nm,1.1s
RCBR MLR MLR
comp=Z,5μm,22.0s
RCBR Riachuelo 52.92 347 *eP* **P 19 39 33.5 -0.5**
RCBR Riachuelo 52.92 347 P **P 19 39 33.7 -0.3**
RCBR PcP **PcP 19 40 44.0 +1.4**
RCBR ScP **ScP 19 44 38.4 +1.7**
BROLN Tlhalogang 52.92 69 *iP* **P 19 39 32.9 -1.2**
MOPA Mopani 52.94 74⇑*iP* **P 19 39 32.8 -1.3**
MOPA IAmb IAmb 19 39 33.6
comp=Z,605nm,1.1s
MUSN Musina, Limpop 53.18 72⇑*iP* **P 19 39 34.8 -1.1**
MUSN IAmb IAmb 19 39 36.0
comp=Z,1μm,1.7s
SLIND Selinda 53.19 63 *iP* **P 19 39 35.5 -0.5**
NBPB Pedra_Branca-C 53.71 342 *eP* **P 19 39 39.9 +0.1**
MATP Matopo 54.07 69 LR LR 19 59 05.6
comp=Z,5μm,19.5s,baz=222,slow=32
BLWY Bulawayo 54.37 69⇑*iP* **P 19 39 43.3 -1.4**
BLWY IAmb IAmb 19 39 44.3
comp=Z,4μm,1.9s
KSANE Kasane 54.69 64 *iP* **P 19 39 46.0 -1.0**
NBCL Cascavel-CE 54.81 344 *eP* **P 19 39 47.9 +0.1**
DRV Dumont d'Urvil 54.93 173 P **P 19 39 49.9 +1.9**
PRPB Paraua pebas 55.29 330 *eP* **P 19 39 52.2 +1.0**
SAML Samuel 57.04 314 P **P 19 40 03.3 -0.4**
SAML Samuel 57.04 314 P **P 19 40 03.3 -0.4**
SAML pmax pmax
comp=Z,445nm,0.9s
SAML MLR MLR
comp=Z,4μm,20.0s
SAML Samuel 57.04 314 *eP* **P 19 40 03.1 -0.6**
ETMB Extrema 57.44 310 P **P 19 40 06.0 -0.5**
ETMB IAmb IAmb 19 40 07.0
comp=Z,227nm,1.0s
ETMB Extrema 57.44 310 *eP* **P 19 40 05.7 -0.9**
KRI Karoi 57.67 68⇑*iP* **P 19 40 06.8 -1.6**
LSZ Lusaka 58.31 66 P **P 19 40 11.2 -1.6**
LSZ Lusaka 58.31 66⇑*iP* **P 19 40 12.0 -0.8**
LSZ IAmb IAmb 19 40 13.0
comp=Z,2μm,1.9s
LSZ Lusaka 58.31 66 P **P 19 40 12.0 -0.8**
LSZ P **P 19 40 12.0 -0.8**
LSZ Lusaka 58.31 66 P **P 19 40 11.2 -1.6**
LSZ pmax pmax
comp=Z,2μm,1.9s
LSZ MLR MLR
comp=Z,10μm,20.0s
LSZ Lusaka 58.31 66 P **P 19 40 11.8 -1.0**
TMAB Tom-Au,PA,Br 58.51 333 *eP* **P 19 40 14.8 +0.8**
ITTB Itaituba 58.71 324 *eP* **P 19 40 15.6 +0.1**
FOMA Nahampoana Res 59.88 89 P **P 19 40 22.3 -1.2**
FOMA IAmb IAmb 19 40 24.8
comp=Z,165nm,1.3s
FOMA IAMs_20 IAMs_20 19 59 56.8
comp=Z,5μm,21.0s
FOMA Nahampoana Res 59.88 89 P **P 19 40 23.5 0.0**
NNA Nana 60.16 298 P **P 19 40 24.9 -0.6**
NNA IAmb IAmb 19 40 26.4
comp=Z,148nm,1.1s
NNA Nana 60.16 298 LR LR 20 04 37.8
comp=Z,3μm,21.7s,baz=148,slow=34
NNA Nana 60.16 298 *deP* **P 19 40 25.4 -0.1**
NNA pmax pmax
comp=Z,182nm,1.1s
NNA Nana 60.16 298 P **P 19 40 25.2 -0.4**
MACA Manacapuru-AM 61.48 319 *eP* **P 19 40 33.2 -1.2**
CZSB Cruzeiro do Su 62.05 304 IAmb IAmb 19 40 38.2
comp=Z,234nm,1.0s
VOI Vohitsoka 62.28 87 P **P 19 40 39.7 -0.2**
VOI IAmb IAmb 19 40 41.2
comp=Z,82nm,1.0s
VOI Vohitsoka 62.28 87 P **P 19 40 40.6 +0.6**
SNR=11
TBTG Tabatinga, AM 64.05 309 IAmb IAmb 19 40 50.8
comp=Z,269nm,1.1s
TBTG Tabatinga, AM 64.05 309 *eP* **P 19 40 49.9 -1.6**
RPN Rapa Nui 64.24 260 P **P 19 40 53.3 +0.6**
RPN Rapa Nui 64.24 260 LR LR 20 04 28.8
comp=Z,2μm,18.2s,baz=137,slow=32
RPN Rapa Nui 64.24 260 P **P 19 40 53.3 +0.6**
RPN pmax pmax
comp=Z,860nm,1.7s
VA02 Isla de Pascua 64.26 260 P **P 19 40 54.2 +1.4**
VA02 IAmb IAmb 19 40 56.5
comp=Z,255nm,1.1s
ABPO Ambohimpanom 64.89 86 P **P 19 40 57.7 +0.5**
ABPO IAmb IAmb 19 40 59.6
comp=Z,86nm,1.1s
ABPO Ambohimpanom 64.89 86 IAMs_20 IAMs_20 20 05 27.2
comp=Z,4μm,18.0s
ABPO Ambohimpanom 64.89 86⇑*iP* **P 19 40 57.8 +0.5**
ABPO IAmb IAmb 19 40 58.7
comp=Z,98nm,1.1s
ABPO Ambohimpanom 64.89 86 P **P 19 40 57.7 +0.5**
ABPO pmax pmax
comp=Z,86nm,1.1s
ABPO MLR MLR
comp=Z,4μm,18.0s
AIS Amsterdam Isla 64.91 122 IAmb IAmb 19 40 59.6
comp=Z,290nm,1.0s
ATAH Atahualpa 65.13 299 LR LR 20 07 04.6
comp=Z,2μm,21.5s,baz=161,slow=34
OPO Ambohidratompo 65.24 85 LR LR 20 05 46.1
comp=Z,3μm,18.1s,baz=354,slow=33
BOAV Boa Vista 66.61 321 P **P 19 41 07.2 -0.9**
BOAV Boa Vista 66.61 321 *eP* **P 19 41 07.6 -0.5**
DBIC Dimbokro 66.79 22⇑*iP* **P 19 41 09.0 -0.2**
DBIC Dimbokro 66.79 22 P **P 19 41 08.8 -0.3**
comp=Z,487nm,0.7s,baz=178,slow=6.7,SNR=458
DBIC LR LR 20 04 57.5
comp=Z,3μm,19.1s,baz=172,slow=31
comp=Z,487nm,0.7s
DBIC Dimbokro 66.79 22⇑P **P 19 41 08.8 -0.3**
MDP Montagnes des 66.83 330 LR LR 20 09 55.9
comp=Z,4μm,18.9s,baz=151,slow=36
MPGF Montagnes des 66.84 330 P **P 19 41 09.4 -0.1**
RER Riviere de l'E 67.63 94 IAmb IAmb 19 41 16.9
comp=Z,239nm,1.1s
RER Riviere de l'E 67.63 94 P **P 19 41 15.9 +1.3**
SNR=6.9
RER Riviere de l'E 67.63 94 P **P 19 41 15.8 +1.1**
RER PcP **PcP 19 41 43.7 +2.2**
COHC Cochancay 69.64 301 IAmb IAmb 19 41 28.8
comp=Z,78nm,0.9s
SBV Sambava 70.93 85 P **P 19 41 36.5 +1.5**
SNR=9.0
OTAV Otavalo 71.68 303 P **P 19 41 40.2 +0.1**
OTAV pmax pmax
comp=Z,235nm,1.2s
OTAV Otavalo 71.68 303 *eP* **P 19 41 40.5 +0.4**
MBAR Mbarara 72.32 61 P **P 19 41 45.0 +1.4**
MBAR IAmb IAmb 19 41 47.2
comp=Z,444nm,1.5s
MBAR Mbarara 72.32 61 LR LR 20 11 12.1
comp=Z,6μm,18.0s,baz=209,slow=34
MBAR Mbarara 72.32 61 P **P 19 41 46.0 +2.4**
MBAR P **P 19 41 46.0 +2.4**
MBAR Mbarara 72.32 61*c iP* **P 19 41 45.0 +1.4**
MBAR pmax pmax
comp=Z,163nm,1.3s
ROCAM Rodrigues Isla 72.78 100 P **P 19 41 46.9 +0.8**
ROCAM IAmb IAmb 19 41 48.4
comp=Z,280nm,1.0s
SACV Santiago Islan 72.96 2 P **P 19 41 45.1 -1.9**
SACV IAmb IAmb 19 41 48.5
comp=Z,145nm,1.1s
SACV Santiago Islan 72.96 2 IAMs_20 IAMs_20 20 05 52.6
comp=Z,4μm,22.0s
BBTS Babate 73.00 9 P **P 19 41 47.2 0.0**
comp=Z,79nm,0.7s,baz=264,slow=2.0,SNR=21
BBTS LR LR 20 07 09.5
comp=Z,3μm,21.6s,baz=60,slow=30
comp=Z,79nm,0.7s
ROSC El Rosal 74.03 309 IAmb IAmb 19 41 55.1
comp=Z,149nm,0.8s
ROSC El Rosal 74.03 309 P **P 19 41 54.1 +0.2**
comp=Z,140nm,0.8s,baz=156,slow=2.8,SNR=41
ROSC LR LR 20 14 52.4
comp=Z,3μm,22.0s,baz=176,slow=36
comp=Z,140nm,0.8s
KIBK Kibwezi 74.29 68 P **P 19 41 57.6 +2.5**
KIBK IAmb IAmb 19 41 59.6
comp=Z,411nm,1.5s
KIBK Kibwezi 74.29 68 P **P 19 41 58.1 +3.0**
SNR=105
TORD Torodi Ar. Bea 74.52 27 P **P 19 41 56.1 -0.1**
comp=Z,467nm,0.7s,baz=197,slow=5.1,SNR=1750
TORD LR LR 20 07 47.3
comp=Z,5μm,21.8s,baz=188,slow=30
TORD PKPPKP **P'P'df 20 09 26.0 +5.3**
comp=Z,1.1nm,1.0s,baz=345,slow=6.6,SNR=4.2
comp=Z,467nm,0.7s
KMBO Kilima Mbogo 74.95 67 P **P 19 42 01.9 +2.7**
comp=Z,35nm,1.1s,baz=205,slow=5.9,SNR=84
KMBO PKPPKP **P'P'df 20 09 22.6 -0.9**
comp=Z,0.7nm,0.4s,baz=72,slow=5.2,SNR=4.7
KMBO LR LR 20 12 43.2
comp=Z,8μm,18.2s,baz=200,slow=34
KMBO Kilima Mbogo 74.95 67⇑*eP* **P 19 42 00.4 +1.3**
PCRV Puerto La Cruz 75.27 320 LR LR 20 15 24.4
comp=Z,3μm,20.0s,slow=36
BAUV El Baul 75.33 316 P **P 19 42 00.7 -0.2**
CTZ Chatham Island 75.61 201 P **P 19 42 02.6 +0.4**
CTZ IAmb IAmb 19 42 05.7
comp=Z,148nm,1.1s
WHZ Wether Hill Ro 75.64 190 IAmb IAmb 19 42 14.9
comp=Z,136nm,1.0s
GRGR Grenville 76.12 323 IAMs_20 IAMs_20 20 17 09.0
comp=Z,4μm,19.0s
DCZ Deep Cove 76.14 189 IAmb IAmb 19 42 22.5
comp=Z,133nm,1.0s
MLZ Mavora Lakes 76.15 190 IAmb IAmb 19 42 09.3
comp=Z,157nm,1.2s
MLZ IAMs_20 IAMs_20 20 10 02.1
comp=Z,4μm,22.0s
ODZ Otahua Downs 76.22 192 IAMs_20 IAMs_20 20 17 13.0
comp=Z,4μm,18.0s
SDV Santo Domingo 76.25 314 P **P 19 42 05.9 -0.5**
SDV IAmb IAmb 19 42 07.5
comp=Z,261nm,0.9s
SDV Santo Domingo 76.25 314 LR LR 20 15 15.3
comp=Z,6μm,21.6s,baz=156,slow=35
SDV Santo Domingo 76.25 314 *eP* **P 19 42 06.2 -0.2**
BBGH Gun Hill 76.44 326 IAMs_20 IAMs_20 20 21 54.7
comp=Z,5μm,20.0s
WKZ Wanaka 76.60 190 IAmb IAmb 19 42 25.9
comp=Z,173nm,1.1s
WKZ IAMs_20 IAMs_20 20 16 26.0
comp=Z,5μm,19.0s
LBZ Lake Benmore 76.92 191 IAmb IAmb 19 42 32.0
comp=Z,106nm,1.0s
LBZ IAMs_20 IAMs_20 20 13 07.5
comp=Z,3μm,21.0s
MQZ McQueen's Vall 77.31 193 IAmb IAmb 19 42 28.8
comp=Z,118nm,1.2s
MQZ IAMs_20 IAMs_20 20 12 52.9
comp=Z,4μm,20.0s
RPZ Rata Peaks 77.49 192 IAmb IAmb 19 42 32.5
comp=Z,126nm,1.0s
RPZ Rata Peaks 77.49 192 LR LR 20 13 39.5
comp=Z,2μm,19.8s,baz=164,slow=33
OXZ Oxford 77.76 193 IAmb IAmb 19 42 17.7
comp=Z,144nm,1.3s
OXZ IAMs_20 IAMs_20 20 13 49.7
comp=Z,4μm,20.0s
FOZ Fox Glacier 77.80 191 IAMs_20 IAMs_20 20 13 56.8
comp=Z,5μm,21.0s
GVZ Greta Valley S 77.99 194 IAmb IAmb 19 42 19.8
comp=Z,270nm,1.0s
GVZ IAMs_20 IAMs_20 20 13 05.9
comp=Z,4μm,20.0s
GVZ Greta Valley S 77.99 194 P **P 19 42 18.8 +3.1**
LODK Lodwar 78.02 63 P **P 19 42 17.5 +1.3**
LODK IAmb IAmb 19 42 20.8
comp=Z,347nm,1.8s
LODK Lodwar 78.02 63 P **P 19 42 18.9 +2.7**
SNR=54
LTZ Lake Taylor 78.27 193 P **P 19 42 19.8 +2.5**
LTZ IAmb IAmb 19 42 36.0
comp=Z,202nm,1.1s
LTZ IAMs_20 IAMs_20 20 13 46.5
comp=Z,4μm,20.0s
LTZ Lake Taylor 78.27 193 P **P 19 42 19.7 +2.5**
INZ Inchbonnie 78.42 193 IAmb IAmb 19 42 36.5
comp=Z,154nm,1.0s
INZ IAMs_20 IAMs_20 20 14 25.5
comp=Z,4μm,20.0s
KHZ Kahutara 78.47 194 IAmb IAmb 19 42 35.4
comp=Z,158nm,1.2s
KHZ IAMs_20 IAMs_20 20 13 25.8
comp=Z,4μm,21.0s
KHZ Kahutara 78.47 194 P **P 19 42 20.1 +1.8**
HATO Hato, Curacao 78.65 317 P **P 19 42 19.4 -0.1**
HATO IAMs_20 IAMs_20 20 16 06.5
comp=Z,5μm,21.0s
TAU Tasmania Unive 79.03 175 P P 19 42 14.9 -6.5
TAU IAmb IAmb 19 42 42.1
comp=Z,143nm,0.9s
TAU Tasmania Unive 79.03 175 P **P 19 42 22.7 +1.3**
CMWZ Cape Campbell 79.04 195 P **P 19 42 25.2 +3.7**
PLWZ Palliser 79.07 196 P **P 19 42 23.9 +2.2**
BSWZ Blackbirch Sta 79.12 195 P **P 19 42 24.9 +2.9**
TRWZ Traveller 79.17 196 P **P 19 42 25.3 +3.0**
THZ Tophouse 79.20 194 IAmb IAmb 19 42 47.4
comp=Z,207nm,1.1s
THZ IAMs_20 IAMs_20 20 13 42.0
comp=Z,4μm,20.0s
THZ Tophouse 79.20 194 P **P 19 42 24.5 +2.0**
AZU Azuero 79.21 304 *eP* **P 19 42 22.5 -0.1**
PAWZ Paruwai Farm 79.23 196 P **P 19 42 24.8 +2.2**
BHW Baring Head 79.28 195 P **P 19 42 25.2 +2.4**
TUWZ Tuamarina 79.39 195 P **P 19 42 27.0 +3.6**
SNZO South Karori 79.40 195 P **P 19 42 25.0 +1.5**
SNZO IAmb IAmb 19 42 26.9
comp=Z,169nm,0.7s
TMWZ Te Maipa 79.43 196 P **P 19 42 27.1 +3.5**
MTW Mount Morrison 79.44 196 P **P 19 42 26.5 +2.9**
MOO Moorlands 79.49 174 P **P 19 42 25.8 +1.8**
comp=Z,154nm,1.1s
CAW Cannon Point 79.55 196 P **P 19 42 27.0 +2.7**

TCW	Tory Channel	79.56	195	P	P	19 42 26.6	+2.2
MRNZ	Matariki Terra	79.57	194	P	P	19 42 26.2	+1.8
NNZ	Nelson	79.67	194	IAmb	IAmb	19 42 50.7	
	comp=Z,132nm,1.0s						
NNZ				IAMs_20	IAMs_20	20 13 13.9	
	comp=Z,4μm,22.0s						
NNZ	Nelson	79.67	194	P	P	19 42 26.9	+2.0
HOWZ	Holdsworth Sta	79.69	196	P	P	19 42 27.6	+2.5
BFZ	Birch Farm	79.79	197	IAmb	IAmb	19 42 29.1	
	comp=Z,161nm,1.0s						
BFZ				IAMs_20	IAMs_20	20 13 06.9	
	comp=Z,5μm,21.0s						
BFZ	Birch Farm	79.79	197	P	P	19 42 28.1	+2.5
TKNZ	Takaka Hill	79.91	194	P	P	19 42 27.3	+1.0
TKNZ	Takaka Hill	79.91	194	P	P	19 42 27.4	+1.2
MRZ	Mangatainoka R	79.91	196	IAmb	IAmb	19 42 47.5	
	comp=Z,172nm,1.3s						
MRZ				IAMs_20	IAMs_20	20 13 04.0	
	comp=Z,5μm,21.0s						
MRZ	Mangatainoka R	79.91	196	P	P	19 42 28.6	+2.3
DUWZ	D'Urville Isla	80.01	195	P	P	19 42 28.8	+2.0
PRHZ	Porangahau	80.14	197	P	P	19 42 29.8	+2.3
POWZ	Post Office Ro	80.15	196	P	P	19 42 30.3	+2.7
QRZ	Quartz Range	80.17	194	IAMs_20	IAMs_20	20 14 53.7	
	comp=Z,3μm,21.0s						
QRZ	Quartz Range	80.17	194	P	P	19 42 28.0	+0.3
DVHZ	Dannevirke	80.18	197	P	P	19 42 30.4	+2.6
BCIP	Isla Barro Col	80.25	305	*e*P	P	19 42 28.3	0.0
RKT	Rikitea	80.32	242	*e*P	P	19 42 27.6	-1.1
	comp=Z,2μm,36.2s						
RKT	Rikitea	80.32	242	*e*S	S	19 52 29.6	-1.9
	comp=Z,6μm,44.2s						
RKT	Rikitea	80.32	242	*e*LR	LR	20 07 38.1	
	comp=Z,41μm,28.5s						
KRHZ	Kereru	80.79	197	P	P	19 42 34.1	+3.1
KWHZ	Kaweka Forest	81.00	197	P	P	19 42 35.1	+2.9
PIRO	Carate, Puerto	81.11	302	*e*P	P	19 42 33.6	+0.7
MOVZ	Moawhango	81.12	196	P	P	19 42 35.6	+2.7
BRU2	Volcan	81.17	303	IAmb	IAmb	19 42 41.6	
	comp=Z,124nm,1.2s						
WNVZ	Wahianoa	81.22	196	P	P	19 42 35.9	+2.4
BKZ	Black Stump Fm	81.24	197	IAmb	IAmb	19 42 46.0	
	comp=Z,491nm,1.9s						
BKZ				IAMs_20	IAMs_20	20 13 17.1	
	comp=Z,5μm,22.0s						
BKZ	Black Stump Fm	81.24	197	P	P	19 42 36.8	+3.3
TRVZ	Turoa	81.25	196	P	P	19 42 36.5	+2.7
WHVZ	Whangaehu Hut	81.26	196	P	P	19 42 37.2	+3.4
MAVZ	Matarangi	81.28	196	P	P	19 42 37.1	+3.1
FWVZ	Far West T-bar	81.30	196	P	P	19 42 37.1	+3.1
KHEZ	Kahui Hut	81.48	195	P	P	19 42 36.2	+1.4
NEZ	North Egmont	81.49	195	P	P	19 42 37.2	+2.4
NBEZ	Newall Road No	81.52	195	P	P	19 42 37.0	+2.1
VRZ	Vera Road	81.54	196	P	P	19 42 37.1	+2.1
SEUS	St. Eustatius	81.58	324	IAMs_20	IAMs_20	20 17 30.6	
	comp=Z,3μm,22.0s						
RTZ	Ruatahuna	81.70	198	IAmb	IAmb	19 42 40.3	
	comp=Z,211nm,1.1s						
RTZ				IAMs_20	IAMs_20	20 14 01.4	
	comp=Z,5μm,21.0s						
DRK0	Durika	81.83	302	*e*P	P	19 42 37.6	+0.6
URZ	Urewera	82.03	198	P	P	19 42 39.3	+1.8
	comp=Z,102nm,1.1s,baz=184,slow=2.0,SNR=11						
URZ				LR	LR	20 14 22.4	
	comp=Z,3μm,22.0s,baz=242,slow=32						
	comp=Z,102nm,1.1s						
DILA	Dilla	82.03	64	*i* P	P	19 42 40.5	+2.4
HIZ	Hauiti	82.13	196	IAMs_20	IAMs_20	20 14 13.6	
	comp=Z,4μm,22.0s						
BUS1	Rivas	82.31	302	*e*P	P	19 42 40.2	+0.4
LCR2	La Lucha 2	82.60	302	IAmb	IAmb	19 42 42.6	
	comp=Z,184nm,0.9s						
LCR2	La Lucha 2	82.60	302	*e*P	P	19 42 41.4	+0.4
VTCV	VTCV, Calle Va	82.69	302	*e*P	P	19 42 42.2	+0.8
TOZ	Tahuroa Road	82.80	197	IAmb	IAmb	19 42 44.0	
	comp=Z,128nm,1.1s						
TOZ				IAMs_20	IAMs_20	20 14 31.3	
	comp=Z,4μm,22.0s						
HDC	Heredia	82.88	302	IAmb	IAmb	19 42 44.4	
	comp=Z,333nm,1.2s						
HDC	Heredia	82.88	302	*e*P	P	19 42 43.6	+1.3
IGPR	InterUniversit	83.03	321	IAmb	IAmb	19 42 43.0	
	comp=Z,251nm,0.9s						
PDPR	Patillas Dam,	83.05	321	IAmb	IAmb	19 42 43.2	
	comp=Z,130nm,0.9s						
SJG	San Juan	83.18	321	P	P	19 42 41.8	-1.8
SJG				IAmb	IAmb	19 42 43.8	
	comp=Z,264nm,1.0s						
SJG	San Juan	83.18	321	LR	LR	20 19 15.3	
	comp=Z,2μm,21.7s,baz=154,slow=35						
SJG	San Juan	83.18	321	P	P	19 42 41.8	-1.8
SJG				pmax	pmax		
	comp=Z,264nm,1.0s						
SJG				MLR	MLR		
	comp=Z,2μm,22.0s						
OBIP	Obispado Ponce	83.27	321	IAmb	IAmb	19 42 44.1	
	comp=Z,220nm,1.0s						
CELP	Cerrillos	83.29	321	IAmb	IAmb	19 42 44.2	
	comp=Z,158nm,1.0s						
MLPR	Magueyes Islan	83.34	320	P	P	19 42 42.9	-1.5
SOCE	Pocosol	83.44	302	IAmb	IAmb	19 42 46.9	
	comp=Z,111nm,0.7s						
UUPR	Utuado, UPR, P	83.50	321	IAmb	IAmb	19 42 45.6	
	comp=Z,173nm,0.9s						
JTS	Las Juntas de	83.51	301	P	P	19 42 45.8	+0.3
JTS				IAmb	IAmb	19 42 47.1	
	comp=Z,194nm,1.1s						
JTS	Las Juntas de	83.51	301	*c i* P	P	19 42 45.7	+0.3
JTS				pmax	pmax		
	comp=Z,154nm,1.1s						
JTS				MLR	MLR		
	comp=Z,1μm,20.0s						
JTS	Las Juntas de	83.51	301	*e*P	P	19 42 46.0	+0.5
ARE1	Arenal 1	83.55	302	*e*P	P	19 42 46.3	+0.6
CEDE	Laguna Cedeo	83.57	302	*e*P	P	19 42 46.2	+0.4
AOPR	Arecibo Observ	83.60	321	IAmb	IAmb	19 42 46.6	
	comp=Z,148nm,1.1s						
PRSN	Puerto Rico Se	83.61	320	IAmb	IAmb	19 42 46.6	
	comp=Z,193nm,0.9s						
EMPR	Esperanza - Ma	83.64	321	IAmb	IAmb	19 42 45.8	
	comp=Z,237nm,0.9s						
AGPR	Aguadilla, PR	83.83	321	IAmb	IAmb	19 42 48.0	
	comp=Z,301nm,1.2s						
CUI	Cuipilapa	83.93	301	*e*P	P	19 42 47.6	-0.1
NWAO	Narrogin (SRO)	83.94	149	LR	LR	20 16 22.9	
	comp=Z,3μm,20.4s,baz=149,slow=33						
COLC	Colonia	83.95	301	*e*P	P	19 42 47.4	-0.3
VRLE	La Escondida,	84.14	301	*e*P	P	19 42 48.0	-0.8
VORI	VORI	84.15	301	*e*P	P	19 42 48.5	-0.4
TOO	Toolangi	84.24	173	IAMs_20	IAMs_20	20 20 20.2	
	comp=Z,3μm,18.0s						
FURI	Furi	84.37	63	LR	LR	20 16 38.7	
	comp=Z,8μm,21.6s,baz=206,slow=33						
MUN	Mundaring	84.55	148	P	P	19 42 50.9	+0.3
	comp=Z,163nm,1.8s						
WLRA	Wolmera	84.55	63	*e*P	P	19 42 53.3	+2.1
WLRA				*e*P	PcP	19 42 54.1	-0.6
GRD1	Great Renaissa	84.65	59	*e*P	P	19 42 53.0	+1.7
TAM	Tamanrasset	84.73	28	IAmb	IAmb	19 42 54.8	
	comp=Z,283nm,1.2s						
TAM				IAMs_20	IAMs_20	20 13 11.7	
	comp=Z,3μm,22.0s						
ARPS	Mount Arapiles	84.74	170	P	P	19 42 52.2	+0.7
	comp=Z,44nm,1.0s						
ESPN	Las Esperanzas	84.90	303	IAmb	IAmb	19 42 52.9	
	comp=Z,139nm,0.9s						
ACON	Acoyapa	85.09	302	*e*P	P	19 42 52.8	-0.6
KLBR	Kellerberrin	85.34	149	P	P	19 42 54.7	+0.1
	comp=Z,137nm,1.1s						
ANKE	Ethiopia-Afar	85.47	64	*i* P	P	19 42 59.2	+3.4
OUZ	Omahuta	85.54	195	IAMs_20	IAMs_20	20 16 32.9	
	comp=Z,4μm,21.0s						
MGAN	Managua	85.73	301	IAmb	IAmb	19 42 57.7	
	comp=Z,208nm,1.0s						
SDDR	Presa de Saban	85.76	317	IAmb	IAmb	19 43 01.2	
	comp=Z,99nm,0.9s						
SDDR				IAMs_20	IAMs_20	20 19 31.9	
	comp=Z,3μm,22.0s						
SDDR	Presa de Saban	85.76	317	*i* P	P	19 42 56.4	-0.3
TBI	Tubuai	86.44	230	*e*P	P	19 42 55.3	-4.9
	comp=Z,725nm,24.5s						
TBI	Tubuai	86.44	230	*e*S	S	19 53 32.1	-1.3
	comp=Z,4μm,28.2s						
TBI				*e*SS	SS	19 59 14.0	+1.3
	comp=Z,2μm,24.8s						
TBI				*e*LQ	LQ	20 06 50.2	
	comp=Z,10μm,33.8s						
TBI				*e*LR	LR	20 10 29.7	
	comp=Z,13μm,26.2s						
TBI				*e*LR	LR	20 10 30.9	
	comp=Z,3μm,24.8s						
KMBL	Kambalda	86.62	152	P	P	19 43 02.3	+1.3
	comp=Z,78nm,1.2s						
CAN	Canberra	86.67	175	P	P	19 43 03.1	+1.9
	comp=Z,0.0nmcomp=Z,58nm,1.1s						
CAN	Canberra	86.67	175	P	P	19 43 03.2	+1.9
CAN				pmax	pmax		
	comp=Z,58nm,1.1s						
CNB	Canberra Magne	86.69	176	P	P	19 43 03.8	+2.4
	comp=Z,35nm,1.0s						
DESE	Dese	86.76	63	*i* P	P	19 43 06.1	+4.0
HARA	HARA	86.91	67	*i* P	P	19 43 01.7	-1.0
STH	Stony Hill	87.02	312	*i* P	P	19 43 04.2	+1.3
MORW	Morawa	87.24	147	P	P	19 43 04.3	+0.3
MORW	Morawa	87.24	147	P	P	19 43 05.3	+1.3
	comp=Z,45nm,1.0s						
MTDJ	Mount Denham	87.44	311	*i* P	P	19 43 05.8	+0.8
YNG	Young	87.67	175	P	P	19 43 07.2	+1.2
	comp=Z,194nm,1.9s						
HTT	Hallett	87.73	167	P	P	19 43 08.1	+1.7
	comp=Z,53nm,1.0s						
DGAR	Diego Garcia	87.87	101⇑	*e*P	P	19 43 08.2	+1.0
DGAR				pmax	pmax		
	comp=Z,665nm,2.5s						
TGUH	Tegucigalpa,Un	87.88	301	IAmb	IAmb	19 43 08.1	
	comp=Z,129nm,1.1s						
TEND	Ethiopian Broa	87.99	64	*i* P	P	19 43 11.1	+3.4
RIV	Riverview	88.23	177	P	P	19 43 10.8	+2.2
	comp=Z,86nm,1.3s						
RIV	Riverview	88.23	177	P	P	19 43 08.4	-0.3
NMDO	Nuevo Mundo	88.57	314	IAmb	IAmb	19 43 16.7	
	comp=Z,216nm,1.0s						
FORT	Forrest	88.57	157	P	P	19 43 11.3	+0.9
FORT				IAmb	IAmb	19 43 23.1	
	comp=Z,167nm,1.0s						
FORT				IAMs_20	IAMs_20	20 19 13.5	
	comp=Z,4μm,21.0s						
FORT	Forrest	88.57	157	P	P	19 43 11.5	+1.2
	comp=Z,173nm,0.9s						
CHIV	Chivirico	88.59	313	IAmb	IAmb	19 43 12.3	
	comp=Z,238nm,1.0s						
ATD	Arta Tunnel	88.64	66	LR	LR	20 20 51.0	
	comp=Z,342nm,19.1s,baz=206,slow=34						
MGCD	Mangrove Creek	88.85	177	P	P	19 43 13.5	+1.8
	comp=Z,49nm,1.0s						
MTO3	Montecristo	89.13	299	IAmb	IAmb	19 43 13.9	
	comp=Z,112nm,0.8s						
STKA	Stephens Creek	89.56	169	P	P	19 43 16.2	+1.2
	comp=Z,12nm,1.1s						
STKA	Stephens Creek	89.56	169	P	P	19 43 16.0	+1.0
	comp=Z,28nm,1.0s,baz=164,slow=5.8,SNR=36						
STKA				LR	LR	20 23 15.5	
	comp=Z,5μm,18.0s,baz=189,slow=35						
	comp=Z,28nm,1.0s						
STKA	Stephens Creek	89.56	169	*c i* P	P	19 43 15.9	+0.9
RAO	Raoul Island	89.86	204	LR	LR	20 18 58.0	
	comp=Z,2μm,20.0s,baz=221,slow=32						
CMSA	Cobar Meteorol	90.25	172	P	P	19 43 19.6	+1.4
	comp=Z,74nm,1.2s						
MEEK	Meekatharra	90.26	148	P	P	19 43 18.5	+0.1
	comp=Z,80nm,1.4s						
PPT2	Papeete2	91.64	232	*e*P	P	19 43 22.8	-2.1
	comp=Z,156nm,24.5s						
PPT2	Papeete2	91.64	232	*e*PP	PP	19 47 03.0	+0.1
	comp=Z,79nm,24.8s						
PPT2				*e*S	S	19 54 21.7	-0.7
	comp=Z,1μm,31.5s						
PPT2	Papeete2	91.64	232	*e*LR	LR	20 12 48.5	
	comp=Z,8μm,22.5s						
PPT2				*e*LR	LR	20 12 54.5	
	comp=Z,7μm,29.0s						
ARMA	Armidale	91.64	177	P	P	19 43 26.1	+1.3
	comp=Z,33nm,1.1s						
PPT	Papeete	91.66	232	LR	LR	20 16 43.0	
	comp=Z,4μm,19.3s,baz=156,slow=30						
CCIG	Comitan	92.06	298	IAmb	IAmb	19 43 42.6	
	comp=Z,46nm,1.2s						
RAR	Rarotonga	92.29	222	LR	LR	20 20 24.5	
	comp=Z,992nm,18.0s,baz=199,slow=32						
MDT	Midelt	92.37	17	P	P	19 43 29.8	+2.0
	comp=Z,24nm,0.7s,baz=200,slow=3.1,SNR=49						
MDT				LR	LR	20 18 33.2	
	comp=Z,3μm,21.5s,baz=192,slow=31						
CAMR	Camarioca	93.33	310	IAmb	IAmb	19 43 34.4	
	comp=Z,173nm,1.0s						
TEIG	Tepich	93.75	303	P	P	19 43 33.8	-0.5
TEIG	Tepich	93.75	303	LR	LR	20 28 47.5	
	comp=Z,1μm,19.6s,baz=132,slow=37						
CMIG	Matias Romero	94.06	296	LR	LR	20 19 28.6	
	comp=Z,659nm,22.0s,baz=180,slow=31						
WRKA	Warakurna	94.18	156	P	P	19 43 36.8	+0.3
	comp=Z,29nm,1.5s						
QLP	Quilpie	95.06	171	P	P	19 43 41.4	+0.9
	comp=Z,54nm,1.7s						
TAOE	Nuku Hiva Isla	95.11	244	*e*S	S	19 54 50.6	-2.6
	comp=Z,662nm,30.3s						
TAOE				*e*SS	SS	20 01 22.3	+3.5
	comp=Z,524nm,25.8s						
TAOE	Nuku Hiva Isla	95.11	244	*e*LR	LR	20 14 26.9	
	comp=Z,5μm,29.3s						
PSA00	Pilbara Seismi	95.40	148	P	P	19 43 43.2	+1.0
	comp=Z,28nm,0.9s						
PSAC1	Pilbara Seismi	95.43	148	P	P	19 43 42.6	+0.4
	comp=Z,23nm,1.0s						
061Z	Ochoppi	95.65	312	IAMs_20	IAMs_20	20 29 57.4	
	comp=Z,3μm,20.0s						
SFS	San Fernando	95.71	15	IAMs_20	IAMs_20	20 23 40.4	
	comp=Z,4μm,22.0s						
MBWA	Marble Bar	95.76	148	P	P	19 43 43.6	-0.1
MBWA	Marble Bar	95.76	148	IAMs_20	IAMs_20	20 20 47.9	
	comp=Z,3μm,22.0s						
MBWA	Marble Bar	95.76	148	P	P	19 43 44.2	+0.5
	comp=Z,21nm,1.0s						
PFVI	Vila Bisbo	96.03	13	IAMs_20	IAMs_20	20 20 17.6	
	comp=Z,4μm,21.0s						
PFVI	Vila Bisbo	96.03	13	*e*P	P	19 43 46.6	+2.3
MORF	Marmelete	96.22	13	IAmb	IAmb	19 43 48.3	
	comp=Z,56nm,1.1s						
MORF				IAMs_20	IAMs_20	20 20 34.7	
	comp=Z,3μm,20.0s						
MORF	Marmelete	96.22	13	*e*P	P	19 43 47.7	+2.5
MORF				A	A	19 43 48.4	
	comp=Z,98nm,1.3s						
TLIG	Tlapa	96.23	293	IAmb	IAmb	19 43 47.7	
	comp=Z,36nm,1.0s						
PBDV	Barranco-do-Ve	96.25	14	*e*P	P	19 43 47.3	+2.0
PBDV				A	A	19 43 49.5	
	comp=Z,78nm,1.7s						
PVAQ	Vaqueiros	96.43	14	IAmb	IAmb	19 43 49.3	
	comp=Z,73nm,1.5s						
PVAQ	Vaqueiros	96.43	14	*e*P	P	19 43 48.0	+1.9
PVAQ				A	A	19 43 50.2	
	comp=Z,101nm,1.7s						
PVAQ	Vaqueiros	96.43	14	*e*PP	PP	19 47 50.4	+10
PVAQ				*e*SKSac	SKSac	19 54 23.4	+4.2
PVAQ	Vaqueiros	96.43	14	*e*LR	LR	20 15 51.6	
PVAQ				A	A	20 18 45.0	
	comp=Z,2μm,24.0s						
060A	Indiantown	96.48	313	IAMs_20	IAMs_20	20 26 33.4	
	comp=Z,3μm,22.0s						
ASAR	Alice Springs	96.60	161	P	P	19 43 47.7	+0.1
	comp=Z,20nm,1.0s,baz=194,slow=4.5,SNR=92						
ASAR				PP	PP	19 47 40.8	-0.4
	comp=Z,3.6nm,0.8s,baz=191,slow=6.2,SNR=5.0						
ASAR				PKiKP	PKiKP	19 48 24.9	+0.4
	comp=Z,7.4nm,1.2s,baz=175,slow=1.3,SNR=5.3						
ASAR				PKKPbc	PKKPbc	20 00 28.9	+0.8
	comp=Z,3.1nm,0.8s,baz=14,slow=1.9,SNR=10						
ASAR				PKPPKP	P'P'df	20 08 32.1	-17
	comp=Z,0.9nm,0.9s,baz=53,slow=0.6,SNR=4.5						
ASAR				LR	LR	20 25 26.1	
	comp=Z,5μm,19.2s,baz=194,slow=34						
	comp=Z,20nm,1.0s						
AS31	Alice Springs	96.60	161	P	P	19 43 47.7	+0.2
	comp=Z,7.8nm,0.8s						
PCVE	Castro Verde	96.61	14	*e*P	P	19 43 48.6	+1.6
PCVE				A	A	19 43 50.2	
	comp=Z,70nm,1.6s						
MESJ	Messejana	96.80	14	IAmb	IAmb	19 43 51.1	
	comp=Z,119nm,1.6s						
MESJ	Messejana	96.80	14	*e*P	P	19 43 49.4	+1.6
MESJ				A	A	19 43 51.9	
	comp=Z,72nm,1.5s						
PBEJ	Beja	97.03	14	*e*P	Pdif	19 43 51.0	+2.1
PBAR	Barrancos	97.28	14	*e*P	Pdif	19 43 52.0	+2.0
PBAR				A	A	19 43 54.0	
	comp=Z,50nm,1.7s						
EVO	Evora	97.51	14	*e*P	Pdif	19 43 53.8	+2.8
EVO				A	A	19 43 55.0	
	comp=Z,42nm,2.6s						
DWPF	Disney Wildern	97.86	312	IAMs_20	IAMs_20	20 31 00.9	
	comp=Z,2μm,20.0s						
PMTG	Montargil	98.01	13	*e*P	Pdif	19 43 54.6	+1.4
PMTG				A	A	19 43 58.3	
	comp=Z,62nm,2.1s						
KEST	Kesra	98.04	28	IAmb	IAmb	19 43 58.9	
	comp=Z,51nm,0.9s						
KEST	Kesra	98.04	28	P	Pdif	19 43 54.1	+0.5
	comp=Z,47nm,0.9s,baz=240,slow=5.0,SNR=19						
KEST				LR	LR	20 23 20.5	
	comp=Z,3μm,20.1s,baz=212,slow=32						
	comp=Z,47nm,0.9s						
UNM	Universidad Na	98.04	294	IAMs_20	IAMs_20	20 22 27.1	
	comp=Z,2μm,22.0s						
PSBE	So Bento	98.38	13	*e*P	Pdif	19 43 57.3	+2.4
PMRV	Marv??o	98.47	14	*e*P	Pdif	19 43 56.8	+1.5
PMRV				A	A	19 43 59.3	
	comp=Z,48nm,1.3s						
PMRV	Marv??o	98.47	14	*e*PP	PP	19 48 04.9	+8.3
PMRV				*e*SKSac	SKSac	19 54 46.8	+17
PMRV	Marv??o	98.47	14	*e*LR	LR	20 16 34.0	
PMRV				A	A	20 22 18.1	
	comp=Z,2μm,22.0s						
PINNC	Pines Island,	98.75	192	IAMs_20	IAMs_20	20 22 23.6	
	comp=Z,3μm,22.0s						
ABTO	Aybut	98.77	71	P	Pdif	19 43 58.4	+1.2
	SNR=7.0						
ABTO				P	Pdif	19 43 58.4	+1.2
	SNR=7.0						
PCAS	Casmilo, Conde	98.95	13	*e*P	P	19 44 00.8	+3.4
PAB	San Pablo	99.00	16	P	Pdif	19 43 55.3	-2.5
PAB	San Pablo	99.00	16	IAMs_20	IAMs_20	20 22 27.5	
	comp=Z,2μm,22.0s						
PAB	San Pablo	99.00	16	P	Pdif	19 43 55.3	-2.5
PAB				pmax	pmax		
	comp=Z,22nm,1.4s						
PAB				MLR	MLR		
	comp=Z,2μm,22.0s						
ESDC	Sonseca Array	99.19	17	P	Pdif	19 43 59.5	+0.9
	comp=Z,3.2nm,0.7s,baz=184,slow=4.7,SNR=25						
ESDC				PKKPbc	PKKPbc	20 00 24.4	+2.0
	comp=Z,0.6nm,0.9s,baz=341,slow=4.4,SNR=4.5						
ESDC				LR	LR	20 26 19.4	
	comp=Z,524nm,18.1s,baz=190,slow=34						
	comp=Z,3.2nm,0.7s						
RBK	Rabkut	99.35	72	P	Pdif	19 44 00.9	+1.1
RBK				P	Pdif	19 44 00.9	+1.1
	SNR=6.3						
DZM	Mont Dzumac	99.39	191	*e*P	Pdif	19 44 03.1	+2.9
	comp=Z,122nm,25.1s						
DZM	Mont Dzumac	99.39	191	*e*PP	PP	19 48 01.5	-1.1
	comp=Z,138nm,35.7s						
DZM	Mont Dzumac	99.39	191	*e*SS	SS	20 02 23.8	+6.0
	comp=Z,526nm,26.9s						
DZM	Mont Dzumac	99.39	191	*e*LR	LR	20 16 26.5	
	comp=Z,4μm,23.1s						
DZM	Mont Dzumac	99.39	191	IAMs_20	IAMs_20	20 26 21.6	
	comp=Z,2μm,20.0s						
DZM	Mont Dzumac	99.39	191	LR	LR	20 26 51.7	
	comp=Z,2μm,19.3s,baz=216,slow=34						
MTE	Manteigas	99.41	14	IAMs_20	IAMs_20	20 23 02.1	
	comp=Z,3μm,21.0s						
MTE	Manteigas	99.41	14	*e*P	Pdif	19 44 02.3	+2.8
MTE	Manteigas	99.41	14	*e*PP	PP	19 48 10.1	+6.3
MTE				*e*SKSac	SKSac	19 54 55.8	+21
MTE				*e*SS	SS	20 02 28.6	+8.7
MTE	Manteigas	99.41	14	*e*LR	LR	20 16 58.5	
MTE				A	A	20 23 45.7	
	comp=Z,3μm,20.0s						
656A	Willston	99.42	312	IAMs_20	IAMs_20	20 27 28.1	
	comp=Z,3μm,22.0s						
WHFO	Wadi Hawf	99.49	71	P	Pdif	19 44 01.6	+1.2
	SNR=11						
WHFO				P	Pdif	19 44 01.6	+1.2
	SNR=11						
WDD	Wied Dalam	99.50	32	IAMs_20	IAMs_20	20 26 52.6	
	comp=Z,2μm,19.0s						
DMTO	DMTO	99.91	73	P	Pdif	19 44 02.7	+0.5
MVO	Moncorvo	100.22	14	*e*P	Pdif	19 44 02.0	-1.1
MVO	Moncorvo	100.22	14	*e*SS	SS	20 02 59.3	+28
MVO	Moncorvo	100.22	14	*e*LR	LR	20 17 22.4	
MVO				A	A	20 23 20.8	
	comp=Z,3μm,20.0s						
RAYN	Ar Rayn	100.25	62	P	Pdif	19 44 05.6	+1.9
DOK	Doka	100.26	71	P	Pdif	19 44 04.2	+0.5
WRA	Warramunga Arr	100.31	161	P	Pdif	19 44 04.0	-0.2
	comp=Z,3.8nm,0.9s,baz=198,slow=3.9,SNR=21						
WRA				PKiKP	PKiKP	19 48 30.4	-0.7
	comp=Z,5.0nm,1.1s,baz=222,slow=1.7,SNR=7.9						
WRA				PKKP	PKKPdf	20 00 19.6	-1.7
	comp=Z,3.3nm,0.8s,baz=1.6,slow=3.1,SNR=15						
WRA				PKPPKP	P'P'df	20 08 34.6	-7.3
	comp=Z,3.1nm,1.1s,baz=13,slow=2.5,SNR=5.7						
WRA	Warramunga Arr	100.31	161	P	Pdif	19 44 04.0	-0.2
WRAB	Tennant Creek	100.32	161	*c e*P	Pdif	19 44 03.9	-0.4
WRAB				pmax	pmax		
	comp=Z,21nm,1.8s						
WRAB				MLR	MLR		
	comp=Z,7μm,20.0s						
POLO	Lamas de Olo	100.33	13	*e*P	Pdif	19 44 06.5	+2.8
456A	Hilliard	100.43	313	IAMs_20	IAMs_20	20 26 59.7	
	comp=Z,3μm,22.0s						
QIS	Mount Isa

comp=Z,2µm,21.0s
V53A Saluda 105.12 315 IAMs_20 IAMs_20 20 37 22.8
comp=Z,2µm,19.0s
INTR Introdacqua 105.12 29 IAMs_20 IAMs_20 20 30 39.6
comp=Z,2µm,20.0s
CESX Cesi 105.35 28 IAMs_20 IAMs_20 20 28 38.6
comp=Z,3µm,20.0s
U54A Nelsons Funny 105.50 316 IAMs_20 IAMs_20 20 36 38.9
comp=Z,2µm,19.0s
X48A Hartselle 105.69 311 IAMs_20 IAMs_20 20 31 36.3
comp=Z,3µm,22.0s
FDMO Fiordimonte 105.87 28 IAMs_20 IAMs_20 20 29 18.6
comp=Z,3µm,20.0s
OSSC Osservatorio P 105.88 27 IAMs_20 IAMs_20 20 28 08.7
comp=Z,3µm,20.0s
SSB Saint Sauveur 106.11 22 IAMs_20 IAMs_20 20 27 03.5
comp=Z,3µm,21.0s
TZTN Tazewell 106.17 315 IAMs_20 IAMs_20 20 37 06.6
comp=Z,2µm,19.0s
Y45A Yeager Farm, C 106.19 309 IAMs_20 IAMs_20 20 32 02.8
comp=Z,3µm,22.0s
M65A Busby, Falmout 106.35 326 IAMs_20 IAMs_20 20 29 50.0
comp=Z,2µm,20.0s
R55A Marlinton 106.46 318 IAMs_20 IAMs_20 20 36 54.9
comp=Z,2µm,20.0s
PLAL Pickwick Lake 106.56 310 IAMs_20 IAMs_20 20 37 33.5
comp=Z,3µm,19.0s
MTN Manton Dam 106.60 156 IAMs_20 IAMs_20 20 34 32.1
comp=Z,3µm,20.0s
M63A Gales Ferry 106.62 325 IAMs_20 IAMs_20 20 34 45.6
comp=Z,2µm,19.0s
N62A Caumsett State 106.63 324 IAMs_20 IAMs_20 20 33 28.9
comp=Z,2µm,19.0s
V48A Smith Brothers 106.72 312 IAMs_20 IAMs_20 20 31 48.6
comp=Z,3µm,22.0s
L64A Middleborough 106.75 326 IAMs_20 IAMs_20 20 31 35.5
comp=Z,2µm,20.0s
P57A Homestead Farm 106.80 320 IAMs_20 IAMs_20 20 28 03.8
comp=Z,2µm,21.0s
U49A Red Boiling Sp 106.99 313 IAMs_20 IAMs_20 20 32 18.6
comp=Z,2µm,22.0s
T50A Nancy 107.08 314 IAMs_20 IAMs_20 20 40 07.7
comp=Z,2µm,20.0s
HRV Adam Dziewonsk 107.49 326 IAMs_20 IAMs_20 20 27 09.0
comp=Z,2µm,21.0s
MMB Musomishta 107.52 37 *e*P PP 19 48 55.5 -8.8
N58A Sunbury 107.58 322 IAMs_20 IAMs_20 20 30 16.4
comp=Z,2µm,22.0s
K62A Royalston 107.83 326 IAMs_20 IAMs_20 20 32 09.2
comp=Z,2µm,20.0s
GSI Gunungsitoli 107.87 118 IAMs_20 IAMs_20 20 30 24.5
comp=Z,2µm,18.0s
R50A Paris 107.99 315 IAMs_20 IAMs_20 20 38 25.8
comp=Z,2µm,20.0s
O54A Avella 108.24 319 IAMs_20 IAMs_20 20 29 11.0
comp=Z,2µm,22.0s
TUE Stuetta 108.24 24 IAMs_20 IAMs_20 20 29 42.0
comp=Z,2µm,21.0s
R49A Shelbyville 108.32 314 IAMs_20 IAMs_20 20 38 23.5
comp=Z,2µm,19.0s
TRY Troy 108.33 325 IAMs_20 IAMs_20 20 33 27.8
comp=Z,2µm,19.0s
EMMW East Machias 108.36 330 IAMs_20 IAMs_20 20 30 35.9
comp=Z,2µm,20.0s
FUORN Ofenpass-Fuorn 108.58 25 IAMs_20 IAMs_20 20 28 50.0
comp=Z,3µm,22.0s
TXAR Lajitas Array 108.65 296 PKiKP **PKiKP 19 48 46.3 +0.2**
comp=Z,1.7nm,0.6s,baz=145,slow=3.3,SNR=3.1
TXAR PKKPbc **PKKPbc 19 59 55.1 +1.7**
comp=Z,1.3nm,1.0s,baz=302,slow=2.4,SNR=3.6
TXAR PKKP **PKKPab 20 00 06.0 +0.2**
comp=Z,2.3nm,0.9s,baz=284,slow=3.6,SNR=7.8
I62A Tamworth 108.67 327 IAMs_20 IAMs_20 20 26 44.4
comp=Z,3µm,22.0s
WCI Wyandotte Cave 108.69 313 IAMs_20 IAMs_20 20 32 11.5
comp=Z,2µm,21.0s
O52A Adamsville 108.69 318 IAMs_20 IAMs_20 20 30 21.2
comp=Z,2µm,22.0s
SABO M.te Sabotino 108.76 28 IAMs_20 IAMs_20 20 30 23.3
comp=Z,2µm,20.0s
BOVS Bovan 108.79 34 ⇑P **Pdif 19 44 50.0 +8.9**
G65A Princeton 108.85 330 IAMs_20 IAMs_20 20 30 51.7
comp=Z,2µm,21.0s
KIRS Kirsehir-Merke 108.87 45 ⇓P **PKiKP 19 48 45.6 -0.6**
CRNS Crni Vrh 109.02 28 *i* PP **PP 19 49 13.5 -1.7**
CRNS *e* 19 55 19.4
CRNS *e*PS **PS 19 58 47.1 +6.2**
CRNS *e* 20 04 51.8
DAVA Damuels 109.13 25 *e*Pdiff **Pdif 19 44 45.2 +2.5**
comp=Z,3.5nm,0.6s
DAVA PP **PP 19 49 13.2 -3.0**
comp=Z,21nm,1.1s
DAVA PKKP **PKKPab 20 00 04.3 +2.2**
comp=Z,4.5nm,1.0s
LBNH Lisbon 109.18 326 IAMs_20 IAMs_20 20 30 50.8
comp=Z,3µm,20.0s
PRED Cave del Predi 109.19 27 IAMs_20 IAMs_20 20 28 56.2
comp=Z,3µm,22.0s
ABTA Abfaltersbach 109.22 27 *e*PKKP 20 00 05.6
comp=Z,5.2nm,1.3s
K57A Scipio Center 109.22 323 IAMs_20 IAMs_20 20 34 44.6
comp=Z,2µm,20.0s
P49A Miami Univ. Ec 109.23 315 IAMs_20 IAMs_20 20 38 16.7
comp=Z,2µm,20.0s
H62A Milan 109.26 327 IAMs_20 IAMs_20 20 25 22.9
comp=Z,2µm,19.0s
BRTR Keskin Array B 109.29 44 Pdiff **Pdif 19 44 47.4 +3.7**
comp=Z,2.6nm,0.8s,baz=186,slow=6.5,SNR=7.0
BRTR PKiKP **PKiKP 19 48 45.7 -1.3**
comp=Z,2.1nm,0.8s,baz=155,slow=4.8,SNR=4.3
BRTR PKKPbc **PKKPbc 19 59 54.0 +2.3**
comp=Z,4.2nm,0.8s,baz=117,slow=3.8,SNR=11
BRTR PKKP **PKKPdf 20 00 06.4 -1.4**
comp=Z,2.9nm,1.0s,baz=45,slow=3.8,SNR=4.2
GOLS Golise 109.30 29 *e*PP **PP 19 49 15.2 -2.0**
SQTA Sankt Quirin 109.36 26 *e*Pdiff **Pdif 19 44 47.5 +3.8**
comp=Z,1.0nm,0.4s
SQTA *e*PP **PP 19 49 14.3 -3.5**
comp=Z,62nm,1.6s
MYKA Terra Mystica 109.38 27 *e*PP **PP 19 49 16.8 -1.1**
comp=Z,0.1nm,0.2s
MYKA *e*PKKP **PKKPdf 20 00 05.1 -2.7**
comp=Z,7.9nm,1.0s
S44A Carbondale 109.39 311 IAMs_20 IAMs_20 20 34 09.1
comp=Z,3µm,22.0s
P48A Milroy 109.43 315 IAMs_20 IAMs_20 20 36 00.0
comp=Z,2µm,20.0s
ECH Echery 109.44 22 IAMs_20 IAMs_20 20 29 16.6
comp=Z,3µm,21.0s
MOTA Moosalm 109.45 25 *e*Pdiff **Pdif 19 44 46.6 +2.5**
comp=Z,1.3nm,0.6s
MOTA *e*PP **PP 19 49 14.4 -4.1**
comp=Z,31nm,1.3s
MOTA *e*PKKP **PKKPab 20 00 03.3 +2.7**
comp=Z,4.6nm,0.9s
OBKA Obir 109.49 28 PP **PP 19 49 19.4 +0.7**
comp=Z,3.9nm,0.5s
WTTA Wattenberg 109.50 26 *e*Pdiff **Pdif 19 44 45.6 +1.2**
comp=Z,8.2nm,1.0s
WTTA PP **PP 19 49 15.0 -3.9**
comp=Z,48nm,1.6s
WTTA *e*PKKP **PKKPab 20 00 02.6 +2.1**
comp=Z,7.1nm,0.9s
VT1 Waterbury 109.51 326 IAMs_20 IAMs_20 20 31 07.2
comp=Z,3µm,20.0s
RETA Reutte 109.51 25 *e*Pdiff **Pdif 19 44 46.8 +2.5**
comp=Z,0.2nm,0.2s
RETA *e*PP **PP 19 49 14.8 -4.1**
comp=Z,26nm,1.4s
RETA *e*PKKP **PKKPab 20 00 02.2 +1.9**
comp=Z,6.2nm,1.2s
WATA Walderalm 109.56 26 *e*PP **PP 19 49 15.4 -3.8**
comp=Z,42nm,1.3s
N51A Ashland 109.59 318 IAMs_20 IAMs_20 20 30 34.0
comp=Z,2µm,22.0s
O49A Covington 109.66 316 IAMs_20 IAMs_20 20 39 09.0
comp=Z,2µm,19.0s
RPSI Rantau Prapat 109.72 119 IAMs_20 IAMs_20 20 24 14.6
comp=Z,2µm,21.0s
KBA Koelnbreinsper 109.73 27 *e*pPdiff **pPdif 19 44 51.9 -4.4**
comp=Z,2.4nm,0.6s
KBA *e*PKKP **PKKPab 20 00 02.5 +3.0**
comp=Z,8.4nm,1.1s
SOKA Soboth 109.77 28 *i* Pdiff **Pdif 19 44 50.1 +4.6**
comp=Z,1.6nm,0.7s
SOKA PP **PP 19 49 20.1 -0.6**
comp=Z,32nm,1.4s
SOKA *e*PKKP **PKKPab 20 00 00.5 +1.3**
comp=Z,6.1nm,1.2s
ERPA Erie 109.82 320 IAMs_20 IAMs_20 20 29 19.8
comp=Z,2µm,22.0s
MDVR Moldovita 109.84 34 ⇑P **PKiKP 19 48 51.9 +4.2**
LESA Schwarzleotal 109.89 26 *e*Pdiff **Pdif 19 44 50.0 +4.0**
comp=Z,3.9nm,0.7s
LESA *e*PKKP **PKKPdf 20 00 03.3 -3.7**
comp=Z,6.6nm,1.0s
BEHE Becsehely 110.02 30 IAMs_20 IAMs_20 20 29 48.4
comp=Z,2µm,20.0s
O48B Farmland 110.03 315 IAMs_20 IAMs_20 20 39 57.7
comp=Z,2µm,19.0s
J55A Hilton 110.12 322 IAMs_20 IAMs_20 20 31 28.5
comp=Z,2µm,22.0s
HERR Herculane 110.14 34 ⇑P **Pdif 19 44 53.4 +6.4**
HERR Herculane 110.14 34 ⇑P **PKiKP 19 48 48.2 0.0**
P46A Rosedale 110.25 313 IAMs_20 IAMs_20 20 39 51.7
comp=Z,2µm,19.0s
MORH Mrgy, Hungar 110.28 31 ⇑P **Pdif 19 44 52.2 +4.6**
LONY Lake Ozonia 110.32 325 IAMs_20 IAMs_20 20 33 56.5
comp=Z,3µm,20.0s
BIOA Bad Ischl, Aus 110.37 27 *e*Pdiff **Pdif 19 44 53.6 +5.6**
comp=Z,0.7nm,0.3s
BIOA *e*PKKP **PKKPab 20 00 01.1 +4.6**
comp=Z,9.8nm,1.0s
ARSA Arzberg 110.42 28 *e*Pdiff **Pdif 19 44 52.5 +4.2**
comp=Z,2.6nm,0.7s
ARSA *e*PKKP **PKKPab 20 00 00.2 +3.9**
comp=Z,5.9nm,1.2s
ARPR Arapgir-MALATY 110.53 48 IAMs_20 IAMs_20 20 34 50.9
comp=Z,2µm,20.0s
BZS Buzias 110.57 33 ⇑P **Pdif 19 44 57.4 +8.4**
BZS Buzias 110.57 33 ⇑P **PKiKP 19 48 49.0 0.0**
WLF Walferdange 110.62 21 IAMs_20 IAMs_20 20 30 21.0
comp=Z,2µm,21.0s
MOA Molln 110.67 27 *e*Pdiff **Pdif 19 44 53.6 +4.3**
comp=Z,1.2nm,0.5s
MOA *e*PKKP **PKKPab 19 59 59.5 +4.4**
comp=Z,3.0nm,0.9s
N47A Urbana 110.77 315 IAMs_20 IAMs_20 20 40 11.4
comp=Z,2µm,19.0s
SURR Surduc 110.84 34 ⇑P **PKiKP 19 48 49.3 -0.2**
SFIN Lafayette 110.86 314 IAMs_20 IAMs_20 20 37 36.0
comp=Z,2µm,20.0s
LHMI Lhok Sumawe 111.01 116 IAMs_20 IAMs_20 20 26 11.7
comp=Z,2µm,19.0s
RONA Rosalia, Austr 111.04 29 *e*Pdiff **Pdif 19 44 56.2 +5.1**
comp=Z,1.0nm,0.3s
RONA PP **PP 19 49 26.7 -3.1**
comp=Z,38nm,1.3s
RONA *e*PKKP **PKKPdf 19 59 59.5 -5.2**
comp=Z,3.8nm,0.8s
S39A Bolivar 111.04 308 IAMs_20 IAMs_20 20 39 21.3
comp=Z,2µm,19.0s
R40A Maddies Statio 111.12 309 IAMs_20 IAMs_20 20 40 27.2
comp=Z,3µm,19.0s
CONA Conrad Observa 111.14 28 *e*Pdiff **Pdif 19 44 55.9 +4.4**
comp=Z,1.2nm,0.5s
CONA *e*PP **PP 19 49 26.4 -4.2**
comp=Z,44nm,1.5s
CONA *e*PKKP **PKKPab 19 59 58.1 +4.9**
comp=Z,3.9nm,0.8s
SIRR Siria 111.18 33 ⇑P **PKiKP 19 48 50.6 +0.5**
BCLA Clavier 111.18 20 *d*PKiKP **PKiKP 19 48 49.9 -0.1**
L48A N Adams 111.23 317 IAMs_20 IAMs_20 20 31 41.5
comp=Z,2µm,21.0s
ARR Arges 111.25 35 ⇑P **Pdif 19 44 56.1 +4.1**
AAM Ann Arbor 111.27 317 IAMs_20 IAMs_20 20 33 33.3
comp=Z,2µm,22.0s
VOIR 111.44 36 ⇑P **Pdif 19 44 59.3 +6.4**
VOIR 111.44 36 ⇑P **PKKPdf 19 59 57.6 -6.2**
GERES GERESS Array B 111.47 27 PKiKP **PKiKP 19 48 51.0 +0.3**
comp=Z,3.5nm,0.8s,baz=222,slow=2.5,SNR=3.2
GURO Guroymak-BITLI 111.56 51 IAMs_20 IAMs_20 20 34 15.2
comp=Z,2µm,21.0s
CKRC Cesky Krumlov 111.59 27 *e*SP SP 19 59 05.3 +4.6
CKRC AMS AMS 20 30 30.0
comp=Z,5µm,22.1s
SRO Srobarova 111.67 30 *e*PP **PP 19 49 32.7 -1.5**
GRFO Grafenberg 111.69 25 IAMs_20 IAMs_20 20 30 02.4
comp=Z,3µm,22.0s
GRA1 Grafenberg Arr 111.69 25 IAMs_20 IAMs_20 20 30 02.4
comp=Z,3µm,22.0s
KHC Kasperske Hory 111.70 26 *e*pP **Pdif 19 45 03.0 +9.0**
KHC *e*PP **PP 19 49 31.6 -2.9**
KHC *e*SP SP 19 59 09.0 +7.2
KHC AMS AMS 20 27 50.0
comp=Z,3µm,24.9s
MLR Muntele Rosu 111.76 36 IAMs_20 IAMs_20 20 34 08.7
comp=Z,2µm,21.0s
MLR Muntele Rosu 111.76 36 ⇑P **Pdif 19 45 00.9 +6.4**
MLR Muntele Rosu 111.76 36 ⇑P **PKiKP 19 48 50.8 -0.7**
NEHR Nehoiu 111.82 37 ⇑P **PKiKP 19 48 50.6 -0.8**
SADO Sadowa 111.89 322 PP **PP 19 49 32.5 -3.4**
comp=Z,36nm,1.0s,baz=162,slow=6.8,SNR=9.3
MODS Modra-Piesok 111.91 29 *e*P **Pdif 19 45 01.6 +6.7**
MODS *e* 19 49 33.6
MODS Modra-Piesok 111.91 29 *e*PDIFF **Pdif 19 45 01.6 +6.7**
MODS *e*PP **PP 19 49 33.5 -2.5**
MODS *e* 19 59 56.6
DRGR 111.96 33 ⇑P **Pdif 19 45 00.0 +4.8**
DRGR 111.96 33 ⇑P **PKiKP 19 48 51.5 -0.2**
HYB Hyderabad 111.97 92 *e*PKiKP **PKiKP 19 48 52.8 +0.2**
HYB *e*SKSac **SKSac 19 55 29.6 -2.1**
HYB IVMs_BB IVMs_BB 20 27 05.2
comp=Z,598nm,19.4s
MARR Marisel-Cluj 111.97 34 ⇓P **Pdif 19 44 59.9 +4.6**
MARR Marisel-Cluj 111.97 34 ⇑P **PKiKP 19 48 50.8 -0.9**
DOPR Dopca 112.02 36 ⇓P **Pdif 19 45 02.8 +7.4**
BISRR Bisoca 112.06 37 ⇑P **PKiKP 19 48 51.4 -0.6**
M44A Midewin, Midew 112.10 314 IAMs_20 IAMs_20 20 37 40.6
comp=Z,2µm,20.0s
ZVC Zvikov 112.14 27 AMS AMS 20 31 10.0
comp=Z,3µm,20.5s
CFR Carcaliu 112.18 38 ⇑P **PKiKP 19 48 50.8 -1.2**
PSZ Piszkesteto 112.19 31 ⇑P **PKiKP 19 48 52.5 +0.4**
OZUR 112.26 36 ⇑P **Pdif 19 45 03.4 +6.9**
TURR Turia 112.29 36 ⇑P **PKKPab 19 59 54.1 +5.8**
PLOR Plostina 112.31 37 ⇑P **Pdif 19 45 02.6 +5.9**
PLOR Plostina 112.31 37 ⇑P **PKiKP 19 48 51.3 -1.1**
TREC Trest 112.31 28 AMS AMS 20 30 30.0
comp=Z,4µm,21.8s
KRUC Moravsky 112.32 28 *e*PKIKP **PKiKP 19 48 51.3 -0.9**
VRI Vrincioaia 112.34 37 ⇑P **Pdif 19 45 02.2 +5.3**
VRI Vrincioaia 112.34 37 ⇑P **PKiKP 19 48 51.1 -1.3**
HQIL Hanson Quary C 112.38 314 IAMs_20 IAMs_20 20 37 15.1
comp=Z,2µm,20.0s
HNR Honiara 112.42 186 IAMs_20 IAMs_20 20 37 47.7
comp=Z,2µm,19.0s
VYHS Vyhne 112.43 30 *e*P **Pdif 19 45 05.0 +7.8**
VYHS *e* 19 48 52.2
VYHS *e* 19 49 37.0
VYHS Vyhne 112.43 30 *e*PKP **PKiKP 19 48 52.2 -0.3**
VYHS *e*PP **PP 19 49 37.0 -2.7**
VYHS *e* 19 59 51.9
VYHS Vyhne 112.43 30 *e*PDIFF **Pdif 19 45 05.0 +7.8**
JAVC Velka Javorina 112.46 29 *e*PKIKP **PKiKP 19 48 53.1 +0.5**
NKC Novy Kostel 112.48 25 AMS AMS 20 30 50.0
comp=Z,2µm,20.4s
VRAC Vranov 112.60 28 *e*PKIKP **PKiKP 19 48 52.5 -0.3**
VRAC Vranov 112.60 28 ⇑P **PKiKP 19 48 53.0 +0.3**
ONER Baraj Valea Uz 112.66 36 ⇓P **PKiKP 19 48 52.9 -0.1**
ARCR ARCALIA 112.71 34 ⇑P **Pdif 19 45 07.5 +9.1**
GOPC GO Pecny, Ondr 112.72 27 AMS AMS 20 31 50.0
comp=Z,2µm,21.4s
PRU Pruhonice 112.73 27 AMS AMS 20 32 10.0
comp=Z,2µm,18.7s
P38A Dawn 112.77 309 IAMs_20 IAMs_20 20 36 00.9
comp=Z,2µm,21.0s
TESR Tescani 112.90 36 ⇑P **PKiKP 19 48 52.6 -0.8**
HSKC Hora Svate Kat 113.05 26 *e*SP SP 19 59 28.6 +14
HSKC AMS AMS 20 32 10.0
comp=Z,2µm,22.8s
LANS Liptovska Anna 113.20 30 *e*PP **PP 19 49 42.0 -3.2**
LANS *e* 19 59 49.5
PVCC Panska Ves 113.24 26 AMS AMS 20 30 20.0
comp=Z,3µm,23.0s
L42A Oliver, Polo 113.25 313 IAMs_20 IAMs_20 20 32 35.2
comp=Z,2µm,22.0s
MORC Moravsky Berou 113.27 29 IAMs_20 IAMs_20 20 31 23.4
comp=Z,2µm,22.0s
MORC Moravsky Berou 113.27 29 *e*PKIKP **PKiKP 19 48 53.7 -0.4**
MORC Moravsky Berou 113.27 29 ⇓P **PKiKP 19 48 54.1 0.0**
K43A Burlington 113.34 314 IAMs_20 IAMs_20 20 32 22.4
comp=Z,2µm,22.0s
BRG Berggiesshubel 113.42 26 *e*PKP **PKiKP 19 48 54.9 +0.6**
BRG Amp 19 48 55.7
comp=Z,8.2nm,1.0s
BRG Berggiesshubel 113.42 26 S **PS 19 59 29.0 +7.2**
BRG Berggiesshubel 113.42 26 *e*PKIKP **PKiKP 19 48 54.8 +0.6**
BRG S **SS 20 05 38.0 +7.8**
BRG pmax pmax
comp=Z,8.0nm,1.0s
BURAR Bucovina Array 113.44 35 ⇑P **Pdif 19 45 06.8 +5.0**
BURAR Bucovina Array 113.44 35 ⇑P **PKiKP 19 48 53.9 -0.7**
OKC Ostrava-Krasne 113.48 29 *e*SP SP 19 59 32.9 +15
OKC AMS AMS 20 32 20.0
comp=Z,1µm,23.1s
DPC Dobruska-Polom 113.50 28 AMS AMS 20 31 30.0
comp=Z,3µm,21.6s
UPC Upice 113.57 27 AMS AMS 20 32 00.0
comp=Z,3µm,21.6s
CLL Collm 113.61 25 IAMs_20 IAMs_20 20 31 33.0
comp=Z,2µm,22.0s
CLL Collm 113.61 25 *e*PKIKP **PKiKP 19 48 54.0 -0.6**
CLL *e* 19 49 46.0
CLL *e* 19 55 39.0
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL MLR MLR
comp=Z,2µm,21.9s
CLL Collm 113.61 25 *e*Pdif **Pdif 19 45 04.0 +1.7**
CLL *e*PKiKP **PKiKP 19 48 54.0 -0.6**
comp=Z,6.0nm,0.9s
CLL *e*(pPKiKP) 19 49 01.0
CLL *i* x x 19 49 36.7
CLL *e*PP **PP 19 49 46.0 -2.0**
CLL *e*PPP PPP 19 52 14.0
CLL *e*SKSac **SKSac 19 55 39.0 +2.6**
CLL *e*Sdif **Sdif 19 57 36.0 +10**
CLL *e*PS **PS 19 59 24.0 +0.5**
CLL *e*PKKPbc **PKKPbc 19 59 38.0 +0.4**
CLL *i* PKKPab **PKKPab 19 59 46.5 +4.4**
comp=Z,10.0nm,1.0s
CLL *e*(PPS) 20 00 42.0
CLL *e*SKKPdf **SKKPdf 20 03 34.0 +1.8**
CLL *e*SS **SS 20 05 36.0 +3.3**
CLL *e*SSS SSS 20 09 54.0
CLL *e*SSSS 20 13 12.0
CLL AMS AMS 20 30 00.0
CLL AMS AMS 20 31 00.0
comp=Z,2µm,21.9s
KSU1 Kansas State U 113.62 306 IAMs_20 IAMs_20 20 42 37.6
comp=Z,2µm,19.0s
CHVC Chvalec 113.65 27 AMS AMS 20 32 10.0
comp=Z,2µm,20.6s
OSTC Ostas 113.66 28 AMS AMS 20 31 50.0
comp=Z,2µm,21.2s
KOLS Kolonicke sedl 113.77 32 *e*PKIKP **PKiKP 19 48 55.3 +0.3**
KOLS Kolonicke sedl 113.77 32 *e*PKP **PKiKP 19 48 55.3 +0.3**
KOLS *e* 19 59 47.0
BCA Borcka 113.85 49 ⇑P **Pdif 19 45 10.6 +7.0**
BCA Borcka 113.85 49 ⇓P **PKiKP 19 48 55.6 +0.2**
L40A Anamosa 113.91 312 IAMs_20 IAMs_20 20 33 52.7
comp=Z,2µm,22.0s
STHS Stebnicka Huta 113.92 31 *e*PKIKP **PKiKP 19 48 52.9 -2.4**
STHS *e* 19 49 52.1
STHS Stebnicka Huta 113.92 31 *e*PKP **PKiKP 19 48 52.9 -2.4**
STHS *e*PP **PP 19 49 52.1 +1.8**
STHS *e* 19 59 45.2
MILM Milestii Mici 113.94 37 ⇑P **PKiKP 19 48 54.7 -0.7**
R32A Long Quarter, 113.95 305 IAMs_20 IAMs_20 20 36 19.7
comp=Z,2µm,22.0s
Y22D IRIS PASSCAL I 114.12 296 IAMs_20 IAMs_20 20 39 50.9
comp=Z,2µm,19.0s
OJC Ojcow 114.27 30 *e*PKP **PKiKP 19 48 56.3 +0.3**
SCIA State Center 114.57 311 IAMs_20 IAMs_20 20 42 10.3
comp=Z,1µm,18.0s
I42A Draeger Farm, 114.57 315 IAMs_20 IAMs_20 20 41 48.1
comp=Z,2µm,19.0s
ESK Eskdalemuir 114.61 14 IAMs_20 IAMs_20 20 29 58.3
comp=Z,2µm,22.0s
ANMO Albuquerque 114.61 297 PKP PKPdf 19 48 56.3 -1.0
comp=Z,7.7nm,1.1s,baz=164,slow=14,SNR=7.2
ANMO PP **PP 19 49 49.6 -6.0**
comp=Z,5.2nm,0.9s,baz=271,slow=13,SNR=4.0
ANMO PKKPbc **PKKPbc 19 59 30.6 -3.4**
comp=Z,0.7nm,0.6s,baz=249,slow=6.3,SNR=1.8
ANMO Albuquerque 114.61 297 ⇓*i*PKIKP PKPdf 19 48 57.3 -0.1
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO MLR MLR
comp=Z,704nm,19.0s
EKA Eskdalemuir Ar 114.63 14 PKP PKPdf 19 48 55.7 -0.7
comp=Z,1.0nm,0.7s,baz=230,slow=1.7,SNR=4.4
EKA PKKPbc **PKKPbc 19 59 34.7 +0.5**
comp=Z,0.6nm,0.4s,baz=354,slow=2.6,SNR=7.0
H43A Windswept, Lux 114.64 316 IAMs_20 IAMs_20 20 33 02.8
comp=Z,2µm,22.0s
N35A Tabor 114.68 308 IAMs_20 IAMs_20 20 43 28.6
comp=Z,2µm,20.0s
SOC Sochi 114.91 47 *i* PKIKP **PKiKP 19 48 57.3 -0.1**
SOC *e* 19 55 42.4
SOC *e*PS **PS 19 59 34.7 -0.9**
SOC *e*SS SS 20 05 47.0 -3.1
SOC *e*SSS SSS 20 10 07.3
SOC MLR MLR
comp=Z,979nm,19.0s
ANN Anapa 115.09 44 *e*PKIKP **PKiKP 19 49 03.5 +5.9**
SBUM Sibu 115.23 132 **PKPdf 19 48 57.8 -1.2**
NGP Nagpur 115.31 90 ⇑*i*P **PKPdf 19 48 57.9 -1.0**
NRDN NARMADA NAGAR 115.60 88 ⇑*i*P **PKPdf 19 48 56.7 -2.7**
SANI Sanana 115.71 148 PKP **PKiKP 19 49 00.2 +0.3**
LUWI Luwuk 115.72 144 PKP **PKiKP 19 49 02.7 +2.8**
F42A Maple Grove Fa 115.88 316 IAMs_20 IAMs_20 20 33 44.4
comp=Z,2µm,22.0s
DGPR DIGLIPUR 115.89 108 *e*P **PKPdf 19 48 59.8 -0.3**
L34A Svendsen Farm, 115.91 308 IAMs_20 IAMs_20 20 43 46.0
comp=Z,2µm,19.0s
MPSI Mapaga 116.09 141 PKP **PKiKP 19 49 02.3 +1.7**
BHPL Bhopal 116.16 88 *e*P **PKPdf 19 49 00.3 -0.2**
BGNE Belgrade 116.19 307 IAMs_20 IAMs_20 20 38 22.6
comp=Z,2µm,21.0s
LABN Labinsk 116.19 47 *i* PKIKP **PKiKP 19 49 00.3 +0.5**
LABN pmax pmax
comp=Z,67nm,1.2s
G40A Rib Lake 116.23 315 IAMs_20 IAMs_20 20 43 56.9
comp=Z,2µm,19.0s
LUBAR Lubar, Ukraine 116.26 35 PKP **PKPdf 19 48 58.2 -1.5**
KBZ Khabaz 116.28 49 Pdiff **Pdif 19 45 22.6 +8.2**
comp=Z,1.3nm,0.8s,baz=219,slow=13,SNR=1.8
KBZ PKP **PKPdf 19 48 59.7 -0.2**
comp=Z,7.6nm,0.8s,baz=190,slow=1.1,SNR=12
KBZ Khabaz 116.28 49 ⇓*i*PKIKP **PKiKP 19 48 59.9 -0.1**
KBZ MLR MLR
comp=Z,3µm,18.0s
KIV Kislovodsk 116.38 48 **PKPdf 19 48 58.9 -1.5**
KIV Kislovodsk 116.38 48 ⇓P **PKPdf 19 49 00.2 -0.2**
KIV Kislovodsk 116.38 48 *e*P **Pdif 19 45 13.2 -1.8**
KIV *e* 19 49 00.0
KIV *e* 19 50 04.2
KIV *e*PS **PS 19 59 48.2 -1.1**
KIV *e*SS SS 20 06 05.9 -3.7
KIV *e*SSS SSS 20 10 25.8
KIV pmax pmax
comp=Z,27nm,1.1s
SDCO Great Sand Dun 116.45 299 **PKPdf 19 48 58.9 -2.0**
SDCO IAMs_20 IAMs_20 20 38 03.2
comp=Z,2µm,21.0s
FAKI Fak Fak 116.46 155 IAMs_20 IAMs_20 20 44 34.4
comp=Z,2µm,19.0s
COWI Conover 116.54 316 **PKPdf 19 48 59.9 -0.6**
RGN Rugen 116.70 24 IAMs_20 IAMs_20 20 32 36.8
comp=Z,2µm,22.0s
RNPP5 Staryi Chortor 116.86 33 PKP **PKPdf 19 49 00.1 -0.7**
TOLI2 Tolitoli 117.11 141 **PKPdf 19 49 01.6 -1.0**
MI28 Mi28,Pidlybu 117.13 35 PKP **PKPdf 19 49 00.6 -0.8**
GUNA GUNA 117.26 87 ⇑*i*P **PKPdf 19 49 01.5 -1.0**
AJM Ajmer 117.32 83 *e*P **PKPdf 19 49 01.6 -1.0**
AJM *i* x x 19 50 16.0
KIEV Kiev 117.39 36 **PKPdf 19 49 00.1 -1.8**
KIEV Kiev 117.39 36 ⇑P **PKPdf 19 49 00.9 -0.9**
KIEV Kiev 117.39 36 ⇑P **PKKPab 19 59 30.8 +4.9**
KIEV Kiev 117.39 36 PKIKP **PKPdf 19 49 00.1 -1.8**
KIEV MLR MLR
comp=Z,800nm,20.0s
KIEV Kiev 117.39 36 PKP **PKPdf 19 49 00.6 -1.3**
AKASG Malin Array Be 117.40 36 **PKPdf 19 49 00.3 -1.6**
AKASG Malin Array Be 117.40 36 Pdiff **Pdif 19 45 23.8 +4.6**

comp=Z,0.3nm,0.4s,baz=214,slow=5.4,SNR=3.0
AKASG PKP **PKPdf** **19 49 00.8 -1.0**
comp=Z,14nm,0.8s,baz=225,slow=2.1,SNR=36
AKASG PP **PP** **19 50 09.4 -5.2**
comp=Z,6.5nm,0.9s,baz=214,slow=7.5,SNR=12
AKASG PKKPbc **PKKPbc** **19 59 23.7 -0.6**
comp=Z,0.4nm,0.4s,baz=29,slow=1.1,SNR=3.6
AKBB Malin Array Si 117.40 36 PKP **PKPdf** **19 49 00.3 -1.6**
MAK Makhachkala 117.52 52 *eP* **Pdif** **19 45 20.0 +0.1**
MAK *i* 19 49 02.0
MAK *e* 19 50 13.2
MAK *e* 19 55 50.4
MAK *e*PS **PS** **20 00 03.0 +3.6**
MAK *e*SS SS 20 06 23.0 -1.2
MAK *e*SSS SSS 20 10 46.8
MAK MLR MLR
comp=Z,3μm,18.0s
SCHQ Schefferville 117.57 334 **PKPdf** **19 49 01.5 -0.6**
SCHQ Schefferville 117.57 334 PKP **PKPdf** **19 49 01.1 -1.1**
comp=Z,14nm,0.9s,baz=134,slow=2.7,SNR=10
SCHQ PP **PP** **19 50 12.1 -3.8**
comp=Z,15nm,0.9s,baz=149,slow=7.1,SNR=4.6
K30B Basset 117.85 307 IAMs_20 IAMs_20 20 38 51.5
comp=Z,2μm,21.0s
RKPI Ransiki, Papua 118.24 157 PKP **PKiKP** **19 49 05.4 +0.5**
JHSG JHARSUGUGA 118.31 94 *eP* **PKPdf** **19 49 04.1 -0.5**
JHSG *i* x x 19 50 16.4
PFO Pinyon Flats O 118.42 288 **PKiKP** **19 49 04.6 -0.1**
PFO Pinyon Flats O 118.42 288 PKP **PKiKP** **19 49 05.3 +0.7**
comp=Z,9.6nm,1.0s,baz=133,slow=0.7,SNR=9.6
PFO PKKPbc **PKKPbc** **19 59 20.9 +0.5**
comp=Z,5.7nm,0.8s,baz=336,slow=3.5,SNR=7.2
PFO Pinyon Flats O 118.42 288*c i*PKIKP **PKiKP** **19 49 05.7 +1.0**
PFO MLR MLR
comp=Z,754nm,17.0s
JHNI Jhansi 118.56 87 *eP* **PKPdf** **19 49 03.6 -1.4**
SUW Suwalki 118.59 30 *e*PKP **PKPdf** **19 49 03.7 -0.3**
SUW Suwalki 118.59 30 *eP* **PKPdf** **19 49 03.9 -0.2**
EYMN Ely 118.96 315 IAMs_20 IAMs_20 20 37 29.1
comp=Z,2μm,21.0s
F33A 5 Mile Ranch, 119.07 311 IAMs_20 IAMs_20 20 45 01.5
comp=Z,1μm,19.0s
KMY Karmoy 119.58 18 *e*PKPdf **PKiKP** **19 49 06.3 +0.4**
KUDL Kundal 119.63 84 *eP* **PKPdf** **19 49 05.8 -1.1**
SONA Sohna 120.03 84 *eP* **PKPdf** **19 49 06.1 -1.6**
PBUR Paburge 120.07 28 *eP* **PKiKP** **19 49 06.8 -0.1**
KKM Kota Kinabalu 120.07 134 IAMs_20 IAMs_20 20 35 13.0
comp=Z,1μm,20.0s
MYLDM Lahad Datu 120.11 137 **PKiKP** **19 49 08.8 +0.3**
PABE Paberze 120.13 30 *eP* **PKPdf** **19 49 06.8 -0.1**
MNK Minsk 120.32 33 *i* PKP **PKPdf** **19 49 07.1 -0.3**
comp=E,21nm,1.0s
MNK *i* PKP **PKPdf** **19 49 07.1 -0.3**
comp=N,7.0nm,1.0s
MNK *i* PKP **PKPdf** **19 49 07.1 -0.3**
comp=Z,85nm,0.9s,baz=209
MNK *i* PP **PP** **19 50 32.0 -2.8**
MNK *i* SKP 19 52 05.9
MNK *i* PKS PKSdf 19 52 10.8 -33
MNK *i* PPP PPP 19 52 51.6
MNK *i* SKS **SKSdf** **19 56 19.2 +3.4**
MNK *i* SKKS **Sdif** **19 58 23.2 +1.1**
MNK *i* SP SP 20 00 35.3 +15
MNK *i* PS PS 20 00 50.0 +26
MNK *i* SS **SS** **20 07 00.3 +0.2**
MNK *i* SSS SSS 20 12 54.4
MNK *i* LQ LQ 20 20 38.3
MNK *i* LR LR 20 31 35.9
MNK *i* LRM MLR 20 37 01.3
comp=E,2μm,19.8s
MNK *i* LRM MLR 20 37 04.3
comp=Z,1μm,19.3s
MNK *i* LRM MLR 20 37 21.9
comp=N,1μm,19.7s
MNK Minsk 120.32 33 *i* PKIKP **PKPdf** **19 49 07.1 -0.3**
MNK *i* 19 50 31.9
MNK *i* 19 56 19.1
MNK *i* SS SS 20 07 00.3 +0.2
MNK pmax pmax
comp=N,7.0nm,1.0s
MNK pmax pmax
comp=E,21nm,1.0s
MNK pmax pmax
comp=Z,85nm,0.9s
MNK MLR MLR
comp=N,1μm,20.0s
NACGM Naroch 120.36 32 *e*PKP **PKPdf** **19 49 06.9 -0.6**
comp=E,1μm,1.2s
NDI New Delhi 120.44 84 *eP* **PKPdf** **19 49 07.2 -1.3**
VSVD Vaisvydziai 120.54 30 *eP* **PKPdf** **19 49 07.6 -0.1**
BER Bergen 120.71 17 *e*PKPdf **PKiKP** **19 49 08.6 +0.6**
KONO Kongsberg 120.73 20 IAMs_20 IAMs_20 20 35 24.4
comp=Z,2μm,20.0s
KBL Kabul 120.85 73 **PKPdf** **19 49 08.8 -0.6**
KBL Kabul 120.85 73 PKIKP **PKPdf** **19 49 08.8 -0.6**
RSSD Black Hills 120.92 305 **PKPdf** **19 49 08.3 -0.9**
RSSD Black Hills 120.92 305 PKIKP **PKPdf** **19 49 08.3 -0.9**
RSSD MLR MLR
comp=Z,3μm,22.0s
VORD Divnogorie 120.96 42 *e*PKIKP **PKPdf** **19 49 05.8 -2.9**
VORD pmax pmax
comp=Z,30nm,1.0s
BOK Bokaro 121.08 95 *eP* **PKPdf** **19 49 09.4 -0.5**
VSR Storozhevoye 121.12 42 *e*PKIKP **PKPdf** **19 49 06.1 -2.9**
VSR pmax pmax
comp=Z,30nm,1.0s
OSL Oslo 121.21 20 *e*PKPdf **PKiKP** **19 49 09.2 +0.2**
E28A Huff 121.46 309 IAMs_20 IAMs_20 20 41 27.8
comp=Z,3μm,22.0s
SKAR Skarslia 121.48 19 *e*PKPdf **PKiKP** **19 49 10.1 +0.4**
VORR Voronezh 121.52 41 *e*PKIKP **PKPdf** **19 49 08.9 -0.9**
VORR pmax pmax
comp=Z,125nm,1.2s
HYA Hoyanger 121.59 17 *e*PKPdf **PKiKP** **19 49 10.2 +0.4**
FOO Floro 121.83 17 *e*PKPdf **PKiKP** **19 49 11.1 +1.0**
DUG Dugway, Tooele 121.83 296 IAMs_20 IAMs_20 20 43 23.0
comp=Z,2μm,22.0s
HFS Hagfors 121.95 22 PKP **PKPdf** **19 49 08.9 -1.5**
comp=Z,13nm,0.8s,baz=195,slow=2.8,SNR=17
HFS PP PP 19 50 34.7 -11
comp=Z,16nm,0.9s,baz=186,slow=7.3,SNR=4.3
HFS PKKPbc **PKKPbc** **19 59 06.9 -0.8**
comp=Z,6.8nm,0.8s,baz=85,slow=3.3,SNR=6.7
VRH Novokhopyorsk 122.02 43 *e*PKIKP **PKPdf** **19 49 10.0 -0.8**
VRH pmax pmax
comp=Z,99nm,0.8s
MDND Maddock 122.03 310 IAMs_20 IAMs_20 20 46 10.8
comp=Z,1μm,20.0s
NC602 NORSAR Array S 122.10 20 *e*PKPdf **PKPdf** **19 49 09.8 -0.8**
BHK Bhakra 122.19 81 *eP* **PKPdf** **19 49 11.4 -0.4**
LPSR Galich'ya Gora 122.19 41 *e*PKIKP **PKPdf** **19 49 08.7 -2.3**
LPSR pmax pmax
comp=Z,60nm,0.9s
NIL Nilore 122.30 77 **PKPdf** **19 49 11.3 -0.7**
NIL Nilore 122.30 77 IAMs_20 IAMs_20 20 44 19.2
comp=Z,2μm,19.0s
NIL Nilore 122.30 77 PKIKP **PKPdf** **19 49 11.3 -0.7**
NIL MLR MLR
comp=Z,2μm,19.0s
PDAR Pinedale Array 122.32 300 **PKPdf** **19 49 10.7 -1.3**
PDAR Pinedale Array 122.32 300 PKP **PKPdf** **19 49 11.3 -0.7**
comp=Z,8.6nm,0.8s,baz=131,slow=4.1,SNR=31
PDAR PKKPbc **PKKPab** **19 59 05.8 -0.2**
comp=Z,1.7nm,0.8s,baz=5.2,slow=1.0,SNR=11
NB2 NORSAR Subarra 122.33 20 PKPdf **PKPdf** **19 49 10.4 -0.7**
comp=Z,44nm,1.1s,baz=202,slow=1.9
NB2 PP PP 19 50 39.8 -8.6
comp=Z,86nm,2.0s,baz=210,slow=7.4
NB2 PKKP **PKKPbc** **19 59 08.5 +2.1**
comp=Z,1.7nm,0.8s,baz=28,slow=4.4
NB2 NORSAR Subarra 122.33 20 PKPdf **PKPdf** **19 49 10.4 -0.7**
baz=202,slow=1.9
NOA NORSAR Array B 122.33 20 PKP **PKPdf** **19 49 10.4 -0.7**
comp=Z,22nm,1.0s,baz=198,slow=1.7,SNR=32
NOA PKKPbc **PKKPbc** **19 59 05.5 -0.8**
comp=Z,3.9nm,0.9s,baz=26,slow=4.1,SNR=6.8
SMLA Simla 122.36 82 ⇑*iP* **PKPdf** **19 49 11.1 -1.0**
SMLA IAmb IAmb 19 49 14.4
comp=Z,28nm,0.8s
SMLA *i* x x 19 50 46.6
NC204 NORSAR Array S 122.47 20 **PKPdf** **19 49 10.3 -1.1**
ULM Lac du Bonnet 122.50 314 PKP **PKPdf** **19 49 10.9 -0.9**
comp=Z,33nm,0.8s,baz=103,slow=0.6,SNR=48
ULM PP **PP** **19 50 45.8 -3.9**
comp=Z,33nm,1.0s,baz=140,slow=7.9,SNR=7.5
ULM PKKPbc **PKKPbc** **19 59 06.6 +1.2**
comp=Z,13nm,1.1s,baz=326,slow=4.4,SNR=6.9
ULM Lac du Bonnet 122.50 314*de*PKIKP **PKPdf** **19 49 11.0 -0.7**
THN Thein Dam 122.62 80 *eP* **PKPdf** **19 49 12.4 -0.2**
AKN Aaknes 122.68 17 *e*PKPdf **PKiKP** **19 49 12.1 +0.1**
DHRM DHARAMSHALA 122.78 81 *eP* **PKPdf** **19 49 13.1 -0.1**
DHRM IAmb IAmb 19 49 14.8
comp=Z,73nm,0.7s
DOMB Dombas 122.89 19 *e*PKPdf **PKPdf** **19 49 12.1 0.0**
MTSE Matsula 122.93 28 *eP* **PKPdf** **19 49 12.2 -0.1**
AHID Auburn Hatcher 123.03 299 IAMs_20 IAMs_20 20 42 07.4
comp=Z,2μm,21.0s
NVAR Mina Array Bea 123.12 291 **PKiKP** **19 49 14.3 +0.5**
NVAR Mina Array Bea 123.12 291 PKP **PKiKP** **19 49 15.0 +1.1**
comp=Z,17nm,0.9s,baz=144,slow=3.6,SNR=59
NVAR PKKPbc **PKKPab** **19 59 04.8 +1.8**
comp=Z,4.4nm,1.0s,baz=289,slow=4.0,SNR=12
JOSI Joshimath 123.16 85 *i P* **PKPdf** **19 49 13.5 -0.4**
KLP Kalpa 123.24 83 *i P* **PKPdf** **19 49 13.9 -0.3**
CMAR Chiang Mai Arr 123.38 110 **PKPdf** **19 49 13.8 -0.6**
CMAR Chiang Mai Arr 123.38 110 PKP **PKPdf** **19 49 14.5 0.0**
comp=Z,69nm,0.8s,baz=235,slow=3.8,SNR=236
CMAR PKKPbc **PKKPab** **19 59 04.0 0.0**
comp=Z,4.1nm,0.9s,baz=360,slow=3.5,SNR=17
SNOW Snow King Moun 123.41 300 IAMs_20 IAMs_20 20 42 08.4
comp=Z,2μm,22.0s
ELK Elko 123.42 294 IAMs_20 IAMs_20 20 44 21.2
comp=Z,1μm,21.0s
ELK Elko 123.42 294 PKP **PKiKP** **19 49 15.1 +0.6**
comp=Z,24nm,1.0s,baz=137,slow=3.6,SNR=40
ELK PKKPbc **PKKPbc** **19 59 04.0 +2.0**
comp=Z,3.1nm,1.0s,baz=347,slow=4.5,SNR=6.1
LOHW Long Hollow 123.46 300 IAMs_20 IAMs_20 20 42 41.6
comp=Z,2μm,21.0s
VSU Vasula 123.46 30*c i*PKIKP **PKPdf** **19 49 12.8 -0.5**
VSU MLR MLR
comp=Z,1μm,20.0s
OBN Obninsk 123.49 37 **PKPdf** **19 49 11.6 -1.8**
OBN IAMs_20 IAMs_20 20 41 30.0
comp=Z,2μm,19.0s
OBN Obninsk 123.49 37 PKP **PKPdf** **19 49 12.9 -0.5**
comp=Z,63nm,0.8s,baz=256,slow=0.6,SNR=14
OBN Obninsk 123.49 37 ⇑P **PKPdf** **19 49 13.2 -0.2**
OBN Obninsk 123.49 37*c i*PKIKP **PKPdf** **19 49 12.9 -0.5**
OBN *i* 19 50 59.7
OBN *e* 19 56 17.8
OBN *e*SS SS 20 07 32.0 -8.4
OBN pmax pmax
comp=Z,71nm,0.8s
OBN MLR MLR
comp=Z,1μm,20.0s
TPAW Teton Pass 123.52 299 IAMs_20 IAMs_20 20 42 11.4
comp=Z,2μm,22.0s
MOOW Moose Ponds 123.63 300 IAMs_20 IAMs_20 20 42 45.2
comp=Z,2μm,21.0s
FXWY Fox Creek 123.67 300 IAMs_20 IAMs_20 20 42 16.3
comp=Z,2μm,22.0s
CHTO Chiang Mai 123.68 110 **PKPdf** **19 49 14.3 -0.7**
CHTO Chiang Mai 123.68 110 PKIKP **PKPdf** **19 49 14.3 -0.7**
CHTO MLR MLR
comp=Z,1μm,21.0s
LAO LASA Array 123.89 305 IAMs_20 IAMs_20 20 42 45.6
comp=Z,2μm,21.0s
RLMT Red Lodge 124.02 302 IAMs_20 IAMs_20 20 49 31.3
comp=Z,2μm,19.0s
SIMJ Simiganj 124.04 70 **PKPdf** **19 49 15.0 -0.3**
ARBE Arbavere 124.11 29 *eP* **PKiKP** **19 49 14.8 0.0**
DAV Davao City (W) 124.25 144 IAMs_20 IAMs_20 20 46 58.6
comp=Z,1μm,20.0s
MOS Moscow 124.34 38 *i* PKIKP **PKPdf** **19 49 14.4 -0.7**
MOS *e*SS SS 20 07 44.9 -6.3
MOS pmax pmax
comp=Z,86nm,0.8s
MEF Metsahovi 124.39 28 *eP* **PKiKP** **19 49 15.3 0.0**
DGMT Dagmar 124.41 308 IAMs_20 IAMs_20 20 42 41.1
comp=Z,2μm,21.0s
RAF Rauma 124.48 26 *eP* **PKPdf** **19 49 14.6 -0.6**
AZL Aizawl 124.60 101 *eP* **PKiKP** **19 49 17.5 +0.4**
BELG Belogornoye 125.17 46 PP **PP** **19 51 05.2 -2.4**
comp=Z,46nm,1.0s,baz=135,slow=3.6,SNR=5.5
BELG Belogornoye 125.17 46*c i*PKIKP **PKPdf** **19 49 16.0 -0.7**
GTK Tadong 125.36 95 *eP* **PKiKP** **19 49 18.9 +0.4**
DY2G Dye2 125.38 350 *i P* **PKPdf** **19 49 15.8 -1.3**
BOZ Bozeman (W) 125.45 301 IAMs_20 IAMs_20 20 43 42.3
comp=Z,2μm,20.0s
SHL Shillong 125.67 99 *eP* **PKPdf** **19 49 18.6 -0.3**
SHL IAmb IAmb 19 49 24.2
comp=Z,22nm,0.4s
NSS Namsos 125.69 19 *e*PKPdf **PKPdf** **19 49 17.4 0.0**
DLMT Dillon 125.71 300 IAMs_20 IAMs_20 20 46 17.4
comp=Z,2μm,21.0s
FINES FINESS Array B 125.87 28 **PKPdf** **19 49 16.6 -1.2**
FINES FINESS Array B 125.87 28 PKP **PKPdf** **19 49 17.3 -0.5**
comp=Z,47nm,0.8s,baz=206,slow=2.0,SNR=104
DRK Karamyk 126.06 72 IAMs_20 IAMs_20 20 47 39.4
comp=Z,1μm,19.0s
KEF Keuruu 126.21 27 *eP* **PKPdf** **19 49 17.9 -0.5**
SFJD Kangerlussuaq 126.32 348 **PKPdf** **19 49 18.2 -0.2**
SFJD Kangerlussuaq 126.32 348 PKIKP **PKPdf** **19 49 18.3 -0.2**
SFJD MLR MLR
comp=Z,3μm,18.0s
SFJD Kangerlussuaq 126.32 348 *i P* **PKPdf** **19 49 17.6 -0.9**
VAF Ylistaro 126.46 25 *eP* **PKPdf** **19 49 18.7 -0.2**
RSD Rainshed 126.95 245 **PKiKP** **19 49 22.3 +0.4**
KOHI KOHIMA 126.96 101 *eP* **PKiKP** **19 49 21.6 -0.2**
VALR Valaam 127.03 30*de*PKIKP **PKPdf** **19 49 19.9 -0.1**
IUG Iuzhnay 127.20 68 *e*PKP **PKPdf** **19 49 20.7 -0.5**
IUG *e*PP **PP** **19 51 19.4 -2.0**
IUG Iuzhnay 127.20 68 *e*PKIKP **PKPdf** **19 49 20.7 -0.5**
IUG *e* 19 51 19.4
ICESG Greenland Ices 127.45 354 *i P* **PKPdf** **19 49 19.2 -1.9**
STOK Stokkvaagen 127.53 18 *e*PKPdf **PKPdf** **19 49 20.4 -0.4**
MORB Moi Rana 127.62 19 *e*PKPdf **PKPdf** **19 49 20.9 -0.2**
KONS Konsvik 127.70 18 *e*PKPdf **PKiKP** **19 49 22.1 +0.4**
BRLS Borolday 127.76 67 *e*PKP **PKPdf** **19 49 21.0 -1.2**
BRLS *e*PP **PP** **19 51 21.5 -3.5**
BRLS Borolday 127.76 67 *e*PKIKP **PKPdf** **19 49 20.9 -1.2**
BRLS *e* 19 51 21.5
YBH Yreka Blue Hor 127.83 290 PKP **PKPdf** **19 49 22.4 0.0**
comp=Z,24nm,1.2s,baz=117,slow=4.5,SNR=18
KSH Kashi 128.20 75 PKP **PKPdf** **19 49 22.7 -0.5**
KSH sPKP 19 49 38.0
KSH PP **PP** **19 51 25.1 -3.0**
KSH LR LR
comp=Z,1μm,18.9s
KSH LR LR
comp=Z,900nm,20.3s
KSH LR LR
comp=Z,1μm,22.0s
ZIRO ZIRO 128.28 99 *eP* **PKiKP** **19 49 24.9 +0.4**
FFC Flin Flon 128.33 314 **PKPdf** **19 49 22.1 -0.6**
FFC Flin Flon 128.33 314 PKIKP **PKPdf** **19 49 22.1 -0.6**
DZA Taraz 128.39 69 *e*PKP **PKPdf** **19 49 22.9 -0.4**
DZA Taraz 128.39 69 *e*PKIKP **PKPdf** **19 49 22.9 -0.4**
JOF Joensuu 128.44 29 *eP* **PKPdf** **19 49 22.8 +0.1**
LSA Lhasa 128.61 95 PKP PKPdf 19 49 11.1 -14
LSA PP PP 19 50 55.3 -36
LSA LR LR
comp=N,700nm,20.1s
LSA LR LR
comp=Z,1μm,21.9s
PATS Pohnpei 128.64 185 **PKPdf** **19 49 24.3 -0.3**
TNCH TengChong 128.66 105 ⇑PKP **PKPdf** **19 49 24.1 -0.5**
TNCH sPKP 19 49 30.6
TNCH AMB AMB
comp=Z,490nm,5.5s
TNCH LR LR
comp=Z,610nm,7.3s
TNCH LR LR
comp=Z,550nm,5.3s
TNCH LR LR
comp=Z,820nm,20.8s
FAUS Fauske 128.86 19 *e*PKPdf **PKPdf** **19 49 22.9 -0.5**
AML Almayashu 129.00 71 P **PKPdf** **19 49 25.0 0.0**
SNR=28
KLMR Klimovskoe 129.07 35*c i*PKIKP **PKPdf** **19 49 23.5 -0.4**
KLMR *e* 19 51 30.0
KLMR pmax pmax
comp=Z,272nm,1.1s
QIZ Qiongzhong 129.07 121 PKP **PKiKP** **19 49 26.1 +0.1**
QIZ PP **PP** **19 51 36.3 +3.0**
QIZ LR LR
comp=Z,2μm,14.1s
QIZ LR LR
comp=Z,920nm,19.4s
QIZ LR LR
comp=Z,1μm,22.6s
STEI Steigen 129.35 19 *e*PKPdf **PKPdf** **19 49 24.2 -0.1**
EKS2 Erkin-Say 129.43 71 P **PKPdf** **19 49 25.5 0.0**
SNR=32
UCH Uchtor 129.48 71 P **PKiKP** **19 49 26.6 -0.1**
SNR=5.5
F07A Phinny Hill Vi 129.54 295 IAMs_20 IAMs_20 20 47 46.9
comp=Z,1μm,20.0s
NRN Naryn 129.64 73 IAMs_20 IAMs_20 20 48 35.7
comp=Z,2μm,19.0s
HAWA Hanford 129.72 296 IAMs_20 IAMs_20 20 48 15.7
comp=Z,1μm,21.0s
AAK Ala-Archa 129.77 71 P **PKPdf** **19 49 26.2 0.0**
SNR=48
AAK Ala-Archa 129.77 71 **PKPdf** **19 49 25.2 -1.0**
AAK Ala-Archa 129.77 71*ce*PKIKP **PKPdf** **19 49 26.1 0.0**
AAK pmax pmax
comp=Z,69nm,0.7s
AAK MLR MLR
comp=Z,3μm,21.0s
NEW Newport 129.95 299 IAMs_20 IAMs_20 20 48 34.5
comp=Z,2μm,20.0s
NEW Newport 129.95 299 PKP **PKPdf** **19 49 25.7 -0.5**
comp=Z,19nm,1.1s,baz=137,slow=2.9,SNR=24
NEW SKPbc SKPab 19 52 43.9 -1.3
comp=Z,29nm,0.9s,baz=248,slow=2.0,SNR=8.6
KBK Karagaybulak 130.01 71 P **PKPdf** **19 49 26.6 0.0**
SNR=27
CHMS Chumysh 130.17 71 P **PKPdf** **19 49 26.7 0.0**
SNR=20
COR Corvallis 130.22 292 **PKiKP** **19 49 28.2 +0.8**
COR Corvallis 130.22 292 PKIKP **PKiKP** **19 49 28.3 +0.8**
USP Ospenovka 130.24 71 P **PKPdf** **19 49 26.9 0.0**
SNR=34
SGDS Sogindy 130.44 70 *e*PKP **PKPdf** **19 49 26.8 -0.5**
SGDS *e*PP **PP** **19 51 40.8 -1.8**
SGDS Sogindy 130.44 70 *e*PKIKP **PKPdf** **19 49 26.7 -0.5**
SGDS *e* 19 51 40.7
TKM2 Tokmak 2 130.53 72 P **PKPdf** **19 49 27.4 -0.3**
SNR=17
KIRV Kirov 130.57 42 PKP **PKPdf** **19 49 26.4 -0.4**
comp=Z,63nm,0.8s,baz=192,slow=1.6,SNR=26
KIRV PP **PP** **19 51 40.6 -2.4**
comp=Z,28nm,0.5s,baz=202,slow=3.7,SNR=5.7
SUMG Summit 130.85 355 *i P* **PKPdf** **19 49 27.0 -0.6**
KMI Kunming 130.87 109 ⇑PKP **PKPdf** **19 49 28.7 -0.2**
WUS Wushi 131.11 76 IAMs_20 IAMs_20 20 51 09.5
comp=Z,1μm,18.0s
TNSS Tian-Shan 131.30 72 *e*PKP **PKPdf** **19 49 28.1 -1.2**
TNSS Tian-Shan 131.30 72 *e*PKIKP **PKPdf** **19 49 28.1 -1.2**
BTLS Baital 131.30 69 *e*PKP **PKPdf** **19 49 28.2 -0.5**
BTLS *e*PP **PP** **19 51 46.3 -1.7**
BTLS Baital 131.30 69 *e*PKIKP **PKPdf** **19 49 28.2 -0.5**
BTLS *e* 19 51 46.3
MDOK Medeo 131.44 72 *e*PKP **PKPdf** **19 49 28.6 -0.8**
MDOK LR LR 20 46 47.4
comp=Z,810nm,20.0s
MDOK Medeo 131.44 72 *e*PKIKP **PKPdf** **19 49 28.5 -0.8**
MDOK MLR MLR
comp=Z,810nm,20.0s
TRO Tromso 131.49 19 *e*PKPdf **PKPdf** **19 49 27.9 -0.3**
PZH PanZhiHua 131.51 107 PKP **PKPdf** **19 49 30.1 +0.2**
PZH sPKP 19 49 39.5
PZH AMB AMB
comp=Z,490nm,5.5s
PZH LR LR
comp=Z,950nm,12.9s
PZH LR LR
comp=Z,510nm,13.0s
PZH LR LR
comp=Z,920nm,16.2s
KUU Kurty 131.61 71 *e*PKP **PKPdf** **19 49 28.9 -0.6**
KUU LR LR 20 46 54.4
comp=Z,1μm,19.3s
KUU Kurty 131.61 71 *e*PKIKP **PKPdf** **19 49 28.8 -0.6**
KUU MLR MLR
comp=Z,1μm,19.0s
JETT Jettan, Norway 131.68 20 *e*PKPdf **PKPdf** **19 49 28.6 -0.2**
KTK1 Kautokeino 131.74 21 *e*PKPdf **PKPdf** **19 49 28.1 -0.8**
CHKK Chushkaly 131.91 72 *e*PKP **PKPdf** **19 49 29.2 -0.8**
CHKK Chushkaly 131.91 72 *e*PKIKP **PKPdf** **19 49 29.2 -0.8**
SATY Saty 132.05 73 *e*PKP **PKPdf** **19 49 29.8 -0.6**
SATY *e*PP **PP** **19 51 51.1 -2.0**
SATY Saty 132.05 73 *e*PKIKP **PKPdf** **19 49 29.8 -0.6**
SATY *e* 19 51 51.0
ZHN Zhinishke 132.14 73 *e*PKP **PKPdf** **19 49 29.7 -0.9**
ZHN Zhinishke 132.14 73 *e*PKIKP **PKPdf** **19 49 29.6 -0.9**
ARTI Arti 132.33 48 IAMs_20 IAMs_20 20 50 58.5
comp=Z,2μm,20.0s
ARTI Arti 132.33 48 *i* PKIKP **PKPdf** **19 49 29.8 -0.5**
ARTI 19 51 50.8
ARTI SS SS 20 09 22.0 -8.2
UZB Uzynbulak 132.43 74 *e*PKP **PKPdf** **19 49 30.3 -0.9**
UZB Uzynbulak 132.43 74 *e*PKIKP **PKPdf** **19 49 30.2 -0.9**
UPNV Upernavik 132.44 348 *i P* **PKPdf** **19 49 29.4 -0.6**
KPKS Kokpek 132.49 73 *e*PKP **PKPdf** **19 49 30.4 -0.8**
KPKS Kokpek 132.49 73 *e*PKIKP **PKPdf** **19 49 30.4 -0.8**
NLWA Neilton Lookou 132.51 294 IAMs_20 IAMs_20 20 56 10.8
comp=Z,1μm,19.0s
ARXS Arharly 132.59 72 *e*PKIKP **PKPdf** **19 49 30.1 -1.2**
ARA0 ARCESS Array S 132.62 22 *e*PKPdf **PKPdf** **19 49 29.9 -0.6**
ARCES ARCESS Array B 132.62 22 PKhKP PKPpre 19 49 12.5
comp=Z,3.6nm,0.7s,baz=221,slow=2.6,SNR=12
ARCES PKP **PKPdf** **19 49 29.7 -0.8**
comp=Z,30nm,0.7s,baz=222,slow=1.2,SNR=55
ARCES PP **PP** **19 51 53.2 -2.9**
comp=Z,30nm,0.8s,baz=212,slow=4.3,SNR=16
SHLS Shalkode 132.66 74 *e*PKP **PKPdf** **19 49 31.5 -0.1**
SHLS Shalkode 132.66 74 *e*PKIKP **PKPdf** **19 49 31.4 -0.1**
APA Apatity 132.73 27 ⇓*i*PKIKP **PKPdf** **19 49 26.5 -4.2**
APA pmax pmax
comp=Z,23nm,0.7s
KEV Kevo 133.10 22 **PKPdf** **19 49 30.2 -1.1**
KEV IAMs_20 IAMs_20 20 39 31.3
comp=Z,2μm,22.0s
KEV Kevo 133.10 22 PKIKP **PKPdf** **19 49 30.2 -1.1**
KEV MLR MLR
comp=Z,2μm,22.0s
HAMF Hammerfest 133.20 20 *e*PKPdf **PKPdf** **19 49 30.3 -1.2**
LVZ Lovozero 133.28 27 **PKPdf** **19 49 30.8 -1.0**
LVZ Lovozero 133.28 27*de*PKIKP **PKPdf** **19 49 31.3 -0.5**
TDK Taldyqorghan 133.44 72 *e*PKP **PKPdf** **19 49 32.1 -0.8**
TDK LR LR 20 47 35.7
comp=Z,873nm,20.2s
TDK Taldyqorghan 133.44 72 *e*PKIKP **PKPdf** **19 49 32.0 -0.8**
TDK MLR MLR
comp=Z,873nm,20.0s
SVE Sverdlovsk 133.53 49 *e*PKIKP **PKiKP** **19 49 33.2 -0.6**
VADS Vadso 133.87 23 *e*PKPdf **PKPdf** **19 49 33.1 +0.3**
GYA Guiyang 133.92 112 PKP **PKPdf** **19 49 33.3 -1.2**
GYA PKS **PKSdf** **19 53 04.4 -6.6**
BRZS Berezniki 134.11 63 *e*PKP **PKPdf** **19 49 33.3 -0.7**
BRZS Berezniki 134.11 63 *e*PKIKP **PKPdf** **19 49 33.2 -0.7**
KULLO Kullorsuaq 134.23 349 *i P* **PKPdf** **19 49 31.6 -1.8**
DAG Danmarks Havn 134.82 2 *i P* **PKPdf** **19 49 33.6 -0.8**
BRVK Borovoye 135.09 58 PKPpre 19 49 23.9
BRVK Borovoye 135.09 58*ce*PKIKP **PKPdf** **19 49 35.1 -0.5**
BRVK MLR MLR
comp=Z,3μm,22.0s
BVAR Borovoye Array 135.11 58 PKhKP PKPpre 19 49 22.4
comp=Z,9.3nm,0.9s,baz=153,slow=1.7,SNR=22
BVAR PKP **PKPdf** **19 49 35.3 -0.4**
comp=Z,61nm,0.8s,baz=234,slow=1.0,SNR=37
BVAR PP **PP** **19 52 09.6 -2.7**
comp=Z,11nm,0.9s,baz=216,slow=4.5,SNR=5.5
BVAR SKPbc **SKPbc** **19 52 59.9 -3.2**
comp=Z,6.5nm,0.8s,baz=304,slow=0.5,SNR=2.8
GOMU GeErMu 135.58 93 PKP PKPpre 19 49 24.7
GOMU pPKP PKPdf 19 49 38.1 +0.5
GOMU sPKP 19 50 02.2
GOMU PP PP 19 52 59.1 +43
GOMU SKS 19 59 19.2
GOMU GeErMu 135.58 93 SKKS 20 01 56.8
GOMU GeErMu 135.58 93 SS SS 20 10 02.3 -8.2
GOMU AMB AMB
comp=Z,640nm,5.3s
GOMU LR LR
comp=N,1μm,18.8s
GOMU LR LR
comp=E,1μm,20.6s
GOMU LR LR
comp=Z,2μm,18.8s

CD2	Chengdu	136.12	106	PKP	PKPdf	19 49 38.3	0.0
CD2				PKS	PKSbc	19 53 12.7	+1.1
NEEM	North Greenlan	136.37	352	*i* P	PKPdf	19 49 33.7	-4.0
MAKZ	Makanchi	136.49	72		PKPpre	19 49 30.2	
MAKZ	Makanchi	136.49	72	PKHKP	PKPpre	19 49 30.2	
MAKZ				MLR	MLR		
comp=Z,2μm,20.0s							
MKAR	Makanchi Array	136.64	72	PKhKP	PKPpre	19 49 27.6	
comp=Z,6.5nm,0.7s,baz=250,slow=2.8,SNR=11							
MKAR				PKP	PKPdf	19 49 37.5	-1.3
comp=Z,25nm,0.9s,baz=232,slow=2.1,SNR=18							
MKAR				PP	PP	19 52 20.5	-1.5
comp=Z,5.2nm,1.0s,baz=232,slow=1.6,SNR=2.8							
MKAR				SKPbc	SKPbc	19 53 02.8	-5.2
comp=Z,4.9nm,0.9s,baz=243,slow=2.3,SNR=2.7							
TULEG	Thule	137.31	346	*i* P	PKPdf	19 49 36.4	-2.7
KURBB	Kurchatov Arra	137.33	66	PKhKP	PKPpre	19 49 28.5	
comp=Z,11nm,0.8s,baz=233,slow=3.3,SNR=24							
KURBB				PKP	PKPdf	19 49 39.2	-0.6
comp=Z,32nm,0.8s,baz=230,slow=2.1,SNR=29							
KURBB				PP	PP	19 52 25.9	-0.3
comp=Z,10nm,1.3s,baz=229,slow=6.5,SNR=9.5							
KURBB				SKPbc	SKPbc	19 53 06.6	-3.2
comp=Z,3.5nm,0.8s,baz=237,slow=3.5,SNR=2.9							
KURBB				PKKP	PKKPdf	19 59 14.8	+0.9
comp=Z,0.4nm,0.4s,baz=42,slow=1.6,SNR=4.4							
WMQ	Urumqi	137.36	79	*e*PKP	PKPdf	19 49 38.7	-1.5
WMQ				PP	PP	19 52 27.6	+1.0
WMQ				PKS	PKSdf	19 53 15.5	-0.8
WMQ				AMB	AMB		
comp=Z,330nm,4.9s							
WMQ				LR	LR		
comp=Z,870nm,19.9s							
WMQ				LR	LR		
comp=Z,1μm,18.3s							
WMQ				LR	LR		
comp=Z,930nm,17.5s							
KURK	Kurchatov	137.44	66		PKPpre	19 49 28.7	
KURK	Kurchatov	137.44	66	PKIKP	PKPdf	19 49 39.2	-0.8
HOPEN	Hopen	138.23	16	*e*PKPdf	PKiKP	19 49 42.3	-0.5
ZSN	Zaisan	138.38	73	*e*PKP	PKPdf	19 49 41.5	-0.5
ZSN	Zaisan	138.38	73	*e*PKIKP	PKPdf	19 49 41.4	-0.5
YKA	Yellowknife Ar	138.44	316		PKPpre	19 49 31.1	
YKA	Yellowknife Ar	138.44	316	PKhKP	PKPpre	19 49 31.2	
comp=Z,1.4nm,0.4s,baz=312,slow=3.9,SNR=13							
YKA				PKP	PKPdf	19 49 41.8	+0.3
comp=Z,98nm,0.9s,baz=132,slow=2.2,SNR=77							
YKA				PP	PP	19 52 27.2	-5.7
comp=Z,12nm,0.9s,baz=121,slow=6.0,SNR=6.8							
YKA				SKPbc	SKPbc	19 53 10.8	-1.9
comp=Z,4.0nm,0.5s,baz=117,slow=2.6,SNR=14							
SPA0	Spitsbergen Ar	138.51	12	*e*PKPdf	PKiKP	19 49 42.4	-1.0
SPITS	Spitsbergen Ar	138.51	12	PKhKP	PKPpre	19 49 30.8	
comp=Z,13nm,0.8s,baz=160,slow=5.1,SNR=10.0							
SPITS				PKP	PKPdf	19 49 40.0	-1.3
comp=Z,54nm,0.9s,baz=172,slow=4.2,SNR=9.5							
SPITS				PP	PP	19 52 30.3	-2.8
comp=Z,26nm,0.9s,baz=222,slow=1.9,SNR=5.4							
KBS	Kingsbay	138.71	10	IAMs_20	IAMs_20	20 46 05.0	
comp=Z,2μm,20.0s							
KBS	Kingsbay	138.71	10	*e*PKPdf	PKiKP	19 49 42.7	-1.1
KBS	Kingsbay	138.71	10	*i* P	PKiKP	19 49 42.9	-0.9
NOR	Nord	139.69	2	*i* P	PKPpre	19 49 36.9	
LZH	Lanzhou	140.23	101	*e*PKP	PKPpre	19 49 38.4	
LZH				LR	LR		
comp=Z,940nm,13.4s							
LZH				LR	LR		
comp=Z,600nm,13.4s							
LZH				LR	LR		
comp=Z,1μm,14.8s							
GTA	Gaotai	140.61	94	*e*PKP	PKPpre	19 49 38.9	
GTA				PP	PP	19 52 52.9	+6.2
GTA				PKS	PKSdf	19 53 23.7	+1.3
GTA				AMB	AMB		
comp=Z,330nm,14.5s							
GTA				LR	LR		
comp=Z,510nm,20.0s							
GTA				LR	LR		
comp=Z,380nm,21.1s							
GTA				LR	LR		
comp=Z,470nm,20.4s							
WHN	Wuhan	141.02	118	PKP	PKiKP	19 49 50.0	+0.1
XAN	Xi'an	141.23	108	⇑PKP	PKPpre	19 49 41.4	
XAN				LR	LR		
comp=Z,1μm,20.6s							
XAN				LR	LR		
comp=Z,1μm,19.2s							
XAN				LR	LR		
comp=Z,2μm,20.6s							
V35K	Ketchikan	141.34	299	IAMs_20	IAMs_20	20 58 02.0	
comp=Z,2μm,19.0s							
WRAK	Wrangell Islan	142.31	300	IAMs_20	IAMs_20	20 59 39.3	
comp=Z,2μm,19.0s							
DLBC	Dease Lake	142.38	304	SKPbc	SKPbc	19 53 22.7	-0.6
comp=Z,9.0nm,0.8s,baz=76,slow=2.7,SNR=4.3							
ZALV	Zalesovo Beam	142.42	65	PKhKP	PKPpre	19 49 43.2	
comp=Z,18nm,0.6s,baz=255,slow=3.5,SNR=35							
ZALV				PP	PP	19 52 57.5	+0.1
comp=Z,6.8nm,0.9s,baz=271,slow=7.0,SNR=3.5							
ZALV				SKPbc	SKPbc	19 53 19.8	-3.6
comp=Z,7.8nm,0.9s,baz=243,slow=6.3,SNR=2.9							
U33K	Whale Pass	142.49	299	IAMs_20	IAMs_20	20 58 40.4	
comp=Z,2μm,21.0s							
S34M	Telegraph Cree	142.59	302	IAMs_20	IAMs_20	20 53 41.4	
comp=Z,2μm,20.0s							
R33M	Jennings River	143.31	304	IAMs_20	IAMs_20	20 59 59.2	
comp=Z,1μm,20.0s							
LYN	LuoYang	143.40	112	PKP	PKPbc	19 49 48.8	+0.2
LYN				AMB	AMB		
comp=Z,640nm,4.5s							
LYN				LR	LR		
comp=Z,1μm,17.5s							
LYN				LR	LR		
comp=Z,1μm,17.9s							
LYN				LR	LR		
comp=Z,1μm,20.6s							
Q32M	Nakina River	143.65	303	IAMs_20	IAMs_20	20 55 24.5	
comp=Z,1μm,20.0s							
S32K	Killisnoo	143.91	300	IAMs_20	IAMs_20	20 54 56.6	
comp=Z,2μm,22.0s							
MIDW	Midway	144.21	225		PKPbc	19 49 51.1	-0.1
NJ2	Nanjing	144.36	122	⇑PKP	PKPbc	19 49 52.2	+0.6
P33M	Teslin, Yukon	144.53	305		PKPbc	19 49 51.3	-0.1
P33M				IAMs_20	IAMs_20	20 51 45.5	
comp=Z,2μm,22.0s							
P33M	Teslin, Yukon	144.53	305	P	PKPbc	19 49 51.9	+0.5
baz=119							
SSE	Sheshan	144.57	125	PKP	PKPab	19 49 51.5	-0.6
SSE				PP	PP	19 53 15.7	+5.5
SSE				SS	SS	20 11 58.6	+4.2
SSE				AMB	AMB		
comp=Z,510nm,4.6s							
SSE				LR	LR		
comp=Z,670nm,18.3s							
SSE				LR	LR		
comp=Z,400nm,18.9s							
BESE	Bessie Mountai	144.61	301	PKPdf	PKPdf	19 49 52.5	-0.3
P32M	Atlin	144.61	303		PKPbc	19 49 52.1	+0.4
P32M				IAMs_20	IAMs_20	20 51 19.8	
comp=Z,1μm,22.0s							
P32M	Atlin	144.61	303	P	PKPdf	19 49 52.3	-0.4
baz=120							
S31K	Pelican	144.92	300		PKPdf	19 49 53.3	+0.1
S31K	Pelican	144.92	300	P	PKPdf	19 49 53.2	0.0
baz=120							
MMPY	Sheldon Lake,	145.03	309		PKPab	19 49 53.0	+0.1
MMPY				IAMs_20	IAMs_20	20 53 50.0	
comp=Z,2μm,20.0s							
MMPY	Sheldon Lake,	145.03	309	P	PKPdf	19 49 53.4	+0.1
baz=117							
N32M	Quiet Lake	145.10	306		PKPdf	19 49 53.5	0.0
N32M				IAMs_20	IAMs_20	20 54 56.4	
comp=Z,1μm,21.0s							
N32M	Quiet Lake	145.10	306	P	PKPdf	19 49 54.1	+0.6
baz=118							
SKAG	Skagway	145.26	303		PKPab	19 49 53.9	+0.1
SKAG				IAMs_20	IAMs_20	21 02 16.3	
comp=Z,1μm,19.0s							
SKAG	Skagway	145.26	303	P	PKPab	19 49 54.5	+0.7
baz=119							
C36M	Paulatuk	145.26	322		PKPbc	19 49 52.4	-1.0
C36M	Paulatuk	145.26	322	P	PKPbc	19 49 52.8	-0.6
baz=113							
WHY	Whitehorse	145.64	305	P	PKPab	19 49 55.3	0.0
baz=118							
FARO	Faro, Yukon	145.71	308	P	PKPab	19 49 55.7	+0.2
baz=116							
PLBC	Pleasant Camp	145.73	302	P	PKPab	19 49 56.1	+0.6
baz=118							
TIY	Taiyuan	145.87	108	PKPbc	PKPab	19 49 56.6	-0.2
TIY				SS	SS	20 12 11.2	+1.3
TIY				AMB	AMB		
comp=Z,500nm,8.3s							
TIY				LR	LR		
comp=Z,380nm,13.7s							
TIY				LR	LR		
comp=Z,440nm,14.4s							
TIY				LR	LR		
comp=Z,810nm,22.7s							
M31M	Drury Creek, Y	146.14	307	IAMs_20	IAMs_20	20 59 23.9	
comp=Z,1μm,21.0s							
M31M	Drury Creek, Y	146.14	307	P	PKPab	19 49 56.7	-0.3
baz=116							
O30N	Mendenhall	146.22	304	IAMs_20	IAMs_20	21 02 02.1	
comp=Z,1μm,20.0s							
O30N	Mendenhall	146.22	304	P	PKPab	19 49 57.5	0.0
baz=117							
P30M	Million Dollar	146.31	303	P	PKPab	19 49 57.9	+0.1
baz=117							
N31M	Braeburn, Yuko	146.41	306	IAMs_20	IAMs_20	20 53 45.1	
comp=Z,2μm,22.0s							
N31M	Braeburn, Yuko	146.41	306	P	PKPbc	19 49 57.5	+0.3
baz=116							
P29M	Windy Craggy	146.42	302	IAMs_20	IAMs_20	20 53 35.9	
comp=Z,2μm,22.0s							
P29M	Windy Craggy	146.42	302	P	PKPab	19 49 57.9	-0.3
baz=118							
A36M	Sachs Harbour	146.59	326	P	PKPbc	19 49 57.6	+0.3
baz=108							
HNS	HongShan	146.76	111	⇑PKPbc	PKPdf	19 49 56.9	-0.1
HNS				PKPab	PKPbc	19 49 59.4	+0.6
HNS				sPKP		19 50 10.0	
HNS				SS	SS	20 12 14.7	-5.0
HNS				LR	LR		
comp=Z,1μm,18.3s							
HNS				LR	LR		
comp=Z,970nm,20.7s							
BTO	Baotou	146.82	102	*e*PKPbc	PKPdf	19 49 56.6	-0.6
BTO				PKPab	PKPbc	19 49 59.6	+0.5
BTO				pPKP	pPKPdf	19 50 07.9	-0.4
BTO				sPKP		19 50 10.7	
BTO				LR	LR		
comp=Z,500nm,5.6s							
BTO				LR	LR		
comp=Z,610nm,6.3s							
BTO				LR	LR		
comp=Z,2μm,16.5s							
HYT	Haines Junctio	146.87	304	P	PKPab	19 49 59.7	-0.4
baz=116							
N30M	Aishikik Lake	146.96	305	P	PKPab	19 49 59.7	-0.6
baz=115							
TIA	Tai'an	146.99	115	PKPbc	PKPbc	19 50 00.0	+0.4
TIA				SKKS		20 00 07.1	
TIA				AMB	AMB		
comp=Z,1μm,5.5s							
TIA				LR	LR		
comp=Z,690nm,14.7s							
TIA				LR	LR		
comp=Z,1μm,20.6s							
TIA				LR	LR		
comp=Z,1μm,20.6s							
O29M	Mount Kennedy	147.11	303	P	PKPbc	19 49 59.6	+0.3
baz=116							
PNL	Peninsula	147.19	301	P	PKPab	19 50 00.4	-0.8
baz=117							
YUK6	Outpost Mounta	147.29	304	P	PKPbc	19 50 00.5	+0.5
baz=115							
M30M	Minto, Yukon	147.31	307	IAMs_20	IAMs_20	20 56 32.7	
comp=Z,2μm,20.0s							
M30M	Minto, Yukon	147.31	307	P	PKPbc	19 50 00.2	+0.5
baz=114							
MAYO	Mayo, Yukon	147.35	309	P	PKPbc	19 50 00.3	+0.5
baz=113							
BCPM	Bancas Point	147.43	302	IAMs_20	IAMs_20	20 59 41.5	
comp=Z,1μm,19.0s							
H31M	Peel River	147.57	313	IAMs_20	IAMs_20	21 03 12.8	
comp=Z,2μm,20.0s							
H31M	Peel River	147.57	313	P	PKPbc	19 50 00.4	+0.1
baz=111							
YUK4	Talbot Arm	147.59	304	P	PKPbc	19 50 01.5	+0.8
baz=114							
PINM	Pinnacle	147.77	302	P	PKiKP	19 50 02.1	-0.9
baz=116							
HHC	Hu-ho-hao-te	147.80	104	⇑*i*PKPbc	PKPbc	19 50 02.2	+0.4
HHC				pPKP	pPKPbc	19 50 11.6	-1.2
HHC				SS	SS	20 12 32.3	+0.5
HHC				LR	LR		
comp=Z,500nm,18.6s							
HHC				LR	LR		
comp=Z,710nm,21.6s							
HHC				LR	LR		
comp=Z,1μm,21.6s							
J30M	Hart River	147.90	311	P	PKPbc	19 50 01.7	+0.4
baz=111							
F31M	Tsiigehtchic	147.91	316	IAMs_20	IAMs_20	20 54 27.4	
comp=Z,2μm,22.0s							
F31M	Tsiigehtchic	147.91	316	P	PKPbc	19 50 01.1	+0.1
baz=109							
G31M	Satah River	147.93	315	P	PKPbc	19 50 01.3	+0.2
baz=109							
M29M	Somme Creek	147.96	306	P	PKPbc	19 50 02.4	+0.8
baz=113							
O28M	Mount Upton	148.03	303	P	PKiKP	19 50 03.1	-0.7
baz=115							
YUK8	Steele Glacier	148.06	304	P	PKiKP	19 50 02.9	-0.8
baz=114							
L29M	L29M	148.09	308	IAMs_20	IAMs_20	21 03 13.1	
comp=Z,1μm,20.0s							
L29M	L29M	148.09	308	P	PKiKP	19 50 02.6	-0.9
baz=112							
INK	Inuvik	148.11	318	P	PKPbc	19 50 01.8	+0.2
baz=108							
K29M	Barlow Dome	148.11	309	P	PKPbc	19 50 02.3	+0.4
baz=112							
I30M	Mount Dempster	148.16	312	P	PKPbc	19 50 02.3	+0.3
baz=110							
TABL	Table Mountain	148.32	302	IAMs_20	IAMs_20	20 54 13.0	
comp=Z,1μm,21.0s							
YAH	Yahtse	148.56	301	IAMs_20	IAMs_20	21 00 06.2	
comp=Z,1μm,19.0s							
YUK3	Moose Creek	148.56	304	P	PKPbc	19 50 03.6	+0.4
baz=113							
MESA	MESA	148.57	301	P	PKiKP	19 50 04.3	-0.5
baz=114							
CTGM	Chitina Glacie	148.62	303	IAMs_20	IAMs_20	21 02 57.9	
comp=Z,1μm,19.0s							
J29N	Klondike Camp	148.62	310	P	PKiKP	19 50 03.9	-0.6
baz=110							
CTG	Chitna Glacier	148.62	303	P	PKiKP	19 50 04.1	-0.6
baz=114							
EPYK	Eagle Plains	148.68	314	P	PKPbc	19 50 03.5	+0.3
baz=108							
G30M	tAoh Zraii Nji	148.68	315	IAMs_20	IAMs_20	20 53 56.9	
comp=Z,2μm,21.0s							
G30M	tAoh Zraii Nji	148.68	315	P	PKPbc	19 50 03.1	-0.1
baz=108							
F30M	Barrier River	148.71	316	P	PKPbc	19 50 03.3	+0.1
baz=107							
ISLE	Juniper Island	148.92	302	IAMs_20	IAMs_20	20 56 22.9	
comp=Z,2μm,21.0s							
DAWY	Dawson	148.96	309	P	PKPbc	19 50 04.1	+0.1
baz=110							
I29M	Ogilvie Camp,	148.97	312	P	PKPbc	19 50 03.7	-0.2
baz=109							
SNH	Sunshine Point	148.97	301	IAMs_20	IAMs_20	21 00 55.5	
comp=Z,2μm,20.0s							
BVCY	Beaver Creek	148.98	305	P	PKPbc	19 50 04.6	+0.6
baz=112							
WAX	Waxell Ridge	149.09	301	IAMs_20	IAMs_20	20 56 24.5	
comp=Z,1μm,20.0s							
BGLC	Bering Glacier	149.15	300	P	PKiKP	19 50 05.9	+0.2
baz=114							
TGL	Tana Glacier	149.21	302	IAMs_20	IAMs_20	20 56 17.4	
comp=Z,2μm,21.0s							
MOY	Mondy	149.25	79	*e*PKIKP	PKPdf	19 50 00.0	-0.8
MOY				pmax	pmax		
comp=Z,660nm,2.4s							
H29M	Whitestone	149.26	313	P	PKPbc	19 50 05.0	+0.4
baz=107							
CRQE	Cirque	149.32	302	P	PKiKP	19 50 05.8	-0.4
baz=113							
G29M	Pine Creek	149.34	314	P	PKPbc	19 50 05.1	+0.3
baz=106							
CRQM	Cirque	149.34	302	IAMs_20	IAMs_20	21 03 25.6	
comp=Z,1μm,19.0s							
M27K	Edge Creek, AK	149.40	305	IAMs_20	IAMs_20	21 04 12.2	
comp=Z,1μm,19.0s							
M27K	Edge Creek, AK	149.40	305	P	PKiKP	19 50 05.8	-0.6
baz=111							
BJI	Beijing	149.53	110	PKPbc	PKPdf	19 50 01.5	0.0
BJI				LR	LR		
comp=Z,320nm,17.4s							
BJI				LR	LR		
comp=Z,340nm,21.9s							
BJI				LR	LR		
comp=Z,300nm,19.0s							
MCARA	McCarthy VSAT	149.54	303	IAMs_20	IAMs_20	20 58 54.1	
comp=Z,1μm,21.0s							
MCARA	McCarthy VSAT	149.54	303	P	PKiKP	19 50 06.3	-0.1
baz=112							
KAIM	Kayak Island	149.59	300	P	PKiKP	19 50 06.9	+0.3
baz=114							
BCAR	Beaver Creek A	149.62	306		PKPdf	19 50 00.6	-0.3
L27K	Beaver Creek,	149.63	306	IAMs_20	IAMs_20	20 58 25.2	
comp=Z,1μm,20.0s							
L27K	Beaver Creek,	149.63	306	P	PKiKP	19 50 06.4	-0.3
baz=110							
I28M	Miner Creek	149.64	311	P	PKPbc	19 50 05.8	+0.1
baz=108							
VRDI	Verde Repeater	149.67	302	IAMs_20	IAMs_20	21 03 13.7	
comp=Z,1μm,20.0s							
HMT	Hamilton	149.69	300	IAMs_20	IAMs_20	21 07 39.3	
comp=Z,2μm,19.0s							
E29M	Blow River	149.69	317	IAMs_20	IAMs_20	20 54 59.3	
comp=Z,1μm,21.0s							
E29M	Blow River	149.69	317	P	PKPbc	19 50 05.6	0.0
baz=104							
ZAK	Zakamensk	149.72	82	*e*PKHKP	PKPpre	19 50 00.9	
ZAK				pmax	pmax		
comp=Z,400nm,1.5s							
SONM	Songino Array	149.84	89		PKPdf	19 50 00.8	-1.2
SONM	Songino Array	149.84	89	PKP	PKPdf	19 50 01.0	-0.9
comp=Z,168nm,0.9s,baz=205,slow=2.1,SNR=68							
SONM				PKPbc	PKPbc	19 50 06.8	+0.1
comp=Z,168nm,0.9s,baz=224,slow=2.9,SNR=155							
SONM	Songino Array	149.84	89	PKIKP	PKPdf	19 50 01.0	-0.9
M26K	Nabesna, AK	149.90	305	IAMs_20	IAMs_20	20 59 37.5	
comp=Z,2μm,20.0s							
M26K	Nabesna, AK	149.90	305	P	PKiKP	19 50 06.8	-0.4
baz=110							
GLB	Gilahina Butte	149.91	303	IAMs_20	IAMs_20	20 57 30.0	
comp=Z,1μm,20.0s							
EGAK	Eagle	149.92	310	P	PKPbc	19 50 06.2	0.0
baz=108							
K27K	Chicken	150.06	308	P	PKiKP	19 50 07.8	+0.4
baz=108							
NRIK	Noril'sk	150.07	41	PKP	PKPdf	19 50 01.2	-0.2
comp=Z,7.6nm,1.0s,baz=162,slow=12,SNR=7.8							
NRIK				PKPbc	PKPbc	19 50 06.5	+0.1
comp=Z,131nm,0.9s,baz=224,slow=0.7,SNR=116							
BMRM	Bremner River	150.09	301	P	PKiKP	19 50 07.9	+0.2
baz=112							
ULN	Ulaanbaatar	150.20	89		PKPdf	19 50 01.5	-1.0
ULN	Ulaanbaatar	150.20	89	IAMs_20	IAMs_20	21 04 13.6	
comp=Z,1μm,20.0s							
ULN	Ulaanbaatar	150.20	89	PKIKP	PKPdf	19 50 01.5	-1.0
ULN				MLR	MLR		
comp=Z,2μm,20.0s							
D28M	Stokes Point	150.21	319	P	PKiKP	19 50 07.4	-0.2
baz=102							
F28M	Old Crow	150.22	315	P	PKiKP	19 50 07.4	-0.3
baz=104							
L26K	Log Cabin Wild	150.27	306	IAMs_20	IAMs_20	21 05 48.1	
comp=Z,1μm,20.0s							
L26K	Log Cabin Wild	150.27	306	P	PKiKP	19 50 07.9	-0.1
baz=109							
Q23K	Middleton Isla	150.29	298	P	PKiKP	19 50 08.2	+0.2
baz=113							
N25K	Chitina, Valde	150.32	303	IAMs_20	IAMs_20	21 05 27.9	
comp=Z,1μm,20.0s							
N25K	Chitina, Valde	150.32	303	P	PKiKP	19 50 08.7	+0.5
baz=111							
E28M	Babbage River	150.33	317	IAMs_20	IAMs_20	20 56 39.1	
comp=Z,1μm,20.0s							
E28M	Babbage River	150.33	317	P	PKPbc	19 50 07.0	-0.2
baz=102							
I27K	Kandik River	150.35	311	P	PKiKP	19 50 08.1	0.0
baz=106							
EYAK	Cordova Ski Ar	150.45	300	P	PKiKP	19 50 08.8	+0.5
baz=112							
H27K	Steamboat Moun	150.49	312	P	PKiKP	19 50 08.4	0.0
baz=105							
G27K	Doyon Strip	150.69	313	P	PKiKP	19 50 08.7	-0.1
baz=104							
J26L	Joseph Creek	150.83	308	P	PKiKP	19 50 09.4	+0.3
baz=107							
HARP	HAARP	150.85	304	P	PKiKP	19 50 09.4	+0.2
baz=109							
SCRK	Sand Creek	150.85	307	P	PKiKP	19 50 09.6	+0.3
baz=107							
FID	Port Fidalgo	150.86	300	IAMs_20	IAMs_20	20 58 40.6	
comp=Z,2μm,22.0s							
KLU	Klutina	150.87	302	IAMs_20	IAMs_20	20 56 41.5	
comp=Z,2μm,22.0s							
KLU	Klutina	150.87	302	P	PKiKP	19 50 10.0	+0.7
baz=110							
I26K	Coal Creek Min	150.89	310	P	PKiKP	19 50 09.4	+0.2
baz=106							
D27M	Malcolm River	150.97	319	IAMs_20	IAMs_20	20 59 54.7	
comp=Z,2μm,21.0s							
D27M	Malcolm River	150.97	319	P	PKiKP	19 50 09.5	+0.2
baz=100							
E27K	Coleen River	150.98	316	IAMs_20	IAMs_20	20 57 12.6	
comp=Z,2μm,21.0s							
E27K	Coleen River	150.98	316	P	PKiKP	19 50 09.2	-0.1
baz=102							
P23K	Montague Islan	151.00	298	P	PKiKP	19 50 09.9	+0.4
baz=112							
RIDG	Independent Ri	151.14	307	P	PKiKP	19 50 10.4	+0.6
baz=107							
PAX	Paxson	151.17	305	P	PKiKP	19 50 09.8	-0.1
baz=108							
GLI	Glacier Island	151.19	300	IAMs_20	IAMs_20	20 57 16.0	
comp=Z,1μm,21.0s							
GLI	Glacier Island	151.19	300	P	PKiKP	19 50 10.1	+0.2
baz=111							
M24K	Tolsona, Glenn	151.20	303	IAMs_20	IAMs_20	21 00 16.0	
comp=Z,1μm,21.0s							
M24K	Tolsona, Glenn	151.20	303	P	PKiKP	19 50 10.9	+1.0
baz=109							
IRK	Irkutsk	151.26	80	*e*PKIKP	PKPdf	19 50 03.0	-0.8
IRK				*e*		19 50 18.6	
IRK				pmax	pmax		
comp=Z,589nm,2.5s							
DL2	Dalian	151.28	118	⇑PKPbc	PKPbc	19 50 10.3	0.0
DL2				PKPab	PKPab	19 50 18.6	+0.2
DL2				PP	PP	19 53 48.7	-0.8
G26K	Porcupine Rive	151.54	313	P	PKiKP	19 50 10.6	+0.2
baz=102							
K24K	Donnelly Dome	151.55	307	P	PKiKP	19 50 10.7	+0.1
baz=106							
J25K	Salcha River,	151.61	308	P	PKiKP	19 50 11.0	+0.2
baz=105							
SCM	Sheep Creek Mo	151.62	302		PKiKP	19 50 11.2	+0.4
SCM	Sheep Creek Mo	151.62	302	P	PKiKP	19 50 11.3	+0.4
baz=109		

WAT6	Susitna Watana	152.04 303	P	PKiKP	19 50 12.0	+0.2
	baz=107					
SML	Sawmill	152.06 302	P	PKiKP	19 50 12.0	+0.2
	baz=108					
H25L	Birch Creek	152.19 312	P	PKiKP	19 50 12.3	+0.5
	baz=102					
HDA	Harding Lake	152.21 307	P	PKPbc	19 50 11.7	+0.1
	baz=104					
O22K	Cooper Landing	152.26 299	P	PKiKP	19 50 12.5	+0.5
	baz=110					
ILAR	Eielson Array	152.28 308	PKP	PKPdf	19 50 02.6	-2.4
	comp=Z,7.1nm,0.9s,baz=159,slow=11,SNR=37					
ILAR			PKPbc	PKiKP	19 50 12.2	+0.1
	comp=Z,234nm,1.1s,baz=127,slow=1.8,SNR=147					
XLT	XiLinHaoTe	152.31 104	*e*PKPbc	PKiKP	19 50 12.8	-0.1
XLT			pPKP	PKPab	19 50 22.7	-0.1
XLT			PP	PP	19 53 54.5	-1.2
GHO	Glory Hole Cre	152.32 301	IAMs_20	IAMs_20	20 59 46.8	
	comp=Z,1μm,19.0s					
INCN	Inchon	152.35 126		PKPdf	19 50 05.0	-1.0
INCN				PKPbc	19 50 12.1	-0.7
INCN	Inchon	152.35 126	IAMs_20	IAMs_20	21 00 32.1	
	comp=Z,1μm,21.0s					
INCN	Inchon	152.35 126	PKIKP	PKPdf	19 50 05.0	-1.0
INCN			MLR	MLR		
	comp=Z,1μm,21.0s					
PMR	Palmer	152.35 301	P	PKiKP	19 50 12.4	+0.2
	baz=108					
F25K	Christian Rive	152.38 314	P	PKiKP	19 50 12.6	+0.4
	baz=99					
G25K	Bearman Lake	152.40 313	P	PKiKP	19 50 13.2	+1.0
	baz=101					
C26K	Camden Bay	152.43 319	P	PKiKP	19 50 12.8	+0.7
	baz=96					
E25K	Arctic Village	152.43 316	IAMs_20	IAMs_20	21 00 19.0	
	comp=Z,2μm,21.0s					
E25K	Arctic Village	152.43 316	P	PKiKP	19 50 12.8	+0.5
	baz=98					
RC01	Rabbit Creek A	152.47 300	IAMs_20	IAMs_20	21 03 27.0	
	comp=Z,1μm,20.0s					
RC01	Rabbit Creek A	152.47 300	P	PKiKP	19 50 13.1	+0.6
	baz=109					
BRSE	Bradley Lake S	152.47 297	P	PKiKP	19 50 13.0	+0.4
	baz=111					
WAT1	Susitna Watana	152.47 304	P	PKiKP	19 50 12.8	+0.3
	baz=106					
BRLK	Bradley Lake	152.55 297	IAMs_20	IAMs_20	21 06 23.6	
	comp=Z,1μm,20.0s					
POKR	Poker Plat Res	152.59 309	P	PKPbc	19 50 12.5	+0.1
	baz=103					
KDAK	Kodiak Island	152.61 292		PKiKP	19 50 13.0	+0.1
KDAK	Kodiak Island	152.61 292	P	PKiKP	19 50 13.1	+0.3
	baz=113					
KDAK	Kodiak Island	152.61 292	PKIKP	PKiKP	19 50 13.0	+0.1
CNPM	China Poot	152.63 296	IAMs_20	IAMs_20	21 01 54.7	
	comp=Z,2μm,20.0s					
COLA	College	152.70 308		PKPdf	19 50 03.2	-2.3
COLA	College	152.70 308	P	PKPbc	19 50 12.7	0.0
	baz=103					
COLA	College	152.70 308	*i* PKIKP	PKPdf	19 50 04.1	-1.4
WRH	Wood River Hil	152.71 307	IAMs_20	IAMs_20	21 00 07.4	
	comp=Z,1μm,20.0s					
OHAK	Old Harbor	152.73 290	P	PKiKP	19 50 13.4	+0.3
	baz=114					
SYI	Shuyak Island	152.84 294	IAMs_20	IAMs_20	21 00 29.6	
	comp=Z,1μm,21.0s					
Q20K	Shuyak Island	152.84 294	P	PKiKP	19 50 14.1	+0.8
	baz=112					
KSAR	Wonju Array Be	152.84 128		PKPdf	19 50 06.0	-0.7
KSAR	Wonju Array Be	152.84 128	PKIKP	PKPdf	19 50 06.0	-0.7
M22K	Willow	152.85 301	IAMs_20	IAMs_20	21 05 52.9	
	comp=Z,1μm,20.0s					
M22K	Willow	152.85 301	P	PKiKP	19 50 13.8	+0.6
	baz=107					
HOM	Homer	152.87 296	IAMs_20	IAMs_20	21 06 45.1	
	comp=Z,1μm,20.0s					
HOM	Homer	152.87 296	P	PKiKP	19 50 14.0	+0.6
	baz=110					
KSRS	Korea Array	152.87 128	PKP	PKPdf	19 50 06.5	-0.2
	comp=Z,7.2nm,1.1s,baz=203,slow=1.9,SNR=25					
KSRS			PKPbc	PKPbc	19 50 12.8	-1.1
	comp=Z,31nm,0.8s,baz=184,slow=2.0,SNR=29					
D25K	Kavik River	152.88 318	P	PKiKP	19 50 13.2	0.0
	baz=96					
MCK	McKinley	152.88 306	P	PKiKP	19 50 13.8	+0.5
	baz=104					
SII	Sitkinak Islan	152.90 289	P	PKiKP	19 50 14.0	+0.5
	baz=115					
H24K	Noodor Dome	152.92 310	IAMs_20	IAMs_20	20 57 04.6	
	comp=Z,2μm,21.0s					
H24K	Noodor Dome	152.92 310	P	PKiKP	19 50 13.6	+0.2
	baz=101					
G24K	Hadweenzic Riv	152.93 312	IAMs_20	IAMs_20	21 00 34.4	
	comp=Z,1μm,20.0s					
G24K	Hadweenzic Riv	152.93 312	P	PKiKP	19 50 14.1	+0.8
	baz=100					
CAPN	Captain Cook N	153.02 299	P	PKiKP	19 50 15.1	+1.5
	baz=108					
SUA	Susitna One	153.05 300	IAMs_20	IAMs_20	21 03 58.1	
	comp=Z,1μm,21.0s					
SUA	Susitna One	153.05 300	P	PKiKP	19 50 14.5	+0.6
	baz=107					
CUT	Chulitna	153.11 302	IAMs_20	IAMs_20	21 02 17.6	
	comp=Z,1μm,20.0s					
CUT	Chulitna	153.11 302	P	PKiKP	19 50 14.4	+0.6
	baz=106					
NEA2	Nenana	153.15 307	P	PKPbc	19 50 13.7	0.0
	baz=102					
F24K	Squaw Lake	153.21 314	P	PKiKP	19 50 14.6	+0.7
	baz=98					
BWN	Browne	153.22 306	IAMs_20	IAMs_20	21 01 55.1	
	comp=Z,2μm,21.0s					
CHIR	Chirikof Islan	153.31 286	P	PKiKP	19 50 14.4	+0.1
	baz=116					
I23K	Minto, Yukon-K	153.39 309	P	PKPbc	19 50 13.9	-0.2
	baz=101					
TRF	Thorofare Moun	153.40 305	P	PKiKP	19 50 14.8	+0.2
	baz=104					
R18K	Karluk	153.45 291	P	PKiKP	19 50 15.0	+0.4
	baz=113					
O20K	Slope Mountain	153.48 297	P	PKiKP	19 50 14.7	0.0
	baz=109					
E24K	Your Creek	153.51 315	IAMs_20	IAMs_20	20 59 05.5	
	comp=Z,2μm,22.0s					
E24K	Your Creek	153.51 315	P	PKiKP	19 50 15.2	+0.6
	baz=96					
SKT	Skwentna	153.56 301	P	PKiKP	19 50 15.2	+0.4
	baz=106					
Q19K	Cape Douglas,	153.57 294	IAMs_20	IAMs_20	21 00 05.8	
	comp=Z,1μm,22.0s					
Q19K	Cape Douglas,	153.57 294	P	PKiKP	19 50 15.2	+0.3
	baz=111					
H23K	Yukon River	153.59 310	P	PKiKP	19 50 15.2	+0.4
	baz=100					
P19K	Oil Pt	153.62 296	IAMs_20	IAMs_20	21 07 29.0	
	comp=Z,1μm,20.0s					
P19K	Oil Pt	153.62 296	P	PKiKP	19 50 15.1	+0.1
	baz=110					
N20K	Mount Spurr	153.64 299	P	PKiKP	19 50 15.0	0.0
	baz=107					
SPCR	Spurr Chakacha	153.64 299	P	PKPbc	19 50 14.9	0.0
	baz=107					
C24K	Franklin Bluff	153.73 319	IAMs_20	IAMs_20	20 58 31.7	
	comp=Z,2μm,21.0s					
C24K	Franklin Bluff	153.73 319	P	PKiKP	19 50 15.2	+0.4
	baz=93					
D24K	Happy Valley	153.74 318	P	PKiKP	19 50 15.1	+0.2
	baz=94					
BPAW	Bear Paw Mtn.	153.85 306	P	PKiKP	19 50 15.6	+0.2
	baz=102					
G23K	Bananza Creek	153.93 312	IAMs_20	IAMs_20	21 01 25.9	
	comp=Z,1μm,20.0s					
G23K	Bananza Creek	153.93 312	P	PKiKP	19 50 16.4	+0.9
	baz=98					
E23K	Chandalar	153.93 315	IAMs_20	IAMs_20	21 00 00.7	
	comp=Z,2μm,21.0s					
E23K	Chandalar	153.93 315	P	PKiKP	19 50 15.8	+0.3
	baz=95					
MLY	Manley	153.94 308	IAMs_20	IAMs_20	20 58 28.8	
	comp=Z,2μm,21.0s					
MLY	Manley	153.94 308	P	PKPbc	19 50 15.3	-0.1
	baz=100					
TOLK	Toolik Lake Re	153.97 316	IAMs_20	IAMs_20	20 53 25.4	
	comp=Z,2μm,22.0s					
TOLK	Toolik Lake Re	153.97 316	P	PKiKP	19 50 16.1	+0.6
	baz=94					
COLD	Coldfoot	154.06 313	P	PKiKP	19 50 16.7	+1.0
	baz=96					
PPLA	Purkeypile	154.10 303	P	PKiKP	19 50 16.4	+0.4
	baz=104					
Q18K	Katmai Hardscr	154.13 293	P	PKiKP	19 50 16.2	+0.1
	baz=110					
CAST	Castle Rocks	154.18 304	P	PKiKP	19 50 16.0	0.0
	baz=103					
M20K	Styx River	154.26 300	IAMs_20	IAMs_20	21 08 56.1	
	comp=Z,1μm,20.0s					
M20K	Styx River	154.26 300	P	PKiKP	19 50 16.4	+0.1
	baz=105					
H22K	Ishtalitna Cre	154.35 310	P	PKiKP	19 50 16.8	+0.5
	baz=98					
CHUM	Lake Minchumin	154.38 305	P	PKiKP	19 50 16.5	+0.2
	baz=102					
D23K	Nanushuk River	154.39 317	P	PKiKP	19 50 17.2	+0.9
	baz=92					
C23K	Itkillik River	154.40 319	IAMs_20	IAMs_20	20 59 02.4	
	comp=Z,2μm,22.0s					
C23K	Itkillik River	154.40 319	P	PKiKP	19 50 16.8	+0.6
	baz=91					
R17L	Mt. Peulik Vol	154.42 290	P	PKiKP	19 50 17.3	+0.6
	baz=112					
Q17K	Contact Creek	154.42 291	P	PKiKP	19 50 16.9	+0.1
	baz=111					
I21K	Tanana	154.48 308	P	PKiKP	19 50 16.7	+0.2
	baz=99					
P18K	Big Mountain,	154.50 294	IAMs_20	IAMs_20	21 02 59.2	
	comp=Z,1μm,20.0s					
P18K	Big Mountain,	154.50 294	P	PKPbc	19 50 16.6	-0.2
	baz=109					
SNY	Shenyang	154.50 116	⇑PKPbc	PKPdf	19 50 06.5	-2.3
SNY			PP	PP	19 54 13.1	+5.4
SNY			SS	SS	20 13 49.0	+3.6
SNY			LR	LR		
	comp=Z,540nm,19.4s					
SNY			LR	LR		
	comp=Z,640nm,20.6s					
SNY			LR	LR		
	comp=Z,2μm,20.0s					
G22K	Bettles	154.54 312	P	PKiKP	19 50 17.3	+0.7
	baz=96					
N19K	Bonanza Creek	154.59 298	IAMs_20	IAMs_20	21 03 39.2	
	comp=Z,2μm,20.0s					
N19K	Bonanza Creek	154.59 298	P	PKPbc	19 50 16.8	-0.2
	baz=106					
O18K	Koktuh Hills	154.63 295	IAMs_20	IAMs_20	21 07 01.8	
	comp=Z,1μm,19.0s					
O18K	Koktuh Hills	154.63 295	P	PKiKP	19 50 17.1	+0.1
	baz=108					
L20K	Farewell, AK	154.75 302	P	PKPbc	19 50 17.0	-0.2
	baz=104					
E22K	Anaktuvuk Pass	154.76 315	IAMs_20	IAMs_20	20 57 38.6	
	comp=Z,2μm,21.0s					
E22K	Anaktuvuk Pass	154.76 315	P	PKiKP	19 50 17.6	+0.5
	baz=93					
M19K	Big River Lodg	154.84 300	IAMs_20	IAMs_20	21 07 43.7	
	comp=Z,2μm,21.0s					
M19K	Big River Lodg	154.84 300	P	PKiKP	19 50 17.5	+0.1
	baz=104					
F22K	John River	154.85 314	P	PKiKP	19 50 18.1	+0.8
	baz=94					
H21K	Melozitna Rive	154.90 309	IAMs_20	IAMs_20	21 08 12.0	
	comp=Z,1μm,20.0s					
H21K	Melozitna Rive	154.90 309	P	PKiKP	19 50 18.0	+0.6
	baz=98					
CHNA	Chernabura Isl	154.90 282	P	PKiKP	19 50 17.8	+0.1
	baz=116					
CHGN	Chignik	154.93 286	P	PKPbc	19 50 17.3	-0.4
	baz=114					
Q16K	King Salmon	154.95 292	P	PKiKP	19 50 18.0	+0.3
	baz=110					
P17K	Kvichak River	155.01 293	P	PKPdf	19 50 18.1	+9.1
	baz=109					
K20K	Telida	155.03 304	IAMs_20	IAMs_20	21 02 55.3	
	comp=Z,2μm,21.0s					
K20K	Telida	155.03 304	P	PKPdf	19 50 17.8	+8.9
	baz=102					
D22K	Ayikyak River	155.11 317	P	PKPdf	19 50 18.5	+10
	baz=91					
L19K	White Mountain	155.12 301	IAMs_20	IAMs_20	20 57 21.0	
	comp=Z,2μm,21.0s					
L19K	White Mountain	155.12 301	P	PKPdf	19 50 18.2	+9.1
	baz=104					
N18K	Kilae Creek	155.21 297	IAMs_20	IAMs_20	21 04 19.8	
	comp=Z,1μm,20.0s					
N18K	Kilae Creek	155.21 297	P	PKPdf	19 50 18.3	+9.1
	baz=106					
J20K	Nowinta River	155.23 305	IAMs_20	IAMs_20	21 01 26.1	
	comp=Z,1μm,20.0s					
J20K	Nowinta River	155.23 305	P	PKPdf	19 50 18.3	+9.1
	baz=100					
G21K	Allakaket	155.28 311	IAMs_20	IAMs_20	21 00 17.9	
	comp=Z,2μm,22.0s					
G21K	Allakaket	155.28 311	P	PKPdf	19 50 18.9	+10
	baz=95					
F21K	Alatna River	155.34 313	IAMs_20	IAMs_20	21 02 28.0	
	comp=Z,1μm,20.0s					
F21K	Alatna River	155.34 313	P	PKPdf	19 50 19.1	+10
	baz=94					
B22K	Teshekpuk Lake	155.35 320	P	PKPdf	19 50 18.6	+10
	baz=87					
M18K	Stony River	155.40 299	P	PKPab	19 50 34.8	-0.4
	baz=104					
I20K	Naaghedeneel	155.47 307	IAMs_20	IAMs_20	21 01 42.4	
	comp=Z,1μm,21.0s					
I20K	Naaghedeneel	155.47 307	P	PKPab	19 50 34.5	-1.0
	baz=98					
O17K	Koliganek Bris	155.52 294	P	PKPab	19 50 36.0	+0.2
	baz=107					
P16K	Nushagak River	155.72 292	P	PKPab	19 50 36.6	0.0
	baz=108					
H20K	Anotleneega Mo	155.73 308	P	PKPab	19 50 36.6	0.0
	baz=96					
MJAR	Matsushiro Arr	155.75 146	PKP	PKPdf	19 50 10.2	-0.6
	comp=Z,9.3nm,1.1s,baz=200,slow=1.9,SNR=11					
MAJO	Matsushiro	155.75 146		PKPdf	19 50 10.2	-0.6
MAJO	Matsushiro	155.75 146	PKIKP	PKPdf	19 50 10.2	-0.6
MAJO			MLR	MLR		
	comp=Z,1μm,22.0s					
N17K	Nushagak Hills	155.78 296	P	PKPab	19 50 36.5	-0.5
	baz=106					
B21K	Ikpikpuk River	155.79 319	IAMs_20	IAMs_20	20 54 05.3	
	comp=Z,2μm,22.0s					
B21K	Ikpikpuk River	155.79 319	P	PKPab	19 50 36.9	+0.2
	baz=87					
TTA	Tatalina	155.81 302	IAMs_20	IAMs_20	21 06 19.0	
	comp=Z,1μm,20.0s					
TTA	Tatalina	155.81 302	P	PKPab	19 50 36.5	-0.6
	baz=101					
A22K	Sinclair Lake	155.82 322	P	PKPab	19 50 36.9	+0.1
	baz=84					
J19K	Poorman	155.83 305	IAMs_20	IAMs_20	21 03 04.3	
	comp=Z,1μm,20.0s					
C21K	Knifeblade Rid	155.87 317	P	PKPab	19 50 36.6	-0.5
	baz=88					
O16K	Kokwok River B	155.94 294	IAMs_20	IAMs_20	20 58 34.6	
	comp=Z,2μm,22.0s					
O16K	Kokwok River B	155.94 294	P	PKPab	19 50 37.3	-0.3
	baz=107					
L18K	Granite Mounta	155.97 300	P	PKPab	19 50 35.8	-1.9
	baz=102					
CIT	Chita	156.02 87	*e*PKIKP	PKPdf	19 50 10.2	-0.5
CIT			*e*		19 50 21.0	
CIT			*e*		19 50 27.4	
CIT			*e*		19 50 35.4	
CIT			pmax	pmax		
	comp=Z,421nm,1.5s					
M17K	Holitna River	156.12 298	P	PKPab	19 50 37.6	-0.8
	baz=104					
F20K	Avaraart Lake	156.20 312	P	PKPab	19 50 38.6	+0.1
	baz=92					
J18K	Innoko River	156.22 303	IAMs_20	IAMs_20	21 02 45.8	
	comp=Z,1μm,20.0s					
J18K	Innoko River	156.22 303	P	PKPab	19 50 38.9	+0.1
	baz=99					
A21K	Barrow	156.31 323	P	PKPab	19 50 39.4	+0.5
	baz=81					
H19K	Roundabout Mou	156.39 308	P	PKPab	19 50 39.6	+0.3
	baz=95					
E20K	Nigu River	156.40 315	P	PKPab	19 50 40.0	+0.6
	baz=89					
GCSA	Galena City Sc	156.48 306	P	PKPab	19 50 40.1	+0.3
	baz=96					
N16K	Nishlik Lake	156.52 295	P	PKPab	19 50 40.3	+0.2
	baz=105					
D20K	Etivluk River	156.54 316	P	PKPab	19 50 40.4	+0.4
	baz=87					
S12K	Black Hills	156.55 283	P	PKPab	19 50 40.9	+0.5
	baz=114					
B20K	Meade River	156.65 320	P	PKPab	19 50 39.9	-0.5
	baz=84					
O15K	Ungalikthiuk R	156.66 292	P	PKPab	19 50 41.4	+0.6
	baz=107					
L17K	Donlin	156.69 300	P	PKPab	19 50 41.2	+0.4
	baz=101					
G19K	Purcell Mounta	156.69 310	IAMs_20	IAMs_20	21 10 24.4	
	comp=Z,1μm,19.0s					
G19K	Purcell Mounta	156.69 310	P	PKPab	19 50 40.7	-0.1
	baz=93					
M16K	Timber Creek	156.75 297	IAMs_20	IAMs_20	20 58 09.5	
	comp=Z,2μm,21.0s					
M16K	Timber Creek	156.75 297	P	PKPab	19 50 41.9	+0.8
	baz=103					
E19K	Redstone River	156.79 313	P	PKPab	19 50 41.3	+0.1
	baz=90					
K17K	Iditarod	156.80 301	IAMs_20	IAMs_20	21 05 18.4	
	comp=Z,2μm,20.0s					
K17K	Iditarod	156.80 301	P	PKPab	19 50 41.3	0.0
	baz=100					
CN2	Changchun	156.89 116	⇓PKP	PKPdf	19 50 11.0	-1.0
CN2			PKPab	PKPab	19 50 41.7	-0.5
CN2			AMB	AMB		
	comp=Z,500nm,10.1s					
CN2			LR	LR		
	comp=Z,700nm,20.0s					
CN2			LR	LR		
	comp=Z,800nm,20.0s					
CN2			LR	LR		
	comp=Z,1μm,22.1s					
FALS	False Pass	156.90 280	P	PKPab	19 50 41.6	-0.3
	baz=115					
F19K	Shaleruckik Mo	157.00 312	IAMs_20	IAMs_20	21 01 31.2	
	comp=Z,2μm,21.0s					
F19K	Shaleruckik Mo	157.00 312	P	PKPab	19 50 41.7	-0.3
	baz=91					
N15K	Kwethluk River	157.07 294	IAMs_20	IAMs_20	21 03 26.4	
	comp=Z,2μm,20.0s					
N15K	Kwethluk River	157.07 294	P	PKPab	19 50 43.2	+0.6
	baz=105					
D19K	Kuna River	157.10 316	P	PKPab	19 50 42.9	+0.4
	baz=86					
L16K	Owhat River	157.15 298	IAMs_20	IAMs_20	21 17 23.7	
	comp=Z,1μm,20.0s					
L16K	Owhat River	157.15 298	P	PKPab	19 50 43.7	+1.0
	baz=102					
H18K	Honhosa River	157.15 307	IAMs_20	IAMs_20	21 05 40.8	
	comp=Z,1μm,19.0s					
H18K	Honhosa River	157.15 307	P	PKPab	19 50 43.6	+0.9
	baz=94					
J17K	VABM Dome	157.26 303	IAMs_20	IAMs_20	21 09 06.3	
	comp=Z,1μm,20.0s					
J17K	VABM Dome	157.26 303	P	PKPab	19 50 43.9	+0.7
	baz=98					
G18K	Tagagawik	157.32 309	IAMs_20	IAMs_20	21 11 14.0	
	comp=Z,1μm,21.0s					
G18K	Tagagawik	157.32 309	P	PKPab	19 50 44.0	+0.6
	baz=92					
O14K	Tigyukauivet M	157.39 291	P	PKPab	19 50 44.7	+0.8
	baz=106					
M15K	Kasigluk River	157.49 295	P	PKPab	19 50 45.2	+0.9
	baz=103					
C19K	Lookout Ridge	157.59 318	P	PKPab	19 50 45.4	+0.9
	baz=84					
JMM	Marumori	157.70 150	IAMs_20	IAMs_20	20 59 06.9	
	comp=Z,1μm,22.0s					
F18K	Selawik	157.74 311	P	PKPab	19 50 45.5	+0.3
	baz=90					
N14K	Kuskokwak Cree	157.78 293	P	PKPab	19 50 46.3	+0.8
	baz=104					
H17K	Granite Mounta	157.79 307	P	PKPab	19 50 46.0	+0.5
	baz=93					
J16K	Anvik River	157.93 302	IAMs_20	IAMs_20	21 01 35.0	
	comp=Z,1μm,21.0s					
J16K	Anvik River	157.93 302	P	PKPab	19 50 46.9	+0.8
	baz=97					
A19K	Wainwright	157.95 321	P	PKPab	19 50 46.8	+0.8
	baz=79					
I17K	Unalakleet	158.04 304	P	PKPab	19 50 47.1	+0.5
	baz=95					
L15K	Ungalak Mounta	158.08 298	P	PKPab	19 50 47.6	+0.8
	baz=100					
E18K	Tukpahlearik C	158.10 313	P	PKPab	19 50 47.1	+0.4
	baz=87					
M14K	Bethel	158.11 295	P	PKPab	19 50 47.7	+0.8
	baz=102					
G17K	Kiwalik Mounta	158.13 308	P	PKPab	19 50 47.2	+0.3
	baz=91					
K15K	Wolf Creek Mou	158.21 299	IAMs_20	IAMs_20	21 17 52.7	
	comp=Z,1μm,20.0s					
K15K	Wolf Creek Mou	158.21 299	P	PKPab	19 50 48.5	+1.1
	baz=99					
C18K	Utukok River	158.22 317	P	PKPab	19 50 47.5	+0.1
	baz=83					
B18K	Kokolik River	158.34 319	P	PKPab	19 50 48.8	+1.1
	baz=80					
F17K	Baldwin Pennin	158.38 311	IAMs_20	IAMs_20	21 01 25.9	
	comp=Z,1μm,21.0s					
F17K	Baldwin Pennin	158.38 311	P	PKPab	19 50 48.4	+0.4
	baz=88					
L14K	Kuka Creek	158.58 296	P	PKPab	19 50 49.2	+0.2
	baz=100					
E17K	Hotham Inlet	158.59 312	P	PKPab	19 50 48.9	0.0
	baz=86					
M13K	Dall Lake	158.71 294	P	PKPab	19 50 50.5	+1.0
	baz=102					
BOD	Bodaibo	158.72 74	*e*PKIKP	PKPdf	19 50 11.7	-2.1
BOD			pmax	pmax		
	comp=Z,190nm,1.2s					
H16K	Elim	158.77 306	P	PKPab	19 50 50.3	+0.6
	baz=92					
G16K	Koyuk River	158.84 308	P	PKPab	19 50 50.6	+0.5
	baz=90					
NIKH	Nikolski High	158.89 271	P	PKPab	19 50 51.4	+0.8
	baz=119					
RDOG	Red Dog Mine	158.92 315	P	PKPab	19 50 50.5	+0.2
	baz=83					
C17K	DeLong Mountai	158.96 316	P	PKPab	19 50 51.0	+0.5
	baz=81					
D17K	Noatak River	159.02 314	P	PKPab	19 50 51.1	+0.3
	baz=83					
J14K	Nanvaranak Lak	159.20 300	IAMs_20	IAMs_20	21 04 49.8	
	comp=Z,1μm,20.0s					
J14K	Nanvaranak Lak	159.20 300	P	PKPab	19 50 52.5	+0.9
	baz=96					
BNX	BinXian	159.27 115	⇓P	PKPab	19 50 51.9	-0.5
BNX			pmax	pmax		
	comp=Z,78nm,1.0s					
BNX	BinXian	159.27 115	⇓PKP	PKPdf	19 50 13.3	-1.5
MDJ	Mudanjiang	159.44 121	PKP	PKPdf	19 50 13.5	-1.6
MDJ			SS	SS	20 14 38.6	+0.3
MDJ			AMB	AMB		
	comp=Z,490nm,9.6s					
MDJ			LR	LR		
	comp=Z,1μm,20.4s					
MDJ			LR	LR		
	comp=Z,640nm,19.6s					
MDJ			LR	LR		
	comp=Z,2μm,19.1s					
G15K	Niukluk	159.55 307	P	PKPab	19 50 53.8	+0.7
	baz=90					
K13K	Kusilvak Mount	159.60 298	P	PKPab	19 50 54.2	+0.8
	baz=97					
C16K	Lisburne Hills	159.79 316	P	PKPab	19 50 54.5	+0.4
	baz=79					
F15K	North Star Dit	159.79 309	P	PKPab	19 50 55.0	+0.8
	baz=87					
M11K	Mekoryuk	160.09 293	P	PKPab	19 50 56.6	+1.1
	baz=100					
USRK	Ussuriysk Ar.	160.18 125		PKPdf	19 50 15.1	-0.9
USRK				PKPab	19 50 55.2	-1.2
USRK	Ussuriysk Ar.	160.18 125	PKP	PKPdf	19 50 15.1	-0.9
	comp=Z,3.8nm,0.8s,baz=270,slow=1.7,SNR=5.2					
USRK			PKPab	PKPab	19 50 56.2	-0.1
	comp=Z,36nm,0.9s,baz=228,slow=2.3,SNR=33					
USRK	Ussuriysk Ar.	160.18 125	PKIKP	PKPdf	19 50 15.1	-0.9
USRK					19 50 55.2	
F14K	Arctic Creek	160.50 308	P	PKPab	19 50 58.0	+0.8
	baz=86					
P08K	Saint George I	160.77 281	P	PKPab	19 50 59.0	+0.3
	baz=109					
TNA	Tin City	161.16 308	P	PKPab	19 51 00.6	+0.5
	baz=84					
HEH	HeiHe	162.31 105	PKP	PKPdf	19 50 16.7	-1.3
HEH			pPKP	pPKPdf	19 50 27.1	-2.0
HEH			PKPab	PKPab	19 51 04.7	-0.9
HEH			PKS	PKSdf	19 53 43.7	-7.2

HEH				PP	PP	19 54 53.3	+2.8
HEH				SS	SS	20 15 06.1	-2.5
HEH				AMB	AMB		
	comp=Z,550nm,11.1s						
HEH				LR	LR		
	comp=Z,950nm,22.4s						
HEH				LR	LR		
	comp=Z,760nm,23.1s						
HEH				LR	LR		
	comp=Z,2μm,23.9s						
ADK	**Adak**	**162.47**	**261**		**PKPab**	**19 51 06.3**	**+0.1**
ADK	**Adak**	**162.47**	**261**	PKP2	**PKPab**	**19 51 06.3**	**+0.1**
ZEA	**Zeya**	**164.10**	**95**	*e*PKIKP	**PKPdf**	**19 50 18.1**	**-1.5**
ZEA				*e*		19 51 13.1	
ZEA				*e*		19 54 58.5	
ZEA				*e*		20 15 23.6	
ZEA				pmax	pmax		
	comp=Z,200nm,6.0s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.4s						
ZEA				pmax	pmax		
	comp=E,100nm,6.4s						
ZEA				pmax	pmax		
	comp=N,100nm,5.4s						
ZEA				pmax	pmax		
	comp=Z,400nm,8.4s						
YSS	**Yuzh-Sakhalins**	**166.62**	**143**	*i* PKIKP	**PKPdf**	**19 50 21.8**	**-0.1**
YSS				*e*		19 51 25.0	
YSS				*e*		19 55 12.7	
YSS				*e*SS	SS	20 15 52.0	0.0
YSS				pmax	pmax		
	comp=Z,400nm,5.6s						
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YAK	**Yakutsk**	**167.05**	**62**		**PKPdf**	**19 50 19.3**	**-2.4**
YAK					**PKPab**	**19 51 25.8**	**-0.3**
YAK	**Yakutsk**	**167.05**	**62**	*e*PKIKP	**PKPdf**	**19 50 19.2**	**-2.5**
YAK				*e*		19 50 33.3	
YAK				*e*		19 51 23.6	
YAK				*e*		19 55 11.3	
YAK				pmax	pmax		
	comp=Z,24nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,16nm,1.5s						
YAK				pmax	pmax		
	comp=Z,231nm,1.9s						
YAK				pmax	pmax		
	comp=N,104nm,2.5s						
YAK				pmax	pmax		
	comp=E,111nm,2.2s						
GRNR	**Gornyy**	**167.08**	**118**	⇑*i*PKIKP	**PKPdf**	**19 50 21.5**	**-0.6**
GRNR				*e*		19 51 26.5	
GRNR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
UGL	**Uglegorsk**	**168.21**	**136**	*e*PKP2	PKPab	19 51 18.1	-13
UGL				pmax	pmax		
	comp=Z,90nm,1.2s						
BILL	**Bilibino**	**168.87**	**337**		**PKPab**	**19 51 34.1**	**0.0**
PET	**Petropavlovsk**	**174.29**	**205**	*i* PKIKP	**PKPdf**	**19 50 20.8**	**-5.1**
PET				*e*		19 55 57.5	
PET				*e*PPP	PPP	20 00 09.6	
PET				*e*PPS	PPS	20 09 57.4	
PET				pmax	pmax		
	comp=Z,400nm,15.8s						
PET				pmax	pmax		
	comp=Z,300nm,9.0s						
PETK	**Petropavlovsk-**	**174.57**	**200**		**PKPdf**	**19 50 24.5**	**-1.5**
PETK					**PKPab**	**19 51 58.8**	**-0.8**
PETK	**Petropavlovsk-**	**174.57**	**200**	PKP	**PKPdf**	**19 50 25.1**	**-0.9**
	comp=Z,25nm,1.0s,baz=138,slow=3.7,SNR=18						
PETK				PKPab	**PKPab**	**19 51 59.9**	**+0.3**
	comp=Z,11nm,0.9s,baz=163,slow=5.4,SNR=5.1						
MA2	**Magadan**	**177.60**	**55**	PKPab	PKPab	19 52 12.1	-0.9
MA2	**Magadan**	**177.60**	**55**	PKP2	PKPab	19 52 12.1	-0.9

IGQ 01 19:31:50.3±0.2, 2°S±2°×8°0W±°, h7km, M4.1/34, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGUAY	**Guayaquil**	**0.50**	**86**	P	Pb	19 32 01.3	0.0
AGUAY				S	Sb	19 32 08.9	+0.1
GYE3	**Ecuador-Guayaq**	**0.55**	**97**	P	Pg	19 32 01.1	+0.2
GYE3				S	Sb	19 32 09.9	-0.4
SALI	**Salinas**	**0.55**	**260**	P	Pb	19 32 02.5	+0.2
PPLP	**Puerto Lpez**	**0.63**	**329**	P	Pb	19 32 03.2	-0.5
PPLP				S	Sb	19 32 13.0	+0.3
PPLP	**Puerto Lpez**	**0.63**	**329**	P	Pg	19 32 02.9	+0.3
MILO	**Milagro-Astudi**	**0.91**	**102**	P	Pg	19 32 06.7	-1.1
ISPG	**Isla Puna-Puer**	**0.92**	**162**	P	Pn	19 32 09.5	-0.1
ABAB	**Ecuador-Univer**	**0.98**	**73**	P	Pg	19 32 07.9	-1.2
ABAB				S	Sg	19 32 20.8	-0.9
ISPT	**Isla de la Pla**	**1.03**	**323**	P	Pg	19 32 08.2	-2.0
COHC	**Cochancay**	**1.25**	**107**	P	Pn	19 32 11.5	-2.6
MONB	**Balzapamba Mon**	**1.29**	**76**	P	Pn	19 32 12.1	-2.7
PECV	**Mancha de Ca P**	**1.36**	**17**	P	Pn	19 32 13.1	-2.7
PCRA	**Pucara 2**	**1.46**	**140**	P	Pn	19 32 16.5	-0.9
ARNL	**Arenillas**	**1.50**	**165**	P	Pn	19 32 15.7	-1.8
JSCH	**Cashca Tororas**	**1.51**	**76**	P	Pn	19 32 15.8	-2.3
CHSH	**Refugio Sur-Vo**	**1.68**	**69**	P	Pn	19 32 19.3	-1.4
CAB1	**Cabo Pasado-Ma**	**1.69**	**1**	P	Pn	19 32 19.0	-1.3
TAMH	**Tambohuasha Ch**	**1.75**	**72**	P	Pn	19 32 20.1	-1.4
PORT	**Chimborazo Vol**	**1.78**	**70**	P	Pn	19 32 20.9	-1.2
FLF1	**Flavio Alfaro-**	**1.82**	**19**	P	Pn	19 32 20.1	-2.0
IGUA	**Igualata**	**1.90**	**72**	P	Pn	19 32 22.9	-0.8
BMAS	**Trigal station**	**2.05**	**74**	P	Pn	19 32 23.8	-1.7
BBIL	**Ulba Tungurahu**	**2.06**	**72**	P	Pn	19 32 25.3	-0.3
TUYU	**Q. Yuibug Volc**	**2.06**	**73**	P	Pn	19 32 25.2	-0.5
JUI6	**Juive**	**2.08**	**72**	P	Pn	19 32 25.8	-0.1
BPAT	**Tungurahua Vol**	**2.09**	**74**	P	Pn	19 32 25.5	-0.7
POND	**Pondoa**	**2.10**	**72**	P	Pn	19 32 25.9	-0.3
BULB	**Ulba Tungurahu**	**2.14**	**72**	P	Pn	19 32 26.3	-0.4
ILLI	**Illinizas Sur**	**2.19**	**52**	P	Pn	19 32 26.6	-1.0
BOSC	**San Juan Bosco**	**2.22**	**118**	P	Pn	19 32 28.9	+1.3
PAST	**Pastocalle**	**2.27**	**52**	P	Pn	19 32 28.9	+0.3
MCRA	**Macar, Loja**	**2.32**	**168**	P	Pn	19 32 27.0	-1.9
BRRN	**Barrancas-Volc**	**2.36**	**57**	P	Pn	19 32 30.1	+0.2
SLOR	**San Lorenzo -**	**2.37**	**55**	P	Pn	19 32 30.2	+0.2
GONZ	**Gonzanam**	**2.38**	**154**	P	Pn	19 32 29.5	-0.6
CAMI	**Rancho Maria**	**2.40**	**54**	P	Pn	19 32 31.0	+0.6
BMOR	**Cotopaxi Volca**	**2.40**	**56**	P	Pn	19 32 30.6	+0.1
BNAS	**Cotopaxi Volca**	**2.42**	**54**	P	Pn	19 32 32.1	+1.4
VCES	**Cotopaxi**	**2.42**	**58**	P	Pn	19 32 30.8	+0.1
BREF	**Cotopaxi Volca**	**2.45**	**55**	P	Pn	19 32 32.3	+1.0
BVC2	**Cotopaxi Volca**	**2.48**	**55**	P	Pn	19 32 32.2	+0.5
BTAM	**Cotopaxi Volca**	**2.48**	**56**	P	Pn	19 32 32.0	+0.4
TAMB	**Tambo**	**2.50**	**56**	P	Pn	19 32 32.4	+0.6
VC1	**Cotopaxi 1**	**2.50**	**55**	P	Pn	19 32 32.5	+0.7
PITA	**Cotopaxi Volc**	**2.52**	**53**	P	Pn	19 32 32.7	+0.6
GGPT	**Toaza - Volcan**	**2.60**	**45**	P	Pn	19 32 32.1	-1.0
JUA2	**San Juan 2**	**2.62**	**45**	P	Pn	19 32 32.1	-1.3
TERV	**Terraza Guagua**	**2.65**	**44**	P	Pn	19 32 32.8	-1.1
GGPC	**Guagua Pichinc**	**2.65**	**44**	P	Pn	19 32 33.0	-0.9
PINO	**Pino**	**2.66**	**44**	P	Pn	19 32 33.1	-1.0
ANTG	**Antisana-Guama**	**2.70**	**54**	P	Pn	19 32 35.1	+0.6
YANA	**Yana**	**2.71**	**44**	P	Pn	19 32 33.6	-1.1
ANTS	**Antisana-Sarah**	**2.77**	**55**	P	Pn	19 32 37.1	+1.4
ANTI	**Antisana**	**2.81**	**55**	P	Pn	19 32 37.6	+1.5
PULU	**Pululahua**	**2.86**	**43**	P	Pn	19 32 36.2	-0.4
ARDO	**Archidona, Ten**	**2.86**	**68**	P	Pn	19 32 38.9	+2.6
PAC1	**Pacto, Paraso**	**2.87**	**35**	P	Pn	19 32 34.8	-1.8
ZUMB	**Zumba**	**3.05**	**155**	P	Pn	19 32 39.3	+0.3
OTAV	**Otavalo**	**3.05**	**41**	P	Pn	19 32 38.2	-1.2
CUIC	**Cuicocha-Domo**	**3.16**	**41**	P	Pn	19 32 40.9	+0.1
CAYR	**Refugio Cayamb**	**3.21**	**49**	P	Pn	19 32 43.6	+1.8
RVRD	**Rio Verde**	**3.31**	**19**	P	Pn	19 32 42.3	-0.2
URCU	**Urcuqui**	**3.33**	**41**	P	Pn	19 32 43.4	+0.2

*ATH **01** 19:44:03.3, 37.°37N×20.°74E, h10km±1km, ML3.5/15, Error ellipse: s-maj=2.2km s-min=0.9km az=48.0*
*THE **01** 19:44:04.0, 37.°41N×20.°78E, h12km, ML3.6/9, Error ellipse: s-maj=1.4km s-min=0.6km az=52.0*

ISC 01 19:44:03.2±1.4, 37.°38N±0.°05×20.°76E±0.°05, h14km±9km, n41, σ0°46/58, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.29**	**10**	P	**Pg**	**19 44 09.6**	**+0.3**
KRI1				S	**Sg**	**19 44 13.3**	**-0.1**
	29μm,0.6s						
LTHK	**Lithakia**	**0.34**	**11**	P	**Pg**	**19 44 10.3**	**+0.1**
LTHK				S	**Sg**	**19 44 14.9**	**+0.1**
LTHK	**Lithakia**	**0.34**	**11**	P	**Pg**	**19 44 10.3**	**+0.1**
LTHK				S	**Sg**	**19 44 15.0**	**+0.2**
LTHK				AML	AML	19 44 15.3	
	comp=E,46582μm,0.5s						
LTHK				AML	AML	19 44 15.5	
	comp=N,42210μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.70**	**1**	P	**Pg**	**19 44 16.6**	**-0.2**
RTZL				S	**Sb**	**19 44 27.1**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.75**	**350**	P	**Pg**	**19 44 17.5**	**-0.3**
PSDA				S	**Sb**	**19 44 28.8**	**+0.7**
	comp=N,11μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.75**	**350**	P	**Pg**	**19 44 17.5**	**-0.3**
PSDA				S	**Sb**	**19 44 28.1**	**0.0**
AMT	**Artemida-Makis**	**0.77**	**78**	P	**Pg**	**19 44 18.2**	**-0.1**
AMT				S	**Sb**	**19 44 29.3**	**+0.4**
AMT				AML	AML	19 44 33.1	
	comp=N,28190μm,0.3s						
AMT				AML	AML	19 44 34.2	
	comp=E,25171μm,0.4s						
VLS	**Valsamata**	**0.81**	**351**	P	**Pg**	**19 44 18.4**	**-0.6**
VLS				S	**Sb**	**19 44 30.8**	**+0.9**
	comp=E,5μm,0.4s						
VLS	**Valsamata**	**0.81**	**351**	P	**Pg**	**19 44 18.3**	**-0.6**
VLS				S	**Sb**	**19 44 30.1**	**+0.2**
VLS				AML	AML	19 44 31.3	
	comp=E,10740μm,0.6s						
VLS				AML	AML	19 44 31.7	
	comp=N,10173μm,0.2s						
LXRA	**Lixouri, Kepha**	**0.86**	**343**	P	**Pg**	**19 44 19.8**	**-0.1**
LXRA				AML	AML	19 44 35.9	
	comp=N,25114μm,0.2s						
LXRA				AML	AML	19 44 37.0	
	comp=E,23444μm,0.6s						
SMHA	**Samh**	**0.88**	**354**	P	**Pg**	**19 44 19.3**	**-1.0**
RLS	**Riolos of Patr**	**0.88**	**39**	P	**Pg**	**19 44 19.9**	**-0.4**
RLS				S	**Sb**	**19 44 32.5**	**+0.5**
	comp=E,2μm,0.4s						
RLS	**Riolos of Patr**	**0.88**	**39**	P	**Pg**	**19 44 19.7**	**-0.6**
RLS				S	**Sg**	**19 44 31.9**	**0.0**
RLS				AML	AML	19 44 39.4	
	comp=N,3300μm,0.3s						
RLS				AML	AML	19 44 44.1	
	comp=E,2707μm,0.5s						
DMLN	**Damoulianata-K**	**0.91**	**341**	P	**Pg**	**19 44 20.7**	**-0.2**
DMLN				S	**Sb**	**19 44 34.1**	**+1.2**
	comp=E,7μm,0.5s						
DMLN	**Damoulianata-K**	**0.91**	**341**	P	**Pg**	**19 44 20.6**	**-0.2**
PYL	**PYLOS**	**0.92**	**121**	P	**Pb**	**19 44 21.1**	**+0.1**
PYL				S	**Sn**	**19 44 35.0**	**+0.1**
	comp=E,2μm,0.7s						
PYL	**PYLOS**	**0.92**	**121**	P	**Pg**	**19 44 20.8**	**-0.3**
PYL				S	**Sb**	**19 44 33.7**	**+0.5**
PYL				AML	AML	19 44 37.2	
	comp=E,4926μm,0.5s						
PYL				AML	AML	19 44 41.8	
	comp=N,2845μm,0.7s						
DRO	**Drossia**	**0.95**	**53**	P	**Pg**	**19 44 21.2**	**-0.4**
DRO				S	**Sg**	**19 44 34.0**	**-0.1**
	comp=N,5μm,0.7s						
DRO	**Drossia**	**0.95**	**53**	P	**Pg**	**19 44 21.1**	**-0.5**
DRO				AML	AML	19 44 42.8	
	comp=E,9296μm,0.6s						
DRO				AML	AML	19 44 44.8	
	comp=N,8925μm,0.5s						
ITM	**Ithomi**	**0.95**	**102**	P	**Pb**	**19 44 21.7**	**+0.1**
ITM	**Ithomi**	**0.95**	**102**	P	**Pg**	**19 44 20.9**	**-0.8**
ITM				AML	AML	19 44 40.6	
	comp=E,3245μm,0.4s						
ITM				AML	AML	19 44 44.2	
	comp=N,2624μm,0.6s						
VSK1	**VASILIKIADES**	**1.04**	**352**	P	**Pg**	**19 44 22.5**	**-0.9**
FSK	**Fiskardo**	**1.09**	**352**	P	**Pb**	**19 44 23.1**	**-0.8**
FSK				S	**Sb**	**19 44 38.5**	**+0.5**
	comp=N,2μm,0.5s						
FSK	**Fiskardo**	**1.09**	**352**	P	**Pb**	**19 44 23.4**	**-0.5**
FSK				AML	AML	19 44 41.5	
	comp=E,4355μm,0.2s						
FSK				AML	AML	19 44 43.7	
	comp=N,3812μm,0.6s						
EVGI	**Lefkada island**	**1.24**	**356**	P	**Pn**	**19 44 26.2**	**0.0**
EVGI	**Lefkada island**	**1.24**	**356**	P	**Pn**	**19 44 25.6**	**-0.6**
KLV	**Kalavryta, Ach**	**1.29**	**59**	P	**Pn**	**19 44 26.9**	**0.0**
KLV	**Kalavryta, Ach**	**1.29**	**59**	P	**Pn**	**19 44 26.7**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.33**	**358**	P	**Pn**	**19 44 27.3**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.33**	**358**	P	**Pn**	**19 44 27.2**	**-0.3**
GUR	**Goura**	**1.38**	**66**	P	**Pn**	**19 44 28.4**	**+0.2**
GUR	**Goura**	**1.38**	**66**	P	**Pn**	**19 44 27.7**	**-0.5**
GUR				AML	AML	19 44 53.8	
	comp=E,3491μm,0.4s						
GUR				AML	AML	19 44 55.9	
	comp=N,3846μm,0.4s						
EFP	**Efpalio**	**1.39**	**41**	P	**Pn**	**19 44 28.4**	**+0.2**
EFP	**Efpalio**	**1.39**	**41**	P	**Pn**	**19 44 28.1**	**-0.1**
EFP				AML	AML	19 44 56.8	
	comp=N,2123μm,0.5s						
EFP				AML	AML	19 44 58.1	
	comp=E,1853μm,0.8s						
TSLK	**Tsoukalades, L**	**1.45**	**357**	P	**Pn**	**19 44 29.2**	**+0.1**
TSLK				S	**Sb**	**19 44 48.8**	**+0.5**
	comp=E,2μm,0.5s						
TSLK	**Tsoukalades, L**	**1.45**	**357**	P	**Pn**	**19 44 29.2**	**+0.1**
KALE	**Kalithea**	**1.49**	**47**	P	**Pn**	**19 44 29.8**	**+0.1**
KALE				AML	AML	19 44 59.9	
	comp=N,3185μm,0.5s						
KALE				AML	AML	19 45 01.5	
	comp=E,2572μm,0.4s						
ANX	**Ano Chora**	**1.52**	**37**	P	**Pn**	**19 44 30.7**	**+0.5**
ANX				AML	AML	19 44 58.1	
	comp=E,4197μm,0.6s						
ANX				AML	AML	19 44 59.5	
	comp=N,6781μm,0.5s						
IGT	**Igoumenitsa**	**2.18**	**351**	P	**Pn**	**19 44 39.5**	**+0.4**
THL	**Klokotos Trika**	**2.40**	**24**	P	**Pn**	**19 44 42.7**	**+0.7**
THL				AML	AML	19 45 27.3	
	comp=E,562μm,0.6s						
THL				AML	AML	19 45 37.1	
	comp=N,455μm,1.1s						
KEK	**Kerkira**	**2.45**	**342**	P	**Pn**	**19 44 43.0**	**+0.2**
KEK				AML	AML	19 45 37.5	
	comp=E,506μm,1.0s						
KEK				AML	AML	19 45 40.0	
	comp=N,442μm,0.7s						

IDC 01 19:55:31.5±999.0, 55.°49N×1.°39E, h0km, Error ellipse: s-maj=504.9km s-min=182.0km az=112.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**10.06**	**126**	I	I	20 58 00.0	
	baz=315,slow=320,SNR=1.2						
I43RU	**DUBNA INFRASON**	**19.88**	**72**	I	I	21 56 14.7	
	baz=279,slow=312,SNR=1.3						
I31KZ	**AKTYUBINSK INF**	**33.68**	**75**	I	I	23 19 00.0	
	baz=301,slow=323,SNR=0.3						

*NEIC **01** 20:00:30.3±2.5, 43.°81N±0.°04×105.°21W±0.°07, h0km±1km, ML3.6/74, Error ellipse: s-maj=9.0km s-min=6.5km az=310.0*
*IDC **01** 20:00:35.0±2.4, 43.°41N×105.°26W, h0km, mb4.0/1, mbtmp3.9/3, ML3.6/2, Error ellipse: s-maj=57.9km s-min=8.9km az=154.0*

ISC 01 20:00:28.5±0.9, 43.°83N±0.°04×105.°55W±0.°03, h0km, n41, σ1°66/31, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.13**	**75**		**Pg**	**20 00 51.5**	**+1.4**
K22A	**Casper**	**1.38**	**211**		**Pn**	**20 00 57.9**	**+2.7**
K22A				IAML		20 01 28.3	
	comp=E,763nm,0.3s						
K22A				IAML		20 01 29.1	
	comp=N,695nm,0.3s						
LAO	**LASA Array**	**2.90**	**351**	Pn	**Pb**	**20 01 19.4**	**-1.7**
LAO				IAML		20 02 25.9	
	comp=N,258nm,0.9s						
N23A	**Red Feather La**	**2.95**	**186**		**Pb**	**20 01 19.8**	**-2.3**
N23A					**Sg**	**20 02 03.4**	**+0.2**
N23A				IAML		20 02 10.2	
	comp=N,192nm,0.7s						
RLMT	**Red Lodge**	**2.96**	**297**		**Pg**	**20 01 24.4**	**-0.7**
RLMT				IAML		20 02 25.7	
	comp=N,108nm,0.4s						
PD31	**Pinedale Array**	**3.11**	**251**		**Pb**	**20 01 23.6**	**-1.3**
PDAR	**Pinedale Array**	**3.11**	**251**		**Pb**	**20 01 24.2**	**-0.6**
PDAR	**Pinedale Array**	**3.11**	**251**	Pn	**Pg**	**20 01 30.7**	**+2.6**
	comp=N,2.7nm,0.3s,baz=69,slow=18,SNR=44						
PDAR				Lg	Lg	20 02 14.6	
	comp=N,25nm,0.3s,baz=86,slow=26,SNR=8.9						
	comp=N,3.3nm,0.3s						
YNE	**Yellowstone No**	**3.40**	**292**	Pn	**Pg**	**20 01 33.5**	**-0.2**
YNE				IAML		20 02 38.5	
	comp=N,123nm,0.9s						
YNE				IAML		20 02 45.2	
	comp=E,83nm,0.7s						
YMP	**Mirror Lake Pl**	**3.43**	**287**	Pn	**Pg**	**20 01 32.0**	**-2.2**
YMP				IAML		20 02 41.0	
	comp=N,148nm,0.8s						
LKWY	**Lake**	**3.56**	**284**	Pn	**Pb**	**20 01 32.3**	**-0.2**
LKWY				IAML		20 02 48.8	
	comp=N,95nm,1.7s						
LKWY				IAML		20 02 52.6	
	comp=N,98nm,2.2s						
H17A	**Grant Village**	**3.66**	**281**	Pn	**Pb**	**20 01 35.1**	**+0.8**
H17A				IAML		20 02 42.9	
	comp=E,75nm,2.3s						
H17A				IAML		20 02 42.9	
	comp=N,73nm,1.5s						
LOHW	**Long Hollow**	**3.67**	**268**		**Pb**	**20 01 33.5**	**-0.8**
MOOW	**Moose Ponds**	**3.76**	**271**	Pn	**Pg**	**20 01 39.0**	**-1.6**
YNR	**Norris Junctio**	**3.79**	**285**		**Pg**	**20 01 41.2**	**+0.2**
SNOW	**Snow King Moun**	**3.79**	**266**		**Pg**	**20 01 40.8**	**-0.4**
SNOW				IAML		20 02 56.6	
	comp=N,88nm,1.8s						
SNOW				IAML		20 03 30.2	
	comp=N,108nm,2.1s						
YFT	**Old Faithful**	**3.85**	**281**		**Pg**	**20 01 39.7**	**-2.6**
YFT				IAML		20 02 54.3	
	comp=E,61nm,2.0s						
OGNE	**Ogallala**	**3.89**	**137**	Pn	**Pb**	**20 01 36.5**	**-1.5**
OGNE				IAML		20 02 47.2	
	comp=E,116nm,1.0s						
YHH	**Holmes Hill**	**3.92**	**286**	Pn	**Pb**	**20 01 39.9**	**+1.3**
TPAW	**Teton Pass**	**3.93**	**267**		**Pb**	**20 01 38.1**	**-0.8**
TPAW				IAML		20 03 22.7	
	comp=E,72nm,2.0s						
FXWY	**Fox Creek**	**3.97**	**269**		**Pg**	**20 01 42.0**	**-2.7**
ISCO	**Idaho Springs**	**4.03**	**181**	Pn	**Pn**	**20 01 31.9**	**+0.2**
YHB	**Horse Butte**	**4.16**	**285**		**Pb**	**20 01 43.6**	**+1.0**
YHB				IAML		20 03 06.0	
	comp=N,51nm,1.9s						
YHL	**Hebgen Lake**	**4.17**	**286**	IAML		20 03 02.6	
	comp=N,55nm,1.2s						
YHL				IAML		20 03 09.9	
	comp=E,80nm,1.1s						
AHID	**Auburn Hatcher**	**4.19**	**257**	IAML		20 02 58.6	
	comp=E,67nm,1.7s						
O20A	**White River Ci**	**4.20**	**209**		**Pb**	**20 01 42.7**	**-0.7**
E28A	**Huff**	**4.39**	**50**	Pn	**Pn**	**20 01 37.2**	**+0.8**
RDMU	**Red Mountain**	**4.42**	**224**	IAML		20 03 02.3	
	comp=N,44nm,2.0s						
RDMU				IAML		20 03 05.1	
	comp=E,54nm,1.8s						
K30B	**Basset**	**4.49**	**103**		**Pn**	**20 01 38.1**	**+0.4**
BOZ	**Bozeman (W)**	**4.68**	**294**	IAML		20 03 11.4	
	comp=E,42nm,2.4s						
BOZ				IAML		20 03 12.5	
	comp=E,31nm,2.1s						
DGMT	**Dagmar**	**4.74**	**11**		**Pn**	**20 01 44.2**	**+3.0**
Q24A	**Divide**	**4.87**	**176**	IAML		20 03 09.7	
	comp=E,39nm,0.3s						
HWUT	**Hardware Ranch**	**4.96**	**245**	IAML		20 03 20.1	
	comp=E,36nm,1.3s						
KSCO	**Kaye Shedlock'**	**5.29**	**154**		**Pn**	**20 01 51.0**	**+2.0**
P18A	**Preston Nutter**	**5.47**	**222**		Pb	20 01 58.8	-6.4
SRU	**San Rafael Swe**	**6.01**	**220**		Pb	20 02 07.4	-6.8
CBKS	**Cedar Bluff**	**6.65**	**137**		**Pn**	**20 02 09.0**	**+1.5**
I10CA	**LAC DU BONNET**	**9.10**	**42**	I	I	20 53 04.3	
	comp=E,0.1nm,1.6s,baz=222,slow=315,SNR=6.5						
ULM	**Lac du Bonnet**	**9.21**	**42**	Pn	Pn	20 02 48.9	+6.5
	comp=E,3.0nm,0.3s,baz=231,slow=11,SNR=15						
ULM				Lg	Lg	20 05 23.2	
	comp=E,0.9nm,0.3s,baz=328,slow=16,SNR=2.1						
	comp=E,4.9nm,0.3s						
P38A	**Dawn**	**9.92**	**111**		**Pn**	**20 02 49.9**	**-2.3**
ARCES	**ARCESS Array B**	**61.39**	**18**	P	P	20 10 54.4	+8.6
	comp=E,1.5nm,0.9s,baz=335,slow=7.9,SNR=4.5						
	comp=E,1.5nm,0.9s						

*IDC **01** 20:07:39.8±5.4, 24.°66N×121.°81E, h0km, mb3.2/3, mbtmp3.2/3, MS4.0/1, Error ellipse: s-maj=370.7km s-min=29.3km az=59.0*
*JMA **01** 20:07:41.9±0.1, 24.°3N±0.°4×121.°9E±0.°4, h33km±1km, MV3.2/13, TAIWAN REGION*
*TAP **01** 20:07:42.5, 24.°44N×121.°89E, h22km, ML3.8, B*
*ASIES **01** 20:07:42.5, 24.°44N×121.°89E, h22km, ML3.8, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^21Nm; Mrr0.06; Mθθ0.13; Mφφ-0.19; Mrθ-0.25; Mφθ1.48; Mφr0.58; Fault plane solution: M0 1.61889×10^21 NP1: φs183.91000°, δ83.21000°, λ-160.44000°. NP2: φs91.51000°, δ70.58000°, λ-7.20000°. Principal axes: T Plg8.7150°, Azm316.2970°; N Plg69.3370°, Azm202.3140°; P Plg18.5840°, Azm49.2520°;*

ISC 01 20:07:42.3±0.8, 24.°43N±0.°01×121.°95E±0.°02, h18km±4km, n144, σ0°79/246, mb3.1/3, 28C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.15**	**275**	⇑*i*P	**Pg**	**20 07 46.8**	**+0.2**
EWUT				S	**Sg**	**20 07 49.8**	**+0.4**
ESAO	**Su ao**	**0.17**	**327**	⇑*i*P	**Pg**	**20 07 47.2**	**+0.4**
ESAO				*e*S	**Sg**	**20 07 50.6**	**+0.7**
ENA	**Nanau**	**0.19**	**269**	⇑*i*P	**Pg**	**20 07 47.0**	**+0.1**
ENA				*i* S	**Sg**	**20 07 50.6**	**+0.5**
TWC	**Suao**	**0.20**	**333**	⇑*i*P	**Pg**	**20 07 47.6**	**+0.4**
TWC				S	**Sg**	**20 07 51.2**	**+0.7**
EAHA	**Aohua**	**0.21**	**242**	⇑*i*P	**Pb**	**20 07 47.3**	**-0.4**

YHNB	Yeheng	0.57 295	⇑P	Pb	20 07 53.5	-0.3
YHNB			eS	Sb	20 08 00.3	-1.4
TWB1	Santiao Chiao	0.57 4	⇓P	Pg	20 07 54.0	+0.2
TWB1			i S	Sg	20 08 02.0	+0.6
NSK	Sanguang	0.59 295	⇑iP	Pb	20 07 53.7	-0.4
NSK			eS	Sb	20 08 00.4	-1.8
ETM	Tongmen	0.62 222	⇓P	Pb	20 07 54.0	-0.6
ETM			eS	Sn	20 08 04.5	-1.3
LXIB	Xiulin Townshi	0.64 230	⇓iP	Pb	20 07 54.2	-0.7
LXIB			eS	Sg	20 08 04.5	+1.0
TWA	Mucha	0.64 329	⇑P	Pb	20 07 54.0	-0.9
TWA			eS	Sb	20 08 03.5	-0.1
TEYL	Yanliau Villag	0.65 210	eP	Pg	20 07 55.9	+0.8
TEYL			eS	Sg	20 08 04.5	+0.8
NWF	Wu-fen Shan	0.65 347	eP	Pg	20 07 55.8	+0.6
NWF			eS	Sb	20 08 03.8	-0.3
WFSB	Wu-fen Shan	0.65 347	eP	Pg	20 07 55.5	+0.3
WFSB			eS	Sb	20 08 03.7	-0.3
SXI1	Grass Mountain	0.66 354	⇑P	Pg	20 07 55.6	+0.2
SXI1			eS	Sg	20 08 04.6	+0.3
FUSS	Fushou	0.67 254	⇑P	Pb	20 07 55.3	-0.3
FUSS			S	Sg	20 08 04.7	+0.3
TATO	Taipei	0.68 322	P	Pg	20 07 56.0	+0.2
WHF	Hehuan Shan	0.68 245	eP	Pb	20 07 55.5	-0.5
WHF			eS	Sb	20 08 04.7	-0.6
NHY	Taipei	0.70 331	P	Pg	20 07 56.2	+0.3
NHY			eS	Sn	20 08 06.7	-0.9
TWT	Tachien	0.72 256	eP	Pg	20 07 56.8	+0.3
TWT			eS	Sb	20 08 05.2	-1.0
SHUL	Shoufeng	0.73 209	⇑P	Pb	20 07 56.2	-0.3
SHUL			eS	Sn	20 08 09.2	+0.7
TDCB	Techi	0.74 256	eP	Pb	20 07 56.8	0.0
TDCB			eS	Sb	20 08 06.2	-0.4
ESL	Shilin	0.77 217	P	Pb	20 07 56.0	-1.2
ESL			eS	Sg	20 08 08.2	+0.6
KSHI	Guanxi Townshi	0.78 296	eP	Pn	20 07 58.3	-0.1
KSHI			eS	Sg	20 08 07.9	0.0
NFF	Wufeng Townshi	0.78 285	eP	Pg	20 07 57.8	+0.2
NFF			eS	Sb	20 08 07.5	-0.3
YM01	YM01	0.79 334	P	Pg	20 07 57.9	+0.1
YM01			eS	Sg	20 08 08.6	+0.3
TEGC	Jichi Village	0.81 207	eP	Pb	20 07 58.1	+0.3
TEGC			eS	Sg	20 08 09.6	+0.8
ZUZH	Zhuzihu	0.81 333	eP	Pg	20 07 58.4	+0.2
ZUZH			eS	Sg	20 08 09.0	0.0
YM08	YM08	0.82 337	P	Pb	20 07 58.0	-0.1
YM08			eS	Sb	20 08 09.1	+0.3
TWS1	Kuangyinshan	0.82 324	eP	Pb	20 07 57.7	-0.4
TWS1			S	Sg	20 08 09.4	+0.2
ANP	Anpu	0.85 333⇑	eP	Pb	20 07 58.6	+0.1
ANP			eS	Sb	20 08 09.3	-0.3
OWD	Renai	0.85 236	i P	Pb	20 07 58.0	-0.6
OWD			i S	Sg	20 08 10.4	+0.3
NTST	Danshui	0.86 328	eP	Pg	20 07 59.4	+0.3
NTST			eS	Sg	20 08 10.9	+0.5
LIOB	Emei	0.87 284	⇑iP	Pn	20 07 59.8	0.0
LIOB			eS	Sb	20 08 09.8	-0.6
WUSB	Renai	0.87 240	⇓iP	Pb	20 07 58.7	-0.4
WUSB			eS	Sg	20 08 11.6	+0.7
NCUH	Zhongli	0.88 308	eP	Pg	20 07 59.5	+0.2
NCUH			eS	Sn	20 08 12.3	+0.2
WARBT	Fenglin Townsh	0.88 216	⇓iP	Pb	20 07 57.4	-1.6
WARBT			eS	Sg	20 08 10.9	0.0
NSTT	Nanjuang	0.88 283⇑	eP	Pg	20 07 59.5	0.0
NSTT			eS	Sb	20 08 09.8	-0.9
EGFH	Guangfu	0.90 212	eP	Pb	20 07 58.7	-0.7
EGFH			eS	Sg	20 08 11.6	0.0
TWY	Chenhua	0.90 340	eP	Pb	20 07 59.6	+0.3
TWY			eS	Sb	20 08 11.0	0.0
JYNG	Yonagunijimaku	0.91 89	P	Pb	20 07 58.9	-0.7
WHP	Taichung City	0.93 261	eP	Pg	20 08 00.3	0.0
WHP			eS	Sb	20 08 11.7	-0.2
SBCB	Hsinchu	0.95 293	eP	Pb	20 08 00.5	+0.3
SBCB			eS	Sb	20 08 12.5	+0.1
HSN	Hsinchu	0.96 293	eP	Pb	20 08 00.6	+0.1
HSN			eS	Sn	20 08 14.5	+0.3
YOJ	Yonaguni jima	0.97 88	P	Pb	20 08 00.1	-0.5
YOJ	Yonaguni jima	0.97 88	P	Pb	20 08 00.0	-0.5
YOJ	Yonaguni jima	0.97 88	eP	Pb	20 07 59.6	-0.9
WCS	Beigang Elemen	1.02 249	eP	Pb	20 08 01.2	-0.1
WCS			eS	Sb	20 08 14.3	-0.1
HGSD	Ruisui	1.05 207	eP	Pb	20 08 00.7	-1.3
HGSD			eS	Sb	20 08 15.6	+0.2
NMLH	Miaoli	1.06 276	P	Pg	20 08 03.0	+0.2
NMLH			eS	Sn	20 08 16.4	-0.2
TWQ1	Liyutan	1.07 266	eP	Pg	20 08 03.7	+0.6
TWQ1			eS	Sg	20 08 18.2	+1.0
NSY	Sanyi	1.08 269	i P	Pg	20 08 03.8	+0.5
NSY			eS	Sg	20 08 19.3	+1.9
EHY	Hungye	1.08 212	eP	Pb	20 08 00.2	-2.3
EHY			eS	Sb	20 08 16.4	0.0
EHYH	Wanrong	1.08 211	eP	Pb	20 08 00.7	-1.8
SMLT	Sun Moon Lake	1.10 240	eP	Pb	20 08 02.6	-0.3
SMLT			eS	Sn	20 08 17.7	-0.1
SSLB	Suanglung	1.11 235	P	Pn	20 08 02.3	-0.7
SSLB	Suanglung	1.11 235	⇑P	Pn	20 08 02.3	-0.7
SSLB			eS	Sb	20 08 17.2	0.0
TYC	Yuchr	1.12 242	⇑iP	Pn	20 08 02.9	-0.3
TYC			eS	Sb	20 08 17.8	+0.2
YULB	Yu-li	1.19 210	P	Pn	20 08 03.6	-0.5
YULB	Yu-li	1.19 210	eP	Pn	20 08 02.0	-2.2
PCYT	Pengchaiyu	1.20 5	eP	Pn	20 08 04.0	-0.2
ECBN	Changbin	1.20 202	eP	Pn	20 08 03.5	-0.7
ECBN			eS	Sb	20 08 19.3	-0.4
EYUL	Yuli	1.22 208	eP	Pn	20 08 04.5	-0.1
WHYT	Xinyi Township	1.24 234	P	Pn	20 08 04.8	-0.1
WHYT			eS	Sg	20 08 23.4	+0.9
WJS	Zhushan	1.27 242	eP	Pb	20 08 06.1	+0.4
WJS			eS	Sg	20 08 24.3	+1.0
WNT	Mingjian	1.28 245	eP	Pb	20 08 06.3	+0.5
WNT			eS	Sg	20 08 25.2	+1.5
WCHH	Zhanghua	1.31 255	eP	Pb	20 08 06.3	-0.2
WCHH			eS	Sg	20 08 24.7	-0.1
WCH1	Changhua City	1.33 255	eP	Pn	20 08 05.5	-0.4
WCH1			eS	Sg	20 08 24.5	-0.7
CHKH	Chenggong	1.33 202	eP	Pn	20 08 05.3	-0.8
CHKH			eS	Sb	20 08 23.6	+0.1
FULB	Fuli	1.36 206	eP	Pn	20 08 05.6	-0.9
FULB			eS	Sn	20 08 23.8	-0.4
ALS	Alishan	1.39 229	eP	Pn	20 08 07.1	0.0
ALS			eS	Sb	20 08 25.5	+0.1
CHN5	Tsauling	1.43 235	eP	Pb	20 08 08.3	-0.2
CHKT	Chengkung	1.43 202	eP	Pn	20 08 07.6	+0.3
EHD	Haiduan	1.45 208	eP	Pn	20 08 07.9	+0.3
WGK	Gukeng	1.47 240	eP	Pb	20 08 09.0	-0.1
WGK			S	Sg	20 08 29.9	+0.2
WDL	Douliou City	1.47 241	eP	Pb	20 08 09.1	0.0
WDL			i S	Sg	20 08 30.1	+0.3
WDLH	Douliu	1.48 240	eP	Pn	20 08 07.7	-0.4
WDLH			eS	Sg	20 08 29.6	-0.7
ECS	Chishang	1.49 207	eP	Pn	20 08 08.1	-0.2
ELDTW	Lidau	1.50 215	eP	Pn	20 08 06.7	-1.7
ELDTW			eS	Sn	20 08 26.9	-0.8
WRL	Guolierlin Hig	1.53 250	eP	Pb	20 08 09.6	-0.5
WRL			eS	Sb	20 08 30.3	+1.2
EDH	Donghe	1.57 202	eP	Pn	20 08 08.4	-0.9
EDH			eS	Sn	20 08 28.9	-0.3
WCKO	Fanlu	1.58 231	eP	Pb	20 08 11.1	+0.1
WCKO			eS	Sg	20 08 32.1	-1.1
WTK	Tuku	1.60 243	eP	Pn	20 08 10.5	+0.7
WTK			eS	Sg	20 08 32.9	-1.2
WTCT	Ta-ch'eng	1.62 250	eP	Pb	20 08 12.1	+0.4
WTCT			eS	Sb	20 08 32.8	+0.9
IRIF	Iriomote-Funau	1.63 93	P	Pn	20 08 08.6	-1.5
CHN4	Tsaushan	1.64 229	eP	Pb	20 08 12.1	0.0
CHN4			eS	Sg	20 08 34.5	-0.8
TPUB	Ta-pu	1.65 227	P	Pb	20 08 11.7	-0.5
TPUB	Ta-pu	1.65 227	eP	Pn	20 08 11.4	+0.9
TPUB			eS	Sb	20 08 33.8	+1.1
STYH	Taoyuan	1.65 221	eP	Pn	20 08 10.8	+0.4
CHY	Chiayi	1.68 237	eP	Pb	20 08 12.3	-0.3
CHY			i S	Sb	20 08 34.8	+1.5
LONT	Longtian	1.69 206	eP	Pn	20 08 09.6	-1.4
WSF	Szhu	1.76 244	eP	Pn	20 08 12.4	+0.4
WSF			i S	Sb	20 08 36.9	+0.9
TWK	Hsinying	1.77 229	eP	Pn	20 08 13.1	+1.0
TWGBT	Beinan	1.79 206	P	Pn	20 08 12.5	+0.1
TWGBT	Beinan	1.79 206	eP	Pn	20 08 10.2	-2.2
SNST	Tainan City	1.79 228	eP	Pb	20 08 14.0	-0.6
SNST			eS	Sb	20 08 37.0	+0.2
TWG	Pinlang	1.79 207	eP	Pn	20 08 12.3	-0.1
CHN1	Nanshi	1.80 227	eP	Pn	20 08 13.6	+1.2
CHN1			eS	Sb	20 08 37.7	+0.7
WSL	Shuilin Townsh	1.81 240	eP	Pn	20 08 13.5	+0.8
WSL			eS	Sb	20 08 38.9	+1.5
SGST	Jiashian	1.83 223	eP	Pn	20 08 13.4	+0.4
SGST			eS	Sb	20 08 38.1	+0.1
ICHU	Yijhu	1.86 235	eP	Pn	20 08 14.3	+1.0
ICHU			eS	Sb	20 08 40.0	+1.3
SLGT	Liugui	1.86 220	eP	Pn	20 08 13.8	+0.4
SLGT			eS	Sb	20 08 39.5	+0.6
JKRS	Kuro-shima	1.89 95	P	Pn	20 08 13.0	-0.7
JKRS			S	Sn	20 08 36.2	-1.0
CHN8	Yiju	1.92 236	eP	Pn	20 08 15.1	+0.9
CHN8			i S	Sb	20 08 42.4	+1.9
JIJ	Ishigaki jima	2.00 91	P	Pn	20 08 14.4	-0.9
SCST	Cishan	2.04 221	eP	Pn	20 08 17.2	+1.5
SCST			eS	Sb	20 08 45.2	+1.4
ECL	Taimali	2.04 207	eP	Pn	20 08 15.8	+0.1
TSMG	Majia	2.09 215	eP	Pn	20 08 17.2	+0.7
TSCK	Chigu Township	2.13 233	eP	Pn	20 08 17.9	+0.9
JISG	Ishigakijimahi	2.16 85	P	Pn	20 08 16.4	-1.0
MASBT	Mashibuluo	2.18 214	eP	Pn	20 08 17.5	-0.1
MASBT			S	Sb	20 08 47.5	-0.4
EAST	Anshuo	2.27 207	eP	Pn	20 08 20.2	+1.2
TAWH	Dawu Township	2.30 205	eP	Pn	20 08 20.6	+1.3
VWUC	VWUC	2.34 284	eP	Pn	20 08 18.8	-1.1
PHUB	P'eng-hu	2.36 248	eP	Pn	20 08 18.9	-1.3
SCZT	Fangliau	2.38 211	eP	Pn	20 08 21.8	+1.3
MATB	Ma-tsu	2.49 314	eP	Pn	20 08 20.5	-1.5
KAPI	Kappang	29.35 184	LR	LR	20 25 45.2	
	comp=Z,289nm,20.8s,baz=186,slow=37					
MKAR	Makanchi Array	38.65 315	P	P	20 15 02.7	-2.1
	0.6nm,0.9s,baz=97,slow=9.2,SNR=4.4					
	0.6nm,0.9s					
WRA	Warramunga Arr	45.73 164	P	P	20 16 04.1	+1.4
	0.1nm,0.4s,baz=344,slow=8.8,SNR=5.4					
	0.1nm,0.4s					
ASAR	Alice Springs	49.20 165	P	P	20 16 32.7	+3.0
	0.1nm,0.4s,baz=352,slow=6.6,SNR=1.8					
	0.1nm,0.4s					

*IDC **01** 20:19:49.8±2.7, 17.°87S×178.°45W, h583km±17km, mb3.1/6, mbtmp4.0/8, Error ellipse: s-maj=93.2km s-min=18.8km az=146.0*

ISC 01 20:19:48.9±1.4, 18.°1S±0.°4×178.°3W±0.°2, h579km, n8,
σ0.9 91/11, **mb3.5/6, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu					P	P	20 21 09.3	+0.1
	34nm,0.7s,baz=155,slow=4.4,SNR=21								
MSVF						S	S	20 22 15.5	+0.9
	7.7nm,0.8s,baz=185,slow=23,SNR=1.1								
DZM	Mont Dzumac					P	P	20 22 55.0	-1.3
	4.1nm,0.7s,baz=68,slow=13,SNR=1.7								
STKA	Stephens Creek					P	P	20 26 24.8	+1.1
	2.2nm,0.5s,baz=94,slow=9.8,SNR=4.7								
	2.2nm,0.5s								
WRA	Warramunga Arr					P	P	20 27 11.3	-0.2
	0.9nm,0.4s,baz=97,slow=6.9,SNR=36								
WRA					PcP	PcP	PcP	20 28 40.6	-0.8
	0.2nm,0.6s,baz=88,slow=3.5,SNR=1.6								
	0.9nm,0.4s								
ASAR	Alice Springs					P	P	20 27 12.3	-0.2
	6.8nm,0.5s,baz=88,slow=8.7,SNR=157								
ASAR					PcP	PcP	PcP	20 28 42.3	+0.4
	0.3nm,0.5s,baz=91,slow=4.7,SNR=2.0								
	6.8nm,0.5s								
NVAR	Mina Array Bea					P	P	20 30 55.5	-1.0
	0.5nm,0.6s,baz=278,slow=6.1,SNR=2.1								
	0.5nm,0.6s								
ILAR	Eielson Array					P	P	20 31 28.4	0.0
	0.4nm,0.4s,baz=219,slow=5.0,SNR=9.7								
	0.4nm,0.4s								
PDAR	Pinedale Array					P	P	20 31 36.8	+1.0
	0.3nm,0.7s,baz=225,slow=7.3,SNR=2.2								
	0.3nm,0.7s								

*IDC **01** 20:30:50.1±0.6, 6.°26S×150.°90E, h0km, mb4.6/18, mbtmp4.6/19, ML2.4/1, MS4.4/9, Error ellipse: s-maj=20.2km s-min=12.0km az=104.0*
*BJI **01** 20:30:52.2, 6.°33S×151.°49E, h43km, mb4.7/23, mB5.2/5, Ms7 4.5/1*
*NEIC **01** 20:30:52.2±2.3, 6.°24S±0.°08×150.°77E±0.°10, h10km±1km, mb4.9/43, Error ellipse: s-maj=18.8km s-min=10.0km az=126.0*
*DJA **01** 20:31:31.0±1.4, 8.°S±7.°×15.°0E±1.°2, h204km±9km, M4.8/18, mb4.5/18, mB5.5/7, Mw(mB)5.0/7*

ISC 01 20:30:52.2±0.4, 6.°24S±0.°05×150.°78E±0.°06, h10km, n147,
σ1.9 69/131, **mb4.9**/44, **MS4.5**/9, **3D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BULU	Kimbe					P	Pb	20 31 09.2	+0.4
RABL	Rabaul					P	Pn	20 31 33.2	+0.8
PMG	Port Moresby					P	Pn	20 32 04.8	+0.6
PMG					Sn	Sn	Sn	20 32 58.9	-0.7
PMG	Port Moresby					Pn	Pn	20 32 04.4	+0.3
	11nm,0.3s,baz=55,slow=7.3,SNR=39								
PMG					Sn	Sn	Sn	20 33 00.3	+0.7
	66nm,0.3s,baz=100,slow=18,SNR=14								
	274nm,0.8s								
PMG	Port Moresby					P	Pn	20 32 07.9	+3.7
PMG	Port Moresby					P	Pn	20 32 07.8	+3.6
MANU	Manus Island						Pn	20 32 17.5	+5.0
HNR	Honiara					LR	LR	20 36 17.4	
	comp=Z,2μm,21.1s,baz=248,slow=34								
ALEG	Aligegeo Malai					P	Pn	20 33 21.0	+3.0
JAY	Jayapura					P	Pn	20 33 59.7	+34
	21nm,1.0s								
COEN	Coen					Pn	Pn	20 33 24.9	-1.0
GENI	Genyem					P	Pn	20 34 03.0	+31
MTSU	Mount Surprise					P	Pn	20 34 05.9	+3.3
TV1H	Townsville Har					P	Pn	20 34 07.9	+3.8
CTA	Charters Tower					LR	LR	20 39 19.8	
	comp=Z,91nm,18.9s,baz=66,slow=35								
CTAO	Charters Tower					Pn	Pn	20 34 14.3	-2.7
CTAO	Charters Tower					P	P	20 34 21.4	-2.4
LUES	Luesalemba Tem					P	P	20 34 35.1	-1.5
KMPI	Kaimana, Papua					P	P	20 35 11.5	+17
	114nm,0.6s								
RKPI	Ransiki, Papua					P	P	20 35 14.7	+20
QIS	Mount Isa					P	P	20 35 04.9	+2.9
EIDS	Eidsvold					P	P	20 35 12.0	-2.4
EIDS	Eidsvold					P	Pn	20 35 17.4	+2.2
KDU	Kakadu					P	P	20 35 15.7	-0.2
SWI	Sorong					P	Pn	20 35 45.4	+16
	24nm,0.8s								
MTN	Manton Dam					P	P	20 35 29.6	-0.4
MTN					IAmb	IAmb	IAmb	20 35 41.5	
	comp=Z,34nm,0.8s								
MTN	Manton Dam					P	P	20 35 30.3	+0.3
DRS	Darwin Rock St					P	P	20 35 32.0	+0.9
GUMO	Guam					P	Pn	20 35 32.8	-0.5
	comp=Z,100nm,0.9s,baz=186,slow=7.6,SNR=2.9								
	comp=Z,100nm,0.9s								
WB0	Warramunga Arr					P	P	20 35 34.6	+0.2
BNDI	Bandanaira					P	Pn	20 35 48.4	+12
	comp=Z,105nm,1.1s,comp=Z,11μm								
WR0	Warramunga Arr					P	P	20 35 34.8	+0.4
WRAB	Tennant Creek					P	P	20 35 35.6	-0.2
WRAB					IAmb	IAmb	IAmb	20 35 37.5	
	comp=Z,68nm,0.9s								
WB2	Warramunga Arr					P	P	20 35 36.2	+0.4
WRA	Warramunga Arr					P	P	20 35 35.0	-0.9
WRA	Warramunga Arr					P	P	20 35 36.5	+0.6
	comp=Z,64nm,0.9s,baz=52,slow=10,SNR=86								
WRA					S	S	S	20 39 27.0	-2.9
	comp=Z,6.2nm,1.2s,baz=51,slow=18,SNR=6.0								
WRA					ScP	ScP	ScP	20 43 18.6	-1.8
	comp=Z,2.9nm,0.9s,baz=46,slow=2.4,SNR=7.9								
	comp=Z,64nm,0.9s								
AUWSH	Wavell State H					P	P	20 35 40.0	+2.4
QLP	Quilpie					P	P	20 35 40.5	+2.7
TW1H	Toowoomba 1 Ha					P	P	20 35 39.9	+1.5
DZM	Mont Dzumac					P	P	20 35 46.2	+1.1
	comp=Z,124nm,1.1s								
DZM					eLR	LR	LR	20 41 21.0	
	comp=Z,2μm,23.1s								
DZM	Mont Dzumac					P	P	20 35 44.2	-0.9
DZM					IAmb	IAmb	IAmb	20 35 47.9	
	comp=Z,45nm,0.9s								
DZM	Mont Dzumac					P	P	20 35 44.2	-0.9
	comp=Z,44nm,1.0s,baz=8.3,slow=10,SNR=8.8								
	comp=Z,44nm,1.0s								
DZM	Mont Dzumac					P	P	20 35 46.9	+1.8
MSAI	Masohi					P	P	20 36 00.6	+14
	comp=Z,13nm,0.7s,comp=Z,1μm								
YATNC	Mamie plateau,					P	P	20 35 50.4	+2.3
INKA	Innaminka					P	P	20 36 03.2	+1.7
KNRA	Kununurra					P	P	20 36 01.4	-1.5
KNRA					IAmb	IAmb	IAmb	20 36 06.1	
	comp=Z,34nm,0.8s								
AS01	Alice Springs					P	P	20 36 05.5	+1.0
AS31	Alice Springs					P	P	20 36 05.2	+0.4
ASAR	Alice Springs					P	P	20 36 05.6	+0.7
ASAR	Alice Springs					P	P	20 36 05.5	+0.6
	comp=Z,44nm,0.8s,baz=56,slow=8.8,SNR=208								
ASAR					S	S	S	20 40 22.6	+2.3
	comp=Z,3.7nm,0.8s,baz=40,slow=17,SNR=6.1								
ASAR					ScP	ScP	ScP	20 43 26.4	-1.2
	comp=Z,1.9nm,1.0s,baz=47,slow=4.1,SNR=6.0								
ASAR					LR	LR	LR	20 45 12.0	
	comp=Z,428nm,19.1s,baz=40,slow=36								
	comp=Z,44nm,0.8s								
ARMA	Armidale					P	P	20 36 07.5	-0.5
ARMA					IAmb	IAmb	IAmb	20 36 11.7	
	comp=Z,76nm,1.6s								
ARMA	Armidale					P	P	20 36 09.6	+1.7
AUPHS	Peel High Scho					P	P	20 36 15.5	+1.6
SANI	Sanana					P	P	20 36 37.8	+21
CMSA	Cobar Meteorol					P	P	20 36 24.0	+2.1
OOD	Oodnadatta					P	P	20 36 24.9	+1.5
SOEI	Soe					P	P	20 36 27.7	-2.3
SOEI					IAmb	IAmb	IAmb	20 37 05.7	
	comp=Z,41nm,1.0s								
SOEI	Soe					P	P	20 36 29.7	-0.3
SOEI	Soe					P	P	20 36 44.7	+15
LCRK	Leigh Creek					P	P	20 36 33.1	+0.3
STKA	Stephens Creek					P	P	20 36 33.1	-0.5
STKA	Stephens Creek					P	P	20 36 33.5	-0.2
	comp=Z,69nm,1.0s,baz=358,slow=9.2,SNR=31								
STKA					LR	LR	LR	20 48 11.4	
	comp=Z,660nm,18.1s,baz=15,slow=39								
	comp=Z,69nm,1.0s								
STKA	Stephens Creek					P	P	20 36 36.1	+2.5
BATI	Baumata					P	P	20 36 44.8	+9.1
	comp=Z,45nm,0.8s								
FITZ	Fitzroy Crossi					P	P	20 36 34.8	-1.6
YNG	Young					P	P	20 36 44.3	+0.8
MMRI	Maumere					P	P	20 36 45.3	-1.8
MMRI	Maumere					P	P	20 37 01.8	+15
DAV	Davao City (W)					P	LR	20 47 09.8	
	comp=Z,1μm,20.8s,baz=150,slow=34								
WRKA	Warakurna					P	P	20 36 47.8	-0.3
MULG	Mulgathing					P	P	20 36 48.6	-0.4
MSVF	Nonsavu					LR	LR	20 46 21.9	
	comp=Z,506nm,21.3s,baz=200,slow=32								
CAN	Canberra					P	P	20 36 49.3	-2.9
HTT	Hallett					P	P	20 36 54.8	+0.6
BBOO	Buckleboo					P	P	20 36 58.4	-0.8
BBOO					IAmb	IAmb	IAmb	20 37 00.2	
	comp=Z,25nm,1.2s								
BBOO	Buckleboo					P	P	20 36 59.6	+0.4
ARPS	Mount Arapiles					P	P	20 37 14.9	+0.8
FORT	Forrest					P	P	20 37 21.2	-1.2
MBWA	Marble Bar					P	P	20 37 31.3	-0.9
MBWA					IAmb	IAmb	IAmb	20 37 57.7	
	comp=Z,22nm,1.2s								
PSA00	Pilbara Seismi					P	P	20 37 31.9	-0.7
PSA00					IAmb	IAmb	IAmb	20 37 33.2	
	comp=Z,19nm,1.1s								
SMKI	Samarinda					P	P	20 37 49.9	+13
JAGI	Jajag, Banyuwa					P	P	20 37 54.0	-3.1
URZ	Urewera					LR	LR	20 52 30.4	
	comp=Z,690nm,20.6s,baz=32,slow=33								
MORW	Morawa					P	P	20 38 24.6	-1.8
MORW					IAmb	IAmb	IAmb	20 38 28.4	
	comp=Z,58nm,1.4s								
TCW	Tory Channel					P	P	20 38 32.3	-0.3
TUWZ	Tuamarina					P	P	20 38 33.6	+0.9
BSWZ	Blackbirch Sta					P	P	20 38 33.9	-0.5
NWAO	Narrogin (SRO)					LR	LR	20 56 34.8	
	comp=Z,465nm,19.1s,baz=66,slow=38								
LTZ	Lake Taylor					P	P	20 38 37.0	+1.1
MSWZ	Moikau Station					P	P	20 38 36.6	-1.1
KPJI	Karang Pucung					P	P	20 38 57.7	+17
LEM	Lembang					P	P	20 38 51.7	+0.3
	comp=Z,11nm,0.4s,baz=52,slow=15,SNR=2.3								
	comp=Z,11nm,0.4s								
JNU	Nakatsue					P	P	20 38 54.3	-1.4
MJAR	Matsushiro Arr					ScP	ScP	20 44 35.2	-3.1
	comp=Z,7.1nm,1.1s,baz=181,slow=4.7,SNR=9.0								
KSRS	Korea Array					P	P	20 39 33.7	-1.0
	comp=Z,2.7nm,0.5s,baz=153,slow=8.6,SNR=11								
	comp=Z,2.7nm,0.5s								
KSAR	Wonju Array Be					P	P	20 39 34.2	-0.5
NJ2	Nanjing					P	P	20 39 38.7	+1.5
NJ2					pmax	pmax	pmax		
	comp=Z,6.0nm,0.6s								
USRK	Ussuriysk Ar.					P	P	20 40 08.5	-0.6
	comp=Z,2.2nm,0.9s,baz=151,slow=7.9,SNR=3.0								
	comp=Z,2.2nm,0.9s								
ENH	Enshi					P	P	20 40 12.8	-1.7
HNS	HongShan					P	P	20 40 25.7	+2.4
HNS					pmax	pmax	pmax		
	comp=Z,14nm,0.6s								
BNX	BinXian					P	P

comp=Z,3.5nm,0.9s
KURK Kurchatov 83.67 322 P P 20 43 18.4 -2.7
KURK IAmb IAmb 20 43 57.5
comp=Z,15nm,1.7s
KURBB Kurchatov Arra 83.69 322 P P 20 43 21.1 -0.1
comp=Z,0.5nm,0.9s,baz=97,slow=3.7,SNR=2.9
QSPA South Pole Qui 83.73 180 P P 20 43 21.1 -0.3
QSPA South Pole Qui 83.73 180 P P 20 43 21.0 -0.3
comp=Z,18nm,0.9s,baz=350,slow=2.3,SNR=42
comp=Z,18nm,0.9s
CCB Clear Creek Bu 83.84 22 P P 20 43 18.6 -3.0
CCB IAmb IAmb 20 43 22.8
comp=Z,11nm,1.6s
IL31 84.24 22 P P 20 43 21.8 -1.9
IL31 IAmb IAmb 20 44 01.5
comp=Z,12nm,1.6s
ILAR Eielson Array 84.24 22 P P 20 43 21.9 -1.9
comp=Z,1.5nm,0.8s,baz=244,slow=5.0,SNR=16
comp=Z,1.5nm,0.8s
J25K Salcha River, 84.75 23 P P 20 43 23.9 -2.6
J25K IAmb IAmb 20 43 27.9
comp=Z,4.1nm,0.7s
DAWY Dawson 86.92 24 P P 20 43 35.5 -1.6
DAWY IAmb IAmb 20 43 53.1
comp=Z,14nm,1.5s
KKAR Karatay Array 87.16 314 P P 20 43 37.9 -0.8
KKAR IAmb IAmb 20 44 47.9
comp=Z,4.3nm,0.5s
KKAR Karatay Array 87.16 314 P P 20 43 37.2 -1.5
I28M Miner Creek 87.20 23 P P 20 43 38.2 -0.3
I28M IAmb IAmb 20 43 58.8
comp=Z,17nm,1.8s
K29M Barlow Dome 87.62 25 P P 20 43 39.2 -1.4
E27K Coleen River 87.63 20 P P 20 43 41.7 +1.2
E27K IAmb IAmb 20 43 45.0
comp=Z,12nm,1.6s
BVAR Borovoye Array 89.18 323 P P 20 43 47.2 -0.9
comp=Z,0.6nm,0.5s,baz=108,slow=3.6,SNR=3.5
comp=Z,0.6nm,0.5s
NVAR Mina Array Bea 94.55 52 P P 20 44 13.6 0.0
comp=Z,1.3nm,0.7s,baz=241,slow=4.5,SNR=6.5
comp=Z,1.3nm,0.7s
ELIB Princess Elisa 94.92 194 *dP* **P 20 44 14.1 -0.4**
comp=Z,3.7nm,1.1s
ARTI Arti 96.47 326 LR LR 21 29 02.4
comp=Z,387nm,21.5s,baz=53,slow=36
PDAR Pinedale Array 101.30 48 P **Pdif 20 44 43.1 -0.9**
comp=Z,0.4nm,0.6s,baz=202,slow=1.6,SNR=4.4
ARCES ARCESS Array B 107.63 342 PKiKP **PKiKP 20 49 20.2 +1.1**
comp=Z,2.2nm,1.0s,baz=340,slow=1.4,SNR=4.0
BOAV Boa Vista 148.56 96 PKPdf 20 50 32.2 -4.8
TORD Torodi Ar. Bea 148.78 285 PKPbc **PKPbc 20 50 39.4 -1.7**
comp=Z,4.8nm,0.5s,baz=76,slow=2.7,SNR=33
BDFB Brasilia 151.38 140 PKPbc **PKPbc 20 50 46.3 -1.2**
comp=Z,4.4nm,0.6s,baz=137,slow=3.7,SNR=5.7

*IDC **01** 20:34:29.8±1.0, 37°.56N×20°.79E, h0km, mb3.6/10, mbtmp3.5/15, ML3.4/3, Error ellipse: s-maj=21.2km s-min=16.3km az=154.0*
*THE **01** 20:34:31.1, 37°.46N×20°.68E, h9km, ML3.6/12, Error ellipse: s-maj=1.5km s-min=0.6km az=51.0*
*ATH **01** 20:34:31.3, 37°.47N×20°.70E, h9km±1km, ML3.4/21, Error ellipse: s-maj=2.0km s-min=0.8km az=44.0*
ISC 01 20:34:31.7±1.0, 37°.50N±0°.03×20°.75E±0°.03, h15km±6km, n62, σ0°81/88, mb3.6/10, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.17**	**19**	P	**Pg**	**20 34 35.7**	**-0.2**
KRI1				S	**Sg**	**20 34 39.1**	**+0.4**
50μm,0.5s							
LTHK	**Lithakia**	**0.22**	**18**	P	**Pg**	**20 34 36.5**	**-0.1**
LTHK				S	**Sg**	**20 34 40.4**	**+0.4**
22μm,0.2s							
LTHK	**Lithakia**	**0.22**	**18**	P	**Pg**	**20 34 36.5**	**-0.1**
LTHK				S	**Sg**	**20 34 39.7**	**-0.3**
LTHK				AML	AML	20 34 41.2	
comp=N,58273μm,0.3s							
LTHK				AML	AML	20 34 42.9	
comp=E,25592μm,0.1s							
RTZL	**Ratzakli, Kefa**	**0.57**	**2**	P	**Pg**	**20 34 42.7**	**-0.3**
RTZL				S	**Sb**	**20 34 51.9**	**+0.4**
comp=E,9μm,0.5s							
PSDA	**Pessada-Kefalo**	**0.63**	**348**	P	**Pg**	**20 34 43.6**	**-0.4**
PSDA				S	**Sb**	**20 34 53.4**	**+0.4**
comp=E,12μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.63**	**348**	P	**Pg**	**20 34 43.5**	**-0.5**
PSDA				S	**Sb**	**20 34 52.8**	**-0.2**
VLS	**Valsamata**	**0.69**	**349**	P	**Pg**	**20 34 44.5**	**-0.6**
VLS				S	**Sb**	**20 34 56.0**	**+1.2**
comp=E,5μm,0.5s							
VLS	**Valsamata**	**0.69**	**349**	P	**Pg**	**20 34 44.3**	**-0.8**
VLS				S	**Sg**	**20 34 54.3**	**0.0**
VLS				AML	AML	20 35 00.2	
comp=N,9962μm,0.5s							
VLS				AML	AML	20 35 00.6	
comp=E,10069μm,0.5s							
LXRA	**Lixouri, Kepha**	**0.74**	**341**	P	**Pg**	**20 34 45.9**	**-0.2**
LXRA				S	**Sg**	**20 34 55.5**	**-0.4**
AMT	**Artemida-Makis**	**0.76**	**87**	P	**Pb**	**20 34 46.2**	**-0.5**
AMT				S	**Sb**	**20 34 57.3**	**+0.4**
AMT				AML	AML	20 35 05.5	
comp=E,13465μm,0.3s							
AMT				AML	AML	20 35 08.4	
comp=N,13374μm,0.4s							
DMLN	**Damoulianata-K**	**0.80**	**338**	P	**Pg**	**20 34 46.4**	**-0.8**
DMLN				S	**Sb**	**20 34 58.3**	**+0.4**
comp=N,11μm,0.6s							
DMLN	**Damoulianata-K**	**0.80**	**338**	P	**Pg**	**20 34 46.7**	**-0.5**
DMLN				S	**Sg**	**20 34 57.8**	**+0.1**
RLS	**Riolos of Patr**	**0.80**	**45**	P	**Pg**	**20 34 46.5**	**-0.6**
RLS				S	**Sb**	**20 34 59.2**	**+1.4**
comp=N,2μm,0.5s							
RLS	**Riolos of Patr**	**0.80**	**45**	P	**Pg**	**20 34 46.6**	**-0.6**
RLS				S	**Sb**	**20 34 58.2**	**+0.3**
RLS				AML	AML	20 35 00.5	
comp=N,2499μm,0.3s							
RLS				AML	AML	20 35 04.1	
comp=E,4059μm,0.8s							
DRO	**Drossia**	**0.89**	**59**	P	**Pg**	**20 34 48.2**	**-0.7**
DRO	**Drossia**	**0.89**	**59**	P	**Pg**	**20 34 48.1**	**-0.7**
DRO				S	**Sn**	**20 35 01.8**	**-0.5**
DRO				AML	AML	20 35 11.6	
comp=E,7544μm,0.6s							
DRO				AML	AML	20 35 11.6	
comp=N,6542μm,0.4s							
VSK1	**VASILIKIADES**	**0.92**	**351**	P	**Pg**	**20 34 48.6**	**-0.9**
VSK1				S	**Sn**	**20 35 03.6**	**+0.5**
comp=N,5μm,0.7s							
FSK	**Fiskardo**	**0.97**	**351**	P	**Pg**	**20 34 49.3**	**-1.1**
FSK				S	**Sn**	**20 35 04.8**	**+0.5**
comp=N,6μm,0.6s							
FSK	**Fiskardo**	**0.97**	**351**	P	**Pg**	**20 34 49.1**	**-1.3**
FSK				S	**Sb**	**20 35 04.0**	**+1.1**
FSK				AML	AML	20 35 09.0	
comp=N,15664μm,0.6s							
FSK				AML	AML	20 35 12.5	
comp=E,7036μm,0.5s							
ITM	**Ithomi**	**0.99**	**108**	P	**Pb**	**20 34 50.4**	**-0.2**
ITM				S	**Sn**	**20 35 05.5**	**+0.6**
comp=E,1μm,0.6s							
ITM	**Ithomi**	**0.99**	**108**	P	**Pb**	**20 34 50.3**	**-0.3**
ITM				S	**Sn**	**20 35 05.1**	**+0.2**
ITM				AML	AML	20 35 13.0	
comp=E,2022μm,0.7s							
ITM				AML	AML	20 35 13.2	
comp=N,2339μm,0.6s							
PYL	**PYLOS**	**1.00**	**127**	P	**Pg**	**20 34 50.0**	**-1.0**
PYL				S	**Sn**	**20 35 05.9**	**+0.9**
comp=N,965nm,0.5s							
PYL	**PYLOS**	**1.00**	**127**	P	**Pg**	**20 34 49.9**	**-1.0**
PYL				S	**Sn**	**20 35 04.3**	**-0.7**
PYL				AML	AML	20 35 08.4	
comp=N,1735μm,0.6s							
PYL				AML	AML	20 35 09.9	
comp=E,2112μm,0.5s							
AST1	**Astakos**	**1.07**	**14**	P	**Pg**	**20 34 51.4**	**-1.0**
EVGI	**Lefkada island**	**1.12**	**356**	P	**Pg**	**20 34 51.9**	**-1.4**
DRAG	**Dragano-Lefkad**	**1.19**	**353**	P	**Pg**	**20 34 53.3**	**-1.3**
NYDR	**Nydri-Lefkada**	**1.21**	**358**	P	**Pb**	**20 34 53.3**	**-1.0**
KLV	**Kalavryta, Ach**	**1.24**	**64**	P	**Pn**	**20 34 54.6**	**+0.1**
KLV	**Kalavryta, Ach**	**1.24**	**64**	P	**Pb**	**20 34 54.4**	**-0.4**
KLV				S	**Sn**	**20 35 11.4**	**+0.4**
KLV				AML	AML	20 35 21.7	
comp=E,920μm,0.7s							
KLV				AML	AML	20 35 25.2	
comp=N,1076μm,0.8s							
LKD2	**Lefkada island**	**1.29**	**357**	P	**Pn**	**20 34 55.1**	**-0.1**
LKD2				AML	AML	20 35 24.4	
comp=E,3929μm,0.6s							
LKD2				AML	AML	20 35 26.1	
comp=N,3112μm,0.7s							
EFP	**Efpalio**	**1.30**	**44**	P	**Pn**	**20 34 55.1**	**-0.3**
EFP				S	**Sn**	**20 35 15.1**	**+2.6**
comp=N,1μm,0.8s							
EFP	**Efpalio**	**1.30**	**44**	P	**Pn**	**20 34 55.0**	**-0.3**
EFP				AML	AML	20 35 21.3	
comp=E,1912μm,0.6s							
EFP				AML	AML	20 35 24.1	
comp=N,2640μm,1.0s							
ALIK	**Aliki, Aigiali**	**1.32**	**54**	P	**Pg**	**20 34 56.4**	**-0.7**
TSLK	**Tsoukalades, L**	**1.32**	**357**	P	**Pn**	**20 34 55.5**	**-0.2**
TSLK	**Tsoukalades, L**	**1.32**	**357**	P	**Pn**	**20 34 55.1**	**-0.6**
TSLK				AML	AML	20 35 20.0	
comp=E,4373μm,0.5s							
TSLK				AML	AML	20 35 22.2	
comp=N,4993μm,0.5s							
GUR	**Goura**	**1.34**	**71**	P	**Pn**	**20 34 55.8**	**-0.2**
GUR	**Goura**	**1.34**	**71**	P	**Pn**	**20 34 55.6**	**-0.4**
GUR				AML	AML	20 35 24.1	
comp=E,2035μm,0.5s							
GUR				AML	AML	20 35 26.9	
comp=N,2636μm,0.5s							
KALE	**Kalithea**	**1.41**	**51**	P	**Pn**	**20 34 57.0**	**0.0**
KALE	**Kalithea**	**1.41**	**51**	P	**Pn**	**20 34 56.8**	**-0.2**
KALE				AML	AML	20 35 27.8	
comp=N,2193μm,0.4s							
KALE				AML	AML	20 35 29.0	
comp=E,3195μm,0.6s							
ANX	**Ano Chora**	**1.43**	**40**	P	**Pn**	**20 34 57.4**	**+0.1**
ANX	**Ano Chora**	**1.43**	**40**	P	**Pn**	**20 34 57.0**	**-0.2**
ANX				AML	AML	20 35 25.1	
comp=N,4391μm,0.6s							
ANX				AML	AML	20 35 26.4	
comp=E,3613μm,0.7s							
EVR	**Evrytania**	**1.64**	**30**	P	**Pb**	**20 35 01.0**	**-0.7**
EVR				AML	AML	20 35 39.1	
comp=E,1768μm,1.0s							
EVR				AML	AML	20 35 39.6	
comp=N,1350μm,0.8s							
VLI	**Veliai**	**1.92**	**113**	P	**Pn**	**20 35 03.7**	**-0.2**
VLI				AML	AML	20 35 47.9	
comp=N,516μm,1.0s							
VLI				AML	AML	20 35 48.8	
comp=E,627μm,1.1s							
AXAR	**Agios Charalam**	**1.97**	**49**	P	**Pn**	**20 35 05.8**	**+1.3**
AXAR				AML	AML	20 35 43.5	
comp=E,2184μm,0.5s							
AXAR				AML	AML	20 35 48.1	
comp=N,2916μm,0.8s							
IGT	**Igoumenitsa**	**2.06**	**351**	P	**Pn**	**20 35 05.9**	**+0.2**
IGT				AML	AML	20 35 47.0	
comp=E,879μm,0.7s							
IGT				AML	AML	20 35 50.2	
comp=N,975μm,1.1s							
VIL2	**Platees**	**2.12**	**70**	P	**Pn**	**20 35 07.7**	**+1.1**
VIL2				AML	AML	20 35 53.9	
comp=E,824μm,0.7s							
VIL2				AML	AML	20 35 57.7	
comp=N,567μm,0.7s							
THL	**Klokotos Trika**	**2.29**	**25**	P	**Pn**	**20 35 09.9**	**+0.9**
THL				AML	AML	20 35 53.4	
comp=E,571μm,0.6s							
THL				AML	AML	20 35 55.2	
comp=N,341μm,0.7s							
IDI	**Anoyia**	**4.00**	**122**	Pn	**Pn**	**20 35 33.3**	**+0.7**
comp=N,7.5nm,1.1s,baz=253,slow=5.3,SNR=2.0							
IDI				Sn	**Sn**	**20 36 20.5**	**+1.2**
comp=N,2.1nm,0.3s,baz=242,slow=21,SNR=3.5							
VAE	**Valguarnera**	**5.04**	**272**	Pn	**Pn**	**20 35 49.5**	**+2.6**
comp=N,4.7nm,0.5s,baz=49,slow=23,SNR=2.0							
VAE				Sn	**Sn**	**20 36 43.3**	**-1.6**
comp=N,2.4nm,0.3s,baz=174,slow=22,SNR=2.4							
MLR	**Muntele Rosu**	**8.88**	**24**	Pn	**Pn**	**20 36 39.1**	**-0.5**
comp=N,0.1nm,0.3s,baz=214,slow=18,SNR=1.2							
comp=N,1.0nm,0.5s							
AKASG	**Malin Array Be**	**14.52**	**22**	Pn	**Pn**	**20 37 55.7**	**-0.8**
comp=N,0.3nm,0.3s,baz=214,slow=10,SNR=2.8							
comp=N,0.1nm,0.3s							
ESDC	**Sonseca Array**	**19.43**	**284**	P	**P**	**20 38 58.3**	**+0.8**
baz=81,slow=11,SNR=1.7							
comp=N,0.4nm,0.8s							
MDT	**Midelt**	**21.23**	**265**	P	**P**	**20 39 17.4**	**+0.2**
comp=N,2.9nm,0.9s,baz=71,slow=8.1,SNR=4.7							
comp=N,2.9nm,0.9s							
HFS	**Hagfors**	**23.10**	**351**	P	**P**	**20 39 35.8**	**-1.0**
comp=N,1.9nm,0.7s,baz=194,slow=11,SNR=1.9							
comp=N,1.9nm,0.7s							
EKA	**Eskdalemuir Ar**	**24.09**	**325**	P	**P**	**20 39 47.4**	**+0.9**
comp=N,1.1nm,0.7s,baz=127,slow=11,SNR=2.1							
comp=N,1.1nm,0.7s							
FINES	**FINESS Array B**	**24.20**	**6**	P	**P**	**20 39 46.2**	**-1.2**
comp=N,2.2nm,0.8s,baz=190,slow=9.7,SNR=4.5							
comp=N,2.2nm,0.8s							
NOA	**NORSAR Array B**	**24.32**	**349**	P	**P**	**20 39 48.2**	**-0.4**
comp=N,0.2nm,0.5s,baz=166,slow=11,SNR=1.6							
comp=N,0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**29.62**	**220**	P	**P**	**20 40 36.6**	**0.0**
comp=N,0.4nm,0.5s,baz=30,slow=8.9,SNR=4.4							
comp=N,0.4nm,0.5s							
BVAR	**Borovoye Array**	**37.42**	**49**	P	**P**	**20 41 44.5**	**+0.5**
comp=N,0.3nm,0.4s,baz=245,slow=6.1,SNR=2.8							
comp=N,0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**42.49**	**53**	P	**P**	**20 42 26.5**	**+0.4**
comp=N,0.5nm,0.8s,baz=277,slow=8.4,SNR=3.6							
comp=N,0.5nm,0.8s							
MKAR	**Makanchi Array**	**45.51**	**58**	P	**P**	**20 42 49.7**	**-0.8**
comp=N,0.7nm,0.7s,baz=271,slow=7.4,SNR=2.4							
comp=N,0.7nm,0.7s							
ZALV	**Zalesovo Beam**	**46.01**	**48**	P	**P**	**20 42 54.5**	**+0.2**
comp=N,0.8nm,0.6s,baz=265,slow=7.2,SNR=2.9							
comp=N,0.8nm,0.6s							

ISC 01 20:51:10.5±1.0, 25°.21N±0°.06×109°.73W±0°.06, h17km, n5, σ0°76/9, 4C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.73**	**58⇑**	*e*P	**Pg**	**20 51 25.2**	**+0.3**
TSIG				*i* S	**Sb**	**20 51 35.2**	**+0.6**
TSIG				IAML		20 51 36.3	
comp=N,482nm,0.3s							
TSIG			⇑	*e*		20 51 36.3	
EVAR0	**San Evaristo**	**0.94**	**252⇑**	*i* P	**Pb**	**20 51 28.9**	**+0.5**
EVAR0				IAML		20 51 42.1	
comp=E,370nm,0.5s							
EVAR0			⇓	*e*		20 51 56.1	
UAGRB	**Rancho Ultima**	**1.43**	**285**	*e*P	**Pn**	**20 51 35.6**	**0.0**
UAGRB				*e*S	**Sn**	**20 51 53.3**	**-0.7**
SLBS	**Sierra La Lagu**	**1.53**	**187**	*e*P	**Pn**	**20 51 36.5**	**-0.6**
SLBS				*e*S	**Sn**	**20 51 56.3**	**-0.3**
NE80	**Navojoa**	**1.76**	**15**	*e*P	**Pn**	**20 51 40.0**	**-0.2**
NE80				*e*S	**Sn**	**20 52 00.9**	**-1.3**
NE80				*e*		20 52 13.6	
NE80				IAML		20 52 13.6	
comp=N,117nm,0.3s							
NE80			⇑	*e*		20 52 14.6	

THE 01 21:01:31.2, 37°.62N×20°.89E, h8km±1km, ML3.3/8, Error ellipse: s-maj=1.6km s-min=0.9km az=214.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.07**	**305**	P	Pg	21 01 33.2	0.0
KRI1				S	Sg	21 01 34.9	+0.3
79μm,0.3s							
LTHK	**Lithakia**	**0.10**	**335**	P	Pg	21 01 33.4	-0.2
LTHK				S	Sg	21 01 35.3	+0.1
55μm,0.4s							
RTZL	**Ratzakli, Kefa**	**0.46**	**349**	P	Pg	21 01 39.8	-0.4
RTZL				S	Sg	21 01 47.1	+0.8
2μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.55**	**334**	P	Pg	21 01 41.2	-0.6
PSDA				S	Sg	21 01 49.6	+0.6
4μm,0.4s							
VLS	**Valsamata**	**0.60**	**337**	P	Pg	21 01 41.8	-1.1
VLS				S	Sg	21 01 51.1	+0.4
2μm,0.2s							
RLS	**Riolos of Patr**	**0.63**	**46**	P	Pg	21 01 43.5	+0.1
RLS				S	Sg	21 01 52.2	+0.5
535nm,0.6s							
DMLN	**Damoulianata-K**	**0.74**	**327**	P	Pg	21 01 44.7	-0.7
DMLN				S	Sb	21 01 56.5	0.0
2μm,0.4s							
FSK	**Fiskardo**	**0.87**	**343**	P	Pg	21 01 47.5	-0.5
FSK				S	Sb	21 02 00.3	-0.1
802nm,0.8s							
LKD2	**Lefkada island**	**1.18**	**351**	P	Pb	21 01 53.5	-0.3

*THE **01** 21:03:11.5, 37°.44N×20°.59E, h14km±1km, ML3.2/5, Error ellipse: s-maj=2.0km s-min=0.9km az=47.0*
*ATH **01** 21:03:11.4, 37°.45N×20°.62E, h8km±1km, ML3.0/18, Error ellipse: s-maj=2.1km s-min=0.9km az=56.0*
ISC 01 21:03:10.9±1.5, 37°.44N±0°.05×20°.60E±0°.05, h13km±8km, n30, σ0°62/51, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.29**	**38**	P	**Pg**	**21 03 16.9**	**0.0**
KRI1				S	**Sb**	**21 03 22.4**	**-0.3**
LTHK	**Lithakia**	**0.33**	**35**	P	**Pg**	**21 03 17.6**	**-0.1**
LTHK				S	**Sg**	**21 03 23.3**	**+1.1**
9μm,0.3s							
LTHK	**Lithakia**	**0.33**	**35**	P	**Pg**	**21 03 17.2**	**-0.5**
LTHK				S	**Sg**	**21 03 22.4**	**+0.2**
LTHK				AML	AML	21 03 24.0	
comp=E,16124μm,0.2s							
LTHK				AML	AML	21 03 24.1	
comp=N,19343μm,0.4s							
RTZL	**Ratzakli, Kefa**	**0.65**	**12**	P	**Pg**	**21 03 23.6**	**-0.1**
RTZL				S	**Sb**	**21 03 34.1**	**+0.8**
PSDA	**Pessada-Kefalo**	**0.68**	**359**	P	**Pb**	**21 03 25.1**	**+0.5**
PSDA				S	**Sb**	**21 03 34.5**	**+0.6**
comp=N,2μm,0.4s							
VLS	**Valsamata**	**0.74**	**360**	P	**Pg**	**21 03 24.3**	**-1.0**
VLS				S	**Sg**	**21 03 35.1**	**0.0**
VLS				AML	AML	21 03 40.1	
comp=N,4273μm,0.6s							
VLS				AML	AML	21 03 42.2	
comp=E,3163μm,0.5s							
DMLN	**Damoulianata-K**	**0.82**	**348**	P	**Pb**	**21 03 27.6**	**+0.5**
DMLN				S	**Sb**	**21 03 39.3**	**+1.2**
comp=E,4μm,0.7s							
DMLN	**Damoulianata-K**	**0.82**	**348**	P	**Pg**	**21 03 26.4**	**-0.4**
DMLN				S	**Sg**	**21 03 37.2**	**-0.4**
AMT	**Artemida-Makis**	**0.89**	**84**	P	**Pg**	**21 03 27.9**	**-0.3**
AMT				S	**Sg**	**21 03 39.2**	**-0.6**
AMT				AML	AML	21 03 50.7	
comp=N,5786μm,0.4s							
AMT				AML	AML	21 03 53.0	
comp=E,3959μm,0.7s							
RLS	**Riolos of Patr**	**0.93**	**48**	P	**Pg**	**21 03 28.4**	**-0.5**
RLS				S	**Sn**	**21 03 42.8**	**-0.1**
comp=E,575nm,0.6s							
RLS	**Riolos of Patr**	**0.93**	**48**	P	**Pg**	**21 03 28.7**	**-0.2**
RLS				S	**Sg**	**21 03 40.6**	**-0.5**
RLS				AML	AML	21 03 47.4	
comp=N,1164μm,0.4s							
RLS				AML	AML	21 03 52.6	
comp=E,1242μm,0.8s							
FSK	**Fiskardo**	**1.02**	**359**	P	**Pg**	**21 03 29.1**	**-1.6**
FSK				S	**Sb**	**21 03 44.7**	**+0.8**
FSK	**Fiskardo**	**1.02**	**359**	P	**Pg**	**21 03 30.2**	**-0.5**
FSK				S	**Sg**	**21 03 44.0**	**+0.1**
FSK				AML	AML	21 03 55.0	
comp=N,3601μm,1.0s							
FSK				AML	AML	21 03 55.1	
comp=E,3450μm,0.8s							
DRO	**Drossia**	**1.02**	**59**	P	**Pg**	**21 03 30.7**	**0.0**
DRO				S	**Sb**	**21 03 45.1**	**+1.2**
comp=E,1μm,0.6s							
DRO	**Drossia**	**1.02**	**59**	P	**Pg**	**21 03 29.7**	**-1.0**
DRO				S	**Sg**	**21 03 42.9**	**-1.2**
DRO				AML	AML	21 03 55.5	
comp=N,1918μm,0.4s							
DRO				AML	AML	21 03 56.3	
comp=E,2460μm,0.8s							
PYL	**PYLOS**	**1.06**	**120**	P	**Pb**	**21 03 31.1**	**-0.1**
PYL				S	**Sn**	**21 03 46.7**	**+0.4**
PYL	**PYLOS**	**1.06**	**120**	P	**Pb**	**21 03 30.9**	**-0.3**
PYL				S	**Sg**	**21 03 45.5**	**+0.2**
PYL				AML	AML	21 03 53.5	
comp=N,671μm,0.6s							
PYL				AML	AML	21 03 56.5	
comp=E,597μm,0.4s							
ITM	**Ithomi**	**1.09**	**103**	P	**Pb**	**21 03 32.3**	**+0.6**
ITM	**Ithomi**	**1.09**	**103**	P	**Pb**	**21 03 32.1**	**+0.4**
ITM				S	**Sb**	**21 03 45.9**	**0.0**
ITM				AML	AML	21 03 56.7	
comp=E,676μm,0.4s							
ITM				AML	AML	21 04 00.4	
comp=N,858μm,1.3s							
LKD2	**Lefkada island**	**1.35**	**2**	P	**Pn**	**21 03 35.8**	**+0.2**
LKD2				S	**Sb**	**21 03 52.9**	**-0.5**
LKD2				AML	AML	21 04 03.3	
comp=N,1936μm,0.8s							
LKD2				AML	AML	21 04 05.4	
comp=E,1318μm,0.6s							
KLV	**Kalavryta, Ach**	**1.37**	**63**	P	**Pn**	**21 03 35.5**	**-0.4**
KLV				AML	AML	21 04 09.7	
comp=E,411μm,0.9s							
KLV				AML	AML	21 04 10.9	
comp=N,415μm,0.9s							
TSLK	**Tsoukalades, L**	**1.39**	**2**	P	**Pn**	**21 03 36.1**	**0.0**
TSLK				S	**Sn**	**21 03 54.4**	**+0.1**
TSLK				AML	AML	21 04 05.3	
comp=E,1291μm,0.6s							
TSLK				AML	AML	21 04 08.7	
comp=N,1772μm,0.7s							
EFP	**Efpalio**	**1.43**	**46**	P	**Pn**	**21 03 37.1**	**+0.4**
EFP				AML	AML	21 04 09.1	
comp=N,751μm,1.2s							
EFP				AML	AML	21 04 13.1	
comp=E,639μm,1.0s							
GUR	**Goura**	**1.47**	**70**	P	**Pn**	**21 03 37.0**	**-0.3**
GUR				AML	AML	21 04 14.9	
comp=N,1156μm,0.4s							
GUR				AML	AML	21 04 19.4	
comp=E,769μm,0.4s							
KALE	**Kalithea**	**1.55**	**52**	P	**Pn**	**21 03 38.9**	**+0.5**
KALE				AML	AML	21 04 10.6	
comp=E,477μm,0.4s							
KALE				AML	AML	21 04 12.2	
comp=N,766μm,0.5s							
ANX	**Ano Chora**	**1.56**	**42**	P	**Pn**	**21 03 38.9**	**+0.4**
ANX				AML	AML	21 04 09.8	
comp=E,763μm,0.4s							
ANX				AML	AML	21 04 12.4	
comp=N,1113μm,0.5s							
EVR	**Evrytania**	**1.76**	**33**	P	**Pn**	**21 03 41.0**	**-0.3**
EVR				S	**Sn**	**21 04 02.3**	**-1.3**
EVR				AML	AML	21 04 18.9	
comp=N,528μm,1.4s							
EVR				AML	AML	21 04 29.6	
comp=E,316μm,1.3s							
MAKR	**Makrakomi, Fth**	**1.98**	**37**	P	**Pn**	**21 03 44.9**	**+0.5**
VLI	**Veliai**	**2.00**	**110**	P	**Pn**	**21 03 45.1**	**+0.5**
VLI				AML	AML	21 04 37.9	
comp=E,168μm,0.8s							
VLI				AML	AML	21 04 41.4	
comp=N,230μm,1.1s							
IGT	**Igoumenitsa**	**2.10**	**354**	P	**Pn**	**21 03 45.6**	**-0.3**
IGT				AML	AML	21 04 28.7	
comp=N,263μm,0.7s							
IGT				AML	AML	21 04 32.8	
comp=E,637μm,0.9s							

*NOU **01** 21:36:15.9, 37°.46S×179°.57E, h0km, MLv4.2/

PUZ			S	Sg	21 36 52.8	+1.4
PKGZ	**Pakihiroa**	**0.95 245**	P	Pb	21 36 40.1	+0.8
PKGZ			S	Sg	21 36 51.5	-0.3
HAZ	**Te Kaha**	**1.14 255**	P	Pg	21 36 42.7	-0.1
HAZ			S	Sg	21 36 56.5	-1.2
TWGZ	**Tauwhareparae**	**1.18 233**	P	Pb	21 36 44.1	+0.9
TWGZ			S	Sg	21 36 59.2	+0.2
CNGZ	**Carnagh Statio**	**1.27 217**	P	Pg	21 36 46.2	+0.9
RUGZ	**Raukumara Rang**	**1.28 247**	P	Pn	21 36 45.0	+0.4
RUGZ			S	Sb	21 37 00.1	-1.4
TKGZ	**Te Karaka**	**1.42 227**	P	Pn	21 36 47.1	+0.7
TKGZ			S	Sn	21 37 05.3	+0.2
MWZ	**Matawai**	**1.56 236**	P	Pn	21 36 49.0	+0.6
WIZ	**White Island**	**1.58 267**	P	Pn	21 36 48.2	-0.3
RIGZ	**Rimuhau**	**1.66 222**	P	Pn	21 36 50.8	+1.0
RAGZ	**Rawiri**	**1.72 233**	P	Pb	21 36 52.1	-0.4
PRGZ	**Paritu Road**	**1.77 215**	P	Pn	21 36 52.3	+1.0
WHRZ	**Whale Island**	**1.78 257**	P	Pn	21 36 52.2	+0.7
URZ	**Urewera**	**1.81 244**	P	Pn	21 36 52.5	+0.7
URZ	**Urewera**	**1.81 244**	P	Pn	21 36 52.5	+0.7
SNGZ	**Shannon Statio**	**1.95 227**	P	Pn	21 36 54.5	+0.7
EDRZ	**Edgecumbe**	**2.03 251**	P	Pn	21 36 55.4	+0.6
RTZ	**Ruatahuna**	**2.07 236**	P	Pn	21 36 56.3	+0.8
MUGZ	**Murupara**	**2.15 241**	P	Pn	21 36 56.9	+0.5
RAHZ	**Arahi**	**2.19 228**	P	Pn	21 36 57.5	+0.5
TARZ	**Mount Tarawera**	**2.24 249**	P	Pn	21 36 58.6	+0.8
RRRZ	**Republican Roa**	**2.27 247**	P	Pn	21 36 58.6	+0.4
MTHZ	**Maungataniwha**	**2.30 232**	P	Pn	21 36 59.4	+0.8
KARZ	**Kaharoa**	**2.38 256**	P	Pn	21 36 59.7	0.0
NMHZ	**Naumai**	**2.47 228**	P	Pn	21 37 02.1	+1.1
ARHZ	**Aropaoanui**	**2.48 223**	P	Pn	21 37 01.6	+0.6
ALRZ	**Allen Road**	**2.48 243**	P	Pn	21 37 01.6	+0.5
MRHZ	**Matea Rd**	**2.56 237**	P	Pn	21 37 02.6	+0.4
BKZ	**Black Stump Fm**	**2.70 230**	P	Pn	21 37 04.5	+0.4
BKZ	**Black Stump Fm**	**2.70 230**	P	Pn	21 37 04.6	+0.5
CKHZ	**Cape Kidnapper**	**2.73 216**	P	Pn	21 37 04.3	-0.2
MCHZ	**McNeill Hill**	**2.77 224**	P	Pn	21 37 05.3	+0.3
KUZ	**Kuaotunu**	**2.85 284**	P	Pn	21 37 05.8	-0.3
KUZ	**Kuaotunu**	**2.85 284**	P	Pn	21 37 05.5	-0.6
KWHZ	**Kaweka Forest**	**2.91 227**	P	Pn	21 37 06.7	-0.2
TOZ	**Tahuroa Road**	**2.92 264**	P	Pn	21 37 06.8	-0.3
KAHZ	**Kahuranaki**	**2.93 217**	P	Pn	21 37 07.0	-0.3
KRHZ	**Kereru**	**3.09 224**	P	Pn	21 37 08.7	-0.6
TMVZ	**Te Maari**	**3.18 238**	P	Pn	21 37 10.9	+0.1
GRZ	**Great Barrier**	**3.22 291**	P	Pn	21 37 11.2	+0.1
MKAZ	**Moumakai**	**3.22 275**	P	Pn	21 37 11.0	-0.1
OTVZ	**Oturere**	**3.23 237**	P	Pn	21 37 11.7	+0.2
SNVZ	**South Ngauruho**	**3.26 237**	P	Pn	21 37 12.2	+0.3
TUVZ	**Tukino**	**3.29 236**	P	Pn	21 37 12.6	+0.2
WIAZ	**Waiheke Island**	**3.29 281**	P	Pn	21 37 12.3	+0.1
MOVZ	**Moawhango**	**3.31 233**	P	Pn	21 37 12.1	-0.4
WHVZ	**Whangaehu Hut**	**3.35 236**	P	Pn	21 37 13.1	0.0
FWVZ	**Far West T-bar**	**3.35 237**	P	Pn	21 37 13.2	0.0
MAVZ	**Matarangi**	**3.36 237**	P	Pn	21 37 13.3	-0.1
WPHZ	**Waipukurau**	**3.36 219**	P	Pn	21 37 12.4	-0.6
WNVZ	**Wahianoa**	**3.36 235**	P	Pn	21 37 13.1	-0.2
TRVZ	**Turoa**	**3.38 236**	P	Pn	21 37 13.6	0.0
PRHZ	**Porangahau**	**3.42 215**	P	Pn	21 37 13.0	-1.0
MTVZ	**Mangateitei**	**3.48 236**	P	Pn	21 37 15.1	+0.3
MBAZ	**Motutapu North**	**3.48 280**	P	Pn	21 37 15.7	+0.9
TSZ	**Takapari Road**	**3.60 223**	P	Pn	21 37 14.4	-2.0
AWAZ	**Awhitu Peninsu**	**3.63 275**	P	Pn	21 37 17.7	+0.9
VRZ	**Vera Road**	**3.84 243**	P	Pn	21 37 20.6	+0.9
BFZ	**Birch Farm**	**3.93 214**	P	Pn	21 37 19.3	-1.7
POWZ	**Post Office Ro**	**3.94 221**	P	Pn	21 37 19.6	-1.6
PRWZ	**Pori Road**	**3.96 218**	P	Pn	21 37 20.1	-1.3
WAZ	**Wanganui**	**3.99 234**	P	Pn	21 37 22.6	+0.8
TIWZ	**Tintock**	**4.17 231**	P	Pn	21 37 23.4	+0.9
NEZ	**North Egmont**	**4.37 244**	P	Pn	21 37 29.0	+1.8
KHEZ	**Kahui Hut**	**4.44 244**	P	Pn	21 37 30.0	+2.0
KHEZ	**Kahui Hut**	**4.44 244**	P	Pn	21 37 29.4	+1.3
OUZ	**Omahuta**	**5.03 295**	P	Pn	21 37 36.3	+0.3
OUZ	**Omahuta**	**5.03 295**	P	Pn	21 37 37.1	+1.1
BSWZ	**Blackbirch Sta**	**5.89 222**	P	Pn	21 37 46.4	-1.5
QRZ	**Quartz Range**	**6.15 235**	P	Pn	21 37 50.9	-0.6
KHZ	**Kahutara**	**6.56 219**	P	Pn	21 37 55.8	-1.3
KHZ	**Kahutara**	**6.56 219**	P	Pn	21 37 56.7	-0.4
CTZ	**Chatham Island**	**7.03 154**	P	Pn	21 38 08.6	+5.1

*NEIC **01** 21:52:44.1±1.7, 15.°12S±0.°08×173.°4W±0.°1, h19km±5km, mb4.7/17, Error ellipse: s-maj=18.4km s-min=9.2km az=115.0*
*IDC **01** 21:52:54.4±14.0, 15.°21S×173.°73W, h102km±130km, mb3.8/7, mbtmp4.2/7, Error ellipse: s-maj=42.5km s-min=22.6km az=133.0*

ISC 01 21:52:45.2±0.6, 15.°10S±0.°10×173.°4W±0.°1, h30km, n35, σ1§56/31, mb4.5/18, 3C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.00**	**54**	Pn	**Pn**	21 53 16.9	-0.1
AFI				Sn	**Sn**	21 53 37.1	-4.0
NIUE	**Niue**	**5.18**	**140**	Pn	**Pn**	21 54 00.5	-0.3
NIUE				Sn	Sn	21 54 52.0	-7.6
OXZ	**Oxford**	**30.75**	**201**	P	**P**	21 58 57.1	-0.8
RPZ	**Rata Peaks**	**31.44**	**202**	P	**P**	21 59 06.8	+2.8
LBZ	**Lake Benmore**	**32.34**	**202**	P	**P**	21 59 10.5	-1.3
LBZ				IAmb	IAmb	21 59 28.9	
comp=Z,9.7nm,1.2s							
MLZ	**Mavora Lakes**	**33.95**	**204**	P	**P**	21 59 25.6	-0.2
MLZ				IAmb	IAmb	21 59 35.9	
comp=Z,14nm,1.1s							
DCZ	**Deep Cove**	**34.41**	**204**	P	**P**	21 59 28.7	-1.0
DCZ				IAmb	IAmb	21 59 34.3	
comp=Z,10.0nm,1.0s							
WHZ	**Wether Hill Ro**	**34.45**	**203**	P	**P**	21 59 30.1	-0.1
H11S2	**WAKE ISLAND Hy**	**38.69**	**329**	T	T	22 40 55.1	
baz=146,slow=76,SNR=9.3							
H11S3	**WAKE ISLAND Hy**	**38.70**	**329**	T	T	22 40 50.1	
baz=146,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy**	**38.71**	**329**	T	T	22 40 55.1	
baz=146,slow=76,SNR=11							
H11N3	**WAKE ISLAND Hy**	**39.64**	**330**	T	T	22 42 03.1	
baz=147,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	**39.64**	**330**	T	T	22 42 02.1	
baz=147,slow=76,SNR=5.1							
H11N2	**WAKE ISLAND Hy**	**39.65**	**330**	T	T	22 42 05.2	
baz=147,slow=76,SNR=4.6							
STKA	**Stephens Creek**	**44.15**	**240**	P	**P**	**22 00 49.6**	**-1.8**
comp=Z,0.8nm,0.3s,baz=72,slow=9.6,SNR=3.2							
comp=Z,0.8nm,0.3s							
BBOO	**Buckleboo**	**48.93**	**240**	P	**P**	22 01 27.9	-1.0
BBOO				IAmb	IAmb	22 01 36.2	
comp=Z,4.3nm,1.1s							
WB0	**Warramunga Arr**	**49.84**	**257**	P	**P**	22 01 34.4	-1.6
WB2	**Warramunga Arr**	**49.87**	**257**	P	**P**	22 01 36.6	+0.4
WB2				IAmb	IAmb	22 01 42.3	
comp=Z,4.5nm,1.1s							
WRAB	**Tennant Creek**	**49.87**	**257**	P	**P**	22 01 33.4	-2.8
WRAB				IAmb	IAmb	22 01 42.2	
comp=Z,4.1nm,0.5s							
WRA	**Warramunga Arr**	**49.88**	**257**	P	**P**	22 01 36.3	0.0
WRA	**Warramunga Arr**	**49.88**	**257**	P	**P**	22 01 35.5	-0.8
comp=Z,0.9nm,0.7s,baz=91,slow=6.8,SNR=13							
WRA				PcP	**PcP**	**22 02 57.0**	**+0.4**
comp=Z,0.3nm,0.8s,baz=93,slow=3.5,SNR=1.3							
comp=Z,0.9nm,0.7s							
AS31	**Alice Springs**	**50.17**	**252**	P	**P**	22 01 37.5	-0.9
ASAR	**Alice Springs**	**50.17**	**252**	P	**P**	22 01 37.9	-0.6
comp=Z,2.0nm,0.4s,baz=88,slow=8.1,SNR=34							
comp=Z,2.0nm,0.4s							
FORT	**Forrest**	**55.52**	**243**	P	**P**	22 02 16.8	-1.1
FORT				IAmb	IAmb	22 02 20.9	
comp=Z,8.9nm,0.8s							
YBH	**Yreka Blue Hor**	**73.38**	**37**	P	**P**	22 04 17.2	+2.7
comp=Z,1.8nm,0.7s,baz=270,slow=3.0,SNR=4.3							
comp=Z,1.8nm,0.7s							
NVAR	**Mina Array Bea**	**74.13**	**42**	P	**P**	22 04 21.8	+2.6
comp=Z,1.2nm,0.7s,baz=223,slow=8.5,SNR=7.2							
comp=Z,1.2nm,0.7s							
QSPA	**South Pole Qui**	**74.94**	**180**	P	**P**	22 04 23.5	+0.2
comp=Z,2.0nm,0.7s,baz=64,slow=2.7,SNR=6.8							
comp=Z,2.0nm,0.7s							
CNPM	**China Poot**	**76.52**	**11**	P	**P**	22 04 33.2	+1.1
CNPM				IAmb	IAmb	22 04 46.3	
comp=Z,14nm,1.2s							
RTBA	**Rita Blanca**	**84.01**	**50**	P	**P**	22 05 13.9	+0.8
MAW	**Mawson**	**88.06**	**199**	P	**P**	22 05 32.4	0.0
comp=Z,1.9nm,0.7s,baz=117,slow=5.8,SNR=9.5							
comp=Z,1.9nm,0.7s							
VNA3	**Neumayer Olymp**	**93.15 175**	⇑P	**P**	**22 05 57.2**	**+1.0**	
comp=Z,1.5nm,0.8s							
SNAA	**Sanae**	**93.20 177**	P	**P**	**22 05 56.8**	**+0.3**	
VNA2	**Neumayer--Watz**	**93.65 175**	⇑P	**P**	**22 05 59.8**	**+1.3**	
comp=Z,1.0nm,0.6s,baz=149,slow=3.7							
VNA1	**Neumayer--Stat**	**93.85 175**	⇑P	**P**	**22 06 00.2**	**+0.9**	
comp=Z,2.9nm,0.9s							
BVAR	**Borovoye Array**	**117.63 322**	PKP	**PKPdf**	**22 11 26.4**	**-1.7**	
comp=Z,0.4nm,0.3s,baz=69,slow=5.6,SNR=6.2							

*MOS **01** 22:19:47.0±1.0, 19.°46S×69.°24W, h74km, mb6.2/49, MS5.2/12, Error ellipse: s-maj=7.0km s-min=4.5km az=96.7*
*CATAC **01** 22:19:48.3±0.6, 19.°98S×67.°47W, h168km±12km, MB6.4, mb6.0*
*SJA **01** 22:19:49.3±0.8, 19.°62S×69.°44W, h116km±4km, ML6.2, MW5.9*
*NEIC **01** 22:19:50.7, 19.°53S×69.°28W, h92km*
*BJI **01** 22:19:50.2, 19.°63S×69.°84W, h100km, mB6.0/63*
*NEIC **01** 22:19:51.7±2.3, 19.°58S±0.°04×69.°27W±0.°06, h102km±1km, mb6.3/788, Mwb6.2/56, Mww6.2/41, Error ellipse: s-maj=9.9km s-min=6.9km az=275.0, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr=1.48; Mθθ=0.22; Mφφ=1.26; Mrθ=0.22; Mrφ=0.41; Mθφ=-2.52; Fault plane solution: M0=2.91000×1018 NP1:φs=358.74000°, δ=75.79000°, λ=-99.11000°. NP2:φs=211.89000°, δ=16.83000°, λ=-57.99000°. Principal axes: T 2.7773, Plg30.0000°, Azm96.0000°; N 0.2492, Plg9.0000°, Azm1.0000°; P -3.0264, Plg58.0000°, Azm256.0000°;*
*NEIC **01** 22:19:51.8, 19.°66S×69.°54W, h90km, Moment Tensor Solution. Duration: 64s Moment tensor: Scale 1018Nm; Mrr=1.70; Mθθ=0.10; Mφφ=1.80; Mrθ=0.38; Mrφ=-0.27; Mθφ=-1.58; Fault plane solution: M0=2.40000×1018 NP1: φs=348.01000°, δ=66.30000°, λ=-93.38000°. NP2: φs=176.36000°, δ=23.93000°, λ=-82.35000°. Principal axes: T 2.4638, Plg21.0000°, Azm81.0000°; N -0.1278, Plg3.0000°, Azm349.0000°; P -2.3360, Plg69.0000°, Azm251.0000°;*
*NEIC **01** 22:19:51.8, 19.°66S×69.°54W, h90km*
*VAO **01** 22:19:51.2±0.4, 19.°57S×69.°12W, h104km±3km, mb6.3*
*IPGP **01** 22:19:52.0, 19.°66S×69.°53W, h106km, Mw6.2, Fault plane solution: NP1:φs=351.00000°, δ=74.00000°, λ=-95.00000°. NP2:φs=189.00000°, δ=16.00000°, λ=-73.00000°.*
*GCMT **01** 22:19:52.7±0.1, 19.°63S×69.°57W, h116km, MW6.2/175, Moment Tensor Solution. s175,c431; s168,c591; Duration: 3§1 Moment tensor: Scale 1018Nm; Mrr=1.58±.01; Mθθ=0.20±.01; Mφφ=1.78±.01; Mrθ=0.35±.01; Mrφ=-0.32±.01; Mθφ=-1.96±.01; Best double couple: M0=2.62200×1018 NP1:φs=350.00000°, δ=70.00000°, λ=-91.00000°. NP2:φs=172.00000°, δ=20.00000°, λ=-88.00000°. Principal axes: T 2.7470, Plg25.0000°, Azm81.0000°; N -0.2500, Plg1.0000°, Azm350.0000°; P -2.4970, Plg65.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*GUC **01** 22:19:52.4±0.7, 19.°65S×69.°41W, h101km±3km, ML6.3*
*IDC **01** 22:19:52.1±0.3, 19.°50S×69.°15W, h112km±2km, mb5.5/29, mbtmp5.9/32, MS5.3/50, Error ellipse: s-maj=7.3km s-min=5.1km az=72.0*

ISC 01 22:19:51.1±0.2, 19.°61S±0.°02×69.°32W±0.°03, h103km±1km, h103km:pP-P, n2113, σ2§36/2293, mb6.2/557, 73C-69D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.13 118**			**Pn**	**22 20 06.8**	**+0.8**
GO01					**Sn**	**22 20 18.9**	**+1.7**
GO01	**Chusmiza**	**0.13 118**		⇓*iP*	**Pn**	**22 20 06.8**	**+0.8**
GO01				*i* S	**Sn**	**22 20 18.6**	**+1.4**
GO01	**Chusmiza**	**0.13 118**		*eP*	**Pn**	**22 20 06.9**	**+0.9**
GO01				*eS*	**Sn**	**22 20 19.4**	**+2.3**
PB11	**IPOC Station P**	**0.35 244**			**Pn**	**22 20 06.3**	**-0.1**
PB11					**Sn**	**22 20 16.1**	**-1.9**
PB11	**IPOC Station P**	**0.35 244**		⇓*iP*	**Pn**	**22 20 06.5**	**+0.1**
PB11				*i* S	**Sn**	**22 20 18.0**	**+0.1**
PB11				IAML		22 20 19.6	
comp=E,1248μm,0.3s							
PB11	**IPOC Station P**	**0.35 244**		*eP*	**Pn**	**22 20 05.8**	**-0.7**
PB11				IAML		22 20 21.1	
comp=Z,984μm,0.5s							
PB08	**IPOC Station P**	**0.55 164**			**Pn**	**22 20 08.5**	**+0.5**
PB08					**Sn**	**22 20 21.9**	**+1.3**
PB08	**IPOC Station P**	**0.55 164**		P	Pn	22 20 02.4	-5.6
PB08	**IPOC Station P**	**0.55 164**		⇓*iP*	**Pn**	**22 20 09.1**	**+1.1**
PB08				*i* S	**Sn**	**22 20 22.0**	**+1.3**
PB08				IAML		22 20 23.3	
comp=N,725μm,0.3s							
PB08	**IPOC Station P**	**0.55 164**		*eP*	**Pn**	**22 20 08.9**	**+0.9**
PB08				*eS*	**Sn**	**22 20 22.5**	**+1.8**
PB08				IAML		22 20 27.9	
comp=Z,424μm,0.6s							
PX03	**IPOC Station P**	**0.85 200**		*eP*	**Pn**	**22 20 09.4**	**-0.8**
PX03				⇑*iS*	**Sn**	**22 20 24.1**	**-0.5**
PX03				IAML		22 20 26.0	
comp=N,1590μm,0.6s							
HMBC	**Humberstone**	**0.86 219**			**Pn**	**22 20 09.3**	**-1.1**
HMBC	**Humberstone**	**0.86 219**		⇑*iP*	**Pn**	**22 20 10.1**	**-0.4**
HMBC				*i* S	**Sn**	**22 20 24.0**	**-0.9**
HMBC	**Humberstone**	**0.86 219**		*eP*	**Pn**	**22 20 10.0**	**-0.4**
HMBC				*eS*	**Sn**	**22 20 25.1**	**+0.2**
HMBC				IAML		22 20 27.9	
comp=Z,668μm,1.0s							
TA02	**Huaiquique**	**1.01 229**			**Pn**	**22 20 11.1**	**-0.7**
TA02	**Huaiquique**	**1.01 229**		⇑*iP*	**Pn**	**22 20 11.2**	**-0.7**
TA02				*i* S	**Sn**	**22 20 26.3**	**-1.2**
TA02	**Huaiquique**	**1.01 229**		*eP*	**Pn**	**22 20 11.2**	**-0.6**
TA02				*eS*	**Sn**	**22 20 27.3**	**-0.2**
TA02				IAML		22 20 33.5	
comp=Z,261μm,0.4s							
TA01	**Diego Aracena**	**1.25 220**			**Pn**	**22 20 13.5**	**-1.0**
TA01	**Diego Aracena**	**1.25 220**		*eP*	**Pn**	**22 20 13.6**	**-0.9**
TA01				*i* S	**Sn**	**22 20 30.5**	**-1.7**
TA01				IAML		22 20 33.1	
comp=N,579μm,0.5s							
TA01	**Diego Aracena**	**1.25 220**		*eP*	**Pn**	**22 20 13.6**	**-0.9**
TA01				*eS*	**Sn**	**22 20 31.2**	**-1.0**
TA01				IAML		22 20 39.1	
comp=Z,175μm,1.4s							
PB01	**IPOC Station P**	**1.44 186**			**Pn**	**22 20 17.4**	**+0.5**
PB01	**IPOC Station P**	**1.44 186**		⇑*iP*	**Pn**	**22 20 17.0**	**+0.1**
PB01				*i* S	**Sn**	**22 20 36.4**	**+0.1**
PB01				IAML		22 20 37.8	
comp=E,1000μm,0.4s							
PB01	**IPOC Station P**	**1.44 186**		*eP*	**Pn**	**22 20 16.9**	**+0.1**
PB01				*eS*	**Sn**	**22 20 37.0**	**+0.6**
PB01				IAML		22 20 38.0	
comp=Z,255μm,0.8s							
PATCX	**Punta Patache**	**1.44 213**			**Pn**	**22 20 15.8**	**-1.1**
PATCX	**Punta Patache**	**1.44 213**		⇑*iP*	**Pn**	**22 20 16.0**	**-0.8**
PATCX				*i* S	**Sn**	**22 20 34.1**	**-2.3**
PATCX				IAML		22 20 36.7	
comp=E,280μm,0.7s							
PATCX	**Punta Patache**	**1.44 213**		*eP*	**Pn**	**22 20 15.7**	**-1.2**
PATCX				IAML		22 20 39.3	
comp=Z,266μm,0.8s							
AP01	**Chacalluta**	**1.57 322**			**Pn**	**22 20 18.1**	**-0.2**
AP01	**Chacalluta**	**1.57 322**		⇑*iP*	**Pn**	**22 20 18.0**	**-0.2**
AP01				*i* S	**Sn**	**22 20 37.5**	**-1.4**
AP01				IAML		22 20 40.5	
comp=N,661μm,0.5s							
AP01	**Chacalluta**	**1.57 322**		*eP*	**Pn**	**22 20 17.4**	**-0.9**
AP01				IAML		22 20 40.8	
comp=Z,151μm,0.8s							
PB18	**Visviri**	**2.01 356**		Pn	**Pn**	**22 20 27.4**	**+2.9**
PB18	**Visviri**	**2.01 356**		*eP*	**Pn**	**22 20 27.7**	**+3.2**
PB09	**IPOC Station P**	**2.18 178**			**Pn**	**22 20 27.3**	**+1.0**
PB09	**IPOC Station P**	**2.18 178**		*eP*	**Pn**	**22 20 27.0**	**+0.8**
PB09	**IPOC Station P**	**2.18 178**		*eP*	**Pn**	**22 20 26.9**	**+0.6**
PB09				*eS*	**Sn**	**22 20 53.0**	**-0.2**
PB09				IAML		22 21 03.7	
comp=Z,107μm,0.5s							
PB04	**IPOC Station P**	**2.82 196**		Pn	**Pn**	**22 20 33.1**	**-1.6**
PB04	**IPOC Station P**	**2.82 196**		*eP*	**Pn**	**22 20 33.0**	**-1.6**
PB04	**IPOC Station P**	**2.82 196**		*eP*	**Pn**	**22 20 33.6**	**-1.1**
PB04				*eS*	**Sn**	**22 20 59.6**	**-8.6**
PB04				IAML		22 21 29.8	
comp=Z,85μm,1.1s							
LVC	**Limon Verde**	**3.01 173**			**Pn**	**22 20 38.1**	**+0.6**
LVC	**Limon Verde**	**3.01 173**		P	**Pn**	**22 20 38.5**	**+1.1**
comp=Z,5μm,0.5s,baz=356,slow=13,SNR=1696							
LVC				S	**Sn**	**22 21 14.3**	**+1.3**
comp=Z,29μm,0.4s,baz=355,slow=15,SNR=19							
LVC				LR	LR	22 22 03.9	
comp=Z,50μm,18.7s,baz=273,slow=42							
LVC	**Limon Verde**	**3.01 173**		⇑*iP*	**Pn**	**22 20 38.5**	**+1.1**
LVC				*i* S	Sn	22 21 03.6	-9.4
LVC				IAML		22 21 21.7	
comp=Z,186μm,0.6s							
LVC	**Limon Verde**	**3.01 173**		*eP*	**Pn**	**22 20 38.6**	**+1.2**
LVC				*eS*	**Sn**	**22 21 07.4**	**-5.6**
LVC				IAML		22 21 40.3	
comp=Z,24μm,1.2s							
LVC	**Limon Verde**	**3.01 173**		P	**Pn**	**22 20 38.0**	**+0.6**
LVC	**Limon Verde**	**3.01 173**		*eP*	**Pn**	**22 20 37.8**	**+0.4**
PB06	**IPOC Station P**	**3.09 184**			**Pn**	**22 20 37.9**	**-0.3**
PB06	**IPOC Station P**	**3.09 184**		*eP*	**Pn**	**22 20 37.6**	**-0.8**
PB06				IAML		22 21 41.1	
comp=N,77μm,0.8s							
PB06	**IPOC Station P**	**3.09 184**		*eP*	**Pn**	**22 20 37.5**	**-0.8**
PB06				*eS*	**Sn**	**22 21 06.6**	**-8.0**
PB06				IAML		22 21 43.6	
comp=Z,88μm,0.6s							
LPAZ	**La Paz**	**3.49**	**19**	P	**Pn**	**22 20 47.1**	**+3.0**
comp=Z,2μm,0.6s,baz=185,slow=8.6,SNR=894							
LPAZ				LR	LR	22 22 28.3	
comp=Z,136μm,18.3s,baz=229,slow=47							
LPAZ	**La Paz**	**3.49**	**19**	*eP*	**Pn**	**22 20 47.4**	**+3.4**
LPAZ	**La Paz**	**3.49**	**19**	*eP*	**Pn**	**22 20 47.0**	**+3.0**
AF01	**San Pedro de A**	**3.49 163**			**Pn**	**22 20 45.8**	**+1.9**
AF01	**San Pedro de A**	**3.49 163**		*eP*	**Pn**	**22 20 45.7**	**+1.9**
AF01				IAML		22 22 11.5	
comp=Z,144μm,1.4s							
PB15	**IPOC Station P**	**3.59 182**		Pn	**Pn**	**22 20 44.3**	**-0.7**
PB15	**IPOC Station P**	**3.59 182**		*eP*	**Pn**	**22 20 44.6**	**-0.4**
PB15	**IPOC Station P**	**3.59 182**		*eP*	**Pn**	**22 20 44.5**	**-0.4**
PB15				*eS*	Sn	22 21 14.0	-13
PB15				IAML		22 21 55.8	
comp=Z,83μm,0.7s							
YJA	**Yavi**	**4.38 126**		*eP*	**Pn**	**22 20 59.0**	**+3.2**
YJA				*eS*	**Sn**	**22 21 53.4**	**+7.4**
PB14	**IPOC Station P**	**5.09 191**		Pn	**Pn**	**22 21 02.4**	**-3.0**
PB14	**IPOC Station P**	**5.09 191**		P	Pn	22 20 56.3	-9.1
GO02	**Mina Guanaco**	**5.53 183**		Pn	**Pn**	**22 21 09.6**	**-1.8**
AC01	**Pan de Azucar**	**6.62 190**			**Pn**	**22 21 22.2**	**-3.6**
BBSD	**Serra de San D**	**8.61**	**75**	*eP*	**Pn**	**22 21 50.5**	**-2.5**
SIV	**San Ignacio**	**8.64**	**67**	P	**Pn**	**22 21 51.8**	**-1.5**
comp=Z,3μm,0.7s,baz=247,slow=15,SNR=3313							
SIV				S	**Sn**	**22 23 26.0**	**-3.0**
comp=Z,432nm,0.8s,baz=248,slow=11,SNR=1.6							
FDPY	**Filadelfia**	**9.15 108**		*eP*	**Pn**	**22 21 58.3**	**-2.0**
ETMB	**Extrema**	**10.19**	**18**	*eP*	**Pn**	**22 22 12.0**	**-2.4**
NNA	**Nana**	**10.48 315**			**Pn**	**22 22 14.4**	**-4.0**
NNA	**Nana**	**10.48 315**		P	**Pn**	**22 22 15.8**	**-2.6**
comp=Z,232nm,0.6s,baz=150,slow=15,SNR=63							
NNA				S	**Sn**	**22 24 11.4**	**-2.5**
comp=Z,239nm,0.3s,baz=192,slow=15,SNR=5.7							
NNA				LR	LR	22 26 12.4	
comp=Z,15μm,18.8s,baz=180,slow=36							
NNA	**Nana**	**10.48 315**	*c*	*iP*	**Pn**	**22 22 14.7**	**-3.7**
NNA				pmax	pmax		
comp=Z,1μm,1.7s							
NNA				MLR	MLR		
comp=Z,17μm,15.0s							
PTLB	**Pontes e Lacer**	**10.55**	**69**	*eP*	**Pn**	**22 22 16.9**	**-2.5**
VILB	**Vilhena**	**10.97**	**54**	*eP*	**Pn**	**22 22 22.8**	**-2.2**
PAPY	**Pozo Azul**	**11.22 115**		*eP*	**Pn**	**22 22 26.0**	**-2.3**
BDQN	**Bodoquena, MS**	**11.84**	**96**	*eP*	**Pn**	**22 22 33.8**	**-2.9**
ZON	**Zonda**	**11.90 177**			**Pn**	**22 22 34.7**	**-2.7**
ZON	**Zonda**	**11.90 177**		P	**Pn**	**22 22 36.9**	**-0.5**
ZON				pmax	pmax		
comp=Z,250nm,1.6s							
SAML	**Samuel**	**12.14**	**30**	Pn	**Pn**	**22 22 37.2**	**-3.5**
SAML	**Samuel**	**12.14**	**30**	P	**Pn**	**22 22 37.2**	**-3.5**
SAML	**Samuel**	**12.14**	**30**	*eP*	**Pn**	**22 22 37.3**	**-3.5**
CZSB	**Cruzeiro do Su**	**12.26 344**		Pn	**Pn**	**22 22 39.0**	**-3.2

BDFB Brasilia 20.68 82 P **P 22 24 21.8 -1.3**
comp=Z,865nm,0.8s,baz=251,slow=14,SNR=239
BDFB S **S 22 28 04.9 -3.8**
comp=Z,96nm,0.8s,baz=234,slow=19,SNR=1.6
BDFB LR LR 22 33 53.3
comp=Z,19µm,18.8s,baz=232,slow=41
comp=Z,865nm,0.8s
SPB Sao Paulo 20.73 105 P **P 22 24 22.7 -0.8**
SPB Sao Paulo 20.73 105 *e*P **P 22 24 21.5 -2.0**
PLCA Paso Flores 21.08 183 P **P 22 24 27.2 0.0**
PLCA Paso Flores 21.08 183 P **P 22 24 27.4 +0.1**
comp=Z,401nm,0.8s,baz=0.6,slow=13,SNR=191
PLCA S **S 22 28 16.4 +0.3**
comp=Z,21nm,1.0s,baz=6.7,slow=17,SNR=1.5
PLCA PcP **PcP 22 28 30.6 +0.8**
comp=Z,38nm,0.8s,baz=8.2,slow=3.9,SNR=3.2
comp=Z,401nm,0.8s
PLCA Paso Flores 21.08 183 *e*P **P 22 24 27.3 +0.1**
VAO Valinhos 21.09 103 P **P 22 24 25.9 -1.6**
VAO Valinhos 21.09 103 *e*P **P 22 24 24.3 -3.2**
LL04 Puerto Octay 21.40 186 P **P 22 24 29.9 -0.6**
PMNB Patos De Minas 21.65 91 *e*P **P 22 24 31.3 -2.2**
OTAV Otavalo 21.66 335 P **P 22 24 34.6 +0.6**
OTAV Otavalo 21.66 335 *i*P **P 22 24 34.4 +0.4**
OTAV IAmb IAmb 22 24 46.6
comp=Z,420nm,1.1s
OTAV IVmB_BB 22 25 14.8
comp=Z,15µm,1.0s
OTAV *i*S **S 22 28 35.2 +6.8**
OTAV Otavalo 21.66 335 P **P 22 24 34.6 +0.6**
OTAV Otavalo 21.66 335 *e*P **P 22 24 34.5 +0.6**
PARB Paraibuna 22.35 104 *e*P **P 22 24 36.6 -4.2**
SLP01 Ubatuba-SP 22.78 104 *e*P **P 22 24 43.1 -2.2**
BSCB Bom Sucesso 23.05 98 *e*P **P 22 24 45.9 -2.0**
PRPB Parauapebas 23.19 57 *e*P **P 22 24 46.8 -2.3**
TUMC Tumaco 23.22 336 P **P 22 24 51.0 +1.7**
LL07 Hotel Espejo d 23.42 188 P **P 22 24 50.4 -0.5**
BOAV Boa Vista 23.51 23 P **P 22 24 51.3 -0.7**
BOAV Boa Vista 23.51 23 *e*P **P 22 24 50.9 -1.1**
SMTB Santa Maria do 23.58 66 *e*P **P 22 24 50.6 -2.1**
MAN01 Angra dos Reis 23.84 102 *e*P **P 22 24 53.3 -1.8**
DIAM Diamantina, MG 24.28 91 *e*P **P 22 24 57.6 -1.6**
JANB Januaria 24.28 83 *e*P **P 22 24 57.1 -2.0**
VAS01 Vassouras-RJ 24.30 101 *e*P **P 22 24 58.1 -1.0**
SDBA SAO DESIDERIO 24.51 77 *e*P **P 22 24 59.4 -1.8**
ROSC El Rosal 24.79 348 P **P 22 25 04.0 0.0**
ROSC El Rosal 24.79 348 P **P 22 25 04.5 +0.5**
comp=Z,37nm,0.6s,baz=173,slow=16,SNR=36
ROSC S **S 22 29 18.9 -0.6**
comp=Z,22nm,0.7s,baz=180,slow=20,SNR=1.2
ROSC LR LR 22 36 15.0
comp=Z,19µm,18.4s,baz=199,slow=40
comp=Z,37nm,0.6s
DUB01 Friburgo-RJ 25.29 100 *e*P **P 22 25 06.7 -1.5**
RUSC La Rusia 25.61 351 P **P 22 25 12.0 +0.4**
RUSC IAmb IAmb 22 25 14.1
comp=Z,2µm,1.4s
RUSI La Rusia 25.61 351 *i*P **P 22 25 11.3 -0.3**
RUSI IVmB_BB 22 25 13.3
comp=Z,15µm,1.0s
RUSI IAmb IAmb 22 25 18.8
comp=Z,820nm,1.2s
RUSI *i*S **S 22 29 31.2 -1.4**
CAM01 Campos-RJ 25.95 100 *e*P **P 22 25 13.0 -1.1**
COYC Coyhaique 26.00 184 P **P 22 25 13.9 -0.3**
HELE Santa Helena 26.40 346 *i*P **P 22 25 15.8 -2.8**
HELE IVmB_BB 22 25 17.9
comp=Z,4µm,1.0s
HELE IAmb IAmb 22 25 20.9
comp=Z,230nm,0.5s
HELE *i*S **S 22 29 38.3 -6.6**
SJMB Sao Joao De Ma 26.58 93 *e*P **P 22 25 18.0 -1.8**
ALF01 Guarapari-ES 26.85 97 *e*P **P 22 25 21.2 -1.1**
TMAB Tom-Au,PA,Br 26.90 53 *e*P **P 22 25 21.6 -1.1**
AY02 Valle Explorad 26.99 186 IAmb IAmb 22 26 09.0
comp=Z,511nm,0.8s
RIB01 Linhares ES 27.26 94 *e*P **P 22 25 24.4 -1.5**
NAN01 Guarapari, ES 27.69 91 *e*P **P 22 25 28.0 -1.7**
GUA01 Guaratinga, BA 28.20 89 *e*P **P 22 25 33.1 -1.2**
SDV Santo Domingo 28.34 357 P **P 22 25 35.1 -0.7**
SDV Santo Domingo 28.34 357 LR LR 22 38 15.9
comp=Z,15µm,18.0s,baz=183,slow=39
SDV Santo Domingo 28.34 357 *e*P **P 22 25 34.6 -1.1**
BAUV El Baul 28.40 3 P **P 22 25 34.9 -1.1**
BAUV IAmb IAmb 22 26 23.7
comp=Z,1µm,1.0s
BAUV El Baul 28.40 3 *e*P **P 22 25 34.3 -1.7**
CMC01 Camacan, BA 28.71 86 *e*P **P 22 25 37.8 -1.0**
GO08 Villa O'Higgin 28.91 184 P **P 22 25 41.1 +0.9**
ABR01 Abrolhos, BA 29.02 92 *e*P **P 22 25 40.4 -1.1**
GDU01 Guandu, BA 29.06 83 *e*P **P 22 25 38.8 -3.2**
MDP Montagnes des 29.53 35 LR LR 22 38 52.5
comp=Z,19µm,18.5s,baz=220,slow=39
PCRV Puerto La Cruz 29.95 9 LR LR 22 38 58.0
comp=Z,18µm,20.9s,slow=38
PCRV Puerto La Cruz 29.95 9 *e*P **P 22 25 47.8 -2.0**
BCIP Isla Barro Col 30.41 339 P **P 22 25 55.0 +1.2**
BCIP IAmb IAmb 22 26 33.4
comp=Z,690nm,1.5s
BCIP Isla Barro Col 30.41 339 *i*P **P 22 25 54.5 +0.7**
BCIP IAmb IAmb 22 25 56.5
comp=Z,380nm,1.3s
BCIP IVmB_BB 22 26 33.4
comp=Z,10µm,1.0s
BCIP *i*S **S 22 30 50.1 +2.8**
BCIP Isla Barro Col 30.41 339 P **P 22 25 55.0 +1.2**
BCIP pmax pmax
comp=Z,690nm,1.5s
CDITO Canoas 31.02 333 *i*P **P 22 26 00.6 +1.4**
CDITO IVmB_BB 22 26 02.1
comp=Z,9µm,1.0s
CDITO IAmb IAmb 22 26 03.3
comp=Z,540nm,1.4s
TRN Trinidad (W) 31.06 15 *e*P **P 22 25 59.6 +0.1**
PIRO Carate, Puerto 31.07 332 *i*P **P 22 26 00.4 +0.7**
PIRO IVmB_BB 22 26 02.2
comp=Z,8µm,1.0s
PIRO IAmb IAmb 22 26 02.7
comp=Z,390nm,0.9s
BRU2 Volcan 31.15 334 P **P 22 26 02.3 +1.8**
BRU2 IAmb IAmb 22 26 03.9
comp=Z,564nm,1.1s
BRU2 Volcan 31.15 334 *i*P **P 22 26 02.0 +1.5**
BRU2 IVmB_BB 22 26 03.1
comp=Z,8µm,1.0s
BRU2 IAmb IAmb 22 26 03.6
comp=Z,470nm,1.4s
URI Uribia 31.22 355 *i*P **P 22 25 56.9 -4.0**
URI IVmB_BB 22 25 57.6
comp=Z,1µm,1.0s
URI IAmb IAmb 22 26 06.3
comp=Z,62nm,0.9s
NBLA Lagarto - SE 31.55 79 *e*P **P 22 26 01.1 -2.9**
GO09 Cerro Castillo 31.69 184 P **P 22 26 05.4 +0.7**
DRK0 Durika 31.80 333 *i*P **P 22 26 07.6 +1.3**
DRK0 IAmb IAmb 22 26 09.3
comp=Z,910nm,1.3s
OCHAL Ojochal 31.83 332 *i*P **P 22 26 08.2 +1.9**
OCHAL IVmB_BB 22 26 09.3
comp=Z,10µm,1.0s
OCHAL IAmb IAmb 22 26 09.8
comp=Z,670nm,1.1s
RGM0 Gandoca 31.83 335 P **P 22 26 08.2 +1.9**
TOSP Speyside 31.91 16 *e*P **P 22 26 06.5 -0.5**
GRFF Grenada Fort F 32.33 14 *e*P **P 22 26 11.8 +1.1**
GRGR Grenville 32.43 14 *e*P **P 22 26 10.7 -0.8**
GRW Mount Saint Ca 32.45 14 *e*P **P 22 26 11.3 -0.5**
LCR2 La Lucha 2 32.56 332 P **P 22 26 14.8 +1.9**
LCR2 IAmb IAmb 22 26 16.4
comp=Z,531nm,0.9s
LCR2 La Lucha 2 32.56 332 *i*P **P 22 26 14.8 +1.9**
LCR2 IVmB_BB 22 26 15.7
comp=Z,8µm,1.0s
LCR2 IAmb IAmb 22 26 16.2
comp=Z,670nm,1.1s
GRSS Sisters 32.60 14 *e*P **P 22 26 13.3 +0.3**
RAFA San Farael, Vo 32.67 333 *i*P **P 22 26 16.0 +2.0**
GCMP Grenada, Carri 32.82 14 *e*P **P 22 26 13.6 -1.4**
HDC Heredia 32.84 332 P **P 22 26 17.1 +1.8**
HDC IAmb IAmb 22 26 19.2
comp=Z,677nm,0.8s
HDC Heredia 32.84 332 *i*P **P 22 26 17.1 +1.8**
HDC IVmB_BB 22 26 18.5
comp=Z,15µm,1.0s
HDC IAmb IAmb 22 26 19.0
comp=Z,1µm,1.1s
HDC Heredia 32.84 332 *e*P **P 22 26 17.9 +2.6**
TCS1 Tacares 32.95 332 *i*P **P 22 26 18.5 +2.2**
TCS1 IVmB_BB 22 26 19.6
comp=Z,42µm,1.0s
TCS1 IAmb IAmb 22 26 20.0
comp=Z,3µm,1.2s
MG02 Cerro Sombrero 33.11 180 P **P 22 26 18.0 +1.0**
TRT2 Tortugero 33.17 333 *i*P **P 22 26 19.8 +1.8**
TRT2 IVmB_BB 22 26 20.8
comp=Z,10µm,1.0s
TRT2 IAmb IAmb 22 26 21.9
comp=Z,940nm,1.0s
TRT2 *i*S **S 22 31 37.3 +7.0**
EFI East Falkland 33.20 167 P **P 22 26 17.9 0.0**
EFI IAmb IAmb 22 26 44.1
comp=Z,423nm,1.1s
EFI East Falkland 33.20 167 *de*P **P 22 26 18.2 +0.3**
EFI pmax pmax
comp=Z,73nm,1.0s
EFI MLR MLR
comp=Z,3µm,21.0s
EFI East Falkland 33.20 167 P **P 22 26 18.3 +0.4**
EFI pP **pP 22 26 42.3 +0.3**
EFI sP **sP 22 26 54.2 -0.2**
EFI PcP **PcP 22 28 58.8 +0.5**
EFI ScP **ScP 22 32 33.6 +0.3**
MG04 Isla Riesco 33.23 182 P **P 22 26 18.7 +0.5**
MG04 IAmb IAmb 22 26 21.5
comp=Z,1µm,1.8s
SOCE Pocosol 33.40 332 P **P 22 26 22.0 +1.9**
SOCE IAmb IAmb 22 26 24.0
comp=Z,961nm,0.9s
SOCE Pocosol 33.40 332 *i*P **P 22 26 22.3 +2.3**
SOCE IVmB_BB 22 26 23.6
comp=Z,10µm,1.0s
SOCE IAmb IAmb 22 26 24.1
comp=Z,980nm,0.9s
NBAN Anadia - AL 33.40 78 *e*P **P 22 26 18.4 -1.7**
JTS Las Juntas de 33.47 331 P **P 22 26 21.9 +1.2**
JTS Las Juntas de 33.47 331 LR LR 22 42 04.1
comp=Z,10µm,19.8s,baz=154,slow=40
JTS Las Juntas de 33.47 331 *di*P **P 22 26 22.1 +1.5**
JTS pmax pmax
comp=Z,177nm,0.9s
JTS MLR MLR
comp=Z,9µm,19.0s
JTS Las Juntas de 33.47 331 P **P 22 26 22.3 +1.7**
JTS pP **pP 22 26 46.6 +2.1**
JTS PcP **PcP 22 29 00.2 +0.5**
GO10 Punta Arenas 33.51 182 P **P 22 26 22.2 +1.5**
GO10 IAmb IAmb 22 27 15.4
comp=Z,488nm,1.4s
SVOC Richmond Hill, 33.52 14 *e*P **P 22 26 17.5 -3.5**
COVE Coope Vega, Sa 33.60 332 *i*P **P 22 26 23.2 +1.4**
COVE IVmB_BB 22 26 24.5
comp=Z,12µm,1.0s
COVE IAmb IAmb 22 26 25.4
comp=Z,1µm,0.9s
SVB Belmont 33.62 14 *e*P **P 22 26 20.9 -1.0**
NBCL Cascavel-CE 33.89 67 *e*P **P 22 26 23.5 -0.9**
BBGH Gun Hill 33.93 17 P **P 22 26 25.8 +1.2**
BBGH IAmb IAmb 22 27 35.2
comp=Z,1µm,1.4s
NBCA Caruaru-PE 34.17 75 *e*P **P 22 26 26.1 -0.8**
MG03 Isla Dawson 34.19 181 P **P 22 26 27.2 +0.8**
SLB Belfond 34.21 14 *e*P **P 22 26 27.7 +0.6**
SLAC Saint Lucia, A 34.31 15 *e*P **P 22 26 28.0 +0.2**
SLBI Saint Lucia, B 34.41 14 *e*P **P 22 26 28.0 -0.7**
CARN Rivas 34.52 331 *i*P **P 22 26 31.3 +1.6**
CARN IVmB_BB 22 26 32.1
comp=Z,10µm,1.0s
CARN IAmb IAmb 22 26 33.0
comp=Z,990nm,1.0s
H05S1 Guadeloupe/Mar 34.83 14 P **P 22 26 31.1 -1.3**
SNR=16
MPOM Morne Pois Mar 34.85 14 P **P 22 26 31.4 -1.0**
MPOM IAmb IAmb 22 26 35.1
comp=Z,555nm,1.0s
PRVC Isla de Provid 34.86 339 *i*P **P 22 26 33.7 +1.1**
PRVC IVmB_BB 22 26 34.8
comp=Z,4µm,1.0s
PRVC IAmb IAmb 22 26 35.3
comp=Z,220nm,1.9s
BIM Bigot 34.87 14 P **P 22 26 31.4 -1.4**
BIM Bigot 34.87 14 *e*P **P 22 26 31.1 -1.6**
ESPN Las Esperanzas 34.88 334 P **P 22 26 33.1 +0.3**
ESPN Las Esperanzas 34.88 334 *i*P **P 22 26 33.9 +1.1**
ESPN IVmB_BB 22 26 41.5
comp=Z,24µm,1.0s
ESPN IAmb IAmb 22 26 59.1
comp=Z,220nm,0.8s
JAPN AI SSO del Vol 34.88 331 *i*P **P 22 26 34.3 +1.4**
JAPN IAmb IAmb 22 26 40.7
comp=Z,53nm,0.7s
JAPN IVmB_BB 22 26 54.9
comp=Z,2µm,1.0s
MORN AI O del Volca 34.89 331 *i*P **P 22 26 33.4 +0.5**
MORN IVmB_BB 22 26 34.9
comp=Z,350nm,1.0s
MORN IAmb IAmb 22 26 41.6
comp=Z,23nm,0.8s
CONN Concepcion 34.89 331 *i*P **P 22 26 34.2 +1.2**
CONN IVmB_BB 22 26 34.8
comp=Z,26µm,1.0s
CONN IAmb IAmb 22 26 35.4
comp=Z,3µm,0.8s
ACON Acoyapa 35.05 332 IAmb IAmb 22 27 00.3
comp=Z,524nm,1.7s
ACON Acoyapa 35.05 332 *i*P **P 22 26 34.8 +0.5**
ACON IAmb IAmb 22 26 36.4
comp=Z,200nm,1.9s
FDF Fort de France 35.06 14 P **P 22 26 33.9 -0.5**
FDF IAmb IAmb 22 26 45.8
comp=Z,259nm,0.7s
FDF Fort de France 35.06 14 P **P 22 26 33.9 -0.5**
FDF pmax pmax
comp=Z,259nm,0.7s
ILAM Ilet Lapin Mar 35.16 14 P **P 22 26 35.2 0.0**
ILAM IAmb IAmb 22 26 38.4
comp=Z,483nm,1.0s
ILAM Ilet Lapin Mar 35.16 14 *e*P **P 22 26 33.1 -2.0**
NADN Granada 35.24 331 *i*P **P 22 26 35.3 -0.6**
NADN IVmB_BB 22 27 04.0
comp=Z,79µm,1.0s
RCBR Riachuelo 35.26 72 P **P 22 26 36.8 +0.6**
RCBR Riachuelo 35.26 72 P **P 22 26 35.0 -1.2**
comp=Z,504nm,0.6s,baz=243,slow=17,SNR=260
RCBR S **S 22 32 00.2 -2.6**
comp=Z,9.8nm,0.9s,baz=239,slow=19,SNR=1.4
RCBR LR LR 22 42 42.5
comp=Z,3µm,18.5s,baz=154,slow=39
comp=Z,504nm,0.6s
RCBR Riachuelo 35.26 72 P **P 22 26 36.8 +0.6**
RCBR pmax pmax
comp=Z,617nm,0.7s
RCBR Riachuelo 35.26 72 *e*P **P 22 26 35.1 -1.2**
RCBR Riachuelo 35.26 72 P **P 22 26 35.5 -0.7**
MG01 Puerto William 35.29 178 P **P 22 26 36.5 +0.7**
NANN Nandasmo 35.45 331 *i*P **P 22 26 39.1 +1.4**
NANN IVmB_BB 22 26 40.3
comp=Z,120µm,1.0s
NANN IAmb IAmb 22 26 40.8
comp=Z,9µm,0.8s
SABN Sabanita 35.48 331 *i*P **P 22 26 38.9 +0.9**
SABN IVmB_BB 22 26 40.1
comp=Z,12µm,1.0s
SABN IAmb IAmb 22 26 41.0
comp=Z,2µm,0.8s
MAS3 AI N del Volca 35.55 331 *i*P **P 22 26 39.4 +0.8**
MAS3 IAmb IAmb 22 26 40.7
comp=Z,530nm,1.0s
MAS3 IVmB_BB 22 26 55.4
comp=Z,14µm,1.0s
RA5A7 El Crucero 35.58 331 *i*P **P 22 26 39.5 +0.5**
RA5A7 IAmb IAmb 22 27 05.4
comp=Z,900nm,0.9s
R0529 La Mascota 35.66 331 *i*P **P 22 26 40.2 +0.7**
R0529 IAmb IAmb 22 26 41.7
comp=Z,530nm,1.0s
UNAN Cigeo UNAN 35.67 331 *i*P **P 22 26 40.5 +0.9**
UNAN IVmB_BB 22 26 41.3
comp=Z,38µm,1.0s
UNAN IAmb IAmb 22 26 41.8
comp=Z,4µm,1.3s
WILN Americas 2 35.67 331 *i*P **P 22 26 41.0 +1.4**
WILN IVmB_BB 22 26 41.3
comp=Z,7µm,1.0s
WILN IAmb IAmb 22 26 41.9
comp=Z,650nm,1.2s
MGAN Managua 35.69 331 P **P 22 26 40.1 +0.4**
MGAN IAmb IAmb 22 26 42.0
comp=Z,664nm,1.0s
MGAN Managua 35.69 331 *i*P **P 22 26 41.2 +1.5**
MGAN IAmb IAmb 22 26 41.6
comp=Z,730nm,0.9s
R4DEC Barrio San Lui 35.69 331 *i*P **P 22 26 40.5 +0.7**
R4DEC IAmb IAmb 22 26 41.6
comp=Z,730nm,0.9s
TISN Laguna Tiscapa 35.70 331 *i*P **P 22 26 40.4 +0.6**
TISN IAmb IAmb 22 26 41.9
comp=Z,30nm,0.8s
APQ2 Apoyeque 35.77 331 *i*P **P 22 26 41.5 +1.1**
APQ2 IVmB_BB 22 26 42.1
comp=Z,4µm,1.0s
APQ2 IAmb IAmb 22 26 42.5
comp=Z,350nm,1.1s
SAPS Ciudad Sandino 35.78 331 *i*P **P 22 26 41.1 +0.5**
SAPS IAmb IAmb 22 26 42.4
comp=Z,270nm,1.5s
SAPS IVmB_BB 22 27 19.8
comp=Z,4µm,1.0s
COPN Copaltepe 35.88 330 *i*P **P 22 26 42.3 +0.9**
COPN IVmB_BB 22 26 58.7
comp=Z,2µm,1.0s
COPN IAmb IAmb 22 26 59.2
comp=Z,230nm,1.0s
MOM2 El Cardon 36.05 331 *i*P **P 22 26 43.2 +0.3**
MOM2 IVmB_BB 22 26 44.6
comp=Z,3µm,1.0s
MOM2 IAmb IAmb 22 26 45.1
comp=Z,230nm,1.0s
ROCN Rota Cerro Neg 36.25 330 *i*P **P 22 26 44.6 +0.1**
ROCN IAmb IAmb 22 26 46.1
comp=Z,73nm,0.7s
CBE Ff, Capester 36.26 13 P **P 22 26 44.9 +0.3**
GDHS Morne Mazeau, 36.42 12 P **P 22 26 44.4 -1.6**
PKGN Cerro Pekin 36.49 330 IVmB_BB 22 26 44.2
comp=Z,10µm,1.0s
PKGN *i*P **P 22 26 46.6 +0.1**
PKGN IAmb IAmb 22 26 54.5
comp=Z,220nm,0.8s
CRIN San Cristobal 36.55 330 P **P 22 26 47.4 +0.2**
CRIN IAmb IAmb 22 27 30.6
comp=Z,179nm,0.7s
CRIN San Cristobal 36.55 330 *i*P **P 22 26 47.6 +0.5**
CRIN IAmb IAmb 22 26 54.1
comp=Z,240nm,0.8s
CRIN IVmB_BB 22 27 25.9
comp=Z,6µm,1.0s
LIMN Finca el Limon 36.55 331 *i*P **P 22 26 47.2 0.0**
LIMN IVmB_BB 22 26 48.4
comp=Z,6µm,1.0s
LIMN IAmb IAmb 22 26 48.9
comp=Z,300nm,1.3s
GDSD La Dsirade Is 36.60 13 P **P 22 26 45.2 -2.3**
RCFN Al S de San Ju 36.89 332 *i*P **P 22 26 51.0 +0.8**
RCFN IVmB_BB 22 26 52.9
comp=Z,30µm,1.0s
RCFN IAmb IAmb 22 26 53.3
comp=Z,3µm,1.0s
RCVN Varillal2 36.93 332 *i*P **P 22 26 51.3 +0.8**
RCVN IVmB_BB 22 26 53.2
comp=Z,210µm,1.0s
RCVN IAmb IAmb 22 26 53.6
comp=Z,31µm,0.9s
CSGN Cosiguina Volc 37.03 330 *i*P **P 22 26 51.7 +0.5**
CSGN IVmB_BB 22 26 53.1
comp=Z,960nm,1.0s
CSGN IAmb IAmb 22 26 53.5
comp=Z,110nm,1.1s
ANBD Bethesda, Anti 37.17 12 *e*P **P 22 26 51.6 -0.7**
SKI Saint Kitts 37.27 10 *e*P P 22 26 46.4 -6.8
AMPH Amapala 37.34 330 *i*P **P 22 26 54.0 +0.2**
RPN Rapa Nui 37.37 251 P **P 22 26 54.4 +0.4**
RPN Rapa Nui 37.37 251 LR LR 22 39 27.5
comp=Z,10µm,18.0s,baz=100,slow=31
RPN Rapa Nui 37.37 251 P **P 22 26 54.4 +0.4**
RPN pmax pmax
comp=Z,1µm,1.6s
RPN Rapa Nui 37.37 251 P **P 22 26 55.5 +1.5**
RPN pP **pP 22 27 20.4 +2.6**
RPN sP **sP 22 27 33.0 +3.3**
MLPR Magueyes Islan 37.41 4 P **P 22 26 53.1 -1.1**
MLPR IAmb IAmb 22 27 02.3
comp=Z,369nm,1.0s
CNCH Conchagua 37.42 329 *i*P **P 22 26 55.0 +0.4**
CNCH IVmB_BB 22 26 55.8
comp=Z,14µm,1.0s
CNCH IAmb IAmb 22 26 56.3
comp=Z,1µm,1.1s
VA02 Isla de Pascua 37.46 251 P **P 22 26 54.9 +0.1**
IGPR InterUniversit 37.47 5 P **P 22 26 53.1 -1.7**
IGPR IAmb IAmb 22 27 01.3
comp=Z,275nm,0.9s
SABA Saba 37.47 10 P **P 22 26 54.5 -0.4**
SABA IAmb IAmb 22 27 00.0
comp=Z,191nm,0.7s
LCND La Caada 37.48 329 *i*P **P 22 26 55.0 +0.1**
LCND IVmB_BB 22 26 56.4
comp=Z,2µm,1.0s
LCND IAmb IAmb 22 26 56.9
comp=Z,260nm,0.9s
OBIP Obispado Ponce 37.51 4 P **P 22 26 53.5 -1.6**
OBIP IAmb IAmb 22 26 57.4
comp=Z,292nm,0.8s
PDPR Patillas Dam, 37.53 5 P **P 22 26 53.3 -2.0**
CELP Cerrillos 37.54 4 P **P 22 26 53.8 -1.6**
CELP IAmb IAmb 22 26 57.5
comp=Z,284nm,0.8s
YUSH Yuscaran 37.55 331 *i*P **P 22 26 55.4 -0.3**
SJG San Juan 37.61 5 P **P 22 26 54.1 -1.9**
SJG IAmb IAmb 22 27 21.8
comp=Z,223nm,0.9s
SJG San Juan 37.61 5 LR LR 22 43 23.1
comp=Z,3µm,20.1s,baz=199,slow=38
SJG San Juan 37.61 5 P **P 22 26 54.1 -1.9**
SJG pmax pmax
comp=Z,223nm,0.9s
SJG San Juan 37.61 5 *e*P **P 22 26 54.0 -2.1**
SJG San Juan 37.61 5 P **P 22 26 53.9 -2.1**
SJG pP **pP 22 27 19.6 -1.0**
SJG PcP **PcP 22 29 12.7 +0.9**
PRSN Puerto Rico Se 37.65 3 P **P 22 26 54.7 -1.6**
HUMP Col San Antoni 37.67 5 P **P 22 26 54.7 -1.7**
HUMP IAmb IAmb 22 27 43.2
comp=Z,447nm,1.5s
UUPR Utuado, UPR, P 37.71 4 P **P 22 26 54.7 -2.2**
ANWB Willy Bob 37.77 12 P **P 22 26 54.5 -2.9**
ANWB IAmb IAmb 22 26 58.5
comp=Z,188nm,0.8s
ANWB Willy Bob 37.77 12 *e*P **P 22 26 54.6 -2.7**
RANC El Ranchito 37.78 329 *i*P P 22 26 52.6 -5.0
RANC IAmb IAmb 22 26 56.0
comp=Z,240nm,0.8s
RANC IVmB_BB 22 26 59.7
comp=Z,3µm,1.0s
AOPR Arecibo Observ 37.80 4 P **P 22 26 56.0 -1.6**
AOPR IAmb IAmb 22 27 45.2
comp=Z,940nm,1.7s
AOPR Arecibo Observ 37.80 4 *e*P **P 22 26 55.9 -1.8**
GCPR Guaynabo City 37.81 5 P **P 22 26 55.6 -2.1**
TGUH Tegucigalpa,Un 37.84 331 *i*P **P 22 26 58.6 +0.5**
TGUH IVmB_BB 22 26 59.6
comp=Z,10µm,1.0s
TGUH IAmb IAmb 22 27 00.0
comp=Z,730nm,1.4s
PCDR Punta Cana, DR 37.90 1 P **P 22 26 57.9 -0.5**
AGPR Aguadilla, PR 37.90 3 P **P 22 26 58.0 -0.5**
AGPR IAmb IAmb 22 27 53.4
comp=Z,470nm,1.4s
SMRT St. Maarten 37.92 10 P **P 22 26 56.2 -2.4**
SMRT IAmb IAmb 22 27 00.6
comp=Z,209nm,0.8s
EMPR Esperanza - Ma 37.95 4 P **P 22 26 56.9 -1.9**
EMPR IAmb IAmb 22 27 24.9
comp=Z,307nm,0.8s
PAPH Port-au-Prince 38.01 355 P **P 22 26 58.9 -0.5**
PAPH IAmb IAmb 22 27 01.4

comp=Z,334nm,0.9s
PAPH Port-au-Prince 38.01 355 *e*P **P** **22 26 58.2 -1.1**
PQSS Presa 15 de Se 38.07 329 *i* P **P** **22 27 00.9 +1.0**
PQSS IAmb IAmb 22 27 02.6
comp=Z,310nm,1.1s
TECO Alcaldia de Te 38.11 328 *i* P **P** **22 27 01.6 +1.3**
TECO IAmb IAmb 22 27 03.6
comp=Z,180nm,1.2s
TECO IVmB_BB 22 27 23.9
comp=Z,4μm,1.0s
STH Stony Hill 38.17 348 *e*P **P** **22 26 59.4 -1.3**
UESV Universidad de 38.19 328 *i* P **P** **22 27 00.4 -0.6**
UESV IVmB_BB 22 27 41.2
comp=Z,59μm,1.0s
SCLA Alcaldia de Sa 38.22 329 *i* P **P** **22 27 02.5 +1.2**
SCLA IVmB_BB 22 27 03.7
comp=Z,4μm,1.0s
SCLA IAmb IAmb 22 27 04.2
comp=Z,340nm,1.1s
MARCA Marcala la Paz 38.28 330 *i* P **P** **22 27 01.9 +0.1**
PAVA Las Pavas 38.33 328 *i* P **P** **22 27 02.2 -0.1**
PAVA IAmb IAmb 22 27 04.8
comp=Z,620nm,1.2s
PAVA IVmB_BB 22 27 05.7
comp=Z,15μm,1.0s
LALI Alcalda de L 38.34 328 *i* P P 22 27 08.9 +6.8
LALI IAmb IAmb 22 27 11.8
comp=Z,690nm,0.4s
LALI IVmB_BB 22 27 11.9
comp=Z,13μm,1.0s
SDDR Presa de Saban 38.40 357 P **P** **22 27 01.2 -1.5**
SDDR Presa de Saban 38.40 357 *e*P **P** **22 26 58.5 -4.2**
MTDJ Mount Denham 38.45 347 P **P** **22 27 02.1 -1.1**
MTDJ IAmb IAmb 22 27 04.4
comp=Z,814nm,1.2s
MTDJ Mount Denham 38.45 347 *e*P P 22 26 56.0 -7.2
SNET Serv Nac Est T 38.46 328 P **P** **22 27 03.8 +0.5**
PMON Piamonte 38.52 328 *i* P **P** **22 27 05.0 +1.2**
PMON IVmB_BB 22 27 07.0
comp=Z,4μm,1.0s
PMON IAmb IAmb 22 27 07.1
comp=Z,360nm,0.7s
JAYA Jayaque - finc 38.54 328 *i* P **P** **22 27 05.2 +1.1**
JAYA IVmB_BB 22 27 06.4
comp=Z,21μm,1.0s
JAYA IAmb IAmb 22 27 06.8
comp=Z,2μm,1.4s
CEDA San Andres 38.64 328 *i* P **P** **22 27 05.8 +1.1**
CEDA IAmb IAmb 22 27 10.3
comp=Z,590nm,0.7s
CEDA IVmB_BB 22 28 05.5
comp=Z,28μm,1.0s
CEVE Cerro Verde 38.78 327 *i* P **P** **22 27 07.3 +1.2**
CEVE IVmB_BB 22 27 08.6
comp=Z,2μm,1.0s
CEVE IAmb IAmb 22 27 09.1
comp=Z,200nm,0.8s
UNIC Universidad Ca 38.87 328 *i* P **P** **22 27 07.9 +1.2**
NUBE Las Nubes 38.92 327 *i* P **P** **22 27 08.3 +1.1**
NUBE IVmB_BB 22 27 09.4
comp=Z,10μm,1.0s
NUBE IAmb IAmb 22 27 09.9
comp=Z,600nm,1.5s
LOAL Lomas de Alarc 39.00 327 *i* P **P** **22 27 08.9 +1.1**
MTO3 Montecristo 39.13 328 *i* P **P** **22 27 09.2 +0.2**
MTO3 IVmB_BB 22 27 10.9
comp=Z,10μm,1.0s
MTO3 IAmb IAmb 22 27 11.3
comp=Z,680nm,1.0s
SARH Santa Rosa de 39.16 329 *i* P **P** **22 27 10.2 +1.1**
JUAM Asuncion Mita 39.25 328 *i* P **P** **22 27 10.5 +0.7**
JUAM IAmb IAmb 22 27 12.0
comp=Z,390nm,1.2s
GTBY Guantanamo Bay 39.70 351 P **P** **22 27 12.5 -1.0**
GTBY Guantanamo Bay 39.70 351 *e*P **P** **22 27 11.0 -2.5**
GTBY IAmb IAmb 22 27 13.6
comp=Z,41nm,0.9s
MASC Masc 39.83 353⇑ *e*P **P** **22 27 11.7 -2.8**
MASC IAmb IAmb 22 27 14.9
comp=Z,143nm,1.8s
RCC Rio Carpintero 39.85 351 *e*P **P** **22 27 12.8 -1.9**
GCG4 OSOP 39.88 327 *i* P **P** **22 27 16.7 +1.5**
GCG4 IVmB_BB 22 28 13.4
comp=Z,36μm,1.0s
MARVS Santiago de Cu 39.89 350 IAmb IAmb 22 27 14.8
comp=Z,38nm,1.0s
QMBU Quimbuelo 39.93 352 *e*P **P** **22 27 12.7 -2.6**
CHIV Chivirico 39.95 350 P **P** **22 27 14.4 -1.1**
CHIV IAmb IAmb 22 27 20.2
comp=Z,410nm,1.8s
CHIV Chivirico 39.95 350 *e*P **P** **22 27 13.6 -1.9**
CHIV IAmb IAmb 22 27 15.2
comp=Z,20nm,1.1s
GUMI Mixco 39.96 327 *i* P **P** **22 27 15.0 -0.9**
GUMI IAmb IAmb 22 27 35.9
comp=Z,280nm,0.6s
GUMI IVmB_BB 22 28 13.0
comp=Z,53μm,1.0s
LMGC Las Mercedes 40.14 349 *e*P P 22 27 11.0 -6.1
LMGC IAmb IAmb 22 27 16.8
comp=Z,38nm,1.2s
NMDO Nuevo Mundo 40.30 352 P **P** **22 27 16.9 -1.5**
NMDO IAmb IAmb 22 28 04.8
comp=Z,132nm,1.5s
NMDO Nuevo Mundo 40.30 352 *e*P **P** **22 27 16.0 -2.4**
PINC Pinares de May 40.35 351 *e*P **P** **22 27 16.5 -2.3**
MOAC Moa 40.40 352 *e*P **P** **22 27 17.2 -2.0**
MOAC IAmb IAmb 22 27 19.6
comp=Z,28nm,1.1s
SOKI Kika Raxquin 40.53 326 *i* P **P** **22 27 22.4 +1.5**
SOKI IAmb IAmb 22 27 24.2
comp=Z,600nm,1.3s
QUEO Labor Ovalle 40.63 326 *i* P **P** **22 27 23.7 +2.1**
QUEO IVmB_BB 22 27 25.5
comp=Z,16μm,1.0s
QUEO IAmb IAmb 22 27 25.9
comp=Z,1μm,1.1s
QUIS Sacapulas 40.76 327 *i* P **P** **22 27 23.8 +1.3**
QUIS IAmb IAmb 22 27 25.3
comp=Z,470nm,1.1s
HLGC Holguin 40.79 350 *e*P **P** **22 27 22.1 -0.4**
HLGC IAmb IAmb 22 27 24.3
comp=Z,222nm,0.7s
GRTK Grand Turk 40.91 357 P **P** **22 27 22.5 -0.8**
GRTK IAmb IAmb 22 27 23.7
comp=Z,620nm,1.5s
HUEH Huehuetenango 41.00 326 P **P** **22 27 26.3 +1.8**
HUEH IAmb IAmb 22 27 27.0
comp=Z,448nm,0.7s
PETF Flores 41.54 330 P **P** **22 27 29.7 +1.1**
CCIG Comitan 42.13 326 *i* P **P** **22 27 33.7 0.0**
CCIG IVmB_BB 22 27 35.0
comp=Z,8μm,1.0s
CCIG IAmb IAmb 22 27 35.6
comp=Z,420nm,1.4s
HOPE Hope Point 42.72 152 P **P** **22 27 38.6 +0.8**
HOPE IAmb IAmb 22 28 18.0
comp=Z,344nm,1.1s
HOPE Hope Point 42.72 152 P **P** **22 27 38.6 +0.8**
HOPE pmax pmax
comp=Z,345nm,1.2s
HOPE Hope Point 42.72 152 P **P** **22 27 39.5 +1.7**
HOPE pP **pP** **22 28 05.1 +2.3**
HOPE sP **sP** **22 28 16.6 +1.6**
HOPE ScP **ScP** **22 33 11.4 +2.1**
CAIB Caibarien 43.00 346 *e*P **P** **22 27 40.3 -0.1**
CAIB IAmb IAmb 22 27 41.9
comp=Z,450nm,0.9s
CAIB *e*S S 22 33 29.8 -29
CAIB *e*S S 22 33 29.8 -29
TEIG Tepich 43.73 334 P **P** **22 27 45.9 -0.3**
TEIG IAmb IAmb 22 27 47.7
comp=Z,416nm,0.8s
TEIG Tepich 43.73 334 P **P** **22 27 46.0 -0.3**
TEIG pP **pP** **22 28 11.5 +0.6**
TEIG sP **sP** **22 28 23.6 +0.8**
TEIG PcP **PcP** **22 29 31.8 +0.2**
CAMR Camarioca 44.01 344 P **P** **22 27 49.1 +0.6**
CAMR IAmb IAmb 22 28 17.9
comp=Z,720nm,0.7s
CAMR Camarioca 44.01 344 *e*P **P** **22 27 48.7 +0.2**
CAMR IAmb IAmb 22 27 50.3
comp=Z,334nm,1.0s
ESPZ Base Esperanza 44.56 172 P **P** **22 27 52.6 +0.2**
ORCD Orcadas 44.62 163 P **P** **22 27 54.5 +1.6**

PMSA Palmer Station 45.28 177 P **P** **22 27 59.8 +1.7**
PMSA IAmb IAmb 22 28 01.6
comp=Z,845nm,1.8s
PMSA Palmer Station 45.28 177 LR LR 22 48 21.3
comp=Z,2μm,18.3s,baz=350,slow=38
PMSA Palmer Station 45.28 177 *e*P **P** **22 27 59.0 +0.9**
TLIG Tlapa 46.80 320 P **P** **22 28 11.8 +1.1**
TLIG IAmb IAmb 22 28 13.8
comp=Z,466nm,1.1s
TLIG Tlapa 46.80 320 *i* P **P** **22 28 11.6 +0.8**
TLIG IVmB_BB 22 28 12.9
comp=Z,8μm,1.0s
TLIG IAmb IAmb 22 28 13.4
comp=Z,450nm,1.3s
060A Indiantown 47.59 347 P **P** **22 28 17.2 +0.6**
UNM Universidad Na 48.53 321 P **P** **22 28 26.1 +1.8**
UNM Universidad Na 48.53 321 P **P** **22 28 26.1 +1.8**
UNM pmax pmax
comp=Z,1μm,1.2s
SMAI San Martin Ant 48.53 179 P **P** **22 28 24.7 +1.4**
SMAI IAmb IAmb 22 28 26.5
comp=Z,406nm,1.2s
DWPF Disney Wildern 48.86 346 P **P** **22 28 26.5 +0.1**
DWPF Disney Wildern 48.86 346 *e*P **P** **22 28 25.8 -0.6**
DWPF IAmb IAmb 22 28 27.6
comp=Z,208nm,0.8s
DWPF Disney Wildern 48.86 346 P **P** **22 28 26.4 0.0**
DWPF pP **pP** **22 28 52.1 +0.2**
DWPF sP **sP** **22 29 04.1 +0.3**
DWPF ScP **ScP** **22 33 35.1 -0.1**
MOIG Morelia 50.00 319 P **P** **22 28 36.5 +0.9**
MOIG Morelia 50.00 319 *i* P **P** **22 28 36.2 +0.7**
MOIG IVmB_BB 22 28 37.5
comp=Z,12μm,1.0s
MOIG IAmb IAmb 22 28 38.0
comp=Z,800nm,1.3s
656A Willston 50.33 345 P **P** **22 28 37.2 -0.3**
JRQG Juriquilla Cam 50.34 321 P **P** **22 28 38.6 +0.6**
553A Crawfordville 51.60 343 P **P** **22 28 47.3 +0.3**
BBSR BB Station 51.87 5 P **P** **22 28 48.1 -0.9**
BBSR IAmb IAmb 22 28 49.1
comp=Z,145nm,0.7s
BBSR BB Station 51.87 5 P **P** **22 28 48.1 -0.9**
BBSR pP **pP** **22 29 13.8 -1.0**
BBSR sP **sP** **22 29 26.2 -0.5**
H09N1 TRISTAN DA CUN 52.35 122 P **P** **22 28 54.1 +1.5**
SNR=7.6
TRIS Tristan da Cun 52.35 122 P **P** **22 28 53.5 +0.9**
TRIS Tristan da Cun 52.35 122 P **P** **22 28 54.3 +1.7**
TRIS pP **pP** **22 29 20.0 +1.3**
451A Vernon 52.38 342 P **P** **22 28 52.8 0.0**
ZAIG Zacatecas 53.18 321 P **P** **22 28 60.0 +0.8**
ZAIG IAmb IAmb 22 29 02.1
comp=Z,440nm,0.9s
ZAIG Zacatecas 53.18 321 *i* P **P** **22 29 00.2 +1.0**
ZAIG IVmB_BB 22 29 01.3
comp=Z,8μm,1.0s
ZAIG IAmb IAmb 22 29 01.7
comp=Z,560nm,1.4s
545A Edgard 53.41 337 P **P** **22 29 01.8 +1.5**
Y60A Bolivia 53.98 351 P **P** **22 29 04.6 +0.2**
Y60A IAmb IAmb 22 29 53.6
comp=Z,367nm,1.0s
152A Waverly Hall 54.03 344 IAmb IAmb 22 29 05.7
comp=Z,539nm,1.2s
346A Big Creek Wild 54.27 339 P **P** **22 29 06.7 +0.1**
H10N3 ASCENSION HYDR 54.31 86 P **P** **22 29 08.0 +1.0**
baz=248,slow=5.7,SNR=46
H10N2 ASCENSION HYDR 54.33 86 P **P** **22 29 07.6 +0.6**
baz=248,slow=5.7,SNR=24
H10N1 ASCENSION HYDR 54.33 86 P **P** **22 29 08.1 +1.0**
baz=248,slow=5.7,SNR=86
ASCN Ascension 54.41 86 P **P** **22 29 07.8 -0.2**
GOGA Godfrey 54.42 345 P **P** **22 29 07.0 -0.7**
GOGA IAmb IAmb 22 29 35.9
comp=Z,1μm,1.9s
GOGA Godfrey 54.42 345 P **P** **22 29 07.0 -0.7**
GOGA pmax pmax
comp=Z,1μm,2.0s
HBVL Hebbronville 54.43 327 IAmb IAmb 22 29 09.9
comp=Z,445nm,1.2s
X58A Rowland 54.70 350 IAmb IAmb 22 29 11.0
comp=Z,457nm,1.1s
JSC Jenkinsville 54.78 348 IAmb IAmb 22 29 11.7
comp=Z,520nm,1.2s
JSC pP pP 22 29 36.1 0.0
HODGE Hodges 54.94 347 IAmb IAmb 22 29 12.8
comp=Z,470nm,1.4s
HODGE pP pP 22 29 36.9 -0.4
Y52A Lilburn 55.00 345 IAmb IAmb 22 29 12.7
comp=Z,283nm,1.1s
Y52A pP pP 22 29 36.7 -1.1
441A DeRidder 55.08 335 P **P** **22 29 12.7 +0.2**
W59A Clinton 55.16 351 P **P** **22 29 13.1 +0.2**
W59A IAmb IAmb 22 29 14.3
comp=Z,608nm,1.7s
W57A Gilead 55.40 349 IAmb IAmb 22 29 15.9
comp=Z,411nm,0.9s
PAULI Pauline 55.42 348 IAmb IAmb 22 29 16.4
comp=Z,516nm,1.2s
Z47A Carrollton 55.48 341 P **P** **22 29 14.4 -0.9**
Z47A IAmb IAmb 22 29 15.9
comp=Z,611nm,1.2s
735A Kenedy 55.48 329 P **P** **22 29 16.1 +0.7**
HKT Hockley 55.50 332 P **P** **22 29 15.8 +0.4**
HKT Hockley 55.50 332 *d i* P **P** **22 29 15.7 +0.3**
HKT pmax pmax
comp=Z,358nm,1.1s
HKT MLR MLR
comp=Z,2μm,20.0s
HKT Hockley 55.50 332 P **P** **22 29 15.8 +0.3**
HKT sP **sP** **22 29 53.8 +0.7**
Y49A Blount Mountai 55.61 343 P **P** **22 29 15.1 -1.2**
Y49A IAmb IAmb 22 29 16.7
comp=Z,300nm,1.1s
KMSC Kings Mountain 55.63 348 IAmb IAmb 22 29 17.9
comp=Z,443nm,1.1s
BG3 Lake Jocassee 55.82 346 IAmb IAmb 22 29 19.2
comp=Z,233nm,1.1s
BG3 pP pP 22 29 43.3 -0.4
833A Chaparral WMA, 55.82 328 P **P** **22 29 18.3 +0.4**
baz=145
H06S1 SOCORRO T 55.87 310 P **P** **22 29 19.4 +1.1**
SNR=15
X51A Calhoun 55.87 345 IAmb IAmb 22 29 19.0
comp=Z,561nm,1.1s
X51A pP pP 22 29 43.5 -0.6
H06E1 SOCORRO T-PHAS 55.87 311 P **P** **22 29 20.0 +1.5**
SNR=11
V58A Windy Hill, Pi 55.88 350 IAmb IAmb 22 29 19.3
comp=Z,559nm,1.4s
MLDN Muldoon 55.91 331 P **P** **22 29 19.1 +0.7**
FPAL Fort Paine 56.04 344 P **P** **22 29 18.7 -0.6**
PTCN Pitcairn Islan 56.09 252 P **P** **22 29 20.2 +0.2**
W52A Murphy 56.14 346 IAmb IAmb 22 29 21.2
comp=Z,368nm,1.1s
143A Socs Landing, 56.14 338 IAmb IAmb 22 29 21.2
comp=Z,471nm,1.3s
V53A Saluda 56.44 347 P **P** **22 29 22.0 -0.2**
V53A IAmb IAmb 22 29 23.4
comp=Z,191nm,1.0s
W50A Signal Mountai 56.58 344 P **P** **22 29 22.6 -0.6**
W50A IAmb IAmb 22 29 24.1
comp=Z,661nm,1.2s
SACV Santiago Islan 56.59 56 P **P** **22 29 22.6 -1.0**
SACV IAmb IAmb 22 29 25.6
comp=Z,208nm,0.8s
SACV Santiago Islan 56.59 56 P **P** **22 29 22.5 -1.1**
SACV PcP **PcP** **22 30 16.2 -2.8**
CPCT Cooper Cave 56.62 345 IAmb IAmb 22 29 24.4
comp=Z,339nm,1.1s
TKL Tuckaleechee C 56.65 346 P **P** **22 29 23.4 -0.2**
TKL IAmb IAmb 22 29 24.4
comp=Z,485nm,1.1s
TKL Tuckaleechee C 56.65 346 P **P** **22 29 22.3 -1.3**
comp=Z,225nm,1.0s,baz=156,slow=11,SNR=103
TKL pP **pP** **22 29 50.0 +0.3**
comp=Z,136nm,0.9s,baz=160,slow=8.2,SNR=4.9
TKL S **S** **22 37 03.9 -4.1**
comp=Z,5.6nm,1.0s,baz=126,slow=14,SNR=1.4
TKL LR LR 22 56 21.3
comp=Z,2μm,18.1s,baz=158,slow=39
comp=Z,225nm,1.0s
SWET Sewanee 56.76 344 P **P** **22 29 23.7 -0.8**
T59A Double "B" Far 56.81 352 P **P** **22 29 24.7 0.0**

T59A IAmb IAmb 22 29 25.8
comp=Z,615nm,1.4s
435B Jarrell 57.00 331 IAmb IAmb 22 29 27.8
comp=Z,338nm,1.1s
435B Jarrell 57.00 331 P **P** **22 29 26.3 +0.2**
baz=148
T57A Hurt 57.08 351 IAmb IAmb 22 29 28.1
comp=Z,735nm,1.4s
PLAL Pickwick Lake 57.14 342 P **P** **22 29 25.4 -1.7**
PLAL IAmb IAmb 22 29 27.2
comp=Z,455nm,1.1s
Z41A Richland Creek 57.15 337 IAmb IAmb 22 29 28.9
comp=Z,573nm,1.1s
237A Washetta, Mont 57.25 333 P **P** **22 29 28.3 +0.4**
S61A Accomac 57.29 354 P **P** **22 29 28.3 +0.2**
DRIO Del Rio 57.34 327 IAmb IAmb 22 29 29.8
comp=Z,387nm,1.1s
CCAR Cane Creek 57.37 338 P **P** **22 29 29.3 +0.6**
TZTN Tazewell 57.45 346 P **P** **22 29 28.6 -0.6**
TZTN IAmb IAmb 22 29 30.1
comp=Z,387nm,1.2s
BLA Blacksburg 57.48 349 ⇑P **P** **22 29 29.6 +0.2**
V48A Smith Brothers 57.49 343 P **P** **22 29 28.7 -0.8**
CLTN Cedars of Leba 57.69 344 P **P** **22 29 29.9 -1.0**
CLTN IAmb IAmb 22 29 31.6
comp=Z,498nm,1.0s
S57A Dark Hollow, R 57.78 351 IAmb IAmb 22 29 33.2
comp=Z,474nm,1.3s
JCT Junction City 57.79 329 P **P** **22 29 31.7 -0.1**
JCT IAmb IAmb 22 29 33.1
comp=Z,230nm,0.9s
JCT Junction City 57.79 329 P **P** **22 29 31.7 -0.1**
JCT pmax pmax
comp=Z,230nm,0.9s
R58B Mineral 57.83 352 IAmb IAmb 22 29 33.4
comp=Z,396nm,1.4s
R61A Willards 57.91 354 P **P** **22 29 31.9 -0.4**
U49A Red Boiling Sp 57.95 344 P **P** **22 29 31.9 -0.8**
U49A IAmb IAmb 22 29 33.3
comp=Z,457nm,1.3s
CBN Corbin Frederi 58.00 353 IAmb IAmb 22 29 34.3
comp=Z,291nm,1.3s
TREL Terrell 58.00 333 P **P** **22 29 33.9 +0.7**
BRDY Brady 58.08 330 IAmb IAmb 22 29 34.9
comp=Z,279nm,1.1s
FW16 Waxahatchie 58.13 333 P **P** **22 29 34.5 +0.4**
WVT Waverly 58.14 342 P **P** **22 29 32.2 -1.8**
WVT Waverly 58.14 342 P **P** **22 29 32.2 -1.8**
WVT pmax pmax
comp=Z,521nm,0.9s
WVT Waverly 58.14 342 P **P** **22 29 32.6 -1.4**
WVT pP **pP** **22 29 58.9 -1.4**
WVT sP **sP** **22 30 11.3 -0.7**
HPIG 58.16 321 IAmb IAmb 22 29 36.6
comp=Z,453nm,1.2s
HPIG 58.16 321 *i* P **P** **22 29 34.6 0.0**
HPIG IVmB_BB 22 29 35.8
comp=Z,7μm,1.0s
HPIG IAmb IAmb 22 29 36.2
comp=Z,370nm,1.4s
T50A Nancy 58.20 345 P **P** **22 29 33.4 -1.0**
T50A IAmb IAmb 22 29 35.1
comp=Z,508nm,1.4s
FW13 Cleburne 58.26 332 P **P** **22 29 35.2 +0.3**
UALR University of 58.34 338 IAmb IAmb 22 29 36.4
comp=Z,594nm,1.2s
HBAR Harrisburg 58.48 340 P **P** **22 29 35.9 -0.5**
SLBS Sierra La Lagu 58.49 316 P **P** **22 29 37.9 +1.1**
SLBS Sierra La Lagu 58.49 316 P **P** **22 29 37.9 +1.1**
SLBS pP **pP** **22 30 04.0 +1.5**
SLBS sP **sP** **22 30 16.3 +2.3**
SLBS PcP **PcP** **22 30 27.1 +0.7**
SLBS ScP **ScP** **22 34 16.4 -1.0**
S51A Beattyville 58.51 347 P **P** **22 29 36.1 -0.5**
S51A IAmb IAmb 22 29 37.4
comp=Z,241nm,1.2s
SAND Sanderson 58.54 327 IAmb IAmb 22 29 38.7
comp=Z,446nm,1.2s
MIAR Mount Ida 58.59 337 P **P** **22 29 36.5 -0.7**
LNXT Lenox 58.60 341 P **P** **22 29 37.1 -0.2**
UTMT University of 58.64 342 P **P** **22 29 37.2 -0.3**
FW07 Weatherford 58.71 332 P **P** **22 29 38.2 +0.1**
T47A Sharon Grove 58.74 343 P **P** **22 29 37.2 -1.0**
WHAR Wooly Hollow 58.79 338 IAmb IAmb 22 29 39.4
comp=Z,309nm,1.1s
OZNA Ozona 58.81 328 IAmb IAmb 22 29 40.1
comp=Z,537nm,1.3s
FW06 Azle 58.84 332 P **P** **22 29 39.0 0.0**
TXAR Lajitas Array 58.87 325 P **P** **22 29 38.9 -0.5**
comp=Z,56nm,0.9s,baz=148,slow=8.6,SNR=146
TXAR pP **pP** **22 30 05.8 +0.6**
comp=Z,26nm,0.9s,baz=148,slow=8.6,SNR=3.3
TXAR S **S** **22 37 36.6 -0.8**
comp=Z,0.4nm,0.5s,baz=134,slow=11,SNR=1.1
TXAR PKP2bc **P'P'bc** **22 59 24.3 +0.8**
comp=Z,1.3nm,0.7s,baz=250,slow=1.8,SNR=5.0
comp=Z,56nm,0.9s
TX31 Lajitas Ar. Si 58.87 325 P **P** **22 29 38.9 -0.5**
TX31 IAmb IAmb 22 29 41.0
comp=Z,224nm,1.3s
PVMO Portageville 58.96 341 P **P** **22 29 39.8 +0.1**
LPIG La Paz 59.02 316 P **P** **22 29 40.7 +0.3**
comp=Z,231nm,1.0s,baz=138,slow=5.6,SNR=19
LPIG pP **pP** **22 30 06.8 +0.8**
comp=Z,146nm,1.0s,baz=150,slow=8.1,SNR=2.4
LPIG S **S** **22 37 42.0 +2.7**
comp=Z,22nm,0.4s,baz=146,slow=3.6,SNR=2.0
comp=Z,231nm,1.0s
LCAR Lake Charles 59.11 339 P **P** **22 29 39.3 -1.4**
LCAR IAmb IAmb 22 29 41.2
comp=Z,330nm,1.0s
FW03 Perrin-Whitt E 59.12 332 P **P** **22 29 40.7 -0.3**
FW03 IAmb IAmb 22 29 42.6
comp=Z,502nm,1.3s
SDMD Soldier's Deli 59.13 353 P **P** **22 29 40.9 +0.1**
P61A Hammonton 59.19 355 P **P** **22 29 41.4 +0.1**
T45A Paducah 59.20 342 P **P** **22 29 40.9 -0.5**
FCAR Ozark Folk Cen 59.27 339 P **P** **22 29 40.7 -1.2**
FCAR IAmb IAmb 22 29 42.3
comp=Z,252nm,0.9s
Q54A Coxs Mills 59.27 350 P **P** **22 29 41.7 -0.2**
R50A Paris 59.28 346 P **P** **22 29 40.7 -1.3**
X37A Clayton 59.32 335 P **P** **22 29 42.3 0.0**
P57A Homestead Farm 59.34 352 IAmb IAmb 22 29 44.4
comp=Z,467nm,1.4s
SSFO Shawnee State 59.44 347 P **P** **22 29 42.1 -0.9**
SSFO IAmb IAmb 22 29 43.9
comp=Z,448nm,1.4s
R49A Shelbyville 59.49 346 P **P** **22 29 42.6 -0.7**
R49A IAmb IAmb 22 29 43.8
comp=Z,428nm,1.2s
Q52A Bidwell 59.51 348 IAmb IAmb 22 29 44.5
comp=Z,382nm,1.1s
WUPA West Chester U 59.52 354 P **P** **22 29 43.6 +0.1**
WUPA IAmb IAmb 22 29 44.9
comp=Z,216nm,1.5s
PBMO Poplar Bluff 59.52 340 P **P** **22 29 42.9 -0.7**
LOOK Love County 59.55 333 P **P** **22 29 43.9 0.0**
MVL Millersville 59.66 354 IAmb IAmb 22 29 51.3
comp=Z,116nm,0.8s
ALPN Alpine 59.67 326 P **P** **22 29 44.5 -0.5**
WCI Wyandotte Cave 59.70 345 P **P** **22 29 43.7 -1.1**
WCI Wyandotte Cave 59.70 345 P **P** **22 29 43.7 -1.1**
WCI pmax pmax
comp=Z,634nm,1.2s
WCI Wyandotte Cave 59.70 345 P **P** **22 29 43.5 -1.3**
WCI pP **pP** **22 30 10.5 -0.6**
WCI sP **sP** **22 30 21.8 -1.0**
WCI PcP **PcP** **22 30 30.8 0.0**
Q51A Peebles 59.79 347 P **P** **22 29 44.8 -0.6**
Q51A IAmb IAmb 22 29 46.2
comp=Z,243nm,1.0s
USIN University of 59.81 343 P **P** **22 29 44.8 -0.7**
S44A Carbondale 60.01 342 P **P** **22 29 46.3 -0.6**
LUPA Lehigh Univers 60.16 355 P **P** **22 29 48.1 +0.2**
BRNJ Basking Ridge 60.18 355 P **P** **22 29 48.5 +0.5**
BRNJ IAmb IAmb 22 29 54.8
comp=Z,162nm,0.7s
CPNY Central Park 60.24 356 P **P** **22 29 48.1 -0.3**
SHEL Horse Pasture 60.34 98 P **P** **22 29 50.2 +0.4**
SHEL IAmb IAmb 22 29 58.5
comp=Z,299nm,0.8s
SHEL Horse Pasture 60.34 98 P **P** **22 29 50.2 +0.4**
SHEL pmax pmax
comp=Z,299nm,0.9s

X34A	Smith Ranch, M	60.35	333	P	P	22 29 49.2	-0.1
N62A	Caumsett State	60.35	356	P	P	22 29 48.9	-0.3
N62A				IAmb	IAmb	22 29 55.1	
	comp=Z,155nm,0.6s						
O54A	Avella	60.37	350	IAmb	IAmb	22 29 50.1	
	comp=Z,187nm,0.7s						
W35A	Tecumseh	60.42	334	IAmb	IAmb	22 29 50.4	
	comp=Z,481nm,1.1s						
PAL	Palisades	60.45	356	IAmb	IAmb	22 29 51.0	
	comp=Z,327nm,1.5s						
SSPA	Standing Stone	60.46	353	P	P	22 29 49.9	-0.1
SSPA				IAmb	IAmb	22 29 51.7	
	comp=Z,518nm,1.6s						
SSPA	Standing Stone	60.46	353	P	P	22 29 49.8	-0.1
SSPA				pP	pP	22 30 16.7	+0.3
SSPA				PcP	PcP	22 30 36.3	+2.6
MGMO	Mountain Grove	60.47	339	P	P	22 29 49.6	-0.5
SN07	Snyder 07	60.47	330	P	P	22 29 49.8	-0.4
SN07				IAmb	IAmb	22 29 51.2	
	comp=Z,542nm,1.2s						
N58A	Sunbury	60.53	354	IAmb	IAmb	22 29 52.0	
	comp=Z,364nm,1.3s						
O52A	Adamsville	60.55	349	P	P	22 29 50.4	-0.2
P49A	Miami Univ. Ec	60.57	346	P	P	22 29 50.0	-0.7
P49A	Miami Univ. Ec	60.57	346	P	P	22 29 49.6	-1.1
	baz=163						
U38A	Gravette	60.57	337	IAmb	IAmb	22 29 51.8	
	comp=Z,594nm,1.6s						
ODNJ	Ogdensburg	60.58	355	P	P	22 29 50.8	+0.1
WSPT	Westport, CT	60.58	357	IAmb	IAmb	22 30 40.7	
	comp=Z,310nm,1.4s						
OLIL	Olney	60.65	343	P	P	22 29 49.6	-1.6
OLIL				IAmb	IAmb	22 29 51.4	
	comp=Z,409nm,1.1s						
BLO	Bloomington	60.65	345	P	P	22 29 50.1	-1.1
BLO	Bloomington	60.65	345	P	P	22 29 50.2	-1.1
BLO				pmax	pmax		
	comp=Z,724nm,1.3s						
P48A	Milroy	60.66	346	P	P	22 29 50.1	-1.3
P48A				IAmb	IAmb	22 29 51.4	
	comp=Z,383nm,1.2s						
BELA	Belgrano 2	60.66	172	P	P	22 29 52.2	+1.3
FNO	Franklin	60.73	334	P	P	22 29 51.0	-0.9
FNO				IAmb	IAmb	22 29 52.8	
	comp=Z,572nm,1.2s						
POST	Post	60.74	329	P	P	22 29 51.6	-0.5
POST				IAmb	IAmb	22 29 54.0	
	comp=Z,349nm,0.9s						
M63A	Gales Ferry	60.75	358	P	P	22 29 52.0	+0.1
M63A				IAmb	IAmb	22 29 53.4	
	comp=Z,346nm,1.6s						
RKT	Rikitea	60.79	254	*e*P	P	22 29 53.8	+1.1
	comp=Z,289nm,1.0s						
RKT	Rikitea	60.79	254	*e*PP	PP	22 32 06.7	-1.0
	comp=Z,4μm,29.0s						
RKT				*e*S	S	22 38 02.0	-0.3
	comp=Z,13μm,26.2s						
RKT				*e*SS	SS	22 42 02.0	-0.8
	comp=Z,6μm,34.0s						
RKT				*e*LQ	LQ	22 45 27.3	
	comp=Z,26μm,26.2s						
RKT				*e*LR	LR	22 48 00.0	
	comp=Z,99μm,34.8s						
M65A	Busby, Falmout	60.87	359	P	P	22 29 52.7	0.0
M65A	Busby, Falmout	60.87	359	P	P	22 29 52.0	-0.6
	baz=178						
OKCSW	OKLAHOMA CITY	60.87	334		P	22 29 52.1	-0.8
WMOK	Wichita Mounta	60.87	332	P	P	22 29 51.8	-1.1
WMOK	Wichita Mounta	60.87	332	P	P	22 29 51.8	-1.1
WMOK				pmax	pmax		
	comp=Z,160nm,1.1s						
ACSO	Alum Creek Sta	60.88	348	P	P	22 29 52.4	-0.4
CCM	Cathedral Cave	60.95	340	P	P	22 29 52.9	-0.4
CCM	Cathedral Cave	60.95	340	P	P	22 29 52.9	-0.4
CCM				pmax	pmax		
	comp=Z,636nm,1.2s						
CCM	Cathedral Cave	60.95	340	P	P	22 29 52.3	-1.1
CCM				pP	pP	22 30 19.1	-0.7
CCM				PcP	PcP	22 30 34.6	-1.1
DKNS	Dickens	60.95	330	IAmb	IAmb	22 29 54.6	
	comp=Z,314nm,1.3s						
ADOK	Arcadia Dam	61.05	334		P	22 29 53.7	-0.4
Q44A	Meyer Farm, Va	61.06	343	P	P	22 29 53.0	-1.1
M57A	Sunshine Farm,	61.06	353	IAmb	IAmb	22 29 56.0	
	comp=Z,592nm,1.4s						
O49A	Covington	61.11	347	P	P	22 29 53.3	-1.1
O49A				IAmb	IAmb	22 29 54.9	
	comp=Z,626nm,1.2s						
KSCT	Kent School, K	61.14	356	IAmb	IAmb	22 30 37.7	
	comp=Z,693nm,1.4s						
KSPA	Keystone Colle	61.15	354	IAmb	IAmb	22 29 56.3	
	comp=Z,352nm,1.5s						
SLM	Saint Louis	61.17	341	P	P	22 29 53.9	-0.9
SLM				IAmb	IAmb	22 29 55.4	
	comp=Z,511nm,1.1s						
SLM	Saint Louis	61.17	341	P	P	22 29 53.9	-0.9
SLM				pmax	pmax		
	comp=Z,511nm,1.2s						
OK029	Liberty Lake	61.21	334	IAmb	IAmb	22 29 56.0	
	comp=Z,563nm,1.1s						
P46A	Rosedale	61.24	344	P	P	22 29 53.8	-1.5
L64A	Middleborough	61.25	359	P	P	22 29 55.0	-0.2
CLNB	Carlsbad	61.28	327	P	P	22 29 55.7	-0.1
HTMS	Hat Mesa	61.32	327	P	P	22 29 56.2	+0.1
O48B	Farmland	61.36	346	P	P	22 29 54.4	-1.6
O48B	Farmland	61.36	346	P	P	22 29 55.0	-1.1
	baz=163						
CLN7	Carlsbad 7	61.36	327	P	P	22 29 57.1	+0.7
N51A	Ashland	61.43	349	P	P	22 29 55.3	-1.2
R40A	Maddies Statio	61.49	340	P	P	22 29 56.2	-0.8
R40A				IAmb	IAmb	22 29 57.6	
	comp=Z,622nm,1.2s						
MBO	M'Bour	61.61	61	P	P	22 29 58.6	+0.5
MNTX	Cornudas Mount	61.63	325	P	P	22 29 57.1	-1.0
MNTX				IAmb	IAmb	22 29 58.9	
	comp=Z,246nm,1.1s						
WES	Weston	61.71	358	P	P	22 29 57.4	-0.9
WES	Weston	61.71	358	P	P	22 29 57.4	-0.9
WES				pmax	pmax		
	comp=Z,102nm,1.1s						
L59A	Walton	61.71	355	IAmb	IAmb	22 30 00.2	
	comp=Z,633nm,1.5s						
N49A	Columbus Grove	61.78	347	P	P	22 29 58.2	-0.7
BINY	Binghamton	61.80	354	IAmb	IAmb	22 30 00.8	
	comp=Z,627nm,1.3s						
L61B	Northampton	61.82	357	P	P	22 29 58.3	-0.8
L61B				IAmb	IAmb	22 30 00.5	
	comp=Z,816nm,1.9s						
L61B	Northampton	61.82	357	P	P	22 29 59.0	-0.1
	baz=176						
SMWD	Samnorwood	61.83	331	P	P	22 29 59.0	-0.4
HRV	Adam Dziewonsk	61.84	358	P	P	22 29 59.2	0.0
HRV				IAmb	IAmb	22 30 00.7	
	comp=Z,521nm,1.6s						
HRV	Adam Dziewonsk	61.84	358	P	P	22 29 59.2	0.0
HRV				pmax	pmax		
	comp=Z,521nm,1.6s						
HRV	Adam Dziewonsk	61.84	358	P	P	22 29 59.3	0.0
HRV				pP	pP	22 30 26.4	+0.6
HRV				sP	PcP	22 30 38.6	-0.6
M52A	Chesterland	61.85	350		pP	22 30 25.6	-0.3
CPRX	Cap Rock	61.88	327	P	P	22 29 59.9	0.0
P43A	Skaggs, Pawnee	61.89	342	P	P	22 29 58.4	-1.2
L56A	Greenwood	61.90	353	IAmb	IAmb	22 30 01.3	
	comp=Z,711nm,1.4s						
SFIN	Lafayette	61.93	345	P	P	22 29 58.4	-1.5
VNA3	Neumayer Olymp	61.98	162	⇓P	P	22 30 00.9	+1.0
	comp=Z,13nm,0.5s						
VNA3				⇑pP	pP	22 30 22.7	-3.8
	comp=Z,90nm,1.0s						
VNA3				⇑S	S	22 38 17.6	+1.6
	comp=Z,0.1nm,0.1s						
CROK	Carrier	62.04	334	IAmb	IAmb	22 30 01.7	
	comp=Z,498nm,1.0s						
N47A	Urbana	62.07	346	P	P	22 30 00.3	-0.5
BBTS	Babate	62.10	61	LR	LR	22 55 04.1	
	comp=Z,6μm,21.5s,baz=124,slow=34						
TRY	Troy	62.16	356	IAmb	IAmb	22 30 08.6	
	comp=Z,192nm,0.8s						
VNA1	Neumayer--Stat	62.19	161	⇓P	P	22 30 02.7	+1.4
	comp=Z,5.8nm,0.4s						
VNA1				⇓pP	pP	22 30 24.7	-3.1
	comp=Z,134nm,1.0s						
ELIS	Ellis County	62.27	333	IAmb	IAmb	22 30 03.8	
	comp=Z,404nm,1.2s						
EPT	El Paso	62.30	324	IAmb	IAmb	22 30 03.8	
	comp=Z,230nm,1.1s						
AMTX	Amarillo	62.31	330	P	P	22 30 01.9	-0.7
OK038	West end E0370	62.33	333	IAmb	IAmb	22 30 03.8	
	comp=Z,494nm,1.2s						
K57A	Scipio Center	62.38	354	IAmb	IAmb	22 30 04.1	
	comp=Z,507nm,1.2s						
KAN17	Caldwell West	62.41	335	IAmb	IAmb	22 30 04.5	
	comp=Z,824nm,1.4s						
KAN14	Manchester OK	62.42	334	IAmb	IAmb	22 30 04.4	
	comp=Z,434nm,1.3s						
KAN01	Argonia South	62.51	335		P	22 30 03.7	-0.1
NOKA	Waynoka	62.55	333	IAmb	IAmb	22 30 05.5	
	comp=Z,927nm,1.7s						
P40A	Paris	62.55	340	P	P	22 30 03.2	-0.8
VNA2	Neumayer--Watz	62.55	161	⇓P	P	22 30 04.7	+1.0
	comp=Z,16nm,0.5s,baz=287,slow=7.1						
VNA2				⇑pP	pP	22 30 25.9	-4.4
	comp=Z,21μm,0.0s,baz=276,slow=7.3						
VNA2				⇓S	S	22 38 24.7	+1.6
	comp=Z,0.0nm,0.1s,baz=322,slow=2.0						
KS21	Milan North St	62.58	335	P	P	22 30 04.4	+0.1
HDIL	Hopedale	62.68	343	P	P	22 30 03.5	-1.3
ACCN	Adirondack Com	62.81	356	P	P	22 30 05.4	-0.3
ACCN				IAmb	IAmb	22 30 07.6	
	comp=Z,558nm,1.9s						
L48A	N Adams	62.82	347	P	P	22 30 04.5	-1.2
HSIG		62.86	319	IAmb	IAmb	22 30 08.7	
	comp=Z,684nm,1.5s						
HSIG		62.86	319	*i*P	P	22 30 06.0	-0.3
HSIG				IVmB_BB		22 30 07.7	
	comp=Z,7μm,1.0s						
HSIG				IAmb	IAmb	22 30 08.2	
	comp=Z,350nm,1.5s						
J59A	Piesco	62.94	356	IAmb	IAmb	22 30 08.4	
	comp=Z,860nm,1.4s						
J57A	Williamstown	63.00	355	P	P	22 30 07.0	+0.1
J57A				IAmb	IAmb	22 30 08.3	
	comp=Z,522nm,1.3s						
AAM	Ann Arbor	63.01	348	P	P	22 30 05.8	-1.2
AAM				IAmb	IAmb	22 30 07.8	
	comp=Z,435nm,1.3s						
AAM	Ann Arbor	63.01	348	P	P	22 30 05.8	-1.2
AAM				pmax	pmax		
	comp=Z,435nm,1.3s						
J55A	Hilton	63.05	353	P	P	22 30 06.6	-0.6
J55A				IAmb	IAmb	22 30 08.5	
	comp=Z,587nm,1.3s						
HNH	Hanover	63.06	358	P	P	22 30 07.8	+0.5
HNH				IAmb	IAmb	22 30 09.5	
	comp=Z,394nm,1.5s						
P38A	Dawn	63.12	339	P	P	22 30 07.1	-0.7
P38A				IAmb	IAmb	22 30 08.5	
	comp=Z,346nm,0.8s						
M44A	Midewin, Midew	63.12	344	P	P	22 30 06.6	-1.2
M44A				IAmb	IAmb	22 30 07.7	
	comp=Z,522nm,1.2s						
K50A	Casco	63.27	349	P	P	22 30 07.3	-1.4
L46A	Eue Claire	63.29	346	P	P	22 30 07.4	-1.4
I63A	Otisfield	63.35	359	IAmb	IAmb	22 30 39.7	
	comp=Z,602nm,1.9s						
NCB	Newcomb	63.42	356	P	P	22 30 09.4	-0.4
NCB				IAmb	IAmb	22 30 11.5	
	comp=Z,457nm,1.6s						
121A	Cookes Peak, D	63.58	324	P	P	22 30 11.8	+0.6
121A				IAmb	IAmb	22 30 13.9	
	comp=Z,694nm,1.4s						
121A	Cookes Peak, D	63.58	324	P	P	22 30 12.1	+0.9
	baz=139						
PECO	Prince Edward	63.62	354	IAmb	IAmb	22 30 12.3	
	comp=Z,592nm,1.2s						
KSU1	Kansas State U	63.75	337	IAmb	IAmb	22 30 12.8	
	comp=Z,474nm,1.1s						
L44A	Lake County Fo	63.83	345	P	P	22 30 11.8	-0.6
L44A				IAmb	IAmb	22 30 13.2	
	comp=Z,615nm,1.1s						
L44A	Lake County Fo	63.83	345	P	P	22 30 11.1	-1.3
	baz=160,SNR=14						
WVL	Waterville	63.86	360	P	P	22 30 12.6	0.0
WVL				IAmb	IAmb	22 30 43.0	
	comp=Z,594nm,2.0s						
H62A	Milan	63.89	359	IAmb	IAmb	22 30 43.3	
	comp=Z,435nm,2.0s						
R32A	Long Quarter,	63.98	335	IAmb	IAmb	22 30 14.9	
	comp=Z,716nm,1.2s						
EMMW	East Machias	64.02	1	IAmb	IAmb	22 30 43.7	
	comp=Z,569nm,1.9s						
RTBA	Rita Blanca	64.07	330	P	P	22 30 14.1	-0.2
RTBA				IAmb	IAmb	22 30 15.8	
	comp=Z,660nm,1.8s						
CRNM	Carthage	64.09	326	P	P	22 30 15.1	+0.5
LONY	Lake Ozonia	64.09	356	IAmb	IAmb	22 30 15.8	
	comp=Z,387nm,1.2s						
L42A	Oliver, Polo	64.13	343	P	P	22 30 13.0	-1.4
L42A				IAmb	IAmb	22 30 50.4	
	comp=Z,228nm,0.9s						
J47A	Sunmer	64.14	347	P	P	22 30 12.8	-1.6
HAL	Halifax	64.14	5	P	P	22 30 14.7	+0.3
HAL	Halifax	64.14	5	P	P	22 30 14.7	+0.3
HAL				pmax	pmax		
	comp=Z,115nm,0.9s						
SNAA	Sanae	64.18	161	P	P	22 30 15.4	+0.8
SNAA	Sanae	64.18	161	⇓P	P	22 30 15.4	+0.8
	comp=Z,277nm,0.5s						
SNAA				⇑pP	pP	22 30 39.5	-1.7
	comp=Z,2μm,1.0s						
SNAA				⇑S	S	22 38 44.0	+0.5
	comp=Z,49μm,11.9s						
SNAA	Sanae	64.18	161	P	P	22 30 15.4	+0.8
	comp=Z,90nm,0.9s,baz=296,slow=7.0,SNR=210						
SNAA				pP	pP	22 30 42.6	+1.4
	comp=Z,102nm,1.0s,baz=288,slow=6.2,SNR=4.9						
SNAA				S	S	22 38 45.8	+2.3
	comp=Z,1.0nm,0.9s,baz=333,slow=4.5,SNR=6.6						
SNAA				LR	LR	22 56 48.1	
	comp=Z,940nm,20.9s,baz=286,slow=34						
	comp=Z,90nm,0.9s						
SNAA	Sanae	64.18	161	*d*P	P	22 30 15.3	+0.8
SNAA				pmax	pmax		
	comp=Z,321nm,1.7s						
BNM	Barren Site	64.19	326	P	P	22 30 16.2	+1.0
FRNY	Flat Rock	64.25	357	IAmb	IAmb	22 30 16.9	
	comp=Z,551nm,1.5s						
DELO	Deloro Mine	64.26	353	P	P	22 30 14.3	-0.9
DELO				IAmb	IAmb	22 30 16.5	
	comp=Z,599nm,1.3s						
Y22D	IRIS PASSCAL I	64.28	326	P	P	22 30 15.7	-0.1
Y22D				IAmb	IAmb	22 30 57.1	
	comp=Z,380nm,1.3s						
Y22D	IRIS PASSCAL I	64.28	326	P	P	22 30 16.8	+1.0
	baz=140						
DUN6	Lazy B Ranch	64.33	323	P	P	22 30 16.7	+0.6
DUN6				IAmb	IAmb	22 30 17.9	
	comp=Z,573nm,0.9s						
SBM	South Baldy	64.35	326	P	P	22 30 17.4	+0.9
LENM	Lemitar	64.38	326	P	P	22 30 16.4	0.0
K43A	Burlington	64.43	345	P	P	22 30 15.0	-1.3
G62A	West of Eustis	64.52	359	IAmb	IAmb	22 30 47.6	
	comp=Z,931nm,1.6s						
WBO	Williamsburg	64.52	355	IAmb	IAmb	22 30 18.4	
	comp=Z,602nm,1.3s						
L40A	Anamosa	64.62	342	P	P	22 30 16.5	-1.1
L40A				IAmb	IAmb	22 30 18.1	
	comp=Z,634nm,1.1s						
SADO	Sadowa	64.69	352	P	P	22 30 16.8	-1.1
SADO				IAmb	IAmb	22 30 19.0	
	comp=Z,553nm,1.2s						
SADO	Sadowa	64.69	352	P	P	22 30 17.4	-0.6
	comp=Z,218nm,0.9s,baz=186,slow=7.0,SNR=112						
SADO				pP	pP	22 30 45.5	+0.8
	comp=Z,135nm,0.8s,baz=188,slow=8.9,SNR=7.8						
SADO				S	S	22 38 47.8	-2.2
	comp=Z,2.7nm,0.8s,baz=210,slow=20,SNR=3.5						
SADO				LR	LR	22 59 16.6	
	comp=Z,3μm,21.8s,baz=178,slow=37						
	comp=Z,218nm,0.9s						
ANMO	Albuquerque	64.72	327	P	P	22 30 18.8	+0.2
ANMO	Albuquerque	64.72	327	P	P	22 30 18.7	0.0
	comp=Z,71nm,1.0s,baz=106,slow=20,SNR=110						
ANMO				pP	pP	22 30 46.7	+1.6
	comp=Z,17nm,0.7s,baz=101,slow=12,SNR=2.8						
ANMO				LR	LR	23 00 44.2	
	comp=Z,874nm,18.1s,baz=300,slow=38						
	comp=Z,71nm,1.0s						
ANMO	Albuquerque	64.72	327	P	P	22 30 18.8	+0.2
ANMO				pmax	pmax		
	comp=Z,129nm,1.0s						
CBKS	Cedar Bluff	64.73	334	IAmb	IAmb	22 30 20.1	
	comp=Z,739nm,1.1s						
MNTQ	Montreal, Queb	64.91	357	IAmb	IAmb	22 30 21.0	
	comp=Z,442nm,0.9s						
N35A	Tabor	64.95	338	IAmb	IAmb	22 30 20.4	
	comp=Z,524nm,0.8s						
SCIA	State Center	65.08	341	P	P	22 30 20.4	-0.2
TUC	Tucson	65.12	322	P	P	22 30 21.6	+0.4
TUC				IAmb	IAmb	22 30 23.6	
	comp=Z,814nm,1.8s						
TUC	Tucson	65.12	322	P	P	22 30 21.6	+0.4
TUC				pmax	pmax		
	comp=Z,814nm,1.8s						
TUC	Tucson	65.12	322	P	P	22 30 21.6	+0.4
JFWS	Jewell Farm	65.13	343	P	P	22 30 20.4	-0.5
JFWS				IAmb	IAmb	22 30 21.7	
	comp=Z,762nm,1.2s						
JFWS	Jewell Farm	65.13	343	P	P	22 30 20.4	-0.5
JFWS				pmax	pmax		
	comp=Z,762nm,1.2s						
F64A	Sherman	65.16	1	P	P	22 30 20.9	-0.1
F64A				IAmb	IAmb	22 30 51.3	
	comp=Z,455nm,1.6s						
I45A	Fountain	65.20	347	P	P	22 30 20.4	-0.9
I45A				IAmb	IAmb	22 30 21.4	
	comp=Z,427nm,1.2s						
T25A	Trinidad	65.43	330	IAmb	IAmb	22 30 25.4	
	comp=Z,619nm,1.6s						
T25A	Trinidad	65.43	330	P	P	22 30 23.6	+0.4
	baz=144						
TRQ	Mont Tremblant	65.69	356	IAmb	IAmb	22 30 25.7	
	comp=Z,541nm,1.2s						
I42A	Draeger Farm,	65.69	345	P	P	22 30 23.9	-0.6
I42A				IAmb	IAmb	22 30 25.4	
	comp=Z,780nm,1.2s						
TROLL	Troll, Antarti	65.90	161	⇓P	P	22 30 26.9	+1.1
	comp=Z,996nm,0.5s						
TROLL				⇑pP	pP	22 30 51.7	-0.8
	comp=Z,3μm,0.8s						
TROLL				⇓S	S	22 39 04.3	-0.4
	comp=Z,1.4nm,0.1s						
H43A	Windswept, Lux	65.96	346	P	P	22 30 25.4	-0.8
H43A				IAmb	IAmb	22 30 26.8	
	comp=Z,650nm,1.1s						
I40A	Norwalk	66.14	343	P	P	22 30 26.9	-0.5
I40A				IAmb	IAmb	22 30 28.1	
	comp=Z,392nm,1.1s						
PIX	Pinacate	66.19	319	P	P	22 30 28.4	+0.4
PIX				IAmb	IAmb	22 30 30.3	
	comp=Z,354nm,1.1s						
X18A	Snowflake	66.27	324	P	P	22 30 29.8	+1.1
X18A				IAmb	IAmb	22 30 31.4	
	comp=Z,434nm,1.4s						
SDCO	Great Sand Dun	66.43	329	P	P	22 30 30.0	+0.2
SDCO				IAmb	IAmb	22 30 31.9	
	comp=Z,584nm,1.3s						
SFX	San Felipe	66.69	318	P	P	22 30 31.7	+0.6
SFX				IAmb	IAmb	22 30 33.8	
	comp=Z,448nm,1.0s						
I37A	Lemond, Waseca	67.05	341	IAmb	IAmb	22 30 34.0	
	comp=Z,687nm,1.1s						
E46A	Sault Ste Mari	67.05	349	P	P	22 30 32.0	-1.1
E46A				IAmb	IAmb	22 30 33.7	
	comp=Z,400nm,1.1s						
S22A	4UR Ranch, Cre	67.08	328	P	P	22 30 34.6	+0.7
	baz=142						
Q24A	Divide	67.24	330	IAmb	IAmb	22 30 37.0	
	comp=Z,490nm,1.2s						
Q24A	Divide	67.24	330	P	P	22 30 35.6	+0.8
	baz=143						
F42A	Maple Grove Fa	67.26	346	P	P	22 30 33.6	-0.9
F42A				IAmb	IAmb	22 30 35.4	
	comp=Z,657nm,1.9s						
LDAQ	Lac Daran	67.28	359	IAmb	IAmb	22 31 24.5	
	comp=Z,425nm,1.6s						
G40A	Rib Lake	67.31	344	P	P	22 30 34.3	-0.5
G40A				IAmb	IAmb	22 30 35.8	
	comp=Z,522nm,1.6s						
OGNE	Ogallala	67.48	334	IAmb	IAmb	22 30 37.8	
	comp=Z,629nm,1.3s						
MVCO	Mesa Verde	67.51	327	P	P	22 30 37.0	+0.5
MVCO				IAmb	IAmb	22 30 38.8	
	comp=Z,394nm,1.2s						
VTX	Valle De La Tr	67.52	318	P	P	22 30 37.1	+0.6
VTX				IAmb	IAmb	22 30 39.5	
	comp=Z,967nm,1.5s						
WUAZ	Wupatki	67.79	324	P	P	22 30 39.2	+1.0
WUAZ				IAmb	IAmb	22 30 41.1	
	comp=Z,432nm,1.0s						
VLDQ	Val d'Or	67.80	354	P	P	22 30 38.0	+0.2
VLDQ				IAmb	IAmb	22 30 39.4	
	comp=Z,551nm,1.2s						
COWI	Conover	67.82	345	P	P	22 30 37.4	-0.6
COWI				IAmb	IAmb	22 30 39.1	
	comp=Z,449nm,1.4s						
ECSD	EROS Data Cent	67.82	339	IAmb	IAmb	22 30 39.2	
	comp=Z,566nm,1.4s						
CPBX	Cerro Prieto	67.91	319	P	P	22 30 39.5	+0.6
SPMN	Marine on St.	67.97	342	P	P	22 30 38.2	-0.7
SPMN				IAmb	IAmb	22 30 39.6	
	comp=Z,493nm,1.2s						
ESJX	Sierra Juarez	68.03	318	P	P	22 30 41.2	+1.4
ESJX				IAmb	IAmb	22 30 43.0	
	comp=Z,560nm,1.2s						
GLA	Glamis	68.05	320	P	P	22 30 41.2	+1.4
GLA	Glamis	68.05	320	P	P	22 30 41.2	+1.4
GLA				pmax	pmax		
	comp=Z,202nm,0.9s						
ISCO	Idaho Springs	68.12	331	IAmb	IAmb	22 30 42.5	
	comp=Z,403nm,1.4s						
PV01	Paradox Valley	68.25	328	P	P	22 30 41.9	+0.7
PV01				IAmb	IAmb	22 30 43.7	
	comp=Z,362nm,1.3s						
BLYC	Blythe	68.35	320	P	P	22 30 42.8	+1.2
BLYC				IAmb	IAmb	22 30 44.4	
	comp=Z,310nm,0.9s						
PV15	Paradox Valley	68.37	328	P	P	22 30 42.4	+0.6
PV15				IAmb	IAmb	22 30 44.5	
	comp=Z,534nm,1.2s						
PV02	Paradox Valley	68.39	327	P	P	22 30 42.2	+0.2
PV02				IAmb	IAmb	22 30 44.5	
	comp=Z,863nm,1.5s						
PV13	Radium Mtn., P	68.40	327	P	P	22 30 42.5	+0.4
PV13				IAmb	IAmb	22 30 44.4	
	comp=Z,364nm,1.3s						
YUH	Yuha Desert	68.45	319	P	P	22 30 43.3	+1.1
YUH				IAmb	IAmb	22 30 45.3	
	comp=Z,478nm,1.2s						
PV05	Paradox Valley	68.48	327	P	P	22 30 43.1	+0.5
PV03	Paradox Valley	68.48	327	P	P	22 30 42.8	+0.2
PV03				IAmb	IAmb	22 31 31.5	
	comp=Z,565nm,1.8s						
PV12	Saucer Basin,	68.51	327	P	P	22 30 42.8	0.0
PV12				IAmb	IAmb	22 30 44.4	
	comp=Z,513nm,1.6s						
PV18	Skein Mesa, Pa	68.51	327	P	P	22 30 43.1	+0.3
PV18				IAmb	IAmb	22

comp=Z,483nm,1.8s
PV20 West Nyswonger 68.61 327 P P 22 30 43.4 +0.1
PV20 IAmb IAmb 22 30 45.6
comp=Z,898nm,1.9s
PV04 Paradox Valley 68.62 327 P P 22 30 43.7 +0.4
PV14 Lion Creek, Pa 68.66 327 P P 22 30 42.8 -0.9
PV22 Blue Mesa, Par 68.67 328 P P 22 30 44.5 +0.8
PV10 Paradox Valley 68.67 327 P P 22 30 43.4 -0.4
PV10 IAmb IAmb 22 30 45.6
comp=Z,373nm,1.3s
PV23 Carpenter Ridg 68.72 327 P P 22 30 44.9 +0.8
NVL N'lazarevskaya 68.73 159 *eP* **P 22 30 41.8 -1.6**
NVL *e**PP **pP 22 31 11.1 +0.7**
NVL *e* 22 33 20.3
NVL *e*PPP PPP 22 34 55.2
NVL pmax pmax
comp=Z,291nm,1.3s
NVL MLR MLR
comp=Z,2μm,19.0s
PV21 Cone Mtn., Par 68.78 328 P P 22 30 45.2 +0.7
PV21 IAmb IAmb 22 30 46.8
comp=Z,488nm,1.7s
TKX Tecate 68.83 318 P P 22 30 45.8 +1.2
TKX IAmb IAmb 22 30 47.5
comp=Z,602nm,1.1s
ICQ Pointe Anglais 68.84 1 P P 22 30 44.6 +0.4
ICQ IAmb IAmb 22 30 45.4
comp=Z,376nm,1.3s
E38A The Farm, Brul 68.90 344 P P 22 30 43.3 -1.4
E38A IAmb IAmb 22 30 45.5
comp=Z,355nm,1.2s
W13A Hualapai Mount 68.92 322 P P 22 30 45.9 +0.6
U15A North Rim 68.96 324 P P 22 30 46.7 +1.0
U15A IAmb IAmb 22 30 48.8
comp=Z,490nm,1.1s
TJX Tijuana 69.07 318 P P 22 30 47.0 +0.9
TJX IAmb IAmb 22 30 49.0
comp=Z,615nm,1.1s
TAOE Nuku Hiva Isla 69.09 268⇑ *iP* **P 22 30 46.9 +0.2**
comp=Z,695nm,1.4s
TAOE Nuku Hiva Isla 69.09 268 P P 22 30 47.3 +0.5
TAOE Nuku Hiva Isla 69.09 268 P P 22 30 48.4 +1.7
N23A Red Feather La 69.15 331 P P 22 30 47.1 +0.4
baz=143,SNR=118
HMU Henry Mountain 69.23 326 P P 22 30 48.1 +0.8
HMU IAmb IAmb 22 30 50.2
comp=Z,481nm,1.1s
SUSD Miller 69.26 338 IAmb IAmb 22 30 47.9
comp=Z,516nm,1.1s
CALA Caldeira 69.29 33 *eP* **P 22 30 49.9 +2.5**
comp=Z,360nm,1.7s
PCAN Candelaria 69.31 33 *eP* **P 22 30 50.0 +2.6**
comp=Z,336nm,1.4s
PCED Cedros 69.32 33 *eP* **P 22 30 52.0 +4.5**
comp=Z,277nm,1.0s
DRLN Deer Lake 69.36 8 P P 22 30 46.9 -0.6
PICO Pico 69.37 33 *eP* **P 22 30 50.5 +2.7**
comp=Z,299nm,1.9s
TPFO Pinon Flats 69.43 319 P P 22 30 49.7 +1.3
baz=132
PFO Pinyon Flats O 69.43 319 P P 22 30 49.1 +0.6
PFO IAmb IAmb 22 30 51.4
comp=Z,368nm,1.1s
PFO Pinyon Flats O 69.43 319 P P 22 30 49.3 +0.9
comp=Z,224nm,0.9s,baz=127,slow=7.0,SNR=190
comp=Z,224nm,0.9s
PFO Pinyon Flats O 69.43 319 P P 22 30 49.6 +1.1
PFO pP **pP 22 31 16.4 +1.4**
PFO sP **sP 22 31 29.0 +2.7**
PID Ribeirinha 69.48 34 *eP* **P 22 30 50.8 +2.3**
comp=Z,235nm,1.0s
F33A 5 Mile Ranch, 69.59 340 P P 22 30 48.8 -0.2
F33A IAmb IAmb 22 30 49.6
comp=Z,373nm,1.1s
ROSA Rosais 69.63 33 *eP* **P 22 30 53.2 +3.8**
comp=Z,245nm,1.0s
O20A White River Ci 69.63 329 P P 22 30 50.1 +0.5
O20A IAmb IAmb 22 30 51.9
comp=Z,348nm,1.1s
PMAN Manadas 69.64 33 *eP* **P 22 30 52.6 +3.2**
comp=Z,352nm,1.0s
KNB Kanab 69.68 324 P P 22 30 51.7 +1.7
KNB Kanab 69.68 324 P P 22 30 51.7 +1.7
KNB pmax pmax
comp=Z,1μm,1.1s
PKCU Pink Cliffs 69.71 325 P P 22 30 51.7 +1.4
MACI Morro de la Ar 69.78 48 P P 22 30 51.4 +0.7
MACI IAmb IAmb 22 31 02.7
comp=Z,456nm,0.9s
LCMT Little Creek M 69.91 324 P P 22 30 52.5 +1.2
LCMT IAmb IAmb 22 30 54.3
comp=Z,324nm,1.1s
V12A Nelson 69.92 322 P P 22 30 51.7 +0.3
V12A IAmb IAmb 22 30 54.1
comp=Z,497nm,1.2s
SRU San Rafael Swe 69.99 327 P P 22 30 52.6 +0.8
SRU IAmb IAmb 22 30 54.0
comp=Z,296nm,1.0s
SRU San Rafael Swe 69.99 327 P P 22 30 52.6 +0.8
SRU pmax pmax
comp=Z,296nm,1.0s
PGRA Graciosa 69.99 33 *eP* **P 22 30 55.2 +3.6**
comp=Z,282nm,1.4s
ELS Elsinore Mount 70.06 319 P P 22 30 53.3 +1.1
ELS IAmb IAmb 22 30 55.1
comp=Z,379nm,1.2s
MTPU Mount Pierson 70.07 325 P P 22 30 53.3 +0.7
PSMN Pico do Norte, 70.08 36 *eP* **P 22 30 56.4 +4.2**
comp=Z,124nm,1.2s
EYMN Ely 70.13 344 P P 22 30 51.7 -0.6
PSBA Serra de Santa 70.14 34 *eP* **P 22 30 55.7 +3.2**
comp=Z,345nm,0.9s
Q16A Castle Valley 70.18 326 P P 22 30 53.9 +0.9
Q16A IAmb IAmb 22 30 55.8
comp=Z,1μm,1.9s
PAGU Agualva, Azore 70.21 34 *eP* **P 22 30 54.0 +1.1**
comp=Z,312nm,0.9s
P18A Preston Nutter 70.24 327 P P 22 30 54.4 +0.9
P18A IAmb IAmb 22 30 56.0
comp=Z,332nm,1.0s
PSET Sete Cidades 70.31 35 *eP* **P 22 30 57.1 +3.5**
comp=Z,320nm,1.7s
EOSO Osorio 70.35 49 P P 22 30 53.7 -0.4
CCUT Cedar City 70.36 324 P P 22 30 55.8 +1.7
CCUT IAmb IAmb 22 30 57.7
comp=Z,532nm,1.0s
CMLA Cha da Macela 70.37 36 *eP* **P 22 30 55.6 +1.6**
comp=Z,327nm,0.9s
CMLA Cha da Macela 70.37 36 P P 22 30 55.2 +1.3
CMLA IAmb IAmb 22 30 58.8
comp=Z,227nm,0.8s
CMLA Cha da Macela 70.37 36 P P 22 30 55.2 +1.3
CMLA pmax pmax
comp=Z,227nm,0.8s
PGRON Lagoa das Cont 70.46 36 *eP* **P 22 30 56.7 +2.2**
comp=Z,368nm,1.0s
TMUT Trail Mountain 70.48 327 P P 22 30 55.9 +0.9
QSPA South Pole Qui 70.57 180 P P 22 30 56.4 +1.4
QSPA IAmb IAmb 22 30 58.0
comp=Z,860nm,1.6s
QSPA South Pole Qui 70.57 180 P P 22 30 56.1 +1.2
comp=Z,105nm,0.6s,baz=144,slow=2.9,SNR=640
QSPA pP **pP 22 31 23.4 +1.7**
comp=Z,74nm,0.9s,baz=157,slow=1.8,SNR=2.0
QSPA S **S 22 40 00.4 +0.1**
comp=Z,1.6nm,1.0s,baz=148,slow=19,SNR=8.5
QSPA PKP2ab **P'P'ab 22 58 49.6 -2.9**
comp=Z,17nm,1.1s,baz=331,slow=1.5,SNR=14
QSPA LR LR 23 05 36.8
comp=Z,1μm,18.6s,baz=160,slow=39
comp=Z,105nm,0.6s
QSPA South Pole Qui 70.57 180 P P 22 30 56.2 +1.2
BART Pico Bartolome 70.58 36 *eP* **P 22 30 56.8 +1.5**
comp=Z,432nm,0.9s
RDMU Red Mountain 70.61 329 IAmb IAmb 22 30 57.6
comp=Z,376nm,1.3s
TCRU Three Creeks R 70.63 325 P P 22 30 56.6 +0.8
TCRU IAmb IAmb 22 30 58.7
comp=Z,271nm,1.0s
SHPR Sheep Range 70.64 322 P P 22 30 57.1 +1.3
GSC Goldstone, Bar 70.78 320 P P 22 30 57.8 +1.2
GSC IAmb IAmb 22 30 59.8
comp=Z,588nm,1.4s
GSC Goldstone, Bar 70.78 320 P P 22 30 57.8 +1.2
GSC pmax pmax
comp=Z,589nm,1.4s

PASC Pasadena Art C 70.88 319 P P 22 30 57.8 +0.7
PASC IAmb IAmb 22 31 00.1
comp=Z,693nm,1.2s
RSSD Black Hills 70.94 334 P P 22 30 57.6 +0.1
RSSD Black Hills 70.94 334 P P 22 30 57.6 +0.1
RSSD pmax pmax
comp=Z,244nm,1.0s
RSSD Black Hills 70.94 334 P P 22 30 57.7 +0.1
RSSD PcP **PcP 22 31 17.6 +0.2**
RSSD pP **pP 22 31 24.9 +0.7**
RSSD sP **sP 22 31 37.5 +1.8**
SNCC San Nicolas Is 71.12 317 P P 22 30 59.0 +0.4
SNCC IAmb IAmb 22 31 01.2
comp=Z,589nm,1.0s
PRN Pahroc Range 71.20 323 P P 22 31 00.7 +1.5
PRN IAmb IAmb 22 31 02.5
comp=Z,368nm,1.1s
MPU Maple Canyon 71.23 327 P P 22 31 00.0 +0.7
MPU IAmb IAmb 22 31 01.9
comp=Z,303nm,1.0s
PSUT Pine Spring 71.33 325 P P 22 31 00.8 +0.7
PSUT IAmb IAmb 22 31 03.0
comp=Z,318nm,1.0s
CCAC Calif City Air 71.42 319 P P 22 31 01.0 +0.6
CCAC IAmb IAmb 22 31 03.2
comp=Z,549nm,0.9s
JLU Jordanelle 71.58 327 P P 22 31 02.1 +0.6
JLU IAmb IAmb 22 31 04.0
comp=Z,426nm,1.1s
TPNV Topopah Spring 71.58 322 P P 22 31 03.3 +1.8
TPNV IAmb IAmb 22 31 04.8
comp=Z,567nm,1.1s
TPNV Topopah Spring 71.58 322 P P 22 31 03.3 +1.8
TPNV pmax pmax
comp=Z,567nm,1.2s
AGMN Agassiz Nation 71.65 342 P P 22 31 00.8 -0.7
AGMN IAmb IAmb 22 31 02.3
comp=Z,298nm,0.9s
WCT Wildcat Mounta 71.69 322 P P 22 31 03.7 +1.7
WCT IAmb IAmb 22 31 05.4
comp=Z,570nm,1.1s
E28A Huff 71.72 338 IAmb IAmb 22 31 03.7
comp=Z,778nm,0.9s
CTU Camp Tracy 71.80 327 P P 22 31 03.2 +0.5
SPR3 Spring Creek 3 71.93 325 P P 22 31 04.0 +0.3
SPR3 IAmb IAmb 22 31 06.2
comp=Z,312nm,1.0s
DUG Dugway, Tooele 71.98 326 P P 22 31 03.9 +0.1
DUG IAmb IAmb 22 31 06.6
comp=Z,439nm,1.1s
DUG Dugway, Tooele 71.98 326 P P 22 31 03.9 +0.1
DUG pmax pmax
comp=Z,439nm,1.2s
ISA Isabella, Lake 72.04 320 P P 22 31 04.6 +0.5
ISA IAmb IAmb 22 31 07.2
comp=Z,442nm,1.0s
ISA Isabella, Lake 72.04 320 P P 22 31 04.6 +0.5
ISA pmax pmax
comp=Z,442nm,1.0s
R11B Troy Canyon, C 72.17 323 P P 22 31 06.1 +1.2
R11B IAmb IAmb 22 31 08.2
comp=Z,395nm,1.3s
R11B Troy Canyon, C 72.17 323 P P 22 31 06.4 +1.5
baz=134
FUL Funchal 72.19 45 *eP* P 22 31 11.1 +6.1
FUL A A 22 31 58.4
comp=Z,380nm,1.8s
PMAR Madeira 72.22 45 *eP* **P 22 31 09.2 +3.8**
PMAR *ep*P **pP 22 31 32.7 -0.1**
PMAR A A 22 32 00.5
comp=Z,331nm,1.6s
Q12A Willow Creek R 72.23 324 P P 22 31 06.5 +1.2
Q12A IAmb IAmb 22 31 08.1
comp=Z,443nm,1.1s
GRAC Grapevine Rang 72.26 321 P P 22 31 06.5 +1.0
PDAR Pinedale Array 72.29 330 P P 22 31 05.2 -0.5
comp=Z,41nm,0.9s,baz=140,slow=3.5,SNR=152
PDAR pP **pP 22 31 33.3 +0.7**
comp=Z,10nm,0.5s,baz=134,slow=7.7,SNR=2.5
PDAR S **S 22 40 17.6 -3.1**
comp=Z,0.2nm,0.3s,baz=157,slow=17,SNR=1.7
PDAR PKPPKP **P'P'df 22 58 51.4 +1.3**
comp=Z,0.9nm,1.0s,baz=286,slow=3.7,SNR=4.4
comp=Z,41nm,0.9s
ACRG Accra 72.42 77 P P 22 31 06.1 -0.7
ACRG IAmb IAmb 22 31 36.3
comp=Z,300nm,0.9s
SPUT South Promonto 72.61 327 IAmb IAmb 22 31 09.8
comp=Z,434nm,1.2s
BGU Big Grassy Mou 72.62 327 IAmb IAmb 22 31 09.9
comp=Z,315nm,1.1s
PMPS Porto Santo 72.81 45 *eP* **P 22 31 12.2 +3.6**
PMPS *ep*P **pP 22 31 36.6 +0.5**
PMPS A A 22 32 01.2
comp=Z,453nm,1.7s
PMPST Porto Santo, M 72.82 45 *eP* **P 22 31 11.7 +2.9**
PMPST *ep*P **pP 22 31 36.9 +0.7**
PMPST A A 22 31 43.0
comp=Z,318nm,1.6s
TPH Tonopah 72.91 322 P P 22 31 10.3 +0.9
TPH Tonopah 72.91 322 P P 22 31 10.3 +0.9
TPH pmax pmax
comp=Z,1μm,1.0s
AHID Auburn Hatcher 73.02 329 IAmb IAmb 22 31 11.9
comp=Z,313nm,1.0s
HVU Hansel Valley 73.12 327 IAmb IAmb 22 31 12.6
comp=Z,345nm,1.2s
Q09A Carvers 73.40 323 P P 22 31 13.6 +1.3
Q09A IAmb IAmb 22 31 15.2
comp=Z,678nm,1.0s
ULM Lac du Bonnet 73.41 343 P P 22 31 11.4 -0.4
ULM IAmb IAmb 22 31 12.5
comp=Z,946nm,1.4s
ULM Lac du Bonnet 73.41 343 P P 22 31 10.9 -0.9
comp=Z,192nm,0.6s,baz=152,slow=6.1,SNR=285
ULM pP **pP 22 31 39.0 +0.1**
comp=Z,63nm,0.7s,baz=139,slow=6.7,SNR=3.0
ULM S **S 22 40 26.4 -6.2**
comp=Z,4.6nm,0.9s,baz=202,slow=19,SNR=2.4
ULM LR LR 23 05 45.3
comp=Z,2μm,20.2s,baz=146,slow=38
comp=Z,192nm,0.6s
ULM Lac du Bonnet 73.41 343 *diP* **P 22 31 10.5 -1.3**
OMMB Old Mammoth Mi 73.64 321 P P 22 31 14.7 +0.9
OMMB IAmb IAmb 22 31 16.6
comp=Z,458nm,1.0s
ELK Elko 73.66 325 P P 22 31 14.3 +0.5
comp=Z,112nm,0.9s,baz=128,slow=6.3,SNR=264
ELK pP **pP 22 31 41.6 +0.9**
comp=Z,52nm,0.8s,baz=131,slow=12,SNR=4.9
ELK LR LR 23 04 09.2
comp=Z,2μm,19.6s,baz=134,slow=36
comp=Z,112nm,0.9s
NV11 Mina Array Sit 73.69 322 P P 22 31 13.9 0.0
TBI Tubuai 73.75 251 *eP* **P 22 31 16.0 +1.5**
comp=Z,1μm,1.6s
TBI *ep*P **pP 22 31 38.4 -2.7**
comp=Z,1μm,1.6s
TBI Tubuai 73.75 251 *e*PP **PP 22 33 56.3 -3.9**
comp=Z,2μm,25.2s
TBI *e*S **S 22 40 41.2 +3.4**
comp=Z,14μm,34.0s
TBI Tubuai 73.75 251 *e*LQ LQ 22 50 55.6
comp=Z,14μm,41.2s
TBI *e*LR LR 22 53 58.5
comp=Z,81μm,32.5s
LHV Little Huntoon 73.77 322 P P 22 31 15.7 +1.5
LHV IAmb IAmb 22 31 17.4
comp=Z,415nm,1.0s
NVAR Mina Array Bea 73.78 322 P P 22 31 15.3 +0.7
comp=Z,156nm,0.9s,baz=137,slow=4.5,SNR=498
NVAR pP **pP 22 31 43.1 +1.6**
comp=Z,55nm,0.8s,baz=134,slow=6.4,SNR=4.7
NVAR S **SKiKP 22 40 35.8 +1.8**
comp=Z,0.3nm,0.6s,baz=104,slow=7.0,SNR=1.6
NVAR PKPPKP **P'P'df 22 58 50.8 +2.8**
comp=Z,0.7nm,0.8s,baz=286,slow=3.7,SNR=3.7
NVAR LR LR 23 03 54.6
comp=Z,855nm,21.2s,baz=125,slow=36
comp=Z,156nm,0.9s
PMPB Monarch Peak 73.83 319 P P 22 31 15.4 +0.7
PMPB IAmb IAmb 22 31 17.8
comp=Z,511nm,0.9s
LAO LASA Array 73.92 335 IAmb IAmb 22 31 17.1
comp=Z,541nm,1.2s
RLMT Red Lodge 73.97 332 IAmb IAmb 22 31 17.9

comp=Z,498nm,1.2s
LKWY Lake 74.06 331 IAmb IAmb 22 31 19.5
comp=Z,324nm,0.9s
KVN Kaiserville 74.08 322 P P 22 31 16.9 +0.7
KVN IAmb IAmb 22 31 18.6
comp=Z,392nm,1.0s
KVN Kaiserville 74.08 322 P P 22 31 16.9 +0.7
KVN pmax pmax
comp=Z,392nm,1.0s
YMP Mirror Lake Pl 74.08 331 P P 22 31 16.8 +0.5
SCHQ Schefferville 74.17 1 P P 22 31 16.0 -0.2
SCHQ Schefferville 74.17 1 P P 22 31 15.8 -0.4
comp=Z,82nm,0.9s,baz=190,slow=5.8,SNR=44
SCHQ pP **pP 22 31 44.7 +1.1**
comp=Z,92nm,0.9s,baz=189,slow=8.6,SNR=4.9
SCHQ S **SKiKP 22 40 37.0 +3.2**
comp=Z,4.3nm,1.0s,baz=233,slow=20,SNR=1.7
SCHQ LR LR 23 06 43.2
comp=Z,895nm,18.1s,baz=186,slow=38
comp=Z,82nm,0.9s
BBGB Big Mountain B 74.21 319 P P 22 31 18.2 +1.3
BBGB IAmb IAmb 22 31 22.7
comp=Z,584nm,0.8s
YNE Yellowstone No 74.22 331 P P 22 31 18.0 +1.0
YNE IAmb IAmb 22 31 19.4
comp=Z,676nm,0.9s
VAH Vaihoa 74.25 259 *eP* **P 22 31 19.1 +1.6**
comp=Z,751nm,1.1s
VAH *ep*P **pP 22 31 40.3 -3.8**
comp=Z,397nm,1.2s
YNM Yellowstone No 74.32 331 P P 22 31 19.1 +1.5
YMR Madison River 74.40 331 P P 22 31 19.0 +1.0
YMR IAmb IAmb 22 31 21.2
comp=Z,666nm,1.2s
YHH Holmes Hill 74.44 331 P P 22 31 19.9 +1.6
PMOR Pomariorio Ree 74.56 259 *eP* **P 22 31 21.1 +1.8**
comp=Z,768nm,1.1s
PMOR *ep*P **pP 22 31 40.1 -5.8**
comp=Z,410nm,1.2s
YHB Horse Butte 74.57 330 P P 22 31 19.9 +0.9
YHB IAmb IAmb 22 31 21.9
comp=Z,315nm,0.9s
DGMT Dagmar 74.59 337 IAmb IAmb 22 31 21.1
comp=Z,638nm,1.1s
GCMT Greycliff 74.67 332 P P 22 31 20.3 +0.9
YERR Yerington 74.69 322 P P 22 31 21.0 +1.2
YERR IAmb IAmb 22 31 22.9
comp=Z,576nm,1.3s
QLMT Earthquake Lak 74.74 330 P P 22 31 21.4 +1.4
EMB Emerald Bay 75.19 321 P P 22 31 23.6 +0.9
HLID Hailey 75.25 328 P P 22 31 23.9 +1.0
HLID IAmb IAmb 22 31 25.9
comp=Z,392nm,1.1s
MPK Martis Peak 75.36 322 P P 22 31 25.3 +1.5
MPK IAmb IAmb 22 31 26.9
comp=Z,441nm,1.2s
PAE Paea 75.37 256 *eP* **P 22 31 25.5 +1.6**
comp=Z,207nm,1.1s
PAE *ep*P **sP 22 31 58.0 -3.8**
comp=Z,91nm,1.2s
PPTF Pamatai, Papee 75.38 256 P P 22 31 25.2 +1.1
PPTF IAmb IAmb 22 31 27.9
comp=Z,700nm,1.2s
PPTF Pamatai, Papee 75.38 256 P P 22 31 26.6 +2.5
PPT2 Papeete2 75.39 256 *eP* **P 22 31 25.9 +1.7**
comp=Z,520nm,1.3s
PPT2 *ep*P **pP 22 31 46.4 -4.4**
comp=Z,290nm,1.4s
PPT2 Papeete2 75.39 256 *e*PP **PP 22 34 12.2 -2.1**
comp=Z,704nm,24.5s
PPT2 *e*S **S 22 40 57.8 +1.5**
comp=Z,5μm,27.8s
PPT2 *e*SS **SS 22 45 45.6 -2.9**
comp=Z,551nm,20.8s
PPT2 *e*LQ LQ 22 51 34.4
comp=Z,6μm,29.5s
PPT2 *e*LR LR 22 54 44.6
comp=Z,13μm,28.5s
PPT Papeete 75.39 256 P P 22 31 25.8 +1.7
comp=Z,373nm,1.1s,baz=90,slow=20,SNR=13
PPT pP **pP 22 31 52.5 +1.8**
comp=Z,133nm,1.0s,baz=99,slow=18,SNR=2.5
PPT LR LR 22 58 25.3
comp=Z,818nm,18.7s,baz=102,slow=31
comp=Z,373nm,1.1s
MCMT McKenzie Canyo 75.41 330 P P 22 31 25.4 +1.5
MFID Camas Ranch 75.86 327 P P 22 31 27.1 +0.8
MFID IAmb IAmb 22 31 29.3
comp=Z,590nm,1.2s
LRM Limekiln Ridge 75.96 330 P P 22 31 27.6 +0.6
MCCM Marconi Confer 76.33 319 P P 22 31 29.7 +0.8
MCCM IAmb IAmb 22 31 31.5
comp=Z,539nm,1.1s
HRY Holter Researc 76.34 331 P P 22 31 29.9 +0.9
EGMT Eagleton 76.44 333 P P 22 31 29.5 0.0
EGMT IAmb IAmb 22 31 31.3
comp=Z,553nm,1.2s
WVOR Wild Horse Val 76.67 325 P P 22 31 31.4 +0.5
WVOR Wild Horse Val 76.67 325 P P 22 31 31.4 +0.5
WVOR pmax pmax
comp=Z,129nm,1.4s
BPMT Black Pine Rid 76.88 330 P P 22 31 33.4 +1.3
HOPS Hopland Field 76.98 320 P P 22 31 33.2 +0.7
TORD Torodi Ar. Bea 77.09 71 P P 22 31 32.7 -1.0
comp=Z,112nm,0.5s,baz=254,slow=5.2,SNR=661
TORD pP **pP 22 32 01.0 -0.5**
comp=Z,262nm,0.9s,baz=264,slow=4.3,SNR=5.1
TORD S **S 22 41 10.5 -4.3**
comp=Z,13nm,0.8s,baz=248,slow=11,SNR=13
TORD PKKPbc **PKKPbc 22 50 40.5 +0.3**
comp=Z,1.4nm,0.7s,baz=60,slow=1.9,SNR=7.5
TORD PKP2ab 22 58 30.6
comp=Z,1.1nm,0.9s,baz=74,slow=4.4,SNR=4.1
TORD PKPPKP **P'P'df 22 58 43.1 -1.0**
comp=Z,1.8nm,1.0s,baz=38,slow=3.9,SNR=5.2
TORD LR LR 23 04 47.3
comp=Z,8μm,19.4s,baz=244,slow=35
comp=Z,112nm,0.5s
PLID Pearl Lake 77.13 328 IAmb IAmb 22 31 35.9
comp=Z,410nm,1.1s
HATC Hat Creek Radi 77.18 322 P P 22 31 34.2 +0.4
HATC IAmb IAmb 22 31 36.2
comp=Z,700nm,1.3s
J08A Circle Bar Ran 77.20 326 P P 22 31 34.6 +0.7
MSO Missoula 77.40 330 P P 22 31 35.7 +0.8
MSO IAmb IAmb 22 31 37.8
comp=Z,543nm,1.6s
SBA Scott Base 77.61 190 P P 22 31 37.1 +1.6
SBA Scott Base 77.61 190 P P 22 31 37.1 +1.6
SBA pmax pmax
comp=Z,323nm,1.4s
BMO Blue Mountains 77.63 327 IAmb IAmb 22 31 38.6
comp=Z,336nm,1.1s
KCPM Cahto Peak 77.72 320 P P 22 31 38.0 +1.2
KCPM IAmb IAmb 22 31 40.0
comp=Z,329nm,1.1s
TIO Tiouine 77.93 51 P P 22 31 38.1 -0.1
I07A Izee 78.25 326 P P 22 31 40.8 +1.1
F10A Beach Ranch, E 78.37 328 P P 22 31 40.5 +0.2
YBH Yreka Blue Hor 78.49 322 P P 22 31 40.5 -0.5
comp=Z,76nm,0.9s,baz=115,slow=4.3,SNR=114
YBH pP **pP 22 32 09.5 +1.3**
comp=Z,38nm,0.8s,baz=122,slow=9.5,SNR=3.9
comp=Z,76nm,0.9s
KMPM Mount Pierce 78.50 320 P P 22 31 42.1 +1.0
KMPM IAmb IAmb 22 31 44.0
comp=Z,452nm,1.0s
K04D Chiloquin, OR 78.52 323 P P 22 31 42.0 +0.8
K04D IAmb IAmb 22 31 43.6
comp=Z,481nm,1.1s
KHMM Horse Mountain 78.55 321 P P 22 31 42.3 +0.9
KHMM IAmb IAmb 22 31 44.3
comp=Z,391nm,1.2s
JCC Jacoby Creek, 78.69 321 P P 22 31 43.4 +1.4
JCC IAmb IAmb 22 31 44.9
comp=Z,581nm,1.2s
G08A Pilot Rock 78.78 327 P P 22 31 43.4 +0.9
AVE Averroes 79.07 49 P P 22 31 46.2 +1.9
AVE IAmb IAmb 22 31 54.4
comp=Z,321nm,0.7s
AVE Averroes 79.07 49 P P 22 31 45.5 +1.3
FFC Flin Flon 79.12 341 P P 22 31 43.7 -0.3
FFC Flin Flon 79.12 341 P P 22 31 43.7 -0.3
FFC pmax pmax
comp=Z,219nm,1.1s
KSXB Camp Six Broad 79.23 322 P P 22 31 46.2 +1.1

WIN	**Windhoek**	**79.53**	**110**	P	**P**	**22 31 47.8**	**+0.4**
WIN	**Windhoek**	**79.53**	**110**	P	**P**	**22 31 47.8**	**+0.4**
WIN				pmax	pmax		
	comp=Z,55nm,0.7s						
F07A	**Phinny Hill Vi**	**79.69**	**327**	IAmb	IAmb	22 31 50.7	
	comp=Z,648nm,1.5s						
SUR	**Sutherland**	**79.86**	**121**	P	**P**	**22 31 50.3**	**+1.3**
SUR	**Sutherland**	**79.86**	**121**	LR	LR	23 05 15.7	
	comp=Z,2µm,18.3s,baz=242,slow=34						
NEW	**Newport**	**79.93**	**330**	P	**P**	**22 31 48.5**	**-0.1**
	comp=Z,39nm,1.0s,baz=128,slow=6.6,SNR=65						
NEW				LR	LR	23 11 28.1	
	comp=Z,1µm,20.3s,baz=125,slow=39						
	comp=Z,39nm,1.0s						
PFVI	**Vila Bisbo**	**80.18**	**45**	P	**P**	**22 31 51.2**	**+1.1**
PFVI	**Vila Bisbo**	**80.18**	**45**	*e*P	**P**	**22 31 51.7**	**+1.6**
PFVI				*ep*P	**pP**	**22 32 17.9**	**-0.1**
PFVI				A	A	22 32 21.4	
	comp=Z,255nm,1.4s						
PFVI	**Vila Bisbo**	**80.18**	**45**	P	**P**	**22 31 51.8**	**+1.6**
MORF	**Marmelete**	**80.39**	**45**	*e*P	**P**	**22 31 53.0**	**+1.7**
MORF				*ep*P	**pP**	**22 32 19.0**	**-0.2**
MORF				A	A	22 32 23.3	
	comp=Z,303nm,2.2s						
MORF	**Marmelete**	**80.39**	**45**	*e*P	**P**	**22 31 52.2**	**+0.9**
MORF				IAmb	IAmb	22 32 02.1	
	comp=Z,151nm,0.6s						
MORF				*e*S	**S**	**22 41 50.0**	**+0.9**
MORF	**Marmelete**	**80.39**	**45**	*e*P	**P**	**22 31 52.2**	**+0.9**
MORF				*e*S	**S**	**22 41 50.0**	**+0.9**
PTEO	**Sao Teotonio**	**80.47**	**45**	*e*P	**P**	**22 31 53.6**	**+1.9**
PTEO				*ep*P	**pP**	**22 32 19.8**	**+0.2**
PTEO				A	A	22 32 23.9	
	comp=Z,610nm,2.1s						
COR	**Corvallis**	**80.64**	**324**	P	**P**	**22 31 53.9**	**+1.5**
COR				pmax	pmax		
	comp=Z,726nm,1.0s						
FCC	**Fort Churchill**	**80.71**	**347**	IAmb	IAmb	22 31 54.1	
	comp=Z,414nm,1.2s						
IFR	**Ifrane**	**80.82**	**50**	P	**P**	**22 31 54.9**	**+1.0**
PBDV	**Barranco-do-Ve**	**80.83**	**45**	*e*P	**P**	**22 31 55.2**	**+1.5**
PBDV				*ep*P	**pP**	**22 32 22.2**	**+0.6**
PBDV				A	A	22 32 25.9	
	comp=Z,279nm,2.1s						
PBDV	**Barranco-do-Ve**	**80.83**	**45**	P	**P**	**22 31 54.6**	**+0.9**
MDT	**Midelt**	**80.84**	**50**	LR	LR	23 08 00.9	
	comp=Z,2µm,19.1s,baz=264,slow=36						
LIS	**Lisbon**	**80.84**	**43**	*e*P	P	22 31 59.4	+5.7
LIS				*ep*P	pP	22 32 22.2	+0.6
LIS				A	A	22 32 27.9	
	comp=Z,283nm,1.4s						
LIS	**Lisbon**	**80.84**	**43**	*e*P	**P**	**22 31 54.2**	**+0.5**
LIS				IAmb	IAmb	22 32 04.5	
	comp=Z,166nm,0.6s						
LIS				*e*S	**S**	**22 41 54.6**	**+0.9**
LIS	**Lisbon**	**80.84**	**43**	*e*P	**P**	**22 31 54.2**	**+0.5**
LIS				*e*S	**S**	**22 41 54.6**	**+0.9**
PMAFR	**Mafra**	**80.89**	**43**	P	**P**	**22 31 55.5**	**+1.5**
TSUM	**Tsumeb**	**80.95**	**107**	P	**P**	**22 31 55.6**	**+0.7**
TSUM	**Tsumeb**	**80.95**	**107**	S	**S**	**22 41 57.4**	**+1.4**
	comp=Z,0.9nm,0.4s,baz=253,slow=20,SNR=7.7						
TSUM				LR	LR	23 05 01.4	
	comp=Z,3µm,20.3s,baz=270,slow=34						
MESJ	**Messejana**	**80.97**	**45**	*e*P	**P**	**22 31 56.0**	**+1.6**
MESJ				*ep*P	**pP**	**22 32 22.9**	**+0.6**
MESJ				A	A	22 32 25.8	
	comp=Z,151nm,2.3s						
MESJ	**Messejana**	**80.97**	**45**	*e*P	**P**	**22 31 55.1**	**+0.7**
MESJ				IAmb	IAmb	22 32 04.9	
	comp=Z,138nm,0.4s						
MESJ				*e*S	**S**	**22 41 56.0**	**+0.9**
MESJ	**Messejana**	**80.97**	**45**	*e*P	**P**	**22 31 55.1**	**+0.7**
MESJ				*e*S	**S**	**22 41 56.0**	**+0.9**
PCVE	**Castro Verde**	**80.97**	**45**	*e*P	**P**	**22 31 55.7**	**+1.3**
PCVE				*ep*P	**pP**	**22 32 22.5**	**+0.2**
PCVE				A	A	22 32 25.8	
	comp=Z,198nm,2.2s						
PCVE	**Castro Verde**	**80.97**	**45**	P	**P**	**22 31 54.9**	**+0.5**
LTY	**Liberty**	**80.98**	**327**	IAmb	IAmb	22 31 56.8	
	comp=Z,642nm,1.3s						
PVAQ	**Vaqueiros**	**81.06**	**45**	*e*P	**P**	**22 31 56.4**	**+1.5**
PVAQ				*ep*P	**pP**	**22 32 22.7**	**-0.1**
PVAQ				A	A	22 32 27.2	
	comp=Z,217nm,1.8s						
PVAQ				*e*S	**SKSac**	**22 42 01.5**	**-3.0**
PVAQ	**Vaqueiros**	**81.06**	**45**	*e*LR	LR	22 58 11.4	
PVAQ				A	A	23 04 42.6	
	comp=Z,2µm,22.0s						
PVAQ	**Vaqueiros**	**81.06**	**45**	P	**P**	**22 31 56.7**	**+1.8**
HEBO	**Mount Hebo**	**81.28**	**324**	P	**P**	**22 31 56.7**	**+0.7**
HEBO				IAmb	IAmb	22 31 59.0	
	comp=Z,827nm,1.2s						
EGRO	**El Granado**	**81.29**	**45**	P	**P**	**22 31 56.7**	**+0.7**
PBEJ	**Beja**	**81.30**	**45**	*e*P	**P**	**22 31 57.4**	**+1.2**
PBEJ				A	A	22 32 06.4	
	comp=Z,154nm,0.7s						
PBEJ				*ep*P	**pP**	**22 32 24.2**	**+0.1**
EVO	**Evora**	**81.48**	**44**	*e*P	**P**	**22 31 57.9**	**+0.8**
EVO				*ep*P	**pP**	**22 32 24.8**	**-0.2**
EVO				A	A	22 32 29.9	
	comp=Z,177nm,1.9s						
EVO	**Evora**	**81.48**	**44**	P	**P**	**22 31 58.0**	**+0.9**
PSBE	**So Bento**	**81.52**	**43**	*e*P	**P**	**22 31 59.3**	**+2.0**
PSBE				*ep*P	**pP**	**22 32 25.4**	**+0.2**
PSBE				A	A	22 32 30.3	
	comp=Z,301nm,2.0s						
D05A	**Enumclaw**	**81.61**	**327**	IAmb	IAmb	22 31 59.7	
	comp=Z,568nm,1.0s						
PMTG	**Montargil**	**81.64**	**44**	*e*P	**P**	**22 31 59.4**	**+1.5**
PMTG				*ep*P	**pP**	**22 32 26.1**	**+0.3**
PMTG				A	A	22 32 30.7	
	comp=Z,330nm,1.7s						
CEU	**Ceuta**	**81.87**	**47**	P	**P**	**22 31 58.9**	**-0.3**
PBAR	**Barrancos**	**81.93**	**45**	*e*P	**P**	**22 32 00.6**	**+1.1**
PBAR				*ep*P	**pP**	**22 32 27.3**	**-0.1**
PBAR				A	A	22 32 58.1	
	comp=Z,137nm,1.6s						
PBAR	**Barrancos**	**81.93**	**45**	P	**P**	**22 32 00.4**	**+1.0**
EMIN	**Mina Concepcio**	**81.96**	**45**	P	**P**	**22 32 00.4**	**+0.8**
PCAS	**Casmilo, Conde**	**82.01**	**43**	*e*P	**P**	**22 32 01.0**	**+1.2**
PCAS				*ep*P	**pP**	**22 32 27.8**	**0.0**
PCAS				A	A	22 32 31.8	
	comp=Z,171nm,2.1s						
ESPR	**Espera**	**82.04**	**46**	P	**P**	**22 31 59.3**	**-0.7**
COI	**Coimbra**	**82.15**	**42**	P	**P**	**22 32 01.5**	**+1.0**
COI	**Coimbra**	**82.15**	**42**	*e*P	**P**	**22 32 03.8**	**+3.3**
COI				*ep*P	**pP**	**22 32 29.2**	**+0.7**
COI				A	A	22 32 55.3	
	comp=Z,276nm,1.6s						
COI	**Coimbra**	**82.15**	**42**	P	**P**	**22 32 01.5**	**+1.0**
COI				pmax	pmax		
	comp=Z,169nm,1.2s						
EBAD	**Badajoz**	**82.26**	**44**	P	**P**	**22 31 59.9**	**-1.3**
GNW	**Green Mountain**	**82.29**	**327**	IAmb	IAmb	22 32 03.1	
	comp=Z,418nm,1.6s						
IVI	**Ivigtut**	**82.31**	**10**	IAmb	IAmb	22 32 51.8	
	comp=Z,398nm,1.3s						
IVI	**Ivigtut**	**82.31**	**10**	*i* P	**P**	**22 32 00.5**	**-0.3**
IVI				IAmb	IAmb	22 32 02.4	
	comp=Z,194nm,1.0s						
PMRV	**Marv??o**	**82.38**	**44**	*e*P	**P**	**22 32 02.3**	**+0.5**
PMRV				*ep*P	**pP**	**22 32 29.6**	**-0.2**
PMRV				A	A	22 32 55.4	
	comp=Z,98nm,2.0s						
PMRV				*e*S	**SKSac**	**22 42 14.3**	**+0.9**
PMRV	**Marv??o**	**82.38**	**44**	*e*LR	LR	22 58 51.3	
PMRV				A	A	23 04 21.7	
	comp=Z,1µm,22.0s						
WISH	**Wishkah**	**82.49**	**326**	P	**P**	**22 32 02.4**	**+0.2**
PCBR	**Castelo Branco**	**82.55**	**43**	*e*P	**P**	**22 32 04.4**	**+1.8**
PCBR				*ep*P	**pP**	**22 32 30.0**	**-0.6**
PCBR				A	A	22 32 34.1	
	comp=Z,158nm,1.9s						
PTO	**Porto**	**82.55**	**42**	*e*P	**P**	**22 32 04.4**	**+1.8**
PTO				A	A	22 32 35.0	
	comp=Z,267nm,1.7s						
NRS	**Narsarsuaq**	**82.75**	**11**	P	**P**	**22 32 02.6**	**-0.5**
NRS	**Narsarsuaq**	**82.75**	**11**	P	**P**	**22 32 02.6**	**-0.5**
NRS				pmax	pmax		
	comp=Z,221nm,1.5s						
NRS	**Narsarsuaq**	**82.75**	**11**	*i* P	**P**	**22 31 58.8**	**-4.4**
NRS				IAmb	IAmb	22 32 05.7	
	comp=Z,123nm,1.2s						
PVIS	**Viseu**	**82.76**	**42**	*e*P	**P**	**22 32 05.2**	**+1.4**
PVIS				*ep*P	**pP**	**22 32 31.4**	**-0.4**
MTE	**Manteigas**	**82.81**	**43**	*e*P	**P**	**22 32 05.3**	**+1.2**
MTE				*ep*P	**pP**	**22 32 31.9**	**-0.2**
MTE				A	A	22 32 35.5	
	comp=Z,187nm,2.3s						
MTE				*e*S	**SKSac**	**22 42 18.6**	**+2.3**
MTE	**Manteigas**	**82.81**	**43**	*e*LR	LR	22 59 11.8	
MTE				A	A	23 04 30.5	
	comp=Z,2µm,24.0s						
B04A	**Port Angeles**	**82.95**	**327**	P	**P**	**22 32 05.8**	**+1.3**
EMAL	**Malaga-Limoner**	**82.96**	**47**	P	**P**	**22 32 05.5**	**+0.7**
ECAB	**El Cabril**	**82.96**	**46**	P	**P**	**22 32 05.0**	**+0.1**
FRB	**Frobisher Bay**	**83.08**	**0**	LR	LR	23 11 11.6	
	comp=Z,844nm,20.3s,baz=173,slow=37						
PVRL	**Vila Real**	**83.18**	**42**	*e*P	**P**	**22 32 06.8**	**+0.9**
PVRL				*ep*P	**pP**	**22 32 33.8**	**-0.2**
PVRL				A	A	22 32 37.4	
	comp=Z,274nm,1.8s						
POLO	**Lamas de Olo**	**83.19**	**42**	*e*P	**P**	**22 32 06.8**	**+0.8**
POLO				*ep*P	**pP**	**22 32 34.0**	**-0.1**
POLO				A	A	22 32 37.7	
	comp=Z,99nm,1.7s						
PGAV	**Gavieira, Arco**	**83.22**	**41**	*e*P	**P**	**22 32 06.9**	**+0.7**
PGAV				*ep*P	**pP**	**22 32 33.8**	**-0.4**
PGAV				A	A	22 32 37.8	
	comp=Z,289nm,1.7s						
PGAV				*e*S	**S**	**22 42 17.7**	**-0.4**
PGAV	**Gavieira, Arco**	**83.22**	**41**	*e*LR	LR	22 59 21.8	
PGAV				A	A	23 05 11.8	
	comp=Z,2µm,20.0s						
PCAB	**Cabril**	**83.22**	**41**	*e*P	**P**	**22 32 07.0**	**+0.9**
PCAB				*ep*P	**pP**	**22 32 34.4**	**+0.2**
PCAB				A	A	22 32 37.6	
	comp=Z,260nm,1.5s						
WMELI	**Melilla**	**83.27**	**49**	P	**P**	**22 32 05.8**	**-0.6**
EGOR	**Sierra Gorda,**	**83.36**	**47**	P	**P**	**22 32 07.5**	**+0.5**
C03A	**Quillayute Air**	**83.44**	**326**	P	**P**	**22 32 07.0**	**0.0**
C03A				IAmb	IAmb	22 32 09.3	
	comp=Z,1µm,1.9s						
RAR	**Rarotonga**	**83.51**	**250**	P	**P**	**22 32 08.2**	**+0.1**
RAR				IAmb	IAmb	22 32 09.8	
	comp=Z,358nm,1.4s						
RAR	**Rarotonga**	**83.51**	**250**	LR	LR	23 02 06.2	
	comp=Z,2µm,18.2s,baz=112,slow=30						
RAR	**Rarotonga**	**83.51**	**250**	P	**P**	**22 32 09.8**	**+1.7**
RAR	**Rarotonga**	**83.51**	**250**	P	**P**	**22 32 08.2**	**+0.1**
RAR				pmax	pmax		
	comp=Z,358nm,1.5s						
EALB	**Alboran**	**83.52**	**48**	P	**P**	**22 32 07.5**	**-0.2**
GRTLG	**Ghanzi**	**83.53**	**110**	*i* P	**P**	**22 32 08.7**	**+0.3**
MVO	**Moncorvo**	**83.55**	**42**	*e*P	**P**	**22 32 08.8**	**+0.9**
MVO				*ep*P	**pP**	**22 32 35.7**	**-0.3**
MVO				A	A	22 32 39.4	
	comp=Z,286nm,2.1s						
MVO				*e*S	**S**	**22 42 22.6**	**+1.1**
MVO	**Moncorvo**	**83.55**	**42**	*e*LR	LR	22 58 59.3	
MVO				A	A	23 05 14.6	
	comp=Z,2µm,22.0s						
ELGU	**Los Guajares,**	**83.57**	**47**	P	**P**	**22 32 07.8**	**-0.3**
SOE	**Somerset East**	**83.58**	**122**	P	**P**	**22 32 08.8**	**+0.5**
SOE				IAmb	IAmb	22 32 43.9	
	comp=Z,314nm,1.2s						
EADA	**Adamuz**	**83.58**	**46**	P	**P**	**22 32 06.4**	**-1.6**
LLLB	**Lillooet**	**83.80**	**329**	IAmb	IAmb	22 32 10.6	
	comp=Z,504nm,1.2s						
EQTA	**Presa de Quent**	**83.87**	**47**	P	**P**	**22 32 09.4**	**-0.2**
KGCAE	**Kacgae**	**83.93**	**112**	*i* P	**P**	**22 32 10.7**	**+0.3**
GRHM	**Grahamstown, E**	**84.04**	**123**	P	**P**	**22 32 11.3**	**+0.6**
QNGWA	**Qangwa**	**84.07**	**109**	*i* P	**P**	**22 32 10.9**	**-0.2**
PBRG	**Braganca**	**84.08**	**42**	*e*P	**P**	**22 32 11.3**	**+0.8**
PBRG				*ep*P	**pP**	**22 32 38.6**	**0.0**
PBRG				A	A	22 32 42.2	
	comp=Z,297nm,1.7s						
ECAL	**Calabor**	**84.16**	**42**	P	**P**	**22 32 10.9**	**0.0**
PAB	**San Pablo**	**84.44**	**45**	P	**P**	**22 32 13.1**	**+0.7**
PAB	**San Pablo**	**84.44**	**45**	⇑P	**P**	**22 32 13.4**	**+1.0**
OZB	**Mount Ozzard**	**84.55**	**327**	IAmb	IAmb	22 32 15.1	
	comp=Z,507nm,1.2s						
ENIJ	**Nijar**	**84.61**	**48**	P	**P**	**22 32 12.4**	**-0.9**
NUUK	**Nuuk**	**84.63**	**8**	*i* P	**P**	**22 32 12.4**	**-0.2**
NUUK				IAmb	IAmb	22 32 14.4	
	comp=Z,272nm,1.1s						
BOSA	**Boshof**	**84.67**	**118**	P	**P**	**22 32 12.8**	**-1.3**
BOSA	**Boshof**	**84.67**	**118**	P	**P**	**22 32 14.1**	**+0.1**
	comp=Z,58nm,0.9s,baz=256,slow=5.4,SNR=35						
BOSA				pP	**pP**	**22 32 42.4**	**+0.5**
	comp=Z,71nm,1.0s,baz=271,slow=4.7,SNR=4.7						
BOSA				S	**SKSac**	**22 42 27.1**	**-2.3**
	comp=Z,4.0nm,0.9s,baz=232,slow=16,SNR=2.1						
BOSA				PKKPbc	**PKKPbc**	**22 50 23.5**	**+0.4**
	comp=Z,4.4nm,0.9s,baz=74,slow=4.7,SNR=6.0						
BOSA				LR	LR	23 08 30.7	
	comp=Z,3µm,18.5s,baz=255,slow=34						
	comp=Z,58nm,0.9s						
ESDC	**Sonseca Array**	**84.76**	**45**	P	**P**	**22 32 14.6**	**+0.6**
	comp=Z,20nm,0.9s,baz=236,slow=3.0,SNR=51						
ESDC				pP	**pP**	**22 32 42.8**	**+0.7**
	comp=Z,21nm,0.9s,baz=259,slow=5.3,SNR=2.2						
ESDC				S	**SKSac**	**22 42 28.6**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=222,slow=13,SNR=1.6						
ESDC				PKKPbc	**PKKPbc**	**22 50 22.4**	**-1.8**
	comp=Z,1.3nm,0.6s,baz=39,slow=2.8,SNR=10						
ESDC				PKPPKP	**P'P'df**	**22 58 26.3**	**-2.1**
	comp=Z,0.7nm,0.9s,baz=30,slow=3.9,SNR=3.4						
ESDC				LR	LR	23 07 05.6	
	comp=Z,2µm,21.9s,baz=229,slow=34						
	comp=Z,20nm,0.9s						
SKOMA	**Sekoma**	**84.89**	**114**	*i* P	**P**	**22 32 15.4**	**+0.2**
CBB	**Campbell River**	**85.15**	**328**	P	**P**	**22 32 16.0**	**+0.4**
CBB				IAmb	IAmb	22 32 17.8	
	comp=Z,351nm,1.1s						
MAKGR	**Makgori**	**85.21**	**116**	*i* P	**P**	**22 32 16.8**	**0.0**
UCM	**Universidad Co**	**85.56**	**45**	P	**P**	**22 32 17.5**	**-0.5**
CART	**Cartagena**	**85.75**	**48**	P	**P**	**22 32 19.5**	**+0.6**
CKGRV	**CKGRV**	**85.77**	**111**	*i* P	**P**	**22 32 20.4**	**+0.8**
KDWAN	**Kaudwane**	**85.90**	**113**	*i* P	**P**	**22 32 21.0**	**+0.8**
LBTB	**Lobatse**	**86.16**	**115**	S	**SKSac**	**22 42 38.9**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=219,slow=14,SNR=5.8						
LBTB				PKKPbc	PKKPbc	22 50 20.3	+0.8
	comp=Z,6.5nm,0.9s,baz=63,slow=4.5,SNR=6.3						
MAW	**Mawson**	**86.24**	**163**	P	**P**	**22 32 21.4**	**+0.5**
MAW	**Mawson**	**86.24**	**163**	P	**P**	**22 32 21.6**	**+0.7**
	comp=Z,33nm,0.8s,baz=223,slow=8.0,SNR=51						
MAW				S	**SKSac**	**22 42 34.8**	**-2.6**
	comp=Z,0.7nm,0.8s,baz=245,slow=18,SNR=1.3						
MAW				PKKPbc	**PKKPbc**	**22 50 18.1**	**-2.3**
	comp=Z,4.6nm,0.6s,baz=50,slow=4.3,SNR=15						
MAW				LR	LR	23 11 02.2	
	comp=Z,1µm,19.4s,baz=238,slow=36						
	comp=Z,33nm,0.8s						
SLIND	**Selinda**	**86.45**	**108**	*i* P	**P**	**22 32 23.2**	**+0.2**
PHDHD	**Phuduhudu**	**86.85**	**110**	*i* P	**P**	**22 32 25.7**	**+0.8**
HOLB	**Holberg**	**86.93**	**327**	P	**P**	**22 32 24.5**	**+0.1**
HOLB				IAmb	IAmb	22 32 26.2	
	comp=Z,570nm,1.4s						
EDDR	**Deurdeur**	**87.31**	**50**	P	P	22 32 36.0	+9.4
SFJD	**Kangerlussuaq**	**87.47**	**7**	P	**P**	**22 32 26.9**	**+0.3**
SFJD	**Kangerlussuaq**	**87.47**	**7**	P	**P**	**22 32 26.9**	**+0.3**
SFJD				pmax	pmax		
	comp=Z,53nm,1.0s						
SFJD	**Kangerlussuaq**	**87.47**	**7**	*i* P	**P**	**22 32 25.6**	**-0.9**
SFJD				IAmb	IAmb	22 32 26.5	
	comp=Z,289nm,1.9s						
DY2G	**Dye2**	**87.55**	**9**	*i* P	**P**	**22 32 27.7**	**+0.4**
DY2G				IAmb	IAmb	22 32 29.3	
	comp=Z,352nm,1.0s						
ABKD	**Sidi Amar**	**87.61**	**50**	P	P	22 32 37.9	+10
VAL	**Valentia**	**87.82**	**32**	P	**P**	**22 32 28.3**	**-0.3**
BBB	**Bella Bella**	**87.83**	**328**	P	**P**	**22 32 29.2**	**+0.6**
BBB				IAmb	IAmb	22 32 30.4	
	comp=Z,198nm,1.1s						
BBB	**Bella Bella**	**87.83**	**328**	P	**P**	**22 32 29.0**	**+0.4**
	comp=Z,123nm,1.0s,baz=124,slow=7.3,SNR=14						
BBB				pP	**pP**	**22 32 57.5**	**+1.1**
	comp=Z,70nm,0.9s,baz=142,slow=19,SNR=3.2						
BBB				LR	LR	23 15 25.3	
	comp=Z,580nm,20.0s,baz=123,slow=38						
	comp=Z,123nm,1.0s						
ISOG	**Isortoq, Green**	**87.97**	**12**	IAmb	IAmb	22 32 30.3	
	comp=Z,434nm,1.5s						
ISOG				*i* P	**P**	**22 32 31.2**	**+2.3**
ADOR	**Douera**	**88.11**	**50**	P	P	22 32 41.1	+10
SOOWA	**Sowa**	**88.21**	**111**	*i* P	**P**	**22 32 32.7**	**+1.3**
KSANE	**Kasane**	**88.21**	**108**	*i* P	**P**	**22 32 32.4**	**+0.9**
ABA	**Alger-Bouzarea**	**88.25**	**50**	P	P	22 32 41.0	+10
SJPF	**Ste Jean**	**88.26**	**43**	*e*P	**P**	**22 32 30.9**	**0.0**
SJPF				pmax	pmax		
	comp=Z,40nm,1.2s						
ADJB	**Djebel Djouab**	**88.27**	**51**	P	P	22 32 41.7	+10
ANGG	**Ammassalik, Gr**	**88.30**	**13**	P	**P**	**22 32 31.1**	**+0.6**
ANGG				IAmb	IAmb	22 33 21.6	
	comp=Z,586nm,1.7s						
ANGG	**Ammassalik, Gr**	**88.30**	**13**	*i* P	**P**	**22 32 31.2**	**+0.7**
ANGG				IAmb	IAmb	22 32 34.9	
	comp=Z,325nm,1.5s						
AKED	**El Kharrouba**	**88.46**	**50**	P	P	22 32 41.6	+10
CTZ	**Chatham Island**	**88.48**	**224**	P	**P**	**22 32 33.9**	**+1.8**
CTZ				IAmb	IAmb	22 32 36.2	
	comp=Z,462nm,1.7s						
ABSD	**Ouled Sidi Bra**	**88.51**	**52**	P	P	22 32 42.0	+10
AKET	**Djebel Ketaf**	**88.54**	**51**	P	P	22 32 42.9	+10
ABMS	**Boumerdes**	**88.55**	**50**	P	P	22 32 41.9	+9.5
ETSF	**Etsaut**	**88.58**	**43**	*e*P	**P**	**22 32 32.5**	**0.0**
MREMI	**Moremi**	**88.58**	**113**	*i* P	**P**	**22 32 33.9**	**+0.8**
XMAS	**Kiritimati**	**88.92**	**273**	P	**P**	**22 32 36.3**	**+1.6**
XMAS	**Kiritimati**	**88.92**	**273**	P	**P**	**22 32 37.8**	**+3.1**
ATKB	**Taksebt**	**88.99**	**50**	P	P	22 32 44.8	+10
BROLN	**Tlhalogang**	**89.00**	**112**	*i* P	**P**	**22 32 36.0**	**+0.9**
IGLA	**Glengowla, Co**	**89.12**	**31**	P	**P**	**22 32 33.5**	**-1.1**
EPF	**Esparros**	**89.23**	**43**	*e*P	**P**	**22 32 35.1**	**-0.4**
EPF				pmax	pmax		
	comp=Z,24nm,1.5s						
YKAB2	**New Yellowknif**	**89.23**	**341**	P	**P**	**22 32 35.4**	**+0.5**
CTCHA	**Tamokra**	**89.27**	**51**	P	P	22 32 46.3	+10
YKA	**Yellowknife Ar**	**89.28**	**341**	P	**P**	**22 32 35.2**	**0.0**
	comp=Z,425nm,0.8s,baz=137,slow=4.5,SNR=640						
YKA				pP	**pP**	**22 33 04.2**	**+1.0**
	comp=Z,103nm,0.8s,baz=136,slow=4.4,SNR=4.0						
YKA				PKKPbc	**PKKPbc**	**22 50 13.1**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=194,slow=34,SNR=3.1						
YKA				LR	LR	23 15 42.4	
	comp=Z,1µm,19.9s,baz=119,slow=38						
QUIF	**Quistinic**	**89.45**	**38**	*e*P	**P**	**22 32 35.2**	**-1.2**
QUIF				pmax	pmax		
	comp=Z,14nm,0.8s						
ROSF	**Rostrenen**	**89.60**	**38**	*e*P	**P**	**22 32 35.9**	**-1.2**
ROSF				pmax	pmax		
	comp=Z,35nm,1.0s						
CEST	**Esterri de Car**	**89.62**	**44**	IAmb	IAmb	22 32 51.8	
	comp=Z,41nm,0.8s						
GRNB	**Grenville Isla**	**89.70**	**329**	P	**P**	**22 32 38.3**	**+0.8**
GRNB				IAmb	IAmb	22 32 39.5	
	comp=Z,388nm,1.4s						
SET	**Setif**	**89.72**	**51**	P	**P**	**22 32 39.0**	**+0.9**
IWEX	**Carrickbyrne,**	**89.83**	**33**	P	**P**	**22 32 37.2**	**-0.8**
DFRA	**Djebel Bou Aff**	**90.22**	**51**	P	P	22 32 51.3	+11
MATP	**Matopo**	**90.26**	**112**	S	**SKSac**	**22 43 06.8**	**+3.3**
	comp=Z,0.3nm,0.3s,baz=221,slow=20,SNR=1.0						
MATP				PKKPbc	PKKPbc	22 50 09.3	-0.2
	comp=Z,2.9nm,0.8s,baz=96,slow=2.5,SNR=12						
MATP				LR	LR	23 11 07.9	
	comp=Z,814nm,18.0s,baz=244,slow=34						
CTGD	**Timgad**	**90.29**	**52**	P	P	22 32 50.8	+10
LFF	**La Frestale**	**90.37**	**42**	*e*P	**P**	**22 32 40.1**	**-0.6**
LFF				pmax	pmax		
	comp=Z,38nm,0.8s						
MAHO	**Mahon**	**90.47**	**48**	P	**P**	**22 32 41.5**	**+0.3**
MAHO				IAmb	IAmb	22 32 53.3	
	comp=Z,264nm,0.7s						
DSB	**Dublin**	**90.51**	**32**	P	**P**	**22 32 40.1**	**-1.1**
DSB	**Dublin**	**90.51**	**32**	P	**P**	**22 32 41.4**	**+0.3**
CBHR	**Beni Haroun da**	**90.51**	**51**	P	P	22 32 52.2	+11
MTLF	**Montolieu**	**90.59**	**44**	*e*P	**P**	**22 32 40.9**	**-0.9**
MTLF				pmax	pmax		
	comp=Z,30nm,1.4s						
TOAD	**Toad River Com**	**90.59**	**334**	P	**P**	**22 32 41.5**	**0.0**
	baz=129						
DIB	**Dawson Inlet,**	**90.60**	**328**	P	**P**	**22 32 41.7**	**+0.2**
H02S1	**DAWSON INLET T**	**90.60**	**328**	P	**P**	**22 32 42.6**	**+1.1**
	SNR=5.4						
MFF	**Saint Martin d**	**90.60**	**40**	*e*P	**P**	**22 32 41.0**	**-0.8**
MFF				pmax	pmax		
	comp=Z,14nm,0.7s						
CSGS	**Sigus**	**90.66**	**52**	P	P	22 32 53.2	+11
UMMG	**Uummannaq**	**90.85**	**6**	*i* P	**P**	**22 32 42.5**	**+0.1**
UMMG				IAmb	IAmb	22 32 43.7	
	comp=Z,383nm,1.7s						
U35K	**Hyder**	**90.92**	**331**	P	**P**	**22 32 42.3**	**-0.6

U33K	**Whale Pass**	92.48	330		P	**P**	22 32 50.1	-0.1
	baz=122							
JOKA	**Jonika Flow**	92.49	290		P	**P**	22 32 51.1	-0.2
JOKA					IAmb	IAmb	22 32 53.2	
	comp=Z,284nm,1.2s							
S34M	**Telegraph Cree**	92.55	332		IAmb	IAmb	22 32 52.7	
	comp=Z,170nm,1.2s							
S34M	**Telegraph Cree**	92.55	332		P	**P**	22 32 51.0	+0.5
	baz=124							
STCH	**Steam Cracks**	92.58	290		P	**P**	22 32 52.0	+0.4
STCH					IAmb	IAmb	22 32 53.6	
	comp=Z,188nm,1.0s							
UPNV	**Upernavik**	92.58	4	*i*	P	**P**	22 32 50.5	+0.1
UPNV					IAmb	IAmb	22 32 52.5	
	comp=Z,106nm,1.0s							
KNHH	**Kane Nui o Ham**	92.62	290		P	**P**	22 32 52.6	+0.7
PUH	**Pauahi**	92.66	289		P	**P**	22 32 51.8	-0.2
PUH					IAmb	IAmb	22 32 54.0	
	comp=Z,145nm,1.0s							
CLF	**Chambon-Foret**	92.71	40		P	**P**	22 32 52.3	+0.8
BYL	**Byron's Ledge**	92.71	290		P	**P**	22 32 52.2	-0.1
BYL					IAmb	IAmb	22 32 54.2	
	comp=Z,225nm,1.4s							
HATHI	**Halema'uma'u T**	92.71	290		P	**P**	22 32 52.2	-0.1
HATHI					IAmb	IAmb	22 32 54.3	
	comp=Z,186nm,1.2s							
HLP	**Hilina Pali**	92.71	289		P	**P**	22 32 52.9	+0.6
WRGLY	**Wrigley**	92.71	338		IAmb	IAmb	22 32 52.7	
	comp=Z,170nm,1.4s							
WRGLY	**Wrigley**	92.71	338		P	**P**	22 32 51.1	0.0
	baz=130							
UWE	**Uwekahuna**	92.74	290			**P**	22 32 52.0	-0.5
UWE					IAmb	IAmb	22 33 59.4	
	comp=Z,165nm,1.1s							
RSD	**Rainshed**	92.74	290		P	**P**	22 32 51.9	-0.7
T33K	**Petersburg**	92.77	330		P	**P**	22 32 51.9	+0.4
	baz=122							
WTLY	**Watson Lake, Y**	92.81	334		IAmb	IAmb	22 32 53.8	
	comp=Z,189nm,1.1s							
WTLY	**Watson Lake, Y**	92.81	334		P	**P**	22 32 52.4	+0.6
	baz=126							
AVF	**Avril sur Loir**	92.83	41	*e*	P	**P**	22 32 50.8	-1.3
AVF					pmax	pmax		
	comp=Z,7.0nm,0.8s							
VIVF	**Saint-Julien-l**	92.84	43	*e*	P	**P**	22 32 53.1	+0.8
VIVF					pmax	pmax		
	comp=Z,16nm,1.1s							
MLH	**Mauna Loa**	92.85	290		P	**P**	22 32 53.2	0.0
SSB	**Saint Sauveur**	92.93	43		P	**P**	22 32 53.0	+0.3
KHU	**Kahuku**	92.97	289		P	**P**	22 32 52.5	-1.2
KHU					IAmb	IAmb	22 32 56.8	
	comp=Z,333nm,1.6s							
KHU	**Kahuku**	92.97	289		P	**P**	22 32 52.5	-1.2
KHU					pmax	pmax		
	comp=Z,333nm,1.6s							
HMH	**Humu'ula Sheep**	92.97	290		P	**P**	22 32 52.8	-1.0
HMH					IAmb	IAmb	22 32 57.0	
	comp=Z,170nm,1.1s							
MWH	**Mokuaweoweo**	93.03	289		P	**P**	22 32 53.5	-0.8
MWH					IAmb	IAmb	22 33 56.8	
	comp=Z,256nm,1.5s							
SSF	**Saint Saulge**	93.04	41	*e*	P	**P**	22 32 51.5	-1.6
SSF					pmax	pmax		
	comp=Z,77nm,2.0s							
POHA	**Pohakuloa**	93.07	290		P	**P**	22 32 54.0	-0.1
POHA					IAmb	IAmb	22 32 57.0	
	comp=Z,143nm,1.0s							
POHA	**Pohakuloa**	93.07	290		P	**P**	22 32 56.8	+2.7
SMF	**Signal de Mont**	93.07	41	*e*	P	**P**	22 32 52.3	-0.9
SMF					pmax	pmax		
	comp=Z,19nm,1.0s							
ESK	**Eskdalemuir**	93.18	32		P	**P**	22 32 53.3	-0.2
ESK	**Eskdalemuir**	93.18	32		P	**P**	22 32 53.3	-0.2
ESK					pmax	pmax		
	comp=Z,46nm,0.7s							
EKA	**Eskdalemuir Ar**	93.21	32		P	**P**	22 32 52.5	-1.2
	comp=Z,4.2nm,0.7s,baz=239,slow=4.7,SNR=13							
EKA					pP	**pP**	22 33 20.5	-1.4
	comp=Z,6.8nm,0.7s,baz=243,slow=3.0,SNR=2.2							
EKA					PKKPbc	**PKKPdf**	22 50 02.6	+0.3
	comp=Z,3.3nm,0.8s,baz=76,slow=4.5,SNR=5.4							
	comp=Z,4.2nm,0.7s							
R33M	**Jennings River**	93.30	333		IAmb	IAmb	22 32 56.3	
	comp=Z,159nm,1.4s							
R33M	**Jennings River**	93.30	333		P	**P**	22 32 54.6	+0.4
	baz=124							
HPAH	**Hawaii Prepara**	93.31	290		P	**P**	22 32 55.1	+0.1
HUH	**Hualalai**	93.31	290		P	**P**	22 32 54.9	-0.4
HUH					IAmb	IAmb	22 32 57.5	
	comp=Z,276nm,1.2s							
LOR	**Lormes**	93.35	41	*e*	P	**P**	22 32 53.0	-1.5
LOR					pmax	pmax		
	comp=Z,7.0nm,0.7s							
MHA	**Mahukona**	93.54	290		P	**P**	22 32 56.3	+0.4
MHA	**Mahukona**	93.54	290		P	**P**	22 32 56.3	+0.4
Q32M	**Nakina River**	93.62	332		P	**P**	22 32 56.3	+0.6
Q32M					IAmb	IAmb	22 32 57.9	
	comp=Z,194nm,1.6s							
Q32M	**Nakina River**	93.62	332		P	**P**	22 32 56.3	+0.6
	baz=123							
ORIF	**Oris-en-Rattie**	93.65	43	*e*	P	**P**	22 32 55.8	-0.2
ORIF					pmax	pmax		
	comp=Z,18nm,0.8s							
S32K	**Killisnoo**	93.87	331		P	**P**	22 32 55.4	-1.2
S32K	**Killisnoo**	93.87	331		P	**P**	22 32 56.7	+0.1
	baz=121							
SIT	**Sitka**	94.01	330		P	**P**	22 32 58.0	+0.7
	baz=120							
HLK	**Haleakala**	94.03	290		P	**P**	22 32 55.6	-2.9
JIS	**Juneau Island**	94.20	331		P	**P**	22 32 59.5	+1.4
BNI	**Bardonecchia**	94.22	44		P	**P**	22 32 58.0	-0.7
BNI	**Bardonecchia**	94.22	44		P	**P**	22 32 58.0	-0.7
BNI					pmax	pmax		
	comp=Z,12nm,0.7s							
KHLH	**Kahului Airpor**	94.24	291		P	**P**	22 32 58.7	-0.4
R32K	**Eaglecrest**	94.26	331		P	**P**	22 32 59.1	+0.7
	baz=121,SNR=7.1							
SUMG	**Summit**	94.26	9		P	**P**	22 32 59.3	+0.7
SUMG					IAmb	IAmb	22 33 50.1	
	comp=Z,152nm,1.2s							
SUMG	**Summit**	94.26	9		P	**P**	22 32 59.3	+0.7
SUMG					pmax	pmax		
	comp=Z,152nm,1.2s							
SUMG	**Summit**	94.26	9	*i*	P	**P**	22 32 59.3	+0.7
SUMG					IAmb	IAmb	22 33 00.4	
	comp=Z,149nm,1.3s							
KULLO	**Kullorsuaq**	94.29	3	*i*	P	**P**	22 32 57.6	-0.6
KULLO					IAmb	IAmb	22 32 59.3	
	comp=Z,34nm,0.9s							
CASY	**Casey**	94.38	180		P	**P**	22 33 00.1	+1.2
CASY					IAmb	IAmb	22 33 01.8	
	comp=Z,128nm,0.9s							
LPL	**La Plagne**	94.44	43	*e*	P	**P**	22 32 59.6	-0.2
LPL					pmax	pmax		
	comp=Z,9.0nm,0.8s							
LPG	**La Plagne**	94.44	43	*e*	P	**P**	22 32 57.8	-2.1
LPG					pmax	pmax		
	comp=Z,20nm,1.2s							
CABF	**La Chapelle**	94.47	42	*e*	P	**P**	22 33 02.0	+2.2
CABF					pmax	pmax		
	comp=Z,23nm,0.7s							
P33M	**Teslin, Yukon**	94.53	333		IAmb	IAmb	22 33 01.5	
	comp=Z,136nm,1.4s							
P33M	**Teslin, Yukon**	94.53	333		P	**P**	22 32 59.8	+0.1
	baz=122							
BESE	**Bessie Mountai**	94.57	331		P	**P**	22 32 59.8	-0.1
BESE					IAmb	IAmb	22 33 01.8	
	comp=Z,143nm,1.2s							
P32M	**Atlin**	94.59	333		IAmb	IAmb	22 33 01.7	
	comp=Z,108nm,1.4s							
P32M	**Atlin**	94.59	333		P	**P**	22 33 00.4	+0.5
	baz=122,SNR=10							
BFZ	**Birch Farm**	94.59	224		P	**P**	22 33 01.3	+0.8
BFZ					IAmb	IAmb	22 33 04.7	
	comp=Z,384nm,2.0s							
PLWZ	**Palliser**	94.78	223		P	**P**	22 33 02.3	+0.8
PGF	**Pioggiola**	94.80	47	*e*	P	**P**	22 33 00.5	-0.9
PGF					pmax	pmax		
	comp=Z,48nm,1.5s							
KPA	**Kalaupapa**	94.82	291		P	**P**	22 33 02.9	+1.1
KPA	**Kalaupapa**	94.82	291		P	**P**	22 33 02.9	+1.1
MSWZ	**Moikau Station**	94.86	223		P	**P**	22 33 03.6	+1.8
R31K	**City Hall, Gus**	94.89	331		P	**P**	22 33 01.7	+0.5
	baz=120							
S31K	**Pelican**	94.89	331		P	**P**	22 33 01.1	-0.2
	baz=120							
DOU	**Dourbes**	94.99	38		*d*x	x	22 33 08.7	
	comp=Z,14nm,1.1s							
DOU					*d*PP	**PP**	22 36 47.9	-4.9
MRZ	**Mangatainoka R**	95.04	224		P	**P**	22 33 02.4	-0.2
BHW	**Baring Head**	95.11	223		P	**P**	22 33 01.9	-0.9
GIVF	**Givet**	95.12	38	*e*	P	**P**	22 33 01.4	-1.1
GIVF					pmax	pmax		
	comp=Z,21nm,1.1s							
SENIN	**Lac Senin/Sane**	95.14	43		IAmb	IAmb	22 33 19.7	
	comp=Z,60nm,0.7s							
RTZ	**Ruatahuna**	95.14	226		P	**P**	22 33 03.2	+0.1
RTZ					IAmb	IAmb	22 33 07.2	
	comp=Z,175nm,1.2s							
N32M	**Quiet Lake**	95.14	334		P	**P**	22 33 02.9	+0.5
	baz=122							
UCC	**Uccle**	95.14	38		P	**P**	22 33 03.6	+1.0
UCC	**Uccle**	95.14	38		P	**P**	22 33 03.6	+1.0
UCC					pmax	pmax		
	comp=Z,7.0nm,0.7s							
UCC	**Uccle**	95.14	38		*d*P	**P**	22 33 05.5	+3.0
	comp=Z,40nm,0.8s							
UCC					*d*pP	**pP**	22 33 30.4	-0.5
BMRD	**Maredsous**	95.17	38		*d*P	**P**	22 33 02.3	-0.5
	comp=Z,27nm,0.7s							
HAU	**Haudompre**	95.19	41		*e*P	**P**	22 33 01.6	-1.3
HAU					pmax	pmax		
	comp=Z,7.0nm,0.7s							
BKZ	**Black Stump Fm**	95.19	225		P	**P**	22 33 03.4	0.0
BKZ					IAmb	IAmb	22 33 07.5	
	comp=Z,259nm,1.8s							
MMPY	**Sheldon Lake,**	95.21	336		P	**P**	22 33 03.2	+0.5
	baz=123							
SKAG	**Skagway**	95.23	332		P	**P**	22 33 02.8	0.0
SKAG					IAmb	IAmb	22 33 04.6	
	comp=Z,103nm,1.5s							
SKAG	**Skagway**	95.23	332		P	**P**	22 33 03.1	+0.4
	baz=120							
URZ	**Urewera**	95.23	226		LR	LR	23 05 55.5	
	comp=Z,2μm,19.6s,baz=208,slow=29							
MQZ	**McQueen's Vall**	95.26	220		P	**P**	22 33 03.1	-0.3
MQZ					IAmb	IAmb	22 33 06.0	
	comp=Z,142nm,1.6s							
RCHB	**Rochefort**	95.38	39		*d*P	**P**	22 33 07.0	+3.3
	comp=Z,14nm,1.0s							
BGES	**Gesves**	95.39	38		*d*P	**P**	22 33 03.3	-0.5
BGES					*d*x	x	22 33 10.9	
KHZ	**Kahutara**	95.41	221		P	**P**	22 33 05.4	+1.2
GVZ	**Greta Valley S**	95.43	221		P	**P**	22 33 06.0	+1.7
RES	**Resolute Bay**	95.49	353		P	**P**	22 33 03.6	0.0
RES	**Resolute Bay**	95.49	353		LR	LR	23 19 20.1	
	comp=Z,1μm,19.2s,baz=162,slow=37							
RES	**Resolute Bay**	95.49	353		P	**P**	22 33 03.6	0.0
RES					pmax	pmax		
	comp=Z,32nm,1.2s							
BCLA	**Clavier**	95.53	38		*d*x	x	22 33 10.1	
TCW	**Tory Channel**	95.59	223		P	**P**	22 33 03.3	-1.8
WHY	**Whitehorse**	95.64	333		P	**P**	22 33 04.3	-0.5
WHY	**Whitehorse**	95.64	333		P	**P**	22 33 04.7	-0.1
	baz=120							
PLBC	**Pleasant Camp**	95.69	332		P	**P**	22 33 05.5	+0.7
	baz=119,SNR=11							
TUWZ	**Tuamarina**	95.69	222			**P**	22 33 05.7	+0.3
SCO	**Scoresbysund**	95.72	14	*i*	P	**P**	22 33 06.4	+1.7
SCO					IAmb	IAmb	22 33 14.2	
	comp=Z,1μm,2.7s							
WLF	**Walferdange**	95.73	39		PP	**PP**	22 36 51.8	-6.7
WLF	**Walferdange**	95.73	39		*d*P	**P**	22 33 05.5	+0.1
	comp=Z,23nm,1.1s							
BSTI	**Sart Tilman**	95.75	38		*d*x	x	22 33 15.4	
RAO	**Raoul Island**	95.78	236		LR	LR	23 08 45.5	
	comp=Z,505nm,21.9s,baz=150,slow=31							
KIP	**Kipapa**	95.81	291		P	**P**	22 33 05.5	-0.8
KIP	**Kipapa**	95.81	291		P	**P**	22 33 05.5	-0.8
KIP					pmax	pmax		
	comp=Z,338nm,1.8s							
FARO	**Faro, Yukon**	95.82	335		P	**P**	22 33 06.0	+0.5
	baz=122							
OXZ	**Oxford**	95.84	220		P	**P**	22 33 06.7	+0.5
OXZ					IAmb	IAmb	22 33 09.5	
	comp=Z,73nm,1.1s							
BEBN	**Eben Emael**	95.91	38		*d*x	x	22 33 20.2	
BEBN					*d*PP	**PP**	22 36 56.5	-3.3
CDF	**Champ du Feu**	95.92	41	*e*	P	**P**	22 33 05.3	-1.0
CDF					pmax	pmax		
	comp=Z,18nm,1.2s							
TULEG	**Thule**	95.94	0		P	**P**	22 33 05.6	-0.1
TULEG	**Thule**	95.94	0	*i*	P	**P**	22 33 05.3	-0.4
TULEG					IAmb	IAmb	22 33 07.0	
	comp=Z,52nm,0.9s							
LTZ	**Lake Taylor**	96.00	221		P	**P**	22 33 08.1	+1.1
LTZ					IAmb	IAmb	22 33 10.6	
	comp=Z,68nm,0.9s							
MEM	**Membach**	96.02	38		*d*x	x	22 33 15.4	
BTNL	**Ternell**	96.08	38		*d*P	**P**	22 33 09.7	+2.7
NNZ	**Nelson**	96.16	222		P	**P**	22 33 08.7	+1.1
NNZ					IAmb	IAmb	22 33 10.9	
	comp=Z,104nm,1.0s							
THZ	**Tophouse**	96.16	222		P	**P**	22 33 08.8	+1.1
THZ					IAmb	IAmb	22 33 11.2	
	comp=Z,99nm,0.9s							
O30N	**Mendenhall**	96.21	333		P	**P**	22 33 07.2	-0.2
O30N					IAmb	IAmb	22 33 09.1	
	comp=Z,206nm,2.0s							
O30N	**Mendenhall**	96.21	333		P	**P**	22 33 07.7	+0.4
	baz=119							
RPZ	**Rata Peaks**	96.21	219		P	**P**	22 33 07.8	-0.1
RPZ					IAmb	IAmb	22 33 11.3	
	comp=Z,192nm,1.7s							
RPZ	**Rata Peaks**	96.21	219		LR	LR	23 08 46.5	
	comp=Z,957nm,19.7s,baz=125,slow=30							
M31M	**Drury Creek, Y**	96.22	335		P	**P**	22 33 07.2	-0.1
M31M	**Drury Creek, Y**	96.22	335		P	**P**	22 33 07.6	+0.3
	baz=121							
P30M	**Million Dollar**	96.27	332		P	**P**	22 33 08.2	+0.5
	baz=119							
VLC	**Villacollemand**	96.33	45		PP	**PP**	22 36 59.5	-3.9
LBZ	**Lake Benmore**	96.35	218		P	**P**	22 33 08.9	+0.4
P29M	**Windy Craggy**	96.38	332		P	**P**	22 33 07.8	-0.3
P29M					IAmb	IAmb	22 33 09.6	
	comp=Z,70nm,1.1s							
P29M	**Windy Craggy**	96.38	332		P	**P**	22 33 08.2	+0.1
	baz=118,SNR=7.7							
N31M	**Braeburn, Yuko**	96.43	334		P	**P**	22 33 08.5	+0.2
	baz=120,SNR=7.3							
MRNZ	**Matariki Terra**	96.45	222		P	**P**	22 33 10.1	+1.0
PRMA	**PARMA**	96.50	45		P	**P**	22 33 09.9	+1.0
BFO	**Black Forest**	96.54	41		P	**P**	22 33 09.9	+0.8
BFO	**Black Forest**	96.54	41		P	**P**	22 33 09.9	+0.8
BFO					pmax	pmax		
	comp=Z,81nm,1.9s							
INZ	**Inchbonnie**	96.54	220		P	**P**	22 33 09.9	+0.6
INZ					IAmb	IAmb	22 33 13.1	
	comp=Z,49nm,0.8s							
TOZ	**Tahuroa Road**	96.59	226		P	**P**	22 33 10.0	+0.3
TOZ					IAmb	IAmb	22 33 13.1	
	comp=Z,135nm,1.8s							
WHZ	**Wether Hill Ro**	96.74	216		P	**P**	22 33 09.4	-0.8
WHZ					IAmb	IAmb	22 33 13.1	
	comp=Z,124nm,1.7s							
AFI	**Afiamalu**	96.77	253		P	**P**	22 33 11.4	+0.4
AFI					IAmb	IAmb	22 33 41.6	
	comp=Z,159nm,1.6s							
AFI	**Afiamalu**	96.77	253		P	**P**	22 33 11.4	+0.4
AFI					pmax	pmax		
	comp=Z,159nm,1.6s							
RAFF	**Raffo Rosso**	96.78	53		P	**P**	22 33 08.9	-1.6
RAFF					IAmb	IAmb	22 33 22.6	
	comp=Z,73nm,0.8s							
ZCCA	**Zocca**	96.80	45		P	**P**	22 33 09.7	-0.6
C36M	**Paulatuk**	96.83	343		P	**P**	22 33 08.5	-1.4
	baz=129							
HYT	**Haines Junctio**	96.84	333		P	**P**	22 33 11.1	+0.8
HYT	**Haines Junctio**	96.84	333		P	**P**	22 33 10.9	+0.6
	baz=118,SNR=6.5							
VAE	**Valguarnera**	96.90	53		S	**SKSac**	22 43 38.4	-0.3
	comp=Z,6.3nm,1.0s,baz=230,slow=17,SNR=1.2							
MLZ	**Mavora Lakes**	96.96	217		P	**P**	22 33 11.2	0.0
N30M	**Aishikik Lake**	96.97	333		IAmb	IAmb	22 33 12.7	
	comp=Z,102nm,1.6s							
N30M	**Aishikik Lake**	96.97	333		P	**P**	22 33 11.2	+0.4
	baz=118,SNR=12							
O29M	**Mount Kennedy**	97.07	332		P	**P**	22 33 11.1	-0.2
	baz=117							
DAVA	**Damuels**	97.12	42	*e*	P	Pdif	22 33 13.2	+1.2
	comp=Z,28nm,1.1s							
DAVA				*e*	PKKP	**PKKPbc**	22 49 51.9	-1.3
	comp=Z,4.7nm,0.5s							
DAVA					P'P'		22 58 05.1	
	comp=Z,12nm,1.6s							
STU	**Stuttgart**	97.23	41		P	Pdif	22 33 12.9	+0.7
STU					IAmb	IAmb	22 33 24.1	
	comp=Z,43nm,0.7s							
STU	**Stuttgart**	97.23	41		P	Pdif	22 33 12.9	+0.7
STU					pmax	pmax		
	comp=Z,43nm,0.7s							
YUK6	**Outpost Mounta**	97.27	333		P	Pdif	22 33 12.9	+0.4
	baz=118,SNR=7.1							
JCZ	**Jackson Bay**	97.34	218		P	**P**	22 33 12.1	-1.0
M30M	**Minto, Yukon**	97.38	334		P	**P**	22 33 12.4	-0.2
	baz=119,SNR=12							
BCPM	**Bancas Point**	97.38	331		P	Pdif	22 33 13.0	+0.4
NEEM	**North Greenlan**	97.45	4	*i*	P	**P**	22 33 12.7	-0.2
NEEM					IAmb	IAmb	22 33 14.3	
	comp=Z,83nm,1.3s							
MAYO	**Mayo, Yukon**	97.52	336		P	Pdif	22 33 13.3	+0.1
MAYO					IAmb	IAmb	22 33 14.4	
	comp=Z,65nm,0.9s							
FETA	**Feichten**	97.57	43	*e*	P	Pdif	22 33 14.8	+0.8
	comp=Z,15nm,1.0s							
FETA				*e*	PP	**PP**	22 37 10.4	-2.6
	comp=Z,7.0nm,0.9s							
FETA				*e*	PKKP	**PKKPbc**	22 49 49.8	-2.1
	comp=Z,1.5nm,0.6s							
FETA				*e*	P'P'		22 58 03.2	
	comp=Z,6.7nm,1.4s							
YUK4	**Talbot Arm**	97.58	333		P	**P**	22 33 13.5	-0.2
	baz=117,SNR=11							
PINM	**Pinnacle**	97.72	331		P	Pdif	22 33 14.3	0.0
	baz=116							
PCA	**Pinnacle**	97.73	331		P	**P**	22 33 13.7	-0.5
PCA					IAmb	IAmb	22 33 15.6	
	comp=Z,88nm,1.2s							
RETA	**Reutte**	97.76	42	*e*	PcP	Pdif	22 33 15.2	+0.5
	comp=Z,11nm,0.9s							
RETA					PP	**PP**	22 37 16.0	+1.7
	comp=Z,17nm,1.4s							
RETA					pPKiKP	pPKiKP	22 38 13.5	-4.1
	comp=Z,32nm,1.5s							
RETA				*e*	PKKP	**PKKPbc**	22 49 48.1	-3.2
	comp=Z,1.3nm,0.5s							
RETA				*e*	P'P'		22 58 03.0	
	comp=Z,10nm,2.0s							
MOTA	**Moosalm**	97.92	43	*e*	Pdiff	Pdif	22 33 16.0	+0.5
	comp=Z,9.7nm,0.6s							
MOTA				*e*	PP	**PP**	22 37 12.8	-2.9
	comp=Z,39nm,2.3s							
MOTA				*e*p	PKiKP	pPKiKP	22 38 14.9	-3.1
	comp=Z,37nm,2.2s							
MOTA				*e*	PKKP	**PKKPbc**	22 49 47.8	-3.1
	comp=Z,3.5nm,0.8s							
MOTA				*e*	P'P'		22 58 02.6	
	comp=Z,15nm,2.1s							
SQTA	**Sankt Quirin**	97.95	43	*e*	Pdiff	**P**	22 33 15.6	0.0
	comp=Z,43nm,0.7s							
SQTA				*i*	PKKP	**PKKPbc**	22 49 47.7	-3.1
	comp=Z,2.3nm,0.5s							
SQTA					P'P'		22 58 02.2	
	comp=Z,14nm,1.5s							
O28M	**Mount Upton**	97.99	332		Pdiff	**P**	22 33 15.6	-0.1
	baz=116							
M29M	**Somme Creek**	98.00	334		IAmb	IAmb	22 33 17.0	
	comp=Z,78nm,1.2s							
M29M	**Somme Creek**	98.00	334		Pdiff	Pdif	22 33 15.7	+0.2
	baz=117							
YUK8	**Steele Glacier**	98.03	333		Pdiff	**P**	22 33 15.8	0.0
	baz=116							
H31M	**Peel River**	98.04	338		Pdiff	Pdif	22 33 15.5	0.0
	baz=120							
J30M	**Hart River**	98.16	336		Pdiff	**P**	22 33 16.1	0.0
	baz=119							
L29M	**L29M**	98.17	335		IAmb	IAmb	22 33 17.5	
	comp=Z,100nm,1.1s							
L29M	**L29M**	98.17	335		Pdiff	Pdif	22 33 16.2	0.0
	baz=117							
WATA	**Walderalm**	98.22	43	*e*	Pdiff	Pdif	22 33 17.5	+0.6
	comp=Z,21nm,0.6s							
WATA				*e*	PP	**PP**	22 37 12.7	-5.3
	comp=Z,12nm,1.1s							
WATA					pPKiKP	pPKiKP	22 38 13.5	-5.0
	comp=Z,24nm,1.5s							
WATA				*e*	P'P'		22 58 02.0	
	comp=Z,9.9nm,1.2s							
WTTA	**Wattenberg**	98.24	43	*e*	Pdiff	**P**	22 33 16.8	-0.1
	comp=Z,41nm,0.8s							
WTTA				*e*p	PKiKP	**pPKiKP**	22 38 13.7	-4.9
	comp=Z,21nm,1.5s							
WTTA				*e*	PKKP	**PKKPbc**	22 49 46.8	-3.2
	comp=Z,2.7nm,0.5s							
WTTA				*e*	P'P'		22 58 00.9	
	comp=Z,9.5nm,1.1s							
K29M	**Barlow Dome**	98.27	335		Pdiff	**P**	22 33 16.3	-0.4
	baz=118							
I30M	**Mount Dempster**	98.49	337		Pdiff	**P**	22 33 17.5	-0.1
	baz=119							
YAH	**Yahtse**	98.51	331		P	**P**	22 33 17.4	-0.6
MESA	**MESA**	98.53	331		Pdiff	**P**	22 33 17.5	-0.5
	baz=114							
YUK3	**Moose Creek**	98.55	333		Pdiff	**P**	22 33 18.1	0.0
	baz=116							
CTGM	**Chitina Glacie**	98.58	332		P	**P**	22 33 17.4	-0.7
G31M	**Satah River**	98.58	339		IAmb	IAmb	22 33 18.8	
	comp=Z,72nm,1.2s							
G31M	**Satah River**	98.58	339		Pdiff	**P**	22 33 17.7	-0.1
	baz=120							
CTG	**Chitna Glacier**	98.58	332		Pdiff	Pdif

comp=Z,0.8nm,0.3s,baz=253,slow=19,SNR=1.2
MBAR LR LR 23 16 15.1
comp=Z,4µm,19.5s,baz=270,slow=34
MBAR Mbarara 99.27 94⇑ *e*P **Pdif 22 33 23.6 +1.2**
MBAR pmax pmax
comp=Z,14nm,2.7s
I29M Ogilvie Camp, 99.27 337 Pdiff **Pdif 22 33 20.4 -0.6**
baz=117
KBA Koelnbreinsper 99.28 43 *i* Pdiff **Pdif 22 33 25.1 +3.5**
comp=Z,21nm,0.7s
KBA *e*PP **PP 22 37 22.9 -3.1**
comp=Z,8.8nm,0.8s
KBA *e*pPKiKP **pPKiKP 22 38 15.6 -4.8**
comp=Z,26nm,1.5s
CRQE Cirque 99.28 331 Pdiff **Pdif 22 33 20.8 -0.5**
baz=114
G30M tAoh Zraii Nji 99.28 338 P **Pdif 22 33 20.5 -0.5**
G30M tAoh Zraii Nji 99.28 338 Pdiff **Pdif 22 33 20.4 -0.5**
baz=118
CRQM Cirque 99.30 331 P **Pdif 22 33 20.0 -1.4**
MYKA Terra Mystica 99.33 44 *i* Pdiff **Pdif 22 33 24.7 +3.0**
comp=Z,49nm,0.7s
MYKA *e*PP **PP 22 37 22.8 -3.5**
comp=Z,37nm,1.6s
MYKA *e*pPKiKP **pPKiKP 22 38 13.2 -7.2**
comp=Z,40nm,1.8s
M27K Edge Creek, AK 99.40 333 **Pdif 22 33 21.3 -0.4**
M27K Edge Creek, AK 99.40 333 Pdiff **Pdif 22 33 21.6 -0.2**
baz=114
BERG Berg Lake 99.41 331 **Pdif 22 33 21.0 -0.7**
BERG IAmb IAmb 22 33 22.9
comp=Z,102nm,1.2s
F30M Barrier River 99.44 339 Pdiff **Pdif 22 33 21.4 -0.2**
baz=119
JMIC Jan Mayen 99.47 17 LR LR 23 14 12.6
comp=Z,572nm,21.5s,baz=241,slow=33
MCARA McCarthy VSAT 99.50 332 Pdif **Pdif 22 33 22.0 0.0**
MCARA McCarthy VSAT 99.50 332 Pdiff **Pdif 22 33 21.6 -0.4**
baz=114
KAIM Kayak Island 99.56 330 Pdiff **Pdif 22 33 21.5 -0.8**
baz=112
CEY Cerknica 99.56 45 *i* Pdiff **Pdif 22 33 28.5 +5.8**
CEY *i* 22 33 33.4
CEY *e*PP PP 22 37 19.6 -8.5
CEY *e*SKSac **SKSac 22 43 52.9 +1.1**
CEY *e* 22 44 43.6
MATE Matera 99.59 50⇑P **Pdif 22 33 31.4 +8.5**
VRDI Verde Repeater 99.63 332 Pdif **Pdif 22 33 22.8 -0.1**
SNART Snartemo 99.64 31 *i* P **Pdif 22 33 33.1 +10**
BCAR Beaver Creek A 99.65 334 Pdif **Pdif 22 33 22.9 +0.1**
BIOA Bad Ischl, Aus 99.66 43 *e*Pdiff **Pdif 22 33 25.6 +2.4**
comp=Z,12nm,0.7s
BIOA *e*PP **PP 22 37 24.6 -4.1**
comp=Z,19nm,1.4s
BIOA pPKiKP PKiKP 22 38 11.6 +20
comp=Z,16nm,1.5s
BIOA *e*P'P' 22 57 59.2
comp=Z,6.9nm,1.6s
L27K Beaver Creek, 99.67 334 Pdif **Pdif 22 33 22.4 -0.4**
L27K Beaver Creek, 99.67 334 Pdiff **Pdif 22 33 22.4 -0.4**
baz=114
H29M Whitestone 99.69 337 Pdif **Pdif 22 33 22.9 +0.1**
H29M Whitestone 99.69 337 Pdiff **Pdif 22 33 22.3 -0.5**
baz=117
LJU Ljubljana 99.73 45 *e*PP **PP 22 37 24.6 -4.6**
LJU *e*SKSac **SKSac 22 43 53.8 +1.3**
LJU *e* 22 44 44.6
LJU *e* 22 45 37.5
LJU *e*SP **SP 22 46 17.7 +1.2**
LJU *e*SS **SS 22 51 46.5 +3.9**
NKC Novy Kostel 99.73 40 *e*PDIFF **Pdif 22 33 32.1 +8.8**
NKC *e*PP **PP 22 37 26.2 -3.0**
NKC Novy Kostel 99.73 40 *e*P **Pdif 22 33 32.1 +8.8**
NKC *e* 22 37 26.2
RAGM Ragged Mountai 99.86 331 Pdif **Pdif 22 33 23.2 -0.5**
RAGM IAmb IAmb 22 35 20.3
comp=Z,105nm,1.6s
GLB Gilahina Butte 99.87 332 Pdif **Pdif 22 33 22.9 -0.8**
G29M Pine Creek 99.88 338 Pdif **Pdif 22 33 23.3 -0.3**
G29M Pine Creek 99.88 338 Pdiff **Pdif 22 33 23.0 -0.6**
baz=117
OBKA Obir 99.88 44 *e*Pdiff **Pdif 22 33 26.8 +2.6**
comp=Z,66nm,0.7s
OBKA *e*PP **PP 22 37 25.5 -5.1**
comp=Z,7.1nm,0.7s
M26K Nabesna, AK 99.89 333 Pdif **Pdif 22 33 23.3 -0.6**
M26K Nabesna, AK 99.89 333 Pdiff **Pdif 22 33 22.8 -1.0**
baz=113
EUNU Eureka 99.89 357 Pdif **Pdif 22 33 24.2 +0.7**
I28M Miner Creek 99.92 336 Pdif **Pdif 22 33 23.5 -0.4**
I28M Miner Creek 99.92 336 Pdiff **Pdif 22 33 23.4 -0.5**
baz=116
MUD Monsted U'grnd 99.96 34 *i* P **Pdif 22 33 36.2 +12**
BOJS Bojanci 100.04 45 *e*PP **PP 22 37 25.9 -5.7**
BOJS *e*SKSac **SKSac 22 43 55.5 +1.4**
BOJS *i* PKKPbc **PKKPbc 22 49 44.2 -0.4**
BOJS *e* 22 50 09.5
BMRM Bremner River 100.05 331 Pdif **Pdif 22 33 24.0 -0.6**
BMRM Bremner River 100.05 331 Pdiff **Pdif 22 33 23.8 -0.7**
baz=112
GEC2 GERESS Array S 100.06 42 Pdif **Pdif 22 33 24.7 -0.3**
GERES GERESS Array B 100.06 42 P **Pdif 22 33 23.4 -1.6**
comp=Z,0.4nm,0.4s,baz=242,slow=2.1,SNR=1.9
GERES S **SKSac 22 43 54.1 -0.1**
comp=Z,0.2nm,0.4s,baz=285,slow=12,SNR=1.6
GERES PKKPbc **PKKPbc 22 49 42.1 -2.7**
comp=Z,2.2nm,0.7s,baz=75,slow=1.1,SNR=7.5
GERES LR LR 23 15 54.1
comp=Z,723nm,21.0s,baz=242,slow=34
KHC Kasperske Hory 100.07 41 Pdif **Pdif 22 33 25.1 +0.2**
KHC Kasperske Hory 100.07 41 *e*PDIFF **Pdif 22 33 32.0 +7.1**
KHC *e*pP **pPdif 22 33 49.2 -4.1**
KHC *e*PP **PP 22 37 27.8 -4.1**
KHC *e*SKS **SKSac 22 43 55.4 +1.2**
KHC AMS AMS 23 14 50.0
comp=Z,1µm,16.4s
KHC Kasperske Hory 100.07 41⇑ *e*P **Pdif 22 33 27.8 +2.9**
KHC pmax pmax
comp=Z,24nm,0.8s
EGAK Eagle 100.11 336 Pdif **Pdif 22 33 25.0 +0.4**
EGAK Eagle 100.11 336 Pdiff **Pdif 22 33 24.1 -0.6**
baz=114
MOA Molln 100.11 43 *e*Pdiff **Pdif 22 33 26.0 +0.9**
comp=Z,8.2nm,0.7s
MOA *e*PP **PP 22 37 27.8 -4.4**
comp=Z,31nm,1.8s
MOA *e*pPKiKP PKiKP 22 38 18.3 +26
comp=Z,20nm,1.4s
MOA *i* PKKP **PKKPbc 22 49 43.7 -0.9**
comp=Z,1.3nm,0.5s
K27K Chicken 100.17 335 **Pdif 22 33 25.3 +0.4**
K27K Chicken 100.17 335 Pdiff **Pdif 22 33 25.2 +0.2**
baz=114
GOET G??ttrup 100.19 33 *i* P **Pdif 22 33 37.9 +13**
GOET IAmb IAmb 22 33 45.7
comp=Z,2µm,2.7s
SOKA Soboth 100.25 44 *i* Pdiff **Pdif 22 33 28.5 +2.6**
comp=Z,12nm,0.8s
SOKA *e*PKKP **PKKPbc 22 49 43.5 -0.7**
comp=Z,2.2nm,0.8s
HOMB Homborsund 100.26 32 *i* P **Pdif 22 33 37.8 +12**
N25K Chitina, Valde 100.28 332 Pdif **Pdif 22 33 25.4 -0.2**
N25K Chitina, Valde 100.28 332 Pdiff **Pdif 22 33 25.2 -0.5**
baz=112
Q23K Middleton Isla 100.29 330 Pdiff **Pdif 22 33 24.9 -0.6**
baz=111
L26K Log Cabin Wild 100.29 334 Pdif **Pdif 22 33 25.4 -0.1**
L26K Log Cabin Wild 100.29 334 Pdiff **Pdif 22 33 24.5 -1.0**
baz=113
CLL Collm 100.40 39 Pdif **Pdif 22 33 25.8 -0.5**
CLL Collm 100.40 39 *e*P **Pdif 22 33 27.0 +0.7**
CLL *i* 22 37 28.3
CLL *e* 22 43 56.0
CLL *e*S **Sdif 22 44 51.0 -2.6**
CLL pmax pmax
comp=Z,149nm,2.3s
CLL pmax pmax
comp=Z,88nm,2.7s
CLL Collm 100.40 39 *e*Pdif **Pdif 22 33 27.0 +0.7**
CLL *e*x x 22 33 34.0
CLL *e*x x 22 33 37.0
CLL *i* pPdif **pPdif 22 33 54.2 -0.4**
CLL *i* PP **PP 22 37 28.3 -5.9**
comp=Z,149nm,2.3s
CLL *i* x x 22 37 38.0

CLL *e*PP 22 37 54.0
CLL *e*SPP 22 38 11.0
CLL *i* pPKiKP **pPKiKP 22 38 19.9 -2.2**
comp=Z,151nm,2.0s
CLL *e*SKSac **SKSac 22 43 56.0 +0.5**
CLL *e*Sdif **Sdif 22 44 51.0 -2.6**
CLL *e*sSdif **sS 22 45 42.0 -1.2**
CLL *e*SP **SP 22 46 27.0 +3.6**
CLL *e*pSP 22 47 03.0
CLL *e*PPS PPS 22 47 33.0
CLL *e*PKKPbc **PKKPbc 22 49 43.0 -0.8**
CLL *e*pPKKPbc 22 50 08.0
comp=Z,19nm,1.4s
CLL *e*SS SS 22 51 36.0 -16
CLL *e*sSS 22 52 30.0
CLL *e*SKKPdf **SKKPdf 22 53 14.0 -0.9**
CLL *e*SSS SSS 22 55 36.0
CLL *e*PKPPKPd**P'P'df 22 57 58.0 -0.5**
comp=Z,88nm,2.7s
EYAK Cordova Ski Ar 100.41 331 Pdif **Pdif 22 33 25.2 -0.9**
EYAK Cordova Ski Ar 100.41 331 Pdiff **Pdif 22 33 25.3 -0.7**
baz=111
MENT Mentasta 100.41 333 Pdif **Pdif 22 33 25.9 -0.2**
MENT Mentasta 100.41 333 P **Pdif 22 33 26.2 +0.1**
CKRC Cesky Krumlov 100.44 42 *e*PDIFF **Pdif 22 33 33.0 +6.5**
CKRC *e*SKS **SKSac 22 43 58.3 +2.4**
CKRC Cesky Krumlov 100.44 42 *e*P **Pdif 22 33 33.0 +6.5**
CKRC *e* 22 43 58.3
HSKC Hora Svate Kat 100.44 40 *e*PDIFF **Pdif 22 33 32.2 +5.7**
HSKC *e*SKS **SKSac 22 43 58.0 +2.1**
E29M Blow River 100.50 339 Pdif **Pdif 22 33 26.8 +0.4**
E29M Blow River 100.50 339 Pdiff **Pdif 22 33 26.0 -0.4**
baz=117
ZVC Zvikov 100.55 41 *e*PDIFF **Pdif 22 33 34.6 +7.6**
ZVC *e*SKS **SKSac 22 43 59.1 +2.7**
I27K Kandik River 100.63 336 Pdiff **Pdif 22 33 26.5 -0.5**
baz=114
DIV Divide 100.63 331 Pdif **Pdif 22 33 26.7 -0.4**
SCTE Santa Cesarea 100.71 51 Pdif **Pdif 22 33 27.9 0.0**
ARSA Arzberg 100.74 44 *e*Pdiff **Pdif 22 33 29.5 +1.6**
comp=Z,9.7nm,0.8s
DAG Danmarks Havn 100.78 10 *i* P **Pdif 22 33 29.0 +1.6**
DAG IAmb IAmb 22 33 41.7
comp=Z,7.4nm,0.8s
DAG Danmarks Havn 100.78 10 *i* P **PKKPbc 22 49 40.0 -3.5**
OVD Ostervraa, Den 100.79 33 *i* P **Pdif 22 33 39.6 +12**
HARP HAARP 100.82 333 Pdiff **Pdif 22 33 27.9 -0.1**
baz=112
F28M Old Crow 100.83 338 Pdif **Pdif 22 33 27.2 -0.7**
F28M Old Crow 100.83 338 Pdiff **Pdif 22 33 27.5 -0.4**
baz=115
KLU Klutina 100.83 332 Pdif **Pdif 22 33 27.6 -0.5**
KLU Klutina 100.83 332 Pdiff **Pdif 22 33 27.3 -0.7**
baz=111
BRG Berggiesshubel 100.83 40⇓ *e*Pif 22 33 28.4
BRG Amp 22 33 32.8
comp=Z,6.7nm,1.1s
BRG Berggiesshubel 100.83 40 P **Pdif 22 33 39.6 +11**
BRG Amp 22 33 41.3
comp=Z,6.2nm,0.9s
BRG ⇓pPiff 22 33 56.7
BRG Amp 22 33 57.8
comp=Z,25nm,1.6s
BRG Berggiesshubel 100.83 40 SP SP 22 46 30.0 +1.9
BRG PKKP 22 49 42.0
BRG Amp 22 49 42.9
comp=Z,6.9nm,1.0s
BRG Berggiesshubel 100.83 40 SS SS 22 51 54.0 -3.7
BRG PKPPKP 22 57 59.1
BRG Amp 22 58 01.4
comp=Z,19nm,1.5s
BRG Berggiesshubel 100.83 40 *e*P **Pdif 22 33 28.3 +0.1**
BRG 22 37 33.6
BRG 22 44 01.0
BRG S **Sdif 22 44 52.0 -5.2**
BRG SP SP 22 46 30.0 +1.9
BRG SS **SS 22 51 54.0 -3.7**
BRG pmax pmax
comp=Z,7.0nm,1.1s
BRG pmax pmax
comp=Z,12nm,1.1s
BRG MLR MLR
comp=N,814nm,24.3s
BRG MLR MLR
comp=Z,2µm,24.0s
BRG MLR MLR
comp=E,1µm,26.9s
H27K Steamboat Moun 100.85 337 Pdiff **Pdif 22 33 27.4 -0.5**
baz=114
SCRK Sand Creek 100.92 334 Pdif **Pdif 22 33 28.2 -0.2**
SCRK Sand Creek 100.92 334 Pdiff **Pdif 22 33 28.0 -0.5**
baz=112
PRU Pruhonice 100.93 41 *e*PDIFF **Pdif 22 33 37.4 +8.7**
PRU *e*SKS **SKSac 22 44 00.7 +2.5**
PRU AMS AMS 23 15 50.0
comp=E,1µm,18.5s
PRU Pruhonice 100.93 41 *e*P **Pdif 22 33 37.4 +8.7**
PRU *e* 22 44 00.7
PRU MLR MLR
comp=Z,1µm,18.5s
J26L Joseph Creek 100.95 335 Pdif **Pdif 22 33 27.7 -0.8**
J26L Joseph Creek 100.95 335 Pdiff **Pdif 22 33 28.1 -0.4**
baz=112
P23K Montague Islan 100.99 330 Pdiff **Pdif 22 33 27.7 -1.0**
baz=110
I26K Coal Creek Min 101.10 336 Pdif **Pdif 22 33 28.5 -0.6**
I26K Coal Creek Min 101.10 336 Pdiff **Pdif 22 33 28.5 -0.6**
baz=113
PVCC Panska Ves 101.11 40 *e*SKS **SKSac 22 44 01.6 +2.6**
G27K Doyon Strip 101.13 337 Pdif **Pdif 22 33 28.6 -0.6**
G27K Doyon Strip 101.13 337 Pdiff **Pdif 22 33 28.6 -0.6**
baz=114
E28M Babbage River 101.14 339 Pdif **Pdif 22 33 29.1 -0.1**
E28M Babbage River 101.14 339 Pdiff **Pdif 22 33 28.5 -0.7**
baz=115
GLI Glacier Island 101.15 331 Pdiff **Pdif 22 33 28.6 -0.8**
baz=110
CONA Conrad Observa 101.16 43 *e*Pdiff **Pdif 22 33 31.3 +1.4**
comp=Z,5.4nm,0.7s
CONA *e*PP **PP 22 37 37.3 -2.8**
comp=Z,7.7nm,1.1s
CONA pPKiKP PKiKP 22 38 24.4 +30
comp=Z,19nm,1.9s
CONA *i* PKKP **PKKPbc 22 49 41.0 -0.7**
comp=Z,2.4nm,0.6s
M24K Tolsona, Glenn 101.16 332 Pdif **Pdif 22 33 29.3 -0.2**
M24K Tolsona, Glenn 101.16 332 Pdiff **Pdif 22 33 29.2 -0.3**
baz=111
PAX Paxson 101.17 333 Pdif **Pdif 22 33 29.6 +0.1**
PAX Paxson 101.17 333 Pdiff **Pdif 22 33 28.3 -1.2**
baz=111
RIDG Independent Ri 101.19 334 Pdif **Pdif 22 33 29.8 +0.3**
RIDG Independent Ri 101.19 334 Pdiff **Pdif 22 33 29.0 -0.6**
baz=112
D28M Stokes Point 101.20 340 Pdiff **Pdif 22 33 29.0 -0.4**
baz=116
RONA Rosalia, Austr 101.38 43 *e*Pdiff **Pdif 22 33 32.8 +2.0**
comp=Z,9.4nm,0.8s
RONA *e*PP **PP 22 37 40.0 -1.7**
comp=Z,13nm,1.1s
COP Copenhagen 101.44 35 *i* P **Pdif 22 33 43.2 +12**
COP IAmb IAmb 22 33 45.2
comp=Z,90nm,0.9s
SCM Sheep Creek Mo 101.58 332 **Pdif 22 33 31.3 -0.1**
SCM Sheep Creek Mo 101.58 332 Pdiff **Pdif 22 33 30.6 -0.8**
baz=110
K24K Donnelly Dome 101.59 334 Pdiff **Pdif 22 33 30.9 -0.5**
baz=111
E27K Coleen River 101.66 339 Pdif **Pdif 22 33 30.6 -1.0**
E27K Coleen River 101.66 339 Pdiff **Pdif 22 33 31.7 +0.1**
baz=114
ONAU Onsala 101.69 33 *i* P **Pdif 22 33 43.7 +12**
PWL Port Wells 101.71 331 Pdif **Pdif 22 33 31.9 0.0**
PWL Port Wells 101.71 331 Pdiff **Pdif 22 33 30.9 -1.0**
baz=109
J25K Salcha River, 101.72 335 Pdif **Pdif 22 33 32.2 +0.3**
J25K Salcha River, 101.72 335 Pdiff **Pdif 22 33 31.6 -0.3**
baz=111
TJOU Tjoern 101.74 32 *i* P **Pdif 22 33 44.0 +12**
M23K Glacier View 101.74 332 Pdiff **Pdif 22 33 31.0 -1.0**
baz=109
KRUC Moravsky 101.82 42 *e*P **Pdif 22 33 42.6 +10**
KRUC *e*PP **PP 22 37 40.7 -4.3**
KRUC *e*SKS **SKSac 22 44 01.1 -1.4**

KRUC *e*PKKP **PKKPbc 22 49 38.3 -1.3**
KRUC *e* 22 50 02.3
STRU Stroemstad 101.83 31 *i* P **Pdif 22 33 43.7 +11**
BJUU Bjuv 101.87 35 *i* P **Pdif 22 33 44.0 +11**
D27M Malcolm River 101.88 340 Pdiff **Pdif 22 33 32.7 +0.2**
baz=114
PDG Podgorica 101.94 49 Pdif **Pdif 22 33 33.8 +0.5**
PDG Podgorica 101.94 49⇑ P **Pdif 22 33 43.7 +10**
KNK Knik Glacier 101.95 331 Pdiff **Pdif 22 33 32.1 -0.9**
baz=109
G26K Porcupine Rive 101.96 337 Pdiff **Pdif 22 33 32.4 -0.5**
baz=112
LUNU Lund 101.97 35 *i* P **Pdif 22 33 44.0 +11**
FABU Falkenberg 101.99 34 *i* P **Pdif 22 33 44.5 +11**
SEW Seward 101.99 330 Pdiff **Pdif 22 33 32.2 -0.9**
baz=108
WAT6 Susitna Watana 102.01 332 Pdiff **Pdif 22 33 32.5 -0.8**
baz=109
VRAC Vranov 102.02 42 S **SKSac 22 44 05.3 +1.8**
comp=Z,0.6nm,0.3s,baz=287,slow=19,SNR=1.2
VRAC PKKPbc PKKPbc 22 49 38.6 -0.5
comp=Z,0.5nm,0.3s,baz=87,slow=0.4,SNR=3.5
VRAC PKPPKP 22 57 56.4
comp=Z,1.7nm,0.6s,baz=90,slow=6.6,SNR=3.8
VRAC Vranov 102.02 42 *e*P **Pdif 22 33 43.2 +10**
VRAC *e*PP PP 22 37 38.2 -8.3
VRAC *e*SKS **SKSac 22 44 05.4 +1.9**
VRAC *e*PKKP **PKKPbc 22 49 37.6 -1.5**
VRAC *e* 22 50 01.7
VRAC Vranov 102.02 42⇑ P **Pdif 22 33 43.6 +10**
DHY Denali Highway 102.02 333 Pdif **Pdif 22 33 32.9 -0.5**
DHY Denali Highway 102.02 333 Pdiff **Pdif 22 33 32.5 -0.9**
baz=109
SML Sawmill 102.02 332 Pdif **Pdif 22 33 33.1 -0.2**
SML Sawmill 102.02 332 Pdiff **Pdif 22 33 32.6 -0.7**
baz=109
CHVC Chvalec 102.04 41 *e*PDIFF **Pdif 22 33 37.9 +4.3**
CHVC Chvalec 102.04 41 *e*P **Pdif 22 33 37.9 +4.3**
TIR Tirane 102.09 50⇑ P **Pdif 22 33 44.3 +10**
PRP Porcupine Dome 102.10 336 Pdif **Pdif 22 33 32.9 -0.8**
PRP Porcupine Dome 102.10 336 Pdiff **Pdif 22 33 33.4 -0.3**
baz=110
OSTC Ostas 102.13 41 *e*PDIFF **Pdif 22 33 41.3 +7.3**
OSTC *e*SKS **SKSac 22 44 07.1 +3.1**
OSTC Ostas 102.13 41 *e*P **Pdif 22 33 41.3 +7.3**
OSTC *e* 22 44 07.1
DPC Dobruska-Polom 102.13 41 *e*PDIFF **Pdif 22 33 38.4 +4.3**
DPC *e*SKS **SKSac 22 44 06.9 +2.8**
DPC Dobruska-Polom 102.13 41 *e*P **Pdif 22 33 38.4 +4.3**
DPC *e* 22 44 06.9
MODS Modra-Piesok 102.20 43 *e*PDIFF **Pdif 22 33 45.0 +11**
MODS *e*PP **PP 22 37 44.0 -3.8**
BORU Boraas 102.20 33 *i* P **Pdif 22 33 45.7 +12**
O22K Cooper Landing 102.24 330 Pdiff **Pdif 22 33 33.5 -0.7**
baz=108
NBO00 NORSAR Array S 102.26 29 Pdif **Pdif 22 33 34.4 +0.1**
GHO Glory Hole Cre 102.28 331 Pdif **Pdif 22 33 34.0 -0.5**
HDA Harding Lake 102.29 334 Pdif **Pdif 22 33 34.2 -0.2**
HDA Harding Lake 102.29 334 Pdiff **Pdif 22 33 33.4 -1.0**
baz=110
PUK Puka 102.29 50 Pdif **Pdif 22 33 34.8 -0.3**
PMR Palmer 102.31 331 Pdif **Pdif 22 33 34.0 -0.4**
PMR Palmer 102.31 331 Pdiff **Pdif 22 33 33.7 -0.8**
baz=108
NC204 NORSAR Array S 102.33 29 Pdif **Pdif 22 33 36.9 +2.2**
KRLC Kraliky 102.34 41 *e*PDIFF **Pdif 22 33 44.0 +9.0**
KRLC *e*SKS **SKSac 22 44 07.6 +2.5**
FYU Fort Yukon 102.36 337 Pdif **Pdif 22 33 35.4 +0.8**
F26K Sheenjek River 102.37 338 Pdif **Pdif 22 33 35.3 +0.6**
F26K Sheenjek River 102.37 338 Pdiff **Pdif 22 33 34.8 +0.1**
baz=111
IL03 Eielson Array 102.37 335 Pdif **Pdif 22 33 34.7 0.0**
IL31 102.38 335 Pdif **Pdif 22 33 34.3 -0.4**
ILAR Eielson Array 102.38 335 Pdif **Pdif 22 33 34.1 -0.7**
ILAR Eielson Array 102.38 335 P **Pdif 22 33 34.3 -0.4**
comp=Z,2.6nm,0.8s,baz=102,slow=3.8,SNR=21
ILAR PP **PP 22 37 45.8 -2.9**
comp=Z,8.0nm,0.9s,baz=104,slow=6.6,SNR=8.9
ILAR PKKPbc **PKKPbc 22 49 35.5 -3.1**
comp=Z,1.1nm,0.7s,baz=298,slow=3.3,SNR=8.1
BMAR Burnt Mountain 102.42 338 Pdif **Pdif 22 33 34.5 -0.5**
RC01 Rabbit Creek A 102.43 331 Pdif **Pdif 22 33 35.4 +0.3**
RC01 Rabbit Creek A 102.43 331 Pdiff **Pdif 22 33 34.7 -0.4**
baz=108
DEL Delary 102.44 34 *i* P **Pdif 22 33 46.9 +12**
WAT1 Susitna Watana 102.45 332 Pdiff **Pdif 22 33 34.3 -0.9**
baz=108
NB2 NORSAR Subarra102.47 29 P **Pdif 22 33 35.2 -0.1**
comp=Z,17nm,1.2s,baz=248,slow=4.6
NB2 PP **PP 22 37 49.2 -0.4**
comp=Z,756nm,5.0s,baz=247,slow=7.9
NB2 PKKP **PKKPbc 22 49 36.5 -1.8**
comp=Z,2.3nm,0.8s,baz=75,slow=4.1
NB2 NORSAR Subarra102.47 29 P **Pdif 22 33 35.2 -0.1**
baz=248,slow=4.6
NOA NORSAR Array B 102.47 29 P **Pdif 22 33 34.1 -1.2**
comp=Z,2.0nm,1.0s,baz=252,slow=4.3,SNR=3.5
NOA PP **PP 22 37 48.6 -1.0**
comp=Z,8.3nm,1.1s,baz=247,slow=7.7,SNR=4.0
NOA PKKPbc **PKKPbc 22 49 36.4 -1.8**
comp=Z,3.0nm,0.7s,baz=50,slow=1.2,SNR=11
H25L Birch Creek 102.47 336 Pdiff **Pdif 22 33 35.6 +0.5**
baz=110
BRSE Bradley Lake S 102.50 329 Pdiff **Pdif 22 33 34.6 -0.8**
baz=107
MORH Mrgy, Hungar 102.52 45⇑ P **Pdif 22 33 46.0 +10**
MORH Mrgy, Hungar 102.52 45⇑ P **PKKPbc 22 49 36.1 -1.3**
JAVC Velka Javorina 102.58 43 *e*PP **PP 22 37 43.0 -7.7**
JAVC *e*SKS **SKSac 22 44 10.0 +3.8**
JAVC *e*PKKP **PKKPbc 22 49 37.5 0.0**
JAVC *e* 22 50 00.1
BRLK Bradley Lake 102.58 329 Pdif **Pdif 22 33 36.0 +0.2**
CCB Clear Creek Bu 102.71 334 Pdif **Pdif 22 33 36.4 +0.1**
POKR Poker Plat Res 102.72 335 Pdif **Pdif 22 33 35.7 -0.6**
POKR Poker Plat Res 102.72 335 Pdiff **Pdif 22 33 35.8 -0.5**
baz=109
SRO Srobarova 102.72 44 *e*PDIFF **Pdif 22 33 48.3 +12**
SRO *e*PP **PP 22 37 49.7 -2.0**
MORC Moravsky Berou 102.74 42 Pdif **Pdif 22 33 37.8 +1.0**
MORC Moravsky Berou 102.74 42 *e*P **Pdif 22 33 46.7 +10**
MORC *e*PP **PP 22 37 49.0 -2.9**
MORC *e*SKS **SKSac 22 44 08.2 +1.3**
MORC *e*PKKP **PKKPbc 22 49 36.4 -0.6**
MORC *e* 22 49 58.3
MORC Moravsky Berou 102.74 42⇑ P **Pdif 22 33 47.2 +10**
G25K Bearman Lake 102.75 337 Pdiff **Pdif 22 33 36.4 +0.1**
baz=110
RND Reindeer 102.76 333 Pdif **Pdif 22 33 36.8 +0.3**
COLA College 102.81 335 Pdif **Pdif 22 33 36.2 -0.4**
baz=109
COLA College 102.81 335 P **Pdif 22 33 36.6 -0.1**
COLA College 102.81 335*e*P **Pdif 22 33 36.5 -0.1**
COLA pmax pmax
comp=Z,50nm,1.4s
MAUC Maruska 102.81 42 *e*PDIFF **Pdif 22 33 46.0 +8.9**
MAUC *e*SKS **SKSac 22 44 10.1 +2.8**
M22K Willow 102.81 331 Pdiff **Pdif 22 33 36.2 -0.5**
baz=107
KDAK Kodiak Island 102.86 327 Pdiff **Pdif 22 33 36.5 -0.5**
baz=106
F25K Christian Rive 102.87 338 Pdif **Pdif 22 33 38.1 +1.1**
F25K Christian Rive 102.87 338 Pdiff **Pdif 22 33 37.0 +0.1**
baz=110
MCK McKinley 102.89 333 Pdif **Pdif 22 33 36.7 -0.4**
MCK McKinley 102.89 333 Pdiff **Pdif 22 33 36.6 -0.5**
baz=108
HOM Homer 102.91 329 Pdiff **Pdif 22 33 37.0 -0.3**
baz=106
C27K Jago River 102.92 340 Pdiff **Pdif 22 33 37.4 +0.4**
baz=111
SYI Shuyak Island 102.99 328 Pdif **Pdif 22 33 37.9 +0.4**
Q20K Shuyak Island 102.99 328 Pdiff **Pdif 22 33 37.0 -0.6**
baz=106
CAPN Captain Cook N 103.00 330 Pdiff **Pdif 22 33 36.9 -0.7**
baz=107
SUA Susitna One 103.01 331 Pdiff **Pdif 22 33 37.5 -0.3**
baz=107
E25K Arctic Village 103.02 338 Pdiff **Pdif 22 33 37.8 +0.2**
baz=110
OHAK Old Harbor 103.06 326 Pdif **Pdif 22 33 38.7 +0.8**
OHAK Old Harbor 103.06 326 Pdiff **Pdif 22 33 37.0 -0.9**
baz=106
CUT Chulitna 103.07 332 Pdiff **Pdif 22 33 37.0 -0.8**
baz=107

BUD	Budapest	103.10	44	P		Pdif	22 33 38.2	-0.1
H24K	Noodor Dome	103.12	336	Pdiff		Pdif	22 33 37.2	-0.9
	baz=108							
OKC	Ostrava-Krasne	103.13	42	*e*SKS		SKSac	22 44 11.9	+3.3
NEA2	Nenana	103.22	334	Pdif		Pdif	22 33 38.3	-0.2
NEA2	Nenana	103.22	334	Pdiff		Pdif	22 33 37.3	-1.2
	baz=108							
VYHS	Vyhne	103.23	43	*e*PDIFF		Pdif	22 33 49.6	+11
VYHS				*e*PP		PP	22 37 51.8	-3.8
VYHS				*e*			22 49 35.0	
VYHS				*e*			22 49 56.2	
G24K	Hadweenzic Riv	103.25	336	Pdif		Pdif	22 33 38.8	+0.2
G24K	Hadweenzic Riv	103.25	336	Pdiff		Pdif	22 33 36.4	-2.2
	baz=109							
SII	Sitkinak Islan	103.36	325	Pdiff		Pdif	22 33 38.9	-0.5
	baz=105							
HFS	Hagfors	103.38	31	Pdiff		Pdif	22 33 39.3	0.0
	comp=Z,3.7nm,1.1s,baz=238,slow=2.7,SNR=1.7							
HFS				PP		PP	22 37 55.6	-0.7
	comp=Z,19nm,1.1s,baz=256,slow=5.8,SNR=5.9							
HFS				PKKPbc		PKKPbc	22 49 33.0	-2.4
	comp=Z,3.9nm,0.7s,baz=116,slow=3.4,SNR=5.4							
TRF	Thorofare Moun	103.39	333	Pdiff		Pdif	22 33 38.4	-1.0
	baz=107							
C26K	Camden Bay	103.42	340	Pdiff		Pdif	22 33 39.5	+0.2
	baz=110							
I23K	Minto, Yukon-K	103.50	335	Pdiff		Pdif	22 33 38.9	-0.8
	baz=107							
O20K	Slope Mountain	103.51	329	Pdiff		Pdif	22 33 38.8	-1.2
	baz=106							
SKT	Skwentna	103.52	331	Pdif		Pdif	22 33 39.8	-0.2
SKT	Skwentna	103.52	331	Pdiff		Pdif	22 33 38.8	-1.1
	baz=106							
SPU	Mount Spurr	103.54	330	Pdif		Pdif	22 33 37.5	-2.5
N20K	Mount Spurr	103.61	330	Pdiff		Pdif	22 33 39.0	-1.5
	baz=106							
SPCR	Spurr Chakacha	103.61	330	Pdiff		Pdif	22 33 39.0	-1.5
	baz=106							
F24K	Squaw Lake	103.66	337	Pdiff		Pdif	22 33 40.5	0.0
	baz=108							
KTH	Kantishna Hill	103.69	333	Pdif		Pdif	22 33 40.5	-0.2
P19K	Oil Pt	103.69	329	Pdiff		Pdif	22 33 39.6	-1.2
	baz=105							
D25K	Kavik River	103.70	339			Pdif	22 33 39.9	-0.7
D25K	Kavik River	103.70	339	Pdiff		Pdif	22 33 40.3	-0.3
	baz=109							
Q19K	Cape Douglas,	103.70	328	Pdiff		Pdif	22 33 39.7	-1.1
	baz=105							
R18K	Karluk	103.77	326	Pdiff		Pdif	22 33 40.4	-0.6
	baz=105							
H23K	Yukon River	103.77	335	Pdiff		Pdif	22 33 40.4	-0.6
	baz=107							
PSZ	Piszkesteto	103.77	44	⇑P		Pdif	22 33 52.2	+11
LANS	Liptovska Anna	103.80	43	*e*PDIFF		Pdif	22 33 54.2	+13
LANS				*e*PP		PKiKP	22 37 58.8	-0.1
BPAW	Bear Paw Mtn.	103.87	333	Pdiff		Pdif	22 33 40.6	-0.9
	baz=106							
CHIR	Chirikof Islan	103.95	325	Pdiff		Pdif	22 33 41.9	0.0
	baz=104							
BOVS	Bovan	103.98	48	⇑P		Pdif	22 33 52.9	+11
MLY	Manley	104.03	334	Pdiff		Pdif	22 33 41.4	-0.7
	baz=106							
E24K	Your Creek	104.04	338	Pdif		Pdif	22 33 42.9	+0.7
E24K	Your Creek	104.04	338	Pdiff		Pdif	22 33 42.5	+0.4
	baz=107							
PPLA	Purkeypile	104.06	332	Pdif		Pdif	22 33 42.0	-0.4
PPLA	Purkeypile	104.06	332	Pdiff		Pdif	22 33 41.6	-0.8
	baz=105							
CAST	Castle Rocks	104.15	333	Pdiff		Pdif	22 33 41.6	-1.1
	baz=105							
MSVF	Nonsavu	104.17	245	Pdif		Pdif	22 33 43.8	-0.2
G23K	Bananza Creek	104.22	336	Pdiff		Pdif	22 33 43.3	+0.3
	baz=106							
M20K	Styx River	104.22	331	Pdif		Pdif	22 33 42.7	-0.4
M20K	Styx River	104.22	331	Pdiff		Pdif	22 33 42.0	-1.2
	baz=105							
MDVR	Moldovita	104.25	47	⇓P		PKKPbc	22 49 37.3	+5.1
OJC	Ojcow	104.26	42	Pdif		Pdif	22 33 47.8	+4.3
Q18K	Katmai Hardscr	104.32	327	Pdiff		Pdif	22 33 43.0	-0.7
	baz=104							
CHUM	Lake Minchumin	104.38	333	Pdiff		Pdif	22 33 42.5	-1.2
	baz=105							
BZS	Buzias	104.38	46	⇑P		Pdif	22 33 56.0	+12
IDI	Anoyia	104.38	57	PKP		PKiKP	22 37 58.5	-1.9
COLD	Coldfoot	104.43	337	Pdiff		Pdif	22 33 44.0	+0.2
	baz=106							
E23K	Chandalar	104.44	338	Pdiff		Pdif	22 33 43.8	-0.2
	baz=106							
D24K	Happy Valley	104.48	339	Pdif		Pdif	22 33 44.0	0.0
D24K	Happy Valley	104.48	339	Pdiff		Pdif	22 33 44.3	+0.3
	baz=107							
H22K	Ishtalitna Cre	104.52	335	Pdiff		Pdif	22 33 43.5	-0.8
	baz=105							
SIRR	Siria	104.56	46	⇑P		Pdif	22 33 54.3	+9.3
SIRR	Siria	104.56	46	⇑P		PKKPbc	22 49 31.4	0.0
I21K	Tanana	104.57	334	Pdiff		Pdif	22 33 43.9	-0.6
	baz=105							
N19K	Bonanza Creek	104.59	330	Pdif		Pdif	22 33 43.7	-1.1
	baz=104							
TOLK	Toolik Lake Re	104.59	338	Pdiff		Pdif	22 33 45.6	+1.1
	baz=106							
C24K	Franklin Bluff	104.60	339	Pdif		Pdif	22 33 45.1	+0.6
C24K	Franklin Bluff	104.60	339	Pdiff		Pdif	22 33 43.3	-1.2
	baz=107							
P18K	Big Mountain,	104.61	328	Pdif		Pdif	22 33 44.1	-0.8
P18K	Big Mountain,	104.61	328	Pdiff		Pdif	22 33 43.8	-1.1
	baz=104							
Q17K	Contact Creek	104.68	327	Pdiff		Pdif	22 33 44.7	-0.6
	baz=103							
O18K	Koktuh Hills	104.71	329	Pdif		Pdif	22 33 44.2	-1.0
O18K	Koktuh Hills	104.71	329	Pdiff		Pdif	22 33 44.3	-1.0
	baz=104							
L20K	Farewell, AK	104.71	331	Pdiff		Pdif	22 33 44.0	-1.2
	baz=104							
SURR	Surduc	104.76	46	⇑P		Pdif	22 33 56.6	+11
R17L	Mt. Peulik Vol	104.78	326	Pdiff		Pdif	22 33 44.8	-0.8
	baz=103							
DJES	Djerdap	104.79	48	⇑P		Pdif	22 33 56.2	+10
M19K	Big River Lodg	104.81	331	Pdif		Pdif	22 33 44.4	-1.2
M19K	Big River Lodg	104.81	331	Pdiff		Pdif	22 33 44.8	-0.9
	baz=104							
G22K	Bettles	104.84	336	Pdiff		Pdif	22 33 45.5	-0.2
	baz=105							
LODK	Lodwar	104.96	92	*e*P		PP	22 38 08.9	-0.3
STHS	Stebnicka Huta	104.99	43	*e*PP		PKiKP	22 38 07.9	+6.8
K20K	Telida	105.00	332	Pdif		Pdif	22 33 45.3	-1.2
L19K	White Mountain	105.08	331	Pdif		Pdif	22 33 46.3	-0.6
GZR	Gura Zlata	105.13	47	⇓P		Pdif	22 33 58.6	+11
KMBO	Kilima Mbogo	105.20	97	PP		PP	22 38 09.0	-2.1
	comp=Z,1.0nm,0.4s,baz=244,slow=11,SNR=6.6							
KMBO				PKKPbc		PKKPbc	22 49 29.8	+1.3
	comp=Z,0.8nm,0.3s,baz=29,slow=7.8,SNR=5.2							
KMBO				PKKPab		PKKPab	22 49 49.3	+2.2
	comp=Z,3.7nm,0.9s,baz=18,slow=6.9,SNR=7.5							
KMBO	Kilima Mbogo	105.20	97	*e*P		PKiKP	22 38 07.1	+4.3
BAIL	Bailesti	105.22	48	⇑P		Pdif	22 33 59.6	+12
J20K	Nowinta River	105.23	333	Pdif		Pdif	22 33 47.1	-0.3
E22K	Anaktuvuk Pass	105.26	337	Pdif		Pdif	22 33 47.6	+0.1
SRE	Strehaia	105.26	48	⇓P		Pdif	22 33 59.1	+11
DRGR		105.38	45	⇑P		Pdif	22 34 00.2	+12
DRGR		105.38	45	⇑P		PKKPbc	22 49 28.2	-0.7
DRGR		105.38	45	⇑P		Pdif	22 34 00.2	+12
KIBK	Kibwezi	105.52	98	PP		PKiKP	22 38 10.5	+7.2
MARR	Marisel-Cluj	105.63	46	⇑P		Pdif	22 34 00.5	+11
MARR	Marisel-Cluj	105.63	46	⇓P		PKKPbc	22 49 27.9	-0.3
LOT	Lotru	105.82	47	⇑P		PKKPbc	22 49 27.6	0.0
CJR	Cluj-Napoca	105.96	46	⇑P		Pdif	22 34 01.3	+10
CJR	Cluj-Napoca	105.96	46	⇑P		PKKPbc	22 49 26.0	-1.1
CJR	Cluj-Napoca	105.96	46	⇑P		Pdif	22 34 01.3	+10
ALN	Alexandroupoli	106.52	52	Pdif		Pdif	22 33 51.4	-2.4
B21K	Ikpikpuk River	106.58	339	Pdif		Pdif	22 33 54.0	+0.7
VOIR		106.70	47	⇑P		Pdif	22 34 04.1	+10
VOIR		106.70	47	⇑P		Pdif	22 34 04.1	+10
K17K	Iditarod	106.76	331	Pdif		Pdif	22 33 54.2	-0.1
ELND	Elena	106.80	50	⇑P		Pdif	22 34 05.0	+10
DOPR	Dopca	107.04	47	⇑P		Pdif	22 34 06.3	+10
OPO	Ambohidratompo	107.06	117	PP		PP	22 38 23.7	-0.6
	comp=Z,1.9nm,0.8s,baz=201,slow=7.9,SNR=4.7							
H18K	Honhosa River	107.20	334	Pdif		Pdif	22 33 56.4	+0.2
BURAR	Bucovina Array	107.22	45	⇑P		Pdif	22 34 08.0	+11
BURAR	Bucovina Array	107.22	45	⇑P		PKKPbc	22 49 24.8	+1.4
MLR	Muntele Rosu	107.33	47	PKKPbc		PKKPbc	22 49 22.5	-0.4
	baz=45,slow=1.4							
MLR				PKKPab		PKKPdf	22 49 37.9	+1.8
	baz=43,slow=4.6							
MLR	Muntele Rosu	107.33	47	⇑P		Pdif	22 34 08.3	+11
MLR	Muntele Rosu	107.33	47	⇑P		PKKPbc	22 49 22.5	-0.5
MLR	Muntele Rosu	107.33	47	⇑P		Pdif	22 34 08.3	+11
TURR	Turia	107.48	47	⇓P		PKKPbc	22 49 26.7	+4.3
NEHR	Nehoiu	107.56	47	⇓P		PKKPbc	22 49 22.0	-0.1
COVR	Voineasa-Covas	107.57	47	⇑P		Pdif	22 34 09.2	+11
ONER	Baraj Valea Uz	107.79	46	⇓P		PKKPbc	22 49 20.8	-0.6
PLOR	Plostina	107.88	47	⇑P		Pdif	22 34 08.3	+8.6
PLOR	Plostina	107.88	47	⇑P		PKKPbc	22 49 20.8	-0.3
PLOR	Plostina	107.88	47	⇑P		Pdif	22 34 08.3	+8.6
VRI	Vrincioaia	107.94	47	⇑P		PKKPbc	22 49 16.5	-4.4
TESR	Tescani	107.99	46	⇑P		Pdif	22 34 09.9	+10
TESR	Tescani	107.99	46	⇑P		PKKPbc	22 49 17.5	-3.3
SPITS	Spitsbergen Ar	108.17	12	PKKPbc		PKKPbc	22 49 18.6	-2.5
	comp=Z,7.4nm,0.8s,baz=64,slow=3.4,SNR=10							
SPITS				PKKPab		PKKPab	22 49 30.8	+0.3
	comp=Z,8.1nm,0.5s,baz=116,slow=3.4,SNR=18							
SPITS				SKKP		SKKPdf	22 53 00.8	-0.4
	comp=Z,1.1nm,0.4s,baz=79,slow=0.7,SNR=10.0							
ICOR	Ion Corvin	108.39	49	⇑P		Pdif	22 34 13.2	+11
HARR	Harsova	108.58	48	⇑P		Pdif	22 34 13.6	+11
HARR	Harsova	108.58	48	⇑P		Pdif	22 34 13.6	+11
L14K	Kuka Creek	108.60	329	Pdif		Pdif	22 34 03.0	+0.5
EFOR	EFORIE	108.98	49	⇑P		Pdif	22 34 09.0	+4.5
NACGM	Naroch	109.28	37	*e*PP		PP	22 38 38.4	-1.4
	baz=264							
FINES	FINESS Array B	109.58	31	PP		PP	22 38 39.5	-2.2
	comp=Z,9.3nm,0.9s,baz=249,slow=3.9,SNR=7.3							
FINES				PKKPbc		PKKPbc	22 49 14.0	-2.1
	comp=Z,4.3nm,0.6s,baz=90,slow=4.4,SNR=15							
MNK	Minsk	109.87	38	*i* P		Pdif	22 34 06.8	-1.5
	comp=E,8.0nm,0.8s							
MNK				*i* P		Pdif	22 34 06.8	-1.5
	comp=N,9.0nm,0.9s							
MNK				*i* P		Pdif	22 34 06.8	-1.5
	comp=Z,6.0nm,0.9s,baz=264							
MNK				*i* pP		pPdif	22 34 33.2	-3.4
MNK				*i* sP		sPdif	22 34 44.1	-3.8
MNK				*i* PP		PP	22 39 20.4	+36
MNK				*i* PPP		PPP	22 40 35.8	
MNK				*i* SKS		SKSac	22 44 43.8	+5.7
MNK				*i* SKKS			22 47 13.9	
MNK				*i* SP		PKKPdf	22 49 43.8	+13
MNK				*i* PS		PKKPab	22 49 52.7	+29
MNK				*i* SS		SS	22 53 59.3	-1.4
MNK				*i* SSS		SSS	22 57 39.1	
MNK				*i* LR		LR	23 16 24.7	
MNK				*i* LRM		MLR	23 18 47.2	
	comp=N,2μm,20.6s							
MNK				*i* LRM		MLR	23 18 54.4	
	comp=Z,1μm,18.9s							
MNK				*i* LRM		MLR	23 25 51.8	
	comp=E,726nm,19.9s							
MNK	Minsk	109.87	38	*i* P		Pdif	22 34 06.7	-1.5
MNK				*i*			22 44 43.8	
MNK				*i* SS		SS	22 53 59.3	-1.4
MNK				pmax		pmax		
	comp=E,8.0nm,0.8s							
MNK				pmax		pmax		
	comp=N,9.0nm,0.9s							
MNK				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MNK				MLR		MLR		
	comp=E,726nm,20.0s							
ARCES	ARCESS Array B	109.89	22	PKKPbc		PKKPbc	22 49 11.8	-3.7
	comp=E,8.5nm,0.7s,baz=91,slow=3.6,SNR=14							
ARCES				PKKPab		PKKPab	22 49 24.7	+1.7
	comp=E,11nm,0.7s,baz=89,slow=3.9,SNR=16							
AKASG	Malin Array Be	110.27	42	PKiKP		PKiKP	22 38 09.4	-1.4
	comp=E,1.4nm,0.6s,baz=273,slow=3.4,SNR=7.3							
AKASG				PP		PP	22 38 42.4	-4.7
	comp=E,6.0nm,0.9s,baz=265,slow=7.5,SNR=7.6							
AKASG				PKKPbc		PKKPbc	22 49 12.2	-1.3
	comp=E,3.5nm,0.6s,baz=70,slow=3.8,SNR=13							
AKASG				PKKPab		PKKPab	22 49 23.7	+1.8
	comp=E,1.6nm,0.7s,baz=70,slow=4.2,SNR=7.6							
KEV	Kevo	110.42	22	Pdif		Pdif	22 34 09.5	-0.8
EIL	Elat	111.50	65	PKKPab		PKKPab	22 49 18.9	+1.5
	comp=E,6.6nm,0.9s,baz=45,slow=4.3,SNR=4.4							
DZM	Mont Dzumac	111.56	236	*e*P		Pdif	22 34 17.2	+0.4
	comp=E,356nm,25.6s							
BRTR	Keskin Array B	112.05	54	PKiKP		PKiKP	22 38 14.5	-0.3
	comp=E,4.6nm,1.0s,baz=252,slow=2.9,SNR=5.6							
BRTR				PP		PP	22 38 58.5	-1.9
	comp=E,8.8nm,0.9s,baz=243,slow=6.1,SNR=5.6							
BRTR				PKKPab		PKKPab	22 49 15.7	+1.0
	comp=E,7.8nm,0.8s,baz=96,slow=4.4,SNR=18							
KIRS	Kirsehir-Merke	112.18	55	⇑P		PKKPbc	22 49 06.9	-0.1
MMAI	Mount Meron Ar	112.47	62	PKiKP		PKiKP	22 38 14.7	-1.0
	comp=E,3.2nm,0.5s,baz=324,slow=2.0,SNR=9.6							
MMAI				PKKPbc		PKKPbc	22 49 05.7	-0.1
	comp=E,1.1nm,0.5s,baz=62,slow=3.7,SNR=4.9							
MMAI				PKKPab		PKKPab	22 49 15.4	+2.4
	comp=E,21nm,0.9s,baz=83,slow=3.3,SNR=25							
APA	Apatity	112.81	24	⇓*i*PKIKP		PKiKP	22 38 11.3	-3.9
APA				pmax		pmax		
	comp=Z,5.0nm,1.1s							
ASF	Jabal al Asfar	113.58	63	PKKPab		PKKPab	22 49 10.1	+1.9
	comp=Z,14nm,0.9s,baz=46,slow=0.3,SNR=15							
OBN	Obninsk	114.92	38	*c i*PKIKP		PKiKP	22 38 19.4	-0.1
OBN				*i*			22 38 49.6	
OBN				*i*			22 39 16.3	
OBN				*e*			22 44 58.7	
OBN				*i* PS		PKKPab	22 49 00.9	-0.3
OBN				*i* SS		SS	22 55 06.5	-0.9
OBN				pmax		pmax		
	comp=Z,52nm,1.7s							
ANN	Anapa	115.32	49	*e*P		Pdif	22 34 41.9	+9.2
ANN				*e*			22 39 19.6	
ANN				*e*PPP		PPP	22 41 46.1	
ANN				*e*			22 45 00.6	
ANN				*e*SP		SP	22 48 51.9	0.0
ANN				*e*SS		SS	22 55 04.9	-8.5
MOS	Moscow	115.50	37	*i* PKIKP		PKiKP	22 38 19.7	-0.9
MOS				*e*			22 38 48.2	
MOS				*e*			22 39 21.3	
MOS				*e*			22 44 57.5	
MOS				*e*PS		PKKPab	22 48 59.2	+0.6
MOS				*e*SSS		SSS	22 59 41.6	
MOS				pmax		pmax		
	comp=Z,31nm,1.2s							
KLMR	Klimovskoe	116.09	31	*e*PKIKP		PKPdf	22 38 20.5	-1.1
KLMR				*e*			22 38 48.6	
KLMR							22 39 23.8	
KLMR							22 45 02.7	
KLMR				SS		SS	22 55 22.3	-0.2
KLMR				pmax		pmax		
	comp=Z,54nm,1.3s							
LPSR	Galich'ya Gora	116.38	40	*e*PKIKP		PKPdf	22 38 21.2	-1.2
LPSR				pmax		pmax		
	comp=Z,20nm,1.0s							
ARMA	Armidale	116.56	219	PKPdf		PKiKP	22 38 24.2	+0.4
ARMA	Armidale	116.56	219	P		PKiKP	22 38 25.1	+1.3
VSR	Storozhevoye	116.57	42	*e*PKIKP		PKPdf	22 38 20.6	-2.3
VSR				pmax		pmax		
	comp=Z,9.0nm,1.1s							
VORR	Voronezh	116.58	41	*e*PKIKP		PKPdf	22 38 22.5	-0.4
VORR				pmax		pmax		
	comp=Z,34nm,0.6s							
VORD	Divnogorie	116.66	42	*e*PKIKP		PKPdf	22 38 21.2	-1.8
VORD				pmax		pmax		
	comp=Z,9.0nm,1.1s							
SOC	Sochi	116.91	50	*i* PKIKP		PKPdf	22 38 21.2	-2.6
SOC				*e*			22 38 51.0	
SOC				*e*PPP		PPP	22 42 05.6	
SOC				*e*PS		PKKPdf	22 49 18.0	+0.4
SOC				MLR		MLR		
	comp=Z,426nm,19.0s							
KOPT	Kop Dagi	117.33	54	PKPdf		PKiKP	22 38 27.0	+1.9
MARD	Mardin	117.36	57	PKPdf		PKiKP	22 38 26.2	+1.2
VRH	Novokhopyorsk	118.18	42	*e*PKIKP		PKPdf	22 38 24.1	-1.8
VRH				pmax		pmax		
	comp=Z,28nm,1.3s							
SHA1	Shidzhatmaz	119.04	50	*d i*PKIKP		PKiKP	22 38 29.2	+0.9
CMSA	Cobar Meteorol	119.06	214	P		PKiKP	22 38 29.1	+0.7
CMSA	Cobar Meteorol	119.06	214	P		PKiKP	22 38 29.0	+0.5
KIV	Kislovodsk	119.06	50	*e*P		Pdif	22 34 52.6	+3.0
KIV				*e*			22 38 28.3	
KIV				*e*			22 39 46.6	
KIV				*e*			22 45 14.3	
KIV				*e*PS		PS	22 49 40.9	+2.3
KIV				*e*SS		SS	22 55 58.3	-4.1
KIV				pmax		pmax		
	comp=Z,17nm,1.1s							
KBZ	Khabaz	119.22	50	PKP		PKiKP	22 38 28.6	+0.4
	comp=Z,13nm,0.8s,baz=260,slow=3.9,SNR=17							
KBZ				PP		PP	22 39 48.5	-1.8
	comp=Z,10nm,1.0s,baz=288,slow=6.4,SNR=3.9							
KBZ				PKKPbc		PKKPab	22 48 42.9	+0.1
	comp=Z,4.3nm,0.7s,baz=78,slow=5.8,SNR=9.4							
KBZ	Khabaz	119.22	50	*c i*PKIKP		PKiKP	22 38 29.0	+0.8
RAYN	Ar Rayn	119.71	74			PKiKP	22 38 30.5	+0.6
RAYN	Ar Rayn	119.71	74	*i* PKPdf		PKiKP	22 38 30.1	+0.2
	SNR=9.9							
RAYN	Ar Rayn	119.71	74	PKIKP		PKiKP	22 38 30.5	+0.6
EIDS	Eidsvold	120.49	223	PKPdf		PKPdf	22 38 30.4	-0.9
GNI	Garni	120.58	54	*d i*PKIKP		PKiKP	22 38 32.7	+1.4
GNI				pmax		pmax		
	comp=Z,36nm,1.7s							
MSEY	Mahe Island	120.61	108	PKPdf		PKiKP	22 38 32.8	+0.8
MSEY	Mahe Island	120.61	108	PKIKP		PKiKP	22 38 32.8	+0.8
BILL	Bilibino	120.63	339	*d i*PKIKP		PKiKP	22 38 30.4	+0.1
BILL				*i*			22 38 56.1	
BILL				pmax		pmax		
	comp=Z,25nm,1.7s							
HTT	Hallett	120.77	207	P		PKPdf	22 38 31.6	-0.1
HTT	Hallett	120.77	207	P		PKiKP	22 38 32.2	+0.4
HTT	Hallett	120.77	207	P		PKiKP	22 38 31.9	+0.1
STKA	Stephens Creek	120.85	211	P		PKPdf	22 38 31.9	0.0
STKA	Stephens Creek	120.85	211	PKP		PKiKP	22 38 32.1	+0.2
	comp=Z,20nm,0.7s,baz=140,slow=2.1,SNR=32							
STKA				PP		PP	22 39 58.9	-1.7
	comp=Z,11nm,1.0s,baz=135,slow=7.1,SNR=7.1							
STKA	Stephens Creek	120.85	211	P		PKiKP	22 38 32.2	+0.2
STKA	Stephens Creek	120.85	211	P		PKPdf	22 38 31.8	-0.1
STKA	Stephens Creek	120.85	211	*d i*PKIKP		PKPdf	22 38 30.9	-1.0
KIRV	Kirov	121.44	33	*d i*PKIKP		PKiKP	22 38 32.1	0.0
WHYH	Whyalla	121.69	207	P		PKiKP	22 38 33.8	+0.3
WHYH	Whyalla	121.69	207	P		PKPdf	22 38 33.2	-0.2
BELG	Belogornoye	121.69	40	*c i*PKIKP		PKiKP	22 38 33.0	+0.2
BBOO	Buckleboo	122.51	205	P		PKPdf	22 38 35.0	0.0
BBOO	Buckleboo	122.51	205	P		PKiKP	22 38 35.2	0.0
BBOO	Buckleboo	122.51	205	P		PKiKP	22 38 35.4	+0.2
MAK	Makhachkala	122.60	51	*e*P		Pdif	22 35 06.8	+1.6
MAK				*i*			22 38 34.5	
MAK				*e*			22 39 01.7	
MAK				*e*			22 40 11.0	
MAK				*e*			22 45 25.2	
MAK				*e*PS		PS	22 50 14.2	+4.3
MAK				*e*SS		SS	22 56 53.6	+6.2
MAK				pmax		pmax		
	comp=Z,719nm,1.3s							
ALEG	Aligegeo Malai	123.26	245	P		PKiKP	22 38 37.9	+0.8
LCRK	Leigh Creek	123.62	209	P		PKiKP	22 38 37.7	+0.3
LCRK	Leigh Creek	123.62	209	P		PKiKP	22 38 37.8	+0.3
QLP	Quilpie	123.72	217	P		PKiKP	22 38 38.5	+0.8
QLP	Quilpie	123.72	217	P		PKiKP	22 38 38.6	+0.8
QLP	Quilpie	123.72	217	P		PKiKP	22 38 39.3	+1.6
INKA	Innaminka	124.66	213	P		PKiKP	22 38 40.1	+0.5
INKA	Innaminka	124.66	213	P		PKiKP	22 38 39.9	+0.3
MULG	Mulgathing	125.53	205	P		PKPdf	22 38 40.4	-0.5
MULG	Mulgathing	125.53	205	P		PKiKP	22 38 41.2	-0.1
RKGY	Rocky Gully	125.75	186	P		PKiKP	22 38 42.3	+0.7
ARTI	Arti	126.72	33			PKiKP	22 38 42.7	0.0
ARTI	Arti	126.72	33	*i* PKIKP		PKiKP	22 38 42.9	+0.2
ARTI							22 40 42.1	
ARTI				PPP		PPP	22 43 31.7	
ARTI							22 45 44.5	
MZR	Muzera	126.88	76	*i* PKiKP		PKiKP	22 38 44.3	+0.2
	SNR=6.2							
TIXI	Tiksi	126.88	353	PKPdf		PKPdf	22 38 41.6	-0.5
TIXI	Tiksi	126.88	353	PKIKP		PKPdf	22 38 41.6	-0.5
OOD	Oodnadatta	127.03	208	P		PKP

MEEK	Meekatharra	133.39	190	P	PKiKP	22 38 57.1	-0.1
MEEK	Meekatharra	133.39	190	P	PKPdf	22 38 56.2	+0.2
COEN	Coen	133.79	226	P	PKPdf	22 38 57.5	+0.6
COEN	Coen	133.79	226	P	PKiKP	22 38 58.1	-0.1
PMG	Port Moresby	133.94	235	PKPdf	PKiKP	22 38 58.7	+0.2
PMG	Port Moresby	133.94	235	*d* iPKIKP	PKPdf	22 38 57.7	+0.5
PMG				pmax	pmax		
	comp=Z,158nm,1.3s						
WR0	Warramunga Arr	134.25	212	PKPdf	PKPdf	22 38 58.0	+0.3
WB2	Warramunga Arr	134.36	212	PKPdf	PKPdf	22 38 58.5	+0.6
WRA	Warramunga Arr	134.37	212	PKPdf	PKPdf	22 38 58.6	+0.7
WRA	Warramunga Arr	134.37	212	PKhKP	PKPpre	22 38 39.8	
	comp=Z,5.5nm,0.6s,baz=137,slow=3.1,SNR=32						
WRA				PKP	PKPdf	22 38 57.6	-0.3
	comp=Z,59nm,0.7s,baz=157,slow=1.4,SNR=49						
WRA				pPKP	pPKPdf	22 39 28.4	+1.6
	comp=Z,16nm,0.7s,baz=154,slow=1.8,SNR=2.3						
WRA				PP	PP	22 41 27.8	-1.8
	comp=Z,28nm,1.2s,baz=152,slow=5.7,SNR=14						
WRA				SKPbc	SKPbc	22 42 18.0	-0.4
	comp=Z,20nm,1.1s,baz=152,slow=2.8,SNR=8.1						
WRA	Warramunga Arr	134.37	212	PKiKP	PKPdf	22 38 58.6	+0.7
BRVK	Borovoye	134.37	33		PKiKP	22 38 57.7	-0.5
BRVK	Borovoye	134.37	33	*d* iPKIKP	PKPdf	22 38 57.4	+0.6
BRVK				pmax	pmax		
	comp=Z,53nm,1.7s						
WRAB	Tennant Creek	134.37	212	PKPdf	PKPdf	22 38 58.0	+0.1
WRAB	Tennant Creek	134.37	212	*d* iPKIKP	PKPdf	22 38 57.8	-0.1
BVAR	Borovoye Array	134.44	33	PKhKP	PKPpre	22 38 50.1	
	comp=Z,0.9nm,0.6s,baz=298,slow=3.1,SNR=3.8						
BVAR				PKP	PKiKP	22 38 57.7	-0.7
	comp=Z,12nm,0.7s,baz=305,slow=3.5,SNR=46						
BVAR				pPKP	pPKPdf	22 39 27.5	+1.1
	comp=Z,12nm,0.7s,baz=316,slow=2.7,SNR=3.5						
BVAR				SKKPbc	SKKPbc	22 51 24.9	-5.0
	comp=Z,4.3nm,1.1s,baz=122,slow=1.0,SNR=4.4						
WB0	Warramunga Arr	134.49	212	PKPdf	PKPdf	22 38 58.7	+0.5
YAK	Yakutsk	135.60	347		PKPpre	22 38 48.6	
YAK				PKPdf	PKPdf	22 38 59.1	+0.3
YAK	Yakutsk	135.60	347	*e* PKHKP	PKPpre	22 38 48.0	
YAK				pmax	pmax		
	comp=Z,30nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
BRZS	Berezniki	137.25	36	*e* PKP	PKPdf	22 39 02.7	+0.4
BRZS	Berezniki	137.25	36	*e* PKIKP	PKPdf	22 39 02.7	+0.4
MANU	Manus Island	138.05	243	PKPpre	PKPpre	22 38 54.7	
MANU				PKPdf	PKPdf	22 39 05.3	+0.4
PSA00	Pilbara Seismi	138.10	193	PKPdf	PKPdf	22 39 05.1	+0.3
PSA00	Pilbara Seismi	138.10	193	PKPdf	PKPdf	22 39 05.5	+0.8
PSA00	Pilbara Seismi	138.10	193	P	PKPdf	22 39 05.6	+0.8
PSAC1	Pilbara Seismi	138.15	193	P	PKPdf	22 39 05.7	+0.8
MBWA	Marble Bar	138.53	193		PKPpre	22 38 55.3	
MBWA				PKPdf	PKPdf	22 39 05.8	+0.2
MBWA	Marble Bar	138.53	193	P	PKPdf	22 39 06.4	+0.9
BRLS	Boroldoy	138.57	46	*e* PKP	PKPdf	22 39 05.1	+0.1
BRLS	Boroldoy	138.57	46	*e* PKIKP	PKPdf	22 39 05.0	+0.1
KKAR	Karatay Array	139.00	46	PKPdf	PKPdf	22 39 05.2	-0.5
KKAR	Karatay Array	139.00	46	PKIKP	PKPdf	22 39 05.2	-0.5
IUG	Iuzhnay	139.02	48	*e* PKP	PKPdf	22 39 06.0	+0.1
IUG				*e* PP	PP	22 42 01.3	+1.8
IUG	Iuzhnay	139.02	48	*e* PKIKP	PKPdf	22 39 06.0	+0.1
IUG				*e*		22 42 01.2	
SIMJ	Simiganj	139.36	53		PKPpre	22 38 59.3	
SIMJ				PKPdf	PKiKP	22 39 08.6	-0.4
CHGR	Chuyangaron	139.47	53	PKPdf	PKPdf	22 39 07.6	+0.7
CHGR	Chuyangaron	139.47	53	PKIKP	PKPdf	22 39 07.6	+0.7
DZA	Taraz	139.64	46	*e* PKP	PKPdf	22 39 07.1	+0.1
DZA	Taraz	139.64	46	*e* PKIKP	PKPdf	22 39 07.0	+0.1
FITZ	Fitzroy Crossi	139.75	202	PKhKP	PKPpre	22 38 58.7	
	comp=E,14nm,0.5s,baz=180,slow=2.4,SNR=35						
FITZ				PKP	PKPdf	22 39 08.7	+0.8
	comp=E,52nm,0.6s,baz=138,slow=1.8,SNR=19						
KURK	Kurchatov	139.94	32		PKPpre	22 39 01.7	
KURK	Kurchatov	139.94	32	PKIKP	PKPdf	22 39 07.7	+0.5
KURK						22 39 37.1	
KURBB	Kurchatov Arra	139.96	32	PKhKP	PKPpre	22 38 58.3	
	comp=E,2.1nm,0.5s,baz=311,slow=3.0,SNR=18						
KURBB				PKP	PKPdf	22 39 07.7	+0.6
	comp=E,29nm,1.1s,baz=309,slow=3.0,SNR=23						
KURBB				pPKP	pPKPdf	22 39 37.1	+1.0
	comp=E,15nm,0.9s,baz=307,slow=2.1,SNR=2.7						
KURBB				SKPbc	SKPbc	22 42 29.4	-4.5
	comp=E,4.6nm,0.8s,baz=306,slow=5.5,SNR=4.5						
KURBB				SKKPbc	SKKPbc	22 51 00.6	-8.1
	comp=E,1.7nm,0.2s,baz=126,slow=4.7,SNR=7.3						
KBL	Kabul	140.34	59		PKPdf	22 39 09.3	+0.6
KBL	Kabul	140.34	59	PKIKP	PKPdf	22 39 09.3	+0.6
ZALV	Zalesovo Beam	140.40	24		PKPpre	22 38 59.6	
ZALV	Zalesovo Beam	140.40	24	PKhKP	PKPpre	22 38 59.2	
	comp=E,14nm,0.5s,baz=350,slow=3.8,SNR=32						
ZALV				PKP	PKPdf	22 39 08.1	+0.2
	comp=E,73nm,0.7s,baz=298,slow=3.1,SNR=33						
BTLS	Baital	140.49	42	*e* PKP	PKPdf	22 39 08.6	+0.2
BTLS				*e* PP	PP	22 42 10.2	+2.1
BTLS	Baital	140.49	42	*e* PKIKP	PKPdf	22 39 08.6	+0.2
BTLS				*e*		22 42 10.2	
KNRA	Kununurra	140.69	208		PKPpre	22 39 01.5	
KNRA	Kununurra	140.69	208	P	PKPpre	22 39 01.8	
SEM	Semipalatinsk	140.94	31	*e* PKP	PKPdf	22 39 09.3	0.0
SEM	Semipalatinsk	140.94	31	*e* PKIKP	PKPdf	22 39 09.3	0.0
UGL	Uglegorsk	141.31	327	*e* PKIKP	PKPdf	22 39 08.4	-1.3
UGL				*e*		22 42 13.1	
UGL				*e* SS	SS	23 00 40.8	+7.2
UGL				pmax	pmax		
	comp=Z,2μm,5.0s						
UGL				pmax	pmax		
	comp=E,810nm,3.0s						
UGL				pmax	pmax		
	comp=N,470nm,5.0s						
UGL				pmax	pmax		
	comp=Z,2μm,6.5s						
KDU	Kakadu	141.40	215	P	PKPdf	22 39 04.2	-6.6
SGDS	Sogindy	141.59	44	*e* PKP	PKPdf	22 39 10.6	+0.1
SGDS				*e* PP	PP	22 42 16.9	+1.8
SGDS	Sogindy	141.59	44	*e* PKIKP	PKPdf	22 39 10.6	+0.1
SGDS				*e*		22 42 16.8	
BOD	Bodaibo	141.76	357	*e* PKHKP	PKPpre	22 39 04.1	
BOD				pmax	pmax		
	comp=Z,91nm,0.9s						
AAK	Ala-Archa	141.87	45		PKPdf	22 39 08.4	-2.7
AAK	Ala-Archa	141.87	45	*i* PKPdf	PKPdf	22 39 09.2	-1.9
	SNR=5.1						
AAK	Ala-Archa	141.87	45⇑	*e* PKIKP	PKPdf	22 39 08.8	-2.4
MTN	Manton Dam	141.98	214	P	PKPdf	22 39 06.4	-5.5
YSS	Yuzh-Sakhalins	142.21	324	*i* PKHKP	PKPpre	22 39 07.1	
YSS				*e*		22 39 10.7	
YSS				*e*		22 39 40.8	
YSS				*e*		22 42 17.4	
YSS				*e*		22 46 17.5	
YSS				*e* SS	SS	23 00 43.0	-1.3
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS				MLR	MLR		
	comp=E,500nm,16.0s						
GRNR	Gornyy	142.84	333	*e* PKHKP	PKPpre	22 39 08.3	
GRNR				MLR	MLR		
	comp=N,1μm,15.0s						
CHKK	Chushkaly	142.91	42	*e* PKP	PKPdf	22 39 12.8	-0.1
CHKK	Chushkaly	142.91	42	*e* PKIKP	PKPdf	22 39 12.7	-0.1
AAA	Alma-Ata	143.18	43	*e* PKP	PKPdf	22 39 13.3	0.0
AAA	Alma-Ata	143.18	43	*e* PKIKP	PKPdf	22 39 13.3	0.0
TDK	Taldyqorghan	143.18	39	*e* PKP	PKPdf	22 39 13.3	+0.1
TDK	Taldyqorghan	143.18	39	*e* PKIKP	PKPdf	22 39 13.3	+0.1
ARXS	Arharly	143.25	41	*e* PKIKP	PKPbc	22 39 10.9	+0.1
MDOK	Medeo	143.29	43	*e* PKP	PKPdf	22 39 13.5	-0.2
MDOK	Medeo	143.29	43	*e* PKIKP	PKPdf	22 39 13.4	-0.2
JMP	Maruseppu	143.47	319	P	PKPbc	22 39 11.4	+0.1
GENI	Genyem	143.59	236	PKP	PKPbc	22 39 13.1	+0.6
ZEA	Zeya	143.62	343	*e* PKIKP	PKPab	22 39 10.7	+0.3
ZEA				*e*		22 42 25.5	
ZEA				pmax	pmax		
	comp=Z,1μm,3.2s						
ZEA				pmax	pmax		
	comp=Z,120nm,1.2s						
JWK2	Keihoku	143.64	322	P	PKPbc	22 39 12.3	+0.7
ASAJ	Asahikawa	143.88	320	P	PKPbc	22 39 13.2	+0.7
MAKZ	Makanchi	144.13	34		PKPab	22 39 12.9	+0.2
MAKZ	Makanchi	144.13	34	PKIKP	PKPab	22 39 12.9	+0.2
KSH	Kashi	144.18	49	PKP	PKPbc	22 39 14.3	+0.6
KSH				pPKP	pPKPdf	22 39 43.0	-1.7
KSH				PP	PP	22 42 32.9	+2.0
KSH				SKKS		22 49 10.6	
KSH				AMB	AMB		
	comp=Z,1μm,7.6s						
KSH				LR	LR		
	comp=Z,560nm,21.3s						
KSH				LR	LR		
	comp=Z,870nm,22.0s						
KSH				LR	LR		
	comp=Z,1μm,28.9s						
MK31	Makanchi Array	144.31	34	*de* PKIKP	PKPab	22 39 13.4	0.0
MKAR	Makanchi Array	144.31	34	PKP	PKPab	22 39 13.0	-0.3
	comp=Z,45nm,0.7s,baz=309,slow=3.5,SNR=102						
MKAR				pPKP	pPKPdf	22 39 44.9	+0.7
	comp=Z,41nm,1.0s,baz=294,slow=3.8,SNR=3.6						
UZB	Uzynbulak	144.55	41	*e* PKP	PKPdf	22 39 15.3	-0.5
UZB	Uzynbulak	144.55	41	*e* PKIKP	PKPdf	22 39 15.3	-0.5
JEM	Erimo	144.60	316	P	PKPdf	22 39 16.1	+0.4
GOA	Goa	144.66	91	*e* P	PKPdf	22 39 16.2	-0.3
GOA				*i* x	x	22 39 51.3	
SHLS	Shalkode	144.81	41	*e* PKP	PKPdf	22 39 16.3	0.0
SHLS	Shalkode	144.81	41	*e* PKIKP	PKPdf	22 39 16.2	0.0
BKNR	BIKANER	144.88	69	*e* P	PKPdf	22 39 17.4	+0.7
BKNR				*i* x	x	22 39 54.8	
BKNR				*ex*	x	22 43 01.5	
MNGI	Mangalore	144.99	95	*e* P	PKPdf	22 39 17.4	+0.2
SRGN	SRI GANGA NAGA	145.18	66	*e* P	PKPdf	22 39 18.3	+1.2
SRGN				*i* x	x	22 39 45.3	
ZSN	Zaisan	145.18	31	*e* PKP	PKPdf	22 39 16.6	0.0
ZSN	Zaisan	145.18	31	*e* PKIKP	PKPdf	22 39 16.6	0.0
POO	Poona	145.21	86	*e* P	PKPab	22 39 18.7	+1.2
POO				*i* x	x	22 39 45.0	
JEW	Eniwo	145.27	319	P	PKPab	22 39 17.5	+0.5
KAD	Karad	145.34	88	*e* P	PKPab	22 39 18.9	+0.8
KAD				*i* x	x	22 39 45.2	
KAD				*ex*	x	22 42 35.2	
TRD	Trivandrum	145.55	104	*i* x	x	22 39 47.0	
SAUI	Saumlaki	145.88	218	PKP	PKiKP	22 39 21.6	-1.4
KLR	Kul'dur	145.96	335	PKPbc	PKPdf	22 39 18.2	+0.4
	comp=Z,82nm,0.6s,baz=46,slow=3.5,SNR=232						
KLR				pPKPbc	pPKPab	22 39 47.6	0.0
	comp=Z,80nm,0.6s,baz=49,slow=3.6,SNR=5.6						
KLR	Kul'dur	145.96	335	*de* PKP2	PKPdf	22 39 18.0	+0.2
AJM	Ajmer	146.22	72	*e* P	PKPdf	22 39 18.8	-0.2
AJM				*i* x	x	22 39 47.8	
AJM				*ex*	x	22 43 07.8	
JSH	Shimam	146.24	319	P	PKPab	22 39 20.6	-0.1
JOT	Ohata	146.28	317	P	PKPab	22 39 20.9	+0.1
JTM	Tenmabayashi	146.57	316	P	PKPbc	22 39 20.8	-0.1
HEH	HeiHe	146.65	340	PKPbc	PKPdf	22 39 18.6	-0.4
HEH				sPKP		22 39 51.9	
HEH				AMB	AMB		
	comp=Z,940nm,6.0s						
HEH				LR	LR		
	comp=Z,230nm,23.3s						
HEH				LR	LR		
	comp=Z,790nm,21.8s						
HEH				LR	LR		
	comp=Z,1μm,23.7s						
GUMO	Guam	146.74	265	PKPbc	PKPdf	22 39 20.2	+0.1
	comp=Z,2μm,1.0s,baz=127,slow=5.1,SNR=41						
GUMO				pPKPbc	pPKPab	22 39 51.2	-0.3
	comp=Z,684nm,1.0s,baz=169,slow=5.6,SNR=3.1						
DHRM	DHARAMSHALA	146.76	61	*e* P	PKPbc	22 39 21.1	-0.8
DHRM				*i* x	x	22 39 51.2	
TEY	Ternei	146.76	326	⇓*e* PKP2	PKPdf	22 39 20.0	+0.7
TEY				pmax	pmax		
	comp=Z,160nm,1.1s						
TEY				pmax	pmax		
	comp=E,40nm,1.0s						
TEY				pmax	pmax		
	comp=N,20nm,1.4s						
TEY				pmax	pmax		
	comp=E,100nm,5.6s						
TEY				pmax	pmax		
	comp=N,100nm,4.5s						
TEY				pmax	pmax		
	comp=Z,800nm,4.6s						
BHK	Bhakra	147.05	62	*e* P	PKPdf	22 39 20.6	+0.4
BHK				*i* x	x	22 39 50.8	
IRK	Irkutsk	147.05	7	*e* PKIKP	PKPdf	22 39 20.0	+0.4
IRK				*e*		22 39 47.5	
IRK				pmax	pmax		
	comp=Z,714nm,2.3s						
JOM	Ohasama	147.06	314	P	PKPbc	22 39 21.1	-1.1
MOY	Mondy	147.11	11	*e* PKP2	PKPdf	22 39 21.0	+1.1
MOY				pmax	pmax		
	comp=Z,495nm,1.6s						
KMPI	Kaimana, Papua	147.64	227	PKP	PKiKP	22 39 26.0	-0.6
KUDL	Kundal	147.68	68	*e* P	PKPdf	22 39 21.8	+0.4
KUDL				*i* x	x	22 39 59.3	
KUDL				*ex*	x	22 43 16.4	
BATI	Baumata	147.73	204	PKPbc	PKPbc	22 39 23.9	-0.9
	comp=Z,451nm,0.8s,baz=167,slow=3.7,SNR=54						
BATI	Baumata	147.73	204	PKP	PKPbc	22 39 23.6	-1.2
BATI				PKP	PKPbc	22 39 24.0	-0.9
SMLA	Simla	147.74	63	*e* P	PKPdf	22 39 21.8	+0.4
SMLA				*i* x	x	22 39 53.4	
SOEI	Soe	147.90	206	PKP	PKPdf	22 39 20.3	-2.0
SOEI	Soe	147.90	206	PKP	PKPbc	22 39 24.0	-1.3
SOEI				PKP	PKPbc	22 39 24.1	-1.3
JMM	Marumori	148.14	311	P	PKPdf	22 39 22.8	+1.0
SONA	Sohna	148.19	68	*e* P	PKPdf	22 39 22.5	+0.3
SONA				*i* x	x	22 39 53.5	
NPLP	NPLP New Delhi	148.21	67	*e* P	PKPdf	22 39 23.5	+1.2
NDI	New Delhi	148.24	67	*e* P	PKPdf	22 39 22.5	+0.1
NDI				*i* x	x	22 39 53.5	
JMIU	JAMIA UNIVERSI	148.32	67	*e* P	PKPdf	22 39 23.4	+0.9
JMIU				*ex*	x	22 43 19.8	
AKL	Akola	148.41	82	*e* P	PKPdf	22 39 23.2	+0.4
AKL				*i* x	x	22 39 54.9	
AKL				*ex*	x	22 43 25.0	
KLP	Kalpa	148.54	61	*e* P	PKPdf	22 39 23.8	+0.6
KLP				*i* x	x	22 39 56.0	
JYA	Atsumi	148.56	313	P	PKiKP	22 39 27.2	-0.6
NRDN	NARMADA NAGAR	148.63	78	*e* P	PKPdf	22 39 22.1	-1.0
NRDN				*i* x	x	22 39 52.9	
NRDN				*ex*	x	22 43 19.1	
DDI	Dehra Dun	148.66	64	*e* P	PKPdf	22 39 24.3	+1.2
ZAK	Zakamensk	148.73	9	*e* PKIKP	PKPdf	22 39 23.2	+0.6
ZAK				pmax	pmax		
	comp=Z,196nm,1.5s						
GUNA	GUNA	148.75	75	*e* P	PKPdf	22 39 23.4	+0.1
GUNA				*i* x	x	22 39 55.3	
GUNA				*ex*	x	22 43 24.8	
BASI	Baing, Sumba	148.80	199	PKP	PKPbc	22 39 26.3	-1.3
RKPI	Ransiki, Papua	148.82	230	PKP	PKPdf	22 39 25.0	+1.3
BHPL	Bhopal	148.87	77	*e* P	PKPdf	22 39 23.2	-0.3
BHPL				⇑*i* pP	pPKPbc	22 39 57.4	+0.5
WMQ	Urumqi	149.13	33	PKPbc	PKPdf	22 39 24.2	+0.8
WMQ				pPKP	pPKPdf	22 39 46.1	-6.3
WMQ				sPKP		22 39 57.7	
WMQ				SKKS		22 49 39.4	
WMQ				AMB	AMB		
	comp=Z,520nm,5.1s						
WMQ				LR	LR		
	comp=Z,1μm,18.1s						
WMQ				LR	LR		
	comp=Z,1μm,22.7s						
WMQ				LR	LR		
	comp=Z,2μm,24.5s						
FAKI	Fak Fak	149.18	226		PKPdf	22 39 25.8	+1.5
FAKI	Fak Fak	149.18	226	PKP	PKPdf	22 39 26.1	+1.8
JYT	Yasato	149.28	309	P	PKiKP	22 39 29.2	-0.1
BNDI	Bandanaira	149.46	220	PKP	PKPbc	22 39 29.2	-0.1
HYB	Hyderabad	149.48	89	*e* PKPdf	PKPdf	22 39 24.8	+0.1
HYB				*e* PKiKP	PKiKP	22 39 30.0	-0.2
HYB				*e* PKPab	PKPab	22 39 33.0	-1.4
HIA	Hailar	149.53	348	PKPbc	PKiKP	22 39 29.6	+0.2
HIA	Hailar	149.53	348	PKP2	PKiKP	22 39 29.6	+0.2
XMIS	Christmas Isla	149.69	170		PKPbc	22 39 30.0	+0.2
WBSI	Waikabubak, Su	149.70	197	PKP	PKPdf	22 39 26.7	+1.6
USA0B	Ussuriysk Arra	149.71	329	PKPbc	PKiKP	22 39 30.5	+0.6
USA0B	Ussuriysk Arra	149.71	329	PKP2	PKiKP	22 39 30.5	+0.6
USRK	Ussuriysk Ar.	149.71	329	PKPbc	PKPbc	22 39 29.0	+0.1
	comp=Z,211nm,0.8s,baz=45,slow=2.2,SNR=190						
USRK				pPKPbc	pPKPbc	22 39 58.8	+0.9
	comp=Z,189nm,1.0s,baz=41,slow=2.9,SNR=5.6						
MMRI	Maumere	149.72	203	PKP	PKPdf	22 39 25.2	+0.1
JHNI	Jhansi	149.79	73	*i* P	PKPdf	22 39 24.4	-0.5
JSD	Sado	149.83	313	P	PKiKP	22 39 29.9	-0.4
JOSI	Joshimath	149.87	63	*e* P	PKPdf	22 39 25.6	+0.5
JOSI				*ex*	x	22 43 31.1	
MDRS	Chennai	150.11	98	*e* P	PKPdf	22 39 26.1	+0.5
CBIJ	Chichi jima	150.19	290	P	PKPbc	22 39 30.7	+0.1
JCJ	Chichijima	150.19	290		PKPdf	22 39 24.9	-0.6
JCJ				PKPbc	PKPbc	22 39 31.1	+0.4
JRY	Ryogami san	150.31	309	P	PKiKP	22 39 31.6	+0.1
NGP	Nagpur	150.33	82	*i* P	PKPdf	22 39 26.4	+0.5
NGP				*i* x	x	22 39 56.9	
NGP				*ex*	x	22 43 35.3	
FRKB	FARRUKHABAD	150.49	69	*e* P	PKPdf	22 39 24.9	-1.0
JOD2	Odawara 2	150.50	308	P	PKPbc	22 39 31.5	+0.3
BNX	BinXian	150.51	336	⇓PKPbc	PKPdf	22 39 24.3	-1.1
BNX				PP	PP	22 43 05.8	-1.1
BNX				SS	SS	23 02 19.1	+1.5
BNX				AMB	AMB		
	comp=Z,1μm,6.2s						
MDJ	Mudanjiang	150.51	332	PKPbc	PKPdf	22 39 26.1	+0.7
MDJ				PP	PP	22 43 04.0	-3.0
MDJ				AMB	AMB		
	comp=Z,1μm,11.5s						
MDJ				LR	LR		
	comp=Z,790nm,23.8s						
MDJ				LR	LR		
	comp=Z,520nm,20.7s						
MDJ				LR	LR		
	comp=Z,1μm,21.5s						
MJAR	Matsushiro Arr	150.58	311	PKP	PKPdf	22 39 25.4	-0.4
	comp=Z,174nm,0.8s,baz=90,slow=1.2,SNR=62						
MJAR				PKPbc	pPKPbc	22 39 31.5	+0.2
	comp=Z,173nm,0.8s,baz=77,slow=1.5,SNR=158						
MJAR				pPKPbc	pPKPbc	22 40 01.7	+1.7
	comp=Z,52nm,0.9s,baz=78,slow=2.5,SNR=2.3						
MAJO	Matsushiro	150.58	311		PKPdf	22 39 26.6	+0.8
MAJO				PKPbc	PKiKP	22 39 31.9	-0.1
MAJO	Matsushiro	150.58	311	PKiKP	PKPdf	22 39 26.6	+0.8
MAT	Matsushiro	150.58	311	P	PKPbc	22 39 31.5	+0.2
JHJ2	Mitsune	150.75	303		PKiKP	22 39 32.5	+0.1
JHJ	Hachijo jima 2	150.77	303	PKPbc	PKPbc	22 39 32.0	+0.1
	comp=Z,713nm,0.8s,baz=45,slow=1.4,SNR=10						
PLAI	Plampang	150.89	195	PKP	PKPdf	22 39 27.8	+0.8
MSAI	Masohi	150.98	220	PKP	PKPbc	22 39 32.2	-0.7
AAI	Ambon	151.15	218	PKP	PKPdf	22 39 27.9	+0.5
SWI	Sorong	151.34	227	PKP	PKPdf	22 39 28.9	+1.2
JGN	Niukaw	151.36	311	P	PKiKP	22 39 33.8	+0.1
BNDA	BANDA	151.40	73	*e* P	PKPbc	22 39 32.9	-0.7
JSG	Sagara	151.41	307	P	PKiKP	22 39 34.7	+1.0
DNP	Denpasar	151.54	189	PKP	PKiKP	22 39 35.4	+0.8
JGF	Kuroka	151.62	310		PKPdf	22 39 28.0	+0.5
JGF				PKPbc	PKiKP	22 39 34.9	+0.7
JGF				PKPab	PKPab	22 39 42.5	-0.3
JGF	Kuroka	151.62	310	P	PKiKP	22 39 34.4	+0.1
SONM	Songino Array	151.63	6		PKPdf	22 39 27.9	+0.7
SONM				PKPbc	PKPdf	22 39 34.9	+0.9
SONM	Songino Array	151.63	6	PKP	PKPdf	22 39 27.6	+0.3
	comp=Z,22nm,0.8s,baz=316,slow=1.9,SNR=41						
SONM				PKPbc	PKiKP	22 39 33.8	-0.1
	comp=Z,124nm,0.5s,baz=325,slow=1.8,SNR=86						
SONM				pPKPbc	pPKPbc	22 40 03.5	+0.8
	comp=Z,44nm,0.5s,baz=321,slow=3.9,SNR=2.9						
SONM	Songino Array	151.63	6	PKIKP	PKPdf	22 39 27.9	+0.7
ULN	Ulaanbaatar	151.66	5		PKPdf	22 39 28.0	+0.7
ULN				PKPbc	PKiKP	22 39 35.1	+1.0
ULN	Ulaanbaatar	151.66	5	PKIKP	PKiKP	22 39 35.1	+1.0
JAGI	Jajag, Banyuwa	151.89	187	PKPdf	PKPdf	22 39 27.9	-0.5
JAGI				PKPbc	PKiKP	22 39 35.7	+0.3
JAGI	Jajag, Banyuwa	151.89	187	PKP	PKPdf	22 39 28.4	-0.1
SRBI	Singaraja	152.12	190	PKP	PKiKP	22 39 36.1	+0.3
NLAI	Namlea	152.15	217	PKP	PKPdf	22 39 30.4	+1.5
GMJI	Gumukmas	152.16	186	PKP	PKPdf	22 39 29.8	+0.9
PCJI	Pacitan	152.37	181	PKP	PKiKP	22 39 36.6	+0.3
BBSI	Bau Bau	152.46	206	PKP	PKiKP	22 39 37.5	+1.0
PWJI	Pagerwojo	152.52	182	PKP	PKPdf	22 39 30.1	+0.7
ABJI	Asem Bagus	152.55	188	PKP	PKiKP	22 39 38.1	+1.4
JIE	Ise	152.64	308	P	PKiKP	22 39 37.6	+1.3
BSSI	Bau Bau, Buton	152.65	202	PKP	PKPdf	22 39 31.0	+1.4
UGM	Wanagama	152.65	180		PKPdf	22 39 29.0	-0.7
UGM				PKPbc	PKiKP	22 39 37.6	+0.6
UGM	Wanagama	152.65	180

INCN						22 40 07.7	
GSI	**Gunungsitoli**	**157.74**	**143**	PKP	**PKPdf**	**22 39 38.3**	**+1.8**
TJN	**Taejon**	**157.79**	**322**		**PKPdf**	**22 39 36.4**	**+0.6**
TJN					**PKPab**	**22 40 08.1**	**-0.8**
TJN	**Taejon**	**157.79**	**322**	PKP2	**PKPab**	**22 40 08.1**	**-0.8**
TJN						23 39 36.4	
GTA	**Gaotai**	**158.15**	**23**	PKP	**PKPdf**	**22 39 36.9**	**+0.5**
GTA				pPKP	pPKPdf	22 40 04.1	-1.5
GTA				PP	**PP**	**22 43 53.3**	**+3.4**
GTA				SKKS		22 50 29.7	
GTA				SS	**SS**	**23 03 40.6**	**-0.2**
GTA				AMB	AMB		
	comp=Z,680nm,5.1s						
GTA				LR	LR		
	comp=Z,410nm,24.7s						
GTA				LR	LR		
	comp=Z,530nm,24.4s						
GTA				LR	LR		
	comp=Z,770nm,23.6s						
GTK	**Tadong**	**158.36**	**65**	*i* P	**PKPdf**	**22 39 37.4**	**+0.3**
GOMU	**GeErMu**	**158.37**	**37**	PKP	**PKPdf**	**22 39 38.1**	**+1.0**
GOMU				pPKP	pPKPdf	22 40 03.9	-2.4
GOMU				PP	**PP**	**22 43 51.3**	**-0.6**
GOMU				AMB	AMB		
	comp=Z,2μm,9.7s						
GOMU				LR	LR		
	comp=Z,690nm,18.6s						
GOMU				LR	LR		
	comp=Z,1μm,20.8s						
GOMU				LR	LR		
	comp=Z,880nm,20.1s						
DL2	**Dalian**	**158.56**	**336**	PKP	**PKPdf**	**22 39 36.5**	**-0.2**
DL2				sPKP		22 40 10.8	
DL2				PP	**PP**	**22 43 48.7**	**-3.2**
DL2				SS	SS	23 03 43.1	-1.8
DL2				AMB	AMB		
	comp=Z,1μm,4.7s						
DL2				LR	LR		
	comp=Z,880nm,20.0s						
DL2				LR	LR		
	comp=Z,970nm,24.9s						
DL2				LR	LR		
	comp=Z,1μm,23.3s						
BKNI	**Bangkinang**	**158.63**	**153**	PKP	**PKPdf**	**22 39 32.4**	**-5.2**
SBSI	**Sibolga**	**158.66**	**146**	PKP	**PKPdf**	**22 39 38.0**	**+0.3**
HHC	**Hu-ho-hao-te**	**158.81**	**356**	⇓*i* PKP	**PKPdf**	**22 39 38.2**	**+1.0**
HHC				sPKP		22 40 14.2	
HHC				PP	**PP**	**22 43 52.7**	**-0.4**
HHC				SS	SS	23 03 45.1	-2.0
HHC				LR	LR		
	comp=Z,690nm,22.2s						
HHC				LR	LR		
	comp=Z,840nm,20.0s						
HHC				LR	LR		
	comp=Z,1μm,21.6s						
MPSI	**Mapaga**	**158.83**	**206**	PKP	**PKPdf**	**22 39 38.3**	**+0.5**
BTO	**Baotou**	**159.06**	**1**	*e*PKP	**PKPdf**	**22 39 37.8**	**+0.4**
BTO				pPKP	**pPKPdf**	**22 40 02.6**	**-4.1**
BTO				sPKP		22 40 13.8	
BTO				LR	LR		
	comp=Z,3μm,20.6s						
BTO				LR	LR		
	comp=Z,730nm,8.7s						
BTO				LR	LR		
	comp=Z,3μm,23.1s						
BJI	**Beijing**	**159.10**	**348**	PKP	**PKPdf**	**22 39 37.9**	**+0.6**
BJI				PP	**PP**	**22 43 53.1**	**-1.5**
BJI				AMB	AMB		
	comp=Z,390nm,8.5s						
BJT	**Baijiatuau**	**159.12**	**348**	PKPdf	**PKPdf**	**22 39 37.9**	**+0.6**
BJT				pPKPdf	**pPKPdf**	**22 40 09.1**	**+2.4**
TOLI2	**Tolitoli**	**159.13**	**209**	PKPdf	**PKPdf**	**22 39 37.3**	**-0.9**
TOLI2				PKPab	**PKPab**	**22 40 15.0**	**-0.2**
MTKI	**Muara Teweh, K**	**159.16**	**192**	PKP	**PKPdf**	**22 39 40.2**	**+2.0**
MLSI	**Meulaboh, Aceh**	**159.35**	**136**	PKP	**PKPdf**	**22 39 39.4**	**+1.0**
LSA	**Lhasa**	**159.63**	**57**	pPKPdf	pPKPdf	22 40 10.4	+2.3
LSA	**Lhasa**	**159.63**	**57**	PKPdf	**PKPdf**	**22 39 39.9**	**+1.0**
LSA	**Lhasa**	**159.63**	**57**	PKP	PKPdf	22 39 26.8	-12
LSA				PP	PP	22 43 10.9	-49
LSA				LR	LR		
	comp=N,950nm,21.6s						
LSA				LR	LR		
	comp=Z,1μm,25.9s						
STKI	**Sintang**	**160.56**	**182**	PKP	**PKPdf**	**22 39 41.5**	**+1.7**
DAV	**Davao City (W)**	**160.91**	**231**	PKP	**PKPdf**	**22 39 40.8**	**+0.6**
	comp=Z,56nm,0.4s,baz=153,slow=3.1,SNR=4.2						
DAV				PKPab	**PKPab**	**22 40 25.8**	**+2.7**
	comp=Z,57nm,0.4s,baz=45,slow=2.9,SNR=8.0						
DAV				PP	**PP**	**22 44 04.4**	**-1.3**
	comp=Z,69nm,0.3s,baz=157,slow=4.5,SNR=6.9						
DAV	**Davao City (W)**	**160.91**	**231**	P	**PKPdf**	**22 39 39.0**	**-1.2**
TAWA	**Tawang**	**161.03**	**62**	⇓*ix*	x	22 40 40.2	
SHL	**Shillong**	**161.66**	**68**	pPKPdif	**PKPab**	**22 40 26.2**	**-0.2**
SHL	**Shillong**	**161.66**	**68**	*e*P	**PKPdf**	**22 39 40.2**	**-0.7**
TIY	**Taiyuan**	**161.90**	**356**	PKP	**PKPdf**	**22 39 41.6**	**+1.0**
TIY				PKPab	**PKPab**	**22 40 27.6**	**+0.9**
TIY				PP	**PP**	**22 44 08.9**	**-0.8**
TIY				SKKS		22 50 50.4	
TIY				SS	**SS**	**23 04 17.2**	**-2.2**
TIY				AMB	AMB		
	comp=Z,1μm,6.5s						
TIY				LR	LR		
	comp=Z,900nm,17.2s						
TIY				LR	LR		
	comp=Z,730nm,16.5s						
TIY				LR	LR		
	comp=Z,2μm,24.7s						
HNS	**HongShan**	**161.93**	**350**	⇓PKP	**PKPdf**	**22 39 41.4**	**+0.9**
HNS				pPKP	**pPKPdf**	**22 40 10.9**	**+1.1**
HNS				PKPab	**PKPab**	**22 40 27.5**	**+0.7**
HNS				SS	SS	23 04 15.9	-3.8
HNS				AMB	AMB		
	comp=Z,1μm,9.4s						
HNS				LR	LR		
	comp=Z,1μm,23.9s						
HNS				LR	LR		
	comp=Z,2μm,23.5s						
JOW	**Kunigami**	**162.32**	**297**	PKP	**PKPdf**	**22 39 41.7**	**+0.5**
	comp=Z,61nm,0.9s,baz=42,slow=3.4,SNR=9.3						
JOW				PKPab	**PKPab**	**22 40 29.4**	**+0.3**
	comp=Z,44nm,0.9s,baz=68,slow=5.4,SNR=4.2						
LZH	**Lanzhou**	**162.51**	**19**	PKP	**PKPdf**	**22 39 42.5**	**+1.1**
LZH				pPKP	pPKPdf	22 40 12.8	+2.2
LZH				sPKP		22 40 22.5	
LZH				SKKS		22 50 54.5	
LZH				AMB	AMB		
	comp=Z,410nm,5.8s						
LZH				LR	LR		
	comp=Z,690nm,17.5s						
LZH				LR	LR		
	comp=Z,750nm,16.5s						
LZH				LR	LR		
	comp=Z,2μm,18.6s						
TIA	**Tai'an**	**162.52**	**342**	PKP	**PKPdf**	**22 39 40.1**	**-1.1**
TIA				PP	**PP**	**22 44 12.6**	**-0.5**
TIA				AMB	AMB		
	comp=Z,1μm,7.3s						
TIA				LR	LR		
	comp=Z,840nm,23.5s						
TIA				LR	LR		
	comp=Z,1μm,12.9s						
ZIRO	**ZIRO**	**162.68**	**60**	*i* P	**PKPdf**	**22 39 42.0**	**+0.2**
AZL	**Aizawl**	**162.78**	**73**	⇓*i* P	**PKPdf**	**22 39 42.7**	**+0.8**
SBUM	**Sibu**	**162.88**	**185**		**PKPdf**	**22 39 43.2**	**+1.0**
SBUM					**PKPab**	**22 40 32.8**	**+1.3**
KOHI	**KOHIMA**	**163.54**	**65**	*i* P	**PKPdf**	**22 39 43.5**	**+0.8**
IMP	**Imphal**	**163.66**	**68**	*i* P	**PKPdf**	**22 39 43.2**	**+0.5**
LKP	**Lekhapani**	**164.37**	**58**	⇓*i* P	**PKPdf**	**22 39 43.6**	**+0.5**
LYN	**LuoYang**	**165.03**	**354**	PKP	**PKPdf**	**22 39 44.4**	**+0.9**
LYN				PKPab	**PKPab**	**22 40 40.8**	**+0.3**
LYN				PP	**PP**	**22 44 23.7**	**-2.4**
LYN				SS	SS	23 04 47.5	-4.1
LYN				AMB	AMB		
	comp=Z,2μm,8.3s						
SSE	**Sheshan**	**165.15**	**322**	PKP	**PKPdf**	**22 39 43.7**	**0.0**
SSE				PP	**PP**	**22 44 26.1**	**-1.4**
SSE				SS	SS	23 04 53.7	-0.6
SSE				AMB	AMB		
	comp=Z,790nm,5.9s						
SSE				LR	LR		
	comp=Z,620nm,30.4s						
SSE				LR	LR		
	comp=Z,470nm,29.2s						
XAN	**Xi'an**	**165.54**	**6**	⇓PKP	**PKPdf**	**22 39 44.6**	**+0.6**
XAN				PKPab	**PKPab**	**22 40 42.8**	**0.0**
XAN				PP	**PP**	**22 44 29.3**	**+0.5**
XAN				SS	SS	23 05 01.0	+4.1
XAN				AMB	AMB		
	comp=Z,2μm,5.2s						
XAN				LR	LR		
	comp=Z,2μm,18.6s						
XAN				LR	LR		
	comp=Z,1μm,19.2s						
XAN				LR	LR		
	comp=Z,1μm,17.2s						
NJ2	**Nanjing**	**165.60**	**331**	⇑PKP	**PKPdf**	**22 39 43.6**	**-0.5**
NJ2				pPKP	**pPKPdf**	**22 40 14.9**	**+1.7**
NJ2				PKPab	**PKPab**	**22 40 42.2**	**-0.9**
NJ2				PP	**PP**	**22 44 32.6**	**+3.1**
NJ2				AMB	AMB		
	comp=Z,670nm,4.0s						
CD2	**Chengdu**	**167.12**	**28**	PKP	**PKPdf**	**22 39 46.0**	**+0.6**
CD2				PP	**PP**	**22 44 42.5**	**+5.1**
CD2				SKKS		22 51 14.3	
CD2				SS	**SS**	**23 05 14.4**	**+0.6**
CD2				LR	LR		
	comp=Z,700nm,9.8s						
CD2				LR	LR		
	comp=Z,480nm,17.1s						
CD2				LR	LR		
	comp=Z,1μm,19.7s						
TNCH	**TengChong**	**167.52**	**62**	⇓PKP	**PKPdf**	**22 39 45.6**	**-0.4**
TNCH				pPKP	pPKPdf	22 40 11.5	-3.8
TNCH				sPKP		22 40 24.1	
TNCH				PKPab	**PKPab**	**22 40 51.9**	**-0.4**
TNCH				PP	**PP**	**22 44 42.4**	**+1.4**
TNCH				SKKS		22 51 18.6	
TNCH				AMB	AMB		
	comp=Z,510nm,6.1s						
TNCH				LR	LR		
	comp=Z,470nm,17.2s						
TNCH				LR	LR		
	comp=Z,750nm,26.8s						
TNCH				LR	LR		
	comp=Z,2μm,25.4s						
WHN	**Wuhan**	**168.62**	**344**	PKP	**PKPdf**	**22 39 46.7**	**+0.4**
WHN				pPKP	**pPKPdf**	**22 40 16.7**	**+1.1**
WHN				PKPab	**PKPab**	**22 40 56.2**	**-0.2**
WHN				PP	**PP**	**22 44 44.0**	**-0.6**
WHN				LR	LR		
	comp=Z,7μm,25.6s						
WHN				LR	LR		
	comp=Z,4μm,27.9s						
WHN				LR	LR		
	comp=Z,10μm,28.7s						
CMAR	**Chiang Mai Arr**	**168.84**	**94**	PKP	**PKPdf**	**22 39 46.3**	**-0.5**
	comp=Z,12nm,0.9s,baz=271,slow=1.8,SNR=65						
CMAR				PKPab	**PKPab**	**22 40 57.7**	**-0.4**
	comp=Z,8.5nm,0.7s,baz=262,slow=5.7,SNR=9.3						
CMAR				PP	**PP**	**22 44 43.3**	**-4.7**
	comp=Z,4.0nm,0.7s,baz=283,slow=5.2,SNR=4.1						
CHTO	**Chiang Mai**	**168.88**	**92**		**PKPdf**	**22 39 46.4**	**-0.5**
CHTO				pPKPdf	**pPKPdf**	**22 40 16.8**	**+0.7**
CHTO	**Chiang Mai**	**168.88**	**92**	PKIKP	**PKPdf**	**22 39 46.4**	**-0.5**
PZH	**PanZhiHua**	**169.29**	**49**	PKP	**PKPdf**	**22 39 46.5**	**-0.6**
PZH				SKKS		22 51 25.0	
PZH				AMB	AMB		
	comp=Z,1μm,8.0s						
PZH				LR	LR		
	comp=Z,720nm,17.2s						
PZH				LR	LR		
	comp=Z,730nm,15.7s						
PZH				LR	LR		
	comp=Z,2μm,31.4s						
PHRA	**Phrae**	**170.05**	**95**		**PKPdf**	**22 39 47.5**	**-0.1**
KMI	**Kunming**	**170.83**	**52**	⇓PKP	**PKPdf**	**22 39 47.2**	**-0.9**
KMI				sPKP		22 40 20.2	
KMI				PP	**PP**	**22 44 56.9**	**-0.4**
KMI				SKKS		22 51 37.4	
KMI				LR	LR		
	comp=Z,1μm,25.5s						
KMI				LR	LR		
	comp=Z,1μm,22.4s						
KMI				LR	LR		
	comp=Z,2μm,24.8s						
QZH	**Quanzhou**	**170.96**	**307**	PKP	**PKPdf**	**22 39 45.2**	**-2.7**
QZH				PP	**PP**	**22 44 57.4**	**-0.3**
QZH				AMB	AMB		
	comp=Z,2μm,5.0s						
CNSH	**ChangSha**	**171.22**	**347**	PKP	**PKPdf**	**22 39 47.2**	**-0.7**
CNSH				PP	**PP**	**22 44 56.6**	**-1.0**
CNSH				AMB	AMB		
	comp=Z,1μm,5.0s						
GYA	**Guiyang**	**172.24**	**28**	⇓PKP	**PKPdf**	**22 39 48.8**	**+0.2**
GYA				sPKP		22 40 20.8	
GYA				PKPab	**PKPab**	**22 41 08.8**	**-4.0**
GYA				PP	**PP**	**22 45 10.1**	**+6.9**
GYA				SKKS		22 51 41.9	
GYA				SS	**SS**	**23 06 06.9**	**+2.2**
GYA				LR	LR		
	comp=Z,1μm,21.1s						
SLVN	**Son La**	**173.42**	**74**		**PKPdf**	**22 39 49.2**	**0.0**
SLVN				pPKPdf	**pPKPdf**	**22 40 20.7**	**+2.2**
QIZ	**Qiongzhong**	**179.02**	**126**	PKP	**PKPdf**	**22 39 51.4**	**+1.0**
QIZ				pPKP	**pPKPdf**	**22 40 17.8**	**-1.9**
QIZ				sPKP		22 40 27.0	
QIZ				PP	**PP**	**22 45 39.4**	**+2.8**
QIZ				SKKS		22 52 14.8	
QIZ				SS	**SS**	**23 07 08.3**	**-2.7**
QIZ				AMB	AMB		
	comp=Z,3μm,6.9s						

*CNRM **01** 22:34:28.5, 35°.54N×3°.80W, h16km, ML3.3*
*MDD **01** 22:34:29.9±0.4, 35°.42N×3°.79W, h10km, mb_Lg3.0/6, Latitude uncertainty: 3.9 km; Longitude uncertainty: 3.3 km*
*INMG **01** 22:34:30.3±1.6, 35°.43N×3°.74W, h13km, ML2.6, Error ellipse: s-maj=5.5km s-min=4.4km az=82.0*
*SFS **01** 22:34:30.4, 35°.46N×3°.74W, h14km, ML3.5/18, ML3.3/18, MLv3.3/18*
*IGIL **01** 22:34:30.1, 35°.42N×3°.79W, h4km, ML2.6*
ISC 01 22:34:29.6±1.2, 35°.48N±0°.02×3°.77W±0°.03, h19km±3km, n78, σ1s15/110, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.30**	**208**	P	**Pg**	**22 34 35.6**	**-0.6**
PALE	**Palemas**	**0.30**	**208**	S	**Sg**	**22 34 40.6**	**-0.1**
GOG	**Mont Gurugu**	**0.68**	**112**	P	**Pb**	**22 34 42.2**	**-0.7**
GOG	**Mont Gurugu**	**0.68**	**112**	S	**Sg**	**22 34 53.0**	**+0.7**
EMEL	**Melilla**	**0.69**	**105**	P	**Pb**	**22 34 42.2**	**-0.7**
WMELI	**Melilla**	**0.69**	**104**	Sg	**Sb**	**22 34 51.7**	**-0.3**
WMELI				Pg	**Pb**	**22 34 42.4**	**-0.5**
EMLI	**Melilla**	**0.69**	**105**	Sg	**Sb**	**22 34 52.1**	**0.0**
EMLI				Pg	**Pb**	**22 34 42.4**	**-0.6**
EALB	**Alboran**	**0.75**	**52**	Pg	**Pb**	**22 34 44.2**	**+0.1**
EALB				Sg	**Sg**	**22 34 54.7**	**+0.3**
EALB	**Alboran**	**0.75**	**52**	P	**Pb**	**22 34 43.9**	**-0.2**
EALB				*i* Vmb_Lg		22 34 55.2	
AKLM	**AKL**	**0.97**	**185**	P	**Pb**	**22 34 47.8**	**-0.1**
AKLM	**AKL**	**0.97**	**185**	S	**Sb**	**22 35 00.1**	**-0.2**
CHAS	**Isla Isabel II**	**1.13**	**105**	Pn	**Pn**	**22 34 49.9**	**-0.5**
CHAS				Sn	**Sb**	**22 35 04.1**	**-0.8**
SMIR	**Smir Dam**	**1.33**	**279**	P	**Pn**	**22 34 51.2**	**-1.9**
SMIR	**Smir Dam**	**1.33**	**279**	S	**Sn**	**22 35 10.2**	**0.0**
CHEFC	**Chefchaouen**	**1.34**	**254**	P	**Pn**	**22 34 53.1**	**-0.2**
CHEFC	**Chefchaouen**	**1.34**	**254**	S	**Sn**	**22 35 10.6**	**0.0**
CEU	**Ceuta**	**1.37**	**288**	Pn	**Pn**	**22 34 52.1**	**-1.5**
ECEU	**Ceuta**	**1.37**	**288**	Pn	**Pn**	**22 34 52.2**	**-1.5**
EMAL	**Malaga-Limoner**	**1.38**	**337**	Pn	**Pn**	**22 34 53.9**	**0.0**
ELGU	**Los Guajares,**	**1.39**	**5**	Pn	**Pn**	**22 34 53.2**	**-0.8**
ELGU				Sn	**Sn**	**22 35 10.7**	**-1.2**
ELGU	**Los Guajares,**	**1.39**	**5**	P	**Pn**	**22 34 53.2**	**-0.8**
ELGU				*i* Vmb_Lg		22 35 12.3	
JBK	**JBK**	**1.51**	**139**	P	**Pn**	**22 34 55.4**	**-0.4**
JBK	**JBK**	**1.51**	**139**	S	**Sb**	**22 35 16.7**	**+0.7**
EGOR	**Sierra Gorda,**	**1.65**	**350**	Pn	**Pn**	**22 34 58.5**	**+0.9**
EGOR	**Sierra Gorda,**	**1.65**	**350**	P	**Pn**	**22 34 58.6**	**+0.9**
EGOR				*i* Vmb_Lg		22 35 24.9	
EQUE	**Quentar**	**1.74**	**9**	P	**Pb**	**22 35 01.1**	**+0.2**
EQUE				*i* Vmb_Lg		22 35 22.8	
EQTA	**Presa de Quent**	**1.74**	**9**	Pn	**Pb**	**22 35 00.6**	**-0.5**
EQTA				Sn	**Sn**	**22 35 21.1**	**+0.5**
SICH	**Sidi Chahed**	**1.87**	**223**	P	**Pn**	**22 35 00.8**	**+0.2**
SICH	**Sidi Chahed**	**1.87**	**223**	S	**Sn**	**22 35 24.7**	**+0.9**
ENIJ	**Nijar**	**1.95**	**40**	Pn	**Pn**	**22 35 01.2**	**-0.5**
ENIJ				Sn	**Sn**	**22 35 24.6**	**-1.1**
ENIJ	**Nijar**	**1.95**	**40**	P	**Pn**	**22 35 01.8**	**+0.1**
ENIJ				*i* Vmb_Lg		22 35 27.5	
LCRM	**LCR**	**2.00**	**207**	P	**Pn**	**22 35 04.1**	**+1.6**
LCRM	**LCR**	**2.00**	**207**	S	**Sb**	**22 35 32.1**	**+2.0**
IFR	**Ifrane**	**2.26**	**210**	Pn	**Pn**	**22 35 06.1**	**0.0**
IFR				Sn	**Sn**	**22 35 32.5**	**-1.0**
CZD	**Col de Zad**	**2.66**	**204**	P	**Pn**	**22 35 12.1**	**+0.4**
CZD	**Col de Zad**	**2.66**	**204**	S	**Sn**	**22 35 44.9**	**+1.3**
MD31	**MD31**	**2.73**	**198**	P	**Pn**	**22 35 13.4**	**+0.9**
MD31	**MD31**	**2.73**	**198**	S	**Sn**	**22 35 46.9**	**+1.8**
EADA	**Adamuz**	**2.76**	**347**	Pn	**Pn**	**22 35 14.5**	**+1.7**
EADA				Sn	**Sn**	**22 35 47.0**	**+1.4**
ECAB	**El Cabril**	**2.91**	**333**	Pn	**Pn**	**22 35 16.6**	**+1.7**
ECAB				Sn	**Sn**	**22 35 50.3**	**+1.0**
CART	**Cartagena**	**3.06**	**46**	Pn	**Pn**	**22 35 17.2**	**+0.2**
EMIN	**Mina Concepcio**	**3.26**	**315**	Pn	**Pn**	**22 35 20.2**	**+0.4**
EMIN				Sn	**Sn**	**22 35 57.0**	**-1.0**
EGRO	**El Granado**	**3.62**	**305**	Pn	**Pn**	**22 35 24.9**	**+0.2**
EGRO				Sn	**Sn**	**22 36 05.4**	**-1.6**
EGRO	**El Granado**	**3.62**	**305**	P	**Pn**	**22 35 25.0**	**+0.3**
EGRO				*i* Vmb_Lg		22 35 36.4	
PVAQ	**Vaqueiros**	**3.72**	**302**	*e*P	**Pn**	**22 35 26.7**	**+0.8**
PVAQ				*e*S	**Sn**	**22 36 08.1**	**-1.1**
PVAQ				A	A	22 36 09.6	
	18nm,0.5s						
PVAQ	**Vaqueiros**	**3.72**	**302**	Pn	**Pn**	**22 35 26.3**	**+0.3**
PVAQ				Sn	**Sn**	**22 36 08.4**	**-0.8**
PVAQ	**Vaqueiros**	**3.72**	**302**	P	**Pn**	**22 35 25.3**	**-0.6**
AVE	**Averroes**	**3.72**	**235**	Sn	**Sn**	**22 36 07.9**	**-1.4**
PBAR	**Barrancos**	**3.75**	**317**	*e*P	**Pn**	**22 35 28.0**	**+1.5**
PBAR				*e*S	**Sn**	**22 36 09.0**	**-1.2**
PBAR				A	A	22 36 13.4	
	6.8nm,0.5s						
PBAR	**Barrancos**	**3.75**	**317**	Pn	**Pn**	**22 35 27.9**	**+1.5**
PBAR				Sn	**Sn**	**22 36 09.9**	**-0.3**
PBDV	**Barranco-do-Ve**	**3.79**	**299**	*e*P	**Pn**	**22 35 27.6**	**+0.6**
PBDV				*e*S	**Sn**	**22 36 10.6**	**-0.5**
PBDV				A	A	22 36 13.8	
	9.2nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.79**	**299**	Pn	**Pn**	**22 35 27.4**	**+0.4**
PBDV				Sn	**Sn**	**22 36 09.7**	**-1.3**
PCVE	**Castro Verde**	**4.05**	**303**	*e*P	**Pn**	**22 35 32.0**	**+1.4**
PCVE				*e*S	**Sn**	**22 36 16.0**	**-1.5**
PCVE				A	A	22 36 19.6	
	8.9nm,0.3s						
PCVE	**Castro Verde**	**4.05**	**303**	Pn	**Pn**	**22 35 32.2**	**+1.6**
PCVE				Sn	**Sn**	**22 36 16.0**	**-1.5**
PBEJ	**Beja**	**4.16**	**309**	*e*S	**Sn**	**22 36 20.4**	**+0.4**
PBEJ				A	A	22 36 24.3	
	4.7nm,0.6s						
EBAD	**Badajoz**	**4.17**	**323**	Pn	**Pn**	**22 35 32.8**	**+0.6**
EBAD				Sn	**Sn**	**22 36 19.7**	**-0.7**
MESJ	**Messejana**	**4.28**	**305**	*e*P	**Pn**	**22 35 34.8**	**+1.1**
MESJ				*e*S	**Sn**	**22 36 23.1**	**-0.1**
MESJ				A	A	22 36 27.8	
	7.3nm,0.3s						
MESJ	**Messejana**	**4.28**	**305**	*e*P	**Pn**	**22 35 34.2**	**+0.5**
MESJ				*e*S	**Sn**	**22 36 21.4**	**-1.8**
MESJ				IAML		22 36 24.4	
	comp=N,6.7nm,0.2s						
MORF	**Marmelete**	**4.34**	**296**	*e*P	**Pn**	**22 35 36.5**	**+2.0**
MORF				*e*S	**Sn**	**22 36 23.8**	**-0.8**
MORF				A	A	22 36 27.1	
	comp=N,11nm,0.7s						
MORF	**Marmelete**	**4.34**	**296**	*e*S	**Sn**	**22 36 22.8**	**-1.8**
MORF				IAML		22 36 26.4	
	comp=E,23nm,0.3s						
PFVI	**Vila Bisbo**	**4.40**	**293**	*e*P	**Pn**	**22 35 36.8**	**+1.4**
PFVI				*e*S	**Sn**	**22 36 23.9**	**-2.3**
PFVI				A	A	22 36 31.8	
	comp=E,10nm,0.7s						
PFVI	**Vila Bisbo**	**4.40**	**293**	P	**Pn**	**22 35 34.3**	**-1.1**
PFVI	**Vila Bisbo**	**4.40**	**293**	S	**Sn**	**22 36 25.4**	**-0.8**
PTEO	**Sao Teotonio**	**4.49**	**299**	*e*P	**Pn**	**22 35 38.4**	**+1.8**
PTEO				*e*S	**Sn**	**22 36 26.9**	**-1.4**
PTEO				A	A	22 36 32.9	
	comp=E,10nm,0.4s						
EVO	**Evora**	**4.56**	**313**	*e*P	**Pn**	**22 35 38.5**	**+0.9**
EVO				*e*S	**Sn**	**22 36 28.7**	**-1.3**
EVO				A	A	22 36 32.4	
	comp=E,8.4nm,0.2s						
EVO	**Evora**	**4.56**	**313**	Pn	**Pn**	**22 35 38.4**	**+0.9**
EVO				Sn	**Sn**	**22 36 28.6**	**-1.4**
UCM	**Universidad Co**	**4.83**	**5**	Pn	**Pn**	**22 35 42.9**	**+1.5**
PMRV	**Marv??o**	**4.88**	**325**	*e*P	**Pn**	**22 35 43.8**	**+1.8**
PMRV				A	A	22 36 40.7	
	comp=E,3.2nm,0.3s						
PMTG	**Montargil**	**5.04**	**317**	*e*P	**Pn**	**22 35 45.1**	**+0.9**
PMTG				*e*S	**Sn**	**22 36 40.6**	**-1.3**
PMTG				A	A	22 36 42.1	
	comp=E,5.2nm,0.4s						
OUZM	**OUZ**	**5.20**	**210**	P	**Pn**	**22 35 47.8**	**+1.2**
PCBR	**Castelo Branco**	**5.25**	**327**	*e*P	**Pn**	**22 35 49.4**	**+2.4**
PCBR				A	A	22 36 50.8	
	comp=E,3.4nm,0.5s						
TIO	**Tiouine**	**5.40**	**214**	Pn	**Pn**	**22 35 49.8**	**+0.5**
TIO				Sn	**Sn**	**22 36 48.9**	**-2.2**
PMAFR	**Mafra**	**5.60**	**310**	*e*S	**Sn**	**22 36 55.0**	**-0.7**
PMAFR				A	A	22 37 00.1	
	comp=E,10nm,0.7s						
PSBE	**So Bento**	**5.67**	**317**	*e*P	**Pn**	**22 35 54.4**	**+1.6**
PVIS	**Viseu**	**6.15**	**329**	*e*P	**Pn**	**22 36 02.1**	**+2.6**
PVIS				*e*S	**Sn**	**22 37 09.8**	**+0.4**
MVO	**Moncorvo**	**6.22**	**337**	*e*P	**Pn**	**22 36 02.6**	**+2.1**
MVO				*e*S	**Sn**	**22 37 11.3**	**+0.2**
MVO				A	A	22 37 15.7	
	comp=E,3.0nm,0.6s						
PVRL	**Vila Real**	**6.56**	**333**	*e*S	**Sn**	**22 37 18.9**	**-0.5**
PVRL				A	A	22 37 24.5	
	comp=E,4.4nm,0.5s						
PBRG	**Braganca**	**6.73**	**341**	*e*P	**Pn**	**22 36 09.4**	**+2.0**

*ATH **01** 22:35:25.4, 37°.09N×20°.50E, h7km±1km, ML3.3/3, Error ellipse: s-maj=2.7km s-min=1.4km az=45.0*
*THE **01** 22:35:26.4, 37°.17N×20°.56E, h0km±2km, ML3.4/10, Error ellipse: s-maj=3.5km s-min=0.7km az=232.0*
*BEO **01** 22:35:28.7±0.9, 37°.23N×20°.74E, h10km, ML3.9/6*
**ISC 01 22:35:26.4±1.8, 37°.17N±0°.06×20°.56E±0°.06, h10km±10km, n49,

RLS	**Riolos of Patr**	**1.14**	**39**	P	**Pg**	**22 35 48.1**	**-0.3**
RLS				S	**Sn**	**22 36 04.6**	**+0.3**
RLS				AML	AML	22 36 10.4	
	comp=N,1195μm,0.5s						
RLS				AML	AML	22 36 11.2	
	comp=E,2817μm,0.5s						
DRO	**Drossia**	**1.20**	**49**	P	**Pg**	**22 35 48.5**	**-1.0**
VSK1	**VASILIKIADES**	**1.23**	**0**	P	**Pb**	**22 35 48.8**	**-1.1**
VSK1				S	**Sn**	**22 36 07.1**	**+0.5**
	comp=E,3μm,0.6s						
FSK	**Fiskardo**	**1.28**	**0**	P	**Pn**	**22 35 50.4**	**-0.1**
FSK				S	**Sn**	**22 36 09.6**	**+1.8**
	comp=E,1μm,0.6s						
EVGI	**Lefkada island**	**1.45**	**3**	P	**Pn**	**22 35 53.3**	**+0.5**
EVGI	**Lefkada island**	**1.45**	**3**	P	**Pn**	**22 35 52.0**	**-0.7**
KLV	**Kalavryta, Ach**	**1.53**	**55**	P	**Pn**	**22 35 54.0**	**0.0**
KLV				S	**Sg**	**22 36 16.2**	**+0.4**
	comp=E,500nm,0.8s						
KLV	**Kalavryta, Ach**	**1.53**	**55**	P	**Pn**	**22 35 54.4**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.54**	**4**	P	**Pb**	**22 35 55.0**	**-0.1**
GUR	**Goura**	**1.61**	**61**	P	**Pn**	**22 35 55.8**	**+0.7**
ALIK	**Aliki, Aigiali**	**1.64**	**48**	P	**Pb**	**22 35 57.4**	**+0.6**
EFP	**Efpalio**	**1.65**	**40**	P	**Pb**	**22 35 56.9**	**0.0**
TSLK	**Tsoukalades, L**	**1.65**	**3**	P	**Pb**	**22 35 56.6**	**-0.4**
KALE	**Kalithea**	**1.75**	**45**	P	**Pb**	**22 35 58.8**	**+0.1**
VLI	**Veliai**	**1.96**	**103**	P	**Pn**	**22 36 00.7**	**+0.9**
EVR	**Evrytania**	**2.00**	**29**	P	**Pn**	**22 36 01.5**	**+1.0**
AXAR	**Agios Charalam**	**2.30**	**46**	P	**Pn**	**22 36 05.7**	**+1.2**
AGG	**Agios Georgios**	**2.31**	**37**	P	**Pn**	**22 36 06.6**	**+1.9**
IGT	**Igoumenitsa**	**2.36**	**356**	*e*Pn	**Pb**	**22 36 08.5**	**-0.6**
IGT				*e*Sn	**Sn**	**22 36 36.8**	**+2.4**
DION	**Dionisos Attik**	**2.83**	**70**	P	**Pn**	**22 36 12.1**	**+0.3**
KPRO	**Kipourio**	**2.85**	**13**	P	**Pn**	**22 36 14.3**	**+2.2**
AOS	**Alonnisos**	**3.29**	**52**	P	**Pn**	**22 36 18.3**	**+0.2**
FNA	**Florina**	**3.66**	**10**	P	**Pn**	**22 36 24.3**	**+1.1**
FNA	**Florina**	**3.66**	**10**	*e*Pn	**Pn**	**22 36 24.0**	**+0.8**
FNA				*e*Sn	**Sn**	**22 37 05.7**	**-0.8**
OHR	**Ohrid**	**3.94**	**3**	*e*Pn	**Pn**	**22 36 29.2**	**+2.2**
OHR				*e*Sn	**Sn**	**22 37 13.1**	**-0.2**
OHR	**Ohrid**	**3.94**	**3**	*i* Pn	**Pn**	**22 36 29.5**	**+2.5**
SRS	**Serrai**	**4.59**	**30**	*e*Pn	**Pn**	**22 36 36.5**	**+0.5**
SRS				*e*Sn	**Sn**	**22 37 26.4**	**-3.0**
BARS	**Barje**	**5.72**	**9**	*e*Pn	**Pn**	**22 36 51.5**	**0.0**
VTS	**Vitosha**	**5.81**	**20**	*e*Pn	**Pn**	**22 36 53.2**	**+0.3**
SELS	**Selova**	**6.05**	**4**	*e*Pn	**Pn**	**22 36 55.8**	**-0.3**
SJES	**Sjenica**	**6.10**	**356**	*e*Pn	**Pn**	**22 36 57.7**	**+0.9**
SJES				*e*Sn	**Sn**	**22 38 02.8**	**-3.8**
ZAPS	**Zavoj**	**6.30**	**14**	*e*Pn	**Pn**	**22 37 00.0**	**+0.6**
IVAS	**Ivanjica**	**6.40**	**357**	*e*Pn	**Pn**	**22 37 02.5**	**+1.6**
BBLS	**Lazi&#263i**	**6.74**	**353**	*e*Pn	**Pn**	**22 37 04.8**	**-0.8**
DIVS	**Divibare**	**6.93**	**357**	*e*Pn	**Pn**	**22 37 07.3**	**-0.9**

*SJA **01** 22:42:44.8±0.8, 30.°36S×71.°80W, h10km±2km, ML3.3, MW3.2*
*GUC **01** 22:42:48.1±0.8, 30.°44S×71.°66W, h32km±3km, ML3.5*
ISC 01 22:42:47.3±1.1, 30.°36S±0.°02×71.°61W±0.°04, h16km±8km, n37, σ1§78/61, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.31**	**184**	⇑*iP*	**Pg**	**22 42 54.2**	**+0.3**
CO06				*e*S	**Sg**	**22 42 58.7**	**+0.3**
CO05	**La Serena**	**0.55**	**36**	*e*P	**Pn**	**22 43 00.4**	**-0.1**
CO05				*e*S	**Sn**	**22 43 09.2**	**-0.1**
GO04	**Tololo Observa**	**0.72**	**75**	*e*P	**Pn**	**22 43 03.1**	**-0.1**
GO04				*i* S	**Sn**	**22 43 13.6**	**-0.5**
GO04				IAML		22 43 15.6	
	comp=N,3μm,0.4s						
GO04	**Tololo Observa**	**0.72**	**75**	*e*P	**Pn**	**22 43 03.1**	**-0.1**
GO04				*e*S	**Sn**	**22 43 14.6**	**+0.5**
CO03	**El Pedregal**	**0.92**	**121**	*i* P	**Pb**	**22 43 05.0**	**-0.1**
CO03				*i* S	**Sb**	**22 43 17.1**	**0.0**
CO03				IAML		22 43 18.5	
	comp=E,1μm,0.2s						
CO03	**El Pedregal**	**0.92**	**121**	*e*P	**Pb**	**22 43 05.0**	**-0.1**
CO03				*e*S	**Sn**	**22 43 18.4**	**-0.4**
CO03				IAML		22 43 19.7	
	comp=Z,464nm,0.6s						
CO01	**Juntas del Tor**	**1.36**	**74**	⇓*iP*	**Pg**	**22 43 13.2**	**-0.4**
CO01	**Juntas del Tor**	**1.36**	**74**	*e*P	**Pg**	**22 43 13.4**	**-0.3**
CO01				*e*S	**Sg**	**22 43 35.1**	**+3.6**
CO01				IAML		22 43 35.5	
	comp=Z,216nm,0.5s						
LCO	**Las Campanas**	**1.56**	**31**	⇑*iP*	**Pb**	**22 43 16.0**	**0.0**
LCO				*i* S	**Sg**	**22 43 37.6**	**-0.1**
LCO				IAML		22 43 45.5	
	comp=Z,2μm,0.3s						
LCO	**Las Campanas**	**1.56**	**31**	*e*P	**Pb**	**22 43 15.9**	**-0.1**
LCO				*e*S	**Sg**	**22 43 38.8**	**+1.1**
LCO				IAML		22 43 45.4	
	comp=Z,406nm,0.5s						
CO04	**Los Peladeros**	**1.76**	**162**	*e*P	**Pn**	**22 43 16.9**	**-0.6**
CO04				*i* S	**Sn**	**22 43 39.5**	**-0.2**
CO04				IAML		22 43 43.3	
	comp=N,806nm,0.4s						
AROD	**Rodeo**	**1.86**	**84**	*e*P	**Pg**	**22 43 22.0**	**-1.0**
AROD				*e*S	**Sg**	**22 43 49.0**	**+1.8**
AC05	**El Transito**	**1.91**	**38**	*e*P	**Pb**	**22 43 21.0**	**-0.9**
AC05				*e*S	**Sg**	**22 43 48.1**	**-0.8**
AC04	**Llanos de Chal**	**2.20**	**12**	*e*P	**Pn**	**22 43 19.0**	**-4.3**
ACCO	**Cerro Coronel**	**2.21**	**96**	*e*P	**Pb**	**22 43 27.4**	**+0.4**
ACCO				*e*S	**Sg**	**22 43 57.9**	**-0.4**
DOCA	**Reserva Natura**	**2.25**	**106**	*e*P	**Pb**	**22 43 27.4**	**-0.5**
RTLS	**Leoncito**	**2.44**	**126**	*e*P	**Pb**	**22 43 29.7**	**-1.4**
RTLS				IAML		22 44 08.3	
	comp=Z,177nm,0.8s						
VA03	**San Esteban**	**2.56**	**160**	*e*P	**Pn**	**22 43 28.8**	**+0.5**
VA03				*e*S	**Sn**	**22 43 59.7**	**+0.6**
VA03				IAML		22 44 08.5	
	comp=N,370nm,0.5s						
VA03	**San Esteban**	**2.56**	**160**	*e*P	**Pn**	**22 43 28.4**	**+0.1**
VA03				*e*S	**Sn**	**22 43 59.8**	**+0.6**
VA03				IAML		22 44 16.6	
	comp=Z,151nm,0.7s						
ROCH	**El Roble**	**2.65**	**169**	⇓*e*P	**Pn**	**22 43 29.9**	**+0.3**
ROCH				IAML		22 44 13.3	
	comp=N,108nm,0.5s						
ROC1	**El Roble**	**2.65**	**169**	*e*P	**Pn**	**22 43 30.3**	**+0.6**
ZON	**Zonda**	**2.78**	**116**	*e*P	**Pb**	**22 43 34.8**	**-1.8**
RTLL	**Cerro Villicun**	**2.86**	**110**	*e*P	**Pb**	**22 43 35.6**	**-2.5**
RTLL				*e*S	**Sb**	**22 44 12.8**	**-0.1**
PEL	**Peldehue**	**2.88**	**164**	*e*P	**Pn**	**22 43 32.0**	**-0.7**
MT02	**Curacav**	**2.92**	**172**	*e*P	**Pn**	**22 43 32.2**	**-0.9**
MT02				*e*S	**Sn**	**22 44 08.3**	**+0.4**
MT02				IAML		22 44 20.1	
	comp=Z,94nm,0.6s						
GO03	**Copiapo**	**3.01**	**24**	*e*P	**Pn**	**22 43 36.1**	**+1.7**
GO03				*e*S	**Sb**	**22 44 19.8**	**+2.6**
MT05	**Renca**	**3.11**	**166**	*e*P	**Pn**	**22 43 37.6**	**+1.8**
MT05				*e*S	**Sn**	**22 44 15.8**	**+3.1**
MT05				IAML		22 44 25.6	
	comp=Z,103nm,0.5s						
ASAL	**Salagasta**	**3.25**	**134**	*e*P	**Pb**	**22 43 41.3**	**-3.3**
MT03	**Universidad Ad**	**3.26**	**164**	*e*P	**Pb**	**22 43 43.7**	**-1.1**
MT04	**Ro Olivares**	**3.28**	**158**	*e*P	**Pn**	**22 43 40.0**	**+1.6**
MT04				*e*S	**Sb**	**22 44 22.3**	**-2.9**
MT04				IAML		22 44 29.2	
	comp=Z,53nm,0.7s						
MT08	**Bocatoma Ro**	**3.36**	**157**	*e*P	**Pn**	**22 43 41.5**	**+2.1**
MT08				IAML		22 44 35.2	
	comp=Z,57nm,0.6s						
ARCO	**CERRO ARCO**	**3.36**	**138**	*e*P	**Pb**	**22 43 45.3**	**-1.4**
VCA	**Vinchina**	**3.38**	**62**	*e*P	**Pb**	**22 43 45.1**	**-1.8**
VCA				IAML		22 44 42.4	
	comp=Z,101nm,0.4s						
MT01	**Popeta**	**3.50**	**175**	*e*P	**Pn**	**22 43 39.8**	**-1.4**
MT01				*e*S	**Sn**	**22 44 26.8**	**+4.4**
MT01				IAML		22 44 40.8	
	comp=Z,50nm,0.6s						
ACLC	**CERRO LA CRUZ**	**4.15**	**78**	*e*P	**Pn**	**22 43 54.2**	**+4.0**
ACLC				*e*S	**Sb**	**22 44 45.4**	**-4.6**
ACLC				IAML		22 44 55.3	
	comp=Z,18nm,0.4s						
AC01	**Pan de Azucar**	**4.29**	**12**	*e*P	**Pn**	**22 43 51.1**	**-0.9**
AC01				*e*S	**Sb**	**22 44 56.8**	**+2.7**
AC01				IAML		22 44 57.6	
	comp=Z,46nm,3.5s						
BO02	**Sierra Bellavi**	**4.47**	**171**	*e*P	**Pn**	**22 43 55.7**	**+1.1**
BO02				*e*S	**Sn**	**22 44 47.6**	**+1.2**
BO02				IAML		22 45 03.9	
	comp=Z,45nm,0.9s						

*IDC **01** 22:43:07.8±1.2, 37.°44N×20.°92E, h0km, mb3.7/9, mbtmp3.6/15, ML3.6/4, MS4.4/1, Error ellipse: s-maj=23.6km s-min=16.2km az=155.0*
*ATH **01** 22:43:09.5, 37.°39N×20.°56E, h10km±2km, ML3.4/16, Error ellipse: s-maj=3.0km s-min=1.0km az=35.0*
ISC 01 22:43:09.7±1.5, 37.°46N±0.°04×20.°76E±0.°04, h9km±10km, n36, σ1§26/46, mb3.8/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.26**	**14**	P	**Pb**	**22 43 17.1**	**+0.6**
LTHK				S	**Sb**	**22 43 22.4**	**+1.3**
LTHK				AML	AML	22 43 23.6	
	comp=N,34254μm,0.6s						
LTHK				AML	AML	22 43 27.0	
	comp=E,19929μm,0.2s						
VLS	**Valsamata**	**0.73**	**350**	P	**Pb**	**22 43 24.3**	**-0.3**
VLS				S	**Sb**	**22 43 34.5**	**-0.2**
VLS				AML	AML	22 43 40.6	
	comp=N,5486μm,0.4s						
VLS				AML	AML	22 43 42.3	
	comp=E,3580μm,0.4s						
AMT	**Artemida-Makis**	**0.76**	**84**	P	**Pn**	**22 43 26.5**	**-0.1**
AMT				S	**Sn**	**22 43 40.3**	**+2.1**
AMT				AML	AML	22 43 48.2	
	comp=E,13245μm,0.5s						
AMT				AML	AML	22 43 51.6	
	comp=N,11738μm,0.4s						
RLS	**Riolos of Patr**	**0.82**	**43**	P	**Pn**	**22 43 27.3**	**-0.1**
RLS				S	**Sn**	**22 43 41.2**	**+1.5**
RLS				AML	AML	22 43 46.3	
	comp=E,2512μm,0.3s						
RLS				AML	AML	22 43 48.6	
	comp=N,2759μm,0.5s						
DMLN	**Damoulianata-K**	**0.84**	**339**	P	**Pg**	**22 43 25.1**	**-0.7**
DMLN				S	**Sg**	**22 43 37.3**	**+0.6**
DRO	**Drossia**	**0.90**	**57**	P	**Pn**	**22 43 29.5**	**+1.0**
DRO				S	**Sn**	**22 43 43.2**	**+1.5**
DRO				AML	AML	22 43 54.5	
	comp=N,4081μm,0.4s						
DRO				AML	AML	22 43 58.1	
	comp=E,5432μm,0.6s						
PYL	**PYLOS**	**0.97**	**125**	P	**Pn**	**22 43 29.3**	**-0.1**
PYL				S	**Sn**	**22 43 43.5**	**+0.3**
ITM	**Ithomi**	**0.97**	**106**	P	**Pn**	**22 43 29.8**	**+0.3**
ITM				S	**Sn**	**22 43 44.9**	**+1.5**
ITM				AML	AML	22 43 52.0	
	comp=N,2282μm,0.7s						
ITM				AML	AML	22 43 52.4	
	comp=E,2861μm,0.7s						
FSK	**Fiskardo**	**1.01**	**351**	P	**Pg**	**22 43 29.0**	**-0.2**
FSK				AML	AML	22 43 49.8	
	comp=N,2823μm,0.5s						
FSK				AML	AML	22 43 59.1	
	comp=E,3884μm,0.6s						
KLV	**Kalavryta, Ach**	**1.25**	**62**	P	**Pb**	**22 43 35.3**	**+1.9**
KLV				AML	AML	22 44 08.2	
	comp=N,962μm,0.8s						
KLV				AML	AML	22 44 08.6	
	comp=E,876μm,0.7s						
EFP	**Efpalio**	**1.33**	**43**	P	**Pg**	**22 43 35.3**	**+0.1**
EFP				AML	AML	22 44 05.7	
	comp=N,1506μm,0.5s						
EFP				AML	AML	22 44 08.9	
	comp=E,1478μm,0.5s						
LKD2	**Lefkada island**	**1.33**	**357**	P	**Pb**	**22 43 34.8**	**0.0**
LKD2				AML	AML	22 44 03.6	
	comp=E,3726μm,0.6s						
LKD2				AML	AML	22 44 05.9	
	comp=N,2839μm,0.8s						
GUR	**Goura**	**1.34**	**69**	P	**Pg**	**22 43 36.2**	**+0.8**
GUR				AML	AML	22 44 15.4	
	comp=E,1648μm,0.5s						
GUR				AML	AML	22 44 18.0	
	comp=N,1855μm,0.5s						
TSLK	**Tsoukalades, L**	**1.37**	**357**	P	**Pn**	**22 43 35.0**	**+0.1**
TSLK				AML	AML	22 44 04.2	
	comp=E,2464μm,0.6s						
TSLK				AML	AML	22 44 06.6	
	comp=N,4258μm,0.7s						
KALE	**Kalithea**	**1.44**	**49**	P	**Pg**	**22 43 37.5**	**+0.3**
ANX	**Ano Chora**	**1.46**	**39**	P	**Pg**	**22 43 37.8**	**+0.1**
ANX				AML	AML	22 44 09.1	
	comp=N,3220μm,0.5s						
ANX				AML	AML	22 44 10.3	
	comp=E,2385μm,0.6s						
EVR	**Evrytania**	**1.68**	**29**	P	**Pb**	**22 43 40.4**	**-0.4**
EVR				AML	AML	22 44 17.1	
	comp=E,841μm,0.5s						
EVR				AML	AML	22 44 18.6	
	comp=N,1143μm,1.1s						
MAKR	**Makrakomi, Fth**	**1.89**	**34**	P	**Pb**	**22 43 43.9**	**-0.5**
MAKR				AML	AML	22 44 24.9	
	comp=N,1564μm,0.5s						
MAKR				AML	AML	22 44 26.8	
	comp=E,1892μm,0.4s						
VLI	**Veliai**	**1.89**	**112**	P	**Pb**	**22 43 43.7**	**-0.7**
VLI				AML	AML	22 44 37.1	
	comp=E,697μm,1.1s						
VLI				AML	AML	22 44 37.4	
	comp=N,658μm,0.9s						
IGT	**Igoumenitsa**	**2.10**	**351**	P	**Pn**	**22 43 43.5**	**-1.5**
THL	**Klokotos Trika**	**2.32**	**25**	P	**Pn**	**22 43 48.2**	**+0.2**
IDI	**Anoyia**	**3.98**	**122**	Pn	**Pn**	**22 44 09.1**	**-1.8**
	comp=N,2.8nm,0.6s,baz=315,slow=10.0,SNR=2.2						
IDI				Sn	**Sn**	**22 44 59.5**	**+1.8**
	comp=N,1.3nm,0.3s,baz=163,slow=18,SNR=3.0						
VAE	**Valguarnera**	**5.05**	**272**	Pn	**Pn**	**22 44 27.8**	**+2.2**
	comp=N,12nm,0.9s,baz=60,slow=16,SNR=1.8						
VAE				Sn	**Sn**	**22 45 27.6**	**+3.5**
	comp=N,1.8nm,0.3s,baz=66,slow=19,SNR=4.0						
VAE				LR	LR	22 46 36.0	
	comp=N,3μm,18.2s,baz=328,slow=40						
MLR	**Muntele Rosu**	**8.92**	**24**	Pn	**Pn**	**22 45 19.9**	**+1.1**
	comp=N,0.2nm,0.3s,baz=239,slow=19,SNR=4.3						
	comp=N,1.8nm,0.9s						
KEST	**Kesra**	**9.34**	**263**	Pn	**Pn**	**22 45 26.2**	**+1.7**
	comp=N,0.1nm,0.3s,baz=72,slow=20,SNR=3.6						
	comp=N,3.9nm,0.9s						
AKASG	**Malin Array Be**	**14.56**	**22**	Pn	**Pn**	**22 46 33.8**	**-1.9**
	comp=N,0.4nm,0.3s,baz=211,slow=8.6,SNR=1.3						
	comp=N,0.1nm,0.3s						
ESDC	**Sonseca Array**	**19.44**	**284**	P	**Pn**	**22 47 37.3**	**-0.4**
	comp=N,0.1nm,0.3s,baz=82,slow=12,SNR=2.2						
	comp=N,0.5nm,0.9s						
HFS	**Hagfors**	**23.14**	**351**	P	**P**	**22 48 15.1**	**-0.8**
	comp=N,2.7nm,0.8s,baz=164,slow=16,SNR=2.1						
	comp=N,2.7nm,0.8s						
BELG	**Belogornoye**	**24.00**	**43**	P	**P**	**22 48 23.7**	**-0.6**
	comp=N,6.4nm,0.6s,baz=243,slow=11,SNR=1.2						
	comp=N,6.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**24.12**	**325**	P	**P**	**22 48 25.9**	**+0.3**
	comp=N,0.3nm,0.4s,baz=128,slow=9.2,SNR=2.2						
	comp=N,0.3nm,0.4s						
FINES	**FINESS Array B**	**24.24**	**6**	P	**P**	**22 48 25.9**	**-0.7**
	comp=N,2.5nm,0.9s,baz=181,slow=12,SNR=2.6						
	comp=N,2.5nm,0.9s						
NOA	**NORSAR Array B**	**24.36**	**349**	P	**P**	**22 48 28.2**	**+0.4**
	comp=N,0.5nm,0.6s,baz=164,slow=9.6,SNR=2.0						
	comp=N,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.59**	**220**	P	**P**	**22 49 15.1**	**-0.1**
	comp=N,0.4nm,0.8s,baz=39,slow=9.3,SNR=2.0						
	comp=N,0.4nm,0.8s						
BVAR	**Borovoye Array**	**37.44**	**49**	P	**P**	**22 50 20.1**	**-2.9**
	comp=N,0.4nm,0.5s,baz=249,slow=7.6,SNR=1.2						
	comp=N,0.4nm,0.5s						
MKAR	**Makanchi Array**	**45.52**	**58**	P	**P**	**22 51 28.2**	**-1.2**
	comp=N,1.3nm,0.9s,baz=274,slow=8.0,SNR=5.5						
	comp=N,1.3nm,0.9s						
ZALV	**Zalesovo Beam**	**46.03**	**48**	P	**P**	**22 51 32.6**	**-0.7**
	comp=N,1.3nm,0.7s,baz=272,slow=9.0,SNR=1.4						
	comp=N,1.3nm,0.7s						

*IDC **01** 22:53:02.1±0.6, 27.°17S×70.°94W, h0km, mb4.5/10, mbtmp4.4/14, ML4.1/4, MS4.0/2, Error ellipse: s-maj=24.9km s-min=13.1km az=99.0*
*SJA **01** 22:53:02.7±0.7, 27.°21S×71.°24W, h15km±2km, ML4.6, MW4.4*
*VAO **01** 22:53:02.1±0.8, 27.°25S×71.°31W, h10km, mb4.7*
*NEIC **01** 22:53:04.7±1.9, 27.°19S±0.°03×71.°22W±0.°06, h21km±5km, mb4.8/36, Mwr4.5/34, Error ellipse: s-maj=7.4km s-min=3.3km az=105.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.84; $M_{\theta\theta}$0.57; $M_{\phi\phi}$-4.40; $M_{r\theta}$1.76; $M_{r\phi}$-0.82; $M_{\theta\phi}$-4.07; Fault plane solution: $M_0$6.12000×10^{15} NP1:ϕ_s166.36000°, δ69.46000°, λ70.85000°. NP2:ϕ_s31.07000°, δ27.80000°, λ131.21000°. Principal axes: T 6.1739, Plg61.0000°, Azm48.0000°; N -0.1022, Plg18.0000°, Azm173.0000°; P -6.0718, Plg22.0000°, Azm271.0000°;*
*GUC **01** 22:53:04.7±0.8, 27.°22S×71.°21W, h28km±3km, ML4.6*
*NEIC **01** 22:53:05.1, 27.°19S×71.°22W, h24km*
ISC 01 22:53:02.3±1.4, 27.°21S±0.°02×71.°30W±0.°04, h7km±9km, n182, σ1§22/214, mb4.8/27, 11C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC06	**Mina Casimiro**	**0.85**	**100**		**Pg**	**22 53 19.2**	**+0.4**
AC06				Sg	**Sg**	**22 53 29.6**	**-0.3**
AC06	**Mina Casimiro**	**0.85**	**100**	⇓*eP*	**Pg**	**22 53 19.4**	**+0.6**
AC06				*i* S	**Sg**	**22 53 29.7**	**-0.1**
AC06				IAML		22 53 31.3	
	comp=N,63μm,0.1s						
AC04	**Llanos de Chal**	**1.01**	**169**		**Pb**	**22 53 22.6**	**+0.3**
AC04				Sg	**Sb**	**22 53 35.4**	**-0.4**
AC04	**Llanos de Chal**	**1.01**	**169**	*e*P	**Pb**	**22 53 22.4**	**+0.2**
AC04				*i* S	**Sb**	**22 53 35.4**	**-0.4**
AC04				IAML		22 53 36.5	
	comp=E,16μm,0.2s						
AC04	**Llanos de Chal**	**1.01**	**169**	*e*P	**Pb**	**22 53 22.1**	**-0.2**
AC04				*e*S	**Sg**	**22 53 36.2**	**+1.2**
AC04				IAML		22 53 40.1	
	comp=Z,11μm,0.7s						
GO03	**Copiapo**	**1.02**	**112**		**Pb**	**22 53 22.3**	**-0.1**
GO03				Sg	**Sb**	**22 53 34.6**	**-1.4**
GO03	**Copiapo**	**1.02**	**112**	⇑*eP*	**Pb**	**22 53 22.0**	**-0.4**
GO03				*i* S	**Sb**	**22 53 34.7**	**-1.4**
GO03				IAML		22 53 34.9	
	comp=N,19μm,0.3s						
GO03	**Copiapo**	**1.02**	**112**	*e*P	**Pb**	**22 53 22.1**	**-0.4**
GO03				*e*P	**Pb**	**22 53 22.3**	**-0.1**
GO03				*e*S	**Sb**	**22 53 34.9**	**-1.1**
AC01	**Pan de Azucar**	**1.23**	**31**		**Pn**	**22 53 25.5**	**-0.5**
AC01				Sg	**Sb**	**22 53 42.2**	**+0.3**
AC01	**Pan de Azucar**	**1.23**	**31**	*e*P	**Pn**	**22 53 25.5**	**-0.5**
AC01				*i* S	**Sb**	**22 53 41.9**	**0.0**
AC01	**Pan de Azucar**	**1.23**	**31**	*e*P	**Pn**	**22 53 25.4**	**-0.5**
AC01				*e*S	**Sb**	**22 53 41.2**	**-0.7**
AC01				IAML		22 53 48.4	
	comp=Z,7μm,0.6s						
AC05	**El Transito**	**1.86**	**151**		**Pb**	**22 53 36.2**	**-0.5**
AC05				Sn	**Sn**	**22 53 58.7**	**+0.2**
AC05	**El Transito**	**1.86**	**151**	⇑*eP*	**Pb**	**22 53 36.2**	**-0.5**
AC05				*i* S	**Sn**	**22 53 58.8**	**+0.2**
AC05				IAML		22 54 05.3	
	comp=E,6μm,0.5s						
AC05	**El Transito**	**1.86**	**151**	*e*P	**Pb**	**22 53 36.2**	**-0.5**
AC05				*e*S	**Sb**	**22 54 00.7**	**+0.4**
AC05				IAML		22 54 05.5	
	comp=Z,7μm,0.8s						
LCO	**Las Campanas**	**1.87**	**164**		**Pn**	**22 53 36.1**	**+1.0**
LCO				Sn	**Sn**	**22 53 58.2**	**-0.9**
LCO	**Las Campanas**	**1.87**	**164**	⇑*eP*	**Pn**	**22 53 36.1**	**+1.0**
LCO				*i* S	**Sn**	**22 53 58.8**	**-0.3**
LCO	**Las Campanas**	**1.87**	**164**	*e*P	**Pn**	**22 53 36.1**	**+1.0**
LCO				*e*S	**Sb**	**22 54 00.2**	**-0.6**
LCO				IAML		22 54 09.1	
	comp=Z,9μm,0.3s						
GO02	**Mina Guanaco**	**2.55**	**37**		**Pn**	**22 53 44.9**	**+0.5**
GO02				Sn	**Sn**	**22 54 16.7**	**+0.9**
GO02	**Mina Guanaco**	**2.55**	**37**	⇑*eP*	**Pn**	**22 53 45.0**	**+0.7**
GO02				*i* S	**Sn**	**22 54 17.0**	**+1.1**
GO02				IAML		22 54 28.1	
	comp=N,7μm,0.5s						
GO02	**Mina Guanaco**	**2.55**	**37**	*e*P	**Pn**	**22 53 45.8**	**+1.4**
GO02				*e*S	**Sn**	**22 54 17.7**	**+1.9**
GO02				*e*S	**Sb**	**22 54 18.7**	**-1.6**
PB14	**IPOC Station P**	**2.69**	**18**		**Pn**	**22 53 45.5**	**-0.9**
PB14	**IPOC Station P**	**2.69**	**18**	⇑*eP*	**Pn**	**22 53 45.5**	**-0.9**
PB14				*e*S	**Sn**	**22 54 21.7**	**+2.3**
PB14				IAML		22 54 35.7	
	comp=E,2μm,0.6s						
CO05	**La Serena**	**2.70**	**179**		**Pn**	**22 53 47.0**	**+0.7**
CO05	**La Serena**	**2.70**	**179**	*e*P	**Pn**	**22 53 47.1**	**+0.8**
CO05				IAML		22 54 34.6	
	comp=N,7μm,0.3s						
CO01	**Juntas del Tor**	**2.96**	**159**		**Pn**	**22 53 51.7**	**+1.7**
CO01	**Juntas del Tor**	**2.96**	**159**	⇑*eP*	**Pn**	**22 53 52.1**	**+2.2**
CO01				*i* S	**Sn**	**22 54 26.7**	**+0.9**
CO01				IAML		22 54 41.6	
	comp=N,2μm,0.7s						
CO01	**Juntas del Tor**	**2.96**	**159**	*e*P	**Pn**	**22 53 52.1**	**+2.2**
CO01				*e*S	**Sb**	**22 54 29.2**	**-2.8**
GO04	**Tololo Observa**	**2.99**	**172**		**Pn**	**22 53 51.3**	**+0.9**
GO04	**Tololo Observa**	**2.99**	**172**	*e*P	**Pn**	**22 53 51.7**	**+1.3**
GO04				*i* S	**Sn**	**22 54 25.3**	**-1.3**

CPUP Villa Florida 12.51 89 Pn **Pn 22 56 00.7 -0.2**
comp=N,0.2nm,0.3s,baz=264,slow=2.6,SNR=2.3
CPUP Lg Lg 22 59 27.9
comp=N,0.3nm,0.3s,baz=281,slow=18,SNR=2.1
CPUP LR LR 23 00 27.0
comp=N,475nm,21.3s,baz=296,slow=36
CPUP Villa Florida 12.51 89 *eP* **Pn 22 56 02.1 +1.3**
PSAL Palomas, Salto 12.57 111 *eP* **Pn 22 56 00.4 -1.2**
ITQB Itaqui 13.14 104 *eP* **Pn 22 56 09.6 +0.1**
TRQA Tornquist 13.36 146 Pn Pn 22 56 12.2 -0.1
PLCA Paso Flores 13.51 178 Pn **Pn 22 56 17.2 +2.7**
comp=N,0.1nm,0.3s,baz=338,slow=19,SNR=1.2
PLCA Lg Lg 23 00 14.6
comp=N,0.1nm,0.3s,baz=38,slow=22,SNR=1.6
comp=N,0.5nm,0.5s
BBSD Serra de San D 14.04 47 *eP* **Pn 22 56 20.1 -1.7**
SIV San Ignacio 14.65 42 Pn Pn 22 56 25.7 -4.5
comp=N,0.1nm,0.3s,baz=226,slow=12,SNR=14
SIV Sn **Sn 22 59 13.9 +0.9**
baz=233,slow=15
comp=N,3.1nm,0.5s
LL01 San Ignacio de 15.16 183 P **P 22 56 43.0 +0.9**
AQDB Aquidauana 15.76 68 Pn 22 56 45.2 +0.4
CPSB Cacapava Do Su 15.98 106 *eP* **Pn 22 56 47.7 +0.1**
PLTB Pedras Altas 16.06 111 *eP* **Pn 22 56 48.5 -0.2**
PTLB Pontes e Lacer 16.27 46 Pn 22 56 50.3 -1.2
PTLB Pontes e Lacer 16.27 46 *eP* **Pn 22 56 50.3 -1.2**
ITAB Concordia 17.05 94 *eP* **Pn 22 57 00.6 -0.7**
RPRD Ribas do Rio P 17.43 71 *eP* **P 22 57 08.6 +1.3**
PTGB Pitanga 17.47 86 *eP* **Pn 22 57 07.0 +0.3**
TRCB Terra Rica 17.48 80 Pn 22 57 04.9 -1.9
TRCB IAmb IAmb 22 57 22.0
comp=Z,56nm,0.7s
TRCB Terra Rica 17.48 80 *eP* **Pn 22 57 07.3 +0.6**
VILB Vilhena 17.58 38 P **Pn 22 57 05.7 -2.3**
VILB Vilhena 17.58 38 *eP* **P 22 57 08.8 -0.3**
ETMB Extrema 17.95 16 P **Pn 22 57 12.4 -0.2**
ETMB Extrema 17.95 16 *eP* **P 22 57 13.5 +0.4**
SALV Santo Antonio 18.34 55 *eP* **P 22 57 18.4 +1.0**
LDASE Londrina, Braz 18.64 83 *eP* **P 22 57 20.9 +0.2**
CZSB Cruzeiro do Su 19.42 356 P **P 22 57 28.8 -0.4**
CZSB Cruzeiro do Su 19.42 356 *eP* **P 22 57 29.5 +0.3**
TER01 Tubaro-SC 19.64 99 *eP* **P 22 57 30.4 -1.3**
SAML Samuel 19.72 24 P **P 22 57 31.3 -1.2**
SAML Samuel 19.72 24 *eP* **P 22 57 32.9 +0.4**
MAJ01 Sao Joao Batis 19.81 96 *eP* **P 22 57 33.6 +0.1**
FRTB Fartura 20.02 84 *eP* **P 22 57 36.4 +0.5**
ITRB Iturama 20.59 73 *eP* **P 22 57 41.7 -0.4**
PDRB Porto dos Gac 20.69 44 *eP* **P 22 57 42.5 -0.7**
ARAG Araguaiana, MT 21.41 62 *eP* **P 22 57 49.7 -1.2**
BB19B Bebedouro 21.65 79 *eP* **P 22 57 52.2 -1.3**
CLDB Colider 21.84 45 *eP* **P 22 57 54.5 -1.1**
SPB Sao Paulo 21.85 86 *eP* **P 22 57 57.1 +1.5**
RCLB Rio Claro- Sao 22.08 83 *eP* **P 22 57 56.7 -1.4**
VAO Valinhos 22.42 85 P **P 22 58 00.4 -1.4**
VAO IAmb IAmb 22 58 04.0
comp=Z,40nm,0.8s
VAO Valinhos 22.42 85 *eP* **P 22 58 00.5 -1.3**
TBTG Tabatinga, AM 22.93 4 P **P 22 58 07.3 +0.1**
TBTG Tabatinga, AM 22.93 4 *eP* **P 22 58 08.0 +0.8**
IPMB Ipameri, GO 23.18 72 *eP* **P 22 58 07.6 -2.2**
PARB Paraibuna 23.52 86 *eP* **P 22 58 11.8 -1.5**
SNDB Serra Nova Dou 24.13 55 *eP* **P 22 58 17.3 -1.8**
TEFE Tefe 24.41 16 *eP* **P 22 58 22.0 +0.4**
PMNB Patos De Minas 24.44 75 *eP* **P 22 58 20.1 -1.9**
BDFB Brasilia 24.49 67 P **P 22 58 20.8 -1.7**
BDFB IAmb IAmb 22 58 22.5
comp=Z,13nm,0.7s
BDFB Brasilia 24.49 67 P **P 22 58 20.8 -1.7**
comp=Z,17nm,0.7s,baz=250,slow=8.3,SNR=21
comp=Z,17nm,0.7s
BSCB Bom Sucesso 24.96 81 *eP* **P 22 58 26.4 -0.3**
COHC Cochancay 25.75 341 P **P 22 58 34.5 +0.8**
MACA Manacapuru-AM 25.98 25 P **P 22 58 35.9 +0.1**
MACA Manacapuru-AM 25.98 25 *eP* **P 22 58 35.9 +0.1**
DIAM Diamantina, MG 26.93 77 *eP* **P 22 58 42.7 -1.9**
ITTB Itaituba 27.14 36 *eP* **P 22 58 45.1 -1.2**
JANB Januaria 27.86 70 *eP* **P 22 58 51.9 -0.9**
SDBA SAO DESIDERIO 28.78 64 *eP* **P 22 58 59.1 -1.9**
SMTB Santa Maria do 28.91 55 *eP* **P 22 59 02.5 +0.4**
PRPB Parauapebas 29.24 48 *eP* **P 22 59 04.0 -1.1**
BOAV Boa Vista 31.21 21 P **P 22 59 21.4 -1.1**
BOAV IAmb IAmb 22 59 22.9
comp=Z,6.1nm,0.8s
BOAV Boa Vista 31.21 21 *eP* **P 22 59 22.5 +0.1**
GDU01 Guandu, BA 32.50 72 *eP* **P 22 59 32.8 -1.1**
RPN Rapa Nui 33.75 261 LR LR 23 09 51.1
comp=Z,435nm,19.3s,baz=118,slow=30
BAUV El Baul 36.07 5 P **P 23 00 03.9 -0.8**
VNA3 Neumayer Olymp 55.44 160 ⇑P **P 23 02 37.3 +0.2**
comp=Z,6.9nm,0.7s
VNA1 Neumayer--Stat 55.71 159 ⇑P **P 23 02 40.0 +1.0**
comp=Z,4.6nm,0.8s
VNA2 Neumayer--Watz 56.06 159 ⇑P **P 23 02 42.1 +0.5**
comp=Z,5.1nm,0.5s,baz=287,slow=8.7
SNAA Sanae 57.67 160 P **P 23 02 52.4 -0.7**
SNAA IAmb IAmb 23 02 54.1
comp=Z,5.4nm,0.7s
SNAA Sanae 57.67 160 ⇑P **P 23 02 53.4 +0.3**
comp=Z,89nm,0.5s
SNAA Sanae 57.67 160 P **P 23 02 53.3 +0.3**
comp=Z,4.6nm,0.7s,baz=288,slow=10.0,SNR=37
comp=Z,4.6nm,0.7s
TROLL Troll, Antarti 59.38 160 ⇑P **P 23 03 05.6 +0.6**
comp=Z,117nm,0.6s
QSPA South Pole Qui 63.01 180 P **P 23 03 31.0 +1.2**
comp=Z,4.2nm,0.9s,baz=133,slow=11,SNR=16
comp=Z,4.2nm,0.9s
TXAR Lajitas Array 64.20 329 P **P 23 03 40.6 +2.6**
comp=Z,0.3nm,0.3s,baz=139,slow=5.8,SNR=1.3
comp=Z,0.3nm,0.3s
ABTX Abilene, Hawle 65.33 334 P **P 23 03 44.6 -0.6**
ABTX IAmb IAmb 23 03 58.4
comp=Z,10.0nm,1.1s
LCAR Lake Charles 65.66 342 P **P 23 03 47.5 +0.3**
LCAR IAmb IAmb 23 03 48.9
comp=Z,6.9nm,0.7s
PBMO Poplar Bluff 66.14 343 P **P 23 03 50.8 +0.5**
PBMO IAmb IAmb 23 03 51.9
comp=Z,8.2nm,0.6s
FVM French Village 67.28 344 P **P 23 03 58.1 +0.5**
CCM Cathedral Cave 67.56 343 P **P 23 03 59.2 -0.1**
CCM IAmb IAmb 23 04 00.8
comp=Z,7.9nm,0.7s
OK048 Pawnee Station 67.74 338 P **P 23 04 00.4 -0.1**
OK048 IAmb IAmb 23 04 02.8
comp=Z,13nm,1.0s
MSTX Muleshoe 67.77 332 P **P 23 04 01.7 +0.8**
MSTX IAmb IAmb 23 04 13.8
comp=Z,12nm,1.1s
OK051 E0350 and S346 67.78 338 P **P 23 04 01.4 +0.6**
OK051 IAmb IAmb 23 04 03.6
comp=Z,8.3nm,0.7s
S39A Bolivar 67.78 341 P **P 23 04 00.7 0.0**
S39A IAmb IAmb 23 04 02.8
comp=Z,10.0nm,1.1s
R40A Maddies Statio 68.05 342 P **P 23 04 03.1 +0.7**
AMTX Amarillo 68.12 333 P **P 23 04 03.5 +0.5**
AMTX IAmb IAmb 23 04 18.9
comp=Z,5.7nm,1.0s
P40A Paris 69.16 343 P **P 23 04 09.8 +0.5**
L40A Anamosa 71.34 344 P **P 23 04 22.8 +0.2**
DBIC Dimbokro 72.48 73 P **P 23 04 29.8 -0.3**
comp=Z,7.1nm,0.8s,baz=230,slow=6.2,SNR=7.4
comp=Z,7.1nm,0.8s
ECSD EROS Data Cent 74.32 341 P **P 23 04 40.7 +0.4**
ECSD IAmb IAmb 23 04 42.5
comp=Z,6.7nm,0.9s
HWUT Hardware Ranch 77.95 330 P **P 23 05 01.5 +0.2**
HWUT IAmb IAmb 23 05 15.4
comp=Z,3.6nm,0.7s
PDAR Pinedale Array 78.04 332 P **P 23 05 04.5 +2.8**
comp=Z,0.6nm,0.6s,baz=153,slow=7.0,SNR=5.7
comp=Z,0.6nm,0.6s
MAW Mawson 79.50 164 P **P 23 05 10.0 +0.8**
comp=Z,5.2nm,0.8s,baz=212,slow=8.7,SNR=22
comp=Z,5.2nm,0.8s
ULM Lac du Bonnet 80.14 344 P **P 23 05 13.9 +1.1**
comp=Z,2.7nm,0.6s,baz=146,slow=5.2,SNR=4.8
comp=Z,2.7nm,0.6s
HLID Hailey 80.78 330 P **P 23 05 16.8 +0.1**
TORD Torodi Ar. Bea 81.32 70 P **P 23 05 19.5 -0.4**
comp=Z,19nm,0.8s,baz=236,slow=3.8,SNR=85
comp=Z,19nm,0.8s
BOSA Boshof 82.69 118 P **P 23 05 26.5 -0.7**
comp=Z,4.5nm,0.8s,baz=220,slow=5.4,SNR=5.6
comp=Z,4.5nm,0.8s
LBTB Lobatse 84.59 115 P **P 23 05 36.2 -0.8**
LBTB IAmb IAmb 23 05 37.8
comp=Z,9.6nm,0.9s
AKASG Malin Array Be 117.03 45 PKP **PKPdf 23 11 46.8 -0.8**
comp=Z,0.5nm,0.5s,baz=266,slow=2.6,SNR=4.9
MMAI Mount Meron Ar 117.50 65 PKP **PKiKP 23 11 49.2 -0.1**
comp=Z,0.6nm,0.5s,baz=315,slow=1.0,SNR=4.5
ASAR Alice Springs 123.87 208 PKP **PKiKP 23 12 02.1 0.0**
comp=Z,0.3nm,0.5s,baz=140,slow=1.8,SNR=6.6
WRA Warramunga Arr 126.95 211 PKP **PKiKP 23 12 08.2 -0.1**
comp=Z,1.0nm,0.6s,baz=155,slow=1.6,SNR=14
BVAR Borovoye Array 141.68 37 PKP **PKPdf 23 12 35.4 +1.2**
comp=Z,1.7nm,0.8s,baz=277,slow=3.6,SNR=7.6
KURBB Kurchatov Arra 147.25 36 PKPbc **PKPbc 23 12 45.3 -0.8**
comp=Z,5.9nm,0.8s,baz=300,slow=3.1,SNR=34
ZALV Zalesovo Beam 148.01 27 PKPbc **PKPdf 23 12 46.4 +1.4**
comp=Z,23nm,0.7s,baz=304,slow=3.2,SNR=39
MKAR Makanchi Array 151.46 40 PKPbc **PKiKP 23 12 57.7 +0.3**
comp=Z,14nm,0.7s,baz=313,slow=2.4,SNR=86
HHC Hu-ho-hao-te 166.19 351 *eP* **PKPdf 23 13 05.6 -2.8**
CMAR Chiang Mai Arr 167.49 132 PKPab **PKPab 23 14 15.3 0.0**
comp=Z,0.4nm,0.3s,baz=232,slow=4.4,SNR=5.3
PZH PanZhiHua 173.75 95 PKP **PKPdf 23 13 11.8 -1.4**

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*IDC **01** 22:59:26.6±0.8, 37°.27N×20°.69E, h0km, mb4.0/14, mbtmp3.9/24, ML3.8/8, MS4.1/3, Error ellipse: s-maj=16.6km s-min=12.9km az=3.0*
*ATH **01** 22:59:27.8, 37°.18N×20°.57E, h10km±1km, ML3.9/20, Error ellipse: s-maj=1.9km s-min=1.0km az=48.0*
*NAO **01** 22:59:28.9, 37°.13N×20°.55E, h10km, mb4.1*
*NEIC **01** 22:59:28.8±1.4, 37°.14N±0°.06×20°.56E±0°.06, h10km±2km, mb4.4/6, Error ellipse: s-maj=11.4km s-min=8.1km az=204.0*
*PDG **01** 22:59:29.4±0.7, 37°.15N×20°.55E, h15km±1km, ML4.2/11, Error ellipse: s-maj=1.1km s-min=1.2km az=0.0*
*BEO **01** 22:59:30.8±0.6, 37°.38N×20°.44E, h10km, ML3.8/13*
ISC 01 22:59:29.4±1.3, 37°.26N±0°.04×20°.64E±0°.03, h20km±10km, n174,σ1§58/211, mb4.0/16, 17C-9D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.48**	**19**	P	**Pb**	**22 59 38.6**	**-0.5**
LTHK				S	**Sb**	**22 59 46.5**	**+0.8**
LTHK				AML	AML	22 59 47.9	
LTHK				AML	AML	22 59 48.2	
comp=E,75116μm,0.6s							
AMT	**Artemida-Makis**	**0.89**	**72**	P	**Pb**	**22 59 46.4**	**+0.2**
AMT				S	**Sn**	**22 59 59.0**	**-0.2**
AMT				AML	AML	23 00 03.5	
comp=N,97001μm,0.8s							
AMT				AML	AML	23 00 05.7	
comp=E,88150μm,0.5s							
VLS	**Valsamata**	**0.92**	**357**	P	**Pb**	**22 59 45.8**	**-0.9**
VLS				S	**Sn**	**23 00 00.5**	**+0.6**
VLS				AML	AML	23 00 05.3	
comp=E,9004μm,0.4s							
VLS				AML	AML	23 00 09.4	
comp=N,15351μm,0.6s							
PYL	**PYLOS**	**0.95**	**112**	P	**Pb**	**22 59 46.1**	**-1.1**
PYL				S	**Sn**	**23 00 00.1**	**-0.5**
PYL				AML	AML	23 00 03.8	
comp=N,14920μm,0.5s							
PYL				AML	AML	23 00 04.4	
comp=E,16674μm,0.6s							
DMLN	**Damoulianata-K**	**1.00**	**348**	P	**Pb**	**22 59 47.3**	**-0.8**
DMLN				S	**Sn**	**23 00 02.9**	**+1.0**
ITM	**Ithomi**	**1.03**	**94**	P	**Pb**	**22 59 47.4**	**-1.1**
ITM				S	**Sn**	**23 00 02.4**	**-0.2**
ITM				AML	AML	23 00 07.0	
comp=E,14955μm,0.7s							
ITM				AML	AML	23 00 07.4	
comp=N,22808μm,0.5s							
RLS	**Riolos of Patr**	**1.03**	**39**	P	**Pb**	**22 59 48.2**	**-0.4**
RLS				S	**Sn**	**23 00 04.3**	**+1.7**
RLS				AML	AML	23 00 08.8	
comp=E,8759μm,0.9s							
RLS				AML	AML	23 00 21.1	
comp=N,9758μm,0.8s							
DRO	**Drossia**	**1.09**	**50**	P	**Pn**	**22 59 49.6**	**0.0**
DRO				S	**Sn**	**23 00 05.5**	**+1.3**
FSK	**Fiskardo**	**1.20**	**357**	P	**Pn**	**22 59 50.8**	**-0.3**
FSK				S	**Sn**	**23 00 07.0**	**+0.2**
FSK				AML	AML	23 00 15.1	
comp=E,10389μm,0.7s							
FSK				AML	AML	23 00 19.2	
comp=N,13927μm,0.8s							
KLV	**Kalavryta, Ach**	**1.43**	**56**	P	**Pn**	**22 59 54.9**	**+0.6**
KLV				S	**Sb**	**23 00 13.9**	**+0.7**
KLV				AML	AML	23 00 25.7	
comp=N,4995μm,0.6s							
KLV				AML	AML	23 00 30.5	
comp=E,6304μm,1.0s							
GUR	**Goura**	**1.51**	**63**	P	**Pb**	**22 59 56.5**	**-0.3**
LKD2	**Lefkada island**	**1.53**	**0**	P	**Pn**	**22 59 55.6**	**-0.1**
LKD2				AML	AML	23 00 25.4	
comp=E,4643μm,0.6s							
LKD2				AML	AML	23 00 29.9	
comp=N,8798μm,0.7s							
TSLK	**Tsoukalades, L**	**1.56**	**0**	P	**Pn**	**22 59 56.5**	**+0.4**
TSLK				AML	AML	23 00 25.7	
comp=N,4049μm,0.7s							
TSLK				AML	AML	23 00 27.6	
comp=E,5921μm,0.7s							
KALE	**Kalithea**	**1.64**	**46**	P	**Pn**	**22 59 56.8**	**-0.3**
KALE				S	**Sb**	**23 00 18.6**	**-0.6**
KALE				AML	AML	23 00 30.1	
comp=E,6692μm,0.5s							
KALE				AML	AML	23 00 38.1	
comp=N,7204μm,0.7s							
ANX	**Ano Chora**	**1.67**	**37**	P	**Pn**	**22 59 58.2**	**+0.5**
EVR	**Evrytania**	**1.90**	**29**	P	**Pn**	**23 00 01.8**	**+1.1**
EVR				AML	AML	23 00 39.7	
comp=E,3663μm,0.5s							
EVR				AML	AML	23 00 40.1	
comp=N,4311μm,0.8s							
VLI	**Veliai**	**1.91**	**106**	P	**Pn**	**23 00 00.9**	**0.0**
VLI				S	**Sn**	**23 00 24.6**	**+0.2**
VLI				AML	AML	23 00 36.8	
comp=E,3941μm,0.8s							
VLI				AML	AML	23 00 50.4	
comp=N,4265μm,1.1s							
MAKR	**Makrakomi, Fth**	**2.11**	**33**	P	**Pn**	**23 00 03.1**	**-0.5**
AGG	**Agios Georgios**	**2.21**	**37**		**Pb**	**23 00 08.1**	**-0.6**
IGT	**Igoumenitsa**	**2.29**	**354**	P	**Pn**	**23 00 06.2**	**+0.2**
IGT				AML	AML	23 00 51.7	
comp=E,1614μm,0.7s							
IGT				AML	AML	23 00 58.8	
comp=N,1334μm,0.5s							
VIL2	**Platees**	**2.29**	**65**	P	**Pn**	**23 00 07.1**	**+1.1**
VIL2				AML	AML	23 00 55.3	
comp=N,2930μm,1.0s							
VIL2				AML	AML	23 01 07.0	
comp=E,6165μm,0.8s							
JAN	**Janina**	**2.40**	**4**	P	**Pn**	**23 00 07.9**	**+0.3**
JAN				AML	AML	23 00 54.6	
comp=E,1639μm,0.7s							
JAN				AML	AML	23 00 54.6	
comp=N,1174μm,0.8s							
KEK	**Kerkira**	**2.54**	**345**	Pn	**Pn**	**23 00 11.5**	**+2.0**
KEK	**Kerkira**	**2.54**	**345**	P	**Pn**	**23 00 09.3**	**-0.2**
KEK				AML	AML	23 01 05.7	
comp=E,1821μm,0.8s							
KEK				AML	AML	23 01 12.0	
comp=N,1804μm,1.3s							
ATH	**Athens Observa**	**2.54**	**73**	P	**Pn**	**23 00 09.7**	**+0.2**
ATH				AML	AML	23 01 02.3	
comp=N,3347μm,1.0s							
ATH				AML	AML	23 01 03.1	
comp=E,2542μm,0.6s							
THL	**Klokotos Trika**	**2.54**	**25**	P	**Pn**	**23 00 10.1**	**+0.5**
THL				AML	AML	23 01 02.5	
comp=N,1183μm,0.9s							
THL				AML	AML	23 01 16.6	
comp=E,1449μm,1.2s							
VLY	**Voula,Athens**	**2.57**	**76**	P	**Pn**	**23 00 10.1**	**+0.1**
VLY				AML	AML	23 00 59.1	
comp=N,1892μm,0.8s							
VLY				AML	AML	23 01 02.0	
comp=E,2111μm,0.8s							
LIT	**Litokhoron**	**3.19**	**26**		**Pn**	**23 00 20.4**	**+2.0**
SCTE	**Santa Cesarea**	**3.29**	**329**		**Pn**	**23 00 20.8**	**+1.1**
FNA	**Florina**	**3.57**	**9**	Pn	**Pn**	**23 00 25.2**	**+1.6**
FNA	**Florina**	**3.57**	**9**	*e*Pn	**Pn**	**23 00 25.9**	**+2.2**
FNA				*e*Sn	**Sn**	**23 01 05.4**	**+0.1**
TIP	**Timpagrande**	**3.61**	**303**	Pn	**Pn**	**23 00 24.0**	**-0.3**
TIP	**Timpagrande**	**3.61**	**303**	⇑P	**Pn**	**23 00 25.8**	**+1.5**
OHR	**Ohrid**	**3.85**	**2**	*e*Pn	**Pn**	**23 00 29.8**	**+2.2**
OHR				*e*Sn	**Sn**	**23 01 13.3**	**+1.0**
OHR	**Ohrid**	**3.85**	**2**	*i* Pn	**Pn**	**23 00 30.4**	**+2.9**
CEL	**Celeste**	**3.90**	**286**		**Pn**	**23 00 27.7**	**-0.5**
APE	**Apeiranthos**	**3.91**	**91**	⇑P	**Pn**	**23 00 29.4**	**+1.0**
IDI	**Anoyia**	**3.95**	**119**		**Pn**	**23 00 30.3**	**+1.3**
IDI	**Anoyia**	**3.95**	**119**	Pn	**Pn**	**23 00 29.4**	**+0.4**
comp=E,4.6nm,0.4s,baz=308,slow=7.4,SNR=15							
IDI				Sn	**Sn**	**23 01 16.7**	**+1.9**
comp=E,11nm,0.3s,baz=312,slow=17,SNR=9.0							
TIR	**Tirane**	**4.13**	**352**		**Pn**	**23 00 33.2**	**+1.9**
TIR	**Tirane**	**4.13**	**352**	*e*Pn	**Pn**	**23 00 31.8**	**+0.5**
TIR	**Tirane**	**4.13**	**352**	⇓P	**Pn**	**23 00 34.4**	**+3.1**
SRS	**Serrai**	**4.48**	**30**	*e*Pn	**Pn**	**23 00 37.9**	**+1.7**
SRS				*e*Sn	**Sn**	**23 01 27.6**	**-0.2**
MATE	**Matera**	**4.57**	**319**	⇑P	**Pn**	**23 00 38.3**	**+1.0**
CUC	**Castrocucco**	**4.66**	**307**	Pn	**Pn**	**23 00 39.9**	**+1.1**
PUK	**Puka**	**4.81**	**353**		**Pn**	**23 00 42.6**	**+1.8**
ULC	**Ulcinj**	**4.82**	**347**	⇑*i* Pn	**Pn**	**23 00 40.8**	**-0.1**
ULC				*i* Sn	**Sn**	**23 01 37.1**	**+0.9**
VAE	**Valguarnera**	**4.97**	**274**	Pn	**Pn**	**23 00 44.2**	**+1.3**
comp=E,54nm,0.6s,baz=74,slow=7.4,SNR=22							
VAE				Sn	**Sn**	**23 01 43.6**	**+3.8**
comp=E,24nm,0.3s,baz=63,slow=18,SNR=8.7							
RAFF	**Raffo Rosso**	**5.01**	**272**	Pn	**Pn**	**23 00 43.2**	**-0.3**
DRME	**Dracevica, Mon**	**5.05**	**348**	⇓*i* Pn	**Pn**	**23 00 44.4**	**+0.4**
DRME				*i* Sn	**Sn**	**23 01 42.8**	**+1.1**
WDD	**Wied Dalam**	**5.13**	**256**		**Pn**	**23 00 43.8**	**-1.2**
BUM	**Brajici-Budva**	**5.21**	**346**	⇑*i* Pn	**Pn**	**23 00 46.9**	**+0.6**
BUM				*i* Sn	**Sn**	**23 01 46.4**	**+0.5**
PDG	**Podgorica**	**5.28**	**349**		**Pn**	**23 00 48.7**	**+1.6**
PDG	**Podgorica**	**5.28**	**349**	*e*Pn	**Pn**	**23 00 47.3**	**+0.2**
PDG				*e*Sn	**Sn**	**23 01 46.1**	**-1.2**
PDG	**Podgorica**	**5.28**	**349**	*e*Pn	**Pn**	**23 00 47.7**	**+0.6**
PDG	**Podgorica**	**5.28**	**349**	⇑P	**Pn**	**23 00 49.3**	**+2.3**
PDG	**Podgorica**	**5.28**	**349**	⇓*i* Pn	**Pn**	**23 00 47.6**	**+0.5**
PDG				*i* Sn	**Sn**	**23 01 47.6**	**+0.3**
PVY	**Plav**	**5.36**	**355**	⇓*i* Pn	**Pn**	**23 00 50.0**	**+1.7**
PVY				*i* Sn	**Sn**	**23 01 49.9**	**+0.4**
BOSS	**Bosilegrad**	**5.42**	**15**	*e*Pn	**Pn**	**23 00 50.3**	**+1.2**
HCY	**Herceg Novi**	**5.44**	**343**	*e*Pn	**Pn**	**23 00 49.6**	**+0.2**
HCY	**Herceg Novi**	**5.44**	**343**	⇓*i* Pn	**Pn**	**23 00 49.9**	**+0.5**
HCY				*i* Sn	**Sn**	**23 01 51.7**	**+0.3**
CEME	**Cevo**	**5.45**	**346**	⇓*i* Pn	**Pn**	**23 00 49.6**	**+0.1**
CEME				*i* Sn	**Sn**	**23 01 52.3**	**+0.7**
KARP	**Karpathos**	**5.53**	**106**	Pn	**Pn**	**23 00 52.9**	**+2.3**
ALN	**Alexandroupoli**	**5.56**	**47**	Pn	**Pn**	**23 00 54.1**	**+3.2**
BARS	**Barje**	**5.62**	**9**	*e*Pn	**Pn**	**23 00 52.7**	**+0.8**
BARS				*e*Sn	**Sn**	**23 01 53.6**	**-2.3**
IVA	**Berane**	**5.64**	**354**	⇑*i* Pn	**Pn**	**23 00 54.0**	**+1.9**
IVA				*i* Sn	**Sn**	**23 01 57.2**	**+0.9**
KOME	**Kolasin**	**5.65**	**352**	*e*Pn	**Pn**	**23 00 53.7**	**+1.3**
KOME	**Kolasin**	**5.65**	**352**	*e*Pn	**Pn**	**23 00 54.2**	**+1.8**
KOME				*i* Sn	**Sn**	**23 01 57.5**	**+0.8**
VTS	**Vitosha**	**5.71**	**20**	*e*Pn	**Pn**	**23 00 54.7**	**+1.5**
VTS				*e*Sn	**Sn**	**23 01 58.0**	**-0.3**
TREB	**Trebinje**	**5.73**	**343**	*e*Pn	**Pn**	**23 00 52.9**	**-0.4**
TREB				*e*Sn	**Sn**	**23 01 53.4**	**-5.1**
TREB	**Trebinje**	**5.73**	**343**	*e*Pn	**Pn**	**23 00 52.8**	**-0.5**
PLD	**Plovdiv**	**5.82**	**32**	*e*Pn	**Pn**	**23 00 55.1**	**+0.6**
BRY	**Bratogost**	**5.86**	**345**	*e*Pn	**Pn**	**23 00 54.1**	**-1.2**
BRY	**Bratogost**	**5.86**	**345**	*e*Pn	**Pn**	**23 00 56.8**	**+1.5**
BRY				*i* Sn	**Sn**	**23 02 01.8**	**-0.2**
SELS	**Selova**	**5.97**	**3**	*e*Pn	**Pn**	**23 00 57.0**	**+0.4**
SELS				*e*Sn	**Sn**	**23 02 02.2**	**-2.1**
SJES	**Sjenica**	**6.02**	**355**	*e*Pn	**Pn**	**23 00 58.2**	**+0.8**
SJES				*e*Sn	**Sn**	**23 02 03.1**	**-2.7**
SJES	**Sjenica**	**6.02**	**355**	*e*Pn	**Pn**	**23 00 58.2**	**+0.8**
STON	**Ston**	**6.04**	**339**	*e*Pn	**Pn**	**23 00 57.3**	**-0.3**
STON				*e*Sn	**Sn**	**23 02 02.2**	**-4.0**
STON	**Ston**	**6.04**	**339**	*e*Pn	**Pn**	**23 00 56.8**	**-0.8**
PLE	**Pljevlja**	**6.14**	**351**	⇑*i* Pn	**Pn**	**23 00 59.1**	**0.0**
PLE				*i* Sn	**Sn**	**23 02 09.3**	**+0.5**
ZAPS	**Zavoj**	**6.20**	**14**	*e*Pn	**Pn**	**23 01 01.0**	**+1.2**
IVAS	**Ivanjica**	**6.32**	**357**	*e*Pn	**Pn**	**23 01 01.2**	**-0.3**
BOVS	**Bovan**	**6.42**	**7**	*e*Pn	**Pn**	**23 01 02.2**	**-0.6**
BOVS	**Bovan**	**6.42**	**7**	⇑P	**Pn**	**23 01 02.9**	**+0.1**
RUDO	**Rudo**	**6.43**	**352**	*e*Pn	**Pn**	**23 01 03.4**	**+0.5**
GRUS	**Gruza**	**6.62**	**0**	*e*Pn	**Pn**	**23 01 05.4**	**-0.2**
BBLS	**Lazi&#263i**	**6.67**	**352**	*e*Pn	**Pn**	**23 01 06.5**	**+0.2**
BBLS	**Lazi&#263i**	**6.67**	**352**	*e*Pn	**Pn**	**23 01 07.0**	**+0.7**
DIVS	**Divibare**	**6.85**	**356**	*e*Pn	**Pn**	**23 01 08.4**	**-0.4**
DIVS				*e*Sn	**Sn**	**23 02 22.0**	**-4.2**
ELND	**Elena**	**6.94**	**34**	⇑P	**Pn**	**23 01 12.2**	**+2.2**
HAPS	**Han Pijesak,Bl**	**6.94**	**350**	*e*Pn	**Pn**	**23 01 09.5**	**-0.6**
TRUS	**Trudelj**	**6.96**	**359**	*e*Pn	**Pn**	**23 01 09.7**	**-0.5**
INTR	**Introdacqua**	**7.04**	**314**		**Pn**	**23 01 12.4**	**+1.0**
TEKS	**Tekeris**	**7.33**	**354**	*e*Pn	**Pn**	**23 01 14.3**	**-1.1**
TEKS	**Tekeris**	**7.33**	**354**	*e*Pn	**Pn**	**23 01 13.9**	**-1.5**
A050A	**Klekovaca**	**7.86**	**338**	*e*Pn	**Pn**	**23 01 23.1**	**+0.5**
FRGS	**Fruska Gora**	**7.92**	**356**	*e*Pn	**Pn**	**23 01 22.0**	**-1.4**
BLY	**Banja Luka**	**7.93**	**342**	*e*Pn	**Pn**	**23 01 25.9**	**+2.4**
NRCA	**Norcia**	**8.02**	**316**		**Pn**	**23 01 25.8**	**+0.9**
GUMA	**Gualdo di Mace**	**8.06**	**318**	Pn	**Pn**	**23 01 27.3**	**+2.0**
FDMO	**Fiordimonte**	**8.17**	**317**		**Pn**	**23 01 28.2**	**+1.3**
A051A	**Mrakovica**	**8.24**	**341**	*e*Pn	**Pn**	**23 01 28.4**	**+0.5**
GZR	**Gura Zlata**	**8.29**	**10**	⇑P	**Pn**	**23 01 30.0**	**+1.6**
BZS	**Buzias**	**8.38**	**5**	⇓P	Pn	23 01 34.8	+5.1
LOT	**Lotru**	**8.51**	**15**	⇓P	**Pn**	**23 01 32.3**	**+0.6**
VOIR		**8.82**	**21**

QRNJ	Al-Qirein	13.21	107	P		Pn	23 02 33.8 -2.0
BALJ	Balqa	13.37	108	Pn		Pn	23 02 37.4 -0.7
SENIN	Lac Senin/Sane	13.47	317	Pn		Pn	23 02 40.6 +1.1
LISJ	El Lisan	13.66	112	P		Pn	23 02 41.3 -0.6
GHAJ	Ghor Haditha	13.69	111	Pn		Pn	23 02 42.4 +0.1
GHAJ	Ghor Haditha	13.69	111	P		Pn	23 02 42.7 +0.4
PRNI	Paran	13.78	116	P		Pn	23 02 46.8 +3.2
HRFI	Mount Harif	13.98	117	P		Pn	23 02 47.0 +0.7
MBRI	Mt Berech	14.03	118	P		Pn	23 02 45.6 -1.5
EIL	Elat	14.13	118	Pn		Pn	23 02 46.8 -1.6
	comp=E,0.5nm,0.3s,baz=308,slow=14,SNR=7.0						
EIL				Sn		Sn	23 05 13.9 -11
	comp=E,0.8nm,0.3s,baz=320,slow=16,SNR=5.5						
	comp=E,3.8nm,0.8s						
ECH	Echery	14.74	322	Pn		Pn	23 02 57.7 +0.9
KIEV	Kiev	14.77	22	P		P	23 03 03.5 +0.6
AKASG	Malin Array Be	14.78	22	Pn		P	23 03 00.9 -2.0
AKASG	Malin Array Be	14.78	22	Pn		Pn	23 02 56.5 -0.6
	comp=E,0.3nm,0.3s,baz=209,slow=13,SNR=1.7						
	comp=E,0.5nm,0.5s						
AKBB	Malin Array Si	14.78	22	P		P	23 03 03.8 +0.8
SUW	Suwalki	16.85	5	Pn		Pn	23 03 24.8 +0.9
SUW				IAmb		IAmb	23 03 33.9
	comp=Z,21nm,0.8s						
KARS	Kars	17.77	72			P	23 03 37.0 +0.7
KARS				IAmb		IAmb	23 03 48.6
	comp=Z,40nm,1.2s						
GNI	Garni	19.02	74	P		P	23 03 49.5 -0.6
	comp=Z,0.3nm,0.3s,baz=307,slow=20,SNR=1.1						
	comp=Z,2.3nm,0.7s						
ESDC	Sonseca Array	19.41	285	P		Pn	23 03 55.0 -0.4
	comp=Z,0.1nm,0.3s,baz=82,slow=12,SNR=6.9						
	comp=Z,1.5nm,0.9s						
TAM	Tamanrasset	19.44	226	P		P	23 03 53.3 -1.5
OBN	Obninsk	20.90	26	P		Pn	23 04 11.7 -1.1
OBN				IAmb		IAmb	23 04 17.6
	comp=Z,9.9nm,0.6s						
MDT	Midelt	21.12	265	P		P	23 04 14.1 +1.1
	comp=Z,3.2nm,0.9s,baz=90,slow=8.7,SNR=4.5						
	comp=Z,3.2nm,0.9s						
HFS	Hagfors	23.32	351	P		P	23 04 35.6 -0.4
	comp=Z,5.0nm,0.5s,baz=155,slow=11,SNR=27						
HFS				LR		LR	23 15 15.7
	comp=Z,1μm,21.8s,baz=250,slow=41						
	comp=Z,5.0nm,0.5s						
EKA	Eskdalemuir Ar	24.24	326	P		P	23 04 45.0 +0.2
	comp=Z,3.1nm,0.8s,baz=118,slow=9.2,SNR=7.2						
	comp=Z,3.1nm,0.8s						
FINES	FINESS Array B	24.45	6	P		P	23 04 45.9 -0.6
	comp=Z,2.6nm,0.6s,baz=178,slow=10,SNR=11						
	comp=Z,2.6nm,0.6s						
NB2	NORSAR Subarra	24.54	349	P		P	23 04 49.2 +1.7
	comp=Z,2.9nm,0.8s,baz=162,slow=9.3						
NOA	NORSAR Array B	24.54	349	P		P	23 04 48.3 +0.8
	comp=Z,1.2nm,0.6s,baz=157,slow=9.1,SNR=12						
	comp=Z,1.2nm,0.6s						
TORD	Torodi Ar. Bea	29.38	220	P		P	23 05 31.4 +0.1
	comp=Z,1.3nm,0.5s,baz=31,slow=8.9,SNR=5.1						
	comp=Z,1.3nm,0.5s						
ARCES	ARCESS Array B	32.45	3	P		P	23 05 55.9 -1.9
	comp=Z,0.7nm,0.6s,baz=190,slow=8.9,SNR=6.6						
	comp=Z,0.7nm,0.6s						
BVAR	Borovoye Array	37.64	49	P		P	23 06 43.4 +0.6
	comp=Z,0.4nm,0.5s,baz=263,slow=5.7,SNR=2.9						
	comp=Z,0.4nm,0.5s						
SPITS	Spitsbergen Ar	41.07	359	P		P	23 07 12.5 +1.4
	comp=Z,12nm,1.1s,baz=152,slow=13,SNR=1.8						
	comp=Z,12nm,1.1s						
KURBB	Kurchatov Arra	42.70	53	P		P	23 07 24.3 -0.5
	comp=Z,0.5nm,0.4s,baz=279,slow=8.9,SNR=5.2						
	comp=Z,0.5nm,0.4s						
MKAR	Makanchi Array	45.70	58	P		P	23 07 48.4 -0.5
	comp=Z,0.4nm,0.3s,baz=275,slow=7.8,SNR=9.2						
	comp=Z,0.4nm,0.3s						
ZALV	Zalesovo Beam	46.24	47	P		P	23 07 53.3 +0.3
	comp=Z,0.6nm,0.3s,baz=266,slow=9.1,SNR=6.1						
	comp=Z,0.6nm,0.3s						
HHC	Hu-ho-hao-te	67.48	55	*e*P		P	23 10 25.0 +1.0
HHC				pmax		pmax	
	comp=Z,8.0nm,0.5s						
HHC				pmax		pmax	
	comp=Z,210nm,7.3s						
PZH	PanZhiHua	67.78	73	P		P	23 10 27.9 +1.8
PZH				pmax		pmax	
	comp=Z,10.0nm,0.8s						
PZH				pmax		pmax	
	comp=Z,100nm,4.9s						
CMAR	Chiang Mai Arr	69.92	82	P		P	23 10 39.5 +0.1
	comp=Z,0.7nm,0.3s,baz=309,slow=5.7,SNR=1.1						
	comp=Z,0.7nm,0.3s						
KSRS	Korea Array	79.84	51	P		P	23 11 36.8 +0.3
	comp=Z,0.7nm,0.3s,baz=311,slow=4.8,SNR=2.1						
	comp=Z,0.7nm,0.3s						

*NEIC **01** 23:19:44.9±2.0, 18°.1S±0°.2×178°.29W±0°.04, h573km±10km, mb4.1/13, Error ellipse: s-maj=22.2km s-min=5.8km az=184.0*
*IDC **01** 23:19:45.5±1.8, 18°.07S×178°.30W, h582km±14km, mb3.2/6, mbtmp4.2/7, Error ellipse: s-maj=35.4km s-min=21.9km az=126.0*
ISC 01 23:19:45.2±0.7, **18°.1S**±0°.1×**178°.3W**±0°.1, **h579**km, **n28, σ0°84/31, mb4.0/13, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.46	275	P	P	23 21 05.4	-0.2
	154nm,0.7s,baz=128,slow=13,SNR=96						
MSVF				S	S	23 22 13.4	+2.4
	12nm,1.0s,baz=162,slow=20,SNR=0.9						
FUTU	Fugatoga	3.73	3	P	P	23 21 06.2	-1.2
PINNC	Pines Island,	14.08	249	P	P	23 22 43.6	-1.5
DZM	Mont Dzumac	14.85	252	P	P	23 22 51.9	-0.8
KOUNC	Koumac, New Ca	16.59	259	P	P	23 23 09.7	+0.7
AMCZ	Amberley	26.18	195	P	P	23 24 34.4	-0.2
COEN	Coen	37.18	271	P	P	23 26 07.1	-1.4
COEN				IAmb	IAmb	23 26 14.3	
	comp=Z,4.9nm,0.8s						
WR0	Warramunga Arr	44.48	260	P	P	23 27 06.8	+0.5
WB0	Warramunga Arr	44.64	260	P	P	23 27 07.9	+0.3
WB2	Warramunga Arr	44.66	260	P	P	23 27 07.5	-0.2
WB2				IAmb	IAmb	23 27 14.2	
	comp=Z,3.3nm,1.1s						
WRA	Warramunga Arr	44.67	260	P	P	23 27 07.8	+0.1
WRA	Warramunga Arr	44.67	260	P	P	23 27 07.7	0.0
	comp=Z,0.5nm,0.5s,baz=96,slow=7.0,SNR=18						
WRA				PcP	PcP	23 28 38.1	+0.5
	comp=Z,0.3nm,0.7s,baz=90,slow=3.4,SNR=4.6						
	comp=Z,0.5nm,0.5s						
ASAR	Alice Springs	44.82	254	P	P	23 27 09.1	+0.2
	comp=Z,3.1nm,0.7s,baz=91,slow=8.8,SNR=29						
ASAR				PcP	PcP	23 28 37.6	-0.5
	comp=Z,0.4nm,0.5s,baz=97,slow=3.5,SNR=2.0						
	comp=Z,3.1nm,0.7s						
MJAR	Matsushiro Arr	68.07	323	P	P	23 29 48.8	+0.9
	comp=Z,1.7nm,0.5s,baz=149,slow=5.1,SNR=3.4						
	comp=Z,1.7nm,0.5s						
QSPA	South Pole Qui	72.00	180	P	P	23 30 11.0	+0.1
QSPA	South Pole Qui	72.00	180	P	P	23 30 11.1	+0.2
	comp=Z,0.6nm,0.7s,baz=23,slow=1.1,SNR=1.9						
	comp=Z,0.6nm,0.7s						
PETK	Petropavlovsk-	73.84	345	P	P	23 30 20.7	-0.7
	comp=Z,16nm,1.2s,baz=144,slow=5.4,SNR=2.7						
	comp=Z,16nm,1.2s						
SUA	Susitna One	82.26	13	P	P	23 31 04.9	-1.5
SUA				IAmb	IAmb	23 31 10.8	
	comp=Z,9.9nm,1.1s						
SCM	Sheep Creek Mo	83.35	14	P	P	23 31 12.4	+0.6
SCM				IAmb	IAmb	23 31 22.3	
	comp=Z,2.6nm,1.0s						
S31K	Pelican	83.36	21	P	P	23 31 11.7	-0.1
N25K	Chitina, Valde	83.82	15	P	P	23 31 14.2	+0.1
N25K				IAmb	IAmb	23 31 30.3	
	comp=Z,5.5nm,1.1s						
ILAR	Eielson Array	86.01	13	P	P	23 31 24.4	-0.1
	comp=Z,0.3nm,0.4s,baz=218,slow=4.9,SNR=12						
	comp=Z,0.3nm,0.4s						
G31M	Satah River	90.78	16	P	P	23 31 46.4	-0.3
G31M				IAmb	IAmb	23 31 47.9	
	comp=Z,5.1nm,1.1s						
F31M	Tsiigehtchic	91.31	16	P	P	23 31 49.5	+0.4
F31M				IAmb	IAmb	23 31 50.1	
	comp=Z,1.9nm,0.6s						
435B	Jarrell	91.45	58	P	P	23 31 51.2	+0.5
ARCES	ARCESS Array B	126.47	350	PKP	PKPdf	23 37 42.6	+0.2
	comp=Z,2.4nm,1.0s,baz=43,slow=1.6,SNR=3.7						
MMAI	Mount Meron Ar	146.28	303	PKPbc	PKPdf	23 38 21.2	+1.4
	comp=Z,0.9nm,0.5s,baz=90,slow=5.8,SNR=5.8						
GERES	GERESS Array B	147.77	345	PKPbc	PKPbc	23 38 25.8	+0.1
	comp=Z,0.5nm,0.4s,baz=42,slow=3.2,SNR=2.6						

*JMA **01** 23:31:15.6±0.3, 44°.N±1°.×14°.8E±°, h0km, MV4.1/25, SE OFF ETOROFU*
*SKHL **01** 23:31:16.1±0.4, 44°.40N×148°.40E, h40km±4km, mb4.6/3*
ISC 01 23:31:12.9±3.1, **44°.31N**±0°.08×**148°.4E**±0°.2, **h5**km±12km, **n15, σ1°49/26, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.99	339	*e*P	Pg	23 31 31.6	-0.3
KUR				AMB	AMB	23 31 32.0	
	440nm,0.3s						
KUR				*i* S	Sg	23 31 43.5	-1.2
KUR				A	A	23 31 44.4	
	890nm,0.2s						
KUR				A	A	23 31 44.4	
	700nm,0.2s						
SHO	Shikotan	1.20	249	*i* P	Pg	23 31 36.2	+0.4
SHO				AMB	AMB	23 31 36.5	
	90nm,0.2s						
SHO				*i* S	Sg	23 31 50.7	-0.6
SHO				A	A	23 31 57.6	
	310nm,0.2s						
SHO				A	A	23 31 57.6	
	270nm,0.2s						
YUK	Yuzh-Kuril'sk	1.83	262	*e*P	Pn	23 31 45.3	+0.3
YUK				AMB	AMB	23 31 47.5	
	170nm,0.3s						
YUK				*e*S	Sn	23 32 06.6	-1.9
YUK				A	A	23 32 12.8	
	470nm,0.3s						
YUK				A	A	23 32 12.8	
	380nm,0.3s						
NEM2	Nemuro 2	2.12	244	P	Pn	23 31 49.1	0.0
NEM2				S	Sn	23 32 13.6	-2.2
JRA	Rausu	2.37	262	P	Pn	23 31 53.8	+1.4
JRA				*e*S	Sn	23 32 22.5	+0.6
JNSB	Nemuroshibetsu	2.49	259	P	Pn	23 31 55.3	+1.3
JKHN	Kushirohamanak	2.63	243	P	Pn	23 31 56.4	+0.3
JKHN				*e*S	Sn	23 32 26.3	-2.0
JNK	Nakash	2.74	256	P	Pn	23 31 58.5	+1.1
JNK				*e*S	Sn	23 32 30.1	-0.8
JAK	Akkeshi	2.97	245	P	Pn	23 32 01.3	+0.6
JAK				*e*S	Sn	23 32 34.7	-2.1
JTKR	Abashiri--Toko	3.23	265	*e*P	Pn	23 32 07.5	+3.2
JAR	Ashorobuto	3.48	255	P	Pn	23 32 09.8	+2.1
JAR				S	Sn	23 32 49.4	0.0
JCH	Churui	4.02	247	*e*P	Pn	23 32 16.7	+1.5
JCH				*e*S	Sn	23 33 02.2	-0.4
JNBK	Urakawa-nobuka	4.58	246	*e*P	Pn	23 32 24.2	+1.5
JOT	Ohata	6.13	244	P	Pn	23 32 45.0	+1.0
JOT				*e*S	Sn	23 33 53.8	-0.7
JOSM	Okushiri--Mats	6.87	254	*e*P	Pn	23 32 56.0	+1.7

IDC 01 23:44:03.8±2.0, **1°.97N**×**126°.53E, h0**km, **mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=195.2km s-min=22.2km az=66.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.08	161	P	P	23 49 10.6	-0.8
	1.4nm,0.6s,baz=339,slow=11,SNR=15						
	1.4nm,0.6s						
ASAR	Alice Springs	26.47	165	P	P	23 49 43.8	+0.9
	0.2nm,0.4s,baz=347,slow=12,SNR=5.7						
	0.2nm,0.4s						
MKAR	Makanchi Array	58.89	326	P	P	23 54 04.8	+0.1
	0.2nm,0.4s,baz=119,slow=7.1,SNR=5.9						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	63.11	328	P	P	23 54 32.8	-0.4
	0.2nm,0.5s,baz=131,slow=6.5,SNR=2.0						
	0.2nm,0.5s						

*NEIC **01** 23:49:21.4±2.4, 18°.2S±0°.1×178°.3W±0°.1, h591km±9km, mb4.3/15, Error ellipse: s-maj=19.6km s-min=15.5km az=142.0*
*IDC **01** 23:49:23.4±1.1, 17°.88S×178°.52W, h611km±11km, mb3.5/13, mbtmp4.5/15, Error ellipse: s-maj=19.2km s-min=12.5km az=134.0*
ISC 01 23:49:22.5±0.4, **18°.11S**±0°.09×**178°.37W**±0°.08, **h600**km, **n147, σ0°88/139, mb4.3/72, 4C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.43	276		P	23 50 45.0	+0.7
MSVF	Nonsavu	3.43	276	P	P	23 50 44.9	+0.6
	171nm,0.8s,baz=108,slow=3.2,SNR=79						
MSVF				S	S	23 51 52.3	+1.4
	22nm,1.1s,baz=47,slow=19,SNR=1.1						
NIUE	Niue	8.07	98	P	P	23 51 22.2	-0.3
PINNC	Pines Island,	14.03	249	P	P	23 52 20.4	-1.2
DZM	Mont Dzumac	14.79	252	P	P	23 52 28.4	-0.5
DZM	Mont Dzumac	14.79	252	P	P	23 52 29.2	+0.3
	5.1nm,0.6s,baz=74,slow=19,SNR=2.0						
KOUNC	Koumac, New Ca	16.55	259	P	P	23 52 46.0	+1.1
URZ	Urewera	20.46	190	P	P	23 53 21.7	+1.5
	9.6nm,0.8s,baz=349,slow=5.2,SNR=1.8						
	9.6nm,0.8s						
GVZ	Greta Valley S	25.83	195	P	P	23 54 07.3	-0.5
FOZ	Fox Glacier	27.23	199	P	P	23 54 19.5	-0.6
LBZ	Lake Benmore	27.90	198	P	P	23 54 24.2	-1.7
WKZ	Wanaka	28.65	199	P	P	23 54 31.5	-0.9
EIDS	Eidsvold	29.23	250	P	P	23 54 38.2	+0.5
EIDS				IAmb	IAmb	23 54 42.4	
	comp=Z,15nm,1.4s						
MLZ	Mavora Lakes	29.42	200	P	P	23 54 38.7	-0.4
ARMA	Armidale	29.87	240	P	P	23 54 43.9	+0.6
ARMA				IAmb	IAmb	23 54 44.8	
	comp=Z,8.0nm,0.8s						
CTAO	Charters Tower	33.45	261	P	P	23 55 13.5	-0.1
CTAO				IAmb	IAmb	23 55 13.8	
	comp=Z,10nm,0.8s						
CAN	Canberra	33.61	233	P	P	23 55 15.5	+0.7
CAN				IAmb	IAmb	23 55 16.2	
	comp=Z,9.2nm,0.7s						
PMG	Port Moresby	34.53	280	P	P	23 55 23.5	+0.8
TOO	Toolangi	37.07	231	P	P	23 55 44.5	+1.1
TOO				IAmb	IAmb	23 55 44.9	
	comp=Z,5.6nm,0.8s						
COEN	Coen	37.14	271	P	P	23 55 44.8	+0.6
STKA	Stephens Creek	38.56	241	P	P	23 55 56.2	+0.8
STKA	Stephens Creek	38.56	241	P	P	23 55 56.0	+0.5
	comp=Z,12nm,0.8s,baz=77,slow=14,SNR=18						
	comp=Z,12nm,0.8s						
BBOO	Buckleboo	43.34	241	P	P	23 56 33.0	-0.2
BBOO				IAmb	IAmb	23 56 33.9	
	comp=Z,14nm,0.8s						
WR0	Warramunga Arr	44.44	260	P	P	23 56 41.0	-0.9
WB0	Warramunga Arr	44.59	260	P	P	23 56 42.3	-0.8
WB2	Warramunga Arr	44.62	260	P	P	23 56 42.6	-0.7
WB2				IAmb	IAmb	23 56 43.2	
	comp=Z,10nm,0.6s						
WRAB	Tennant Creek	44.62	260	P	P	23 56 42.6	-0.6
WRAB				IAmb	IAmb	23 56 43.1	
	comp=Z,8.3nm,0.7s						
WRA	Warramunga Arr	44.63	260	P	P	23 56 42.4	-1.0
WRA	Warramunga Arr	44.63	260	P	P	23 56 42.3	-1.0
	comp=Z,8.5nm,0.7s,baz=97,slow=7.2,SNR=215						
WRA				PcP	PcP	23 58 12.8	0.0
	comp=Z,0.5nm,0.4s,baz=92,slow=3.9,SNR=3.0						
	comp=Z,8.5nm,0.7s						
AS31	Alice Springs	44.77	254	P	P	23 56 44.2	-0.2
ASAR	Alice Springs	44.77	254	P	P	23 56 44.2	-0.2
ASAR	Alice Springs	44.77	254	P	P	23 56 44.0	-0.4
	comp=Z,39nm,0.7s,baz=87,slow=8.6,SNR=361						
ASAR				PcP	PcP	23 58 13.0	-0.3
	comp=Z,1.1nm,0.5s,baz=100,slow=4.0,SNR=4.1						
	comp=Z,39nm,0.7s						
MIDW	Midway	46.06	1	P	P	23 56 54.2	+0.2
FORT	Forrest	49.95	245	P	P	23 57 22.4	-0.6
KNRA	Kununurra	50.50	264	P	P	23 57 26.7	-0.4
KNRA				IAmb	IAmb	23 57 27.2	
	comp=Z,10nm,0.7s						
FITZ	Fitzroy Crossi	53.03	261	P	P	23 57 45.2	+0.1
FITZ	Fitzroy Crossi	53.03	261	P	P	23 57 44.8	-0.4
	comp=Z,2.1nm,0.4s,baz=101,slow=16,SNR=11						
	comp=Z,2.1nm,0.4s						
PSA00	Pilbara Seismi	57.89	256	P	P	23 58 17.5	-1.3
PSA00				IAmb	IAmb	23 58 43.2	
	comp=Z,29nm,1.4s						
MBWA	Marble Bar	58.06	256	P	P	23 58 18.6	-1.3
MBWA				IAmb	IAmb	23 58 20.2	
	comp=Z,6.8nm,0.6s						
MORW	Morawa	60.43	246	P	P	23 58 34.6	-1.0
MORW				IAmb	IAmb	23 58 55.7	
	comp=Z,34nm,1.4s						
TOLI2	Tolitoli	62.79	281	P	P	23 58 51.8	+0.6
GIRL	Giralia	62.87	253	P	P	23 58 51.4	-0.1
JAGI	Jajag, Banyuwa	66.07	269	P	P	23 59 10.3	-1.5
QSPA	South Pole Qui	71.94	180	P	P	23 59 46.9	+0.8
QSPA	South Pole Qui	71.94	180	P	P	23 59 47.2	+1.1
	comp=Z,2.5nm,0.8s,baz=77,slow=18,SNR=7.8						
	comp=Z,2.5nm,0.8s						
PETK	Petropavlovsk-	73.89	345	P	P	23 59 53.9	-3.3
	comp=Z,2.4nm,0.8s,baz=123,slow=10,SNR=4.4						
	comp=Z,2.4nm,0.8s						
CMB	Columbia Colle	77.97	43	P	P	00 00 20.8	+0.7
AFDM	Forest Hills D	78.11	42	P	P	00 00 21.4	+0.7
OMMB	Old Mammoth Mi	78.64	44		P	00 00 24.9	+0.9
YBH	Yreka Blue Hor	78.66	39	P	P	00 00 24.9	+1.2
WAKR	Walker	78.85	43		P	00 00 26.0	+1.1
MPK	Martis Peak	78.91	42	P	P	00 00 26.3	+1.0
MPK				IAmb	IAmb	00 00 26.4	
	comp=Z,6.5nm,0.6s						
PNTR	Pine Nut	79.07	43	P	P	00 00 27.1	+1.1
PNTR				IAmb	IAmb	00 00 27.7	
	comp=Z,7.9nm,0.8s						
NVAR	Mina Array Bea	79.55	44	P	P	00 00 28.8	+0.1
	comp=Z,2.2nm,0.7s,baz=224,slow=8.8,SNR=18						
	comp=Z,2.2nm,0.7s						
PAHR	Pah Rah Range	79.55	42	P	P	00 00 29.4	+0.9
J04A	Umpqua Nationa	79.92	38	IAmb	IAmb	00 00 31.9	
	comp=Z,12nm,0.7s						
KVN	Kaiserville	80.02	43	P	P	00 00 31.7	+0.7
J05D	Fort Rock, OR	80.46	38		P	00 00 34.4	+1.2
J05D				IAmb	IAmb	00 00 34.8	
	comp=Z,11nm,0.8s						
PINE	Pine Mountain	80.93	38		P	00 00 36.8	+1.2
PINE				IAmb	IAmb	00 00 37.4	
	comp=Z,7.1nm,0.9s						
PRN	Pahroc Range	81.19	46	P	P	00 00 38.4	+1.3
R11B	Troy Canyon, C	81.31	45	P	P	00 00 38.0	+0.2
WVOR	Wild Horse Val	81.54	40	P	P	00 00 39.7	+1.0
WVOR				IAmb	IAmb	00 00 40.2	
	comp=Z,8.4nm,1.1s						
TUC	Tucson	81.80	52	P	P	00 00 41.9	+1.7
I07A	Izee	81.94	39	IAmb	IAmb	00 00 42.2	
	comp=Z,5.3nm,0.8s						
BELA	Belgrano 2	81.96	173	P	P	00 00 39.3	-0.8
J08A	Circle Bar Ran	82.16	40	IAmb	IAmb	00 00 43.2	
	comp=Z,11nm,1.3s						
L19K	White Mountain	82.17	11	P	P	00 00 41.3	0.0
L19K				IAmb	IAmb	00 01 23.0	
	comp=Z,9.7nm,1.4s						
J16K	Anvik River	82.32	8	P	P	00 00 42.0	0.0
J16K				IAmb	IAmb	00 00 42.2	
	comp=Z,20nm,1.3s						
SUA	Susitna One	82.32	13	P	P	00 00 41.7	-0.5
SUA				IAmb	IAmb	00 00 41.8	
	comp=Z,12nm,1.0s						
PWL	Port Wells	82.33	14	P	P	00 00 40.5	-1.6
PWL				IAmb	IAmb	00 01 15.6	
	comp=Z,18nm,1.3s						
PSUT	Pine Spring	82.58	46	P	P	00 00 44.6	+0.5
U15A	North Rim	82.63	48	IAmb	IAmb	00 00 46.5	
	comp=Z,6.4nm,0.8s						
J17K	VABM Dome	82.63	9	P	P	00 00 43.5	0.0
J17K				IAmb	IAmb	00 00 57.4	
	comp=Z,9.0nm,1.1s						
GLI	Glacier Island	82.64	15	P	P	00 00 43.0	-0.7
G08A	Pilot Rock	82.95	38	P	P	00 00 46.4	+0.7
G08A				IAmb	IAmb	00 00 47.0	
	comp=Z,11nm,1.5s						
J18K	Innoko River	83.05	10	P	P	00 00 45.4	-0.3
J18K				IAmb	IAmb	00 00 46.3	
	comp=Z,4.7nm,0.8s						
SML	Sawmill	83.16	14	P	P	00 00 45.2	-1.1
SML				IAmb	IAmb	00 01 07.0	
	comp=Z,18nm,1.4s						
SCM	Sheep Creek Mo	83.42	14	P	P	00 00 47.0	-0.5
YAH	Yahtse	83.61	17	P	P	00 00 48.4	-0.4
ISLE	Juniper Island	83.65	17	P	P	00 00 48.1	-0.7
MAW	Mawson	83.68	200	P	P	00 00 49.6	+0.7
	comp=Z,0.9nm,0.5s,baz=135,slow=4.3,SNR=4.5						
	comp=Z,0.9nm,0.5s						
J19K	Poorman	83.73	10	P	P	00 00 49.1	+0.1
J19K				IAmb	IAmb	00 01 23.1	
	comp=Z,9.5nm,1.5s						
CAST	Castle Rocks	83.82	12	IAmb	IAmb	00 00 48.7	
	comp=Z,6.6nm,0.8s						
TABL	Table Mountain	83.85	18	P	P	00 00 49.4	-0.5
VRDI	Verde Repeater	83.87	16	P	P	00 00 49.1	-0.9
VRDI				IAmb	IAmb	00 00 49.9	
	comp=Z,15nm,1.3s						
N25K	Chitina, Valde	83.89	16	P	P	00 00 49.6	-0.3
N25K				IAmb	IAmb	00 00 50.1	
	comp=Z,6.0nm,0.7s						
GRNC	Granite Creek	83.92	17	P	P	00 00 49.4	-0.8
M24K	Tolsona, Glenn	83.93	15	P	P	00 00 50.3	+0.2
GLB	Gilahina Butte	83.95	16	P	P	00 00 50.0	-0.2
GLB				IAmb	IAmb	00 00 54.0	
	comp=Z,12nm,1.5s						
J20K	Nowinta River	84.14	10	P	P	00 00 50.7	-0.3
J20K				IAmb	IAmb	00 01 30.3	
	comp=Z,15nm,1.5s						
CTGM	Chitina Glacie	84.23	17	P	P	00 00 51.4	-0.3
CTGM				IAmb	IAmb	00 01 19.2	
	comp=Z,14nm,1.3s						
RND	Reindeer	84.46	13	P	P	00 00 52.4	-0.3
RND				IAmb	IAmb	00 00 52.6	
	comp=Z,6.3nm,0.8s						
B08A	Colville Reser	84.49	35	IAmb

HHC	**Hu-ho-hao-te**	**87.44**	**314**	*e*P	**P**	**00 01 09.8**	**+2.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,150nm,6.9s						
PD31	**Pinedale Array**	**87.48**	**43**	IAmb	IAmb	00 01 08.5	
	comp=Z,2.9nm,0.8s						
PDAR	**Pinedale Array**	**87.48**	**43**	P	**P**	**00 01 07.7**	**-0.1**
PDAR	**Pinedale Array**	**87.48**	**43**	P	**P**	**00 01 07.5**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=215,slow=3.0,SNR=19						
	comp=Z,1.9nm,0.6s						
K29M	**Barlow Dome**	**87.60**	**17**	P	**P**	**00 01 07.4**	**-0.3**
K29M				IAmb	IAmb	00 01 10.0	
	comp=Z,12nm,1.4s						
I28M	**Miner Creek**	**88.25**	**15**	P	**P**	**00 01 10.1**	**-0.5**
BMAR	**Burnt Mountain**	**88.85**	**12**	P	**P**	**00 01 13.1**	**-0.2**
ELIB	**Princess Elisa**	**88.96**	**187**	*d*P	**P**	**00 01 13.9**	**-0.2**
	comp=Z,2.3nm,0.7s						
I30M	**Mount Dempster**	**88.99**	**16**	P	**P**	**00 01 13.6**	**-0.5**
I30M				IAmb	IAmb	00 01 14.4	
	comp=Z,6.6nm,1.2s						
H29M	**Whitestone**	**89.26**	**15**	P	**P**	**00 01 15.1**	**-0.1**
H29M				IAmb	IAmb	00 01 16.0	
	comp=Z,2.2nm,0.8s						
PZH	**PanZhiHua**	**89.28**	**298**	P	**P**	**00 01 17.0**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
F28M	**Old Crow**	**90.02**	**14**	P	**P**	**00 01 18.6**	**0.0**
TROLL	**Troll, Antarti**	**90.10**	**180**	⇑P	**P**	**00 01 19.2**	**-0.2**
	comp=Z,58nm,0.5s						
G30M	**tAoh Zraii Nji**	**90.39**	**15**	P	**P**	**00 01 20.1**	**-0.4**
SNAA	**Sanae**	**90.39**	**179**	P	**P**	**00 01 20.4**	**-0.1**
SNAA				IAmb	IAmb	00 01 27.9	
	comp=Z,4.0nm,1.4s						
SNAA	**Sanae**	**90.39**	**179**	⇑P	**P**	**00 01 18.4**	**-2.2**
	comp=Z,5.8nm,0.5s						
SNAA	**Sanae**	**90.39**	**179**	P	**P**	**00 01 20.4**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=192,slow=11,SNR=8.0						
	comp=Z,0.3nm,0.5s						
VNA3	**Neumayer Olymp**	**90.53**	**176**	⇑P	**P**	**00 01 21.3**	**+0.1**
	comp=Z,0.9nm,0.3s						
G31M	**Satah River**	**90.85**	**16**	P	**P**	**00 01 22.1**	**-0.3**
G31M				IAmb	IAmb	00 01 22.6	
	comp=Z,4.1nm,0.8s						
VNA2	**Neumayer--Watz**	**90.97**	**177**	⇑P	**P**	**00 01 23.5**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=186,slow=3.8						
INK	**Inuvik**	**92.07**	**15**	P	**P**	**00 01 27.1**	**-0.9**
INK				IAmb	IAmb	00 01 55.0	
	comp=Z,6.3nm,1.5s						
SOCE	**Pocosol**	**96.70**	**81**	P	P	00 01 44.6	-5.8
SOCE				IAmb	IAmb	00 01 45.4	
	comp=Z,68nm,1.4s						
CGM3	**Cape Girardeau**	**99.76**	**54**		pP	00 04 06.7	-6.6
ARCES	**ARCESS Array B**	**126.52**	**350**	PKP	**PKPdf**	**00 07 16.7**	**-1.0**
	comp=Z,2.4nm,1.0s,baz=38,slow=1.6,SNR=5.0						
EKA	**Eskdalemuir Ar**	**142.67**	**5**	PKP	**PKPdf**	**00 07 46.3**	**-1.7**
	comp=Z,0.8nm,0.7s,baz=343,slow=2.2,SNR=2.0						
CLL	**Collm**	**145.67**	**347**	*i* PKPbc	**PKPbc**	**00 07 54.7**	**-0.3**
	comp=Z,6.0nm,0.9s						
MMAI	**Mount Meron Ar**	**146.28**	**303**	PKPbc	**PKPdf**	**00 07 56.4**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=72,slow=6.2,SNR=7.0						
GERES	**GERESS Array B**	**147.82**	**345**	PKPbc	**PKPbc**	**00 08 00.1**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=25,slow=5.4,SNR=4.6						
ESDC	**Sonseca Array**	**157.97**	**12**	PKPab	**PKPab**	**00 08 47.5**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=3.4,slow=4.1,SNR=1.6						
TORD	**Torodi Ar. Bea**	**175.06**	**181**	PKPab	**PKPab**	**00 10 06.0**	**+1.1**
	comp=Z,0.4nm,1.0s,baz=179,slow=2.2,SNR=1.7						

IDC 01 23:58:02.0±76.0, 16°.19S×174°.35W, h500km±223km, mb2.9/3, mbtmp3.8/4, Error ellipse: s-maj=1085.0km s-min=154.1km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.43**	**257**	P	P	23 59 52.7	0.0
	11nm,0.8s,baz=57,slow=15,SNR=4.0						
STKA	**Stephens Creek**	**42.85**	**240**	P	P	00 05 15.7	+0.1
	0.5nm,0.2s,baz=69,slow=17,SNR=1.5						
	0.5nm,0.2s						
WRA	**Warramunga Arr**	**48.78**	**258**	P	P	00 06 00.4	-0.7
	0.3nm,0.7s,baz=97,slow=6.4,SNR=8.1						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**49.00**	**253**	P	P	00 06 02.9	+0.2
	1.3nm,0.5s,baz=89,slow=8.4,SNR=25						
	1.3nm,0.5s						

ATH 02 00:00:03.8, 35°.22N×27°.05E, h69km±4km, ML2.0/2, Error ellipse: s-maj=8.6km s-min=1.6km az=335.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.34**	**16**	P	Pn	00 00 15.0	-0.1
KARP				S	Sn	00 00 23.1	-0.4
KARP				AML	AML	00 00 25.4	
	comp=E,247μm,0.1s						
KARP				AML	AML	00 00 28.4	
	comp=N,234μm,0.1s						
ZKR	**Zakros**	**0.69**	**261**	P	Pn	00 00 18.1	-0.4
ZKR				AML	AML	00 00 26.0	
	comp=N,109μm,0.3s						
ZKR				AML	AML	00 00 26.1	
	comp=E,381μm,0.2s						
ARG	**Arkhangelos**	**1.32**	**41**	P	Pn	00 00 26.4	+0.1
ARG				S	Sn	00 00 42.5	-0.9
IDI	**Anoyia**	**1.77**	**273**	P	Pn	00 00 32.4	+0.1
IDI				S	Sn	00 00 53.2	-0.8

ISK 02 00:00:27.3, 36°.36N×28°.46E, h22km, ML1.3/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.45**	**337**	Pg	Pn	00 00 37.9	-0.6
TURN				Sg	Sb	00 00 44.2	+1.3
FETY	**Fethiye**	**0.57**	**61**	Pg	Pb	00 00 39.0	+0.3
FETY				Sg	Sn	00 00 48.1	-0.8
DAT	**Datca**	**0.80**	**298**	Pg	Pn	00 00 43.5	+0.1
DAT				Sg	Sn	00 00 55.5	+0.7
CAME	**Cameli-Denizli**	**0.89**	**49**	Pg	Pn	00 00 44.9	+0.2
CAME				Sg	Sn	00 00 57.9	+0.9
AKAS	**Kas**	**0.93**	**97**	Pg	Pn	00 00 45.4	+0.2
BODT	**Bodrum**	**1.16**	**308**	Pn	Pb	00 00 48.8	+0.1

*ATH **02** 00:09:29.6, 37°.42N×20°.52E, h11km±1km, ML3.1/17, Error ellipse: s-maj=2.0km s-min=1.0km az=45.0*
*THE **02** 00:09:31.7, 37°.51N×20°.54E, h17km, ML3.3/6, Error ellipse: s-maj=1.5km s-min=0.7km az=59.0*
*IDC **02** 00:09:31.9±18.0, 37°.88N×21°.03E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=345.9km s-min=43.2km az=38.0*

ISC 02 00:09:28.6±1.6, 37°.52N±0°.04×20°.53E±0°.05, h5km±10km, n35, σ1°.89/57, mb3.8/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.27**	**58**	P	**Pn**	**00 09 37.4**	**-1.9**
KRI1				S	**Sb**	**00 09 42.2**	**+1.3**
	20μm,0.4s						
LTHK	**Lithakia**	**0.31**	**52**	P	**Pn**	**00 09 38.1**	**-1.7**
LTHK				S	**Sb**	**00 09 43.1**	**+1.1**
	16μm,0.4s						
LTHK	**Lithakia**	**0.31**	**52**	P	**Pb**	**00 09 37.8**	**+1.2**
LTHK				S	**Sb**	**00 09 42.4**	**+0.4**
LTHK				AML	AML	00 09 43.5	
	comp=E,34172μm,0.4s						
LTHK				AML	AML	00 09 43.6	
	comp=N,42996μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.59**	**19**	P	**Pn**	**00 09 43.0**	**-0.6**
RTZL				S	**Sn**	**00 09 51.8**	**-1.8**
PSDA	**Pessada-Kefalo**	**0.59**	**4**	P	**Pn**	**00 09 43.3**	**-0.4**
PSDA				S	**Sn**	**00 09 52.7**	**-1.1**
	comp=N,2μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.59**	**4**	P	**Pn**	**00 09 43.1**	**-0.6**
PSDA				S	**Sn**	**00 09 52.4**	**-1.3**
VLS	**Valsamata**	**0.66**	**4**	P	**Pn**	**00 09 44.3**	**-0.3**
VLS				S	**Sn**	**00 09 54.4**	**-1.0**
	comp=N,1μm,0.3s						
VLS	**Valsamata**	**0.66**	**4**	P	**Pn**	**00 09 43.8**	**-0.8**
VLS				S	**Sn**	**00 09 53.5**	**-1.9**
VLS				AML	AML	00 09 59.2	
	comp=E,2136μm,0.3s						
VLS				AML	AML	00 10 00.3	
	comp=N,2569μm,0.4s						
LXR1	**Lixouri, Cepha**	**0.68**	**354**	P	**Pn**	**00 09 44.9**	**0.0**
LXR1				S	**Sn**	**00 09 55.9**	**0.0**
	comp=N,5μm,0.4s						
DMLN	**Damoulianata-K**	**0.73**	**350**	P	**Pn**	**00 09 45.0**	**-0.6**
DMLN				S	**Sn**	**00 09 56.3**	**-0.8**
	comp=N,3μm,0.5s						
DMLN	**Damoulianata-K**	**0.73**	**350**	P	**Pn**	**00 09 45.0**	**-0.6**
DMLN				S	**Sn**	**00 09 56.0**	**-1.0**
RLS	**Riolos of Patr**	**0.92**	**54**	P	**Pn**	**00 09 48.7**	**+0.5**
RLS				S	**Sn**	**00 10 01.3**	**-0.5**
RLS	**Riolos of Patr**	**0.92**	**54**	P	**Pn**	**00 09 48.4**	**+0.2**
RLS				S	**Sn**	**00 10 01.2**	**-0.5**
RLS				AML	AML	00 10 10.0	
	comp=N,1487μm,0.5s						
RLS				AML	AML	00 10 14.1	
	comp=E,1505μm,0.7s						
FSK	**Fiskardo**	**0.94**	**2**	P	**Pn**	**00 09 48.7**	**+0.2**
FSK				S	**Sn**	**00 10 03.5**	**+1.2**
FSK				AML	AML	00 10 08.9	
	comp=E,1950μm,0.6s						
FSK				AML	AML	00 10 12.7	
	comp=N,1952μm,0.8s						
AMT	**Artemida-Makis**	**0.94**	**89**	P	**Pb**	**00 09 47.6**	**+0.2**
AMT				S	**Sg**	**00 09 59.9**	**+1.1**
AMT				AML	AML	00 10 09.0	
	comp=N,6692μm,0.6s						
AMT				AML	AML	00 10 09.4	
	comp=E,5633μm,0.4s						
DRO	**Drossia**	**1.03**	**65**	P	**Pb**	**00 09 48.9**	**-0.1**
DRO				S	**Sn**	**00 10 04.3**	**-0.3**
DRO				AML	AML	00 10 15.8	
	comp=N,2760μm,0.6s						
DRO				AML	AML	00 10 17.4	
	comp=E,2223μm,0.4s						
EVGI	**Lefkada island**	**1.10**	**5**	P	**Pn**	**00 09 51.8**	**+1.1**
PYL	**PYLOS**	**1.15**	**122**	P	**Pn**	**00 09 52.5**	**+1.1**
PYL	**PYLOS**	**1.15**	**122**	P	**Pg**	**00 09 50.4**	**-0.3**
PYL				S	**Sg**	**00 10 05.1**	**-0.5**
PYL				AML	AML	00 10 10.8	
	comp=E,1406μm,0.5s						
PYL				AML	AML	00 10 14.4	
	comp=N,802μm,0.4s						
ITM	**Ithomi**	**1.17**	**107**	P	**Pg**	**00 09 50.6**	**-0.4**
ITM				S	**Sg**	**00 10 05.2**	**-0.9**
ITM				AML	AML	00 10 15.4	
	comp=E,1175μm,0.8s						
ITM				AML	AML	00 10 15.8	
	comp=N,1147μm,0.6s						
LKD2	**Lefkada island**	**1.27**	**5**	P	**Pn**	**00 09 54.0**	**+0.9**
LKD2				S	**Sn**	**00 10 11.7**	**+1.2**
LKD2				AML	AML	00 10 18.8	
	comp=E,2100μm,0.5s						
LKD2				AML	AML	00 10 23.1	
	comp=N,1736μm,0.5s						
TSLK	**Tsoukalades, L**	**1.31**	**4**	P	**Pg**	**00 09 54.1**	**+0.5**
TSLK				S	**Sn**	**00 10 13.1**	**+1.8**
TSLK				AML	AML	00 10 19.5	
	comp=E,1517μm,0.7s						
TSLK				AML	AML	00 10 23.1	
	comp=N,2041μm,0.5s						
KLV	**Kalavryta, Ach**	**1.39**	**67**	P	**Pn**	**00 09 54.5**	**-0.2**
EFP	**Efpalio**	**1.42**	**50**	P	**Pg**	**00 09 55.7**	**0.0**
EFP				AML	AML	00 10 24.8	
	comp=N,1078μm,0.4s						
EFP				AML	AML	00 10 30.6	
	comp=E,926μm,0.7s						
GUR	**Goura**	**1.50**	**73**	P	**Pn**	**00 09 56.0**	**-0.2**
GUR				S	**Sb**	**00 10 16.6**	**+0.2**
GUR				AML	AML	00 10 28.8	
	comp=E,996μm,0.5s						
GUR				AML	AML	00 10 29.4	
	comp=N,1095μm,0.5s						
ANX	**Ano Chora**	**1.54**	**45**	P	**Pn**	**00 09 56.8**	**+0.1**
ANX				S	**Sg**	**00 10 18.1**	**+0.1**
ANX				AML	AML	00 10 28.4	
	comp=N,1656μm,0.6s						
ANX				AML	AML	00 10 29.6	
	comp=E,2074μm,0.5s						
KALE	**Kalithea**	**1.54**	**55**	P	**Pn**	**00 09 56.9**	**+0.1**
KALE				AML	AML	00 10 31.5	
	comp=N,1200μm,0.4s						
KALE				AML	AML	00 10 33.7	
	comp=E,1291μm,0.6s						
EVR	**Evrytania**	**1.72**	**36**	P	**Pb**	**00 09 59.8**	**-0.9**
EVR				AML	AML	00 10 37.9	
	comp=E,648μm,0.9s						
EVR				AML	AML	00 10 45.3	
	comp=N,412μm,1.0s						
IGT	**Igoumenitsa**	**2.02**	**356**	P	**Pb**	**00 10 04.7**	**-1.0**
IGT				AML	AML	00 10 42.8	
	comp=E,607μm,0.5s						
IGT				AML	AML	00 10 46.7	
	comp=N,307μm,0.4s						
VLI	**Veliai**	**2.09**	**112**	P	**Pn**	**00 10 04.2**	**0.0**
VLI				AML	AML	00 10 58.8	
	comp=N,243μm,0.8s						
VLI				AML	AML	00 11 10.1	
	comp=E,314μm,0.9s						
HFS	**Hagfors**	**23.05**	**351**	P	**P**	**00 14 35.5**	**+1.0**
	comp=E,4.7nm,1.0s,baz=156,slow=11,SNR=4.4						
	comp=E,4.7nm,1.0s						
FINES	**FINESS Array B**	**24.20**	**7**	P	**P**	**00 14 46.0**	**+0.2**
	comp=E,1.3nm,0.6s,baz=171,slow=9.6,SNR=11						
	comp=E,1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**42.62**	**53**	P	**P**	**00 17 24.7**	**-0.9**
	comp=E,0.3nm,0.3s,baz=276,slow=8.3,SNR=1.0						
	comp=E,0.3nm,0.3s						
MKAR	**Makanchi Array**	**45.64**	**58**	P	**P**	**00 17 49.8**	**-0.2**
	comp=E,0.4nm,0.7s,baz=273,slow=8.7,SNR=2.4						
	comp=E,0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**46.13**	**48**	P	**P**	**00 17 53.9**	**+0.2**
	comp=E,0.5nm,0.4s,baz=276,slow=8.8,SNR=3.5						
	comp=E,0.5nm,0.4s						

*IDC **02** 00:28:39.2±0.9, 37°.40N×20°.76E, h0km, mb3.7/11, mbtmp3.6/17, ML3.2/3, Error ellipse: s-maj=19.9km s-min=13.8km az=164.0*
*ATH **02** 00:28:41.8, 37°.32N×20°.55E, h10km±1km, ML3.6/17, Error ellipse: s-maj=2.2km s-min=1.1km az=43.0*
*THE **02** 00:28:42.6, 37°.33N×20°.58E, h11km±2km, ML3.7/7, Error ellipse: s-maj=3.2km s-min=1.2km az=317.0*

ISC 02 00:28:42.3±1.2, 37°.35N±0°.04×20°.67E±0°.03, h17km±8km, n48, σ1°.41/70, mb3.7/11, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.34**	**20**	P	**Pb**	**00 28 50.0**	**+0.2**
KRI1				S	**Sb**	**00 28 56.1**	**+1.2**
	21μm,0.4s						
LTHK	**Lithakia**	**0.39**	**20**	P	**Pb**	**00 28 50.7**	**0.0**
LTHK				S	**Sb**	**00 28 57.4**	**+1.1**
	15μm,0.4s						
LTHK	**Lithakia**	**0.39**	**20**	P	**Pg**	**00 28 50.4**	**+0.2**
LTHK				S	**Sg**	**00 28 56.2**	**+0.5**
LTHK				AML	AML	00 28 57.6	
	comp=E,20488μm,0.3s						
LTHK				AML	AML	00 28 57.7	
	comp=N,38747μm,0.6s						
RTZL	**Ratzakli, Kefa**	**0.73**	**6**	P	**Pb**	**00 28 56.9**	**+0.3**
RTZL				S	**Sg**	**00 29 07.2**	**+0.8**
PSDA	**Pessada-Kefalo**	**0.77**	**355**	P	**Pb**	**00 28 57.8**	**+0.6**
PSDA				S	**Sb**	**00 29 09.4**	**+2.0**
	comp=N,6μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.77**	**355**	P	**Pg**	**00 28 56.9**	**-0.4**
PSDA				S	**Sg**	**00 29 07.1**	**-0.5**
VLS	**Valsamata**	**0.83**	**356**	P	**Pn**	**00 28 58.9**	**-0.4**
VLS				S	**Sb**	**00 29 10.5**	**+1.3**
	comp=N,3μm,0.4s						
VLS	**Valsamata**	**0.83**	**356**	P	**Pg**	**00 28 57.8**	**-0.7**
VLS				S	**Sb**	**00 29 10.5**	**+1.3**
VLS				AML	AML	00 29 14.1	
	comp=E,6585μm,0.3s						
VLS				AML	AML	00 29 18.5	
	comp=N,6981μm,0.5s						
AMT	**Artemida-Makis**	**0.85**	**77**	P	**Pn**	**00 28 59.9**	**+0.5**
AMT				S	**Sn**	**00 29 12.1**	**+0.6**
AMT				AML	AML	00 29 17.2	
	comp=E,22552μm,0.4s						
AMT				AML	AML	00 29 18.9	
	comp=N,26238μm,0.7s						
LXR1	**Lixouri, Cepha**	**0.87**	**348**	P	**Pb**	**00 28 58.9**	**-0.1**
LXR1				S	**Sn**	**00 29 12.6**	**+0.5**
	comp=N,12μm,0.6s						
DMLN	**Damoulianata-K**	**0.92**	**345**	P	**Pn**	**00 29 00.3**	**-0.2**
DMLN				S	**Sb**	**00 29 12.9**	**+1.1**
	comp=N,8μm,0.7s						
DMLN	**Damoulianata-K**	**0.92**	**345**	P	**Pg**	**00 28 59.0**	**-1.2**
DMLN				S	**Sb**	**00 29 12.6**	**+0.8**
RLS	**Riolos of Patr**	**0.95**	**41**	P	**Pg**	**00 29 01.0**	**+0.2**
RLS				S	**Sn**	**00 29 17.0**	**+3.0**
	comp=N,2μm,0.6s						
RLS	**Riolos of Patr**	**0.95**	**41**	P	**Pg**	**00 29 01.0**	**+0.2**
RLS				S	**Sn**	**00 29 16.0**	**+2.0**
RLS				AML	AML	00 29 20.1	
	comp=N,5311μm,0.7s						
RLS				AML	AML	00 29 20.5	
	comp=E,3846μm,0.6s						
PYL	**PYLOS**	**0.97**	**117**	P	**Pn**	**00 29 01.0**	**-0.1**
PYL				AML	AML	00 29 19.1	
	comp=N,1818μm,0.4s						
PYL				AML	AML	00 29 20.1	
	comp=E,2809μm,0.5s						
ITM	**Ithomi**	**1.01**	**99**	P	**Pn**	**00 29 02.5**	**+0.7**
ITM	**Ithomi**	**1.01**	**99**	P	**Pn**	**00 29 02.4**	**+0.6**
ITM				S	**Sn**	**00 29 18.1**	**+2.5**
ITM				AML	AML	00 29 21.1	
	comp=N,3787μm,0.4s						
ITM				AML	AML	00 29 26.1	
	comp=E,2982μm,0.4s						
DRO	**Drossia**	**1.02**	**53**	P	**Pb**	**00 29 02.2**	**+0.6**
DRO				AML	AML	00 29 22.8	
	comp=N,9113μm,0.5s						
DRO				AML	AML	00 29 33.8	
	comp=E,7640μm,0.7s						
FSK	**Fiskardo**	**1.11**	**356**	P	**Pb**	**00 29 03.2**	**+0.1**
FSK				S	**Sb**	**00 29 17.6**	**+0.2**
FSK				AML	AML	00 29 27.9	
	comp=N,5633μm,1.0s						
FSK				AML	AML	00 29 28.7	
	comp=E,6253μm,0.9s						
KLV	**Kalavryta, Ach**	**1.36**	**59**	P	**Pb**	**00 29 07.7**	**+0.3**
KLV				AML	AML	00 29 39.4	
	comp=E,1576μm,1.1s						
KLV				AML	AML	00 29 41.8	
	comp=N,1935μm,0.8s						
LKD2	**Lefkada island**	**1.44**	**360**	P	**Pn**	**00 29 07.2**	**-0.4**
LKD2				AML	AML	00 29 41.4	
	comp=N,3088μm,0.6s						
LKD2				AML	AML	00 29 42.8	
	comp=E,3074μm,0.6s						
GUR	**Goura**	**1.45**	**66**	P	**Pb**	**00 29 08.9**	**0.0**
GUR				AML	AML	00 29 41.7	
	comp=N,3186μm,0.6s						
GUR				AML	AML	00 29 42.0	
	comp=E,2422μm,0.6s						
EFP	**Efpalio**	**1.46**	**42**	P	**Pn**	**00 29 08.6**	**+0.9**
EFP				S	**Sn**	**00 29 28.6**	**+2.2**
EFP				AML	AML	00 29 41.7	
	comp=N,2394μm,0.7s						
EFP				AML	AML	00 29 48.9	
	comp=E,1583μm,0.7s						
TSLK	**Tsoukalades, L**	**1.48**	**359**	P	**Pn**	**00 29 08.6**	**+0.5**
TSLK				AML	AML	00 29 38.2	
	comp=E,3865μm,0.6s						
TSLK				AML	AML	00 29 40.5	
	comp=N,6755μm,0.7s						
KALE	**Kalithea**	**1.56**	**48**	P	**Pn**	**00 29 09.4**	**+0.1**
KALE				AML	AML	00 29 44.3	
	comp=N,1964μm,0.6s						
KALE				AML	AML	00 29 46.9	
	comp=E,1988μm,0.6s						
ANX	**Ano Chora**	**1.59**	**38**	P	**Pn**	**00 29 10.4**	**+0.7**
ANX				S	**Sn**	**00 29 31.4**	**+1.5**
ANX				AML	AML	00 29 43.5	
	comp=N,3155μm,0.6s						
ANX				AML	AML	00 29 45.5	
	comp=E,4030μm,0.6s						
EVR	**Evrytania**	**1.81**	**29**	P	**Pn**	**00 29 13.6**	**+0.9**
EVR				S	**Sn**	**00 29 35.9**	**+0.6**
EVR				AML	AML	00 29 51.0	
	comp=E,1906μm,0.8s						
EVR				AML	AML	00 29 58.1	
	comp=N,2391μm,0.8s						
OHR	**Ohrid**	**3.76**	**1**	*e*Pn	**Pb**	**00 29 46.4**	**-1.8**
IDI	**Anoyia**	**3.98**	**120**	Pn	**Pn**	**00 29 43.0**	**+0.5**
	comp=N,2.2nm,0.3s,baz=123,slow=24,SNR=2.1						
IDI				Sn	**Sn**	**00 30 29.3**	**+0.5**
	comp=N,1.2nm,0.3s,baz=150,slow=23,SNR=2.4						
VAE	**Valguarnera**	**4.99**	**273**	Pn	**Pn**	**00 29 59.0**	**+2.6**
	comp=N,12nm,0.5s,baz=170,slow=23,SNR=4.4						
VAE				Sn	**Sn**	**00 30 57.3**	**+3.7**
	comp=N,5.0nm,0.3s,baz=292,slow=2.9,SNR=2.3						
MLR	**Muntele Rosu**	**9.05**	**24**	Pn	**Pn**	**00 30 52.7**	**+0.5**
	comp=N,0.6nm,0.4s,baz=235,slow=16						
KEST	**Kesra**	**9.26**	**263**	Pn	**Pn**	**00 30 55.6**	**+0.6**
	comp=N,0.3nm,0.3s,baz=82,slow=23,SNR=2.6						
KEST				Sn	**Sn**	**00 32 41.2**	**+2.4**
	comp=N,0.1nm,0.3s,baz=203,slow=23,SNR=2.0						
	comp=N,3.3nm,0.6s						
SOKA	**Soboth**	**10.22**	**338**	*e*Pn	**Pn**	**00 31 12.5**	**+4.2**
	comp=N,1.3nm,0.4s						
MOA	**Molln**	**11.50**	**338**	*e*Pn	**Pn**	**00 31 28.5**	**+2.8**
	comp=N,0.9nm,0.4s						
MMAI	**Mount Meron Ar**	**12.80**	**105**	Pn	**Pn**	**00 31 41.0**	**-2.5**
	comp=N,0.2nm,0.3s,baz=294,slow=14,SNR=1.5						
	comp=N,0.2nm,0.3s						
KHC	**Kasperske Hory**	**12.86**	**339**	*e*P	**P**	**00 31 53.0**	**-2.0**
ESDC	**Sonseca Array**	**19.41**	**284**	P	**Pn**	**00 33 07.2**	**-1.5**
	baz=82,slow=11,SNR=5.6						
	comp=N,0.8nm,0.8s						
MDT	**Midelt**	**21.15**	**265**	P	**P**	**00 33 26.8**	**+0.2**
	comp=N,2.1nm,0.8s,baz=49,slow=9.9,SNR=2.6						
	comp=N,2.1nm,0.8s						
HFS	**Hagfors**	**23.24**	**351**	P	**P**	**00 33 47.5**	**-0.8**
	comp=N,3.4nm,0.9s,baz=160,slow=9.2,SNR=2.4						
	comp=N,3.4nm,0.9s						
EKA	**Eskdalemuir Ar**	**24.18**	**326**	P	**P**	**00 33 56.6**	**-0.9**
	comp=N,2.1nm,0.8s,baz=124,slow=8.8,SNR=1.8						
	comp=N,2.1nm,0.8s						
FINES	**FINESS Array B**	**24.36**	**6**	P	**P**	**00 33 58.1**	**-0.9**
	comp=N,2.5nm,1.1s,baz=178,slow=11,SNR=4.3						
	comp=N,2.5nm,1.1s						
NOA	**NORSAR Array B**	**24.45**	**349**	P	**P**	**00 33 58.7**	**-1.3**
	comp=N,0.5nm,0.7s,baz=151,slow=10.0,SNR=1.7						
	comp=N,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.47**	**220**	P	**P**	**00 34 45.4**	**0.0**
	comp=N,0.3nm,0.7s,baz=28,slow=9.7,SNR=6.2						
	comp=N,0.3nm,0.7s						
ARCES	**ARCESS Array B**	**32.35**	**3**	P	**P**	**00 35 09.7**	**-0.7**
	comp=N,1.4nm,0.9s,baz=188,slow=12,SNR=1.7						

comp=E,3μm,0.2s
CO01 Juntos del Tor 1.29 69⇓ iP Pg 00 58 33.6 +0.1
CO01 i S Sb 00 58 49.8 +0.4
LCO Las Campanas 1.59 25⇑ iP Pn 00 58 36.3 -0.4
LCO i S Sn 00 58 58.0 +0.7
CO04 Los Peladeros 1.64 165 eP Pn 00 58 37.1 -0.3
CO04 eS Sb 00 58 59.6 0.0
CO04 IAML 00 59 03.5
comp=N,2μm,0.4s
AROD Rodeo 1.76 81 eP Pg 00 58 42.3 -0.2
AC05 El Transito 1.93 33⇑ iP Pn 00 58 42.0 +0.8
AC05 i S Sb 00 59 07.4 -0.3
AC05 IAML 00 59 13.2
comp=N,534nm,0.5s
ACDV Cuesta del Vie 2.06 83 eP Pg 00 58 47.4 -0.8
ACDV IAML 00 59 22.7
comp=Z,148nm,0.3s
ACCO Cerro Coronel 2.09 94 eP Pg 00 58 47.9 -0.8
AC04 Llanos de Chal 2.27 9 eP Pn 00 58 43.8 -2.1
RTLS Leoncito 2.30 126 eP Pb 00 58 50.2 0.0
RTLS IAML 00 59 26.7
comp=Z,452nm,0.9s
VA03 San Esteban 2.43 161 eP Pn 00 58 49.1 +0.9
VA03 IAML 00 59 27.9
comp=N,829nm,0.5s
VA03 San Esteban 2.43 161 eP Pn 00 58 49.1 +0.9
VA03 IAML 00 59 33.2
comp=Z,411nm,0.9s
AUSP Uspallata 2.51 135 eP Pb 00 58 52.8 -0.9
ROCH El Roble 2.54 171 eS Sn 00 59 20.5 -0.2
ROCH IAML 00 59 32.1
comp=N,270nm,0.4s
ROC1 El Roble 2.54 171 eP Pn 00 58 48.9 -0.9
ROC1 eS Sn 00 59 22.8 +2.0
ZON Zonda 2.64 115 eP Pb 00 58 55.0 -0.8
ZON IAML 00 59 43.4
comp=Z,103nm,0.5s
RTLL Cerro Villicun 2.73 109 eP Pb 00 58 55.6 -1.6
PEL Peldehue 2.76 166 eP Pn 00 58 52.5 -0.1
PEL eS Sn 00 59 26.2 +0.3
PEL IAML 00 59 42.3
comp=E,246nm,0.4s
PEL Peldehue 2.76 166 eP Pn 00 58 52.3 -0.4
PEL eS Sb 00 59 29.7 -2.0
MT10 Hacienda Santa 2.92 164 eP Pn 00 58 54.9 0.0
MT10 eS Sn 00 59 30.9 +1.0
MT05 Renca 2.99 168 eS Sn 00 59 31.4 -0.3
MT05 IAML 00 59 46.6
comp=E,537nm,0.3s
FCH Farellones 3.04 161 eS Sn 00 59 35.0 +2.0
FCH IAML 00 59 45.7
comp=E,141nm,0.6s
MT14 Cerro Calı̨n 3.04 165 eS Sn 00 59 33.6 +0.8
MT14 IAML 00 59 50.2
comp=E,551nm,0.4s
GO03 Copiapo 3.05 21 eS Sn 00 59 34.0 +0.9
GO03 IAML 00 59 49.9
comp=E,211nm,0.5s
GO03 Copiapo 3.05 21 eP Pn 00 58 55.5 -1.2
MT16 CCHEN 3.07 165 eS Sn 00 59 33.2 -0.3
MT16 IAML 00 59 51.0
comp=N,191nm,0.4s
ASAL Salagasta 3.10 134 eP Pb 00 59 01.4 -2.4
ASAL eS Sb 00 59 43.6 +2.1
ASAL IAML 01 00 03.1
comp=Z,104nm,0.9s
MT04 Ro Olivares 3.15 159⇑ eP Pn 00 58 60.0 +1.8
MT04 eS Sn 00 59 37.0 +1.2
MT04 IAML 00 59 52.8
comp=E,245nm,0.7s
AC06 Mina Casimiro 3.24 18 IAML 01 00 00.1
comp=E,144nm,0.7s
VCA Vinchina 3.33 60 eP Pb 00 59 05.3 -2.3
VCA eS Sb 00 59 48.5 +0.5
VCA IAML 01 00 02.8
comp=Z,229nm,0.4s
MT09 Talagante 3.34 173 eP Pn 00 58 59.9 -0.8
MT09 IAML 00 59 52.8
comp=E,227nm,0.4s
FSA Cafayete 6.50 50 eP Pn 00 59 46.7 +2.6

*IDC **02** 01:02:32.8±3.0, 32°.79N×47°.53E, h0km, mb3.8/8, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=58.5km s-min=25.3km az=22.0*
*TEH **02** 01:02:33.6, 32°.75N×47°.63E, h12km±20km, ML3.5*
ISC 02 01:02:35.5±0.8, 32°.76N±0°.05×47°.61E±0°.05, h15km, n48, σ1§47/48, mb3.7/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.79**	**14**	Pg	**Pb**	**01 02 49.7**	**-1.2**
IDOB	**Doab**	**1.13**	**25**	Pg	**Pn**	**01 02 56.8**	**-0.1**
BMDN	**Meydan**	**1.36**	**48**	Pg	**Pn**	**01 02 59.9**	**-0.3**
ILBA	**Ilam Banvizeh**	**1.46**	**306**	Pg	**Pn**	**01 03 01.9**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.58**	**343**	Pg	**Pn**	**01 03 05.1**	**+1.9**
HSAM	**Samen**	**1.67**	**29**	Pg	**Pn**	**01 03 06.6**	**+2.2**
AHWZ	**Ahwaz**	**1.68**	**148**	Pg	**Pb**	**01 03 06.3**	**+0.2**
IBZA	**Bozab**	**1.71**	**7**	Pg	**Pn**	**01 03 07.7**	**+2.5**
IGHG	**Ghaleghazi**	**1.79**	**331**	Pn	**Pn**	**01 03 07.6**	**+1.5**
GLG1	**Gilan-e-Gharb**	**1.96**	**314**	Pn	**Pn**	**01 03 09.6**	**+1.3**
SNQR	**Sonqor, Kerman**	**2.09**	**0**	Pn	**Pn**	**01 03 12.0**	**+1.7**
IDHR	**Dehrash**	**2.19**	**332**	Pn	**Pn**	**01 03 13.1**	**+1.5**
ILIN	**Lien**	**2.22**	**346**	Pn	**Pn**	**01 03 13.7**	**+1.7**
KGS1	**Ghasr-e-Shirin**	**2.42**	**316**	Pn	**Pn**	**01 03 16.3**	**+1.7**
JHBN	**Jahan bin**	**2.63**	**101**	Pn	**Pn**	**01 03 19.0**	**+1.2**
IPIR	**Pirpir**	**2.76**	**91**	Pn	**Pn**	**01 03 21.2**	**+1.7**
ZNGN	**Zangian**	**2.81**	**102**	Pn	**Pn**	**01 03 21.3**	**+1.0**
IBRJ	**Brojen**	**3.20**	**104**	Pn	**Pn**	**01 03 26.4**	**+0.9**
QAMS	**Qamsar**	**3.31**	**72**	Pn	**Pn**	**01 03 28.8**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.36**	**28**	Pn	**Pn**	**01 03 29.1**	**+1.4**
IKLH	**Kolahrood**	**3.38**	**79**	Pn	**Pn**	**01 03 29.2**	**+1.2**
IQOM	**Qom**	**3.55**	**53**	Pn	**Pn**	**01 03 31.9**	**+1.6**
IGAR	**Gharneh**	**3.75**	**94**	Pn	**Pn**	**01 03 33.9**	**+0.7**
SDS1	**Sardasht. Az.**	**3.81**	**333**	Pn	**Pn**	**01 03 35.9**	**+2.1**
KLNJ	**Kolanjah**	**3.81**	**116**	Pn	**Pn**	**01 03 34.9**	**+0.9**
KRSH	**Karshahi**	**3.97**	**71**	Pn	**Pn**	**01 03 37.7**	**+1.7**
IZEF	**Zefreh**	**3.97**	**87**	Pn	**Pn**	**01 03 37.7**	**+1.6**
IVRN	**Varamin**	**4.08**	**56**	Pn	**Pn**	**01 03 39.3**	**+1.9**
IRAM	**Ramesheh**	**4.15**	**102**	Pn	**Pn**	**01 03 39.3**	**+0.7**
ISFB	**Sefidab**	**4.18**	**66**	Pn	**Pn**	**01 03 40.2**	**+1.4**
IGZV	**Ghazvin**	**4.21**	**30**	Pn	**Pn**	**01 03 40.9**	**+1.6**
IDMV	**Damavand**	**4.62**	**51**	Pn	**Pn**	**01 03 46.5**	**+1.5**
KLST	**Kelardasht - M**	**4.70**	**36**	Pn	**Pn**	**01 03 47.8**	**+1.6**
ISRB	**Sarab**	**5.05**	**0**	Pn	**Pn**	**01 03 53.1**	**+2.2**
IAZR	**Azarshahr**	**5.08**	**345**	Pn	**Pn**	**01 03 53.4**	**+2.0**
IPRN	**Peran**	**5.22**	**47**	Pn	**Pn**	**01 03 55.0**	**+1.8**
DSBU	**Dashti - Bushe**	**5.40**	**143**	Pn	**Pn**	**01 03 56.5**	**+1.0**
IHRS	**Heris**	**5.56**	**355**	Pn	**Pn**	**01 04 00.0**	**+2.1**
GAS1	**Astara - Iran**	**5.70**	**10**	Pn	**Pn**	**01 04 01.6**	**+2.0**
WSAR	**Wadi Sarin**	**13.58**	**132**	Pn	**Pn**	**01 05 47.6**	**-0.1**
	0.6nm,0.3s,baz=310,slow=8.5,SNR=7.0						
	4.1nm,0.9s						
AKASG	**Malin Array Be**	**22.47**	**328**	P	**P**	**01 07 33.1**	**-0.9**
	0.2nm,0.3s,baz=136,slow=11,SNR=2.3						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**26.04**	**32**	P	**P**	**01 08 07.5**	**-0.5**
	1.2nm,0.5s,baz=221,slow=8.8,SNR=8.5						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**28.88**	**43**	P	**P**	**01 08 33.4**	**-0.1**
	0.8nm,0.7s,baz=247,slow=9.3,SNR=7.1						
	0.8nm,0.7s						
MKAR	**Makanchi Array**	**29.84**	**52**	P	**P**	**01 08 42.5**	**+0.4**
	0.5nm,0.5s,baz=249,slow=10.0,SNR=5.5						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**31.91**	**341**	P	**P**	**01 08 59.3**	**-0.7**
	1.6nm,0.8s,baz=161,slow=10,SNR=3.9						
	1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**33.79**	**40**	P	**P**	**01 09 16.2**	**-0.4**
	0.5nm,0.3s,baz=252,slow=8.7,SNR=4.3						
	0.5nm,0.3s						
HFS	**Hagfors**	**35.29**	**331**	P	**P**	**01 09 28.6**	**-1.0**
	1.9nm,0.6s,baz=120,slow=8.9,SNR=12						
	1.9nm,0.6s						
ARCES	**ARCESS Array B**	**38.86**	**348**	P	**P**	**01 09 58.5**	**-1.2**
	1.3nm,0.8s,baz=171,slow=7.9,SNR=2.0						
	1.3nm,0.8s						

*IDC **02** 01:07:18.9±1.4, 7°.38S×123°.67E, h0km, mb3.7/2, mbtmp3.5/5, ML3.3/3, Error ellipse: s-maj=121.4km s-min=23.7km az=64.0*
ISC 02 01:07:37.6±1.3, 8°.6S±0°.2×123°.1E±0°.3, h200km, n6, σ3§12/10, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**1.67**	**160**	Pn	**Pn**	**01 08 11.2**	**-1.7**
	33nm,0.3s,baz=7.6,slow=3.4,SNR=12						
BATI				Sn	**Sn**	**01 08 37.1**	**-3.3**
	20nm,0.3s,baz=210,slow=13,SNR=6.6						
FITZ	**Fitzroy Crossi**	**9.73**	**165**	Pn	**Pn**	**01 09 53.7**	**+0.3**
	0.2nm,0.3s,baz=356,slow=10,SNR=7.4						
FITZ				Sn	**Sn**	**01 11 41.2**	**-1.1**
	0.6nm,0.3s,baz=190,slow=7.7,SNR=7.9						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**15.66**	**137**	Pn	**Pn**	**01 11 10.1**	**+2.1**
	0.1nm,0.3s,baz=318,slow=13,SNR=3.9						
WRA				Sn	**S**	**01 13 58.2**	**-3.5**
	0.3nm,0.3s,baz=321,slow=25,SNR=7.2						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**18.20**	**147**	P	**Pn**	**01 11 42.2**	**+4.2**
	0.1nm,0.3s,baz=323,slow=12,SNR=4.1						
ASAR				S	**S**	**01 14 57.7**	**+4.2**
	0.4nm,0.6s,baz=316,slow=20,SNR=2.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**66.04**	**331**	P	**P**	**01 18 02.5**	**-0.3**
	0.6nm,0.6s,baz=134,slow=7.9,SNR=6.8						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**70.49**	**332**	P	**P**	**01 18 30.1**	**-0.3**
	0.4nm,0.6s,baz=144,slow=5.5,SNR=5.1						
	0.4nm,0.6s						

*NEIC **02** 01:18:09.8±1.0, 35°.22N±0°.01×97°.73W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=316.0*
NEIC 02 01:18:10.0±1.1, 35°.23N±0°.01×97°.74W±0°.02, h8km±3km, ML1.8/29, ML1.8/10, Error ellipse: s-maj=2.4km s-min=1.6km az=132.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.28**	**84**	Pg	Pb	01 18 16.5	-0.8
BCOK	**Bluff Creek, N**	**0.44**	**14**		Pb	01 18 19.4	-0.7
BCOK					Sg	01 18 25.1	+0.6
OK029	**Liberty Lake**	**0.61**	**22**		Pb	01 18 22.7	-0.3
OK029					Sg	01 18 30.4	+0.5
OK029				IAML		01 18 33.7	
	29nm,0.6s						
OK029				IAML		01 18 35.8	
	20nm,0.7s						
X34A	**Smith Ranch, M**	**0.63**	**187**	Pg	Pg	01 18 22.4	+0.3
X34A				Sg	Sg	01 18 29.9	-0.4
X34A				IAML		01 18 32.9	
	comp=N,30nm,0.4s						
W35A	**Tecumseh**	**0.71**	**96**	Pg	Pg	01 18 23.8	0.0
W35A				Sg	Sg	01 18 32.8	-0.2
WMOK	**Wichita Mounta**	**0.98**	**241**	Pg	Pg	01 18 27.9	-1.0
WMOK				Sg	Sg	01 18 41.3	-0.3
OK031	**S. Brethren Rd**	**1.03**	**45**	Pg	Pg	01 18 27.3	-2.6
OK031				IAML		01 18 48.3	
	comp=N,38nm,0.2s						
OK052	**Battle Ridge R**	**1.08**	**45**	Pg	Pg	01 18 30.1	-0.7
OK052				Sg	Sg	01 18 44.4	-0.4
DEOK	**Depew**	**1.19**	**58**		Pg	01 18 32.6	-0.1
DEOK				IAML		01 18 51.0	
	comp=N,25nm,0.5s						
DEOK				IAML		01 18 54.0	
	comp=E,23nm,0.4s						
QUOK	**Quay**	**1.26**	**41**		Pn	01 18 33.3	-0.7
CROK	**Carrier**	**1.29**	**351**		Pn	01 18 34.4	0.0
CROK				IAML		01 18 57.0	
	comp=N,31nm,0.2s						
CROK				IAML		01 19 02.8	
	comp=E,25nm,0.3s						
OK048	**Pawnee Station**	**1.35**	**28**		Pn	01 18 33.8	-1.4

*IDC **02** 01:21:53.3±1.7, 30°.56S×178°.62W, h0km, mb4.2/2, mbtmp4.1/3, ML3.3/1, Error ellipse: s-maj=58.5km s-min=34.7km az=143.0*
*WEL **02** 01:23:40.6, 38°.3S±30°×17°.8E±1°.6, h42km±26km, M2.3/7, ML2.3/7, MLv2.3/7, Error ellipse: s-maj=45.9km s-min=23.5km az=179.1*
ISC 02 01:22:04.5±1.5, 31°.0S±0°.1×178°.7W±0°.3, h100km, n19, σ1§41/19, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**7.35**	**203**	P	**Pn**	**01 23 49.0**	**0.0**
PKGZ	**Pakihiroa**	**7.36**	**201**	P	**Pn**	**01 23 48.3**	**-0.9**
WIZ	**White Island**	**7.36**	**207**	P	**Pn**	**01 23 50.8**	**+1.7**
PUZ	**Puketiti**	**7.50**	**199**	P	**Pn**	**01 23 54.3**	**+3.3**
RUGZ	**Raukumara Rang**	**7.58**	**202**	P	**Pn**	**01 23 52.2**	**0.0**
CNGZ	**Carnagh Statio**	**7.90**	**198**	P	**Pn**	**01 23 57.3**	**+0.9**
MWZ	**Matawai**	**7.96**	**202**	P	**Pn**	**01 23 56.3**	**-1.0**
URZ	**Urewera**	**8.03**	**205**	Pn	**Pn**	**01 23 57.4**	**-0.9**
	0.4nm,0.3s,baz=46,slow=12,SNR=1.8						
URZ				Sn	**Sn**	**01 25 27.4**	**0.0**
	2.2nm,0.3s,baz=289,slow=23,SNR=7.8						
	6.3nm,0.8s						
URZ	**Urewera**	**8.03**	**205**	P	**Pn**	**01 23 57.4**	**-0.9**
WTAZ	**Waiatarua**	**8.16**	**222**	P	Pn	01 24 15.6	+16
MUGZ	**Murupara**	**8.35**	**205**	P	**Pn**	**01 24 03.4**	**+0.8**
SNGZ	**Shannon Statio**	**8.43**	**202**	P	**Pn**	**01 24 02.8**	**-0.9**
CMWZ	**Cape Campbell**	**12.16**	**206**	P	**Pn**	**01 24 51.6**	**-2.5**
ASAR	**Alice Springs**	**42.51**	**268**	P	**P**	**01 29 50.6**	**+0.5**
	1.8nm,0.7s,baz=104,slow=7.6,SNR=18						
	1.8nm,0.7s						
WRA	**Warramunga Arr**	**43.55**	**273**	P	**P**	**01 29 59.5**	**+0.8**
	1.9nm,0.5s,baz=111,slow=8.0,SNR=25						
	1.9nm,0.5s						
FINES	**FINESS Array B**	**145.51**	**339**	PKPbc	**PKiKP**	**01 41 32.1**	**-1.9**
	2.1nm,0.6s,baz=52,slow=5.0,SNR=20						
NOA	**NORSAR Array B**	**149.25**	**351**	PKPbc	**PKPbc**	**01 41 40.5**	**-0.3**
	0.7nm,0.6s,baz=17,slow=4.2,SNR=4.5						
HFS	**Hagfors**	**149.71**	**348**	PKPbc	**PKiKP**	**01 41 42.7**	**-0.2**
	1.2nm,0.8s,baz=48,slow=2.1,SNR=5.1						
MMAI	**Mount Meron Ar**	**151.11**	**283**	PKPbc	**PKiKP**	**01 41 47.9**	**+1.2**
	0.6nm,0.5s,baz=79,slow=8.9,SNR=4.5						

IDC 02 01:29:15.1±20.0, 19°.29N×145°.50E, h244km±190km, mb3.3/5, mbtmp3.9/5, MS3.2/10, Error ellipse: s-maj=81.7km s-min=33.2km az=152.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.34**	**341**	LR	LR	01 40 12.7	
	comp=Z,61nm,20.6s,baz=164,slow=36						
JNU	**Nakatsue**	**18.99**	**319**	LR	LR	01 40 27.7	
	comp=Z,62nm,18.9s,baz=118,slow=35						
H11S3	**WAKE ISLAND Hy 20.07**	**89**		T	T	01 54 00.4	
	baz=272,slow=75,SNR=151						
H11S1	**WAKE ISLAND Hy 20.08**	**89**		T	T	01 53 50.6	
	baz=272,slow=75,SNR=113						
H11S2	**WAKE ISLAND Hy 20.08**	**89**		T	T	01 54 02.1	
	baz=272,slow=75,SNR=120						
H11N1	**WAKE ISLAND Hy 20.17**	**85**		T	T	01 54 30.4	
	baz=268,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy 20.18**	**85**		T	T	01 54 29.9	
	baz=268,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy 20.19**	**85**		T	T	01 54 31.8	
	baz=268,slow=75,SNR=23						
KSRS	**Korea Array**	**23.73**	**323**	P	P	01 34 05.5	+0.3
	3.9nm,0.8s,baz=138,slow=9.4,SNR=17						
KSRS				LR	LR	01 42 27.3	
	comp=Z,56nm,21.4s,baz=150,slow=33						
	3.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**27.29**	**339**	LR	LR	01 44 17.2	
	comp=Z,75nm,21.8s,baz=182,slow=33						
KLR	**Kul'dur**	**31.85**	**343**	LR	LR	01 48 22.3	
	comp=Z,30nm,19.1s,baz=176,slow=36						
HNR	**Honiara**	**31.89**	**152**	LR	LR	01 46 13.3	
	comp=Z,89nm,22.0s,baz=118,slow=32						
MA2	**Magadan**	**40.42**	**4**	LR	LR	01 52 30.1	
	comp=Z,20nm,21.4s,baz=172,slow=34						
CMAR	**Chiang Mai Arr**	**43.96**	**277**	P	P	01 36 58.3	-0.3
	0.9nm,0.3s,baz=67,slow=5.7,SNR=5.4						
	0.9nm,0.3s						
YAK	**Yakutsk**	**44.11**	**349**	LR	LR	01 55 17.5	
	comp=Z,26nm,21.2s,baz=146,slow=35						
ASAR	**Alice Springs**	**44.17**	**195**	LR	LR	01 54 16.8	
	comp=Z,33nm,20.8s,baz=37,slow=34						
MKAR	**Makanchi Array**	**57.92**	**314**	LR	LR	02 05 38.7	
	comp=Z,25nm,18.1s,baz=33,slow=38						
KURBB	**Kurchatov Arra**	**60.76**	**318**	P	P	01 39 01.2	0.0
	0.6nm,0.6s,baz=94,slow=7.4,SNR=5.4						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**63.20**	**26**	P	P	01 39 16.9	-0.3
	0.4nm,0.7s,baz=254,slow=6.1,SNR=4.7						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**82.93**	**52**	P	P	01 41 13.4	+0.2
	1.0nm,0.9s,baz=269,slow=5.4,SNR=6.9						
	1.0nm,0.9s						

*SJA **02** 01:44:59.5±0.6, 22°.83S×70°.98W, h10km±5km, ML4.6, MW4.4*
*GUC **02** 01:45:00.5±0.6, 22°.84S×71°.04W, h18km±4km, ML4.8*
*IDC **02** 01:45:00.4±0.6, 22°.81S×70°.80W, h0km, mb4.5/10, mbtmp4.4/14, ML4.0/4, MS3.8/16, Error ellipse: s-maj=17.6km s-min=15.8km az=126.0*
*NEIC **02** 01:45:02.5±2.5, 22°.81S±0°.04×70°.92W±0°.05, h13km±3km, mb4.8/40, Mwr4.5/44, Error ellipse: s-maj=7.7km s-min=3.9km az=129.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}6.88; $M_{\theta\theta}$0.64; $M_{\phi\phi}$-7.51; $M_{r\theta}$-0.01; $M_{\theta\phi}$0.41; $M_{\phi r}$-1.83; Fault plane solution: $M_0$7.46000×10^{15} NP1:ϕ_s178.07000°, δ52.11000°, λ91.16000°. NP2:ϕ_s356.18000°, δ37.90000°, λ88.51000°. Principal axes: T 7.1064, Plg83.0000°, Azm95.0000°; N 0.6541, Plg1.0000°, Azm357.0000°; P -7.7605, Plg7.0000°, Azm267.0000°;*
*NEIC **02** 01:45:02.6, 22°.85S×70°.93W, h18km*
*VAO **02** 01:45:04.5±0.9, 22°.78S×70°.85W, h38km±6km, mb4.7*
ISC 02 01:45:01.4±1.3, 22°.82S±0°.02×70°.87W±0°.04, h10km±8km, n184, σ1§41/181, mb4.8/30, MS3.8/12, 13C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.82**	**54**		**Pn**	**01 45 18.8**	**-0.4**
PB04					**Sn**	**01 45 30.6**	**-1.0**
PB04	**IPOC Station P**	**0.82**	**54⇓**	*iP*	**Pn**	**01 45 18.8**	**-0.4**
PB04				*i* S	**Sn**	**01 45 30.6**	**-1.0**
PB04	**IPOC Station P**	**0.82**	**54**	*eP*	**Pn**	**01 45 18.1**	**-1.1**
PB04				*e*S	Sg	01 45 18.7	-9.4
PB04				IAML		01 45 32.5	
	comp=Z,14μm,0.4s						
PB06	**IPOC Station P**	**1.20**	**85**		**Pg**	**01 45 24.4**	**-0.1**
PB06					**Sg**	**01 45 41.0**	**+0.9**
PB06	**IPOC Station P**	**1.20**	**85⇓**	*iP*	**Pg**	**01 45 24.5**	**-0.1**
PB06				*i* S	**Sg**	**01 45 41.0**	**+0.9**
PB06				IAML		01 45 43.2	
	comp=E,29μm,0.2s						
PB06	**IPOC Station P**	**1.20**	**85**	*eP*	**Pg**	**01 45 24.4**	**-0.1**
PB06				*e*S	**Sg**	**01 45 42.2**	**+2.0**
PB06				IAML		01 45 43.9	
	comp=Z,15μm,0.5s						
PB15	**IPOC Station P**	**1.34**	**107**		**Pb**	**01 45 26.5**	**-0.3**
PB15	**IPOC Station P**	**1.34**	**107⇓**	*iP*	**Pb**	**01 45 26.6**	**-0.3**
PB15				*i* S	**Sg**	**01 45 45.9**	**+1.3**
PB15	**IPOC Station P**	**1.34**	**107**	*eP*	**Pg**	**01 45 27.0**	**-0.2**
PB15				*e*S	**Sg**	**01 45 46.0**	**+1.3**
PB15				IAML		01 45 47.0	
	comp=Z,36μm,0.2s						
LVC	**Limon Verde**	**1.82**	**84**	Pn	**Pb**	**01 45 34.7**	**-0.4**
LVC	**Limon Verde**	**1.82**	**84**	Pn	**Pb**	**01 45 34.3**	**-0.7**
	comp=Z,408nm,0.3s,baz=256,slow=12,SNR=707						
LVC				Sn	**Sb**	**01 45 57.3**	**-0.7**
	comp=Z,798nm,0.3s,baz=238,slow=1.8,SNR=15						
LVC	**Limon Verde**	**1.82**	**84⇑**	*iP*	**Pb**	**01 45 34.6**	**-0.4**
LVC				*e*S	**Sg**	**01 45 59.9**	**-0.1**
LVC				IAML		01 46 01.6	
	comp=Z,24μm,0.4s						
LVC	**Limon Verde**	**1.82**	**84**	*eP*	**Pb**	**01 45 34.8**	**-0.2**
LVC				*e*S	**Sg**	**01 46 01.1**	**+1.1**
LVC				IAML		01 46 02.4	
	comp=Z,3μm,0.7s						
LVC	**Limon Verde**	**1.82**	**84**	*eP*	**Pn**	**01 45 33.0**	**-0.1**
PB09	**IPOC Station P**	**1.82**	**56**		**Pb**	**01 45 34.4**	**-0.5**
PB14	**IPOC Station P**	**1.84**	**167**	Pn	**Pn**	**01 45 32.8**	**-0.7**
PB14	**IPOC Station P**	**1.84**	**167⇑**	*iP*	**Pn**	**01 45 32.8**	**-0.7**
PB14	**IPOC Station P**	**1.84**	**167**	*eP*	**Pn**	**01 45 32.5**	**-0.9**
PB14				*e*S	**Sg**	**01 46 00.7**	**0.0**
PB14				IAML		01 46 08.4	
	comp=Z,6μm,0.4s						
PATCX	**Punta Patache**	**2.10**	**19**		**Pn**	**01 45 36.8**	**0.0**
PATCX	**Punta Patache**	**2.10**	**19⇑**	*iP*	**Pn**	**01 45 36.7**	**0.0**
PATCX				*i* S	**Sg**	**01 46 10.6**	**+1.6**
PATCX				IAML		01 46 19.3	
	comp=N,4μm,0.5s						
PATCX	**Punta Patache**	**2.10**	**19**	*eP*	**Pn**	**01 45 36.9**	**+0.1**
PATCX				*e*S	**Sg**	**01 46 13.5**	**+4.5**
PATCX				IAML		01 46 15.5	
	comp=Z,3μm,0.7s						
PB01	**IPOC Station P**	**2.19**	**36**		**Pb**	**01 45 38.8**	**-2.3**
PB01	**IPOC Station P**	**2.19**	**36⇑**	*iP*	**Pb**	**01 45 38.8**	**-2.3**
PB01				*i* S	**Sb**	**01 46 08.8**	**+0.5**
PB01				IAML		01 46 18.4	
	comp=E,5μm,0.8s						
PB01	**IPOC Station P**	**2.19**	**36**	*eP*	**Pb**	**01 45 39.1**	**-2.0**
PB01				*e*S	**Sg**	**01 46 13.1**	**+1.4**
PB01				IAML		01 46 16.6	
	comp=Z,3μm,0.7s						
TA01	**Diego Aracena**	**2.34**	**16**	Pn	**Pn**	**01 45 39.8**	**-0.1**
TA01	**Diego Aracena**	**2.34**	**16**	IAML		01 46 23.1	
	comp=N,5μm,0.4s						
TA01	**Diego Aracena**	**2.34**	**16**	*eP*	**Pn**	**01 45 39.9**	**-0.1**
TA01				*e*S	**Sg**	**01 46 18.4**	**+1.9**
TA01				IAML		01 46 22.9	
	comp=Z,3μm,0.6s						
AF01	**San Pedro de A**	**2.48**	**93**		**Pb**	**01 45 46.1**	**-0.2**
AF01	**San Pedro de A**	**2.48**	**93⇑**	*iP*	**Pb**	**01 45 46.2**	**-0.2**
AF01				*i* S	**Sg**	**01 46 21.3**	**+0.1**
GO02	**Mina Guanaco**	**2.60**	**154**	Pn	**Pn**	**01 45 45.0**	**+1.1**
GO02	**Mina Guanaco**	**2.60**	**154⇑**	*iP*	**Pn**	**01 45 45.0**	**+1.1**
GO02	**Mina Guanaco**	**2.60**	**154**	*eP*	**Pn**	**01 45 44.8**	**+0.9**
GO02				*e*S	**Sg**	**01 46 28.0**	**+2.8**
TA02	**Huaiquique**	**2.63**	**15**		**Pn**	**01 45 44.1**	**+0.1**
TA02	**Huaiquique**	**2.63**	**15**	IAML		01 46 34.0	
	comp=N,2μm,0.5s						
**TA02

FDPY	Filadelfia	10.11	89	eP		Pn	01 47 27.9	+1.2
BBSD	Serra de San D	11.15	62	eP		Pn	01 47 40.9	-0.2
SIV	San Ignacio	11.47	55	Pn		Pn	01 47 45.2	-0.2
	comp=Z,0.2nm,0.3s,baz=234,slow=12,SNR=107							
SIV				Sn		Sn	01 49 57.0	+3.3
	baz=247,slow=20							
SIV				LR		LR	01 52 50.7	
	comp=Z,523nm,19.0s,baz=270,slow=41							
	comp=Z,31nm,0.8s							
PAPY	Pozo Azul	11.67	99	eP		Pn	01 47 49.4	+1.3
MURT	Porto Murtinho	12.33	87	eP		Pn	01 47 58.1	+0.9
H03N1	Juan Fernandez	12.73	212	Pn		Pn	01 48 01.2	-1.1
	baz=110,slow=14							
H03N1				T		T	02 01 12.0	
	baz=38,slow=71,SNR=323							
H03N2	Juan Fernandez	12.74	212	Pn		Pn	01 48 01.1	-1.3
	baz=110,slow=14							
H03N2				T		T	02 01 15.4	
	baz=38,slow=71,SNR=191							
H03N3	Juan Fernandez	12.75	212	Pn		Pn	01 48 00.7	-1.9
	baz=110,slow=14							
H03N3				T		T	02 01 10.5	
	baz=38,slow=71,SNR=155							
CPUP	Villa Florida	12.80	109			Pn	01 48 03.8	+0.2
CPUP	Villa Florida	12.80	109	Pn		Pn	01 48 02.9	-0.6
	comp=Z,0.1nm,0.3s,baz=286,slow=13,SNR=4.3							
CPUP				LR		LR	01 52 21.6	
	comp=Z,171nm,21.4s,baz=288,slow=35							
	comp=Z,3.4nm,1.0s							
H03S3	Juan Fernandez	13.04	211	Pn		Pn	01 48 03.5	-3.0
	baz=340,slow=29							
H03S1	Juan Fernandez	13.05	211	Pn		Pn	01 48 04.3	-2.4
	baz=340,slow=29							
H03S2	Juan Fernandez	13.06	211	Pn		Pn	01 48 04.1	-2.7
	baz=340,slow=29							
PTLB	Pontes e Lacer	13.29	59			Pn	01 48 10.8	+0.6
PTLB	Pontes e Lacer	13.29	59	eP		Pn	01 48 09.6	-0.6
SJPY	San Joaquin	13.68	102	eP		Pn	01 48 16.1	+0.6
ETMB	Extrema	13.68	20			Pn	01 48 14.1	-1.5
ETMB	Extrema	13.68	20	eP		Pn	01 48 13.9	-1.7
VILB	Vilhena	14.12	48			Pn	01 48 21.0	-0.6
VILB	Vilhena	14.12	48	eP		Pn	01 48 20.9	-0.6
AQDB	Aquidauana	14.30	83			Pn	01 48 25.0	+1.0
AQDB	Aquidauana	14.30	83	eP		Pn	01 48 24.4	+0.4
CZSB	Cruzeiro do Su	15.11	353	P		P	01 48 37.7	-2.7
CZSB	Cruzeiro do Su	15.11	353	eP		Pn	01 48 35.8	+0.7
SAML	Samuel	15.64	29			Pn	01 48 38.9	-3.2
SALV	Santo Antonio	15.88	67	eP		Pn	01 48 45.1	-0.1
TRCB	Terra Rica	16.81	93	P		P	01 48 59.2	-0.1
TRCB				IAmb		IAmb	01 49 22.2	
	comp=Z,48nm,0.6s							
TRCB	Terra Rica	16.81	93	eP		Pn	01 48 57.0	-0.1
TRQA	Tornquist	16.99	155	P		P	01 49 00.9	-0.3
CPSB	Cacapava Do Su	17.30	120	eP		Pn	01 49 02.8	-0.4
PDRB	Porto dos Gac	17.50	53	eP		Pn	01 49 03.3	-2.3
PLCA	Paso Flores	17.86	179	P		P	01 49 11.2	+0.5
	comp=Z,0.1nm,0.3s,baz=21,slow=11,SNR=4.8							
PLCA				LR		LR	01 55 42.8	
	comp=Z,269nm,18.9s,baz=0.0,slow=36							
	comp=Z,7.0nm,1.2s							
PLCA	Paso Flores	17.86	179	eP		P	01 49 10.2	-0.5
LDASE	Londrina, Braz	18.18	96	eP		Pn	01 49 12.6	-1.5
CLDB	Colider	18.67	53	eP		P	01 49 18.8	-1.0
ARAG	Araguaiana, MT	19.32	72	eP		Pn	01 49 26.9	-1.1
ITRB	Iturama	19.36	85	eP		Pn	01 49 28.0	-0.5
LL01	San Ignacio de	19.54	183	P		Pn	01 49 30.5	+0.1
FRTB	Fartura	19.61	96	eP		Pn	01 49 30.0	-1.4
SNDB	Serra Nova Dou	21.54	63	eP		P	01 49 49.2	-1.8
RCLB	Rio Claro- Sao	21.54	93	eP		P	01 49 50.3	-0.7
SPB	Sao Paulo	21.55	97	eP		P	01 49 49.8	-1.2
IPMB	Ipameri, GO	21.77	81	eP		P	01 49 52.8	-0.7
MACA	Manacapuru-AM	21.90	28	P		P	01 49 55.1	+0.3
MACA	Manacapuru-AM	21.90	28	eP		P	01 49 54.5	-0.3
VAO	Valinhos	22.02	95	P		P	01 49 54.9	-1.2
VAO				IAmb		IAmb	01 50 02.5	
	comp=Z,29nm,0.8s							
VAO	Valinhos	22.02	95	eP		P	01 49 55.0	-1.2
BDFB	Brasilia	22.71	76	P		P	01 50 03.8	+0.1
BDFB	Brasilia	22.71	76	P		P	01 50 02.9	-0.8
	comp=Z,9.1nm,0.6s,baz=259,slow=10,0,SNR=18							
BDFB				LR		LR	02 00 09.2	
	comp=Z,518nm,18.6s,baz=315,slow=40							
	comp=Z,9.1nm,0.6s							
ITTB	Itaituba	23.47	41	eP		P	01 50 10.7	-0.7
BSCB	Bom Sucesso	24.27	91	eP		P	01 50 18.6	-0.5
VAS01	Vassouras-RJ	25.32	94	eP		P	01 50 27.4	-1.2
GO08	Villa O'Higgin	25.62	183	P		P	01 50 32.7	+1.7
GO08				IAmb		IAmb	01 50 36.9	
	comp=Z,26nm,1.4s							
PRPB	Parauapebas	26.19	54	eP		P	01 50 35.6	-0.8
JANB	Januaria	26.25	78	eP		P	01 50 36.4	-0.7
SMTB	Santa Maria do	26.29	62	eP		P	01 50 36.7	-0.6
SDBA	SAO DESIDERIO	26.78	72	eP		P	01 50 41.2	-0.6
BOAV	Boa Vista	27.02	23	P		P	01 50 44.3	+0.4
BOAV	Boa Vista	27.02	23	eP		P	01 50 43.9	0.0
NAN01	Guarapari, ES	29.22	86	eP		P	01 51 02.8	-0.7
GUA01	Guaratinga, BA	29.86	84	eP		P	01 51 09.0	-0.3
GDU01	Guandu, BA	31.01	78	eP		P	01 51 18.7	-0.7
BAUV	El Baul	31.69	5	P		P	01 51 25.8	+0.4
MDP	Montagnes des	32.98	35	LR		LR	02 06 09.5	
	comp=Z,210nm,21.2s,baz=206,slow=38							
PCRV	Puerto La Cruz	33.36	11	LR		LR	02 07 20.3	
	comp=Z,187nm,18.4s,slow=40							
NBLA	Lagarto - SE	33.68	75	eP		P	01 51 41.8	-1.0
RPN	Rapa Nui	35.04	255	LR		LR	02 02 46.4	
	comp=Z,123nm,18.8s,baz=128,slow=30							
RCBR	Riachuelo	37.71	69	P		P	01 52 18.8	+1.3
RCBR	Riachuelo	37.71	69	eP		P	01 52 16.2	-1.3
PMSA	Palmer Station	42.18	176	LR		LR	02 10 48.5	
	comp=Z,149nm,20.0s,baz=94,slow=37							
CMIG	Matias Romero	46.10	327	LR		LR	02 09 08.0	
	comp=Z,48nm,19.8s,baz=166,slow=31							
RKT	Rikitea	58.56	256	eLR		LR	02 12 08.0	
	comp=Z,1μm,29.5s							
VNA3	Neumayer Olymp	59.42	161	⇑P		P	01 55 04.4	+0.5
	comp=Z,3.4nm,0.7s							
VNA1	Neumayer--Stat	59.66	160	⇑P		P	01 55 06.6	+1.2
	comp=Z,5.4nm,0.8s							
VNA2	Neumayer--Wata	60.02	160	⇑P		P	01 55 08.9	+0.9
	comp=Z,2.2nm,0.6s,baz=291,slow=8.1							
CLTN	Cedars of Leba	60.39	346	IAmb		IAmb	01 55 13.1	
	comp=Z,11nm,1.1s							
TXAR	Lajitas Array	60.71	327	P		P	01 55 14.8	+1.5
	comp=Z,0.4nm,0.5s,baz=151,slow=10,SNR=5.8							
	comp=Z,0.4nm,0.5s							
WVT	Waverly	60.79	344	P		P	01 55 12.8	-0.7
WVT				IAmb		IAmb	01 55 15.1	
	comp=Z,8.5nm,1.1s							
MIAR	Mount Ida	61.00	339	P		P	01 55 16.3	+1.3
MIAR				IAmb		IAmb	01 55 26.5	
	comp=Z,6.2nm,1.0s							
ABTX	Abilene, Hawle	61.61	332	IAmb		IAmb	01 55 30.7	
	comp=Z,7.7nm,0.9s							
SNAA	Sanae	61.63	161	P		P	01 55 19.8	+0.7
SNAA				IAmb		IAmb	01 55 20.9	
	comp=Z,14nm,1.2s							
SNAA	Sanae	61.63	161	⇑P		P	01 55 19.7	+0.7
	comp=Z,69nm,0.6s							
SNAA	Sanae	61.63	161	P		P	01 55 19.7	+0.7
	comp=Z,6.8nm,0.9s,baz=276,slow=4.9,SNR=17							
SNAA				LR		LR	02 19 07.3	
	comp=Z,47nm,21.6s,baz=213,slow=33							
	comp=Z,6.8nm,0.9s							
LCAR	Lake Charles	61.64	341	IAmb		IAmb	01 55 32.8	
	comp=Z,10nm,1.4s							
MNHN	Monahans	61.92	329	IAmb		IAmb	01 55 36.3	
	comp=Z,8.1nm,1.0s							
SN05	Snyder 5	62.36	332	IAmb		IAmb	01 55 35.6	
	comp=Z,6.3nm,0.9s							
SN07	Snyder 07	62.55	332	IAmb		IAmb	01 55 36.7	
	comp=Z,5.3nm,0.9s							
VHRN	Van Horn	62.55	327	IAmb		IAmb	01 55 42.2	
	comp=Z,6.0nm,1.0s							
MGMO	Mountain Grove	62.98	341	IAmb		IAmb	01 55 39.6	
	comp=Z,14nm,1.4s							
TROLL	Troll, Antarti	63.35	161	⇑P		P	01 55 31.5	+0.9
	comp=Z,159nm,0.7s							
S39A	Bolivar	63.79	340	IAmb		IAmb	01 55 47.4	
	comp=Z,8.8nm,1.0s							
SMWD	Samnorwood	64.00	333	IAmb		IAmb	01 55 46.7	
	comp=Z,6.3nm,0.9s							
R40A	Maddies Statio	64.03	341	IAmb		IAmb	01 55 37.5	
	comp=Z,11nm,1.2s							
QSPA	South Pole Qui	67.37	180	P		P	01 55 58.4	+1.7
QSPA				IAmb		IAmb	01 55 59.2	
	comp=Z,7.7nm,1.2s							
QSPA	South Pole Qui	67.37	180	P		P	01 55 57.7	+1.0
	comp=Z,3.6nm,0.8s,baz=159,slow=4.7,SNR=12							
	comp=Z,3.6nm,0.8s							
TAOE	Nuku Hiva Isla	67.57	270	eLR		LR	02 16 12.3	
	comp=Z,106nm,26.1s							
DBIC	Dimbokro	70.85	74	P		P	01 56 19.6	+0.7
DBIC	Dimbokro	70.85	74	P		P	01 56 18.3	-0.6
	comp=Z,10.0nm,1.0s,baz=248,slow=5.4,SNR=4.6							
	comp=Z,10.0nm,1.0s							
PPT2	Papeete2	73.25	258	eLR		LR	02 18 54.5	
	comp=Z,149nm,27.5s							
PPT2				eLR		LR	02 18 57.1	
	comp=Z,129nm,28.8s							
PDAR	Pinedale Array	74.37	331	P		P	01 56 41.1	+1.5
	comp=Z,0.2nm,0.5s,baz=131,slow=4.0,SNR=2.0							
ULM	Lac du Bonnet	76.05	344	P		P	01 56 49.0	+0.2
	comp=Z,1.8nm,0.7s,baz=166,slow=4.2,SNR=2.4							
ULM				LR		LR	02 32 09.6	
	comp=Z,31nm,18.4s,baz=307,slow=37							
	comp=Z,1.8nm,0.7s							
PLID	Pearl Lake	79.11	329	P		P	01 57 08.7	+2.3
TORD	Torodi Ar. Bea	79.50	71	P		P	01 57 08.4	-0.5
	comp=Z,13nm,0.9s,baz=272,slow=5.0,SNR=52							
	comp=Z,13nm,0.9s							
TSUM	Tsumeb	81.39	107	P		P	01 57 18.7	-0.5
TSUM				IAmb		IAmb	01 57 21.5	
	comp=Z,8.6nm,0.9s							
MAW	Mawson	83.58	164	P		P	01 57 30.3	+0.8
	comp=Z,4.8nm,0.9s,baz=232,slow=7.7,SNR=8.5							
MAW				LR		LR	02 34 48.0	
	comp=Z,56nm,18.2s,baz=196,slow=36							
	comp=Z,4.8nm,0.9s							
PTEO	Sao Teotonio	83.77	45	eP		P	01 57 29.9	-1.0
MDT	Midelt	83.99	51	P		P	01 57 33.4	+1.1
	comp=Z,4.0nm,1.0s,baz=243,slow=4.5,SNR=3.7							
MDT				LR		LR	02 33 38.1	
	comp=Z,59nm,19.8s,baz=208,slow=35							
	comp=Z,4.0nm,1.0s							
PBDV	Barranco-do-Ve	84.11	46	eP		P	01 57 36.6	+3.9
MESJ	Messejana	84.26	45	eP		P	01 57 34.8	+1.4
BOSA	Boshof	84.42	119	P		P	01 57 35.1	+0.3
	comp=Z,5.9nm,1.0s,baz=207,slow=4.5,SNR=4.7							
BOSA				LR		LR	02 32 33.0	
	comp=Z,53nm,18.6s,baz=212,slow=34							
	comp=Z,5.9nm,1.0s							
PBEJ	Beja	84.60	45	eP		P	01 57 37.4	+2.3
PSBE	So Bento	84.84	43	eP		P	01 57 38.7	+2.3
PMTG	Montargil	84.95	44	eP		P	01 57 38.3	+1.4
PMTG				A		A	01 57 39.3	
	comp=Z,26nm,1.2s							
PBAR	Barrancos	85.22	45	eP		P	01 57 40.4	+2.2
LBTB	Lobatse	86.10	115	LR		LR	02 33 03.8	
	comp=Z,29nm,19.2s,baz=200,slow=34							
H11S2	WAKE ISLAND Hyl	26.23	277	T		T	04 23 38.3	
	baz=105,slow=74,SNR=57							
H11S1	WAKE ISLAND Hyl	26.24	277	T		T	04 23 37.8	
	baz=105,slow=74,SNR=32							
H11S3	WAKE ISLAND Hyl	26.25	277	T		T	04 23 35.0	
	baz=105,slow=74,SNR=34							
H11N3	WAKE ISLAND Hyl	26.36	278	T		T	04 23 34.7	
	baz=106,slow=75,SNR=16							
H11N2	WAKE ISLAND Hyl	26.37	278	T		T	04 23 47.5	
	baz=106,slow=75,SNR=17							
H11N1	WAKE ISLAND Hyl	26.37	278	T		T	04 23 35.9	
	baz=106,slow=75,SNR=11							
ASAR	Alice Springs	127.89	209	PKP		PKiKP	02 04 08.8	-0.1
	comp=Z,0.6nm,0.9s,baz=172,slow=3.3,SNR=4.4							
WRA	Warramunga Arr	130.89	212	PKP		PKiKP	02 04 15.1	+0.3
	comp=Z,1.6nm,1.3s,baz=153,slow=1.6,SNR=7.5							
KURBB	Kurchatov Arra	143.43	33	PKP		PKPdf	02 04 34.7	-1.4
	comp=Z,0.8nm,1.0s,baz=308,slow=3.6,SNR=4.9							
ZALV	Zalesovo Beam	143.91	24	PKP		PKPdf	02 04 35.7	-1.1
	comp=Z,1.2nm,0.7s,baz=322,slow=4.4,SNR=7.1							
MKAR	Makanchi Array	147.76	36	PKPbc		PKPbc	02 04 45.0	-1.5
	comp=Z,5.7nm,0.9s,baz=290,slow=3.6,SNR=18							
MJAR	Matsushiro Arr	151.41	305	PKPbc		PKiKP	02 04 56.4	+0.1
	comp=Z,1.0nm,0.5s,baz=132,slow=1.8,SNR=6.1							
PZH	PanZhiHua	172.35	60	PKP		PKPdf	02 05 09.7	-1.7

*IDC **02** 01:45:37.1±0.6, 37°.64N×20°.49E, h0km, mb4.2/19, mbtmp4.1/30, ML3.7/9, MS3.2/5, Error ellipse: s-maj=13.0km s-min=11.8km az=3.0*
*MOS **02** 01:45:37.3±1.5, 37°.55N×20°.22E, h13km, mb4.5/15, Error ellipse: s-maj=6.7km s-min=3.2km az=72.8*
*MCSM **02** 01:45:39.5±0.6, 37°N±6°×2°0E±°, h10km, mB4.4, mb4.5, MLv4.3, Mw(mB)3.6*
*NEIC **02** 01:45:39.1±2.7, 37°.55N±0°.06×20°.31E±0°.07, h10km±1km, mb4.5/27, Error ellipse: s-maj=10.4km s-min=9.1km az=185.0*
*ATH **02** 01:45:39.5, 37°.58N×20°.33E, h8km±1km, ML3.9/18, Error ellipse: s-maj=1.8km s-min=1.0km az=40.0*
*THE **02** 01:45:39.9, 37°.59N×20°.41E, h26km, ML4.4/7, Error ellipse: s-maj=1.6km s-min=0.6km az=62.0*
*PDG **02** 01:45:40.0±0.7, 37°.61N×20°.24E, h7km±2km, ML4.3/13, Error ellipse: s-maj=0.9km s-min=1.5km az=0.0*
*BEO **02** 01:45:40.9±0.7, 37°.73N×20°.17E, h10km, ML4.0/11*
*NAO **02** 01:45:44.4, 37°.56N×20°.28E, h10km, mb4.4*
ISC 02 01:45:40.3±0.7, 37°.65N±0°.03×20°.37E±0°.03, h20km±3km, n400, σ1§78/454, mb4.5/40, 51C-22D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.36	87	P	Pg	01 45 47.4	-0.6
KRI1				S	Sg	01 45 52.8	-0.3
	96μm,0.5s						
LTHK	Lithakia	0.38	80	P	Pg	01 45 47.8	-0.5
LTHK				S	Sg	01 45 53.6	-0.1
	72μm,0.2s						
LTHK	Lithakia	0.38	80	P	Pg	01 45 47.5	-0.8
LTHK				S	Sg	01 45 53.2	-0.5
PSDA	Pessada-Kefalo	0.50	20	P	Pg	01 45 50.3	-0.2
PSDA				S	Sb	01 45 58.5	+1.2
	22μm,0.6s						
RTZL	Ratzakli, Kefa	0.54	36	P	Pg	01 45 51.0	-0.1
RTZL				S	Sb	01 45 59.7	+1.4
LXR1	Lixouri, Cepha	0.56	6	P	Pb	01 45 51.8	+0.4
LXR1				S	Sb	01 46 01.0	+2.1
	63μm,0.5s						
VLS	Valsamata	0.56	18	P	Pg	01 45 51.3	-0.3
VLS				S	Sb	01 46 00.4	+1.4
	13μm,0.4s						
VLS	Valsamata	0.56	18	P	Pg	01 45 51.3	-0.3
VLS				S	Sb	01 46 00.4	+1.4
VLS	Valsamata	0.56	18	P	Pg	01 45 51.0	-0.6
VLS				S	Sg	01 45 59.6	+0.4
VLS				AML	AML	01 46 06.3	
	comp=E,24295μm,0.2s						
VLS				AML	AML	01 46 11.8	
	comp=N,29661μm,0.5s						
DMLN	Damoulianata-K	0.59	0	P	Pg	01 45 52.0	-0.2
DMLN				S	Sn	01 46 02.4	-0.4
	comp=N,55μm,0.6s						
DMLN	Damoulianata-K	0.59	0	P	Pg	01 45 51.7	-0.5
DMLN				S	Sb	01 46 01.0	+1.1
VSK1	VASILIKIADES	0.78	11	P	Pb	01 45 55.1	-0.1
VSK1				S	Sg	01 46 06.8	+0.8
	comp=N,22μm,0.6s						
FSK	Fiskardo	0.83	11	P	Pb	01 45 55.9	-0.1
FSK	Fiskardo	0.83	11	P	Pb	01 45 55.8	-0.2
FSK				S	Sg	01 46 08.7	+1.1
FSK				AML	AML	01 46 14.9	
	comp=N,13469μm,0.6s						
FSK				AML	AML	01 46 17.9	
	comp=E,21215μm,0.7s						
RLS	Riolos of Patr	0.96	64	P	Pb	01 45 58.2	-0.1
RLS				S	Sn	01 46 12.9	+1.1
RLS				AML	AML	01 46 17.4	
	comp=N,11576μm,0.5s						
RLS				AML	AML	01 46 24.7	
	comp=E,11677μm,0.5s						
AMT	Artemida-Makis	1.07	96	P	Pb	01 45 59.3	-0.9
AMT				S	Sg	01 46 14.8	-0.5
DRO	Drossia	1.11	73	P	Pg	01 46 01.4	-0.4
DRO				S	Sn	01 46 15.9	+0.4
LKD2	Lefkada island	1.17	11	P	Pg	01 46 02.7	-0.3
TSLK	Tsoukalades, L	1.20	11	P	Pb	01 46 02.8	+0.4
ITM	Ithomi	1.33	110	P	Pn	01 46 03.8	+0.1
ITM				S	Sn	01 46 21.0	+0.1
ITM				AML	AML	01 46 31.7	
	comp=E,8672μm,0.7s						
ITM				AML	AML	01 46 34.2	
	comp=N,7358μm,0.7s						
PYL	PYLOS	1.33	124	P	Pn	01 46 03.0	-0.7
PYL				S	Sn	01 46 20.6	-0.2
PYL				AML	AML	01 46 26.6	
	comp=N,3777μm,0.7s						
PYL				AML	AML	01 46 26.7	
	comp=E,8108μm,0.5s						
EFP	Efpalio	1.44	57	P	Pn	01 46 05.9	+0.5
EFP				S	Sb	01 46 25.6	+1.1
EFP				AML	AML	01 46 37.7	
	comp=N,8690μm,0.5s						
EFP				AML	AML	01 46 42.3	
	comp=E,7735μm,0.7s						
KLV	Kalavryta, Ach	1.47	74	P	Pb	01 46 06.8	-0.2
KLV				S	Sn	01 46 25.1	+0.7
KLV				AML	AML	01 46 36.8	
	comp=N,8430μm,0.7s						
KLV				AML	AML	01 46 39.7	
	comp=E,7912μm,1.1s						
ANX	Ano Chora	1.55	52	P	Pb	01 46 08.2	-0.2
ANX				S	Sb	01 46 28.3	+0.7
KALE	Kalithea	1.59	61	P	Pn	01 46 07.6	+0.3
KALE				S	Sn	01 46 28.6	+1.3
KALE				AML	AML	01 46 39.7	
	comp=N,7440μm,0.6s						
KALE				AML	AML	01 46 45.6	
	comp=E,9657μm,0.6s						
GUR	Goura	1.59	79	P	Pn	01 46 07.9	+0.4
GUR				S	Sn	01 46 28.2	+0.7
GUR				AML	AML	01 46 38.0	
	comp=E,7196μm,0.7s						
GUR				AML	AML	01 46 38.8	
	comp=N,8558μm,0.6s						
EVR	Evrytania	1.70	41	P	Pn	01 46 09.5	+0.5
EVR				S	Sn	01 46 30.9	+0.7
EVR				AML	AML	01 46 46.4	
	comp=E,6115μm,1.0s						
EVR				AML	AML	01 46 56.9	
	comp=N,6823μm,1.1s						
IGT	Igoumenitsa	1.89	359	ePn	Pb	01 46 13.7	-0.4
IGT	Igoumenitsa	1.89	359	P	Pg	01 46 15.9	-0.7
IGT	Igoumenitsa	1.89	359	P	Pn	01 46 13.0	+1.5
IGT				AML	AML	01 46 50.1	
	comp=E,5014μm,0.5s						
IGT				AML	AML	01 46 53.4	
	comp=N,4090μm,0.6s						
MAKR	Makrakomi, Fth	1.95	45	P	Pn	01 46 13.9	+1.6
JAN	Janina	2.04	11	P	Pb	01 46 17.3	+0.5
JAN	Janina	2.04	11	P	Pn	01 46 13.8	+0.2
JAN				AML	AML	01 46 54.0	
	comp=E,5189μm,1.1s						
JAN				AML	AML	01 47 05.2	
	comp=N,3141μm,1.1s						
AGG	Agios Georgios	2.07	48	Pn	Pb	01 46 16.7	-0.5
AGG	Agios Georgios	2.07	48	P	Pb	01 46 16.7	-0.5
KEK	Kerkira	2.11	348		Pn	01 46 15.4	+0.8
KEK	Kerkira	2.11	348	P	Pn	01 46 15.4	+0.8
KEK				AML	AML	01 46 55.9	
	comp=E,3375μm,0.6s						
KEK				AML	AML	01 47 01.0	
	comp=N,3608μm,1.0s						
AXAR	Agios Charalam	2.12	57	P	Pn	01 46 16.2	+1.5
VLI	Veliai	2.25	113	P	Pn	01 46 16.6	+0.2
VLI				AML	AML	01 47 07.2	
	comp=E,2129μm,0.7s						
VLI				AML	AML	01 47 12.1	
	comp=N,3020μm,0.9s						
THL	Klokotos Trika	2.31	33	P	Pn	01 46 19.1	+1.9
THL				AML	AML	01 46 51.2	
	comp=E,2024μm,0.7s						
THL				AML	AML	01 46 58.1	
	comp=N,1928μm,0.7s						
VIL2	Platees	2.36	75	P	Pn	01 46 18.7	+0.7
VIL2				AML	AML	01 47 02.4	
	comp=E,4556μm,0.8s						
VIL2				AML	AML	01 47 04.3	
	comp=N,2158μm,0.7s						
KPRO	Kipourio	2.43	18	P	Pn	01 46 19.6	+0.5
KPRO				AML	AML	01 47 08.4	
	comp=N,3475μm,0.8s						
KPRO				AML	AML	01 47 11.7	
	comp=E,4826μm,1.0s						
ATH	Athens Observa	2.67	82	P	Pn	01 46 24.3	+2.1
VLY	Voula,Athens	2.72	85	P	Pn	01 46 24.2	+1.3
VLY				AML	AML	01 47 06.0	
	comp=E,1505μm,0.7s						
VLY				AML	AML	01 47 12.6	
	comp=N,1722μm,1.2s						
SCTE	Santa Cesarea	2.84	329	Pn	Pn	01 46 24.7	+0.1
KZN	Kozani	2.87	22	P	Pn	01 46 27.2	+2.1
LIT	Litokhoron	2.96	33	Pn	Pn	01 46 28.1	+1.9
LIT	Litokhoron	2.96	33	P	Pn	01 46 28.1	+1.9
TIP	Timpagrande	3.22	299	Pn	Pn	01 46 29.8	0.0
TIP	Timpagrande	3.22	299	⇑P	Pn	01 46 30.3	+0.5
TIP	Timpagrande	3.22	299	P	Pn	01 46 29.5	-0.4
FNA	Florina	3.23	14	ePn	Pn	01 46 32.2	+2.2
FNA	Florina	3.23	14	P	Pn	01 46 32.6	+2.6
OHR	Ohrid	3.48	5	ePn	Pn	01 46 35.6	+2.2
OHR	Ohrid	3.48	5	iPn	Pn	01 46 36.7	+3.3
OHR	Ohrid	3.48	5	P	Pn	01 46 36.6	+3.3
CEL	Celeste	3.59	281		Pn	01 46 34.9	0.0
CEL	Celeste	3.59	281	P	Pn	01 46 34.5	-0.4
THE	Thessaloniki	3.60	33	P	Pn	01 46 37.8	+2.8
TIR	Tirane	3.72	354	Pn	Pn	01 46 38.5	+2.0
TIR

BRY Bratogost 5.43 346 ⇓ i Pn Pn 01 46 59.8 -0.5
BRY i Sn Sn 01 48 02.8 +0.5
SELS Selova 5.60 6 ePn Pn 01 47 03.1 +0.6
STON Ston 5.61 339 ePn Pn 01 47 01.7 -0.8
STON eSn Sn 01 48 02.2 -4.1
STON Ston 5.61 339 ePn Pn 01 47 01.5 -1.0
PLD Plovdiv 5.62 35 ePn Pn 01 47 03.3 +0.6
PLD Plovdiv 5.62 35 P Pn 01 47 05.0 +2.3
PLD pmax pmax
comp=Z,95nm,1.3s
SJES Sjenica 5.62 357 ePn Pn 01 47 03.4 +0.6
SJES eSn Sn 01 48 06.1 -0.7
SJES Sjenica 5.62 357 ePn Pn 01 47 03.8 +1.0
UPM Unac-Piva 5.66 349 ⇓ i Pn Pn 01 47 05.5 +2.0
UPM i Sn Sn 01 48 08.1 +0.1
PLE Pljevlja 5.73 353 ⇑ i Pn Pn 01 47 05.4 +1.1
PLE i Sn Sn 01 48 09.6 +0.1
KARP Karpathos 5.85 109 Pn Pn 01 47 08.2 +2.2
KARP Karpathos 5.85 109 P Pn 01 47 08.3 +2.3
KARP Karpathos 5.85 109 P Pn 01 47 07.6 +1.6
comp=Z,94nm,0.8s,comp=Z,0.3nm
ZAPS Zavoj 5.88 16 ePn Pn 01 47 07.8 +1.4
IVAS Ivanjica 5.93 358 ePn Pn 01 47 06.6 -0.4
IVAS eSn Sn 01 48 12.7 -1.7
RUDO Rudo 6.01 353 ePn Pn 01 47 05.7 -2.5
BOVS Bovan 6.07 9 ePn Pn 01 47 08.8 -0.1
BOVS Bovan 6.07 9 ⇑P Pn 01 47 09.8 +0.9
GRUS Gruza 6.24 2 ePn Pn 01 47 11.9 +0.6
BBLS Lazi&#263i 6.26 354 ePn Pn 01 47 11.1 -0.5
BBLS Lazi&#263i 6.26 354 ePn Pn 01 47 13.6 +2.0
ARG Arkhangelos 6.38 101 P Pn 01 47 18.8 +5.7
ARG pmax pmax
comp=Z,59nm,1.0s
DIVS Divibare 6.45 358 ePn Pn 01 47 13.4 -0.9
DIVS eSn Sn 01 48 25.2 -2.2
HAPS Han Pijesak,BI 6.52 351 ePn Pn 01 47 15.0 -0.3
TRUS Trudelj 6.57 0 ePn Pn 01 47 15.3 -0.5
INTR Introdacqua 6.61 313 Pn Pn 01 47 18.6 +2.2
ELND Elena 6.75 37 ⇑P Pn 01 47 20.2 +1.9
KUBS Kucevo 6.83 8 ePn Pn 01 47 18.3 -1.1
TEKS Tekeris 6.93 355 ePn Pn 01 47 19.3 -1.4
TEKS Tekeris 6.93 355 ePn Pn 01 47 19.4 -1.3
VLAD Vladila 7.05 24 ⇑P Pn 01 47 24.2 +1.9
HERR Herculane 7.39 11 ⇑P Pn 01 47 29.0 +1.9
A050A Klekovaca 7.42 338 ePn Pn 01 47 28.2 +0.7
BLY Banja Luka 7.49 342 ePn Pn 01 47 27.9 -0.5
BLY Banja Luka 7.49 342 ePn Pn 01 47 28.0 -0.5
FRGS Fruska Gora 7.52 357 ePn Pn 01 47 27.1 -1.7
FRGS Fruska Gora 7.52 357 ePn Pn 01 47 27.1 -1.7
NRCA Norcia 7.59 315 Pn Pn 01 47 31.4 +1.5
GUMA Gualdo di Mace 7.62 317 Pn 01 47 32.0 +1.8
ELL Elmali 7.67 94 Pn 01 47 33.9 +2.9
ELL Elmali 7.67 94 P Pn 01 47 33.9 +2.9
FDMO Fiordimonte 7.74 316 Pn 01 47 33.8 +2.0
A051A Mrakovica 7.81 342 ePn Pn 01 47 30.6 -2.2
PRIJ Prijedor 7.82 341 ePn Pn 01 47 30.5 -2.4
GZR Gura Zlata 7.95 12 ⇑P Pn 01 47 36.5 +1.7
GZR Gura Zlata 7.95 12 ⇑P Pn 01 47 36.5 +1.7
BZS Buzias 8.02 6 ePn Pn 01 47 35.7 0.0
BZS Buzias 8.02 6 ⇑P Pn 01 47 38.8 +3.1
BZS Buzias 8.02 6 ⇑P Pn 01 47 38.8 +3.1
ISP Isparta 8.05 86 ⇑ e P Pn 01 47 39.3 +3.1
LOT Lotru 8.20 17 ⇑P Pn 01 47 39.7 +1.4
VOIR 8.54 23 ⇑P Pn 01 47 45.4 +2.5
VOIR 8.54 23 ⇑P Pn 01 47 45.4 +2.5
VOIR 8.54 23 P Pn 01 47 44.5 +1.6
comp=Z,13nm,0.9s
MORH Mrgy, Hungar 8.66 352 ePn Pn 01 47 43.1 -1.3
MORH Mrgy, Hungar 8.66 352 ⇓P Pn 01 47 45.5 +1.1
MORH Mrgy, Hungar 8.66 352 P Pn 01 47 44.3 -0.1
comp=Z,4.2nm,0.8s
BOJS Bojanci 8.74 336 i Pn Pn 01 47 45.6 +0.1
BOJS i Sn Sn 01 49 19.7 -3.7
ISR Istrita 8.79 30 ⇑P Pn 01 47 48.5 +2.2
ISR Istrita 8.79 30 ⇑P Pn 01 47 48.5 +2.2
ISR Istrita 8.79 30 P Pn 01 47 49.1 +2.8
comp=Z,33nm,0.7s
MLR Muntele Rosu 8.88 26 Pn 01 47 50.5 +3.0
MLR Muntele Rosu 8.88 26 Pn Pn 01 47 46.7 -0.9
comp=Z,8.2nm,1.0s,baz=206,slow=7.0
MLR Muntele Rosu 8.88 26 ⇑P Pn 01 47 51.2 +3.6
MLR Muntele Rosu 8.88 26 ⇑P Pn 01 47 51.2 +3.6
MLR Muntele Rosu 8.88 26 P Pn 01 47 50.6 +3.0
comp=Z,23nm,0.9s
PTJ Puntijarka 8.88 340 P Pn 01 47 47.2 -0.4
NEHR Nehoiu 8.95 28 ⇑P Pn 01 47 52.2 +3.7
CRES Cresnjevec Ost 8.96 337 i Pn Pn 01 47 48.0 -0.5
TLBR Topalu 9.00 38 ⇓P Pn 01 47 51.1 +2.0
HARR Harsova 9.05 37 ⇑P Pn 01 47 52.0 +2.1
HARR Harsova 9.05 37 ⇑P Pn 01 47 52.0 +2.1
KEST Kesra 9.06 261 Pn 01 47 50.2 +0.2
KEST Kesra 9.06 261 Pn Pn 01 47 49.7 -0.3
comp=Z,0.9nm,0.3s,baz=71,slow=5.6,SNR=20
KEST Sn Sn 01 49 28.4 -3.0
comp=Z,0.4nm,0.3s,baz=307,slow=22,SNR=1.1
comp=Z,6.4nm,0.5s
DOPR Dopca 9.12 23 ⇓P Pn 01 47 53.3 +2.5
BISRR Bisoca 9.21 29 ⇑P Pn 01 47 55.3 +3.2
BISRR Bisoca 9.21 29 P Pn 01 47 54.7 +2.6
comp=Z,84nm,0.7s
CEY Cerknica 9.22 333 ePn Pn 01 47 52.0 -0.2
MARR Marisel-Cluj 9.25 12 ⇓P Pn 01 47 56.5 +3.8
COVR Voineasa-Covas 9.28 26 ⇑P Pn 01 47 56.3 +3.3
DRGR 9.30 10 ePn Pn 01 47 53.5 +0.2
DRGR 9.30 10 ⇑P Pn 01 47 55.4 +2.0
DRGR 9.30 10 ⇑P Pn 01 47 55.4 +2.0
OZUR 9.36 24 ⇑P Pn 01 47 56.3 +2.3
TURR Turia 9.40 25 ⇑P Pn 01 47 57.4 +2.8
PLOR Plostina 9.45 28 ⇓P Pn 01 47 58.7 +3.5
PLOR Plostina 9.45 28 ⇓P Pn 01 47 58.7 +3.5
PLOR5 Plostina Array 9.45 28 P Pn 01 47 58.3 +3.1
comp=Z,30nm,0.8s
PLOR3 Plostina Array 9.45 28 P Pn 01 47 57.7 +2.4
comp=Z,23nm,0.9s
VRI Vrincioaia 9.49 28 ⇑P Pn 01 47 58.5 +2.7
VRI Vrincioaia 9.49 28 ⇑P Pn 01 47 58.5 +2.7
VRI Vrincioaia 9.49 28 P Pn 01 47 58.1 +2.3
comp=Z,16nm,1.0s,comp=Z,165nm
CFR Carcaliu 9.52 35 ⇑P Pn 01 47 57.7 +1.5
CFR Carcaliu 9.52 35 ⇑P Pn 01 47 57.7 +1.5
MPLH Magyarpolny 9.74 349 P Pn 01 47 59.6 +0.3
comp=Z,34nm,1.2s
ONER Baraj Valea Uz 9.77 25 ⇑P Pn 01 48 02.7 +3.1
PERS Pernice 9.79 338 i Pn Pn 01 47 58.9 -1.1
OBKA Obir 9.85 336 i Pn Pn 01 48 01.5 +0.6
comp=Z,4.2nm,0.4s
OBKA Obir 9.85 336 ePn Pn 01 47 59.8 -1.1
SOKA Soboth 9.85 338 i Pn Pn 01 48 00.2 -0.6
comp=Z,3.3nm,0.4s,SNR=10
ARSA Arzberg 10.24 341 i Pn Pn 01 48 04.4 -1.7
comp=Z,2.1nm,0.5s
MYKA Terra Mystica 10.27 333 i Pn Pn 01 48 05.9 -0.6
comp=Z,1.9nm,0.4s
PSZ Piszkesteto 10.27 358 ⇓P Pn 01 48 09.1 +2.5
PSZ Piszkesteto 10.27 358 ⇓P Pn 01 48 09.1 +2.5
RONA Rosalia, Austr 10.48 345 ePn Pn 01 48 10.8 +1.3
comp=Z,0.8nm,0.3s
BR131 Keskin Array S 10.58 75 ⇓ e P Pn 01 48 14.6 +3.7
BRTR Keskin Array B 10.58 75 LR LR 01 53 15.6
comp=Z,236nm,20.0s,baz=266,slow=44
BURAR Bucovina Array 10.58 18 ⇑P Pn 01 48 11.7 +0.8
KBA Koelnbreinsper 10.76 333 i Pn Pn 01 48 16.6 +3.2
comp=Z,1.3nm,0.4s
KBA Koelnbreinsper 10.76 333 P Pn 01 48 15.4 +2.1
KBA pmax pmax
comp=Z,14nm,0.9s
ABTA Abfaltersbach 10.80 330 i Pn Pn 01 48 15.2 +1.4
comp=Z,2.8nm,0.4s
VYHS Vyhne 10.90 355 e P Pn 01 48 14.7 -0.4
VYHS e 01 50 12.2
VYHS Vyhne 10.90 355 ePN Pn 01 48 14.7 -0.4
VYHS eSN Sn 01 50 12.2 -4.3
NSLU Nyzhne Selyshc 10.96 15 P Pn 01 48 17.7 +1.7
MOA Molln 11.14 338 i Pn Pn 01 48 18.4 +0.1
comp=Z,2.3nm,0.3s,SNR=12
BIOA Bad Ischl, Aus 11.19 336 i Pn Pn 01 48 19.9 +0.8
comp=Z,2.4nm,0.5s,SNR=5.7
LESA Schwarzleotal 11.29 332 i Pn Pn 01 48 21.3 +0.7
comp=Z,4.9nm,0.6s
KOLS Kolonicke sedl 11.37 6 e P Pn 01 48 23.0 +1.5
KOLS Kolonicke sedl 11.37 6 e PN Pn 01 48 23.0 +1.5
WTTA Wattenberg 11.57 329 i Pn Pn 01 48 24.9 +0.5
comp=Z,1.5nm,0.6s
WATA Walderalm 11.65 329 i Pn Pn 01 48 27.5 +2.0
comp=Z,1.1nm,0.2s
FUORN Ofenpass-Fuorn 11.68 323 Pn 01 48 27.2 +1.2
SQTA Sankt Quirin 11.71 328 i Pn Pn 01 48 28.9 +2.6
comp=Z,0.5nm,0.3s
FETA Feichten 11.77 326 i Pn Pn 01 48 31.9 +4.8
comp=Z,2.8nm,0.6s,SNR=5.3
MOTA Moosalm 11.85 328 i Pn Pn 01 48 29.6 +1.3
comp=Z,0.5nm,0.3s
VRAC Vranov 11.97 348 Pn Pn 01 48 31.4 +1.6
comp=Z,0.1nm,0.3s,baz=214,slow=15,SNR=2.9
comp=Z,1.2nm,0.5s
CKRC Cesky Krumlov 12.01 340 e PN Pn 01 48 30.3 0.0
CKRC AMS AMS 01 54 30.0
comp=Z,400nm,11.2s
CKRC Cesky Krumlov 12.01 340 e P Pn 01 48 30.3 0.0
CKRC MLR MLR
comp=Z,400nm,11.2s
TUE Stuetta 12.03 321 Pn 01 48 31.4 +0.7
TUE Stuetta 12.03 321 P Pn 01 48 30.9 +0.2
comp=Z,46nm,0.7s
RETA Reutte 12.11 327 i Pn Pn 01 48 33.5 +1.8
comp=Z,0.1nm,0.1s
GERES GERESS Array B 12.20 339 Pn Pn 01 48 32.0 -0.9
comp=Z,0.2nm,0.3s,baz=153,slow=13,SNR=6.1
GERES Sn Sn 01 50 43.3 -5.1
comp=Z,1.3nm,0.6s
DAVA Damuels 12.35 325 i Pn Pn 01 48 37.3 +2.2
comp=Z,4.7nm,0.7s,SNR=4.5
KHC Kasperske Hory 12.49 339 e PN Pn 01 48 36.6 -0.3
KHC e SN Sn 01 50 50.6 -4.8
KHC AMS AMS 01 54 30.0
comp=Z,500nm,11.9s
KHC Kasperske Hory 12.49 339 e P Pn 01 48 36.6 -0.3
KHC e 01 50 50.6
KHC MLR MLR
comp=Z,500nm,11.9s
SENIN Lac Senin/Sane 13.04 316 Pn 01 48 45.7 +1.2
MMAI Mount Meron Ar 13.11 106 Pn Pn 01 48 41.3 -4.2
comp=Z,0.3nm,0.3s,baz=304,slow=16,SNR=2.6
MMAI Sn Sn 01 51 01.9 -8.9
comp=Z,0.6nm,0.3s,baz=290,slow=21,SNR=1.5
comp=Z,1.4nm,0.6s
GEM Giv'at Ha'Em 13.23 105 P P 01 48 56.5 -0.3
SALP Salfit 13.38 110 P Pn 01 48 50.6 +1.5
KZIT Kziot 13.40 116 P Pn 01 48 42.7 -6.7
AMAZ Amatzia 13.44 113 P Pn 01 48 48.1 -1.8
HMDT Nahal Hemdat 13.54 109 P Pn 01 48 49.5 -1.8
QRNJ Al-Qirein 13.54 108 P Pn 01 48 50.1 -1.1
DSI Dead Sea 13.76 112 P Pn 01 48 51.5 -2.8
BFO Black Forest 13.82 324 Pn 01 48 55.9 +0.8
BFO Black Forest 13.82 324 P Pn 01 48 55.9 +0.8
BRG Berggiesshubel 13.99 343 e P P 01 49 08.8 +3.6
BRG Amp 01 49 10.6
comp=Z,3.2nm,0.8s
GHAJ Ghor Haditha 14.04 112 Pn 01 48 57.2 -0.8
GHAJ Ghor Haditha 14.04 112 P Pn 01 48 59.6 +1.6
PRNI Paran 14.14 117 P P 01 49 04.9 -2.1
ZFRI Zfri 14.15 116 P Pn 01 48 58.7 -0.9
ECH Echery 14.30 322 P P 01 49 11.3 +2.6
RNPP9 Sopachiv 14.31 14 P P 01 49 07.3 -1.4
AK07 Malin Array Si 14.36 23 P P 01 49 08.0 -1.3
MBRI Mt Berech 14.41 119 P Pn 01 49 02.2 -1.0
MOX Moxa 14.42 337 P P 01 49 11.9 +2.0
KIEV Kiev 14.49 23 P P 01 49 08.8 -1.9
KIEV Kiev 14.49 23 ⇓P Pn 01 49 05.8 +1.7
KIEV Kiev 14.49 23 P P 01 49 10.7 0.0
KIEV pmax pmax
comp=Z,8.0nm,1.8s
KIEV Kiev 14.49 23 P P 01 49 09.9 -0.8
comp=Z,33nm,1.9s
AKASG Malin Array Be 14.50 23 Pn Pn 01 49 03.5 -0.8
comp=Z,0.2nm,0.3s,baz=217,slow=12,SNR=1.3
AKASG Sn S 01 51 55.8 -7.9
baz=211,slow=20
AKASG LR LR 01 55 07.6
comp=Z,50nm,18.1s,baz=272,slow=39
AKBB Malin Array Si 14.50 23 P P 01 49 08.8 -2.0
AKBB Malin Array Si 14.50 23 P P 01 49 08.8 -2.0
AKBB Malin Array Si 14.50 23 P P 01 49 10.4 -0.4
EIL Elat 14.51 119 Pn Pn 01 49 01.1 -3.4
comp=Z,0.3nm,0.3s,baz=64,slow=9.8,SNR=3.3
comp=Z,14nm,0.7s
EIL Elat 14.51 119 P Pn 01 49 03.8 -0.7
AQBJ Aqaba 14.54 119 P Pn 01 49 03.8 -1.2
ASF Jabal al Asfar 14.62 107 P Pn 01 49 07.1 +1.0
CLL Collm 14.62 341 e P P 01 49 12.0 -0.2
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 14.62 341 e s P P 01 49 12.0 -0.2
comp=Z,3.0nm,0.8s
CLL i PP PnPn 01 49 14.6 +0.7
comp=Z,12nm,1.2s
CLL i sPP 01 49 16.8
CLL Collm 14.62 341 P P 01 49 11.8 -0.4
ANN Anapa 14.68 56 e P Pn 01 49 07.8 +1.0
ANN pmax pmax
comp=Z,60nm,1.1s
TNS Taunus Mts 15.20 330 P P 01 49 21.6 +2.9
CEST Esterri de Car 15.43 295 P P 01 49 23.3 +1.9
CEST IAmb IAmb 01 49 24.8
comp=Z,18nm,0.9s
WLF Walferdange 15.78 324 IAmb IAmb 01 49 29.7
comp=Z,44nm,1.0s
SUW Suwalki 16.48 6 P Pn 01 49 30.8 +0.6
SUW IAmb IAmb 01 49 49.1
comp=Z,43nm,1.0s
SUW Suwalki 16.48 6 P Pn 01 49 30.8 +0.6
SUW pmax pmax
comp=Z,43nm,1.0s
MEM Membach 16.52 326 P P 01 49 36.7 +3.5
MEM pmax pmax
comp=Z,23nm,0.8s
LABN Labinsk 16.83 59 i P Pn 01 49 33.0 -1.7
LABN pmax pmax
comp=Z,12nm,0.2s
MNK Minsk 17.63 15 i P Pn 01 49 40.7 -3.9
comp=E,15nm,0.9s
MNK i P Pn 01 49 40.7 -3.9
comp=N,10.0nm,0.9s
MNK i P Pn 01 49 40.7 -3.9
comp=Z,9.0nm,0.7s,baz=201
MNK i PP sP 01 49 51.2 -1.1
MNK i S Sn 01 52 57.8 -2.5
MNK i SS SnSn 01 53 12.0 -1.8
MNK i LQ LQ 01 54 49.9
MNK i LR LR 01 56 42.6
MNK i LRM MLR 01 57 16.4
comp=Z,56nm,17.4s
MNK i LRM MLR 01 57 41.2
comp=E,560nm,17.3s
MNK i LRM MLR 01 57 51.8
comp=N,859nm,22.2s
MNK Minsk 17.63 15 i P Pn 01 49 40.7 -3.9
MNK i S Sn 01 52 57.8 -2.5
MNK pmax pmax
comp=Z,9.0nm,0.7s
MNK pmax pmax
comp=E,15nm,0.9s
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK MLR MLR
comp=Z,56nm,17.0s
MNK MLR MLR
comp=E,560nm,17.0s
MNK MLR MLR
comp=N,859nm,22.0s
NACGM Naroch 17.81 12 e P P 01 49 53.8 +6.4
comp=Z,18nm,0.7s,baz=196
SHA1 Shidzhatmaz 17.94 63 ⇑ e P P 01 49 51.2 +1.9
KIV Kislovodsk 18.01 63 e P P 01 49 51.6 +1.7
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,17nm,14.0s
PABE Paberze 18.03 7 P P 01 49 55.5 +5.7
PABE IAmb IAmb 01 49 57.1
comp=Z,24nm,0.7s
PABE Paberze 18.03 7 e P P 01 49 52.2 +2.4
KBZ Khabaz 18.11 63 P Pn 01 49 49.6 -0.9
comp=Z,0.1nm,0.3s,baz=244,slow=16,SNR=1.7
comp=Z,3.0nm,0.8s
KBZ Khabaz 18.11 63 ⇑ e P P 01 49 54.2 +3.4
KBZ pmax pmax
comp=Z,6.0nm,0.9s
VORD Divnogorie 18.92 39 e P P 01 49 59.5 -0.2
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 19.01 38 e P P 01 49 59.2 -1.5
VSR pmax pmax
comp=Z,10.0nm,0.8s
ESDC Sonseca Array 19.10 284 P Pn 01 50 02.6 -0.1
comp=Z,0.1nm,0.3s,baz=79,slow=11,SNR=32
ESDC LR LR 01 57 48.1
comp=Z,63nm,18.9s,baz=100,slow=38
comp=Z,8.5nm,1.0s
GNI Garni 19.12 75 P P 01 50 01.5 -0.7
comp=Z,0.3nm,0.3s,baz=256,slow=5.1,SNR=5.8
comp=Z,18nm,1.0s
GNI Garni 19.12 75 ⇑ e P P 01 50 02.5 +0.3
GNI pmax pmax
comp=Z,47nm,2.5s
VORR Voronezh 19.32 37 P P 01 50 03.8 -0.2
VORR pmax pmax
comp=Z,14nm,0.5s
PAB San Pablo 19.40 283 P P 01 50 05.5 +0.3
PAB San Pablo 19.40 283 P P 01 50 05.5 +0.3
PAB pmax pmax
comp=Z,14nm,1.2s
LPSR Galich'ya Gora 19.79 35 e P P 01 50 07.5 -1.7
LPSR pmax pmax
comp=Z,20nm,0.8s
VRH Novokhopyorsk 20.30 41 e P P 01 50 14.9 +0.1
VRH pmax pmax
comp=Z,23nm,0.6s
OBN Obninsk 20.65 27 ⇓ e P P 01 50 18.1 -0.4
OBN e* SP pP 01 50 23.2 -0.5
OBN PPP PPP 01 50 45.0
OBN S S 01 54 04.0 -4.2
OBN 01 54 28.0
OBN SSS SSS 01 54 43.0
OBN pmax pmax
comp=Z,38nm,2.4s
MDT Midelt 20.94 264 P P 01 50 22.3 +0.4
comp=Z,4.0nm,0.8s,baz=89,slow=12,SNR=9.2
comp=Z,4.0nm,0.8s
MTSE Matsula 21.20 5 e P P 01 50 26.6 +2.2
PBRG Braganca 21.22 290 e P P 01 50 25.6 +0.7
VSU Vasula 21.24 9 ⇑ e P P 01 50 25.9 +1.1
VSU pmax pmax
comp=Z,56nm,1.3s
MVO Moncorvo 21.42 288 e P P 01 50 27.4 +0.3
MVO A A 01 50 31.7
comp=Z,36nm,1.9s
MOS Moscow 21.52 27 e P P 01 50 30.3 +2.5
MOS e 01 50 53.3
MOS e S Sn 01 54 32.6 -1.3
PBAR Barrancos 21.61 280 e P P 01 50 29.0 0.0
PMRV Marv??o 21.76 283 e P P 01 50 30.5 -0.1
PCBR Castelo Branco 21.80 284 e P P 01 50 31.1 +0.1
MTE Manteigas 21.82 286 P P 01 50 30.8 -0.6
MTE IAmb IAmb 01 50 34.5
comp=Z,31nm,1.0s
MTE Manteigas 21.82 286 e P P 01 50 31.1 -0.3
MTE A A 01 50 34.6
comp=Z,58nm,1.5s
MTE Manteigas 21.82 286 e P P 01 50 31.4 +0.1
PVIS Viseu 22.08 287 e P P 01 50 34.1 0.0
ARBE Arbavere 22.11 8 e P P 01 50 39.5 +5.3
PCAB Cabril 22.18 289 e P P 01 50 35.6 +0.4
PBEJ Beja 22.27 280 e P P 01 50 37.3 +1.2
EVO Evora 22.32 281 e P P 01 50 37.2 +0.5
PMTG Montargil 22.43 282 e P P 01 50 36.7 -1.1
COI Coimbra 22.50 285 e P P 01 50 39.3 +0.8
PCAS Casmilo, Conde 22.57 285 e P P 01 50 40.2 +0.9
MESJ Messejana 22.57 279 e P P 01 50 41.8 +2.4
PTO Porto 22.61 288 e P P 01 50 39.9 +0.2
PSBE So Bento 22.83 284 e P P 01 50 41.7 -0.4
HFS Hagfors 22.91 351 P P 01 50 42.4 -0.3
comp=Z,8.7nm,0.7s,baz=156,slow=11,SNR=14
comp=Z,8.7nm,0.7s
RAF Rauma 23.42 2 e P P 01 50 50.7 +2.9
NC602 NORSAR Array S 23.78 349 P P 01 50 51.5 +0.2
NC602 IAmb IAmb 01 51 05.4
comp=Z,17nm,0.9s
NORES NORESS Array B 23.78 349 P P 01 50 54.2 +2.9
EKA Eskdalemuir Ar 23.80 326 P P 01 50 51.9 +0.4
comp=Z,6.2nm,0.7s,baz=125,slow=13,SNR=22
comp=Z,6.2nm,0.7s
NAO01 NORSAR Array S 23.98 349 P P 01 50 53.7 +0.4
NAO01 IAmb IAmb 01 51 02.9
comp=Z,14nm,0.8s
BELG Belogornoye 24.07 43 c e P P 01 50 53.3 -0.8
BELG pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 24.09 7 P P 01 50 54.0 -0.2
comp=Z,2.5nm,0.4s,baz=175,slow=9.4,SNR=42
comp=Z,2.5nm,0.4s
FINES FINESS Array B 24.09 7 P P 01 50 54.0 -0.2
NB2 NORSAR Subarra 24.12 349 P P 01 50 54.9 +0.4
comp=Z,5.4nm,0.8s,baz=162,slow=9.3
NB2 NORSAR Subarra 24.12 349 P P 01 51 01.7 +7.1
NOA NORSAR Array B 24.12 349 P P 01 50 54.9 +0.4
comp=Z,1.0nm,0.7s,baz=159,slow=9.5,SNR=16
comp=Z,1.0nm,0.7s
KEF Keuruu 24.71 5 e P P 01 51 02.1 +2.3
VAF Ylistaro 25.47 2 e P P 01 51 09.2 +2.5
RAYN Ar Rayn 25.71 116 P P 01 51 09.1 -0.3
RAYN IAmb IAmb 01 51 10.9
comp=Z,5.5nm,0.7s
RAYN Ar Rayn 25.71 116 P P 01 51 10.1 +0.7
RAYN Ar Rayn 25.71 116 P P 01 51 09.1 -0.3
RAYN pmax pmax
comp=Z,6.0nm,0.7s
JOF Joensuu 26.18 11 e P P 01 51 15.6 +2.4
KLMR Klimovskoe 26.18 21 e P P 01 51 11.1 -2.1
KLMR pmax pmax
comp=Z,28nm,1.5s
TORD Torodi Ar. Bea 29.54 219 P P 01 51 44.0 +0.3
comp=Z,1.1nm,0.5s,baz=29,slow=9.3,SNR=14
comp=Z,1.1nm,0.5s
ABKAR Akbulak array 30.64 55 P P 01 51 52.7 -0.5
ABKAR IAmb IAmb 01 52 20.1
comp=Z,2.4nm,0.8s
ARTI Arti 31.43 41 P P 01 51 58.7 -1.4
ARTI IAmb IAmb 01 51 59.5
comp=Z,5.8nm,0.6s
ARTI Arti 31.43 41 ⇓ e P P 01 51 58.8 -1.2
ARTI pmax pmax
comp=Z,4.0nm,0.8s
MZR Muzera 31.90 108 P P 01 52 04.5 0.0
ARCES ARCESS Array B 32.07 3 P P 01 52 05.2 -0.3
comp=Z,1.4nm,0.7s,baz=189,slow=12,SNR=13
ARCES LR LR 02 06 16.2
comp=Z,35nm,19.5s,baz=126,slow=39
comp=Z,1.4nm,0.7s
NAZ Nazwa, Dubai 32.49 103 P P 01 52 08.9 -0.8
FAQ Al Faqa, Dubai 32.57 103 P P 01 52 10.3 0.0
UOSS Minazif 32.94 102 P P 01 52 13.1 -0.5
HATD Hatta, Dubai 32.94 102 P P 01 52 13.2 -0.4
ASHO Ashiyiah 32.96 103 P P 01 52 13.0 -0.8
ALNE Al Ain 33.05 104 P P 01 52 14.2 -0.4
UMZA Um Al Zommool 33.34 107 P P 01 52 16.5 -0.6
SOHO SOHO 33.62 103 P P 01 52 19.0 -0.5
HOQ Hoqain 34.51 103 P P 01 52 25.5 -1.8
BSY Bisya 34.88 105 P P 01 52 30.0 -0.5
DOK Doka 35.03 113 P P 01 52 31.1 -0.7
SNR=6.2
WHFO Wadi Hawf 35.22 115 P P 01 52 33.0 -0.5
ABTO Aybut 35.25 116 P P 01 52 33.3 -0.5
SMDO Samad 35.37 103 P P 01 52 33.7 -1.0
SNR=5.5
JMDO Jabal Madar 35.78 104 P P 01 52 37.1 -1.1
DMTO DMTO 36.21 114 P P 01 52 40.9 -1.0
MHTO MHTO 36.46 106 P P 01 52 44.1 0.0
SNR=5.5
JLN Jalan Bani Buh 36.91 104 P P 01 52 47.6 -0.3
BRVK Borovoye 37.49 49 ⇑ e P P 01 52 52.7 +0.2
BRVK pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 37.55 49 P P 01 52 52.7 -0.3
comp=Z,1.8nm,0.6s,baz=262,slow=5.5,SNR=8.3
comp=Z,1.8nm,0.6s
SIMJ Simiganj 37.91 73 P P 01 52 55.5 -0.9
KKAR Karatay Array 38.12 66 P P 01 52 57.1 -0.9
DBIC Dimbokro 38.42 223 LR LR 02 08 45.9
comp=Z,44nm,18.1s,baz=46,slow=36
SPITS Spitsbergen Ar 40.68 359 P P 01 53 19.9 +1.1
comp=Z,0.8nm,0.4s,baz=152,slow=6.5,SNR=1.1

comp=Z,0.8nm,0.4s
KMBO Kilima Mbogo 41.62 154 *ce*P **P 01 53 30.1 +2.6**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KURBB Kurchatov Arra 42.65 53 P **P 01 53 34.2 -1.0**
comp=Z,2.9nm,0.7s,baz=281,slow=8.7,SNR=18
comp=Z,2.9nm,0.7s
KURK Kurchatov 42.69 53⇑ *e*P **P 01 53 35.2 -0.4**
KURK pmax pmax
comp=Z,11nm,2.5s
MK31 Makanchi Array 45.69 58 P **P 01 53 58.7 -1.0**
MK31 IAmb IAmb 01 53 60.0
comp=Z,2.7nm,0.6s
MK31 Makanchi Array 45.69 58 *de*P **P 01 53 59.5 -0.2**
MKAR Makanchi Array 45.69 58 P **P 01 53 58.4 -1.3**
comp=Z,3.4nm,0.6s,baz=272,slow=6.9,SNR=39
comp=Z,3.4nm,0.6s
ZALV Zalesovo Beam 46.14 48 P **P 01 54 02.1 -1.0**
comp=Z,7.4nm,0.6s,baz=278,slow=8.5,SNR=33
comp=Z,7.4nm,0.6s
WMQ Urumqi 50.12 60 *e*P **P 01 54 34.9 +0.7**
WMQ pmax pmax
comp=Z,23nm,0.7s
SCHQ Schefferville 58.77 317 P **P 01 55 37.1 +0.3**
comp=Z,2.4nm,0.6s,baz=63,slow=4.5,SNR=2.4
comp=Z,2.4nm,0.6s
TIXI Tiksi 60.19 20⇑ *e*P **P 01 55 47.6 +1.3**
TIXI pmax pmax
comp=Z,7.0nm,1.7s
SONM Songino Array 60.89 50 P **P 01 55 51.1 -0.5**
comp=Z,3.2nm,0.8s,baz=278,slow=10,SNR=4.2
comp=Z,3.2nm,0.8s
ULN Ulaanbaatar 61.28 50 P **P 01 55 53.7 -0.6**
ULN IAmb IAmb 01 55 55.4
comp=Z,3.1nm,0.7s
ULN Ulaanbaatar 61.28 50 *de*P **P 01 55 54.0 -0.3**
ULN pmax pmax
comp=Z,3.0nm,0.7s
LZH Lanzhou 64.55 63 *e*P P 01 56 26.3 +10
LZH pP pwP 01 56 29.9 +5.3
LZH pmax pmax
comp=Z,19nm,1.5s
BOSA Boshof 66.07 175 P **P 01 56 26.4 +0.6**
comp=Z,2.9nm,1.0s,baz=9.1,slow=7.1,SNR=5.2
comp=Z,2.9nm,1.0s
HHC Hu-ho-hao-te 67.44 55 *e*P **P 01 56 35.6 +0.9**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,130nm,6.0s
PZH PanZhiHua 67.88 73 P **P 01 56 40.0 +2.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,4.8s
A36M Sachs Harbour 68.03 349 P **P 01 56 38.3 +0.6**
A36M IAmb IAmb 01 56 46.9
comp=Z,5.4nm,0.8s
CMAR Chiang Mai Arr 70.08 82 P **P 01 56 50.5 -0.8**
comp=Z,2.0nm,0.4s,baz=299,slow=7.4,SNR=11
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 70.08 82 *ce*P **P 01 56 51.7 +0.3**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
HEH HeiHe 71.52 40 *e*P P 01 56 53.6 -6.0
E29M Blow River 73.04 352 P **P 01 57 09.8 +1.5**
CN2 Changchun 74.34 47 *e*P **P 01 57 16.6 +0.2**
CN2 pmax pmax
comp=Z,20nm,0.9s
KLR Kul'dur 74.36 39 *ce*P **P 01 57 17.2 +0.8**
KLR pmax pmax
comp=Z,7.0nm,1.7s
ULM Lac du Bonnet 76.06 324 P **P 01 57 27.1 +0.9**
comp=Z,1.5nm,0.7s,baz=88,slow=2.3,SNR=2.1
comp=Z,1.5nm,0.7s
J30M Hart River 76.47 350 P **P 01 57 30.2 +1.7**
J30M IAmb IAmb 01 57 37.5
comp=Z,4.2nm,0.8s
NJ2 Nanjing 77.19 59 *e*P **P 01 57 32.8 -0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
ILAR Eielson Array 77.43 354 P **P 01 57 34.5 +0.9**
comp=Z,0.3nm,0.8s,baz=346,slow=3.2,SNR=2.4
comp=Z,0.3nm,0.8s
KSAR Wonju Array Be 79.75 50 P **P 01 57 47.1 +0.2**
KSRS Korea Array 79.76 50 P **P 01 57 47.2 +0.3**
comp=Z,3.7nm,0.8s,baz=310,slow=4.3,SNR=12
comp=Z,3.7nm,0.8s

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*IDC **02** 01:54:57.9±1.3, 37.°60N×20.°67E, h0km, mb3.4/5, mbtmp3.4/8, ML1.1/2, Error ellipse: s-maj=25.2km s-min=21.7km az=121.0*
*THE **02** 01:55:00.5, 37.°42N×20.°59E, h11km±8km, ML3.7/5, Error ellipse: s-maj=8.9km s-min=1.5km az=49.0*
*ATH **02** 01:55:01.7, 37.°45N×20.°57E, h6km±1km, ML3.1/26, Error ellipse: s-maj=1.6km s-min=0.9km az=48.0*
ISC 02 01:55:00.4±1.2, 37.°44N±0.°04×20.°57E±0.°03, h15km±7km, n48, σ1°04/79, mb3.3/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.30**	**41**	P		**Pg**		**01 55 06.6**	**-0.1**
KRI1				S		**Sg**		**01 55 11.2**	**+0.1**
28μm,0.2s									
LTHK	**Lithakia**	**0.35**	**38**	P		**Pg**		**01 55 07.3**	**-0.3**
LTHK				S		**Sb**		**01 55 12.7**	**-1.0**
14μm,0.2s									
LTHK	**Lithakia**	**0.35**	**38**	P		**Pg**		**01 55 07.3**	**-0.3**
LTHK				S		**Sg**		**01 55 12.3**	**-0.1**
LTHK				AML		AML		01 55 13.0	
comp=N,29786μm,0.4s									
LTHK				AML		AML		01 55 13.3	
comp=E,23640μm,0.1s									
RTZL	**Ratzakli, Kefa**	**0.66**	**14**	P		**Pg**		**01 55 12.6**	**-0.7**
RTZL				S		**Sb**		**01 55 23.7**	**+1.0**
PSDA	**Pessada-Kefalo**	**0.68**	**1**	P		**Pg**		**01 55 13.2**	**-0.5**
PSDA				S		**Sb**		**01 55 22.9**	**-0.3**
comp=E,4μm,0.3s									
PSDA	**Pessada-Kefalo**	**0.68**	**1**	P		**Pb**		**01 55 14.4**	**+0.4**
PSDA				S		**Sb**		**01 55 23.3**	**+0.1**
VLS	**Valsamata**	**0.74**	**1**	P		**Pg**		**01 55 14.8**	**-0.1**
VLS				S		**Sb**		**01 55 25.9**	**+0.8**
comp=E,3μm,0.3s									
VLS	**Valsamata**	**0.74**	**1**	P		**Pg**		**01 55 14.2**	**-0.6**
VLS				S		**Sb**		**01 55 25.0**	**-0.1**
VLS				AML		AML		01 55 28.9	
comp=N,9868μm,0.5s									
VLS				AML		AML		01 55 29.0	
comp=E,3918μm,0.2s									
LXRA	**Lixouri, Kepha**	**0.77**	**352**	P		**Pb**		**01 55 15.8**	**+0.3**
LXRA				S		**Sb**		**01 55 26.3**	**+0.4**
LXRA				AML		AML		01 55 30.5	
comp=N,27589μm,0.4s									
LXRA				AML		AML		01 55 32.5	
comp=E,13512μm,0.4s									
DMLN	**Damoulianata-K**	**0.82**	**349**	P		**Pb**		**01 55 17.2**	**+0.8**
DMLN				S		**Sb**		**01 55 28.5**	**+1.2**
comp=E,11μm,0.5s									
DMLN	**Damoulianata-K**	**0.82**	**349**	P		**Pb**		**01 55 17.4**	**+1.0**
DMLN				S		**Sb**		**01 55 28.4**	**+1.2**
AMT	**Artemida-Makis**	**0.92**	**84**	P		**Pb**		**01 55 18.2**	**+0.1**
AMT				S		**Sb**		**01 55 31.3**	**+1.3**
AMT				AML		AML		01 55 36.2	
comp=E,8052μm,0.7s									
AMT				AML		AML		01 55 37.2	
comp=N,6427μm,0.8s									
RLS	**Riolos of Patr**	**0.95**	**49**	P		**Pg**		**01 55 17.9**	**-0.8**
RLS				S		**Sb**		**01 55 32.2**	**+1.3**
RLS	**Riolos of Patr**	**0.95**	**49**	P		**Pn**		**01 55 19.5**	**+0.3**
RLS				S		**Sb**		**01 55 32.4**	**+1.4**
RLS				AML		AML		01 55 37.8	
comp=N,1492μm,0.9s									
RLS				AML		AML		01 55 41.0	
comp=E,1413μm,0.5s									
FSK	**Fiskardo**	**1.02**	**360**	P		**Pb**		**01 55 20.4**	**+0.6**
FSK				S		**Sb**		**01 55 34.5**	**+1.4**
FSK				AML		AML		01 55 41.8	
comp=N,2300μm,0.6s									
FSK				AML		AML		01 55 42.3	
comp=E,3299μm,0.5s									
DRO	**Drossia**	**1.04**	**60**	P		**Pn**		**01 55 21.9**	**+1.3**
DRO				S		**Sn**		**01 55 35.8**	**+0.8**
DRO				AML		AML		01 55 44.5	
comp=N,1843μm,0.7s									
DRO				AML		AML		01 55 48.6	
comp=E,2660μm,0.5s									
PYL	**PYLOS**	**1.08**	**119**	P		**Pg**		**01 55 21.3**	**0.0**
PYL				S		**Sn**		**01 55 37.3**	**+1.5**
PYL				AML		AML		01 55 44.2	
comp=E,763μm,0.4s									
PYL				AML		AML		01 55 49.8	
comp=N,445μm,0.8s									
ITM	**Ithomi**	**1.11**	**103**	P		**Pb**		**01 55 22.2**	**+0.8**
ITM				S		**Sn**		**01 55 38.5**	**+1.8**
ITM				AML		AML		01 55 44.7	
comp=E,693μm,0.7s									
ITM				AML		AML		01 55 44.9	
comp=N,905μm,0.5s									
EVGI	**Lefkada island**	**1.19**	**3**	P		**Pn**		**01 55 23.4**	**+0.8**
EVGI				S		**Sb**		**01 55 38.7**	**+0.8**
DRAG	**Dragano-Lefkad**	**1.25**	**0**	P		**Pg**		**01 55 24.0**	**-0.4**
DRAG				S		**Sn**		**01 55 41.2**	**+1.2**
NYDR	**Nydri-Lefkada**	**1.28**	**5**	P		**Pg**		**01 55 24.9**	**-0.2**
NYDR				S		**Sn**		**01 55 42.3**	**+1.6**
UPR	**University Cam**	**1.28**	**48**	P		**Pn**		**01 55 24.4**	**+0.5**
UPR				S		**Sb**		**01 55 41.3**	**+0.6**
LKD2	**Lefkada island**	**1.35**	**3**	P		**Pg**		**01 55 26.6**	**+0.1**
LKD2				S		**Sn**		**01 55 44.1**	**+1.4**
LKD2				AML		AML		01 55 53.1	
comp=E,1742μm,0.5s									
LKD2				AML		AML		01 55 53.4	
comp=N,1189μm,0.4s									
TSLK	**Tsoukalades, L**	**1.39**	**3**	P		**Pg**		**01 55 26.7**	**-0.5**
TSLK				S		**Sb**		**01 55 44.2**	**+0.5**
TSLK				AML		AML		01 55 50.1	
comp=E,1838μm,0.5s									
TSLK				AML		AML		01 55 54.4	
comp=N,2474μm,0.6s									
KLV	**Kalavryta, Ach**	**1.40**	**64**	P		**Pg**		**01 55 27.3**	**0.0**
KLV				S		**Sb**		**01 55 44.4**	**+0.4**
KLV				AML		AML		01 55 52.4	
comp=N,526μm,0.6s									
KLV				AML		AML		01 55 56.4	
comp=E,437μm,0.7s									
EFP	**Efpalio**	**1.45**	**47**	P		**Pg**		**01 55 28.4**	**+0.1**
EFP				S		**Sg**		**01 55 46.6**	**-0.6**
EFP				AML		AML		01 55 54.0	
comp=N,902μm,0.8s									
EFP				AML		AML		01 55 54.8	
comp=E,544μm,0.5s									
GUR	**Goura**	**1.50**	**70**	P		**Pg**		**01 55 28.9**	**-0.3**
GUR				S		**Sb**		**01 55 47.6**	**+0.8**
GUR				AML		AML		01 55 54.7	
comp=E,925μm,0.5s									
GUR				AML		AML		01 56 01.8	
comp=N,1207μm,0.5s									
ANX	**Ano Chora**	**1.58**	**42**	P		**Pb**		**01 55 29.6**	**+0.3**
ANX				AML		AML		01 56 02.2	
comp=E,1926μm,0.5s									
ANX				AML		AML		01 56 02.7	
comp=N,2042μm,0.6s									
EVR	**Evrytania**	**1.77**	**33**	P		**Pb**		**01 55 32.9**	**+0.2**
EVR				AML		AML		01 56 09.0	
comp=N,615μm,0.6s									
EVR				AML		AML		01 56 10.0	
comp=E,489μm,0.7s									
VLI	**Velíai**	**2.03**	**110**	P		**Pb**		**01 55 36.5**	**-0.5**
VLI				AML		AML		01 56 19.5	
comp=N,378μm,0.9s									
VLI				AML		AML		01 56 27.5	
comp=E,291μm,0.6s									
IGT	**Igoumenitsa**	**2.10**	**355**	P		**Pn**		**01 55 36.8**	**+1.7**
IGT				AML		AML		01 56 15.1	
comp=E,426μm,0.7s									
IGT				AML		AML		01 56 19.8	
comp=N,424μm,0.7s									
THL	**Klokotos Trika**	**2.41**	**28**	P		**Pn**		**01 55 41.2**	**+1.9**
THL				AML		AML		01 56 26.5	
comp=N,160μm,0.6s									
THL				AML		AML		01 56 30.3	
comp=E,267μm,0.7s									
KPRO	**Kipourio**	**2.59**	**14**	P		**Pn**		**01 55 43.2**	**+1.3**
KPRO				AML		AML		01 56 40.0	
comp=N,299μm,0.7s									
KPRO				AML		AML		01 56 41.6	
comp=E,459μm,0.9s									
TYRN	**Tyrnavos**	**2.62**	**29**	P		**Pn**		**01 55 42.9**	**+0.7**
DION	**Dionisos Attik**	**2.75**	**75**	P		**Pn**		**01 55 45.3**	**+1.4**
DION				S		**Sn**		**01 56 17.1**	**+0.2**
DION				AML		AML		01 56 31.3	
comp=E,325μm,0.5s									
DION				AML		AML		01 56 41.0	
comp=N,249μm,0.9s									
NEO	**Neokhori**	**2.80**	**47**	P		**Pn**		**01 55 45.4**	**+0.7**
NEO				S		**Sn**		**01 56 18.8**	**+0.4**
NEO				AML		AML		01 56 26.1	
comp=E,212μm,0.4s									
NEO				AML		AML		01 56 26.7	
comp=N,330μm,0.5s									
KZN	**Kozani**	**3.02**	**18**	P		**Pn**		**01 55 49.0**	**+1.2**
KZN				AML		AML		01 56 47.1	
comp=N,114μm,0.8s									
KZN				AML		AML		01 56 52.8	
comp=E,140μm,0.7s									
AOS2	**Alonissos-2**	**3.10**	**55**	P		**Pn**		**01 55 49.7**	**+1.0**
FNA	**Florina**	**3.40**	**10**	P		**Pn**		**01 55 54.3**	**+1.2**
HORT	**Hortiatis**	**3.72**	**31**	P		**Pn**		**01 55 59.5**	**+2.0**
HORT				AML		AML		01 56 43.4	
comp=N,89μm,0.4s									
HORT				AML		AML		01 56 44.6	
comp=E,43μm,0.4s									
IDI	**Anoyia**	**4.09**	**120**	Pn		**Pn**		**01 56 04.0**	**+1.4**
comp=E,0.5nm,0.3s,baz=240,slow=22,SNR=1.3									
IDI				Sn		**Sn**		**01 56 50.4**	**+0.1**
comp=E,0.7nm,0.3s,baz=161,slow=22,SNR=5.6									
comp=E,1.5nm,0.4s									
VAE	**Valguarnera**	**4.90**	**272**	Pn		**Pn**		**01 56 15.4**	**+1.8**
comp=E,0.4nm,0.3s,baz=228,slow=15,SNR=1.4									
VAE				Sn		**Sn**		**01 57 08.6**	**-1.4**
comp=E,0.6nm,0.3s,baz=40,slow=21,SNR=1.4									
comp=E,5.2nm,0.8s									
MLR	**Muntele Rosu**	**9.00**	**25**	Pn		**Pn**		**01 57 08.3**	**-1.7**
comp=E,1.6nm,0.9s,baz=223,slow=17									
HFS	**Hagfors**	**23.14**	**351**	P		**P**		**02 00 03.6**	**-2.2**
comp=E,1.0nm,0.6s,baz=149,slow=17,SNR=1.2									
comp=E,1.0nm,0.6s									
FINES	**FINESS Array B**	**24.28**	**6**	P		**P**		**02 00 15.1**	**-1.7**
comp=E,1.7nm,0.8s,baz=165,slow=12,SNR=5.2									
comp=E,1.7nm,0.8s									
TORD	**Torodi Ar. Bea**	**29.48**	**220**	P		**P**		**02 01 04.7**	**+0.7**
comp=E,0.2nm,0.5s,baz=28,slow=9.1,SNR=1.9									
comp=E,0.2nm,0.5s									
KURBB	**Kurchatov Arra**	**42.65**	**53**	P		**P**		**02 02 54.1**	**-2.1**
comp=E,0.2nm,0.5s,baz=275,slow=9.2,SNR=1.8									
comp=E,0.2nm,0.5s									
MKAR	**Makanchi Array**	**45.66**	**58**	P		**P**		**02 03 18.7**	**-1.7**
comp=E,0.2nm,0.5s,baz=267,slow=5.7,SNR=1.9									
comp=E,0.2nm,0.5s									

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*IDC **02** 02:13:18.2±1.0, 37.°69N×20.°93E, h0km, mb3.7/9, mbtmp3.6/14, ML3.4/2, MS3.2/5, Error ellipse: s-maj=19.7km s-min=16.3km az=165.0*
*ATH **02** 02:13:20.1, 37.°61N×20.°82E, h11km±1km, ML3.6/10, Error ellipse: s-maj=1.7km s-min=0.7km az=38.0*
*THE **02** 02:13:20.2, 37.°59N×20.°82E, h11km±1km, ML3.6/10, Error ellipse: s-maj=2.0km s-min=0.7km az=27.0*
ISC 02 02:13:20.3±0.7, 37.°64N±0.°03×20.°87E±0.°03, h13km±4km, n58, σ1°32/84, mb3.7/9, MS3.1/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.05**	**304**	P		**Pg**		**02 13 22.7**	**-0.1**
KRI1				S		**Sg**		**02 13 24.3**	**-0.2**
501μm,0.3s									
LTHK	**Lithakia**	**0.08**	**342**	P		**Pg**		**02 13 22.9**	**-0.2**
LTHK				S		**Sg**		**02 13 24.9**	**-0.1**
230μm,0.2s									
LTHK	**Lithakia**	**0.08**	**342**	P		**Pg**		**02 13 22.8**	**-0.2**
LTHK				S		**Sg**		**02 13 24.5**	**-0.5**
LTHK				AML		AML		02 13 25.1	
LTHK				AML		AML		02 13 25.2	
RTZL	**Ratzakli, Kefa**	**0.45**	**350**	P		**Pg**		**02 13 29.4**	**+0.2**
RTZL				S		**Sb**		**02 13 37.2**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.53**	**335**	P		**Pg**		**02 13 30.5**	**-0.2**
PSDA				S		**Sb**		**02 13 39.0**	**0.0**
9μm,0.5s									
PSDA	**Pessada-Kefalo**	**0.53**	**335**	P		**Pg**		**02 13 30.4**	**-0.3**
PSDA				S		**Sg**		**02 13 37.7**	**0.0**
VLS	**Valsamata**	**0.58**	**338**	P		**Pg**		**02 13 31.3**	**-0.4**
VLS				S		**Sb**		**02 13 40.9**	**+0.3**
5μm,0.5s									
VLS	**Valsamata**	**0.58**	**338**	P		**Pg**		**02 13 31.1**	**-0.6**
VLS				S		**Sg**		**02 13 40.1**	**+0.6**
VLS				AML		AML		02 13 41.2	
comp=E,10253μm,0.5s									
VLS				AML		AML		02 13 46.0	
comp=N,9646μm,0.5s									
RLS	**Riolos of Patr**	**0.64**	**48**	P		**Pg**		**02 13 32.5**	**-0.2**
RLS				S		**Sg**		**02 13 42.8**	**+1.7**
comp=N,2μm,0.7s									
RLS	**Riolos of Patr**	**0.64**	**48**	P		**Pg**		**02 13 32.4**	**-0.3**
RLS				S		**Sg**		**02 13 42.2**	**+1.1**
RLS				AML		AML		02 13 47.9	
comp=E,2938μm,0.7s									
RLS				AML		AML		02 13 48.3	
comp=N,4686μm,0.7s									
SMHA	**Samh**	**0.64**	**344**	P		**Pg**		**02 13 31.8**	**-1.0**
SMHA				S		**Sg**		**02 13 41.8**	**+0.6**
SMHA				AML		AML		02 13 45.2	
comp=E,27396μm,0.6s									
SMHA				AML		AML		02 13 52.1	
comp=N,25586μm,0.4s									
LXR1	**Lixouri, Cepha**	**0.66**	**329**	P		**Pg**		**02 13 33.3**	**+0.2**
LXRA	**Lixouri, Kepha**	**0.66**	**329**	P		**Pg**		**02 13 33.0**	**-0.1**
LXRA				S		**Sg**		**02 13 42.0**	**+0.2**
LXRA				AML		AML		02 13 48.3	
comp=E,41208μm,0.9s									
LXRA				AML		AML		02 13 50.4	
comp=N,42279μm,0.6s									
AMT	**Artemida-Makis**	**0.68**	**98**	P		**Pg**		**02 13 33.3**	**-0.2**
AMT				S		**Sg**		**02 13 43.1**	**+0.7**
AMT				AML		AML		02 13 54.0	
comp=N,20542μm,0.5s									
AMT				AML		AML		02 13 55.2	
comp=E,21364μm,0.4s									
DMLN	**Damoulianata-K**	**0.72**	**327**	P		**Pg**		**02 13 34.1**	**-0.2**
DMLN				S		**Sn**		**02 13 46.2**	**-0.9**
comp=E,13μm,0.6s									
DMLN	**Damoulianata-K**	**0.72**	**327**	P		**Pg**		**02 13 34.1**	**-0.2**
DMLN				S		**Sg**		**02 13 44.1**	**+0.3**
DRO	**Drossia**	**0.74**	**64**	P		**Pg**		**02 13 35.0**	**+0.4**
DRO				S		**Sb**		**02 13 47.5**	**+2.4**
comp=E,4μm,0.5s									
DRO	**Drossia**	**0.74**	**64**	P		**Pg**		**02 13 35.1**	**+0.4**
DRO				S		**Sb**		**02 13 46.3**	**+1.2**
DRO				AML		AML		02 13 56.5	
comp=N,5230μm,0.6s									
DRO				AML		AML		02 14 03.5	
comp=E,6139μm,0.6s									
VSK1	**VASILIKIADES**	**0.81**	**343**	P		**Pg**		**02 13 35.5**	**-0.5**
VSK1				S		**Sn**		**02 13 49.2**	**-0.1**
comp=E,5μm,0.5s									
FSK	**Fiskardo**	**0.86**	**344**	P		**Pg**		**02 13 36.1**	**-0.8**
FSK				S		**Sn**		**02 13 50.5**	**0.0**
comp=E,4μm,0.8s									
FSK	**Fiskardo**	**0.86**	**344**	P		**Pg**		**02 13 36.4**	**-0.6**
FSK				S		**Sg**		**02 13 48.7**	**+0.5**
FSK				AML		AML		02 13 54.5	
comp=E,5552μm,0.6s									
FSK				AML		AML		02 13 56.6	
comp=N,9206μm,0.7s									
AST1	**Astakos**	**0.92**	**11**	P		**Pg**		**02 13 37.5**	**-0.6**
AST1				S		**Sn**		**02 13 52.8**	**+0.7**
ITM	**Ithomi**	**0.96**	**118**	P		**Pg**		**02 13 38.6**	**-0.2**
ITM				S		**Sn**		**02 13 53.1**	**+0.1**
comp=N,2μm,1.0s									
ITM	**Ithomi**	**0.96**	**118**	P		**Pb**		**02 13 39.0**	**+0.2**
ITM				S		**Sb**		**02 13 52.0**	**+0.6**
UPR	**University Cam**	**0.97**	**48**	P		**Pg**		**02 13 39.5**	**+0.4**
EVGI	**Lefkada island**	**1.00**	**350**	P		**Pg**		**02 13 38.7**	**-0.9**
EVGI				S		**Sg**		**02 13 53.1**	**+0.5**
PYL	**PYLOS**	**1.02**	**136**	P		**Pg**		**02 13 39.2**	**-0.7**
PYL	**PYLOS**	**1.02**	**136**	P		**Pg**		**02 13 39.0**	**-0.9**
PYL				S		**Sb**		**02 13 53.3**	**+0.3**
PYL				AML		AML		02 13 57.8	
comp=E,3794μm,0.8s									
PYL				AML		AML		02 14 02.3	
comp=N,1953μm,0.7s									
NYDR	**Nydri-Lefkada**	**1.08**	**353**	P		**Pb**		**02 13 40.0**	**-1.0**
KLV	**Kalavryta, Ach**	**1.09**	**68**	P		**Pb**		**02 13 40.8**	**-0.3**
EFP	**Efpalio**	**1.14**	**46**	P		**Pb**		**02 13 41.7**	**-0.2**
EFP				S		**Sb**		**02 13 58.0**	**+1.4**
EFP				AML		AML		02 14 02.0	
comp=E,1323μm,0.7s									
EFP				AML		AML		02 14 10.8	
comp=N,2036μm,1.5s									
LKD2	**Lefkada island**	**1.16**	**352**	P		**Pb**		**02 13 42.5**	**+0.2**
GUR	**Goura**	**1.21**	**75**	P		**Pn**		**02 13 43.0**	**-0.1**
KALE	**Kalithea**	**1.26**	**53**	P		**Pn**		**02 13 42.5**	**-1.1**
ANX	**Ano Chora**	**1.27**	**41**	P		**Pn**		**02 13 43.4**	**-0.4**
IDI	**Anoyia**	**4.00**	**125**	Pn		**Pn**		**02 14 21.3**	**-0.1**
comp=N,2.4nm,0.7s,baz=280,slow=16,SNR=1.6									
IDI				Sn		**Sn**		**02 15 08.1**	**0.0**
comp=N,1.0nm,0.3s,baz=282,slow=20,SNR=4.3									
VAE	**Valguarnera**	**5.13**	**270**	Pn		**Pn**		**02 14 39.7**	**+2.8**
comp=N,11nm,0.8s,baz=184,slow=16,SNR=2.6									
VAE				Sn		**Sn**		**02 15 35.7**	**-0.4**
comp=N,0.9nm,0.3s,baz=288,slow=7.4,SNR=3.7									
MLR	**Muntele Rosu**	**8.72**	**24**	Pn		**Pn**		**02 15 26.1**	**-0.1**
comp=N,0.1nm,0.3s,baz=163,slow=13,SNR=1.4									
MLR				LR		LR		02 19 48.2	
comp=N,171nm,18.2s,baz=200,slow=45									
comp=N,0.9nm,0.6s									
SOKA	**Soboth**	**10.02**	**336**	*i* Pn		**Pn**		**02 15 47.2**	**+3.2**
comp=N,0.4nm,0.3s									
ARSA	**Arzberg**	**10.38**	**339**	*e*Pn		**Pn**		**02 15 53.1**	**+4.2**
comp=N,1.7nm,0.8s									
MYKA	**Terra Mystica**	**10.46**	**331**	*i* Pn		**Pn**		**02 15 53.8**	**+3.8**
comp=N,2.1nm,0.5s									
KBA	**Koelnbreinsper**	**10.95**	**332**	*i* Pn		**Pn**		**02 16 00.1**	**+3.3**
comp=N,0.4nm,0.3s									
MOA	**Molln**	**11.30**	**337**	*i* Pn		**Pn**		**02 16 03.6**	**+2.2**
comp=N,0.7nm,0.3s									
LESA	**Schwarzleotal**	**11.49**	**331**	*i* Pn		**Pn**		**02 16 07.3**	**+3.2**
comp=N,2.8nm,0.6s									
MMAI	**Mount Meron Ar**	**12.73**	**107**	Pn		**Pn**		**02 16 20.9**	**-0.2**
comp=N,0.2nm,0.3s,baz=316,slow=10,SNR=2.9									
comp=N,2.0nm,0.8s									
AKASG	**Malin Array Be**	**14.36**	**22**	LR		LR		02 22 40.1	
comp=N,62nm,19.8s,baz=240,slow=39									
NACGM	**Naroch**	**17.74**	**11**	*e*P		**Pn**		**02 17 21.3**	**-5.5**
comp=Z,17nm,0.8s,baz=196									
ESDC	**Sonseca Array**	**19.48**	**284**	P		**P**		**02 17 46.8**	**-0.3**
comp=Z,1.3nm,0.9s,baz=82,slow=9.7,SNR=6.9									
MDT	**Midelt**	**21.33**	**265**	P		**P**		**02 18 07.0**	**-0.2**
comp=Z,2.6nm,0.9s,baz=71,slow=5.3,SNR=4.0									
comp=Z,2.6nm,0.9s									
HFS	**Hagfors**	**22.98**	**351**	P		**P**		**02 18 23.2**	**-1.1**
comp=Z,1.2nm,0.

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.74**	**331**	⇑*iP*	**Pn**	**02 15 06.8**	**-0.7**
PB01				*i* S	**Sn**	**02 15 20.2**	**+0.8**
PB01				IAML		02 15 22.4	
	comp=E,2μm,0.2s						
PB01	**IPOC Station P**	**0.74**	**331**	*i P*	**Pn**	**02 15 06.1**	**-1.3**
LVC	**Limon Verde**	**0.92**	**169**	*i P*	**Pn**	**02 15 07.9**	**-1.8**
PB06	**IPOC Station P**	**1.09**	**203**	⇑*iP*	**Pn**	**02 15 11.0**	**-0.5**
PB06				*i* S	**Sn**	**02 15 27.4**	**+0.7**
PB06				IAML		02 15 30.9	
	comp=N,995nm,0.4s						
PB06	**IPOC Station P**	**1.09**	**203**	*i P*	**Pn**	**02 15 10.4**	**-1.1**
PB04	**IPOC Station P**	**1.16**	**237**	⇑*iP*	**Pn**	**02 15 11.8**	**-0.5**
PB04				*i* S	**Sn**	**02 15 29.7**	**+1.6**
PB04				IAML		02 15 32.0	
	comp=N,1μm,0.3s						
PB04	**IPOC Station P**	**1.16**	**237**	*i P*	**Pn**	**02 15 11.5**	**-0.8**
PATCX	**Punta Patache**	**1.31**	**312**	⇑*iP*	**Pn**	**02 15 13.6**	**-0.6**
PATCX				*i* S	**Sn**	**02 15 33.0**	**+1.6**
PATCX				IAML		02 15 38.6	
	comp=N,1μm,0.5s						
PATCX	**Punta Patache**	**1.31**	**312**	*i P*	**Pn**	**02 15 13.1**	**-1.1**
TA01	**Diego Aracena**	**1.51**	**318**	⇑*iP*	**Pn**	**02 15 16.2**	**-0.5**
TA01				*i* S	**Sn**	**02 15 36.7**	**+0.8**
TA01				IAML		02 15 38.5	
	comp=E,538nm,0.5s						
TA01	**Diego Aracena**	**1.51**	**318**	*i P*	**Pn**	**02 15 15.7**	**-1.0**
PB15	**IPOC Station P**	**1.54**	**193**	*i P*	**Pn**	**02 15 16.6**	**-0.6**
PB15				*i* S	**Sn**	**02 15 37.8**	**+0.9**
PB15	**IPOC Station P**	**1.54**	**193**	*i P*	**Pn**	**02 15 16.6**	**-0.6**
PB08	**IPOC Station P**	**1.55**	**358**	*i P*	**Pn**	**02 15 16.9**	**-0.6**
PB08				*i* S	**Sn**	**02 15 38.5**	**+1.1**
PB08	**IPOC Station P**	**1.55**	**358**	*i P*	**Pn**	**02 15 16.5**	**-1.1**
HMBC	**Humberstone**	**1.59**	**333**	⇑*iP*	**Pn**	**02 15 16.8**	**-1.1**
HMBC				*i* S	**Sn**	**02 15 38.1**	**+0.1**
HMBC				IAML		02 15 41.7	
	comp=N,720nm,0.2s						
HMBC	**Humberstone**	**1.59**	**333**	*i P*	**Pn**	**02 15 16.2**	**-1.6**
TA02	**Huaiquique**	**1.72**	**326**	*eP*	**Pn**	**02 15 18.0**	**-1.3**
TA02				*i* S	**Sn**	**02 15 43.1**	**+2.4**
TA02	**Huaiquique**	**1.72**	**326**	*i P*	**Pn**	**02 15 19.2**	**-0.2**
PB11	**IPOC Station P**	**2.00**	**345**	*eP*	**Pn**	**02 15 22.0**	**-1.3**
PB11				*e*S	**Sn**	**02 15 48.3**	**+0.7**
PB11				IAML		02 15 55.4	
	comp=E,440nm,0.2s						
PB11	**IPOC Station P**	**2.00**	**345**	*i P*	**Pn**	**02 15 21.4**	**-1.8**
GO01	**Chusmiza**	**2.02**	**358**	*eP*	**Pn**	**02 15 23.1**	**-0.8**
GO01				*e*S	**Sn**	**02 15 49.5**	**+0.8**
GO01	**Chusmiza**	**2.02**	**358**	*i P*	**Pn**	**02 15 22.6**	**-1.3**
YJA	**Yavi**	**3.37**	**99**	*i P*	**Pn**	**02 15 42.5**	**+0.5**
GO02	**Mina Guanaco**	**3.48**	**187**	*i P*	**Pn**	**02 15 41.8**	**-1.5**

IDC 02 02:27:28.2±2.1, 1°.42N×127°.14E, h0km, mb3.4/3, mbtmp3.5/4, ML3.6/1, MS3.4/2, Error ellipse: s-maj=115.4km s-min=25.7km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.45**	**184**	P	Pn	02 31 57.8	0.0
	0.1nm,0.3s,baz=18,slow=11,SNR=6.2						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**22.38**	**162**	P	P	02 32 27.6	-0.7
	0.9nm,0.4s,baz=339,slow=11,SNR=17						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**25.79**	**166**	P	P	02 33 01.1	0.0
	0.2nm,0.3s,baz=344,slow=12,SNR=2.5						
	0.2nm,0.3s						
HNR	**Honiara**	**34.41**	**109**	LR	LR	02 48 37.9	
	comp=Z,59nm,18.7s,baz=44,slow=37						
SONM	**Songino Array**	**49.60**	**342**	LR	LR	02 57 39.1	
	comp=Z,33nm,19.9s,baz=351,slow=36						
MKAR	**Makanchi Array**	**59.68**	**326**	P	P	02 37 34.5	0.0
	0.2nm,0.4s,baz=121,slow=8.6,SNR=4.5						
	0.2nm,0.4s						

IDC 02 02:29:41.0±836.0, 53°.34N×13°.06W, h0km, Error ellipse: s-maj=421.0km s-min=200.3km az=85.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**17.36**	**94**	I	I	04 13 28.8	
	0.1nm,2.0s,baz=296,slow=322,SNR=5.2						
I37NO	**I37NO**	**21.53**	**31**	I	I	04 37 30.0	
	baz=238,slow=314,SNR=1.2						
I48TN	**KESRA INFRASON**	**23.54**	**129**	I	I	04 54 05.3	
	baz=323,slow=313,SNR=3.3						

*IDC **02** 02:33:08.1±0.6, 37°.49N×20°.61E, h0km, mb4.2/19, mbtmp4.1/30, ML3.8/9, MS3.2/15, Error ellipse: s-maj=13.4km s-min=11.7km az=162.0*

*MOS **02** 02:33:08.8±1.1, 37°.39N×20°.57E, h13km, mb4.7/21, Error ellipse: s-maj=8.6km s-min=3.4km az=74.7*

*MCSM **02** 02:33:09.6±0.5, 37°.N±4°×2°.0E±°, h10km, mB4.6, mb4.7, MLv4.4, Mw(mB)3.8*

*ATH **02** 02:33:10.4, 37°.44N×20°.47E, h10km±1km, ML3.9/16, Error ellipse: s-maj=1.9km s-min=1.0km az=42.0*

*NEIC **02** 02:33:10.1±2.5, 37°.36N±0°.06×20°.56E±0°.07, h10km±1km, mb4.7/32, Error ellipse: s-maj=10.9km s-min=9.3km az=199.0*

*THE **02** 02:33:10.8, 37°.43N×20°.53E, h12km±1km, ML4.3/8, Error ellipse: s-maj=1.4km s-min=0.8km az=73.0*

*PDG **02** 02:33:11.5±0.9, 37°.47N×20°.45E, h16km±1km, ML4.4/11, Error ellipse: s-maj=1.4km s-min=1.8km az=0.0*

*MED_RC **02** 02:33:11.0±0.7, 37°.43N×20°.53E, h20km±3km, MW4.3/7, Moment Tensor Solution. Mantle waves: s7,c10; Duration: 1s1 Moment tensor: Scale 10^15Nm; Mrr1.03±.74; Mθθ1.50±.44; Mφφ-2.53±.45; Mrθ2.04±.67; Mrφ0.07±.52; Mθφ-1.02±.44; Best double couple: M=3.14000×10^15 NP1:φs139.00000°, δ76.00000°, λ47.00000°. NP2: φs34.00000°, δ45.00000°, λ159.00000°. Principal axes: T 3.3900, Plg43.0000°, Azm8.0000°; N -0.4800, Plg41.0000°, Azm152.0000°; P -2.9000, Plg19.0000°, Azm260.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

*BEO **02** 02:33:12.8±0.7, 37°.52N×20°.17E, h24km±7km, ML3.9/11*

*NAO **02** 02:33:40.1, 40°.21N×18°.97E, h10km, mb3.8*

ISC 02 02:33:10.4±0.9, 37°.46N±0°.03×20°.53E±0°.03, h13km±5km, n350, σ1§55/389, mb4.6/55, MS3.4/11, 59C-18D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.30**	**48**	P	**Pb**	**02 33 17.6**	**-0.1**
KRI1				S	**Sb**	**02 33 22.2**	**-0.4**
	197μm,0.4s						
LTHK	**Lithakia**	**0.35**	**44**	P	**Pb**	**02 33 18.3**	**-0.2**
LTHK				S	**Sb**	**02 33 23.5**	**-0.4**
	136μm,0.5s						
LTHK	**Lithakia**	**0.35**	**44**	P	**Pb**	**02 33 18.2**	**-0.2**
LTHK				S	**Sg**	**02 33 23.0**	**+0.8**
RTZL	**Ratzakli, Kefa**	**0.65**	**17**	P	**Pb**	**02 33 23.4**	**-0.1**
RTZL				S	**Sb**	**02 33 33.7**	**+1.3**
PSDA	**Pessada-Kefalo**	**0.66**	**4**	P	**Pb**	**02 33 23.6**	**-0.1**
PSDA				S	**Sb**	**02 33 34.1**	**+1.4**
	20μm,0.5s						
VLS	**Valsamata**	**0.72**	**4**	P	**Pg**	**02 33 24.6**	**+0.3**
VLS				S	**Sn**	**02 33 35.9**	**-1.3**
	10μm,0.5s						
VLS	**Valsamata**	**0.72**	**4**	P	**Pg**	**02 33 24.6**	**+0.3**
VLS				S	**Sn**	**02 33 35.9**	**-1.3**
VLS	**Valsamata**	**0.72**	**4**	P	**Pg**	**02 33 24.1**	**-0.2**
VLS				S	**Sb**	**02 33 34.8**	**+0.2**
VLS				AML	AML	02 33 39.5	
	comp=E,21273μm,0.4s						
VLS				AML	AML	02 33 42.1	
	comp=N,20387μm,0.5s						
LXR1	**Lixouri, Cepha**	**0.74**	**354**	P	**Pb**	**02 33 25.7**	**+0.5**
LXR1				S	**Sn**	**02 33 37.1**	**-0.6**
	comp=N,44μm,0.7s						
DMLN	**Damoulianata-K**	**0.79**	**351**	P	**Pb**	**02 33 26.2**	**+0.2**
DMLN				S	**Sn**	**02 33 38.0**	**-0.9**
	comp=N,29μm,0.8s						
DMLN	**Damoulianata-K**	**0.79**	**351**	P	**Pg**	**02 33 25.7**	**+0.1**
DMLN				S	**Sg**	**02 33 36.1**	**+0.1**
AMT	**Artemida-Makis**	**0.94**	**85**	P	**Pg**	**02 33 29.0**	**+0.5**
AMT				S	**Sn**	**02 33 42.2**	**-0.4**
VSK1	**VASILIKIADES**	**0.95**	**2**	P	**Pn**	**02 33 29.2**	**-0.2**
VSK1				S	**Sn**	**02 33 43.4**	**+0.6**
	comp=N,13μm,0.7s						
RLS	**Riolos of Patr**	**0.95**	**51**	P	**Pb**	**02 33 28.7**	**-0.1**
RLS				S	**Sn**	**02 33 43.3**	**+0.4**
RLS				AML	AML	02 33 49.1	
	comp=N,9390μm,0.8s						
RLS				AML	AML	02 33 50.4	
	comp=E,10727μm,0.5s						
FSK	**Fiskardo**	**1.00**	**1**	P	**Pg**	**02 33 29.7**	**+0.1**
FSK				S	**Sn**	**02 33 45.0**	**+1.0**
	comp=E,12μm,0.8s						
FSK	**Fiskardo**	**1.00**	**1**	P	**Pb**	**02 33 29.0**	**-0.5**
FSK				S	**Sb**	**02 33 42.7**	**+0.1**
FSK				AML	AML	02 33 47.6	
	comp=E,12987μm,0.7s						
FSK				AML	AML	02 33 48.8	
	comp=N,15792μm,0.7s						
DRO	**Drossia**	**1.06**	**62**	P	**Pb**	**02 33 30.5**	**0.0**
DRO				S	**Sn**	**02 33 46.3**	**+0.8**
PYL	**PYLOS**	**1.12**	**120**	P	**Pb**	**02 33 31.4**	**-0.1**
PYL				S	**Sn**	**02 33 47.3**	**+0.4**
PYL				AML	AML	02 33 50.9	
	comp=N,10635μm,0.4s						
PYL				AML	AML	02 33 51.1	
	comp=E,8797μm,0.3s						
ITM	**Ithomi**	**1.15**	**104**	P	**Pb**	**02 33 32.1**	**+0.1**
ITM				S	**Sn**	**02 33 48.6**	**+0.9**
ITM				AML	AML	02 33 52.7	
	comp=E,13002μm,0.6s						
ITM				AML	AML	02 33 53.9	
	comp=N,14004μm,0.9s						
LKD2	**Lefkada island**	**1.33**	**4**	P	**Pb**	**02 33 35.2**	**-0.1**
LKD2				S	**Sb**	**02 33 52.1**	**-0.1**
LKD2				AML	AML	02 34 00.3	
	comp=N,9213μm,0.9s						
LKD2				AML	AML	02 34 05.0	
	comp=E,15510μm,0.9s						
TSLK	**Tsoukalades, L**	**1.37**	**4**	P	**Pn**	**02 33 35.2**	**0.0**
TSLK				S	**Sn**	**02 33 53.0**	**-0.1**
TSLK				AML	AML	02 34 00.3	
	comp=E,13221μm,1.1s						
TSLK				AML	AML	02 34 02.9	
	comp=N,14952μm,1.1s						
KLV	**Kalavryta, Ach**	**1.41**	**65**	P	**Pn**	**02 33 35.6**	**-0.2**
KLV				S	**Sb**	**02 33 55.2**	**+0.7**
KLV				AML	AML	02 34 08.1	
	comp=E,6166μm,1.0s						
KLV				AML	AML	02 34 09.7	
	comp=N,5734μm,1.2s						
EFP	**Efpalio**	**1.46**	**48**	P	**Pn**	**02 33 36.2**	**-0.2**
EFP				S	**Sn**	**02 33 55.0**	**-0.2**
EFP				AML	AML	02 34 03.0	
	comp=E,6642μm,0.5s						
EFP				AML	AML	02 34 05.2	
	comp=N,10339μm,0.6s						
GUR	**Goura**	**1.51**	**71**	P	**Pb**	**02 33 38.0**	**-0.4**
GUR				AML	AML	02 34 11.1	
	comp=N,10477μm,0.5s						
GUR				AML	AML	02 34 11.4	
	comp=E,13757μm,0.6s						
KALE	**Kalithea**	**1.58**	**53**	P	**Pn**	**02 33 38.3**	**+0.2**
KALE				S	**Sn**	**02 33 58.1**	**-0.3**
KALE				AML	AML	02 34 08.4	
	comp=E,10354μm,0.7s						
KALE				AML	AML	02 34 11.8	
	comp=N,10057μm,0.5s						
EVR	**Evrytania**	**1.77**	**34**	P	**Pb**	**02 33 42.1**	**-0.6**
EVR				AML	AML	02 34 16.5	
	comp=N,6580μm,0.9s						
EVR				AML	AML	02 34 19.3	
	comp=E,4645μm,0.8s						
VLI	**Veliai**	**2.06**	**110**	P	**Pn**	**02 33 44.4**	**-0.2**
VLI				AML	AML	02 34 22.1	
	comp=N,2334μm,0.7s						
VLI				AML	AML	02 34 26.5	
	comp=E,3365μm,0.9s						
IGT	**Igoumenitsa**	**2.08**	**356**	P	**Pb**	**02 33 47.3**	**-0.6**
IGT	**Igoumenitsa**	**2.08**	**356**	P	**Pn**	**02 33 44.3**	**-0.6**
IGT				AML	AML	02 34 24.2	
	comp=E,3943μm,0.6s						
IGT				AML	AML	02 34 27.8	
	comp=N,2228μm,1.0s						
AGG	**Agios Georgios**	**2.11**	**42**		**Pb**	**02 33 48.3**	**-0.2**
AGG	**Agios Georgios**	**2.11**	**42**	P	**Pb**	**02 33 48.3**	**-0.2**
JAN	**Janina**	**2.21**	**6**	P	**Pb**	**02 33 49.6**	**-0.6**
JAN	**Janina**	**2.21**	**6**	P	**Pn**	**02 33 47.5**	**+0.8**
JAN				AML	AML	02 34 32.1	
	comp=E,3065μm,1.5s						
JAN				AML	AML	02 34 35.2	
	comp=N,2364μm,0.8s						
KEK	**Kerkira**	**2.32**	**346**		**Pn**	**02 33 49.5**	**+1.2**
THL	**Klokotos Trika**	**2.40**	**29**	P	**Pn**	**02 33 50.8**	**+1.4**
THL				AML	AML	02 34 39.2	
	comp=N,1497μm,1.2s						
THL				AML	AML	02 34 39.8	
	comp=E,2568μm,0.8s						
KZN	**Kozani**	**3.00**	**18**	P	**Pn**	**02 34 00.0**	**+2.3**
LIT	**Litokhoron**	**3.05**	**30**		**Pn**	**02 34 00.2**	**+1.9**
LIT	**Litokhoron**	**3.05**	**30**	P	**Pn**	**02 34 00.2**	**+1.9**
SCTE	**Santa Cesarea**	**3.07**	**329**		**Pn**	**02 33 59.0**	**+0.5**
FNA	**Florina**	**3.38**	**11**	Pn	**Pn**	**02 34 05.0**	**+2.1**
FNA	**Florina**	**3.38**	**11**	*e*Pn	**Pn**	**02 34 05.1**	**+2.1**
FNA				*e*Sn	**Sn**	**02 34 42.9**	**-0.1**
FNA	**Florina**	**3.38**	**11**	P	**Pn**	**02 34 05.0**	**+2.1**
TIP	**Timpagrande**	**3.43**	**301**	Pn	**Pn**	**02 34 04.5**	**+1.0**
TIP	**Timpagrande**	**3.43**	**301**	⇑P	**Pn**	**02 34 04.3**	**+0.7**
TIP	**Timpagrande**	**3.43**	**301**	P	**Pn**	**02 34 03.9**	**+0.4**
OHR	**Ohrid**	**3.65**	**3**	*e*Pn	**Pn**	**02 34 08.7**	**+2.1**
OHR	**Ohrid**	**3.65**	**3**	*i* Pn	**Pn**	**02 34 09.6**	**+3.0**
OHR	**Ohrid**	**3.65**	**3**	P	**Pn**	**02 34 09.5**	**+2.9**
THE	**Thessaloniki**	**3.69**	**30**	P	**Pn**	**02 34 09.0**	**+1.9**
CEL	**Celeste**	**3.76**	**284**		**Pn**	**02 34 08.9**	**+0.9**
CEL	**Celeste**	**3.76**	**284**	P	**Pn**	**02 34 08.0**	**0.0**
TIR	**Tirane**	**3.92**	**353**	Pn	**Pn**	**02 34 13.4**	**+3.2**
TIR	**Tirane**	**3.92**	**353**	*e*Pn	**Pn**	**02 34 11.5**	**+1.3**
TIR	**Tirane**	**3.92**	**353**	⇑P	**Pn**	**02 34 13.0**	**+2.8**
TIR	**Tirane**	**3.92**	**353**	P	**Pn**	**02 34 13.4**	**+3.2**
TIR	**Tirane**	**3.92**	**353**	P	**Pn**	**02 34 12.2**	**+2.0**
APE	**Apeiranthos**	**4.01**	**94**	⇑P	**Pn**	**02 34 15.1**	**+3.6**
IDI	**Anoyia**	**4.13**	**120**		Pn	02 34 08.0	-5.2
IDI	**Anoyia**	**4.13**	**120**	Pn	**Pn**	**02 34 10.7**	**-2.5**
	comp=E,3.0nm,0.3s,baz=244,slow=1.0,SNR=8.7						
IDI				Sn	**Sn**	**02 34 59.5**	**-1.9**
	comp=E,5.2nm,0.3s,baz=333,slow=23,SNR=3.6						
SRS	**Serrai**	**4.36**	**32**	*e*Pn	**Pn**	**02 34 18.0**	**+1.7**
MATE	**Matera**	**4.36**	**318**	⇑P	**Pn**	**02 34 20.0**	**+3.7**
CUC	**Castrocucco**	**4.47**	**306**	Pn	**Pn**	**02 34 21.4**	**+3.6**
PUK	**Puka**	**4.61**	**354**		**Pn**	**02 34 21.0**	**+1.3**
ULC	**Ulcinj**	**4.61**	**348**	⇓*i*Pn	**Pn**	**02 34 20.0**	**+0.3**
DRME	**Dracevica, Mon**	**4.83**	**348**	⇑*i*Pn	**Pn**	**02 34 22.9**	**+0.1**
DRME				*i* Sn	**Sn**	**02 35 19.0**	**+0.4**
VAE	**Valguarnera**	**4.87**	**272**	Pn	**Pn**	**02 34 21.9**	**-1.4**
	comp=E,8.7nm,0.6s,baz=358,slow=13,SNR=3.1						
VAE				Sn	**Sn**	**02 35 19.5**	**-0.1**
	comp=E,9.7nm,0.3s,baz=284,slow=6.7,SNR=5.7						
RAFF	**Raffo Rosso**	**4.92**	**269**	Pn	**Pn**	**02 34 24.3**	**+0.3**
BUM	**Brajici-Budva**	**5.00**	**346**	⇓*i*Pn	**Pn**	**02 34 25.2**	**+0.1**
BUM				*i* Sn	**Sn**	**02 35 23.2**	**+0.4**
PDG	**Podgorica**	**5.06**	**349**	Pn	**Pn**	**02 34 26.3**	**+0.4**
PDG	**Podgorica**	**5.06**	**349**	*e*Pn	**Pn**	**02 34 25.7**	**-0.2**
PDG				*e*Sn	**Sn**	**02 35 19.8**	**-4.4**
PDG	**Podgorica**	**5.06**	**349**	*e*Pn	**Pn**	**02 34 25.6**	**-0.3**
PDG	**Podgorica**	**5.06**	**349**	⇑P	**Pn**	**02 34 28.1**	**+2.2**
PDG	**Podgorica**	**5.06**	**349**	⇓*i*Pn	**Pn**	**02 34 26.1**	**+0.2**
PDG				*i* Sn	**Sn**	**02 35 24.2**	**0.0**
WDD	**Wied Dalam**	**5.09**	**253**	Pn	**Pn**	**02 34 27.8**	**+1.4**
EZN	**Ezine**	**5.12**	**61**	P	**Pn**	**02 34 31.0**	**+4.4**
PVY	**Plav**	**5.15**	**355**	⇓*i*Pn	**Pn**	**02 34 28.5**	**+1.3**
PVY				*i* Sn	**Sn**	**02 35 27.2**	**+0.6**
HCY	**Herceg Novi**	**5.22**	**343**	⇓*i*Pn	**Pn**	**02 34 28.2**	**+0.1**
HCY				*i* Sn	**Sn**	**02 35 28.6**	**+0.4**
CEME	**Cevo**	**5.23**	**347**	⇓*i*Pn	**Pn**	**02 34 28.1**	**-0.2**
CEME				*i* Sn	**Sn**	**02 35 28.7**	**+0.2**
BOSS	**Bosilegrad**	**5.25**	**16**	*e*Pn	**Pn**	**02 34 30.0**	**+1.5**
IVA	**Berane**	**5.43**	**355**	⇑*i*Pn	**Pn**	**02 34 32.3**	**+1.3**
IVA				*i* Sn	**Sn**	**02 35 33.7**	**+0.3**
NKME	**Niksic**	**5.44**	**348**	⇓*i*Pn	**Pn**	**02 34 32.5**	**+1.4**
NKME				*i* Sn	**Sn**	**02 35 33.9**	**+0.3**
BARS	**Barje**	**5.44**	**10**	*e*Pn	**Pn**	**02 34 31.9**	**+0.8**
KOME	**Kolasin**	**5.44**	**352**	⇓*i*Pn	**Pn**	**02 34 31.7**	**+0.5**
KOME				*i* Sn	**Sn**	**02 35 34.0**	**+0.3**
TREB	**Trebinje**	**5.51**	**343**	*e*Pn	**Pn**	**02 34 30.3**	**-1.8**
TREB				*e*Sn	**Sn**	**02 35 29.9**	**-5.4**
TREB	**Trebinje**	**5.51**	**343**	*e*Pn	**Pn**	**02 34 31.0**	**-1.1**
VTS	**Vitosha**	**5.55**	**21**	*e*Pn	**Pn**	**02 34 34.7**	**+1.9**
VTS				*e*Sn	**Sn**	**02 35 35.7**	**-0.9**
BRY	**Bratogost**	**5.65**	**345**	⇓*i*Pn	**Pn**	**02 34 34.0**	**-0.1**
BRY				*i* Sn	**Sn**	**02 35 38.7**	**-0.2**
KARP	**Karpathos**	**5.67**	**108**	Pn	**Pn**	**02 34 35.0**	**+0.7**
KARP	**Karpathos**	**5.67**	**108**	*e*P	**Pb**	**02 34 47.6**	**-1.5**
KARP	**Karpathos**	**5.67**	**108**	P	**Pb**	**02 34 47.7**	**-1.5**
KARP	**Karpathos**	**5.67**	**108**	P	**Pn**	**02 34 35.1**	**+0.7**
	comp=E,104nm,0.8s,comp=E,1μmcomp=E,0.3nm						
PLD	**Plovdiv**	**5.70**	**33**	*e*Pn	**Pn**	**02 34 36.0**	**+1.4**
PLD	**Plovdiv**	**5.70**	**33**	P	**Pn**	**02 34 36.6**	**+2.0**
PLD				pmax	pmax		
	comp=Z,152nm,0.9s						
SELS	**Selova**	**5.77**	**4**	*e*Pn	**Pn**	**02 34 36.5**	**+0.8**
SELS				*e*Sn	**Sn**	**02 35 40.0**	**-1.8**
SJES	**Sjenica**	**5.81**	**356**	*e*Pn	**Pn**	**02 34 37.2**	**+0.9**
SJES				*e*Sn	**Sn**	**02 35 38.2**	**-4.7**
SJES	**Sjenica**	**5.81**	**356**	*e*Pn	**Pn**	**02 34 36.6**	**+0.3**
STON	**Ston**	**5.83**	**339**	*e*Pn	**Pn**	**02 34 35.1**	**-1.3**
STON				*e*Sn	**Sn**	**02 35 37.8**	**-5.2**
STON	**Ston**	**5.83**	**339**	*e*Pn	**Pn**	**02 34 35.3**	**-1.1**
PLE	**Pljevlja**	**5.93**	**352**	⇑*i*Pn	**Pn**	**02 34 39.0**	**+1.1**
PLE				*i* Sn	**Sn**	**02 35 45.6**	**-0.2**
ZAPS	**Zavoj**	**6.03**	**15**	*e*Pn	**Pn**	**02 34 40.7**	**+1.5**
IVAS	**Ivanjica**	**6.12**	**357**	*e*Pn	**Pn**	**02 34 40.7**	**+0.2**
ARG	**Arkhangelos**	**6.22**	**99**	P	**Pn**	**02 34 45.5**	**+3.7**
RUDO	**Rudo**	**6.22**	**352**	*e*Pn	**Pn**	**02 34 41.7**	**-0.1**
BOVS	**Bovan**	**6.24**	**8**	*e*Pn	**Pn**	**02 34 41.9**	**-0.1**
BOVS	**Bovan**	**6.24**	**8**	⇑P	**Pn**	**02 34 41.9**	**-0.1**
GRUS	**Gruza**	**6.42**	**1**	*e*Pn	**Pn**	**02 34 44.6**	**0.0**
BBLS	**Lazi&#263i**	**6.46**	**353**	*e*Pn	**Pn**	**02 34 44.8**	**-0.4**
BBLS				*e*Sn	**Sn**	**02 35 53.6**	**-5.1**
BBLS	**Lazi&#263i**	**6.46**	**353**	*e*Pn	**Pn**	**02 34 42.7**	**-2.5**
ZAGS	**Zajecar**	**6.48**	**11**	*e*Pn	**Pn**	**02 34 45.1**	**-0.3**
DIVS	**Divibare**	**6.65**	**357**	*e*Pn	**Pn**	**02 34 47.1**	**-0.7**
DIVS				*e*Sn	**Sn**	**02 35 58.5**	**-4.9**
HAPS	**Han Pijesak,BI**	**6.73**	**350**	*e*Pn	**Pn**	**02 34 48.5**	**-0.4**
TRUS	**Trudelj**	**6.76**	**359**	*e*Pn	**Pn**	**02 34 49.1**	**-0.1**
ELND	**Elena**	**6.82**	**35**	⇑P	**Pn**	**02 34 52.0**	**+1.9**
KUBS	**Kucevo**	**7.00**	**7**	*e*Pn	**Pn**	**02 34 51.1**	**-1.4**
TEKS	**Tekeris**	**7.12**	**354**	*e*Pn	**Pn**	**02 34 52.2**	**-2.1**
TEKS	**Tekeris**	**7.12**	**354**	*e*Pn	**Pn**	**02 34 52.4**	**-1.9**
VLAD	**Vladila**	**7.16**	**23**	⇓P	**Pn**	**02 34 56.5**	**+1.7**
ELL	**Elmali**	**7.53**	**93**		**Pn**	**02 35 01.5**	**+1.6**
ELL	**Elmali**	**7.53**	**93**	P	**Pn**	**02 35 01.5**	**+1.6**
HERR	**Herculane**	**7.55**	**10**	⇑P	**Pn**	**02 35 00.9**	**+0.8**
YLV	**Yalova**	**7.55**	**63**	P	**Pn**	**02 35 00.2**	**0.0**
	comp=Z,17nm,0.9s,comp=Z,0.1nm						
A050A	**Klekovaca**	**7.64**	**338**	*e*Pn	**Pn**	**02 35 01.5**	**+0.1**
BLY	**Banja Luka**	**7.71**	**342**	*e*Pn	**Pn**	**02 35 01.8**	**-0.4**
BLY	**Banja Luka**	**7.71**	**342**	*e*Pn	**Pn**	**02 35 02.4**	**+0.2**
FRGS	**Fruska Gora**	**7.71**	**356**	*e*Pn	**Pn**	**02 35 00.7**	**-1.6**
FRGS	**Fruska Gora**	**7.71**	**356**	*e*Pn	**Pn**	**02 35 00.0**	**-2.3**
A051A	**Mrakovica**	**8.03**	**341**	*e*Pn	**Pn**	**02 35 04.5**	**-2.2**
GZR	**Gura Zlata**	**8.11**	**11**	⇑P	**Pn**	**02 35 08.7**	**+1.0**
GZR	**Gura Zlata**	**8.11**	**11**	⇑P	**Pn**	**02 35 08.7**	**+1.0**
BZS	**Buzias**	**8.19**	**5**	⇑P	**Pn**	**02 35 11.7**	**+2.8**
BZS	**Buzias**	**8.19**	**5**	⇑P	**Pn**	**02 35 11.7**	**+2.8**
LOT	**Lotru**	**8.34**	**16**	⇑P	**Pn**	**02 35 11.8**	**+0.7**
SURR	**Surduc**	**8.37**	**8**	⇑P	**Pn**	**02 35 13.6**	**+2.2**
VOIR		**8.66**	**22**	⇑P	**Pn**	**02 35 17.7**	**+2.3**
VOIR		**8.66**	**22**	⇑P	**Pn**	**02 35 17.7**	**+2.3**
VOIR		**8.66**	**22**	P	**Pn**	**02 35 16.4**	**+1.0**
	comp=Z,22nm,1.0s						
MORH	**Mrgy, Hungar**	**8.86**	**351**	*e*Pn	**Pn**	**02 35 16.9**	**-1.1**
MORH	**Mrgy, Hungar**	**8.86**	**351**	⇑P	**Pn**	**02 35 18.9**	**+0.8**
MORH	**Mrgy, Hungar**	**8.86**	**351**	P	**Pn**	**02 35 17.9**	**-0.1**
	comp=Z,6.1nm,0.7s,comp=Z,185nm						
ISR	**Istrita**	**8.89**	**29**

WATA	**Walderalm**	11.88	329	*i* Pn	**Pn**	02 35 59.4	0.0
	comp=Z,1.1nm,0.5s						
FUORN	**Ofenpass-Fuorn**	11.91	323		**Pn**	02 36 02.7	+2.6
SQTA	**Sankt Quirin**	11.94	328	*i* Pn	**Pn**	02 36 02.5	+2.2
	comp=Z,1.5nm,0.5s						
STHS	**Stebnicka Huta**	11.96	2	*e*P	**Pn**	02 35 58.9	-1.6
STHS	**Stebnicka Huta**	11.96	2	*e*PN	**Pn**	02 35 58.9	-1.6
KRUC	**Moravsky**	11.98	347	*e*PN	Pn	02 36 16.0	+15
FETA	**Feichten**	11.99	326	*e*Pn	**Pn**	02 36 03.3	+2.2
	comp=Z,0.2nm,0.3s						
MOTA	**Moosalm**	12.08	328	*i* Pn	**Pn**	02 36 04.0	+1.8
	comp=Z,3.0nm,0.6s						
VRAC	**Vranov**	12.18	348	Pn	**Pn**	02 36 04.0	+0.5
	comp=Z,0.3nm,0.3s,baz=184,slow=16,SNR=2.5						
	comp=Z,1.0nm,0.4s						
VRAC	**Vranov**	12.18	348	*e*PN	**P**	02 36 18.6	+2.5
VRAC	**Vranov**	12.18	348	P	**Pn**	02 36 04.0	+0.5
CKRC	**Cesky Krumlov**	12.22	340	AMS	AMS	02 41 50.0	
	comp=Z,300nm,9.8s						
TUE	**Stuetta**	12.25	321		**Pn**	02 36 06.2	+1.5
GERES	**GERESS Array B**	12.42	339	Pn	**Pn**	02 36 06.2	-0.6
	comp=Z,0.1nm,0.3s,baz=141,slow=13,SNR=5.2						
GERES				Sn	Sn	02 38 15.2	-10
	comp=Z,0.1nm,0.3s,baz=147,slow=22,SNR=2.6						
GERES				LR	LR	02 42 00.0	
	comp=Z,74nm,18.2s,baz=194,slow=43						
	comp=Z,1.2nm,0.7s						
MORC	**Moravsky Berou**	12.50	351	*e*PN	**P**	02 36 22.4	+2.7
DAVA	**Damuels**	12.58	325	*e*Pn	**Pn**	02 36 11.5	+2.5
	comp=Z,1.5nm,0.5s						
KHC	**Kasperske Hory**	12.71	339	*e*PN	**Pn**	02 36 11.6	+0.8
KHC				AMS	AMS	02 42 20.0	
	comp=Z,300nm,9.6s						
KHC	**Kasperske Hory**	12.71	339⇑	*e*P	**Pn**	02 36 15.4	+4.6
KHC				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZVC	**Zvikov**	12.82	341	AMS	AMS	02 42 20.0	
	comp=Z,300nm,10.4s						
KRLC	**Kraliky**	12.90	349	P	P	02 36 19.0	-5.1
KRLC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MMAI	**Mount Meron Ar**	12.94	106	Pn	**Pn**	02 36 12.3	-1.7
	comp=Z,0.5nm,0.3s,baz=306,slow=12,SNR=3.3						
MMAI				Sn	Sn	02 38 25.7	-12
	comp=Z,0.3nm,0.3s,baz=304,slow=19,SNR=1.7						
	comp=Z,0.6nm,0.4s						
GOPC	**GO Pecny, Ondr**	13.12	343	AMS	AMS	02 42 30.0	
	comp=Z,300nm,11.4s						
DPC	**Dobruska-Polom**	13.24	348	AMS	AMS	02 42 30.0	
	comp=Z,400nm,11.1s						
LUBAR	**Lubar, Ukraine**	13.50	20	P	**Pn**	02 36 22.0	+0.5
DSI	**Dead Sea**	13.57	111	P	**P**	02 36 29.3	-2.3
ARPR	**Arapgir-MALATY**	14.09	78	P	**P**	02 36 37.7	+0.3
RNPP5	**Staryi Chortor**	14.28	14	P	**Pn**	02 36 32.1	-0.1
EIL	**Elat**	14.30	119	Pn	**Pn**	02 36 31.2	-1.4
	comp=Z,0.5nm,0.3s,baz=337,slow=17,SNR=6.6						
EIL				Sn	Sn	02 39 01.6	-9.5
	comp=Z,0.5nm,0.3s,baz=17,slow=21,SNR=2.1						
	comp=Z,5.6nm,0.8s						
MI28	**Mi28,Pidlybu**	14.40	18	P	**Pn**	02 36 34.7	+1.0
	comp=Z,116nm,0.9s						
KIEV	**Kiev**	14.61	22		**Pn**	02 36 36.4	-0.3
KIEV	**Kiev**	14.61	22	⇑P	**Pn**	02 36 36.5	-0.2
KIEV	**Kiev**	14.61	22	⇑P	**Pn**	02 36 36.5	-0.2
KIEV	**Kiev**	14.61	22	P	**Pn**	02 36 36.3	-0.3
AKASG	**Malin Array Be**	14.62	22	Pn	**Pn**	02 36 36.2	-0.6
	comp=Z,0.5nm,0.3s,baz=209,slow=12,SNR=8.3						
AKASG				LR	LR	02 43 56.6	
	comp=Z,70nm,18.4s,baz=204,slow=44						
	comp=Z,1.9nm,0.7s						
AKASG	**Malin Array Be**	14.62	22	P	**P**	02 36 40.9	-2.3
AKBB	**Malin Array Si**	14.62	22⇑	*e*P	**Pn**	02 36 38.8	+2.0
AKBB	**Malin Array Si**	14.62	22	P	**Pn**	02 36 37.2	+0.4
ANN	**Anapa**	14.68	55	*e*P	**Pn**	02 36 38.4	+0.8
ANN				pmax	pmax		
	comp=Z,53nm,0.8s						
CLL	**Collm**	14.84	341	P	**P**	02 36 48.2	+2.5
CLL	**Collm**	14.84	341	*e*P	**P**	02 36 46.0	+0.4
CLL	**Collm**	14.84	341	*es*P	**P**	02 36 46.0	+0.4
CLL				*i* PP	**P**	02 36 48.1	+2.5
	comp=Z,11nm,1.0s						
CLL				*i* sPP		02 36 50.2	
CLL				AMS	AMS	03 21 00.0	
	comp=Z,100nm,18.1s						
SOC	**Sochi**	15.81	61	*e*P	**Pn**	02 36 49.9	-2.6
SOC				*e*		02 39 44.8	
SUW	**Suwalki**	16.66	5	*e*P	**Pn**	02 37 03.7	+0.4
SUW	**Suwalki**	16.66	5	IAmb	IAmb	02 37 07.9	
	comp=Z,59nm,0.9s						
SUW	**Suwalki**	16.66	5	*e*P	**Pn**	02 37 03.9	+0.5
SUW	**Suwalki**	16.66	5	P	**Pn**	02 37 03.8	+0.5
SUW				pmax	pmax		
	comp=Z,70nm,0.9s						
MNK	**Minsk**	17.78	14	*i* P	**Pn**	02 37 14.8	-2.6
	comp=E,42nm,1.7s						
MNK				*i* P	**Pn**	02 37 14.8	-2.6
	comp=N,16nm,1.1s						
MNK				*i* P	**Pn**	02 37 14.8	-2.6
	comp=Z,18nm,0.8s,baz=199						
MNK				*i* PP	**pwP**	02 37 24.7	-0.5
MNK				*i* PPP	PPP	02 37 33.8	
MNK				*i* S	**Sn**	02 40 34.7	-0.5
MNK				*i* SS	**SnSn**	02 40 49.4	+0.7
MNK				*i* LQ	LQ	02 42 50.2	
MNK				*i* LR	LR	02 44 24.3	
MNK				*i* LRM	MLR	02 45 27.1	
	comp=N,539nm,18.7s						
MNK				*i* LRM	MLR	02 45 34.0	
	comp=Z,88nm,12.0s						
MNK				*i* LRM	MLR	02 45 44.2	
	comp=E,1μm,21.4s						
MNK	**Minsk**	17.78	14	*i* P	**Pn**	02 37 14.7	-2.6
MNK				*i* S	**Sn**	02 40 34.6	-0.5
MNK				pmax	pmax		
	comp=Z,18nm,0.8s						
MNK				pmax	pmax		
	comp=N,16nm,1.1s						
MNK				pmax	pmax		
	comp=E,42nm,1.7s						
MNK				MLR	MLR		
	comp=N,539nm,19.0s						
MNK				MLR	MLR		
	comp=Z,88nm,12.0s						
MNK				MLR	MLR		
	comp=E,1μm,21.0s						
SHA1	**Shidzhatmaz**	17.91	63⇓	*e*P	**P**	02 37 20.7	+0.8
NACGM	**Naroch**	17.96	12	*e*P	**Pn**	02 37 18.5	-1.1
	comp=Z,22nm,0.8s,baz=197						
KIV	**Kislovodsk**	17.98	62	*e*P	**P**	02 37 20.5	0.0
KIV				*es*	**Sn**	02 40 41.8	+1.4
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,17nm,14.0s						
KBZ	**Khabaz**	18.08	63	P	**P**	02 37 21.4	0.0
	comp=Z,0.2nm,0.3s,baz=248,slow=11,SNR=4.8						
	comp=Z,1.6nm,0.7s						
KBZ	**Khabaz**	18.08	63⇑	*e*P	**P**	02 37 21.7	+0.2
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PABE	**Paberze**	18.20	6	*e*P	**Pn**	02 37 22.0	-0.5
VORD	**Divnogorie**	18.98	39	*e*P	**P**	02 37 30.0	-1.4
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GNI	**Garni**	19.05	74	LR	LR	02 45 25.4	
	comp=Z,72nm,21.0s,baz=255,slow=39						
VSR	**Storozhevoye**	19.08	38	*e*P	**P**	02 37 30.5	-1.9
VSR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ESDC	**Sonseca Array**	19.27	284	P	**Pn**	02 37 35.2	-0.5
	comp=Z,0.1nm,0.3s,baz=80,slow=11,SNR=13						
ESDC				LR	LR	02 44 44.6	
	comp=Z,41nm,18.2s,baz=94,slow=36						
	comp=Z,3.3nm,1.0s						
VORR	**Voronezh**	19.39	37	*e*P	**P**	02 37 35.1	-0.7
VORR				pmax	pmax		
	comp=Z,14nm,0.6s						
TAM	**Tamanrasset**	19.51	226	P	**Pn**	02 37 39.5	+0.7
TAM				pmax	pmax		
	comp=Z,3.0nm,1.3s						
LPSR	**Galich'ya Gora**	19.87	34	*e*P	**P**	02 37 39.9	-1.1
LPSR				pmax	pmax		
	comp=Z,30nm,0.8s						
VRH	**Novokhopyorsk**	20.36	41	*e*P	**P**	02 37 46.9	+0.5
VRH				pmax	pmax		
	comp=Z,22nm,1.2s						
OBN	**Obninsk**	20.76	27⇑	*e*P	Pn	02 37 52.8	-0.3
OBN				*e**SP	sP	02 37 56.1	+1.6
OBN						02 38 12.0	
OBN				pmax	pmax		
	comp=Z,43nm,1.7s						
OBN				MLR	MLR		
	comp=Z,147nm,14.0s						
MDT	**Midelt**	21.05	265	P	**P**	02 37 53.9	-0.2
	comp=Z,5.3nm,0.8s,baz=73,slow=10,SNR=11						
MDT				LR	LR	02 48 18.6	
	comp=Z,24nm,19.6s,baz=91,slow=43						
	comp=Z,5.3nm,0.8s						
MTSE	**Matsula**	21.38	5	*e*P	**P**	02 37 57.5	+0.2
VSU	**Vasula**	21.41	9	*de*P	**P**	02 37 57.9	+0.3
VSU				pmax	pmax		
	comp=Z,85nm,1.0s						
MOS	**Moscow**	21.62	27	*e*P	**P**	02 37 58.5	-1.5
MOS				*e*		02 38 19.4	
MOS				*e*S	**S**	02 41 58.2	-0.8
MOS				pmax	pmax		
	comp=Z,25nm,0.6s						
MOS				MLR	MLR		
	comp=Z,400nm,14.0s						
ARBE	**Arbavere**	22.27	7	*e*P	**P**	02 38 07.1	+0.2
HFS	**Hagfors**	23.11	351	P	**P**	02 38 14.5	-1.2
	comp=Z,13nm,0.7s,baz=160,slow=9.7,SNR=16						
	comp=Z,13nm,0.7s						
RAF	**Rauma**	23.60	2	*e*P	**P**	02 38 19.9	-0.7
NC602	**NORSAR Array S**	23.98	349	P	**P**	02 38 26.4	+2.0
NC602				IAmb	IAmb	02 38 35.9	
	comp=Z,33nm,1.4s						
NORES	**NORESS Array B**	23.98	349	P	**P**	02 38 27.5	+3.2
NORES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
EKA	**Eskdalemuir Ar**	24.02	326	P	**P**	02 38 24.0	-0.7
	comp=Z,2.0nm,0.5s,baz=123,slow=9.1,SNR=7.6						
	comp=Z,2.0nm,0.5s						
BELG	**Belogornoye**	24.12	43	*ce*P	**P**	02 38 26.0	+0.4
BELG				pmax	pmax		
	comp=Z,11nm,0.9s						
FINES	**FINESS Array B**	24.26	6	P	**P**	02 38 25.5	-1.3
	comp=Z,8.4nm,0.6s,baz=168,slow=9.3,SNR=43						
FINES				LR	LR	02 48 55.5	
	comp=Z,127nm,18.4s,baz=222,slow=39						
	comp=Z,8.4nm,0.6s						
FINES	**FINESS Array B**	24.26	6	*i* P	**P**	02 38 26.0	-0.8
FINES				pmax	pmax		
	comp=Z,9.0nm,0.6s						
FIA1	**FINESS Array S**	24.26	6	P	**P**	02 38 26.3	-0.6
NC405	**NORSAR Array S**	24.32	350	P	**P**	02 38 27.8	+0.4
NC405				IAmb	IAmb	02 39 05.4	
	comp=Z,23nm,1.1s						
NB2	**NORSAR Subarra**	24.32	349	P	**P**	02 38 27.4	-0.1
	comp=Z,3.5nm,0.7s,baz=164,slow=11						
NB2	**NORSAR Subarra**	24.32	349	P	**P**	02 38 27.3	-0.2
NOA	**NORSAR Array B**	24.32	349	P	**P**	02 38 27.2	-0.4
	comp=Z,3.2nm,0.7s,baz=161,slow=8.7,SNR=13						
NOA				LR	LR	02 48 30.3	
	comp=Z,25nm,18.4s,baz=265,slow=38						
	comp=Z,3.2nm,0.7s						
VALR	**Valaam**	24.79	12⇑	*e*P	**P**	02 38 32.1	+0.4
VALR				pmax	pmax		
	comp=Z,27nm,0.9s						
KEF	**Keuruu**	24.88	5	*e*P	**P**	02 38 33.2	+0.7
VAF	**Ylistaro**	25.65	2	*e*P	**P**	02 38 39.9	+0.5
KLMR	**Klimovskoe**	26.31	21	*e*P	**P**	02 38 43.3	-2.1
KLMR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KIRV	**Kirov**	28.26	32⇑	*e*P	**P**	02 39 04.1	+1.2
TORD	**Torodi Ar. Bea**	29.48	220	P	**P**	02 39 14.7	+0.5
	comp=Z,1.5nm,0.7s,baz=34,slow=9.7,SNR=9.3						
	comp=Z,1.5nm,0.7s						
AKTO	**Aktyubinsk**	29.61	52	LR	LR	02 53 27.7	
	comp=Z,52nm,19.3s,baz=72,slow=41						
ABKAR	**Akbulak array**	30.65	55	P	**P**	02 39 23.2	-1.0
ARTI	**Arti**	31.49	41	P	**P**	02 39 30.1	-1.5
ARTI				IAmb	IAmb	02 39 31.2	
	comp=Z,7.3nm,0.8s						
ARTI	**Arti**	31.49	41	*c i* P	**P**	02 39 30.4	-1.2
ARTI						02 42 18.1	
ARTI				S	**S**	02 44 41.4	+2.2
ARTI				SS	**SnSn**	02 46 21.4	-2.3
ARTI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ARTI				MLR	MLR		
	comp=Z,123nm,13.0s						
ARCES	**ARCESS Array B**	32.25	3	P	**P**	02 39 37.2	-0.9
	comp=Z,1.7nm,0.8s,baz=191,slow=10,SNR=8.2						
ARCES				LR	LR	02 52 37.1	
	comp=Z,32nm,20.4s,baz=176,slow=36						
	comp=Z,1.7nm,0.8s						
ARCES	**ARCESS Array B**	32.25	3	P	**P**	02 39 37.9	-0.2
ARCES				pmax	pmax		
	comp=Z,25nm,1.4s						
SVE	**Sverdlovsk**	32.81	41	*e*P	**P**	02 39 42.7	-0.5
SVE				pmax	pmax		
	comp=Z,18nm,1.0s						
BRVK	**Borovoye**	37.52	49⇑	*e*P	**P**	02 40 23.4	-0.4
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BVAR	**Borovoye Array**	37.58	49	P	**P**	02 40 23.4	-0.8
	comp=Z,1.8nm,0.6s,baz=284,slow=6.0,SNR=8.0						
	comp=Z,1.8nm,0.6s						
KKAR	**Karatay Array**	38.08	65	P	**P**	02 40 29.2	+0.5
KKAR	**Karatay Array**	38.08	65	P	**P**	02 40 29.2	+0.5
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DBIC	**Dimbokro**	38.37	223	P	**P**	02 40 32.1	+0.8
	comp=Z,4.0nm,0.7s,baz=21,slow=7.9,SNR=5.9						
DBIC				LR	LR	02 57 29.0	
	comp=Z,49nm,18.1s,baz=328,slow=38						
	comp=Z,4.0nm,0.7s						
GAR	**Garm**	38.75	72	IAmb	IAmb	02 40 35.6	
	comp=Z,8.5nm,0.7s						
BBTS	**Babate**	39.92	245	LR	LR	02 59 32.8	
	comp=Z,69nm,19.3s,baz=297,slow=40						
NIL	**Nilore**	42.60	79	P	**P**	02 41 06.5	+0.2
NIL	**Nilore**	42.60	79	P	**P**	02 41 06.5	+0.2
NIL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURBB	**Kurchatov Arra**	42.65	53	P	**P**	02 41 05.6	-0.8
	comp=Z,2.3nm,0.6s,baz=281,slow=8.7,SNR=17						
	comp=Z,2.3nm,0.6s						
KURK	**Kurchatov**	42.70	53	P	**P**	02 41 05.5	-1.3
KURK	**Kurchatov**	42.70	53	*de*P	**P**	02 41 06.0	-0.8
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	45.67	58	P	**P**	02 41 30.2	-0.6
MK31	**Makanchi Array**	45.67	58	*d i* P	**P**	02 41 29.8	-0.9
MKAR	**Makanchi Array**	45.67	58	P	**P**	02 41 29.8	-0.9
	comp=Z,2.3nm,0.5s,baz=277,slow=7.1,SNR=24						
	comp=Z,2.3nm,0.5s						
MKAR	**Makanchi Array**	45.67	58	*ce*P	**P**	02 41 29.7	-1.0
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAA0	**Zalesovo Array**	46.17	48	IAmb	IAmb	02 41 44.6	
	comp=Z,5.0nm,0.6s						
ZALV	**Zalesovo Beam**	46.17	48	P	**P**	02 41 33.4	-1.0
	comp=Z,3.9nm,0.5s,baz=276,slow=8.3,SNR=15						
ZALV				LR	LR	03 04 09.4	
	comp=Z,28nm,19.1s,baz=286,slow=40						
	comp=Z,3.9nm,0.5s						
ZALV	**Zalesovo Beam**	46.17	48	*i* P	**P**	02 41 33.7	-0.7
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.5s						
EUNU	**Eureka**	56.22	348	P	**P**	02 42 51.6	+2.0
SCHQ	**Schefferville**	58.99	318	P	**P**	02 43 10.1	+0.6
	comp=Z,2.5nm,0.7s,baz=76,slow=4.2,SNR=1.9						
	comp=Z,2.5nm,0.7s						
TIXI	**Tiksi**	60.32	20	P	**P**	02 43 18.8	+0.5
TIXI				IAmb	IAmb	02 43 21.7	
	comp=Z,5.7nm,1.1s						
TIXI	**Tiksi**	60.32	20⇑	*e*P	**P**	02 43 18.9	+0.6
TIXI				pmax	pmax		
	comp=Z,12nm,1.8s						
SHL	**Shillong**	60.68	79	P	**P**	02 43 20.6	-1.1
SHL	**Shillong**	60.68	79	P	**P**	02 43 20.6	-1.1
SHL				pmax	pmax		
	comp=Z,38nm,1.5s						
SONM	**Songino Array**	60.91	50	P	**P**	02 43 21.7	-1.1
	comp=Z,2.1nm,0.7s,baz=293,slow=7.6,SNR=4.0						
	comp=Z,2.1nm,0.7s						
ULN	**Ulaanbaatar**	61.30	50⇑	*e*P	**P**	02 43 25.7	+0.1
ULN				pmax	pmax		
	comp=Z,8.0nm,2.5s						
YAK	**Yakutsk**	65.73	29	*i* P	**P**	02 43 54.1	-0.3
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC	**Hu-ho-hao-te**	67.44	55	*e*P	**P**	02 44 05.8	0.0
HHC				pmax	pmax		
	comp=Z,23nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,5.0s						
PZH	**PanZhiHua**	67.81	73	P	**P**	02 44 09.4	+1.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
HIA	**Hailar**	68.03	44⇑	*e*P	**P**	02 44 09.9	+0.6
HIA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
A36M	**Sachs Harbour**	68.23	349	P	**P**	02 44 11.8	+1.6
A36M				IAmb	IAmb	02 44 13.4	
	comp=Z,5.9nm,0.8s						
XAN	**Xi'an**	69.15	63	⇑P	**P**	02 44 16.1	-0.5
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CMAR	**Chiang Mai Arr**	69.98	82	P	**P**	02 44 20.8	-1.1
	comp=Z,1.0nm,0.4s,baz=308,slow=7.8,SNR=8.7						
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	69.98	82	*ce*P	**P**	02 44 21.7	-0.2
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HEH	**HeiHe**	71.58	40	*e*P	**P**	02 44 30.9	-0.2
HEH				pmax	pmax		
	comp=Z,17nm,0.8s						
HEH				pmax	pmax		
	comp=Z,190nm,4.6s						
C27K	**Jago River**	72.60	354	IAmb	IAmb	02 44 39.6	
	comp=Z,4.4nm,0.9s						
F31M	**Tsiigehtchic**	73.61	350	P	**P**	02 44 44.0	+1.1
F31M				IAmb	IAmb	02 44 44.3	
	comp=Z,5.2nm,0.6s						
BNX	**BinXian**	74.30	44	⇓P	**P**	02 44 47.4	+0.1
BNX				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CN2	**Changchun**	74.37	47	*e*P	**P**	02 44 47.8	+0.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KLR	**Kul'dur**	74.42	39⇓	*e*P	**P**	02 44 48.7	+0.8
KLR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
G29M	**Pine Creek**	74.67	351	IAmb	IAmb	02 44 51.1	
	comp=Z,11nm,1.0s						
I30M	**Mount Dempster**	76.07	350	P	**P**	02 44 58.7	+1.4
I30M				IAmb	IAmb	02 44 59.3	
	comp=Z,7.4nm,1.0s						
J30M	**Hart River**	76.68	350	IAmb	IAmb	02 45 03.3	
	comp=Z,4.2nm,0.8s						
H21K	**Melozitna River**	77.08	357	IAmb	IAmb	02 45 05.7	
	comp=Z,4.5nm,0.9s						
NJ2	**Nanjing**	77.17	60	*e*P	**P**	02 45 03.1	-0.8
NJ2				pmax	pmax		
	comp=Z,11nm,0.8s						
ILAR	**Eielson Array**	77.62	355	P	**P**	02 45 06.3	+0.4
	comp=Z,0.7nm,0.8s,baz=357,slow=3.8,SNR=8.7						
	comp=Z,0.7nm,0.8s						
USA0B	**Ussuriysk Arra**	77.80	43	*ce*P	**P**	02 45 07.7	+0.5
USRK	**Ussuriysk Ar.**	77.80	43	P	**P**	02 45 06.7	-0.6
	comp=Z,3.2nm,0.7s,baz=288,slow=6.3,SNR=9.2						
	comp=Z,3.2nm,0.7s						
USRK	**Ussuriysk Ar.**	77.80	43	P	**P**	02 45 06.9	-0.3
M29M	**Somme Creek**	79.01	350	IAmb	IAmb	02 45 16.6	
	comp=Z,4.9nm,0.7s						
KSAR	**Wonju Array Be**	79.76	51	P	**P**	02 45 18.0	-0.2
KSRS	**Korea Array**	79.78	51	P	**P**	02 45 18.1	-0.2
	comp=Z,4.3nm,0.8s,baz=306,slow=5.1,SNR=5.6						
	comp=Z,4.3nm,0.8s						
TXAR	**Lajitas Array**	95.47	313	P	**P**	02 46 34.9	-0.3
	comp=Z,0.1nm,0.6s,baz=70,slow=5.2,SNR=1.9						
	comp=Z,0.1nm,0.6s						
WRA	**Warramunga Arr**	120.50	93	PKP	**PKPdf**	02 52 01.6	-0.4
	comp=Z,0.5nm,0.8s,baz=316,slow=2.2,SNR=2.9						
ASAR	**Alice Springs**	122.09	97	PKP	**PKiKP**	02 52 05.1	-0.1
	comp=Z,0.5nm,0.6s,baz=320,slow=1.9,SNR=7.0						

ATH 02 02:33:21.3, 38°.05N×23°.76E, h14km±2km, ML2.9/6, Error ellipse: s-maj=2.6km s-min=1.0km az=143.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATH	**Athens Observa**	**0.08**	**202**	P	Pg	02 33 24.4	+0.2
ATH				S	Sg	02 33 26.2	0.0
ATH				AML	AML	02 33 26.8	
	comp=N,50834μm,0.3s						
ATH				AML	AML	02 33 26.9	
	comp=E,32251μm,0.2s						
PTL	**Penteli**	**0.09**	**91**	P	Pg	02 33 24.3	0.0
PTL				S	Sg	02 33 25.9	-0.5
PTL				AML	AML	02 33 26.4	
	comp=N,10452μm,0.2s						
PTL				AML	AML	02 33 26.7	
	comp=E,7893μm,0.4s						
ATHU	**Athens Univers**	**0.09**	**165**	P	Pg	02 33 24.4	+0.2
ATHU				S	Sg	02 33 26.1	-0.2
DION	**Dionisos Attik**	**0.14**	**79**	P	Pg	02 33 25.1	+0.1
DION				S	Sg	02 33 27.1	-0.4
DION				AML	AML	02 33 27.8	
	comp=N,23262μm,0.4s						
DION				AML	AML	02 33 28.6	
	comp=E,14571μm,0.3s						
VLY	**Voula,Athens**	**0.20**	**171**	P	Pg	02 33 26.1	+0.3
VLY				S	Sg	02 33 28.6	-0.2
VLY				AML	AML	02 33 29.6	
	comp=N,9899μm,0.3s						
VLY				AML	AML	02 33 29.6	
	comp=E,12408μm,0.4s						
VIL2	**Platees**	**0.42**	**293**	P	Pg	02 33 28.7	-1.0
VIL2				S	Sg	02 33 33.8	-1.6
VIL2				AML	AML	02 33 34.5	
	comp=N,1045μm,0.3s						
VIL2				AML	AML	02 33 37.3	
	comp=E,2304μm,0.5s						
KYMI	**Kymi, Euboea I**	**0.64**	**25**	P	Pg	02 33 33.3	-0.6
KYMI				S	Sb

comp=N,7μm,0.4s
PB06 IPOC Station P 1.24 84 *e*P **Pn 02 39 11.6 -0.8**
PB06 *e*S **Sn 02 39 31.9 +2.7**
PB06 IAML 02 39 34.1
comp=Z,6μm,0.3s
PB15 IPOC Station P 1.37 105 Pn 02 39 13.8 -0.4
PB15 IPOC Station P 1.37 105 ⇓*i*P **Pn 02 39 13.9 -0.4**
PB15 *i* S **Sg 02 39 32.9 -0.2**
PB15 IPOC Station P 1.37 105 *e*P **Pn 02 39 14.0 -0.3**
PB15 *e*S **Sg 02 39 34.2 +1.1**
PB15 IAML 02 39 39.1
comp=Z,13μm,0.2s
PB14 IPOC Station P 1.83 165 Pn **Pn 02 39 20.1 -0.5**
PB14 IPOC Station P 1.83 165 ⇓*i*P **Pn 02 39 20.0 -0.6**
PB14 *i* S **Sn 02 39 41.5 -2.6**
PB14 IPOC Station P 1.83 165 *e*P **Pn 02 39 19.9 -0.7**
PB14 *e*S **Sg 02 39 54.9 +7.2**
PB14 IAML 02 39 55.7
comp=Z,1μm,0.7s
LVC Limon Verde 1.86 83 Pn **Pn 02 39 21.9 +0.8**
comp=Z,329nm,0.3s,baz=247,slow=6.2,SNR=1104
LVC Sn **Sn 02 39 44.6 -0.2**
comp=Z,492nm,0.3s,baz=19,slow=18,SNR=24
LVC Limon Verde 1.86 83⇑*i*P **Pn 02 39 21.8 +0.7**
LVC *i* S **Sb 02 39 46.3 -0.3**
LVC IAML 02 39 49.5
comp=Z,7μm,0.4s
LVC Limon Verde 1.86 83 *e*P **Pn 02 39 21.9 +0.8**
LVC *e*S **Sg 02 39 48.1 -0.6**
LVC IAML 02 39 49.1
comp=Z,949nm,0.6s
LVC Limon Verde 1.86 83 *e*P **Pn 02 39 21.8 +0.8**
PB09 IPOC Station P 1.86 56 Pn 02 39 21.6 +0.7
PATCX Punta Patache 2.13 19 Pn 02 39 24.0 -0.6
PATCX Punta Patache 2.13 19⇑*i*P **Pn 02 39 24.0 -0.6**
PATCX IAML 02 40 07.1
comp=N,2μm,0.4s
PATCX Punta Patache 2.13 19 *e*P **Pn 02 39 23.6 -1.0**
PATCX *e*S **Sb 02 39 55.2 +0.9**
PATCX IAML 02 40 02.3
comp=Z,2μm,0.5s
PB01 IPOC Station P 2.23 37 Pn 02 39 26.1 +0.2
PB01 IPOC Station P 2.23 37⇑*i*P **Pn 02 39 26.1 +0.2**
PB01 *i* S **Sn 02 39 52.5 -1.0**
PB01 IAML 02 40 05.2
comp=E,3μm,0.4s
PB01 IPOC Station P 2.23 37 *e*P **Pn 02 39 26.4 +0.4**
PB01 *e*S **Sg 02 40 02.6 +2.1**
PB01 IAML 02 40 03.7
comp=Z,2μm,0.6s
TA01 Diego Aracena 2.37 17 Pn **Pn 02 39 27.1 -0.7**
TA01 Diego Aracena 2.37 17⇑*i*P **Pn 02 39 27.1 -0.7**
TA01 *i* S **Sn 02 39 54.3 -2.6**
TA01 IAML 02 40 10.3
comp=N,3μm,0.4s
TA01 Diego Aracena 2.37 17 *e*S **Sb 02 39 59.9 -1.0**
TA01 IAML 02 40 09.9
comp=Z,2μm,0.6s
AF01 San Pedro de A 2.52 93 Pb 02 39 33.6 -0.8
AF01 San Pedro de A 2.52 93⇑*i*P **Pb 02 39 33.4 -0.9**
AF01 *i* S **Sg 02 40 08.0 -1.8**
GO02 Mina Guanaco 2.60 153 Pn **Pn 02 39 32.3 +1.0**
GO02 Mina Guanaco 2.60 153⇑*i*P **Pn 02 39 32.2 +1.0**
GO02 *i* S **Sn 02 40 03.3 +0.2**
GO02 IAML 02 40 06.3
comp=E,1μm,0.6s
GO02 Mina Guanaco 2.60 153 *e*P **Pn 02 39 32.2 +1.0**
GO02 *e*S **Sb 02 40 06.7 -1.2**
TA02 Huaiquique 2.66 16 Pn 02 39 31.6 -0.3
TA02 Huaiquique 2.66 16 *e*P **Pn 02 39 31.5 -0.3**
TA02 *e*S **Sb 02 40 07.4 -2.0**
TA02 IAML 02 40 21.3
comp=Z,850nm,0.8s
PX03 IPOC Station P 2.71 26 *i*P **Pb 02 39 36.3 -1.1**
PX03 IAML 02 40 18.9
comp=N,3μm,0.4s
HMBC Humberstone 2.73 21 Pn 02 39 32.5 -0.3
PB08 IPOC Station P 3.15 32 Pn 02 39 40.5 +1.6
PB08 IPOC Station P 3.15 32 *e*P **Pn 02 39 39.8 +1.0**
PB08 *i* S **Sb 02 40 24.7 +0.9**
PB08 IAML 02 40 32.5
comp=N,1μm,0.7s
PB08 IPOC Station P 3.15 32 *e*P **Pn 02 39 40.0 +1.2**
PB08 *e*S **Sb 02 40 20.5 -3.3**
PB08 IAML 02 40 34.8
comp=Z,808nm,0.9s
PB11 IPOC Station P 3.29 21 Pn 02 39 40.5 -0.1
PB11 IPOC Station P 3.29 21 *e*P **Pn 02 39 40.2 -0.3**
PB11 *e*S **Sn 02 40 22.5 +2.8**
PB11 IAML 02 40 39.7
comp=E,1μm,0.8s
PB11 IPOC Station P 3.29 21 *e*P **Pn 02 39 40.4 -0.1**
PB11 *e*S **Sb 02 40 25.2 -2.3**
PB11 IAML 02 40 40.3
comp=Z,1μm,0.4s
AC01 Pan de Azucar 3.30 175 Pn **Pn 02 39 39.3 -1.3**
AC01 Pan de Azucar 3.30 175 *e*P **Pn 02 39 39.1 -1.5**
AC01 *e*S **Sn 02 40 18.0 -1.8**
AC01 IAML 02 40 44.2
comp=N,518nm,0.5s
AC01 Pan de Azucar 3.30 175 *e*P **Pn 02 39 39.4 -1.1**
AC01 *e*S **Sg 02 40 32.4 -2.4**
AC01 IAML 02 40 44.1
comp=Z,420nm,0.6s
GO01 Chusmiza 3.54 27 Pn **Pn 02 39 45.6 +1.2**
GO01 Chusmiza 3.54 27 *i*P **Pn 02 39 45.4 +1.0**
GO01 *i* S **Sn 02 40 27.8 +1.2**
AP01 Chacalluta 4.49 7 *e*P **Pn 02 39 57.4 +0.5**
AP01 IAML 02 41 31.1
comp=Z,512nm,0.9s
AC06 Mina Casimiro 4.52 174 Pn **Pn 02 39 56.6 -0.8**
AC06 Mina Casimiro 4.52 174 *e*P **Pn 02 39 56.6 -0.8**
AC06 *e*S **Sn 02 40 46.7 -3.3**
GO03 Copiapo 4.76 173 Pn 02 40 00.5 -0.3
GO03 Copiapo 4.76 173 *i*P **Pn 02 40 00.5 -0.3**
GO03 *e*S **Sn 02 40 57.4 +1.3**
GO03 Copiapo 4.76 173 *e*P **Pn 02 40 00.7 -0.1**
GO03 *e*S **Sb 02 41 14.6 +4.6**
AC04 Llanos de Chal 5.34 182 *e*P **Pn 02 40 05.8 -2.8**
AC04 IAML 02 41 49.5
comp=Z,119nm,1.1s
LCO Las Campanas 6.14 178 Pn **Pn 02 40 19.2 -0.7**
LPAZ La Paz 7.03 22 Pn **Pn 02 40 34.9 +2.5**
comp=Z,3.9nm,0.3s,baz=194,slow=3.9,SNR=97
LPAZ Sn **Sn 02 41 59.5 +6.7**
comp=Z,0.2nm,0.3s,baz=205,slow=24,SNR=1.7
LPAZ LR LR 02 43 23.6
comp=Z,299nm,20.6s,baz=199,slow=39
comp=Z,9.6nm,0.3s
LPAZ La Paz 7.03 22 *e*P **Pn 02 40 35.5 +3.1**
FDPY Filadelfia 10.15 89 *e*P **Pn 02 41 16.7 +2.0**
BBSD Serra de San D 11.20 62 *e*P **Pn 02 41 28.5 -0.6**
SIV San Ignacio 11.51 55 Pn **Pn 02 41 32.0 -1.4**
comp=Z,0.2nm,0.3s,baz=234,slow=12,SNR=55
SIV Sn **Sn 02 43 43.9 +1.7**
baz=272,slow=19
SIV LR LR 02 46 38.0
comp=Z,324nm,18.5s,baz=271,slow=41
comp=Z,10nm,0.6s
MURT Porto Murtinho 12.37 87 *e*P **Pn 02 41 45.5 +0.5**
H03N1 Juan Fernandez 12.69 212 T T 02 55 01.6
baz=38,slow=71,SNR=228
H03N2 Juan Fernandez 12.70 212 T T 02 55 04.0
baz=38,slow=71,SNR=174
H03N3 Juan Fernandez 12.71 212 T T 02 55 02.4
baz=38,slow=71,SNR=166
CPUP Villa Florida 12.83 108 Pn **Pn 02 41 49.3 -2.1**
comp=Z,0.1nm,0.3s,baz=254,slow=2.7,SNR=3.0
CPUP LR LR 02 47 12.1
comp=Z,340nm,20.2s,baz=284,slow=40
comp=Z,1.6nm,0.9s
PTLB Pontes e Lacer 13.33 59 Pn 02 41 56.4 -1.8
PTLB Pontes e Lacer 13.33 59 *e*P **Pn 02 41 57.7 -0.6**
BDQN Bodoquena, MS 13.38 82 *e*P **Pn 02 42 01.0 +2.1**
ETMB Extrema 13.71 20 Pn 02 42 00.8 -2.7
VILB Vilhena 14.16 48 P P 02 42 15.3 -1.9
VILB Vilhena 14.16 48 *e*P **Pn 02 42 10.2 +0.6**
AQDB Aquidauana 14.34 83 *e*P **Pn 02 42 12.8 +0.8**
CZSB Cruzeiro do Su 15.13 353 P **Pn 02 42 24.7 +2.0**
CZSB IAmb IAmb 02 42 38.1
comp=Z,23nm,1.1s
CZSB Cruzeiro do Su 15.13 353 *e*P **Pn 02 42 25.0 +2.2**
SALV Santo Antonio 15.92 67 *e*P **Pn 02 42 34.1 +1.0**
RPRD Ribas do Rio P 16.17 85 *e*P **Pn 02 42 35.7 -0.6**
TRCB Terra Rica 16.85 93 P **P 02 42 48.2 +1.1**
TRCB IAmb IAmb 02 43 18.1
comp=Z,43nm,1.3s
TRCB Terra Rica 16.85 93 *e*P **Pn 02 42 44.7 -0.3**
TRQA Tornquist 16.99 155 P **P 02 42 49.0 +0.5**
PDRB Porto dos Gac 17.54 53 *e*P **P 02 42 54.6 -0.1**
PLTB Pedras Altas 17.74 124 *e*P **Pn 02 42 52.6 -3.4**
PLCA Paso Flores 17.84 179 P **Pn 02 42 56.5 -0.6**
comp=Z,0.1nm,0.3s,baz=3.9,slow=15,SNR=2.4
comp=Z,1.3nm,0.9s
LDASE Londrina, Braz 18.21 96 *e*P **Pn 02 43 01.5 -0.4**
TBTG Tabatinga, AM 18.58 3 *e*P **Pn 02 43 07.6 +1.2**
ARAG Araguaiana, MT 19.36 72 *e*P **P 02 43 15.2 +0.4**
ITRB Iturama 19.40 85 *e*P **P 02 43 15.3 +0.1**
FRTB Fartura 19.64 96 *e*P **P 02 43 17.4 -0.5**
TEFE Tefe 20.16 18 *e*P **P 02 43 24.0 +0.5**
SNDB Serra Nova Dou 21.59 63 *e*P **P 02 43 37.0 -1.9**
IPMB Ipameri, GO 21.81 81 *e*P **P 02 43 40.7 -0.6**
MACA Manacapuru-AM 21.93 28 P **P 02 43 42.5 -0.1**
MACA Manacapuru-AM 21.93 28 *e*P **P 02 43 42.4 -0.3**
VAO Valinhos 22.05 95 P **P 02 43 43.0 -1.0**
VAO IAmb IAmb 02 43 49.8
comp=Z,22nm,0.9s
VAO Valinhos 22.05 95 *e*P **P 02 43 43.0 -1.0**
BDFB Brasilia 22.75 76 P **P 02 43 51.9 +0.3**
BDFB Brasilia 22.75 76 P **P 02 43 51.2 -0.4**
comp=Z,3.9nm,0.5s,baz=253,slow=9.3,SNR=11
BDFB LR LR 02 53 56.5
comp=Z,343nm,18.8s,baz=321,slow=40
comp=Z,3.9nm,0.5s
PARB Paraibuna 23.26 96 *e*P **P 02 43 55.7 -1.0**
PMNB Patos De Minas 23.28 84 *e*P **P 02 43 57.5 +0.5**
ITTB Itaituba 23.51 41 *e*P **P 02 43 58.1 -1.0**
BSCB Bom Sucesso 24.31 91 *e*P **P 02 44 06.1 -0.7**
VAS01 Vassouras-RJ 25.36 94 *e*P **P 02 44 16.3 0.0**
DIAM Diamantina, MG 25.88 85 *e*P **P 02 44 20.4 -0.8**
PRPB Parauapebas 26.24 54 *e*P **P 02 44 24.7 +0.5**
JANB Januaria 26.29 78 *e*P **P 02 44 23.7 -1.2**
SMTB Santa Maria do 26.34 62 *e*P **P 02 44 25.4 +0.2**
DUB01 Friburgo-RJ 26.36 94 *e*P **P 02 44 24.5 -0.9**
SDBA SAO DESIDERIO 26.83 72 *e*P **P 02 44 29.1 -0.6**
BOAV Boa Vista 27.06 23 P **P 02 44 32.6 +1.0**
BOAV IAmb IAmb 02 44 38.3
comp=Z,6.4nm,0.9s
BOAV Boa Vista 27.06 23 *e*P **P 02 44 32.1 +0.5**
NAN01 Guarapari, ES 29.26 86 *e*P **P 02 44 50.7 -0.6**
GUA01 Guaratinga, BA 29.90 84 *e*P **P 02 44 56.5 -0.4**
CMC01 Camacan, BA 30.54 81 *e*P **P 02 45 02.2 -0.5**
MDP Montagnes des 33.02 35 LR LR 03 00 48.3
comp=Z,84nm,20.8s,baz=202,slow=40
PCRV Puerto La Cruz 33.39 11 LR LR 03 01 08.0
comp=Z,101nm,19.1s,slow=40
NBLA Lagarto - SE 33.72 75 *e*P **P 02 45 29.6 -1.0**
RCBR Riachuelo 37.75 69 P **P 02 46 06.0 +0.7**
RCBR IAmb IAmb 02 46 07.1
comp=Z,14nm,1.0s
RCBR Riachuelo 37.75 69 *e*P **P 02 46 04.6 -0.7**
VNA3 Neumayer Olymp 59.41 161 ⇑P **P 02 48 50.9 -0.3**
comp=Z,2.3nm,0.8s
VNA1 Neumayer--Stat 59.65 160 ⇑P **P 02 48 52.9 +0.1**
comp=Z,4.0nm,1.1s
VNA2 Neumayer--Watz 60.01 160 ⇑P **P 02 48 54.3 -1.0**
comp=Z,0.3nm,0.3s,baz=16,slow=26
TXAR Lajitas Array 60.71 327 P **P 02 49 02.4 +1.7**
comp=Z,0.3nm,0.5s,baz=146,slow=9.6,SNR=4.4
comp=Z,0.3nm,0.5s
SNAA Sanae 61.63 161 P **P 02 49 07.1 +0.7**
SNAA Sanae 61.63 161 ⇑P **P 02 49 07.3 +0.9**
comp=Z,66nm,1.0s
SNAA Sanae 61.63 161 P **P 02 49 06.5 +0.1**
comp=Z,4.0nm,1.0s,baz=293,slow=6.0,SNR=11
comp=Z,4.0nm,1.0s
TROLL Troll, Antarti 63.34 161 ⇑P **P 02 49 19.0 +1.1**
comp=Z,63nm,0.6s
QSPA South Pole Qui 67.35 180 P **P 02 49 44.9 +1.0**
comp=Z,1.6nm,0.7s,baz=181,slow=5.2,SNR=5.9
comp=Z,1.6nm,0.7s
DBIC Dimbokro 70.89 74 P **P 02 50 06.1 -0.5**
comp=Z,9.0nm,1.1s,baz=258,slow=12,SNR=3.9
comp=Z,9.0nm,1.1s
TORD Torodi Ar. Bea 79.55 71 P **P 02 50 56.3 -0.2**
comp=Z,7.1nm,1.0s,baz=253,slow=5.0,SNR=28
comp=Z,7.1nm,1.0s
MAW Mawson 83.57 164 P **P 02 51 17.5 +0.7**
comp=Z,1.9nm,0.9s,baz=240,slow=6.8,SNR=5.2
comp=Z,1.9nm,0.9s
MDT Midelt 84.03 51 LR LR 03 26 34.0
comp=Z,24nm,20.1s,baz=218,slow=34
BOSA Boshof 84.44 119 P **P 02 51 23.6 +1.3**
comp=Z,2.4nm,0.9s,baz=252,slow=3.2,SNR=2.5
comp=Z,2.4nm,0.9s
H11S2 WAKE ISLAND Hyt 26.20 277 T T 05 17 20.5
baz=105,slow=74,SNR=48
H11S1 WAKE ISLAND Hyt 26.21 277 T T 05 17 18.8
baz=105,slow=74,SNR=26
H11S3 WAKE ISLAND Hyt 26.22 277 T T 05 17 11.5
baz=105,slow=74,SNR=31
H11N3 WAKE ISLAND Hyt 26.32 278 T T 05 17 19.4
baz=105,slow=74,SNR=24
H11N2 WAKE ISLAND Hyt 26.34 278 T T 05 17 23.3
baz=105,slow=74,SNR=28
H11N1 WAKE ISLAND Hyt 26.34 278 T T 05 17 20.6
baz=105,slow=74,SNR=17
ASAR Alice Springs 127.85 209 PKP **PKPdf 02 57 55.7 +0.2**
comp=Z,0.3nm,0.7s,baz=150,slow=2.0,SNR=2.2
MKAR Makanchi Array 147.80 36 PKPbc **PKPbc 02 58 33.1 -0.9**
comp=Z,1.7nm,0.7s,baz=324,slow=3.0,SNR=11
PZH PanZhiHua 172.39 60 PKP **PKPdf 02 58 57.1 -1.7**

*IDC **02** 02:58:46.3±0.8, 22°.88S×70°.77W, h0km, mb4.2/9, mbtmp4.2/13, ML4.0/4, MS3.6/11, Error ellipse: s-maj=20.3km s-min=17.5km az=137.0*
*NEIC **02** 02:58:47.1±2.3, 22°.83S±0°.04×70°.98W±0°.05, h13km±4km, mb4.6/8, Mwr4.5/48, Error ellipse: s-maj=7.7km s-min=4.4km az=117.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; M_rr5.67; M_θθ0.16; M_φφ-5.83; M_rθ0.43; M_θφ-0.06; M_φr-2.20; Fault plane solution: M_0 6.17000×10^15 NP1.φ_s176.30000°, δ55.62000°, λ85.13000°. NP2.φ_s4.88000°, δ34.68000°, λ97.08000°. Principal axes: T 6.1041, Plg79.0000°, Azm68.0000°; N 0.1292, Plg4.0000°, Azm179.0000°; P -6.2333, Plg10.0000°, Azm270.0000°;*
*VAO **02** 02:58:47.0±0.4, 22°.81S×70°.91W, h10km, mb4.6*
*GUC **02** 02:58:47.7±0.5, 22°.89S×70°.97W, h19km±5km, ML4.7*
*NEIC **02** 02:58:48.1, 22°.83S×70°.94W, h20km*
ISC 02 02:58:47.1±1.5, 22°.86S±0°.03×70°.93W±0°.05, h11km±8km, n117, σ1§10/114, mb4.4/15, MS3.6/8, 13C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.89**	**54**			**Pg**	**02 59 04.6**	**+0.4**
PB04						**Sg**	**02 59 16.1**	**+0.2**
PB04	**IPOC Station P**	**0.89**	**54**	⇓*i*P		**Pg**	**02 59 04.6**	**+0.4**
PB04				*i* S		**Sg**	**02 59 16.7**	**+0.9**
PB04				IAML			02 59 21.0	
PB06	**IPOC Station P**	**1.26**	**83**			**Pn**	**02 59 10.3**	**-0.4**
PB06					Sg	**Sb**	**02 59 26.7**	**-0.5**
PB06	**IPOC Station P**	**1.26**	**83**	⇓*i*P		**Pn**	**02 59 10.3**	**-0.4**
PB06				*i* S		**Sb**	**02 59 26.5**	**-0.8**
PB06				IAML			02 59 28.9	
PB15	**IPOC Station P**	**1.39**	**105**			**Pn**	**02 59 12.4**	**-0.2**
PB15	**IPOC Station P**	**1.39**	**105**	⇓*i*P		**Pn**	**02 59 12.4**	**-0.2**
PB15				*i* S		**Sn**	**02 59 31.2**	**+0.3**
PB14	**IPOC Station P**	**1.83**	**165**			**Pn**	**02 59 18.8**	**+0.1**
PB14	**IPOC Station P**	**1.83**	**165**	⇑*i*P		**Pn**	**02 59 18.8**	**+0.1**
LVC	**Limon Verde**	**1.88**	**83**			**Pn**	**02 59 20.5**	**+1.0**
LVC	**Limon Verde**	**1.88**	**83**	Pn		**Pn**	**02 59 20.2**	**+0.7**
comp=E,410nm,0.3s,baz=265,slow=6.8,SNR=1251								
LVC				Sn		**Sn**	**02 59 42.6**	**-0.7**
comp=E,332nm,0.3s,baz=15,slow=8.9,SNR=8.1								
LVC	**Limon Verde**	**1.88**	**83**	⇑*i*P		**Pn**	**02 59 20.5**	**+1.0**
LVC				*i* S		**Sb**	**02 59 45.4**	**+0.1**
LVC				IAML			02 59 50.3	
comp=E,10μm,0.7s								
LVC	**Limon Verde**	**1.88**	**83**	*e*P		**Pn**	**02 59 19.9**	**+0.5**
LVC				*e*S		**Sn**	**02 59 43.2**	**-0.2**
PB09	**IPOC Station P**	**1.88**	**56**			**Pn**	**02 59 20.2**	**+0.8**
PATCX	**Punta Patache**	**2.15**	**20**			**Pn**	**02 59 22.5**	**-0.4**
PATCX	**Punta Patache**	**2.15**	**20**	⇑*i*P		**Pn**	**02 59 22.5**	**-0.4**
PATCX				*i* S		**Sb**	**02 59 54.3**	**+1.5**
PATCX				IAML			03 00 05.4	
comp=N,6μm,0.4s								
PB01	**IPOC Station P**	**2.25**	**37**			**Pn**	**02 59 24.6**	**+0.3**
PB01	**IPOC Station P**	**2.25**	**37**	*i* P		**Pn**	**02 59 24.6**	**+0.3**
PB01				*i* S		**Sb**	**02 59 56.7**	**+1.1**
PB01				IAML			03 00 02.5	
comp=E,4μm,0.8s								
TA01	**Diego Aracena**	**2.38**	**17**	Pn		**Pn**	**02 59 25.5**	**-0.6**
TA01	**Diego Aracena**	**2.38**	**17**	⇑*i*P		**Pn**	**02 59 25.5**	**-0.6**
TA01				*i* S		**Sb**	**02 59 57.7**	**-1.7**
TA01				IAML			03 00 08.7	
comp=E,3μm,0.3s								
AF01	**San Pedro de A**	**2.54**	**93**			**Pb**	**02 59 32.0**	**-0.8**
AF01	**San Pedro de A**	**2.54**	**93**	*e*P		**Pb**	**02 59 32.0**	**-0.8**
GO02	**Mina Guanaco**	**2.60**	**152**	Pn		**Pn**	**02 59 31.0**	**+1.6**
GO02	**Mina Guanaco**	**2.60**	**152**	⇑*i*P		**Pn**	**02 59 30.9**	**+1.6**
GO02				IAML			03 00 14.9	
comp=E,4μm,0.6s								
TA02	**Huaiquique**	**2.68**	**16**			**Pn**	**02 59 29.7**	**-0.5**
TA02	**Huaiquique**	**2.68**	**16**	*e*P		**Pn**	**02 59 29.6**	**-0.5**
HMBC	**Humberstone**	**2.74**	**21**			**Pn**	**02 59 30.8**	**-0.4**
HMBC	**Humberstone**	**2.74**	**21**	⇑*i*P		**Pn**	**02 59 30.7**	**-0.4**
HMBC				IAML			03 00 24.5	
comp=N,4μm,0.6s								
PB08	**IPOC Station P**	**3.17**	**32**			**Pn**	**02 59 38.1**	**+0.9**
PB08	**IPOC Station P**	**3.17**	**32**	⇑*i*P		**Pn**	**02 59 38.1**	**+0.9**
PB08				IAML			03 00 31.2	
comp=N,2μm,0.2s								
AC01	**Pan de Azucar**	**3.29**	**175**			**Pn**	**02 59 37.9**	**-0.7**
PB11	**IPOC Station P**	**3.30**	**21**			**Pn**	**02 59 39.0**	**+0.1**
PB11	**IPOC Station P**	**3.30**	**21**	⇑*i*P		**Pn**	**02 59 38.5**	**-0.4**
GO01	**Chusmiza**	**3.56**	**27**	Pn		**Pn**	**02 59 43.9**	**+1.2**
AC06	**Mina Casimiro**	**4.51**	**174**	Pn		**Pn**	**02 59 55.4**	**0.0**
GO03	**Copiapo**	**4.76**	**173**			**Pn**	**02 59 59.5**	**+0.7**
AC04	**Llanos de Chal**	**5.33**	**181**	Pn		**Pn**	**03 00 04.3**	**-2.3**
LCO	**Las Campanas**	**6.13**	**178**	Pn		**Pn**	**03 00 17.3**	**-0.6**
LPAZ	**La Paz**	**7.04**	**22**	Pn		**Pn**	**03 00 32.7**	**+1.9**
comp=N,5.3nm,0.3s,baz=208,slow=4.6,SNR=121								
LPAZ				Sn		Sn	03 02 00.6	+9.4
baz=142,slow=19								
LPAZ				LR		LR	03 03 31.0	
comp=N,867nm,18.6s,baz=198,slow=41								
comp=N,11nm,0.3s								
LPAZ	**La Paz**	**7.04**	**22**	*e*P		**Pn**	**03 00 30.5**	**-0.3**
FDPY	**Filadelfia**	**10.17**	**89**	*e*P		**Pn**	**03 01 13.9**	**+0.9**
FDPY				*e*S		**Sn**	**03 03 08.1**	**+1.0**
BBSD	**Serra de San D**	**11.21**	**62**	*e*P		**Pn**	**03 01 26.4**	**-1.0**
SIV	**San Ignacio**	**11.53**	**55**	Pn		**Pn**	**03 01 30.5**	**-1.2**
comp=N,0.2nm,0.3s,baz=230,slow=12,SNR=76								
SIV				Sn		**Sn**	**03 03 43.1**	**+2.4**
baz=290,slow=13								
comp=N,14nm,0.7s								
H03N1	**Juan Fernandez**	**12.68**	**212**	T		T	03 14 59.5	
baz=38,slow=71,SNR=318								
H03N2	**Juan Fernandez**	**12.68**	**212**	T		T	03 15 01.0	
baz=38,slow=71,SNR=259								
H03N3	**Juan Fernandez**	**12.69**	**212**	T		T	03 14 60.0	
baz=38,slow=71,SNR=130								
CPUP	**Villa Florida**	**12.85**	**108**	Pn		**Pn**	**03 01 48.5**	**-1.1**
comp=N,0.1nm,0.3s,baz=257,slow=14,SNR=3.7								
CPUP				LR		LR	03 06 47.8	
comp=N,256nm,20.8s,baz=286,slow=38								
comp=N,3.3nm,1.1s								
PTLB	**Pontes e Lacer**	**13.35**	**59**			**Pn**	**03 01 57.0**	**+0.4**
PTLB	**Pontes e Lacer**	**13.35**	**59**	*e*P		**Pn**	**03 01 55.4**	**-1.2**
BDQN	**Bodoquena, MS**	**13.40**	**82**	*e*P		**Pn**	**03 01 57.9**	**+0.6**
BDQN				*e*S		**Sn**	**03 04 27.1**	**+0.8**
ETMB	**Extrema**	**13.73**	**20**			**Pn**	**03 01 59.3**	**-2.5**
ETMB	**Extrema**	**13.73**	**20**	*e*P		**Pn**	**03 01 58.7**	**-3.1**
VILB	**Vilhena**	**14.18**	**48**			**Pn**	**03 02 09.4**	**+1.5**
VILB	**Vilhena**	**14.18**	**48**	*e*P		**Pn**	**03 02 08.2**	**+0.3**
VILB				*e*S		**Sn**	**03 04 45.2**	**-0.1**
AQDB	**Aquidauana**	**14.35**	**83**	P		**Pn**	**03 02 11.1**	**+0.8**
CZSB	**Cruzeiro do Su**	**15.14**	**353**	P		**Pn**	**03 02 22.4**	**+1.4**
CZSB				IAmb		IAmb	03 02 36.6	
comp=Z,25nm,1.0s								
CZSB	**Cruzeiro do Su**	**15.14**	**353**	*e*P		**Pn**	**03 02 22.0**	**+1.0**
SAML	**Samuel**	**15.70**	**29**	Pn		**Pn**	**03 02 25.4**	**-2.9**
SAML	**Samuel**	**15.70**	**29**	*e*S		**Sn**	**03 05 22.3**	**-0.1**
SALV	**Santo Antonio**	**15.94**	**67**	*e*P		**Pn**	**03 02 31.3**	**-0.2**
PLCA	**Paso Flores**	**17.83**	**179**	P		**P**	**03 02 56.6**	**+0.7**
baz=14,slow=15,SNR=2.8								
PLCA				LR		LR	03 09 28.2	
comp=Z,238nm,20.8s,baz=358,slow=36								
comp=Z,1.9nm,1.1s								
LDASE	**Londrina, Braz**	**18.23**	**96**	*e*P		**Pn**	**03 02 57.9**	**-2.3**
TBTG	**Tabatinga, AM**	**18.59**	**3**	*e*P		**Pn**	**03 03 04.8**	**+0.2**
CLDB	**Colider**	**18.73**	**53**	*e*P		**P**	**03 03 05.6**	**-0.3**
ARAG	**Araguaiana, MT**	**19.38**	**72**	*e*P		**Pn**	**03 03 13.9**	**-0.3**
ITRB	**Iturama**	**19.42**	**85**	*e*P		**P**	**03 03 13.8**	**+0.3**
FRTB	**Fartura**	**19.66**	**96**	*e*P		**P**	**03 03 16.9**	**+0.8**
SNDB	**Serra Nova Dou**	**21.61**	**63**	*e*P		**P**	**03 03 35.3**	**-1.9**
IPMB	**Ipameri, GO**	**21.82**	**81**	*e*P		**P**	**03 03 39.4**	**-0.2**
MACA	**Manacapuru-AM**	**21.95**	**28**	P		**P**	**03 03 40.6**	**-0.3**
MACA	**Manacapuru-AM**	**21.95**	**28**	*e*P		**P**	**03 03 40.2**	**-0.7**
VAO	**Valinhos**	**22.07**	**95**	P		**P**	**03 03 39.8**	**-2.4**
VAO				IAmb		IAmb	03 03 51.6	
comp=Z,43nm,1.3s								
VAO	**Valinhos**	**22.07**	**95**	*e*P		**P**	**03 03 40.7**	**-1.5**
BDFB	**Brasilia**	**22.77**	**76**	P		**P**	**03 03 50.3**	**+0.4**
BDFB	**Brasilia**	**22.77**	**76**	P		**P**	**03 03 48.1**	**-1.8**
comp=Z,4.7nm,0.6s,baz=251,slow=7.3,SNR=10								
BDFB				LR		LR	03 13 34.0	
comp=Z,260nm,20.2s,baz=318,slow=39								
comp=Z,4.7nm,0.6s								
ITTB	**Itaituba**	**23.53**	**41**	*e*P		**P**	**03 03 56.2**	**-1.3**
DIAM	**Diamantina, MG**	**25.90**	**85**	*e*P		**P**	**03 04 18.7**	**-0.7**
PRPB	**Parauapebas**	**26.26**	**54**	*e*P		**P**	**03 04 21.8**	**-0.8**
JANB	**Januaria**	**26.31**	**78**	*e*P		**P**	**03 04 22.3**	**-0.7**
SDBA	**SAO DESIDERIO**	**26.84**	**72**	*e*P		**P**	**03 04 26.9**	**-1.0**
BOAV	**Boa Vista**	**27.07**	**23**	P		**P**	**03 04 30.5**	**+0.7**
BOAV				IAmb		IAmb	03 04 33.2	
comp=Z,7.9nm,0.9s								
BOAV	**Boa Vista**	**27.07**	**23**	*e*P		**P**	**03 04 29.7**	**-0.2**
SDV	**Santo Domingo**	**31.55**	**1**	LR		LR	03 17 01.3	
comp=Z,86nm,18.2s,baz=328,slow=35								
MDP	**Montagnes des**	**33.04**	**35**	LR		LR	03 19 56.0	
comp=Z,131nm,21.6s,baz=214,slow=38								
PCRV	**Puerto La Cruz**	**33.40**	**11**	LR		LR	03 18 14.7	
comp=Z,104nm,19.7s,slow=35								
RPN	**Rapa Nui**	**34.98**	**255**	LR		LR	03 16 02.3	
comp=Z,114nm,20.4s,baz=96,slow=30								
RCBR	**Riachuelo**	**37.77**	**69**	P		**P**	**03 06 03.8**	**+0.2**
RCBR				IAmb		IAmb	03 06 05.2	
comp=Z,17nm,1.0s								
RCBR	**Riachuelo**	**37.77**	**69**	*e*P		**P**	**03 06 03.3**	**-0.2**
SJG	**San Juan**	**40.98**	**7**	LR		LR	03 24 47.

TORD Torodi Ar. Bea 79.57 71 P **P** **03 10 54.7 0.0**
comp=Z,7.9nm,1.0s,baz=256,slow=4.9,SNR=30
comp=Z,7.9nm,1.0s
MAW Mawson 83.56 164 P **P** **03 11 15.3 +0.5**
comp=Z,2.0nm,0.9s,baz=253,slow=6.8,SNR=4.9
comp=Z,2.0nm,0.9s
BOSA Boshof 84.45 119 P **P** **03 11 20.0 -0.4**
comp=Z,4.4nm,1.0s,baz=213,slow=5.1,SNR=2.9
comp=Z,4.4nm,1.0s
URZ Urewera 91.92 227 LR LR 03 45 27.3
comp=Z,52nm,18.6s,baz=194,slow=30
H11S2 WAKE ISLAND Hyl 26.18 277 T T 05 37 18.6
baz=105,slow=74,SNR=37
H11S1 WAKE ISLAND Hyl 26.19 277 T T 05 37 16.4
baz=105,slow=74,SNR=30
H11S3 WAKE ISLAND Hyl 26.20 277 T T 05 37 18.7
baz=105,slow=74,SNR=30
H11N3 WAKE ISLAND Hyl 26.31 278 T T 05 37 29.1
baz=104,slow=74,SNR=27
H11N2 WAKE ISLAND Hyl 26.32 278 T T 05 37 35.5
baz=104,slow=74,SNR=24
H11N1 WAKE ISLAND Hyl 26.32 278 T T 05 37 30.3
baz=104,slow=74,SNR=19
WRA Warramunga Arr 130.83 212 PKP **PKiKP** **03 18 00.0 -0.2**
comp=Z,0.8nm,0.9s,baz=142,slow=1.7,SNR=2.2
KURBB Kurchatov Arra 143.49 33 PKP **PKPdf** **03 18 20.5 -1.1**
comp=Z,0.6nm,0.2s,baz=339,slow=2.4,SNR=1.4
ZALV Zalesovo Beam 143.96 24 PKP **PKiKP** **03 18 23.8 -2.0**
comp=Z,0.5nm,0.3s,baz=302,slow=3.2,SNR=4.5
MKAR Makanchi Array 147.82 36 PKPbc **PKPbc** **03 18 31.8 -0.3**
comp=Z,1.2nm,0.5s,baz=305,slow=3.4,SNR=11
PZH PanZhiHua 172.41 60 PKP **PKPdf** **03 18 55.4 -1.5**

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*IDC **02** 03:04:44.0±0.6, 1°.26S×120°.43E, h0km, mb4.3/12, mbtmp4.3/15, ML3.9/3, MS3.0/7, Error ellipse: s-maj=37.3km s-min=12.0km az=69.0*
*NEIC **02** 03:04:46.9±2.5, 1°.22S±0°.06×120°.54E±0°.06, h10km±1km, mb4.8/22, Error ellipse: s-maj=10.6km s-min=10.0km az=229.0*
*DJA **02** 03:04:47.1±0.3, 1°S±2°×120°0E±°, h10km, M5.0/12, mb5.6/1, mB5.5/1, MLv4.7/12, Mw(mB)5.0/1*
ISC 02 03:04:46.6±0.5, 1°.27S±0°.05×120°.53E±0°.06, h10km, n68, σ1§69/67, mb4.6/32, MS3.0/4, 1D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.72**	**338**	P	**Pn**	**03 05 14.5**	**-2.1**
TTSI	**Tana Toraja**	**1.90**	**202**	P	**Pn**	**03 05 19.7**	**+0.5**
LUWI	**Luwuk**	**2.25**	**84**		**Pn**	**03 05 23.8**	**-0.2**
LUWI	**Luwuk**	**2.25**	**84**	P	**Pb**	**03 05 27.0**	**-0.4**
TOLI2	**Tolitoli**	**2.38**	**6**		**Pn**	**03 05 26.0**	**+0.3**
SPSI	**Sidrap Palu**	**2.78**	**196**	P	**Pn**	**03 05 31.6**	**+0.3**
BNSI	**Bone**	**3.14**	**188**	P	**Pn**	**03 05 37.1**	**+0.9**
BKB	**Balikpapan**	**3.63**	**270**		**Pn**	**03 05 42.5**	**-0.5**
BKB	**Balikpapan**	**3.63**	**270**	P	**Pn**	**03 05 43.7**	**+0.7**
KAPI	**Kappang**	**3.80**	**192**	Pn	**Pn**	**03 05 45.4**	**+0.1**
KAPI	**Kappang**	**3.80**	**192**	Pn	**Pn**	**03 05 45.5**	**+0.2**
KAPI	18nm,0.3s,baz=352,slow=12,SNR=32			Sn	**Sn**	**03 06 29.6**	**-0.5**
KAPI	26nm,0.3s,baz=32,slow=23,SNR=3.9			LR	LR	03 07 11.7	
BKSI	**Bulukumba**	**4.05**	**186**	P	**Pn**	**03 05 48.4**	**-0.3**
BSSI	**Bau Bau, Buton**	**4.84**	**180**	P	**Pn**	**03 05 59.9**	**+0.3**
MYLDM	**Lahad Datu**	**6.72**	**342**	Pn	**Pn**	**03 06 27.0**	**+1.6**
BATI	**Baumata**	**9.41**	**161**	Pn	**Pn**	**03 07 02.2**	**-0.2**
DAV	**Davao City (W)**	**9.69**	**31**	LR	LR	03 10 53.5	
FITZ	**Fitzroy Crossi**	**17.46**	**164**	P	**Pn**	**03 08 49.8**	**-0.7**
FITZ	9.5nm,0.3s,baz=0.0,slow=0.0,SNR=3.6 17nm,0.3s			LR	LR	03 15 40.4	
KULM	**Kulim**	**20.90**	**288**	P	**P**	**03 09 29.6**	**+0.1**
KULM	1.8nm,0.7s			IAmb	IAmb	03 09 36.3	
RPSI	**Rantau Prapat**	**21.96**	**280**	P	**P**	**03 09 42.0**	**+1.2**
WRA	**Warramunga Arr**	**22.95**	**145**	P	**P**	**03 09 51.7**	**+0.3**
WRA	**Warramunga Arr**	**22.95**	**145**	P	**P**	**03 09 50.0**	**-1.4**
WRA	comp=Z,12nm,0.8s,baz=327,slow=9.7,SNR=48			PcP	**PcP**	**03 13 38.9**	**-2.9**
WR0	**Warramunga Arr**	**23.08**	**144**	P	**P**	**03 09 53.0**	**+0.3**
WR0	comp=Z,22nm,0.8s			IAmb	IAmb	03 09 57.0	
AS31	**Alice Springs**	**25.76**	**151**	P	**P**	**03 10 18.9**	**+1.0**
ASAR	**Alice Springs**	**25.76**	**151**	P	**P**	**03 10 20.1**	**+2.3**
ASAR	**Alice Springs**	**25.76**	**151**	P	**P**	**03 10 16.6**	**-1.2**
ASAR	comp=Z,6.2nm,0.8s,baz=326,slow=7.8,SNR=42			PcP	**PcP**	**03 13 45.7**	**-2.1**
CMAR	**Chiang Mai Arr**	**28.90**	**314**	P	**P**	**03 10 45.9**	**-0.1**
FORT	**Forrest**	**30.20**	**167**	P	**P**	**03 10 57.5**	**+0.1**
FORT	comp=Z,2.1nm,0.5s,baz=135,slow=7.3,SNR=10 comp=Z,2.1nm,0.5s			IAmb	IAmb	03 11 15.4	
NWAO	**Narrogin (SRO)**	**31.64**	**185**	LR	LR	03 23 43.2	
PZH	**PanZhiHua**	**33.03**	**328**	P	P	03 11 27.5	+5.0
PZH	comp=Z,20nm,0.9s			pmax	pmax		
PZH	comp=Z,280nm,5.7s			pmax	pmax		
NJ2	**Nanjing**	**33.18**	**357**	*e*P	**P**	**03 11 26.3**	**+2.8**
NJ2	comp=Z,11nm,0.9s			pmax	pmax		
BBOO	**Buckleboo**	**34.61**	**157**	P	**P**	**03 11 37.2**	**+1.2**
CD2	**Chengdu**	**35.76**	**335**	P	P	03 11 52.4	+6.4
CD2	comp=Z,20nm,0.6s			pmax	pmax		
STKA	**Stephens Creek**	**36.36**	**149**	P	**P**	**03 11 52.7**	**+1.6**
STKA	**Stephens Creek**	**36.36**	**149**	P	**P**	**03 11 52.1**	**+1.0**
	comp=Z,5.4nm,0.7s,baz=318,slow=8.3,SNR=12 comp=Z,5.4nm,0.7s						
XAN	**Xi'an**	**36.78**	**344**	⇓P	**P**	**03 11 58.7**	**+4.0**
XAN	comp=Z,13nm,1.2s			pmax	pmax		
TIA	**Tai'an**	**37.42**	**355**	P	**P**	**03 12 02.6**	**+2.5**
TIA				pP	**sP**	**03 12 05.2**	**+0.7**
TIA				PP	**PP**	**03 13 22.1**	**-3.5**
TIA	comp=Z,13nm,0.8s			pmax	pmax		
KSRS	**Korea Array**	**39.13**	**9**	P	**P**	**03 12 14.2**	**-0.3**
KSRS	comp=Z,2.4nm,0.7s,baz=188,slow=9.3,SNR=1.0 comp=Z,24nm,20.3s,baz=180,slow=37			LR	LR	03 28 42.8	
BJI	**Beijing**	**41.30**	**355**	P	**P**	**03 12 34.9**	**+2.5**
BJI	comp=Z,5.0nm,0.5s			pmax	pmax		
BJI	comp=Z,69nm,4.3s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**42.71**	**350**	*e*P	**P**	**03 12 46.8**	**+2.8**
HHC	comp=Z,14nm,0.8s			pmax	pmax		
HHC	comp=Z,89nm,4.0s			pmax	pmax		
GTA	**Gaotai**	**44.72**	**337**	*e*P	**P**	**03 13 03.8**	**+3.5**
GTA				pP	sP	03 13 07.5	+2.8
GTA	comp=Z,6.0nm,0.8s			pmax	pmax		
MDJ	**Mudanjiang**	**46.39**	**9**	P	**P**	**03 13 15.6**	**+2.3**
MDJ	comp=Z,13nm,1.2s			pmax	pmax		
USRK	**Ussuriysk Ar.**	**46.41**	**11**	P	**P**	**03 13 13.8**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=202,slow=7.5,SNR=2.5 comp=Z,1.6nm,0.6s						
ASAJ	**Asahikawa**	**49.30**	**21**	LR	LR	03 34 04.6	
SONM	**Songino Array**	**50.44**	**348**	P	**P**	**03 13 44.3**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=182,slow=7.2,SNR=5.0 comp=Z,2.4nm,0.6s						
HEH	**HeiHe**	**51.66**	**6**	*e*P	**P**	**03 13 51.8**	**-1.8**
WMQ	**Urumqi**	**53.64**	**331**	*e*P	**P**	**03 14 11.1**	**+2.6**
WMQ	comp=Z,11nm,0.6s			pmax	pmax		
KSH	**Kashi**	**57.51**	**320**	P	**P**	**03 14 37.0**	**+0.5**
KSH				pP	sP	03 14 41.6	+0.7
KSH				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MK31	**Makanchi Array**	**58.43**	**330**	P	**P**	**03 14 42.2**	**-0.5**
MK31				IAmb	IAmb	03 14 47.7	
	comp=Z,6.4nm,1.1s						
MKAR	**Makanchi Array**	**58.43**	**330**	P	**P**	**03 14 42.0**	**-0.7**
MKAR	**Makanchi Array**	**58.43**	**330**	P	**P**	**03 14 42.0**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=138,slow=7.8,SNR=18 comp=Z,3.7nm,0.8s						
KBL	**Kabul**	**59.90**	**312**	P	**P**	**03 14 52.0**	**-1.3**
AAK	**Ala-Archa**	**60.18**	**322**	P	**P**	**03 14 53.6**	**-1.4**
AAK	comp=Z,8.5nm,1.1s			IAmb	IAmb	03 15 00.6	
GAR	**Garm**	**61.01**	**317**	P	**P**	**03 14 58.9**	**-1.8**
GAR	comp=Z,9.3nm,0.9s			IAmb	IAmb	03 15 07.4	
CHGR	**Chuyangaron**	**61.65**	**316**	P	**P**	**03 15 03.2**	**-1.8**
SIMJ	**Simiganj**	**61.75**	**316**	P	**P**	**03 15 04.3**	**-1.4**
SIMJ	comp=Z,12nm,1.1s			IAmb	IAmb	03 15 10.0	
ZAA0	**Zalesovo Array**	**62.48**	**337**	P	**P**	**03 15 08.0**	**-2.2**
ZAA0	comp=Z,7.0nm,0.9s			IAmb	IAmb	03 15 16.5	
ZALV	**Zalesovo Beam**	**62.48**	**337**	P	**P**	**03 15 08.0**	**-2.2**
ZALV	**Zalesovo Beam**	**62.48**	**337**	P	**P**	**03 15 07.5**	**-2.7**
	comp=Z,2.8nm,0.8s,baz=123,slow=5.5,SNR=6.1 comp=Z,2.8nm,0.8s						
KURBB	**Kurchatov Arra**	**62.85**	**331**	P	**P**	**03 15 10.4**	**-2.3**
	comp=Z,0.9nm,0.3s,baz=147,slow=5.7,SNR=9.7 comp=Z,0.9nm,0.3s						
KURK	**Kurchatov**	**62.87**	**332**	P	**P**	**03 15 11.3**	**-1.5**
KKAR	**Karatay Array**	**62.90**	**321**	P	**P**	**03 15 12.0**	**-1.2**
KKAR	**Karatay Array**	**62.90**	**321**	P	**P**	**03 15 11.9**	**-1.3**
KKAR	comp=Z,3.5nm,0.9s			IAmb	IAmb	03 15 17.7	
MA2	**Magadan**	**65.12**	**16**	LR	LR	03 42 31.9	
	comp=Z,9.2nm,21.7s,baz=37,slow=35						
BVAR	**Borovoye Array**	**68.32**	**330**	P	**P**	**03 15 45.1**	**-2.8**
	comp=Z,2.9nm,0.8s,baz=125,slow=9.3,SNR=7.1 comp=Z,2.9nm,0.8s						
BRVK	**Borovoye**	**68.39**	**330**	P	**P**	**03 15 49.6**	**+1.2**
BRVK	comp=Z,11nm,1.4s			IAmb	IAmb	03 15 51.1	
ABKAR	**Akbulak array**	**72.24**	**323**	P	**P**	**03 16 10.8**	**-1.3**
ABKAR	**Akbulak array**	**72.24**	**323**	P	**P**	**03 16 10.2**	**-1.9**
NRIK	**Noril'sk**	**73.91**	**348**	P	**P**	**03 16 19.7**	**-1.9**
	comp=Z,1.3nm,0.5s,baz=157,slow=9.3,SNR=1.5 comp=Z,1.3nm,0.5s						

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*NEIC **02** 03:07:16.9±1.1, 35°.23N±0°.01×97°.72W±0°.01, h7km±1km, mb_Lg2.3/35, ML2.3/34, ML2.5/24, Error ellipse: s-maj=1.8km s-min=1.4km az=138.0*
NEIC 02 03:07:17.0±1.2, 35°.22N±0°.01×97°.709W±0°.008, h9km±7km, Error ellipse: s-maj=1.9km s-min=0.9km az=180.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.26**	**81**	Pg	Pg	03 07 22.4	+0.3
FNO					Sg	03 07 24.8	-0.8
OKCSW	**OKLAHOMA CITY**	**0.29**	**50**		Sg	03 07 27.4	+0.8
BCOK	**Bluff Creek, N**	**0.45**	**10**		Pg	03 07 25.5	-0.1
BCOK					Sg	03 07 31.9	+0.3
OK029	**Liberty Lake**	**0.61**	**20**		Pg	03 07 29.1	+0.2
OK029					Sg	03 07 37.2	+0.2
OK029	124nm,0.6s			IAML		03 07 40.5	
X34A	**Smith Ranch, M**	**0.62**	**189**	Pg	Pb	03 07 29.6	-0.4
X34A				Sg	Sg	03 07 37.0	-0.2
X34A	comp=N,194nm,0.4s			IAML		03 07 40.0	
X34A	comp=E,125nm,0.6s			IAML		03 07 40.1	
W35A	**Tecumseh**	**0.69**	**95**	Pg	Pg	03 07 30.2	-0.1
W35A					Sb	03 07 40.0	-0.6
WMOK	**Wichita Mounta**	**1.00**	**242**	Pg	Pg	03 07 35.0	-1.3
WMOK	**Wichita Mounta**	**1.00**	**242**		Sg	03 07 48.7	-0.6
OK031	**S. Brethren Rd**	**1.02**	**44**		Pg	03 07 36.1	-0.4
OK031				IAML		03 07 52.0	
OK031	comp=E,119nm,0.5s			IAML		03 07 52.0	
OK052	**Battle Ridge R**	**1.07**	**43**	Pg	Pg	03 07 37.1	-0.4
DEOK	**Depew**	**1.17**	**57**		Pb	03 07 38.2	-1.0
DEOK	comp=N,96nm,0.5s			IAML		03 07 57.8	
DEOK	comp=E,78nm,0.5s			IAML		03 08 00.6	
QUOK	**Quay**	**1.25**	**40**		Pn	03 07 40.0	-0.6
LOOK	**Love County**	**1.30**	**160**		Sg	03 08 00.1	+1.4
CROK	**Carrier**	**1.30**	**350**		Pn	03 07 40.4	-0.9
CROK					Sb	03 07 58.0	-0.4
CROK	comp=N,82nm,0.3s			IAML		03 08 14.0	
OK048	**Pawnee Station**	**1.35**	**27**		Pg	03 07 42.8	0.0
OK048	comp=N,46nm,0.2s			IAML		03 08 03.0	
OK038	**West end E0370**	**1.51**	**327**		Pn	03 07 44.3	+0.1
TUL3	**Leonard**	**1.71**	**66**	IAmb_Lg		03 08 12.3	
	comp=Z,17nm,1.0s						
KAN14	**Manchester OK**	**1.75**	**353**	IAmb_Lg		03 08 12.9	
	comp=Z,10nm,0.8s						
KAN13	**South Haven SW**	**1.80**	**6**	IAmb_Lg		03 08 17.2	
	comp=Z,21nm,1.1s						
T35A	**Sooner Cattle**	**1.95**	**29**		Pn	03 07 51.3	+1.1
T35A				IAmb_Lg		03 08 19.4	
	comp=Z,16nm,1.2s						
X37A	**Clayton**	**2.02**	**107**		Pn	03 07 50.5	-0.6
X37A				IAmb_Lg		03 08 25.8	
	comp=Z,19nm,0.8s						
SMWD	**Samnorwood**	**2.08**	**268**		Pn	03 07 53.3	+1.3
SMWD				IAmb_Lg		03 08 21.7	
	comp=Z,13nm,0.8s						
FW03	**Perrin-Whitt E**	**2.19**	**188**		Pb	03 07 55.2	-1.6
FW06	**Azle**	**2.24**	**177**		Pb	03 07 56.5	-1.1
PLPT	**Palo Pinto**	**2.45**	**192**	IAmb_Lg		03 08 38.6	
	comp=Z,11nm,0.8s						
APMT	**Aspermont**	**2.75**	**227**	IAmb_Lg		03 08 45.2	
	comp=Z,5.8nm,0.8s						
ABTX	**Abilene, Hawle**	**3.05**	**212**	IAmb_Lg		03 08 54.9	
	comp=Z,6.4nm,0.7s						
DKNS	**Dickens**	**3.08**	**241**	IAmb_Lg		03 08 54.4	
	comp=Z,8.4nm,0.8s						
HHAR	**Hobbs**	**3.24**	**70**		Pn	03 08 09.2	+1.2
AMTX	**Amarillo**	**3.28**	**265**	IAmb_Lg		03 09 01.5	
	comp=Z,8.0nm,1.0s						
MIAR	**Mount Ida**	**3.46**	**100**	Pn	Pn	03 08 13.2	+2.2
MIAR				IAmb_Lg		03 09 10.1	
	comp=Z,7.0nm,0.9s						
SN05	**Snyder 5**	**3.52**	**229**	IAmb_Lg		03 09 17.1	
	comp=Z,8.6nm,0.9s						
237A	**Washetta, Mont**	**3.58**	**153**	IAmb_Lg		03 09 19.9	
	comp=Z,9.1nm,1.0s						
KSU1	**Kansas State U**	**3.97**	**12**	IAmb_Lg		03 09 33.0	
	comp=Z,8.5nm,0.8s						
BRDY	**Brady**	**4.07**	**196**		Pn	03 08 19.9	+0.5
BRDY				IAmb_Lg		03 09 30.5	
	comp=Z,7.6nm,0.8s						
MGMO	**Mountain Grove**	**4.80**	**65**	IAmb_Lg		03 10 02.2	
	comp=Z,7.8nm,0.8s						
OZNA	**Ozona**	**5.16**	**215**	IAmb_Lg		03 10 08.3	
	comp=Z,5.7nm,0.9s						
SAND	**Sanderson**	**6.44**	**217**	IAmb_Lg		03 10 52.9	
	comp=Z,4.0nm,0.8s						

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*ATH **02** 03:11:07.5, 37°.16N×20°.58E, h6km±1km, ML3.9/20, Manual Solution by A.Papageorgiou This location: 2020/07/20 08:57:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*IDC **02** 03:11:07.7±1.1, 37°.32N×20°.83E, h0km, mb3.6/8, mbtmp3.5/14, ML3.4/4, MS3.2/12, Error ellipse: s-maj=20.4km s-min=17.7km az=7.0*
*THE **02** 03:11:08.4, 37°.17N×20°.64E, h0km±2km, ML3.8/12, Error ellipse: s-maj=3.3km s-min=0.6km az=225.0*
ISC 02 03:11:09.0±1.2, 37°.21N±0°.03×20°.70E±0°.03, h9km±8km, n78, σ1§00/108, mb3.8/9, MS3.1/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.46**	**12**	P	**Pg**	**03 11 18.2**	**+0.1**
KRI1				S	**Sb**	**03 11 26.2**	**-0.1**
	28μm,0.4s						
LTHK	**Lithakia**	**0.51**	**12**	P	**Pg**	**03 11 19.2**	**+0.2**
LTHK				S	**Sb**	**03 11 27.7**	**0.0**
	20μm,0.5s						
LTHK	**Lithakia**	**0.51**	**12**	P	**Pg**	**03 11 18.9**	**0.0**
LTHK				S	**Sg**	**03 11 26.4**	**+0.7**
AMT	**Artemida-Makis**	**0.87**	**68**	P	**Pb**	**03 11 26.4**	**+0.2**
AMT				S	**Sb**	**03 11 39.7**	**+1.8**
RTZL	**Ratzakli, Kefa**	**0.87**	**4**	P	**Pg**	**03 11 25.3**	**-0.5**
RTZL				S	**Sb**	**03 11 39.5**	**+1.5**
PYL	**PYLOS**	**0.89**	**110**	P	**Pb**	**03 11 26.1**	**-0.5**
PYL				S	**Sb**	**03 11 40.0**	**+1.4**
	3μm,0.5s						
PYL	**PYLOS**	**0.89**	**110**	P	**Pg**	**03 11 25.9**	**-0.3**
PYL				S	**Sb**	**03 11 39.6**	**+1.0**
PSDA	**Pessada-Kefalo**	**0.91**	**354**	P	**Pg**	**03 11 26.2**	**-0.3**
PSDA				S	**Sb**	**03 11 40.5**	**+1.4**
	6μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.91**	**354**	P	**Pg**	**03 11 25.9**	**-0.6**
PSDA				S	**Sg**	**03 11 39.0**	**+0.7**
VLS	**Valsamata**	**0.97**	**355**	P	**Pg**	**03 11 26.9**	**-0.8**
VLS				S	**Sb**	**03 11 41.9**	**+0.9**
	4μm,0.5s						
VLS	**Valsamata**	**0.97**	**355**	P	**Pg**	**03 11 26.6**	**-1.2**
VLS				S	**Sg**	**03 11 40.5**	**+0.1**
ITM	**Ithomi**	**0.98**	**91**	P	**Pb**	**03 11 28.0**	**-0.2**
ITM				S	**Sb**	**03 11 41.6**	**+0.4**
	3μm,0.8s						
ITM	**Ithomi**	**0.98**	**91**	P	**Pb**	**03 11 27.9**	**-0.2**
ITM				S	**Sb**	**03 11 42.4**	**+1.2**
LXRA	**Lixouri, Kepha**	**1.01**	**348**	P	**Pg**	**03 11 27.8**	**-0.7**
LXRA				S	**Sg**	**03 11 41.8**	**+0.1**
LXR1	**Lixouri, Cepha**	**1.01**	**348**	P	**Pb**	**03 11 28.7**	**0.0**
LXR1				S	**Sb**	**03 11 43.0**	**+0.9**
	16μm,0.5s						
SMHA	**Samh**	**1.04**	**358**	P	**Pg**	**03 11 28.0**	**-1.0**
SMHA				S	**Sg**	**03 11 43.0**	**+0.4**
RLS	**Riolos of Patr**	**1.04**	**35**	P	**Pg**	**03 11 28.7**	**-0.4**
RLS				S	**Sb**	**03 11 44.4**	**+1.4**
	2μm,0.5s						
RLS	**Riolos of Patr**	**1.04**	**35**	P	**Pg**	**03 11 28.9**	**-0.2**
RLS				S	**Sb**	**03 11 44.2**	**+1.2**
DMLN	**Damoulianata-K**	**1.06**	**346**	P	**Pg**	**03 11 28.9**	**-0.5**
DMLN				S	**Sn**	**03 11 45.2**	**+0.2**
	8μm,0.9s						
DMLN	**Damoulianata-K**	**1.06**	**346**	P	**Pg**	**03 11 28.4**	**-1.0**
DMLN				S	**Sg**	**03 11 43.4**	**+0.2**
DRO	**Drossia**	**1.09**	**47**	P	**Pg**	**03 11 29.7**	**-0.3**
DRO				S	**Sn**	**03 11 47.7**	**+1.9**
	7μm,0.6s						
DRO	**Drossia**	**1.09**	**47**	P	**Pg**	**03 11 30.0**	**-0.1**
DRO				S	**Sb**	**03 11 46.0**	**+1.5**
VSK1	**VASILIKIADES**	**1.20**	**355**	P	**Pg**	**03 11 30.9**	**-1.3**
VSK1				S	**Sn**	**03 11 49.8**	**+1.3**
	5μm,0.5s						
FSK	**Fiskardo**	**1.25**	**355**	P	**Pg**	**03 11 32.2**	**-0.9**
FSK				S	**Sn**	**03 11 51.8**	**+2.1**
	3μm,0.8s						
FSK	**Fiskardo**	**1.25**	**355**	P	**Pg**	**03 11 32.2**	**-0.9**
FSK				S	**Sb**	**03 11 50.1**	**+1.1**
AST1	**Astakos**	**1.37**	**13**	P	**Pn**	**03 11 34.1**	**-0.1**
UPR	**University Cam**	**1.38**	**38**	P	**Pn**	**03 11 34.7**	**+0.3**
UPR	**University Cam**	**1.38**	**38**	P	**Pn**	**03 11 34.4**	**0.0**
EVGI	**Lefkada island**	**1.41**	**359**	P	**Pn**	**03 11 34.9**	**0.0**
EVGI	**Lefkada island**	**1.41**	**359**	P	**Pn**	**03 11 34.5**	**-0.4**
EVGI				S	**Sg**	**03 11 54.1**	**-0.4**
KLV	**Kalavryta, Ach**	**1.42**	**54**	P	**Pn**	**03 11 35.6**	**+0.5**
KLV	**Kalavryta, Ach**	**1.42**	**54**	P	**Pn**	**03 11 35.4**	**+0.3**
DRAG	**Dragano-Lefkad**	**1.48**	**356**	P	**Pn**	**03 11 35.8**	**0.0**
DRAG	**Dragano-Lefkad**	**1.48**	**356**	P	**Pn**	**03 11 35.6**	**-0.2**
DRAG				S	**Sg**	**03 11 54.9**	**-1.7**
GUR	**Goura**	**1.49**	**60**	P	**Pn**	**03 11 36.6**	**+0.5**
GUR	**Goura**	**1.49**	**60**	P	**Pn**	**03 11 36.8**	**+0.7**
GUR				S	**Sn**	**03 11 57.2**	**+1.5**
NYDR	**Nydri-Lefkada**	**1.50**	**360**	P	**Pn**	**03 11 36.2**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.50**	**360**	P	**Pn**	**03 11 36.2**	**+0.1**
NYDR				S	**Sn**	**03 11 56.6**	**+0.8**
ALIK	**Aliki, Aigiali**	**1.53**	**46**	P	**Pb**	**03 11 37.8**	**+0.2**
EFP	**Efpalio**	**1.55**	**38**	P	**Pn**	**03 11 37.4**	**+0.7**
EFP	**Efpalio**	**1.55**	**38**	P	**Pn**	**03 11 37.3**	**+0.6**
EFP				S	**Sn**	**03 11 57.2**	**+0.3**
LKD2	**Lefkada island**	**1.58**	**359**	P	**Pn**	**03 11 37.3**	**+0.1**
LKD2				S	**Sn**	**03 11 57.7**	**0.0**
TSLK	**Tsoukalades, L**	**1.61**	**359**	P	**Pn**	**03 11 38.1**	**+0.4**
KALE	**Kalithea**	**1.64**	**44**	P	**Pn**	**03 11 38.9**	**+0.8**
KALE				S	**Sn**	**03 11 59.8**	**+0.5**
ANX	**Ano Chora**	**1.69**	**35**	P	**Pn**	**03 11 39.0**	**+0.2**
ANX				S	**Sn**	**03 12 00.5**	**-0.1**
VLI	**Veliai**	**1.86**	**105**	P	**Pn**	**03 11 41.8**	**+0.8**
DLFA	**Delphi**	**1.90**	**48**	P	**Pn**	**03 11 42.9**	**+1.2**
MAKR	**Makrakomi, Fth**	**2.13**	**32**	P	**Pn**	**03 11 45.7**	**+1.0**
AXAR	**Agios Charalam**	**2.19**	**44**	P	**Pn**	**03 11 45.9**	**+0.2**
AXAR				S	**Sn**	**03 12 13.0**	**+0.1**
VIL2	**Platees**	**2.27**	**63**	P	**Pn**	**03 11 47.1**	**+0.4**
VLY	**Voula,Athens**	**2.54**	**74**	P	**Pn**	**03 11 51.1**	**+0.7**
THL	**Klokotos Trika**	**2.57**	**23**	P	**Pn**	**03 11 52.1**	**+1.4**
TYRN	**Tyrnavos**	**2.77**	**25**	P	**Pn**	**03 11 54.0**	**+0.4**
IDI	**Anoyia**	**3.89**	**118**	Pn	**Pn**	**03 12 09.7**	**+0.6**
	5.1nm,0.9s,baz=77,slow=7.7,SNR=1.8						
IDI				Sn	**Sn**	**03 12 54.0**	**-0.9**
	2.2nm,0.3s,baz=102,slow=22,SNR=4.3						
OHR	**Ohrid**	**3.90**	**1**	*e*Pn	**Pn**	**03 12 10.9**	**+1.8**
VAE	**Valguarnera**	**5.02**	**275**	Pn	**Pn**	**03 12 27.3**	**+2.8**
	18nm,0.6s,baz=347,slow=13,SNR=13						
VAE				Sn	**Sn**	**03 13 23.2**	**+0.5**
	1.5nm,0.3s,baz=258,slow=12,SNR=1.3						
MLR	**Muntele Rosu**	**9.16**	**24**	Pn	**Pn**	**03 13 19.7**	**-1.7**
	baz=197,slow=1.5,SNR=1.7						
MLR				LR	LR	03 17 52.9	
	comp=Z,232nm,18.3s,baz=184,slow=45 0.8nm,0.7s						
KEST	**Kesra**	**9.27**	**264**	LR	LR	03 17 08.2	
	comp=Z,93nm,21.8s,baz=44,slow=38						
SOKA	**Soboth**	**10.36**	**338**	*i* Pn	**Pn**	**03 13 39.4**	**+1.6**
	2.3nm,0.7s						
KBA	**Koelnbreinsper**	**11.27**	**333**	*e*Pn	**Pn**	**03 13 51.9**	**+1.6**
	0.8nm,0.5s						
MOA	**Molln**	**11.64**	**338**	*e*Pn	**Pn**	**03 13 52.7**	**-2.5**
	0.1nm,0.1s						
GERES	**GERESS Array B**	**12.70**	**339**	LR	LR	03 19 32.8	
	comp=Z,71nm,18.1s,baz=122,slow=40						
MMAI	**Mount Meron Ar**	**12.74**	**105**	Pn	**Pn**	**03 14 11.1**	**+0.7**

0.8nm,0.7s
ZALV Zalesovo Beam 46.24 47 P **P 03 19 32.8 -1.5**
0.7nm,0.5s,baz=265,slow=9.3,SNR=2.5
0.7nm,0.5s
NRIK Noril'sk 47.60 26 LR LR 03 39 55.9
comp=Z,36nm,20.0s,baz=180,slow=36
CMAR Chiang Mai Arr 69.88 82 P **P 03 22 21.1 +0.5**
1.6nm,0.3s,baz=316,slow=7.6,SNR=2.4

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*THE **02** 03:26:31.8,37.′10N×20.′39E, h5km±1km, ML3.9/11, Error ellipse: s-maj=1.8km s-min=0.8km az=57.0*
*IDC **02** 03:26:34.3±1.0, 37.′35N×20.′77E, h0km, mb3.7/9, mbtmp3.6/17, ML3.6/6, MS3.3/19, Error ellipse: s-maj=18.2km s-min=15.4km az=172.0*
*NAO **02** 03:26:35.6, 37.′28N×20.′64E, h10km, mb4.5*
*ATH **02** 03:26:35.0, 37.′16N×20.′55E, h6km±1km, ML3.7/13, Error ellipse: s-maj=2.9km s-min=1.1km az=54.0*
*BEO **02** 03:26:37.8±0.7, 37.′30N×20.′46E, h17km±8km, ML3.5/11*
ISC 02 03:26:35.0±1.3, 37.′29N±0.′04×20.′59E±0.′03, h6km±9km, n111, σ1°69/130, mb3.8/9, MS3.3/16, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.42**	**26**	P	**Pb**	**03 26 44.3**	**-0.5**
KRI1				S	**Sb**	**03 26 53.4**	**+2.0**
14μm,0.4s							
LTHK	**Lithakia**	**0.47**	**25**	P	**Pg**	**03 26 44.7**	**+0.7**
LTHK				S	**Sb**	**03 26 55.1**	**+2.3**
15μm,0.2s							
LTHK	**Lithakia**	**0.47**	**25**	P	**Pb**	**03 26 46.6**	**+1.0**
LTHK				S	**Sb**	**03 26 54.7**	**+1.9**
LTHK				AML	AML	03 26 56.3	
comp=N,23033μm,0.2s							
LTHK				AML	AML	03 26 59.5	
comp=E,21121μm,0.5s							
RTZL	**Ratzakli, Kefa**	**0.80**	**10**	P	**Pg**	**03 26 50.3**	**-0.1**
RTZL				S	**Sn**	**03 27 06.2**	**+1.1**
PSDA	**Pessada-Kefalo**	**0.83**	**360**	P	**Pb**	**03 26 51.3**	**-0.5**
PSDA				S	**Sn**	**03 27 06.3**	**+0.6**
comp=E,6μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.83**	**360**	P	**Pn**	**03 26 53.1**	**-0.1**
PSDA				S	**Sn**	**03 27 06.0**	**+0.4**
VLS	**Valsamata**	**0.89**	**360**	P	**Pg**	**03 26 52.1**	**0.0**
VLS				S	**Sn**	**03 27 08.2**	**+0.9**
comp=E,4μm,0.2s							
VLS	**Valsamata**	**0.89**	**360**	P	**Pn**	**03 26 54.0**	**-0.1**
VLS				S	**Sn**	**03 27 08.5**	**+1.2**
VLS				AML	AML	03 27 11.3	
comp=N,7095μm,0.2s							
VLS				AML	AML	03 27 12.8	
comp=E,8618μm,0.4s							
LXR1	**Lixouri, Cepha**	**0.92**	**353**	P	**Pg**	**03 26 52.0**	**-0.7**
LXR1				S	**Sn**	**03 27 08.2**	**+0.2**
AMT	**Artemida-Makis**	**0.93**	**74**	P	**Pb**	**03 26 53.7**	**+0.3**
AMT				S	**Sb**	**03 27 06.3**	**+0.3**
AMT				AML	AML	03 27 14.2	
comp=N,45465μm,0.6s							
AMT				AML	AML	03 27 17.5	
comp=E,43048μm,0.5s							
SMHA	**Samh**	**0.97**	**3**	P	**Pn**	**03 26 55.1**	**+0.1**
SMHA				S	**Sn**	**03 27 09.7**	**+0.6**
DMLN	**Damoulianata-K**	**0.97**	**350**	P	**Pg**	**03 26 52.5**	**-1.1**
DMLN				S	**Sn**	**03 27 09.6**	**+0.4**
comp=E,9μm,0.8s							
DMLN	**Damoulianata-K**	**0.97**	**350**	P	**Pn**	**03 26 55.9**	**+0.8**
PYL	**PYLOS**	**1.00**	**113**	P	**Pg**	**03 26 53.4**	**-0.8**
PYL				S	**Sg**	**03 27 07.6**	**+0.4**
comp=E,3μm,0.4s							
PYL	**PYLOS**	**1.00**	**113**	P	**Pg**	**03 26 53.5**	**-0.7**
PYL				S	**Sg**	**03 27 07.4**	**+0.3**
PYL				AML	AML	03 27 11.5	
comp=N,5563μm,0.3s							
PYL				AML	AML	03 27 12.1	
comp=E,6333μm,0.5s							
RLS	**Riolos of Patr**	**1.04**	**42**	P	**Pb**	**03 26 55.5**	**+0.1**
RLS				S	**Sn**	**03 27 14.1**	**+3.2**
comp=E,2μm,1.0s							
RLS	**Riolos of Patr**	**1.04**	**42**	P	**Pn**	**03 26 56.2**	**+0.1**
RLS				AML	AML	03 27 22.0	
comp=N,4135μm,0.9s							
RLS				AML	AML	03 27 25.9	
comp=E,3546μm,0.5s							
ITM	**Ithomi**	**1.07**	**95**	P	**Pg**	**03 26 55.3**	**-0.3**
ITM				S	**Sb**	**03 27 11.9**	**+1.7**
comp=E,4μm,0.5s							
ITM	**Ithomi**	**1.07**	**95**	P	**Pg**	**03 26 55.5**	**-0.1**
ITM				S	**Sg**	**03 27 09.8**	**+0.4**
ITM				AML	AML	03 27 14.6	
comp=N,7020μm,0.3s							
ITM				AML	AML	03 27 16.9	
comp=E,5973μm,0.6s							
DRO	**Drossia**	**1.11**	**53**	P	**Pn**	**03 26 57.3**	**+0.2**
DRO				S	**Sn**	**03 27 15.8**	**+3.1**
comp=E,5μm,0.5s							
DRO	**Drossia**	**1.11**	**53**	P	**Pb**	**03 26 57.2**	**+0.6**
DRO				AML	AML	03 27 26.1	
comp=N,10236μm,0.7s							
DRO				AML	AML	03 27 27.8	
comp=E,11117μm,0.7s							
VSK1	**VASILIKIADES**	**1.12**	**359**	P	**Pg**	**03 26 55.3**	**-1.3**
VSK1				S	**Sn**	**03 27 14.6**	**+1.6**
comp=E,4μm,0.4s							
FSK	**Fiskardo**	**1.17**	**359**	P	**Pg**	**03 26 56.1**	**-1.4**
FSK				S	**Sn**	**03 27 16.1**	**+1.9**
comp=E,4μm,0.7s							
FSK	**Fiskardo**	**1.17**	**359**	P	**Pn**	**03 26 58.5**	**+0.6**
FSK				AML	AML	03 27 22.1	
comp=E,6292μm,0.5s							
FSK				AML	AML	03 27 26.4	
comp=N,5434μm,0.9s							
EVGI	**Lefkada island**	**1.33**	**2**	P	**Pg**	**03 27 00.4**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.40**	**360**	P	**Pg**	**03 27 02.9**	**+1.1**
NYDR	**Nydri-Lefkada**	**1.43**	**3**	P	**Pg**	**03 27 03.4**	**+0.9**
KLV	**Kalavryta, Ach**	**1.45**	**58**	P	**Pb**	**03 27 02.8**	**+0.4**
KLV				AML	AML	03 27 37.5	
comp=E,3178μm,0.7s							
KLV				AML	AML	03 27 42.7	
comp=N,2934μm,1.2s							
LKD2	**Lefkada island**	**1.50**	**2**	P	**Pb**	**03 27 03.2**	**-0.1**
LKD2				AML	AML	03 27 38.5	
comp=N,3854μm,0.9s							
LKD2				AML	AML	03 27 40.4	
comp=E,3958μm,0.9s							
GUR	**Goura**	**1.54**	**64**	P	**Pb**	**03 27 04.1**	**+0.1**
TSLK	**Tsoukalades, L**	**1.54**	**2**	P	**Pg**	**03 27 04.6**	**+0.1**
EFP	**Efpalio**	**1.54**	**42**	P	**Pb**	**03 27 04.6**	**+0.6**
KALE	**Kalithea**	**1.65**	**48**	P	**Pb**	**03 27 06.0**	**+0.2**
KALE				AML	AML	03 27 49.2	
comp=E,2610μm,1.0s							
KALE				AML	AML	03 27 52.8	
comp=N,3996μm,0.7s							
ANX	**Ano Chora**	**1.68**	**38**	P	**Pb**	**03 27 06.4**	**0.0**
ANX				AML	AML	03 27 45.3	
comp=E,5205μm,0.7s							
ANX				AML	AML	03 27 46.8	
comp=N,4302μm,0.9s							
VLI	**Veliai**	**1.96**	**106**	P	**Pn**	**03 27 10.0**	**+1.2**
VLI				AML	AML	03 27 52.4	
comp=N,2162μm,0.9s							
VLI				AML	AML	03 27 53.1	
comp=E,3065μm,1.0s							
AXAR	**Agios Charalam**	**2.20**	**47**	P	**Pb**	**03 27 14.3**	**-1.0**
ANKY	**Antikythira Is**	**2.60**	**122**	P	**Pn**	**03 27 16.4**	**-1.1**
FNA	**Florina**	**3.55**	**10**	*e*Pn	**Pn**	**03 27 32.9**	**+2.3**
FNA				*e*Sn	**Sn**	**03 28 12.7**	**-0.2**
OHR	**Ohrid**	**3.83**	**2**	*e*Pn	**Pn**	**03 27 36.6**	**+2.2**
IDI	**Anoyia**	**4.00**	**119**	Pn	**Pn**	**03 27 37.3**	**+0.4**
comp=E,1.9nm,0.4s,baz=217,slow=4.5,SNR=13							
IDI				Sn	**Sn**	**03 28 23.8**	**-0.4**
comp=E,4.8nm,0.3s,baz=323,slow=18,SNR=6.6							
TIR	**Tirane**	**4.10**	**352**	*e*Pn	**Pn**	**03 27 38.0**	**-0.1**
SRS	**Serrai**	**4.48**	**30**	*e*Pn	**Pn**	**03 27 45.3**	**+1.9**
SRS				*e*Sn	**Sn**	**03 28 35.8**	**-0.1**
VAE	**Valguarnera**	**4.92**	**274**	Pn	**Pn**	**03 27 52.6**	**+3.1**
comp=E,20nm,0.6s,baz=140,slow=3.2,SNR=8.3							
VAE				Sn	**Sn**	**03 28 50.6**	**+3.8**
comp=E,2.3nm,0.3s,baz=202,slow=23,SNR=1.4							
PDG	**Podgorica**	**5.24**	**349**	*e*Pn	**Pn**	**03 27 55.8**	**+2.0**
PDG				*e*Sn	**Sn**	**03 28 53.2**	**-1.3**
PDG	**Podgorica**	**5.24**	**349**	*e*Pn	**Pn**	**03 27 55.3**	**+1.5**
HCY	**Herceg Novi**	**5.40**	**343**	*e*Pn	**Pn**	**03 27 58.2**	**+2.1**
BOSS	**Bosilegrad**	**5.40**	**15**	*e*Pn	**Pn**	**03 27 56.7**	**+0.6**
BARS	**Barje**	**5.61**	**9**	*e*Pn	**Pn**	**03 27 59.9**	**+1.1**
BARS				*e*Sn	**Sn**	**03 29 02.0**	**-1.5**
TREB	**Trebinje**	**5.69**	**343**	*e*Pn	**Pn**	**03 28 00.3**	**+0.3**
TREB				*e*Sn	**Sn**	**03 29 03.8**	**-1.9**
TREB	**Trebinje**	**5.69**	**343**	*e*Pn	**Pn**	**03 27 59.3**	**-0.7**
VTS	**Vitosha**	**5.70**	**20**	*e*Pn	**Pn**	**03 28 02.1**	**+1.8**
VTS				*e*Sn	**Sn**	**03 29 04.4**	**-1.7**
BRY	**Bratogost**	**5.83**	**345**	*e*Pn	**Pn**	**03 28 03.1**	**+1.1**
SELS	**Selova**	**5.94**	**4**	*e*Pn	**Pn**	**03 28 04.2**	**+0.7**
SELS				*e*Sn	**Sn**	**03 29 08.9**	**-3.0**
SJES	**Sjenica**	**5.99**	**356**	*e*Pn	**Pn**	**03 28 06.0**	**+1.8**
SJES				*e*Sn	**Sn**	**03 29 12.0**	**-1.1**
SJES	**Sjenica**	**5.99**	**356**	*e*Pn	**Pn**	**03 28 05.5**	**+1.3**
STON	**Ston**	**6.00**	**339**	*e*Pn	**Pn**	**03 28 04.3**	**0.0**
STON				*e*Sn	**Sn**	**03 29 09.2**	**-4.1**
STON	**Ston**	**6.00**	**339**	*e*Pn	**Pn**	**03 28 05.8**	**+1.5**
ZAPS	**Zavoj**	**6.18**	**14**	*e*Pn	**Pn**	**03 28 08.7**	**+1.9**
IVAS	**Ivanjica**	**6.29**	**357**	*e*Pn	**Pn**	**03 28 09.1**	**+0.7**
RUDO	**Rudo**	**6.39**	**352**	*e*Pn	**Pn**	**03 28 09.9**	**+0.2**
BOVS	**Bovan**	**6.40**	**7**	*e*Pn	**Pn**	**03 28 09.9**	**+0.2**
GRUS	**Gruza**	**6.60**	**1**	*e*Pn	**Pn**	**03 28 12.4**	**-0.1**
BBLS	**Lazi&#263i**	**6.64**	**353**	*e*Pn	**Pn**	**03 28 13.0**	**-0.1**
DIVS	**Divibare**	**6.82**	**356**	*e*Pn	**Pn**	**03 28 16.2**	**+0.6**
DIVS				*e*Sn	**Sn**	**03 29 29.3**	**-4.3**
HAPS	**Han Pijesak,BI**	**6.91**	**350**	*e*Pn	**Pn**	**03 28 17.9**	**+1.1**
TRUS	**Trudelj**	**6.93**	**359**	*e*Pn	**Pn**	**03 28 17.0**	**-0.1**
TEKS	**Tekeris**	**7.30**	**354**	*e*Pn	**Pn**	**03 28 21.7**	**-0.5**
TEKS	**Tekeris**	**7.30**	**354**	*e*Pn	**Pn**	**03 28 20.7**	**-1.5**
A050A	**Klekovaca**	**7.82**	**338**	*e*Pn	**Pn**	**03 28 32.1**	**+2.8**
BLY	**Banja Luka**	**7.89**	**342**	*e*Pn	**Pn**	**03 28 31.0**	**+0.8**
BLY	**Banja Luka**	**7.89**	**342**	*e*Pn	**Pn**	**03 28 33.7**	**+3.5**
FRGS	**Fruska Gora**	**7.89**	**356**	*e*Pn	**Pn**	**03 28 34.7**	**+4.5**
A051A	**Mrakovica**	**8.20**	**341**	*e*Pn	**Pn**	**03 28 35.2**	**+0.6**
MLR	**Muntele Rosu**	**9.13**	**24**	Pn	**Pn**	**03 28 46.4**	**-1.0**
comp=E,0.1nm,0.3s,baz=151,slow=11,SNR=4.5							
MLR				LR	LR	03 33 20.7	
comp=E,209nm,18.7s,baz=200,slow=45							
comp=E,0.7nm,0.3s							
KEST	**Kesra**	**9.19**	**264**	Pn	**Pn**	**03 28 48.2**	**+0.1**
comp=E,0.1nm,0.3s,baz=78,slow=9.3,SNR=1.5							
KEST				Sn	**Sn**	**03 30 30.2**	**-1.5**
baz=81,slow=23							
comp=E,1.4nm,0.5s							
CEY	**Cerknica**	**9.62**	**333**	*e*Pn	**Pn**	**03 28 54.6**	**+0.6**
SOKA	**Soboth**	**10.25**	**338**	*i* Pn	**Pn**	**03 29 04.4**	**+1.7**
comp=E,0.2nm,0.3s							
ARSA	**Arzberg**	**10.64**	**341**	*i* Pn	**Pn**	**03 29 11.8**	**+3.9**
comp=E,1.2nm,0.4s							
KBA	**Koelnbreinsper**	**11.16**	**334**	*i* Pn	**Pn**	**03 29 19.7**	**+4.6**
comp=E,2.2nm,0.6s							
CONA	**Conrad Observa**	**11.19**	**343**	*i* Pn	**Pn**	**03 29 19.5**	**+4.0**
comp=E,0.4nm,0.3s							
VYHS	**Vyhne**	**11.28**	**354**	*e*PN	Pn	03 29 25.1	+8.5
VYHS				*e*		03 29 36.8	
MOA	**Molln**	**11.54**	**338**	*i* Pn	**Pn**	**03 29 23.0**	**+2.8**
comp=E,0.5nm,0.3s							
BIOA	**Bad Ischl, Aus**	**11.59**	**336**	*e*Pn	**Pn**	**03 29 25.0**	**+4.1**
comp=E,4.7nm,1.4s							
LESA	**Schwarzleotal**	**11.69**	**333**	*i* Pn	Pn	03 29 27.0	+4.7
comp=E,0.9nm,0.4s							
FETA	**Feichten**	**12.16**	**326**	*i* Pn	**Pn**	**03 29 32.3**	**+3.4**
comp=E,5.8nm,1.9s							
MMAI	**Mount Meron Ar**	**12.85**	**105**	Pn	**Pn**	**03 29 35.3**	**-2.9**
comp=E,0.8nm,0.3s,baz=287,slow=15,SNR=2.0							
comp=E,0.8nm,0.6s							
EIL	**Elat**	**14.18**	**118**	Pn	**Pn**	**03 29 53.1**	**-3.3**
comp=E,0.2nm,0.3s,baz=282,slow=3.5,SNR=2.8							
EIL				Sn	Sn	03 32 18.8	-15
comp=E,0.2nm,0.3s,baz=64,slow=18,SNR=1.2							
comp=E,1.5nm,0.5s							
AKASG	**Malin Array Be**	**14.77**	**22**	Pn	**Pn**	**03 30 01.9**	**-2.4**
comp=E,0.3nm,0.3s,baz=101,slow=26,SNR=1.4							
AKASG				LR	LR	03 36 50.8	
comp=E,110nm,19.1s,baz=226,slow=42							
comp=E,0.1nm,0.3s							
GNI	**Garni**	**19.05**	**74**	LR	LR	03 38 34.8	
comp=E,78nm,18.1s,baz=286,slow=38							
ESDC	**Sonseca Array**	**19.36**	**285**	P	**Pn**	**03 31 02.5**	**+0.2**
comp=E,0.1nm,0.3s,baz=96,slow=13,SNR=1.5							
comp=E,0.3nm,0.8s							
HFS	**Hagfors**	**23.29**	**351**	P	**P**	**03 31 43.6**	**+0.4**
comp=E,1.1nm,0.5s,baz=171,slow=11,SNR=6.6							
HFS				LR	LR	03 40 57.4	
comp=E,68nm,20.2s,baz=168,slow=37							
comp=E,1.1nm,0.5s							
EKA	**Eskdalemuir Ar**	**24.19**	**326**	P	**P**	**03 31 53.1**	**+1.1**
comp=E,2.4nm,0.8s,baz=122,slow=7.9,SNR=2.7							
comp=E,2.4nm,0.8s							
BELG	**Belogornoye**	**24.21**	**43**	LR	LR	03 42 19.6	
comp=E,35nm,19.5s,baz=239,slow=39							
FINES	**FINESS Array B**	**24.43**	**6**	P	**P**	**03 31 54.0**	**-0.1**
comp=E,4.0nm,1.1s,baz=171,slow=9.8,SNR=4.8							
FINES				LR	LR	03 42 23.1	
comp=E,97nm,18.5s,baz=196,slow=39							
comp=E,4.0nm,1.1s							
NB2	**NORSAR Subarra**	**24.50**	**349**	P	**P**	**03 31 54.7**	**-0.1**
comp=Z,16nm,1.7s,baz=162,slow=9.3							
NOA	**NORSAR Array B**	**24.50**	**349**	P	**P**	**03 31 55.2**	**+0.3**
comp=Z,0.4nm,0.6s,baz=157,slow=9.0,SNR=4.3							
NOA				LR	LR	03 42 27.8	
comp=Z,66nm,18.9s,baz=175,slow=39							
comp=Z,0.4nm,0.6s							
KIRV	**Kirov**	**28.38**	**32**	LR	LR	03 43 56.1	
comp=Z,54nm,20.6s,baz=246,slow=37							
TORD	**Torodi Ar. Bea**	**29.38**	**220**	P	**P**	**03 32 40.8**	**+1.9**
comp=Z,0.2nm,0.4s,baz=35,slow=9.4,SNR=6.6							
comp=Z,0.2nm,0.4s							
AKTO	**Aktyubinsk**	**29.68**	**52**	LR	LR	03 47 12.5	
comp=Z,32nm,20.5s,baz=108,slow=42							
ARTI	**Arti**	**31.59**	**41**	LR	LR	03 46 36.4	
comp=Z,37nm,20.9s,baz=222,slow=38							
ARCES	**ARCESS Array B**	**32.42**	**3**	P	**P**	**03 33 04.7**	**-0.6**
comp=Z,1.0nm,0.8s,baz=178,slow=9.9,SNR=2.2							
comp=Z,1.0nm,0.8s							
BORG	**Borgarnes**	**36.92**	**332**	LR	LR	03 49 01.1	
comp=Z,20nm,19.2s,baz=235,slow=36							
KURBB	**Kurchatov Arra**	**42.72**	**53**	P	**P**	**03 34 32.0**	**-0.7**
comp=Z,0.9nm,0.6s,baz=280,slow=8.5,SNR=5.3							
comp=Z,0.9nm,0.6s							
MKAR	**Makanchi Array**	**45.73**	**58**	P	**P**	**03 34 55.7**	**-1.1**
comp=Z,0.5nm,0.6s,baz=278,slow=6.8,SNR=4.7							
MKAR				LR	LR	03 56 30.1	
comp=Z,55nm,19.4s,baz=274,slow=39							
comp=Z,0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**46.25**	**47**	P	**P**	**03 34 59.3**	**-1.5**
comp=Z,0.6nm,0.4s,baz=286,slow=9.4,SNR=1.4							
ZALV				LR	LR	03 55 22.3	
comp=Z,30nm,21.7s,baz=279,slow=38							
comp=Z,0.6nm,0.4s							
YAK	**Yakutsk**	**65.86**	**29**	LR	LR	04 07 41.7	
comp=Z,49nm,19.6s,baz=318,slow=38							
RCBR	**Riachuelo**	**67.84**	**244**	LR	LR	04 07 30.4	
comp=Z,21nm,18.4s,baz=152,slow=36							
KLR	**Kul'dur**	**74.53**	**39**	LR	LR	04 13 39.9	
comp=Z,16nm,19.8s,baz=334,slow=38							
MA2	**Magadan**	**75.09**	**24**	LR	LR	04 15 03.0	
comp=Z,32nm,19.3s,baz=324,slow=39							
KSRS	**Korea Array**	**79.85**	**51**	LR	LR	04 18 12.4	
comp=Z,25nm,20.3s,baz=75,slow=39							
PETK	**Petropavlovsk-**	**82.59**	**24**	LR	LR	04 20 46.7	
comp=Z,20nm,19.4s,baz=316,slow=39							

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*SJA **02** 03:30:52.0±0.6, 23.′91S×66.′67W, h237km±5km, ML3.2, MW3.2*
*GUC **02** 03:30:54.2±0.6, 23.′90S×67.′02W, h252km±12km, ML3.7*
ISC 02 03:30:51.6±1.9, 23.′93S±0.′04×66.′73W±0.′06, h238km±17km, n25, σ1°28/42, 1C-4D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**2.07**	**33**	*e*P	**Pn**	**03 31 35.2**	**+0.9**
YJA				*e*S	**S**	**03 32 06.5**	**-1.2**
FSA	**Cafayete**	**2.28**	**163**	*e*P	**Pn**	**03 31 36.5**	**+0.6**
LVC	**Limon Verde**	**2.40**	**303**	*e*P	**Pn**	**03 31 38.6**	**+1.3**
LVC				*e*S	**S**	**03 32 12.0**	**-1.2**
LVC	**Limon Verde**	**2.40**	**303**	*e*P	**Pn**	**03 31 38.6**	**+1.3**
LVC				*e*S	**S**	**03 32 13.1**	**-0.1**
GO02	**Mina Guanaco**	**2.88**	**244**	⇓*i*P	**Pn**	**03 31 43.8**	**+1.5**
GO02				*i* S	**S**	**03 32 22.2**	**0.0**
GO02				IAML		03 32 22.9	
comp=E,141nm,0.3s							
GO02	**Mina Guanaco**	**2.88**	**244**	*e*P	**Pn**	**03 31 43.7**	**+1.4**
GO02				*e*S	**S**	**03 32 22.4**	**+0.2**
PB06	**IPOC Station P**	**2.88**	**294**	⇑*i*P	**Pn**	**03 31 43.6**	**+1.4**
PB06				*i* S	**S**	**03 32 20.6**	**-1.4**
PB06				IAML		03 32 22.4	
comp=N,98nm,0.1s							
PB06	**IPOC Station P**	**2.88**	**294**	*e*P	**Pn**	**03 31 43.7**	**+1.4**
PB06				*e*S	**S**	**03 32 21.4**	**-0.6**
PB06				IAML		03 32 23.1	
comp=Z,52nm,0.1s							
AHML	**Horco Molle**	**3.11**	**156**	*e*P	**Pn**	**03 31 45.5**	**+0.9**
AHML				*e*S	**S**	**03 32 25.0**	**-1.4**
PB14	**IPOC Station P**	**3.42**	**258**	*e*P	**Pn**	**03 31 49.2**	**+0.8**
PB14				*i* S	**S**	**03 32 31.5**	**-1.7**
PB14	**IPOC Station P**	**3.42**	**258**	*e*P	Pn	03 31 35.8	-13
PB14				*e*S	**S**	**03 32 31.9**	**-1.2**
PB14				IAML		03 32 33.2	
comp=Z,42nm,0.2s							
PB04	**IPOC Station P**	**3.52**	**296**	⇓*i*P	**Pn**	**03 31 50.9**	**+1.3**
PB04				*i* S	**S**	**03 32 33.1**	**-2.0**
PB04	**IPOC Station P**	**3.52**	**296**	*e*P	**Pn**	**03 31 50.8**	**+1.3**
PB04				*e*S	**S**	**03 32 34.0**	**-1.1**
PB04				IAML		03 32 38.6	
comp=Z,47nm,0.4s							
PB01	**IPOC Station P**	**3.84**	**318**	*e*P	**Pn**	**03 31 54.0**	**+0.9**
PB01				*e*S	**S**	**03 32 38.9**	**-2.8**
PB01				*e*S	S	03 32 40.1	-1.6
PB01	**IPOC Station P**	**3.84**	**318**	*e*P	**Pn**	**03 31 54.1**	**+0.9**
PB01				IAML		03 32 45.3	
comp=Z,12nm,1.2s							
AC01	**Pan de Azucar**	**4.14**	**237**	⇓*i*P	**Pn**	**03 31 57.2**	**+0.6**
AC01				*i* S	**S**	**03 32 45.9**	**-2.1**
AC01	**Pan de Azucar**	**4.14**	**237**	*e*P	**Pn**	**03 31 57.2**	**+0.6**
AC01				*e*S	**S**	**03 32 46.7**	**-1.3**
PB08	**IPOC Station P**	**4.39**	**329**	⇓*i*P	**Pn**	**03 32 01.6**	**+1.7**
PB08				*i* S	**S**	**03 32 53.2**	**-0.9**
PB08	**IPOC Station P**	**4.39**	**329**	*e*P	**Pn**	**03 32 01.8**	**+1.8**
PB08				IAML		03 32 57.4	
comp=Z,12nm,0.5s							
PATCX	**Punta Patache**	**4.43**	**314**	*e*P	**Pn**	**03 32 01.2**	**+1.1**
PATCX				IAML		03 33 30.5	
comp=Z,23nm,4.4s							
HMBC	**Humberstone**	**4.67**	**321**	*e*P	**Pn**	**03 32 03.1**	**0.0**
HMBC	**Humberstone**	**4.67**	**321**	*e*P	**Pn**	**03 32 03.3**	**+0.2**
GO01	**Chusmiza**	**4.82**	**331**	*e*P	**Pn**	**03 32 06.6**	**+1.3**
GO01				*e*S	**S**	**03 33 03.7**	**0.0**
GO03	**Copiapo**	**4.83**	**220**	*e*P	**Pn**	**03 32 05.8**	**+0.9**
GO03				*e*S	**S**	**03 33 03.1**	**0.0**
PB11	**IPOC Station P**	**4.96**	**326**	*e*P	**Pn**	**03 32 06.8**	**+0.1**

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*NOU **02** 03:31:18.8, 33.′69S×176.′50E, h201km, mb4.0/5, North of New Zealand*
WEL 02 03:32:19.9, 38.′S±27.′×17.′7E±2.′1, h49km±23km, M2.0/5, ML2.1/6, MLv2.0/5, Error ellipse: s-maj=44.0km s-min=27.5km az=153.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.11**	**231**	P	Pn	03 32 28.0	+0.3
URZ	**Urewera**	**0.11**	**231**	P	Pn	03 32 27.9	+0.2
MWZ	**Matawai**	**0.28**	**122**	P	Pn	03 32 26.2	-2.7
MUGZ	**Murupara**	**0.46**	**231**	P	Pn	03 32 31.1	+0.4
SNGZ	**Shannon Statio**	**0.60**	**171**	P	Pn	03 32 33.1	+0.6
RIGZ	**Rimuhau**	**0.67**	**141**	P	Pn	03 32 31.9	-1.4
NMHZ	**Naumai**	**0.96**	**200**	P	Pn	03 32 38.9	+1.7
ARHZ	**Aropaoanui**	**1.09**	**189**	P	Pn	03 32 40.5	+1.7
BKZ	**Black Stump Fm**	**1.13**	**210**	P	Pn	03 32 38.5	-0.9
BKZ	**Black Stump Fm**	**1.13**	**210**	P	Pn	03 32 39.4	-0.1
MCHZ	**McNeill Hill**	**1.32**	**198**	P	Pn	03 32 43.6	+1.6
KWHZ	**Kaweka Forest**	**1.38**	**207**	P	Pn	03 32 42.7	-0.2
SNVZ	**South Ngauruho**	**1.59**	**231**	P	Pn	03 32 45.1	-0.7
KRHZ	**Kereru**	**1.60**	**204**	P	Pn	03 32 45.1	-0.7
KAHZ	**Kahuranaki**	**1.63**	**189**	P	Pn	03 32 46.7	+0.5
MOVZ	**Moawhango**	**1.67**	**223**	P	Pn	03 32 45.4	-1.5
WHVZ	**Whangaehu Hut**	**1.68**	**229**	P	Pn	03 32 45.3	-1.9
FWVZ	**Far West T-bar**	**1.69**	**230**	P	Pn	03 32 46.5	-0.7
WNVZ	**Wahianoa**	**1.71**	**228**	P	Pn	03 32 45.9	-1.5
BFZ	**Birch Farm**	**2.60**	**197**	P	Pn	03 32 58.0	-1.5
QRZ	**Quartz Range**	**4.49**	**233**	P	Pn	03 33 08.9	-16
KHZ	**Kahutara**	**5.08**	**213**	P	Pn	03 33 25.6	-7.8

**NEIC 02 03:56:20.3±0.9, 30.′96N±0.′01×103.′47W±0.′02, h7km±1km, mb_Lg2.7/41, ML3.1/38, Error

	comp=Z,18nm,1.1s						
FW07	**Weatherford**	**5.14**	**69**	IAmb_Lg		03 59 08.9	
	comp=Z,13nm,0.9s						
FW13	**Cleburne**	**5.34**	**73**	IAmb_Lg		03 59 18.7	
	comp=Z,10.0nm,0.8s						
FW06	**Azle**	**5.41**	**67**	IAmb_Lg		03 59 25.1	
	comp=Z,14nm,1.3s						
WMOK	**Wichita Mounta**	**5.46**	**45**		Pn	03 57 43.0	+0.9
WMOK				IAmb_Lg		03 59 22.7	
	comp=Z,11nm,1.0s						
Z35A	**Perchaven, San**	**5.78**	**64**	IAmb_Lg		03 59 37.7	
	comp=Z,8.7nm,0.8s						
X34A	**Smith Ranch, M**	**5.98**	**51**	IAmb_Lg		03 59 46.5	
	comp=Z,14nm,0.9s						
T25A	**Trinidad**	**6.21**	**353**	IAmb_Lg		03 59 54.7	
	comp=Z,11nm,0.9s						
FNO	**Franklin**	**6.66**	**48**	IAmb_Lg		03 59 53.9	
	comp=Z,8.6nm,0.8s						
W35A	**Tecumseh**	**6.94**	**51**	IAmb_Lg		04 00 16.7	
	comp=Z,6.1nm,0.8s						

IDC 02 03:59:00.8±5.2, 6°.64S×147°.88E, h149km±45km, mb3.3/1, mbtmp3.7/3, Error ellipse: s-maj=96.5km s-min=49.6km az=122.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.84**	**194**	P	Pn	03 59 46.8	+0.7
	119nm,0.6s,baz=13,slow=8.4,SNR=23						
PMG				S	Sn	04 00 21.3	+0.2
	26nm,0.5s,baz=17,slow=15,SNR=2.2						
WRA	**Warramunga Arr**	**18.64**	**224**	P	P	04 03 06.5	-0.8
	0.7nm,0.5s,baz=49,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**21.61**	**217**	P	P	04 03 39.9	+0.6
	1.6nm,0.5s,baz=52,slow=8.9,SNR=24						
	1.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**146.09**	**284**	PKPbc	PKPdf	04 18 23.4	+0.1
	0.3nm,0.5s,baz=64,slow=4.2,SNR=5.6						

*ATH **02** 04:13:09.1, 37°.50N×20°.57E, h14km±4km, ML2.9/1, Error ellipse: s-maj=5.0km s-min=1.4km az=8.0*
*THE **02** 04:13:09.3, 37°.51N×20°.61E, h15km±1km, ML2.7/8, Error ellipse: s-maj=1.8km s-min=1.0km az=35.0*

ISC 02 04:13:09.1±1.9, 37°.51N±0°.07×20°.59E±0°.07, h14km±8km, n18, σ0s44/28, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.24**	**50**	P	**Pg**	**04 13 14.3**	**-0.1**
KRI1				S	**Sg**	**04 13 18.1**	**+0.2**
	4μm,0.2s						
LTHK	**Lithakia**	**0.28**	**44**	P	**Pg**	**04 13 15.1**	**0.0**
LTHK				S	**Sg**	**04 13 19.3**	**+0.1**
	4μm,0.1s						
LTHK	**Lithakia**	**0.28**	**44**	P	**Pg**	**04 13 15.0**	**-0.1**
LTHK				S	**Sg**	**04 13 19.2**	**+0.1**
LTHK				AML	AML	04 13 19.7	
	comp=E,7530μm,0.1s						
LTHK				AML	AML	04 13 20.1	
	comp=N,5830μm,0.1s						
RTZL	**Ratzakli, Kefa**	**0.59**	**14**	P	**Pg**	**04 13 20.6**	**0.0**
RTZL				S	**Sb**	**04 13 29.4**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.61**	**360**	P	**Pb**	**04 13 22.1**	**+0.6**
PSDA				S	**Sb**	**04 13 29.8**	**0.0**
	comp=N,548nm,0.2s						
PSDA	**Pessada-Kefalo**	**0.61**	**360**	P	**Pg**	**04 13 20.9**	**-0.1**
VLS	**Valsamata**	**0.67**	**0**	P	**Pg**	**04 13 22.0**	**-0.2**
VLS				S	**Sb**	**04 13 31.8**	**+0.1**
	comp=N,580nm,0.5s						
VLS	**Valsamata**	**0.67**	**0**	P	**Pg**	**04 13 21.9**	**-0.3**
DMLN	**Damoulianata-K**	**0.75**	**347**	P	**Pg**	**04 13 23.2**	**-0.5**
DMLN				S	**Sb**	**04 13 34.4**	**+0.4**
	comp=N,1μm,0.7s						
RLS	**Riolos of Patr**	**0.89**	**51**	P	**Pb**	**04 13 25.4**	**-0.9**
RLS				S	**Sb**	**04 13 38.1**	**+0.1**
	comp=N,265nm,0.6s						
RLS	**Riolos of Patr**	**0.89**	**51**	P	**Pb**	**04 13 25.8**	**-0.5**
AMT	**Artemida-Makis**	**0.89**	**88**	P	**Pb**	**04 13 26.3**	**-0.1**
VSK1	**VASILIKIADES**	**0.90**	**359**	P	**Pb**	**04 13 25.7**	**-0.8**
VSK1				S	**Sg**	**04 13 39.2**	**+0.8**
	comp=N,545nm,0.7s						
FSK	**Fiskardo**	**0.95**	**359**	P	**Pb**	**04 13 26.6**	**-0.7**
FSK				S	**Sn**	**04 13 41.5**	**+0.2**
	comp=N,412nm,0.8s						
DRO	**Drossia**	**1.00**	**63**	P	**Pb**	**04 13 27.4**	**-0.7**
PYL	**PYLOS**	**1.11**	**123**	P	**Pb**	**04 13 29.6**	**-0.4**
ITM	**Ithomi**	**1.12**	**107**	P	**Pb**	**04 13 30.1**	**0.0**
KLV	**Kalavryta, Ach**	**1.35**	**66**	P	**Pn**	**04 13 33.8**	**+0.2**

*CATAC **02** 04:18:45.4±0.7, 10°.11N×86°.52W, h5km±7km, ML3.9*
*UCR **02** 04:18:50.3±0.8, 10°.40N×86°.30W, h16km±3km, MW4.2*

ISC 02 04:18:48.1±1.7, 10°.27N±0°.06×86°.39W±0°.06, h13km±11km, n66, σ0s88/76, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.80**	**90**	*e*P	**Pb**	**04 19 04.2**	**+0.3**
DELF	**Filadelfia**	**0.84**	**78**	*e*P	**Pb**	**04 19 04.9**	**+0.2**
ELI1	**Hacienda Flor**	**0.91**	**66**	*e*P	**Pb**	**04 19 06.4**	**+0.7**
NICO	**Nicoya**	**0.94**	**98**	*e*P	**Pg**	**04 19 06.3**	**-0.1**
NICO				*e*S	**Sg**	**04 19 18.4**	**-0.2**
CMARA	**Lajas Hojancha**	**0.99**	**104**	*e*P	**Pg**	**04 19 07.0**	**-0.2**
CMARA				*e*S	**Sg**	**04 19 19.7**	**-0.4**
ERIA	**Liberia**	**1.00**	**69**	*e*P	**Pg**	**04 19 07.5**	**-0.1**
LCRUZ	**La Cruz**	**1.10**	**43**	*e*P	**Pb**	**04 19 09.3**	**+0.3**
GPS3	**Bodega del ICE**	**1.12**	**64**	*e*P	**Pn**	**04 19 10.3**	**+0.8**
GPS2	**Hotel Rincn d**	**1.13**	**65**	*e*P	**Pb**	**04 19 08.9**	**-0.7**
VRLE	**La Escondida,**	**1.14**	**63**	*e*P	**Pb**	**04 19 08.9**	**-0.8**
BAGA	**Bagaces**	**1.14**	**77**	*e*P	**Pb**	**04 19 09.6**	**-0.1**
VORI	**VORI**	**1.17**	**62**	*e*P	**Pb**	**04 19 09.4**	**-0.9**
COLC	**Colonia**	**1.23**	**71**	*e*P	**Pn**	**04 19 10.5**	**-0.6**
CUI	**Cuipilapa**	**1.27**	**72**	*e*P	**Pn**	**04 19 11.2**	**-0.4**
HORNC	**Hornillas**	**1.27**	**70**	*e*P	**Pn**	**04 19 11.1**	**-0.6**
CNAS	**Canas**	**1.29**	**83**	*e*P	**Pn**	**04 19 11.9**	**+0.1**
JUNT	**Juntas**	**1.41**	**89**	*e*P	**Pn**	**04 19 13.4**	**-0.1**
JTS	**Las Juntas de**	**1.42**	**89**	*e*P	**Pn**	**04 19 13.4**	**-0.2**
MTEVE	**Monteverde**	**1.54**	**88**	*e*P	**Pb**	**04 19 16.6**	**0.0**
VERA	**Finca Concepci**	**1.61**	**69**	*e*P	**Pn**	**04 19 16.5**	**+0.2**
ARE1	**Arenal 1**	**1.66**	**83**	*e*P	**Pn**	**04 19 17.7**	**+0.8**
CEDE	**Laguna Cedeo**	**1.68**	**82**	*e*P	**Pn**	**04 19 17.9**	**+0.7**
NANN	**Nandasmo**	**1.68**	**9**	*i* P	**Pn**	**04 19 17.8**	**+0.5**
NANN				*i* S	**Sg**	**04 19 42.6**	**+0.2**
NANN				IAML		04 20 03.3	
	comp=Z,16μm,1.0s						
SABN	**Sabanita**	**1.69**	**8**	*i* P	**Pn**	**04 19 17.0**	**-0.4**
SABN				IAML		04 20 10.8	
	comp=Z,4μm,1.0s						
VACR	**Volcan Arenal**	**1.70**	**83**	*e*P	**Pn**	**04 19 18.2**	**+0.7**
FORC	**Fortuna**	**1.71**	**83**	*e*P	**Pn**	**04 19 18.6**	**+1.0**
RA5A7	**El Crucero**	**1.71**	**3**	*i* P	**Pn**	**04 19 18.4**	**+0.6**
RA5A7				IAML		04 19 29.0	
	comp=Z,4μm,1.0s						
SOCE	**Pocosol**	**1.75**	**86**	*e*P	**Pn**	**04 19 18.7**	**+0.5**
MAS3	**Al N del Volca**	**1.76**	**7**	*i* P	**Pn**	**04 19 17.7**	**-0.6**
MAS3				IAML		04 19 38.4	
	comp=Z,750nm,1.0s						
UNAN	**Cigeo UNAN**	**1.83**	**4**	*i* P	**Pn**	**04 19 18.8**	**-0.6**
UNAN				IAML		04 19 28.3	
	comp=Z,6μm,1.0s						
UNAN				*i* S	**Sg**	**04 19 47.8**	**+0.5**
TISN	**Laguna Tiscapa**	**1.87**	**4**	*i* P	**Pn**	**04 19 19.2**	**-0.6**
TISN				IAML		04 19 28.7	
	comp=Z,50nm,1.0s						
MGAN	**Managua**	**1.87**	**4**	*e*P	**Pn**	**04 19 19.4**	**-0.5**
SAPS	**Ciudad Sandino**	**1.89**	**360**	*i* P	**Pn**	**04 19 19.7**	**-0.4**
SAPS				IAML		04 19 30.0	
	comp=Z,770nm,1.0s						
WILN	**Americas 2**	**1.89**	**6**	*i* P	**Pb**	**04 19 22.3**	**-0.2**
WILN				IAML		04 20 20.8	
	comp=Z,490nm,1.0s						
COPN	**Copaltepe**	**1.91**	**354**	*i* P	**Pn**	**04 19 19.5**	**-0.9**
COPN				IAML		04 19 27.1	
	comp=Z,720nm,1.0s						
APQ2	**Apoyeque**	**1.92**	**2**	*i* P	**Pn**	**04 19 20.0**	**-0.5**
APQ2				IAML		04 19 38.1	
	comp=Z,670nm,1.0s						
APQ2				*i* S	**Sb**	**04 19 48.0**	**+1.1**
APYN	**Apoyeque**	**1.95**	**1**	*i* P	**Pn**	**04 19 21.0**	**0.0**
APYN				IAML		04 19 57.0	
	comp=Z,10.0nm,1.0s						
COVE	**Coope Vega, Sa**	**2.01**	**77**	*i* P	**Pn**	**04 19 22.7**	**+1.0**
COVE				IAML		04 20 17.7	
	comp=Z,540nm,1.0s						
ACON	**Acoyapa**	**2.07**	**35**	*i* P	**Pn**	**04 19 21.7**	**-0.9**
ACON				IAML		04 19 28.7	
	comp=Z,360nm,1.0s						
ACON	**Acoyapa**	**2.07**	**35**	*e*P	**Pn**	**04 19 21.9**	**-0.7**
LEVN	**Ruinas Leon Vi**	**2.13**	**354**	*i* P	**Pn**	**04 19 23.4**	**0.0**
LEVN				IAML		04 19 53.2	
	comp=Z,410nm,1.0s						
LEVN				*i* S	**Sb**	**04 19 53.8**	**+0.8**
MOM2	**El Cardon**	**2.16**	**358**	*i* P	**Pn**	**04 19 23.2**	**-0.6**
MOM2				IAML		04 19 30.7	
	comp=Z,600nm,1.0s						
MOM2				*i* S	**Sb**	**04 19 55.7**	**+2.0**
CNGA	**Al SSO del Vol**	**2.23**	**352**	*i* P	**Pn**	**04 19 24.7**	**-0.2**
CNGA				IAML		04 19 32.3	
	comp=Z,530nm,1.0s						
CNGA				*i* S	**Sb**	**04 19 57.7**	**+1.7**
PLRN	**Geotermica Pol**	**2.33**	**351**	*i* P	**Pn**	**04 19 25.5**	**-0.7**
PLRN				IAML		04 20 36.4	
	comp=Z,340nm,1.0s						
ABE2	**San Pablo**	**2.37**	**103**	*e*P	**Pn**	**04 19 28.2**	**+1.3**
LCR2	**La Lucha 2**	**2.41**	**102**	*i* P	**Pb**	**04 19 29.7**	**-1.8**
LCR2				IAML		04 20 22.0	
	comp=Z,160nm,1.0s						
LCR2	**La Lucha 2**	**2.41**	**102**	*e*P	**Pn**	**04 19 29.1**	**+1.6**
CRIN	**San Cristobal**	**2.50**	**345**	*i* P	**Pn**	**04 19 28.3**	**-0.3**
CRIN				IAML		04 20 10.5	
	comp=Z,770nm,1.0s						
CRIN	**San Cristobal**	**2.50**	**345**	*e*P	**Pn**	**04 19 28.4**	**-0.2**
VICA	**Volcano Irazu**	**2.52**	**96**	*e*P	**Pn**	**04 19 30.7**	**+1.5**
PCAYA	**Pacayas**	**2.57**	**98**	*e*P	**Pb**	**04 19 32.7**	**-1.5**
VTLA	**Turrialba Volc**	**2.59**	**96**	*e*P	**Pn**	**04 19 32.4**	**+2.3**
CVTQ	**Turrialba Volc**	**2.60**	**96**	*e*P	**Pb**	**04 19 33.5**	**-1.3**
TRT2	**Tortugero**	**2.63**	**83**	*i* P	**Pn**	**04 19 31.6**	**+1.3**
TRT2				IAML		04 20 25.4	
	comp=Z,340nm,1.0s						
LIMN	**Finca el Limon**	**2.78**	**1**	*i* P	**Pn**	**04 19 31.8**	**-0.6**
LIMN				IAML		04 19 47.1	
	comp=Z,160nm,1.0s						
ESPN	**Las Esperanzas**	**2.81**	**47**	*e*P	**Pn**	**04 19 32.0**	**-0.7**
CSGN	**Cosiguina Volc**	**2.92**	**337**	*i* P	**Pn**	**04 19 34.9**	**+0.5**
CSGN				IAML		04 20 12.1	
	comp=Z,68nm,1.0s						
RCFN	**Al S de San Ju**	**3.25**	**3**	*i* P	**Pn**	**04 19 39.0**	**+0.1**
RCFN				IAML		04 19 58.2	
	comp=Z,320nm,1.0s						
RCPN	**Sur Rio San Ju**	**3.25**	**5**	*i* P	**Pn**	**04 19 39.4**	**+0.4**
RCPN				IAML		04 19 48.3	
	comp=Z,0.7nm,1.0s						
DRK0	**Durika**	**3.26**	**108**	*i* P	**Pn**	**04 19 37.9**	**-1.2**
DRK0				*i* S	**Sn**	**04 20 17.4**	**-0.5**
DRK0				IAML		04 20 19.7	
	comp=Z,530nm,1.0s						
DRK0	**Durika**	**3.26**	**108**	*e*P	**Pn**	**04 19 40.3**	**+1.2**
CNCH	**Conchagua**	**3.31**	**335**	*i* P	**Pn**	**04 19 40.1**	**+0.4**
CNCH				IAML		04 19 40.7	
	comp=Z,280nm,1.0s						
LCND	**La Caada**	**3.36**	**334**	*i* P	**Pn**	**04 19 40.5**	**+0.2**
LCND				IAML		04 19 41.1	
	comp=Z,110nm,1.0s						
YUSH	**Yuscaran**	**3.69**	**353**	*i* P	**Pn**	**04 19 45.7**	**+0.7**
SCLA	**Alcaldia de Sa**	**4.11**	**326**	*i* P	**Pn**	**04 19 51.4**	**+0.7**
SCLA				IAML		04 19 52.2	
	comp=Z,30nm,1.0s						
SCLA				*i* S	**Sn**	**04 20 36.3**	**-2.3**
JAYA	**Jayaque - finc**	**4.50**	**319**	*i* P	**Pn**	**04 19 57.2**	**+1.0**
JAYA				IAML		04 20 50.8	
	comp=Z,120nm,1.0s						

*ISK **02** 05:14:12.4, 36°.47N×28°.74E, h5km, ML3.2/26*
*AFAD **02** 05:14:12.9±0.0, 36°.42N×28°.72E, h7km±3km, ML2.8*
*THE **02** 05:14:13.9, 36°.48N×28°.73E, h0km±2km, ML2.9/4, Error ellipse: s-maj=5.3km s-min=1.0km az=103.0*
*ATH **02** 05:14:13.1, 36°.49N×28°.75E, h12km±3km, ML3.0/3, Error ellipse: s-maj=5.2km s-min=2.4km az=112.0*

ISC 02 05:14:13.3±1.1, 36°.47N±0°.03×28°.74E±0°.02, h9km±10km, n45, σ0s68/63, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.32**	**59**	P	**Pb**	**05 14 21.3**	**+0.1**
FETY	**Fethiye**	**0.32**	**59**	Pg	**Pg**	**05 14 19.5**	**-0.2**
FETY				Sg	**Sb**	**05 14 25.6**	**-0.9**
DALY	**Dalyan (Mula)**	**0.35**	**348**	Pg	**Pg**	**05 14 20.3**	**0.0**
DALY				Sg	**Sb**	**05 14 26.4**	**-1.0**
IZZE	**Mula-Seydike**	**0.39**	**95**	P	**Pg**	**05 14 20.7**	**-0.3**
IZZE				*i* AML	AML	05 14 27.0	
	comp=N,3μm,0.6s						
IZZE				S	**Sb**	**05 14 27.4**	**-1.2**
IZZE				*i* AML	AML	05 14 29.0	
	comp=E,2μm,0.5s						
SABU	**Mula-Dalaman**	**0.39**	**27**	P	**Pg**	**05 14 21.4**	**+0.3**
SABU				S	**Sb**	**05 14 28.4**	**-0.2**
SABU				*i* AML	AML	05 14 33.0	
	comp=N,791nm,0.7s						
SABU				*i* AML	AML	05 14 33.0	
	comp=E,945nm,0.8s						
MRSB	**Marmaris-Mugla**	**0.50**	**299**	Pg	**Pb**	**05 14 23.4**	**-1.0**
TURN	**Turunc**	**0.50**	**307**	P	**Pg**	**05 14 22.9**	**-0.2**
TURN				*i* AML	AML	05 14 31.0	
	comp=N,889nm,0.7s						
TURN				S	**Sb**	**05 14 31.6**	**-0.2**
TURN				*i* AML	AML	05 14 33.0	
	comp=E,363nm,0.5s						
TURN	**Turunc**	**0.50**	**307**	Pg	**Pb**	**05 14 23.4**	**-0.9**
TURN				Sg	**Sb**	**05 14 31.3**	**-0.5**
ARG	**Arkhangelos**	**0.56**	**243**	P	**Pb**	**05 14 25.4**	**+0.1**
ARG				S	**Sb**	**05 14 34.2**	**+0.7**
	825nm,0.6s						
ARG	**Arkhangelos**	**0.56**	**243**	P	**Pg**	**05 14 23.8**	**-0.4**
ARG				S	**Sg**	**05 14 32.3**	**+0.7**
ARG				AML	AML	05 14 36.2	
	comp=E,1647μm,0.4s						
ARG				AML	AML	05 14 38.2	
	comp=N,1647μm,0.7s						
CAME	**Cameli-Denizli**	**0.65**	**44**	Pg	**Pb**	**05 14 26.3**	**-0.6**
CAME				Sg	**Sb**	**05 14 36.4**	**+0.3**
AKAS	**Kas**	**0.74**	**109**	P	**Pg**	**05 14 27.7**	**+0.1**
AKAS				S	**Sn**	**05 14 40.3**	**-1.1**
AKAS				*i* AML	AML	05 14 43.0	
	comp=N,817nm,0.6s						
AKAS				*i* AML	AML	05 14 45.0	
	comp=N,2μm,0.6s						
AKAS	**Kas**	**0.74**	**109**	Pg	**Pg**	**05 14 27.5**	**0.0**
YER	**Yerkesik**	**0.76**	**331**	Pg	**Pg**	**05 14 27.7**	**-0.2**
YER	**Yerkesik**	**0.76**	**331**	P	**Pb**	**05 14 28.4**	**-0.3**
YER				S	**Sn**	**05 14 40.6**	**-1.3**
KNIK	**Mula-Seydike**	**0.76**	**61**	P	**Pb**	**05 14 28.3**	**-0.6**
KNIK				S	**Sb**	**05 14 40.5**	**+1.1**
KNIK				*i* AML	AML	05 14 42.0	
	comp=N,302nm,0.5s						
KNIK				*i* AML	AML	05 14 44.0	
	comp=N,222nm,0.5s						
DATC	**Datca-Mugla**	**0.92**	**288**	Pg	**Pb**	**05 14 31.2**	**-0.2**
DEMR	**Demre-Antalya**	**0.97**	**104**	Pg	**Pb**	**05 14 32.3**	**0.0**
DAT	**Datca**	**0.97**	**285**	Pg	**Pb**	**05 14 32.2**	**-0.2**
DAT	**Datca**	**0.97**	**285**	P	**Pb**	**05 14 32.5**	**+0.1**
DAT				S	**Sn**	**05 14 47.9**	**+0.6**
ELL	**Elmali**	**0.98**	**73**	Pg	**Pb**	**05 14 32.5**	**0.0**
APMY	**Acipayam-Deniz**	**1.09**	**24**	Pn	**Pn**	**05 14 34.6**	**-0.3**
BODT	**Bodrum**	**1.29**	**297**	Pn	**Pg**	**05 14 38.2**	**+0.1**
BODT	**Bodrum**	**1.29**	**297**	P	**Pg**	**05 14 37.8**	**-0.3**
NISR	**Nisiros**	**1.31**	**276**	P	**Pg**	**05 14 38.1**	**-0.4**
NISR				S	**Sn**	**05 14 56.7**	**+1.3**
	comp=N,410nm,0.6s						
NISR	**Nisiros**	**1.31**	**276**	P	**Pb**	**05 14 37.8**	**-0.3**
NISR				S	**Sb**	**05 14 54.8**	**-0.2**
YKAV	**Yalikavak-Bodr**	**1.34**	**299**	Pn	**Pg**	**05 14 39.2**	**+0.1**
KORT	**Korkueli**	**1.39**	**67**	Pn	**Pg**	**05 14 40.2**	**+0.1**
KEMT	**Kemer-ANTALYA**	**1.47**	**84**	Pn	**Pg**	**05 14 41.1**	**-0.3**
KLNA	**Kalymnos**	**1.50**	**289**	P	**Pn**	**05 14 40.2**	**-0.3**
KARP	**Karpathos**	**1.58**	**235**	Pn	**Pb**	**05 14 42.7**	**-0.1**
KARP	**Karpathos**	**1.58**	**235**	P	**Pb**	**05 14 42.2**	**-0.6**
KARP				S	**Sb**	**05 15 03.0**	**+0.1**
	comp=N,500nm,0.7s						
KARP	**Karpathos**	**1.58**	**235**	P	**Pb**	**05 14 42.5**	**-0.3**
KARP				S	**Sn**	**05 15 02.1**	**-0.1**
KARP				AML	AML	05 15 08.5	
	comp=N,1252μm,0.8s						
KARP				AML	AML	05 15 08.6	
	comp=E,746μm,0.6s						
ANTB	**Antalya**	**1.59**	**74**	Pn	**Pb**	**05 14 42.9**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.62**	**335**	Pn	**Pb**	**05 14 43.3**	**-0.2**
GCAM	**G?zelcaml?**	**1.72**	**316**	Pn	**Pb**	**05 14 44.6**	**-0.5**
BCK	**Bucak**	**1.77**	**56**	Pn	**Pb**	**05 14 45.5**	**-0.6**
BASM	**Basmaki-Afyon**	**1.78**	**35**	Pn	**Pb**	**05 14 45.3**	**-0.9**
ISP	**Isparta**	**1.96**	**46**	Pn	**Pb**	**05 14 48.2**	**-1.0**
SMG	**Samos**	**1.96**	**309**	P	**Pn**	**05 14 47.2**	**+0.4**
SMG				S	**Sn**	**05 15 12.3**	**+0.8**
	comp=E,325nm,0.7s						
SMG	**Samos**	**1.96**	**309**	P	**Pn**	**05 14 47.1**	**+0.4**
SMG				AML	AML	05 15 18.1	
	comp=N,655μm,0.5s						
SMG				AML	AML	05 15 18.6	
	comp=E,641μm,0.9s						
KULA	**Kula-Manisa**	**2.04**	**358**	Pn	**Pn**	**05 14 48.8**	**+0.9**
ZKR	**Zakros**	**2.46**	**237**	P	**Pb**	**05 14 55.7**	**-2.0**
SHUT	**Suhut-Afyon**	**2.52**	**34**	Pn	**Pn**	**05 14 56.2**	**+1.6**
CHOS	**Chios island**	**2.87**	**313**	P	**Pn**	**05 15 00.4**	**+1.1**

*GUC **02** 05:36:13.0±0.7, 16°.87S×69°.84W, h183km±6km, ML3.7*
*IDC **02** 05:36:14.1±2.7, 16°.56S×69°.59W, h178km±15km, mb3.3/3, mbtmp3.7/3, Error ellipse: s-maj=52.4km s-min=29.6km az=126.0*

ISC 02 05:36:13.2±1.6, 16°.9S±0°.1×69°.7W±0°.2, h173km, n8, σ1s73/12, 2D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.74**	**167**	⇓*i* P	**Pn**	**05 36 39.7**	**+0.6**
PB18				*i* S	**Sn**	**05 36 59.9**	**+0.8**
LPAZ	**La Paz**	**1.57**	**69**	P	**Pn**	**05 36 46.8**	**+0.7**
	28nm,0.3s,baz=304,slow=4.6,SNR=255						
LPAZ				S	**Sn**	**05 37 10.0**	**-1.2**
	26nm,0.6s,baz=293,slow=6.9,SNR=4.2						
GO01	**Chusmiza**	**2.82**	**171**	*e*P	**Pn**	**05 37 00.5**	**+0.7**
GO01				*i* S	**Sn**	**05 37 36.5**	**+0.4**
PB11	**IPOC Station P**	**2.88**	**180**	⇓*i* P	**Pn**	**05 36 59.7**	**-0.5**
PB11				*i* S	**Sn**	**05 37 33.9**	**-3.0**
PB11				IAML		05 37 36.2	
	comp=N,150nm,0.4s						
BDFB	**Brasilia**	**20.82**	**90**	P	**P**	**05 40 40.9**	**-0.6**
	comp=N,0.7nm,0.4s,baz=275,slow=11,SNR=3.2						
	comp=N,0.7nm,0.4s						
PLCA	**Paso Flores**	**23.80**	**182**	P	**P**	**05 41 13.2**	**+3.0**
	comp=N,2.5nm,1.0s,baz=350,slow=10,SNR=4.0						
	comp=N,2.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**76.52**	**72**	P	**P**	**05 47 44.8**	**0.0**
	comp=N,0.7nm,0.5s,baz=264,slow=5.2,SNR=6.0						
	comp=N,0.7nm,0.5s						
SONM	**Songino Array**	**148.95**	**5**	PKPbc	**PKPbc**	**05 55 38.6**	**-2.2**
	comp=N,0.4nm,0.3s,baz=4.9,slow=5.5,SNR=1.9						

IDC 02 05:49:37.7±6.0, 14°.53S×68°.73W, h103km±47km, mb3.3/2, mbtmp3.9/3, Error ellipse: s-maj=67.7km s-min=44.0km az=120.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.84**	**162**	P	Pn	05 50 08.6	-0.4
	20nm,0.3s,baz=343,slow=11,SNR=331						
LPAZ				S	Sn	05 50 33.1	+0.4
	16nm,0.5s,baz=104,slow=22,SNR=13						
SIV	**San Ignacio**	**7.54**	**102**	P	Pn	05 51 25.0	0.0
	6.3nm,0.4s,baz=266,slow=11,SNR=66						
BDFB	**Brasilia**	**20.04**	**96**	P	P	05 54 02.6	-0.3
	1.2nm,0.4s,baz=264,slow=9.2,SNR=4.4						
	1.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**74.95**	**72**	P	P	06 01 08.4	+0.2
	0.3nm,0.3s,baz=261,slow=5.4,SNR=5.6						
	0.3nm,0.3s						

IDC 02 05:59:29.5±3.9, 5°.89S×150°.90E, h0km, mb3.6/2, mbtmp3.7/2, Error ellipse: s-maj=147.9km s-min=51.0km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.32**	**228**	P	P	06 04 17.9	-0.3
	1.6nm,0.5s,baz=52,slow=10.0,SNR=10						
	1.6nm,0.5s						
ASAR	**Alice Springs**	**24.09**	**221**	P	P	06 04 46.9	-0.1
	1.2nm,0.7s,baz=56,slow=8.7,SNR=17						
	1.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.81**	**286**	PKPbc	PKPbc	06 19 19.9	-0.3
	0.2nm,0.4s,baz=61,slow=3.1,SNR=1.8						

*ATH **02** 06:14:05.1, 37°.60N×20°.48E, h8km, ML3.3/14, Error ellipse: s-maj=1.7km s-min=0.7km az=44.0*
*THE **02** 06:14:05.0, 37°.59N×20°.50E, h12km±1km, ML3.5/8, Error ellipse: s-maj=1.5km s-min=0.7km az=41.0*

ISC 02 06:14:05.2±1.6, 37°.61N±0°.05×20°.49E±0°.05, h13km±7km, n32, σ0s55/62, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.

EVGI				S	Sb	06 14 39.4	+1.3
EVGI	**Lefkada island**	**1.02**	**7**	P	Pg	06 14 24.0	-0.9
EVGI				S	Sb	06 14 38.9	+0.7
DRO	**Drossia**	**1.02**	**70**	P	Pg	06 14 24.5	-0.4
DRO				S	Sg	06 14 38.4	+0.1
	comp=N,2μm,0.6s						
DRO	**Drossia**	**1.02**	**70**	P	Pg	06 14 24.5	-0.4
DRO				S	Sb	06 14 39.0	+0.8
DRO				AML	AML	06 14 44.3	
	comp=E,4862μm,0.6s						
DRO				AML	AML	06 14 46.6	
	comp=N,2568μm,0.7s						
DRAG	**Dragano-Lefkad**	**1.08**	**3**	P	Pg	06 14 25.0	-1.0
DRAG				S	Sb	06 14 40.9	+1.1
NYDR	**Nydri-Lefkada**	**1.12**	**8**	P	Pb	06 14 25.9	-0.4
NYDR				S	Sn	06 14 42.2	+0.4
LKD2	**Lefkada island**	**1.19**	**6**	P	Pb	06 14 27.8	+0.2
LKD2				S	Sg	06 14 43.8	+0.2
LKD2				AML	AML	06 14 57.6	
	comp=N,2455μm,0.8s						
LKD2				AML	AML	06 14 59.4	
	comp=E,2767μm,0.7s						
ITM	**Ithomi**	**1.22**	**110**	P	Pn	06 14 27.8	-0.2
ITM				S	Sb	06 14 44.1	+0.3
ITM				AML	AML	06 14 54.9	
	comp=E,1220μm,0.4s						
ITM				AML	AML	06 14 55.1	
	comp=N,2290μm,0.7s						
PYL	**PYLOS**	**1.22**	**125**	P	Pn	06 14 28.2	+0.1
PYL				S	Sn	06 14 44.9	+0.4
PYL				AML	AML	06 14 51.4	
	comp=N,1337μm,0.6s						
PYL				AML	AML	06 14 51.6	
	comp=E,2424μm,0.7s						
TSLK	**Tsoukalades, L**	**1.22**	**6**	P	Pn	06 14 27.3	-0.8
TSLK				S	Sb	06 14 44.0	0.0
TSLK				AML	AML	06 14 54.7	
	comp=E,2938μm,0.8s						
TSLK				AML	AML	06 14 54.8	
	comp=N,1979μm,0.5s						
KLV	**Kalavryta, Ach**	**1.38**	**71**	P	Pn	06 14 29.8	-0.5
EFP	**Efpalio**	**1.39**	**53**	P	Pn	06 14 30.2	0.0
EFP				S	Sn	06 14 47.9	-0.5
EFP				AML	AML	06 14 57.9	
	comp=N,1454μm,0.5s						
EFP				AML	AML	06 14 58.5	
	comp=E,1318μm,0.5s						
ANX	**Ano Chora**	**1.50**	**48**	P	Pn	06 14 31.9	0.0
ANX				S	Sn	06 14 51.2	-0.2
ANX				AML	AML	06 14 59.1	
	comp=N,2541μm,0.5s						
ANX				AML	AML	06 15 04.1	
	comp=E,2417μm,0.7s						
GUR	**Goura**	**1.50**	**77**	P	Pn	06 14 32.0	0.0
GUR				S	Sn	06 14 51.0	-0.5
GUR				AML	AML	06 15 06.5	
	comp=N,1947μm,0.5s						
GUR				AML	AML	06 15 08.9	
	comp=E,1583μm,0.5s						
KALE	**Kalithea**	**1.52**	**58**	P	Pn	06 14 32.1	-0.1

CATAC ***02*** *06:18:49.9±0.9, 9°.80N×86°.40W, h15km, ML3.8*
UCR ***02*** *06:18:55.6±1.1, 10°.26N×86°.40W, h16km±5km, MW4.1*
ISC 02 06:18:52.7±2.3, 10°.03N±0°.07×86°.41W±0°.09, h15km±10km, n34, σ0°.76/45, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.85**	**74**	*e*P	Pn	06 19 11.2	+1.1
DELF	**Filadelfia**	**0.94**	**64**	*e*P	Pn	06 19 11.8	+0.4
DELF				*e*S	Sn	06 19 24.0	-0.6
NICO	**Nicoya**	**0.96**	**84**	*e*P	Pn	06 19 13.4	+1.8
NICO				*e*S	Sn	06 19 25.2	+0.2
ELI1	**Hacienda Flor**	**1.04**	**54**	*e*P	Pg	06 19 13.8	+0.8
ELI1				*e*S	Sn	06 19 27.0	-0.1
BAGA	**Bagaces**	**1.24**	**66**	*e*P	Pg	06 19 16.7	+0.1
GPS3	**Bodega del ICE**	**1.26**	**55**	*e*P	Pg	06 19 17.3	+0.3
GPS2	**Hotel Rincn d**	**1.27**	**55**	*e*P	Pb	06 19 16.3	0.0
VRLE	**La Escondida,**	**1.28**	**54**	*e*P	Pn	06 19 16.1	0.0
LCRUZ	**La Cruz**	**1.29**	**36**	*e*P	Pb	06 19 16.9	+0.1
VORI	**VORI**	**1.31**	**53**	*e*P	Pn	06 19 16.6	0.0
COLC	**Colonia**	**1.35**	**62**	*e*P	Pb	06 19 17.8	+0.1
CNAS	**Canas**	**1.36**	**73**	*e*P	Pg	06 19 20.1	+1.2
CUI	**Cuipilapa**	**1.38**	**63**	*e*P	Pb	06 19 18.4	+0.2
HORNC	**Hornillas**	**1.39**	**61**	*e*P	Pb	06 19 18.4	-0.1
CARN	**Rivas**	**1.45**	**37**	*i* P	Pn	06 19 17.8	-0.5
CARN				*i* S	Sg	06 19 40.0	+0.6
CARN				IAML		06 19 44.3	
	comp=Z,2μm,1.0s						
JUNT	**Juntas**	**1.45**	**80**	*e*P	Pg	06 19 20.4	-0.3
MTEVE	**Monteverde**	**1.59**	**79**	*e*P	Pg	06 19 23.7	+0.4
JAPN	**Al SSO del Vol**	**1.65**	**26**	*i* P	Pn	06 19 21.9	+0.7
JAPN				IAML		06 19 29.4	
	comp=Z,410nm,1.0s						
JAPN				*i* S	Sb	06 19 44.6	+1.1
MORN	**Al O del Volca**	**1.68**	**26**	*i* P	Pn	06 19 22.1	+0.4
MORN				IAML		06 19 37.4	
	comp=Z,96nm,1.0s						
MORN				*i* S	Sg	06 19 45.8	-1.2
CONN	**Concepcion**	**1.71**	**27**	*i* P	Pn	06 19 21.6	-0.4
CONN				IAML		06 19 29.4	
	comp=Z,6μm,1.0s						
ARZA	**Esparza**	**1.72**	**91**	*e*P	Pg	06 19 24.8	-1.0
ARZA				*e*S	Sb	06 19 46.0	+0.5
VERA	**Finca Concepci**	**1.73**	**62**	*e*P	Pb	06 19 23.5	-0.6
CEDE	**Laguna Cedeo**	**1.74**	**75**	*e*P	Pb	06 19 25.1	+0.6
NADN	**Granada**	**1.75**	**12**	*i* P	Pn	06 19 21.9	-0.6
NADN				*i* S	Sg	06 19 48.6	-0.5
VACR	**Volcan Arenal**	**1.76**	**75**	*e*P	Pb	06 19 25.5	+0.7
NANN	**Nandasmo**	**1.92**	**9**	*i* P	Pn	06 19 25.9	+1.0
NANN				IAML		06 19 45.7	
	comp=Z,7μm,1.0s						
NANN				*i* S	Sb	06 19 52.5	+1.3
TRB2	**Turrubares**	**1.94**	**93**	*e*P	Pg	06 19 29.1	-0.9
TRB2				*e*S	Sb	06 19 51.0	-0.9
TISN	**Laguna Tiscapa**	**2.10**	**4**	*i* P	Pn	06 19 27.6	+0.2
TISN				IAML		06 19 37.1	
	comp=Z,22nm,1.0s						
COPN	**Copaltepe**	**2.14**	**355**	*i* P	Pn	06 19 28.1	+0.1
COPN				IAML		06 19 38.5	
	comp=Z,220nm,1.0s						
ACON	**Acoyapa**	**2.28**	**32**	*i* P	Pn	06 19 29.7	-0.1
ACON				*i* S	Sb	06 19 59.5	-2.1
ACON				IAML		06 20 12.0	
	comp=Z,230nm,1.0s						
ACON	**Acoyapa**	**2.28**	**32**	*e*P	Pn	06 19 29.5	-0.3
MOM2	**El Cardon**	**2.39**	**358**	*i* P	Pn	06 19 31.5	+0.1
MOM2				IAML		06 19 47.2	
	comp=Z,200nm,1.0s						
VICA	**Volcano Irazu**	**2.53**	**91**	*e*P	Pb	06 19 37.9	-0.2
BUS1	**Rivas**	**2.67**	**100**	*e*P	Pb	06 19 40.1	-0.4

IDC ***02*** *06:31:21.4±0.9, 37°.44N×20°.60E, h0km, mb3.9/12, mbtmp3.8/18, ML4.0/4, MS3.1/7, Error ellipse: s-maj=18.8km s-min=14.9km az=161.0*
ATH ***02*** *06:31:24.5, 37°.42N×20°.44E, h11km±1km, ML3.8/26, Manual Solution by A.Andreou This location: 2020/09/14 07:56:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
THE ***02*** *06:31:26.0, 37°.46N×20°.59E, h25km±1km, ML3.8/5, Error ellipse: s-maj=2.2km s-min=1.1km az=41.0*
NAO ***02*** *06:31:46.6, 39°.62N×20°.98E, h33km, mb3.2*
ISC 02 06:31:24.0±1.3, 37°.42N±0°.04×20°.54E±0°.03, h15km±8km, n78, σ1°.20/106, mb3.9/12, MS3.2/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.33**	**42**	P	Pb	06 31 32.1	+0.5
KRI1				S	Sb	06 31 37.6	+0.9
	21μm,0.3s						
LTHK	**Lithakia**	**0.38**	**39**	P	Pb	06 31 32.7	0.4
LTHK				S	Sb	06 31 39.0	+1.0
	18μm,0.2s						
LTHK	**Lithakia**	**0.38**	**39**	P	Pb	06 31 32.6	+0.2
LTHK				S	Sb	06 31 38.0	0.0
RTZL	**Ratzakli, Kefa**	**0.68**	**16**	P	Pb	06 31 38.3	+0.7
RTZL				S	Sb	06 31 48.0	+1.1
PSDA	**Pessada-Kefalo**	**0.70**	**3**	P	Pb	06 31 38.7	+0.9
PSDA				S	Sb	06 31 48.4	+1.2
	11μm,0.6s						
VLS	**Valsamata**	**0.76**	**3**	P	Pb	06 31 39.1	+0.2
VLS				S	Sb	06 31 49.5	+0.5
	7μm,0.5s						
VLS	**Valsamata**	**0.76**	**3**	P	Pb	06 31 39.1	+0.2
VLS				S	Sb	06 31 49.6	+0.5
LCHA	**Lechaina**	**0.78**	**48**	P	Pn	06 31 41.0	+0.6
LCHA				S	Sn	06 31 52.4	+0.6
LXRA	**Lixouri, Kepha**	**0.79**	**354**	P	Pb	06 31 39.8	+0.5
LXRA				S	Sb	06 31 50.4	+0.6
DMLN	**Damoulianata-K**	**0.83**	**351**	P	Pn	06 31 41.5	+0.3
DMLN				S	Sb	06 31 52.2	+1.0
	10μm,0.6s						
DMLN	**Damoulianata-K**	**0.83**	**351**	P	Pg	06 31 40.0	-0.2
DMLN				S	Sb	06 31 52.1	+1.0
SMHA	**Samh**	**0.84**	**6**	P	Pb	06 31 41.0	+0.8
SMHA				S	Sb	06 31 52.5	+1.2
ZARO	**Zacharo**	**0.89**	**85**	P	Pn	06 31 43.7	+1.8
ZARO				S	Sn	06 31 56.0	+1.6
AMT	**Artemida-Makis**	**0.94**	**83**	P	Pn	06 31 44.1	+1.5
AMT				S	Sn	06 31 57.6	+1.7
RLS	**Riolos of Patr**	**0.98**	**49**	P	Pb	06 31 42.7	+0.1
RLS				S	Sb	06 31 55.0	-0.2
RLS	**Riolos of Patr**	**0.98**	**49**	P	Pn	06 31 43.8	+0.7
RLS				S	Sn	06 31 57.9	+1.2
AXS	**Araxos**	**1.02**	**40**	P	Pn	06 31 44.9	+1.1
AXS				S	Sn	06 31 59.5	+1.7
FSK	**Fiskardo**	**1.04**	**1**	P	Pn	06 31 44.4	+0.4
FSK				S	Sb	06 31 58.2	+1.0
PYL1	**Pylos**	**1.05**	**118**	P	Pn	06 31 47.2	+3.0
DRO	**Drossia**	**1.07**	**60**	P	Pn	06 31 46.3	+1.8
DRO				S	Sn	06 32 01.6	+2.4
PYL	**PYLOS**	**1.09**	**118**	P	Pn	06 31 46.5	+1.8
PYL				S	Sn	06 32 01.7	+2.1
ITM	**Ithomi**	**1.13**	**102**	P	Pn	06 31 46.7	+1.4
ITM				S	Sn	06 32 02.4	+1.8
EVGI	**Lefkada island**	**1.21**	**4**	P	Pn	06 31 47.0	+0.7
EVGI				S	Sn	06 32 03.4	+1.1
PATG	**Patra B**	**1.25**	**49**	P	Pg	06 31 49.6	+1.6
DRAG	**Dragano-Lefkad**	**1.27**	**1**	P	Pg	06 31 48.5	+0.1
DRAG				S	Sn	06 32 05.0	+1.1
PDO	**Prodromos**	**1.28**	**23**	P	Pg	06 31 49.5	+0.8
PATC	**Patra C**	**1.29**	**48**	P	Pg	06 31 50.0	+1.2
NYDR	**Nydri-Lefkada**	**1.30**	**6**	P	Pg	06 31 49.0	-0.1
NYDR				S	Sg	06 32 05.6	-0.4
UPR	**University Cam**	**1.31**	**48**	P	Pg	06 31 49.4	+0.1
LKD2	**Lefkada island**	**1.37**	**4**	P	Pb	06 31 50.0	+0.6
LKD2				S	Sg	06 32 07.6	-0.7
TSLK	**Tsoukalades, L**	**1.41**	**4**	P	Pb	06 31 50.3	+0.3
VVK	**Vomvokou**	**1.42**	**45**	P	Pg	06 31 51.8	+0.5
KLV	**Kalavryta, Ach**	**1.42**	**63**	P	Pg	06 31 51.2	-0.2
PVO	**Paravola**	**1.43**	**33**	P	Pg	06 31 51.6	+0.2
EFP	**Efpalio**	**1.48**	**47**	P	Pg	06 31 52.0	-0.4
EFP				S	Sg	06 32 11.6	0.0
GUR	**Goura**	**1.52**	**70**	P	Pg	06 31 52.8	-0.5
GUR				S	Sg	06 32 13.4	+0.3
KALE	**Kalithea**	**1.60**	**52**	P	Pg	06 31 54.3	-0.4
KALE				S	Sg	06 32 14.1	-1.3
ANX	**Ano Chora**	**1.60**	**42**	P	Pb	06 31 53.8	+0.4
DLFA	**Delphi**	**1.88**	**55**	P	Pb	06 31 57.4	-0.6
VLI	**Veliai**	**2.04**	**109**	P	Pb	06 32 00.4	-0.3
IGT	**Igoumenitsa**	**2.12**	**356**	P	Pn	06 31 59.7	+0.9
AXAR	**Ágios Charalam**	**2.15**	**51**	P	Pb	06 32 01.8	-0.8
VIL2	**Platees**	**2.30**	**69**	P	Pn	06 32 03.1	+1.7
KEK	**Kerkira**	**2.37**	**346**	P	Pn	06 32 03.8	+1.6
THL	**Klokotos Trika**	**2.44**	**28**	P	Pn	06 32 05.2	+2.0
TYRN	**Tyrnavos**	**2.65**	**30**	P	Pn	06 32 08.0	+1.9
IDI	**Anoyia**	**4.11**	**120**	Pn	Pn	06 32 27.2	+1.0
	5.6nm,0.9s,baz=229,slow=18,SNR=2.0						
IDI				Sn	Sn	06 33 14.4	+0.4
	3.4nm,0.3s,baz=258,slow=7.9,SNR=4.0						
MMB	**Musomishta**	**4.81**	**30**	*i* P	Pn	06 32 37.4	+1.5
KKB	**Krupnik**	**4.85**	**24**	*i* P	Pn	06 32 37.7	+1.3
VAE	**Valguarnera**	**4.88**	**273**	Pn	Pn	06 32 39.5	+2.7
	9.7nm,0.6s,baz=162,slow=16,SNR=2.1						
VAE				Sn	Sn	06 33 34.7	+1.7
	5.1nm,0.3s,baz=43,slow=18,SNR=2.3						
RZN	**Rozhen**	**5.37**	**36**	*i* P	Pn	06 32 44.4	+0.8
PLNA	**Plana**	**5.52**	**23**	*i* P	Pn	06 32 47.7	+2.0
VTS	**Vitosha**	**5.59**	**21**	*i* P	Pn	06 32 47.6	+0.9
MPEP	**Malo Peshtene**	**6.42**	**21**	*i* P	Pn	06 32 59.8	+1.9
MLR	**Muntele Rosu**	**9.03**	**25**	Pn	Pn	06 33 35.7	+1.8
	0.8nm,0.3s,baz=223,slow=4.4,SNR=13						
MLR				LR	LR	06 37 58.4	
	comp=Z,145nm,18.2s,baz=208,slow=44 13nm,0.7s						
KEST	**Kesra**	**9.16**	**263**	Pn	Pn	06 33 36.6	+1.0
	0.3nm,0.3s,baz=60,slow=14,SNR=3.3 2.6nm,0.8s						
VYHS	**Vyhne**	**11.14**	**354**	*e*PN	Pn	06 34 02.4	-0.2
VRAC	**Vranov**	**12.23**	**348**	LR	LR	06 40 44.1	
	comp=Z,53nm,18.0s,baz=170,slow=46						
KHC	**Kasperske Hory**	**12.75**	**339**	*e*P	Pn	06 34 24.5	-0.2
AKASG	**Malin Array Be**	**14.66**	**22**	Pn	Pn	06 34 48.7	-2.0
	0.2nm,0.3s,baz=209,slow=9.6,SNR=1.5						
AKASG				LR	LR	06 42 03.1	
	comp=Z,53nm,18.2s,baz=237,slow=44 0.7nm,0.6s						
CLL	**Collm**	**14.88**	**341**	*e*(PP)		06 35 02.0	
	comp=Z,4.0nm,0.5s						
CLL				*i* sPP		06 35 07.8	
	comp=Z,6.0nm,0.6s						
NACGM	**Naroch**	**18.00**	**12**	*e*P	Pn	06 35 30.4	-3.1
	comp=Z,17nm,0.8s,baz=197						
ESDC	**Sonseca Array**	**19.28**	**284**	P	P	06 35 48.4	+0.3
	comp=Z,0.2nm,0.3s,baz=82,slow=10,SNR=2.6 comp=Z,0.5nm,0.7s						
HFS	**Hagfors**	**23.15**	**351**	P	P	06 36 28.1	-1.4
	comp=Z,6.4nm,0.7s,baz=153,slow=13,SNR=9.6 comp=Z,6.4nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.06**	**326**	P	P	06 36 38.1	-0.3
	comp=Z,1.8nm,0.6s,baz=127,slow=10,SNR=6.6 comp=Z,1.8nm,0.6s						
FINES	**FINESS Array B**	**24.30**	**6**	P	P	06 36 39.5	-1.0
	comp=Z,3.5nm,0.8s,baz=172,slow=15,SNR=5.8 comp=Z,3.5nm,0.8s						
NB2	**NORSAR Subarra**	**24.37**	**349**	P	P	06 36 40.4	-0.8
	comp=Z,0.7nm,0.6s,baz=160,slow=11						
NOA	**NORSAR Array B**	**24.37**	**349**	P	P	06 36 40.7	-0.5
	comp=Z,1.5nm,0.8s,baz=159,slow=9.1,SNR=7.3						
NOA				LR	LR	06 48 53.9	
	comp=Z,15nm,18.9s,baz=270,slow=43 comp=Z,1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.45**	**220**	P	P	06 37 27.1	-0.2
	comp=Z,1.0nm,0.7s,baz=24,slow=9.9,SNR=7.5 comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**32.29**	**3**	P	P	06 37 50.9	-0.9
	comp=Z,2.3nm,0.9s,baz=185,slow=8.5,SNR=4.0						
ARCES				LR	LR	06 51 59.8	
	comp=Z,31nm,19.4s,baz=202,slow=38 comp=Z,2.3nm,0.9s						
BVAR	**Borovoye Array**	**37.60**	**49**	P	P	06 38 37.3	-0.5
	comp=Z,0.6nm,0.5s,baz=248,slow=7.6,SNR=2.1 comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**42.67**	**53**	P	P	06 39 18.6	-1.2
	comp=Z,0.9nm,0.6s,baz=281,slow=8.8,SNR=7.7						
KURBB				PcP	PcP	06 41 09.5	-2.0
	comp=Z,0.4nm,0.6s,baz=267,slow=3.4,SNR=2.3 comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**45.69**	**58**	P	P	06 39 43.1	-1.0
	comp=Z,1.1nm,0.6s,baz=285,slow=6.2,SNR=12						
MKAR				PcP	PcP	06 41 22.4	+0.4
	comp=Z,0.5nm,0.6s,baz=281,slow=3.3,SNR=2.8 comp=Z,1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**46.19**	**48**	P	P	06 39 46.5	-1.4
	comp=Z,1.9nm,0.5s,baz=280,slow=8.2,SNR=14 comp=Z,1.9nm,0.5s						
TIXI	**Tiksi**	**60.36**	**20**	LR	LR	07 11 39.6	
	comp=Z,38nm,18.4s,baz=12,slow=40						
LBTB	**Lobatse**	**62.28**	**175**	LR	LR	07 09 43.6	
	comp=Z,24nm,19.4s,baz=58,slow=37						
ILAR	**Eielson Array**	**77.67**	**355**	P	P	06 43 20.4	+0.9
	comp=Z,0.6nm,0.9s,baz=360,slow=3.6,SNR=6.0 comp=Z,0.6nm,0.9s						
KSRS	**Korea Array**	**79.80**	**51**	P	P	06 43 31.4	-0.2
	comp=Z,1.1nm,0.6s,baz=327,slow=6.6,SNR=5.1 comp=Z,1.1nm,0.6s						

IDC 02 07:14:47.8±1.5, 54°.60N×83°.75E, h0km, mbtmp3.3/3, ML2.7/3, Error ellipse: s-maj=14.3km s-min=9.3km az=9.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**136**	I	I	07 20 20.0	
	0.1nm,0.8s,baz=318,slow=340,SNR=6.9						
ZALV	**Zalesovo Beam**	**0.90**	**136**	Pg	Pg	07 15 04.3	-0.8
	1.8nm,0.3s,baz=318,slow=13,SNR=14						
ZALV				Lg	Lg	07 15 18.6	
	11nm,0.3s,baz=315,slow=29,SNR=54						
KURBB	**Kurchatov Arra**	**5.10**	**221**	Pn	Pn	07 16 05.4	0.0
	0.2nm,0.3s,baz=39,slow=13,SNR=4.7						
KURBB				Lg	Lg	07 17 27.5	
	0.1nm,0.3s,baz=40,slow=29,SNR=4.1 3.4nm,0.2s						
MKAR	**Makanchi Array**	**7.87**	**187**	Pn	Pn	07 16 43.8	+0.4
	0.1nm,0.3s,baz=9.9,slow=12,SNR=4.6 0.2nm,0.3s						
BVAR	**Borovoye Array**	**8.07**	**264**	Pn	Pn	07 16 45.4	-0.7
	0.1nm,0.3s,baz=68,slow=14,SNR=7.4 1.3nm,0.4s						

ATH ***02*** *07:51:15.9, 37°.32N×20°.60E, h7km±1km, ML3.3/10, Error ellipse: s-maj=1.8km s-min=0.8km az=48.0*
THE ***02*** *07:51:16.0, 37°.31N×20°.59E, h2km±3km, ML3.5/7, Error ellipse: s-maj=3.5km s-min=0.6km az=230.0*
ISC 02 07:51:15.7±1.5, 37°.32N±0°.05×20°.60E±0°.05, h8km±10km, n28, σ0°.59/55, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.39**	**26**	P	Pg	07 51 23.3	+0.1
KRI1				S	Sg	07 51 29.1	+0.8
	12μm,0.3s						
LTHK	**Lithakia**	**0.43**	**25**	P	Pg	07 51 24.3	+0.1
LTHK				S	Sg	07 51 30.6	+0.7
	10μm,0.4s						
LTHK	**Lithakia**	**0.43**	**25**	P	Pg	07 51 24.2	0.0
LTHK				S	Sg	07 51 30.2	+0.3
LTHK				AML	AML	07 51 31.1	
	comp=E,11682μm,0.3s						
LTHK				AML	AML	07 51 31.2	
	comp=N,27198μm,0.6s						
RTZL	**Ratzakli, Kefa**	**0.77**	**10**	P	Pg	07 51 30.1	-0.4
RTZL				S	Sb	07 51 41.9	-0.1
PSDA	**Pessada-Kefalo**	**0.80**	**359**	P	Pg	07 51 31.4	+0.4
PSDA				S	Sb	07 51 42.6	-0.1
	comp=N,4μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.80**	**359**	P	Pg	07 51 31.1	0.0
PSDA				S	Sg	07 51 41.8	+0.4
VLS	**Valsamata**	**0.86**	**359**	P	Pg	07 51 32.3	+0.1
VLS				S	Sb	07 51 44.6	0.0
	comp=N,3μm,0.5s						
VLS	**Valsamata**	**0.86**	**359**	P	Pg	07 51 32.4	+0.2
VLS				S	Sg	07 51 43.1	-0.4
VLS				AML	AML	07 51 47.6	
	comp=E,3679μm,0.2s						
VLS				AML	AML	07 51 49.1	
	comp=N,3241μm,0.2s						
LXRA	**Lixouri, Kepha**	**0.89**	**352**	P	Pg	07 51 33.1	+0.3
LXRA				S	Sg	07 51 44.3	-0.1
LXRA				AML	AML	07 51 52.6	
	comp=N,9388μm,0.4s						
LXRA				AML	AML	07 51 52.8	
	comp=E,11553μm,0.6s						
AMT	**Artemida-Makis**	**0.91**	**76**	P	Pg	07 51 32.9	-0.2
AMT				S	Sg	07 51 44.9	0.0
AMT				AML	AML	07 51 50.3	
	comp=N,22571μm,0.5s						
AMT				AML	AML	07 51 53.8	
	comp=E,17636μm,0.4s						
SMHA	**Samh**	**0.93**	**2**	P	Pg	07 51 33.5	-0.1
SMHA				S	Sg	07 51 45.5	-0.3
DMLN	**Damoulianata-K**	**0.94**	**349**	P	Pb	07 51 34.4	+0.2
DMLN				S	Sg	07 51 46.8	+0.9
	comp=E,6μm,0.6s						
DMLN	**Damoulianata-K**	**0.94**	**349**	P	Pg	07 51 33.6	-0.2
DMLN				S	Sg	07 51 46.4	+0.4
PYL	**PYLOS**	**1.00**	**114**	P	Pg	07 51 34.5	-0.5
PYL				S	Sb	07 51 49.5	+0.9
	comp=E,1μm,0.4s						
PYL	**PYLOS**	**1.00**	**114**	P	Pg	07 51 34.4	-0.5
PYL				S	Sg	07 51 47.8	-0.2
PYL				AML	AML	07 51 51.7	
	comp=E,2367μm,0.4s						
PYL				AML	AML	07 51 52.7	
	comp=N,1814μm,0.3s						
RLS	**Riolos of Patr**	**1.01**	**43**	P	Pg	07 51 34.5	-0.6
RLS				S	Sb	07 51 49.5	+0.7
	comp=N,2μm,0.7s						
RLS	**Riolos of Patr**	**1.01**	**43**	P	Pg	07 51 34.2	-0.9
RLS				S	Sg	07 51 48.0	-0.2
RLS				AML	AML	07 51 56.3	
	comp=E,1810μm,0.6s						
RLS				AML	AML	07 51 58.7	
	comp=N,1966μm,0.7s						
ITM	**Ithomi**	**1.07**	**97**	P	Pg	07 51 36.1	0.0
ITM				S	Sn	07 51 52.6	+0.7
ITM	**Ithomi**	**1.07**	**97**	P	Pg	07 51 35.7	-0.4
ITM				S	Sb	07 51 50.9	+0.4
ITM				AML	AML	07 51 55.4	
	comp=E,3035μm,0.5s						
ITM				AML	AML	07 51 56.6	
	comp=N,1606μm,0.2s						
DRO	**Drossia**	**1.08**	**54**	P	Pg	07 51 36.1	-0.4
DRO				S	Sn	07 51 53.0	+0.6
DRO	**Drossia**	**1.08**	**54**	P	Pg	07 51 36.2	-0.4
DRO				S	Sg	07 51 51.3	+0.7
DRO				AML	AML	07 51 56.2	
	comp=N,7391μm,0.8s						
DRO				AML	AML	07 51 56.9	
	comp=E,5785μm,0.6s						
VSK1	**VASILIKIADES**	**1.09**	**358**	P	Pg	07 51 36.1	-0.6
VSK1				S	Sb	07 51 52.7	+1.5
FSK	**Fiskardo**	**1.14**	**358**	P	Pg	07 51 36.8	-0.8
FSK				S	Sg	07 51 52.8	+0.3
FSK				AML	AML	07 51 58.7	
	comp=N,2818

ISC 02 07:53:14.4±0.5, 37°62N±0°03×20°42E±0°03, h21km±2km, n266, σ1°75/303, mb4.4/23, MS3.2/7, 20C-8D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.32**	**82**	P	**Pb**	**07 53 21.0**	**-0.4**
KRI1				S	**Sb**	**07 53 25.9**	**-0.3**
	71μm,0.4s						
LTHK	**Lithakia**	**0.34**	**74**	P	**Pb**	**07 53 21.5**	**-0.3**
LTHK				S	**Sb**	**07 53 27.0**	**+0.2**
	83μm,0.2s						
LTHK	**Lithakia**	**0.34**	**74**	P	**Pb**	**07 53 21.4**	**-0.4**
LTHK				S	**Sb**	**07 53 26.9**	**+0.2**
LTHK				AML	AML	07 53 27.4	
LTHK				AML	AML	07 53 29.2	
PSDA	**Pessada-Kefalo**	**0.51**	**15**	P	**Pb**	**07 53 24.7**	**-0.1**
PSDA				S	**Sn**	**07 53 34.3**	**-0.3**
	31μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.51**	**15**	P	**Pb**	**07 53 24.8**	**+0.1**
PSDA				S	**Sb**	**07 53 33.1**	**+1.3**
RTZL	**Ratzakli, Kefa**	**0.54**	**31**	P	**Pb**	**07 53 25.4**	**+0.2**
RTZL				S	**Sb**	**07 53 34.4**	**+1.8**
VLS	**Valsamata**	**0.58**	**14**	P	**Pb**	**07 53 25.9**	**0.0**
VLS				S	**Sn**	**07 53 35.8**	**-0.4**
	20μm,0.7s						
VLS	**Valsamata**	**0.58**	**14**	P	**Pb**	**07 53 25.9**	**0.0**
VLS				S	**Sn**	**07 53 35.8**	**-0.4**
VLS	**Valsamata**	**0.58**	**14**	P	**Pb**	**07 53 26.0**	**0.0**
VLS				S	**Sb**	**07 53 35.3**	**+1.5**
VLS				AML	AML	07 53 39.9	
	comp=E,28427μm,0.5s						
VLS				AML	AML	07 53 40.5	
	comp=N,51909μm,0.9s						
LXRA	**Lixouri, Kepha**	**0.58**	**1**	P	**Pb**	**07 53 26.2**	**+0.2**
LXRA				S	**Sb**	**07 53 34.7**	**+0.8**
LXRA				AML	AML	07 53 40.5	
	comp=E,64245μm,0.5s						
LXRA				AML	AML	07 53 43.4	
LXR1	**Lixouri, Cepha**	**0.58**	**1**	P	**Pb**	**07 53 26.4**	**+0.4**
LXR1				S	**Sn**	**07 53 36.6**	**+0.3**
	comp=E,62μm,0.6s						
DMLN	**Damoulianata-K**	**0.62**	**357**	P	**Pb**	**07 53 27.0**	**+0.3**
DMLN				S	**Sn**	**07 53 37.5**	**+0.1**
	comp=E,38μm,0.7s						
DMLN	**Damoulianata-K**	**0.62**	**357**	P	**Pb**	**07 53 26.6**	**-0.1**
DMLN				S	**Sb**	**07 53 35.8**	**+0.7**
FSK	**Fiskardo**	**0.85**	**8**	P	**Pb**	**07 53 30.7**	**+0.2**
FSK				S	**Sn**	**07 53 43.9**	**+1.0**
FSK				AML	AML	07 53 51.2	
	comp=N,31914μm,1.1s						
FSK				AML	AML	07 53 52.7	
	comp=E,26768μm,1.1s						
RLS	**Riolos of Patr**	**0.94**	**62**	P	**Pb**	**07 53 32.4**	**+0.4**
RLS				S	**Sn**	**07 53 46.6**	**+1.5**
	comp=E,20μm,0.5s						
RLS	**Riolos of Patr**	**0.94**	**62**	P	**Pb**	**07 53 32.4**	**+0.4**
RLS				S	**Sn**	**07 53 45.9**	**+0.8**
RLS				AML	AML	07 53 50.7	
	comp=E,28925μm,0.5s						
RLS				AML	AML	07 53 51.2	
	comp=N,49809μm,0.6s						
EVGI	**Lefkada island**	**1.02**	**10**	P	**Pb**	**07 53 33.7**	**+0.3**
EVGI				S	**Sn**	**07 53 49.2**	**+2.0**
AMT	**Artemida-Makis**	**1.03**	**94**	P	**Pn**	**07 53 33.7**	**+0.1**
AMT				S	**Sn**	**07 53 48.0**	**+0.7**
AMT				AML	AML	07 53 54.4	
	comp=E,80675μm,0.4s						
AMT				AML	AML	07 53 54.8	
	comp=N,62209μm,0.4s						
DRAG	**Dragano-Lefkad**	**1.07**	**7**	P	**Pb**	**07 53 35.4**	**+1.1**
DRAG				S	**Sn**	**07 53 49.9**	**+1.4**
DRO	**Drossia**	**1.08**	**71**	P	**Pb**	**07 53 35.5**	**+1.1**
DRO				S	**Sn**	**07 53 51.1**	**+2.5**
	comp=N,21μm,0.5s						
DRO	**Drossia**	**1.08**	**71**	P	**Pb**	**07 53 34.7**	**+0.4**
DRO				S	**Sn**	**07 53 50.1**	**+1.5**
DRO				AML	AML	07 53 59.3	
	comp=E,50971μm,0.4s						
DRO				AML	AML	07 53 59.6	
	comp=N,31414μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.12**	**11**	P	**Pb**	**07 53 35.5**	**+0.4**
NYDR				S	**Sn**	**07 53 50.8**	**+1.3**
LKD2	**Lefkada island**	**1.19**	**9**	P	**Pb**	**07 53 39.1**	**+2.8**
LKD2				S	**Sn**	**07 53 55.7**	**+4.4**
LKD2				AMP			
	comp=E,34nm,0.5s,baz=28						
LKD2	**Lefkada island**	**1.19**	**9**	P	**Pb**	**07 53 36.7**	**+0.5**
LKD2				S	**Sn**	**07 53 52.0**	**+0.7**
LKD2				AML	AML	07 54 00.7	
	comp=E,19958μm,0.5s						
LKD2				AML	AML	07 54 03.1	
	comp=N,24272μm,0.9s						
TSLK	**Tsoukalades, L**	**1.22**	**9**	P	**Pn**	**07 53 36.5**	**+0.3**
TSLK				S	**Sb**	**07 53 53.9**	**+1.8**
ITM	**Ithomi**	**1.28**	**109**	P	**Pb**	**07 53 37.9**	**+0.1**
ITM				S	**Sn**	**07 53 53.5**	**0.0**
ITM				AML	AML	07 54 00.8	
	comp=N,14251μm,0.5s						
ITM				AML	AML	07 54 06.0	
	comp=E,13248μm,0.8s						
PYL	**PYLOS**	**1.28**	**124**	P	**Pb**	**07 53 37.3**	**-0.5**
PYL				S	**Sb**	**07 53 56.3**	**+2.6**
	comp=E,6μm,0.4s						
PYL	**PYLOS**	**1.28**	**124**	P	**Pn**	**07 53 37.1**	**+0.1**
PYL				S	**Sn**	**07 53 53.1**	**-0.3**
PYL				AML	AML	07 53 58.8	
	comp=E,14887μm,0.4s						
PYL				AML	AML	07 54 03.7	
	comp=N,9819μm,0.6s						
EFP	**Efpalio**	**1.43**	**55**	P	**Pn**	**07 53 39.6**	**+0.6**
EFP				S	**Sn**	**07 53 57.2**	**0.0**
EFP				AML	AML	07 54 08.0	
	comp=N,16388μm,0.4s						
EFP				AML	AML	07 54 10.5	
	comp=E,14755μm,0.7s						
KLV	**Kalavryta, Ach**	**1.44**	**72**	P	**Pn**	**07 53 39.7**	**+0.4**
KLV				S	**Sb**	**07 53 59.0**	**+0.6**
KLV				AML	AML	07 54 11.6	
	comp=E,7097μm,1.3s						
KLV				AML	AML	07 54 12.5	
	comp=N,8358μm,0.5s						
ANX	**Ano Chora**	**1.54**	**50**	P	**Pn**	**07 53 41.3**	**+0.6**
ANX				S	**Sn**	**07 54 00.7**	**+0.7**
ANX				AML	AML	07 54 12.6	
	comp=N,52144μm,0.6s						
ANX				AML	AML	07 54 13.6	
	comp=E,33368μm,0.5s						
GUR	**Goura**	**1.56**	**78**	P	**Pn**	**07 53 41.5**	**+0.6**
GUR				AML	AML	07 54 14.7	
	comp=N,21386μm,0.5s						
GUR				AML	AML	07 54 15.0	
	comp=E,13892μm,0.4s						
KALE	**Kalithea**	**1.56**	**60**	P	**Pn**	**07 53 41.9**	**+0.9**
KALE				S	**Sn**	**07 54 00.8**	**+0.1**
KALE				AML	AML	07 54 13.6	
	comp=E,16815μm,0.4s						
KALE				AML	AML	07 54 13.7	
	comp=N,16386μm,0.6s						
IGT	**Igoumenitsa**	**1.92**	**358**	P	**Pb**	**07 53 49.7**	**+1.0**
IGT				S	**Sn**	**07 54 11.2**	**+2.0**
IGT				AMP			
	comp=E,7.5nm,0.8s,baz=9.0						
IGT	**Igoumenitsa**	**1.92**	**358**	P	**Pb**	**07 53 49.6**	**+1.0**
IGT				S	**Sn**	**07 54 11.2**	**+2.0**
AGG	**Agios Georgios**	**2.06**	**46**		**Pb**	**07 53 49.7**	**-1.3**
JAN	**Janina**	**2.07**	**9**	P	**Pb**	**07 53 54.6**	**+3.4**
AXAR	**Agios Charalam**	**2.11**	**56**	P	**Pn**	**07 53 49.5**	**+1.1**
KEK	**Kerkira**	**2.15**	**347**	Pn	**Pn**	**07 53 48.2**	**-0.8**
SRN	**Sarande**	**2.28**	**352**	P	**Pb**	**07 53 53.5**	**-1.4**
SRN				S	**Sn**	**07 54 19.9**	**+1.6**
SRN				AMP			
	comp=E,3.1nm,0.9s,baz=0.0						
THL	**Klokotos Trika**	**2.31**	**32**	P	**Pn**	**07 53 52.0**	**+0.8**
TYRN	**Tyrnavos**	**2.53**	**34**	P	**Pn**	**07 53 56.5**	**+2.3**
LSK	**Leskovik**	**2.53**	**3**	P	**Pb**	**07 53 57.5**	**-1.7**
LSK				S	**Sb**	**07 54 29.2**	**-0.8**
LSK				AMP			
	comp=E,10.0nm,1.0s,baz=11						
ATH	**Athens Observa**	**2.64**	**81**	P	**Pb**	**07 54 01.9**	**+1.0**
VLY	**Voula,Athens**	**2.69**	**84**	P	**Pn**	**07 53 57.1**	**+0.7**
NEST	**Nestorio**	**2.84**	**10**	P	**Pb**	**07 54 03.2**	**-1.3**
NEST				S	**Sb**	**07 54 37.0**	**-1.7**
KZN	**Kozani**	**2.89**	**21**	P	**Pb**	**07 54 03.5**	**-1.7**
SCTE	**Santa Cesarea**	**2.89**	**329**	P	**Pn**	**07 54 00.2**	**+1.0**
SCTE				S	**Sn**	**07 54 32.2**	**-1.0**
SCTE				AMP			
	comp=E,1.3nm,1.2s,baz=334						
SCTE	**Santa Cesarea**	**2.89**	**329**		**Pn**	**07 53 58.3**	**-0.8**
LIT	**Litokhoron**	**2.96**	**32**	Pn	**Pn**	**07 54 00.8**	**+0.7**
LIT	**Litokhoron**	**2.96**	**32**	P	**Pn**	**07 54 00.9**	**+0.7**
FNA	**Florina**	**3.25**	**13**	P	**Pb**	**07 54 08.3**	**-3.1**
FNA				S	**Sn**	**07 54 46.9**	**+4.6**
FNA				AMP			
	comp=E,1.3nm,0.8s,baz=19						
FNA	**Florina**	**3.25**	**13**	Pn	**Pn**	**07 54 06.0**	**+1.8**
FNA	**Florina**	**3.25**	**13**	*e*Pn	**Pn**	**07 54 06.6**	**+2.4**
FNA	**Florina**	**3.25**	**13**	P	**Pn**	**07 54 06.0**	**+1.8**
TIP	**Timpagrande**	**3.27**	**300**		**Pn**	**07 54 04.7**	**+0.2**
TIP	**Timpagrande**	**3.27**	**300**	⇓P	**Pb**	**07 54 11.6**	**-0.2**
OHR	**Ohrid**	**3.50**	**5**	*e*Pn	**Pn**	**07 54 10.1**	**+2.4**
KNDR	**Palaiochora Ch**	**3.55**	**131**	*e*P	**Pn**	**07 54 11.0**	**+2.8**
IMMV	**Iera Moni Meta**	**3.58**	**126**	*e*P	**Pn**	**07 54 11.7**	**+3.0**
THE	**Thessaloniki**	**3.60**	**33**	P	**Pn**	**07 54 12.2**	**+3.2**
CEL	**Celeste**	**3.63**	**282**	Pn	**Pn**	**07 54 09.6**	**+0.1**
TIR	**Tirane**	**3.75**	**354**	P	**Pn**	**07 54 13.6**	**+2.5**
TIR				S	**Sn**	**07 54 56.5**	**+2.0**
TIR				AMP			
	comp=E,1.4nm,1.5s,baz=359						
TIR	**Tirane**	**3.75**	**354**	Pn	**Pn**	**07 54 11.6**	**+0.5**
TIR	**Tirane**	**3.75**	**354**	*e*Pn	**Pn**	**07 54 11.4**	**+0.4**
TIR	**Tirane**	**3.75**	**354**	⇑P	**Pn**	**07 54 13.8**	**+2.8**
TIR	**Tirane**	**3.75**	**354**	⇑P	**Pn**	**07 54 13.8**	**+2.8**
TIR	**Tirane**	**3.75**	**354**	P	**Pn**	**07 54 13.1**	**+2.1**
SOH	**Sokhos**	**3.93**	**35**	P	**Pn**	**07 54 16.7**	**+3.2**
GVD	**Gavdhos**	**4.06**	**132**	*e*P	**Pn**	**07 54 15.8**	**+0.6**
APE	**Apeiranthos**	**4.11**	**96**	*e*P	**Pn**	**07 54 18.2**	**+2.2**
APE	**Apeiranthos**	**4.11**	**96**	⇑P	**Pn**	**07 54 19.3**	**+3.3**
APE	**Apeiranthos**	**4.11**	**96**	⇑P	**Pn**	**07 54 19.3**	**+3.3**
MATE	**Matera**	**4.18**	**318**	⇑P	**Pb**	**07 54 24.1**	**-3.1**
SRS	**Serrai**	**4.28**	**34**	*e*Pn	**Pn**	**07 54 19.9**	**+1.7**
SRS				*e*Sn	**Sn**	**07 55 10.3**	**+2.9**
SRS	**Serrai**	**4.28**	**34**	P	**Pn**	**07 54 20.0**	**+1.7**
IDI	**Anoyia**	**4.29**	**121**	Pn	**Pn**	**07 54 19.3**	**+0.8**
IDI	**Anoyia**	**4.29**	**121**	Pn	**Pn**	**07 54 17.8**	**-0.7**
	comp=E,6.2nm,0.8s,baz=318,slow=22,SNR=0.8						
IDI				Sn	**Sn**	**07 55 09.4**	**+1.5**
	comp=E,20nm,0.3s,baz=164,slow=23,SNR=17						
CUC	**Castrocucco**	**4.31**	**305**	Pn	**Pn**	**07 54 18.5**	**-0.2**
PUK	**Puka**	**4.44**	**355**	P	**Pn**	**07 54 23.2**	**+2.6**
PUK				S	**Sn**	**07 55 14.0**	**+2.4**
PUK				AMP			
	comp=E,1.4nm,0.8s,baz=0.0						
PUK	**Puka**	**4.44**	**355**		**Pn**	**07 54 21.4**	**+0.9**
CHOS	**Chios island**	**4.52**	**78**	*e*P	**Pn**	**07 54 21.6**	**0.0**
SIGR	**SIGRI**	**4.56**	**68**	*e*P	**Pn**	**07 54 24.3**	**+2.2**
BCI	**Bajram Curri**	**4.75**	**357**	P	**Pn**	**07 54 27.8**	**+3.0**
BCI				AMP			
	comp=E,1.5nm,0.9s,baz=1.0						
VAE	**Valguarnera**	**4.78**	**270**	Pn	**Pn**	**07 54 27.3**	**+2.2**
	comp=E,16nm,0.7s,baz=201,slow=10,SNR=2.1						
VAE				Sn	**Sn**	**07 55 26.2**	**+6.3**
	comp=E,6.6nm,0.3s,baz=211,slow=21,SNR=2.4						
RAFF	**Raffo Rosso**	**4.84**	**267**	Pn	**Pn**	**07 54 25.5**	**-0.4**
PDG	**Podgorica**	**4.89**	**350**	Pn	**Pn**	**07 54 27.2**	**+0.6**
PDG	**Podgorica**	**4.89**	**350**	*e*Pn	**Pn**	**07 54 26.1**	**-0.5**
PDG				*e*Sn	**Sn**	**07 55 19.8**	**-2.8**
GADA	**Gvkgeada**	**4.99**	**57**	*e*P	**Pn**	**07 54 28.8**	**+0.8**
WDD	**Wied Dalam**	**5.06**	**251**	Pn	**Pn**	**07 54 28.7**	**-0.2**
EZN	**Ezine**	**5.12**	**63**	*e*P	**Pn**	**07 54 32.1**	**+2.3**
BOSS	**Bosilegrad**	**5.12**	**17**	*e*Pn	**Pn**	**07 54 31.1**	**+1.2**
BLCB	**Balcova**	**5.29**	**80**	*e*P	**Pn**	**07 54 32.7**	**+0.6**
BARS	**Barje**	**5.30**	**11**	*e*Pn	**Pn**	**07 54 33.2**	**+0.9**
TREB	**Trebinje**	**5.34**	**343**	*e*Pn	**Pn**	**07 54 31.3**	**-1.5**
TREB				*e*Sn	**Sn**	**07 55 29.6**	**-4.0**
VTS	**Vitosha**	**5.44**	**22**	*e*Pn	**Pn**	**07 54 36.3**	**+1.9**
VTS				*e*Sn	**Sn**	**07 55 37.3**	**+0.9**
ALN	**Alexandroupoli**	**5.46**	**51**	Pn	**Pn**	**07 54 35.5**	**+1.1**
ALN	**Alexandroupoli**	**5.46**	**51**	P	**Pn**	**07 54 35.5**	**+1.1**
GELI	**Tayfur-Gelibol**	**5.47**	**58**	*e*P	**Pn**	**07 54 37.3**	**+2.6**
BODT	**Bodrum**	**5.52**	**94**	*e*P	**Pn**	**07 54 38.3**	**+3.0**
SELS	**Selova**	**5.62**	**5**	*e*Pn	**Pn**	**07 54 38.5**	**+1.7**
STON	**Ston**	**5.65**	**339**	*e*Pn	**Pn**	**07 54 36.2**	**-0.8**
SJES	**Sjenica**	**5.65**	**357**	*e*Pn	**Pn**	**07 54 37.8**	**+0.6**
SJES				*e*Sn	**Sn**	**07 55 40.5**	**-1.0**
LPK	**Lapseki**	**5.66**	**59**	*e*P	**Pn**	**07 54 39.9**	**+2.7**
KARP	**Karpathos**	**5.80**	**109**	*e*P	**Pn**	**07 54 42.9**	**+3.6**
KARP	**Karpathos**	**5.80**	**109**	Pn	**Pn**	**07 54 41.1**	**+1.8**
KARP	**Karpathos**	**5.80**	**109**	P	**Pn**	**07 54 40.2**	**+0.9**
	comp=E,86nm,0.8s,comp=E,0.9nm						
ZAPS	**Zavoj**	**5.90**	**16**	*e*Pn	**Pn**	**07 54 41.9**	**+1.4**
IVAS	**Ivanjica**	**5.96**	**358**	*e*Pn	**Pn**	**07 54 41.9**	**+0.5**
KRBG	**Karabiga-Canak**	**6.03**	**61**	*e*P	**Pn**	**07 54 43.8**	**+1.5**
BOVS	**Bovan**	**6.09**	**9**	*e*Pn	**Pn**	**07 54 43.5**	**+0.3**
GORD	**Gordes-Manisa**	**6.24**	**76**	*e*P	**Pn**	**07 54 46.9**	**+1.6**
GRUS	**Gruza**	**6.27**	**2**	*e*Pn	**Pn**	**07 54 46.2**	**+0.6**
BBLS	**Lazi&#263i**	**6.29**	**353**	*e*Pn	**Pn**	**07 54 46.3**	**+0.3**
TURN	**Turunc**	**6.30**	**95**	*e*P	**Pn**	**07 54 49.7**	**+3.6**
ZAGS	**Zajecar**	**6.34**	**12**	*e*Pn	**Pn**	**07 54 47.5**	**+0.9**
DIVS	**Divibare**	**6.48**	**357**	*e*Pn	**Pn**	**07 54 47.7**	**-0.9**
DIVS				*e*Sn	**Sn**	**07 56 01.3**	**-0.7**
HAPS	**Han Pijesak,BI**	**6.56**	**351**	*e*Pn	**Pn**	**07 54 50.2**	**+0.5**
HAPS				*e*Sn	**Sn**	**07 56 01.8**	**-2.0**
TRUS	**Trudelj**	**6.60**	**360**	*e*Pn	**Pn**	**07 54 50.8**	**+0.6**
DALY	**Dalyan (Mula)**	**6.62**	**94**	*e*P	**Pn**	**07 54 53.8**	**+3.4**
INTR	**Introdacqua**	**6.66**	**313**	Pn	**Pn**	**07 54 50.5**	**-0.6**
ELND	**Elena**	**6.75**	**36**	⇑P	**Pn**	**07 54 53.6**	**+1.4**
TEKS	**Tekeris**	**6.96**	**355**	*e*Pn	**Pn**	**07 54 54.0**	**-1.1**
FETY	**Fethiye**	**6.99**	**95**	*e*P	**Pn**	**07 54 58.9**	**+3.3**
CAMP	**Campotosto**	**7.28**	**315**	Pn	**Pn**	**07 55 01.1**	**+1.5**
TVSB	**Tavsanli**	**7.32**	**73**	*e*P	**Pn**	**07 55 02.9**	**+2.8**
HERR	**Herculane**	**7.41**	**11**	⇑P	**Pn**	**07 55 02.7**	**+1.4**
AKAS	**Kas**	**7.49**	**98**	*e*P	**Pn**	**07 55 04.6**	**+2.1**
NRCA	**Norcia**	**7.64**	**315**	Pn	**Pn**	**07 55 05.3**	**+0.8**
FDMO	**Fiordimonte**	**7.79**	**316**	Pn	**Pn**	**07 55 07.2**	**+0.8**
GZR	**Gura Zlata**	**7.97**	**12**	⇑P	**Pn**	**07 55 09.2**	**+0.2**
GZR	**Gura Zlata**	**7.97**	**12**	⇑P	**Pn**	**07 55 09.2**	**+0.2**
BZS	**Buzias**	**8.04**	**6**	⇓P	**Pn**	**07 55 11.7**	**+1.8**
BZS	**Buzias**	**8.04**	**6**	⇓P	**Pn**	**07 55 11.7**	**+1.8**
SURR	**Surduc**	**8.23**	**8**	⇑P	**Pn**	**07 55 12.6**	**+0.1**
VOIR		**8.55**	**22**	⇓P	**Pn**	**07 55 19.8**	**+2.8**
VOIR		**8.55**	**22**	⇓P	**Pn**	**07 55 19.8**	**+2.8**
VOIR		**8.55**	**22**	P	**Pn**	**07 55 18.6**	**+1.6**
	comp=E,18nm,1.0s						
MORH	**Mrgy, Hungar**	**8.69**	**352**	⇑P	**Pn**	**07 55 20.4**	**+1.6**
MORH	**Mrgy, Hungar**	**8.69**	**352**	P	**Pn**	**07 55 20.2**	**+1.4**
	comp=E,7.2nm,1.3s						
SIRR	**Siria**	**8.69**	**6**	⇑P	**Pn**	**07 55 15.5**	**-3.4**
ISR	**Istrita**	**8.79**	**30**	⇑P	**Pn**	**07 55 18.0**	**-2.3**
ISR	**Istrita**	**8.79**	**30**	⇑P	**Pn**	**07 55 18.0**	**-2.3**
ISR	**Istrita**	**8.79**	**30**	P	**Pn**	**07 55 21.2**	**+0.9**
	comp=E,60nm,0.9s						
MLR	**Muntele Rosu**	**8.89**	**26**		**Pn**	**07 55 23.1**	**+1.5**
MLR	**Muntele Rosu**	**8.89**	**26**	Pn	**Pn**	**07 55 21.7**	**+0.1**
	comp=E,1.0nm,0.3s,baz=178,slow=5.4,SNR=14						
MLR				LR	LR	07 59 06.4	
	comp=E,209nm,20.4s,baz=206,slow=40						
	comp=E,8.9nm,0.8s						
MLR	**Muntele Rosu**	**8.89**	**26**	⇑P	**Pn**	**07 55 23.5**	**+1.9**
MLR	**Muntele Rosu**	**8.89**	**26**	⇑P	**Pn**	**07 55 23.5**	**+1.9**
MLR	**Muntele Rosu**	**8.89**	**26**	P	**Pn**	**07 55 24.8**	**+3.1**
	comp=E,44nm,0.9s						
NEHR	**Nehoiu**	**8.96**	**28**	⇑P	**Pn**	**07 55 22.9**	**+0.4**
MARR	**Marisel-Cluj**	**9.27**	**12**	⇓P	**Pn**	**07 55 27.8**	**+0.9**
TURR	**Turia**	**9.41**	**25**	⇑P	**Pn**	**07 55 24.7**	**-4.0**
PLOR	**Plostina**	**9.45**	**28**	⇑P	**Pn**	**07 55 30.7**	**+1.4**
PLOR	**Plostina**	**9.45**	**28**	⇑P	**Pn**	**07 55 30.7**	**+1.4**
PLOR5	**Plostina Array**	**9.45**	**28**	P	**Pn**	**07 55 32.8**	**+3.5**
	comp=E,33nm,0.9s						
PLOR3	**Plostina Array**	**9.45**	**27**	P	**Pn**	**07 55 31.8**	**+2.5**
	comp=E,39nm,1.0s						
VRI	**Vrincioaia**	**9.49**	**28**	⇓P	**Pn**	**07 55 30.3**	**+0.5**
VRI	**Vrincioaia**	**9.49**	**28**	⇓P	**Pn**	**07 55 30.3**	**+0.5**
VRI	**Vrincioaia**	**9.49**	**28**	P	**Pn**	**07 55 31.8**	**+2.0**
	comp=E,20nm,1.1s,comp=E,318nm						
GAZI	**Gazipasa**	**9.63**	**95**	*e*P	**Pn**	**07 55 32.3**	**+0.6**
HDMB	**Hadim**	**9.64**	**90**	*e*P	**Pn**	**07 55 34.3**	**+2.2**
MPLH	**Magyarpolny**	**9.78**	**348**	P	**Pn**	**07 55 35.0**	**+1.2**
	comp=E,31nm,1.0s						
SOKA	**Soboth**	**9.90**	**338**	*e*Pn	**Pn**	**07 55 37.0**	**+1.6**
	comp=E,7.0nm,0.4s						
OBKA	**Obir**	**9.90**	**336**	*e*Pn	**Pn**	**07 55 39.0**	**+3.5**
	comp=E,11nm,0.5s						
PRED	**Cave del Predi**	**10.18**	**332**	Pn	**Pn**	**07 55 39.1**	**-0.2**
PSZ	**Piszkesteto**	**10.30**	**358**	Pn	**Pn**	**07 55 43.0**	**+2.0**
PSZ	**Piszkesteto**	**10.30**	**358**	P	**Pn**	**07 55 43.0**	**+2.0**
MYKA	**Terra Mystica**	**10.31**	**333**	*i* Pn	**Pn**	**07 55 44.1**	**+3.0**
	comp=E,3.0nm,0.4s						
RONA	**Rosalia, Austr**	**10.52**	**345**	*i* Pn	**Pn**	**07 55 47.3**	**+3.3**
	comp=E,2.6nm,0.5s						
BR104	**Keskin Array S**	**10.55**	**75**	P	**Pn**	**07 55 44.3**	**-0.1**
	comp=E,3.9nm,1.1s						
BRTR	**Keskin Array B**	**10.55**	**74**	Pn	**Pn**	**07 55 46.3**	**+1.9**
	comp=E,0.3nm,0.3s,baz=269,slow=13,SNR=2.8						
BRTR				LR	LR	08 00 44.0	
	comp=E,253nm,18.2s,baz=264,slow=43						
	comp=E,0.7nm,0.5s						
KBA	**Koelnbreinsper**	**10.80**	**333**	P	**Pn**	**07 55 52.6**	**+4.7**
KBA				pmax	pmax		
	comp=Z,15nm,1.0s						
KECS	**Kecovo**	**10.86**	**0**	*e*P	Pn	07 55 54.1	+5.6
KECS	**Kecovo**	**10.86**	**0**	*e*PN	Pn	07 55 54.1	+5.6
VYHS	**Vyhne**	**10.93**	**354**	*e*P	Pn	07 55 54.4	+4.9
VYHS	**Vyhne**	**10.93**	**354**	*e*PN	Pn	07 55 54.4	+4.9
HOLU	**Holmets**	**11.00**	**7**	P	**Pn**	**07 55 51.3**	**+0.9**
MEZ	**Mezhgor'ye**	**11.12**	**11**	P	**Pn**	**07 55 51.6**	**-0.5**
MOA	**Molln**	**11.18**	**338**	*e*Pn	**Pn**	**07 55 55.5**	**+2.6**
	comp=Z,1.9nm,0.3s						
BIOA	**Bad Ischl, Aus**	**11.23**	**336**	*i* Pn	Pn	07 55 58.5	+4.8
	comp=Z,4.1nm,0.3s						
BZK	**Bozkurt**	**11.31**	**63**	P	**Pn**	**07 55 54.0**	**-0.7**
	comp=Z,34nm,1.2s						
LESA	**Schwarzleotal**	**11.34**	**332**	*i* Pn	**Pn**	**07 55 58.2**	**+3.1**
	comp=Z,4.6nm,0.4s						
WTTA	**Wattenberg**	**11.61**	**329**	*e*Pn	**Pn**	**07 56 01.8**	**+2.8**
	comp=Z,0.8nm,0.3s						
WATA	**Walderalm**	**11.69**	**329**	*e*Pn	**Pn**	**07 56 01.8**	**+1.7**
	comp=Z,5.4nm,0.5s						
FUORN	**Ofenpass-Fuorn**	**11.73**	**323**		**Pn**	**07 55 59.5**	**-1.1**
SQTA	**Sankt Quirin**	**11.76**	**328**	*e*Pn	Pn	07 56 05.7	+4.8
	comp=Z,1.5nm,0.3s						
FETA	**Feichten**	**11.81**	**326**	*i* Pn	**Pn**	**07 56 06.2**	**+4.5**
	comp=Z,3.0nm,0.7s						
MOTA	**Moosalm**	**11.90**	**328**	*i* Pn	**Pn**	**07 56 07.5**	**+4.6**
	comp=Z,3.4nm,0.5s						
VRAC	**Vranov**	**12.01**	**348**	LR	LR	08 00 59.4	
	comp=Z,62nm,19.2s,baz=176,slow=39						
TUE	**Stuetta**	**12.07**	**321**		**Pn**	**07 56 05.1**	**-0.2**
GERES	**GERESS Array B**	**12.24**	**339**	Pn	**Pn**	**07 56 08.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=153,slow=12,SNR=3.7						
GERES				LR	LR	08 02 00.8	
	comp=Z,254nm,18.6s,baz=154,slow=43						
	comp=Z,1.1nm,0.7s						
KHC	**Kasperske Hory**	**12.53**	**339**	Pn	**Pn**	**07 56 11.9**	**+0.5**
KHC	**Kasperske Hory**	**12.53**	**339**	P	**Pn**	**07 56 11.9**	**+0.5**
WET	**Wettzell**	**12.75**	**337**	P	**Pn**	**07 56 16.6**	**+2.2**
WET				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MMAI	**Mount Meron Ar**	**13.07**	**106**	Pn	**Pn**	**07 56 17.6**	**-1.2**
	comp=Z,3.8nm,0.3s,baz=24,slow=15,SNR=3.6						
	comp=Z,1.5nm,0.3s						
KZIT	**Kziot**	**13.35**	**116**	P	**Pn**	**07 56 21.5**	**-1.1**
DSI	**Dead Sea**	**13.71**	**112**	P	**Pn**

comp=Z,1.2nm,0.6s,baz=30,slow=9.8,SNR=7.5
comp=Z,1.2nm,0.6s
ABKAR Akbulak array 30.63 55 P P 07 59 26.6 -0.3
ARTI Arti 31.43 41 P **P 07 59 32.4 -1.5**
ARTI IAmb IAmb 07 59 33.5
comp=Z,5.7nm,0.6s
ARTI Arti 31.43 41 LR LR 08 14 16.7
comp=Z,72nm,19.4s,baz=238,slow=40
ARTI Arti 31.43 41 P **P 07 59 32.4 -1.5**
ARTI pmax pmax
comp=Z,6.0nm,0.6s
ARCES ARCESS Array B 32.10 3 P **P 07 59 39.2 -0.4**
comp=Z,1.3nm,0.6s,baz=182,slow=8.5,SNR=6.0
comp=Z,1.3nm,0.6s
BVAR Borovoye Array 37.54 49 P **P 08 00 25.9 -0.9**
comp=Z,1.3nm,0.6s,baz=261,slow=9.0,SNR=4.6
comp=Z,1.3nm,0.6s
SIMJ Simiganj 37.88 73 P **P 08 00 29.4 -0.6**
KKAR Karatay Array 38.10 66 P **P 08 00 31.3 -0.3**
DBIC Dimbokro 38.43 223 LR LR 08 15 47.2
comp=Z,30nm,18.7s,baz=154,slow=35
KURBB Kurchatov Arra 42.63 53 P **P 08 01 08.0 -1.0**
comp=Z,2.0nm,0.7s,baz=278,slow=8.7,SNR=8.6
comp=Z,2.0nm,0.7s
KURK Kurchatov 42.68 53 P **P 08 01 08.0 -1.4**
MKAR Makanchi Array 45.67 58 P **P 08 01 32.2 -1.2**
comp=Z,1.6nm,0.5s,baz=270,slow=7.2,SNR=13
comp=Z,1.6nm,0.5s
HHC Hu-ho-hao-te 67.42 55 *e*P **P 08 04 07.8 -0.6**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,550nm,7.0s
XLT XiLinHaoTe 68.69 51 *e*P P 08 04 08.4 -8.0
XLT pmax pmax
comp=Z,22nm,1.4s
CMAR Chiang Mai Arr 70.05 82 P **P 08 04 24.5 -0.5**
comp=Z,1.1nm,0.3s,baz=308,slow=10,SNR=1.7
comp=Z,1.1nm,0.3s
HEH HeiHe 71.52 40 *e*P **P 08 04 34.2 +0.8**
HEH pmax pmax
comp=Z,14nm,0.9s
CN2 Changchun 74.33 47 *e*P **P 08 04 50.4 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
KLR Kul'dur 74.36 39 P **P 08 04 48.4 -1.9**
comp=Z,2.6nm,0.8s,baz=336,slow=18,SNR=3.9
comp=Z,2.6nm,0.8s
NJ2 Nanjing 77.17 59 *e*P **P 08 05 06.5 -0.1**
NJ2 pmax pmax
comp=Z,12nm,1.0s
USRK Ussuriysk Ar. 77.74 43 P **P 08 05 09.3 -0.3**
comp=Z,2.0nm,0.8s,baz=267,slow=10,SNR=3.5
comp=Z,2.0nm,0.8s
KSRS Korea Array 79.75 50 P **P 08 05 20.8 0.0**
comp=Z,3.0nm,0.8s,baz=311,slow=4.7,SNR=11
comp=Z,3.0nm,0.8s

BJI ***02*** *07:53:50.4, 33°.49N×135°.50E, h35km, mb5.0/84, mB5.4/57, Ms5.1/86, Ms7 5.0/83*
MOS ***02*** *07:53:52.0±0.8, 33°.68N×135°.11E, h27km, mb5.4/114, MS4.6/16, Error ellipse: s-maj=5.7km s-min=3.2km az=115.8*
JMA ***02*** *07:53:54.1±0.1, 33°.7N±0°.2×135°.2E±0°.2, h44km, MD5.4/38, MW5.4/38, S PART OF KII CHANNEL*
JMA Felt IV J1 at S PART OF KII CHANNEL .
NEIC ***02*** *07:53:54.4±1.4, 33°.67N±0°.05×135°.15E±0°.06, h28km±3km, mb5.4/146, Mww5.4/39, Error ellipse: s-maj=8.3km s-min=7.1km az=139.0*
NIED ***02*** *07:53:54.1, 33°.70N×135°.20E, h44km, MW5.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^17Nm; Mrr=0.35; Mθθ0.06; Mφφ0.29; Mrθ0.33; Mθφ-0.83; Mφr-0.82; Fault plane solution: M0 1.20000×10^17 NP1: φs=350.00000°, δ79.00000°, λ-54.00000°. NP2: φs=94.00000°, δ37.00000°, λ-162.00000°.*
IDC ***02*** *07:53:55.3±0.3, 33°.70N×135°.14E, h40km±2km, mb4.7/34, mbtmp4.9/42, ML4.6/8, MS4.5/65 Error ellipse: s-maj=8.5km s-min=7.8km az=4.0*
NEIC ***02*** *07:53:55.6, 33°.60N×135°.38E, h30km, Moment Tensor Solution. Duration: 28s Moment tensor: Scale 10^17Nm; Mrr=0.50; Mθθ0.07; Mφφ0.42; Mrθ0.39; Mθφ-1.06; Mφr-0.90; Fault plane solution: M0 1.43000×10^17 NP1: φs=350.46000°, δ77.52000°, λ-52.31000°. NP2: φs=96.09000°, δ39.41000°, λ-160.09000°. Principal axes: T 1.7241, Plg23.0000°, Azm52.0000°; N -0.5959, Plg37.0000°, Azm161.0000°; P -1.1283, Plg44.0000°, Azm298.0000°;*
NEIC ***02*** *07:53:55.6, 33°.70N×135°.14E, h30km*
GCMT ***02*** *07:53:56.4±0.1, 33°.64N±0°.01×135°.14E±0°.01, h35km, MW5.4/150, Moment Tensor Solution. s116,c202; s150,c275; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr=0.54±.02; Mθθ-0.07±.02; Mφφ0.60±.02; Mrθ0.29±.02; Mθφ-1.14±.01; Mφr-0.92±.03; Best double couple: M0 1.51300×10^17 NP1: φs=357.00000°, δ78.00000°, λ-47.00000°. NP2: φs=99.00000°, δ44.00000°, λ-163.00000°. Principal axes: T 1.8170, Plg22.0000°, Azm56.0000°; N -0.6090, Plg42.0000°, Azm167.0000°; P -1.2080, Plg41.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 07:53:55.2±0.2, 33°.68N±0°.03×135°.23E±0°.03, h40km±1km, h40km:pP-P, n1232, c1§43/1228, mb5.2/258, MS4.7/96, 56C-49D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.20**	**30**	P	**Pn**	**07 54 01.7**	**-0.8**
JWM				S	**Sn**	**07 54 07.0**	**-0.6**
JWM	**Minabe**	**0.20**	**30**	A	A	07 54 01.7	
comp=E,653nm,0.8s,comp=N,1μm,0.5s							
JTNC	**Tanabenakahech**	**0.34**	**65**	P	**Pn**	**07 54 03.5**	**-0.6**
JTNC				S	**Sn**	**07 54 10.3**	**+0.1**
JTNC	**Tanabenakahech**	**0.34**	**65**	A	A	07 54 03.5	
comp=E,2μm,1.2s,comp=N,2μm,0.9s							
JWKM	**Wakayamakushim**	**0.49**	**117**	A	A	07 54 05.3	
comp=E,634nm,0.8s,comp=N,324nm,0.7s							
JWY	**Kouya**	**0.62**	**29**	*i* P	**Pn**	**07 54 06.6**	**-1.0**
JWY	**Kouya**	**0.62**	**29**	A	A	07 54 06.6	
comp=E,426nm,2.0s,comp=N,354nm,2.5s							
JAI	**Aioi**	**0.66**	**280**	P	**Pn**	**07 54 06.8**	**-1.3**
JAI				S	**Sn**	**07 54 16.1**	**-1.3**
JAI	**Aioi**	**0.66**	**280**	A	A	07 54 06.8	
comp=E,1μm,0.9s,comp=N,945nm,3.1s							
JMMH	**Miemihama**	**0.68**	**77**	A	A	07 54 07.8	
comp=E,503nm,1.5s,comp=N,575nm,2.0s							
JNTK	**Naratenkawa**	**0.80**	**42**	A	A	07 54 09.2	
comp=E,211nm,1.8s,comp=N,223nm,1.5s							
JAWN	**Awajishima-nag**	**0.85**	**341**	⇓P	**Pn**	**07 54 09.6**	**-1.1**
JAWN	**Awajishima-nag**	**0.85**	**341**	A	A	07 54 09.6	
comp=E,258nm,3.2s,comp=N,110nm,1.2s							
MRT2	**Murotomisaki 2**	**0.95**	**253**	A	A	07 54 11.0	
comp=E,138nm,4.0s,comp=N,142nm,2.1s							
JMAF	**Mimaanabuki**	**0.97**	**293**	A	A	07 54 11.0	
comp=E,123nm,2.6s,comp=N,189nm,5.8s							
JKN2	**Miekihoku**	**1.03**	**57**	*i* P	**Pn**	**07 54 12.2**	**-1.0**
JKN2	**Miekihoku**	**1.03**	**57**	A	A	07 54 12.2	
comp=E,164nm,3.3s,comp=N,133nm,2.8s							
JHE	**Heguri**	**1.05**	**21**	*i* P	**Pn**	**07 54 12.4**	**-1.0**
JHE	**Heguri**	**1.05**	**21**	A	A	07 54 12.4	
comp=E,155nm,1.8s,comp=N,187nm,4.9s							
JMN	**Monobe**	**1.13**	**273**	Pn	**Pn**	**07 54 12.7**	**-1.9**
JMN	**Monobe**	**1.13**	**273**	P	**Pn**	**07 54 13.9**	**-0.7**
JMN	**Monobe**	**1.13**	**273**	*i* P	**Pn**	**07 54 13.1**	**-1.5**
JMN	**Monobe**	**1.13**	**273**	A	A	07 54 13.1	
comp=E,252nm,1.4s,comp=N,193nm,2.4s							
JMIK	**Miki**	**1.14**	**353**	A	A	07 54 13.8	
comp=E,235nm,2.6s,comp=N,108nm,0.7s							
JJS	**Sakaide**	**1.29**	**303**	⇓*i*P	**Pn**	**07 54 15.2**	**-1.5**
JJS	**Sakaide**	**1.29**	**303**	A	A	07 54 15.2	
comp=E,98nm,1.4s,comp=N,69nm,2.1s							
TTO1	**TONANKAI O.B.S**	**1.29**	**92**	A	A	07 54 16.8	
comp=E,622nm,3.7s,comp=N,688nm,4.5s							
JKS	**Kasai**	**1.34**	**346**	⇓*i*P	**Pn**	**07 54 16.3**	**-1.2**
JKS	**Kasai**	**1.34**	**346**	A	A	07 54 16.3	
comp=E,77nm,2.8s,comp=N,30nm,1.1s							
JIE	**Ise**	**1.42**	**59**	A	A	07 54 18.2	
comp=E,76nm,3.1s,comp=N,142nm,3.0s							
TSUJ	**Tsu 2**	**1.43**	**43**	A	A	07 54 18.2	
comp=E,98nm,3.0s,comp=N,78nm,4.1s							
JKHR	**Kochiharuno**	**1.46**	**264**	A	A	07 54 18.2	
comp=E,113nm,1.4s,comp=N,90nm,2.8s							
TTO2	**TONANKAI O.B.S**	**1.50**	**87**	A	A	07 54 19.6	
comp=E,503nm,3.7s,comp=N,445nm,2.9s							
JAD	**Aida**	**1.54**	**325**	A	A	07 54 19.4	
comp=E,66nm,3.3s,comp=N,36nm,2.6s							
JWT	**Wachi**	**1.61**	**5**	A	A	07 54 20.6	
comp=E,55nm,4.1s,comp=N,43nm,4.3s							
JEG	**Eigenji**	**1.74**	**33**	A	A	07 54 22.8	
comp=E,47nm,2.9s,comp=N,65nm,1.5s							
TTO3	**TONANKAI O.B.S**	**1.81**	**83**	A	A	07 54 24.1	
comp=E,490nm,3.0s,comp=N,460nm,2.4s							
JET	**Tanbara**	**1.82**	**274**	A	A	07 54 23.4	
comp=E,40nm,2.2s,comp=N,120nm,2.3s							
JAA	**Atsumi**	**1.85**	**58**	A	A	07 54 24.4	
comp=E,70nm,1.9s,comp=N,83nm,1.5s							
JKU	**Kubokawa**	**1.85**	**259**	A	A	07 54 23.9	
comp=E,50nm,1.0s,comp=N,64nm,4.5s							
TTO4	**TONANKAI O.B.S**	**1.95**	**80**	A	A	07 54 26.0	
comp=E,275nm,2.7s,comp=N,271nm,2.0s							
JFM	**Mihama**	**1.95**	**18**	A	A	07 54 25.6	
comp=E,74nm,2.3s,comp=N,78nm,2.1s							
JKY	**Yasaka**	**1.95**	**357**	A	A	07 54 25.4	
comp=E,72nm,5.5s,comp=N,40nm,3.6s							
JKSM	**Kasumi**	**1.96**	**346**	A	A	07 54 25.5	
comp=E,63nm,4.4s,comp=N,21nm,4.4s							
JJG	**Jouge**	**1.98**	**000**	A	A	07 54 25.5	
comp=E,60nm,3.4s,comp=N,125nm,3.8s							
JKR	**Kurayoshi**	**2.06**	**326**	A	A	07 54 26.9	
comp=E,44nm,2.9s,comp=N,35nm,1.4s							
JICN	**Ichinomiyachia**	**2.10**	**39**	A	A	07 54 27.9	
comp=E,127nm,3.0s,comp=N,97nm,3.1s							
TTO5	**TONANKAI O.B.S**	**2.14**	**74**	A	A	07 54 28.9	
comp=E,221nm,3.1s,comp=N,284nm,2.3s							
JTO	**Tosashimizu**	**2.19**	**249**	A	A	07 54 28.9	
comp=E,19nm,1.6s,comp=N,26nm,2.8s							
JHS	**Saijyo**	**2.19**	**308**	A	A	07 54 28.7	
comp=E,31nm,4.9s,comp=N,56nm,3.3s							
INU	**Inuyama**	**2.23**	**41**		**Pn**	**07 54 29.4**	**-0.2**
INU	**Inuyama**	**2.23**	**41**	P	**Pn**	**07 54 30.8**	**+1.2**
UWA2	**Uwa jima 2**	**2.23**	**259**	A	A	07 54 29.4	
comp=E,27nm,1.6s,comp=N,32nm,2.3s							
JSSY	**Shinshiroyabe**	**2.25**	**56**	A	A	07 54 30.2	
comp=E,49nm,3.9s,comp=N,70nm,3.6s							
JYTA	**Yamagatataniai**	**2.28**	**32**	A	A	07 54 30.4	
comp=E,45nm,4.0s,comp=N,37nm,6.4s							
JNA	**Nagahama**	**2.30**	**268**	A	A	07 54 30.4	
comp=E,38nm,4.6s,comp=N,42nm,4.8s							
JAO	**Obara**	**2.31**	**46**	A	A	07 54 30.9	
comp=E,60nm,1.9s,comp=N,47nm,1.8s							
HMMJ	**Hamamatsu 2**	**2.37**	**60**	A	A	07 54 32.0	
comp=E,57nm,4.2s,comp=N,68nm,3.7s							
JKKS	**Kakegawashinom**	**2.52**	**64**	A	A	07 54 34.1	
comp=E,120nm,3.4s,comp=N,164nm,3.2s							
JHT	**Toyohira**	**2.53**	**294**	A	A	07 54 33.5	
comp=E,57nm,3.4s,comp=N,63nm,3.9s							
JNM	**Ikuma**	**2.57**	**316**	A	A	07 54 34.1	
comp=E,57nm,2.6s,comp=N,60nm,1.9s							
JGF	**Kuroka**	**2.60**	**42**	Pn	**Pn**	**07 54 34.2**	**-0.5**
JGF	**Kuroka**	**2.60**	**42**	P	**Pn**	**07 54 36.0**	**+1.2**
JGF	**Kuroka**	**2.60**	**42**	A	A	07 54 35.0	
comp=E,20nm,3.1s,comp=N,20nm,4.2s							
JSG	**Sagara**	**2.64**	**67**		**Pn**	**07 54 35.5**	**+0.2**
JSG	**Sagara**	**2.64**	**67**	P	**Pn**	**07 54 36.6**	**+1.3**
JSG	**Sagara**	**2.64**	**67**	A	A	07 54 35.9	
comp=E,70nm,4.9s,comp=N,102nm,3.0s							
JGT2	**ShimaneMisato**	**2.65**	**302**	A	A	07 54 35.1	
comp=E,30nm,3.2s,comp=N,40nm,6.1s							
JISK	**Izumosakaura**	**2.68**	**313**	A	A	07 54 35.6	
comp=E,44nm,2.0s,comp=N,47nm,3.1s							
JNY	**Yasuok**	**2.74**	**52**	A	A	07 54 37.2	
comp=E,41nm,3.5s,comp=N,38nm,2.5s							
JKG	**Kaga**	**2.75**	**19**	A	A	07 54 37.0	
comp=E,70nm,5.0s,comp=N,49nm,5.1s							
JKD	**Kudamatsu**	**2.82**	**279**	A	A	07 54 37.6	
comp=E,20nm,5.3s,comp=N,80nm,3.1s							
SHZ3	**Shizuoka 3**	**2.83**	**60**	A	A	07 54 38.4	
comp=E,44nm,2.5s,comp=N,57nm,4.7s							
JHIK	**Hikimi**	**2.87**	**288**	A	A	07 54 38.4	
comp=E,38nm,3.7s,comp=N,49nm,4.9s							
JSKE	**Saikikamae**	**2.93**	**254**	A	A	07 54 39.2	
comp=E,10.0nm,2.7s,comp=N,20nm,4.8s							
JUS	**Usuki**	**2.98**	**259**	A	A	07 54 39.9	
comp=E,18nm,1.8s,comp=N,26nm,3.5s							
JKI	**Kunimi**	**3.06**	**270**	A	A	07 54 41.0	
comp=E,31nm,5.4s,comp=N,63nm,2.8s							
JGN	**Niukaw**	**3.06**	**33**	A	A	07 54 41.5	
comp=E,20nm,3.3s,comp=N,20nm,4.5s							
JOI	**OKI**	**3.08**	**329**	A	A	07 54 41.2	
comp=E,35nm,2.0s,comp=N,30nm,1.7s							
JIZS	**Izushimoda**	**3.19**	**70**	A	A	07 54 43.7	
comp=E,19nm,5.0s,comp=N,26nm,5.6s							
JBEP	**Beppuamama**	**3.21**	**265**	A	A	07 54 43.4	
comp=E,52nm,1.9s,comp=N,61nm,1.9s							
JFNN	**Fujinakano**	**3.23**	**61**	A	A	07 54 44.1	
comp=E,79nm,3.5s,comp=N,93nm,4.6s							
JNT	**Takato**	**3.25**	**47**	A	A	07 54 44.2	
comp=E,21nm,2.9s,comp=N,14nm,5.0s							
JYN	**Shimob**	**3.28**	**55**	A	A	07 54 44.9	
comp=E,27nm,6.2s,comp=N,46nm,3.7s							
JKO	**Kozu shima**	**3.29**	**80**	A	A	07 54 45.0	
comp=E,43nm,2.9s,comp=N,30nm,7.3s							
JKIT	**Kitakata**	**3.34**	**253**	A	A	07 54 45.1	
comp=E,11nm,4.5s,comp=N,20nm,6.1s							
JSKK	**Shikinejimakit**	**3.37**	**78**	A	A	07 54 46.2	
comp=E,33nm,1.9s,comp=N,37nm,5.5s							
JHTM	**Izuhatsuma**	**3.38**	**67**	A	A	07 54 46.4	
comp=E,41nm,4.7s,comp=N,47nm,4.1s							
JTT	**Ttatey**	**3.39**	**30**	A	A	07 54 46.2	
comp=E,66nm,3.2s,comp=N,45nm,1.9s							
JNIO	**Niijimaoohara**	**3.42**	**77**	A	A	07 54 47.0	
comp=E,37nm,2.3s,comp=N,40nm,6.3s							
JTHY	**Toshimigashi**	**3.47**	**75**	A	A	07 54 47.6	
comp=E,32nm,4.3s,comp=N,72nm,5.8s							
JJH	**Hakui**	**3.48**	**21**	A	A	07 54 47.4	
comp=E,41nm,2.9s,comp=N,27nm,5.6s							
JTY	**Toyota**	**3.51**	**281**	A	A	07 54 47.4	
comp=E,21nm,3.5s,comp=N,38nm,6.4s							
JOD2	**Odawara 2**	**3.56**	**62**	A	A	07 54 48.7	
comp=E,20nm,5.0s,comp=N,29nm,4.7s							
JHGM	**Hagimishima**	**3.57**	**289**	A	A	07 54 48.1	
comp=E,32nm,2.0s,comp=N,51nm,6.6s							
JNG	**Nsakai**	**3.60**	**40**	A	A	07 54 49.2	
comp=E,18nm,5.2s,comp=N,15nm,2.6s							
JMYK	**Miyake Tsubota**	**3.61**	**83**	A	A	07 54 49.7	
comp=E,21nm,4.5s,comp=N,30nm,4.9s							
JIM2	**Oshima 3**	**3.63**	**72**	A	A	07 54 49.9	
comp=E,40nm,4.4s,comp=N,46nm,4.5s							
JNU	**Nakatsue**	**3.69**	**263**		**Pn**	**07 54 47.9**	**-1.8**
JNU	**Nakatsue**	**3.69**	**263**	P	**Pn**	**07 54 48.6**	**-1.1**
comp=N,86nm,0.3s,baz=50,slow=4.2,SNR=750							
JNU				S	**Sn**	**07 55 29.3**	**-2.6**
comp=N,2μm,0.8s,baz=102,slow=4.2,SNR=5.7							
JNU				LR	LR	07 56 28.6	
comp=N,22μm,21.0s,baz=15,slow=42							
comp=N,841nm,0.7s							
JNU	**Nakatsue**	**3.69**	**263**	P	**Pn**	**07 54 49.1**	**-0.6**
JNU	**Nakatsue**	**3.69**	**263**	A	A	07 54 49.9	
comp=E,17nm,6.3s,comp=N,17nm,4.7s							
JFA	**Akaike**	**3.70**	**272**	A	A	07 54 50.1	
comp=E,24nm,4.3s,comp=N,41nm,2.5s							
MAJO	**Matsushiro**	**3.76**	**40**	Pn	**Pn**	**07 54 51.5**	**+0.8**
MAJO	**Matsushiro**	**3.76**	**40**	P	**Pn**	**07 54 52.1**	**+1.4**
MAJO	**Matsushiro**	**3.76**	**40**	*c i*P	**Pn**	**07 54 51.0**	**+0.3**
MJAR	**Matsushiro Arr**	**3.76**	**40**	P	**Pn**	**07 54 51.2**	**+0.5**
comp=N,15nm,0.3s,baz=228,slow=14,SNR=215							
MJAR				LR	LR	07 56 35.9	
comp=N,17μm,19.6s,baz=196,slow=42							
comp=N,77nm,0.3s							
MJB9	**Matsu-Tunnel**	**3.76**	**40**		**Pn**	**07 54 52.2**	**+1.5**
JSGW	**Sagamiharawaka**	**3.80**	**58**	A	A	07 54 52.1	
comp=E,11nm,3.9s,comp=N,32nm,3.3s							
JRY	**Ryogami san**	**3.81**	**51**	A	A	07 54 52.4	
comp=E,16nm,2.0s,comp=N,21nm,2.7s							
JHJ	**Hachijo jima 2**	**3.85**	**97**	P	**Pn**	**07 54 52.5**	**+0.6**
comp=N,300nm,0.3s,baz=71,slow=20,SNR=91							
JHJ				S	**Sn**	**07 55 34.2**	**-1.6**
comp=N,2μm,0.4s,baz=51,slow=23,SNR=20							
JHJ				LR	LR	07 56 24.7	
comp=N,10μm,21.3s,baz=282,slow=38							
comp=N,581nm,0.3s							
JHJ2	**Mitsune**	**3.88**	**97**	Pn	**Pn**	**07 54 52.0**	**-0.3**
JHJ2	**Mitsune**	**3.88**	**97**	P	**Pn**	**07 54 52.6**	**+0.4**
JIU3	**Izumi3**	**3.88**	**254**	A	A	07 54 52.7	
comp=E,11nm,1.1s,comp=N,15nm,5.6s							
JTZ	**Takazaki**	**3.91**	**244**	A	A	07 54 53.4	
comp=E,12nm,5.7s,comp=N,11nm,4.5s							
JYO	**Yokosk**	**3.97**	**66**	A	A	07 54 54.7	
comp=E,44nm,3.5s,comp=N,53nm,7.7s							
JGK	**Kuni**	**4.01**	**43**	A	A	07 54 55.0	
comp=E,30nm,5.9s,comp=N,22nm,2.6s							
JFI	**Itaya**	**4.05**	**268**	A	A	07 54 55.1	
comp=E,14nm,4.7s,comp=N,20nm,6.4s							
JJN	**Nakama**	**4.17**	**34**	A	A	07 54 57.2	
comp=E,27nm,2.8s,comp=N,26nm,2.7s							
JZO	**Okuchi**	**4.19**	**250**	A	A	07 54 57.1	
comp=E,10.0nm,3.3s,comp=N,11nm,5.3s							
TOK	**Tokyo**	**4.23**	**60**	A	A	07 54 58.3	
comp=E,73nm,4.6s,comp=N,129nm,3.5s							
JKUC	**kamogawauchiur**	**4.36**	**69**	A	A	07 55 00.2	
comp=E,18nm,3.8s,comp=N,28nm,4.5s							
JAG	**Ashikaga**	**4.42**	**50**	A	A	07 55 00.8	
comp=E,24nm,3.9s,comp=N,12nm,3.8s							
JHD	**Hondo**	**4.45**	**256**	A	A	07 55 00.7	
comp=E,8.0nm,3.7s,comp=N,13nm,5.3s							
JCN	**Nagara**	**4.45**	**66**	A	A	07 55 01.4	
comp=E,58nm,4.0s,comp=N,84nm,4.2s							
JUR	**Ureshino**	**4.46**	**264**	A	A	07 55 00.8	
comp=E,11nm,2.5s,comp=N,15nm,5.9s							
I30JP	**ISUMI INFRASON**	**4.50**	**67**	I	I	08 15 50.0	
baz=247,slow=323,SNR=0.8							
JII	**Iki**	**4.59**	**273**	A	A	07 55 02.5	
comp=E,30nm,2.5s,comp=N,23nm,3.1s							
NGSJ	**Nagasakinomoza**	**4.68**	**259**	A	A	07 55 04.0	
comp=E.5.0nm,3.8s,comp=N,9.0nm,2.5s							
JUON	**Uonuma**	**4.71**	**40**	A	A	07 55 04.7	
comp=E,9.0nm,4.1s,comp=N,8.0nm,2.6s							
JYT	**Yasato**	**4.80**	**57**	A	A	07 55 06.2	
comp=E,15nm,5.1s,comp=N,20nm,6.0s							
JTSM	**Tsushimamitsus**	**4.90**	**279**	A	A	07 55 07.0	
comp=E,14nm,2.4s,comp=N,20nm,6.1s							
JTU	**Tsushima**	**4.92**	**282**	P	**Pn**	**07 55 05.5**	**-1.0**
JTU	**Tsushima**	**4.92**	**282**	A	A	07 55 07.2	
comp=E,18nm,3.1s,comp=N,29nm,3.7s							
JIHU	**Itakohorinouch**	**4.92**	**61**	A	A	07 55 07.8	
comp=E,61nm,4.0s,comp=N,90nm,4.2s							
JSD	**Sado**	**5.00**	**29**		**Pn**	**07 55 07.0**	**-0.7**
JSD	**Sado**	**5.00**	**29**	P	**Pn**	**07 55 09.3**	**+1.6**
JSB	**Shiboa**	**5.05**	**48**	A	A	07 55 09.7	
comp=E,34nm,5.4s,comp=N,31nm,3.3s							
JHYU	**Hitachinakayam**	**5.13**	**57**	A	A	07 55 10.9	
comp=E,10.0nm,3.4s,comp=N,15nm,4.5s							
JFY	**Yanaizu**	**5.21**	**43**	A	A	07 55 11.8	
comp=E,7.0nm,3.5s,comp=N,12nm,4.9s							
JHO	**Hitachi**	**5.26**	**55**	A	A	07 55 12.7	
comp=E.6.0nm,2.5s,comp=N,9.0nm,3.6s							
JMM	**Marumori**	**6.16**	**46**	Pn	**Pn**	**07 55 24.6**	**+1.1**
JMM	**Marumori**	**6.16**	**46**	P	**Pn**	**07 55 25.9**	**+2.3**
TJN	**Taejon**	**7.00**	**295**	Pn	**Pn**	**07 55 33.4**	**-1.7**
TJN	**Taejon**	**7.00**	**295**	P	**Pn**	**07 55 34.9**	**-0.2**
TJN	**Taejon**	**7.00**	**295**	*c i*P	**Pn**	**07 55 34.3**	**-0.8**
KSRS	**Korea Array**	**7.05**	**304**	P	**Pn**	**07 55 35.2**	**-0.6**
comp=N,4.6nm,0.3s,baz=126,slow=14,SNR=61							
KSRS				S	**Sn**	**07 56 52.2**	**-2.4**
comp=N,116nm,0.9s,baz=123,slow=24,SNR=9.0							
KSRS				LR	LR	07 58 32.2	
comp=N,4μm,21.8s,baz=120,slow=40							
comp=N,15nm,0.4s							
KSAR	**Wonju Array Be**	**7.07**	**304**		**Pn**	**07 55 34.1**	**-2.0**
KSAR	**Wonju Array Be**	**7.07**	**304**	P	**Pn**	**07 55 34.1**	**-2.0**
KS19	**Wonju Array Si**	**7.11**	**305**		**Pn**	**07 55 35.3**	**-1.4**
INCN	**Inchon**	**7.97**	**301**		**Pn**	**07 55 46.7**	**-1.8**
INCN	**Inchon**	**7.97**	**301**	P	**Pn**	**07 55 48.6**	**+0.2**
INCN				S	**Sn**	**07 57 16.2**	**-1.2**
INCN	**Inchon**	**7.97**	**301**	P	**Pn**	**07 55 48.3**	**-0.2**
INCN	**Inchon**	**7.97**	**301**	P	**Pn**	**07 55 46.7**	**-1.8**
JTM	**Tenmabayashi**	**8.48**	**32**		**Pn**	**07 55 58.0**	**+2.5**
JTM	**Tenmabayashi**	**8.48**	**32**	P	**Pn**	**07 55 58.2**	**+2.7**
JMZ	**Minamidaito 2**	**8.57**	**205**		**Pn**	**07 55 56.4**	**-0.3**
JMZ	**Minamidaito 2**	**8.57**	**205**	P	**Pn**	**07 55 57.5**	**+0.8**
JCJ	**Chichijima**	**8.89**	**136**	Pn	**Pn**	**07 56 01.4**	**+0.3**
JCJ	**Chichijima**	**8.89**	**136**	P	**Pn**	**07 55 58.3**	**-2.8**
JCJ				S	**Sn**	**07 57 36.9**	**-3.1**
JOW	**Kunigami**	**9.09**	**223**		**Pn**	**07 56 02.4**	**-1.5**
JOW	**Kunigami**	**9.09**	**223**	P	**Pn**	**07 56 02.9**	**-1.1**
comp=N,49nm,0.3s,baz=120,slow=20,SNR=62							
JOW				S	**Sn**	**07 57 41.5**	**-3.4**
comp=N,24nm,0.3s,baz=228,slow=28,SNR=1.6							
comp=N,95nm,0.3s							
JOW	**Kunigami**	**9.09**	**223**	P	**Pn**	**07 56 03.3**	**-0.6**
MSHR	**Mys Shultsa**	**9.45**	**341**	⇑*i*P	**Pn**	**07 56 08.6**	**-0.1**
PSTR	**Posyet**	**9.61**	**340**	*e*P	**Pn**	**07 56 10.5**	**-0.4**
VLA	**Vladivostok**	**9.79**	**345**	*e*P	**Pn**	**07 56 11.5**	**-1.8**
ERM	**Erimo**	**10.41**	**35**		**Pn**	**07 56 24.0**	**+2.1**
ERM	**Erimo**	**10.41**	**35**	P	**Pn**	**07 56 23.8**	**+1.9**
ERM	**Erimo**	**10.41**	**35**	P	**Pn**	**07 56 24.

BNX			LR	LR	
	comp=N,920nm,16.3s				
BNX			LR	LR	
	comp=N,1μm,10.3s				
BNX			LR	LR	
	comp=N,880nm,10.8s				
NJ2	**Nanjing**	**13.87 268**	*e*P	**Pn**	**07 57 11.8 +2.7**
NJ2			S	**Sn**	**07 59 41.1 -0.6**
NJ2			pmax	pmax	
	comp=N,15nm,0.5s				
NJ2			pmax	pmax	
	comp=N,960nm,5.7s				
NJ2			LR	LR	
	comp=N,3μm,17.1s				
NJ2			LR	LR	
	comp=N,4μm,15.2s				
NJ2			LR	LR	
	comp=N,5μm,18.9s				
YSS	**Yuzh-Sakhalins**	**14.44 21**	Pn	**Pn**	**07 57 15.0 -1.8**
YSS	**Yuzh-Sakhalins**	**14.44 21**	P	**Pn**	**07 57 16.4 -0.4**
YSS	**Yuzh-Sakhalins**	**14.44 21**	*e*P	Pn	07 57 11.6 -5.2
YSS			*e*SS	**S**	**08 00 06.4 -7.6**
YSS			pmax	pmax	
	comp=N,500nm,3.5s				
YSS			pmax	pmax	
	comp=Z,600nm,3.5s				
YSS			pmax	pmax	
	comp=Z,70nm,0.8s				
YSS			MLR	MLR	
	comp=Z,3μm,15.0s				
TATO	**Taipei**	**14.78 238**	P	**Pn**	**07 57 21.6 0.0**
TIA	**Tai'an**	**15.07 285**	P	**Pn**	**07 57 25.7 +0.4**
TIA			PP	**PnPn**	**07 57 39.6 +6.1**
TIA			S	**Sn**	**08 00 12.9 +1.9**
TIA			SS	**S**	**08 00 30.3 +3.2**
TIA			pmax	pmax	
	comp=Z,61nm,1.6s				
TIA			pmax	pmax	
	comp=Z,900nm,6.5s				
TIA			LR	LR	
	comp=Z,3μm,14.7s				
TIA			LR	LR	
	comp=Z,7μm,17.1s				
TIA			LR	LR	
	comp=Z,10μm,15.7s				
KLR	**Kul'dur**	**15.76 352**	P	**Pn**	**07 57 35.5 +1.4**
	comp=Z,1.0nm,0.3s,baz=147,slow=11,SNR=29				
KLR			LR	LR	08 03 28.9
	comp=Z,2μm,20.3s,baz=168,slow=36				
	comp=Z,12nm,0.8s				
SSLB	**Suanglung**	**15.92 235**	P	**P**	**07 57 37.6 -1.9**
UGL	**Uglegorsk**	**16.21 16**	*e*P	P	07 57 55.4 +13
UGL			MLR	MLR	
	comp=E,2μm,13.0s				
UGL			MLR	MLR	
	comp=N,2μm,10.0s				
UGL			MLR	MLR	
	comp=Z,2μm,14.0s				
BJT	**Baijiatuau**	**16.51 298**		**Pn**	**07 57 43.3 -0.4**
BJT			IAmb	IAmb	07 57 49.0
	comp=Z,281nm,1.2s				
BJT	**Baijiatuau**	**16.51 298**	P	**P**	**07 57 45.1 -0.8**
BJT	**Baijiatuau**	**16.51 298**	P	**Pn**	**07 57 43.3 -0.4**
BJT			pmax	pmax	
	comp=Z,281nm,1.2s				
BJI	**Beijing**	**16.51 298**	P	**P**	**07 57 44.3 -1.6**
BJI			S	**Sn**	**08 00 46.0 +0.1**
BJI			pmax	pmax	
	comp=Z,61nm,1.1s				
BJI			LR	LR	
	comp=Z,2μm,15.9s				
BJI			LR	LR	
	comp=Z,1μm,17.5s				
BJI			LR	LR	
	comp=Z,2μm,16.0s				
QZH	**Quanzhou**	**16.91 243**	P	**P**	**07 57 56.5 +6.1**
QZH			S	**S**	**08 01 06.1 +1.4**
QZH			LR	LR	
	comp=E,3μm,16.8s				
QZH			LR	LR	
	comp=Z,3μm,20.3s				
GRNR	**Gornyy**	**17.11 3**	⇓*i*P	**Pn**	**07 57 45.0 -6.1**
GRNR			pmax	pmax	
	comp=Z,9.0nm,0.8s				
GRNR			MLR	MLR	
	comp=E,1μm,15.0s				
GRNR			MLR	MLR	
	comp=Z,2μm,15.0s				
GRNR			MLR	MLR	
	comp=N,1μm,16.0s				
HNS	**HongShan**	**17.11 288**	⇓P	**P**	**07 57 51.3 -1.3**
HNS			pP	**pP**	**07 58 03.3 +0.8**
HNS			S	**S**	**08 01 07.1 -1.6**
HNS			pmax	pmax	
	comp=N,230nm,1.1s				
HNS			LR	LR	
	comp=N,4μm,15.1s				
HNS			LR	LR	
	comp=N,5μm,15.9s				
HEH	**HeiHe**	**17.54 343**	*e*P	**P**	**07 57 57.1 -0.1**
HEH			sP	**sP**	**07 58 10.6 -1.7**
HEH			S	**Sn**	**08 01 12.8 +2.1**
HEH			PcP	**PcP**	**08 02 37.7 +2.9**
HEH			pmax	pmax	
	comp=N,51nm,1.4s				
HEH			pmax	pmax	
	comp=N,790nm,9.3s				
HEH			LR	LR	
	comp=N,2μm,16.3s				
HEH			LR	LR	
	comp=N,4μm,18.2s				
HEH			LR	LR	
	comp=N,2μm,17.3s				
WHN	**Wuhan**	**17.96 266**	P	**P**	**07 58 02.9 +0.8**
WHN			pP	**pP**	**07 58 11.3 -0.5**
WHN			S	**S**	**08 01 23.1 -3.0**
WHN			pmax	pmax	
	comp=N,740nm,1.6s				
WHN			pmax	pmax	
	comp=N,4μm,7.7s				
WHN			LR	LR	
	comp=N,2μm,10.7s				
WHN			LR	LR	
	comp=N,10μm,11.1s				
WHN			LR	LR	
	comp=N,17μm,14.3s				
TYV	**Tymovskoe**	**18.02 15**	*e*P	**P**	**07 58 03.7 +1.2**
TYV			pmax	pmax	
	comp=Z,1μm,2.8s				
TYV			pmax	pmax	
	comp=Z,59nm,1.4s				
XLT	**XiLinHaoTe**	**18.05 310**	*e*P	**P**	**07 58 02.9 -0.1**
XLT			PP	**sP**	**07 58 17.8 -0.2**
XLT			S	**Sn**	**08 01 19.3 -4.0**
XLT			SS	**SnSn**	**08 01 42.2 +5.1**
XLT			pmax	pmax	
	comp=Z,150nm,1.2s				
XLT			pmax	pmax	
	comp=Z,780nm,4.8s				
XLT			LR	LR	
	comp=Z,2μm,13.1s				
XLT			LR	LR	
	comp=Z,2μm,20.2s				
LYN	**LuoYang**	**18.87 279**	P	**Pn**	**07 58 13.0 +0.1**
LYN			pP	pP	07 58 21.7 -0.2
LYN			PP	**sP**	**07 58 29.5 +2.6**
LYN			S	**S**	**08 01 42.2 -2.2**
LYN			pmax	pmax	
	comp=Z,450nm,1.2s				
LYN			LR	LR	
	comp=Z,5μm,6.5s				
LYN			LR	LR	
	comp=Z,3μm,9.1s				
LYN			LR	LR	
	comp=Z,5μm,18.4s				
TIY	**Taiyuan**	**18.94 289**	P	**Pn**	**07 58 15.0 +1.2**
TIY			sP	**sP**	**07 58 29.5 +1.7**
TIY			S	**S**	**08 01 46.9 +0.9**
TIY			sS	**sS**	**08 01 54.6 -7.2**
TIY			pmax	pmax	
	comp=Z,86nm,1.1s				
TIY			pmax	pmax	
	comp=Z,1μm,5.0s				
TIY			LR	LR	
	comp=Z,5μm,19.4s				
TIY			LR	LR	
	comp=Z,1μm,20.1s				
TIY			LR	LR	
	comp=Z,3μm,21.3s				
HIA	**Hailar**	**19.37 328**		**Pn**	**07 58 17.6 -1.2**
HIA	**Hailar**	**19.37 328**	P	**Pn**	**07 58 18.8 +0.1**
HIA	**Hailar**	**19.37 328**	P	**Pn**	**07 58 17.6 -1.2**
HIA			pmax	pmax	
	comp=Z,369nm,1.1s				
CNSH	**ChangSha**	**19.89 260**	P	**P**	**07 58 21.7 -1.5**
CNSH			S	**S**	**08 01 58.8 -6.1**
CNSH			pmax	pmax	
	comp=Z,57nm,1.4s				
CNSH			LR	LR	
	comp=Z,2μm,15.2s				
CNSH			LR	LR	
	comp=Z,4μm,15.5s				
CNSH			LR	LR	
	comp=Z,4μm,14.5s				
HHC	**Hu-ho-hao-te**	**20.12 298**	⇓*i*P	Pn	07 58 26.5 -1.3
HHC			sP	sP	07 58 39.7 -1.1
HHC			PP	**PnPn**	**07 58 46.0 +3.1**
HHC			S	**S**	**08 02 08.5 -1.1**
HHC			SS	**SnSn**	**08 02 35.6 +7.7**
HHC			pmax	pmax	
	comp=Z,340nm,1.2s				
HHC			pmax	pmax	
	comp=Z,1μm,4.3s				
HHC			LR	LR	
	comp=Z,1μm,12.6s				
HHC			LR	LR	
	comp=Z,3μm,12.2s				
HHC			LR	LR	
	comp=Z,4μm,13.0s				
SZP	**Santa**	**20.82 223**	P	Pn	07 58 34.9 -1.1
ZEA	**Zeya**	**20.84 347**	*e*P	**P**	**07 58 31.9 -1.4**
ZEA			*e*S	S	08 02 10.0 -13
ZEA			pmax	pmax	
	comp=N,100nm,1.6s				
ZEA			pmax	pmax	
	comp=Z,200nm,2.0s				
ZEA			pmax	pmax	
	comp=N,40nm,1.3s				
ZEA			pmax	pmax	
	comp=Z,60nm,1.1s				
ZEA			smax	smax	
	comp=N,400nm,15.7s				
ZEA			smax	smax	
	comp=E,800nm,13.5s				
ZEA			MLR	MLR	
	comp=N,500nm,16.0s				
BTO	**Baotou**	**21.21 296**	*e*P	**P**	**07 58 38.8 +1.2**
BTO			pP	**pP**	**07 58 47.6 0.0**
BTO			sP	**sP**	**07 58 52.2 -0.4**
BTO			PP	**PnPn**	**07 59 02.5 +4.6**
BTO			S	**S**	**08 02 32.7 +1.4**
BTO			sS	Sn	08 02 40.8 +1.2
BTO			SS	**SnSn**	**08 03 04.7 +10**
BTO			pmax	pmax	
	comp=N,240nm,1.1s				
BTO			pmax	pmax	
	comp=N,1μm,9.2s				
BTO			LR	LR	
	comp=N,16μm,17.0s				
BTO			LR	LR	
	comp=N,7μm,20.6s				
BTO			LR	LR	
	comp=N,10μm,17.3s				
GUMO	**Guam**	**21.83 154**	P	**P**	**07 58 43.8 -0.4**
GUMO	**Guam**	**21.83 154**	P	**P**	**07 58 46.3 +2.1**
	comp=N,111nm,0.9s,baz=204,slow=9.0,SNR=3.9				
GUMO			pP	**pP**	**07 58 55.5 +1.6**
	comp=N,158nm,1.0s,baz=277,slow=2.7,SNR=4.2				
	comp=N,111nm,0.9s				
GUMO	**Guam**	**21.83 154**	P	**P**	**07 58 46.4 +2.2**
XAN	**Xi'an**	**21.84 278**	⇓P	**P**	**07 58 43.5 -0.8**
XAN			pP	pP	07 58 54.7 +0.4
XAN			sP	sP	07 59 00.0 +0.7
XAN			S	**S**	**08 02 42.1 -1.4**
XAN			sS	sS	08 02 59.9 +0.3
XAN			SS	**SnSn**	**08 03 18.5 +8.4**
XAN			pmax	pmax	
	comp=N,54nm,1.4s				
XAN			pmax	pmax	
	comp=N,2μm,6.2s				
XAN			LR	LR	
	comp=N,5μm,22.7s				
XAN			LR	LR	
	comp=N,3μm,20.3s				
XAN			LR	LR	
	comp=N,4μm,20.6s				
ENH	**Enshi**	**22.09 268**	P	**P**	**07 58 46.1 -0.8**
ENH	**Enshi**	**22.09 268**	P	**P**	**07 58 47.8 +0.9**
SKR	**Severo-Kuril's**	**22.86 36**	*e*P	**P**	**07 58 56.7 +1.8**
GULI	**GuiLin**	**23.16 255**	P	**P**	**07 58 59.8 +1.6**
GULI			S	**S**	**08 03 12.5 +5.5**
GULI			pmax	pmax	
	comp=N,300nm,1.4s				
GULI			pmax	pmax	
	comp=N,930nm,5.4s				
GULI			LR	LR	
	comp=N,2μm,16.3s				
GULI			LR	LR	
	comp=N,2μm,14.4s				
GULI			LR	LR	
	comp=N,4μm,15.1s				
CIT	**Chita**	**24.11 326**	*e*P	**P**	**07 59 06.2 -0.8**
CIT			*e*		07 59 16.8
CIT			*e*		07 59 48.2
CIT			pmax	pmax	
	comp=Z,330nm,2.1s				
PEA0B	**Petropavlovsk-**	**25.19 33**	P	**P**	**07 59 17.4 +0.7**
PEA0B			IAmb	IAmb	07 59 38.5
	comp=Z,81nm,1.0s				
PEA0B	**Petropavlovsk-**	**25.19 33**	*c i*P	**P**	**07 59 18.1 +1.3**
PETK	**Petropavlovsk-**	**25.19 33**	P	**P**	**07 59 16.3 -0.4**
PETK	**Petropavlovsk-**	**25.19 33**	P	**P**	**07 59 16.9 +0.1**
	comp=Z,30nm,1.1s,baz=197,slow=4.6,SNR=12				
PETK			pP	**pP**	**07 59 27.2 -0.5**
	comp=Z,33nm,0.9s,baz=223,slow=6.1,SNR=8.5				
PETK			LR	LR	08 08 45.7
	comp=Z,2μm,21.5s,baz=226,slow=35				
	comp=Z,30nm,1.1s				
ULN	**Ulaanbaatar**	**25.45 312**	P	**P**	**07 59 18.5 -0.8**
ULN			IAmb	IAmb	07 59 20.6
	comp=Z,70nm,1.1s				
ULN	**Ulaanbaatar**	**25.45 312**	P	**P**	**07 59 19.1 -0.2**
ULN			P	**P**	**07 59 19.1 -0.2**
ULN			S	**S**	**08 03 45.2 +1.5**
ULN			S	**S**	**08 03 45.2 +1.5**
ULN	**Ulaanbaatar**	**25.45 312**	*d i*P	**P**	**07 59 19.2 -0.2**
ULN			pmax	pmax	
	comp=Z,89nm,1.3s				
PET	**Petropavlovsk**	**25.57 34**	P	**P**	**07 59 20.9 +0.8**
PET			IAmb	IAmb	07 59 23.5
	comp=Z,111nm,1.1s				
PET	**Petropavlovsk**	**25.57 34**	P	**P**	**07 59 22.3 +2.1**
PET	**Petropavlovsk**	**25.57 34**	*e*P	**P**	**07 59 22.1 +1.9**
PET			*e*		08 00 18.8
PET			*e*S	**S**	**08 03 42.8 -2.3**
PET			pmax	pmax	
	comp=Z,900nm,4.2s				
PET			pmax	pmax	
	comp=Z,109nm,1.1s				
PET			pmax	pmax	
	comp=Z,500nm,5.3s				
PET			MLR	MLR	
	comp=Z,1μm,15.0s				
PET			MLR	MLR	
	comp=Z,1μm,16.0s				
PET	**Petropavlovsk**	**25.57 34**	P	**P**	**07 59 22.2 +2.1**
	comp=Z,108nm,1.5s,comp=Z,2μm				
GYA	**Guiyang**	**25.70 261**	⇓P	**P**	**07 59 22.4 +0.6**
GYA			pP	pP	07 59 33.1 +0.6
GYA			S	**S**	**08 03 40.4 -7.5**
GYA			pmax	pmax	
	comp=Z,100nm,1.5s				
GYA			pmax	pmax	
	comp=Z,960nm,4.6s				
GYA			LR	LR	
	comp=Z,4μm,15.9s				
GYA			LR	LR	
	comp=Z,2μm,16.5s				
GYA			LR	LR	
	comp=Z,5μm,14.1s				
LZH	**Lanzhou**	**25.81 284**	⇓P	**P**	**07 59 22.3 -0.5**
LZH			pP	pP	07 59 30.5 -3.1
LZH			S	**S**	**08 03 46.6 -3.0**
LZH			SS	SnSn	08 05 01.4 +14
LZH			pmax	pmax	
	comp=Z,97nm,1.5s				
LZH			pmax	pmax	
	comp=Z,690nm,5.2s				
LZH			LR	LR	
	comp=Z,5μm,9.3s				
LZH			LR	LR	
	comp=Z,2μm,10.0s				
LZH			LR	LR	
	comp=Z,3μm,9.3s				
SONM	**Songino Array**	**25.84 312**	P	**P**	**07 59 22.2 -0.7**
SONM	**Songino Array**	**25.84 312**	P	**P**	**07 59 22.5 -0.5**
	comp=Z,36nm,0.9s,baz=122,slow=8.8,SNR=77				
SONM			pP	**pP**	**07 59 34.4 +0.6**
	comp=Z,13nm,0.7s,baz=107,slow=9.5,SNR=3.8				
SONM			LR	LR	08 10 38.9
	comp=Z,1μm,18.9s,baz=117,slow=39				
	comp=Z,36nm,0.9s				
CD2	**Chengdu**	**26.70 273**	P	**P**	**07 59 30.0 -0.7**
CD2			pP	pP	07 59 40.2 -1.4
CD2			sP	sP	07 59 44.5 -1.9
CD2			S	**S**	**08 04 09.3 +5.8**
CD2			sS	sS	08 04 21.4 -0.4
CD2			pmax	pmax	
	comp=Z,120nm,1.0s				
CD2			pmax	pmax	
	comp=Z,500nm,4.8s				
CD2			LR	LR	
	comp=Z,2μm,9.6s				
CD2			LR	LR	
	comp=Z,3μm,9.6s				
CD2			LR	LR	
	comp=Z,2μm,12.4s				
QIZ	**Qiongzhong**	**26.93 244**	P	**P**	**07 59 34.5 +1.7**
QIZ			sP	**pP**	**07 59 45.6 +2.2**
QIZ			S	**S**	**08 04 13.7 +6.5**
QIZ			LR	LR	
	comp=Z,2μm,13.3s				
QIZ			LR	LR	
	comp=Z,1μm,13.1s				
QIZ			LR	LR	
	comp=Z,2μm,13.9s				
QIZ	**Qiongzhong**	**26.93 244**	P	**P**	**07 59 33.8 +1.0**
MA2	**Magadan**	**27.87 17**	LR	LR	08 12 01.8
	comp=Z,1μm,18.6s,baz=201,slow=39				
MA2	**Magadan**	**27.87 17**	⇓*i*P	**P**	**07 59 41.3 +0.4**
MA2			pmax	pmax	
	comp=Z,44nm,1.2s				
MA2	**Magadan**	**27.87 17**	P	**P**	**07 59 41.3 +0.4**
	comp=Z,63nm,2.2s				
DAV	**Davao City (W)**	**27.94 201**	LR	LR	08 09 58.2
	comp=Z,2μm,21.9s,baz=52,slow=34				
YAK	**Yakutsk**	**28.60 355**	P	**P**	**07 59 46.2 -1.1**
YAK	**Yakutsk**	**28.60 355**	LR	LR	08 11 45.8
	comp=Z,2μm,18.3s,baz=166,slow=38				
YAK	**Yakutsk**	**28.60 355**	*e*P	**P**	**07 59 46.4 -0.9**
YAK			*e**PP	**pP**	**07 59 55.9 -2.4**
YAK			*e*		08 00 36.6
YAK			*e*PPP	PPP	08 00 47.1
YAK			*e*		08 03 05.9
YAK			*e*S	**S**	**08 04 33.2 +0.6**
YAK			*e**SS	**sS**	**08 04 49.7 -1.2**
YAK			*e*SS	**SnSn**	**08 05 55.5 +0.9**
YAK			pmax	pmax	
	comp=Z,43nm,1.2s				
YAK			pmax	pmax	
	comp=N,25nm,1.3s				
YAK			pmax	pmax	
	comp=E,6.0nm,1.3s				
YAK			pmax	pmax	
	comp=Z,81nm,3.2s				
YAK			pmax	pmax	
	comp=N,66nm,2.2s				
YAK			pmax	pmax	
	comp=E,44nm,2.6s				
YAK			smax	smax	
	comp=N,116nm,3.5s				
YAK			smax	smax	
	comp=E,98nm,2.6s				
YAK			MLR	MLR	
	comp=Z,2μm,18.0s				
YAK			MLR	MLR	
	comp=N,1μm,19.0s				
YAK			MLR	MLR	
	comp=E,598nm,16.0s				
ZAK	**Zakamensk**	**28.72 315**	*e*P	**P**	**07 59 47.2 -1.5**
ZAK			pmax	pmax	
	comp=Z,17nm,1.5s				
GTA	**Gaotai**	**28.90 292**	P	**P**	**07 59 49.6 -0.8**
GTA			sP	pP	08 00 00.6 -0.8
GTA			S	**S**	**08 04 43.8 +5.5**
GTA			pmax	pmax	
	comp=Z,16nm,1.4s				
GTA			LR	LR	
	comp=Z,2μm,16.0s				
GTA			LR	LR	
	comp=Z,2μm,16.7s				
GTA			LR	LR	
	comp=Z,2μm,19.3s				
IRK	**Irkutsk**	**28.96 319**	*e*P	**P**	**07 59 50.3 -0.4**
IRK			pmax	pmax	
	comp=Z,80nm,2.1s				
KMI	**Kunming**	**29.47 262**	⇑P	**P**	**07 59 55.6 -0.1**
KMI			pP	pP	08 00 06.9 +0.4
KMI			S	**S**	**08 04 51.2 +3.6**
KMI			pmax	pmax	
	comp=Z,67nm,1.6s				
KMI			pmax	pmax	
	comp=Z,280nm,4.0s				
KMI			LR	LR	
	comp=Z,2μm,15.1s				
KMI			LR	LR	
	comp=Z,4μm,15.7s				
KMI			LR	LR	
	comp=Z,5μm,15.3s				
PZH	**PanZhiHua**	**29.75 265**	P	**P**	**07 59 57.9 -0.2**
PZH			S	**S**	**08 04 54.5 +2.6**
PZH			pmax	pmax	
	comp=Z,40nm,1.2s				
PZH			pmax	pmax	
	comp=Z,620nm,5.5s				
PZH			LR	LR	
	comp=Z,2μm,19.4s				
PZH			LR	LR	
	comp=Z,2μm,17.5s				
PZH			LR	LR	
	comp=Z,3μm,17.6s				
SLVN	**Son La**	**30.26 254**	P	**P**	**08 00 02.6 0.0**
SLVN	**Son La**	**30.26 254**	P	**P**	**08 00 03.4 +0.8**
SEY	**Seymchan**	**31.21 15**	LR	LR	08 13 09.4
	comp=Z,2μm,20.9s,baz=152,slow=37				
SEY	**Seymchan**	**31.21 15**	⇑*i*P	**P**	**08 00 10.8 +0.4**
SEY			pmax	pmax	
	comp=Z,7.0nm,1.2s				
H11N2	**WAKE ISLAND Hy 31.37 108**		T	T	08 32 49.8
	baz=303,slow=75,SNR=109				
H11N1	**WAKE ISLAND Hy 31.37 108**		T	T	08 32 50.2
	baz=303,slow=75,SNR=157				
H11N3	**WAKE ISLAND Hy 31.39 108**		T	T	08 32 50.5
	baz=303,slow=75,SNR=26				
H11S3	**WAKE ISLAND Hy 31.89 110**		T	T	08 33 27.9
	baz=305,slow=75,SNR=203				
H11S1	**WAKE ISLAND Hy 31.89 110**		T	T	08 33 28.0
	baz=305,slow=75,SNR=156				
H11S2	**WAKE ISLAND Hy 31.90 110**		T	T	08 33 29.5
	baz=305,slow=75,SNR=176				
MYLDM	**Lahad Datu**	**32.34 212**	P	**P**	**08 00 20.9 +0.2**
MYLDM			IAmb	IAmb	08 01 10.1
	comp=Z,56nm,1.2s				
MYLDM	**Lahad Datu**	**32.34 212**	P	**P**	**08 00 22.7 +1.9**
NONG	**Nongkai**	**32.62 250**	P	**P**	**08 00 24.0 +0.7**
TNCH	**TengChong**	**33.00 265**	P	**P**	**08 00 27.8 +1.0**
TNCH			pP	pP	08 00 36.2 -1.4
TNCH			sP	sP	08 00 43.1 +0.8
TNCH			PP	**PnPn**	**08 01 37.7 +0.9**
TNCH			S	**S**	**08 05 34.1 -8.7**
TNCH			pmax	pmax	
	comp=Z,130nm,0.5s				
TNCH			pmax	pmax	
	comp=Z,180nm,3.8s				
TNCH			LR	LR	
	comp=Z,1μm,15.6s				
TNCH			LR	LR	

comp=Z,1μm,17.0s
TNCH LR LR
comp=Z,2μm,19.1s
GOMU GeErMu 33.07 286 P **P** **08 00 27.1 -0.4**
GOMU pmax pmax
comp=Z,84nm,1.1s
TNTI Ternate 33.55 194 P **P** **08 00 31.0 -0.4**
TNTI IAmb IAmb 08 00 45.1
comp=Z,65nm,1.2s
TNTI Ternate 33.55 194 P **P** **08 00 31.8 +0.4**
TNTI Ternate 33.55 194 P **P** **08 00 32.8 +1.4**
SHEM Shemya Is, Ala 33.59 44 LR LR 08 14 05.3
comp=Z,583nm,21.5s,baz=276,slow=36
SWI Sorong 34.56 187 P **P** **08 00 40.6 +0.5**
comp=Z,26nm,0.9s
PHRA Phrae 34.69 253 P **P** **08 00 41.8 +0.5**
TOLI2 Tolitoli 35.11 206 P **P** **08 00 43.5 -1.4**
TOLI2 Tolitoli 35.11 206 P **P** **08 00 43.9 -1.0**
CHTO Chiang Mai 35.55 255 P **P** **08 00 48.5 -0.2**
CHTO IAmb IAmb 08 01 02.6
comp=Z,66nm,1.1s
CHTO Chiang Mai 35.55 255 P **P** **08 00 48.5 -0.2**
CHTO pmax pmax
comp=Z,66nm,1.2s
CM31 Chiang Mai Arr 35.74 254 P **P** **08 00 50.1 -0.2**
CM31 IAmb IAmb 08 01 11.8
comp=Z,48nm,1.1s
CMAR Chiang Mai Arr 35.74 254 P **P** **08 00 49.8 -0.5**
CMAR Chiang Mai Arr 35.74 254 P **P** **08 00 50.7 +0.4**
comp=Z,3.4nm,0.4s,baz=48,slow=6.8,SNR=27
CMAR pP **pP** **08 01 02.0 +0.8**
comp=Z,31nm,1.1s,baz=58,slow=6.0,SNR=8.6
CMAR PcP **PcP** **08 03 18.2 +0.4**
comp=Z,1.1nm,0.3s,baz=69,slow=4.9,SNR=2.1
CMAR LR LR 08 16 51.5
comp=Z,1μm,18.3s,baz=50,slow=39
comp=Z,3.4nm,0.4s
CMAR Chiang Mai Arr 35.74 254 *i* P **P** **08 00 51.2 +0.9**
CMAR pmax pmax
comp=Z,4.0nm,0.4s
MPSI Mapaga 36.15 207 P **P** **08 00 54.0 +0.2**
comp=Z,34nm,1.3s,comp=Z,815nm
NAYO Nakonayok 36.25 246 P **P** **08 00 55.6 +0.9**
FAKI Fak Fak 36.51 185 P **P** **08 00 56.9 +0.1**
SANI Sanana 36.59 196 P **P** **08 00 56.4 -1.1**
SANI Sanana 36.59 196 P **P** **08 00 56.9 -0.6**
comp=Z,41nm,0.8s,comp=Z,645nm
MSAI Masohi 37.30 190 P **P** **08 01 05.0 +1.5**
comp=Z,134nm,1.1s
LSA Lhasa 37.51 276 P **P** **08 01 05.0 -0.9**
LSA IAmb IAmb 08 01 07.8
comp=Z,106nm,1.5s
LSA Lhasa 37.51 276 P P 08 00 53.0 -13
LSA S S 08 06 24.5 -28
LSA pmax pmax
comp=Z,38nm,1.1s
LSA LR LR
comp=N,620nm,19.8s
LSA LR LR
comp=Z,1μm,18.0s
LSA Lhasa 37.51 276 P **P** **08 01 05.0 -0.9**
LSA pmax pmax
comp=Z,106nm,1.5s
AAI Ambon 37.75 192 P **P** **08 01 09.5 +2.1**
SBUM Sibu 37.79 220 P **P** **08 01 07.4 -0.3**
SBUM Sibu 37.79 220 P **P** **08 01 08.6 +0.9**
SRDT SRDT 37.92 248 P **P** **08 01 09.9 +1.0**
WMQ Urumqi 37.97 300 ⇓P **P** **08 01 09.3 +0.1**
WMQ pP pP 08 01 20.5 +0.2
WMQ pmax pmax
comp=Z,53nm,1.7s
WMQ pmax pmax
comp=Z,360nm,4.9s
WMQ LR LR
comp=Z,2μm,17.9s
WMQ LR LR
comp=Z,820nm,21.9s
WMQ LR LR
comp=Z,750nm,20.5s
TIXI Tiksi 38.19 357 P **P** **08 01 08.9 -1.5**
TIXI Tiksi 38.19 357 LR LR 08 17 45.0
comp=Z,1μm,18.2s,baz=184,slow=38
TIXI Tiksi 38.19 357 ⇑ *i* P **P** **08 01 09.8 -0.7**
TIXI pmax pmax
comp=Z,19nm,0.7s
TIXI Tiksi 38.19 357 P **P** **08 01 09.9 -0.6**
TIXI sP **sP** **08 01 25.7 -0.8**
SHL Shillong 38.32 270 P **P** **08 01 11.4 -1.0**
SHL IAmb IAmb 08 01 23.6
comp=Z,41nm,1.0s
SHL Shillong 38.32 270 P **P** **08 01 12.2 -0.2**
SNR=13
SHL Shillong 38.32 270 P **P** **08 01 11.4 -1.0**
SHL pmax pmax
comp=Z,41nm,1.0s
BILL Bilibino 38.73 18 P **P** **08 01 15.5 +0.5**
BILL IAmb IAmb 08 01 17.7
comp=Z,124nm,1.7s
BILL Bilibino 38.73 18 *d* iP **P** **08 01 15.8 +0.8**
BILL *e**PP **pP** **08 01 25.7 -0.6**
BILL pmax pmax
comp=Z,70nm,1.7s
BILL Bilibino 38.73 18 P **P** **08 01 15.9 +0.8**
BKB Balikpapan 38.80 210 P **P** **08 01 16.5 +0.3**
ADK Adak 38.88 47 P **P** **08 01 16.0 -0.6**
KSM Kuching 39.64 221 P **P** **08 01 23.8 +0.6**
KSM Kuching 39.64 221 P **P** **08 01 24.3 +1.1**
BRDH Bariadhala 39.70 266 P **P** **08 01 24.1 +0.4**
comp=Z,49nm,0.3s,baz=62,slow=11,SNR=11
BRDH pP **pP** **08 01 35.4 +0.7**
comp=Z,112nm,0.3s,baz=61,slow=12,SNR=1.8
BRDH LR LR 08 20 39.6
comp=Z,4μm,18.1s,baz=70,slow=40
comp=Z,49nm,0.3s
ZSN Zaisan 39.97 306 *e*P **P** **08 01 25.4 -0.4**
comp=Z,117nm,1.6s
ZSN Zaisan 39.97 306 *e*P **P** **08 01 25.4 -0.4**
ZSN pmax pmax
comp=Z,117nm,1.6s
ZAA0 Zalesovo Array 40.60 316 P **P** **08 01 30.1 -0.7**
ZALV Zalesovo Beam 40.60 316 P **P** **08 01 29.1 -1.7**
ZALV Zalesovo Beam 40.60 316 P **P** **08 01 30.4 -0.4**
comp=Z,8.2nm,0.9s,baz=101,slow=7.7,SNR=26
ZALV PcP **PcP** **08 03 31.4 -0.9**
comp=Z,5.0nm,0.7s,baz=116,slow=3.4,SNR=5.4
comp=Z,8.2nm,0.9s
SURA Surathani 40.82 242 P **P** **08 01 33.8 +0.8**
KAPI Kappang 41.17 204 LR LR 08 18 31.8
comp=Z,359nm,21.8s,baz=17,slow=36
KAPI Kappang 41.17 204 P **P** **08 01 36.6 +0.7**
KAPI P **P** **08 01 36.6 +0.7**
KAPI Kappang 41.17 204 P **P** **08 01 36.3 +0.4**
KAPI Kappang 41.17 204 ⇑ *i* P **P** **08 01 36.4 +0.5**
KAPI pmax pmax
comp=Z,16nm,1.1s
SRIT Nakonsritamara 41.22 241 P **P** **08 01 37.9 +1.6**
SRIT Nakonsritamara 41.22 241 P **P** **08 01 37.9 +1.6**
MK31 Makanchi Array 41.73 305 P **P** **08 01 39.9 -0.4**
MK31 IAmb IAmb 08 01 41.7
comp=Z,69nm,1.1s
MK31 Makanchi Array 41.73 305 *d* iP **P** **08 01 40.3 0.0**
MKAR Makanchi Array 41.73 305 P **P** **08 01 40.1 -0.1**
comp=Z,35nm,0.9s,baz=91,slow=9.7,SNR=78
MKAR pP **pP** **08 01 51.7 +0.1**
comp=Z,14nm,0.8s,baz=93,slow=8.5,SNR=7.9
MKAR PcP **PcP** **08 03 35.4 -0.7**
comp=Z,6.2nm,0.9s,baz=80,slow=7.9,SNR=3.1
comp=Z,35nm,0.9s
MAKZ Makanchi 41.95 305 P **P** **08 01 41.9 -0.1**
MAKZ IAmb IAmb 08 01 43.6
comp=Z,84nm,1.1s
MAKZ Makanchi 41.95 305 P **P** **08 01 41.9 -0.1**
MAKZ pmax pmax
comp=Z,84nm,1.1s
MAKZ Makanchi 41.95 305 P **P** **08 01 42.1 +0.1**
MAKZ pP **pP** **08 01 53.4 +0.1**
MAKZ sP **sP** **08 01 58.5 +0.4**
KULM Kulim 42.76 236 P **P** **08 01 49.0 +0.1**
KULM IAmb IAmb 08 01 50.9
comp=Z,76nm,1.2s
KULM Kulim 42.76 236 P **P** **08 01 49.9 +1.0**
SEM Semipalatinsk 43.09 310 *e*P **P** **08 01 50.9 -0.6**
comp=Z,86nm,1.3s
SEM Semipalatinsk 43.09 310 *e*P **P** **08 01 50.8 -0.7**
SEM pmax pmax
comp=Z,86nm,1.3s
P08K Saint George I 43.70 41 P **P** **08 01 58.1 +2.0**
baz=262
NIKH Nikolski High 43.76 46 P **P** **08 01 57.7 +1.1**
baz=267
SHLS Shalkode 43.99 299 *e*P **P** **08 01 56.0 -2.9**
SHLS Shalkode 43.99 299 *e*P **P** **08 01 55.9 -2.9**
KURK Kurchatov 44.13 310 P **P** **08 01 59.0 -0.6**
KURK Kurchatov 44.13 310 P **P** **08 01 59.2 -0.4**
KURK P **P** **08 01 59.2 -0.4**
KURK S **S** **08 08 25.6 -4.0**
KURK S **S** **08 08 25.6 -4.0**
KURK Kurchatov 44.13 310 *ce*P **P** **08 01 59.2 -0.4**
KURK pmax pmax
comp=Z,199nm,1.1s
KURK Kurchatov 44.13 310 P **P** **08 01 59.1 -0.5**
KURK pP **pP** **08 02 11.0 +0.1**
KURK sP **sP** **08 02 15.8 +0.2**
GAMB Gambell 44.19 31 P **P** **08 02 00.7 +1.0**
baz=253
KURBB Kurchatov Arra 44.19 310 P **P** **08 01 59.6 -0.5**
comp=Z,91nm,1.1s,baz=90,slow=8.6,SNR=182
comp=Z,91nm,1.1s
UZB Uzynbulak 44.32 299 *e*P **P** **08 02 01.0 -0.4**
comp=Z,42nm,1.3s
UZB Uzynbulak 44.32 299 *e*P **P** **08 02 01.0 -0.4**
UZB pmax pmax
comp=Z,42nm,1.3s
SOEI Soe 44.43 196 P **P** **08 02 00.9 -1.5**
SOEI Soe 44.43 196 P **P** **08 02 01.6 -0.8**
SOEI Soe 44.43 196 P **P** **08 02 02.6 +0.2**
comp=Z,79nm,0.9s
WUS Wushi 44.45 297 P **P** **08 02 01.8 -0.6**
WUS Wushi 44.45 297 P **P** **08 02 02.8 +0.4**
WUS pP **pP** **08 02 14.5 +0.8**
KPKS Kokpek 44.52 300 *e*P **P** **08 02 02.5 -0.4**
comp=Z,58nm,2.0s
KPKS Kokpek 44.52 300 *e*P **P** **08 02 02.5 -0.4**
KPKS pmax pmax
comp=Z,58nm,2.0s
TDK Taldyqorghan 44.55 302 *e*P **P** **08 02 02.7 -0.3**
comp=Z,51nm,1.7s
TDK Taldyqorghan 44.55 302 *e*P **P** **08 02 02.7 -0.3**
TDK pmax pmax
comp=Z,51nm,1.7s
ZHN Zhinishke 44.74 300 *e*P **P** **08 02 04.2 -0.5**
ZHN Zhinishke 44.74 300 *e*P **P** **08 02 04.2 -0.5**
SATY Saty 44.77 299 *e*P **P** **08 02 04.6 -0.5**
comp=Z,53nm,1.7s
SATY Saty 44.77 299 *e*P **P** **08 02 04.5 -0.5**
SATY pmax pmax
comp=Z,53nm,1.7s
BATI Baumata 45.01 196 LR LR 08 19 52.8
comp=Z,373nm,20.0s,baz=1.5,slow=35
UNV Unalaska Valle 45.21 45 P **P** **08 02 07.6 -0.5**
baz=268
PLAI Plampang 45.41 205 P **P** **08 02 11.0 +0.9**
TARG Taragay, Kyrgy 45.41 298 P **P** **08 02 10.9 +0.5**
TARG IAmb IAmb 08 02 12.4
comp=Z,70nm,1.2s
TARG Taragay, Kyrgy 45.41 298 P **P** **08 02 10.9 +0.5**
TARG pmax pmax
comp=Z,71nm,1.2s
CHKK Chushkaly 45.69 301 *e*P **P** **08 02 11.8 -0.4**
CHKK Chushkaly 45.69 301 *e*P **P** **08 02 11.7 -0.4**
PSI Prapat 45.73 236 P **P** **08 02 13.2 +0.3**
PSI Prapat 45.73 236 P **P** **08 02 12.6 -0.3**
PSI pmax pmax
comp=Z,30nm,0.9s
MDOK Medeo 45.74 300 *e*P **P** **08 02 12.4 -0.3**
MDOK Medeo 45.74 300 *e*P **P** **08 02 12.4 -0.3**
RPSI Rantau Prapat 45.81 236 P **P** **08 02 12.6 -0.7**
RPSI IAmb IAmb 08 02 14.0
comp=Z,30nm,0.9s
AAA Alma-Ata 45.84 300 *e*P **P** **08 02 13.2 -0.2**
comp=Z,118nm,1.8s
AAA Alma-Ata 45.84 300 *e*P **P** **08 02 13.1 -0.2**
AAA pmax pmax
comp=Z,118nm,1.8s
TNSS Tian-Shan 45.84 300 *e*P **P** **08 02 13.2 -0.6**
TNSS Tian-Shan 45.84 300 *e*P **P** **08 02 13.1 -0.6**
M11K Mekoryuk 45.97 36 P **P** **08 02 13.9 -0.1**
baz=262
BKNI Bangkinang 46.14 231 P **P** **08 02 16.3 +0.4**
KDU Kakadu 46.18 184 P **P** **08 02 15.5 -0.6**
comp=Z,19nm,1.7s
TNA Tin City 46.24 29 P **P** **08 02 16.8 +0.7**
baz=255
MTN Manton Dam 46.42 186 P **P** **08 02 16.9 -1.1**
MTN IAmb IAmb 08 02 29.1
comp=Z,36nm,0.7s
MTN Manton Dam 46.42 186 P **P** **08 02 17.5 -0.5**
comp=Z,53nm,0.8s
MTN Manton Dam 46.42 186 P **P** **08 02 17.4 -0.6**
NRN Naryn 46.80 298 P **P** **08 02 21.4 +0.2**
NRN Naryn 46.80 298 P **P** **08 02 21.4 +0.2**
NRN pmax pmax
comp=Z,30nm,1.2s
TKM2 Tokmak 2 46.83 300 P **P** **08 02 22.0 +0.7**
SNR=31
K13K Kusilvak Mount 46.94 34 P **P** **08 02 23.6 +2.0**
K13K IAmb IAmb 08 02 24.4
comp=Z,32nm,1.1s
K13K Kusilvak Mount 46.94 34 P **P** **08 02 20.7 -0.9**
baz=262
ANM Nome 47.07 31 P **P** **08 02 24.1 +1.5**
baz=259
KSH Kashi 47.20 295 P **P** **08 02 27.7 +3.6**
KSH pP sP 08 02 39.9 -0.4
KSH PP **PP** **08 04 19.8 +4.6**
KSH pmax pmax
comp=Z,27nm,1.1s
KSH LR LR
comp=Z,2μm,18.8s
KSH LR LR
comp=Z,1μm,18.4s
KSH LR LR
comp=Z,1μm,22.5s
KBK Karagaybulak 47.35 299 P **P** **08 02 25.8 +0.5**
SNR=14
M13K Dall Lake 47.38 36 P **P** **08 02 27.1 +2.1**
baz=264
CHMS Chumysh 47.43 300 P **P** **08 02 26.5 +0.7**
SNR=7.1
SGDS Sogindy 47.44 301 *e*P **P** **08 02 25.7 -0.2**
comp=Z,29nm,1.6s
SGDS Sogindy 47.44 301 *e*P **P** **08 02 25.7 -0.2**
SGDS pmax pmax
comp=Z,29nm,1.6s
FRU1 Bishkek 47.55 300 P **P** **08 02 26.9 +0.1**
FRU1 Bishkek 47.55 300 P **P** **08 02 26.9 +0.1**
FRU1 pmax pmax
comp=Z,62nm,0.5s
J14K Nanvaranak Lak 47.56 33 P **P** **08 02 26.9 +0.4**
J14K Nanvaranak Lak 47.56 33 P **P** **08 02 27.1 +0.7**
baz=262
USP Ospenovka 47.57 300 P **P** **08 02 26.8 -0.1**
SNR=20
F15K North Star Dit 47.60 29 P **P** **08 02 28.1 +1.4**
F15K North Star Dit 47.60 29 P **P** **08 02 28.4 +1.7**
baz=259
BTLS Baital 47.61 303 *e*P **P** **08 02 27.0 -0.1**
comp=Z,66nm,1.3s
BTLS Baital 47.61 303 *e*P **P** **08 02 27.0 -0.1**
BTLS pmax pmax
comp=Z,66nm,1.3s
AAK Ala-Archa 47.68 299 P **P** **08 02 28.6 +0.7**
SNR=8.2
AAK Ala-Archa 47.68 299 P **P** **08 02 27.9 0.0**
AAK IAmb IAmb 08 02 29.4
comp=Z,30nm,1.1s
AAK Ala-Archa 47.68 299 *i* P **P** **08 02 28.1 +0.2**
SNR=8.3
AAK Ala-Archa 47.68 299 LR LR 08 23 30.6
comp=Z,1μm,19.8s,baz=85,slow=37
AAK Ala-Archa 47.68 299 P **P** **08 02 27.7 -0.2**
AAK P **P** **08 02 27.7 -0.2**
AAK Ala-Archa 47.68 299 *ce*P **P** **08 02 28.0 +0.1**
AAK pmax pmax
comp=Z,36nm,1.2s
AAK Ala-Archa 47.68 299 P **P** **08 02 27.9 +0.1**
AAK pP **pP** **08 02 40.2 +0.9**
AAK sP **sP** **08 02 44.5 +0.5**
G15K Niukluk 47.71 30 P **P** **08 02 28.9 +1.4**
baz=260
GSI Gunungsitoli 47.74 236 P **P** **08 02 27.3 -1.1**
GSI Gunungsitoli 47.74 236 P **P** **08 02 28.3 -0.1**
UCH Uchtor 47.74 299 P **P** **08 02 29.7 +1.0**
SNR=6.1
L14K Kuka Creek 47.80 35 P **P** **08 02 29.9 +1.7**
L14K IAmb IAmb 08 02 31.6
comp=Z,75nm,1.4s
L14K Kuka Creek 47.80 35 P **P** **08 02 29.6 +1.4**
baz=264
C16K Lisburne Hills 47.92 26 P **P** **08 02 29.9 +0.8**
baz=255
ARLS Aral 47.95 298 P **P** **08 02 31.0 +1.0**
ARLS pmax pmax
comp=Z,45nm,1.4s
BRZS Berezniki 47.96 310 *e*P **P** **08 02 29.6 -0.2**
comp=Z,52nm,1.1s
BRZS Berezniki 47.96 310 *e*P **P** **08 02 29.6 -0.2**
BRZS pmax pmax
comp=Z,52nm,1.1s
LEM Lembang 48.04 218 LR LR 08 23 44.2
comp=Z,203nm,20.2s,baz=134,slow=37
M14K Bethel 48.09 36 P **P** **08 02 32.0 +1.5**
baz=265
N14K Kuskokwak Cree 48.17 37 P **P** **08 02 32.2 +1.0**
baz=266
EKS2 Erkin-Say 48.20 300 P **P** **08 02 32.0 +0.1**
SNR=8.9
AML Almayashu 48.36 299 P **P** **08 02 34.3 +0.9**
SNR=23
L15K Ungalak Mounta 48.40 35 P **P** **08 02 33.9 +1.0**
baz=265
H16K Elim 48.41 31 P **P** **08 02 33.6 +0.6**
baz=262
K15K Wolf Creek Mou 48.44 34 P **P** **08 02 35.0 +1.7**
K15K IAmb IAmb 08 02 36.3
comp=Z,50nm,1.1s
K15K Wolf Creek Mou 48.44 34 P **P** **08 02 34.1 +0.9**
baz=264,SNR=5.5
G16K Koyuk River 48.48 30 P **P** **08 02 35.1 +1.6**
baz=261
D17K Noatak River 48.62 27 P **P** **08 02 36.2 +1.7**
baz=258
M15K Kasigluk River 48.71 36 P **P** **08 02 36.5 +1.1**
baz=267
RDOG Red Dog Mine 48.76 26 P **P** **08 02 36.5 +0.9**
baz=258
J16K Anvik River 48.96 33 P **P** **08 02 38.8 +1.5**
baz=264
E17K Hotham Inlet 48.98 28 P **P** **08 02 38.5 +1.2**
baz=260,SNR=5.3
N15K Kwethluk River 48.98 37 P **P** **08 02 38.5 +1.1**
baz=268
I17K Unalakleet 48.98 32 P **P** **08 02 38.9 +1.6**
baz=264
ARSB Arslanbob 49.04 298 P **P** **08 02 39.0 +0.6**
ARSB Arslanbob 49.04 298 P **P** **08 02 39.0 +0.6**
ARSB pmax pmax
comp=Z,28nm,1.2s
O15K Ungalikthiuk R 49.08 38 P **P** **08 02 39.4 +1.2**
baz=269
F17K Baldwin Pennin 49.09 28 P **P** **08 02 39.6 +1.4**
F17K Baldwin Pennin 49.09 28 P **P** **08 02 39.5 +1.4**
baz=261,SNR=6.0
BVAR Borovoye Array 49.16 314 P **P** **08 02 38.5 -0.4**
comp=Z,48nm,0.9s,baz=93,slow=7.7,SNR=65
BVAR pP **pP** **08 02 50.3 -0.1**
comp=Z,14nm,0.6s,baz=104,slow=9.8,SNR=7.8
BVAR LR LR 08 25 11.5
comp=Z,825nm,19.3s,baz=82,slow=38
comp=Z,48nm,0.9s
G17K Kiwalik Mounta 49.20 30 P **P** **08 02 40.7 +1.7**
baz=262
BRVK Borovoye 49.22 314 P **P** **08 02 38.6 -0.8**
BRVK Borovoye 49.22 314 P **P** **08 02 39.2 -0.1**
BRVK P **P** **08 02 39.2 -0.1**
BRVK Borovoye 49.22 314 *ce*P **P** **08 02 38.9 -0.5**
BRVK pmax pmax
comp=Z,102nm,1.2s
BRVK Borovoye 49.22 314 P **P** **08 02 39.2 -0.1**
BRVK pP **pP** **08 02 50.9 +0.1**
BRVK sP **sP** **08 02 55.9 +0.3**
S14K Fog Glacier 49.23 42 P **P** **08 02 39.3 -0.1**
baz=271
CHNA Chernabura Isl 49.26 44 P **P** **08 02 40.0 +0.4**
baz=273
L16K Owhat River 49.36 35 P **P** **08 02 40.9 +0.6**
baz=267
OHH Osh 49.37 297 P **P** **08 02 40.7 -0.1**
OHH pmax pmax
comp=Z,27nm,1.5s
B18K Kokolik River 49.43 25 P **P** **08 02 42.0 +1.3**
baz=258
H17K Granite Mounta 49.44 30 P **P** **08 02 42.0 +1.2**
H17K IAmb IAmb 08 02 43.6
comp=Z,91nm,1.9s
H17K Granite Mounta 49.44 30 P **P** **08 02 42.2 +1.3**
baz=264
KNRA Kununurra 49.46 188 P **P** **08 02 41.4 -0.1**
KNRA Kununurra 49.46 188 P **P** **08 02 41.7 +0.2**
comp=Z,79nm,0.8s
E18K Tukpahlearik C 49.50 27 P **P** **08 02 42.4 +1.1**
E18K IAmb IAmb 08 02 44.1
comp=Z,26nm,0.7s
E18K Tukpahlearik C 49.50 27 P **P** **08 02 42.6 +1.3**
baz=261
M16K Timber Creek 49.58 36 P **P** **08 02 43.5 +1.5**
baz=268
N16K Nishlik Lake 49.65 36 P **P** **08 02 43.9 +1.4**
baz=268
J17K VABM Dome 49.66 33 P **P** **08 02 43.8 +1.3**
J17K IAmb IAmb 08 02 45.5
comp=Z,38nm,1.0s
J17K VABM Dome 49.66 33 P **P** **08 02 44.2 +1.6**
baz=266,SNR=6.5
ARK Arkit 49.69 299 P **P** **08 02 43.5 +0.2**
ARK pmax pmax
comp=Z,62nm,1.1s
F18K Selawik 49.75 28 P **P** **08 02 43.8 +0.7**
baz=262,SNR=6.3
A19K Wainwright 49.85 24 P **P** **08 02 45.0 +1.1**
baz=258
DZA Taraz 49.92 300 *e*P **P** **08 02 44.5 -0.4**
comp=Z,18nm,0.9s
DZA Taraz 49.92 300 *e*P **P** **08 02 44.5 -0.4**
DZA pmax pmax
comp=Z,18nm,0.9s
L17K Donlin 49.94 34 P **P** **08 02 45.9 +1.2**
baz=268,SNR=6.5
K17K Iditarod 49.97 33 P **P** **08 02 46.1 +1.2**
K17K IAmb IAmb 08 02 47.9
comp=Z,38nm,0.8s
K17K Iditarod 49.97 33 P **P** **08 02 46.0 +1.1**
baz=267,SNR=8.9
O16K Kokwok River B 49.97 38 P **P** **08 02 46.1 +1.1**
baz=270
G18K Tagagawik 50.07 29 P **P** **08 02 46.9 +1.3**
baz=264
H18K Honhosa River 50.11 30 P **P** **08 02 47.1 +1.0**
baz=265
C19K Lookout Ridge 50.15 25 P **P** **08 02 47.9 +1.6**
baz=260
R16K Pilot Point 50.27 40 P **P** **08 02 48.5 +1.2**
baz=272
M17K Holitna River 50.32 35 P **P** **08 02 48.0 +0.4**
M17K IAmb IAmb 08 02 50.8
comp=Z,54nm,1.3s
M17K Holitna River 50.32 35 P **P** **08 02 49.2 +1.6**
baz=269
DRK Karamyk 50.35 296 P **P** **08 02 48.9 +0.4**
DRK Karamyk 50.35 296 P **P** **08 02 48.9 +0.4**
DRK pmax pmax
comp=Z,84nm,0.4s
TRKS Terek-Say 50.35 299 P **P** **08 02 48.4 0.0**
TRKS pmax pmax
comp=Z,43nm,1.5s
N17K Nushagak Hills 50.43 36 P **P** **08 02 49.5 +1.1**
N17K IAmb IAmb 08 02 51.6
comp=Z,80nm,1.6s
N17K Nushagak Hills 50.43 36 P **P** **08 02 49.9 +1.4**
baz=270
O17K Koliganek Bris 50.48 37 P **P** **08 02 50.2 +1.4**
baz=270
F19K Shaleruckik Mo 50.52 28 P **P** **08 02 49.6 +0.6**
baz=264
D19K Kuna River 50.59 26 P **P** **08 02 50.4 +0.8**
baz=262
L18K Granite Mounta 50.70 34 P **P** **08 02 51.8 +1.4**

L18K	Granite Mounta	50.70	34	P	P	08 02 51.9 +1.5
	baz=269,SNR=8.3					
GCSA	Galena City Sc	50.71	31	P	P	08 02 51.1 +0.6
	baz=267					
J18K	Innoko River	50.72	33	P	P	08 02 50.9 +0.3
J18K				IAmb	IAmb	08 02 53.0
	comp=Z,45nm,1.6s					
J18K	Innoko River	50.72	33	P	P	08 02 51.8 +1.1
	baz=268					
Q16K	King Salmon	50.73	39	P	P	08 02 51.4 +0.7
	baz=272					
G19K	Purcell Mounta	50.73	29	P	P	08 02 51.3 +0.7
	baz=265,SNR=5.5					
E19K	Redstone River	50.80	27	P	P	08 02 51.2 +0.1
	baz=264					
P17K	Kvichak River	50.83	38	P	P	08 02 50.4 -1.0
	baz=272					
NIL	Nilore	50.87	288	P	P	08 02 52.6 +0.4
NIL				P	P	08 02 52.6 +0.4
NIL	Nilore	50.87	288	P	P	08 02 52.5 +0.3
NIL				pmax	pmax	
	comp=Z,75nm,1.5s					
NIL	Nilore	50.87	288	P	P	08 02 52.4 +0.3
NIL				pP	pP	08 03 04.2 +0.6
R17L	Mt. Peulik Vol	50.92	40	P	P	08 02 52.8 +0.5
	baz=273					
H19K	Roundabout Mou	50.94	30	P	P	08 02 52.8 +0.6
H19K				IAmb	IAmb	08 02 55.0
	comp=Z,46nm,1.1s					
H19K	Roundabout Mou	50.94	30	P	P	08 02 53.3 +1.1
	baz=266,SNR=9.1					
BRLS	Borolday	50.96	301	*e*P	P	08 02 53.8 +1.0
	comp=Z,46nm,1.4s					
BRLS	Borolday	50.96	301	*e*P	P	08 02 53.8 +1.0
BRLS				pmax	pmax	
	comp=Z,46nm,1.4s					
TTA	Tatalina	51.02	33	P	P	08 02 54.1 +1.1
TTA	Tatalina	51.02	33	P	P	08 02 52.3 -0.7
	baz=269					
TTA	Tatalina	51.02	33	P	P	08 02 54.9 +1.9
TTA	Tatalina	51.02	33	P	P	08 02 54.1 +1.1
TTA				pmax	pmax	
	comp=Z,14nm,1.0s					
N18K	Kilae Creek	51.07	36	P	P	08 02 54.2 +0.9
	baz=271					
M18K	Stony River	51.10	35	P	P	08 02 54.9 +1.5
	baz=270					
B20K	Meade River	51.13	24	P	P	08 02 54.7 +1.1
	baz=262					
Q17K	Contact Creek	51.15	39	P	P	08 02 54.4 +0.4
	baz=273					
D20K	Etivluk River	51.16	26	P	P	08 02 54.8 +0.9
	baz=264					
J19K	Poorman	51.23	32	P	P	08 02 55.0 +0.6
J19K	Poorman	51.23	32	P	P	08 02 55.5 +1.1
	baz=268,SNR=8.7					
E20K	Nigu River	51.27	26	P	P	08 02 55.6 +0.8
	baz=264					
F20K	Avaraart Lake	51.34	28	P	P	08 02 55.9 +0.7
	baz=266					
O18K	Koktuh Hills	51.43	37	P	P	08 02 56.1 +0.1
	baz=272					
P18K	Big Mountain,	51.44	38	P	P	08 02 56.4 +0.3
	baz=272					
CHIR	Chirikof Islan	51.45	42	P	P	08 02 55.2 -1.0
	baz=275					
A21K	Barrow	51.50	22	P	P	08 02 57.3 +1.0
	baz=262					
L19K	White Mountain	51.55	34	P	P	08 02 58.3 +1.3
L19K	White Mountain	51.55	34	P	P	08 02 57.7 +0.7
	baz=270,SNR=7.8					
GAR	Garm	51.58	296	P	P	08 02 57.4 -0.3
Q18K	Katmai Hardscr	51.59	39	P	P	08 02 58.9 +1.5
	baz=273					
H20K	Anotleneega Mo	51.59	30	P	P	08 02 58.0 +0.9
	baz=268,SNR=6.7					
I20K	Naaghedeneel	51.74	31	P	P	08 02 59.3 +1.1
	baz=269					
N19K	Bonanza Creek	51.76	36	P	P	08 03 00.1 +1.6
	baz=272					
M19K	Big River Lodg	51.78	35	P	P	08 03 00.2 +1.7
	baz=271					
C21K	Knifeblade Rid	51.87	25	P	P	08 02 59.8 +0.7
	baz=265					
J20K	Nowinta River	51.88	32	P	P	08 02 59.8 +0.5
J20K				IAmb	IAmb	08 03 02.1
	comp=Z,28nm,0.8s					
J20K	Nowinta River	51.88	32	P	P	08 03 00.5 +1.2
	baz=270,SNR=13					
K20K	Telida	51.91	33	P	P	08 03 00.6 +1.1
	baz=270,SNR=7.4					
R18K	Karluk	51.95	40	P	P	08 03 00.7 +0.8
	baz=274					
B21K	Ikpikpuk River	51.97	25	P	P	08 03 00.9 +1.1
	baz=265					
A22K	Sinclair Lake	51.99	23	P	P	08 03 00.8 +0.8
	baz=263					
L20K	Farewell, AK	52.01	34	P	P	08 03 01.6 +1.3
	baz=271,SNR=10					
E21K	Killik River	52.11	26	P	P	08 03 01.5 +0.5
	baz=266,SNR=10					
SII	Sitkinak Islan	52.19	41	P	P	08 03 02.0 +0.3
	baz=276					
G21K	Allakaket	52.19	29	P	P	08 03 02.6 +1.0
	baz=268					
F21K	Alatna River	52.23	28	P	P	08 03 02.1 +0.3
	baz=268					
Q19K	Cape Douglas,	52.28	38	P	P	08 03 01.5 -0.9
	baz=274					
FITZ	Fitzroy Crossi	52.29	192	LR	LR	08 25 46.2
	comp=Z,130nm,20.2s,baz=14,slow=36					
M20K	Styx River	52.37	35	P	P	08 03 04.5 +1.4
M20K	Styx River	52.37	35	P	P	08 03 04.3 +1.2
	baz=272					
B22K	Teshekpuk Lake	52.44	24	P	P	08 03 04.2 +0.9
	baz=265					
P19K	Oil Pt	52.44	37	P	P	08 03 03.9 +0.4
	baz=274					
H21K	Melozitna Rive	52.46	30	P	P	08 03 04.4 +0.8
H21K	Melozitna Rive	52.46	30	P	P	08 03 04.9 +1.3
	baz=270,SNR=8.1					
CHGR	Chuyangaron	52.55	296	P	P	08 03 04.1 -0.6
CHGR	Chuyangaron	52.55	296	P	P	08 03 04.1 -0.6
CHGR				pmax	pmax	
	comp=Z,160nm,1.1s					
D22K	Ayikyak River	52.60	26	P	P	08 03 05.6 +1.0
	baz=267,SNR=20					
OHAK	Old Harbor	52.61	40	P	P	08 03 06.8 +2.1
	baz=276					
SIMJ	Simiganj	52.66	296	P	P	08 03 04.8 -0.8
SIMJ	Simiganj	52.66	296	P	P	08 03 05.4 -0.2
CHUM	Lake Minchumin	52.69	32	P	P	08 03 06.5 +1.2
	baz=271					
O20K	Slope Mountain	52.72	37	P	P	08 03 04.5 -1.1
	baz=274					
F22K	John River	52.74	27	P	P	08 03 06.8 +1.2
	baz=269					
PPLA	Purkeypile	52.77	33	P	P	08 03 06.4 +0.3
	baz=272,SNR=8.9					
CAST	Castle Rocks	52.80	33	P	P	08 03 06.9 +0.7
CAST				IAmb	IAmb	08 03 09.0
	comp=Z,121nm,1.9s					
CAST	Castle Rocks	52.80	33	P	P	08 03 05.5 -0.7
	baz=272,SNR=13					
I21K	Tanana	52.81	30	P	P	08 03 05.9 -0.3
	baz=271					
N20K	Mount Spurr	52.85	35	P	P	08 03 07.3 +0.7
	baz=274,SNR=6.9					
SPCR	Spurr Chakacha	52.85	35	P	P	08 03 07.7 +1.1
	baz=274					
E22K	Anaktuvuk Pass	52.89	27	P	P	08 03 07.6 +0.8
	baz=269,SNR=9.8					
SPU	Mount Spurr	52.92	35	P	P	08 03 08.0 +0.8
KDAK	Kodiak Island	52.94	40	P	P	08 03 07.2 0.0
KDAK				IAmb	IAmb	08 03 08.8
	comp=Z,35nm,0.8s					
KDAK	Kodiak Island	52.94	40	LR	LR	08 27 14.3
	comp=Z,296nm,19.9s,baz=261,slow=38					
KDAK	Kodiak Island	52.94	40	P	P	08 03 07.6 +0.4
	baz=276					
KDAK	Kodiak Island	52.94	40 ‖	*i*P	P	08 03 08.0 +0.8
KDAK				pmax	pmax	
	comp=Z,65nm,0.9s					
KDAK	Kodiak Island	52.94	40	P	P	08 03 07.5 +0.3
KDAK				pP	pP	08 03 18.5 -0.3
Q20K	Shuyak Island	52.95	39	P	P	08 03 07.0 -0.2
	baz=275					
G22K	Bettles	52.99	28	P	P	08 03 07.9 +0.4
	baz=270,SNR=5.2					
HYB	Hyderabad	53.02	267	*e*P	P	08 03 08.3 -0.1
HYB				IVmB_BB		08 03 08.4
	comp=Z,717nm,1.2s					
HYB				*e*pP	pP	08 03 16.4 -3.4
HYB				*e*sP	sP	08 03 20.2 -4.2
HYB				*e*PP	PP	08 05 06.2 -2.1
HYB				*e*S	S	08 10 37.1 +1.4
HYB				IVMs_BB	IVMs_BB	08 27 42.7
	comp=Z,294nm,18.6s					
H22K	Ishtalitna Cre	53.05	30	P	P	08 03 09.4 +1.4
	baz=271,SNR=13					
SKT	Skwentna	53.12	34	P	P	08 03 09.5 +0.9
	baz=274					
WB0	Warramunga Arr	53.15	181	P	P	08 03 08.7 -0.4
HOM	Homer	53.24	37	P	P	08 03 11.2 +1.8
	baz=275					
BPAW	Bear Paw Mtn.	53.26	32	P	P	08 03 10.7 +1.2
	baz=272					
WRAB	Tennant Creek	53.31	181	P	P	08 03 09.9 -0.4
WRAB				IAmb	IAmb	08 03 11.2
	comp=Z,48nm,0.9s					
WRAB	Tennant Creek	53.31	181	P	P	08 03 09.9 -0.4
WRAB				pmax	pmax	
	comp=Z,48nm,0.9s					
KTH	Kantishna Hill	53.32	32	P	P	08 03 11.1 +1.1
KTH				IAmb	IAmb	08 03 12.7
	comp=Z,48nm,1.2s					
WB2	Warramunga Arr	53.32	181	P	P	08 03 10.4 0.0
WRA	Warramunga Arr	53.32	181	P	P	08 03 10.0 -0.4
	comp=Z,42nm,0.8s,baz=356,slow=7.8,SNR=133					
WRA				pP	pP	08 03 21.5 -0.4
	comp=Z,32nm,0.8s,baz=357,slow=7.8,SNR=15					
WRA				LR	LR	08 24 48.0
	comp=Z,229nm,20.8s,baz=342,slow=35					
	comp=Z,42nm,0.8s					
D23K	Nanushuk River	53.33	26	P	P	08 03 10.9 +1.0
	baz=269,SNR=7.1					
MLY	Manley	53.34	31	P	P	08 03 09.9 -0.2
MLY	Manley	53.34	31	P	P	08 03 11.6 +1.5
	baz=272,SNR=7.3					
WR0	Warramunga Arr	53.34	181	P	P	08 03 10.0 -0.5
C23K	Itkillik River	53.37	25	P	P	08 03 11.4 +1.2
	baz=268,SNR=9.3					
CAPN	Captain Cook N	53.39	36	P	P	08 03 11.3 +0.8
	baz=275					
COLD	Coldfoot	53.50	28	P	P	08 03 12.2 +1.0
	baz=271					
SUA	Susitna One	53.53	35	P	P	08 03 13.0 +1.3
	baz=275,SNR=7.3					
G23K	Bananza Creek	53.58	28	P	P	08 03 12.5 +0.6
G23K				IAmb	IAmb	08 03 13.8
	comp=Z,45nm,1.6s					
G23K	Bananza Creek	53.58	28	P	P	08 03 13.0 +1.1
	baz=271,SNR=5.5					
TRF	Thorofare Moun	53.61	33	P	P	08 03 13.0 +0.8
	baz=274					
CUT	Chulitna	53.69	34	P	P	08 03 12.9 +0.3
	baz=274					
BRSE	Bradley Lake S	53.69	37	P	P	08 03 13.5 +0.7
	baz=276					
E23K	Chandalar	53.72	27	P	P	08 03 13.9 +1.0
	baz=271					
TOLK	Toolik Lake Re	53.73	26	P	P	08 03 14.0 +1.0
TOLK	Toolik Lake Re	53.73	26	P	P	08 03 14.0 +1.0
	baz=270,SNR=6.1					
TV1H	Townsville Har	53.78	166	P	P	08 03 14.4 +0.7
H23K	Yukon River	53.81	30	P	P	08 03 14.7 +1.2
H23K				IAmb	IAmb	08 03 16.7
	comp=Z,41nm,0.8s					
H23K	Yukon River	53.81	30	P	P	08 03 15.0 +1.5
	baz=272					
M22K	Willow	53.81	35	P	P	08 03 13.5 0.0
	baz=275					
KBL	Kabul	53.89	291	P	P	08 03 14.1 -0.7
KBL	Kabul	53.89	291	P	P	08 03 14.5 -0.3
	SNR=28					
KBL				P	P	08 03 14.5 -0.3
	SNR=28					
KBL	Kabul	53.89	291	P	P	08 03 14.1 -0.7
KBL				pmax	pmax	
	comp=Z,66nm,1.2s					
I23K	Minto, Yukon-K	53.91	30	P	P	08 03 15.2 +1.0
	baz=273,SNR=12					
BWN	Browne	53.93	32	P	P	08 03 15.8 +1.4
D24K	Happy Valley	54.00	25	P	P	08 03 15.2 +0.4
	baz=271					
C24K	Franklin Bluff	54.04	25	P	P	08 03 15.9 +0.9
	baz=270					
RC01	Rabbit Creek A	54.05	35	P	P	08 03 15.6 +0.3
	baz=276					
NEA2	Nenana	54.07	31	P	P	08 03 16.4 +1.0
NEA2				IAmb	IAmb	08 03 17.9
	comp=Z,40nm,0.8s					
NEA2	Nenana	54.07	31	P	P	08 03 16.4 +1.0
	baz=274,SNR=9.1					
QIS	Mount Isa	54.09	175	P	P	08 03 16.0 0.0
O22K	Cooper Landing	54.12	36	P	P	08 03 17.5 +1.7
	baz=276					
E24K	Your Creek	54.14	27	P	P	08 03 17.3 +1.3
	baz=272,SNR=17					
MCK	McKinley	54.19	32	P	P	08 03 16.5 +0.1
	baz=274,SNR=16					
MCK	McKinley	54.19	32	P	P	08 03 17.1 +0.8
RND	Reindeer	54.25	33	P	P	08 03 16.8 0.0
RND				IAmb	IAmb	08 03 18.5
	comp=Z,32nm,0.7s					
RND	Reindeer	54.25	33	P	P	08 03 16.8 0.0
RND				pmax	pmax	
	comp=Z,32nm,0.7s					
PMR	Palmer	54.29	35	P	P	08 03 17.0 0.0
PMR				IAmb	IAmb	08 03 18.5
	comp=Z,30nm,1.1s					
PMR	Palmer	54.29	35	P	P	08 03 17.2 +0.2
	baz=276,SNR=6.1					
PMR	Palmer	54.29	35	P	P	08 03 17.4 +0.4
PMR	Palmer	54.29	35	P	P	08 03 17.0 0.0
PMR				pmax	pmax	
	comp=Z,30nm,1.1s					
SEW	Seward	54.30	37	P	P	08 03 17.4 +0.3
	baz=277					
SVE	Sverdlovsk	54.35	319	*e*P	P	08 03 17.9 +0.3
SVE				pmax	pmax	
	comp=Z,81nm,1.5s					
GHO	Glory Hole Cre	54.37	35	P	P	08 03 18.9 +1.1
F24K	Squaw Lake	54.39	27	P	P	08 03 18.9 +1.2
	baz=273,SNR=12					
WAT1	Susitna Watana	54.44	33	P	P	08 03 18.5 +0.3
	baz=276					
CTA	Charters Tower	54.49	167	LR	LR	08 24 56.1
	comp=Z,14nm,20.5s,baz=339,slow=34					
CTA	Charters Tower	54.49	167	P	P	08 03 19.6 +0.7
CTAO	Charters Tower	54.49	167	P	P	08 03 19.7 +0.8
CTAO	Charters Tower	54.49	167	P	P	08 03 18.8 -0.1
CTAO				pmax	pmax	
	comp=Z,36nm,1.3s					
H24K	Noodor Dome	54.49	30	P	P	08 03 19.2 +0.7
H24K				IAmb	IAmb	08 03 21.5
	comp=Z,21nm,0.8s					
H24K	Noodor Dome	54.49	30	P	P	08 03 20.1 +1.6
	baz=274,SNR=18					
COLA	College	54.57	31	P	P	08 03 20.1 +1.1
COLA				IAmb	IAmb	08 03 22.2
	comp=Z,25nm,0.8s					
COLA	College	54.57	31	P	P	08 03 20.1 +1.1
	baz=275					
COLA	College	54.57	31	P	P	08 03 20.9 +1.9
COLA	College	54.57	31 *d*	*i*P	P	08 03 20.6 +1.6
COLA				pmax	pmax	
	comp=Z,77nm,1.9s					
COLA	College	54.57	31	P	P	08 03 20.7 +1.7
COLA				pP	pP	08 03 31.8 +1.1
COLA				sP	sP	08 03 36.8 +1.5
G24K	Hadweenzic Riv	54.60	28	P	P	08 03 20.6 +1.4
G24K				IAmb	IAmb	08 03 22.2
	comp=Z,75nm,1.6s					
G24K	Hadweenzic Riv	54.60	28	P	P	08 03 20.6 +1.4
	baz=274					
CCB	Clear Creek Bu	54.61	31	P	P	08 03 19.5 +0.2
KNK	Knik Glacier	54.63	35	P	P	08 03 20.1 +0.5
KNK				IAmb	IAmb	08 03 36.2
	comp=Z,31nm,1.2s					
KNK	Knik Glacier	54.63	35	P	P	08 03 19.8 +0.2
	baz=277					
SML	Sawmill	54.65	34	P	P	08 03 19.8 +0.1
	baz=276					
POKR	Poker Plat Res	54.73	30	P	P	08 03 21.4 +1.2
POKR	Poker Plat Res	54.73	30	P	P	08 03 21.1 +0.9
	baz=275,SNR=18					
PWL	Port Wells	54.76	36	P	P	08 03 21.1 +0.6
PWL				IAmb	IAmb	08 03 22.0
	comp=Z,29nm,1.1s					
PWL	Port Wells	54.76	36	P	P	08 03 20.6 +0.1
	baz=277					
WAT6	Susitna Watana	54.84	33	P	P	08 03 21.4 +0.2
	baz=276					
D25K	Kavik River	54.86	25	P	P	08 03 22.4 +1.2
D25K				IAmb	IAmb	08 03 23.5
	comp=Z,36nm,0.7s					
D25K	Kavik River	54.86	25	P	P	08 03 22.0 +0.9
	baz=273,SNR=20					
M23K	Glacier View	54.94	34	P	P	08 03 21.8 0.0
	baz=277					
DHY	Denali Highway	54.95	33	P	P	08 03 21.9 -0.2
	baz=276,SNR=5.3					
IL31		54.99	31	P	P	08 03 22.2 +0.2
IL31				IAmb	IAmb	08 03 23.4
	comp=Z,69nm,1.6s					
ILAR	Eielson Array	54.99	31	P	P	08 03 22.5 +0.4
ILAR	Eielson Array	54.99	31	P	P	08 03 22.3 +0.2
	comp=Z,6.7nm,0.6s,baz=264,slow=5.4,SNR=134					
ILAR				LR	LR	08 28 29.1
	comp=Z,440nm,19.8s,baz=268,slow=38					
	comp=Z,6.7nm,0.6s					
ILAR	Eielson Array	54.99	31	P	P	08 03 22.5 +0.4
HDA	Harding Lake	55.00	31	P	P	08 03 22.1 0.0
HDA				IAmb	IAmb	08 03 23.5
	comp=Z,27nm,0.8s					
HDA	Harding Lake	55.00	31	P	P	08 03 23.2 +1.0
	baz=276,SNR=18					
SCM	Sheep Creek Mo	55.12	34	P	P	08 03 23.9 +0.7
SCM				IAmb	IAmb	08 03 25.2
	comp=Z,34nm,0.8s					
SCM	Sheep Creek Mo	55.12	34	P	P	08 03 23.8 +0.6
	baz=277,SNR=5.1					
SCM	Sheep Creek Mo	55.12	34	P	P	08 03 23.9 +0.7
SCM				pmax	pmax	
	comp=Z,34nm,0.8s					
G25K	Bearman Lake	55.14	28	P	P	08 03 24.8 +1.8
	baz=275					
E25K	Arctic Village	55.23	27	P	P	08 03 24.9 +1.1
E25K				IAmb	IAmb	08 03 26.9
	comp=Z,26nm,1.1s					
E25K	Arctic Village	55.23	27	P	P	08 03 25.4 +1.6
	baz=274,SNR=16					
F25K	Christian Rive	55.25	27	P	P	08 03 26.0 +2.0
	baz=275					
H25L	Birch Creek	55.29	29	P	P	08 03 25.1 +0.9
	baz=276					
P23K	Montague Islan	55.33	37	P	P	08 03 25.4 +0.8
	baz=278					
C26K	Camden Bay	55.34	24	P	P	08 03 26.1 +1.5
	baz=274					
GLI	Glacier Island	55.36	36	P	P	08 03 25.0 +0.2
	baz=278					
PRP	Porcupine Dome	55.49	30	P	P	08 03 26.4 +0.6
PRP	Porcupine Dome	55.49	30	P	P	08 03 26.8 +1.0
	baz=276,SNR=13					
FYU	Fort Yukon	55.50	29	P	P	08 03 26.8 +1.1
FYU				IAmb	IAmb	08 03 29.0
	comp=Z,39nm,1.1s					
K24K	Donnelly Dome	55.58	32	P	P	08 03 26.6 +0.2
	baz=277,SNR=7.4					
M24K	Tolsona, Glenn	55.62	34	P	P	08 03 27.4 +0.6
	baz=278					
ARTI	Arti	55.65	319	LR	LR	08 29 49.6
	comp=Z,392nm,18.4s,baz=92,slow=39					
ARTI	Arti	55.65	319 *d*	*i*P	P	08 03 26.3 -0.7
ARTI						08 04 20.5
ARTI				S	S	08 11 10.8 +0.7
ARTI				pmax	pmax	
	comp=Z,57nm,1.3s					
ARTI				MLR	MLR	
	comp=Z,341nm,14.0s					
J25K	Salcha River,	55.66	31	P	P	08 03 26.6 -0.4
	baz=277					
BMAR	Burnt Mountain	55.67	27	P	P	08 03 28.6 +1.6
FID	Port Fidalgo	55.67	36	P	P	08 03 27.4 +0.3
FID				IAmb	IAmb	08 03 28.9
	comp=Z,39nm,1.2s					
C27K	Jago River	55.78	25	P	P	08 03 29.1 +1.4
	baz=275,SNR=24					
F26K	Sheenjek River	55.81	27	P	P	08 03 29.2 +1.2
	baz=276,SNR=30					
PAX	Paxson	55.83	33	P	P	08 03 28.9 +0.7
	baz=278,SNR=7.4					
KLU	Klutina	55.83	35	P	P	08 03 29.6 +1.3
KLU	Klutina	55.83	35	P	P	08 03 29.2 +0.9
	baz=279					
Q23K	Middleton Isla	55.95	37	P	P	08 03 30.2 +1.2
	baz=280					
G26K	Porcupine Rive	56.03	28	P	P	08 03 31.0 +1.5
	baz=277					
HARP	HAARP	56.05	34	P	P	08 03 30.7 +0.9
	baz=279					
EYAK	Cordova Ski Ar	56.06	36	P	P	08 03 30.8 +1.0
	baz=279					
ABKAR	Akbulak array	56.24	310	P	P	08 03 30.8 -0.5
SCRK	Sand Creek	56.34	32	P	P	08 03 31.9 0.0
SCRK				IAmb	IAmb	08 03 33.6
	comp=Z,35nm,1.0s					
SCRK	Sand Creek	56.34	32	P	P	08 03 33.4 +1.5
	baz=279,SNR=14					
N25K	Chitina, Valde	56.44	34	P	P	08 03 33.2 +0.6
N25K				IAmb	IAmb	08 03 35.2
	comp=Z,74nm,1.8s					
N25K	Chitina, Valde	56.44	34	P	P	08 03 33.3 +0.6
	baz=280					
J26L	Joseph Creek	56.45	31	P	P	08 03 33.0 +0.3
	baz=279,SNR=12					
MBWA	Marble Bar	56.50	197	P	P	08 03 32.6 -0.7
MBWA	Marble Bar	56.50	197	P	P	08 03 33.3 0.0
MBWA				P	P	08 03 33.3 0.0
MBWA	Marble Bar	56.50	197	P	P	08 03 33.0 -0.3
MBWA	Marble Bar	56.50	197	P	P	08 03 32.5 -0.8
MBWA				pP	pP	08 03 43.9 -0.8
I26K	Coal Creek Min	56.50	30	P	P	08 03 34.0 +1.1
	baz=278					
BMRM	Bremner River	56.54	35	P	P	08 03 34.0 +0.6
	baz=280,SNR=6.4					
PALK	Pallekele	56.67	255	P	P	08 03 34.9 0.0
PALK				P	P	08 03 34.9 0.0
E27K	Coleen River	56.70	26	P	P	08 03 35.3 +1.0
	baz=278,SNR=18					
L26K	Log Cabin Wild	56.78	33	P	P	08 03 35.5 +0.6
L26K				IAmb	IAmb	08 03 37.6
	comp=Z,31nm,0.9s					
L26K	Log Cabin Wild	56.78	33	P	P	08 03 35.7 +0.8
	baz=280,SNR=26					
D27M	Malcolm River	56.79	25	P	P	08 03 35.7 +0.8
D27M				IAmb	IAmb	08 03 37.7
	comp=Z,25nm,0.8s					
D27M	Malcolm River	56.79	25	P	P	08 03 36.6 +1.6
	baz=278					
KAIM	Kayak Island	56.82	36	P	P	08 03 36.3 +1.0
	baz=281					
GLB	Gilahina Butte	56.84	35	P	P	08 03 36.2 +0.8
GLB				IAmb	IAmb	08 03 38.0
	comp=Z,52nm,1.4s					
PSA00	Pilbara Seismi	56.86	197	P	P	08 03 35.7 -0.2
G27K	Doyon Strip	56.88	28	P	P	08 03 36.3 +0.6
	baz=279,SNR=12					
H27K	Steamboat Moun	57.02	29	P	P	08 03 37.9 +1.3
	baz=279,SNR=13					
AS01	Alice Springs	57.03	181	P	P	08 03 37.6 +0.5
AS31	Alice Springs	57.03	181	P	P	08 03 37.0 -0.2
ASAR	Alice Springs	57.04	181	P	P	08 03 37.0 -0.2
	comp=Z,18nm,0.8s,baz=10,slow=9.2,SNR=145					
ASAR				pP	pP	08 03 48.7 +0.1
	comp=Z,12nm,0.7s,baz=8.8,slow=14,SNR=13					
ASAR				LR	LR	08 27 33.8
	comp=Z,293nm,19.9s,baz=1.5,slow=35					
	comp=Z,18nm,0.8s					
M26K	Nabesna, AK	57.05	33	P	P	08 03 38.0 +1.2
M26K				IAmb	IAmb	08 03 39.5
	comp=Z,40nm,1.0s					
M26K	Nabesna, AK	57.05	33	P	P	08 03 37.4 +0.5
	baz=280,SNR=18					
VRDI	Verde Repeater	57.05	35	P	P	08 03 37.8 +0.7
VRDI				IAmb	IAmb	08 03 39.4
	comp=Z,45nm,1.3s					

I27K	**Kandik River**	57.09	29	P	P	08 03 38.1 +0.9
	baz=280,SNR=15					
AKTO	**Aktyubinsk**	57.16	312	LR	LR	08 30 02.4
	comp=Z,881nm,18.1s,baz=102,slow=38					
K27K	**Chicken**	57.16	31	P	P	08 03 38.6 +1.0
	baz=280					
MCARA	**McCarthy VSAT**	57.22	35	P	P	08 03 39.9 +1.8
MCARA				IAmb	IAmb	08 03 40.7
	comp=Z,38nm,1.0s					
MCARA	**McCarthy VSAT**	57.22	35	P	P	08 03 39.1 +1.0
	baz=281,SNR=10					
CRQE	**Cirque**	57.31	35	P	P	08 03 39.8 +1.0
	baz=281,SNR=5.9					
E28M	**Babbage River**	57.40	26	P	P	08 03 40.6 +1.4
	baz=280,SNR=20					
EGAK	**Eagle**	57.42	30	P	P	08 03 40.6 +1.2
	baz=280,SNR=10					
F28M	**Old Crow**	57.44	27	P	P	08 03 40.9 +1.4
F28M				IAmb	IAmb	08 03 42.5
	comp=Z,70nm,1.5s					
F28M	**Old Crow**	57.44	27	P	P	08 03 40.0 +0.5
	baz=280,SNR=20					
L27K	**Beaver Creek,**	57.45	32	P	P	08 03 40.5 +0.8
	baz=281,SNR=9.8					
D28M	**Stokes Point**	57.56	25	P	P	08 03 41.6 +1.3
	baz=280					
M27K	**Edge Creek, AK**	57.56	33	P	P	08 03 42.0 +1.3
	baz=281,SNR=17					
I28M	**Miner Creek**	57.80	29	P	P	08 03 43.8 +1.5
	baz=281,SNR=28					
MESA	**MESA**	57.98	36	P	P	08 03 44.2 +0.5
	baz=283					
BVCY	**Beaver Creek**	58.02	33	P	P	08 03 44.9 +1.2
	baz=282,SNR=7.6					
E29M	**Blow River**	58.03	26	P	P	08 03 44.7 +1.1
	baz=281,SNR=21					
CTG	**Chitna Glacier**	58.11	35	P	P	08 03 45.5 +1.0
	baz=283					
G29M	**Pine Creek**	58.27	28	P	P	08 03 46.5 +1.1
	baz=282,SNR=18					
H29M	**Whitestone**	58.28	28	P	P	08 03 46.7 +1.2
	baz=282,SNR=10					
DAWY	**Dawson**	58.31	31	P	P	08 03 46.3 +0.6
	baz=282,SNR=6.2					
YUK3	**Moose Creek**	58.34	34	P	P	08 03 46.6 +0.4
	baz=283,SNR=9.8					
I29M	**Ogilvie Camp,**	58.49	29	P	P	08 03 48.0 +1.1
	baz=283,SNR=12					
O28M	**Mount Upton**	58.70	35	P	P	08 03 49.7 +1.0
	baz=284					
J29N	**Klondike Camp**	58.73	30	P	P	08 03 49.8 +1.1
	baz=283,SNR=6.7					
WRKA	**Warakurna**	58.76	187	P	P	08 03 49.3 +0.1
YUK8	**Steele Glacier**	58.78	34	P	P	08 03 50.4 +1.1
	baz=284					
PINM	**Pinnacle**	58.83	36	P	P	08 03 50.6 +1.1
	baz=284					
EPYK	**Eagle Plains**	58.90	28	P	P	08 03 50.6 +0.9
EPYK	**Eagle Plains**	58.90	28	P	P	08 03 50.5 +0.7
	baz=283,SNR=37					
G30M	**tAoh Zraii Nji**	58.95	27	P	P	08 03 51.0 +0.9
	baz=283,SNR=32					
F30M	**Barrier River**	58.97	27	P	P	08 03 51.3 +1.1
	baz=283					
L29M	**L29M**	59.08	32	P	P	08 03 51.8 +0.7
	baz=284,SNR=19					
M29M	**Somme Creek**	59.10	33	P	P	08 03 53.0 +1.7
	baz=284,SNR=14					
K29M	**Barlow Dome**	59.17	31	P	P	08 03 52.5 +0.7
	baz=284,SNR=14					
YUK4	**Talbot Arm**	59.29	34	P	P	08 03 53.7 +1.0
	baz=285,SNR=6.3					
I30M	**Mount Dempster**	59.31	29	P	P	08 03 54.0 +1.2
	baz=284,SNR=39					
PNL	**Peninsula**	59.36	36	P	P	08 03 53.2 +0.1
	baz=285					
J30M	**Hart River**	59.49	30	P	P	08 03 55.3 +1.3
	baz=285,SNR=13					
YUK6	**Outpost Mounta**	59.52	34	P	P	08 03 55.3 +0.9
	baz=285,SNR=7.6					
O29M	**Mount Kennedy**	59.59	35	P	P	08 03 55.2 +0.5
	baz=285,SNR=9.0					
INK	**Inuvik**	59.63	26	LR	LR	08 32 29.9
	comp=Z,560nm,18.3s,baz=276,slow=39					
INK	**Inuvik**	59.63	26	P	P	08 03 55.4 +0.7
	baz=285,SNR=18					
G31M	**Satah River**	59.71	27	P	P	08 03 55.6 +0.3
	baz=285,SNR=16					
F31M	**Tsiigehtchic**	59.77	27	P	P	08 03 55.9 +0.2
	baz=285,SNR=12					
M30M	**Minto, Yukon**	59.81	32	P	P	08 03 57.9 +1.7
	baz=286,SNR=11					
KIRV	**Kirov**	59.87	323	LR	LR	08 32 34.2
	comp=Z,652nm,18.4s,baz=73,slow=39					
KIRV	**Kirov**	59.87	323	*d iP*	P	08 03 55.7 -0.8
MAYO	**Mayo, Yukon**	59.94	31	P	P	08 03 58.3 +1.4
	baz=286					
HYT	**Haines Junctio**	59.96	34	P	P	08 03 58.3 +1.1
HYT				IAmb	IAmb	08 04 00.4
	comp=Z,39nm,1.1s					
HYT	**Haines Junctio**	59.96	34	P	P	08 03 58.7 +1.4
	baz=286,SNR=8.6					
N30M	**Aishikik Lake**	59.98	34	P	P	08 03 58.4 +1.1
	baz=286					
H31M	**Peel River**	59.98	28	P	P	08 03 58.2 +0.9
H31M	**Peel River**	59.98	28	P	P	08 03 57.8 +0.6
	baz=286,SNR=22					
P29M	**Windy Craggy**	60.18	36	P	P	08 03 59.5 +0.8
	baz=286					
P30M	**Million Dollar**	60.41	35	P	P	08 04 00.8 +0.4
	baz=287					
N31M	**Braeburn, Yuko**	60.58	33	P	P	08 04 02.1 +0.7
	baz=287,SNR=8.4					
EIDS	**Eidsvold**	60.62	164	P	P	08 04 03.1 +1.1
O30N	**Mendenhall**	60.64	34	P	P	08 04 02.2 +0.3
	baz=287					
PLBC	**Pleasant Camp**	60.90	36	P	P	08 04 04.8 +1.3
	baz=288					
M31M	**Drury Creek, Y**	60.99	32	P	P	08 04 05.2 +1.0
	baz=288,SNR=10.0					
OOD	**Oodnadatta**	61.13	180	P	P	08 04 05.6 +0.2
A36M	**Sachs Harbour**	61.21	20	P	P	08 04 06.1 +0.7
	baz=290,SNR=45					
WHY	**Whitehorse**	61.24	34	P	P	08 04 06.5 +0.5
	baz=288,SNR=10					
INKA	**Innaminka**	61.30	174	P	P	08 04 07.1 +0.6
SKAG	**Skagway**	61.40	36	P	P	08 04 07.9 +1.0
	baz=288					
S31K	**Pelican**	61.42	37	P	P	08 04 08.2 +1.1
	baz=288					
FARO	**Faro, Yukon**	61.45	32	P	P	08 04 08.6 +1.3
	baz=288,SNR=15					
R31K	**City Hall, Gus**	61.53	37	P	P	08 04 08.8 +1.0
	baz=289					
N32M	**Quiet Lake**	61.92	33	P	P	08 04 11.5 +1.0
	baz=289					
MEEK	**Meekatharra**	62.02	197	P	P	08 04 10.7 -0.8
P32M	**Atlin**	62.14	35	P	P	08 04 12.4 +0.4
	baz=290					
SIT	**Sitka**	62.18	38	P	P	08 04 12.4 +0.2
	baz=290					
R32K	**Eaglecrest**	62.18	37	P	P	08 04 13.9 +1.6
	baz=290					
P33M	**Teslin, Yukon**	62.35	34	P	P	08 04 14.8 +1.4
	baz=290,SNR=7.2					
S32K	**Killisnoo**	62.42	38	P	P	08 04 15.2 +1.3
	baz=290					
C36M	**Paulatuk**	62.54	23	P	P	08 04 14.8 +0.4
	baz=293,SNR=83					
BELG	**Belogornoye**	62.78	316	*c iP*	P	08 04 15.0 -1.2
BELG				pmax	pmax	
	comp=Z,12nm,1.1s					
SPITS	**Spitsbergen Ar**	62.80	348	P	P	08 04 15.8 -0.3
	comp=Z,9.5nm,0.6s,baz=93,slow=11,SNR=8.4					
SPITS				LR	LR	08 32 38.1
	comp=Z,611nm,21.9s,baz=7.5,slow=37					
	comp=Z,9.5nm,0.6s					
DZM	**Mont Dzumac**	62.91	147	*e*P	P	08 04 23.5 +5.9
	comp=Z,70nm,1.1s					
DZM				*e*S	S	08 12 43.2 -1.5
	comp=Z,157nm,25.6s					
DZM				*e*SS	SS	08 16 48.5 -2.5
	comp=Z,113nm,23.5s					
DZM				*e*LR	LR	08 23 08.3
	comp=Z,586nm,22.9s					
DZM	**Mont Dzumac**	62.91	147	LR	LR	08 28 35.4
	comp=Z,270nm,21.3s,baz=13,slow=33					
Q32M	**Nakina River**	63.05	36	P	P	08 04 19.2 +0.9
	baz=291					
LVZ	**Lovozero**	63.07	335	P	P	08 04 17.3 -0.7
	comp=Z,30nm,2.7s					
T33K	**Petersburg**	63.48	38	P	P	08 04 21.6 +0.8
	baz=291					
R33M	**Jennings River**	63.52	35	P	P	08 04 22.9 +1.7
	baz=292					
MULG	**Mulgathing**	63.62	181	P	P	08 04 22.4 +0.4
APA	**Apatity**	63.64	335	⇓*iP*	P	08 04 19.4 -2.3
APA				*i*		08 06 39.5
APA				*i* S	S	08 12 47.0 -5.6
APA				*i* SS	SS	08 16 59.0 -0.8
APA				pmax	pmax	
	comp=Z,10.0nm,1.0s					
APA				MLR	MLR	
	comp=Z,400nm,14.0s					
U33K	**Whale Pass**	63.65	39	P	P	08 04 23.2 +1.2
	baz=292					
ALE	**Alert**	63.72	3	P	P	08 04 22.2 +0.1
ALE				pP	pP	08 04 33.8 -0.2
LCRK	**Leigh Creek**	63.84	177	P	P	08 04 24.5 +1.1
KLMR	**Klimovskoe**	63.86	327	*e*P	P	08 04 15.9 -7.4
KLMR				pmax	pmax	
	comp=Z,30nm,1.9s					
KLMR				MLR	MLR	
	comp=Z,509nm,17.0s					
CRAG	**Craig**	63.89	39	P	P	08 04 25.2 +1.7
	baz=292					
WRAK	**Wrangell Islan**	63.94	38	P	P	08 04 25.5 +1.7
	baz=292					
S34M	**Telegraph Cree**	63.99	36	P	P	08 04 25.3 +1.0
	baz=292					
WTLY	**Watson Lake, Y**	64.26	34	P	P	08 04 26.3 +0.3
	baz=293					
DLBC	**Dease Lake**	64.33	36	LR	LR	08 35 11.9
	comp=Z,399nm,19.2s,baz=307,slow=38					
DLBC	**Dease Lake**	64.33	36	P	P	08 04 27.8 +1.3
	baz=293					
FORT	**Forrest**	64.47	187	P	P	08 04 28.0 +0.5
T35M	**Bob Quinn**	64.79	37	P	P	08 04 30.6 +1.1
	baz=293,SNR=6.1					
MORW	**Morawa**	65.00	199	P	P	08 04 30.7 -0.3
WRGLY	**Wrigley**	65.29	29	P	P	08 04 33.9 +1.3
	baz=296,SNR=5.9					
ARCES	**ARCESS Array B**	65.31	339	P	P	08 04 31.7 -1.0
ARCES				IAmb	IAmb	08 04 47.0
	comp=Z,84nm,1.9s					
ARCES	**ARCESS Array B**	65.31	339	P	P	08 04 32.3 -0.3
	comp=Z,4.9nm,0.9s,baz=58,slow=8.0,SNR=8.5					
ARCES				pP	pP	08 04 44.5 0.0
	comp=Z,6.3nm,0.8s,baz=57,slow=8.8,SNR=5.4					
ARCES				LR	LR	08 36 45.0
	comp=Z,320nm,20.2s,baz=70,slow=39					
	comp=Z,4.9nm,0.9s					
MSVF	**Nonsavu**	65.42	135	LR	LR	08 26 40.1
	comp=Z,177nm,21.6s,baz=181,slow=30					
STKA	**Stephens Creek**	65.48	174	P	P	08 04 34.3 +0.3
STKA	**Stephens Creek**	65.48	174	P	P	08 04 34.2 +0.1
	comp=Z,7.9nm,0.7s,baz=340,slow=8.3,SNR=18					
STKA				LR	LR	08 33 37.1
	comp=Z,190nm,19.8s,baz=350,slow=36					
	comp=Z,7.9nm,0.7s					
STKA	**Stephens Creek**	65.48	174	P	P	08 04 34.9 +0.8
STKA	**Stephens Creek**	65.48	174	⇓*iP*	P	08 04 34.5 +0.4
ARMA	**Armidale**	65.61	164	P	P	08 04 36.2 +1.1
CMSA	**Cobar Meteorol**	65.61	170	P	P	08 04 36.3 +1.4
LIRD	**Liard River Hi**	65.80	34	P	P	08 04 36.8 +0.9
	baz=295,SNR=11					
SGF	**Sodankyl**	66.05	336	P	P	08 04 37.6 +0.2
SGF				pmax	pmax	
	comp=Z,17nm,1.1s					
BBOO	**Buckleboo**	66.14	179	P	P	08 04 38.8 +0.5
JASK	**Jask - Hormozg**	66.19	286	P	P	08 04 39.5 +0.5
WHYH	**Whyalla**	66.39	178	P	P	08 04 41.0 +1.1
KOTAN	**Kotaneelee Air**	66.41	32	P	P	08 04 40.5 +0.7
	baz=297					
TOAD	**Toad River Com**	66.44	34	P	P	08 04 41.2 +1.1
	baz=296					
MAK	**Makhachkala**	66.48	307	*e*P	P	08 04 37.8 -2.8
MAK				*e*PPP	PPP	08 08 39.1
MAK				*e*S	S	08 13 24.6 -3.6
MAK				MLR	MLR	
	comp=Z,2μm,17.0s					
JOF	**Joensuu**	66.49	331	*e*P	P	08 04 39.6 -0.7
VRH	**Novokhopyorsk**	66.62	317	*e*P	P	08 04 40.5 -0.8
VRH				pmax	pmax	
	comp=Z,43nm,0.9s					
WSAR	**Wadi Sarin**	66.78	283	LR	LR	08 37 02.4
	comp=Z,374nm,20.5s,baz=81,slow=39					
WBK	**Wadi Bani Khal**	66.80	282	P	P	08 04 43.2 +0.2
WBK				P	P	08 04 43.2 +0.2
MOS	**Moscow**	66.88	322	*e*P	P	08 04 41.5 -1.4
MOS				*e*		08 04 53.4
MOS				pmax	pmax	
	comp=N,45nm,0.7s					
MOS				pmax	pmax	
	comp=Z,73nm,1.1s					
KLBR	**Kellerberrin**	66.98	196	P	P	08 04 43.2 -0.5
RES	**Resolute Bay**	67.05	13	P	P	08 04 44.1 +0.4
RES	**Resolute Bay**	67.05	13	LR	LR	08 35 16.4
	comp=Z,319nm,21.3s,baz=354,slow=37					
RES	**Resolute Bay**	67.05	13	P	P	08 04 44.1 +0.4
RES				pmax	pmax	
	comp=Z,13nm,0.9s					
SMDO	**Samad**	67.34	283	P	P	08 04 46.5 0.0
SMDO				P	P	08 04 46.5 0.0
LKRN	**Lenkeran, Azer**	67.41	302	P	P	08 04 46.6 0.0
SEKA	**Sheki**	67.43	305	P	P	08 04 46.7 -0.1
SHME	**Shamm**	67.48	287	P	P	08 04 47.3 +0.1
SHME	**Shamm**	67.48	287	P	P	08 04 47.5 +0.2
	SNR=5.5					
LPSR	**Galich'ya Gora**	67.57	319	*e*P	P	08 04 45.4 -2.0
LPSR				pmax	pmax	
	comp=Z,80nm,1.0s					
JMDO	**Jabal Madar**	67.62	283	P	P	08 04 47.8 -0.3
JMDO				P	P	08 04 47.8 -0.3
HOQ	**Hoqain**	67.69	284	P	P	08 04 49.4 +0.8
OBN	**Obninsk**	67.69	322	P	P	08 04 47.2 -0.9
	comp=Z,16nm,0.4s,baz=89,slow=1.6,SNR=9.8					
	comp=Z,16nm,0.4s					
OBN	**Obninsk**	67.69	322	*de*P	P	08 04 47.4 -0.7
OBN				*i* *PP	pP	08 04 59.0 -0.9
OBN				*e*		08 05 08.6
OBN				*i* S	S	08 13 47.8 +5.4
OBN				*i* PS	PnS	08 14 11.5 +2.7
OBN				*e*SS	SS	08 18 10.6 +7.4
OBN				pmax	pmax	
	comp=Z,73nm,1.3s					
OBN				MLR	MLR	
	comp=Z,324nm,16.0s					
OBN	**Obninsk**	67.69	322	P	P	08 04 47.4 -0.7
	comp=Z,58nm,1.3s					
MNGR	**Mingechevir, A**	67.70	305	P	P	08 04 48.8 +0.4
MDH	**Madha**	67.70	286	P	P	08 04 47.0 -1.6
MASF	**Masafi**	67.78	286	P	P	08 04 50.1 +0.9
MASF				P	P	08 04 50.1 +0.9
MSFE	**Esma-Masafi**	67.78	286	P	P	08 04 50.1 +0.9
VORR	**Voronezh**	67.83	318	*e*P	P	08 04 48.2 -0.8
VORR				pmax	pmax	
	comp=Z,44nm,0.7s					
UOSS	**Minazif**	67.94	286	P	P	08 04 50.7 +0.5
UOSS	**Minazif**	67.94	286	P	P	08 04 50.7 +0.5
BBB	**Bella Bella**	67.95	41	LR	LR	08 34 38.1
	comp=Z,166nm,19.8s,baz=326,slow=36					
HATD	**Hatta, Dubai**	68.06	286	*i* P	P	08 04 51.4 +0.5
	SNR=7.2					
HATD	**Hatta, Dubai**	68.06	286	P	P	08 04 51.7 +0.8
	SNR=7.3					
SOHO	**SOHO**	68.06	285	*i* P	P	08 04 50.8 -0.1
	SNR=13					
SOHO	**SOHO**	68.06	285	P	P	08 04 50.9 -0.1
VSR	**Storozhevoye**	68.06	318	*e*P	P	08 04 48.7 -1.8
VSR				pmax	pmax	
	comp=Z,90nm,1.1s					
VORD	**Divnogorie**	68.10	317	*e*P	P	08 04 49.6 -1.1
VORD				pmax	pmax	
	comp=Z,40nm,1.1s					
BSY	**Bisya**	68.17	283	P	P	08 04 51.6 -0.1
BSY				P	P	08 04 51.6 -0.1
ASHO	**Ashiyiah**	68.18	286	*i* P	P	08 04 51.5 -0.2
	SNR=6.7					
ASHO	**Ashiyiah**	68.18	286	P	P	08 04 51.6 -0.2
MGCD	**Mangrove Creek**	68.19	166	P	P	08 04 52.9 +1.6
GANJ	**Ganja**	68.28	305	P	P	08 04 52.4 +0.3
NWAO	**Narrogin (SRO)**	68.38	196	LR	LR	08 35 11.6
	comp=Z,126nm,21.4s,baz=90,slow=36					
NWAO	**Narrogin (SRO)**	68.38	196	P	P	08 04 52.1 -0.4
NWAO				pP	pP	08 05 03.7 -0.5
MHTO	**MHTO**	68.39	281	P	P	08 04 53.0 0.0
	SNR=9.8					
MHTO				P	P	08 04 53.0 0.0
	SNR=9.8					
ARQ	**Araqi**	68.44	284	P	P	08 04 53.5 +0.1
	SNR=13					
FAQ	**Al Faqa, Dubai**	68.53	286	P	P	08 04 53.8 0.0
FAQ	**Al Faqa, Dubai**	68.53	286	P	P	08 04 53.2 -0.7
DAG	**Danmarks Havn**	68.62	354	P	P	08 04 53.5 0.0
DAG				pmax	pmax	
	comp=Z,20nm,1.9s					
DAG	**Danmarks Havn**	68.62	354	*i* P	P	08 04 51.9 -1.6
DAG				IAmb	IAmb	08 04 54.4
	comp=Z,13nm,0.9s					
SYDH	**Sydney Hard Ro**	68.65	166	P	P	08 04 56.1 +2.0
ALNE	**Al Ain**	68.72	285	*i* P	P	08 04 55.3 +0.2
	SNR=15					
ALNE	**Al Ain**	68.72	285	P	P	08 04 54.1 -1.0
	SNR=7.5					
YNG	**Young**	68.74	168	P	P	08 04 55.9 +1.2
ASUD	**Al Ashush, Dub**	68.79	286	P	P	08 04 55.1 -0.4
ASUD	**Al Ashush, Dub**	68.79	286	P	P	08 04 56.7 +1.2
NEEM	**North Greenlan**	69.07	1	*i* P	P	08 04 56.3 -0.4
NEEM				IAmb	IAmb	08 04 58.0
	comp=Z,17nm,0.7s					
AJN	**Ajban**	69.10	286	P	P	08 04 55.9 -1.4
KBZ	**Khabaz**	69.17	309	P	P	08 04 57.1 -0.4
	comp=Z,36nm,0.9s,baz=102,slow=1.5,SNR=40					
KBZ				pP	pP	08 05 09.6 +0.1
	comp=Z,30nm,0.9s,baz=114,slow=1.0,SNR=8.0					
KBZ				LR	LR	08 36 56.7
	comp=Z,659nm,21.9s,baz=60,slow=37					
	comp=Z,36nm,0.9s					
KBZ	**Khabaz**	69.17	309	*i* P	P	08 04 57.1 -0.4
KBZ				pmax	pmax	
	comp=Z,63nm,1.1s					
YKA	**Yellowknife Ar**	69.19	28	P	P	08 04 57.5 +0.3
	comp=Z,5.5nm,0.9s,baz=327,slow=21,SNR=8.4					
YKA				pP	pP	08 05 08.3 -0.9
	comp=Z,7.8nm,0.9s,baz=301,slow=6.2,SNR=7.1					
	comp=Z,5.5nm,0.9s					
KIV	**Kislovodsk**	69.21	309	*i* P	P	08 04 58.3 +0.4
	SNR=6.2					
KIV	**Kislovodsk**	69.21	309	P	P	08 04 57.6 -0.3
KIV	**Kislovodsk**	69.21	309	⇑P	P	08 04 57.1 -0.8
KIV	**Kislovodsk**	69.21	309	*e*P	P	08 04 57.6 -0.3
KIV				*e*S	S	08 14 00.6 -0.5
KIV				pmax	pmax	
	comp=Z,56nm,1.1s					
KIV				pmax	pmax	
	comp=Z,33nm,3.0s					
KIV				MLR	MLR	
	comp=Z,290nm,17.0s					
KIV	**Kislovodsk**	69.21	309	P	P	08 04 58.1 +0.2
	comp=Z,60nm,1.1s,comp=Z,696nm					
DQM	**DQM**	69.25	281	P	P	08 04 57.2 -1.2
DQM				P	P	08 04 57.2 -1.2
FIA1	**FINESS Array S**	69.36	331	P	P	08 04 57.3 -1.1
FINES	**FINESS Array B**	69.36	331	P	P	08 04 57.7 -0.7
FINES	**FINESS Array B**	69.36	331	P	P	08 04 57.5 -0.8
	comp=Z,17nm,0.9s,baz=64,slow=8.9,SNR=21					
FINES				pP	pP	08 05 09.5 -0.8
	comp=Z,11nm,0.8s,baz=76,slow=8.0,SNR=7.9					
	comp=Z,17nm,0.9s					
FINES	**FINESS Array B**	69.36	331	P	P	08 04 57.7 -0.7
TRLG	**Trialeti**	69.38	307	P	P	08 04 58.9 -0.2
KEF	**Keuruu**	69.44	332	*e*P	P	08 04 57.6 -1.3
NAX	**Nakhchivan**	69.50	304	P	P	08 04 59.9 +0.1
GNI	**Garni**	69.58	305	P	P	08 04 59.1 -1.2
	comp=Z,12nm,0.7s,baz=190,slow=6.9,SNR=5.4					
	comp=Z,12nm,0.7s					
GNI	**Garni**	69.58	305	P	P	08 04 59.5 -0.8
GNI				P	P	08 04 59.5 -0.8
GNI	**Garni**	69.58	305	*d iP*	P	08 05 00.9 +0.6
GNI				pmax	pmax	
	comp=Z,34nm,1.1s					
GNI	**Garni**	69.58	305	P	P	08 05 00.0 -0.3
	comp=Z,50nm,0.9s,comp=Z,799nm					
VAF	**Ylistaro**	69.79	333	*e*P	P	08 05 01.5 +0.5
UMZA	**Um Al Zommool**	69.84	284	P	P	08 05 01.0 -0.9
UMZA				P	P	08 05 01.0 -0.9
LABN	**Labinsk**	70.14	311	*e*P	P	08 05 04.0 +0.5
LABN				pmax	pmax	
	comp=Z,48nm,0.4s					
VSU	**Vasula**	70.70	328	P	P	08 05 07.8 +1.2
VSU				pmax	pmax	
	comp=Z,43nm,1.3s					
MZR	**Muzera**	71.06	285	*i* P	P	08 05 08.4 -1.0
	SNR=6.3					
MZR	**Muzera**	71.06	285	P	P	08 05 08.7 -0.7
SOC	**Sochi**	71.28	310	*e*P	P	08 05 09.6 -0.9
SOC				*e*		08 07 50.7
SOC				*e*PPP	PPP	08 09 30.8
SOC				*e*S	S	08 14 26.4 +1.3
SOC				*e*		08 15 06.6
SOC				*e*SS	SS	08 19 03.8 +4.8
SOC				pmax	pmax	
	comp=Z,30nm,0.9s					
SOC				MLR	MLR	
	comp=Z,348nm,16.0s					
BRAT	**Ballarat**	71.32	173	P	P	08 05 12.0 +1.5
SHMA	**Al-Shehemyia**	71.67	289	P	P	08 05 10.7 -2.4
ANN	**Anapa**	72.12	312	*e*P	P	08 05 14.6 -0.9
ANN				pmax	pmax	
	comp=Z,104nm,1.1s					
ANN				MLR	MLR	
	comp=Z,388nm,21.0s					
MNK	**Minsk**	72.35	324	*i* P	P	08 05 16.9 +0.2
	comp=E,666nm,22.1s,baz=324					
MNK				*i* P	P	08 05 16.9 +0.2
	comp=N,15nm,1.0s,baz=324					
MNK				*i* P	P	08 05 16.9 +0.2
	comp=Z,36nm,1.1s,baz=324					
MNK				*i* PP	PP	08 07 56.8 -0.4
	baz=324					
MNK				*i* PPP	PPP	08 09 40.7
	baz=324					
MNK				*i* S	S	08 14 36.9 0.0
	baz=324					
MNK				*i* SS	SS	08 19 17.4 +2.6
	baz=324					
MNK				*i* SSS	SSS	08 22 38.4
	baz=324					
MNK				*i* LQ	LQ	08 32 22.5
	baz=324					
MNK				*i* LR	LR	08 38 08.6
	baz=324					
MNK				*i* LRM	MLR	08 39 36.5
	comp=E,666nm,22.1s,baz=324					
MNK				*i* LRM	MLR	08 40 01.8
	comp=N,797nm,20.5s,baz=324					
MNK				*i* LRM	MLR	08 40 40.8
	comp=Z,698nm,18.3s,baz=324					
MNK	**Minsk**	72.35	324	*i* P	P	08 05 16.8 +0.2
MNK				*i*		08 07 56.8
MNK				*i* PPP	PPP	08 09 40.7
MNK				*i* S	S	08 14 36.9 0.0
MNK				*i* SS	SS	08 19 17.3 +2.6
MNK				pmax	pmax	
	comp=N,15nm,1.0s					
MNK				pmax	pmax	
	comp=Z,36nm,1.1s					
MNK				pmax	pmax	
	comp=E,666nm,22.1s					
MNK				MLR	MLR	
	comp=E,666nm,22.0s					
MNK				MLR	MLR	
	comp=N,797nm,20.0s					
MNK				MLR	MLR	
	comp=Z,698nm,18.0s					
DMTO	**DMTO**	72.48	280	P	P	08 05 18.1 0.0
	SNR=5.1					
DMTO				P	P	08 05 18.1 0.0
	SNR=5.1					

RBK Rabkut 73.20 280 P **P 08 05 21.2 -1.1**
SNR=9.2
RBK P **P 08 05 21.2 -1.1**
SNR=9.2
WHFO Wadi Hawf 73.34 281 P **P 08 05 21.7 -1.5**
SNR=12
WHFO P **P 08 05 21.7 -1.5**
SNR=12
AK03 Malin Array Si 73.75 320 P **P 08 05 24.0 -1.0**
AKASG Malin Array Be 73.76 320 P **P 08 05 23.9 -1.1**
comp=Z,3.9nm,0.5s,baz=50,slow=6.2,SNR=59
AKASG pP **pP 08 05 35.9 -1.2**
comp=Z,11nm,0.7s,baz=53,slow=6.2,SNR=14
AKASG LR LR 08 39 52.7
comp=Z,693nm,20.6s,baz=62,slow=37
comp=Z,3.9nm,0.5s
AKBB Malin Array Si 73.76 320 *d iP* **P 08 05 23.8 -1.2**
AKBB pmax pmax
comp=Z,30nm,1.1s
AKBB Malin Array Si 73.76 320 P **P 08 05 24.4 -0.6**
AK01 Malin Array Si 73.77 320 P **P 08 05 23.9 -1.2**
KIEV Kiev 73.77 320 P **P 08 05 24.0 -1.1**
KIEV IAmb IAmb 08 05 37.5
comp=Z,25nm,0.8s
KIEV Kiev 73.77 320 *i* P **P 08 05 24.6 -0.5**
SNR=13
KIEV Kiev 73.77 320 P **P 08 05 24.0 -1.1**
KIEV pmax pmax
comp=Z,25nm,0.8s
KIEV Kiev 73.77 320 P **P 08 05 24.4 -0.7**
comp=Z,140nm,1.3s
AK04 Malin Array Si 73.78 320 P **P 08 05 24.5 -0.7**
AK08 Malin Array Si 73.78 320 P **P 08 05 24.2 -1.0**
AK02 Malin Array Si 73.79 320 P **P 08 05 24.0 -1.2**
AK10 Malin Array Si 73.80 320 P **P 08 05 24.3 -1.0**
AK11 Malin Array Si 73.80 320 P **P 08 05 24.3 -1.0**
AK22 Malin Array Si 73.81 321 P **P 08 05 24.0 -1.3**
AK21 Malin Array Si 73.81 321 P **P 08 05 24.0 -1.4**
AK05 Malin Array Si 73.81 320 P **P 08 05 24.3 -1.1**
AK15 Malin Array Si 73.81 320 P **P 08 05 24.5 -0.9**
SUMG Summit 73.95 358 P **P 08 05 26.6 +0.3**
SUMG IAmb IAmb 08 05 51.2
comp=Z,32nm,1.0s
SUMG Summit 73.95 358 P **P 08 05 26.6 +0.3**
SUMG pmax pmax
comp=Z,32nm,1.0s
SUMG Summit 73.95 358 *i* P **P 08 05 26.8 +0.5**
SUMG IAmb IAmb 08 05 28.3
comp=Z,13nm,0.8s
ABTO Aybut 74.02 280 P **P 08 05 27.0 -0.2**
SNR=12
ABTO P **P 08 05 27.0 -0.2**
SNR=12
SIM Simferopol' 74.07 314 *eP* **P 08 05 26.7 -0.3**
SIM *eS* **S 08 14 54.1 -2.8**
SIM pmax pmax
comp=Z,58nm,1.2s
MI28 Mi28,Pidlybu 74.45 321 P **P 08 05 28.0 -1.1**
comp=Z,165nm,0.9s
HFS Hagfors 74.96 334 P **P 08 05 31.3 -0.6**
comp=Z,9.1nm,1.0s,baz=60,slow=4.1,SNR=10
HFS pP **pP 08 05 43.9 0.0**
comp=Z,9.0nm,0.6s,baz=64,slow=6.8,SNR=9.1
comp=Z,9.1nm,1.0s
LUBAR Lubar, Ukraine 74.97 320 P **P 08 05 30.8 -1.4**
BAL3X Bal3x, Balta 75.08 318 P **P 08 05 32.5 -0.3**
RNPP9 Sopachiv 75.09 322 P **P 08 05 31.7 -1.1**
DIKM Dikmen 75.10 310 ⇓P P 08 05 22.4 -11
RNPP5 Staryi Chortor 75.20 322 P **P 08 05 32.0 -1.4**
NB2 NORSAR Subarra 75.22 335 P **P 08 05 32.4 -1.0**
comp=Z,21nm,1.0s,baz=50,slow=5.9
NB2 NORSAR Subarra 75.22 335 P **P 08 05 32.4 -1.0**
baz=50,slow=5.9
NOA NORSAR Array B 75.22 335 P **P 08 05 32.7 -0.7**
comp=Z,4.5nm,0.9s,baz=44,slow=5.8,SNR=6.3
comp=Z,4.5nm,0.9s
SORM Soroca 75.67 319 ⇑P P 08 05 30.8 -5.4
NEW Newport 76.01 41 LR LR 08 39 01.6
comp=Z,164nm,20.6s,baz=315,slow=36
NEW Newport 76.01 41 P **P 08 05 39.6 +1.4**
NEW pmax pmax
comp=Z,17nm,2.5s
HORU Horodok 76.09 320 P **P 08 05 37.7 -0.9**
YBH Yreka Blue Hor 76.37 49 LR LR 08 35 10.6
comp=Z,188nm,21.5s,baz=305,slow=32
LVV L'vov 76.99 322 P **P 08 05 44.2 +0.6**
VLDR Vladesti 77.13 317 ⇑P **P 08 05 44.7 +0.2**
RAYN Ar Rayn 77.14 290 *i* P **P 08 05 44.6 -0.4**
SNR=20
RAYN Ar Rayn 77.14 290 ⇑P **P 08 05 44.8 -0.2**
BR131 Keskin Array S 77.17 309 *d iP* **P 08 05 44.5 -0.5**
BRTR Keskin Array B 77.17 309 P **P 08 05 44.3 -0.7**
comp=Z,16nm,1.0s,baz=96,slow=5.0,SNR=30
BRTR pP **pP 08 05 56.9 -0.2**
comp=Z,20nm,0.8s,baz=95,slow=5.3,SNR=17
BRTR LR LR 08 43 21.9
comp=Z,431nm,21.1s,baz=58,slow=38
comp=Z,16nm,1.0s
BR104 Keskin Array S 77.18 309 P **P 08 05 45.1 0.0**
comp=Z,34nm,0.9s,comp=Z,220nm
BR106 Keskin Array S 77.18 309 P **P 08 05 45.1 0.0**
comp=Z,23nm,0.9s,comp=Z,165nm
BR105 Keskin Array S 77.19 309 P **P 08 05 45.2 +0.1**
comp=Z,30nm,0.9s,comp=Z,211nm
KIRS Kirsehir-Merke 77.31 309 ⇑P **P 08 05 45.8 0.0**
KSV Kosov 77.35 320 P **P 08 05 45.8 +0.1**
KSV Kosov 77.35 320 P **P 08 05 44.9 -0.8**
STNU Starunia 77.41 321 P **P 08 05 45.7 -0.3**
ICESG Greenland Ices 77.47 358 *i* P **P 08 05 47.5 +1.1**
ICESG IAmb IAmb 08 05 48.2
comp=Z,5.2nm,0.8s
MORS Morshin 77.48 321 P **P 08 05 45.0 -1.4**
CFR Carcaliu 77.48 316 ⇑P **P 08 05 45.1 -1.3**
CFR Carcaliu 77.48 316 ⇑P **P 08 05 45.1 -1.3**
TESR Tescani 77.55 318 ⇑P **P 08 05 46.3 -0.5**
TESR Tescani 77.55 318 P **P 08 05 46.4 -0.5**
comp=Z,34nm,1.4s
ANTO Ankara 77.64 310 P **P 08 05 47.2 -0.3**
ANTO pmax pmax
comp=Z,22nm,0.7s
ANTO Ankara 77.64 310 P **P 08 05 47.5 0.0**
comp=Z,11nm,0.7s
PETR Petresti 77.68 317 ⇑P P 08 05 59.0 +11
BURAR Bucovina Array 77.69 319 P **P 08 05 47.1 -0.6**
BURAR Bucovina Array 77.69 319 ⇑P **P 08 05 48.0 +0.3**
BURAR Bucovina Array 77.69 319 ⇑P **P 08 05 48.0 +0.3**
SHIU Shidnytsya 77.70 321 P **P 08 05 48.3 +0.6**
ONER Baraj Valea Uz 77.80 318 ⇑P **P 08 05 48.8 +0.6**
VRI Vrincioaia 77.89 317 ⇑P **P 08 05 50.2 +1.5**
VRI Vrincioaia 77.89 317 ⇑P **P 08 05 50.2 +1.5**
VRI Vrincioaia 77.89 317 P **P 08 05 49.3 +0.5**
comp=Z,19nm,1.0s,comp=Z,227nm
TLBR Topalu 77.90 316 ⇑P **P 08 05 48.9 +0.1**
PLOR Plostina 77.94 317 ⇑P **P 08 05 49.4 +0.3**
PLOR Plostina 77.94 317 ⇑P **P 08 05 49.4 +0.3**
RAKU Rahkiv 78.00 320 P **P 08 05 49.1 -0.3**
BISRR Bisoca 78.08 317 ⇑P **P 08 05 51.8 +1.9**
TURR Turia 78.17 318 ⇑P **P 08 05 50.8 +0.4**
OZUR 78.28 318 ⇓P **P 08 05 50.9 -0.1**
ISR Istrita 78.43 317 ⇓P **P 08 05 52.3 +0.5**
ISR Istrita 78.43 317 ⇓P **P 08 05 52.3 +0.5**
KOLS Kolonicke sedl 78.44 322 *eP* **P 08 05 52.9 +1.1**
KOLS pmax pmax
comp=Z,8.0nm,1.3s
KOLS Kolonicke sedl 78.44 322 *eP* **P 08 05 52.9 +1.1**
WVOR Wild Horse Val 78.49 47 P **P 08 05 53.1 +0.8**
WVOR pmax pmax
comp=Z,14nm,1.2s
MLR Muntele Rosu 78.55 317 LR LR 08 44 24.2
comp=Z,360nm,18.3s,baz=50,slow=39
MLR Muntele Rosu 78.55 317 ⇑P **P 08 05 54.1 +1.5**
MLR Muntele Rosu 78.55 317 ⇑P **P 08 05 54.1 +1.5**
DOPR Dopca 78.58 318 ⇑P **P 08 05 53.5 +0.9**
HOLU Holmets 78.64 321 P **P 08 05 52.7 -0.1**
STHS Stebnicka Huta 78.67 323 *eP* **P 08 05 52.9 -0.1**
STHS *e* 08 06 05.3
STHS pmax pmax
comp=Z,10.0nm,1.2s
STHS Stebnicka Huta 78.67 323 *eP* **P 08 05 52.9 -0.1**
STHS *e* 08 06 05.3
OJC Ojcow 78.88 324 *eP* **P 08 05 53.9 -0.3**
OJC Ojcow 78.88 324 P **P 08 05 53.5 -0.7**
OJC IAmb IAmb 08 05 55.4
comp=Z,61nm,1.6s
OJC Ojcow 78.88 324 P **P 08 05 53.5 -0.7**
OJC pmax pmax
comp=Z,61nm,1.6s
OVMT Ovando 78.97 40 P **P 08 05 54.7 -0.2**
ASF Jabal al Asfar 79.05 301 P **P 08 05 55.4 -0.1**
comp=Z,8.5nm,0.9s,baz=29,slow=0.0,SNR=8.1
ASF pP **pP 08 06 08.2 +0.7**
comp=Z,9.0nm,0.8s,baz=114,slow=0.0,SNR=6.2
comp=Z,8.5nm,0.9s
VOIR 79.09 318 ⇑P **P 08 05 55.6 +0.2**
VOIR 79.09 318 ⇑P **P 08 05 55.6 +0.2**
NIE Niedzica 79.14 323 *eP* **P 08 05 56.6 +1.0**
NIE Niedzica 79.14 323 P **P 08 05 57.3 +1.7**
NIE pmax pmax
comp=Z,7.0nm,1.3s
FFC Flin Flon 79.19 30 P **P 08 05 56.0 +0.3**
ARR Arges 79.36 318 ⇓P **P 08 05 57.8 +0.8**
MARR Marisel-Cluj 79.39 320 ⇑P **P 08 05 57.7 +0.6**
MPK Martis Peak 79.42 50 P **P 08 05 58.6 +0.9**
SFJD Kangerlussuaq 79.55 2 LR LR 08 41 36.3
comp=Z,151nm,20.8s,baz=346,slow=36
MMAI Mount Meron Ar 79.65 303 P **P 08 05 58.5 -0.3**
comp=Z,9.6nm,0.9s,baz=51,slow=6.6,SNR=15
MMAI pP **pP 08 06 10.9 +0.1**
comp=Z,27nm,1.1s,baz=61,slow=6.8,SNR=5.6
comp=Z,9.6nm,0.9s
LANS Liptovska Anna 79.73 323 *eP* **P 08 05 59.8 +0.9**
LANS *e* 08 06 12.5
LANS pmax pmax
comp=Z,7.0nm,1.2s
LANS Liptovska Anna 79.73 323 *eP* **P 08 05 59.8 +0.9**
LANS *e* 08 06 12.5
PNTR Pine Nut 79.82 50 P **P 08 06 00.7 +1.0**
ELND Elena 80.12 315 ⇓P **P 08 06 01.4 +0.4**
KSP Ksiaz 80.16 326 *eP* **P 08 06 01.0 0.0**
KSP Ksiaz 80.16 326 P **P 08 06 01.8 +0.7**
KSP pmax pmax
comp=Z,21nm,1.4s
MORC Moravsky Berou 80.27 324 *eP* **P 08 06 02.0 +0.2**
MORC Moravsky Berou 80.27 324 ⇑P **P 08 06 01.3 -0.5**
MORC Moravsky Berou 80.27 324 ⇑P **P 08 06 01.3 -0.5**
PSZ Piszkesteto 80.31 322 P **P 08 06 01.5 -0.5**
PSZ IAmb IAmb 08 06 03.6
comp=Z,40nm,1.6s
PSZ Piszkesteto 80.31 322 *eP* **P 08 06 02.6 +0.6**
PSZ Piszkesteto 80.31 322 ⇑P **P 08 05 58.8 -3.3**
PSZ Piszkesteto 80.31 322 P **P 08 06 01.5 -0.5**
PSZ pmax pmax
comp=Z,40nm,1.6s
BAND Balkesir-Ban 80.31 312 ⇓P **P 08 06 04.2 +2.1**
GZR Gura Zlata 80.38 319 ⇑P **P 08 06 02.5 +0.1**
OSTC Ostas 80.39 326 AMS AMS 08 45 30.0
comp=Z,600nm,18.4s
SIRR Siria 80.44 320 ⇑P **P 08 06 03.0 +0.3**
CHVC Chvalec 80.44 326 AMS AMS 08 44 50.0
comp=Z,600nm,20.6s
KRLC Kraliky 80.44 325 P **P 08 06 02.6 -0.1**
KRLC pmax pmax
comp=Z,6.0nm,1.3s
DPC Dobruska-Polom 80.47 325 AMS AMS 08 45 30.0
comp=Z,500nm,14.2s
DPC Dobruska-Polom 80.47 325 P **P 08 06 03.6 +0.8**
comp=Z,14nm,1.6s
VYHS Vyhne 80.48 323 *eP* **P 08 06 03.2 +0.3**
VYHS *e* 08 06 15.7
VYHS pmax pmax
comp=Z,27nm,1.6s
VYHS Vyhne 80.48 323 *eP* **P 08 06 03.2 +0.3**
VYHS *e* 08 06 15.7
SURR Surduc 80.51 319 ⇑P **P 08 06 03.4 +0.4**
UPC Upice 80.52 326 AMS AMS 08 45 40.0
comp=Z,600nm,17.9s
JAVC Velka Javorina 80.82 324 *eP* **P 08 06 05.9 +1.2**
BZS Buzias 80.87 319 P **P 08 06 04.6 -0.4**
BZS pmax pmax
comp=Z,7.0nm,1.3s
LHV Little Huntoon 81.00 50 P **P 08 06 07.1 +1.3**
NVAR Mina Array Bea 81.03 50 P **P 08 06 06.9 +0.6**
comp=Z,2.2nm,0.7s,baz=293,slow=4.6,SNR=18
NVAR pP **pP 08 06 18.9 +0.4**
comp=Z,5.1nm,0.7s,baz=287,slow=5.0,SNR=18
NVAR LR LR 08 41 37.7
comp=Z,173nm,18.0s,baz=292,slow=35
comp=Z,2.2nm,0.7s
VRAC Vranov 81.05 324 LR LR 08 45 24.8
comp=Z,384nm,20.0s,baz=46,slow=38
VRAC Vranov 81.05 324 *eP* **P 08 06 06.4 +0.5**
VRAC Vranov 81.05 324 P **P 08 06 05.5 -0.4**
VRAC pmax pmax
comp=Z,15nm,1.6s
FRB Frobisher Bay 81.09 10 LR LR 08 47 12.2
comp=Z,211nm,18.1s,baz=326,slow=39
SMOL Smolenice 81.17 323 *eP* **P 08 06 07.7 +1.2**
SMOL pmax pmax
comp=Z,11nm,1.2s
PVCC Panska Ves 81.17 326 P **P 08 06 06.3 -0.2**
PVCC pmax pmax
comp=Z,27nm,1.7s
BRG Berggiesshubel 81.22 327 *i* P **P 08 06 07.0 +0.2**
BRG Amp 08 06 08.1
comp=Z,16nm,1.2s
BRG Berggiesshubel 81.22 327 P P 08 06 18.6 +12
BRG Amp 08 06 20.5
comp=Z,16nm,1.3s
BRG Berggiesshubel 81.22 327 *i* P **P 08 06 07.0 +0.2**
BRG 08 06 18.6
BRG S **S 08 16 15.0 +1.0**
BRG pmax pmax
comp=Z,16nm,1.2s
BRG smax smax
comp=E,266nm,22.5s
KRUC Moravsky 81.31 324 *eP* **P 08 06 07.5 +0.3**
KRUC Moravsky 81.31 324 P **P 08 06 07.6 +0.3**
KRUC pmax pmax
comp=Z,16nm,1.5s
MODS Modra-Piesok 81.33 323 *eP* **P 08 06 08.2 +0.8**
MODS pmax pmax
comp=Z,66nm,1.6s
MODS Modra-Piesok 81.33 323 *eP* **P 08 06 08.2 +0.8**
CLL Collm 81.35 328 P **P 08 06 07.2 -0.2**
CLL IAmb IAmb 08 06 08.3
comp=Z,41nm,1.1s
CLL Collm 81.35 328 *i* P **P 08 06 07.1 -0.3**
CLL *i* *SP **pP 08 06 19.2 -0.3**
CLL *e*S **S 08 16 17.0 +1.8**
CLL pmax pmax
comp=Z,49nm,1.1s
CLL MLR MLR
comp=Z,500nm,20.4s
CLL Collm 81.35 328 *i* P **P 08 06 07.1 -0.3**
comp=Z,49nm,1.1s
CLL *i* sP **pP 08 06 19.2 -0.3**
CLL *e*PP **PP 08 09 15.0 +2.2**
CLL *e*S **S 08 16 17.0 +1.8**
CLL *e*SSSS 08 27 24.0
CLL AMS AMS 08 50 00.0
comp=N,400nm,21.0s
CLL AMS AMS 08 50 00.0
comp=E,300nm,21.9s
CLL AMS AMS 08 50 00.0
comp=Z,500nm,20.4s
GOPC GO Pecny, Ondr 81.50 326 AMS AMS 08 46 20.0
comp=Z,600nm,16.4s
GOPC GO Pecny, Ondr 81.50 326 P **P 08 06 08.6 +0.3**
GOPC pmax pmax
comp=Z,35nm,1.3s
ELK Elko 81.54 46 P **P 08 06 09.8 +0.8**
PRU Pruhonice 81.56 326 AMS AMS 08 45 30.0
comp=Z,400nm,20.3s
PRU Pruhonice 81.56 326 P **P 08 06 08.2 -0.4**
PRU pmax pmax
comp=Z,19nm,1.4s
TREC Trest 81.59 325 AMS AMS 08 45 40.0
comp=Z,500nm,21.4s
HSKC Hora Svate Kat 81.64 327 *eP* **P 08 06 09.7 +0.7**
HSKC AMS AMS 08 53 10.0
comp=Z,400nm,18.3s
EIL Elat 81.82 300 P **P 08 06 10.2 -0.2**
comp=Z,10nm,1.1s,baz=79,slow=5.8,SNR=5.2
EIL pP **pP 08 06 22.6 +0.2**
comp=Z,10nm,1.1s,baz=84,slow=3.9,SNR=4.5
comp=Z,10nm,1.1s
DSP Deep Springs 81.86 50 P **P 08 06 11.6 +1.3**
MPLH Magyarpolny 82.01 322 P **P 08 06 10.8 -0.2**
comp=Z,21nm,1.2s
MZP Montezuma Peak 82.04 50 P **P 08 06 11.9 +0.2**
MORH Mrgy, Hungar 82.07 321 ⇑P **P 08 06 11.4 +0.1**
MORH Mrgy, Hungar 82.07 321 P **P 08 06 10.6 -0.7**
comp=Z,8.3nm,1.9s
YER Yerkesik 82.10 309 P **P 08 06 11.7 0.0**
RONA Rosalia, Austr 82.28 323 *eP* **P 08 06 12.0 -0.5**
comp=Z,13nm,1.1s,SNR=7.3
CONA Conrad Observa 82.34 324 *i* P **P 08 06 13.5 +0.7**
comp=Z,25nm,1.4s,SNR=8.6
NKC Novy Kostel 82.35 327 P **P 08 06 13.3 +0.5**
NKC pmax pmax
comp=Z,20nm,1.4s
GMN Gold Mountain 82.36 50 P **P 08 06 14.2 +0.9**
MOX Moxa 82.44 328 P **P 08 06 13.1 -0.1**
MOX pmax pmax
comp=Z,17nm,1.6s
MOX Moxa 82.44 328 *e*L L 08 49 36.5
comp=Z,262nm,20.0s
CKRC Cesky Krumlov 82.48 325 *eP* **P 08 06 13.8 +0.4**
CKRC AMS AMS 08 45 50.0
comp=Z,500nm,19.6s
CKRC Cesky Krumlov 82.48 325 *eP* **P 08 06 13.8 +0.4**
CKRC MLR MLR
comp=Z,500nm,19.6s
RAR Rarotonga 82.51 121 LR LR 08 33 32.8
comp=Z,200nm,22.0s,baz=297,slow=29
KHC Kasperske Hory 82.61 326 *eP* **P 08 06 14.7 +0.6**
KHC AMS AMS 08 46 00.0
comp=Z,600nm,17.8s
KHC Kasperske Hory 82.61 326 *d iP* **P 08 06 13.7 -0.4**
KHC pmax pmax
comp=Z,38nm,1.1s
GEC2 GERESS Array S 82.75 325 P **P 08 06 15.1 +0.2**
GEC2 pmax pmax
comp=Z,16nm,1.1s
GERES GERESS Array B 82.75 325 P **P 08 06 15.2 +0.2**
comp=Z,6.4nm,1.0s,baz=27,slow=3.3,SNR=8.0
GERES pP **pP 08 06 27.1 0.0**
GERES LR LR 08 47 09.5
comp=Z,622nm,19.1s,baz=46,slow=39
comp=Z,6.4nm,1.0s
R11B Troy Canyon, C 82.79 48 P **P 08 06 16.2 +0.8**
baz=308
ARSA Arzberg 82.97 323 *eP* **P 08 06 16.0 0.0**
comp=Z,11nm,1.1s
WCT Wildcat Mounta 83.07 50 P **P 08 06 17.5 +0.7**
S11A Rachel 83.11 49 P **P 08 06 17.6 +0.5**
MOA Molln 83.17 324 *i* P **P 08 06 17.6 +0.5**
comp=Z,16nm,1.2s,SNR=6.2
GRA1 Grafenberg Arr 83.30 327 P **P 08 06 18.2 +0.5**
GRF Grafenberg Arr 83.30 327 P **P 08 06 18.2 +0.5**
GRF pmax pmax
comp=Z,69nm,1.1s
GRF Grafenberg Arr 83.30 327 *eP* **P 08 06 17.5 -0.2**
comp=Z,41nm,1.1s,baz=44,slow=4.7
GRF *e*L L 08 49 51.5
comp=Z,373nm,21.0s
DUG Dugway, Tooele 83.34 46 P **P 08 06 19.3 +1.1**
DUG pmax pmax
comp=Z,21nm,1.4s
GROS Grobnik 83.52 323 *eP* **P 08 06 18.2 -0.7**
PDAR Pinedale Array 83.58 42 P **P 08 06 19.1 -0.4**
PDAR Pinedale Array 83.58 42 P **P 08 06 19.7 +0.2**
comp=Z,1.3nm,0.7s,baz=296,slow=1.3,SNR=16
PDAR pP **pP 08 06 31.9 +0.1**
comp=Z,4.8nm,0.9s,baz=268,slow=1.9,SNR=13
comp=Z,1.3nm,0.7s
BIOA Bad Ischl, Aus 83.58 325 *i* P **P 08 06 19.7 +0.5**
comp=Z,19nm,1.1s,SNR=7.8
PERS Pernice 83.59 323 *eP* **P 08 06 19.0 -0.3**
SOKA Soboth 83.60 323 *eP* **P 08 06 19.4 0.0**
comp=Z,39nm,1.2s,SNR=17
BUG Bochum-Univer 83.72 330 P **P 08 06 19.7 0.0**
BUG pmax pmax
comp=Z,32nm,1.2s
GOLS Golise 83.76 322 *eP* **P 08 06 19.8 -0.4**
TNS Taunus Mts 84.13 329 P **P 08 06 22.3 +0.3**
TNS pmax pmax
comp=Z,19nm,1.6s
KBA Koelnbreinsper 84.16 324 *i* P **P 08 06 22.6 +0.3**
comp=Z,12nm,1.2s
KBA Koelnbreinsper 84.16 324 P **P 08 06 22.2 -0.1**
KBA pmax pmax
comp=Z,14nm,1.1s
SHPR Sheep Range 84.18 50 P **P 08 06 23.5 +0.8**
PDG Podgorica 84.23 318 P **P 08 06 21.8 -0.7**
PDG IAmb IAmb 08 06 23.5
comp=Z,33nm,1.0s
PDG Podgorica 84.23 318 ⇑P **P 08 06 22.6 +0.1**
LESA Schwarzleotal 84.24 325 *i* P **P 08 06 22.5 -0.1**
comp=Z,20nm,1.1s
MYKA Terra Mystica 84.33 324 *eP* **P 08 06 22.4 -0.6**
comp=Z,22nm,1.6s
FUR Furstenfeldbru 84.37 326 P **P 08 06 23.3 +0.1**
FUR pmax pmax
comp=Z,50nm,1.0s
EKA Eskdalemuir Ar 84.45 338 P **P 08 06 22.4 -1.0**
comp=Z,3.2nm,0.9s,baz=32,slow=4.9,SNR=4.2
EKA pP **pP 08 06 36.4 +0.8**
comp=Z,2.5nm,0.8s,baz=39,slow=5.1,SNR=3.0
comp=Z,3.2nm,0.9s
ABTA Abfaltersbach 84.80 324 *i* P **P 08 06 24.7 -0.7**
comp=Z,13nm,1.3s
WATA Walderalm 84.82 325 *eP* **P 08 06 26.0 +0.4**
comp=Z,14nm,1.5s
BTNL Ternell 84.84 330 *d*P **P 08 06 24.5 -1.0**
BTNL *dp*P **pP 08 06 37.3 -0.5**
WTTA Wattenberg 84.85 325 *i* P **P 08 06 25.7 -0.1**
comp=Z,14nm,1.2s
WTTA Wattenberg 84.85 325 P **P 08 06 25.8 0.0**
WTTA pmax pmax
comp=Z,11nm,1.7s
MEM Membach 84.87 330 P **P 08 06 25.5 -0.1**
MEM pmax pmax
comp=Z,24nm,1.3s
MEM Membach 84.87 330 *d*P **P 08 06 25.4 -0.1**
comp=Z,14nm,1.0s
MEM *dp*P **pP 08 06 37.5 -0.4**
STU Stuttgart 84.88 328 *eP* **P 08 06 26.5 +0.8**
STU Stuttgart 84.88 328 P **P 08 06 26.0 +0.3**
STU pmax pmax
comp=Z,31nm,1.1s
ULM Lac du Bonnet 85.01 30 P **P 08 06 25.8 -0.5**
comp=Z,5.6nm,1.1s,baz=342,slow=6.5,SNR=4.5
ULM LR LR 08 46 00.1
comp=Z,348nm,20.6s,baz=328,slow=37
comp=Z,5.6nm,1.1s
MOTA Moosalm 85.04 326 *i* P **P 08 06 26.6 -0.2**
comp=Z,6.3nm,1.0s
SQTA Sankt Quirin 85.08 325 *i* P **P 08 06 26.2 -0.7**
comp=Z,14nm,1.3s
PFO Pinyon Flats O 85.09 53 LR LR 08 37 55.7
comp=Z,644nm,21.3s,baz=284,slow=31
PFO Pinyon Flats O 85.09 53 ⇑*iP* **P 08 06 27.2 -0.1**
PFO pmax pmax
comp=Z,16nm,1.1s
RETA Reutte 85.10 326 *i* P **P 08 06 27.1 +0.2**
comp=Z,29nm,1.2s,SNR=11
TPFO Pinon Flats 85.10 53 P **P 08 06 27.4 +0.1**
baz=308
BCLA Clavier 85.31 331 *d*P **P 08 06 27.4 -0.4**
comp=Z,7.7nm,1.2s
BCLA *dp*P **pP 08 06 39.1 -0.9**
IDI Anoyia 85.40 310 LR LR 08 49 22.5
comp=Z,166nm,20.8s,baz=52,slow=39
BGES Gesves 85.42 331 *d*P **P 08 06 28.8 +0.4**
comp=Z,7.2nm,1.1s
FETA Feichten 85.45 326 *i* P **P 08 06 28.2 -0.6**
comp=Z,13nm,1.1s
WLF Walferdange 85.53 330 *d*P **P 08 06 29.6 +0.6**
comp=Z,14nm,1.0s
RCHB Rochefort 85.54 330 *d*P **P 08 06 28.6 -0.4**
RCHB *dp*P **pP 08 06 41.0 -0.2**
BFO Black Forest 85.59 328 P **P 08 06 28.6 -0.7**
BMRD Maredsous 85.62 331 *d*P **P 08 06 28.2 -1.1**
BMRD *dp*P **pP 08 06 40.4 -1.2**
DAVA Damuels 85.66 326 *i* P **P 08 06 29.8 0.0**
comp=Z,43nm,1.2s,SNR=10
ATD Arta Tunnel 85.67 281 LR LR 08 46 52.1
comp=Z,11nm,20.8s,baz=74,slow=37
DOU Dourbes 85.85 331 *d*P **P 08 06 30.1 -0.4**
DOU *dp*P **pP 08 06 40.5 -2.3**
SLE Schleitheim 85.94 327 P **P 08 06 30.6 -0.5**
SLE pmax pmax
comp=Z,12nm,1.4s
CDF Champ du Feu 86.00 328 *eP* **P 08 06 30.9 -0.5**

CDF pmax pmax
comp=Z,25nm,1.2s
ECH Echery 86.20 328 P **P 08 06 30.9 -1.4**
ECH pmax pmax
comp=Z,17nm,1.3s
HINF Hinteralfeld 86.63 328 *eP* **P 08 06 33.5 -1.0**
HINF pmax pmax
comp=Z,16nm,1.4s
HAU Haudompre 86.71 328 *eP* **P 08 06 34.1 -0.7**
HAU pmax pmax
comp=Z,24nm,1.4s
N23A Red Feather La 86.84 42 P **P 08 06 36.8 +0.9**
baz=313
Y14A Wickenburg 87.15 51 P **P 08 06 38.0 +0.6**
WUAZ Wupatki 87.19 49 P **P 08 06 38.1 +0.5**
WUAZ IAmb IAmb 08 06 52.0
comp=Z,21nm,1.4s
PPT Papeete 87.84 113 LR LR 08 42 10.5
comp=Z,108nm,19.3s,baz=297,slow=33
PPT2 Papeete2 87.85 113 *eP* **P 08 06 40.1 -0.6**
comp=Z,37nm,23.8s
PPT2 Papeete2 87.85 113 *eS* **S 08 17 17.2 -3.7**
comp=Z,108nm,26.5s
PPT2 Papeete2 87.85 113 *e*LQ LQ 08 30 45.7
PPT2 comp=Z,392nm,26.2s
PPT2 comp=Z,413nm,29.0s *e*LR LR 08 34 27.4
PPT2 comp=Z,580nm,27.8s *e*LR LR 08 34 42.5
LPL La Plagne 88.43 327 *eP* **P 08 06 43.3 -0.1**
LPL pmax pmax
comp=Z,7.0nm,0.8s
LPG La Plagne 88.43 327 *eP* **P 08 06 43.5 0.0**
LPG pmax pmax
comp=Z,9.0nm,0.9s
S22A 4UR Ranch, Cre 88.47 44 P **P 08 06 44.7 +0.9**
baz=313
Q24A Divide 88.61 43 P **P 08 06 45.3 +0.8**
baz=314
SSF Saint Saulge 88.66 329 *eP* **P 08 06 43.1 -1.1**
SSF pmax pmax
comp=Z,11nm,1.3s
SMF Signal de Mont 88.85 329 *eP* **P 08 06 44.0 -1.1**
SMF pmax pmax
comp=Z,5.0nm,0.9s
LDF La Druitiere 88.92 332 *eP* **P 08 06 43.0 -2.3**
LDF pmax pmax
comp=Z,33nm,1.6s
AVF Avril sur Loir 88.94 329 *eP* **P 08 06 44.4 -1.1**
AVF pmax pmax
comp=Z,14nm,1.3s
TCF Toulx Ste Croi 89.82 330 *eP* **P 08 06 49.7 0.0**
TCF pmax pmax
comp=Z,7.0nm,1.1s
SCHQ Schefferville 89.83 13 LR LR 08 50 27.4
comp=Z,467nm,20.4s,baz=316,slow=38
VIVF Saint-Julien-l 89.87 327 *eP* **P 08 06 49.8 -0.1**
VIVF pmax pmax
comp=Z,16nm,1.4s
T25A Trinidad 90.29 44 P **P 08 06 53.2 +0.9**
baz=314
TAOE Nuku Hiva Isla 90.41 100 *e*LR LR 08 35 54.0
comp=Z,830nm,24.0s
FURI Furi 90.53 281 LR LR 08 53 03.4
comp=Z,151nm,18.4s,baz=52,slow=39
RJF Les Rejaudoux 90.90 329 *eP* **P 08 06 54.3 -0.4**
RJF pmax pmax
comp=Z,21nm,1.2s
CAF Calviac 90.97 329 *eP* **P 08 06 54.8 -0.2**
CAF pmax pmax
comp=Z,11nm,1.1s
TBI Tubuai 91.32 117 *eS* **S 08 17 47.9 -5.0**
comp=Z,852nm,36.5s
TBI Tubuai 91.32 117 *e*LQ LQ 08 31 59.5
TBI comp=Z,955nm,26.8s *e*LR LR 08 36 03.7
TBI comp=Z,2μm,32.8s *e*LR LR 08 36 16.0
comp=Z,984nm,31.8s
121A Cookes Peak, D 91.39 49 P **P 08 06 58.1 +0.7**
baz=312
LFF La Frestale 91.52 330 *eP* **P 08 06 57.3 -0.2**
LFF pmax pmax
comp=Z,22nm,1.2s
EPF Esparros 93.23 329 *eP* **P 08 07 04.1 -1.4**
EPF pmax pmax
comp=Z,15nm,1.4s
ETSF Etsaut 93.72 329 *eP* **P 08 07 09.3 +1.4**
KEST Kesra 94.41 319 LR LR 08 56 29.9
comp=Z,230nm,18.2s,baz=26,slow=40
LPIG La Paz 95.24 57 LR LR 08 42 34.7
comp=Z,190nm,21.7s,baz=305,slow=31
SADO Sadowa 95.91 24 LR LR 08 54 01.8
comp=Z,163nm,19.1s,baz=40,slow=38
TXAR Lajitas Array 96.15 49 P **P 08 07 19.8 +0.6**
comp=Z,0.8nm,0.5s,baz=292,slow=2.6,SNR=31
TXAR pP **pP 08 07 32.5 +0.9**
comp=Z,5.2nm,0.9s,baz=286,slow=3.5,SNR=23
comp=Z,0.8nm,0.5s
KMBO Kilima Mbogo 97.27 273 LR LR 08 53 38.3
comp=Z,103nm,19.5s,baz=91,slow=37
KMBO Kilima Mbogo 97.27 273 ⇓*iP* **P 08 07 23.8 -0.9**
O48B Farmland 97.52 30 P Pdif 08 07 25.6 +0.4
baz=327
ESDC Sonseca Array 97.83 329 P **P 08 07 26.3 -0.3**
comp=Z,0.6nm,0.8s,baz=313,slow=38,SNR=3.2
ESDC pP **pP 08 07 38.7 -0.2**
comp=Z,1.1nm,1.1s,baz=330,slow=35,SNR=2.3
ESDC PP **PP 08 11 24.5 +0.2**
comp=Z,1.7nm,0.9s,baz=37,slow=7.7,SNR=5.1
ESDC LR LR 08 55 45.5
comp=Z,214nm,19.3s,baz=20,slow=38
comp=Z,0.6nm,0.8s
P49A Miami Univ. Ec 98.31 30 P Pdif 08 07 29.5 +0.8
baz=327
833A Chaparral WMA, 99.50 47 P **Pdif 08 07 35.0 +0.8**
baz=317
L61B Northampton 100.03 21 P **Pdif 08 07 36.0 -0.3**
baz=337
RKT Rikitea 102.28 110 *e*LR LR 08 41 08.8
comp=Z,1μm,26.2s
TORD Torodi Ar. Bea 115.78 308 PKP **PKiKP 08 12 32.8 -1.2**
comp=Z,1.4nm,0.8s,baz=353,slow=2.7,SNR=7.0
TORD pPKP PKPdf 08 12 45.0 +11
comp=Z,1.9nm,0.9s,baz=350,slow=2.9,SNR=6.4
TORD PP **PP 08 13 35.2 -1.5**
comp=Z,2.2nm,1.1s,baz=26,slow=10,SNR=6.4
QSPA South Pole Qui 123.43 180 PKP **PKPdf 08 12 46.6 -0.5**
comp=Z,5.4nm,0.9s,baz=316,slow=0.2,SNR=11
DBIC Dimbokro 124.87 309 PKP **PKPdf 08 12 50.2 -1.2**
comp=Z,5.6nm,0.9s,baz=225,slow=9.6,SNR=3.5
ELIB Princess Elisa 128.41 202 *d*PKPdf **PKPdf 08 12 56.6 0.0**
ELIB *dp*PKP **pPKPdf 08 13 08.3 -0.9**
SDV Santo Domingo 131.06 35 *eP* **PKiKP 08 13 05.0 +0.5**
TROLL Troll, Antarti 134.45 199 ⇑PKPdf **PKPdf 08 13 05.8 -2.2**
comp=Z,117nm,0.8s
TROLL ⇑PP **PP 08 15 41.3 +0.2**
comp=Z,87nm,0.9s
SNAA Sanae 136.04 198 PKhKP PKPpre 08 12 55.6
comp=Z,1.5nm,0.9s,baz=170,slow=10,SNR=5.8
SNAA PKP **PKPdf 08 13 09.8 -1.1**
comp=Z,1.7nm,0.8s,baz=194,slow=9.4,SNR=7.0
VNA2 Neumayer--Watz 137.65 197 ⇑PKPdf PKPpre 08 13 01.8
comp=Z,3.5nm,0.6s,baz=132,slow=3.3
VNA2 ⇑PP PP 08 15 46.5 -14
comp=Z,0.9nm,0.9s,baz=350,slow=4.9
VNA3 Neumayer Olymp 137.98 196 ⇑PKPdf PKPpre 08 13 02.8
comp=Z,1.8nm,0.8s
VNA3 ⇑PP PP 08 15 48.8 -14
comp=Z,0.2nm,0.4s
VNA1 Neumayer--Stat 138.05 197 ⇑PKPdf PKPpre 08 13 01.9
comp=Z,4.1nm,0.8s
NNA Nana 143.64 61 PKP **PKiKP 08 13 34.4 +4.6**
comp=Z,50nm,0.8s,baz=285,slow=6.8,SNR=19
SAML Samuel 150.11 39 *eP* **PKPdf 08 13 39.3 +2.1**
LPAZ La Paz 152.75 56 PKPbc **PKiKP 08 13 49.5 +0.2**
comp=Z,0.8nm,0.7s,baz=55,slow=11,SNR=2.3
LPAZ PKPab **PKPab 08 14 00.7 +0.8**
comp=Z,14nm,0.9s,baz=359,slow=5.6,SNR=23
LVC Limon Verde 156.08 69 pPKPab pPKPab 08 14 25.9 -0.2
comp=Z,7.6nm,0.8s,baz=266,slow=2.4,SNR=5.5
SIV San Ignacio 157.06 44 PKPab **PKPab 08 14 17.3 -0.2**
comp=Z,3.9nm,0.8s,baz=268,slow=1.3,SNR=12
SIV pPKPab **pPKPab 08 14 29.6 -0.2**
comp=Z,14nm,0.8s,baz=313,slow=6.4,SNR=18
SNDB Serra Nova Dou 157.59 17 *eP* **PKPdf 08 13 50.4 +2.6**
PTLB Pontes e Lacer 157.68 39 *eP* **PKPdf 08 13 50.5 +2.7**

SDBA SAO DESIDERIO 158.83 0 *eP* **PKPdf 08 13 52.7 +3.4**
ARAG Araguaiana, MT 161.01 21 *eP* **PKPdf 08 13 54.7 +3.0**
JANB Januaria 161.46 359 *eP* **PKPdf 08 13 54.9 +2.6**
BDQN Bodoquena, MS 163.07 42 *eP* **PKPdf 08 13 55.2 +1.6**
AQDB Aquidauana 163.66 39 *eP* **PKPdf 08 13 56.6 +2.4**
NAN01 Guarapari, ES 163.69 344 *eP* **PKPdf 08 13 57.2 +2.9**
IPMB Ipameri, GO 164.07 12 *eP* **PKPdf 08 13 57.6 +2.9**
SJMB Sao Joao De Ma 164.75 347 *eP* **PKPdf 08 13 58.3 +3.1**
CPUP Villa Florida 166.89 59 pPKPab pPKPab 08 15 11.4 -1.2
comp=Z,3.1nm,0.8s,baz=297,slow=4.3,SNR=4.6
PSAL Palomas, Salto 168.84 80 *eP* **PKPdf 08 14 01.9 +3.9**

IDC 02 08:05:33.3±4.7, 52°.99N×155°.96E, h140km±18km, mb3.0/3, mbtmp3.4/3, Error ellipse: s-maj=76.9km s-min=48.7km az=94.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**1.05**	**83**	P	Pn	08 05 57.6	0.0
	5.9nm,0.4s,baz=172,slow=11,SNR=62						
PETK				S	Sn	08 06 16.4	+0.3
	2.0nm,0.5s,baz=263,slow=18,SNR=6.3						
ILAR	**Eielson Array**	**30.65**	**45**	P	P	08 11 33.6	-0.4
	0.3nm,0.7s,baz=269,slow=7.4,SNR=2.3						
	0.3nm,0.7s						
PDAR	**Pinedale Array**	**59.72**	**58**	P	P	08 15 23.6	+0.4
	0.3nm,0.6s,baz=321,slow=2.1,SNR=4.2						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**72.95**	**64**	P	P	08 16 47.3	-0.1
	0.1nm,0.4s,baz=302,slow=5.3,SNR=6.4						
	0.1nm,0.4s						

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*UPA **02** 08:19:22.7±0.7, 9°.83N×84°.01W, h7km±4km, MD4.0, MW4.2*
*UCR **02** 08:19:22.4±0.9, 10°.01N×84°.05W, h81km±1km, MW3.9, Fault plane solution: NP1:ϕ_s173.12000°, δ80.15000°, λ17.50000°.*
*CATAC **02** 08:19:24.0±0.2, 10°.06N×83°.96W, h49km±8km, MB4.6, mb4.0, ML3.7*

ISC 02 08:19:23.5±1.3, 9°.97N±0°.04×84°.03W±0°.04, h76km±5km, n109, σ0^{s}76/129, 12C-14D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORON	**Coronado**	**0.02**	**82**	*eP*	**Pn**	**08 19 34.1**	**-0.5**
CORON				*eS*	**Sn**	**08 19 43.7**	**+0.8**
LUPE	**Guadalupe**	**0.04**	**234**	⇑*eP*	**Pn**	**08 19 33.9**	**-0.8**
LUPE				*eS*	**Sn**	**08 19 43.0**	**+0.2**
SJS3	**Mercedes San J**	**0.04**	**220**	*eP*	**Pn**	**08 19 34.1**	**-0.6**
SJS3				*eS*	**Sn**	**08 19 43.1**	**+0.3**
LUJA	**Lujan**	**0.06**	**227**	⇑*eP*	**Pn**	**08 19 34.9**	**+0.2**
LUJA				*eS*	**Sn**	**08 19 43.7**	**+0.9**
DOMI	**Santo Domingo**	**0.07**	**280**	*eP*	**Pn**	**08 19 34.0**	**-0.6**
DOMI				*eS*	**Sn**	**08 19 43.0**	**+0.2**
CENT	**San Jose**	**0.07**	**234**	⇑*eP*	**Pn**	**08 19 35.0**	**+0.3**
CENT				*eS*	**Sn**	**08 19 43.8**	**+0.9**
MEXI	**Barrio Mexico**	**0.07**	**245**	*eP*	**Pn**	**08 19 35.0**	**+0.3**
MEXI				*eS*	**Sn**	**08 19 43.9**	**+1.0**
TRIO	**Tres Rios**	**0.07**	**155**	⇑*eP*	**Pn**	**08 19 34.0**	**-0.8**
AMPA	**Desamparados**	**0.08**	**207**	⇑*eP*	**Pn**	**08 19 33.8**	**-0.9**
AMPA				*eS*	**Sn**	**08 19 42.5**	**-0.4**
HDC	**Heredia**	**0.09**	**290**	*eP*	**Pn**	**08 19 34.0**	**-0.8**
HDC				*eS*	**Sn**	**08 19 42.6**	**-0.3**
CVIMO	**Finca Echandi**	**0.10**	**56**	⇑*eP*	**Pn**	**08 19 34.2**	**-0.6**
TAGO	**Cartago**	**0.14**	**136**	*eP*	**Pn**	**08 19 35.4**	**+0.5**
BELE	**Belen**	**0.16**	**272**	⇑*eP*	**Pn**	**08 19 34.0**	**-0.9**
SANTA	**Santa Ana**	**0.16**	**257**	⇑*eP*	**Pn**	**08 19 34.0**	**-0.9**
VICA	**Volcano Irazu**	**0.18**	**85**	*eP*	**Pn**	**08 19 34.9**	**-0.4**
REPA	**Paraso**	**0.21**	**133**	*eP*	**Pn**	**08 19 34.4**	**-0.7**
PCAYA	**Pacayas**	**0.22**	**104**	*eP*	**Pn**	**08 19 34.5**	**-0.7**
PCAYA				*eS*	**Sn**	**08 19 44.3**	**+0.4**
ACOS	**Acosta**	**0.22**	**218**	⇑*eP*	**Pn**	**08 19 34.3**	**-0.9**
VTLA	**Turrialba Volc**	**0.25**	**82**	*eP*	**Pn**	**08 19 35.4**	**-0.2**
CVTQ	**Turrialba Volc**	**0.26**	**82**	*eP*	**Pn**	**08 19 35.2**	**-0.3**
ABE2	**San Pablo**	**0.27**	**186**	*eP*	**Pn**	**08 19 34.7**	**-0.8**
CVTV	**Tajo**	**0.27**	**83**	*eP*	**Pn**	**08 19 35.2**	**-0.4**
VINA	**Juan Vinas**	**0.28**	**105**	*eP*	**Pn**	**08 19 34.8**	**-0.6**
VTCV	**VTCV, Calle Va**	**0.29**	**87**	⇓*eP*	**Pn**	**08 19 35.3**	**-0.3**
GREC	**Grecia**	**0.30**	**290**	*eP*	**Pn**	**08 19 34.9**	**-0.6**
VPS6	**Volcano Poas**	**0.30**	**317**	*eP*	**Pn**	**08 19 35.1**	**-0.8**
RAZU	**San Marcos de**	**0.31**	**180**	*eP*	**Pn**	**08 19 34.6**	**-1.1**
TURIB	**Turrialba**	**0.34**	**101**	*eP*	**Pn**	**08 19 35.1**	**-0.7**
NARAN	**Naranjo de Ala**	**0.37**	**290**	*eP*	**Pn**	**08 19 36.4**	**+0.4**
RVSTA	**Santa Teresita**	**0.37**	**89**	*eP*	**Pn**	**08 19 35.8**	**-0.2**
ZARE	**Zarcero**	**0.42**	**301**	⇓*eP*	**Pn**	**08 19 36.9**	**+0.4**
TRB2	**Turrubares**	**0.42**	**262**	⇑*eP*	**Pn**	**08 19 35.4**	**-0.9**
RAMO	**San Ramon**	**0.45**	**285**	*eP*	**Pn**	**08 19 36.7**	**0.0**
RVLA	**Villa Bonita**	**0.45**	**72**	*eP*	**Pn**	**08 19 36.7**	**+0.2**
LCOCO	**El Coco**	**0.47**	**76**	*eP*	**Pn**	**08 19 36.8**	**+0.1**
SARA	**Sarapiqu**	**0.48**	**0**	⇓*eP*	**Pn**	**08 19 36.9**	**+0.2**
LLNJ	**Naranjito**	**0.50**	**189**	*eP*	**Pn**	**08 19 36.4**	**-0.5**
IRES	**Siquirres**	**0.53**	**76**	*eP*	**Pn**	**08 19 37.3**	**+0.1**
ITAL	**Pital**	**0.54**	**333**	*eP*	**Pn**	**08 19 36.5**	**-0.8**
RITA	**Parrita**	**0.54**	**214**	⇑*eP*	**Pn**	**08 19 37.0**	**-0.3**
ARZA	**Esparza**	**0.63**	**272**	*eP*	**Pn**	**08 19 37.4**	**-0.9**
ZELE	**Perez Zeledon**	**0.67**	**152**	*eP*	**Pn**	**08 19 38.1**	**-0.6**
TAAN	**Batan**	**0.68**	**80**	*eP*	**Pn**	**08 19 38.7**	**+0.1**
SOCE	**Pocosol**	**0.71**	**305**	*iP*	**Pn**	**08 19 38.5**	**-0.6**
SOCE				*iS*	**Sn**	**08 19 50.5**	**-0.1**
SOCE				IAML		08 19 52.0	
	comp=Z,5μm,1.0s						
SOCE	**Pocosol**	**0.71**	**305**	⇓*eP*	**Pn**	**08 19 38.4**	**-0.6**
TUNA	**La Fortuna**	**0.79**	**309**	*eP*	**Pn**	**08 19 40.2**	**+0.3**
FORC	**Fortuna**	**0.80**	**308**	*eP*	**Pn**	**08 19 39.4**	**-0.7**
VACR	**Volcan Arenal**	**0.81**	**308**	⇓*eP*	**Pn**	**08 19 39.5**	**-0.7**
COVE	**Coope Vega, Sa**	**0.83**	**334**	*iP*	**Pn**	**08 19 39.3**	**-1.1**
COVE				IAML		08 19 39.3	
	comp=Z,1μm,1.0s						
COVE				*iS*	**Sn**	**08 19 51.9**	**-1.0**
ARE1	**Arenal 1**	**0.84**	**306**	⇓*eP*	**Pn**	**08 19 39.9**	**-0.6**
CEDE	**Laguna Cedeo**	**0.84**	**308**	⇓*eP*	**Pn**	**08 19 39.9**	**-0.7**
MTEVE	**Monteverde**	**0.86**	**294**	⇓*eP*	**Pn**	**08 19 41.2**	**+0.3**
OCHAL	**Ojochal**	**0.94**	**157**	*iP*	**Pn**	**08 19 41.6**	**-0.1**
OCHAL				*iS*	**Sn**	**08 19 55.8**	**+0.6**
OCHAL				IAML		08 19 56.9	
	comp=Z,4μm,1.0s						
JTS	**Las Juntas de**	**0.97**	**289**	*eP*	**Pn**	**08 19 41.3**	**-0.6**
JTS				*eS*	**Sn**	**08 19 57.2**	**+1.4**
JTS	**Las Juntas de**	**0.97**	**289**	*eP*	**Pn**	**08 19 41.0**	**-1.0**
JUNT	**Juntas**	**0.97**	**289**	*eP*	**Pn**	**08 19 41.1**	**-0.8**
BURE	**Buenos Aires**	**1.04**	**139**	*eP*	**Pn**	**08 19 42.4**	**-0.5**
EDBA	**Buenos Aires**	**1.09**	**137**	*eP*	**Pn**	**08 19 42.7**	**-0.8**
CBL1	**Cabuya**	**1.12**	**250**	⇑*eP*	**Pn**	**08 19 42.4**	**-1.4**
CNAS	**Canas**	**1.15**	**294**	*eP*	**Pn**	**08 19 43.7**	**-0.4**
EDPN	**Palmar Norte**	**1.15**	**151**	*eP*	**Pn**	**08 19 44.1**	**-0.1**
TENO	**El Achiote**	**1.19**	**308**	*eP*	**Pn**	**08 19 44.0**	**-0.7**
BRIBI	**Bribri**	**1.21**	**106**	*eP*	**Pn**	**08 19 46.1**	**+1.1**
VERA	**Finca Concepci**	**1.21**	**317**	⇓*eP*	**Pn**	**08 19 43.9**	**-1.0**
EDP2	**Potrero Grande**	**1.27**	**138**	*eP*	**Pn**	**08 19 45.7**	**0.0**
CUI	**Cuipilapa**	**1.31**	**301**	⇓*eP*	**Pn**	**08 19 45.7**	**-0.6**
BAGA	**Bagaces**	**1.34**	**295**	*eP*	**Pn**	**08 19 45.8**	**-0.8**
COLC	**Colonia**	**1.35**	**301**	⇓*eP*	**Pn**	**08 19 46.2**	**-0.6**
HORNC	**Hornillas**	**1.35**	**303**	⇓*eP*	**Pn**	**08 19 46.1**	**-0.8**
NICO	**Nicoya**	**1.41**	**277**	*eP*	**Pn**	**08 19 46.9**	**-0.6**
GPS2	**Hotel Rincn d**	**1.52**	**301**	*eP*	**Pn**	**08 19 48.3**	**-0.7**
GPS3	**Bodega del ICE**	**1.53**	**301**	*eP*	**Pn**	**08 19 51.4**	**+2.2**
VITO	**San Vito**	**1.55**	**138**	*eP*	**Pn**	**08 19 49.7**	**+0.3**
VORI	**VORI**	**1.55**	**303**	*eP*	**Pn**	**08 19 48.6**	**-1.0**
VRLE	**La Escondida,**	**1.55**	**302**	*eP*	**Pn**	**08 19 48.6**	**-0.8**
SACU	**Santa Cruz**	**1.56**	**281**	*eP*	**Pn**	**08 19 49.2**	**-0.3**
DELF	**Filadelfia**	**1.58**	**288**	*eP*	**Pn**	**08 19 49.4**	**-0.3**
JIME	**Puerto Jimenez**	**1.58**	**154**	*eP*	**Pn**	**08 19 51.2**	**+1.4**
CNI2	**El Empalme, Bo**	**1.62**	**109**	*eP*	**Pn**	**08 19 49.0**	**-1.3**
CNI2				*eS*	**Sn**	**08 20 09.6**	**-1.1**
BRU2	**Volcan**	**1.76**	**131**	*iP*	**Pn**	**08 19 52.2**	**-0.1**
BRU2				IAML		08 19 52.5	
	comp=Z,590nm,1.0s						
BRU2				*iS*	**Sn**	**08 20 14.5**	**+0.4**
BRU2	**Volcan**	**1.76**	**131**	⇓*iP*	**Pn**	**08 19 52.1**	**-0.1**
BRU2				*eS*	**Sn**	**08 20 13.4**	**-0.7**
BRU2	**Volcan**	**1.76**	**131**	*eP*	**Pn**	**08 19 52.2**	**-0.1**
CDITO	**Canoas**	**1.79**	**141**	*iP*	**Pn**	**08 19 51.8**	**-0.8**
CDITO				IAML		08 20 16.7	
	comp=Z,220nm,1.0s						
LPPC	**Paso Canoas**	**1.85**	**141**	*eP*	**Pn**	**08 19 52.2**	**-1.1**
CARN	**Rivas**	**1.91**	**310**	*iP*	**Pn**	**08 19 53.3**	**-0.8**
CARN				IAML		08 20 38.1	
	comp=Z,290nm,1.0s						
LCRUZ	**La Cruz**	**1.93**	**305**	*eP*	**Pn**	**08 19 54.6**	**+0.3**

BCO2	**Palmira**	**1.93**	**130**	⇓*iP*	**Pn**	**08 19 54.4**	**-0.2**
BCO2				*eS*	**Sn**	**08 20 18.4**	**+0.2**
PTPM	**Petroterminale**	**2.09**	**147**	*eP*	**Pn**	**08 19 56.0**	**-0.5**
PTPM				*eS*	**Sn**	**08 20 21.0**	**-0.7**
ESPN	**Las Esperanzas**	**2.23**	**353**	*eP*	**Pn**	**08 19 57.6**	**-0.8**
CONN	**Concepcion**	**2.23**	**315**	*iP*	**Pn**	**08 19 57.6**	**-0.9**
CONN				IAML		08 20 07.7	
	comp=Z,1μm,1.0s						
MORN	**Al O del Volca**	**2.24**	**315**	*iP*	**Pn**	**08 19 58.0**	**-0.5**
MORN				IAML		08 20 04.7	
	comp=Z,31nm,1.0s						
JAPN	**Al SSO del Vol**	**2.24**	**314**	*iP*	**Pn**	**08 19 57.9**	**-0.7**
JAPN				IAML		08 20 08.1	
	comp=Z,190nm,1.0s						
ACON	**Acoyapa**	**2.28**	**330**	*iP*	**Pn**	**08 19 58.3**	**-0.9**
ACON				IAML		08 19 58.6	
	comp=Z,240nm,1.0s						
ACON				*iS*	**Sn**	**08 20 25.6**	**-0.8**
ACON	**Acoyapa**	**2.28**	**330**	*eP*	**Pn**	**08 19 58.2**	**-0.9**
COPN	**Copaltepe**	**3.34**	**311**	*iP*	**Pn**	**08 20 12.9**	**-0.6**
COPN				IAML		08 21 01.3	
	comp=Z,48nm,1.0s						
MOM2	**El Cardon**	**3.44**	**316**	*iP*	**Pn**	**08 20 14.8**	**0.0**
MOM2				IAML		08 20 21.7	
	comp=Z,32nm,1.0s						
GMAL	**Guarumal, Vera**	**3.52**	**128**	*eP*	**Pn**	**08 20 15.8**	**-0.1**
CNGA	**Al SSO del Vol**	**3.63**	**314**	*iP*	**Pn**	**08 20 18.5**	**+1.0**
CNGA				IAML		08 20 20.0	
	comp=Z,67nm,1.0s						
LIMN	**Finca el Limon**	**3.83**	**323**	*iP*	**Pn**	**08 20 20.0**	**-0.3**
LIMN				IAML		08 20 27.1	
	comp=Z,46nm,1.0s						
RCPN	**Sur Rio San Ju**	**4.07**	**330**	*iP*	**Pn**	**08 20 24.4**	**+0.8**
RCPN				IAML		08 20 26.6	
	comp=Z,0.3nm,1.0s						
RCFN	**Al S de San Ju**	**4.14**	**329**	*iP*	**Pn**	**08 20 24.2**	**-0.3**
RCFN				IAML		08 20 26.5	
	comp=Z,640nm,1.0s						
RCVN	**Varillal2**	**4.17**	**330**	*iP*	**Pn**	**08 20 24.5**	**-0.4**
RCVN				IAML		08 20 25.8	
	comp=Z,610nm,1.0s						
BCIP	**Isla Barro Col**	**4.21**	**101**	*iP*	**Pn**	**08 20 25.2**	**0.0**
BCIP				IAML		08 20 45.7	
	comp=Z,89nm,1.0s						
CSGN	**Cosiguina Volc**	**4.57**	**311**	*iP*	**Pn**	**08 20 31.1**	**+0.8**
CSGN				IAML		08 21 26.2	
	comp=Z,24nm,1.0s						
CNCH	**Conchagua**	**4.97**	**312**	*iP*	**Pn**	**08 20 36.5**	**+0.7**
CNCH				IAML		08 20 37.0	
	comp=Z,78nm,1.0s						
LCND	**La Caada**	**5.04**	**312**	*iP*	**Pn**	**08 20 37.1**	**+0.5**
LCND				IAML		08 20 37.3	
	comp=Z,40nm,1.0s						
LCND				IAmb	IAmb	08 20 37.4	
	comp=Z,28nm,1.1s						
SCLA	**Alcaldia de Sa**	**5.91**	**309**	*iP*	**Pn**	**08 20 50.0**	**+1.4**
SCLA				IAmb	IAmb	08 20 53.3	
	comp=Z,8.8nm,1.0s						
SCLA				IAML		08 20 53.4	
	comp=Z,24nm,1.0s						
SCLA				IVmB_BB		08 21 38.9	
	comp=Z,560nm,1.0s						
PMON	**Piamonte**	**6.38**	**306**	*iP*	**Pn**	**08 20 57.7**	**+2.7**
NUBE	**Las Nubes**	**6.85**	**305**	*iP*	**Pn**	**08 21 03.0**	**+1.4**
NUBE				IAmb	IAmb	08 21 05.0	
	comp=Z,26nm,1.6s						
NUBE				IAML		08 21 05.4	
	comp=Z,44nm,1.0s						

IDC 02 08:20:07.1±4.9, 22°.78S×179°.67W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=272.9km s-min=47.9km az=155.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.53**	**259**	P	P	08 28 04.2	-0.5
	0.3nm,0.3s,baz=97,slow=7.4,SNR=5.9						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**42.80**	**265**	P	P	08 28 07.1	+0.2
	0.3nm,0.3s,baz=102,slow=8.2,SNR=4.5						
	0.3nm,0.3s						
NOA	**NORSAR Array B**	**141.02**	**352**	PKP	PKPdf	08 39 39.9	+1.0
	0.5nm,0.6s,baz=23,slow=2.9,SNR=2.5						
HFS	**Hagfors**	**141.51**	**349**	PKP	PKiKP	08 39 41.3	-1.2
	0.9nm,0.3s,baz=27,slow=3.5,SNR=8.3						
EKA	**Eskdalemuir Ar**	**147.38**	**4**	PKPbc	PKPdf	08 39 51.0	+1.0
	0.5nm,0.6s,baz=14,slow=0.9,SNR=1.5						

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*IDC **02** 08:20:17.9±0.4, 30°.22S×67°.65W, h0km, mb4.8/18, mbtmp4.7/22, ML4.3/4, MS4.1/11, Error ellipse: s-maj=16.4km s-min=12.2km az=82.0*
*MOS **02** 08:20:18.4±1.2, 30°.18S×67°.40W, h14km, mb5.3/21, Error ellipse: s-maj=11.4km s-min=6.3km az=96.3*
*SJA **02** 08:20:21.5±0.6, 30°.22S×67°.65W, h15km, ML5.0, MW4.7*
*VAO **02** 08:20:23.1±0.8, 30°.26S×67°.53W, h32km±6km, mb5.0*
*GUC **02** 08:20:23.9±0.5, 30°.19S×67°.55W, h28km±4km, ML4.9*
*NEIC **02** 08:20:23.5±2.1, 30°.22S±0°.05×67°.46W±0°.09, h32km±5km, mb5.2/77, Mww4.7/7, Error ellipse: s-maj=11.4km s-min=7.2km az=86.0*
*GCMT **02** 08:20:27.9±0.4, 30°.18S±0°.02×67°.60W±0°.03, h36km±1km, MW5.0/60, Moment Tensor Solution. s45,c50; s60,c74; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.06±.22; $M_{\theta\theta}$-2.29±.18; $M_{\phi\phi}$-0.76±.20; $M_{r\theta}$0.76±.21; $M_{\theta\phi}$2.41±.11; $M_{\phi r}$1.87±.26; Best double couple: $M_0$4.17800×10^{16} NP1:ϕ_s334.00000°, δ57.00000°, λ128.00000°. NP2: ϕ_s99.00000°, δ49.00000°, λ47.00000°. Principal axes: T 4.2610, Plg59.0000°, Azm301.0000°; N -0.1650, Plg31.0000°, Azm131.0000°; P -4.0950, Plg4.0000°, Azm38.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 08:20:22.4±1.0, 30°.23S±0°.02×67°.59W±0°.02, h28km±7km, n331, σ1^{s}85/359, mb5.1/62, MS4.2/10, 15C, San Juan Province

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

CO01 Juntas del Tor 2.19 276 eP Pb **08 21 00.3 -1.1**
CO01 eS Sb **08 21 28.6 +0.4**
CO01 IAML 08 21 30.8
comp=Z,11µm,0.8s
CYA Choya 2.37 42 eP Pb **08 21 01.6 -2.9**
CYA Choya 2.37 42 eP Pb **08 21 01.6 -2.9**
CYA eS Sb **08 21 37.7 +4.5**
CYA IAML 08 21 43.2
comp=Z,6µm,0.5s
ASAL Salagasta 2.58 204 eP Pb **08 21 05.5 -2.6**
MRA San Martin 2.71 144 eP Pb **08 21 07.6 -2.6**
MRA eS Sb **08 21 47.9 +4.8**
MRA IAML 08 21 52.7
comp=Z,4µm,0.9s
AC05 El Transito 2.72 300 Pn **08 21 07.8 +3.5**
CO03 El Pedregal 2.74 256 Pb **08 21 08.4 -2.4**
CO03 El Pedregal 2.74 256 eP Pb **08 21 08.4 -2.4**
CO03 eS Sb **08 21 42.4 -1.6**
CO03 El Pedregal 2.74 256 eP Pn **08 21 08.2 +3.6**
CO03 eS Sb **08 21 44.0 0.0**
CO03 IAML 08 21 46.2
comp=Z,14µm,0.4s
GO04 Tololo Observa 2.78 270 Pb **08 21 09.4 -2.1**
GO04 Tololo Observa 2.78 270⇑ eP Pb **08 21 09.4 -2.1**
GO04 eS Sb **08 21 44.1 -1.2**
GO04 Tololo Observa 2.78 270 eP Pb **08 21 09.4 -2.1**
GO04 eS Sb **08 21 46.4 +1.1**
ARCO CERRO ARCO 2.84 203 eP Pn **08 21 09.2 +3.2**
ARCO eS Sb **08 21 46.6 -0.4**
ARCO IAML 08 21 51.0
comp=Z,8µm,0.6s
LCO Las Campanas 2.97 293 Pn **08 21 10.8 +2.9**
LCO Las Campanas 2.97 293⇑ eP Pn **08 21 11.1 +3.2**
LCO eS Sn **08 21 47.7 +5.0**
LCO Las Campanas 2.97 293 eP Pn **08 21 10.9 +3.0**
LCO eS Sb **08 21 53.5 +2.8**
LCO IAML 08 21 56.6
comp=Z,13µm,0.8s
LCO Las Campanas 2.97 293 P Pn **08 21 10.8 +2.9**
AAGR Agrelo 3.04 200 eP Pn **08 21 11.8 +3.1**
CO05 La Serena 3.18 275 Pn **08 21 13.1 +2.6**
CO05 Sn Sn **08 21 49.8 +2.3**
CO05 La Serena 3.18 275⇑ eP Pn **08 21 13.0 +2.6**
CO05 eS Sn **08 21 51.6 +4.2**
AVIZ Vizcacheras 3.33 193 eP Pn **08 21 16.4 +3.7**
CO04 Los Peladeros 3.42 237 eP Pn **08 21 16.6 +2.5**
CO04 eS Sn **08 21 59.6 +5.7**
PIL Pilar 3.49 115 eP Pn **08 21 17.9 +3.1**
PIL eS Sb **08 22 09.9 +4.4**
PIL IAML 08 22 28.3
comp=Z,5µm,0.9s
GO03 Copiapo 3.50 318 Pn **08 21 17.4 +2.4**
GO03 Copiapo 3.50 318⇑ eP Pn **08 21 17.7 +2.6**
GO03 eS Sn **08 21 59.6 +4.0**
GO03 IAML 08 22 00.8
comp=E,2µm,0.6s
GO03 Copiapo 3.50 318 eP Pn **08 21 17.6 +2.6**
GO03 eS Sn **08 22 00.8 +5.2**
CO06 Fray Jorge 3.52 262 Pn **08 21 17.0 +1.8**
CO06 Fray Jorge 3.52 262⇑ eP Pn **08 21 16.7 +1.5**
CO06 eS Sn **08 22 00.6 +4.6**
VA03 San Esteban 3.58 224 Pn **08 21 19.3 +3.3**
VA03 San Esteban 3.58 224 eP Pn **08 21 19.2 +3.1**
VA03 eS Sb **08 22 09.2 +1.2**
VA03 IAML 08 22 11.3
comp=Z,6µm,0.7s
AC04 Llanos de Chal 3.65 303 Pn **08 21 18.6 +1.5**
AC04 Llanos de Chal 3.65 303 eS Sb **08 22 15.3 +5.2**
AC04 IAML 08 22 17.0
comp=Z,3µm,1.2s
AC06 Mina Casimiro 3.75 319 Pn **08 21 20.1 +1.6**
MT08 Bocatoma Ro 3.81 212 Pn **08 21 23.3 +3.8**
MT08 Bocatoma Ro 3.81 212 eP Pn **08 21 23.5 +4.1**
MT08 eS Sn **08 22 09.4 +6.0**
MT04 Ro Olivares 3.84 214⇑ eP Pn **08 21 23.8 +4.0**
MT04 Ro Olivares 3.84 214 eP Pn **08 21 08.5 -11**
MT04 IAML 08 22 24.7
comp=Z,1µm,1.1s
FCH Farellones 3.85 216 eP Pn **08 21 23.9 +3.9**
PEL Peldehue 3.92 221 Pn **08 21 24.0 +3.2**
PEL Peldehue 3.92 221⇑ eP Pn **08 21 24.0 +3.2**
PEL Peldehue 3.92 221 P Pn **08 21 24.0 +3.2**
MT10 Hacienda Santa 3.94 219 eP Pn **08 21 24.8 +3.7**
AHML Horco Molle 3.96 31 eP Pn **08 21 23.6 +2.2**
AHML IAML 08 22 51.8
comp=Z,1µm,0.7s
MT16 CCHEN 4.05 217 Pn **08 21 26.0 +3.5**
MT03 Universidad Ad 4.09 217 Pn **08 21 26.8 +3.6**
MT03 Universidad Ad 4.09 217⇑ eP Pn **08 21 26.8 +3.6**
MT03 Universidad Ad 4.09 217 IAML 08 22 35.2
comp=Z,2µm,0.5s
MT05 Renca 4.14 220 Pn **08 21 27.4 +3.7**
MT05 Renca 4.14 220 eP Pn **08 21 27.2 +3.5**
LMEL Las Melosas 4.24 211 Pn **08 21 28.9 +3.7**
LMEL Las Melosas 4.24 211⇑ eP Pn **08 21 29.0 +3.8**
MT02 Curacav 4.27 224 Pn **08 21 28.2 +2.7**
MT02 Curacav 4.27 224 eS Sb **08 22 34.7 +6.7**
VA01 Torpederas 4.44 230 Pn **08 21 28.2 +0.3**
BO04 La Punta 4.54 214 Pn **08 21 32.4 +3.1**
MT09 Talagante 4.56 218 Pn **08 21 32.4 +2.7**
MT01 Popeta 4.77 220 Pn **08 21 34.4 +1.9**
MT01 Popeta 4.77 220 eP Pn **08 21 34.0 +1.6**
MT01 IAML 08 22 57.2
comp=Z,989nm,0.8s
VA05 Santo Domingo 4.83 224 Pn **08 21 34.7 +1.5**
AC01 Pan de Azucar 4.86 326 Pn **08 21 35.2 +1.6**
BO01 Tunca 5.10 215 Pn **08 21 38.7 +1.8**
BO02 Sierra Bellavi 5.29 210 Pn **08 21 42.4 +2.8**
GO02 Mina Guanaco 5.35 340 Pn **08 21 43.3 +2.6**
GO05 Hualane 6.01 216 Pn Pn **08 21 50.0 +0.6**
PB14 IPOC Station P 6.12 335 Pn **08 21 53.0 +1.8**
ML02 Panimavida 6.39 209 Pn **08 21 55.5 +0.9**
BI02 San Fabin de 7.12 205 Pn **08 22 06.5 -0.2**
PB15 IPOC Station P 7.19 346 Pn **08 22 05.3 -0.6**
LVC Limon Verde 7.68 351 Pn **08 22 14.1 +1.4**
LVC Limon Verde 7.68 351 Pn Pn **08 22 14.4 +1.7**
comp=Z,14nm,0.3s,baz=193,slow=7.7,SNR=63
LVC Sn Sn **08 23 40.4 +1.4**
comp=Z,7.2nm,0.3s,baz=322,slow=13,SNR=1.8
LVC LR LR 08 25 30.7
comp=Z,2µm,18.2s,baz=181,slow=41
LVC Limon Verde 7.68 351 P Pn **08 22 14.1 +1.4**
LVC Limon Verde 7.68 351 eP Pn **08 22 14.4 +1.7**
PB06 IPOC Station P 7.70 346 Pn **08 22 13.6 +0.8**
PB04 IPOC Station P 8.19 343 Pn **08 22 19.2 -0.3**
PB09 IPOC Station P 8.53 350 Pn **08 22 25.0 +0.8**
PSAL Palomas, Salto 8.64 98 eP Pn **08 22 26.2 +0.7**
TRQA Tornquist 9.08 151 Pn **08 22 32.1 +0.5**
TRQA Tornquist 9.08 151 P Pn **08 22 32.1 +0.5**
PB01 IPOC Station P 9.31 349 Pn **08 22 34.2 -0.6**
ITQB Itaqui 9.53 89 Pn **08 22 37.9 +0.1**
ITQB Itaqui 9.53 89 eP Pn **08 22 37.9 +0.1**
PATCX Punta Patache 9.65 346 Pn **08 22 37.5 -2.0**
CPUP Villa Florida 9.84 69 Pn **08 22 41.0 -1.0**
CPUP Villa Florida 9.84 69 Pn Pn **08 22 42.0 0.0**
comp=Z,2.7nm,0.3s,baz=248,slow=12,SNR=80
CPUP Lg Lg 08 25 31.9
comp=Z,8.4nm,0.3s,baz=175,slow=19,SNR=2.4
comp=Z,24nm,0.6s
CPUP Villa Florida 9.84 69 P Pn **08 22 42.0 0.0**
GO06 Curarrehue 9.86 198 Pn **08 22 41.7 -0.7**
TA01 Diego Aracena 9.90 346 Pn **08 22 40.4 -2.5**
HMBC Humberstone 10.12 348 Pn **08 22 43.7 -2.4**
PB08 IPOC Station P 10.14 352 Pn **08 22 45.6 -0.9**
LR03 Panguipulli 10.16 201 Pn **08 22 44.9 -1.4**
PAPY Pozo Azul 10.34 56 eP Pn **08 22 49.0 +0.2**
FDPY Filadelfia 10.47 43 eP Pn **08 22 50.4 -0.3**
PB11 IPOC Station P 10.59 349 Pn **08 22 49.7 -2.8**
LR05 Currie 10.61 199 Pn **08 22 50.3 -2.1**
GO01 Chusmiza 10.62 352 Pn **08 22 51.5 -1.5**
PLCA Paso Flores 10.75 192 Pn **08 22 52.9 -1.7**
PLCA Paso Flores 10.75 192 Pn Pn **08 22 54.2 -0.3**
comp=Z,0.3nm,0.3s,baz=5.6,slow=11,SNR=12
PLCA Lg Lg 08 25 59.0
comp=Z,2.1nm,0.3s,baz=111,slow=18,SNR=3.3
PLCA LR LR 08 27 34.4
comp=Z,1µm,18.2s,baz=9.0,slow=41
comp=Z,2.6nm,0.6s
PLCA Paso Flores 10.75 192 eP Pn **08 22 53.9 -0.7**
LL04 Puerto Octay 11.35 199 Pn Pn **08 22 58.8 -3.8**
SJPY San Joaquin 11.44 66 eP Pn **08 23 03.0 -0.9**
PLTB Pedras Altas 12.10 101 Pn **08 23 11.0 -1.9**
PLTB Pedras Altas 12.10 101 eP Pn **08 23 11.8 -1.1**
CPSB Cacapava Do Su 12.23 94 eP Pn **08 23 13.7 -1.0**
LL01 San Ignacio de 12.73 196 Pn **08 23 18.1 -3.4**
BDQN Bodoquena, MS 13.81 48 eP Pn **08 23 36.7 +0.4**
ITAB Concordia 13.89 81 eP Pn **08 23 37.8 +0.4**
LPAZ La Paz 13.89 358 Pn Pn **08 23 37.5 -0.5**
comp=Z,0.6nm,0.3s,baz=189,slow=6.6,SNR=13
comp=Z,2.5nm,0.5s
LPAZ La Paz 13.89 358 eP Pn **08 23 38.3 +0.4**
BBSD Serra de San D 14.46 28 eP Pn **08 23 45.7 +0.4**
AQDB Aquidauana 14.47 51 eP Pn **08 23 45.8 +0.4**
CNLB Canela 14.57 91 eP Pn **08 23 45.4 -1.3**
TRCB Terra Rica 15.29 65 eP Pn **08 23 56.1 -0.3**
SIV San Ignacio 15.38 24 Pn Pn **08 23 57.6 0.0**
comp=Z,0.1nm,0.3s,baz=210,slow=10,SNR=25
SIV LR LR 08 31 20.2
comp=Z,404nm,19.5s,baz=212,slow=43
comp=Z,13nm,1.0s
RPRD Ribas do Rio P 15.85 55 eP Pn **08 24 04.1 +0.4**
LDASE Londrina, Braz 16.20 69 eP Pn **08 24 07.4 -0.7**
MAJ01 Sao Joao Batis 16.53 85 eP Pn **08 24 09.6 -2.6**
PTLB Pontes e Lacer 16.64 30 eP P **08 24 15.1 -0.7**
FRTB Fartura 17.48 71 eP P **08 24 24.6 -0.6**
SALV Santo Antonio 17.96 40 eP Pn **08 24 30.2 +0.2**
VILB Vilhena 18.50 23 P P **08 24 35.6 -0.9**
VILB IAmb IAmb 08 24 46.4
comp=Z,116nm,0.7s
VILB Vilhena 18.50 23 eP P **08 24 35.8 -0.7**
GO08 Villa O'Higgin 18.60 190 P P **08 24 36.1 -1.2**
ITRB Iturama 18.79 60 eP P **08 24 39.6 0.0**
SPB Sao Paulo 19.14 75 P Pn **08 24 44.7 +0.3**
SPB Sao Paulo 19.14 75 eP Pn **08 24 44.8 +0.3**
RCLB Rio Claro- Sao 19.57 71 eP P **08 24 48.5 +0.2**
VAO Valinhos 19.78 74 P **08 24 50.3 -0.2**
VAO Valinhos 19.78 74 eP P **08 24 51.0 +0.5**
NNA Nana 20.08 333 P P **08 24 54.1 +0.4**
comp=Z,24nm,0.9s,baz=195,slow=18,SNR=6.6
comp=Z,24nm,0.9s
NNA Nana 20.08 333 i P P **08 24 54.8 +1.0**
ETMB Extrema 20.35 4 P P **08 24 57.3 +0.7**
ETMB Extrema 20.35 4 eP P **08 24 57.6 +1.0**
ARAG Araguaiana, MT 20.46 49 eP P **08 24 57.9 0.0**
PDRB Porto dos Gac 21.09 31 eP P **08 25 03.7 -1.0**
GO09 Cerro Castillo 21.32 188 P P **08 25 06.6 -0.2**
IPMB Ipameri, GO 21.44 60 eP P **08 25 08.2 -0.3**
SAML Samuel 21.57 12 P P **08 25 09.2 -0.6**
SAML Samuel 21.57 12 P P **08 25 09.2 -0.6**
SAML pmax pmax
comp=Z,24nm,0.8s
SAML Samuel 21.57 12 eP P **08 25 09.8 0.0**
BSCB Bom Sucesso 22.50 71 eP P **08 25 19.4 -0.5**
EFI East Falkland 22.56 164 P P **08 25 19.0 -1.2**
EFI East Falkland 22.56 164 i P P **08 25 18.6 -1.6**
EFI pmax pmax
comp=Z,37nm,2.2s
CZSB Cruzeiro do Su 22.89 347 P P **08 25 23.6 -0.3**
CZSB IAmb IAmb 08 25 26.3
comp=Z,88nm,0.9s
CZSB Cruzeiro do Su 22.89 347 eP P **08 25 24.2 +0.3**
VAS01 Vassouras-RJ 23.03 76 eP P **08 25 25.4 +0.1**
GO10 Punta Arenas 23.05 185 P P **08 25 26.0 +0.8**
GO10 IAmb IAmb 08 25 44.7
comp=Z,58nm,0.8s
BDFB Brasília 23.09 55 P P **08 25 24.8 -1.3**
BDFB IAmb IAmb 08 25 38.0
comp=Z,38nm,0.8s
BDFB Brasília 23.09 55 P P **08 25 25.0 -1.2**
comp=Z,16nm,0.6s,baz=229,slow=9.3,SNR=42
BDFB LR LR 08 35 50.2
comp=Z,838nm,21.5s,baz=196,slow=40
comp=Z,16nm,0.6s
BDFB Brasília 23.09 55 P P **08 25 25.0 -1.2**
SNDB Serra Nova Dou 23.63 43 eP P **08 25 29.6 -1.8**
DIAM Diamantina, MG 24.77 67 eP P **08 25 42.2 +0.1**
ATAH Atahualpa 25.12 334 P P **08 25 44.6 -0.8**
comp=Z,8.1nm,0.6s,baz=231,slow=23,SNR=2.6
comp=Z,8.1nm,0.6s
TBTG Tabatinga, AM 26.00 355 P P **08 25 53.0 0.0**
TBTG IAmb IAmb 08 25 56.8
comp=Z,80nm,0.7s
TBTG Tabatinga, AM 26.00 355 eP P **08 25 53.4 +0.5**
JANB Januaria 26.18 60 eP P **08 25 54.0 -0.7**
SJMB Sao Joao De Ma 26.57 70 eP P **08 25 59.8 +1.7**
SDBA SAO DESIDERIO 27.49 55 eP P **08 26 05.3 -1.2**
MACA Manacapuru-AM 27.70 15 P P **08 26 08.2 -0.1**
MACA IAmb IAmb 08 26 19.8
comp=Z,41nm,0.6s
MACA Manacapuru-AM 27.70 15 eP P **08 26 08.5 +0.2**
ITTB Itaituba 28.06 26 eP P **08 26 11.5 0.0**
SMTB Santa Maria do 28.31 45 eP P **08 26 13.3 -0.5**
CMC01 Camacan, BA 29.70 66 eP P **08 26 26.1 0.0**
COHC Cochancay 29.75 336 P P **08 26 27.6 +1.1**
OTAV Otavalo 32.02 339 P P **08 26 48.4 +1.4**
OTAV Otavalo 32.02 339 P P **08 26 48.4 +1.4**
OTAV pmax pmax
comp=Z,9.0nm,0.9s
OTAV Otavalo 32.02 339 eP P **08 26 48.9 +1.9**
BOAV Boa Vista 33.14 13 P P **08 26 56.3 0.0**
BOAV IAmb IAmb 08 26 57.6
comp=Z,24nm,1.1s
BOAV Boa Vista 33.14 13 eP P **08 26 56.3 0.0**
PMSA Palmer Station 34.63 177 LR LR 08 39 50.2
comp=Z,114nm,18.7s,baz=358,slow=34
ROSC El Rosal 35.46 348 P P **08 27 15.9 -1.0**
comp=Z,6.6nm,0.4s,baz=112,slow=23,SNR=1.7
comp=Z,6.6nm,0.4s
MDP Montagnes des 37.94 25 P P **08 27 38.2 +0.6**
comp=Z,27nm,0.7s,baz=202,slow=9.5,SNR=29
MDP LR LR 08 45 11.5
comp=Z,383nm,19.3s,baz=207,slow=39
comp=Z,27nm,0.7s
RCBR Riachuelo 38.44 57 LR LR 08 44 50.4
comp=Z,307nm,18.7s,baz=324,slow=38
SDV Santo Domingo 39.00 355 P P **08 27 45.7 -1.0**
SDV Santo Domingo 39.00 355 LR LR 08 47 15.8
comp=Z,111nm,20.8s,baz=12,slow=42
SDV Santo Domingo 39.00 355 eP P **08 27 46.1 -0.6**
PCRV Puerto La Cruz 40.27 4 LR LR 08 47 25.4
comp=Z,366nm,18.6s,slow=40
BRU2 Volcan 41.43 337 P P **08 28 06.8 0.0**
BRU2 IAmb IAmb 08 28 27.4
comp=Z,19nm,0.6s
JTS Las Juntas de 43.61 335 P P **08 28 25.4 +1.0**
JTS Las Juntas de 43.61 335 P P **08 28 25.4 +1.0**
JTS pmax pmax
comp=Z,22nm,1.2s
MLPR Magueyes Islan 47.92 1 P P **08 28 57.1 -1.2**
IGPR InterUniversit 47.94 2 P P **08 28 57.3 -1.1**
IGPR IAmb IAmb 08 28 57.7
comp=Z,35nm,0.9s
TGUH Tegucigalpa,Un 47.94 334 P P **08 28 59.0 +0.3**
CRPR Cabo Rojo, PR 47.96 1 P P **08 28 57.8 -0.8**
CRPR IAmb IAmb 08 29 00.8
comp=Z,39nm,0.8s
PDPR Patillas Dam, 47.99 2 P P **08 28 57.0 -1.8**
PDPR IAmb IAmb 08 29 06.6
comp=Z,12nm,0.9s
CELP Cerrillos 48.03 1 P P **08 28 57.8 -1.4**
UUPR Utuado, UPR, P 48.21 1 P P **08 28 59.0 -1.5**
SDDR Presa de Saban 49.06 355 P P **08 29 07.9 +0.8**
SDDR IAmb IAmb 08 29 10.0
comp=Z,18nm,0.7s
BELA Belgrano 2 49.97 171 P P **08 29 13.9 +0.4**
BELA IAmb IAmb 08 29 15.3
comp=Z,12nm,0.8s
VNA3 Neumayer Olymp 51.49 159 ⇑P P **08 29 25.7 +0.8**
comp=Z,26nm,0.7s
VNA1 Neumayer--Stat 51.72 159 ⇑P P **08 29 27.7 +1.1**
comp=Z,10.0nm,0.7s
VNA2 Neumayer--Watz 52.08 159 ⇑P P **08 29 30.1 +0.7**
comp=Z,19nm,0.7s,baz=286,slow=8.2
SNAA Sanae 53.70 159 P P **08 29 41.3 -0.1**
SNAA IAmb IAmb 08 29 43.0
comp=Z,35nm,1.1s
SNAA Sanae 53.70 159 ⇑P P **08 29 41.9 +0.5**
comp=Z,166nm,0.5s
SNAA Sanae 53.70 159 P P **08 29 41.8 +0.5**
comp=Z,20nm,0.9s,baz=285,slow=6.8,SNR=58
comp=Z,20nm,0.9s
SNAA Sanae 53.70 159 i P P **08 29 41.7 +0.3**
SNAA pmax pmax
comp=Z,36nm,1.1s
TEIG Tepich 53.97 336 P P **08 29 43.3 -0.5**
SOR Soroa 54.76 343 P P **08 29 48.8 -0.7**
SOR IAmb IAmb 08 29 58.7
comp=Z,23nm,0.7s
SOR Soroa 54.76 343 P P **08 29 48.8 -0.7**
SOR pmax pmax
comp=Z,23nm,0.7s
TROLL Troll, Antarti 55.42 159 ⇑P P **08 29 54.6 +0.7**
comp=Z,410nm,0.5s
TLIG Tlapa 56.11 324 P P **08 30 00.6 +1.2**
TLIG IAmb IAmb 08 30 01.9
comp=Z,13nm,1.0s
NVL N'lazarevskaya 58.31 157 eP P **08 30 13.3 -0.9**
NVL pmax pmax
comp=Z,21nm,0.9s
RKT Rikitea 59.87 259 eLR LR 08 48 05.7
comp=Z,633nm,24.8s
QSPA South Pole Qui 60.00 180 P P **08 30 26.9 +0.7**
QSPA South Pole Qui 60.00 180 P P **08 30 26.8 +0.6**
comp=Z,30nm,0.9s,baz=155,slow=2.0,SNR=76
comp=Z,30nm,0.9s
LRAL Lakeview Retre 65.55 342 P P **08 31 02.6 -0.7**
LRAL IAmb IAmb 08 31 12.2
comp=Z,15nm,1.0s
HKT Hockley 65.61 333 i P P **08 31 02.1 -1.6**
HKT pmax pmax
comp=Z,7.0nm,1.1s
833A Chaparral WMA, 65.67 329 P P **08 31 04.7 +0.6**
833A IAmb IAmb 08 31 14.8
comp=Z,32nm,1.1s
Z47A Carrollton 66.00 341 P P **08 31 05.4 -0.7**
Y49A Blount Mountai 66.18 343 P P **08 31 06.5 -0.9**
Y49A IAmb IAmb 08 31 16.8
comp=Z,23nm,0.7s
X51A Calhoun 66.48 345 P P **08 31 09.0 -0.2**
143A Socs Landing, 66.53 338 P P **08 31 10.4 +0.8**
FPAL Fort Paine 66.63 344 P P **08 31 09.9 -0.4**
FPAL IAmb IAmb 08 31 19.2
comp=Z,14nm,0.7s
X48A Hartselle 66.90 343 P P **08 31 11.8 -0.2**
V53A Saluda 67.10 347 P P **08 31 12.8 -0.4**
V53A IAmb IAmb 08 31 22.9
comp=Z,17nm,1.0s
W50A Signal Mountai 67.19 344 P P **08 31 13.3 -0.5**
SBA Scott Base 67.50 191 P P **08 31 16.9 +1.7**
SBA Scott Base 67.50 191 P P **08 31 16.9 +1.7**
SBA pmax pmax
comp=Z,4.0nm,0.9s
HPIG 67.51 323 P P **08 31 16.2 0.0**
HPIG IAmb IAmb 08 31 17.8
comp=Z,13nm,1.2s
U54A Nelsons Funny 67.73 348 P P **08 31 16.8 -0.4**
U54A IAmb IAmb 08 31 26.5
comp=Z,21nm,0.6s
TXAR Lajitas Array 68.49 326 P P **08 31 22.4 +0.2**
comp=Z,2.0nm,0.7s,baz=151,slow=7.8,SNR=24
comp=Z,2.0nm,0.7s
TX31 Lajitas Ar. Si 68.49 326 P P **08 31 22.4 +0.2**
OZNA Ozona 68.67 329 P P **08 31 23.1 -0.1**
OZNA IAmb IAmb 08 31 24.1
comp=Z,15nm,0.8s
WVT Waverly 68.70 343 P P **08 31 22.4 -0.8**
WVT Waverly 68.70 343 P P **08 31 22.4 -0.8**
WVT pmax pmax
comp=Z,72nm,0.7s
MIAR Mount Ida 68.94 337 P P **08 31 24.5 -0.2**
MIAR pmax pmax
comp=Z,15nm,0.8s
WHAR Wooly Hollow 69.20 339 P P **08 31 26.1 -0.2**
WHAR IAmb IAmb 08 31 35.9
comp=Z,13nm,0.8s
LCAR Lake Charles 69.57 340 P P **08 31 28.2 -0.4**
PBMO Poplar Bluff 70.02 341 P P **08 31 31.1 -0.2**
P57A Homestead Farm 70.03 351 P P **08 31 32.4 +1.1**
DBIC Dimbokro 70.36 70 P P **08 31 34.2 +0.2**
DBIC IAmb IAmb 08 31 35.3
comp=Z,11nm,0.7s
DBIC Dimbokro 70.36 70 P P **08 31 34.1 +0.1**
comp=Z,11nm,0.7s,baz=238,slow=7.5,SNR=14
comp=Z,11nm,0.7s
DBIC Dimbokro 70.36 70 P P **08 31 34.2 +0.2**
DBIC pmax pmax
comp=Z,11nm,0.7s
WMOK Wichita Mounta 71.00 333 P P **08 31 36.3 -1.1**
FVM French Village 71.14 341 P P **08 31 38.1 -0.1**
FVM French Village 71.14 341 P P **08 31 38.1 -0.1**
FVM pmax pmax
comp=Z,37nm,0.7s
CCM Cathedral Cave 71.44 340 P P **08 31 39.6 -0.4**
CCM pmax pmax
comp=Z,18nm,0.7s
TBI Tubuai 71.95 253 eLR LR 08 53 41.2
comp=Z,859nm,26.8s
R40A Maddies Statio 71.96 340 P P **08 31 42.8 -0.3**
N49A Columbus Grove 72.44 347 P P **08 31 45.4 -0.5**
P43A Skaggs, Pawnee 72.45 342 P P **08 31 45.4 -0.6**
P43A IAmb IAmb 08 31 54.9
comp=Z,26nm,0.8s
121A Cookes Peak, D 73.12 325 P P **08 31 51.2 +0.8**
121A IAmb IAmb 08 31 52.5
comp=Z,16nm,0.9s
LBNH Lisbon 74.22 357 P P **08 31 57.4 +1.1**
LBNH IAmb IAmb 08 32 07.1
comp=Z,18nm,0.7s
LBNH Lisbon 74.22 357 P P **08 31 57.4 +1.1**
LBNH pmax pmax
comp=Z,18nm,0.7s
ANMO Albuquerque 74.46 328 P P **08 31 59.0 +0.8**
ANMO Albuquerque 74.46 328 i P P **08 31 57.2 -1.0**
ANMO pmax pmax
comp=Z,3.0nm,0.9s
TUC Tucson 74.47 323 P P **08 31 57.8 -0.4**
PPT2 Papeete2 74.60 258 eLR LR 08 54 55.6
comp=Z,149nm,25.2s
PPT2 eLR LR 08 54 57.7
comp=Z,137nm,23.8s
WBO Williamsburg 75.20 354 P P **08 32 02.5 +0.5**
MAW Mawson 75.67 162 P P **08 32 05.0 +0.5**
comp=Z,7.7nm,0.9s,baz=219,slow=6.7,SNR=22
comp=Z,7.7nm,0.9s
SDCO Great Sand Dun 76.35 330 P P **08 32 09.6 +0.4**
TSUM Tsumeb 76.55 104 P P **08 32 11.0 +0.4**
TSUM IAmb IAmb 08 32 12.9
comp=Z,14nm,1.1s
Q24A Divide 77.22 331 P **08 32 14.5 +0.4**
Q24A IAmb IAmb 08 32 15.8
comp=Z,21nm,0.9s
ISCO Idaho Springs 78.12 331 P P **08 32 19.8 +0.8**
ISCO pmax pmax
comp=Z,12nm,1.0s
BOSA Boshof 78.41 116 P P **08 32 20.8 -0.1**
BOSA IAmb IAmb 08 32 30.9
comp=Z,16nm,0.8s
BOSA Boshof 78.41 116 P P **08 32 21.8 +0.9**
comp=Z,4.3nm,0.6s,baz=269,slow=4.3,SNR=9.7
comp=Z,4.3nm,0.6s
PFO Pinyon Flats O 78.52 320 i P P **08 32 20.7 -0.5**
PFO pmax pmax
comp=Z,18nm,1.2s
V12A Nelson 79.24 323 P P **08 32 25.4 +0.4**
TORD Torodi Ar. Bea 79.34 68 P P **08 32 26.4 +0.5**
comp=Z,30nm,0.9s,baz=281,slow=5.3,SNR=122
TORD LR LR 09 05 25.5
comp=Z,236nm,20.1s,baz=52,slow=34
comp=Z,30nm,0.9s
TPNV Topopah Spring 80.90 322 P P **08 32 34.7 +0.6**
TPNV IAmb IAmb 08 32 36.1
comp=Z,14nm,1.1s
TPNV Topopah Spring 80.90 322 P P **08 32 34.7 +0.6**
TPNV pmax pmax
comp=Z,14nm,1.1s
WCT Wildcat Mounta 80.98 322 P P **08 32 35.0 +0.6**
RSSD Black Hills 81.15 334 P P **08 32 35.7 +0.4**
RSSD pmax pmax
comp=Z,7.0nm,0.7s
RAR Rarotonga 81.41 251 LR LR 08 59 28.2
comp=Z,79nm,20.6s,baz=148,slow=29
DUG Dugway, Tooele 81.67 327 P P **08 32 38.5 +0.5**
DUG pmax pmax
comp=Z,7.0nm,0.9s
PDAR Pinedale Array 82.24 330 P P **08 32 40.8 -0.3**
comp=Z,6.4nm,0.8s,baz=127,slow=7.0,SNR=39
comp=Z,6.4nm,0.8s
NVAR Mina Array Bea 83.09 322 P P **08 32 46.0 +0.4**
comp=Z,3.1nm,0.9s,baz=146,slow=4.7,SNR=20
comp=Z,3.1nm,0.9s
ELK Elko 83.27 326 P P **08 32 45.7 -0.8**
ULM Lac du Bonnet 83.96 342 P P **08 32 48.6 -0.8**

comp=Z,13nm,0.8s,baz=156,slow=4.0,SNR=18
comp=Z,13nm,0.8s
YHL Hebgen Lake 84.62 330 P **P 08 32 53.7 +0.4**
SCHQ Schefferville 84.72 0 P **P 08 32 52.5 -0.8**
comp=Z,6.4nm,0.8s,baz=203,slow=5.4,SNR=4.6
comp=Z,6.4nm,0.8s
PBDV Barranco-do-Ve 87.31 44 *e*P **P 08 33 08.0 +1.5**
MESJ Messejana 87.53 43 *e*P **P 08 33 09.8 +2.3**
PVAQ Vaqueiros 87.54 44 *e*P **P 08 33 08.7 +1.1**
PMTG Montargil 88.34 42 *e*P **P 08 33 12.7 +1.3**
FFC Flin Flon 89.64 341 P **P 08 33 17.0 -0.1**
FFC pmax pmax
comp=Z,6.0nm,0.9s
ESDC Sonseca Array 91.25 44 P **P 08 33 25.3 +0.2**
comp=Z,1.6nm,0.8s,baz=240,slow=4.7,SNR=9.6
comp=Z,1.6nm,0.8s
YKA Yellowknife Ar 99.77 340 P **Pdif 08 34 01.7 -1.5**
comp=Z,1.8nm,0.9s,baz=139,slow=4.0,SNR=2.9
comp=Z,1.8nm,0.9s
DZM Mont Dzumac 106.52 232 *e*LR LR 09 09 46.1
comp=Z,103nm,25.9s
AKASG Malin Array Be 116.87 45 PKP **PKPdf 08 39 02.0 -1.8**
comp=Z,1.4nm,0.7s,baz=262,slow=3.2,SNR=6.3
AKBB Malin Array Si 116.87 45 *i* PKIKP **PKPdf 08 39 00.6 -3.2**
OBN Obninsk 122.12 41 ⇑*i* PKIKP **PKPdf 08 39 11.5 -2.2**
OBN *i* 08 39 14.5
OBN PPP PPP 08 43 22.0
OBN 08 46 29.0
OBN PS **PS 08 50 43.0 -0.4**
OBN SS SS 08 57 25.0 -1.2
OBN pmax pmax
comp=Z,22nm,1.3s
OBN MLR MLR
comp=Z,54nm,21.0s
ASAR Alice Springs 122.58 203 PKP **PKPdf 08 39 14.1 -1.8**
comp=Z,1.3nm,0.6s,baz=142,slow=2.1,SNR=20
ASAR PKKPbc **PKKPbc 08 49 09.8 +0.3**
comp=Z,0.9nm,0.8s,baz=331,slow=2.7,SNR=5.9
KLMR Klimovskoe 124.16 34 *e*PKIKP **PKPdf 08 39 16.0 -1.5**
KLMR pmax pmax
comp=Z,24nm,1.6s
SHA1 Shidzhatmaz 124.21 55 *i* PKIKP **PKPdf 08 39 14.6 -3.9**
KIV Kislovodsk 124.27 55 *e*PKIKP **PKPdf 08 39 14.8 -3.6**
KIV pmax pmax
comp=Z,11nm,1.0s
KBZ Khabaz 124.38 55 *i* PKIKP **PKPdf 08 39 17.2 -1.3**
WRA Warramunga Arr 125.83 206 PKP **PKPdf 08 39 20.6 -1.5**
comp=Z,4.4nm,0.7s,baz=165,slow=1.6,SNR=47
BELG Belogornoye 128.45 45 *i* PKIKP **PKPdf 08 39 21.8 -4.1**
KIRV Kirov 129.24 37 *i* PKIKP **PKPdf 08 39 26.2 -1.1**
BILL Bilibino 131.01 336 *i* PKIKP **PKPdf 08 39 28.1 -2.3**
ARTI Arti 134.35 39 *i* PKIKP **PKPdf 08 39 35.1 -1.9**
ARTI 08 42 06.1
TIXI Tiksi 137.57 352 *i* PKIKP **PKPdf 08 39 39.6 -3.0**
SEY Seymchan 138.49 334 *i* PKIKP **PKPdf 08 39 43.6 -0.9**
BVAR Borovoye Array 141.96 41 PKhKP PKPpre 08 39 43.9
comp=Z,0.6nm,0.5s,baz=247,slow=3.0,SNR=1.4
BVAR PKP **PKPdf 08 39 51.1 0.0**
comp=Z,2.2nm,0.7s,baz=284,slow=1.2,SNR=6.8
YAK Yakutsk 146.24 345 PKPbc **PKPdf 08 39 59.1 +0.8**
comp=Z,34nm,0.6s,baz=7.5,slow=0.6,SNR=10.0
YAK Yakutsk 146.24 345 *e*PKP2 **PKPdf 08 39 58.4 +0.1**
YAK *e* 08 43 23.0
YAK pmax pmax
comp=Z,48nm,1.0s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,127nm,4.0s
YAK pmax pmax
comp=N,117nm,2.8s
YAK pmax pmax
comp=E,41nm,2.5s
AAK Ala-Archa 147.34 57 *i* PKIKP **PKPdf 08 39 59.8 -1.2**
KURBB Kurchatov Arra 147.55 41 PKPbc **PKPdf 08 40 01.6 +0.7**
comp=E,16nm,0.9s,baz=299,slow=3.2,SNR=51
KURK Kurchatov 147.56 41 *i* PKIKP **PKPdf 08 39 59.8 -1.1**
KSH Kashi 148.88 63 PKPbc **PKPdf 08 40 04.1 +0.5**
KSH sPKP 08 40 17.5
ZALV Zalesovo Beam 149.03 32 PKPbc **PKPbc 08 40 07.6 +0.3**
comp=E,18nm,0.5s,baz=300,slow=3.3,SNR=66
MKAR Makanchi Array 151.44 46 PKPbc **PKPbc 08 40 13.2 -0.2**
comp=E,19nm,0.8s,baz=280,slow=2.1,SNR=95
MKAR PKPab **PKPab 08 40 23.1 +1.4**
comp=E,12nm,0.5s,baz=277,slow=2.1,SNR=39
WMQ Urumqi 156.16 48 *e*PKP **PKPdf 08 40 15.1 +1.0**
WMQ LR LR
comp=Z,260nm,22.9s
HEH HeiHe 157.04 335 *e*P **PKPab 08 40 43.2 -2.1**
HEH HeiHe 157.04 335 *e*P PKPab 08 40 53.4 +8.1
MJAR Matsushiro Arr 157.59 293 PKPab **PKPab 08 40 48.6 +0.4**
comp=Z,3.7nm,0.6s,baz=100,slow=2.4,SNR=8.2
SONM Songino Array 161.82 13 PKPab **PKPab 08 41 06.8 +0.5**
comp=Z,3.0nm,0.7s,baz=330,slow=5.4,SNR=7.1
CMAR Chiang Mai Arr 163.05 131 PKP **PKPdf 08 40 22.9 +0.3**
comp=Z,1.9nm,0.3s,baz=274,slow=2.6,SNR=6.9
CMAR PKPab **PKPab 08 41 11.7 -0.7**
comp=Z,2.4nm,0.3s,baz=240,slow=4.7,SNR=7.6
KSRS Korea Array 165.24 303 PKP **PKPdf 08 40 24.4 +0.3**
comp=Z,1.6nm,1.0s,baz=57,slow=2.1,SNR=7.1
KSRS PKPab **PKPab 08 41 21.4 -0.1**
comp=Z,0.8nm,0.6s,baz=55,slow=6.7,SNR=4.5
GTA Gaotai 166.19 45 *e*PKP **PKPdf 08 40 25.7 +0.7**
GTA PKPab **PKPab 08 41 27.5 +1.6**
HHC Hu-ho-hao-te 169.38 3 *e*P **PKPdf 08 40 24.4 -2.7**
PZH PanZhiHua 169.90 109 PKP **PKPdf 08 40 27.2 -0.7**
LZH Lanzhou 170.75 49 *e*P **PKPdf 08 40 33.6 +5.5**
LZH pP sPKPdf 08 40 38.6 -2.9
LZH pmax pmax
comp=Z,16nm,1.5s
TIA Tai'an 172.85 328 PKP **PKPdf 08 40 29.2 +0.3**
NJ2 Nanjing 174.19 290 *e*P **PKPdf 08 40 31.3 +1.8**
NJ2 pmax pmax
comp=Z,13nm,0.5s

DJA 02 08:21:24.2±0.3, 8°S±5°×11°6E±°, h10km, M4.0/13, mb4.3/1, MLv3.9/13, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**1.22**	**274**	P	Pn	08 21 46.1	-1.2
DNP	**Denpasar**	**1.32**	**247**	P	Pg	08 21 49.8	+0.3
PLAI	**Plampang**	**1.48**	**116**	P	Pn	08 21 50.4	-0.5
ABJI	**Asem Bagus**	**2.22**	**280**	P	Pn	08 22 01.4	+0.4
JAGI	**Jajag, Banyuwa**	**2.28**	**262**	P	Pn	08 22 01.2	-0.8
KMMI	**Kalianget**	**2.69**	**294**	P	Pn	08 22 09.0	+1.4
BLJI	**Banyuglugur**	**2.85**	**278**	P	Pn	08 22 09.2	-0.6
GMJI	**Gumukmas**	**2.97**	**268**	P	Pn	08 22 10.4	-1.0
WBSI	**Waikabubak, Su**	**3.26**	**117**	P	Pn	08 22 15.8	+0.3
BSSI	**Bau Bau, Buton**	**4.50**	**64**	P	Pn	08 22 31.6	-0.8
BKSI	**Bulukumba**	**4.62**	**52**	P	Pn	08 22 34.4	+0.2
PCJI	**Pacitan**	**5.21**	**269**	P	Pn	08 22 42.7	+0.5

*IDC **02** 08:51:02.6±4.3, 13°.72S×167°.17E, h208km±37km, mb3.7/10, mbtmp4.2/11, Error ellipse: s-maj=27.3km s-min=22.4km az=45.0*
*NEIC **02** 08:51:04.0±1.7, 13°.78S±0°.08×167°.2E±0°.1, h223km±10km, mb4.3/21, Error ellipse: s-maj=17.0km s-min=8.2km az=57.0*
ISC 02 08:51:01.8±0.6, 13°.72S±0°.07×167°.17E±0°.09, h200km, n42, σ1900/46, mb4.2/19, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**7.33**	**202**	Pn	**Pn**	**08 52 46.9**	**+0.6**
HNR	**Honiara**	**8.26**	**300**	Pn	**Pn**	**08 53 00.2**	**+1.7**
DZM	**Mont Dzumac**	**8.33**	**185**	Pn	**Pn**	**08 53 02.3**	**+2.9**
DZM	**Mont Dzumac**	**8.33**	**185**	P	**Pn**	**08 53 00.9**	**+1.5**
5.6nm,0.8s,baz=287,slow=22,SNR=0.8
DZM S **Sn 08 54 33.1 -0.1**
2.6nm,0.6s,baz=122,slow=22,SNR=1.0
MSVF Nonsavu 11.21 112 Pn **Pn 08 53 38.1 +1.4**
FUTU Fugatoga 14.29 94 P **Pn 08 54 16.0 +0.6**
EIDS Eidsvold 19.06 230 P **P 08 55 10.3 +1.1**
EIDS IAmb IAmb 08 55 29.8
comp=Z,11nm,1.2s
CTAO Charters Tower 20.98 250 P **P 08 55 29.2 -0.6**
CTAO IAmb IAmb 08 56 02.5
comp=Z,21nm,1.4s
ARMA Armidale 21.94 218 P **P 08 55 39.2 -0.4**
ARMA IAmb IAmb 08 55 42.5
comp=Z,9.8nm,0.8s
COEN Coen 23.30 267 P **P 08 55 52.9 +0.8**
COEN IAmb IAmb 08 55 54.7
comp=Z,9.3nm,0.8s
BKZ Black Stump Fm 26.65 164 P **P 08 56 21.1 -1.0**
STKA Stephens Creek 29.58 228 P **P 08 56 49.0 +0.8**
STKA Stephens Creek 29.58 228 P **P 08 56 49.0 +0.8**
comp=Z,5.8nm,0.6s,baz=54,slow=9.5,SNR=17
comp=Z,5.8nm,0.6s
TOO Toolangi 30.61 215 P **P 08 56 57.0 -0.2**
TOO IAmb IAmb 08 57 28.5
comp=Z,8.6nm,1.3s
WKZ Wanaka 31.04 177 P **P 08 57 00.2 -0.6**
WB0 Warramunga Arr 31.92 255 P **P 08 57 08.0 -0.9**
WB0 IAmb IAmb 08 57 09.2
comp=Z,5.5nm,0.6s
WB2 Warramunga Arr 31.98 254 P **P 08 57 08.8 -0.6**
WB2 IAmb IAmb 08 57 09.3
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 31.99 254 P **P 08 57 07.5 -2.0**
WRA Warramunga Arr 31.99 254 P **P 08 57 08.9 -0.6**
comp=Z,1.7nm,0.6s,baz=86,slow=9.5,SNR=24
WRA PcP **PcP 08 59 54.4 -0.3**
comp=Z,0.6nm,0.9s,baz=84,slow=3.5,SNR=2.7
comp=Z,1.7nm,0.6s
AS31 Alice Springs 32.95 248 P **P 08 57 16.9 -1.0**
ASAR Alice Springs 32.95 248 P **P 08 57 16.9 -1.0**
ASAR Alice Springs 32.95 248 P **P 08 57 17.4 -0.5**
comp=Z,3.5nm,0.5s,baz=74,slow=9.3,SNR=102
ASAR PcP **PcP 08 59 56.6 -0.6**
comp=Z,1.0nm,1.0s,baz=67,slow=1.8,SNR=4.9
comp=Z,3.5nm,0.5s
MTN Manton Dam 35.06 267 P **P 08 57 36.8 +0.8**
KNRA Kununurra 37.17 262 P **P 08 57 53.4 -0.5**
KNRA IAmb IAmb 08 57 55.0
comp=Z,7.2nm,1.0s
FORT Forrest 39.73 238 P **P 08 58 14.1 -1.0**
FITZ Fitzroy Crossi 40.11 258 P **P 08 58 18.2 -0.2**
FITZ Fitzroy Crossi 40.11 258 P **P 08 58 19.0 +0.6**
comp=Z,1.7nm,0.6s,baz=78,slow=9.3,SNR=2.3
comp=Z,1.7nm,0.6s
PSA00 Pilbara Seismi 45.63 253 P **P 08 59 03.1 +0.5**
JKA Kamikawa-asahi 61.77 340 P **P 09 00 59.9 +0.8**
CASY Casey 64.42 202 P **P 09 01 15.3 -1.0**
CASY IAmb IAmb 09 01 20.5
comp=Z,12nm,1.4s
CMAR Chiang Mai Arr 74.46 294 P **P 09 02 18.7 +0.1**
comp=Z,0.9nm,0.4s,baz=122,slow=4.7,SNR=4.8
comp=Z,0.9nm,0.4s
QSPA South Pole Qui 76.30 180 P **P 09 02 27.9 -0.6**
QSPA South Pole Qui 76.30 180 P **P 09 02 28.1 -0.4**
comp=Z,1.9nm,1.0s,baz=222,slow=0.4,SNR=7.6
comp=Z,1.9nm,1.0s
SONM Songino Array 81.64 324 P **P 09 02 58.2 +0.6**
comp=Z,1.0nm,0.5s,baz=121,slow=5.2,SNR=2.1
comp=Z,1.0nm,0.5s
MAW Mawson 82.77 202 P **P 09 03 03.6 +0.6**
comp=Z,1.3nm,0.5s,baz=105,slow=8.4,SNR=6.1
comp=Z,1.3nm,0.5s
ILAR Eielson Array 85.61 18 P **P 09 03 16.9 -0.3**
comp=Z,0.5nm,0.9s,baz=245,slow=4.8,SNR=2.2
comp=Z,0.5nm,0.9s
SNAA Sanae 94.54 183 P **P 09 03 57.9 -1.3**
SNAA IAmb IAmb 09 04 13.5
comp=Z,3.9nm,1.4s
MK31 Makanchi Array 96.41 316 P **P 09 04 07.6 -0.5**
MK31 IAmb IAmb 09 04 32.7
comp=Z,1.6nm,1.2s
MKAR Makanchi Array 96.41 316 P **P 09 04 07.3 -0.8**
MKAR Makanchi Array 96.41 316 P **P 09 04 07.9 -0.2**
comp=Z,0.6nm,0.6s,baz=90,slow=4.9,SNR=6.3
comp=Z,0.6nm,0.6s
ARCES ARCESS Array B 119.26 346 PKP **PKPdf 09 09 25.4 -1.2**
comp=Z,1.7nm,0.9s,baz=52,slow=2.9,SNR=5.5
TORD Torodi Ar. Bea 165.86 269 PKP **PKPdf 09 10 43.2 -0.4**
comp=Z,0.2nm,0.6s,baz=153,slow=0.8,SNR=1.5
TORD PKPab **PKPab 09 11 42.5 -2.0**
comp=Z,0.5nm,0.7s,baz=82,slow=6.1,SNR=3.3

*SOME **02** 09:03:02.4, 43°.15N×78°.40E, h10km*
*NNC **02** 09:03:02.3±0.6, 43°.14N×78°.43E, h0km, mb2.6, mpv2.7, Error ellipse: s-maj=5.2km s-min=3.5km az=178.0*
*KRNET **02** 09:03:02.7±0.1, 43°.12N×78°.44E, h19km, mb2.8*
ISC 02 09:03:03.1±0.8, 43°.14N±0°.02×78°.39E±0°.02, h11km±4km, n36, σ1909/70, 12C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.04**	**55**	P	**Pg**	**09 03 05.0**	**-0.4**
45nm,0.1s
ZHN S **Sg 09 03 06.7 -0.4**
1μm,0.2s
ZHN Zhinishke 0.04 55 *e*P **Pg 09 03 05.0 -0.4**
45nm,0.1s
ZHN *e*S **Sg 09 03 06.7 -0.4**
1μm,0.2s
ZHN Zhinishke 0.04 55 *e*P **Pg 09 03 05.0 -0.4**
ZHN *e*S **Sg 09 03 06.7 -0.4**
SATY Saty 0.09 170 P **Pg 09 03 05.5 -0.3**
534nm,0.1s
SATY S **Sg 09 03 07.5 -0.3**
1μm,0.2s
SATY Saty 0.09 170 *e*P **Pg 09 03 05.5 -0.3**
534nm,0.1s
SATY *e*S **Sg 09 03 07.5 -0.3**
1μm,0.2s
SATY Saty 0.09 170 *e*P **Pg 09 03 05.5 -0.3**
SATY *e*S **Sg 09 03 07.5 -0.3**
KURS Kuram 0.38 336 P **Pg 09 03 10.5 -0.2**
14nm,0.1s
KURS S **Sg 09 03 16.0 +0.3**
12nm,0.2s
KURS Kuram 0.38 336 *e*P **Pg 09 03 10.5 -0.2**
14nm,0.1s
KURS *e*S **Sg 09 03 16.0 +0.3**
12nm,0.2s
KPKS Kokpek 0.39 34 P **Pg 09 03 10.3 -0.6**
3.1nm,0.1s
KPKS S **Sg 09 03 15.7 -0.4**
37nm,0.2s
KPKS Kokpek 0.39 34 *e*P **Pg 09 03 10.3 -0.6**
3.1nm,0.1s
KPKS *e*S **Sg 09 03 15.7 -0.4**
37nm,0.2s
KPKS Kokpek 0.39 34 *e*P **Pg 09 03 10.3 -0.6**
KPKS *e*S **Sg 09 03 15.7 -0.4**
UZB Uzynbulak 0.47 89 P **Pg 09 03 11.4 -0.9**
9.7nm,0.1s
UZB S **Sg 09 03 17.6 -0.9**
78nm,0.1s
UZB Uzynbulak 0.47 89 *e*P **Pg 09 03 11.4 -0.9**
9.7nm,0.1s
UZB *e*S **Sg 09 03 17.6 -0.9**
78nm,0.1s
UZB Uzynbulak 0.47 89 *e*P **Pg 09 03 11.4 -0.9**
UZB *e*S **Sg 09 03 17.6 -0.9**
PRZ Przheval'sk 0.66 179 ⇑*e*P **Pg 09 03 14.6 -1.3**
PRZ ⇑*e*S **Sg 09 03 23.1 -1.5**
SHLS Shalkode 0.79 89 P **Pn 09 03 22.2 +1.9**
2.1nm,0.1s
SHLS S **Sn 09 03 36.0 +3.9**
7.2nm,0.1s
SHLS Shalkode 0.79 89 *e*P **Pn 09 03 22.2 +1.9**
2.1nm,0.1s
SHLS *e*S **Sn 09 03 36.0 +3.9**
7.8nm,0.2s
PDGK Podgornoye 0.83 77 P **Pg 09 03 17.6 -1.5**
1.6nm,0.2s
PDGK S **Sg 09 03 28.1 -1.9**
4.6nm,0.1s
PDGK Podgornoye 0.83 77 ⇑P **Pg 09 03 17.4 -1.7**
1.4nm,0.4s
PDGK ⇑S **Sg 09 03 28.6 -1.4**
5.1nm,0.5s
MDOK Medeo 0.98 272 *e*P **Pg 09 03 21.0 -1.0**
1.9nm,0.2s
MDOK *e*S **Sg 09 03 34.0 -0.8**
3.6nm,0.2s
TNSS Tian-Shan 1.06 265 P **Pg 09 03 22.6 -1.0**
0.9nm,0.1s
TNSS S **Sg 09 03 36.5 -0.8**
2.0nm,0.2s
TNSS Tian-Shan 1.06 265 *e*P **Pg 09 03 22.6 -1.0**
0.9nm,0.1s
TNSS *e*S **Sg 09 03 36.5 -0.8**
2.0nm,0.2s
ARXS Arharly 1.14 339 P **Pb 09 03 23.9 -1.0**
0.9nm,0.1s
ARXS S **Sb 09 03 38.8 -1.1**
8.0nm,0.1s
ARXS Arharly 1.14 339 *e*P **Pb 09 03 23.9 -1.0**
0.9nm,0.1s
ARXS *e*S **Sb 09 03 38.8 -1.1**
8.0nm,0.1s
KDJ Kajisay 1.35 222 ⇓*i*P **Pn 09 03 27.5 -0.5**
KDJ ⇓*i*S **Sb 09 03 45.8 0.0**
KTBS Karatobe 1.36 295 P **Pn 09 03 27.9 -0.2**
1.5nm,0.2s
KTBS S **Sb 09 03 45.7 -0.5**
9.1nm,0.3s
KTBS Karatobe 1.36 295 *e*P **Pn 09 03 27.9 -0.2**
1.5nm,0.2s
KTBS *e*S **Sb 09 03 45.7 -0.5**
9.1nm,0.3s
TARG Taragay, Kyrgy 1.48 197 ⇑*i*P **Pn 09 03 29.7 -0.3**
TARG ⇑*i*S **Sb 09 03 49.3 -0.4**
DJR Jarkent 1.56 40 P **Pb 09 03 31.1 -1.0**
3.3nm,0.1s
DJR S **Sb 09 03 51.1 -0.8**
6.6nm,0.3s
DJR Jarkent 1.56 40 *e*P **Pb 09 03 31.1 -1.0**
3.3nm,0.1s
DJR *e*S **Sb 09 03 51.1 -0.8**
6.6nm,0.3s
ULHL Ulahol 1.82 241 ⇓*e*P **Pb 09 03 36.4 -0.1**
ULHL ⇓*i*S **Sg 09 04 00.7 -0.8**
BOOM Boomskoye usch 1.91 251 ⇑*e*P **Pb 09 03 38.0 -0.1**
BOOM ⇑*i*S **Sb 09 04 03.1 +1.0**
KRBS Karabastau 2.05 287 Pg **Pb 09 03 40.2 -0.2**
0.9nm,0.4s
KRBS Lg Lg 09 04 06.6
6.8nm,0.4s
KRBS Karabastau 2.05 287 *e*P **Pb 09 03 40.2 -0.2**
0.9nm,0.4s
KRBS *e*S **Sb 09 04 06.6 +0.7**
6.8nm,0.4s
TKM2 Tokmak 2 2.06 265 ⇑Pg **Pb 09 03 40.7 +0.1**
1.0nm,0.7s
TKM2 ⇑Lg Lg 09 04 08.7
1.8nm,0.6s
TKM2 Tokmak 2 2.06 265 ⇑*i*P **Pb 09 03 40.2 -0.4**
TKM2 ⇑*i*S **Sb 09 04 07.4 +1.2**

*CATAC **02** 09:04:43.6±0.8, 10°.47N×86°.69W, h6km±9km, ML3.3*
*UCR **02** 09:04:46.4±1.0, 10°.60N×86°.65W, h12km±12km, MW3.7*
ISC 02 09:04:46.7±2.1, 10°.60N±0°.06×86°.63W±0°.06, h18km±11km, n44, σ0974/52, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELI1	**Hacienda Flor**	**1.06**	**87**	*e*P	**Pn**	**09 05 07.4**	**+0.7**
DELF	**Filadelfia**	**1.07**	**98**	*e*P	**Pn**	**09 05 06.9**	**0.0**
DELF *e*S **Sn 09 05 21.4 0.0**
SACU Santa Cruz 1.08 108 *e*P **Pn 09 05 06.9 -0.2**
SACU *e*S **Sb 09 05 21.0 +0.2**
LCRUZ La Cruz 1.09 64 *e*P **Pn 09 05 07.4 +0.2**
CARN Rivas 1.23 62 *i*P **Pn 09 05 09.2 0.0**
CARN *i*S **Sg 09 05 26.8 0.0**
CARN IAML 09 05 42.4
comp=Z,850nm,1.0s
GPS3 Bodega del ICE 1.25 83 *e*P **Pg 09 05 11.5 +0.5**
VRLE La Escondida, 1.26 81 *e*P **Pn 09 05 09.3 -0.2**
GPS2 Hotel Rincn d 1.27 83 *e*P **Pn 09 05 09.6 -0.1**
VORI VORI 1.28 80 *e*P **Pn 09 05 09.7 -0.3**
NADN Granada 1.28 27 *i*P **Pn 09 05 08.4 -1.5**
JAPN AI SSO del Vol 1.31 45 *i*P **Pn 09 05 10.2 0.0**
JAPN IAML 09 05 24.3
comp=Z,380nm,1.0s
MORN AI O del Volca 1.35 46 *i*P **Pn 09 05 10.0 -0.8**
MORN IAML 09 05 16.7
comp=Z,54nm,1.0s
BAGA Bagaces 1.35 93 *e*P **Pb 09 05 11.2 -0.3**
BAGA *e*S **Sb 09 05 28.6 +0.1**
CONN Concepcion 1.38 46 *i*P **Pn 09 05 10.2 -0.9**
CONN IAML 09 05 18.9
comp=Z,2μm,1.0s
COLC Colonia 1.40 87 *e*P **Pn 09 05 11.7 +0.2**
COLC *e*S **Sn 09 05 30.2 +0.5**
RA5A7 El Crucero 1.42 13 *i*P **Pn 09 05 10.9 -0.9**
RA5A7 IAML 09 05 23.5
comp=Z,2μm,1.0s
NANN Nandasmo 1.42 21 *i*P **Pb 09 05 12.6 -0.2**
NANN IAML 09 05 53.5
comp=Z,7μm,1.0s
HORNC Hornillas 1.43 85 *e*P **Pn 09 05 11.9 0.0**
CUI Cuipilapa 1.44 88 *e*P **Pn 09 05 12.3 +0.2**
MAS3 AI N del Volca 1.48 17 *i*P **Pn 09 05 12.2 -0.4**
MAS3 IAML 09 05 50.2
comp=Z,350nm,1.0s
UNAN Cigeo UNAN 1.54 13 *i*P **Pn 09 05 13.0 -0.4**
UNAN IAML 09 06 03.0
comp=Z,2μm,1.0s
R0529 La Mascota 1.56 14 *i*P **Pn 09 05 13.2 -0.5**
R0529 IAML 09 05 19.6
comp=Z,450nm,1.0s
COPN Copaltepe 1.57 1 *i*P **Pn 09 05 12.6 -1.2**
COPN IAML 09 05 38.9
comp=Z,140nm,1.0s
TISN Laguna Tiscapa 1.57 13 *i*P **Pb 09 05 15.2 -0.2**
TISN IAML 09 05 19.8
comp=Z,34nm,1.0s
WILN Americas 2 1.61 16 *i*P **Pb 09 05 15.5 -0.5**
WILN IAML 09 05 24.5
comp=Z,230nm,1.0s
APQ2 Apoyeque 1.62 11 *i*P **Pn 09 05 13.3 -1.1**
APQ2 *i*S **Sb 09 05 38.0 +1.8**
APQ2 IAML 09 05 42.5
comp=Z,320nm,1.0s
TENO El Achiote 1.63 86 *e*P **Pn 09 05 14.7 +0.1**
JTS Las Juntas de 1.68 100 *e*P **Pn 09 05 15.4 0.0**
VERA Finca Concepci 1.75 82 *e*P **Pn 09 05 17.1 +0.9**
MOM2 El Cardon 1.83 4 *i*P **Pn 09 05 16.5 -0.9**
MOM2 IAML 09 05 33.8
comp=Z,140nm,1.0s
MOM2 *i*S **Sb 09 05 43.3 +0.9**
CNGA AI SSO del Vol 1.88 358 *i*P **Pn 09 05 17.0 -1.2**
CNGA IAML 09 05 52.3
comp=Z,150nm,1.0s
ARE1 Arenal 1 1.89 94 *e*P **Pb 09 05 19.1 -1.6**
CEDE Laguna Cedeo 1.90 93 *e*P **Pb 09 05 19.4 -1.6**
ACON Acoyapa 1.97 46 *i*P **Pn 09 05 18.8 -0.5**
ACON *i*S **Sb 09 05 46.8 +0.3**
ACON IAML 09 05 49.3
comp=Z,96nm,1.0s
ACON Acoyapa 1.97 46 *e*P **Pn 09 05 18.2 -1.1**
LIMN Finca el Limon 2.46 6 *i*P **Pn 09 05 24.9 -1.3**
LIMN IAML 09 05 38.1
comp=Z,60nm,1.0s
CSGN Cosiguina Volc 2.53 339 *i*P **Pn 09 05 27.0 -0.1**
CSGN IAML 09 06 01.3
comp=Z,30nm,1.0s
CNCH Conchagua 2.91 336 *i*P **Pn 09 05 31.6 -0.7**
CNCH IAML 09 05 32.1
comp=Z,78nm,1.0s
RCFN AI S de San Ju 2.94 8 *i*P **Pn 09 05 32.9 +0.1**
RCFN IAML 09 05 33.6
comp=Z,150nm,1.0s
RCPN Sur Rio San Ju 2.96 10 *i*P **Pn 09 05 32.9 -0.1**
RCPN IAML 09 05 34.2
comp=Z,0.4nm,1.0s
LCND La Caada 2.96 336 *i*P **Pn 09 05 32.8 -0.2**
LCND IAML 09 05 42.2
comp=Z,31nm,1.0s
RCVN Varillal2 3.00 8 *i*P **Pn 09 05 33.0 -0.6**
RCVN IAML 09 06 20.6
comp=Z,420nm,1.0s
YUSH Yuscaran 3.34 356 *i*P **Pn 09 05 38.8 +0.5**
SCLA Alcaldia de Sa 3.70 327 *i*P **Pn 09 05 43.6 +0.4**
SCLA IAML 09 05 54.6
comp=Z,16nm,1.0s

*GII **02** 09:11:29.3±0.3, 36°.272N±0°.002×28°.786E±0°.001, h1km, Mws3.7, confirmed*
*AFAD **02** 09:11:29.8±0.0, 36°.34N×28°.75E, h15km±2km, MW3.9*
*IDC **02** 09:11:29.6±0.9, 36°.38N×28°.86E, h0km, mb3.9/7, mbtmp4.0/15, ML3.8/7, Error ellipse: s-maj=17.9km*

s-min=13.5km az=163.0
*ISK **02** 09:11:30.3,36˚.46N×28˚.73E,h5km,ML3.8/60*
*NIC **02** 09:11:30.8,36˚.38N×28˚.82E,h0km±2km,Ml3.8/11*
*NEIC **02** 09:11:31.2±1.7,36˚.31N±0˚.06×28˚.88E±0˚.05,h10km±1km, mb4.4/9,Error ellipse: s-maj=10.3km s-min=5.9km az=161.0*
*THE **02** 09:11:32.1,36˚.46N×28˚.70E,h0km±2km,ML3.7/4,Error ellipse: s-maj=7.5km s-min=1.5km az=103.0*

ISC 02 09:11:31.0±1.1,36˚.38N±0˚.02×28˚.78E±0˚.02,h7km±8km, n204,σ1§38/240,mb4.0/9,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.35**	**44**	P	**Pg**	**09 11 37.6**	**-0.2**
FETY				S	**Sb**	**09 11 44.2**	**-1.0**
FETY	**Fethiye**	**0.35**	**44**	Pg	**Pg**	**09 11 37.9**	**+0.1**
FETY				Sg	**Sb**	**09 11 43.9**	**-1.4**
DALY	**Dalyan (Mula)**	**0.44**	**347**	Pg	**Pg**	**09 11 37.9**	**-1.7**
DALY				Sg	**Sg**	**09 11 44.6**	**-0.8**
ARG	**Arkhangelos**	**0.56**	**253**	P	**Pg**	**09 11 41.6**	**-0.1**
ARG				S	**Sb**	**09 11 51.5**	**+0.4**
	9µm,0.3s						
ARG	**Arkhangelos**	**0.56**	**253**	P	**Pg**	**09 11 41.5**	**-0.1**
ARG				S	**Sb**	**09 11 51.6**	**+0.5**
ARG				AML	AML	09 11 52.0	
	15nm,0.8s						
ARG				AML	AML	09 11 53.6	
	23nm,0.3s						
MRSB	**Marmaris-Mugla**	**0.57**	**305**	Pg	**Pg**	**09 11 41.1**	**-1.0**
TURN	**Turunc**	**0.58**	**312**	Pg	**Pg**	**09 11 40.9**	**-1.3**
TURN				Sg	**Sg**	**09 11 48.9**	**-0.9**
AKAS	**Kas**	**0.68**	**103**	Pg	**Pb**	**09 11 45.3**	**0.0**
AKAS				Sg	**Sn**	**09 11 57.6**	**-0.5**
AKAS	**Kas**	**0.68**	**103**	Pg	**Pb**	**09 11 44.8**	**-0.5**
CAME	**Cameli-Denizli**	**0.70**	**37**	Pg	**Pg**	**09 11 43.9**	**-0.5**
KNIK	**Mula-Seydike**	**0.79**	**54**	P	**Pg**	**09 11 45.8**	**-0.3**
KNIK				S	**Sb**	**09 11 58.1**	**+0.2**
YER	**Yerkesik**	**0.85**	**332**	Pg	**Pg**	**09 11 46.4**	**-0.9**
YER	**Yerkesik**	**0.85**	**332**	P	**Pg**	**09 11 46.8**	**-0.5**
YER				S	**Sb**	**09 11 59.0**	**-0.7**
CAEL	**Denizli, Camel**	**0.85**	**30**	P	**Pg**	**09 11 46.8**	**-0.6**
CAEL				S	**Sb**	**09 11 59.9**	**0.0**
DEMR	**Demre-Antalya**	**0.92**	**99**	Pg	**Pn**	**09 11 49.7**	**-0.6**
DATC	**Datca-Mugla**	**0.98**	**293**	Pg	**Pg**	**09 11 49.3**	**-0.4**
ELL	**Elmali**	**0.98**	**68**	Pg	**Pn**	**09 11 50.8**	**-0.4**
ELL	**Elmali**	**0.98**	**68**		**Pb**	**09 11 49.9**	**-0.4**
ELL	**Elmali**	**0.98**	**68**	P	**Pb**	**09 11 49.9**	**-0.4**
ELL				S	**Sn**	**09 12 05.3**	**-0.1**
ELL				AML	AML	09 12 14.4	
	12nm,0.7s						
ELL				AML	AML	09 12 14.4	
	20nm,0.6s						
DAT	**Datca**	**1.03**	**290**	P	**Pg**	**09 11 49.6**	**-1.1**
DAT				S	**Sb**	**09 12 05.8**	**+0.9**
DAT	**Datca**	**1.03**	**290**	Pg	**Pg**	**09 11 50.3**	**-0.4**
DAT	**Datca**	**1.03**	**290**	P	**Pg**	**09 11 50.3**	**-0.4**
DAT				S	**Sb**	**09 12 05.5**	**+0.6**
TAVA	**DENIZLI_Tavas**	**1.08**	**6**	P	**Pg**	**09 11 50.4**	**-1.4**
TAVA				S	**Sb**	**09 12 07.0**	**+0.5**
YAZI	**Mula-Dat§a-**	**1.11**	**286**	P	**Pg**	**09 11 50.8**	**-1.5**
YAZI				S	**Sb**	**09 12 07.1**	**0.0**
APMY	**Acipayam-Deniz**	**1.16**	**21**	Pn	**Pg**	**09 11 52.0**	**-1.3**
DNIZ	**Denizli-Tavas-**	**1.26**	**9**	P	**Pg**	**09 11 53.3**	**-1.8**
DNIZ				S	**Sn**	**09 12 14.9**	**+2.6**
AKUM	**Antalya-Kumluc**	**1.26**	**92**	P	**Pn**	**09 11 55.3**	**+0.3**
AKUM				S	**Sn**	**09 12 15.6**	**+3.4**
NISR	**Nisiros**	**1.35**	**280**	P	**Pg**	**09 11 56.3**	**-0.6**
NISR				S	**Sg**	**09 12 13.6**	**-0.8**
	2µm,0.8s						
BODT	**Bodrum**	**1.36**	**300**	Pn	**Pg**	**09 11 55.9**	**-1.1**
BODT	**Bodrum**	**1.36**	**300**	P	**Pg**	**09 11 56.0**	**-1.1**
KORT	**Korkueli**	**1.40**	**64**	Pn	**Pb**	**09 11 58.8**	**+1.2**
YKAV	**Yalikavak-Bodr**	**1.41**	**302**	Pn	**Pn**	**09 11 57.0**	**-0.1**
KEMT	**Kemer-ANTALYA**	**1.45**	**81**	Pn	**Pg**	**09 11 59.6**	**+0.9**
ESEN	**Aydn-Nazilli**	**1.45**	**346**	P	**Pn**	**09 11 56.9**	**-0.7**
ESEN				S	**Sg**	**09 12 17.1**	**-0.6**
INCE	**Denizli-Bozkur**	**1.47**	**25**	P	**Pn**	**09 11 57.5**	**-0.5**
INCE				S	**Sn**	**09 12 19.5**	**+2.0**
KARP	**Karpathos**	**1.56**	**238**	Pn	**Pg**	**09 12 00.2**	**-0.6**
KARP	**Karpathos**	**1.56**	**238**		**Pb**	**09 11 59.9**	**-0.2**
KARP	**Karpathos**	**1.56**	**238**	P	**Pb**	**09 12 00.0**	**-0.1**
KARP				S	**Sg**	**09 12 20.9**	**-0.1**
	4µm,0.6s						
KARP	**Karpathos**	**1.56**	**238**	P	**Pb**	**09 12 00.0**	**-0.1**
KARP	**Karpathos**	**1.56**	**238**	P	**Pb**	**09 12 00.0**	**-0.1**
KARP				S	**Sg**	**09 12 24.1**	**+3.1**
KARP				AML	AML	09 12 25.7	
	6.5nm,0.6s						
KARP				AML	AML	09 12 32.4	
	7.6nm,0.8s						
DIDI	**Didim-Aydin**	**1.58**	**309**	Pn	**Pn**	**09 11 59.8**	**+0.4**
ANTB	**Antalya**	**1.59**	**71**	Pn	**Pg**	**09 12 00.9**	**-0.6**
NAZL	**Nazilli-Aydin**	**1.62**	**346**	Pn	**Pn**	**09 12 00.1**	**+0.1**
DDIM	**Aydin, Didim**	**1.63**	**311**	P	**Pn**	**09 11 59.4**	**-0.7**
DDIM				S	**Sg**	**09 12 25.2**	**+1.7**
BRDR	**BURDUR-Merkez**	**1.66**	**38**	P	**Pb**	**09 12 01.3**	**-0.6**
BRDR				S	**Sg**	**09 12 27.5**	**+3.1**
AYDB	**Zeytinkoy-Aydi**	**1.71**	**336**	Pn	**Pn**	**09 12 01.3**	**-0.1**
BCK	**Bucak**	**1.80**	**53**	Pn	**Pb**	**09 12 03.8**	**-0.6**
GCAM	**G?zelcaml?**	**1.81**	**317**	Pn	**Pn**	**09 12 02.4**	**-0.1**
KIRA	**zmir-Kiraz**	**1.83**	**351**	P	**Pn**	**09 12 02.9**	**0.0**
KIRA				S	**Sn**	**09 12 26.9**	**+0.4**
BASM	**Basmaki-Afyon**	**1.84**	**33**	Pn	**Pn**	**09 12 03.3**	**+0.3**
ISP	**Isparta**	**2.00**	**44**	Pn	**Pb**	**09 12 06.7**	**-1.0**
ISP	**Isparta**	**2.00**	**44**	Pn	**Pn**	**09 12 06.0**	**+0.8**
KHL	**Karahalli**	**2.02**	**17**	Pn	**Pn**	**09 12 05.9**	**+0.3**
SMG	**Samos**	**2.04**	**311**	P	**Pn**	**09 12 05.2**	**-0.5**
SMG				S	**Sn**	**09 12 31.0**	**-0.5**
	1µm,0.4s						
MANT	**Manisa**	**2.11**	**355**	Pn	**Pn**	**09 12 07.3**	**+0.4**
KULA	**Kula-Manisa**	**2.13**	**357**	Pn	**Pn**	**09 12 07.4**	**+0.4**
GMLD	**Gumuldur**	**2.25**	**319**	Pn	**Pn**	**09 12 09.4**	**+0.8**
USAK	**Uak-Merkez**	**2.33**	**5**	P	**Pn**	**09 12 09.2**	**-0.6**
BLCB	**Balcova**	**2.43**	**326**	Pn	**Pn**	**09 12 11.6**	**+0.5**
ZKR	**Zakros**	**2.44**	**239**	Pn	**Pn**	**09 12 12.3**	**+1.1**
ZKR	**Zakros**	**2.44**	**239**	P	**Pb**	**09 12 13.7**	**-1.5**
ZKR				S	**Sb**	**09 12 46.7**	**+1.3**
ZKR				AML	AML	09 12 55.3	
	1.8nm,0.4s						
ZKR				AML	AML	09 12 58.1	
	0.9nm,0.5s						
GORD	**Gordes-Manisa**	**2.56**	**349**	Pn	**Pn**	**09 12 13.5**	**+0.5**
SHUT	**Suhut-Afyon**	**2.58**	**33**	Pn	**Pn**	**09 12 14.1**	**+0.8**
ZEYE	**Izmir, Urla-Ze**	**2.59**	**316**	P	**Pn**	**09 12 12.6**	**-0.7**
ZEYE				S	**Sn**	**09 12 46.9**	**+1.8**
AKS	**Akhisar**	**2.61**	**343**	Pn	**Pn**	**09 12 13.8**	**+0.3**
SEDI	**Konya, Seydise**	**2.61**	**65**	P	**Pn**	**09 12 15.6**	**+1.9**
SEDI				S	**Sb**	**09 12 51.7**	**+1.2**
SHAP	**Saphane-Kutahy**	**2.66**	**7**	Pn	**Pn**	**09 12 14.8**	**+0.5**
APE	**Apeiranthos**	**2.70**	**286**	Pn	**Pn**	**09 12 14.8**	**0.0**
SIMA	**Simav-Kutahya**	**2.70**	**3**	Pn	**Pn**	**09 12 14.6**	**-0.3**
GEDZ	**Gediz**	**2.70**	**10**	Pn	**Pn**	**09 12 15.7**	**+0.8**
CESE	**eme**	**2.77**	**315**	Pn	**Pn**	**09 12 16.1**	**+0.3**
FOCM	**Foa**	**2.84**	**326**	Pn	**Pn**	**09 12 17.4**	**+0.7**
DOGA	**KONYA_Doganhis**	**2.87**	**52**	P	**Pn**	**09 12 19.2**	**+1.8**
KURO	**Afyon-Bolvadin**	**2.90**	**35**	P	**Pn**	**09 12 17.2**	**-0.5**
SOMA	**Soma-Manisa**	**2.94**	**341**	Pn	**Pn**	**09 12 18.2**	**+0.1**
CHOS	**Chios island**	**2.95**	**313**	Pn	**Pn**	**09 12 18.8**	**+0.5**
CAND	**Candarli**	**3.01**	**329**	Pn	**Pn**	**09 12 20.3**	**+1.3**
DKL	**Dikili**	**3.07**	**332**	Pn	**Pn**	**09 12 20.5**	**+0.7**
TVSB	**Tavsanli**	**3.11**	**10**	Pn	**Pn**	**09 12 20.9**	**+0.4**
AKMS	**Akamas**	**3.20**	**114**	P	**Pn**	**09 12 21.7**	**0.0**
AKMS				AML	AML	09 13 04.5	
	0.2nm,0.5s						
AKMS				AML	AML	09 13 09.6	
	0.3nm,0.5s						
ALFC	**Alefka**	**3.34**	**110**	P	**Pn**	**09 12 23.4**	**-0.2**
ALFC				S	**Sn**	**09 13 05.9**	**+2.5**
ALFC				AML	AML	09 13 09.2	
	0.2nm,0.5s						
ALFC				AML	AML	09 13 11.0	
	0.2nm,0.7s						
IDI	**Anoyia**	**3.34**	**252**	Pn	**Pn**	**09 12 24.9**	**+1.2**
IDI	**Anoyia**	**3.34**	**252**	Pn	**Pn**	**09 12 24.2**	**+0.5**
	59nm,0.4s,baz=61,slow=14,SNR=100						
IDI				Sn	**Sn**	**09 13 05.1**	**+1.4**
	24nm,0.3s,baz=332,slow=9.2,SNR=14						
CIFT	**Cifteler, Eski**	**3.48**	**31**	Pn	**Pn**	**09 12 26.5**	**+1.0**
NATA	**Nata**	**3.48**	**116**	P	**Pn**	**09 12 25.6**	**+0.1**
NATA				S	**Sn**	**09 13 09.0**	**+2.1**
NATA				AML	AML	09 13 18.4	
	0.4nm,0.7s						
NATA				AML	AML	09 13 22.8	
	0.5nm,0.4s						
TROD	**Troodos**	**3.62**	**112**	P	**Pn**	**09 12 28.6**	**+1.0**
TROD				S	**Sn**	**09 13 13.8**	**+3.1**
TROD				AML	AML	09 13 21.9	
	0.1nm,0.4s						
TROD				AML	AML	09 13 27.8	
	0.2nm,0.5s						
SIGR	**SIGRI**	**3.65**	**321**	Pn	**Pn**	**09 12 28.9**	**+1.1**
BORA	**Eskisehir**	**3.73**	**20**	Pn	**Pn**	**09 12 29.5**	**+0.5**
EZNE	**Ezine-Canakkal**	**3.87**	**331**	Pn	**Pn**	**09 12 32.4**	**+1.6**
CANM	**Can-anakkale**	**3.87**	**340**	Pn	**Pn**	**09 12 32.3**	**+1.5**
KCTX	**Karacabey (Bur**	**3.89**	**355**	Pn	**Pn**	**09 12 32.4**	**+1.2**
CAVI	**Cavuskoy**	**3.90**	**12**	Pn	**Pn**	**09 12 32.7**	**+1.4**
SRCK	**Saricakaya, Es**	**3.93**	**21**	Pn	**Pn**	**09 12 33.5**	**+1.8**
EZN	**Ezine**	**3.94**	**331**	Pn	**Pn**	**09 12 33.3**	**+1.4**
CSS	**Mathiatis**	**3.97**	**110**	Pn	**Pn**	**09 12 29.4**	**-2.8**
CSS	**Mathiatis**	**3.97**	**110**	P	**Pn**	**09 12 33.0**	**+0.8**
CSS	**Mathiatis**	**3.97**	**110**	P	**Pn**	**09 12 33.4**	**+1.2**
CSS				AML	AML	09 13 37.5	
	0.1nm,0.6s						
CSS				AML	AML	09 13 43.4	
	0.1nm,0.6s						
ASGA	**Asgata**	**3.97**	**112**	P	**Pn**	**09 12 33.3**	**+1.0**
ASGA				AML	AML	09 13 33.2	
	0.2nm,0.6s						
ASGA				AML	AML	09 13 41.6	
	0.1nm,0.6s						
IMMV	**Iera Moni Meta**	**4.00**	**258**	Pn	**Pn**	**09 12 35.1**	**+2.4**
EDC	**Edincik**	**4.02**	**350**	Pn	**Pn**	**09 12 34.3**	**+1.4**
GVD	**Gavdhos**	**4.12**	**249**	Pn	**Pn**	**09 12 36.6**	**+2.3**
KRBG	**Karabiga-Canak**	**4.17**	**344**	Pn	**Pn**	**09 12 35.7**	**+0.8**
MVOU	**Mavrovouni**	**4.18**	**108**	P	**Pn**	**09 12 35.7**	**+0.7**
MVOU				AML	AML	09 13 36.0	
	0.1nm,0.6s						
MVOU				AML	AML	09 13 39.6	
	0.1nm,0.3s						
LPK	**Lapseki**	**4.29**	**339**	Pn	**Pn**	**09 12 37.9**	**+1.3**
KNDR	**Palaiochora Ch**	**4.30**	**256**	Pn	**Pn**	**09 12 39.6**	**+2.9**
GELI	**Tayfur-Gelibol**	**4.40**	**336**	Pn	**Pn**	**09 12 39.6**	**+1.5**
GADA	**Gvkgeada**	**4.42**	**330**	Pn	**Pn**	**09 12 39.1**	**+0.6**
MDUB	**Mudurnu**	**4.50**	**24**	Pn	**Pn**	**09 12 39.0**	**-0.6**
BR231	**Keskin MP Arra**	**4.67**	**41**	Pn	**Pn**	**09 12 42.3**	**+0.2**
ANTO	**Ankara**	**4.70**	**41**		**Pn**	**09 12 42.2**	**-0.2**
ALN	**Alexandroupoli**	**4.99**	**335**	Pn	**Pn**	**09 12 47.0**	**+0.7**
BR131	**Keskin Array S**	**5.08**	**48**	Pn	**Pn**	**09 12 46.7**	**-0.9**
BRTR	**Keskin Array B**	**5.08**	**48**	Pn	**Pn**	**09 12 47.4**	**-0.2**
BRTR	**Keskin Array B**	**5.08**	**48**	Pn	**Pn**	**09 12 49.4**	**+1.8**
	2.2nm,0.3s,baz=217,slow=17,SNR=22						
BRTR				Sn	**Sn**	**09 13 48.3**	**+1.7**
	0.1nm,0.3s,baz=217,slow=16,SNR=1.9						
	4.7nm,0.4s						
AGG	**Agios Georgios**	**5.75**	**299**	Pn	**Pn**	**09 12 57.4**	**+0.6**
BNN	**Bunyan**	**6.12**	**64**	Pn	**Pn**	**09 13 00.6**	**-1.4**
LIT	**Litokhoron**	**6.19**	**309**		**Pn**	**09 13 03.8**	**+1.0**
HNTI	**Hanita**	**6.21**	**120**	P	**Pn**	**09 13 01.9**	**-1.1**
HNTI	**Hanita**	**6.21**	**120**	S	**Sn**	**09 14 12.9**	**-1.3**
OFRI	**`Ofer**	**6.35**	**124**	S	**Sn**	**09 14 16.4**	**-1.3**
OFRI	**`Ofer**	**6.35**	**124**	P	**Pn**	**09 13 03.9**	**-1.1**
MMA0	**Mount Meron ar**	**6.41**	**120**	P	**Pn**	**09 13 05.8**	**0.0**
MMA0B	**Mount Meron ar**	**6.41**	**120**	P	**Pn**	**09 13 04.6**	**-1.2**
MMA0B	**Mount Meron ar**	**6.41**	**120**	S	**Sn**	**09 14 18.4**	**-0.8**
MMAI	**Mount Meron Ar**	**6.41**	**120**	Pn	**Pn**	**09 13 05.2**	**-0.6**
	6.1nm,0.3s,baz=298,slow=13,SNR=13						
MMAI				Sn	**Sn**	**09 14 16.8**	**-2.5**
	3.8nm,0.3s,baz=307,slow=19,SNR=1.4						
	4.1nm,0.4s						
GEM	**Giv'at Ha'Em**	**6.49**	**117**	S	**Sn**	**09 14 20.4**	**-0.6**
GEM	**Giv'at Ha'Em**	**6.49**	**117**	P	**Pn**	**09 13 05.4**	**-1.4**
MMLI	**Mount Malkishu**	**6.75**	**124**	P	**Pn**	**09 13 09.1**	**-1.4**
MMLI	**Mount Malkishu**	**6.75**	**124**	S	**Sn**	**09 14 26.2**	**-1.5**
GAZ	**Gaziantep**	**6.81**	**81**	Pn	**Pn**	**09 13 08.4**	**-3.0**
BZK	**Bozkurt**	**6.89**	**34**	Pn	**Pn**	**09 13 11.0**	**-1.3**
QRNJ	**Al-Qirein**	**6.92**	**124**	P	**Pn**	**09 13 13.3**	**+0.6**
HMDT	**Nahal Hemdat**	**6.94**	**125**	P	**Pn**	**09 13 14.3**	**+1.3**
HMDT	**Nahal Hemdat**	**6.94**	**125**	P	**Pn**	**09 13 11.6**	**-1.4**
HMDT	**Nahal Hemdat**	**6.94**	**125**	S	**Sn**	**09 14 30.9**	**-1.2**
AMAZ	**Amatzia**	**7.03**	**132**	P	**Pn**	**09 13 16.2**	**+1.9**
AMAZ	**Amatzia**	**7.03**	**132**	P	**Pn**	**09 13 13.1**	**-1.1**
AMAZ	**Amatzia**	**7.03**	**132**	S	**Sn**	**09 14 32.7**	**-1.7**
BALJ	**Balqa**	**7.11**	**125**	Pn	**Pn**	**09 13 11.6**	**-3.9**
KZIT	**Kziot**	**7.19**	**138**	P	**Pn**	**09 13 16.9**	**+0.3**
KZIT	**Kziot**	**7.19**	**138**	S	**Sn**	**09 14 36.2**	**-2.3**
KZIT	**Kziot**	**7.19**	**138**	P	**Pn**	**09 13 15.1**	**-1.4**
YTIR	**Yattir**	**7.27**	**132**	P	**Pn**	**09 13 15.9**	**-1.7**
YTIR	**Yattir**	**7.27**	**132**	S	**Sn**	**09 14 39.5**	**-1.0**
FNA	**Florina**	**7.27**	**309**	Pn	**Pn**	**09 13 18.0**	**+0.3**
DSI	**Dead Sea**	**7.29**	**129**	P	**Pn**	**09 13 16.1**	**-1.7**
DSI	**Dead Sea**	**7.29**	**129**	S	**Sn**	**09 14 39.7**	**-1.1**
DSI	**Dead Sea**	**7.29**	**129**	P	**Pn**	**09 13 16.4**	**-1.4**
MSBI	**Mazada**	**7.45**	**131**	P	**Pn**	**09 13 20.8**	**+0.8**
MSBI	**Mazada**	**7.45**	**131**	P	**Pn**	**09 13 18.4**	**-1.6**
MSBI	**Mazada**	**7.45**	**131**	S	**Sn**	**09 14 43.0**	**-1.8**
GHAJ	**Ghor Haditha**	**7.58**	**130**	Pn	**Pn**	**09 13 17.8**	**-4.1**
GHAJ	**Ghor Haditha**	**7.58**	**130**	P	**Pn**	**09 13 21.4**	**-0.5**
GHAJ	**Ghor Haditha**	**7.58**	**130**	P	**Pn**	**09 13 20.4**	**-1.5**
GHAJ	**Ghor Haditha**	**7.58**	**130**	S	**Sn**	**09 14 46.2**	**-1.8**
KEK	**Kerkira**	**7.83**	**298**	Pn	**Pn**	**09 13 25.6**	**+0.4**
ZFRI	**Zfri**	**7.89**	**136**	P	**Pn**	**09 13 24.7**	**-1.5**
ZFRI	**Zfri**	**7.89**	**136**	S	**Sn**	**09 14 54.2**	**-1.5**
ASF	**Jabal al Asfar**	**7.92**	**120**	Pn	**Pn**	**09 13 27.0**	**+0.4**
	0.4nm,0.3s,baz=213,slow=0.1,SNR=2.0						
	2.2nm,0.6s						
ASF	**Jabal al Asfar**	**7.92**	**120**	P	**Pn**	**09 13 28.2**	**+1.6**
PRNI	**Paran**	**7.95**	**137**	P	**Pn**	**09 13 27.1**	**+0.1**
PRNI	**Paran**	**7.95**	**137**	P	**Pn**	**09 13 24.9**	**-2.1**
PRNI	**Paran**	**7.95**	**137**	S	**Sn**	**09 14 56.2**	**-1.0**
KRMI	**Paran Flat**	**7.99**	**140**	P	**Pn**	**09 13 25.9**	**-1.6**
KRMI	**Paran Flat**	**7.99**	**140**	S	**Sn**	**09 14 57.0**	**-1.1**
HRFI	**Mount Harif**	**8.22**	**139**	P	**Pn**	**09 13 29.8**	**-0.8**
HRFI	**Mount Harif**	**8.22**	**139**	P	**Pn**	**09 13 29.2**	**-1.5**
HRFI	**Mount Harif**	**8.22**	**139**	S	**Sn**	**09 15 02.2**	**-1.5**
MBRI	**Mt Berech**	**8.34**	**140**	P	**Pn**	**09 13 32.7**	**+0.3**
MBRI	**Mt Berech**	**8.34**	**140**	P	**Pn**	**09 13 30.9**	**-1.5**
MBRI	**Mt Berech**	**8.34**	**140**	S	**Sn**	**09 15 06.0**	**-1.0**
EIL	**Elat**	**8.46**	**141**	Pn	**Pn**	**09 13 33.4**	**-0.6**
	3.7nm,0.3s,baz=244,slow=3.2,SNR=25						
EIL				Sn	**Sn**	**09 15 03.1**	**-6.6**
	1.7nm,0.3s,baz=0.0,slow=7.6,SNR=2.8						
	6.6nm,0.3s						
EIL	**Elat**	**8.46**	**141**	P	**Pn**	**09 13 34.4**	**+0.4**
EIL	**Elat**	**8.46**	**141**	P	**Pn**	**09 13 32.4**	**-1.6**
EIL	**Elat**	**8.46**	**141**	S	**Sn**	**09 15 07.5**	**-2.3**
SCTE	**Santa Cesarea**	**8.91**	**298**	Pn	**Pn**	**09 13 40.6**	**+0.5**
PUK	**Puka**	**8.91**	**312**	Pn	**Pn**	**09 13 41.0**	**+0.8**
MLR	**Muntele Rosu**	**9.35**	**348**	Pn	**Pn**	**09 13 47.5**	**+1.4**
MLR	**Muntele Rosu**	**9.35**	**348**	Pn	**Pn**	**09 13 47.1**	**+1.0**
	0.3nm,0.3s,baz=70,slow=9.2,SNR=7.6						
	6.9nm,0.8s						
PDG	**Podgorica**	**9.53**	**312**	Pn	**Pn**	**09 13 49.3**	**+0.8**
TIP	**Timpagrande**	**9.92**	**290**	Pn	**Pn**	**09 13 55.3**	**+1.4**
CEL	**Celeste**	**10.43**	**284**	Pn	**Pn**	**09 14 01.8**	**+0.8**
CUC	**Castrocucco**	**10.82**	**293**	Pn	**Pn**	**09 14 09.0**	**+2.7**
BURAR	**Bucovina Array**	**11.53**	**348**	Pn	**Pn**	**09 14 16.6**	**+0.6**
WDD	**Wied Dalam**	**11.55**	**272**	Pn	**Pn**	**09 14 16.0**	**-0.2**
BUR08	**Bucovina Ar. S**	**11.56**	**348**	Pn	**Pn**	**09 14 18.2**	**+1.8**
KVAR	**Kislovodsk Arr**	**13.04**	**50**	Pn	**Pn**	**09 14 37.8**	**+1.0**
	baz=238,slow=12						
	3.2nm,0.3s						
KEST	**Kesra**	**15.73**	**273**	Pn	**Pn**	**09 15 15.2**	**+2.1**
	0.2nm,0.3s,baz=106,slow=18,SNR=3.3						
	6.5nm,1.1s						
CLL	**Collm**	**18.70**	**328**	*e*(sP)	**Pn**	**09 15 56.0**	**+5.9**
CLL				AMS	AMS	09 21 00.0	
	comp=Z,100nm,20.2s						
SENIN	**Lac Senin/Sane**	**18.90**	**308**	P	**Pn**	**09 15 53.6**	**+0.8**
SENIN				IAmb	IAmb	09 16 09.8	
	comp=Z,31nm,1.0s						
BFO	**Black Forest**	**19.19**	**315**	P	**Pn**	**09 15 56.0**	**-0.1**
BELG	**Belogornoye**	**20.82**	**34**	P	**P**	**09 16 12.6**	**-0.1**
	comp=Z,6.9nm,0.4s,baz=182,slow=14,SNR=2.0						
	comp=Z,6.9nm,0.4s						
FINES	**FINESS Array B**	**25.14**	**357**	P	**P**	**09 16 56.2**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=164,slow=12,SNR=13						
	comp=Z,2.8nm,0.6s						
FIA1	**FINESS Array S**	**25.14**	**357**	P	**P**	**09 16 56.7**	**+0.3**
ESDC	**Sonseca Array**	**25.92**	**287**	P	**P**	**09 17 04.8**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=79,slow=9.3,SNR=5.1						
	comp=Z,0.7nm,0.7s						
NAO01	**NORSAR Array S**	**27.00**	**341**	P	**P**	**09 17 12.7**	**-0.5**
NAO01				IAmb	IAmb	09 17 26.6	
	comp=Z,17nm,1.2s						
NBO00	**NORSAR Array S**	**27.19**	**341**	P	**P**	**09 17 15.8**	**+0.9**
NBO00				IAmb	IAmb	09 17 47.9	
	comp=Z,21nm,1.4s						
NC204	**NORSAR Array S**	**27.40**	**341**	P	**P**	**09 17 17.2**	**+0.4**
NC204				IAmb	IAmb	09 17 21.2	
	comp=Z,9.6nm,1.2s						
EKA	**Eskdalemuir Ar**	**28.84**	**321**	P	**P**	**09 17 29.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=116,slow=8.4,SNR=2.3						
	comp=Z,0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**33.56**	**233**	P	**P**	**09 18 11.2**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=28,slow=10,SNR=9.3						
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**38.05**	**52**	P	**P**	**09 18 48.0**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=275,slow=8.5,SNR=7.1						
	comp=Z,0.5nm,0.4s						
MK31	**Makanchi Array**	**40.64**	**58**	P	**P**	**09 19 10.1**	**-1.4**
MKAR	**Makanchi Array**	**40.64**	**58**	P	**P**	**09 19 10.9**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=270,slow=8.7,SNR=7.1						
	comp=Z,0.5nm,0.6s						
HMDM	**Hanimaadhoo**	**50.08**	**115**	P	**P**	**09 20 24.9**	**-1.7**

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*IDC **02** 09:11:59.6±1.2,52˚.23N×171˚.24W,h0km,mb3.7/3, mbtmp3.8/6,ML3.0/3,MS3.3/1,Error ellipse: s-maj=56.6km s-min=22.9km az=155.0*
*AEIC **02** 09:12:03.6±2.0,52˚.2N±0˚.2×171˚.33W±0˚.10,h28km±8km, Error ellipse: s-maj=27.7km s-min=5.1km az=164.0*
*NEIC **02** 09:12:03.7±2.4,52˚.0N±0˚.2×171˚.3W±0˚.1,h39km±15km, mb3.7/22,ML3.6/6,ML3.4(AEIC),Error ellipse: s-maj=23.5km s-min=6.1km az=161.0*

ISC 02 09:12:05.1±1.0,52˚.2N±0˚.1×171˚.35W±0˚.05,h44km,n77, σ1§13/70,mb3.7/8,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**1.15**	**59**		**Pn**	**09 12 23.8**	**-0.9**
CLCO					**Sn**	**09 12 39.9**	**+0.7**
KOFP	**Korovin Flat P**	**1.69**	**273**		**Pn**	**09 12 32.5**	**+0.3**
NIKH	**Nikolski High**	**1.70**	**63**		**Pn**	**09 12 30.6**	**-1.7**
NIKH	**Nikolski High**	**1.70**	**63**		**Sn**	**09 12 51.7**	**-1.1**
ATKA	**Atka Island**	**1.75**	**271**		**Pn**	**09 12 32.2**	**-0.7**
ATKA					**Sn**	**09 12 53.3**	**-0.7**
ATKA				IAML		09

baz=318,slow=77,SNR=8.5
H03N1 Juan Fernandez 117.02 110 T T 11 38 45.8
baz=318,slow=77,SNR=10
H03N3 Juan Fernandez 117.02 110 T T 11 38 44.9
baz=318,slow=77,SNR=9.9

IDC ***02*** *09:12:10.3±0.6, 13°.20N×88°.91W, h0km, mb4.3/17, mbtmp4.3/18, ML3.9/1, MS3.6/14, Error ellipse: s-maj=25.4km s-min=14.4km az=59.0*
CATAC ***02*** *09:12:13.9±0.4, 12°.86N×89°.44W, h10km±3km, ML5.0*
SNET ***02*** *09:12:15.0±1.1, 12°.89N×89°.43W, h22km±6km, ML4.9*
GCG ***02*** *09:12:16.9±0.3, 13°.22N×89°.81W, h152km±85km, MD4.7*
NEIC ***02*** *09:12:16.0±1.9, 12°.97N±0°.06×89°.37W±0°.06, h35km±2km, mb4.5/207, Mwr4.3/10, Error ellipse: s-maj=12.3km s-min=8.0km az=228.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mr2.91; Mθθ-2.80; Mφφ-0.11; Mrφ0.40; Mrθ1.44; Mθφ-0.77; Fault plane solution: Mo3.32000×1015 NP1:φs124.76000°, δ52.15000°, λ104.74000°. NP2:φs281.55000°, δ40.22000°, λ71.87000°. Principal axes: T 3.0968, Plg77.0000°, Azm87.0000°; N 0.4008, Plg12.0000°, Azm296.0000°; P -3.4976, Plg6.0000°, Azm204.0000°;*
NEIC ***02*** *09:12:18.8, 13°.00N×89°.33W, h56km*
UPA ***02*** *09:12:19.4±2.5, 11°.73N×89°.78W, h0km±285km, MW4.3*
UCR ***02*** *09:12:21.1±1.6, 13°.01N×89°.06W, h34km±438km, MW4.2*
ISC 02 09:12:15.9±0.8, 12°.96N±0°.04×89°.39W±0°.04, h42km±7km, n435, σ1§67/466, mb4.5/101, MS3.6/12, 8C-34D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.53**	**7**	⇓*iP*	**Pn**	**09 12 27.6**	**+0.5**
LALI				*eS*	**Sn**	**09 12 36.7**	**+1.6**
LALI	**Alcalda de L**	**0.53**	**7**	*iP*	**Pn**	**09 12 27.8**	**+0.6**
LALI				*iS*	**Sn**	**09 12 36.7**	**+1.6**
LALI	comp=Z,18μm,1.0s			IAML		09 12 37.0	
PANCS	**Alcalda de**	**0.68**	**17**	⇓*eP*	**Pn**	**09 12 29.7**	**+0.5**
PANCS	**Alcalda de**	**0.68**	**17**	*iP*	**Pn**	**09 12 29.6**	**+0.4**
PANCS				*iS*	**Sn**	**09 12 40.7**	**+1.9**
PANCS	comp=Z,74μm,1.0s			IAML		09 12 41.6	
JAYA	**Jayaque - finc**	**0.69**	**355**	⇓*iP*	**Pn**	**09 12 29.5**	**0.0**
JAYA				*eS*	**Sn**	**09 12 40.4**	**+1.1**
JAYA	**Jayaque - finc**	**0.69**	**355**	*iP*	**Pn**	**09 12 29.6**	**0.0**
JAYA				*iS*	**Sn**	**09 12 40.4**	**+1.1**
JAYA	comp=Z,63μm,1.0s			IAML		09 12 41.9	
LFRS	**El Faro**	**0.73**	**25**	⇑*iP*	**Pn**	**09 12 30.6**	**+0.6**
SNET	**Serv Nac Est T**	**0.74**	**12**		**Pn**	**09 12 30.7**	**+0.6**
SNET	**Serv Nac Est T**	**0.74**	**12**	⇓*iP*	**Pn**	**09 12 30.6**	**+0.6**
SNET				*eS*	**Sn**	**09 12 42.0**	**+1.8**
SNET	**Serv Nac Est T**	**0.74**	**12**	*iP*	**Pn**	**09 12 30.5**	**+0.4**
SNET				*iS*	**Sn**	**09 12 42.5**	**+2.3**
SNET	comp=Z,49μm,1.0s			IAML		09 12 42.9	
PMON	**Piamonte**	**0.75**	**5**	⇓*iP*	**Pn**	**09 12 30.7**	**+0.5**
PMON	**Piamonte**	**0.75**	**5**	*iP*	**Pn**	**09 12 30.8**	**+0.5**
PMON				*iS*	**Sn**	**09 12 42.7**	**+2.1**
PMON	comp=Z,40μm,1.0s			IAML		09 12 46.2	
UTEC	**Universidad Te**	**0.76**	**14**	⇓*eP*	**Pn**	**09 12 31.1**	**+0.8**
UTEC	**Universidad Te**	**0.76**	**14**	*iP*	**Pn**	**09 12 31.1**	**+0.8**
UTEC				*iS*	**Sn**	**09 12 43.0**	**+2.3**
UTEC	comp=Z,25μm,1.0s			IAML		09 12 53.1	
UEES	**Universidad Ev**	**0.77**	**11**	⇓*iP*	**Pn**	**09 12 31.1**	**+0.6**
UEES	**Universidad Ev**	**0.77**	**11**	*iP*	**Pn**	**09 12 31.2**	**+0.7**
UEES				*iS*	**Sn**	**09 12 43.0**	**+2.1**
UEES	comp=Z,22μm,1.0s			IAML		09 12 43.8	
UESS	**Universidad de**	**0.78**	**13**	⇓*iP*	**Pn**	**09 12 31.4**	**+0.8**
BOQS	**Boqueron**	**0.78**	**8**	⇓*iP*	**Pn**	**09 12 31.4**	**+0.7**
AEIL	**Aeropuerto Ilo**	**0.78**	**20**	⇓*eP*	**Pn**	**09 12 31.9**	**+1.2**
IGN	**Direccin Gen**	**0.78**	**16**	⇓*eP*	**Pn**	**09 12 31.5**	**+0.9**
IGN	**Direccin Gen**	**0.78**	**16**	*iP*	**Pn**	**09 12 31.6**	**+0.9**
IGN				*iS*	**Sn**	**09 12 43.8**	**+2.6**
IGN	comp=Z,110μm,1.0s			IAML		09 12 47.5	
UDBS	**Universidad Do**	**0.79**	**17**	⇓*iP*	**Pn**	**09 12 31.5**	**+0.8**
UDBS	**Universidad Do**	**0.79**	**17**	*iP*	**Pn**	**09 12 31.5**	**+0.8**
UDBS				*iS*	**Sn**	**09 12 43.7**	**+2.4**
UDBS	comp=Z,31μm,1.0s			IAML		09 12 50.1	
PIC2	**El Picacho**	**0.79**	**9**	⇓*iP*	**Pn**	**09 12 31.6**	**+0.7**
TECO	**Alcaldia de Te**	**0.82**	**46**	⇓*eP*	**Pn**	**09 12 31.8**	**+0.6**
TECO				*eS*	**Sn**	**09 12 44.2**	**+2.0**
TECO	**Alcaldia de Te**	**0.82**	**46**	*iP*	**Pn**	**09 12 31.6**	**+0.4**
TECO				*iS*	**Sn**	**09 12 44.6**	**+2.4**
TECO	comp=Z,52μm,1.0s			IAML		09 12 45.9	
LFU	**La Fuente**	**0.83**	**19**	⇓*iP*	**Pn**	**09 12 32.4**	**+1.1**
CEDA	**San Andres**	**0.84**	**359**	⇓*iP*	**Pn**	**09 12 31.8**	**+0.4**
CEDA	**San Andres**	**0.84**	**359**	*iP*	**Pn**	**09 12 31.9**	**+0.4**
CEDA				*iS*	**Sn**	**09 12 45.1**	**+2.5**
CEDA	comp=Z,69μm,1.0s			IAML		09 12 59.4	
SNVI	**San Vicente**	**0.84**	**39**	⇑*eP*	**Pn**	**09 12 32.6**	**+1.0**
PAVA	**Las Pavas**	**0.87**	**30**	⇓*iP*	**Pn**	**09 12 32.8**	**+0.9**
PAVA	**Las Pavas**	**0.87**	**30**	*iP*	**Pn**	**09 12 33.1**	**+1.2**
PAVA				*iS*	**Sn**	**09 12 46.5**	**+3.1**
PAVA	comp=Z,76μm,1.0s			IAML		09 12 50.2	
UESV	**Universidad de**	**0.89**	**41**	⇓*eP*	**Pn**	**09 12 32.9**	**+0.8**
UESV	**Universidad de**	**0.89**	**41**	*iP*	**Pn**	**09 12 33.1**	**+1.0**
UESV				*iS*	**Sn**	**09 12 46.9**	**+3.0**
UESV	comp=Z,19μm,1.0s			IAML		09 12 50.7	
CEVE	**Cerro Verde**	**0.90**	**345**	⇓*iP*	**Pn**	**09 12 32.5**	**+0.2**
CEVE	**Cerro Verde**	**0.90**	**345**	*iP*	**Pn**	**09 12 32.5**	**+0.2**
CEVE				*iS*	**Sn**	**09 12 46.6**	**+2.3**
CEVE	comp=Z,33μm,1.0s			IAML		09 12 52.0	
SBLS	**San Blas**	**0.91**	**345**	⇓*iP*	**Pn**	**09 12 32.7**	**+0.2**
SNJE	**San Jose**	**0.93**	**347**	⇓*iP*	**Pn**	**09 12 32.9**	**+0.2**
SNJE				⇓*iP*	**Pn**	**09 12 33.0**	**+0.2**
RTR	**El Retiro**	**0.97**	**345**	⇓*iP*	**Pn**	**09 12 33.6**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.98**	**41**	⇓*iP*	**Pn**	**09 12 34.5**	**+1.2**
SCLA	**Alcaldia de Sa**	**0.98**	**41**	*iP*	**Pn**	**09 12 34.7**	**+1.4**
SCLA				*iS*	**Sn**	**09 12 50.3**	**+4.3**
SCLA	comp=Z,13μm,1.0s			IAML		09 12 56.9	
TECA	**Tecapa**	**1.01**	**58**	⇓*eP*	**Pn**	**09 12 34.4**	**+0.6**
TECA				⇓*eP*	**Pn**	**09 12 34.5**	**+0.6**
NUBE	**Las Nubes**	**1.01**	**338**	⇓*iP*	**Pn**	**09 12 33.7**	**-0.1**
NUBE	**Las Nubes**	**1.01**	**338**	*iP*	**Pn**	**09 12 33.8**	**-0.1**
NUBE				*iS*	**Sn**	**09 12 48.0**	**+1.0**
NUBE	comp=Z,31μm,1.0s			IAML		09 12 48.2	
UNIC	**Universidad Ca**	**1.03**	**351**	⇓*eP*	**Pn**	**09 12 34.7**	**+0.6**
UNIC	**Universidad Ca**	**1.03**	**351**	*iP*	**Pn**	**09 12 34.6**	**+0.6**
UNIC				*iS*	**Sn**	**09 12 49.9**	**+2.6**
UNIC	comp=Z,7μm,1.0s			IAML		09 12 52.4	
PQSS	**Presa 15 de Se**	**1.04**	**50**	⇑*eP*	**Pn**	**09 12 35.0**	**+0.9**
PQSS	**Presa 15 de Se**	**1.04**	**50**	*iP*	**Pn**	**09 12 35.2**	**+1.1**
PQSS				*iS*	**Sn**	**09 12 50.5**	**+3.0**
PQSS	comp=Z,16μm,1.0s			IAML		09 12 51.4	
LOAL	**Lomas de Alarc**	**1.10**	**340**	⇓*eP*	**Pn**	**09 12 35.5**	**+0.5**
LOAL	**Lomas de Alarc**	**1.10**	**340**	*iP*	**Pn**	**09 12 35.7**	**+0.7**
LOAL				*iS*	**Sn**	**09 12 52.0**	**+2.9**
LOAL	comp=Z,29μm,1.0s			IAML		09 12 59.2	
SLOZ	**Alcaldia de Sa**	**1.13**	**340**	⇓*iP*	**Pn**	**09 12 35.7**	**+0.4**
LCY	**Lacayo**	**1.16**	**66**	⇓*iP*	**Pn**	**09 12 36.6**	**+0.8**
RANC	**El Ranchito**	**1.17**	**66**	⇑*eP*	**Pn**	**09 12 36.9**	**+0.9**
RANC	**El Ranchito**	**1.17**	**66**	*iP*	**Pn**	**09 12 36.9**	**+0.9**
RANC				*iS*	**Sn**	**09 12 54.7**	**+3.9**
RANC	comp=Z,17μm,1.0s			IAML		09 13 01.1	
BLLM	**Bellamira**	**1.22**	**67**	⇑*iP*	**Pn**	**09 12 37.5**	**+0.9**
LLGN	**La Laguna**	**1.27**	**20**	⇓*eP*	**Pn**	**09 12 39.2**	**+1.9**
LLGN	**La Laguna**	**1.27**	**20**	*iP*	**Pn**	**09 12 39.4**	**+2.0**
LLGN				*iS*	**Sn**	**09 12 58.3**	**+5.0**
LLGN	comp=Z,21μm,1.0s			IAML		09 12 58.9	
CNRM	**Centro Naciona**	**1.29**	**66**	*eP*	**Pn**	**09 12 39.1**	**+1.6**
CNRM	**Centro Naciona**	**1.29**	**66**	*iP*	**Pn**	**09 12 38.6**	**+1.1**
CNRM				*iS*	**Sn**	**09 12 57.5**	**+3.9**
CNRM	comp=Z,85μm,1.0s			IAML		09 13 01.5	
CAHU	**Cacacuatique**	**1.40**	**55**	⇑*eP*	**Pn**	**09 12 41.0**	**+1.7**
JUAM	**Asuncion Mita**	**1.41**	**347**	*iP*	**Pn**	**09 12 40.3**	**+1.2**
JUAM				*iS*	**Sn**	**09 13 00.8**	**+4.3**
JUAM	comp=Z,7μm,1.0s			IAML		09 13 01.5	
MTO3	**Montecristo**	**1.43**	**1**	Pn	**Pn**	**09 12 41.2**	**+1.5**
MTO3	**Montecristo**	**1.43**	**1**	⇓*iP*	**Pn**	**09 12 41.2**	**+1.5**
MTO3	**Montecristo**	**1.43**	**1**	*iP*	**Pn**	**09 12 41.1**	**+1.4**
MTO3				*iS*	**Sn**	**09 13 01.6**	**+4.2**
MTO3	comp=Z,8μm,1.0s			IAML		09 13 06.3	
LCND	**La Caada**	**1.50**	**76**	⇑*eP*	**Pn**	**09 12 41.5**	**+1.1**
LCND	**La Caada**	**1.50**	**76**	*iP*	**Pn**	**09 12 41.5**	**+1.1**
LCND				*iP*		09 12 41.7	
LCND	comp=Z,32μm,1.0s			IAML		09 13 06.2	
CNCH	**Conchagua**	**1.54**	**78**	⇓*eP*	**Pn**	**09 12 41.8**	**+0.7**
CNCH	**Conchagua**	**1.54**	**78**	*iP*	**Pn**	**09 12 41.8**	**+0.7**
CNCH				IAML		09 13 08.8	
ESQI	**Esquipulas**	**1.59**	**2**	Pn	**Pn**	**09 12 43.7**	**+1.9**
CSGN	**Cosiguina Volc**	**1.78**	**89**	*iP*	**Pn**	**09 12 44.7**	**+0.4**
CSGN				IAML		09 13 16.7	
NBG	**Las Nubes**	**1.87**	**330**	*iP*	**Pn**	**09 12 47.4**	**+1.7**
GCG4	**OSOP**	**1.97**	**326**	*iP*	**Pn**	**09 12 48.0**	**+1.0**
GCG4				IAML		09 13 17.0	
ESSG	**Sabana Grande**	**2.00**	**315**	*iP*	**Pn**	**09 12 46.5**	**-0.8**
ESSG				IAML		09 13 14.9	
GUMI	**Mixco**	**2.05**	**325**	*iP*	**Pn**	**09 12 49.3**	**+1.2**
GUMI				IAML		09 13 06.2	
FUG	**Fuego 3**	**2.05**	**316**	*iP*	**Pn**	**09 12 48.3**	**+0.2**
MRL	**Marmol**	**2.13**	**352**	*iP*	**Pn**	**09 12 51.7**	**+2.4**
EVIJ	**El Viejo**	**2.23**	**97**	*iP*	**Pn**	**09 12 51.5**	**+1.1**
EVIJ				IAML		09 13 27.8	
CRIN	**San Cristobal**	**2.29**	**96**	Pn	**Pn**	**09 12 52.0**	**+0.7**
CRIN	**San Cristobal**	**2.29**	**96**	*iP*	**Pn**	**09 12 52.2**	**+0.8**
CRIN				IAML		09 13 32.7	
TGUH	**Tegucigalpa,Un**	**2.33**	**62**	Pn	**Pn**	**09 12 53.7**	**+1.9**
TGUH	**Tegucigalpa,Un**	**2.33**	**62**	*iP*	**Pn**	**09 12 53.8**	**+1.9**
TGUH				IAML		09 13 37.3	
SULM	**Suchitepequez,**	**2.51**	**303**	*iP*	**Pn**	**09 12 52.7**	**-1.5**
PLRN	**Geotermica Pol**	**2.58**	**98**	*iP*	**Pn**	**09 12 55.4**	**+0.1**
PLRN				IAML		09 13 32.2	
CNGA	**AI SSO del Vol**	**2.66**	**100**	*iP*	**Pn**	**09 12 56.5**	**+0.1**
CNGA				IAML		09 13 38.4	
SOKI	**Kika Raxquin**	**2.70**	**314**	*iP*	**Pn**	**09 12 58.7**	**+1.5**
SOKI				IAML		09 13 38.6	
RTAL	**Retalhuleu**	**2.73**	**305**	Pn	**Pn**	**09 12 58.3**	**+1.0**
STG3	**Santiaguito 3,**	**2.75**	**310**	*iP*	**Pn**	**09 12 57.9**	**+0.2**
LEVN	**Ruinas Leon Vi**	**2.76**	**101**	*iP*	**Pn**	**09 12 58.5**	**+0.8**
LEVN				IAML		09 13 42.4	
COPN	**Copaltepe**	**2.84**	**106**	*iP*	**Pn**	**09 12 58.2**	**-0.6**
COPN				IAML		09 13 37.6	
QUIS	**Sacapulas**	**2.85**	**325**	*iP*	**Pn**	**09 13 01.7**	**+2.6**
QUIS				IAML		09 14 03.4	
MOM2	**El Cardon**	**2.88**	**100**	*iP*	**Pn**	**09 12 59.6**	**+0.3**
MOM2				IAML		09 13 38.6	
LIMN	**Finca el Limon**	**2.94**	**88**	*iP*	**Pn**	**09 13 01.2**	**+0.9**
LIMN				IAML		09 13 47.1	
APYN	**Apoyeque**	**3.05**	**103**	*iP*	**Pn**	**09 13 03.0**	**+1.3**
APYN				IAML		09 13 42.0	
APQ2	**Apoyeque**	**3.08**	**104**	*iP*	**Pn**	**09 13 03.0**	**+0.9**
APQ2				IAML		09 13 41.0	
ABCN	**Banco Central**	**3.12**	**105**	*iP*	**Pn**	**09 13 03.9**	**+1.3**
ABCN				IAML		09 13 40.6	
HUEH	**Huehuetenango**	**3.12**	**319**	Pn	**Pn**	**09 13 03.6**	**+0.7**
RCFN	**AI S de San Ju**	**3.14**	**79**	*iP*	**Pn**	**09 13 04.3**	**+1.2**
RCFN				IAML		09 13 57.1	
TISN	**Laguna Tiscapa**	**3.15**	**105**	*iP*	**Pn**	**09 13 03.4**	**+0.3**
TISN				IAML		09 13 41.7	
UNAN	**Cigeo UNAN**	**3.16**	**105**	*iP*	**Pn**	**09 13 04.1**	**+0.9**
UNAN				IAML		09 14 05.8	
R4DEC	**Barrio San Lui**	**3.17**	**104**	*iP*	**Pn**	**09 13 04.0**	**+0.7**
R4DEC				IAML		09 13 47.9	
MGAN	**Managua**	**3.17**	**104**	Pn	**Pn**	**09 13 03.7**	**+0.4**
MGAN	**Managua**	**3.17**	**104**	*iP*	**Pn**	**09 13 04.2**	**+0.9**
MGAN				IAML		09 13 47.9	
MGAN	**Managua**	**3.17**	**104**	*eP*	**Pn**	**09 13 03.0**	**-0.4**
MGAN				*eS*	**Sn**	**09 13 40.0**	**+0.1**
RCVN	**Varillal2**	**3.17**	**78**	*iP*	**Pn**	**09 13 04.8**	**+1.3**
RCVN				IAML		09 13 54.2	
R0529	**La Mascota**	**3.18**	**105**	*iP*	**Pn**	**09 13 04.3**	**+0.8**
R0529				IAML		09 13 47.0	
WILN	**Americas 2**	**3.22**	**104**	*iP*	**Pn**	**09 13 05.6**	**+1.6**
WILN				IAML		09 13 50.0	
RCPN	**Sur Rio San Ju**	**3.25**	**80**	*iP*	**Pn**	**09 13 06.5**	**+1.9**
RCPN				IAML		09 13 49.5	
MAS3	**AI N del Volca**	**3.27**	**106**	*iP*	**Pn**	**09 13 05.8**	**+1.1**
MAS3				IAML		09 13 47.8	
SABN	**Sabanita**	**3.30**	**107**	*iP*	**Pn**	**09 13 06.5**	**+1.3**
SABN				IAML		09 14 09.5	
MASN	**Masaya**	**3.30**	**107**	*iP*	**Pn**	**09 13 07.4**	**+2.2**
MASN				IAML		09 13 51.8	
NANN	**Nandasmo**	**3.35**	**107**	*iP*	**Pn**	**09 13 06.9**	**+1.1**
NANN				IAML		09 13 52.0	
JAPN	**AI SSO del Vol**	**3.89**	**111**	*iP*	**Pn**	**09 13 15.3**	**+2.0**
JAPN				IAML		09 14 06.0	
MORN	**AI O del Volca**	**3.91**	**111**	*iP*	**Pn**	**09 13 15.3**	**+1.7**
MORN				IAML		09 14 02.1	
CONN	**Concepcion**	**3.93**	**110**	*iP*	**Pn**	**09 13 14.7**	**+0.9**
CONN				IAML		09 14 09.5	
PETF	**Flores**	**3.96**	**353**	Pn	**Pn**	**09 13 14.6**	**+0.3**
LCRUZ	**La Cruz**	**4.12**	**117**	*eP*	**Pn**	**09 13 17.9**	**+1.4**
LCRUZ				*eS*	**Sn**	**09 14 03.2**	**-0.3**
ACON	**Acoyapa**	**4.23**	**103**	Pn	**Pn**	**09 13 17.9**	**0.0**
ACON	**Acoyapa**	**4.23**	**103**	*eP*	**Pn**	**09 13 18.1**	**+0.2**
CCIG	**Comitan**	**4.24**	**321**	Pn	**Pn**	**09 13 18.1**	**-0.2**
ELI1	**Hacienda Flor**	**4.40**	**121**	*eP*	**Pn**	**09 13 22.7**	**+2.4**
VRLE	**La Escondida,**	**4.49**	**118**	*eP*	**Pn**	**09 13 23.9**	**+2.4**
VRLE				*eS*	**Sn**	**09 14 11.8**	**-0.8**
VORI	**VORI**	**4.49**	**118**	*eP*	**Pn**	**09 13 23.6**	**+1.9**
ERIA	**Liberia**	**4.50**	**120**	*eP*	**Pn**	**09 13 24.0**	**+2.3**
GPS3	**Bodega del ICE**	**4.50**	**119**	*eP*	Pn	09 13 27.2	+5.5
DELF	**Filadelfia**	**4.51**	**123**	*eP*	**Pn**	**09 13 24.0**	**+2.3**
GPS2	**Hotel Rincn d**	**4.52**	**119**	*eP*	**Pn**	**09 13 24.8**	**+2.9**
SACU	**Santa Cruz**	**4.59**	**125**	*eP*	**Pn**	**09 13 24.5**	**+1.7**
HORNC	**Hornillas**	**4.69**	**118**	*eP*	**Pn**	**09 13 25.6**	**+1.3**
COLC	**Colonia**	**4.69**	**119**	*eP*	**Pn**	**09 13 26.8**	**+2.6**
COLC				*eP*	**Pn**	**09 13 26.8**	**+2.6**
BAGA	**Bagaces**	**4.71**	**120**	*eP*	**Pn**	**09 13 26.8**	**+2.3**
BAGA				*eS*	**Sn**	**09 14 15.2**	**-2.7**
CUI	**Cuipilapa**	**4.72**	**118**	*eP*	**Pn**	**09 13 26.6**	**+1.9**
NICO	**Nicoya**	**4.77**	**126**	*eP*	**Pn**	**09 13 26.7**	**+1.3**
TENO	**El Achiote**	**4.86**	**117**	*eP*	**Pn**	**09 13 29.4**	**+2.7**
VERA	**Finca Concepci**	**4.89**	**115**	*eP*	**Pn**	**09 13 27.7**	**+0.7**
CNAS	**Canas**	**4.90**	**120**	*eP*	**Pn**	**09 13 30.5**	**+3.4**
ESPN	**Las Esperanzas**	**5.02**	**98**	Pn	**Pn**	**09 13 29.2**	**+0.4**
ESPN	**Las Esperanzas**	**5.02**	**98**	*eP*	**Pn**	**09 13 29.4**	**+0.6**
JUNT	**Juntas**	**5.09**	**121**	*eP*	**Pn**	**09 13 31.7**	**+2.0**
JTS	**Las Juntas de**	**5.09**	**121**		**Pn**	**09 13 31.2**	**+1.4**
JTS	**Las Juntas de**	**5.09**	**121**	Pn	**Pn**	**09 13 31.7**	**+2.0**
JTS	comp=Z,12nm,0.3s,baz=316,slow=13,SNR=36			Sn	**Sn**	**09 14 25.6**	**-1.7**
JTS	comp=Z,13nm,0.3s,baz=260,slow=22,SNR=1.3 **Las Juntas de**	**5.09**	**121**	*eP*	Pn	09 13 34.4	+4.6
JTS				*eS*	**Sn**	**09 14 32.1**	**+4.8**
JTS	**Las Juntas de**	**5.09**	**121**	*eP*	**Pn**	**09 13 31.9**	**+2.2**
MTEVE	**Monteverde**	**5.18**	**120**	*eP*	**Pn**	**09 13 34.1**	**+3.0**
ARE1	**Arenal 1**	**5.20**	**118**	*eP*	**Pn**	**09 13 33.5**	**+2.2**
CEDE	**Laguna Cedeo**	**5.20**	**118**	*eP*	**Pn**	**09 13 33.6**	**+2.3**
VACR	**Volcan Arenal**	**5.23**	**118**	*eP*	**Pn**	**09 13 34.2**	**+2.5**
FORC	**Fortuna**	**5.24**	**118**	*eP*	**Pn**	**09 13 34.4**	**+2.6**
SOCE	**Pocosol**	**5.33**	**118**		**Pn**	**09 13 34.6**	**+1.6**
SOCE	**Pocosol**	**5.33**	**118**	*eP*	**Pn**	**09 13 35.2**	**+2.1**
CBL1	**Cabuya**	**5.38**	**128**	*eP*	**Pn**	**09 13 34.9**	**+1.1**
ARZA	**Esparza**	**5.48**	**122**	*eP*	**Pn**	**09 13 37.5**	**+2.3**
RAMO	**San Ramon**	**5.60**	**120**	*eP*	Pn	09 13 41.4	+4.5
ZARE	**Zarcero**	**5.62**	**119**	*eP*	**Pn**	**09 13 40.9**	**+3.6**
TRB2	**Turrubares**	**5.71**	**121**	*eP*	**Pn**	**09 13 40.6**	**+2.3**
BELE	**Belen**	**5.89**	**120**	*eP*	**Pn**	**09 13 43.4**	**+2.5**
SANTA	**Santa Ana**	**5.92**	**120**	*eP*	**Pn**	**09 13 44.4**	**+3.2**
HDC	**Heredia**	**5.94**	**119**		**Pn**	**09 13 42.5**	**+0.9**
HDC	**Heredia**	**5.94**	**119**	*eP*	**Pn**	**09 13 44.2**	**+2.6**
HDC	**Heredia**	**5.94**	**119**	*eP*	**Pn**	**09 13 43.8**	**+2.2**
ACOS	**Acosta**	**6.01**	**121**	*eP*	**Pn**	**09 13 45.1**	**+2.6**
ACOS				*eS*	**Sn**	**09 14 49.9**	**-0.3**
LUJA	**Lujan**	**6.02**	**119**	*eP*	**Pn**	**09 13 46.1**	**+3.5**
RITA	**Parrita**	**6.02**	**124**	*eP*	Pn	09 13 47.4	+4.9
SJS3	**Mercedes San J**	**6.03**	**119**	*eP*	**Pn**	**09 13 45.6**	**+2.8**
AMPA	**Desamparados**	**6.04**	**120**	*eP*	**Pn**	**09 13 45.8**	**+2.9**
CORON	**Coronado**	**6.05**	**119**	*eP*	**Pn**	**09 13 46.0**	**+2.9**
CVIMO	**Finca Echandi**	**6.08**	**118**	*eP*	**Pn**	**09 13 46.4**	**+2.8**
TRIO	**Tres Rios**	**6.09**	**119**	*eP*	**Pn**	**09 13 46.4**	**+2.7**
ABE2	**San Pablo**	**6.15**	**121**	*eP*	**Pn**	**09 13 47.1**	**+2.6**
ABE2				*eS*	**Sn**	**09 14 52.5**	**-1.3**
VICA	**Volcano Irazu**	**6.18**	**118**	*eP*	**Pn**	**09 13 47.9**	**+2.7**
RAZU	**San Marcos de**	**6.20**	**121**	*eP*	**Pn**	**09 13 48.5**	**+3.4**
LLNJ	**Naranjito**	**6.24**	**123**	*eP*	**Pn**	**09 13 48.7**	**+3.2**
REPA	**Paraso**	**6.24**	**119**	*eP*	**Pn**	**09 13 48.5**	**+2.8**
PCAYA	**Pacayas**	**6.25**	**118**	*eP*	**Pn**	**09 13 48.7**	**+2.9**
VINA	**Juan Vinas**	**6.31**	**118**	*eP*	**Pn**	**09 13 48.5**	**+1.8**
RVLA	**Villa Bonita**	**6.35**	**116**	*eP*	**Pn**	**09 13 49.8**	**+2.8**
RVSTA	**Santa Teresita**	**6.36**	**117**	*eP*	**Pn**	**09 13 50.2**	**+2.9**
TURIB	**Turrialba**	**6.36**	**118**	*eP*	**Pn**	**09 13 43.8**	**-3.4**
LCOCO	**El Coco**	**6.39**	**116**	*eP*	**Pn**	**09 13 49.5**	**+1.9**
IRES	**Siquirres**	**6.43**	**116**	*eP*	**Pn**	**09 13 49.6**	**+1.5**
ZELE	**Perez Zeledon**	**6.61**	**122**	*eP*	**Pn**	**09 13 53.9**	**+3.1**
CMIG	**Matias Romero**	**6.71**	**308**	Pn	**Pn**	**09 13 53.3**	**+1.2**
CMIG	comp=Z,2.1nm,0.3s,baz=116,slow=10,SNR=14			Sn	**Sn**	**09 15 14.4**	**+7.0**
CMIG	comp=Z,3.6nm,0.3s,baz=60,slow=20,SNR=5.5			LR	LR	09 15 45.9	
	comp=Z,47nm,20.2s,baz=100,slow=31 comp=Z,18nm,0.7s						
BURE	**Buenos Aires**	**7.03**	**122**	*eP*	**Pn**	**09 13 59.6**	**+3.2**
BURE				*eS*	**Sn**	**09 15 12.4**	**-2.7**
EDPN	**Palmar Norte**	**7.05**	**124**	*eP*	**Pn**	**09 14 00.1**	**+3.5**
EDBA	**Buenos Aires**	**7.08**	**122**	*eP*	**Pn**	**09 13 59.4**	**+2.2**
BRIBI	**Bribri**	**7.22**	**117**	*eP*	Pn	09 14 03.8	+4.8
EDP2	**Potrero Grande**	**7.25**	**122**	*eP*	**Pn**	**09 14 03.3**	**+3.9**
TEIG	**Tepich**	**7.31**	**8**	Pn	**Pn**	**09 14 01.4**	**+1.2**
TEIG	comp=Z,6.3nm,0.3s,baz=221,slow=1.0,SNR=27 baz=154,slow=23			Sn	**Sn**	**09 15 20.1**	**-1.7**
JIME	**Puerto Jimenez**	**7.40**	**126**	*eP*	**Pn**	**09 14 05.0**	**+3.5**
EDAD	**Golfito**	**7.46**	**124**	*eP*	**Pn**	**09 14 05.5**	**+3.2**
VITO	**San Vito**	**7.52**	**122**	*eP*	**Pn**	**09 14 07.3**	**+4.0**
CNI2	**El Empalme, Bo**	**7.64**	**117**	*eP*	Pn	09 14 10.4	+5.7
CNI2				*eS*	**Sn**	**09 15 34.3**	**+4.2**
MLIR3	**Monte Lirio, C**	**7.66**	**122**	*eP*	**Pn**	**09 14 08.7**	**+3.6**
MLIR3				*eS*	**Sn**	**09 15 33.4**	**+2.7**
BRU2	**Volcan**	**7.77**	**122**		**Pn**	**09 14 06.5**	**-0.1**
BRU2	**Volcan**	**7.77**	**122**	*eP*	**Pn**	**09 14 10.5**	**+3.8**
BRU2				*eS*	**Sn**	**09 15 36.6**	**+3.1**
BRU2	**Volcan**	**7.77**	**122**	*eP*	**Pn**	**09 14 09.8**	**+3.1**
LESP3	**La Esperanza,**	**7.90**	**124**	*eP*	**Pn**	**09 14 12.0**	**+3.6**
LESP

TXAR Lajitas Array 21.01 323 P P 09 16 58.6 +2.5
comp=Z,5.9nm,0.6s,baz=147,slow=12,SNR=108
TXAR PcP **PcP 09 21 03.5 +1.2**
comp=Z,0.3nm,0.4s,baz=137,slow=3.0,SNR=7.6
TXAR ScP **ScP 09 24 41.0 +5.1**
comp=Z,0.2nm,0.9s,baz=139,slow=5.8,SNR=1.9
comp=Z,5.9nm,0.6s
TX31 Lajitas Ar. Si 21.01 323 P P 09 16 58.7 +2.5
GOGA Godfrey 21.07 14 P P 09 16 54.8 -1.8
GOGA IAmb IAmb 09 17 23.3
comp=Z,40nm,1.5s
FW07 Weatherford 21.11 340 P P 09 16 58.4 +1.3
FW07 IAmb IAmb 09 17 20.4
comp=Z,15nm,0.9s
FW06 Azle 21.28 341 P P 09 16 58.8 -0.1
BAUV El Baul 21.33 99 P P 09 16 57.7 -1.9
Y52A Lilburn 21.37 12 P P 09 16 58.4 -1.5
Y52A IAmb IAmb 09 17 25.2
comp=Z,26nm,1.1s
PLPT Palo Pinto 21.39 339 P P 09 16 59.5 -0.5
PLPT IAmb IAmb 09 17 39.4
comp=Z,21nm,1.0s
X48A Hartselle 21.50 5 P P 09 17 01.9 +0.6
FW03 Perrin-Whitt E 21.51 340 P P 09 17 01.5 +0.1
FW03 IAmb IAmb 09 17 42.6
comp=Z,12nm,0.7s
Z35A Perchaven, San 21.52 342 P P 09 17 00.3 -1.1
Z35A IAmb IAmb 09 17 31.4
comp=Z,15nm,0.9s
X40A Basin Creek Fa 21.66 352 P P 09 17 02.1 -0.9
ABTX Abilene, Hawle 21.71 336 P P 09 17 03.3 -0.3
ALPN Alpine 21.77 325 P P 09 17 04.9 +0.5
MIAR Mount Ida 21.83 351 P P 09 17 05.3 +0.6
MIAR IAmb IAmb 09 17 34.9
comp=Z,16nm,0.9s
UALR University of 21.89 353 P P 09 17 06.1 +0.7
UALR IAmb IAmb 09 17 12.3
comp=Z,14nm,0.8s
PLAL Pickwick Lake 21.96 3 P P 09 17 07.4 +1.2
MNHN Monahans 22.05 328 P P 09 17 07.2 -0.1
MNHN IAmb IAmb 09 17 11.9
comp=Z,8.1nm,0.6s
LOOK Love County 22.11 343 P P 09 17 06.4 -1.4
LOOK IAmb IAmb 09 17 47.5
comp=Z,12nm,0.7s
HODGE Hodges 22.15 16 P P 09 17 07.5 -0.7
HODGE IAmb IAmb 09 17 12.8
comp=Z,22nm,1.1s
X37A Clayton 22.21 347 P P 09 17 08.8 -0.1
X37A IAmb IAmb 09 17 39.8
comp=Z,15nm,0.9s
WTFS Witchita Falls 22.30 340 P P 09 17 09.0 -0.9
WTFS IAmb IAmb 09 17 37.5
comp=Z,13nm,0.8s
WHAR Wooly Hollow 22.39 354 P P 09 17 11.9 +1.1
WHAR IAmb IAmb 09 17 24.7
comp=Z,14nm,1.1s
AOPR Arecibo Observ 22.43 73 P P 09 17 09.7 -1.8
SN05 Snyder 5 22.45 334 P P 09 17 09.8 -1.7
SN05 IAmb IAmb 09 17 14.3
comp=Z,10nm,0.6s
UUPR Utuado, UPR, P 22.45 74 P P 09 17 11.2 -0.4
UUPR IAmb IAmb 09 17 44.1
comp=Z,35nm,1.4s
W50A Signal Mountai 22.45 9 P P 09 17 11.1 -0.4
W50A IAmb IAmb 09 17 15.3
comp=Z,10nm,0.8s
JSC Jenkinsville 22.48 18 P P 09 17 10.8 -1.0
JSC IAmb IAmb 09 17 39.8
comp=Z,28nm,1.1s
Y57A Sumter 22.51 20 P P 09 17 11.1 -1.0
APMT Aspermont 22.52 336 P P 09 17 11.6 -0.7
APMT IAmb IAmb 09 17 15.2
comp=Z,11nm,0.7s
HBAR Harrisburg 22.53 357 P P 09 17 11.1 -1.2
ODSA Odessa 22.58 330 P P 09 17 12.3 -0.7
SN07 Snyder 07 22.63 334 P P 09 17 12.9 -0.5
PECS Pecos 22.66 326 P P 09 17 13.6 -0.2
LPIG La Paz 22.69 302 LR LR 09 26 47.4
comp=Z,150nm,18.0s,baz=122,slow=38
ATAH Atahualpa 22.75 151 LR LR 09 25 05.4
comp=Z,120nm,20.6s,baz=349,slow=34
V48A Smith Brothers 22.80 5 P P 09 17 14.3 -0.9
CPCT Cooper Cave 22.82 10 P P 09 17 14.3 -1.1
PAULI Pauline 22.82 16 P P 09 17 15.0 -0.4
PAULI IAmb IAmb 09 17 44.5
comp=Z,24nm,1.3s
VHRN Van Horn 22.85 323 P P 09 17 16.2 +0.3
POST Post 22.87 333 P P 09 17 15.9 -0.1
FCAR Ozark Folk Cen 22.97 354 P P 09 17 17.2 +0.4
FCAR IAmb IAmb 09 17 41.8
comp=Z,15nm,1.3s
LNXT Lenox 23.05 360 P P 09 17 17.2 -0.5
LCAR Lake Charles 23.07 356 P P 09 17 16.8 -1.1
W35A Tecumseh 23.11 344 P 09 17 17.6 -0.7
W35A IAmb IAmb 09 17 21.9
comp=Z,12nm,0.5s
WVT Waverly 23.12 3 P P 09 17 18.8 +0.5
DKNS Dickens 23.14 335 P P 09 17 18.3 -0.4
DKNS IAmb IAmb 09 17 41.5
comp=Z,12nm,0.6s
TKL Tuckaleechee C 23.16 12 P P 09 17 19.0 +0.1
TKL IAmb IAmb 09 17 31.3
comp=Z,20nm,1.1s
TKL Tuckaleechee C 23.16 12 LR LR 09 26 38.2
comp=Z,202nm,21.4s,baz=174,slow=38
CLTN Cedars of Leba 23.20 6 P P 09 17 19.5 +0.3
CLTN IAmb IAmb 09 17 23.3
comp=Z,10nm,0.9s
KMSC Kings Mountain 23.26 17 P P 09 17 20.4 +0.6
KMSC IAmb IAmb 09 17 52.1
comp=Z,12nm,0.9s
UTMT University of 23.29 1 P P 09 17 18.9 -1.1
WMOK Wichita Mounta 23.30 340 P P 09 17 19.4 -0.8
WMOK IAmb IAmb 09 17 40.4
comp=Z,12nm,1.1s
X58A Rowland 23.36 21 P P 09 17 18.8 -1.9
X58A IAmb IAmb 09 17 35.3
comp=Z,18nm,0.8s
FNO Franklin 23.36 343 P 09 17 20.5 -0.3
OKCSW OKLAHOMA CITY 23.50 343 P 09 17 21.4 -0.8
TUL3 Leonard 23.57 347 P P 09 17 20.9 -1.9
TUL3 IAmb IAmb 09 17 58.3
comp=Z,15nm,1.1s
HHAR Hobbs 23.58 351 P P 09 17 21.5 -1.4
HHAR IAmb IAmb 09 18 02.7
comp=Z,10nm,0.9s
PARMO Parma 23.61 359 P P 09 17 23.4 +0.3
RLO Rose Lookout 23.66 349 P P 09 17 23.3 -0.3
RLO IAmb IAmb 09 17 26.1
comp=Z,8.7nm,0.7s
DEOK Depew 23.67 345 P P 09 17 22.9 -0.8
DEOK IAmb IAmb 09 17 56.8
comp=Z,11nm,0.8s
W57A Gilead 23.68 19 P P 09 17 22.6 -1.2
U49A Red Boiling Sp 23.68 7 P P 09 17 22.8 -1.0
U49A IAmb IAmb 09 17 27.7
comp=Z,15nm,0.8s
PBMO Poplar Bluff 23.74 358 P P 09 17 24.1 -0.3
U38A Gravette 23.81 350 P P 09 17 23.9 -1.2
OK031 S. Brethren Rd 23.86 345 P 09 17 25.6 +0.1
OK031 IAmb IAmb 09 17 27.2
comp=Z,10nm,0.6s
OK029 Liberty Lake 23.88 344 P 09 17 25.3 -0.3
OK029 IAmb IAmb 09 17 44.4
comp=Z,16nm,0.7s
OK052 Battle Ridge R 23.89 345 P 09 17 25.4 -0.3
OK052 IAmb IAmb 09 17 27.2
comp=Z,15nm,0.6s
V55A Taylorsville 23.96 17 P P 09 17 27.0 +0.6
V55A IAmb IAmb 09 17 31.2
comp=Z,15nm,0.9s
T47A Sharon Grove 24.02 4 P P 09 17 26.6 -0.4
T47A IAmb IAmb 09 17 30.8
comp=Z,20nm,0.8s
QUOK Quay 24.04 345 P P 09 17 27.3 +0.2
QUOK IAmb IAmb 09 17 30.5
comp=Z,13nm,1.0s
CSTR Hydro, Custer 24.10 341 P P 09 17 26.9 -0.9
SMWD Samnorwood 24.14 338 P P 09 17 27.9 -0.2
MSTX Muleshoe 24.20 332 P P 09 17 28.7 -0.1
MGMO Mountain Grove 24.23 354 P P 09 17 29.0 +0.1
MGMO IAmb IAmb 09 17 49.5
comp=Z,8.9nm,0.8s

CGM3 Cape Girardeau 24.24 359 P P 09 17 28.8 -0.2
CGM3 IAmb IAmb 09 17 57.6
comp=Z,12nm,0.9s
T50A Nancy 24.31 9 P P 09 17 28.9 -0.7
T50A IAmb IAmb 09 18 04.2
comp=Z,16nm,1.3s
U54A Nelsons Funny 24.43 15 P P 09 17 29.9 -1.0
AMTX Amarillo 24.51 335 P P 09 17 32.3 +0.7
AMTX IAmb IAmb 09 17 39.4
comp=Z,7.5nm,0.7s
V58A Windy Hill, Pi 24.55 20 P P 09 17 33.6 +1.8
V58A IAmb IAmb 09 17 37.0
comp=Z,20nm,0.9s
S44A Carbondale 24.63 0 P P 09 17 31.5 -1.0
S44A IAmb IAmb 09 18 04.0
comp=Z,17nm,0.9s
SIUC Southern Illin 24.66 0 P P 09 17 32.7 -0.1
SIUC IAmb IAmb 09 18 05.9
comp=Z,19nm,0.8s
CROK Carrier 24.69 343 P P 09 17 32.2 -0.9
CROK IAmb IAmb 09 17 44.8
comp=Z,12nm,0.8s
T35A Sooner Cattle 24.70 346 P P 09 17 32.8 -0.4
S39A Bolivar 24.88 353 P P 09 17 34.9 +0.1
S39A IAmb IAmb 09 17 57.8
comp=Z,11nm,0.8s
CCM Cathedral Cave 25.05 357 P P 09 17 36.8 +0.5
CCM IAmb IAmb 09 17 38.0
comp=Z,11nm,0.6s
WCI Wyandotte Cave 25.32 6 P P 09 17 38.4 -0.3
WCI IAmb IAmb 09 17 42.0
comp=Z,11nm,0.7s
R40A Maddies Statio 25.36 355 P P 09 17 39.0 -0.2
R40A IAmb IAmb 09 17 52.6
comp=Z,7.1nm,0.7s
121A Cookes Peak, D 25.76 322 P P 09 17 42.2 -0.9
Q44A Meyer Farm, Va 25.84 1 P P 09 17 43.6 +0.1
Q44A IAmb IAmb 09 17 46.7
comp=Z,17nm,0.8s
CZSB Cruzeiro do Su 26.40 140 P P 09 17 50.2 +1.4
CZSB IAmb IAmb 09 17 54.2
comp=Z,14nm,1.0s
CZSB Cruzeiro do Su 26.40 140 *eP* **P 09 17 49.9 +1.1**
P40A Paris 26.57 355 P P 09 17 50.3 +0.2
P40A IAmb IAmb 09 17 54.4
comp=Z,9.9nm,0.9s
ANMO Albuquerque 26.80 328 P P 09 17 55.3 +2.9
comp=Z,0.4nm,0.6s,baz=232,slow=18,SNR=4.5
P38A Dawn 26.81 353 P P 09 17 52.0 -0.3
P38A IAmb IAmb 09 17 56.9
comp=Z,11nm,1.1s
WUAZ Wupatki 29.97 322 P P 09 18 20.5 -0.2
K30B Basset 30.91 345 P P 09 18 29.1 +0.4
I37A Lemond, Waseca 31.14 354 P P 09 18 30.4 -0.4
I37A IAmb IAmb 09 18 45.1
comp=Z,9.0nm,0.9s
W13A Hualapai Mount 31.25 319 IAmb IAmb 09 19 01.2
comp=Z,14nm,1.3s
ECSD EROS Data Cent 31.29 350 IAmb IAmb 09 18 32.6
comp=Z,8.0nm,1.2s
PFO Pinyon Flats O 32.10 314 P P 09 18 40.3 +0.9
comp=Z,2.9nm,0.9s,baz=132,slow=6.6,SNR=4.5
PFO LR LR 09 33 41.5
comp=Z,96nm,18.3s,baz=132,slow=40
comp=Z,2.9nm,0.9s
G40A Rib Lake 32.21 359 P P 09 18 40.5 +0.4
G40A IAmb IAmb 09 19 00.4
comp=Z,6.8nm,1.0s
V12A Nelson 32.26 319 P P 09 18 43.0 +2.2
V12A IAmb IAmb 09 18 44.2
comp=Z,9.9nm,0.9s
ETMB Extrema 32.27 133 IAmb IAmb 09 18 45.7
comp=Z,9.0nm,0.8s
ETMB Extrema 32.27 133 *eP* **P 09 18 41.4 +0.5**
SADO Sadowa 32.89 13 LR LR 09 32 42.0
comp=Z,40nm,22.0s,baz=254,slow=38
SHPR Sheep Range 32.94 320 P P 09 18 48.2 +1.5
COWI Conover 33.03 0 P P 09 18 46.5 -0.8
GSC Goldstone, Bar 33.28 317 P P 09 18 50.6 +0.9
F33A 5 Mile Ranch, 33.29 351 P P 09 18 49.1 -0.5
F33A IAmb IAmb 09 19 13.0
comp=Z,5.7nm,0.6s
RSSD Black Hills 33.50 341 P P 09 18 52.2 +0.6
RSSD IAmb IAmb 09 18 54.2
comp=Z,3.3nm,0.6s
TPNV Topopah Spring 33.90 320 IAmb IAmb 09 18 59.0
comp=Z,6.0nm,1.1s
SAML Samuel 33.93 129 P P 09 18 55.0 -0.4
SAML IAmb IAmb 09 18 55.9
comp=Z,4.5nm,0.7s
SAML Samuel 33.93 129 *eP* **P 09 18 54.6 -0.8**
S11A Rachel 34.02 321 P P 09 18 55.9 -0.3
S11A IAmb IAmb 09 19 00.2
comp=Z,6.2nm,0.8s
PDAR Pinedale Array 34.45 333 P P 09 19 00.3 +0.3
comp=Z,0.5nm,0.5s,baz=135,slow=11,SNR=8.7
PDAR PcP **PcP 09 21 34.7 -0.1**
comp=Z,0.6nm,0.4s,baz=132,slow=6.2,SNR=7.8
PDAR ScP **ScP 09 25 19.2 +2.4**
comp=Z,0.2nm,0.6s,baz=209,slow=9.0,SNR=2.0
comp=Z,0.5nm,0.5s
ISA Isabella, Lake 34.61 316 IAmb IAmb 09 19 17.7
comp=Z,4.0nm,0.9s
GRAC Grapevine Rang 34.64 319 IAmb IAmb 09 19 04.9
comp=Z,7.9nm,0.8s
DSP Deep Springs 35.25 319 P P 09 19 08.4 +1.8
SNOW Snow King Moun 35.54 333 P P 09 19 09.4 +0.1
LOHW Long Hollow 35.59 333 P P 09 19 10.7 +1.0
LOHW IAmb IAmb 09 19 12.8
comp=Z,4.0nm,0.7s
TPAW Teton Pass 35.65 333 IAmb IAmb 09 19 15.5
comp=Z,3.3nm,0.6s
ELK Elko 35.77 325 P P 09 19 11.1 -0.2
MDND Maddock 35.81 348 P P 09 19 11.7 +0.3
LPAZ La Paz 35.86 144 P P 09 19 13.1 +0.3
comp=Z,0.7nm,0.6s,baz=243,slow=2.3,SNR=2.2
comp=Z,0.7nm,0.6s
NV11 Mina Array Sit 36.00 320 IAmb IAmb 09 19 17.1
comp=Z,4.8nm,0.9s
OMMB Old Mammoth Mi 36.06 318 P P 09 19 12.9 -1.0
OMMB IAmb IAmb 09 19 16.9
comp=Z,4.3nm,1.0s
NVAR Mina Array Bea 36.09 320 P P 09 19 16.2 +2.1
comp=Z,3.9nm,0.8s,baz=132,slow=8.8,SNR=38
NVAR PcP **PcP 09 21 40.9 +1.3**
comp=Z,0.7nm,0.6s,baz=134,slow=1.5,SNR=4.9
NVAR ScP **ScP 09 25 26.1 +3.3**
comp=Z,1.2nm,0.9s,baz=133,slow=4.4,SNR=6.4
NVAR LR LR 09 35 36.3
comp=Z,177nm,19.8s,baz=118,slow=39
comp=Z,3.9nm,0.8s
LHV Little Huntoon 36.11 319 P P 09 19 12.8 -1.1
LHV IAmb IAmb 09 19 17.8
comp=Z,6.8nm,0.7s
YNE Yellowstone No 36.46 335 IAmb IAmb 09 19 20.9
comp=Z,4.0nm,0.7s
LAO LASA Array 36.49 340 IAmb IAmb 09 19 33.2
comp=Z,14nm,1.4s
YERR Yerington 37.01 320 P P 09 19 23.7 +1.8
EMB Emerald Bay 37.55 319 P P 09 19 27.5 +1.0
EMB IAmb IAmb 09 19 30.5
comp=Z,8.1nm,1.1s
ULM Lac du Bonnet 37.56 353 P P 09 19 24.8 -1.4
comp=Z,8.0nm,0.5s,baz=174,slow=8.6,SNR=20
ULM LR LR 09 36 46.0
comp=Z,149nm,19.4s,baz=135,slow=40
comp=Z,8.0nm,0.5s
BOZ Bozeman (W) 37.61 334 P P 09 19 27.2 +0.4
BOZ IAmb IAmb 09 19 31.4
comp=Z,3.3nm,0.6s
MPK Martis Peak 37.69 320 P P 09 19 28.2 +0.4
MPK IAmb IAmb 09 19 31.6
comp=Z,9.8nm,1.3s
VILB Vilhena 38.73 131 P P 09 19 36.5 +0.1
VILB Vilhena 38.73 131 *eP* **P 09 19 37.0 +0.5**
EGMT Eagleton 38.86 338 P P 09 19 38.0 +0.7
EGMT IAmb IAmb 09 19 38.6
comp=Z,7.1nm,0.5s
PLID Pearl Lake 39.23 330 P P 09 19 40.4 -0.1
J08A Circle Bar Ran 39.30 326 P P 09 19 42.2 +1.1
PDRB Porto dos Gac 40.57 126 *eP* **P 09 19 51.5 -0.3**
YBH Yreka Blue Hor 40.76 321 LR LR 09 38 02.4
comp=Z,139nm,21.0s,baz=144,slow=38
PTLB Pontes e Lacer 41.14 132 *eP* **P 09 19 56.4 0.0**
BBSD Serra de San D 41.29 136 *eP* **P 09 19 57.4 -0.3**
F07A Phinny Hill Vi 41.77 328 P P 09 20 01.9 +0.6

NEW Newport 42.07 332 LR LR 09 41 38.4
comp=Z,55nm,18.6s,baz=94,slow=42
FFC Flin Flon 42.83 349 P P 09 20 09.5 -0.2
FFC IAmb IAmb 09 20 20.4
comp=Z,14nm,1.5s
RPN Rapa Nui 44.30 206 LR LR 09 33 45.9
comp=Z,128nm,21.9s,baz=60,slow=29
SNDB Serra Nova Dou 45.18 122 *eP* **P 09 20 28.9 -0.3**
SCHQ Schefferville 45.36 18 P P 09 20 28.9 -1.1
SCHQ IAmb IAmb 09 20 30.1
comp=Z,8.3nm,0.8s
SCHQ Schefferville 45.36 18 P P 09 20 28.2 -1.9
comp=Z,7.7nm,0.7s,baz=227,slow=6.2,SNR=19
comp=Z,7.7nm,0.7s
FCC Fort Churchill 45.85 357 P P 09 20 33.7 -0.1
GO04 Tololo Observa 46.47 158 P P 09 20 40.2 +0.9
ARAG Araguaiana, MT 46.83 126 *eP* **P 09 20 41.1 -0.9**
SMTB Santa Maria do 46.84 115 *eP* **P 09 20 41.6 -0.6**
H03N2 Juan Fernandez 47.20 168 T T 10 11 09.1
baz=347,slow=76,SNR=33
H03N1 Juan Fernandez 47.21 168 T T 10 11 10.2
baz=347,slow=76,SNR=34
H03N3 Juan Fernandez 47.22 168 T T 10 11 09.0
baz=347,slow=76,SNR=38
VA03 San Esteban 48.90 159 P P 09 20 59.4 +1.4
MT01 Popeta 49.66 160 P P 09 21 04.4 +0.7
MT09 Talagante 49.67 160 P P 09 21 04.2 +0.3
MT08 Bocatoma Ro 49.70 159 P P 09 21 05.8 +1.5
BDFB Brasilia 49.83 124 P P 09 21 06.0 +0.6
BDFB IAmb IAmb 09 21 25.2
comp=Z,8.8nm,1.4s
BDFB Brasilia 49.83 124 P P 09 21 04.5 -0.9
comp=Z,2.3nm,0.5s,baz=311,slow=5.9,SNR=4.6
comp=Z,2.3nm,0.5s
YKA Yellowknife Ar 52.64 346 P P 09 21 24.8 -0.8
comp=Z,4.0nm,0.7s,baz=182,slow=9.4,SNR=20
comp=Z,4.0nm,0.7s
FRB Frobisher Bay 52.79 11 P P 09 21 24.8 -1.9
comp=Z,7.8nm,0.5s,baz=215,slow=8.2,SNR=7.1
FRB LR LR 09 44 31.3
comp=Z,130nm,18.1s,baz=150,slow=37
comp=Z,7.8nm,0.5s
PLCA Paso Flores 56.20 163 P P 09 21 52.3 +0.5
comp=Z,3.1nm,1.0s,baz=340,slow=9.8,SNR=5.4
comp=Z,3.1nm,1.0s
LL01 San Ignacio de 57.23 165 P P 09 21 59.4 +0.3
COYC Coyhaique 60.32 166 P P 09 22 21.2 +0.7
RES Resolute Bay 61.79 358 P P 09 22 28.9 -1.1
INK Inuvik 62.16 343 P P 09 22 32.0 -0.6
INK IAmb IAmb 09 22 42.9
comp=Z,3.9nm,0.7s
A36M Sachs Harbour 62.77 348 P P 09 22 35.6 -1.1
F28M Old Crow 63.68 341 P P 09 22 42.6 -0.1
ICESG Greenland Ices 64.27 18 *i P* **P 09 22 46.9 -0.1**
ICESG IAmb IAmb 09 22 47.7
comp=Z,6.5nm,0.8s
ILAR Eielson Array 64.80 336 P P 09 22 49.6 -0.5
comp=Z,1.6nm,1.0s,baz=174,slow=4.7,SNR=23
comp=Z,1.6nm,1.0s
SUMG Summit 66.58 15 *i P* **P 09 23 00.9 -1.0**
PPT Papeete 66.70 244 LR LR 09 46 14.8
comp=Z,50nm,21.2s,baz=57,slow=30
NEEM North Greenlan 67.37 8 *i P* **P 09 23 05.7 -1.2**
NEEM IAmb IAmb 09 23 06.8
comp=Z,5.1nm,0.6s
DAG Danmarks Havn 73.09 13 *i P* **P 09 23 39.4 -2.0**
NOR Nord 74.75 8 *i P* **P 09 23 50.1 -1.0**
EKA Eskdalemuir Ar 77.32 36 P P 09 24 03.5 -2.7
comp=Z,3.2nm,0.9s,baz=278,slow=8.0,SNR=3.4
comp=Z,3.2nm,0.9s
SPITS Spitsbergen Ar 80.59 12 P P 09 24 22.7 -1.1
comp=Z,8.3nm,0.9s,baz=335,slow=8.4,SNR=6.5
comp=Z,8.3nm,0.9s
HFS Hagfors 85.27 29 P P 09 24 46.6 -1.7
comp=Z,2.4nm,0.9s,baz=276,slow=16,SNR=1.9
comp=Z,2.4nm,0.9s
ARCES ARCESS Array B 86.32 19 P P 09 24 52.0 -1.3
comp=Z,0.6nm,0.4s,baz=288,slow=5.1,SNR=11
comp=Z,0.6nm,0.4s
TORD Torodi Ar. Bea 88.14 77 P P 09 25 02.6 -0.6
comp=Z,0.2nm,0.4s,baz=289,slow=5.8,SNR=2.0
comp=Z,0.2nm,0.4s
KURBB Kurchatov Arra 115.81 9 PKP PKiKP 09 30 53.2 -0.9
comp=Z,0.6nm,0.5s,baz=352,slow=1.9,SNR=7.1
SONM Songino Array 117.87 348 PKP PKPdf 09 30 57.8 -0.6
comp=Z,0.4nm,0.4s,baz=60,slow=3.5,SNR=1.8
KSRS Korea Array 118.83 327 PKP PKiKP 09 31 01.2 +0.9
comp=Z,0.3nm,0.3s,baz=74,slow=3.4,SNR=2.6
MKAR Makanchi Array 120.06 7 PKP PKPdf 09 31 01.1 -1.3
comp=Z,0.3nm,0.4s,baz=302,slow=4.4,SNR=6.9
MAW Mawson 122.44 168 PKP PKPdf 09 31 06.3 +0.1
comp=Z,0.6nm,0.5s,baz=274,slow=19,SNR=1.5
KSH Kashi 126.04 14 PKP PKiKP 09 31 19.0 +4.3
WRA Warramunga Arr 137.59 255 PKP PKPdf 09 31 37.1 +0.7
comp=Z,1.1nm,0.9s,baz=89,slow=2.8,SNR=6.0
WRA SKPbc **SKPab 09 35 14.6 +0.3**
comp=Z,0.5nm,0.8s,baz=92,slow=3.2,SNR=2.4
ASAR Alice Springs 137.69 249 PKP PKPdf 09 31 36.7 +0.2
comp=Z,0.2nm,0.6s,baz=67,slow=5.2,SNR=1.8
ASAR SKPbc **SKPab 09 35 15.2 +0.5**
comp=Z,0.7nm,0.7s,baz=93,slow=2.7,SNR=6.6
PZH PanZhiHua 139.31 345 PKP PKPdf 09 31 38.6 -1.0
CMAR Chiang Mai Arr 147.72 345 PKPbc PKPbc 09 31 56.8 -0.3
comp=Z,4.1nm,0.6s,baz=343,slow=3.6,SNR=16

JMA ***02*** *09:13:13.7±0.2,23°.9N±0°.8×123°.4E±0°.3, h29km±1km, MV2.9/8, NEAR ISHIGAKIJIMA ISLAND*
ISC 02 09:13:11.3±1.6, 23°.79N±0°.07×123°.35E±0°.04, h18km±9km, n13, σ0°65/19, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.50**	**58**	P	**Pn**	**09 13 22.9**	**-0.7**
HATJ				S	**Sb**	**09 13 29.5**	**+1.1**
YOJ	**Yonaguni jima**	**0.73**	**335**	P	**Pn**	**09 13 26.7**	**-0.1**
YOJ	**Yonaguni jima**	**0.73**	**335**	P	**Pn**	**09 13 26.8**	**-0.1**
YOJ				S	**Sg**	**09 13 35.6**	**+0.1**
JKRS	**Kuro-shima**	**0.75**	**54**	P	**Pn**	**09 13 27.1**	**0.0**
JKRS				S	**Sg**	**09 13 36.5**	**+0.5**
JYNG	**Yonagunijimaku**	**0.75**	**331**	P	**Pn**	**09 13 27.0**	**0.0**
JYNG				S	**Sg**	**09 13 36.3**	**+0.2**
JIJ	**Ishigaki jima**	**0.92**	**52**	P	**Pg**	**09 13 29.4**	**+0.1**
JIJ				S	**Sg**	**09 13 40.9**	**-0.6**
JISG	**Ishigakijimahi**	**1.18**	**48**	*i P*	**Pb**	**09 13 33.4**	**+0.1**
JISG				S	**Sn**	**09 13 48.3**	**-0.4**
NACB	**Ninganchiao**	**1.65**	**284**	P	**Pb**	**09 13 40.9**	**-0.3**
YULB	**Yu-li**	**1.92**	**258**	P	**Pb**	**09 13 45.1**	**-0.8**
YHNB	**Yeheng**	**2.00**	**296**	P	**Pb**	**09 13 47.1**	**-0.2**
SSLB	**Suanglung**	**2.19**	**270**	P	**Pb**	**09 13 50.1**	**-0.4**
TWGBT	**Beinan**	**2.30**	**245**	P	**Pn**	**09 13 49.6**	**+1.2**
TPUB	**Ta-pu**	**2.54**	**259**	P	**Pb**	**09 13 55.2**	**-1.2**

IDC ***02*** *09:33:54.8±1.4, 11°.09N×85°.83W, h0km, mb3.6/3, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=157.5km s-min=10.8km az=44.0*
CATAC ***02*** *09:33:54.6±0.7, 10°.42N×86°.40W, h11km±6km, ML3.8*
UCR ***02*** *09:33:54.0±1.0, 10°.26N×86°.32W, h14km±6km, MW4.5*
ISC 02 09:33:54.9±1.0, 10°.31N±0°.06×86°.31W±0°.05, h23km, n61, σ0°86/69, mb3.6/3, 5C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.71**	**94**	*eP*	**Pb**	**09 34 07.9**	**-0.8**
DELF	**Filadelfia**	**0.76**	**80**	*eP*	**Pb**	**09 34 08.7**	**-0.6**
DELF				*eS*	**Sb**	**09 34 19.4**	**+0.2**
ELI1	**Hacienda Flor**	**0.81**	**66**	*eP*	**Pb**	**09 34 10.4**	**0.0**
NICO	**Nicoya**	**0.87**	**102**	*eP*	**Pb**	**09 34 10.1**	**-1.1**
NICO				*eS*	**Sb**	**09 34 21.7**	**-0.7**
ERIA	**Liberia**	**0.91**	**69**	*eP*	**Pb**	**09 34 11.6**	**-0.4**
LCRUZ	**La Cruz**	**1.01**	**41**	*eP*	**Pn**	**09 34 13.7**	**0.0**
GPS3	**Bodega del ICE**	**1.03**	**65**	*eP*	**Pn**	**09 34 13.6**	**-0.3**
GPS2	**Hotel Rincn d**	**1.04**	**65**	*eP*	**Pn**	**09 34 13.1**	**-1.0**
VRLE	**La Escondida,**	**1.04**	**63**	*eP*	**Pn**	**09 34 12.9**	**-1.3**
BAGA	**Bagaces**	**1.05**	**78**	*eP*	**Pn**	**09 34 13.4**	**-0.8**
VORI	**VORI**	**1.07**	**62**	*eP*	**Pn**	**09 34 13.5**	**-1.2**
COLC	**Colonia**	**1.14**	**72**	*eP*	**Pn**	**09 34 14.5**	**-1.0**
CARN	**Rivas**	**1.16**	**42**	*i P*	**Pn**	**09 34 15.0**	**-0.8**
CARN				*i S*	**Sn**	**09 34 31.6**	**+0.7**
CARN				IAML		09 34 41.1	
CUI	**Cuipilapa**	**1.18**	**73**	*eP*	**Pn**	**09 34 15.2**	**-0.8**
HORNC	**Hornillas**	**1.18**	**70**	*eP*	**Pn**	**09 34 15.2**	**-0.9**
CNAS	**Canas**	**1.20**	**84**	*eP*	**Pn**	**09 34 15.8**	**-0.5**

JUNT	Juntas	1.33	91	eP		Pn	09 34 17.2	-0.8
JTS	Las Juntas de	1.33	91	Pg		Pn	09 34 17.3	-0.8
	comp=Z,16nm,0.3s,baz=274,slow=8.0,SNR=71							
JTS				Lg		Lg	09 34 33.2	
	comp=Z,35nm,0.3s,baz=266,slow=16,SNR=7.6							
JTS	Las Juntas de	1.33	91	eP		Pn	09 34 17.2	-0.9
JAPN	Al SSO del Vol	1.36	27	i P		Pn	09 34 18.2	-0.2
JAPN				IAML			09 34 26.1	
	comp=Z,2μm,1.0s							
MORN	Al O del Volca	1.39	28	i P		Pn	09 34 18.4	-0.5
MORN				IAML			09 34 26.3	
	comp=Z,220nm,1.0s							
CONN	Concepcion	1.41	28	i P		Pn	09 34 18.5	-0.7
CONN				IAML			09 34 26.2	
	comp=Z,15μm,1.0s							
MTEVE	Monteverde	1.46	90⇑	eP		Pn	09 34 20.5	+0.6
VERA	Finca Concepci	1.51	69⇑	eP		Pn	09 34 20.3	-0.2
ARE1	Arenal 1	1.57	84⇑	i P		Pn	09 34 21.8	+0.4
CEDE	Laguna Cedeo	1.59	84⇑	i P		Pn	09 34 22.0	+0.3
VACR	Volcan Arenal	1.61	84⇑	i P		Pn	09 34 22.2	+0.2
FORC	Fortuna	1.62	84	eP		Pn	09 34 22.3	+0.3
NANN	Nandasmo	1.63	6	i P		Pn	09 34 22.7	+0.5
NANN				IAML			09 34 36.9	
	comp=Z,20μm,1.0s							
SABN	Sabanita	1.64	5	i P		Pn	09 34 22.5	+0.1
SABN				IAML			09 35 01.1	
	comp=Z,4μm,1.0s							
ARZA	Esparza	1.65	101	eP		Pn	09 34 21.9	-0.5
SOCE	Pocosol	1.66	87	i P		Pn	09 34 23.0	+0.3
SOCE				IAML			09 34 30.8	
	comp=Z,610nm,1.0s							
SOCE	Pocosol	1.66	87	eP		Pn	09 34 22.8	+0.1
RA5A7	El Crucero	1.67	360	i P		Pn	09 34 22.7	-0.1
RA5A7				IAML			09 34 32.9	
	comp=Z,3μm,1.0s							
MAS3	Al N del Volca	1.71	4	i P		Pn	09 34 22.7	-0.6
MAS3				IAML			09 34 40.4	
	comp=Z,860nm,1.0s							
UNAN	Cigeo UNAN	1.79	1	i P		Pn	09 34 23.6	-0.8
UNAN				IAML			09 34 41.0	
	comp=Z,6μm,1.0s							
R0529	La Mascota	1.80	2	i P		Pn	09 34 24.2	-0.4
R0529				IAML			09 34 38.3	
	comp=Z,750nm,1.0s							
TISN	Laguna Tiscapa	1.82	1	i P		Pn	09 34 24.2	-0.6
TISN				IAML			09 34 41.1	
	comp=Z,70nm,1.0s							
MGAN	Managua	1.82	2	i P		Pn	09 34 24.6	-0.3
MGAN				IAML			09 35 32.4	
	comp=Z,570nm,1.0s							
R4DEC	Barrio San Lui	1.83	2	i P		Pn	09 34 24.4	-0.5
R4DEC				IAML			09 35 32.4	
	comp=Z,560nm,1.0s							
WILN	Americas 2	1.84	4	i P		Pn	09 34 24.4	-0.7
WILN				IAML			09 34 40.6	
	comp=Z,490nm,1.0s							
TRB2	Turrubares	1.87	102	eP		Pn	09 34 25.1	-0.5
APQ2	Apoyeque	1.87	359	i P		Pn	09 34 24.9	-0.6
APQ2				IAML			09 34 31.6	
	comp=Z,750nm,1.0s							
COPN	Copaltepe	1.88	352	i P		Pn	09 34 24.4	-1.2
COPN				IAML			09 34 35.4	
	comp=Z,610nm,1.0s							
COVE	Coope Vega, Sa	1.92	78	i P		Pb	09 34 28.8	-0.4
COVE				IAML			09 35 21.6	
	comp=Z,1μm,1.0s							
ACON	Acoyapa	1.99	34	i P		Pn	09 34 26.3	-0.8
ACON				i S		Sb	09 34 55.7	+1.0
ACON				IAML			09 35 08.9	
	comp=Z,660nm,1.0s							
LEVN	Ruinas Leon Vi	2.10	352	i P		Pn	09 34 28.7	+0.1
LEVN				IAML			09 34 46.7	
	comp=Z,360nm,1.0s							
MOM2	El Cardon	2.12	355	i P		Pn	09 34 28.5	-0.4
MOM2				IAML			09 34 44.1	
	comp=Z,630nm,1.0s							
CNGA	Al SSO del Vol	2.20	350	i P		Pn	09 34 28.6	-1.5
CNGA				IAML			09 34 50.4	
	comp=Z,220nm,1.0s							
LIMN	Finca el Limon	2.73	359	i P		Pn	09 34 36.8	-0.7
LIMN				IAML			09 34 50.2	
	comp=Z,210nm,1.0s							
CSGN	Cosiguina Volc	2.92	335	i P		Pn	09 34 39.9	-0.1
CSGN				IAML			09 35 17.4	
	comp=Z,48nm,1.0s							
RCPN	Sur Rio San Ju	3.20	4	i P		Pn	09 34 44.5	+0.6
RCPN				IAML			09 34 45.0	
	comp=Z,0.3nm,1.0s							
RCVN	Varilla!2	3.25	2	i P		Pn	09 34 44.5	-0.2
RCVN				IAML			09 35 06.1	
	comp=Z,2μm,1.0s							
RCVN				i S		Sn	09 35 21.6	-1.2
CNCH	Conchagua	3.30	333	i P		Pn	09 34 44.8	-0.5
CNCH				i S		Sn	09 35 22.0	-2.0
CNCH				IAML			09 35 27.0	
	comp=Z,230nm,1.0s							
LCND	La Caada	3.36	333	i P		Pn	09 34 45.3	-0.7
LCND				IAML			09 34 47.0	
	comp=Z,81nm,1.0s							
LCND				i S		Sn	09 35 22.5	-2.6
SCLA	Alcaldia de Sa	4.12	325	i P		Pn	09 34 56.7	+0.2
SCLA				IAML			09 36 14.2	
	comp=Z,33nm,1.0s							
JAYA	Jayaque - finc	4.53	318	i P		Pn	09 35 02.1	-0.1
JAYA				IAML			09 35 23.8	
	comp=Z,130nm,1.0s							
CMIG	Matias Romero	10.71	310	Pn		Pn	09 36 27.4	+0.4
	comp=Z,0.2nm,0.3s,baz=90,slow=13,SNR=3.5							
	comp=Z,1.8nm,0.6s							
TXAR	Lajitas Array	24.93	322	P		P	09 39 16.6	0.0
	comp=Z,1.2nm,0.8s,baz=136,slow=9.8,SNR=16							
	comp=Z,1.2nm,0.8s							
PDAR	Pinedale Array	38.17	332	P		P	09 41 12.2	-0.7
	comp=Z,0.4nm,0.7s,baz=123,slow=11,SNR=4.4							
	comp=Z,0.4nm,0.7s							
NVAR	Mina Array Bea	40.04	320	P		P	09 41 31.2	+2.6
	comp=Z,1.0nm,0.7s,baz=130,slow=7.0,SNR=11							
NVAR				PcP		PcP	09 43 35.2	+1.8
	comp=Z,0.5nm,0.7s,baz=165,slow=3.7,SNR=4.9							
	comp=Z,1.0nm,0.7s							

ISK ***02*** *09:39:25.1,36.′35N×28.′59E, h5km, ML3.2/38*
AFAD ***02*** *09:39:27.3±0.0, 36.°41N×28.°66E, h7km±3km, ML2.8*
THE ***02*** *09:39:34.0, 36.°51N×28.°32E, h13km±1km, ML3.0/4, Error ellipse: s-maj=2.8km s-min=0.8km az=92.0*

ISC 02 09:39:27.2±1.0, 36.°42N±0.°03×28.°63E±0.°02, h11km±10km, n67, σ0°89/78, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	Dalyan (Mula)	0.40	3	Pg	Pg	09 39 34.9	-0.2
DALY				Sg	Sb	09 39 41.9	-0.6
FETY	Fethiye	0.43	59	P	Pg	09 39 35.0	-0.6
FETY				S	Sg	09 39 42.0	+0.7
FETY	Fethiye	0.43	59	Pg	Pg	09 39 34.6	-1.0
ARG	Arkhangelos	0.45	244	P	Pn	09 39 40.5	+0.9
ARG				S	Sb	09 39 46.7	+2.8
	2μm,0.2s						
MRSB	Marmaris-Mugla	0.46	311	Pg	Pg	09 39 35.1	-1.1
TURN	Turunc	0.47	320	P	Pg	09 39 36.8	+0.4
TURN				S	Sb	09 39 44.9	+0.4
TURN				i AML	AML	09 39 46.0	
	comp=N,394nm,0.3s						
TURN				i AML	AML	09 39 48.0	
	comp=E,486nm,0.2s						
TURN	Turunc	0.47	320	Pg	Pg	09 39 35.6	-0.8
SABU	Mula-Dalaman	0.49	34	P	Pg	09 39 36.6	-0.2
SABU				S	Sg	09 39 43.9	+0.6
SABU				i AML	AML	09 40 02.0	
	comp=N,437nm,0.2s						
SABU				i AML	AML	09 40 03.0	
	comp=E,392nm,0.6s						
CAME	Cameli-Denizli	0.76	46	Pg	Pg	09 39 41.3	-0.5
YER	Yerkesik	0.77	339	Pg	Pg	09 39 41.6	-0.4
AKAS	Kas	0.81	103	P	Pg	09 39 42.2	-0.7
AKAS				S	Sg	09 39 54.3	+0.9
AKAS				i AML	AML	09 40 01.0	
	comp=N,1μm,0.5s						
AKAS				i AML	AML	09 40 04.0	
	comp=E,597nm,0.6s						
AKAS	Kas	0.81	103	Pg	Pg	09 39 41.6	-1.2
DATC	Datca-Mugla	0.85	294	Pg	Pg	09 39 42.1	-1.4
KNIK	Mula-Seydike	0.87	60	P	Pg	09 39 42.9	-1.2
KNIK				S	Sg	09 39 56.2	+0.8
KNIK				i AML	AML	09 39 58.0	
	comp=N,185nm,0.7s						
KNIK				i AML	AML	09 40 04.0	
	comp=E,154nm,0.6s						
CAEL	Denizli, Camel	0.90	38	P	Pg	09 39 44.1	-0.5
CAEL				i AML	AML	09 40 13.0	
	comp=N,348nm,0.6s						
CAEL				i AML	AML	09 40 15.0	
	comp=E,533nm,0.7s						
DAT	Datca	0.90	291	P	Pn	09 39 45.8	-0.1
DAT	Datca	0.90	291	Pg	Pg	09 39 43.1	-1.4
DAT	Datca	0.90	291	P	Pn	09 39 46.7	+0.8
YAZI	Mula-Dat§a-	0.98	286	P	Pn	09 39 47.2	+0.3
DEMR	Demre-Antalya	1.05	99	Pg	Pg	09 39 46.0	-1.3
ELL	Elmali	1.08	72	Pn	Pg	09 39 47.3	-0.7
BDRM	Kayabasi	1.15	305	P	Pn	09 39 50.0	+0.7
BDRM				i AML	AML	09 40 06.0	
	comp=N,0.4nm,1.2s						
APMY	Acipayam-Deniz	1.19	27	Pn	Pg	09 39 49.6	-0.4
NISR	Nisiros	1.22	280	P	Pg	09 39 51.0	+0.4
NISR				S	Sb	09 40 05.0	-1.1
	538nm,0.5s						
BODT	Bodrum	1.24	302	Pn	Pb	09 39 49.7	-0.9
BODT	Bodrum	1.24	302	P	Pg	09 39 52.1	+1.1
BODT				S	Sb	09 40 05.2	-1.4
DNIZ	Denizli-Tavas-	1.25	15	P	Pn	09 39 50.2	-0.6
DNIZ				i AML	AML	09 40 29.0	
	comp=N,2μm,0.5s						
DNIZ				i AML	AML	09 40 30.0	
	comp=E,3μm,0.4s						
YKAV	Yalikavak-Bodr	1.29	304	Pn	Pn	09 39 50.6	-0.6
AKUM	Antalya-Kumluc	1.39	93	P	Pg	09 39 53.8	0.0
ESEN	Aydn-Nazilli	1.40	351	P	Pb	09 39 53.3	0.0
ESEN				i AML	AML	09 40 34.0	
	comp=N,146nm,0.7s						
ESEN				i AML	AML	09 40 39.0	
	comp=E,154nm,0.6s						
DIDI	Didim-Aydin	1.47	311	Pn	Pn	09 39 53.3	-0.3
KARP	Karpathos	1.47	234	Pn	Pn	09 39 52.1	-1.6
KARP	Karpathos	1.47	234	P	Pg	09 39 56.7	+1.3
KARP				S	Sg	09 40 15.0	+0.5
	800nm,0.5s						
INCE	Denizli-Bozkur	1.50	30	P	Pg	09 39 55.9	0.0
INCE				i AML	AML	09 40 39.0	
	comp=E,276nm,0.9s						
INCE				i AML	AML	09 40 44.0	
	comp=N,154nm,0.6s						
KORT	Korkueli	1.50	67	P	Pb	09 39 55.9	+0.7
KORT				i AML	AML	09 40 42.0	
	comp=E,526nm,1.1s						
KORT				i AML	AML	09 40 45.0	
	comp=N,374nm,0.9s						
KORT	Korkueli	1.50	67	Pn	Pn	09 39 54.1	-0.1
NAZL	Nazilli-Aydin	1.57	350	Pn	Pn	09 39 55.3	+0.3
AYDB	Zeytinkoy-Aydi	1.64	339	Pn	Pn	09 39 56.1	0.0
GCAM	G?zelcaml?	1.70	319	Pn	Pn	09 39 56.6	-0.2
ANTB	Antalya	1.70	73	Pn	Pn	09 39 56.9	+0.1
BRDR	BURDUR-Merkez	1.72	41	P	Pn	09 39 58.3	+1.2
BRDR				i AML	AML	09 40 42.0	
	comp=N,159nm,0.7s						
BRDR				i AML	AML	09 40 44.0	
	comp=E,171nm,0.8s						
BUCA	Burdur, Bucak-	1.80	59	P	Pb	09 40 00.1	-0.1
BASM	Basmaki-Afyon	1.88	37	Pn	Pn	09 39 59.7	+0.3
BCK	Bucak	1.89	56	Pn	Pn	09 39 59.9	+0.5
SMG	Samos	1.93	313	P	Pb	09 40 01.7	-0.6
SMG				S	Sn	09 40 22.9	-1.3
	405nm,0.4s						
ISP	Isparta	2.07	47	Pn	Pn	09 40 02.5	+0.6
KULA	Kula-Manisa	2.10	1	Pn	Pn	09 40 02.8	+0.5
GMLD	Gumuldur	2.15	321	Pn	Pn	09 40 03.4	+0.5
BLCB	Balcova	2.34	328	Pn	Pn	09 40 05.9	+0.4
ZKR	Zakros	2.35	237	Pn	Pn	09 40 04.7	-1.0
ZKR	Zakros	2.35	237	P	Pb	09 40 09.3	-0.2
GOMA	Golmarmara-Man	2.36	346	Pn	Pn	09 40 06.5	+0.7
GORD	Gordes-Manisa	2.51	352	Pn	Pn	09 40 08.7	+0.6
APE	Apeiranthos	2.57	286	Pn	Pn	09 40 08.6	-0.2
APE	Apeiranthos	2.57	286	P	Pn	09 40 10.8	+2.0
SHUT	Suhut-Afyon	2.63	35	Pn	Pn	09 40 10.8	+1.2
SIMA	Simav-Kutahya	2.68	6	Pn	Pn	09 40 11.3	+1.0
SMAA	Simav-Kutahya	2.69	6	Pn	Pn	09 40 11.6	+1.1
GEDZ	Gediz	2.70	13	Pn	Pn	09 40 11.7	+1.1
CHOS	Chios island	2.84	315	Pn	Pn	09 40 12.9	+0.4
SOMA	Soma-Manisa	2.87	343	Pn	Pn	09 40 13.8	+0.9
TVSB	Tavsanli	3.10	12	Pn	Pn	09 40 17.4	+1.2
DST	Dursunbey	3.18	360	Pn	Pn	09 40 18.5	+1.3
IDI	Anoyia	3.24	251	Pn	Pn	09 40 17.5	-0.5
IMMV	Iera Moni Meta	3.89	257	Pn	Pn	09 40 26.8	-0.1
GVD	Gavdhos	4.02	248	Pn	Pn	09 40 28.6	-0.1
KNDR	Palaiochora Ch	4.18	255	Pn	Pn	09 40 31.7	+0.8

KRSC ***02*** *09:39:27.7±0.9, 51.°98N×158.°72E, h72km±9km, Ml5.8, Felt [IV-V] at HMS Vodopadnaya; [IV] at MGeoES-1, river Karimshina (stationary KF GS), Ribachiy, Viluchinsk, Pionersky, Noviy; [III-IV] at lighthouse Krugliy, Termalniy, Paratunka, Petropavlovsk, Elizovo; [III] at Nikolaevka, Svetliy, Sosnovka, Vulkanniy,0 Sokoch, Severo-Kurilsk; [II] at Paujetka, Razdolniy, Korjaki, cape Lopatka.*
MOS ***02*** *09:39:28.8±1.2, 52.°07N×158.°29E, h85km, mb5.1/92, MS4.4/9, Error ellipse: s-maj=6.2km s-min=2.8km az=85.1*
MOS Felt (IV) at Petropavlovsk-Kamchatskiy; (II) at Severo-Kuril'sk.
BJI ***02*** *09:39:28.4, 52.°50N×158.°28E, h75km, mb4.7/47, mB5.0/17, Ms4.5/33, Ms7 4.3/35*
IDC ***02*** *09:39:29.5±0.5, 52.°23N×158.°22E, h72km±3km, mb4.5/34, mbtmp4.9/36, MS4.0/70, Error ellipse: s-maj=9.6km s-min=8.5km az=157.0*
NEIC ***02*** *09:39:30.6, 52.°05N×159.°33E, h36km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^16Nm; Mrr3.37; Mθθ-1.53; Mφφ-1.85; Mrθ-3.74; Mθφ-1.01; Mφr-4.21; Fault plane solution: M0 6.40000×10^16 NP1: φs221.47000°, δ75.81000°, λ90.32000°. NP2:φs40.15000°, δ14.20000°, λ88.72000°. Principal axes: T 6.7275, Plg59.0000°, Azm132.0000°; N -0.6640, Plg0.0000°, Azm41.0000°; P -6.0635, Plg31.0000°, Azm311.0000°;*
NEIC ***02*** *09:39:30.1±1.6, 52.°19N×0.°07×158.°2E±0.°1, h77km±4km, mb5.2/654, Mww5.1/14 Error ellipse: s-maj=12.0km s-min=9.3km az=120.0*
NEIC ***02*** *09:39:30.6, 52.°15N×158.°36E, h36km*
GCMT ***02*** *09:39:31.1±0.2, 52.°04N±0.°01×158.°60E±0.°02, h78km±1km, MW5.1/131, Moment Tensor Solution. s100,c143; s131,c205; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.72±.14; Mθθ-1.86±.15; Mφφ-1.86±.14; Mrθ-4.48±.10; Mθφ-1.93±.14; Mφr-2.95±.09; Best double couple: M0 6.54800×10^16 NP1:φs234.00000°, δ73.00000°, λ96.00000°. NP2:φs36.00000°, δ18.00000°, λ72.00000°. Principal axes: T 6.5660, Plg62.0000°, Azm153.0000°; N -0.0350, Plg6.0000°, Azm53.0000°; P -6.5300, Plg27.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 09:39:29.4±0.2, 52.°07N±0.°03×158.°52E±0.°03, h75km±1km, h75km:pP-P, n1431, σ1°30/1457, mb5.2/487, 28C-29D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.37	359	eP	Pn	09 39 41.5	-0.1
RUS	Russkaya	0.37	359	PN	Pn	09 39 41.4	-0.1
KDTR	Khodutka, Kamc	0.38	227	eP	Pn	09 39 41.3	-0.4
KDTR				eS	Sn	09 39 50.1	-0.5
KDTR	Khodutka, Kamc	0.38	227	PN	Pn	09 39 41.2	-0.4
KDTR				S	Sn	09 39 50.0	-0.5
MTVR	Mutnovka	0.47	334	eP	Pn	09 39 43.1	+0.5
MTVR	Mutnovka	0.47	334	PN	Pn	09 39 43.0	+0.5
ASAK	Asacha	0.49	310	eP	Pn	09 39 43.6	+0.9
ASAK				eS	Sn	09 39 54.6	+2.0
ASAK	Asacha	0.49	310	PN	Pn	09 39 43.6	+0.9
ASAK				S	Sn	09 39 54.5	+2.0
GRL	Gorelyy	0.56	331	eP	Pn	09 39 44.2	+0.8
GRL	Gorelyy	0.56	331	PN	Pn	09 39 44.1	+0.8
KRMR	Karymshinskiy	0.80	343	eP	Pn	09 39 46.8	+1.1
KRMR				eS	Sn	09 40 00.3	+2.4
KRMR	Karymshinskiy	0.80	343	PN	Pn	09 39 46.8	+1.1
KRMR				S	Sn	09 40 00.3	+2.4
PET	Petropavlovsk	0.96	5		Pn	09 39 47.8	+0.2
PET				Sn	Sn	09 40 01.7	+0.5
PET	Petropavlovsk	0.96	5	eP	Pn	09 39 48.3	+0.7
PET	Petropavlovsk	0.96	5	P	Pn	09 39 48.4	+0.8
PET	Petropavlovsk	0.96	5⇑	i PN	Pn	09 39 48.4	+0.8
PET				i S	Sn	09 40 02.2	+1.0
PET				pmax	pmax		
	comp=Z,10μm,0.7s						
PET				smax	smax		
	comp=N,67μm,0.4s						
PET				smax	smax		
	comp=E,40μm,0.5s						
PET	Petropavlovsk	0.96	5	P	Pn	09 39 48.6	+1.0
DALK	Dalny	0.98	8	eP	Pn	09 39 48.5	+0.6
DALK				eS	Sn	09 40 02.2	+0.7
DALK	Dalny	0.98	8	PN	Pn	09 39 48.4	+0.6
DALK				S	Sn	09 40 02.2	+0.7
INSR	Institute	1.00	3	eP	Pn	09 39 49.1	+1.0
INSR				eS	Sn	09 40 03.6	+1.5
INSR	Institute	1.00	3	PN	Pn	09 39 49.1	+1.0
INSR				S	Sn	09 40 03.6	+1.5
I44RU	PETROPAVLOVSK-	1.15	335	P	Pn	09 39 51.2	+1.2
	baz=116,slow=18						
I44RU				S	Sn	09 40 04.0	-1.5
	baz=120,slow=30						
PEA0B	Petropavlovsk-	1.16	335	Pn	Pn	09 39 51.0	+0.9
PEA0B	Petropavlovsk-	1.16	335	cePN	Pn	09 39 51.5	+1.4
PETK	Petropavlovsk-	1.16	335	P	Pn	09 39 50.6	+0.5
	comp=E,2μm,0.5s,baz=145,slow=14,SNR=2345						
PETK				S	Sn	09 40 04.3	-1.2
	comp=E,3μm,0.6s,baz=149,slow=18,SNR=8.8						
PETK				LR	LR	09 40 24.7	
	comp=E,18μm,18.1s,baz=251,slow=59						
UGLR	Uglovaya	1.16	9	eP	Pn	09 39 51.4	+1.1
UGLR	Uglovaya	1.16	9	PN	Pn	09 39 51.3	+1.1
APC	Apacha	1.20	316	eP	Pn	09 39 52.2	+1.6
APC				eS	Sn	09 40 09.6	+3.2
APC	Apacha	1.20	316	PN	Pn	09 39 52.1	+1.6
APC				S	Sn	09 40 09.6	+3.2
AVH	Avacha	1.21	6	eP	Pn	09 39 52.1	+1.3
AVH	Avacha	1.21	6	PN	Pn	09 39 52.1	+1.3
SMAR	Somma	1.21	8	eP	Pn	09 39 51.8	+0.8
SMAR	Somma	1.21	8	PN	Pn	09 39 51.7	+0.8
NLC	Nalytchevo	1.22	24	eP	Pn	09 39 50.2	-0.6
NLC				eS	Sn	09 40 05.5	-1.3
NLC	Nalytchevo	1.22	24	PN	Pn	09 39 50.2	-0.6
NLC				S	Sn	09 40 05.5	-1.3
PAU	Pauzhetka	1.22	241	eP	Pn	09 39 51.9	+1.1
PAU				eS	Sn	09 40 08.4	+1.4
PAU	Pauzhetka	1.22	241	PN	Pn	09 39 51.9	+1.1
PAU				S	Sn	09 40 08.3	+1.4
KOK	Koryaka	1.23	3	eP	Pn	09 39 52.8	+1.7
KOK	Koryaka	1.23	3	PN	Pn	09 39 52.7	+1.7
SDLR	Sedlovina	1.23	10	eP	Pn	09 39 51.8	+0.6
SDLR	Sedlovina	1.23	10	PN	Pn	09 39 51.7	+0.6
KRER	Koryakskii	1.25	6	eP	Pn	09 39 52.7	+1.3
KRER	Koryakskii	1.25	6	PN	Pn	09 39 52.7	+1.3
KRX	Arik	1.30	3	eP	Pn	09 39 53.3	+1.3
KRX	Arik	1.30	3	PN	Pn	09 39 53.3	+1.3
SPN	Mys Shipunski	1.38	41	eP	Pn	09 39 53.3	+0.4
SPN	Mys Shipunski	1.38	41	PN	Pn	09 39 53.3	+0.4
GNL	Ganaly	1.67	348	eP	Pn	09 39 58.4	+1.5
GNL	Ganaly	1.67	348	PN	Pn	09 39 58.3	+1.5
SKR	Severo-Kuril's	2.05	228	eP	Pn	09 40 02.4	+0.7
SKR				eS	Sn	09 40 26.7	+0.4
SKR	Severo-Kuril's	2.05	228	⇓i PN	Pn	09 40 02.6	+0.9
SKR				i S	Sn	09 40 27.7	+1.3
SKR				pmax	pmax		
	comp=Z,2μm,0.4s						
SKR				smax	smax		
	comp=E,27μm,0.5s						
SKR				smax	smax		
	comp=N,23μm,0.5s						
TUMD	Tumrok D	3.33	19	eP	Pn	09 40 21.0	+1.9
TUMR	Tumrok	3.36	16	eP	Pn	09 40 22.3	+2.7
TUMR	Tumrok	3.36	16	PN	Pn	09 40 22.3	+2.7
ESO	Esso	3.87	2	eP	Pn	09 40 28.8	+2.4
ESO	Esso	3.87	2	PN	Pn	09 40 28.8	+2.4
BZP	Bezymyannyi-Pe	4.03	16	eP	Pn	09 40 31.3	+2.5
KIRR	Kirishev	4.04	15	eP	Pn	09 40 31.3	+2.4
KIRR	Kirishev	4.04	15	PN	Pn	09 40 31.2	+2.4
BZMR	Bezymyannaya	4.05	16	eP	Pn	09 40 31.9	+3.0
BZMR	Bezymyannaya	4.05	16	PN	Pn	09 40 31.9	+3.0
BZWR	Bezymyannyi-We	4.08	16	eP	Pn	09 40 32.2	+2.8
BZWR	Bezymyannyi-We	4.08	16	PN	Pn	09 40 32.1	+2.8
KOZ	Kozyrevsk	4.08	11	eP	Pn	09 40 31.5	+2.2
KOZ	Kozyrevsk	4.08	11	PN	Pn	09 40 31.4	+2.2
ZLN	Zelenaya	4.18	18	eP	Pn	09 40 34.0	+3.3
ZLN	Zelenaya	4.18	18	PN	Pn	09 40 34.0	+3.3
CIRR	Tsirk	4.26	17	eP	Pn	09 40 35.6	+3.6
CIRR	Tsirk	4.26	17	PN	Pn	09 40 35.5	+3.6
SRDR	Sredinnyy	4.32	9	eP	Pn	09 40 34.7	+2.1
SRDR	Sredinnyy	4.32	9	PN	Pn	09 40 34.6	+2.1
KRSR	Krestovskiy	4.33	15	eP	Pn	09 40 34.9	+2.1
KRSR	Krestovskiy	4.33	15	PN	Pn	09 40 34.8	+2.1
KLY	Klyuchi	4.43	16	eP	Pn	09 40 36.9	+2.8
KLY	Klyuchi	4.43	16	PN	Pn	09 40 36.9	+2.8
SMKR	Semkarok	4.84	20	eP	Pn	09 40 41.6	+1.9
SMKR	Semkarok	4.84	20	PN	Pn	09 40 41.6	+1.9
KBTR	Krutoberegovo	4.86	30	eP	Pn	09 40 40.1	+0.3
KBTR				eS	Sn	09 41 36.2	+1.4
KBTR	Krutoberegovo	4.86	30	PN	Pn	09 40 40.1	+0.3
KBTR				S	Sn	09 41 36.1	+1.4
KBG	Krutoberegovo	4.86	29	eP	Pn	09 40 40.8	+0.9
KBG	Krutoberegovo	4.86	29	PN	Pn	09 40 40.8	+0.9
BKI	Bering	5.43	52	eP	Pn	09 40 47.1	-0.7
BKI	Bering	5.43	52	PN

SEY LR LR 09 47 05.9
comp=N,954nm,18.9s,baz=160,slow=41
SEY Seymchan 11.38 346 *i* PN **Pn 09 42 11.6 +2.9**
YSS Yuzh-Sakhalins 11.45 250 Pn **Pn 09 42 13.4 +3.7**
YSS Yuzh-Sakhalins 11.45 250 P **Pn 09 42 13.2 +3.4**
YSS Yuzh-Sakhalins 11.45 250 *e*PN **Pn 09 42 12.2 +2.4**
YSS *e*S **Sn 09 44 17.5 +1.8**
YSS pmax pmax
comp=Z,60nm,1.3s
YSS pmax pmax
comp=Z,200nm,6.0s
YSS pmax pmax
comp=N,200nm,6.3s
YUK Yuzh-Kuril'sk 11.66 231 *e*PN **Pn 09 42 12.9 +0.2**
YUK pmax pmax
comp=N,67nm,0.3s
YUK pmax pmax
comp=Z,256nm,0.3s
JKA Kamikawa-asahi 13.27 239 Pn **Pn 09 42 35.5 +1.1**
ASAJ Asahikawa 13.27 239 P **Pn 09 42 36.0 +1.5**
comp=Z,188nm,0.8s,baz=65,slow=12,SNR=87
ASAJ LR LR 09 47 15.6
comp=Z,664nm,20.6s,baz=68,slow=35
ASAJ Asahikawa 13.27 239 PN **Pn 09 42 35.5 +1.1**
GRNR Gornyy 13.85 273 ⇓*i*P **P 09 42 45.6 -2.3**
GRNR pmax pmax
comp=E,40nm,1.3s
GRNR pmax pmax
comp=N,10.0nm,1.1s
GRNR pmax pmax
comp=Z,40nm,1.2s
GRNR MLR MLR
comp=N,160nm,15.0s
GRNR MLR MLR
comp=E,310nm,15.0s
GRNR MLR MLR
comp=Z,390nm,12.0s
ERM Erimo 14.49 232 Pn **Pn 09 42 48.7 -1.7**
ERM Erimo 14.49 232 *i* P **Pn 09 42 46.6 -3.8**
KIWB Kanaga Island 14.99 81 Pn **Pn 09 42 56.9 +0.2**
ADK Adak 15.27 81 Pn **Pn 09 43 01.4 +1.1**
ADK Adak 15.27 81 P **P 09 43 02.7 -0.9**
ADK Adak 15.27 81 P **Pn 09 43 01.4 +1.1**
TEY Ternei 16.09 253 *e*P **P 09 43 13.7 +0.9**
BILL Bilibino 16.46 10*ce*P **Pn 09 43 14.3 -0.9**
BILL pmax pmax
comp=Z,31nm,1.0s
ATKA Atka Island 16.72 79 P **P 09 43 20.5 +0.9**
KLR Kul'dur 17.18 271 P **P 09 43 26.6 +1.8**
comp=Z,32nm,1.0s,baz=67,slow=13,SNR=43
KLR LR LR 09 50 51.3
comp=Z,663nm,18.6s,baz=74,slow=40
KLR Kul'dur 17.18 271*ce*P **P 09 43 26.2 +1.4**
KLR pmax pmax
comp=Z,47nm,1.3s
YAK Yakutsk 18.42 314 P **P 09 43 37.8 -0.5**
YAK Yakutsk 18.42 314 P **P 09 43 37.3 -1.0**
comp=Z,118nm,0.8s,baz=97,slow=3.0,SNR=12
YAK S **S 09 46 59.5 -4.4**
comp=Z,6.6nm,0.4s,baz=182,slow=1.8,SNR=0.9
YAK Yakutsk 18.42 314 *e*P **P 09 43 36.7 -1.7**
YAK *e*S **S 09 47 01.3 -2.6**
YAK pmax pmax
comp=Z,174nm,1.2s
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,43nm,1.1s
YAK smax smax
comp=N,168nm,2.7s
YAK smax smax
comp=E,160nm,2.8s
SPIA Saint Paul Isl 18.69 62 P **Pn 09 43 42.3 -0.1**
baz=268
ZEA Zeya 18.86 287 *e*P **P 09 43 43.7 +0.5**
ZEA *e* 09 47 12.8
ZEA pmax pmax
comp=E,300nm,3.4s
ZEA pmax pmax
comp=Z,300nm,2.9s
ZEA pmax pmax
comp=Z,30nm,1.2s
ZEA smax smax
comp=E,300nm,6.8s
JMM Marumori 18.87 228 P **Pn 09 43 44.3 -0.5**
JMM Marumori 18.87 228 P **P 09 43 44.0 +0.5**
USA0B Ussuriysk Arra 19.30 256 P **P 09 43 46.0 -2.0**
USA0B Ussuriysk Arra 19.30 256 *i* P **P 09 43 45.2 -2.9**
USRK Ussuriysk Ar. 19.30 256 P **P 09 43 46.3 -1.8**
USRK Ussuriysk Ar. 19.30 256 P **P 09 43 45.6 -2.4**
comp=E,17nm,1.0s,baz=63,slow=12,SNR=21
USRK ScP **ScP 09 51 34.3 -2.1**
comp=E,2.5nm,0.8s,baz=45,slow=1.1,SNR=6.2
USRK LR LR 09 51 53.5
comp=E,480nm,19.0s,baz=60,slow=39
USRK Ussuriysk Ar. 19.30 256 P **P 09 43 46.3 -1.8**
GAMB Gambell 19.46 41 P **P 09 43 49.8 +0.1**
baz=247
HEH HeiHe 19.52 277 *e*P **P 09 43 51.1 +0.7**
HEH pP **pP 09 44 07.3 +1.6**
HEH sP **sP 09 44 16.2 +1.0**
HEH S **S 09 47 22.9 -3.9**
HEH ScP **ScP 09 51 37.4 +0.6**
HEH ScS **ScS 09 55 18.1 -0.6**
HEH pmax pmax
comp=E,18nm,0.8s
HEH LR LR
comp=E,270nm,12.9s
HEH LR LR
comp=E,450nm,14.1s
HEH LR LR
comp=E,710nm,12.6s
NIKH Nikolski High 19.79 74 P **P 09 43 53.7 +0.4**
baz=281
JSD Sado 19.95 233 P **P 09 43 54.1 -1.1**
JSD Sado 19.95 233 P **Pn 09 43 56.7 -0.8**
VLA Vladivostok 19.97 254 *i* P **Pn 09 43 57.3 -0.4**
VLA pmax pmax
comp=Z,39nm,0.8s
MDJ Mudanjiang 20.52 260 P **P 09 43 58.9 -2.4**
MDJ Mudanjiang 20.52 260 P **P 09 44 01.8 +0.5**
MDJ pP pP 09 44 16.0 -0.7
MDJ sP sP 09 44 26.9 +0.7
MDJ pmax pmax
comp=Z,11nm,1.2s
MDJ pmax pmax
comp=Z,150nm,5.3s
MDJ Mudanjiang 20.52 260 P **P 09 44 02.5 +1.2**
MSHR Mys Shultsa 20.72 254 *i* P Pn 09 44 06.8 +0.3
UNV Unalaska Valle 21.02 71 P **P 09 44 07.7 +1.1**
baz=280
M11K Mekoryuk 21.07 53 P **P 09 44 07.1 0.0**
baz=263
MJB9 Matsu-Tunnel 21.15 231 P **P 09 44 10.1 +1.9**
MAJO Matsushiro 21.15 231 P **P 09 44 09.1 +0.8**
MAJO Matsushiro 21.15 231 P **P 09 44 09.0 +0.8**
MAJO Matsushiro 21.15 231 *i* P **P 09 44 08.5 +0.3**
MAJO pmax pmax
comp=Z,141nm,1.2s
MJAR Matsushiro Arr 21.15 231 P **P 09 44 09.1 +0.9**
comp=Z,44nm,0.7s,baz=20,slow=12,SNR=66
MJAR ScP **ScP 09 51 38.9 -2.0**
comp=Z,4.6nm,1.1s,baz=31,slow=3.0,SNR=7.0
MJAR LR LR 09 52 35.0
comp=Z,147nm,20.8s,baz=37,slow=37
comp=Z,44nm,0.7s
LVA Lava Point 21.24 70 P **P 09 44 09.8 +0.8**
BNX BinXian 21.30 265 ⇑P **P 09 44 09.5 -0.1**
BNX S **S 09 47 58.7 -3.2**
BNX pmax pmax
comp=Z,50nm,0.8s
BNX pmax pmax
comp=Z,300nm,3.8s
BNX LR LR
comp=Z,560nm,15.2s
BNX LR LR
comp=Z,460nm,15.7s
BNX LR LR
comp=Z,650nm,16.8s
TNA Tin City 21.65 39 P **P 09 44 13.3 0.0**
TNA Tin City 21.65 39 P **P 09 44 12.6 -0.6**
baz=246
K13K Kusilvak Mount 22.05 49 P **P 09 44 18.8 +1.4**
K13K IAmb IAmb 09 44 19.4
comp=Z,124nm,1.9s
K13K Kusilvak Mount 22.05 49 P **P 09 44 17.4 -0.1**
baz=261
F14K Arctic Creek 22.24 39 P **P 09 44 18.8 -0.8**
baz=250
JGF Kuroka 22.32 231 P **P 09 44 21.1 +0.4**
JGF Kuroka 22.32 231 P **P 09 44 21.2 +0.5**
ANM Nome 22.34 42 P **P 09 44 19.4 -1.2**
baz=254
M13K Dall Lake 22.48 53 P **P 09 44 23.4 +1.3**
M13K Dall Lake 22.48 53 P **P 09 44 22.6 +0.4**
baz=266,SNR=7.8
INU Inuyama 22.69 231 P **P 09 44 24.9 +0.3**
INU IAmb IAmb 09 44 27.8
comp=Z,103nm,1.0s
INU Inuyama 22.69 231 P **P 09 44 24.7 +0.1**
JSG Sagara 22.69 228 P **P 09 44 24.0 -0.6**
J14K Nanvaranak Lak 22.70 47 P **P 09 44 25.1 +0.7**
J14K IAmb IAmb 09 44 26.1
comp=Z,61nm,0.8s
J14K Nanvaranak Lak 22.70 47 P **P 09 44 24.6 +0.2**
baz=260,SNR=12
L14K Kuka Creek 22.90 51 P **P 09 44 27.3 +0.8**
L14K IAmb IAmb 09 44 30.2
comp=Z,87nm,1.1s
L14K Kuka Creek 22.90 51 P **P 09 44 27.3 +0.8**
baz=264,SNR=9.6
F15K North Star Dit 22.98 39 P **P 09 44 28.7 +1.4**
F15K North Star Dit 22.98 39 P **P 09 44 27.3 0.0**
baz=252
G15K Niukluk 23.01 41 P **P 09 44 27.5 -0.1**
baz=254
M14K Bethel 23.19 53 P **P 09 44 31.1 +1.7**
M14K IAmb IAmb 09 44 31.7
comp=Z,58nm,0.8s
M14K Bethel 23.19 53 P **P 09 44 30.4 +1.0**
baz=266,SNR=6.3
N14K Kuskokwak Cree 23.29 55 P **P 09 44 31.3 +1.0**
baz=268,SNR=16
S12K Black Hills 23.29 65 P **P 09 44 32.2 +1.8**
S12K IAmb IAmb 09 44 32.5
comp=Z,151nm,1.1s
S12K Black Hills 23.29 65 P **P 09 44 31.2 +0.8**
baz=278
CN2 Changchun 23.48 263 *e*P **P 09 44 30.1 -2.1**
CN2 *e*S **S 09 48 35.1 -4.8**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,6.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
O14K Tigyukauivet M 23.49 56 P **P 09 44 33.3 +1.2**
O14K IAmb IAmb 09 44 35.5
comp=Z,89nm,1.0s
O14K Tigyukauivet M 23.49 56 P **P 09 44 33.2 +1.1**
baz=270
L15K Ungalak Mounta 23.50 50 P **P 09 44 33.6 +1.4**
baz=265,SNR=8.1
K15K Wolf Creek Mou 23.55 49 P **P 09 44 35.0 +2.3**
K15K IAmb IAmb 09 44 35.5
comp=Z,64nm,1.0s
K15K Wolf Creek Mou 23.55 49 P **P 09 44 33.7 +1.0**
baz=263,SNR=8.1
TIXI Tiksi 23.63 337 P **P 09 44 33.1 -0.1**
TIXI IAmb IAmb 09 44 34.7
comp=Z,52nm,0.6s
TIXI Tiksi 23.63 337 LR LR 09 54 46.4
comp=Z,648nm,20.4s,baz=138,slow=39
TIXI Tiksi 23.63 337*ce*P **P 09 44 32.9 -0.4**
TIXI pmax pmax
comp=Z,58nm,0.8s
H16K Elim 23.66 43 P **P 09 44 33.8 +0.2**
baz=257
C16K Lisburne Hills 23.68 33 P **P 09 44 34.5 +0.7**
baz=245
G16K Koyuk River 23.80 41 P **P 09 44 35.1 +0.2**
G16K Koyuk River 23.80 41 P **P 09 44 35.1 +0.2**
baz=255
M15K Kasigluk River 23.82 53 P **P 09 44 35.1 +0.1**
baz=268,SNR=16
N15K Kwethluk River 24.09 54 P **P 09 44 38.9 +1.3**
N15K IAmb IAmb 09 44 41.4
comp=Z,133nm,0.8s
N15K Kwethluk River 24.09 54 P **P 09 44 37.9 +0.4**
baz=269,SNR=20
J16K Anvik River 24.11 46 P **P 09 44 38.7 +1.0**
J16K IAmb IAmb 09 44 41.0
comp=Z,119nm,1.5s
J16K Anvik River 24.11 46 P **P 09 44 37.7 0.0**
baz=262
I17K Unalakleet 24.17 45 P **P 09 44 38.6 +0.5**
baz=260
O15K Ungalikthiuk R 24.23 57 P **P 09 44 39.2 +0.4**
baz=272,SNR=7.0
D17K Noatak River 24.24 35 P **P 09 44 38.8 0.0**
baz=249
RDOG Red Dog Mine 24.43 35 P **P 09 44 41.0 +0.4**
RDOG IAmb IAmb 09 44 59.3
comp=Z,126nm,1.0s
RDOG Red Dog Mine 24.43 35 P **P 09 44 40.7 +0.1**
baz=249
L16K Owhat River 24.46 50 P **P 09 44 42.1 +1.3**
L16K Owhat River 24.46 50 P **P 09 44 41.4 +0.6**
baz=266,SNR=6.3
E17K Hotham Inlet 24.49 37 P **P 09 44 40.9 -0.2**
baz=252
C17K DeLong Mountai 24.50 33 P **P 09 44 40.8 -0.4**
baz=248
G17K Kiwalik Mounta 24.52 41 P **P 09 44 41.6 +0.2**
baz=257
F17K Baldwin Pennin 24.52 39 P **P 09 44 42.6 +1.3**
F17K Baldwin Pennin 24.52 39 P **P 09 44 41.7 +0.4**
baz=254
HIA Hailar 24.54 279 P **P 09 44 40.9 -0.8**
HIA Hailar 24.54 279 P **P 09 44 41.1 -0.6**
HIA Hailar 24.54 279 P **P 09 44 40.9 -0.8**
HIA pmax pmax
comp=Z,69nm,1.2s
S14K Fog Glacier 24.61 63 P **P 09 44 43.1 +0.7**
baz=278
M16K Timber Creek 24.67 52 P **P 09 44 44.1 +1.3**
M16K IAmb IAmb 09 44 47.0
comp=Z,130nm,1.2s
M16K Timber Creek 24.67 52 P **P 09 44 43.5 +0.7**
baz=268,SNR=15
H17K Granite Mounta 24.70 43 P **P 09 44 44.1 +1.1**
H17K Granite Mounta 24.70 43 P **P 09 44 43.6 +0.6**
baz=259,SNR=8.8
N16K Nishlik Lake 24.75 53 P **P 09 44 44.1 +0.5**
baz=270,SNR=16
J17K VABM Dome 24.81 46 P **P 09 44 45.8 +1.8**
J17K IAmb IAmb 09 44 48.0
comp=Z,101nm,0.8s
J17K VABM Dome 24.81 46 P **P 09 44 44.6 +0.5**
baz=263,SNR=26
CHNA Chernabura Isl 24.83 67 P **P 09 44 44.6 +0.3**
baz=281
L17K Donlin 25.05 49 P **P 09 44 45.7 -0.4**
baz=267,SNR=7.3
E18K Tukpahlearik C 25.05 37 P **P 09 44 47.0 +0.9**
E18K Tukpahlearik C 25.05 37 P **P 09 44 46.2 0.0**
baz=253
K17K Iditarod 25.09 48 P **P 09 44 47.9 +1.3**
K17K IAmb IAmb 09 44 50.5
comp=Z,66nm,0.8s
K17K Iditarod 25.09 48 P **P 09 44 47.1 +0.6**
baz=265,SNR=18
O16K Kokwok River B 25.10 55 P **P 09 44 47.9 +1.2**
O16K Kokwok River B 25.10 55 P **P 09 44 46.8 0.0**
baz=272
F18K Selawik 25.18 39 P **P 09 44 47.4 +0.1**
baz=256
P16K Nushagak River 25.18 57 P **P 09 44 47.3 -0.1**
baz=274,SNR=7.2
CHGN Chignik 25.24 63 P **P 09 44 48.8 +0.9**
baz=279,SNR=6.0
C18K Utukok River 25.24 34 P **P 09 44 48.3 +0.3**
C18K IAmb IAmb 09 45 07.1
comp=Z,86nm,0.7s
C18K Utukok River 25.24 34 P **P 09 44 47.8 -0.1**
baz=250
B18K Kokolik River 25.30 32 P **P 09 44 48.1 -0.3**
baz=248
H18K Honhosa River 25.39 42 P **P 09 44 50.1 +0.9**
H18K Honhosa River 25.39 42 P **P 09 44 49.1 -0.2**
baz=260
G18K Tagagawik 25.41 41 P **P 09 44 50.4 +1.0**
G18K Tagagawik 25.41 41 P **P 09 44 50.0 +0.5**
baz=258
M17K Holitna River 25.42 51 P **P 09 44 50.7 +1.1**
M17K Holitna River 25.42 51 P **P 09 44 50.0 +0.4**
baz=269,SNR=25
JMN Monobe 25.52 234 P **P 09 44 50.1 -0.7**
JMN IAmb IAmb 09 44 57.4
comp=Z,78nm,1.1s
JMN Monobe 25.52 234 P **P 09 44 52.9 +2.1**
R16K Pilot Point 25.52 60 P **P 09 44 51.1 +0.6**
baz=277
N17K Nushagak Hills 25.54 53 P **P 09 44 51.7 +1.0**
N17K Nushagak Hills 25.54 53 P **P 09 44 51.5 +0.9**
baz=271,SNR=6.0
O17K Koliganek Bris 25.60 55 P **P 09 44 51.9 +0.7**
baz=273,SNR=9.1
L18K Granite Mounta 25.80 49 P **P 09 44 54.4 +1.4**
L18K Granite Mounta 25.80 49 P **P 09 44 53.8 +0.8**
baz=268,SNR=11
BOD Bodaibo 25.82 301 *e*P **P 09 44 52.7 -0.5**
BOD pmax pmax
comp=Z,110nm,1.1s
A19K Wainwright 25.87 30 P **P 09 44 53.5 0.0**
baz=247
J18K Innoko River 25.87 46 P **P 09 44 54.7 +1.0**
J18K Innoko River 25.87 46 P **P 09 44 53.8 +0.1**
baz=265,SNR=12
Q16K King Salmon 25.90 57 P **P 09 44 54.1 +0.2**
baz=275,SNR=12
KS19 Wonju Array Si 25.94 248 P **P 09 44 53.0 -1.5**
KSRS Korea Array 25.94 248 P **P 09 44 56.0 +1.5**
comp=Z,6.8nm,0.9s,baz=43,slow=9.5,SNR=23
KSRS PcP **PcP 09 48 19.8 -1.4**
comp=Z,2.7nm,1.0s,baz=2.3,slow=2.3,SNR=5.1
KSRS ScP **ScP 09 51 53.6 -0.2**
comp=Z,6.8nm,1.1s,baz=45,slow=2.7,SNR=20
KSRS LR LR 09 55 19.4
comp=Z,118nm,18.2s,baz=45,slow=37
comp=Z,6.8nm,0.9s
C19K Lookout Ridge 25.95 33 P **P 09 44 54.2 -0.2**
baz=251
F19K Shaleruckik Mo 25.96 39 P **P 09 44 53.2 -1.2**
F19K Shaleruckik Mo 25.96 39 P **P 09 44 54.5 +0.1**
baz=257
KSAR Wonju Array Be 25.97 248 P **P 09 44 54.8 0.0**
KSAR Wonju Array Be 25.97 248 P **P 09 44 54.8 0.0**
P17K Kvichak River 25.97 56 P **P 09 44 54.8 +0.3**
baz=274
G19K Purcell Mounta 26.09 40 P **P 09 44 54.6 -0.9**
G19K Purcell Mounta 26.09 40 P **P 09 44 55.7 +0.1**
baz=260,SNR=5.9
TTA Tatalina 26.15 48 P **P 09 44 56.1 -0.2**
TTA Tatalina 26.15 48 P **P 09 44 56.9 +0.6**
baz=267,SNR=9.8
TTA Tatalina 26.15 48 P **P 09 44 56.9 +0.6**
TTA Tatalina 26.15 48 P **P 09 44 56.1 -0.2**
TTA pmax pmax
comp=Z,20nm,0.7s
R17L Mt. Peulik Vol 26.17 60 P **P 09 44 57.1 +0.7**
baz=278
PLK4 Peulik 4 26.17 60 P **P 09 44 56.3 -0.1**
PLK4 IAmb IAmb 09 44 59.9
comp=Z,75nm,1.0s
N18K Kilae Creek 26.18 53 P **P 09 44 56.5 0.0**
N18K Kilae Creek 26.18 53 P **P 09 44 56.9 +0.5**
baz=272,SNR=14
M18K Stony River 26.20 51 P **P 09 44 57.1 +0.5**
baz=270,SNR=11
H19K Roundabout Mou 26.24 42 P **P 09 44 56.2 -0.7**
H19K IAmb IAmb 09 45 16.5
comp=Z,86nm,1.2s
H19K Roundabout Mou 26.24 42 P **P 09 44 57.2 +0.3**
baz=261,SNR=18
D19K Kuna River 26.26 35 P **P 09 44 57.2 0.0**
D19K IAmb IAmb 09 45 21.6
comp=Z,64nm,1.3s
D19K Kuna River 26.26 35 P **P 09 44 56.3 -0.9**
baz=254
E19K Redstone River 26.31 37 P **P 09 44 58.4 +0.8**
E19K Redstone River 26.31 37 P **P 09 44 57.2 -0.4**
baz=257
SVW2 Sparrevohn 26.32 52 P **P 09 44 57.8 +0.1**
Q17K Contact Creek 26.34 58 P **P 09 44 58.2 +0.1**
baz=277
J19K Poorman 26.41 45 P **P 09 44 58.7 +0.3**
J19K Poorman 26.41 45 P **P 09 44 58.1 -0.3**
baz=265,SNR=16
O18K Koktuh Hills 26.55 55 P **P 09 44 59.9 +0.1**
O18K Koktuh Hills 26.55 55 P **P 09 44 59.3 -0.5**
baz=274,SNR=6.1
P18K Big Mountain, 26.57 56 P **P 09 44 59.2 -0.9**
P18K Big Mountain, 26.57 56 P **P 09 44 59.7 -0.4**
baz=275
ACHA Angle Creek He 26.64 58 P **P 09 45 00.3 -0.4**
L19K White Mountain 26.66 49 P **P 09 45 01.4 +0.6**
L19K White Mountain 26.66 49 P **P 09 45 00.6 -0.2**
baz=270
Q18K Katmai Hardscr 26.76 57 P **P 09 45 01.9 +0.1**
baz=277,SNR=14
F20K Avaraart Lake 26.80 39 P **P 09 45 02.5 +0.6**
F20K Avaraart Lake 26.80 39 P **P 09 45 01.2 -0.7**
baz=259
D20K Etivluk River 26.85 35 P **P 09 45 02.0 -0.5**
baz=255
N19K Bonanza Creek 26.86 52 P **P 09 45 02.6 -0.1**
N19K Bonanza Creek 26.86 52 P **P 09 45 02.9 +0.2**
baz=273,SNR=11
CHIR Chirikof Islan 26.86 64 P **P 09 45 02.4 -0.2**
baz=282
M19K Big River Lodg 26.88 50 P **P 09 45 04.0 +1.2**
M19K Big River Lodg 26.88 50 P **P 09 45 02.7 -0.1**
baz=271
H20K Anotleneega Mo 26.88 42 P **P 09 45 02.0 -0.8**
baz=263,SNR=8.2
E20K Nigu River 26.89 36 P **P 09 45 02.2 -0.6**
baz=256
I20K Naaghedeneel 26.97 44 P **P 09 45 03.0 -0.5**
baz=265
TJN Taejon 27.01 247 *i* P **P 09 45 06.6 +2.4**
B20K Meade River 27.05 32 P **P 09 45 04.1 0.0**
B20K IAmb IAmb 09 45 49.2
comp=Z,125nm,1.4s
B20K Meade River 27.05 32 P **P 09 45 04.1 0.0**
baz=252
K20K Telida 27.05 47 P **P 09 45 05.7 +1.4**
K20K Telida 27.05 47 P **P 09 45 04.6 +0.3**
baz=268,SNR=6.4
J20K Nowinta River 27.07 45 P **P 09 45 05.0 +0.6**
J20K Nowinta River 27.07 45 P **P 09 45 04.6 +0.2**
baz=266,SNR=17
L20K Farewell, AK 27.12 49 P **P 09 45 04.7 -0.2**
baz=270,SNR=8.2
R18K Karluk 27.19 60 P **P 09 45 04.8 -0.7**
baz=279
IMAR Indian Mountai 27.41 41 P **P 09 45 07.6 +0.2**
IMAR **PcP 09 48 25.4 +1.3**
Q19K Cape Douglas, 27.43 57 P **P 09 45 08.9 +1.2**
Q19K IAmb IAmb 09 45 12.7
comp=Z,58nm,0.9s
Q19K Cape Douglas, 27.43 57 P **P 09 45 07.7 -0.1**
baz=277
M20K Styx River 27.48 50 P **P 09 45 08.9 +0.7**
M20K Styx River 27.48 50 P **P 09 45 08.5 +0.3**
baz=272
SII Sitkinak Islan 27.51 62 P **P 09 45 08.3 -0.2**
baz=281
JNU Nakatsue 27.53 237 P **P 09 45 09.9 +1.0**
JNU IAmb IAmb 09 45 18.4
comp=Z,71nm,0.9s
JNU Nakatsue 27.53 237 P **P 09 45 09.9 +1.0**
comp=Z,21nm,0.8s,baz=64,slow=6.6,SNR=13
JNU LR LR 09 55 57.5
comp=Z,139nm,19.9s,baz=46,slow=36
comp=Z,21nm,0.8s
JNU Nakatsue 27.53 237 P **P 09 45 10.4 +1.5**
P19K Oil Pt 27.57 55 P **P 09 45 08.6 -0.3**
P19K Oil Pt 27.57 55 P **P 09 45 07.9 -1.0**
baz=276
G21K Allakaket 27.57 40 P **P 09 45 08.9 0.0**
G21K Allakaket 27.57 40 P **P 09 45 08.1 -0.8**
baz=262
ILSW Iliamna Southw 27.58 54 P **P 09 45 09.1 0.0**

C21K	Knifeblade Rid	27.61	34	P	P	09 45 08.1	-1.1
	baz=256						
A21K	Barrow	27.66	29	P	P	09 45 08.0	-1.5
	baz=250						
F21K	Alatna River	27.69	39	P	P	09 45 10.6	+0.6
F21K	Alatna River	27.69	39	P	P	09 45 08.7	-1.2
	baz=261						
E21K	Killik River	27.73	36	P	P	09 45 10.8	+0.4
E21K	Killik River	27.73	36	P	P	09 45 09.6	-0.7
	baz=258						
H21K	Melozitna Rive	27.76	42	P	P	09 45 10.6	0.0
H21K	Melozitna Rive	27.76	42	P	P	09 45 09.6	-0.9
	baz=265,SNR=7.0						
B21K	Ikpikpuk River	27.78	33	P	P	09 45 11.7	+1.0
B21K				IAmb	IAmb	09 45 29.1	
	comp=Z,33nm,0.7s						
B21K	Ikpikpuk River	27.78	33	P	P	09 45 09.4	-1.3
	baz=255						
O20K	Slope Mountain	27.83	54	P	P	09 45 10.8	-0.5
	baz=276						
CHUM	Lake Minchumin	27.86	46	P	P	09 45 10.8	-0.6
	baz=269						
OHAK	Old Harbor	27.87	60	P	P	09 45 11.8	+0.1
OHAK				IAmb	IAmb	09 45 12.4	
	comp=Z,47nm,0.9s						
OHAK	Old Harbor	27.87	60	P	P	09 45 11.0	-0.6
	baz=280,SNR=8.0						
OHAK	Old Harbor	27.87	60	P	P	09 45 11.1	-0.5
PPLA	Purkeypile	27.90	48	P	P	09 45 11.5	-0.5
	baz=271						
N20K	Mount Spurr	27.95	52	P	P	09 45 12.4	0.0
	baz=274,SNR=6.9						
SPCR	Spurr Chakacha	27.95	52	P	P	09 45 11.8	-0.6
	baz=274						
CAST	Castle Rocks	27.95	47	P	P	09 45 13.0	+0.7
CAST	Castle Rocks	27.95	47	P	P	09 45 12.0	-0.3
	baz=270,SNR=11						
SPU	Mount Spurr	28.02	52	P	P	09 45 14.7	+1.7
A22K	Sinclair Lake	28.06	30	P	P	09 45 12.0	-1.1
	baz=252						
I21K	Tanana	28.06	43	P	P	09 45 13.4	+0.1
Q20K	Shuyak Island	28.12	57	P	P	09 45 13.9	+0.1
	baz=279						
SYI	Shuyak Island	28.12	57	P	P	09 45 14.0	+0.2
SYI				IAmb	IAmb	09 45 19.5	
	comp=Z,51nm,1.0s						
KDAK	Kodiak Island	28.15	59	P	P	09 45 14.2	+0.1
KDAK				IAmb	IAmb	09 45 14.7	
	comp=Z,41nm,1.1s						
KDAK	Kodiak Island	28.15	59	P	P	09 45 14.4	+0.4
	baz=280						
KDAK	Kodiak Island	28.15	59	*i* P	P	09 45 12.9	-1.2
KDAK				pmax	pmax		
	comp=Z,65nm,1.1s						
SKT	Skwentna	28.23	50	P	P	09 45 15.6	+0.8
SKT	Skwentna	28.23	50	P	P	09 45 15.1	+0.3
	baz=273,SNR=6.3						
F22K	John River	28.23	38	P	P	09 45 14.9	+0.1
	baz=262						
D22K	Ayikyak River	28.28	35	P	P	09 45 15.2	0.0
D22K	Ayikyak River	28.28	35	P	P	09 45 14.1	-1.1
	baz=259						
B22K	Teshekpuk Lake	28.37	32	P	P	09 45 15.5	-0.4
B22K				IAmb	IAmb	09 46 03.3	
	comp=Z,89nm,1.4s						
B22K	Teshekpuk Lake	28.37	32	P	P	09 45 15.4	-0.5
	baz=255						
H22K	Ishtalitna Cre	28.37	42	P	P	09 45 15.9	-0.1
	baz=266						
HOM	Homer	28.37	55	P	P	09 45 15.3	-0.7
	baz=277						
BPAW	Bear Paw Mtn.	28.45	45	P	P	09 45 16.2	-0.6
	baz=269						
E22K	Anaktuvuk Pass	28.46	37	P	P	09 45 17.7	+0.8
E22K	Anaktuvuk Pass	28.46	37	P	P	09 45 15.9	-1.0
	baz=261						
KTH	Kantishna Hill	28.47	46	P	P	09 45 16.7	-0.3
MLY	Manley	28.58	43	P	P	09 45 18.9	+1.0
MLY					PcP	09 48 28.2	+1.2
MLY	Manley	28.58	43	P	P	09 45 17.3	-0.7
	baz=268						
CNPM	China Poot	28.59	55	P	P	09 45 18.6	+0.6
SUA	Susitna One	28.63	51	P	P	09 45 18.7	+0.2
SUA	Susitna One	28.63	51	P	P	09 45 18.1	-0.5
	baz=274,SNR=11						
BRLK	Bradley Lake	28.73	54	P	P	09 45 19.4	+0.1
TRF	Thorofare Moun	28.76	47	P	P	09 45 20.4	+0.8
	baz=271,SNR=44						
CUT	Chulitna	28.80	49	P	P	09 45 20.1	+0.3
CUT	Chulitna	28.80	49	P	P	09 45 19.6	-0.2
	baz=273,SNR=13						
BRSE	Bradley Lake S	28.81	54	P	P	09 45 18.8	-1.2
	baz=278						
M22K	Willow	28.91	50	P	P	09 45 20.9	+0.1
M22K	Willow	28.91	50	P	P	09 45 19.8	-1.0
	baz=274						
COLD	Coldfoot	28.96	39	P	P	09 45 20.5	-0.7
	baz=264						
G23K	Bananza Creek	28.98	40	P	P	09 45 21.8	+0.4
G23K	Bananza Creek	28.98	40	P	P	09 45 21.0	-0.5
	baz=266						
D23K	Nanushuk River	29.01	35	P	P	09 45 20.7	-1.0
	baz=261						
H23K	Yukon River	29.11	42	P	P	09 45 23.8	+1.1
H23K	Yukon River	29.11	42	P	P	09 45 22.1	-0.5
	baz=268						
RC01	Rabbit Creek A	29.15	52	P	P	09 45 23.1	+0.1
	baz=276						
I23K	Minto, Yukon-K	29.17	43	P	P	09 45 24.0	+1.0
I23K	Minto, Yukon-K	29.17	43	P	P	09 45 22.8	-0.2
	baz=269						
C23K	Itkillik River	29.19	33	P	P	09 45 23.1	-0.1
C23K	Itkillik River	29.19	33	P	P	09 45 23.1	-0.1
	baz=259,SNR=6.3						
XLT	XiLinHaoTe	29.20	271	*e*P	P	09 45 22.4	-1.3
XLT				pP	pP	09 45 40.1	-1.3
XLT				SS	SnSn	09 51 40.3	-2.2
XLT				pmax	pmax		
	comp=Z,15nm,0.8s						
XLT				LR	LR		
	comp=Z,41nm,15.9s						
XLT				LR	LR		
	comp=Z,380nm,19.0s						
XLT				LR	LR		
	comp=Z,430nm,22.2s						
O22K	Cooper Landing	29.22	53	IAmb	IAmb	09 46 25.9	
	comp=Z,37nm,0.8s						
O22K	Cooper Landing	29.22	53	P	P	09 45 23.3	-0.3
	baz=277						
E23K	Chandalar	29.27	37	P	P	09 45 25.0	+0.9
E23K					PcP	09 48 30.1	+1.3
E23K	Chandalar	29.27	37	P	P	09 45 23.6	-0.5
	baz=264						
NEA2	Nenana	29.29	44	P	P	09 45 23.8	-0.4
	baz=270,SNR=5.6						
TOLK	Toolik Lake Re	29.36	36	P	P	09 45 25.1	+0.3
TOLK	Toolik Lake Re	29.36	36	P	P	09 45 24.5	-0.3
	baz=263,SNR=6.1						
PMR	Palmer	29.39	50	P	P	09 45 24.9	-0.2
PMR	Palmer	29.39	50	P	P	09 45 25.0	-0.1
	baz=276,SNR=7.0						
PMR	Palmer	29.39	50	P	P	09 45 25.0	-0.1
PMR	Palmer	29.39	50	P	P	09 45 24.9	-0.2
PMR				pmax	pmax		
	comp=Z,21nm,0.7s						
SEW	Seward	29.41	54	P	P	09 45 24.7	-0.5
	baz=278						
GHO	Glory Hole Cre	29.48	50	P	P	09 45 26.2	+0.3
GHO				IAmb	IAmb	09 46 01.1	
	comp=Z,69nm,1.2s						
E24K	Your Creek	29.69	37	P	P	09 45 27.3	-0.5
	baz=265,SNR=9.1						
D24K	Happy Valley	29.70	35	P	P	09 45 27.3	-0.4
	baz=262						
KNK	Knik Glacier	29.73	51	P	P	09 45 28.1	0.0
KNK	Knik Glacier	29.73	51	P	P	09 45 27.8	-0.4
	baz=276,SNR=31						
SML	Sawmill	29.75	50	P	P	09 45 28.6	+0.2
	baz=276,SNR=40						
H24K	Noodor Dome	29.80	42	P	P	09 45 29.2	+0.5
H24K					PcP	09 48 31.7	+1.5
H24K	Noodor Dome	29.80	42	P	P	09 45 28.6	-0.1
	baz=269						
COLA	College	29.81	44	P	P	09 45 29.6	+1.0
COLA	College	29.81	44	P	P	09 45 28.8	+0.1
	baz=271						
COLA	College	29.81	44	P	P	09 45 29.4	+0.7
COLA	College	29.81	44	*i* P	P	09 45 28.5	-0.2
COLA				pmax	pmax		
	comp=Z,26nm,0.8s						
C24K	Franklin Bluff	29.82	34	IAmb	IAmb	09 45 46.5	
	comp=Z,66nm,1.4s						
C24K	Franklin Bluff	29.82	34	P	P	09 45 28.6	-0.2
	baz=262						
CCB	Clear Creek Bu	29.83	44	P	P	09 45 29.6	+0.7
PWL	Port Wells	29.86	52	P	P	09 45 29.7	+0.4
PWL				IAmb	IAmb	09 45 30.1	
	comp=Z,32nm,0.7s						
PWL	Port Wells	29.86	52	P	P	09 45 29.1	-0.1
	baz=278,SNR=13						
F24K	Squaw Lake	29.87	38	P	P	09 45 30.0	+0.7
F24K	Squaw Lake	29.87	38	P	P	09 45 29.0	-0.3
	baz=266,SNR=6.8						
POKR	Poker Plat Res	29.98	43	P	P	09 45 29.2	-1.1
POKR				IAmb	IAmb	09 45 33.1	
	comp=Z,19nm,0.6s						
POKR	Poker Plat Res	29.98	43	P	P	09 45 29.6	-0.6
	baz=271,SNR=6.6						
G24K	Hadweenzic Riv	29.99	40	P	P	09 45 30.3	0.0
	baz=268,SNR=11						
M23K	Glacier View	30.04	50	P	P	09 45 31.0	+0.2
	baz=276,SNR=14						
HDA	Harding Lake	30.21	45	IAmb	IAmb	09 45 34.0	
	comp=Z,33nm,0.5s						
HDA	Harding Lake	30.21	45	P	P	09 45 30.9	-1.4
	baz=272,SNR=30						
IL31		30.22	44	P	P	09 45 32.6	+0.3
ILAR	Eielson Array	30.22	44	P	P	09 45 33.0	+0.6
ILAR	Eielson Array	30.22	44	P	P	09 45 32.6	+0.2
	comp=Z,15nm,0.7s,baz=260,slow=7.8,SNR=138						
ILAR				PcP	PcP	09 48 29.6	-1.6
	comp=Z,2.8nm,0.8s,baz=276,slow=4.2,SNR=4.9						
	comp=Z,15nm,0.7s						
ILAR	Eielson Array	30.22	44	P	P	09 45 33.0	+0.6
SCM	Sheep Creek Mo	30.23	50	P	P	09 45 33.4	+0.9
SCM	Sheep Creek Mo	30.23	50	P	P	09 45 32.0	-0.5
	baz=277,SNR=18						
SCM	Sheep Creek Mo	30.23	50	P	P	09 45 33.4	+0.9
SCM				pmax	pmax		
	comp=Z,83nm,0.9s						
P23K	Montague Islan	30.44	53	P	P	09 45 34.0	-0.3
	baz=280						
GLI	Glacier Island	30.45	52	P	P	09 45 33.7	-0.8
	baz=278						
G25K	Bearman Lake	30.54	40	P	P	09 45 34.8	-0.3
	baz=269						
D25K	Kavik River	30.59	35	IAmb	IAmb	09 45 53.9	
	comp=Z,47nm,0.6s						
D25K	Kavik River	30.59	35	P	P	09 45 34.9	-0.8
	baz=265						
H25L	Birch Creek	30.64	41	P	P	09 45 35.9	-0.2
	baz=270						
M24K	Tolsona, Glenn	30.73	49	P	P	09 45 37.6	+0.6
M24K				IAmb	IAmb	09 46 27.9	
	comp=Z,65nm,0.9s						
M24K	Tolsona, Glenn	30.73	49	P	P	09 45 36.7	-0.3
	baz=277,SNR=11						
F25K	Christian Rive	30.74	38	P	P	09 45 36.6	-0.4
	baz=268						
K24K	Donnelly Dome	30.75	46	P	P	09 45 37.0	-0.1
	baz=274,SNR=13						
PRP	Porcupine Dome	30.78	42	IAmb	IAmb	09 45 39.4	
	comp=Z,30nm,0.7s						
PRP	Porcupine Dome	30.78	42	P	P	09 45 38.1	+0.6
	baz=272,SNR=30						
E25K	Arctic Village	30.79	37	P	P	09 45 37.5	+0.1
	baz=267,SNR=5.8						
HIN	Hinchinbrook I	30.82	53	P	P	09 45 38.0	+0.3
HIN				IAmb	IAmb	09 45 39.1	
	comp=Z,38nm,0.7s						
J25K	Salcha River,	30.88	44	P	P	09 45 37.7	-0.5
J25K	Salcha River,	30.88	44	P	P	09 45 37.8	-0.5
	baz=274,SNR=19						
FYU	Fort Yukon	30.88	40	P	P	09 45 38.9	+0.8
KLU	Klutina	30.93	50	P	P	09 45 38.8	0.0
KLU				IAmb	IAmb	09 46 20.3	
	comp=Z,18nm,0.6s						
KLU	Klutina	30.93	50	P	P	09 45 39.1	+0.3
	baz=278,SNR=10.0						
PAX	Paxson	30.96	47	P	P	09 45 39.2	+0.1
	baz=276,SNR=12						
Q23K	Middleton Isla	31.07	54	P	P	09 45 40.6	+0.8
	baz=281						
BMAR	Burnt Mountain	31.14	39	P	P	09 45 40.2	-0.3
C26K	Camden Bay	31.15	34	P	P	09 45 41.4	+0.9
	baz=265,SNR=14						
EYAK	Cordova Ski Ar	31.16	52	P	P	09 45 41.0	+0.3
	baz=280						
RIDG	Independent Ri	31.17	46	P	P	09 45 40.4	-0.4
RIDG				IAmb	IAmb	09 45 41.5	
	comp=Z,29nm,0.8s						
RIDG	Independent Ri	31.17	46	P	P	09 45 40.8	0.0
	baz=275						
HARP	HAARP	31.17	48	P	P	09 45 41.6	+0.8
	baz=277,SNR=11						
F26K	Sheenjek River	31.31	38	P	P	09 45 42.4	+0.4
F26K	Sheenjek River	31.31	38	P	P	09 45 42.8	+0.8
	baz=270						
G26K	Porcupine Rive	31.45	40	P	P	09 45 43.8	+0.6
	baz=271,SNR=17						
SCRK	Sand Creek	31.53	45	P	P	09 45 43.8	-0.3
SCRK	Sand Creek	31.53	45	P	P	09 45 43.8	-0.3
	baz=276,SNR=11						
N25K	Chitina, Valde	31.54	50	P	P	09 45 44.3	+0.2
N25K				IAmb	IAmb	09 45 46.1	
	comp=Z,24nm,0.7s						
N25K	Chitina, Valde	31.54	50	P	P	09 45 44.5	+0.3
	baz=279,SNR=11						
C27K	Jago River	31.55	34	P	P	09 45 44.7	+0.7
C27K				IAmb	IAmb	09 46 02.7	
	comp=Z,31nm,0.9s						
C27K	Jago River	31.55	34	P	P	09 45 44.4	+0.4
	baz=267						
BMRM	Bremner River	31.64	51	P	P	09 45 45.3	+0.3
	baz=280,SNR=10.0						
J26L	Joseph Creek	31.66	44	P	P	09 45 44.8	-0.4
J26L	Joseph Creek	31.66	44	P	P	09 45 45.3	+0.1
	baz=275						
RAGM	Ragged Mountai	31.71	52	IAmb	IAmb	09 45 49.0	
	comp=Z,34nm,0.9s						
I26K	Coal Creek Min	31.78	43	P	P	09 45 45.8	-0.3
	baz=274						
L26K	Log Cabin Wild	31.92	47	P	P	09 45 47.8	+0.4
L26K	Log Cabin Wild	31.92	47	P	P	09 45 47.6	+0.2
	baz=278,SNR=6.5						
KAIM	Kayak Island	31.93	53	P	P	09 45 48.6	+1.2
KAIM	Kayak Island	31.93	53	P	P	09 45 48.4	+1.0
	baz=282						
GLB	Gilahina Butte	31.94	50	P	P	09 45 47.5	-0.1
GLB				IAmb	IAmb	09 46 40.5	
	comp=Z,28nm,0.7s						
VRDI	Verde Repeater	32.15	50	P	P	09 45 50.6	+1.0
M26K	Nabesna, AK	32.17	48	P	P	09 45 50.4	+0.9
M26K				IAmb	IAmb	09 45 52.8	
	comp=Z,32nm,0.9s						
M26K	Nabesna, AK	32.17	48	P	P	09 45 50.5	+0.9
	baz=279,SNR=21						
BERG	Berg Lake	32.19	52	P	P	09 45 50.4	+0.7
BERG				IAmb	IAmb	09 45 52.7	
	comp=Z,27nm,0.9s						
E27K	Coleen River	32.28	37	P	P	09 45 50.5	0.0
	baz=271						
G27K	Doyon Strip	32.30	40	P	P	09 45 50.5	-0.2
	baz=273						
MCARA	McCarthy VSAT	32.33	50	P	P	09 45 51.7	+0.8
MCARA	McCarthy VSAT	32.33	50	P	P	09 45 51.2	+0.3
	baz=281						
K27K	Chicken	32.36	45	P	P	09 45 51.4	+0.2
K27K				IAmb	IAmb	09 45 53.0	
	comp=Z,28nm,0.8s						
K27K	Chicken	32.36	45	P	P	09 45 51.2	0.0
	baz=277						
H27K	Steamboat Moun	32.38	41	P	P	09 45 52.6	+1.2
	baz=274,SNR=18						
CRQM	Cirque	32.39	51	P	P	09 45 52.1	+0.4
I27K	Kandik River	32.40	42	P	P	09 45 51.8	+0.3
	baz=275						
CRQE	Cirque	32.41	51	P	P	09 45 52.0	+0.2
	baz=282,SNR=12						
D27M	Malcolm River	32.50	35	P	P	09 45 52.7	+0.3
D27M				IAmb	IAmb	09 46 10.6	
	comp=Z,35nm,1.1s						
D27M	Malcolm River	32.50	35	P	P	09 45 53.1	+0.6
	baz=270						
TGL	Tana Glacier	32.54	51	P	P	09 45 52.7	-0.2
TGL				IAmb	IAmb	09 45 55.0	
	comp=Z,28nm,0.8s						
WAX	Waxell Ridge	32.59	52	P	P	09 45 54.1	+0.8
L27K	Beaver Creek,	32.60	47	P	P	09 45 54.3	+1.0
L27K	Beaver Creek,	32.60	47	P	P	09 45 53.9	+0.5
	baz=279,SNR=58						
BCAR	Beaver Creek A	32.62	47	P	P	09 45 54.8	+1.3
EGAK	Eagle	32.67	44	P	P	09 45 54.0	+0.1
EGAK				IAmb	IAmb	09 45 54.8	
	comp=Z,24nm,0.8s						
EGAK	Eagle	32.67	44	P	P	09 45 53.9	+0.1
	baz=277,SNR=15						
M27K	Edge Creek, AK	32.69	48	P	P	09 45 55.7	+1.4
M27K				IAmb	IAmb	09 45 57.5	
	comp=Z,40nm,0.8s						
M27K	Edge Creek, AK	32.69	48	P	P	09 45 55.0	+0.7
	baz=280,SNR=22						
ULN	Ulaanbaatar	32.80	283	*ce*P	P	09 45 55.1	-0.3
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ISLE	Juniper Island	32.80	51	IAmb	IAmb	09 45 57.3	
	comp=Z,32nm,0.8s						
H11N2	WAKE ISLAND Hy	32.93	165	T	T	10 21 01.8	
	baz=351,slow=76,SNR=1558						
H11N3	WAKE ISLAND Hy	32.95	165	T	T	10 21 02.9	
	baz=351,slow=76,SNR=1658						
H11N1	WAKE ISLAND Hy	32.95	165	T	T	10 21 10.9	
	baz=351,slow=76,SNR=2153						
F28M	Old Crow	32.95	38	P	P	09 45 57.0	+0.7
	baz=274,SNR=11						
E28M	Babbage River	33.03	36	P	P	09 45 56.4	-0.6
E28M	Babbage River	33.03	36	P	P	09 45 57.8	+0.8
	baz=272						
GRNC	Granite Creek	33.06	51	P	P	09 45 57.8	+0.2
GRNC				IAmb	IAmb	09 45 59.9	
	comp=Z,36nm,0.8s						
MESA	MESA	33.09	52	P	P	09 45 58.4	+0.6
MESA	MESA	33.09	52	P	P	09 45 58.5	+0.8
	baz=283						
I28M	Miner Creek	33.11	42	P	P	09 45 57.9	+0.1
I28M	Miner Creek	33.11	42	P	P	09 45 58.7	+0.9
	baz=277,SNR=9.1						
YAH	Yahtse	33.14	52	P	P	09 45 59.9	+1.5
BVCY	Beaver Creek	33.15	48	P	P	09 45 59.2	+1.1
	baz=281,SNR=26						
TIA	Tai'an	33.15	258	P	P	09 45 58.6	+0.2
TIA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
TIA				LR	LR		
	comp=Z,180nm,12.2s						
TIA				LR	LR		
	comp=Z,530nm,18.5s						
TIA				LR	LR		
	comp=Z,700nm,22.8s						
CTG	Chitna Glacier	33.21	51	P	P	09 45 59.9	+1.1
	baz=282,SNR=20						
SONM	Songino Array	33.21	284	P	P	09 45 57.3	-1.6
	comp=Z,1.3nm,0.6s,baz=65,slow=8.1,SNR=5.1						
SONM				PcP	PcP	09 48 39.8	0.0
	comp=Z,1.4nm,0.7s,baz=60,slow=1.9,SNR=2.4						
SONM				ScP	ScP	09 52 17.0	-0.1
	comp=Z,8.6nm,0.9s,baz=109,slow=2.3,SNR=17						
SONM				LR	LR	09 59 59.0	
	comp=Z,682nm,22.0s,baz=52,slow=37						
	comp=Z,1.3nm,0.6s						
CTGM	Chitina Glacie	33.21	51	P	P	09 45 59.9	+1.0
CTGM				IAmb	IAmb	09 46 01.6	
	comp=Z,48nm,0.8s						
D28M	Stokes Point	33.30	35	P	P	09 46 00.3	+1.0
	baz=272						
LOGN	Logan Glacier	33.40	51	P	P	09 46 01.5	+1.0
LOGN				IAmb	IAmb	09 46 03.0	
	comp=Z,33nm,0.8s						
TABL	Table Mountain	33.42	51	IAmb	IAmb	09 46 03.2	
	comp=Z,43nm,0.8s						
YUK3	Moose Creek	33.45	49	P	P	09 46 01.8	+0.8
	baz=282,SNR=12						
DAWY	Dawson	33.52	45	P	P	09 46 02.4	+1.0
	baz=279,SNR=7.9						
E29M	Blow River	33.64	37	P	P	09 46 02.0	-0.3
E29M				IAmb	IAmb	09 46 21.6	
	comp=Z,39nm,1.2s						
E29M	Blow River	33.64	37	P	P	09 46 03.8	+1.5
	baz=274						
H29M	Whitestone	33.66	41	P	P	09 46 02.6	+0.1
H29M				IAmb	IAmb	09 46 21.8	
	comp=Z,31nm,1.2s						
H29M	Whitestone	33.66	41	P	P	09 46 03.4	+0.9
	baz=277,SNR=8.9						
HHC	Hu-ho-hao-te	33.67	269	*e*P	P	09 46 03.4	+0.4
HHC				pP	pP	09 46 18.6	-2.4
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,120nm,5.9s						
HHC				LR	LR		
	comp=Z,290nm,15.3s						
HHC				LR	LR		
	comp=Z,220nm,16.0s						
HHC				LR	LR		
	comp=Z,380nm,15.3s						
G29M	Pine Creek	33.72	39	IAmb	IAmb	09 46 22.7	
	comp=Z,46nm,1.0s						
G29M	Pine Creek	33.72	39	P	P	09 46 04.2	+1.1
	baz=276,SNR=7.2						
I29M	Ogilvie Camp,	33.79	42	P	P	09 46 04.6	+0.9
I29M				IAmb	IAmb	09 46 29.8	
	comp=Z,38nm,1.5s						
I29M	Ogilvie Camp,	33.79	42	P	P	09 46 04.3	+0.6
	baz=278,SNR=10						
O28M	Mount Upton	33.80	51	P	P	09 46 05.1	+1.0
	baz=284,SNR=16						
HNS	HongShan	33.84	262	⇓P	P	09 46 05.4	+1.0
HNS				pmax	pmax		
	comp=Z,24nm,1.2s						
HNS				LR	LR		
	comp=Z,240nm,16.2s						
HNS				LR	LR		
	comp=Z,340nm,11.3s						
HNS				LR	LR		
	comp=Z,330nm,14.3s						
YUK8	Steele Glacier	33.88	50	P	P	09 46 05.9	+1.1
	baz=283,SNR=8.1						
JOW	Kunigami	33.93	234	P	P	09 46 04.9	-0.3
	comp=Z,57nm,1.0s,baz=9.6,slow=7.8,SNR=4.0						
JOW				LR	LR	10 02 00.0	
	comp=Z,135nm,18.0s,baz=128,slow=40						
	comp=Z,57nm,1.0s						
PINM	Pinnacle	33.93	52	P	P	09 46 05.9	+1.0
	baz=284,SNR=7.5						
ZAK	Zakamensk	33.93	290	*e*P	P	09 46 03.6	-1.6
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
J29N	Klondike Camp	33.97	44	P	P	09 46 05.6	+0.3
	baz=280						
H11S1	WAKE ISLAND Hy	34.10	166	T	T	10 22 32.0	
	baz=351,slow=76,SNR=1746						
H11S3	WAKE ISLAND Hy	34.11	166	T	T	10 22 38.8	
	baz=351,slow=76,SNR=8183						
H11S2	WAKE ISLAND Hy	34.12	166	T	T	10 22 33.1	
	baz=351,slow=76,SNR=2602						
M29M	Somme Creek	34.24	47	P	P	09 46 09.1	+1.4
M29M				IAmb	IAmb	09 46 10.3	
	comp=Z,21nm,0.8s						
M29M	Somme Creek	34.24	47	P	P	09 46 09.3	+1.7
	baz=282,SNR=14						
L29M	L29M	34.25	46	P	P	09 46 09.2	+1.5
L29M	L29M	34.25	46	P	P	09 46 09.6	+1.9
	baz=282,SNR=29						
BCPM	Bancas Point	34.27	52	P	P	09 46 09.1	+1.3
EPYK	Eagle Plains	34.30	40	P	P	09 46 09.0	+0.9
EPYK				IAmb	IAmb	09 46 13.1	
	comp=Z,76nm,1.8s						
EPYK	Eagle Plains	34.30	40	P	P	09

baz=277,SNR=14
I30M Mount Dempster 34.62 42 P **P 09 46 11.8 +0.9**
baz=280,SNR=13
YUK6 Outpost Mounta 34.63 50 P **P 09 46 12.8 +1.6**
baz=285
O29M Mount Kennedy 34.69 51 P **P 09 46 12.9 +1.3**
baz=285
J30M Hart River 34.75 43 P **P 09 46 13.6 +1.5**
baz=281
BTO Baotou 34.77 270 *e*P **P 09 46 13.7 +1.2**
BTO pP **pP 09 46 31.9 +1.4**
BTO sP **sP 09 46 41.0 +1.8**
BTO PP **PP 09 47 32.4 0.0**
BTO S **S 09 51 38.1 +0.8**
BTO sS **sS 09 52 08.1 +0.3**
BTO SS **SnSn 09 53 52.7 -4.8**
BTO pmax pmax
comp=Z,21nm,1.3s
BTO pmax pmax
comp=Z,200nm,8.1s
BTO LR LR
comp=Z,700nm,19.2s
BTO LR LR
comp=Z,840nm,15.1s
BTO LR LR
comp=Z,1μm,14.9s
M30M Minto, Yukon 34.96 47 P **P 09 46 14.6 +0.7**
baz=283
NJ2 Nanjing 35.02 251 *e*P **P 09 46 15.1 +0.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
TIY Taiyuan 35.04 264 P **P 09 46 17.6 +2.8**
HYT Haines Junctio 35.06 50 IAmb IAmb 09 46 17.5
comp=Z,26nm,0.9s
HYT Haines Junctio 35.06 50 P **P 09 46 16.9 +2.1**
baz=285,SNR=9.2
N30M Aishikik Lake 35.09 49 P **P 09 46 16.3 +1.3**
baz=285
G31M Satah River 35.19 39 P **P 09 46 16.6 +1.0**
G31M Satah River 35.19 39 P **P 09 46 17.0 +1.4**
baz=279
INK Inuvik 35.27 37 P **P 09 46 17.3 +1.0**
INK IAmb IAmb 09 46 35.4
comp=Z,34nm,1.1s
INK Inuvik 35.27 37 P **P 09 46 17.5 +1.2**
baz=278,SNR=10
INK Inuvik 35.27 37 P **P 09 46 17.3 +1.0**
INK pmax pmax
comp=Z,34nm,1.1s
P29M Windy Craggy 35.28 52 P **P 09 46 17.8 +1.3**
baz=287
F31M Tsiigehtchic 35.31 38 P **P 09 46 17.7 +1.1**
F31M IAmb IAmb 09 46 35.0
comp=Z,37nm,1.2s
F31M Tsiigehtchic 35.31 38 P **P 09 46 17.8 +1.1**
baz=279,SNR=9.2
H31M Peel River 35.35 41 P **P 09 46 18.2 +1.1**
H31M Peel River 35.35 41 P **P 09 46 18.8 +1.8**
baz=281
P30M Million Dollar 35.51 51 P **P 09 46 20.2 +1.6**
baz=287
N31M Braeburn, Yuko 35.70 49 IAmb IAmb 09 46 23.4
comp=Z,18nm,0.8s
N31M Braeburn, Yuko 35.70 49 P **P 09 46 22.0 +1.9**
baz=286
O30N Mendenhall 35.74 50 IAmb IAmb 09 46 23.3
comp=Z,28nm,0.8s
O30N Mendenhall 35.74 50 P **P 09 46 22.1 +1.5**
baz=286,SNR=8.3
PLBC Pleasant Camp 36.00 52 P **P 09 46 24.2 +1.5**
baz=288
M31M Drury Creek, Y 36.14 47 P **P 09 46 25.5 +1.6**
M31M IAmb IAmb 09 46 26.9
comp=Z,18nm,0.8s
M31M Drury Creek, Y 36.14 47 P **P 09 46 25.3 +1.4**
baz=286,SNR=9.4
NRIK Noril'sk 36.20 325 P **P 09 46 22.0 -2.3**
comp=Z,2.9nm,0.8s,baz=84,slow=10,SNR=2.4
NRIK ScP **ScP 09 52 27.4 0.0**
comp=Z,3.2nm,0.7s,baz=70,slow=5.1,SNR=4.0
NRIK LR LR 10 01 56.4
comp=Z,754nm,21.9s,baz=128,slow=38
comp=Z,2.9nm,0.8s
NRIK Noril'sk 36.20 325 *i* P P 09 46 18.8 -5.5
NRIK pmax pmax
comp=Z,6.0nm,1.0s
WHY Whitehorse 36.35 50 P **P 09 46 27.3 +1.5**
WHY IAmb IAmb 09 46 28.9
comp=Z,22nm,0.8s
WHY Whitehorse 36.35 50 P **P 09 46 27.2 +1.5**
baz=287,SNR=5.7
SKAG Skagway 36.50 52 P **P 09 46 29.4 +2.5**
SKAG Skagway 36.50 52 P **P 09 46 28.7 +1.8**
baz=289
SKAG Skagway 36.50 52 P **P 09 46 29.3 +2.4**
S31K Pelican 36.54 54 P **P 09 46 28.6 +1.3**
baz=290
FARO Faro, Yukon 36.60 47 P **P 09 46 29.3 +1.4**
FARO IAmb IAmb 09 46 49.3
comp=Z,30nm,1.4s
FARO Faro, Yukon 36.60 47 P **P 09 46 29.4 +1.6**
baz=286
R31K City Hall, Gus 36.64 54 P **P 09 46 29.2 +1.1**
baz=290
N32M Quiet Lake 37.04 48 P **P 09 46 32.6 +1.0**
baz=288
P32M Atlin 37.24 51 P **P 09 46 33.5 +0.3**
baz=290
R32K Eaglecrest 37.29 53 IAmb IAmb 09 46 36.4
comp=Z,41nm,1.1s
R32K Eaglecrest 37.29 53 P **P 09 46 34.5 +0.8**
baz=291
SIT Sitka 37.32 56 P **P 09 46 34.7 +0.8**
baz=292
JIS Juneau Island 37.36 53 P **P 09 46 35.8 +1.6**
P33M Teslin, Yukon 37.46 50 P **P 09 46 37.4 +2.2**
P33M IAmb IAmb 09 46 38.6
comp=Z,28nm,1.1s
P33M Teslin, Yukon 37.46 50 P **P 09 46 36.2 +1.0**
baz=289,SNR=8.2
A36M Sachs Harbour 37.50 30 P **P 09 46 36.0 +0.8**
A36M Sachs Harbour 37.50 30 P **P 09 46 35.8 +0.6**
baz=280,SNR=26
S32K Killisnoo 37.55 55 P **P 09 46 37.5 +1.7**
baz=292
Q32M Nakina River 38.15 52 P **P 09 46 41.9 +0.7**
baz=291
C36M Paulatuk 38.44 34 P **P 09 46 43.8 +0.7**
C36M Paulatuk 38.44 34 P **P 09 46 44.0 +0.9**
baz=284,SNR=14
R33M Jennings River 38.62 51 IAmb IAmb 09 46 48.5
comp=Z,38nm,0.9s
R33M Jennings River 38.62 51 P **P 09 46 46.3 +1.4**
baz=292,SNR=17
U33K Whale Pass 38.81 56 P **P 09 46 47.7 +1.4**
baz=294
CRAG Craig 39.07 57 P **P 09 46 49.1 +0.5**
baz=295
WRAK Wrangell Islan 39.08 55 P **P 09 46 49.7 +1.0**
baz=294
S34M Telegraph Cree 39.10 53 P **P 09 46 49.4 +0.5**
baz=293
WTLY Watson Lake, Y 39.38 49 IAmb IAmb 09 46 54.0
comp=Z,21nm,0.7s
WTLY Watson Lake, Y 39.38 49 P **P 09 46 53.5 +2.3**
baz=292,SNR=7.0
DLBC Dease Lake 39.43 52 P **P 09 46 54.2 +2.5**
DLBC IAmb IAmb 09 46 55.4
comp=Z,24nm,0.8s
DLBC Dease Lake 39.43 52 LR LR 10 04 04.9
comp=Z,163nm,20.1s,baz=296,slow=37
DLBC Dease Lake 39.43 52 P **P 09 46 53.6 +1.9**
baz=293,SNR=7.7
XAN Xi'an 39.59 263 ⇑P **P 09 46 55.0 +1.7**
XAN sP sP 09 47 20.0 -0.3
XAN ScP **ScP 09 52 42.7 +1.8**
XAN pmax pmax
comp=Z,12nm,1.1s
XAN LR LR
comp=Z,470nm,11.0s
XAN LR LR
comp=Z,680nm,15.8s
XAN LR LR
comp=Z,420nm,12.4s
T35M Bob Quinn 39.91 54 P **P 09 46 57.6 +2.0**
baz=295,SNR=8.9
V35K Ketchikan 39.91 57 P **P 09 46 56.7 +1.1**
baz=296
GUMO Guam 39.92 201 LR LR 10 07 04.2
comp=Z,41nm,18.0s,baz=36,slow=41
U35K Hyder 40.47 55 P **P 09 47 02.2 +2.0**
baz=296
WRGLY Wrigley 40.58 43 P **P 09 47 03.3 +2.3**
WRGLY Wrigley 40.58 43 P **P 09 47 02.0 +1.0**
baz=292
LIRD Liard River Hi 40.91 49 P **P 09 47 05.0 +1.2**
baz=294
LZH Lanzhou 41.37 269 ⇓P **P 09 47 09.8 +1.7**
LZH pP pP 09 47 26.7 +0.2
LZH sP sP 09 47 33.1 -2.0
LZH pmax pmax
comp=Z,22nm,1.5s
LZH LR LR
comp=Z,550nm,14.4s
LZH LR LR
comp=Z,330nm,13.4s
LZH LR LR
comp=Z,520nm,16.5s
GRNB Grenville Isla 41.44 58 P **P 09 47 11.1 +2.8**
GRNB IAmb IAmb 09 47 11.8
comp=Z,44nm,0.8s
TOAD Toad River Com 41.55 50 P **P 09 47 10.6 +1.5**
baz=296,SNR=17
KOTAN Kotaneelee Air 41.55 47 P **P 09 47 10.1 +1.0**
baz=295
GTA Gaotai 41.77 276 *e*P **P 09 47 11.2 0.0**
GTA pP pP 09 47 28.4 -1.2
GTA ScP **ScP 09 52 50.2 +0.7**
GTA ScS **ScS 09 57 04.9 -1.7**
GTA pmax pmax
comp=Z,8.0nm,0.8s
GTA LR LR
comp=Z,190nm,16.7s
GTA LR LR
comp=Z,300nm,17.1s
GTA LR LR
comp=Z,330nm,18.2s
ENH Enshi 41.86 258 P **P 09 47 12.8 +0.8**
ZALV Zalesovo Beam 42.53 303 P **P 09 47 15.1 -1.9**
ZALV Zalesovo Beam 42.53 303 P **P 09 47 14.5 -2.5**
comp=Z,1.6nm,0.6s,baz=58,slow=5.6,SNR=6.1
ZALV PcP **PcP 09 49 08.1 -0.2**
comp=Z,3.4nm,0.5s,baz=100,slow=3.5,SNR=6.7
ZALV LR LR 10 06 07.6
comp=Z,533nm,19.9s,baz=63,slow=38
comp=Z,1.6nm,0.6s
ZALV Zalesovo Beam 42.53 303 *i* P **P 09 47 16.6 -0.4**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
EUNU Eureka 43.17 13 P **P 09 47 23.1 +1.1**
ALE Alert 44.06 7 P **P 09 47 29.4 +0.3**
YKA Yellowknife Ar 44.57 41 P **P 09 47 34.2 +0.9**
comp=Z,3.7nm,0.7s,baz=302,slow=7.4,SNR=7.5
YKA LR LR 10 07 41.4
comp=Z,85nm,18.0s,baz=267,slow=38
comp=Z,3.7nm,0.7s
RES Resolute Bay 44.63 21 P **P 09 47 35.0 +1.3**
RES Resolute Bay 44.63 21 LR LR 10 07 49.4
comp=Z,127nm,20.7s,baz=1.5,slow=38
RES Resolute Bay 44.63 21 P **P 09 47 35.0 +1.3**
RES pmax pmax
comp=Z,22nm,1.0s
KIP Kipapa 45.32 116 *ce*P **P 09 47 42.6 +2.8**
KIP pmax pmax
comp=Z,82nm,2.5s
KIP Kipapa 45.32 116 P **P 09 47 40.2 +0.4**
ZSN Zaisan 45.92 295 *e*P **P 09 47 42.0 -2.3**
ZSN Zaisan 45.92 295 *e*P **P 09 47 41.9 -2.3**
WMQ Urumqi 46.40 289 *e*P **P 09 47 48.0 -0.2**
WMQ pP pP 09 48 06.1 -0.7
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ LR LR
comp=Z,270nm,23.9s
NOR Nord 46.55 359 *i* P **P 09 47 47.8 -0.9**
NOR IAmb IAmb 09 47 50.7
comp=Z,12nm,0.6s
CLRS Cowichan Lake 47.18 62 P **P 09 47 56.1 +2.1**
CLRS IAmb IAmb 09 49 32.8
comp=Z,63nm,1.4s
LLLB Lillooet 47.36 58 P **P 09 47 57.3 +1.8**
LLLB IAmb IAmb 09 47 58.3
comp=Z,23nm,1.0s
KURK Kurchatov 47.46 302 P **P 09 47 54.7 -1.5**
KURK IAmb IAmb 09 47 56.7
comp=Z,25nm,1.0s
KURK Kurchatov 47.46 302 *ce*P **P 09 47 54.1 -2.1**
KURK pmax pmax
comp=Z,26nm,1.0s
KURK Kurchatov 47.46 302 P **P 09 47 54.1 -2.1**
KURK pP **pP 09 48 11.8 -3.1**
KURBB Kurchatov Arra 47.56 302 P **P 09 47 54.8 -2.2**
comp=Z,8.8nm,0.7s,baz=61,slow=7.7,SNR=33
KURBB PcP **PcP 09 49 25.0 -0.7**
comp=Z,7.3nm,0.8s,baz=58,slow=3.9,SNR=9.6
KURBB ScP **ScP 09 53 11.6 -1.3**
comp=Z,3.3nm,0.9s,baz=57,slow=3.4,SNR=5.9
KURBB LR LR 10 09 18.3
comp=Z,378nm,20.2s,baz=113,slow=38
comp=Z,8.8nm,0.7s
MK31 Makanchi Array 47.73 296 P **P 09 47 56.8 -1.7**
MK31 pP **pP 09 48 16.4 -0.8**
MK31 sP **sP 09 48 26.2 +0.5**
MK31 Makanchi Array 47.73 296 *i* P **P 09 47 56.2 -2.2**
MK31 *i* *PP **pP 09 48 16.3 -0.8**
MKAR Makanchi Array 47.73 296 P **P 09 47 56.7 -1.7**
MKAR pP **pP 09 48 17.1 -0.1**
MKAR sP **sP 09 48 26.4 +0.7**
MKAR Makanchi Array 47.73 296 P **P 09 47 56.4 -2.0**
comp=Z,1.6nm,0.5s,baz=60,slow=6.9,SNR=18
MKAR PcP **PcP 09 49 25.9 -0.5**
comp=Z,1.6nm,0.6s,baz=49,slow=7.6,SNR=2.1
MKAR ScP **ScP 09 53 12.5 -1.3**
comp=Z,0.7nm,0.8s,baz=83,slow=4.5,SNR=3.0
MKAR LR LR 10 09 06.1
comp=Z,288nm,21.4s,baz=35,slow=37
comp=Z,1.6nm,0.5s
MKAR Makanchi Array 47.73 296 P **P 09 47 56.7 -1.7**
MKAR *PP **pP 09 48 17.1 -0.1**
MKAR *SP **sP 09 48 26.4 +0.7**
KBS Kingsbay 47.76 352 P **P 09 47 58.3 +0.2**
KBS IAmb IAmb 09 49 40.1
comp=Z,44nm,0.9s
KBS Kingsbay 47.76 352 *i* P **P 09 47 58.1 0.0**
KBS pmax pmax
comp=Z,64nm,1.6s
KBS Kingsbay 47.76 352 P **P 09 47 57.9 -0.2**
KBS pP **pP 09 48 15.5 -1.3**
MAKZ Makanchi 47.90 296 P **P 09 47 57.7 -2.0**
MAKZ pP **pP 09 48 17.8 -0.6**
MAKZ Makanchi 47.90 296 P **P 09 47 57.4 -2.3**
MAKZ pP **pP 09 48 15.8 -2.6**
SPITS Spitsbergen Ar 47.99 350 P **P 09 47 59.4 -0.6**
comp=Z,16nm,0.4s,baz=54,slow=8.4,SNR=104
SPITS LR LR 10 08 22.4
comp=Z,97nm,20.2s,baz=2.5,slow=36
comp=Z,16nm,0.4s
SPITS Spitsbergen Ar 47.99 350 P **P 09 47 59.6 -0.4**
SPITS pmax pmax
comp=Z,68nm,1.3s
SPB2 Spitsbergen Ar 47.99 350 P **P 09 47 58.9 -1.0**
SPB2 pP **pP 09 48 16.9 -1.8**
POHA Pohakuloa 48.04 114 P **P 09 48 02.7 +1.4**
POHA PcP **PcP 09 49 26.5 -1.6**
TULEG Thule 48.18 13 P **P 09 48 01.1 -0.3**
TULEG IAmb IAmb 09 48 04.0
comp=Z,52nm,1.1s
TULEG Thule 48.18 13 *i* P **P 09 48 02.5 +1.1**
TULEG IAmb IAmb 09 48 03.2
comp=Z,18nm,0.5s
PZH PanZhiHua 49.29 261 P **P 09 48 12.4 +1.7**
PZH pmax pmax
comp=Z,20nm,0.8s
PZH pmax pmax
comp=Z,160nm,6.0s
NEEM North Greenlan 49.44 8 *i* P **P 09 48 10.3 -1.1**
NEEM IAmb IAmb 09 48 13.3
comp=Z,83nm,1.0s
LON Longmire 49.66 63 P **P 09 48 13.8 +0.6**
LON IAmb IAmb 09 48 15.8
comp=Z,34nm,1.4s
LON Longmire 49.66 63 P **P 09 48 13.8 +0.6**
LON pmax pmax
comp=Z,34nm,1.4s
F04A Amboy 49.82 64 P **P 09 48 15.1 +0.8**
LTY Liberty 49.97 61 P **P 09 48 16.3 +0.7**
B08A Colville Reser 50.03 60 IAmb IAmb 09 48 18.1
comp=Z,28nm,0.9s
COR Corvallis 50.15 66 P **P 09 48 18.9 +2.0**
BVAR Borovoye Array 50.27 308 P **P 09 48 15.3 -2.4**
comp=Z,7.9nm,0.5s,baz=54,slow=7.5,SNR=29
BVAR PcP **PcP 09 49 35.2 -0.3**
comp=Z,4.0nm,0.3s,baz=70,slow=4.2,SNR=12
BVAR ScP **ScP 09 53 21.5 -3.0**
comp=Z,1.8nm,0.7s,baz=69,slow=4.8,SNR=1.4
BVAR LR LR 10 11 33.4
comp=Z,621nm,19.6s,baz=54,slow=38
comp=Z,7.9nm,0.5s
BRVK Borovoye 50.30 308 P **P 09 48 15.9 -2.0**
BRVK PcP **PcP 09 49 35.7 +0.1**
BRVK Borovoye 50.30 308 *ce*P **P 09 48 14.0 -3.9**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 50.30 308 P **P 09 48 17.2 -0.8**
BRVK PcP **PcP 09 49 35.8 +0.2**
E07A Sunnyside 50.84 62 P **P 09 48 23.2 +1.1**
E07A IAmb IAmb 09 48 24.0
comp=Z,24nm,1.1s
E07A PcP **PcP 09 49 38.8 +1.1**
G05A Wamic 50.85 64 P **P 09 48 24.2 +2.0**
G05A PcP **PcP 09 49 38.1 +0.2**
BRZS Berezniki 50.97 304 *e*P **P 09 48 20.5 -2.5**
BRZS Berezniki 50.97 304 *e*P **P 09 48 20.5 -2.5**
TDK Taldyqorghan 50.98 296 *e*P **P 09 48 20.9 -2.2**
comp=Z,12nm,1.1s
TDK Taldyqorghan 50.98 296 *e*P **P 09 48 20.9 -2.2**
TDK pmax pmax
comp=Z,12nm,1.1s
D08A Wollman Farm, 51.04 61 P **P 09 48 24.1 +0.5**
DBO Dodson Butte 51.10 67 P **P 09 48 26.6 +2.5**
DBO IAmb IAmb 09 48 27.6
comp=Z,38nm,1.1s
HAWA Hanford 51.12 62 P **P 09 48 25.5 +1.3**
HAWA IAmb IAmb 09 48 51.7
comp=Z,22nm,1.2s
NEW Newport 51.25 58 P **P 09 48 26.1 +0.9**
NEW pmax pmax
comp=Z,16nm,1.1s
E08A Dider Farm, El 51.32 61 P **P 09 48 26.4 +0.8**
E08A **pP 09 48 44.5 +0.9**
KULLO Kullorsuaq 51.39 12 *i* P **P 09 48 25.2 -0.6**
KULLO IAmb IAmb 09 48 27.8
comp=Z,41nm,0.8s
I05D Terrebonne, OR 51.41 65 P **P 09 48 27.8 +1.4**
DAG Danmarks Havn 51.42 359 P **P 09 48 25.8 -0.2**
DAG pmax pmax
comp=Z,136nm,0.9s
DAG Danmarks Havn 51.42 359 *i* P **P 09 48 24.8 -1.2**
DAG IAmb IAmb 09 48 27.1
comp=Z,101nm,0.9s
SHLS Shalkode 51.54 293 *e*P **P 09 48 23.4 -4.1**
SHLS Shalkode 51.54 293 *e*P **P 09 48 23.4 -4.1**
KSXB Camp Six Broad 51.55 69 P **P 09 48 29.6 +2.0**
KSXB IAmb IAmb 09 48 31.1
comp=Z,36nm,1.0s
HUMO Hull Mountain 51.59 67 P **P 09 48 29.7 +2.0**
HUMO IAmb IAmb 09 48 31.1
comp=Z,36nm,1.1s
KPKS Kokpek 51.79 294 *e*P **P 09 48 27.4 -1.9**
KPKS Kokpek 51.79 294 *e*P **P 09 48 27.4 -1.9**
UZB Uzynbulak 51.80 294 *e*P **P 09 48 27.2 -2.2**
UZB Uzynbulak 51.80 294 *e*P **P 09 48 27.2 -2.2**
SLVN Son La 51.84 255 P **P 09 48 28.2 -1.7**
SLVN **pP 09 48 47.2 -1.6**
SLVN Son La 51.84 255 P **P 09 48 31.8 +1.9**
KRPM Rodgers 51.90 69 P **P 09 48 30.6 +0.5**
PINE Pine Mountain 51.97 65 P **P 09 48 31.3 +0.5**
PINE **pP 09 48 49.5 +0.7**
PINE PcP **PcP 09 49 43.0 +0.7**
G08A Pilot Rock 52.12 62 P **P 09 48 32.1 +0.3**
G08A IAmb IAmb 09 48 34.1
comp=Z,52nm,2.0s
SATY Saty 52.20 294 *e*P **P 09 48 30.4 -2.1**
SATY Saty 52.20 294 *e*P **P 09 48 30.3 -2.1**
YBH Yreka Blue Hor 52.29 68 P **P 09 48 35.2 +2.2**
YBH Yreka Blue Hor 52.29 68 P **P 09 48 35.2 +2.2**
YBH pmax pmax
comp=Z,52nm,1.1s
F10A Beach Ranch, E 52.63 61 IAmb IAmb 09 48 55.1
comp=Z,57nm,1.9s
MDOK Medeo 52.90 295 *e*P **P 09 48 35.6 -2.1**
MDOK Medeo 52.90 295 *e*P **P 09 48 35.5 -2.1**
TNSS Tian-Shan 53.04 295 *e*P **P 09 48 36.3 -2.6**
TNSS Tian-Shan 53.04 295 *e*P **P 09 48 36.3 -2.6**
UPNV Upernavik 53.14 12 *i* P **P 09 48 37.9 -0.8**
UPNV IAmb IAmb 09 48 39.3
comp=Z,25nm,0.9s
BTLS Baital 53.35 298 *e*P **P 09 48 38.4 -2.3**
BTLS Baital 53.35 298 *e*P **P 09 48 38.3 -2.3**
HATC Hat Creek Radi 53.60 68 P **P 09 48 44.2 +1.6**
ARTI Arti 53.60 317 P **P 09 48 40.1 -2.3**
ARTI Arti 53.60 317 LR LR 10 13 51.4
comp=Z,256nm,20.4s,baz=39,slow=39
ARTI Arti 53.60 317 *d i*P **P 09 48 39.8 -2.5**
ARTI *PP **pP 09 48 57.5 -4.0**
ARTI 09 49 45.8
ARTI S **S 09 56 05.4 -4.3**
ARTI SS **SKiKP 09 59 49.0 -0.2**
ARTI pmax pmax
comp=Z,16nm,1.3s
ARTI Arti 53.60 317 P **P 09 48 40.0 -2.3**
ARTI PcP **PcP 09 49 47.6 -0.3**
J08A Circle Bar Ran 53.63 64 P **P 09 48 44.0 +1.2**
J08A PcP **PcP 09 49 49.0 +0.6**
APA Apatity 53.83 337 ⇓*i*P **P 09 48 41.5 -2.3**
APA pmax pmax
comp=Z,4.0nm,1.0s
MSO Missoula 53.83 58 P **P 09 48 44.8 +0.4**
MSO IAmb IAmb 09 48 46.6
comp=Z,43nm,1.3s
MSO pP **pP 09 49 03.5 +1.1**
PLID Pearl Lake 53.86 61 P **P 09 48 46.5 +1.8**
PLID IAmb IAmb 09 48 47.0
comp=Z,19nm,0.7s
HOPS Hopland Field 53.87 71 P **P 09 48 45.7 +1.2**
DBG Daneborg 53.91 360 *i* P **P 09 48 43.6 -0.7**
DBG IAmb IAmb 09 48 45.2
comp=Z,48nm,0.9s
ARCES ARCESS Array B 53.96 341 P **P 09 48 44.0 -0.8**
comp=Z,6.5nm,0.9s,baz=42,slow=7.8,SNR=18
ARCES PcP **PcP 09 49 49.1 0.0**
comp=Z,1.5nm,0.6s,baz=42,slow=3.8,SNR=3.9
ARCES LR LR 10 17 51.9
comp=Z,165nm,19.7s,baz=31,slow=43
comp=Z,6.5nm,0.9s
SGDS Sogindy 54.06 297 *e*P **P 09 48 43.9 -2.1**
SGDS Sogindy 54.06 297 *e*P **P 09 48 43.8 -2.1**
WVOR Wild Horse Val 54.14 65 P **P 09 48 48.4 +1.8**
WVOR Wild Horse Val 54.14 65 P **P 09 48 48.4 +1.8**
WVOR pmax pmax
comp=Z,52nm,1.2s
OVMT Ovando 54.17 57 P **P 09 48 48.1 +1.3**
OVMT PcP **PcP 09 49 51.2 +0.7**
ORV Oroville 54.41 69 P **P 09 48 49.7 +1.2**
ORV Oroville 54.41 69 P **P 09 48 49.7 +1.2**
ORV pmax pmax
comp=Z,42nm,0.9s
FFC Flin Flon 54.43 45 P **P 09 48 49.6 +1.2**
FFC Flin Flon 54.43 45 P **P 09 48 49.6 +1.2**
FFC pmax pmax
comp=Z,13nm,0.9s
FFC Flin Flon 54.43 45 P **P 09 48 49.6 +1.2**
FFC pP **pwP 09 49 08.2 -1.4**
FFC PcP **PcP 09 49 52.1 +1.0**
AAK Ala-Archa 54.66 296 P **P 09 48 49.4 -1.1**
AAK Ala-Archa 54.66 296 LR LR 10 13 25.8
comp=Z,218nm,20.1s,baz=48,slow=37
AAK Ala-Archa 54.66 296 *ce*P **P 09 48 46.6 -3.9**
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 54.66 296 P **P 09 48 49.6 -0.9**
AAK PcP **PcP 09 49 52.3 -0.1**
NONG Nongkai 54.82 253 P **P 09 48 53.8 +2.1**
MFID Camas Ranch 55.05 62 P **P 09 48 54.6 +1.4**
MFID IAmb IAmb 09 48 56.0

comp=Z,46nm,1.6s
SUMG Summit 55.09 6 P **P 09 48 54.0 +0.6**
SUMG Summit 55.09 6 P **P 09 48 54.0 +0.6**
SUMG pmax pmax
comp=Z,81nm,1.0s
SUMG Summit 55.09 6 *i* P **P 09 48 52.8 -0.6**
SUMG IAmb IAmb 09 48 55.9
comp=Z,63nm,0.9s
AFDM Forest Hills D 55.12 70 P **P 09 48 55.1 +1.5**
AFDM IAmb IAmb 09 48 56.4
comp=Z,34nm,1.1s
EGMT Eagleton 55.21 55 P **P 09 48 55.5 +1.2**
EGMT IAmb IAmb 09 48 56.2
comp=Z,28nm,1.1s
MPK Martis Peak 55.43 69 P **P 09 48 58.1 +1.9**
DLMT Dillon 55.50 59 P **P 09 48 58.2 +1.7**
EMB Emerald Bay 55.60 69 IAmb IAmb 09 49 00.4
comp=Z,40nm,1.1s
KIRV Kirov 55.64 323 LR LR 10 15 27.6
comp=Z,557nm,21.3s,baz=33,slow=39
KIRV Kirov 55.64 323 *e*P **P 09 48 55.2 -1.8**
BOZ Bozeman (W) 55.85 58 P **P 09 48 59.7 +0.7**
BOZ IAmb IAmb 09 49 01.5
comp=Z,22nm,0.8s
BOZ Bozeman (W) 55.85 58 P **P 09 48 59.7 +0.7**
BOZ pmax pmax
comp=Z,22nm,0.8s
CMB Columbia Colle 56.07 70 IAmb IAmb 09 49 03.5
comp=Z,47nm,1.2s
DZA Taraz 56.24 298 *e*P **P 09 48 59.6 -2.1**
DZA Taraz 56.24 298 *e*P **P 09 48 59.5 -2.1**
BMN Battle Mountai 56.26 66 P **P 09 49 03.6 +1.6**
BMN Battle Mountai 56.26 66 P **P 09 49 03.6 +1.6**
BMN pmax pmax
comp=Z,125nm,1.8s
WAKR Walker 56.30 69 P **P 09 49 04.7 +2.3**
SAO San Andreas Ge 56.31 72 IAmb IAmb 09 49 20.2
comp=Z,15nm,0.9s
KKAR Karatay Array 56.54 299 P **P 09 49 01.6 -2.1**
KKAR PcP **PcP 09 49 58.9 -0.6**
KKAR Karatay Array 56.54 299 P **P 09 49 01.6 -2.1**
KKAR 09 49 58.9
YHL Hebgen Lake 56.59 58 IAmb IAmb 09 49 07.2
comp=Z,16nm,0.8s
YHB Horse Butte 56.65 59 IAmb IAmb 09 49 07.5
comp=Z,25nm,0.8s
KVN Kaiserville 56.70 68 P **P 09 49 06.5 +1.3**
KVN Kaiserville 56.70 68 P **P 09 49 06.5 +1.3**
KVN pmax pmax
comp=Z,86nm,1.4s
CHTO Chiang Mai 56.75 258 P **P 09 49 05.3 -0.2**
CHTO IAmb IAmb 09 49 26.1
comp=Z,19nm,1.2s
CHTO Chiang Mai 56.75 258 P **P 09 49 05.3 -0.2**
CHTO pmax pmax
comp=Z,19nm,1.2s
YMR Madison River 56.82 58 IAmb IAmb 09 49 08.9
comp=Z,26nm,0.9s
YNM Yellowstone No 56.92 58 P **P 09 49 07.5 +0.7**
YNM IAmb IAmb 09 49 10.0
comp=Z,20nm,0.9s
YNR Norris Junctio 56.94 58 P **P 09 49 07.7 +0.8**
YNR IAmb IAmb 09 49 10.3
comp=Z,21nm,1.0s
YNR **pP 09 49 25.0 0.0**
BRLS Borolday 56.95 299 *e*P **P 09 49 06.3 -0.5**
BRLS Borolday 56.95 299 *e*P **P 09 49 06.2 -0.5**
NVAR Mina Array Bea 57.00 68 P **P 09 49 09.2 +1.8**
comp=Z,11nm,0.6s,baz=300,slow=7.1,SNR=108
NVAR pP **pwP 09 49 27.7 -1.5**
comp=Z,4.5nm,0.7s,baz=296,slow=8.2,SNR=6.1
NVAR PcP **PcP 09 50 02.6 +0.9**
comp=Z,1.9nm,0.7s,baz=290,slow=5.6,SNR=1.9
comp=Z,11nm,0.6s
CMAR Chiang Mai Arr 57.02 257 P **P 09 49 05.9 -1.5**
CMAR pP **pP 09 49 25.5 -1.1**
CMAR Chiang Mai Arr 57.02 257 P **P 09 49 08.6 +1.2**
comp=Z,5.7nm,0.7s,baz=27,slow=6.6,SNR=26
CMAR ScP **ScP 09 53 53.3 -1.1**
comp=Z,0.8nm,0.3s,baz=24,slow=4.2,SNR=6.2
CMAR LR LR 10 16 52.0
comp=Z,99nm,18.9s,baz=45,slow=39
comp=Z,5.7nm,0.7s
CMAR Chiang Mai Arr 57.02 257 *i* P **P 09 49 09.1 +1.7**
CMAR pmax pmax
comp=Z,6.0nm,0.7s
YFT Old Faithful 57.04 59 IAmb IAmb 09 49 11.6
comp=Z,24nm,0.8s
YNE Yellowstone No 57.09 58 P **P 09 49 07.5 -0.4**
YNE IAmb IAmb 09 49 10.7
comp=Z,28nm,0.9s
OMMB Old Mammoth Mi 57.16 70 P **P 09 49 11.0 +2.4**
OMMB IAmb IAmb 09 49 13.2
comp=Z,18nm,1.1s
ELK Elko 57.16 64 P **P 09 49 10.4 +1.9**
YMP Mirror Lake Pl 57.20 58 P **P 09 49 09.8 +1.0**
H17A Grant Village 57.21 58 P **P 09 49 10.3 +1.5**
MYLDM Lahad Datu 57.22 230 P **P 09 49 11.5 +2.7**
KLMR Klimovskoe 57.35 329 *e*P **P 09 49 07.0 -2.1**
KLMR pmax pmax
comp=Z,12nm,1.0s
KLMR MLR MLR
comp=Z,618nm,22.0s
FXWY Fox Creek 57.49 59 IAmb IAmb 09 49 13.9
comp=Z,17nm,0.8s
MOOW Moose Ponds 57.56 59 P **P 09 49 11.7 +0.5**
MOOW IAmb IAmb 09 49 14.5
comp=Z,20nm,1.1s
TPAW Teton Pass 57.63 60 P **P 09 49 13.8 +2.0**
DGMT Dagmar 57.65 51 P **P 09 49 12.5 +1.0**
DGMT pP **pP 09 49 30.4 +0.4**
ABKAR Akbulak array 57.72 310 P **P 09 49 09.9 -2.0**
LOHW Long Hollow 57.73 59 P **P 09 49 13.8 +1.5**
LOHW IAmb IAmb 09 49 15.8
comp=Z,31nm,1.0s
SNOW Snow King Moun 57.75 59 P **P 09 49 13.9 +1.3**
SNOW IAmb IAmb 09 49 16.2
comp=Z,26nm,0.9s
SCO Scoresbysund 57.76 0 *i* P **P 09 49 10.9 -1.0**
SCO IAmb IAmb 09 49 13.6
comp=Z,65nm,1.2s
AKTO Aktyubinsk 57.80 312 LR LR 10 16 39.5
comp=Z,536nm,18.9s,baz=118,slow=39
HVU Hansel Valley 57.82 62 IAmb IAmb 09 49 16.1
comp=Z,25nm,1.2s
DSP Deep Springs 57.92 69 P **P 09 49 15.4 +1.9**
MZP Montezuma Peak 58.03 68 P **P 09 49 16.0 +1.4**
AHID Auburn Hatcher 58.05 60 P **P 09 49 15.4 +0.8**
AHID **pP 09 49 32.8 +0.1**
BGU Big Grassy Mou 58.26 63 P **P 09 49 16.1 0.0**
BRDH Bariadhala 58.30 267 LR LR 10 16 06.0
comp=Z,133nm,19.4s,baz=56,slow=38
SPUT South Promonto 58.32 62 P **P 09 49 16.5 +0.1**
SPUT IAmb IAmb 09 49 19.6
comp=Z,30nm,1.1s
GMN Gold Mountain 58.38 69 IAmb IAmb 09 49 20.0
comp=Z,15nm,0.8s
ICESG Greenland Ices 58.42 8 *i* P **P 09 49 15.4 -1.5**
ICESG IAmb IAmb 09 49 17.9
comp=Z,35nm,1.0s
BTK Batken 58.45 296 IAmb IAmb 09 49 18.4
comp=Z,14nm,1.0s
BTK Batken 58.45 296 P **P 09 49 15.8 -1.5**
GRAC Grapevine Rang 58.53 69 P **P 09 49 19.7 +1.9**
R11B Troy Canyon, C 58.61 67 P **P 09 49 19.9 +1.4**
baz=314,SNR=23
BCW Bitter Crk WRg 58.77 72 P **P 09 49 20.4 +0.8**
ISA Isabella, Lake 58.81 71 P **P 09 49 20.1 +0.2**
ISA IAmb IAmb 09 49 21.6
comp=Z,18nm,1.1s
ISA Isabella, Lake 58.81 71 P **P 09 49 20.1 +0.2**
ISA pmax pmax
comp=Z,18nm,1.1s
FRB Frobisher Bay 58.83 22 LR LR 10 18 14.2
comp=Z,112nm,19.7s,baz=322,slow=40
PD31 Pinedale Array 58.87 59 P **P 09 49 21.3 +1.0**
PDAR Pinedale Array 58.87 59 P **P 09 49 21.6 +1.2**
PDAR Pinedale Array 58.87 59 P **P 09 49 21.8 +1.4**
comp=Z,34nm,0.8s,baz=314,slow=2.9,SNR=209
PDAR pP **pP 09 49 40.0 +1.5**
comp=Z,12nm,0.9s,baz=289,slow=4.5,SNR=6.1
PDAR LR LR 10 16 19.2
comp=Z,29nm,18.8s,baz=318,slow=38
comp=Z,34nm,0.8s
DUG Dugway, Tooele 58.88 63 IAmb IAmb 09 49 23.4
comp=Z,27nm,0.9s
DUG Dugway, Tooele 58.88 63 P **P 09 49 22.3 +1.9**
TABU Tabubil 58.99 200 P **P 09 49 22.7 +1.5**
WCT Wildcat Mounta 59.10 69 P **P 09 49 21.9 +0.1**
WCT IAmb IAmb 09 49 24.5
comp=Z,15nm,0.9s
CTU Camp Tracy 59.12 62 P **P 09 49 23.3 +1.2**
CTU IAmb IAmb 09 49 24.8
comp=Z,15nm,0.8s
TPNV Topopah Spring 59.20 68 P **P 09 49 24.2 +1.6**
TPNV Topopah Spring 59.20 68 P **P 09 49 24.2 +1.6**
TPNV pmax pmax
comp=Z,50nm,1.1s
SFJD Kangerlussuaq 59.23 13 *i* P **P 09 49 21.5 -0.6**
SFJD Kangerlussuaq 59.23 13 P **P 09 49 22.1 0.0**
JLU Jordanelle 59.35 62 IAmb IAmb 09 49 26.7
comp=Z,20nm,1.1s
CCAC Calif City Air 59.44 71 IAmb IAmb 09 49 26.5
comp=Z,25nm,0.9s
GAR Garm 59.46 295 IAmb IAmb 09 50 12.0
comp=Z,23nm,0.8s
PSUT Pine Spring 59.46 65 IAmb IAmb 09 49 27.2
comp=Z,29nm,1.2s
PRN Pahroc Range 59.57 67 P **P 09 49 26.6 +1.5**
PRN IAmb IAmb 09 49 28.2
comp=Z,36nm,1.1s
MPU Maple Canyon 59.66 63 P **P 09 49 27.4 +1.6**
MPU IAmb IAmb 09 49 28.8
comp=Z,24nm,0.8s
SOEG Soedalen 59.82 4 *i* P **P 09 49 26.5 +0.3**
SOEG IAmb IAmb 09 49 27.8
comp=Z,29nm,0.7s
GSC Goldstone, Bar 60.03 70 IAmb IAmb 09 49 30.8
comp=Z,25nm,0.9s
SHPR Sheep Range 60.14 68 P **P 09 49 30.4 +1.3**
SHPR IAmb IAmb 09 49 32.1
comp=Z,17nm,1.3s
ULM Lac du Bonnet 60.23 45 P **P 09 49 29.9 +0.6**
ULM IAmb IAmb 09 49 30.9
comp=Z,13nm,0.9s
ULM Lac du Bonnet 60.23 45 P **P 09 49 29.9 +0.6**
comp=Z,7.1nm,0.4s,baz=315,slow=6.5,SNR=17
ULM pP **pP 09 49 48.0 -0.3**
comp=Z,3.8nm,0.5s,baz=321,slow=7.0,SNR=5.1
ULM PcP **PcP 09 50 14.1 +0.2**
comp=Z,4.1nm,0.6s,baz=320,slow=2.1,SNR=4.1
ULM LR LR 10 16 43.8
comp=Z,184nm,20.2s,baz=326,slow=37
comp=Z,7.1nm,0.4s
ULM Lac du Bonnet 60.23 45 *i* P **P 09 49 28.5 -0.7**
DY2G Dye2 60.29 11 *i* P **P 09 49 29.2 -0.6**
DY2G IAmb IAmb 09 49 30.4
comp=Z,27nm,1.0s
CCUT Cedar City 60.42 66 IAmb IAmb 09 49 34.0
comp=Z,17nm,0.9s
SIMJ Simiganj 60.43 296 P **P 09 49 29.3 -1.8**
SIMJ IAmb IAmb 09 50 16.0
comp=Z,13nm,0.8s
SIMJ Simiganj 60.43 296 P **P 09 49 29.2 -1.8**
SIMJ PcP **PcP 09 50 14.4 -0.8**
SANI Sanana 60.52 218 P **P 09 49 32.4 +0.8**
SANI Sanana 60.52 218 P **P 09 49 31.1 -0.5**
P17A Butcher Ranch, 60.53 63 IAmb IAmb 09 49 34.7
comp=Z,39nm,1.3s
K22A Casper 60.55 58 IAmb IAmb 09 49 34.2
comp=Z,18nm,1.0s
SZCU Shurtz Canyon 60.55 66 P **P 09 49 32.3 +0.4**
SZCU IAmb IAmb 09 49 34.6
comp=Z,22nm,1.2s
E28A Huff 60.67 51 P **P 09 49 32.8 +0.4**
E28A pP **pP 09 49 51.6 +0.7**
FINES FINESS Array B 60.67 336 P **P 09 49 30.9 -1.2**
comp=Z,4.3nm,0.6s,baz=35,slow=7.9,SNR=14
FINES LR LR 10 19 40.9
comp=Z,398nm,20.1s,baz=41,slow=40
comp=Z,4.3nm,0.6s
FINES FINESS Array B 60.67 336 *i* P **P 09 49 31.7 -0.4**
FINES pmax pmax
comp=Z,4.0nm,0.6s
Q16A Castle Valley 60.68 63 IAmb IAmb 09 49 35.7
comp=Z,22nm,0.9s
P18A Preston Nutter 60.69 62 IAmb IAmb 09 49 36.0
comp=Z,31nm,1.1s
MTPU Mount Pierson 60.74 65 P **P 09 49 34.5 +1.1**
MTPU IAmb IAmb 09 49 36.7
comp=Z,15nm,0.9s
RSSD Black Hills 60.78 55 P **P 09 49 34.4 +1.0**
RSSD pP **pP 09 49 52.5 +0.5**
RSSD Black Hills 60.78 55 P **P 09 49 34.7 +1.3**
RSSD pmax pmax
comp=Z,56nm,0.8s
RSSD Black Hills 60.78 55 P **P 09 49 34.5 +1.0**
RSSD pP **pP 09 49 52.9 +0.8**
RSSD PcP **PcP 09 50 15.7 -0.8**
ELS Elsinore Mount 60.84 72 IAmb IAmb 09 49 36.0
comp=Z,26nm,0.8s
V12A Nelson 60.86 68 IAmb IAmb 09 49 36.9
comp=Z,32nm,1.2s
BELG Belogornoye 60.87 319 LR LR 10 18 08.0
comp=Z,250nm,21.4s,baz=31,slow=38
BELG Belogornoye 60.87 319 *i* P P 09 49 28.7 -4.9
BELG pmax pmax
comp=Z,3.0nm,0.8s
LCMT Little Creek M 60.87 66 IAmb IAmb 09 49 37.1
comp=Z,29nm,1.0s
PKCU Pink Cliffs 61.09 65 IAmb IAmb 09 49 39.1
comp=Z,17nm,0.8s
KNB Kanab 61.11 66 IAmb IAmb 09 49 39.0
comp=Z,33nm,1.1s
HNR Honiara 61.26 178 LR LR 10 12 18.1
comp=Z,194nm,21.7s,baz=13,slow=32
PFO Pinyon Flats O 61.43 71 P **P 09 49 38.6 +0.8**
PFO IAmb IAmb 09 49 39.5
comp=Z,15nm,1.1s
PFO Pinyon Flats O 61.43 71 LR LR 10 13 06.6
comp=Z,32nm,21.4s,baz=322,slow=33
PFO Pinyon Flats O 61.43 71 *i* P **P 09 49 37.6 -0.3**
PFO pmax pmax
comp=Z,43nm,1.8s
PFO Pinyon Flats O 61.43 71 P **P 09 49 38.5 +0.7**
PFO pP **pP 09 49 56.6 +0.4**
PFO PcP **PcP 09 50 20.2 +1.0**
TPFO Pinon Flats 61.44 71 P **P 09 49 38.9 +0.9**
baz=316,SNR=10
NIL Nilore 61.55 289 P **P 09 49 36.5 -2.0**
NIL IAmb IAmb 09 50 02.4
comp=Z,18nm,0.9s
NIL Nilore 61.55 289 P **P 09 49 38.0 -0.5**
AGMN Agassiz Nation 61.66 47 IAmb IAmb 09 49 58.9
comp=Z,21nm,1.1s
U15A North Rim 61.82 66 IAmb IAmb 09 50 24.4
comp=Z,19nm,1.1s
W13A Hualapai Mount 61.86 68 IAmb IAmb 09 49 43.4
comp=Z,20nm,1.1s
PMG Port Moresby 62.00 193 LR LR 10 12 54.9
comp=Z,99nm,21.9s,baz=36,slow=32
N23A Red Feather La 62.10 59 P **P 09 49 43.3 +0.9**
baz=316,SNR=24
CBX Cerro Bola 62.24 72 P **P 09 49 43.5 +0.2**
CBX IAmb IAmb 09 49 45.7
comp=Z,27nm,0.9s
YUH Yuha Desert 62.44 72 P **P 09 49 44.6 +0.2**
YUH IAmb IAmb 09 49 46.6
comp=Z,20nm,1.0s
YUH pP **pP 09 50 04.0 +1.1**
BLYC Blythe 62.46 70 P **P 09 49 44.6 0.0**
BLYC IAmb IAmb 09 49 47.3
comp=Z,28nm,0.9s
SBUM Sibu 62.65 234 P **P 09 49 45.5 -0.4**
SBUM Sibu 62.65 234 P **P 09 49 48.4 +2.4**
GLA Glamis 62.79 71 P **P 09 49 48.2 +1.4**
GLA Glamis 62.79 71 P **P 09 49 48.2 +1.4**
GLA pmax pmax
comp=Z,46nm,1.0s
OBN Obninsk 62.86 327 LR LR 10 21 08.8
comp=Z,156nm,18.4s,baz=3.0,slow=40
OBN Obninsk 62.86 327 ‖ *e*P **P 09 49 44.5 -2.3**
OBN *e**PP **pP 09 50 05.2 -1.3**
OBN *e* 09 50 11.5
OBN *e* 09 50 22.5
OBN 09 52 05.0
OBN *e*PPP PPP 09 53 40.1
OBN S S 09 57 58.0 -12
OBN *SS **sS 09 58 49.0 +5.7**
OBN *i* SS **SS 10 02 13.7 -1.6**
OBN SSS SSS 10 04 58.0
OBN pmax pmax
comp=Z,10.0nm,0.6s
OBN MLR MLR
comp=Z,171nm,17.0s
OBN Obninsk 62.86 327 P **P 09 49 46.8 0.0**
comp=Z,30nm,0.5s
ESJX Sierra Juarez 62.88 72 P **P 09 49 48.8 +1.2**
ESJX IAmb IAmb 09 49 50.1
comp=Z,31nm,1.1s
WUAZ Wupatki 62.99 66 P **P 09 49 49.8 +1.5**
SUSD Miller 63.06 52 P **P 09 49 48.8 +0.4**
SUSD **pP 09 50 07.3 +0.2**
SUSD IAmb IAmb 09 50 15.3
comp=Z,24nm,0.6s
VSU Vasula 63.06 334 P **P 09 49 48.3 +0.2**
ISCO Idaho Springs 63.06 59 **P 09 49 50.8 +1.9**
ISCO IAmb IAmb 09 49 52.0
comp=Z,39nm,1.0s
ISCO Idaho Springs 63.06 59 P **P 09 49 50.8 +1.9**
ISCO pmax pmax
comp=Z,39nm,1.0s
Y14A Wickenburg 63.20 69 IAmb IAmb 09 49 52.3
comp=Z,32nm,1.1s
F33A 5 Mile Ranch, 63.29 49 P **P 09 49 50.3 +0.4**
KBL Kabul 63.34 293 P **P 09 49 50.0 -0.7**
KBL Kabul 63.34 293 P **P 09 49 50.0 -0.7**
KBL pmax pmax
comp=Z,5.0nm,0.8s
MVCO Mesa Verde 63.38 63 P **P 09 49 51.3 +0.4**
MVCO IAmb IAmb 09 49 53.5
comp=Z,28nm,0.8s
VTX Valle De La Tr 63.42 72 P **P 09 49 52.1 +1.0**
VTX IAmb IAmb 09 49 53.5
comp=Z,21nm,1.1s
BORG Borgarnes 63.52 360 P **P 09 49 50.4 -0.7**
BORG Borgarnes 63.52 360 P **P 09 49 50.4 -0.7**
BORG pmax pmax
comp=Z,499nm,1.9s
BORG Borgarnes 63.52 360 P **P 09 49 53.0 +1.9**
BORG pP **pP 09 50 10.6 +0.1**
X16A Lo Mia Camp, P 63.75 67 IAmb IAmb 09 49 56.4
comp=Z,20nm,0.8s
EYMN Ely 63.86 45 P **P 09 49 53.9 +0.2**
EYMN pP **pP 09 50 12.3 -0.5**
EYMN IAmb IAmb 09 50 13.3
comp=Z,25nm,1.0s
S22A 4UR Ranch, Cre 63.90 62 IAmb IAmb 09 49 57.6
comp=Z,36nm,1.1s
S22A 4UR Ranch, Cre 63.90 62 P **P 09 49 55.8 +1.3**
baz=317,SNR=40
Q24A Divide 63.92 60 P **P 09 49 55.5 +1.0**
baz=317,SNR=13
K30B Basset 64.04 53 P **P 09 49 55.6 +0.7**
LPSR Galich'ya Gora 64.06 324 *e*P **P 09 49 52.0 -2.8**
LPSR pmax pmax
comp=Z,20nm,0.6s
NC405 NORSAR Array S 64.09 343 IAmb IAmb 09 51 55.9
comp=Z,66nm,1.6s
OGNE Ogallala 64.10 56 P **P 09 49 55.9 +0.4**
OGNE pP **pP 09 50 14.5 +0.4**
NC204 NORSAR Array S 64.11 343 P **P 09 49 53.7 -1.4**
NC204 IAmb IAmb 09 49 55.2
comp=Z,42nm,1.4s
VRH Novokhopyorsk 64.12 321 *e*P **P 09 49 51.0 -4.3**
VRH pmax pmax
comp=Z,10.0nm,0.7s
NB201 NORSAR Array S 64.23 343 P **P 09 49 54.9 -0.9**
SFX San Felipe 64.23 72 P **P 09 49 56.2 0.0**
NB2 NORSAR Subarra 64.25 343 P **P 09 49 55.1 -0.9**
comp=Z,22nm,0.9s,baz=21,slow=6.9
NB2 NORSAR Subarra 64.25 343 P **P 09 49 55.1 -0.9**
baz=21,slow=6.9
NB2 NORSAR Subarra 64.25 343 P **P 09 49 52.7 -3.3**
NB2 pmax pmax
comp=Z,80nm,1.0s
NOA NORSAR Array B 64.25 343 P **P 09 49 55.5 -0.5**
comp=Z,11nm,0.9s,baz=20,slow=6.7,SNR=27
NOA LR LR 10 22 30.0
comp=Z,44nm,19.1s,baz=25,slow=40
comp=Z,11nm,0.9s
SRIT Nakonsritamara 64.41 250 P **P 09 50 00.2 +2.6**
NORES NORESS Array B 64.48 343 P **P 09 49 58.0 +0.6**
X18A Snowflake 64.51 66 IAmb IAmb 09 50 01.4
comp=Z,39nm,1.0s
SDCO Great Sand Dun 64.62 61 IAmb IAmb 09 50 01.9
comp=Z,24nm,1.2s
HFS Hagfors 64.62 341 P **P 09 49 57.6 -0.8**
comp=Z,5.9nm,0.4s,baz=55,slow=6.2,SNR=37
HFS pP **pP 09 50 17.9 -0.1**
comp=Z,2.8nm,0.5s,baz=53,slow=7.6,SNR=3.7
HFS LR LR 10 22 20.5
comp=Z,259nm,20.9s,baz=22,slow=40
comp=Z,5.9nm,0.4s
ECSD EROS Data Cent 64.71 51 IAmb IAmb 09 50 00.9
comp=Z,38nm,1.0s
E38A The Farm, Brul 64.86 46 IAmb IAmb 09 50 01.3
comp=Z,35nm,1.1s
VSR Storozhevoye 65.08 323 *e*P **P 09 49 57.2 -4.3**
VSR pmax pmax
comp=Z,10.0nm,0.6s
KSCO Kaye Shedlock' 65.22 58 IAmb IAmb 09 50 05.0
comp=Z,28nm,1.0s
VORD Divnogorie 65.24 323 *e*P **P 09 49 59.1 -3.4**
VORD pmax pmax
comp=Z,10.0nm,0.8s
SPMN Marine on St. 65.36 47 IAmb IAmb 09 50 05.0
comp=Z,19nm,0.9s
T25A Trinidad 65.65 61 IAmb IAmb 09 50 08.2
comp=Z,37nm,1.1s
T25A Trinidad 65.65 61 P **P 09 50 06.2 +0.5**
baz=318,SNR=17
TUC Tucson 65.66 68 P **P 09 50 06.3 +0.6**
TUC pP **pP 09 50 25.1 +0.5**
TUC sP **sP 09 50 33.5 +0.8**
TUC Tucson 65.66 68 P **P 09 50 07.1 +1.4**
TUC pmax pmax
comp=Z,16nm,1.0s
TUC Tucson 65.66 68 P **P 09 50 06.9 +1.2**
TUC pP **pP 09 50 25.3 +0.7**
TUC sP **sP 09 50 34.0 +1.3**
KAPI Kappang 65.72 223 P **P 09 50 05.6 -0.4**
KAPI IAmb IAmb 09 50 08.4
comp=Z,23nm,1.0s
KAPI Kappang 65.72 223 LR LR 10 19 43.1
comp=Z,23nm,20.0s,baz=16,slow=37
KAPI Kappang 65.72 223 P **P 09 50 05.6 -0.4**
KAPI pmax pmax
comp=Z,23nm,1.0s
I37A Lemond, Waseca 66.01 49 P **P 09 50 08.5 +0.9**
NACGM Naroch 66.11 332 *e*P **P 09 50 10.5 +2.4**
comp=Z,19nm,1.0s,baz=30
MNK Minsk 66.14 331 *i* P **P 09 50 07.6 -0.6**
comp=E,23nm,0.8s
MNK *i* P **P 09 50 07.6 -0.6**
comp=N,9.0nm,0.9s
MNK *i* P **P 09 50 07.6 -0.6**
comp=Z,15nm,0.7s,baz=31
MNK *i* pP **pP 09 50 30.9 +3.0**
MNK *i* sP **PcP 09 50 41.4 +3.3**
MNK *i* PP **PP 09 52 33.8 -0.2**
MNK *i* PPP PPP 09 54 09.9
MNK *i* S **S 09 58 47.3 -3.3**
MNK *i* SS **SS 10 03 07.6 +1.3**
MNK *i* SSS SSS 10 06 17.9
MNK *i* LQ LQ 10 12 14.7
MNK *i* LR LR 10 17 26.8
MNK *i* LRM MLR 10 22 01.8
comp=N,298nm,19.3s
MNK *i* LRM MLR 10 22 11.8
comp=E,492nm,21.6s
MNK *i* LRM MLR 10 22 17.5
comp=Z,555nm,20.5s
MNK Minsk 66.14 331 *i* P **P 09 50 07.6 -0.6**
MNK *i* *PP **pP 09 50 30.9 +3.0**
MNK *i* 09 50 37.5
MNK *i* *SP **PcP 09 50 41.3 +3.3**
MNK *i* 09 52 33.7
MNK *i* PPP PPP 09 54 09.8
MNK *i* S **S 09 58 47.2 -3.3**
MNK *i* SS **SS 10 03 07.6 +1.3**
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=Z,15nm,0.7s

MNK pmax pmax
comp=E,23nm,0.8s
MNK MLR MLR
comp=N,298nm,19.0s
MNK MLR MLR
comp=E,492nm,22.0s
MNK MLR MLR
comp=Z,555nm,21.0s
ANMO Albuquerque 66.16 63 P **P 09 50 10.5 +1.5**
ANMO Albuquerque 66.16 63 LR LR 10 19 40.6
comp=Z,23nm,18.2s,baz=144,slow=36
ANMO Albuquerque 66.16 63 *i* P **P 09 50 09.0 0.0**
ANMO pmax pmax
comp=Z,10.0nm,1.0s
ANMO Albuquerque 66.16 63 P **P 09 50 10.1 +1.2**
ANMO pP **pP 09 50 28.5 +0.6**
L34A Svendsen Farm, 66.16 52 P **P 09 50 08.7 +0.1**
DUN6 Lazy B Ranch 66.45 67 P **P 09 50 11.1 +0.3**
Y22D IRIS PASSCAL I 66.55 64 IAmb IAmb 09 50 14.8
comp=Z,48nm,1.1s
Y22D IRIS PASSCAL I 66.55 64 P **P 09 50 11.7 +0.3**
baz=318
CBKS Cedar Bluff 66.86 56 P **P 09 50 13.3 +0.1**
CBKS IAmb IAmb 09 50 14.4
comp=Z,41nm,0.9s
CBKS Cedar Bluff 66.86 56 P **P 09 50 13.3 +0.1**
CBKS pmax pmax
comp=Z,41nm,1.0s
SCHQ Schefferville 67.00 27 P **P 09 50 13.7 -0.1**
comp=Z,4.0nm,0.4s,baz=331,slow=5.7,SNR=17
comp=Z,4.0nm,0.4s
RTBA Rita Blanca 67.07 60 IAmb IAmb 09 50 16.5
comp=Z,39nm,1.0s
COEN Coen 67.08 196 IAmb IAmb 09 50 16.6
comp=Z,34nm,0.9s
COEN Coen 67.08 196 P **P 09 50 15.6 +1.0**
comp=Z,41nm,1.1s
COEN Coen 67.08 196 P **P 09 50 15.9 +1.2**
121A Cookes Peak, D 67.20 66 P **P 09 50 17.5 +1.9**
121A IAmb IAmb 09 50 18.8
comp=Z,39nm,1.3s
121A Cookes Peak, D 67.20 66 P **P 09 50 17.1 +1.4**
baz=318,SNR=14
N35A Tabor 67.36 52 IAmb IAmb 09 50 17.9
comp=Z,33nm,0.8s
I40A Norwalk 67.38 47 IAmb IAmb 09 50 17.5
comp=Z,29nm,1.0s
SCIA State Center 67.72 50 P **P 09 50 19.0 +0.5**
SCIA **pP 09 50 37.5 -0.4**
HSIG 68.00 71 P **P 09 50 21.4 +1.0**
HSIG IAmb IAmb 09 50 22.9
comp=Z,41nm,1.3s
MMRI Maumere 68.00 219 P **P 09 50 20.8 +0.4**
MAK Makhachkala 68.18 312 *e*P **P 09 50 21.0 -0.3**
MAK *e**PP **pP 09 50 41.3 +0.3**
MAK *e**SP **sP 09 50 50.6 +1.3**
MAK *e* 09 52 50.7
MAK *e*PPP PPP 09 54 29.2
MAK *e*S **S 09 59 14.8 -0.6**
MAK *e**SS **sS 09 59 48.4 -0.5**
MAK *e*SS **SS 10 03 45.3 +6.9**
MAK MLR MLR
comp=Z,597nm,18.0s
KSU1 Kansas State U 68.23 54 IAmb IAmb 09 50 22.2
comp=Z,16nm,0.8s
SOEI Soe 68.25 217 IAmb IAmb 09 50 45.4
comp=Z,42nm,1.1s
SOEI Soe 68.25 217 P **P 09 50 23.1 +0.9**
KDU Kakadu 68.31 207 P **P 09 50 22.9 +0.6**
comp=Z,52nm,1.1s
KDU Kakadu 68.31 207 P **P 09 50 23.4 +1.0**
comp=Z,52nm,1.1s
EPT El Paso 68.49 66 IAmb IAmb 09 50 26.1
comp=Z,31nm,1.1s
L40A Anamosa 68.53 49 P **P 09 50 23.1 -0.5**
L40A IAmb IAmb 09 50 24.4
comp=Z,20nm,0.9s
L40A **pP 09 50 41.7 -1.2**
AMTX Amarillo 68.81 60 IAmb IAmb 09 50 27.6
comp=Z,44nm,1.2s
MTN Manton Dam 68.85 209 P **P 09 50 26.4 +0.7**
comp=Z,81nm,1.0s
MTN Manton Dam 68.85 209 P **P 09 50 26.8 +1.1**
comp=Z,81nm,1.0s
MSTX Muleshoe 68.91 62 IAmb IAmb 09 50 28.2
comp=Z,39nm,1.0s
AK03 Malin Array Si 68.97 328 P **P 09 50 24.7 -1.4**
AK23 Malin Array Si 68.97 328 P **P 09 50 25.3 -0.8**
AK21 Malin Array Si 68.98 328 P **P 09 50 24.1 -2.1**
AK22 Malin Array Si 68.99 328 P **P 09 50 24.7 -1.5**
AK04 Malin Array Si 68.99 328 P **P 09 50 24.1 -2.2**
AKASG Malin Array Be 68.99 328 P **P 09 50 23.9 -2.3**
comp=Z,3.1nm,0.3s,baz=31,slow=6.3,SNR=25
AKASG LR LR 10 23 14.5
comp=Z,120nm,19.4s,baz=48,slow=38
comp=Z,3.1nm,0.3s
AKASG Malin Array Be 68.99 328 *i* P **P 09 50 24.5 -1.8**
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKBB Malin Array Si 68.99 328 *i* P **P 09 50 23.8 -2.5**
AKBB pmax pmax
comp=Z,11nm,0.7s
AKBB Malin Array Si 68.99 328 P **P 09 50 24.2 -2.1**
KIEV Kiev 69.00 328 P **P 09 50 24.6 -1.7**
KIEV Kiev 69.00 328 P **P 09 50 24.6 -1.7**
comp=Z,51nm,0.9s
AK01 Malin Array Si 69.00 328 P **P 09 50 24.2 -2.1**
AK18 Malin Array Si 69.02 328 P **P 09 50 24.6 -1.9**
AK20 Malin Array Si 69.02 328 P **P 09 50 24.6 -1.9**
AK15 Malin Array Si 69.03 328 P **P 09 50 24.8 -1.7**
AK11 Malin Array Si 69.03 328 P **P 09 50 24.8 -1.7**
ELIS Ellis County 69.11 58 P **P 09 50 27.3 -0.1**
ELIS IAmb IAmb 09 50 29.0
comp=Z,44nm,1.0s
ELIS pP **pP 09 50 46.2 0.0**
KAN01 Argonia South 69.14 56 IAmb IAmb 09 50 28.2
comp=Z,36nm,0.8s
KAN17 Caldwell West 69.22 56 IAmb IAmb 09 50 28.7
comp=Z,28nm,0.8s
KAN09 Caldwell North 69.22 56 IAmb IAmb 09 50 28.7
comp=Z,22nm,0.9s
MI28 Mi28,Pidlybu 69.29 329 P **P 09 50 26.9 -1.2**
comp=Z,155nm,0.7s,comp=Z,95µm
L42A Oliver, Polo 69.30 48 P **P 09 50 27.8 -0.5**
L42A IAmb IAmb 09 50 28.9
comp=Z,24nm,0.8s
P38A Dawn 69.34 52 IAmb IAmb 09 50 29.9
comp=Z,32nm,0.9s
VLDQ Val d'Or 69.36 36 P **P 09 50 27.3 -1.3**
VLDQ pP **pP 09 50 45.0 -3.1**
VLDQ IAmb IAmb 09 50 46.5
comp=Z,35nm,1.3s
KAN13 South Haven SW 69.39 56 IAmb IAmb 09 50 29.7
comp=Z,26nm,1.0s
RNPP1 Kostyukhnivka 69.51 331 P **P 09 50 30.5 +1.0**
CROK Carrier 69.52 57 **P 09 50 29.9 0.0**
CROK IAmb IAmb 09 50 30.9
comp=Z,31nm,1.0s
KIV Kislovodsk 69.52 316 *e*P **P 09 50 26.0 -3.8**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,124nm,17.0s
KBZ Khabaz 69.61 316 P **P 09 50 28.9 -1.4**
comp=Z,5.2nm,0.8s,baz=132,slow=5.6,SNR=8.5
KBZ LR LR 10 24 18.4
comp=Z,169nm,21.7s,baz=18,slow=39
comp=Z,5.2nm,0.8s
KBZ Khabaz 69.61 316 *i* P **P 09 50 27.4 -2.8**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
MCD Coleburn Disti 69.69 350 *e*P **P 09 50 30.5 0.0**
MCD IAmb IAmb 09 50 31.3
comp=Z,68nm,0.8s
SHA1 Shidzhatmaz 69.71 316 *i* P **P 09 50 29.8 -1.3**
L44A Lake County Fo 69.95 46 P **P 09 50 31.7 -0.6**
baz=323
T35A Sooner Cattle 69.96 56 **P 09 50 32.8 +0.3**
PLAI Plampang 69.98 223 P **P 09 50 32.6 -0.2**
VHRN Van Horn 70.09 65 IAmb IAmb 09 50 36.1
comp=Z,27nm,1.0s
P40A Paris 70.13 51 P **P 09 50 34.1 +0.6**
P40A IAmb IAmb 09 50 34.9
comp=Z,39nm,0.9s
DKNS Dickens 70.14 61 IAmb IAmb 09 50 35.6
comp=Z,19nm,0.8s

LUBAR Lubar, Ukraine 70.14 329 P **P 09 50 32.1 -1.3**
KPL Plockton 70.18 351 *e*P **P 09 50 33.4 -0.1**
KPL IAmb IAmb 09 50 34.6
comp=Z,81nm,1.4s
DRUM Mains of Drumt 70.27 349 *e*P **P 09 50 33.9 -0.1**
PECS Pecos 70.27 64 IAmb IAmb 09 50 36.9
comp=Z,43nm,1.4s
POST Post 70.28 61 IAmb IAmb 09 50 36.6
comp=Z,34nm,1.1s
HYB Hyderabad 70.32 273 *e*P **P 09 50 34.3 -0.7**
OK029 Liberty Lake 70.34 57 IAmb IAmb 09 50 36.3
comp=Z,30nm,0.9s
ODSA Odessa 70.43 63 IAmb IAmb 09 50 37.6
comp=Z,45nm,1.1s
J47A Sunmer 70.45 44 IAmb IAmb 09 50 37.4
comp=Z,33nm,0.8s
WMOK Wichita Mounta 70.46 58 IAmb IAmb 09 50 37.4
comp=Z,27nm,0.9s
OK052 Battle Ridge R 70.52 56 IAmb IAmb 09 50 37.3
comp=Z,47nm,1.0s
OK031 S. Brethren Rd 70.53 56 IAmb IAmb 09 50 37.4
comp=Z,47nm,0.9s
SN07 Snyder 07 70.59 61 P **P 09 50 37.2 +0.7**
SN07 IAmb IAmb 09 50 38.3
comp=Z,24nm,1.0s
FNO Franklin 70.78 57 IAmb IAmb 09 50 39.4
comp=Z,56nm,1.1s
DEOK Depew 70.79 56 **P 09 50 37.8 +0.2**
DEOK **pP 09 50 56.2 -0.9**
APMT Aspermont 70.83 60 IAmb IAmb 09 50 39.4
comp=Z,27nm,0.8s
INVG Invergeldie, C 70.92 350 *e*P **P 09 50 37.8 -0.2**
INVG IAmb IAmb 09 50 38.4
comp=Z,14nm,0.7s
MTSU Mount Surprise 70.99 194 P **P 09 50 40.1 +1.3**
R40A Maddies Statio 71.00 52 IAmb IAmb 09 50 39.8
comp=Z,28nm,0.8s
X34A Smith Ranch, M 71.06 58 IAmb IAmb 09 50 41.5
comp=Z,34nm,1.1s
SOC Sochi 71.08 318 *e*P **P 09 50 39.0 -0.2**
SOC *e*PPP PPP 09 54 56.7
SOC *e*S **S 09 59 51.9 +2.5**
SOC pmax pmax
comp=Z,40nm,1.2s
SOC MLR MLR
comp=Z,368nm,22.0s
TUL3 Leonard 71.10 56 **P 09 50 39.4 -0.1**
TUL3 IAmb IAmb 09 50 40.9
comp=Z,32nm,0.8s
TUL3 pP **pP 09 50 57.9 -1.0**
W35A Tecumseh 71.13 57 IAmb IAmb 09 50 41.3
comp=Z,31nm,0.9s
LAWE Loch Awe, Argy 71.22 351 *e*P **P 09 50 39.1 -0.8**
LAWE IAmb IAmb 09 50 40.6
comp=Z,44nm,0.7s
P43A Skaggs, Pawnee 71.24 49 P **P 09 50 40.0 -0.2**
P43A IAmb IAmb 09 50 41.3
comp=Z,27nm,0.8s
ESY Stoneypath 71.25 349 *e*P **P 09 50 39.5 -0.5**
RLO Rose Lookout 71.29 55 IAmb IAmb 09 50 41.8
comp=Z,24nm,0.7s
SGCY Sterling City 71.36 62 IAmb IAmb 09 50 43.1
comp=Z,34nm,1.1s
SGCY **PcP 09 51 01.1 +0.6**
WTFS Witchita Falls 71.37 59 IAmb IAmb 09 50 42.6
comp=Z,33nm,1.0s
LVV L'vov 71.39 331 P **P 09 50 39.0 -1.9**
U38A Gravette 71.40 54 IAmb IAmb 09 50 42.2
comp=Z,26nm,0.8s
NDNU Novodnistrovsk 71.42 328 P **P 09 50 39.8 -1.3**
SADO Sadowa 71.52 39 LR LR 10 24 17.1
comp=Z,99nm,18.7s,baz=18,slow=38
MSVF Nonsavu 71.56 160 LR LR 10 14 58.7
comp=Z,204nm,21.4s,baz=189,slow=30
PGBU Glenifferbraes 71.57 350 *e*P **P 09 50 42.4 +0.5**
PGBU IAmb IAmb 09 50 42.9
comp=Z,98nm,0.9s
ABTX Abilene, Hawle 71.62 60 P **P 09 50 43.3 +0.6**
ABTX IAmb IAmb 09 50 44.6
comp=Z,32nm,0.9s
ABTX PcP **pP 09 51 01.8 +0.2**
GNI Garni 71.67 312 LR LR 10 26 27.3
comp=Z,268nm,19.5s,baz=54,slow=40
L48A N Adams 71.67 44 IAmb IAmb 09 50 44.5
comp=Z,38nm,1.0s
CCM Cathedral Cave 71.68 51 P **P 09 50 43.1 +0.2**
CCM IAmb IAmb 09 50 44.1
comp=Z,27nm,1.1s
CCM **PcP 09 51 01.4 -0.3**
CCM Cathedral Cave 71.68 51 P **P 09 50 43.0 +0.1**
CCM pP **PcP 09 51 00.9 -0.7**
CCM sP **sP 09 51 09.2 -1.2**
AAM Ann Arbor 71.71 44 P **P 09 50 43.7 +0.7**
AAM PcP **PcP 09 51 01.5 -0.2**
AAM IAmb IAmb 09 53 07.9
comp=Z,53nm,1.2s
AAM Ann Arbor 71.71 44 P **P 09 50 43.7 +0.7**
AAM pmax pmax
comp=Z,53nm,1.2s
KMPD K-Podol'skiy 71.74 329 P **P 09 50 43.0 -0.1**
LOOK Love County 71.87 58 **P 09 50 44.3 +0.2**
LOOK IAmb IAmb 09 50 45.8
comp=Z,27nm,0.9s
MGMO Mountain Grove 71.89 53 P **P 09 50 44.0 -0.3**
MGMO IAmb IAmb 09 50 44.8
comp=Z,17nm,0.7s
EKA Eskdalemuir Ar 71.89 349 P **P 09 50 43.9 0.0**
comp=Z,29nm,0.6s,baz=18,slow=5.3,SNR=86
EKA pP **PcP 09 51 01.8 -0.5**
comp=Z,7.6nm,0.7s,baz=12,slow=4.3,SNR=4.4
comp=Z,29nm,0.6s
ESK Eskdalemuir 71.91 349 P **P 09 50 44.3 +0.3**
ESK Eskdalemuir 71.91 349 *e*P **P 09 50 44.0 0.0**
ESK IAmb IAmb 09 50 44.8
comp=Z,42nm,0.7s
ESK Eskdalemuir 71.91 349 P **P 09 50 44.3 +0.3**
ESK pmax pmax
comp=Z,42nm,0.7s
ESK Eskdalemuir 71.91 349 P **P 09 50 43.8 -0.2**
ESK pP **PcP 09 51 02.9 +0.5**
TX31 Lajitas Ar. Si 71.93 65 P **P 09 50 45.9 +1.2**
TX31 IAmb IAmb 09 50 47.0
comp=Z,36nm,0.8s
TXAR Lajitas Array 71.93 65 P **P 09 50 45.8 +1.1**
comp=Z,20nm,0.5s,baz=300,slow=5.0,SNR=393
TXAR pP **pP 09 51 04.5 +0.8**
comp=Z,8.5nm,0.4s,baz=296,slow=4.9,SNR=9.5
comp=Z,20nm,0.5s
TRQ Mont Tremblant 72.02 36 **PcP 09 51 03.1 +0.1**
TRQ IAmb IAmb 09 51 04.4
comp=Z,23nm,1.1s
Q44A Meyer Farm, Va 72.06 49 P **P 09 50 45.1 -0.1**
Q44A **PcP 09 51 03.1 -0.2**
Q44A IAmb IAmb 09 51 05.5
comp=Z,48nm,1.3s
LPIG La Paz 72.06 74 LR LR 10 17 22.2
comp=Z,16nm,21.9s,baz=296,slow=32
FVM French Village 72.13 51 IAmb IAmb 09 50 46.9
comp=Z,22nm,0.8s
FW03 Perrin-Whitt E 72.14 59 IAmb IAmb 09 50 47.3
comp=Z,35nm,0.8s
PLPT Palo Pinto 72.19 59 P **P 09 50 45.7 -0.3**
PLPT IAmb IAmb 09 50 47.6
comp=Z,32nm,1.1s
PLPT **PcP 09 51 04.3 +0.3**
NEWG New Galloway 72.23 350 *e*P **P 09 50 45.0 -0.8**
NEWG IAmb IAmb 09 50 46.5
comp=Z,29nm,0.8s
EDMD Edmundbyers 72.24 348 *e*P **P 09 50 44.9 -1.0**
KNRA Kununurra 72.24 210 IAmb IAmb 09 50 48.2
comp=Z,29nm,0.9s
OJC Ojcow 72.25 334 *e*P **P 09 50 45.1 -1.0**
OJC Ojcow 72.25 334 P **P 09 50 45.9 -0.2**
OJC Ojcow 72.25 334 P **P 09 50 45.9 -0.2**
comp=Z,10.0nm,1.0s
SAND Sanderson 72.32 64 IAmb IAmb 09 50 49.1
comp=Z,39nm,1.2s
P46A Rosedale 72.32 48 IAmb IAmb 09 50 47.8
comp=Z,40nm,0.8s
Z35A Perchaven, San 72.35 58 IAmb IAmb 09 50 48.0
comp=Z,18nm,0.8s
KSV Kosov 72.40 329 P **P 09 50 45.7 -1.4**
KSV Kosov 72.40 329 P **P 09 50 45.7 -1.4**
CLGH Cloghs, Cushen 72.46 351 *e*P **P 09 50 46.5 -0.7**
CLGH IAmb IAmb 09 50 48.1
comp=Z,61nm,1.0s

KOUNC Koumac, New Ca 72.48 174 P **P 09 50 49.3 +1.7**
GAL1 Galloway 72.53 350 *e*P **P 09 50 47.6 0.0**
GAL1 IAmb IAmb 09 50 48.3
comp=Z,28nm,0.8s
STHS Stebnicka Huta 72.56 332 *e*P **P 09 50 49.9 +1.9**
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 72.56 332 *e*P **P 09 50 49.9 +1.9**
IDGL Inch Island, C 72.60 352 *e*P **P 09 50 48.3 +0.3**
IDGL IAmb IAmb 09 50 49.3
comp=Z,55nm,0.8s
KSP Ksiaz 72.60 336 *e*P **P 09 50 47.5 -0.7**
KESW Keswick, Cumbr 72.62 349 *e*P **P 09 50 48.6 +0.4**
KESW IAmb IAmb 09 50 49.2
comp=Z,93nm,0.8s
OLIL Olney 72.62 49 P **P 09 50 49.2 +0.7**
OLIL IAmb IAmb 09 51 07.8
comp=Z,29nm,1.1s
HPIG 72.62 69 P **P 09 50 49.8 +0.8**
CTA Charters Tower 72.64 192 P **P 09 50 49.6 +0.9**
CTA Charters Tower 72.64 192 P **P 09 50 49.7 +1.0**
CTAO Charters Tower 72.64 192 P **P 09 50 49.7 +1.0**
CTAO Charters Tower 72.64 192 P **P 09 50 49.1 +0.4**
KOLS Kolonicke sedl 72.70 331 *e*P **P 09 50 50.1 +1.3**
KOLS pmax pmax
comp=Z,9.0nm,0.6s
KOLS Kolonicke sedl 72.70 331 *e*P **P 09 50 50.1 +1.3**
O48B Farmland 72.73 46 IAmb IAmb 09 50 50.2
comp=Z,26nm,0.8s
O48B **PcP 09 51 07.1 +1.0**
O48B Farmland 72.73 46 P **P 09 50 48.6 -0.5**
baz=325,SNR=6.4
OSTC Ostas 72.88 336 AMS AMS 10 26 10.0
comp=Z,300nm,20.7s
S44A Carbondale 72.92 50 IAmb IAmb 09 50 51.5
comp=Z,35nm,0.7s
SIUC Southern Illin 72.92 50 P **P 09 50 50.5 +0.3**
SIUC IAmb IAmb 09 50 51.6
comp=Z,34nm,0.7s
CLL Collm 72.96 338⇓ *i* P **P 09 50 49.3 -1.0**
CLL pmax pmax
comp=Z,16nm,1.1s
CLL Collm 72.96 338⇓ *i* P **P 09 50 49.3 -1.0**
comp=Z,16nm,1.1s
CLL *i* x x 09 50 57.3
comp=Z,12nm,1.0s
CLL *i* PcP **PcP 09 51 07.6 +0.7**
CLL *i* pP **pP 09 51 10.6 +0.4**
CLL *e*S **S 10 00 12.0 +1.3**
CLL *e*SS **SS 10 04 54.0 +2.8**
CLL AMS AMS 11 10 00.0
comp=Z,200nm,22.0s
CLL Collm 72.96 338 P **P 09 50 49.4 -0.9**
comp=Z,18nm,1.3s
FCAR Ozark Folk Cen 72.96 53 IAmb IAmb 09 50 51.3
comp=Z,34nm,0.7s
BURAR Bucovina Array 72.97 329 P **P 09 50 49.7 -0.9**
BURAR Bucovina Array 72.97 329 P **P 09 50 49.7 -0.9**
BURAR pmax pmax
comp=Z,4.0nm,0.6s
HOLU Holmets 73.03 331 P **P 09 50 49.9 -0.8**
OKC Ostrava-Krasne 73.04 334 AMS AMS 10 26 40.0
comp=Z,300nm,19.3s
DPC Dobruska-Polom 73.05 336 *e*P **P 09 50 51.3 +0.4**
DPC AMS AMS 10 26 30.0
comp=Z,300nm,18.6s
DPC Dobruska-Polom 73.05 336 *e*P **P 09 50 51.3 +0.4**
DPC MLR MLR
comp=Z,300nm,18.6s
DPC Dobruska-Polom 73.05 336 P **P 09 50 50.4 -0.5**
comp=Z,6.6nm,1.4s
HPK Haverah Park 73.05 348 *e*P **P 09 50 50.8 0.0**
HPK IAmb IAmb 09 50 51.7
comp=Z,69nm,0.7s
PBMO Poplar Bluff 73.08 52 IAmb IAmb 09 50 52.6
comp=Z,28nm,0.8s
JCT Junction City 73.19 62 P **P 09 50 52.7 +0.6**
JCT IAmb IAmb 09 50 53.9
comp=Z,27nm,0.9s
JCT Junction City 73.19 62 P **P 09 50 52.7 +0.6**
JCT pmax pmax
comp=Z,27nm,0.9s
WIM Isle of Man 73.23 350 *e*P **P 09 50 52.0 +0.2**
MORC Moravsky Berou 73.26 335 *e*P **P 09 50 51.7 -0.4**
P48A Milroy 73.26 47 P **P 09 50 52.3 +0.1**
P48A IAmb IAmb 09 50 53.0
comp=Z,28nm,0.7s
WHTX Lake Whitney, 73.28 59 IAmb IAmb 09 50 54.1
comp=Z,21nm,0.8s
MIAR Mount Ida 73.30 55 IAmb IAmb 09 50 54.1
comp=Z,20nm,0.8s
MIAR Mount Ida 73.30 55 P **P 09 50 52.8 +0.2**
LANS Liptovska Anna 73.31 333 *e*P **P 09 50 52.9 +0.5**
LANS pmax pmax
comp=Z,6.0nm,1.0s
LANS Liptovska Anna 73.31 333 *e*P **P 09 50 52.9 +0.5**
WHAR Wooly Hollow 73.35 54 P **P 09 50 52.8 -0.1**
WHAR IAmb IAmb 09 50 54.0
comp=Z,45nm,1.2s
N51A Ashland 73.39 44 P **P 09 50 53.2 +0.1**
TREL Terrell 73.42 58 P **P 09 50 54.0 +0.6**
TREL IAmb IAmb 09 50 54.7
comp=Z,30nm,1.0s
P49A Miami Univ. Ec 73.51 46 IAmb IAmb 09 51 13.2
comp=Z,55nm,1.2s
P49A Miami Univ. Ec 73.51 46 P **P 09 50 53.5 -0.3**
baz=325
DRIO Del Rio 73.56 63 P **P 09 50 54.8 +0.6**
DRIO IAmb IAmb 09 50 56.9
comp=Z,25nm,0.9s
Z38A Mt. Pleasant 73.58 57 P **P 09 50 55.0 +0.7**
Z38A IAmb IAmb 09 50 55.7
comp=Z,23nm,0.8s
ACSO Alum Creek Sta 73.70 45 IAmb IAmb 09 51 14.6
comp=Z,38nm,1.0s
WCI Wyandotte Cave 73.86 48 P **P 09 50 56.0 +0.1**
WCI IAmb IAmb 09 50 57.2
comp=Z,29nm,0.8s
WCI Wyandotte Cave 73.86 48 P **P 09 50 56.0 +0.1**
WCI pmax pmax
comp=Z,29nm,0.8s
BATG Bathurst New B 73.93 30 P **P 09 50 57.1 +1.0**
BATG IAmb IAmb 09 51 17.7
comp=Z,26nm,1.2s
GNAR Gosnell 73.93 52 P **P 09 50 56.8 +0.6**
VRAC Vranov 73.93 335 LR LR 10 27 55.8
comp=Z,219nm,18.9s,baz=18,slow=39
JAVC Velka Javorina 74.06 334 *e*P **P 09 50 57.4 +0.5**
237A Washetta, Mont 74.14 58 IAmb IAmb 09 50 58.9
comp=Z,24nm,1.0s
DZM Mont Dzumac 74.14 172 *e*P **P 09 50 59.3 +1.8**
comp=Z,110nm,1.3s
DZM *e*S **S 10 00 24.8 +0.1**
comp=Z,50nm,21.9s
DZM Mont Dzumac 74.14 172 *e*LR LR 10 13 47.1
comp=Z,498nm,33.1s
DZM Mont Dzumac 74.14 172 IAmb IAmb 09 51 01.1
comp=Z,54nm,1.2s
DZM Mont Dzumac 74.14 172 LR LR 10 17 49.0
comp=Z,177nm,21.5s,baz=23,slow=31
DZM Mont Dzumac 74.14 172 P **P 09 51 00.2 +2.7**
435B Jarrell 74.15 60 P **P 09 50 57.8 +0.2**
baz=322
QIS Mount Isa 74.18 198 P **P 09 50 57.9 +0.2**
WLAR White Oak Lake 74.21 55 P **P 09 50 58.5 +0.6**
WLAR IAmb IAmb 09 50 59.6
comp=Z,34nm,0.9s
KRUC Moravsky 74.21 335 *e*P **P 09 50 57.4 -0.3**
O52A Adamsville 74.29 44 P **P 09 50 58.7 +0.4**
O52A **pP 09 51 16.8 -0.8**
FOEL Foel Wylfa 74.30 349 *e*P **P 09 50 58.0 -0.2**
FOEL IAmb IAmb 09 51 00.4
comp=Z,67nm,1.1s
DSB Dublin 74.30 351 P **P 09 50 58.7 +0.6**
DSB IAmb IAmb 09 50 59.3
comp=Z,35nm,0.9s
DSB **pP 09 51 16.3 -1.7**
G62A West of Eustis 74.30 34 P **P 09 50 59.5 +1.3**
G62A **pP 09 51 18.0 0.0**
G62A IAmb IAmb 09 51 20.3
comp=Z,36nm,1.3s
HALT Halls 74.30 51 P **P 09 50 59.1 +0.7**
PSZ Piszkesteto 74.30 332 P **P 09 50 59.3 +1.0**
L56A Greenwood 74.36 40 IAmb IAmb 09 51 18.1
comp=Z,43nm,1.1s

LLW Llanuwychllyn 74.39 349 *eP* **P 09 50 58.6 0.0**
ZVC Zvikov 74.42 337 *eP* **P 09 50 59.2 +0.3**
SMOL Smolenice 74.44 334 *eP* **P 09 50 59.9 +0.9**
T47A Sharon Grove 74.50 49 IAmb IAmb 09 51 01.2
comp=Z,32nm,0.8s
ELMS Elmsett, Ipswi 74.50 346 *eP* **P 09 50 59.6 +0.4**
ELMS IAmb IAmb 09 51 00.2
comp=Z,82nm,0.7s
Q51A Peebles 74.54 45 IAmb IAmb 09 51 01.2
comp=Z,35nm,0.7s
MLR Muntele Rosu 74.61 328 LR LR 10 29 18.7
comp=Z,165nm,18.6s,baz=51,slow=40
MLR Muntele Rosu 74.61 328 P **P 09 50 59.7 -0.5**
MLR Muntele Rosu 74.61 328 P **P 09 50 59.7 -0.5**
MODS Modra-Piesok 74.61 334 *eP* **P 09 51 00.8 +0.8**
MODS pmax pmax
comp=Z,76nm,2.2s
MODS Modra-Piesok 74.61 334 *eP* **P 09 51 00.8 +0.8**
H62A Milan 74.65 34 P **P 09 51 01.0 +0.7**
H62A IAmb IAmb 09 51 02.0
comp=Z,27nm,0.9s
H62A pP **pP 09 51 18.6 -1.4**
R50A Paris 74.71 47 IAmb IAmb 09 51 20.8
comp=Z,29nm,1.1s
WR0 Warramunga Arr 74.72 203 IAmb IAmb 09 51 02.4
comp=Z,42nm,0.9s
WRAB Tennant Creek 74.74 204 P **P 09 51 01.1 +0.2**
WRAB pP **pP 09 51 19.5 -1.2**
WRAB Tennant Creek 74.74 204 *eP* **P 09 50 59.9 -1.0**
WRAB *i* *PP **pP 09 51 19.8 -1.0**
WRAB pmax pmax
comp=Z,55nm,0.9s
WB2 Warramunga Arr 74.75 204 P **P 09 51 01.5 +0.5**
WRA Warramunga Arr 74.75 204 P **P 09 51 01.0 0.0**
WRA Warramunga Arr 74.75 204 P **P 09 51 01.5 +0.5**
comp=Z,35nm,0.8s,baz=17,slow=6.1,SNR=132
WRA pP **pP 09 51 19.8 -1.0**
comp=Z,7.9nm,0.7s,baz=18,slow=6.0,SNR=4.5
WRA LR LR 10 23 08.3
comp=Z,48nm,21.6s,baz=356,slow=35
comp=Z,35nm,0.8s
SRO Srobarova 74.84 333 *eP* **P 09 51 01.7 +0.4**
SRO Srobarova 74.84 333 *eP* **P 09 51 01.7 +0.4**
WVT Waverly 74.85 50 P **P 09 51 01.8 +0.2**
WVT IAmb IAmb 09 51 03.1
comp=Z,23nm,0.9s
WVT pP **pP 09 51 20.6 -0.5**
WVT Waverly 74.85 50 P **P 09 51 01.8 +0.2**
WVT P **pP 09 51 20.6 -0.5**
WVT pmax pmax
comp=Z,23nm,0.9s
O54A Avella 74.85 43 P **P 09 51 01.7 +0.1**
O54A IAmb IAmb 09 51 02.9
comp=Z,23nm,0.8s
O54A **pP 09 51 20.8 -0.6**
KHC Kasperske Hory 74.85 337 *eP* **P 09 51 01.6 +0.1**
KHC AMS AMS 10 28 20.0
comp=Z,200nm,22.7s
KHC Kasperske Hory 74.85 337 *eP* **P 09 51 01.6 +0.1**
KHC MLR MLR
comp=Z,200nm,22.7s
KHC Kasperske Hory 74.85 337 P **P 09 51 01.5 +0.1**
comp=Z,12nm,1.0s
SSFO Shawnee State 74.87 46 P **P 09 51 02.1 +0.4**
SSFO pP **pP 09 51 20.9 -0.1**
GRF Grafenberg Arr 74.88 339 *eP* **P 09 51 02.1 +0.6**
comp=Z,13nm,1.0s,baz=20,slow=5.1
VOIR 74.95 328 P **P 09 51 02.5 +0.4**
VOIR 74.95 328 P **P 09 51 02.5 +0.4**
comp=Z,8.6nm,1.1s
Q52A Bidwell 75.06 45 IAmb IAmb 09 51 22.3
BTNL Ternell 75.08 342 *dP* **P 09 51 02.5 -0.2**
BTNL *dp*P **pP 09 51 20.7 -1.9**
MEM Membach 75.08 342 *dP* **P 09 51 02.8 +0.1**
comp=Z,33nm,1.0s
MEM *d*PcP **PcP 09 51 15.6 -0.4**
MEM *dp*P **pP 09 51 21.6 -1.0**
833A Chaparral WMA, 75.09 63 P **P 09 51 04.0 +0.9**
833A IAmb IAmb 09 51 05.5
comp=Z,31nm,1.0s
833A Chaparral WMA, 75.09 63 P **P 09 51 03.6 +0.5**
baz=322,SNR=8.8
GERES GERESS Array B 75.09 337 P **P 09 51 02.0 -0.9**
comp=Z,3.1nm,0.7s,baz=24,slow=7.5,SNR=9.4
comp=Z,3.1nm,0.7s
BSTI Sart Tilman 75.19 343 *dP* **P 09 51 04.0 +0.7**
BSTI *dp*P **pP 09 51 22.7 -0.6**
IWEX Carrickbyrne, 75.20 351 *eP* **P 09 51 02.9 -0.4**
UCC Uccle 75.20 343 *dP* **P 09 51 03.5 +0.2**
M57A Sunshine Farm, 75.21 40 P **P 09 51 03.5 0.0**
M57A IAmb IAmb 09 51 04.6
comp=Z,23nm,0.7s
M57A **pP 09 51 21.5 -1.8**
MLDN Muldoon 75.21 61 IAmb IAmb 09 51 05.7
comp=Z,47nm,1.0s
MONM Monmouth 75.28 348 *eP* **P 09 51 03.2 -0.5**
MONM IAmb IAmb 09 51 04.7
comp=Z,42nm,0.9s
L59A Walton 75.29 38 IAmb IAmb 09 51 04.9
comp=Z,21nm,0.9s
I63A Otisfield 75.31 34 IAmb IAmb 09 51 31.7
comp=Z,34nm,1.1s
BHOU Houvegnez 75.33 342 *dP* **P 09 51 04.8 +0.7**
comp=Z,14nm,1.0s
BCLA Clavier 75.39 343 *dP* **P 09 51 03.2 -1.2**
comp=Z,12nm,1.0s
BCLA *d*PcP **PcP 09 51 16.6 -0.8**
BCLA *dp*P **pP 09 51 22.1 -2.3**
CONA Conrad Observa 75.39 335 *i* P **P 09 51 04.6 -0.1**
comp=Z,7.4nm,0.9s
BGES Gesves 75.47 343 *dP* **P 09 51 05.9 +1.0**
comp=Z,15nm,1.0s
RONA Rosalia, Austr 75.49 335 *i* P **P 09 51 06.0 +0.9**
comp=Z,12nm,1.2s
U49A Red Boiling Sp 75.50 49 P **P 09 51 06.0 +0.7**
U49A IAmb IAmb 09 51 06.7
comp=Z,20nm,0.8s
FITZ Fitzroy Crossi 75.51 212 P **P 09 51 06.8 +1.4**
T50A Nancy 75.52 48 IAmb IAmb 09 51 06.8
comp=Z,22nm,0.8s
S51A Beattyville 75.57 46 IAmb IAmb 09 51 06.9
comp=Z,19nm,0.9s
CLTN Cedars of Leba 75.59 49 IAmb IAmb 09 51 07.4
comp=Z,33nm,0.8s
BMRD Maredsous 75.60 343 *dP* **P 09 51 06.1 +0.4**
comp=Z,24nm,1.0s
BMRD *dp*P **pP 09 51 24.2 -1.5**
V48A Smith Brothers 75.64 50 IAmb IAmb 09 51 07.5
comp=Z,29nm,1.0s
MPLH Magyarpolny 75.64 334 P **P 09 51 06.4 +0.4**
comp=Z,65nm,1.3s
PLAL Pickwick Lake 75.66 51 P **P 09 51 06.2 -0.1**
PLAL IAmb IAmb 09 51 07.4
comp=Z,20nm,0.8s
RCHB Rochefort 75.66 343 *dP* **P 09 51 06.0 +0.1**
comp=Z,13nm,1.0s
RCHB *dp*P **pP 09 51 24.4 -1.6**
HKT Hockley 75.74 60 P **P 09 51 07.3 +0.6**
HKT IAmb IAmb 09 51 08.9
comp=Z,52nm,1.8s
HKT Hockley 75.74 60 P **P 09 51 07.3 +0.6**
HKT pmax pmax
comp=Z,52nm,1.8s
GIVF Givet 75.79 343 *eP* **P 09 51 06.3 -0.4**
GIVF pmax pmax
comp=Z,13nm,0.9s
DOU Dourbes 75.83 343 *dP* **P 09 51 06.5 -0.5**
comp=Z,13nm,1.0s
MOA Molln 75.88 336 *i* P **P 09 51 07.6 +0.3**
comp=Z,6.1nm,0.9s
BAIF Baives 75.94 343 *eP* **P 09 51 07.3 -0.3**
BAIF pmax pmax
comp=Z,21nm,1.0s
L61B Northampton 75.95 36 P **P 09 51 07.3 -0.5**
baz=330
WLF Walferdange 75.96 342 P **P 09 51 07.8 +0.1**
WLF Walferdange 75.96 342 P **P 09 51 07.8 +0.1**
WLF pmax pmax
comp=Z,14nm,1.1s
ARSA Arzberg 76.11 335 *eP* **P 09 51 09.0 +0.3**
comp=Z,8.7nm,1.1s
BIOA Bad Ischl, Aus 76.18 336 *eP* **P 09 51 09.5 +0.4**
comp=Z,2.5nm,0.4s
HBVL Hebbronville 76.47 63 P **P 09 51 11.7 +0.7**

BNN Bunyan 76.63 318 P **P 09 51 10.9 -1.0**
BNN IAmb IAmb 09 51 24.6
comp=Z,38nm,0.9s
LESA Schwarzleotal 76.66 337 *i* P **P 09 51 12.2 +0.3**
comp=Z,7.7nm,0.8s
PAL Palisades 76.74 38 P **P 09 51 12.1 -0.2**
PAL IAmb IAmb 09 51 23.1
comp=Z,53nm,1.4s
PAL Palisades 76.74 38 P **P 09 51 12.1 -0.2**
PAL pmax pmax
comp=Z,53nm,1.4s
SBD Saint Breward 76.76 349 *eP* **P 09 51 12.3 +0.1**
SOKA Soboth 76.77 335 *i* P **P 09 51 12.2 -0.2**
comp=Z,14nm,1.2s,SNR=5.8
BR131 Keskin Array S 76.79 319 P **P 09 51 11.9 -0.9**
BR131 Keskin Array S 76.79 319 P **P 09 51 11.9 -0.9**
BR131 pmax pmax
comp=Z,8.0nm,1.0s
BRTR Keskin Array B 76.79 319 P **P 09 51 11.6 -1.2**
BRTR Keskin Array B 76.79 319 P **P 09 51 11.7 -1.0**
comp=Z,4.2nm,0.9s,baz=35,slow=6.0,SNR=8.6
BRTR LR LR 10 29 02.0
comp=Z,110nm,20.9s,baz=7.5,slow=39
comp=Z,4.2nm,0.9s
BRTR Keskin Array B 76.79 319 *i* P **P 09 51 12.8 0.0**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
W50A Signal Mountai 76.79 49 IAmb IAmb 09 51 13.9
comp=Z,22nm,0.8s
BFO Black Forest 76.79 340 P **P 09 51 12.3 -0.2**
BFO Black Forest 76.79 340 P **P 09 51 12.3 -0.2**
BFO pmax pmax
comp=Z,10.0nm,1.0s
KBA Koelnbreinsper 76.82 336 *i* P **P 09 51 13.2 +0.3**
comp=Z,32nm,0.7s,SNR=17
KBA Koelnbreinsper 76.82 336 P **P 09 51 13.3 +0.4**
CDF Champ du Feu 76.93 341 *eP* **P 09 51 12.9 -0.5**
CDF pmax pmax
comp=Z,22nm,1.1s
CPCT Cooper Cave 76.95 48 P **P 09 51 13.4 -0.1**
CPCT IAmb IAmb 09 51 14.7
comp=Z,22nm,0.7s
SDMD Soldier's Deli 76.96 41 P **P 09 51 12.6 -0.9**
WATA Walderalm 77.01 338 *i* P **P 09 51 14.5 +0.6**
comp=Z,14nm,0.9s
OBKA Obir 77.05 335 *i* P **P 09 51 13.9 -0.2**
comp=Z,20nm,1.4s
RETA Reutte 77.06 338 *i* P **P 09 51 14.3 +0.3**
comp=Z,6.3nm,0.8s
WTTA Wattenberg 77.06 338 *i* P **P 09 51 14.8 +0.6**
comp=Z,26nm,1.2s,SNR=8.1
Z47A Carrollton 77.11 52 IAmb IAmb 09 51 15.7
comp=Z,39nm,0.8s
MOTA Moosalm 77.11 338 *i* P **P 09 51 15.0 +0.5**
comp=Z,28nm,1.2s
TKL Tuckaleechee C 77.12 48 P **P 09 51 14.7 +0.2**
TKL IAmb IAmb 09 51 41.7
comp=Z,86nm,1.9s
TKL Tuckaleechee C 77.12 48 LR LR 10 27 10.4
comp=Z,142nm,19.8s,baz=335,slow=37
TKL Tuckaleechee C 77.12 48 P **P 09 51 14.7 +0.2**
TKL pmax pmax
comp=Z,86nm,1.9s
ECH Echery 77.14 341 P **P 09 51 13.4 -1.1**
ECH Echery 77.14 341 P **P 09 51 13.4 -1.1**
ECH pmax pmax
comp=Z,21nm,1.1s
MYKA Terra Mystica 77.17 336 *eP* **P 09 51 15.6 +1.0**
comp=Z,7.2nm,0.9s
FPAL Fort Paine 77.19 50 P **P 09 51 14.9 -0.1**
SQTA Sankt Quirin 77.20 338 *i* P **P 09 51 15.7 +0.8**
comp=Z,19nm,0.9s,SNR=6.1
U54A Nelsons Funny 77.29 46 P **P 09 51 15.7 +0.1**
U54A IAmb IAmb 09 51 16.9
comp=Z,25nm,0.7s
BLA Blacksburg 77.32 45 P **P 09 51 15.6 -0.1**
BLA IAmb IAmb 09 51 16.9
comp=Z,24nm,0.9s
BLA Blacksburg 77.32 45 P **P 09 51 15.6 -0.1**
BLA pmax pmax
comp=Z,24nm,1.0s
ABTA Abfaltersbach 77.34 337 *i* P **P 09 51 15.9 +0.2**
comp=Z,22nm,0.9s,SNR=5.0
PRED Cave del Predi 77.36 336 P **P 09 51 14.6 -1.2**
EIDS Eidsvold 77.38 187 P **P 09 51 16.3 +0.5**
EIDS IAmb IAmb 09 51 18.6
comp=Z,81nm,1.8s
EIDS Eidsvold 77.38 187 P **P 09 51 17.3 +1.5**
DAVA Damuels 77.44 339 *i* P **P 09 51 16.7 +0.4**
comp=Z,21nm,1.1s
M65A Busby, Falmout 77.46 36 P **P 09 51 16.7 +0.4**
baz=332
FETA Feichten 77.50 338 *i* P **P 09 51 17.1 +0.4**
comp=Z,12nm,0.8s,SNR=6.5
HAU Haudompre 77.51 341 *eP* **P 09 51 16.0 -0.5**
HAU pmax pmax
comp=Z,17nm,1.0s
W52A Murphy 77.52 48 P **P 09 51 17.4 +0.6**
W52A **pP 09 51 35.4 -0.9**
HINF Hinteralfeld 77.58 341 *eP* **P 09 51 16.1 -0.9**
HINF pmax pmax
comp=Z,14nm,1.2s
ZAIG Zacatecas 77.62 69 IAmb IAmb 09 51 20.6
comp=Z,26nm,1.1s
WSAR Wadi Sarin 77.81 292 LR LR 10 28 20.6
comp=Z,80nm,19.6s,baz=58,slow=38
FLN La Foliniere 77.96 346 *eP* **P 09 51 18.5 -0.5**
FLN pmax pmax
comp=Z,35nm,0.9s
FUORN Ofenpass-Fuorn 77.99 338 P **P 09 51 19.0 -0.5**
BG3 Lake Jocassee 78.06 47 IAmb IAmb 09 51 21.3
comp=Z,28nm,0.7s
LDF La Druitiere 78.07 346 *eP* **P 09 51 19.1 -0.5**
LDF pmax pmax
comp=Z,26nm,1.0s
TUE Stuetta 78.33 339 IAmb IAmb 09 51 22.7
comp=Z,20nm,0.8s
TUE Stuetta 78.33 339 P **P 09 51 21.6 +0.3**
GRR Gorron 78.38 346 *eP* **P 09 51 21.1 -0.2**
GRR pmax pmax
comp=Z,69nm,1.1s
AS01 Alice Springs 78.42 203 P **P 09 51 22.9 +1.2**
AS31 Alice Springs 78.43 203 P **P 09 51 22.9 +1.1**
ASAR Alice Springs 78.43 203 P **P 09 51 23.0 +1.2**
ASAR Alice Springs 78.43 203 P **P 09 51 23.1 +1.4**
comp=Z,30nm,0.8s,baz=17,slow=5.0,SNR=244
ASAR LR LR 10 23 54.5
comp=Z,47nm,21.2s,baz=32,slow=34
comp=Z,30nm,0.8s
KMSC Kings Mountain 78.65 46 IAmb IAmb 09 51 24.1
comp=Z,17nm,0.7s
LOR Lormes 78.69 343 *eP* **P 09 51 22.6 -0.4**
LOR pmax pmax
comp=Z,37nm,0.9s
SGMF Saint Gilles 78.76 347 *eP* **P 09 51 23.2 -0.1**
SGMF pmax pmax
comp=Z,34nm,0.9s
ROSF Rostrenen 78.77 348 *eP* **P 09 51 23.8 +0.4**
ROSF Rostrenen 78.77 348 *eP* **P 09 51 23.4 0.0**
ROSF pmax pmax
comp=Z,58nm,1.0s
TEOL Teolo 78.84 337 IAmb IAmb 09 51 24.7
comp=Z,41nm,0.9s
SENIN Lac Senin/Sane 78.88 340 IAmb IAmb 09 51 28.0
comp=Z,34nm,0.8s
CABF La Chapelle 78.89 341 *eP* **P 09 51 24.1 -0.2**
CABF pmax pmax
comp=Z,17nm,1.0s
SSF Saint Saulge 78.95 343 *eP* **P 09 51 24.1 -0.4**
SSF pmax pmax
comp=Z,20nm,0.8s
QUIF Quistinic 79.17 348 *eP* **P 09 51 25.4 -0.2**
QUIF pmax pmax
comp=Z,17nm,0.8s
AVF Avril sur Loir 79.24 343 *eP* **P 09 51 25.8 -0.2**
AVF pmax pmax
comp=Z,44nm,0.9s
SMF Signal de Mont 79.29 343 *eP* **P 09 51 26.1 -0.2**
SMF pmax pmax
comp=Z,30nm,1.1s
QLP Quilpie 79.31 193 P **P 09 51 27.6 +1.2**
BGF Bois d'Agland 79.56 343 *eP* **P 09 51 27.7 -0.1**
BGF pmax pmax
comp=Z,13nm,0.6s
LPL La Plagne 79.81 340 *eP* **P 09 51 29.8 +0.4**
LPL pmax pmax

comp=Z,20nm,0.9s
LPG La Plagne 79.82 340 *eP* **P 09 51 30.0 +0.4**
LPG pmax pmax
comp=Z,26nm,0.9s
TCF Toulx Ste Croi 79.93 344 *eP* **P 09 51 29.8 0.0**
TCF pmax pmax
comp=Z,29nm,0.8s
MFF Saint Martin d 80.02 345 *eP* **P 09 51 30.4 +0.2**
MFF pmax pmax
comp=Z,25nm,0.8s
TAOE Nuku Hiva Isla 80.08 118 *e*LR LR 10 16 33.8
comp=Z,233nm,24.9s
BNI Bardonecchia 80.26 340 P **P 09 51 31.9 +0.1**
MBWA Marble Bar 80.40 216 P **P 09 51 32.6 +0.2**
MBWA IAmb IAmb 09 51 34.1
comp=Z,30nm,1.1s
MBWA Marble Bar 80.40 216 P **P 09 51 33.0 +0.6**
SSB Saint Sauveur 80.47 342 IAmb IAmb 09 51 34.4
comp=Z,19nm,0.9s
FDMO Fiordimonte 80.66 335 IAmb IAmb 09 51 36.9
comp=Z,39nm,0.8s
OSSC Osservatorio P 80.67 337 P **P 09 51 33.6 -0.2**
OSSC IAmb IAmb 09 51 55.2
comp=Z,52nm,1.5s
PSA00 Pilbara Seismi 80.73 216 P **P 09 51 34.4 +0.2**
PSA00 Pilbara Seismi 80.73 216 P **P 09 51 34.9 +0.7**
NRCA Norcia 80.84 335 P **P 09 51 35.0 +0.2**
VIVF Saint-Julien-l 80.86 341 *eP* **P 09 51 35.1 +0.3**
VIVF pmax pmax
comp=Z,26nm,1.0s
INKA Innaminka 80.98 196 P **P 09 51 36.6 +1.2**
RJF Les Rejaudoux 81.00 344 *eP* **P 09 51 35.9 +0.3**
RJF pmax pmax
comp=Z,25nm,0.8s
CAMP Campotosto 81.04 335 P **P 09 51 36.2 +0.2**
CAMP IAmb IAmb 09 51 37.3
comp=Z,45nm,0.9s
CESX Cesi 81.19 335 IAmb IAmb 09 51 37.4
comp=Z,28nm,1.1s
WRKA Warakurna 81.22 208 P **P 09 51 37.7 +0.9**
SBF Sospel 81.23 339 *eP* **P 09 51 37.9 +1.0**
SBF pmax pmax
comp=Z,16nm,0.7s
CAF Calviac 81.28 343 *eP* **P 09 51 37.6 +0.6**
CAF pmax pmax
comp=Z,31nm,0.8s
INTR Introdacqua 81.40 334 IAmb IAmb 09 51 39.1
comp=Z,22nm,0.9s
LFF La Frestale 81.49 344 *eP* **P 09 51 38.7 +0.6**
LFF pmax pmax
comp=Z,39nm,0.9s
MMAI Mount Meron Ar 81.76 315 P **P 09 51 40.0 +0.2**
comp=Z,7.7nm,0.6s,baz=40,slow=6.6,SNR=11
MMAI LR LR 10 34 08.2
comp=Z,157nm,18.2s,baz=320,slow=40
comp=Z,7.7nm,0.6s
OOD Oodnadatta 82.00 200 P **P 09 51 41.9 +1.1**
PGF Pioggiola 82.13 338 *eP* **P 09 51 41.0 -0.7**
PGF pmax pmax
comp=Z,13nm,0.8s
PPT Papeete 82.69 131 LR LR 10 25 44.3
comp=Z,33nm,19.4s,baz=316,slow=33
PPT2 Papeete2 82.70 131 *e*S **S 10 01 55.3 -1.1**
comp=Z,74nm,25.8s
PPT2 Papeete2 82.70 131 *e*LR LR 10 17 37.7
PPT2 *e*LR LR 10 17 45.3
comp=Z,521nm,25.0s
MTLF Montolieu 82.78 343 *eP* **P 09 51 45.4 +0.5**
MTLF pmax pmax
comp=Z,33nm,1.0s
TIP Timpagrande 83.22 331 P **P 09 51 46.9 -0.4**
TIP IAmb IAmb 09 51 49.3
comp=Z,35nm,1.0s
EPF Esparros 83.41 344 *eP* **P 09 51 48.1 -0.1**
EPF pmax pmax
comp=Z,11nm,0.7s
SJPF Ste Jean 83.59 345 *eP* **P 09 51 50.0 +0.9**
SJPF pmax pmax
comp=Z,16nm,0.9s
CEST Esterri de Car 83.67 343 P **P 09 51 50.1 +0.4**
CEST IAmb IAmb 09 52 09.7
comp=Z,30nm,1.1s
CMSA Cobar Meteorol 84.00 191 P **P 09 51 52.6 +1.6**
IDI Anoyia 84.03 323 LR LR 10 34 00.8
comp=Z,68nm,19.3s,baz=2.5,slow=39
LCRK Leigh Creek 84.07 198 P **P 09 51 52.7 +1.3**
MULG Mulgathing 84.76 201 P **P 09 51 55.6 +0.7**
RAYN Ar Rayn 84.80 302 P **P 09 51 54.7 -0.9**
RAYN IAmb IAmb 09 51 55.6
comp=Z,16nm,0.8s
RAYN Ar Rayn 84.80 302 P **P 09 51 55.1 -0.5**
RAYN pmax pmax
comp=Z,16nm,0.7s
EIL Elat 84.81 313 LR LR 10 34 04.0
comp=Z,127nm,20.6s,baz=70,slow=39
STKA Stephens Creek 84.89 194 P **P 09 51 56.5 +1.0**
STKA Stephens Creek 84.89 194 P **P 09 51 56.0 +0.5**
comp=Z,20nm,0.8s,baz=339,slow=6.2,SNR=24
STKA LR LR 10 28 05.7
comp=Z,27nm,21.1s,baz=24,slow=34
comp=Z,20nm,0.8s
STKA Stephens Creek 84.89 194 P **P 09 51 56.8 +1.3**
PBRG Braganca 85.63 349 *eP* **P 09 51 59.9 +0.4**
PBRG *ep*P **pP 09 52 18.8 -1.0**
PGAV Gavieira, Arco 85.65 350 *eP* **P 09 52 00.8 +1.2**
PGAV *ep*P **pP 09 52 18.9 -1.0**
MEEK Meekatharra 85.81 215 P **P 09 52 00.7 +0.4**
PCAB Cabril 85.87 350 *eP* **P 09 52 00.9 +0.3**
PCAB *ep*P **pP 09 52 20.2 -0.8**
POLO Lamas de Olo 86.18 350 *eP* **P 09 52 03.7 +1.5**
POLO *ep*P **pP 09 52 21.4 -1.2**
PVRL Vila Real 86.27 350 *eP* **P 09 52 04.1 +1.5**
PVRL *ep*P **pP 09 52 21.6 -1.4**
MVO Moncorvo 86.30 349 *eP* **P 09 52 04.2 +1.4**
MVO *ep*P **pP 09 52 21.6 -1.6**
FORT Forrest 86.71 206 P **P 09 52 05.2 +0.7**
FORT Forrest 86.71 206 P **P 09 52 05.6 +1.1**
BBOO Buckleboo 86.78 199 P **P 09 52 05.5 +0.7**
BBOO IAmb IAmb 09 52 06.5
comp=Z,29nm,1.0s
BBOO Buckleboo 86.78 199 P **P 09 52 05.8 +1.0**
PVIS Viseu 86.84 350 *eP* **P 09 52 06.8 +1.4**
PVIS *ep*P **pP 09 52 25.1 -0.7**
HTT Hallett 86.85 196 P **P 09 52 06.5 +1.3**
MTE Manteigas 87.11 349 *eP* **P 09 52 07.2 +0.4**
MTE *ep*P **pP 09 52 25.5 -1.7**
ESBB Sonseca Array 87.37 347 IAmb IAmb 09 52 27.7
comp=Z,26nm,1.4s
ESDC Sonseca Array 87.37 347 P **P 09 52 07.9 -0.1**
ESDC Sonseca Array 87.37 347 P **P 09 52 07.5 -0.5**
comp=Z,9.9nm,1.0s,baz=0.1,slow=4.5,SNR=27
ESDC pP **pP 09 52 25.9 -2.5**
comp=Z,8.8nm,0.8s,baz=3.0,slow=4.4,SNR=9.0
ESDC LR LR 10 38 47.6
comp=Z,83nm,18.5s,baz=3.0,slow=41
comp=Z,9.9nm,1.0s
PAB San Pablo 87.55 347 P **P 09 52 08.7 -0.2**
PAB IAmb IAmb 09 54 48.5
comp=Z,48nm,1.9s
PAB San Pablo 87.55 347 P **P 09 52 08.7 -0.2**
PAB pmax pmax
comp=Z,48nm,2.0s
PCAS Casmilo, Conde 87.56 350 *eP* **P 09 52 11.0 +2.2**
TEIG Tepich 87.59 60 LR LR 10 36 46.6
comp=Z,17nm,18.3s,baz=272,slow=39
PCBR Castelo Branco 87.66 349 *eP* **P 09 52 09.4 +0.1**
TBI Tubuai 87.76 134 *e*LR LR 10 19 52.0
comp=Z,1μm,32.2s
KEST Kesra 88.50 335 P **P 09 52 13.2 -0.3**
comp=Z,25nm,0.9s,baz=293,slow=2.9,SNR=12
KEST pP **pP 09 52 31.6 -2.5**
comp=Z,12nm,0.9s,baz=5.0,slow=9.0,SNR=3.6
KEST LR LR 10 38 12.5
comp=Z,80nm,19.0s,baz=11,slow=40
comp=Z,25nm,0.9s
MORW Morawa 88.95 216 P **P 09 52 15.5 +0.2**
PBAR Barrancos 89.25 349 *eP* **P 09 52 17.9 +1.1**
PBAR *ep*P **pP 09 52 35.8 -1.5**
BRAT Ballarat 90.15 192 P **P 09 52 22.2 +1.6**
URZ Urewera 91.41 165 LR LR 10 28 39.8
comp=Z,75nm,20.2s,baz=32,slow=32
URZ Urewera 91.41 165 P **P 09 52 27.8 +1.4**
MTO3 Montecristo 91.77 64 IAmb IAmb 09 52 36.9
comp=Z,7.9nm,1.1s

NWAO Narrogin (SRO) 92.03 214 LR LR 10 35 10.1
comp=Z,29nm,20.3s,baz=2.5,slow=36
TGUH Tegucigalpa,Un 93.20 62 P **P** **09 52 35.9 +0.3**
TUWZ Tuamarina 94.08 168 P **P** **09 52 40.8 +2.1**
MDT Midelt 94.19 346 LR LR 10 39 55.8
comp=Z,81nm,21.9s,baz=24,slow=39
RKT Rikitea 94.62 122 *e*LR LR 10 23 17.5
comp=Z,1μm,24.8s
RPZ Rata Peaks 96.02 171 LR LR 10 28 24.5
comp=Z,149nm,20.6s,baz=308,slow=30
ATD Arta Tunnel 96.08 297 LR LR 10 40 40.6
comp=Z,6.8nm,20.0s,baz=28,slow=38
ESPN Las Esperanzas 96.35 61 P **P** **09 52 49.7 -0.2**
JTS Las Juntas de 97.57 63 LR LR 10 39 33.4
comp=Z,23nm,21.0s,baz=295,slow=37
TORD Torodi Ar. Bea 112.02 336 PKiKP **PKiKP** **09 57 56.1 0.0**
comp=Z,0.2nm,0.5s,baz=341,slow=3.5,SNR=2.0
TORD PKKPbc **PKKPbc** **10 08 46.5 +0.8**
comp=Z,0.9nm,0.9s,baz=155,slow=3.5,SNR=5.1
TORD PKKPab **PKKPab** **10 08 56.8 -2.6**
comp=Z,2.1nm,1.0s,baz=242,slow=2.6,SNR=8.4
SAML Samuel 125.23 54 **PKiKP** **09 58 21.7 -0.1**
SAML Samuel 125.23 54 PKiKP **PKiKP** **09 58 21.7 -0.1**
LPAZ La Paz 128.77 64 PKP **PKPdf** **09 58 29.0 +0.1**
comp=Z,2.0nm,0.3s,baz=2.4,slow=6.7,SNR=6.0
LPAZ La Paz 128.77 64 PKIKP **PKPdf** **09 58 29.0 +0.1**
SBA Scott Base 129.75 178 PKPdf **PKiKP** **09 58 29.8 +0.9**
SBA Scott Base 129.75 178 PKIKP **PKiKP** **09 58 29.8 +0.9**
H03N2 Juan Fernandez 135.17 89 T T 12 29 13.8
baz=314,slow=77,SNR=2200
H03N1 Juan Fernandez 135.18 89 T T 12 29 16.7
baz=314,slow=77,SNR=1807
H03N3 Juan Fernandez 135.19 89 T T 12 29 14.4
baz=314,slow=77,SNR=4113
AC05 El Transito 137.25 76 **PKPdf** **09 58 44.6 +0.7**
BDFB Brasilia 137.98 40 PKP **PKPdf** **09 58 46.0 +0.5**
comp=Z,1.0nm,0.4s,baz=319,slow=20,SNR=4.5
BDFB Brasilia 137.98 40 PKIKP **PKPdf** **09 58 46.0 +0.5**
BOSA Boshof 138.31 286 PKP **PKPdf** **09 58 45.6 -0.2**
comp=Z,1.5nm,0.6s,baz=68,slow=5.4,SNR=1.9
MAW Mawson 138.59 215 PKP **PKiKP** **09 58 46.7 -0.3**
comp=Z,2.9nm,0.9s,baz=64,slow=5.5,SNR=5.7
QSPA South Pole Qui 141.81 180 PKhKP PKPpre 09 58 44.4
comp=Z,15nm,0.8s,baz=332,slow=0.6,SNR=81
QSPA PKP **PKiKP** **09 58 52.4 -1.4**
comp=Z,8.9nm,0.8s,baz=28,slow=0.6,SNR=7.6
CPUP Villa Florida 142.76 60 PKhKP PKPpre 09 58 49.8
comp=Z,2.5nm,0.8s,baz=275,slow=4.0,SNR=3.9
LL04 Puerto Octay 143.91 93 PKPbc 09 58 54.0 +0.6
PLCA Paso Flores 144.96 91 PKPbc **PKPdf** **09 58 57.3 0.0**
comp=Z,58nm,0.8s,baz=313,slow=3.4,SNR=104
LL02 Futaleuf 145.54 95 PKPdf **PKPbc** **09 58 58.4 0.0**
ITQB Itaqui 145.77 63 PKPdf **PKPab** **09 58 59.9 0.0**
ITAB Concordia 146.20 55 PKPdf **PKPbc** **09 59 00.6 -0.2**
TRQA Tornquist 148.59 80 **PKPbc** **09 59 07.4 +0.3**
TRQA Tornquist 148.59 80 PKP2 **PKPbc** **09 59 07.4 +0.3**
GO09 Cerro Castillo 148.97 109 PKPdf **PKPdf** **09 59 03.7 +0.2**
GO09 **PKiKP** **09 59 08.9 0.0**
GO09 **PKPab** **09 59 13.9 +1.9**
PLTB Pedras Altas 149.03 62 **PKPbc** **09 59 09.0 +0.6**
MG04 Isla Riesco 149.97 112 PKPdf **PKPdf** **09 59 05.0 +0.1**
MG04 PKPbc **PKiKP** **09 59 11.4 +0.6**
MG04 PKPab **PKPab** **09 59 16.7 +0.7**
GO10 Punta Arenas 150.36 112 PKPdf **PKPdf** **09 59 05.8 +0.1**
GO10 **PKiKP** **09 59 12.0 +0.3**
ELIB Princess Elisa 152.13 208 *d*PKPdf **PKPdf** **09 59 07.7 -0.3**
BELA Belgrano 2 153.64 174 PKPdf **PKPdf** **09 59 10.1 +0.2**
BELA PKPbc **PKPbc** **09 59 17.3 -0.4**
TROLL Troll, Antarti 157.37 199 ⇑PKPab **sPKPdf** **09 59 45.4 +1.0**
comp=Z,1μm,0.8s
TROLL ⇑PKPdf **PKPdf** **09 59 15.2 0.0**
comp=Z,118nm,1.1s
TROLL ⇑*p*PKPab **pPKPab** **10 00 05.8 -1.8**
comp=Z,441nm,0.8s
TROLL ⇑PP **PP** **10 03 25.6 -1.3**
comp=Z,97nm,1.3s
SNAA Sanae 158.65 196 ⇑PKPab **PKPab** **09 59 51.6 -0.9**
comp=Z,96nm,0.8s
SNAA ⇑PKPdf **PKPdf** **09 59 16.3 -0.4**
comp=Z,14nm,1.0s
SNAA ⇑PP **PP** **10 03 29.9 -3.8**
comp=Z,36nm,1.0s
SNAA Sanae 158.65 196 PKP **PKPdf** **09 59 15.9 -0.7**
comp=Z,1.0nm,0.9s,baz=129,slow=7.0,SNR=3.8
SNAA PKPab **PKPab** **09 59 52.7 +0.2**
comp=Z,5.3nm,0.9s,baz=212,slow=5.7,SNR=14
VNA2 Neumayer--Watz 160.02 194 ⇑PKPab **PKPab** **09 59 57.6 -0.8**
comp=Z,5.5nm,0.8s,baz=163,slow=3.8
VNA2 ⇑PKPdf **PKPdf** **09 59 18.1 -0.1**
comp=Z,1.5nm,0.7s,baz=102,slow=1.2
VNA2 ⇑PP **PP** **10 03 38.6 -2.4**
comp=Z,3.1nm,0.7s,baz=107,slow=3.1
VNA3 Neumayer Olymp 160.03 191 ⇑PKPab **PKPab** **09 59 57.5 -1.0**
comp=Z,14nm,0.8s
VNA3 ⇑PKPdf **PKPdf** **09 59 17.3 -0.9**
comp=Z,1.4nm,0.8s
VNA1 Neumayer--Stat 160.40 193 ⇑PKPab **PKPab** **09 59 57.2 -2.8**
comp=Z,10nm,1.1s
VNA1 ⇑PKPdf **PKPdf** **09 59 17.7 -0.9**
comp=Z,1.7nm,0.8s

*IDC **02** 09:39:43.1±1.8, 36°.50N×28°.48E, h0km, mb3.5/3, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=62.4km s-min=23.9km az=141.0*
*AFAD **02** 09:39:46.4±0.0, 36°.52N×28°.63E, h13km±3km, ML2.8*
ISC 02 09:39:45.9±1.4,**36°.48N**±0°.06×**28°.60E**±0°.03,**h10**km±9km,
n14,σ1**9**49/22,**mb3.5**/3,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.42**	**68**	P	**Pg**	**09 39 54.1**	**0.0**
FETY				S	**Sg**	**09 40 00.6**	**+0.8**
SABU	**Mula-Dalaman**	**0.45**	**41**	P	**Pg**	**09 39 54.1**	**-0.7**
SABU				S	**Sg**	**09 40 01.1**	**+0.3**
SABU				*i* AML	AML	09 40 05.0	
	comp=E,806nm,0.6s						
SABU				*i* AML	AML	09 40 07.0	
	comp=N,1μm,1.0s						
DAT	**Datca**	**0.86**	**287**	P	**Pb**	**09 40 03.2**	**+0.2**
DAT				*i* AML	AML	09 40 25.0	
	comp=N,520nm,0.5s						
DAT				*i* AML	AML	09 40 27.0	
	comp=E,382nm,0.4s						
YAZI	**Mula-Dat§a-**	**0.94**	**283**	P	**Pn**	**09 40 05.4**	**+0.2**
YAZI				S	**Sn**	**09 40 20.9**	**+2.2**
YAZI				*i* AML	AML	09 40 22.0	
	comp=N,430nm,0.5s						
YAZI				*i* AML	AML	09 40 24.0	
	comp=E,325nm,0.5s						
BDRM	**Kayabasi**	**1.10**	**303**	P	**Pn**	**09 40 07.5**	**+0.2**
BDRM				S	**Sn**	**09 40 27.2**	**+4.6**
BDRM				*i* AML	AML	09 40 28.0	
	comp=E,643nm,0.8s						
AKUM	**Antalya-Kumluc**	**1.42**	**96**	P	**Pg**	**09 40 13.1**	**0.0**
AKUM				S	**Sg**	**09 40 32.9**	**+1.4**
AKUM				*i* AML	AML	09 40 34.0	
	comp=N,186nm,0.4s						
AKUM				*i* AML	AML	09 40 41.0	
	comp=E,176nm,0.7s						
BUCA	**Burdur, Bucak-**	**1.79**	**61**	P	**Pn**	**09 40 17.6**	**+0.8**
BUCA				S	**Sg**	**09 40 44.0**	**+0.7**
BUCA				*i* AML	AML	09 40 48.0	
	comp=N,136nm,0.7s						
BUCA				*i* AML	AML	09 41 01.0	
	comp=E,117nm,0.7s						
DGB	**zmir**	**2.08**	**319**	P	Pg	09 40 31.9	+6.0
DGB				S	**Sg**	**09 40 52.2**	**-0.7**
DGB				*i* AML	AML	09 41 06.0	
	comp=N,28nm,0.5s						
DGB				*i* AML	AML	09 41 06.0	
	comp=E,20nm,0.3s						
KZIL	**AFYON_Kizioren**	**2.16**	**34**	P	**Pb**	**09 40 24.6**	**-0.6**
KZIL				S	**Sb**	**09 40 52.5**	**+0.5**
KZIL				*i* AML	AML	09 40 57.0	
	comp=N,54nm,1.3s						
KZIL				*i* AML	AML	09 41 06.0	
	comp=E,61nm,0.8s						
USAK	**Uak-Merkez**	**2.26**	**8**	P	**Pg**	**09 40 28.9**	**-0.3**
USAK				*i* AML	AML	09 41 00.0	
	comp=N,55nm,1.3s						
USAK				*i* AML	AML	09 41 00.0	
	comp=E,79nm,2.5s						
BRTR	**Keskin Array B**	**5.13**	**49**	Pn	**Pn**	**09 41 03.8**	**+0.9**
	0.5nm,0.3s,baz=230,slow=14,SNR=6.2						
BRTR				Sn	**Sn**	**09 42 02.0**	**-0.1**
	0.2nm,0.3s,baz=208,slow=21,SNR=1.4						
	2.2nm,0.5s						
FINES	**FINESS Array B**	**25.04**	**357**	P	**P**	**09 45 08.4**	**-1.5**
	1.2nm,0.5s,baz=156,slow=11,SNR=1.6						
	1.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**33.49**	**233**	P	**P**	**09 46 23.3**	**-2.2**
	0.5nm,0.9s,baz=27,slow=9.6,SNR=2.7						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**40.71**	**58**	P	**P**	**09 47 26.4**	**-0.2**
	0.2nm,0.5s,baz=292,slow=6.8,SNR=1.7						
	0.2nm,0.5s						

*IDC **02** 09:39:56.9±2.3, 11°.71N×84°.42W, h0km, mb3.6/3, mbtmp3.6/3, MS3.3/1, Error ellipse: s-maj=63.9km s-min=13.4km az=97.0*
*UCR **02** 09:39:58.9±1.3, 10°.26N×86°.38W, h13km±11km, MW4.5*
*CATAC **02** 09:40:00.2±1.1, 10°.36N×86°.36W, h16km±11km, ML3.9*
ISC 02 09:39:59.5±1.6,**10°.36N**±0°.05×**86°.31W**±0°.05,**h7**km±10km,
n76,σ1**9**02/80,**mb3.6**/3,**Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.72**	**98**	*e*P	**Pg**	**09 40 13.6**	**+0.2**
SACU				*e*S	**Sg**	**09 40 24.0**	**+1.3**
DELF	**Filadelfia**	**0.75**	**83**	*e*P	**Pg**	**09 40 14.4**	**+0.5**
DELF				*e*S	**Sb**	**09 40 26.4**	**+1.1**
ELI1	**Hacienda Flor**	**0.80**	**69**	*e*P	**Pb**	**09 40 16.1**	**+0.5**
NICO	**Nicoya**	**0.88**	**105**	*e*P	**Pg**	**09 40 15.7**	**-0.6**
NICO				*e*S	**Sg**	**09 40 27.8**	**0.0**
ERIA	**Liberia**	**0.90**	**72**	*e*P	**Pg**	**09 40 17.3**	**+0.6**
LCRUZ	**La Cruz**	**0.98**	**43**	*e*P	**Pb**	**09 40 19.4**	**+0.6**
GPS3	**Bodega del ICE**	**1.01**	**67**	*e*P	**Pn**	**09 40 20.6**	**+0.4**
GPS2	**Hotel Rincn d**	**1.02**	**67**	*e*P	**Pb**	**09 40 18.7**	**-0.8**
VRLE	**La Escondida,**	**1.02**	**65**	*e*P	**Pb**	**09 40 18.6**	**-1.0**
BAGA	**Bagaces**	**1.04**	**81**	*e*P	**Pb**	**09 40 19.1**	**-0.9**
VORI	**VORI**	**1.05**	**64**	*e*P	**Pb**	**09 40 19.1**	**-1.0**
COLC	**Colonia**	**1.13**	**74**	*e*P	**Pb**	**09 40 20.2**	**-1.1**
CARN	**Rivas**	**1.13**	**43**	*i* P	**Pb**	**09 40 20.9**	**-0.5**
CARN				*i* S	**Sn**	**09 40 39.8**	**+2.3**
CARN				IAML		09 40 54.6	
	comp=Z,10μm,1.0s						
CUI	**Cuipilapa**	**1.16**	**75**	*e*P	**Pb**	**09 40 20.9**	**-1.1**
HORNC	**Hornillas**	**1.17**	**72**	*e*P	**Pb**	**09 40 20.8**	**-1.3**
CNAS	**Canas**	**1.20**	**87**	*e*P	**Pn**	**09 40 21.4**	**-1.2**
JAPN	**AI SSO del Vol**	**1.31**	**28**	*i* P	**Pn**	**09 40 24.0**	**-0.3**
JAPN				IAML		09 40 58.6	
	comp=Z,1μm,1.0s						
JUNT	**Juntas**	**1.33**	**93**	*e*P	**Pn**	**09 40 22.9**	**-1.6**
JTS	**Las Juntas de**	**1.33**	**93**	Pg	**Pn**	**09 40 22.9**	**-1.7**
	comp=Z,25nm,0.3s,baz=287,slow=18,SNR=85						
JTS				LR	LR	09 40 30.4	
	comp=Z,44nm,21.2s,baz=118,slow=22						
JTS				Lg	Lg	09 40 45.8	
	comp=Z,59nm,0.3s,baz=46,slow=22,SNR=9.5						
JTS	**Las Juntas de**	**1.33**	**93**	*e*P	**Pn**	**09 40 22.9**	**-1.7**
MORN	**AI O del Volca**	**1.35**	**29**	*i* P	**Pn**	**09 40 23.8**	**-1.0**
MORN				IAML		09 40 32.0	
	comp=Z,320nm,1.0s						
TENO	**El Achiote**	**1.35**	**75**	*e*P	**Pn**	**09 40 22.9**	**-2.0**
CONN	**Concepcion**	**1.37**	**29**	*i* P	**Pn**	**09 40 23.9**	**-1.2**
CONN				IAML		09 40 31.9	
	comp=Z,22μm,1.0s						
NADN	**Granada**	**1.41**	**11**	*i* P	**Pn**	**09 40 24.8**	**-0.8**
NADN				IAML		09 40 59.6	
	comp=Z,3μm,1.0s						
MTEVE	**Monteverde**	**1.46**	**91**	*e*P	**Pn**	**09 40 26.1**	**-0.4**
VERA	**Finca Concepci**	**1.50**	**71**	*e*P	**Pn**	**09 40 26.0**	**-0.8**
ARE1	**Arenal 1**	**1.57**	**86**	*e*P	**Pn**	**09 40 27.4**	**-0.4**
NANN	**Nandasmo**	**1.58**	**7**	*i* P	**Pn**	**09 40 28.2**	**+0.2**
NANN				IAML		09 40 41.8	
	comp=Z,20μm,1.0s						
CEDE	**Laguna Cedeo**	**1.58**	**85**	*e*P	**Pn**	**09 40 27.5**	**-0.6**
SABN	**Sabanita**	**1.59**	**5**	*i* P	**Pn**	**09 40 27.7**	**-0.5**
SABN				IAML		09 41 06.5	
	comp=Z,4μm,1.0s						
VACR	**Volcan Arenal**	**1.61**	**86**	*e*P	**Pn**	**09 40 27.8**	**-0.6**
FORC	**Fortuna**	**1.61**	**86**	*e*P	**Pn**	**09 40 28.1**	**-0.4**
RA5A7	**El Crucero**	**1.62**	**360**	*i* P	**Pn**	**09 40 28.4**	**-0.2**
RA5A7				IAML		09 40 47.9	
	comp=Z,4μm,1.0s						
TUNA	**La Fortuna**	**1.64**	**86**	*e*P	**Pn**	**09 40 29.2**	**+0.4**
ARZA	**Esparza**	**1.66**	**103**	*e*P	**Pn**	**09 40 27.8**	**-1.2**
MAS3	**AI N del Volca**	**1.66**	**4**	*i* P	**Pn**	**09 40 28.7**	**-0.4**
MAS3				IAML		09 41 27.5	
	comp=Z,950nm,1.0s						
SOCE	**Pocosol**	**1.66**	**89**	*i* P	**Pn**	**09 40 28.7**	**-0.4**
SOCE				IAML		09 41 05.4	
	comp=Z,1μm,1.0s						
SOCE	**Pocosol**	**1.66**	**89**	*e*P	**Pn**	**09 40 28.6**	**-0.6**
R0529	**La Mascota**	**1.75**	**2**	*i* P	**Pn**	**09 40 29.6**	**-0.8**
R0529				IAML		09 40 44.0	
	comp=Z,740nm,1.0s						
TISN	**Laguna Tiscapa**	**1.77**	**1**	*i* P	**Pn**	**09 40 30.2**	**-0.4**
TISN				IAML		09 40 46.5	
	comp=Z,78nm,1.0s						
MGAN	**Managua**	**1.78**	**2**	*e*P	**Pn**	**09 40 29.8**	**-0.9**
WILN	**Americas 2**	**1.79**	**4**	*i* P	**Pn**	**09 40 30.8**	**-0.1**
WILN				IAML		09 40 46.5	
	comp=Z,700nm,1.0s						
APQ2	**Apoyeque**	**1.83**	**359**	*i* P	**Pn**	**09 40 30.6**	**-0.8**
APQ2				IAML		09 40 44.1	
	comp=Z,840nm,1.0s						
COPN	**Copaltepe**	**1.83**	**351**	*i* P	**Pn**	**09 40 29.9**	**-1.5**
COPN				IAML		09 40 42.3	
	comp=Z,730nm,1.0s						
TRB2	**Turrubares**	**1.88**	**103**	*e*P	**Pn**	**09 40 30.8**	**-1.4**
COVE	**Coope Vega, Sa**	**1.91**	**79**	*i* P	**Pn**	**09 40 32.5**	**0.0**
COVE				IAML		09 41 27.2	
	comp=Z,2μm,1.0s						
ACON	**Acoyapa**	**1.95**	**35**	*i* P	**Pn**	**09 40 31.8**	**-1.2**
ACON				*i* S	**Sn**	**09 40 57.6**	**-0.1**
ACON				IAML		09 41 14.5	
	comp=Z,870nm,1.0s						
ACON	**Acoyapa**	**1.95**	**35**	*e*P	**Pn**	**09 40 32.1**	**-0.9**
ITAL	**Pital**	**2.00**	**87**	*e*P	**Pn**	**09 40 32.9**	**-0.9**
LEVN	**Ruinas Leon Vi**	**2.05**	**352**	*i* P	**Pn**	**09 40 33.8**	**-0.6**
LEVN				IAML		09 40 48.0	
	comp=Z,430nm,1.0s						
MOM2	**El Cardon**	**2.07**	**355**	*i* P	**Pn**	**09 40 34.1**	**-0.6**
MOM2				IAML		09 40 49.9	
	comp=Z,800nm,1.0s						
CNGA	**AI SSO del Vol**	**2.16**	**350**	*i* P	**Pn**	**09 40 35.1**	**-0.8**
CNGA				IAML		09 41 06.4	
	comp=Z,280nm,1.0s						
ACOS	**Acosta**	**2.18**	**105**	*e*P	**Pn**	**09 40 36.1**	**-0.3**
HDC	**Heredia**	**2.19**	**99**	*e*P	**Pn**	**09 40 36.1**	**-0.4**
PLRN	**Geotermica Pol**	**2.26**	**349**	*i* P	**Pn**	**09 40 36.0**	**-1.3**
AMPA	**Desamparados**	**2.26**	**102**	*e*P	**Pn**	**09 40 38.3**	**+0.8**
ABE2	**San Pablo**	**2.31**	**106**	*e*P	**Pn**	**09 40 37.5**	**-0.8**
VICA	**Volcano Irazu**	**2.45**	**99**	*e*P	**Pn**	**09 40 40.3**	**-0.1**
ESPN	**Las Esperanzas**	**2.68**	**47**	*e*P	**Pn**	**09 40 42.4**	**-0.8**
LIMN	**Finca el Limon**	**2.69**	**359**	*i* P	**Pn**	**09 40 42.6**	**-0.7**
LIMN				IAML		09 41 21.2	
	comp=Z,230nm,1.0s						
CSGN	**Cosiguina Volc**	**2.87**	**335**	*i* P	**Pn**	**09 40 45.1**	**-0.8**
CSGN				IAML		09 40 56.0	
	comp=Z,66nm,1.0s						
OCHAL	**Ojochal**	**2.91**	**115**	*i* P	**Pn**	**09 40 47.7**	**+1.4**
OCHAL				IAML		09 42 15.5	
	comp=Z,160nm,1.0s						
RCPN	**Sur Rio San Ju**	**3.15**	**4**	*i* P	**Pn**	**09 40 50.0**	**+0.3**
RCPN				IAML		09 40 51.2	
	comp=Z,0.7nm,1.0s						
RCVN	**Varillal2**	**3.21**	**2**	*i* P	**Pn**	**09 40 49.5**	**-1.0**
RCVN				IAML		09 41 11.9	
	comp=Z,2μm,1.0s						
CNCH	**Conchagua**	**3.26**	**333**	*i* P	**Pn**	**09 40 51.2**	**0.0**
CNCH				IAML		09 40 51.3	
	comp=Z,230nm,1.0s						
RANC	**El Ranchito**	**3.62**	**328**	*i* P	**Pn**	**09 40 55.4**	**-0.8**
RANC				IAML		09 41 16.2	
	comp=Z,300nm,1.0s						
SCLA	**Alcaldia de Sa**	**4.08**	**325**	*i* P	**Pn**	**09 41 02.7**	**+0.3**
SCLA				IAML		09 41 33.3	
	comp=Z,36nm,1.0s						
JAYA	**Jayaque - finc**	**4.49**	**317**	*i* P	**Pn**	**09 41 08.3**	**+0.1**
NUBE	**Las Nubes**	**4.89**	**316**	*i* P	**Pn**	**09 41 14.1**	**+0.4**
CMIG	**Matias Romero**	**10.68**	**310**	LR	LR	09 47 37.3	
	comp=Z,145nm,21.7s,baz=119,slow=40						
TXAR	**Lajitas Array**	**24.89**	**322**	P	**P**	**09 45 22.8**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=137,slow=11,SNR=17						
	comp=Z,1.4nm,0.8s						
PDAR	**Pinedale Array**	**38.13**	**332**	P	**P**	**09 47 15.9**	**-3.7**
	comp=Z,0.4nm,0.6s,baz=127,slow=9.8,SNR=5.2						
	comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**40.01**	**320**	P	**P**	**09 47 36.0**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=125,slow=7.8,SNR=11						
	comp=Z,1.2nm,0.8s						
ASAR	**Alice Springs**	**139.49**	**246**	PKP	**PKiKP**	**09 59 32.7**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=91,slow=2.1,SNR=1.8						
WRA	**Warramunga Arr**	**139.72**	**251**	PKP	**PKPdf**	**09 59 28.7**	**-0.5**
	comp=Z,0.7nm,1.1s,baz=102,slow=1.9,SNR=2.3						
CMAR	**Chiang Mai Arr**	**150.90**	**350**	PKPbc	**PKPdf**	**09 59 50.0**	**+1.7**
	comp=Z,0.7nm,0.4s,baz=344,slow=3.0,SNR=4.3						

JMA 02 09:43:18.7±0.1,**36°.4N**±0°.1×**140°.7E**±0°.5,**h15**km,**MV0.6**/15,
E OFF IBARAKI PREF,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.14**	**231**	P	Pg	09 43 22.4	0.0
JHO	**Hitachi**	**0.22**	**326**	P	Pg	09 43 23.6	0.0
JHO				*e*S	Sg	09 43 27.2	+0.2
JYT	**Yasato**	**0.47**	**245**	P	Pg	09 43 28.0	-0.1

*NEIC **02** 09:45:04.4±1.1, 63°.22N±0°.04×150°.38W±0°.07, h121km±7km, Error ellipse: s-maj=5.5km s-min=4.3km az=197.0*
AEIC 02 09:45:04.8±1.3,**63°.21N**±0°.04×**150°.36W**±0°.07,
h116km±6km,**ML2.4,ML2.5**/102(NEIC),**Error ellipse: s-maj=5.4km s-min=4.3km az=198.0,Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.24**	**7**		Pn	09 45 21.8	+0.4
TRF					Sn	09 45 34.5	+0.7
TRF				IAML		09 45 35.4	
	comp=E,229nm,0.6s						
KTH	**Kantishna Hill**	**0.43**	**324**	Pn	Pn	09 45 22.4	+0.4
KTH					Sn	09 45 35.1	+0.1
KTH				IAML		09 45 36.0	
	comp=E,161nm,1.0s						
KTH				IAML		09 45 36.6	
	comp=N,91nm,0.9s						
RND	**Reindeer**	**0.71**	**73**		Pn	09 45 24.1	+0.2
RND				IAML		09 45 40.0	
	comp=N,80nm,0.8s						
RND				IAML		09 45 40.0	
	comp=E,66nm,0.7s						
RND	**Reindeer**	**0.71**	**73**	P	Pn	09 45 24.1	+0.2
WAT7	**Susitna Watana**	**0.78**	**118**		Pn	09 45 24.5	-0.1
WAT7					Sn	09 45 39.9	+0.4
CUT	**Chulitna**	**0.81**	**177**	Pn	Pn	09 45 24.9	+0.3
CUT					Sn	09 45 40.2	+0.6
CUT				IAML		09 45 40.9	
	comp=E,694nm,0.7s						
CUT				IAML		09 45 41.4	
	comp=N,398nm,0.2s						
CAST	**Castle Rocks**	**0.81**	**286**		Pn	09 45 24.6	-0.1
MCK	**McKinley**	**0.83**	**50**		Pn	09 45 25.3	+0.4
MCK	**McKinley**	**0.83**	**50**		Sn	09 45 40.3	+0.3
MCK	**McKinley**	**0.83**	**50**	P	Pn	09 45 25.1	+0.2
PPLA	**Purkeypile**	**0.89**	**250**		Pn	09 45 25.8	+0.2
WAT1	**Susitna Watana**	**0.91**	**114**		Pn	09 45 25.8	+0.2
BPAW	**Bear Paw Mtn.**	**0.94**	**343**		Pn	09 45 25.9	0.0
BPAW					Sn	09 45 41.5	-0.4
BPAW				IAML		09 45 41.7	
	comp=N,48nm,0.6s						
BPAW				IAML		09 45 42.0	
	comp=E,70nm,0.5s						
BWN	**Browne**	**1.05**	**22**		Pn	09 45 25.5	-1.5
BWN				IAML		09 45 45.2	
	comp=N,81nm,0.9s						
BWN				IAML		09 45 47.0	
	comp=E,46nm,0.9s						
CHUM	**Lake Minchumin**	**1.11**	**309**		Pn	09 45 27.4	-0.1
CHUM					Sn	09 45 44.6	-0.2
SKT	**Skwentna**	**1.35**	**204**		Pn	09 45 30.1	-0.1
SKT				IAML		09 45 51.6	
	comp=N,95nm,0.3s						
SKT				IAML		09 45 52.8	
	comp=E,83nm,0.2s						
WAT6	**Susitna Watana**	**1.35**	**117**		Pn	09 45 30.3	-0.1
DHY	**Denali Highway**	**1.36**	**94**		Pn	09 45 30.9	+0.4
DHY				IAML		09 45 52.2	
	comp=E,88nm,0.8s						
DHY				IAML		09 45 52.2	
	comp=N,72nm,0.3s						
M22K	**Willow**	**1.46**	**176**	Pn	Pn	09 45 31.1	-0.4
M22K				IAML		09 45 56.8	
	comp=N,115nm,0.3s						
WRH	**Wood River Hil**	**1.62**	**37**	Pn	Pn	09 45 32.7	-0.6
WRH				IAML		09 46 19.1	
	comp=E,28nm,0.7s						
K20K	**Telida**	**1.69**	**277**	Pn	Pn	09 45 33.9	-0.3
K20K				IAML		09 45 55.9	
	comp=E,34nm,0.9s						
K20K				IAML		09 45 56.0	
	comp=N,22nm,0.2s						
PMR	**Palmer**	**1.72**	**160**	Pn	Pn	09 45 34.3	-0.2
PMR				IAML		09 46 02.4	
	comp=E,47nm,0.7s						
PMR				IAML		09 46 05.1	
	comp=N,31nm,0.6s						
SUA	**Susitna One**	**1.76**	**186**		Pn	09 45 35.0	-0.2
SUA				IAML		09 46 15.8	
	comp=N,30nm,0.8s						
SUA				IAML		09 46 16.0	
	comp=E,34nm,0.9s						
L20K	**Farewell, AK**	**1.77**	**247**		Pn	09 45 34.9	-0.4
CCB	**Clear Creek Bu**	**1.83**	**37**		Pn	09 45 36.1	+0.1
CCB				IAML		09 46 00.2	
	comp=N,8.8nm,0.5s						
CCB				IAML		09 46 15.1	
	comp=E,8.9nm,1.1s						
STLK	**Strandline Lak**	**1.85**	**203**		Pn	09 45 36.3	0.0
M20K	**Styx River**	**1.85**	**225**		Pn	09 45 35.9	-0.3
M20K				IAML		09 46 03.2	
	comp=E,20nm,0.3s

N19K IAML 09 46 32.6
comp=N,6.7nm,1.1s
IMAR Indian Mountai 3.15 334 Pn Pn 09 45 52.4 -0.5
J26L Joseph Creek 3.28 64 Pn Pn 09 45 55.3 +0.6
J26L IAML 09 46 35.1
comp=E,18nm,0.8s
J26L IAML 09 46 36.1
comp=N,15nm,0.7s
G23K Bananza Creek 3.52 2 Pn Pn 09 45 57.0 -0.8
GLB Gilahina Butte 3.53 117 Pn Pn 09 45 58.0 0.0
GLB IAML 09 46 38.8
comp=E,15nm,0.9s
N18K Kilae Creek 3.64 228 Pn Pn 09 45 59.7 +0.2
N18K IAML 09 46 32.5
comp=E,6.3nm,0.9s
N18K IAML 09 47 01.3
comp=N,5.0nm,0.9s
CNPM China Point 3.72 187 Pn Pn 09 46 01.0 +0.5
I26K Coal Creek Min 3.78 53 Pn Pn 09 46 01.9 +0.7
I26K IAML 09 47 02.8
comp=E,5.2nm,0.6s
I26K IAML 09 47 10.9
comp=N,4.6nm,1.1s
J17K VABM Dome 3.94 277 Pn Pn 09 46 03.3 -0.1
J17K IAML 09 47 33.0
comp=N,4.9nm,1.0s
J17K IAML 09 48 03.2
comp=E,6.4nm,1.1s
H18K Honhosa River 4.01 303 Pn Pn 09 46 03.2 -1.1
H18K IAML 09 46 40.3
comp=E,6.4nm,1.1s
H18K IAML 09 47 02.2
comp=N,5.2nm,1.2s
O18K Koktuh Hills 4.09 217 Pn Pn 09 46 04.4 -1.0
O18K IAML 09 46 51.7
comp=N,9.8nm,1.2s
O18K IAML 09 47 24.9
comp=E,7.3nm,1.0s
L16K Owhat River 4.49 255 Pn Pn 09 46 10.2 -0.6
L16K IAML 09 47 06.3
comp=E,4.3nm,1.1s
L16K IAML 09 48 44.0
comp=N,4.3nm,1.0s
I17K Unalakleet 4.67 283 Pn Pn 09 46 11.6 -1.6
GRNC Granite Creek 4.76 118 Pn Pn 09 46 13.6 -1.0
GRNC IAML 09 47 07.2
comp=E,4.6nm,1.0s
F19K Shaleruckik Mo 4.81 322 Pn Pn 09 46 13.9 -1.0
F19K IAML 09 47 40.8
comp=N,3.7nm,1.1s
F19K IAML 09 48 59.7
comp=E,2.0nm,0.9s
BMAR Burnt Mountain 4.88 27 Pn Pn 09 46 15.7 -0.3
YAH Yahtse 4.98 121 Pn Pn 09 46 16.1 -1.5
LOGN Logan Glacier 5.01 114 Pn Pn 09 46 17.2 -0.7
MESA MESA 5.02 123 Pn Pn 09 46 17.1 -1.0
TABL Table Mountain 5.17 118 Pn Pn 09 46 19.6 -0.6
K15K Wolf Creek Mou 5.22 265 Pn Pn 09 46 19.3 -1.2
I29M Ogilvie Camp, 5.67 62 Pn Pn 09 46 27.0 +0.3
L14K Kuka Creek 6.05 258 Pn Pn 09 46 32.4 +0.7
D19K Kuna River 6.18 332 Pn Pn 09 46 33.8 +0.3
N30M Aishikik Lake 6.42 100 Pn Pn 09 46 35.1 -1.8

*ATH **02** 09:48:02.5, 37.°47N×20.°52E, h10km±3km, ML3.5/2, Error ellipse: s-maj=5.0km s-min=1.4km az=41.0*
*THE **02** 09:48:02.7, 37.°43N×20.°65E, h19km±4km, ML3.5/7, Error ellipse: s-maj=4.9km s-min=1.6km az=77.0*
ISC 02 09:48:02.1±2.1, 37.°45N±0.°07×20.°53E±0.°07, h13km±9km, n21, σ0s57/32, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.32**	**47**	P	**Pg**	**09 48 08.9**	**+0.3**
KRI1				S	**Sg**	**09 48 13.4**	**+0.5**
25μm,0.3s							
LTHK	**Lithakia**	**0.36**	**43**	P	**Pg**	**09 48 09.6**	**+0.2**
LTHK				S	**Sg**	**09 48 14.7**	**+0.4**
18μm,0.4s							
LTHK	**Lithakia**	**0.36**	**43**	P	**Pg**	**09 48 09.6**	**+0.2**
LTHK				S	**Sg**	**09 48 14.3**	**0.0**
LTHK				AML	AML	09 48 15.0	
comp=E,30655μm,0.4s							
LTHK				AML	AML	09 48 15.2	
comp=N,37888μm,0.4s							
RTZL	**Ratzakli, Kefa**	**0.66**	**17**	P	**Pg**	**09 48 15.0**	**+0.1**
RTZL				S	**Sb**	**09 48 25.1**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.67**	**4**	P	**Pg**	**09 48 15.3**	**+0.2**
PSDA				S	**Sb**	**09 48 25.6**	**+0.7**
comp=N,4μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.67**	**4**	P	**Pg**	**09 48 14.7**	**-0.4**
PSDA				S	**Sg**	**09 48 23.2**	**-0.7**
VLS	**Valsamata**	**0.73**	**4**	P	**Pg**	**09 48 16.3**	**0.0**
VLS				S	**Sb**	**09 48 27.2**	**+0.5**
comp=N,2μm,0.3s							
VLS	**Valsamata**	**0.73**	**4**	P	**Pg**	**09 48 16.0**	**-0.3**
VLS				S	**Sg**	**09 48 25.6**	**-0.3**
DMLN	**Damoulianata-K**	**0.80**	**351**	P	**Pg**	**09 48 17.7**	**+0.1**
DMLN				S	**Sn**	**09 48 30.9**	**-0.1**
comp=N,4μm,0.6s							
DMLN	**Damoulianata-K**	**0.80**	**351**	P	**Pg**	**09 48 17.3**	**-0.3**
AMT	**Artemida-Makis**	**0.95**	**85**	P	**Pg**	**09 48 20.4**	**0.0**
VSK1	**VASILIKIADES**	**0.96**	**2**	P	**Pg**	**09 48 20.6**	**-0.1**
VSK1				S	**Sn**	**09 48 35.0**	**0.0**
comp=N,2μm,0.4s							
RLS	**Riolos of Patr**	**0.96**	**51**	P	**Pg**	**09 48 20.2**	**-0.5**
RLS				S	**Sg**	**09 48 31.4**	**-1.9**
comp=N,795nm,0.6s							
RLS	**Riolos of Patr**	**0.96**	**51**	P	**Pg**	**09 48 20.0**	**-0.7**
FSK	**Fiskardo**	**1.01**	**2**	P	**Pg**	**09 48 20.6**	**-1.1**
DRO	**Drossia**	**1.07**	**61**	P	**Pg**	**09 48 22.0**	**-0.7**
PYL	**PYLOS**	**1.12**	**119**	P	**Pb**	**09 48 22.9**	**-0.5**
ITM	**Ithomi**	**1.15**	**103**	P	**Pb**	**09 48 24.1**	**+0.2**
ITM				AML	AML	09 48 47.8	
comp=E,2017μm,0.3s							
ITM				AML	AML	09 48 48.0	
comp=N,2448μm,0.4s							
EVGI	**Lefkada island**	**1.18**	**5**	P	**Pb**	**09 48 24.2**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.27**	**6**	P	**Pn**	**09 48 25.9**	**+0.2**
KLV	**Kalavryta, Ach**	**1.42**	**65**	P	**Pn**	**09 48 28.3**	**+0.5**

SJA 02 09:51:59.1±0.7, 27.°10S×68.°51W, h92km±16km, ML2.8, MW3.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiapo**	**1.61**	**252**	*e*P	Pn	09 52 27.6	+1.2
GO03				*e*S	Sn	09 52 48.9	+1.8
VCA	**Vinchina**	**1.65**	**171**	*e*P	Pn	09 52 15.0	-12
VCA				*e*S	Sn	09 52 29.9	-18
VCA				IAML		09 52 30.2	
comp=Z,40nm,3.3s							
AC01	**Pan de Azucar**	**2.10**	**296**	*e*P	Pn	09 52 33.9	+1.1
AC01				*e*S	Sn	09 52 58.9	+0.5
AC01				IAML		09 53 39.0	
comp=Z,22nm,1.9s							
GO02	**Mina Guanaco**	**2.16**	**333**	*e*P	Pn	09 52 36.6	+2.7
GO02				*e*S	Sn	09 53 04.0	+3.7
FSA	**Cafayete**	**2.47**	**67**	*e*P	Pn	09 52 36.0	-1.8
AC04	**Llanos de Chal**	**2.53**	**244**	*e*P	Pn	09 52 38.6	+0.3
AC04				*e*S	Sn	09 53 09.4	+1.0
AC04				IAML		09 53 15.7	
comp=Z,21nm,0.6s							
ACLC	**CERRO LA CRUZ**	**2.69**	**150**	*e*P	Pn	09 52 42.3	+1.6
ACLC				*e*S	Sn	09 53 13.8	+1.3
LCO	**Las Campanas**	**2.71**	**225**	*e*P	Pn	09 52 37.8	-3.3
LCO				IAML		09 53 16.3	
comp=Z,75nm,0.1s							
CYA	**Choya**	**2.74**	**120**	*e*P	Pn	09 52 42.7	+1.5
CYA				*e*S	Sn	09 53 14.7	+1.0
AHML	**Horco Molle**	**2.85**	**84**	*e*P	Pn	09 52 29.0	-14
PB14	**IPOC Station P**	**3.00**	**325**	*e*P	Pn	09 52 47.2	+2.2
PB14				*e*S	Sn	09 53 21.3	+1.0
PB14				IAML		09 53 31.3	
comp=Z,19nm,1.7s							
ACDV	**Cuesta del Vie**	**3.10**	**190**	*e*P	Pn	09 52 48.3	+2.1
CO01	**Juntas del Tor**	**3.19**	**206**	*e*P	Pn	09 52 49.3	+1.9
CO01				*e*S	Sn	09 53 27.5	+2.9
CO01				IAML		09 53 45.1	
comp=Z,15nm,4.3s							
ACCO	**Cerro Coronel**	**3.51**	**188**	*e*P	Pn	09 52 53.7	+1.9
GO04	**Tololo Observa**	**3.66**	**213**	*e*P	Pn	09 52 53.4	-0.4
DOCA	**Reserva Natura**	**3.87**	**187**	*e*P	Pn	09 52 58.5	+1.8
DOCA				*e*S	Sn	09 53 56.9	+16
PB15	**IPOC Station P**	**3.98**	**347**	*e*P	Pn	09 53 00.8	+2.8
PB15				*e*S	Sn	09 53 47.2	+3.5
PB15				IAML		09 53 50.5	
comp=Z,30nm,0.2s							
CO03	**El Pedregal**	**4.18**	**207**	*e*P	Pn	09 53 00.6	-0.2
CO03				*e*S	Sn	09 53 41.3	-7.3
RTLL	**Cerro Villicun**	**4.21**	**180**	*e*P	Pn	09 53 02.3	+1.2
PB06	**IPOC Station P**	**4.48**	**347**	*e*P	Pn	09 53 06.4	+1.5
LVC	**Limon Verde**	**4.49**	**355**	*e*P	Pn	09 53 07.1	+1.9
LVC				*e*S	Sn	09 53 56.7	+0.3
LVC				IAML		09 54 04.6	
comp=Z,12nm,3.0s							

SJA 02 09:53:23.9±0.6, 31.°66S×69.°90W, h103km±5km, ML2.3, MW2.4, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.53**	**105**	*e*P	Pn	09 53 41.2	+0.6
RTLS				*e*S	Sn	09 53 54.8	+1.7
RTLS				IAML		09 53 56.4	
comp=Z,82nm,0.2s							
DOCA	**Reserva Natura**	**0.99**	**45**	*e*P	Pn	09 53 45.6	+0.7
DOCA				*e*S	Sn	09 54 02.2	+1.6
ZON	**Zonda**	**1.05**	**84**	*e*P	Pn	09 54 03.6	+19
CO03	**El Pedregal**	**1.06**	**320**	*e*P	Pn	09 53 46.5	+1.1
CO03				*e*S	Sn	09 54 04.0	+2.6
CO03				IAML		09 54 05.5	
comp=Z,29nm,1.6s							
RTCV	**Cerro Valdivia**	**1.17**	**100**	*e*P	Pn	09 53 47.6	+1.1
RTCV				*e*S	Sn	09 54 05.1	+1.5
VA03	**San Esteban**	**1.23**	**207**	*e*P	Pn	09 53 47.1	-0.2
VA03				*e*S	Sn	09 54 06.0	+1.1
VA03				IAML		09 54 07.4	
comp=Z,20nm,0.1s							
RTLL	**Cerro Villicun**	**1.26**	**75**	*e*P	Pn	09 53 48.3	+0.8
RTLL				*e*S	Sn	09 54 06.4	+1.1
RTLL	**Cerro Villicun**	**1.26**	**75**	*e*S	Sn	09 54 06.3	+0.9
ACCO	**Cerro Coronel**	**1.29**	**34**	*e*P	Pn	09 53 50.5	+2.4
ACCO				*e*S	Sn	09 54 09.8	+3.5
ASAL	**Salagasta**	**1.29**	**136**	*e*P	Pn	09 53 49.2	+1.3
ASAL				*e*S	Sn	09 54 07.6	+1.5
ARCO	**CERRO ARCO**	**1.43**	**145**	*e*S	Sn	09 54 12.4	+3.2
ARCO				IAML		09 54 13.4	
comp=Z,31nm,3.1s							
AROD	**Rodeo**	**1.53**	**14**	*e*P	Pn	09 53 38.3	-13
ROC1	**El Roble**	**1.62**	**216**	*e*P	Pn	09 53 51.3	-0.7
ROC1				*e*S	Sn	09 54 12.9	-0.4
ACDV	**Cuesta del Vie**	**1.63**	**24**	*e*P	Pn	09 53 58.6	+6.5
GO04	**Tololo Observa**	**1.67**	**332**	*e*P	Pn	09 53 35.8	-17
GO04				*e*S	Sn	09 54 16.2	+1.6
CO01	**Juntas del Tor**	**1.69**	**354**	*e*S	Sn	09 54 25.5	+11
MT04	**Ro Olivares**	**1.75**	**187**	*e*P	Pn	09 53 57.1	+3.4
MT04				*e*S	Sn	09 54 21.2	+5.0
MT04				IAML		09 54 38.4	
comp=Z,16nm,3.6s							
MT03	**Universidad Ad**	**1.90**	**196**	*e*P	Pn	09 53 58.3	+2.9
MT03				*e*S	Sn	09 54 24.7	+5.3
MT02	**Curacav**	**1.91**	**213**	*e*P	Pn	09 53 55.1	-0.3
MT02				*e*S	Sn	09 54 18.9	-0.6
MT02				IAML		09 54 40.1	
comp=Z,14nm,3.6s							
MT01	**Popeta**	**2.48**	**207**	*e*P	Pn	09 54 03.5	+0.7
MT01				*e*S	Sn	09 54 33.7	+1.1
MT01				IAML		09 54 39.9	
comp=Z,11nm,2.1s							
LCO	**Las Campanas**	**2.73**	**345**	*e*S	Sn	09 54 39.6	+0.5
LCO				IAML		09 54 47.6	
comp=Z,24nm,3.4s							
BO01	**Tunca**	**2.90**	**200**	*e*P	Pn	09 54 10.9	+2.5
BO01				*e*S	Sn	09 54 41.9	-0.7
BO01				IAML		09 54 59.7	
comp=Z,16nm,4.0s							
APLL	**PUNTA DE LOS L**	**3.16**	**67**	*e*P	Pn	09 54 10.7	-1.2
APLL				*e*S	Sn	09 54 34.5	-14
BO02	**Sierra Bellavi**	**3.21**	**193**	*e*P	Pn	09 54 17.6	+5.1
BO02				IAML		09 55 18.2	
comp=Z,13nm,2.6s							
ACLC	**CERRO LA CRUZ**	**3.38**	**50**	*e*S	Sn	09 54 56.2	+1.8

IDC 02 09:55:38.8±8.7, 6.°04S×150.°30E, h86km±61km, mb3.3/2, mbtmp3.7/3, ML1.3/1, Error ellipse: s-maj=103.0km s-min=57.4km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.57**	**223**	P	Pn	09 56 46.0	+0.4
1.0nm,0.3s,baz=58,slow=15,SNR=2.1							
PMG				S	Sn	09 57 37.9	+0.4
15nm,0.7s,baz=42,slow=22,SNR=1.8							
11nm,0.6s							
WRA	**Warramunga Arr**	**20.78**	**227**	P	P	10 00 13.3	+0.2
1.6nm,0.6s,baz=51,slow=10.0,SNR=18							
1.6nm,0.6s							
ASAR	**Alice Springs**	**23.58**	**220**	P	P	10 00 42.2	+0.2
1.4nm,0.7s,baz=57,slow=8.7,SNR=22							
1.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**148.28**	**285**	PKPbc	PKPbc	10 15 15.3	-0.9
0.3nm,0.6s,baz=72,slow=3.2,SNR=4.3							

*MOS **02** 09:57:03.7±0.6, 49.°24N×156.°36E, h22km, mb3.7/1, Error ellipse: s-maj=45.7km s-min=5.9km az=72.0*
*KRSC **02** 09:57:05.6±1.2, 49.°20N×156.°39E, h16km±15km, Ml4.1*
*IDC **02** 09:57:07.7±3.0, 49.°37N×154.°79E, h99km±29km, mb3.1/7, mbtmp3.4/9, Error ellipse: s-maj=43.0km s-min=17.9km az=139.0*
ISC 02 09:57:00.7±2.0, 49.°1N±0.°1×155.°7E±0.°3, h10km, n38, σ3s72/36, mb3.5/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.62**	**10**	*e*S	**Sn**	**09 57 50.5**	**+0.4**
SKR	**Severo-Kuril's**	**1.62**	**10**	*e*PN	**Pn**	**09 57 30.6**	**+1.4**
SKR				pmax	pmax		
comp=Z,26nm,0.3s							
PAU	**Pauzhetka**	**2.49**	**17**	*e*P	**Pn**	**09 57 44.4**	**+3.3**
PAU	**Pauzhetka**	**2.49**	**17**	PN	**Pn**	**09 57 44.4**	**+3.3**
KDTR	**Khodutka, Kamc**	**3.12**	**29**	*e*P	**Pn**	**09 57 52.5**	**+2.6**
KDTR				*e*S	**Sn**	**09 58 27.1**	**-0.1**
KDTR	**Khodutka, Kamc**	**3.12**	**29**	PN	**Pn**	**09 57 52.5**	**+2.6**
KDTR				S	**Sn**	**09 58 27.1**	**-0.1**
ASAK	**Asacha**	**3.58**	**22**	*e*P	**Pn**	**09 58 00.5**	**+4.2**
ASAK	**Asacha**	**3.58**	**22**	PN	**Pn**	**09 58 00.5**	**+4.2**
MTVR	**Mutnovka**	**3.75**	**24**	*e*P	**Pn**	**09 58 02.8**	**+4.1**
MTVR	**Mutnovka**	**3.75**	**24**	PN	**Pn**	**09 58 02.7**	**+4.1**
GRL	**Gorelyy**	**3.78**	**23**	*e*P	**Pn**	**09 58 03.4**	**+4.2**
GRL	**Gorelyy**	**3.78**	**23**	PN	**Pn**	**09 58 03.3**	**+4.2**
PETK	**Petropavlovsk-**	**4.22**	**17**	P	**Pn**	**09 58 08.3**	**+3.3**
comp=Z,2.9nm,0.4s,baz=182,slow=13,SNR=16							
PETK				S	**Sb**	**09 59 00.9**	**-5.0**
comp=Z,1.9nm,0.4s,baz=216,slow=7.1,SNR=1.1							
PET	**Petropavlovsk**	**4.36**	**24**	*e*PN	**Pn**	**09 58 11.3**	**+4.4**
PET				*e*S	**Sn**	**09 58 59.6**	**+1.9**
PET				smax	smax		
comp=E,26nm,0.5s							
PET				smax	smax		
comp=N,44nm,0.5s							
DALK	**Dalny**	**4.39**	**25**	*e*P	**Pn**	**09 58 11.0**	**+3.6**
DALK	**Dalny**	**4.39**	**25**	PN	**Pn**	**09 58 11.0**	**+3.6**
UGLR	**Uglovaya**	**4.57**	**24**	*e*P	**Pn**	**09 58 14.1**	**+4.1**
UGLR	**Uglovaya**	**4.57**	**24**	PN	**Pn**	**09 58 14.0**	**+4.1**
KOK	**Koryaka**	**4.60**	**23**	*e*P	**Pn**	**09 58 14.9**	**+4.6**
KOK	**Koryaka**	**4.60**	**23**	PN	**Pn**	**09 58 14.8**	**+4.6**
AVH	**Avacha**	**4.60**	**24**	*e*P	Pn	09 58 15.2	+4.9
AVH	**Avacha**	**4.60**	**24**	PN	Pn	09 58 15.2	+4.9
SMAR	**Somma**	**4.62**	**24**	*e*P	**Pn**	**09 58 15.4**	**+4.7**
SMAR	**Somma**	**4.62**	**24**	PN	**Pn**	**09 58 15.3**	**+4.7**
KRER	**Koryakskii**	**4.64**	**23**	*e*P	**Pn**	**09 58 15.5**	**+4.5**
KRER	**Koryakskii**	**4.64**	**23**	PN	**Pn**	**09 58 15.4**	**+4.5**
SDLR	**Sedlovina**	**4.65**	**24**	*e*P	**Pn**	**09 58 14.6**	**+3.5**
SDLR	**Sedlovina**	**4.65**	**24**	PN	**Pn**	**09 58 14.5**	**+3.5**
KRX	**Arik**	**4.66**	**22**	*e*P	**Pn**	**09 58 15.6**	**+4.4**
KRX	**Arik**	**4.66**	**22**	PN	**Pn**	**09 58 15.6**	**+4.4**
ASAJ	**Asahikawa**	**10.28**	**246**	P	Pn	09 59 28.0	-0.1
comp=N,5.0nm,0.9s,baz=83,slow=16,SNR=4.3							
ILAR	**Eielson Array**	**33.64**	**41**	P	**P**	**10 03 39.4**	**-1.6**
comp=N,0.2nm,0.6s,baz=268,slow=7.0,SNR=2.1							
comp=N,0.2nm,0.6s							
MKAR	**Makanchi Array**	**47.41**	**297**	P	P	10 05 26.6	-8.4
comp=N,0.2nm,0.5s,baz=46,slow=8.3,SNR=2.5							
comp=N,0.2nm,0.5s							
NVAR	**Mina Array Bea**	**59.85**	**65**	P	**P**	**10 07 05.6**	**-0.9**
comp=N,0.2nm,0.5s,baz=313,slow=8.3,SNR=1.8							
comp=N,0.2nm,0.5s							
PDAR	**Pinedale Array**	**61.99**	**56**	P	**P**	**10 07 19.7**	**-1.3**
comp=N,0.3nm,0.6s,baz=338,slow=3.5,SNR=3.8							
comp=N,0.3nm,0.6s							
WRA	**Warramunga Arr**	**71.31**	**201**	P	P	10 08 15.8	-4.4
comp=N,0.4nm,0.7s,baz=16,slow=6.1,SNR=2.2							
comp=N,0.4nm,0.7s							
TXAR	**Lajitas Array**	**74.86**	**63**	P	**P**	**10 08 40.5**	**-1.0**
comp=N,0.4nm,0.6s,baz=290,slow=3.7,SNR=6.6							
comp=N,0.4nm,0.6s							
ASAR	**Alice Springs**	**74.99**	**201**	P	P	10 08 38.3	-3.7
comp=N,0.2nm,0.6s,baz=9.2,slow=5.3,SNR=4.2							
comp=N,0.2nm,0.6s							

*IDC **02** 10:02:15.0±1.3, 60.°53S×25.°56W, h0km, mb3.9/3, mbtmp3.9/4, ML3.7/1, MS3.4/3, Error ellipse: s-maj=56.2km s-min=28.1km az=76.0*
ISC 02 10:02:16.1±1.1, 60.°6S±0.°2×25.°3W±0.°3, h10km, n19, σ1s72/11, mb3.9/3, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.20**	**153**	⇑P	**Pn**	**10 05 11.0**	**+1.5**
comp=Z,2.5nm,0.2s							
VNA3	**Neumayer Olymp**	**12.35**	**156**	⇑P	**Pn**	**10 05 12.1**	**+0.4**
comp=Z,3.0nm,0.5s							
VNA2	**Neumayer--Watz**	**12.60**	**152**	⇑P	**Pn**	**10 05 14.9**	**-0.1**
comp=Z,2.4nm,0.5s,baz=29,slow=34							
SNAA	**Sanae**	**14.18**	**150**	⇑P	**Pn**	**10 05 37.5**	**+0.8**
comp=Z,17nm,0.6s							
SNAA	**Sanae**	**14.18**	**150**	Pn	**Pn**	**10 05 37.1**	**+0.3**
comp=Z,0.3nm,0.3s,baz=312,slow=16,SNR=20							
SNAA				Sn	**Sn**	**10 08 10.9**	**-2.9**
comp=Z,0.1nm,0.3s,baz=317,slow=19,SNR=1.6							
SNAA				LR	LR	10 09 36.9	
comp=Z,72nm,20.2s,baz=12,slow=31							
comp=Z,1.3nm,0.4s							
TROLL	**Troll, Antarti**	**15.74**	**148**	⇑P	**Pn**	**10 05 58.4**	**+0.7**
comp=Z,163nm,0.9s							
QSPA	**South Pole Qui**	**29.61**	**180**	P	**P**	**10 08 22.4**	**+1.3**
comp=Z,1.3nm,1.0s,baz=219,slow=1.8,SNR=6.0							
QSPA				LR	LR	10 20 00.0	
comp=Z,50nm,18.1s,baz=176,slow=36							
comp=Z,1.3nm,1.0s							
CPUP	**Villa Florida**	**40.65**	**313**	P	**P**	**10 09 53.8**	**-2.3**
comp=Z,2.1nm,0.8s,baz=183,slow=16,SNR=3.0							
comp=Z,2.1nm,0.8s							
H04S2	**CROZET ISLANDS**	**44.93**	**109**	T	T	11 00 06.2	
baz=223,slow=75,SNR=20							
H04S3	**CROZET ISLANDS**	**44.94**	**109**	T	T	11 00 04.0	
baz=223,slow=75,SNR=22							
H04S1	**CROZET ISLANDS**	**44.95**	**109**	T	T	11 00 07.9	
baz=223,slow=75,SNR=21							
H10S2	**ASCENSION HYDR**	**52.17**	**13**	T	T	11 08 26.8	
baz=33,slow=74,SNR=18							
H10S3	**ASCENSION HYDR**	**52.18**	**13**	T	T	11 08 22.4	
baz=187,slow=74,SNR=16							
H10N1	**ASCENSION HYDR**	**53.29**	**13**	T	T	11 09 34.0	
baz=193,SNR=5.6							
H10N3	**ASCENSION HYDR**	**53.30**	**13**	T	T	11 09 44.3	
baz=193,slow=74							
H10N2	**ASCENSION HYDR**	**53.31**	**13**	T	T	11 09 41.9	
baz=193,slow=74,SNR=3.9							
RPN	**Rapa Nui**	**63.89**	**261**	LR	LR	10 32 47.9	
comp=Z,78nm,21.9s,baz=281,slow=29							
TORD	**Torodi Ar. Bea**	**76.63**	**27**	P	**P**	**10 14 06.9**	**+0.3**
comp=Z,0.7nm,0.5s,baz=192,slow=5.9,SNR=4.7							
comp=Z,0.7nm,0.5s							
ILAR	**Eielson Array**	**153.75**	**304**	PKPbc	**PKiKP**	**10 22 15.7**	**+2.0**
comp=Z,0.1nm,0.6s,baz=112,slow=3.4,SNR=2.5							

*IDC **02** 10:03:51.1±0.8, 6.°23N×77.°78W, h0km, mb3.7/8, mbtmp3.7/11, ML2.9/3, MS3.2/5, Error ellipse: s-maj=33.7km s-min=16.6km az=47.0*
*RSNC **02** 10:03:55.3±0.0, 6.°N±1.°×7.°8W±.°, h11km±2km, M3.6, mb4.4, ML3.2*
ISC 02 10:03:53.9±0.6, 6.°33N±0.°03×77.°57W±0.°03, h20km±3km, n54, σ2s38/76, mb3.7/8, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.19**	**121**	P	**Pb**	**10 03 59.4**	**+0.1**
SOLC				S	**Sb**	**10 04 02.7**	**-0.3**
PTAC	**Punta Ardita,**	**0.85**	**344**	P	**Pn**	**10 04 11.0**	**+0.3**
PTAC				S	**Sn**	**10 04 22.8**	**+0.2**
DBBC	**Dabeiba**	**1.52**	**63**	P	**Pn**	**10 04 20.8**	**+0.8**
DBBC				S	**Sb**	**10 04 40.2**	**-0.1**
CBOC	**Ciudad Bolivar**	**1.62**	**106**	P	**Pn**	**10 04 21.0**	**-0.5**
CBOC				S	**Sn**	**10 04 41.2**	**-0.7**
APAC	**Apartado, Choc**	**1.85**	**32**	P	**Pb**	**10 04 26.8**	**-0.2**
APAC				S	**Sb**	**10 04 52.1**	**+2.4**
HELC	**Santa Helena**	**2.04**	**94**	P	**Pn**	**10 04 28.5**	**+1.1**
HELC				S	**Sn**	**10 04 53.6**	**+1.2**
CAPC	**Capurgana**	**2.31**	**5**	P	**Pb**	**10 04 34.0**	**-0.8**
CAPC				S	**Sb**	**10 05 03.5**	**+0.6**
MALC	**Bahia Malaga**	**2.31**	**174**	P	**Pn**	**10 04 32.1**	**+1.3**
GUY2C	**Guyana, Caldas**	**2.46**	**116**	P	**Pn**	**10 04 34.3**	**+1.1**
GUY2C				S	**Sb**	**10 05 06.6**	**-1.1**
UREC	**San Jos de Ur**	**2.47**	**55**	P	**Pn**	**10 04 34.8**	**+1.7**
UREC				S	**Sb**	**10 05 06.3**	**-1.4**
RECRC	**Villamaria, Ca**	**2.59**	**121**	P	**Pb**	**10 04 38.8**	**-1.3**
RECRC				S	**Sn**	**10 05 08.0**	**+1.6**
YOTC	**Yotoco, Valle**	**2.63**	**152**	P	**Pn**	**10 04 35.6**	**+0.3**
YOTC				S	**Sb**	**10 05 11.0**	**-1.4**
NORC	**Norcasia**	**2.79**	**106**	P	**Pn**	**10 04 39.8**	**+2.2**
NORC				S	**Sn**	**10 05 13.4**	**+2.7**
ZARC	**Zaragoza, Cauc**	**2.94**	**67**	P	**Pn**	**10 04 41.5**	**+2.1**
ZARC				S	**Sb**	**10 05 18.1**	**-2.9**
PTBC	**PUERTO BERRIO,**	**3.11**	**86**	P	**Pn**	**10 04 44.1**	**+2.3**
PTBC				S	**Sn**	**10 05 19.0**	**+0.6**
JAMC	**Jamundi, Valle**	**3.22**	**164**	P	**

URIC S **Sn** **10 07 04.8 -6.2**
JTS Las Juntas de 8.29 299 Pn **Pn** **10 05 49.6 -3.5**
0.2nm,0.3s,baz=107,slow=19,SNR=1.6
JTS LR LR 10 09 14.1
comp=Z,260nm,20.0s,baz=103,slow=40
4.1nm,1.1s
PCRV Puerto La Cruz 13.36 73 LR LR 10 13 29.3
comp=Z,93nm,19.9s,slow=42
ATAH Atahualpa 13.40 184 LR LR 10 13 38.5
comp=Z,127nm,21.0s,baz=7.1,slow=44
SJG San Juan 16.17 43 LR LR 10 13 56.3
comp=Z,50nm,20.5s,baz=200,slow=37
LPAZ La Paz 24.34 158 P **P** **10 09 10.8 -0.4**
0.3nm,0.3s,baz=314,slow=13,SNR=1.3
0.3nm,0.3s
TXAR Lajitas Array 33.61 316 P **P** **10 10 31.1 -2.2**
0.4nm,0.9s,baz=106,slow=8.6,SNR=2.1
0.4nm,0.9s
BDFB Brasilia 36.52 127 P **P** **10 10 58.2 -0.2**
2.5nm,0.8s,baz=232,slow=15,SNR=3.5
2.5nm,0.8s
PDAR Pinedale Array 45.98 327 P **P** **10 12 16.3 +0.2**
0.5nm,0.9s,baz=89,slow=9.1,SNR=2.2
0.5nm,0.9s
PLCA Paso Flores 47.27 173 P **P** **10 12 26.6 +0.6**
0.9nm,0.7s,baz=315,slow=8.6,SNR=3.2
0.9nm,0.7s
NVAR Mina Array Bea 48.75 317 P **P** **10 12 39.1 +1.4**
0.9nm,0.8s,baz=137,slow=6.1,SNR=9.8
0.9nm,0.8s
YKA Yellowknife Ar 62.27 342 P **P** **10 14 14.1 -0.1**
1.9nm,0.8s,baz=191,slow=6.2,SNR=2.2
1.9nm,0.8s
ILAR Eielson Array 75.56 336 P **P** **10 15 37.9 +1.0**
0.3nm,0.8s,baz=151,slow=4.1,SNR=3.0
0.3nm,0.8s
ASAR Alice Springs 145.18 237 PKP **PKPab** **10 23 30.9 +0.2**
1.2nm,0.8s,baz=136,slow=3.8,SNR=10
WRA Warramunga Arr 146.19 243 PKPbc **PKPdf** **10 23 33.2 +0.4**
1.0nm,0.9s,baz=104,slow=3.6,SNR=6.4

IDC 02 10:04:38.3±2.1, 2°.40N×125°.35E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=177.8km s-min=28.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.89**	**159**	P	P	10 09 53.0	-0.9
	0.4nm,0.8s,baz=337,slow=11,SNR=7.5						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**27.21**	**163**	P	P	10 10 25.6	+1.6
	0.2nm,0.7s,baz=343,slow=7.7,SNR=2.7						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**57.88**	**326**	P	P	10 14 31.5	-0.5
	0.2nm,0.5s,baz=119,slow=5.3,SNR=2.5						
	0.2nm,0.5s						

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*IDC **02** 10:29:31.9±1.0, 55°.53S×29°.52W, h0km, mb3.8/4, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=36.0km s-min=25.1km az=71.0*
*NEIC **02** 10:29:36.6±1.4, 56°.05±0°.1×30°.89W±0°.10, h10km±1km, mb4.5/12, Error ellipse: s-maj=20.7km s-min=8.9km az=350.0*
ISC 02 10:29:35.8±0.8, 55°.8S±0°.1×30°.7W±0°.1, h10km, n39, σ1°.20/33, mb4.4/8, 2C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**3.62**	**292**		**Pn**	**10 30 32.5**	**+0.7**
VNA1	**Neumayer--Stat**	**17.86**	**155**	⇑P	**P**	**10 33 44.9**	**+0.3**
	comp=Z,1.3nm,0.5s						
VNA3	**Neumayer Olymp**	**17.98**	**158**	⇓P	**P**	**10 33 46.4**	**+0.4**
	comp=Z,3.9nm,0.6s						
VNA2	**Neumayer--Watz**	**18.26**	**155**	⇓P	**P**	**10 33 50.1**	**+1.1**
	comp=Z,2.9nm,0.7s,baz=312,slow=9.2						
PMSA	**Palmer Station**	**18.61**	**228**	P	**P**	**10 33 52.0**	**-0.8**
PMSA				IAmb	IAmb	10 34 03.9	
	comp=Z,42nm,1.4s						
SNAA	**Sanae**	**19.86**	**154**	P	**P**	**10 34 03.9**	**-2.7**
SNAA	**Sanae**	**19.86**	**154**	⇑P	**Pn**	**10 34 11.2**	**+3.1**
	comp=Z,36nm,0.8s						
SNAA	**Sanae**	**19.86**	**154**	P	**P**	**10 34 03.4**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=304,slow=8.0,SNR=8.9						
	comp=Z,1.0nm,0.7s						
MG03	**Isla Dawson**	**22.76**	**258**	P	**P**	**10 34 37.1**	**-0.8**
MG03				IAmb	IAmb	10 35 09.4	
	comp=Z,14nm,1.1s						
MG04	**Isla Riesco**	**23.75**	**260**	P	**P**	**10 34 47.5**	**-0.4**
GO08	**Villa O'Higgin**	**26.36**	**268**	P	**P**	**10 35 11.3**	**-0.4**
QSPA	**South Pole Qui**	**34.50**	**180**	P	**P**	**10 36 23.9**	**+0.2**
QSPA				IAmb	IAmb	10 36 54.7	
	comp=Z,6.0nm,1.4s						
QSPA	**South Pole Qui**	**34.50**	**180**	P	**P**	**10 36 23.0**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=193,slow=4.2,SNR=16						
	comp=Z,0.9nm,0.6s						
GO02	**Mina Guanaco**	**41.60**	**301**	P	**P**	**10 37 25.3**	**+1.2**
GO02				IAmb	IAmb	10 38 07.0	
	comp=Z,17nm,1.4s						
PB01	**IPOC Station P**	**45.06**	**304**	P	**P**	**10 37 52.0**	**+0.2**
PB01				IAmb	IAmb	10 37 52.9	
	comp=Z,5.1nm,0.8s						
PATCX	**Punta Patache**	**45.57**	**304**	P	**P**	**10 37 55.8**	**0.0**
GO01	**Chusmiza**	**46.12**	**306**	P	**P**	**10 38 01.8**	**+1.2**
GO01				IAmb	IAmb	10 38 04.5	
	comp=Z,12nm,1.4s						
BOSA	**Boshof**	**47.86**	**79**	P	P	10 38 05.3	-8.5
	comp=Z,3.1nm,0.9s,baz=211,slow=12,SNR=3.0						
	comp=Z,3.1nm,0.9s						
H10S2	**ASCENSION HYDR**	**48.37**	**21**	T	T	11 30 09.7	
	baz=29,slow=74,SNR=10						
H10S3	**ASCENSION HYDR**	**48.37**	**21**	T	T	11 30 09.1	
	baz=191,slow=74,SNR=9.3						
LPAZ	**La Paz**	**48.60**	**309**	P	**P**	**10 38 21.2**	**+1.1**
LPAZ	**La Paz**	**48.60**	**309**	P	**P**	**10 38 20.5**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=153,slow=2.3,SNR=6.5						
	comp=Z,1.4nm,0.7s						
H10N1	**ASCENSION HYDR**	**49.49**	**21**	T	T	11 31 33.1	
	baz=191,slow=76,SNR=3.6						
H10N3	**ASCENSION HYDR**	**49.49**	**21**	T	T	11 31 31.1	
	baz=191,slow=76,SNR=9.4						
H10N2	**ASCENSION HYDR**	**49.50**	**21**	T	T	11 31 29.8	
	baz=191,slow=76,SNR=9.0						
TORD	**Torodi Ar. Bea**	**73.83**	**33**	P	P	10 41 05.0	-5.3
	comp=Z,0.2nm,0.5s,baz=208,slow=5.8,SNR=1.3						
	comp=Z,0.2nm,0.5s						
K29M	**Barlow Dome**	**144.27**	**313**	PKPdf	**PKPdf**	**10 49 10.4**	**-0.1**
TABL	**Table Mountain**	**144.49**	**307**	PKPdf	**PKPdf**	**10 49 11.2**	**0.0**
DAWY	**Dawson**	**145.12**	**313**	PKPbc	**PKPdf**	**10 49 12.7**	**+0.8**
H29M	**Whitestone**	**145.43**	**317**	PKPdf	**PKPbc**	**10 49 12.6**	**+0.2**
F28M	**Old Crow**	**146.40**	**319**	PKPdf	**PKPbc**	**10 49 15.8**	**+0.4**
D27M	**Malcolm River**	**147.17**	**322**	PKPbc	**PKPab**	**10 49 18.9**	**-0.4**
M24K	**Tolsona, Glenn**	**147.37**	**308**	PKPbc	**PKPab**	**10 49 20.3**	**+0.1**
ILAR	**Eielson Array**	**148.43**	**313**	PKPbc	**PKPbc**	**10 49 19.6**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=108,slow=1.3,SNR=8.4						
F25K	**Christian Rive**	**148.55**	**318**	PKPbc	**PKiKP**	**10 49 22.2**	**-0.5**
E25K	**Arctic Village**	**148.62**	**319**	PKPbc	**PKPbc**	**10 49 22.3**	**+0.9**
BPAW	**Bear Paw Mtn.**	**150.01**	**311**	PKPdf	**PKPdf**	**10 49 20.6**	**+0.7**
C23K	**Itkillik River**	**150.61**	**322**	PKPbc	**PKPbc**	**10 49 26.6**	**+0.5**
MA2	**Magadan**	**176.08**	**349**	PKPdf	**PKPdf**	**10 49 43.4**	**-1.3**
MA2				PKPab	**PKPab**	**10 51 23.2**	**-1.3**

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*IDC **02** 10:31:53.0±0.9, 29°.84N×95°.01E, h0km, mb3.7/6, mbtmp3.6/9, ML3.9/3, MS3.2/4, Error ellipse: s-maj=46.3km s-min=17.7km az=61.0*
*NDI **02** 10:31:53.1±3.4, 30°.30N×95°.05E, h10km, ML4.0, MW4.1, mb4.3(NEIC)*
*NEIC **02** 10:31:55.7±1.7, 29°.96N±0°.09×95°.2E±0°.1, h10km±1km, mb4.3/25, Error ellipse: s-maj=18.1km s-min=12.7km az=46.0*
ISC 02 10:31:56.2±0.7, 30°.03N±0°.06×95°.07E±0°.08, h10km, n41, σ1°.33/37, mb4.1/13, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIRO	**ZIRO**	**2.71**	**203**	*eP*	**Pn**	**10 32 41.6**	**+1.6**
ZIRO				*i x*	x	10 32 44.9	
ZIRO				*eS*	**Sn**	**10 33 17.3**	**+4.3**
ZIRO				IAML		10 33 20.1	
	3μm,0.4s						
ZIRO				IAML		10 33 20.8	
	comp=E,3μm,0.6s						
LKP	**Lekhapani**	**2.77**	**165**	*eP*	**Pn**	**10 32 44.0**	**+3.3**
ITAN	**ITANAGAR**	**3.11**	**203**	*eP*	**Pn**	**10 32 45.7**	**+0.4**
ITAN				*eS*	**Sn**	**10 33 23.4**	**+0.9**
ITAN				IAML		10 33 29.6	
	comp=E,1μm,0.7s						
LSA	**Lhasa**	**3.42**	**265**		**Pn**	**10 32 51.1**	**+1.2**
MOKO	**MOKOCHONG**	**3.73**	**188**	*eP*	**Pn**	**10 32 53.8**	**-0.1**
MOKO				*eS*	**Sn**	**10 33 37.5**	**-0.4**
MOKO				IAML		10 33 47.9	
	comp=E,346nm,0.4s						
MOKO				IAML		10 33 51.1	
	comp=E,518nm,0.4s						
KOHI	**KOHIMA**	**4.37**	**191**	*eP*	**Pn**	**10 33 02.6**	**-0.2**
KOHI				*i x*	x	10 33 15.8	
KOHI				*eS*	**Sn**	**10 33 54.9**	**+0.9**
KOHI				IAML		10 34 11.9	
	comp=E,266nm,0.9s						
KOHI				IAML		10 34 14.8	
	comp=E,419nm,0.4s						
SHL	**Shillong**	**5.26**	**213**		**Pn**	**10 33 14.9**	**-0.1**
SHL	**Shillong**	**5.26**	**213**	*eP*	**Pn**	**10 33 14.8**	**-0.3**
SHL				*ex*	x	10 34 07.0	
SHL				IAML		10 34 34.5	
	comp=N,172nm,0.3s						
SHL				IAML		10 34 35.3	
	comp=E,80nm,0.4s						
IMP	**Imphal**	**5.27**	**191**	*eP*	Pn	10 33 12.9	-2.2
AZL	**Aizawl**	**6.61**	**199**	*eP*	**Pn**	**10 33 32.0**	**-1.6**
CMAR	**Chiang Mai Arr**	**12.05**	**162**	Pn	Pn	10 34 44.7	-3.4
	comp=E,0.9nm,0.3s,baz=7.9,slow=14,SNR=6.0						
CMAR				LR	LR	10 39 52.0	
	comp=E,57nm,20.7s,baz=5.0,slow=40						
	comp=E,1.1nm,0.3s						
WUS	**Wushi**	**17.01**	**315**	P	**Pn**	**10 35 55.5**	**+1.2**
MK31	**Makanchi Array**	**19.46**	**333**	P	**P**	**10 36 23.6**	**+0.6**
MKAR	**Makanchi Array**	**19.46**	**333**	P	**P**	**10 36 23.1**	**+0.1**
	comp=E,0.1nm,0.3s,baz=133,slow=8.3,SNR=2.1						
MKAR				LR	LR	10 44 39.6	
	comp=E,63nm,19.3s,baz=188,slow=39						
	comp=E,0.6nm,0.7s						
BOOM	**Boomskoye usch**	**19.76**	**314**	P	**P**	**10 36 27.5**	**+1.1**
BOOM				IAmb	IAmb	10 37 03.7	
	comp=Z,48nm,1.4s						
SONM	**Songino Array**	**19.81**	**23**	P	**P**	**10 36 27.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=214,slow=10,SNR=3.8						
	comp=Z,0.7nm,0.5s						
ULN	**Ulaanbaatar**	**20.06**	**24**	P	**P**	**10 36 29.6**	**-0.1**
AAK	**Ala-Archa**	**20.74**	**313**	P	**P**	**10 36 36.1**	**-1.1**
AAK				IAmb	IAmb	10 36 45.5	
	comp=Z,7.5nm,0.9s						
ARSB	**Arslanbob**	**21.12**	**308**	P	**P**	**10 36 41.3**	**0.0**
SRIT	**Nakonsritamara**	**21.74**	**168**	P	**P**	**10 36 45.7**	**-2.2**
SRIT				IAmb	IAmb	10 37 25.5	
	comp=Z,31nm,1.4s						
BTK	**Batken**	**22.17**	**303**	P	**P**	**10 36 54.0**	**+1.5**
GAR	**Garm**	**22.22**	**300**	P	**P**	**10 36 52.2**	**-0.9**
GAR				IAmb	IAmb	10 37 04.8	
	comp=Z,15nm,1.3s						
KBL	**Kabul**	**22.43**	**288**	P	**P**	**10 36 55.3**	**-0.1**
KBL				IAmb	IAmb	10 36 56.5	
	comp=Z,5.4nm,0.9s						
CHGR	**Chuyangaron**	**23.00**	**299**	P	**P**	**10 36 59.9**	**-1.4**
CHGR				IAmb	IAmb	10 37 01.5	
	comp=Z,11nm,0.7s						
SIMJ	**Simiganj**	**23.11**	**299**	P	**P**	**10 37 01.9**	**-0.6**
SIMJ				IAmb	IAmb	10 37 09.8	
	comp=Z,5.3nm,0.8s						
KURBB	**Kurchatov Arra**	**24.02**	**334**	P	**P**	**10 37 11.6**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=150,slow=9.5,SNR=2.0						
	comp=Z,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**25.03**	**346**	P	**P**	**10 37 19.7**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=170,slow=10,SNR=3.7						
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**29.21**	**329**	LR	LR	10 51 11.0	
	comp=Z,75nm,18.0s,baz=250,slow=40						
ABKAR	**Akbulak array**	**32.76**	**316**	P	**P**	**10 38 28.8**	**-0.5**
ABKAR				IAmb	IAmb	10 38 37.0	
	comp=Z,4.6nm,1.4s						
UOSS	**Minazif**	**34.73**	**271**	P	**P**	**10 38 46.3**	**-0.3**
ARTI	**Arti**	**36.81**	**326**	LR	LR	10 56 04.7	
	comp=Z,46nm,20.9s,baz=182,slow=39						
JKA	**Kamikawa-asahi**	**39.91**	**56**	P	**P**	**10 39 31.0**	**+0.7**
JKA				IAmb	IAmb	10 39 57.1	
	comp=Z,21nm,1.3s						
KEV	**Kevo**	**54.58**	**337**	P	**P**	**10 41 25.3**	**+1.1**
WB0	**Warramunga Arr**	**62.33**	**138**	P	**P**	**10 42 17.4**	**-1.6**
WRA	**Warramunga Arr**	**62.44**	**138**	P	P	10 42 17.4	-2.3
	comp=Z,0.9nm,0.8s,baz=323,slow=7.9,SNR=7.0						
	comp=Z,0.9nm,0.8s						
WB2	**Warramunga Arr**	**62.44**	**138**	P	P	10 42 16.9	-2.8
GEC2	**GERESS Array S**	**62.62**	**313**	P	**P**	**10 42 19.2**	**-1.6**
GEC2				IAmb	IAmb	10 42 28.1	
	comp=Z,3.8nm,0.9s						
GERES	**GERESS Array B**	**62.62**	**313**	P	**P**	**10 42 20.4**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=64,slow=6.7,SNR=4.7						
	comp=Z,0.3nm,0.3s						
KHC	**Kasperske Hory**	**62.63**	**313**	P	**P**	**10 42 20.4**	**-0.4**
ASAR	**Alice Springs**	**65.13**	**141**	P	P	10 42 35.1	-2.3
	comp=Z,1.0nm,0.8s,baz=324,slow=6.7,SNR=12						
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**86.39**	**283**	P	P	10 44 36.8	-2.5
	comp=Z,0.4nm,0.7s,baz=25,slow=5.9,SNR=3.1						
	comp=Z,0.4nm,0.7s						

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*UPP **02** 10:40:04.1±2.9, 64°.38N×30°.92E, h0km, ML1.8*
*HEL **02** 10:40:06.8±0.2, 64°.78N×30°.75E, h0km, ML2.1, Suspected explosion*
*KOLA **02** 10:40:07.6, 64°.77N×30°.76E, h0km, ML2.4, Error ellipse: s-maj=17.6km s-min=12.6km az=160.0, Kostomuksha, Karelia*
*IDC **02** 10:40:08.9±2.0, 64°.73N×30°.39E, h0km, mbtmp3.0/4, ML2.2/4, Error ellipse: s-maj=25.2km s-min=9.0km az=109.0*
ISC 02 10:40:06.7±0.9, 64°.82N±0°.02×30°.80E±0°.04, h0km, n48, σ1°.80/77, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.71**	**212**	PG	**Pg**	**10 40 19.2**	**-1.1**
RMF				MSG		10 40 27.8	
	comp=Z,22nm,0.2s						
RMF				SG	**Sg**	**10 40 28.1**	**-1.4**
KU6	**Riekki**	**1.27**	**343**	PG	**Pg**	**10 40 30.2**	**-0.8**
	baz=163						
KU6				MSG		10 40 46.0	
	comp=Z,15nm,0.2s						
KU6				SG	**Sg**	**10 40 47.0**	**-0.4**
OLKF	**Oulanka, Finla**	**1.61**	**340**	PG	**Pn**	**10 40 36.4**	**0.0**
OLKF				MSG		10 40 56.0	
	comp=Z,14nm,0.2s						
OLKF				SN	**Sn**	**10 40 58.0**	**+0.1**
JOF	**Joensuu**	**1.92**	**173**	*eP*	**Pn**	**10 40 41.3**	**+0.7**
JOF	**Joensuu**	**1.92**	**173**	PG	Pn	10 40 39.8	-0.8
JOF				SG	**Sn**	**10 41 05.6**	**+0.1**
NIF	**Nilsia**	**1.94**	**224**	PG	**Pn**	**10 40 40.9**	**0.0**
NIF				SG	**Sn**	**10 41 05.9**	**-0.1**
RANF	**Ranua**	**2.06**	**307**	PG	**Pn**	**10 40 43.4**	**+0.9**
RANF				SG	**Sn**	**10 41 09.2**	**+0.4**
OUL	**Oulu**	**2.10**	**279**	PG	**Pn**	**10 40 43.7**	**+0.6**
	baz=101						
OUL				SB	**Sn**	**10 41 10.0**	**+0.2**
OBF4	**Vikkela, Lumij**	**2.44**	**272**	PB	**Pn**	**10 40 48.3**	**+0.7**
	baz=90						
OBF4				MSG		10 41 18.3	
	comp=Z,14nm,0.2s						
OBF4				SG	**Sb**	**10 41 20.7**	**-1.0**
OUF	**Merijarvi**	**2.65**	**263**	PN	**Pn**	**10 40 51.1**	**+0.5**
OUF				MSG		10 41 24.3	
	comp=Z,14nm,0.2s						
OUF				SB	**Sn**	**10 41 26.4**	**+2.9**
RNF	**Rovaniemi**	**2.67**	**314**	PN	**Pn**	**10 40 51.2**	**+0.3**
RNF				SB	**Sb**	**10 41 27.1**	**-1.4**
OBF0	**Syolatti, Pyha**	**2.84**	**266**	PN	**Pn**	**10 40 53.8**	**+0.7**
OBF0				MSG		10 41 29.7	
	comp=Z,6.2nm,0.2s						
OBF0				SG	**Sb**	**10 41 34.4**	**+1.0**
APA0	**Apatity Array**	**2.94**	**17**	P	**Pn**	**10 40 56.0**	**+1.5**
APA0				S	**Sn**	**10 41 32.2**	**+1.8**
SUF	**Sumiainen**	**2.95**	**226**	PB	**Pn**	**10 40 55.9**	**+1.2**
SUF				MSG		10 41 32.6	
	comp=Z,3.9nm,0.2s						
VRF	**Varrio**	**2.98**	**351**	PN	**Pn**	**10 40 55.9**	**+0.8**
VRF				MSG		10 41 35.4	
	comp=Z,3.3nm,0.2s						
VRF				SG	**Sb**	**10 41 38.3**	**+0.9**
TOF	**Tornio**	**2.98**	**298**	PG	**Pb**	**10 40 59.7**	**-0.9**
	baz=113						
TOF				MSG		10 41 34.4	
	comp=Z,3.2nm,0.2s						
TOF				SB	**Sn**	**10 41 34.7**	**+3.2**
KALU	**Kalix**	**3.29**	**292**	PN	**Pn**	**10 41 00.4**	**+1.0**
KALU				SB	**Sb**	**10 41 44.3**	**-2.0**
KAF	**Kangasniemi**	**3.38**	**219**	PB	**Pn**	**10 41 02.2**	**+1.5**
KAF				SG	**Sb**	**10 41 47.0**	**-2.1**
LVZ	**Lovozero**	**3.46**	**25**	S	**Sn**	**10 41 41.7**	**-1.6**
LVZ	**Lovozero**	**3.46**	**25**	PN	**Pn**	**10 41 02.9**	**+1.2**
RUF	**Ruokolahti**	**3.51**	**195**	PN	**Pn**	**10 41 02.8**	**+0.4**
KLF	**Kolari**	**3.69**	**314**	PN	**Pn**	**10 41 05.2**	**+0.3**
KLF				SG	**Sb**	**10 42 01.7**	**+3.7**
KEF	**Keuruu**	**3.76**	**228**	*eP*	**Pn**	**10 41 08.1**	**+2.3**
KEF	**Keuruu**	**3.76**	**228**	PN	**Pn**	**10 41 07.2**	**+1.4**
	baz=44						
KEF				SG	**Sb**	**10 42 03.9**	**+4.0**
RAJF	**Raja-Jooseppi**	**3.80**	**346**	PN	**Pn**	**10 41 07.1**	**+0.7**
PAJU	**Pajala**	**3.85**	**309**	P	**Pn**	**10 41 07.7**	**+0.6**
PAJU				S	**Sn**	**10 41 54.4**	**+1.5**
PAJU	**Pajala**	**3.85**	**309**	PN	**Pn**	**10 41 08.0**	**+1.0**
PAJU				SG	**Sb**	**10 42 04.8**	**+2.3**
ERTU	**Ertsjaerv**	**3.96**	**300**	PN	**Pn**	**10 41 09.6**	**+1.0**
ERTU				SG	**Sb**	**10 42 09.2**	**+3.6**
VAF	**Ylistaro**	**4.00**	**247**	*eP*	**Pn**	**10 41 09.6**	**+0.5**
VAF	**Ylistaro**	**4.00**	**247**	SG	**Sb**	**10 42 10.4**	**+3.6**
FIA0	**FINESS Array S**	**4.01**	**214**	PG	**Pb**	**10 41 18.5**	**+0.4**
FIA0				SB	**Sb**	**10 42 04.1**	**-2.9**
FINES	**FINESS Array B**	**4.01**	**214**	Pn	**Pn**	**10 41 09.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=28,slow=14,SNR=1.7						
FINES				Lg	Lg	10 42 07.7	
	comp=Z,1.5nm,0.3s,baz=30,slow=27,SNR=18						
	comp=Z,0.9nm,0.6s						
ODEU	**Stanfors**	**4.36**	**269**	P	**Pn**	**10 41 12.5**	**-1.5**
MASU	**Masugnsbyn**	**4.45**	**310**	P	**Pn**	**10 41 17.1**	**+1.8**
UMAU	**Umeaa**	**4.50**	**263**	P	Pn	10 41 11.6	-4.3
UMAU	**Umeaa**	**4.50**	**263**	PN	**Pn**	**10 41 14.8**	**-1.2**
UMAU				SG	**Sb**	**10 42 24.6**	**+3.6**
VJF	**Virojoki**	**4.55**	**201**	SG	**Sb**	**10 42 25.9**	**+3.4**
HEF	**Hetta**	**4.59**	**325**	PN	**Pn**	**10 41 17.0**	**-0.2**
HEF				SG	**Sb**	**10 42 27.4**	**+3.7**
KMNF	**Kaamanen**	**4.60**	**343**	PN	**Pn**	**10 41 17.7**	**+0.4**
KMNF				SN	**Sn**	**10 42 07.6**	**-3.7**
LILU	**Lilltraesk**	**4.66**	**281**	P	**Pn**	**10 41 18.4**	**+0.2**
LILU				S	**Sn**	**10 42 12.0**	**-0.9**
PRVG	**Vayda Guba**	**4.98**	**6**	P	**Pn**	**10 41 23.6**	**+1.0**
PRVG				S	**Sn**	**10 42 20.1**	**-0.6**
ARCES	**ARCESS Array B**	**5.16**	**339**	P	**Pn**	**10 41 24.9**	**-0.2**
ARCES				S	**Sn**	**10 42 23.7**	**-1.6**
ARCES	**ARCESS Array B**	**5.16**	**339**	Pn	**Pn**	**10 41 25.1**	**0.0**
	comp=Z,0.4nm,0.3s,baz=153,slow=12,SNR=64						
ARCES				Sn	**Sn**	**10 42 23.3**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=156,slow=25,SNR=5.8						
ARCES				Lg	Lg	10 42 43.5	
	comp=Z,0.9nm,0.3s,baz=157,slow=29,SNR=3.7						
	comp=Z,0.8nm,0.2s						
VADS	**Vadso**	**5.35**	**355**	P	**Pn**	**10 41 27.6**	**0.0**
VADS				S	**Sn**	**10 42 28.1**	**-1.8**
RAF	**Rauma**	**5.61**	**231**	*eP*	**Pn**	**10 41 32.2**	**+1.0**
FAUS	**Fauske**	**6.80**	**299**	S	**Sn**	**10 43 02.1**	**-3.4**
HFS	**Hagfors**	**9.19**	**247**	Pn	**Pn**	**10 42 17.8**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=53,slow=12,SNR=1.9						
HFS				Sn	Sn	10 43 53.9	-10
	baz=64,slow=36,SNR=2.0						
HFS				Lg	Lg	10 44 49.4	
	comp=Z,0.4nm,0.3s,baz=57,slow=28,SNR=6.8						
	comp=Z,0.7nm,0.5s						
NOA	**NORSAR Array B**	**9.68**	**256**	Pn	**Pn**	**10 42 23.3**	**-3.7**
	baz=62,slow=14,SNR=1.2						
NOA				Lg	Lg	10 45 07.1	
	baz=50,slow=18,SNR=1.9						
	comp=Z,0.3nm,0.4s						

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*IDC **02** 10:45:40.5±4.6, 37°.67N×20°.71E, h0km, mb3.8/4, mbtmp3.9/4, Error ellipse: s-maj=202.0km s-min=28.5km az=109.0*
*THE **02** 10:45:41.6, 37°.44N×20°.51E, h14km±1km, ML3.4/9, Error ellipse: s-maj=2.1km s-min=1.3km az=35.0*
*ATH **02** 10:45:41.8, 37°.42N×20°.56E, h18km±1km, ML3.4/4, Error ellipse: s-maj=3.0km s-min=1.7km az=46.0*
ISC 02 10:45:41.8±1.6, 37°.45N±0°.06×20°.64E±0°.05, h8km±9km, n25, σ1°.09/41, mb4.0/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.26**	**34**	P	**Pb**	**10 45 47.8**	**-0.9**
KRI1				S	**Sb**	**10 45 53.4**	**+0.1**
	15μm,0.5s						
LTHK	**Lithakia**	**0.30**	**31**	P	**Pb**	**10 45 48.6**	**-1.0**
LTHK				S	**Sb**	**10 45 54.9**	**+0.2**
	9μm,0.1s						
LTHK	**Lithakia**	**0.30**	**31**	P	**Pb**	**10 45 48.5**	**-1.0**
LTHK				S	**Sb**	**10 45 54.9**	**+0.2**
LTHK				AML	AML	10 45 55.0	
	comp=N,17896μm,0.5s						
LTHK				AML	AML	10 45 58.9	
	comp=E,21981μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.64**	**10**	P	**Pb**	**10 45 54.7**	**-0.5**
RTZL				S	**Sb**	**10 46 04.9**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.67**	**356**	P	**Pb**	**10 45 55.2**	**-0.5**
PSDA				S	**Sg**	**10 46 03.8**	**+0.5**
	comp=E,3μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.67**	**356**	P	**Pb**	**10 45 55.4**	**-0.3**
PSDA				S	**Sg**	**10 46 03.4**	**+0.1**
VLS	**Valsamata**	**0.73**	**357**	P	**Pb**	**10 45 56.0**	**-0.8**
VLS				S	**Sg**	**10 46 05.5**	**+0.2**
	com

*IDC **02** 10:46:03.4±0.8,37.°06N×142.°31E,h0km,mb3.7/15, mbtmp3.7/22,ML3.4/7,MS3.1/1,Error ellipse: s-maj=17.8km s-min=16.1km az=143.0*
*NIED **02** 10:46:06.6,37.°09N×142.°20E,h38km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr1.63; Mθθ0.92; Mφφ-2.54; Mrθ0.14; Mφθ-0.81; Mφr6.02; Fault plane solution: M0 6.42000×10^14 NP1:φs1.00000°, δ80.00000°,λ83.00000°. NP2:φs216.00000°,δ12.00000°, λ124.00000°.*
*JMA **02** 10:46:06.6±0.2,37.°1N±0.°6×14.°2E±.°,h38km,MD4.2/39, MV4.1/39,E OFF FUKUSHIMA PREF*
ISC 02 10:46:05.9±3.7,37.°10N±0.°05×142.°24E±0.°07,h17km±23km, n45,σ1§39/44,mb3.7/15,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	1.12	284	P	Pb	10 46 25.9	-1.0
ONAJ	Iwakimizuishiy	1.16	271	P	Pn	10 46 26.1	-1.2
ONAJ				eS	Sb	10 46 40.1	-2.0
JMST	Minamisoumatoc	1.25	300	P	Pn	10 46 27.5	-1.0
JMST				eS	Sb	10 46 43.1	-1.6
JFFD	Fukushimafurud	1.34	270	iP	Pn	10 46 28.8	-1.2
JMM	Marumori	1.38	304	iP	Pn	10 46 29.7	-0.7
JIO	Ouri	1.53	333	iP	Pn	10 46 31.6	-0.8
JIO				eS	Sn	10 46 50.3	-1.6
JOTO	OTAMA OYAMA	1.59	287	P	Pn	10 46 33.6	+0.3
JOTO				eS	Sn	10 46 52.0	-1.4
JOU	Okura	1.78	316	eP	Pn	10 46 36.0	+0.1
JOU	Okura	1.78	316	A	A	10 46 36.0	
	comp=E,5.0nm,0.8s,comp=N,5.0nm,0.6s						
JYAR	Yonezawaarcadi	1.86	297	A	A	10 46 36.6	
	comp=E,8.0nm,1.2s,comp=N,7.0nm,1.5s						
JSB	Shiboa	1.86	267	A	A	10 46 36.7	
	comp=E,3.0nm,1.5s,comp=N,4.0nm,3.3s						
JMK	Ichinoseki	2.02	337	eP	Pn	10 46 39.7	+0.5
JMK				eS	Sn	10 47 04.3	+0.4
JFY	Yanaizu	2.05	279	eP	Pn	10 46 40.4	+0.8
JYS	Shirataka	2.06	304	P	Pn	10 46 41.0	+1.2
JAG	Ashikaga	2.34	254	P	Pn	10 46 43.5	-0.1
JYK	Kaneyama	2.35	321	P	Pn	10 46 44.1	+0.4
MJAR	Matsushiro Arr	3.29	261	Pn	Pn	10 46 58.6	+2.0
	comp=N,2.1nm,0.3s,baz=88,slow=15,SNR=80						
MJAR				Sn	Sn	10 47 38.0	+2.7
	comp=N,1.2nm,0.3s,baz=63,slow=22,SNR=5.5 comp=N,9.7nm,0.3s						
JHJ	Hachijo jima 2	4.45	208	Pn	Pn	10 47 12.8	+0.1
	comp=N,24nm,0.3s,baz=344,slow=18,SNR=11						
JHJ				Sn	Sn	10 48 00.9	-3.1
	comp=N,18nm,0.3s,baz=78,slow=24,SNR=6.1 comp=N,49nm,0.3s						
ASAJ	Asahikawa	7.01	2	Pn	Pn	10 47 48.4	+0.6
	comp=N,1.0nm,0.3s,baz=218,slow=15,SNR=9.5						
ASAJ				Sn	Sn	10 49 03.0	-4.2
	comp=N,0.9nm,0.3s,baz=114,slow=20,SNR=2.0 comp=N,3.0nm,0.4s						
JNU	Nakatsue	10.12	250	Pn	Pn	10 48 31.9	+1.4
	comp=N,0.6nm,0.3s,baz=55,slow=5.3,SNR=8.9 comp=N,7.5nm,0.7s						
USRK	Ussuriysk Ar.	10.53	316	Pn	Pn	10 48 34.5	-1.4
	comp=N,0.1nm,0.3s,baz=116,slow=13,SNR=2.0 comp=N,0.6nm,0.6s						
KSRS	Korea Array	11.42	276	Pn	Pn	10 48 47.8	-0.4
	comp=N,0.1nm,0.3s,baz=85,slow=13,SNR=2.1						
KSRS				LR	LR	10 53 04.2	
	comp=N,100nm,19.2s,baz=75,slow=37 comp=N,0.3nm,0.3s						
KLR	Kul'dur	14.32	331	Pn	Pn	10 49 30.1	+2.3
	comp=N,0.1nm,0.3s,baz=142,slow=19,SNR=1.4 comp=N,0.5nm,0.4s						
H11N2	WAKE ISLAND Hy	27.62	122	T	T	11 20 46.3	
	baz=314,slow=75,SNR=46						
H11N1	WAKE ISLAND Hy	27.62	122	T	T	11 20 54.8	
	baz=314,slow=75,SNR=31						
H11N3	WAKE ISLAND Hy	27.63	122	T	T	11 20 60.0	
	baz=314,slow=75,SNR=32						
SONM	Songino Array	28.30	304	P	P	10 51 59.5	+1.0
	comp=N,1.5nm,0.7s,baz=106,slow=9.8,SNR=5.0 comp=N,1.5nm,0.7s						
H11S1	WAKE ISLAND Hy	28.34	124	T	T	11 21 43.1	
	baz=316,slow=74						
H11S3	WAKE ISLAND Hy	28.34	124	T	T	11 21 44.2	
	baz=316,slow=74						
H11S2	WAKE ISLAND Hy	28.36	124	T	T	11 21 48.2	
	baz=316						
CMAR	Chiang Mai Arr	42.16	256	P	P	10 53 57.2	-0.5
	comp=N,0.9nm,0.3s,baz=88,slow=4.8,SNR=0.8 comp=N,0.9nm,0.3s						
ZALV	Zalesovo Beam	42.36	312	P	P	10 53 59.3	+0.4
	comp=N,0.7nm,0.4s,baz=108,slow=4.8,SNR=4.0 comp=N,0.7nm,0.4s						
MKAR	Makanchi Array	44.65	302	P	P	10 54 18.2	+0.7
	comp=N,1.2nm,0.8s,baz=89,slow=9.7,SNR=6.4 comp=N,1.2nm,0.8s						
KURBB	Kurchatov Arra	46.48	308	P	P	10 54 32.5	+0.6
	comp=N,1.4nm,0.4s,baz=81,slow=8.0,SNR=7.9 comp=N,1.4nm,0.4s						
ILAR	Eielson Array	49.08	32	P	P	10 54 52.1	+0.2
	comp=N,0.4nm,0.9s,baz=251,slow=5.4,SNR=4.3 comp=N,0.4nm,0.9s						
BVAR	Borovoye Array	51.02	312	P	P	10 55 06.6	-0.2
	comp=N,0.5nm,0.6s,baz=102,slow=6.2,SNR=1.7 comp=N,0.5nm,0.6s						
WRA	Warramunga Arr	57.22	189	P	P	10 55 51.6	-0.6
	comp=N,0.5nm,0.7s,baz=7.5,slow=8.1,SNR=7.0 comp=N,0.5nm,0.7s						
ASAR	Alice Springs	60.95	189	P	P	10 56 18.1	+0.1
	comp=N,0.3nm,0.8s,baz=17,slow=9.1,SNR=2.2 comp=N,0.3nm,0.8s						
FINES	FINESS Array B	69.06	332	P	P	10 57 11.6	+1.2
	comp=N,2.8nm,0.9s,baz=51,slow=6.8,SNR=4.4 comp=N,2.8nm,0.9s						
NOA	NORSAR Array B	74.38	338	P	P	10 57 43.5	+1.1
	comp=N,0.5nm,0.8s,baz=39,slow=5.7,SNR=1.6 comp=N,0.5nm,0.8s						
NVAR	Mina Array Bea	74.42	54	P	P	10 57 45.0	+1.7
	comp=N,0.4nm,0.7s,baz=294,slow=4.9,SNR=4.1 comp=N,0.4nm,0.7s						
AKASG	Malin Array Be	74.65	323	P	P	10 57 44.0	-0.1
	comp=N,0.4nm,0.4s,baz=50,slow=6.8,SNR=5.4 comp=N,0.4nm,0.4s						
PDAR	Pinedale Array	77.14	46	P	P	10 57 58.6	-0.3
	comp=N,0.2nm,0.5s,baz=339,slow=2.2,SNR=1.7 comp=N,0.2nm,0.5s						
TXAR	Lajitas Array	89.55	53	P	P	10 59 02.1	-0.6
	comp=N,0.2nm,0.6s,baz=302,slow=4.1,SNR=1.8 comp=N,0.2nm,0.6s						
LPAZ	La Paz	146.09	60	PKPbc	PKPdf	11 05 45.8	+0.5
	comp=N,1.1nm,0.8s,baz=0.0,slow=2.0,SNR=2.5						

*IDC **02** 10:48:26.6±0.8,57.°50N×33.°04W,h0km,mb3.9/14, mbtmp3.9/16,ML2.6/1,Error ellipse: s-maj=24.7km s-min=17.0km az=179.0*
ISC 02 10:48:28.8±0.7,57.°4N±0.°1×33.°01W±0.°10,h15km,n20, σ1§18/20,mb4.0/15,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	9.28	33	Pn	Pn	10 50 44.1	+2.3
	0.3nm,0.3s,baz=139,slow=20,SNR=2.1						
EKA	Eskdalemuir Ar	16.61	84	Pn	P	10 52 22.4	-0.8
	2.3nm,0.9s,baz=287,slow=8.1,SNR=3.2						
SCHQ	Schefferville	18.92	277	P	P	10 52 48.9	+0.1
	0.2nm,0.3s,baz=50,slow=7.2,SNR=6.1 4.4nm,0.7s						
NOA	NORSAR Array B	22.59	62	P	P	10 53 27.1	-1.3
	2.3nm,0.9s,baz=281,slow=9.5,SNR=5.4						
ESDC	Sonseca Array	25.85	121	P	P	10 54 01.1	+1.5
	1.4nm,1.0s,baz=322,slow=8.6,SNR=4.9 1.4nm,1.0s						
AKASG	Malin Array Be	35.98	73	P	P	10 55 26.7	-1.9
	0.2nm,0.3s,baz=309,slow=8.7,SNR=2.1 0.2nm,0.3s						
BRTR	Keskin Array B	45.52	83	P	P	10 56 47.6	0.0
	0.9nm,0.6s,baz=281,slow=6.9,SNR=1.7 0.9nm,0.6s						
PDAR	Pinedale Array	48.58	287	P	P	10 57 11.6	0.0
	0.4nm,0.6s,baz=65,slow=8.4,SNR=4.1 0.4nm,0.6s						
AKTO	Aktyubinsk	50.20	56	P	P	10 57 24.1	+0.6
	2.6nm,0.8s,baz=316,slow=8.7,SNR=6.0 2.6nm,0.8s						
TORD	Torodi Ar. Bea	51.42	135	P	P	10 57 33.9	+0.9
	2.4nm,1.1s,baz=342,slow=7.2,SNR=6.5 2.4nm,1.1s						
BVAR	Borovoye Array	53.54	47	P	P	10 57 49.4	+1.0
	1.3nm,0.6s,baz=347,slow=5.2,SNR=5.4 1.3nm,0.6s						
TXAR	Lajitas Array	55.50	271	P	P	10 58 02.7	-0.4
	0.5nm,0.9s,baz=59,slow=3.7,SNR=2.3 0.5nm,0.9s						
ZALV	Zalesovo Beam	58.08	38	P	P	10 58 18.5	-2.4
	0.4nm,0.3s,baz=303,slow=8.4,SNR=1.9 0.4nm,0.3s						
KURBB	Kurchatov Arra	58.57	44	P	P	10 58 24.1	-0.3
	1.7nm,0.8s,baz=322,slow=7.2,SNR=9.3 1.7nm,0.8s						
MKAR	Makanchi Array	63.13	44	P	P	10 58 55.7	+0.1
	0.7nm,0.5s,baz=326,slow=5.5,SNR=5.3 0.7nm,0.5s						
PETK	Petropavlovsk-	69.51	353	P	P	10 59 36.3	+0.1
	3.6nm,0.9s,baz=78,slow=13,SNR=2.5 3.6nm,0.9s						
SONM	Songino Array	69.86	28	P	P	10 59 37.4	-1.2
	1.5nm,0.8s,baz=337,slow=7.1,SNR=4.5 1.5nm,0.8s						
KSRS	Korea Array	84.15	15	P	P	11 00 59.1	+0.2
	1.4nm,0.9s,baz=338,slow=6.5,SNR=6.1 1.4nm,0.9s						
ASAR	Alice Springs	145.00	21	PKP	PKPdf	11 08 04.9	-0.2
	2.0nm,0.8s,baz=343,slow=2.8,SNR=17						
QSPA	South Pole Qui	147.29	180	PKPbc	PKPdf	11 08 08.4	+0.7
	1.9nm,1.0s,baz=104,slow=4.6,SNR=3.6						

*IDC **02** 10:55:21.1±0.9,57.°56N×32.°92W,h0km,mb3.7/15, mbtmp3.7/17,ML2.9/2,MS3.8/1,Error ellipse: s-maj=27.3km s-min=14.6km az=5.0*
*NEIC **02** 10:55:27.2±2.0,58.°1N±0.°1×32.°3W±0.°2,h10km±1km, mb4.5/32,Error ellipse: s-maj=17.6km s-min=13.9km az=174.0*
ISC 02 10:55:26.7±0.6,58.°0N±0.°1×32.°60W±0.°07,h18km,n53, σ1§90/50,mb4.2/30,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	Narsarsuaq	7.25	301	Pn	Pn	10 57 11.5	-0.1
BORG	Borgarnes	8.67	34	Pn	Pn	10 57 28.8	-2.2
BORG	Borgarnes	8.67	34	Pn	Pn	10 57 37.7	+6.6
	0.2nm,0.3s,baz=180,slow=10,SNR=1.2						
SFJD	Kangerlussuaq	12.24	325	LR	LR	11 02 25.5	
	comp=Z,442nm,18.7s,baz=147,slow=34						
EKA	Eskdalemuir Ar	16.34	87	Pn	Pn	10 59 15.2	+0.3
	baz=290,slow=13 0.8nm,0.6s						
SCHQ	Schefferville	19.08	275	P	P	10 59 43.3	-4.6
	0.2nm,0.3s,baz=79,slow=7.7,SNR=2.9 2.3nm,0.7s						
NOA	NORSAR Array B	22.12	63	P	P	11 00 20.7	-0.2
	0.6nm,0.9s,baz=352,slow=8.2,SNR=2.9 0.6nm,0.9s						
HFS	Hagfors	23.53	65	P	P	11 00 34.3	-1.1
	3.0nm,1.0s,baz=287,slow=8.9,SNR=2.0 3.0nm,1.0s						
SPB5	Spitsbergen Ar	25.82	21	P	P	11 00 56.7	+0.3
SPB5				IAmb	IAmb	11 01 25.2	
	comp=Z,35nm,1.1s						
ESDC	Sonseca Array	25.97	122	P	P	11 00 54.7	-3.4
	comp=Z,1.1nm,0.8s,baz=325,slow=9.1,SNR=5.7 comp=Z,1.1nm,0.8s						
ARCES	ARCESS Array B	26.98	41	P	P	11 01 08.9	+2.1
	comp=Z,2.8nm,0.9s,baz=275,slow=8.8,SNR=2.8 comp=Z,2.8nm,0.9s						
RES	Resolute Bay	28.16	330	P	P	11 01 17.9	+0.6
AKASG	Malin Array Be	35.60	74	P	P	11 02 22.8	0.0
	comp=Z,0.4nm,0.3s,baz=310,slow=8.6,SNR=2.4 comp=Z,0.4nm,0.3s						
YKA	Yellowknife Ar	38.38	312	P	P	11 02 45.8	-0.5
	comp=Z,2.2nm,0.9s,baz=58,slow=8.3,SNR=2.7 comp=Z,2.2nm,0.9s						
G29M	Pine Creek	43.80	327	P	P	11 03 30.9	+0.1
E27K	Coleen River	43.94	329	P	P	11 03 32.1	+0.1
H29M	Whitestone	44.37	326	P	P	11 03 35.2	-0.2
H29M				IAmb	IAmb	11 03 47.5	
	comp=Z,6.8nm,1.5s						
TAM	Tamanrasset	44.54	126	P	P	11 03 36.3	-1.1
TAM				IAmb	IAmb	11 03 40.8	
	comp=Z,6.5nm,1.2s						
J30M	Hart River	44.87	324	P	P	11 03 40.6	+1.1
J30M				IAmb	IAmb	11 03 54.9	
	comp=Z,9.7nm,1.4s						
C23K	Itkillik River	45.01	334	P	P	11 03 42.4	+2.0
C23K				IAmb	IAmb	11 04 07.1	
	comp=Z,10nm,1.4s						
BRTR	Keskin Array B	45.23	84	P	P	11 03 43.0	+0.3
	comp=Z,1.6nm,0.7s,baz=305,slow=5.1,SNR=2.1 comp=Z,1.6nm,0.7s						
B22K	Teshekpuk Lake	45.26	336	P	P	11 03 42.3	0.0
BMAR	Burnt Mountain	45.28	330	P	P	11 03 44.0	+1.4
I28M	Miner Creek	45.37	326	P	P	11 03 45.0	+1.5
I28M				IAmb	IAmb	11 03 52.1	
	comp=Z,4.3nm,1.1s						
FARO	Faro, Yukon	45.48	320	P	P	11 03 45.8	+1.5
TOLK	Toolik Lake Re	45.66	333	P	P	11 03 47.5	+1.9
TOLK				IAmb	IAmb	11 04 18.9	
	comp=Z,5.5nm,1.4s						
D23K	Nanushuk River	45.68	334	P	P	11 03 47.6	+1.8
E24K	Your Creek	45.82	332	P	P	11 03 49.9	+3.0
E24K				IAmb	IAmb	11 03 51.2	
	comp=Z,8.5nm,1.5s						
B21K	Ikpikpuk River	46.08	336	P	P	11 03 50.3	+1.5
B21K				IAmb	IAmb	11 04 30.9	
	comp=Z,17nm,1.4s						
DAWY	Dawson	46.18	324	P	P	11 03 50.7	+0.9
DAWY				IAmb	IAmb	11 04 11.8	
	comp=Z,7.7nm,1.3s						
D22K	Ayikyak River	46.22	334	P	P	11 03 51.9	+1.9
D22K				IAmb	IAmb	11 04 12.0	
	comp=Z,11nm,1.4s						
M30M	Minto, Yukon	46.40	322	P	P	11 03 52.7	+1.1
WLAR	White Oak Lake	46.70	266	P	P	11 03 55.8	+1.7
H23K	Yukon River	47.80	330	P	P	11 04 04.2	+1.9
H23K				IAmb	IAmb	11 04 06.7	
	comp=Z,5.4nm,1.2s						
ILAR	Eielson Array	47.88	328	P	P	11 04 01.4	-1.6
	comp=Z,1.0nm,0.9s,baz=34,slow=5.9,SNR=7.9 comp=Z,1.0nm,0.9s						
ILAM	Ilet Lapin Mar	48.06	218	P	P	11 04 08.3	+3.4
HDA	Harding Lake	48.17	328	P	P	11 04 07.0	+1.7
HDA				IAmb	IAmb	11 04 22.0	
	comp=Z,5.0nm,1.3s						
E19K	Redstone River	48.39	335	P	P	11 04 08.4	+1.5
E19K				IAmb	IAmb	11 04 29.5	
	comp=Z,11nm,1.3s						
PDAR	Pinedale Array	48.62	287	P	P	11 04 05.2	-4.1
	comp=Z,0.4nm,0.8s,baz=68,slow=7.9,SNR=3.7 comp=Z,0.4nm,0.8s						
IMAR	Indian Mountai	48.75	332	P	P	11 04 10.7	+1.0
WMOK	Wichita Mounta	48.91	272	P	P	11 04 14.0	+2.6
I21K	Tanana	48.94	331	P	P	11 04 11.8	+0.6
I21K				IAmb	IAmb	11 04 16.6	
	comp=Z,14nm,1.1s						
BPAW	Bear Paw Mtn.	49.53	329	P	P	11 04 18.3	+2.6
TORD	Torodi Ar. Bea	51.68	136	P	P	11 04 27.6	-4.8
	comp=Z,2.3nm,1.0s,baz=336,slow=7.5,SNR=4.0 comp=Z,2.3nm,1.0s						
BVAR	Borovoye Array	52.98	47	P	P	11 04 42.0	+0.3
	comp=Z,1.7nm,0.9s,baz=305,slow=5.2,SNR=5.2 comp=Z,1.7nm,0.9s						
TXAR	Lajitas Array	55.71	271	P	P	11 04 58.3	-3.7
	comp=Z,0.5nm,1.0s,baz=57,slow=3.3,SNR=3.1 comp=Z,0.5nm,1.0s						
NVAR	Mina Array Bea	56.28	290	P	P	11 05 03.9	-2.2
	comp=Z,0.5nm,0.8s,baz=79,slow=9.3,SNR=2.0 comp=Z,0.5nm,0.8s						
KURBB	Kurchatov Arra	57.99	44	P	P	11 05 17.9	+0.1
	comp=Z,1.3nm,0.8s,baz=325,slow=6.6,SNR=6.3 comp=Z,1.3nm,0.8s						
PMPB	Monarch Peak	59.25	290	P	P	11 05 29.5	+2.7
MKAR	Makanchi Array	62.56	45	P	P	11 05 48.8	-0.4
	comp=Z,0.4nm,0.5s,baz=330,slow=7.1,SNR=4.4 comp=Z,0.4nm,0.5s						
GAR	Garm	64.05	58	P	P	11 06 00.8	+1.6
KS19	Wonju Array Si	83.47	16	P	P	11 07 53.0	+0.1
JNU	Nakatsue	88.19	14	P	P	11 08 18.2	+1.8

*SJA **02** 10:57:44.3±0.8,31.°71S×69.°41W,h112km±3km,ML3.7, MW3.7*
*NEIC **02** 10:57:44.1±2.4,31.°65S±0.°05×69.°61W±0.°09,h120km±5km, mb4.4/23,Error ellipse: s-maj=11.0km s-min=6.9km az=79.0*

*GUC **02** 10:57:45.0±0.6,31.°70S×69.°71W,h126km±5km,ML4.0*
ISC 02 10:57:43.7±0.6,31.°68S±0.°03×69.°44W±0.°04,h122km±5km, n115,σ1§26/142,mb4.3/11,16C,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.17	135	eP	Pn	10 58 01.0	+0.1
RTLS				IAML		10 58 01.1	
	comp=Z,15μm,0.2s						
RTLS				eS	Sn	10 58 13.5	-0.3
AUSP	Uspallata	0.54	176	eP	Pn	10 58 02.8	+0.3
AUSP				eS	Sn	10 58 15.9	-0.9
ZON	Zonda	0.66	78		Pn	10 58 03.5	+0.5
ZON				Sn	Sn	10 58 17.4	-0.2
ZON	Zonda	0.66	78	eP	Pn	10 58 03.5	+0.5
ZON				eS	Sn	10 58 18.4	+0.8
ZON				IAML		10 58 19.7	
	comp=Z,916nm,0.2s						
SJA	San Juan	0.76	79	eP	Pn	10 58 03.0	-0.8
SJA				eS	Sn	10 58 19.9	+0.9
SJA				IAML		10 58 22.6	
	comp=Z,1μm,0.2s						
RTCV	Cerro Valdivia	0.79	104	eP	Pn	10 58 04.6	+0.6
DOCA	Reserva Natura	0.79	23	eP	Pn	10 58 05.0	+0.5
DOCA				eS	Sn	10 58 20.2	+0.1
RTLL	Cerro Villicun	0.89	67	eP	Pn	10 58 01.5	-3.4
RTLL				eP		10 58 05.3	
RTLL				eS	Sn	10 58 21.0	0.0
ASAL	Salagasta	1.04	151	eP	Pn	10 58 01.5	-4.9
ACCO	Cerro Coronel	1.14	16	eP	Pn	10 58 03.0	-4.6
ACCO				eP		10 58 08.8	
ACCO				eS	Sn	10 58 27.6	+1.9
ARCO	CERRO ARCO	1.23	160	eP	Pn	10 58 09.6	+1.1
ARCO				IAML		10 58 29.0	
	comp=Z,2μm,0.3s						
CO04	Los Peladeros	1.36	254	eP	Pn	10 58 10.1	+0.2
CO04				eS	Sn	10 58 29.5	-0.4
CO03	El Pedregal	1.36	308	Pn	Pn	10 58 10.9	+1.2
CO03	El Pedregal	1.36	308	eP	Pn	10 58 10.8	+1.0
CO03				eS	Sn	10 58 29.9	+0.3
CO03	El Pedregal	1.36	308	eP	Pn	10 58 11.0	+1.2
CO03				eS	Sn	10 58 31.2	+1.6
CO03				IAML		10 58 32.8	
	comp=Z,809nm,0.2s						
VA03	San Esteban	1.43	221		Pn	10 58 11.7	+1.0
VA03	San Esteban	1.43	221	eP	Pn	10 58 11.6	+1.0
VA03				eS	Sn	10 58 31.4	+0.3
VA03	San Esteban	1.43	221	eP	Pn	10 58 11.6	+1.0
VA03				eS	Sn	10 58 32.9	+1.8
VA03				IAML		10 58 33.5	
	comp=Z,348nm,0.2s						
AAGR	Agrelo	1.49	160	eP	Pn	10 58 12.5	+1.2
AAGR				eS	Sn	10 58 31.0	-1.3
AROD	Rodeo	1.51	359	eP	Pn	10 58 13.6	+1.9
AROD				eS	Sn	10 58 35.5	+2.5
ACDV	Cuesta del Vie	1.53	10	eP	Pn	10 57 59.6	-12
ACDV				IAML		10 58 35.5	
	comp=Z,317nm,0.8s						
CO01	Juntas del Tor	1.79	341		Pn	10 58 14.1	-0.9
CO01	Juntas del Tor	1.79	341	eP	Pn	10 58 17.3	+2.4
CO01				eS	Sn	10 58 41.3	+2.5
FCH	Farellones	1.79	203	eP	Pn	10 58 16.6	+1.6
FCH				eS	Sn	10 58 41.0	+2.0
PEL	Peldehue	1.80	216	Pn	Pn	10 58 15.3	+0.5
PEL	Peldehue	1.80	216	eP	Pn	10 58 15.3	+0.5
PEL				eS	Sn	10 58 39.0	+0.4
PEL	Peldehue	1.80	216	eP	Pn	10 58 15.7	+0.9
PEL				eS	Sn	10 58 39.6	+0.9
MT04	Ro Olivares	1.82	199	eP	Pn	10 58 17.0	+1.7
MT04				eS	Sn	10 58 41.4	+2.1
MT08	Bocatoma Ro	1.83	195		Pn	10 58 17.0	+1.6
ROCH	El Roble	1.85	226	eP	Pn	10 58 16.0	+0.3
ROCH				eS	Sn	10 58 40.2	+0.2
ROC1	El Roble	1.86	226	eP	Pn	10 58 15.9	+0.2
ROC1				eS	Sn	10 58 40.9	+0.7
GO04	Tololo Observa	1.91	322		Pn	10 58 17.1	+0.7
GO04	Tololo Observa	1.91	322	eP	Pn	10 58 17.1	+0.7
GO04				IAML		10 58 44.9	
	comp=N,3μm,0.3s						
GO04	Tololo Observa	1.91	322	eP	Pn	10 58 17.2	+0.9
GO04				eS	Sn	10 58 42.6	+1.4
MT14	Cerro Calıın	1.95	208	eP	Pn	10 58 17.6	+1.0
MT14				eS	Sn	10 58 42.8	+0.9
MT16	CCHEN	1.97	207		Pn	10 58 18.2	+1.3
MT16	CCHEN	1.97	207	eP	Pn	10 58 18.0	+1.1
MT03	Universidad Ad	2.02	206		Pn	10 58 18.8	+1.2
MT05	Renca	2.03	212		Pn	10 58 18.5	+0.8
MT05	Renca	2.03	212	eP	Pn	10 58 18.4	+0.8
MT05				eS	Sn	10 58 44.1	+0.4
MT05				IAML		10 58 46.2	
	comp=E,2μm,0.4s						
MT02	Curacav	2.13	222	Pn	Pn	10 58 18.7	-0.2
CO06	Fray Jorge	2.13	297	Pn	Pn	10 58 18.7	-0.2
CO06	Fray Jorge	2.13	297	eP	Pn	10 58 18.7	-0.2
CO06				eS	Sn	10 58 44.7	-1.2
LMEL	Las Melosas	2.25	196		Pn	10 58 21.9	+1.4
LMEL	Las Melosas	2.25	196	eP	Pn	10 58 21.9	+1.4
VA01	Torpederas	2.30	234	Pn	Pn	10 58 20.4	-0.5
CO05	La Serena	2.34	318		Pn	10 58 21.8	+0.3
CO05	La Serena	2.34	318	eP	Pn	10 58 21.9	+0.3
CO05				eS	Sn	10 58 49.9	-0.7
CO05				IAML		10 58 52.2	
	comp=N,914nm,0.2s						
MT09	Talagante	2.46	212	Pn	Pn	10 58 23.1	-0.1
MT09	Talagante	2.46	212	eP	Pn	10 58 23.3	+0.1
MT09				IAML		10 58 59.5	
	comp=N,444nm,0.5s						
BO04	La Punta	2.50	203		Pn	10 58 24.3	+0.6
BO04	La Punta	2.50	203	eP	Pn	10 58 24.4	+0.8
BO04				eS	Sn	10 58 55.1	+0.8
BO04				IAML		10 58 56.9	
	comp=N,498nm,0.6s						
MT01	Popeta	2.66	215		Pn	10 58 25.0	-0.6
VA05	Santo Domingo	2.69	222		Pn	10 58 25.1	-0.9
APLL	PUNTA DE LOS L	2.81	64	eP	Pn	10 58 14.5	-13
LCO	Las Campanas	2.88	337	Pn	Pn	10 58 29.6	+0.9
AC05	El Transito	2.93	345		Pn	10 58 31.2	+2.0

PB01	**IPOC Station P**	**10.60**	**360**	Pn	**Pn**	**11 00 11.1**	**-1.2**
PB08	**IPOC Station P**	**11.49**	**1**	Pn	**Pn**	**11 00 24.5**	**0.0**
GO01	**Chusmiza**	**11.96**	**1**	Pn	**Pn**	**11 00 31.1**	**+0.2**
COYC	**Coyhaique**	**14.02**	**188**		**Pn**	**11 00 56.8**	**-0.1**
PB18	**Visviri**	**14.03**	**360**	Pn	**Pn**	**11 00 57.0**	**-0.7**
LPAZ	**La Paz**	**15.37**	**5**	Pn	**Pn**	**11 01 13.7**	**-1.0**
GO08	**Villa O'Higgin**	**16.93**	**187**		**Pn**	**11 01 33.8**	**+0.8**
EFI	**East Falkland**	**21.66**	**161**	P	**P**	**11 02 25.7**	**+1.4**
EFI				IAmb	IAmb	11 02 32.4	
	comp=Z,32nm,1.3s						
MG03	**Isla Dawson**	**22.17**	**182**	P	**P**	**11 02 29.0**	**-0.5**
MG03				IAmb	IAmb	11 02 50.8	
	comp=Z,38nm,1.5s						
MG01	**Puerto William**	**23.28**	**177**	P	**P**	**11 02 41.0**	**+0.8**
MG01					**PcP**	**11 06 25.1**	**+1.3**
SAML	**Samuel**	**23.36**	**16**	P	**P**	**11 02 41.0**	**-0.3**
CZSB	**Cruzeiro do Su**	**24.02**	**352**	P	**P**	**11 02 47.1**	**-0.3**
CZSB				IAmb	IAmb	11 02 55.4	
	comp=Z,9.5nm,1.4s						
BOAV	**Boa Vista**	**34.93**	**16**	P	**P**	**11 04 23.8**	**-0.1**
BOAV				IAmb	IAmb	11 04 41.7	
	comp=Z,3.9nm,1.2s						
VA02	**Isla de Pascua**	**34.99**	**267**	P	**P**	**11 04 22.9**	**-1.5**
SMAI	**San Martin Ant**	**36.51**	**179**	P	**P**	**11 04 37.6**	**+0.8**
ROSC	**El Rosal**	**36.61**	**352**	P	**P**	**11 04 39.7**	**+1.0**
VNA3	**Neumayer Olymp**	**50.70**	**159**	⇑P	P	11 06 37.8	+7.4
VNA2	**Neumayer--Watz**	**51.32**	**158**	⇑P	**P**	**11 06 37.7**	**+2.7**
	baz=287,slow=8.0						
SNAA	**Sanae**	**52.92**	**159**	P	**P**	**11 06 49.0**	**+2.2**
TEIG	**Tepich**	**54.68**	**338**	P	**P**	**11 06 59.2**	**-1.0**
TLIG	**Tlapa**	**56.38**	**326**	P	**P**	**11 07 10.8**	**-1.6**
TLIG				IAmb	IAmb	11 07 41.0	
	comp=Z,6.6nm,1.1s						
QSPA	**South Pole Qui**	**58.55**	**180**	P	**P**	**11 07 28.2**	**+1.0**
QSPA				IAmb	IAmb	11 07 54.5	
	comp=Z,3.0nm,1.2s						
WVT	**Waverly**	**69.63**	**344**	P	**P**	**11 08 39.6**	**0.0**
WVT				IAmb	IAmb	11 08 43.0	
	comp=Z,3.5nm,0.7s						
ABTX	**Abilene, Hawle**	**70.04**	**333**	P	**P**	**11 08 42.1**	**-0.1**
ABTX				IAmb	IAmb	11 08 55.3	
	comp=Z,2.5nm,0.7s						
LCAR	**Lake Charles**	**70.41**	**341**	P	**P**	**11 08 43.6**	**-0.8**
LCAR				IAmb	IAmb	11 08 48.0	
	comp=Z,3.2nm,0.7s						
FCAR	**Ozark Folk Cen**	**70.51**	**341**	P	**P**	**11 08 45.0**	**0.0**
FCAR				IAmb	IAmb	11 08 49.7	
	comp=Z,6.7nm,1.4s						
PECS	**Pecos**	**70.69**	**329**	P	**P**	**11 08 45.6**	**-0.7**
PECS				IAmb	IAmb	11 08 55.4	
	comp=Z,9.0nm,0.6s						
SDCO	**Great Sand Dun**	**76.84**	**331**	P	**P**	**11 09 20.9**	**-1.4**
PZH	**PanZhiHua**	**170.72**	**122**	PKP	**PKPdf**	**11 17 38.1**	**+0.3**

*JMA **02** 11:01:14.0±0.5,47°N±3°×14°7E±°, h487km, MD6.1/18, MW6.0/18, SOUTHERN SEA OF OKHOTSK*
JMA Felt II J1 at SOUTHERN SEA OF OKHOTSK .
*BJI **02** 11:01:13.4,47°77N×146°62E, h413km, mb6.3/93, mB6.0/53*
*NIED **02** 11:01:14.0,47°14N×147°11E, h487km, MW6.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^18Nm; Mrr0.75; Mθθ0.20; Mφφ-0.95; Mrθ-0.42; Mφθ0.31; Mφr-0.85; Fault plane solution: M0 1.33000×10^18 NP1: φs194.00000°, δ71.00000°, λ116.00000°. NP2: φs319.00000°, δ32.00000°, λ39.00000°.*
*SKHL **02** 11:01:14.6±0.2,47°60N×147°00E, h446km±13km, mb7.0/21, mbv6.8/11, msh7.2/9, msha7.3/16*
*MOS **02** 11:01:14.0±0.9,47°75N×146°82E, h440km, mb6.1/88, Error ellipse: s-maj=6.3km s-min=4.9km az=106.1 Broadband fault plane solution: P waves. NP1: φs166.00000°, δ71.00000°, λ75.00000°. NP2: φs26.00000°, δ24.00000°, λ127.00000°. Principal axes: T Plg61.0000°, Azm54.0000°; N Plg14.0000°, Azm171.0000°; P Plg25.0000°, Azm267.0000°;*
*IPGP **02** 11:01:15.0,47°82N×146°72E, h441km, Mw6.1, Fault plane solution: NP1: φs184.00000°, δ71.00000°, λ98.00000°. NP2: φs339.00000°, δ20.00000°, λ67.00000°.*
*NEIC **02** 11:01:15.9±1.7,47°83N±0°08×146°7E±0°1, h433km±1km, mb6.2/1035, Mwb6.1/83, Mww6.0/31, Error ellipse: s-maj=13.8km s-min=12.7km az=309.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr0.96; Mθθ0.08; Mφφ-1.04; Mrθ-0.17; Mφθ0.20; Mφr-1.31; Fault plane solution: M0 1.67000×10^18 NP1: φs183.96000°, δ71.62000°, λ99.91000°. NP2: φs334.96000°, δ20.80000°, λ62.61000°. Principal axes: T 1.6495, Plg62.0000°, Azm109.0000°; N 0.0465, Plg9.0000°, Azm1.0000°; P -1.6961, Plg26.0000°, Azm266.0000°;*
*NEIC **02** 11:01:15.7,47°83N×146°70E, h460km*
*NEIC **02** 11:01:15.7,47°83N×146°55E, h460km, Moment Tensor Solution. Duration: 5±1 Moment tensor: Scale 10^18Nm; Mrr0.68; Mθθ0.13; Mφφ-0.81; Mrθ-0.10; Mφθ0.12; Mφr-0.99; Fault plane solution: M0 1.25000×10^18 NP1: φs183.85000°, δ71.75000°, λ98.42000°. NP2: φs338.56000°, δ20.04000°, λ66.07000°. Principal axes: T 1.1869, Plg62.0000°, Azm107.0000°; N 0.1185, Plg8.0000°, Azm1.0000°; P -1.3054, Plg26.0000°, Azm267.0000°;*
*IDC **02** 11:01:15.9±0.6,47°82N×146°76E, h439km±5km, mb5.6/41, mbtmp6.4/52 Error ellipse: s-maj=6.9km s-min=6.3km az=144.0*
*GCMT **02** 11:01:16.9±0.1,47°81N±0°01×146°65E±0°01, h447km, MW6.0/153, Moment Tensor Solution. s153,c336; s134,c178; Duration: 2±5 Moment tensor: Scale 10^18Nm; Mrr0.70±.01; Mθθ0.24±.01; Mφφ-0.94±.01; Mrθ-0.15±.01; Mφθ0.14±.01; Mφr-1.10±.01; Best double couple: M0 1.39500×10^18 NP1: φs186.00000°, δ72.00000°, λ101.00000°. NP2: φs334.00000°, δ21.00000°, λ60.00000°. Principal axes: T 1.2910, Plg61.0000°, Azm112.0000°; N 0.2060, Plg10.0000°, Azm3.0000°; P -1.4980, Plg26.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
*NEIC **02** 11:01:17,47°83N×146°70E, h448km*
ISC 02 11:01:15.8±0.2,47°78N±0°02×146°73E±0°02, h441km±1km, h440km:pP-P,n2556,σ1§34/3049, mb6.2/745, 395C-186D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.67**	**162**	*i* P		**P**	**11 02 18.0**	**-1.7**
KUR					AMB	AMB	11 02 20.0	
	27μm,3.6s							
KUR					AMB	AMB	11 02 20.6	
	12μm,1.3s							
KUR				*i* S		**S**	**11 03 07.8**	**-3.7**
KUR					A	A	11 03 11.1	
	82μm,6.8s							
KUR					A	A	11 03 11.1	
	143μm,6.8s							
KUR					A	A	11 03 11.9	
	13μm,1.5s							
KUR					A	A	11 03 11.9	
	12μm,1.5s							
KUR	**Kuril'sk**	**2.67**	**162**	*c i* PN		**P**	**11 02 18.0**	**-1.7**
KUR				*i* S		**S**	**11 03 07.9**	**-3.6**
KUR					pmax	pmax		
	comp=Z,27μm,3.6s							
KUR					pmax	pmax		
	comp=Z,12μm,1.3s							
KUR					pmax	pmax		
	comp=N,1μm,1.2s							
KUR					pmax	pmax		
	comp=E,3μm,1.2s							
KUR					smax	smax		
	comp=N,82μm,6.8s							
KUR					smax	smax		
	comp=E,143μm,6.8s							
KUR					smax	smax		
	comp=N,13μm,1.5s							
KUR					smax	smax		
	comp=E,12μm,1.4s							
YSS	**Yuzh-Sakhalins**	**2.83**	**254**			**P**	**11 02 21.6**	**+0.8**
YSS				S		**S**	**11 03 12.7**	**-0.9**
YSS	**Yuzh-Sakhalins**	**2.83**	**254**	*i* P		**P**	**11 02 21.6**	**+0.8**
YSS					AMB	AMB	11 02 22.7	
	comp=E,61μm,3.0s							
YSS					AMB	AMB	11 02 22.8	
	comp=E,104μm,0.8s							
YSS				*e* S		**S**	**11 03 13.8**	**+0.2**
YSS					A	A	11 03 15.4	
	comp=E,500μm,2.0s							
YSS					A	A	11 03 15.4	
	comp=E,517μm,2.0s							
YSS					A	A	11 03 16.7	
	comp=E,123μm,1.0s							
YSS					A	A	11 03 16.7	
	comp=E,129μm,1.0s							
YSS	**Yuzh-Sakhalins**	**2.83**	**254**	P		**P**	**11 02 21.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**2.83**	**254**	⇑P		**P**	**11 02 21.6**	**+0.8**
YSS	**Yuzh-Sakhalins**	**2.83**	**254**	*α i* PN		**P**	**11 02 21.7**	**+0.9**
YSS				*e* S		**S**	**11 03 13.7**	**+0.2**
YSS					pmax	pmax		
	comp=Z,63μm,4.0s							
YSS					pmax	pmax		
	comp=E,32μm,2.5s							
YSS					pmax	pmax		
	comp=N,7μm,0.8s							
YSS					pmax	pmax		
	comp=Z,12μm,0.8s							
YSS					smax	smax		
	comp=E,161μm,5.9s							
YSS					smax	smax		
	comp=E,12μm,1.2s							
YSS					MLR	MLR		
	comp=Z,10μm,12.0s							
UGL	**Uglegorsk**	**3.37**	**294**	*i* P		**P**	**11 02 25.7**	**+0.9**
UGL					AMB	AMB	11 02 26.8	
	comp=Z,41μm,1.5s							
UGL					AMB	AMB	11 02 27.5	
	comp=Z,22μm,0.9s							
UGL				*i* S		**S**	**11 03 21.7**	**+0.6**
UGL					A	A	11 03 22.5	
	comp=Z,58μm,1.8s							
UGL					A	A	11 03 22.5	
	comp=Z,135μm,1.8s							
UGL					A	A	11 03 24.0	
	comp=Z,11μm,1.0s							
UGL					A	A	11 03 24.0	
	comp=Z,30μm,1.0s							
UGL	**Uglegorsk**	**3.37**	**294**	⇑*i* PN		**P**	**11 02 25.7**	**+0.9**
UGL				*i* S		**S**	**11 03 18.6**	**-2.5**
UGL					pmax	pmax		
	comp=Z,41μm,1.5s							
UGL					pmax	pmax		
	comp=Z,22μm,0.9s							
UGL					smax	smax		
	comp=E,135μm,2.1s							
UGL					smax	smax		
	comp=N,58μm,1.8s							
UGL					smax	smax		
	comp=N,11μm,1.4s							
UGL					smax	smax		
	comp=E,30μm,1.4s							
YUK	**Yuzh-Kuril'sk**	**3.79**	**190**	*i* P		**P**	**11 02 26.1**	**-2.5**
YUK					AMB	AMB	11 02 28.3	
	comp=E,10μm,1.5s							
YUK					AMB	AMB	11 02 29.2	
	comp=E,6μm,0.5s							
YUK				*i* S		**S**	**11 03 23.8**	**-4.0**
YUK					A	A	11 03 30.8	
	comp=E,57μm,1.7s							
YUK					A	A	11 03 30.8	
	comp=E,69μm,1.7s							
YUK					A	A	11 03 32.6	
	comp=E,6μm,0.5s							
YUK					A	A	11 03 32.6	
	comp=E,16μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**3.79**	**190**	*c i* PN		**P**	**11 02 25.9**	**-2.7**
YUK				*i* S		**S**	**11 03 23.4**	**-4.4**
YUK					pmax	pmax		
	comp=Z,10μm,1.5s							
YUK					pmax	pmax		
	comp=Z,6μm,0.5s							
YUK					pmax	pmax		
	comp=E,2μm,0.3s							
YUK					pmax	pmax		
	comp=N,2μm,0.4s							
YUK					smax	smax		
	comp=N,57μm,1.5s							
YUK					smax	smax		
	comp=E,69μm,1.7s							
YUK					smax	smax		
	comp=E,16μm,0.5s							
YUK					smax	smax		
	comp=N,6μm,0.3s							
SHO	**Shikotan**	**3.91**	**179**	*i* P		**P**	**11 02 25.2**	**-4.4**
SHO					AMB	AMB	11 02 26.6	
	comp=N,5μm,0.5s							
SHO				*i* S		**S**	**11 03 21.1**	**-8.5**
SHO					A	A	11 03 26.4	
	comp=N,13μm,0.7s							
SHO					A	A	11 03 26.4	
	comp=N,18μm,0.7s							
SHO	**Shikotan**	**3.91**	**179**	⇑*i* PN		**P**	**11 02 25.1**	**-4.5**
SHO					pmax	pmax		
	comp=N,2μm,0.5s							
SHO					pmax	pmax		
	comp=Z,5μm,0.5s							
SHO					pmax	pmax		
	comp=E,969nm,0.4s							
JRA	**Rausu**	**4.00**	**197**	*i* P		**P**	**11 02 28.2**	**-2.2**
JRA				S		**S**	**11 03 26.8**	**-4.3**
JRA	**Rausu**	**4.00**	**197**	A		A	11 02 28.2	
	comp=E,53nm,2.9s,comp=N,68nm,2.8s							
JSE	**Soyaes**	**4.03**	**227**	*i* P		**P**	**11 02 30.6**	**+0.1**
JSE				S		**S**	**11 03 30.6**	**-0.8**
JSE	**Soyaes**	**4.03**	**227**	A		A	11 02 30.6	
	comp=E,82nm,2.3s,comp=N,245nm,2.6s							
TYV	**Tymovskoe**	**4.08**	**321**	*e* P		**P**	**11 02 31.8**	**+1.0**
TYV					AMB	AMB	11 02 32.3	
	comp=N,32μm,0.6s							
TYV					AMB	AMB	11 02 33.3	
	comp=N,36μm,4.0s							
TYV				*e* S		**S**	**11 03 32.8**	**+0.7**
TYV					A	A	11 03 34.7	
	comp=N,66μm,3.0s							
TYV					A	A	11 03 34.7	
	comp=N,44μm,3.0s							
TYV					A	A	11 03 35.0	
	comp=N,17μm,1.0s							
TYV					A	A	11 03 35.0	
	comp=N,37μm,1.0s							
TYV	**Tymovskoe**	**4.08**	**321**	*e* PN		**P**	**11 02 31.9**	**+1.1**
TYV				*e* S		**S**	**11 03 33.7**	**+1.6**
TYV					pmax	pmax		
	comp=Z,5μm,0.6s							
TYV					pmax	pmax		
	comp=Z,33μm,2.9s							
TYV					smax	smax		
	comp=N,3μm,1.3s							
TYV					smax	smax		
	comp=E,8μm,1.3s							
TYV					smax	smax		
	comp=N,66μm,3.0s							
TYV					smax	smax		
	comp=E,44μm,3.0s							
JWK2	**Keihoku**	**4.15**	**235**	*i* P		**P**	**11 02 32.6**	**+1.0**
JWK2				S		**S**	**11 03 34.1**	**+0.7**
JWK2	**Keihoku**	**4.15**	**235**	A		A	11 02 32.6	
	comp=E,234nm,2.4s,comp=N,255nm,4.1s							
JTKR	**Abashiri--Toko**	**4.29**	**208**	*i* P		**P**	**11 02 31.6**	**-1.4**
JTKR				S		**S**	**11 03 33.3**	**-2.5**
JTKR	**Abashiri--Toko**	**4.29**	**208**	A		A	11 02 31.6	
	comp=E,25nm,3.0s,comp=N,59nm,3.0s							
JNK	**Nakash**	**4.43**	**199**	A		A	11 02 31.6	
	comp=E,34nm,2.7s,comp=N,50nm,3.7s							
JMP	**Maruseppu**	**4.45**	**213**	A		A	11 02 33.0	
	comp=E,27nm,2.8s,comp=N,59nm,2.5s							
NEM2	**Nemuro 2**	**4.47**	**189**	*i* P		**P**	**11 02 30.2**	**-4.5**
NEM2				S		**S**	**11 03 30.3**	**-8.5**
NEM2	**Nemuro 2**	**4.47**	**189**	A		A	11 02 30.2	
	comp=E,44nm,3.7s,comp=N,38nm,2.0s							
JRBN	**Rebuntou**	**4.56**	**241**	*i* P		**P**	**11 02 35.4**	**0.0**
JRBN				S		**S**	**11 03 38.6**	**-1.8**
JRBN	**Rebuntou**	**4.56**	**241**	A		A	11 02 35.4	
	comp=E,56nm,2.5s,comp=N,98nm,3.7s							
JRR	**Rishiri**	**4.58**	**237**	A		A	11 02 36.5	
	comp=E,232nm,3.2s,comp=N,502nm,2.5s							
JKA	**Kamikawa-asahi**	**4.66**	**220**			**P**	**11 02 35.7**	**-0.8**
JKA	**Kamikawa-asahi**	**4.66**	**220**	*e* P		**P**	**11 02 35.7**	**-0.8**
ASAJ	**Asahikawa**	**4.66**	**220**	P		**P**	**11 02 35.8**	**-0.7**
	comp=N,1μm,0.6s,baz=24,slow=4.4,SNR=675							
ASAJ					S	**S**	**11 03 40.4**	**-1.8**
	comp=N,444nm,0.6s,baz=30,slow=20,SNR=1.3							
ASAJ				PKiKP		**PKiKP**	**11 16 55.4**	**-1.2**
	comp=N,13nm,0.6s,baz=27,slow=2.3,SNR=3.9							
ASAJ	**Asahikawa**	**4.66**	**220**	A		A	11 02 35.4	
	comp=E,52nm,2.8s,comp=N,81nm,3.1s							
JSS	**Shosan**	**4.79**	**227**	P		**P**	**11 02 38.0**	**+0.3**
JSS				S		**S**	**11 03 44.2**	**-0.2**
JSS	**Shosan**	**4.79**	**227**	A		A	11 02 38.0	
	comp=E,95nm,3.4s,comp=N,157nm,4.6s							
JKK2	**Kamakawa 2**	**4.80**	**217**	*i* P		**P**	**11 02 36.7**	**-1.1**
JKK2				*e* S		**S**	**11 03 41.1**	**-3.5**
JKK2	**Kamakawa 2**	**4.80**	**217**	A		A	11 02 36.7	
	comp=E,36nm,3.4s,comp=N,82nm,3.3s							
JAR	**Ashorobuto**	**4.94**	**206**	P		**P**	**11 02 37.2**	**-2.0**
JAR				*e* S		**S**	**11 03 42.5**	**-4.6**
JAR	**Ashorobuto**	**4.94**	**206**	A		A	11 02 37.2	
	comp=E,46nm,3.4s,comp=N,39nm,3.1s							
JYG	**Yagishiri**	**4.99**	**230**	A		A	11 02 39.3	
	comp=E,49nm,5.5s,comp=N,84nm,3.6s							
JAK	**Akkeshi**	**4.99**	**197**	P		**P**	**11 02 35.8**	**-3.9**
JAK				S		**S**	**11 03 40.2**	**-7.8**
JAK	**Akkeshi**	**4.99**	**197**	A		A	11 02 35.8	
	comp=E,58nm,1.0s,comp=N,78nm,1.5s							
JOB	**Onbets**	**5.29**	**204**	A		A	11 02 39.5	
	comp=E,40nm,2.1s,comp=N,49nm,2.6s							
JAB	**Ashibetsu**	**5.32**	**218**	A		A	11 02 41.1	
	comp=E,44nm,3.6s,comp=N,100nm,4.1s							
JHR	**Hokuryu**	**5.34**	**223**	P		**P**	**11 02 42.5**	**-0.6**
JHR				S		**S**	**11 03 52.3**	**-2.0**
JHR	**Hokuryu**	**5.34**	**223**	A		A	11 02 42.5	
	comp=E,60nm,3.3s,comp=N,65nm,3.9s							
JFR	**Furan**	**5.46**	**214**	A		A	11 02 42.0	
	comp=E,30nm,4.5s,comp=N,50nm,3.3s							
JCH	**Churui**	**5.69**	**206**	*i* P		**P**	**11 02 42.9**	**-3.7**
JCH				S		**S**	**11 03 52.7**	**-8.0**
JCH	**Churui**	**5.69**	**206**	A		A	11 02 42.9	
	comp=E,25nm,2.0s,comp=N,19nm,2.1s							
JISS	**Ishikarishitsu**	**5.85**	**222**	A		A	11 02 46.5	
	comp=E,95nm,2.4s,comp=N,146nm,4.2s							
JBT2	**Biratori 2**	**5.87**	**213**	A		A	11 02 45.9	
	comp=E,19nm,2.2s,comp=N,32nm,4.6s							
JTHR	**Tokachihiroo**	**6.00**	**205**	A		A	11 02 46.3	
	comp=E,24nm,2.3s,comp=N,36nm,2.4s							
JSHD	**Hidakashinhida**	**6.16**	**211**	A		A	11 02 48.4	
	comp=E,38nm,2.1s,comp=N,49nm,3.8s							
JIAM	**Iburiatsuma**	**6.17**	**215**	A		A	11 02 49.0	
	comp=E,80nm,0.5s,comp=N,110nm,1.4s							
JNBK	**Urakawa-nobuka**	**6.18**	**209**	A		A	11 02 48.3	
	comp=E,41nm,2.2s,comp=N,23nm,3.0s							
JEW	**Eniwo**	**6.18**	**219**	A		A	11 02 49.5	
	comp=E,51nm,2.1s,comp=N,43nm,4.9s							
JSK	**Shakotan**	**6.24**	**227**	A		A	11 02 50.9	
	comp=E,31nm,5.9s,comp=N,82nm,3.8s							
OKH	**Okha**	**6.26**	**339**	*i* P		**P**	**11 02 53.0**	**+0.8**
OKH					AMB	AMB	11 02 53.6	
	comp=N,4μm,0.7s							
OKH					AMB	AMB	11 02 54.0	
	comp=N,18μm,2.0s							
OKH				*i* S		**S**	**11 04 12.6**	**+1.4**
OKH					A	A	11 04 17.0	
	comp=N,179μm,3.0s							
OKH					A	A	11 04 17.0	
	comp=N,45μm,3.0s							
OKH	**Okha**	**6.26**	**339**	*c i* PN		**P**	**11 02 53.0**	**+0.8**
OKH				*i* S		**S**	**11 04 09.7**	**-1.5**
OKH					pmax	pmax		
	comp=Z,5μm,13.2s							
OKH					smax	smax		
	comp=N,31μm,8.9s							
OKH					smax	smax		
	comp=E,14μm,11.6s							
JEM	**Erimo**	**6.30**	**205**	A		A	11 02 49.2	
	comp=E,50nm,4.9s,comp=N,49nm,2.4s							
ERM	**Erimo**	**6.30**	**205**			**P**	**11 02 49.8**	**-3.0**
ERM	**Erimo**	**6.30**	**205**	P		**P**	**11 02 50.9**	**-2.0**
ERM	**Erimo**	**6.30**	**205**	*ce* PN		**P**	**11 02 50.1**	**-2.8**
ERM					pmax	pmax		
	comp=Z,7μm,0.7s							
NKL	**Nikolayevsk**	**6.62**	**327**	*e* P		**P**	**11 02 57.8**	**+1.8**
NKL					AMB	AMB	11 02 58.9	
	comp=Z,19μm,3.0s							
NKL					AMB	AMB	11 02 59.3	
	comp=Z,12μm,0.7s							
NKL				*e* S		**S**	**11 04 19.9**	**+1.8**
NKL	**Nikolayevsk**	**6.62**	**327**	*e* PN		**P**	**11 02 55.2**	**-0.8**
NKL				*e* S		**S**	**11 04 17.4**	**-0.7**
NKL					pmax	pmax		
	comp=N,688nm,0.4s							
NKL					pmax	pmax		
	comp=E,7μm,0.7s							
NKL					pmax	pmax		
	comp=Z,12μm,0.7s							
NKL					smax	smax		
	comp=E,108μm,3.3s							
NKL					smax	smax		
	comp=N,4μm,3.1s							
SKR	**Severo-Kuril's**	**6.80**	**61**	*i* P		**P**	**11 02 56.9**	**-1.1**
SKR					AMB	AMB	11 02 59.2	
	comp=N,25μm,0.8s							
SKR					AMB	AMB	11 03 00.0	
	comp=N,46μm,4.7s							
SKR				*e* S		**S**	**11 04 17.5**	**-4.1**
SKR					A	A	11 04 21.6	
	comp=N,8μm,0.9s							
SKR	**Severo-Kuril's**	**6.80**	**61**	⇓*i* PN		**P**	**11 02 57.3**	**-0.7**
SKR				*e* S		**S**	**11 04 17.3**	**-4.3**
SKR					pmax	pmax		
	comp=Z,25μm,0.8s							
SKR					pmax	pmax		
	comp=Z,46μm,4.7s							
SKR					smax	smax		
	comp=E,8μm,0.9s							
SKR					MLR	MLR		
	comp=Z,24μm,15.0s							
SKR					MLR	MLR		
	comp=N,24μm,11.0s							
SKR					MLR	MLR		
	comp=E,45μm,16.0s							
GRNR	**Gornyy**	**7.38**	**298**	*e* P		**P**	**11 03 06.0**	**+1.7**
GRNR					AMB	AMB	11 03 06.6	
	comp=E,3μm,1.0s							
GRNR	**Gornyy**	**7.38**	**298**	⇓*i* PN		**P**	**11 03 06.0**	**+1.7**
GRNR					pmax	pmax		
	comp=E,2μm,1.0s							
GRNR					pmax	pmax		
	comp=Z,3μm,1.0s							
GRNR					pmax	pmax		
	comp=N,530nm,0.8s							
GRNR					MLR	MLR		
	comp=E,10μm,12.0s							
GRNR					MLR	MLR		
	comp=N,5μm,15.0s							
GRNR					MLR	MLR		
	comp=Z,13μm,11.0s							
PAU	**Pauzhetka**	**7.51**	**57**	*e* P		**P**	**11 03 05.0**	**-0.7**
PAU					AMB	AMB	11 03 07.4	
	comp=Z,23μm,0.8s							
PAU				*e* S		**S**	**11 04 33.1**	**-2.6**
PAU					A	A	11 04 38.3	
	comp=Z,33μm,0.7s							
PAU					A	A	11 04 38.3	
	comp=Z,39μm,0.7s							
PAU					A	A	11 04 38.3	
	comp=Z,197μm,2.0s							
PAU					A	A	11 04 38.3	
	comp=Z,149μm,2.0s							
TEY	**Ternei**	**7.52**	**252**	*e* P		**P**	**11 03 06.6**	**+0.7**
TEY					AMB	AMB	11 03 07.5	
	comp=Z,12μm,1.6s							
TEY					AMB	AMB	11 03 07.7	
	comp=Z,5μm,1.0s							
TEY	**Ternei**	**7.52**	**252**	⇓*e* PN		**P**	**11 03 06.6**	**+0.7**
TEY					pmax	pmax		
	comp=N,3μm,1.6s							
TEY					pmax	pmax		
	comp=E,8μm,1.6s							
TEY					pmax	pmax		
	comp=Z,12μm,1.6s							
TEY					pmax	pmax		
	comp=E,3μm,1.2s							
TEY					pmax	pmax		
	comp=N,900nm,1.4s							
TEY					pmax	pmax		
	comp=Z,5μm,1.3s							
JAHD	**Aomorihigashid**	**7.57**	**213**	A		A	11 03 02.8	
	comp=N,64nm,0.4s							

JOT	**Ohata**	**7.57 214**	*i* P	**P**	**11 03 02.8**	**-3.8**
JOT			S	S	11 04 27.6	-10
JOSM	**Okushiri--Mats**	**7.68 225**	⇓P	**P**	**11 03 04.9**	**-2.8**
JOSM			⇓*e*S	**S**	**11 04 32.1**	**-7.1**
JTM	**Tenmabayashi**	**8.08 212**		**P**	**11 03 08.7**	**-3.3**
JTM	**Tenmabayashi**	**8.08 212**	P	**P**	**11 03 08.9**	**-3.1**
KDTR	**Khodutka, Kamc**	**8.37 57**	*e*P	**P**	**11 03 13.0**	**-1.9**
KDTR			*e*S	**S**	**11 04 45.6**	**-7.2**
PEA0B	**Petropavlovsk-**	**8.79 49**	P	**P**	**11 03 18.9**	**-0.7**
PEA0B	**Petropavlovsk-**	**8.79 49**	*d i* PN	**P**	**11 03 19.1**	**-0.4**
PETK	**Petropavlovsk-**	**8.79 49**	P	**P**	**11 03 18.4**	**-1.2**
PETK	**Petropavlovsk-**	**8.79 49**	P	**P**	**11 03 18.7**	**-0.8**
	comp=N,2μm,1.0s,baz=222,slow=4.9,SNR=240					
PETK			S	**S**	**11 04 57.8**	**-3.6**
	comp=N,542nm,1.2s,baz=251,slow=7.0,SNR=1.0					
PETK			PKiKP	**PKiKP**	**11 16 56.0**	**-1.0**
	comp=N,6.7nm,0.7s,baz=206,slow=6.4,SNR=4.8					
PET	**Petropavlovsk**	**9.24 51**	P	**P**	**11 03 23.3**	**-1.0**
PET	**Petropavlovsk**	**9.24 51**	*e*P	**P**	**11 03 23.4**	**-1.0**
PET			AMB	AMB	11 03 25.1	
	comp=N,2μm,1.0s					
PET			*e*S	**S**	**11 05 07.8**	**-2.5**
PET	**Petropavlovsk**	**9.24 51**	P	**P**	**11 03 23.7**	**-0.6**
PET	**Petropavlovsk**	**9.24 51**	⇓P	**P**	**11 03 23.2**	**-1.2**
PET	**Petropavlovsk**	**9.24 51**	*d i* PN	**P**	**11 03 23.6**	**-0.8**
PET			*e*S	**S**	**11 05 09.7**	**-0.6**
PET			pmax	pmax		
	comp=Z,4μm,4.3s					
PET			pmax	pmax		
	comp=Z,7μm,2.7s					
PET			pmax	pmax		
	comp=Z,2μm,1.1s					
PET			MLR	MLR		
	comp=Z,10μm,8.0s					
PET			MLR	MLR		
	comp=Z,8μm,9.0s					
PET	**Petropavlovsk**	**9.24 51**	P	**P**	**11 03 23.8**	**-0.6**
	comp=Z,2μm,1.4s,comp=Z,24μm					
KLR	**Kul'dur**	**10.05 284**	P	**P**	**11 03 35.3**	**+2.0**
	comp=Z,3μm,1.0s,baz=88,slow=11,SNR=3551					
KLR			ScP	**ScP**	**11 11 49.2**	**+1.0**
	comp=Z,111nm,1.0s,baz=340,slow=1.7,SNR=14					
KLR			ScS	**ScS**	**11 15 24.4**	**+1.6**
	comp=Z,27nm,1.2s,baz=228,slow=12,SNR=5.2					
KLR	**Kul'dur**	**10.05 284**	*e*P	**P**	**11 03 35.4**	**+2.1**
KLR	**Kul'dur**	**10.05 284**	*d i* PN	**P**	**11 03 35.4**	**+2.1**
KLR			pmax	pmax		
	comp=Z,5μm,1.3s					
JMM	**Marumori**	**10.82 206**	P	**P**	**11 03 41.9**	**0.0**
JMM	**Marumori**	**10.82 206**	P	**P**	**11 03 41.6**	**-0.3**
USA0B	**Ussuriysk Arra**	**10.87 256**	P	**P**	**11 03 41.8**	**-0.4**
USA0B	**Ussuriysk Arra**	**10.87 256**	*d i* PN	**P**	**11 03 41.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**10.87 256**	P	**P**	**11 03 41.8**	**-0.5**
	comp=Z,1μm,0.7s,baz=64,slow=11,SNR=579					
USRK			S	**S**	**11 05 40.5**	**-2.6**
	comp=Z,159nm,1.0s,baz=67,slow=15,SNR=1.3					
USRK			PcP	**PcP**	**11 08 59.6**	**+0.3**
	comp=Z,17nm,0.5s,baz=34,slow=1.9,SNR=2.3					
USRK			ScP	**ScP**	**11 11 50.0**	**+0.7**
	comp=Z,42nm,1.0s,baz=340,slow=2.4,SNR=8.4					
USRK			PKiKP	**PKiKP**	**11 16 56.2**	**-1.5**
	comp=Z,2.7nm,0.5s,baz=82,slow=2.0,SNR=3.6					
VLA	**Vladivostok**	**11.42 251**	*c i* PN	**P**	**11 03 47.6**	**-0.7**
JSD	**Sado**	**11.54 216**	P	**P**	**11 03 50.1**	**+0.3**
JSD	**Sado**	**11.54 216**	P	**P**	**11 03 49.9**	**+0.1**
JSD	**Sado**	**11.54 216**	⇓P	**P**	**11 03 50.0**	**+0.3**
MA2	**Magadan**	**12.05 10**	P	**P**	**11 03 56.0**	**+1.0**
	comp=Z,817nm,0.6s,baz=190,slow=9.7,SNR=508					
MA2			S	**S**	**11 06 06.8**	**+0.3**
	comp=Z,64nm,0.8s,baz=131,slow=19,SNR=0.9					
MA2	**Magadan**	**12.05 10**	P	**P**	**11 03 56.0**	**+1.0**
MA2	**Magadan**	**12.05 10**	⇑P	**P**	**11 03 55.9**	**+1.0**
MA2	**Magadan**	**12.05 10**	*i* PN	**P**	**11 03 56.0**	**+1.0**
MA2			pmax	pmax		
	comp=Z,1.0nm,1.0s					
MA2	**Magadan**	**12.05 10**	P	**P**	**11 03 56.3**	**+1.3**
	comp=Z,1μm,1.1s,comp=Z,15μm					
MSHR	**Mys Shultsa**	**12.15 250**	*d i* PN	**P**	**11 03 55.6**	**-0.7**
MSHR			pmax	pmax		
	comp=Z,6μm,1.0s					
MDJ	**Mudanjiang**	**12.29 261**	P	**P**	**11 03 57.1**	**-0.7**
MDJ	**Mudanjiang**	**12.29 261**	P	**P**	**11 03 57.6**	**-0.2**
MDJ			S	**S**	**11 06 08.8**	**-2.8**
MDJ			ScS	**ScS**	**11 15 27.6**	**+0.1**
MDJ			pmax	pmax		
	comp=Z,8μm,1.3s					
MDJ			pmax	pmax		
	comp=Z,16μm,3.6s					
MDJ	**Mudanjiang**	**12.29 261**	P	**P**	**11 03 57.7**	**-0.1**
PSTR	**Posyet**	**12.34 251**	*e*P	**P**	**11 03 57.9**	**-0.5**
PSTR	**Posyet**	**12.34 251**	*d i* PN	**P**	**11 03 57.9**	**-0.5**
MJB9	**Matsu-Tunnel**	**12.88 212**	P	**P**	**11 04 05.4**	**+1.1**
MAJO	**Matsushiro**	**12.88 212**	P	**P**	**11 04 04.5**	**+0.1**
MAJO	**Matsushiro**	**12.88 212**	P	**P**	**11 04 04.3**	**0.0**
MAJO	**Matsushiro**	**12.88 212**	⇓P	**P**	**11 04 04.5**	**+0.1**
MAJO	**Matsushiro**	**12.88 212**	*d i* PN	**P**	**11 04 04.4**	**+0.1**
MJAR	**Matsushiro Arr**	**12.88 212**	P	**P**	**11 04 04.7**	**+0.4**
	comp=Z,463nm,0.8s,baz=21,slow=11,SNR=418					
MJAR			S	**S**	**11 06 23.4**	**-0.1**
	comp=Z,60nm,0.9s,baz=336,slow=16,SNR=3.9					
MJAR			PcP	**PcP**	**11 09 01.9**	**+0.2**
	comp=Z,27nm,0.8s,baz=345,slow=0.3,SNR=5.9					
MJAR			ScP	**ScP**	**11 11 52.5**	**+0.1**
	comp=Z,15nm,0.7s,baz=84,slow=1.3,SNR=13					
MJAR			PKiKP	**PKiKP**	**11 16 57.1**	**-1.4**
	comp=Z,5.2nm,0.8s,baz=114,slow=0.9,SNR=7.1					
MJAR			P3KPbc		11 39 28.9	
	comp=Z,1.4nm,0.8s,baz=199,slow=3.3,SNR=2.2					
HEH	**HeiHe**	**12.92 288**	*e*P	**P**	**11 04 04.6**	**+0.1**
HEH			sP		11 05 36.4	
HEH			S	**S**	**11 06 23.5**	**-0.4**
HEH			ScP	**ScP**	**11 11 53.0**	**+0.8**
HEH			pmax	pmax		
	comp=Z,3μm,0.8s					
KBG	**Krutoberegovo**	**12.96 43**	*e*P	**P**	**11 04 04.7**	**-0.2**
KBG			*e*S	**S**	**11 06 21.1**	**-3.5**
BNX	**BinXian**	**13.41 268**	⇓P	**P**	**11 04 08.7**	**-1.2**
BNX			S	**S**	**11 06 33.7**	**0.0**
BNX			pmax	pmax		
	comp=Z,2μm,1.0s					
BNX			pmax	pmax		
	comp=Z,7μm,3.1s					
ZEA	**Zeya**	**13.68 303**	*e*P	**P**	**11 04 13.1**	**+0.4**
ZEA	**Zeya**	**13.68 303**	⇓*i P*	**P**	**11 04 13.2**	**+0.5**
ZEA			*e*S	**S**	**11 06 35.7**	**-3.1**
ZEA			pmax	pmax		
	comp=N,640nm,1.7s					
ZEA			pmax	pmax		
	comp=E,530nm,1.6s					
ZEA			pmax	pmax		
	comp=Z,1μm,1.6s					
ZEA			pmax	pmax		
	comp=E,2μm,1.6s					
ZEA			pmax	pmax		
	comp=N,900nm,1.3s					
ZEA			pmax	pmax		
	comp=Z,900nm,1.9s					
ZEA			smax	smax		
	comp=N,11μm,4.2s					
ZEA			smax	smax		
	comp=E,15μm,5.2s					
JGF	**Kuroka**	**14.03 213**	P	**P**	**11 04 17.0**	**+0.2**
JGF	**Kuroka**	**14.03 213**	P	**P**	**11 04 16.7**	**-0.1**
JGF	**Kuroka**	**14.03 213**	⇓P	**P**	**11 04 16.9**	**+0.1**
INU	**Inuyama**	**14.38 214**	P	**P**	**11 04 20.6**	**+0.2**
INU	**Inuyama**	**14.38 214**	P	**P**	**11 04 20.3**	**-0.2**
JSG	**Sagara**	**14.57 209**	P	**P**	**11 04 23.6**	**+1.1**
JSG	**Sagara**	**14.57 209**	P	**P**	**11 04 23.6**	**+1.1**
JSG	**Sagara**	**14.57 209**	⇓P	**P**	**11 04 23.9**	**+1.3**
CN2	**Changchun**	**15.36 263**	*e*P	**P**	**11 04 29.6**	**-1.3**
CN2			*e*S	**S**	**11 07 07.8**	**-4.3**
CN2			pmax	pmax		
	comp=E,6μm,0.8s					
SEY	**Seymchan**	**15.51 10**	P	**P**	**11 04 33.2**	**+1.1**
	comp=E,434nm,0.6s,baz=187,slow=8.9,SNR=151					
SEY			S	**S**	**11 07 16.4**	**+1.9**
	comp=E,128nm,1.0s,baz=342,slow=18,SNR=2.0					
SEY			PKiKP	**PKiKP**	**11 16 58.2**	**-0.4**
	comp=E,9.2nm,0.8s,baz=164,slow=0.8,SNR=3.1					
SEY	**Seymchan**	**15.51 10**	*c i* P	**P**	**11 04 33.3**	**+1.1**
SEY			pmax	pmax		
	comp=Z,2μm,1.7s					
JHJ2	**Mitsune**	**15.56 202**	P	**P**	**11 04 33.1**	**0.0**
JHJ2	**Mitsune**	**15.56 202**	P	**P**	**11 04 34.5**	**+1.4**
JHJ2	**Mitsune**	**15.56 202**	⇑P	**P**	**11 04 34.0**	**+0.9**
JHJ	**Hachijo jima 2**	**15.56 202**	P	**P**	**11 04 33.0**	**-0.1**
	comp=Z,677nm,0.8s,baz=288,slow=20,SNR=8.8					
JHJ			S	**S**	**11 07 16.7**	**+0.5**
	comp=Z,76nm,0.3s,baz=113,slow=23,SNR=1.3					
JMN	**Monobe**	**17.05 219**	P	**P**	**11 04 49.2**	**+0.3**
JMN	**Monobe**	**17.05 219**	P	**P**	**11 04 49.1**	**+0.2**
KSRS	**Korea Array**	**17.22 240**	P	**P**	**11 04 51.4**	**+0.8**
	comp=Z,1μm,0.8s,baz=48,slow=9.5,SNR=755					
KSRS			S	**S**	**11 07 50.5**	**+2.4**
	comp=Z,85nm,1.1s,baz=48,slow=19,SNR=5.2					
KSRS			PcP	**PcP**	**11 09 08.8**	**+0.9**
	comp=Z,82nm,0.8s,baz=36,slow=1.2,SNR=14					
KSRS			ScP	**ScP**	**11 12 01.4**	**+1.0**
	comp=Z,127nm,1.0s,baz=17,slow=1.0,SNR=44					
KSRS			PKiKP	**PKiKP**	**11 16 58.1**	**-1.7**
	comp=Z,4.3nm,0.7s,baz=317,slow=0.9,SNR=9.7					
KS19	**Wonju Array Si**	**17.22 240**	P	**P**	**11 04 51.6**	**+0.9**
YAK	**Yakutsk**	**17.23 332**	P	**P**	**11 04 49.8**	**-0.6**
YAK	**Yakutsk**	**17.23 332**	P	**P**	**11 04 49.7**	**-0.7**
	comp=Z,845nm,0.3s,baz=114,slow=1.2,SNR=459					
YAK			S	**S**	**11 07 44.3**	**-3.3**
	comp=Z,1μm,0.7s,baz=158,slow=19,SNR=8.8					
YAK			ScS	**ScS**	**11 15 37.4**	**-2.4**
	comp=Z,34nm,0.8s,baz=197,slow=19,SNR=3.2					
YAK	**Yakutsk**	**17.23 332**	*d i* P	**P**	**11 04 49.6**	**-0.7**
YAK			*e*S	**S**	**11 07 47.2**	**-0.4**
YAK			pmax	pmax		
	comp=Z,2μm,0.9s					
YAK			pmax	pmax		
	comp=N,732nm,1.3s					
YAK			pmax	pmax		
	comp=E,462nm,1.3s					
YAK			smax	smax		
	comp=N,20μm,2.3s					
YAK			smax	smax		
	comp=E,16μm,2.1s					
KSAR	**Wonju Array Be**	**17.25 240**	P	**P**	**11 04 51.4**	**+0.4**
KSAR	**Wonju Array Be**	**17.25 240**	P	**P**	**11 04 51.4**	**+0.4**
SNY	**Shenyang**	**17.45 259**	⇓P	**P**	**11 04 52.4**	**-0.5**
SNY			S	**S**	**11 07 50.5**	**-1.6**
SNY			pmax	pmax		
	comp=E,2μm,0.8s					
HIA	**Hailar**	**17.91 285**	P	**P**	**11 04 55.5**	**-2.3**
HIA	**Hailar**	**17.91 285**	P	**P**	**11 04 55.9**	**-1.9**
HIA	**Hailar**	**17.91 285**	P	**P**	**11 04 55.5**	**-2.3**
INCN	**Inchon**	**17.97 242**	P	**P**	**11 04 58.8**	**+0.3**
INCN			P	**P**	**11 04 58.8**	**+0.3**
INCN			S	**S**	**11 08 04.9**	**+3.4**
INCN			S	**S**	**11 08 04.9**	**+3.4**
INCN	**Inchon**	**17.97 242**	P	**P**	**11 04 59.0**	**+0.5**
INCN	**Inchon**	**17.97 242**	⇓P	**P**	**11 04 58.7**	**+0.2**
SHEM	**Shemya Is, Ala**	**18.13 64**	P	**P**	**11 05 00.4**	**+0.6**
	comp=E,866nm,1.1s,baz=345,slow=2.0,SNR=16					
SHEM			S	**S**	**11 08 05.9**	**+2.0**
	comp=E,1μm,1.2s,baz=315,slow=24,SNR=6.7					
SHEM			ScP	**ScP**	**11 12 01.5**	**-0.5**
	comp=E,181nm,0.9s,baz=339,slow=4.4,SNR=5.0					
TJN	**Taejon**	**18.29 239**	P	**P**	**11 05 02.1**	**+0.4**
TJN	**Taejon**	**18.29 239**	P	**P**	**11 05 02.1**	**+0.4**
TJN	**Taejon**	**18.29 239**	*d i* P	**P**	**11 05 01.9**	**+0.2**
JTU	**Tsushima**	**18.54 231**	P	**P**	**11 05 03.6**	**-0.5**
JNU	**Nakatsue**	**18.92 225**	P	**P**	**11 05 08.4**	**+0.6**
JNU	**Nakatsue**	**18.92 225**	P	**P**	**11 05 08.2**	**+0.4**
	comp=E,2μm,0.9s,baz=17,slow=2.8,SNR=381					
JNU			S	**S**	**11 08 21.2**	**+3.9**
	comp=E,25nm,0.8s,baz=315,slow=21,SNR=1.7					
JNU			PcP	**PcP**	**11 09 11.0**	**0.0**
	comp=E,57nm,1.1s,baz=67,slow=5.0,SNR=1.7					
JNU			ScP	**ScP**	**11 12 03.3**	**-0.9**
	comp=E,30nm,1.0s,baz=48,slow=3.5,SNR=5.0					
JNU			ScS	**ScS**	**11 15 45.0**	**-1.1**
	comp=E,26nm,1.1s,baz=124,slow=23,SNR=5.1					
JNU	**Nakatsue**	**18.92 225**	P	**P**	**11 05 08.2**	**+0.4**
JNU	**Nakatsue**	**18.92 225**	⇓P	**P**	**11 05 08.2**	**+0.4**
DL2	**Dalian**	**20.23 253**	P	**P**	**11 05 20.0**	**+0.3**
DL2			S	**S**	**11 08 38.8**	**+0.4**
DL2			ScP	**ScP**	**11 12 07.6**	**+0.5**
DL2			pmax	pmax		
	comp=E,7μm,1.2s					
DL2			pmax	pmax		
	comp=E,11μm,5.8s					
JCJ	**Chichijima**	**20.95 191**	P	**P**	**11 05 25.6**	**-0.8**
JCJ	**Chichijima**	**20.95 191**	P	**P**	**11 05 20.1**	**-6.3**
	baz=0.0,slow=0.0					
JCJ	**Chichijima**	**20.95 191**	P	**P**	**11 05 25.5**	**-0.9**
JCJ	**Chichijima**	**20.95 191**	⇑P	**P**	**11 05 25.5**	**-0.9**
XLT	**XiLinHaoTe**	**21.63 271**	*e*P	**P**	**11 05 40.2**	**-0.7**
XLT			S	**S**	**11 08 58.9**	**-2.1**
XLT			pmax	pmax		
	comp=E,4μm,0.9s					
CIT	**Chita**	**21.67 294**	*e*P	**P**	**11 05 32.8**	**+0.1**
CIT			*e*S	**S**	**11 08 58.6**	**-2.8**
CIT			pmax	pmax		
	comp=Z,3μm,1.7s					
BOD	**Bodaibo**	**21.98 309**	⇑*i P*	**P**	**11 05 34.2**	**-1.1**
BOD			pmax	pmax		
	comp=Z,813nm,2.0s					
BILL	**Bilibino**	**22.61 19**	P	**P**	**11 05 40.4**	**-0.5**
BILL	**Bilibino**	**22.61 19**	*e*P	**P**	**11 05 40.2**	**-0.7**
BILL	**Bilibino**	**22.61 19**	*ce*P	**P**	**11 05 40.2**	**-0.7**
BILL			*i* *SP	**sP**	**11 07 47.4**	**+3.7**
BILL			pmax	pmax		
	comp=Z,1μm,1.4s					
BJI	**Beijing**	**23.22 262**	P	**P**	**11 05 47.2**	**+0.4**
BJI			S	**S**	**11 09 26.8**	**+0.8**
BJI			ScP	**ScP**	**11 12 15.0**	**+0.3**
BJI			pmax	pmax		
	comp=Z,950nm,0.8s					
BJT	**Baijiatuau**	**23.24 262**	P	**P**	**11 05 46.8**	**-0.1**
BJT	**Baijiatuau**	**23.24 262**	P	**P**	**11 05 48.3**	**+1.4**
BJT	**Baijiatuau**	**23.24 262**	P	**P**	**11 05 46.8**	**-0.1**
KIWB	**Kanaga Island**	**23.50 66**	P	**P**	**11 05 48.5**	**-0.6**
KIWB				**PcP**	**11 09 18.9**	**-0.8**
ADK	**Adak**	**23.78 66**	P	**P**	**11 05 50.9**	**-0.7**
ADK	**Adak**	**23.78 66**	P	**P**	**11 05 50.9**	**-0.7**
ADK	**Adak**	**23.78 66**	P	**P**	**11 05 50.9**	**-0.7**
GSTR	**Great Sitkin T**	**24.15 66**	P	**P**	**11 05 54.4**	**-0.6**
TIA	**Tai'an**	**24.70 253**	P	**P**	**11 06 00.5**	**+0.4**
TIA			PcP	**PcP**	**11 09 23.6**	**+0.9**
TIA			S	**S**	**11 09 50.7**	**+1.2**
TIA			ScP	**ScP**	**11 12 19.2**	**+0.3**
TIA			ScS	**ScS**	**11 16 06.3**	**-1.4**
TIA			pmax	pmax		
	comp=Z,600nm,1.0s					
TIA			pmax	pmax		
	comp=Z,4μm,4.0s					
JMZ	**Minamidaito 2**	**25.10 215**	P	**P**	**11 06 03.0**	**-0.7**
JMZ	**Minamidaito 2**	**25.10 215**	P	**P**	**11 06 05.1**	**+1.5**
ATKA	**Atka Island**	**25.29 65**	P	**P**	**11 06 03.7**	**-1.2**
ATKA	**Atka Island**	**25.29 65**	P	**P**	**11 06 05.3**	**+0.3**
TIXI	**Tiksi**	**25.36 347**	P	**P**	**11 06 04.7**	**-0.7**
TIXI	**Tiksi**	**25.36 347**	*e*P	**P**	**11 06 04.5**	**-0.9**
TIXI	**Tiksi**	**25.36 347**	⇑P	**P**	**11 06 04.6**	**-0.9**
TIXI	**Tiksi**	**25.36 347**	*ce*P	**P**	**11 06 04.5**	**-0.9**
TIXI			pmax	pmax		
	comp=Z,277nm,1.0s					
JOW	**Kunigami**	**25.43 221**	P	**P**	**11 06 06.4**	**-0.2**
JOW	**Kunigami**	**25.43 221**	PcP	**PcP**	**11 09 24.3**	**-0.2**
	comp=Z,49nm,0.6s,baz=336,slow=7.7,SNR=3.0					
JOW			S	**S**	**11 10 01.2**	**+0.2**
	comp=Z,81nm,1.0s,baz=115,slow=19,SNR=4.0					
JOW			ScP	**ScP**	**11 12 21.4**	**+0.3**
	comp=Z,56nm,0.7s,baz=44,slow=5.9,SNR=5.2					
JOW	**Kunigami**	**25.43 221**	P	**P**	**11 06 06.9**	**+0.3**
JOW	**Kunigami**	**25.43 221**	⇓P	**P**	**11 06 06.4**	**-0.2**
HNS	**HongShan**	**25.59 258**	⇓P	**P**	**11 06 09.0**	**+1.1**
HNS			PcP	**PcP**	**11 09 25.6**	**+1.0**
HNS			S	**S**	**11 10 05.2**	**+1.9**
HNS			ScP	**ScP**	**11 12 22.1**	**+0.7**
HNS			ScS	**ScS**	**11 16 11.9**	**+0.6**
HNS			pmax	pmax		
	comp=Z,1μm,0.9s					
SSE	**Sheshan**	**25.65 239**	P	**P**	**11 06 08.1**	**-0.4**
SSE			S	**S**	**11 10 05.4**	**+1.0**
SSE			pmax	pmax		
	comp=Z,1μm,3.8s					
HHC	**Hu-ho-hao-te**	**25.93 268**	*e*P	**P**	**11 06 11.9**	**+0.9**
HHC			sP	sP	11 08 16.8	-2.1
HHC			S	**S**	**11 10 07.9**	**-1.0**
HHC			pmax	pmax		
	comp=Z,4μm,0.8s					
HHC			pmax	pmax		
	comp=Z,10μm,4.6s					
NJ2	**Nanjing**	**26.34 243**	⇓*i* P	**P**	**11 06 15.2**	**+0.6**
NJ2			PcP	**PcP**	**11 09 27.0**	**+0.5**
NJ2			S	**S**	**11 10 16.5**	**+1.3**
NJ2			ScP	**ScP**	**11 12 24.2**	**+0.5**
NJ2			ScS	**ScS**	**11 16 15.3**	**+0.6**
NJ2			pmax	pmax		
	comp=Z,370nm,0.7s					
NJ2			pmax	pmax		
	comp=Z,3μm,4.3s					
ULN	**Ulaanbaatar**	**26.44 285**	P	**P**	**11 06 15.6**	**+0.1**
ULN	**Ulaanbaatar**	**26.44 285**	P	**P**	**11 06 16.1**	**+0.5**
ULN			P	**P**	**11 06 16.1**	**+0.5**
ULN	**Ulaanbaatar**	**26.44 285**	*e*P	**P**	**11 06 15.7**	**+0.2**
ULN	**Ulaanbaatar**	**26.44 285**	*ce*P	**P**	**11 06 15.7**	**+0.2**
ULN			pmax	pmax		
	comp=Z,2μm,0.9s					
SONM	**Songino Array**	**26.88 285**	P	**P**	**11 06 19.6**	**+0.2**
	comp=Z,256nm,0.9s,baz=73,slow=8.7,SNR=293					
SONM			PcP	**PcP**	**11 09 28.1**	**+0.4**
	comp=Z,72nm,0.7s,baz=124,slow=2.7,SNR=4.2					
SONM			S	**S**	**11 10 23.4**	**-0.2**
	comp=Z,25nm,1.0s,baz=53,slow=15,SNR=1.6					
SONM			ScP	**ScP**	**11 12 25.1**	**-0.2**
	comp=Z,44nm,1.0s,baz=74,slow=2.9,SNR=4.7					
SONM			P3KPbc		11 38 44.7	
	comp=Z,2.6nm,0.8s,baz=222,slow=1.9,SNR=9.1					
	comp=Z,256nm,0.9s					
TIY	**Taiyuan**	**26.92 261**	P	**P**	**11 06 21.1**	**+1.3**
TIY			pP	**pP**	**11 07 38.7**	**+2.6**
TIY			S	**S**	**11 10 27.0**	**+2.6**
TIY			pmax	pmax		
	comp=Z,700nm,0.8s					
BTO	**Baotou**	**27.09 268**	⇓*i* P	**P**	**11 06 22.2**	**+1.0**
BTO			sS	**sS**	**11 12 43.0**	**-5.8**
BTO			pmax	pmax		
	comp=Z,3μm,1.1s					
BTO			pmax	pmax		
	comp=Z,11μm,6.8s					
IRK	**Irkutsk**	**27.35 295**	*e*P	**P**	**11 06 22.0**	**-1.3**
IRK			*e*S	**S**	**11 10 28.1**	**-2.6**
IRK			pmax	pmax		
	comp=Z,696nm,2.2s					
SPIA	**Saint Paul Isl**	**27.41 54**	P	**P**	**11 06 24.5**	**+0.9**
	baz=269					
SPIA			S	**S**	**11 10 33.4**	**+2.1**
	baz=269					
GAMB	**Gambell**	**27.67 39**	P	**P**	**11 06 25.4**	**-0.5**
	baz=255,SNR=6.3					
GAMB			S	**S**	**11 10 35.3**	**+0.1**
	baz=255					
GAMB	**Gambell**	**27.67 39**	⇑P	**P**	**11 06 25.4**	**-0.5**
P08K	**Saint George I**	**27.78 55**	P	**P**	**11 06 28.3**	**+1.3**
P08K	**Saint George I**	**27.78 55**	P	**P**	**11 06 27.8**	**+0.8**
	baz=270					
P08K			S	**S**	**11 10 39.5**	**+2.3**
	baz=270					
P08K			S	**S**	**11 10 39.5**	**+2.3**
	baz=270					
ZAK	**Zakamensk**	**28.28 292**	*e*P	P	11 06 21.8	-10
ZAK			pmax	pmax		
	comp=Z,735nm,1.2s					
NIKH	**Nikolski High**	**28.43 63**	P	**P**	**11 06 33.9**	**+1.2**
	baz=278					
NIKH			S	**S**	**11 10 49.6**	**+2.1**
	baz=278					
NIKH	**Nikolski High**	**28.43 63**	P	**P**	**11 06 31.2**	**-1.6**
JMJ	**Miyako jima 2**	**28.52 224**	P	**P**	**11 06 34.0**	**+0.1**
LYN	**LuoYang**	**28.73 255**	P	**P**	**11 06 36.6**	**+1.0**
LYN			S	**S**	**11 10 52.2**	**-0.4**
LYN			PcS	**PcS**	**11 13 17.0**	**+1.5**
LYN			ScS	**ScS**	**11 16 25.9**	**+0.3**
LYN			pmax	pmax		
	comp=Z,1μm,0.7s					
LYN			pmax	pmax		
	comp=Z,26μm,3.9s					
MOY	**Mondy**	**29.45 295**	*e*P	**P**	**11 06 42.2**	**+0.4**
MOY	**Mondy**	**29.45 295**	*e*P	**P**	**11 06 42.2**	**+0.4**
MOY			pmax	pmax		
	comp=Z,641nm,2.2s					
M11K	**Mekoryuk**	**29.66 47**	P	**P**	**11 06 44.5**	**+1.2**
M11K	**Mekoryuk**	**29.66 47**	P	**P**	**11 06 44.5**	**+1.2**
	baz=266,SNR=10.0					
M11K			S	**S**	**11 11 09.7**	**+3.4**
	baz=266					
TNA	**Tin City**	**29.70 37**	P	**P**	**11 06 43.9**	**+0.2**
	baz=256,SNR=36					
TNA			S	**S**	**11 11 06.3**	**-0.6**
	baz=256					
TNA	**Tin City**	**29.70 37**	⇑P	**P**	**11 06 43.6**	**0.0**
UNV	**Unalaska Valle**	**29.71 61**	P	**P**	**11 06 43.7**	**-0.2**
	baz=278					
UNV	**Unalaska Valle**	**29.71 61**	P	**P**	**11 06 43.4**	**-0.5**
YOJ	**Yonaguni jima**	**29.92 227**	P	**P**	**11 06 44.9**	**-1.2**
YOJ	**Yonaguni jima**	**29.92 227**	P	**P**	**11 06 45.7**	**-0.4**
YOJ	**Yonaguni jima**	**29.92 227**	P	**P**	**11 06 44.9**	**-1.2**
YOJ			pmax	pmax		
	comp=Z,237nm,1.2s					
LVA	**Lava Point**	**29.95 60**	P	**P**	**11 06 44.6**	**-1.4**
LVA				**PcP**	**11 09 34.6**	**-0.6**
WHN	**Wuhan**	**30.15 247**	⇓P	**P**	**11 06 48.4**	**+0.4**
WHN			pP	**PP**	**11 08 07.2**	**-0.5**
WHN			PcP	**PcP**	**11 09 36.9**	**+0.8**
WHN			S	**S**	**11 11 15.0**	**+0.4**
WHN			ScP	**ScP**	**11 12 36.7**	**+1.0**
WHN			sS	**sS**	**11 13 33.6**	**-4.3**
WHN			ScS	**ScS**	**11 16 33.6**	**+1.1**
WHN			pmax	pmax		
	comp=Z,2μm,0.9s					
WHN			pmax	pmax		
	comp=Z,9μm,4.8s					
TATO	**Taipei**	**30.27 230**	P	**P**	**11 06 49.5**	**+0.4**
TATO	**Taipei**	**30.27 230**	P	**

comp=Z,2µm,0.9s
XAN pmax pmax
XAN Xi'an 31.37 258 ⇓P P 11 06 58.9 +0.3
XAN ScP **ScP 11 12 40.5 +0.7**
C16K Lisburne Hills 31.41 32 P P 11 06 57.6 -0.8
baz=254
C16K S **S 11 11 33.8 +0.7**
baz=254
L14K Kuka Creek 31.43 46 P P 11 06 59.8 +1.2
L14K IAmb IAmb 11 07 01.1
comp=Z,947nm,1.1s
L14K Kuka Creek 31.43 46 P P 11 06 59.9 +1.2
baz=268,SNR=114
L14K S **S 11 11 35.5 +1.9**
baz=268
SSLB Suanglung 31.52 230 P P 11 06 58.9 -1.1
SSLB Suanglung 31.52 230 P P 11 07 00.6 +0.6
YULB Yu-li 31.67 229 P P 11 07 00.9 -0.4
YULB Yu-li 31.67 229 P P 11 07 01.6 +0.3
M14K Bethel 31.77 47 P P 11 07 02.8 +1.2
M14K IAmb IAmb 11 07 03.8
comp=Z,795nm,0.9s
M14K Bethel 31.77 47 P P 11 07 02.7 +1.2
baz=270,SNR=86
M14K S **S 11 11 40.7 +1.9**
baz=270
QZH Quanzhou 31.84 234 ⇓iP P 11 07 03.5 +0.8
QZH pP **pP 11 08 20.4 -1.0**
QZH S **S 11 11 40.6 -0.2**
QZH sS **sS 11 14 03.1 -1.5**
QZH ScS **ScS 11 16 43.4 +2.3**
QZH pmax pmax
comp=Z,800nm,1.2s
H16K Elim 31.89 39 P P 11 07 02.8 +0.2
baz=263,SNR=66
H16K S **S 11 11 42.1 +1.4**
baz=263
N14K Kuskokwak Cree 31.91 48 P P 11 07 04.0 +1.2
baz=271,SNR=49
N14K S **S 11 11 42.4 +1.5**
baz=271
G16K Koyuk River 31.95 38 IAmb IAmb 11 07 04.2
comp=Z,633nm,0.8s
G16K Koyuk River 31.95 38 P P 11 07 03.2 +0.1
baz=262
G16K S **S 11 11 42.8 +1.2**
baz=262
L15K Ungalak Mounta 32.01 45 P P 11 07 04.3 +0.6
baz=268,SNR=48
L15K S **S 11 11 43.0 +0.3**
baz=268
K15K Wolf Creek Mou 32.01 44 P P 11 07 04.7 +1.0
K15K Wolf Creek Mou 32.01 44 P P 11 07 04.8 +1.0
baz=267,SNR=92
K15K S **S 11 11 45.3 +2.6**
baz=267
S12K Black Hills 32.02 56 P P 11 07 03.3 -0.6
baz=278
S12K S **S 11 11 42.0 -1.0**
baz=278
D17K Noatak River 32.09 33 P P 11 07 04.1 -0.2
baz=257,SNR=34
D17K S **S 11 11 44.0 +0.4**
baz=257
TPUB Ta-pu 32.09 230 IAmb IAmb 11 07 06.7
comp=Z,719nm,0.9s
TPUB Ta-pu 32.09 230 P P 11 07 04.6 -0.3
O14K Tigyukauivet M 32.14 50 P P 11 07 05.9 +1.1
O14K Tigyukauivet M 32.14 50 P P 11 07 05.9 +1.1
baz=273,SNR=27
O14K S **S 11 11 46.1 +1.4**
baz=273
RDOG Red Dog Mine 32.23 33 P P 11 07 05.0 -0.5
baz=257,SNR=20
RDOG S **S 11 11 45.6 -0.2**
baz=257
C17K DeLong Mountai 32.23 32 P P 11 07 05.2 -0.4
baz=256,SNR=36
C17K S **S 11 11 44.0 -1.9**
baz=256
TWGBT Beinan 32.26 228 P P 11 07 07.1 +0.8
TWG Pinlang 32.26 228 IAmb IAmb 11 07 15.4
comp=Z,923nm,1.2s
M15K Kasigluk River 32.39 47 P P 11 07 07.8 +0.8
baz=271,SNR=152
M15K S **S 11 11 49.5 +1.1**
baz=271
E17K Hotham Inlet 32.44 35 P P 11 07 07.3 0.0
baz=260,SNR=132
E17K S **S 11 11 48.3 -0.7**
baz=260
I17K Unalakleet 32.49 41 P P 11 07 08.4 +0.8
I17K IAmb IAmb 11 07 09.4
comp=Z,742nm,0.8s
I17K **PcP 11 09 43.9 +2.0**
I17K Unalakleet 32.49 41 P P 11 07 08.5 +0.8
baz=266,SNR=43
I17K S **S 11 11 51.0 +1.2**
baz=266
J16K Anvik River 32.49 42 P P 11 07 08.4 +0.6
J16K Anvik River 32.49 42 P P 11 07 08.4 +0.6
baz=267,SNR=30
J16K S **S 11 11 51.3 +1.3**
baz=267
F17K Baldwin Pennin 32.55 36 IAmb IAmb 11 07 09.4
comp=Z,1µm,1.5s
F17K Baldwin Pennin 32.55 36 P P 11 07 08.4 +0.2
baz=261,SNR=56
F17K S **S 11 11 51.0 +0.2**
baz=261
G17K Kiwalik Mounta 32.67 38 P P 11 07 09.8 +0.5
baz=263
G17K S **S 11 11 53.5 +0.9**
baz=263
CNSH ChangSha 32.69 245 P P 11 07 10.1 +0.2
CNSH S **S 11 11 53.1 -0.7**
CNSH pmax pmax
comp=Z,1µm,1.0s
N15K Kwethluk River 32.70 48 P P 11 07 10.9 +1.3
N15K IAmb IAmb 11 07 11.9
comp=Z,1µm,0.8s
N15K Kwethluk River 32.70 48 P P 11 07 10.9 +1.3
baz=272,SNR=180
N15K S **S 11 11 54.6 +1.4**
baz=272
O15K Ungalikthiuk R 32.88 50 P P 11 07 12.2 +1.0
baz=274,SNR=40
O15K S **S 11 11 56.9 +0.8**
baz=274
H17K Granite Mounta 32.92 39 P P 11 07 12.0 +0.6
H17K IAmb IAmb 11 07 13.1
comp=Z,664nm,0.8s
H17K Granite Mounta 32.92 39 P P 11 07 12.0 +0.6
baz=265,SNR=134
H17K S **S 11 11 57.1 +0.7**
baz=265
B18K Kokolik River 32.93 31 P P 11 07 11.4 0.0
baz=256
B18K S **S 11 11 56.2 -0.3**
baz=256
E18K Tukpahlearik C 32.97 34 P P 11 07 11.8 +0.1
baz=260
E18K S **S 11 11 56.3 -0.8**
baz=260
L16K Owhat River 32.97 45 P P 11 07 12.5 +0.6
L16K IAmb IAmb 11 07 13.6
comp=Z,655nm,0.9s
L16K Owhat River 32.97 45 P P 11 07 12.5 +0.6
baz=270,SNR=120
L16K S **S 11 11 58.4 +1.1**
baz=270
C18K Utukok River 32.98 32 P P 11 07 11.4 -0.6
baz=258,SNR=35
C18K S **S 11 11 56.1 -1.4**
baz=258
J17K VABM Dome 33.18 42 IAmb IAmb 11 07 15.7
comp=Z,957nm,1.0s
J17K VABM Dome 33.18 42 P P 11 07 14.5 +0.8
baz=268,SNR=197
J17K S **S 11 12 02.4 +1.9**
baz=268
J17K S **S 11 12 02.4 +1.9**
baz=268
F18K Selawik 33.21 36 P P 11 07 13.8 0.0
baz=262,SNR=141
F18K S **S 11 12 01.4 +0.6**
baz=262
M16K Timber Creek 33.23 46 IAmb IAmb 11 07 16.2
comp=Z,938nm,1.1s
M16K Timber Creek 33.23 46 P P 11 07 15.1 +1.0
baz=272,SNR=114
M16K S **S 11 12 02.6 +1.3**
baz=272
S14K Fog Glacier 33.34 55 P P 11 07 14.8 -0.4
baz=278
N16K Nishlik Lake 33.34 47 P P 11 07 16.1 +1.0
baz=273,SNR=185
N16K S **S 11 12 05.4 +2.3**
baz=273
A19K Wainwright 33.38 29 P P 11 07 15.3 0.0
baz=256
A19K S **S 11 12 01.8 -1.5**
baz=256
ENH Enshi 33.41 252 P P 11 07 15.9 -0.1
ENH IAmb IAmb 11 07 17.3
comp=Z,824nm,1.0s
ENH Enshi 33.41 252 P P 11 07 16.4 +0.3
ENH Enshi 33.41 252 P P 11 07 15.9 -0.1
ENH PcP **PcP 11 09 45.7 +0.5**
ENH ScP **ScP 11 12 47.8 +0.8**
KRAR Krasnoyarsk 33.46 305 *d iP* **P 11 07 16.0 -0.1**
K17K Iditarod 33.52 43 IAmb IAmb 11 07 18.7
comp=Z,1µm,0.8s
K17K Iditarod 33.52 43 P P 11 07 17.5 +0.9
baz=270,SNR=176
K17K S **S 11 12 08.1 +2.4**
baz=270
L17K Donlin 33.52 44 P P 11 07 17.8 +1.2
baz=271,SNR=238
L17K S **S 11 12 08.0 +2.2**
baz=271
G18K Tagagawik 33.53 37 P P 11 07 16.6 0.0
G18K IAmb IAmb 11 07 17.7
comp=Z,1µm,0.8s
G18K Tagagawik 33.53 37 P P 11 07 16.6 0.0
baz=265
G18K S **S 11 12 06.1 +0.3**
baz=265
CHNA Chernabura Isl 33.56 57 P P 11 07 16.0 -0.9
baz=281,SNR=19
CHNA Chernabura Isl 33.56 57 P P 11 07 16.4 -0.6
CNBA Chernabura Isl 33.56 58 P P 11 07 16.2 -0.8
LZH Lanzhou 33.57 266 ⇓P P 11 07 19.1 +1.6
LZH pP pP 11 08 40.4 +3.9
LZH sP sP 11 09 22.5 -4.7
LZH PcP **PcP 11 09 47.4 +1.7**
LZH S **S 11 12 07.8 +0.4**
LZH ScP **ScP 11 12 49.3 +1.7**
LZH sS sS 11 14 27.9 -4.0
LZH SS **SS 11 14 56.2 -0.3**
LZH ScS **ScS 11 16 51.2 +0.9**
LZH pmax pmax
comp=Z,2µm,1.5s
LZH pmax pmax
comp=Z,2µm,5.2s
H18K Honhosa River 33.59 39 P P 11 07 17.3 +0.2
H18K IAmb IAmb 11 07 18.5
comp=Z,885nm,0.8s
H18K Honhosa River 33.59 39 P P 11 07 17.4 +0.2
baz=266,SNR=198
H18K S **S 11 12 07.3 +0.6**
baz=266
C19K Lookout Ridge 33.65 31 P P 11 07 17.4 -0.3
baz=259
C19K S **S 11 12 05.2 -2.4**
baz=259
O16K Kokwok River B 33.74 49 P P 11 07 19.2 +0.8
O16K Kokwok River B 33.74 49 P P 11 07 19.2 +0.8
baz=275,SNR=89
O16K S **S 11 12 10.9 +1.9**
baz=275
P16K Nushagak River 33.84 50 P P 11 07 20.7 +1.4
baz=276,SNR=31
P16K S **S 11 12 13.8 +3.3**
baz=276
P16K S **S 11 12 13.8 +3.3**
baz=276
M17K Holitna River 33.95 45 P P 11 07 21.6 +1.3
baz=272,SNR=247
M17K S **S 11 12 14.0 +1.7**
baz=272
MIDW Midway 33.96 112 P P 11 07 21.4 +0.7
F19K Shaleruckik Mo 33.98 36 IAmb IAmb 11 07 21.2
comp=Z,1µm,0.9s
F19K Shaleruckik Mo 33.98 36 P P 11 07 20.0 -0.4
baz=264,SNR=416
F19K S **S 11 12 11.6 -0.9**
baz=264
D19K Kuna River 34.07 33 IAmb IAmb 11 07 21.9
comp=Z,971nm,1.0s
D19K Kuna River 34.07 33 P P 11 07 20.7 -0.4
baz=261
D19K S **S 11 12 11.4 -2.5**
baz=261
GUMO Guam 34.12 183 P P 11 07 20.8 -1.4
N17K Nushagak Hills 34.12 47 P P 11 07 22.8 +1.1
N17K IAmb IAmb 11 07 24.0
comp=Z,777nm,1.1s
N17K Nushagak Hills 34.12 47 P P 11 07 22.8 +1.1
baz=274,SNR=90
N17K S **S 11 12 16.9 +2.0**
baz=274
G19K Purcell Mounta 34.19 37 IAmb IAmb 11 07 22.9
comp=Z,678nm,0.8s
G19K Purcell Mounta 34.19 37 P P 11 07 21.9 -0.4
baz=266
G19K S **S 11 12 14.6 -1.2**
baz=266
GCSA Galena City Sc 34.20 39 P P 11 07 21.9 -0.3
baz=268,SNR=143
GCSA S **S 11 12 14.8 -1.1**
baz=268
O17K Koliganek Bris 34.23 48 P P 11 07 23.9 +1.3
baz=275,SNR=202
O17K S **S 11 12 19.8 +3.3**
baz=275
R16K Pilot Point 34.23 52 P P 11 07 24.1 +1.5
R16K IAmb IAmb 11 07 24.7
comp=Z,1µm,0.8s
R16K Pilot Point 34.23 52 P P 11 07 23.3 +0.7
baz=278
R16K S **S 11 12 17.5 +1.0**
baz=278
R16K S **S 11 12 17.5 +1.0**
baz=278
J18K Innoko River 34.25 42 P P 11 07 23.0 +0.2
J18K Innoko River 34.25 42 P P 11 07 22.9 +0.2
baz=270,SNR=217
J18K S **S 11 12 16.1 -0.6**
baz=270
E19K Redstone River 34.26 35 IAmb IAmb 11 07 23.9
comp=Z,1µm,0.8s
E19K Redstone River 34.26 35 P P 11 07 23.0 +0.2
baz=264
E19K S **S 11 12 16.1 -0.8**
baz=264
L18K Granite Mounta 34.28 44 IAmb IAmb 11 07 25.3
comp=Z,791nm,0.8s
L18K Granite Mounta 34.28 44 P P 11 07 24.2 +1.2
baz=272,SNR=279
L18K S **S 11 12 18.7 +1.5**
baz=272
L18K S **S 11 12 18.7 +1.5**
baz=272
H19K Roundabout Mou 34.41 38 P P 11 07 24.4 +0.3
baz=267,SNR=963
H19K S **S 11 12 19.5 +0.4**
baz=267
GTA Gaotai 34.54 274 P P 11 07 26.9 +1.2
GTA PcP **PcP 11 09 50.0 +1.5**
GTA S **S 11 12 23.2 +1.2**
GTA ScP **ScP 11 12 51.6 +0.6**
GTA ScS **ScS 11 16 56.4 +1.0**
GTA pmax pmax
comp=Z,1µm,1.1s
GTA pmax pmax
comp=Z,5µm,9.5s
Q16K King Salmon 34.57 50 P P 11 07 26.4 +1.0
baz=277,SNR=51
Q16K S **S 11 12 22.8 +1.2**
baz=277
TTA Tatalina 34.57 43 P P 11 07 25.8 +0.3
baz=271,SNR=180
TTA S **S 11 12 21.4 -0.4**
baz=271
TTA Tatalina 34.57 43 P P 11 07 25.6 0.0
TTA Tatalina 34.57 43 ⇑P P 11 07 24.8 -0.8
TTA Tatalina 34.57 43 ⇑P P 11 07 24.8 -0.8
P17K Kvichak River 34.62 49 P P 11 07 27.0 +1.2
baz=276,SNR=82
P17K S **S 11 12 25.1 +2.7**
baz=276
P17K S **S 11 12 25.1 +2.7**
baz=276
D20K Etivluk River 34.64 32 P P 11 07 25.7 -0.3
baz=262
D20K S **S 11 12 20.1 -2.6**
baz=262
B20K Meade River 34.65 30 P P 11 07 25.5 -0.5
B20K Meade River 34.65 30 P P 11 07 25.6 -0.3
baz=260,SNR=151
B20K S **S 11 12 19.8 -2.8**
baz=260
M18K Stony River 34.72 45 P P 11 07 27.9 +1.2
baz=274,SNR=150
M18K S **S 11 12 26.7 +2.8**
baz=274
J19K Poorman 34.73 41 IAmb IAmb 11 07 28.0
comp=Z,778nm,1.0s
J19K Poorman 34.73 41 P P 11 07 26.8 0.0
baz=270,SNR=310
J19K S **S 11 12 23.1 -1.0**
baz=270
J19K S **S 11 12 23.1 -1.0**
baz=270
E20K Nigu River 34.74 33 P P 11 07 26.6 -0.2
baz=264,SNR=367
E20K S **S 11 12 22.2 -2.0**
baz=264
N18K Kilae Creek 34.75 47 IAmb IAmb 11 07 29.5
comp=Z,738nm,0.9s
N18K Kilae Creek 34.75 47 P P 11 07 28.4 +1.4
baz=275,SNR=234
N18K S **S 11 12 27.4 +3.0**
baz=275
N18K S **S 11 12 27.4 +3.0**
baz=275
F20K Avaraart Lake 34.80 35 IAmb IAmb 11 07 28.3
comp=Z,1µm,2.0s
F20K Avaraart Lake 34.80 35 P P 11 07 27.0 -0.3
baz=266,SNR=138
F20K S **S 11 12 24.2 -0.8**
baz=266
R17L Mt. Peulik Vol 34.87 52 P P 11 07 28.1 +0.1
baz=279,SNR=24
R17L S **S 11 12 25.1 -1.2**
baz=279
SVW2 Sparrevohn 34.87 46 P P 11 07 29.2 +1.2
PLK4 Peulik 4 34.87 52 P P 11 07 27.9 -0.2
Q17K Contact Creek 35.02 51 P P 11 07 29.5 +0.1
baz=278
Q17K S **S 11 12 28.0 -0.8**
baz=278
H20K Anotleneega Mo 35.07 38 P P 11 07 29.7 +0.1
baz=269,SNR=551
H20K S **S 11 12 28.8 -0.3**
baz=269
A21K Barrow 35.07 28 P P 11 07 29.1 -0.5
baz=259,SNR=25
A21K S **S 11 12 26.6 -2.4**
baz=259
A21K S **S 11 12 26.6 -2.4**
baz=259
L19K White Mountain 35.14 44 P P 11 07 30.8 +0.5
L19K White Mountain 35.14 44 P P 11 07 30.8 +0.5
baz=274,SNR=88
L19K S **S 11 12 30.7 +0.4**
baz=274
L19K S **S 11 12 30.7 +0.4**
baz=274
O18K Koktuh Hills 35.17 48 IAmb IAmb 11 07 32.9
comp=Z,768nm,1.1s
O18K Koktuh Hills 35.17 48 P P 11 07 31.8 +1.2
baz=276,SNR=101
O18K S **S 11 12 33.8 +3.1**
baz=276
O18K S **S 11 12 33.8 +3.1**
baz=276
P18K Big Mountain, 35.21 49 P P 11 07 31.9 +0.9
P18K IAmb IAmb 11 07 33.0
comp=Z,801nm,1.0s
P18K Big Mountain, 35.21 49 P P 11 07 31.9 +0.9
baz=277,SNR=79
P18K S **S 11 12 34.1 +2.6**
baz=277
I20K Naaghedeneel 35.23 39 IAmb IAmb 11 07 32.5
comp=Z,930nm,0.8s
I20K Naaghedeneel 35.23 39 P P 11 07 31.5 +0.6
baz=270,SNR=87
I20K S **S 11 12 32.6 +1.2**
baz=270
C21K Knifeblade Rid 35.35 32 P P 11 07 32.2 +0.2
baz=264
C21K S **S 11 12 31.4 -1.9**
baz=264
M19K Big River Lodg 35.38 44 P P 11 07 33.1 +0.8
baz=274
M19K S **S 11 12 35.0 +1.2**
baz=274
M19K S **S 11 12 35.0 +1.2**
baz=274
J20K Nowinta River 35.38 40 IAmb IAmb 11 07 33.9
comp=Z,1µm,0.8s
J20K Nowinta River 35.38 40 P P 11 07 32.8 +0.6
baz=271,SNR=992
J20K S **S 11 12 34.3 +0.5**
baz=271
J20K S **S 11 12 34.3 +0.5**
baz=271
N19K Bonanza Creek 35.42 46 P P 11 07 33.9 +1.2
baz=276,SNR=168
N19K S **S 11 12 37.2 +2.4**
baz=276
N19K S **S 11 12 37.2 +2.4**
baz=276
Q18K Katmai Hardscr 35.42 50 P P 11 07 33.2 +0.4
baz=278,SNR=144
Q18K S **S 11 12 35.3 +0.5**
baz=278
K20K Telida 35.44 42 P P 11 07 33.2 +0.5
K20K Telida 35.44 42 P P 11 07 33.4 +0.6
baz=272,SNR=88
K20K S **S 11 12 35.2 +0.4**
baz=272
K20K S **S 11 12 35.2 +0.4**
baz=272
B21K Ikpikpuk River 35.47 31 P P 11 07 33.0 +0.1
baz=263
B21K S **S 11 12 33.0 -1.9**
baz=263
A22K Sinclair Lake 35.54 29 P P 11 07 33.1 -0.3
baz=261
A22K S **S 11 12 34.2 -1.8**
baz=261
IMAR Indian Mountai 35.54 37 P P 11 07 33.6 0.0
L20K Farewell, AK 35.57 43 P P 11 07 34.5 +0.5
baz=274,SNR=131
L20K S **S 11 12 37.0 +0.1**
baz=274
L20K S **S 11 12 37.0 +0.1**
baz=274
E21K Killik River 35.58 33 IAmb IAmb 11 07 34.5
comp=Z,798nm,0.8s
E21K Killik River 35.58 33 P P 11 07 33.4 -0.5
baz=265,SNR=294
E21K S **S 11 12 33.8 -3.0**
baz=265
CHIR Chirikof Islan 35.59 55 P P 11 07 34.5 +0.4
CHIR IAmb IAmb 11 07 35.6
comp=Z,934nm,1.2s
CHIR Chirikof Islan 35.59 55 P P 11 07 34.2 +0.1
baz=282,SNR=8.4
CHIR S **S 11 12 36.9 -0.3**
baz=282
CHIR Chirikof Islan 35.59 55 P P 11 07 35.1 +1.0
NRIK Noril'sk 35.62 328 P P 11 07 34.6 +0.5
NRIK Noril'sk 35.62 328 P P 11 07 34.5 +0.3
comp=Z,257nm,1.2s,baz=97,slow=9.6,SNR=144
NRIK PP **PP 11 09 10.7 +3.4**
comp=Z,49nm,0.8s,baz=108,slow=7.5,SNR=2.2
NRIK PcP **PcP 11 09 51.6 +0.7**

comp=Z,144nm,0.6s,baz=73,slow=2.4,SNR=7.4
NRIK S **S** **11 12 35.5 -1.8**
comp=Z,51nm,0.9s,baz=124,slow=3.6,SNR=2.3
NRIK ScP **ScP** **11 12 53.5 -0.8**
comp=Z,73nm,1.2s,baz=143,slow=4.4,SNR=2.6
NRIK ScS **ScS** **11 16 59.8 -0.2**
comp=Z,25nm,1.0s,baz=179,slow=23,SNR=1.9
comp=Z,257nm,1.2s
NRIK Noril'sk 35.62 328 *d* iP **P** **11 07 34.4 +0.3**
NRIK pmax pmax
comp=Z,433nm,1.3s
G21K Allakaket 35.65 36 IAmb IAmb 11 07 36.4
comp=Z,1μm,0.8s
G21K Allakaket 35.65 36 P **P** **11 07 34.8 +0.3**
baz=269
G21K S **S** **11 12 37.9 0.0**
baz=269
F21K Alatna River 35.69 35 IAmb IAmb 11 07 35.7
comp=Z,632nm,0.8s
F21K Alatna River 35.69 35 P **P** **11 07 34.6 -0.2**
baz=268
F21K S **S** **11 12 37.7 -0.8**
baz=268
R18K Karluk 35.89 52 P **P** **11 07 35.6 -1.0**
baz=280,SNR=25
R18K S **S** **11 12 39.9 -1.7**
baz=280
R18K S **S** **11 12 39.9 -1.7**
baz=280
H21K Melozitna Rive 35.93 38 IAmb IAmb 11 07 37.9
comp=Z,654nm,0.7s
H21K Melozitna Rive 35.93 38 P **P** **11 07 36.9 +0.1**
baz=270,SNR=567
H21K S **S** **11 12 41.9 -0.2**
baz=270
H21K S **S** **11 12 41.9 -0.2**
baz=270
B22K Teshekpuk Lake 35.96 30 P **P** **11 07 36.6 -0.3**
baz=263
B22K S **S** **11 12 40.8 -1.5**
baz=263
M20K Styx River 35.97 44 IAmb IAmb 11 07 39.7
comp=Z,754nm,0.9s
M20K Styx River 35.97 44 P **P** **11 07 38.6 +1.3**
baz=275
M20K S **S** **11 12 45.4 +2.5**
baz=275
M20K S **S** **11 12 45.4 +2.5**
baz=275
D22K Ayikyak River 36.08 32 IAmb IAmb 11 07 39.1
comp=Z,1μm,0.8s
D22K Ayikyak River 36.08 32 P **P** **11 07 38.1 0.0**
baz=266
D22K S **S** **11 12 42.8 -1.5**
baz=266
Q19K Cape Douglas, 36.09 49 IAmb IAmb 11 07 39.4
comp=Z,840nm,0.9s
Q19K Cape Douglas, 36.09 49 P **P** **11 07 38.4 +0.1**
baz=279,SNR=52
Q19K S **S** **11 12 44.2 -0.4**
baz=279
Q19K S **S** **11 12 44.2 -0.4**
baz=279
ILSW Iliamna Southw 36.18 48 P **P** **11 07 39.0 -0.1**
P19K Oil Pt 36.19 48 P **P** **11 07 39.8 +0.7**
baz=278,SNR=40
P19K S **S** **11 12 46.8 +0.7**
baz=278
CHUM Lake Minchumin 36.20 41 P **P** **11 07 39.9 +0.9**
baz=273,SNR=109
CHUM S **S** **11 12 47.6 +1.6**
baz=273
F22K John River 36.20 35 P **P** **11 07 39.3 +0.2**
baz=268
F22K S **S** **11 12 45.3 -0.9**
baz=268
SII Sitkinak Islan 36.23 53 P **P** **11 07 39.3 -0.1**
baz=282,SNR=7.6
SII S **S** **11 12 47.1 +0.3**
baz=282
I21K Tanana 36.28 39 P **P** **11 07 40.2 +0.5**
baz=272
I21K S **S** **11 12 47.6 +0.2**
baz=272
I21K S **S** **11 12 47.6 +0.2**
baz=272
PPLA Purkeypile 36.32 43 P **P** **11 07 41.5 +1.2**
baz=275,SNR=246
PPLA S **S** **11 12 49.7 +1.4**
baz=275
CAST Castle Rocks 36.33 42 IAmb IAmb 11 07 42.1
comp=Z,1μm,0.8s
CAST Castle Rocks 36.33 42 P **P** **11 07 41.0 +0.8**
baz=274,SNR=871
CAST S **S** **11 12 49.1 +0.9**
baz=274
GULI GuiLin 36.36 245 ⇓ *i* P **P** **11 07 41.2 +0.3**
GULI pP **pP** **11 08 58.3 -3.1**
GULI PP **PP** **11 09 16.7 +0.8**
GULI S **S** **11 12 48.7 -0.7**
GULI sS **sS** **11 15 15.6 +0.1**
GULI pmax pmax
comp=Z,630nm,1.0s
GULI pmax pmax
comp=Z,2μm,7.9s
E22K Anaktuvuk Pass 36.36 34 P **P** **11 07 40.4 -0.1**
baz=268,SNR=998
E22K S **S** **11 12 46.5 -2.1**
baz=268
HKC Hong Kong Obse 36.39 237 ⇑P **P** **11 07 42.0 +0.9**
HKPS Hong Kong Po S 36.43 237 P **P** **11 07 42.2 +0.7**
HKPS IAmb IAmb 11 07 43.7
comp=Z,662nm,1.0s
HKPS Hong Kong Po S 36.43 237 P **P** **11 07 42.4 +0.9**
O20K Slope Mountain 36.43 47 P **P** **11 07 41.6 +0.5**
baz=278,SNR=93
O20K S **S** **11 12 50.7 +0.9**
baz=278
O20K S **S** **11 12 50.7 +0.9**
baz=278
G22K Bettles 36.45 36 P **P** **11 07 40.7 -0.4**
baz=270
G22K S **S** **11 12 49.1 -0.7**
baz=270
N20K Mount Spurr 36.48 45 P **P** **11 07 42.7 +1.2**
baz=277,SNR=431
N20K S **S** **11 12 52.2 +1.5**
baz=277
SPCR Spurr Chakacha 36.48 45 P **P** **11 07 42.7 +1.2**
baz=277,SNR=331
SPCR S **S** **11 12 52.1 +1.4**
baz=277
H22K Ishtalitna Cre 36.52 38 P **P** **11 07 42.2 +0.5**
baz=271,SNR=551
H22K S **S** **11 12 51.2 +0.3**
baz=271
H22K S **S** **11 12 51.2 +0.3**
baz=271
SPU Mount Spurr 36.56 45 P **P** **11 07 43.1 +0.9**
SPU IAmb IAmb 11 07 44.4
comp=Z,1μm,1.1s
OHAK Old Harbor 36.58 52 P **P** **11 07 42.2 -0.1**
OHAK IAmb IAmb 11 07 43.2
comp=Z,581nm,0.8s
OHAK Old Harbor 36.58 52 P **P** **11 07 42.1 -0.1**
baz=282,SNR=109
OHAK S **S** **11 12 51.9 0.0**
baz=282
OHAK Old Harbor 36.58 52 P **P** **11 07 41.8 -0.4**
SKT Skwentna 36.71 44 P **P** **11 07 43.4 0.0**
SKT Skwentna 36.71 44 P **P** **11 07 43.5 +0.1**
baz=276,SNR=104
SKT S **S** **11 12 54.3 +0.3**
baz=276
CD2 Chengdu 36.72 258 P **P** **11 07 44.5 +0.6**
CD2 pP pP 11 09 05.6 +1.2
CD2 PP **PP** **11 09 19.0 -0.8**
CD2 S **S** **11 12 54.7 -0.2**
CD2 sS sS 11 15 21.3 +0.1
CD2 SS **SS** **11 15 50.5 -8.6**
CD2 pmax pmax
comp=Z,1μm,1.0s
CD2 pmax pmax
comp=Z,3μm,4.9s
BPAW Bear Paw Mtn. 36.77 41 P **P** **11 07 44.1 +0.3**
BPAW Bear Paw Mtn. 36.77 41 P **P** **11 07 44.2 +0.4**
baz=274,SNR=46
BPAW S **S** **11 12 54.8 +0.1**
baz=274
Q20K Shuyak Island 36.78 50 P **P** **11 07 43.7 -0.2**
baz=280,SNR=32
Q20K S **S** **11 12 52.9 -2.1**
baz=280
D23K Nanushuk River 36.81 32 IAmb IAmb 11 07 45.4
comp=Z,990nm,0.9s
D23K Nanushuk River 36.81 32 P **P** **11 07 44.1 0.0**
baz=268
D23K S **S** **11 12 54.1 -1.1**
baz=268
MLY Manley 36.82 39 P **P** **11 07 44.8 +0.6**
MLY Manley 36.82 39 P **P** **11 07 44.6 +0.3**
baz=273,SNR=115
MLY S **S** **11 12 56.8 +1.3**
baz=273
KDAK Kodiak Island 36.84 51 P **P** **11 07 44.0 -0.4**
KDAK Kodiak Island 36.84 51 P **P** **11 07 44.1 -0.4**
baz=281
KDAK S **S** **11 12 54.1 -1.7**
baz=281
KDAK Kodiak Island 36.84 51 *d* iP **P** **11 07 43.5 -0.9**
KDAK pmax pmax
comp=Z,804nm,0.9s
KDAK Kodiak Island 36.84 51 ⇑P **P** **11 07 44.0 -0.4**
KDAK PcP **sP** **11 09 55.4 +0.2**
KTH Kantishna Hill 36.84 41 P **P** **11 07 45.4 +0.9**
KTH IAmb IAmb 11 07 46.3
comp=Z,2μm,1.0s
C23K Itkillik River 36.88 31 P **P** **11 07 44.3 -0.3**
C23K IAmb IAmb 11 07 45.5
comp=Z,1μm,0.8s
C23K Itkillik River 36.88 31 P **P** **11 07 44.4 -0.2**
baz=267
C23K S **S** **11 12 54.4 -1.6**
baz=267
COLD Coldfoot 36.97 35 P **P** **11 07 45.3 -0.1**
baz=271,SNR=673
COLD S **S** **11 12 56.5 -1.0**
baz=271
HOM Homer 36.98 48 P **P** **11 07 45.3 -0.3**
HOM IAmb IAmb 11 07 47.5
comp=Z,3μm,1.6s
HOM Homer 36.98 48 P **P** **11 07 45.4 -0.3**
baz=280,SNR=10
HOM S **S** **11 12 56.5 -1.4**
baz=280
SZP Santa 37.04 225 ⇓P **P** **11 07 47.3 +0.8**
G23K Bananza Creek 37.04 36 IAmb IAmb 11 07 47.0
comp=Z,1μm,0.8s
G23K Bananza Creek 37.04 36 P **P** **11 07 46.1 0.0**
baz=272
G23K S **S** **11 12 58.1 -0.7**
baz=272
CAPN Captain Cook N 37.05 46 P **P** **11 07 47.4 +1.3**
CAPN IAmb IAmb 11 07 49.8
comp=Z,861nm,0.8s
CAPN PcP **sP** **11 09 57.1 0.0**
CAPN Captain Cook N 37.05 46 P **P** **11 07 47.2 +1.0**
baz=278,SNR=9.5
TRF Thorofare Moun 37.13 42 P **P** **11 07 47.2 +0.2**
baz=276,SNR=177
TRF S **S** **11 13 01.1 +0.7**
baz=276
SUA Susitna One 37.15 45 P **P** **11 07 46.9 -0.1**
SUA Susitna One 37.15 45 P **P** **11 07 47.0 -0.1**
baz=278,SNR=174
SUA S **S** **11 13 00.1 -0.5**
baz=278
E23K Chandalar 37.19 34 P **P** **11 07 47.6 +0.3**
baz=270
E23K S **S** **11 12 59.5 -1.5**
baz=270
TOLK Toolik Lake Re 37.20 33 P **P** **11 07 47.2 -0.2**
TOLK IAmb IAmb 11 07 48.2
comp=Z,2μm,1.5s
TOLK Toolik Lake Re 37.20 33 P **P** **11 07 47.2 -0.2**
baz=269,SNR=439
TOLK S **S** **11 12 59.4 -1.8**
baz=269
TOLK S **S** **11 12 59.4 -1.8**
baz=269
CNPM China Poot 37.21 48 IAmb IAmb 11 07 49.3
comp=Z,751nm,0.8s
CUT Chulitna 37.25 43 IAmb IAmb 11 07 48.8
comp=Z,1μm,0.9s
CUT Chulitna 37.25 43 P **P** **11 07 47.8 0.0**
baz=277,SNR=210
CUT S **S** **11 13 00.7 -1.2**
baz=277
H23K Yukon River 37.27 38 IAmb IAmb 11 07 49.7
comp=Z,954nm,0.7s
H23K Yukon River 37.27 38 P **P** **11 07 48.6 +0.7**
baz=273
H23K S **S** **11 13 02.9 +0.7**
baz=273
H23K S **S** **11 13 02.9 +0.7**
baz=273
BRLK Bradley Lake 37.34 48 P **P** **11 07 47.8 -0.8**
BRLK IAmb IAmb 11 07 49.4
comp=Z,640nm,0.9s
I23K Minto, Yukon-K 37.39 39 IAmb IAmb 11 07 50.4
comp=Z,738nm,0.8s
I23K Minto, Yukon-K 37.39 39 P **P** **11 07 49.4 +0.5**
baz=274,SNR=558
I23K S **S** **11 13 04.0 +0.1**
baz=274
I23K S **S** **11 13 04.0 +0.1**
baz=274
M22K Willow 37.41 44 P **P** **11 07 48.4 -0.6**
baz=278,SNR=48
M22K S **S** **11 13 02.5 -1.7**
baz=278
BRSE Bradley Lake S 37.42 48 P **P** **11 07 48.6 -0.6**
baz=280,SNR=94
BRSE S **S** **11 13 03.3 -1.2**
baz=280
D24K Happy Valley 37.48 32 P **P** **11 07 49.6 0.0**
D24K Happy Valley 37.48 32 P **P** **11 07 49.7 0.0**
baz=269
D24K S **S** **11 13 03.4 -1.8**
baz=269
C24K Franklin Bluff 37.53 31 P **P** **11 07 49.9 -0.1**
baz=269
C24K S **S** **11 13 02.1 -3.8**
baz=269
NEA2 Nenana 37.56 40 P **P** **11 07 50.7 +0.4**
NEA2 Nenana 37.56 40 P **P** **11 07 50.6 +0.3**
baz=275,SNR=452
NEA2 S **S** **11 13 06.0 -0.4**
baz=275
E24K Your Creek 37.61 34 IAmb IAmb 11 07 52.0
comp=Z,1μm,0.8s
E24K Your Creek 37.61 34 P **P** **11 07 50.8 +0.1**
baz=271
E24K S **S** **11 13 06.0 -1.2**
baz=271
RC01 Rabbit Creek A 37.69 45 P **P** **11 07 51.2 -0.2**
RC01 IAmb IAmb 11 07 52.6
comp=Z,642nm,0.9s
RC01 Rabbit Creek A 37.69 45 P **P** **11 07 51.2 -0.2**
baz=279,SNR=133
RC01 S **S** **11 13 06.4 -2.0**
baz=279
MCK McKinley 37.70 41 P **P** **11 07 51.3 -0.2**
baz=276,SNR=482
MCK S **S** **11 13 07.7 -1.0**
baz=276
MCK McKinley 37.70 41 P **P** **11 07 51.5 -0.1**
RND Reindeer 37.78 42 P **P** **11 07 51.7 -0.6**
RND IAmb IAmb 11 07 52.9
comp=Z,767nm,0.9s
RND Reindeer 37.78 42 P **P** **11 07 51.5 -0.7**
O22K Cooper Landing 37.79 46 P **P** **11 07 52.0 -0.2**
O22K IAmb IAmb 11 08 04.9
comp=Z,893nm,0.8s
O22K Cooper Landing 37.79 46 P **P** **11 07 52.0 -0.2**
baz=280,SNR=74
O22K S **S** **11 13 09.3 -0.6**
baz=280
GYA Guiyang 37.83 250 ⇓P **P** **11 07 53.7 +0.5**
GYA PP **PP** **11 09 31.2 -0.5**
GYA ScP **ScP** **11 13 04.0 +0.6**
GYA S **S** **11 13 09.6 -2.0**
GYA ScS **ScS** **11 17 13.8 -0.4**
GYA pmax pmax
comp=Z,2μm,0.8s
F24K Squaw Lake 37.85 35 IAmb IAmb 11 07 53.9
comp=Z,941nm,0.7s
F24K Squaw Lake 37.85 35 P **P** **11 07 52.7 -0.1**
baz=272
F24K S **S** **11 13 09.9 -0.9**
baz=272
PMR Palmer 37.90 44 P **P** **11 07 52.4 -0.7**
baz=279,SNR=197
PMR S **S** **11 13 09.9 -1.6**
baz=279
PMR Palmer 37.90 44 P **P** **11 07 52.8 -0.3**
H24K Noodor Dome 37.96 37 P **P** **11 07 54.2 +0.6**
H24K IAmb IAmb 11 07 55.4
comp=Z,1μm,0.8s
H24K Noodor Dome 37.96 37 P **P** **11 07 54.2 +0.6**
baz=274,SNR=920
H24K S **S** **11 13 13.4 +1.0**
baz=274
H24K S **S** **11 13 13.4 +1.0**
baz=274
GHO Glory Hole Cre 37.97 44 P **P** **11 07 53.5 -0.3**
GHO IAmb IAmb 11 07 55.1
comp=Z,1μm,0.8s
WAT1 Susitna Watana 37.99 42 P **P** **11 07 53.4 -0.5**
baz=278
WAT1 S **S** **11 13 11.2 -1.7**
baz=278
WRH Wood River Hil 37.99 40 IAmb IAmb 11 07 55.7
comp=Z,819nm,0.7s
SEW Seward 37.99 47 P **P** **11 07 53.7 -0.2**
baz=281,SNR=166
SEW S **S** **11 13 11.7 -1.2**
baz=281
COLA College 38.05 39 P **P** **11 07 54.7 +0.4**
COLA College 38.05 39 P **P** **11 07 54.8 +0.4**
baz=276
COLA S **S** **11 13 13.1 -0.5**
baz=276
COLA College 38.05 39 P **P** **11 07 54.6 +0.2**
COLA College 38.05 39 ⇑P **P** **11 07 54.5 +0.2**
COLA College 38.05 39 *i* P **P** **11 07 54.3 0.0**
COLA College 38.05 39 ⇑P **P** **11 07 54.5 +0.2**
COLA pP **pP** **11 09 16.4 +1.2**
COLA sP **sP** **11 10 06.5 +0.9**
COLA ScP **ScP** **11 13 05.0 +1.6**
G24K Hadweenzic Riv 38.06 36 IAmb IAmb 11 07 56.0
comp=Z,2μm,1.1s
G24K Hadweenzic Riv 38.06 36 P **P** **11 07 54.9 +0.5**
baz=274
G24K S **S** **11 13 14.0 +0.2**
baz=274
CCB Clear Creek Bu 38.10 39 P **P** **11 07 54.5 -0.2**
POKR Poker Plat Res 38.20 39 P **P** **11 07 56.1 +0.4**
POKR IAmb IAmb 11 07 58.0
comp=Z,680nm,0.8s
POKR Poker Plat Res 38.20 39 P **P** **11 07 56.0 +0.4**
baz=276,SNR=226
POKR S **S** **11 13 16.1 0.0**
baz=276
POKR S **S** **11 13 16.1 0.0**
baz=276
SML Sawmill 38.24 44 P **P** **11 07 56.2 +0.2**
baz=279,SNR=601
SML S **S** **11 13 15.8 -1.0**
baz=279
KNK Knik Glacier 38.24 45 IAmb IAmb 11 07 57.4
comp=Z,2μm,1.0s
KNK Knik Glacier 38.24 45 P **P** **11 07 56.2 +0.2**
baz=280,SNR=526
KNK S **S** **11 13 15.6 -1.1**
baz=280
D25K Kavik River 38.35 32 P **P** **11 07 56.5 -0.3**
baz=271,SNR=1000
D25K S **S** **11 13 15.6 -2.6**
baz=271
WAT6 Susitna Watana 38.39 43 P **P** **11 07 57.0 -0.4**
baz=279,SNR=200
WAT6 S **S** **11 13 17.6 -1.6**
baz=279
PWL Port Wells 38.40 46 P **P** **11 07 56.9 -0.3**
baz=280,SNR=154
PWL S **S** **11 13 17.9 -1.1**
baz=280
ZALV Zalesovo Beam 38.44 303 P **P** **11 07 57.4 -0.3**
ZALV Zalesovo Beam 38.44 303 P **P** **11 07 57.3 -0.5**
comp=Z,127nm,0.5s,baz=63,slow=7.4,SNR=197
ZALV PcP **PcP** **11 10 00.3 +0.4**
comp=Z,440nm,0.9s,baz=77,slow=2.5,SNR=26
ZALV ScP **ScP** **11 13 04.8 -0.3**
comp=Z,128nm,1.0s,baz=69,slow=4.9,SNR=9.8
ZALV PKiKP **PKiKP** **11 17 11.2 -1.3**
comp=Z,18nm,0.9s,baz=116,slow=0.8,SNR=8.7
ZALV P3KPbc 11 37 55.1
comp=Z,1.1nm,0.5s,baz=270,slow=3.7,SNR=5.5
ZALV P3KP 11 39 23.8
comp=Z,0.4nm,0.3s,baz=242,slow=3.1,SNR=1.3
comp=Z,127nm,0.5s
ZALV Zalesovo Beam 38.44 303 *i* P **P** **11 07 57.2 -0.5**
ZALV pmax pmax
comp=Z,125nm,0.5s
IL31 38.48 39 P **P** **11 07 57.1 -0.7**
IL31 IAmb IAmb 11 07 59.1
comp=Z,1μm,0.8s
ILAR Eielson Array 38.48 39 P **P** **11 07 57.5 -0.4**
ILAR Eielson Array 38.48 39 P **P** **11 07 57.2 -0.6**
comp=Z,900nm,0.8s,baz=269,slow=6.9,SNR=615
ILAR PcP **PcP** **11 09 58.9 -1.0**
comp=Z,63nm,0.7s,baz=284,slow=3.8,SNR=7.6
ILAR ScP **ScP** **11 13 04.8 -0.3**
comp=Z,22nm,0.8s,baz=278,slow=3.0,SNR=6.1
ILAR S **S** **11 13 18.7 -1.3**
comp=Z,32nm,0.9s,baz=264,slow=12,SNR=9.9
ILAR PKiKP **PKiKP** **11 17 10.5 -1.7**
comp=Z,3.0nm,0.8s,baz=303,slow=3.3,SNR=3.1
ILAR P3KPbc 11 37 55.5
comp=Z,0.6nm,0.9s,baz=96,slow=4.3,SNR=6.2
comp=Z,900nm,0.8s
DHY Denali Highway 38.48 42 IAmb IAmb 11 07 59.0
comp=Z,1μm,0.8s
DHY Denali Highway 38.48 42 P **P** **11 07 57.8 -0.3**
baz=278,SNR=540
DHY S **S** **11 13 19.6 -0.9**
baz=278
HDA Harding Lake 38.49 40 P **P** **11 07 57.3 -0.7**
baz=277,SNR=326
HDA S **S** **11 13 18.0 -2.3**
baz=277
M23K Glacier View 38.52 44 P **P** **11 07 58.2 -0.1**
baz=280,SNR=184
M23K S **S** **11 13 19.9 -0.9**
baz=280
G25K Bearman Lake 38.60 36 P **P** **11 07 59.4 +0.6**
baz=275,SNR=185
G25K S **S** **11 13 22.9 +1.2**
baz=275
E25K Arctic Village 38.70 34 P **P** **11 08 00.3 +0.7**
E25K IAmb IAmb 11 08 01.1
comp=Z,667nm,0.8s
E25K Arctic Village 38.70 34 P **P** **11 08 00.1 +0.4**
baz=274,SNR=559
E25K S **S** **11 13 24.0 +0.6**
baz=274
SCM Sheep Creek Mo 38.70 44 IAmb IAmb 11 08 02.5
comp=Z,674nm,0.8s
SCM Sheep Creek Mo 38.70 44 P **P** **11 08 00.1 +0.3**
baz=280,SNR=195
SCM S **S** **11 13 23.0 -0.6**
baz=280
F25K Christian Rive 38.71 35 IAmb IAmb 11 08 02.1
comp=Z,745nm,0.8s
F25K Christian Rive 38.71 35 P **P** **11 08 00.2 +0.5**
baz=274,SNR=713
F25K S **S** **11 13 24.0 +0.5**
baz=274
H25L Birch Creek 38.76 37 P **P** **11 08 01.0 +0.9**
baz=276
H25L S **S** **11 13 25.9 +1.8**
baz=276
C26K Camden Bay 38.85 31 P **P** **11 08 01.2 +0.4**
baz=272,SNR=463
C26K S **S** **11 13 24.1 -1.2**
baz=272
PRP Porcupine Dome 38.96 38 P **P** **11 08 01.9 0.0**
baz=277,SNR=1000
PRP S **S** **11 13 27.3 -0.1**
baz=277
GLI Glacier Island 38.99 45 IAmb IAmb 11 08 03.1

comp=Z,590nm,0.8s
GLI Glacier Island 38.99 45 P P 11 08 02.0 -0.1
baz=281,SNR=56
GLI S **S 11 13 26.4 -1.3**
baz=281
P23K Montague Islan 39.02 47 P P 11 08 02.8 +0.4
baz=282,SNR=77
P23K S **S 11 13 28.7 +0.5**
baz=282
P23K S **S 11 13 28.7 +0.5**
baz=282
K24K Donnelly Dome 39.08 41 P P 11 08 02.4 -0.5
baz=279
K24K S **S 11 13 27.1 -2.0**
baz=279
K24K S **S 11 13 27.1 -2.0**
baz=279
BMAR Burnt Mountain 39.13 35 P P 11 08 03.7 +0.5
J25K Salcha River, 39.14 39 P P 11 08 01.8 -1.6
J25K Salcha River, 39.14 39 P P 11 08 02.0 -1.4
baz=278,SNR=169
J25K S **S 11 13 27.4 -2.6**
baz=278
J25K S **S 11 13 27.4 -2.6**
baz=278
M24K Tolsona, Glenn 39.19 43 IAmb IAmb 11 08 05.8
comp=Z,1μm,1.1s
M24K Tolsona, Glenn 39.19 43 P P 11 08 04.7 +0.9
baz=281,SNR=122
M24K S **S 11 13 30.9 +0.1**
baz=281
F26K Sheenjek River 39.27 34 P P 11 08 05.2 +0.8
baz=276
F26K S **S 11 13 33.1 +1.4**
baz=276
C27K Jago River 39.28 31 P P 11 08 04.6 +0.3
baz=274,SNR=1000
C27K S **S 11 13 29.9 -1.9**
baz=274
FID Port Fidalgo 39.31 45 IAmb IAmb 11 08 05.9
comp=Z,2μm,1.5s
PAX Paxson 39.36 42 P P 11 08 04.6 -0.6
baz=280,SNR=101
PAX S **S 11 13 31.4 -1.9**
baz=280
HIN Hinchinbrook I 39.38 46 IAmb IAmb 11 08 06.8
comp=Z,2μm,1.4s
KLU Klutina 39.43 44 IAmb IAmb 11 08 07.3
comp=Z,1μm,0.9s
KLU Klutina 39.43 44 P P 11 08 06.3 +0.5
baz=282,SNR=430
KLU S **S 11 13 34.7 +0.4**
baz=282
G26K Porcupine Rive 39.49 35 P P 11 08 06.9 +0.9
baz=277
G26K S **S 11 13 36.1 +1.3**
baz=277
RIDG Independent Ri 39.50 41 IAmb IAmb 11 08 07.3
comp=Z,775nm,0.8s
RIDG Independent Ri 39.50 41 P P 11 08 05.6 -0.7
baz=280,SNR=55
RIDG S **S 11 13 33.6 -1.7**
baz=280
GOMU GeErMu 39.59 273 P P 11 08 08.5 +0.7
GOMU pmax pmax
comp=Z,2μm,1.0s
HARP HAARP 39.60 43 P P 11 08 07.9 +0.8
baz=281,SNR=356
HARP S **S 11 13 37.1 +0.3**
baz=281
Q23K Middleton Isla 39.67 47 IAmb IAmb 11 08 09.7
comp=Z,2μm,1.2s
Q23K Middleton Isla 39.67 47 P P 11 08 08.4 +0.8
baz=284,SNR=9.9
MID Middleton Isla 39.67 47 IAmb IAmb 11 08 09.7
comp=Z,2μm,1.2s
MID Middleton Isla 39.67 47 P P 11 08 08.1 +0.5
EYAK Cordova Ski Ar 39.71 46 P P 11 08 08.7 +0.9
baz=283,SNR=161
EYAK S **S 11 13 39.0 +0.8**
baz=283
EYAK Cordova Ski Ar 39.71 46 P P 11 08 08.3 +0.4
SCRK Sand Creek 39.84 40 P P 11 08 08.4 -0.7
SCRK IAmb IAmb 11 08 09.4
comp=Z,1μm,0.8s
SCRK Sand Creek 39.84 40 P P 11 08 08.4 -0.7
baz=280,SNR=1000
SCRK S **S 11 13 37.7 -2.6**
baz=280
J26L Joseph Creek 39.93 39 P P 11 08 08.2 -1.6
J26L Joseph Creek 39.93 39 P P 11 08 08.3 -1.6
baz=280,SNR=366
J26L S **S 11 13 39.1 -2.5**
baz=280
J26L S **S 11 13 39.1 -2.5**
baz=280
I26K Coal Creek Min 39.97 38 P P 11 08 08.9 -1.1
baz=279
I26K S **S 11 13 40.8 -1.1**
baz=279
I26K S **S 11 13 40.8 -1.1**
baz=279
N25K Chitina, Valde 40.02 44 P P 11 08 11.3 +0.7
N25K Chitina, Valde 40.02 44 P P 11 08 11.3 +0.7
baz=282,SNR=119
N25K S **S 11 13 44.4 +1.3**
baz=282
MENT Mentasta 40.15 42 P P 11 08 11.8 +0.3
BMRM Bremner River 40.16 45 P P 11 08 12.3 +0.7
baz=283,SNR=157
BMRM S **S 11 13 44.5 -0.5**
baz=283
E27K Coleen River 40.17 33 P P 11 08 11.8 +0.1
baz=277
E27K S **S 11 13 44.7 -0.3**
baz=277
RAGM Ragged Mountai 40.26 46 P P 11 08 12.8 +0.4
RAGM IAmb IAmb 11 08 15.5
comp=Z,1μm,1.1s
D27M Malcolm River 40.28 32 IAmb IAmb 11 08 13.6
comp=Z,574nm,0.8s
D27M Malcolm River 40.28 32 P P 11 08 12.5 0.0
baz=276
D27M S **S 11 13 44.5 -2.0**
baz=276
L26K Log Cabin Wild 40.30 41 P P 11 08 12.9 +0.3
baz=282,SNR=437
L26K S **S 11 13 46.4 -0.6**
baz=282
L26K S **S 11 13 46.4 -0.6**
baz=282
G27K Doyon Strip 40.34 35 IAmb IAmb 11 08 16.2
comp=Z,575nm,0.8s
G27K Doyon Strip 40.34 35 P P 11 08 13.6 +0.6
baz=279,SNR=886
G27K S **S 11 13 48.7 +1.3**
baz=279
GLB Gilahina Butte 40.43 44 IAmb IAmb 11 08 15.9
comp=Z,2μm,1.9s
HMT Hamilton 40.48 46 P P 11 08 15.0 +0.9
HMT IAmb IAmb 11 08 16.3
comp=Z,742nm,1.0s
H27K Steamboat Moun 40.48 36 P P 11 08 15.0 +0.9
baz=280,SNR=878
H27K S **S 11 13 51.3 +1.7**
baz=280
WMQ Urumqi 40.48 287 ⇓P **P 11 08 16.0 +1.5**
WMQ pP pP 11 09 38.6 +1.8
WMQ ScP **ScP 11 13 13.7 +0.3**
WMQ S **S 11 13 52.1 +1.9**
WMQ ScS **ScS 11 17 29.0 -0.4**
WMQ pmax pmax
comp=Z,740nm,0.7s
WMQ pmax pmax
comp=Z,4μm,3.9s
WMQ Urumqi 40.48 287 ⇓P **P 11 08 15.8 +1.3**
WMQ ScP **ScP 11 13 13.8 +0.4**
KAIM Kayak Island 40.50 46 P P 11 08 15.0 +0.7
KAIM IAmb IAmb 11 08 16.7
comp=Z,966nm,0.8s
KAIM Kayak Island 40.50 46 P P 11 08 15.7 +1.4
baz=284,SNR=39
I27K Kandik River 40.55 37 P P 11 08 14.7 0.0
baz=280,SNR=506
I27K S **S 11 13 51.9 +1.2**
baz=280
I27K S **S 11 13 51.9 +1.2**
baz=280
M26K Nabesna, AK 40.59 42 IAmb IAmb 11 08 17.4
comp=Z,1μm,0.9s
M26K Nabesna, AK 40.59 42 P P 11 08 16.2 +1.1
baz=283,SNR=808
M26K S **S 11 13 53.4 +2.2**
baz=283
M26K S **S 11 13 53.4 +2.2**
baz=283
VRDI Verde Repeater 40.65 44 P P 11 08 16.3 +0.6
VRDI IAmb IAmb 11 08 17.6
comp=Z,616nm,0.9s
K27K Chicken 40.66 40 P P 11 08 16.0 +0.5
baz=282
K27K S **S 11 13 51.8 -0.2**
baz=282
K27K S **S 11 13 51.8 -0.2**
baz=282
BERG Berg Lake 40.73 45 P P 11 08 17.2 +1.0
BERG IAmb IAmb 11 08 18.5
comp=Z,2μm,1.0s
SUCK Suckling Hills 40.77 46 P P 11 08 18.1 +1.5
SUCK IAmb IAmb 11 08 19.3
comp=Z,3μm,1.6s
MCARA McCarthy VSAT 40.81 44 IAmb IAmb 11 08 19.1
comp=Z,1μm,0.9s
MCARA McCarthy VSAT 40.81 44 P P 11 08 18.0 +1.2
baz=284,SNR=262
MCARA S **S 11 13 56.7 +2.3**
baz=284
E28M Babbage River 40.88 33 IAmb IAmb 11 08 18.4
comp=Z,771nm,0.8s
E28M Babbage River 40.88 33 P P 11 08 17.5 +0.3
baz=278
E28M S **S 11 13 54.4 -0.7**
baz=278
EGAK Eagle 40.90 39 P P 11 08 16.9 -0.5
baz=281,SNR=1000
EGAK S **S 11 13 55.3 -0.3**
baz=281
EGAK Eagle 40.90 39 ⇑P **P 11 08 16.9 -0.5**
F28M Old Crow 40.90 34 IAmb IAmb 11 08 19.1
comp=Z,803nm,0.9s
F28M Old Crow 40.90 34 P P 11 08 18.0 +0.5
baz=279,SNR=652
F28M S **S 11 13 56.5 +0.9**
baz=279
CRQM Cirque 40.91 45 IAmb IAmb 11 08 20.0
comp=Z,2μm,1.0s
CRQE Cirque 40.93 45 P P 11 08 18.9 +1.0
baz=284,SNR=273
CRQE S **S 11 13 57.9 +1.4**
baz=284
PZH PanZhiHua 40.96 255 P P 11 08 18.9 +0.3
PZH pP **pP 11 09 41.4 +0.2**
PZH PP **PP 11 10 03.5 -1.4**
PZH ScP **ScP 11 13 15.6 0.0**
PZH S **S 11 13 56.7 -1.0**
PZH ScS **ScS 11 17 32.0 -0.9**
PZH pmax pmax
comp=Z,710nm,0.6s
PZH pmax pmax
comp=Z,3μm,5.0s
L27K Beaver Creek, 40.97 41 IAmb IAmb 11 08 20.2
comp=Z,1μm,0.9s
L27K Beaver Creek, 40.97 41 P P 11 08 19.1 +1.0
baz=283,SNR=874
L27K S **S 11 13 58.1 +1.4**
baz=283
BCAR Beaver Creek A 40.99 41 P P 11 08 18.8 +0.6
BGLC Bering Glacier 41.00 46 P P 11 08 20.2 +1.9
baz=285,SNR=6.8
BGLC S **S 11 14 00.9 +3.8**
baz=285
D28M Stokes Point 41.05 31 P P 11 08 18.6 0.0
baz=278,SNR=185
D28M S **S 11 13 56.5 -1.2**
baz=278
TGL Tana Glacier 41.06 45 P P 11 08 19.7 +0.8
TGL IAmb IAmb 11 08 21.0
comp=Z,1μm,1.0s
M27K Edge Creek, AK 41.11 42 IAmb IAmb 11 08 21.5
comp=Z,1μm,0.8s
M27K Edge Creek, AK 41.11 42 P P 11 08 20.4 +1.1
baz=284,SNR=539
M27K S **S 11 14 01.9 +2.9**
baz=284
M27K S **S 11 14 01.9 +2.9**
baz=284
WAX Waxell Ridge 41.12 45 IAmb IAmb 11 08 21.7
comp=Z,1μm,1.0s
I28M Miner Creek 41.27 37 P P 11 08 21.1 +0.5
I28M Miner Creek 41.27 37 P P 11 08 21.2 +0.7
baz=282,SNR=1000
I28M S **S 11 14 01.3 +0.1**
baz=282
KMI Kunming 41.27 253 ⇓P **P 11 08 21.8 +0.6**
KMI pP pP 11 09 46.1 +2.1
KMI PP **PP 11 10 07.7 -0.6**
KMI ScP **ScP 11 13 17.7 +0.7**
KMI S **S 11 14 01.8 -0.6**
KMI sS sS 11 16 31.7 +0.2
KMI pmax pmax
comp=Z,830nm,0.9s
KMI pmax pmax
comp=Z,4μm,6.9s
KMI Kunming 41.27 253 ⇓P **P 11 08 21.8 +0.6**
KMI pP **pP 11 09 45.6 +1.6**
KMI PcP **PP 11 10 08.8 +0.5**
KMI ScP **ScP 11 13 17.9 +0.9**
ISLE Juniper Island 41.33 45 P P 11 08 21.9 +0.8
ISLE IAmb IAmb 11 08 22.8
comp=Z,825nm,0.8s
QIZ Qiongzhong 41.45 239 P P 11 08 24.2 +1.8
QIZ PP **PP 11 10 07.0 -3.0**
QIZ ScP **ScP 11 13 18.1 +0.6**
QIZ S **S 11 14 06.5 +1.9**
QIZ sS **sS 11 16 34.2 +0.4**
QIZ pmax pmax
comp=Z,340nm,0.9s
QIZ pmax pmax
comp=Z,3μm,8.9s
QIZ Qiongzhong 41.45 239 P P 11 08 24.2 +1.8
QIZ Qiongzhong 41.45 239 P P 11 08 23.9 +1.5
QIZ PcP **PcP 11 10 11.3 +1.0**
QIZ ScP **ScP 11 13 19.1 +1.6**
E29M Blow River 41.51 33 IAmb IAmb 11 08 23.8
comp=Z,814nm,0.7s
E29M Blow River 41.51 33 P P 11 08 22.6 +0.4
baz=280,SNR=867
E29M S **S 11 14 04.0 -0.3**
baz=280
BVCY Beaver Creek 41.55 42 P P 11 08 23.7 +0.9
baz=284,SNR=244
BVCY S **S 11 14 05.2 0.0**
baz=284
GRNC Granite Creek 41.57 45 IAmb IAmb 11 08 25.1
comp=Z,1μm,0.8s
MESA MESA 41.63 45 P P 11 08 24.7 +1.2
MESA IAmb IAmb 11 08 25.8
comp=Z,1μm,0.9s
MESA MESA 41.63 45 P P 11 08 24.8 +1.2
baz=286,SNR=104
MESA S **S 11 14 07.9 +1.2**
baz=286
YAH Yahtse 41.68 45 IAmb IAmb 11 08 26.1
comp=Z,999nm,0.8s
CTG Chitna Glacier 41.71 44 P P 11 08 25.1 +1.0
baz=286,SNR=323
CTG S **S 11 14 08.7 +1.1**
baz=286
CTGM Chitina Glacie 41.71 44 IAmb IAmb 11 08 26.1
comp=Z,1μm,0.8s
G29M Pine Creek 41.74 35 IAmb IAmb 11 08 26.1
comp=Z,1μm,1.2s
G29M Pine Creek 41.74 35 P P 11 08 25.0 +0.9
baz=282
G29M S **S 11 14 09.3 +1.6**
baz=282
H29M Whitestone 41.74 36 P P 11 08 24.8 +0.6
H29M IAmb IAmb 11 08 25.8
comp=Z,794nm,0.8s
H29M Whitestone 41.74 36 P P 11 08 24.8 +0.6
baz=282,SNR=539
H29M S **S 11 14 09.2 +1.3**
baz=282
DAWY Dawson 41.80 39 P P 11 08 24.5 -0.3
DAWY Dawson 41.80 39 P P 11 08 24.6 -0.1
baz=284,SNR=150
DAWY S **S 11 14 08.0 -0.8**
baz=284
YUK3 Moose Creek 41.90 43 P P 11 08 26.2 +0.4
baz=285,SNR=151
YUK3 S **S 11 14 10.9 +0.3**
baz=285
TABL Table Mountain 41.94 45 IAmb IAmb 11 08 27.8
comp=Z,663nm,0.9s
I29M Ogilvie Camp, 41.95 37 IAmb IAmb 11 08 27.3
comp=Z,1μm,0.9s
I29M Ogilvie Camp, 41.95 37 P P 11 08 26.2 +0.3
baz=283,SNR=833
I29M S **S 11 14 11.1 +0.1**
baz=283
PATS Pohnpei 41.98 163 P P 11 08 27.6 +1.0
PATS Pohnpei 41.98 163 P P 11 08 27.4 +0.8
comp=Z,440nm,1.1s
PATS Pohnpei 41.98 163 P P 11 08 27.6 +1.0
J29N Klondike Camp 42.21 39 P P 11 08 28.1 +0.2
baz=284,SNR=131
J29N S **S 11 14 13.7 -1.0**
baz=284
O28M Mount Upton 42.30 44 P P 11 08 29.6 +0.6
baz=287,SNR=142
O28M S **S 11 14 16.7 +0.2**
baz=287
YUK8 Steele Glacier 42.35 43 P P 11 08 29.8 +0.4
baz=286,SNR=59
YUK8 S **S 11 14 17.1 -0.1**
baz=286
EPYK Eagle Plains 42.36 36 P P 11 08 29.3 +0.2
EPYK Eagle Plains 42.36 36 P P 11 08 29.5 +0.4
baz=283,SNR=617
EPYK S **S 11 14 16.7 -0.1**
baz=283
G30M tAoh Zraii Nji 42.41 35 P P 11 08 29.6 +0.1
baz=283,SNR=694
G30M S **S 11 14 17.1 -0.4**
baz=283
F30M Barrier River 42.44 34 P P 11 08 30.6 +0.9
baz=283,SNR=1000
F30M S **S 11 14 17.7 -0.1**
baz=283
PINM Pinnacle 42.47 45 P P 11 08 30.6 +0.5
baz=287,SNR=48
MK31 Makanchi Array 42.58 294 IAmb IAmb 11 08 32.6
comp=Z,685nm,0.7s
MK31 Makanchi Array 42.58 294 *d iP* **P 11 08 31.5 +0.4**
MK31 pmax pmax
comp=Z,753nm,0.6s
MKAR Makanchi Array 42.58 294 P **P 11 08 31.4 +0.3**
MKAR Makanchi Array 42.58 294 P **P 11 08 31.5 +0.4**
comp=Z,608nm,0.6s,baz=68,slow=7.4,SNR=1127
MKAR PcP **PcP 11 10 14.1 +0.4**
comp=Z,65nm,0.6s,baz=56,slow=5.7,SNR=3.8
MKAR ScP **ScP 11 13 21.4 -0.3**
comp=Z,76nm,1.0s,baz=64,slow=5.5,SNR=6.4
MKAR S **S 11 14 20.7 +0.3**
comp=Z,23nm,1.0s,baz=55,slow=18,SNR=2.4
MKAR PKiKP **PKiKP 11 17 13.8 -2.6**
comp=Z,6.6nm,1.0s,baz=64,slow=3.4,SNR=1.6
MKAR ScS **ScS 11 17 42.1 0.0**
comp=Z,9.7nm,0.9s,baz=69,slow=8.5,SNR=3.9
MKAR P3KPbc 11 37 37.8
comp=Z,2.4nm,0.8s,baz=248,slow=6.1,SNR=5.2
MKAR P3KP 11 39 15.7
comp=Z,0.8nm,0.8s,baz=277,slow=3.6,SNR=2.9
comp=Z,608nm,0.6s
L29M L29M 42.59 40 P P 11 08 32.3 +1.4
L29M L29M 42.59 40 P P 11 08 32.4 +1.4
baz=286,SNR=1000
L29M S **S 11 14 22.1 +1.9**
baz=286
M29M Somme Creek 42.62 42 P P 11 08 32.3 +1.0
M29M Somme Creek 42.62 42 P P 11 08 32.5 +1.1
baz=286,SNR=174
K29M Barlow Dome 42.66 39 P P 11 08 32.1 +0.5
K29M Barlow Dome 42.66 39 P P 11 08 32.1 +0.5
baz=285,SNR=361
K29M S **S 11 14 20.9 -0.4**
baz=285
MAKZ Makanchi 42.76 294 P P 11 08 33.1 +0.5
MAKZ IAmb IAmb 11 08 34.1
comp=Z,528nm,0.7s
MAKZ Makanchi 42.76 294 ⇓P **P 11 08 33.0 +0.4**
MAKZ Makanchi 42.76 294 P P 11 08 33.1 +0.5
MAKZ pmax pmax
comp=Z,528nm,0.7s
MAKZ Makanchi 42.76 294 ⇓P **P 11 08 33.1 +0.5**
MAKZ pP **pP 11 09 58.6 +2.6**
I30M Mount Dempster 42.78 37 P P 11 08 32.9 +0.4
baz=285,SNR=1000
I30M S **S 11 14 23.1 +0.1**
baz=285
YUK4 Talbot Arm 42.85 43 P P 11 08 34.0 +0.7
baz=287,SNR=97
J30M Hart River 42.96 38 P P 11 08 34.5 +0.5
baz=286,SNR=386
J30M S **S 11 14 25.8 +0.1**
baz=286
PNL Peninsula 43.01 46 P P 11 08 34.8 +0.4
baz=288,SNR=12
PNL Peninsula 43.01 46 P P 11 08 34.7 +0.4
YUK6 Outpost Mounta 43.10 44 P P 11 08 36.3 +1.0
baz=288,SNR=63
INK Inuvik 43.11 32 IAmb IAmb 11 08 35.8
comp=Z,863nm,0.8s
INK Inuvik 43.11 32 P P 11 08 34.9 +0.1
baz=284,SNR=858
INK S **S 11 14 25.7 -1.7**
baz=284
INK Inuvik 43.11 32 ⇑P **P 11 08 34.8 -0.1**
INK Inuvik 43.11 32 P P 11 08 35.0 +0.1
KURK Kurchatov 43.13 300 P P 11 08 35.5 +0.2
KURK IAmb IAmb 11 08 36.6
comp=Z,1μm,1.1s
KURK Kurchatov 43.13 300 P P 11 08 35.7 +0.4
KURK P **P 11 08 35.7 +0.4**
KURK S **S 11 14 25.7 -2.5**
KURK S **S 11 14 25.7 -2.5**
KURK Kurchatov 43.13 300 *e*P **P 11 08 35.3 -0.1**
KURK Kurchatov 43.13 300 ⇓P **P 11 08 35.5 +0.2**
KURK Kurchatov 43.13 300 *i* P **P 11 08 35.3 -0.1**
KURK pmax pmax
comp=Z,1μm,1.1s
KURK Kurchatov 43.13 300 ⇓P **P 11 08 35.5 +0.2**
KURK pP **pP 11 09 59.3 +0.3**
KURK PcP **PcP 11 10 15.7 +0.2**
KURK ScP **ScP 11 13 23.6 -0.2**
G31M Satah River 43.17 34 IAmb IAmb 11 08 36.3
comp=Z,1μm,0.6s
G31M Satah River 43.17 34 P P 11 08 35.3 -0.1
baz=285,SNR=735
G31M S **S 11 14 27.8 -0.5**
baz=285
O29M Mount Kennedy 43.20 45 P P 11 08 37.2 +1.3
baz=288,SNR=70
O29M S **S 11 14 30.4 +1.2**
baz=288
KURBB Kurchatov Arra 43.22 300 P P 11 08 36.1 +0.1
comp=Z,675nm,0.8s,baz=72,slow=8.8,SNR=835
KURBB PcP **PcP 11 10 15.9 +0.2**
comp=Z,286nm,0.7s,baz=70,slow=3.4,SNR=24
KURBB ScP **ScP 11 13 23.9 -0.3**
comp=Z,111nm,1.0s,baz=66,slow=3.2,SNR=12
KURBB S **S 11 14 22.0 -7.5**
comp=Z,8.8nm,0.7s,baz=67,slow=15,SNR=3.1
KURBB P3KPbc 11 37 34.5
comp=Z,3.8nm,0.8s,baz=244,slow=5.1,SNR=17
KURBB P3KP 11 39 15.2
comp=Z,0.5nm,0.2s,baz=263,slow=1.3,SNR=1.6
KURBB P4KPbc 11 46 25.8
comp=Z,1.0nm,0.2s,baz=66,slow=3.4,SNR=4.7
comp=Z,675nm,0.8s
F31M Tsiigehtchic 43.24 34 IAmb IAmb 11 08 36.9
comp=Z,1μm,0.8s
F31M Tsiigehtchic 43.24 34 P P 11 08 35.8 -0.1
baz=285,SNR=701
F31M S **S 11 14 28.2 -1.1**
baz=285
SLVN Son La 43.27 248 P P 11 08 37.6 +0.7
SLVN IAmb IAmb 11 08 39.2
comp=Z,664nm,0.9s
SLVN Son La 43.27 248 P P 11 08 37.8 +0.9

M30M	**Minto, Yukon**	**43.33**	**41**	P	**P**	**11 08 38.2 +1.4**
	baz=287					
M30M				S	**S**	**11 14 33.4 +2.6**
	baz=287					
MAYO	**Mayo, Yukon**	**43.42**	**39**	IAmb	IAmb	11 09 04.8
	comp=Z,728nm,0.9s					
MAYO	**Mayo, Yukon**	**43.42**	**39**	P	**P**	**11 08 38.3 +0.8**
	baz=287,SNR=81					
MAYO				S	**S**	**11 14 32.9 +0.8**
	baz=287					
H31M	**Peel River**	**43.44**	**36**	P	**P**	**11 08 38.0 +0.4**
	baz=286,SNR=1000					
H31M				S	**S**	**11 14 32.2 -0.2**
	baz=286					
N30M	**Aishikik Lake**	**43.53**	**43**	P	**P**	**11 08 39.5 +1.0**
	baz=288,SNR=52					
N30M				S	**S**	**11 14 32.7 -1.2**
	baz=288					
HYT	**Haines Junctio**	**43.54**	**44**	P	**P**	**11 08 40.4 +1.8**
	baz=288,SNR=798					
HYT				S	**S**	**11 14 35.7 +1.7**
	baz=288					
P29M	**Windy Craggy**	**43.82**	**45**	P	**P**	**11 08 42.6 +2.0**
	baz=290,SNR=512					
P29M				S	**S**	**11 14 40.0 +2.1**
	baz=290					
P30M	**Million Dollar**	**44.02**	**44**	P	**P**	**11 08 44.0 +1.7**
	baz=290,SNR=278					
P30M				S	**S**	**11 14 42.4 +1.6**
	baz=290					
TNCH	**TengChong**	**44.08**	**256**	⇓P	**P**	**11 08 43.9 +0.5**
TNCH				pP	pP	11 10 08.8 +1.3
TNCH				PP	**PP**	**11 10 36.0 +1.1**
TNCH				ScP	**ScP**	**11 13 29.4 +1.0**
TNCH				PcS	**PcS**	**11 14 11.2 -2.5**
TNCH				S	**S**	**11 14 43.1 +0.3**
TNCH				sS	sS	11 17 11.5 -2.1
TNCH				ScS	**ScS**	**11 17 54.1 +1.4**
TNCH				SS	**SS**	**11 18 09.8 -0.8**
TNCH				pmax	pmax	
	comp=Z,920nm,0.9s					
TNCH				pmax	pmax	
	comp=Z,3μm,2.7s					
N31M	**Braeburn, Yuko**	**44.12**	**42**	IAmb	IAmb	11 08 45.7
	comp=Z,882nm,0.8s					
N31M	**Braeburn, Yuko**	**44.12**	**42**	P	**P**	**11 08 44.6 +1.6**
	baz=289,SNR=241					
N31M				S	**S**	**11 14 44.1 +1.9**
	baz=289					
O30N	**Mendenhall**	**44.21**	**43**	P	**P**	**11 08 45.0 +1.2**
	baz=290,SNR=135					
O30N				S	**S**	**11 14 45.6 +2.0**
	baz=290					
LKP	**Lekhapani**	**44.30**	**261**	⇓*i*P	**P**	**11 08 46.4 +1.5**
LKP				*ex*	x	11 13 29.9
DAV	**Davao City (W)**	**44.39**	**211**	ScP	**ScP**	**11 13 30.5 +1.0**
	comp=Z,165nm,0.4s,baz=25,slow=3.4,SNR=1.7					
DAV				S	**S**	**11 14 48.6 +1.6**
	comp=Z,56nm,0.3s,baz=83,slow=16,SNR=1.1					
DAV	**Davao City (W)**	**44.39**	**211**	P	**P**	**11 08 46.1 +0.5**
DAV				S	**S**	**11 14 48.4 +1.4**
DAV	**Davao City (W)**	**44.39**	**211**	P	pP	11 10 13.0 +3.1
M31M	**Drury Creek, Y**	**44.51**	**41**	P	**P**	**11 08 47.0 +1.0**
	baz=289,SNR=211					
M31M				S	**S**	**11 14 48.7 +1.1**
	baz=289					
PLBC	**Pleasant Camp**	**44.53**	**45**	P	**P**	**11 08 47.7 +1.5**
	baz=291,SNR=129					
WHY	**Whitehorse**	**44.81**	**43**	P	**P**	**11 08 49.8 +1.3**
	baz=290,SNR=179					
WHY				S	**S**	**11 14 52.2 0.0**
	baz=290					
A36M	**Sachs Harbour**	**44.85**	**26**	IAmb	IAmb	11 08 49.6
	comp=Z,927nm,0.9s					
A36M	**Sachs Harbour**	**44.85**	**26**	P	**P**	**11 08 48.4 0.0**
	baz=287,SNR=668					
A36M				S	**S**	**11 14 51.6 -0.6**
	baz=287					
FARO	**Faro, Yukon**	**44.96**	**41**	P	**P**	**11 08 50.4 +0.9**
	baz=290,SNR=202					
FARO				S	**S**	**11 14 54.6 +0.6**
	baz=290					
SKAG	**Skagway**	**45.03**	**45**	P	**P**	**11 08 51.6 +1.6**
	baz=291,SNR=54					
SKAG	**Skagway**	**45.03**	**45**	P	**P**	**11 08 51.3 +1.3**
SKAG	**Skagway**	**45.03**	**45**	⇑P	**P**	**11 08 51.5 +1.6**
S31K	**Pelican**	**45.14**	**47**	P	**P**	**11 08 52.5 +1.6**
	baz=292,SNR=25					
S31K				S	**S**	**11 14 57.3 +0.7**
	baz=292					
S31K				S	**S**	**11 14 57.3 +0.7**
	baz=292					
R31K	**City Hall, Gus**	**45.22**	**46**	P	**P**	**11 08 53.0 +1.6**
	baz=292,SNR=25					
R31K				S	**S**	**11 14 57.8 +0.2**
	baz=292					
N32M	**Quiet Lake**	**45.46**	**42**	P	**P**	**11 08 54.0 +0.6**
	baz=291,SNR=57					
N32M				S	**S**	**11 15 01.1 0.0**
	baz=291					
ZIRO	**ZIRO**	**45.50**	**263**	⇓*i*P	**P**	**11 08 55.6 +1.3**
P32M	**Atlin**	**45.74**	**44**	P	**P**	**11 08 56.9 +1.3**
	baz=292,SNR=46					
JORH	**JORHAT**	**45.75**	**262**	*e*P	**P**	**11 08 57.1 +1.1**
TDK	**Taldyqorghan**	**45.81**	**293**	*e*P	**P**	**11 08 57.2 +0.9**
	comp=Z,819nm,0.7s					
TDK	**Taldyqorghan**	**45.81**	**293**	*e*P	**P**	**11 08 57.2 +0.9**
TDK				pmax	pmax	
	comp=Z,819nm,0.7s					
R32K	**Eaglecrest**	**45.87**	**46**	IAmb	IAmb	11 08 59.2
	comp=Z,546nm,0.8s					
R32K	**Eaglecrest**	**45.87**	**46**	P	**P**	**11 08 58.3 +1.8**
	baz=293,SNR=75					
LSA	**Lhasa**	**45.92**	**268**	IAmb	IAmb	11 09 00.9
	comp=Z,975nm,0.7s					
LSA	**Lhasa**	**45.92**	**268**	P	**P**	**11 08 60.0 +2.0**
LSA	**Lhasa**	**45.92**	**268**	P	P	11 08 46.7 -11
LSA				S	S	11 14 47.0 -22
LSA				pmax	pmax	
	comp=Z,1μm,0.6s					
LSA				LR	LR	
	comp=N,2μm,18.7s					
LSA				LR	LR	
	comp=Z,2μm,27.7s					
LSA	**Lhasa**	**45.92**	**268**	⇓P	**P**	**11 08 59.9 +2.0**
P33M	**Teslin, Yukon**	**45.93**	**43**	IAmb	IAmb	11 08 59.4
	comp=Z,1μm,1.1s					
P33M	**Teslin, Yukon**	**45.93**	**43**	P	**P**	**11 08 58.4 +1.3**
	baz=292,SNR=307					
P33M				S	**S**	**11 15 09.7 +1.8**
	baz=292					
JIS	**Juneau Island**	**45.93**	**46**	P	**P**	**11 08 58.5 +1.6**
SIT	**Sitka**	**45.95**	**48**	IAmb	IAmb	11 09 00.3
	comp=Z,779nm,0.9s					
SIT	**Sitka**	**45.95**	**48**	P	**P**	**11 08 59.2 +2.2**
	baz=294,SNR=41					
SIT	**Sitka**	**45.95**	**48**	P	**P**	**11 08 58.9 +1.8**
PDGK	**Podgornoye**	**45.96**	**291**	P	**P**	**11 08 57.5 -0.1**
SHLS	**Shalkode**	**46.06**	**290**	⇓*i*P	**P**	**11 08 57.0 -1.4**
SHLS				*e*S	**S**	**11 15 08.7 -1.6**
SHLS	**Shalkode**	**46.06**	**290**	*d*⇓P	**P**	**11 08 56.9 -1.4**
SHLS				*e*S	**S**	**11 15 08.6 -1.7**
C36M	**Paulatuk**	**46.08**	**30**	P	**P**	**11 08 57.5 -0.4**
	baz=291,SNR=823					
C36M				S	**S**	**11 15 07.3 -2.1**
	baz=291					
S32K	**Killisnoo**	**46.15**	**47**	P	**P**	**11 09 00.3 +1.6**
	baz=294,SNR=24					
UZB	**Uzynbulak**	**46.34**	**291**	⇓*i*P	**P**	**11 09 01.2 +0.6**
UZB	**Uzynbulak**	**46.34**	**291**	*d*⇓P	**P**	**11 09 01.1 +0.6**
KPKS	**Kokpek**	**46.40**	**291**	⇓*i*P	**P**	**11 09 01.8 +0.9**
	comp=Z,270nm,0.7s					
KPKS				*e*S	**S**	**11 15 17.2 +2.3**
KPKS	**Kokpek**	**46.40**	**291**	*d*⇓P	**P**	**11 09 01.8 +0.9**
KPKS				*e*S	**S**	**11 15 17.2 +2.3**
KPKS				pmax	pmax	
	comp=Z,270nm,0.7s					
KOHI	**KOHIMA**	**46.53**	**261**	⇓*i*P	**P**	**11 09 03.2 +1.0**
KOHI				*ex*	x	11 13 38.5
ARXS	**Arharly**	**46.56**	**292**	*e*P	**P**	**11 09 02.6 +0.5**
Q32M	**Nakina River**	**46.67**	**45**	P	**P**	**11 09 04.5 +1.6**
Q32M	**Nakina River**	**46.67**	**45**	P	**P**	**11 09 04.7 +1.7**
	baz=294,SNR=86					
ZHN	**Zhinishke**	**46.70**	**291**	*e*P	**P**	**11 09 04.1 +0.7**
ZHN	**Zhinishke**	**46.70**	**291**	*e*P	**P**	**11 09 04.0 +0.7**
SATY	**Saty**	**46.78**	**291**	⇓*i*P	**P**	**11 09 04.8 +0.9**
SATY				*e*S	**S**	**11 15 22.3 +2.0**
SATY	**Saty**	**46.78**	**291**	*d*⇓P	**P**	**11 09 04.7 +0.9**
SATY				*e*S	**S**	**11 15 22.3 +2.0**
BVA0	**Borovoye Array**	**46.80**	**306**	*i*P	**P**	**11 09 03.8 +0.1**
BVAR	**Borovoye Array**	**46.80**	**306**	P	**P**	**11 09 03.7 0.0**
	comp=Z,128nm,0.5s,baz=54,slow=8.0,SNR=268					
BVAR				PcP	**PcP**	**11 10 28.7 +0.4**
	comp=Z,139nm,0.4s,baz=78,slow=4.0,SNR=11					
BVAR				ScP	**ScP**	**11 13 38.8 -0.2**
	comp=Z,55nm,0.8s,baz=57,slow=5.5,SNR=3.3					
BVAR				S	**S**	**11 15 17.7 -2.4**
	comp=Z,64nm,0.9s,baz=89,slow=11,SNR=8.9					
BVAR				ScS	**ScS**	**11 18 06.0 -3.1**
	comp=Z,24nm,0.9s,baz=90,slow=1.5,SNR=7.2					
BVAR				P4KPbc		11 46 40.6
	comp=Z,5.9nm,0.7s,baz=67,slow=5.0,SNR=17					
	comp=Z,128nm,0.5s					
BRVK	**Borovoye**	**46.84**	**306**	P	**P**	**11 09 04.1 +0.1**
BRVK	**Borovoye**	**46.84**	**306**	P	**P**	**11 09 04.5 +0.5**
BRVK				P	**P**	**11 09 04.5 +0.5**
BRVK				S	**S**	**11 15 19.7 -0.9**
BRVK				S	**S**	**11 15 19.7 -0.9**
BRVK	**Borovoye**	**46.84**	**306**	*e*P	**P**	**11 09 04.0 0.0**
BRVK	**Borovoye**	**46.84**	**306**	⇓P	**P**	**11 09 04.1 0.0**
BRVK	**Borovoye**	**46.84**	**306**	*d*⇓P	**P**	**11 09 04.0 0.0**
BRVK				pmax	pmax	
	comp=Z,204nm,0.7s					
BRVK	**Borovoye**	**46.84**	**306**	P	**P**	**11 09 04.1 0.0**
BRVK				PcP	**PcP**	**11 10 28.6 +0.2**
BRVK				ScP	**ScP**	**11 13 39.1 -0.1**
PRZ	**Przheval'sk**	**47.08**	**290**	IAmb	IAmb	11 09 08.6
	comp=Z,496nm,0.7s					
R33M	**Jennings River**	**47.11**	**44**	P	**P**	**11 09 07.9 +1.7**
	baz=294,SNR=101					
R33M				S	**S**	**11 15 28.3 +3.7**
	baz=294					
WUS	**Wushi**	**47.23**	**288**	⇓P	**P**	**11 09 08.6 +1.3**
WUS				ScP	**ScP**	**11 13 41.2 0.0**
T33K	**Petersburg**	**47.23**	**48**	P	**P**	**11 09 08.9 +2.0**
	baz=295,SNR=20					
IMP	**Imphal**	**47.24**	**260**	⇓*i*P	**P**	**11 09 06.9 -0.6**
IMP				*ex*	x	11 13 41.5
IMP				*ex*	x	11 15 24.3
IMP				*i x*	x	11 18 12.1
CHKK	**Chushkaly**	**47.26**	**292**	*e*P	**P**	**11 09 07.8 +0.4**
CHKK	**Chushkaly**	**47.26**	**292**	*e*P	**P**	**11 09 07.8 +0.4**
JOHN	**Johnston Islan**	**47.30**	**116**	P	**P**	**11 09 08.3 +0.4**
U33K	**Whale Pass**	**47.45**	**49**	P	**P**	**11 09 09.8 +1.2**
U33K	**Whale Pass**	**47.45**	**49**	P	**P**	**11 09 10.7 +2.2**
	baz=296,SNR=22					
U33K				S	**S**	**11 15 32.1 +3.2**
	baz=296					
U33K				S	**S**	**11 15 32.1 +3.2**
	baz=296					
MDOK	**Medeo**	**47.58**	**292**	*e*P	**P**	**11 09 10.7 +0.8**
MDOK				*e*S	**S**	**11 15 33.9 +2.4**
MDOK	**Medeo**	**47.58**	**292**	*e*P	**P**	**11 09 10.7 +0.8**
MDOK				*e*S	**S**	**11 15 33.9 +2.4**
AAA	**Alma-Ata**	**47.64**	**292**	*e*P	**P**	**11 09 11.3 +1.0**
	comp=Z,554nm,0.5s					
AAA	**Alma-Ata**	**47.64**	**292**	*e*P	**P**	**11 09 11.4 +1.0**
AAA	**Alma-Ata**	**47.64**	**292**	*e*P	**P**	**11 09 11.3 +1.0**
AAA				pmax	pmax	
	comp=Z,554nm,0.5s					
S34M	**Telegraph Cree**	**47.66**	**46**	P	**P**	**11 09 11.9 +1.8**
	baz=295,SNR=114					
WRAK	**Wrangell Islan**	**47.70**	**48**	IAmb	IAmb	11 09 13.7
	comp=Z,1μm,1.5s					
WRAK	**Wrangell Islan**	**47.70**	**48**	P	**P**	**11 09 12.4 +1.9**
	baz=296,SNR=33					
WRAK				S	**S**	**11 15 33.3 +0.8**
	baz=296					
WRAK	**Wrangell Islan**	**47.70**	**48**	⇑P	**P**	**11 09 12.3 +1.9**
TNSS	**Tian-Shan**	**47.71**	**292**	*e*P	**P**	**11 09 11.7 +0.4**
TNSS	**Tian-Shan**	**47.71**	**292**	*e*P	**P**	**11 09 11.6 +0.4**
CRAG	**Craig**	**47.73**	**49**	P	**P**	**11 09 12.8 +2.2**
	baz=296,SNR=15					
CRAG	**Craig**	**47.73**	**49**	P	**P**	**11 09 12.4 +1.8**
CRAG	**Craig**	**47.73**	**49**	⇑P	**P**	**11 09 12.5 +1.9**
WTLY	**Watson Lake, Y**	**47.81**	**42**	P	**P**	**11 09 12.4 +1.1**
	baz=295,SNR=153					
WTLY				S	**S**	**11 15 35.3 +1.3**
	baz=295					
DLBC	**Dease Lake**	**47.96**	**45**	P	**P**	**11 09 14.4 +2.0**
	baz=296,SNR=122					
DLBC				S	**S**	**11 15 35.9 -0.2**
	baz=296					
SHL	**Shillong**	**48.12**	**263**	IAmb	IAmb	11 09 15.5
	comp=Z,1μm,0.8s					
SHL	**Shillong**	**48.12**	**263**	P	**P**	**11 09 14.7 +0.4**
	SNR=294					
SHL	**Shillong**	**48.12**	**263**	⇓*i*P	**P**	**11 09 14.6 +0.4**
SHL				*i x*	x	11 13 44.0
SHL				*ex*	x	11 15 38.4
SHL	**Shillong**	**48.12**	**263**	⇓P	**P**	**11 09 14.6 +0.3**
CHTO	**Chiang Mai**	**48.25**	**250**	P	**P**	**11 09 16.2 +1.1**
CHTO				IAmb	IAmb	11 09 16.7
	comp=Z,564nm,0.6s					
CHTO	**Chiang Mai**	**48.25**	**250**	P	**P**	**11 09 16.2 +1.1**
CHTO				pmax	pmax	
	comp=Z,564nm,0.6s					
BTLS	**Baital**	**48.47**	**295**	⇓*i*P	**P**	**11 09 16.9 +0.4**
BTLS	**Baital**	**48.47**	**295**	*d*⇓P	**P**	**11 09 16.8 +0.4**
T35M	**Bob Quinn**	**48.49**	**47**	IAmb	IAmb	11 09 20.1
	comp=Z,751nm,1.0s					
T35M	**Bob Quinn**	**48.49**	**47**	P	**P**	**11 09 19.0 +2.6**
	baz=297,SNR=174					
CMAR	**Chiang Mai Arr**	**48.51**	**250**	P	**P**	**11 09 18.4 +1.3**
CMAR	**Chiang Mai Arr**	**48.51**	**250**	P	**P**	**11 09 18.2 +1.1**
	comp=Z,205nm,0.8s,baz=32,slow=6.9,SNR=278					
CMAR				PcP	**PcP**	**11 10 36.3 +1.2**
	comp=Z,38nm,0.8s,baz=2.5,slow=2.8,SNR=5.7					
CMAR				ScP	**ScP**	**11 13 47.9 +1.1**
	comp=Z,107nm,0.9s,baz=11,slow=3.6,SNR=34					
CMAR				S	**S**	**11 15 45.8 +1.0**
	comp=Z,20nm,1.2s,baz=31,slow=15,SNR=5.3					
CMAR				PKiKP	**PKiKP**	**11 17 23.2 +0.3**
	comp=Z,2.0nm,0.8s,baz=342,slow=1.1,SNR=3.0					
CMAR				PKPPKP	**P'P'df**	**11 40 10.1 -2.0**
	comp=Z,4.5nm,1.0s,baz=256,slow=4.0,SNR=6.5					
	comp=Z,205nm,0.8s					
V35K	**Ketchikan**	**48.56**	**49**	P	**P**	**11 09 18.5 +1.6**
	baz=297,SNR=30					
V35K				S	**S**	**11 15 47.5 +3.2**
	baz=297					
V35K				S	**S**	**11 15 47.5 +3.2**
	baz=297					
ULHL	**Ulahol**	**48.56**	**291**	P	**P**	**11 09 18.7 +1.3**
	SNR=79					
TKM2	**Tokmak 2**	**48.61**	**292**	P	**ScP**	**11 13 47.6 +0.4**
	SNR=5.2					
TKM2	**Tokmak 2**	**48.61**	**292**	P	**P**	**11 09 18.8 +1.0**
	SNR=38					
TKM2	**Tokmak 2**	**48.61**	**292**	*i*P	**P**	**11 09 18.3 +0.5**
TKM2				pmax	pmax	
	comp=Z,314nm,0.8s					
BOOM	**Boomskoye usch**	**48.62**	**291**	P	**P**	**11 09 19.4 +1.5**
WRGLY	**Wrigley**	**48.75**	**37**	P	**P**	**11 09 19.0 +0.8**
	baz=296,SNR=122					
WRGLY				S	**S**	**11 15 48.6 +1.7**
	baz=296					
AZL	**Aizawl**	**48.82**	**260**	⇓*i*P	**P**	**11 09 20.4 +0.9**
AZL				IAmb	IAmb	11 09 21.6
	comp=Z,2μm,1.4s					
AZL				*i x*	x	11 10 47.2
AZL				*ex*	x	11 13 49.5
MYLDM	**Lahad Datu**	**48.85**	**219**	P	**P**	**11 09 21.3 +1.7**
MYLDM	**Lahad Datu**	**48.85**	**219**	⇓P	**P**	**11 09 21.3 +1.7**
SGDS	**Sogindy**	**48.94**	**293**	⇓*i*P	**P**	**11 09 20.8 +0.8**
SGDS	**Sogindy**	**48.94**	**293**	*d*⇓P	**P**	**11 09 20.8 +0.8**
EUNU	**Eureka**	**48.95**	**11**	⇑P	**P**	**11 09 19.6 0.0**
KKM	**Kota Kinabalu**	**49.08**	**222**	P	**P**	**11 09 22.3 +0.9**
KKM	**Kota Kinabalu**	**49.08**	**222**	⇓P	**P**	**11 09 22.3 +0.9**
U35K	**Hyder**	**49.09**	**48**	P	**P**	**11 09 22.9 +2.1**
	baz=298,SNR=61					
U35K				S	**S**	**11 15 54.2 +2.6**
	baz=298					
CHMS	**Chumysh**	**49.10**	**293**	P	**ScP**	**11 13 49.1 +0.1**
	SNR=6.0					
CHMS	**Chumysh**	**49.10**	**293**	P	**P**	**11 09 22.1 +0.9**
	SNR=34					
H02S1	**DAWSON INLET T**	**49.10**	**52**	P	**P**	**11 09 22.0 +1.0**
	SNR=47					
USP	**Ospenovka**	**49.11**	**293**	P	**ScP**	**11 13 49.7 +0.6**
	SNR=5.8					
USP	**Ospenovka**	**49.11**	**293**	P	**P**	**11 09 22.4 +1.0**
	SNR=219					
ALE	**Alert**	**49.12**	**5**	⇑P	**P**	**11 09 20.3 -0.4**
ALE				PcP	**PcP**	**11 10 36.4 +0.1**
ALE				ScP	**ScP**	**11 13 48.7 +0.3**
KBK	**Karagaybulak**	**49.16**	**292**	P	**ScP**	**11 13 50.0 +0.5**
	SNR=6.5					
KBK	**Karagaybulak**	**49.16**	**292**	P	**P**	**11 09 22.9 +1.1**
	SNR=224					
GTK	**Tadong**	**49.16**	**267**	⇓*i*P	**P**	**11 09 23.6 +1.5**
GTK				*ex*	x	11 13 50.6
GTK				*i x*	x	11 15 52.9
FRU1	**Bishkek**	**49.27**	**292**	IAmb	IAmb	11 09 24.3
	comp=Z,487nm,0.6s					
LIRD	**Liard River Hi**	**49.35**	**42**	P	**P**	**11 09 24.0 +1.3**
	baz=298,SNR=148					
LIRD				S	**S**	**11 15 56.7 +1.6**
	baz=298					
AAK	**Ala-Archa**	**49.45**	**292**	P	**P**	**11 09 24.9 +0.9**
	SNR=34					
AAK	**Ala-Archa**	**49.45**	**292**	P	**P**	**11 09 24.9 +0.9**
AAK	**Ala-Archa**	**49.45**	**292**	*i*P	**P**	**11 09 25.0 +0.9**
	SNR=478					
AAK	**Ala-Archa**	**49.45**	**292**	P	**P**	**11 09 25.0 +0.9**
AAK				P	**P**	**11 09 25.0 +0.9**
AAK				S	**S**	**11 15 59.2 +1.8**
AAK				S	**S**	**11 15 59.2 +1.8**
AAK	**Ala-Archa**	**49.45**	**292**	*e*P	**P**	**11 09 24.7 +0.7**
AAK	**Ala-Archa**	**49.45**	**292**	⇓P	**P**	**11 09 24.8 +0.9**
AAK	**Ala-Archa**	**49.45**	**292**	*d*⇓P	**P**	**11 09 24.7 +0.7**
AAK				pmax	pmax	
	comp=Z,483nm,0.8s					
AAK	**Ala-Archa**	**49.45**	**292**	⇓P	**P**	**11 09 24.9 +0.9**
AAK				PcP	**PcP**	**11 10 38.9 +0.5**
AAK				pP	**pP**	**11 10 50.9 +0.3**
AAK				ScP	**ScP**	**11 13 50.3 -0.4**
MANU	**Manus Island**	**49.62**	**179**	P	**P**	**11 09 26.0 +0.7**
UCH	**Uchtor**	**49.66**	**292**	P	**P**	**11 09 27.0 +1.1**
	SNR=12					
KEKH	**Kekaha**	**49.71**	**102**	P	**P**	**11 09 27.0 +1.0**
TNTI	**Ternate**	**49.75**	**206**	P	**P**	**11 09 27.0 +0.7**
TNTI	**Ternate**	**49.75**	**206**	P	**P**	**11 09 26.3 0.0**
EKS2	**Erkin-Say**	**49.88**	**293**	P	**ScP**	**11 13 52.7 +0.1**
	SNR=7.0					
EKS2	**Erkin-Say**	**49.88**	**293**	P	**P**	**11 09 28.1 +1.0**
	SNR=74					
KOTAN	**Kotaneelee Air**	**49.92**	**41**	P	**P**	**11 09 27.8 +0.8**
	baz=298,SNR=87					
KOTAN				S	**S**	**11 16 03.7 +0.7**
	baz=298					
EVN	**Everest**	**49.95**	**269**	⇓P	**P**	**11 09 29.6 +1.1**
TOAD	**Toad River Com**	**50.00**	**43**	P	**P**	**11 09 29.1 +1.4**
	baz=298,SNR=396					
TOAD				S	**S**	**11 16 05.3 +1.1**
	baz=298					
SVE	**Sverdlovsk**	**50.06**	**314**	*e*P	**P**	**11 09 28.7 +0.6**
SVE	**Sverdlovsk**	**50.06**	**314**	*c i*P	**P**	**11 09 28.7 +0.6**
SVE				*i* S	**S**	**11 16 04.3 -0.6**
SVE				pmax	pmax	
	comp=Z,296nm,0.7s					
GRNB	**Grenville Isla**	**50.11**	**50**	IAmb	IAmb	11 09 31.3
	comp=Z,805nm,0.9s					
NAYO	**Nakonayok**	**50.18**	**244**	P	**P**	**11 09 30.9 +1.4**
KSH	**Kashi**	**50.22**	**288**	P	P	11 09 34.7 +5.0
KSH				pP	pP	11 10 59.8 +3.1
KSH				S	**S**	**11 16 16.3 +8.4**
KSH				ScS	**ScS**	**11 18 36.7 +3.6**
KSH				pmax	pmax	
	comp=Z,680nm,0.8s					
AML	**Almayashu**	**50.22**	**292**	P	**P**	**11 09 30.8 +0.8**
	SNR=223					
SWI	**Sorong**	**50.29**	**200**	P	**P**	**11 09 30.2 -0.1**
	comp=Z,209nm,0.8s,comp=Z,2μm					
JAY	**Jayapura**	**50.36**	**188**	P	**P**	**11 09 31.1 +0.2**
	comp=Z,119nm,1.0s,comp=Z,1μm					
GENI	**Genyem**	**50.49**	**189**	P	**P**	**11 09 32.4 +0.7**
	comp=Z,124nm,1.0s,comp=Z,3μm					
NOR	**Nord**	**50.56**	**357**	⇑*i*P	**P**	**11 09 30.7 -0.7**
NOR				IAmb	IAmb	11 09 31.6
	comp=Z,174nm,0.7s					
HOPEN	**Hopen**	**50.62**	**345**	⇑*i*P	**P**	**11 09 31.6 -0.3**
HOPEN				IVmBBB		11 09 32.5
	comp=Z,4μm,1.0s					
HOPEN				*e*pP	**pP**	**11 10 58.8 +0.1**
HOPEN				*e*S	**S**	**11 16 08.2 -3.8**
HOPEN				*e*ScS	**ScS**	**11 18 33.4 -0.9**
HOPEN				*e*SS	**SS**	**11 19 53.9 +1.6**
HOPEN				IVMs_BB	IVMs_BB	11 22 16.8
	comp=Z,963nm,4.1s					
KBS	**Kingsbay**	**50.76**	**350**	P	**P**	**11 09 33.3 +0.3**
KBS				IAmb	IAmb	11 09 33.9
	comp=Z,758nm,0.8s					
KBS	**Kingsbay**	**50.76**	**350**	⇑*i*P	**P**	**11 09 32.9 0.0**
KBS				IVmB_BB		11 09 33.3
	comp=Z,7μm,0.8s					
KBS				*e*pP	**pP**	**11 11 01.2 +1.5**
KBS				*e*ScP	**ScP**	**11 13 55.4 -0.1**
KBS				*e*S	**S**	**11 16 11.8 -2.1**
KBS				*e*ScS	**ScS**	**11 18 35.3 0.0**
KBS	**Kingsbay**	**50.76**	**350**	⇑P	**P**	**11 09 32.7 -0.3**
KBS	**Kingsbay**	**50.76**	**350**	*c i*P	**P**	**11 09 32.3 -0.6**
KBS				pmax	pmax	
	comp=Z,820nm,0.8s					
KBS	**Kingsbay**	**50.76**	**350**	*i*P	**P**	**11 09 33.0 0.0**
KBS	**Kingsbay**	**50.76**	**350**	P	**P**	**11 09 32.8 0.0**
KBS				ScP	**ScP**	**11 13 58.4 +2.9**
SPA0	**Spitsbergen Ar**	**50.77**	**348**	⇑*i*P	**P**	**11 09 32.2 -0.8**
SPA0				IVmB_BB		11 09 33.7
	comp=Z,4μm,1.1s					
SPA0				*e*pP	**pP**	**11 11 00.3 +0.4**
SPA0				*e*S	**S**	**11 16 11.2 -2.9**
SPA0				*e*ScS	**ScS**	**11 18 33.4 -2.1**
SPB2	**Spitsbergen Ar**	**50.77**	**348**	P	**P**	**11 09 32.5 -0.6**
SPB2				PcP	**PcP**	**11 10 42.8 +0.3**
SPITS	**Spitsbergen Ar**	**50.77**	**348**	P	**P**	**11 09 32.2 -0.8**
	comp=Z,162nm,0.7s,baz=59,slow=8.1,SNR=45					
SPITS				PcP	**PcP**	**11 10 42.3 -0.2**
	comp=Z,151nm,0.7s,baz=106,slow=8.7,SNR=5.3					
SPITS				ScP	**ScP**	**11 13 55.2 -0.4**
	comp=Z,37nm,0.9s,baz=102,slow=7.9,SNR=3.1					
SPITS				S	**S**	**11 16 08.9 -5.2**
	comp=Z,14nm,0.9s,baz=58,slow=19,SNR=1.6					
	comp=Z,162nm,0.7s					
**

ARTI 11 18 37.3
ARTI *SS **sS** **11 18 57.4 -0.7**
ARTI pmax pmax
comp=Z,744nm,1.6s
DHH Diamond Head 51.48 101 P P 11 09 39.0 0.0
DHH PcP **PcP** **11 10 47.5 +1.5**
DHH Diamond Head 51.48 101 P P 11 09 39.0 0.0
DHH 11 10 47.5
SRDT SRDT 51.50 246 P P 11 09 40.6 +1.4
TARA Tarawa 51.51 146 P P 11 09 39.8 +0.6
TARA IAmb IAmb 11 09 41.0
comp=Z,1µm,1.2s
TOLI2 Tolitoli 51.64 214 P P 11 09 40.1 -0.1
TOLI2 Tolitoli 51.64 214 P P 11 09 39.6 -0.6
KK31 Karatay Array 51.66 295 *i* P **P 11 09 40.7 +0.7**
KKAR Karatay Array 51.66 295 P P 11 09 40.6 +0.6
KKAR Karatay Array 51.66 295 IAmb IAmb 11 09 41.5
comp=Z,266nm,0.8s
KKAR Karatay Array 51.66 295 ⇓P **P 11 09 40.5 +0.4**
KKAR Karatay Array 51.66 295 P P 11 09 40.6 +0.6
HSPB Hornsund (broa 51.79 347 *e*P **P 11 09 39.9 -0.5**
HSPB *e*PcP **PcP** **11 10 45.9 -0.3**
HSPB *e*S **S** **11 16 23.9 -3.8**
BBB Bella Bella 51.91 51 P P 11 09 42.9 +1.2
BBB IAmb IAmb 11 09 44.0
comp=Z,782nm,0.9s
BBB Bella Bella 51.91 51 ⇑P **P 11 09 42.6 +1.0**
RABL Rabaul 51.97 173 IAmb IAmb 11 09 44.5
comp=Z,1µm,1.4s
FAKI Fak Fak 52.06 198 P P 11 09 43.3 +0.1
FAKI Fak Fak 52.06 198 ⇑P **P 11 09 43.3 +0.1**
FAKI Fak Fak 52.06 198 P P 11 09 43.3 +0.1
comp=Z,175nm,1.0s,comp=Z,2µm
BRLS Borolday 52.11 295 ⇓*i*P **P 11 09 45.5 +2.1**
BRLS Borolday 52.11 295 *d i*P **P 11 09 45.4 +2.1**
HNLY HANLEY 52.20 279 ⇓*i*P **P 11 09 46.5 +1.8**
HNLY *i* x x 11 16 33.9
YKA Yellowknife Ar 52.65 35 P P 11 09 46.9 +0.1
YKA PcP **PcP** **11 10 50.7 +1.0**
YKA Yellowknife Ar 52.65 35 P P 11 09 46.5 -0.3
comp=Z,382nm,0.7s,baz=306,slow=7.1,SNR=380
YKA PcP **PcP** **11 10 50.1 +0.4**
comp=Z,26nm,0.4s,baz=226,slow=1.9,SNR=5.8
YKA ScP **ScP** **11 14 03.9 0.0**
comp=Z,64nm,1.1s,baz=304,slow=4.4,SNR=9.1
YKA S **S** **11 16 36.0 -3.6**
comp=Z,12nm,1.2s,baz=306,slow=14,SNR=3.2
YKA ScS **ScS** **11 18 48.6 -0.3**
comp=Z,7.6nm,1.0s,baz=305,slow=7.4,SNR=5.0
comp=Z,382nm,0.7s
KHLH Kahului Airpor 52.65 100 P 11 09 49.0 +1.6
KHLH PcP **PcP** **11 10 52.5 +2.1**
MPSI Mapaga 52.69 215 P P 11 09 47.0 -0.8
comp=Z,105nm,1.0s
HOLB Holberg 52.72 53 IAmb IAmb 11 09 49.7
comp=Z,850nm,0.8s
SANI Sanana 52.84 206 P P 11 09 46.6 -2.2
SANI Sanana 52.84 206 P P 11 09 48.4 -0.4
SANI Sanana 52.84 206 ⇓P **P 11 09 48.1 -0.7**
SANI Sanana 52.84 206 P P 11 09 48.3 -0.5
comp=Z,124nm,0.9s
HLK Haleakala 52.86 100 IAmb IAmb 11 09 51.6
comp=Z,1µm,1.5s
LUWI Luwuk 52.92 211 P P 11 09 44.2 -5.2
BJO1 Bjornoya 53.12 345 ⇑*i*P **P 11 09 49.7 -0.3**
BJO1 IVmB_BB 11 09 50.0
comp=Z,10µm,0.7s
BJO1 *e*pP **pP** **11 11 16.6 -1.3**
BJO1 *e*S **S** **11 16 43.4 -2.2**
BJO1 *e*ScS **ScS** **11 18 49.3 -2.7**
BTK Batken 53.18 292 IAmb IAmb 11 09 53.1
comp=Z,747nm,0.8s
JOSI Joshimath 53.19 277 ⇓*i*P **P 11 09 52.3 +0.8**
JOSI *i* x x 11 14 07.1
JOSI *ex* x 11 16 43.6
APSI Ampana 53.19 212 P P 11 09 51.1 -0.3
comp=Z,247nm,1.1s,comp=Z,2µm
MSAI Masohi 53.25 202 P P 11 09 52.9 +1.1
BOK Bokaro 53.33 266 ⇓*i*P **P 11 09 53.4 +1.1**
BOK IAmb IAmb 11 09 54.5
comp=Z,333nm,0.7s
BOK *i* x x 11 10 23.1
BOK *ex* x 11 10 48.6
BOK *i* x x 11 16 51.7
PTH Pithoragarh 53.38 275 ⇓*i*P **P 11 09 53.3 +0.5**
PTH *ex* x 11 16 47.6
PTH *i* x x 11 23 10.8
LGTI Lohaghat 53.43 275 ⇓*i*P **P 11 09 54.8 +1.9**
comp=Z,549nm,0.7s
LGTI IAmb IAmb 11 09 55.8
comp=Z,549nm,0.7s
KLP Kalpa 53.45 279 ⇓*i*P **P 11 09 54.1 +0.6**
BRCI Bahraich 53.74 272 *e*P **P 11 09 56.1 +1.0**
HPAH Hawaii Prepara 53.74 100 IAmb IAmb 11 09 57.1
comp=Z,822nm,0.9s
TULEG Thule 53.90 10 ⇑P **P 11 09 54.4 -1.2**
TULEG Thule 53.90 10 *i* P **P 11 09 54.4 -1.2**
VADS Vadso 54.01 338 ⇑*i*P **P 11 09 56.3 -0.1**
VADS IVmB_BB 11 09 56.7
comp=Z,4µm,0.8s
VADS *e*pP **pP** **11 11 25.0 +0.3**
VADS *e*S **S** **11 16 55.8 -1.7**
VADS *e*ScS **ScS** **11 18 53.2 -5.2**
VADS IVMs_BB IVMs_BB 11 21 16.2
comp=Z,1µm,19.0s
LVZ Lovozero 54.02 334 P P 11 09 56.4 -0.3
LVZ Lovozero 54.02 334 ⇑P **P 11 09 56.0 -0.6**
LVZ Lovozero 54.02 334 *c i*P **P 11 09 55.7 -0.9**
LVZ pmax pmax
comp=Z,462nm,0.9s
LVZ Lovozero 54.02 334 P P 11 09 56.4 -0.3
comp=Z,647nm,1.1s,comp=Z,6µm
LVZ Lovozero 54.02 334 P P 11 09 56.0 -0.6
LVZ ScP **ScP** **11 14 12.1 +2.1**
POHA Pohakuloa 54.04 100 P 11 09 58.8 +1.1
POHA Pohakuloa 54.04 100 P P 11 09 58.5 +0.8
POHA Pohakuloa 54.04 100 P P 11 09 58.4 +0.7
POHA PcP **PcP** **11 10 57.0 +0.9**
SBUM Sibu 54.08 224 P P 11 09 59.0 +1.3
SBUM Sibu 54.08 224 ⇓P **P 11 09 58.9 +1.1**
HMH Humu'ula Sheep 54.18 100 IAmb IAmb 11 10 01.0
comp=Z,971nm,0.9s
KNTI KHUNTI 54.24 266 *i* x x 11 16 23.2
KNTI ⇓*i*P **PcS** **11 14 56.0 -1.1**
KNTI *ex* x 11 21 55.4
KIRV Kirov 54.27 320 P P 11 09 58.6 +0.2
comp=Z,191nm,0.8s,baz=69,slow=2.0,SNR=32
KIRV PcP **PcP** **11 10 56.1 +0.1**
comp=Z,563nm,0.7s,baz=70,slow=1.6,SNR=17
KIRV ScP **ScP** **11 14 10.6 -0.4**
comp=Z,78nm,0.9s,baz=65,slow=7.5,SNR=3.0
KIRV S **S** **11 16 59.7 -1.5**
comp=Z,26nm,0.7s,baz=144,slow=23,SNR=2.8
KIRV ScS **ScS** **11 19 00.1 -0.5**
comp=Z,36nm,0.8s,baz=351,slow=24,SNR=3.3
comp=Z,191nm,0.8s
KIRV Kirov 54.27 320 *c i*P **P 11 09 58.5 +0.1**
DHRM DHARAMSHALA 54.30 281 ⇓*i*P **P 11 09 59.9 +0.4**
DHRM *i* x x 11 17 00.8
DHRM *i* x x 11 17 03.5
MLH Mauna Loa 54.32 100 IAmb IAmb 11 10 01.7
comp=Z,1µm,0.8s
DDI Dehra Dun 54.34 278 ⇓*i*P **P 11 10 00.5 +1.0**
DDI *i* x x 11 17 02.6
KHU Kahuku 54.35 101 IAmb IAmb 11 10 01.8
comp=Z,1µm,0.8s
AB31 Akbulak array 54.37 306 *i* P **P 11 09 59.8 +0.4**
ABKAR Akbulak array 54.37 306 P P 11 09 59.5 +0.2
ABKAR Akbulak array 54.37 306 ⇓P **P 11 10 00.3 +1.0**
SMLA Simla 54.43 279 ⇓*i*P **P 11 10 00.6 +0.6**
SMLA IAmb IAmb 11 10 03.0
comp=Z,1µm,1.1s
SMLA *i* x x 11 16 56.4
SMLA *i* x x 11 17 03.8
UWE Uwekahuna 54.44 100 IAmb IAmb 11 10 10.6
comp=Z,722nm,0.9s
HLP Hilina Pali 54.52 101 IAmb IAmb 11 10 02.9
comp=Z,902nm,0.9s
PUH Pauahi 54.52 100 IAmb IAmb 11 10 02.7
comp=Z,975nm,0.8s
NEEM North Greenlan 54.55 5 ⇑*i*P **P 11 10 00.0 -0.6**
NEEM IAmb IAmb 11 10 00.7
comp=Z,553nm,0.7s
STCH Steam Cracks 54.57 100 IAmb IAmb 11 10 03.0
comp=Z,775nm,0.9s
APA Apatity 54.60 334 ⇓*i*P **P 11 09 58.8 -1.9**
APA *i* 11 10 56.0
APA *i* *PP **pP** **11 11 27.0 -2.3**
APA *i* 11 12 17.0
APA *i* S **S** **11 17 03.0 -2.4**
APA *i* 11 19 02.0
APA pmax pmax
comp=Z,232nm,0.6s
JOKA Jonika Flow 54.62 100 IAmb IAmb 11 10 03.4
comp=Z,1µm,1.0s
LKN LUCKNOW 54.73 272 *e*P **P 11 10 03.1 +0.8**
AKTO Aktyubinsk 54.74 308 ScP **ScP** **11 14 11.9 -1.4**
comp=Z,35nm,0.9s,baz=54,slow=4.8,SNR=2.3
AKTO S **S** **11 17 07.8 0.0**
comp=Z,31nm,0.9s,baz=316,slow=22,SNR=6.0
AKTO Aktyubinsk 54.74 308 P P 11 10 01.7 -0.3
BHK Bhakra 54.75 280 ⇓*i*P **P 11 10 03.3 +1.0**
KEV Kevo 54.85 338 P P 11 10 02.3 -0.1
KEV Kevo 54.85 338 ⇑P **P 11 10 02.2 -0.1**
KEV Kevo 54.85 338 P P 11 10 02.3 -0.1
KEV pmax pmax
comp=Z,381nm,0.8s
KEV Kevo 54.85 338 P P 11 10 02.2 -0.1
KEV PcP **PcP** **11 10 57.8 -0.2**
JMU Jammu 54.94 282 ⇓*i*P **P 11 10 04.9 +1.3**
JMU IAmb IAmb 11 10 06.8
comp=Z,767nm,0.5s
HAMF Hammerfest 55.01 340 ⇑*i*P **P 11 10 02.8 -0.7**
HAMF IVmB_BB 11 10 03.3
comp=Z,4µm,0.9s
HAMF *e*pP **pP** **11 11 35.2 +2.9**
HAMF *e* 11 16 23.0
HAMF *e*S **S** **11 17 08.4 -2.3**
HAMF *e*ScS **ScS** **11 19 04.3 -1.4**
ALBI Allahabad 55.07 270 ⇓*i*P **P 11 10 04.2 -0.4**
ALBI IAmb IAmb 11 10 05.7
comp=Z,282nm,0.6s
ALBI *i* x x 11 14 13.2
ALBI *ex* x 11 17 08.4
SIMJ Simiganj 55.14 291 P P 11 10 06.0 +0.8
SIMJ IAmb IAmb 11 10 06.8
comp=Z,1µm,0.8s
SIMJ Simiganj 55.14 291 ⇓P **P 11 10 05.8 +0.6**
SIMJ pP **pP** **11 11 35.3 +1.1**
SIMJ ScP **ScP** **11 14 15.4 -0.1**
FRKB FARRUKHABAD 55.20 274 ⇓*i*P **P 11 10 05.7 +0.2**
ARA0 ARCESS Array S 55.38 339 ⇑*i*P **P 11 10 06.1 0.0**
ARA0 IVmB_BB 11 10 06.4
comp=Z,4µm,1.1s
ARA0 *e*pP **pP** **11 11 35.6 +0.5**
ARA0 *e*S **S** **11 17 13.1 -2.5**
ARA0 *e*ScS **ScS** **11 19 07.2 -1.2**
ARCES ARCESS Array B 55.38 339 P P 11 10 06.1 -0.1
ARCES PcP **PcP** **11 11 00.3 +0.1**
ARCES ARCESS Array B 55.38 339 P P 11 10 06.0 -0.1
comp=Z,215nm,0.7s,baz=45,slow=8.0,SNR=188
ARCES PcP **PcP** **11 11 00.4 +0.2**
comp=Z,89nm,0.7s,baz=35,slow=4.4,SNR=5.8
ARCES ScP **ScP** **11 14 14.8 -1.0**
comp=Z,20nm,0.9s,baz=14,slow=5.4,SNR=3.0
ARCES S **S** **11 17 14.4 -1.2**
comp=Z,31nm,1.1s,baz=38,slow=11,SNR=4.4
ARCES PKPPKP P'P'df 11 39 58.0 -8.5
comp=Z,3.2nm,0.8s,baz=202,slow=1.9,SNR=5.5
comp=Z,215nm,0.7s
DAG Danmarks Havn 55.38 356 P P 11 09 59.3 -6.7
DAG Danmarks Havn 55.38 356 ⇑P **P 11 10 05.3 -0.7**
DAG Danmarks Havn 55.38 356 P P 11 10 05.7 -0.3
DAG Danmarks Havn 55.38 356 ⇑*i*P **P 11 10 05.6 -0.4**
DAG IAmb IAmb 11 10 06.2
comp=Z,341nm,0.8s
KKR Kurukshetra 55.40 278 *e*P **P 11 10 07.3 +0.4**
MERT Meerut 55.42 276 ⇓*i*P **P 11 10 07.4 +0.4**
NIL Nilore 55.45 284 P P 11 10 08.7 +1.5
NIL IAmb IAmb 11 10 09.7
comp=Z,2µm,1.1s
NIL PcP **PcP** **11 11 02.1 +1.0**
NIL Nilore 55.45 284 P P 11 10 08.6 +1.4
NIL pmax pmax
comp=Z,2µm,1.1s
NIL Nilore 55.45 284 ⇓P **P 11 10 08.7 +1.4**
NIL PcP **PcP** **11 11 01.7 +0.6**
NIL pP **pP** **11 11 38.5 +2.1**
NIL ScP **ScP** **11 14 17.1 +0.3**
ASOR Ausora 55.53 276 *e*P **P 11 10 08.1 +0.3**
TTSI Tana Toraja 55.83 213 P P 11 10 11.1 +1.1
BISR Bishrakh 55.87 276 *e*P **P 11 10 10.6 +0.4**
BISR IAmb IAmb 11 10 13.8
comp=Z,5µm,0.7s
MTKI Muara Teweh, K 55.88 220 P P 11 10 10.8 +0.4
comp=Z,415nm,0.9s,comp=Z,9µm
CLRS Cowichan Lake 55.89 53 P P 11 10 11.1 +1.1
CLRS PcP **PcP** **11 11 03.8 +1.2**
NDI New Delhi 55.95 277 ⇓*i*P **P 11 10 11.0 +0.3**
NDI *i* x x 11 17 18.7
NDI *ex* x 11 24 08.9
JMIU JAMIA UNIVERSI 55.97 276 *e*P **P 11 10 11.3 +0.4**
JMIU *i* x x 11 17 19.2
NPLP NPLP New Delhi 56.01 277 *e*P **P 11 10 11.4 +0.2**
BHGR Bahadurgarh 56.13 277 *e*P **P 11 10 12.5 +0.5**
JHSG JHARSUGUGA 56.14 266 ⇓*i*P **P 11 10 12.5 +0.3**
JHSG *i* x x 11 17 25.2
DGPR DIGLIPUR 56.27 251 ⇓*i*P **P 11 10 14.2 +1.1**
DGPR IAmb IAmb 11 10 15.8
comp=Z,526nm,0.7s
DGPR *i* x x 11 17 28.8
KTK1 Kautokeino 56.31 339 ⇑*i*P **P 11 10 12.7 0.0**
KTK1 IVmB_BB 11 10 13.1
comp=Z,6µm,0.7s
KTK1 *e*pP **pP** **11 11 44.3 +2.3**
KTK1 *e*S **S** **11 17 25.8 -2.0**
KTK1 *e*ScS **ScS** **11 19 12.0 -3.3**
KTK1 IVMs_BB IVMs_BB 11 19 39.8
comp=Z,1µm,21.4s
SONA Sohna 56.32 276 ⇓*i*P **P 11 10 13.6 +0.3**
SONA *i* x x 11 17 22.0
SONA *ex* x 11 24 09.9
STKI Sintang 56.52 224 P P 11 10 14.9 0.0
comp=Z,295nm,0.7s
JETT Jettan, Norway 56.57 340 ⇑*i*P **P 11 10 14.5 0.0**
JETT IVmB_BB 11 10 14.9
comp=Z,10µm,0.5s
JETT *e*pP **pP** **11 11 40.4 -3.5**
JETT *e*S **S** **11 17 32.9 +1.8**
JETT *e*ScS **ScS** **11 19 15.2 -2.0**
SGF Sodankyl 56.62 336 P P 11 10 14.8 0.0
B04A Port Angeles 56.67 53 IAmb IAmb 11 10 17.9
comp=Z,689nm,1.0s
SPSI Sidrap Palu 56.70 213 P P 11 10 14.4 -1.6
comp=Z,72nm,1.0s,comp=Z,9µmcomp=Z,2µm
KUDL Kundal 56.79 277 *e*P **P 11 10 16.7 +0.2**
KUDL *ex* x 11 17 29.1
KUDL *i* x x 11 24 12.0
TRO Tromso 56.85 341 ⇑*i*P **P 11 10 16.3 0.0**
TRO IVmB_BB 11 10 16.6
comp=Z,10µm,0.7s
TRO *e*pP **pP** **11 11 45.7 -0.1**
TRO *e*S **S** **11 17 34.4 -0.2**
TRO *e*ScS **ScS** **11 19 16.1 -3.0**
TRO IVMs_BB IVMs_BB 11 19 34.1
comp=Z,1µm,14.1s
NLWA Neilton Lookou 56.87 54 IAmb IAmb 11 10 19.7
comp=Z,989nm,1.0s
NLWA Neilton Lookou 56.87 54 ⇑P **P 11 10 18.5 +1.6**
KULLO Kullorsuaq 56.87 7 ⇑P **P 11 10 15.5 -1.0**
KULLO Kullorsuaq 56.87 7 *i* P **P 11 10 14.9 -1.5**
KLMR Klimovskoe 56.90 326 *c i*P **P 11 10 16.7 -0.1**
KLMR *e* 11 11 04.1
KLMR *PP **pP** **11 11 47.3 +0.9**
KLMR 11 12 28.4
KLMR *e*S **S** **11 17 34.2 -1.3**
KLMR *e* 11 19 16.1
KLMR pmax pmax
comp=Z,743nm,0.9s
KLMR pmax pmax
comp=Z,2µm,1.7s
PMG Port Moresby 56.93 179 P P 11 10 18.3 +0.7
PMG Port Moresby 56.93 179 P P 11 10 18.0 +0.4
PMG Port Moresby 56.93 179 P P 11 10 18.1 +0.4
PMG Port Moresby 56.93 179 ⇑P **P 11 10 18.0 +0.4**
PMG Port Moresby 56.93 179 ⇑*i*P **P 11 10 16.7 -0.9**
PMG pmax pmax
comp=Z,131nm,1.1s
BNSI Bone 56.98 212 P P 11 10 18.4 +0.4
comp=Z,90nm,1.0s
BLSP Bilaspur 56.99 267 ⇓*i*P **P 11 10 17.9 -0.2**
BLSP *i* x x 11 12 27.8
WISH Wishkah 57.09 54 IAmb IAmb 11 10 21.5
comp=Z,1µm,1.2s
JHNI Jhansi 57.17 273 ⇓*i*P **P 11 10 18.7 -0.6**
JHNI *i* x x 11 11 48.0
JHNI *ex* x 11 12 30.7
RADR Rader Ridge 57.49 55 IAmb IAmb 11 10 24.4
comp=Z,2µm,1.6s
PBA Port Blair 57.54 250 P P 11 10 22.6 +0.7
SNR=5.2
PBA Port Blair 57.54 250 ⇓*i*P **P 11 10 22.2 +0.3**
PBA IAmb IAmb 11 10 24.9
comp=Z,204nm,0.5s
PBA *i* x x 11 17 03.2
PBA *i* x x 11 17 45.2
PBA Port Blair 57.54 250 ⇓P **P 11 10 22.5 +0.6**
KBL Kabul 57.63 287 P P 11 10 22.5 -0.1
KBL IAmb IAmb 11 10 23.3
comp=Z,490nm,0.8s
KBL Kabul 57.63 287 P P 11 10 22.3 -0.3
SNR=296
KBL P **P** **11 10 22.3 -0.3**
SNR=296
KBL S **S** **11 17 43.4 -2.8**
KBL S **S** **11 17 43.4 -2.8**
KBL Kabul 57.63 287 P P 11 10 22.5 -0.1
KBL pmax pmax
comp=Z,490nm,0.8s
ALEG Aligegeo Malai 57.63 164 P P 11 10 23.0 +0.6
KAPI Kappang 57.68 212 P P 11 10 23.6 +0.9
KAPI Kappang 57.68 212 S S 11 17 47.0 +0.4
comp=Z,6.8nm,0.3s,baz=313,slow=23,SNR=1.3
KAPI Kappang 57.68 212 P P 11 10 23.4 +0.7
KAPI P **P** **11 10 23.4 +0.7**
KAPI S **S** **11 17 48.3 +1.7**
KAPI S **S** **11 17 48.3 +1.7**
KAPI Kappang 57.68 212 P P 11 10 23.3 +0.5
KAPI Kappang 57.68 212 ⇓P **P 11 10 23.3 +0.5**
KAPI Kappang 57.68 212 *d i*P **P 11 10 23.1 +0.3**
KAPI pmax pmax
comp=Z,61nm,0.8s
KULM Kulim 57.76 238 P P 11 10 24.4 +1.0
KULM Kulim 57.76 238 ⇓P **P 11 10 24.6 +1.2**
BKSI Bulukumba 57.83 212 P P 11 10 23.3 -0.5
comp=Z,83nm,0.9s
DBG Daneborg 57.88 356 *i* P **P 11 10 22.9 -0.5**
F03A Seaside 57.92 55 IAmb IAmb 11 10 27.1
comp=Z,2µm,1.3s
D05A Enumclaw 58.02 54 IAmb IAmb 11 10 27.7
comp=Z,1µm,0.9s
F04D Rainier, OR 58.13 55 IAmb IAmb 11 10 28.2
comp=Z,1µm,1.4s
HNR Honiara 58.15 165 P P 11 10 26.4 +0.4
HNR Honiara 58.15 165 P P 11 10 26.4 +0.4
HNR Honiara 58.15 165 ⇑P **P 11 10 26.1 +0.1**
HNR Honiara 58.15 165 P P 11 10 26.4 +0.4
HNR pmax pmax
comp=Z,417nm,1.0s
LON Longmire 58.38 54 P P 11 10 28.1 +0.8
LON Longmire 58.38 54 P P 11 10 28.1 +0.8
LON pmax pmax
comp=Z,318nm,1.1s
JOF Joensuu 58.40 331 *e*P **P 11 10 27.2 +0.1**
BSSI Bau Bau, Buton 58.46 211 P P 11 10 27.6 -0.5
OUL Oulu 58.51 335 P P 11 10 27.6 -0.1
G03D McMinnville, O 58.52 56 IAmb IAmb 11 10 31.2
comp=Z,1µm,1.4s
GUNA GUNA 58.52 273 ⇓*i*P **P 11 10 28.6 0.0**
GUNA *i* x x 11 17 51.0
F04A Amboy 58.55 55 P P 11 10 29.6 +1.2
F04A IAmb IAmb 11 10 30.9
comp=Z,1µm,1.1s
UPNV Upernavik 58.69 8 *i* P **P 11 10 27.8 -1.1**
LTY Liberty 58.69 53 IAmb IAmb 11 10 31.4
comp=Z,837nm,1.2s
B08A Colville Reser 58.72 51 IAmb IAmb 11 10 31.6
comp=Z,2µm,1.5s
BELG Belogornoye 58.80 315 P P 11 10 30.4 +0.4
comp=Z,172nm,0.4s,baz=2.5,slow=0.8,SNR=85
BELG PcP **PcP** **11 11 14.0 0.0**
comp=Z,447nm,0.9s,baz=134,slow=1.9,SNR=5.5
BELG ScP **ScP** **11 14 31.1 -0.1**
baz=102,slow=2.1
BELG S **S** **11 17 58.3 -1.7**
comp=Z,172nm,0.4s
BELG Belogornoye 58.80 315 *d i*P **P 11 10 30.1 +0.2**
BELG pmax pmax
comp=Z,109nm,0.9s
I02E Swisshome, OR 58.87 57 IAmb IAmb 11 10 33.7
comp=Z,868nm,0.8s
MYKOM Kota Tinggi 58.88 233 P P 11 10 32.4 +1.4
MYKOM Kota Tinggi 58.88 233 ⇓P **P 11 10 32.4 +1.4**
COR Corvallis 58.88 57 P P 11 10 33.0 +2.4
COR Corvallis 58.88 57 P P 11 10 33.0 +2.4
COR pmax pmax
comp=Z,2µm,0.8s
COR Corvallis 58.88 57 ⇑P **P 11 10 32.9 +2.2**
COR ScP **ScP** **11 14 33.2 +1.5**
BKNR BIKANER 59.01 279 *e*P **P 11 10 31.9 +0.2**
STEI Steigen 59.02 341 ⇑*i*P **P 11 10 30.7 -0.4**
STEI IVmB_BB 11 10 31.0
comp=Z,3µm,1.0s
STEI *e*S **S** **11 18 04.8 +2.5**
AJM Ajmer 59.11 276 ⇓*i*P **P 11 10 33.2 +0.7**
AJM IAmb IAmb 11 10 34.4
comp=Z,175nm,0.7s
LOF Lofoten 59.23 341 *e*P **P 11 10 32.0 -0.6**
LOF IVmB_BB 11 10 32.8
comp=Z,4µm,0.6s
LOF *e* 11 15 27.4
LOF *e*S **S** **11 18 04.2 -0.8**
TPRI Tanjung Pinang 59.25 231 P P 11 10 34.5 +1.0
BUCK Buck Mountain 59.30 57 IAmb IAmb 11 10 37.1
comp=Z,2µm,1.1s
MXC Moxie City 59.31 53 IAmb IAmb 11 10 36.2
comp=Z,833nm,1.1s
J01E Myrtle Point 59.41 58 IAmb IAmb 11 10 37.3
comp=Z,845nm,0.8s
BHPL Bhopal 59.41 272 ⇓*i*P **P 11 10 34.7 +0.1**
BHPL IAmb IAmb 11 10 37.5
comp=Z,427nm,0.7s
BHPL *i* x x 11 18 09.2
BHPL *ex* x 11 18 18.0
H04A Detroit Lake 59.45 56 IAmb IAmb 11 10 37.2
comp=Z,2µm,0.9s
FAUS Fauske 59.46 340 ⇑*i*P **P 11 10 34.0 -0.1**
FAUS IVmB_BB 11 10 34.4
comp=Z,10µm,0.6s
FAUS *e*pP **pP** **11 12 05.0 +0.4**
FAUS *e*S **S** **11 18 07.6 -0.3**
FAUS *e*ScS **ScS** **11 19 37.4 -1.1**
E07A Sunnyside 59.56 53 IAmb IAmb 11 10 37.7
comp=Z,828nm,0.9s
NGP Nagpur 59.74 269 ⇓*i*P **P 11 10 36.7 -0.1**
NGP *i* x x 11 18 06.0
NGP *ex* x 11 25 17.4
KBO Bosley Butte 59.83 59 IAmb IAmb 11 10 40.3
comp=Z,1µm,1.1s
HAWA Hanford 59.84 53 IAmb IAmb 11 10 39.5
comp=Z,829nm,1.1s
HAWA Hanford 59.84 53 ⇑P **P 11 10 38.2 +1.2**
I04A Tendick Farm, 59.88 57 IAmb IAmb 11 10 40.1
comp=Z,1µm,0.8s
SUMG Summit 59.89 2 P P 11 10 37.3 -0.1
SUMG Summit 59.89 2 ⇑P **P 11 10 37.9 +0.4**
SUMG Summit 59.89 2 P P 11 10 38.1 +0.6
SUMG Summit 59.89 2 ⇑*i*P **P 11 10 38.0 +0.6**
SUMG IAmb IAmb 11 10 39.0
comp=Z,785nm,0.8s
SUMG *i* 11 12 09.5
NEW Newport 59.93 50 IAmb IAmb 11 10 39.7
comp=Z,649nm,0.9s
NEW Newport 59.93 50 ⇑P **P 11 10 38.4 +0.7**
NEW Newport 59.93 50 P P 11 10 38.6 +0.9
NRDN NARMADA NAGAR 59.94 271 ⇓*i*x x 11 10 43.4
NRDN *i* x x 11 18 16.5
G06A Carlson Farm, 59.96 55 IAmb IAmb 11 10 40.9
comp=Z,2µm,1.5s
LHMI Lhok Sumawe 59.97 241 P P 11 10 40.8 +2.5
comp=Z,404nm,0.8s,comp=Z,5µm

E08A Dider Farm, El 60.03 53 IAmb IAmb 11 10 40.6
comp=Z,898nm,0.9s
I05D Terrebonne, OR 60.14 56 IAmb IAmb 11 10 41.8
comp=Z,936nm,0.8s
NUUG Nuugaatsiaq 60.14 7 *i* P **P 11 10 37.1 -1.5**
JNW Jan Mayen West 60.16 351 *e*P **P 11 10 39.5 +0.7**
JNW *e*ScP **ScP 11 14 36.8 -0.1**
JNE Jan Mayen East 60.19 351 *e*P **P 11 10 39.9 +1.0**
JMIC Jan Mayen 60.21 351 *e*P **P 11 10 40.1 +1.0**
JMIC Jan Mayen 60.21 351 P **P 11 10 39.8 +0.7**
comp=Z,301nm,0.7s,baz=46,slow=4.5,SNR=7.7
comp=Z,301nm,0.7s
MMRI Maumere 60.22 208 P **P 11 10 42.7 +2.8**
KSXB Camp Six Broad 60.27 59 IAmb IAmb 11 10 43.1
comp=Z,671nm,1.1s
JMI Jan Mayen 60.29 351 *e*P **P 11 10 40.6 +1.0**
HUMO Hull Mountain 60.31 58 IAmb IAmb 11 10 43.5
comp=Z,1μm,1.6s
HUMO Hull Mountain 60.31 58 ⇑P **P 11 10 41.9 +1.6**
CMBY CAMPBELL BAY 60.38 245 ⇓*i*P **P 11 10 40.4 -0.7**
MOR8 Moi Rana 60.64 340 ⇑*i*P **P 11 10 40.7 -1.4**
MOR8 IVmB_BB 11 10 41.1
comp=Z,15μm,0.7s
MOR8 *e* 11 15 39.4
MOR8 *e*S **S 11 18 23.2 +0.2**
MOR8 *e*ScS SKKSac 11 19 44.2 -3.3
SOEI Soe 60.65 206 P P 11 10 36.8 -6.2
SOEI Soe 60.65 206 P **P 11 10 42.9 -0.1**
SOEI Soe 60.65 206 ⇑P **P 11 10 42.6 -0.3**
SOEI Soe 60.65 206 P **P 11 10 43.5 +0.5**
comp=Z,75nm,1.0s,comp=Z,1μm
KONS Konsvik 60.67 341 *e*P **P 11 10 41.6 -0.6**
KONS *e*S **S 11 18 26.0 +2.8**
PSI Prapat 60.77 238 P **P 11 10 44.4 +0.6**
JCC Jacoby Creek, 60.82 60 IAmb IAmb 11 10 46.7
comp=Z,2μm,1.6s
STOK Stokkvaagen 60.84 340 ⇑*i*P **P 11 10 42.7 -0.6**
KHMM Horse Mountain 60.96 60 IAmb IAmb 11 10 47.9
comp=Z,846nm,1.0s
PUL Pulkovo 60.98 329 *e*P **P 11 10 44.3 -0.1**
PUL Pulkovo 60.98 329 ⇑*i*P **P 11 10 44.3 -0.1**
VAF Ylistaro 60.99 334 *e*P **P 11 10 44.6 +0.2**
K04D Chiloquin, OR 60.99 58 IAmb IAmb 11 10 47.6
comp=Z,957nm,0.8s
KEF Keuruu 61.00 333 *e*P **P 11 10 44.6 +0.1**
YBH Yreka Blue Hor 61.01 59 IAmb IAmb 11 10 48.0
comp=Z,525nm,0.9s
KMPM Mount Pierce 61.02 61 IAmb IAmb 11 10 48.2
comp=Z,823nm,0.9s
PPBI Pangkal Pinang 61.05 228 P **P 11 10 46.5 +1.0**
comp=Z,207nm,1.5s
MOS Moscow 61.05 322 *e*P **P 11 10 43.5 -1.4**
MOS Moscow 61.05 322 *e*PSPN 11 10 43.3
MOS *e* 11 11 20.8
MOS *e**PP pP 11 12 15.7 -0.5
MOS *e* 11 13 15.6
MOS *e* 11 14 38.8
MOS *i*S **S 11 18 26.6 -1.6**
MOS *e* 11 18 42.6
MOS *e*SS **SS 11 22 38.5 +2.2**
MOS pmax pmax
comp=Z,444nm,0.7s
MOS pmax pmax
comp=Z,2μm,1.7s
MOS pmax pmax
comp=E,200nm,1.0s
MOS pmax pmax
comp=N,600nm,1.3s
MOS pmax pmax
comp=N,316nm,0.9s
MOS pmax pmax
comp=E,195nm,1.1s
MOS smax smax
comp=N,2μm,1.4s
MOS smax smax
comp=E,4μm,1.4s
MLSI Meulaboh, Aceh 61.06 241 P **P 11 10 45.0 -0.6**
comp=E,349nm,1.0s,comp=E,4μmcomp=E,1μm
UMMG Uummannaq 61.07 7 *i* P **P 11 10 43.7 -1.1**
FINES FINESS Array B 61.17 332 P **P 11 10 45.7 +0.1**
FINES FINESS Array B 61.17 332 P **P 11 10 45.4 -0.2**
comp=E,1μm,0.6s,baz=38,slow=7.7,SNR=868
FINES PcP **PcP 11 11 22.9 -0.4**
comp=E,115nm,0.7s,baz=90,slow=3.8,SNR=2.5
FINES ScP **ScP 11 14 40.8 -0.7**
comp=E,22nm,0.8s,baz=54,slow=5.5,SNR=2.2
FINES S **S 11 18 28.3 -1.2**
comp=E,58nm,0.9s,baz=19,slow=18,SNR=12
FINES PKPPKP **P'P'df 11 39 55.0 -2.3**
comp=E,3.9nm,0.7s,baz=157,slow=3.9,SNR=6.6
FINES P4KPbc 11 47 41.9
comp=E,4.5nm,0.8s,baz=23,slow=10,SNR=8.6
comp=E,1μm,0.6s
BATI Baumata 61.26 206 S **S 11 18 32.6 +0.8**
comp=E,17nm,0.4s,baz=336,slow=19,SNR=1.6
I07A Izee 61.32 55 IAmb IAmb 11 10 49.8
comp=Z,503nm,0.9s
JASL Jaisalmer 61.32 279 *e*P **P 11 10 47.4 +0.2**
JASL *i* x x 11 12 19.6
JASL *ex* x 11 18 32.5
F10A Beach Ranch, E 61.34 52 IAmb IAmb 11 10 49.6
comp=Z,921nm,1.2s
F10A Beach Ranch, E 61.34 52 ⇑P **P 11 10 48.1 +1.0**
AKL Akola 61.42 270 ⇓*i*P **P 11 10 48.6 +0.6**
AKL IAmb IAmb 11 10 49.9
comp=Z,204nm,0.9s
AKL *i* x x 11 12 20.4
AKL *ex* x 11 18 29.1
KDU Kakadu 61.52 196 P **P 11 10 48.4 -0.1**
comp=Z,67nm,0.5s
KDU Kakadu 61.52 196 P **P 11 10 48.4 -0.1**
KDU Kakadu 61.52 196 ⇑P **P 11 10 46.8 -1.7**
COEN Coen 61.54 184 P **P 11 10 49.4 +0.7**
COEN Coen 61.54 184 P **P 11 10 48.9 +0.3**
comp=Z,360nm,1.1s
COEN Coen 61.54 184 P **P 11 10 49.0 +0.3**
COEN Coen 61.54 184 ⇑P **P 11 10 49.1 +0.5**
DRS Darwin Rock St 61.58 198 P **P 11 10 49.4 +0.5**
BKNI Bangkinang 61.62 234 IAmb IAmb 11 10 51.6
comp=Z,552nm,0.9s
BKNI Bangkinang 61.62 234 P **P 11 10 47.9 -1.4**
BKNI Bangkinang 61.62 234 P **P 11 10 50.4 +1.1**
comp=Z,750nm,1.0s,comp=Z,7umcomp=Z,3μm
SCO Scoresbysund 61.76 356 ⇑P **P 11 10 49.6 +0.2**
SCO Scoresbysund 61.76 356 ⇑*i*P **P 11 10 49.7 +0.4**
SCO IAmb IAmb 11 10 50.8
comp=Z,271nm,0.9s
KMMI Kalianget 61.78 218 P **P 11 10 51.0 +0.8**
comp=Z,102nm,0.9s
KCPM Cahto Peak 61.81 61 IAmb IAmb 11 10 53.0
comp=Z,572nm,0.9s
OBN Obninsk 61.92 322 P **P 11 10 50.5 -0.1**
OBN IAmb IAmb 11 10 51.4
comp=Z,694nm,0.9s
OBN Obninsk 61.92 322 P **P 11 10 50.5 -0.1**
comp=Z,579nm,0.8s,baz=50,slow=2.1,SNR=31
OBN ScP **ScP 11 14 44.6 -0.4**
comp=Z,30nm,0.5s,baz=57,slow=10,SNR=2.0
OBN S **S 11 18 36.2 -2.8**
comp=Z,59nm,0.5s,baz=4.1,slow=23,SNR=2.8
comp=Z,579nm,0.8s
OBN Obninsk 61.92 322 *e*P **P 11 10 50.3 -0.3**
OBN Obninsk 61.92 322 ⇑P **P 11 10 50.4 -0.1**
OBN Obninsk 61.92 322*c i*P **P 11 10 50.3 -0.3**
OBN *i* 11 11 25.8
OBN *i**PP **pP 11 12 23.9 +1.7**
OBN *e* 11 13 14.1
OBN *i*S **S 11 18 35.2 -3.8**
OBN *e* 11 19 09.7
OBN *i* 11 19 53.8
OBN *i*SS **SS 11 22 55.5 +5.7**
OBN pmax pmax
comp=Z,793nm,0.9s
OBN MLR MLR
comp=N,548nm,16.0s
OBN Obninsk 61.92 322 P **P 11 10 50.6 -0.1**
comp=N,861nm,0.9s,comp=N,9μm
PLAI Plampang 61.92 213 P **P 11 10 49.9 -1.3**
PLAI Plampang 61.92 213 P **P 11 10 49.9 -1.3**
comp=N,107nm,0.7s
MTN Manton Dam 61.93 197 P **P 11 10 51.4 +0.2**
MTN Manton Dam 61.93 197 P **P 11 10 51.2 0.0**
comp=Z,153nm,1.0s
MTN Manton Dam 61.93 197 P **P 11 10 51.4 +0.2**
MTN Manton Dam 61.93 197 ⇓P **P 11 10 50.9 -0.3**

O02D Mt. Diablo Mer 61.96 60 IAmb IAmb 11 10 54.2
comp=Z,903nm,1.2s
BMO Blue Mountains 62.02 53 IAmb IAmb 11 10 54.3
comp=Z,1μm,1.3s
BMO Blue Mountains 62.02 53 ⇑P **P 11 10 52.8 +1.2**
WBSI Waikabubak, Su 62.10 211 P **P 11 10 50.1 -2.3**
comp=Z,74nm,0.7s
SRBI Singaraja 62.22 216 P **P 11 10 53.4 +0.3**
comp=Z,148nm,1.1s,comp=Z,2μm
BASI Baing, Sumba 62.24 209 P P 11 11 00.2 +7.0
J08A Circle Bar Ran 62.35 55 IAmb IAmb 11 10 56.8
comp=Z,1μm,1.0s
VRH Novokhopyorsk 62.35 317 *e*P **P 11 10 51.1 -2.5**
VRH *e**PP **pP 11 12 23.3 -2.1**
VRH *e* 11 13 09.5
VRH *e*S **S 11 18 41.0 -3.5**
VRH pmax pmax
comp=Z,540nm,0.7s
VRH smax smax
comp=N,2μm,10.1s
MSO Missoula 62.50 50 IAmb IAmb 11 10 56.9
comp=Z,1μm,1.1s
MSO Missoula 62.50 50 ⇑P **P 11 10 55.5 +0.7**
PLID Pearl Lake 62.57 52 IAmb IAmb 11 10 57.4
comp=Z,919nm,0.9s
NSS Namsos 62.59 340 *e*P **P 11 10 54.4 -0.4**
NSS IVmB_BB 11 10 54.8
comp=Z,4μm,0.7s
NSS *e*pP **pP 11 12 26.8 +0.2**
NSS *e*S **S 11 18 46.1 -0.9**
NSS *e*SKSac **SKSac 11 20 00.1 -2.2**
SNSI Sinabang, Aceh 62.59 240 P **P 11 10 56.4 +0.8**
comp=Z,602nm,1.3s,comp=Z,7μm
MEF Metsahovi 62.64 332 *e*P **P 11 10 55.2 0.0**
FFC Flin Flon 62.66 37 P **P 11 10 55.9 +0.4**
FFC IAmb IAmb 11 10 56.9
comp=Z,751nm,0.8s
FFC Flin Flon 62.66 37 ⇑P **P 11 10 55.7 +0.2**
FFC Flin Flon 62.66 37 P **P 11 10 55.9 +0.4**
FFC pmax pmax
comp=Z,751nm,0.9s
FFC Flin Flon 62.66 37 P **P 11 10 55.8 +0.2**
FFC PcP **PcP 11 11 29.6 0.0**
LPSR Galich'ya Gora 62.66 319 *e*P **P 11 10 53.3 -2.2**
LPSR *e**PP **pP 11 12 25.3 -2.1**
LPSR *e* 11 13 10.5
LPSR *e*S S 11 18 39.0 -9.2
LPSR pmax pmax
comp=Z,770nm,0.8s
LPSR smax smax
comp=N,350nm,3.5s
HYB Hyderabad 62.68 266 *e*P **P 11 10 56.4 +0.1**
HYB IVmB_BB 11 10 56.7
comp=Z,3μm,0.5s
HYB *e*PcP **PcP 11 11 30.6 +0.2**
HYB *e*pP **pP 11 12 28.1 0.0**
HYB *e*sP **sP 11 13 15.5 0.0**
HYB *e*PP **PP 11 13 20.5 -0.2**
HYB *e*S **S 11 18 50.3 +0.7**
HYB *e*SKSac **SKSac 11 20 03.1 -1.4**
HYB *e*SS **SS 11 23 05.2 +1.6**
FCC Fort Churchill 62.69 31 P **P 11 10 55.2 -0.4**
FCC IAmb IAmb 11 10 55.9
comp=Z,574nm,0.7s
FCC Fort Churchill 62.69 31 P **P 11 10 55.2 -0.4**
FCC pmax pmax
comp=Z,575nm,0.7s
ARBE Arbavere 62.72 330 *e*P **P 11 10 56.3 +0.5**
GSI Gunungsitoli 62.76 238 P **P 11 10 57.6 +0.8**
GSI Gunungsitoli 62.76 238 ⇓P **P 11 10 57.5 +0.7**
GSI Gunungsitoli 62.76 238 P **P 11 10 56.6 -0.2**
comp=Z,239nm,1.1s,comp=Z,5μm
RAF Rauma 62.83 333 *e*P **P 11 10 56.3 -0.2**
WVOR Wild Horse Val 62.87 56 IAmb IAmb 11 10 59.9
comp=Z,1μm,1.0s
WVOR Wild Horse Val 62.87 56 ⇑P **P 11 10 58.5 +1.3**
WVOR Wild Horse Val 62.87 56 ⇑P **P 11 10 58.6 +1.3**
PDSI Padang 62.97 234 P **P 11 10 59.5 +1.4**
ORV Oroville 63.11 60 IAmb IAmb 11 11 00.3
comp=Z,371nm,0.8s
VORR Voronezh 63.18 318 *e*P **P 11 10 56.2 -2.7**
VORR *e* 11 11 30.3
VORR *e**PP **pP 11 12 31.1 0.0**
VORR *e* 11 13 20.0
VORR *e*S **S 11 18 47.6 -7.0**
VORR *e* 11 20 00.0
VORR pmax pmax
comp=Z,250nm,0.5s
VORR smax smax
comp=N,90nm,2.4s
VSU Vasula 63.20 329 ⇑P **P 11 10 58.9 -0.1**
VSU Vasula 63.20 329*c i*P **P 11 10 58.8 -0.1**
VSU pmax pmax
comp=Z,655nm,0.9s
MCCM Marconi Confer 63.22 62 ⇑P **P 11 11 00.2 +0.7**
ICESG Greenland Ices 63.35 3 ⇑P **P 11 11 00.3 +0.1**
ICESG Greenland Ices 63.35 3 ⇑*i*P **P 11 11 00.5 +0.3**
ICESG IAmb IAmb 11 11 01.6
comp=Z,1μm,0.9s
VSR Storozhevoye 63.51 318 *e*P **P 11 10 57.8 -3.3**
VSR *e* 11 11 31.0
VSR *e**PP **pP 11 12 32.4 -1.0**
VSR *e* 11 13 21.0
VSR *e*S **S 11 18 52.4 -6.3**
VSR pmax pmax
comp=Z,630nm,0.9s
VSR smax smax
comp=N,560nm,4.6s
PWJI Pagerwojo 63.56 219 P **P 11 11 00.7 -1.1**
comp=N,223nm,0.9s,comp=N,2μm
VORD Divnogorie 63.63 318 *e*P **P 11 10 59.2 -2.6**
VORD *e* 11 11 32.0
VORD *e**PP **pP 11 12 33.6 -0.5**
VORD *e* 11 13 24.8
VORD *e*S **S 11 18 55.2 -4.9**
VORD pmax pmax
comp=Z,590nm,0.9s
VORD smax smax
comp=N,60nm,1.9s
MFID Camas Ranch 63.77 54 IAmb IAmb 11 11 05.6
comp=Z,1μm,1.4s
EGMT Eagleton 63.80 47 ⇑P **P 11 11 03.4 +0.2**
AFDM Forest Hills D 63.82 60 IAmb IAmb 11 11 05.4
comp=Z,609nm,1.3s
MTSE Matsula 63.99 331 *e*P **P 11 11 03.7 -0.3**
UGM Wanagama 64.02 221 P **P 11 11 04.1 -0.7**
SISI Saibi 64.07 235 P **P 11 11 04.8 -0.3**
comp=Z,173nm,0.8s,comp=Z,3μm
TBLU Trondheim 64.08 340 ⇑*i*P **P 11 11 03.3 -1.2**
TBLU IVmBBB 11 11 03.6
comp=Z,7μm,0.7s
TBLU *e*S **S 11 19 02.3 -2.9**
KPJI Karang Pucung 64.22 222 P **P 11 11 05.7 -0.3**
comp=Z,57nm,0.8s
EMB Emerald Bay 64.31 60 IAmb IAmb 11 11 09.0
comp=Z,704nm,0.8s
SOEG Soedalen 64.33 359 *i* P **P 11 11 05.3 -0.7**
LEM Lembang 64.38 224 PKP2bc 11 39 56.4
comp=Z,54nm,1.0s,baz=194,slow=2.6,SNR=3.7
HLID Hailey 64.43 53 ⇑P **P 11 11 08.5 +1.1**
BOZ Bozeman (W) 64.52 50 IAmb IAmb 11 11 10.0
comp=Z,771nm,0.8s
BOZ Bozeman (W) 64.52 50 ⇑P **P 11 11 08.9 +1.0**
BOZ Bozeman (W) 64.52 50 ⇑P **P 11 11 08.9 +1.0**
PNTR Pine Nut 64.53 59 IAmb IAmb 11 11 10.6
comp=Z,626nm,0.8s
LWLI Liwa 64.54 228 P **P 11 11 06.6 -1.7**
comp=Z,278nm,0.9s,comp=Z,8μm
DBJI Dramaga 64.55 225 P **P 11 11 07.5 -0.7**
comp=Z,229nm,0.9s
MDRS Chennai 64.65 261 ⇓*i*P **P 11 11 09.7 +0.8**
MDRS IAmb IAmb 11 11 12.2
comp=Z,93nm,0.9s
MDRS *i* x x 11 19 07.8
MDRS *ex* x 11 22 17.4
PPSI Pulau Pagai 64.76 234 P P 11 11 16.7 +7.2
CMB Columbia Colle 64.77 61 IAmb IAmb 11 11 11.7
comp=Z,714nm,1.0s
SFJD Kangerlussuaq 64.79 7 P **P 11 11 08.6 -0.4**
SFJD IAmb IAmb 11 11 09.5
comp=Z,468nm,0.9s
SFJD Kangerlussuaq 64.79 7 P **P 11 11 08.3 -0.7**
comp=Z,359nm,0.8s,baz=350,slow=6.0,SNR=78
SFJD PcP **PcP 11 11 38.1 -0.1**

comp=Z,82nm,0.7s,baz=354,slow=5.3,SNR=3.0
SFJD S **S 11 19 11.8 -1.9**
comp=Z,19nm,0.5s,baz=336,slow=20,SNR=4.9
SFJD PKPPKP **P'P'df 11 39 49.8 -1.8**
comp=Z,7.4nm,0.9s,baz=293,slow=1.1,SNR=3.1
comp=Z,359nm,0.8s
SFJD Kangerlussuaq 64.79 7 ⇑P **P 11 11 08.2 -0.7**
SFJD Kangerlussuaq 64.79 7 P **P 11 11 08.6 -0.4**
SFJD pmax pmax
comp=Z,468nm,0.9s
SFJD Kangerlussuaq 64.79 7 ⇑*i*P **P 11 11 08.4 -0.6**
SFJD IAmb IAmb 11 11 09.5
comp=Z,326nm,0.9s
BBJI Bungbulang 64.92 224 P **P 11 11 09.0 -1.6**
SAO San Andreas Ge 64.99 62 ⇑P **P 11 11 11.3 +0.5**
BMN Battle Mountai 64.99 57 P **P 11 11 12.5 +1.6**
BMN Battle Mountai 64.99 57 P **P 11 11 12.5 +1.6**
BMN pmax pmax
comp=Z,868nm,0.8s
WAKR Walker 65.01 60 IAmb IAmb 11 11 13.7
comp=Z,548nm,0.8s
MAK Makhachkala 65.04 307 *e*P **P 11 11 10.0 -1.0**
MAK *e**PP **pP 11 12 44.0 +0.3**
MAK *e**SP **sP 11 13 32.3 +1.4**
MAK *e* 11 13 41.8
MAK *e*PPP PPP 11 15 20.3
MAK *e*S **S 11 19 16.5 -1.0**
MAK *e*SS **SS 11 23 40.8 +2.1**
MAK pmax pmax
comp=Z,688nm,1.1s
POO Poona 65.07 270 ⇓*i*P **P 11 11 12.2 +0.6**
POO *i* x x 11 19 13.4
KNRA Kununurra 65.18 199 P **P 11 11 12.5 +0.4**
comp=Z,155nm,1.3s
YHL Hebgen Lake 65.26 50 IAmb IAmb 11 11 15.1
comp=Z,817nm,1.0s
MOL Molde 65.29 341 ⇑*i*P **P 11 11 12.2 0.0**
SLIT Slitere, Latvi 65.34 331 *e*P **P 11 11 12.8 +0.2**
SLIT Slitere, Latvi 65.34 331 ⇑P **P 11 11 12.1 -0.6**
FRB Frobisher Bay 65.39 16 P **P 11 11 11.6 -1.2**
comp=Z,381nm,0.7s,baz=337,slow=7.2,SNR=62
FRB S **S 11 19 16.2 -4.8**
comp=Z,3.5nm,0.3s,baz=72,slow=20,SNR=1.4
comp=Z,381nm,0.7s
DOMB Dombas 65.41 340 ⇑*i*P **P 11 11 12.8 -0.2**
DOMB IVmB_BB 11 11 13.2
comp=Z,7μm,0.7s
DOMB *e* 11 15 00.8
DOMB IVMs_BB IVMs_BB 11 18 25.2
comp=Z,2μm,17.6s
DOMB *e*S **S 11 19 20.8 -0.6**
YMR Madison River 65.50 50 IAmb IAmb 11 11 16.6
comp=Z,1μm,1.2s
YNM Yellowstone No 65.59 50 IAmb IAmb 11 11 18.5
comp=Z,802nm,1.4s
YNR Norris Junctio 65.61 50 IAmb IAmb 11 11 17.9
comp=Z,1μm,1.6s
DY2G Dye2 65.64 6 ⇑*i*P **P 11 11 14.3 -0.4**
DY2G IAmb IAmb 11 11 16.2
comp=Z,637nm,0.9s
MTSU Mount Surprise 65.64 183 P **P 11 11 15.4 +0.4**
comp=Z,45nm,0.8s
KHAM Kharkiv 65.69 318 P **P 11 11 14.7 -0.3**
KAD Karad 65.70 269 ⇓*i*P **P 11 11 15.9 +0.3**
KAD IAmb IAmb 11 11 17.1
comp=Z,385nm,0.4s
KAD *i* x x 11 19 19.7
YFT Old Faithful 65.71 50 IAmb IAmb 11 11 19.1
comp=Z,824nm,0.8s
NVAR Mina Array Bea 65.72 59 P **P 11 11 16.9 +1.2**
comp=Z,606nm,0.7s,baz=292,slow=6.0,SNR=1033
NVAR PcP **PcP 11 11 43.2 +0.3**
comp=Z,104nm,0.9s,baz=286,slow=3.1,SNR=2.4
NVAR PKIKP **PKiKP 11 17 43.7 +0.4**
comp=Z,1.2nm,0.8s,baz=305,slow=3.2,SNR=1.5
NVAR PKPPKP **P'P'df 11 39 47.8 -1.6**
comp=Z,1.5nm,0.8s,baz=153,slow=3.0,SNR=4.0
NVAR P4KPbc 11 48 06.3
comp=Z,3.0nm,0.9s,baz=295,slow=4.6,SNR=15
comp=Z,606nm,0.7s
LHV Little Huntoon 65.72 59 P **P 11 11 17.2 +1.8**
NB2 NORSAR Subarra 65.75 338 P **P 11 11 15.1 -0.1**
comp=Z,513nm,0.5s,baz=32,slow=6.5
NB2 S **S 11 19 23.9 -1.6**
comp=Z,110nm,1.4s,baz=37,slow=16
NB2 NORSAR Subarra 65.75 338 P **P 11 11 15.1 -0.1**
baz=31,slow=6.5
NB2 NORSAR Subarra 65.75 338 P **P 11 11 15.3 +0.1**
NB2 pmax pmax
comp=Z,59nm,0.4s
NOA NORSAR Array B 65.75 338 P **P 11 11 14.8 -0.4**
comp=Z,787nm,0.7s,baz=31,slow=6.3,SNR=1002
NOA PcP **PcP 11 11 41.9 -0.4**
comp=Z,58nm,0.7s,baz=29,slow=3.1,SNR=3.3
NOA S **S 11 19 24.2 -1.3**
comp=Z,13nm,1.0s,baz=9.1,slow=14,SNR=11
NOA PKPPKP **P'P'df 11 39 46.6 -3.4**
comp=Z,1.7nm,0.8s,baz=190,slow=4.0,SNR=5.2
comp=Z,787nm,0.7s
YNE Yellowstone No 65.75 49 IAmb IAmb 11 11 17.9
comp=Z,554nm,0.8s
AKN Aaknes 65.76 341 *e*P **P 11 11 15.5 +0.2**
AKN *e*S **S 11 19 26.5 +1.0**
MNK Minsk 65.80 326 *i* P **P 11 11 16.1 +0.5**
comp=E,702nm,0.9s
MNK *i* P **P 11 11 16.1 +0.5**
comp=N,334nm,0.9s
MNK *i* P **P 11 11 16.1 +0.5**
comp=Z,1μm,0.9s,baz=40
MNK *i* pP **pP 11 12 50.7 +2.1**
MNK *i* sP **sP 11 13 39.0 +3.2**
MNK *i* PP **PP 11 13 48.1 +1.4**
MNK *i* PPP PPP 11 15 31.0
MNK *i* S **S 11 19 25.2 -1.0**
MNK *i* sS **sS 11 22 08.3 -2.2**
MNK *i* SS SS 11 24 08.1 +18
MNK *i* SSS SSS 11 27 08.5
MNK *i* LR LR 11 38 28.1
MNK Minsk 65.80 326 *i* P **P 11 11 16.1 +0.5**
MNK *i**PP **pP 11 12 50.6 +2.1**
MNK *i**SP **sP 11 13 38.9 +3.2**
MNK *i* 11 13 48.1
MNK *i* PPP PPP 11 15 30.9
MNK *i* S **S 11 19 25.2 -1.0**
MNK pmax pmax
comp=N,334nm,0.9s
MNK pmax pmax
comp=Z,1μm,0.9s
MNK pmax pmax
comp=E,702nm,0.9s
NV11 Mina Array Sit 65.81 59 P **P 11 11 17.3 +1.2**
NV11 IAmb IAmb 11 11 18.4
comp=Z,534nm,0.8s
LKWY Lake 65.86 50 IAmb IAmb 11 11 20.1
comp=Z,522nm,0.9s
HFS Hagfors 65.87 336 P **P 11 11 15.5 -0.4**
comp=Z,562nm,0.4s,baz=40,slow=4.5,SNR=737
HFS S **S 11 19 25.5 -1.4**
comp=Z,101nm,0.9s,baz=62,slow=14,SNR=17
comp=Z,562nm,0.4s
ELK Elko 65.89 56 IAmb IAmb 11 11 18.8
comp=Z,316nm,0.7s
ELK Elko 65.89 56 ⇑P **P 11 11 18.0 +1.3**
ELK Elko 65.89 56 P **P 11 11 18.2 +1.5**
NACGM Naroch 65.90 327 *i* P **P 11 11 16.0 -0.2**
comp=E,20μm,1.1s
NC602 NORSAR Array S 65.92 338 ⇑*i*P **P 11 11 15.8 -0.5**
NC602 *e*S **S 11 19 25.9 -1.6**
NORES NORESS Array B 65.92 338 P **P 11 11 13.5 -2.8**
AKT Akhty 65.93 306*d i*P **P 11 11 18.0 +1.2**
AKT *e* 11 11 43.5
AKT *e**PP **pP 11 12 52.2 +2.4**
AKT *e* 11 13 50.2
AKT *e*PPP PPP 11 15 30.9
AKT *e*S **S 11 19 28.6 +0.2**
AKT pmax pmax
comp=Z,405nm,0.8s
GOF Gofitskoye 65.94 311*c i*P **P 11 11 17.6 +1.0**
GOF *e*S **S 11 19 29.4 +1.2**
RLMT Red Lodge 66.05 49 ⇑P **P 11 11 18.8 +1.2**
VSVD Vaisvydziai 66.09 329 *e*P **P 11 11 17.9 +0.6**
DGMT Dagmar 66.15 43 ⇑P **P 11 11 18.5 +0.6**
VLAKA Lakatoro 66.24 158 P **P 11 11 19.1 +0.4**
MOOW Moose Ponds 66.25 51 IAmb IAmb 11 11 21.7
comp=Z,1μm,1.3s

SEKA	Sheki	66.41	306	P	P	11 11 20.3	+0.6
LOHW	Long Hollow	66.42	51	IAmb	IAmb	11 11 22.8	
	comp=Z,1µm,1.4s						
SNOW	Snow King Moun	66.44	51	IAmb	IAmb	11 11 23.1	
	comp=Z,1µm,1.4s						
PABE	Paberze	66.45	329	eP	P	11 11 19.9	+0.3
LAO	LASA Array	66.46	46	⇑P	P	11 11 20.9	+0.9
HVU	Hansel Valley	66.53	53	IAmb	IAmb	11 11 23.1	
	comp=Z,477nm,1.1s						
DSP	Deep Springs	66.63	60	IAmb	IAmb	11 11 23.9	
	comp=Z,738nm,1.0s						
FOO	Floro	66.71	341	⇑iP	P	11 11 21.0	-0.1
FOO				eS	S	11 19 37.8	+1.1
TV1H	Townsville Har	66.73	180	P	P	11 11 21.7	0.0
PLTM	Poltava	66.73	319	P	P	11 11 22.1	+0.6
PBUR	Paburge	66.74	330	eP	P	11 11 20.9	-0.6
AHID	Auburn Hatcher	66.75	52	IAmb	IAmb	11 11 24.1	
	comp=Z,428nm,0.8s						
AHID	Auburn Hatcher	66.75	52	⇑P	P	11 11 22.9	+0.9
NCK	Nalchik	66.75	310	d iP	P	11 11 23.1	+1.4
NCK				pmax	pmax		
	comp=Z,570nm,1.0s						
MNGR	Mingechevir, A	66.77	305	P	P	11 11 23.0	+1.1
SKAR	Skarslia	66.77	339	⇑iP	P	11 11 21.9	+0.3
SKAR				IVmB_BB		11 11 22.2	
	comp=Z,4µm,1.3s						
SKAR				eS	S	11 19 38.4	+0.7
OSL	Oslo	66.82	338	⇑iP	P	11 11 21.9	+0.1
OSL				IVmB_BB		11 11 22.2	
	comp=Z,5µm,0.8s						
OSL				eS	S	11 19 38.1	0.0
HYA	Hoyanger	66.84	340	⇑iP	P	11 11 21.9	0.0
HYA				IVmB_BB		11 11 22.4	
	comp=Z,8µm,0.6s						
HYA				eS	S	11 19 39.0	+0.8
KVAR	Kislovodsk Arr	66.89	310	P	P	11 11 24.1	+1.4
	comp=Z,220nm,1.0s,baz=87,slow=22,SNR=49						
KVAR				PKiKP	PKiKP	11 17 46.1	+1.6
	comp=Z,9.0nm,0.6s,baz=102,slow=17,SNR=1.8						
	comp=Z,220nm,1.0s						
ANGG	Ammassalik, Gr	66.89	2	P	P	11 11 21.4	-0.7
ANGG				IAmb	IAmb	11 11 22.5	
	comp=Z,407nm,0.8s						
ANGG	Ammassalik, Gr	66.89	2	⇑P	P	11 11 21.4	-0.7
ANGG	Ammassalik, Gr	66.89	2	i P	P	11 11 21.5	-0.7
KIV	Kislovodsk	66.89	310	P	P	11 11 24.1	+1.3
KIV				IAmb	IAmb	11 11 25.7	
	comp=Z,802nm,0.9s						
KIV	Kislovodsk	66.89	310	i P	P	11 11 24.1	+1.3
	SNR=80						
KIV	Kislovodsk	66.89	310	P	P	11 11 24.2	+1.5
KIV				P	P	11 11 24.2	+1.5
KIV				S	S	11 19 41.9	+2.2
KIV				S	S	11 19 41.9	+2.2
KIV	Kislovodsk	66.89	310	⇑P	P	11 11 24.0	+1.2
KIV	Kislovodsk	66.89	310	eP	P	11 11 24.0	+1.2
KIV	Kislovodsk	66.89	310	⇑P	P	11 11 23.9	+1.2
KIV	Kislovodsk	66.89	310	eP	P	11 11 23.9	+1.2
KIV				e*PP	pP	11 12 56.2	+0.1
KIV				e*SP	sP	11 13 41.0	-2.2
KIV				e		11 13 57.6	
KIV				ePPP	PPP	11 15 40.1	
KIV				eS	S	11 19 42.1	+2.4
KIV				eSS	SS	11 24 06.4	-1.0
KIV				pmax	pmax		
	comp=Z,130nm,2.5s						
KIV				pmax	pmax		
	comp=Z,733nm,1.0s						
KIV	Kislovodsk	66.89	310	P	P	11 11 24.3	+1.5
	comp=Z,789nm,1.3s,comp=Z,8µm						
ISOG	Isortoq, Green	66.92	3	⇑P	P	11 11 21.6	-0.7
ISOG	Isortoq, Green	66.92	3	i P	P	11 11 21.5	-0.9
KBZ	Khabaz	66.94	310	P	P	11 11 24.2	+1.3
	comp=Z,314nm,0.9s,baz=68,slow=3.7,SNR=203						
KBZ				S	S	11 19 40.1	+0.1
	comp=Z,36nm,1.1s,baz=35,slow=22,SNR=3.8						
KBZ				PKPPKP		11 39 45.0	
	comp=Z,6.8nm,1.0s,baz=251,slow=4.4,SNR=3.1						
	comp=Z,314nm,0.9s						
KBZ	Khabaz	66.94	310	eP	P	11 11 22.9	0.0
KBZ	Khabaz	66.94	310	d iP	P	11 11 22.9	0.0
KBZ				pmax	pmax		
	comp=Z,476nm,1.0s						
GUDG	Gudauri	67.00	308	P	P	11 11 24.9	+1.3
SPUT	South Promonto	67.04	53	IAmb	IAmb	11 11 26.2	
	comp=Z,664nm,1.1s						
SALM	Salem	67.05	262	⇓iP	P	11 11 23.8	-0.1
SALM				i x	x	11 19 37.6	
SHA1	Shidzhatmaz	67.06	310	c iP	P	11 11 25.0	+1.1
GOA	Goa	67.23	268	⇓iP	P	11 11 25.1	+1.1
GOA				IAmb	IAmb	11 11 27.7	
	comp=Z,138nm,0.6s						
GOA				⇑i x	x	11 11 33.0	
GOA				ex	x	11 13 59.9	
GOA				i x	x	11 17 17.1	
LKRN	Lenkeran, Azer	67.24	303	P	P	11 11 26.1	+1.3
SUE	Sulen	67.25	341	⇑iP	P	11 11 24.7	+0.3
SUE				eS	S	11 19 44.1	+1.0
GANJ	Ganja	67.27	306	P	P	11 11 26.1	+1.0
HWUT	Hardware Ranch	67.31	53	IAmb	IAmb	11 11 27.9	
	comp=Z,912nm,0.9s						
HWUT	Hardware Ranch	67.31	53	⇑P	P	11 11 26.6	+1.1
R11B	Troy Canyon, C	67.34	58	IAmb	IAmb	11 11 27.3	
	comp=Z,364nm,0.8s						
R11B	Troy Canyon, C	67.34	58	P	P	11 11 26.8	+1.1
	baz=314						
R11B				S	S	11 19 48.6	+3.3
	baz=314						
KONO	Kongsberg	67.36	338	⇑iP	P	11 11 25.0	-0.1
KONO				IVmB_BB		11 11 25.5	
	comp=Z,2µm,0.8s						
KONO				eS	S	11 19 44.3	-0.2
KONO	Kongsberg	67.36	338	c iP	P	11 11 24.9	-0.3
KONO				pmax	pmax		
	comp=Z,274nm,1.0s						
KONO	Kongsberg	67.36	338	P	P	11 11 25.1	-0.1
KONO				PcP	PcP	11 11 49.0	0.0
LABN	Labinsk	67.40	312	eP	P	11 11 27.4	+1.7
LABN				e*PP	pP	11 13 01.9	+2.6
LABN				eS	S	11 19 48.0	+2.5
LABN				pmax	pmax		
	comp=Z,758nm,1.1s						
BORG	Borgarnes	67.42	354	P	P	11 11 27.0	+1.5
BORG				IAmb	IAmb	11 11 28.0	
	comp=Z,803nm,0.8s						
BORG	Borgarnes	67.42	354	P	P	11 11 27.0	+1.5
	comp=Z,673nm,0.8s,baz=5.1,slow=3.5,SNR=71						
	comp=Z,673nm,0.8s						
BORG	Borgarnes	67.42	354	⇑P	P	11 11 26.9	+1.5
BORG	Borgarnes	67.42	354	P	P	11 11 27.0	+1.5
BORG				pmax	pmax		
	comp=Z,803nm,0.9s						
BORG	Borgarnes	67.42	354	P	P	11 11 26.8	+1.3
BCW	Bitter Crk WRg	67.44	63	IAmb	IAmb	11 11 28.8	
	comp=Z,930nm,1.0s						
NUUK	Nuuk	67.44	9	⇑P	P	11 11 25.6	0.0
NUUK	Nuuk	67.44	9	i P	P	11 11 25.9	+0.3
STRU	Stroemstad	67.48	337	i P	P	11 11 26.0	+0.1
ISA	Isabella, Lake	67.50	61	IAmb	IAmb	11 11 27.7	
	comp=Z,360nm,0.9s						
BW06	Boulder Array	67.55	51	⇑P	P	11 11 27.6	+0.6
CTA	Charters Tower	67.55	180	P	P	11 11 26.9	0.0
CTAO	Charters Tower	67.55	180	P	P	11 11 27.1	+0.2
CTAO	Charters Tower	67.55	180	⇑P	P	11 11 26.8	0.0
CTAO	Charters Tower	67.55	180	P	P	11 11 27.1	+0.2
CTAO				pmax	pmax		
	comp=Z,219nm,1.6s						
CTAO	Charters Tower	67.55	180	P	P	11 11 26.7	0.0
PDAR	Pinedale Array	67.56	51	P	P	11 11 27.6	+0.6
	comp=Z,712nm,0.8s,baz=303,slow=1.4,SNR=1180						
PDAR				S	S	11 19 49.8	+1.9
	comp=Z,1.0nm,0.8s,baz=312,slow=4.4,SNR=1.1						
PDAR				PKPPKP	P'P'df	11 39 42.8	-3.9
	comp=Z,7.8nm,1.0s,baz=126,slow=3.8,SNR=9.2						
PDAR				P4KPbc		11 48 13.2	
	comp=Z,1.3nm,0.9s,baz=90,slow=0.3,SNR=9.9						
	comp=Z,712nm,0.8s						
DUG	Dugway, Tooele	67.61	55	⇑P	P	11 11 28.6	+1.2
DUG	Dugway, Tooele	67.61	55	P	P	11 11 28.9	+1.6
BER	Bergen	67.73	340	⇑iP	P	11 11 27.7	+0.3
BER				IVmB_BB		11 11 28.1	
	comp=Z,8µm,0.7s						
BER				eS	S	11 19 49.9	+1.2
TCUT	Toone Canyon	67.73	53	IAmb	IAmb	11 11 30.5	
	comp=Z,755nm,0.8s						
WCT	Wildcat Mounta	67.81	59	P	P	11 11 29.9	+1.4
WCT				IAmb	IAmb	11 11 30.6	
	comp=Z,282nm,0.8s						
CTU	Camp Tracy	67.84	54	IAmb	IAmb	11 11 30.9	
	comp=Z,442nm,0.9s						
TRLG	Trialeti	67.85	308	P	P	11 11 30.0	+1.2
ODD1	Odda	67.85	340	⇑iP	P	11 11 28.5	+0.2
ODD1				IVmB_BB		11 11 28.9	
	comp=Z,4µm,0.8s						
ODD1				eS	S	11 19 51.4	+1.1
MALK	Mahakanadarawa	67.88	258	P	P	11 11 27.9	-1.2
MALK	Mahakanadarawa	67.88	258	⇓P	P	11 11 29.3	+0.2
SUW	Suwalki	67.91	328	eP	P	11 11 28.1	-0.6
SUW				ePcP	PcP	11 11 51.2	-0.3
SUW				eS	S	11 19 48.0	-3.2
SUW				eL	L	11 23 11.6	
	comp=Z,2µm,23.4s						
SUW	Suwalki	67.91	328	IAmb	IAmb	11 11 29.8	
	comp=Z,1µm,1.2s						
SUW	Suwalki	67.91	328	eP	P	11 11 28.9	+0.2
TPNV	Topopah Spring	67.92	59	⇑P	P	11 11 30.3	+1.0
IHEI	Heioarbar	67.96	354	P	P	11 11 30.1	+1.3
IHES	Hestalda	68.00	354	P	P	11 11 30.9	+1.8
IFED	Fedgar	68.03	354	P	P	11 11 31.1	+1.8
IHEB	Hekla-Austur-2	68.05	354	P	P	11 11 31.5	+2.0
IKRO	Krokur	68.06	354	P	P	11 11 30.8	+1.4
IEDA	Engidalur	68.09	354	P	P	11 11 31.1	+1.4
IHAU	Haukadalur	68.10	354	P	P	11 11 31.1	+1.5
ISAU	Saurbar	68.11	354	P	P	11 11 31.0	+1.3
IMJO	Mjoaskard	68.12	354	P	P	11 11 31.5	+1.7
ISAN	Sandskeio	68.13	354	P	P	11 11 31.3	+1.5
WB0	Warramunga Arr	68.14	193	P	P	11 11 30.4	-0.1
AK03	Malin Array Si	68.16	323	P	P	11 11 30.2	-0.1
AK23	Malin Array Si	68.17	323	P	P	11 11 30.2	-0.1
AKASG	Malin Array Be	68.18	323	P	P	11 11 30.5	+0.1
AKASG				IAmb	IAmb	11 11 31.1	
	comp=Z,729nm,0.8s						
AKASG	Malin Array Be	68.18	323	P	P	11 11 30.1	-0.2
	comp=Z,674nm,0.8s,baz=37,slow=6.2,SNR=642						
AKASG				PKiKP	PKiKP	11 17 45.3	-0.6
	comp=Z,1.7nm,0.5s,baz=34,slow=2.0,SNR=2.6						
AKASG				S	S	11 19 52.6	-1.8
	comp=Z,133nm,0.9s,baz=34,slow=12,SNR=47						
AKASG				PKPPKP	P'P'df	11 39 43.5	-2.1
	comp=Z,1.1nm,0.6s,baz=243,slow=2.6,SNR=4.2						
	comp=Z,674nm,0.8s						
AKASG	Malin Array Be	68.18	323	P	P	11 11 30.5	+0.1
AKASG				pmax	pmax		
	comp=Z,729nm,0.9s						
AKBB	Malin Array Si	68.18	323	IAmb	IAmb	11 11 31.1	
	comp=Z,753nm,0.8s						
AKBB	Malin Array Si	68.18	323	c iP	P	11 11 30.1	-0.3
AKBB				pmax	pmax		
	comp=Z,899nm,0.9s						
IKAS	Kald??rsel	68.18	355	P	P	11 11 31.6	+1.5
ISLY	Slysaalda	68.18	353	P	P	11 11 32.0	+1.8
AK04	Malin Array Si	68.19	323	P	P	11 11 30.5	+0.1
PSUT	Pine Spring	68.19	56	P	P	11 11 32.1	+1.2
PSUT				IAmb	IAmb	11 11 33.1	
	comp=Z,685nm,0.8s						
KIEV	Kiev	68.19	323	P	P	11 11 30.4	-0.1
KIEV				IAmb	IAmb	11 11 31.1	
	comp=Z,676nm,0.8s						
KIEV	Kiev	68.19	323	i P	P	11 11 30.2	-0.3
	SNR=39						
KIEV	Kiev	68.19	323	⇑P	P	11 11 30.1	-0.3
KIEV	Kiev	68.19	323	⇑P	P	11 11 30.1	-0.4
KIEV	Kiev	68.19	323	P	P	11 11 30.4	-0.1
KIEV				pmax	pmax		
	comp=Z,676nm,0.8s						
KIEV	Kiev	68.19	323	P	P	11 11 30.3	-0.1
	comp=Z,4µm,0.9s,comp=Z,35µm						
KIEV	Kiev	68.19	323	P	P	11 11 30.2	-0.3
KIEV				PcP	PcP	11 11 51.1	-1.6
KIEV				pP	pP	11 13 06.5	+2.4
GWY	Greenwater Val	68.20	60	IAmb	IAmb	11 11 33.1	
	comp=Z,770nm,0.8s						
ISOL	Solvholt	68.21	354	P	P	11 11 31.6	+1.3
TJOU	Tjoern	68.22	336	i P	P	11 11 30.2	-0.3
BORU	Boraas	68.25	335	i P	P	11 11 30.1	-0.6
FITZ	Fitzroy Crossi	68.25	202	P	P	11 11 31.8	+0.6
	comp=Z,3µm,1.0s						
FITZ	Fitzroy Crossi	68.25	202	S	S	11 19 53.1	-2.7
	comp=Z,1.0nm,0.7s,baz=88,slow=20,SNR=0.9						
FITZ	Fitzroy Crossi	68.25	202	P	P	11 11 31.7	+0.6
IVOG	Vogar	68.27	355	P	P	11 11 31.7	+1.1
INYL	Nylenda	68.28	355	P	P	11 11 31.6	+0.8
IASM	Asmuli	68.28	354	P	P	11 11 32.2	+1.5
PRN	Pahroc Range	68.29	58	IAmb	IAmb	11 11 34.0	
	comp=Z,719nm,1.0s						
WRAB	Tennant Creek	68.31	193	P	P	11 11 31.3	-0.2
WRAB				PcP	PcP	11 11 53.9	+0.4
WRAB	Tennant Creek	68.31	193	c iP	P	11 11 31.0	-0.5
WRAB				pmax	pmax		
	comp=Z,141nm,0.9s						
QIS	Mount Isa	68.32	187	P	P	11 11 31.2	-0.3
	comp=Z,133nm,1.1s						
QIS	Mount Isa	68.32	187	P	P	11 11 31.1	-0.5
WB2	Warramunga Arr	68.32	193	P	P	11 11 31.2	-0.3
WB2				PcP	PcP	11 11 54.3	+0.8
WB2	Warramunga Arr	68.32	193	P	P	11 11 31.3	-0.3
WRA	Warramunga Arr	68.32	193	P	P	11 11 31.2	-0.4
	comp=Z,92nm,0.8s,baz=9.4,slow=6.5,SNR=314						
WRA				PKiKP	PKiKP	11 17 46.5	-0.3
	comp=Z,1.8nm,0.9s,baz=336,slow=1.8,SNR=2.2						
WRA				S	S	11 19 54.0	-2.7
	comp=Z,8.2nm,1.1s,baz=13,slow=12,SNR=10						
WRA				ScS	ScS	11 20 48.5	+0.7
	comp=Z,2.7nm,0.9s,baz=354,slow=8.4,SNR=3.8						
WRA				PKPPKP	P'P'df	11 39 43.0	+3.5
	comp=Z,70nm,1.0s,baz=194,slow=2.8,SNR=36						
	comp=Z,92nm,0.8s						
BLS5	Blasjo	68.33	339	⇑iP	P	11 11 31.4	+0.2
BLS5				IVmB_BB		11 11 31.7	
	comp=Z,4µm,1.6s						
BLS5				IVMs_BB	IVMs_BB	11 17 46.5	
	comp=Z,2µm,19.8s						
BLS5				eS	S	11 19 57.5	+1.6
IAUS	Austmannsbunga	68.33	353	P	P	11 11 33.2	+1.9
IKRI	Krysuvik	68.34	355	P	P	11 11 32.4	+1.3
IVOS	Vogsosar	68.34	355	P	P	11 11 32.6	+1.5
IRJU	Rjupnafell	68.35	353	P	P	11 11 33.0	+1.8
IGOD	Go??abunga	68.36	353	P	P	11 11 33.5	+2.1
IGRV	Grindav??k	68.38	355	P	P	11 11 31.9	+0.5
IHVO	Lagu-Hvolar	68.45	353	P	P	11 11 33.6	+1.8
ULM	Lac du Bonnet	68.48	38	P	P	11 11 31.9	-0.3
ULM				IAmb	IAmb	11 11 33.0	
	comp=Z,516nm,0.8s						
ULM	Lac du Bonnet	68.48	38	P	P	11 11 31.8	-0.5
	comp=Z,394nm,0.7s,baz=319,slow=6.8,SNR=610						
	comp=Z,394nm,0.7s						
ULM	Lac du Bonnet	68.48	38	⇑P	P	11 11 31.7	-0.5
ULM	Lac du Bonnet	68.48	38	d iP	P	11 11 30.7	-1.5
BLEU	Blekinge	68.48	333	i P	P	11 11 31.3	-0.8
GNI	Garni	68.48	306	P	P	11 11 34.8	+2.1
GNI				IAmb	IAmb	11 11 37.4	
	comp=Z,464nm,1.1s						
GNI	Garni	68.48	306	P	P	11 11 35.0	+2.4
GNI				P	P	11 11 35.0	+2.4
GNI	Garni	68.48	306	P	P	11 11 34.8	+2.1
GNI				pmax	pmax		
	comp=Z,464nm,1.2s						
GNI	Garni	68.48	306	P	P	11 11 34.9	+2.2
GNI				pP	pP	11 13 09.8	+3.2
SNCC	San Nicolas Is	68.53	64	P	P	11 11 33.7	+0.9
SNCC				IAmb	IAmb	11 11 34.8	
	comp=Z,774nm,1.0s						
KOD	Kodaikanal	68.57	261	⇓iP	P	11 11 33.8	+0.1
KOD				i x	x	11 14 10.0	
MI28	Mi28,Pidlybu	68.63	324	P	P	11 11 33.4	+0.3
	comp=Z,6µm,0.8s,comp=Z,55µm						
SOC	Sochi	68.67	312	eP	P	11 11 32.4	-1.1
SOC	Sochi	68.67	312	eP	P	11 11 33.8	+0.3
SOC				e*PP	pP	11 13 07.2	-0.3
SOC				e		11 14 11.4	
SOC				ePPP	PPP	11 15 55.6	
SOC				eS	S	11 20 00.5	+0.2
SOC				e		11 20 45.3	
SOC				eSS	SS	11 24 41.3	+6.9
SOC				pmax	pmax		
	comp=Z,290nm,0.7s						
ONAU	Onsala	68.69	336	i P	P	11 11 32.7	-0.6
PASC	Pasadena Art C	68.70	62	IAmb	IAmb	11 11 35.6	
	comp=Z,382nm,0.9s						
GSC	Goldstone, Bar	68.74	61	IAmb	IAmb	11 11 36.1	
	comp=Z,473nm,0.9s						
NAX	Nakhchivan	68.76	305	P	P	11 11 35.4	+1.2
KMY	Karmoy	68.80	340	⇑iP	P	11 11 34.3	+0.3
KMY				IVmB_BB		11 11 34.7	
	comp=Z,5µm,0.7s						
KMY				IVMs_BB	IVMs_BB	11 17 18.8	
	comp=Z,2µm,23.4s						
KMY				eS	S	11 20 03.0	+1.7
FABU	Falkenberg	68.81	335	i P	P	11 11 33.3	-0.8
NGCH	Negor - Chabah	68.82	285	P	P	11 11 36.9	+2.2
	SNR=6.3						
NGCH				S	S	11 20 06.8	+4.3
HOMB	Homborsund	68.84	338	⇑iP	P	11 11 33.3	-0.9
HOMB	Homborsund	68.84	338	i P	P	11 11 33.8	-0.5
SHPR	Sheep Range	68.86	59	IAmb	IAmb	11 11 37.5	
	comp=Z,429nm,0.9s						
ANN	Anapa	68.91	314	c iP	P	11 11 34.9	0.0
ANN				e*PP	pP	11 13 08.8	-0.2
ANN				eS	S	11 20 02.1	-1.0
ANN				pmax	pmax		
	comp=Z,269nm,0.6s						
TCRU	Three Creeks R	68.92	56	IAmb	IAmb	11 11 38.1	
	comp=Z,515nm,0.8s						
DEL	Delary	68.92	334	i P	P	11 11 33.8	-1.1
RNPP2	Kostyukhnivka	69.03	325	P	P	11 11 35.8	+0.3
BATM	Batumi	69.08	309	P	P	11 11 37.0	+1.0
SNART	Snartemo	69.11	338	⇑iP	P	11 11 36.0	+0.2
SNART	Snartemo	69.11	338	i P	P	11 11 36.1	+0.2
CCUT	Cedar City	69.15	57	IAmb	IAmb	11 11 39.2	
	comp=Z,391nm,0.9s						
OVD	Ostervraa, Den	69.23	336	i P	P	11 11 36.6	0.0
SZCU	Shurtz Canyon	69.28	57	IAmb	IAmb	11 11 39.7	
	comp=Z,410nm,0.9s						
LRW	Lerwick	69.31	343	⇑eP	P	11 11 37.0	-0.1
LRW				IAmb	IAmb	11 11 37.5	
	comp=Z,311nm,0.6s						
LRW	Lerwick	69.31	343	⇑P	P	11 11 37.2	+0.1
RSSD	Black Hills	69.38	47	P	P	11 11 38.5	+0.4
RSSD	Black Hills	69.38	47	⇑P	P	11 11 38.3	+0.2
RSSD	Black Hills	69.38	47	P	P	11 11 38.5	+0.4
RSSD				pmax	pmax		
	comp=Z,3µm,1.6s						
RSSD	Black Hills	69.38	47	⇑P	P	11 11 38.4	+0.3
LUBAR	Lubar, Ukraine	69.38	323	P	P	11 11 37.5	-0.2
Q16A	Castle Valley	69.41	55	IAmb	IAmb	11 11 40.9	
	comp=Z,1µm,1.6s						
P18A	Preston Nutter	69.41	53	IAmb	IAmb	11 11 40.8	
	comp=Z,709nm,1.0s						
MTPU	Mount Pierson	69.47	56	IAmb	IAmb	11 11 41.7	
	comp=Z,660nm,0.7s						
BJUU	Bjuv	69.51	334	i P	P	11 11 38.2	-0.1
HALK	Hakmana	69.51	256	⇑P	P	11 11 38.3	-0.7
ELS	Elsinore Mount	69.52	62	IAmb	IAmb	11 11 40.6	
	comp=Z,444nm,0.9s						
V12A	Nelson	69.58	59	IAmb	IAmb	11 11 41.8	
	comp=Z,567nm,1.0s						
LCMT	Little Creek M	69.60	57	IAmb	IAmb	11 11 41.9	
	comp=Z,445nm,0.9s						
BSD	Bornholm Skovb	69.76	333	eP	P	11 11 39.5	-0.3
BSD	Bornholm Skovb	69.76	333	⇑P	P	11 11 39.3	-0.6
BSD	Bornholm Skovb	69.76	333	⇑P	P	11 11 39.3	-0.6
BSD	Bornholm Skovb	69.76	333	⇑iP	P	11 11 39.5	-0.3
BSD				IAmb	IAmb	11 11 40.5	
	comp=Z,456nm,0.5s						
LUNU	Lund	69.77	334	i P	P	11 11 39.7	-0.2
KOUNC	Koumac, New Ca	69.82	162	P	P	11 11 41.7	+1.1
PKCU	Pink Cliffs	69.82	56	IAmb	IAmb	11 11 43.9	
	comp=Z,784nm,0.9s						
KNB	Kanab	69.83	57	IAmb	IAmb	11 11 43.6	
	comp=Z,920nm,1.1s						
AGMN	Agassiz Nation	69.98	39	IAmb	IAmb	11 11 42.0	
	comp=Z,469nm,0.9s						
AGMN	Agassiz Nation	69.98	39	⇑P	P	11 11 40.7	-0.6
COP	Copenhagen	70.02	334	⇑iP	P	11 11 41.6	+0.2
COP				IAmb	IAmb	11 11 42.5	
	comp=Z,1µm,0.9s						
PFO	Pinyon Flats O	70.12	62	P	P	11 11 43.2	+0.6
PFO				IAmb	IAmb	11 11 44.4	
	comp=Z,485nm,1.1s						
PFO	Pinyon Flats O	70.12	62	c iP	P	11 11 43.0	+0.4
PFO				pmax	pmax		
	comp=Z,861nm,1.1s						
PFO	Pinyon Flats O	70.12	62	P	P	11 11 42.9	+0.3
PFO				PcP	PcP	11 12 02.2	+0.8
O20A	White River Ci	70.12	52	IAmb	IAmb	11 11 44.4	
	comp=Z,979nm,1.1s						
TPFO	Pinon Flats	70.12	62	P	P	11 11 43.1	+0.4
	baz=315						
TPFO				S	S	11 20 19.7	+1.9
	baz=315						
BAL3X	Bal3x, Balta	70.14	320	P	P	11 11 42.7	+0.4
TRD	Trivandrum	70.17	261	⇓iP	P	11 11 43.0	0.0
TRD				IAmb	IAmb	11 11 45.5	
	comp=Z,127nm,1.1s						
MUD	Monsted U'grnd	70.26	337	⇑P	P	11 11 42.9	+0.1
MUD	Monsted U'grnd	70.26	337	P	P	11 11 42.7	-0.1
MUD	Monsted U'grnd	70.26	337	⇑iP	P	11 11 43.0	+0.2
MUD				IAmb	IAmb	11 11 43.5	
	comp=Z,1.6nm,0.2s						
DGTI	Dogotuki	70.29	146	P	P	11 11 44.4	+0.9
SIM	Simferopol'	70.39	316	eP	P	11 11 44.2	+0.4
SIM				eS	S	11 20 21.2	+1.1
SIM				pmax	pmax		
	comp=Z,467nm,0.8s						
SIM				smax	smax		
	comp=N,421nm,16.0s						
HORU	Horodok	70.47	323	P	P	11 11 44.3	0.0
HORU	Horodok	70.47	323	P	P	11 11 44.3	0.0
KTUT

SNR=8.2
BANOM **Banah** 71.55 288 P **P** 11 11 51.6 +0.5
ESJX **Sierra Juarez** 71.55 63 IAmb IAmb 11 11 53.2
comp=Z,575nm,1.0s
SHME **Shamm** 71.57 289 *i* P **P** 11 11 51.2 +0.1
SNR=19
SHME **Shamm** 71.57 289 P **P** 11 11 51.6 +0.4
SNR=9.4
SHME S **S** 11 20 29.9 -4.1
IAS **Iasi** 71.59 321 ⇓P **P** 11 11 51.1 +0.1
IAS **Iasi** 71.59 321 P **P** 11 11 51.0 +0.1
KWP **Kalwaria Pacla** 71.61 325 *e*P **P** 11 11 51.7 +0.7
KWP *e*S **S** 11 20 31.8 -2.0
KWP **Kalwaria Pacla** 71.61 325 ⇑P **P** 11 11 51.8 +0.8
KWP **Kalwaria Pacla** 71.61 325 ⇑P **P** 11 11 51.8 +0.8
AFI **Afiamalu** 71.69 137 P **P** 11 11 51.9 0.0
AFI **Afiamalu** 71.69 137 P **P** 11 11 51.9 0.0
AFI **Afiamalu** 71.69 137 P **P** 11 11 51.9 0.0
AFI pmax pmax
comp=Z,154nm,1.0s
F33A **5 Mile Ranch,** 71.69 41 IAmb IAmb 11 11 52.6
comp=Z,961nm,1.1s
WUAZ **Wupatki** 71.72 57 IAmb IAmb 11 11 54.8
comp=Z,659nm,0.9s
WUAZ **Wupatki** 71.72 57 ⇑P **P** 11 11 53.4 +1.3
KSV **Kosov** 71.74 323 P **P** 11 11 51.6 -0.2
KSV **Kosov** 71.74 323 P **P** 11 11 51.6 -0.2
NOUC **Port Laguerre** 71.75 161 P **P** 11 11 53.3 +1.3
NOUC **Port Laguerre** 71.75 161 P **P** 11 11 53.6 +1.6
ISCO **Idaho Springs** 71.75 51 IAmb IAmb 11 11 54.7
comp=Z,2μm,1.9s
ISCO **Idaho Springs** 71.75 51 ⇑P **P** 11 11 53.4 +1.0
ISCO **Idaho Springs** 71.75 51 P **P** 11 11 53.4 +1.0
DZM **Mont Dzumac** 71.75 161 *e*P **P** 11 11 51.2 -1.0
comp=Z,391nm,1.3s
DZM *e*pP **pP** 11 13 24.6 -1.9
comp=Z,438nm,23.1s
DZM *e*S **S** 11 20 36.7 +0.6
comp=Z,378nm,26.4s
DZM **Mont Dzumac** 71.75 161 *e*LQ LQ 11 30 56.7
comp=Z,3μm,30.4s
DZM *e*LR LR 11 34 31.2
comp=Z,583nm,24.0s
DZM **Mont Dzumac** 71.75 161 P **P** 11 11 53.9 +1.8
DZM **Mont Dzumac** 71.75 161 P **P** 11 11 54.0 +1.8
YATNC **Mamie plateau,** 71.84 160 P **P** 11 11 53.7 +1.1
Y14A **Wickenburg** 71.92 59 IAmb IAmb 11 11 55.3
comp=Z,1μm,1.1s
LINV **Loch Inver, As** 71.92 345⇑*e*P **P** 11 11 52.5 -0.1
LINV IAmb IAmb 11 11 53.4
comp=Z,998nm,1.7s
MDH **Madha** 71.99 288 *i* P **P** 11 11 53.5 -0.2
SNR=7.7
MDH **Madha** 71.99 288 P **P** 11 11 53.6 0.0
MDH S **S** 11 20 35.0 -3.8
MASF **Masafi** 72.03 288 P **P** 11 11 54.5 +0.6
MASF S **S** 11 20 38.7 -0.7
AS01 **Alice Springs** 72.04 192 P **P** 11 11 54.4 +0.7
MSFE **Esma-Masafi** 72.04 288 *i* P **P** 11 11 54.4 +0.4
SNR=9.1
AS31 **Alice Springs** 72.04 192 P **P** 11 11 54.5 +0.7
comp=Z,52nm,1.1s
ASAR **Alice Springs** 72.05 192 P **P** 11 11 55.0 +1.2
ASAR **Alice Springs** 72.05 192 P **P** 11 11 54.6 +0.9
comp=Z,97nm,0.8s,baz=3.6,slow=5.2,SNR=419
ASAR PKiKP **PKiKP** 11 17 50.4 -1.6
comp=Z,1.4nm,0.9s,baz=20,slow=3.0,SNR=1.3
ASAR ScS **ScS** 11 21 18.4 +1.2
comp=Z,2.5nm,0.9s,baz=0.0,slow=6.0,SNR=2.9
ASAR PKKP **PKKPdf** 11 31 21.6 +0.1
comp=Z,0.7nm,0.8s,baz=202,slow=3.9,SNR=2.0
ASAR PKPPKP **P'P'df** 11 39 32.6 -0.5
comp=Z,3.5nm,0.7s,baz=168,slow=3.4,SNR=6.4
ASAR P4KPbc 11 48 21.1
comp=Z,0.2nm,0.6s,baz=174,slow=12,SNR=4.3
comp=Z,97nm,0.8s
BIDO **Bidbid** 72.06 285 P **P** 11 11 55.3 +1.2
SNR=6.5
BIDO S **S** 11 20 40.8 +1.1
EYMN **Ely** 72.07 37 ⇑P **P** 11 11 53.3 -0.4
MCD **Coleburn Disti** 72.09 344⇑*e*P **P** 11 11 53.4 -0.3
MCD IAmb IAmb 11 11 54.3
comp=Z,244nm,0.8s
MVCO **Mesa Verde** 72.10 54 ⇑P **P** 11 11 55.2 +0.8
WBK **Wadi Bani Khal** 72.15 284 P **P** 11 11 56.2 +1.6
SNR=9.5
WBK S **SKiKP** 11 20 44.2 +1.0
JLN **Jalan Bani Buh** 72.18 283 P **P** 11 11 56.4 +1.6
SNR=13
JLN S **SKiKP** 11 20 44.7 +1.5
LEWI **Lewis, Hebride** 72.21 346⇑*e*P **P** 11 11 54.1 -0.2
LEWI IAmb IAmb 11 11 54.9
comp=Z,293nm,0.8s
OJC **Ojcow** 72.21 327 *e*P **P** 11 11 54.8 +0.3
OJC *e*L L 11 23 49.5
comp=Z,2μm,21.9s
OJC **Ojcow** 72.21 327 IAmb IAmb 11 11 56.0
comp=Z,562nm,1.0s
OJC **Ojcow** 72.21 327 ⇑P **P** 11 11 54.9 +0.4
BUR08 **Bucovina Ar. S** 72.22 323 IAmb IAmb 11 11 56.1
comp=Z,471nm,0.8s
BURAR **Bucovina Array** 72.23 323 P **P** 11 11 55.5 +0.7
BURAR IAmb IAmb 11 11 56.5
comp=Z,578nm,0.7s
BURAR **Bucovina Array** 72.23 323 ⇑P **P** 11 11 55.3 +0.5
BURAR **Bucovina Array** 72.23 323 P **P** 11 11 55.1 +0.3
BURAR pmax pmax
comp=Z,577nm,0.7s
UMQ **Umm Al-Quwin** 72.24 288 P **P** 11 11 56.3 +1.2
UMQ S **S** 11 20 42.0 +0.4
BIR **Birlad** 72.29 320 ⇓P **P** 11 11 57.6 +2.6
BIR **Birlad** 72.29 320 P **P** 11 11 56.9 +1.9
UOSS **Minazif** 72.30 288 P **P** 11 11 55.7 +0.2
UOSS **Minazif** 72.30 288 *i* P **P** 11 11 55.7 +0.2
SNR=22
UOSS **Minazif** 72.30 288 P **P** 11 11 55.6 +0.2
UOSS S **S** 11 20 40.9 -1.4
DIKM **Dikmen** 72.31 313 ⇑P **P** 11 11 56.9 +1.7
STHS **Stebnicka Huta** 72.34 326 *e*P **P** 11 11 55.3 0.0
STHS *e*S **S** 11 20 40.2 -1.8
STHS pmax pmax
comp=Z,369nm,0.9s
STHS **Stebnicka Huta** 72.34 326 *e*P **P** 11 11 55.3 0.0
STHS *e*S **S** 11 20 40.2 -1.8
KOLS **Kolonicke sedl** 72.34 325 *e*P **P** 11 11 55.8 +0.5
KOLS *e*S **S** 11 20 40.5 -1.5
KOLS pmax pmax
comp=Z,465nm,0.8s
KOLS **Kolonicke sedl** 72.34 325 *e*P **P** 11 11 55.8 +0.5
KOLS *e*S **S** 11 20 40.5 -1.5
RUE **Ruedersdorf** 72.36 332 *e*P **P** 11 11 55.6 +0.4
RUE **Ruedersdorf** 72.36 332 ⇑P **P** 11 11 55.6 +0.4
VLDR **Vladesti** 72.43 320 ⇑P **P** 11 11 56.6 +0.8
HATD **Hatta, Dubai** 72.43 288 *i* P **P** 11 11 56.6 +0.4
SNR=24
HATD **Hatta, Dubai** 72.43 288 P **P** 11 11 57.0 +0.8
SNR=9.0
HATD S **SKiKP** 11 20 43.6 0.0
SMDO **Samad** 72.43 285 P **P** 11 11 57.5 +1.1
SNR=7.2
SMDO S **S** 11 20 45.9 +1.8
X16A **Lo Mia Camp, P** 72.47 58 IAmb IAmb 11 11 59.2
comp=Z,864nm,0.9s
VARL **Varlezi** 72.48 320 ⇑P **P** 11 11 57.2 +1.1
TESR **Tescani** 72.52 321 ⇑P **P** 11 11 56.8 +0.5
HOQ **Hoqain** 72.55 286 P **P** 11 11 58.0 +1.1
SNR=8.1
HOQ S **S** 11 20 45.6 +0.5
GHRR 72.55 320 ⇑P **P** 11 11 57.7 +1.2
GHRR 72.55 320 P **P** 11 11 57.7 +1.2
DRUM **Mains of Drumt** 72.57 343⇑*e*P **P** 11 11 56.3 -0.2
DRUM IAmb IAmb 11 11 57.1
comp=Z,358nm,0.9s
ASHO **Ashiyiah** 72.58 288 *i* P **P** 11 11 57.7 +0.6
SNR=29
ASHO **Ashiyiah** 72.58 288 P **P** 11 11 58.0 +0.9
SNR=29
ASHO P **P** 11 11 59.0 +1.9
SNR=7.8
ASHO S **SKiKP** 11 20 43.8 0.0
UZHM **Uzhgorod** 72.58 325 P **P** 11 11 56.0 -0.6
SCTR **Scanteiesti** 72.60 320 ⇓P **P** 11 11 57.6 +0.8
Q24A **Divide** 72.61 51 IAmb IAmb 11 11 59.1
comp=Z,380nm,0.8s

Q24A **Divide** 72.61 51 P **P** 11 11 58.1 +0.7
baz=318,SNR=161
Q24A S **S** 11 20 45.9 -0.2
baz=318
S22A **4UR Ranch, Cre** 72.62 53 IAmb IAmb 11 11 60.0
comp=Z,675nm,1.1s
S22A **4UR Ranch, Cre** 72.62 53 P **P** 11 11 58.7 +1.3
baz=318,SNR=589
S22A S **S** 11 20 49.1 +3.0
baz=318
NAZ **Nazwa, Dubai** 72.62 288 *i* P **P** 11 11 57.6 +0.3
SNR=9.4
NAZ **Nazwa, Dubai** 72.62 288 P **P** 11 11 57.6 +0.3
NAZ S **S** 11 20 44.9 -1.0
TLCR 72.62 319 ⇑P **P** 11 11 57.5 +0.6
TLCR 72.62 319 P **P** 11 11 57.5 +0.6
HOLU **Holmets** 72.63 325 P **P** 11 11 57.7 +0.8
TATR **Tatarca** 72.63 320 ⇓P **P** 11 11 58.1 +1.1
SOHO **SOHO** 72.66 287 *i* P **P** 11 11 57.6 +0.1
SNR=24
SOHO **SOHO** 72.66 287 P **P** 11 11 57.8 +0.3
SOHO S **SKiKP** 11 20 44.3 +0.5
ARPR **Arapgir-MALATY** 72.66 309 IAmb IAmb 11 12 00.3
comp=Z,436nm,0.9s
NIE **Niedzica** 72.69 327 *e*P **P** 11 11 58.8 +1.5
NIE *e*S **S** 11 20 45.9 -0.1
NIE *e*L L 11 26 30.7
comp=Z,3μm,15.9s
BZK **Bozkurt** 72.69 314 ⇑P **P** 11 11 58.3 +0.9
BZK **Bozkurt** 72.69 314 ⇑P **P** 11 11 58.3 +0.9
OGNE **Ogallala** 72.73 48 ⇑P **P** 11 11 58.2 +0.4
COSR **Cosmesti PH** 72.75 320 ⇑P **P** 11 11 59.3 +1.7
NEGRR **Negrea** 72.76 320 ⇑P **P** 11 11 58.5 +0.8
ONER **Baraj Valea Uz** 72.76 321 ⇑P **P** 11 11 58.8 +1.0
KPL **Plockton** 72.77 345⇑*e*P **P** 11 11 57.6 +0.1
KPL IAmb IAmb 11 11 58.4
comp=Z,899nm,0.8s
MBWA **Marble Bar** 72.78 206 P **P** 11 11 58.3 +0.2
MBWA **Marble Bar** 72.78 206 P **P** 11 11 58.2 +0.1
comp=Z,83nm,0.9s
MBWA **Marble Bar** 72.78 206 P **P** 11 11 58.0 -0.1
MBWA S **S** 11 20 47.3 -0.1
MBWA **Marble Bar** 72.78 206 P **P** 11 11 58.0 -0.1
MBWA **Marble Bar** 72.78 206 ⇑P **P** 11 11 58.2 +0.1
IZVR **Izvoarele** 72.80 320 ⇓P **P** 11 11 58.7 +0.8
TUDR 72.80 320 ⇓P **P** 11 11 58.7 +0.8
SCHL **Schela** 72.81 320 ⇓P **P** 11 11 59.3 +1.3
PANC **Panciu** 72.81 321 ⇑P **P** 11 11 59.3 +1.3
SCHLR **Schela** 72.83 320 ⇑P **P** 11 11 59.1 +0.9
FAQ **Al Faqa, Dubai** 72.83 288 *i* P **P** 11 11 58.9 +0.3
SNR=26
FAQ **Al Faqa, Dubai** 72.83 288 P **P** 11 11 59.0 +0.4
SNR=6.8
BMR **Baia Mare** 72.88 324 ⇑P **P** 11 11 59.3 +0.8
BMR **Baia Mare** 72.88 324 P **P** 11 11 59.2 +0.8
JMDO **Jabal Madar** 72.88 284 P **P** 11 11 60.0 +1.1
SNR=11
JMDO S **S** 11 20 50.6 +1.7
RAC **Raciborz** 72.90 328 *e*P **P** 11 11 59.4 +0.9
RAC *e*PP **pP** 11 13 33.0 -0.8
RAC *e*S **S** 11 20 47.6 -0.6
RAC **Raciborz** 72.90 328 *e*P **P** 11 11 59.4 +0.9
RAC *e**PP **pP** 11 13 33.0 -0.8
EIDS **Eidsvold** 72.91 176 P **P** 11 12 00.1 +1.3
comp=Z,0.0nmcomp=Z,276nm,1.5s
EIDS **Eidsvold** 72.91 176 P **P** 11 12 00.0 +1.3
JURR **Jurilovca** 72.92 319 ⇑P **P** 11 11 59.3 +0.6
CFR **Carcaliu** 72.93 319 ⇑P **P** 11 11 59.0 +0.2
CFR **Carcaliu** 72.93 319 P **P** 11 11 58.9 +0.2
KSP **Ksiaz** 72.93 330 *e*P **P** 11 11 59.0 +0.3
KSP *e*S **S** 11 20 46.1 -2.4
KSP *e*L L 11 24 05.0
comp=Z,6μm,18.2s
KSP **Ksiaz** 72.93 330 ⇑P **P** 11 11 59.1 +0.5
KSP **Ksiaz** 72.93 330 P **P** 11 11 58.9 +0.3
comp=Z,513nm,0.9s,comp=Z,5μm
ODBI **Odobesti** 72.93 320 ⇑P **P** 11 12 00.7 +1.9
VRI **Vrincioaia** 72.99 321 ⇑P **P** 11 12 01.0 +1.8
VRI **Vrincioaia** 72.99 321 P **P** 11 12 00.9 +1.8
ARCR **ARCALIA** 73.01 323 ⇑P **P** 11 12 00.5 +1.3
PSAD1 **Pilbara Seismi** 73.03 206 P **P** 11 11 59.5 0.0
comp=Z,97nm,1.0s
PLOR **Plostina** 73.04 321 ⇓P **P** 11 11 59.9 +0.4
PLOR **Plostina** 73.04 321 ⇓P **S** 11 20 57.6 +7.6
PLOR **Plostina** 73.04 321 P **P** 11 11 59.8 +0.4
ASUD **Al Ashush, Dub** 73.09 288 *i* P **P** 11 12 00.8 +0.8
SNR=16
PSAC1 **Pilbara Seismi** 73.11 206 P **P** 11 12 00.1 +0.1
comp=Z,93nm,1.2s
OKC **Ostrava-Krasne** 73.12 328⇑*i*P **P** 11 12 00.4 +0.6
OKC **Ostrava-Krasne** 73.12 328⇑*i*P **P** 11 12 00.4 +0.6
PSA00 **Pilbara Seismi** 73.14 206 P **P** 11 12 00.1 0.0
PSA00 **Pilbara Seismi** 73.14 206 P **P** 11 12 00.1 0.0
TURR **Turia** 73.14 321 ⇑P **P** 11 12 01.5 +1.5
ECSD **EROS Data Cent** 73.18 43 ⇑P **P** 11 12 00.1 -0.1
OSTC **Ostas** 73.19 330⇑*i*P **P** 11 12 00.7 +0.5
OSTC **Ostas** 73.19 330⇑*i*P **P** 11 12 00.7 +0.5
BSY **Bisya** 73.21 285 P **P** 11 12 02.0 +1.2
SNR=18
BSY S **S** 11 20 53.5 +1.0
OZUR 73.21 321 ⇓P **P** 11 12 03.8 +3.4
LANS **Liptovska Anna** 73.22 327 *e*P **P** 11 12 01.8 +1.4
LANS *e* 11 13 38.9
LANS *e*S **S** 11 20 51.9 0.0
LANS pmax pmax
comp=Z,367nm,0.9s
LANS **Liptovska Anna** 73.22 327 *e*P **P** 11 12 01.8 +1.4
LANS *e* 11 13 38.9
LANS *e*S **S** 11 20 51.9 0.0
ALNE **Al Ain** 73.22 287 *i* P **P** 11 12 01.0 +0.2
SNR=63
ALNE **Al Ain** 73.22 287 P **P** 11 12 01.5 +0.7
SNR=14
ALNE S **S** 11 20 51.2 -1.5
CHVC **Chvalec** 73.22 330⇑*i*P **P** 11 12 00.9 +0.5
CHVC *e*S **S** 11 20 50.3 -1.6
CHVC **Chvalec** 73.22 330⇑*i*P **P** 11 12 00.9 +0.5
CHVC *e*S **S** 11 20 50.3 -1.6
ARQ **Araqi** 73.23 286 P **P** 11 12 02.0 +1.1
SNR=17
ARQ S **S** 11 20 52.6 -0.2
COVR **Voineasa-Covas** 73.23 321 ⇑P **P** 11 12 01.6 +1.1
X18A **Snowflake** 73.24 57 IAmb IAmb 11 12 03.4
comp=Z,516nm,1.0s
BISRR **Bisoca** 73.25 321 ⇑P **P** 11 12 02.1 +1.4
BISRR **Bisoca** 73.25 321 ⇑P **S** 11 20 55.8 +3.4
GRER 73.27 320 ⇓P **P** 11 12 03.1 +2.4
UPC **Upice** 73.31 330⇑*i*P **P** 11 12 01.4 +0.6
UPC **Upice** 73.31 330⇑*i*P **P** 11 12 01.4 +0.6
SDCO **Great Sand Dun** 73.33 52 ⇑P **P** 11 12 02.3 +0.7
INVG **Invergeldie, C** 73.33 344⇑*e*P **P** 11 12 00.5 -0.3
INVG IAmb IAmb 11 12 01.4
comp=Z,130nm,0.9s
DPC **Dobruska-Polom** 73.33 329⇑*i*P **P** 11 12 01.9 +0.9
DPC **Dobruska-Polom** 73.33 329⇑*i*P **P** 11 12 01.9 +0.9
DPC **Dobruska-Polom** 73.33 329 P **P** 11 12 01.9 +0.9
comp=Z,302nm,1.1s,comp=Z,4μm
AJN **Ajban** 73.35 288 *i* P **P** 11 12 01.4 -0.1
SNR=30
AJN **Ajban** 73.35 288 P **P** 11 12 01.8 +0.3
SNR=30
AJN S **S** 11 20 51.0 -3.0
TGMR **Targu Mures** 73.39 322 ⇓P **P** 11 12 03.1 +1.7
KECS **Kecovo** 73.39 326 *e*P **P** 11 12 02.0 +0.7
KECS *e*S **S** 11 20 52.6 -1.1
KECS pmax pmax
comp=Z,617nm,0.8s
KECS **Kecovo** 73.39 326 *e*P **P** 11 12 02.0 +0.7
KECS *e*S **S** 11 20 52.6 -1.1
MORC **Moravsky Berou** 73.39 328 IAmb IAmb 11 12 03.1
comp=Z,608nm,0.9s
MORC **Moravsky Berou** 73.39 328⇑*i*P **P** 11 12 02.0 +0.6
MORC *e*S **S** 11 20 52.6 -1.2
MORC **Moravsky Berou** 73.39 328 ⇑P **P** 11 12 05.4 +4.0
MORC **Moravsky Berou** 73.39 328 ⇑P **P** 11 12 01.9 +0.6
MORC **Moravsky Berou** 73.39 328 P **P** 11 12 02.0 +0.6
HARR **Harsova** 73.40 319 ⇑P **P** 11 12 02.1 +0.6
HARR **Harsova** 73.40 319 P **P** 11 12 02.0 +0.6
KRLC **Kraliky** 73.41 329⇑*i*P **P** 11 12 02.1 +0.6
KRLC *e*S **S** 11 20 52.8 -1.1
KRLC **Kraliky** 73.41 329⇑*i*P **P** 11 12 02.1 +0.6
KRLC *e*S **S** 11 20 52.8 -1.1
TLBR **Topalu** 73.46 319 ⇑P **P** 11 12 02.6 +0.8

DOPR **Dopca** 73.48 322 ⇑P **P** 11 12 03.2 +1.3
MESR **Meseseni** 73.52 324 ⇑P **P** 11 12 05.4 +3.3
NEHR **Nehoiu** 73.53 321 ⇑P **P** 11 12 03.1 +0.9
NEHR **Nehoiu** 73.53 321 ⇑P **S** 11 20 57.4 +2.0
ESY **Stoneypath** 73.53 343⇑*e*P **P** 11 12 01.9 -0.1
EFOR **EFORIE** 73.57 318 ⇑P **P** 11 12 02.3 -0.1
CBBR **Cluj-Babes-Bol** 73.59 323 ⇓P **P** 11 12 03.8 +1.2
CLL **Collm** 73.61 332⇑*i*P **P** 11 12 02.5 -0.1
CLL *e**PP **pP** 11 13 38.0 0.0
CLL *i* S **S** 11 20 53.3 -2.8
CLL *e* 11 21 24.0
CLL pmax pmax
comp=Z,1μm,0.9s
CLL **Collm** 73.61 332⇑*i*P **P** 11 12 02.5 -0.1
comp=Z,1μm,0.9s
CLL *e*PcP **PcP** 11 12 18.0 +2.2
CLL *e*pP **pP** 11 13 38.0 0.0
CLL *i* S **S** 11 20 53.3 -2.8
CLL *e*SKSac **SKSac** 11 21 24.0 -2.0
CLL *e*SSSS 11 31 34.0
CJR **Cluj-Napoca** 73.62 323 ⇑P **P** 11 12 03.9 +1.1
CJR **Cluj-Napoca** 73.62 323 P **P** 11 12 03.8 +1.1
MLR **Muntele Rosu** 73.62 321 IAmb IAmb 11 12 05.3
comp=Z,370nm,0.9s
MLR **Muntele Rosu** 73.62 321 P **P** 11 12 03.4 +0.5
comp=Z,287nm,0.7s,baz=348,slow=0.9,SNR=103
MLR S **S** 11 20 56.0 -0.7
comp=Z,27nm,1.0s,baz=127,slow=20,SNR=4.2
comp=Z,287nm,0.7s
MLR **Muntele Rosu** 73.62 321 ⇑P **P** 11 12 03.6 +0.7
MLR **Muntele Rosu** 73.62 321 ⇓P **S** 11 20 58.6 +1.9
CVDA **Cernavoda** 73.63 319 ⇑P **P** 11 12 04.1 +1.3
MAUC **Maruska** 73.63 328⇑*i*P **P** 11 12 03.6 +0.8
EDI **Edinburgh** 73.64 343⇑*e*P **P** 11 12 02.3 -0.3
EDI IAmb IAmb 11 12 03.2
comp=Z,244nm,0.9s
ISR **Istrita** 73.66 320 ⇓P **P** 11 12 04.1 +1.1
ISR **Istrita** 73.66 320 ⇑P **S** 11 21 00.9 +3.9
ISR **Istrita** 73.66 320 P **P** 11 12 04.1 +1.1
BRG **Berggiesshubel** 73.68 331 *i* P **P** 11 12 03.0 0.0
BRG Amp 11 12 04.2
comp=Z,201nm,0.9s
BRG **Berggiesshubel** 73.68 331 P P 11 12 11.6 +8.6
BRG Amp 11 12 12.3
comp=Z,62nm,0.8s
BRG **Berggiesshubel** 73.68 331 *i* P **P** 11 12 02.9 0.0
BRG 11 12 11.5
BRG 11 13 40.4
BRG pmax pmax
comp=Z,201nm,0.9s
SPMN **Marine on St.** 73.70 39 IAmb IAmb 11 12 04.0
comp=Z,639nm,1.1s
AMRR **Amara** 73.72 320 ⇑P **P** 11 12 04.4 +1.0
AMRR **Amara** 73.72 320 P **P** 11 12 04.3 +1.0
LAWE **Loch Awe, Argy** 73.74 344⇑*e*P **P** 11 12 03.1 0.0
LAWE IAmb IAmb 11 12 03.9
comp=Z,472nm,0.8s
MDB **Medias** 73.76 322 ⇑P **P** 11 12 05.2 +1.6
MDB **Medias** 73.76 322 P **P** 11 12 05.1 +1.6
PVCC **Panska Ves** 73.77 330⇑*i*P **P** 11 12 04.1 +0.6
PVCC **Panska Ves** 73.77 330⇑*i*P **P** 11 12 04.1 +0.6
MANR **Mangalia** 73.79 318 ⇓P **P** 11 12 04.6 +0.9
ICOR **Ion Corvin** 73.91 319 ⇑P **P** 11 12 05.5 +1.2
DRGR 73.91 324 ⇑P **P** 11 12 04.9 +0.4
DRGR 73.91 324 P **P** 11 12 04.8 +0.4
RICC **Richard** 73.92 331⇑*i*P **P** 11 12 04.8 +0.5
SCHQ **Schefferville** 73.92 19 IAmb IAmb 11 12 05.0
comp=Z,1μm,1.8s
SCHQ **Schefferville** 73.92 19 P **P** 11 12 03.7 -0.5
comp=Z,187nm,0.8s,baz=344,slow=5.7,SNR=83
comp=Z,187nm,0.8s
MHTO **MHTO** 73.95 284 P **P** 11 12 06.2 +1.3
SNR=57
MHTO S **S** 11 21 01.8 +1.1
HMDM **Hanimaadhoo** 73.97 262 P **P** 11 12 05.7 +0.6
HMDM **Hanimaadhoo** 73.97 262 P **P** 11 12 06.2 +1.0
SNR=8.3
HMDM **Hanimaadhoo** 73.97 262 ⇓P **P** 11 12 05.8 +0.6
PGBU **Glenifferbraes** 73.99 344⇑*e*P **P** 11 12 04.8 +0.2
PGBU IAmb IAmb 11 12 05.7
comp=Z,1μm,1.1s
VOIR 74.05 321 ⇑P **P** 11 12 06.2 +1.0
VOIR 74.05 321 ⇑P **S** 11 21 05.6 +4.4
VOIR 74.05 321 P **P** 11 12 06.2 +1.0
PLAR **PLOIESTI** 74.05 321 ⇑P **P** 11 12 05.9 +0.8
QLP **Quilpie** 74.05 182 P **P** 11 12 06.3 +1.1
LEHL **Lehliu** 74.06 320 ⇓P **P** 11 12 06.3 +1.1
PSZ **Piszkesteto** 74.08 326 IAmb IAmb 11 12 07.4
comp=Z,426nm,0.9s
PSZ **Piszkesteto** 74.08 326 *e*P **P** 11 12 05.4 0.0
PSZ **Piszkesteto** 74.08 326 ⇑P **P** 11 12 05.0 -0.4
HSKC **Hora Svate Kat** 74.08 331⇑*i*P **P** 11 12 05.6 +0.3
JAVC **Velka Javorina** 74.11 328⇑*i*P **P** 11 12 07.2 +1.6
JAVC *e*S **S** 11 21 03.3 +1.5
VRAC **Vranov** 74.12 329 P **P** 11 12 06.1 +0.6
comp=Z,358nm,0.9s,baz=35,slow=5.8,SNR=127
VRAC S **S** 11 21 01.4 -0.4
comp=Z,2.7nm,0.3s,baz=130,slow=23,SNR=2.3
comp=Z,358nm,0.9s
VRAC **Vranov** 74.12 329⇑*i*P **P** 11 12 06.4 +0.9
VRAC *e*S **S** 11 21 01.4 -0.4
VRAC **Vranov** 74.12 329 ⇑P **P** 11 12 06.5 +1.0
EKA **Eskdalemuir Ar** 74.19 343 P **P** 11 12 05.7 0.0
comp=Z,291nm,0.7s,baz=23,slow=5.1,SNR=382
EKA PKiKP **PKiKP** 11 17 54.1 -0.2
comp=Z,2.0nm,0.6s,baz=30,slow=4.4,SNR=1.9
comp=Z,291nm,0.7s
EKB **Eskdalemuir** 74.19 343 P **P** 11 12 06.0 +0.2
EKB IAmb IAmb 11 12 06.8
comp=Z,397nm,0.8s
TNR **Turnu Rosu** 74.20 322 ⇓P **P** 11 12 07.5 +1.5
TNR **Turnu Rosu** 74.20 322 P **P** 11 12 07.5 +1.5
ESK **Eskdalemuir** 74.21 343 P **P** 11 12 06.2 +0.3
ESK IAmb IAmb 11 12 06.9
comp=Z,407nm,0.8s
ESK **Eskdalemuir** 74.21 343⇑*e*P **P** 11 12 05.8 0.0
ESK IAmb IAmb 11 12 06.7
comp=Z,402nm,0.8s
ESK **Eskdalemuir** 74.21 343 P **P** 11 12 06.2 +0.3
ESK pmax pmax
comp=Z,407nm,0.8s
MTUR **Matau** 74.21 321 ⇑P **P** 11 12 08.2 +2.0
MTUR **Matau** 74.21 321 P **P** 11 12 08.2 +2.0
GOPC **GO Pecny, Ondr** 74.23 330⇑*i*P **P** 11 12 06.8 +0.7
GOPC **GO Pecny, Ondr** 74.23 330⇑*i*P **P** 11 12 06.8 +0.7
PRU **Pruhonice** 74.24 330⇑*i*P **P** 11 12 06.7 +0.5
PRU **Pruhonice** 74.24 330⇑*i*P **P** 11 12 06.7 +0.5
BGNE **Belgrade** 74.27 45 P **P** 11 12 06.5 -0.1
ARR **Arges** 74.28 322 ⇑P **P** 11 12 08.0 +1.5
ARR **Arges** 74.28 322 ⇓P **S** 11 21 07.9 +4.1
WRKA **Warakurna** 74.36 197 P **P** 11 12 07.4 +0.3
T25A **Trinidad** 74.36 52 IAmb IAmb 11 12 09.1
comp=Z,786nm,0.9s
T25A **Trinidad** 74.36 52 P **P** 11 12 08.0 +0.7
baz=319,SNR=556
T25A S **S** 11 21 04.6 -0.6
baz=319
TUC **Tucson** 74.38 59 P **P** 11 12 08.2 +0.8
TUC IAmb IAmb 11 12 09.6
comp=Z,504nm,1.0s
TUC **Tucson** 74.38 59 ⇑P **P** 11 12 08.3 +0.9
TUC **Tucson** 74.38 59 P **P** 11 12 08.2 +0.8
TUC pmax pmax
comp=Z,504nm,1.0s
KRUC **Moravsky** 74.40 329⇑*i*P **P** 11 12 07.7 +0.6
KRUC *e*S **S** 11 21 04.7 -0.1
I37A **Lemond, Waseca** 74.40 41 P **P** 11 12 07.3 +0.1
EDMD **Edmundbyers** 74.41 342⇑*e*P **P** 11 12 06.6 -0.4
EDMD IAmb IAmb 11 12 07.5
comp=Z,173nm,0.9s
KDZE **Karadeniz Ereo** 74.42 315 ⇑P **P** 11 12 07.4 0.0
JRN **Qarnain Island** 74.44 290 P **P** 11 12 07.3 -0.4
JRN S **S** 11 21 01.3 -4.7
SMOL **Smolenice** 74.49 328 *e*P **P** 11 12 08.9 +1.3
SMOL *e* 11 13 45.1
SMOL *e*S **S** 11 21 06.9 +1.0
TREC **Trest** 74.52 329⇑*i*P **P** 11 12 08.4 +0.6
TREC **Trest** 74.52 329⇑*i*P **P** 11 12 08.4 +0.6
COWI **Conover** 74.52 37 IAmb IAmb 11 12 08.6
comp=Z,600nm,0.8s
COWI **Conover** 74.52 37 ⇑P **P** 11 12 07.4 -0.4
STFAR **Stefanesti-Arg** 74.54 321 ⇓P **P** 11 12 08.8 +0.8
UMZA **Um Al Zommool** 74.55 287 P **P** 11 12 08.5 +0.1

UMZA S **S** **11 21 04.4 -2.8**
LOT Lotru 74.57 322 ⇑P **P** **11 12 08.6 +0.4**
DEV Deva 74.57 323 ⇓P **P** **11 12 09.0 +0.8**
DEV Deva 74.57 323 P **P** **11 12 08.9 +0.8**
BR131 Keskin Array S 74.58 313*c i P* **P** **11 12 09.0 +0.6**
BRTR Keskin Array B 74.58 313 P **P** **11 12 09.2 +0.7**
comp=Z,153nm,0.8s,baz=74,slow=4.4,SNR=211
BRTR PP **PP** **11 15 02.4 +0.5**
comp=Z,24nm,1.0s,baz=64,slow=5.6,SNR=3.4
BRTR S **S** **11 21 08.1 +0.7**
comp=Z,7.7nm,1.1s,baz=65,slow=7.2,SNR=3.4
BRTR PKKPbc **PKKPbc** **11 31 29.6 +1.1**
comp=Z,1.4nm,0.8s,baz=170,slow=7.5,SNR=3.2
comp=Z,153nm,0.8s
NEWG New Galloway 74.60 343⇑*eP* **P** **11 12 07.8 -0.2**
NEWG IAmb IAmb 11 12 08.7
comp=Z,369nm,1.3s
KBD Kabd 74.61 296 P **P** **11 12 09.6 +1.0**
SGRR Singureni 74.62 320 ⇑P **P** **11 12 07.7 -0.8**
MODS Modra-Piesok 74.66 328 *eP* **P** **11 12 09.8 +1.2**
MODS *e* 11 13 46.0
MODS *eS* **S** **11 21 05.5 -2.3**
MODS pmax pmax
comp=Z,936nm,1.1s
MODS Modra-Piesok 74.66 328 *eP* **P** **11 12 09.8 +1.2**
MODS *e* 11 13 46.0
MODS *eS* **S** **11 21 05.5 -2.3**
MODS *e* 11 34 04.7
NKC Novy Kostel 74.72 332⇑*i P* **P** **11 12 09.2 +0.3**
NKC Novy Kostel 74.72 332⇑*i P* **P** **11 12 09.2 +0.3**
SIRR Siria 74.76 324 ⇑P **P** **11 12 11.5 +2.4**
SRO Srobarova 74.76 327 *eP* **P** **11 12 10.4 +1.3**
SRO *eS* **S** **11 21 10.2 +1.5**
SRO pmax pmax
comp=Z,435nm,1.0s
SRO Srobarova 74.76 327 *eP* **P** **11 12 10.4 +1.3**
SRO *eS* **S** **11 21 10.2 +1.5**
G40A Rib Lake 74.76 38 IAmb IAmb 11 12 10.1
comp=Z,694nm,1.0s
BUD Budapest 74.77 326 P **P** **11 12 10.1 +0.9**
NEF NEVSHA 74.82 319 *eP* **P** **11 12 10.2 +0.6**
ZVC Zvikov 74.83 330⇑*i P* **P** **11 12 10.1 +0.6**
PRD Provadia 74.84 319 *eP* **P** **11 12 10.3 +0.6**
KESW Keswick, Cumbr 74.87 342⇑*eP* **P** **11 12 09.8 +0.2**
KESW IAmb IAmb 11 12 10.7
comp=Z,1μm,1.0s
ANTO Ankara 74.88 313 P **P** **11 12 11.4 +1.3**
ANTO IAmb IAmb 11 12 12.3
comp=Z,475nm,0.8s
ANTO Ankara 74.88 313 P **P** **11 12 11.4 +1.3**
ANTO Ankara 74.88 313 ⇑P **P** **11 12 11.3 +1.2**
ANTO Ankara 74.88 313 P **P** **11 12 11.4 +1.3**
ANTO pmax pmax
comp=Z,475nm,0.8s
ANMO Albuquerque 74.88 55 P **P** **11 12 11.7 +1.3**
ANMO IAmb IAmb 11 12 12.8
comp=Z,901nm,1.4s
ANMO Albuquerque 74.88 55*c i P* **P** **11 12 11.1 +0.8**
ANMO pmax pmax
comp=Z,324nm,1.4s
BR231 Keskin MP Arra 74.91 313 IAmb IAmb 11 12 12.4
comp=Z,339nm,0.9s
GAL1 Galloway 74.93 343⇑*eP* **P** **11 12 09.9 -0.1**
GAL1 IAmb IAmb 11 12 10.7
comp=Z,527nm,0.7s
SHMA Al-Shehemyia 74.98 292 P **P** **11 12 13.0 +2.3**
SNR=6.9
DQM DQM 74.98 283 P **P** **11 12 12.0 +1.2**
SNR=7.9
CLGH Cloghs, Cushen 74.99 344⇑*eP* **P** **11 12 10.4 +0.1**
CLGH IAmb IAmb 11 12 11.2
comp=Z,566nm,0.8s
SURR Surduc 74.99 323 ⇑P **P** **11 12 11.2 +0.7**
GZR Gura Zlata 75.02 323 ⇑P **P** **11 12 11.2 +0.5**
GZR Gura Zlata 75.02 323 ⇓P **S** **11 21 13.9 +2.0**
GZR Gura Zlata 75.02 323 P **P** **11 12 11.2 +0.5**
GHWR Ruwais 75.13 289 P **P** **11 12 11.5 -0.1**
HPK Haverah Park 75.15 341⇑*eP* **P** **11 12 11.5 +0.3**
HPK IAmb IAmb 11 12 12.3
comp=Z,1μm,0.7s
F42A Maple Grove Fa 75.20 36 IAmb IAmb 11 12 12.6
comp=Z,416nm,0.9s
IDGL Inch Island, C 75.25 345 P **P** **11 12 11.5 -0.2**
IDGL Inch Island, C 75.25 345 S **P** **11 12 11.7 0.0**
Y22D IRIS PASSCAL I 75.28 55 IAmb IAmb 11 12 14.8
comp=Z,376nm,0.8s
Y22D IRIS PASSCAL I 75.28 55 P **P** **11 12 14.1 +1.6**
baz=318
Y22D S **S** **11 21 13.4 -1.8**
baz=318
KHC Kasperske Hory 75.30 330 IAmb IAmb 11 12 14.0
comp=Z,524nm,0.8s
KHC Kasperske Hory 75.30 330⇑*i P* **P** **11 12 12.9 +0.7**
KHC *eS* **S** **11 21 13.0 -1.8**
KHC Kasperske Hory 75.30 330⇑*i P* **P** **11 12 12.9 +0.7**
KHC *eS* **S** **11 21 13.0 -1.8**
BZS Buzias 75.31 324 ⇑P **P** **11 12 12.3 0.0**
BZS Buzias 75.31 324 ⇑P **P** **11 12 12.3 0.0**
BZS Buzias 75.31 324 P **P** **11 12 12.3 0.0**
CKRC Cesky Krumlov 75.32 330⇑*i P* **P** **11 12 12.9 +0.6**
CKRC Cesky Krumlov 75.32 330⇑*i P* **P** **11 12 12.9 +0.6**
ZIMR 75.34 320 ⇓P **P** **11 12 12.9 +0.4**
ZIMR 75.34 320 P **P** **11 12 12.8 +0.4**
INKA Innaminka 75.36 185 P **P** **11 12 13.7 +1.1**
TIM Timisoara 75.37 324 ⇓P **P** **11 12 13.8 +1.2**
TIM Timisoara 75.37 324 P **P** **11 12 13.7 +1.2**
SZH Strazhitsa 75.39 320 *eP* **P** **11 12 13.4 +0.6**
MZR Muzera 75.43 288 *i P* **P** **11 12 13.6 +0.2**
SNR=91
MZR Muzera 75.43 288 P **P** **11 12 13.8 +0.5**
SNR=15
SRE Strehaia 75.44 322 ⇓P **P** **11 12 15.4 +2.4**
SRE Strehaia 75.44 322 P **P** **11 12 15.4 +2.4**
IOMK Kirk Michael 75.47 343⇑*eP* **P** **11 12 13.0 0.0**
IOMK IAmb IAmb 11 12 13.7
comp=Z,754nm,0.9s
VLAD Vladila 75.48 321 ⇑P **P** **11 12 13.9 +0.7**
CBKS Cedar Bluff 75.49 48 IAmb IAmb 11 12 14.0
comp=Z,666nm,0.8s
CBKS Cedar Bluff 75.49 48 ⇑P **P** **11 12 12.9 -0.5**
SOP Sopron 75.51 328 P **P** **11 12 14.5 +1.2**
GERES GERESS Array B 75.51 330 P **P** **11 12 13.8 +0.3**
comp=Z,177nm,0.8s,baz=33,slow=6.2,SNR=248
comp=Z,177nm,0.8s
CONA Conrad Observa 75.55 328 *i P* **P** **11 12 14.6 +0.9**
comp=Z,396nm,0.8s,SNR=276
CONA *eS* **S** **11 21 16.5 -1.0**
comp=Z,28nm,2.0s
GRF Grafenberg Arr 75.58 332 *eP* **P** **11 12 14.2 +0.4**
comp=Z,636nm,0.9s,baz=29,slow=4.9
GRFO Grafenberg 75.58 332 P **P** **11 12 14.7 +0.9**
GRFO Grafenberg 75.58 332 P **P** **11 12 14.7 +0.9**
GRFO pmax pmax
comp=Z,1μm,0.8s
RONA Rosalia, Austr 75.59 328 *i P* **P** **11 12 15.0 +1.2**
comp=Z,462nm,0.9s,SNR=210
RONA *eS* **S** **11 21 17.4 -0.4**
comp=Z,27nm,1.6s
HERR Herculane 75.59 323 ⇑P **P** **11 12 13.9 +0.1**
WIM Isle of Man 75.60 343⇑*eP* **P** **11 12 13.8 0.0**
TRNA Turayna 75.63 291 P **P** **11 12 14.4 0.0**
LBWR Ladybower, Pea 75.69 341⇑*eP* **P** **11 12 14.5 +0.2**
LBWR IAmb IAmb 11 12 15.3
comp=Z,1μm,0.8s
ELND Elena 75.70 319 ⇑P **P** **11 12 14.9 +0.3**
DJES Djerdap 75.72 322 ⇑P **P** **11 12 14.2 -0.4**
JMB Yambol 75.76 319 *eP* **P** **11 12 15.3 +0.4**
RTBA Rita Blanca 75.77 51 IAmb IAmb 11 12 16.4
comp=Z,601nm,0.8s
WACR West Acre 75.79 340⇑*eP* **P** **11 12 15.0 +0.3**
WACR IAmb IAmb 11 12 15.9
comp=Z,1μm,0.9s
SLWR Sila 75.80 290 P **P** **11 12 15.7 +0.3**
SMRA Abu-Samra 75.86 291 P **P** **11 12 15.8 +0.1**
SNR=7.7
PUNG Punghina 75.87 322 ⇑P **P** **11 12 15.7 +0.3**
OOD Oodnadatta 75.88 190 P **P** **11 12 16.3 +0.8**
BAIL Bailesti 75.91 322 ⇑P **P** **11 12 17.3 +1.7**
121A Cookes Peak, D 75.93 57 IAmb IAmb 11 12 18.9
comp=Z,825nm,0.9s
121A Cookes Peak, D 75.93 57 P **P** **11 12 17.7 +1.5**
baz=318
121A S **S** **11 21 25.9 +3.5**
baz=318

GIRL Giralia 75.94 211 P **P** **11 12 16.9 +0.9**
MDVR Moldovita 75.96 323 ⇑P **P** **11 12 16.0 0.0**
ILTH Belurgan, Co L 76.03 344 P **P** **11 12 15.6 -0.5**
ILTH Belurgan, Co L 76.03 344 S **P** **11 12 15.4 -0.7**
STNC Stoke 76.09 341⇑*eP* **P** **11 12 16.8 +0.4**
STNC IAmb IAmb 11 12 17.2
comp=Z,317nm,0.7s
VALD Valchedram 76.14 321 *eP* **P** **11 12 17.2 +0.3**
SCIA State Center 76.16 42 ⇑P **P** **11 12 17.2 +0.1**
MOA Molln 76.17 329 *i P* **P** **11 12 17.7 +0.6**
comp=Z,236nm,0.9s,SNR=56
MOA *eS* **S** **11 21 23.1 -1.1**
comp=Z,23nm,1.6s
E46A Sault Ste Mari 76.17 34 P **P** **11 12 16.3 -0.8**
CWF Charnwood Fore 76.22 341⇑*eP* **P** **11 12 17.1 -0.1**
CWF IAmb IAmb 11 12 18.8
comp=Z,326nm,1.0s
WME Myndd Eilian 76.24 343⇑*eP* **P** **11 12 16.9 -0.3**
ARSA Arzberg 76.25 328 *i P* **P** **11 12 17.9 +0.4**
comp=Z,253nm,1.1s,SNR=84
ARSA *i S* **S** **11 21 25.2 +0.2**
comp=Z,17nm,1.3s
BEBN Eben Emael 76.25 336 *dP* **P** **11 12 17.2 -0.2**
comp=Z,1μm,0.8s
WPS Cemaes, Angles 76.27 343⇑*eP* **P** **11 12 17.1 -0.4**
WPS IAmb IAmb 11 12 17.9
comp=Z,136nm,0.8s
MPEP Malo Peshtene 76.28 321 *eP* **P** **11 12 18.6 +0.9**
ELMS Elmsett, Ipswi 76.28 339⇑*eP* **P** **11 12 18.0 +0.4**
R32A Long Quarter, 76.30 47 IAmb IAmb 11 12 18.5
comp=Z,884nm,1.4s
BTNL Ternell 76.31 335 *dP* **P** **11 12 17.5 -0.3**
comp=Z,318nm,0.9s
MEM Membach 76.33 335 *dP* **P** **11 12 17.7 -0.1**
comp=Z,503nm,0.9s
WLF1 Llynfaes 76.36 343⇑*eP* **P** **11 12 17.6 -0.4**
WLF1 IAmb IAmb 11 12 18.5
comp=Z,266nm,0.8s
FRGS Fruska Gora 76.40 324⇑*i P* **P** **11 12 18.1 -0.3**
I42A Draeger Farm, 76.41 38 IAmb IAmb 11 12 19.3
comp=Z,844nm,1.1s
YLL Llanberis 76.45 342⇑*eP* **P** **11 12 18.5 0.0**
BSTI Sart Tilman 76.47 336 *dP* **P** **11 12 18.9 +0.3**
comp=Z,148nm,0.8s
FOEL Foel Wylfa 76.49 342⇑*eP* **P** **11 12 19.1 +0.3**
FOEL IAmb IAmb 11 12 19.8
comp=Z,610nm,0.9s
BIOA Bad Ischl, Aus 76.52 330 *i P* **P** **11 12 19.8 +0.7**
comp=Z,362nm,0.9s,SNR=73
BIOA *i S* **S** **11 21 28.5 +0.6**
comp=Z,23nm,1.1s
BHOU Houvegnez 76.56 335 *dP* **P** **11 12 19.3 +0.2**
comp=Z,279nm,0.9s
UCC Uccle 76.61 337 *dP* **P** **11 12 19.0 -0.4**
comp=Z,154nm,0.6s
LLW Llanuwychllyn 76.62 342⇑*eP* **P** **11 12 19.3 -0.1**
JFWS Jewell Farm 76.65 39 IAmb IAmb 11 12 19.9
comp=Z,401nm,0.7s
KOGS Kog 76.67 327 *eP* **P** **11 12 19.7 -0.1**
KOGS *eS* **S** **11 21 27.6 -1.8**
BCLA Clavier 76.69 336 *dP* **P** **11 12 19.9 +0.1**
comp=Z,333nm,0.8s
HLM1 Long Mynd 76.77 341⇑*eP* **P** **11 12 20.5 +0.2**
HLM1 IAmb IAmb 11 12 21.2
comp=Z,471nm,1.0s
PGB Panagyurishte 76.78 320 *eP* **P** **11 12 21.3 +0.8**
DSB Dublin 76.78 344 P **P** **11 12 20.2 -0.1**
DSB Dublin 76.78 344 ⇑P **P** **11 12 20.2 -0.1**
DSB Dublin 76.78 344 S **P** **11 12 20.1 -0.2**
BGES Gesves 76.78 336 *dP* **P** **11 12 20.8 +0.4**
comp=Z,345nm,0.8s
KSU1 Kansas State U 76.80 46 IAmb IAmb 11 12 21.1
comp=Z,575nm,0.8s
KSU1 Kansas State U 76.80 46 ⇑P **P** **11 12 20.0 -0.7**
EDC Edincik 76.86 317 P **P** **11 12 21.8 +0.8**
BOVS Bovan 76.90 322 ⇑P **P** **11 12 20.5 -0.6**
BOVS Bovan 76.90 322 ⇑P **S** **11 21 29.9 -2.1**
SOKA Soboth 76.91 328 *i P* **P** **11 12 21.7 +0.5**
comp=Z,600nm,1.1s,SNR=176
SOKA *i S* **S** **11 21 32.2 +0.1**
comp=Z,24nm,1.4s
PERS Pernice 76.92 328 *i P* **P** **11 12 21.6 +0.3**
PERS *eS* **S** **11 21 30.4 -1.8**
L40A Anamosa 76.92 40 P **P** **11 12 20.4 -0.9**
L40A IAmb IAmb 11 12 21.6
comp=Z,641nm,0.9s
BMRD Maredsous 76.95 336 *dP* **P** **11 12 21.3 0.0**
comp=Z,494nm,0.9s
RCHB Rochefort 76.95 336 *dP* **P** **11 12 21.1 -0.2**
comp=Z,236nm,1.0s
KDZ Kurdzhali 76.98 319 *eP* **P** **11 12 21.8 +0.1**
TEKS Tekeris 77.02 324⇑*i P* **P** **11 12 21.4 -0.4**
STU Stuttgart 77.03 333 IAmb IAmb 11 12 23.0
comp=Z,466nm,0.9s
STU Stuttgart 77.03 333 *eP* **P** **11 12 22.1 +0.3**
STU Stuttgart 77.03 333 P **P** **11 12 21.4 -0.4**
NIUE Niue 77.05 138 IAmb IAmb 11 12 24.0
comp=Z,498nm,1.1s
LESA Schwarzleotal 77.08 330 *i P* **P** **11 12 23.0 +0.8**
comp=Z,709nm,0.9s
LESA *i S* **S** **11 21 33.8 -0.2**
comp=Z,0.2nm,0.4s
VTS Vitosha 77.09 321 *eP* **P** **11 12 23.6 +1.2**
ELSH Elham, Standar 77.12 339⇑*eP* **P** **11 12 22.4 +0.3**
ELSH IAmb IAmb 11 12 23.2
comp=Z,1μm,0.9s
WLF Walferdange 77.14 335 P **P** **11 12 22.0 -0.3**
WLF Walferdange 77.14 335 *dP* **P** **11 12 22.4 +0.1**
comp=Z,129nm,0.9s
IGLA Glengowla, Co 77.15 346 P **P** **11 12 21.7 -0.6**
IGLA Glengowla, Co 77.15 346 S **P** **11 12 21.5 -0.8**
IGLA Glengowla, Co 77.15 346⇑*eP* **P** **11 12 21.6 -0.8**
IGLA IAmb IAmb 11 12 22.5
comp=Z,245nm,0.8s
KBA Koelnbreinsper 77.15 329 *i P* **P** **11 12 23.3 +0.6**
comp=Z,466nm,0.6s,SNR=122
KBA *eS* **S** **11 21 34.3 -0.7**
comp=Z,81nm,1.4s
DOU Dourbes 77.18 336 P **P** **11 12 22.1 -0.5**
DOU Dourbes 77.18 336 *dP* **P** **11 12 21.9 -0.7**
comp=Z,170nm,0.8s
RZN Roznen 77.19 319 *eP* **P** **11 12 23.1 +0.1**
BEIL Beino 77.21 308 *eP* **P** **11 12 24.2 +1.1**
EPT El Paso 77.22 57 IAmb IAmb 11 12 25.2
comp=Z,736nm,1.1s
OBKA Obir 77.22 328 *i P* **P** **11 12 23.3 +0.3**
comp=Z,204nm,0.7s,SNR=44
OBKA *i S* **S** **11 21 32.8 -2.8**
comp=Z,28nm,1.3s
OBKA Obir 77.22 328⇑*i P* **P** **11 12 23.0 0.0**
ALN Alexandroupoli 77.26 318 P **P** **11 12 23.7 +0.6**
ALN Alexandroupoli 77.26 318 P **P** **11 12 23.7 +0.6**
ALN pmax pmax
comp=Z,365nm,1.0s
MCH1 Michaelchurch 77.28 341⇑*eP* **P** **11 12 23.2 +0.2**
MCH1 IAmb IAmb 11 12 24.0
comp=Z,617nm,0.9s
STRD Stroud 77.31 341⇑*eP* **P** **11 12 23.4 +0.2**
STRD IAmb IAmb 11 12 24.2
comp=Z,892nm,0.9s
A052A Srbac 77.34 326 *eP* **P** **11 12 23.2 -0.3**
MONM Monmouth 77.39 341⇑*eP* **P** **11 12 23.8 +0.1**
MONM IAmb IAmb 11 12 24.7
comp=Z,777nm,0.9s
DOB Doboj 77.42 325 *eP* **P** **11 12 24.6 +0.6**
MYKA Terra Mystica 77.44 329 *i P* **P** **11 12 24.1 -0.1**
comp=Z,232nm,0.8s,SNR=33
MYKA *eS* **S** **11 21 34.9 -2.9**
comp=Z,19nm,1.2s
SWN1 Swindon 77.47 340⇑*eP* **P** **11 12 24.5 +0.4**
SWN1 IAmb IAmb 11 12 25.4
comp=Z,2μm,0.7s
CRES Cresnjevec Ost 77.48 327 *i P* **P** **11 12 24.3 0.0**
CRES *i S* **S** **11 21 35.3 -2.9**
OLDB Oldbury-Upon-S 77.50 341 *eP* **P** **11 12 24.1 -0.1**
AMTX Amarillo 77.50 52 ⇑P **P** **11 12 25.4 +0.6**
WATA Walderalm 77.53 331 *i P* **P** **11 12 25.4 +0.7**
comp=Z,306nm,0.5s,SNR=112
WATA *eS* **S** **11 21 37.9 -0.9**
comp=Z,72nm,1.5s,SNR=11
WOL Wolverton 77.53 340⇑*eP* **P** **11 12 24.5 +0.1**
KAN12 Harper NE Stat 77.53 48 IAmb IAmb 11 12 25.6
comp=Z,640nm,0.9s
HWQ Hawqa 77.54 308 *eP* **P** **11 12 24.9 -0.1**
WTTA Wattenberg 77.57 331 *i P* **P** **11 12 25.8 +0.9**

comp=Z,1μm,0.9s,SNR=107
WTTA *eS* **S** **11 21 38.8 -0.6**
comp=Z,83nm,1.4s,SNR=9.3
HMNX Herstmonceux 77.57 339⇑*eP* **P** **11 12 25.6 +1.0**
HMNX IAmb IAmb 11 12 26.4
comp=Z,2μm,1.0s
ISP Isparta 77.59 313 *eP* **P** **11 12 25.5 +0.3**
ISP Isparta 77.59 313 ⇑P **P** **11 12 25.2 0.0**
MSTX Muleshoe 77.62 53 IAmb IAmb 11 12 26.8
comp=Z,459nm,0.9s
K43A Burlington 77.63 38 P **P** **11 12 24.4 -0.7**
K43A IAmb IAmb 11 12 25.6
comp=Z,752nm,0.9s
LJU Ljubljana 77.63 328 *i P* **P** **11 12 24.8 -0.4**
HAPS Han Pijesak,Bl 77.64 324⇑*i P* **P** **11 12 25.6 +0.3**
L42A Oliver, Polo 77.64 39 IAmb IAmb 11 12 25.4
comp=Z,599nm,0.8s
A051A Mrakovica 77.64 326⇑*i P* **P** **11 12 24.7 -0.6**
BBLS Lazi&#263i 77.64 324⇑*i P* **P** **11 12 25.8 +0.5**
RETA Reutte 77.66 331 *i P* **P** **11 12 25.7 +0.4**
comp=Z,276nm,0.8s,SNR=92
RETA *i S* **S** **11 21 39.9 -0.3**
comp=Z,38nm,1.7s,SNR=5.2
MOTA Moosalm 77.67 331 *i P* **P** **11 12 26.1 +0.6**
comp=Z,826nm,0.9s
MOTA *eS* **S** **11 21 39.8 -0.7**
comp=Z,76nm,2.0s
BFO Black Forest 77.69 333 P **P** **11 12 24.9 -0.5**
IWEX Carrickbyrne, 77.69 344 P **P** **11 12 25.4 +0.2**
IWEX Carrickbyrne, 77.69 344⇑*eP* **P** **11 12 25.5 +0.2**
IWEX IAmb IAmb 11 12 26.2
comp=Z,496nm,0.9s
IWEX Carrickbyrne, 77.69 344 S **P** **11 12 24.6 -0.7**
RSBS Rosebush, Pemb 77.69 342⇑*eP* **P** **11 12 25.1 -0.2**
RSBS IAmb IAmb 11 12 26.0
comp=Z,374nm,1.2s
ABTA Abfaltersbach 77.73 330 *i P* **P** **11 12 25.5 -0.3**
comp=Z,243nm,1.2s,SNR=30
ABTA *i S* **S** **11 21 39.7 -1.2**
comp=Z,65nm,1.2s
PTCC Patocco-Chiusa 77.73 329 ⇑P **P** **11 12 25.1 -0.7**
MMB Musomishta 77.75 320 *eP* **P** **11 12 26.5 +0.6**
SQTA Sankt Quirin 77.75 331 *i P* **P** **11 12 26.6 +0.7**
comp=Z,232nm,0.6s,SNR=101
SQTA *eS* **S** **11 21 40.0 -1.2**
comp=Z,85nm,1.9s,SNR=5.5
GBAS Gorenja Brezov 77.76 328 *i P* **P** **11 12 25.3 -0.5**
BLY Banja Luka 77.76 326⇑*i P* **P** **11 12 25.6 -0.2**
KAN01 Argonia South 77.76 48 IAmb IAmb 11 12 27.0
comp=Z,842nm,0.9s
KKB Krupnik 77.78 320 *eP* **P** **11 12 26.3 +0.3**
KAN14 Manchester OK 77.81 48 IAmb IAmb 11 12 27.3
comp=Z,462nm,0.9s
ROBS Robic 77.82 329 *i P* **P** **11 12 25.1 -1.0**
KAN09 Caldwell North 77.85 47 IAmb IAmb 11 12 27.5
comp=Z,712nm,1.0s
RUDO Rudo 77.86 324⇑*i P* **P** **11 12 26.2 -0.2**
SJES Sjenica 77.92 323⇑*i P* **P** **11 12 27.4 +0.5**
PEHC Pehcevo 77.92 321 *i P* **P** **11 12 27.7 +0.8**
CEY Cerknica 77.93 328⇑*i P* **P** **11 12 26.4 -0.4**
ARMA Armidale 77.96 176 P **P** **11 12 28.4 +1.4**
BHL Bhannes 77.98 307 *eP* **P** **11 12 27.9 +0.5**
KAN13 South Haven SW 78.01 47 IAmb IAmb 11 12 28.4
comp=Z,866nm,0.9s
SABO M.te Sabotino 78.02 329 P **P** **11 12 26.2 -1.0**
FETA Feichten 78.08 331 *i P* **P** **11 12 28.4 +0.6**
comp=Z,281nm,1.0s,SNR=36
FETA *eS* **S** **11 21 43.8 -1.0**
comp=Z,90nm,1.9s,SNR=9.9
PLE Pljevlja 78.09 324⇑*i P* **P** **11 12 27.5 -0.3**
DAVA Damuels 78.12 332 *i P* **P** **11 12 28.3 +0.3**
comp=Z,523nm,0.9s,SNR=60
DAVA *eS* **S** **11 21 43.8 -1.3**
comp=Z,57nm,1.2s
SLE Schleitheim 78.14 333 P **P** **11 12 27.5 -0.4**
ECH Echery 78.14 334 IAmb IAmb 11 12 28.9
comp=Z,408nm,1.0s
ECH Echery 78.14 334 P **P** **11 12 28.1 +0.2**
DOK Doka 78.16 285 P **P** **11 12 29.0 +0.6**
SNR=27
DQRL Deir Qamar 78.18 307 *eP* **P** **11 12 29.3 +0.9**
N41A Harden Midland 78.18 41 IAmb IAmb 11 12 29.0
comp=Z,792nm,1.0s
RCY Rachaya 78.20 307 *eP* **P** **11 12 29.5 +0.9**
A050A Klekovaca 78.23 326⇑*i P* **P** **11 12 28.2 -0.3**
L44A Lake County Fo 78.24 38 IAmb IAmb 11 12 29.2
comp=Z,908nm,1.1s
L44A Lake County Fo 78.24 38 P **P** **11 12 28.1 -0.4**
baz=326
L44A S **S** **11 21 40.6 -5.6**
baz=326
QRWL Qaraoun 78.24 307 *eP* **P** **11 12 29.7 +0.9**
LCRK Leigh Creek 78.24 188 P **P** **11 12 29.6 +1.2**
DMTO DMTO 78.27 283 P **P** **11 12 29.2 +0.2**
SNR=6.4
IVA Berane 78.28 323⇑*i P* **P** **11 12 28.9 +0.1**
MEEK Meekatharra 78.28 206 P **P** **11 12 28.5 -0.2**
UPM Unac-Piva 78.39 324⇑*i P* **P** **11 12 29.2 -0.3**
UPM Unac-Piva 78.39 324⇑*i P* **P** **11 12 29.0 -0.5**
CSS Mathiatis 78.40 310 IAmb IAmb 11 12 31.0
comp=Z,281nm,0.7s
CSS Mathiatis 78.40 310 P **P** **11 12 30.4 +0.9**
comp=Z,446nm,0.8s,comp=Z,4μm
KOME Kolasin 78.44 323⇑*i P* **P** **11 12 29.5 -0.2**
PVY Plav 78.48 323⇑*i P* **P** **11 12 29.4 -0.5**
MULG Mulgathing 78.53 191 P **P** **11 12 30.8 +0.8**
HTL Hartland 78.54 342⇑*eP* **P** **11 12 30.3 +0.4**
HTL IAmb IAmb 11 12 30.7
comp=Z,335nm,0.6s
ICQ Pointe Anglais 78.72 22 IAmb IAmb 11 12 31.2
comp=Z,297nm,0.8s
VAL Valentia 78.72 346 P **P** **11 12 30.8 -0.1**
VAL Valentia 78.72 346 S **P** **11 12 30.7 -0.1**
VAL Valentia 78.72 346 P **P** **11 12 30.7 -0.2**
ELL Elmali 78.73 313 ⇑P **P** **11 12 31.5 +0.1**
NKME Niksic 78.74 324⇑*i P* **P** **11 12 30.7 -0.5**
BRY Bratogost 78.79 324⇑*i P* **P** **11 12 30.9 -0.7**
BRY Bratogost 78.79 324⇑*i P* **P** **11 12 31.0 -0.7**
MMAI Mount Meron Ar 78.80 307 P **P** **11 12 33.0 +1.3**
comp=Z,238nm,0.6s,baz=42,slow=6.7,SNR=156
comp=Z,238nm,0.6s
VHRN Van Horn 78.82 56 IAmb IAmb 11 12 34.2
comp=Z,508nm,0.8s
DKNS Dickens 78.84 52 IAmb IAmb 11 12 34.3
comp=Z,597nm,0.8s
WHFO Wadi Hawf 78.90 284 P **P** **11 12 32.4 0.0**
SNR=22
PDG Podgorica 78.90 323 IAmb IAmb 11 12 32.9
comp=Z,676nm,0.9s
PDG Podgorica 78.90 323⇑*i P* **P** **11 12 31.9 -0.1**
PDG Podgorica 78.90 323 ⇑P **P** **11 12 32.0 0.0**
PDG Podgorica 78.90 323⇑*i P* **P** **11 12 31.9 -0.1**
RBK Rabkut 78.91 284 P **P** **11 12 32.5 0.0**
SNR=13
CEME Cevo 78.94 323⇑*i P* **P** **11 12 31.8 -0.5**
DYA Yadsworthy 78.95 341⇑*eP* **P** **11 12 32.1 0.0**
DYA IAmb IAmb 11 12 33.0
comp=Z,438nm,0.8s
CMSA Cobar Meteorol 78.96 181 P **P** **11 12 33.4 +1.2**
SBD Saint Breward 78.99 342⇑*eP* **P** **11 12 32.4 +0.1**
PECS Pecos 79.00 55 IAmb IAmb 11 12 35.0
comp=Z,663nm,1.1s
TUE Stuetta 79.02 332 P **P** **11 12 33.2 +0.4**
comp=Z,2μm,0.9s,comp=Z,16μm
TREB Trebinje 79.02 324⇑*i P* **P** **11 12 31.6 -1.1**
LDAQ Lac Daran 79.08 25 IAmb IAmb 11 12 33.1
comp=Z,358nm,0.7s
WMOK Wichita Mounta 79.13 50 P **P** **11 12 33.6 +0.2**
WMOK IAmb IAmb 11 12 35.0
comp=Z,481nm,0.9s
WMOK Wichita Mounta 79.13 50 P **P** **11 12 33.6 +0.2**
WMOK pmax pmax
comp=Z,481nm,1.0s
DRME Dracevica, Mon 79.13 323⇑*i P* **P** **11 12 33.3 0.0**
STON Ston 79.15 324⇑*i P* **P** **11 12 32.1 -1.2**
BUM Brajici-Budva 79.16 323⇑*i P* **P** **11 12 33.0 -0.5**
HCY Herceg Novi 79.19 324⇑*i P* **P** **11 12 32.8 -0.8**
HCY Herceg Novi 79.19 324⇑*i P* **P** **11 12 32.9 -0.7**
TEOL Teolo 79.22 330 IAmb IAmb 11 12 34.5
comp=Z,455nm,0.8s
ULC Ulcinj 79.30 323⇑*i P* **P** **11 12 33.8 -0.4**
SN07 Snyder 07 79.30 52 IAmb IAmb 11 12 35.2
comp=Z,313nm,0.8s
OHR Ohrid 79.37 322 *i P* **P** **11 12 35.2 +0.6**
FNA Florina 79.39 321 IAmb IAmb 11 12 35.6

comp=Z,340nm,0.8s
STKA Stephens Creek 79.43 184 P **P 11 12 35.6 +0.9**
STKA Stephens Creek 79.43 184 P **P 11 12 35.6 +0.9**
comp=Z,84nm,0.9s,baz=345,slow=7.4,SNR=55
comp=Z,84nm,0.9s
STKA Stephens Creek 79.43 184 P **P 11 12 35.5 +0.8**
STKA Stephens Creek 79.43 184 *c iP* **P 11 12 35.2 +0.5**
CCA1 Carnmenellis 79.46 342⇑ *eP* **P 11 12 35.0 +0.1**
CCA1 IAmb IAmb 11 12 35.8
comp=Z,476nm,0.9s
SN05 Snyder 5 79.47 52 IAmb IAmb 11 12 36.6
comp=Z,321nm,0.8s
S39A Bolivar 79.49 44 IAmb IAmb 11 12 35.7
comp=Z,658nm,0.8s
R40A Maddies Statio 79.50 43 IAmb IAmb 11 12 36.2
comp=Z,740nm,0.8s
APMT Aspermont 79.53 52 IAmb IAmb 11 12 36.8
comp=Z,967nm,1.1s
TIR Tirane 79.56 322 ⇑P **P 11 12 35.7 +0.2**
ABTO Aybut 79.61 284 P **P 11 12 36.6 +0.3**
SNR=24
TRQ Mont Tremblant 79.66 28 IAmb IAmb 11 12 36.8
comp=Z,838nm,0.9s
JLP Les Platons 79.66 340⇑ *eP* **P 11 12 36.1 +0.2**
JQE Queens East 79.69 340 *eP* **P 11 12 36.1 +0.1**
JDG Jersey Dam (Ga 79.69 340 *eP* **P 11 12 36.2 +0.1**
CLF Chambon-Foret 79.70 337 IAmb IAmb 11 12 38.7
comp=Z,548nm,1.1s
TUL3 Leonard 79.72 47 P 11 12 36.8 +0.3
JSA Saint Aubin 79.73 340⇑ *eP* **P 11 12 36.4 +0.1**
JSA IAmb IAmb 11 12 37.3
comp=Z,767nm,0.9s
SENIN Lac Senin/Sane 79.76 333 P **P 11 12 36.6 -0.2**
SENIN IAmb IAmb 11 12 37.9
comp=Z,643nm,0.8s
AAM Ann Arbor 79.86 35 IAmb IAmb 11 12 38.4
comp=Z,875nm,1.1s
AAM Ann Arbor 79.86 35 ⇑P **P 11 12 37.2 +0.1**
ALPN Alpine 79.88 56 IAmb IAmb 11 12 39.6
comp=Z,977nm,1.2s
RLO Rose Lookout 79.89 46 IAmb IAmb 11 12 38.7
comp=Z,722nm,0.9s
FORT Forrest 79.98 196 P **P 11 12 38.3 +0.6**
FORT Forrest 79.98 196 P **P 11 12 38.1 +0.4**
U38A Gravette 79.98 46 IAmb IAmb 11 12 38.9
comp=Z,687nm,0.8s
OTT Ottawa 80.02 29 P **P 11 12 36.7 -1.2**
RAYN Ar Rayn 80.07 294 P **P 11 12 39.5 +0.9**
RAYN Ar Rayn 80.07 294 *i* P **P 11 12 39.5 +0.9**
SNR=35
RAYN Ar Rayn 80.07 294 P **P 11 12 39.4 +0.9**
RAYN Ar Rayn 80.07 294 P **P 11 12 39.5 +0.9**
RAYN pmax pmax
comp=Z,223nm,1.1s
SFIN Lafayette 80.08 39 IAmb IAmb 11 12 39.1
comp=Z,710nm,1.1s
SGCY Sterling City 80.08 53 IAmb IAmb 11 12 41.7
comp=Z,483nm,0.8s
CCM Cathedral Cave 80.16 43 P **P 11 12 38.8 0.0**
CCM Cathedral Cave 80.16 43 P **P 11 12 38.8 0.0**
CCM pmax pmax
comp=Z,877nm,0.9s
PRMA PARMA 80.21 330 IAmb IAmb 11 12 40.6
comp=Z,509nm,1.0s
HHAR Hobbs 80.32 46 IAmb IAmb 11 12 40.6
comp=Z,488nm,0.8s
ABTX Abilene, Hawle 80.33 52 IAmb IAmb 11 12 41.5
comp=Z,758nm,1.1s
ZCCA Zocca 80.34 329 IAmb IAmb 11 12 43.2
comp=Z,305nm,0.8s
MGMO Mountain Grove 80.42 44 IAmb IAmb 11 12 41.0
comp=Z,796nm,1.3s
Q44A Meyer Farm, Va 80.47 41 IAmb IAmb 11 12 41.4
comp=Z,779nm,0.9s
LOOK Love County 80.53 49 P 11 12 41.1 +0.2
FVM French Village 80.59 42 IAmb IAmb 11 12 41.6
comp=Z,440nm,0.8s
MNTQ Montreal, Queb 80.60 27 IAmb IAmb 11 12 41.6
comp=Z,519nm,0.9s
GUMA Gualdo di Mace 80.64 327 IAmb IAmb 11 12 43.5
comp=Z,489nm,0.8s
TX31 Lajitas Ar. Si 80.66 56 IAmb IAmb 11 12 43.8
comp=Z,820nm,0.9s
TXAR Lajitas Array 80.66 56 P **P 11 12 42.5 +0.8**
comp=Z,648nm,0.7s,baz=294,slow=3.9,SNR=1285
TXAR PP **PP 11 15 52.1 -0.3**
comp=Z,13nm,1.0s,baz=316,slow=5.0,SNR=2.2
TXAR PKiKP **PKiKP 11 18 04.8 -0.3**
comp=Z,2.3nm,0.7s,baz=146,slow=0.3,SNR=2.5
TXAR PKKPbc **PKKPbc 11 31 15.8 +0.6**
comp=Z,5.9nm,0.8s,baz=142,slow=5.0,SNR=24
TXAR PKP2bc 11 39 08.4
comp=Z,1.2nm,1.0s,baz=157,slow=3.5,SNR=4.3
TXAR PKPPKP **P'P'df 11 39 21.4 -1.8**
comp=Z,1.1nm,0.9s,baz=160,slow=3.7,SNR=4.2
comp=Z,648nm,0.7s
VLC Villacollemand 80.72 330 P **P 11 12 41.0 -0.6**
MGCD Mangrove Creek 80.72 176 P **P 11 12 43.1 +1.6**
FDMO Fiordimonte 80.75 327 P **P 11 12 42.1 +0.3**
BBOO Buckleboo 80.79 189 P **P 11 12 42.3 +0.4**
OZNA Ozona 80.85 54 IAmb IAmb 11 12 44.7
comp=Z,394nm,0.7s
M50A Fremont 80.86 36 IAmb IAmb 11 12 43.3
comp=Z,750nm,0.8s
MSSA Maissana 80.87 330 P **P 11 12 41.5 -0.9**
MSSA IAmb IAmb 11 12 43.4
comp=Z,376nm,1.0s
PLPT Palo Pinto 80.87 51 IAmb IAmb 11 12 44.1
comp=Z,954nm,1.0s
KEK Kerkira 80.95 321 IAmb IAmb 11 12 43.7
comp=Z,629nm,1.1s
X37A Clayton 80.97 48 P 11 12 43.3 +0.2
X37A IAmb IAmb 11 12 44.1
comp=Z,307nm,0.8s
O48B Farmland 80.99 38 IAmb IAmb 11 12 43.8
comp=Z,1μm,1.1s
O48B Farmland 80.99 38 P **P 11 12 42.8 -0.3**
baz=328
O48B S **S 11 22 12.1 -2.7**
baz=328
KARP Karpathos 81.03 314 IAmb IAmb 11 12 44.4
comp=Z,450nm,0.8s
KARP Karpathos 81.03 314 *eP* **P 11 12 43.3 -0.2**
SAND Sanderson 81.05 55 IAmb IAmb 11 12 45.4
comp=Z,554nm,0.8s
CAMP Campotosto 81.07 327 IAmb IAmb 11 12 44.9
comp=Z,558nm,0.8s
BATG Bathurst New B 81.10 22 P **P 11 12 43.6 +0.1**
BATG IAmb IAmb 11 12 44.7
comp=Z,1μm,1.5s
BNI Bardonecchia 81.12 333 P **P 11 12 43.8 -0.1**
HTT Hallett 81.15 187 P **P 11 12 44.6 +0.8**
PQI Presque Isle 81.16 23 IAmb IAmb 11 12 44.4
comp=Z,1μm,1.9s
J55A Hilton 81.19 31 IAmb IAmb 11 12 44.6
comp=Z,608nm,1.0s
SCTE Santa Cesarea 81.20 322 IAmb IAmb 11 12 44.9
comp=Z,849nm,0.9s
SLBS Sierra La Lagu 81.23 65 P **P 11 12 45.8 +1.1**
SLBS IAmb IAmb 11 12 47.3
comp=Z,828nm,1.3s
SYDH Sydney Hard Ro 81.25 177 P **P 11 12 45.9 +1.7**
CESX Cesi 81.30 328 P **P 11 12 44.8 +0.1**
CESX IAmb IAmb 11 12 46.5
comp=Z,1μm,2.0s
MORW Morawa 81.32 207 P **P 11 12 44.8 +0.1**
BLO Bloomington 81.33 39 IAmb IAmb 11 12 46.8
comp=Z,289nm,0.8s
RIV Riverview 81.34 176 P **P 11 12 46.4 +1.8**
HPIG 81.34 59 IAmb IAmb 11 12 47.3
comp=Z,484nm,1.1s
O49A Covington 81.38 37 IAmb IAmb 11 12 46.0
comp=Z,514nm,1.0s
ERPA Erie 81.41 33 IAmb IAmb 11 12 46.3
comp=Z,864nm,1.0s
MATE Matera 81.43 324 *eP* **P 11 12 45.3 0.0**
MATE Matera 81.43 324 ⇑P **P 11 12 45.1 -0.2**
CGM3 Cape Girardeau 81.50 42 IAmb IAmb 11 12 46.9
comp=Z,1μm,1.6s
FCAR Ozark Folk Cen 81.51 45 P **P 11 12 45.5 -0.4**
FCAR IAmb IAmb 11 12 46.7
comp=Z,848nm,1.0s
P48A Milroy 81.55 38 IAmb IAmb 11 12 46.9
comp=Z,780nm,1.1s
SSB Saint Sauveur 81.57 334 ⇑P **P 11 12 46.3 +0.3**
J57A Williamstown 81.69 30 IAmb IAmb 11 12 47.5
comp=Z,2μm,1.9s
BRDY Brady 81.71 52 IAmb IAmb 11 12 48.4
comp=Z,474nm,0.7s
NCB Newcomb 81.78 29 IAmb IAmb 11 12 47.9
comp=Z,402nm,1.1s
P49A Miami Univ. Ec 81.78 38 P **P 11 12 47.0 -0.2**
P49A S **S 11 22 20.4 -2.4**
baz=328
G62A West of Eustis 81.78 26 IAmb IAmb 11 12 48.5
comp=Z,764nm,1.5s
LCAR Lake Charles 81.82 44 P **P 11 12 47.3 -0.1**
LCAR IAmb IAmb 11 12 48.8
comp=Z,1μm,1.6s
ACSO Alum Creek Sta 81.89 36 IAmb IAmb 11 12 48.8
comp=Z,814nm,0.9s
KMBL Kambalda 81.89 201 P **P 11 12 47.6 0.0**
MIAR Mount Ida 81.89 46 IAmb IAmb 11 12 49.5
comp=Z,570nm,0.9s
MIAR Mount Ida 81.89 46 ⇑P **P 11 12 48.2 +0.3**
JCT Junction City 81.91 53 IAmb IAmb 11 12 49.0
comp=Z,407nm,0.8s
VT1 Waterbury 81.92 27 IAmb IAmb 11 12 49.0
comp=Z,739nm,1.0s
TREL Terrell 82.09 49 IAmb IAmb 11 12 50.3
comp=Z,675nm,0.8s
K57A Scipio Center 82.11 31 IAmb IAmb 11 12 49.4
comp=Z,866nm,1.6s
J59A Pico 82.14 29 IAmb IAmb 11 12 49.6
comp=Z,452nm,0.9s
H62A Milan 82.18 26 IAmb IAmb 11 12 50.4
comp=Z,698nm,0.8s
WCI Wyandotte Cave 82.21 39 P **P 11 12 49.6 +0.2**
WCI IAmb IAmb 11 12 50.6
comp=Z,906nm,1.0s
WCI Wyandotte Cave 82.21 39 P **P 11 12 49.6 +0.2**
WCI pmax pmax
comp=Z,906nm,1.0s
N53A Lisbon 82.23 34 P **P 11 12 49.5 +0.1**
L56A Greenwood 82.28 32 IAmb IAmb 11 12 50.4
comp=Z,470nm,0.8s
IDI Anoyia 82.33 315 P **P 11 12 48.5 -1.6**
GNAR Gosnell 82.43 43 P **P 11 12 51.1 +0.6**
ACCN Adirondack Com 82.48 28 IAmb IAmb 11 12 51.6
comp=Z,548nm,1.1s
HNH Hanover 82.63 27 IAmb IAmb 11 12 52.8
comp=Z,329nm,0.8s
G65A Princeton 82.64 24 IAmb IAmb 11 12 52.5
comp=Z,520nm,1.2s
TIP Timpagrande 82.66 323 IAmb IAmb 11 12 53.7
comp=Z,662nm,1.2s
CAN Canberra 82.75 178 P **P 11 12 53.3 +1.3**
CNB Canberra Magne 82.75 178 P **P 11 12 53.5 +1.5**
I62A Tamworth 82.77 27 IAmb IAmb 11 12 53.6
comp=Z,1μm,1.6s
BINY Binghamton 82.77 31 IAmb IAmb 11 12 53.0
comp=Z,393nm,1.0s
237A Washetta, Mont 82.81 49 IAmb IAmb 11 12 54.2
comp=Z,363nm,1.1s
WLAR White Oak Lake 82.81 47 P **P 11 12 53.0 +0.5**
435B Jarrell 82.85 51 IAmb IAmb 11 12 54.5
comp=Z,551nm,1.4s
435B Jarrell 82.85 51 P **P 11 12 53.0 +0.2**
baz=322
435B S **SKSac 11 22 30.7 -0.9**
baz=322
J61A Chester 82.87 28 IAmb IAmb 11 12 54.0
comp=Z,485nm,0.8s
GGN Saint George 82.90 23 IAmb IAmb 11 12 53.7
comp=Z,423nm,1.0s
HNDO Hondo 82.93 53 IAmb IAmb 11 12 55.0
comp=Z,1μm,2.0s
R50A Paris 83.00 38 IAmb IAmb 11 12 54.7
comp=Z,705nm,1.2s
TRY Troy 83.07 29 P **P 11 12 53.6 -0.1**
TRY IAmb IAmb 11 12 54.6
comp=Z,504nm,1.2s
EMMW East Machias 83.12 24 IAmb IAmb 11 12 54.9
comp=Z,369nm,1.0s
KLBR Kellerberrin 83.19 205 P **P 11 12 54.2 0.0**
Q52A Bidwell 83.26 36 IAmb IAmb 11 12 55.6
comp=Z,588nm,1.0s
WVT Waverly 83.29 42 P **P 11 12 55.2 +0.3**
WVT Waverly 83.29 42 P **P 11 12 55.2 +0.3**
WVT pmax pmax
comp=Z,543nm,0.6s
KSPA Keystone Colle 83.41 31 IAmb IAmb 11 12 56.1
comp=Z,369nm,0.8s
SSPA Standing Stone 83.47 33 P **P 11 12 55.9 +0.1**
SSPA IAmb IAmb 11 12 56.9
comp=Z,562nm,0.9s
K62A Royalston 83.58 28 IAmb IAmb 11 12 57.6
comp=Z,442nm,0.9s
MCWV Mont Chateau 83.60 34 IAmb IAmb 11 12 58.0
comp=Z,749nm,1.0s
L61B Northampton 83.64 28 P **P 11 12 56.2 -0.3**
baz=335
L61B S **SKSac 11 22 38.1 +1.8**
baz=335
N58A Sunbury 83.72 32 IAmb IAmb 11 12 57.9
comp=Z,623nm,0.8s
RAR Rarotonga 83.75 131 P **P 11 12 57.5 +0.3**
RAR Rarotonga 83.75 131 P **P 11 12 57.5 +0.3**
RAR pmax pmax
comp=Z,442nm,1.6s
CEL Celeste 83.80 323 IAmb IAmb 11 12 58.4
comp=Z,370nm,0.9s
833A Chaparral WMA, 83.81 54 IAmb IAmb 11 12 59.9
comp=Z,850nm,1.0s
833A Chaparral WMA, 83.81 54 P **P 11 12 58.6 +1.0**
baz=322,SNR=161
833A S **S 11 22 44.9 +1.5**
baz=322
S51A Beattyville 83.85 38 P **P 11 12 57.6 -0.1**
S51A IAmb IAmb 11 12 58.7
comp=Z,554nm,0.9s
HRV Adam Dziewonsk 83.94 27 P **P 11 12 58.5 +0.5**
HRV IAmb IAmb 11 12 59.5
comp=Z,617nm,1.1s
HRV Adam Dziewonsk 83.94 27 P **P 11 12 58.5 +0.5**
HRV pmax pmax
comp=Z,617nm,1.1s
MUN Mundaring 84.00 206 P **P 11 12 58.2 0.0**
WES Weston 84.12 27 IAmb IAmb 11 12 59.3
comp=Z,698nm,0.8s
PLAL Pickwick Lake 84.13 42 P **P 11 12 58.8 -0.3**
HAL Halifax 84.18 21 P **P 11 12 59.2 +0.1**
HAL IAmb IAmb 11 13 00.4
comp=Z,442nm,1.0s
HAL Halifax 84.18 21 P **P 11 12 59.2 +0.1**
HAL pmax pmax
comp=Z,442nm,1.0s
ODNJ Ogdensburg 84.23 30 IAmb IAmb 11 13 00.2
comp=Z,248nm,0.8s
H06E1 SOCORRO T-PHAS 84.28 68 P **P 11 13 00.4 +0.3**
SNR=10
ARPS Mount Arapiles 84.29 184 P **P 11 13 00.3 +0.8**
H06S1 SOCORRO T 84.29 69 P **P 11 13 00.8 +0.7**
SNR=50
TRNY Table Rock, Ra 84.30 30 IAmb IAmb 11 13 00.8
comp=Z,536nm,0.8s
UCCT U. Connecticut 84.37 28 IAmb IAmb 11 13 01.4
comp=Z,651nm,1.0s
HKT Hockley 84.43 51 P **P 11 13 01.7 +1.1**
HKT IAmb IAmb 11 13 02.7
comp=Z,567nm,1.5s
HKT Hockley 84.43 51 *c iP* **P 11 13 01.2 +0.6**
HKT pmax pmax
comp=Z,219nm,1.4s
P57A Homestead Farm 84.44 33 IAmb IAmb 11 13 01.9
comp=Z,971nm,1.5s
143A Socs Landing, 84.44 46 IAmb IAmb 11 13 02.9
comp=Z,783nm,1.0s
PAL Palisades 84.53 30 IAmb IAmb 11 13 01.9
comp=Z,472nm,0.8s
WSPT Westport, CT 84.58 29 IAmb IAmb 11 13 01.9
comp=Z,428nm,1.1s
MVL Millersville 84.59 32 IAmb IAmb 11 13 02.4
comp=Z,306nm,0.8s
NWAO Narrogin (SRO) 84.59 205 P **P 11 13 01.5 +0.3**
NWAO IAmb IAmb 11 13 02.6
comp=Z,342nm,1.1s
NWAO Narrogin (SRO) 84.59 205 P **P 11 13 01.2 +0.1**
NWAO Narrogin (SRO) 84.59 205 P **P 11 13 01.4 +0.3**
NWAO Narrogin (SRO) 84.59 205 P **P 11 13 01.5 +0.3**
NWAO pmax pmax
comp=Z,342nm,1.1s
EJON La Jonquera 84.64 334 P **P 11 13 01.1 -0.4**
S54A Dingess, Beckl 84.64 36 IAmb IAmb 11 13 02.9
comp=Z,468nm,1.0s
L64A Middleborough 84.68 27 IAmb IAmb 11 13 03.0
comp=Z,646nm,0.9s
CPNY Central Park 84.71 30 IAmb IAmb 11 13 03.0
comp=Z,579nm,1.1s
M63A Gales Ferry 84.78 28 P **P 11 13 02.0 -0.2**
M63A IAmb IAmb 11 13 03.0
comp=Z,459nm,0.8s
TZTN Tazewell 84.80 38 IAmb IAmb 11 13 03.3
comp=Z,461nm,0.7s
SDMD Soldier's Deli 84.93 32 IAmb IAmb 11 13 04.0
comp=Z,261nm,0.9s
CEST Esterri de Car 84.97 335 IAmb IAmb 11 13 05.4
comp=Z,286nm,1.0s
BRAT Ballarat 84.99 182 P **P 11 13 04.5 +1.6**
X48A Hartselle 85.04 42 IAmb IAmb 11 13 04.4
comp=Z,462nm,0.7s
M65A Busby, Falmout 85.08 27 P **P 11 13 03.8 +0.1**
baz=336
441A DeRidder 85.15 48 P **P 11 13 05.5 +1.3**
W50A Signal Mountai 85.18 40 P **P 11 13 04.2 -0.1**
W50A IAmb IAmb 11 13 05.4
comp=Z,582nm,0.8s
CPCT Cooper Cave 85.32 40 IAmb IAmb 11 13 06.1
comp=Z,595nm,1.0s
PMOR Pomariorio Ree 85.32 118 *eP* **P 11 13 04.9 -0.1**
comp=Z,508nm,1.0s
TAOE Nuku Hiva Isla 85.38 108 *eP* **P 11 13 05.3 -0.3**
comp=Z,556nm,0.9s
TAOE Nuku Hiva Isla 85.38 108 P **P 11 13 06.1 +0.5**
TAOE IAmb IAmb 11 13 07.1
comp=Z,239nm,0.8s
P61A Hammonton 85.42 31 IAmb IAmb 11 13 06.2
comp=Z,639nm,0.9s
TKL Tuckaleechee C 85.46 39 IAmb IAmb 11 13 06.8
comp=Z,498nm,0.9s
BLA Blacksburg 85.50 36 IAmb IAmb 11 13 07.2
comp=Z,630nm,1.1s
U54A Nelsons Funny 85.53 37 IAmb IAmb 11 13 07.3
comp=Z,454nm,0.8s
S57A Dark Hollow, R 85.60 35 IAmb IAmb 11 13 07.2
comp=Z,289nm,0.9s
FPAL Fort Paine 85.61 41 P **P 11 13 06.3 -0.1**
FPAL IAmb IAmb 11 13 07.5
comp=Z,255nm,0.9s
Z47A Carrollton 85.62 43 IAmb IAmb 11 13 07.9
comp=Z,749nm,1.0s
VAH Vaihoa 85.66 118 *eP* **P 11 13 06.4 -0.3**
comp=Z,343nm,1.1s
CBN Corbin Frederi 85.80 33 IAmb IAmb 11 13 08.1
comp=Z,502nm,0.7s
Y49A Blount Mountai 85.83 42 IAmb IAmb 11 13 08.5
comp=Z,490nm,1.0s
R58B Mineral 85.83 34 IAmb IAmb 11 13 08.7
comp=Z,521nm,1.3s
V53A Saluda 85.86 38 IAmb IAmb 11 13 09.0
comp=Z,682nm,1.7s
W52A Murphy 85.87 39 IAmb IAmb 11 13 09.1
comp=Z,715nm,1.5s
X51A Calhoun 85.92 40 IAmb IAmb 11 13 09.2
comp=Z,964nm,1.3s
OUZ Omahuta 86.06 158 P **P 11 13 10.6 +2.4**
LRAL Lakeview Retre 86.25 43 IAmb IAmb 11 13 10.4
comp=Z,272nm,0.9s
U56A King 86.27 36 IAmb IAmb 11 13 10.4
comp=Z,350nm,0.8s
PPT Papeete 86.35 121 P **P 11 13 10.2 +0.2**
comp=Z,280nm,0.9s,baz=15,slow=1.4,SNR=9.1
comp=Z,280nm,0.9s
V55A Taylorsville 86.36 37 IAmb IAmb 11 13 11.3
PPT2 Papeete2 86.37 121 *eP* **P 11 13 09.8 -0.4**
comp=Z,344nm,1.1s
PPT2 *eS* **SKSac 11 22 59.5 +5.7**
comp=Z,360nm,23.8s
PPT2 *es*S **sS 11 26 06.5 +4.5**
comp=Z,2μm,32.0s
PPT2 Papeete2 86.37 121 *e*LQ LQ 11 37 32.5
comp=Z,2μm,38.8s
PPTF Pamatai, Papee 86.37 121 IAmb IAmb 11 13 15.3
comp=Z,372nm,1.0s
PPTF Pamatai, Papee 86.37 121 P **P 11 13 11.7 +1.5**
BG3 Lake Jocassee 86.38 39 IAmb IAmb 11 13 11.7
comp=Z,604nm,1.0s
PAE Paea 86.42 121 *eP* **P 11 13 10.1 -0.2**
comp=Z,120nm,1.2s
WDD Wied Dalam 86.44 323 IAmb IAmb 11 13 10.7
comp=Z,250nm,0.8s
346A Big Creek Wild 86.46 45 IAmb IAmb 11 13 12.3
comp=Z,571nm,0.7s
MAHO Mahon 86.55 332 IAmb IAmb 11 13 12.1
comp=Z,288nm,0.9s
MAHO Mahon 86.55 332 P **P 11 13 10.3 -0.4**
T59A Double "B" Far 86.82 34 IAmb IAmb 11 13 13.7
comp=Z,355nm,1.2s
Y52A Lilburn 86.86 40 P **P 11 13 12.9 +0.5**
Y52A IAmb IAmb 11 13 14.0
comp=Z,530nm,0.8s
KMSC Kings Mountain 86.92 38 IAmb IAmb 11 13 13.9
comp=Z,509nm,0.9s
PAULI Pauline 87.00 38 IAmb IAmb 11 13 14.2
comp=Z,443nm,0.9s
ETOS Mallorca 87.12 333 P **P 11 13 14.0 +0.5**
V58A Windy Hill, Pi 87.25 36 IAmb IAmb 11 13 15.0
comp=Z,282nm,0.8s
HODGE Hodges 87.32 39 IAmb IAmb 11 13 16.0
comp=Z,501nm,1.0s
152A Waverly Hall 87.59 41 IAmb IAmb 11 13 16.5
comp=Z,271nm,0.8s
ECAL Calabor 87.62 341 P **P 11 13 14.0 -2.0**
JSC Jenkinsville 87.69 38 IAmb IAmb 11 13 17.6
comp=Z,392nm,0.9s
PBRG Braganca 87.76 340 *eP* **PKKPbc 11 31 00.1 +0.7**
PBRG Braganca 87.76 340 *eP* **P 11 13 15.3 -1.2**
PBRG A A 11 13 17.2
comp=Z,110nm,1.9s
BRAL Brewton 87.78 44 P **P 11 13 18.0 +1.3**
MBAZ Motutapu North 87.86 158 P **P 11 13 18.8 +2.2**
WTAZ Waiatarua 87.93 158 P **P 11 13 19.6 +2.6**
PGAV Gavieira, Arco 87.94 342 *eP* **P 11 13 16.4 -1.0**
PGAV A A 11 13 17.4
comp=Z,187nm,1.3s
WIAZ Waiheke Island 87.94 158 P **P 11 13 19.1 +2.1**
CBOGS Bougous 88.02 328 P **P 11 13 17.7 0.0**
ETAZ East Tamaki Re 88.04 158 P **P 11 13 19.3 +1.8**
KUZ Kuaotunu 88.05 157 P **P 11 13 19.2 +1.6**
KUZ Kuaotunu 88.05 157 P **P 11 13 19.1 +1.6**
W59A Clinton 88.06 36 P **P 11 13 18.4 +0.5**
AWAZ Awhitu Peninsu 88.07 158 P **P 11 13 18.7 +1.0**
PCAB Cabril 88.13 341 *eP* **P 11 13 17.2 -1.0**
PCAB A A 11 13 18.9
comp=Z,196nm,1.5s
MKAZ Moumakai 88.24 158 P **P 11 13 20.4 +1.9**
GUD Guadarrama 88.24 338 P **P 11 13 17.5 -1.4**
EIBI Ibiza 88.24 334 P **P 11 13 19.0 +0.2**
Y57A Sumter 88.28 38 IAmb IAmb 11 13 20.3
comp=Z,564nm,1.2s
UCM Universidad Co 88.33 337 P **P 11 13 18.3 -0.9**
ECHE Chera 88.39 336 P **P 11 13 19.1 -0.4**
POLO Lamas de Olo 88.40 341 *eP* **P 11 13 18.5 -1.1**
POLO A A 11 13 19.6
comp=Z,121nm,1.2s
MVO Moncorvo 88.43 340 *eP* **P 11 13 18.4 -1.3**
MVO A A 11 13 19.7
comp=Z,147nm,1.2s
PVRL Vila Real 88.48 341 *eP* **P 11 13 18.9 -1.0**
PVRL A A 11 13 19.9
comp=Z,226nm,1.3s
CAEH 'Ain El Ouahch 88.51 329 P **P 11 13 19.9 -0.2**
KEST Kesra 88.54 327 P **P 11 13 20.2 -0.1**
comp=Z,141nm,0.8s,baz=16,slow=1.7,SNR=32
KEST PKKPbc **PKKPbc 11 30 57.1 -0.2**
comp=Z,4.1nm,0.8s,baz=206,slow=2.9,SNR=2.9
comp=Z,141nm,0.8s
CBST Bordj Sabath 88.75 328 P **P 11 13 21.3 0.0**
PTO Porto 88.80 342 *eP* **P 11 13 20.1 -1.2**
PTO A A 11 13 21.8
comp=Z,164nm,1.2s
CBHR Beni Haroun da 88.90 329 P **P 11 13 21.9 0.0**
TOZ Tahuroa Road 88.92 158 IAmb IAmb 11 13 24.6
comp=Z,329nm,1.1s
TOZ Tahuroa Road 88.92 158 P **P 11 13 23.2 +1.6**
PVIS Viseu 89.05 341 *eP* **PKKPbc 11 30 56.9 +0.6**
PVIS Viseu 89.05 341 *eP* **P 11 13 21.4 -1.2**

CASM	**Ain Smara**	**89.10 329**	P		**P**	**11 13 22.7**	**-0.2**
ESDC	**Sonseca Array**	**89.11 338**	P		**P**	**11 13 22.4**	**-0.5**
ESDC	**Sonseca Array**	**89.11 338**	P		**P**	**11 13 22.0**	**-0.9**
	comp=Z,34nm,0.7s,baz=11,slow=4.1,SNR=45						
ESDC			PKKPbc		**PKKPbc**	**11 30 56.8**	**+0.7**
	comp=Z,5.2nm,0.8s,baz=223,slow=1.8,SNR=12						
	comp=Z,34nm,0.7s						
CRHA	**Rehia**	**89.14 328**	P		**P**	**11 13 23.5**	**+0.4**
Y60A	**Bolivia**	**89.17 36**	P		**P**	**11 13 23.8**	**+0.6**
COAT	**Oued Athmania**	**89.19 329**	P		**P**	**11 13 23.2**	**-0.2**
MTE	**Manteigas**	**89.28 341**	*e*P		**PKKPbc**	**11 30 56.2**	**+0.5**
MTE	**Manteigas**	**89.28 341**	*e*P		**P**	**11 13 22.6**	**-1.1**
MTE			A		A	11 13 23.6	
	comp=Z,153nm,1.1s						
OPRZ	**Ohinepanea**	**89.30 157**	P		**P**	**11 13 23.9**	**+0.5**
PAB	**San Pablo**	**89.33 338**	P		**P**	**11 13 22.9**	**-1.0**
PAB	**San Pablo**	**89.33 338**	P		**P**	**11 13 22.9**	**-1.0**
PAB			pmax		pmax		
	comp=Z,34nm,0.8s						
HIZ	**Hauiti**	**89.50 158**	P		**P**	**11 13 26.4**	**+2.2**
HIZ			IAmb		IAmb	11 13 27.5	
	comp=Z,233nm,0.8s						
HIZ	**Hauiti**	**89.50 158**	P		**P**	**11 13 26.3**	**+2.0**
MXZ	**Matakaoa Point**	**89.52 155**	P		**P**	**11 13 24.5**	**+0.1**
MXZ	**Matakaoa Point**	**89.52 155**	P		**P**	**11 13 24.5**	**+0.1**
MXZ	**Matakaoa Point**	**89.52 155**	P		**P**	**11 13 24.8**	**+0.4**
MOIG	**Morelia**	**89.53 61**	IAmb		IAmb	11 13 27.2	
	comp=Z,237nm,0.8s						
SET	**Setif**	**89.53 330**	P		**P**	**11 13 25.0**	**+0.1**
HAZ	**Te Kaha**	**89.55 156**	P		**P**	**11 13 24.4**	**-0.2**
CAZD	**Ain Tagrout**	**89.64 330**	P		**P**	**11 13 26.3**	**+0.9**
CJSR	**Ain Djasser**	**89.65 329**	P		**P**	**11 13 25.9**	**+0.4**
COI	**Coimbra**	**89.65 341**	*e*P		**P**	**11 13 25.0**	**-0.3**
COI			A		A	11 13 25.9	
	comp=Z,197nm,0.9s						
ABMS	**Boumerdes**	**89.67 331**	P		**P**	**11 13 25.5**	**+0.1**
RUGZ	**Raukumara Rang**	**89.72 156**	P		**P**	**11 13 24.8**	**-0.7**
AKED	**El Kharrouba**	**89.78 331**	P		**P**	**11 13 26.0**	**0.0**
257A	**Skidaway Islan**	**89.78 39**	IAmb		IAmb	11 13 28.0	
	comp=Z,465nm,0.9s						
PCBR	**Castelo Branco**	**89.80 340**	*e*P		**PKKPbc**	**11 30 54.9**	**+0.5**
PCBR	**Castelo Branco**	**89.80 340**	*e*P		**P**	**11 13 24.6**	**-1.4**
PCBR			A		A	11 13 25.8	
	comp=Z,88nm,1.3s						
553A	**Crawfordville**	**89.82 42**	IAmb		IAmb	11 13 28.3	
	comp=Z,515nm,1.1s						
PCAS	**Casmilo, Conde**	**89.82 341**	*e*P		**PKKPbc**	**11 30 55.0**	**+0.7**
PCAS	**Casmilo, Conde**	**89.82 341**	*e*P		**P**	**11 13 24.9**	**-1.2**
PCAS			A		A	11 13 27.4	
	comp=Z,176nm,1.8s						
MOO	**Moorlands**	**89.84 180**	P		**P**	**11 13 27.0**	**+1.2**
URZ	**Urewera**	**89.84 157**	P		**P**	**11 13 25.2**	**-0.6**
URZ	**Urewera**	**89.84 157**	P		**P**	**11 13 24.8**	**-1.1**
CBBAR	**Babar**	**89.86 328**	P		**P**	**11 13 27.5**	**+1.0**
MUGZ	**Murupara**	**89.95 157**	P		**P**	**11 13 26.0**	**-0.4**
TWGZ	**Tauwhareparae**	**90.00 156**	P		**P**	**11 13 26.9**	**+0.2**
KHEZ	**Kahui Hut**	**90.03 159**	P		**P**	**11 13 29.5**	**+2.7**
RTZ	**Ruatahuna**	**90.14 157**	IAmb		IAmb	11 13 27.9	
	comp=Z,298nm,1.1s						
ACHR	**Chrea**	**90.16 332**	P		**P**	**11 13 28.3**	**+0.3**
PMRV	**Marv??o**	**90.17 340**	*e*P		**PKKPbc**	**11 30 53.7**	**+0.2**
PMRV	**Marv??o**	**90.17 340**	*e*P		**P**	**11 13 26.2**	**-1.6**
PMRV			A		A	11 13 28.1	
	comp=Z,78nm,1.4s						
AKET	**Djebel Ketaf**	**90.18 331**	P		**P**	**11 13 28.9**	**+0.9**
ADJB	**Djebel Djouab**	**90.22 331**	P		**P**	**11 13 29.0**	**+0.8**
ABKD	**Sidi Amar**	**90.24 332**	P		**P**	**11 13 28.6**	**+0.5**
TAU	**Tasmania Unive**	**90.31 180**	P		**P**	**11 13 29.2**	**+1.3**
CKTS	**El Kantara**	**90.31 329**	P		**P**	**11 13 28.3**	**-0.2**
PSBE	**So Bento**	**90.40 341**	*e*P		**P**	**11 13 27.5**	**-1.3**
PSBE			A		A	11 13 28.2	
	comp=Z,135nm,0.9s						
EBNH	**Beni Haoua**	**90.49 333**	P		**P**	**11 13 29.4**	**+0.2**
BKZ	**Black Stump Fm**	**90.53 157**	P		**P**	**11 13 29.0**	**-0.1**
MOVZ	**Moawhango**	**90.57 158**	P		**P**	**11 13 29.5**	**+0.2**
EHRZ	**Djelida**	**90.61 332**	P		**P**	**11 13 30.2**	**+0.3**
ABSD	**Ouled Sidi Bra**	**90.63 330**	P		**P**	**11 13 30.2**	**+0.2**
PMTG	**Montargil**	**90.70 341**	*e*P		**PKKPbc**	**11 30 52.7**	**+0.6**
PMTG	**Montargil**	**90.70 341**	*e*P		**P**	**11 13 28.6**	**-1.6**
PMTG			A		A	11 13 29.7	
	comp=Z,100nm,1.3s						
PESTR	**Estremoz**	**90.75 340**	P		**P**	**11 13 28.7**	**-1.7**
EDDR	**Deurdeur**	**90.76 332**	P		**P**	**11 13 30.8**	**+0.2**
UNM	**Universidad Na**	**90.98 60**	IAmb		IAmb	11 13 33.7	
	comp=Z,272nm,0.8s						
TBI	**Tubuai**	**90.99 124**	*e*S		S	11 23 34.9	-16
	comp=Z,2μm,26.8s						
TBI			*es*S		sS	11 26 52.0	+6.6
	comp=Z,4μm,29.2s						
TBI	**Tubuai**	**90.99 124**	*e*LQ		LQ	11 39 26.3	
	comp=Z,2μm,32.0s						
CDCN	**Doucen**	**91.09 329**	P		**P**	**11 13 32.3**	**+0.2**
QRZ	**Quartz Range**	**91.15 161**	P		**P**	**11 13 32.8**	**+0.9**
EANR	**'Ain N'Sour**	**91.16 333**	P		**P**	**11 13 32.5**	**+0.1**
EVO	**Evora**	**91.17 340**	*e*P		**PKKPbc**	**11 30 51.6**	**+0.6**
EVO	**Evora**	**91.17 340**	*e*P		**P**	**11 13 31.4**	**-0.9**
EVO			A		A	11 13 32.8	
	comp=Z,75nm,1.9s						
AFRS	**Ain Fares**	**91.19 330**	P		**P**	**11 13 33.1**	**+0.5**
EBGR	**Bougara**	**91.25 332**	P		**P**	**11 13 33.0**	**+0.1**
PBAR	**Barrancos**	**91.28 340**	*e*P		**PKKPbc**	**11 30 51.4**	**+0.7**
PBAR	**Barrancos**	**91.28 340**	*e*P		**P**	**11 13 31.6**	**-1.3**
PBAR			A		A	11 13 32.7	
	comp=Z,70nm,1.6s						
ADCK	**Dar Chioukh**	**91.36 331**	P		**P**	**11 13 34.2**	**+0.7**
PBEJ	**Beja**	**91.62 340**	*e*P		**PKKPbc**	**11 30 50.6**	**+0.7**
PBEJ	**Beja**	**91.62 340**	*e*P		**P**	**11 13 33.4**	**-1.0**
PBEJ			A		A	11 13 35.1	
	comp=Z,84nm,1.5s						
EZEK	**Zmalet El Emir**	**91.77 331**	P		**P**	**11 13 35.7**	**+0.4**
MESJ	**Messejana**	**91.88 340**	IAmb		IAmb	11 13 35.6	
	comp=Z,76nm,0.9s						
MESJ	**Messejana**	**91.88 340**	*e*P		**P**	**11 13 34.5**	**-1.2**
MESJ			A		A	11 13 35.7	
	comp=Z,105nm,1.3s						
MESJ	**Messejana**	**91.88 340**	*e*P		**P**	**11 13 34.4**	**-1.2**
MESJ			IAmb		IAmb	11 13 35.8	
	comp=Z,152nm,1.3s						
MESJ	**Messejana**	**91.88 340**	*e*P		**P**	**11 13 34.4**	**-1.2**
EADEB	**Ain Deheb**	**92.02 332**	P		**P**	**11 13 36.4**	**-0.1**
PCVE	**Castro Verde**	**92.03 340**	*e*P		**P**	**11 13 35.4**	**-1.0**
PCVE			A		A	11 13 37.3	
	comp=Z,128nm,1.3s						
SNZO	**South Karori**	**92.11 159**	P		**P**	**11 13 36.7**	**+0.5**
ADJF	**Tadmit**	**92.11 331**	P		**P**	**11 13 37.8**	**+0.9**
PVAQ	**Vaqueiros**	**92.18 340**	*e*P		**P**	**11 13 35.7**	**-1.3**
PVAQ			A		A	11 13 36.4	
	comp=Z,61nm,0.7s						
PTEO	**Sao Teotonio**	**92.27 341**	*e*P		**P**	**11 13 36.5**	**-0.9**
PTEO			A		A	11 13 38.2	
	comp=Z,168nm,1.5s						
PBDV	**Barranco-do-Ve**	**92.38 340**	*e*P		**P**	**11 13 37.0**	**-1.0**
PBDV			A		A	11 13 39.3	
	comp=Z,60nm,1.5s						
MORF	**Marmelete**	**92.49 341**	IAmb		IAmb	11 13 38.6	
	comp=Z,179nm,1.3s						
MORF	**Marmelete**	**92.49 341**	*e*P		**P**	**11 13 37.5**	**-1.0**
MORF			A		A	11 13 38.7	
	comp=Z,144nm,1.1s						
MORF	**Marmelete**	**92.49 341**	*e*P		**P**	**11 13 37.2**	**-1.3**
MORF			IAmb		IAmb	11 13 38.2	
	comp=Z,167nm,1.2s						
MORF	**Marmelete**	**92.49 341**	*e*P		**P**	**11 13 37.2**	**-1.3**
PFVI	**Vila Bisbo**	**92.69 341**	*e*P		**P**	**11 13 38.4**	**-1.0**
OBBL	**Beni Bahdel**	**93.09 334**	P		**P**	**11 13 41.8**	**+0.4**
BBSR	**BB Station**	**95.37 26**	P		**P**	**11 13 51.9**	**+0.3**
BBSR			IAmb		IAmb	11 13 53.0	
	comp=Z,158nm,0.9s						
MDT	**Midelt**	**95.75 336**	PKKPbc		PKKPbc	11 30 40.4	+1.1
	comp=Z,2.5nm,0.6s,baz=234,slow=3.8,SNR=2.7						
AVE	**Averroes**	**96.02 338**	P		**P**	**11 13 54.0**	**-0.6**
AVE			IAmb		IAmb	11 13 54.7	
	comp=Z,187nm,1.5s						
TEIG	**Tepich**	**96.28 51**	P		**P**	**11 13 56.2**	**+0.2**
CAMR	**Camarioca**	**97.31 44**	P		Pdif	11 14 00.7	+0.1
CAMR			IAmb		IAmb	11 14 02.2	
	comp=Z,163nm,1.2s						
PMAR	**Madeira**	**98.53 346**	*e*P		**P**	**11 14 05.8**	**-0.3**
PMAR			A		A	11 14 06.2	
	comp=Z,213nm,1.2s						
RKT	**Rikitea**	**99.34 114**	*es*S		sS	11 28 01.9	+0.1
	comp=Z,3μm,30.0s						
RKT	**Rikitea**	**99.34 114**	*e*LQ		LQ	11 43 06.3	
	comp=Z,4μm,35.2s						
KMBO	**Kilima Mbogo**	**103.84 284**	Pdiff		**Pdif**	**11 14 31.1**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=37,slow=5.1,SNR=2.1						
KMBO			PP		**PP**	**11 18 53.8**	**+0.7**
	comp=Z,9.7nm,1.0s,baz=30,slow=8.2,SNR=3.9						
KMBO			PKKPbc		**PKKPbc**	**11 30 18.3**	**+1.9**
	comp=Z,3.3nm,0.7s,baz=237,slow=5.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**111.81 323**	PKiKP		**PKiKP**	**11 18 58.9**	**-0.9**
	comp=Z,12nm,0.3s,baz=22,slow=2.1,SNR=42						
TORD			PP		**PP**	**11 19 49.2**	**-0.3**
	comp=Z,18nm,0.8s,baz=8.6,slow=9.5,SNR=5.3						
TORD			SKP			11 21 52.2	
	comp=Z,9.6nm,1.1s,baz=33,slow=2.2,SNR=2.6						
TORD			PKKPbc		**PKKPbc**	**11 29 52.8**	**+0.9**
	comp=Z,7.6nm,0.6s,baz=226,slow=2.2,SNR=9.8						
TORD			PKKPab		**PKKPab**	**11 30 04.2**	**-2.0**
	comp=Z,6.8nm,0.5s,baz=216,slow=3.7,SNR=12						
ROSC	**El Rosal**	**116.42 47**			**PKiKP**	**11 19 09.3**	**+0.1**
ROSC	**El Rosal**	**116.42 47**	PKP		**PKPdf**	**11 19 09.2**	**0.0**
	comp=Z,25nm,0.5s,baz=272,slow=3.2,SNR=5.5						
ROSC			PP		**PP**	**11 20 22.8**	**+0.4**
	comp=Z,12nm,0.5s,baz=340,slow=12,SNR=2.1						
ROSC	**El Rosal**	**116.42 47**	PKIKP		**PKiKP**	**11 19 09.3**	**+0.1**
SACV	**Santiago Islan**	**116.94 350**			**PKiKP**	**11 19 10.4**	**+0.7**
CASY	**Casey**	**117.07 196**			**PKiKP**	**11 19 08.2**	**0.0**
PAF	**Port-aux-Franc**	**117.11 226**	PKPdf		**PKiKP**	**11 19 09.3**	**+0.6**
PAF	**Port-aux-Franc**	**117.11 226**	PKIKP		**PKiKP**	**11 19 09.4**	**+0.6**
OTAV	**Otavalo**	**118.19 54**			**PKPdf**	**11 19 11.7**	**-1.0**
OTAV	**Otavalo**	**118.19 54**	PKIKP		**PKPdf**	**11 19 11.7**	**-1.0**
DBIC	**Dimbokro**	**120.27 327**	PKP		**PKPdf**	**11 19 15.3**	**-0.7**
	comp=Z,73nm,0.6s,baz=15,slow=1.8,SNR=52						
DBIC			PP		**PP**	**11 20 47.3**	**-0.7**
	comp=Z,80nm,1.2s,baz=18,slow=9.1,SNR=5.7						
DBIC			SKP			11 22 08.5	
	comp=Z,24nm,0.8s,baz=351,slow=2.8,SNR=4.6						
DBIC			PKKPbc		**PKKPbc**	**11 29 24.1**	**+1.2**
	comp=Z,28nm,0.8s,baz=190,slow=4.5,SNR=12						
LSZ	**Lusaka**	**120.29 281**			**PKPdf**	**11 19 15.8**	**-0.3**
LSZ	**Lusaka**	**120.29 281**	PKIKP		**PKPdf**	**11 19 15.8**	**-0.3**
MATP	**Matopo**	**123.74 276**	PKKPbc		PKKPbc	11 29 13.4	+3.6
	comp=Z,7.2nm,0.6s,baz=229,slow=3.4,SNR=9.0						
KSANE	**Kasane**	**124.11 281**	*i* P		**PKiKP**	**11 19 23.9**	**+0.2**
ATAH	**Atahualpa**	**124.28 58**	PKP		**PKiKP**	**11 19 25.2**	**+0.6**
	comp=Z,107nm,0.8s,baz=344,slow=4.3,SNR=47						
BOAV	**Boa Vista**	**124.64 34**			**PKPdf**	**11 19 24.1**	**-0.4**
BOAV	**Boa Vista**	**124.64 34**	*e*P		**PKPdf**	**11 19 23.4**	**-1.1**
CRZF	**Crozet Islands**	**124.95 237**			**PKiKP**	**11 19 24.6**	**+0.3**
BROLN	**Tlhalogang**	**124.99 277**	*i* P		**PKPdf**	**11 19 25.0**	**0.0**
SOOWA	**Sowa**	**125.36 278**	*i* P		**PKiKP**	**11 19 26.2**	**+0.1**
MREMI	**Moremi**	**125.92 275**	*i* P		**PKPdf**	**11 19 26.7**	**0.0**
SBA	**Scott Base**	**125.97 175**			**PKiKP**	**11 19 25.5**	**0.0**
SBA	**Scott Base**	**125.97 175**	PKIKP		**PKiKP**	**11 19 25.5**	**0.0**
TBTG	**Tabatinga, AM**	**126.39 48**	PKPdf		**PKPdf**	**11 19 27.2**	**-0.6**
TBTG	**Tabatinga, AM**	**126.39 48**	*e*P		**PKiKP**	**11 19 28.5**	**+0.2**
LPHEP	**Lephephe**	**127.53 276**	*i* P		**PKPdf**	**11 19 30.0**	**+0.2**
LPHEP	**Lephephe**	**127.53 276**	*i* P		SKPbc	11 22 06.0	
CKGRV	**CKGRV**	**127.58 279**	*i* P		**PKiKP**	**11 19 30.7**	**+0.2**
CZSB	**Cruzeiro do Su**	**127.94 53**	*e*P		**PKPdf**	**11 19 30.9**	**+0.1**
QNGWA	**Qangwa**	**127.97 283**	*i* P		SKPbc	11 22 06.8	
KDWAN	**Kaudwane**	**128.34 277**	*i* P		**PKPdf**	**11 19 31.6**	**+0.3**
KDWAN	**Kaudwane**	**128.34 277**	*i* P		SKPbc	11 22 07.2	
NNA	**Nana**	**129.09 60**			**PKPdf**	**11 19 32.8**	**-0.1**
NNA	**Nana**	**129.09 60**	PKP		**PKPdf**	**11 19 32.5**	**-0.4**
	comp=Z,124nm,0.7s,baz=50,slow=1.2,SNR=30						
NNA			SKPbc		SKPab	11 22 11.4	-0.2
	comp=Z,62nm,1.0s,baz=280,slow=2.9,SNR=7.1						
GRTLG	**Ghanzi**	**129.24 282**	*i* P		**PKiKP**	**11 19 33.8**	**-0.1**
GRTLG	**Ghanzi**	**129.24 282**	*i* P		SKPbc	11 22 12.8	+0.3
SKOMA	**Sekoma**	**129.60 276**	*i* P		SKPbc	11 22 13.7	0.0
KGCAE	**Kacgae**	**129.62 279**	*i* P		SKPbc	11 22 14.1	+0.3
MACA	**Manacapuru-AM**	**129.66 37**			**PKPdf**	**11 19 33.9**	**-0.1**
MACA	**Manacapuru-AM**	**129.66 37**	*e*P		**PKiKP**	**11 19 34.5**	**-0.4**
MAKGR	**Makgori**	**129.89 274**	*i* P		**PKPdf**	**11 19 34.0**	**-0.2**
MAKGR	**Makgori**	**129.89 274**	*i* P		SKPbc	11 22 14.8	+0.1
MAW	**Mawson**	**130.87 210**	PKhKP		PKPpre	11 19 17.9	
	comp=Z,2.0nm,0.4s,baz=18,slow=7.1,SNR=6.2						
MAW			PKP		**PKPdf**	**11 19 34.5**	**-0.1**
	comp=Z,37nm,0.7s,baz=49,slow=2.9,SNR=40						
MAW			SKPbc		**SKPab**	**11 22 17.6**	**+0.1**
	comp=Z,55nm,1.0s,baz=54,slow=5.3,SNR=17						
MAW			PKKP		**PKKPdf**	**11 29 34.0**	**-0.8**
	comp=Z,5.2nm,0.7s,baz=199,slow=2.2,SNR=7.5						
MAW			SKKPbc		**SKKPbc**	**11 31 52.5**	**-1.4**
	comp=Z,8.3nm,0.8s,baz=278,slow=7.1,SNR=8.6						
LKGWB	**Lokgwabe**	**131.15 279**	*i* P		**SKPbc**	**11 22 18.3**	**-1.1**
BOSA	**Boshof**	**131.41 271**	PKhKP		PKPpre	11 19 20.9	
	comp=Z,3.6nm,0.8s,baz=49,slow=2.6,SNR=2.9						
BOSA			PKP		**PKPdf**	**11 19 36.3**	**-0.7**
	comp=Z,36nm,0.8s,baz=29,slow=1.3,SNR=16						
BOSA			SKPbc		**SKPbc**	**11 22 20.3**	**+0.1**
	comp=Z,167nm,0.9s,baz=48,slow=3.3,SNR=35						
BOSA			PKKP		**PKKPdf**	**11 29 33.2**	**+0.3**
	comp=Z,1.8nm,0.4s,baz=280,slow=0.9,SNR=2.2						
ITTB	**Itaituba**	**132.63 31**	*e*P		**PKPdf**	**11 19 40.0**	**+0.3**
TMAB	**Tom-Au,PA,Br**	**132.98 20**	*e*P		**PKiKP**	**11 19 41.2**	**-0.4**
GRHM	**Grahamstown, E**	**133.53 266**			PKPpre	11 19 35.3	
LPAZ	**La Paz**	**137.50 54**	PKhKP		PKPpre	11 19 37.7	
	comp=Z,6.3nm,0.7s,baz=198,slow=0.6,SNR=8.4						
LPAZ			PKP		**PKPdf**	**11 19 49.1**	**-0.2**
	comp=Z,85nm,0.8s,baz=7.6,slow=5.6,SNR=36						
LPAZ			SKPbc		**SKPbc**	**11 22 40.8**	**+0.1**
	comp=Z,36nm,1.0s,baz=11,slow=4.6,SNR=6.7						
LPAZ			SKKPbc		**SKKPbc**	**11 31 28.6**	**+2.6**
	comp=Z,1.8nm,0.9s,baz=143,slow=3.8,SNR=1.4						
QSPA	**South Pole Qui**	**137.52 180**	PKhKP		PKPpre	11 19 35.2	
	comp=Z,34nm,0.6s,baz=307,slow=1.2,SNR=63						
QSPA			PKP		**PKPdf**	**11 19 45.8**	**-1.3**
	comp=Z,163nm,1.0s,baz=342,slow=1.6,SNR=22						
QSPA			SKPbc		**SKPbc**	**11 22 37.1**	**-1.2**
	comp=Z,34nm,1.0s,baz=7.1,slow=2.9,SNR=4.9						
QSPA			PKKP		**PKKPdf**	**11 29 20.5**	**-2.0**
	comp=Z,7.3nm,1.1s,baz=216,slow=2.5,SNR=2.1						
QSPA			SKKPbc		**SKKPbc**	**11 31 28.4**	**-1.8**
	comp=Z,11nm,1.0s,baz=156,slow=3.3,SNR=3.4						
RCBR	**Riachuelo**	**138.14 4**	PKhKP		PKPpre	11 19 40.1	
	comp=Z,4.8nm,0.8s,baz=243,slow=15,SNR=2.3						
RCBR			PKP		**PKPdf**	**11 19 50.0**	**0.0**
	comp=Z,33nm,0.8s,baz=63,slow=3.3,SNR=23						
RCBR			SKPbc		**SKPbc**	**11 22 41.2**	**-0.7**
	comp=Z,33nm,1.1s,baz=63,slow=8.2,SNR=13						
RCBR	**Riachuelo**	**138.14 4**	*e*P		**PKPdf**	**11 19 49.6**	**-0.3**
SIV	**San Ignacio**	**140.89 45**	PKhKP		PKPpre	11 19 47.7	
	comp=Z,63nm,0.7s,baz=290,slow=4.0,SNR=62						
SIV			PKP		**PKPdf**	**11 19 54.4**	**-0.4**
	comp=Z,162nm,0.9s,baz=1.8,slow=1.2,SNR=22						
SIV			SKPbc		**SKPbc**	**11 22 48.8**	**-0.3**
	comp=Z,24nm,0.9s,baz=316,slow=3.6,SNR=4.0						
SIV			PP		**PP**	**11 23 00.1**	**-0.3**
	comp=Z,51nm,0.9s,baz=348,slow=6.3,SNR=6.4						
LVC	**Limon Verde**	**142.06 61**	PKhKP		PKPpre	11 19 52.8	
	comp=Z,27nm,0.6s,baz=275,slow=2.3,SNR=14						
LVC			SKPbc		**SKPbc**	**11 22 52.7**	**+0.4**
	comp=Z,26nm,0.9s,baz=241,slow=2.2,SNR=4.0						
LVC	**Limon Verde**	**142.06 61**	*e*P		**PKPdf**	**11 19 52.5**	**-4.6**
SALV	**Santo Antonio**	**143.22 38**	*e*P		PKPab	11 19 55.9	-0.4
GO02	**Mina Guanaco**	**143.57 65**			PKPbc	11 19 58.5	+0.4
GO02	**Mina Guanaco**	**143.57 65**	*e*P		PKPbc	11 19 58.6	+0.5
ARAG	**Araguaiana, MT**	**144.54 32**	*e*P		PKPbc	11 20 01.0	0.0
ELIB	**Princess Elisa**	**144.81 207**	*d*PKP		**PKPdf**	**11 19 59.8**	**-0.4**
GO03	**Copiapo**	**144.93 68**	*e*P		PKPbc	11 20 02.0	+0.1
LCO	**Las Campanas**	**145.62 71**	PKPbc		**PKPbc**	**11 20 03.7**	**-0.6**
LCO	**Las Campanas**	**145.62 71**	PKP2		**PKPbc**	**11 20 03.7**	**-0.6**
SLA	**San Lorenzo**	**145.68 59**	*e*P		**PKPdf**	**11 20 03.3**	**+0.2**
BDFB	**Brasilia**	**145.71 26**	PKPbc		**PKPdf**	**11 20 03.8**	**+0.5**
	comp=Z,908nm,1.0s,baz=336,slow=1.3,SNR=195						
BDFB			SKPbc		**SKPbc**	**11 23 00.3**	**-0.4**
	comp=Z,49nm,0.9s,baz=260,slow=3.4,SNR=2.9						
FSA	**Cafayete**	**146.45 62**	*e*P		**PKPdf**	**11 20 05.1**	**+0.7**
FDPY	**Filadelfia**	**146.77 49**	*e*P		**PKPdf**	**11 20 05.8**	**+1.0**
BDQN	**Bodoquena, MS**	**146.77 43**	*e*P		**PKPdf**	**11 20 05.6**	**+0.8**
VCA	**Vinchina**	**147.00 67**	*e*P		**PKPdf**	**11 20 06.0**	**+0.7**
AROD	**Rodeo**	**147.19 71**	*e*P		**PKPbc**	**11 20 07.3**	**-1.4**
AQDB	**Aquidauana**	**147.27 41**	*e*P		**PKPdf**	**11 20 06.6**	**+0.9**
AHML	**Horco Molle**	**147.34 62**	*e*P		**PKPdf**	**11 20 05.9**	**+0.2**
AHML			*e*P		**PKPbc**	**11 20 06.3**	**-2.5**
AHML			*e*P		**PKiKP**	**11 20 06.8**	**-3.8**
AHML			*e*P		**PKPab**	**11 20 06.9**	**-5.1**
MURT	**Porto Murtinho**	**147.41 45**	*e*P		**PKPdf**	**11 20 06.0**	**+0.2**
ACDV	**Cuesta del Vie**	**147.42 70**	*e*P		**PKPdf**	**11 20 07.0**	**+1.1**
ACCO	**Cerro Coronel**	**147.73 71**	*e*P		**PKPdf**	**11 20 06.8**	**+0.2**
IPMB	**Ipameri, GO**	**147.86 27**	*e*P		**PKPdf**	**11 20 06.8**	**0.0**
ROC1	**El Roble**	**148.02 76**	*e*P		**PKPdf**	**11 20 06.0**	**-0.9**
RPRD	**Ribas do Rio P**	**148.14 38**	*e*P		**PKPdf**	**11 20 08.2**	**+1.1**
VA03	**San Esteban**	**148.19 76**	*e*P		**PKPdf**	**11 20 05.6**	**-1.3**
ACLC	**CERRO LA CRUZ**	**148.26 67**	*e*P		**PKPdf**	**11 20 08.0**	**+0.7**
CYA	**Choya**	**148.27 64**	*e*P		**PKPdf**	**11 20 07.8**	**+0.6**
PEL	**Peldehue**	**148.34 76**	PKPbc		**PKPbc**	**11 20 10.9**	**-0.3**
PEL	**Peldehue**	**148.34 76**	*e*P		**PKPdf**	**11 20 06.1**	**-1.0**
PEL	**Peldehue**	**148.34 76**	PKP2		**PKPbc**	**11 20 10.9**	**-0.3**
RTLS	**Leoncito**	**148.38 73**	*e*P		**PKPdf**	**11 20 07.1**	**-0.5**
AUSP	**Uspallata**	**148.60 74**	*e*P		**PKPdf**	**11 20 08.3**	**+0.4**
RTLL	**Cerro Villicun**	**148.60 71**	*e*P		**PKPdf**	**11 20 07.3**	**-0.3**
ZON	**Zonda**	**148.62 72**	*e*P		**PKPdf**	**11 20 08.1**	**+0.5**
NVL	**N'lazarevskaya**	**148.69 207**	*e*PKHKP		PKPpre	11 20 04.9	
NVL			*e*SS		SS	11 42 15.0	-3.9
NVL			pmax		pmax		
	comp=Z,358nm,0.8s						
ITRB	**Iturama**	**148.74 32**	*e*P		**PKPdf**	**11 20 08.7**	**+0.6**
PAPY	**Pozo Azul**	**149.15 49**	*e*P		**PKPdf**	**11 20 10.0**	**+1.4**
ASAL	**Salagasta**	**149.20 74**	*e*P		**PKPdf**	**11 20 08.8**	**+0.3**
DIAM	**Diamantina, MG**	**149.39 20**	*e*P		**PKPdf**	**11 20 09.8**	**+0.4**
AAGR	**Agrelo**	**149.51 74**	*e*P		**PKPdf**	**11 20 09.2**	**+0.2**
SJMB	**Sao Joao De Ma**	**150.29 15**	*e*P		**PKPdf**	**11 20 11.1**	**+0.6**
TRCB	**Terra Rica**	**150.65 39**	PKPbc		**PKPbc**	**11 20 16.9**	**-0.1**
TRCB	**Terra Rica**	**150.65 39**	*e*P		**PKPdf**	**11 20 11.9**	**+0.9**
TROLL	**Troll, Antarti**	**150.66 202**	⇑PKPab		**PKPab**	**11 20 24.9**	**+0.2**
	comp=Z,21μm,1.2s						
TROLL			⇑PKPdf		**PKPdf**	**11 20 09.1**	**-0.6**
	comp=Z,36μm,3.2s						
TROLL			⇑PKPbc		**PKiKP**	**11 20 16.1**	**-

KRI1	**kERI**	0.37	36	P	Pg	11 03 44.0	+0.3
KRI1				S	Sg	11 03 48.9	+0.4
24μm,0.4s							
LTHK	**Lithakia**	0.41	34	P	Pg	11 03 44.8	+0.1
LTHK				S	Sg	11 03 50.3	+0.2
17μm,0.5s							
LTHK	**Lithakia**	0.41	34	P	Pg	11 03 44.8	+0.1
LTHK				S	Sg	11 03 50.2	+0.1
LTHK				AML	AML	11 03 50.5	
comp=E,26083μm,0.5s							
LTHK				AML	AML	11 03 50.7	
comp=N,38472μm,0.5s							
RTZL	**Ratzakli, Kefa**	0.73	14	P	Pg	11 03 50.8	+0.1
RTZL				S	Sg	11 04 00.9	+0.7
PSDA	**Pessada-Kefalo**	0.75	2	P	Pg	11 03 51.1	+0.1
PSDA				S	Sb	11 04 02.2	-0.6
comp=N,4μm,0.5s							
VLS	**Valsamata**	0.81	2	P	Pg	11 03 52.5	+0.3
VLS				S	Sb	11 04 03.9	-0.7
VLS				AML	AML	11 04 04.2	
comp=E,4336μm,0.3s							
VLS				AML	AML	11 04 07.8	
comp=N,3236μm,0.4s							
LXRA	**Lixouri, Kepha**	0.84	354	P	Pb	11 03 54.0	+0.2
DMLN	**Damoulianata-K**	0.88	351	P	Pg	11 03 53.4	-0.2
DMLN				S	Sb	11 04 06.2	-0.5
comp=N,5μm,0.7s							
DMLN	**Damoulianata-K**	0.88	351	P	Pg	11 03 53.3	-0.2
SMHA	**Samh**	0.89	5	P	Pg	11 03 54.5	+0.8
SMHA				S	Sg	11 04 06.0	+0.8
AMT	**Artemida-Makis**	0.94	79	P	Pg	11 03 54.7	0.0
AMT				S	Sg	11 04 07.4	+0.5
AMT				AML	AML	11 04 12.1	
comp=E,12026μm,0.3s							
AMT				AML	AML	11 04 13.0	
comp=N,13096μm,0.7s							
RLS	**Riolos of Patr**	1.00	46	P	Pg	11 03 55.1	-0.8
VSK1	**VASILIKIADES**	1.04	1	P	Pg	11 03 56.0	-0.7
VSK1				S	Sg	11 04 10.5	+0.3
comp=N,2μm,0.5s							
PYL	**PYLOS**	1.06	116	P	Pg	11 03 57.3	+0.3
PYL				S	Sn	11 04 13.9	+0.3
comp=N,2μm,0.4s							
PYL	**PYLOS**	1.06	116	P	Pg	11 03 57.3	+0.3
FSK	**Fiskardo**	1.09	1	P	Pg	11 03 57.2	-0.4
FSK				S	Sb	11 04 13.3	+0.6
comp=N,1μm,0.3s							
FSK	**Fiskardo**	1.09	1	P	Pg	11 03 56.8	-0.8
FSK				S	Sb	11 04 12.6	-0.1
FSK				AML	AML	11 04 14.7	
comp=N,2387μm,0.2s							
FSK				AML	AML	11 04 16.9	
comp=E,3142μm,0.5s							
DRO	**Drossia**	1.09	57	P	Pg	11 03 57.2	-0.4
DRO				S	Sb	11 04 12.4	-0.4
comp=E,2μm,0.5s							
DRO	**Drossia**	1.09	57	P	Pg	11 03 57.1	-0.6
ITM	**Ithomi**	1.12	99	P	Pg	11 03 57.8	-0.3
EVGI	**Lefkada island**	1.26	4	P	Pb	11 04 00.2	-0.7
EVGI				S	Sn	11 04 19.1	+0.8
DRAG	**Dragano-Lefkad**	1.32	1	P	Pn	11 04 00.9	-0.9
NYDR	**Nydri-Lefkada**	1.35	5	P	Pn	11 04 02.2	-0.1
NYDR				S	Sn	11 04 22.4	+1.8

*IDC **02** 11:05:59.6±0.5, 57°.47N×32°.74W, h0km, mb4.7/22, mbtmp4.7/27, ML3.8/5, MS4.9/87, Error ellipse: s-maj=14.6km s-min=12.9km az=103.0*
*BJI **02** 11:06:00.0, 57°.30N×33°.10W, h10km, mb5.0/27, Ms5.4/13, Ms7 5.1/13*
*NEIC **02** 11:06:02.1±1.3, 57°.30N±0°.08×33°.0W±0°.1, h10km±1km, mb5.6/107, Mww5.4/39, Error ellipse: s-maj=13.9km s-min=11.4km az=172.0*
*NEIC **02** 11:06:02.9, 57°.27N×33°.05W, h12km*
*NEIC **02** 11:06:02.9, 57°.27N×33°.05W, h12km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.41; $M_{\theta\theta}$0.15; $M_{\phi\phi}$1.26; $M_{r\theta}$0.18; $M_{\theta\phi}$0.28; $M_{r\phi}$0.28; Fault plane solution: $M_0$1.41000×10^{17} NP1: ϕ_s197.59000°, δ51.63000°, λ-84.65000°. NP2:ϕ_s9.02000°, δ38.69000°, λ-96.71000°. Principal axes: T 1.3597, Plg6.0000°, Azm284.0000°; N 0.0922, Plg4.0000°, Azm14.0000°; P -1.4519, Plg82.0000°, Azm137.0000°;*
*GCMT **02** 11:06:03.1±0.1, 57°.59N±0°.01×32°.89W±0°.01, h12km, MW5.4/144, Moment Tensor Solution. s77,c103; s144,c280; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.76±.03; $M_{\theta\theta}$0.05±.03; $M_{\phi\phi}$1.71±.02; $M_{r\theta}$0.21±.10; $M_{\theta\phi}$0.38±.02; $M_{\phi r}$-0.04±.08; Best double couple: $M_0$1.78900×10^{17} NP1:ϕ_s199.00000°, δ46.00000°, λ-80.00000°. NP2:ϕ_s5.00000°, δ45.00000°, λ-100.00000°. Principal axes: T 1.7920, Plg0.0000°, Azm282.0000°; N -0.0060, Plg7.0000°, Azm12.0000°; P -1.7850, Plg83.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 11:06:02.5±0.3, 57°.45N±0°.05×33°.01W±0°.04, h15km, n334, σ1s39/245, mb5.3/81, MS5.0/107, 1C-19D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	7.36	306	Pn	**Pn**	11 07 49.8	+0.5
ANGG	**Ammassalik, Gr**	8.49	347	Pn	**Pn**	11 08 05.3	+0.6
IVI	**Ivigtut**	8.61	302	Pn	**Pn**	11 08 06.2	-0.2
BORG	**Borgarnes**	9.24	33		**Pn**	11 08 16.7	+1.8
BORG	**Borgarnes**	9.24	33	Pn	**Pn**	11 08 13.8	-1.1
0.4nm,0.3s,baz=130,slow=7.1,SNR=2.6							
BORG				Sn	**Sn**	11 09 58.0	-0.5
0.2nm,0.3s,baz=240,slow=12,SNR=1.5							
BORG				LR	LR	11 10 56.6	
comp=Z,20μm,18.2s,baz=258,slow=32							
23nm,0.9s							
SFJD	**Kangerlussuaq**	12.56	327		**Pn**	11 09 01.0	+0.6
SFJD	**Kangerlussuaq**	12.56	327	Pn	**Pn**	11 08 59.9	-0.4
1.0nm,0.3s,baz=140,slow=13,SNR=4.3							
SFJD				LR	LR	11 13 05.4	
comp=Z,11μm,18.6s,baz=136,slow=34							
12nm,0.8s							
SCO	**Scoresbysund**	13.92	16	Pn	**Pn**	11 09 21.6	+2.7
IDGL	**Inch Island, C**	14.34	89	P	**P**	11 09 29.3	-2.4
SUMG	**Summit**	15.36	354	Pn	**Pn**	11 09 38.3	-0.4
ILTH	**Belurgan, Co L**	15.36	92	P	**P**	11 09 42.0	-1.1
DSB	**Dublin**	15.67	94	P	**P**	11 09 45.8	-0.8
DSB	**Dublin**	15.67	94	Pn	**Pn**	11 09 40.7	-1.8
IWEX	**Carrickbyrne,**	15.86	97	P	**P**	11 09 49.8	+1.1
ESK	**Eskdalemuir**	16.58	85		**Pn**	11 09 53.4	-0.7
EKB	**Eskdalemuir**	16.58	85	Pn	**Pn**	11 09 53.5	-0.6
EKA	**Eskdalemuir Ar**	16.60	85	Pn	**Pn**	11 09 52.5	-1.9
baz=288,slow=12							
4.1nm,0.8s							
DRLN	**Deer Lake**	16.69	251	Pn	**Pn**	11 09 53.3	-2.3
JMIC	**Jan Mayen**	17.06	28	LR	LR	11 15 11.9	
comp=Z,1μm,18.5s,baz=221,slow=32							
FRB	**Frobisher Bay**	18.35	305	P	**P**	11 10 17.4	+1.4
0.3nm,0.3s,baz=86,slow=11,SNR=4.8							
FRB				LR	LR	11 16 24.2	
comp=Z,6μm,18.6s,baz=106,slow=34							
47nm,1.1s							
SCHQ	**Schefferville**	18.91	276	P	**P**	11 10 21.4	-1.0
SCHQ				IAmb	IAmb	11 10 28.4	
comp=Z,432nm,1.8s							
SCHQ	**Schefferville**	18.91	276	P	**Pn**	11 10 23.8	+0.8
comp=Z,3.9nm,0.3s,baz=55,slow=6.7,SNR=40							
SCHQ				LR	LR	11 16 33.4	
comp=Z,9μm,18.5s,baz=86,slow=33							
comp=Z,49nm,0.7s							
GBN	**Guysborough**	21.29	248	P	**P**	11 10 46.3	-1.8
GBN				IAmb	IAmb	11 10 56.8	
comp=Z,237nm,1.5s							
ICQ	**Pointe Anglais**	21.68	263	P	**P**	11 10 52.3	0.0
ICQ				IAmb	IAmb	11 10 59.1	
comp=Z,162nm,1.5s							
KONO	**Kongsberg**	22.06	66	P	**P**	11 10 57.8	+1.4
PGAV	**Gavieira, Arco**	22.08	124	*e*S	Sn	11 15 12.2	+1.5
PGAV				A	A	11 17 49.1	
comp=Z,6μm,20.0s							
NC204	**NORSAR Array S**	22.31	62	P	**P**	11 11 00.5	+1.4
NBO00	**NORSAR Array S**	22.36	62	P	**P**	11 11 01.7	+2.1
NBO00				IAmb	IAmb	11 11 16.8	
comp=Z,743nm,0.9s							
BATG	**Bathurst New B**	22.38	257	P	**P**	11 10 59.1	-0.8
BATG				IAmb	IAmb	11 11 08.4	
comp=Z,176nm,1.6s							
PCAB	**Cabril**	22.40	124	*e*P	**P**	11 11 01.7	+1.5
PCAB				A	A	11 11 26.7	
comp=Z,128nm,1.9s							
NAO01	**NORSAR Array S**	22.44	63	P	**P**	11 11 01.0	+0.5
NOA	**NORSAR Array B**	22.56	62	LR	LR	11 18 25.2	
comp=Z,3μm,21.7s,baz=280,slow=33							
NB201	**NORSAR Array S**	22.60	62	P	**P**	11 11 03.2	+1.0
NC303	**NORSAR Array S**	22.60	62	P	**P**	11 11 03.1	+0.9
UCC	**Uccle**	22.66	91	P	**P**	11 11 02.5	-0.3
UCC	**Uccle**	22.66	91	*d*P	**P**	11 11 02.0	-0.8
LMN	**Caledonia Moun**	22.66	253	P	**P**	11 11 02.6	-0.3
NC602	**NORSAR Array S**	22.78	63	P	**P**	11 11 05.6	+1.6
NC602				IAmb	IAmb	11 11 16.7	
comp=Z,371nm,0.7s							
NC405	**NORSAR Array S**	22.79	62	P	**P**	11 11 04.8	+0.6
HAL	**Halifax**	22.88	249	P	**P**	11 11 03.5	-1.7
HAL				IAmb	IAmb	11 11 14.1	
comp=Z,144nm,1.5s							
PBRG	**Braganca**	22.91	122	*e*P	**P**	11 11 10.9	+5.3
PBRG				A	A	11 11 22.7	
comp=Z,96nm,1.6s							
CLF	**Chambon-Foret**	23.10	99	P	**P**	11 11 06.4	-1.0
CLF				IAmb	IAmb	11 11 13.9	
comp=Z,236nm,1.5s							
BMRD	**Maredsous**	23.14	92	*d*P	**P**	11 11 09.0	+1.1
BMRD				*dx*	x	11 11 18.3	
DOU	**Dourbes**	23.16	92	*d*P	**P**	11 11 09.0	+0.9
DOU				*dx*	x	11 11 18.2	
DOU				*d*PP	**PnPn**	11 11 35.8	+2.5
PVIS	**Viseu**	23.26	125	*e*P	**P**	11 11 09.1	-0.1
BGES	**Gesves**	23.27	91	*d*P	**P**	11 11 12.1	+2.9
BGES				*dx*	x	11 11 20.4	
MVO	**Moncorvo**	23.28	123	*e*P	**P**	11 11 09.7	+0.2
MVO				A	A	11 11 17.2	
comp=Z,109nm,1.6s							
MVO				*e*S	Sn	11 15 33.2	-6.1
MVO				A	A	11 18 36.3	
comp=Z,5μm,18.0s							
BCLA	**Clavier**	23.37	91	*d*P	**P**	11 11 11.4	+1.3
BCLA				*dx*	x	11 11 17.9	
BEBN	**Eben Emael**	23.37	90	*d*P	**P**	11 11 14.0	+3.9
COI	**Coimbra**	23.45	127	P	**P**	11 11 10.3	-0.7
COI				IAmb	IAmb	11 11 28.0	
comp=Z,170nm,1.4s							
RCHB	**Rochefort**	23.47	92	*d*P	**P**	11 11 12.2	+1.1
PCAS	**Casmilo, Conde**	23.54	127	*e*P	**P**	11 11 12.3	+0.4
PCAS				A	A	11 11 28.2	
comp=Z,112nm,1.3s							
MEM	**Membach**	23.65	90	*d*P	**P**	11 11 14.9	+2.0
MTE	**Manteigas**	23.67	125	P	**P**	11 11 12.2	-1.1
MTE				IAmb	IAmb	11 11 21.6	
comp=Z,70nm,1.1s							
MTE	**Manteigas**	23.67	125	*e*P	**P**	11 11 13.8	+0.5
MTE				A	A	11 11 21.8	
comp=Z,84nm,1.2s							
MTE				*e*S	**S**	11 15 35.8	+8.4
MTE				A	A	11 18 36.6	
comp=Z,4μm,20.0s							
BTNL	**Ternell**	23.73	90	*d*P	**P**	11 11 15.4	+1.7
BHOU	**Houvegnez**	23.78	91	*d*P	**P**	11 11 16.6	+2.3
PQI	**Presque Isle**	23.80	258	P	**P**	11 11 14.4	0.0
PQI				IAmb	IAmb	11 11 38.8	
comp=Z,131nm,2.0s							
PSBE	**So Bento**	23.86	128	*e*P	**P**	11 11 17.4	+2.4
HFS	**Hagfors**	23.95	64	LR	LR	11 19 07.0	
comp=Z,3μm,21.7s,baz=262,slow=33							
PCBR	**Castelo Branco**	24.16	126	*e*P	**P**	11 11 17.3	-0.5
PCBR				A	A	11 11 33.3	
comp=Z,129nm,1.6s							
GGN	**Saint George**	24.21	254	P	**P**	11 11 17.9	-0.3
WLF	**Walferdange**	24.24	92	P	**P**	11 11 18.2	-0.3
WLF	**Walferdange**	24.24	92	*d*P	**P**	11 11 21.5	+3.0
LIS	**Lisbon**	24.38	130	*e*P	**P**	11 11 20.2	+0.3
LIS				IAms_20	IAms_20	11 17 42.7	
comp=Z,7μm,25.7s							
PMTG	**Montargil**	24.47	128	*e*P	**P**	11 11 20.3	-0.4
PMTG				A	A	11 11 35.3	
comp=Z,147nm,1.6s							
F64A	**Sherman**	24.50	257	P	**P**	11 11 19.7	-1.2
G65A	**Princeton**	24.53	255	P	**P**	11 11 20.4	-0.7
PMRV	**Marv??o**	24.53	126	*e*P	**P**	11 11 23.1	+1.8
PMRV				A	A	11 11 35.0	
comp=Z,80nm,1.7s							
PMRV				*e*S	S	11 16 44.8	+64
PMRV				A	A	11 19 03.3	
comp=Z,3μm,18.0s							
LDAQ	**Lac Daran**	24.72	264	P	**P**	11 11 22.7	-0.3
EMMW	**East Machias**	24.81	254	P	**P**	11 11 23.1	-0.6
PESTR	**Estremoz**	24.91	127	P	**P**	11 11 23.9	-0.8
PESTR				IAmb	IAmb	11 11 33.5	
comp=Z,97nm,1.2s							
EVO	**Evora**	25.01	128	*e*P	**P**	11 11 24.7	-0.9
EVO				A	A	11 11 40.4	
comp=Z,57nm,1.5s							
PBEJ	**Beja**	25.50	129	*e*P	**P**	11 11 30.5	+0.5
PBEJ				A	A	11 11 38.4	
comp=Z,93nm,1.3s							
MESJ	**Messejana**	25.51	130	P	**P**	11 11 29.0	-1.1
MESJ	**Messejana**	25.51	130	*e*P	**P**	11 11 29.9	-0.2
MESJ				A	A	11 11 39.2	
comp=Z,67nm,1.3s							
MESJ	**Messejana**	25.51	130	*e*P	**P**	11 11 30.5	+0.4
MESJ				IAms_20	IAms_20	11 18 30.1	
comp=Z,6μm,21.7s							
PTEO	**Sao Teotonio**	25.55	131	*e*P	**P**	11 11 30.4	0.0
PTEO				A	A	11 11 39.5	
comp=Z,135nm,1.3s							
ECH	**Echery**	25.61	94	P	**P**	11 11 31.2	+0.2
PBAR	**Barrancos**	25.73	127	*e*P	**P**	11 11 32.5	+0.5
PBAR				A	A	11 11 47.6	
comp=Z,106nm,1.6s							
PCVE	**Castro Verde**	25.76	130	*e*P	**P**	11 11 32.5	+0.1
PCVE				A	A	11 11 46.7	
comp=Z,73nm,1.5s							
MORF	**Marmelete**	25.79	131	P	**P**	11 11 31.6	-1.0
MORF				IAmb	IAmb	11 11 40.4	
comp=Z,75nm,1.2s							
MORF	**Marmelete**	25.79	131	*e*P	**P**	11 11 33.0	+0.3
MORF				A	A	11 11 51.2	
comp=Z,108nm,1.6s							
MORF	**Marmelete**	25.79	131	*e*P	**P**	11 11 33.1	+0.5
MORF				*e*P	**P**	11 11 33.2	+0.5
MORF				IAms_20	IAms_20	11 18 23.3	
comp=Z,5μm,24.2s							
PAB	**San Pablo**	25.80	122	P	**P**	11 11 32.1	-0.7
PFVI	**Vila Bisbo**	25.86	131	*e*P	**P**	11 11 36.4	+3.1
ESBB	**Sonseca Array**	25.88	121	P	**P**	11 11 32.8	-0.7
ESBB				IAmb	IAmb	11 11 41.4	
comp=Z,61nm,1.4s							
ESDC	**Sonseca Array**	25.88	121	P	**P**	11 11 32.6	-0.9
comp=Z,11nm,1.0s,baz=320,slow=8.8,SNR=26							
ESDC				LR	LR	11 20 03.8	
comp=Z,3μm,18.2s,baz=336,slow=33							
comp=Z,11nm,1.0s							
SSB	**Saint Sauveur**	26.05	102	P	**P**	11 11 34.4	-0.6
WVL	**Waterville**	26.06	256	P	**P**	11 11 34.5	-0.5
PVAQ	**Vaqueiros**	26.09	129	P	**P**	11 11 33.7	-1.6
PVAQ				IAmb	IAmb	11 11 50.8	
comp=Z,82nm,1.8s							
PVAQ	**Vaqueiros**	26.09	129	*e*P	**P**	11 11 39.1	+3.8
PVAQ				*e*S	S	11 16 18.2	+12
PVAQ				A	A	11 19 59.1	
comp=Z,5μm,20.0s							
PBDV	**Barranco-do-Ve**	26.14	130	*e*P	**P**	11 11 37.9	+2.1
BFO	**Black Forest**	26.18	92	P	**P**	11 11 37.3	+1.2
SENIN	**Lac Senin/Sane**	26.82	97	P	**P**	11 11 42.0	-0.2
SENIN				IAmb	IAmb	11 11 49.5	
comp=Z,117nm,1.2s							
PMPST	**Porto Santo, M**	26.90	148	*e*P	**P**	11 11 41.7	-1.0
CLL	**Collm**	27.05	83	P	**P**	11 11 44.5	+0.5
CLL	**Collm**	27.05	83	*e*P	**P**	11 11 45.0	+1.1
CLL				*es*P	**sP**	11 11 49.0	-0.7
comp=Z,17nm,1.0s							
CLL				*e*S	**S**	11 16 24.0	+3.0
CLL				AMS	AMS	11 22 00.0	
comp=Z,5μm,19.6s							
CLL				AMS	AMS	11 22 00.0	
NKC	**Novy Kostel**	27.33	86	AMS	AMS	11 22 30.0	
comp=Z,4μm,15.4s							
BNI	**Bardonecchia**	27.34	100	P	**P**	11 11 47.5	+0.8
I62A	**Tamworth**	27.41	257	P	**P**	11 11 47.1	-0.1
I62A				IAmb	IAmb	11 12 11.0	
comp=Z,104nm,1.9s							
LBNH	**Lisbon**	27.47	258	P	**P**	11 11 47.8	+0.1
LBNH				IAmb	IAmb	11 11 51.0	
comp=Z,95nm,1.9s							
ARCES	**ARCESS Array B**	27.53	40	LR	LR	11 20 32.9	
comp=Z,2μm,19.8s,baz=248,slow=32							
HSKC	**Hora Svate Kat**	27.66	84	AMS	AMS	11 23 00.0	
comp=Z,6μm,15.5s							
BRG	**Berggiesshubel**	27.79	83	*e*P	**P**	11 11 51.9	+1.3
BRG				Amp		11 11 57.2	
comp=Z,6.9nm,1.1s							
BRG	**Berggiesshubel**	27.79	83	S	**S**	11 16 31.0	-1.5
TUE	**Stuetta**	27.86	95	P	**P**	11 11 51.6	+0.2
VLDQ	**Val d'Or**	27.99	270	P	**P**	11 11 53.7	+1.4
RICC	**Richard**	28.05	84	AMS	AMS	11 23 20.0	
comp=Z,6μm,15.4s							
FUORN	**Ofenpass-Fuorn**	28.26	94	P	**P**	11 11 55.4	+0.3
FUORN				IAmb	IAmb	11 12 32.3	
comp=Z,458nm,1.1s							
PVCC	**Panska Ves**	28.31	83	AMS	AMS	11 23 30.0	
comp=Z,5μm,16.5s							
RES	**Resolute Bay**	28.52	331	LR	LR	11 22 49.4	
comp=Z,2μm,20.1s,baz=121,slow=35							
KHC	**Kasperske Hory**	28.55	87	P	**P**	11 11 57.8	+0.4
KHC	**Kasperske Hory**	28.55	87	*e*P	**P**	11 12 00.0	+2.6
KHC				AMS	AMS	11 22 50.0	
comp=Z,4μm,16.7s							
PRU	**Pruhonice**	28.59	84	AMS	AMS	11 23 10.0	
comp=Z,4μm,15.7s							
ZVC	**Zvikov**	28.71	86	AMS	AMS	11 22 40.0	
comp=Z,4μm,19.4s							
K62A	**Royalston**	28.72	256	P	**P**	11 11 58.0	-1.0
WBO	**Williamsburg**	28.75	263	P	**P**	11 11 57.6	-1.5
WBO				IAmb	IAmb	11 12 40.9	
comp=Z,390nm,1.0s							
GOPC	**GO Pecny, Ondr**	28.76	84	AMS	AMS	11 23 20.0	
comp=Z,4μm,16.5s							
GEC2	**GERESS Array S**	28.78	87	P	**P**	11 11 59.7	+0.1
GEC2				IAmb	IAmb	11 12 14.6	
comp=Z,245nm,0.9s							
GERES	**GERESS Array B**	28.78	87	LR	LR	11 23 22.2	
comp=Z,3μm,18.1s,baz=320,slow=36							
CART	**Cartagena**	28.93	120	P	**P**	11 11 59.2	-1.6
CHVC	**Chvalec**	29.07	82	AMS	AMS	11 24 00.0	
comp=Z,5μm,17.3s							
UPC	**Upice**	29.09	82	AMS	AMS	11 24 00.0	
comp=Z,6μm,17.0s							
CKRC	**Cesky Krumlov**	29.13	87	AMS	AMS	11 23 20.0	
comp=Z,4μm,17.4s							
OSTC	**Ostas**	29.18	82	AMS	AMS	11 24 10.0	
comp=Z,5μm,16.5s							
DPC	**Dobruska-Polom**	29.35	83	AMS	AMS	11 24 20.0	
comp=Z,5μm,15.4s							
CTI	**Castel Tesino**	29.37	93	P	**P**	11 12 04.9	+0.2
CTI				IAmb	IAmb	11 12 30.8	
comp=Z,268nm,0.8s							
J59A	**Piesco**	29.37	260	P	**P**	11 12 04.3	-0.3
FINES	**FINESS Array B**	29.40	57	LR	LR	11 23 20.5	
comp=Z,2μm,18.5s,baz=276,slow=36							
TREC	**Trest**	29.49	85	AMS	AMS	11 23 30.0	
comp=Z,4μm,17.6s							
KRLC	**Kraliky**	29.75	83	AMS	AMS	11 24 20.0	
comp=Z,6μm,16.2s							
TEOL	**Teolo**	29.82	94	P	**P**	11 12 08.2	-0.4
KSCT	**Kent School, K**	30.04	256	P	**P**	11 12 09.4	-1.2
VRAC	**Vranov**	30.08	84	LR	LR	11 23 58.6	
comp=Z,4μm,19.9s,baz=312,slow=36							
ZCCA	**Zocca**	30.10	97	P	**P**	11 12 10.8	-0.4
PRED	**Cave del Predi**	30.15	91	P	**P**	11 12 12.2	+0.6
PRED				IAmb	IAmb	11 12 25.7	
comp=Z,289nm,0.9s							
J57A	**Williamstown**	30.20	261	P	**P**	11 12 11.2	-0.8
DELO	**Deloro Mine**	30.33	264	P	**P**	11 12 12.7	-0.4
DELO				IAmb	IAmb	11 12 39.2	
comp=Z,362nm,1.0s							
OKC	**Ostrava-Krasne**	30.61	82	AMS	AMS	11 25 00.0	
comp=Z,7μm,16.0s							
SADO	**Sadowa**	30.98	266	LR	LR	11 23 29.2	
comp=Z,6μm,19.1s,baz=64,slow=34							
SUW	**Suwalki**	31.06	72	P	**P**	11 12 20.6	+1.1
SUW				IAmb	IAmb	11 12 23.9	
comp=Z,178nm,0.9s							
MDT	**Midelt**	31.33	130	LR	LR	11 23 31.9	
comp=Z,1μm,19.4s,baz=351,slow=34							
FDMO	**Fiordimonte**	32.12	96	IAmb	IAmb	11 12 43.2	
comp=Z,444nm,0.7s							
KEST	**Kesra**	35.49	109	IAmb	IAmb	11 13 21.2	
comp=Z,152nm,0.8s							
KEST	**Kesra**	35.49	109	LR	LR	11 25 50.6	
comp=Z,2μm,21.4s,baz=307,slow=34							
KMPD	**K-Podol'skiy**	35.78	78	P	**P**	11 12 58.9	-1.7
AK20	**Malin Array Si**	35.83	73	P	**P**	11 12 58.8	-2.2
AK22	**Malin Array Si**	35.85	73	P	**P**	11 12 59.2	-2.0
AK04	**Malin Array Si**	35.92	73	P	**P**	11 13 00.1	-1.7
AKASG	**Malin Array Be**	35.96	73	LR	LR	11 27 19.4	
comp=Z,2μm,20.3s,baz=270,slow=36							
ULM	**Lac du Bonnet**	36.55	286	LR	LR	11 26 45.8	
comp=Z,5μm,18.9s,baz=49,slow=34							
VAE	**Valguarnera**	36.80	102	LR	LR	11 26 43.6	
comp=Z,4μm,19.3s,baz=314,slow=34							
OBN	**Obninsk**	37.16	63	LR	LR	11 27 18.9	
comp=Z,3μm,21.5s,baz=300,slow=35							
MLR	**Muntele Rosu**	37.43	83	LR	LR

FID	**Port Fidalgo**	**51.17 325**	P	**P**	**11 15 07.0**	**+2.6**
FID			IAmb	IAmb	11 15 25.2	
comp=Z,42nm,1.1s						
MMAI	**Mount Meron Ar**	**51.44 88**	LR	LR	11 38 22.1	
comp=Z,1μm,20.8s,baz=292,slow=38						
TORD	**Torodi Ar. Bea**	**51.46 135**	P	**P**	**11 15 05.3**	**-1.7**
comp=Z,6.3nm,0.8s,baz=1.3,slow=6.6,SNR=20						
TORD			LR	LR	11 34 46.7	
comp=Z,1μm,19.7s,baz=336,slow=34						
comp=Z,6.3nm,0.8s						
MPU	**Maple Canyon**	**51.63 286**	P	**P**	**11 15 08.9**	**+0.5**
G16K	**Koyuk River**	**51.65 336**	P	**P**	**11 15 09.0**	**+1.1**
G16K			IAmb	IAmb	11 15 12.1	
comp=Z,30nm,1.1s						
SUA	**Susitna One**	**51.90 327**	P	**P**	**11 15 11.1**	**+1.2**
SUA			IAmb	IAmb	11 15 12.9	
comp=Z,57nm,1.0s						
ANMO	**Albuquerque**	**52.68 278**	LR	LR	11 36 49.5	
comp=Z,4μm,18.3s,baz=190,slow=35						
ASF	**Jabal al Asfar**	**52.89 87**	LR	LR	11 40 27.9	
comp=Z,795nm,18.2s,baz=336,slow=39						
ELK	**Elko**	**52.95 289**	LR	LR	11 37 04.8	
comp=Z,4μm,18.4s,baz=48,slow=35						
PCRV	**Puerto La Cruz**	**53.07 220**	LR	LR	11 34 26.1	
comp=Z,414nm,21.4s,slow=32						
BVAR	**Borovoye Array**	**53.51 47**	LR	LR	11 36 26.0	
comp=Z,1μm,21.6s,baz=344,slow=34						
EIL	**Elat**	**53.78 91**	LR	LR	11 39 54.3	
comp=Z,656nm,21.1s,baz=34,slow=38						
MDP	**Montagnes des**	**54.44 204**	LR	LR	11 33 08.8	
comp=Z,447nm,21.5s,baz=4.5,slow=30						
TEIG	**Tepich**	**54.66 251**	LR	LR	11 37 45.1	
comp=Z,2μm,21.6s,baz=26,slow=35						
DBIC	**Dimbokro**	**55.21 145**	P	**P**	**11 15 33.5**	**-1.0**
DBIC			IAmb	IAmb	11 15 42.0	
comp=Z,33nm,1.1s						
DBIC	**Dimbokro**	**55.21 145**	P	**P**	**11 15 33.6**	**-1.0**
comp=Z,8.4nm,0.9s,baz=330,slow=10,SNR=6.3						
DBIC			LR	LR	11 36 11.2	
comp=Z,2μm,21.1s,baz=347,slow=33						
comp=Z,8.4nm,0.9s						
KDAK	**Kodiak Island**	**55.43 326**	LR	LR	11 41 14.6	
comp=Z,1μm,18.3s,baz=74,slow=38						
BAUV	**El Baul**	**55.44 224**	P	**P**	**11 15 35.2**	**-1.0**
BAUV			IAmb	IAmb	11 15 40.8	
comp=Z,84nm,1.0s						
TX31	**Lajitas Ar. Si**	**55.50 271**	P	**P**	**11 15 36.8**	**0.0**
TX31			IAmb	IAmb	11 15 54.2	
comp=Z,119nm,1.4s						
TXAR	**Lajitas Array**	**55.50 271**	LR	LR	11 38 34.4	
comp=Z,585nm,18.9s,baz=34,slow=35						
K02D	**Willamette Mer**	**55.68 297**	P	**P**	**11 15 38.6**	**+0.8**
K02D			IAmb	IAmb	11 15 39.8	
comp=Z,42nm,1.5s						
YBH	**Yreka Blue Hor**	**55.95 295**	LR	LR	11 38 33.7	
comp=Z,3μm,20.2s,baz=30,slow=35						
NVAR	**Mina Array Bea**	**56.25 290**	P	**P**	**11 15 41.8**	**-0.4**
comp=Z,3.1nm,0.8s,baz=54,slow=4.7,SNR=1.7						
NVAR			LR	LR	11 39 18.0	
comp=Z,4μm,18.0s,baz=46,slow=36						
comp=Z,3.1nm,0.8s						
SDV	**Santo Domingo**	**56.48 226**	LR	LR	11 35 45.1	
comp=Z,246nm,21.0s,baz=26,slow=32						
GMN	**Gold Mountain**	**56.58 288**	P	**P**	**11 15 44.3**	**-0.2**
GMN			IAmb	IAmb	11 15 47.3	
comp=Z,51nm,1.9s						
KMRM	**Mail Ridge**	**57.59 295**	P	**P**	**11 15 53.5**	**+2.0**
KMRM			IAmb	IAmb	11 16 13.7	
comp=Z,74nm,1.5s						
ZALV	**Zalesovo Beam**	**58.04 38**	P	**P**	**11 15 53.7**	**-0.6**
comp=Z,5.9nm,0.8s,baz=343,slow=4.5,SNR=1.9						
ZALV			LR	LR	11 41 44.7	
comp=Z,420nm,18.0s,baz=307,slow=37						
comp=Z,5.9nm,0.8s						
HPIG		**58.47 271**	P	**P**	**11 15 59.0**	**+1.1**
HPIG			IAmb	IAmb	11 16 00.8	
comp=Z,90nm,1.6s						
KURBB	**Kurchatov Arra**	**58.53 44**	P	**P**	**11 15 56.1**	**-1.6**
comp=Z,7.0nm,0.7s,baz=325,slow=6.8,SNR=1.8						
comp=Z,7.0nm,0.7s						
GLA	**Glamis**	**58.58 283**	P	**P**	**11 15 59.7**	**+1.2**
GLA			IAmb	IAmb	11 16 13.5	
comp=Z,37nm,1.1s						
PFO	**Pinyon Flats O**	**59.00 285**	LR	LR	11 40 44.2	
comp=Z,2μm,20.0s,baz=53,slow=35						
BOAV	**Boa Vista**	**59.07 213**	P	**P**	**11 16 01.5**	**-0.4**
SEY	**Seymchan**	**59.88 357**	P	**P**	**11 16 05.9**	**-1.0**
comp=Z,3.0nm,0.5s,baz=281,slow=19,SNR=1.6						
comp=Z,3.0nm,0.5s						
YAK	**Yakutsk**	**60.10 9**	LR	LR	11 39 55.8	
comp=Z,236nm,20.8s,baz=343,slow=34						
CMIG	**Matias Romero**	**60.69 255**	LR	LR	11 41 42.0	
comp=Z,895nm,21.9s,baz=18,slow=35						
TMAB	**Tom-Au,PA,Br**	**60.85 197**	*eP*	**P**	**11 16 15.0**	**+0.9**
JTS	**Las Juntas de**	**61.49 242**	LR	LR	11 39 40.5	
comp=Z,866nm,21.8s,baz=10.0,slow=33						
ROSC	**El Rosal**	**61.63 228**	P	**P**	**11 16 21.1**	**+1.2**
ROSC			IAmb	IAmb	11 16 31.1	
comp=Z,46nm,1.0s						
ROSC	**El Rosal**	**61.63 228**	P	**P**	**11 16 21.0**	**+1.2**
comp=Z,16nm,0.5s,baz=353,slow=3.3,SNR=12						
ROSC			LR	LR	11 44 31.9	
comp=Z,291nm,18.3s,baz=18,slow=37						
comp=Z,16nm,0.5s						
TLIG	**Tlapa**	**62.24 259**	P	**P**	**11 16 24.5**	**+0.7**
TLIG			IAmb	IAmb	11 17 36.2	
comp=Z,47nm,1.2s						
MKAR	**Makanchi Array**	**63.10 44**	P	**P**	**11 16 26.7**	**-2.3**
comp=Z,9.1nm,0.9s,baz=315,slow=5.2,SNR=2.4						
comp=Z,9.1nm,0.9s						
RCBR	**Riachuelo**	**63.10 183**	LR	LR	11 37 09.6	
comp=Z,92nm,21.9s,baz=152,slow=30						
LPIG	**La Paz**	**63.24 273**	LR	LR	11 43 35.2	
comp=Z,906nm,18.3s,baz=44,slow=36						
MA2	**Magadan**	**63.28 358**	P	**P**	**11 16 29.3**	**-0.7**
comp=Z,9.8nm,1.0s,baz=192,slow=19,SNR=1.5						
MA2			LR	LR	11 42 45.0	
comp=Z,385nm,21.1s,baz=8.0,slow=35						
comp=Z,9.8nm,1.0s						
BTK	**Batken**	**63.89 56**	P	**P**	**11 16 35.1**	**+0.7**
BTK			IAmb	IAmb	11 16 49.5	
comp=Z,142nm,1.1s						
ITTB	**Itaituba**	**64.30 205**	*eP*	**P**	**11 16 36.8**	**-0.3**
PRPB	**Parauapebas**	**64.86 199**	*eP*	**P**	**11 16 43.4**	**+2.5**
H10N2	**ASCENSION HYDR**	**66.79 160**	T	T	12 29 16.0	
baz=350,slow=75,SNR=11						
H10N3	**ASCENSION HYDR**	**66.80 160**	T	T	12 29 07.5	
baz=350,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**66.81 160**	T	T	12 29 09.9	
baz=350,slow=75,SNR=13						
SMTB	**Santa Maria do**	**67.15 196**	*eP*	**P**	**11 16 55.9**	**+0.4**
OTAV	**Otavalo**	**67.49 230**	P	**P**	**11 16 58.6**	**+0.3**
OTAV			IAmb	IAmb	11 19 13.7	
comp=Z,67nm,1.8s						
OTAV	**Otavalo**	**67.49 230**	*eP*	**P**	**11 16 58.2**	**-0.1**
WMQ	**Urumqi**	**67.63 42**	*eP*	P	11 17 03.3	+4.9
WMQ			LR	LR		
comp=Z,1μm,17.7s						
WMQ			LR	LR		
comp=Z,710nm,16.7s						
WMQ			LR	LR		
comp=Z,640nm,15.7s						
H10S3	**ASCENSION HYDR**	**67.85 160**	T	T	12 30 27.6	
baz=350,slow=74,SNR=120						
H10S2	**ASCENSION HYDR**	**67.86 160**	T	T	12 30 36.2	
baz=230,slow=74,SNR=125						
SHEM	**Shemya Is, Ala**	**67.97 343**	LR	LR	11 46 43.0	
comp=Z,354nm,21.8s,baz=346,slow=36						
NBLA	**Lagarto - SE**	**68.31 185**	*eP*	**P**	**11 17 03.7**	**+1.0**
PETK	**Petropavlovsk-**	**69.46 353**	LR	LR	11 49 07.3	
comp=Z,319nm,18.5s,baz=16,slow=37						
SONM	**Songino Array**	**69.82 28**	P	**P**	**11 17 11.3**	**-0.8**
comp=Z,8.9nm,1.1s,baz=335,slow=6.4,SNR=3.5						
SONM			LR	LR	11 49 46.7	
comp=Z,429nm,18.0s,baz=336,slow=38						
comp=Z,8.9nm,1.1s						
SDBA	**SAO DESIDERIO**	**70.29 192**	*eP*	**P**	**11 17 15.4**	**+0.3**
CLDB	**Colider**	**70.61 204**	*eP*	**P**	**11 17 16.8**	**-0.2**
SAML	**Samuel**	**70.62 212**	P	**P**	**11 17 15.8**	**-1.2**
SAML			IAmb	IAmb	11 19 42.4	
comp=Z,74nm,0.7s						
SAML	**Samuel**	**70.62 212**	*eP*	**P**	**11 17 16.2**	**-0.9**
SNDB	**Serra Nova Dou**	**70.80 199**	*eP*	**P**	**11 17 17.5**	**-0.6**
GDU01	**Guandu, BA**	**71.11 187**	*eP*	**P**	**11 17 19.2**	**-0.8**
HEH	**HeiHe**	**71.46 13**	*eP*	**P**	**11 17 22.7**	**+0.9**
HEH			pmax	pmax		
comp=Z,28nm,1.7s						

PDRB	**Porto dos Gac**	**71.53 205**	*eP*	**P**	**11 17 23.1**	**+0.4**
WSAR	**Wadi Sarin**	**71.59 76**	LR	LR	11 51 48.0	
comp=Z,607nm,21.3s,baz=30,slow=38						
ETMB	**Extrema**	**72.34 214**	IAmb	IAmb	11 19 40.5	
comp=Z,89nm,0.7s						
ETMB	**Extrema**	**72.34 214**	*eP*	**P**	**11 17 25.8**	**-1.7**
CZSB	**Cruzeiro do Su**	**72.55 222**	*eP*	**P**	**11 17 26.7**	**-2.1**
FURI	**Furi**	**72.72 101**	LR	LR	11 49 23.5	
comp=Z,830nm,21.7s,baz=334,slow=36						
JANB	**Januaria**	**72.84 191**	*eP*	**P**	**11 17 30.2**	**-0.3**
KLR	**Kul'dur**	**72.94 10**	LR	LR	11 50 29.3	
comp=Z,316nm,19.3s,baz=3.0,slow=37						
VILB	**Vilhena**	**73.65 208**	P	**P**	**11 17 35.0**	**-0.3**
VILB	**Vilhena**	**73.65 208**	*eP*	**P**	**11 17 35.6**	**+0.4**
BDFB	**Brasilia**	**73.88 195**	P	**P**	**11 17 36.3**	**-0.3**
BDFB	**Brasilia**	**73.88 195**	P	**P**	**11 17 36.9**	**+0.3**
comp=Z,14nm,0.8s,baz=356,slow=5.1,SNR=15						
BDFB			LR	LR	11 44 32.2	
comp=Z,528nm,21.7s,baz=324,slow=31						
comp=Z,14nm,0.8s						
ATAH	**Atahualpa**	**74.16 227**	LR	LR	11 50 28.1	
comp=Z,341nm,20.9s,baz=11,slow=36						
ARAG	**Araguaiana, MT**	**74.54 199**	*eP*	**P**	**11 17 41.3**	**+1.0**
NAN01	**Guarapari, ES**	**75.24 187**	*eP*	**P**	**11 17 46.8**	**+2.5**
SALV	**Santo Antonio**	**75.47 203**	*eP*	**P**	**11 17 46.4**	**+0.7**
LODK	**Lodwar**	**75.59 107**	P	**P**	**11 17 47.0**	**+0.4**
LODK			IAmb	IAmb	11 18 43.7	
comp=Z,78nm,1.8s						
GTA	**Gaotai**	**75.69 36**	*eP*	**P**	**11 17 45.9**	**-1.1**
GTA			pmax	pmax		
comp=Z,14nm,1.2s						
PTLB	**Pontes e Lacer**	**75.79 206**	P	**P**	**11 17 47.9**	**+0.3**
PTLB			IAmb	IAmb	11 19 57.2	
comp=Z,157nm,0.9s						
PTLB	**Pontes e Lacer**	**75.79 206**	*eP*	**P**	**11 17 47.8**	**+0.3**
DIAM	**Diamantina, MG**	**75.98 190**	*eP*	**P**	**11 17 50.8**	**+2.1**
SJMB	**Sao Joao De Ma**	**76.17 188**	*eP*	**P**	**11 17 52.5**	**+2.9**
IPMB	**Ipameri, GO**	**76.21 195**	*eP*	**P**	**11 17 50.1**	**+0.1**
PMNB	**Patos De Minas**	**76.52 193**	*eP*	**P**	**11 17 51.6**	**-0.1**
MBAR	**Mbarara**	**76.68 113**	LR	LR	11 53 01.5	
comp=Z,1μm,18.4s,baz=339,slow=37						
SIV	**San Ignacio**	**76.79 208**	LR	LR	11 48 04.6	
comp=Z,673nm,19.4s,baz=30,slow=33						
MDJ	**Mudanjiang**	**77.27 13**	P	**P**	**11 17 56.4**	**+0.7**
MDJ			pmax	pmax		
comp=Z,26nm,1.4s						
BTO	**Baotou**	**77.50 28**	*eP*	**P**	**11 17 56.6**	**-0.6**
BTO			pP	**pP**	**11 18 01.6**	**0.0**
BTO			sP	**pwP**	**11 18 03.7**	**-0.1**
BTO			pmax	pmax		
comp=Z,73nm,1.4s						
HHC	**Hu-ho-hao-te**	**77.65 27**	*eP*	**P**	**11 17 58.7**	**+0.6**
HHC			pmax	pmax		
comp=Z,20nm,1.1s						
HHC			LR	LR		
comp=Z,490nm,14.5s						
HHC			LR	LR		
comp=Z,370nm,14.5s						
HHC			LR	LR		
comp=Z,670nm,13.8s						
BBSD	**Serra de San D**	**77.82 207**	*eP*	**P**	**11 17 59.2**	**+0.2**
USRK	**Ussuriysk Ar.**	**77.95 11**	P	**P**	**11 17 58.2**	**-1.3**
comp=Z,2.5nm,0.8s,baz=344,slow=4.7,SNR=2.1						
comp=Z,2.5nm,0.8s						
NNA	**Nana**	**77.99 224**	LR	LR	11 51 45.4	
comp=Z,375nm,20.3s,baz=7.5,slow=35						
ITRB	**Iturama**	**78.21 197**	*eP*	**P**	**11 18 01.9**	**+0.7**
LPAZ	**La Paz**	**79.03 214**	IAmb	IAmb	11 19 51.0	
comp=Z,113nm,1.1s						
LPAZ	**La Paz**	**79.03 214**	P	**P**	**11 18 05.8**	**-0.7**
comp=Z,3.9nm,1.0s,baz=16,slow=9.9,SNR=9.5						
LPAZ			LR	LR	11 50 56.5	
comp=Z,256nm,20.0s,baz=9.5,slow=34						
comp=Z,3.9nm,1.0s						
LPAZ	**La Paz**	**79.03 214**	*eP*	**P**	**11 18 05.8**	**-0.7**
AQDB	**Aquidauana**	**79.91 202**	*eP*	**P**	**11 18 10.1**	**-0.2**
BDQN	**Bodoquena, MS**	**80.10 203**	*eP*	**P**	**11 18 11.4**	**0.0**
KMBO	**Kilima Mbogo**	**80.44 107**	LR	LR	11 56 30.6	
comp=Z,340nm,18.6s,baz=290,slow=38						
TRCB	**Terra Rica**	**81.61 198**	*eP*	**P**	**11 18 20.0**	**+0.5**
HNS	**HongShan**	**81.68 25**	⇓P	**P**	**11 18 20.3**	**+0.5**
HNS			pmax	pmax		
comp=Z,31nm,1.6s						
KIBK	**Kibwezi**	**81.88 107**	P	**P**	**11 18 19.9**	**-1.4**
KIBK			IAmb	IAmb	11 19 00.9	
comp=Z,88nm,1.8s						
GO01	**Chusmiza**	**82.54 214**	P	**P**	**11 18 24.6**	**-0.4**
GO01			IAmb	IAmb	11 19 56.4	
comp=Z,73nm,0.9s						
PB11	**IPOC Station P**	**82.77 215**	P	**P**	**11 18 26.3**	**+0.5**
TIA	**Tai'an**	**83.36 24**	P	**P**	**11 18 28.9**	**+0.2**
TIA			pmax	pmax		
comp=Z,16nm,1.4s						
XAN	**Xi'an**	**83.38 31**	⇓P	**P**	**11 18 31.8**	**+2.9**
XAN			pmax	pmax		
comp=Z,33nm,2.2s						
XAN			LR	LR		
comp=Z,730nm,15.8s						
XAN			LR	LR		
comp=Z,550nm,17.2s						
XAN			LR	LR		
comp=Z,820nm,21.3s						
KSRS	**Korea Array**	**84.10 15**	P	**P**	**11 18 31.7**	**-0.8**
comp=Z,8.2nm,1.1s,baz=336,slow=4.0,SNR=9.7						
KSRS			LR	LR	11 59 02.1	
comp=Z,174nm,18.1s,baz=5.0,slow=38						
comp=Z,8.2nm,1.1s						
SJPY	**San Joaquin**	**84.39 201**	*eP*	**P**	**11 18 32.9**	**-0.9**
TJN	**Taejon**	**85.08 16**	P	**P**	**11 18 37.5**	**+0.1**
LVC	**Limon Verde**	**85.23 213**	P	**P**	**11 18 38.4**	**-0.1**
LVC			IAmb	IAmb	11 19 59.5	
comp=Z,114nm,1.1s						
LVC	**Limon Verde**	**85.23 213**	P	**P**	**11 18 38.4**	**-0.1**
comp=Z,18nm,1.0s,baz=10,slow=5.4,SNR=9.1						
comp=Z,18nm,1.0s						
CPUP	**Villa Florida**	**85.93 202**	P	**P**	**11 18 41.2**	**-0.2**
CPUP	**Villa Florida**	**85.93 202**	P	**P**	**11 18 41.0**	**-0.4**
comp=Z,7.8nm,0.7s,baz=12,slow=6.1,SNR=18						
CPUP			LR	LR	11 52 08.1	
comp=Z,424nm,21.6s,baz=18,slow=32						
comp=Z,7.8nm,0.7s						
MJAR	**Matsushiro Arr**	**86.08 7**	P	**P**	**11 18 41.8**	**-0.6**
comp=Z,1.3nm,0.8s,baz=352,slow=4.9,SNR=2.5						
comp=Z,1.3nm,0.8s						
TSUM	**Tsumeb**	**87.17 133**	LR	LR	11 55 06.5	
comp=Z,432nm,21.1s,baz=345,slow=34						
NJ2	**Nanjing**	**87.74 24**	*eP*	**P**	**11 18 50.7**	**+0.2**
NJ2			pmax	pmax		
comp=Z,13nm,0.6s						
BRDH	**Bariadhala**	**87.79 49**	LR	LR	12 01 21.3	
comp=Z,812nm,18.8s,baz=317,slow=38						
PZH	**PanZhiHua**	**88.15 40**	P	**P**	**11 18 53.6**	**+0.9**
PZH			pmax	pmax		
comp=Z,10.0nm,0.5s						
TNCH	**TengChong**	**88.35 43**	⇑P	**P**	**11 18 53.3**	**-0.5**
TNCH			S	**S**	**11 29 36.1**	**-2.4**
TNCH			SS	**SS**	**11 35 31.2**	**+4.4**
TNCH			LR	LR		
comp=Z,230nm,4.3s						
TNCH			LR	LR		
comp=Z,270nm,5.8s						
TNCH			LR	LR		
comp=Z,140nm,5.3s						
JNU	**Nakatsue**	**88.76 13**	LR	LR	12 00 05.8	
comp=Z,220nm,19.8s,baz=9.0,slow=37						
JHJ	**Hachijo jima 2**	**89.58 6**	LR	LR	11 58 57.6	
comp=Z,205nm,18.7s,baz=342,slow=36						
KMI	**Kunming**	**89.76 39**	⇓P	**P**	**11 19 02.4**	**+1.9**
KMI			sP	pwP	11 19 07.3	+0.1
KMI			pmax	pmax		
comp=Z,10.0nm,1.4s						
KMI			LR	LR		
comp=Z,400nm,21.6s						
KMI			LR	LR		
comp=Z,340nm,18.0s						
KMI			LR	LR		
comp=Z,640nm,29.3s						
LCO	**Las Campanas**	**91.78 212**	P	**P**	**11 19 09.9**	**+0.3**
MATP	**Matopo**	**92.86 124**	LR	LR	12 01 01.8	
comp=Z,327nm,19.1s,baz=296,slow=36						
GO04	**Tololo Observa**	**92.91 212**	P	**P**	**11 19 14.5**	**-0.1**
CO03	**El Pedregal**	**93.50 212**	P	**P**	**11 19 17.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**94.49 45**	LR	LR	12 04 04.0	
comp=Z,281nm,20.2s,baz=90,slow=37						
LBTB	**Lobatse**	**95.64 129**	LR	LR	12 01 45.0	
comp=Z,675nm,21.1s,baz=340,slow=35						

QIZ	**Qiongzhong**	**97.76 35**	P	**P**	**11 19 36.8**	**-0.2**
BOSA	**Boshof**	**98.67 131**	LR	LR	12 03 19.1	
comp=Z,483nm,19.3s,baz=342,slow=35						
TAOE	**Nuku Hiva Isla**	**106.62 280**	*e*LR	LR	11 55 26.7	
comp=Z,993nm,24.4s						
RKT	**Rikitea**	**115.57 267**	*e*LR	LR	11 59 31.9	
comp=Z,2μm,24.5s						
PPT2	**Papeete2**	**118.90 283**	*e*LR	LR	12 01 06.8	
comp=Z,1μm,23.2s						
PPT2			*e*LR	LR	12 01 07.6	
comp=Z,1μm,24.0s						
TBI	**Tubuai**	**123.56 279**	*e*LR	LR	12 03 21.0	
comp=Z,4μm,27.8s						
WRA	**Warramunga Arr**	**141.40 19**		**PKPdf**	**11 25 32.0**	**-0.5**
WRA	**Warramunga Arr**	**141.40 19**	PKhKP	PKPpre	11 25 27.6	
comp=Z,1.7nm,1.0s,baz=354,slow=2.1,SNR=3.2						
WRA			PKP	**PKPdf**	**11 25 31.5**	**-1.0**
comp=Z,1.1nm,0.7s,baz=339,slow=2.4,SNR=5.3						
DZM	**Mont Dzumac**	**141.92 330**	*e*LR	LR	12 11 50.9	
comp=Z,732nm,22.9s						
ONTNC	**Ouen Toro**	**142.14 330**	PKPdf	**PKPdf**	**11 25 34.9**	**+1.2**
AS31	**Alice Springs**	**144.95 21**		**PKPab**	**11 25 37.2**	**-0.7**
ASAR	**Alice Springs**	**144.95 21**	PKPbc	**PKPab**	**11 25 37.2**	**-0.7**
ASAR	**Alice Springs**	**144.95 21**	PKP	**PKPab**	**11 25 37.0**	**-0.9**
comp=Z,11nm,1.0s,baz=356,slow=3.0,SNR=23						
QSPA	**South Pole Qui**	**147.34 180**	PKPdf	**PKPdf**	**11 25 41.2**	**-0.2**
QSPA	**South Pole Qui**	**147.34 180**	PKPbc	**PKPbc**	**11 25 43.7**	**-0.3**
comp=Z,27nm,1.0s,baz=61,slow=3.7,SNR=5.5						
EIDS	**Eidsvold**	**147.81 353**	PKPbc	**PKiKP**	**11 25 48.1**	**-0.2**
FORT	**Forrest**	**150.29 34**		**PKPbc**	**11 25 51.9**	**-0.5**
STKA	**Stephens Creek**	**154.16 11**	PKPab	**PKPab**	**11 26 15.2**	**+0.3**
comp=Z,2.9nm,1.0s,baz=217,slow=18,SNR=1.6						
MCQ	**Macquarie Isla**	**172.67 289**	PKPdf	**PKPdf**	**11 26 10.8**	**+1.3**
MCQ				**pPKPab**	**11 27 37.6**	**-2.1**

MOS ***02*** *11:09:54.6±1.1, 47°.78N×146°.68E, h416km, mb4.7/13, Error ellipse: s-maj=12.2km s-min=7.6km az=81.7*
NEIC ***02*** *11:09:55.4±2.2, 47°.77N±0°.08×146°.7E±0°.2, h411km±5km, mb4.6/138, Error ellipse: s-maj=16.9km s-min=10.0km az=116.0*
SKHL ***02*** *11:09:56.2±0.2, 47°.50N×147°.00E, h450km±14km, mb4.7/13, msha5.0/6*
IDC ***02*** *11:09:57.8±1.4, 47°.84N×146°.63E, h434km±17km, mb3.6/16, mbtmp4.4/23, Error ellipse: s-maj=14.5km s-min=12.1km az=134.0*

ISC 02 11:09:57.3±0.3, 47°.59N±0°.06×146°.92E±0°.06, h450km, n234, σ1§54/235, mb4.6/90, 1C-1D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.44**	**164**	*eP*		**P**	**11 10 59.3**	**-1.2**
KUR					AMB	AMB	11 11 00.8	
40nm,0.4s								
YSS	**Yuzh-Sakhalins**	**2.91**	**259**	P		P	11 10 58.1	-5.5
YSS	**Yuzh-Sakhalins**	**2.91**	**259**	*eP*		**P**	**11 11 02.8**	**-0.8**
YSS					AMB	AMB	11 11 04.3	
60nm,0.5s								
YSS				*e*S		**S**	**11 11 54.8**	**-2.7**
YSS					A	A	11 11 57.1	
30nm,0.7s								
YSS					A	A	11 11 57.1	
30nm,0.7s								
UGL	**Uglegorsk**	**3.57**	**296**	*eP*		**P**	**11 11 08.1**	**-0.5**
UGL					AMB	AMB	11 11 08.8	
80nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**3.63**	**192**	*eP*		**P**	**11 11 06.9**	**-2.4**
YUK					AMB	AMB	11 11 08.2	
70nm,0.4s								
YUK				*e*S		**S**	**11 12 03.4**	**-4.4**
YUK					A	A	11 12 14.4	
180nm,0.8s								
YUK					A	A	11 12 14.4	
320nm,0.8s								
SHO	**Shikotan**	**3.72**	**181**	*eP*		**P**	**11 11 07.5**	**-2.6**
SHO					AMB	AMB	11 11 08.8	
70nm,0.4s								
SHO				*e*S		**S**	**11 12 03.3**	**-5.9**
SHO					A	A	11 12 04.2	
210nm,0.5s								
SHO					A	A	11 12 04.2	
310nm,0.5s								
SHO	**Shikotan**	**3.72**	**181**	*e*PN		**P**	**11 11 07.2**	**-2.9**
SHO				*e*S		**S**	**11 12 03.3**	**-5.9**
SHO				smax		smax		
comp=E,253nm,0.4s								
SHO				smax		smax		
comp=N,28nm,0.5s								
TYV	**Tymovskoe**	**4.31**	**321**	*eP*		**P**	**11 11 14.0**	**-1.0**
TYV					AMB	AMB	11 11 14.6	
comp=N,40nm,0.6s								
JKA	**Kamikawa-asahi**	**4.60**	**223**	P		**P**	**11 11 14.6**	**-3.3**
ASAJ	**Asahikawa**	**4.60**	**223**	P		**P**	**11 11 18.4**	**+0.4**
comp=N,12nm,0.6s,baz=253,slow=7.9,SNR=5.4								
ASAJ	**Asahikawa**	**4.60**	**223**	PN		**P**	**11 11 14.6**	**-3.3**
ERM	**Erimo**	**6.18**	**207**	P		**P**	**11 11 31.1**	**-2.4**
ERM	**Erimo**	**6.18**	**207**	PN		**P**	**11 11 31.1**	**-2.4**
SKR	**Severo-Kuril's**	**6.78**	**59**	*eP*		**P**	**11 11 39.3**	**-0.2**
SKR					AMB	AMB	11 11 40.4	
comp=N,150nm,0.7s								
NKL	**Nikolayevsk**	**6.85**	**327**	*eP*		P	11 11 43.6	+3.5
PAU	**Pauzhetka**	**7.51**	**55**	*eP*		**P**	**11 11 47.4**	**+0.2**
PAU					AMB	AMB	11 11 48.7	
comp=N,210nm,0.8s								
PAU				*e*S		**S**	**11 13 15.8**	**-1.7**
PAU				

C19K IAmb IAmb 11 16 01.8
comp=Z,29nm,1.3s
H19K Roundabout Mou 34.49 38 P **P 11 16 04.8 -0.8**
B20K Meade River 34.75 30 P **P 11 16 08.1 +0.3**
N18K Kilae Creek 34.79 46 P **P 11 16 08.2 0.0**
N18K IAmb IAmb 11 16 28.4
comp=Z,38nm,1.4s
B21K Ikpikpuk River 35.57 31 P **P 11 16 14.9 +0.4**
B21K IAmb IAmb 11 16 20.3
comp=Z,41nm,1.4s
CHIR Chirikof Islan 35.59 55 P **P 11 16 14.9 -0.1**
IMAR Indian Mountai 35.62 37 P **P 11 16 15.9 +0.8**
D22K Ayikyak River 36.17 32 P **P 11 16 20.6 +0.9**
D22K IAmb IAmb 11 16 23.5
comp=Z,24nm,1.2s
E22K Anaktuvuk Pass 36.45 34 P **P 11 16 22.8 +0.7**
KTH Kantishna Hill 36.90 41 P **P 11 16 25.2 -0.7**
KTH IAmb IAmb 11 16 46.8
comp=Z,22nm,1.3s
C23K Itkillik River 36.98 31 P **P 11 16 26.8 +0.5**
C23K IAmb IAmb 11 16 48.1
comp=Z,40nm,1.4s
G23K Bananza Creek 37.12 36 P **P 11 16 27.4 -0.2**
G23K IAmb IAmb 11 16 31.9
comp=Z,39nm,1.5s
E23K Chandalar 37.27 34 P **P 11 16 29.8 +0.9**
TOLK Toolik Lake Re 37.30 33 P **P 11 16 29.3 +0.3**
TOLK IAmb IAmb 11 16 36.2
comp=Z,38nm,1.5s
H23K Yukon River 37.35 37 P **P 11 16 30.2 +0.7**
BRLK Bradley Lake 37.38 48 P **P 11 16 30.1 +0.3**
BRLK IAmb IAmb 11 16 33.1
comp=Z,25nm,1.1s
I23K Minto, Yukon-K 37.46 39 P **P 11 16 31.2 +0.9**
D24K Happy Valley 37.58 32 P **P 11 16 32.1 +0.9**
D24K IAmb IAmb 11 16 32.2
comp=Z,11nm,0.5s
C24K Franklin Bluff 37.63 31 P **P 11 16 32.1 +0.4**
C24K IAmb IAmb 11 16 52.7
comp=Z,41nm,1.5s
E24K Your Creek 37.70 34 P **P 11 16 33.4 +1.0**
E24K IAmb IAmb 11 16 47.9
comp=Z,25nm,1.4s
F24K Squaw Lake 37.94 35 P **P 11 16 35.0 +0.7**
G24K Hadweenzic Riv 38.14 36 P **P 11 16 37.2 +1.3**
G24K IAmb IAmb 11 16 49.0
comp=Z,29nm,1.4s
CCB Clear Creek Bu 38.16 39 P **P 11 16 35.5 -0.6**
D25K Kavik River 38.45 32 P **P 11 16 39.0 +0.5**
D25K IAmb IAmb 11 16 59.0
comp=Z,27nm,1.4s
DHY Denali Highway 38.54 42 P **P 11 16 38.4 -1.0**
ILAR Eielson Array 38.54 39 P **P 11 16 39.9 +0.7**
comp=Z,2.2nm,0.7s,baz=247,slow=6.0,SNR=4.8
comp=Z,2.2nm,0.7s
ZALV Zalesovo Beam 38.66 303 P **P 11 16 39.4 -1.0**
comp=Z,0.9nm,0.3s,baz=67,slow=7.0,SNR=1.6
comp=Z,0.9nm,0.3s
SCM Sheep Creek Mo 38.75 44 P **P 11 16 40.0 -1.1**
SCM IAmb IAmb 11 16 41.1
comp=Z,25nm,1.2s
SCM Sheep Creek Mo 38.75 44 P **P 11 16 40.0 -1.1**
SCM pmax pmax
comp=Z,25nm,1.2s
E25K Arctic Village 38.79 34 P **P 11 16 42.7 +1.5**
F25K Christian Rive 38.79 34 P **P 11 16 40.4 -1.0**
FYU Fort Yukon 39.04 36 P **P 11 16 43.8 +0.5**
FYU IAmb IAmb 11 16 44.0
comp=Z,60nm,1.3s
J25K Salcha River, 39.21 39 P **P 11 16 45.4 +0.6**
F26K Sheenjek River 39.36 34 P **P 11 16 47.4 +1.6**
C27K Jago River 39.38 31 P **P 11 16 46.7 +0.7**
SCRK Sand Creek 39.90 40 P **P 11 16 51.0 +0.5**
E27K Coleen River 40.26 33 P **P 11 16 53.5 +0.4**
D27M Malcolm River 40.38 32 P **P 11 16 54.6 +0.5**
K27K Chicken 40.72 40 P **P 11 16 58.1 +1.2**
E28M Babbage River 40.97 32 P **P 11 16 59.8 +1.0**
M27K Edge Creek, AK 41.16 42 P **P 11 17 02.5 +1.9**
M27K IAmb IAmb 11 17 30.6
comp=Z,27nm,1.3s
I28M Miner Creek 41.34 37 P **P 11 17 03.7 +1.7**
ISLE Juniper Island 41.37 45 P **P 11 17 04.2 +1.9**
ISLE IAmb IAmb 11 17 11.1
comp=Z,39nm,1.4s
E29M Blow River 41.60 33 P **P 11 17 05.2 +1.4**
E29M IAmb IAmb 11 17 31.6
comp=Z,21nm,1.2s
CTGM Chitina Glacie 41.76 44 P **P 11 17 07.5 +2.1**
CTGM IAmb IAmb 11 17 17.5
comp=Z,25nm,1.3s
H29M Whitestone 41.82 36 P **P 11 17 07.3 +1.7**
H29M IAmb IAmb 11 17 27.9
comp=Z,27nm,1.1s
EPYK Eagle Plains 42.44 35 P **P 11 17 11.9 +1.3**
EPYK IAmb IAmb 11 17 18.4
comp=Z,36nm,1.1s
G30M tAoh Zraii Nji 42.50 35 P **P 11 17 12.3 +1.3**
G30M IAmb IAmb 11 17 41.1
comp=Z,64nm,1.2s
L29M L29M 42.65 40 P **P 11 17 13.0 +0.7**
L29M IAmb IAmb 11 17 34.4
comp=Z,20nm,1.1s
M29M Somme Creek 42.68 41 P **P 11 17 11.8 -0.8**
M29M IAmb IAmb 11 17 12.4
comp=Z,39nm,1.5s
MK31 Makanchi Array 42.77 294 P **P 11 17 11.2 -2.3**
MK31 IAmb IAmb 11 17 37.3
comp=Z,21nm,1.1s
MK31 Makanchi Array 42.77 294 P **P 11 17 11.2 -2.3**
MK31 pmax pmax
comp=Z,21nm,1.2s
MKAR Makanchi Array 42.77 294 P **P 11 17 11.9 -1.6**
MKAR Makanchi Array 42.77 294 *e*P **P 11 17 11.9 -1.6**
MKAR Makanchi Array 42.77 294 P **P 11 17 11.9 -1.6**
MAKZ Makanchi 42.96 294 P **P 11 17 14.7 -0.2**
MAKZ IAmb IAmb 11 17 38.7
comp=Z,45nm,1.4s
MAKZ Makanchi 42.96 294 P **P 11 17 14.7 -0.2**
MAKZ pmax pmax
comp=Z,45nm,1.5s
INK Inuvik 43.20 32 P **P 11 17 16.9 +0.4**
INK IAmb IAmb 11 17 42.0
comp=Z,29nm,1.2s
INK Inuvik 43.20 32 P **P 11 17 16.9 +0.4**
INK pmax pmax
comp=Z,29nm,1.3s
G31M Satah River 43.26 34 P **P 11 17 15.1 -1.8**
G31M IAmb IAmb 11 17 30.7
comp=Z,35nm,1.3s
F31M Tsiigehtchic 43.33 34 P **P 11 17 15.0 -2.5**
F31M IAmb IAmb 11 17 41.1
comp=Z,62nm,1.5s
KURK Kurchatov 43.34 301 *e*P **P 11 17 18.3 +0.5**
KURK Kurchatov 43.34 301 P **P 11 17 18.3 +0.5**
KURK 11 18 58.1
M30M Minto, Yukon 43.39 41 P **P 11 17 16.3 -1.8**
KURBB Kurchatov Arra 43.43 301 P **P 11 17 18.3 -0.2**
comp=Z,2.0nm,0.6s,baz=73,slow=8.5,SNR=1.9
KURBB PcP **PcP 11 18 58.1 +1.0**
comp=Z,2.2nm,0.7s,baz=70,slow=3.1,SNR=1.6
comp=Z,2.0nm,0.6s
H31M Peel River 43.52 36 P **P 11 17 19.9 +0.9**
H31M IAmb IAmb 11 17 46.2
comp=Z,69nm,1.5s
C36M Paulatuk 46.18 29 P **P 11 17 39.7 +0.2**
C36M IAmb IAmb 11 18 08.2
comp=Z,26nm,1.1s
BVAR Borovoye Array 47.02 307 P **P 11 17 45.1 -1.0**
comp=Z,4.9nm,0.8s,baz=64,slow=6.6,SNR=1.5
BVAR PcP **pP 11 19 10.8 -2.3**
comp=Z,0.9nm,0.3s,baz=88,slow=3.8,SNR=1.0
comp=Z,4.9nm,0.8s
V35K Ketchikan 48.59 49 P **P 11 17 57.2 -0.7**
V35K IAmb IAmb 11 18 05.6
comp=Z,28nm,1.1s
RES Resolute Bay 51.34 17 P **P 11 18 18.3 +0.3**
RES IAmb IAmb 11 18 41.0
comp=Z,59nm,1.4s
RES Resolute Bay 51.34 17 P **P 11 18 18.3 +0.3**
RES pmax pmax
comp=Z,59nm,1.4s
ABKAR Akbulak array 54.59 307 P **P 11 18 42.2 +0.5**
ABKAR IAmb IAmb 11 18 58.2
comp=Z,26nm,1.3s
I04A Tendick Farm, 59.87 57 P **P 11 19 19.4 +1.3**
SUMG Summit 60.08 2 P **P 11 19 18.4 -1.1**
SUMG IAmb IAmb 11 19 23.6
comp=Z,24nm,1.5s
SUMG Summit 60.08 2 P **P 11 19 18.4 -1.1**
SUMG pmax pmax
comp=Z,24nm,1.5s
KRMB Red Mountain 60.43 60 P **P 11 19 21.7 -0.2**
I07A Izee 61.32 55 P **P 11 19 30.3 +2.4**
COEN Coen 61.36 184 P **P 11 19 30.9 +2.8**
COEN IAmb IAmb 11 19 56.0
comp=Z,32nm,1.5s
FINES FINESS Array B 61.40 332 P **P 11 19 27.6 -0.2**
comp=Z,7.1nm,0.9s,baz=28,slow=6.3,SNR=0.8
comp=Z,7.1nm,0.9s
O02D Mt. Diablo Mer 61.94 60 P **P 11 19 33.8 +1.9**
FFC Flin Flon 62.73 38 P **P 11 19 37.3 +0.6**
FFC IAmb IAmb 11 19 38.7
comp=Z,12nm,0.9s
FFC Flin Flon 62.73 38 P **P 11 19 37.3 +0.6**
FFC pmax pmax
comp=Z,12nm,0.9s
OVMT Ovando 62.86 49 pP 11 21 01.6 -9.3
LYMT Lyon Mountain 63.28 49 P **P 11 19 42.9 +2.2**
MPK Martis Peak 64.13 59 P P 11 19 49.5 +3.1
MPK IAmb IAmb 11 19 50.0
comp=Z,19nm,1.4s
PAHR Pah Rah Range 64.23 59 P **P 11 19 49.2 +2.4**
PAHR IAmb IAmb 11 19 53.2
comp=Z,13nm,1.4s
YERR Yerington 64.79 59 P **P 11 19 53.4 +2.9**
YERR IAmb IAmb 11 20 05.1
comp=Z,15nm,1.5s
NVAR Mina Array Bea 65.71 59 P **P 11 19 59.2 +2.9**
comp=Z,2.9nm,0.7s,baz=298,slow=7.4,SNR=5.1
comp=Z,2.9nm,0.7s
NOA NORSAR Array B 65.97 338 P **P 11 19 57.4 0.0**
comp=Z,4.2nm,0.8s,baz=31,slow=6.6,SNR=7.6
comp=Z,4.2nm,0.8s
HFS Hagfors 66.10 336 P **P 11 19 57.8 -0.3**
comp=Z,8.9nm,0.8s,baz=38,slow=4.0,SNR=13
comp=Z,8.9nm,0.8s
PDAR Pinedale Array 67.58 51 P **P 11 20 09.8 +2.0**
comp=Z,1.7nm,0.4s,baz=25,slow=1.0,SNR=11
comp=Z,1.7nm,0.4s
FITZ Fitzroy Crossi 68.12 202 P **P 11 20 14.4 +3.3**
comp=Z,4.1nm,0.9s,baz=0.0,slow=7.1,SNR=2.5
comp=Z,4.1nm,0.9s
WRA Warramunga Arr 68.16 193 P **P 11 20 13.3 +2.0**
comp=Z,1.8nm,0.7s,baz=8.2,slow=6.5,SNR=5.1
comp=Z,1.8nm,0.7s
AKASG Malin Array Be 68.41 323 P **P 11 20 12.4 -0.1**
comp=Z,18nm,0.9s,baz=45,slow=9.7,SNR=5.1
comp=Z,18nm,0.9s
N23A Red Feather La 70.80 50 P **P 11 20 27.8 +0.4**
N23A Red Feather La 70.80 50 S **P 11 20 28.3 +0.8**
baz=317
PV21 Cone Mtn., Par 70.88 54 P **P 11 20 27.9 0.0**
PV21 IAmb IAmb 11 20 32.6
comp=Z,33nm,1.5s
GEVA Gevas 70.92 306 P **P 11 20 27.4 -0.6**
PV23 Carpenter Ridg 70.93 54 P **P 11 20 29.0 +0.8**
PV14 Lion Creek, Pa 70.98 54 P **P 11 20 28.6 +0.1**
PV14 IAmb IAmb 11 20 50.2
comp=Z,38nm,1.5s
PV22 Blue Mesa, Par 71.00 53 P **P 11 20 29.4 +0.9**
PV22 IAmb IAmb 11 20 38.4
comp=Z,32nm,1.4s
PV20 West Nyswonger 71.04 54 P **P 11 20 29.8 +1.0**
PV16 Nyswonger Mesa 71.09 54 P **P 11 20 29.2 +0.2**
PV18 Skein Mesa, Pa 71.14 54 P **P 11 20 29.9 +0.5**
PV07 Paradox Valley 71.14 53 P **P 11 20 29.8 +0.4**
BLYC Blythe 71.15 61 P **P 11 20 30.0 +0.8**
PV03 Paradox Valley 71.16 54 P **P 11 20 30.2 +0.7**
PV03 IAmb IAmb 11 20 39.8
comp=Z,28nm,1.3s
GURO Guroymak-BITLI 71.31 307 P **P 11 20 29.9 -0.4**
GURO IAmb IAmb 11 20 40.2
comp=Z,37nm,1.4s
SUSD Miller 71.61 44 P **P 11 20 32.7 +0.9**
ISCO Idaho Springs 71.77 51 P **P 11 20 33.4 +0.2**
ISCO IAmb IAmb 11 20 56.4
comp=Z,18nm,1.4s
ISCO Idaho Springs 71.77 51 P **P 11 20 33.4 +0.2**
ISCO pmax pmax
comp=Z,19nm,1.5s
KWP Kalwaria Pacla 71.84 326 P P 11 20 35.2 +2.2
KWP Kalwaria Pacla 71.84 326 P P 11 20 35.3 +2.3
KWP pmax pmax
comp=Z,156nm,1.2s
AS31 Alice Springs 71.89 193 P **P 11 20 36.5 +2.9**
ASAR Alice Springs 71.89 193 P **P 11 20 37.2 +3.7**
comp=Z,1.1nm,0.6s,baz=8.4,slow=5.3,SNR=5.3
comp=Z,1.1nm,0.6s
Y14A Wickenburg 71.90 59 P **P 11 20 34.7 +1.0**
MVCO Mesa Verde 72.11 54 P **P 11 20 35.5 +0.4**
MVCO IAmb IAmb 11 21 03.0
comp=Z,34nm,1.5s
EYMN Ely 72.15 37 P **P 11 20 35.4 +0.5**
EYMN IAmb IAmb 11 20 42.0
comp=Z,34nm,1.4s
OJC Ojcow 72.44 328 P **P 11 20 37.4 +0.9**
OJC Ojcow 72.44 328 P **P 11 20 37.4 +0.9**
OJC pmax pmax
comp=Z,53nm,1.2s
OJC Ojcow 72.44 328 *e*S **P 11 20 37.9 +1.3**
BUR08 Bucovina Ar. S 72.45 323 P **P 11 20 36.9 +0.2**
BURAR Bucovina Array 72.46 323 P **P 11 20 37.3 +0.5**
BURAR Bucovina Array 72.46 323 ⇑P P 11 20 42.2 +5.4
X16A Lo Mia Camp, P 72.47 58 P **P 11 20 36.5 -0.7**
Q24A Divide 72.63 51 P **P 11 20 37.7 -0.6**
K30B Basset 72.64 45 P **P 11 20 38.0 +0.1**
TESR Tescani 72.75 321 ⇓P **P 11 20 38.2 -0.1**
ARPR Arapgir-MALATY 72.88 309 P **P 11 20 38.8 -0.7**
PSA00 Pilbara Seismi 73.03 206 P **P 11 20 40.1 -0.1**
PSA00 IAmb IAmb 11 21 01.3
comp=Z,19nm,1.4s
E38A The Farm, Brul 73.19 38 P **P 11 20 41.1 +0.1**
MORC Moravsky Berou 73.62 329 P **P 11 20 44.0 +0.6**
MORC Moravsky Berou 73.62 329 P **P 11 20 44.0 +0.6**
MORC pmax pmax
comp=Z,74nm,1.5s
SPMN Marine on St. 73.76 39 P **P 11 20 45.1 +0.8**
CLL Collm 73.84 332 P **P 11 20 44.9 +0.3**
CLL Collm 73.84 332 P **P 11 20 44.9 +0.3**
CLL pmax pmax
comp=Z,33nm,1.1s
PSZ Piszkesteto 74.31 326 P **P 11 20 47.1 -0.3**
PSZ IAmb IAmb 11 21 15.4
comp=Z,34nm,1.3s
PSZ Piszkesteto 74.31 326 P **P 11 20 47.1 -0.3**
PSZ pmax pmax
comp=Z,34nm,1.3s
BGNE Belgrade 74.31 45 P **P 11 20 48.0 +0.6**
BNN Bunyan 74.35 311 P **P 11 20 47.6 -0.2**
EKA Eskdalemuir Ar 74.41 343 P **P 11 20 47.4 -0.3**
comp=Z,2.2nm,0.8s,baz=17,slow=5.2,SNR=2.4
comp=Z,2.2nm,0.8s
EKB Eskdalemuir 74.41 343 P **P 11 20 48.4 +0.7**
COWI Conover 74.59 37 P **P 11 20 49.2 +0.2**
L34A Svendsen Farm, 74.72 44 P **P 11 20 49.5 -0.2**
BR131 Keskin Array S 74.80 313 P **P 11 20 50.3 -0.1**
BR131 Keskin Array S 74.80 313 P **P 11 20 50.3 -0.1**
BR131 pmax pmax
comp=Z,60nm,1.4s
BRTR Keskin Array B 74.80 313 P **P 11 20 50.2 -0.2**
BRTR Keskin Array B 74.80 313 P **P 11 20 50.2 -0.2**
GAZ Gaziantep 74.90 309 P **P 11 20 49.7 -1.2**
GAZ IAmb IAmb 11 21 18.8
comp=Z,30nm,1.4s
ANTO Ankara 75.11 313 P **P 11 20 51.1 -0.9**
ANTO Ankara 75.11 313 P **P 11 20 51.1 -0.9**
ANTO pmax pmax
comp=Z,61nm,1.4s
I40A Norwalk 75.77 39 P **P 11 20 56.0 +0.4**
N35A Tabor 75.93 44 P **P 11 20 57.2 +0.7**
BORA Eskisehir 76.24 315 P **P 11 20 58.7 +0.3**
P40A Paris 78.65 43 P **P 11 21 13.2 +1.8**
P40A IAmb IAmb 11 21 41.9
comp=Z,23nm,1.2s
BBOO Buckleboo 80.62 189 P **P 11 21 23.5 +1.8**
BBOO IAmb IAmb 11 21 26.6
comp=Z,19nm,1.4s
TX31 Lajitas Ar. Si 80.66 57 P **P 11 21 25.0 +2.7**
TXAR Lajitas Array 80.66 57 P **P 11 21 25.1 +2.7**
TXAR Lajitas Array 80.66 57 P **P 11 21 24.8 +2.5**
comp=Z,2.2nm,0.5s,baz=286,slow=3.5,SNR=29
comp=Z,2.2nm,0.5s
GUMA Gualdo di Mace 80.87 327 P **P 11 21 24.4 +1.3**
Z35A Perchaven, San 81.04 50 P **P 11 21 26.2 +2.1**
Z35A IAmb IAmb 11 21 31.1
comp=Z,12nm,1.0s
SAND Sanderson 81.05 55 P **P 11 21 26.6 +2.3**
NRCA Norcia 81.15 328 P **P 11 21 26.0 +1.4**
NRCA IAmb IAmb 11 21 34.0
comp=Z,17nm,1.1s
BATG Bathurst New B 81.23 22 P **P 11 21 26.0 +1.1**
BATG IAmb IAmb 11 21 30.8
comp=Z,12nm,1.1s
FCAR Ozark Folk Cen 81.55 45 P **P 11 21 28.1 +1.3**
FCAR IAmb IAmb 11 21 53.9
comp=Z,7.6nm,1.0s
WHAR Wooly Hollow 81.96 45 P **P 11 21 30.9 +2.1**
WHAR IAmb IAmb 11 21 55.4
comp=Z,23nm,1.3s
LMN Caledonia Moun 82.88 22 P **P 11 21 34.3 +1.0**
LMN IAmb IAmb 11 21 47.8
comp=Z,16nm,1.4s
WVT Waverly 83.35 42 P **P 11 21 37.7 +1.9**
WVT IAmb IAmb 11 21 49.7
comp=Z,8.3nm,1.0s
WVT Waverly 83.35 42 P **P 11 21 37.7 +1.9**
WVT pmax pmax
comp=Z,8.0nm,1.0s
SSPA Standing Stone 83.57 33 P **P 11 21 38.5 +1.6**
SSPA IAmb IAmb 11 21 49.4
comp=Z,14nm,1.1s
TKL Tuckaleechee C 85.53 39 P **P 11 21 48.3 +1.7**
TKL IAmb IAmb 11 22 15.1
comp=Z,24nm,1.5s
TKL Tuckaleechee C 85.53 39 P **P 11 21 48.3 +1.7**
TKL pmax pmax
comp=Z,24nm,1.5s
V53A Saluda 85.92 39 P **P 11 21 49.1 +0.5**
V53A IAmb IAmb 11 21 49.3
comp=Z,10nm,1.0s
ROCAM Rodrigues Isla 100.12 252 Pdif **Pdif 11 22 54.6 +1.1**
HATO Hato, Curacao 112.46 38 Pdif **Pdif 11 23 48.6 0.0**
BBGH Gun Hill 115.08 29 PKPdf **PKiKP 11 27 47.3 +0.7**
BAUV El Baul 115.75 39 PKPdf **PKiKP 11 27 49.2 +1.3**
DBIC Dimbokro 120.50 327 PKPdf **PKiKP 11 27 56.5 -0.7**
DBIC Dimbokro 120.50 327 PKIKP **PKiKP 11 27 56.5 -0.7**
TBTG Tabatinga, AM 126.42 48 PKPdf **PKiKP 11 28 08.8 -0.1**
PATCX Punta Patache 139.94 61 PKPdf **PKiKP 11 28 35.6 -0.5**
LCO Las Campanas 145.56 71 PKPbc **PKiKP 11 28 46.6 -1.1**
LCO Las Campanas 145.56 71 PKP2 **PKiKP 11 28 46.6 -1.1**
AC05 El Transito 145.72 70 PKPbc **PKiKP 11 28 47.4 -0.4**
BDFB Brasilia 145.83 26 PKPbc **PKiKP 11 28 46.7 -1.7**
BDFB Brasilia 145.83 26 PKP2 **PKiKP 11 28 46.7 -1.7**
CO06 Fray Jorge 146.07 74 PKPbc **PKiKP 11 28 48.0 -0.3**
AQDB Aquidauana 147.33 42 PKPbc **PKPab 11 28 51.0 -1.6**
MT01 Popeta 148.32 78 PKPbc **PKPab 11 28 53.2 -3.2**
MT09 Talagante 148.45 78 PKPbc **PKiKP 11 28 53.1 -0.3**

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*IDC **02** 11:15:33.8±1.3, 1°.89N×128°.02E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=121.6km s-min=18.5km az=68.0*

ISC 02 11:15:44.4±1.5, 1°.9N±0°.5×12°8E±°, h92km, n6, σ0°27/6, mb4.0/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.50**	**165**	P	**P**	**11 20 36.5**	**0.0**
	0.9nm,0.4s,baz=344,slow=11,SNR=8.1 0.9nm,0.4s						
ASAR	**Alice Springs**	**25.99**	**168**	P	**P**	**11 21 08.8**	**0.0**
	1.1nm,0.8s,baz=339,slow=10.0,SNR=1.8 1.1nm,0.8s						
STKA	**Stephens Creek**	**35.88**	**161**	P	**P**	**11 22 35.7**	**0.0**
	1.1nm,0.5s,baz=342,slow=10,SNR=3.5 1.1nm,0.5s						
SONM	**Songino Array**	**49.53**	**341**	P	**P**	**11 24 26.0**	**+0.1**
	0.6nm,0.4s,baz=154,slow=8.5,SNR=2.4 0.6nm,0.4s						
MKAR	**Makanchi Array**	**59.95**	**325**	P	**P**	**11 25 41.4**	**+0.2**
	1.3nm,0.5s,baz=116,slow=8.0,SNR=13 1.3nm,0.5s						
KURBB	**Kurchatov Arra**	**64.12**	**327**	P	**P**	**11 26 08.5**	**-0.4**
	1.7nm,0.6s,baz=128,slow=6.4,SNR=7.6 1.7nm,0.6s						

IDC 02 11:17:10.9±3.3, 14°.79S×174°.52W, h0km, mb3.9/4, mbtmp3.9/4, MS3.9/2, Error ellipse: s-maj=175.9km s-min=28.4km az=146.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.72**	**247**	LR	LR	11 21 46.0	
	comp=Z,605nm,19.5s,baz=82,slow=36						
URZ	**Urewera**	**24.53**	**196**	LR	LR	11 31 11.2	
	comp=Z,385nm,20.1s,baz=135,slow=34						
H11S2	**WAKE ISLAND Hy**	**37.89**	**330**	T	T	12 04 49.3	
	baz=149,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**37.90**	**330**	T	T	12 04 51.7	
	baz=149,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**37.91**	**330**	T	T	12 04 50.8	
	baz=149,slow=76,SNR=29						
H11N3	**WAKE ISLAND Hy**	**38.85**	**331**	T	T	12 06 02.4	
	baz=150,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**38.86**	**331**	T	T	12 05 55.6	
	baz=150,slow=76,SNR=32						
H11N2	**WAKE ISLAND Hy**	**38.87**	**331**	T	T	12 06 00.9	
	baz=150,slow=76,SNR=29						
WRA	**Warramunga Arr**	**48.94**	**256**	P	P	11 25 57.5	-1.7
	1.0nm,1.0s,baz=89,slow=8.7,SNR=2.8 1.0nm,1.0s						
ASAR	**Alice Springs**	**49.28**	**251**	P	P	11 26 02.4	+0.5
	2.8nm,0.6s,baz=85,slow=7.7,SNR=21 2.8nm,0.6s						
NVAR	**Mina Array Bea**	**74.60**	**43**	P	P	11 28 52.3	0.0
	1.3nm,1.0s,baz=225,slow=8.7,SNR=4.0 1.3nm,1.0s						
ILAR	**Eielson Array**	**82.06**	**12**	P	P	11 29 31.9	-0.7
	0.3nm,0.7s,baz=219,slow=5.7,SNR=4.8 0.3nm,0.7s						
BRTR	**Keskin Array B**	**145.00**	**321**	PKPbc	PKPdf	11 36 50.8	+0.1
	2.8nm,1.0s,baz=113,slow=3.7,SNR=3.9						

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*IDC **02** 11:18:21.8±0.5, 57°.43N×32°.94W, h0km, mb4.2/21, mbtmp4.2/24, ML3.3/3, MS3.9/4, Error ellipse: s-maj=16.9km s-min=12.5km az=172.0*
*NEIC **02** 11:18:24.4±1.4, 57°.53N±0°.08×32°.9W±0°.1, h10km±1km, mb4.6/70, Error ellipse: s-maj=14.1km s-min=11.9km az=168.0*

ISC 02 11:18:24.5±0.4, 57°.51N±0°.07×32°.93W±0°.06, h15km, n112, σ0°93/106, mb4.6/53, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**7.36**	**305**	Pn	**Pn**	**11 20 09.2**	**-1.9**
ANGG	**Ammassalik, Gr**	**8.44**	**347**	Pn	**Pn**	**11 20 25.6**	**-0.4**
IVI	**Ivigtut**	**8.62**	**302**	Pn	**Pn**	**11 20 28.5**	**+0.1**
BORG	**Borgarnes**	**9.16**	**33**	Pn	**Pn**	**11 20 34.6**	**-1.3**
BORG	**Borgarnes**	**9.16**	**33**	Pn	**Pn**	**11 20 36.1**	**+0.1**
	0.6nm,0.3s,baz=232,slow=12,SNR=1.6						
BORG				LR	LR	11 22 49.8	
	comp=Z,216nm,19.4s,baz=169,slow=29 24nm,1.1s						
SFJD	**Kangerlussuaq**	**12.53**	**327**	Pn	**Pn**	**11 21 21.1**	**-0.8**
SCO	**Scoresbysund**	**13.85**	**16**	Pn	**Pn**	**11 21 38.2**	**-1.7**
SUMG	**Summit**	**15.30**	**354**	Pn	**Pn**	**11 21 59.1**	**-0.8**
EKB	**Eskdalemuir**	**16.53**	**85**	Pn	**Pn**	**11 22 13.8**	**-1.8**
EKB				IAmb	IAmb	11 22 30.2	
	comp=Z,54nm,1.5s						
EKA	**Eskdalemuir Ar**	**16.55**	**85**	Pn	**Pn**	**11 22 16.4**	**+0.7**
	baz=287,slow=10 comp=Z,3.0nm,0.8s						
FRB	**Frobisher Bay**	**18.35**	**305**	LR	LR	11 27 42.0	
	comp=Z,790nm,18.8s,baz=154,slow=30						
SCHQ	**Schefferville**	**18.95**	**276**	P	**P**	**11 22 44.6**	**-0.1**
SCHQ				IAmb	IAmb	11 22 49.7	
	comp=Z,36nm,1.5s						
SCHQ	**Schefferville**	**18.95**	**276**	P	**P**	**11 22 43.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=68,slow=12,SNR=2.7 comp=Z,9.8nm,0.9s						
CMLA	**Cha da Macela**	**20.35**	**163**	P	**P**	**11 22 59.2**	**-0.9**
GBN	**Guysborough**	**21.35**	**248**	P	**P**	**11 23 09.9**	**-0.8**
GBN				IAmb	IAmb	11 23 27.0	
	comp=Z,52nm,1.4s						

NBO00 NORSAR Array S 22.29 62 P **P** **11 23 19.4 -1.5**
NBO00 IAmb IAmb 11 23 52.6
comp=Z,34nm,1.4s
NAO01 NORSAR Array S 22.38 63 P **P** **11 23 21.4 -0.4**
NOA NORSAR Array B 22.50 62 P **P** **11 23 22.7 -0.4**
comp=Z,2.0nm,1.0s,baz=282,slow=9.7,SNR=5.0
NOA LR LR 11 30 22.7
comp=Z,200nm,21.0s,baz=45,slow=32
comp=Z,2.0nm,1.0s
NC405 NORSAR Array S 22.73 62 P **P** **11 23 25.6 +0.1**
NC405 IAmb IAmb 11 23 55.9
comp=Z,28nm,1.3s
ECH Echery 25.58 94 P **P** **11 23 52.6 0.0**
ECH IAmb IAmb 11 24 14.2
comp=Z,20nm,1.4s
ESDC Sonseca Array 25.88 121 P **P** **11 23 55.0 -0.4**
comp=Z,4.2nm,0.9s,baz=319,slow=7.7,SNR=9.9
comp=Z,4.2nm,0.9s
SSB Saint Sauveur 26.03 102 P **P** **11 23 57.3 +0.5**
GERES GERESS Array B 28.74 87 LR LR 11 36 14.5
comp=Z,570nm,18.4s,baz=54,slow=37
FINES FINESS Array B 29.33 57 P **P** **11 24 26.7 +0.6**
comp=Z,4.0nm,0.9s,baz=297,slow=9.2,SNR=2.1
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 35.91 74 P **P** **11 25 21.6 -2.0**
comp=Z,2.4nm,0.7s,baz=306,slow=8.7,SNR=6.0
comp=Z,2.4nm,0.7s
A36M Sachs Harbour 37.51 329 P **P** **11 25 38.3 +1.2**
YKA Yellowknife Ar 38.57 313 P **P** **11 25 45.8 -0.2**
comp=Z,1.9nm,0.7s,baz=50,slow=8.8,SNR=2.7
comp=Z,1.9nm,0.7s
INK Inuvik 41.88 327 P **P** **11 26 13.5 +0.1**
F31M Tsiigehtchic 42.47 326 P **P** **11 26 19.6 +1.4**
F31M IAmb IAmb 11 26 20.6
comp=Z,16nm,1.1s
G31M Satah River 42.96 325 P **P** **11 26 21.8 -0.5**
G31M IAmb IAmb 11 26 37.9
comp=Z,11nm,1.3s
E29M Blow River 43.09 328 P **P** **11 26 23.9 +0.6**
E28M Babbage River 43.41 329 P **P** **11 26 26.7 +0.8**
G30M tAoh Zraii Nji 43.52 326 P **P** **11 26 27.4 +0.6**
H31M Peel River 43.70 324 P **P** **11 26 30.0 +1.8**
H31M IAmb IAmb 11 26 31.1
comp=Z,9.4nm,1.1s
G29M Pine Creek 44.10 327 P **P** **11 26 31.7 +0.2**
G29M IAmb IAmb 11 26 47.3
comp=Z,9.4nm,1.3s
LAO LASA Array 44.16 289 P **P** **11 26 33.7 +1.5**
LAO IAmb IAmb 11 26 37.2
comp=Z,12nm,1.1s
F28M Old Crow 44.16 328 P **P** **11 26 32.4 +0.4**
E27K Coleen River 44.25 330 P **P** **11 26 33.6 +0.9**
TAM Tamanrasset 44.41 125 P **P** **11 26 36.4 +1.8**
TAM IAmb IAmb 11 26 37.3
comp=Z,8.7nm,1.0s
H29M Whitestone 44.66 326 P **P** **11 26 36.6 +0.7**
I30M Mount Dempster 44.72 324 P **P** **11 26 37.6 +1.1**
C24K Franklin Bluff 44.99 334 P **P** **11 26 39.9 +1.4**
J30M Hart River 45.14 324 P **P** **11 26 41.6 +1.6**
J30M IAmb IAmb 11 26 42.7
comp=Z,5.3nm,1.1s
G27K Doyon Strip 45.22 328 P **P** **11 26 41.5 +1.1**
I29M Ogilvie Camp, 45.23 325 P **P** **11 26 41.6 +1.1**
I29M IAmb IAmb 11 26 44.1
comp=Z,10nm,1.2s
C23K Itkillik River 45.36 334 P **P** **11 26 43.2 +1.8**
E25K Arctic Village 45.37 331 P **P** **11 26 41.8 +0.2**
E25K IAmb IAmb 11 27 11.0
comp=Z,8.3nm,1.5s
BR131 Keskin Array S 45.46 83 P **P** **11 26 43.9 +1.2**
BR131 IAmb IAmb 11 26 56.0
comp=Z,8.0nm,1.2s
BRTR Keskin Array B 45.46 83 P **P** **11 26 44.0 +1.2**
BRTR Keskin Array B 45.46 83 P **P** **11 26 43.7 +0.9**
comp=Z,3.5nm,0.8s,baz=304,slow=5.2,SNR=7.6
comp=Z,3.5nm,0.8s
BMAR Burnt Mountain 45.60 330 P **P** **11 26 44.4 +1.0**
ARTI Arti 46.16 50 P **P** **11 26 48.5 +0.6**
ARTI Arti 46.16 50 P **P** **11 26 48.2 +0.4**
comp=Z,6.2nm,0.6s,baz=320,slow=3.1,SNR=4.3
comp=Z,6.2nm,0.6s
M29M Somme Creek 47.31 322 P **P** **11 26 58.4 +1.4**
M29M IAmb IAmb 11 27 01.1
comp=Z,7.7nm,0.9s
SCRK Sand Creek 47.94 326 P **P** **11 27 03.0 +1.1**
SCRK IAmb IAmb 11 27 05.3
comp=Z,7.1nm,1.0s
IL31 48.19 328 P **P** **11 27 04.2 +0.6**
IL31 IAmb IAmb 11 27 09.1
comp=Z,5.5nm,1.1s
ILAR Eielson Array 48.19 328 P **P** **11 27 04.5 +0.9**
comp=Z,3.2nm,1.0s,baz=35,slow=5.6,SNR=18
ILAR PcP **PcP** **11 28 30.4 -0.3**
comp=Z,1.1nm,0.7s,baz=358,slow=3.2,SNR=12
comp=Z,3.2nm,1.0s
L26K Log Cabin Wild 48.45 325 P **P** **11 27 06.2 +0.6**
L26K IAmb IAmb 11 27 21.4
comp=Z,9.0nm,1.5s
HDA Harding Lake 48.48 328 P **P** **11 27 07.0 +1.1**
PD31 Pinedale Array 48.59 287 P **P** **11 27 08.1 +0.8**
PDAR Pinedale Array 48.59 287 P **P** **11 27 07.0 -0.3**
comp=Z,1.0nm,0.6s,baz=67,slow=6.8,SNR=8.0
comp=Z,1.0nm,0.6s
G21K Allakaket 48.61 333 P **P** **11 27 08.0 +1.2**
G21K IAmb IAmb 11 27 27.2
comp=Z,9.3nm,1.3s
F20K Avaraart Lake 48.72 334 P **P** **11 27 09.0 +1.3**
F20K IAmb IAmb 11 27 12.2
comp=Z,11nm,1.4s
E19K Redstone River 48.74 335 P **P** **11 27 09.1 +1.3**
IMAR Indian Mountai 49.09 332 P **P** **11 27 11.4 +0.9**
H21K Melozitna Rive 49.11 332 P **P** **11 27 12.3 +1.6**
H21K IAmb IAmb 11 27 47.6
comp=Z,11nm,1.5s
ISLE Juniper Island 49.93 323 P **P** **11 27 18.2 +1.0**
CRQM Cirque 50.07 323 P **P** **11 27 19.1 +0.8**
AKTO Aktyubinsk 50.10 56 P **P** **11 27 18.9 +0.4**
comp=Z,4.4nm,0.9s,baz=328,slow=8.7,SNR=6.1
comp=Z,4.4nm,0.9s
HLID Hailey 50.49 291 P **P** **11 27 21.3 -0.4**
TIXI Tiksi 50.50 7 P **P** **11 27 21.3 +0.1**
TIXI IAmb IAmb 11 27 23.2
comp=Z,4.1nm,0.9s
BMO Blue Mountains 51.00 294 P **P** **11 27 26.3 +0.9**
M22K Willow 51.45 327 P **P** **11 27 30.0 +1.6**
TORD Torodi Ar. Bea 51.47 135 P **P** **11 27 28.1 -1.0**
comp=Z,2.9nm,0.7s,baz=335,slow=8.1,SNR=5.2
comp=Z,2.9nm,0.7s
J08A Circle Bar Ran 52.66 294 P **P** **11 27 38.1 +0.3**
J08A IAmb IAmb 11 27 41.8
comp=Z,5.3nm,1.1s
HMU Henry Mountain 52.73 284 P **P** **11 27 38.8 +0.1**
HMU IAmb IAmb 11 27 57.9
comp=Z,10nm,1.3s
ELK Elko 52.97 289 P **P** **11 27 41.0 +0.7**
BVAR Borovoye Array 53.43 47 P **P** **11 27 43.0 -0.3**
comp=Z,5.6nm,0.8s,baz=311,slow=6.8,SNR=9.9
comp=Z,5.6nm,0.8s
DBIC Dimbokro 55.24 145 P **P** **11 27 55.8 -0.9**
comp=Z,7.3nm,0.8s,baz=262,slow=7.5,SNR=5.1
comp=Z,7.3nm,0.8s
BAUV El Baul 55.51 224 P **P** **11 27 58.5 -0.2**
BAUV IAmb IAmb 11 28 00.9
comp=Z,58nm,1.3s
TXAR Lajitas Array 55.54 271 P **P** **11 27 59.1 +0.1**
comp=Z,0.3nm,0.7s,baz=32,slow=5.3,SNR=1.9
comp=Z,0.3nm,0.7s
KVN Kaiserville 55.69 290 P **P** **11 28 00.9 +0.8**
KVN IAmb IAmb 11 28 02.9
comp=Z,9.0nm,1.4s
PAHR Pah Rah Range 55.84 291 P **P** **11 28 02.0 +0.9**
PAHR IAmb IAmb 11 28 04.4
comp=Z,5.8nm,1.2s
NVAR Mina Array Bea 56.27 290 P **P** **11 28 03.9 -0.4**
comp=Z,0.5nm,0.7s,baz=50,slow=6.6,SNR=5.0
comp=Z,0.5nm,0.7s
MPK Martis Peak 56.48 292 P **P** **11 28 06.3 +0.4**
MPK IAmb IAmb 11 28 21.9
comp=Z,8.0nm,1.0s
GMN Gold Mountain 56.60 288 P **P** **11 28 07.2 +0.5**
GMN IAmb IAmb 11 28 17.8
comp=Z,7.6nm,1.4s
GWY Greenwater Val 57.15 287 P **P** **11 28 10.9 +0.4**
GWY IAmb IAmb 11 28 24.7
comp=Z,6.1nm,1.3s
AFDM Forest Hills D 57.22 292 P **P** **11 28 11.1 +0.3**

KURK Kurchatov 58.42 44 P **P** **11 28 19.4 +0.4**
KURK IAmb IAmb 11 28 19.7
comp=Z,4.5nm,0.8s
KURBB Kurchatov Arra 58.46 44 P **P** **11 28 19.4 +0.1**
comp=Z,3.5nm,0.7s,baz=324,slow=7.1,SNR=19
comp=Z,3.5nm,0.7s
ROSC El Rosal 61.70 228 P **P** **11 28 42.0 -0.3**
comp=Z,8.1nm,0.4s,baz=349,slow=11,SNR=4.3
comp=Z,8.1nm,0.4s
MK31 Makanchi Array 63.02 44 P **P** **11 28 50.1 -0.3**
MK31 IAmb IAmb 11 28 52.0
comp=Z,8.7nm,1.4s
MKAR Makanchi Array 63.02 44 P **P** **11 28 50.7 +0.3**
comp=Z,3.1nm,1.0s,baz=331,slow=6.2,SNR=10
comp=Z,3.1nm,1.0s
BTK Batken 63.82 56 P **P** **11 28 56.3 +0.4**
SIMJ Simiganj 64.14 58 P **P** **11 28 58.2 +0.2**
SIMJ IAmb IAmb 11 28 59.5
comp=Z,5.1nm,1.1s
RAYN Ar Rayn 64.32 86 P **P** **11 29 00.0 +0.7**
RAYN IAmb IAmb 11 29 06.4
comp=Z,7.1nm,1.3s
GAR Garm 64.45 57 P **P** **11 29 01.9 +1.8**
H10N2 ASCENSION HYDR 66.83 160 T T 12 41 25.8
baz=349
H10N3 ASCENSION HYDR 66.84 160 T T 12 41 30.4
baz=349
H10N1 ASCENSION HYDR 66.85 160 T T 12 41 23.4
baz=349
H10S3 ASCENSION HYDR 67.90 160 T T 12 42 48.3
baz=350,slow=74,SNR=17
H10S2 ASCENSION HYDR 67.91 160 T T 12 42 49.0
baz=230,slow=74,SNR=18
SONM Songino Array 69.74 28 P **P** **11 29 34.1 +0.5**
comp=Z,4.2nm,0.9s,baz=332,slow=6.0,SNR=12
comp=Z,4.2nm,0.9s
ULN Ulaanbaatar 69.88 27 P **P** **11 29 34.7 +0.2**
NIL Nilore 70.20 58 P **P** **11 29 37.0 +0.6**
SIV San Ignacio 76.86 208 P **P** **11 30 16.1 +0.5**
comp=Z,4.6nm,1.0s,baz=50,slow=7.6,SNR=3.1
comp=Z,4.6nm,1.0s
TA02 Huaiquique 83.47 215 P **P** **11 30 52.2 +1.1**
KSRS Korea Array 84.03 15 P **P** **11 30 53.5 -0.6**
comp=Z,3.7nm,0.9s,baz=349,slow=4.5,SNR=10
comp=Z,3.7nm,0.9s
SNAA Sanae 130.60 168 PKP **PKPdf** **11 37 31.9 -1.0**
comp=Z,1.5nm,1.0s,baz=319,slow=4.5,SNR=3.0
WRA Warramunga Arr 141.33 19 PKP **PKPdf** **11 37 53.8 -0.6**
comp=Z,1.1nm,1.0s,baz=341,slow=2.3,SNR=3.2
ASAR Alice Springs 144.88 21 PKP **PKPab** **11 37 58.8 -0.9**
comp=Z,5.6nm,1.0s,baz=358,slow=2.6,SNR=22
QSPA South Pole Qui 147.41 180 PKPbc **PKPdf** **11 38 04.0 +0.5**
comp=Z,3.7nm,1.0s,baz=238,slow=3.4,SNR=4.0

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*IDC **02** 11:27:58.1±3.3, 3°.34N×96°.04E, h0km, mb3.8/3, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=128.4km s-min=28.2km az=61.0*
*DJA **02** 11:28:04.6±0.3, 4°.N±3°×9°.7E±°, h10km, M4.4/10, mb4.7/3, MLv4.3/10*
*NEIC **02** 11:28:06.7±1.2, 4°.08N±0°.06×96°.91E±0°.10, h35km±2km, mb4.6/12, Error ellipse: s-maj=16.7km s-min=8.5km az=253.0*
ISC 02 11:28:03.0±0.6, **3°.96N**±0°.04×**96°.93E**±0°.05, **h10**km, **n37**, σ1°**78**/30, **mb4.5/9**, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.61**	**300**	P	**Pg**	**11 28 15.3**	**+0.6**
MLSI				S	**Sb**	**11 28 24.9**	**+0.6**
KCSI	**Kotacane, Aceh**	**0.95**	**117**	P	**Pg**	**11 28 21.5**	**+0.3**
LHMI	**Lhok Sumawe**	**1.26**	**1**		**Pn**	**11 28 25.7**	**-0.9**
LHMI	**Lhok Sumawe**	**1.26**	**1**	P	**Pg**	**11 28 29.1**	**+1.9**
LHMI				S	**Sn**	**11 28 48.7**	**+5.1**
SNSI	**Sinabang, Aceh**	**1.66**	**201**	P	**Pn**	**11 28 33.0**	**+0.9**
RPSI	**Rantau Prapat**	**2.35**	**122**		**Pn**	**11 28 44.4**	**+2.7**
GSI	**Gunungsitoli**	**2.72**	**166**		**Pn**	**11 28 49.2**	**+2.5**
GSI	**Gunungsitoli**	**2.72**	**166**	P	**Pn**	**11 28 49.4**	**+2.7**
KULM	**Kulim**	**3.94**	**70**		**Pn**	**11 29 04.7**	**+1.2**
PBSI	**Pulau Batu**	**4.21**	**161**	P	**Pn**	**11 29 09.5**	**+2.2**
SRIT	**Nakonsritamara**	**5.32**	**30**		**Pn**	**11 29 23.2**	**+0.7**
SISI	**Saibi**	**5.68**	**158**	P	**Pn**	**11 29 29.7**	**+2.2**
24nm,0.7s,0.3nm							
PPSI	**Pulau Pagai**	**7.35**	**155**	P	**Pn**	**11 29 52.7**	**+2.2**
CMAR	**Chiang Mai Arr**	**14.54**	**8**	Pn	**P**	**11 31 36.3**	**+0.7**
0.2nm,0.3s,baz=201,slow=9.7,SNR=6.5							
0.8nm,0.4s							
MYLDM	**Lahad Datu**	**21.54**	**86**	P	**P**	**11 32 50.6**	**-2.0**
H08S2	**Diego Garcia H**	**26.97**	**245**	T	T	12 00 55.4	
baz=62							
H08S3	**Diego Garcia H**	**26.97**	**245**	T	T	12 00 54.6	
baz=62							
H08S1	**Diego Carcia H**	**26.99**	**245**	T	T	12 00 48.5	
baz=62							
PSA00	**Pilbara Seismi**	**33.88**	**139**	P	**P**	**11 34 43.5**	**-2.7**
PSA00				IAmb	IAmb	11 35 08.1	
comp=Z,17nm,1.4s							
WB0	**Warramunga Arr**	**43.72**	**124**	P	**P**	**11 36 08.5**	**-0.2**
WB0				IAmb	IAmb	11 36 34.8	
comp=Z,12nm,1.5s							
WRA	**Warramunga Arr**	**43.76**	**124**	P	**P**	**11 36 08.6**	**-0.5**
comp=Z,1.2nm,0.6s,baz=302,slow=9.3,SNR=10							
comp=Z,1.2nm,0.6s							
WRAB	**Tennant Creek**	**43.77**	**124**	P	**P**	**11 36 09.1**	**-0.1**
WRAB				IAmb	IAmb	11 36 19.5	
comp=Z,12nm,1.5s							
WB2	**Warramunga Arr**	**43.77**	**124**	P	**P**	**11 36 08.3**	**-0.8**
WB2				IAmb	IAmb	11 36 15.7	
comp=Z,11nm,1.3s							
WR0	**Warramunga Arr**	**43.93**	**124**	P	**P**	**11 36 10.3**	**-0.2**
ASAR	**Alice Springs**	**45.30**	**129**	P	**P**	**11 36 20.8**	**-0.6**
comp=Z,0.5nm,0.6s,baz=300,slow=8.0,SNR=12							
comp=Z,0.5nm,0.6s							
AS31	**Alice Springs**	**45.30**	**129**	P	**P**	**11 36 21.4**	**0.0**
KURBB	**Kurchatov Arra**	**49.01**	**345**	P	**P**	**11 36 49.1**	**-0.8**
comp=Z,0.5nm,0.3s,baz=162,slow=6.6,SNR=1.8							
comp=Z,0.5nm,0.3s							
PMG	**Port Moresby**	**51.79**	**105**	P	**P**	**11 37 10.1**	**-1.4**
EIDS	**Eidsvold**	**60.04**	**122**	P	**P**	**11 38 10.1**	**-0.4**
H04N2	**CROZET ISLANDS**	**63.91**	**213**	T	T	12 46 35.4	
baz=51,slow=75,SNR=21							
H04N1	**CROZET ISLANDS**	**63.92**	**213**	T	T	12 46 32.1	
baz=51,slow=75,SNR=18							
H04N3	**CROZET ISLANDS**	**63.92**	**213**	T	T	12 46 30.6	
baz=51,slow=75,SNR=26							
H04S1	**CROZET ISLANDS**	**64.27**	**213**	T	T	12 47 24.2	
baz=52							
H04S3	**CROZET ISLANDS**	**64.28**	**213**	T	T	12 46 58.0	
baz=52,slow=74							
H04S2	**CROZET ISLANDS**	**64.28**	**213**	T	T	12 47 24.0	
baz=52,slow=74							
AKBB	**Malin Array Si**	**72.92**	**322**	P	**P**	**11 39 32.0**	**-0.5**
AKBB				IAmb	IAmb	11 39 60.0	
comp=Z,14nm,1.1s							
KIEV	**Kiev**	**72.93**	**322**	P	**P**	**11 39 32.0**	**-0.6**
KIEV				IAmb	IAmb	11 39 60.0	
comp=Z,13nm,1.1s							

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*IDC **02** 11:30:28.1±0.5, 57°.46N×32°.90W, h0km, mb4.0/19, mbtmp4.0/22, ML3.1/3, Error ellipse: s-maj=16.8km s-min=13.0km az=164.0*
*NEIC **02** 11:30:31.2±1.8, 57°.63N±0°.08×33°.1W±0°.1, h10km±1km, mb4.7/52, Error ellipse: s-maj=15.6km s-min=10.1km az=140.0*
ISC 02 11:30:30.9±0.4, **57°.55N**±0°.08×**32°.93W**±0°.06, **h15**km, **n83**, σ1°**07**/77, **mb4.6**/42, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**7.34**	**305**	Pn	**Pn**	**11 32 16.0**	**-1.3**
ANGG	**Ammassalik, Gr**	**8.40**	**346**	Pn	**Pn**	**11 32 30.7**	**-1.1**
BORG	**Borgarnes**	**9.13**	**33**	Pn	**Pn**	**11 32 42.1**	**+0.3**
0.5nm,0.3s,baz=337,slow=4.1,SNR=2.8							
28nm,1.0s							
SUMG	**Summit**	**15.26**	**354**		**Pn**	**11 34 05.1**	**-0.7**
EKA	**Eskdalemuir Ar**	**16.54**	**85**	Pn	**Pn**	**11 34 20.8**	**-1.3**
baz=298,slow=12							
0.9nm,0.7s							
SCHQ	**Schefferville**	**18.95**	**276**	P	**Pn**	**11 34 51.8**	**0.0**
SCHQ	**Schefferville**	**18.95**	**276**	P	**Pn**	**11 34 51.5**	**-0.2**
0.2nm,0.3s,baz=60,slow=5.8,SNR=4.5							
4.5nm,0.8s							
GBN	**Guysborough**	**21.37**	**248**	P	**P**	**11 35 17.8**	**+0.4**
GBN				IAmb	IAmb	11 35 22.4	
comp=Z,60nm,1.3s							
ICQ	**Pointe Anglais**	**21.74**	**263**	P	**P**	**11 35 21.7**	**+0.4**
NOA	**NORSAR Array B**	**22.48**	**62**	P	**P**	**11 35 29.5**	**+0.3**
comp=Z,0.5nm,0.8s,baz=282,slow=9.4,SNR=3.6							
comp=Z,0.5nm,0.8s							
NC303	**NORSAR Array S**	**22.52**	**62**	P	**P**	**11 35 32.5**	**+2.9**
LMN	**Caledonia Moun**	**22.73**	**253**	P	**P**	**11 35 33.0**	**+0.9**
LMN				IAmb	IAmb	11 35 41.6	
comp=Z,24nm,1.3s							
HFS	**Hagfors**	**23.87**	**64**	P	**P**	**11 35 43.3**	**0.0**
comp=Z,1.7nm,0.7s,baz=289,slow=4.4,SNR=2.2							
comp=Z,1.7nm,0.7s							
ESDC	**Sonseca Array**	**25.89**	**121**	P	**P**	**11 36 01.8**	**-0.2**
comp=Z,1.0nm,0.7s,baz=316,slow=10,SNR=7.4							
comp=Z,1.0nm,0.7s							
ARCES	**ARCESS Array B**	**27.42**	**41**	P	**P**	**11 36 16.0**	**+0.5**
comp=Z,2.5nm,0.9s,baz=285,slow=10,SNR=5.2							
comp=Z,2.5nm,0.9s							
FIA1	**FINESS Array S**	**29.30**	**57**	P	**P**	**11 36 32.5**	**+0.2**
O54A	**Avella**	**34.86**	**261**	P	**P**	**11 37 21.1**	**0.0**
AKASG	**Malin Array Be**	**35.89**	**74**	P	**P**	**11 37 29.4**	**-0.5**
comp=Z,1.5nm,0.6s,baz=308,slow=8.5,SNR=8.6							
comp=Z,1.5nm,0.6s							
A36M	**Sachs Harbour**	**37.48**	**329**	P	**P**	**11 37 45.1**	**+2.0**
L42A	**Oliver, Polo**	**38.57**	**271**	P	**P**	**11 37 53.2**	**+0.5**
L42A				IAmb	IAmb	11 38 07.5	
comp=Z,21nm,1.2s							
INK	**Inuvik**	**41.84**	**327**	P	**P**	**11 38 20.8**	**+1.3**
F31M	**Tsiigehtchic**	**42.44**	**326**	P	**P**	**11 38 24.9**	**+0.5**
E27K	**Coleen River**	**44.22**	**329**	P	**P**	**11 38 39.0**	**+0.1**
TAM	**Tamanrasset**	**44.43**	**125**	P	**P**	**11 38 43.6**	**+2.4**
BRTR	**Keskin Array B**	**45.45**	**83**	P	**P**	**11 38 48.1**	**-1.0**
comp=Z,0.7nm,0.4s,baz=297,slow=6.3,SNR=1.7							
comp=Z,0.7nm,0.4s							
KAN01	**Argonia South**	**46.40**	**273**	P	**P**	**11 38 57.1**	**+0.7**
DAWY	**Dawson**	**46.43**	**324**	P	**P**	**11 38 58.4**	**+2.0**
DAWY				IAmb	IAmb	11 39 02.6	
comp=Z,9.3nm,1.4s							
YNE	**Yellowstone No**	**47.23**	**290**	P	**P**	**11 39 03.1**	**-0.1**
YNE				IAmb	IAmb	11 39 15.0	
comp=Z,5.7nm,0.9s							
W35A	**Tecumseh**	**47.41**	**270**	P	**P**	**11 39 04.8**	**+0.4**
ILAR	**Eielson Array**	**48.16**	**328**	P	**P**	**11 39 10.3**	**+0.5**
comp=Z,1.8nm,0.8s,baz=36,slow=7.0,SNR=18							
ILAR				PcP	**PcP**	**11 40 37.2**	**+0.3**
comp=Z,1.0nm,0.7s,baz=1.2,slow=2.5,SNR=6.6							
comp=Z,1.8nm,0.8s							
LOHW	**Long Hollow**	**48.51**	**289**	P	**P**	**11 39 12.5**	**-0.6**
I23K	**Minto, Yukon-K**	**48.56**	**330**	P	**P**	**11 39 14.5**	**+1.7**
I23K				IAmb	IAmb	11 39 15.5	
comp=Z,10nm,1.1s							
PD31	**Pinedale Array**	**48.58**	**287**	P	**P**	**11 39 14.1**	**+0.5**
PDAR	**Pinedale Array**	**48.58**	**287**	P	**P**	**11 39 12.8**	**-0.8**
comp=Z,1.2nm,0.7s,baz=142,slow=5.1,SNR=14							
comp=Z,1.2nm,0.7s							
F20K	**Avaraart Lake**	**48.69**	**334**	P	**P**	**11 39 13.9**	**+0.1**
F20K				IAmb	IAmb	11 39 16.9	
comp=Z,15nm,1.3s							
E19K	**Redstone River**	**48.71**	**335**	P	**P**	**11 39 15.8**	**+1.9**
E19K				IAmb	IAmb	11 39 17.0	
comp=Z,7.0nm,0.8s							
FXWY	**Fox Creek**	**48.71**	**289**	P	**P**	**11 39 15.2**	**+0.5**
WRH	**Wood River Hil**	**48.72**	**329**	P	**P**	**11 39 14.4**	**+0.3**
WMOK	**Wichita Mounta**	**48.75**	**272**	P	**P**	**11 39 15.5**	**+0.7**
WMOK				IAmb	IAmb	11 39 28.1	
comp=Z,11nm,1.3s							
IMAR	**Indian Mountai**	**49.05**	**332**	P	**P**	**11 39 17.5**	**+0.9**
H21K	**Melozitna Rive**	**49.07**	**332**	P	**P**	**11 39 18.3**	**+1.5**
WAX	**Waxell Ridge**	**50.18**	**323**	P	**P**	**11 39 26.3**	**+0.9**
AMTX	**Amarillo**	**50.20**	**274**	P	**P**	**11 39 24.8**	**-1.1**
AMTX				IAmb	IAmb	11 39 32.3	
comp=Z,15nm,1.1s							
KLU	**Klutina**	**50.36**	**325**	P	**P**	**11 39 26.6**	**-0.2**
KLU				IAmb	IAmb	11 40 10.7	
comp=Z,11nm,1.2s							
TIXI	**Tiksi**	**50.46**	**7**	P	**P**	**11 39 28.3**	**+1.0**
HLID	**Hailey**	**50.48**	**291**		**P**	**11 39 24.7**	**-3.3**
HLID				IAmb	IAmb	11 39 25.2	
comp=Z,8.0nm,1.1s							
GHO	**Glory Hole Cre**	**51.06**	**327**	P	**P**	**11 39 31.2**	**-0.8**
JLU	**Jordanelle**	**51.12**	**287**	P	**P**	**11 39 32.6**	**-0.4**
JLU				IAmb	IAmb	11 39 44.5	
comp=Z,20nm,1.2s							
P18A	**Preston Nutter**	**51.21**	**285**	P	**P**	**11 39 33.2**	**-0.5**
P18A				IAmb	IAmb	11 39 39.5	
comp=Z,20nm,1.3s							
TORD	**Torodi Ar. Bea**	**51.50**	**135**	P	**P**	**11 39 34.8**	**-0.9**
comp=Z,2.7nm,0.9s,baz=338,slow=8.1,SNR=7.5							
comp=Z,2.7nm,0.9s							
MPU	**Maple Canyon**	**51.65**	**286**	P	**P**	**11 39 36.0**	**-0.9**
MPU				IAmb	IAmb	11 39 45.2	
comp=Z,12nm,1.1s							
BGU	**Big Grassy Mou**	**51.70**	**288**	P	**P**	**11 39 38.2**	**+1.1**
BGU				IAmb	IAmb	11 39 41.9	
comp=Z,17nm,1.5s							
SRU	**San Rafael Swe**	**51.74**	**285**	P	**P**	**11 39 35.6**	**-2.0**
SRU				IAmb	IAmb	11 39 39.3	
comp=Z,13nm,1.1s							
TMUT	**Trail Mountain**	**51.96**	**285**	P	**P**	**11 39 38.3**	**-1.1**
TMUT				IAmb	IAmb	11 39 41.7	
comp=Z,12nm,1.0s							
DUG	**Dugway, Tooele**	**52.13**	**287**	P	**P**	**11 39 39.8**	**-0.5**
DUG				IAmb	IAmb	11 39 48.8	
comp=Z,9.0nm,1.1s							
JCT	**Junction City**	**52.57**	**269**	P	**P**	**11 39 44.4**	**+0.8**
JCT				IAmb	IAmb	11 39 49.0	
comp=Z,8.4nm,0.8s							
BVAR	**Borovoye Array**	**53.40**	**47**	P	**P**	**11 39 49.0**	**-0.4**
comp=Z,1.6nm,0.7s,baz=297,slow=7.3,SNR=4.1							
comp=Z,1.6nm,0.7s							
WVOR	**Wild Horse Val**	**53.41**	**293**	P	**P**	**11 39 50.0**	**+0.1**
BMN	**Battle Mountai**	**54.20**	**291**	P	**P**	**11 39 53.1**	**-2.5**
SAND	**Sanderson**	**54.23**	**271**	P	**P**	**11 39 55.8**	**0.0**
SAND				IAmb	IAmb	11 40 01.9	
comp=Z,5.4nm,0.9s							
DBIC	**Dimbokro**	**55.27**	**145**	P	**P**	**11 40 03.8**	**+0.4**
DBIC				IAmb	IAmb	11 40 09.0	
comp=Z,7.3nm,1.0s							
DBIC	**Dimbokro**	**55.27**	**145**	P	**P**	**11 40 02.0**	**-1.3**
comp=Z,3.1nm,0.7s,baz=320,slow=15,SNR=2.1							
comp=Z,3.1nm,0.7s							
BAUV	**El Baul**	**55.54**	**224**	P	**P**	**11 40 06.3**	**+0.9**
TXAR	**Lajitas Array**	**55.54**	**271**	P	**P**	**11 40 05.6**	**+0.1**
comp=Z,0.4nm,0.8s,baz=69,slow=5.0,SNR=1.4							
comp=Z,0.4nm,0.8s							
KVN	**Kaiserville**	**55.68**	**290**	P	**P**	**11 40 07.6**	**+1.1**
KVN				IAmb	IAmb	11 40 14.7	
comp=Z,7.8nm,1.3s							
DUN6	**Lazy B Ranch**	**55.95**	**278**	P	**P**	**11 40 09.8**	**+1.5**
NVAR	**Mina Array Bea**	**56.26**	**290**	P	**P**	**11 40 10.6**	**-0.1**
comp=Z,1.1nm,0.7s,baz=68,slow=5.3,SNR=4.2							
comp=Z,1.1nm,0.7s							
KURBB	**Kurchatov Arra**	**58.42**	**44**	P	**P**	**11 40 25.5**	**+0.1**
comp=Z,1.1nm,0.2s,baz=326,slow=7.3,SNR=7.7							
comp=Z,1.1nm,0.2s							
ROSC	**El Rosal**	**61.73**	**228**	P	**P**	**11 40 48.5**	**-0.4**
comp=Z,6.4nm,0.3s,baz=61,slow=14,SNR=4.3							
MKAR	**Makanchi Array**	**62.99**	**44**	P	**P**	**11 40 57.0**	**+0.3**
comp=Z,1.7nm,0.7s,baz=343,slow

comp=Z,1.5nm,0.7s,baz=344,slow=3.0,SNR=20
QSPA South Pole Qui 147.45 180 PKPbc **PKPdf 11 50 10.4 +0.4**
comp=Z,4.5nm,0.9s,baz=218,slow=1.6,SNR=8.9

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*IDC **02** 11:32:43.7±1.1,28.°16S×175.°94W,h0km,mb4.1/5, mbtmp4.2/6,ML4.5/1,Error ellipse: s-maj=31.2km s-min=31.0km az=153.0*
*NEIC **02** 11:32:47.9±1.1,28.°4S±0.°1×176.°3W±0.°2,h10km±1km, mb4.6/9,Error ellipse: s-maj=29.0km s-min=18.2km az=319.0*
ISC 02 11:32:46.9±0.9,28.°3S±0.°2×176.°2W±0.°1,h10km,n28, σ1§42/27,mb4.3/11,5C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.79**	**238**	Pn	**Pn**	**11 33 18.0**	**+0.1**
RAO	**Raoul Island**	**1.79**	**238**	Pn	**Pn**	**11 33 20.2**	**+2.3**
	175nm,0.3s,baz=73,slow=21,SNR=2.4						
RAO				Sn	**Sn**	**11 33 39.9**	**-0.7**
	2μm,0.3s,baz=97,slow=19,SNR=16						
	416nm,0.3s						
URZ	**Urewera**	**11.39**	**208**	Pn	Pn	11 35 21.3	-8.4
	0.2nm,0.3s,baz=176,slow=15,SNR=1.8						
URZ				Sn	Sn	11 37 17.5	-19
	2.5nm,0.3s,baz=221,slow=22,SNR=9.9						
CTAO	**Charters Tower**	**35.12**	**275**	P	**P**	**11 39 40.5**	**-0.3**
AS31	**Alice Springs**	**44.86**	**264**	P	**P**	**11 41 00.0**	**-1.6**
ASAR	**Alice Springs**	**44.86**	**264**	P	**P**	**11 41 00.7**	**-1.0**
ASAR	**Alice Springs**	**44.86**	**264**	P	**P**	**11 41 01.3**	**-0.4**
	2.1nm,0.6s,baz=104,slow=7.5,SNR=21						
	2.1nm,0.6s						
WR0	**Warramunga Arr**	**45.48**	**269**	P	**P**	**11 41 06.4**	**-0.2**
WB2	**Warramunga Arr**	**45.66**	**269**	P	**P**	**11 41 07.5**	**-0.5**
WB2				IAmb	IAmb	11 41 28.5	
	comp=Z,8.9nm,1.3s						
WRAB	**Tennant Creek**	**45.66**	**269**	P	**P**	**11 41 07.3**	**-0.7**
WRAB				IAmb	IAmb	11 41 36.0	
	comp=Z,9.8nm,1.3s						
WRA	**Warramunga Arr**	**45.67**	**269**	P	**P**	**11 41 08.4**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=109,slow=8.0,SNR=9.6						
	comp=Z,0.8nm,0.5s						
WB0	**Warramunga Arr**	**45.68**	**269**	P	**P**	**11 41 07.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**54.00**	**267**	P	**P**	**11 42 10.2**	**-1.2**
CASY	**Casey**	**57.72**	**207**	P	**P**	**11 42 37.0**	**-0.4**
CASY				IAmb	IAmb	11 42 37.6	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**	**61.79**	**180**	P	**P**	**11 43 06.4**	**+0.8**
QSPA				IAmb	IAmb	11 43 16.5	
	comp=Z,6.0nm,1.4s						
QSPA	**South Pole Qui**	**61.79**	**180**	P	**P**	**11 43 05.7**	**+0.1**
	comp=Z,1.8nm,1.1s,baz=121,slow=5.9,SNR=2.3						
	comp=Z,1.8nm,1.1s						
TROLL	**Troll, Antarti**	**79.94**	**180**	⇑P	**P**	**11 44 55.4**	**-0.5**
	comp=Z,64nm,0.6s						
SNAA	**Sanae**	**80.18**	**178**	⇑P	**P**	**11 44 55.8**	**-1.3**
	comp=Z,14nm,0.7s						
SNAA	**Sanae**	**80.18**	**178**	P	**P**	**11 44 55.8**	**-1.3**
	comp=Z,0.9nm,1.0s,baz=202,slow=12,SNR=2.1						
	comp=Z,0.9nm,1.0s						
VNA3	**Neumayer Olymp**	**80.26**	**176**	⇑P	**P**	**11 44 56.3**	**-1.1**
	comp=Z,2.6nm,0.8s						
VNA2	**Neumayer--Watz**	**80.72**	**176**	⇑P	**P**	**11 44 59.0**	**-0.9**
	comp=Z,1.8nm,0.7s,baz=191,slow=5.5						
VNA1	**Neumayer--Stat**	**80.94**	**176**	⇑P	**P**	**11 45 00.5**	**-0.5**
	comp=Z,1.4nm,0.7s						
PETK	**Petropavlovsk-**	**84.22**	**345**	P	**P**	**11 45 15.9**	**-2.2**
	comp=Z,8.2nm,1.0s,baz=103,slow=12,SNR=3.2						
	comp=Z,8.2nm,1.0s						
FINES	**FINESS Array B**	**143.70**	**342**	PKP	PKPbc	11 52 21.2	+2.3
	comp=Z,0.9nm,0.6s,baz=57,slow=5.1,SNR=4.5						
HFS	**Hagfors**	**147.49**	**351**	PKPbc	**PKPdf**	**11 52 29.6**	**+1.6**
	comp=Z,4.0nm,0.8s,baz=32,slow=5.9,SNR=4.6						
AKASG	**Malin Array Be**	**150.53**	**326**	PKPbc	**PKPdf**	**11 52 35.8**	**+2.6**
	comp=Z,0.2nm,0.2s,baz=62,slow=1.2,SNR=2.0						
ASF	**Jabal al Asfar**	**151.24**	**286**	PKPbc	**PKPdf**	**11 52 38.6**	**+3.6**
	comp=Z,2.9nm,0.4s,baz=120,slow=0.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**164.78**	**172**	PKPab	**PKPab**	**11 53 45.7**	**-1.6**
	comp=Z,1.6nm,1.0s,baz=193,slow=4.1,SNR=5.8						

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*BJI **02** 11:32:50.0,57.°60N×33.°10W,h10km,mb4.8/38,mB5.5/7, Ms5.1/1,Ms7 4.9/1*
*IDC **02** 11:32:50.4±0.4,57.°47N×32.°97W,h0km,mb4.4/34, mbtmp4.4/37,ML3.3/3,MS4.2/24,Error ellipse: s-maj=12.4km s-min=10.7km az=171.0*
*GCMT **02** 11:32:51.2±0.3,57.°59N±0.°05×32.°80W±0.°04,h14km±1km, MW4.9/66,Moment Tensor Solution. s16,c18; s66,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.60±.26; $M_{\theta\theta}$0.34±.19; $M_{\phi\phi}$2.26±.18; $M_{r\theta}$0.56±.40; $M_{\theta\phi}$1.05±.11; $M_{\phi r}$-0.05±.32; Best double couple: $M_0$2.72100×10^{16} NP1:ϕ_s215.00000°,δ48.00000°,λ-74.00000°. NP2: ϕ_s12.00000°,δ44.00000°,λ-107.00000°. Principal axes: T 2.7290, Plg2.0000°, Azm294.0000°; N -0.0130, Plg12.0000°, Azm25.0000°; P -2.7140, Plg78.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **02** 11:32:52.2±2.0,57.°59N±0.°08×33.°1W±0.°1,h10km±1km, mb4.9/265 Error ellipse: s-maj=13.0km s-min=11.4km az=181.0*
ISC 02 11:32:52.7±0.3,57.°55N±0.°05×33.°07W±0.°04,h15km,n543, σ1§09/508,mb4.8/171,MS4.2/19,3C-12D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANGG	**Ammassalik, Gr**	**8.38**	**347**	Pn	**Pn**	**11 34 51.5**	**-1.8**
IVI	**Ivigtut**	**8.53**	**302**	Pn	**Pn**	**11 34 53.6**	**-1.8**
BORG	**Borgarnes**	**9.17**	**33**	Pn	**Pn**	**11 35 02.0**	**-2.1**
BORG	**Borgarnes**	**9.17**	**33**	Pn	**Pn**	**11 35 06.1**	**+2.0**
	1.2nm,0.3s,baz=215,slow=3.7,SNR=9.6						
BORG				LR	LR	11 37 35.2	
	comp=Z,1μm,20.0s,baz=204,slow=31						
	30nm,1.0s						
DY2G	**Dye2**	**10.86**	**331**	*e*P	**Pn**	**11 35 29.8**	**+2.3**
DY2G				IAML		11 37 34.4	
	comp=Z,5.5nm,0.8s						
ICESG	**Greenland Ices**	**11.94**	**349**	*i* P	**Pn**	**11 35 45.5**	**+3.1**
SFJD	**Kangerlussuaq**	**12.45**	**327**	Pn	**Pn**	**11 35 46.3**	**-2.7**
SFJD	**Kangerlussuaq**	**12.45**	**327**	LR	LR	11 39 53.5	
	comp=Z,2μm,19.0s,baz=157,slow=34						
SCO	**Scoresbysund**	**13.82**	**16**	Pn	**Pn**	**11 36 05.2**	**-2.5**
SUMG	**Summit**	**15.24**	**354**		**Pn**	**11 36 26.0**	**-1.3**
SUMG				IAmb	IAmb	11 36 32.8	
	comp=Z,54nm,1.3s						
SUMG	**Summit**	**15.24**	**354**	*i* P	**Pn**	**11 36 26.0**	**-1.3**
DSB	**Dublin**	**15.71**	**95**	Pn	**Pn**	**11 36 31.7**	**-1.5**
ESK	**Eskdalemuir**	**16.60**	**85**	Pn	**Pn**	**11 36 41.7**	**-2.9**
EKB	**Eskdalemuir**	**16.61**	**85**	Pn	**Pn**	**11 36 42.3**	**-2.3**
EKA	**Eskdalemuir Ar**	**16.62**	**85**	Pn	**Pn**	**11 36 44.7**	**-0.1**
	baz=282,slow=12						
	comp=Z,16nm,1.2s						
JMIC	**Jan Mayen**	**16.98**	**28**	LR	LR	11 41 56.2	
	comp=Z,242nm,21.0s,baz=207,slow=32						
FRB	**Frobisher Bay**	**18.26**	**305**	LR	LR	11 43 13.2	
	comp=Z,1μm,18.9s,baz=54,slow=34						
SCHQ	**Schefferville**	**18.87**	**276**	P	**P**	**11 37 09.3**	**-2.7**
SCHQ				IAmb	IAmb	11 37 22.1	
	comp=Z,151nm,2.0s						
SCHQ	**Schefferville**	**18.87**	**276**	P	**Pn**	**11 37 12.9**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=352,slow=4.2,SNR=5.3						
SCHQ				LR	LR	11 43 13.9	
	comp=Z,1μm,19.6s,baz=2.0,slow=33						
	comp=Z,9.0nm,1.0s						
DAG	**Danmarks Havn**	**19.97**	**10**	*i* P	**Pn**	**11 37 27.2**	**+1.6**
CMLA	**Cha da Macela**	**20.42**	**163**	P	**P**	**11 37 26.8**	**-2.2**
NEEM	**North Greenlan**	**20.93**	**349**	*e*P	Pn	11 37 36.7	-0.4
GBN	**Guysborough**	**21.30**	**247**	P	**P**	**11 37 36.9**	**-1.5**
GBN				IAmb	IAmb	11 37 51.3	
	comp=Z,62nm,1.2s						
ICQ	**Pointe Anglais**	**21.66**	**263**	P	**P**	**11 37 41.3**	**-1.0**
PGAV	**Gavieira, Arco**	**22.17**	**124**	*e*P	**P**	**11 37 54.4**	**+6.4**
PGAV				A	A	11 44 47.4	
	comp=Z,707nm,18.0s						
NC204	**NORSAR Array S**	**22.29**	**62**	P	**P**	**11 37 47.0**	**-2.0**
NC204				IAmb	IAmb	11 37 57.6	
	comp=Z,116nm,1.9s						
NBO00	**NORSAR Array S**	**22.34**	**63**	P	**P**	**11 37 47.5**	**-2.0**
NBO00				IAmb	IAmb	11 37 57.1	
	comp=Z,72nm,1.6s						
BATG	**Bathurst New B**	**22.37**	**257**	P	**P**	**11 37 50.4**	**+0.5**
NAO01	**NORSAR Array S**	**22.42**	**63**	P	**P**	**11 37 49.1**	**-1.3**
NAO01				IAmb	IAmb	11 37 58.3	
	comp=Z,93nm,2.0s						
NB2	**NORSAR Subarra**	**22.54**	**62**	P	**P**	**11 37 53.2**	**+1.4**
	comp=Z,50nm,1.7s,baz=281,slow=11						
NOA	**NORSAR Array B**	**22.54**	**62**	P	**P**	**11 37 49.9**	**-1.9**
	comp=Z,1.9nm,1.1s,baz=280,slow=9.5,SNR=4.1						
NOA				LR	LR	11 45 22.8	
	comp=Z,303nm,19.1s,baz=290,slow=33						
	comp=Z,1.9nm,1.1s						
NB201	**NORSAR Array S**	**22.58**	**62**	P	**P**	**11 37 50.4**	**-1.7**
NB201				IAmb	IAmb	11 37 59.5	
	comp=Z,64nm,1.6s						
NC303	**NORSAR Array S**	**22.58**	**62**	P	**P**	**11 37 50.6**	**-1.6**
NC303				IAmb	IAmb	11 37 56.2	
	comp=Z,48nm,1.4s						
LMN	**Caledonia Moun**	**22.66**	**253**	P	**P**	**11 37 53.9**	**+0.8**
NC602	**NORSAR Array S**	**22.76**	**63**	P	**P**	**11 37 52.2**	**-1.8**
NC602				IAmb	IAmb	11 38 00.9	
	comp=Z,93nm,1.9s						
NC405	**NORSAR Array S**	**22.77**	**62**	P	**P**	**11 37 52.3**	**-1.8**
NC405				IAmb	IAmb	11 37 58.2	
	comp=Z,118nm,1.9s						
POLO	**Lamas de Olo**	**22.86**	**124**	*e*P	P	11 38 04.4	+9.1
TULEG	**Thule**	**22.88**	**339**	P	**P**	**11 37 54.3**	**-0.8**
TULEG				IAmb	IAmb	11 38 03.9	
	comp=Z,36nm,0.6s						
HAL	**Halifax**	**22.88**	**249**	P	**P**	**11 37 54.2**	**-1.1**
HAL				IAmb	IAmb	11 38 02.0	
	comp=Z,53nm,1.5s						
PBRG	**Braganca**	**22.99**	**122**	*e*P	**P**	**11 37 58.3**	**+1.7**
PBRG				A	A	11 38 04.5	
	comp=Z,50nm,1.7s						
CLF	**Chambon-Foret**	**23.15**	**99**	P	**P**	**11 37 57.0**	**-1.1**
BMRD	**Maredsous**	**23.18**	**92**	*dx*	x	11 38 06.9	
DOU	**Dourbes**	**23.20**	**92**	*d*P	**P**	**11 38 00.8**	**+2.2**
	comp=Z,12nm,1.1s						
DOU				*dx*	x	11 38 07.4	
BGES	**Gesves**	**23.31**	**91**	*dx*	x	11 38 06.2	
PVIS	**Viseu**	**23.35**	**125**	*e*P	**P**	**11 38 00.9**	**+0.7**
MVO	**Moncorvo**	**23.37**	**123**	*e*P	**P**	**11 38 01.2**	**+0.7**
MVO				A	A	11 38 12.9	
	comp=Z,77nm,1.7s						
BCLA	**Clavier**	**23.40**	**91**	*dx*	x	11 38 08.6	
RCHB	**Rochefort**	**23.51**	**92**	*d*P	**P**	**11 38 03.3**	**+1.6**
RCHB				*dx*	x	11 38 09.6	
COI	**Coimbra**	**23.54**	**127**	P	**P**	**11 38 00.5**	**-1.5**
COI	**Coimbra**	**23.54**	**127**	P	**P**	**11 38 04.0**	**+2.0**
PCAS	**Casmilo, Conde**	**23.63**	**127**	*e*P	**P**	**11 38 03.8**	**+0.8**
PCAS				A	A	11 38 08.5	
	comp=Z,79nm,1.4s						
MEM	**Membach**	**23.68**	**90**	*d*P	**P**	**11 38 03.5**	**+0.1**
	comp=Z,11nm,1.1s						
MTE	**Manteigas**	**23.76**	**125**	P	**P**	**11 38 03.5**	**-0.8**
MTE				IAmb	IAmb	11 38 09.9	
	comp=Z,26nm,1.0s						
MTE	**Manteigas**	**23.76**	**125**	*e*P	**P**	**11 38 05.0**	**+0.7**
MTE				A	A	11 38 09.9	
	comp=Z,37nm,1.1s						
BTNL	**Ternell**	**23.76**	**90**	*d*P	**P**	**11 38 05.8**	**+1.6**
PQI	**Presque Isle**	**23.79**	**258**	P	**P**	**11 38 03.4**	**-1.0**
BHOU	**Houvegnez**	**23.82**	**91**	*d*P	**P**	**11 38 04.8**	**0.0**
BHOU				*dx*	x	11 38 09.8	
HFS	**Hagfors**	**23.94**	**64**	P	**P**	**11 38 05.7**	**0.0**
	comp=Z,11nm,0.9s,baz=251,slow=9.2,SNR=8.5						
	comp=Z,11nm,0.9s						
PSBE	**So Bento**	**23.95**	**128**	*e*P	**P**	**11 38 11.8**	**+5.7**
GGN	**Saint George**	**24.21**	**254**	P	**P**	**11 38 07.1**	**-1.3**
PCBR	**Castelo Branco**	**24.25**	**126**	*e*P	**P**	**11 38 09.3**	**+0.5**
PCBR				A	A	11 38 14.2	
	comp=Z,55nm,1.3s						
F64A	**Sherman**	**24.49**	**257**	P	**P**	**11 38 10.2**	**-0.7**
F64A				IAmb	IAmb	11 38 27.5	
	comp=Z,54nm,1.9s						
PMTG	**Montargil**	**24.57**	**128**	*e*P	**P**	**11 38 12.0**	**+0.3**
PMTG				A	A	11 38 23.4	
	comp=Z,68nm,1.8s						
NOR	**Nord**	**24.61**	**6**	*i* P	**P**	**11 38 11.6**	**-0.2**
PMRV	**Marv??o**	**24.62**	**126**	*e*P	**P**	**11 38 12.9**	**+0.7**
PMRV				A	A	11 38 18.1	
	comp=Z,36nm,1.2s						
LDAQ	**Lac Daran**	**24.70**	**264**	P	**P**	**11 38 12.2**	**-0.7**
PESTR	**Estremoz**	**25.00**	**127**	P	**P**	**11 38 13.9**	**-1.7**
PBEJ	**Beja**	**25.59**	**129**	*e*P	**P**	**11 38 21.9**	**+0.9**
PBEJ				A	A	11 38 30.2	
	comp=Z,36nm,1.4s						
MESJ	**Messejana**	**25.61**	**130**	P	**P**	**11 38 19.8**	**-1.3**
MESJ				IAmb	IAmb	11 38 27.2	
	comp=Z,20nm,1.0s						
MESJ	**Messejana**	**25.61**	**130**	*e*P	**P**	**11 38 22.5**	**+1.4**
PTEO	**Sao Teotonio**	**25.65**	**131**	*e*P	**P**	**11 38 21.0**	**-0.5**
PTEO				A	A	11 38 27.7	
	comp=Z,97nm,1.4s						
ECH	**Echery**	**25.66**	**94**	P	**P**	**11 38 20.7**	**-0.8**
RGN	**Rugen**	**25.69**	**77**	P	**P**	**11 38 21.1**	**-0.6**
PBAR	**Barrancos**	**25.82**	**127**	*e*P	**P**	**11 38 24.1**	**+1.1**
PBAR				A	A	11 38 31.8	
	comp=Z,33nm,1.4s						
PCVE	**Castro Verde**	**25.86**	**130**	*e*P	**P**	**11 38 29.7**	**+6.3**
PCVE				A	A	11 38 35.5	
	comp=Z,37nm,1.8s						
MORF	**Marmelete**	**25.89**	**131**	P	**P**	**11 38 22.8**	**-0.9**
MORF	**Marmelete**	**25.89**	**131**	*e*P	**P**	**11 38 25.8**	**+2.1**
MORF				A	A	11 38 29.7	
	comp=Z,71nm,1.5s						
PAB	**San Pablo**	**25.89**	**122**	P	**P**	**11 38 22.8**	**-1.0**
PFVI	**Vila Bisbo**	**25.96**	**131**	*e*P	**P**	**11 38 28.4**	**+4.1**
ESBB	**Sonseca Array**	**25.96**	**121**	P	**P**	**11 38 23.8**	**-0.6**
ESDC	**Sonseca Array**	**25.96**	**121**	P	**P**	**11 38 24.1**	**-0.4**
	comp=Z,7.3nm,1.1s,baz=318,slow=8.8,SNR=15						
ESDC				LR	LR	11 47 01.4	
	comp=Z,362nm,18.1s,baz=28,slow=33						
	comp=Z,7.3nm,1.1s						
G62A	**West of Eustis**	**26.07**	**258**	P	**P**	**11 38 24.8**	**-0.5**
PVAQ	**Vaqueiros**	**26.18**	**129**	P	**P**	**11 38 24.9**	**-1.4**
PVAQ				IAmb	IAmb	11 38 42.1	
	comp=Z,29nm,1.4s						
PVAQ	**Vaqueiros**	**26.18**	**129**	*e*P	**P**	**11 38 27.2**	**+0.8**
PVAQ				A	A	11 38 31.0	
	comp=Z,40nm,1.6s						
BFO	**Black Forest**	**26.22**	**93**	P	**P**	**11 38 25.2**	**-1.4**
CEST	**Esterri de Car**	**26.27**	**110**	P	**P**	**11 38 26.6**	**-0.7**
CEST				IAmb	IAmb	11 38 38.6	
	comp=Z,31nm,1.4s						
SENIN	**Lac Senin/Sane**	**26.87**	**97**	P	**P**	**11 38 31.5**	**-1.2**
GRA1	**Grafenberg Arr**	**26.99**	**88**	P	**P**	**11 38 32.2**	**-1.4**
GRA1				IAmb	IAmb	11 38 50.6	
	comp=Z,16nm,0.5s						
GRFO	**Grafenberg**	**26.99**	**88**	P	**P**	**11 38 32.6**	**-1.0**
GRFO				IAmb	IAmb	11 38 43.4	
	comp=Z,30nm,1.3s						
CLL	**Collm**	**27.08**	**83**	P	**P**	**11 38 33.5**	**-0.8**
CLL	**Collm**	**27.08**	**83**	*e*P	**P**	**11 38 35.0**	**+0.7**
CLL				*i* x	x	11 38 38.4	
ARCES	**ARCESS Array B**	**27.47**	**41**	P	**P**	**11 38 36.9**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=267,slow=8.0,SNR=5.7						
	comp=Z,2.6nm,0.7s						
SFS	**San Fernando**	**27.62**	**128**	P	**P**	**11 38 37.7**	**-1.6**
EUNU	**Eureka**	**27.70**	**343**	P	**P**	**11 38 38.0**	**-1.7**
EUNU				IAmb	IAmb	11 39 19.0	
	comp=Z,57nm,2.0s						
TUE	**Stuetta**	**27.90**	**95**	P	**P**	**11 38 40.1**	**-1.9**
RES	**Resolute Bay**	**28.41**	**330**	P	**P**	**11 38 44.3**	**-1.6**
RES	**Resolute Bay**	**28.41**	**330**	LR	LR	11 48 27.5	
	comp=Z,269nm,19.6s,baz=54,slow=33						
HRV	**Adam Dziewonsk**	**28.47**	**255**	P	**P**	**11 38 46.5**	**-0.3**
HRV				IAmb	IAmb	11 39 17.6	
	comp=Z,20nm,1.1s						
GEC2	**GERESS Array S**	**28.81**	**87**	P	**P**	**11 38 47.6**	**-2.3**
FIA1	**FINESS Array S**	**29.37**	**57**	P	**P**	**11 38 52.9**	**-1.7**
FINES	**FINESS Array B**	**29.37**	**57**	P	**P**	**11 38 54.5**	**-0.1**
	comp=Z,7.7nm,1.0s,baz=284,slow=5.6,SNR=6.6						
	comp=Z,7.7nm,1.0s						
VRAC	**Vranov**	**30.10**	**84**	LR	LR	11 49 52.7	
	comp=Z,617nm,21.2s,baz=4.5,slow=34						
PABE	**Paberze**	**30.74**	**69**	P	**P**	**11 39 04.8**	**-1.9**
SADO	**Sadowa**	**30.96**	**266**	LR	LR	11 49 56.1	
	comp=Z,962nm,20.6s,baz=40,slow=33						
MDT	**Midelt**	**31.42**	**130**	P	**P**	**11 39 12.6**	**-0.6**
	comp=Z,9.4nm,1.1s,baz=340,slow=13,SNR=6.9						
	comp=Z,9.4nm,1.1s						
LANS	**Liptovska Anna**	**31.73**	**82**	*e*P	**P**	**11 39 17.0**	**+1.4**
NACGM	**Naroch**	**32.44**	**69**	*e*P	P	11 39 15.7	-6.1
	comp=Z,21nm,1.0s,baz=300						
PSZ	**Piszkesteto**	**32.69**	**84**	P	**P**	**11 39 22.5**	**-1.6**
KWP	**Kalwaria Pacla**	**33.17**	**79**	P	**P**	**11 39 26.1**	**-2.2**
MCWV	**Mont Chateau**	**34.87**	**260**	P	**P**	**11 39 43.5**	**+0.4**
MCWV				IAmb	IAmb	11 40 09.2	
	comp=Z,33nm,1.4s						
COWI	**Conover**	**35.48**	**276**	P	**P**	**11 39 46.7**	**-1.6**
COWI				IAmb	IAmb	11 39 56.8	
	comp=Z,15nm,0.9s						
KEST	**Kesra**	**35.56**	**109**	P	**P**	**11 39 48.0**	**-1.2**
KEST				IAmb	IAmb	11 39 56.5	
	comp=Z,33nm,1.3s						
KEST	**Kesra**	**35.56**	**109**	P	**P**	**11 39 47.8**	**-1.3**
	comp=Z,6.2nm,1.0s,baz=46,slow=23,SNR=2.1						
	comp=Z,6.2nm,1.0s						
EYMN	**Ely**	**35.58**	**280**	P	**P**	**11 39 48.5**	**-0.6**
EYMN				IAmb	IAmb	11 39 52.8	
	comp=Z,15nm,1.1s						
BUR08	**Bucovina Ar. S**	**35.69**	**80**	P	**P**	**11 39 48.7**	**-1.4**
L48A	**N Adams**	**35.71**	**267**	P	**P**	**11 39 49.8**	**-0.5**
L48A				IAmb	IAmb	11 40 35.0	
	comp=Z,27nm,1.1s						
AKASG	**Malin Array Be**	**35.96**	**73**	P	**P**	**11 39 52.0**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=242,slow=2.5,SNR=8.1						
	comp=Z,1.5nm,0.6s						
N49A	**Columbus Grove**	**36.29**	**265**	P	**P**	**11 39 54.5**	**-0.7**
N49A				IAmb	IAmb	11 40 00.1	
	comp=Z,23nm,1.0s						
E38A	**The Farm, Brul**	**36.45**	**278**	P	**P**	**11 39 55.3**	**-1.2**
ULM	**Lac du Bonnet**	**36.49**	**286**	LR	LR	11 53 13.5	
	comp=Z,409nm,19.5s,baz=37,slow=33						
PUK	**Puka**	**36.51**	**92**	P	**P**	**11 39 55.2**	**-2.0**
PUK				IAmb	IAmb	11 40 42.6	
	comp=Z,37nm,1.9s						
OBN	**Obninsk**	**37.14**	**63**	LR	LR	11 53 57.0	
	comp=Z,411nm,19.9s,baz=355,slow=34						
O48B	**Farmland**	**37.28**	**265**	P	**P**	**11 40 03.8**	**+0.2**
	baz=44						
A36M	**Sachs Harbour**	**37.43**	**329**	P	**P**	**11 40 04.2**	**-0.3**
A36M	**Sachs Harbour**	**37.43**	**329**	P	**P**	**11 40 04.6**	**0.0**
	baz=62						
P49A	**Miami Univ. Ec**	**37.56**	**264**	P	**P**	**11 40 05.8**	**-0.2**
P49A				IAmb	IAmb	11 40 13.6	
	comp=Z,31nm,1.3s						
P49A	**Miami Univ. Ec**	**37.56**	**264**	P	**P**	**11 40 06.7**	**+0.7**
	baz=44						
P48A	**Milroy**	**38.00**	**265**	P	**P**	**11 40 09.8**	**+0.1**
P48A				IAmb	IAmb	11 40 18.3	
	comp=Z,30nm,1.3s						
SPMN	**Marine on St.**	**38.01**	**278**	P	**P**	**11 40 09.6**	**-0.2**
FNA	**Florina**	**38.18**	**92**	P	**P**	**11 40 10.1**	**-1.2**
FNA				IAmb	IAmb	11 40 22.3	
	comp=Z,24nm,1.1s						
U54A	**Nelsons Funny**	**38.24**	**258**	P	**P**	**11 40 11.5**	**-0.5**
U54A				IAmb	IAmb	11 40 23.9	
	comp=Z,60nm,1.7s						
C36M	**Paulatuk**	**38.36**	**325**	P	**P**	**11 40 12.0**	**-0.4**
	baz=60						
V55A	**Taylorsville**	**38.43**	**257**	P	**P**	**11 40 13.9**	**+0.4**
V55A				IAmb	IAmb	11 40 28.7	
	comp=Z,54nm,1.5s						
YKA	**Yellowknife Ar**	**38.48**	**312**	P	**P**	**11 40 14.1**	**+0.5**
	comp=Z,6.8nm,1.0s,baz=58,slow=8.9,SNR=5.2						
YKA				LR	LR	11 55 29.5	
	comp=Z,1μm,18.8s,baz=76,slow=35						
	comp=Z,6.8nm,1.0s						
L42A	**Oliver, Polo**	**38.49**	**271**	P	**P**	**11 40 13.0**	**-0.9**
L42A				IAmb	IAmb	11 40 23.8	
	comp=Z,25nm,1.0s						
LIT	**Litokhoron**	**39.27**	**92**	P	**P**	**11 40 18.3**	**-2.1**
L40A	**Anamosa**	**39.28**	**273**	P	**P**	**11 40 19.1**	**-1.4**
L40A				IAmb	IAmb	11 40 29.4	
	comp=Z,19nm,0.9s						
WCI	**Wyandotte Cave**	**39.36**	**264**	P	**P**	**11 40 20.0**	**-1.2**
JSC	**Jenkinsville**	**39.66**	**255**	P	**P**	**11 40 22.8**	**-0.9**
JSC				IAmb	IAmb	11 40 26.3	
	comp=Z,53nm,1.7s						
BG3	**Lake Jocassee**	**39.99**	**258**	P	**P**	**11 40 25.9**	**-0.5**
BG3				IAmb	IAmb	11 40 39.1	
	comp=Z,38nm,1.5s						
N41A	**Harden Midland**	**40.03**	**271**	P	**P**	**11 40 25.7**	**-1.0**
N41A				IAmb	IAmb	11 40 31.0	
	comp=Z,26nm,1.1s						
T47A	**Sharon Grove**	**40.70**	**264**	P	**P**	**11 40 32.8**	**+0.5**
ECSD	**EROS Data Cent**	**41.03**	**279**	P	**P**	**11 40 34.4**	**-0.6**
SIUC	**Southern Illin**	**41.30**	**266**	P	**P**	**11 40 36.8**	**-0.5**
SIUC				IAmb	IAmb	11 42 10.0	
	comp=Z,30nm,1.4s						
P40A	**Paris**	**41.51**	**271**	P	**P**

comp=Z,11nm,1.0s,baz=287,slow=22,SNR=3.5
comp=Z,11nm,1.0s
E27K Coleen River 44.17 329 P P 11 41 01.1 +0.8
E27K IAmb IAmb 11 41 03.4
comp=Z,16nm,1.0s
E27K Coleen River 44.17 329 P P 11 41 00.2 0.0
baz=47,SNR=10
TAM Tamanrasset 44.50 125 P P 11 41 02.9 -0.6
TAM IAmb IAmb 11 41 07.9
comp=Z,15nm,1.1s
H29M Whitestone 44.58 326 P P 11 41 03.7 +0.2
baz=48
BBTS Babate 44.60 157 LR LR 11 55 54.4
comp=Z,238nm,20.7s,baz=288,slow=31
D25K Kavik River 44.64 332 P P 11 41 04.1 +0.2
D25K Kavik River 44.64 332 P P 11 41 04.3 +0.4
baz=45
I30M Mount Dempster 44.64 324 P P 11 41 05.1 +1.0
I30M IAmb IAmb 11 41 07.5
comp=Z,14nm,1.1s
I30M Mount Dempster 44.64 324 P P 11 41 03.6 -0.5
baz=48,SNR=10
LIRD Liard River Hi 44.83 314 P P 11 41 05.4 -0.2
baz=50
TOAD Toad River Com 44.85 313 P P 11 41 06.3 +0.6
baz=50
C24K Franklin Bluff 44.92 334 P P 11 41 06.3 +0.2
baz=43
U38A Gravette 45.03 269 P P 11 41 06.8 -0.7
U38A IAmb IAmb 11 42 07.2
comp=Z,35nm,1.8s
J30M Hart River 45.06 324 P P 11 41 07.8 +0.3
J30M IAmb IAmb 11 41 11.6
comp=Z,15nm,1.2s
J30M Hart River 45.06 324 P P 11 41 07.3 -0.2
baz=48,SNR=7.2
G27K Doyon Strip 45.14 328 P P 11 41 08.7 +0.7
G27K Doyon Strip 45.14 328 P P 11 41 07.7 -0.3
baz=46
F26K Sheenjek River 45.21 330 P P 11 41 09.4 +0.8
baz=45
C23K Itkillik River 45.29 334 P P 11 41 09.1 +0.1
baz=42
E25K Arctic Village 45.29 331 P P 11 41 09.8 +0.7
E25K Arctic Village 45.29 331 P P 11 41 08.6 -0.5
baz=44
D24K Happy Valley 45.36 333 P P 11 41 09.2 -0.5
baz=43
WTLY Watson Lake, Y 45.40 316 P P 11 41 10.9 +0.8
baz=49
H27K Steamboat Moun 45.51 327 P P 11 41 10.8 -0.1
baz=46,SNR=5.3
BMAR Burnt Mountain 45.52 330 P P 11 41 11.8 +0.9
BRTR Keskin Array B 45.53 83 P P 11 41 11.3 -0.2
BRTR Keskin Array B 45.53 83 P P 11 41 11.7 +0.1
comp=Z,2.8nm,0.9s,baz=330,slow=7.1,SNR=6.4
comp=Z,2.8nm,0.9s
B22K Teshekpuk Lake 45.54 336 P P 11 41 11.6 +0.6
baz=41
RLO Rose Lookout 45.58 270 P P 11 41 12.4 +0.7
RLO IAmb IAmb 11 41 14.8
comp=Z,14nm,0.9s
I28M Miner Creek 45.58 326 P P 11 41 12.6 +1.1
I28M IAmb IAmb 11 41 18.9
comp=Z,10.0nm,0.9s
I28M Miner Creek 45.58 326 P P 11 41 12.1 +0.5
baz=46,SNR=8.3
G26K Porcupine Rive 45.64 329 P P 11 41 12.5 +0.7
baz=45,SNR=6.7
FARO Faro, Yukon 45.64 320 P P 11 41 13.8 +1.8
FARO IAmb IAmb 11 41 25.0
comp=Z,23nm,1.4s
FARO Faro, Yukon 45.64 320 P P 11 41 13.5 +1.4
baz=48,SNR=7.7
F25K Christian Rive 45.69 330 P P 11 41 12.9 +0.6
baz=44
ELL Elmali 45.70 89 P P 11 41 13.7 +0.8
J29N Klondike Camp 45.74 324 P P 11 41 14.2 +1.3
J29N IAmb IAmb 11 41 21.2
comp=Z,13nm,0.9s
J29N Klondike Camp 45.74 324 P P 11 41 13.3 +0.5
baz=46
SABA Saba 45.74 222 P P 11 41 13.9 +0.7
T35A Sooner Cattle 45.82 272 P P 11 41 13.0 -0.7
TOLK Toolik Lake Re 45.93 333 P P 11 41 14.9 +0.7
TOLK IAmb IAmb 11 41 43.3
comp=Z,29nm,1.5s
TOLK Toolik Lake Re 45.93 333 P P 11 41 14.6 +0.5
baz=42
K29M Barlow Dome 45.94 323 P P 11 41 14.6 +0.2
K29M IAmb IAmb 11 41 22.9
comp=Z,12nm,1.2s
K29M Barlow Dome 45.94 323 P P 11 41 14.3 -0.2
baz=46
D23K Nanushuk River 45.95 334 P P 11 41 15.2 +0.9
D23K Nanushuk River 45.95 334 P P 11 41 15.1 +0.7
baz=42
I27K Kandik River 45.98 327 P P 11 41 14.6 0.0
baz=45
MIAR Mount Ida 46.01 267 P P 11 41 16.7 +1.5
MIAR IAmb IAmb 11 41 27.8
comp=Z,18nm,1.3s
M31M Drury Creek, Y 46.02 320 P P 11 41 14.6 -0.4
baz=47
E24K Your Creek 46.08 332 P P 11 41 17.4 +2.1
E24K IAmb IAmb 11 41 18.9
comp=Z,15nm,1.3s
E24K Your Creek 46.08 332 P P 11 41 15.4 0.0
baz=42
TUL3 Leonard 46.18 270 P P 11 41 16.4 -0.1
ARTI Arti 46.18 50 P P 11 41 16.4 +0.1
ARTI IAmb IAmb 11 41 17.6
comp=Z,13nm,0.9s
N32M Quiet Lake 46.28 319 P P 11 41 18.1 +1.1
baz=47
F24K Squaw Lake 46.33 331 P P 11 41 18.0 +0.6
F24K IAmb IAmb 11 41 21.6
comp=Z,14nm,1.2s
F24K Squaw Lake 46.33 331 P P 11 41 18.1 +0.7
baz=42
B21K Ikpikpuk River 46.36 336 P P 11 41 17.1 -0.4
baz=39
E23K Chandalar 46.37 332 P P 11 41 16.5 -1.2
baz=42
NRIK Noril'sk 46.37 25 P P 11 41 17.0 -0.6
NRIK IAmb IAmb 11 41 19.3
comp=Z,15nm,1.7s
NRIK Noril'sk 46.37 25 P P 11 41 17.8 +0.2
comp=Z,3.6nm,0.9s,baz=325,slow=6.8,SNR=4.1
comp=Z,3.6nm,0.9s
DAWY Dawson 46.38 324 P P 11 41 18.9 +1.1
DAWY Dawson 46.38 324 P P 11 41 18.2 +0.4
baz=46,SNR=10
SJG San Juan 46.38 226 LR LR 12 00 15.3
comp=Z,60nm,18.3s,baz=316,slow=36
G25K Bearman Lake 46.41 330 P P 11 41 18.0 +0.1
baz=43
EGAK Eagle 46.42 326 P P 11 41 18.2 +0.1
EGAK IAmb IAmb 11 41 21.4
comp=Z,9.5nm,0.9s
EGAK Eagle 46.42 326 P P 11 41 17.9 -0.1
baz=45
D22K Ayikyak River 46.49 334 P P 11 41 17.6 -1.0
baz=40
M30M Minto, Yukon 46.58 322 P P 11 41 19.1 -0.3
baz=46
B20K Meade River 46.61 337 P P 11 41 18.5 -0.9
baz=38
I26K Coal Creek Min 46.64 327 P P 11 41 20.7 +1.0
baz=44
L29M L29M 46.65 323 P P 11 41 19.6 -0.3
baz=46
H25L Birch Creek 46.70 329 P P 11 41 20.4 +0.2
baz=43
R33M Jennings River 46.70 316 P P 11 41 20.9 +0.4
baz=47
C21K Knifeblade Rid 46.76 335 P P 11 41 21.0 +0.4
baz=39
G24K Hadweenzic Riv 46.83 330 P P 11 41 22.8 +1.6
G24K IAmb IAmb 11 41 25.4
comp=Z,12nm,1.1s
G24K Hadweenzic Riv 46.83 330 P P 11 41 21.6 +0.4
baz=42,SNR=6.0
E22K Anaktuvuk Pass 46.86 333 P P 11 41 21.8 +0.3
E22K IAmb IAmb 11 41 24.9
comp=Z,13nm,1.2s
E22K Anaktuvuk Pass 46.86 333 P P 11 41 21.8 +0.3
baz=40
N31M Braeburn, Yuko 46.99 320 P P 11 41 23.3 +0.7
N31M Braeburn, Yuko 46.99 320 P P 11 41 23.4 +0.7
baz=46
E21K Killik River 47.13 334 P P 11 41 24.7 +1.1
baz=39
COLD Coldfoot 47.15 332 P P 11 41 24.5 +0.8
baz=41
YNE Yellowstone No 47.15 290 P P 11 41 24.8 +0.5
YNE IAmb IAmb 11 41 28.0
comp=Z,11nm,1.0s
OK029 Liberty Lake 47.16 271 P P 11 41 24.2 0.0
OK029 IAmb IAmb 11 41 27.2
comp=Z,16nm,1.1s
PRP Porcupine Dome 47.17 328 P P 11 41 24.3 +0.2
baz=43
M29M Somme Creek 47.23 322 P P 11 41 24.9 +0.4
M29M Somme Creek 47.23 322 P P 11 41 24.9 +0.4
baz=45,SNR=9.0
K27K Chicken 47.24 325 P P 11 41 24.5 +0.1
baz=44
W35A Tecumseh 47.33 270 P P 11 41 26.5 +1.0
BNN Bunyan 47.34 82 P P 11 41 26.0 +0.3
J26L Joseph Creek 47.34 327 P P 11 41 25.9 +0.5
J26L IAmb IAmb 11 41 51.9
comp=Z,13nm,1.4s
J26L Joseph Creek 47.34 327 P P 11 41 26.1 +0.7
baz=43
F22K John River 47.43 333 P P 11 41 26.1 +0.2
baz=40
G23K Bananza Creek 47.49 331 P P 11 41 27.4 +1.0
G23K IAmb IAmb 11 41 30.0
comp=Z,10nm,1.1s
G23K Bananza Creek 47.49 331 P P 11 41 27.6 +1.1
baz=41
D20K Etivluk River 47.52 336 P P 11 41 27.2 +0.6
baz=38
KBZ Khabaz 47.55 72 P P 11 41 28.1 +1.0
comp=Z,2.0nm,0.8s,baz=334,slow=7.2,SNR=4.3
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 47.56 291 P P 11 41 28.5 +1.1
H24K Noodor Dome 47.59 330 P P 11 41 28.8 +1.7
H24K IAmb IAmb 11 41 30.6
comp=Z,9.0nm,1.1s
H24K Noodor Dome 47.59 330 P P 11 41 27.8 +0.7
baz=41
O30N Mendenhall 47.61 320 P P 11 41 27.9 +0.5
baz=45
E20K Nigu River 47.79 335 P P 11 41 29.2 +0.5
baz=38
J25K Salcha River, 47.79 327 P P 11 41 29.7 +0.8
J25K IAmb IAmb 11 41 32.9
comp=Z,20nm,1.4s
J25K Salcha River, 47.79 327 P P 11 41 29.7 +0.8
baz=42,SNR=5.8
C19K Lookout Ridge 47.85 337 P P 11 41 28.2 -1.0
baz=36
MSO Missoula 47.85 294 P P 11 41 29.8 +0.2
MSO IAmb IAmb 11 41 46.2
comp=Z,20nm,1.4s
SCRK Sand Creek 47.86 326 P P 11 41 30.1 +0.7
baz=43
L27K Beaver Creek, 47.86 324 P P 11 41 28.5 -0.9
baz=43
YFT Old Faithful 47.96 290 P P 11 41 30.0 -0.6
N23A Red Feather La 47.96 283 P P 11 41 29.3 -1.4
baz=44
F21K Alatna River 47.97 333 P P 11 41 30.4 +0.3
baz=39,SNR=5.5
POKR Poker Plat Res 48.00 329 P P 11 41 31.3 +0.9
POKR IAmb IAmb 11 41 34.6
comp=Z,17nm,1.1s
POKR Poker Plat Res 48.00 329 P P 11 41 31.0 +0.6
baz=41,SNR=6.2
D19K Kuna River 48.03 336 P P 11 41 30.6 +0.1
baz=36
H23K Yukon River 48.04 330 P P 11 41 30.1 -0.6
baz=40
HYT Haines Junctio 48.06 320 P P 11 41 31.5 +0.5
HYT IAmb IAmb 11 41 44.5
comp=Z,16nm,1.1s
HYT Haines Junctio 48.06 320 P P 11 41 30.2 -0.8
baz=44
YUK4 Talbot Arm 48.07 321 P P 11 41 31.2 0.0
baz=44
T35M Bob Quinn 48.09 313 P P 11 41 31.5 +0.3
baz=46
IL31 48.11 328 P P 11 41 31.6 +0.4
IL31 IAmb IAmb 11 41 35.0
comp=Z,11nm,1.1s
ILAR Eielson Array 48.11 328 P P 11 41 32.4 +1.1
comp=Z,7.2nm,1.0s,baz=36,slow=6.2,SNR=20
ILAR PcP **PcP 11 42 58.8 +0.2**
comp=Z,3.3nm,0.8s,baz=2.2,slow=2.1,SNR=12
comp=Z,7.2nm,1.0s
SKAG Skagway 48.26 318 P P 11 41 33.6 +1.2
baz=45
COLA College 48.30 329 P P 11 41 32.6 0.0
baz=41
YUK3 Moose Creek 48.36 323 P P 11 41 32.8 -0.7
baz=43
L26K Log Cabin Wild 48.36 325 P P 11 41 33.1 -0.1
baz=42
M27K Edge Creek, AK 48.40 324 P P 11 41 34.2 +0.6
baz=43
NEW Newport 48.40 297 LR LR 12 01 01.3
comp=Z,610nm,18.2s,baz=54,slow=35
HDA Harding Lake 48.40 328 P P 11 41 33.4 0.0
HDA Harding Lake 48.40 328 P P 11 41 33.9 +0.5
baz=41
MOOW Moose Ponds 48.41 289 P P 11 41 33.2 -0.9
MOOW IAmb IAmb 11 41 41.4
comp=Z,16nm,1.6s
LOHW Long Hollow 48.44 289 P P 11 41 34.2 -0.1
LOHW IAmb IAmb 11 41 36.3
comp=Z,21nm,1.6s
H22K Ishtalitna Cre 48.47 331 P P 11 41 34.1 +0.1
baz=39
YUK8 Steele Glacier 48.49 322 P P 11 41 34.6 +0.1
baz=44
PDAR Pinedale Array 48.50 287 P P 11 41 35.1 +0.3
comp=Z,3.3nm,0.9s,baz=61,slow=7.4,SNR=5.8
comp=Z,3.3nm,0.9s
G21K Allakaket 48.53 333 P P 11 41 34.3 -0.1
baz=38
C18K Utukok River 48.56 337 P P 11 41 34.6 -0.1
baz=34
FXWY Fox Creek 48.63 289 P P 11 41 36.1 +0.3
FXWY IAmb IAmb 11 41 38.1
comp=Z,24nm,1.7s
PLBC Pleasant Camp 48.64 319 P P 11 41 35.3 0.0
baz=44
F20K Avaraart Lake 48.65 334 P P 11 41 35.1 -0.2
baz=37
E19K Redstone River 48.67 335 P P 11 41 36.6 +1.2
E19K Redstone River 48.67 335 P P 11 41 35.2 -0.2
baz=36,SNR=6.9
WMOK Wichita Mounta 48.67 272 P P 11 41 36.6 +0.7
WMOK IAmb IAmb 11 41 45.2
comp=Z,14nm,1.1s
M26K Nabesna, AK 48.72 324 P P 11 41 35.9 -0.1
M26K IAmb IAmb 11 41 40.4
comp=Z,14nm,1.1s
M26K Nabesna, AK 48.72 324 P P 11 41 35.0 -0.9
baz=42
O29M Mount Kennedy 48.80 320 P P 11 41 36.8 0.0
baz=44
NEA2 Nenana 48.86 329 P P 11 41 37.6 +0.6
baz=40
Q24A Divide 48.94 280 P P 11 41 37.9 -0.4
baz=43
P29M Windy Craggy 49.00 319 P P 11 41 38.3 +0.1
baz=44
O28M Mount Upton 49.01 322 P P 11 41 37.9 -0.6
baz=43
IMAR Indian Mountai 49.01 332 P P 11 41 39.5 +1.4
H21K Melozitna Rive 49.03 332 P P 11 41 37.6 -0.7
baz=38
PAX Paxson 49.05 326 P P 11 41 37.0 -1.6
baz=41
I21K Tanana 49.19 331 P P 11 41 41.1 +1.6
I21K IAmb IAmb 11 41 48.8
comp=Z,23nm,1.4s
CTG Chitna Glacier 49.25 322 P P 11 41 39.7 -0.5
baz=42
F19K Shaleruckik Mo 49.30 335 P P 11 41 41.8 +1.5
F19K Shaleruckik Mo 49.30 335 P P 11 41 39.6 -0.7
baz=36
B08A Colville Reser 49.38 299 P P 11 41 41.7 +0.5
E18K Tukpahlearik C 49.45 336 P P 11 41 40.2 -1.3
baz=34
MCARA McCarthy VSAT 49.48 323 P P 11 41 40.2 -1.6
baz=42
MCK McKinley 49.48 328 P P 11 41 42.1 +0.3
baz=40,SNR=6.2
RTBA Rita Blanca 49.52 276 P P 11 41 43.5 +1.0
PINM Pinnacle 49.52 321 P P 11 41 41.6 -0.6
baz=42
H20K Anotleneega Mo 49.69 332 P P 11 41 42.9 -0.4
baz=37,SNR=5.4
G19K Purcell Mounta 49.70 334 P P 11 41 43.9 +0.5
G19K Purcell Mounta 49.70 334 P P 11 41 42.9 -0.5
baz=36
RND Reindeer 49.71 328 P P 11 41 43.5 -0.1
RND IAmb IAmb 11 41 46.9
comp=Z,12nm,1.0s
BPAW Bear Paw Mtn. 49.77 329 P P 11 41 43.1 -0.8
baz=38
V35K Ketchikan 49.80 312 P P 11 41 44.2 0.0
baz=44
N25K Chitina, Valde 49.81 324 P P 11 41 45.6 +1.2
N25K IAmb IAmb 11 41 48.4
comp=Z,20nm,1.1s
N25K Chitina, Valde 49.81 324 P P 11 41 43.4 -1.0
baz=41,SNR=6.5
ISLE Juniper Island 49.84 322 P P 11 41 44.9 +0.2
TGL Tana Glacier 49.89 323 P P 11 41 46.1 +1.0
T25A Trinidad 49.90 278 P P 11 41 46.5 +1.0
T25A IAmb IAmb 11 41 49.8
comp=Z,10.0nm,1.0s
T25A Trinidad 49.90 278 P P 11 41 44.1 -1.4
baz=42
M24K Tolsona, Glenn 49.92 326 P P 11 41 44.6 -0.6
baz=40
CRQE Cirque 49.98 323 P P 11 41 45.3 -0.5
baz=41
CRQM Cirque 49.99 323 P P 11 41 46.9 +1.0
E17K Hotham Inlet 50.00 337 P P 11 41 44.1 -1.5
baz=33
SDCO Great Sand Dun 50.03 280 P P 11 41 46.1 -0.5
WAT6 Susitna Watana 50.03 327 P P 11 41 44.3 -1.8
baz=40
H19K Roundabout Mou 50.05 333 P P 11 41 44.4 -1.6
baz=36
WAT1 Susitna Watana 50.07 327 P P 11 41 44.7 -1.6
baz=39
TRF Thorofare Moun 50.09 329 P P 11 41 46.5 -0.1
baz=39
RDMU Red Mountain 50.09 285 P P 11 41 47.6 +0.6
PLID Pearl Lake 50.10 294 P P 11 41 47.6 +0.6
D08A Wollman Farm, 50.11 297 P P 11 41 47.5 +0.8
AMTX Amarillo 50.12 274 P P 11 41 47.6 +0.6
AMTX IAmb IAmb 11 41 56.7
comp=Z,27nm,1.2s
G18K Tagagawik 50.27 334 P P 11 41 47.6 -0.1
baz=35
BMRM Bremner River 50.30 324 P P 11 41 48.3 +0.2
baz=41
KLU Klutina 50.31 325 P P 11 41 47.5 -0.7
KLU IAmb IAmb 11 42 06.2
comp=Z,15nm,1.1s
KLU Klutina 50.31 325 P P 11 41 47.6 -0.7
baz=40
APMT Aspermont 50.46 271 P P 11 41 49.5 -0.2
TIXI Tiksi 50.47 7 P P 11 41 49.1 +0.1
TIXI IAmb IAmb 11 41 52.6
comp=Z,12nm,0.9s
J20K Nowinta River 50.56 331 P P 11 41 50.7 +0.7
J20K Nowinta River 50.56 331 P P 11 41 50.6 +0.7
baz=37
CAST Castle Rocks 50.61 329 P P 11 41 50.4 +0.1
CAST Castle Rocks 50.61 329 P P 11 41 49.7 -0.6
baz=38
BBB Bella Bella 50.62 307 LR LR 12 01 45.8
comp=Z,246nm,19.9s,baz=351,slow=34
M23K Glacier View 50.63 326 P P 11 41 50.3 -0.2
baz=39
DKNS Dickens 50.64 272 P P 11 41 52.7 +1.7
DKNS IAmb IAmb 11 41 54.9
comp=Z,15nm,1.0s
S22A 4UR Ranch, Cre 50.73 281 P P 11 41 51.5 -0.5
S22A 4UR Ranch, Cre 50.73 281 P P 11 41 52.1 +0.2
baz=42
ABTX Abilene, Hawle 50.74 270 P P 11 41 52.0 +0.2
ABTX IAmb IAmb 11 42 04.5
comp=Z,30nm,1.4s
HKT Hockley 50.76 265 P P 11 41 53.1 +1.3
HKT IAmb IAmb 11 42 14.7
comp=Z,20nm,1.4s
LTY Liberty 50.80 299 P P 11 41 51.9 -0.1
LTY IAmb IAmb 11 43 13.7
comp=Z,42nm,1.9s
SML Sawmill 50.80 326 P P 11 41 53.0 +1.1
SML IAmb IAmb 11 41 55.9
comp=Z,23nm,1.1s
SML Sawmill 50.80 326 P P 11 41 52.4 +0.5
baz=39
H18K Honhosa River 50.82 334 P P 11 41 51.9 +0.1
baz=34
CUT Chulitna 50.90 328 P P 11 41 51.8 -0.7
baz=38
BMO Blue Mountains 50.91 294 P P 11 41 54.0 +1.1
PPLA Purkeypile 51.06 329 P P 11 41 53.8 -0.1
baz=37
G17K Kiwalik Mounta 51.06 335 P P 11 41 53.4 -0.2
baz=33
J19K Poorman 51.09 331 P P 11 41 52.5 -1.4
baz=36
KNK Knik Glacier 51.15 326 P P 11 41 54.3 -0.1
baz=39
K20K Telida 51.20 330 P P 11 41 54.4 -0.4
baz=36
PMR Palmer 51.21 327 P P 11 41 54.8 +0.1
baz=38
POST Post 51.41 272 P P 11 41 56.4 -0.3
BRDY Brady 51.43 269 P P 11 41 57.9 +1.1
G16K Koyuk River 51.54 336 P P 11 41 56.8 -0.5
baz=32
PWL Port Wells 51.55 326 P P 11 41 56.7 -0.7
baz=38
TORD Torodi Ar. Bea 51.56 135 P P 11 41 56.9 -1.0
comp=Z,8.0nm,1.0s,baz=341,slow=10,SNR=14
comp=Z,8.0nm,1.0s
MPU Maple Canyon 51.57 286 P P 11 41 58.3 +0.2
SKT Skwentna 51.60 328 P P 11 41 58.4 +0.6
SKT IAmb IAmb 11 42 00.8
comp=Z,13nm,1.0s
SKT Skwentna 51.60 328 P P 11 41 57.2 -0.6
baz=37
SRU San Rafael Swe 51.66 284 P P 11 41 58.6 -0.2
F15K North Star Dit 51.77 337 P P 11 41 58.7 -0.3
baz=31
RC01 Rabbit Creek A 51.79 326 P P 11 41 59.7 +0.5
RC01 IAmb IAmb 11 42 03.4
comp=Z,19nm,1.1s
RC01 Rabbit Creek A 51.79 326 P P 11 41 59.5 +0.4
baz=38
SUA Susitna One 51.79 327 P P 11 41 59.0 -0.3
SUA Susitna One 51.79 327 P P 11 41 59.3 0.0
baz=37
J18K Innoko River 51.80 332 P P 11 41 58.6 -0.6
baz=35
L20K Farewell, AK 51.86 330 P P 11 41 58.9 -0.9
baz=36
P23K Montague Islan 51.94 324 P P 11 41 59.8 -0.4
baz=38
MVCO Mesa Verde 52.01 281 P P 11 42 01.4 -0.1
MVCO IAmb IAmb 11 42 06.0
comp=Z,21nm,1.3s
TTA Tatalina 52.06 331 P P 11 42 00.2 -1.0
baz=35
SGCY Sterling City 52.09 271 P P 11 42 02.9 +1.0
SGCY IAmb IAmb 11 42 06.0
comp=Z,23nm,1.0s
H16K Elim 52.16 335 P P 11 42 01.2 -0.6
baz=32
F14K Arctic Creek 52.33 337 P P 11 42 02.8 -0.3
baz=30
L19K White Mountain 52.37 330 P P 11 42 02.9 -0.6
baz=35
SPU Mount Spurr 52.39 328 P P 11 42 05.0 +1.3
SPU IAmb IAmb 11 42 07.7
comp=Z,23nm,1.5s

N20K Mount Spurr 52.42 328 P P 11 42 02.3 -1.7
baz=36
SPCR Spurr Chakacha 52.42 328 P P 11 42 02.6 -1.4
baz=36
J17K VABM Dome 52.45 333 P P 11 42 02.3 -1.7
baz=33
SEW Seward 52.48 326 P P 11 42 03.6 -0.7
baz=37
JCT Junction City 52.49 269 IAmb IAmb 11 42 08.0
comp=Z,15nm,0.9s
J08A Circle Bar Ran 52.58 294 P P 11 42 06.2 +0.8
ANMO Albuquerque 52.63 278 LR LR 12 03 29.4
comp=Z,530nm,19.3s,baz=213,slow=35
HMU Henry Mountain 52.65 284 P P 11 42 06.6 +0.4
L18K Granite Mounta 52.83 331 IAmb IAmb 11 42 10.0
comp=Z,13nm,1.1s
L18K Granite Mounta 52.83 331 P P 11 42 05.2 -1.6
baz=34
OZNA Ozona 52.86 270 IAmb IAmb 11 42 12.5
comp=Z,14nm,1.1s
MVU Marysvale 52.99 285 P P 11 42 09.1 +0.4
N19K Bonanza Creek 53.38 329 P P 11 42 09.9 -1.2
baz=35
BVAR Borovoye Array 53.46 47 P P 11 42 12.0 +0.4
comp=Z,10nm,0.9s,baz=310,slow=5.6,SNR=16
comp=Z,10nm,0.9s
J05D Fort Rock, OR 53.98 296 P P 11 42 15.6 -0.2
J05D IAmb IAmb 11 42 20.1
comp=Z,24nm,1.3s
KNB Kanab 54.43 284 IAmb IAmb 11 42 36.0
comp=Z,25nm,1.4s
U15A North Rim 54.60 284 P P 11 42 21.6 +1.1
LCMT Little Creek M 54.65 285 P P 11 42 22.1 +1.3
LCMT IAmb IAmb 11 42 36.6
comp=Z,32nm,1.8s
R11B Troy Canyon, C 54.85 288 P P 11 42 21.5 -0.8
baz=41
121A Cookes Peak, D 55.19 277 P P 11 42 24.8 0.0
baz=39
P17K Kvichak River 55.28 328 P P 11 42 24.4 -0.4
baz=33
DBIC Dimbokro 55.32 145 P P 11 42 25.2 -0.4
DBIC Dimbokro 55.32 145 P P 11 42 25.1 -0.4
comp=Z,9.9nm,0.9s,baz=23,slow=5.8,SNR=5.2
DBIC LR LR 12 03 20.4
comp=Z,321nm,19.9s,baz=12,slow=33
comp=Z,9.9nm,0.9s
KDAK Kodiak Island 55.32 325 P P 11 42 24.1 -1.0
baz=35
N15K Kwethluk River 55.45 331 P P 11 42 25.2 -0.7
baz=31
TXAR Lajitas Array 55.47 271 P P 11 42 26.9 +0.2
comp=Z,2.2nm,1.0s,baz=46,slow=5.2,SNR=5.9
comp=Z,2.2nm,1.0s
BAUV El Baul 55.49 223 P P 11 42 27.3 +0.5
KVN Kaiserville 55.61 290 P P 11 42 28.2 +0.5
KVN IAmb IAmb 11 42 40.4
comp=Z,8.5nm,1.0s
X16A Lo Mia Camp, P 55.69 281 P P 11 42 28.3 0.0
X16A IAmb IAmb 11 42 32.4
comp=Z,16nm,1.4s
PAHR Pah Rah Range 55.76 291 P P 11 42 28.7 0.0
PAHR IAmb IAmb 11 42 32.9
comp=Z,12nm,1.1s
YBH Yreka Blue Hor 55.87 295 LR LR 12 05 32.5
comp=Z,315nm,19.2s,baz=60,slow=35
NVAR Mina Array Bea 56.18 290 P P 11 42 32.4 +0.6
comp=Z,0.5nm,0.7s,baz=40,slow=7.1,SNR=3.4
NVAR LR LR 12 04 44.3
comp=Z,298nm,19.0s,baz=80,slow=34
comp=Z,0.5nm,0.7s
MZP Montezuma Peak 56.27 288 P P 11 42 32.4 -0.2
MPK Martis Peak 56.39 292 P P 11 42 34.2 +0.8
V12A Nelson 56.47 285 IAmb IAmb 11 42 36.7
comp=Z,32nm,1.8s
O14K Tigyukauivet M 56.54 331 P P 11 42 32.4 -1.4
baz=30
R17L Mt. Peulik Vol 56.57 327 P P 11 42 32.2 -1.9
baz=33
ZALV Zalesovo Beam 57.97 38 P P 11 42 43.5 -0.5
comp=Z,0.6nm,0.3s,baz=352,slow=8.7,SNR=2.1
comp=Z,0.6nm,0.3s
KURK Kurchatov 58.43 44 P P 11 42 47.5 +0.3
KURK IAmb IAmb 11 42 49.6
comp=Z,7.6nm,0.8s
KURBB Kurchatov Arra 58.48 44 P P 11 42 48.0 +0.5
comp=Z,4.7nm,0.2s,baz=322,slow=7.2,SNR=15
comp=Z,4.7nm,0.2s
CCAC Calif City Air 58.55 287 P P 11 42 48.5 +0.1
PFO Pinyon Flats O 58.94 285 P P 11 42 52.2 +1.0
PFO IAmb IAmb 11 42 55.4
comp=Z,8.5nm,1.1s
PFO Pinyon Flats O 58.94 285 LR LR 12 06 49.3
comp=Z,380nm,18.1s,baz=48,slow=34
TPFO Pinon Flats 58.95 285 P P 11 42 51.2 0.0
baz=38
HSIG 59.62 277 P P 11 42 56.4 +0.6
HSIG IAmb IAmb 11 42 59.4
comp=Z,14nm,1.2s
SEY Seymchan 59.77 357 P P 11 42 58.0 +1.7
comp=Z,6.3nm,1.0s,baz=5.0,slow=8.2,SNR=4.1
comp=Z,6.3nm,1.0s
ZAIG Zacatecas 60.10 266 P P 11 43 00.4 +0.8
ZAIG IAmb IAmb 11 43 07.0
comp=Z,8.4nm,1.0s
MTO3 Montecristo 60.13 248 P P 11 42 60.0 +0.3
MTO3 IAmb IAmb 11 43 05.4
comp=Z,9.6nm,1.0s
ROSC El Rosal 61.67 228 P P 11 43 09.9 -0.5
ROSC El Rosal 61.67 228 P P 11 43 10.6 +0.3
comp=Z,6.6nm,0.3s,baz=56,slow=5.9,SNR=7.0
ROSC LR LR 12 08 32.0
comp=Z,91nm,20.5s,baz=52,slow=35
comp=Z,6.6nm,0.3s
MAKZ Makanchi 62.91 44 P P 11 43 17.8 -0.1
MAKZ IAmb IAmb 11 43 19.2
comp=Z,7.5nm,1.1s
MK31 Makanchi Array 63.04 44 P P 11 43 18.9 +0.1
MKAR Makanchi Array 63.04 44 P P 11 43 18.8 0.0
MKAR Makanchi Array 63.04 44 P P 11 43 19.1 +0.4
comp=Z,3.0nm,0.7s,baz=334,slow=5.4,SNR=16
comp=Z,3.0nm,0.7s
AAK Ala-Archa 63.36 52 P P 11 43 20.9 -0.2
ARSB Arslanbob 63.78 54 P P 11 43 23.9 0.0
SIMJ Simiganj 64.17 58 P P 11 43 26.7 +0.2
SIMJ IAmb IAmb 11 43 28.2
comp=Z,5.5nm,0.8s
CHGR Chuyangaron 64.24 58 P P 11 43 27.7 +0.8
KSH Kashi 66.56 53 P P 11 43 42.8 +0.9
KSH sP pwP 11 43 52.0 +3.2
KSH pmax pmax
comp=Z,19nm,1.0s
H10N2 ASCENSION HYDR 66.90 160 T T 12 56 05.1
baz=349,slow=74
H10N3 ASCENSION HYDR 66.91 160 T T 12 56 05.2
baz=349
H10N1 ASCENSION HYDR 66.92 160 T T 12 56 06.6
baz=349,slow=74
OTAV Otavalo 67.53 230 P P 11 43 50.0 +1.3
OTAV IAmb IAmb 11 43 56.0
comp=Z,12nm,1.1s
WMQ Urumqi 67.57 42 *e*P **P 11 43 51.4 +3.2**
H10S3 ASCENSION HYDR 67.97 160 T T 12 57 24.7
baz=349,slow=74,SNR=29
H10S2 ASCENSION HYDR 67.98 160 T T 12 57 25.5
baz=231,slow=74,SNR=37
TBTG Tabatinga, AM 68.33 220 P P 11 43 54.0 +0.9
SONM Songino Array 69.74 28 P P 11 44 01.7 0.0
comp=Z,6.5nm,0.9s,baz=332,slow=6.8,SNR=14
comp=Z,6.5nm,0.9s
ULN Ulaanbaatar 69.87 27 P P 11 44 03.8 +1.2
ULN IAmb IAmb 11 44 04.6
comp=Z,15nm,1.1s
NIL Nilore 70.24 58 P P 11 44 05.1 +0.2
NIL IAmb IAmb 11 44 06.3
comp=Z,14nm,1.1s
SAML Samuel 70.70 212 P P 11 44 07.4 -0.3
HEH HeiHe 71.36 13 *e*P **P 11 44 11.5 +0.1**
HEH pmax pmax
comp=Z,10.0nm,1.2s
ETMB Extrema 72.41 214 P P 11 44 17.9 -0.1
ETMB IAmb IAmb 11 44 18.6
comp=Z,11nm,1.1s
CZSB Cruzeiro do Su 72.61 221 P P 11 44 17.9 -1.4
VILB Vilhena 73.73 208 P P 11 44 25.7 -0.2
BDFB Brasilia 73.97 195 P P 11 44 28.2 +0.9
BDFB IAmb IAmb 11 44 29.1
comp=Z,12nm,1.0s
BDFB Brasilia 73.97 195 P P 11 44 27.9 +0.6
comp=Z,6.1nm,0.8s,baz=98,slow=2.6,SNR=9.3
comp=Z,6.1nm,0.8s
GTA Gaotai 75.62 36 *e*P **P 11 44 37.3 +0.5**
GTA pmax pmax
comp=Z,8.0nm,1.1s
LODK Lodwar 75.66 107 P P 11 44 37.8 +0.6
BNX BinXian 75.79 14 ⇑P **P 11 44 37.7 +0.2**
BNX pmax pmax
comp=Z,9.0nm,0.9s
PTLB Pontes e Lacer 75.88 206 P P 11 44 38.8 +0.6
MDJ Mudanjiang 77.17 13 P P 11 44 45.2 -0.1
MDJ pmax pmax
comp=Z,8.0nm,1.2s
BTO Baotou 77.42 28 *e*P **P 11 44 47.1 +0.2**
BTO pmax pmax
comp=Z,40nm,0.9s
BTO pmax pmax
comp=Z,800nm,11.4s
CN2 Changchun 77.42 16 *e*P **P 11 44 42.0 -4.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HHC Hu-ho-hao-te 77.57 27 *e*P **P 11 44 47.8 0.0**
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,150nm,4.9s
USRK Ussuriysk Ar. 77.85 11 P P 11 44 50.0 +0.9
comp=Z,2.0nm,0.8s,baz=347,slow=11,SNR=4.1
comp=Z,2.0nm,0.8s
LPAZ La Paz 79.10 214 P P 11 44 56.5 -0.4
LPAZ La Paz 79.10 214 P P 11 44 57.1 +0.2
comp=Z,2.7nm,1.0s,baz=33,slow=7.8,SNR=6.1
comp=Z,2.7nm,1.0s
LZH Lanzhou 79.92 34 ⇑P **P 11 45 01.9 +1.0**
LZH pP sP 11 45 06.5 -0.2
LZH pmax pmax
comp=Z,21nm,1.5s
AQDB Aquidauana 80.00 201 P P 11 45 01.5 +0.5
AQDB IAmb IAmb 11 45 03.2
comp=Z,21nm,1.2s
KMBO Kilima Mbogo 80.50 107 P P 11 45 04.1 -0.2
comp=Z,1.0nm,0.3s,baz=154,slow=23,SNR=1.9
comp=Z,1.0nm,0.3s
HNS HongShan 81.59 25 ⇑P **P 11 45 11.0 +1.5**
HNS pmax pmax
comp=Z,15nm,1.3s
KIBK Kibwezi 81.94 107 P P 11 45 12.2 +0.5
KIBK IAmb IAmb 11 45 20.4
comp=Z,13nm,1.4s
GO01 Chusmiza 82.61 214 P P 11 45 16.4 +0.8
GO01 IAmb IAmb 11 45 17.3
comp=Z,11nm,0.9s
PB11 IPOC Station P 82.84 214 P P 11 45 16.9 +0.7
TIA Tai'an 83.28 24 P P 11 45 19.0 +0.6
TIA pmax pmax
comp=Z,12nm,1.0s
XAN Xi'an 83.31 31 ⇓P **P 11 45 19.1 +0.5**
XAN pP PcP 11 45 23.5 +0.4
XAN pmax pmax
comp=Z,9.0nm,0.8s
KS19 Wonju Array Si 83.95 15 P P 11 45 22.6 +0.7
KSRS Korea Array 84.01 15 P P 11 45 22.6 +0.5
comp=Z,4.4nm,0.8s,baz=349,slow=5.3,SNR=18
comp=Z,4.4nm,0.8s
LVC Limon Verde 85.30 213 P P 11 45 30.5 +1.5
PB06 IPOC Station P 85.59 213 P P 11 45 30.1 -0.1
CPUP Villa Florida 86.02 202 P P 11 45 31.8 -0.2
CPUP Villa Florida 86.02 202 P P 11 45 31.6 -0.5
comp=Z,4.3nm,0.9s,baz=22,slow=5.6,SNR=7.1
comp=Z,4.3nm,0.9s
NJ2 Nanjing 87.66 24 *e*P **P 11 45 38.7 -1.5**
NJ2 pmax pmax
comp=Z,12nm,1.2s
PZH PanZhiHua 88.09 39 P P 11 45 42.7 +0.1
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,180nm,4.7s
LCO Las Campanas 91.86 212 P P 11 46 00.9 +0.9
CO01 Juntas del Tor 92.59 212 P P 11 46 04.4 +1.1
CMAR Chiang Mai Arr 94.44 45 P P 11 46 12.3 +0.3
comp=Z,0.5nm,0.3s,baz=317,slow=4.6,SNR=4.6
comp=Z,0.5nm,0.3s
TAOE Nuku Hiva Isla 106.57 280 *e*LR LR 12 22 16.5
comp=Z,187nm,28.0s
PPT2 Papeete2 118.84 283 *e*LR LR 12 27 58.9
comp=Z,164nm,25.2s
WRA Warramunga Arr 141.31 19 PKhKP PKPpre 11 52 15.0
comp=Z,1.5nm,1.1s,baz=348,slow=2.1,SNR=4.3
WRA PKP **PKPdf 11 52 23.1 +0.6**
comp=Z,1.4nm,0.9s,baz=350,slow=2.2,SNR=6.6
DZM Mont Dzumac 141.81 330 *e*LR LR 12 38 35.8
comp=Z,226nm,22.1s
MAW Mawson 143.07 141 PKP PKPbc 11 52 22.1 +1.0
comp=Z,2.4nm,0.9s,baz=36,slow=3.8,SNR=4.5
AS31 Alice Springs 144.86 21 PKPdf **PKPab 11 52 27.6 -0.2**
ASAR Alice Springs 144.86 21 PKPdf **PKPab 11 52 27.7 -0.1**
ASAR Alice Springs 144.86 21 PKP PKPbc 11 52 27.9 +0.1
comp=Z,7.7nm,0.8s,baz=354,slow=2.5,SNR=33
QSPA South Pole Qui 147.45 180 PKPdf **PKPdf 11 52 32.7 +0.9**
QSPA South Pole Qui 147.45 180 PKPbc **PKPdf 11 52 32.3 +0.5**
comp=Z,17nm,1.0s,baz=238,slow=1.3,SNR=19
FORT Forrest 150.22 34 PKPbc 11 52 42.5 0.0
URZ Urewera 152.40 301 PKPbc **PKiKP 11 52 48.7 +1.2**
comp=Z,12nm,1.0s,baz=295,slow=21,SNR=1.5

STR 02 11:40:05.1±2.2, 48°N±9°×1°0E±1°0, h0km, MLv1.6/4, Error ellipse: s-maj=0.0km s-min=0.0km az=67.1, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUT	**Gutenstein**	**0.73**	**236**	Sg	Sb	11 40 32.3	+0.9
GUT	**Gutenstein**	**0.73**	**236**	Pg	Pg	11 40 18.7	-0.4
OPP	**Oppenau**	**1.22**	**271**	Pg	Pg	11 40 28.1	-0.4
OPP	**Oppenau**	**1.22**	**271**	Sg	Sb	11 40 45.3	-0.2
BABA	**Baden-Baden-Ne**	**1.24**	**282**	Sg	Sb	11 40 45.5	-0.4
BABA	**Baden-Baden-Ne**	**1.24**	**282**	Pg	Pg	11 40 28.7	-0.2
SLE	**Schleitheim**	**1.25**	**236**	Sg	Sb	11 40 46.2	0.0

VIE 02 11:40:18.3±0.4, 47°03N×11°15E, h7km±6km, ml1.1/7, Error ellipse: s-maj=1.2km s-min=0.9km az=145.0, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SQTA	**Sankt Quirin**	**0.20**	**13**	*i* Pg	Pg	11 40 22.7	+0.4
	1.0nm,0.1s						
SQTA				*i* Sg	Sg	11 40 25.3	+0.3
	7.2nm,0.1s						
FETA	**Feichten**	**0.28**	**269**	*i* Pg	Pg	11 40 24.3	+0.3
	0.2nm,0.0s						
FETA				*i* Sg	Sg	11 40 28.3	+0.5
	0.6nm,0.0s						
MOTA	**Moosalm**	**0.32**	**355**	*i* Pg	Pg	11 40 24.9	+0.3
	0.8nm,0.1s						
MOTA				*i* Sg	Sg	11 40 29.2	+0.4
	1.2nm,0.1s						
WTTA	**Wattenberg**	**0.41**	**55**	*i* Pg	Pg	11 40 26.4	0.0
	0.4nm,0.1s						
WTTA				*i* Sg	Sg	11 40 32.0	+0.3
	0.5nm,0.1s						
WATA	**Walderalm**	**0.42**	**44**	*i* Pg	Pg	11 40 26.8	+0.1
	0.3nm,0.1s						
WATA				*i* Sg	Sg	11 40 32.7	+0.5
	1.3nm,0.1s						

IDC ***02*** *11:43:44.7±1.1, 37°37N×21°20E, h0km, mb3.7/8, mbtmp3.6/14, ML3.5/3, Error ellipse: s-maj=20.9km s-min=17.2km az=157.0*
THE ***02*** *11:43:47.8, 37°39N×20°81E, h12km±3km, ML3.6/6, Error ellipse: s-maj=3.8km s-min=0.6km az=18.0*
ATH ***02*** *11:43:47.2, 37°36N×20°82E, h7km±1km, ML3.5/9, Error ellipse: s-maj=3.0km s-min=1.2km az=41.0*

ISC 02 11:43:47.0±1.3, 37°38N±0°05×20°93E±0°03, h13km±8km, n49, σ1°24/62, mb3.7/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.30**	**342**	P	**Pb**	**11 43 53.5**	**-0.7**
KRI1				S	**Sg**	**11 43 57.6**	**+0.4**
LTHK	**Lithakia**	**0.34**	**347**	P	**Pb**	**11 43 54.1**	**-0.8**
LTHK				S	**Sg**	**11 43 59.2**	**+0.7**
	15μm,0.4s						
LTHK	**Lithakia**	**0.34**	**347**	P	**Pg**	**11 43 53.8**	**-0.1**
LTHK				S	**Sg**	**11 43 58.4**	**0.0**
LTHK				AML	AML	11 43 59.2	
	comp=E,23995μm,0.5s						
LTHK				AML	AML	11 43 59.7	
	comp=N,32501μm,0.3s						
AMT	**Artemida-Makis**	**0.64**	**76**	P	**Pn**	**11 44 00.9**	**-0.9**
AMT				AML	AML	11 44 16.9	
	comp=E,15273μm,0.5s						
AMT				AML	AML	11 44 17.1	
	comp=N,24092μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.71**	**350**	P	**Pg**	**11 44 00.4**	**-0.3**
RTZL				S	**Sb**	**11 44 11.3**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.78**	**340**	P	**Pb**	**11 44 01.8**	**-0.7**
PSDA				S	**Sb**	**11 44 13.2**	**+0.1**
	comp=N,6μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.78**	**340**	P	**Pg**	**11 44 01.3**	**-0.9**
RLS	**Riolos of Patr**	**0.80**	**32**	P	**Pb**	**11 44 03.4**	**+0.6**
RLS				S	**Sn**	**11 44 16.0**	**+0.2**
	comp=N,2μm,0.6s						
RLS	**Riolos of Patr**	**0.80**	**32**	P	**Pb**	**11 44 02.9**	**+0.1**
RLS				AML	AML	11 44 18.0	
	comp=E,4958μm,0.7s						
RLS				AML	AML	11 44 26.0	
	comp=N,3354μm,0.5s						
PYL	**PYLOS**	**0.81**	**126**	P	**Pn**	**11 44 04.8**	**+0.7**
PYL				S	**Sn**	**11 44 18.0**	**+2.0**
PYL	**PYLOS**	**0.81**	**126**	P	**Pn**	**11 44 04.6**	**+0.4**
PYL				AML	AML	11 44 22.6	
	comp=N,4340μm,0.6s						
PYL				AML	AML	11 44 23.5	
	comp=E,5229μm,0.7s						
ITM	**Ithomi**	**0.82**	**104**	P	**Pn**	**11 44 04.4**	**+0.1**
DRO	**Drossia**	**0.84**	**47**	P	**Pn**	**11 44 04.3**	**-0.3**
DRO				S	**Sn**	**11 44 18.7**	**+1.8**
	comp=E,5μm,0.6s						
DRO	**Drossia**	**0.84**	**47**	P	**Pb**	**11 44 04.1**	**+0.6**
DRO				AML	AML	11 44 25.7	
	comp=N,7094μm,1.0s						
DRO				AML	AML	11 44 26.1	
	comp=E,11360μm,0.6s						
VLS	**Valsamata**	**0.84**	**341**	P	**Pg**	**11 44 02.8**	**-0.5**
VLS				S	**Sb**	**11 44 15.3**	**+0.5**
	comp=E,3μm,0.5s						
VLS	**Valsamata**	**0.84**	**341**	P	**Pg**	**11 44 02.4**	**-0.9**
VLS				S	**Sb**	**11 44 14.7**	**0.0**
VLS				AML	AML	11 44 19.6	
	comp=E,6533μm,0.6s						
VLS				AML	AML	11 44 21.9	
	comp=N,6158μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.91**	**335**	P	**Pb**	**11 44 04.0**	**-0.6**
DMLN	**Damoulianata-K**	**0.96**	**333**	P	**Pb**	**11 44 05.5**	**-0.1**
DMLN	**Damoulianata-K**	**0.96**	**333**	P	**Pb**	**11 44 05.2**	**-0.4**
FSK	**Fiskardo**	**1.12**	**345**	P	**Pg**	**11 44 07.4**	**-1.2**
FSK				S	**Sb**	**11 44 23.8**	**+1.1**
FSK				AML	AML	11 44 29.6	
	comp=N,6601μm,1.0s						
FSK				AML	AML	11 44 29.8	
	comp=E,8047μm,0.9s						
KLV	**Kalavryta, Ach**	**1.17**	**55**	P	**Pb**	**11 44 09.2**	**0.0**
GUR	**Goura**	**1.25**	**63**	P	**Pb**	**11 44 11.2**	**+0.7**
GUR				AML	AML	11 44 38.3	
	comp=N,4769μm,0.8s						
GUR				AML	AML	11 44 41.9	
	comp=E,3346μm,0.6s						
EVGI	**Lefkada island**	**1.26**	**350**	P	**Pn**	**11 44 10.0**	**-0.4**
EFP	**Efpalio**	**1.30**	**36**	P	**Pn**	**11 44 11.0**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.34**	**352**	P	**Pg**	**11 44 12.2**	**-0.7**
KALE	**Kalithea**	**1.39**	**43**	P	**Pg**	**11 44 13.2**	**-0.6**
ANX	**Ano Chora**	**1.44**	**33**	P	**Pg**	**11 44 14.2**	**-0.5**
TSLK	**Tsoukalades, L**	**1.46**	**352**	P	**Pb**	**11 44 13.7**	**-0.4**
LOUT	**Loutraki**	**1.73**	**69**	P	**Pn**	**11 44 17.2**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.89**	**30**	P	**Pn**	**11 44 20.0**	**+1.0**
AXAR	**Agios Charalam**	**1.94**	**44**	P	**Pb**	**11 44 22.3**	**-0.1**
VIL2	**Platees**	**2.03**	**65**	P	**Pb**	**11 44 24.0**	**+0.2**
VIL2				AML	AML	11 44 55.5	
	comp=N,703μm,0.9s						
VIL2				AML	AML	11 45 03.9	
	comp=E,864μm,0.7s						
IGT	**Igoumenitsa**	**2.20**	**348**	P	**Pn**	**11 44 23.2**	**-0.1**
THL	**Klokotos Trika**	**2.34**	**21**	P	**Pb**	**11 44 28.4**	**-0.7**
NEO	**Neokhori**	**2.64**	**42**	P	**Pn**	**11 44 31.7**	**+2.4**
IDI	**Anoyia**	**3.82**	**122**	Pn	**Pn**	**11 44 41.6**	**-4.0**
	comp=E,2.8nm,0.9s,baz=0.0,slow=14,SNR=1.6						
IDI				Sn	**Sn**	**11 45 28.3**	**-2.1**
	comp=E,1.4nm,0.3s,baz=306,slow=17,SNR=3.6						
VAE	**Valguarnera**	**5.19**	**273**	Pn	**Pn**	**11 45 06.4**	**+1.9**
	comp=E,15nm,0.7s,baz=16,slow=21,SNR=2.6						
VAE				Sn	**Sn**	**11 46 03.5**	**-0.7**
	comp=E,1.2nm,0.3s,baz=182,slow=16,SNR=1.3						
MLR	**Muntele Rosu**	**8.93**	**23**	Pn	**Pn**	**11 45 56.6**	**+0.8**
	comp=E,0.2nm,0.3s,baz=229,slow=20,SNR=1.7						
	comp=E,1.2nm,0.5s						
KEST	**Kesra**	**9.47**	**263**	Pn	**Pn**	**11 46 06.4**	**+3.2**
	comp=E,0.2nm,0.3s,baz=1.3,slow=1.7,SNR=1.3						
	comp=E,2.1nm,0.6s						
AKASG	**Malin Array Be**	**14.58**	**21**	Pn	**Pn**	**11 47 12.0**	**-0.9**
	comp=E,0.1nm,0.3s,baz=211,slow=11,SNR=1.4						
ESDC	**Sonseca Array**	**19.60**	**284**	P	**Pn**	**11 48 17.0**	**+0.7**
	baz=88,slow=10,SNR=6.2						
	comp=E,1.0nm,0.8s						
HFS	**Hagfors**	**23.24**	**351**	P	**P**	**11 48 52.3**	**-1.4**
	comp=E,1.3nm,0.7s,baz=169,slow=9.6,SNR=1.6						
	comp=E,1.3nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.27**	**325**	P	**P**	**11 49 03.9**	**+0.2**
	comp=E,3.0nm,0.8s,baz=118,slow=8.6,SNR=5.8						
	comp=E,3.0nm,0.8s						
FINES	**FINESS Array B**	**24.30**	**6**	P	**P**	**11 49 04.2**	**+0.3**
	comp=E,2.9nm,0.8s,baz=191,slow=6.8,SNR=2.1						
	comp=E,2.9nm,0.8s						
NOA	**NORSAR Array B**	**24.46**	**349**	P	**P**	**11 49 06.5**	**+1.0**
	comp=E,0.4nm,0.6s,baz=151,slow=11,SNR=2.3						
	comp=E,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.62**	**220**	P	**P**	**11 49 53.5**	**+1.3**
	comp=E,0.4nm,0.6s,baz=26,slow=10,SNR=4.0						
	comp=E,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**42.45**	**53**	P	**P**	**11 51 38.1**	**-3.3**
	comp=E,0.8nm,0.3s,baz=287,slow=7.7,SNR=4.4						
	comp=E,0.8nm,0.3s						
MKAR	**Makanchi Array**	**45.45**	**58**	P	**P**	**11 52 05.7**	**+0.1**
	comp=E,0.3nm,0.5s,baz=290,slow=5.2,SNR=1.7						
	comp=E,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**45.98**	**48**	P	**P**	**11 52 06.5**	**-3.2**
	comp=E,0.4nm,0.3s,baz=282,slow=8.3,SNR=2.0						
	comp=E,0.4nm,0.3s						

IDC ***02*** *11:47:07.0±1.4, 57°39N×32°93W, h0km, mb3.6/4, mbtmp3.7/5, ML2.4/1, Error ellipse: s-maj=42.1km s-min=29.9km az=23.0*

ISC 02 11:47:09.0±1.1, 57°4N±0°2×33°0W±0°2, h15km, n6, σ0°32/6, mb3.7/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.91**	**277**	P	**Pn**	**11 51 29.4**	**-0.2**
	0.1nm,0.3s,baz=82,slow=17,SNR=4.0						
	4.2nm,0.7s						
ILAR	**Eielson Array**	**48.28**	**328**	P	**P**	**11 55 49.3**	**+0.3**
	0.6nm,1.0s,baz=37,slow=5.0,SNR=4.4						
	0.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**51.41**	**135**	P	**P**	**11 56 13.3**	**+0.2**
	0.9nm,1.0s,baz=341,slow=8.4,SNR=3.9						
	0.9nm,1.0s						
BVAR	**Borovoye Array**	**53.56**	**47**	P	**P**	**11 56 28.6**	**-0.2**
	0.6nm,0.4s,baz=336,slow=1.7,SNR=4.1						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**63.16**	**44**	P	**P**	**11 57 35.9**	**0.0**
	0.4nm,0.8s,baz=341,slow=8.3,SNR=2.6						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**145.03**	**21**	PKP	**PKPdf**	**12 06 45.1**	**-0.3**
	1.0nm,0.9s,baz=337,slow=2.4,SNR=7.2						

IDC ***02*** *11:47:22.4±0.9, 55°75S×26°41W, h0km, mb4.1/6, mbtmp4.0/7, ML3.6/1, Error ellipse: s-maj=38.3km s-min=20.2km az=60.0*
NEIC ***02*** *11:47:23.9±2.2, 55°8S±0°1×26°5W±0°2, h10km±1km, mb4.6/29, Error ellipse: s-maj=25.1km s-min=15.3km az=208.0*

ISC 02 11:47:26.9±0.5, 55°76S±0°09×26°60W±0°10, h35km, n67,

σ0§93/68, **mb4.5**/19, **5C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.88**	**281**	Pn	**Pn**	**11 48 50.8**	**-0.6**
VNA1	**Neumayer--Stat**	**16.94**	**159**	⇑P	**P**	**11 51 22.8**	**+0.3**
	comp=Z,0.4nm,0.3s						
VNA3	**Neumayer Olymp**	**17.15**	**161**	⇑P	**P**	**11 51 24.8**	**-0.1**
	comp=Z,1.0nm,0.4s						
VNA2	**Neumayer--Watz**	**17.34**	**159**	⇑P	**Pn**	**11 51 25.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=323,slow=16						
SNAA	**Sanae**	**18.87**	**157**	P	**P**	**11 51 42.9**	**-0.9**
SNAA	**Sanae**	**18.87**	**157**	⇑P	**P**	**11 51 44.4**	**+0.5**
	comp=Z,2.7nm,0.3s						
SNAA	**Sanae**	**18.87**	**157**	P	**Pn**	**11 51 44.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=334,slow=16,SNR=17						
	comp=Z,1.2nm,0.7s						
TROLL	**Troll, Antarti**	**20.36**	**154**	⇑P	**P**	**11 52 00.6**	**+0.5**
	comp=Z,36nm,0.7s						
SMAI	**San Martin Ant**	**22.20**	**220**	P	**P**	**11 52 19.4**	**-0.3**
SMAI				IAmb	IAmb	11 53 00.5	
	comp=Z,31nm,1.5s						
BELA	**Belgrano 2**	**22.39**	**184**	P	**P**	**11 52 20.4**	**-1.3**
GO09	**Cerro Castillo**	**27.17**	**260**	P	**P**	**11 53 06.7**	**0.0**
GO09				IAmb	IAmb	11 53 14.5	
	comp=Z,26nm,1.4s						
GO08	**Villa O'Higgin**	**28.69**	**265**	P	**P**	**11 53 20.2**	**-0.1**
GO08				IAmb	IAmb	11 53 20.7	
	comp=Z,9.1nm,1.4s						
TRQA	**Tornquist**	**29.52**	**292**	P	**P**	**11 53 27.8**	**+0.1**
QSPA	**South Pole Qui**	**34.49**	**180**	P	**P**	**11 54 11.7**	**+0.4**
QSPA				IAmb	IAmb	11 54 14.8	
	comp=Z,8.3nm,1.4s						
QSPA	**South Pole Qui**	**34.49**	**180**	P	**P**	**11 54 12.1**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=217,slow=21,SNR=15						
	comp=Z,1.8nm,0.6s						
GO05	**Hualane**	**37.12**	**285**	P	**P**	**11 54 33.6**	**-0.4**
MT01	**Popeta**	**37.61**	**287**	P	**P**	**11 54 38.7**	**+0.7**
MT01				IAmb	IAmb	11 55 12.9	
	comp=Z,18nm,1.4s						
MT02	**Curacav**	**38.01**	**287**	P	**P**	**11 54 40.6**	**-0.9**
MT02				IAmb	IAmb	11 55 19.9	
	comp=Z,25nm,1.5s						
CO01	**Juntas del Tor**	**40.01**	**292**	P	**P**	**11 54 58.9**	**+0.4**
MAW	**Mawson**	**40.18**	**144**	P	**P**	**11 54 58.1**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=297,slow=9.0,SNR=3.5						
	comp=Z,1.0nm,0.5s						
AC05	**El Transito**	**41.02**	**293**	P	**P**	**11 55 06.5**	**-0.2**
AC05				IAmb	IAmb	11 55 33.8	
	comp=Z,9.2nm,1.1s						
LCO	**Las Campanas**	**41.10**	**292**	P	**P**	**11 55 08.0**	**+0.5**
LCO				IAmb	IAmb	11 55 10.4	
	comp=Z,19nm,1.4s						
AC04	**Llanos de Chal**	**41.94**	**292**	P	**P**	**11 55 13.9**	**-0.2**
GO02	**Mina Guanaco**	**43.66**	**296**	P	**P**	**11 55 29.1**	**+0.7**
GO02				IAmb	IAmb	11 55 37.8	
	comp=Z,7.2nm,0.9s						
PB14	**IPOC Station P**	**44.51**	**296**	P	**P**	**11 55 35.3**	**0.0**
PB15	**IPOC Station P**	**45.22**	**298**	P	**P**	**11 55 40.1**	**-0.6**
PB15				IAmb	IAmb	11 56 20.3	
	comp=Z,9.7nm,0.8s						
LVC	**Limon Verde**	**45.45**	**299**	P	**P**	**11 55 42.7**	**0.0**
LVC	**Limon Verde**	**45.45**	**299**	P	**P**	**11 55 44.6**	**+1.8**
	comp=Z,2.3nm,0.5s,baz=130,slow=1.6,SNR=6.1						
	comp=Z,2.3nm,0.5s						
BOSA	**Boshof**	**45.58**	**76**	P	**P**	**11 55 41.1**	**-2.4**
BOSA				IAmb	IAmb	11 56 09.0	
	comp=Z,12nm,1.4s						
PB06	**IPOC Station P**	**45.69**	**298**	P	**P**	**11 55 42.8**	**-1.7**
PB06				IAmb	IAmb	11 55 42.9	
	comp=Z,8.7nm,0.9s						
PB04	**IPOC Station P**	**46.29**	**298**	P	**P**	**11 55 49.3**	**+0.1**
PB09	**IPOC Station P**	**46.30**	**299**	P	**P**	**11 55 48.7**	**-0.5**
PB01	**IPOC Station P**	**47.05**	**300**	P	**P**	**11 55 53.9**	**-1.2**
PB01				IAmb	IAmb	11 56 04.8	
	comp=Z,4.2nm,0.8s						
H10S2	**ASCENSION HYDR**	**47.63**	**16**	T	T	12 47 30.4	
	baz=189,slow=74,SNR=15						
H10S3	**ASCENSION HYDR**	**47.63**	**16**	T	T	12 47 30.5	
	baz=31,slow=74,SNR=13						
PB08	**IPOC Station P**	**47.66**	**301**	P	**P**	**11 56 00.1**	**+0.1**
PB08				IAmb	IAmb	11 56 31.6	
	comp=Z,5.2nm,0.8s						
HMBC	**Humberstone**	**47.90**	**300**	P	**P**	**11 56 00.3**	**-1.4**
H10N1	**ASCENSION HYDR**	**48.75**	**16**	T	T	12 48 57.2	
	baz=189,slow=74						
H10N3	**ASCENSION HYDR**	**48.75**	**16**	T	T	12 49 07.0	
	baz=189,slow=74						
H10N2	**ASCENSION HYDR**	**48.77**	**16**	T	T	12 48 53.1	
	baz=189,slow=74						
LPAZ	**La Paz**	**50.48**	**304**	P	**P**	**11 56 22.0**	**0.0**
LPAZ	**La Paz**	**50.48**	**304**	P	**P**	**11 56 22.6**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=146,slow=3.6,SNR=7.5						
	comp=Z,1.2nm,0.5s						
SAML	**Samuel**	**54.84**	**314**	P	**P**	**11 56 52.2**	**-1.3**
BOAV	**Boa Vista**	**64.26**	**322**	P	**P**	**11 57 56.9**	**-1.5**
BOAV				IAmb	IAmb	11 58 23.9	
	comp=Z,6.0nm,1.2s						
TORD	**Torodi Ar. Bea**	**72.64**	**29**	P	**P**	**11 58 51.7**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=200,slow=6.3,SNR=5.4						
	comp=Z,0.9nm,0.6s						
ASAR	**Alice Springs**	**99.16**	**162**	P	**Pdif**	**12 01 05.1**	**+0.4**
	comp=Z,0.3nm,1.0s,baz=188,slow=4.7,SNR=1.2						
	comp=Z,0.3nm,1.0s						
M29M	**Somme Creek**	**145.91**	**310**	PKPdf	**PKPab**	**12 07 02.2**	**+0.3**
I30M	**Mount Dempster**	**145.97**	**315**	PKPdf	**PKPab**	**12 07 02.2**	**+0.2**
G30M	**tAoh Zraii Nji**	**146.42**	**318**	PKPdf	**PKPbc**	**12 07 03.3**	**+0.7**
LOGN	**Logan Glacier**	**146.47**	**306**	PKPdf	**PKPbc**	**12 07 02.7**	**-0.4**
H29M	**Whitestone**	**147.04**	**316**	PKPbc	**PKPbc**	**12 07 05.4**	**+1.0**
G29M	**Pine Creek**	**147.09**	**317**	PKPbc	**PKPbc**	**12 07 05.6**	**+1.1**
E29M	**Blow River**	**147.38**	**320**	PKPbc	**PKPab**	**12 07 07.5**	**+0.1**
F28M	**Old Crow**	**147.95**	**318**	PKPbc	**PKPbc**	**12 07 08.0**	**+1.2**
D27M	**Malcolm River**	**148.64**	**321**	PKPbc	**PKiKP**	**12 07 10.4**	**+0.4**
F26K	**Sheenjek River**	**149.57**	**318**	PKPbc	**PKiKP**	**12 07 12.8**	**+0.8**
BMAR	**Burnt Mountain**	**149.70**	**317**	PKPbc	**PKiKP**	**12 07 12.7**	**+0.4**
PWL	**Port Wells**	**149.87**	**304**	PKPbc	**PKiKP**	**12 07 13.1**	**+0.3**
F25K	**Christian Rive**	**150.12**	**318**	PKPbc	**PKiKP**	**12 07 14.1**	**+0.9**
E25K	**Arctic Village**	**150.16**	**319**	PKPbc	**PKiKP**	**12 07 13.8**	**+0.6**
ILAR	**Eielson Array**	**150.17**	**312**	PKPbc	**PKPbc**	**12 07 13.0**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=129,slow=3.2,SNR=8.8						
SONM	**Songino Array**	**150.38**	**86**	PKPbc	**PKiKP**	**12 07 14.8**	**+0.3**
SONM	**Songino Array**	**150.38**	**86**	PKPbc	**PKPbc**	**12 07 14.3**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=245,slow=3.0,SNR=2.0						
MCK	**McKinley**	**150.84**	**309**	PKPdf	**PKPdf**	**12 07 09.2**	**+0.7**
MCK				PKPbc	**PKiKP**	**12 07 16.0**	**+1.2**
C23K	**Itkillik River**	**152.06**	**322**	PKPdf	**PKPdf**	**12 07 10.9**	**+0.9**
C23K				PKPbc	**PKiKP**	**12 07 17.9**	**+0.9**
C23K				PKPab	**pPKPbc**	**12 07 27.6**	**+1.7**
CAST	**Castle Rocks**	**152.17**	**308**	PKPdf	**PKPdf**	**12 07 10.8**	**+0.3**
CAST				PKPab	**pPKPbc**	**12 07 28.4**	**+2.1**
E22K	**Anaktuvuk Pass**	**152.50**	**318**	PKPdf	**PKPdf**	**12 07 12.0**	**+1.2**
E22K				PKPbc	**PKiKP**	**12 07 19.2**	**+1.1**
E22K				PKPab	**pPKPbc**	**12 07 29.5**	**+2.5**

*SOME **02** 11:48:22.4, 44°.67N×82°.18E, h20km*
*NNC **02** 11:48:24.8±1.2, 44°.71N×82°.01E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=13.3km s-min=4.0km az=123.0, Suspected Mining explosion.*

ISC 02 11:48:21.9±1.4, 44°.68N±0°.05×82°.19E±0°.07, h0km, n30, σ1§46/47, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.75**	**259**	P	**Pg**	**11 48 55.3**	**-0.1**
	10nm,0.2s						
DJR				S	**Sg**	**11 49 19.2**	**+1.1**
	17nm,0.1s						
DJR	**Jarkent**	**1.75**	**259**	*e*P	**Pg**	**11 48 55.3**	**-0.1**
	10nm,0.2s						
DJR				*e*S	**Sg**	**11 49 19.2**	**+1.1**
	18nm,0.2s						
KAPS	**Kapalarasan**	**2.10**	**288**	Pg	**Pb**	**11 49 00.4**	**-0.4**
	6.9nm,0.1s						
KAPS				Lg	Lg	11 49 27.8	
	51nm,0.2s						
KAPS	**Kapalarasan**	**2.10**	**288**	*e*P	**Pb**	**11 49 00.4**	**-0.4**
	3.0nm,0.1s						
KAPS				*e*S	**Sb**	**11 49 27.8**	**+0.3**
	51nm,0.2s						
MK31	**Makanchi Array**	**2.11**	**2**	⇓Pn	**Pb**	**11 49 01.3**	**+0.3**
	6.0nm,0.2s,baz=181,slow=14,SNR=234						
MK31				⇑Sn	**Sg**	**11 49 29.1**	**-0.7**
	3.9nm,0.2s,baz=186,slow=28,SNR=19						
MAKZ	**Makanchi**	**2.13**	**356**	⇓Pn	**Pb**	**11 49 01.0**	**-0.3**
	5.5nm,0.5s						
MAKZ				⇓Sn	**Sb**	**11 49 29.2**	**+0.8**
	6.5nm,0.3s						
PDGK	**Podgornoye**	**2.37**	**236**	Pg	**Pb**	**11 49 05.0**	**-0.5**
	3.4nm,0.3s						
PDGK				Lg	Lg	11 49 35.8	
	8.7nm,0.2s						
PDGK	**Podgornoye**	**2.37**	**236**	⇓Pn	**Pb**	**11 49 04.2**	**-1.3**
	3.4nm,0.5s						
PDGK				⇑Sn	**Sg**	**11 49 36.9**	**-1.1**
	12nm,0.4s						
SHLS	**Shalkode**	**2.49**	**233**	Pg	**Pn**	**11 49 04.0**	**+0.2**
	12nm,0.2s						
SHLS				Lg	Lg	11 49 34.1	
	48nm,0.3s						
SHLS	**Shalkode**	**2.49**	**233**	*e*P	**Pn**	**11 49 04.0**	**+0.2**
	12nm,0.2s						
SHLS				*e*S	**Sn**	**11 49 34.1**	**-0.9**
	48nm,0.3s						
TDK	**Taldyqorghan**	**2.71**	**278**	Pg	**Pb**	**11 49 11.0**	**-0.2**
	60nm,0.4s						
TDK				Lg	Lg	11 49 46.0	
	57nm,0.3s						
TDK	**Taldyqorghan**	**2.71**	**278**	*e*P	**Pb**	**11 49 11.0**	**-0.2**
	60nm,0.4s						
TDK				*e*S	**Sb**	**11 49 46.0**	**+1.0**
	57nm,0.3s						
UZB	**Uzynbulak**	**2.75**	**237**	Pg	**Pb**	**11 49 11.9**	**-0.2**
	8.2nm,0.2s						
UZB				Lg	Lg	11 49 47.6	
	13nm,0.2s						
UZB	**Uzynbulak**	**2.75**	**237**	*e*P	**Pb**	**11 49 11.9**	**-0.2**
	8.2nm,0.2s						
UZB				*e*S	**Sb**	**11 49 47.6**	**+1.2**
	13nm,0.2s						
KPKS	**Kokpek**	**2.80**	**245**	Pg	**Pb**	**11 49 12.7**	**-0.2**
	7.8nm,0.3s						
KPKS				Lg	Lg	11 49 49.0	
	28nm,0.2s						
KPKS	**Kokpek**	**2.80**	**245**	*e*P	**Pb**	**11 49 12.7**	**-0.2**
	7.8nm,0.3s						
KPKS				*e*S	**Sb**	**11 49 49.0**	**+1.2**
	28nm,0.2s						
KURS	**Kuram**	**3.13**	**249**	Pg	**Pb**	**11 49 18.7**	**+0.3**
	3.0nm,0.6s						
KURS				Lg	Lg	11 49 59.2	
	3.3nm,0.2s						
KURS	**Kuram**	**3.13**	**249**	*e*P	**Pb**	**11 49 18.7**	**+0.3**
	3.0nm,0.6s						
KURS				*e*S	**Sb**	**11 49 59.2**	**+2.0**
	3.3nm,0.2s						
ARXS	**Arharly**	**3.16**	**263**	Pg	**Pb**	**11 49 18.9**	**-0.1**
	2.7nm,0.4s						
ARXS				Lg	Lg	11 49 59.3	
	15nm,0.4s						
ARXS	**Arharly**	**3.16**	**263**	*e*P	**Pb**	**11 49 18.9**	**-0.1**
	2.7nm,0.4s						
ARXS				*e*S	**Sb**	**11 49 59.4**	**+1.4**
	15nm,0.4s						
SATY	**Saty**	**3.18**	**241**	Pg	**Pb**	**11 49 19.2**	**-0.2**
	4.3nm,0.2s						
SATY				Lg	Lg	11 50 00.1	
	20nm,0.2s						
SATY	**Saty**	**3.18**	**241**	*e*P	**Pb**	**11 49 19.2**	**-0.2**
	4.3nm,0.2s						
SATY				*e*S	**Sb**	**11 50 00.1**	**+1.4**
	20nm,0.2s						
CHKK	**Chushkaly**	**3.83**	**259**	Pg	**Pb**	**11 49 30.5**	**+0.2**
	5.1nm,0.3s						
CHKK				Lg	Lg	11 50 19.4	
	11nm,0.1s						
CHKK	**Chushkaly**	**3.83**	**259**	*e*P	**Pb**	**11 49 30.5**	**+0.2**
	5.1nm,0.3s						
CHKK				*e*S	**Sb**	**11 50 19.4**	**+2.3**
	11nm,0.1s						
KTBS	**Karatobe**	**4.08**	**258**	Pg	**Pb**	**11 49 35.9**	**+1.4**
	2.3nm,0.3s						
KTBS				Lg	Lg	11 50 28.8	
	7.4nm,0.2s						
KTBS	**Karatobe**	**4.08**	**258**	*e*P	**Pb**	**11 49 35.9**	**+1.4**
	2.3nm,0.3s						
KTBS				*e*S	**Sg**	**11 50 28.8**	**-4.0**
	7.4nm,0.2s						
MTBS	**Maitube**	**4.44**	**252**	Pg	**Pb**	**11 49 43.0**	**+2.1**
	2.6nm,0.2s						
MTBS				Lg	Lg	11 50 41.2	
	11nm,0.1s						
MTBS	**Maitube**	**4.44**	**252**	*e*P	**Pb**	**11 49 43.0**	**+2.1**
	2.6nm,0.2s						
MTBS				*e*S	**Sg**	**11 50 41.2**	**-3.3**
	11nm,0.1s						
KRBS	**Karabastau**	**4.79**	**260**	Pg	**Pb**	**11 49 49.4**	**+2.7**
	0.8nm,0.4s						
KRBS				Lg	Lg	11 50 52.0	
	2.4nm,0.2s						
KRBS	**Karabastau**	**4.79**	**260**	*e*P	**Pb**	**11 49 49.4**	**+2.7**
	0.8nm,0.4s						
KRBS				*e*S	**Sg**	**11 50 52.0**	**-3.6**
	2.4nm,0.2s						

IDC 02 12:24:46.7±1.4, 1°.14N×125°.98E, h0km, mb3.4/4, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=120.0km s-min=20.7km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.12**	**181**	P	Pn	12 29 12.5	+0.3
	0.1nm,0.3s,baz=1.2,slow=7.9,SNR=1.4						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**22.49**	**159**	P	P	12 29 47.5	-0.6
	0.4nm,0.3s,baz=336,slow=11,SNR=27						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**25.83**	**163**	P	P	12 30 20.1	+0.2
	0.2nm,0.3s,baz=343,slow=9.1,SNR=11						
ASAR				PcP	PcP	12 33 48.9	-0.9
	0.2nm,0.6s,baz=355,slow=2.3,SNR=1.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**59.27**	**326**	P	P	12 34 51.4	+1.2
	0.2nm,0.4s,baz=126,slow=7.5,SNR=5.5						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.52**	**328**	P	P	12 35 17.6	-1.3
	0.3nm,0.5s,baz=124,slow=6.0,SNR=2.5						
	0.3nm,0.5s						

*ATH **02** 12:27:34.2, 37°.13N×20°.57E, h11km±1km, ML3.5/5, Error ellipse: s-maj=3.3km s-min=1.6km az=62.0*
*THE **02** 12:27:35.6, 37°.20N×20°.68E, h6km±1km, ML3.4/9, Error ellipse: s-maj=1.8km s-min=0.8km az=56.0*
*IDC **02** 12:27:36.8±3.7, 37°.58N×21°.16E, h0km, mb3.6/3, mbtmp3.5/4, ML4.1/1, MS3.7/2, Error ellipse: s-maj=92.2km s-min=34.7km az=177.0*

ISC 02 12:27:34.8±1.8, 37°.23N±0°.06×20°.75E±0°.05, h4km±10km, n28, σ1§00/41, mb3.6/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.44**	**7**	P	**Pb**	**12 27 44.8**	**-0.3**
KRI1				S	**Sb**	**12 27 52.0**	**-0.1**
	7μm,0.3s						
LTHK	**Lithakia**	**0.49**	**8**	P	**Pb**	**12 27 45.8**	**-0.1**
LTHK				S	**Sb**	**12 27 52.7**	**-0.7**
	10μm,0.2s						
LTHK	**Lithakia**	**0.49**	**8**	P	**Pb**	**12 27 45.6**	**-0.3**
LTHK				S	**Sb**	**12 27 53.9**	**+0.5**
LTHK				AML	AML	12 27 54.3	
	comp=N,20893μm,0.3s						
LTHK				AML	AML	12 27 55.4	
	comp=E,15790μm,0.2s						
AMT	**Artemida-Makis**	**0.82**	**68**	P	**Pn**	**12 27 52.8**	**-0.4**
AMT				S	**Sn**	**12 28 06.6**	**+0.8**
AMT				AML	AML	12 28 13.4	
	comp=E,16211μm,0.4s						
AMT				AML	AML	12 28 14.9	
	comp=N,13433μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.85**	**1**	P	**Pb**	**12 27 51.6**	**-0.5**
RTZL				S	**Sb**	**12 28 04.9**	**+1.1**
	comp=N,2μm,0.3s						
PYL	**PYLOS**	**0.86**	**112**	P	**Pn**	**12 27 52.9**	**-0.8**
PYL				S	**Sn**	**12 28 05.8**	**-0.8**
	comp=N,932nm,0.4s						
PYL	**PYLOS**	**0.86**	**112**	P	**Pn**	**12 27 52.9**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.90**	**352**	P	**Pb**	**12 27 52.3**	**-0.6**
PSDA				S	**Sn**	**12 28 06.7**	**-0.8**
	comp=N,2μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.90**	**352**	P	**Pb**	**12 27 52.4**	**-0.5**
PSDA				S	**Sn**	**12 28 06.7**	**-0.8**
ITM	**Ithomi**	**0.94**	**92**	P	**Pn**	**12 27 54.3**	**-0.4**
VLS	**Valsamata**	**0.96**	**352**	P	**Pb**	**12 27 53.6**	**-0.4**
VLS				S	**Sb**	**12 28 08.1**	**+1.0**
VLS				AML	AML	12 28 10.2	
	comp=E,2259μm,0.2s						
VLS				AML	AML	12 28 10.5	
	comp=N,2214μm,0.3s						
RLS	**Riolos of Patr**	**1.01**	**34**	P	**Pn**	**12 27 55.0**	**-0.6**
SMHA	**Samh**	**1.03**	**356**	P	**Pg**	**12 27 54.3**	**-0.2**
SMHA				S	**Sn**	**12 28 10.5**	**-0.3**
SMHA				AML	AML	12 28 13.3	
	comp=E,7166μm,0.3s						
SMHA				AML	AML	12 28 13.7	
	comp=Z,3681μm,0.4s						
DRO	**Drossia**	**1.05**	**46**	P	**Pn**	**12 27 56.0**	**-0.3**
DRO				S	**Sn**	**12 28 12.7**	**+1.2**
	comp=Z,2μm,0.3s						
DRO	**Drossia**	**1.05**	**46**	P	**Pn**	**12 27 56.2**	**-0.2**
DMLN	**Damoulianata-K**	**1.05**	**344**	P	**Pb**	**12 27 55.6**	**0.0**
VSK1	**VASILIKIADES**	**1.19**	**353**	P	**Pb**	**12 27 57.7**	**-0.2**
VSK1				S	**Sn**	**12 28 16.1**	**+1.2**
	comp=Z,2μm,0.4s						
FSK	**Fiskardo**	**1.24**	**353**	P	**Pg**	**12 27 58.2**	**-0.4**
FSK				S	**Sn**	**12 28 16.8**	**+0.8**
	comp=Z,985nm,0.2s						
FSK	**Fiskardo**	**1.24**	**353**	P	**Pg**	**12 27 58.3**	**-0.3**
FSK				S	**Sg**	**12 28 13.9**	**-0.8**
FSK				AML	AML	12 28 19.1	
	comp=N,1940μm,0.3s						
FSK				AML	AML	12 28 20.5	
	comp=E,2010μm,0.4s						
GUR	**Goura**	**1.45**	**60**	P	**Pg**	**12 28 03.2**	**+0.6**
GUR				S	**Sg**	**12 28 22.8**	**+1.3**
	comp=E,870nm,0.5s						
DRAG	**Dragano-Lefkad**	**1.46**	**355**	P	**Pg**	**12 28 02.5**	**-0.4**
ANX	**Ano Chora**	**1.65**	**34**	P	**Pb**	**12 28 05.2**	**-0.6**
ESDC	**Sonseca Array**	**19.50**	**285**	P	**Pn**	**12 32 08.2**	**+4.1**
	comp=E,0.1nm,0.3s,baz=94,slow=12,SNR=1.8						
	comp=E,0.2nm,0.3s						
FINES	**FINESS Array B**	**24.47**	**6**	P	**P**	**12 32 53.6**	**-0.9**
	comp=E,2.7nm,0.9s,baz=201,slow=15,SNR=1.8						
	comp=E,2.7nm,0.9s						
BORG	**Borgarnes**	**37.03**	**331**	LR	LR	12 52 35.9	
	comp=E,74nm,19.0s,baz=14,slow=41						
KURBB	**Kurchatov Arra**	**42.66**	**53**	P	**P**	**12 35 31.0**	**-1.2**
	comp=E,0.4nm,0.4s,baz=280,slow=8.7,SNR=3.8						
	comp=E,0.4nm,0.4s						
MKAR	**Makanchi Array**	**45.65**	**58**	P	**P**	**12 35 55.3**	**-1.1**
	comp=E,0.4nm,0.6s,baz=272,slow=7.5,SNR=4.6						
	comp=E,0.4nm,0.6s						
DLBC	**Dease Lake**	**81.61**	**345**	LR	LR	13 17 31.0	
	comp=E,66nm,18.8s,baz=184,slow=37						

*BUT **02** 12:39:46.3±1.4, 45°.86N±0°.01×111°.34W±0°.02, h3km±6km, Error ellipse: s-maj=2.6km s-min=1.1km az=137.0*

NEIC 02 12:39:45.8±1.4, 45°.86N±0°.01×111°.36W±0°.04, h4km±7km, ML2.5/46, ML2.9/22(BUT), Error ellipse: s-maj=4.1km s-min=1.4km az=65.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZ	**Bozeman (W)**	**0.33**	**215**		Pg	12 39 52.8	+0.7
BOZ					Sg	12 39 57.1	+0.7
BOZ				IAML		12 39 57.8	
	922nm,0.2s						
DLMT	**Dillon**	**1.00**	**240**		Pg	12 40 05.2	+0.2
DLMT				IAML		12 40 22.5	
	213nm,0.3s						
DLMT				IAML		12 40 22.7	
	214nm,0.2s						
YHL	**Hebgen Lake**	**1.02**	**173**		Pg	12 40 05.3	-0.1
YHL				IAML		12 40 23.4	
	comp=E,130nm,0.5s						
YHL				IAML		12 40 23.6	
	comp=N,144nm,0.5s						
GCR	**Grayling Creek**	**1.08**	**170**		Pg	12 40 06.7	+0.2
YHB	**Horse Butte**	**1.12**	**174**	Pg	Pg	12 40 07.2	0.0
YHB				IAML		12 40 25.0	
	comp=N,142nm,0.4s						
YHB				IAML		12 40 25.2	
	comp=E,147nm,0.6s						
YMC	**Maple Creek**	**1.13**	**167**		Pg	12 40 07.3	-0.1
YHH	**Holmes Hill**	**1.13**	**161**		Pg	12 40 07.2	-0.3
YHH	**Holmes Hill**	**1.13**	**161**	Pg	Pg	12 40 07.1	-0.4
YMR	**Madison River**	**1.23**	**167**		Pg	12 40 09.1	-0.3
YMR				IAML		12 40 29.3	
	comp=E,119nm,0.7s						
YMR				IAML		12 40 30.4	
	comp=N,126nm,0.7s						
YNM	**Yellowstone No**	**1.23**	**157**	Pg	Pg	12 40 07.6	-1.8
YNM				IAML		12 40 29.1	
	comp=E,131nm,0.2s						
YNM				IAML		12 40 30.5	
	comp=N,86nm,0.4s						
YNR	**Norris Junctio**	**1.25**	**157**		Pg	12 40 08.8	-0.9
YNR				IAML		12 40 29.6	
	comp=E,54nm,0.2s						
YNR				IAML		12 40 30.4	
	comp=N,52nm,0.4s						
YPM	**Purple Mountai**	**1.25**	**164**		Pn	12 40 10.3	0.0
YPWB	**West Boundary**	**1.27**	**172**		Pb	12 40 10.4	0.0
LYMT	**Lyon Mountain**	**1.28**	**330**		Pg	12 40 09.9	-0.4
YNE	**Yellowstone No**	**1.28**	**131**		Pg	12 40 10.2	-0.2
YPSB	**Soda Butte**	**1.30**	**138**		Pg	12 40 10.2	-0.5
YMP	**Mirror Lake Pl**	**1.41**	**142**		Pb	12 40 12.9	+0.1
YMP				IAML		12 40 33.8	
	comp=E,149nm,0.5s						
YFT	**Old Faithful**	**1.46**	**165**		Pg	12 40 13.8	+0.1
LKWY	**Lake**	**1.47**	**152**		Pg	12 40 15.0	+1.1
LKWY				IAML		12 40 21.3	
	comp=E,39nm,0.8s						
LKWY				IAML		12 40 23.4	
	comp=E

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.76**	**110**	P	**Pb**	**12 39 59.7**	**-0.5**
JTK				S	**Sb**	**12 40 10.8**	**+0.7**
JOKE	**Okinoerabujima**	**0.79**	**151**	P	**Pn**	**12 40 00.8**	**-0.6**
JOKE				*e*S	**Sn**	**12 40 12.5**	**0.0**
JAMN	**Amaminishikomi**	**0.93**	**78**	P	**Pn**	**12 40 02.4**	**-0.9**
JAMN				S	**Sb**	**12 40 15.6**	**+0.7**
JIH	**Iheya**	**1.03**	**189**	P	**Pn**	**12 40 04.6**	**-0.2**
JIH				S	**Sn**	**12 40 18.1**	**-0.4**
JYRO	**Yoronjima**	**1.06**	**165**	P	**Pn**	**12 40 05.2**	**0.0**
JYRO				*e*S	**Sn**	**12 40 19.0**	**-0.3**
JOW	**Kunigami**	**1.22**	**175**	P	**Pn**	**12 40 07.4**	**-0.1**
JOW				*e*S	**Sb**	**12 40 24.0**	**+0.5**
JAM	**Amami Oshima**	**1.33**	**74**	*e*P	**Pn**	**12 40 09.2**	**+0.2**
JAM				*e*S	**Sb**	**12 40 26.6**	**-0.1**
JTAJ	**Takarajima**	**1.43**	**40**	*e*P	**Pn**	**12 40 10.5**	**+0.1**
JNTH	**Nagotoyohara**	**1.53**	**184**	*e*P	**Pn**	**12 40 12.3**	**+0.5**
JNTH				*e*S	**Sn**	**12 40 30.9**	**-0.1**
JKDJ	**Kitadaitoujima**	**3.50**	**126**	*e*S	**Sn**	**12 41 20.9**	**+1.3**
JHJ	**Hachijo jima 2**	**11.22**	**60**	LR	LR	12 46 38.6	
	comp=Z,76nm,21.9s,baz=263,slow=36						
MJAR	**Matsushiro Arr**	**11.99**	**43**	Pn	Pn	12 42 39.8	+4.4
	0.1nm,0.3s,baz=228,slow=22,SNR=4.8						
	0.6nm,0.5s						
GUMO	**Guam**	**21.21**	**129**	LR	LR	12 51 09.6	
	comp=Z,66nm,21.2s,baz=274,slow=32						
SONM	**Songino Array**	**26.00**	**325**	P	**P**	**12 45 17.4**	**+0.3**
	0.4nm,0.4s,baz=126,slow=9.8,SNR=1.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**40.29**	**310**	P	**P**	**12 47 21.1**	**-0.1**
	0.4nm,0.7s,baz=120,slow=8.5,SNR=4.1						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**43.50**	**315**	P	**P**	**12 47 47.3**	**0.0**
	0.4nm,0.5s,baz=102,slow=8.7,SNR=3.5						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**48.09**	**172**	P	**P**	**12 48 23.7**	**-0.1**
	0.8nm,0.9s,baz=355,slow=8.2,SNR=4.3						
	0.8nm,0.9s						
BVAR	**Borovoye Array**	**48.88**	**317**	LR	LR	13 10 54.9	
	comp=Z,70nm,18.2s,baz=70,slow=38						
ASAR	**Alice Springs**	**51.72**	**173**	P	**P**	**12 48 51.3**	**-0.1**
	0.4nm,0.9s,baz=359,slow=9.3,SNR=2.4						
	0.4nm,0.9s						
MLR	**Muntele Rosu**	**78.40**	**315**	LR	LR	13 27 21.3	
	comp=Z,92nm,18.0s,baz=330,slow=36						

NEIC ***02*** *12:43:37.0±2.1,21°.98S±0°.09×174°.73W±0°.09,h10km±2km, mb4.7/15, Error ellipse: s-maj=15.8km s-min=14.4km az=154.0*

IDC ***02*** *12:43:48.9±4.2,22°.68S×176°.77W,h0km,mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=198.0km s-min=55.3km az=150.0*

ISC 02 12:43:36.9±0.9,21°.9S±0°.1×174°.8W±0°.1,h10km,n23, σ1$81/23,mb4.7/9,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.37**	**59**	Pn	**Pn**	**12 44 57.2**	**0.0**
RAO	**Raoul Island**	**7.81**	**201**	Pn	**Pn**	**12 45 29.9**	**-0.8**
MSVF	**Nonsavu**	**7.93**	**301**	Pn	**Pn**	**12 45 35.6**	**+3.2**
FUTU	**Fugatoga**	**8.22**	**337**	Pn	**Pn**	**12 45 35.8**	**-0.5**
PINNC	**Pines Island,**	**16.46**	**264**	Pn	**Pn**	**12 47 26.4**	**-1.6**
PINNC				IAmb	IAmb	12 47 36.1	
	comp=Z,126nm,1.4s						
ONTNC	**Ouen Toro**	**17.39**	**265**	Pn	**Pn**	**12 47 38.4**	**-1.3**
ONTNC				IAmb	IAmb	12 48 05.7	
	comp=Z,95nm,1.5s						
HNR	**Honiara**	**27.26**	**293**	P	**P**	**12 49 19.9**	**-1.6**
EIDS	**Eidsvold**	**31.40**	**257**	P	**P**	**12 49 58.6**	**+0.3**
EIDS				IAmb	IAmb	12 50 14.4	
	comp=Z,13nm,1.4s						
CTAO	**Charters Tower**	**36.35**	**266**	P	**P**	**12 50 41.6**	**+0.2**
CTAO				IAmb	IAmb	12 50 55.7	
	comp=Z,21nm,1.4s						
RABL	**Rabaul**	**36.57**	**294**	P	**P**	**12 50 42.3**	**-1.0**
BBOO	**Buckleboo**	**44.63**	**245**	P	**P**	**12 51 49.4**	**-0.3**
BBOO				IAmb	IAmb	12 51 51.6	
	comp=Z,46nm,1.5s						
AS31	**Alice Springs**	**47.12**	**258**	P	**P**	**12 52 09.8**	**+0.2**
ASAR	**Alice Springs**	**47.12**	**258**	P	**P**	**12 52 09.3**	**-0.3**
ASAR	**Alice Springs**	**47.12**	**258**	P	**P**	**12 52 07.9**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=88,slow=8.2,SNR=12						
ASAR				PcP	**PcP**	**12 53 47.3**	**+5.8**
	comp=Z,0.3nm,0.8s,baz=110,slow=3.5,SNR=2.2						
	comp=Z,0.7nm,0.6s						
WR0	**Warramunga Arr**	**47.19**	**263**	P	**P**	**12 52 08.9**	**-1.2**
WR0				IAmb	IAmb	12 52 29.1	
	comp=Z,9.1nm,1.4s						
WB0	**Warramunga Arr**	**47.37**	**263**	P	**P**	**12 52 10.3**	**-1.3**
WB0				IAmb	IAmb	12 52 11.0	
	comp=Z,4.9nm,0.9s						
WB2	**Warramunga Arr**	**47.37**	**263**	P	**P**	**12 52 10.4**	**-1.1**
WB2				IAmb	IAmb	12 52 24.2	
	comp=Z,3.5nm,1.1s						
WRA	**Warramunga Arr**	**47.38**	**263**	P	**P**	**12 52 10.6**	**-1.1**
WRA	**Warramunga Arr**	**47.38**	**263**	P	**P**	**12 52 10.0**	**-1.6**
	comp=Z,1.4nm,0.3s,baz=102,slow=8.4,SNR=205						
	comp=Z,1.4nm,0.3s						
KNRA	**Kununurra**	**53.56**	**266**	P	**P**	**12 52 58.6**	**+0.2**
KNRA				IAmb	IAmb	12 53 00.2	
	comp=Z,13nm,1.3s						
FITZ	**Fitzroy Crossi**	**55.81**	**263**	P	**P**	**12 53 15.2**	**+0.4**
SNAA	**Sanae**	**86.48**	**177**	P	**P**	**12 56 20.1**	**+0.4**
AKASG	**Malin Array Be**	**145.69**	**333**	PKPbc	PKiKP	13 03 28.2	+8.7
	comp=Z,0.8nm,0.4s,baz=50,slow=3.0,SNR=7.0						

NEIC ***02*** *12:58:53.5±2.9,36°.655N±0°.007×121°.37W±0°.01, h4km±2km, Error ellipse: s-maj=1.2km s-min=0.9km az=55.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.03; $M_{\theta\theta}$-1.64; $M_{\phi\phi}$1.61; $M_{r\theta}$0.48; $M_{\phi\theta}$-0.16; M_{rr}0.25; Fault plane solution: $M_0$1.72000×10^{15} NP1: ϕ_s313.04000°, δ73.28000°, λ-175.00000°. NP2: ϕ_s221.60000°, δ85.21000°, λ-16.78000°. Principal axes: T 1.6560, Plg8.0000°, Azm268.0000°; N 0.1283, Plg73.0000°, Azm26.0000°; P -1.7843, Plg15.0000°, Azm176.0000°;*

IDC ***02*** *12:58:53.7±2.2,36°.65N×121°.28W,h0km,mb3.4/1, mbtmp3.2/4,ML3.7/2,MS3.4/15 Error ellipse: s-maj=30.2km s-min=19.3km az=149.0*

NCEDC ***02*** *12:58:54.2±2.5,36°.680N±0°.007×121°.32W±0°.01, h6km±2km,Mwr4.1/5,mb4.2/13(NEIC),ML3.9/118(NEIC), Mwr4.1/63(NEIC), Error ellipse: s-maj=1.3km s-min=1.0km az=58.0*

NEIC ***02*** *12:58:54.2,36°.68N×121°.32W,h6km*

ISC 02 12:58:53.9±0.8,36°.69N±0°.02×121°.28W±0°.02,h18km±4km, n304,σ1$23/283,MS3.5/8,Central California

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BJOM	**Mount Johnson**	**0.07**	**207**		**Pg**	**12 58 57.4**	**+0.2**
BVL	**Bear Valley**	**0.13**	**148**		**Pg**	**12 58 57.5**	**-0.4**
SCZ	**Santa Cruz**	**0.14**	**229**		**Pg**	**12 58 58.2**	**+0.3**
SCZ	**Santa Cruz**	**0.14**	**229**	IAML		12 58 58.5	
	comp=N,142μm,0.6s						
SCZ				IAML		12 58 58.5	
	comp=E,169μm,0.6s						
BEMM	**Emmet**	**0.15**	**100**		**Pg**	**12 58 58.6**	**+0.5**
SAO	**San Andreas Ge**	**0.16**	**299**		**Pg**	**12 58 56.8**	**-1.4**
BJCM	**Johnson Can.**	**0.17**	**214**		**Pg**	**12 58 57.2**	**-1.1**
FRP	**Fremont Peak**	**0.18**	**291**		**Pg**	**12 58 57.4**	**-1.2**
BSRM	**Salinas Radio**	**0.20**	**264**		**Pg**	**12 58 57.6**	**-1.1**
BAVM	**Antelope Valle**	**0.20**	**102**		**Pg**	**12 58 59.6**	**+0.7**
BPIM	**Pinnacles**	**0.21**	**156**		**Pg**	**12 58 58.7**	**-0.4**
HSFM	**Saint Francis**	**0.22**	**305**		**Pg**	**12 58 58.7**	**-0.4**
BBGB	**Big Mountain B**	**0.22**	**120**		**Pg**	**12 59 00.2**	**+1.0**
BSGM	**Shirttail Gulc**	**0.27**	**176**		**Pb**	**12 58 59.4**	**-0.9**
BPCNC	**Pine Canyon**	**0.30**	**248**		**Pb**	**12 58 59.9**	**-0.9**
HFEM	**San Felipe**	**0.31**	**341**		**Pb**	**12 59 01.2**	**+0.2**
ANZ	**Anzar Road**	**0.32**	**308**		**Pb**	**12 59 00.2**	**-0.9**
PACP	**Pacheco Peak**	**0.32**	**359**		**Pb**	**12 59 01.6**	**+0.4**
PACP					**Sb**	**12 59 07.6**	**+1.5**
PACP	**Pacheco Peak**	**0.32**	**359**	IAML		12 59 08.2	
	comp=N,41μm,0.7s						
PACP				IAML		12 59 08.9	
	comp=E,34μm,0.4s						
HTUM	**Tustin Road**	**0.33**	**296**		**Pg**	**12 59 00.2**	**-0.6**
BSMM	**Soledad Missio**	**0.33**	**202**		**Pb**	**12 59 00.5**	**-0.8**
LRV	**Little Rabbit**	**0.34**	**141**		**Pb**	**12 59 01.5**	**+0.1**
HERM	**Elkhorn Road**	**0.37**	**288**		**Pb**	**12 59 01.1**	**-0.7**
HAST	**Hastings Reser**	**0.37**	**217**		**Pb**	**12 59 01.0**	**-1.0**
HAST					**Sg**	**12 59 06.0**	**-0.9**
CDC	**Canada Road**	**0.38**	**334**		**Pb**	**12 59 02.2**	**+0.2**
HCAM	**Canada Road**	**0.38**	**334**		**Pb**	**12 59 02.3**	**+0.2**
BMSM	**Mercy Hot Spri**	**0.39**	**94**		**Pn**	**12 59 03.4**	**-1.3**
HCBM	**Chamberlain**	**0.39**	**308**		**Pb**	**12 59 01.6**	**-0.8**
HCOM	**Corn Cob Canyo**	**0.40**	**300**		**Pb**	**12 59 01.8**	**-0.7**
GHS	**Gilroy Hot Spr**	**0.43**	**342**		**Pb**	**12 59 03.3**	**+0.2**
HLPM	**Lions Peak**	**0.45**	**321**		**Pb**	**12 59 03.3**	**-0.1**
BPRM	**Ponciano Ridge**	**0.46**	**233**		**Pb**	**12 59 02.6**	**-0.9**
BPRM					**Sg**	**12 59 08.7**	**-0.8**
LRC	**Lone Oak Road**	**0.48**	**157**		**Pb**	**12 59 03.5**	**-0.3**
JELB	**Ellicott, Sant**	**0.50**	**299**		**Pb**	**12 59 03.6**	**-0.6**
SCKWR	**San Luis Creek**	**0.52**	**18**		**Pn**	**12 59 05.8**	**-0.7**
HMOM	**Monterey**	**0.52**	**261**		**Pg**	**12 59 03.8**	**-0.6**
HMOM					**Sg**	**12 59 10.7**	**-0.7**
JLAB	**Laurel Hill**	**0.59**	**322**		**Pb**	**12 59 05.9**	**+0.1**
PCCM	**Crazy Canyon**	**0.60**	**171**		**Pb**	**12 59 06.0**	**+0.1**
PMPB	**Monarch Peak**	**0.61**	**141**		**Pn**	**12 59 06.2**	**-1.5**
CCOB	**Coe Ranch Numb**	**0.65**	**331**		**Pn**	**12 59 07.6**	**-0.7**
HULI	**Fort Hunter Li**	**0.67**	**177**		**Pb**	**12 59 06.8**	**-0.1**
HULI	**Fort Hunter Li**	**0.67**	**177**	IAML		12 59 22.6	
	comp=N,9μm,0.6s						
HULI				IAML		12 59 25.2	
	comp=E,7μm,0.7s						
CMPM	**Mikes Peak**	**0.67**	**357**		**Pn**	**12 59 08.2**	**-0.4**
ARN	**Arnold Ranch**	**0.69**	**343**		**Pn**	**12 59 08.2**	**-0.7**
C072	**Blauer Lane Sa**	**0.71**	**327**		**Pn**	**12 59 08.8**	**-0.3**
MHC	**Mount Hamilton**	**0.72**	**336**		**Pb**	**12 59 08.4**	**+0.5**
PJUM	**Juniper Ridge**	**0.72**	**130**		**Pn**	**12 59 08.8**	**-0.5**
C054	**Valleyhaven Wa**	**0.73**	**323**		**Pn**	**12 59 08.7**	**-0.6**
PPTM	**Peach Tree Val**	**0.73**	**142**		**Pn**	**12 59 08.4**	**-1.0**
PSAM	**San Ardo**	**0.73**	**154**		**Pn**	**12 59 08.2**	**-1.1**
SCCB	**Santa Clara Co**	**0.76**	**322**		**Pb**	**12 59 09.1**	**+0.5**
JJOM	**Saint Joseph's**	**0.76**	**313**		**Pg**	**12 59 08.0**	**-0.8**
C059	**Quail Canyon R**	**0.77**	**329**		**Pn**	**12 59 09.8**	**0.0**
CMMM	**Mount Mocho**	**0.79**	**347**		**Pn**	**12 59 09.9**	**-0.3**
PDRM	**Domengine Ranc**	**0.81**	**115**		**Pn**	**12 59 11.0**	**+0.5**
C041	**El Campo Drive**	**0.82**	**328**		**Pn**	**12 59 10.9**	**+0.4**
MTOS	**Mt Oso, Westle**	**0.82**	**357**		**Pn**	**12 59 10.9**	**+0.4**
MTOS	**Mt Oso, Westle**	**0.82**	**357**	IAML		12 59 27.8	
	comp=N,8μm,0.4s						
C046	**N 16th Street**	**0.82**	**324**		**Pn**	**12 59 10.5**	**-0.1**
PSMM	**Smith Mountain**	**0.83**	**138**		**Pn**	**12 59 10.4**	**-0.3**
CMLM	**Mount Lewis**	**0.84**	**339**		**Pn**	**12 59 11.0**	**0.0**
C016	**Longford Drive**	**0.85**	**326**		**Pn**	**12 59 11.3**	**+0.3**
CALM	**Calaveras Res.**	**0.87**	**331**		**Pn**	**12 59 10.9**	**-0.3**
PHSB	**Hesperia Broad**	**0.88**	**168**		**Pn**	**12 59 10.8**	**-0.6**
PHPM	**Hope Ranch**	**0.89**	**142**		**Pn**	**12 59 11.0**	**-0.5**
PWMM	**Westland Maint**	**0.90**	**106**		**Pn**	**12 59 12.5**	**+0.9**
JSJM	**St Joseph**	**0.92**	**315**		**Pb**	**12 59 11.4**	**+0.1**
JBMM	**Black Mountain**	**0.94**	**312**		**Pg**	**12 59 11.3**	**-0.9**
CSTL	**Corral Hollow**	**0.97**	**350**		**Pn**	**12 59 13.4**	**+0.8**
CSTL	**Corral Hollow**	**0.97**	**350**		**Pn**	**12 59 13.4**	**+0.8**
C017	**S Grimmer Bl F**	**0.97**	**328**		**Pn**	**12 59 13.3**	**+0.7**
PVCM	**Vineyard Canyo**	**0.97**	**142**		**Pn**	**12 59 12.6**	**-0.1**
MYLM	**Yosemite Lake**	**0.98**	**44**		**Pn**	**12 59 13.2**	**+0.5**
PPO	**Portuguese Can**	**0.98**	**147**		**Pn**	**12 59 12.9**	**+0.2**
PSTM	**Stockdale Moun**	**0.98**	**140**		**Pn**	**12 59 12.6**	**-0.2**
C050	**Festivo Court**	**0.98**	**328**		**Pn**	**12 59 12.9**	**+0.1**
C001	**Firth Court Fr**	**0.98**	**328**		**Pn**	**12 59 12.8**	**0.0**
JFP	**Foothills Park**	**0.99**	**313**		**Pg**	**12 59 12.1**	**-1.0**
JPSM		**1.00**	**301**		**Pg**	**12 59 12.3**	**-1.0**
WENL	**Wente Vineyard**	**1.01**	**338**		**Pn**	**12 59 13.4**	**+0.2**
JSFB	**Stanford Teles**	**1.01**	**315**		**Pb**	**12 59 12.6**	**-0.3**
CVLM	**Vallecito**	**1.04**	**335**		**Pn**	**12 59 13.9**	**+0.3**
CSAM	**Sandia**	**1.04**	**341**		**Pn**	**12 59 14.1**	**+0.5**
C015	**Bright Common**	**1.04**	**327**		**Pb**	**12 59 13.4**	**+0.1**
JRSC	**Jasper Ridge**	**1.05**	**313**		**Pg**	**12 59 12.8**	**-1.4**
CBZL	**Buffer Zone**	**1.06**	**341**		**Pn**	**12 59 14.7**	**+0.8**
CBZL	**Buffer Zone**	**1.06**	**341**		**Pn**	**12 59 14.7**	**+0.8**
PWKM	**Work Ranch**	**1.07**	**144**		**Pn**	**12 59 14.2**	**+0.2**
CTM	**Castle Mountai**	**1.07**	**135**		**Pn**	**12 59 15.3**	**+1.2**
PHFM	**Heflinger Ranc**	**1.07**	**138**		**Pn**	**12 59 14.3**	**+0.3**
CNIC	**Niles Canyon**	**1.07**	**329**		**Pb**	**12 59 13.8**	**-0.1**
C062	**Calle Reynoso**	**1.10**	**333**		**Pn**	**12 59 14.6**	**+0.2**
RAMR	**Ramage Ranch**	**1.10**	**162**		**Pn**	**12 59 14.3**	**-0.1**
PHAM	**Harlan Ranch**	**1.11**	**140**		**Pn**	**12 59 15.5**	**+1.0**
CGPM	**Gavin Park**	**1.12**	**329**		**Pn**	**12 59 15.0**	**+0.3**
PKEM	**Kettleman Hill**	**1.13**	**123**		**Pn**	**12 59 16.3**	**+1.5**
GHC	**Gold Hill**	**1.13**	**139**		**Pn**	**12 59 15.2**	**+0.3**
CBSNC	**Byron Hot Spri**	**1.17**	**346**		**Pn**	**12 59 16.0**	**+0.7**
PKLM	**Kerr Lake**	**1.19**	**140**		**Pn**	**12 59 16.0**	**+0.4**
CMOB	**Morgan Territo**	**1.20**	**340**		**Pn**	**12 59 16.0**	**+0.2**
PMCM	**McMillan Canyo**	**1.21**	**142**		**Pn**	**12 59 17.1**	**+1.2**
TCAS	**Cass Winery, P**	**1.22**	**151**		**Pn**	**12 59 16.2**	**+0.1**
CLCB	**Lake Chabot**	**1.22**	**329**		**Pb**	**12 59 16.2**	**-0.3**
TCHL	**Shandon**	**1.22**	**144**		**Pn**	**12 59 16.5**	**+0.4**
JCPM	**Coyote Point**	**1.23**	**317**		**Pn**	**12 59 15.4**	**-0.7**
PMRM	**Maxey Ranch**	**1.23**	**137**		**Pn**	**12 59 16.5**	**+0.3**
CSLM	**San Leandro Hi**	**1.23**	**327**		**Pn**	**12 59 15.9**	**-0.4**
SAC	**San Andreas**	**1.28**	**315**		**Pn**	**12 59 16.1**	**-0.8**
THIS	**South End of C**	**1.28**	**138**		**Pg**	**12 59 17.6**	**-1.0**
BGC	**Bolinger Road**	**1.29**	**331**		**Pn**	**12 59 17.1**	**+0.1**
FRI	**Friant**	**1.29**	**76**		**Pg**	**12 59 18.0**	**-0.9**
TRAM	**Private Proper**	**1.29**	**141**		**Pg**	**12 59 18.2**	**-0.7**
CMCM	**Mills College**	**1.31**	**327**		**Pn**	**12 59 17.4**	**+0.1**
SMCB	**Saint Mary's C**	**1.33**	**330**		**Pn**	**12 59 17.6**	**+0.1**
JSBM	**San Bruno Moun**	**1.33**	**318**		**Pn**	**12 59 16.5**	**-1.1**
JMGM	**Milagra Ridge**	**1.35**	**315**		**Pn**	**12 59 16.9**	**-0.9**
PTAM	**Tassajara Cree**	**1.37**	**160**		**Pg**	**12 59 18.6**	**-1.8**
BKS	**Berkeley--Hyper**	**1.41**	**327**		**Pn**	**12 59 18.3**	**-0.4**
CVPM	**Vollmer Peak**	**1.41**	**328**		**Pn**	**12 59 18.6**	**-0.2**
CYBM	**Yerba Buena Is**	**1.42**	**323**		**Pn**	**12 59 17.8**	**-1.0**
BL67	**Building 67, L**	**1.42**	**327**		**Pn**	**12 59 18.6**	**-0.2**
VAK	**Adit at Lawren**	**1.42**	**327**		**Pn**	**12 59 18.4**	**-0.4**
BL88	**Building 88, L**	**1.42**	**327**		**Pn**	**12 59 18.5**	**-0.4**
BRK	**Berkeley--Havi**	**1.42**	**327**		**Pn**	**12 59 18.4**	**-0.4**
MMIM	**Miami Mountain**	**1.43**	**59**		**Pg**	**12 59 20.2**	**-1.2**
LSDC	**Los Osos Digit**	**1.43**	**166**		**Pb**	**12 59 19.4**	**-0.6**
EFD	**Emergency Oper**	**1.44**	**162**		**Pn**	**12 59 18.9**	**-0.1**
TSCS	**Shell Creek So**	**1.45**	**149**		**Pb**	**12 59 19.4**	**-1.0**
CTAM	**Taylor**	**1.46**	**336**		**Pn**	**12 59 19.7**	**+0.4**
JPRM	**Presidio of Sa**	**1.46**	**320**		**Pn**	**12 59 18.3**	**-1.0**
TRAY	**Twisselman Ran**	**1.47**	**140**		**Pb**	**12 59 19.9**	**-0.8**
PBPM	**Bitterwater Pu**	**1.47**	**138**		**Pg**	**12 59 20.1**	**-2.1**
RFSB	**Richmond Field**	**1.49**	**326**		**Pn**	**12 59 19.4**	**-0.3**
CPIM	**Pinole Ridge**	**1.50**	**330**		**Pn**	**12 59 20.1**	**+0.2**
DPD	**Davis Peak**	**1.50**	**164**		**Pn**	**12 59 20.1**	**+0.1**
CSPM	**San Pablo Ridg**	**1.51**	**327**		**Pn**	**12 59 19.9**	**-0.2**
DCD	**Diablo Creek**	**1.51**	**166**		**Pn**	**12 59 20.0**	**-0.1**
CMB	**Columbia Colle**	**1.52**	**28**		**Pg**	**12 59 21.4**	**-1.8**
CMB	**Columbia Colle**	**1.52**	**28**	Pn	**Pg**	**12 59 21.5**	**-1.7**
CMB					**Sg**	**12 59 41.1**	**-1.9**
CMB				IAML		12 59 42.2	
	comp=N,909nm,0.6s						
CMB				IAML		12 59 47.7	
	comp=E,957nm,1.1s						
HERB	**Hercules**	**1.54**	**330**		**Pn**	**12 59 20.5**	**+0.1**
CPMM	**Point Molate**	**1.55**	**325**		**Pn**	**12 59 19.7**	**-0.9**
VOG	**Valley Oaks Go**	**1.57**	**103**		**Pg**	**12 59 22.4**	**-1.7**
KCC	**Kaiser Creek**	**1.69**	**67**		**Pg**	**12 59 24.7**	**-1.8**
FARB	**Farallon Islan**	**1.71**	**307**		**Pn**	**12 59 21.9**	**-0.9**
FARB	**Farallon Islan**	**1.71**	**307**	IAML		12 59 47.8	
	comp=N,756nm,0.7s						
FARB				IAML		12 59 50.0	
	comp=E,901nm,0.6s						
SMMC	**Simmler**	**1.72**	**142**		**Pn**	**12 59 23.3**	**+0.3**
SNT	**Sears Point**	**1.76**	**328**		**Pn**	**12 59 23.4**	**-0.1**
CARC	**Carrizo Plain**	**1.80**	**139**		**Pb**	**12 59 24.6**	**-1.8**
MRHM	**Rocky Hill**	**1.81**	**102**		**Pb**	**12 59 25.1**	**-1.4**
NCLM	**Olema**	**1.81**	**319**		**Pn**	**12 59 23.0**	**-1.1**
NADM	**Allendale**	**1.85**	**343**		**Pb**	**12 59 26.1**	**-1.1**
CVS	**Carmenet Viney**	**1.90**	**331**		**Pn**	**12 59 25.1**	**-0.3**
CVS	**Carmenet Viney**	**1.90**	**331**	IAML		13 00 12.0	
	comp=E,884nm,1.0s						
NPRM	**Point Reyes**	**1.91**	**314**		**Pn**	**12 59 24.4**	**-1.1**
CRGC	**Crocker Grade**	**1.91**	**138**		**Pn**	**12 59 26.3**	**+0.6**
MCCM	**Marconi Confer**	**1.94**	**319**		**Pn**	**12 59 25.2**	**-0.7**
MCCM				IAML		13 00 00.2	
	comp=N,1μm,0.8s						
MCCM				IAML		13 00 11.1	
	comp=E,1μm,1.0s						
VES	**Vestal, Richgr**	**1.96**	**115**		**Pb**	**12 59 27.8**	**-1.3**
MRDM	**Red Cones**	**1.99**	**62**		**Pb**	**12 59 29.2**	**-0.6**
MDPB	**Devils Postpil**	**1.99**	**61**		**Pb**	**12 59 28.9**	**-0.8**
MDPB				IAML		13 00 03.0	
	comp=E,1μm,0.6s						
MINS	**Minaret Summit**	**2.02**	**61**		**Pb**	**12 59 29.8**	**-0.4**
MMPM	**Mammoth Pass**	**2.02**	**62**		**Pg**	**12 59 30.1**	**-2.6**
MMSM	**Mammoth Summit**	**2.03**	**62**		**Pg**	**12 59 30.2**	**-2.7**
MLIM	**Lincoln Peak**	**2.04**	**62**		**Pg**	**12 59 30.7**	**-2.4**
OMMB	**Old Mammoth Mi**	**2.04**	**62**		**Pb**	**12 59 29.9**	**-0.8**
OMMB				IAML		13 00 03.2	
	comp=E,982nm,0.9s						
OMMB				IAML		13 00 07.5	
	comp=N,1μm,1.0s						
MDYM	**Dry Creek**	**2.05**	**61**		**Pg**	**12 59 30.6**	**-2.7**
MDCM	**Deadman Creek**	**2.06**	**60**		**Pb**	**12 59 30.4**	**-0.4**
MMLB	**Mammoth Lakes**	**2.08**	**61**		**Pg**	**12 59 31.3**	**-2.5**
SPG2	**Springville 2**	**2.08**	**103**		**Pb**	**12 59 30.0**	**-1.1**
MLCM	**Laurel Creek C**	**2.10**	**63**		**Pg**	**12 59 31.5**	**-2.7**
MEMM	**East Mammoth H**	**2.11**	**62**		**Pg**	**12 59 31.9**	**-2.5**
MGPM	**Gravel Pit**	**2.12**	**63**		**Pg**	**12 59 33.1**	**-1.4**
MCSM	**Casa Diablo Ho**	**2.13**	**62**		**Pg**	**12 59 32.2**	**-2.5**
MCBM	**Casa Benchmark**	**2.13**	**63**		**Pg**	**12 59 32.2**	**-2.6**
LMCR	**Lookout Mounta**	**2.13**	**60**		**Pg**	**12 59 32.1**	**-2.7**
MCVM	**Convict Lake**	**2.15**	**65**		**Pb**	**12 59 32.0**	**-0.6**
PKM	**Mcpherson Peak**	**2.15**	**146**		**Pn**	**12 59 29.5**	**+0.4**
MLAC	**Mammoth, Mammo**	**2.17**	**63**		**Pg**	**12 59 32.7**	**-2.7**
MDRNC	**Doe Ridge**	**2.17**	**63**		**Pg**	**12 59 32.8**	**-2.7**
MLHM	**Little Hot Cre**	**2.20**	**63**		**Pg**	**12 59 33.6**	**-2.5**
FIGC	**Figueroa Mtn.**	**2.22**	**151**		**Pn**	**12 59 30.2**	**+0.3**
NHSM	**Mount Saint He**	**2.23**	**332**		**Pn**	**12 59 29.6**	**-0.5**
AFDM	**Forest Hills D**	**2.27**	**6**		**Pn**	**12 59 31.6**	**+1.1**
MTUM	**Tungsten Hills**	**2.27**	**72**		**Pb**	**12 59 33.7**	**-0.7**
BCW	**Bitter Crk WRg**	**2.31**	**138**		**Pb**	**12 59 32.5**	**-2.5**
BCW				IAML		13 00 30.7	
	comp=N,1μm,1.2s						
NMTM	**Middletown**	**2.31**	**337**		**Pn**	**12 59 31.2**	**+0.1**
BHPR	**Bishop**	**2.32**	**74**		**Pb**	**12 59 34.3**	**-1.0**
NJQ	**Nojoqui County**	**2.33**	**157**		**Pn**	**12 59 31.3**	**+0.1**
WAKR	**Walker**	**2.33**	**38**		**Pb**	**12 59 33.7**	**-1.8**
WAKR				IAML		13 00 13.5	
	comp=E,1μm,0.9s						
GAXM	**Alexander Vall**	**2.34**	**330**		**Pn**	**12 59 30.8**	**-0.6**
MNRC	**McLaughlin Min**	**2.38**	**337**		**Pn**	**12 59 32.4**	**+0.4**
BENR	**Benton**	**2.39**	**64**		**Pb**	**12

PFO	Pinyon Flats O	5.00	126	LR	LR	13 02 28.1	
	comp=E,300nm,19.3s,baz=344,slow=43						
PRN	Pahroc Range	5.03	80	Pn	Pn	13 00 09.5	+0.9
PRN				IAML		13 01 47.4	
	comp=N,127nm,0.8s						
YBH	Yreka Blue Hor	5.16	348	Pn	Pn	13 00 11.2	+0.9
V12A	Nelson	5.28	99	Pn	Pn	13 00 12.5	+0.5
V12A				IAML		13 01 59.2	
	comp=N,65nm,1.6s						
KSXB	Camp Six Broad	5.52	339		Pn	13 00 16.1	+0.9
Q12A	Willow Creek R	5.62	63	Pn	Pn	13 00 18.3	+1.7
CBX	Cerro Bola	5.79	138	Pn	Pn	13 00 20.5	+1.5
SPR3	Spring Creek 3	5.96	65	Pn	Pn	13 00 21.7	+0.2
YUH	Yuha Desert	5.97	131	Pn	Pn	13 00 23.6	+2.2
PSUT	Pine Spring	6.17	70	Pn	Pn	13 00 25.3	+1.0
W13A	Hualapai Mount	6.21	103	Pn	Pn	13 00 26.3	+1.5
ELK	Elko	6.22	48	LR	LR	13 03 08.3	
	comp=N,96nm,21.5s,baz=224,slow=41						
BLYC	Blythe	6.25	116	Pn	Pn	13 00 25.8	+0.5
K02D	Willamette Mer	6.28	344	Pn	Pn	13 00 24.9	-0.7
CCUT	Cedar City	6.38	80	Pn	Pn	13 00 28.7	+1.5
ESJX	Sierra Juarez	6.42	135	Pn	Pn	13 00 30.0	+2.3
LCMT	Little Creek M	6.45	85	Pn	Pn	13 00 29.2	+1.2
J05D	Fort Rock, OR	6.59	0	Pn	Pn	13 00 30.0	0.0
SZCU	Shurtz Canyon	6.60	80	Pn	Pn	13 00 31.0	+0.7
KNB	Kanab	6.79	85	Pn	Pn	13 00 34.0	+1.3
J08A	Circle Bar Ran	7.00	17	Pn	Pn	13 00 37.0	+1.4
PKCU	Pink Cliffs	7.21	81		Pn	13 00 38.0	-0.6
U15A	North Rim	7.24	89	Pn	Pn	13 00 39.5	+0.5
TCRU	Three Creeks R	7.26	72	Pn	Pn	13 00 40.8	+1.5
Y14A	Wickenburg	7.30	110		Pn	13 00 40.1	+0.5
DUG	Dugway, Tooele	7.51	60	Pn	Pn	13 00 43.0	+0.3
I05D	Terrebonne, OR	7.64	360	Pn	Pn	13 00 45.7	+1.3
BGU	Big Grassy Mou	7.70	54	Pn	Pn	13 00 46.3	+1.0
WUAZ	Wupatki	8.10	95	Pn	Pn	13 00 51.9	+1.1
PDAR	Pinedale Array	10.87	52	Pn	Pn	13 01 35.7	+6.9
	comp=N,0.1nm,0.3s,baz=226,slow=12,SNR=3.0						
PDAR				Lg	Lg	13 04 34.5	
	comp=N,0.1nm,0.3s,baz=234,slow=26,SNR=1.6						
PDAR				LR	LR	13 05 36.6	
	comp=N,126nm,19.2s,baz=238,slow=37						
	comp=N,0.1nm,0.3s						
NEW	Newport	11.97	13	LR	LR	13 06 44.3	
	comp=N,217nm,19.4s,baz=209,slow=39						
VHRN	Van Horn	14.77	109	Pn	Pn	13 02 21.6	-0.4
OGNE	Ogallala	15.59	68	Pn	Pn	13 02 32.9	+0.1
OGNE				IAmb	IAmb	13 02 43.4	
	comp=Z,6.8nm,0.7s						
LPIG	La Paz	15.70	140	LR	LR	13 08 51.8	
	comp=Z,96nm,18.8s,baz=330,slow=38						
ALPN	Alpine	15.99	108		Pn	13 02 38.3	+0.2
BBB	Bella Bella	16.23	345	LR	LR	13 09 27.3	
	comp=Z,133nm,18.4s,baz=230,slow=39						
TXAR	Lajitas Array	16.48	111	Pn	P	13 02 48.3	+1.5
	comp=Z,0.5nm,0.5s,baz=300,slow=12,SNR=1.8						
KAN14	Manchester OK	18.66	82	P	Pn	13 03 11.5	+0.3
KAN01	Argonia South	18.80	82	P	P	13 03 11.7	-0.7
WTFS	Witchita Falls	18.86	92	P	Pn	13 03 13.8	+0.2
WTFS				IAmb	IAmb	13 03 15.4	
	comp=Z,15nm,1.3s						
X34A	Smith Ranch, M	19.16	89	P	Pn	13 03 17.0	-0.3
X34A				IAmb	IAmb	13 03 24.5	
	comp=Z,21nm,1.2s						
KSU1	Kansas State U	19.60	75	P	Pn	13 03 21.9	-0.6
KSU1				IAmb	IAmb	13 03 31.4	
	comp=Z,8.4nm,0.6s						
LOOK	Love County	19.83	91	P	P	13 03 24.1	+0.5
LOOK				IAmb	IAmb	13 03 33.4	
	comp=Z,19nm,1.4s						
ECSD	EROS Data Cent	20.06	62	P	Pn	13 03 27.1	-0.9
MIAR	Mount Ida	22.59	87	P	P	13 03 56.4	+2.9
YKA	Yellowknife Ar	26.16	7	LR	LR	13 14 23.9	
	comp=Z,127nm,18.8s,baz=206,slow=36						
CMIG	Matias Romero	30.41	123	LR	LR	13 18 19.5	
	comp=Z,130nm,19.1s,baz=216,slow=38						
ILAR	Eielson Array	31.99	340	P	P	13 05 21.6	+2.9
	comp=Z,0.5nm,0.9s,baz=153,slow=6.1,SNR=3.3						
ILAR				LR	LR	13 19 16.3	
	comp=Z,48nm,18.3s,baz=58,slow=38						
	comp=Z,0.5nm,0.9s						
INK	Inuvik	32.41	352	LR	LR	13 20 28.6	
	comp=Z,133nm,18.7s,baz=222,slow=40						
RES	Resolute Bay	40.11	11	LR	LR	13 25 09.8	
	comp=Z,84nm,18.2s,baz=44,slow=39						
JTS	Las Juntas de	42.02	119	LR	LR	13 26 41.1	
	comp=Z,57nm,18.2s,baz=322,slow=40						
SPITS	Spitsbergen Ar	62.64	9	LR	LR	13 37 33.3	
	comp=Z,67nm,19.2s,baz=271,slow=37						
H11N3	WAKE ISLAND Hy	64.16	276	T	T	14 18 48.7	
	baz=58,slow=75,SNR=153						
H11N2	WAKE ISLAND Hy	64.16	276	T	T	14 18 49.0	
	baz=58,slow=75,SNR=129						
H11N1	WAKE ISLAND Hy	64.18	276	T	T	14 18 50.0	
	baz=58,slow=75,SNR=142						
H11S1	WAKE ISLAND Hy	64.97	275	T	T	14 19 48.5	
	baz=57,slow=75,SNR=89						
H11S2	WAKE ISLAND Hy	64.97	275	T	T	14 19 56.4	
	baz=57,slow=75,SNR=87						
H11S3	WAKE ISLAND Hy	64.99	275	T	T	14 19 47.8	
	baz=57,slow=75,SNR=65						
NOA	NORSAR Array B	75.20	22	LR	LR	13 43 03.2	
	comp=Z,19nm,20.1s,baz=65,slow=35						
HHC	Hu-ho-hao-te	88.90	323	eP	P	13 11 46.9	-0.4
HHC				pmax	pmax		
	comp=Z,21nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,5.9s						
PZH	PanZhiHua	105.22	321	PKP	Pdif	13 13 03.4	+1.7

NEIC ***02*** *13:01:15.1±1.4, 36°.676N±0°.006×121°.369W±0°.007, h8km±3km, Error ellipse: s-maj=0.9km s-min=0.8km az=162.0*

NCEDC 02 13:01:14.9±1.2, 36°.683N±0°.004×121°.321W±0°.009, h6km±1km, ML3.1/12, ML2.9/30(NEIC), Error ellipse: s-maj=1.1km s-min=0.5km az=67.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	Mount Johnson	0.06	173		Pg	13 01 18.1	+1.8
SCZ	Santa Cruz	0.11	218		Pg	13 01 18.8	+1.6
SCZ	Santa Cruz	0.11	218	IAML		13 01 19.0	
	comp=N,9μm,0.5s						
SCZ				IAML		13 01 19.1	
	comp=E,11μm,0.4s						
SAO	San Andreas Ge	0.13	309		Sg	13 01 19.1	-0.3
SAO	San Andreas Ge	0.13	309	Pg	Pg	13 01 17.5	-0.1
BJCM	Johnson Can.	0.15	203		Pg	13 01 17.9	0.0
BVL	Bear Valley	0.15	136		Pg	13 01 18.4	+0.4
FRP	Fremont Peak	0.15	298		Pg	13 01 18.0	-0.1
BSRM	Salinas Radio	0.16	264		Pg	13 01 18.1	0.0
HSFM	Saint Francis	0.19	312		Pg	13 01 19.2	+0.4
BPIM	Pinnacles	0.23	147		Pg	13 01 19.5	+0.1
BAVM	Antelope Valle	0.24	99		Pg	13 01 20.4	+0.8
BBGB	Big Mountain B	0.25	115		Pg	13 01 21.0	+1.2
BBGB					Sg	13 01 26.0	+2.8
BBGB	Big Mountain B	0.25	115	IAML		13 01 26.4	
	comp=E,6μm,0.5s						
BBGB				IAML		13 01 26.8	
	comp=N,10μm,0.6s						
BPCNC	Pine Canyon	0.27	246		Pg	13 01 20.4	+0.3
BSGM	Shirttail Gulc	0.27	169		Pg	13 01 20.1	-0.1
ANZ	Anzar Road	0.30	313		Pg	13 01 20.8	+0.1
HTUM	Tustin Road	0.30	299		Pg	13 01 20.7	0.0
HFEM	San Felipe	0.31	348		Pg	13 01 21.7	+0.8
BSMM	Soledad Missio	0.31	196		Pg	13 01 21.2	+0.2
PACP	Pacheco Peak	0.33	5		Pg	13 01 22.1	+0.8
PACP					Sb	13 01 27.4	-1.4
PACP	Pacheco Peak	0.33	5	IAML		13 01 28.6	
	comp=N,2μm,0.6s						
PACP				IAML		13 01 30.6	
	comp=E,1μm,0.5s						
HERM	Elkhorn Road	0.33	290		Pg	13 01 21.7	+0.3
HAST	Hastings Reser	0.35	212		Pg	13 01 21.7	0.0
HAST					Sg	13 01 26.6	+0.3
LRV	Little Rabbit	0.35	136		Pg	13 01 22.3	+0.5
CDC	Canada Road	0.37	339		Pg	13 01 22.9	+0.8
HCAM	Canada Road	0.37	339		Pb	13 01 23.0	-0.9
HCBM	Chamberlain	0.37	312		Pg	13 01 22.8	+0.8
HCOM	Corn Cob Canyo	0.37	303		Pg	13 01 22.4	+0.2
GHS	Gilroy Hot Spr	0.42	346		Pg	13 01 23.8	+0.7
BMSM	Mercy Hot Spri	0.42	93		Pb	13 01 24.1	-0.8
BPRM	Ponciano Ridge	0.43	230		Pg	13 01 23.3	0.0
HLPM	Lions Peak	0.44	325		Pg	13 01 23.8	+0.5
JELB	Ellicott, Sant	0.47	301		Pg	13 01 24.2	+0.1
HMOM	Monterey	0.49	260		Pg	13 01 24.3	0.0
SCKWR	San Luis Creek	0.54	22		Pb	13 01 26.5	-0.3
JLAB	Laurel Hill	0.58	325		Pg	13 01 26.6	+0.6
PCCM	Crazy Canyon	0.60	168		Pg	13 01 26.7	+0.2
PMPB	Monarch Peak	0.63	138		Pg	13 01 27.3	+0.3
PMPB	Monarch Peak	0.63	138	IAML		13 01 41.4	
	comp=E,926nm,0.7s						
PMPB				IAML		13 01 44.4	
	comp=N,803nm,1.2s						
CCOB	Coe Ranch Numb	0.64	334		Pb	13 01 28.6	0.0
HULI	Fort Hunter Li	0.66	174		Pg	13 01 27.6	-0.1
CMPM	Mikes Peak	0.67	0		Pb	13 01 28.9	-0.3
ARN	Arnold Ranch	0.69	346		Pg	13 01 28.7	+0.5
MHC	Mount Hamilton	0.71	339		Pg	13 01 29.1	+0.6
C054	Valleyhaven Wa	0.71	326		Pg	13 01 28.8	+0.2
JJOM	Saint Joseph's	0.74	315		Pg	13 01 28.9	-0.3
PJUM	Juniper Ridge	0.74	128		Pb	13 01 29.8	-0.5
PSAM	San Ardo	0.74	152		Pg	13 01 28.9	-0.3
PPTM	Peach Tree Val	0.75	140		Pg	13 01 29.2	-0.1
CMMM	Mount Mocho	0.78	350		Pb	13 01 30.7	-0.4
MTOS	Mt Oso, Westle	0.82	360		Pb	13 01 31.4	-0.3
MTOS	Mt Oso, Westle	0.82	360	IAML		13 01 47.7	
	comp=E,383nm,0.4s						
MTOS				IAML		13 01 49.2	
	comp=N,379nm,0.6s						
CMLM	Mount Lewis	0.84	342		Pg	13 01 31.0	0.0
PDRM	Domengine Ranc	0.84	114		Pg	13 01 31.0	-0.1
PSMM	Smith Mountain	0.85	136		Pg	13 01 31.5	+0.3
CALM	Calaveras Res.	0.86	334		Pb	13 01 32.0	-0.3
PHSB	Hesperia Broad	0.88	166		Pg	13 01 31.6	-0.3
JSJM	St Joseph	0.90	317		Pg	13 01 32.2	+0.1
PHPM	Hope Ranch	0.91	140		Pg	13 01 32.0	-0.4
JBMM	Black Mountain	0.92	314		Pg	13 01 32.4	-0.2
CSTL	Corral Hollow	0.96	352		Pb	13 01 34.3	+0.2
JFP	Foothills Park	0.97	314		Pg	13 01 32.9	-0.6
JPSM		0.97	302		Pg	13 01 32.8	-0.8
PVCM	Vineyard Canyo	0.99	140		Pg	13 01 33.6	-0.3
JSFB	Stanford Teles	0.99	317		Pg	13 01 33.6	-0.4
PPO	Portuguese Can	0.99	145		Pg	13 01 34.1	+0.1
PSTM	Stockdale Moun	1.00	139		Pg	13 01 33.7	-0.4
JRSC	Jasper Ridge	1.03	315		Pg	13 01 33.6	-1.1
CNIC	Niles Canyon	1.06	331		Pg	13 01 34.5	-0.7
PWKM	Work Ranch	1.09	143		Pg	13 01 35.5	-0.3
PHFM	Heflinger Ranc	1.09	137		Pg	13 01 35.9	+0.1
RAMR	Ramage Ranch	1.11	161		Pg	13 01 35.5	-0.7
PKLM	Kerr Lake	1.21	139		Pg	13 01 36.8	-1.2
JCPM	Coyote Point	1.21	319		Pg	13 01 36.2	-1.9
TCAS	Cass Winery, P	1.24	150		Pg	13 01 37.8	-0.9
JSBM	San Bruno Moun	1.31	319		Pn	13 01 37.3	-2.6
CVPM	Vollmer Peak	1.40	329		Pn	13 01 39.6	-1.4
CMB	Columbia Colle	1.54	29		Pn	13 01 42.2	-0.8
CMB	Columbia Colle	1.54	29		Pn	13 01 42.0	-1.0
MCCM	Marconi Confer	1.92	320	Pn	Pn	13 01 45.8	-2.3
MCCM				IAML		13 02 23.3	
	comp=N,96nm,2.4s						
MCCM				IAML		13 02 34.6	
	comp=E,114nm,2.0s						
OMMB	Old Mammoth Mi	2.07	63	Pn	Pn	13 01 51.3	+0.7
OMMB				IAML		13 02 21.1	
	comp=N,63nm,0.5s						
BCW	Bitter Crk WRg	2.33	138	Pn	Pn	13 01 54.2	+0.2
MGNR	McGee Canyon	2.38	61		Pg	13 01 59.9	-0.7
EMB	Emerald Bay	2.48	22	Pn	Pn	13 01 57.0	+0.8
EMB				IAML		13 02 10.7	
	comp=E,55nm,1.6s						
EMB				IAML		13 02 22.9	
	comp=N,70nm,2.0s						
ISA	Isabella, Lake	2.52	113	Pn	Pn	13 01 56.3	-0.2

CATAC ***02*** *13:07:12.5±0.9, 10°.74N×86°.96W, h14km±7km, ML3.8*
UCR ***02*** *13:07:14.5±0.7, 10°.51N×86°.18W, h0km±76km, MW4.4*

ISC 02 13:07:08.2±1.8, 10°.45N±0°.08×86°.69W±0°.09, h10km, n41, σ1§75/45, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	Santa Cruz	1.10	100	eP	Pb	13 07 28.0	-1.4
ELI1	Hacienda Flor	1.13	80	eP	Pb	13 07 29.2	-0.8
LCRUZ	La Cruz	1.21	59	eP	Pb	13 07 30.2	-1.1
NICO	Nicoya	1.26	104	eP	Pn	13 07 30.5	-1.5
VRLE	La Escondida,	1.34	75	eP	Pn	13 07 31.4	-1.8
GPS2	Hotel Rincn d	1.35	77	eP	Pn	13 07 31.6	-1.6
VORI	VORI	1.37	74	eP	Pn	13 07 32.0	-1.6
COLC	Colonia	1.48	82	eP	Pn	13 07 33.7	-1.3
HORNC	Hornillas	1.51	80	eP	Pn	13 07 33.8	-1.6
CUI	Cuipilapa	1.51	82	eP	Pn	13 07 34.4	-1.1
CRUN	El Crucero	1.57	14	iP	Pn	13 07 36.4	+0.1
CRUN				IAML		13 07 42.8	
	comp=Z,21μm,1.0s						
RA5A7	El Crucero	1.57	14	iP	Pn	13 07 38.2	+1.8
RA5A7				IAML		13 07 43.9	
	comp=Z,7μm,1.0s						
NANN	Nandasmo	1.58	21	iP	Pn	13 07 37.4	+1.0
NANN				IAML		13 07 43.7	
	comp=Z,21μm,1.0s						
SABN	Sabanita	1.58	19	iP	Pb	13 07 38.8	+1.1
SABN				IAML		13 08 11.8	
	comp=Z,4μm,1.0s						
MASN	Masaya	1.61	19	iP	Pg	13 07 42.3	+3.0
MASN				IAML		13 07 50.7	
	comp=Z,430nm,1.0s						
MAS3	Al N del Volca	1.64	18	iP	Pn	13 07 39.4	+2.2
MAS3				IAML		13 07 50.2	
	comp=Z,980nm,1.0s						
JUNT	Juntas	1.71	96	eP	Pn	13 07 37.2	-0.9
JTS	Las Juntas de	1.72	95	eP	Pn	13 07 36.9	-1.3
TISN	Laguna Tiscapa	1.73	14	iP	Pn	13 07 39.8	+1.4
TISN				IAML		13 07 46.2	
	comp=Z,120nm,1.0s						
MGAN	Managua	1.74	14	iP	Pb	13 07 41.0	+0.7
MGAN				IAML		13 07 50.2	
	comp=Z,1μm,1.0s						
WILN	Americas 2	1.77	16	iP	Pn	13 07 40.5	+1.6
WILN				IAML		13 08 16.4	
	comp=Z,780nm,1.0s						
APQ2	Apoyeque	1.77	12	iP	Pn	13 07 40.5	+1.5
APQ2				IAML		13 07 46.4	
	comp=Z,1μm,1.0s						
APYN	Apoyeque	1.80	11	iP	Pb	13 07 42.2	+0.8
APYN				IAML		13 08 10.8	
	comp=Z,14nm,1.0s						
VERA	Finca Concepci	1.83	77	eP	Pn	13 07 39.5	-0.3
ARE1	Arenal 1	1.94	90	eP	Pn	13 07 41.5	+0.2
LEVN	Ruinas Leon Vi	1.94	2	iS	Sn	13 08 02.7	-3.0
CEDE	Laguna Cedeo	1.95	89	eP	Pn	13 07 41.2	-0.3
MOM2	El Cardon	1.98	6	iP	Pn	13 07 40.2	-1.7
MOM2				IAML		13 07 54.2	
	comp=Z,490nm,1.0s						
MOM2				iS	Sn	13 08 04.8	-2.0
CNGA	Al SSO del Vol	2.03	360	iP	Pn	13 07 41.0	-1.6
CNGA				iS	Sn	13 08 04.5	-3.6
CNGA				IAML		13 08 06.0	
	comp=Z,500nm,1.0s						
PACN	Al O del Volca	2.04	357	iP	Pn	13 07 41.4	-1.3
PACN				IAML		13 08 08.3	
	comp=Z,470nm,1.0s						
ILCN	San Idelfonso	2.11	360	iP	Pn	13 07 42.2	-1.5
ILCN				IAML		13 08 07.7	
	comp=Z,160nm,1.0s						
ACON	Acoyapa	2.12	44	iP	Pn	13 07 45.1	+1.4
ACON				IAML		13 08 22.8	
	comp=Z,260nm,1.0s						
ACON	Acoyapa	2.12	44	eP	Pn	13 07 41.7	-2.0
PLRN	Geotermica Pol	2.12	358	iP	Pn	13 07 41.4	-2.4
PLRN				IAML		13 08 11.4	
	comp=Z,330nm,1.0s						
CRIN	San Cristobal	2.26	351	iP	Pn	13 07 44.6	-1.2
CRIN				iS	Sn	13 08 11.7	-2.1
CRIN				IAML		13 08 15.2	
	comp=Z,1μm,1.0s						
COVE	Coope Vega, Sa	2.27	83	iP	Pb	13 07 51.5	+2.2
COVE				IAML		13 08 50.7	
	comp=Z,630nm,1.0s						
LIMN	Finca el Limon	2.61	7	iP	Pn	13 07 49.5	-1.2
LIMN				IAML		13 08 06.3	
	comp=Z,250nm,1.0s						
CSGN	Cosiguina Volc	2.65	341	iP	Pn	13 07 50.2	-0.9
CSGN				iS	Sn	13 08 21.3	-2.1
CSGN				IAML		13 08 32.3	
	comp=Z,74nm,1.0s						
ESPN	Las Esperanzas	2.92	53	iP	Pb	13 08 00.3	-0.1
ESPN				IAML		13 08 46.6	
	comp=Z,270nm,1.0s						
RCVN	Varillal2	3.15	9	iP	Pn	13 07 57.6	-0.5
RCVN				IAML		13 08 16.7	
	comp=Z,2μm,1.0s						
OCHAL	Ojochal	3.29	114	iP	Pb	13 08 10.4	+3.7
OCHAL				IAML		13 10 35.5	
	comp=Z,94nm,1.0s						

KRNET ***02*** *13:10:41.4±0.1, 43°.62N×69°.57E, mb2.5*
NNC ***02*** *13:10:43.0±2.1, 43°.66N×69°.76E, h0km, mb4.0, mpv3.2, Error ellipse: s-maj=12.0km s-min=7.0km az=132.0, Suspected Mining explosion.*
SOME ***02*** *13:10:44.0, 43°.65N×69°.82E*

ISC 02 13:10:43.1±2.5, 43°.52N±0°.07×69°.5E±0°.1, h0km, n19, σ1§08/29, 14C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	Borolday	0.55	153	P	Pn	13 10 58.3	+0.2
	1.9nm,0.3s						
BRLS				S	Sn	13 11 08.6	+0.6
	20nm,0.6s						
KK31	Karatay Array	0.85	119	⇑P	Pg	13 10 58.2	-1.1
	1.8nm,0.4s,baz=325,slow=18,SNR=140						
KK31				⇑S	Sg	13 11 09.3	-1.0
	22nm,0.5s,baz=321,slow=31,SNR=140						
KKAR	Karatay Array	0.85	119	⇓iP	Pg	13 10 57.9	-1.4
KKAR				⇓iS	Sg	13 11 10.0	-0.2
TRKS	Terek-Say	2.33	148	⇑iP	Pb	13 11 24.9	-1.1
TRKS				⇑iS	Sb	13 11 56.8	+1.5
MNAS	Manas	2.43	114	⇑iP	Pn	13 11 24.5	+0.3
MNAS				⇑iS	Sn	13 11 56.0	+1.3
ARK	Arkit	2.50	133	⇓eP	Pn	13 11 25.9	+0.8
ARK				⇓eS	Sn	13 11 58.2	+1.8
MRKS	Merke	2.83	105	Pg	Pb	13 11 32.9	-1.7
	3.0nm,0.5s						
MRKS				Lg	Lg	13 12 08.3	
	10nm,0.6s						
EKS2	Erkin-Say	3.25	104	⇑eP	Pn	13 11 35.6	+0.2
EKS2				⇑iS	Sn	13 12 15.1	+0.3
AML	Almayashu	3.38	113	⇑eP	Pn	13 11 37.9	+0.4
AML				⇑iS	Sn	13 12 19.1	+0.6
BTLS	Baital	3.60	63	Pg	Pb	13 11 47.4	-0.3
	11nm,0.5s						
BTLS				Lg	Lg	13 12 32.9	
	6.3nm,0.6s						
USP	Ospenovka	3.65	92	⇑eP	Pn	13 11 40.8	-0.1
USP				⇑iS	Sn	13 12 24.0	-0.7
SGDS	Sogindy	3.73	89	Pg	Pb	13 11 49.5	-0.5
	2.6nm,1.1s						
SGDS				Lg	Lg	13 12 36.5	
	2.7nm,0.3s						
CHMS	Chumysh	3.87	96	⇑eP	Pn	13 11 43.8	-0.1
CHMS				⇑iS	Sn	13 12 29.5	-0.6
KRBS	Karabastau	4.49	86	Pg	Pb	13 12 01.7	-1.1
	2.7nm,0.6s						
KRBS				Lg	Lg	13 12 57.3	
	3.1nm,0.3s						
KST	Kastek	4.74	94	Pg	Pb	13 12 07.7	+0.5
	3.3nm,0.5s						
KST				Lg	Lg	13 13 07.9	
	11nm,0.7s						
MTBS	Maitube	5.07	92	Pg	Pb	13 12 14.0	+1.4
	0.7nm,0.1s						
MTBS				Lg	Lg	13 13 18.9	
	5.1nm,0.3s						
CHKK	Chushkaly	5.44	84	Pg	Pb	13 12 21.0	+2.0
	41nm,0.6s						
CHKK				Lg	Lg	13 13 30.5	
	4.9nm,0.6s						
TNSS	Tian-Shan	5.46	92	Pg	Pb	13 12 20.4	+1.0
	0.5nm,0.1s						
TNSS				Lg	Lg	13 13 29.7	
	3.9nm,0.5s						
MDOK	Medeo	5.52	91	Pg	Pb	13 12 22.3	+2.0
	5.3nm,0.9s						
MDOK				Lg	Lg	13 13 33.5	
	5.2nm,0.7s						

IDC ***02*** *13:18:42.8±0.3, 6°.41S×153°.46E, h0km, mb5.2/28, mbtmp5.2/30, ML4.0/2, MS4.3/48, Error ellipse: s-maj=12.3km s-min=9.0km az=70.0*
BJI ***02*** *13:18:43.5, 6°.18S×153°.66E, h14km, mb5.5/85, mB5.7/48, Ms4.9/35, Ms7 4.6/37*
DJA ***02*** *13:18:44.9±0.2, 6°S±3°×15°3E±°, h10km, M5.4/75, mb5.5/75, mB5.8/55, MLv5.1/2, Mw5.4/49, Mw(mB)5.4/55, MwMwp5.2/13, Mwp5.4/13*
MOS ***02*** *13:18:44.2±1.0, 6°35S×153°38E, h16km, mb5.8/65, Error ellipse: s-maj=7.5km s-min=5.1km az=108.7*
NEIC ***02*** *13:18:45.4, 6°37S×153°43E, h16km*
NEIC ***02*** *13:18:45.4±1.7, 6°38S±0°06×153°44E±0°04, h10km±1km, mb5.7/182, Mww5.4/29, Error ellipse: s-maj=11.8km s-min=2.6km az=213.0*
NEIC ***02*** *13:18:45.4, 6°37S×153°23E, h16km, Moment Tensor Solution. Duration: 2§2 Moment tensor: Scale 10^17 Nm; M_{rr}-1.25; $M_{\theta\theta}$0.70; $M_{\phi\phi}$0.56; $M_{r\theta}$-0.22; $M_{\theta\phi}$-0.67; $M_{\phi r}$0.74; Fault plane solution: $M_0$1.49000×10^17 NP1: ϕ_s147.26000°, δ60.56000°, λ-74.38000°. NP2: ϕ_s297.62000°, δ33.00000°, λ-115.51000°. Principal axes: T 1.4636, Plg14.0000°, Azm226.0000°; N 0.0554, Plg14.0000°, Azm319.0000°; P -1.5190, Plg70.0000°, Azm91.0000°;*
GCMT ***02*** *13:18:47.4±0.1, 6°56S±0°01×153°42E±0°01, h12km, MW5.3/151, Moment Tensor Solution. s121, c186; s151, c292; Duration: 1§1 Moment tensor: Scale 10^17 Nm; M_{rr}-1.22±.02

CTA pmax pmax
comp=Z,14nm,1.2s
CTAO Charters Tower 15.30 207 Pn **Pn 13 22 19.3 -1.5**
CTAO Charters Tower 15.30 207 P **Pn 13 22 21.3 +0.5**
CTAO Charters Tower 15.30 207 P **Pn 13 22 19.3 -1.5**
CTAO pmax pmax
comp=Z,114nm,0.9s
VLAKA Lakatoro 16.72 126 P **P 13 22 42.6 +1.4**
GD1S Gladstone Soft 17.48 187 P **Pn 13 22 49.4 +1.0**
EIDS Eidsvold 18.99 187 P **P 13 23 07.3 +1.1**
EIDS Eidsvold 18.99 187 P **P 13 23 07.2 +0.9**
comp=Z,0.0nmcomp=Z,83nm,1.6s
EIDS Eidsvold 18.99 187 P **P 13 23 06.8 +0.5**
QIS Mount Isa 19.46 222 P **P 13 23 11.6 +0.1**
RKPI Ransiki, Papua 19.85 283 P **P 13 23 17.7 +1.9**
NOUC Port Laguerre 19.92 143 P **P 13 23 18.4 +1.9**
DZM Mont Dzumac 19.99 142 *e*P **P 13 23 17.0 -0.3**
comp=Z,589nm,1.2s
DZM *e*S **S 13 27 00.0 -1.5**
comp=Z,769nm,23.4s
DZM *e*LR LR 13 28 05.4
comp=Z,2µm,21.9s
DZM Mont Dzumac 19.99 142 P **P 13 23 18.7 +1.5**
DZM IAmb IAmb 13 23 20.3
comp=Z,232nm,1.0s
DZM Mont Dzumac 19.99 142 P **P 13 23 19.2 +1.9**
comp=Z,2.5nm,0.3s,baz=347,slow=9.7,SNR=38
DZM S **S 13 27 02.8 +1.3**
comp=Z,5.3nm,0.8s,baz=26,slow=22,SNR=1.8
DZM LR LR 13 29 48.6
comp=Z,2µm,19.1s,baz=311,slow=33
comp=Z,180nm,1.0s
DZM Mont Dzumac 19.99 142 P **P 13 23 19.2 +1.9**
ONTNC Ouen Toro 20.17 143 P **P 13 23 20.1 +0.9**
ONTNC Ouen Toro 20.17 143 P **P 13 23 20.9 +1.7**
YATNC Mamie plateau, 20.25 142 P **P 13 23 22.0 +1.9**
OUENC Ouen Island, N 20.49 142 P **P 13 23 24.4 +1.8**
AUWSH Wavell State H 20.88 181 P **P 13 23 28.1 +1.3**
TARA Tarawa 20.89 69 P **P 13 23 29.1 +2.1**
TARA IAmb IAmb 13 23 44.3
comp=Z,394nm,1.4s
PINNC Pines Island, 21.00 142 P **P 13 23 29.1 +0.9**
PINNC Pines Island, 21.00 142 P **P 13 23 29.8 +1.6**
TW1H Toowoomba 1 Ha 21.07 184 P **P 13 23 29.3 +0.4**
FAKI Fak Fak 21.43 278 P **P 13 23 31.9 -1.0**
FAKI Fak Fak 21.43 278 P **P 13 23 32.8 -0.1**
FAKI Fak Fak 21.43 278 P **P 13 23 33.1 +0.2**
comp=Z,110nm,1.2s,comp=Z,3µm
KDU Kakadu 21.62 252 P **P 13 23 34.9 0.0**
comp=Z,0.0nmcomp=Z,495nm,1.2s
KDU Kakadu 21.62 252 P **P 13 23 34.5 -0.4**
GUMO Guam 21.63 337 P **P 13 23 34.8 -0.1**
GUMO IAmb IAmb 13 23 39.9
comp=Z,434nm,1.1s
GUMO Guam 21.63 337 P **P 13 23 33.8 -1.1**
comp=Z,135nm,1.1s,baz=233,slow=2.5,SNR=6.1
GUMO S **S 13 27 35.2 +1.3**
comp=Z,65nm,0.9s,baz=67,slow=20,SNR=1.2
comp=Z,135nm,1.1s
GUMO Guam 21.63 337 P **P 13 23 36.2 +1.3**
GUMO Guam 21.63 337 P **P 13 23 34.8 -0.1**
GUMO pmax pmax
comp=Z,434nm,1.1s
GC1S Gold Coast 1 S 21.64 180 P **P 13 23 37.1 +2.2**
QLP Quilpie 21.91 203 P **P 13 23 37.9 0.0**
comp=Z,0.0nmcomp=Z,328nm,1.1s
QLP Quilpie 21.91 203 P **P 13 23 37.9 0.0**
SAUI Saumlaki 22.05 265 P **P 13 23 40.2 +0.6**
comp=Z,697nm,1.1s
WR0 Warramunga Arr 22.79 232 P **P 13 23 47.0 -0.5**
WR0 IAmb IAmb 13 23 53.2
comp=Z,251nm,0.9s
WB0 Warramunga Arr 22.80 233 P **P 13 23 47.3 -0.3**
WB0 IAmb IAmb 13 23 53.4
comp=Z,150nm,1.0s
SWI Sorong 22.84 283 P **P 13 23 46.6 -1.3**
MTN Manton Dam 22.92 252 P **P 13 23 48.1 -0.8**
MTN IAmb IAmb 13 24 09.7
comp=Z,191nm,1.2s
MTN Manton Dam 22.92 252 P **P 13 23 48.6 -0.3**
comp=Z,0.0nmcomp=Z,149nm,1.2s
MTN Manton Dam 22.92 252 P **P 13 23 48.4 -0.4**
WRAB Tennant Creek 22.93 232 P **P 13 23 48.1 -0.7**
WRAB Tennant Creek 22.93 232 *e*P **P 13 23 47.8 -1.1**
WRAB pmax pmax
comp=Z,190nm,1.2s
WB2 Warramunga Arr 22.93 232 P **P 13 23 48.3 -0.6**
WRA Warramunga Arr 22.94 232 P **P 13 23 48.3 -0.7**
comp=Z,38nm,0.8s,baz=56,slow=10,SNR=59
WRA PcP **PcP 13 27 39.6 +0.4**
comp=Z,20nm,0.9s,baz=37,slow=1.9,SNR=10.0
WRA S **S 13 27 56.1 -2.4**
comp=Z,12nm,1.1s,baz=56,slow=16,SNR=6.5
WRA LR LR 13 31 53.6
comp=Z,2µm,21.6s,baz=76,slow=34
WRA PKiKP **PKiKP 13 35 22.2 -1.9**
comp=Z,0.9nm,0.7s,baz=56,slow=0.7,SNR=8.2
WRA P3KP 13 58 16.5
comp=Z,0.3nm,1.0s,baz=284,slow=25,SNR=1.4
comp=Z,38nm,0.8s
WRA Warramunga Arr 22.94 232 *i* P **P 13 23 48.2 -0.8**
WRA pmax pmax
comp=Z,39nm,0.8s
DRS Darwin Rock St 23.05 253 P **P 13 23 50.9 +0.8**
AULRC Lightning Ridg 23.48 192 P **P 13 23 53.2 -1.1**
BNDI Bandanaira 23.54 273 P **P 13 23 54.6 -0.4**
BNDI Bandanaira 23.54 273 P **P 13 23 54.7 -0.3**
comp=Z,419nm,1.3s,comp=Z,8µmcomp=Z,3µm
ARMA Armidale 23.95 184 P **P 13 23 59.6 +0.6**
ARMA Armidale 23.95 184 P **P 13 23 59.0 +0.1**
comp=Z,43nm,1.2s
ARMA Armidale 23.95 184 P **P 13 24 00.0 +1.1**
INKA Innaminka 24.41 208 P **P 13 24 03.3 +0.1**
MSAI Masohi 24.64 276 P **P 13 24 03.6 -1.8**
comp=Z,79nm,1.0s
AUPHS Peel High Scho 24.68 185 P **P 13 24 06.6 +1.0**
AAI Ambon 25.32 275 P **P 13 24 11.1 -0.5**
comp=Z,178nm,1.0s,comp=Z,2µm
AS01 Alice Springs 25.43 226 P **P 13 24 12.2 -0.3**
AS31 Alice Springs 25.46 226 P **P 13 24 11.8 -1.0**
AS31 Alice Springs 25.46 226 P **P 13 24 12.0 -0.8**
comp=Z,30nm,0.8s
ASAR Alice Springs 25.46 226 P **P 13 24 12.1 -0.7**
comp=Z,70nm,0.8s,baz=57,slow=9.0,SNR=305
ASAR PcP **PcP 13 27 45.2 +0.6**
comp=Z,10.0nm,0.9s,baz=49,slow=2.7,SNR=6.7
ASAR S **S 13 28 36.2 -3.1**
comp=Z,1.3nm,0.8s,baz=51,slow=16,SNR=2.2
ASAR PKiKP **PKiKP 13 35 24.3 -1.1**
comp=Z,1.1nm,0.9s,baz=59,slow=1.3,SNR=5.7
ASAR P3KP 13 58 08.4
comp=Z,0.5nm,0.9s,baz=132,slow=5.1,SNR=4.0
comp=Z,70nm,0.8s
KNRA Kununurra 25.91 247 P **P 13 24 17.1 +0.3**
KNRA IAmb IAmb 13 24 38.6
comp=Z,88nm,0.8s
KNRA Kununurra 25.91 247 P **P 13 24 16.5 -0.4**
comp=Z,118nm,0.9s
CMSA Cobar Meteorol 26.04 195 P **P 13 24 17.3 -0.5**
comp=Z,52nm,1.1s
CMSA Cobar Meteorol 26.04 195 P **P 13 24 17.6 -0.2**
AUDCS Dubbo College 26.09 189 P **P 13 24 18.8 +0.5**
NLAI Namlea 26.46 276 P **P 13 24 22.8 +0.9**
comp=Z,73nm,1.2s,comp=Z,994nm
MSVF Nonsavu 26.50 117 P **P 13 24 24.3 +2.1**
MSVF IAmb IAmb 13 24 44.8
comp=Z,124nm,1.2s
MSVF Nonsavu 26.50 117 LR LR 13 33 43.5
comp=Z,731nm,18.1s,baz=340,slow=34
MSVF Nonsavu 26.50 117 P **P 13 24 24.4 +2.1**
MSVF Nonsavu 26.50 117 *i* P **P 13 24 23.0 +0.8**
MSVF pmax pmax
comp=Z,74nm,1.0s
MGCD Mangrove Creek 26.76 184 P **P 13 24 28.1 +3.8**
TNTI Ternate 27.02 284 P **P 13 24 26.4 -0.6**
TNTI Ternate 27.02 284 P **P 13 24 26.3 -0.6**
TNTI Ternate 27.02 284 P **P 13 24 26.2 -0.7**
OOD Oodnadatta 27.15 216 P **P 13 24 27.0 -0.9**
STKA Stephens Creek 27.66 202 P **P 13 24 31.4 -1.0**
STKA Stephens Creek 27.66 202 P **P 13 24 31.3 -1.2**
comp=Z,9.1nm,1.2s
STKA Stephens Creek 27.66 202 P **P 13 24 31.3 -1.2**
comp=Z,15nm,0.8s,baz=26,slow=12,SNR=16
STKA PcP **PcP 13 27 49.4 -0.2**
comp=Z,9.1nm,0.9s,baz=18,slow=4.3,SNR=3.7
comp=Z,15nm,0.8s
STKA Stephens Creek 27.66 202 P **P 13 24 31.5 -1.0**
STKA Stephens Creek 27.66 202 *i* P **P 13 24 31.6 -0.9**
SANI Sanana 27.74 278 P **P 13 24 33.6 +0.2**
SANI Sanana 27.74 278 P **P 13 24 34.8 +1.4**
comp=Z,132nm,1.1s,comp=Z,1µm
LCRK Leigh Creek 27.88 209 P **P 13 24 35.1 +0.6**
H11S3 WAKE ISLAND Hy 27.97 28 T T 13 53 55.9
baz=208,slow=76,SNR=10
H11S2 WAKE ISLAND Hy 27.97 28 T T 13 54 00.1
baz=208,slow=76,SNR=6.7
H11S1 WAKE ISLAND Hy 27.99 28 T T 13 53 57.9
baz=208,slow=76,SNR=8.7
CAN Canberra 29.07 188 P **P 13 24 45.6 +0.6**
CAN Canberra 29.07 188 P **P 13 24 45.6 +0.6**
CAN pmax pmax
comp=Z,72nm,1.4s
SOEI Soe 29.10 261 P **P 13 24 45.8 +0.1**
SOEI Soe 29.10 261 P **P 13 24 46.1 +0.5**
SOEI Soe 29.10 261 P **P 13 24 47.0 +1.4**
comp=Z,113nm,1.3s,comp=Z,2µm
FITZ Fitzroy Crossi 29.52 244 P **P 13 24 48.2 -1.0**
comp=Z,66nm,0.9s,baz=61,slow=8.0,SNR=124
FITZ LR LR 13 37 19.7
comp=Z,2µm,18.2s,baz=72,slow=38
comp=Z,66nm,0.9s
BATI Baumata 29.73 261 P **P 13 24 51.0 -0.2**
comp=Z,34nm,0.8s,baz=297,slow=3.3,SNR=5.0
BATI LR LR 13 39 45.8
comp=Z,986nm,18.8s,baz=104,slow=42
comp=Z,34nm,0.8s
BATI Baumata 29.73 261 P **P 13 24 52.4 +1.3**
comp=Z,194nm,1.2s,comp=Z,3µm
MULG Mulgathing 29.95 215 P **P 13 24 51.6 -1.3**
HTT Hallett 30.09 205 P **P 13 24 54.1 0.0**
comp=Z,40nm,1.1s
HTT Hallett 30.09 205 P **P 13 24 55.7 +1.6**
KMSI Cibinong 30.24 282 P **P 13 24 55.6 0.0**
WHYH Whyalla 30.34 207 P **P 13 24 56.9 +0.7**
WRKA Warakurna 30.40 230 P **P 13 24 56.1 -0.9**
comp=Z,49nm,1.1s
WRKA Warakurna 30.40 230 P **P 13 24 55.7 -1.2**
BBSI Bau Bau 30.75 270 P P 13 25 06.2 +6.1
BBOO Buckleboo 30.87 209 P **P 13 25 00.5 -0.4**
MMRI Maumere 31.04 264 P **P 13 25 01.7 -1.0**
MMRI Maumere 31.04 264 P **P 13 25 02.3 -0.4**
MMRI Maumere 31.04 264 P **P 13 25 02.1 -0.6**
LUWI Luwuk 31.09 279 P **P 13 25 03.3 +0.2**
LUWI Luwuk 31.09 279 P **P 13 25 03.4 +0.3**
LUWI Luwuk 31.09 279 P **P 13 25 04.7 +1.6**
APSI Ampana 32.21 278 P **P 13 25 14.0 +1.0**
comp=Z,217nm,1.5s,comp=Z,2µm
BASI Baing, Sumba 32.76 261 P **P 13 25 17.8 0.0**
BSSI Bau Bau, Buton 32.78 269 P **P 13 25 18.6 +0.6**
comp=Z,110nm,0.9s,comp=Z,1µm
BKSI Bulukumba 33.19 270 P **P 13 25 21.4 -0.2**
comp=Z,41nm,1.4s,comp=Z,656nm
BNSI Bone 33.27 272 P **P 13 25 22.7 +0.4**
comp=Z,65nm,1.2s,comp=Z,1µm
TOLI2 Tolitoli 33.48 282 P **P 13 25 22.5 -1.6**
TOLI2 Tolitoli 33.48 282 P **P 13 25 23.0 -1.1**
KAPI Kappang 33.58 271 P **P 13 25 24.7 -0.2**
KAPI Kappang 33.58 271 P **P 13 25 25.7 +0.7**
comp=Z,15nm,0.3s,baz=84,slow=5.6,SNR=5.7
KAPI LR LR 13 41 00.0
comp=Z,345nm,21.4s,baz=101,slow=40
comp=Z,15nm,0.3s
KAPI Kappang 33.58 271 P **P 13 25 25.8 +0.8**
SPSI Sidrap Palu 33.65 272 P **P 13 25 26.3 +0.7**
comp=Z,40nm,1.6s,comp=Z,815nm
TTSI Tana Toraja 33.70 274 P **P 13 25 27.2 +1.2**
comp=Z,57nm,1.9s,comp=Z,1µm
WBSI Waikabubak, Su 33.89 262 P **P 13 25 31.1 +3.4**
comp=Z,95nm,1.0s,comp=Z,875nm
FORT Forrest 34.00 221 P **P 13 25 27.7 -0.8**
FORT IAmb IAmb 13 25 39.6
comp=Z,74nm,0.8s
FORT Forrest 34.00 221 P **P 13 25 27.7 -0.8**
comp=Z,114nm,1.1s
FORT Forrest 34.00 221 P **P 13 25 27.3 -1.1**
MPSI Mapaga 34.17 280 P **P 13 25 29.1 -1.0**
comp=Z,97nm,1.1s,comp=Z,908nm
PLAI Plampang 35.45 264 P **P 13 25 39.4 -1.8**
PLAI Plampang 35.45 264 P **P 13 25 39.8 -1.4**
comp=Z,89nm,0.6s,comp=Z,1µm
MBWA Marble Bar 35.79 242 P **P 13 25 43.4 -0.6**
comp=Z,29nm,1.1s
MBWA Marble Bar 35.79 242 P **P 13 25 43.5 -0.5**
PSA00 Pilbara Seismi 35.83 242 P **P 13 25 43.0 -1.4**
PSA00 Pilbara Seismi 35.83 242 P **P 13 25 43.4 -0.9**
comp=Z,35nm,1.2s
PSA00 Pilbara Seismi 35.83 242 P **P 13 25 43.7 -0.6**
PSAC1 Pilbara Seismi 35.85 242 P **P 13 25 43.6 -0.9**
comp=Z,34nm,1.1s
TAU Tasmania Unive 36.76 188 P **P 13 25 53.5 +1.6**
MYLDM Lahad Datu 36.76 287 P **P 13 25 52.2 -0.2**
MYLDM Lahad Datu 36.76 287 P **P 13 25 53.3 +0.9**
BKB Balikpapan 36.84 276 P **P 13 25 54.1 +1.0**
BKB IAmb IAmb 13 25 59.7
comp=Z,276nm,1.3s
BKB Balikpapan 36.84 276 P **P 13 25 55.0 +1.9**
BKB Balikpapan 36.84 276 P P 13 25 58.9 +5.8
comp=Z,179nm,1.8s,comp=Z,2µm
TOZ Tahuroa Road 37.06 150 P **P 13 25 56.1 +1.5**
DNP Denpasar 37.99 264 P P 13 26 09.0 +6.2
URZ Urewera 38.27 149 LR LR 13 40 16.4
comp=Z,1µm,18.3s,baz=34,slow=34
KMBL Kambalda 38.59 226 P **P 13 26 06.9 -0.8**
BKZ Black Stump Fm 38.66 151 P **P 13 26 09.9 +1.7**
MEEK Meekatharra 38.80 235 P **P 13 26 08.7 -0.8**
MTKI Muara Teweh, K 38.86 276 P **P 13 26 12.4 +2.2**
comp=Z,57nm,0.7s
JAGI Jajag, Banyuwa 39.03 264 P **P 13 26 09.2 -2.5**
JAGI IAmb IAmb 13 26 13.1
comp=Z,158nm,1.2s
JAGI Jajag, Banyuwa 39.03 264 P **P 13 26 09.5 -2.1**
JAGI Jajag, Banyuwa 39.03 264 P **P 13 26 09.5 -2.1**
comp=Z,113nm,1.0s,comp=Z,1µm
TCW Tory Channel 39.31 155 P **P 13 26 14.4 +0.8**
RPZ Rata Peaks 40.24 160 LR LR 13 42 25.0
comp=Z,1µm,18.6s,baz=328,slow=35
JOW Kunigami 41.08 325 LR LR 13 40 15.2
comp=Z,273nm,20.9s,baz=196,slow=32
JOW Kunigami 41.08 325 P **P 13 26 29.7 +1.3**
PWJI Pagerwojo 41.36 265 P **P 13 26 29.8 -1.1**
comp=Z,103nm,1.2s,comp=Z,1µm
KLBR Kellerberrin 41.72 228 P **P 13 26 32.5 -1.2**
MORW Morawa 41.89 233 P **P 13 26 34.4 -0.7**
MORW Morawa 41.89 233 P **P 13 26 34.4 -0.7**
PCJI Pacitan 41.98 265 P **P 13 26 35.7 -0.3**
comp=Z,280nm,1.4s,comp=Z,3µm
SBUM Sibu 42.12 281 P **P 13 26 37.8 +0.6**
SBUM Sibu 42.12 281 P **P 13 26 38.1 +1.0**
STKI Sintang 42.40 277 P **P 13 26 41.1 +1.7**
comp=Z,116nm,1.4s
UGM Wanagama 42.63 265 P **P 13 26 40.2 -1.1**
UGM Wanagama 42.63 265 P **P 13 26 42.6 +1.3**
UGM Wanagama 42.63 265 P P 13 26 53.5 +12
NWAO Narrogin (SRO) 42.77 227 P **P 13 26 41.5 -0.7**
NWAO Narrogin (SRO) 42.77 227 LR LR 13 43 51.4
comp=Z,2µm,20.9s,baz=42,slow=35
NWAO Narrogin (SRO) 42.77 227 P **P 13 26 42.3 +0.1**
NWAO Narrogin (SRO) 42.77 227 P **P 13 26 41.5 -0.7**
NWAO pmax pmax
comp=Z,74nm,1.3s
YOGI Yogyakarta 42.86 265 P P 13 26 53.1 +10
MUN Mundaring 43.06 229 P **P 13 26 44.4 -0.2**
YULB Yu-li 43.19 314 P **P 13 26 45.4 -0.3**
YULB IAmb IAmb 13 26 48.1
comp=Z,98nm,1.0s
NACB Ninganchiao 43.48 315 P **P 13 26 48.0 0.0**
NACB IAmb IAmb 13 26 53.9
comp=Z,195nm,1.2s
NACB Ninganchiao 43.48 315 P **P 13 26 49.1 +1.1**
SSLB Suanglung 43.68 315 P **P 13 26 50.3 +0.6**
SSLB Suanglung 43.68 315 P **P 13 26 50.5 +0.8**
KSM Kuching 43.80 279 P **P 13 26 51.2 +0.4**
KSM IAmb IAmb 13 26 55.4
comp=Z,100nm,1.2s
KSM Kuching 43.80 279 P **P 13 26 51.4 +0.7**
YHNB Yeheng 43.95 316 P **P 13 26 53.2 +1.3**
JMN Monobe 44.03 336 P **P 13 26 51.7 -0.6**
KPJI Karang Pucung 44.22 266 P **P 13 26 55.4 +1.3**
comp=Z,79nm,1.1s,comp=Z,772nm
INU Inuyama 44.33 341 P **P 13 26 53.9 -0.8**
INU Inuyama 44.33 341 P **P 13 26 54.7 0.0**
JGF Kuroka 44.45 341 P **P 13 26 54.9 -0.8**
JGF Kuroka 44.45 341 P **P 13 26 55.5 -0.2**
CMJI Cimerak 44.69 265 P P 13 27 02.8 +4.9
comp=Z,125nm,0.9s
JNU Nakatsue 44.79 333 P **P 13 26 58.0 -0.5**
JNU IAmb IAmb 13 27 03.7
comp=Z,138nm,1.2s
JNU Nakatsue 44.79 333 LR LR 13 44 07.5
comp=Z,135nm,20.4s,baz=139,slow=34
JNU Nakatsue 44.79 333 P **P 13 26 58.8 +0.4**
MJAR Matsushiro Arr 45.06 343 P **P 13 26 58.8 -1.7**
comp=Z,13nm,0.9s,baz=166,slow=7.9,SNR=20
MJAR PcP **PcP 13 28 41.8 +0.6**
comp=Z,7.3nm,1.0s,baz=169,slow=3.2,SNR=4.6
comp=Z,13nm,0.9s
MAJO Matsushiro 45.06 343 P **P 13 26 58.6 -1.9**
MAJO Matsushiro 45.06 343 P **P 13 26 59.3 -1.2**
MAJO Matsushiro 45.06 343 *i* P **P 13 26 59.4 -1.1**
MAJO pmax pmax
comp=Z,31nm,1.2s
MJB9 Matsu-Tunnel 45.06 343 P **P 13 26 59.7 -0.8**
BBJI Bungbulang 45.49 266 P **P 13 27 03.0 -1.3**
CTZ Chatham Island 45.51 150 P **P 13 27 05.8 +1.9**
LEM Lembang 45.54 267 LR LR 13 49 32.3
comp=Z,199nm,20.6s,baz=84,slow=41
JMM Marumori 45.60 346 P **P 13 27 04.4 -0.3**
JMM Marumori 45.60 346 P **P 13 27 05.6 +0.9**
CNJI Cibinong 46.01 266 P **P 13 27 07.5 -0.9**
comp=Z,165nm,1.1s,comp=Z,2µm
QZH Quanzhou 46.08 314 P **P 13 27 09.2 +0.5**
QZH pmax pmax
comp=Z,350nm,1.0s
DBJI Dramaga 46.41 267 P **P 13 27 14.1 +2.5**
JSD Sado 46.43 343 P **P 13 27 10.1 -1.1**
JSD Sado 46.43 343 P **P 13 27 12.6 +1.3**
SKJI Sukabumi 46.59 266 P **P 13 27 15.4 +2.5**
JTU Tsushima 46.64 332 P **P 13 27 13.6 +0.7**
RAR Rarotonga 47.53 113 LR LR 13 43 55.9
comp=Z,105nm,21.9s,baz=282,slow=32
HKPS Hong Kong Po S 47.92 308 P **P 13 27 24.9 +1.8**
JTM Tenmabayashi 48.33 347 P **P 13 27 25.9 0.0**
JTM IAmb IAmb 13 27 26.8
comp=Z,40nm,0.7s
KASI Kota Agung 48.71 268 P **P 13 27 29.7 +0.3**
comp=Z,70nm,0.9s,comp=Z,917nm
TJN Taejon 49.10 332 P **P 13 27 32.3 +0.3**
TJN Taejon 49.10 332 P **P 13 27 32.7 +0.7**
TJN Taejon 49.10 332 *ce*P **P 13 27 32.9 +0.9**
KSRS Korea Array 49.73 333 P **P 13 27 37.1 +0.3**
comp=Z,38nm,1.1s,baz=152,slow=8.3,SNR=98
KSRS PcP **PcP 13 28 57.6 -0.1**
comp=Z,2.7nm,0.8s,baz=162,slow=4.2,SNR=4.5
comp=Z,38nm,1.1s
KSAR Wonju Array Be 49.74 333 P **P 13 27 36.4 -0.5**
KSAR Wonju Array Be 49.74 333 P **P 13 27 36.4 -0.5**
KS19 Wonju Array Si 49.79 333 P **P 13 27 37.1 -0.2**
KS19 IAmb IAmb 13 27 38.5
comp=Z,59nm,1.1s
QIZ Qiongzhong 49.87 301 P **P 13 27 39.0 +0.8**
QIZ S **S 13 34 49.9 +2.3**
QIZ pmax pmax
comp=Z,30nm,1.0s
QIZ LR LR
comp=Z,440nm,13.2s
QIZ LR LR
comp=Z,500nm,18.4s
QIZ LR LR
comp=Z,1µm,19.3s
QIZ Qiongzhong 49.87 301 P **P 13 27 39.6 +1.4**
INCN Inchon 50.34 332 P **P 13 27 41.7 +0.2**
INCN Inchon 50.34 332 P **P 13 27 42.4 +0.9**
INCN Inchon 50.34 332 P **P 13 27 41.7 +0.2**
INCN pmax pmax
comp=Z,196nm,1.0s
NJ2 Nanjing 50.51 321 ⇓P **P 13 27 44.2 +1.4**
NJ2 sP **sP 13 27 49.4 +1.0**
NJ2 pmax pmax
comp=Z,44nm,1.0s
NJ2 pmax pmax
comp=Z,460nm,6.6s
JKA Kamikawa-asahi 51.24 350 P **P 13 27 48.7 +0.6**
JKA IAmb IAmb 13 27 50.3
comp=Z,98nm,1.2s
ASAJ Asahikawa 51.24 350 LR LR 13 49 33.5
comp=Z,111nm,19.1s,baz=170,slow=36
ASAJ Asahikawa 51.24 350 P **P 13 27 48.7 +0.6**
ASAJ pmax pmax
comp=Z,98nm,1.2s
CNSH ChangSha 52.08 313 P **P 13 27 55.5 +0.8**
CNSH pmax pmax
comp=Z,68nm,1.2s
WHN Wuhan 52.48 317 ⇓P **P 13 27 59.1 +1.5**
WHN pP **sP 13 28 02.3 -0.9**
WHN pmax pmax
comp=Z,930nm,1.7s
DL2 Dalian 53.89 329 P **P 13 28 08.5 +0.7**
DL2 pmax pmax
comp=Z,150nm,1.1s
YSS Yuzh-Sakhalins 53.97 351 P **P 13 28 08.5 +0.3**
YSS IAmb IAmb 13 28 09.9
comp=Z,94nm,1.2s
YSS Yuzh-Sakhalins 53.97 351 P **P 13 28 08.6 +0.3**
YSS Yuzh-Sakhalins 53.97 351 *e*P **P 13 28 08.6 +0.3**
YSS *e**SP **pwP 13 28 15.4 -4.2**
YSS *e* 13 29 16.2
YSS *e*S **S 13 35 39.2 -3.9**
YSS *e*SSS SSS 13 41 22.4
YSS pmax pmax
comp=Z,300nm,3.2s
YSS pmax pmax
comp=Z,60nm,1.2s
YSS smax smax
comp=N,300nm,4.8s
YSS smax smax
comp=E,300nm,5.4s
YSS MLR MLR
comp=N,300nm,16.0s
USA0B Ussuriysk Arra 53.98 341 P **P 13 28 09.7 +1.4**
USA0B IAmb IAmb 13 28 11.3
comp=Z,91nm,1.2s
USA0B Ussuriysk Arra 53.98 341 *i* P **P 13 28 08.5 +0.1**
USRK Ussuriysk Ar. 53.98 341 P **P 13 28 08.6 +0.2**
USRK Ussuriysk Ar. 53.98 341 P **P 13 28 09.1 +0.7**
comp=Z,25nm,0.8s,baz=167,slow=9.5,SNR=42
USRK LR LR 13 48 46.9
comp=Z,75nm,21.9s,baz=154,slow=33
comp=Z,25nm,0.8s
KULM Kulim 53.99 281 P **P 13 28 07.9 -1.2**
KULM Kulim 53.99 281 P **P 13 28 08.7 -0.4**
TIA Tai'an 54.40 324 P **P 13 28 12.0 +0.4**
TIA ScP **ScP 13 33 07.1 -5.8**
TIA S **S 13 35 50.7 +1.4**
TIA pmax pmax
comp=Z,100nm,1.4s
TIA pmax pmax
comp=Z,610nm,3.8s
TIA LR LR
comp=Z,410nm,12.4s
TIA LR LR
comp=Z,290nm,10.9s
TIA LR LR
comp=Z,440nm,18.4s
MDJ Mudanjiang 55.15 339 P **P 13 28 16.6 -0.3**
MDJ IAmb IAmb 13 28 20.0
comp=Z,84nm,1.2s
MDJ Mudanjiang 55.15 339 P **P 13 28 17.4 +0.5**
MDJ sS sS 13 36 10.1 +3.9
MDJ pmax pmax
comp=Z,62nm,1.9s
MDJ pmax pmax
comp=Z,430nm,6.9s
MDJ Mudanjiang 55.15 339 P **P 13 28 17.8 +0.9**
RPSI Rantau Prapat 55.21 278 P **P 13 28 16.0 -1.9**
PSI Prapat 55.23 278 P **P 13 28 16.5 -1.7**
PSI Prapat 55.23 278 P **P 13 28 16.0 -2.2**
PSI pmax pmax
comp=Z,22nm,1.1s
ENH Enshi 55.74 313 P **P 13 28 21.6 +0.2**
ENH Enshi 55.74 313 P **P 13 28 22.1 +0.6**
SURA Surathani 55.85 286 P **P 13 28 22.7 +0.2**
SLVN Son La 55.89 301 P **P 13 28 23.1 +0.4**
SLVN Son La 55.89 301 P **P 13 28 24.1 +1.4**
GYA Guiyang 55.90 308 ⇓P **P 13 28 23.8 +1.0**
GYA S **S 13 36 12.0 +2.0**

GYA				pmax	pmax	
	comp=Z,40nm,0.9s					
CN2	**Changchun**	**56.03**	**336**	*e*P	**P**	**13 28 23.4 +0.2**
CN2				*e*S	**S**	**13 36 05.0 -5.9**
CN2				pmax	pmax	
	comp=Z,40nm,1.1s					
CN2				LR	LR	
	comp=Z,200nm,16.0s					
CN2				LR	LR	
	comp=Z,300nm,16.0s					
CN2				LR	LR	
	comp=Z,300nm,12.0s					
LYN	**LuoYang**	**56.19**	**319**	P	**P**	**13 28 25.1 +0.5**
LYN				pP	sP	13 28 31.5 +1.3
LYN				sP	pwP	13 28 35.0 -1.1
LYN				pmax	pmax	
	comp=Z,67nm,1.2s					
LYN				pmax	pmax	
	comp=Z,680nm,3.9s					
LYN				LR	LR	
	comp=Z,510nm,7.0s					
LYN				LR	LR	
	comp=Z,270nm,4.0s					
LYN				LR	LR	
	comp=Z,480nm,7.9s					
GSI	**Gunungsitoli**	**56.32**	**276**	P	**P**	**13 28 24.2 -1.7**
GSI				IAmb	IAmb	13 28 25.9
	comp=Z,58nm,1.0s					
GSI	**Gunungsitoli**	**56.32**	**276**	P	**P**	**13 28 24.5 -1.4**
GSI	**Gunungsitoli**	**56.32**	**276**	P	**P**	**13 28 24.6 -1.4**
	comp=Z,68nm,1.0s					
PPT	**Papeete**	**56.61**	**107**	LR	LR	13 47 21.4
	comp=Z,96nm,21.2s,baz=264,slow=30					
PPT2	**Papeete2**	**56.61**	**107**	*e*P	**P**	**13 28 29.7 +1.7**
	comp=Z,123nm,26.8s					
PPT2				*e*S	S	13 36 11.0 -8.7
	comp=Z,268nm,29.5s					
PPT2				*e*SS	**SS**	**13 40 07.3 -0.2**
	comp=Z,145nm,29.8s					
PPT2				*e*LQ	LQ	13 42 35.8
	comp=Z,732nm,25.2s					
PPT2				*e*LR	LR	13 44 51.8
	comp=Z,328nm,24.0s					
PPT2				*e*LR	LR	13 44 54.6
	comp=Z,366nm,33.8s					
HNS	**HongShan**	**56.63**	**323**	⇓P	**P**	**13 28 28.5 +0.9**
HNS				S	**S**	**13 36 19.7 +0.7**
HNS				pmax	pmax	
	comp=Z,180nm,1.5s					
HNS				LR	LR	
	comp=Z,250nm,13.5s					
HNS				LR	LR	
	comp=Z,380nm,17.5s					
HNS				LR	LR	
	comp=Z,420nm,17.5s					
BNX	**BinXian**	**56.90**	**338**	⇓P	**P**	**13 28 29.4 0.0**
BNX				pP	**pP**	**13 28 32.4 -1.2**
BNX				sS	**sS**	**13 36 31.7 +2.2**
BNX				pmax	pmax	
	comp=Z,83nm,1.2s					
BNX				pmax	pmax	
	comp=Z,410nm,5.4s					
BNX				LR	LR	
	comp=Z,180nm,21.7s					
BNX				LR	LR	
	comp=Z,180nm,20.1s					
BNX				LR	LR	
	comp=Z,230nm,21.7s					
SKR	**Severo-Kuril's**	**56.91**	**2**	*e*P	P	13 28 46.6 +17
SKR				pmax	pmax	
	comp=Z,292nm,1.2s					
SKR				MLR	MLR	
	comp=Z,700nm,17.0s					
TBI	**Tubuai**	**57.30**	**114**	*e*P	P	13 28 26.0 -6.7
	comp=Z,623nm,40.8s					
TBI				*e*S	**S**	**13 36 30.0 +1.6**
	comp=Z,501nm,31.8s					
TBI				*e*LQ	LQ	13 42 50.3
	comp=Z,5μm,34.0s					
BJT	**Baijiatuau**	**57.58**	**327**	P	**P**	**13 28 34.1 -0.2**
BJT				IAmb	IAmb	13 28 39.3
	comp=Z,87nm,1.4s					
BJT	**Baijiatuau**	**57.58**	**327**	P	**P**	**13 28 35.7 +1.3**
BJT	**Baijiatuau**	**57.58**	**327**	P	**P**	**13 28 34.2 -0.2**
BJT				pmax	pmax	
	comp=Z,87nm,1.4s					
BJI	**Beijing**	**57.60**	**327**	P	**P**	**13 28 35.0 +0.6**
BJI				S	**S**	**13 36 33.2 +1.5**
BJI				pmax	pmax	
	comp=Z,20nm,1.6s					
BJI				pmax	pmax	
	comp=Z,270nm,4.1s					
BJI				LR	LR	
	comp=Z,140nm,17.0s					
BJI				LR	LR	
	comp=Z,96nm,15.4s					
BJI				LR	LR	
	comp=Z,91nm,14.7s					
SRDT	**SRDT**	**57.72**	**291**	P	**P**	**13 28 37.0 +1.3**
TYV	**Tymovskoe**	**57.80**	**352**	*e*P	**P**	**13 28 36.7 +1.1**
TYV				pmax	pmax	
	comp=Z,400nm,2.5s					
TYV				pmax	pmax	
	comp=Z,88nm,1.1s					
PHRA	**Phrae**	**58.04**	**296**	P	**P**	**13 28 38.4 +0.4**
TIY	**Taiyuan**	**58.20**	**322**	P	**P**	**13 28 39.8 +1.0**
TIY				S	**S**	**13 36 43.2 +3.3**
TIY				pmax	pmax	
	comp=Z,33nm,1.1s					
TIY				pmax	pmax	
	comp=Z,450nm,7.1s					
XAN	**Xi'an**	**58.24**	**317**	⇓P	**P**	**13 28 39.6 +0.4**
XAN				pP	sP	13 28 43.3 -1.5
XAN				sP	pwP	13 28 47.8 -3.0
XAN				S	**S**	**13 36 41.4 +0.9**
XAN				pmax	pmax	
	comp=Z,100nm,1.3s					
XAN				pmax	pmax	
	comp=Z,860nm,4.9s					
XAN				LR	LR	
	comp=Z,600nm,12.4s					
XAN				LR	LR	
	comp=Z,530nm,15.8s					
KMI	**Kunming**	**58.44**	**305**	⇓P	**P**	**13 28 42.4 +1.5**
KMI				pmax	pmax	
	comp=Z,66nm,1.4s					
KMI				LR	LR	
	comp=Z,330nm,18.7s					
KMI				LR	LR	
	comp=Z,260nm,14.1s					
KMI				LR	LR	
	comp=Z,420nm,22.1s					
KLR	**Kul'dur**	**58.57**	**343**	LR	LR	13 50 09.4
	comp=Z,101nm,21.6s,baz=160,slow=32					
KLR	**Kul'dur**	**58.57**	**343**	*ce*P	**P**	**13 28 40.8 -0.3**
KLR				pmax	pmax	
	comp=Z,184nm,1.7s					
GRNR	**Gornyy**	**58.82**	**347**	⇓*i*P	**P**	**13 28 43.2 +0.4**
GRNR				pmax	pmax	
	comp=Z,20nm,1.3s					
CM31	**Chiang Mai Arr**	**59.17**	**296**	P	**P**	**13 28 46.7 +0.9**
CM31				IAmb	IAmb	13 28 48.5
	comp=Z,62nm,1.1s					
CMAR	**Chiang Mai Arr**	**59.17**	**296**	P	**P**	**13 28 46.5 +0.6**
CMAR	**Chiang Mai Arr**	**59.17**	**296**	P	**P**	**13 28 47.1 +1.2**
	comp=Z,20nm,0.9s,baz=113,slow=4.9,SNR=113					
CMAR				PcP	**PcP**	**13 29 34.9 +0.6**
	comp=Z,20nm,1.3s,baz=114,slow=3.2,SNR=5.7					
CMAR				LR	LR	13 51 57.9
	comp=Z,123nm,21.4s,baz=120,slow=34					
CMAR				PKPPKP	**P'P'df**	**13 58 17.2 -2.3**
	comp=Z,0.5nm,0.4s,baz=302,slow=2.8,SNR=4.2					
	comp=Z,20nm,0.9s					
CMAR	**Chiang Mai Arr**	**59.17**	**296**	*i*P	**P**	**13 28 47.0 +1.2**
CMAR				pmax	pmax	
	comp=Z,21nm,0.9s					
CHTO	**Chiang Mai**	**59.29**	**296**	P	**P**	**13 28 47.1 +0.4**
CHTO				IAmb	IAmb	13 28 48.9
	comp=Z,79nm,1.4s					
CHTO	**Chiang Mai**	**59.29**	**296**	P	**P**	**13 28 47.1 +0.4**
CHTO				pmax	pmax	
	comp=Z,79nm,1.4s					
PET	**Petropavlovsk**	**59.37**	**4**	*ce*P	**P**	**13 28 47.1 +0.6**
PET				pmax	pmax	
	comp=Z,47nm,1.7s					
PEA0B	**Petropavlovsk-**	**59.40**	**3**	P	**P**	**13 28 47.3 +0.5**
PEA0B				IAmb	IAmb	13 28 50.3
	comp=Z,139nm,1.4s					
PEA0B	**Petropavlovsk-**	**59.40**	**3**	*ce*P	**P**	**13 28 47.4 +0.6**
PETK	**Petropavlovsk-**	**59.40**	**3**	P	**P**	**13 28 47.3 +0.5**
PETK	**Petropavlovsk-**	**59.40**	**3**	P	**P**	**13 28 47.5 +0.7**
	comp=Z,30nm,0.9s,baz=143,slow=3.9,SNR=26					
PETK				PcP	**PcP**	**13 29 35.0 +0.5**
	comp=Z,35nm,0.9s,baz=183,slow=4.3,SNR=7.6					
PETK				LR	LR	13 50 08.0
	comp=Z,150nm,21.5s,baz=184,slow=32					
	comp=Z,30nm,0.9s					
PZH	**PanZhiHua**	**59.84**	**306**	P	**P**	**13 28 50.7 +0.2**
PZH				pmax	pmax	
	comp=Z,30nm,1.1s					
PZH				pmax	pmax	
	comp=Z,310nm,7.0s					
CD2	**Chengdu**	**60.29**	**311**	P	**P**	**13 28 53.9 +0.5**
CD2				pP	pP	13 28 56.8 -0.7
CD2				S	**S**	**13 37 08.5 +1.4**
CD2				sS	sS	13 37 13.5 -0.4
CD2				pmax	pmax	
	comp=Z,170nm,0.9s					
CD2				pmax	pmax	
	comp=Z,460nm,4.3s					
CD2				LR	LR	
	comp=Z,370nm,18.2s					
CD2				LR	LR	
	comp=Z,420nm,15.7s					
CD2				LR	LR	
	comp=Z,440nm,16.7s					
XLT	**XiLinHaoTe**	**60.39**	**330**	*e*P	**P**	**13 28 54.8 +0.9**
XLT				S	**S**	**13 37 05.2 -2.8**
XLT				pmax	pmax	
	comp=Z,170nm,1.0s					
HHC	**Hu-ho-hao-te**	**60.74**	**324**	*e*P	**P**	**13 28 57.4 +1.1**
HHC				sP	pwP	13 29 05.1 -2.8
HHC				S	**S**	**13 37 13.5 +0.9**
HHC				SS	**SS**	**13 41 10.4 -1.4**
HHC				pmax	pmax	
	comp=Z,53nm,0.9s					
HHC				pmax	pmax	
	comp=Z,630nm,5.3s					
HHC				LR	LR	
	comp=Z,200nm,13.9s					
HHC				LR	LR	
	comp=Z,220nm,15.3s					
HHC				LR	LR	
	comp=Z,360nm,16.0s					
HEH	**HeiHe**	**60.78**	**341**	*e*P	**P**	**13 28 56.4 +0.1**
HEH				pmax	pmax	
	comp=Z,37nm,1.0s					
SHEM	**Shemya Is, Ala**	**61.47**	**14**	LR	LR	13 51 07.8
	comp=Z,738nm,21.7s,baz=154,slow=32					
BTO	**Baotou**	**61.48**	**323**	*e*P	**P**	**13 29 03.7 +2.3**
BTO				pP	**sP**	**13 29 08.0 +1.0**
BTO				sP	**pwP**	**13 29 10.8 -2.2**
BTO				PP	**PP**	**13 31 21.9 +4.9**
BTO				sS	**sS**	**13 37 31.3 +2.5**
BTO				pmax	pmax	
	comp=Z,110nm,2.0s					
BTO				pmax	pmax	
	comp=Z,1μm,7.7s					
BTO				LR	LR	
	comp=Z,490nm,15.8s					
BTO				LR	LR	
	comp=Z,540nm,19.6s					
BTO				LR	LR	
	comp=Z,610nm,20.0s					
TNCH	**TengChong**	**61.90**	**303**	⇓*i*P	**P**	**13 29 05.1 +0.5**
TNCH				pP	sP	13 29 08.5 -1.8
TNCH				sP	pP	13 29 10.9 +2.2
TNCH				PP	**PP**	**13 31 24.6 +3.6**
TNCH				S	**S**	**13 37 23.3 -4.8**
TNCH				sS	sS	13 37 36.0 +1.0
TNCH				pmax	pmax	
	comp=Z,80nm,0.9s					
TNCH				LR	LR	
	comp=Z,230nm,5.3s					
TNCH				LR	LR	
	comp=Z,200nm,5.7s					
TNCH				LR	LR	
	comp=Z,270nm,19.5s					
HIA	**Hailar**	**62.77**	**336**	P	**P**	**13 29 10.8 +1.0**
HIA	**Hailar**	**62.77**	**336**	P	**P**	**13 29 11.1 +1.4**
HIA	**Hailar**	**62.77**	**336**	P	**P**	**13 29 10.8 +1.0**
HIA				pmax	pmax	
	comp=Z,92nm,1.0s					
LZH	**Lanzhou**	**62.84**	**316**	⇓P	**P**	**13 29 12.2 +1.5**
LZH				sP	pwP	13 29 22.1 -0.2
LZH				S	**S**	**13 37 37.6 -2.0**
LZH				pmax	pmax	
	comp=Z,120nm,1.5s					
LZH				pmax	pmax	
	comp=Z,200nm,5.5s					
LZH				LR	LR	
	comp=Z,350nm,12.4s					
LZH				LR	LR	
	comp=Z,260nm,13.1s					
LZH				LR	LR	
	comp=Z,340nm,13.7s					
ADK	**Adak**	**63.43**	**20**	P	**P**	**13 29 14.2 +0.2**
ADK				IAmb	IAmb	13 29 15.3
	comp=Z,98nm,1.2s					
ADK	**Adak**	**63.43**	**20**	P	**P**	**13 29 14.2 +0.2**
ADK				pmax	pmax	
	comp=Z,98nm,1.3s					
ZEA	**Zeya**	**63.87**	**343**	*e*P	**P**	**13 29 17.5 +0.6**
ZEA				*e*S	**S**	**13 37 52.3 +0.9**
ZEA				pmax	pmax	
	comp=E,100nm,3.3s					
ZEA				pmax	pmax	
	comp=N,200nm,2.3s					
ZEA				pmax	pmax	
	comp=Z,300nm,2.2s					
ZEA				pmax	pmax	
	comp=E,20nm,0.9s					
ZEA				pmax	pmax	
	comp=N,40nm,1.1s					
ZEA				pmax	pmax	
	comp=Z,80nm,1.0s					
ZEA				smax	smax	
	comp=E,200nm,4.3s					
ZEA				smax	smax	
	comp=N,200nm,6.9s					
TAOE	**Nuku Hiva Isla**	**65.76**	**97**	*e*SS	SS	13 42 23.7 -7.5
	comp=N,148nm,32.6s					
TAOE				*e*LR	LR	13 49 02.1
	comp=N,241nm,25.5s					
CASY	**Casey**	**66.69**	**197**	P	**P**	**13 29 34.5 -0.5**
BRDH	**Bariadhala**	**67.00**	**298**	P	**P**	**13 29 39.4 +1.6**
	comp=N,101nm,0.3s,baz=73,slow=9.9,SNR=11					
BRDH				LR	LR	13 57 06.5
	comp=N,134nm,21.6s,baz=166,slow=34					
NIKH	**Nikolski High**	**67.20**	**24**	P	**P**	**13 29 40.4 +1.9**
	baz=221					
GTA	**Gaotai**	**67.29**	**317**	P	**P**	**13 29 40.6 +1.1**
GTA				sP	pwP	13 29 49.6 -1.5
GTA				S	**S**	**13 38 35.8 +1.8**
GTA				pmax	pmax	
	comp=N,47nm,1.2s					
GTA				pmax	pmax	
	comp=N,420nm,7.6s					
GTA				LR	LR	
	comp=N,120nm,12.0s					
GTA				LR	LR	
	comp=N,140nm,11.3s					
GTA				LR	LR	
	comp=N,230nm,10.9s					
CIT	**Chita**	**67.43**	**335**	*e*P	**P**	**13 29 41.3 +1.3**
CIT				*e*		13 29 52.1
CIT				*e*		13 30 09.0
CIT				*e*		13 33 54.7
CIT				*e*		13 38 40.9
CIT				pmax	pmax	
	comp=Z,205nm,2.6s					
SHL	**Shillong**	**67.70**	**301**	P	**P**	**13 29 42.4 0.0**
SHL	**Shillong**	**67.70**	**301**	P	**P**	**13 29 42.4 0.0**
SHL				pmax	pmax	
	comp=Z,216nm,1.0s					
ULN	**Ulaanbaatar**	**67.71**	**328**	P	**P**	**13 29 43.5 +1.5**
ULN	**Ulaanbaatar**	**67.71**	**328**	*ce*P	**P**	**13 29 43.4 +1.4**
ULN				pmax	pmax	
	comp=Z,135nm,1.3s					
SONM	**Songino Array**	**68.03**	**328**	P	**P**	**13 29 44.5 +0.4**
SONM	**Songino Array**	**68.03**	**328**	P	**P**	**13 29 45.4 +1.3**
	comp=Z,58nm,0.9s,baz=138,slow=5.5,SNR=178					
SONM				PKP2bc		13 58 05.6
	comp=Z,6.9nm,1.2s,baz=292,slow=3.3,SNR=8.9					
SONM				LR	LR	14 02 32.2
	comp=Z,174nm,18.1s,baz=114,slow=39					
	comp=Z,58nm,0.9s					
UNV	**Unalaska Valle**	**68.80**	**24**	P	**P**	**13 29 50.0 +1.6**
	baz=223					
SEY	**Seymchan**	**69.15**	**359**	*ce*P	**P**	**13 29 50.2 -0.3**
SEY				pmax	pmax	
	comp=Z,55nm,1.8s					
GOMU	**GeErMu**	**69.33**	**312**	P	**P**	**13 29 53.7 +1.0**
GOMU				pP	pwP	13 30 00.7 -3.7
GOMU				pmax	pmax	
	comp=Z,32nm,1.3s					
LSA	**Lhasa**	**69.70**	**305**	P	**P**	**13 29 55.5 +0.3**
LSA				IAmb	IAmb	13 29 57.7
	comp=Z,82nm,1.1s					
LSA	**Lhasa**	**69.70**	**305**	P	P	13 29 42.7 -12
LSA				pmax	pmax	
	comp=Z,69nm,1.1s					
LSA	**Lhasa**	**69.70**	**305**	P	**P**	**13 29 55.5 +0.3**
LSA				pmax	pmax	
	comp=Z,82nm,1.1s					
P08K	**Saint George I**	**69.71**	**21**	P	**P**	**13 29 55.8 +1.7**
	baz=220					
SPIA	**Saint Paul Isl**	**69.92**	**20**	P	**P**	**13 29 56.7 +1.4**
	baz=219					
RKT	**Rikitea**	**70.56**	**112**	*e*S	**S**	**13 39 07.9 -5.3**
	comp=Z,917nm,31.0s					
RKT	**Rikitea**	**70.56**	**112**	*e*LR	LR	13 51 28.5
	comp=Z,1μm,34.5s					
YAK	**Yakutsk**	**70.67**	**348**	P	**P**	**13 30 01.1 +1.3**
YAK	**Yakutsk**	**70.67**	**348**	LR	LR	14 03 08.4
	comp=Z,65nm,18.6s,baz=144,slow=38					
YAK	**Yakutsk**	**70.67**	**348**	*d*iP	**P**	**13 30 00.5 +0.6**
YAK				*e**PP	**sP**	**13 30 06.8 +1.0**
YAK				*e*		13 30 22.6
YAK				*e*		13 32 36.7
YAK				*e*PPP	PPP	13 34 18.9
YAK				*e*S	**S**	**13 39 14.4 +1.5**
YAK				pmax	pmax	
	comp=Z,506nm,1.3s					
YAK				pmax	pmax	
	comp=N,139nm,1.4s					
YAK				pmax	pmax	
	comp=E,46nm,1.2s					
YAK				pmax	pmax	
	comp=Z,144nm,5.6s					
YAK				pmax	pmax	
	comp=N,122nm,3.0s					
YAK				pmax	pmax	
	comp=E,97nm,3.0s					
YAK				smax	smax	
	comp=N,281nm,3.5s					
YAK				smax	smax	
	comp=E,544nm,3.4s					
YAK				MLR	MLR	
	comp=Z,194nm,23.0s					
FALS	**False Pass**	**70.79**	**25**	P	**P**	**13 30 01.8 +1.1**
	baz=226					
ZAK	**Zakamensk**	**71.21**	**329**	*e*P	**P**	**13 30 03.9 +0.4**
ZAK				pmax	pmax	
	comp=Z,114nm,1.3s					
BOD	**Bodaibo**	**71.52**	**339**	*e*P	**P**	**13 30 05.0 -0.1**
BOD				pmax	pmax	
	comp=Z,94nm,1.6s					
SBA	**Scott Base**	**71.75**	**177**	P	**P**	**13 30 07.5 +1.3**
SBA	**Scott Base**	**71.75**	**177**	P	**P**	**13 30 07.5 +1.3**
SBA				pmax	pmax	
	comp=Z,28nm,1.1s					
IRK	**Irkutsk**	**71.83**	**331**	*e*P	**P**	**13 30 06.9 -0.2**
IRK				pmax	pmax	
	comp=Z,134nm,1.7s					
CHNA	**Chernabura Isl**	**72.41**	**26**	P	**P**	**13 30 10.9 +0.4**
	baz=230					
MOY	**Mondy**	**73.13**	**329**	*e*P	**P**	**13 30 16.2 +1.2**
MOY				pmax	pmax	
	comp=Z,124nm,1.7s					
S14K	**Fog Glacier**	**73.37**	**25**	P	**P**	**13 30 17.1 +0.7**
	baz=229					
M11K	**Mekoryuk**	**73.73**	**20**	P	**P**	**13 30 18.6 +0.5**
	baz=222					
O14K	**Tigyukauivet M**	**74.68**	**22**	P	**P**	**13 30 24.0 +0.2**
	baz=227					
M13K	**Dall Lake**	**74.73**	**21**	P	**P**	**13 30 24.3 +0.3**
	baz=225					
GAMB	**Gambell**	**74.74**	**15**	P	**P**	**13 30 24.2 +0.2**
	baz=216					
CHIR	**Chirikof Islan**	**74.80**	**27**	P	**P**	**13 30 24.4 -0.1**
	baz=233					
BILL	**Bilibino**	**74.82**	**5**	P	**P**	**13 30 24.6 +0.2**
BILL				IAmb	IAmb	13 30 27.9
	comp=Z,65nm,1.0s					
BILL	**Bilibino**	**74.82**	**5**	*ce*P	**P**	**13 30 24.3 -0.1**
BILL				pmax	pmax	
	comp=Z,87nm,1.3s					
N14K	**Kuskokwak Cree**	**74.98**	**22**	P	**P**	**13 30 25.7 +0.3**
	baz=226					
R16K	**Pilot Point**	**75.03**	**25**	P	**P**	**13 30 26.3 +0.5**
	baz=231					
O15K	**Ungalikthiuk R**	**75.17**	**23**	P	**P**	**13 30 27.0 +0.4**
	baz=228					
K13K	**Kusilvak Mount**	**75.39**	**19**	P	**P**	**13 30 27.7 0.0**
K13K	**Kusilvak Mount**	**75.39**	**19**	P	**P**	**13 30 28.2 +0.4**
	baz=223					
M14K	**Bethel**	**75.46**	**21**	P	**P**	**13 30 28.8 +0.6**
M14K				IAmb	IAmb	13 30 32.0
	comp=Z,60nm,1.1s					
M14K	**Bethel**	**75.46**	**21**	P	**P**	**13 30 28.1 -0.1**
	baz=226					
R17L	**Mt. Peulik Vol**	**75.58**	**25**	P	**P**	**13 30 29.6 +0.6**
	baz=232					
PLK4	**Peulik 4**	**75.58**	**25**	P	**P**	**13 30 29.6 +0.4**
L14K	**Kuka Creek**	**75.62**	**20**	P	**P**	**13 30 29.8 +0.7**
L14K				IAmb	IAmb	13 30 33.1
	comp=Z,71nm,1.1s					
L14K	**Kuka Creek**	**75.62**	**20**	P	**P**	**13 30 29.7 +0.6**
	baz=225					
N15K	**Kwethluk River**	**75.73**	**22**	P	**P**	**13 30 30.3 +0.4**
	baz=228					
P16K	**Nushagak River**	**75.80**	**24**	P	**P**	**13 30 30.3 +0.1**
	baz=230					
M15K	**Kasigluk River**	**75.87**	**21**	P	**P**	**13 30 30.6 0.0**
	baz=227					
SII	**Sitkinak Islan**	**75.89**	**27**	P	**P**	**13 30 30.9 +0.1**
	baz=234					
Q16K	**King Salmon**	**76.11**	**24**	P	**P**	**13 30 31.9 0.0**
	baz=232					
O16K	**Kokwok River B**	**76.12**	**23**	P	**P**	**13 30 31.5 -0.5**
	baz=230					
Q17K	**Contact Creek**	**76.17**	**25**	P	**P**	**13 30 32.0 -0.5**
	baz=232					
L15K	**Ungalak Mounta**	**76.26**	**20**	P	**P**	**13 30 32.1 -0.7**
	baz=226					
J14K	**Nanvaranak Lak**	**76.33**	**19**	P	**P**	**13 30 34.6 +1.5**
J14K				IAmb	IAmb	13 30 37.3
	comp=Z,68nm,1.1s					
J14K	**Nanvaranak Lak**	**76.33**	**19**	P	**P**	**13 30 33.1 0.0**
	baz=224,SNR=9.7					
R18K	**Karluk**	**76.36**	**26**	P	**P**	**13 30 33.3 -0.1**
	baz=234					
ACHA	**Angle Creek He**	**76.37**	**25**	P	**P**	**13 30 34.0 +0.4**
N16K	**Nishlik Lake**	**76.43**	**22**	P	**P**	**13 30 33.9 0.0**
	baz=229					
O17K	**Koliganek Bris**	**76.62**	**23**	P	**P**	**13 30 34.7 -0.2**
	baz=231					
OHAK	**Old Harbor**	**76.67**	**27**	P	**P**	**13 30 34.4 -0.8**
	baz=235					
K15K	**Wolf Creek Mou**	**76.68**	**20**	P	**P**	**13 30 36.3 +1.2**
K15K				IAmb	IAmb	13 30 39.2
	comp=Z,72nm,1.0s					
K15K	**Wolf Creek Mou**	**76.68**	**20**	P	**P**	**13 30 35.3 +0.1**
	baz=226,SNR=12					
M16K	**Timber Creek**	**76.72**	**22**	P	**P**	**13 30 35.5 +0.1**
	baz=229,SNR=7.2					
Q18K	**Katmai Hardscr**	**76.77**	**25**	P	**P**	**13 30 35.3 -0.6**
	baz=233					
L16K	**Owhat River**	**76.99**	**21**	P	**P**	**13 30 37.5 +0.6**
L16K				IAmb	IAmb	13 30 40.6
	comp=Z,56nm,1.3s					
L16K	**Owhat River**	**76.99**	**21**	P	**P**	**13 30 36.8 -0.1**
	baz=228					
N17K	**Nushagak Hills**	**77.06**	**23**	P	**P**	**13 30 39.0 +1.7**
N17K				IAmb	IAmb	13 30 42.6
	comp=Z,143nm,1.9s					
N17K	**Nushagak Hills**	**77.06**	**23**	P	**P**	**13 30 37.1 -0.3**
	baz=231					

ANM	**Nome**	77.11	17	P	P	13 30 37.3	-0.2
	baz=222						
P18K	**Big Mountain,**	77.13	24	P	P	13 30 37.2	-0.6
	baz=233						
TNA	**Tin City**	77.16	15	P	P	13 30 37.1	-0.6
	baz=220						
KDAK	**Kodiak Island**	77.31	26	LR	LR	13 58 45.0	
	comp=Z,406nm,21.5s,baz=253,slow=31						
KDAK	**Kodiak Island**	77.31	26	P	P	13 30 37.5	-1.3
	baz=235						
WMQ	**Urumqi**	77.37	317	*e*P	P	13 30 40.8	+1.2
WMQ				pP	sP	13 30 44.7	-0.9
WMQ				pmax	pmax		
	comp=Z,67nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,630nm,5.7s						
WMQ				LR	LR		
	comp=Z,140nm,22.9s						
O18K	**Koktuh Hills**	77.42	24	P	P	13 30 38.3	-1.1
	baz=233						
Q19K	**Cape Douglas,**	77.51	25	P	P	13 30 40.7	+0.7
Q19K	**Cape Douglas,**	77.51	25	P	P	13 30 38.9	-1.1
	baz=234						
F14K	**Arctic Creek**	77.52	16	P	P	13 30 39.2	-0.6
	baz=221						
M17K	**Holitna River**	77.53	22	P	P	13 30 39.1	-0.9
	baz=230,SNR=5.9						
HYB	**Hyderabad**	77.65	289	*e*P	P	13 30 41.3	-0.3
HYB				IVmB_BB		13 30 41.7	
	comp=Z,981nm,1.0s						
HYB				*e*S	S	13 40 34.2	+1.1
N18K	**Kilae Creek**	77.66	23	P	P	13 30 41.9	+1.1
N18K				IAmb	IAmb	13 30 45.0	
	comp=Z,97nm,1.1s						
N18K	**Kilae Creek**	77.66	23	P	P	13 30 40.3	-0.4
	baz=232						
J16K	**Anvik River**	77.67	19	P	P	13 30 42.2	+1.5
J16K				IAmb	IAmb	13 30 45.0	
	comp=Z,126nm,1.4s						
J16K	**Anvik River**	77.67	19	P	P	13 30 39.7	-1.0
	baz=227,SNR=8.1						
L17K	**Donlin**	77.69	21	P	P	13 30 40.1	-0.7
	baz=229,SNR=7.1						
G15K	**Niukluk**	77.81	17	P	P	13 30 40.9	-0.5
	baz=223						
Q20K	**Shuyak Island**	77.86	26	P	P	13 30 39.7	-2.2
	baz=236						
SVW2	**Sparrevohn**	78.04	23	P	P	13 30 43.3	+0.5
SVW2	**Sparrevohn**	78.04	23	P	P	13 30 45.1	+2.3
I17K	**Unalakleet**	78.05	19	P	P	13 30 43.9	+1.1
I17K				IAmb	IAmb	13 30 45.3	
	comp=Z,67nm,1.1s						
I17K	**Unalakleet**	78.05	19	P	P	13 30 42.2	-0.6
	baz=227						
K17K	**Iditarod**	78.07	21	P	P	13 30 43.8	+0.8
K17K				IAmb	IAmb	13 30 47.7	
	comp=Z,112nm,1.4s						
K17K	**Iditarod**	78.07	21	P	P	13 30 42.7	-0.3
	baz=229,SNR=13						
H16K	**Elim**	78.09	18	P	P	13 30 41.5	-1.5
	baz=225						
P19K	**Oil Pt**	78.11	25	P	P	13 30 43.0	-0.3
P19K	**Oil Pt**	78.11	25	P	P	13 30 42.4	-0.9
	baz=234						
F15K	**North Star Dit**	78.16	16	P	P	13 30 43.7	+0.3
F15K				IAmb	IAmb	13 30 45.4	
	comp=Z,48nm,1.1s						
F15K	**North Star Dit**	78.16	16	P	P	13 30 42.5	-0.9
	baz=223						
M18K	**Stony River**	78.19	22	P	P	13 30 42.9	-0.8
	baz=232,SNR=12						
J17K	**VABM Dome**	78.25	20	P	P	13 30 44.4	+0.4
J17K				IAmb	IAmb	13 30 48.1	
	comp=Z,55nm,0.9s						
J17K	**VABM Dome**	78.25	20	P	P	13 30 43.6	-0.4
	baz=228,SNR=14						
N19K	**Bonanza Creek**	78.29	23	P	P	13 30 42.5	-1.8
	baz=233						
L18K	**Granite Mounta**	78.33	21	P	P	13 30 43.5	-0.9
	baz=231,SNR=24						
G16K	**Koyuk River**	78.59	17	P	P	13 30 46.4	+0.6
G16K				IAmb	IAmb	13 30 47.7	
	comp=Z,78nm,1.1s						
G16K	**Koyuk River**	78.59	17	P	P	13 30 45.8	0.0
	baz=225						
O20K	**Slope Mountain**	78.61	24	P	P	13 30 45.1	-1.0
	baz=235						
HOM	**Homer**	78.77	25	P	P	13 30 46.1	-0.7
	baz=236						
L19K	**White Mountain**	78.98	22	P	P	13 30 49.0	+1.0
L19K				IAmb	IAmb	13 30 52.3	
	comp=Z,80nm,0.9s						
L19K	**White Mountain**	78.98	22	P	P	13 30 47.9	-0.2
	baz=233,SNR=21						
M19K	**Big River Lodg**	78.98	22	P	P	13 30 48.4	+0.4
	baz=233,SNR=15						
TTA	**Tatalina**	79.02	21	P	P	13 30 49.0	+0.7
TTA	**Tatalina**	79.02	21	P	P	13 30 48.4	+0.1
	baz=231,SNR=9.4						
TTA	**Tatalina**	79.02	21	P	P	13 30 48.8	+0.5
TTA	**Tatalina**	79.02	21	P	P	13 30 49.0	+0.7
TTA				pmax	pmax		
	comp=Z,36nm,1.0s						
H17K	**Granite Mounta**	79.02	18	P	P	13 30 49.0	+0.9
H17K	**Granite Mounta**	79.02	18	P	P	13 30 48.7	+0.5
	baz=227,SNR=9.2						
J18K	**Innoko River**	79.11	20	P	P	13 30 48.8	+0.1
J18K	**Innoko River**	79.11	20	P	P	13 30 48.8	+0.1
	baz=231,SNR=13						
BRLK	**Bradley Lake**	79.15	25	P	P	13 30 48.8	-0.2
BRLK				IAmb	IAmb	13 30 52.0	
	comp=Z,73nm,1.1s						
G17K	**Kiwalik Mounta**	79.18	18	P	P	13 30 49.2	+0.2
	baz=227						
BRSE	**Bradley Lake S**	79.20	25	P	P	13 30 48.8	-0.5
	baz=237						
N20K	**Mount Spurr**	79.42	24	P	P	13 30 49.3	-1.2
	baz=235						
SPCR	**Spurr Chakacha**	79.42	24	P	P	13 30 49.1	-1.4
	baz=235						
M20K	**Styx River**	79.45	23	P	P	13 30 50.0	-0.6
M20K	**Styx River**	79.45	23	P	P	13 30 50.4	-0.3
	baz=234,SNR=13						
L20K	**Farewell, AK**	79.52	22	P	P	13 30 49.7	-1.3
	baz=234,SNR=14						
TIXI	**Tiksi**	79.57	352	P	P	13 30 51.0	0.0
TIXI				IAmb	IAmb	13 30 53.7	
	comp=Z,175nm,1.4s						
TIXI	**Tiksi**	79.57	352	LR	LR	14 09 44.7	
	comp=Z,46nm,18.0s,baz=194,slow=38						
TIXI	**Tiksi**	79.57	352⇑	*e*P	P	13 30 51.0	0.0
TIXI				pmax	pmax		
	comp=Z,171nm,1.7s						
CAPN	**Captain Cook N**	79.60	24	P	P	13 30 50.3	-1.1
	baz=236						
H18K	**Honhosa River**	79.65	19	P	P	13 30 49.9	-1.7
	baz=229						
F17K	**Baldwin Pennin**	79.66	17	P	P	13 30 49.7	-1.8
	baz=226						
J19K	**Poorman**	79.82	20	P	P	13 30 52.9	+0.4
J19K	**Poorman**	79.82	20	P	P	13 30 51.3	-1.3
	baz=232,SNR=17						
GCSA	**Galena City Sc**	79.87	19	P	P	13 30 51.1	-1.6
	baz=230,SNR=12						
C16K	**Lisburne Hills**	79.89	14	P	P	13 30 51.6	-1.1
	baz=222						
SEW	**Seward**	79.94	25	P	P	13 30 53.2	0.0
	baz=238						
E17K	**Hotham Inlet**	79.94	16	P	P	13 30 53.4	+0.3
	baz=225,SNR=17						
K20K	**Telida**	79.98	21	P	P	13 30 53.9	+0.5
	baz=233,SNR=15						
O22K	**Cooper Landing**	80.03	25	P	P	13 30 52.9	-0.8
	baz=238						
D17K	**Noatak River**	80.04	15	P	P	13 30 54.3	+0.7
	baz=224,SNR=6.6						
G18K	**Tagagawik**	80.06	18	P	P	13 30 53.9	+0.1
	baz=228,SNR=16						
SKT	**Skwentna**	80.12	23	P	P	13 30 53.1	-1.2
SKT	**Skwentna**	80.12	23	P	P	13 30 53.4	-0.9
	baz=236,SNR=9.9						
SUA	**Susitna One**	80.15	24	P	P	13 30 53.5	-1.0
	baz=236,SNR=18						
F18K	**Selawik**	80.23	17	P	P	13 30 54.1	-0.5
	baz=227						
RDOG	**Red Dog Mine**	80.35	15	P	P	13 30 55.3	0.0
RDOG				IAmb	IAmb	13 30 58.7	
	comp=Z,71nm,0.9s						
RDOG	**Red Dog Mine**	80.35	15	P	P	13 30 55.7	+0.4
	baz=224,SNR=11						
RC01	**Rabbit Creek A**	80.35	24	P	P	13 30 55.5	+0.1
RC01				IAmb	IAmb	13 30 58.9	
	comp=Z,82nm,1.0s						
RC01	**Rabbit Creek A**	80.35	24	P	P	13 30 54.8	-0.7
	baz=238,SNR=18						
PPLA	**Purkeypile**	80.40	22	P	P	13 30 54.6	-1.3
	baz=235						
J20K	**Nowinta River**	80.44	21	P	P	13 30 56.3	+0.4
J20K				IAmb	IAmb	13 30 59.6	
	comp=Z,90nm,1.1s						
J20K	**Nowinta River**	80.44	21	P	P	13 30 55.9	0.0
	baz=233,SNR=44						
H19K	**Roundabout Mou**	80.51	19	P	P	13 30 56.3	+0.2
	baz=231,SNR=29						
E18K	**Tukpahlearik C**	80.52	16	P	P	13 30 55.5	-0.8
	baz=226						
ZSN	**Zaisan**	80.53	320	*e*P	P	13 30 57.0	+0.3
	comp=Z,51nm,1.2s						
ZSN				*e*S	S	13 41 04.1	+1.4
ZSN	**Zaisan**	80.53	320	*e*P	P	13 30 57.0	+0.3
ZSN				*e*S	S	13 41 04.1	+1.4
ZSN				pmax	pmax		
	comp=Z,51nm,1.2s						
M22K	**Willow**	80.56	24	P	P	13 30 56.5	0.0
	baz=237,SNR=6.8						
C17K	**DeLong Mountai**	80.58	15	P	P	13 30 56.7	+0.1
	baz=224						
G19K	**Purcell Mounta**	80.70	18	P	P	13 30 57.1	-0.2
	baz=230						
I20K	**Naaghedeneel**	80.71	20	P	P	13 30 57.7	+0.5
I20K	**Naaghedeneel**	80.71	20	P	P	13 30 57.4	+0.2
	baz=233,SNR=9.3						
CAST	**Castle Rocks**	80.74	22	P	P	13 30 57.2	-0.3
CAST				IAmb	IAmb	13 30 59.9	
	comp=Z,70nm,1.0s						
CAST	**Castle Rocks**	80.74	22	P	P	13 30 56.8	-0.8
	baz=235,SNR=48						
P23K	**Montague Islan**	80.77	26	P	P	13 30 56.6	-1.1
	baz=240						
PWL	**Port Wells**	80.81	25	P	P	13 30 58.3	+0.3
PWL	**Port Wells**	80.81	25	P	P	13 30 58.0	+0.1
	baz=239,SNR=84						
CUT	**Chulitna**	80.86	23	P	P	13 30 56.6	-1.5
	baz=237,SNR=15						
PMR	**Palmer**	80.87	24	P	P	13 30 57.7	-0.4
PMR				IAmb	IAmb	13 31 00.9	
	comp=Z,44nm,0.9s						
PMR	**Palmer**	80.87	24	P	P	13 30 57.6	-0.6
	baz=238,SNR=17						
PMR	**Palmer**	80.87	24	P	P	13 30 57.8	-0.4
PMR	**Palmer**	80.87	24	P	P	13 30 57.7	-0.4
PMR				pmax	pmax		
	comp=Z,44nm,0.9s						
CHUM	**Lake Minchumin**	80.92	21	P	P	13 30 58.5	+0.1
	baz=235,SNR=11						
F19K	**Shaleruckik Mo**	80.94	18	P	P	13 30 57.7	-0.8
	baz=229						
Q23K	**Middleton Isla**	80.95	27	P	P	13 30 57.7	-0.9
	baz=241						
H20K	**Anotleneega Mo**	81.00	19	P	P	13 30 58.0	-0.8
	baz=232,SNR=25						
GHO	**Glory Hole Cre**	81.05	24	P	P	13 30 59.3	+0.1
GHO				IAmb	IAmb	13 31 02.1	
	comp=Z,59nm,0.9s						
KNK	**Knik Glacier**	81.05	24	P	P	13 30 59.3	+0.1
KNK				IAmb	IAmb	13 31 03.1	
	comp=Z,90nm,1.2s						
KNK	**Knik Glacier**	81.05	24	P	P	13 30 58.6	-0.6
	baz=239,SNR=16						
C18K	**Utukok River**	81.22	15	P	P	13 30 58.5	-1.5
	baz=226						
KTH	**Kantishna Hill**	81.24	22	P	P	13 30 59.0	-1.2
KTH				IAmb	IAmb	13 31 02.7	
	comp=Z,56nm,0.9s						
SML	**Sawmill**	81.31	24	P	P	13 31 00.7	+0.1
SML				IAmb	IAmb	13 31 04.1	
	comp=Z,82nm,0.8s						
SML	**Sawmill**	81.31	24	P	P	13 30 59.8	-0.9
	baz=239,SNR=24						
SML	**Sawmill**	81.31	24	P	P	13 31 00.7	+0.1
SML				pmax	pmax		
	comp=Z,82nm,0.8s						
GLI	**Glacier Island**	81.34	25	P	P	13 30 59.8	-0.9
	baz=240,SNR=9.9						
TRF	**Thorofare Moun**	81.42	22	P	P	13 31 00.3	-1.1
	baz=237,SNR=23						
E19K	**Redstone River**	81.51	17	P	P	13 31 00.7	-0.8
	baz=230						
BPAW	**Bear Paw Mtn.**	81.53	21	P	P	13 31 00.8	-0.9
	baz=236						
M23K	**Glacier View**	81.54	24	P	P	13 31 01.9	+0.1
	baz=239,SNR=9.6						
B18K	**Kokolik River**	81.57	15	P	P	13 31 01.0	-0.8
	baz=225						
IMAR	**Indian Mountai**	81.67	19	P	P	13 31 02.8	+0.4
F20K	**Avaraart Lake**	81.70	18	P	P	13 31 01.9	-0.6
	baz=231						
SCM	**Sheep Creek Mo**	81.73	24	P	P	13 31 02.9	0.0
SCM	**Sheep Creek Mo**	81.73	24	P	P	13 31 01.5	-1.4
	baz=240,SNR=22						
SCM	**Sheep Creek Mo**	81.73	24	P	P	13 31 02.9	0.0
SCM				pmax	pmax		
	comp=Z,114nm,1.0s						
WAT1	**Susitna Watana**	81.75	23	P	P	13 31 01.3	-1.7
	baz=238						
EYAK	**Cordova Ski Ar**	81.76	26	P	P	13 31 02.3	-0.6
	baz=241,SNR=5.7						
EYAK	**Cordova Ski Ar**	81.76	26	P	P	13 31 05.5	+2.6
H21K	**Melozitna Rive**	81.79	20	P	P	13 31 03.1	0.0
	baz=234,SNR=22						
I21K	**Tanana**	81.79	20	P	P	13 31 03.2	+0.2
	baz=235						
D19K	**Kuna River**	81.94	16	P	P	13 31 04.1	+0.3
	baz=229						
RND	**Reindeer**	81.94	23	P	P	13 31 03.5	-0.5
RND				IAmb	IAmb	13 31 06.1	
	comp=Z,85nm,1.0s						
RND	**Reindeer**	81.94	23	P	P	13 31 03.5	-0.5
RND				pmax	pmax		
	comp=Z,85nm,1.0s						
WAT6	**Susitna Watana**	81.94	24	P	P	13 31 03.7	-0.4
	baz=239,SNR=18						
C19K	**Lookout Ridge**	81.96	15	P	P	13 31 03.0	-0.9
	baz=227						
MK31	**Makanchi Array**	81.97	319	P	P	13 31 04.6	+0.2
MK31				IAmb	IAmb	13 31 06.4	
	comp=Z,52nm,1.2s						
MK31	**Makanchi Array**	81.97	319	*i* P	P	13 31 04.7	+0.2
MK31				pmax	pmax		
	comp=Z,58nm,1.0s						
MKAR	**Makanchi Array**	81.97	319	P	P	13 31 04.8	+0.4
	comp=Z,23nm,0.9s,baz=101,slow=6.3,SNR=134						
MKAR				PKKPbc	**PKKPbc**	13 49 35.4	-1.0
	comp=Z,1.7nm,0.9s,baz=300,slow=2.4,SNR=9.0						
MKAR				PKPPKP	**P'P'df**	13 57 40.5	+1.9
	comp=Z,2.3nm,1.1s,baz=264,slow=1.2,SNR=6.1						
	comp=Z,23nm,0.9s						
DIV	**Divide**	82.03	25	P	P	13 31 04.1	-0.4
DIV				IAmb	IAmb	13 31 08.3	
	comp=Z,104nm,1.1s						
KAIM	**Kayak Island**	82.05	27	P	P	13 31 04.1	-0.4
	baz=242						
G21K	**Allakaket**	82.07	19	P	P	13 31 04.0	-0.4
	baz=233						
MCK	**McKinley**	82.08	22	P	P	13 31 03.9	-0.8
MCK	**McKinley**	82.08	22	P	P	13 31 03.8	-0.8
	baz=238,SNR=76						
MCK	**McKinley**	82.08	22	P	P	13 31 03.9	-0.8
MCK				pmax	pmax		
	comp=Z,156nm,1.0s						
MLY	**Manley**	82.14	21	P	P	13 31 05.3	+0.3
MLY				IAmb	IAmb	13 31 08.2	
	comp=Z,84nm,1.1s						
MLY	**Manley**	82.14	21	P	P	13 31 04.6	-0.4
	baz=236,SNR=13						
KLU	**Klutina**	82.14	25	P	P	13 31 05.8	+0.7
KLU	**Klutina**	82.14	25	P	P	13 31 04.9	-0.1
	baz=241,SNR=47						
MAKZ	**Makanchi**	82.18	319	P	P	13 31 06.0	+0.5
MAKZ				IAmb	IAmb	13 31 07.4	
	comp=Z,122nm,1.3s						
MAKZ	**Makanchi**	82.18	319	P	P	13 31 06.0	+0.5
MAKZ				pmax	pmax		
	comp=Z,122nm,1.3s						
E20K	**Nigu River**	82.33	17	P	P	13 31 06.2	+0.2
	baz=231						
M24K	**Tolsona, Glenn**	82.34	24	P	P	13 31 06.9	+0.8
	baz=241,SNR=21						
DHY	**Denali Highway**	82.34	23	P	P	13 31 05.7	-0.5
	baz=239,SNR=9.8						
A19K	**Wainwright**	82.34	14	P	P	13 31 05.5	-0.3
	baz=226						
H22K	**Ishtalitna Cre**	82.41	20	P	P	13 31 06.0	-0.3
	baz=235,SNR=19						
BMRM	**Bremner River**	82.45	26	P	P	13 31 06.6	0.0
	baz=242,SNR=13						
NEA2	**Nenana**	82.50	22	P	P	13 31 06.0	-0.8
	baz=238,SNR=18						
F21K	**Alatna River**	82.50	18	P	P	13 31 07.0	+0.3
	baz=233						
D20K	**Etivluk River**	82.50	16	P	P	13 31 06.4	-0.4
	baz=230						
I23K	**Minto, Yukon-K**	82.69	21	P	P	13 31 07.4	-0.3
	baz=237,SNR=12						
N25K	**Chitina, Valde**	82.75	25	P	P	13 31 08.2	-0.1
	baz=242,SNR=24						
SHLS	**Shalkode**	82.83	315	*e*P	P	13 31 07.6	-1.6
	comp=Z,50nm,1.4s						
SHLS	**Shalkode**	82.83	315	*e*P	P	13 31 07.5	-1.6
SHLS				pmax	pmax		
	comp=Z,49nm,1.4s						
ZAA0	**Zalesovo Array**	82.86	326	P	P	13 31 08.4	-0.4
ZAA0				IAmb	IAmb	13 31 09.1	
	comp=Z,33nm,0.9s						
ZALV	**Zalesovo Beam**	82.86	326	P	P	13 31 07.9	-0.9
ZALV	**Zalesovo Beam**	82.86	326	P	P	13 31 08.3	-0.6
	comp=Z,23nm,0.8s,baz=111,slow=5.7,SNR=77						
ZALV				PP	**PP**	13 34 16.4	-2.9
	comp=Z,4.8nm,0.9s,baz=109,slow=8.0,SNR=4.4						
ZALV				S	S	13 41 29.6	+3.2
	comp=Z,0.5nm,0.3s,baz=112,slow=9.6,SNR=4.9						
ZALV				PKKPbc	**PKKPbc**	13 49 34.2	-0.5
	comp=Z,0.5nm,0.3s,baz=13,slow=3.3,SNR=3.9						
	comp=Z,23nm,0.8s						
PDGK	**Podgornoye**	82.86	315	P	P	13 31 08.8	-0.5
HARP	**HAARP**	82.90	24	P	P	13 31 08.8	-0.1
	baz=242,SNR=7.1						
G22K	**Bettles**	82.95	19	P	P	13 31 09.2	+0.1
	baz=235						
CCB	**Clear Creek Bu**	82.99	22	P	P	13 31 08.4	-0.9
CCB				IAmb	IAmb	13 31 10.9	
	comp=Z,56nm,1.0s						
H23K	**Yukon River**	82.99	20	P	P	13 31 09.9	+0.6
H23K				IAmb	IAmb	13 31 12.4	
	comp=Z,54nm,0.9s						
H23K	**Yukon River**	82.99	20	P	P	13 31 09.5	+0.1
	baz=237,SNR=39						
CRQE	**Cirque**	83.01	26	P	P	13 31 09.3	-0.4
	baz=244,SNR=22						
GLB	**Gilahina Butte**	83.01	25	P	P	13 31 10.0	+0.4
PAX	**Paxson**	83.04	24	P	P	13 31 09.6	-0.2
	baz=241,SNR=15						
F22K	**John River**	83.08	18	P	P	13 31 09.8	0.0
	baz=234						
COLA	**College**	83.09	22	P	P	13 31 09.1	-0.7
COLA	**College**	83.09	22	P	P	13 31 08.2	-1.6
	baz=239						
COLA	**College**	83.09	22	P	P	13 31 08.9	-0.9
COLA	**College**	83.09	22	*i* P	P	13 31 08.5	-1.3
COLA				pmax	pmax		
	comp=Z,112nm,0.9s						
E21K	**Killik River**	83.09	17	P	P	13 31 09.3	-0.5
	baz=233						
UZB	**Uzynbulak**	83.14	315	*e*P	P	13 31 10.8	-0.1
	comp=Z,59nm,1.4s						
UZB	**Uzynbulak**	83.14	315	*e*P	P	13 31 10.7	-0.1
UZB				pmax	pmax		
	comp=Z,59nm,1.4s						
HDA	**Harding Lake**	83.18	22	P	P	13 31 10.2	-0.1
	baz=240,SNR=5.6						
B20K	**Meade River**	83.20	15	P	P	13 31 09.7	-0.6
	baz=229						
MESA	**MESA**	83.27	27	P	P	13 31 10.0	-1.1
	baz=245						
C21K	**Knifeblade Rid**	83.30	16	P	P	13 31 10.6	-0.3
	baz=232,SNR=11						
G23K	**Bananza Creek**	83.32	20	P	P	13 31 11.0	0.0
	baz=237						
MCARA	**McCarthy VSAT**	83.32	26	P	P	13 31 10.9	-0.2
	baz=244,SNR=21						
K24K	**Donnelly Dome**	83.33	23	P	P	13 31 10.9	-0.2
	baz=241						
POKR	**Poker Plat Res**	83.37	21	P	P	13 31 10.8	-0.5
	baz=239,SNR=6.2						
IL31		83.39	22	P	P	13 31 10.2	-1.1
IL31				IAmb	IAmb	13 31 13.3	
	comp=Z,44nm,0.8s						
ILAR	**Eielson Array**	83.39	22	P	P	13 31 09.8	-1.6
	comp=Z,35nm,0.8s,baz=255,slow=5.1,SNR=85						
ILAR				LR	LR	14 10 30.2	
	comp=Z,276nm,18.1s,baz=236,slow=37						
	comp=Z,35nm,0.8s						
PRZ	**Przheval'sk**	83.41	314	P	P	13 31 13.1	+0.8
PRZ	**Przheval'sk**	83.41	314	P	P	13 31 13.1	+0.8
PRZ				pmax	pmax		
	comp=Z,282nm,1.2s						
KPKS	**Kokpek**	83.46	315	*e*P	P	13 31 12.4	0.0
	comp=Z,56nm,1.6s						
KPKS				*e*S	S	13 41 33.6	+0.3
KPKS	**Kokpek**	83.46	315	*e*P	P	13 31 12.3	0.0
KPKS				*e*S	S	13 41 33.5	+0.3
KPKS				pmax	pmax		
	comp=Z,56nm,1.6s						
COLD	**Coldfoot**	83.55	19	P	P	13 31 12.4	+0.2
	baz=236,SNR=29						
SATY	**Saty**	83.55	315	*e*P	P	13 31 12.9	-0.1
	comp=Z,26nm,0.9s						
SATY	**Saty**	83.55	315	*e*P	P	13 31 12.8	-0.1
SATY				pmax	pmax		
	comp=Z,26nm,0.9s						
E22K	**Anaktuvuk Pass**	83.56	18	P	P	13 31 12.2	0.0
	baz=235,SNR=26						
QSPA	**South Pole Qui**	83.56	180	P	P	13 31 12.6	+0.1
QSPA	**South Pole Qui**	83.56	180	P	P	13 31 12.6	+0.1
	comp=Z,111nm,0.9s,baz=350,slow=1.2,SNR=572						
QSPA				PKKPbc	**PKKPbc**	13 49 31.4	-2.4
	comp=Z,2.9nm,1.1s,baz=139,slow=1.6,SNR=5.3						
QSPA				LR	LR	14 06 48.4	
	comp=Z,98nm,18.5s,baz=10,slow=34						
	comp=Z,111nm,0.9s						
H24K	**Noodor Dome**	83.58	21	P	P	13 31 11.4	-1.0
	baz=239,SNR=14						
B21K	**Ikpikpuk River**	83.63	16	P	P	13 31 12.1	-0.4
	baz=232						
TARG	**Taragay, Kyrgy**	83.65	313	P	P	13 31 14.4	+0.6
TARG				IAmb	IAmb	13 31 16.3	
	comp=Z,60nm,1.1s						
TARG	**Taragay, Kyrgy**	83.65	313	P	P	13 31 14.4	+0.6
TARG				pmax	pmax		
	comp=Z,60nm,1.1s						
RIDG	**Independent Ri**	83.66	23	P	P	13 31 12.5	-0.4
	baz=242						
D22K	**Ayikyak River**	83.73	17	P	P	13 31 13.7	+0.6
	baz=234						
TABL	**Table Mountain**	83.74	27	P	P	13 31 13.9	+0.3
TABL				IAmb	IAmb	13 31 17.4	
	comp=Z,62nm,0.8s						
M26K	**Nabesna, AK**	83.79	25	P	P	13 31 14.0	+0.4
	baz=244,SNR=9.9						
CTG	**Chitna Glacier**	83.88	26	P	P	13 31 14.5	+0

baz=239
E23K **Chandalar** 84.19 18 P P 13 31 15.8 +0.2
baz=237
PNL **Peninsula** 84.23 28 P P 13 31 16.6 +0.8
baz=247,SNR=6.6
PNL **Peninsula** 84.23 28 P P 13 31 18.3 +2.5
M27K **Edge Creek, AK** 84.24 25 P P 13 31 17.0 +1.1
M27K **Edge Creek, AK** 84.24 25 P P 13 31 16.5 +0.5
baz=244,SNR=74
ARXS **Arharly** 84.25 316 eP P 13 31 16.5 +0.1
PRP **Porcupine Dome** 84.26 21 P P 13 31 16.2 +0.2
baz=241,SNR=6.3
O28M **Mount Upton** 84.31 27 P P 13 31 16.4 -0.2
baz=246,SNR=14
MAW **Mawson** 84.35 203 P P 13 31 16.5 +0.2
comp=Z,34nm,1.0s,baz=89,slow=6.5,SNR=55
MAW PKKPbc **PKKPbc** 13 49 29.2 -2.0
comp=Z,0.8nm,0.9s,baz=292,slow=4.0,SNR=3.6
MAW LR LR 14 05 50.9
comp=Z,188nm,20.6s,baz=86,slow=34
comp=Z,34nm,1.0s
D23K **Nanushuk River** 84.37 17 P P 13 31 16.7 +0.4
baz=236
A22K **Sinclair Lake** 84.40 15 P P 13 31 15.8 -0.6
baz=232
B22K **Teshekpuk Lake** 84.40 16 P P 13 31 16.7 +0.3
baz=233
F24K **Squaw Lake** 84.46 19 P P 13 31 16.3 -0.5
baz=238
KSH **Kashi** 84.48 311 P P 13 31 19.7 +2.0
KSH pP PcP 13 31 23.7 +2.4
KSH pmax pmax
comp=Z,48nm,1.2s
J26L **Joseph Creek** 84.52 23 P P 13 31 17.6 +0.4
J26L IAmb IAmb 13 31 20.7
comp=Z,72nm,1.4s
J26L **Joseph Creek** 84.52 23 P P 13 31 17.3 0.0
baz=243,SNR=32
H25L **Birch Creek** 84.53 21 P P 13 31 17.4 +0.3
baz=241
TOLK **Toolik Lake Re** 84.53 18 P P 13 31 18.0 +0.9
TOLK IAmb IAmb 13 31 20.8
comp=Z,60nm,0.9s
TOLK **Toolik Lake Re** 84.53 18 P P 13 31 17.4 +0.2
baz=237,SNR=23
MDOK **Medeo** 84.54 314 eP P 13 31 17.8 -0.1
MDOK **Medeo** 84.54 314 P P 13 31 19.1 +1.1
E24K **Your Creek** 84.56 19 P P 13 31 16.6 -0.8
baz=238
L27K **Beaver Creek,** 84.56 24 P P 13 31 18.3 +0.8
L27K IAmb IAmb 13 31 21.5
comp=Z,53nm,0.9s
L27K **Beaver Creek,** 84.56 24 P P 13 31 17.0 -0.4
baz=244,SNR=34
BCAR **Beaver Creek A** 84.58 24 P P 13 31 17.9 +0.3
TNSS **Tian-Shan** 84.58 314 eP P 13 31 18.1 -0.5
TNSS **Tian-Shan** 84.58 314 eP P 13 31 18.0 -0.5
YUK3 **Moose Creek** 84.60 26 P P 13 31 16.6 -1.3
baz=246,SNR=20
AAA **Alma-Ata** 84.65 314 eP P 13 31 18.3 -0.1
comp=Z,66nm,1.0s
AAA **Alma-Ata** 84.65 314 eP P 13 31 18.3 -0.1
AAA pmax pmax
comp=Z,66nm,1.0s
G25K **Bearman Lake** 84.67 20 P P 13 31 17.2 -0.6
baz=240
BVCY **Beaver Creek** 84.69 25 P P 13 31 18.7 +0.6
baz=245,SNR=28
YUK8 **Steele Glacier** 84.70 26 P P 13 31 19.3 +0.8
baz=246,SNR=12
O29M **Mount Kennedy** 84.86 28 P P 13 31 19.8 +0.7
O29M IAmb IAmb 13 31 23.1
comp=Z,48nm,1.0s
O29M **Mount Kennedy** 84.86 28 P P 13 31 19.3 +0.2
baz=248,SNR=11
K27K **Chicken** 84.88 24 P P 13 31 19.6 +0.6
baz=244
C23K **Itkillik River** 84.89 17 P P 13 31 19.1 +0.2
baz=236
NRN **Naryn** 84.89 313 P P 13 31 20.8 +0.8
NRN **Naryn** 84.89 313 P P 13 31 20.8 +0.8
NRN pmax pmax
comp=Z,107nm,1.4s
ULHL **Ulahol** 84.91 313 P P 13 31 21.5 +1.6
SNR=5.9
P29M **Windy Craggy** 85.00 28 P P 13 31 20.0 +0.3
baz=248,SNR=5.5
D24K **Happy Valley** 85.03 18 P P 13 31 19.9 +0.2
baz=238
I26K **Coal Creek Min** 85.04 22 P P 13 31 20.0 +0.3
baz=243
S31K **Pelican** 85.14 30 P P 13 31 20.1 -0.3
baz=250
BOOM **Boomskoye usch** 85.18 314 P P 13 31 21.2 0.0
BOOM **Boomskoye usch** 85.18 314 P P 13 31 21.2 0.0
BOOM pmax pmax
comp=Z,98nm,1.0s
YUK6 **Outpost Mounta** 85.20 27 P P 13 31 21.2 +0.2
baz=248
YUK4 **Talbot Arm** 85.23 27 P P 13 31 21.6 +0.6
baz=248,SNR=17
F25K **Christian Rive** 85.24 20 P P 13 31 21.3 +0.5
baz=241
SIT **Sitka** 85.29 31 P P 13 31 21.2 +0.1
baz=251
C24K **Franklin Bluff** 85.38 17 P P 13 31 22.2 +0.8
baz=238
NIL **Nilore** 85.43 304 P P 13 31 22.4 -0.1
NIL **Nilore** 85.43 304 P P 13 31 22.4 -0.1
NIL pmax pmax
comp=Z,343nm,1.9s
KURK **Kurchatov** 85.44 322 P P 13 31 21.9 -0.1
KURK **Kurchatov** 85.44 322 P P 13 31 22.0 -0.1
KURBB **Kurchatov Arra** 85.47 322 P P 13 31 22.0 -0.2
comp=Z,36nm,1.0s,baz=113,slow=3.5,SNR=220
KURBB PKKPbc **PKKPbc** 13 49 27.6 -0.7
comp=Z,1.5nm,0.8s,baz=295,slow=2.9,SNR=12
KURBB LR LR 14 08 27.8
comp=Z,87nm,20.7s,baz=158,slow=35
comp=Z,36nm,1.0s
KURBB **Kurchatov Arra** 85.47 322 P P 13 31 21.8 -0.4
BMAR **Burnt Mountain** 85.52 20 P P 13 31 22.6 +0.4
TKM2 **Tokmak 2** 85.52 314 P P 13 31 23.8 +0.8
SNR=28
TKM2 **Tokmak 2** 85.52 314 *i* P P 13 31 23.2 +0.2
TKM2 pmax pmax
comp=Z,126nm,1.4s
E25K **Arctic Village** 85.53 19 P P 13 31 22.8 +0.7
E25K **Arctic Village** 85.53 19 P P 13 31 22.9 +0.7
baz=241,SNR=23
R31K **City Hall, Gus** 85.53 30 P P 13 31 22.9 +0.6
baz=250
P30M **Million Dollar** 85.54 28 P P 13 31 23.3 +0.8
baz=249
HYT **Haines Junctio** 85.55 27 P P 13 31 23.8 +1.2
HYT **Haines Junctio** 85.55 27 P P 13 31 22.9 +0.3
baz=249,SNR=52
G26K **Porcupine Rive** 85.57 21 P P 13 31 22.7 +0.3
baz=242
EGAK **Eagle** 85.57 23 P P 13 31 22.8 +0.4
EGAK **Eagle** 85.57 23 P P 13 31 22.8 +0.4
baz=245,SNR=60
PLBC **Pleasant Camp** 85.59 29 P P 13 31 22.1 -0.5
baz=250
M29M **Somme Creek** 85.73 26 P P 13 31 23.6 +0.2
baz=248,SNR=31
I27K **Kandik River** 85.75 22 P P 13 31 23.7 +0.4
baz=244,SNR=67
F26K **Sheenjek River** 85.79 20 P P 13 31 24.1 +0.6
baz=242
S32K **Killisnoo** 85.81 31 P P 13 31 23.2 -0.5
baz=251
D25K **Kavik River** 85.87 18 P P 13 31 24.1 +0.3
baz=240
KBK **Karagaybulak** 85.93 314 P P 13 31 25.9 +0.9
SNR=35
CRAG **Craig** 85.96 33 P P 13 31 25.0 +0.5
baz=253
N30M **Aishikik Lake** 85.96 27 P P 13 31 24.6 0.0
baz=249,SNR=8.9
DAWY **Dawson** 85.97 24 P P 13 31 25.0 +0.5
DAWY **Dawson** 85.97 24 P P 13 31 25.3 +0.8
baz=247,SNR=49
H27K **Steamboat Moun** 86.05 22 P P 13 31 25.1 +0.3
baz=245,SNR=87
SKAG **Skagway** 86.09 29 P P 13 31 25.2 +0.1
baz=251
SKAG **Skagway** 86.09 29 P P 13 31 26.5 +1.4
R32K **Eaglecrest** 86.10 30 P P 13 31 25.6 +0.4
baz=251
L29M **L29M** 86.12 25 P P 13 31 26.3 +0.9
L29M **L29M** 86.12 25 P P 13 31 26.2 +0.9
baz=248,SNR=52
CHMS **Chumysh** 86.14 314 P P 13 31 26.3 +0.5
SNR=42
U33K **Whale Pass** 86.15 33 P P 13 31 25.9 +0.4
baz=253
UCH **Uchtor** 86.15 313 P P 13 31 28.4 +1.9
SNR=16
O30N **Mendenhall** 86.17 28 P P 13 31 26.4 +0.8
O30N IAmb IAmb 13 31 29.2
comp=Z,66nm,1.1s
O30N **Mendenhall** 86.17 28 P P 13 31 26.2 +0.6
baz=250,SNR=27
FRU1 **Bishkek** 86.19 314 P P 13 31 26.4 +0.3
FRU1 IAmb IAmb 13 31 28.3
comp=Z,90nm,1.0s
FRU1 **Bishkek** 86.19 314 P P 13 31 26.4 +0.3
FRU1 pmax pmax
comp=Z,90nm,1.0s
AAK **Ala-Archa** 86.25 313 P P 13 31 27.4 +0.9
SNR=36
AAK **Ala-Archa** 86.25 313 P P 13 31 27.4 +0.9
AAK IAmb IAmb 13 31 28.7
comp=Z,86nm,1.1s
AAK **Ala-Archa** 86.25 313 LR LR 14 10 02.0
comp=Z,181nm,21.1s,baz=107,slow=36
AAK **Ala-Archa** 86.25 313 *ce*P P 13 31 27.3 +0.8
AAK pmax pmax
comp=Z,98nm,1.3s
G27K **Doyon Strip** 86.25 21 P P 13 31 26.2 +0.4
baz=244
I28M **Miner Creek** 86.32 23 P P 13 31 27.2 +1.0
I28M IAmb IAmb 13 31 29.3
comp=Z,54nm,0.8s
I28M **Miner Creek** 86.32 23 P P 13 31 27.8 +1.5
baz=246,SNR=40
SGDS **Sogindy** 86.33 314 eP P 13 31 26.8 0.0
comp=Z,37nm,1.4s
SGDS **Sogindy** 86.33 314 eP P 13 31 26.8 0.0
SGDS pmax pmax
comp=Z,37nm,1.4s
USP **Ospenovka** 86.38 314 P P 13 31 27.3 +0.3
SNR=61
T33K **Petersburg** 86.45 32 P P 13 31 27.2 +0.3
baz=253
M30M **Mio, Yukon** 86.50 26 P P 13 31 27.8 +0.6
baz=249
N31M **Braeburn, Yuko** 86.56 27 P P 13 31 28.6 +1.2
N31M **Braeburn, Yuko** 86.56 27 P P 13 31 27.4 -0.1
baz=250,SNR=30
J29N **Klondike Camp** 86.60 24 P P 13 31 29.1 +1.5
J29N **Klondike Camp** 86.60 24 P P 13 31 28.7 +1.1
baz=248,SNR=41
C26K **Camden Bay** 86.61 18 P P 13 31 28.5 +1.1
baz=241
K29M **Barlow Dome** 86.65 24 P P 13 31 29.0 +1.0
baz=248,SNR=122
WRAK **Wrangell Islan** 86.65 32 P P 13 31 29.4 +1.5
baz=253
WHY **Whitehorse** 86.70 28 P P 13 31 28.6 +0.4
WHY IAmb IAmb 13 31 31.6
comp=Z,32nm,0.9s
WHY **Whitehorse** 86.70 28 P P 13 31 29.2 +1.0
baz=251,SNR=11
AML **Almayashu** 86.73 313 P P 13 31 30.4 +1.2
SNR=11
V35K **Ketchikan** 86.74 34 P P 13 31 28.6 +0.2
baz=254
EKS2 **Erkin-Say** 86.78 313 P P 13 31 29.9 +0.9
SNR=47
C27K **Jago River** 86.84 18 P P 13 31 29.1 +0.5
baz=242
E27K **Coleen River** 86.87 20 P P 13 31 29.5 +0.7
baz=244
P32M **Attlin** 86.91 29 P P 13 31 29.5 +0.3
baz=252,SNR=5.5
I29M **Ogilvie Camp,** 86.91 23 P P 13 31 29.2 +0.1
baz=248,SNR=56
BTLS **Baital** 87.07 316 eP P 13 31 30.4 +0.1
comp=Z,26nm,1.1s
BTLS **Baital** 87.07 316 eP P 13 31 30.4 +0.1
BTLS pmax pmax
comp=Z,26nm,1.1s
H29M **Whitestone** 87.22 22 P P 13 31 30.5 0.0
H29M IAmb IAmb 13 32 08.7
comp=Z,58nm,1.4s
H29M **Whitestone** 87.22 22 P P 13 31 30.8 +0.3
baz=248,SNR=7.5
F28M **Old Crow** 87.22 21 P P 13 31 31.2 +0.7
F28M IAmb IAmb 13 31 34.3
comp=Z,35nm,0.8s
F28M **Old Crow** 87.22 21 P P 13 31 30.9 +0.4
baz=246,SNR=41
MAYO **Mayo, Yukon** 87.24 25 P P 13 31 31.1 +0.5
MAYO **Mayo, Yukon** 87.24 25 P P 13 31 31.5 +0.8
baz=250,SNR=42
J30M **Hart River** 87.40 24 P P 13 31 32.3 +0.7
J30M **Hart River** 87.40 24 P P 13 31 32.0 +0.4
baz=249,SNR=97
M31M **Drury Creek, Y** 87.42 27 P P 13 31 32.1 +0.5
M31M IAmb IAmb 13 31 34.6
comp=Z,45nm,1.0s
M31M **Drury Creek, Y** 87.42 27 P P 13 31 31.5 -0.1
baz=251,SNR=22
Q32M **Nakina River** 87.43 30 P P 13 31 31.3 -0.7
baz=253
P33M **Teslin, Yukon** 87.53 29 P P 13 31 32.0 -0.2
baz=253
D27M **Malcolm River** 87.54 19 P P 13 31 32.9 +0.8
D27M IAmb IAmb 13 31 35.5
comp=Z,40nm,0.8s
D27M **Malcolm River** 87.54 19 P P 13 31 32.9 +0.8
baz=245
G29M **Pine Creek** 87.61 22 P P 13 31 32.6 +0.2
baz=248
I30M **Mount Dempster** 87.61 23 P P 13 31 32.8 +0.2
baz=249,SNR=66
N32M **Quiet Lake** 87.69 28 P P 13 31 33.0 +0.1
baz=252
NRIK **Noril'sk** 87.69 341 P P 13 31 32.3 -0.4
comp=Z,26nm,1.0s,baz=114,slow=5.1,SNR=18
NRIK LR LR 14 09 23.6
comp=Z,102nm,20.9s,baz=137,slow=35
comp=Z,26nm,1.0s
NRIK **Noril'sk** 87.69 341 *ce*P P 13 31 31.9 -0.8
NRIK pmax pmax
comp=Z,32nm,1.1s
S34M **Telegraph Cree** 87.71 31 P P 13 31 33.2 +0.2
baz=254,SNR=6.7
E28M **Babbage River** 87.74 20 P P 13 31 33.3 +0.3
baz=246
U35K **Hyder** 87.77 33 P P 13 31 33.3 0.0
baz=255
EPYK **Eagle Plains** 87.89 22 P P 13 31 34.1 +0.3
baz=249,SNR=68
FARO **Faro, Yukon** 87.89 27 P P 13 31 34.5 +0.6
baz=252,SNR=18
T35M **Bob Quinn** 87.92 32 P P 13 31 33.0 -1.1
baz=255
BBB **Bella Bella** 87.96 37 LR LR 14 04 48.5
comp=Z,207nm,20.2s,baz=291,slow=31
R33M **Jennings River** 88.19 30 P P 13 31 36.1 +0.6
R33M IAmb IAmb 13 31 39.3
comp=Z,30nm,1.1s
R33M **Jennings River** 88.19 30 P P 13 31 35.9 +0.4
baz=254,SNR=7.6
E29M **Blow River** 88.21 20 P P 13 31 35.3 +0.1
baz=248
G30M **tAoh Zraii Nji** 88.29 22 P P 13 31 35.4 -0.3
baz=249
D28M **Stokes Point** 88.30 19 P P 13 31 35.8 +0.3
baz=247
DLBC **Dease Lake** 88.41 31 P P 13 31 37.4 +0.9
DLBC IAmb IAmb 13 31 40.4
comp=Z,28nm,1.1s
DLBC **Dease Lake** 88.41 31 LR LR 14 05 56.1
comp=Z,462nm,19.5s,baz=281,slow=32
DLBC **Dease Lake** 88.41 31 P P 13 31 35.9 -0.6
baz=255
BTK **Batken** 88.49 310 P P 13 31 37.1 -0.2
BTK **Batken** 88.49 310 P P 13 31 37.1 -0.2
BTK pmax pmax
comp=Z,109nm,1.6s
DZA **Taraz** 88.59 313 *e*P P 13 31 37.7 +0.1
comp=Z,21nm,0.9s
DZA **Taraz** 88.59 313 *e*P P 13 31 37.7 +0.1
DZA pmax pmax
comp=Z,21nm,0.9s
H31M **Peel River** 88.61 23 P P 13 31 37.5 +0.3
H31M IAmb IAmb 13 31 40.4
comp=Z,43nm,0.9s
H31M **Peel River** 88.61 23 P P 13 31 37.4 +0.2
baz=251,SNR=22
F30M **Barrier River** 88.67 21 P P 13 31 37.3 -0.1
baz=250
GAR **Garm** 88.70 309 P P 13 31 37.9 -0.5
GAR IAmb IAmb 13 31 47.1
comp=Z,104nm,1.6s
BRZS **Berezniki** 88.97 320 *e*P P 13 31 38.1 -1.1
BRZS pmax pmax
comp=Z,16nm,1.4s
G31M **Satah River** 89.00 22 P P 13 31 39.0 +0.1
G31M IAmb IAmb 13 31 41.6
comp=Z,32nm,0.8s
G31M **Satah River** 89.00 22 P P 13 31 38.7 -0.2
baz=251,SNR=24
KBL **Kabul** 89.02 305 P P 13 31 38.6 -1.5
KBL **Kabul** 89.02 305 P P 13 31 38.6 -1.5
KBL pmax pmax
comp=Z,20nm,1.2s
KK31 **Karatay Array** 89.22 313 *i* P P 13 31 40.3 -0.2
KKAR **Karatay Array** 89.22 313 P P 13 31 40.2 -0.3
KKAR **Karatay Array** 89.22 313 P P 13 31 40.5 0.0
KKAR IAmb IAmb 13 31 41.8
comp=Z,37nm,1.3s
KKAR **Karatay Array** 89.22 313 P P 13 31 40.5 0.0
KKAR pmax pmax
comp=Z,37nm,1.3s
F31M **Tsiigehtchic** 89.36 22 P P 13 31 40.3 -0.3
F31M IAmb IAmb 13 31 44.6
comp=Z,48nm,1.2s
F31M **Tsiigehtchic** 89.36 22 P P 13 31 40.5 -0.1
baz=252,SNR=18
WTLY **Watson Lake, Y** 89.44 29 P P 13 31 41.1 -0.1
WTLY IAmb IAmb 13 31 44.2
comp=Z,80nm,1.6s
WTLY **Watson Lake, Y** 89.44 29 P P 13 31 41.3 +0.1
baz=256,SNR=6.9
YBH **Yreka Blue Hor** 89.62 48 P P 13 31 42.9 +0.3
comp=Z,0.9nm,0.5s,baz=153,slow=8.4,SNR=3.3
YBH LR LR 14 03 50.4
comp=Z,659nm,22.0s,baz=282,slow=30
comp=Z,0.9nm,0.5s
SIMJ **Simiganj** 89.65 309 P P 13 31 41.8 -1.0
BRLS **Borolday** 89.69 313 *e*P P 13 31 42.1 -0.7
BRLS **Borolday** 89.69 313 *e*P P 13 31 42.9 +0.1
INK **Inuvik** 89.71 21 P P 13 31 41.2 -1.0
INK IAmb IAmb 13 31 45.1
comp=Z,34nm,1.0s
INK **Inuvik** 89.71 21 LR LR 14 09 26.3
comp=Z,248nm,20.3s,baz=235,slow=34
INK **Inuvik** 89.71 21 P P 13 31 42.1 -0.1
baz=252,SNR=40
INK **Inuvik** 89.71 21 P P 13 31 41.2 -1.0
INK pmax pmax
comp=Z,34nm,1.0s
LIRD **Liard River Hi** 90.62 30 P P 13 31 46.4 -0.3
baz=259,SNR=8.0
BVA0 **Borovoye Array** 90.92 323 *i* P P 13 31 47.6 -0.7
BVAR **Borovoye Array** 90.92 323 P P 13 31 47.4 -0.9
comp=Z,51nm,0.8s,baz=101,slow=6.2,SNR=168
BVAR LR LR 14 15 11.1
comp=Z,69nm,18.3s,baz=86,slow=37
comp=Z,51nm,0.8s
TOAD **Toad River Com** 90.95 31 P P 13 31 48.6 +0.3
baz=259,SNR=7.4
BRVK **Borovoye** 90.99 323 *ce*P P 13 31 48.0 -0.6
BRVK pmax pmax
comp=Z,54nm,1.0s
KOTAN **Kotaneelee Air** 91.77 30 P P 13 31 51.8 -0.2
baz=260
NVAR **Mina Array Bea** 92.55 52 P P 13 31 57.2 +0.8
comp=Z,4.0nm,0.9s,baz=255,slow=5.7,SNR=28
NVAR PKPPKP **P'P'df** 13 57 23.2 +3.0
comp=Z,0.2nm,0.6s,baz=225,slow=0.8,SNR=3.9
NVAR LR LR 14 10 47.8
comp=Z,285nm,18.1s,baz=267,slow=34
comp=Z,4.0nm,0.9s
WRGLY **Wrigley** 92.55 27 P P 13 31 55.5 0.0
baz=261
C36M **Paulatuk** 93.29 21 P P 13 31 58.4 -0.4
baz=261
A36M **Sachs Harbour** 93.35 18 P P 13 31 58.5 -0.5
baz=260
RPN **Rapa Nui** 93.47 118 LR LR 14 08 58.5
comp=Z,53nm,19.0s,baz=267,slow=32
PFO **Pinyon Flats O** 93.56 57 P P 13 32 02.5 +1.4
comp=Z,1.4nm,0.4s,baz=289,slow=4.4,SNR=6.8
PFO LR LR 14 07 34.6
comp=Z,279nm,19.8s,baz=262,slow=31
comp=Z,1.4nm,0.4s
TPFO **Pinon Flats** 93.56 57 P P 13 31 59.7 -1.4
baz=265
NEW **Newport** 94.33 42 P P 13 32 04.2 0.0
comp=Z,2.0nm,0.7s,baz=286,slow=4.7,SNR=3.3
NEW LR LR 14 12 14.8
comp=Z,445nm,18.0s,baz=276,slow=34
comp=Z,2.0nm,0.7s
R11B **Troy Canyon, C** 94.67 52 P P 13 32 04.7 -1.4
baz=266
ELK **Elko** 95.11 50 P P 13 32 09.2 +1.0
comp=Z,1.5nm,1.0s,baz=208,slow=3.8,SNR=4.8
comp=Z,1.5nm,1.0s
ELIB **Princess Elisa** 95.41 194 *d*P P 13 32 08.3 -0.5
comp=Z,11nm,1.0s
YKA **Yellowknife Ar** 96.53 28 P P 13 32 14.7 +0.9
comp=Z,6.1nm,1.0s,baz=277,slow=4.4,SNR=7.0
YKA LR LR 14 11 17.0
comp=Z,314nm,20.5s,baz=300,slow=33
comp=Z,6.1nm,1.0s
SVE **Sverdlovsk** 96.87 326 *e*P P 13 32 11.0 -4.5
SVE pmax pmax
comp=Z,26nm,1.4s
AB31 **Akbulak array** 97.11 319 *i* P P 13 32 14.6 -2.2
ARTI **Arti** 98.12 326 LR LR 14 16 23.8
comp=Z,134nm,21.9s,baz=80,slow=35
ARTI **Arti** 98.12 326 *d i*P P 13 32 19.3 -1.8
ARTI 13 36 19.0
ARTI S **SKSac** 13 42 57.1 -0.8
ARTI SP **SP** 13 45 08.7 -2.0
ARTI SS **SS** 13 50 35.4 +5.4
ARTI pmax pmax
comp=Z,27nm,1.0s
LPIG **La Paz** 98.25 67 LR LR 14 13 38.1
comp=Z,248nm,18.1s,baz=269,slow=34
AKTO **Aktyubinsk** 98.38 320 LR LR 14 17 57.4
comp=Z,93nm,18.6s,baz=54,slow=36
AKTO **Aktyubinsk** 98.38 320 P P 13 32 18.7 -3.7
NVL **N'lazarevskaya** 98.84 192 *e*P Pdif 13 32 32.5 +8.4
NVL *e*S **SKSac** 13 43 06.6 +5.5
NVL pmax pmax
comp=Z,6.0nm,0.6s
NVL MLR MLR
comp=Z,661nm,17.0s
PDAR **Pinedale Array** 99.43 48 P **Pdif** 13 32 26.8 -0.9
comp=Z,0.7nm,0.8s,baz=252,slow=0.9,SNR=5.8
PDAR PKiKP **PKiKP** 13 36 57.5 +0.3
comp=Z,0.7nm,0.7s,baz=278,slow=1.3,SNR=5.1
PDAR LR LR 14 10 32.6
comp=Z,148nm,21.6s,baz=258,slow=31
comp=Z,0.7nm,0.8s
TROLL **Troll, Antarti** 99.47 189 ⇓Pdiff **Pdif** 13 32 26.4 -0.7
comp=Z,215nm,0.7s
SNAA **Sanae** 100.53 187 ⇓Pdiff **Pdif** 13 32 30.8 -0.9
comp=Z,42nm,0.9s
SNAA **Sanae** 100.53 187 P **Pdif** 13 32 31.4 -0.3
comp=Z,2.0nm,0.7s,baz=150,slow=4.6,SNR=8.9
SNAA PP **PP** 13 36 37.8 -0.2
comp=Z,3.8nm,1.2s,baz=168,slow=15,SNR=4.3
SNAA PKKPbc **PKKPbc** 13 48 47.1 -2.5
comp=Z,1.9nm,1.1s,baz=299,slow=4.2,SNR=4.0
121A **Cookes Peak, D** 100.77 58 Pdiff **Pdif** 13 32 33.7 -0.1
baz=269
S22A **4UR Ranch, Cre** 101.55 53 Pdiff **Pdif** 13 32 36.8 -0.5
baz=271
VNA3 **Neumayer Olymp** 101.70 185 ⇑PKiKP **PKiKP** 13 37 00.0 -0.1
comp=Z,1.6nm,0.7s
VNA3 ⇓Pdiff **Pdif** 13 32 36.1 -0.8
comp=Z,4.0nm,0.8s
VNA2 **Neumayer--Watz** 101.77 186 ⇑PKiKP **PKiKP** 13 37 00.6 +0.3

comp=Z,3.0nm,0.7s,baz=207,slow=0.5
VNA2 ||Pdiff **Pdif** **13 32 36.7 -0.5**
comp=Z,2.4nm,0.8s,baz=160,slow=4.7
RES Resolute Bay 101.78 15 PKiKP **PKiKP** **13 36 58.8 -1.4**
comp=Z,1.1nm,0.9s,baz=242,slow=10,SNR=1.4
VNA1 Neumayer--Stat 102.12 186 ||Pdiff **Pdif** **13 32 37.4 -1.3**
comp=Z,2.7nm,0.9s
N23A Red Feather La 102.16 50 Pdiff **Pdif** **13 32 39.6 -0.3**
baz=272
T25A Trinidad 103.49 53 Pdiff **Pdif** **13 32 45.1 -0.7**
baz=272
TXAR Lajitas Array 104.31 61 PKiKP **PKiKP** **13 37 06.0 -0.1**
comp=Z,1.3nm,0.9s,baz=264,slow=1.8,SNR=4.0
APA Apatity 107.07 340 ||*i*P **Pdif** **13 32 58.8 -1.9**
APA pmax pmax
comp=Z,6.0nm,1.2s
ULM Lac du Bonnet 108.06 39 PKiKP **PKiKP** **13 37 11.8 -0.6**
comp=Z,5.1nm,1.0s,baz=253,slow=0.8,SNR=4.0
833A Chaparral WMA, 108.08 62 PKiKP **PKiKP** **13 37 11.8 -1.3**
baz=272
KBZ Khabaz 109.24 314 PP **PP** **13 37 44.3 +0.6**
comp=Z,2.7nm,1.0s,baz=106,slow=9.0,SNR=5.9
SOC Sochi 111.54 314 *i* PKIKP **PKiKP** **13 37 16.5 -2.6**
SOC *e* 13 37 57.4
SOC *e*PPP PPP 13 40 17.2
SOC *e* 13 43 57.2
SOC *e*PS **PS** **13 47 27.6 -5.2**
SOC *e*SS SS 13 53 31.1 -3.2
SOC *e*SSS SSS 13 57 42.4
SOC MLR MLR
comp=Z,80nm,19.0s
FINES FINESS Array B 112.78 336 Pdiff **Pdif** **13 33 26.2 0.0**
comp=Z,2.0nm,0.9s,baz=66,slow=4.7,SNR=1.8
FINES PKiKP **PKiKP** **13 37 21.2 +0.3**
comp=Z,2.6nm,0.9s,baz=63,slow=1.9,SNR=2.4
MNK Minsk 115.30 328 *i* PKP **PKiKP** **13 37 25.0 -1.0**
comp=E,12nm,0.8s
MNK *i* PKP **PKiKP** **13 37 25.0 -1.0**
comp=N,17nm,0.8s
MNK *i* PKP **PKiKP** **13 37 25.0 -1.0**
comp=Z,7.0nm,0.6s,baz=63
MNK *i* PP **PP** **13 38 26.0 -0.5**
MNK *i* PPP PPP 13 40 53.1
MNK *i* SKS **SKSdf** **13 44 37.3 +0.1**
MNK *i* SS **SS** **13 54 25.4 +2.2**
MNK *i* SSS SSS 13 58 42.6
MNK *i* LQ LQ 14 19 44.2
MNK *i* LR LR 14 26 09.7
MNK *i* LRM MLR 14 27 43.5
comp=Z,80nm,16.2s
MNK *i* LRM MLR 14 27 45.6
comp=N,94nm,17.2s
MNK *i* LRM MLR 14 28 00.3
comp=E,209nm,19.6s
MNK Minsk 115.30 328 *i* PKIKP **PKiKP** **13 37 25.0 -1.0**
MNK *i* 13 38 25.9
MNK *i* PPP PPP 13 40 53.0
MNK *i* 13 44 37.2
MNK *i* SS SS 13 54 25.4 +2.2
MNK *i* SSS SSS 13 58 42.6
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK pmax pmax
comp=N,17nm,0.8s
MNK pmax pmax
comp=E,12nm,0.8s
MNK MLR MLR
comp=Z,80nm,16.0s
MNK MLR MLR
comp=N,94nm,17.0s
MNK MLR MLR
comp=E,209nm,20.0s
S44A Carbondale 115.39 51 **PKiKP** **13 37 26.2 -0.5**
SIUC Southern Illin 115.41 51 **PKiKP** **13 37 26.2 -0.5**
NACGM Naroch 115.69 329 *e*PKP **PKiKP** **13 37 25.3 -1.4**
comp=Z,15nm,0.9s,baz=62
KMBO Kilima Mbogo 115.90 266 PKP **PKPdf** **13 37 28.7 0.0**
comp=Z,0.7nm,0.3s,baz=52,slow=9.1,SNR=4.0
KMBO Kilima Mbogo 115.90 266 *i* PKIKP **PKPdf** **13 37 30.2 +1.5**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
OLIL Olney 116.05 50 **PKPdf** **13 37 27.2 -0.6**
AKASG Malin Array Be 116.18 324 PKP **PKPdf** **13 37 27.0 -0.8**
comp=Z,3.6nm,0.7s,baz=64,slow=2.1,SNR=13
AKASG PP **PP** **13 38 32.1 -0.7**
comp=Z,0.7nm,0.6s,baz=57,slow=6.8,SNR=8.5
AKASG PKKPbc **PKKPbc** **13 47 58.0 -1.2**
comp=Z,2.6nm,0.7s,baz=263,slow=4.1,SNR=12
AKBB Malin Array Si 116.18 324 **PKPdf** **13 37 27.1 -0.7**
AKBB Malin Array Si 116.18 324 PKIKP **PKPdf** **13 37 27.1 -0.7**
KIEV Kiev 116.20 324 **PKPdf** **13 37 27.1 -0.7**
KIEV Kiev 116.20 324 PKIKP **PKPdf** **13 37 27.1 -0.7**
146A Union 116.51 57 **PKPdf** **13 37 29.0 0.0**
P46A Rosedale 116.51 49 **PKPdf** **13 37 28.2 -0.5**
E46A Sault Ste Mari 116.55 41 **PKPdf** **13 37 28.4 -0.3**
WVT Waverly 116.83 53 **PKPdf** **13 37 28.7 -0.8**
WVT Waverly 116.83 53 PKIKP **PKPdf** **13 37 28.7 -0.8**
BRTR Keskin Array B 116.87 311 PP **PP** **13 38 36.0 -2.3**
comp=Z,1.6nm,0.9s,baz=79,slow=6.2,SNR=3.6
BRTR PKKPbc **PKKPbc** **13 47 57.6 +0.9**
comp=Z,1.6nm,0.8s,baz=280,slow=3.6,SNR=3.9
T47A Sharon Grove 117.21 52 **PKPdf** **13 37 29.9 -0.3**
SFJD Kangerlussuaq 117.29 10 PKP **PKPdf** **13 37 29.8 +0.4**
comp=Z,11nm,0.8s,baz=250,slow=5.8,SNR=4.7
WCI Wyandotte Cave 117.54 50 **PKPdf** **13 37 29.5 -1.3**
WCI Wyandotte Cave 117.54 50 PKIKP **PKPdf** **13 37 29.5 -1.3**
V48A Smith Brothers 117.72 53 **PKPdf** **13 37 30.4 -0.8**
X48A Hartselle 117.81 54 **PKPdf** **13 37 30.6 -0.8**
O48B Farmland 117.86 48 P **PKPdf** **13 37 30.9 -0.5**
baz=286
L48A N Adams 117.89 46 **PKPdf** **13 37 31.6 +0.2**
CLTN Cedars of Leba 118.03 52 **PKPdf** **13 37 31.7 -0.1**
PLCA Paso Flores 118.10 143 PKP **PKPdf** **13 37 32.6 +0.6**
comp=Z,5.3nm,1.0s,baz=189,slow=6.2,SNR=8.5
PLCA PKKPab **PKKPbc** **13 47 51.2 -1.1**
comp=Z,2.1nm,0.8s,baz=94,slow=5.1,SNR=5.2
U49A Red Boiling Sp 118.36 52 **PKPdf** **13 37 32.3 -0.1**
N49A Columbus Grove 118.38 47 **PKPdf** **13 37 31.7 -0.7**
P49A Miami Univ. Ec 118.39 48 **PKPdf** **13 37 32.1 -0.3**
P49A Miami Univ. Ec 118.39 48 P **PKPdf** **13 37 32.0 -0.4**
baz=286
O49A Covington 118.48 48 **PKPdf** **13 37 31.9 -0.7**
SWET Sewanee 118.54 53 **PKPdf** **13 37 32.6 -0.2**
NB2 NORSAR Subarra118.64 340 PKPdf **PKPdf** **13 37 31.6 -0.7**
comp=Z,2.8nm,0.8s,baz=42,slow=1.9
NOA NORSAR Array B118.64 340 PKP **PKPdf** **13 37 32.2 -0.1**
comp=Z,1.4nm,0.7s,baz=46,slow=2.0,SNR=5.2
FPAL Fort Paine 118.95 54 **PKPdf** **13 37 32.4 -1.2**
T50A Nancy 118.97 51 **PKPdf** **13 37 33.0 -0.6**
R50A Paris 119.02 50 **PKPdf** **13 37 33.6 -0.1**
W50A Signal Mountai 119.04 53 **PKPdf** **13 37 33.2 -0.7**
BOSA Boshof 119.19 232 PKP **PKPdf** **13 37 34.4 -0.1**
comp=Z,4.4nm,0.7s,baz=140,slow=3.9,SNR=6.9
ACSO Alum Creek Sta 119.46 47 **PKPdf** **13 37 34.1 -0.3**
CPCT Cooper Cave 119.61 53 **PKPdf** **13 37 34.9 +0.1**
N51A Ashland 119.68 46 **PKPdf** **13 37 34.6 -0.2**
S51A Beattyville 119.76 50 **PKPdf** **13 37 35.0 -0.1**
152A Waverly Hall 120.09 56 **PKPdf** **13 37 36.1 +0.2**
VLDQ Val d'Or 120.14 37 **PKPdf** **13 37 34.6 -0.9**
W52A Murphy 120.17 53 **PKPdf** **13 37 35.5 -0.5**
MLR Muntele Rosu 120.31 320 **PKPdf** **13 37 35.4 -0.7**
MLR Muntele Rosu 120.31 320 PKIKP **PKPdf** **13 37 35.4 -0.7**
Y52A Lilburn 120.36 54 **PKPdf** **13 37 35.3 -1.1**
Q52A Bidwell 120.37 48 **PKPdf** **13 37 36.2 -0.1**
KWP Kalwaria Pacla 120.41 325 **PKPdf** **13 37 36.2 +0.2**
KWP Kalwaria Pacla 120.41 325 PKIKP **PKPdf** **13 37 36.2 +0.2**
SADO Sadowa 120.51 41 PKP **PKPdf** **13 37 35.4 -0.9**
comp=Z,19nm,0.8s,baz=321,slow=1.1,SNR=7.6
N53A Lisbon 120.82 46 **PKPdf** **13 37 36.6 -0.4**
P53A Whipple 120.86 47 **PKPdf** **13 37 36.9 -0.3**
V53A Saluda 120.90 52 **PKPdf** **13 37 37.2 -0.2**
GOGA Godfrey 120.95 55 **PKPdf** **13 37 37.3 -0.2**
GOGA Godfrey 120.95 55 PKIKP **PKPdf** **13 37 37.3 -0.2**
KOLS Kolonicke sedl 121.00 325 *e*PKIKP **PKPdf** **13 37 38.0 +0.9**
KOLS Kolonicke sedl 121.00 325 *e*PKP **PKPdf** **13 37 38.0 +0.9**
STHS Stebnicka Huta 121.35 326 PKIKP **PKPdf** **13 37 39.5 +1.7**
STHS Stebnicka Huta 121.35 326 *e* **PKPdf** **13 37 39.5 +1.7**
O54A Avella 121.36 46 **PKPdf** **13 37 38.2 +0.1**
Q54A Coxs Mills 121.42 48 **PKPdf** **13 37 38.0 -0.3**
HODGE Hodges 121.72 54 **PKPdf** **13 37 38.5 -0.4**
MT01 Popeta 121.74 136 **PKPdf** **13 37 38.8 -0.2**
PAULI Pauline 121.91 53 **PKPdf** **13 37 39.8 +0.5**
SCHQ Schefferville 121.93 26 **PKPdf** **13 37 38.7 -0.1**
SCHQ Schefferville 121.93 26 PKP **PKPdf** **13 37 39.2 +0.5**
comp=Z,5.5nm,0.7s,baz=334,slow=3.5,SNR=6.7
V55A Taylorsville 122.10 51 **PKPdf** **13 37 40.1 +0.5**
KMSC Kings Mountain 122.20 52 **PKPdf** **13 37 40.1 +0.2**
BLA Blacksburg 122.30 50 **PKPdf** **13 37 39.9 -0.2**
BLA Blacksburg 122.30 50 PKIKP **PKPdf** **13 37 39.9 -0.2**
LANS Liptovska Anna 122.48 326 *e*PKIKP **PKPdf** **13 37 41.3 +1.3**
LANS Liptovska Anna 122.48 326 *e*PKP **PKPdf** **13 37 41.3 +1.3**
L56A Greenwood 122.61 43 **PKPdf** **13 37 40.0 -0.5**
VA03 San Esteban 122.84 136 **PKPdf** **13 37 42.2 +0.8**
PSZ Piszkesteto 122.88 325 **PKPdf** **13 37 40.9 0.0**
PSZ Piszkesteto 122.88 325 PKIKP **PKPdf** **13 37 40.9 0.0**
WBO Williamsburg 122.89 39 **PKPdf** **13 37 40.8 -0.1**
SSPA Standing Stone 122.97 45 **PKPdf** **13 37 41.4 +0.2**
K57A Scipio Center 123.08 42 **PKPdf** **13 37 40.9 -0.4**
MORC Moravsky Berou 123.19 327 **PKPdf** **13 37 41.2 -0.2**
MORC Moravsky Berou 123.19 327 *e*PKIKP **PKPdf** **13 37 41.6 +0.2**
MORC Moravsky Berou 123.19 327 PKIKP **PKPdf** **13 37 41.2 -0.2**
M57A Sunshine Farm, 123.23 44 **PKPdf** **13 37 42.1 +0.4**
T57A Hurt 123.25 50 **PKPdf** **13 37 42.5 +0.7**
W57A Gilead 123.25 52 **PKPdf** **13 37 42.6 +0.7**
P57A Homestead Farm 123.31 46 **PKPdf** **13 37 41.9 +0.1**
KRLC Kraliky 123.42 328 *e*PKPDF **PKPdf** **13 37 42.7 +0.9**
KRLC Kraliky 123.42 328 *e*PKIKP **PKPdf** **13 37 42.7 +0.9**
LONY Lake Ozonia 123.50 40 **PKPdf** **13 37 42.6 +0.5**
NRS Narsarsuaq 123.56 11 **PKPdf** **13 37 42.0 +0.4**
NRS Narsarsuaq 123.56 11 PKIKP **PKPdf** **13 37 42.0 +0.4**
JAVC Velka Javorina 123.63 326 *e*PKIKP **PKPdf** **13 37 43.4 +1.1**
MNTQ Montreal, Queb 123.69 38 **PKPdf** **13 37 42.3 -0.1**
N58A Sunbury 123.71 44 **PKPdf** **13 37 43.0 +0.4**
CO03 El Pedregal 123.83 134 **PKPdf** **13 37 42.6 -0.7**
LDAQ Lac Daran 123.83 35 **PKPdf** **13 37 41.9 -0.8**
VRAC Vranov 123.96 327 *e*PKIKP **PKPdf** **13 37 42.9 +0.1**
NCB Newcomb 124.03 40 **PKPdf** **13 37 43.9 +0.7**
J59A Piesco 124.08 41 **PKPdf** **13 37 43.8 +0.6**
GO04 Tololo Observa 124.11 133 **PKPdf** **13 37 44.3 +0.2**
MODS Modra-Piesok 124.12 326 *e*PKIKP **PKPdf** **13 37 44.1 +0.9**
MODS Modra-Piesok 124.12 326 *e*PKP **PKPdf** **13 37 44.1 +0.9**
KRUC Moravsky 124.21 327 *e*PKIKP **PKPdf** **13 37 43.5 +0.2**
MVL Millersville 124.30 45 **PKPdf** **13 37 44.6 +0.9**
BRG Berggiesshubel 124.39 330 *e*PKP **PKPdf** **13 37 44.2 +0.6**
BRG Amp 13 37 45.2
comp=Z,12nm,1.1s
BRG Berggiesshubel 124.39 330 *e*PKIKP **PKPdf** **13 37 44.1 +0.6**
BRG pmax pmax
comp=Z,12nm,1.1s
BRG MLR MLR
comp=Z,226nm,21.0s
BRG MLR MLR
comp=Z,203nm,19.8s
T59A Double "B" Far 124.54 49 **PKPdf** **13 37 44.6 +0.3**
CLL Collm 124.57 331 *i* PKIKP **PKPdf** **13 37 44.0 +0.1**
CLL pmax pmax
comp=Z,10.0nm,1.0s
CLL Collm 124.57 331 *i* PKPdf **PKPdf** **13 37 44.0 +0.1**
comp=Z,10.0nm,1.0s
CLL *e*PP **PP** **13 39 29.0 -1.1**
CLL *e*PS **PS** **13 49 24.0 -6.0**
CLL *e*PPS PPS 13 50 54.0
CLL *e*SS SS 13 56 24.0 +1.8
LCO Las Campanas 124.81 132 **PKPdf** **13 37 46.3 +0.9**
LCO Las Campanas 124.81 132 PKIKP **PKPdf** **13 37 46.3 +0.9**
RONA Rosalia, Austr 125.04 326 *i* PKP **PKPdf** **13 37 45.0 +0.1**
comp=Z,13nm,1.2s
ICQ Pointe Anglais 125.08 31 PKPdf **PKPdf** **13 37 45.6 +0.7**
ZVC Zvikov 125.15 329 *e*PKPDF **PKPdf** **13 37 45.9 +0.8**
CONA Conrad Observa 125.15 326 *e*PKP **PKPdf** **13 37 45.1 -0.2**
comp=Z,8.6nm,1.0s
BRNJ Basking Ridge 125.26 44 **PKPdf** **13 37 43.8 -1.8**
TRNY Table Rock, Ra 125.30 43 **PKPdf** **13 37 45.2 -0.5**
LBNH Lisbon 125.36 39 **PKPdf** **13 37 45.7 +0.1**
LBNH Lisbon 125.36 39 PKIKP **PKPdf** **13 37 45.7 +0.1**
J61A Chester 125.40 40 **PKPdf** **13 37 46.5 +0.7**
D62A Allapoint, All 125.56 35 **PKPdf** **13 37 45.6 -0.3**
PAL Palisades 125.58 43 **PKPdf** **13 37 46.4 +0.3**
PAL Palisades 125.58 43 PKIKP **PKPdf** **13 37 46.4 +0.3**
KHC Kasperske Hory 125.66 329 **PKPdf** **13 37 45.5 -0.6**
KHC Kasperske Hory 125.66 329 *e*PKPDF **PKPdf** **13 37 47.0 +0.9**
KHC Kasperske Hory 125.66 329 *e*PKIKP **PKPdf** **13 37 47.0 +0.9**
H62A Milan 125.67 38 **PKPdf** **13 37 47.0 +0.7**
G62A West of Eustis 125.71 37 **PKPdf** **13 37 46.4 +0.1**
ARSA Arzberg 125.73 326 *i* PKP **PKPdf** **13 37 46.2 -0.1**
comp=Z,4.1nm,1.0s
L61B Northampton 125.74 41 P **PKPdf** **13 37 46.3 -0.1**
baz=298
GEC2 GERESS Array S 125.77 328 **PKPdf** **13 37 46.0 -0.5**
GERES GERESS Array B 125.77 328 PKP **PKPdf** **13 37 46.8 +0.4**
comp=Z,4.8nm,0.8s,baz=50,slow=2.1,SNR=19
I62A Tamworth 125.91 39 PKPdf **PKPdf** **13 37 46.8 +0.1**
AC06 Mina Casimiro 125.94 130 **PKPdf** **13 37 47.8 +0.5**
MOA Molln 126.07 327 *i* PKP **PKPdf** **13 37 46.6 -0.4**
comp=Z,5.8nm,1.0s
I63A Otisfield 126.29 38 **PKPdf** **13 37 48.4 +1.0**
SOKA Soboth 126.33 325 *e*PKP **PKPdf** **13 37 47.3 -0.3**
comp=Z,9.3nm,1.1s
PQI Presque Isle 126.37 35 **PKPdf** **13 37 47.6 +0.2**
BIOA Bad Iischl, Aus 126.50 327 *i* PKP **PKPdf** **13 37 47.5 -0.3**
comp=Z,2.8nm,0.4s
F64A Sherman 126.64 36 **PKPdf** **13 37 48.2 +0.1**
OBKA Obir 126.70 326 *i* PKP **PKPdf** **13 37 48.0 -0.3**
comp=Z,13nm,1.3s
KBA Koelnbreinsper 127.03 327 *e*PKP **PKPdf** **13 37 48.2 -0.8**
comp=Z,13nm,1.2s
BATG Bathurst New B 127.09 33 **PKPdf** **13 37 49.0 +0.1**
MYKA Terra Mystica 127.14 326 *i* PKP **PKPdf** **13 37 48.1 -1.0**
comp=Z,6.1nm,0.9s
LESA Schwarzleotal 127.18 327 *e*PKP **PKPdf** **13 37 48.6 -0.5**
comp=Z,10.0nm,0.9s
PB14 IPOC Station P 127.30 128 **PKPdf** **13 37 50.6 +0.2**
G65A Princeton 127.47 36 **PKPdf** **13 37 50.4 +0.8**
ABTA Abfaltersbach 127.69 327 *i* PKP **PKPdf** **13 37 49.6 -0.5**
comp=Z,15nm,1.2s
EKA Eskdalemuir Ar 127.75 343 PKP **PKPdf** **13 37 50.9 +1.0**
comp=Z,4.3nm,1.0s,baz=15,slow=3.5,SNR=5.4
WATA Walderalm 127.82 328 *i* PKP **PKPdf** **13 37 50.5 0.0**
comp=Z,13nm,0.9s
OTAV Otavalo 127.83 95 *e*P **PKPdf** **13 37 48.5 -3.4**
WTTA Wattenberg 127.83 328 *i* PKP **PKPdf** **13 37 50.5 -0.1**
comp=Z,21nm,1.1s
GGN Saint George 127.94 36 **PKPdf** **13 37 50.6 +0.1**
MOTA Moosalm 128.06 328 *i* PKP **PKPdf** **13 37 50.6 -0.3**
comp=Z,16nm,1.0s
SQTA Sankt Quirin 128.09 328 *i* PKP **PKPdf** **13 37 50.8 -0.1**
comp=Z,13nm,0.9s
STU Stuttgart 128.09 331 PKPdf **PKPdf** **13 37 50.6 -0.1**
STU Stuttgart 128.09 331 PKIKP **PKPdf** **13 37 50.6 -0.1**
RETA Reutte 128.15 328 *i* PKP **PKPdf** **13 37 50.8 -0.2**
comp=Z,6.9nm,0.7s
MEM Membach 128.27 334 *d*PKP **PKPdf** **13 37 51.4 +0.4**
FETA Feichten 128.47 328 *i* PKP **PKPdf** **13 37 51.8 0.0**
comp=Z,16nm,1.0s
LMN Caledonia Moun 128.65 34 **PKPdf** **13 37 51.9 0.0**
BCLA Clavier 128.71 334 *d*PKP **PKPdf** **13 37 52.2 +0.4**
DAVA Damuels 128.74 329 *i* PKP **PKPdf** **13 37 52.3 0.0**
comp=Z,11nm,1.0s
WLF Walferdange 128.89 333 *d*PKP **PKPdf** **13 37 53.2 +1.0**
RCHB Rochefort 128.94 334 *d*PKP **PKPdf** **13 37 53.0 +0.7**
FUORN Ofenpass-Fuorn 128.97 328 **PKPdf** **13 37 52.7 -0.1**
DOU Dourbes 129.25 335 *d*PKP **PKPdf** **13 37 51.1 -1.7**
LVC Limon Verde 129.49 126 *e*P **PKPdf** **13 37 51.6 -3.1**
TUE Stuetta 129.55 328 **PKPdf** **13 37 54.5 +0.6**
TSUM Tsumeb 129.65 239 **PKPdf** **13 37 54.5 -0.2**
PB01 IPOC Station P 129.78 124 **PKPdf** **13 37 54.6 -0.2**
HMBC Humberstone 129.80 123 **PKPdf** **13 37 54.9 -0.1**
NMDO Nuevo Mundo 131.02 68 **PKPdf** **13 37 56.8 -0.3**
CZSB Cruzeiro do Su 131.85 106 *e*P **PKPdf** **13 37 55.5 -3.4**
PSAL Palomas, Salto 132.32 143 *e*P **PKPdf** **13 37 56.8 -2.5**
ROSC El Rosal 132.42 89 PKP **PKPdf** **13 38 02.1 +1.7**
comp=Z,29nm,0.7s,baz=169,slow=3.1,SNR=16
ROSC SKPbc **SKPbc** **13 41 28.3 +1.7**
comp=Z,6.5nm,0.3s,baz=237,slow=18,SNR=4.0
LPAZ La Paz 133.06 119 PKPdf **PKPdf** **13 38 02.8 +0.9**
LPAZ La Paz 133.06 119 PKP **PKPdf** **13 38 03.2 +1.3**
comp=Z,7.5nm,0.6s,baz=317,slow=1.2,SNR=27
LPAZ SKPbc **SKPbc** **13 41 32.3 +3.4**
comp=Z,3.4nm,1.0s,baz=152,slow=21,SNR=9.0
LPAZ La Paz 133.06 119 *e*P **PKPdf** **13 37 58.5 -3.3**
ITQB Itaqui 133.92 143 *e*P **PKPdf** **13 38 00.5 -1.9**
PLTB Pedras Altas 134.08 147 *e*P **PKPdf** **13 38 00.5 -2.2**
CPUP Villa Florida 135.82 139 **PKPdf** **13 38 06.7 +0.7**
CPUP Villa Florida 135.82 139 PKP **PKPdf** **13 38 06.9 +0.9**
comp=Z,10nm,0.9s,baz=295,slow=1.3,SNR=14
SDV Santo Domingo 136.23 84 *e*P **PKPdf** **13 38 04.5 -2.8**
ETMB Extrema 137.30 112 **PKPdf** **13 38 08.2 -0.9**
BAUV El Baul 138.79 84 **PKPdf** **13 38 11.6 -0.2**
MLPR Magueyes Islan 138.86 70 **PKPdf** **13 38 11.0 -0.8**
CELP Cerrillos 139.28 70 **PKPdf** **13 38 12.3 -0.2**
IGPR InterUniversit 139.74 70 **PKPdf** **13 38 14.2 +0.8**
SAML Samuel 140.41 112 **PKPdf** **13 38 15.3 +0.6**
SAML Samuel 140.41 112 PKIKP **PKPdf** **13 38 15.3 +0.6**
SAML Samuel 140.41 112 *e*P **PKPdf** **13 38 11.9 -2.8**
PTLB Pontes e Lacer 141.07 124 **PKPdf** **13 38 16.1 +0.2**
ESDC Sonseca Array 141.15 332 PKhKP PKPpre 13 38 10.5
comp=Z,0.7nm,0.8s,baz=22,slow=1.9,SNR=4.8
ESDC PKP **PKPdf** **13 38 17.0 +1.5**
comp=Z,1.9nm,1.0s,baz=45,slow=2.0,SNR=7.1
ESDC PP **PP** **13 41 14.1 -2.1**
comp=Z,3.2nm,1.0s,baz=25,slow=6.7,SNR=8.4
MVO Moncorvo 141.26 336 *e*PKPdf **PKPdf** **13 38 16.6 +1.0**
TRCB Terra Rica 141.34 139 **PKPdf** **13 38 16.6 +0.3**
POLO Lamas de Olo 141.39 337 *e*PKPdf **PKPdf** **13 38 16.6 +0.7**
VILB Vilhena 141.41 120 **PKPdf** **13 38 16.3 -0.3**
VILB Vilhena 141.41 120 *e*P **PKPdf** **13 38 13.6 -2.9**
MTE Manteigas 142.12 336 *e*PKPdf **PKPdf** **13 38 18.7 +1.5**
RPRD Ribas do Rio P 142.22 136 *e*P **PKPdf** **13 38 15.1 -2.7**
PCBR Castelo Branco 142.57 336 *e*PKPdf **PKPdf** **13 38 14.3 -3.6**
PCAS Casmilo, Conde 142.79 337 *e*PKPdf **PKPdf** **13 38 17.2 -1.1**
PMRV Marv??o 142.88 335 *e*PKPdf **PKPdf** **13 38 15.7 -2.8**
PSBE So Bento 143.37 337 *e*PKPdf PKPbc 13 38 18.0 +1.6
PMTG Montargil 143.53 336 *e*PKPdf PKPab 13 38 16.9 +1.0
SALV Santo Antonio 143.59 128 *e*P PKPab 13 38 17.3 +0.5
PBAR Barrancos 143.77 334 *e*PKPdf PKPab 13 38 18.7 +1.8
EVO Evora 143.89 335 *e*PKPdf PKPab 13 38 18.8 +1.4
PBEJ Beja 144.25 334 *e*PKPdf **PKPab** **13 38 19.9 +1.2**
MESJ Messejana 144.56 335 **PKPab** **13 38 19.9 0.0**
MESJ Messejana 144.56 335 *e*PKPdf **PKPab** **13 38 21.0 +1.1**
MESJ Messejana 144.56 335 *e*PKPdf **PKPab** **13 38 20.5 +0.6**
MESJ Messejana 144.56 335 PKIKP **PKPab** **13 38 19.9 0.0**
VAO Valinhos 144.59 146 **PKPab** **13 38 20.5 0.0**
MACA Manacapuru-AM 144.60 105 **PKPab** **13 38 21.0 +0.3**
MACA Manacapuru-AM 144.60 105 *e*P **PKPab** **13 38 19.4 -1.3**
PCVE Castro Verde 144.66 334 *e*PKPdf **PKPab** **13 38 20.9 +0.7**
PVAQ Vaqueiros 144.71 334 PKPdf **PKPab** **13 38 20.9 +0.5**
PVAQ Vaqueiros 144.71 334 *e*PKPdf **PKPab** **13 38 21.1 +0.7**
PBDV Barranco-do-Ve 144.94 334 *e*PKPdf **PKPab** **13 38 22.4 +1.1**
ITRB Iturama 145.02 138 *e*P **PKPab** **13 38 18.6 -3.5**
PDRB Porto dos Gac 145.02 121 *e*P **PKPab** **13 38 20.9 -1.3**
PTEO Sao Teotonio 145.03 335 *e*PKPdf **PKPbc** **13 38 22.4 +0.8**
MORF Marmelete 145.20 335 *e*PKPdf **PKPbc** **13 38 23.3 +1.1**
MORF Marmelete 145.20 335 *e*PKPdf **PKPbc** **13 38 21.7 -0.5**
PFVI Vila Bisbo 145.42 335 *e*PKPdf **PKPbc** **13 38 23.9 +1.1**
BOAV Boa Vista 145.88 95 **PKPdf** **13 38 24.1 -0.4**
BOAV Boa Vista 145.88 95 *e*P **PKPdf** **13 38 22.5 -2.0**
CLDB Colider 146.18 120 *e*P **PKPdf** **13 38 24.2 -0.7**
ARAG Araguaiana, MT 146.68 131 *e*P **PKPdf** **13 38 23.4 -2.2**
PSBA Serra de Santa 147.78 1 *e*PKP **PKiKP** **13 38 33.3 +1.5**
PAGU Agualva, Azore 147.78 1 *e*PKP **PKPab** **13 38 35.1 +3.1**
ROSA Rosais 147.80 3 *e*PKP **PKiKP** **13 38 33.6 +1.8**
PCED Cedros 147.87 3 *e*PKP **PKiKP** **13 38 33.7 +1.8**
PMAN Manadas 147.89 2 *e*PKP **PKiKP** **13 38 32.9 +0.9**
CALA Caldeira 147.91 3 *e*PKP **PKPab** **13 38 35.0 +2.3**
PICO Pico 148.01 3 *e*PKP **PKPab** **13 38 34.7 +1.7**
PCAN Candelaria 148.04 3 *e*PKP **PKiKP** **13 38 34.1 +1.8**
PID Ribeirinha 148.08 2 *e*PKP **PKiKP** **13 38 33.9 +1.5**
PSET Sete Cidades 148.72 359 *e*PKP **PKPab** **13 38 37.8 +1.9**
BART Pico Bartolome 148.75 358 *e*PKP **PKiKP** **13 38 36.1 +2.2**
PGRON Lagoa das Cont 148.76 358 *e*PKP **PKiKP** **13 38 35.9 +2.0**
CMLA Cha da Macela 148.78 358 *e*PKP **PKiKP** **13 38 36.7 +2.9**
ITTB Itaituba 148.94 109 *e*P **PKPdf** **13 38 27.4 -2.1**
BDFB Brasilia 149.46 136 PKPdf **PKPdf** **13 38 31.2 +0.8**
BDFB Brasilia 149.46 136 PKPbc **PKPbc** **13 38 35.4 +0.5**
comp=Z,64nm,0.8s,baz=227,slow=1.2,SNR=20
BDFB PKPab **sPKPbc** **13 38 39.8 -0.9**
comp=Z,18nm,0.9s,baz=298,slow=2.6,SNR=7.7
BDFB Brasilia 149.46 136 PKHKP PKPpre 13 38 31.2
PSMN Pico do Norte, 149.52 358 *e*PKP **PKPbc** **13 38 35.4 +1.1**
PSMA Santa Maria 149.53 358 *e*PKP **PKPbc** **13 38 35.2 +0.9**
DIAM Diamantina, MG 150.19 146 *e*P **PKPdf** **13 38 28.7 -2.8**
TORD Torodi Ar. Bea 151.41 286 PKP **PKPdf** **13 38 32.4 -0.9**
comp=Z,4.7nm,0.9s,baz=84,slow=1.8,SNR=20
TORD PKPbc **sPKPdf** **13 38 39.2 0.0**
comp=Z,78nm,0.8s,baz=58,slow=2.9,SNR=153
TORD PP **PP** **13 42 16.6 -2.0**
comp=Z,3.0nm,0.9s,baz=36,slow=6.0,SNR=3.8
TMAB Tom-Au,PA,Br 156.77 111 *e*P **PKPdf** **13 38 38.5 -2.5**
DBIC Dimbokro 158.47 272 PKPdf **PKPdf** **13 38 42.5 -0.5**
DBIC **PKPab** **13 39 17.0 -0.8**
DBIC Dimbokro 158.47 272 PKP **PKPdf** **13 38 42.8 -0.2**
comp=Z,7.0nm,1.1s,baz=275,slow=16,SNR=3.1
DBIC PKPab **PKPab** **13 39 17.7 -0.1**
comp=Z,33nm,1.1s,baz=95,slow=3.5,SNR=9.2

NEIC ***02*** *13:22:45.5±2.3,36°.66N±0°.01×121°.31W±0°.02,h9km±9km,*
Error ellipse: s-maj=2.8km s-min=0.4km az=54.0
NCEDC 02 13:22:45.9±2.4,36°.68N±0°.02×121°.31W±0°.02,h3km±4km,
Mwr3.6/6,ML3.4/98(NEIC),**Error ellipse: s-maj=3.6km**
s-min=1.7km az=48.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	**Mount Johnson**	**0.05**	**187**		Pg	13 22 47.6	+0.6
SCZ	**Santa Cruz**	**0.11**	**224**		Pg	13 22 46.2	-2.0
SCZ	**Santa Cruz**	**0.11**	**224**	IAML		13 22 50.2	
	comp=N,68μm,0.7s						
SCZ				IAML		13 22 50.2	
	comp=E,72μm,0.5s						
BVL	**Bear Valley**	**0.14**	**138**		Pg	13 22 46.9	-1.7
SAO	**San Andreas Ge**	**0.14**	**307**		Sg	13 22 49.2	-1.4
SAO	**San Andreas Ge**	**0.14**	**307**	Pg	Pg	13 22 48.4	-0.3
BJCM	**Johnson Can.**	**0.15**	**208**		Pg	13 22 49.1	+0.3
FRP	**Fremont Peak**	**0.17**	**297**		Pg	13 22 49.2	+0.1
BSRM	**Salinas Radio**	**0.17**	**266**		Pg	13 22 49.4	+0.1
BAVM	**Antelope Valle**	**0.22**	**98**		Pg	13 22 49.1	-1.1
BBGB	**Big Mountain B**	**0.24**	**115**		Pg	13 22 51.9	+1.4
BBGB	**Big Mountain B**	**0.24**	**115**	IAML		13 22 57.1	
	comp=E,40μm,0.5s						
BBGB				IAML		13 22 57.1	
	comp=N,52μm,0.7s						
BSGM	**Shirttail Gulc**	**0.27**	**171**		Pg	13 22 51.0	-0.1
BPCNC	**Pine Canyon**	**0.28**	**248**		Pg	13

KCC	**Kaiser Creek**	**1.72**	**67**		Pn	13 23 17.0	+0.1
SMMC	**Simmler**	**1.73**	**142**		Pn	13 23 15.7	-1.3
CARC	**Carrizo Plain**	**1.81**	**139**		Pn	13 23 17.2	-0.9
MCCM	**Marconi Confer**	**1.93**	**320**		Pn	13 23 19.4	-0.3
MCCM				IAML		13 23 51.9	
	comp=N,378nm,0.8s						
MCCM				IAML		13 23 57.4	
	comp=E,547nm,0.9s						
MDPB	**Devils Postpil**	**2.02**	**61**		Pn	13 23 21.1	-0.1
MDPB	**Devils Postpil**	**2.02**	**61**	IAML		13 23 53.0	
	comp=E,509nm,0.6s						
OMMB	**Old Mammoth Mi**	**2.06**	**62**	Pn	Pn	13 23 20.6	-1.3
OMMB				IAML		13 23 51.8	
	comp=N,470nm,0.6s						
OMMB				IAML		13 23 54.8	
	comp=E,326nm,0.8s						
MDCM	**Deadman Creek**	**2.08**	**60**		Pn	13 23 22.3	+0.2
AFDM	**Forest Hills D**	**2.28**	**7**		Pn	13 23 23.6	-0.9
BCW	**Bitter Crk WRg**	**2.32**	**138**		Pn	13 23 24.3	-0.9
BCW				IAML		13 24 31.1	
	comp=N,346nm,1.1s						
WAKR	**Walker**	**2.35**	**39**		Pn	13 23 25.4	-0.3
WAKR				IAML		13 24 03.1	
	comp=E,357nm,0.6s						
MGNR	**McGee Canyon**	**2.37**	**61**		Pn	13 23 26.4	+0.3
EMB	**Emerald Bay**	**2.48**	**22**		Pn	13 23 27.6	+0.1
ISA	**Isabella, Lake**	**2.50**	**113**	Pn	Pn	13 23 27.1	-0.6
ISA				IAML		13 24 02.5	
	comp=N,216nm,0.9s						
HOPS	**Hopland Field**	**2.70**	**329**	Pn	Pn	13 23 28.7	-1.7
HOPS				IAML		13 24 30.9	
	comp=E,92nm,1.4s						
DSP	**Deep Springs**	**2.76**	**75**		Pn	13 23 32.1	+1.0
DSP				IAML		13 24 18.1	
	comp=E,136nm,0.8s						
DSP				IAML		13 24 25.6	
	comp=N,193nm,1.1s						
PNTR	**Pine Nut**	**2.76**	**29**	Pn	Pn	13 23 30.6	-0.8
MPK	**Martis Peak**	**2.80**	**21**		Pn	13 23 32.4	+0.5
YERR	**Yerington**	**2.82**	**35**		Pn	13 23 32.3	+0.1
YERR				IAML		13 24 20.7	
	comp=N,240nm,0.8s						
ORV	**Oroville**	**2.88**	**357**	Pn	Pn	13 23 32.2	-0.6
NVAR	**Mina Array Bea**	**2.96**	**53**		Pn	13 23 35.7	+1.7
CCAC	**Calif City Air**	**3.07**	**119**		Pn	13 23 35.3	-0.2
GRAC	**Grapevine Rang**	**3.18**	**83**		Pn	13 23 37.4	+0.5
GRAC				IAML		13 24 39.6	
	comp=E,128nm,1.4s						
GRAC				IAML		13 24 42.1	
	comp=N,157nm,0.8s						
MZP	**Montezuma Peak**	**3.29**	**71**		Pn	13 23 39.5	+0.7
MZP				IAML		13 24 39.1	
	comp=N,61nm,0.9s						
GMN	**Gold Mountain**	**3.30**	**78**		Pn	13 23 39.3	+0.5
GMN				IAML		13 24 35.8	
	comp=E,64nm,0.8s						
GMN				IAML		13 24 41.9	
	comp=N,102nm,1.0s						
PAHR	**Pah Rah Range**	**3.38**	**26**		Pn	13 23 40.2	+0.4
PAHR				IAML		13 24 43.1	
	comp=E,82nm,1.6s						
PAHR				IAML		13 24 44.1	
	comp=N,53nm,1.2s						
KVN	**Kaiserville**	**3.47**	**46**		Pn	13 23 42.5	+1.5
KVN				IAML		13 24 43.4	
	comp=N,119nm,1.0s						
KVN				IAML		13 24 47.8	
	comp=E,113nm,1.1s						
TPH	**Tonopah**	**3.54**	**66**	Pn	Pn	13 23 42.6	+0.6
PASC	**Pasadena Art C**	**3.57**	**134**		Pn	13 23 42.4	+0.1
O02D	**Mt. Diablo Mer**	**3.68**	**342**	Pn	Pn	13 23 44.1	+0.3
SNCC	**San Nicolas Is**	**3.72**	**156**	Pn	Pn	13 23 42.7	-1.7
SNCC				IAML		13 25 11.4	
	comp=N,45nm,3.4s						
WCT	**Wildcat Mounta**	**3.76**	**87**		Pn	13 23 44.6	-0.4
WCT				IAML		13 24 47.5	
	comp=E,38nm,0.6s						
WCT				IAML		13 24 52.5	
	comp=N,40nm,2.1s						
GWY	**Greenwater Val**	**3.77**	**96**		Pn	13 23 45.4	+0.2
GWY				IAML		13 24 58.0	
	comp=E,40nm,0.7s						
GWY				IAML		13 25 04.0	
	comp=N,45nm,1.7s						
GSC	**Goldstone, Bar**	**3.90**	**109**	Pn	Pn	13 23 46.2	-0.6
GSC				IAML		13 24 47.9	
	comp=N,45nm,1.2s						
GSC				IAML		13 24 54.1	
	comp=E,72nm,0.8s						
KMRM	**Mail Ridge**	**4.01**	**333**	Pn	Pn	13 23 46.6	-1.8
KMRM				IAML		13 25 18.0	
	comp=N,40nm,2.4s						
KMRM				IAML		13 25 46.6	
	comp=E,34nm,1.9s						
TPNV	**Topopah Spring**	**4.07**	**85**		Pn	13 23 49.8	+0.5
TPNV				IAML		13 25 10.8	
	comp=E,59nm,1.4s						
TPNV				IAML		13 25 11.6	
	comp=E,64nm,1.3s						
HATC	**Hat Creek Radi**	**4.13**	**358**	Pn	Pn	13 23 50.3	+0.3
HATC				IAML		13 25 16.4	
	comp=E,82nm,1.1s						
HATC				IAML		13 25 23.3	
	comp=N,86nm,2.3s						
KMPM	**Mount Pierce**	**4.33**	**330**	Pn	Pn	13 23 52.2	-0.6
KMPM				IAML		13 24 35.7	
	comp=E,40nm,1.3s						
KMPM				IAML		13 25 37.8	
	comp=N,28nm,4.0s						
ELS	**Elsinore Mount**	**4.39**	**132**		Pn	13 23 53.8	+0.3
KHMM	**Horse Mountain**	**4.60**	**336**	Pn	Pn	13 23 55.6	-0.9
KHMM				IAML		13 25 44.6	
	comp=N,26nm,4.0s						
KHMM				IAML		13 26 28.9	
	comp=E,23nm,3.5s						
R11B	**Troy Canyon, C**	**4.84**	**68**	Pn	Pn	13 23 59.9	-0.1
R11B				IAML		13 25 28.4	
	comp=N,20nm,2.0s						
BMN	**Battle Mountai**	**4.93**	**39**	Pn	Pn	13 24 00.4	-0.7
BMN				IAML		13 25 27.8	
	comp=N,20nm,1.5s						
BMN				IAML		13 25 34.4	
	comp=E,20nm,1.4s						
SHPR	**Sheep Range**	**4.95**	**90**		Pn	13 24 00.3	-1.1
PFO	**Pinyon Flats O**	**5.01**	**126**		Pn	13 24 02.7	+0.5
KRMB	**Red Mountain**	**5.24**	**338**	Pn	Pn	13 24 06.5	+1.1
KRMB				IAML		13 26 04.0	
	comp=E,20nm,3.7s						
KRMB				IAML		13 26 47.1	
	comp=N,21nm,4.1s						
KSXB	**Camp Six Broad**	**5.52**	**340**	Pn	Pn	13 24 10.9	+1.8
L02F	**Cave Junction**	**5.71**	**343**	Pn	Pn	13 24 14.0	+2.3
KBO	**Bosley Butte**	**5.97**	**339**	Pn	Pn	13 24 15.8	+0.5
K02D	**Willamette Mer**	**6.28**	**344**	Pn	Pn	13 24 22.7	+3.1
ESJX	**Sierra Juarez**	**6.43**	**135**		Pn	13 24 22.3	+0.5

BEO 02 13:36:02.9±0.5, 44°.14N×22°.12E, h0km, ML1.4/6, Mining explosion., Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAGS	**Zajecar**	**0.34**	**166**	*e*Pg	Pg	13 36 08.8	-0.6
ZAGS				*e*Sg	Sg	13 36 13.3	-0.5
KUBS	**Kucevo**	**0.42**	**310**	*e*Pg	Pg	13 36 09.8	-1.1
KUBS				*e*Sg	Sg	13 36 15.4	-0.9
BOVS	**Bovan**	**0.59**	**210**	*e*Pg	Pg	13 36 12.8	-1.4
BOVS				*e*Sg	Sg	13 36 21.4	-0.4
ZAPS	**Zavoj**	**0.95**	**157**	*e*Pg	Pg	13 36 20.0	-1.0
ZAPS				*e*Sg	Sg	13 36 33.9	+0.6
GRUS	**Gruza**	**1.04**	**256**	*e*Pg	Pg	13 36 23.1	+0.2
GRUS				*e*Sg	Sb	13 36 37.6	-0.4
SELS	**Selova**	**1.17**	**218**	*e*Pg	Pg	13 36 25.1	-0.3
SELS				*e*Sg	Sg	13 36 41.0	+0.4
BARS	**Barje**	**1.34**	**189**	*e*Pg	Pg	13 36 27.1	-1.6
BARS				*e*Sg	Sg	13 36 45.0	-1.1
IVAS	**Ivanjica**	**1.53**	**249**	*e*Pg	Pb	13 36 32.1	-0.1
IVAS				*e*Sg	Sg	13 36 50.8	-1.2

*NOU **02** 13:36:27.9, 41°.88S×174°.44E, h15km, MLv3.8/8, Cook Strait, New Zealand*
*WEL **02** 13:36:28.3±0.4, 42°S±2°×17°4E±°, h9km±2km, M3.2/17, ML3.5/17, MLv3.2/17, Error ellipse: s-maj=3.1km*
s-min=2.7km az=178.3, confirmed
ISC 02 13:36:27.5±0.9, 41°.84S±0°.03×174°.28E±0°.03, h15km±5km, n102, σ1§36/114, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.10**	**332**	P	Pg	13 36 30.8	0.0
CMWZ				S	Sg	13 36 33.2	+0.1
WDFS	**Ward Fire Stat**	**0.10**	**276**	P	Pg	13 36 31.2	+0.3
WDFS				S	Sg	13 36 33.7	+0.7
SEDS	**Seddon Fire St**	**0.23**	**318**	P	Pg	13 36 31.5	-1.0
SEDS				S	Sg	13 36 34.1	-1.8
KEKS	**Kekerengu Vall**	**0.25**	**242**	P	Pb	13 36 34.0	+0.2
KEKS				S	Sb	13 36 38.7	+0.8
BSWZ	**Blackbirch Sta**	**0.33**	**292**	P	Pg	13 36 33.4	-0.9
BSWZ				S	Sg	13 36 37.4	-1.5
TUWZ	**Tuamarina**	**0.48**	**328**	P	Pg	13 36 36.7	-0.4
TUWZ				S	Sg	13 36 41.9	-1.6
SNZO	**South Karori**	**0.62**	**31**	P	Pb	13 36 40.2	+0.2
BHW	**Baring Head**	**0.62**	**46**	P	Pb	13 36 40.9	+0.9
TCW	**Tory Channel**	**0.63**	**360**	P	Pg	13 36 38.9	-0.9
TCW				S	Sg	13 36 46.8	-1.4
WEL	**Wellington**	**0.67**	**34**	P	Pb	13 36 41.2	+0.4
PLWZ	**Palliser**	**0.78**	**70**	P	Pn	13 36 44.8	+0.8
KHZ	**Kahutara**	**0.80**	**223**	P	Pn	13 36 44.9	+0.7
KHZ				S	Sn	13 36 58.0	+2.2
KHZ	**Kahutara**	**0.80**	**223**	P	Pn	13 36 45.0	+0.8
MSWZ	**Moikau Station**	**0.84**	**60**	P	Pn	13 36 45.7	+0.9
NNZ	**Nelson**	**0.92**	**312**	P	Pg	13 36 43.5	-1.7
CAW	**Cannon Point**	**0.94**	**39**	P	Pb	13 36 46.1	+0.6
PAWZ	**Paruwai Farm**	**0.97**	**62**	P	Pn	13 36 47.3	+0.6
THZ	**Tophouse**	**1.03**	**274**	P	Pg	13 36 46.5	-0.9
THZ				S	Sg	13 36 59.5	-1.4
DUWZ	**D'Urville Isla**	**1.07**	**345**	P	Pg	13 36 46.3	-1.9
DUWZ				S	Sg	13 37 00.3	-1.8
KIW	**Kapiti Island**	**1.09**	**26**	P	Pg	13 36 47.9	-0.6
MTW	**Mount Morrison**	**1.14**	**54**	P	Pn	13 36 49.5	+0.5
TRWZ	**Traveller**	**1.15**	**68**	P	Pn	13 36 49.5	+0.6
MRNZ	**Matariki Terra**	**1.22**	**291**	P	Pn	13 36 49.8	-0.2
MRNZ				S	Sb	13 37 05.8	0.0
OGWZ	**Otaki Gorge**	**1.22**	**34**	P	Pn	13 36 50.6	+0.6
TKNZ	**Takaka Hill**	**1.28**	**309**	P	Pn	13 36 50.0	-0.8
HOWZ	**Holdsworth Sta**	**1.32**	**45**	P	Pb	13 36 51.9	-0.1
TMWZ	**Te Maipa**	**1.42**	**59**	P	Pb	13 36 53.0	-0.6
GVZ	**Greta Valley S**	**1.46**	**219**	P	Pg	13 36 54.1	-1.4
GVZ				S	Sg	13 37 13.4	-1.1
MRZ	**Mangatainoka R**	**1.53**	**40**	P	Pn	13 36 54.7	+0.5
QRZ	**Quartz Range**	**1.66**	**307**	P	Pn	13 36 56.6	+0.6
QRZ	**Quartz Range**	**1.66**	**307**	P	Pn	13 36 56.8	+0.7
LTZ	**Lake Taylor**	**1.76**	**237**	P	Pn	13 36 58.2	+0.7
AMCZ	**Amberley**	**1.80**	**221**	P	Pg	13 37 02.9	+0.9
OHWZ	**Ohakea**	**1.81**	**26**	P	Pb	13 37 00.1	-0.2
PRWZ	**Pori Road**	**1.81**	**45**	P	Pn	13 36 58.3	+0.2
POWZ	**Post Office Ro**	**1.83**	**38**	P	Pn	13 36 58.7	+0.3
OKCZ	**Okains Bay**	**2.09**	**205**	P	Pn	13 37 02.1	+0.2
DVHZ	**Dannevirke**	**2.10**	**43**	P	Pg	13 37 08.2	+0.4
WAZ	**Wanganui**	**2.15**	**15**	P	Pn	13 37 05.0	+2.2
ANWZ	**Angora Road**	**2.16**	**51**	P	Pn	13 37 02.8	-0.1
TSZ	**Takapari Road**	**2.19**	**36**	P	Pn	13 37 03.3	0.0
MQZ	**McQueen's Vall**	**2.22**	**212**	P	Pn	13 37 03.0	-0.6
OXZ	**Oxford**	**2.22**	**227**	P	Pn	13 37 03.5	-0.3
AKCZ	**Akaroa Harbour**	**2.27**	**206**	P	Pn	13 37 04.5	+0.1
INZ	**Inchbonnie**	**2.28**	**246**	P	Pn	13 37 05.3	+0.7
PRHZ	**Porangahau**	**2.38**	**49**	P	Pn	13 37 05.3	-0.6
LREZ	**Lake Rotokare**	**2.38**	**2**	P	Pn	13 37 08.6	+2.7
WPHZ	**Waipukurau**	**2.41**	**43**	P	Pn	13 37 06.1	-0.3
RACZ	**Rakaia**	**2.46**	**219**	P	Pn	13 37 06.6	-0.4
PREZ	**Palmer Road**	**2.50**	**358**	P	Pn	13 37 10.7	+3.1
KHEZ	**Kahui Hut**	**2.55**	**355**	P	Pn	13 37 11.2	+2.8
KHEZ	**Kahui Hut**	**2.55**	**355**	P	Pn	13 37 11.1	+2.8
NEZ	**North Egmont**	**2.57**	**357**	P	Pn	13 37 11.5	+2.9
NBEZ	**Newall Road No**	**2.59**	**353**	P	Pn	13 37 11.3	+2.6
DREZ	**Durham Road**	**2.65**	**359**	P	Pn	13 37 13.2	+3.6
PKE	**Pukeiti**	**2.65**	**355**	P	Pn	13 37 11.8	+2.0
PXZ	**Pawanui**	**2.66**	**48**	P	Pn	13 37 08.6	-1.2
PXZ				P	Pb	13 37 08.8	-6.0
MOVZ	**Moawhango**	**2.68**	**25**	P	Pn	13 37 10.5	+0.4
WNVZ	**Wahianoa**	**2.70**	**22**	P	Pn	13 37 12.8	+2.2
KRHZ	**Kereru**	**2.71**	**37**	P	Pn	13 37 09.9	-0.6
TRVZ	**Turoa**	**2.72**	**21**	P	Pn	13 37 12.3	+1.5
VRZ	**Vera Road**	**2.74**	**8**	P	Pn	13 37 12.9	+2.0
WHVZ	**Whangaehu Hut**	**2.74**	**22**	P	Pn	13 37 12.9	+1.7
MAVZ	**Matarangi**	**2.75**	**21**	P	Pb	13 37 15.4	-1.1
FWVZ	**Far West T-bar**	**2.76**	**21**	P	Pn	13 37 12.9	+1.6
WACZ	**Wakanui South**	**2.76**	**220**	P	Pn	13 37 11.2	0.0
TUVZ	**Tukino**	**2.77**	**23**	P	Pn	13 37 13.0	+1.5
COVZ	**Chateau Observ**	**2.81**	**20**	P	Pn	13 37 13.9	+2.0
KAHZ	**Kahuranaki**	**2.84**	**45**	P	Pn	13 37 11.3	-1.0
NGZ	**Ngauruhoe**	**2.84**	**21**	P	Pn	13 37 14.0	+1.5
SNVZ	**South Ngauruho**	**2.85**	**22**	P	Pb	13 37 17.9	-0.2
NNVZ	**North Ngauruho**	**2.89**	**21**	P	Pn	13 37 14.6	+1.5
WVZ	**Waitaha Valley**	**2.90**	**244**	P	Pn	13 37 13.5	+0.4
WTVZ	**West Tongariro**	**2.90**	**21**	P	Pn	13 37 14.9	+1.7
TWVZ	**Taurewa**	**2.90**	**18**	P	Pn	13 37 16.0	+2.8
ETVZ	**East Tongariro**	**2.91**	**22**	P	Pn	13 37 14.6	+1.2
TMVZ	**Te Maari**	**2.93**	**22**	P	Pn	13 37 14.6	+0.9
NTVZ	**North Tongarir**	**2.94**	**22**	P	Pn	13 37 15.4	+1.6
RPZ	**Rata Peaks**	**3.02**	**231**	P	Pn	13 37 15.5	+0.7
RPZ	**Rata Peaks**	**3.02**	**231**	P	Pn	13 37 17.2	+2.4
ARCZ	**Arundel**	**3.10**	**226**	P	Pn	13 37 15.8	-0.2
RITZ	**Rihia Road**	**3.10**	**23**	P	Pb	13 37 22.3	-0.1
BKZ	**Black Stump Fm**	**3.16**	**33**	P	Pn	13 37 16.0	-0.7
BKZ	**Black Stump Fm**	**3.16**	**33**	P	Pn	13 37 16.3	-0.4
RATZ	**Rangitukua**	**3.18**	**22**	P	Pb	13 37 23.1	-0.6
GCSZ	**Gaunt Creek Bo**	**3.27**	**242**	P	Pn	13 37 19.0	+0.9
WATZ	**Wairara**	**3.32**	**20**	P	Pb	13 37 24.6	-1.4
HIZ	**Hauiti**	**3.35**	**8**	P	Pn	13 37 22.0	+2.7
HIZ	**Hauiti**	**3.35**	**8**	P	Pn	13 37 20.1	+0.8
MRHZ	**Matea Rd**	**3.42**	**29**	P	Pn	13 37 19.4	-0.9
TMZ	**Timaru**	**3.49**	**222**	P	Pn	13 37 21.1	-0.1
TLZ	**Tolley Road**	**3.64**	**16**	P	Pn	13 37 24.9	+1.7
FOZ	**Fox Glacier**	**3.70**	**241**	P	Pn	13 37 24.7	+0.7
MUGZ	**Murupara**	**3.86**	**30**	P	Pn	13 37 26.2	-0.2
LBZ	**Lake Benmore**	**3.93**	**228**	P	Pn	13 37 27.5	+0.2
ODZ	**Otahua Downs**	**4.16**	**218**	P	Pn	13 37 29.8	-0.5
ODZ	**Otahua Downs**	**4.16**	**218**	P	Pn	13 37 30.1	-0.2
URZ	**Urewera**	**4.18**	**32**	P	Pn	13 37 30.8	+0.1
AWAZ	**Awhitu Peninsu**	**4.78**	**4**	P	Pn	13 37 41.4	+2.6
MKAZ	**Moumakai**	**4.78**	**9**	P	Pn	13 37 39.9	+1.0
ETAZ	**East Tamaki Re**	**4.91**	**6**	P	Pn	13 37 42.6	+2.0
PKGZ	**Pakihiroa**	**4.93**	**38**	P	Pn	13 37 43.4	+2.4

*GUC **02** 13:39:58.1±0.5, 32°.93S×70°.96W, h74km±2km, ML2.6*
*SJA **02** 13:39:58.0, 33°.02S×70°.97W, h51km, ML2.3*
ISC 02 13:39:58.7±1.6, 32°.95S±0°.04×71°.01W±0°.06, h65km±9km, n25, σ0§74/34, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.02**	**187**	*e*P	Pn	13 40 08.8	+0.2
ROCH				*e*S	Sn	13 40 16.5	+0.8
ROCH				IAML		13 40 17.1	
	comp=N,453nm,0.2s						
MT02	**Curacav**	**0.33**	**199**	*e*P	Pn	13 40 09.7	0.0
MT02				*i* S	Sn	13 40 18.8	+1.2
MT02	**Curacav**	**0.33**	**199**	*i* P	Pn	13 40 09.1	-0.5
PEL	**Peldehue**	**0.33**	**126**	*e*P	Pn	13 40 09.3	-0.4
PEL				*e*S	Sn	13 40 17.7	0.0
PEL				IAML		13 40 18.2	
	comp=N,499nm,0.2s						
VA03	**San Esteban**	**0.43**	**65**	*e*P	Pn	13 40 09.9	-0.6
VA03				*i* S	Sn	13 40 19.0	-0.1
VA03				IAML		13 40 19.9	
	comp=E,623nm,0.1s						
VA03	**San Esteban**	**0.43**	**65**	*i* P	Pn	13 40 09.2	-1.3
MT05	**Renca**	**0.50**	**153**	*i* P	Pn	13 40 10.3	-0.8
MT10	**Hacienda Santa**	**0.51**	**130**	*e*P	Pn	13 40 10.9	-0.5
MT10				*e*S	Sn	13 40 20.8	+0.1
MT10				IAML		13 40 22.4	
	comp=N,314nm,0.2s						
VA01	**Torpederas**	**0.54**	**262**	*i* P	Pn	13 40 11.6	+0.1
MT14	**Cerro Calıın**	**0.60**	**139**	⇓*i*P	Pn	13 40 12.0	-0.2
MT14				*e*S	Sn	13 40 22.5	+0.4
MT14				IAML		13 40 23.5	
	comp=E,365nm,0.5s						
MT16	**CCHEN**	**0.63**	**140**	*e*P	Pn	13 40 12.3	-0.3
MT16				*e*S	Sn	13 40 22.9	+0.2
MT03	**Universidad Ad**	**0.69**	**143**	*e*P	Pn	13 40 12.9	-0.4
MT03				*i* S	Sn	13 40 23.9	0.0
MT03				IAML		13 40 25.5	
	comp=E,507nm,0.3s						
MT03	**Universidad Ad**	**0.69**	**143**	*i* P	Pn	13 40 12.4	-0.8
MT09	**Talagante**	**0.83**	**179**	*e*P	Pn	13 40 14.7	-0.3
MT09				*i* S	Sn	13 40 27.6	+0.6
MT09				IAML		13 40 28.4	
	comp=N,214nm,0.3s						
MT04	**Ro Olivares**	**0.86**	**122**	*e*P	Pn	13 40 15.1	-0.4
MT04	**Ro Olivares**	**0.86**	**122**	*i* P	Pn	13 40 14.4	-1.1
CO04	**Los Peladeros**	**0.90**	**2**	*e*P	Pn	13 40 15.6	-0.5
CO04				*e*S	Sn	13 40 28.5	-0.2
MT01	**Popeta**	**0.94**	**192**	*i* P	Pn	13 40 15.8	-0.4
MT08	**Bocatoma Ro**	**0.97**	**121**	*i* P	Pn	13 40 16.3	-0.5
LMEL	**Las Melosas**	**1.12**	**143**	*i* P	Pn	13 40 11.9	-6.8
BO01	**Tunca**	**1.44**	**183**	*i* P	Pn	13 40 22.0	-0.8
CO03	**El Pedregal**	**2.12**	**7**	*i* P	Pn	13 40 31.7	-0.3
RTCV	**Cerro Valdivia**	**2.35**	**63**	*i* P	Pn	13 40 37.5	+2.4
GO04	**Tololo Observa**	**2.77**	**4**	*i* P	Pn	13 40 40.2	-0.8
LCO	**Las Campanas**	**3.93**	**4**	*i* P	Pn	13 40 56.4	-0.5

*BJI **02** 13:46:07.5, 16°.46N×146°.59E, h30km, mb4.5/25, mB5.1/8*
*IDC **02** 13:46:09.0±0.6, 16°.85N×145°.73E, h0km, mb3.8/10, mbtmp3.8/11, ML3.9/1, MS3.5/10, Error ellipse: s-maj=27.6km s-min=14.9km az=87.0*
*NEIC **02** 13:46:15.4±1.5, 16°.7N±0°.1×146°.0E±0°.1, h45km±9km, mb4.8/20, Error ellipse: s-maj=18.4km s-min=15.3km az=104.0*
ISC 02 13:46:13.3±0.6, 16°.74N±0°.07×146°.2E±0°.1, h35km, n71, σ1§25/47, mb4.5/23, MS3.4/9, 1C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.39**	**203**	Pn	Pn	13 47 04.5	+0.8
GUMO	**Guam**	**3.39**	**203**	Pn	**Pn**	**13 47 03.6**	**-0.1**
	13nm,0.3s,baz=39,slow=1.8,SNR=11						
GUMO				Sn	**Sn**	**13 47 45.7**	**+2.9**
	33nm,0.3s,baz=19,slow=24,SNR=7.4						
	144nm,0.6s						
PATS	**Pohnpei**	**15.38**	**128**		**P**	**13 49 49.6**	**-2.4**
PATS				IAmb	IAmb	13 50 01.6	
	comp=Z,48nm,0.9s						
JOW	**Kunigami**	**19.44**	**304**	LR	LR	13 56 55.2	
	comp=Z,198nm,18.6s,baz=169,slow=34						
H11S3	**WAKE ISLAND Hy 19.59**	**82**		T	T	14 11 11.4	
	baz=268,slow=75,SNR=920						
H11S1	**WAKE ISLAND Hy 19.60**	**82**		T	T	14 11 09.7	
	baz=268,slow=75,SNR=488						
H11S2	**WAKE ISLAND Hy 19.60**	**82**		T	T	14 11 10.8	
	baz=268,slow=75,SNR=552						
H11N1	**WAKE ISLAND Hy 19.85**	**78**		T	T	14 11 28.6	
	baz=265,slow=74,SNR=1024						
H11N2	**WAKE ISLAND Hy 19.86**	**78**		T	T	14 11 29.8	
	baz=265,slow=74,SNR=843						
H11N3	**WAKE ISLAND Hy 19.87**	**78**		T	T	14 11 30.4	
	baz=265,slow=74,SNR=964						
MJAR	**Matsushiro Arr**	**20.97**	**342**	P	**P**	**13 50 52.4**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=153,slow=11,SNR=2.6						
	comp=Z,1.0nm,0.8s						
JNU	**Nakatsue**	**21.39**	**323**	LR	LR	13 58 07.6	
	comp=Z,60nm,18.6s,baz=144,slow=34						
DAV	**Davao City (W)**	**22.34**	**247**	LR	LR	14 00 24.8	
	comp=Z,82nm,19.3s,baz=68,slow=39						
FAKI	**Fak Fak**	**23.92**	**216**	P	**P**	**13 51 22.9**	**-1.2**
FAKI				IAmb	IAmb	13 51 32.7	
	comp=Z,54nm,1.5s						
TPUB	**Ta-pu**	**24.89**	**289**	P	**P**	**13 51 30.3**	**-2.7**
PMG	**Port Moresby**	**25.99**	**178**	P	**P**	**13 51 42.5**	**-0.5**
PMG				IAmb	IAmb	13 51 47.5	
	comp=Z,49nm,1.4s						
KSRS	**Korea Array**	**26.20**	**326**	P	**P**	**13 51 43.9**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=137,slow=9.3,SNR=2.0						
KSRS				LR	LR	14 00 23.2	
	comp=Z,56nm,20.4s,baz=190,slow=33						
	comp=Z,0.5nm,0.7s						
NJ2	**Nanjing**	**29.10**	**307**	*e*P	**P**	**13 52 11.3**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HNS	**HongShan**	**34.55**	**313**	⇑P	**P**	**13 52 59.1**	**+0.6**
KNRA	**Kununurra**	**36.53**	**209**	P	**P**	**13 53 14.8**	**-0.8**
KNRA				IAmb	IAmb	13 53 25.0	
	comp=Z,18nm,1.4s						
XAN	**Xi'an**	**37.59**	**304**	⇓P	**P**	**13 53 25.7**	**+1.0**
XAN				pmax	pmax		
	comp=Z,12nm,1.5s						
WB0	**Warramunga Arr**	**38.09**	**198**	P	**P**	**13 53 28.6**	**-0.4**
WB0

comp=Z,0.5nm,0.4s
SIMJ Simiganj 69.87 306 P **P 13 57 22.0 +1.0**
PPT Papeete 71.83 115 LR LR 14 22 58.9
comp=Z,81nm,19.3s,baz=287,slow=31
PPT2 Papeete2 71.83 115 eLR LR 14 19 42.1
comp=Z,98nm,24.5s
A36M Sachs Harbour 73.76 19 P **P 13 57 44.4 +1.0**
TBI Tubuai 74.41 121 eLR LR 14 20 52.3
comp=Z,345nm,27.5s
TAOE Nuku Hiva Isla 77.11 103 eLR LR 14 21 55.9
comp=Z,109nm,26.7s
NVAR Mina Array Bea 83.95 52 P P 13 58 43.8 +3.4
comp=Z,1.5nm,0.8s,baz=287,slow=4.8,SNR=10
comp=Z,1.5nm,0.8s
RKT Rikitea 86.59 115 eLR LR 14 26 21.4
comp=Z,417nm,25.2s
LPIG La Paz 95.03 63 LR LR 14 34 21.3
comp=Z,24nm,19.8s,baz=18,slow=30
SNAA Sanae 122.11 191 PKP **PKiKP 14 05 03.1 -0.8**
comp=Z,0.7nm,1.0s,baz=195,slow=9.1,SNR=5.6
H03S2 Juan Fernandez 136.15 122 T T 16 36 59.0
baz=258,slow=75,SNR=7.4
H03S1 Juan Fernandez 136.16 122 T T 16 37 01.9
baz=258,slow=75,SNR=9.7
H03S3 Juan Fernandez 136.16 122 T T 16 36 59.6
baz=258,slow=75,SNR=8.7
LVC Limon Verde 146.46 106 PKPbc **PKiKP 14 05 55.0 +0.1**
comp=Z,4.3nm,0.6s,baz=232,slow=11,SNR=5.1
LPAZ La Paz 147.09 94 PKPbc **PKiKP 14 05 57.0 +0.3**
comp=Z,3.2nm,0.8s,baz=260,slow=1.4,SNR=10.0

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*NEIC **02** 14:06:53.9±1.6, 18°.22S±0°.07×70°.71W±0°.1, h102km±8km, mb4.2/10, Error ellipse: s-maj=18.8km s-min=7.4km az=110.0*
*GUC **02** 14:06:54.2±0.6, 18°.23S×70°.03W, h105km±3km, ML3.9*
*VAO **02** 14:06:54.6±0.8, 18°.15S×69°.66W, h102km±6km, mb4.3*
*IDC **02** 14:06:55.8±2.1, 18°.19S×69°.68W, h116km± 17km, mb3.8/8, mbtmp4.2/11, MS2.3/1, Error ellipse: s-maj=26.9km s-min=15.5km az=110.0*
ISC 02 14:06:53.2±0.7, 18°.24S±0°.04×69°.94W±0°.08, h100km±6km, n78, σ1°68/78, mb4.1/12, 5C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.41**	**251**		**Pn**	**14 07 09.1**	**+0.7**
AP01	**Chacalluta**	**0.41**	**251**	*eP*	**Pn**	**14 07 08.9**	**+0.5**
AP01				*i* S	**Sn**	**14 07 20.4**	**+0.7**
PX02	**IPOC Station P**	**0.77**	**199**	*eP*	**Pn**	**14 07 11.0**	**-0.4**
PX02				*i* S	**Sn**	**14 07 24.8**	**-0.1**
PX02				IAML		14 07 26.0	
	comp=N,3μm,0.6s						
PB18	**Visviri**	**0.78**	**34**	Pn	**Pn**	**14 07 13.3**	**+1.4**
PB18	**Visviri**	**0.78**	**34**	*eP*	**Pn**	**14 07 13.8**	**+1.8**
PB18				*i* S	**Sn**	**14 07 29.0**	**+3.1**
PB11	**IPOC Station P**	**1.54**	**170**		**Pn**	**14 07 21.3**	**+1.1**
PB11	**IPOC Station P**	**1.54**	**170**	*eP*	**Pn**	**14 07 21.2**	**+1.1**
PB11				*i* S	**Sn**	**14 07 42.1**	**+1.6**
PB11				IAML		14 07 44.2	
	comp=N,1μm,0.3s						
GO01	**Chusmiza**	**1.59**	**154**		**Pn**	**14 07 23.0**	**+1.9**
GO01	**Chusmiza**	**1.59**	**154**	*eP*	**Pn**	**14 07 23.0**	**+1.9**
GO01				*i* S	**Sn**	**14 07 45.1**	**+3.0**
GO01				IAML		14 07 50.3	
	comp=E,3μm,0.2s						
HMBC	**Humberstone**	**2.03**	**179**		**Pn**	**14 07 26.8**	**+0.4**
HMBC	**Humberstone**	**2.03**	**179**	*eP*	**Pn**	**14 07 27.0**	**+0.6**
HMBC				*i* S	**Sn**	**14 07 51.6**	**0.0**
HMBC				IAML		14 07 59.0	
	comp=N,1μm,0.7s						
TA02	**Huaiquique**	**2.03**	**185**		**Pn**	**14 07 26.6**	**+0.4**
PB08	**IPOC Station P**	**2.04**	**159**		**Pn**	**14 07 28.3**	**+1.6**
PB08	**IPOC Station P**	**2.04**	**159**	*eP*	**Pn**	**14 07 28.5**	**+1.9**
PB08				*i* S	**Sn**	**14 07 54.7**	**+2.6**
PB08				IAML		14 07 56.8	
	comp=N,1μm,0.2s						
TA01	**Diego Aracena**	**2.33**	**186**		**Pn**	**14 07 30.3**	**+0.2**
TA01	**Diego Aracena**	**2.33**	**186**	*eP*	**Pn**	**14 07 30.1**	**0.0**
TA01				IAML		14 08 04.6	
	comp=N,495nm,0.5s						
PATCX	**Punta Patache**	**2.58**	**185**		**Pn**	**14 07 34.0**	**+0.5**
PATCX	**Punta Patache**	**2.58**	**185**	*eP*	**Pn**	**14 07 33.7**	**+0.2**
PATCX				*i* S	**Sn**	**14 07 60.0**	**-4.4**
PATCX				IAML		14 08 26.8	
	comp=E,852nm,0.9s						
LPAZ	**La Paz**	**2.59**	**42**	P	**Pn**	**14 07 36.3**	**+2.2**
	comp=E,67nm,0.3s,baz=231,slow=2.7,SNR=316						
LPAZ				LR	LR	14 08 34.5	
	comp=E,67nm,20.5s,baz=8.0,slow=41						
LPAZ	**La Paz**	**2.59**	**42**	*eP*	**Pn**	**14 07 32.6**	**-1.6**
PB01	**IPOC Station P**	**2.83**	**171**		**Pn**	**14 07 37.9**	**+1.1**
PB09	**IPOC Station P**	**3.60**	**170**		**Pn**	**14 07 48.0**	**+0.7**
LVC	**Limon Verde**	**4.46**	**168**		**Pn**	**14 08 00.3**	**+1.4**
LVC	**Limon Verde**	**4.46**	**168**	P	**Pn**	**14 08 00.5**	**+1.6**
	comp=E,27nm,0.2s,baz=349,slow=8.2,SNR=141						
LVC				S	**Sn**	**14 08 47.9**	**-2.0**
	comp=E,69nm,0.4s,baz=344,slow=5.3,SNR=4.1						
LVC	**Limon Verde**	**4.46**	**168**	*eP*	**Pn**	**14 08 00.6**	**+1.6**
GO02	**Mina Guanaco**	**6.90**	**177**		**Pn**	**14 08 30.8**	**-1.2**
AC01	**Pan de Azucar**	**7.90**	**184**	Pn	Pn	14 08 42.6	-2.8
SIV	**San Ignacio**	**8.76**	**77**	P	**Pn**	**14 08 55.6**	**-1.6**
	comp=E,18nm,0.5s,baz=284,slow=10,SNR=67						
BBSD	**Serra de San D**	**8.95**	**85**	*eP*	**Pn**	**14 08 57.3**	**-2.4**
AC06	**Mina Casimiro**	**9.09**	**182**	Pn	**Pn**	**14 09 00.4**	**-1.2**
ETMB	**Extrema**	**9.11**	**24**	*eP*	**Pn**	**14 09 00.7**	**-1.3**
AC05	**El Transito**	**10.56**	**182**	Pn	Pn	14 09 18.1	-3.5
PTLB	**Pontes e Lacer**	**10.70**	**77**	*eP*	**Pn**	**14 09 21.8**	**-1.7**
VILB	**Vilhena**	**10.75**	**62**		**Pn**	**14 09 23.4**	**-0.8**
VILB	**Vilhena**	**10.75**	**62**	*eP*	**Pn**	**14 09 21.2**	**-3.0**
SAML	**Samuel**	**11.32**	**36**		**Pn**	**14 09 29.1**	**-2.9**
SAML	**Samuel**	**11.32**	**36**	*eP*	**Pn**	**14 09 27.9**	**-4.0**
BDQN	**Bodoquena, MS**	**12.64**	**102**	*eP*	**Pn**	**14 09 46.2**	**-3.2**
SALV	**Santo Antonio**	**13.81**	**82**	*eP*	**Pn**	**14 10 03.0**	**-1.9**
PDRB	**Porto dos Gac**	**14.36**	**65**	*eP*	**Pn**	**14 10 09.0**	**-2.9**
MT02	**Curacav**	**15.00**	**184**	Pn	**Pn**	**14 10 18.5**	**-1.5**
MT02				IAmb	IAmb	14 10 26.1	
	comp=Z,22nm,1.4s						
H03N1	**Juan Fernandez**	**17.15**	**206**	T	T	14 28 09.6	
	baz=29,slow=73,SNR=59						
H03N2	**Juan Fernandez**	**17.16**	**206**	T	T	14 28 09.4	
	baz=29,slow=73,SNR=51						
H03N3	**Juan Fernandez**	**17.17**	**206**	T	T	14 28 08.6	
	baz=29,slow=73,SNR=44						
SNDB	**Serra Nova Dou**	**19.04**	**74**	*eP*	**P**	**14 11 06.0**	**-1.6**
ITTB	**Itaituba**	**19.57**	**47**	*eP*	**P**	**14 11 11.4**	**-2.0**
TRQA	**Tornquist**	**20.94**	**162**	P	**P**	**14 11 29.4**	**+1.4**
TRQA				IAmb	IAmb	14 11 29.7	
	comp=Z,8.4nm,0.7s						
BDFB	**Brasilia**	**21.13**	**86**	P		14 11 31.4	
BDFB	**Brasilia**	**21.13**	**86**	P	**P**	**14 11 28.1**	**-2.2**
	comp=Z,3.6nm,0.4s,baz=246,slow=13,SNR=6.8						
	comp=Z,3.6nm,0.4s						
GO06	**Curarrehue**	**21.32**	**183**	P	**P**	**14 11 33.4**	**+1.3**
GO06				IAmb	IAmb	14 11 37.6	
	comp=Z,16nm,1.4s						
PLCA	**Paso Flores**	**22.43**	**181**	P	**P**	**14 11 44.1**	**+0.3**
PLCA				IAmb	IAmb	14 11 46.8	
	comp=Z,16nm,1.2s						
PLCA	**Paso Flores**	**22.43**	**181**	P	**P**	**14 11 45.0**	**+1.2**
	comp=Z,7.3nm,1.0s,baz=0.7,slow=11,SNR=11						
	comp=Z,7.3nm,1.0s						
BOAV	**Boa Vista**	**22.50**	**25**	P	**P**	**14 11 44.1**	**-0.6**
BOAV	**Boa Vista**	**22.50**	**25**	*eP*	**P**	**14 11 44.8**	**+0.1**
SMTB	**Santa Maria do**	**23.61**	**70**	*eP*	**P**	**14 11 54.3**	**-1.1**
JANB	**Januaria**	**24.75**	**86**	*eP*	**P**	**14 12 04.1**	**-1.6**
BELA	**Belgrano 2**	**62.10**	**172**	P	**P**	**14 17 04.3**	**+1.2**
VNA3	**Neumayer Olymp**	**63.46**	**162**	⇑P	**P**	**14 17 13.3**	**+1.1**
	comp=Z,1.8nm,0.8s						
VNA1	**Neumayer--Stat**	**63.67**	**161**	⇑P	**P**	**14 17 15.0**	**+1.5**
	comp=Z,1.4nm,0.4s						
VNA2	**Neumayer--Watz**	**64.04**	**161**	⇑P	**P**	**14 17 16.4**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=297,slow=3.9						
SNAA	**Sanae**	**65.67**	**161**	P	**P**	**14 17 27.6**	**+1.0**
SNAA				IAmb	IAmb	14 17 28.4	
	comp=Z,2.0nm,0.7s						
SNAA	**Sanae**	**65.67**	**161**	⇑P	**P**	**14 17 27.6**	**+1.0**
	comp=Z,40nm,0.6s						
SNAA	**Sanae**	**65.67**	**161**	P	**P**	**14 17 27.6**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=283,slow=7.2,SNR=26						
	comp=Z,1.5nm,0.6s						
TROLL	**Troll, Antarti**	**67.38**	**161**	⇑P	**P**	**14 17 38.9**	**+1.3**
	comp=Z,56nm,0.3s						
DBIC	**Dimbokro**	**68.78**	**75**	P	**P**	**14 17 46.6**	**-0.6**
DBIC	**Dimbokro**	**68.78**	**75**	P	**P**	**14 17 47.0**	**-0.2**
	comp=Z,4.2nm,0.6s,baz=231,slow=5.1,SNR=8.3						
	comp=Z,4.2nm,0.6s						
QSPA	**South Pole Qui**	**71.94**	**180**	P	**P**	**14 18 07.6**	**+1.9**
QSPA				IAmb	IAmb	14 18 14.8	
	comp=Z,6.0nm,1.4s						
QSPA	**South Pole Qui**	**71.94**	**180**	P	**P**	**14 18 07.3**	**+1.6**
	comp=Z,0.9nm,0.4s,baz=298,slow=1.0,SNR=31						
	comp=Z,0.9nm,0.4s						
NVAR	**Mina Array Bea**	**72.34**	**322**	P	**P**	**14 18 09.3**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=151,slow=8.7,SNR=4.0						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.20**	**71**	P	**P**	**14 18 35.5**	**-1.3**
	comp=Z,1.3nm,0.5s,baz=261,slow=5.0,SNR=14						
	comp=Z,1.3nm,0.5s						
MAW	**Mawson**	**87.72**	**164**	P	**P**	**14 19 32.1**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=209,slow=5.7,SNR=8.5						
	comp=Z,1.1nm,0.6s						
H11S2	**WAKE ISLAND Hyl**	**26.44**	**280**	T	T	16 45 00.3	
	baz=100,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hyl**	**26.45**	**280**	T	T	16 45 05.1	
	baz=100,slow=74,SNR=14						
H11S3	**WAKE ISLAND Hyl**	**26.46**	**280**	T	T	16 44 57.6	
	baz=100,slow=74,SNR=9.2						
ASAR	**Alice Springs**	**132.29**	**210**	PKP	**PKPdf**	**14 25 56.0**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=133,slow=1.1,SNR=5.9						
WRA	**Warramunga Arr**	**135.20**	**213**	PKP	**PKPdf**	**14 26 02.4**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=140,slow=1.5,SNR=9.1						
ZALV	**Zalesovo Beam**	**139.38**	**23**	PKP	**PKPdf**	**14 26 09.3**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=324,slow=1.7,SNR=3.7						
SONM	**Songino Array**	**150.33**	**5**	PKPbc	**PKPbc**	**14 26 33.4**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=354,slow=3.0,SNR=3.8						

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*IDC **02** 14:13:32.1±5.0, 4°.84S×102°.95E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=205.3km s-min=27.8km az=55.0*
*DJA **02** 14:13:35.4±0.7, 5°.5S±5°.×10°.3E±°, h13km±8km, M4.1/6, mb4.1/1, MLv4.0/6*
ISC 02 14:13:34.6±1.3, 4°.8S±0°.2×103°.1E±0°.1, h10km, n11, σ0°84/10, mb3.5/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.00**	**103**	P	**Pb**	**14 13 54.8**	**+0.7**
LWLI				S	**Sb**	**14 14 08.1**	**+0.7**
KASI	**Kota Agung**	**1.59**	**117**	P	**Pn**	**14 14 03.1**	**+0.3**
KASI				S	**Sn**	**14 14 23.3**	**-0.1**
PPSI	**Pulau Pagai**	**3.67**	**303**	P	**Pn**	**14 14 32.5**	**+1.0**
SISI	**Saibi**	**5.27**	**311**	P	**Pn**	**14 14 54.3**	**+0.8**
H08S2	**Diego Garcia H**	**30.53**	**263**	T	T	14 51 40.1	
	baz=86,slow=76,SNR=7.5						
H08S3	**Diego Garcia H**	**30.54**	**263**	T	T	14 51 38.4	
	baz=86,slow=76,SNR=9.9						
H08S1	**Diego Garcia H**	**30.55**	**263**	T	T	14 51 41.1	
	baz=86,slow=76,SNR=11						
WRA	**Warramunga Arr**	**33.95**	**119**	P	**P**	**14 20 18.5**	**+0.1**
	0.9nm,1.0s,baz=292,slow=8.4,SNR=3.4						
	0.9nm,1.0s						
ASAR	**Alice Springs**	**35.13**	**125**	P	**P**	**14 20 28.1**	**-0.7**
	0.4nm,0.8s,baz=299,slow=7.9,SNR=2.9						
	0.4nm,0.8s						
SONM	**Songino Array**	**52.49**	**3**	P	**P**	**14 22 47.4**	**-0.5**
	0.5nm,0.4s,baz=188,slow=9.7,SNR=2.0						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**54.57**	**343**	P	**P**	**14 23 01.9**	**-1.2**
	0.1nm,0.3s,baz=149,slow=7.5,SNR=2.1						
	0.1nm,0.3s						

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*SJA **02** 14:35:42.0, 31°.93S×72°.47W, h10km, ML3.9*
*GUC **02** 14:35:47.8±0.7, 32°.05S×71°.94W, h24km±8km, ML3.7*
ISC 02 14:35:43.2±1.6, 31°.91S±0°.03×72°.09W±0°.07, h13km±12km, n44, σ1°19/60, 3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO04	**Los Peladeros**	**0.96**	**98**	*i*P	**Pb**	**14 36 01.2**	**-0.6**
CO04				*e*S	**Sb**	**14 36 11.6**	**-2.9**
CO04				IAML		14 36 14.4	
	comp=N,4μm,0.2s						
VA01	**Torpederas**	**1.17**	**161**	*e*P	**Pg**	**14 36 05.8**	**+0.1**
VA01				*e*S	**Sb**	**14 36 20.5**	**+0.2**
VA01	**Torpederas**	**1.17**	**161**	*i* P	**Pg**	**14 36 05.9**	**+0.2**
CO06	**Fray Jorge**	**1.30**	**18**	*e*P	**Pg**	**14 36 08.0**	**-0.1**
CO06				*i* S	**Sn**	**14 36 23.8**	**-0.4**
ROCH	**El Roble**	**1.40**	**139**	*i*P	**Pb**	**14 36 09.2**	**0.0**
ROCH				*e*S	**Sn**	**14 36 24.9**	**-2.1**
VA03	**San Esteban**	**1.56**	**123**	*i*P	**Pn**	**14 36 10.9**	**+0.3**
VA03				*i* S	**Sn**	**14 36 29.4**	**-1.4**
VA03				IAML		14 36 31.6	
	comp=N,2μm,0.5s						
VA03	**San Esteban**	**1.56**	**123**	*i* P	**Pn**	**14 36 10.3**	**-0.3**
MT02	**Curacav**	**1.56**	**149**	*e*P	**Pb**	**14 36 11.9**	**-0.1**
MT02				*e*S	**Sn**	**14 36 29.4**	**-1.5**
MT02	**Curacav**	**1.56**	**149**	*i* P	**Pn**	**14 36 11.2**	**+0.5**
CO03	**El Pedregal**	**1.61**	**49**	*e*P	**Pn**	**14 36 12.3**	**+0.9**
CO03				*e*S	**Sn**	**14 36 31.7**	**-0.4**
CO03	**El Pedregal**	**1.61**	**49**	*i* P	**Pn**	**14 36 11.7**	**+0.3**
PEL	**Peldehue**	**1.71**	**136**	*e*P	**Pn**	**14 36 13.7**	**+1.0**
PEL				*e*S	**Sn**	**14 36 34.0**	**-0.4**
PEL				IAML		14 36 41.9	
	comp=E,1μm,0.4s						
VA05	**Santo Domingo**	**1.79**	**167**	*e*P	**Pb**	**14 36 14.8**	**-0.9**
VA05				*e*S	**Sn**	**14 36 36.0**	**-0.3**
VA05				IAML		14 36 48.5	
	comp=E,1μm,0.4s						
MT05	**Renca**	**1.86**	**143**	*e*P	**Pb**	**14 36 16.9**	**-0.2**
MT05				*e*S	**Sn**	**14 36 38.2**	**-0.2**
MT05				IAML		14 36 48.5	
	comp=E,1μm,0.4s						
MT05	**Renca**	**1.86**	**143**	*i* P	**Pb**	**14 36 16.3**	**-0.9**
MT10	**Hacienda Santa**	**1.89**	**136**	*e*P	**Pn**	**14 36 16.6**	**+1.3**
MT10				*e*S	**Sn**	**14 36 38.7**	**-0.3**
MT10				IAML		14 36 44.3	
	comp=N,2μm,0.6s						
MT14	**Cerro Calı́n**	**1.98**	**139**	*e*P	**Pb**	**14 36 18.4**	**-0.6**
MT14				*i* S	**Sn**	**14 36 40.9**	**-0.2**
MT14				IAML		14 36 47.1	
	comp=N,1μm,0.6s						
MT16	**CCHEN**	**2.01**	**139**	*e*P	**Pb**	**14 36 18.6**	**-1.0**
MT16				*e*S	**Sn**	**14 36 41.6**	**-0.2**
GO04	**Tololo Observa**	**2.06**	**33**	*i* P	**Pn**	**14 36 18.2**	**+0.5**
MT03	**Universidad Ad**	**2.06**	**140**	*i* P	**Pn**	**14 36 18.8**	**+1.1**
MT01	**Popeta**	**2.07**	**160**	*i* P	**Pn**	**14 36 18.4**	**+0.7**
MT09	**Talagante**	**2.08**	**154**	*e*P	**Pb**	**14 36 20.1**	**-0.7**
MT09				*e*S	**Sn**	**14 36 44.4**	**+0.7**
MT09				IAML		14 36 50.8	
	comp=E,686nm,0.4s						
MT15	**Las Vizcachas**	**2.15**	**142**	*e*P	**Pb**	**14 36 21.0**	**-1.0**
MT15				*e*S	**Sn**	**14 36 47.1**	**+1.8**
MT15				IAML		14 36 53.3	
	comp=E,794nm,0.4s						
MT04	**Ro Olivares**	**2.22**	**133**	*e*P	**Pn**	**14 36 21.8**	**+1.8**
MT04				*i* S	**Sn**	**14 36 48.2**	**+0.9**
MT04	**Ro Olivares**	**2.22**	**133**	*i* P	**Pn**	**14 36 21.5**	**+1.5**
MT08	**Bocatoma Ro**	**2.32**	**132**	*e*P	**Pb**	**14 36 24.0**	**-1.1**
MT08				*i* S	**Sn**	**14 36 51.0**	**+1.2**
MT08	**Bocatoma Ro**	**2.32**	**132**	*i* P	**Pb**	**14 36 23.8**	**-1.3**
RTLS	**Leoncito**	**2.38**	**88**	*i* P	**Pb**	**14 36 26.1**	**0.0**
LMEL	**Las Melosas**	**2.50**	**141**	*i* P	**Pn**	**14 36 25.5**	**+1.8**
CO01	**Juntas del Tor**	**2.58**	**42**	*i* P	**Pn**	**14 36 27.1**	**+2.2**
BO01	**Tunca**	**2.61**	**161**	*i* P	**Pn**	**14 36 26.1**	**+1.1**
DOCA	**Reserva Natura**	**2.75**	**70**	*i* P	**Pb**	**14 36 31.2**	**-1.1**
ARCO	**CERRO ARCO**	**2.83**	**110**	*i* P	**Pb**	**14 36 34.5**	**+0.9**
ASAL	**Salagasta**	**2.84**	**105**	*i* P	**Pb**	**14 36 33.6**	**-0.2**
AROD	**Rodeo**	**2.84**	**53**	*i* P	**Pb**	**14 36 34.3**	**+0.3**
ACCO	**Cerro Coronel**	**2.91**	**64**	*i* P	**Pb**	**14 36 33.7**	**-1.4**
ZON	**Zonda**	**2.93**	**84**	*i* P	**Pb**	**14 36 34.2**	**-1.1**
BO02	**Sierra Bellavi**	**3.07**	**159**	*i* P	**Pn**	**14 36 33.1**	**+1.6**
GO05	**Hualane**	**3.09**	**178**	*i* P	**Pn**	**14 36 32.1**	**+0.4**
LCO	**Las Campanas**	**3.13**	**23**	*i* P	**Pn**	**14 36 33.1**	**+0.6**
AC05	**El Transito**	**3.45**	**28**	*i* P	**Pn**	**14 36 38.2**	**+1.6**
AC04	**Llanos de Chal**	**3.80**	**14**	*i* P	**Pn**	**14 36 41.7**	**+0.3**
VCA	**Vinchina**	**4.62**	**48**	*i* P	Pn	14 36 58.2	+5.4
ACLC	**CERRO LA CRUZ**	**5.07**	**62**	*i* P	**Pn**	**14 37 03.0**	**+3.9**

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*NEIC **02** 14:46:10.7±0.8, 49°.4N±0°.2×148°.0E±0°.3, h563km±21km, mb4.0/22, Error ellipse: s-maj=39.9km s-min=17.7km az=149.0*
*SKHL **02** 14:46:10.1±0.6, 49°.20N×148°.20E, h573km±7km, mb4.1/6, msha5.0/2*
*MOS **02** 14:46:10.2±1.3, 49°.34N×148°.03E, h587km, mb3.9/3, Error ellipse: s-maj=15.7km s-min=10.3km az=62.2*
*IDC **02** 14:46:11.3±1.3, 49°.42N×147°.96E, h554km±17km, mb2.8/8, mbtmp3.8/14, Error ellipse: s-maj=16.7km s-min=15.9km az=86.0*
ISC 02 14:46:11.7±0.7, 49°.3N±0°.1×148°.06E±0°.10, h583km, n76, σ1°16/71, mb3.9/22, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**4.27**	**238**	P	**P**	**14 47 37.0**	**-0.9**
YSS	**Yuzh-Sakhalins**	**4.27**	**238**	*e*P	**P**	**14 47 35.8**	**-2.1**
YSS				AMB	AMB	14 47 36.7	
	10.0nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.27**	**238**	P	**P**	**14 47 36.0**	**-1.9**
VNNR	**Vanino**	**5.12**	**270**	*e*P	**P**	**14 47 44.1**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**5.50**	**197**	*e*P	P	14 47 43.7	-4.0
YUK				AMB	AMB	14 47 44.5	
	80nm,0.7s						
SHO	**Shikotan**	**5.52**	**189**	*e*P	P	14 47 43.8	-4.1
SHO				AMB	AMB	14 47 46.2	
	30nm,0.4s						
SHO				*e*S	S	14 48 57.7	-8.7
SHO				A	A	14 49 01.0	
	30nm,0.5s						
SHO				A	A	14 49 01.0	
	60nm,0.5s						
SHO	**Shikotan**	**5.52**	**189**	P	P	14 47 43.6	-4.3
SHO				S	S	14 48 57.9	-8.5
JKA	**Kamikawa-asahi**	**6.42**	**218**	P	**P**	**14 47 53.6**	**-2.1**
JKA	**Kamikawa-asahi**	**6.42**	**218**	*e*P	**P**	**14 47 54.2**	**-1.5**
ASAJ	**Asahikawa**	**6.42**	**218**	P	**P**	**14 47 54.1**	**-1.6**
	5.4nm,0.9s,baz=28,slow=21,SNR=2.3						
KDTR	**Khodutka, Kamc**	**6.85**	**65**	*e*P	**P**	**14 47 57.1**	**-2.2**
KDTR				AMB	AMB	14 47 58.5	
	20nm,0.4s						
KDTR				*e*S	S	14 49 20.1	-7.6
KDTR				A	A	14 49 21.7	
	30nm,0.5s						
KDTR				A	A	14 49 21.7	
	40nm,0.5s						
PEA0B	**Petropavlovsk-**	**7.14**	**54**	P	**P**	**14 48 00.1**	**-1.9**
PEA0B	**Petropavlovsk-**	**7.14**	**54**	P	**P**	**14 48 00.2**	**-1.9**
PETK	**Petropavlovsk-**	**7.14**	**54**	P	P	14 47 58.4	-3.7
PETK	**Petropavlovsk-**	**7.14**	**54**	P	**P**	**14 48 00.0**	**-2.0**
	5.3nm,0.9s,baz=205,slow=5.8,SNR=20						
PET	**Petropavlovsk**	**7.62**	**57**	P	**P**	**14 48 05.9**	**-0.6**
PET	**Petropavlovsk**	**7.62**	**57**	*e*P	**P**	**14 48 07.1**	**+0.6**
PET				AMB	AMB	14 48 08.9	
	10.0nm,0.8s						
PET	**Petropavlovsk**	**7.62**	**57**	*e*P	**P**	**14 48 07.5**	**+1.0**
GRNR	**Gornyy**	**7.63**	**285**	*e*P	**P**	**14 48 06.3**	**-0.5**
GRNR				AMB	AMB	14 48 06.6	
	10.0nm,0.6s						
GRNR	**Gornyy**	**7.63**	**285**	*i* P	**P**	**14 48 06.3**	**-0.5**
GRNR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ERM	**Erimo**	**8.07**	**207**	P	**P**	**14 48 08.9**	**-2.3**
ERM	**Erimo**	**8.07**	**207**	P	**P**	**14 48 08.9**	**-2.3**
JTM	**Tenmabayashi**	**9.86**	**213**	P	**P**	**14 48 26.8**	**-2.0**
KLR	**Kul'dur**	**10.66**	**276**	P	**P**	**14 48 36.0**	**-0.6**
	comp=Z,3.8nm,0.7s,baz=71,slow=10,SNR=12						
KLR	**Kul'dur**	**10.66**	**276**	*e*P	**P**	**14 48 36.4**	**-0.3**
KLR	**Kul'dur**	**10.66**	**276**	*e*P	**P**	**14 48 36.3**	**-0.4**
USA0B	**Ussuriysk Arra**	**12.15**	**251**	P	P	14 48 48.6	-3.2
USA0B	**Ussuriysk Arra**	**12.15**	**251**	P	P	14 48 48.6	-3.2
USRK	**Ussuriysk Ar.**	**12.15**	**251**	P	**P**	**14 48 49.5**	**-2.3**
USRK	**Ussuriysk Ar.**	**12.15**	**251**	P	**P**	**14 48 50.5**	**-1.3**
	comp=Z,1.1nm,0.4s,baz=41,slow=12,SNR=6.4						
SEY	**Seymchan**	**13.85**	**8**	P	**P**	**14 49 08.0**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=185,slow=13,SNR=7.2						
MJAR	**Matsushiro Arr**	**14.65**	**213**	P	**P**	**14 49 17.8**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=21,slow=10,SNR=7.3						
KS19	**Wonju Array Si**	**18.77**	**239**	P	**P**	**14 49 53.1**	**-2.0**
KSAR	**Wonju Array Be**	**18.80**	**238**	P	**P**	**14 49 54.3**	**-1.0**
KSAR	**Wonju Array Be**	**18.80**	**238**	*e*P	**P**	**14 49 54.3**	**-1.0**
KSAR	**Wonju Array Be**	**18.80**	**238**	P	**P**	**14 49 54.3**	**-1.0**
SONM	**Songino Array**	**27.36**	**283**	P

*JMA **02** 14:55:12.1±0.2,34°.5N±0°.6×139°.5E±0°.7,h125km±1km, MV3.4/40,NEAR NIIJIMA ISLAND*
*IDC **02** 14:55:12.6±0.9,34°.44N×139°.47E,h143km±7km,mb3.1/5, mbtmp3.5/8,Error ellipse: s-maj=24.1km s-min=11.4km az=64.0*
ISC 02 14:55:11.4±0.8,34°.57N±0°.05×139°.53E±0°.06,h129km±6km, n40,σ1°.34/44,mb3.3/5,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIM2	**Oshima 3**	**0.17**	**330**	*iP*	**Pn**	**14 55 29.3**	**+0.2**
JIM2				S	**Sn**	**14 55 42.3**	**-0.2**
JTHY	**Toshimahigashi**	**0.21**	**257**	*iP*	**Pn**	**14 55 29.6**	**+0.5**
JTHY				S	**Sn**	**14 55 42.4**	**-0.1**
JNIO	**Niijimaoohara**	**0.30**	**225**	*eP*	**Pn**	**14 55 29.6**	**+0.2**
JNIO				*eS*	**Sn**	**14 55 42.8**	**-0.3**
JSKK	**Shikinejimakit**	**0.36**	**229**	P	**Pn**	**14 55 29.7**	**+0.1**
JKO	**Kozu shima**	**0.51**	**221**	P	**Pn**	**14 55 30.3**	**-0.1**
JMYK	**Miyake Tsubota**	**0.51**	**179**	P	**Pn**	**14 55 30.6**	**+0.2**
KTJ3	**Kamata3**	**0.53**	**314**	P	**Pn**	**14 55 30.9**	**+0.4**
JIZS	**Izushimoda**	**0.56**	**285**	P	**Pn**	**14 55 31.0**	**+0.3**
JIZS				*eS*	**Sn**	**14 55 45.0**	**-0.3**
JMKN	**Mikurajimanish**	**0.68**	**176**	P	**Pn**	**14 55 31.5**	**0.0**
JOD2	**Odawara 2**	**0.78**	**332**	P	**Pn**	**14 55 33.0**	**+0.7**
JOD2				S	**Sn**	**14 55 48.9**	**+0.6**
BSO3	**Boso 3**	**0.84**	**74**	P	**Pn**	**14 55 34.2**	**+1.8**
JSG	**Sagara**	**1.12**	**276**	P	**Pn**	**14 55 35.7**	**+0.4**
BSO1	**Boso 1**	**1.19**	**86**	P	**Pn**	**14 55 37.2**	**+1.7**
SHZ3	**Shizuoka 3**	**1.20**	**295**	P	**Pn**	**14 55 36.6**	**+0.5**
SHZ3				S	**Sn**	**14 55 56.6**	**+1.5**
JYN	**Shimob**	**1.23**	**319**	P	**Pn**	**14 55 37.5**	**+1.0**
JHJ	**Hachijo jima 2**	**1.46**	**172**	P	**Pn**	**14 55 39.9**	**+0.9**
	88nm,0.2s,baz=12,slow=22,SNR=20						
JHJ				S	**Sn**	**14 56 01.1**	**+1.1**
	160nm,0.3s,baz=85,slow=24,SNR=10						
JHJ2	**Mitsune**	**1.47**	**171**	P	**Pn**	**14 55 39.7**	**+0.6**
JGF	**Kuroka**	**2.06**	**301**	P	**Pn**	**14 55 46.7**	**+0.7**
INU	**Inuyama**	**2.21**	**291**	P	**Pn**	**14 55 48.1**	**+0.3**
MJAR	**Matsushiro Arr**	**2.24**	**332**	P	**Pn**	**14 55 49.7**	**+1.4**
	11nm,0.5s,baz=160,slow=14,SNR=69						
MJAR				S	**Sn**	**14 56 16.0**	**-0.7**
	16nm,0.5s,baz=148,slow=18,SNR=8.4						
MAJO	**Matsushiro**	**2.25**	**332**	P	**Pn**	**14 55 49.9**	**+1.6**
JMM	**Marumori**	**3.44**	**17**	P	**Pn**	**14 56 04.7**	**+1.0**
JSD	**Sado**	**3.61**	**344**	P	**Pn**	**14 56 07.1**	**+1.2**
JMN	**Monobe**	**4.76**	**261**	P	**Pn**	**14 56 21.3**	**0.0**
JNU	**Nakatsue**	**7.34**	**261**	P	**Pn**	**14 56 56.2**	**+0.3**
	4.5nm,0.6s,baz=70,slow=3.6,SNR=7.3						
JNU	**Nakatsue**	**7.34**	**261**	P	**Pn**	**14 56 56.3**	**+0.3**
ERM	**Erimo**	**7.96**	**20**	P	**Pn**	**14 57 05.0**	**+0.9**
ASAJ	**Asahikawa**	**9.82**	**13**	P	**Pn**	**14 57 28.2**	**-1.0**
	3.9nm,0.6s,baz=227,slow=17,SNR=10						
ASAJ				S	**Sn**	**14 59 12.1**	**-5.5**
	3.1nm,0.6s,baz=239,slow=34,SNR=1.8						
KSRS	**Korea Array**	**9.84**	**290**	P	**Pn**	**14 57 32.3**	**+2.9**
	0.9nm,0.7s,baz=107,slow=15,SNR=4.4						
KSRS				S	**Sn**	**14 59 19.8**	**+1.8**
	1.2nm,0.8s,baz=102,slow=22,SNR=2.8						
H11N2	**WAKE ISLAND Hy 28.37**	**114**		T	T	15 30 44.7	
	baz=308,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy 28.37**	**114**		T	T	15 30 44.7	
	baz=308,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy 28.38**	**114**		T	T	15 30 45.6	
	baz=308,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy 28.97**	**117**		T	T	15 31 31.1	
	baz=310,slow=76,SNR=10						
H11S1	**WAKE ISLAND Hy 28.97**	**117**		T	T	15 31 31.1	
	baz=310,slow=76,SNR=8.0						
H11S2	**WAKE ISLAND Hy 28.98**	**117**		T	T	15 31 32.4	
	baz=310,slow=76,SNR=9.2						
MKAR	**Makanchi Array**	**44.18**	**304**	P	**P**	**15 03 07.6**	**+0.4**
	0.4nm,0.8s,baz=88,slow=9.1,SNR=2.9						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**46.35**	**310**	P	**P**	**15 03 24.6**	**+0.4**
	0.2nm,0.4s,baz=91,slow=7.1,SNR=4.5						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**52.39**	**31**	P	**P**	**15 04 10.9**	**+1.1**
	0.4nm,0.8s,baz=248,slow=6.5,SNR=4.4						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**54.44**	**186**	P	**P**	**15 04 23.6**	**-1.7**
	1.0nm,0.5s,baz=0.4,slow=7.5,SNR=35						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**58.16**	**186**	P	**P**	**15 04 50.4**	**-1.3**
	0.9nm,0.8s,baz=8.1,slow=6.5,SNR=13						
	0.9nm,0.8s						

*KRNET **02** 15:09:51.3±0.1,41°.62N×73°.10E,h24km,mb2.8*
*NNC **02** 15:09:52.0±1.2,41°.68N×73°.02E,h0km±5km,mb3.5, mpv3.3,Error ellipse: s-maj=10.0km s-min=4.4km az=173.0*
*SOME **02** 15:09:51.9,41°.68N×73°.05E,h15km*
*KNET **02** 15:09:53.9±0.5,41°.76N×73°.16E,h14km±3km,ml2.4,Error ellipse: s-maj=5.4km s-min=3.3km az=120.0*
ISC 02 15:09:50.6±1.1,41°.63N±0°.02×73°.17E±0°.02,h5km±9km, n61,σ1°.13/109,44C-20D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.34**	**205**	⇑*iP*	**Pg**	**15 09 57.9**	**+0.7**
ARSB				⇑*iS*	**Sg**	**15 10 02.6**	**+0.9**
AML	**Almayashu**	**0.63**	**38**	⇑P	**Pb**	**15 10 04.7**	**+0.4**
	20nm,0.1s,SNR=12						
AML				⇑S	**Sb**	**15 10 13.9**	**+0.2**
	134nm,0.2s						
AML	**Almayashu**	**0.63**	**38**	⇑*iP*	**Pb**	**15 10 04.5**	**+0.2**
AML				⇑*iS*	**Sb**	**15 10 13.8**	**+0.1**
ARLS	**Aral**	**0.89**	**75**	⇑*iP*	**Pn**	**15 10 09.0**	**-0.9**
ARLS				⇑*iS*	**Sn**	**15 10 21.8**	**-1.5**
ARK	**Arkit**	**0.92**	**281**	⇑*iP*	**Pg**	**15 10 07.7**	**-0.5**
ARK				⇑*iS*	**Sg**	**15 10 19.3**	**-0.9**
MNAS	**Manas**	**0.99**	**330**	⇑*iP*	**Pg**	**15 10 09.5**	**0.0**
MNAS				⇑*iS*	**Sg**	**15 10 22.6**	**+0.2**
MRKS	**Merke**	**1.11**	**2**	P	**Pn**	**15 10 12.8**	**-0.1**
	33nm,0.1s						
MRKS				S	**Sb**	**15 10 27.9**	**+0.7**
	70nm,0.3s						
MRKS	**Merke**	**1.11**	**2**	*eP*	**Pn**	**15 10 12.8**	**-0.1**
	33nm,0.1s						
MRKS				*eS*	**Sb**	**15 10 27.9**	**+0.7**
	70nm,0.3s						
MRKS	**Merke**	**1.11**	**2**	*eP*	**Pn**	**15 10 12.8**	**-0.1**
MRKS				*eS*	**Sb**	**15 10 27.9**	**+0.7**
EKS2	**Erkin-Say**	**1.12**	**23**	⇓P	**Pn**	**15 10 13.1**	**+0.1**
	2.1nm,0.1s,SNR=11						
EKS2				⇑S	**Sn**	**15 10 28.0**	**-0.9**
	19nm,0.2s						
EKS2	**Erkin-Say**	**1.12**	**23**	⇑*iP*	**Pn**	**15 10 12.7**	**-0.4**
EKS2				⇑*iS*	**Sn**	**15 10 28.1**	**-0.9**
OHH	**Osh**	**1.15**	**195**	⇑*eP*	**Pg**	**15 10 12.1**	**-0.4**
OHH				⇑*eS*	**Sg**	**15 10 26.7**	**-0.7**
UCH	**Uchtor**	**1.16**	**59**	⇓P	**Pn**	**15 10 15.3**	**+1.4**
	8.6nm,0.1s,SNR=11						
UCH				⇓S	**Sn**	**15 10 30.8**	**+0.4**
	9.9nm,0.1s						
UCH	**Uchtor**	**1.16**	**59**	⇑*iP*	**Pn**	**15 10 14.0**	**+0.1**
UCH				⇑*iS*	**Sn**	**15 10 30.4**	**0.0**
AAK	**Ala-Archa**	**1.41**	**44**	⇑P	**Pb**	**15 10 18.6**	**+1.3**
	3.1nm,0.2s,SNR=23						
AAK				⇓S	**Sn**	**15 10 37.9**	**+1.9**
	34nm,0.4s						
AAK	**Ala-Archa**	**1.41**	**44**	⇓*iP*	**Pb**	**15 10 17.8**	**+0.4**
AAK				⇓*iS*	**Sn**	**15 10 37.3**	**+1.3**
TRKS	**Terek-Say**	**1.53**	**267**	⇑*iP*	**Pn**	**15 10 17.9**	**-0.8**
TRKS				⇑*iS*	**Sn**	**15 10 37.2**	**-1.8**
FRU1	**Bishkek**	**1.60**	**42**	⇑*eP*	**Pg**	**15 10 21.2**	**0.0**
FRU1				⇑*eS*	**Sg**	**15 10 43.2**	**+1.3**
SFK	**Sufi-Kurgan**	**1.64**	**171**	⇑*eP*	**Pb**	**15 10 21.2**	**-0.2**
SFK				⇑*eS*	**Sg**	**15 10 42.8**	**-0.4**
KBK	**Karagaybulak**	**1.67**	**52**	⇑P	**Pg**	**15 10 23.6**	**+1.1**
	34nm,0.3s,SNR=27						
KBK				⇓S	**Sg**	**15 10 46.7**	**+2.4**
	33nm,0.2s						
KBK	**Karagaybulak**	**1.67**	**52**	⇓*iP*	**Pg**	**15 10 22.5**	**-0.1**
KBK				⇓*iS*	**Sg**	**15 10 45.0**	**+0.8**
CHMS	**Chumysh**	**1.80**	**40**	⇑P	**Pg**	**15 10 25.8**	**+0.8**
	6.5nm,0.2s,SNR=5.1						
CHMS				⇓S	**Sg**	**15 10 50.2**	**+1.8**
	44nm,0.4s						
CHMS	**Chumysh**	**1.80**	**40**	⇑Pn	**Pg**	**15 10 25.6**	**+0.6**
	3.1nm,0.3s						
CHMS				⇑Sn	**Sg**	**15 10 50.4**	**+2.1**
	32nm,0.6s						
CHMS	**Chumysh**	**1.80**	**40**	⇓*iP*	**Pg**	**15 10 24.0**	**-1.0**
CHMS				⇓*iS*	**Sg**	**15 10 47.6**	**-0.7**
DZA	**Taraz**	**1.86**	**313**	P	**Pg**	**15 10 26.5**	**+0.3**
	39nm,0.1s						
DZA				S	**Sg**	**15 10 50.9**	**+0.7**
	79nm,0.2s						
DZA	**Taraz**	**1.86**	**313**	*eP*	**Pb**	**15 10 24.5**	**-0.5**
	76nm,0.1s						
DZA				*eS*	**Sn**	**15 10 47.5**	**+0.5**
	82nm,0.3s						
DZA	**Taraz**	**1.86**	**313**	*eP*	**Pb**	**15 10 24.5**	**-0.5**
DZA				*eS*	**Sn**	**15 10 47.5**	**+0.5**
USP	**Ospenovka**	**1.91**	**31**	P	**Pg**	**15 10 27.2**	**+0.1**
	SNR=9.3						
USP	**Ospenovka**	**1.91**	**31**	⇑*iP*	**Pb**	**15 10 25.4**	**-0.4**
USP				⇑*iS*	**Sg**	**15 10 50.4**	**-1.4**
SGDS	**Sogindy**	**2.11**	**30**	Pg	**Pg**	**15 10 31.2**	**+0.2**
	2.3nm,0.2s						
SGDS				Lg	Lg	15 10 59.1	
	16nm,0.1s						
NRN	**Naryn**	**2.13**	**94**	⇓*iP*	**Pb**	**15 10 28.8**	**-1.1**
NRN				⇓*iS*	**Sb**	**15 10 55.9**	**-0.8**
TKM2	**Tokmak 2**	**2.21**	**54**	⇓P	**Pg**	**15 10 32.2**	**-0.8**
	6.0nm,0.2s,SNR=12						
TKM2				⇑S	**Sg**	**15 11 02.6**	**+1.0**
	17nm,0.3s						
TKM2	**Tokmak 2**	**2.21**	**54**	⇑Pn	**Pg**	**15 10 32.2**	**-0.8**
	5.5nm,0.4s						
TKM2				⇓Lg	Lg	15 11 02.6	
	31nm,0.8s						
TKM2	**Tokmak 2**	**2.21**	**54**	⇑*iP*	**Pb**	**15 10 30.1**	**-1.1**
TKM2				⇑*iS*	**Sb**	**15 10 58.3**	**-0.6**
BOOM	**Boomskoye usch**	**2.23**	**66**	⇑*eP*	**Pb**	**15 10 30.4**	**-1.1**
BOOM				⇑*iS*	**Sb**	**15 10 58.8**	**-0.7**
ULHL	**Ulahol**	**2.37**	**74**	⇑*iP*	**Pb**	**15 10 32.3**	**-1.6**
ULHL				⇑*iS*	**Sb**	**15 11 02.2**	**-1.3**
BTK	**Batken**	**2.38**	**229**	⇑*iP*	**Pn**	**15 10 30.9**	**+0.6**
BTK				⇑*iS*	**Sn**	**15 10 59.8**	**-0.1**
DRK	**Karamyk**	**2.39**	**206**	⇑*eP*	**Pn**	**15 10 31.5**	**+0.9**
DRK				⇑*eS*	**Sn**	**15 11 00.4**	**-0.1**
KK31	**Karatay Array**	**2.46**	**308**	Pg	**Pb**	**15 10 35.2**	**-0.1**
	0.7nm,0.2s,baz=120,slow=16,SNR=12						
KK31				Lg	Lg	15 11 07.9	
	3.4nm,0.2s,baz=134,slow=26,SNR=14						
KKAR	**Karatay Array**	**2.46**	**308**	⇓*iP*	**Pn**	**15 10 32.0**	**+0.7**
KKAR				⇓*iS*	**Sn**	**15 11 01.6**	**-0.2**
KST	**Kastek**	**2.50**	**55**	Pg	**Pg**	**15 10 38.3**	**-0.2**
	8.9nm,0.4s						
KST				Lg	Lg	15 11 12.0	
	39nm,0.6s						
KST	**Kastek**	**2.50**	**55**	*eP*	**Pg**	**15 10 38.3**	**-0.2**
	8.9nm,0.4s						
KST				*eS*	**Sg**	**15 11 11.3**	**+0.4**
	40nm,0.4s						
CHM	**Chimkent**	**2.75**	**286**	*eP*	**Pb**	**15 10 39.8**	**-0.4**
	49nm,0.2s						
CHM				*eS*	**Sb**	**15 11 13.7**	**-0.4**
	178nm,0.1s						
KRBS	**Karabastau**	**2.77**	**41**	Pg	**Pg**	**15 10 42.8**	**-0.8**
	2.1nm,0.3s						
KRBS				Lg	Lg	15 11 18.9	
	24nm,0.8s						
KRBS	**Karabastau**	**2.77**	**41**	*eP*	**Pg**	**15 10 42.6**	**-1.0**
	2.1nm,0.3s						
KRBS				*eS*	**Sg**	**15 11 18.9**	**-0.5**
	24nm,0.8s						
MTBS	**Maitube**	**2.84**	**57**	Pg	**Pg**	**15 10 44.7**	**-0.3**
	5.5nm,0.2s						
MTBS				Lg	Lg	15 11 22.4	
	11nm,0.3s						
MTBS	**Maitube**	**2.84**	**57**	*eP*	**Pg**	**15 10 44.7**	**-0.3**
	5.5nm,0.2s						
MTBS				*eS*	**Sg**	**15 11 22.4**	**+0.7**
	11nm,0.3s						
BRLS	**Borolday**	**2.84**	**301**	Pg	**Pb**	**15 10 43.4**	**+1.7**
	1.3nm,0.3s						
BRLS				Lg	Lg	15 11 20.2	
	10nm,0.3s						
BRLS	**Borolday**	**2.84**	**301**	*eP*	**Pb**	**15 10 42.7**	**+0.9**
	0.9nm,0.2s						
BRLS				*eS*	**Sb**	**15 11 18.6**	**+1.8**
	12nm,0.5s						
KDJ	**Kajisay**	**3.03**	**79**	⇓*eP*	**Pn**	**15 10 41.7**	**+2.3**
KDJ				⇓*eS*	**Sn**	**15 11 18.3**	**+2.1**
TNSS	**Tian-Shan**	**3.13**	**62**	Pg	**Pg**	**15 10 50.2**	**-0.3**
	7.5nm,0.4s						
TNSS				Lg	Lg	15 11 32.0	
	5.6nm,0.6s						
TNSS	**Tian-Shan**	**3.13**	**62**	*eP*	**Pg**	**15 10 50.2**	**-0.3**
	7.5nm,0.4s						
TNSS				*eS*	**Sg**	**15 11 32.0**	**+0.9**
	5.6nm,0.6s						
MDOK	**Medeo**	**3.25**	**61**	Pg	**Pg**	**15 10 52.3**	**-0.6**
	5.5nm,0.3s						
MDOK				Lg	Lg	15 11 35.7	
	7.2nm,0.6s						
MDOK	**Medeo**	**3.25**	**61**	*eP*	**Pg**	**15 10 52.3**	**-0.6**
	5.5nm,0.3s						
MDOK				*eS*	**Sg**	**15 11 35.7**	**+0.7**
	7.2nm,0.6s						
BTLS	**Baital**	**3.47**	**10**	Pg	**Pg**	**15 10 54.6**	**-2.3**
	0.8nm,0.3s						
BTLS				Lg	Lg	15 11 39.4	
	8.5nm,0.4s						
BTLS	**Baital**	**3.47**	**10**	*eP*	**Pg**	**15 10 54.6**	**-2.3**
	0.8nm,0.3s						
BTLS				*eS*	**Sg**	**15 11 39.4**	**-2.5**
	8.5nm,0.4s						
CHKK	**Chushkaly**	**3.58**	**50**	Pg	**Pg**	**15 10 57.9**	**-1.3**
	0.8nm,0.1s						
CHKK				Lg	Lg	15 11 44.9	
	11nm,0.4s						
CHKK	**Chushkaly**	**3.58**	**50**	*eP*	**Pg**	**15 10 57.9**	**-1.3**
	0.8nm,0.1s						
CHKK				*eS*	**Sg**	**15 11 44.9**	**-0.6**
	11nm,0.4s						
KPKS	**Kokpek**	**4.46**	**64**	Pg	**Pg**	**15 11 15.0**	**-1.1**
	3.1nm,0.6s						
KPKS				Lg	Lg	15 12 14.2	
	5.9nm,0.4s						
KPKS	**Kokpek**	**4.46**	**64**	*eP*	**Pg**	**15 11 15.0**	**-1.1**
	3.1nm,0.6s						
KPKS				*eS*	**Sg**	**15 12 14.2**	**+0.3**
	5.9nm,0.4s						
UZB	**Uzynbulak**	**4.59**	**69**	*eP*	**Pb**	**15 11 14.3**	**+2.7**
	1.5nm,0.3s						
UZB				*eS*	**Sg**	**15 12 13.0**	**-4.9**
	4.1nm,0.6s						

*NEIC **02** 15:15:48.1±1.9,36°.66N±0°.01×121°.29W±0°.01,h5km±2km, Error ellipse: s-maj=3.1km s-min=2.2km az=247.0*
NCEDC 02 15:15:48.9±0.9,36°.68N±0°.01×121°.30W±0°.02,h5km±6km, ML3.1/40,ML2.9/68(NEIC),Error ellipse: s-maj=2.9km s-min=1.8km az=73.0,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.14**	**307**	Pg	Pg	15 15 51.6	-0.2
SAO	**San Andreas Ge**	**0.14**	**307**		Sg	15 15 54.3	+0.5
BJCM	**Johnson Can.**	**0.15**	**209**		Pg	15 15 51.9	0.0
BEMM	**Emmet**	**0.17**	**95**		Pg	15 15 53.1	+0.9
FRP	**Fremont Peak**	**0.17**	**297**		Pg	15 15 52.2	0.0
BSRM	**Salinas Radio**	**0.17**	**266**		Pg	15 15 52.4	0.0
BPIM	**Pinnacles**	**0.22**	**150**		Pg	15 15 53.2	+0.1
BSGM	**Shirttail Gulc**	**0.27**	**171**		Pg	15 15 53.9	-0.1
BPCNC	**Pine Canyon**	**0.28**	**248**		Pg	15 15 54.6	+0.2
ANZ	**Anzar Road**	**0.31**	**312**		Pg	15 15 55.0	+0.1
BSMM	**Soledad Missio**	**0.31**	**199**		Pg	15 15 55.1	+0.2
HTUM	**Tustin Road**	**0.31**	**299**		Pg	15 15 55.0	+0.1
HFEM	**San Felipe**	**0.32**	**346**		Pg	15 15 56.0	+0.9
PACP	**Pacheco Peak**	**0.33**	**2**		Pg	15 15 56.3	+1.0
PACP	**Pacheco Peak**	**0.33**	**2**	IAML		15 16 02.3	
	comp=N,3μm,0.6s						
PACP				IAML		15 16 06.4	
	comp=E,2μm,0.6s						
LRV	**Little Rabbit**	**0.34**	**138**		Pg	15 15 56.0	+0.5
HERM	**Elkhorn Road**	**0.35**	**290**		Pg	15 15 55.9	+0.3
HAST	**Hastings Reser**	**0.35**	**215**		Pg	15 15 55.7	0.0
HAST					Sg	15 16 00.6	+0.3
CDC	**Canada Road**	**0.38**	**337**		Pg	15 15 57.0	+0.8
HCBM	**Chamberlain**	**0.38**	**312**		Pb	15 15 57.4	-0.8
HCOM	**Corn Cob Canyo**	**0.39**	**303**		Pg	15 15 56.6	+0.2
GHS	**Gilroy Hot Spr**	**0.43**	**345**		Pg	15 15 58.1	+0.8
BPRM	**Ponciano Ridge**	**0.44**	**232**		Pg	15 15 57.3	0.0
HLPM	**Lions Peak**	**0.45**	**324**		Pg	15 15 58.0	+0.5
JELB	**Ellicott, Sant**	**0.49**	**301**		Pg	15 15 58.6	+0.3
HMOM	**Monterey**	**0.50**	**261**		Pg	15 15 58.5	0.0
SCKWR	**San Luis Creek**	**0.54**	**20**		Pb	15 16 00.5	-0.3
BPOM	**Post Ranch**	**0.58**	**220**		Pg	15 15 59.9	-0.2
JLAB	**Laurel Hill**	**0.59**	**324**		Pg	15 16 00.9	+0.7
PCCM	**Crazy Canyon**	**0.60**	**169**		Pg	15 16 00.5	+0.2
PMPB	**Monarch Peak**	**0.61**	**139**		Pg	15 16 00.7	+0.1
CCOB	**Coe Ranch Numb**	**0.65**	**333**		Pb	15 16 02.4	-0.4
HULI	**Fort Hunter Li**	**0.66**	**175**		Pg	15 16 01.4	-0.1
HULI	**Fort Hunter Li**	**0.66**	**175**	IAML		15 16 17.0	
	comp=N,687nm,0.6s						
HULI				IAML		15 16 20.9	
	comp=E,648nm,0.4s						
CMPM	**Mikes Peak**	**0.68**	**359**		Pb	15 16 02.9	-0.4
ARN	**Arnold Ranch**	**0.69**	**345**		Pg	15 16 02.9	+0.6
MHC	**Mount Hamilton**	**0.72**	**338**		Pg	15 16 03.2	+0.6
PJUM	**Juniper Ridge**	**0.73**	**128**		Pg	15 16 03.4	+0.5
PSAM	**San Ardo**	**0.73**	**153**		Pg	15 16 02.8	-0.2
PPTM	**Peach Tree Val**	**0.74**	**140**		Pg	15 16 02.9	-0.2
JJOM	**Saint Joseph's**	**0.76**	**315**		Pg	15 16 03.1	-0.3
PAPM	**Alder Peak**	**0.77**	**184**		Pg	15 16 03.5	-0.1
CMMM	**Mount Mocho**	**0.79**	**349**		Pb	15 16 04.7	-0.5
MTOS	**Mt Oso, Westle**	**0.83**	**359**		Pb	15 16 05.7	0.0
MTOS	**Mt Oso, Westle**	**0.83**	**359**	IAML		15 16 22.8	
	comp=N,492nm,0.5s						
MTOS				IAML		15 16 23.1	
	comp=E,514nm,0.8s						
PDRM	**Domengine Ranc**	**0.83**	**114**		Pb	15 16 05.7	-0.1
PSMM	**Smith Mountain**	**0.83**	**136**		Pg	15 16 05.0	+0.1
CMLM	**Mount Lewis**	**0.84**	**341**		Pb	15 16 05.7	-0.5
CALM	**Calaveras Res.**	**0.87**	**333**		Pg	15 16 05.8	+0.2
PHSB	**Hesperia Broad**	**0.88**	**167**		Pg	15 16 05.3	-0.3
PHPM	**Hope Ranch**	**0.90**	**141**		Pg	15 16 05.5	-0.5
JSJM	**St Joseph**	**0.91**	**316**		Pg	15 16 06.7	+0.3
PWMM	**Westland Maint**	**0.91**	**105**		Pb	15 16 07.5	+0.3
JBMM	**Black Mountain**	**0.93**	**314**		Pg	15 16 06.2	-0.6
CSTL	**Corral Hollow**	**0.97**	**351**		Pb	15 16 08.1	-0.1
PVCM	**Vineyard Canyo**	**0.98**	**140**		Pg	15 16 07.1	-0.5
PPO	**Portuguese Can**	**0.98**	**145**		Pg	15 16 07.6	-0.1
JFP	**Foothills Park**	**0.98**	**314**		Pg	15 16 07.2	-0.6
JPSM		**0.99**	**302**		Pg	15 16 07.0	-0.8
PSTM	**Stockdale Moun**	**0.99**	**139**		Pg	15 16 07.1	-0.6
MYLM	**Yosemite Lake**	**1.00**	**45**		Pg	15 16 08.2	+0.2
JSFB	**Stanford Teles**	**1.01**	**316**		Pg	15 16 07.8	-0.3
WENL	**Wente Vineyard**	**1.01**	**339**		Pg	15 16 08.3	0.0
CVLM	**Vallecito**	**1.04**	**336**		Pg	15 16 08.8	0.0
JRSC	**Jasper Ridge**	**1.04**	**314**		Pg	15 16 07.7	-1.1
CNIC	**Niles Canyon**	**1.07**	**331**		Pg	15 16 08.7	-0.7
PWKM	**Work Ranch**	**1.07**	**143**		Pg	15 16 08.7	-0.7
PHFM	**Heflinger Ranc**	**1.08**	**137**		Pg	15 16 09.4	-0.2
RAMR	**Ramage Ranch**	**1.10**	**161**		Pg	15 16 08.8	-1.1
GHC	**Gold Hill**	**1.14**	**137**		Pg	15 16 10.2	-0.6
PKLM	**Kerr Lake**	**1.19**	**139**		Pg	15 16 10.6	-1.2
CMOB	**Morgan Territo**	**1.20**	**341**		Pg	15 16 10.9	-0.9
JCPM	**Coyote Point**	**1.22**	**318**		Pg	15 16 10.3	-2.0
TCAS	**Cass Winery, P**	**1.22**	**150**		Pg	15 16 10.8	-1.6
TCHL	**Shandon**	**1.23**	**143**		Pg	15 16 11.6	-0.8
CSLM	**San Leandro Hi**	**1.23**	**328**		Pg	15 16 11.6	-0.9
PMRM	**Maxey Ranch**	**1.24**	**136**		Pg	15 16 12.0	-0.6
SAC	**San Andreas**	**1.27**	**316**		Pg	15 16 11.2	-2.0
BGC	**Bolinger Road**	**1.29**	**332**		Pn	15 16 12.2	-1.4
FRI	**Friant**	**1.32**	**76**		Pn	15 16 12.8	-1.1
PTAM	**Tassajara Cree**	**1.37**	**159**		Pn	15 16 13.9	-0.9
BKS	**Berkeley--Byer**	**1.41**	**328**		Pn	15 16 13.2	-2.0
CVPM	**Vollmer Peak**	**1.41**	**329**		Pn	15 16 13.5	-1.7
EFD	**Emergency Oper**	**1.43**	**161**		Pb	15 16 15.8	-0.2
MMIM	**Miami Mountain**	**1.45**	**59**		Pn	15 16 15.2	-0.7
TRAY	**Twisselman Ran**	**1.47**	**139**		Pn	15 16 15.2	-1.0
PBPM	**Bitterwater Pu**	**1.48**	**137**		Pn	15 16 15.1	-1.1

IDC 02 15:22:54.7±1.3, 30.10N×141.69E, h0km, mb3.4/5, mbtmp3.4/6, ML2.7/1, MS3.6/1, Error ellipse: s-maj=51.4km s-min=23.7km az=83.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.05**	**337**	Pn	Pn	15 24 37.2	-1.9
	0.2nm,0.3s,baz=161,slow=11,SNR=8.3						
	1.6nm,0.6s						
BRDH	**Bariadhala**	**45.15**	**273**	LR	LR	15 50 55.9	
	comp=Z,69nm,18.8s,baz=38,slow=37						
WRA	**Warramunga Arr**	**50.26**	**189**	P	P	15 31 52.6	-0.2
	0.6nm,0.9s,baz=6.7,slow=7.5,SNR=5.8						
	0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**50.66**	**313**	P	P	15 31 54.9	-0.7
	0.2nm,0.3s,baz=69,slow=7.5,SNR=2.1						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**53.98**	**189**	P	P	15 32 20.1	-0.5
	0.2nm,0.7s,baz=2.0,slow=5.4,SNR=2.4						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**55.31**	**30**	P	P	15 32 29.5	-0.2
	0.4nm,0.9s,baz=274,slow=7.5,SNR=2.2						
	0.4nm,0.9s						
BVAR	**Borovoye Array**	**55.56**	**316**	P	P	15 32 33.4	+1.6
	0.4nm,0.5s,baz=89,slow=6.9,SNR=2.5						
	0.4nm,0.5s						

*STR **02** 15:23:48.7±0.3, 43.N±3.×.±., h0km, MLv1.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=4.0, preliminary*
*LDG **02** 15:23:48.5±0.1, 43.04N×0.15W, h10km, Md2.4/2, Ml2.5/12, Error ellipse: s-maj=1.5km s-min=1.3km az=13.0*
*MRB **02** 15:23:49.2±0.4, 43.01N×0.15W, h4km±9km, ML1.5/12, Error ellipse: s-maj=2.7km s-min=1.8km az=238.0*
*MDD **02** 15:23:49.5±0.2, 42.99N×0.17W, h0km, mb_Lg2.4/21, Error ellipse: s-maj=2.8km s-min=1.4km az=8.0*

ISC 02 15:23:49.1±0.7, 43.00N±0.02×0.17W±0.01, h0km, n51, σ1§01/91, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYLO	**Lourdes**	**0.14**	**40**	P	**Pg**	**15 23 51.6**	**0.0**
PYLO				S	**Sg**	**15 23 53.3**	**-0.1**
	158nm,0.3s						
PYLO	**Lourdes**	**0.14**	**40**	Pg	**Pg**	**15 23 51.1**	**-0.6**
PYLO				Sg	**Sg**	**15 23 52.8**	**-0.7**
VIEF	**Viey**	**0.18**	**129**	P	**Pg**	**15 23 53.3**	**+0.8**
VIEF				S	**Sg**	**15 23 55.3**	**+0.6**
	210nm,0.1s						
VIEF	**Viey**	**0.18**	**129**	Pg	**Pg**	**15 23 52.7**	**+0.3**
VIEF				Sg	**Sg**	**15 23 55.5**	**+0.8**
LABF	**Labassere**	**0.18**	**73**	Pg	**Pg**	**15 23 52.2**	**-0.4**
LABF				Sg	**Sg**	**15 23 54.7**	**-0.2**
ETSF	**Etsaut**	**0.30**	**252**	*e*Pg	**Pg**	**15 23 55.0**	**+0.1**
ETSF				*e*Sg	**Sg**	**15 23 59.4**	**+0.6**
	9.2nm,0.1s						
CANF	**Canfranc**	**0.35**	**228**	Pg	**Pg**	**15 23 56.0**	**+0.3**
CANF				Sg	**Sg**	**15 24 01.2**	**+1.0**
EPF	**Esparros**	**0.37**	**84**	*e*Pg	**Pg**	**15 23 55.7**	**-0.5**
EPF				*e*Sg	**Sg**	**15 24 00.8**	**-0.2**
	46nm,0.2s						
ATE	**Arette**	**0.40**	**283**	P	**Pg**	**15 23 56.9**	**+0.1**
ATE				S	**Sg**	**15 24 03.0**	**+1.0**
	23nm,0.1s						
ATE	**Arette**	**0.40**	**283**	Pg	**Pg**	**15 23 56.6**	**-0.2**
ATE				Sg	**Sg**	**15 24 02.2**	**+0.2**
RESF	**Ens**	**0.41**	**117**	P	**Pg**	**15 23 56.9**	**-0.1**
RESF				S	**Sg**	**15 24 02.6**	**+0.2**
	61nm,0.3s						
ECHI	**Chisagues Biel**	**0.42**	**141**	P	**Pg**	**15 23 57.0**	**0.0**
ECHI	**Chisagues Biel**	**0.42**	**141**	Pg	**Pg**	**15 23 57.1**	**0.0**
ECHI				Sg	**Sg**	**15 24 02.4**	**-0.3**
ECHI				*i* Vmb_Lg		15 24 05.0	
ECHI	**Chisagues Biel**	**0.42**	**141**	Pg	**Pg**	**15 23 57.2**	**0.0**
ECHI				Sg	**Sg**	**15 24 03.0**	**+0.3**
MELF	**Melles**	**0.69**	**100**	Pg	**Pg**	**15 24 01.5**	**-0.8**
MELF				Sg	**Sg**	**15 24 11.3**	**+0.1**
CARA	**Val d'Aran**	**0.78**	**111**	P	**Pg**	**15 24 03.8**	**-0.1**
CARA				S	**Sg**	**15 24 14.7**	**+0.7**
	23nm,0.3s						
SJPF	**Ste Jean**	**0.79**	**279**	*e*Pg	**Pg**	**15 24 04.0**	**-0.1**
SJPF				*e*Sg	**Sg**	**15 24 13.3**	**-1.0**
	6.1nm,0.2s						
OSSF	**Osses**	**0.84**	**288**	Pg	**Pg**	**15 24 04.7**	**-0.5**
OSSF				Sg	**Sg**	**15 24 16.3**	**+0.1**
EORO	**Oroz-Betelu**	**0.85**	**263**	Pg	**Pg**	**15 24 04.7**	**-0.6**
EORO				Sg	**Sg**	**15 24 15.7**	**-0.5**
EORO				*i* Vmb_Lg		15 24 23.1	
MLS	**Moulis**	**0.93**	**92**	P	**Pg**	**15 24 06.3**	**-0.5**
MLS				Sg	**Sg**	**15 24 19.1**	**+0.3**
	9.1nm,0.3s						
MLS	**Moulis**	**0.93**	**92**	Pg	**Pg**	**15 24 05.8**	**-1.0**
MLS				Sg	**Sg**	**15 24 18.5**	**-0.3**
CTRE	**Tremp**	**0.96**	**134**	P	**Pg**	**15 24 07.4**	**-0.2**
CTRE				S	**Sg**	**15 24 20.8**	**+0.7**
	8.6nm,0.2s						
CRAS	**Crastes**	**0.98**	**42**	Pg	**Pg**	**15 24 07.0**	**-0.8**
CRAS				Sg	**Sg**	**15 24 20.2**	**-0.2**
EALK	**Alkurruntz**	**1.01**	**283**	Pg	**Pg**	**15 24 08.0**	**-0.3**
EALK				Sg	**Sg**	**15 24 20.0**	**-1.5**
EALK				*i* Vmb_Lg		15 24 30.9	
EALK	**Alkurruntz**	**1.01**	**283**	Sg	**Sg**	**15 24 21.4**	**-0.1**
EALK	**Alkurruntz**	**1.01**	**283**	Pg	**Pg**	**15 24 08.2**	**-0.2**
SALF	**Salau**	**1.02**	**103**	P	**Pg**	**15 24 08.3**	**-0.3**
SALF				S	**Sg**	**15 24 22.0**	**+0.1**
	14nm,0.1s						
SALF	**Salau**	**1.02**	**103**	Pg	**Pg**	**15 24 07.8**	**-0.9**
SALF				Sg	**Sg**	**15 24 21.8**	**-0.2**
CEST	**Esterri de Car**	**1.12**	**110**	P	**Pg**	**15 24 09.7**	**-0.8**
CEST				S	**Sg**	**15 24 24.6**	**-0.3**
	10nm,0.2s						
CSOR	**Sort**	**1.14**	**122**	P	**Pg**	**15 24 10.3**	**-0.6**
CSOR				S	**Sg**	**15 24 25.8**	**+0.1**
	16nm,0.3s						
ESAC	**San Caprasio**	**1.29**	**190**	Pg	**Pg**	**15 24 13.1**	**-0.7**
ESAC				Sg	**Sg**	**15 24 28.8**	**-1.7**
CORG	**Organya**	**1.33**	**124**	Pg	**Pg**	**15 24 13.8**	**-0.9**
CORG				S	**Sg**	**15 24 31.7**	**-0.3**
	5.1nm,0.4s						
PAND	**Andorre**	**1.35**	**110**	Pg	**Pg**	**15 24 14.4**	**-0.5**
PAND				Sg	**Sg**	**15 24 32.5**	**+0.2**
EMIR	**Miracle**	**1.65**	**130**	Sg	**Sn**	**15 24 41.6**	**+0.2**
EMIR				*i* Vmb_Lg		15 24 45.4	
MONQ	**Montcuq**	**1.69**	**35**	Pn	**Pn**	**15 24 18.6**	**-1.3**
MONQ				Sn	**Sn**	**15 24 42.0**	**-0.2**
CARF	**Carcanieres**	**1.69**	**99**	Pn	**Pn**	**15 24 19.4**	**-0.6**
CARF				Sn	**Sn**	**15 24 42.3**	**-0.1**
MTLF	**Montolieu**	**1.78**	**78**	*e*Pg	**Pb**	**15 24 21.9**	**-0.6**
MTLF				*e*Sg	**Sn**	**15 24 44.4**	**0.0**
	4.6nm,0.2s						
MTLF	**Montolieu**	**1.78**	**78**	Sn	**Sn**	**15 24 44.0**	**-0.4**
MTLF	**Montolieu**	**1.78**	**78**	Pn	**Pn**	**15 24 20.1**	**-0.9**
EPOB	**Poblet**	**1.88**	**150**	S	**Sn**	**15 24 46.3**	**-0.8**
	4.9nm,0.3s						
EPOB	**Poblet**	**1.88**	**150**	Pn	**Pn**	**15 24 21.6**	**-1.0**
EPOB				Sn	**Sn**	**15 24 46.1**	**-1.0**
EPOB				*i* Vmb_Lg		15 24 50.3	
LFF	**La Frestale**	**2.05**	**18**	*e*Pg	**Pb**	**15 24 26.4**	**-0.8**
LFF				*e*Sg	**Sn**	**15 24 51.6**	**+0.5**
	13nm,0.3s						
ERTA	**Horta de San J**	**2.07**	**169**	Sn	**Sn**	**15 24 50.6**	**-1.0**
ERTA				*i* Vmb_Lg		15 24 58.2	
CAF	**Calviac**	**2.51**	**39**	*e*Pg	**Pb**	**15 24 34.8**	**-0.3**
CAF				*e*Sg	**Sb**	**15 25 05.5**	**-1.1**
	5.7nm,0.2s						
RJF	**Les Rejaudoux**	**2.61**	**27**	*e*Pg	**Pb**	**15 24 37.3**	**+0.6**
RJF				*e*Sg	**Sb**	**15 25 08.8**	**-0.5**
	7.7nm,0.3s						
LASF	**Ste Croix**	**3.12**	**68**	*e*Pg	**Pb**	**15 24 45.3**	**-0.1**
LASF				*e*Sg	**Sb**	**15 25 25.4**	**+1.4**
	1.4nm,0.2s						
MFF	**Saint Martin d**	**3.61**	**0**	*e*Pg	**Pb**	**15 24 53.9**	**+0.2**
MFF				*e*Sg	**Sb**	**15 25 39.8**	**+1.8**
	2.9nm,0.3s						
VIVF	**Saint-Julien-I**	**3.96**	**60**	*e*Pg	**Pb**	**15 25 00.4**	**+0.7**
VIVF				*e*Sg	**Sb**	**15 25 50.7**	**+2.5**
	1.0nm,0.2s						
BGF	**Bois d'Agland**	**4.16**	**30**	*e*Sg	**Sb**	**15 25 57.3**	**+3.4**
	7.5nm,0.3s						
AVF	**Avril sur Loir**	**4.54**	**32**	*e*Sg	**Sb**	**15 26 08.3**	**+3.3**
	1.3nm,0.4s						
SSF	**Saint Saulge**	**4.83**	**31**	*e*Sg	**Sb**	**15 26 18.0**	**+4.9**
	3.9nm,0.6s						

*NEIC **02** 15:27:03.0±1.8, 36.67N±0.02×121.29W±0.02, h5km±2km, Error ellipse: s-maj=3.4km s-min=2.8km az=273.0*

NCEDC 02 15:27:03.7±1.6, 36.676N±0.010×121.30W±0.03, h5km±7km, Mwr3.6/5, ML3.5/94(NEIC), Error ellipse: s-maj=3.6km s-min=1.4km az=94.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCGM	**Cienega Road**	**0.05**	**316**		Pg	15 27 04.1	-0.9
BVL	**Bear Valley**	**0.14**	**138**		Pg	15 27 06.8	+0.3
SAO	**San Andreas Ge**	**0.14**	**307**	Pg	Pg	15 27 06.5	-0.2
BJCM	**Johnson Can.**	**0.15**	**209**		Pg	15 27 06.7	0.0
BEMM	**Emmet**	**0.17**	**95**		Pg	15 27 08.0	+0.9
FRP	**Fremont Peak**	**0.17**	**297**		Pg	15 27 07.1	0.0
BSRM	**Salinas Radio**	**0.17**	**267**		Pg	15 27 07.2	0.0
BSRM					Sg	15 27 09.6	+0.1
HSFM	**Saint Francis**	**0.21**	**311**		Pg	15 27 07.8	0.0
BPIM	**Pinnacles**	**0.21**	**150**		Pg	15 27 08.0	+0.1
BAVM	**Antelope Valle**	**0.22**	**98**		Pg	15 27 08.9	+0.9
BBGB	**Big Mountain B**	**0.23**	**115**		Pg	15 27 09.4	+1.1
BSGM	**Shirttail Gulc**	**0.27**	**171**		Pg	15 27 08.7	-0.1
BPCNC	**Pine Canyon**	**0.28**	**249**		Pg	15 27 09.4	+0.3
BSMM	**Soledad Missio**	**0.31**	**199**		Pg	15 27 09.9	+0.2
ANZ	**Anzar Road**	**0.31**	**312**		Pg	15 27 09.9	+0.1
HTUM	**Tustin Road**	**0.31**	**299**		Pg	15 27 09.8	+0.1
HFEM	**San Felipe**	**0.32**	**346**		Pg	15 27 10.8	+0.9
PACP	**Pacheco Peak**	**0.33**	**2**		Pg	15 27 11.2	+1.0
PACP	**Pacheco Peak**	**0.33**	**2**	IAML		15 27 17.2	
	comp=N,12μm,0.5s						
PACP				IAML		15 27 20.3	
	comp=E,8μm,0.4s						
LRV	**Little Rabbit**	**0.34**	**138**		Pg	15 27 10.8	+0.5
HAST	**Hastings Reser**	**0.35**	**215**		Pg	15 27 10.5	0.0
HERM	**Elkhorn Road**	**0.35**	**291**		Pg	15 27 10.8	+0.3
CDC	**Canada Road**	**0.38**	**337**		Pg	15 27 11.9	+0.9
HCBM	**Chamberlain**	**0.38**	**312**		Pb	15 27 12.2	-0.8
HCOM	**Corn Cob Canyo**	**0.39**	**303**		Pg	15 27 11.5	+0.3
BMSM	**Mercy Hot Spri**	**0.41**	**92**		Pb	15 27 12.7	-0.7
GHS	**Gilroy Hot Spr**	**0.43**	**345**		Pg	15 27 12.9	+0.8
BPRM	**Ponciano Ridge**	**0.44**	**232**		Pg	15 27 12.1	0.0
HLPM	**Lions Peak**	**0.45**	**324**		Pg	15 27 12.9	+0.5
JELB	**Ellicott, Sant**	**0.49**	**301**		Pg	15 27 13.4	+0.2
HMOM	**Monterey**	**0.50**	**261**		Pg	15 27 13.3	0.0
SCKWR	**San Luis Creek**	**0.54**	**20**		Pb	15 27 15.3	-0.3
BPOM	**Post Ranch**	**0.58**	**220**		Pg	15 27 14.7	-0.2
JLAB	**Laurel Hill**	**0.59**	**324**		Pg	15 27 15.4	+0.4
PCCM	**Crazy Canyon**	**0.60**	**169**		Pg	15 27 15.3	+0.2
PMPB	**Monarch Peak**	**0.61**	**138**	Pg	Pg	15 27 15.5	0.0
CCOB	**Coe Ranch Numb**	**0.65**	**333**		Pb	15 27 17.3	-0.3
HULI	**Fort Hunter Li**	**0.66**	**175**		Pg	15 27 16.2	-0.1
HULI	**Fort Hunter Li**	**0.66**	**175**	IAML		15 27 31.7	
	comp=N,4μm,0.6s						
HULI				IAML		15 27 32.3	
	comp=E,3μm,0.6s						
CMPM	**Mikes Peak**	**0.68**	**359**		Pb	15 27 17.8	-0.3
ARN	**Arnold Ranch**	**0.70**	**345**		Pb	15 27 17.8	-0.6
MHC	**Mount Hamilton**	**0.72**	**338**		Pg	15 27 18.1	+0.6
PJUM	**Juniper Ridge**	**0.73**	**128**		Pg	15 27 18.0	+0.4
PSAM	**San Ardo**	**0.73**	**153**		Pg	15 27 17.5	-0.2
PPTM	**Peach Tree Val**	**0.74**	**140**		Pg	15 27 17.6	-0.2
JJOM	**Saint Joseph's**	**0.76**	**315**		Pg	15 27 18.0	-0.2
SCCB	**Santa Clara Co**	**0.76**	**324**		Pg	15 27 18.8	+0.5
PAPM	**Alder Peak**	**0.76**	**184**		Pg	15 27 18.2	-0.1
CMMM	**Mount Mocho**	**0.79**	**349**		Pb	15 27 19.6	-0.4
PDRM	**Domengine Ranc**	**0.83**	**114**		Pb	15 27 20.3	-0.2
MTOS	**Mt Oso, Westle**	**0.83**	**359**		Pb	15 27 20.6	0.0
MTOS	**Mt Oso, Westle**	**0.83**	**359**	IAML		15 27 34.8	
	comp=E,2μm,0.7s						
MTOS				IAML		15 27 36.5	
	comp=N,2μm,0.6s						
PSMM	**Smith Mountain**	**0.83**	**136**		Pg	15 27 19.7	0.0
CMLM	**Mount Lewis**	**0.85**	**341**		Pb	15 27 20.6	-0.4
CALM	**Calaveras Res.**	**0.87**	**333**		Pg	15 27 20.6	+0.2
PHSB	**Hesperia Broad**	**0.87**	**167**		Pg	15 27 20.1	-0.3
PHPM	**Hope Ranch**	**0.89**	**141**		Pg	15 27 20.3	-0.5
JSJM	**St Joseph**	**0.91**	**316**		Pg	15 27 21.2	0.0
JBMM	**Black Mountain**	**0.94**	**314**		Pg	15 27 21.0	-0.6
PANM	**San Antonio Re**	**0.95**	**160**		Pg	15 27 21.4	-0.5
CSTL	**Corral Hollow**	**0.97**	**351**		Pb	15 27 23.0	-0.1
CSTL	**Corral Hollow**	**0.97**	**351**		Pb	15 27 23.1	+0.1
PVCM	**Vineyard Canyo**	**0.97**	**140**		Pg	15 27 21.9	-0.5
PPO	**Portuguese Can**	**0.98**	**145**		Pg	15 27 22.3	-0.2
PSTM	**Stockdale Moun**	**0.98**	**139**		Pg	15 27 21.9	-0.7
JFP	**Foothills Park**	**0.98**	**314**		Pg	15 27 21.9	-0.7
JPSM		**0.99**	**302**		Pg	15 27 21.9	-0.8
MYLM	**Yosemite Lake**	**1.00**	**45**		Pg	15 27 22.9	+0.1
JSFB	**Stanford Teles**	**1.01**	**316**		Pg	15 27 22.3	-0.7
WENL	**Wente Vineyard**	**1.01**	**339**		Pg	15 27 23.2	+0.1
CVLM	**Vallecito**	**1.04**	**336**		Pg	15 27 23.5	-0.1
JRSC	**Jasper Ridge**	**1.04**	**314**		Pg	15 27 22.6	-1.1
CNIC	**Niles Canyon**	**1.07**	**331**		Pg	15 27 23.4	-0.8
PWKM	**Work Ranch**	**1.07**	**143**		Pg	15 27 23.5	-0.7
PHFM	**Heflinger Ranc**	**1.08**	**137**		Pg	15 27 23.6	-0.7
CTM	**Castle Mountai**	**1.08**	**133**		Pb	15 27 24.8	0.0
RAMR	**Ramage Ranch**	**1.10**	**161**		Pg	15 27 23.8	-0.9
GHC	**Gold Hill**	**1.14**	**137**		Pg	15 27 24.5	-1.1
PKEM	**Kettleman Hill**	**1.14**	**122**		Pn	15 27 26.4	+0.1
CBSNC	**Byron Hot Spri**	**1.17**	**347**		Pg	15 27 25.7	-0.5
PKLM	**Kerr Lake**	**1.19**	**139**		Pg	15 27 25.3	-1.2
CMOB	**Morgan Territo**	**1.20**	**341**		Pg	15 27 25.7	-1.0
PMCM	**McMillan Canyo**	**1.21**	**141**		Pg	15 27 26.4	-0.5
JCPM	**Coyote Point**	**1.22**	**318**		Pg	15 27 25.2	-2.0
CLCB	**Lake Chabot**	**1.22**	**330**		Pg	15 27 26.5	-0.7
TCAS	**Cass Winery, P**	**1.22**	**150**		Pg	15 27 25.7	-1.4
TCHL	**Shandon**	**1.23**	**143**		Pg	15 27 26.1	-1.1
CSLM	**San Leandro Hi**	**1.23**	**328**		Pg	15 27 25.7	-1.6
ARDC	**Alexander Ranc**	**1.24**	**168**		Pg	15 27 25.6	-1.8
PMRM	**Maxey Ranch**	**1.24**	**136**		Pg	15 27 26.1	-1.3
SAC	**San Andreas**	**1.27**	**316**		Pg	15 27 25.9	-2.1
THIS	**South End of C**	**1.29**	**137**		Pn	15 27 27.4	-1.0
BGC	**Bolinger Road**	**1.29**	**332**		Pn	15 27 26.7	-1.7
TRAM	**Private Proper**	**1.30**	**140**		Pn	15 27 27.3	-1.2
FRI	**Friant**	**1.32**	**76**		Pn	15 27 27.4	-1.3
JSBM	**San Bruno Moun**	**1.33**	**319**		Pn	15 27 26.3	-2.6
JMGM	**Milagra Ridge**	**1.34**	**316**		Pn	15 27 26.7	-2.4
PTAM	**Tassajara Cree**	**1.37**	**159**		Pn	15 27 27.8	-1.7
BKS	**Berkeley--Byer**	**1.41**	**328**		Pn	15 27 28.4	-1.6
CVPM	**Vollmer Peak**	**1.41**	**329**		Pn	15 27 28.3	-1.7
BL67	**Building 67, L**	**1.42**	**328**		Pn	15 27 28.4	-1.7
LSDC	**Los Osos Digit**	**1.43**	**165**		Pn	15 27 29.6	-0.6
EFD	**Emergency Oper**	**1.43**	**161**		Pn	15 27 28.4	-1.8
MMIM	**Miami Mountain**	**1.45**	**59**		Pn	15 27 30.0	-0.7
TSCS	**Shell Creek So**	**1.45**	**148**		Pn	15 27 28.8	-1.8
JPRM	**Presidio of Sa**	**1.46**	**320**		Pn	15 27 28.0	-2.6
TRAY	**Twisselman Ran**	**1.47**	**139**		Pn	15 27 29.9	-1.0
PBPM	**Bitterwater Pu**	**1.48**	**137**		Pn	15 27 29.8	-1.2
CPIM	**Pinole Ridge**	**1.50**	**331**		Pn	15 27 29.9	-1.4
CSPM	**San Pablo Ridg**	**1.51**	**328**		Pn	15 27 29.9	-1.5
CMB	**Columbia Colle**	**1.54**	**28**		Pn	15 27 30.8	-1.0
CMB				IAML		15 27 52.3	
	comp=N,331nm,0.4s						
CMB				IAML		15 27 56.6	
	comp=E,318nm,1.0s						
CPMM	**Point Molate**	**1.55**	**326**		Pn	15 27 30.2	-1.6
FARB	**Farallon Islan**	**1.70**	**307**		Pn	15 27 31.9	-2.0
KCC	**Kaiser Creek**	**1.71**	**67**		Pn	15 27 34.1	-0.1
SNT	**Sears Point**	**1.76**	**329**		Pn	15 27 33.0	-1.8
CARC	**Carrizo Plain**	**1.81**	**139**		Pn	15 27 33.9	-1.6
NOLM	**Olema**	**1.81**	**319**		Pn	15 27 33.4	-2.0
MRHM	**Rocky Hill**	**1.83**	**102**		Pn	15 27 34.4	-1.4
CVS	**Carmenet Viney**	**1.90**	**331**		Pn	15 27 35.0	-1.8
CVS	**Carmenet Viney**	**1.90**	**331**	IAML		15 28 14.9	
	comp=N,204nm,0.8s						
CVS				IAML		15 28 18.3	
	comp=E,212nm,0.6s						
CRGC	**Crocker Grade**	**1.92**	**138**		Pn	15 27 36.0	-1.1
MCCM	**Marconi Confer**	**1.93**	**320**		Pn	15 27 35.0	-2.1
MCCM				IAML		15 28 15.9	
	comp=E,428nm,1.0s						
MCCM				IAML		15 28 19.8	
	comp=N,243nm,1.1s						
VES	**Vestal, Richgr**	**1.98**	**114**		Pn	15 27 36.8	-1.0
MRDM	**Red Cones**	**2.02**	**62**		Pn	15 27 39.0	+0.4
MDPB	**Devils Postpil**	**2.02**	**61**		Pn	15 27 39.0	+0.4
MMPM	**Mammoth Pass**	**2.04**	**62**		Pn	15 27 39.8	+0.7
MMSM	**Mammoth Summit**	**2.05**	**62**		Pn	15 27 39.9	+0.8
MLIM	**Lincoln Peak**	**2.06**	**62**		Pn	15 27 40.3	+1.0
OMMB	**Old Mammoth Mi**	**2.06**	**62**	Pn	Pn	15 27 39.6	+0.3
OMMB				IAML		15 28 12.5	
	comp=E,359nm,0.8s						
OMMB				IAML		15 28 14.3	
	comp=N,413nm,0.7s						
MDYM	**Dry Creek**	**2.08**	**61**		Pn	15 27 40.6	+1.1
MDCM	**Deadman Creek**	**2.08**	**60**		Pn	15 27 40.1	+0.7
MMLB	**Mammoth Lakes**	**2.10**	**61**		Pn	15 27 40.6	+0.9
MLCM	**Laurel Creek C**	**2.12**	**63**		Pn	15 27 41.0	+0.9
MEMM	**East Mammoth H**	**2.13**	**62**		Pn	15 27 41.3	+1.2
MCSM	**Casa Diablo Ho**	**2.15**	**62**		Pn	15 27 41.6	+1.2
MCBM	**Casa Benchmark**	**2.15**	**63**		Pb	15 27 42.0	-1.2
LMCR	**Lookout Mounta**	**2.15**	**60**		Pn	15 27 41.8	+1.3
PKM	**Mcpherson Peak**	**2.16**	**145**		Pn	15 27 39.1	-1.3
MCVM	**Convict Lake**	**2.18**	**64**		Pn	15 27 41.9	+1.1
MDRNC	**Doe Ridge**	**2.19**	**63**		Pb	15 27 42.5	-1.4
FIGC	**Figueroa Mtn.**	**2.22**	**151**		Pn	15 27 39.7	-1.5
BAKC	**Calstate**	**2.22**	**126**		Pb	15 27 44.4	+0.1
AFDM	**Forest Hills D**	**2.28**	**6**		Pn	15 27 40.3	-1.7
MTUM	**Tungsten Hills**	**2.29**	**72**		Pn	15 27 43.4	+1.0
NMTM	**Middletown**	**2.31**	**337**		Pn	15 27 41.2	-1.2
BCW	**Bitter Crk WRg**	**2.31**	**138**	Pn	Pn	15 27 42.4	-0.2
BCW				IAML		15 28 36.3	
	comp=N,412nm,0.8s						
NJQ	**Nojoqui County**	**2.33**	**156**		Pn	15 27 41.5	-1.1
BHPR	**Bishop**	**2.34**	**74**		Pn	15 27 43.9	+0.9
MGNR	**McGee Canyon**	**2.37**	**61**		Pb	15 27 45.6	-1.4
WASM	**Alta Sierra Ca**	**2.41**	**112**		Pn	15 27 43.6	-0.3
BENR	**Benton**	**2.41**	**64**		Pn	15 27 45.6	+1.5
GHCM	**House Creek**	**2.44**	**323**		Pn	15 27 42.0	-2.3
MRCM	**Red Rock Canyo**	**2.44**	**65**		Pb	15 27 46.9	-1.3
MCDM	**Chidago Canyon**	**2.45**	**68**		Pb	15 27 46.6	-1.7
EMB	**Emerald Bay**	**2.48**	**22**		Pn	15 27 45.5	+0.5
EMB				IAML		15 28 17.1	
	comp=E,281nm,0.5s						
ISA	**Isabella, Lake**	**2.50**	**113**	Pn	Pn	15 27 44.9	-0.2
ISA				IAML		15 28 20.1	
	comp=N,192nm,0.9s						
ISA				IAML		15 28 21.7	
	comp=E,205nm,0.6s						
HOPS	**Hopland Field**	**2.70**	**329**	Pn	Pn	15 27 46.6	-1.2
HOPS				IAML		15 28 48.9	
	comp=E,108nm,1.6s						
LHV	**Little Huntoon**	**2.73**	**54**		Pn	15 27 48.4	+0.3
DSP	**Deep Springs**	**2.76**	**74**	Pn	Pn	15 27 46.8	-1.7
DSP				IAML		15 28 41.8	
	comp=E,145nm,0.8s						
DSP				IAML		15 28 43.3	
	comp=N,180nm,1.0s						
PNTR	**Pine Nut**	**2.76**	**29**	Pn	Pn	15 27 48.2	-0.6
MPK	**Martis Peak**	**2.80**	**21**		Pn	15 27 49.1	-0.3
MPK				IAML		15 28 56.0	
	comp=E,260nm,1.2s						
CGO	**Cerro Gordo**	**2.82**	**92**		Pb	15 27 52.4	-2.3
YERR	**Yerington**	**2.83**	**35**	Pn	Pn	15 27 48.9	-0.7
YERR				IAML		15 28 38.4	
	comp=N,277nm,0.7s						
ORV	**Oroville**	**2.88**	**357**	Pn	Pn	15 27 50.2	0.0
RYN	**Ryan**	**2.94**	**48**	IAML		15 28 42.2	
	comp=N,188nm,1.0s						
RYN				IAML		15 28 45.5	
	comp=E,242nm,0.8s						
NVAR	**Mina Array Bea**	**2.96**	**53**		Pn	15 27 53.1	+1.6
OGOM	**Van Goodin Ran**	**2.98

EYUL				eS		Sn	15 29 16.3	-0.5
JISG	**Ishigakijimahi**	**1.53**	**55**	eP		Pn	15 28 57.9	-0.2
YULB	**Yu-li**	**1.54**	**258**	P		Pn	15 28 57.9	-0.4
YULB				S		Sn	15 29 16.3	-0.7
ENTT	**Nioudou**	**1.55**	**307**	eP		Pn	15 28 58.9	+0.5
ENTT				eS		Sn	15 29 16.9	-0.4
NNSB	**Datong**	**1.58**	**297**	i P		Pn	15 28 59.0	0.0
NNSB				i S		Sn	15 29 17.3	-1.0
NNSH	**Datong**	**1.58**	**297**	P		Pn	15 28 59.0	0.0
NNSH				S		Sn	15 29 17.9	-0.4
WHF	**Hehuan Shan**	**1.58**	**286**	i P		Pn	15 28 58.9	-0.3
WHF				i S		Sn	15 29 17.6	-1.2
FULB	**Fuli**	**1.59**	**251**	P		Pn	15 28 58.4	-0.7
FULB				S		Sn	15 29 16.8	-1.6
NNS	**Nan Shan**	**1.59**	**297**	eP		Pn	15 28 59.3	+0.1
NNS				i S		Sn	15 29 17.6	-1.0
TIPB	**Shuangxi**	**1.60**	**321**	i P		Pn	15 28 58.9	-0.3
TIPB				eS		Sn	15 29 16.6	-2.1
FUSB	**Fushanzhiwuyua**	**1.60**	**310**	P		Pn	15 28 59.1	-0.2
FUSB				i S		Sn	15 29 18.6	-0.2
OWD	**Renai**	**1.62**	**279**	P		Pn	15 28 58.9	-0.7
OWD				eS		Sn	15 29 18.1	-1.3
FUSS	**Fushou**	**1.63**	**289**	P		Pn	15 28 59.6	-0.1
FUSS				i S		Sn	15 29 18.9	-0.8
EDH	**Donghe**	**1.67**	**244**	eP		Pn	15 29 00.3	+0.3
EDH				eS		Sn	15 29 18.1	-2.2
SXI1	**Grass Mountain**	**1.67**	**325**	eP		Pn	15 29 01.1	+0.9
SXI1				eS		Sn	15 29 19.5	-1.0
NWLT	**Wulai**	**1.68**	**309**	eP		Pn	15 28 59.9	-0.3
NWLT				eS		Sn	15 29 20.6	0.0
WUSB	**Renai**	**1.68**	**280**	i P		Pn	15 29 00.5	+0.1
WUSB				S		Sn	15 29 20.5	-0.3
TWT	**Tachien**	**1.69**	**289**	eP		Pn	15 29 01.8	+1.2
TWT				eS		Sn	15 29 20.2	-0.9
ECS	**Chishang**	**1.69**	**249**	eP		Pn	15 29 00.3	-0.1
ECS				eS		Sn	15 29 20.4	-0.6
YHNB	**Yeheng**	**1.71**	**304**	P		Pn	15 29 00.7	0.0
YHNB				S		Sn	15 29 19.8	-1.6
NSK	**Sanguang**	**1.72**	**304**	eP		Pn	15 29 00.6	-0.2
NSK				S		Sn	15 29 21.3	-0.4
SSLB	**Suanglung**	**1.81**	**272**	eP		Pn	15 29 02.3	+0.2
SSLB				eS		Sn	15 29 22.3	-1.6
ELDTW	**Lidau**	**1.84**	**254**	eP		Pn	15 29 02.0	-0.5
ELDTW				eS		Sn	15 29 22.6	-2.0
LONT	**Longtian**	**1.84**	**244**	eP		Pn	15 29 02.0	-0.4
LONT				eS		Sn	15 29 24.0	-0.6
SMLT	**Sun Moon Lake**	**1.87**	**275**	eP		Pn	15 29 03.7	+0.8
SMLT				eS		Sn	15 29 24.5	-0.9
WCS	**Beigang Elemen**	**1.88**	**281**	eP		Pn	15 29 03.4	+0.4
WCS				eS		Sn	15 29 24.5	-1.0
NFF	**Wufeng Townshi**	**1.89**	**299**	eP		Pn	15 29 03.7	+0.5
NFF				S		Sn	15 29 25.6	-0.2
WHP	**Taichung City**	**1.90**	**287**	P		Pn	15 29 05.0	+1.6
WHP				S		Sn	15 29 25.4	-0.7
WHYT	**Xinyi Township**	**1.91**	**270**	P		Pn	15 29 04.0	+0.7
WHYT				eS		Sn	15 29 25.5	-0.7
TYC	**Yuchr**	**1.91**	**276**	eP		Pn	15 29 04.6	+1.2
TYC				eS		Sn	15 29 25.2	-1.0
TWGBT	**Beinan**	**1.93**	**243**	P		Pn	15 29 03.6	0.0
TWGBT				S		Sn	15 29 25.5	-1.1
TWG	**Pinlang**	**1.93**	**243**	P		Pn	15 29 03.6	-0.1
TWG				eS		Sn	15 29 25.7	-1.1
ALS	**Alishan**	**1.96**	**264**	P		Pn	15 29 05.1	+0.7
ALS				eS		Sn	15 29 27.4	-0.6
LIOB	**Emei**	**1.98**	**298**	i P		Pn	15 29 05.8	+1.5
LIOB				eS		Sn	15 29 28.0	+0.1
NSTT	**Nanjuang**	**1.98**	**298**	eP		Pn	15 29 05.5	+1.1
NSTT				S		Sn	15 29 28.6	+0.6
WJS	**Zhushan**	**2.02**	**273**	eP		Pn	15 29 04.9	0.0
WJS				eS		Sn	15 29 30.4	+1.4
STYH	**Taoyuan**	**2.05**	**255**	P		Pn	15 29 06.0	+0.6
STYH				eS		Sn	15 29 29.1	-0.7
WNT	**Mingjian**	**2.06**	**275**	eP		Pn	15 29 07.2	+1.7
WNT				eS		Sn	15 29 31.3	+1.3
WWF	**Wufeng**	**2.07**	**279**	eP		Pn	15 29 08.2	+2.6
WWF				eS		Sn	15 29 33.3	+3.1
CHN5	**Tsauling**	**2.07**	**267**	eP		Pn	15 29 07.3	+1.6
CHN5				eS		Sn	15 29 31.3	+1.0
TWQ1	**Liyutan**	**2.07**	**288**	eP		Pn	15 29 07.2	+1.6
TWQ1				eS		Sn	15 29 31.6	+1.4
TCU	**Taichung**	**2.11**	**282**	eP		Pn	15 29 07.9	+1.9
TCU				eS		Sn	15 29 33.4	+2.3
TPUB	**Ta-pu**	**2.15**	**259**	P		Pn	15 29 08.3	+1.5
TPUB				S		Sn	15 29 32.7	+0.4
CHN4	**Tsaushan**	**2.18**	**261**	P		Pn	15 29 08.9	+1.9
CHN4				eS		Sn	15 29 34.4	+1.5
WTP	**Ta-pu**	**2.18**	**258**	P		Pn	15 29 08.9	+1.8
WTP				eS		Sn	15 29 33.9	+0.9
WDLH	**Douliu**	**2.19**	**270**	eP		Pn	15 29 09.4	+2.1
WDLH				eS		Sn	15 29 35.2	+1.9
SLGT	**Liugui**	**2.22**	**251**	P		Pn	15 29 09.6	+1.9
SLGT				eS		Sn	15 29 34.4	+0.4
SGST	**Jiashian**	**2.25**	**254**	eP		Pn	15 29 08.8	+0.7
SGST				eS		Sn	15 29 35.8	+1.1
CHN1	**Nanshi**	**2.27**	**257**	eP		Pn	15 29 10.3	+2.0
CHN1				eS		Sn	15 29 36.9	+1.7
TWK	**Hsinying**	**2.29**	**259**	P		Pn	15 29 10.2	+1.6
TWK				eS		Sn	15 29 37.3	+1.6
SNST	**Tainan City**	**2.29**	**258**	P		Pn	15 29 10.1	+1.4
SNST				eS		Sn	15 29 37.4	+1.8
SSD	**Sandimen**	**2.33**	**246**	eP		Pn	15 29 09.4	+0.2
SSD				eS		Sn	15 29 35.4	-1.2
WTK	**Tuku**	**2.33**	**270**	eP		Pn	15 29 11.5	+2.3
WTK				eS		Sn	15 29 37.9	+1.3
TSMG	**Majia**	**2.33**	**245**	eP		Pn	15 29 10.7	+1.5
TSMG				eS		Sn	15 29 35.7	-1.1
EAST	**Anshuo**	**2.34**	**236**	eP		Pn	15 29 09.5	+0.2
EAST				eS		Sn	15 29 36.5	-0.3
MASBT	**Mashibuluo**	**2.39**	**243**	eP		Pn	15 29 10.6	+0.7
MASBT				eS		Sn	15 29 37.6	-0.4
SCZT	**Fangliau**	**2.52**	**238**	eP		Pn	15 29 12.8	+1.1
SCZT				eS		Sn	15 29 40.6	-0.6
PHUB	**P'eng-hu**	**3.09**	**267**	eP		Pn	15 29 20.6	+1.0
PHUB				eS		Sn	15 29 55.7	+0.4

*IDC **02** 15:31:52.9±5.4, 36°.23N×70°.87E, h146km±48km, mb3.4/9, mbtmp3.8/13, Error ellipse: s-maj=39.0km s-min=16.5km az=32.0*
*NNC **02** 15:32:01.2±2.2, 37°.10N×69°.45E, h12km±78km, mb4.1, mpv4.4, Error ellipse: s-maj=86.2km s-min=12.4km az=165.0*
ISC 02 15:31:54.1±1.1, 36°.4N±0°.1×70°.9E±0°.1, h150km, n24, σ1§48/26, mb3.6/8, 3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.11**	**20**	P		**Pn**	15 33 24.0	+1.4
	SNR=119							
EKS2	**Erkin-Say**	**6.62**	**19**	P		**Pn**	15 33 30.5	+1.3
	SNR=7.6							
KK31	**Karatay Array**	**6.67**	**358**	P		**Pn**	15 33 30.5	+0.8
	15nm,0.4s,baz=188,slow=13,SNR=177							
KK31				||S		**Sn**	15 34 40.7	-4.0
	6.4nm,0.5s,baz=187,slow=20,SNR=5.0							
AAK	**Ala-Archa**	**6.81**	**23**	P		**Pn**	15 33 33.3	+1.6
	SNR=10.0							
AAK	**Ala-Archa**	**6.81**	**23**	P		**Pn**	15 33 33.1	+1.4
	5.6nm,0.3s,baz=205,slow=8.2,SNR=33							
AAK				S		**Sn**	15 34 46.2	-2.0
	12nm,0.7s,baz=2.7,slow=18,SNR=3.4							
KBK	**Karagaybulak**	**6.98**	**26**	P		**Pn**	15 33 36.1	+2.1
	SNR=9.6							
CHMS	**Chumysh**	**7.22**	**23**	P		**Pn**	15 33 38.1	+1.1
	SNR=9.1							
USP	**Ospenovka**	**7.38**	**21**	P		**Pn**	15 33 39.8	+0.6
	SNR=8.6							
TKM2	**Tokmak 2**	**7.45**	**28**	P		**Pn**	15 33 41.6	+1.4
	SNR=10.0							
MKAR	**Makanchi Array**	**13.42**	**36**	P		**Pn**	15 34 59.7	+1.2
	0.3nm,0.5s,baz=220,slow=12,SNR=2.0							
AB31	**Akbulak array**	**15.09**	**332**	||P	**Pn**	15 35 18.9	-0.6
	0.6nm,0.3s,baz=145,slow=12,SNR=65							
BVAR	**Borovoye Array**	**16.60**	**359**	P		**Pn**	15 35 39.3	+1.4
	0.7nm,0.3s,baz=163,slow=11,SNR=5.6							
AKTO	**Aktyubinsk**	**16.78**	**331**	||P	**Pn**	15 35 41.5	+1.3
	1.8nm,0.8s							
AKTO	**Aktyubinsk**	**16.78**	**331**	P		**P**	15 35 40.7	+0.9
	2.1nm,0.5s,baz=144,slow=12,SNR=5.8							
ZALV	**Zalesovo Beam**	**20.03**	**25**	P		**P**	15 36 15.1	0.0
	2.0nm,0.4s,baz=222,slow=11,SNR=8.6							
	2.0nm,0.4s							
AKASG	**Malin Array Be**	**32.90**	**309**	P		**P**	15 38 14.6	+0.8
	0.2nm,0.3s,baz=92,slow=8.5,SNR=7.6							
	0.2nm,0.3s							
FINES	**FINESS Array B**	**37.48**	**326**	P		**P**	15 38 53.0	+0.2
	1.5nm,0.8s,baz=120,slow=11,SNR=6.0							
	1.5nm,0.8s							
ARCES	**ARCESS Array B**	**41.17**	**338**	P		**P**	15 39 24.2	+1.0
	0.7nm,0.4s,baz=106,slow=7.7,SNR=11							
	0.7nm,0.4s							
HFS	**Hagfors**	**43.05**	**322**	P		**P**	15 39 39.0	+0.4
	2.3nm,0.5s,baz=96,slow=8.3,SNR=12							
	2.3nm,0.5s							
NB2	**NORSAR Subarra**	**44.37**	**323**	P		**P**	15 39 49.6	+0.4
	comp=Z,0.7nm,0.5s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.37**	**323**	P		**P**	15 39 49.4	+0.2
	comp=Z,1.4nm,0.6s,baz=96,slow=7.8,SNR=6.4							
	comp=Z,1.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**65.60**	**269**	P		**P**	15 42 20.8	-1.3
	comp=Z,0.5nm,0.5s,baz=56,slow=6.6,SNR=4.7							
	comp=Z,0.5nm,0.5s							
WRA	**Warramunga Arr**	**82.05**	**122**	P		**P**	15 43 56.2	-1.6
	comp=Z,0.4nm,0.5s,baz=328,slow=4.9,SNR=9.1							
	comp=Z,0.4nm,0.5s							
ASAR	**Alice Springs**	**84.31**	**125**	P		**P**	15 44 08.3	-1.0
	comp=Z,0.4nm,0.6s,baz=308,slow=5.2,SNR=14							
	comp=Z,0.4nm,0.6s							

*TEH **02** 15:46:56.5, 27°.21N×52°.58E, h7km±83km, ML3.6*
*DSN **02** 15:46:58.0±0.8, 27°.24N×52°.59E, h10km, ML3.2/8, Error ellipse: s-maj=13.2km s-min=4.3km az=9.0*
ISC 02 15:46:57.6±1.1, 27°.25N±0°.06×52°.58E±0°.06, h10km, n17, σ0§79/18, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.53**	**80**	Pg	**Pg**	**15 47 06.8**	**-1.1**
QIR1	**Qir**	**1.29**	**19**	Pg	**Pb**	**15 47 22.2**	**+0.1**
JHRM	**Jahrom**	**1.54**	**35**	Pg	**Pn**	**15 47 25.5**	**+0.3**
DSBU	**Dashti - Bushe**	**1.61**	**314**	Pg	**Pb**	**15 47 26.9**	**-0.6**
LAR1	**LAR**	**1.65**	**75**	Pg	**Pb**	**15 47 27.8**	**-0.4**
SHME	**Shamm**	**3.40**	**110**	P	**Pn**	**15 47 50.4**	**-0.4**
NAZ	**Nazwa, Dubai**	**3.57**	**128**	P	**Pn**	**15 47 53.8**	**+0.7**
ASUD	**Al Ashush, Dub**	**3.60**	**136**	P	**Pn**	**15 47 54.5**	**+1.1**
UOSS	**Minazif**	**3.98**	**124**	P	**Pn**	**15 47 59.2**	**+0.4**
HATD	**Hatta, Dubai**	**4.00**	**126**	P	**Pn**	**15 48 00.2**	**+1.1**
ASHO	**Ashiyiah**	**4.04**	**128**	P	**Pn**	**15 47 59.9**	**+0.3**
ASHO				S	**Sn**	**15 48 47.8**	**+0.8**
ALNE	**Al Ain**	**4.28**	**137**	P	**Pn**	**15 48 03.5**	**+0.7**
IMEH	**Mehriz**	**4.50**	**23**	Pn	**Pn**	**15 48 06.6**	**+0.6**
SOHO	**SOHO**	**4.73**	**130**	P	**Pn**	**15 48 08.8**	**-0.2**
IBAF	**Bafgh**	**5.05**	**30**	Pn	**Pn**	**15 48 14.3**	**+0.7**
CHMN	**Cheshme madani**	**5.08**	**58**	Pn	**Pn**	**15 48 15.6**	**+1.4**
RAYN	**Ar Rayn**	**7.39**	**241**	P	**Pn**	**15 48 45.9**	**+0.3**

*NEIC **02** 15:52:10.7±1.4, 36°.666N±0°.008×121°.30W±0°.02, h5km±2km, Error ellipse: s-maj=3.3km s-min=2.2km az=257.0*
NCEDC 02 15:52:11.2±1.0, 36°.68N±0°.01×121°.30W±0°.03, h5km±7km, Md3.0/77, ML2.6/56(NEIC), Error ellipse: s-maj=3.5km s-min=1.7km az=65.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	**Mount Johnson**	**0.05**	**190**		Pg	15 52 14.2	+1.6
SCZ	**Santa Cruz**	**0.11**	**226**		Pg	15 52 15.1	+1.5
SCZ	**Santa Cruz**	**0.11**	**226**	IAML		15 52 15.4	
	comp=E,11μm,0.4s						
SCZ				IAML		15 52 15.4	
	comp=N,12μm,0.2s						
BVL	**Bear Valley**	**0.14**	**138**		Pg	15 52 14.4	+0.3
SAO	**San Andreas Ge**	**0.14**	**307**	Pg	Pg	15 52 14.0	-0.2
SAO	**San Andreas Ge**	**0.14**	**307**		Sg	15 52 16.8	+0.6
BJCM	**Johnson Can.**	**0.15**	**209**		Pg	15 52 14.2	0.0
FRP	**Fremont Peak**	**0.17**	**297**		Pg	15 52 14.6	0.0
BSRM	**Salinas Radio**	**0.17**	**267**		Pg	15 52 14.7	0.0
BSRM					Sg	15 52 17.5	+0.4
HSFM	**Saint Francis**	**0.21**	**311**		Pg	15 52 14.8	-0.5
BPIM	**Pinnacles**	**0.21**	**150**		Pg	15 52 15.6	+0.1
BSGM	**Shirttail Gulc**	**0.27**	**171**		Pg	15 52 16.3	-0.1
BPCNC	**Pine Canyon**	**0.28**	**249**		Pg	15 52 17.0	+0.2
BSMM	**Soledad Missio**	**0.31**	**199**		Pg	15 52 17.4	+0.1
ANZ	**Anzar Road**	**0.31**	**312**		Pg	15 52 17.4	+0.1
HTUM	**Tustin Road**	**0.31**	**299**		Pg	15 52 17.4	0.0
PACP	**Pacheco Peak**	**0.33**	**2**		Sb	15 52 24.3	-1.0
LRV	**Little Rabbit**	**0.34**	**138**		Pg	15 52 18.4	+0.5
HAST	**Hastings Reser**	**0.35**	**215**		Pg	15 52 18.0	0.0
HAST					Sg	15 52 22.9	+0.3
HERM	**Elkhorn Road**	**0.35**	**290**		Pg	15 52 18.3	+0.3
HCAM	**Canada Road**	**0.38**	**337**		Pb	15 52 19.6	-0.8
HCBM	**Chamberlain**	**0.38**	**312**		Pb	15 52 19.8	-0.7
HCOM	**Corn Cob Canyo**	**0.39**	**303**		Pg	15 52 19.0	+0.2
GHS	**Gilroy Hot Spr**	**0.43**	**345**		Pg	15 52 20.5	+0.8
BPRM	**Ponciano Ridge**	**0.44**	**232**		Pg	15 52 19.6	-0.1
HLPM	**Lions Peak**	**0.45**	**324**		Pg	15 52 20.4	+0.5
JELB	**Ellicott, Sant**	**0.49**	**301**		Pg	15 52 20.5	-0.2
HMOM	**Monterey**	**0.50**	**261**		Pg	15 52 20.9	0.0
BPOM	**Post Ranch**	**0.58**	**220**		Pg	15 52 22.2	-0.2
JLAB	**Laurel Hill**	**0.59**	**324**		Pg	15 52 23.0	+0.4
PCCM	**Crazy Canyon**	**0.60**	**169**		Pg	15 52 22.9	+0.1
PMPB	**Monarch Peak**	**0.61**	**139**		Pg	15 52 23.1	+0.1
CCOB	**Coe Ranch Numb**	**0.65**	**333**		Pb	15 52 24.9	-0.3
HULI	**Fort Hunter Li**	**0.66**	**175**		Pg	15 52 23.7	-0.1
HULI	**Fort Hunter Li**	**0.66**	**175**	IAML		15 52 39.2	
	comp=N,398nm,0.5s						
HULI				IAML		15 52 43.2	
	comp=E,270nm,0.4s						
CMPM	**Mikes Peak**	**0.68**	**359**		Pb	15 52 25.3	-0.3
ARN	**Arnold Ranch**	**0.70**	**345**		Pb	15 52 25.3	-0.6
MHC	**Mount Hamilton**	**0.72**	**338**		Pg	15 52 25.6	+0.6
PJUM	**Juniper Ridge**	**0.73**	**128**		Pb	15 52 25.9	-0.5
PSAM	**San Ardo**	**0.73**	**153**		Pg	15 52 25.1	-0.2
PPTM	**Peach Tree Val**	**0.74**	**140**		Pg	15 52 25.3	-0.1
JJOM	**Saint Joseph's**	**0.76**	**315**		Pg	15 52 25.4	-0.4
PAPM	**Alder Peak**	**0.76**	**184**		Pg	15 52 25.8	-0.1
CMMM	**Mount Mocho**	**0.79**	**349**		Pb	15 52 27.4	-0.2
PDRM	**Domengine Ranc**	**0.83**	**114**		Pb	15 52 28.1	0.0
MTOS	**Mt Oso, Westle**	**0.83**	**359**		Pb	15 52 28.1	0.0
MTOS	**Mt Oso, Westle**	**0.83**	**359**	IAML		15 52 44.1	
	comp=N,298nm,0.4s						
MTOS				IAML		15 52 45.4	
	comp=E,207nm,0.8s						
PSMM	**Smith Mountain**	**0.83**	**136**		Pg	15 52 27.5	+0.2
CMLM	**Mount Lewis**	**0.85**	**341**		Pb	15 52 28.1	-0.4
CALM	**Calaveras Res.**	**0.87**	**333**		Pg	15 52 28.0	0.0
PHSB	**Hesperia Broad**	**0.87**	**167**		Pg	15 52 27.7	-0.3
PHPM	**Hope Ranch**	**0.89**	**141**		Pg	15 52 27.9	-0.5
JSJM	**St Joseph**	**0.91**	**316**		Pg	15 52 28.9	+0.1
JBMM	**Black Mountain**	**0.94**	**314**		Pg	15 52 28.6	-0.6
PANM	**San Antonio Re**	**0.95**	**160**		Pg	15 52 29.1	-0.4
CSTL	**Corral Hollow**	**0.97**	**351**		Pg	15 52 29.3	-0.7
PVCM	**Vineyard Canyo**	**0.97**	**140**		Pg	15 52 29.6	-0.4
PPO	**Portuguese Can**	**0.98**	**145**		Pg	15 52 29.9	-0.1
PSTM	**Stockdale Moun**	**0.98**	**139**		Pg	15 52 29.4	-0.7
JFP	**Foothills Park**	**0.98**	**314**		Pg	15 52 29.6	-0.6
JPSM		**0.99**	**302**		Pg	15 52 29.4	-0.8
MYLM	**Yosemite Lake**	**1.00**	**45**		Pg	15 52 30.6	+0.2
JSFB	**Stanford Teles**	**1.01**	**316**		Pg	15 52 30.1	-0.5
WENL	**Wente Vineyard**	**1.01**	**339**		Pg	15 52 29.4	-1.3
CVLM	**Vallecito**	**1.04**	**336**		Pg	15 52 30.5	-0.7
JRSC	**Jasper Ridge**	**1.04**	**314**		Pg	15 52 30.2	-1.1
PWKM	**Work Ranch**	**1.07**	**143**		Pg	15 52 31.5	-0.4
PHFM	**Heflinger Ranc**	**1.08**	**137**		Pg	15 52 31.2	-0.7
RAMR	**Ramage Ranch**	**1.10**	**161**		Pg	15 52 31.4	-0.9
PKLM	**Kerr Lake**	**1.19**	**139**		Pg	15 52 33.2	-0.9
TCAS	**Cass Winery, P**	**1.22**	**150**		Pg	15 52 33.2	-1.5
TCHL	**Shandon**	**1.23**	**143**		Pg	15 52 33.3	-1.5
PMRM	**Maxey Ranch**	**1.24**	**136**		Pg	15 52 33.6	-1.4
CMB	**Columbia Colle**	**1.54**	**28**		Pn	15 52 38.5	-0.8
OMMB	**Old Mammoth Mi**	**2.06**	**62**	Pn	Pn	15 52 46.9	+0.1
OMMB				IAML		15 53 17.0	
	comp=N,48nm,0.6s						
OMMB				IAML		15 53 20.0	
	comp=E,39nm,0.8s						
AFDM	**Forest Hills D**	**2.28**	**6**		Pn	15 52 48.6	-1.0
WAKR	**Walker**	**2.35**	**39**		Pn	15 52 49.6	-1.0
WAKR				IAML		15 53 28.4	
	comp=N,36nm,0.8s						
WAKR				IAML		15 53 37.7	
	comp=E,42nm,0.6s						
EMB	**Emerald Bay**	**2.48**	**22**		Pn	15 52 51.4	-1.1
EMB				IAML		15 53 24.6	
	comp=E,31nm,0.5s						
EMB				IAML		15 53 25.4	
	comp=N,38nm,0.3s						
ISA	**Isabella, Lake**	**2.50**	**113**		Pn	15 52 52.5	-0.1
ISA				IAML		15 53 29.2	
	comp=E,23nm,0.6s						
ISA				IAML		15 53 32.8	
	comp=N,23nm,0.9s						
LHV	**Little Huntoon**	**2.73**	**54**		Pn	15 52 55.6	0.0
DSP	**Deep Springs**	**2.75**	**74**		Pn	15 52 55.0	-1.0
DSP				IAML		15 53 50.8	
	comp=N,19nm,0.9s						
MPK	**Martis Peak**	**2.80**	**21**		Pn	15 52 56.7	-0.3
MPK				IAML		15 53 42.6	
	comp=E,31nm,0.8s						
MPK				IAML		15 53 44.2	
	comp=N,32nm,1.4s						
YERR	**Yerington**	**2.82**	**35**	IAML		15 53 45.0	
	comp=N,26nm,0.6s						
RYN	**Ryan**	**2.94**	**48**	IAML		15 53 50.7	
	comp=N,17nm,1.0s						
RYN				IAML		15 53 53.0	
	comp=E,25nm,0.9s						
NVAR	**Mina Array Bea**	**2.96**	**53**		Pn	15 52 56.5	-2.5
CCAC	**Calif City Air**	**3.07**	**119**		Pn	15 53 01.2	+0.8
CCAC				IAML		15 53 57.6	
	comp=N,23nm,0.9s						
CCAC				IAML		15 54 00.8	
	comp=E,24nm,1.0s						
GMN	**Gold Mountain**	**3.30**	**78**	IAML		15 54 07.9	
	comp=N,10nm,0.8s						
KVN	**Kaiserville**	**3.47**	**46**	IAML		15 54 08.2	
	comp=N,11nm,1.6s						
KVN				IAML		15 54 13.8	
	comp=E,11nm,1.4s						
WCT	**Wildcat Mounta**	**3.76**	**87**	IAML		15 53 59.9	
	comp=E,11nm,0.2s						
GWY	**Greenwater Val**	**3.77**	**96**		Pn	15 53 09.9	-0.2
GWY				IAML		15 54 20.2	
	comp=N,7.4nm,4.5s						

*TRN **02** 16:10:36.3, 10°.78N×62°.31W, h79km, MD3.1, North of the Paria peninsula.*
*FUNV **02** 16:10:37.7, 10°.59N×62°.33W, h24km, MW3.9*
ISC 02 16:10:34.2±1.5, 10°.72N±0°.05×62°.28W±0°.05, h105km±16km, n16, σ1§85/29, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSKH	**Kent House, Po**	**0.74**	**93**	eP	**Pn**	**16 10 53.4**	**+1.0**
PSKH				eS	**Sn**	**16 11 04.5**	**-1.6**
TRN	**Trinidad (W)**	**0.86**	**95**	eP	**Pn**	**16 10 54.8**	**+1.2**
TRN				eS	**Sn**	**16 11 06.8**	**-1.4**
TBH	**Brigand Hill**	**1.21**	**101**	eP	**Pn**	**16 10 59.8**	**+2.5**
GRFF	**Grenada Fort F**	**1.42**	**22**	eP	**Pn**	**16 11 00.6**	**+0.8**
GRFF				eS	**Sn**	**16 11 17.2**	**-1.9**
GRGR	**Grenville**	**1.53**	**24**	eP	**Pn**	**16 11 01.8**	**+0.7**
GRGR				eS	**Sn**	**16 11 20.9**	**-0.5**
GRHS	**Sauteurs**	**1.61**	**23**	eP	**Pn**	**16 11 02.8**	**+0.7**
GRHS				eS	**Sn**	**16 11 22.4**	**-1.0**
GRSS	**Sisters**	**1.69**	**23**	eP	**Pn**	**16 11 04.3**	**+1.2**
GRSS				eS	**Sn**	**16 11 23.6**	**-1.5**
TOSP	**Speyside**	**1.80**	**71**	eP	**Pn**	**16 11 05.7**	**+1.2**
TOSP				eS	**Sn**	**16 11 27.2**	**-0.3**
GCMP	**Grenada, Carri**	**1.94**	**25**	eP	**Pn**	**16 11 06.9**	**+0.7**
GCMP				eS	**Sn**	**16 11 29.1**	**-1.4**
PCRV	**Puerto La Cruz**	**2.38**	**257**	eP	**Pn**	**16 11 13.5**	**+1.6**
PCRV				eS	**Sn**	**16 11 39.5**	**-1.5**
PCRV	**Puerto La Cruz**	**2.38**	**257**	eP	**Pn**	**16 11 14.1**	**+2.1**
PCRV				eS	**Sn**	**16 11 40.9**	**0.0**
TACV	**Tcata**	**4.71**	**263**	eP	**Pn**	**16 11 45.9**	**+2.8**
TACV				eS	**Sn**	**16 12 34.5**	**-2.1**
LUEV	**Luepa**	**4.92**	**170**	eP

JSJM	**St Joseph**	**0.90 316**		Pg	16 19 48.0	+0.3
PHPM	**Hope Ranch**	**0.91 141**		Pg	16 19 47.5	-0.5
JBMM	**Black Mountain**	**0.92 314**		Pg	16 19 47.6	-0.6
PWMM	**Westland Maint**	**0.93 106**		Pg	16 19 47.7	-0.6
CSTL	**Corral Hollow**	**0.96 351**		Pb	16 19 49.7	+0.1
PANM	**San Antonio Re**	**0.96 160**		Pg	16 19 48.6	-0.4
JFP	**Foothills Park**	**0.97 314**		Pg	16 19 48.5	-0.6
JPSM		**0.97 302**		Pg	16 19 48.4	-0.8
PVCM	**Vineyard Canyo**	**0.99 140**		Pg	16 19 49.1	-0.5
JSFB	**Stanford Teles**	**0.99 316**		Pg	16 19 49.0	-0.6
PPO	**Portuguese Can**	**0.99 145**		Pg	16 19 49.5	-0.1
WENL	**Wente Vineyard**	**1.00 340**		Pg	16 19 49.8	+0.1
MYLM	**Yosemite Lake**	**1.00 46**		Pb	16 19 50.1	-0.2
PSTM	**Stockdale Moun**	**1.00 139**		Pg	16 19 49.0	-0.7
CVLM	**Vallecito**	**1.03 336**		Pg	16 19 50.2	0.0
JRSC	**Jasper Ridge**	**1.03 314**		Pg	16 19 49.3	-0.9
CNIC	**Niles Canyon**	**1.05 331**		Pg	16 19 50.0	-0.8
PWKM	**Work Ranch**	**1.09 143**		Pg	16 19 50.7	-0.7
PHFM	**Heflinger Ranc**	**1.09 137**		Pg	16 19 50.8	-0.7
CTM	**Castle Mountai**	**1.09 133**		Pb	16 19 51.8	-0.1
RAMR	**Ramage Ranch**	**1.11 161**		Pg	16 19 50.9	-0.9
GHC	**Gold Hill**	**1.16 137**		Pg	16 19 51.6	-1.1
CBSNC	**Byron Hot Spri**	**1.16 347**		Pg	16 19 52.5	-0.3
CMOB	**Morgan Territo**	**1.19 341**		Pn	16 19 54.8	+1.1
JCPM	**Coyote Point**	**1.21 319**		Pg	16 19 51.7	-2.0
PKLM	**Kerr Lake**	**1.21 139**		Pg	16 19 52.4	-1.3
CSLM	**San Leandro Hi**	**1.22 329**		Pg	16 19 51.8	-2.1
TCAS	**Cass Winery, P**	**1.24 150**		Pg	16 19 52.8	-1.5
TCHL	**Shandon**	**1.24 143**		Pg	16 19 53.1	-1.2
SAC	**San Andreas**	**1.25 316**		Pn	16 19 52.6	-2.0
PMRM	**Maxey Ranch**	**1.25 135**		Pn	16 19 53.3	-1.3
JSBM	**San Bruno Moun**	**1.31 319**		Pn	16 19 52.8	-2.5
JMGM	**Milagra Ridge**	**1.32 316**		Pn	16 19 53.2	-2.3
PTAM	**Tassajara Cree**	**1.38 159**		Pn	16 19 54.3	-2.1
BKS	**Berkeley--Byer**	**1.40 329**		Pn	16 19 54.8	-1.7
CVPM	**Vollmer Peak**	**1.40 329**		Pn	16 19 55.4	-1.2
LSDC	**Los Osos Digit**	**1.44 164**		Pn	16 19 57.0	0.0
JPRM	**Presidio of Sa**	**1.44 321**		Pn	16 19 54.7	-2.4
EFD	**Emergency Oper**	**1.45 160**		Pn	16 19 55.0	-2.2
MMIM	**Miami Mountain**	**1.46 59**		Pn	16 19 56.9	-0.6
TRAY	**Twisselman Ran**	**1.49 139**		Pn	16 19 56.3	-1.5
PBPM	**Bitterwater Pu**	**1.49 137**		Pn	16 19 56.9	-0.9
DPD	**Davis Peak**	**1.51 163**		Pn	16 19 56.6	-1.6
DCD	**Diablo Creek**	**1.52 165**		Pn	16 19 56.8	-1.5
CMB	**Columbia Colle**	**1.54 29**		Pn	16 19 57.7	-0.8
FARB	**Farallon Islan**	**1.68 307**		Pn	16 19 58.2	-2.2
KCC	**Kaiser Creek**	**1.72 68**		Pn	16 20 01.3	+0.2
SMMC	**Simmler**	**1.74 142**		Pn	16 19 59.6	-1.7
SNT	**Sears Point**	**1.75 329**		Pn	16 19 59.8	-1.5
NOLM	**Olema**	**1.79 319**		Pn	16 19 59.6	-2.3
CARC	**Carrizo Plain**	**1.82 139**		Pn	16 20 01.1	-1.3
CVS	**Carmenet Viney**	**1.89 332**		Pn	16 20 01.4	-1.9
CVS	**Carmenet Viney**	**1.89 332**	IAML		16 20 48.2	
	comp=E,98nm,0.9s					
MCCM	**Marconi Confer**	**1.92 320**		Pn	16 20 01.5	-2.1
MCCM			IAML		16 20 36.4	
	comp=N,181nm,1.0s					
MCCM			IAML		16 20 47.2	
	comp=E,139nm,1.0s					
CRGC	**Crocker Grade**	**1.94 138**		Pn	16 20 03.2	-0.8
MMPM	**Mammoth Pass**	**2.05 63**		Pn	16 20 06.9	+1.1
MDCM	**Deadman Creek**	**2.08 60**		Pn	16 20 07.2	+1.0
MLCM	**Laurel Creek C**	**2.13 64**		Pn	16 20 08.1	+1.3
MEMM	**East Mammoth H**	**2.14 62**		Pb	16 20 09.8	0.0
MCBM	**Casa Benchmark**	**2.16 63**		Pb	16 20 09.1	-1.0
LMCR	**Lookout Mounta**	**2.16 61**		Pb	16 20 10.1	-0.1
PKM	**Mcpherson Peak**	**2.17 145**		Pn	16 20 05.8	-1.5
MCVM	**Convict Lake**	**2.18 65**		Pn	16 20 08.7	+1.1
MDRNC	**Doe Ridge**	**2.20 64**		Pb	16 20 09.9	-0.9
FIGC	**Figueroa Mtn.**	**2.23 151**		Pn	16 20 06.9	-1.2
AFDM	**Forest Hills D**	**2.27 7**		Pn	16 20 08.0	-0.6
MTUM	**Tungsten Hills**	**2.30 72**		Pn	16 20 10.6	+1.4
BCW	**Bitter Crk WRg**	**2.33 138**		Pn	16 20 10.0	+0.5
BCW			IAML		16 20 56.0	
	comp=E,133nm,0.7s					
BCW			IAML		16 21 07.1	
	comp=N,133nm,1.1s					
BHPR	**Bishop**	**2.35 74**		Pn	16 20 11.5	+1.7
WAKR	**Walker**	**2.35 39**		Pn	16 20 11.2	+1.4
WAKR			IAML		16 20 48.1	
	comp=N,134nm,0.7s					
WAKR			IAML		16 20 49.7	
	comp=E,99nm,0.8s					
MRCM	**Red Rock Canyo**	**2.45 65**		Pb	16 20 13.9	-1.3
MCDM	**Chidago Canyon**	**2.45 69**		Pb	16 20 13.4	-1.7
ISA	**Isabella, Lake**	**2.52 113**	Pn	Pn	16 20 11.9	0.0
ISA			IAML		16 20 47.4	
	comp=N,80nm,0.9s					
ISA			IAML		16 20 50.8	
	comp=E,54nm,0.6s					
CWC	**Cottonwood Cre**	**2.62 94**		Pn	16 20 11.6	-1.8
HOPS	**Hopland Field**	**2.69 329**	Pn	Pn	16 20 12.6	-1.7
HOPS			IAML		16 21 10.0	
	comp=N,52nm,2.5s					
HOPS			IAML		16 21 38.7	
	comp=E,44nm,2.7s					
MPK	**Martis Peak**	**2.80 21**	IAML		16 21 08.8	
	comp=E,107nm,0.8s					
MPK			IAML		16 21 16.1	
	comp=N,81nm,0.6s					
YERR	**Yerington**	**2.82 35**	IAML		16 21 07.4	
	comp=N,66nm,0.6s					
CGO	**Cerro Gordo**	**2.83 92**		Pb	16 20 20.0	-1.6
ORV	**Oroville**	**2.87 357**	Pn	Pn	16 20 16.2	-0.6
RYN	**Ryan**	**2.95 48**		Pn	16 20 19.1	+1.1
RYN			IAML		16 21 08.4	
	comp=E,70nm,0.6s					
RYN			IAML		16 21 09.4	
	comp=N,60nm,1.1s					
NV11	**Mina Array Sit**	**3.06 54**	IAML		16 21 13.9	
	comp=N,28nm,1.4s					
CCAC	**Calif City Air**	**3.09 119**	IAML		16 21 23.4	
	comp=N,68nm,1.3s					
CCAC			IAML		16 21 26.9	
	comp=E,48nm,1.4s					
PAHR	**Pah Rah Range**	**3.38 26**	IAML		16 21 28.4	
	comp=E,24nm,1.8s					
KVN	**Kaiserville**	**3.47 46**	IAML		16 21 27.0	
	comp=E,30nm,1.4s					
KVN			IAML		16 21 34.6	
	comp=N,32nm,1.2s					
TPNV	**Topopah Spring**	**4.08 85**		Pn	16 20 33.7	+0.2
TPNV			IAML		16 21 55.6	
	comp=N,32nm,1.7s					
TPNV			IAML		16 21 58.7	
	comp=N,22nm,1.0s					

RSNC 02 16:32:38.5±1.2, 1°S±3′×7°9W±°, h15km±10km, M2.7, mb4.8, ML2.2, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	**Pacto, Paraso**	**1.36**	**13**	P	Pn	16 33 02.9	-0.2
PAC1				S	Sn	16 33 20.9	-0.1
COHC	**Cochancay**	**1.40**	**187**	P	Pn	16 33 02.6	-0.9
COHC				S	Sb	16 33 22.6	+0.6
OTAV	**Otavalo**	**1.45**	**26**	P	Pn	16 33 04.7	-0.1
OTAV				S	Sb	16 33 24.6	+0.7
CUSE	**Cuicocha Este**	**1.53**	**27**	P	Pn	16 33 06.1	+0.4
CUSE				S	Sg	16 33 27.4	-0.6
PPLP	**Puerto Lpez**	**1.75**	**254**	P	Pn	16 33 05.1	-3.3
PPLP				S	Sb	16 33 31.5	-0.7
BBAC	**Balboa, Cauca**	**3.58**	**31**	P	Pn	16 33 32.7	-1.0
BBAC				S	Sn	16 34 16.6	+0.7
GR1C	**Gorgona, Isla**	**4.15**	**13**	P	Pn	16 33 38.7	-2.7
JAMC	**Jamundi, Valle**	**4.89**	**30**	P	Pn	16 33 49.7	-2.1
YOTC	**Yotoco, Valle**	**5.72**	**29**	P	Pn	16 33 59.3	-3.8
YOTC				S	Sn	16 35 01.6	-7.0
MACC	**Macarena, Meta**	**6.14**	**59**	P	Pn	16 34 08.3	-0.4

*TEH **02** 16:39:28.8, 40.′26N×51.°58E, h10km, ML3.5*
*AZER **02** 16:39:34.6, 40.°14N×51.°43E, h40km, ml2.9*

ISC 02 16:39:34.2±1.9, 40.°12N±0.°05×51.°49E±0.°07, h19km±6km, n38, σ1°31/64, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.06**	**286**	P	**Pn**	**16 39 57.3**	**+3.3**
GALA				S	**Sg**	**16 40 07.5**	**-1.3**
NDR	**Nardaran**	**1.24**	**292**	P	**Pg**	**16 39 58.7**	**+0.5**
NDR				S	**Sn**	**16 40 16.8**	**+4.2**

ATGJ	**Altiaghaj**	**2.09 292**	Pn	**Pn**	**16 40 09.3**	**+1.1**
ATGJ			Sn	**Sn**	**16 40 34.6**	**+1.0**
SIZA	**Siyzn**	**2.19 297**	Pn	**Pn**	**16 40 11.0**	**+1.3**
SIZA			Sn	**Sn**	**16 40 37.1**	**+0.7**
PQL	**Pirkuli**	**2.31 288**	Pn	**Pn**	**16 40 11.9**	**+0.6**
PQL			Sn	**Sn**	**16 40 38.6**	**-0.7**
LKRN	**Lenkeran, Azer**	**2.53 237**	Pn	**Pn**	**16 40 15.2**	**+1.1**
LKRN			Sn	**Sn**	**16 40 45.6**	**+1.3**
GLBA	**Clilabad**	**2.55 251**	Pn	**Pn**	**16 40 15.4**	**+1.0**
GLBA			Sn	**Sn**	**16 40 46.0**	**+1.2**
QUBA	**Quba, Azerbaij**	**2.59 299**	Pn	**Pn**	**16 40 15.6**	**+0.5**
QUBA			Sn	**Sn**	**16 40 46.9**	**+0.8**
ASTR	**Astara**	**2.61 234**	Pn	**Pn**	**16 40 15.6**	**+0.3**
ASTR			Sn	**Sn**	**16 40 46.9**	**+0.6**
IML	**Ismayilli**	**2.62 286**	Pn	**Pn**	**16 40 16.1**	**+0.7**
IML			Sn	**Sn**	**16 40 46.3**	**-0.4**
GAS1	**Astara - Iran**	**2.69 231**	Pn	**Pn**	**16 40 16.5**	**+0.1**
XNQ	**Khinaliq**	**2.76 294**	Pn	**Pn**	**16 40 17.5**	**0.0**
XNQ			Sn	**Sn**	**16 40 49.8**	**-0.7**
YRD	**Yardimli**	**2.79 246**	Pn	**Pn**	**16 40 18.0**	**+0.1**
YRD			Sn	**Sn**	**16 40 50.2**	**-0.9**
QSAR	**Qusar**	**2.82 301**	Pn	**Pn**	**16 40 18.9**	**+0.6**
QSAR			Sn	**Sn**	**16 40 52.6**	**+0.9**
LRK	**Lerik**	**2.85 240**	Pn	**Pn**	**16 40 19.1**	**+0.3**
LRK			Sn	**Sn**	**16 40 52.7**	**0.0**
QBL	**Gabala**	**2.91 288**	Pn	**Pn**	**16 40 19.2**	**-0.2**
QBL			Sn	**Sn**	**16 40 52.9**	**-0.9**
ZRD	**Zardab**	**2.92 274**	Pn	**Pn**	**16 40 20.2**	**+0.7**
ZRD			Sn	**Sn**	**16 40 56.0**	**+1.9**
BLQ	**Beylaqan**	**3.05 264**	Pn	**Pn**	**16 40 24.0**	**+2.7**
BLQ			Sn	**Sn**	**16 40 57.3**	**0.0**
GRMI	**Germi**	**3.08 246**	Pn	**Pn**	**16 40 22.0**	**+0.2**
AGDM	**Agdam**	**3.36 271**	Pn	**Pn**	**16 40 24.5**	**-1.1**
AGDM			Sn	**Sn**	**16 41 03.7**	**-1.3**
SEKA	**Sheki**	**3.44 290**	Pn	**Pn**	**16 40 27.0**	**+0.2**
SEKA			Sn	**Sn**	**16 41 06.1**	**-1.0**
KLST	**Kelardasht - M**	**3.61 186**	Pn	**Pn**	**16 40 30.1**	**+0.7**
MZPU	**Pul - Mazandar**	**3.67 179**	Pn	**Pn**	**16 40 30.7**	**+0.6**
IGZV	**Ghazvin**	**3.86 195**	Pn	**Pn**	**16 40 33.4**	**+0.7**
IHRS	**Heris**	**3.90 244**	Pn	**Pn**	**16 40 34.0**	**+0.8**
IPRN	**Peran**	**3.92 170**	Pn	**Pn**	**16 40 34.2**	**+0.7**
GANJ	**Ganja**	**3.98 279**	Pn	**Pn**	**16 40 33.4**	**-0.8**
GANJ			Sn	**Sn**	**16 41 17.0**	**-3.4**
ZKTA	**Zakatala**	**3.99 294**	Pn	**Pn**	**16 40 34.1**	**-0.3**
ZKTA			Sn	**Sn**	**16 41 20.0**	**-0.6**
VSHL	**Vashlovani**	**4.03 288**	P	**Pn**	**16 40 35.3**	**+0.4**
IGLO	**Ghaloghah**	**4.05 152**	Pn	**Pn**	**16 40 35.4**	**+0.1**
IALA	**Alasht**	**4.16 165**	Pn	**Pn**	**16 40 37.2**	**+0.3**
LGD	**Lagodekhi**	**4.33 295**	P	**Pn**	**16 40 38.9**	**-0.1**
LGD			S	**Sn**	**16 41 28.4**	**-0.5**
MRVT	**Maraveh tapeh**	**4.34 123**	Pn	**Pn**	**16 40 38.0**	**-1.3**
ORD	**Ordubad**	**4.42 256**	Sn	**Sn**	**16 41 31.0**	**-0.1**
GDB	**GEDABAY**	**4.42 280**	Pn	**Pn**	**16 40 39.3**	**-1.1**
GDB			Sn	**Sn**	**16 41 29.2**	**-2.2**
SBZ	**Shahbuz**	**4.63 263**	Pn	**Pn**	**16 40 44.0**	**+0.8**
SBZ			Sn	**Sn**	**16 41 33.3**	**-3.3**
QZX	**Qazax, Azerbai**	**4.75 283**	Pn	**Pn**	**16 40 43.9**	**-0.9**
QZX			Sn	**Sn**	**16 41 37.8**	**-1.6**
CHRG	**Chargali**	**5.42 296**	P	**Pn**	**16 40 53.2**	**-0.8**
CHRG			S	**Sn**	**16 41 54.2**	**-1.7**

*NEIC **02** 17:00:01.6±1.5, 47.°56N±0.°07×92.°98W±0.°06, h0km±2km, mb_Lg2.7/14, Error ellipse: s-maj=12.6km s-min=3.9km az=206.0*
*IDC **02** 17:00:03.8±3.5, 47.°50N×93.°11W, h0km, mbtmp2.7/2, ML0.9/1, Error ellipse: s-maj=37.0km s-min=17.4km az=93.0*

ISC 02 17:00:00.9±1.1, 47.°51N±0.°08×92.°88W±0.°06, h0km, n29, σ1°06/29, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**1.03**	**64**		**Pb**	**17 00 22.6**	**+1.0**
E38A	**The Farm, Brul**	**1.28**	**134**		**Pn**	**17 00 26.6**	**+0.7**
AGMN	**Agassiz Nation**	**2.16**	**293**		**Pn**	**17 00 37.6**	**-0.4**
SPMN	**Marine on St.**	**2.28**	**179**		**Pn**	**17 00 40.5**	**+0.7**
F33A	**5 Mile Ranch,**	**2.88**	**236**		**Pn**	**17 00 47.7**	**-0.3**
F33A				IAmb_Lg		17 01 33.5	
	comp=Z,22nm,0.8s						
G40A	**Rib Lake**	**2.91**	**139**		**Pn**	**17 00 49.2**	**+0.9**
COWI	**Conover**	**2.93**	**117**	Pn	**Pn**	**17 00 48.7**	**0.0**
COWI				IAmb_Lg		17 01 41.6	
	comp=Z,20nm,1.0s						
ULM	**Lac du Bonnet**	**3.38**	**325**		**Pn**	**17 00 52.5**	**-2.4**
ULM				IAmb_Lg		17 01 49.7	
	comp=Z,14nm,1.0s						
ULM	**Lac du Bonnet**	**3.38**	**325**	Pn	**Pn**	**17 00 55.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=148,slow=16,SNR=1.6						
ULM				Pg	**Pb**	**17 01 02.8**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=148,slow=17,SNR=10						
ULM				Lg	Lg	17 01 45.3	
	comp=Z,2.3nm,0.3s,baz=234,slow=19,SNR=10						
	comp=Z,0.7nm,0.3s						
I10CA	**LAC DU BONNET**	**3.41**	**324**	I	I	17 25 20.0	
	baz=141,slow=329,SNR=4.3						
I37A	**Lemond, Waseca**	**3.51**	**186**	Pn	**Pn**	**17 00 57.7**	**+1.0**
I37A				IAmb_Lg		17 01 56.8	
	comp=Z,31nm,1.0s						
I40A	**Norwalk**	**3.95**	**156**		**Pn**	**17 01 03.0**	**+0.3**
I40A				IAmb_Lg		17 02 11.1	
	comp=Z,17nm,0.9s						
MDND	**Maddock**	**4.56**	**277**	Pn	**Pn**	**17 01 09.3**	**-1.7**
MDND				IAmb_Lg		17 02 30.5	
	comp=Z,22nm,0.7s						
I42A	**Draeger Farm,**	**4.56**	**141**	Pn	**Pn**	**17 01 10.3**	**-0.7**
ECSD	**EROS Data Cent**	**4.59**	**216**		**Pn**	**17 01 11.7**	**+0.2**
ECSD				IAmb_Lg		17 02 31.3	
	comp=Z,12nm,0.9s						
H43A	**Windswept, Lux**	**4.68**	**129**	Pn	**Pn**	**17 01 11.2**	**-1.5**
JFWS	**Jewell Farm**	**4.95**	**157**	Pn	**Pn**	**17 01 15.5**	**-0.9**
SUSD	**Miller**	**5.23**	**236**	Pn	**Pn**	**17 01 20.4**	**+0.1**
SUSD				IAmb_Lg		17 02 48.7	
	comp=Z,17nm,0.9s						
L40A	**Anamosa**	**5.57**	**167**	Pn	**Pn**	**17 01 26.3**	**+1.4**
L42A	**Oliver, Polo**	**5.96**	**156**		**Pn**	**17 01 29.3**	**-1.0**
E46A	**Sault Ste Mari**	**5.98**	**98**	Pn	**Pn**	**17 01 31.0**	**+0.5**
K30B	**Basset**	**6.79**	**227**	Pn	**Pn**	**17 01 40.0**	**-1.7**
N35A	**Tabor**	**6.93**	**198**	Pn	**Pn**	**17 01 43.2**	**-0.5**
P40A	**Paris**	**8.00**	**175**	Pn	**Pn**	**17 01 58.5**	**+0.2**
N47A	**Urbana**	**8.39**	**139**	Pn	**Pn**	**17 02 04.7**	**+1.0**
FVM	**French Village**	**9.69**	**168**	Pn	**Pn**	**17 02 21.1**	**-0.3**
P48A	**Milroy**	**9.69**	**143**	Pn	**Pn**	**17 02 20.7**	**-0.8**
P49A	**Miami Univ. Ec**	**9.93**	**140**	Pn	**Pn**	**17 02 24.9**	**+0.2**
PDAR	**Pinedale Array**	**12.69**	**254**	Pn	**Pn**	**17 03 01.0**	**-1.7**
	comp=Z,0.1nm,0.5s,baz=68,slow=12,SNR=1.8						
PDAR				Lg	Lg	17 06 30.6	
	comp=Z,0.1nm,0.3s,baz=64,slow=31,SNR=2.3						

*IDC **02** 17:03:15.5±1.5, 1.°95N×127.°43E, h0km, mb4.0/5, mbtmp3.9/6, ML3.6/1, Error ellipse: s-maj=108.6km s-min=19.0km az=68.0*
*NEIC **02** 17:03:27.4±1.8, 2.°03N±0.°07×127.°4E±0.°1, h111km±11km, mb4.1/13, Error ellipse: s-maj=17.4km s-min=10.2km az=96.0*
*DJA **02** 17:03:30.8±0.5, 2.°N±5.°×12.°7E±°, h94km±7km, M3.9/10, mb3.9/4, mB4.4/1, MLv3.8/10, Mw(mB)3.5/1*

ISC 02 17:03:27.7±0.9, 1.°87N±0.°08×127.°44E±0.°08, h112km, n29, σ1°51/32, mb4.0/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.09**	**184**		**Pn**	**17 03 52.0**	**+2.1**
TNTI	**Ternate**	**1.09**	**184**	P	**Pn**	**17 03 51.3**	**+1.3**
KMSI	**Cibinong**	**3.69**	**250**	P	**Pn**	**17 04 23.9**	**+1.0**
KMSI				S	**Sn**	**17 05 05.6**	**0.0**
SANI	**Sanana**	**4.15**	**200**	P	**Pn**	**17 04 29.1**	**0.0**
SANI				S	**Sn**	**17 05 12.0**	**-4.8**
NLAI	**Namlea**	**5.08**	**184**	P	**Pn**	**17 04 43.3**	**+1.6**
	8.1nm,0.8s,453nm0.1nm						
LUWI	**Luwuk**	**5.49**	**238**		**Pn**	**17 04 48.8**	**+1.7**
LUWI				Sn	**Sn**	**17 05 49.1**	**0.0**
LUWI	**Luwuk**	**5.49**	**238**	P	**Pn**	**17 04 48.6**	**+1.5**
	51nm,1.1s,0.4nm						
MRSI	**Marisa**	**5.67**	**256**	P	**Pn**	**17 04 51.3**	**+1.8**
TOLI2	**Tolitoli**	**6.70**	**264**	Pn	**Pn**	**17 05 03.9**	**+0.4**
MTN	**Manton Dam**	**15.07**	**166**	Pn	**Pn**	**17 06 54.7**	**-0.1**
MTN				IAmb	IAmb	17 07 18.6	
	comp=Z,14nm,1.1s						
SBUM	**Sibu**	**15.22**	**272**		**Pn**	**17 06 57.3**	**+0.6**

KSM	**Kuching**	**17.13 269**	P	**P**	**17 07 19.6**	**-0.6**
KSM			IAmb	IAmb	17 07 22.9	
	comp=Z,17nm,1.2s					
KNRA	**Kununurra**	**17.48 176**	P	**P**	**17 07 24.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**19.92 185**	P	**P**	**17 07 50.6**	**0.0**
FITZ	**Fitzroy Crossi**	**19.92 185**	P	**P**	**17 07 50.0**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=18,slow=13,SNR=1.1					
	comp=Z,0.8nm,0.8s					
TPUB	**Ta-pu**	**22.31 343**	P	**P**	**17 08 11.9**	**-4.2**
WB0	**Warramunga Arr**	**22.56 163**	P	**P**	**17 08 19.2**	**+0.6**
WB0			IAmb	IAmb	17 08 19.9	
	comp=Z,5.6nm,0.8s					
WRAB	**Tennant Creek**	**22.70 163**	P	**P**	**17 08 20.8**	**+0.7**
WRAB			IAmb	IAmb	17 08 21.4	
	comp=Z,6.8nm,0.7s					
WRA	**Warramunga Arr**	**22.71 163**	P	**P**	**17 08 20.6**	**+0.4**
	comp=Z,5.1nm,0.6s,baz=341,slow=11,SNR=74					
	comp=Z,5.1nm,0.6s					
WB2	**Warramunga Arr**	**22.71 163**	P	**P**	**17 08 20.7**	**+0.5**
PSA00	**Pilbara Seismi**	**24.45 197**	P	**P**	**17 08 37.1**	**+0.9**
PSA00			IAmb	IAmb	17 08 37.9	
	comp=Z,4.3nm,0.9s					
ASAR	**Alice Springs**	**26.15 166**	P	**P**	**17 08 52.1**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=344,slow=11,SNR=18					
	comp=Z,0.4nm,0.3s					
BBOO	**Buckleboo**	**35.44 167**	P	**P**	**17 10 13.5**	**+0.3**
STKA	**Stephens Creek**	**36.15 159**	P	**P**	**17 10 19.5**	**+0.2**
STKA	**Stephens Creek**	**36.15 159**	P	**P**	**17 10 19.8**	**+0.5**
	comp=Z,3.0nm,0.5s,baz=328,slow=9.5,SNR=5.3					
	comp=Z,3.0nm,0.5s					
MKAR	**Makanchi Array**	**59.48 326**	P	**P**	**17 13 18.8**	**-0.2**
MKAR	**Makanchi Array**	**59.48 326**	P	**P**	**17 13 20.7**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=113,slow=7.8,SNR=8.8					
	comp=Z,0.3nm,0.4s					
KURBB	**Kurchatov Arra**	**63.68 328**	P	**P**	**17 13 47.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=136,slow=6.7,SNR=2.6					
	comp=Z,0.5nm,0.3s					
KURK	**Kurchatov**	**63.68 328**	P	**P**	**17 13 47.9**	**+0.8**
KURK			IAmb	IAmb	17 13 51.6	
	comp=Z,1.9nm,0.7s					

*TRN **02** 17:13:13.5, 10.°44N×62.°32W, h19km, MD3.4, Gulf of Paria.*
*FUNV **02** 17:13:14.8, 10.°49N×62.°31W, h16km, MW4.1*

ISC 02 17:13:13.7±1.6, 10.°43N±0.°05×62.°36W±0.°03, h25km±17km, n23, σ1°51/38, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.85**	**74**	*eP*	**Pb**	**17 13 28.3**	**-1.5**
PSMG				*eS*	**Sn**	**17 13 40.5**	**-1.2**
PSKH	**Kent House, Po**	**0.86**	**73**	*eP*	**Pb**	**17 13 29.1**	**-0.9**
PSKH				*eS*	**Sn**	**17 13 41.1**	**-0.8**
TPP	**Pointe-a-Pierr**	**0.90**	**97**	*eP*	Pb	17 13 35.5	+4.8
TRN	**Trinidad (W)**	**0.96**	**77**	*eP*	**Pn**	**17 13 31.2**	**-0.5**
TRN				*eS*	**Sn**	**17 13 44.9**	**+0.4**
TBH	**Brigand Hill**	**1.27**	**87**	*eP*	**Pb**	**17 13 41.1**	**+4.1**
GRFF	**Grenada Fort F**	**1.72**	**21**	*eP*	**Pb**	**17 13 43.7**	**-1.0**
GRFF				*eS*	**Sn**	**17 14 03.1**	**-0.1**
GRGR	**Grenville**	**1.83**	**22**	*eP*	**Pn**	**17 13 43.8**	**+0.2**
GRGR				*eS*	**Sn**	**17 14 06.5**	**+0.7**
GRHS	**Sauteurs**	**1.92**	**21**	*eS*	**Sn**	**17 14 08.6**	**+0.6**
TOSP	**Speyside**	**1.99**	**64**	*eP*	**Pb**	**17 13 47.3**	**-1.9**
GRSS	**Sisters**	**2.00**	**21**	*eP*	**Pn**	**17 13 47.1**	**+1.3**
GRSS				*eS*	**Sn**	**17 14 10.0**	**0.0**
GCMP	**Grenada, Carri**	**2.24**	**24**	*eP*	**Pn**	**17 13 49.9**	**+0.7**
GCMP				*eS*	**Sn**	**17 14 15.3**	**-0.7**
PCRV	**Puerto La Cruz**	**2.25**	**264**	*eP*	**Pn**	**17 13 50.9**	**+1.5**
PCRV				*eS*	**Sn**	**17 14 17.2**	**+0.7**
PCRV	**Puerto La Cruz**	**2.25**	**264**	*eP*	**Pn**	**17 13 51.0**	**+1.5**
PCRV				*eS*	**Sn**	**17 14 17.9**	**+1.4**
SVB	**Belmont**	**3.02**	**21**	*e*	**Pn**	**17 14 00.9**	**+0.9**
SVB				*eS*	**Sn**	**17 14 34.4**	**-1.0**
SLBI	**Saint Lucia, B**	**3.82**	**21**	*eP*	**Pn**	**17 14 12.7**	**+1.8**
SLBI				*eS*	**Sn**	**17 14

AF01	**San Pedro de A**	**2.60**	**32**	*eP*	**Pn**	**17 33 53.7**	**+0.7**
AF01				*eS*	**Sn**	**17 34 23.5**	**-0.5**
AF01	**San Pedro de A**	**2.60**	**32**	*eP*	**Pn**	**17 33 54.5**	**+1.5**
AF01				IAML		17 34 33.1	
comp=Z,632nm,0.5s							
LVC	**Limon Verde**	**2.66**	**15**		**Pn**	**17 33 53.8**	**+0.1**
LVC	**Limon Verde**	**2.66**	**15**	*eP*	**Pn**	**17 33 53.9**	**+0.2**
LVC				*i S*	**Sn**	**17 34 25.6**	**+0.3**
LVC	**Limon Verde**	**2.66**	**15**	*eP*	**Pn**	**17 33 54.1**	**+0.5**
LVC				*eS*	**Sn**	**17 34 30.1**	**+4.9**
LVC				IAML		17 34 31.8	
comp=Z,157nm,0.2s							
PB04	**IPOC Station P**	**2.87**	**351**		**Pn**	**17 33 55.9**	**-0.5**
PB04	**IPOC Station P**	**2.87**	**351**	*eP*	**Pn**	**17 33 55.9**	**-0.5**
PB04	**IPOC Station P**	**2.87**	**351**	*eP*	**Pn**	**17 33 56.2**	**-0.3**
PB04				*eS*	Sn	17 34 41.3	+11
PB04				IAML		17 34 42.2	
comp=Z,294nm,0.3s							
AC04	**Llanos de Chal**	**3.26**	**202**		**Pn**	**17 34 01.2**	**-0.2**
AC04	**Llanos de Chal**	**3.26**	**202**	*eP*	**Pn**	**17 34 01.4**	**0.0**
AC04	**Llanos de Chal**	**3.26**	**202**	*eP*	**Pn**	**17 34 02.0**	**+0.5**
AC04				*eS*	**Sn**	**17 34 45.5**	**+6.2**
AC04				IAML		17 34 57.8	
comp=Z,122nm,0.5s							
PB09	**IPOC Station P**	**3.40**	**7**		**Pn**	**17 34 04.8**	**+1.3**
PB09	**IPOC Station P**	**3.40**	**7**	*eP*	**Pn**	**17 34 04.6**	**+1.1**
PB09	**IPOC Station P**	**3.40**	**7**	*eP*	**Pn**	**17 34 04.7**	**+1.2**
PB09				*eS*	Sn	17 34 52.3	+9.5
PB09				IAML		17 34 55.1	
comp=Z,193nm,0.3s							
FSA	**Cafayete**	**3.45**	**106**	*eP*	**Pn**	**17 34 05.9**	**+1.6**
AC05	**El Transito**	**3.68**	**188**		**Pn**	**17 34 08.3**	**+1.1**
AC05	**El Transito**	**3.68**	**188**	*eP*	**Pn**	**17 34 08.0**	**+0.8**
AC05				*eS*	**Sn**	**17 34 51.2**	**+1.6**
AC05				IAML		17 35 03.2	
comp=Z,81nm,0.3s							
VCA	**Vinchina**	**3.77**	**160**	*eP*	**Pn**	**17 34 11.9**	**+3.4**
VCA				*eS*	**Sn**	**17 34 53.0**	**+1.2**
VCA				IAML		17 35 04.2	
comp=Z,52nm,0.6s							
LCO	**Las Campanas**	**3.92**	**193**		**Pn**	**17 34 09.9**	**-0.8**
LCO	**Las Campanas**	**3.92**	**193**	*eP*	**Pn**	**17 34 10.5**	**-0.1**
LCO	**Las Campanas**	**3.92**	**193**	*eP*	**Pn**	**17 34 10.1**	**-0.5**
LCO				*eS*	**Sn**	**17 34 54.2**	**-1.5**
LCO				IAML		17 35 23.8	
comp=Z,157nm,0.8s							
PB01	**IPOC Station P**	**4.13**	**2**		**Pn**	**17 34 12.1**	**-1.2**
PB01	**IPOC Station P**	**4.13**	**2**	*eP*	**Pn**	**17 34 12.7**	**-0.6**
PB01	**IPOC Station P**	**4.13**	**2**	*eP*	**Pn**	**17 34 10.6**	**-2.7**
PB01				*eS*	Sn	17 35 12.1	+12
PB01				IAML		17 35 20.6	
comp=Z,93nm,0.3s							
PATCX	**Punta Patache**	**4.37**	**354**		**Pn**	**17 34 16.2**	**-0.3**
TA01	**Diego Aracena**	**4.62**	**354**		**Pn**	**17 34 19.6**	**-0.3**
CO01	**Juntas del Tor**	**4.79**	**184**		**Pn**	**17 34 21.9**	**-0.5**
CO01	**Juntas del Tor**	**4.79**	**184**	*eP*	**Pn**	**17 34 24.2**	**+1.9**
CO01	**Juntas del Tor**	**4.79**	**184**	*eP*	**Pn**	**17 34 24.4**	**+2.0**
CO01				*eS*	**Sn**	**17 35 19.3**	**+2.5**
CO01				IAML		17 35 47.9	
comp=Z,29nm,0.6s							
ACLC	**CERRO LA CRUZ**	**4.87**	**151**	*eP*	**Pn**	**17 34 24.8**	**+1.5**
ACLC				*eS*	Sn	17 35 01.5	-17
HMBC	**Humberstone**	**4.89**	**358**		**Pn**	**17 34 22.5**	**-1.2**
TA02	**Huaiquique**	**4.91**	**355**	Pn	**Pn**	**17 34 21.0**	**-2.8**
CO05	**La Serena**	**4.92**	**196**	Pn	**Pn**	**17 34 22.1**	**-1.8**
PB08	**IPOC Station P**	**5.04**	**5**	Pn	**Pn**	**17 34 25.4**	**-0.6**
GO04	**Tololo Observa**	**5.07**	**191**		**Pn**	**17 34 26.1**	**-0.1**
GO04	**Tololo Observa**	**5.07**	**191**	*eP*	**Pn**	**17 34 26.1**	**-0.1**
GO04				*eS*	**Sn**	**17 35 25.4**	**+1.8**
PB11	**IPOC Station P**	**5.40**	**0**	Pn	**Pn**	**17 34 27.6**	**-3.1**
PB11	**IPOC Station P**	**5.40**	**0**	*eP*	**Pn**	**17 34 28.3**	**-2.3**
PB11				IAML		17 35 59.8	
comp=Z,48nm,0.4s							
GO01	**Chusmiza**	**5.51**	**5**		Pn	17 34 27.1	-5.3
CO03	**El Pedregal**	**5.71**	**189**	Pn	**Pn**	**17 34 34.2**	**-0.5**
CO06	**Fray Jorge**	**5.74**	**197**		**Pn**	**17 34 32.6**	**-2.4**
PB18	**Visviri**	**7.56**	**1**	Pn	Pn	17 34 55.9	-4.5
VA03	**San Esteban**	**7.59**	**186**	Pn	**Pn**	**17 34 56.9**	**-3.6**
MT02	**Curacav**	**8.15**	**189**	Pn	**Pn**	**17 35 04.8**	**-3.1**
MT09	**Talagante**	**8.64**	**187**	Pn	**Pn**	**17 35 11.6**	**-3.1**
LMEL	**Las Melosas**	**8.65**	**183**	Pn	**Pn**	**17 35 13.3**	**-1.5**
MT01	**Popeta**	**8.76**	**189**	Pn	**Pn**	**17 35 12.7**	**-3.5**
LPAZ	**La Paz**	**8.97**	**10**	P	**Pn**	**17 35 23.1**	**+3.4**
comp=Z,0.4nm,0.4s,baz=162,slow=12,SNR=2.0							
SNAA	**Sanae**	**59.05**	**160**	P	**P**	**17 43 02.9**	**+0.2**
comp=Z,1.0nm,1.1s,baz=256,slow=6.5,SNR=2.3							
comp=Z,1.0nm,1.1s							
QSPA	**South Pole Qui**	**65.02**	**180**	P	**P**	**17 43 44.4**	**+1.6**
QSPA				IAmb	IAmb	17 44 03.4	
comp=Z,3.2nm,1.4s							
QSPA	**South Pole Qui**	**65.02**	**180**	P	**P**	**17 43 44.5**	**+1.6**
comp=Z,0.9nm,0.5s,baz=135,slow=4.3,SNR=14							
comp=Z,0.9nm,0.5s							
TORD	**Torodi Ar. Bea**	**79.26**	**70**	P	**P**	**17 45 08.1**	**-0.2**
comp=Z,0.8nm,0.5s,baz=261,slow=4.5,SNR=5.6							
TORD				pP	**pP**	**17 45 32.4**	**-0.4**
comp=Z,0.7nm,0.5s,baz=260,slow=5.4,SNR=4.3							
comp=Z,0.8nm,0.5s							
ZALV	**Zalesovo Beam**	**145.56**	**27**	PKPbc	**PKPdf**	**17 52 39.5**	**-0.2**
comp=Z,1.4nm,0.6s,baz=300,slow=3.2,SNR=5.1							
ZALV				pPKPbc	pPKPab	17 53 04.7	-1.0
comp=Z,1.5nm,0.7s,baz=343,slow=4.5,SNR=2.9							
MKAR	**Makanchi Array**	**148.97**	**39**	PKPbc	**PKPbc**	**17 52 50.1**	**+0.3**
comp=Z,0.3nm,0.6s,baz=325,slow=4.0,SNR=1.4							
PZH	**PanZhiHua**	**172.15**	**79**	PKP	**PKPdf**	**17 53 08.0**	**-3.3**

*IDC **02** 17:38:34.0±14.0, 50°.59N×173°.96W, h0km, mb3.6/4, mbtmp3.8/5, ML2.4/1, Error ellipse: s-maj=327.8km s-min=39.1km az=162.0*
*AEIC **02** 17:38:45.7±1.6, 51°.47N±0°.06×174°.41W±0°.06, h23km±9km, Error ellipse: s-maj=9.6km s-min=5.0km az=161.0*
*NEIC **02** 17:38:46.6±1.3, 51°.50N±0°.04×174°.43W±0°.08, h33km±11km, ML3.0(AEIC), Error ellipse: s-maj=7.2km s-min=6.5km az=74.0*
ISC 02 17:38:43.2±2.8, 51°.39N±0°.10×174°.44W±0°.07, h12km±16km, n27, σ1°42/32, mb3.7/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.82**	**10**		**Pb**	**17 38 59.6**	**+0.1**
ATKA					**Sg**	**17 39 08.4**	**-1.5**
KOFP	**Korovin Flat P**	**0.91**	**13**		**Pb**	**17 39 01.4**	**+0.5**
KOKL	**Mount Kliuchef**	**0.94**	**9**		**Pb**	**17 39 01.9**	**+0.4**
KOKL					**Sb**	**17 39 14.2**	**+0.2**
KOWE	**Korovin West**	**0.98**	**7**		**Pb**	**17 39 02.5**	**+0.4**
KOWE					**Sb**	**17 39 15.3**	**+0.2**
KOSE	**Korovin Southe**	**0.98**	**14**		**Pb**	**17 39 02.6**	**+0.4**
GSMY	**Great Sitkin M**	**1.20**	**303**		**Pn**	**17 39 06.2**	**+0.4**
GSTR	**Great Sitkin T**	**1.23**	**305**		**Pn**	**17 39 06.7**	**+0.5**
GSCK	**Great Sitkin C**	**1.24**	**301**		**Pb**	**17 39 06.5**	**0.0**
GSCK					**Sn**	**17 39 24.1**	**+1.1**
GSTD	**Great Sitkin T**	**1.25**	**303**		**Pn**	**17 39 07.1**	**+0.5**
GSTD					**Sn**	**17 39 24.1**	**+0.7**
GSSP	**Great Sitkin S**	**1.29**	**304**		**Pn**	**17 39 07.7**	**+0.6**
ADK	**Adak**	**1.48**	**290**		**Pn**	**17 39 10.2**	**+0.5**
ADK	**Adak**	**1.48**	**290**		**Sn**	**17 39 30.2**	**+1.3**
KIWB	**Kanaga Island**	**1.75**	**286**		**Pn**	**17 39 14.2**	**+0.8**
KICM	**Kanaga Island**	**1.80**	**288**		**Pb**	**17 39 15.4**	**-0.6**
TAFP	**Tanaga Falls P**	**2.27**	**284**		**Pn**	**17 39 22.1**	**+1.6**
TASE	**Tanaga Southea**	**2.29**	**283**		**Pn**	**17 39 22.6**	**+1.8**
GALAA	**Gareloi Lava P**	**2.73**	**279**		**Pn**	**17 39 29.0**	**+2.2**
GANE	**Gareloi Northe**	**2.74**	**281**		**Pn**	**17 39 29.1**	**+2.1**
O14K	**Tigyukauivet M**	**10.86**	**38**	Pn	**Pn**	**17 41 20.6**	**+2.3**
M14K	**Bethel**	**11.66**	**32**	Pn	**Pn**	**17 41 31.8**	**+2.6**
N15K	**Kwethluk River**	**11.91**	**37**	Pn	**Pn**	**17 41 33.4**	**+0.7**
N17K	**Nushagak Hills**	**13.26**	**40**	Pn	**Pn**	**17 41 52.6**	**+1.5**
PETK	**Petropavlovsk-**	**17.11**	**287**	P	**Pn**	**17 42 42.1**	**+0.1**
0.1nm,0.3s,baz=90,slow=16,SNR=1.6							
7.6nm,1.1s							
ILAR	**Eielson Array**	**19.57**	**36**	P	**P**	**17 43 08.4**	**-2.1**
0.8nm,0.4s,baz=234,slow=8.9,SNR=27							
0.8nm,0.4s							
KURBB	**Kurchatov Arra**	**61.06**	**316**	P	**P**	**17 48 53.9**	**-2.6**
0.2nm,0.4s,baz=43,slow=6.5,SNR=4.4							
0.2nm,0.4s							
MKAR	**Makanchi Array**	**62.13**	**311**	P	**P**	**17 49 01.5**	**-2.4**
1.8nm,1.1s,baz=46,slow=7.0,SNR=2.3							
1.8nm,1.1s							
BVAR	**Borovoye Array**	**62.60**	**322**	P	**P**	**17 49 05.5**	**-1.3**
0.3nm,0.5s,baz=52,slow=7.5,SNR=1.7							
0.3nm,0.5s							

*NOU **02** 17:38:23.6, 31°.70S×176°.84W, h331km, mb4.1/7, Kermadec Islands Region*
WEL 02 17:39:15.6±0.8, 34°S±4°×17°9E±1°0, h33km, M4.3/25, mB5.1/5, ML4.4/29, MLv4.3/25, Mw(mB)4.4/5, Error ellipse: s-maj=13.6km s-min=5.7km az=94.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.34**	**193**	P	Pn	17 40 06.6	+1.2
MXZ				S	Sn	17 40 47.4	+3.6
MXZ	**Matakaoa Point**	**3.34**	**193**	P	Pn	17 40 06.8	+1.4
WIZ	**White Island**	**3.62**	**207**	P	Pn	17 40 13.0	+3.7
WIZ				S	Sn	17 40 48.3	-2.4
HAZ	**Te Kaha**	**3.64**	**198**	P	Pn	17 40 11.7	+2.1
HAZ				S	Sn	17 40 54.1	+2.8
PKGZ	**Pakihiroa**	**3.67**	**194**	P	Pn	17 40 11.2	+1.1
PKGZ				S	Sn	17 40 56.5	+4.3
PUZ	**Puketiti**	**3.84**	**191**	P	Pn	17 40 12.5	+0.2
PUZ				S	Sn	17 40 59.0	+2.7
RUGZ	**Raukumara Rang**	**3.86**	**198**	P	Pn	17 40 13.3	+0.6
RUGZ				S	Sn	17 40 58.6	+1.5
WHRZ	**Whale Island**	**3.99**	**207**	P	Pn	17 40 18.0	+3.6
TWGZ	**Tauwhareparae**	**3.99**	**194**	P	Pn	17 40 14.8	+0.3
TWGZ				S	Sn	17 41 03.4	+3.2
OPRZ	**Ohinepanea**	**4.14**	**211**	P	Pn	17 40 18.1	+1.6
MARZ	**Manawahe**	**4.21**	**209**	P	Pn	17 40 20.0	+2.5
MWZ	**Matawai**	**4.25**	**198**	P	Pn	17 40 17.7	-0.3
MWZ				S	Sn	17 41 07.3	+0.8
CNGZ	**Carnagh Statio**	**4.25**	**191**	P	Pn	17 40 17.9	-0.1
TKGZ	**Te Karaka**	**4.27**	**195**	P	Pn	17 40 17.8	-0.4
TKGZ				S	Sn	17 41 08.7	+1.7
URZ	**Urewera**	**4.30**	**203**	P	Pn	17 40 19.4	+0.7
URZ				S	Sn	17 41 08.8	+1.1
URZ	**Urewera**	**4.30**	**203**	P	Pn	17 40 19.5	+0.8
WCZ	**Waipu Caves**	**4.32**	**246**	P	Pn	17 40 20.0	+1.1
RAGZ	**Rawiri**	**4.43**	**199**	P	Pn	17 40 20.3	-0.2
RIGZ	**Rimuhau**	**4.55**	**195**	P	Pn	17 40 20.3	-1.8
RIGZ				S	Sn	17 41 14.5	+0.6
MUGZ	**Murupara**	**4.61**	**205**	P	Pn	17 40 22.5	-0.5
MUGZ				S	Sn	17 41 15.4	0.0
RTZ	**Ruatahuna**	**4.67**	**202**	P	Pn	17 40 22.6	-1.2
SNGZ	**Shannon Statio**	**4.72**	**198**	P	Pn	17 40 23.6	-0.9
SNGZ				S	Sn	17 41 18.0	-0.1
OUZ	**Omahuta**	**4.72**	**257**	P	Pn	17 40 25.1	+0.6
OUZ	**Omahuta**	**4.72**	**257**	P	Pn	17 40 26.1	+1.7
PRGZ	**Paritu Road**	**4.74**	**193**	P	Pn	17 40 24.7	0.0
PRRZ	**Plateau Road**	**4.77**	**208**	P	Pn	17 40 26.2	+1.1
ALRZ	**Allen Road**	**4.84**	**208**	P	Pn	17 40 26.2	0.0
RAHZ	**Arahi**	**4.92**	**200**	P	Pn	17 40 27.2	+0.1
RAHZ				S	Sn	17 41 22.3	-0.6
MTHZ	**Maungataniwha**	**4.93**	**202**	P	Pn	17 40 26.6	-0.7
MTHZ				S	Sn	17 41 23.3	+0.1
MHGZ	**Mahia Peninsul**	**4.95**	**192**	P	Pn	17 40 25.8	-1.9
MHGZ				S	Sn	17 41 21.6	-2.2
WHHZ	**Waihua**	**5.03**	**198**	P	Pn	17 40 26.2	-2.5
WHHZ				S	Sn	17 41 25.3	-0.2
MRHZ	**Matea Rd**	**5.05**	**206**	P	Pn	17 40 27.3	-1.8
NMHZ	**Naumai**	**5.16**	**201**	P	Pn	17 40 29.5	-1.1
NMHZ				S	Sn	17 41 27.8	-1.2
ARHZ	**Aropaoanui**	**5.26**	**199**	P	Pn	17 40 29.6	-2.3
ARHZ				S	Sn	17 41 30.8	-0.6
BKZ	**Black Stump Fm**	**5.33**	**204**	P	Pn	17 40 31.8	-1.0
HIZ	**Hauiti**	**5.48**	**219**	P	Pn	17 40 37.8	+2.9
HIZ	**Hauiti**	**5.48**	**219**	P	Pn	17 40 37.2	+2.3
TMVZ	**Te Maari**	**5.57**	**209**	P	Pn	17 40 33.9	-2.3
ETVZ	**East Tongariro**	**5.59**	**209**	P	Pn	17 40 34.4	-2.1
TWVZ	**Taurewa**	**5.65**	**211**	P	Pn	17 40 37.1	-0.2
SNVZ	**South Ngauruho**	**5.66**	**210**	P	Pn	17 40 35.4	-2.1
NGZ	**Ngauruhoe**	**5.67**	**210**	P	Pn	17 40 36.1	-1.5
FWVZ	**Far West T-bar**	**5.75**	**210**	P	Pn	17 40 37.8	-1.1
KAHZ	**Kahuranaki**	**5.79**	**198**	P	Pn	17 40 36.3	-2.9
KAHZ				S	Sn	17 41 41.7	-2.9
MOVZ	**Moawhango**	**5.80**	**208**	P	Pn	17 40 37.2	-2.1
MOVZ				S	Sn	17 41 41.6	-3.2
PXZ	**Pawanui**	**6.02**	**198**	P	Pn	17 40 38.0	-4.2
PXZ				S	Sn	17 41 44.9	-5.1
WPHZ	**Waipukurau**	**6.16**	**200**	P	Pn	17 40 41.4	-2.9
WPHZ				S	Sn	17 41 48.4	-5.3
PRHZ	**Porangahau**	**6.30**	**198**	P	Pn	17 40 41.7	-4.5
PRHZ				S	Sn	17 41 51.7	-5.2
TSZ	**Takapari Road**	**6.31**	**203**	P	Pn	17 40 41.8	-4.5
TSZ				S	Sn	17 41 52.8	-4.4
PRWZ	**Pori Road**	**6.75**	**202**	P	Pn	17 40 48.6	-3.8
BFZ	**Birch Farm**	**6.79**	**200**	P	Pn	17 40 48.6	-4.3
BFZ				S	Sn	17 42 02.1	-6.9
MRZ	**Mangatainoka R**	**6.98**	**203**	P	Pn	17 40 49.7	-5.7
MRZ				S	Sn	17 42 04.5	-9.0
SNZO	**South Karori**	**7.86**	**206**	P	Pn	17 41 01.9	-5.5
50nm,1.3s							
KHZ	**Kahutara**	**9.25**	**207**	P	Pn	17 41 18.6	-7.9
19nm,1.3s							

*DJA **02** 17:42:51.6±0.9, 7°S±7°×12°7E±°, h356km±12km, M4.7/14, mb5.0/8, mB5.0/8, MLv4.9/14, Mw(mB)4.4/8*
*IDC **02** 17:42:53.0±1.2, 7°.12S×126°.78E, h346km±12km, mb3.8/19, mbtmp4.6/23, Error ellipse: s-maj=14.6km s-min=8.3km az=75.0*
*NEIC **02** 17:42:52.5±1.4, 7°.08S±0°.06×126°.86E±0°.07, h344km±4km, mb4.5/63, Error ellipse: s-maj=10.8km s-min=7.5km az=67.0*
ISC 02 17:42:52.6±0.3, 7°.15S±0°.04×126°.88E±0°.05, h350km, n182, σ1°01/195, mb4.4/48, 4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.66**	**225**	Pn	**Pn**	**17 43 58.2**	**-0.1**
SOEI	**Soe**	**3.66**	**225**	P	**Pn**	**17 43 58.9**	**+0.6**
SOEI	**Soe**	**3.66**	**225**	P	**Pn**	**17 43 58.9**	**+0.6**
SOEI				S	**S**	**17 44 49.7**	**-1.5**
AAI	**Ambon**	**3.68**	**21**	P	**Pn**	**17 43 59.6**	**+1.1**
NLAI	**Namlea**	**3.89**	**3**	P	**Pn**	**17 44 02.6**	**+2.1**
BNDI	**Bandanaira**	**3.99**	**49**	P	**Pn**	**17 44 02.0**	**+0.5**
BNDI	**Bandanaira**	**3.99**	**49**	P	**Pn**	**17 44 01.8**	**+0.3**
MSAI	**Masohi**	**4.30**	**29**	P	**Pn**	**17 44 04.6**	**-0.1**
BATI	**Baumata**	**4.39**	**226**	P	**Pn**	**17 44 06.8**	**+1.1**
322nm,0.3s,baz=64,slow=2.9,SNR=37							
BATI				S	**S**	**17 45 03.8**	**-1.0**
1μm,0.4s,baz=88,slow=3.9,SNR=7.3							
BATI	**Baumata**	**4.39**	**226**	P	**Pn**	**17 44 06.7**	**+1.0**
BATI				S	**S**	**17 45 03.6**	**-1.2**
SAUI	**Saumlaki**	**4.46**	**101**	Pn	**Pn**	**17 44 06.6**	**+0.2**
SAUI	**Saumlaki**	**4.46**	**101**	P	**Pn**	**17 44 07.1**	**+0.7**
MMRI	**Maumere**	**4.83**	**252**	Pn	**Pn**	**17 44 10.1**	**-0.2**
MMRI	**Maumere**	**4.83**	**252**	P	**Pn**	**17 44 09.8**	**-0.5**
MMRI	**Maumere**	**4.83**	**252**	P	**Pn**	**17 44 10.1**	**-0.2**
SANI	**Sanana**	**5.14**	**350**	P	**Pn**	**17 44 13.7**	**-0.1**
SANI	**Sanana**	**5.14**	**350**	P	**Pn**	**17 44 13.9**	**+0.1**
381nm,0.8s,4μm1.4nm							
LBMI	**Labuha**	**6.50**	**6**	P	**Pn**	**17 44 30.1**	**+0.9**
DRS	**Darwin Rock St**	**6.58**	**143**	P	**Pn**	**17 44 31.1**	**+1.0**
FAKI	**Fak Fak**	**6.80**	**52**	Pn	**Pn**	**17 44 30.1**	**-2.6**
FAKI	**Fak Fak**	**6.80**	**52**	P	**Pn**	**17 44 30.7**	**-2.1**
FAKI	**Fak Fak**	**6.80**	**52**	P	**Pn**	**17 44 30.4**	**-2.4**
MTN	**Manton Dam**	**7.04**	**144**	Pn	**Pn**	**17 44 36.0**	**+0.5**
MTN	**Manton Dam**	**7.04**	**144**	P	**Pn**	**17 44 36.5**	**+1.0**
LUWI	**Luwuk**	**7.32**	**326**	Pn	**Pn**	**17 44 37.6**	**-1.2**
SWI	**Sorong**	**7.62**	**35**	P	**Pn**	**17 44 40.4**	**-1.9**
67nm,0.4s,2μm0.4nm							
KDU	**Kakadu**	**7.79**	**135**	P	**Pn**	**17 44 44.4**	**+0.1**
WBSI	**Waikabubak, Su**	**7.81**	**251**	P	**Pn**	**17 44 42.5**	**-2.1**
TNTI	**Ternate**	**7.88**	**4**	Pn	**Pn**	**17 44 43.3**	**-2.2**
TNTI	**Ternate**	**7.88**	**4**	P	**Pn**	**17 44 46.1**	**+0.7**
TNTI	**Ternate**	**7.88**	**4**	P	**Pn**	**17 44 45.9**	**+0.5**
KMSI	**Cibinong**	**8.20**	**339**	P	**P**	**17 44 50.5**	**-1.6**
260nm,0.9s,2μm							
KNRA	**Kununurra**	**8.67**	**168**	Pn	**Pn**	**17 44 53.9**	**-0.8**
PLAI	**Plampang**	**9.16**	**259**	P	**Pn**	**17 45 00.3**	**-0.3**
TOLI2	**Tolitoli**	**10.21**	**323**	P	**P**	**17 45 13.2**	**-1.3**
TOLI2	**Tolitoli**	**10.21**	**323**	P	**P**	**17 45 14.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**10.95**	**186**	P	**Pn**	**17 45 21.7**	**-0.1**
FITZ					**S**	**17 47 23.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**10.95**	**186**	P	**Pn**	**17 45 22.0**	**+0.1**
28nm,0.3s,baz=18,slow=9.1,SNR=23							
FITZ				S	**S**	**17 47 25.6**	**+1.0**
26nm,1.0s,baz=251,slow=17,SNR=7.6							
FITZ	**Fitzroy Crossi**	**10.95**	**186**	P	**Pn**	**17 45 22.2**	**+0.3**
JAGI	**Jajag, Banyuwa**	**12.67**	**263**	P	**P**	**17 45 39.4**	**-2.4**
JAGI	**Jajag, Banyuwa**	**12.67**	**263**	P	**Pn**	**17 45 42.0**	**-0.4**
WRA	**Warramunga Arr**	**14.63**	**151**	P	**P**	**17 46 02.9**	**-0.4**
WRA	**Warramunga Arr**	**14.63**	**151**	P	**P**	**17 46 03.8**	**+0.5**
29nm,0.6s,baz=327,slow=13,SNR=85							
WRA				S	**S**	**17 48 37.9**	**-3.5**
29nm,0.9s,baz=324,slow=19,SNR=20							
WR0	**Warramunga Arr**	**14.75**	**150**	P	**P**	**17 46 05.3**	**+0.8**
MBWA	**Marble Bar**	**15.55**	**206**		**P**	**17 46 13.2**	**0.0**
MBWA	**Marble Bar**	**15.55**	**206**	P	**P**	**17 46 14.2**	**+1.0**
PSA00	**Pilbara Seismi**	**15.87**	**205**		**P**	**17 46 16.7**	**+0.1**
PSA00	**Pilbara Seismi**	**15.87**	**205**	P	**P**	**17 46 16.7**	**+0.1**
PSA00				IAmb	IAmb	17 46 21.8	
comp=Z,23nm,1.2s							
PSA00	**Pilbara Seismi**	**15.87**	**205**	P	**P**	**17 46 17.6**	**+0.9**
UGM	**Wanagama**	**16.23**	**266**	P	**Pn**	**17 46 26.0**	**+2.1**
KKM	**Kota Kinabalu**	**16.88**	**321**	P	**P**	**17 46 27.2**	**-0.6**
KKM				IAmb	IAmb	17 46 36.3	
comp=Z,24nm,0.9s							
KKM	**Kota Kinabalu**	**16.88**	**321**	P	**Pn**	**17 46 29.4**	**-2.1**
COEN	**Coen**	**17.39**	**114**	P	**P**	**17 46 33.6**	**+0.4**
COEN				IAmb	IAmb	17 46 34.2	
comp=Z,26nm,1.3s							
COEN	**Coen**	**17.39**	**114**	P	**P**	**17 46 33.5**	**+0.4**
SBUM	**Sibu**	**17.46**	**303**	P	**P**	**17 46 33.2**	**-0.8**
SBUM	**Sibu**	**17.46**	**303**	P	**P**	**17 46 34.9**	**+0.9**
AS31	**Alice Springs**	**17.75**	**158**		**P**	**17 46 38.0**	**+1.0**
AS31				IAmb	IAmb	17 46 45.7	
comp=Z,11nm,0.3s							
ASAR	**Alice Springs**	**17.76**	**158**		**P**	**17 46 37.4**	**+0.4**
ASAR					**S**	**17 49 41.3**	**-1.8**
ASAR	**Alice Springs**	**17.76**	**158**	P	**P**	**17 46 38.1**	**+1.1**
comp=Z,11nm,0.3s,baz=337,slow=12,SNR=153							
ASAR				S	**S**	**17 49 42.6**	**-0.5**
comp=Z,10nm,0.8s,baz=344,slow=23,SNR=18							
AS01	**Alice Springs**	**17.77**	**158**	P	**P**	**17 46 38.7**	**+1.5**
WRKA	**Warakurna**	**17.84**	**176**	P	**P**	**17 46 39.1**	**+1.2**
QIS	**Mount Isa**	**18.16**	**138**	P	**P**	**17 46 42.1**	**+0.8**
BBJI	**Bungbulang**	**19.07**	**268**	P	**P**	**17 46 52.2**	**+1.0**
GIRL	**Giralia**	**19.64**	**217**	P	**P**	**17 46 56.9**	**0.0**
GIRL	**Giralia**	**19.64**	**217**	P	**P**	**17 46 57.9**	**+1.0**
PMG	**Port Moresby**	**20.20**	**98**	P	**P**	**17 47 02.1**	**-0.5**
PMG				IAmb	IAmb	17 47 05.6	
comp=Z,32nm,1.2s							
PMG	**Port Moresby**	**20.20**	**98**	P	**P**	**17 47 04.2**	**+1.7**
comp=Z,21nm,0.9s,baz=239,slow=5.9,SNR=6.1							
comp=Z,21nm,0.9s							
MEEK	**Meekatharra**	**20.91**	**201**	P	**P**	**17 47 09.2**	**+0.2**
OOD	**Oodnadatta**	**22.17**	**159**	P	**P**	**17 47 21.1**	**+0.8**
FORT	**Forrest**	**23.53**	**177**	P	**P**	**17 47 32.9**	**+0.2**
FORT				IAmb	IAmb	17 47 38.6	
comp=Z,19nm,1.0s							
FORT	**Forrest**	**23.53**	**177**	P	**P**	**17 47 33.3**	**+0.6**
MULG	**Mulgathing**	**23.98**

comp=Z,4.1nm,0.6s
MAKZ Makanchi 66.86 328 P P 17 53 06.9 -1.0
BOOM Boomskoye usch 67.71 322 P P 17 53 13.8 +0.4
KBL Kabul 68.51 311 P P 17 53 18.1 -0.5
KBL IAmb IAmb 17 53 19.6
comp=Z,8.2nm,1.2s
AAK Ala-Archa 68.68 321 P P 17 53 19.2 -0.2
ARSB Arslanbob 68.95 319 P P 17 53 20.9 -0.2
YAK Yakutsk 69.01 1 P P 17 53 20.1 -0.6
SIMJ Simiganj 70.35 315 P P 17 53 29.2 -0.3
SIMJ IAmb IAmb 17 53 30.4
comp=Z,12nm,1.4s
ZAA0 Zalesovo Array 70.38 335 P P 17 53 28.7 -0.5
ZAA0 IAmb IAmb 17 53 29.6
comp=Z,14nm,0.8s
ZALV Zalesovo Beam 70.38 335 P P 17 53 28.1 -1.1
ZALV Zalesovo Beam 70.38 335 P P 17 53 28.8 -0.4
comp=Z,8.5nm,0.4s,baz=128,slow=4.8,SNR=37
comp=Z,8.5nm,0.4s
KURBB Kurchatov Arra 71.05 330 P P 17 53 33.7 +0.4
comp=Z,5.5nm,0.6s,baz=132,slow=5.1,SNR=68
comp=Z,5.5nm,0.6s
KURK Kurchatov 71.06 330 P P 17 53 32.8 -0.5
KURK IAmb IAmb 17 53 34.4
comp=Z,12nm,0.8s
MAW Mawson 73.69 201 P P 17 53 49.6 +1.2
comp=Z,1.0nm,0.3s,baz=64,slow=6.2,SNR=17
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 76.56 329 P P 17 54 05.0 0.0
comp=Z,5.4nm,0.5s,baz=130,slow=6.7,SNR=36
comp=Z,5.4nm,0.5s
BRVK Borovoye 76.63 329 P P 17 54 04.7 -0.6
BRVK IAmb IAmb 17 54 06.5
comp=Z,11nm,0.9s
VOI Vohitsoka 78.19 249 P P 17 54 14.6 -0.2
TIXI Tiksi 78.65 1 P P 17 54 15.1 -0.9
TIXI IAmb IAmb 17 54 16.6
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 80.72 322 P P 17 54 27.0 -0.5
NRIK Noril'sk 80.97 347 P P 17 54 28.4 0.0
NRIK IAmb IAmb 17 54 30.4
comp=Z,8.3nm,1.1s
NRIK Noril'sk 80.97 347 P P 17 54 28.8 +0.4
comp=Z,4.7nm,0.7s,baz=150,slow=5.4,SNR=6.7
comp=Z,4.7nm,0.7s
AKTO Aktyubinsk 82.31 323 P P 17 54 36.1 +0.4
comp=Z,6.0nm,1.0s,baz=106,slow=4.2,SNR=8.2
comp=Z,6.0nm,1.0s
QSPA South Pole Qui 82.83 180 P P 17 54 37.6 -0.7
QSPA IAmb IAmb 17 54 39.0
comp=Z,7.6nm,1.3s
QSPA South Pole Qui 82.83 180 P P 17 54 39.0 +0.7
comp=Z,2.0nm,0.7s,baz=149,slow=1.4,SNR=17
comp=Z,2.0nm,0.7s
ARTI Arti 84.28 329 P P 17 54 45.3 -0.3
ARTI IAmb IAmb 17 54 46.8
comp=Z,8.8nm,1.2s
ARTI Arti 84.28 329 P P 17 54 45.5 -0.1
comp=Z,4.3nm,0.8s,baz=122,slow=2.5,SNR=7.2
comp=Z,4.3nm,0.8s
RAYN Ar Rayn 84.98 294 P P 17 54 48.9 -0.9
RAYN IAmb IAmb 17 54 51.3
comp=Z,10nm,1.1s
L14K Kuka Creek 87.03 27 P P 17 54 58.6 -0.2
M14K Bethel 87.16 28 P P 17 54 59.8 +0.4
ELIB Princess Elisa 87.42 198 *dP* **P 17 55 02.4 +1.6**
ELIB *dx* x 17 55 03.0
C16K Lisburne Hills 88.57 20 P **P 17 55 04.3 -1.6**
M16K Timber Creek 88.63 28 P 17 55 07.9 +1.5
C18K Utukok River 90.13 20 P P 17 55 13.4 0.0
C19K Lookout Ridge 90.83 20 P P 17 55 17.0 +0.5
C19K IAmb IAmb 17 55 29.8
comp=Z,9.9nm,1.2s
D19K Kuna River 91.16 21 P P 17 55 17.9 -0.1
E19K Redstone River 91.19 22 P P 17 55 18.5 +0.3
E19K IAmb IAmb 17 55 21.9
comp=Z,7.1nm,1.1s
IMAR Indian Mountai 92.17 24 P P 17 55 22.4 -0.3
B21K Ikpikpuk River 92.67 20 P P 17 55 24.5 -0.4
B21K IAmb IAmb 17 55 26.2
comp=Z,4.9nm,0.7s
E22K Anaktuvuk Pass 93.35 22 P P 17 55 28.8 +0.6
E22K IAmb IAmb 17 55 43.0
comp=Z,3.4nm,1.2s
C23K Itkillik River 94.08 20 P P 17 55 30.8 -0.6
BELA Belgrano 2 94.48 184 P P 17 55 33.2 +0.1
SNAA Sanae 94.78 194 P P 17 55 35.4 +0.7
SNAA IAmb IAmb 17 56 00.8
comp=Z,4.9nm,1.5s
SNAA Sanae 94.78 194 P P 17 55 35.4 +0.7
comp=Z,18nm,0.4s
SNAA Sanae 94.78 194 P P 17 55 35.7 +0.9
comp=Z,0.6nm,0.4s,baz=215,slow=7.0,SNR=16
comp=Z,0.6nm,0.4s
ILAR Eielson Array 94.81 25 P P 17 55 34.6 -0.3
comp=Z,0.3nm,0.6s,baz=258,slow=5.0,SNR=2.2
comp=Z,0.3nm,0.6s
BMAR Burnt Mountain 95.99 23 P P 17 55 40.5 +0.3
I28M Miner Creek 97.78 25 P Pdif 17 55 48.6 +0.3
ARCES ARCESS Array B 100.64 339 P Pdif 17 56 01.9 +1.0
comp=Z,1.3nm,0.8s,baz=51,slow=9.7,SNR=3.6
TORD Torodi Ar. Bea 125.80 281 PKP PKPdf 18 01 13.7 -0.4
comp=Z,0.8nm,0.6s,baz=12,slow=3.7,SNR=5.4
GO02 Mina Guanaco 144.10 154 PKPab 18 01 46.0 -0.8
PB14 IPOC Station P 144.21 152 PKPab 18 01 45.8 -1.4
ITAB Concordia 145.81 182 PKPbc 18 01 52.4 +0.5
CPUP Villa Florida 146.47 173 PKPbc 18 01 53.6 -0.1
CPUP Villa Florida 146.47 173 PKPbc **PKPbc 18 01 54.4 +0.6**
comp=Z,3.0nm,0.4s,baz=222,slow=4.3,SNR=7.8
PB01 IPOC Station P 147.70 150 PKPdf **PKPdf 18 01 52.6 -1.5**
PB01 **PKPbc 18 01 58.1 +0.8**
PB11 IPOC Station P 148.69 149 PKPdf **PKPdf 18 01 54.0 -1.9**
PB11 PKPbc **PKPbc 18 01 60.0 0.0**
LPAZ La Paz 152.38 148 PKPbc **PKPbc 18 02 09.4 +0.1**
LPAZ La Paz 152.38 148 PKPbc **PKiKP 18 02 10.4 +0.9**
comp=Z,0.7nm,0.3s,baz=356,slow=2.6,SNR=6.8
LPAZ PKPab **PKPab 18 02 21.6 +0.9**
comp=Z,1.7nm,0.5s,baz=210,slow=4.5,SNR=7.1

*IDC **02** 18:00:11.4±2.4, 43°.31N×105°.40W, h0km, mbtmp3.3/2, ML2.8/2, Error ellipse: s-maj=50.5km s-min=10.4km az=155.0*
*NEIC **02** 18:00:11.5±1.6, 43°.52N±0°.06×105°.31W±0°.06, h0km±1km, ML3.3/54, Error ellipse: s-maj=10.1km s-min=7.1km az=28.0*
ISC 02 18:00:12.8±1.0,**43°.52N**±0°.06×**105°.32W**±0°.05,**h0km,n30,**
σ0s85/29,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.11**	**57**		**Pb**	**18 00 35.4**	**+0.4**
K22A	**Casper**	**1.24**	**226**		**Pg**	**18 00 35.9**	**-0.6**
N23A	**Red Feather La**	**2.66**	**190**		**Pn**	**18 00 57.2**	**0.0**
N23A				IAML		18 01 43.5	
comp=E,114nm,0.8s							
BRIGG	**Briggsdale**	**3.03**	**165**		**Pn**	**18 01 01.7**	**-0.5**
BRIGG				IAML		18 01 49.9	
comp=E,80nm,0.8s							
BRIGG				IAML		18 01 59.8	
comp=N,84nm,1.0s							
PD31	**Pinedale Array**	**3.19**	**258**		**Pn**	**18 01 05.1**	**+0.7**
PDAR	**Pinedale Array**	**3.19**	**258**		**Pn**	**18 01 05.1**	**+0.7**
PDAR	**Pinedale Array**	**3.19**	**258**	Pn	**Pn**	**18 01 04.8**	**+0.4**
comp=N,1.1nm,0.3s,baz=75,slow=17,SNR=52							
PDAR				Lg	Lg	18 01 47.8	
comp=N,2.8nm,0.3s,baz=81,slow=34,SNR=9.3							
comp=N,1.5nm,0.2s							
LAO	**LASA Array**	**3.23**	**349**	Pn	**Pn**	**18 01 04.2**	**-0.7**
LAO				IAML		18 02 01.0	
comp=N,82nm,0.7s							
OGNE	**Ogallala**	**3.55**	**135**		**Pn**	**18 01 10.0**	**+0.8**
OGNE				IAML		18 02 19.8	
comp=N,80nm,1.3s							
OGNE				IAML		18 02 20.3	
comp=N,76nm,0.9s							
YNE	**Yellowstone No**	**3.68**	**295**	Pn	**Pn**	**18 01 11.5**	**+0.3**
YNE				IAML		18 02 36.7	
comp=E,54nm,1.3s							
LOHW	**Long Hollow**	**3.84**	**273**		**Pn**	**18 01 13.3**	**0.0**
H17A	**Grant Village**	**3.89**	**285**		**Pn**	**18 01 14.0**	**-0.2**
SNOW	**Snow King Moun**	**3.95**	**271**		**Pn**	**18 01 15.9**	**+0.9**
SNOW				IAML		18 02 42.1	
comp=E,41nm,1.8s							
SNOW				IAML		18 02 42.7	
comp=E,38nm,1.9s							
O20A	**White River Ci**	**4.02**	**214**		**Pn**	**18 01 18.1**	**+2.2**
O20A				IAML		18 02 57.6	
comp=E,37nm,1.7s							
O20A				IAML		18 03 06.2	
comp=N,44nm,1.7s							
FXWY	**Fox Creek**	**4.15**	**274**		**Pn**	**18 01 19.1**	**+1.5**
AHID	**Auburn Hatcher**	**4.29**	**262**		**Pn**	**18 01 20.9**	**+1.3**
AHID				IAML		18 03 36.4	
comp=N,46nm,0.1s							
RDMU	**Red Mountain**	**4.32**	**228**		**Pn**	**18 01 20.7**	**+0.7**
RDMU				IAML		18 02 42.2	
comp=E,36nm,0.8s							
YHL	**Hebgen Lake**	**4.42**	**290**		**Pn**	**18 01 22.6**	**+1.2**
YHL				IAML		18 02 36.7	
comp=E,24nm,0.9s							
ECR	**Eagle Creek**	**4.44**	**266**		**Pn**	**18 01 21.8**	**+0.2**
E28A	**Huff**	**4.48**	**45**		**Pn**	**18 01 21.5**	**-0.5**
BOZ	**Bozeman (W)**	**4.96**	**297**		**Pn**	**18 01 28.3**	**-0.5**
BOZ				IAML		18 02 54.7	
comp=E,19nm,0.9s							
BOZ				IAML		18 02 56.9	
comp=E,16nm,0.8s							
HWUT	**Hardware Ranch**	**4.99**	**250**		**Pn**	**18 01 29.9**	**+0.8**
HWUT				IAML		18 03 02.4	
comp=E,21nm,0.9s							
HWUT				IAML		18 03 06.3	
comp=E,21nm,2.0s							
DGMT	**Dagmar**	**5.01**	**9**	Pn	**Pn**	**18 01 30.1**	**+0.8**
P18A	**Preston Nutter**	**5.36**	**225**		**Pn**	**18 01 34.2**	**-0.1**
P18A				IAML		18 03 15.9	
comp=N,19nm,0.9s							
JLU	**Jordanelle**	**5.41**	**240**		**Pn**	**18 01 34.6**	**-0.4**
MDND	**Maddock**	**5.90**	**41**		**Pn**	**18 01 42.7**	**+1.3**
TMUT	**Trail Mountain**	**6.11**	**228**		**Pn**	**18 01 44.7**	**0.0**
HMU	**Henry Mountain**	**6.93**	**218**		**Pn**	**18 01 56.3**	**+0.5**
I10CA	**LAC DU BONNET**	**9.23**	**40**	I	I	18 55 20.0	
baz=223,slow=310,SNR=3.1							
ULM	**Lac du Bonnet**	**9.33**	**41**	Pn	**Pn**	**18 02 27.8**	**-0.7**
comp=N,0.2nm,0.3s,baz=232,slow=11,SNR=1.8							
ULM				Lg	Lg	18 05 04.0	
comp=N,0.2nm,0.3s,baz=150,slow=21,SNR=4.6							
comp=N,1.7nm,0.7s							

*IDC **02** 18:00:49.5±3.4, 18°.10S×178°.39W, h580km±17km, mb3.0/5, mbtmp3.9/6, Error ellipse: s-maj=79.8km s-min=26.5km az=137.0*
*NEIC **02** 18:00:51.8±1.3, 17°.9S±0°.3×178°.7W±0°.3, h576km±14km, mb4.4/11, Error ellipse: s-maj=48.0km s-min=26.0km az=145.0*
ISC 02 18:00:49.0±1.5,**18°.2S**±0°.3×**178°.4W**±0°.2,**h579**km,**n23,**
σ0s65/24,mb4.2/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.45**	**277**	P	**P**	**18 02 08.9**	**-0.4**
MSVF	**Nonsavu**	**3.45**	**277**	P	**P**	**18 02 09.3**	**-0.1**
69nm,0.6s,baz=107,slow=23,SNR=5.7							
MSVF				S	**S**	**18 03 15.8**	**+1.0**
7.2nm,0.7s,baz=146,slow=19,SNR=1.3							
COEN	**Coen**	**37.16**	**271**	P	**P**	**18 07 11.9**	**-0.3**
BBOO	**Buckleboo**	**43.33**	**241**	P	**P**	**18 08 00.8**	**-0.2**
WB0	**Warramunga Arr**	**44.61**	**260**	P	**P**	**18 08 10.5**	**-0.6**
WB2	**Warramunga Arr**	**44.63**	**260**	P	**P**	**18 08 10.0**	**-1.2**
WB2				IAmb	IAmb	18 08 30.7	
comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**18 08 10.8**	**-0.6**
comp=Z,0.5nm,0.4s,baz=93,slow=7.7,SNR=13							
comp=Z,0.5nm,0.4s							
AS31	**Alice Springs**	**44.77**	**254**	P	**P**	**18 08 12.5**	**+0.1**
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**18 08 12.0**	**-0.4**
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**18 08 12.6**	**+0.2**
comp=Z,3.1nm,0.5s,baz=88,slow=8.6,SNR=105							
ASAR				PcP	**PcP**	**18 09 42.0**	**+0.1**
comp=Z,0.4nm,0.6s,baz=100,slow=4.2,SNR=5.7							
comp=Z,3.1nm,0.5s							
MTN	**Manton Dam**	**48.85**	**269**	P	**P**	**18 08 42.7**	**-0.3**
MTN				IAmb	IAmb	18 08 43.2	
comp=Z,16nm,1.3s							
FORT	**Forrest**	**49.95**	**245**	P	**P**	**18 08 50.5**	**-0.4**
FORT				IAmb	IAmb	18 09 31.5	
comp=Z,28nm,1.2s							
KNRA	**Kununurra**	**50.52**	**264**	P	**P**	**18 08 55.1**	**-0.1**
KNRA				IAmb	IAmb	18 09 20.1	
comp=Z,26nm,1.4s							
FITZ	**Fitzroy Crossi**	**53.04**	**261**	P	**P**	**18 09 13.7**	**+0.3**
MJAR	**Matsushiro Arr**	**68.15**	**323**	P	**P**	**18 10 52.0**	**-0.3**
comp=Z,1.0nm,0.6s,baz=147,slow=6.9,SNR=2.2							
comp=Z,1.0nm,0.6s							
MAJO	**Matsushiro**	**68.15**	**323**	P	**P**	**18 10 52.3**	**0.0**
MAJO				IAmb	IAmb	18 11 23.5	
comp=Z,13nm,1.4s							
L18K	**Granite Mounta**	**81.94**	**10**	P	**P**	**18 12 08.1**	**-0.3**
L18K				IAmb	IAmb	18 12 18.1	
comp=Z,19nm,1.4s							
ILAR	**Eielson Array**	**86.13**	**13**	P	**P**	**18 12 27.9**	**-1.1**
comp=Z,0.2nm,0.4s,baz=210,slow=4.4,SNR=4.5							
comp=Z,0.2nm,0.4s							
CMAR	**Chiang Mai Arr**	**89.02**	**290**	P	**P**	**18 12 44.2**	**+0.6**
comp=Z,0.5nm,1.0s,baz=90,slow=4.5,SNR=2.4							
comp=Z,0.5nm,1.0s							
BUR08	**Bucovina Ar. S**	**144.85**	**332**	PKPdf	PKPbc	18 19 22.1	+0.6
CLL	**Collm**	**145.73**	**347**	*i* PKPbc	**PKPdf**	**18 19 23.7**	**+1.6**
MMAI	**Mount Meron Ar**	**146.33**	**303**	PKPbc	**PKPbc**	**18 19 26.7**	**+0.6**
comp=Z,4.3nm,1.0s,baz=71,slow=6.2,SNR=4.4							
GERES	**GERESS Array B**	**147.88**	**345**	PKPbc	**PKPbc**	**18 19 29.7**	**0.0**
comp=Z,0.6nm,0.6s,baz=31,slow=2.3,SNR=2.0							

*MOS **02** 18:19:27.9±0.9, 36°.34N×141°.98E, h27km, mb5.0/53, MS4.2/8, Error ellipse: s-maj=7.6km s-min=4.1km az=121.6*
*IDC **02** 18:19:27.4±0.6, 36°.30N×141°.91E, h0km, mb4.4/24, mbtmp4.4/30, ML4.1/6, MS3.9/56, Error ellipse: s-maj=15.3km s-min=13.5km az=99.0*
*BJI **02** 18:19:27.6, 36°.28N×141°.73E, h10km, mb4.9/59, mB5.0/23, Ms4.5/52, Ms7 4.4/52*
*NEIC **02** 18:19:29.8, 36°.34N×142°.02E, h17km*
*NEIC **02** 18:19:29.5±1.6, 36°.33N±0°.05×142°.00E±0°.08, h15km±3km, mb4.8/133, Mwr4.5/16, Mww4.5/9, Error ellipse: s-maj=9.9km s-min=7.3km az=89.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}4.67; $M_{\theta\theta}$-0.15; $M_{\phi\phi}$-4.52; $M_{r\theta}$0.14; $M_{\theta\phi}$-2.51; $M_{\phi r}$3.85; Fault plane solution: $M_0$6.50000×10^{15} NP1:ϕ_s9.94000°, δ63.97000°, λ74.95000°. NP2:ϕ_s221.43000°, δ29.80000°, λ117.99000°. Principal axes: T 6.1618, Plg68.0000°, Azm251.0000°; N 0.6332, Plg13.0000°, Azm17.0000°; P -6.7949, Plg18.0000°, Azm111.0000°;*
*NEIC **02** 18:19:30.2, 36°.33N×141°.97E, h14km*
*NEIC **02** 18:19:30.2, 36°.13N×142°.34E, h14km, Moment Tensor Solution. Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}5.07; $M_{\theta\theta}$-0.53; $M_{\phi\phi}$-4.55; $M_{r\theta}$2.74; $M_{\theta\phi}$-1.19; $M_{\phi r}$4.29; Fault plane solution: $M_0$7.11000×10^{15} NP1:ϕ_s27.21000°, δ68.04000°, λ98.52000°. NP2:ϕ_s185.39000°, δ23.48000°, λ69.84000°. Principal axes: T 7.3145, Plg66.0000°, Azm312.0000°; N -0.4124, Plg8.0000°, Azm204.0000°; P -6.9021, Plg23.0000°, Azm111.0000°;*
*NIED **02** 18:19:31.6, 36°.36N×141°.80E, h61km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}4.27; $M_{\theta\theta}$0.69; $M_{\phi\phi}$-4.96; $M_{r\theta}$2.71; $M_{\theta\phi}$-1.43; $M_{\phi r}$5.91; Fault plane solution: $M_0$8.09000×10^{15} NP1:ϕ_s23.00000°, δ72.00000°, λ97.00000°. NP2:ϕ_s180.00000°, δ19.00000°, λ68.00000°.*
*JMA **02** 18:19:31.6±0.2, 36°.4N±0°.4×14°2E±°, h61km±3km, MD4.8/40, MW4.6/40, FAR E OFF IBARAKI PREF*
JMA Felt I J1 at FAR E OFF IBARAKI PREF .
ISC 02 18:19:29.2±0.5,**36°.28N**±0°.03×**141°.99E**±0°.04,**h18**km±2km,
h17km:**pP-P,n467,**σ1s**51**/441,**mb4.8**/138,**MS4.1**/71,
16C-10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.13**	**273**	*i* P	**Pn**	**18 19 49.6**	**-0.5**
JHYU				*e*S	**Sb**	**18 20 02.5**	**-2.2**
JHYU	**Hitachinakayam**	**1.13**	**273**	A	A	18 19 49.6	
comp=E,21nm,1.0s,comp=N,20nm,0.8s							
JHO	**Hitachi**	**1.19**	**286**	⇓*e*P	**Pn**	**18 19 49.9**	**-1.1**
JHO				⇓*e*S	**Sb**	**18 20 03.9**	**-2.4**
JHO	**Hitachi**	**1.19**	**286**	A	A	18 19 49.9	
comp=E,12nm,0.8s,comp=N,6.0nm,3.4s							
JIHU	**Itakohorinouch**	**1.23**	**255**	*e*P	**Pn**	**18 19 51.4**	**0.0**
JIHU	**Itakohorinouch**	**1.23**	**255**	A	A	18 19 51.4	
comp=E,90nm,1.8s,comp=N,84nm,0.9s							
ONAJ	**Iwakimizuishiy**	**1.26**	**311**	*e*P	**Pn**	**18 19 50.8**	**-1.2**
ONAJ	**Iwakimizuishiy**	**1.26**	**311**	A	A	18 19 50.8	
comp=E,26nm,0.3s,comp=N,24nm,0.3s							
JFFD	**Fukushimafurud**	**1.40**	**305**	A	A	18 19 53.0	
comp=E,11nm,0.4s,comp=N,8.0nm,0.8s							
JFK	**Kawauchi**	**1.40**	**321**	*i* P	**Pn**	**18 19 53.3**	**-0.7**
JFK				*e*S	**Sn**	**18 20 09.7**	**-2.4**
JFK	**Kawauchi**	**1.40**	**321**	A	A	18 19 53.3	
comp=E,9.0nm,0.6s,comp=N,10.0nm,3.6s							
JSMT	**Sammumatsuo**	**1.40**	**243**	A	A	18 19 54.1	
comp=E,64nm,1.5s,comp=N,54nm,1.7s							
JYT	**Yasato**	**1.45**	**268**	A	A	18 19 54.0	
comp=E,30nm,0.4s,comp=N,21nm,1.7s							
JMST	**Minamisoumatoc**	**1.69**	**329**	A	A	18 19 57.4	
comp=E,15nm,0.6s,comp=N,14nm,0.7s							
JCN	**Nagara**	**1.69**	**240**	A	A	18 19 58.2	
comp=E,42nm,2.9s,comp=N,33nm,4.9s							
JSB	**Shiboa**	**1.80**	**293**	A	A	18 19 58.6	
comp=E,28nm,2.6s,comp=N,16nm,3.0s							
BSO1	**Boso 1**	**1.82**	**207**	P	**Pb**	**18 20 00.7**	**-1.0**
BSO1				S	**Sn**	**18 20 22.4**	**+0.8**
JOTO	**OTAMA OYAMA**	**1.84**	**314**	*i* P	**Pn**	**18 20 00.3**	**+0.4**
JOTO	**OTAMA OYAMA**	**1.84**	**314**	A	A	18 20 00.3	
comp=E,32nm,0.8s,comp=N,44nm,0.9s							
JMM	**Marumori**	**1.85**	**329**	Pn	**Pn**	**18 19 59.5**	**-0.4**
JMM				Sn	**Sn**	**18 20 22.3**	**-0.7**
JMM	**Marumori**	**1.85**	**329**	P	**Pn**	**18 20 00.4**	**+0.4**
JMM	**Marumori**	**1.85**	**329**	*i* P	**Pn**	**18 19 59.7**	**-0.3**
TOK	**Tokyo**	**1.90**	**252**	A	A	18 20 00.7	
comp=E,28nm,1.5s,comp=N,26nm,2.5s							
BSO3	**Boso 3**	**1.91**	**220**	*i* P	**Pb**	**18 20 02.0**	**-1.3**
JAG	**Ashikaga**	**2.05**	**275**	⇓*i* P	**Pn**	**18 20 02.4**	**-0.4**
JAG				⇓*e*S	**Sn**	**18 20 24.7**	**-3.3**
TATJ	**Tateyama 2**	**2.12**	**234**	A	A	18 20 04.3	
comp=E,16nm,1.5s,comp=N,18nm,2.5s							
JFY	**Yanaizu**	**2.15**	**302**	*i* P	**Pn**	**18 20 04.5**	**+0.4**
JYAR	**Yonezawaarcadi**	**2.19**	**318**	A	A	18 20 04.3	
comp=E,40nm,1.4s,comp=N,27nm,0.9s							
JOU	**Okura**	**2.33**	**333**	A	A	18 20 06.6	
comp=E,15nm,0.9s,comp=N,16nm,0.4s							
JOFO	**Osakifurukawao**	**2.47**	**340**	A	A	18 20 08.6	
comp=E,43nm,2.2s,comp=N,34nm,1.2s							
JRY	**Ryogami san**	**2.51**	**265**	*e*P	**Pn**	**18 20 09.1**	**-0.1**
JOD2	**Odawara 2**	**2.57**	**247**	*e*P	**Pn**	**18 20 10.4**	**+0.4**
JOD2				*e*S	**Sn**	**18 20 39.4**	**-1.4**
JNS	**Sasagawa**	**2.63**	**306**	*e*P	**Pn**	**18 20 11.5**	**+0.8**
JNS				*e*S	**Sn**	**18 20 40.6**	**-1.6**
JYA	**Atsumi**	**2.93**	**323**	A	A	18 20 14.8	
comp=E,11nm,0.7s,comp=N,10.0nm,1.2s							
MJAR	**Matsushiro Arr**	**3.06**	**276**	Pn	**Pn**	**18 20 16.8**	**0.0**
comp=N,19nm,0.3s,baz=110,slow=8.9,SNR=525							
MJAR				Sn	**Sn**	**18 20 51.8**	**-1.1**
comp=N,7.2nm,0.3s,baz=156,slow=37,SNR=3.2							
MJAR				LR	LR	18 21 23.6	
comp=N,923nm,19.2s,baz=154,slow=39							
comp=N,115nm,0.4s							
MAJO	**Matsushiro**	**3.06**	**276**	Pn	**Pn**	**18 20 17.8**	**+1.0**
MAJO	**Matsushiro**	**3.06**	**276**	P	**Pn**	**18 20 18.7**	**+2.0**
MAJO	**Matsushiro**	**3.06**	**276**	*i* P	**Pn**	**18 20 18.2**	**+1.5**
MJB9	**Matsu-Tunnel**	**3.06**	**276**		**Pn**	**18 20 18.2**	**+1.5**
JYYZ	**Yamagatayuza**	**3.18**	**330**	A	A	18 20 18.4	
comp=E,17nm,2.8s,comp=N,17nm,3.1s							
JSD	**Sado**	**3.45**	**302**	Pn	**Pn**	**18 20 22.3**	**+0.2**
JSD	**Sado**	**3.45**	**302**	P	**Pn**	**18 20 23.2**	**+1.1**
JSG	**Sagara**	**3.49**	**244**		**Pn**	**18 20 22.7**	**+0.1**
JSG	**Sagara**	**3.49**	**244**	P	**Pn**	**18 20 23.9**	**+1.2**
JHJ2	**Mitsune**	**3.63**	**210**	Pn	**Pn**	**18 20 25.2**	**+0.6**
JHJ2	**Mitsune**	**3.63**	**210**	P	**Pn**	**18 20 26.2**	**+1.6**
JHJ	**Hachijo jima 2**	**3.64**	**211**	Pn	**Pn**	**18 20 25.3**	**+0.6**
comp=N,161nm,0.3s,baz=64,slow=21,SNR=43							
JHJ				Sn	**Sn**	**18 21 05.8**	**-1.4**
comp=N,148nm,0.3s,baz=62,slow=23,SNR=9.4							
JHJ				LR	LR	18 21 22.5	
comp=N,179nm,21.5s,baz=290,slow=32							
comp=N,324nm,0.4s							
JGF	**Kuroka**	**3.82**	**261**	Pn	**Pn**	**18 20 29.1**	**+1.9**
JGF	**Kuroka**	**3.82**	**261**	P	**Pn**	**18 20 30.0**	**+2.8**
INU	**Inuyama**	**4.15**	**258**	Pn	**Pn**	**18 20 33.1**	**+1.5**
INU	**Inuyama**	**4.15**	**258**	P	**Pn**	**18 20 34.2**	**+2.6**
JTM	**Tenmabayashi**	**4.55**	**351**	Pn	**Pn**	**18 20 37.2**	**0.0**
JTM	**Tenmabayashi**	**4.55**	**351**	P	**Pn**	**18 20 39.2**	**+2.0**
ERM	**Erimo**	**5.79**	**9**	Pn	**Pn**	**18 20 52.9**	**-1.4**
ERM	**Erimo**	**5.79**	**9**	P	**Pn**	**18 20 53.4**	**-0.8**
ERM	**Erimo**	**5.79**	**9**	*e*P	**Pn**	**18 20 53.0**	**-1.2**
ERM				pmax	pmax		
comp=Z,19nm,0.6s							
JMN	**Monobe**	**7.13**	**251**	Pn	**Pn**	**18 21 13.9**	**+1.3**
JMN	**Monobe**	**7.13**	**251**	P	**Pn**	**18 21 14.8**	**+2.2**
ASAJ	**Asahikawa**	**7.84**	**3**	Pn	**Pn**	**18 21 22.1**	**-0.2**
comp=Z,5.5nm,0.3s,baz=207,slow=12,SNR=43							
ASAJ				Sn	**Sn**	**18 22 44.0**	**-6.5**
comp=Z,3.5nm,0.3s,baz=108,slow=20,SNR=2.3							
comp=Z,12nm,0.4s							
JKA	**Kamikawa-asahi**	**7.84**	**3**	Pn	**Pn**	**18 21 21.3**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**8.29**	**20**	*e*P	**Pn**	**18 21 28.3**	**-0.2**
YUK				*i* S	**Sn**	**18 22 53.7**	**-7.9**
YUK				pmax	pmax		
comp=Z,71nm,0.2s							
SHO	**Shikotan**	**8.44**	**25**	P	**Pn**	**18 21 33.1**	**+2.6**
JCJ	**Chichijima**	**9.16**	**179**	Pn	**Pn**	**18 21 40.6**	**+0.1**
JCJ	**Chichijima**	**9.16**	**179**	Pn	Pn	18 21 35.5	-5.1
JCJ	**Chichijima**	**9.16**	**179**	P	**Pn**	**18 21 41.2**	**+0.7**
TEY	**Ternei**	**9.65**	**337**	*e*P	**Pn**	**18 21 48.9**	**+1.8**
TEY				*e*		18 23 43.2	
JNU	**Nakatsue**	**9.68**	**254**	Pn	**Pn**	**18 21 47.8**	**+0.2**
JNU	**Nakatsue**	**9.68**	**254**	Pn	**Pn**	**18 21 48.6**	**+1.0**
comp=Z,1.2nm,0.3s,baz=84,slow=9

MDJ sP 18 22 37.1
MDJ S **Sn** **18 24 52.1 +5.4**
MDJ pmax pmax
comp=E,6.0nm,1.0s
MDJ LR LR
comp=E,640nm,17.2s
MDJ LR LR
comp=E,830nm,17.2s
MDJ LR LR
comp=E,1μm,17.2s
BNX BinXian 14.49 315 ⇑P **Pn** **18 22 51.8 -1.5**
BNX pmax pmax
comp=E,6.0nm,1.1s
TYV Tymovskoe 14.58 2 *e*P **P** **18 23 01.6 +0.7**
TYV pmax pmax
comp=Z,200nm,2.2s
TYV pmax pmax
comp=Z,15nm,0.9s
TYV MLR MLR
comp=Z,1μm,16.0s
CN2 Changchun 14.71 306 *e*P **Pn** **18 22 55.2 -1.2**
CN2 *e*S **Sn** **18 25 37.6 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,6.0s
CN2 LR LR
comp=Z,600nm,15.0s
CN2 LR LR
comp=Z,900nm,15.0s
CN2 LR LR
comp=Z,800nm,15.0s
KLR Kul'dur 14.95 333 Pn **Pn** **18 22 59.3 -0.1**
comp=Z,0.4nm,0.3s,baz=134,slow=14,SNR=2.2
KLR LR LR 18 28 37.2
comp=Z,454nm,19.8s,baz=144,slow=37
comp=Z,1.7nm,0.4s
KLR Kul'dur 14.95 333 *i*P **Pn** **18 23 01.2 +1.7**
KLR pmax pmax
comp=Z,2.0nm,0.8s
JOW Kunigami 15.00 235 LR LR 18 28 48.7
comp=Z,327nm,20.3s,baz=74,slow=38
HEH HeiHe 17.49 327 *e*P **Pn** **18 23 27.5 -4.6**
HEH LR LR
comp=Z,320nm,13.9s
HEH LR LR
comp=Z,580nm,14.8s
HEH LR LR
comp=Z,500nm,14.5s
NJ2 Nanjing 19.59 264 *e*P **Pn** **18 23 59.5 +1.8**
NJ2 pmax pmax
comp=Z,13nm,0.5s
TIA Tai'an 20.04 277 P **P** **18 24 00.0 -1.3**
TIA pmax pmax
comp=Z,14nm,0.9s
TIA LR LR
comp=Z,580nm,15.0s
TIA LR LR
comp=Z,320nm,16.3s
TIA LR LR
comp=Z,580nm,18.2s
PETK Petropavlovsk- 20.11 28 P **P** **18 24 00.4 -1.6**
PETK Petropavlovsk- 20.11 28 P **P** **18 24 02.0 +0.1**
comp=Z,2.5nm,0.9s,baz=201,slow=7.6,SNR=2.1
PETK LR LR 18 31 53.2
comp=Z,138nm,21.0s,baz=215,slow=37
comp=Z,2.5nm,0.9s
ZEA Zeya 20.25 334 *e*P **P** **18 24 03.5 +0.1**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=Z,300nm,14.0s
PET Petropavlovsk 20.43 30 P **P** **18 24 02.9 -2.4**
PET IAmb IAmb 18 24 31.8
comp=Z,49nm,1.4s
PET Petropavlovsk 20.43 30 *e*P Pn 18 24 10.9 +3.5
PET *e*S **S** **18 27 49.1 -4.1**
PET pmax pmax
comp=Z,100nm,11.5s
BJI Beijing 20.62 288 P **P** **18 24 04.5 -3.0**
BJI pmax pmax
comp=Z,35nm,4.3s
BJI LR LR
comp=Z,170nm,13.3s
BJI LR LR
comp=Z,180nm,13.4s
BJI LR LR
comp=Z,240nm,15.0s
BJT Baijiatuau 20.62 288 P **P** **18 24 05.4 -2.1**
BJT Baijiatuau 20.62 288 P **P** **18 24 05.4 -2.1**
BJT pmax pmax
comp=Z,11nm,0.6s
YHNB Yeheng 21.16 243 P **P** **18 24 10.4 -3.1**
YHNB IAmb IAmb 18 24 35.0
comp=Z,59nm,1.2s
XLT XiLinHaoTe 21.17 299 *e*P **P** **18 24 11.4 -2.2**
XLT pmax pmax
comp=Z,40nm,0.8s
XLT LR LR
comp=Z,1μm,13.6s
XLT LR LR
comp=Z,1μm,14.1s
NACB Ninganchiao 21.31 241 P **P** **18 24 11.4 -3.6**
NACB IAmb IAmb 18 24 18.2
comp=Z,36nm,1.1s
HNS HongShan 21.84 281 ⇓P **P** **18 24 18.4 -2.2**
HNS S **S** **18 28 21.8 +0.5**
HNS pmax pmax
comp=Z,24nm,0.7s
HNS LR LR
comp=Z,790nm,14.3s
HNS LR LR
comp=Z,900nm,14.3s
SSLB Suanglung 22.01 241 P **P** **18 24 19.6 -3.0**
YULB Yu-li 22.02 240 P **P** **18 24 19.0 -3.7**
YULB IAmb IAmb 18 24 39.6
comp=Z,34nm,1.1s
TPUB Ta-pu 22.54 241 P **P** **18 24 25.0 -3.4**
TPUB IAmb IAmb 18 24 49.6
comp=Z,55nm,1.2s
GUMO Guam 22.75 173 P **P** **18 24 27.8 -2.7**
GUMO Guam 22.75 173 LR LR 18 32 53.3
comp=Z,37nm,20.9s,baz=28,slow=35
GUMO Guam 22.75 173 P **P** **18 24 27.8 -2.7**
GUMO pmax pmax
comp=Z,185nm,1.2s
WHN Wuhan 23.73 264 ⇓P **P** **18 24 40.2 -0.1**
MA2 Magadan 24.00 11 P **P** **18 24 43.6 +1.0**
MA2 Magadan 24.00 11 LR LR 18 35 04.8
comp=Z,77nm,19.3s,baz=252,slow=39
MA2 Magadan 24.00 11 P **P** **18 24 43.6 +1.0**
MA2 pmax pmax
comp=Z,94nm,1.5s
HHC Hu-ho-hao-te 24.16 290 *e*P **P** **18 24 45.6 +1.2**
HHC pmax pmax
comp=Z,39nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.3s
HHC LR LR
comp=Z,190nm,14.9s
HHC LR LR
comp=Z,330nm,15.3s
HHC LR LR
comp=Z,600nm,17.0s
BTO Baotou 25.33 290 *e*P **P** **18 24 54.7 -0.4**
BTO pP **pP** **18 24 59.0 -0.7**
BTO sP **sP** **18 25 01.5 +0.1**
BTO PP **PnPn** **18 25 33.6 +3.8**
BTO S **S** **18 29 20.5 0.0**
BTO sS **pS** **18 29 25.2 -0.4**
BTO SS **SnSn** **18 30 18.8 +6.7**
BTO pmax pmax
comp=Z,16nm,0.4s
BTO pmax pmax
comp=Z,360nm,6.0s
BTO LR LR
comp=Z,470nm,14.3s
BTO LR LR
comp=Z,1μm,13.8s
BTO LR LR
comp=Z,1μm,15.4s
YAK Yakutsk 26.90 347 P **P** **18 25 08.5 -0.3**
YAK Yakutsk 26.90 347 LR LR 18 36 02.7
comp=Z,175nm,19.7s,baz=140,slow=37
YAK Yakutsk 26.90 347 *c i*P **P** **18 25 08.6 -0.3**
YAK *e**PP **pP** **18 25 12.4 -1.0**
YAK *e*PPP PPP 18 25 59.1
YAK *e*S **S** **18 29 46.8 +2.1**
YAK *e**SS **sS** **18 29 54.7 +2.6**
YAK *e*SS **SnSn** **18 30 53.0 +3.1**
YAK pmax pmax
comp=Z,60nm,1.0s
YAK pmax pmax
comp=N,26nm,1.2s
YAK pmax pmax
comp=E,11nm,1.4s
YAK smax smax
comp=N,30nm,2.2s
YAK smax smax
comp=E,20nm,2.3s
YAK MLR MLR
comp=Z,383nm,17.0s
YAK MLR MLR
comp=N,342nm,18.0s
YAK MLR MLR
comp=E,127nm,22.0s
XAN Xi'an 27.05 275 ⇓P **P** **18 25 10.8 +0.1**
XAN pmax pmax
comp=E,30nm,1.3s
XAN LR LR
comp=E,400nm,11.7s
XAN LR LR
comp=E,800nm,12.4s
XAN LR LR
comp=E,650nm,13.1s
H11N2 WAKE ISLAND Hy 27.37 120 T T 18 54 35.5
baz=313
H11N1 WAKE ISLAND Hy 27.38 120 T T 18 54 34.9
baz=313,slow=74,SNR=91
H11N3 WAKE ISLAND Hy 27.39 120 T T 18 54 34.6
baz=313,slow=74,SNR=86
ENH Enshi 27.74 267 P **P** **18 25 16.2 -0.7**
SHEM Shemya Is, Ala 27.88 44 LR LR 18 34 31.2
comp=E,77nm,20.8s,baz=82,slow=32
H11S1 WAKE ISLAND Hy 28.07 123 T T 18 55 32.1
baz=314,slow=76,SNR=40
H11S3 WAKE ISLAND Hy 28.07 123 T T 18 55 22.3
baz=314,slow=76,SNR=23
H11S2 WAKE ISLAND Hy 28.08 123 T T 18 55 29.4
baz=314,slow=76,SNR=30
ULN Ulaanbaatar 28.16 305 P **P** **18 25 21.1 +0.5**
ULN IAmb IAmb 18 25 22.4
comp=Z,15nm,0.8s
ULN Ulaanbaatar 28.16 305 *ce*P **P** **18 25 21.0 +0.5**
ULN pmax pmax
comp=Z,18nm,0.9s
BOD Bodaibo 28.41 328 *e*P **P** **18 25 22.0 -0.5**
BOD pmax pmax
comp=Z,15nm,1.2s
SONM Songino Array 28.59 305 P **P** **18 25 24.1 -0.3**
SONM IAmb IAmb 18 25 27.4
comp=Z,19nm,0.6s
SONM Songino Array 28.59 305 P **P** **18 25 24.8 +0.4**
comp=Z,18nm,0.5s,baz=132,slow=4.3,SNR=43
SONM LR LR 18 37 08.6
comp=Z,271nm,18.9s,baz=52,slow=37
comp=Z,18nm,0.5s
LZH Lanzhou 30.66 281 *e*P P 18 25 36.7 -6.1
LZH sP pP 18 25 47.2 -0.3
LZH pmax pmax
comp=Z,17nm,1.5s
LZH LR LR
comp=N,340nm,14.8s
LZH LR LR
comp=E,580nm,14.1s
LZH LR LR
comp=Z,900nm,13.7s
ZAK Zakamensk 31.10 309 *e*P **P** **18 25 46.6 +0.1**
ZAK pmax pmax
comp=Z,14nm,1.1s
GYA Guiyang 31.56 262 ⇓P **P** **18 25 50.7 -0.1**
GYA S **S** **18 30 55.1 -3.8**
GYA pmax pmax
comp=Z,45nm,1.0s
GYA LR LR
comp=Z,620nm,17.4s
CD2 Chengdu 32.15 272 P **P** **18 25 55.5 -0.4**
CD2 pP pP 18 26 01.1 +0.5
CD2 sP pwP 18 26 03.9 +0.4
CD2 S **S** **18 31 07.5 -0.3**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 LR LR
comp=Z,390nm,12.2s
CD2 LR LR
comp=Z,360nm,13.7s
CD2 LR LR
comp=Z,590nm,12.2s
GTA Gaotai 33.23 288 *e*P **P** **18 26 06.0 +0.6**
GTA pP pP 18 26 10.2 +0.1
GTA PcP **PcP** **18 28 49.8 +2.1**
GTA pmax pmax
comp=Z,12nm,0.8s
GTA LR LR
comp=Z,170nm,15.3s
GTA LR LR
comp=Z,340nm,16.4s
GTA LR LR
comp=Z,340nm,16.4s
KMI Kunming 35.31 263 ⇓P **P** **18 26 23.7 0.0**
KMI pmax pmax
comp=Z,19nm,1.0s
KMI pmax pmax
comp=Z,140nm,5.8s
KMI LR LR
comp=Z,400nm,15.4s
KMI LR LR
comp=Z,410nm,16.5s
KMI LR LR
comp=Z,430nm,15.5s
PZH PanZhiHua 35.50 266 P **P** **18 26 24.6 -0.5**
PZH S **S** **18 31 55.1 -4.7**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,110nm,3.9s
PZH LR LR
comp=Z,270nm,13.1s
PZH LR LR
comp=Z,310nm,14.5s
PZH LR LR
comp=Z,370nm,13.7s
TIXI Tiksi 36.09 353 P **P** **18 26 29.2 -0.2**
TIXI Tiksi 36.09 353 LR LR 18 42 19.8
comp=Z,158nm,18.8s,baz=201,slow=38
TIXI Tiksi 36.09 353 *ce*P **P** **18 26 29.5 0.0**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
SLVN Son La 36.29 256 P **P** **18 26 30.9 -1.0**
MYLDM Lahad Datu 37.73 220 P **P** **18 26 43.6 -0.5**
GOMU GeErMu 37.75 284 P **P** **18 26 45.5 +1.0**
GOMU pP sP 18 26 50.1 -0.8
GOMU pmax pmax
comp=Z,56nm,1.2s
TNTI Ternate 37.85 204 P **P** **18 26 43.1 -1.9**
TNTI IAmb IAmb 18 26 57.6
comp=Z,15nm,1.0s
MANU Manus Island 38.46 171 P **P** **18 26 48.4 -1.8**
MANU IAmb IAmb 18 27 25.7
comp=Z,36nm,1.4s
TNCH TengChong 38.75 266 ⇑P **P** **18 26 53.5 +0.6**
TNCH pP pP 18 26 56.3 -1.3
TNCH sP sP 18 26 58.9 -0.4
TNCH S **S** **18 32 51.4 +1.9**
TNCH sS sS 18 32 57.8 +0.4
TNCH pmax pmax
comp=Z,21nm,1.1s
TNCH pmax pmax
comp=Z,110nm,4.1s
TNCH LR LR
comp=Z,200nm,8.2s
TNCH LR LR
comp=Z,280nm,13.4s
TNCH LR LR
comp=Z,300nm,14.5s
FAKI Fak Fak 40.05 195 P **P** **18 27 06.1 +2.6**
TOLI2 Tolitoli 40.14 214 P **P** **18 27 04.7 +0.5**
PHRA Phrae 40.73 256 P **P** **18 27 08.6 -0.6**
LUWI Luwuk 41.22 210 P **P** **18 27 12.7 -0.4**
CHTO Chiang Mai 41.56 257 P **P** **18 27 15.4 -0.6**
CHTO Chiang Mai 41.56 257 P **P** **18 27 15.4 -0.6**
CHTO pmax pmax
comp=Z,10.0nm,0.8s
WMQ Urumqi 41.59 298 *e*P **P** **18 27 17.8 +1.7**
WMQ sP pwP 18 27 29.0 +5.3
WMQ pmax pmax
comp=Z,32nm,0.9s
WMQ pmax pmax
comp=Z,170nm,4.9s
WMQ LR LR
comp=Z,380nm,19.3s
WMQ LR LR
comp=Z,350nm,16.5s
WMQ LR LR
comp=Z,220nm,19.9s
CM31 Chiang Mai Arr 41.76 257 P **P** **18 27 17.4 -0.3**
CMAR Chiang Mai Arr 41.76 257 P **P** **18 27 17.8 +0.1**
CMAR Chiang Mai Arr 41.76 257 P **P** **18 27 18.1 +0.5**
comp=Z,5.3nm,0.8s,baz=48,slow=5.9,SNR=43
CMAR PcP **PcP** **18 29 14.7 +0.9**
comp=Z,0.3nm,0.3s,baz=60,slow=2.2,SNR=2.1
CMAR LR LR 18 45 11.0
comp=Z,86nm,19.6s,baz=55,slow=37
comp=Z,5.3nm,0.8s
LSA Lhasa 42.74 276 P **P** **18 27 26.3 +0.2**
LSA Lhasa 42.74 276 P P 18 27 13.9 -12
LSA pmax pmax
comp=Z,11nm,1.0s
LSA Lhasa 42.74 276 P **P** **18 27 26.3 +0.2**
LSA pmax pmax
comp=Z,9.0nm,0.9s
ZAA0 Zalesovo Array 42.76 313 P **P** **18 27 25.4 +0.1**
ZAA0 IAmb IAmb 18 27 26.8
comp=Z,14nm,0.9s
ZAA0 PP **PP** **18 29 02.6 -1.9**
ZAA0 PcP **PcP** **18 29 16.6 0.0**
ZALV Zalesovo Beam 42.76 313 P **P** **18 27 25.6 +0.2**
comp=Z,6.0nm,0.5s,baz=93,slow=7.4,SNR=35
ZALV PcP **PcP** **18 29 16.9 +0.4**
comp=Z,1.9nm,0.5s,baz=96,slow=4.3,SNR=3.7
ZALV LR LR 18 45 49.8
comp=Z,254nm,19.5s,baz=81,slow=37
comp=Z,6.0nm,0.5s
ZALV Zalesovo Beam 42.76 313 P **P** **18 27 25.1 -0.3**
ZALV 18 29 02.8
ZALV 18 29 16.7
ZSN Zaisan 43.08 303 *e*P **P** **18 27 28.7 +0.6**
comp=Z,15nm,0.7s
ZSN Zaisan 43.08 303 *e*P **P** **18 27 28.7 +0.6**
ZSN pmax pmax
comp=Z,15nm,0.7s
SBUM Sibu 43.47 226 P **P** **18 27 31.0 -0.4**
SHL Shillong 43.87 270 P **P** **18 27 32.0 -2.9**
SHL Shillong 43.87 270 P **P** **18 27 32.0 -2.9**
SHL pmax pmax
comp=Z,6.0nm,0.6s
NRIK Noril'sk 44.14 336 P **P** **18 27 36.4 +0.1**
NRIK Noril'sk 44.14 336 P **P** **18 27 36.6 +0.3**
comp=Z,2.8nm,0.7s,baz=86,slow=6.4,SNR=3.0
NRIK LR LR 18 47 20.0
comp=Z,209nm,18.0s,baz=324,slow=38
comp=Z,2.8nm,0.7s
NRIK Noril'sk 44.14 336 *ce*P **P** **18 27 36.8 +0.5**
NRIK pmax pmax
comp=Z,4.0nm,1.0s
MK31 Makanchi Array 44.91 303 P **P** **18 27 42.2 -0.6**
MK31 IAmb IAmb 18 27 44.3
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 44.91 303 *ce*P **P** **18 27 43.1 +0.3**
MKAR Makanchi Array 44.91 303 P **P** **18 27 43.0 +0.2**
MKAR Makanchi Array 44.91 303 P **P** **18 27 43.3 +0.5**
comp=Z,7.9nm,0.6s,baz=88,slow=10,SNR=50
MKAR LR LR 18 47 06.8
comp=Z,196nm,19.9s,baz=78,slow=37
comp=Z,7.9nm,0.6s
MAKZ Makanchi 45.12 303 P **P** **18 27 44.7 +0.2**
MAKZ IAmb IAmb 18 27 48.1
comp=Z,13nm,0.9s
MAKZ Makanchi 45.12 303 P **P** **18 27 44.7 +0.2**
MAKZ pmax pmax
comp=Z,13nm,0.9s
BRDH Bariadhala 45.41 267 LR LR 18 49 54.4
comp=Z,147nm,19.2s,baz=114,slow=40
E19K Redstone River 45.91 28 P **P** **18 27 52.0 +1.6**
E19K IAmb IAmb 18 28 19.4
comp=Z,9.4nm,1.1s
J19K Poorman 46.06 33 P **P** **18 27 50.2 -1.3**
J19K IAmb IAmb 18 28 12.6
comp=Z,11nm,1.2s
B20K Meade River 46.48 24 P **P** **18 27 56.3 +1.5**
KURK Kurchatov 46.76 309 P **P** **18 27 57.2 -0.1**
KURK Kurchatov 46.76 309 *ce*P **P** **18 27 57.8 +0.5**
KURK pmax pmax
comp=Z,23nm,0.8s
KURBB Kurchatov Arra 46.83 309 P **P** **18 27 58.0 +0.2**
comp=Z,14nm,0.6s,baz=84,slow=7.9,SNR=124
KURBB LR LR 18 48 19.5
comp=Z,269nm,19.6s,baz=154,slow=37
comp=Z,14nm,0.6s
B21K Ikpikpuk River 47.27 25 P **P** **18 28 02.0 +1.1**
SHLS Shalkode 47.60 298 *e*P **P** **18 28 02.3 -1.8**
SHLS Shalkode 47.60 298 *e*P **P** **18 28 02.3 -1.8**
B22K Teshekpuk Lake 47.80 24 P **P** **18 28 05.7 +0.6**
TDK Taldyqorghan 47.91 301 *e*P **P** **18 28 07.2 +0.8**
TDK Taldyqorghan 47.91 301 *e*P **P** **18 28 07.2 +0.8**
UZB Uzynbulak 47.91 299 *e*P **P** **18 28 07.2 +0.6**
comp=Z,5.2nm,0.7s
UZB Uzynbulak 47.91 299 *e*P **P** **18 28 07.2 +0.6**
UZB pmax pmax
comp=Z,5.0nm,0.7s
KPKS Kokpek 48.07 299 *e*P **P** **18 28 08.5 +0.7**
KPKS Kokpek 48.07 299 *e*P **P** **18 28 08.4 +0.7**
WUS Wushi 48.27 296 P **P** **18 28 10.3 +0.9**
SATY Saty 48.37 299 *e*P **P** **18 28 10.9 +0.8**
SATY Saty 48.37 299 *e*P **P** **18 28 10.9 +0.8**
MMRI Maumere 48.39 207 P **P** **18 28 09.5 -0.7**
HNR Honiara 48.51 156 LR LR 18 45 26.2
comp=Z,83nm,21.5s,baz=354,slow=32
PRZ Przheval'sk 48.52 298 P **P** **18 28 11.4 +0.1**
PRZ Przheval'sk 48.52 298 P **P** **18 28 11.4 +0.1**
PRZ pmax pmax
comp=Z,55nm,1.3s
SOEI Soe 48.74 204 P **P** **18 28 11.7 -1.4**
TARG Taragay, Kyrgy 49.15 297 P **P** **18 28 16.3 -0.1**
TARG IAmb IAmb 18 28 21.1
comp=Z,13nm,0.8s
TARG Taragay, Kyrgy 49.15 297 P **P** **18 28 16.3 -0.1**
TARG pmax pmax
comp=Z,13nm,0.8s
MDOK Medeo 49.30 299 *e*P **P** **18 28 18.0 +0.7**
MDOK Medeo 49.30 299 *e*P **P** **18 28 18.0 +0.7**
AAA Alma-Ata 49.39 299 *e*P **P** **18 28 18.4 +0.6**
AAA Alma-Ata 49.39 299 *e*P **P** **18 28 18.4 +0.6**
TNSS Tian-Shan 49.41 299 *e*P **P** **18 28 18.7 +0.2**
TNSS Tian-Shan 49.41 299 *e*P **P** **18 28 18.6 +0.2**
ILAR Eielson Array 49.88 32 P **P** **18 28 21.9 +0.7**
ILAR Eielson Array 49.88 32 P **P** **18 28 22.5 +1.3**
comp=Z,1.0nm,0.7s,baz=264,slow=6.5,SNR=9.5
ILAR LR LR 18 51 40.7
comp=Z,77nm,19.1s,baz=220,slow=39
comp=Z,1.0nm,0.7s
ILAR Eielson Array 49.88 32 P **P** **18 28 21.9 +0.7**
BOOM Boomskoye usch 50.27 298 P **P** **18 28 25.9 +1.2**
BOOM IAmb IAmb 18 28 39.4
comp=Z,22nm,1.2s
BOOM Boomskoye usch 50.27 298 P **P** **18 28 25.9 +1.2**
BOOM pmax pmax
comp=Z,21nm,1.2s
M24K Tolsona, Glenn 50.33 35 P **P** **18 28 25.2 +0.5**
M24K IAmb IAmb 18 28 42.8
comp=Z,18nm,0.8s
NRN Naryn 50.53 297 P **P** **18 28 27.2 +0.4**
NRN IAmb IAmb 18 28 40.2
comp=Z,15nm,1.5s
NRN Naryn 50.53 297 P **P** **18 28 27.2 +0.4**
NRN pmax pmax
comp=Z,15nm,1.5s
BRZS Berezniki 50.63 309 *e*P **P** **18 28 27.4 +0.2**
comp=Z,5.1nm,0.7s
BRZS Berezniki 50.63 309 *e*P **P** **18 28 27.3 +0.2**
BRZS pmax pmax
comp=Z,5.0nm,0.7s
BTLS Baital 50.90 302 *e*P **P** **18 28 29.6 +0.4**
BTLS Baital 50.90 302 *e*P **P** **18 28 29.6 +0.4**
SGDS Sogindy 50.93 300 *e*P **P** **18 28 30.2 +0.6**

SGDS Sogindy 50.93 300 *eP* **P 18 28 30.1 +0.6**
FRU1 Bishkek 51.11 299 P **P 18 28 30.9 0.0**
FRU1 IAmb IAmb 18 28 36.3
comp=Z,12nm,0.5s
FRU1 Bishkek 51.11 299 P **P 18 28 30.9 0.0**
FRU1 pmax pmax
comp=Z,12nm,0.5s
N25K Chitina, Valde 51.11 36 P **P 18 28 31.6 +1.0**
KSH Kashi 51.14 295 P **P 18 28 35.8 +4.6**
KSH sP pwP 18 28 46.9 +8.0
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH LR LR
comp=Z,460nm,19.6s
KSH LR LR
comp=Z,370nm,17.2s
KSH LR LR
comp=Z,620nm,15.8s
BMRM Bremner River 51.18 37 P **P 18 28 31.6 +0.5**
BMRM IAmb IAmb 18 28 40.2
comp=Z,8.2nm,0.7s
AAK Ala-Archa 51.25 299 P **P 18 28 32.6 +0.5**
AAK IAmb IAmb 18 28 44.2
comp=Z,6.5nm,0.7s
AAK Ala-Archa 51.25 299 LR LR 18 51 36.6
comp=Z,668nm,18.8s,baz=74,slow=38
AAK Ala-Archa 51.25 299*ceP* **P 18 28 33.7 +1.6**
AAK pmax pmax
comp=Z,11nm,1.3s
BVAR Borovoye Array 51.42 313 P **P 18 28 33.5 +0.5**
comp=Z,4.2nm,0.6s,baz=76,slow=7.4,SNR=25
BVAR LR LR 18 51 27.4
comp=Z,335nm,18.3s,baz=73,slow=37
comp=Z,4.2nm,0.6s
BRVK Borovoye 51.48 313 P **P 18 28 33.9 +0.5**
BRVK Borovoye 51.48 313*ceP* **P 18 28 34.2 +0.8**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
LHMI Lhok Sumawe 51.54 244 P **P 18 28 33.8 -0.5**
JAGI Jajag, Banyuwa 51.64 216 P **P 18 28 34.6 -0.4**
D27M Malcolm River 52.04 26 P **P 18 28 37.4 -0.1**
ARSB Arslanbob 52.73 298 P **P 18 28 43.7 +0.6**
ARSB Arslanbob 52.73 298 P **P 18 28 43.7 +0.6**
ARSB pmax pmax
comp=Z,5.0nm,0.7s
G29M Pine Creek 53.36 29 P **P 18 28 49.3 +2.2**
DZA Taraz 53.40 300 *eP* **P 18 28 48.6 +0.7**
DZA Taraz 53.40 300 *eP* **P 18 28 48.5 +0.7**
GSI Gunungsitoli 53.82 240 P **P 18 28 51.5 +0.3**
M29M Somme Creek 53.86 34 P **P 18 28 52.0 +1.0**
L29M L29M 53.89 34 P **P 18 28 52.2 +1.1**
KKAR Karatay Array 53.90 301 P **P 18 28 51.8 +0.3**
KKAR Karatay Array 53.90 301 P **P 18 28 51.6 +0.1**
KKAR IAmb IAmb 18 28 57.2
comp=Z,10.0nm,1.2s
KKAR Karatay Array 53.90 301 P **P 18 28 51.8 +0.3**
EPYK Eagle Plains 53.95 30 P **P 18 28 52.9 +1.4**
EPYK IAmb IAmb 18 29 11.4
comp=Z,8.5nm,0.8s
G30M tAoh Zraii Nji 54.05 29 P **P 18 28 53.6 +1.3**
G30M IAmb IAmb 18 29 11.3
comp=Z,12nm,1.1s
I30M Mount Dempster 54.28 31 P **P 18 28 55.0 +1.0**
I30M IAmb IAmb 18 29 24.7
comp=Z,7.9nm,0.9s
BRLS Borolday 54.39 301 *eP* **P 18 28 57.2 +2.0**
BRLS Borolday 54.39 301 *eP* **P 18 28 57.1 +2.0**
M30M Minto, Yukon 54.59 34 P **P 18 28 58.0 +1.7**
M30M IAmb IAmb 18 29 18.0
comp=Z,13nm,1.4s
HYT Haines Junctio 54.62 36 P **P 18 28 58.8 +2.2**
HYT IAmb IAmb 18 29 26.2
comp=Z,16nm,1.3s
BTK Batken 54.70 297 P **P 18 28 57.4 0.0**
BTK IAmb IAmb 18 29 09.3
comp=Z,6.3nm,0.8s
BTK Batken 54.70 297 P **P 18 28 57.4 0.0**
BTK pmax pmax
comp=Z,6.0nm,0.9s
G31M Satah River 54.81 29 P **P 18 28 59.7 +2.0**
G31M IAmb IAmb 18 29 33.2
comp=Z,9.1nm,1.2s
INK Inuvik 54.84 27 P **P 18 29 00.0 +2.1**
INK Inuvik 54.84 27 LR LR 18 53 37.7
comp=Z,62nm,21.5s,baz=272,slow=37
INK Inuvik 54.84 27 P **P 18 29 00.0 +2.1**
INK pmax pmax
comp=Z,6.0nm,1.1s
H31M Peel River 55.00 30 P **P 18 29 02.0 +2.9**
H31M IAmb IAmb 18 29 27.9
comp=Z,7.4nm,0.8s
NIL Nilore 55.29 289 P **P 18 29 02.3 +0.5**
NIL IAmb IAmb 18 29 03.9
comp=Z,9.7nm,0.9s
NIL Nilore 55.29 289 P **P 18 29 02.3 +0.5**
NIL pmax pmax
comp=Z,10.0nm,0.9s
GAR Garm 55.44 296 P **P 18 29 01.8 -1.1**
SVE Sverdlovsk 56.02 319 *eP* **P 18 29 07.0 +0.5**
SVE pmax pmax
comp=Z,20nm,1.0s
SVE MLR MLR
comp=Z,439nm,16.0s
WB0 Warramunga Arr 56.21 189 P **P 18 29 08.7 +0.5**
WB0 IAmb IAmb 18 29 32.1
comp=Z,7.3nm,0.7s
WB0 PcP **PcP 18 30 05.1 -0.8**
FITZ Fitzroy Crossi 56.25 199 P **P 18 29 09.9 +1.4**
WRAB Tennant Creek 56.38 189 P **P 18 29 10.0 +0.6**
WRAB IAmb IAmb 18 29 37.1
comp=Z,24nm,1.5s
WRAB Tennant Creek 56.38 189 P **P 18 29 10.0 +0.6**
WRAB pmax pmax
comp=Z,24nm,1.5s
WR0 Warramunga Arr 56.38 188 P **P 18 29 09.4 -0.1**
WR0 IAmb IAmb 18 29 20.1
comp=Z,9.5nm,1.0s
WB2 Warramunga Arr 56.38 189 P **P 18 29 09.8 +0.3**
WB2 IAmb IAmb 18 29 22.6
comp=Z,25nm,1.5s
WRA Warramunga Arr 56.39 189 P **P 18 29 10.0 +0.5**
WRA Warramunga Arr 56.39 189 P **P 18 29 10.3 +0.8**
comp=Z,3.0nm,0.7s,baz=6.6,slow=7.6,SNR=22
WRA LR LR 18 53 37.1
comp=Z,44nm,18.1s,baz=3.5,slow=36
comp=Z,3.0nm,0.7s
SIMJ Simiganj 56.52 296 P **P 18 29 10.7 +0.1**
A36M Sachs Harbour 56.78 22 P **P 18 29 13.6 +1.8**
A36M IAmb IAmb 18 29 15.8
comp=Z,6.5nm,0.8s
ARTI Arti 57.33 319 P **P 18 29 16.1 +0.2**
ARTI IAmb IAmb 18 29 17.5
comp=Z,20nm,1.1s
ARTI Arti 57.33 319 LR LR 18 56 10.1
comp=Z,285nm,18.0s,baz=46,slow=38
ARTI Arti 57.33 319*c iP* **P 18 29 16.4 +0.5**
ARTI 18 30 04.4
ARTI S **S 18 37 13.9 +2.6**
ARTI pmax pmax
comp=Z,18nm,1.0s
ARTI MLR MLR
comp=Z,289nm,16.0s
C36M Paulatuk 57.91 25 P **P 18 29 21.3 +1.5**
C36M IAmb IAmb 18 29 22.3
comp=Z,5.0nm,0.6s
KBL Kabul 58.12 292 P **P 18 29 21.9 -0.1**
KBL IAmb IAmb 18 29 23.8
comp=Z,14nm,1.2s
KBL Kabul 58.12 292 P **P 18 29 21.9 -0.1**
KBL pmax pmax
comp=Z,14nm,1.2s
ABKAR Abkulak array 58.78 311 P **P 18 29 26.1 0.0**
ABKAR Abkulak array 58.78 311 P **P 18 29 26.1 0.0**
ABKAR IAmb IAmb 18 29 27.4
comp=Z,6.4nm,0.7s
AKTO Aktyubinsk 59.52 312 LR LR 18 56 16.9
comp=Z,226nm,19.6s,baz=40,slow=37
AS31 Alice Springs 60.11 189 P **P 18 29 36.1 +0.6**
ASAR Alice Springs 60.11 189 P **P 18 29 36.2 +0.6**
ASAR Alice Springs 60.11 189 P **P 18 29 36.5 +0.9**
comp=Z,2.0nm,0.8s,baz=13,slow=8.4,SNR=31
ASAR LR LR 18 55 53.5
comp=Z,45nm,18.6s,baz=4.5,slow=36
comp=Z,2.0nm,0.8s
ASAR Alice Springs 60.11 189 P **P 18 29 36.2 +0.6**

EUNU Eureka 60.86 9 P **P 18 29 40.9 +0.8**
EUNU IAmb IAmb 18 29 42.7
comp=Z,5.1nm,0.8s
MBWA Marble Bar 60.89 204 P **P 18 29 41.0 +0.2**
MBWA IAmb IAmb 18 29 48.5
comp=Z,16nm,1.3s
SPITS Spitsbergen Ar 61.35 349 P **P 18 29 45.8 +2.4**
comp=Z,9.6nm,1.0s,baz=95,slow=14,SNR=1.9
SPITS LR LR 19 00 09.0
comp=Z,102nm,18.2s,baz=328,slow=40
comp=Z,9.6nm,1.0s
BBB Bella Bella 62.28 44 LR LR 18 53 16.7
comp=Z,28nm,20.1s,baz=62,slow=33
DZM Mont Dzumac 62.48 154 *e*LR LR 18 48 33.3
comp=Z,183nm,21.6s
DZM Mont Dzumac 62.48 154 LR LR 18 54 55.8
comp=Z,130nm,20.4s,baz=8.5,slow=34
RES Resolute Bay 63.21 14 P **P 18 29 56.7 +0.9**
RES IAmb IAmb 18 29 58.1
comp=Z,10nm,1.1s
RES Resolute Bay 63.21 14 LR LR 18 59 48.3
comp=Z,43nm,18.2s,baz=7.0,slow=38
RES Resolute Bay 63.21 14 P **P 18 29 56.7 +0.9**
RES pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 64.64 328 *eP* **P 18 30 04.7 -0.7**
KLMR pmax pmax
comp=Z,19nm,1.6s
BELG Belogornoye 64.66 317 LR LR 19 00 08.5
comp=Z,127nm,18.6s,baz=90,slow=38
BELG Belogornoye 64.66 317 *i* P **P 18 30 06.3 +0.6**
BELG pmax pmax
comp=Z,5.0nm,1.2s
ARCES ARCESS Array B 64.86 340 P **P 18 30 08.1 +1.3**
ARCES IAmb IAmb 18 30 09.0
comp=Z,13nm,1.1s
ARCES ARCESS Array B 64.86 340 P **P 18 30 07.7 +1.0**
comp=Z,5.4nm,0.8s,baz=50,slow=8.4,SNR=10
ARCES LR LR 19 04 38.7
comp=Z,176nm,18.0s,baz=42,slow=42
comp=Z,5.4nm,0.8s
C03A Quillayute Air 66.20 47 P **P 18 30 17.6 +1.9**
NEEM North Greenlan 66.25 3 *i* P **P 18 30 16.4 +0.4**
NEEM IAmb IAmb 18 30 18.9
comp=Z,9.3nm,0.9s
DAG Danmarks Havn 66.56 355 *eP* **P 18 30 17.0 -0.6**
DAG IAmb IAmb 18 30 19.2
comp=Z,2.9nm,0.7s
FORT Forrest 67.98 193 P **P 18 30 28.3 +1.2**
VRH Novokhopyorsk 68.44 318 *eP* **P 18 30 30.2 +0.3**
VRH pmax pmax
comp=Z,11nm,1.0s
BBOO Buckleboo 68.96 185 P **P 18 30 34.7 +1.5**
OBN Obninsk 68.97 324*ceP* **P 18 30 33.7 +0.6**
OBN *e**PP **pP 18 30 36.5 -1.5**
OBN *i **SP **sP 18 30 40.2 +0.4**
OBN *i* 18 30 51.9
OBN *e* 18 40 28.5
OBN pmax pmax
comp=Z,21nm,1.4s
OBN MLR MLR
comp=Z,247nm,15.0s
LPSR Galich'ya Gora 69.17 321 *eP* **P 18 30 32.7 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
MORW Morawa 69.44 204 P **P 18 30 37.5 +1.2**
MORW IAmb IAmb 18 30 44.2
comp=Z,15nm,1.1s
VORR Voronezh 69.53 320 *eP* **P 18 30 38.1 +1.5**
VORR pmax pmax
comp=Z,19nm,1.4s
FIA1 FINESS Array S 69.69 333 P **P 18 30 38.3 +0.9**
FINES FINESS Array B 69.69 333 P **P 18 30 38.2 +0.8**
comp=Z,9.1nm,0.8s,baz=46,slow=6.6,SNR=23
FINES LR LR 19 03 21.7
comp=Z,90nm,19.6s,baz=44,slow=38
comp=Z,9.1nm,0.8s
FINES FINESS Array B 69.69 333 *i* P **P 18 30 38.4 +0.9**
FINES pmax pmax
comp=Z,9.0nm,0.8s
VSR Storozhevoye 69.80 319 *eP* **P 18 30 37.2 -1.1**
VSR pmax pmax
comp=Z,5.0nm,0.9s
VORD Divnogorie 69.87 319 *eP* **P 18 30 36.8 -1.9**
VORD pmax pmax
comp=Z,7.0nm,1.0s
AKT Akhty 69.90 307 *eP* **P 18 30 36.9 -2.4**
AKT *e* 18 30 38.4
AKT pmax pmax
comp=Z,1.0nm,0.2s
YBH Yreka Blue Hor 70.44 52 LR LR 18 56 46.3
comp=Z,33nm,21.6s,baz=15,slow=32
SUMG Summit 71.43 0 P **P 18 30 50.5 +2.1**
SUMG IAmb IAmb 18 30 51.0
comp=Z,7.0nm,0.8s
SUMG Summit 71.43 0 P **P 18 30 50.5 +2.1**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 71.43 0 *i* P **P 18 30 49.0 +0.5**
SUMG IAmb IAmb 18 30 51.3
comp=Z,9.3nm,0.9s
WSAR Wadi Sarin 71.51 286 LR LR 19 07 05.7
comp=Z,77nm,18.1s,baz=98,slow=40
KBZ Khabaz 71.74 311 P **P 18 30 51.1 +0.9**
comp=Z,5.7nm,0.8s,baz=61,slow=1.9,SNR=7.9
KBZ LR LR 19 07 08.9
comp=Z,146nm,18.2s,baz=59,slow=40
comp=Z,5.7nm,0.8s
KBZ Khabaz 71.74 311*ceP* **P 18 30 50.6 +0.4**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KVAR Kislovodsk Arr 71.74 311 LR LR 19 04 08.9
comp=Z,115nm,18.4s,baz=277,slow=37
KIV Kislovodsk 71.75 311 P **P 18 30 51.3 +0.9**
KIV Kislovodsk 71.75 311 *eP* **P 18 30 51.6 +1.2**
KIV pmax pmax
comp=Z,18nm,1.0s
KIV Kislovodsk 71.75 311 P **P 18 30 51.7 +1.3**
comp=Z,19nm,1.1s
UOSS Minazif 72.48 288 P **P 18 30 55.7 +0.7**
UOSS IAmb IAmb 18 31 19.3
comp=Z,15nm,1.1s
GNI Garni 72.53 307 LR LR 19 05 06.0
comp=Z,46nm,20.0s,baz=60,slow=38
WVOR Wild Horse Val 72.62 50 P **P 18 30 55.7 -0.1**
WVOR Wild Horse Val 72.62 50 P **P 18 30 55.7 -0.1**
WVOR pmax pmax
comp=Z,19nm,1.0s
NACGM Naroch 73.60 327 *eP* **P 18 31 03.0 +1.8**
comp=Z,25nm,1.3s,baz=50
MFID Camas Ranch 73.78 48 P **P 18 30 59.9 -2.7**
MFID IAmb IAmb 18 31 28.1
comp=Z,14nm,1.3s
PABE Paberze 74.42 329 P **P 18 31 05.7 -0.2**
PMPB Monarch Peak 74.66 56 P **P 18 31 07.6 -0.2**
NC405 NORSAR Array S 74.84 337 P **P 18 31 08.6 +0.3**
NC405 IAmb IAmb 18 31 10.1
comp=Z,12nm,0.8s
KVN Kaiserville 74.85 53 P **P 18 31 09.5 +0.6**
KVN Kaiserville 74.85 53 P **P 18 31 09.5 +0.6**
KVN pmax pmax
comp=Z,3.0nm,1.1s
PDRM Domengine Ranc 74.88 56 P **P 18 31 11.6 +2.6**
ICESG Greenland Ices 74.93 1 *i* P **P 18 31 10.6 +1.6**
HFS Hagfors 74.96 336 P **P 18 31 10.2 +1.2**
comp=Z,5.7nm,0.9s,baz=55,slow=5.5,SNR=12
HFS LR LR 19 06 52.1
comp=Z,203nm,19.8s,baz=26,slow=38
comp=Z,5.7nm,0.9s
PPO Portuguese Can 74.98 57 P **P 18 31 08.2 -1.3**
NC204 NORSAR Array S 75.01 338 P **P 18 31 09.4 +0.1**
NC204 IAmb IAmb 18 31 11.5
comp=Z,14nm,0.8s
NB201 NORSAR Array S 75.02 338 P **P 18 31 09.5 +0.1**
NB201 IAmb IAmb 18 31 11.5
comp=Z,13nm,0.9s
NB2 NORSAR Subarra 75.06 338 P **P 18 31 10.3 +0.7**
comp=Z,2.6nm,0.6s,baz=40,slow=6.2
NB2 NORSAR Subarra 75.06 338 P **P 18 31 07.9 -1.7**
NOA NORSAR Array B 75.06 338 P **P 18 31 10.6 +1.1**
comp=Z,6.4nm,0.8s,baz=39,slow=5.8,SNR=21
NOA LR LR 19 06 33.8
comp=Z,154nm,21.1s,baz=40,slow=38
comp=Z,6.4nm,0.8s
NVAR Mina Array Bea 75.07 53 P **P 18 31 09.3 -1.0**
NVAR Mina Array Bea 75.07 53 P **P 18 31 11.9 +1.7**

comp=Z,0.9nm,0.7s,baz=279,slow=6.3,SNR=6.0
comp=Z,0.9nm,0.7s
PWKM Work Ranch 75.08 57 P **P 18 31 09.2 -0.9**
AK03 Malin Array Si 75.16 323 P **P 18 31 10.5 +0.2**
AKASG Malin Array Be 75.17 323 P **P 18 31 10.3 0.0**
AKASG Malin Array Be 75.17 323 P **P 18 31 10.9 +0.6**
comp=Z,8.0nm,0.6s,baz=47,slow=5.9,SNR=48
AKASG LR LR 19 07 03.0
comp=Z,169nm,20.4s,baz=49,slow=38
comp=Z,8.0nm,0.6s
AKBB Malin Array Si 75.17 323 P **P 18 31 10.6 +0.3**
AKBB IAmb IAmb 18 31 11.8
comp=Z,14nm,0.8s
AKBB Malin Array Si 75.17 323*ceP* **P 18 31 11.1 +0.7**
AKBB Malin Array Si 75.17 323 P **P 18 31 11.0 +0.7**
AK01 Malin Array Si 75.18 323 P **P 18 31 10.7 +0.3**
KIEV Kiev 75.18 323 P **P 18 31 10.8 +0.4**
KIEV IAmb IAmb 18 31 11.8
comp=Z,13nm,0.8s
KIEV Kiev 75.18 323 P **P 18 31 10.8 +0.4**
KIEV pmax pmax
comp=Z,13nm,0.8s
KIEV Kiev 75.18 323 P **P 18 31 11.2 +0.8**
comp=Z,90nm,1.1s
AK08 Malin Array Si 75.20 323 P **P 18 31 10.7 +0.2**
AK02 Malin Array Si 75.21 323 P **P 18 31 11.0 +0.4**
AK22 Malin Array Si 75.21 323 P **P 18 31 10.7 +0.2**
AK21 Malin Array Si 75.21 323 P **P 18 31 10.9 +0.3**
AK11 Malin Array Si 75.21 323 P **P 18 31 10.9 +0.3**
AK15 Malin Array Si 75.22 323 P **P 18 31 10.3 -0.3**
AK05 Malin Array Si 75.23 323 P **P 18 31 10.3 -0.4**
AK05 IAmb IAmb 18 31 12.2
comp=Z,9.7nm,0.7s
AK18 Malin Array Si 75.23 323 P **P 18 31 11.6 +0.9**
MI28 Mi28,Pidlybu 75.78 323 P **P 18 31 14.3 +0.5**
RNPP9 Sopachiv 76.31 325 P **P 18 31 16.5 -0.3**
LUBAR Lubar, Ukraine 76.39 323 P **P 18 31 18.0 +0.6**
SFJD Kangerlussuaq 76.59 5 LR LR 19 08 47.2
comp=Z,95nm,18.2s,baz=168,slow=39
SFJD Kangerlussuaq 76.59 5 *eP* **PKiKP 18 37 00.7 -0.9**
ARPR Arapgir-MALATY 77.20 309 P **P 18 31 22.8 +0.5**
PDAR Pinedale Array 77.86 46 P **P 18 31 26.6 +0.5**
PDAR Pinedale Array 77.86 46 P **P 18 31 27.9 +1.9**
comp=Z,0.5nm,0.6s,baz=256,slow=1.0,SNR=6.4
comp=Z,0.5nm,0.6s
STNU Starunia 78.79 323 P **P 18 31 30.7 -0.1**
MORS Morshin 78.79 324 P **P 18 31 29.8 -1.0**
MORS Morshin 78.79 324 P **P 18 31 29.8 -1.0**
KWP Kalwaria Pacla 79.01 325 P **P 18 31 31.9 0.0**
KWP Kalwaria Pacla 79.01 325 P **P 18 31 32.0 0.0**
KWP pmax pmax
comp=Z,28nm,1.2s
PFO Pinyon Flats O 79.07 56 LR LR 19 01 50.9
comp=Z,91nm,20.8s,baz=325,slow=32
BUR08 Bucovina Ar. S 79.17 322 P **P 18 31 33.5 +0.4**
BURAR Bucovina Array 79.19 322 P **P 18 31 33.0 0.0**
BURAR Bucovina Array 79.19 322 P **P 18 31 33.8 +0.7**
BURAR pmax pmax
comp=Z,6.0nm,0.9s
RAR Rarotonga 79.34 126 LR LR 19 03 47.7
comp=Z,75nm,19.8s,baz=303,slow=34
BRTR Keskin Array B 79.69 312 P **P 18 31 36.2 +0.1**
BRTR Keskin Array B 79.69 312 P **P 18 31 36.5 +0.4**
comp=Z,3.5nm,0.8s,baz=103,slow=3.9,SNR=8.1
comp=Z,3.5nm,0.8s
BRTR Keskin Array B 79.69 312 P **P 18 31 36.2 +0.1**
KOLS Kolonicke sedl 79.70 324 *eP* **P 18 31 37.6 +1.9**
KOLS pmax pmax
comp=Z,5.0nm,0.9s
KOLS Kolonicke sedl 79.70 324 *eP* **P 18 31 37.6 +1.9**
STHS Stebnicka Huta 79.84 325 *eP* **P 18 31 37.1 +0.5**
STHS Stebnicka Huta 79.84 325 *eP* **P 18 31 37.0 +0.5**
OJC Ojcow 79.92 326 P **P 18 31 36.9 0.0**
OJC IAmb IAmb 18 31 39.2
comp=Z,14nm,1.2s
OJC Ojcow 79.92 326 P **P 18 31 36.9 0.0**
OJC pmax pmax
comp=Z,14nm,1.2s
ANTO Ankara 80.11 312 P **P 18 31 38.6 +0.4**
ANTO IAmb IAmb 18 31 40.6
comp=Z,12nm,1.1s
ANTO Ankara 80.11 312 P **P 18 31 38.6 +0.4**
ANTO pmax pmax
comp=Z,12nm,1.1s
HMU Henry Mountain 80.15 50 P **P 18 31 39.9 +1.2**
LANS Liptovska Anna 80.84 326 *eP* **P 18 31 43.8 +1.9**
LANS pmax pmax
comp=Z,4.0nm,1.2s
LANS Liptovska Anna 80.84 326 *eP* **P 18 31 43.8 +1.9**
KECS Kecovo 80.85 325 *eP* **P 18 31 44.7 +2.7**
KECS pmax pmax
comp=Z,40nm,0.7s
KECS Kecovo 80.85 325 *eP* **P 18 31 44.7 +2.7**
PV10 Paradox Valley 80.92 49 P **P 18 31 45.3 +2.4**
PV10 IAmb IAmb 18 32 01.2
comp=Z,12nm,0.9s
PV14 Lion Creek, Pa 80.93 49 P **P 18 31 43.5 +0.6**
PV14 IAmb IAmb 18 31 57.4
comp=Z,6.8nm,0.9s
URZ Urewera 80.97 153 LR LR 19 01 44.1
comp=Z,38nm,21.8s,baz=30,slow=31
PV20 West Nyswonger 80.99 49 P **P 18 31 43.9 +0.8**
PV20 IAmb IAmb 18 32 01.5
comp=Z,8.9nm,0.8s
PV16 Nyswonger Mesa 81.04 49 P **P 18 31 44.2 +0.7**
PV13 Radium Mtn., P 81.19 49 P **P 18 31 46.1 +1.8**
PV13 IAmb IAmb 18 31 59.2
comp=Z,12nm,1.4s
MORC Moravsky Berou 81.24 327 P **P 18 31 45.3 +1.3**
MORC Moravsky Berou 81.24 327 *eP* **P 18 31 45.2 +1.2**
MORC Moravsky Berou 81.24 327 P **P 18 31 45.3 +1.3**
MORC pmax pmax
comp=Z,6.0nm,1.1s
DPC Dobruska-Polom 81.34 328 *eP* **P 18 31 46.2 +1.6**
DPC Dobruska-Polom 81.34 328 *eP* **P 18 31 46.2 +1.6**
KRLC Kraliky 81.35 328 *eP* **P 18 31 46.1 +1.5**
KRLC Kraliky 81.35 328 *eP* **P 18 31 46.1 +1.5**
RAYN Ar Rayn 81.37 293 P **P 18 31 46.0 +0.8**
RAYN Ar Rayn 81.37 293 P **P 18 31 46.0 +0.8**
RAYN pmax pmax
comp=Z,6.0nm,1.2s
PSZ Piszkesteto 81.53 325 P **P 18 31 46.4 +0.7**
PSZ IAmb IAmb 18 31 48.3
comp=Z,8.7nm,1.1s
PSZ Piszkesteto 81.53 325 P **P 18 31 46.4 +0.7**
PSZ pmax pmax
comp=Z,9.0nm,1.1s
JAVC Velka Javorina 81.86 327 *eP* **P 18 31 49.4 +2.0**
CLL Collm 81.97 330 IAmb IAmb 18 31 49.6
comp=Z,6.2nm,0.9s
CLL Collm 81.97 330 *i* P **P 18 31 48.0 +0.2**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 81.97 330 *i* P **P 18 31 48.0 +0.2**
comp=Z,8.0nm,1.1s
CLL *ex* x 18 32 01.0
CLL AMS AMS 19 11 00.0
comp=N,100nm,18.1s
CLL AMS AMS 19 11 00.0
comp=E,100nm,19.8s
VRAC Vranov 82.00 327 *eP* **P 18 31 49.2 +1.2**
KRUC Moravsky 82.27 327 *eP* **P 18 31 50.5 +1.1**
PRU Pruhonice 82.36 329 *eP* **P 18 31 51.2 +1.3**
PRU AMS AMS 19 13 20.0
comp=E,200nm,13.8s
PRU Pruhonice 82.36 329 *eP* **P 18 31 51.2 +1.3**
PRU MLR MLR
comp=Z,200nm,13.8s
MMAI Mount Meron Ar 82.78 306 P **P 18 31 54.0 +1.5**
comp=Z,1.3nm,0.6s,baz=35,slow=5.3,SNR=4.6
MMAI LR LR 19 11 45.7
comp=Z,111nm,21.1s,baz=335,slow=38
comp=Z,1.3nm,0.6s
CKRC Cesky Krumlov 83.35 328 *eP* **P 18 31 56.2 +1.1**
CKRC Cesky Krumlov 83.35 328 *eP* **P 18 31 56.2 +1.1**
KHC Kasperske Hory 83.42 329 P **P 18 31 55.5 +0.1**
KHC IAmb IAmb 18 31 57.6
comp=Z,5.4nm,0.9s
KHC Kasperske Hory 83.42 329 *eP* **P 18 31 56.6 +1.1**
KHC Kasperske Hory 83.42 329*ceP* **P 18 31 57.0 +1.5**
KHC pmax pmax
comp=Z,18nm,2.5s
GERES GERESS Array B 83.59 329 P **P 18 31 57.0 +0.6**
comp=Z,2.0nm,0.7s,baz=46,slow=5.8,SNR=8.8

GERES			LR	LR	19 12 31.7	
	comp=Z,152nm,19.2s,baz=6.0,slow=38					
	comp=Z,2.0nm,0.7s					
ELL	**Elmali**	**83.85 312**	P	**P**	**18 31 58.1**	**+0.1**
ELL	**Elmali**	**83.85 312**	P	**P**	**18 31 58.1**	**+0.1**
PPT	**Papeete**	**83.89 117**	LR	LR	19 01 56.5	
	comp=Z,54nm,19.9s,baz=354,slow=30					
PPT2	**Papeete2**	**83.90 117**	*e*LR	LR	18 58 17.9	
	comp=Z,108nm,22.2s					
PPT2			*e*LR	LR	18 58 20.2	
	comp=Z,134nm,23.8s					
EKA	**Eskdalemuir Ar**	**83.99 341**	P	**P**	**18 31 58.1**	**0.0**
	comp=Z,0.8nm,0.6s,baz=39,slow=4.6,SNR=4.4					
	comp=Z,0.8nm,0.6s					
ANMO	**Albuquerque**	**84.71 50**	LR	LR	19 03 47.0	
	comp=Z,32nm,20.3s,baz=208,slow=31					
EIL	**Elat**	**85.17 303**	LR	LR	19 13 56.2	
	comp=Z,56nm,18.2s,baz=68,slow=38					
TAOE	**Nuku Hiva Isla**	**85.54 104**	*e*LR	LR	18 59 02.3	
	comp=Z,162nm,24.0s					
BMRD	**Maredsous**	**85.88 334**	*d*P	**P**	**18 32 08.3**	**+0.5**
	comp=Z,5.5nm,0.9s					
TBI	**Tubuai**	**87.75 121**	*e*LR	LR	19 00 03.6	
	comp=Z,574nm,27.2s					
LPIG	**La Paz**	**89.16 61**	LR	LR	19 13 02.7	
	comp=Z,41nm,18.8s,baz=54,slow=36					
VAE	**Valguarnera**	**92.01 321**	LR	LR	19 17 51.4	
	comp=Z,105nm,18.7s,baz=256,slow=38					
KEST	**Kesra**	**95.90 323**	LR	LR	19 19 53.3	
	comp=Z,107nm,18.3s,baz=341,slow=38					
RKT	**Rikitea**	**98.04 113**	*e*LR	LR	19 04 51.2	
	comp=Z,432nm,25.8s					
ESDC	**Sonseca Array**	**98.17 334**	LR	LR	19 22 04.1	
	comp=Z,114nm,19.6s,baz=0.5,slow=38					
QSPA	**South Pole Qui**	**126.03 180**	PKP	**PKiKP**	**18 38 30.4**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=17,slow=0.4,SNR=9.1					
SNAA	**Sanae**	**140.16 197**	PKhKP	PKPpre	18 38 47.0	
	comp=Z,1.0nm,0.9s,baz=180,slow=2.9,SNR=1.9					
SNAA			PKP	**PKPdf**	**18 38 55.1**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=68,slow=5.4,SNR=2.3					
LPAZ	**La Paz**	**146.66 61**	PKPbc	**PKPab**	**18 39 12.4**	**+0.2**
LPAZ	**La Paz**	**146.66 61**	PKPbc	**PKPab**	**18 39 12.1**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=339,slow=1.2,SNR=11					
PB11	**IPOC Station P**	**147.76 68**	PKPbc	**PKiKP**	**18 39 15.0**	**-0.5**

*IDC **02** 18:27:39.7±1.5, 36°.35N×141°.82E, h0km, mb3.4/6, mbtmp3.5/9, ML3.0/3, Error ellipse: s-maj=32.0km s-min=23.3km az=106.0*
*JMA **02** 18:27:42.7±0.4, 36°.4N±0°.6×14°.2E±°, h54km, MV3.1/34, FAR E OFF IBARAKI PREF*
ISC 02 18:27:42.1±1.0, 36°.33N±0°.06×141°.85E±0°.08, h19km, n27, σ0°81/24, mb3.4/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.02**	**271**	P	**Pb**	**18 28 00.8**	**-0.3**
JHO	**Hitachi**	**1.07**	**286**	P	**Pb**	**18 28 01.3**	**-0.7**
JIHU	**Itakohorinouch**	**1.13**	**252**	P	**Pb**	**18 28 03.3**	**+0.3**
JIHU				S	**Sg**	**18 28 19.5**	**+0.6**
ONAJ	**Iwakimizuishiy**	**1.14**	**313**	*i* P	**Pn**	**18 28 02.4**	**-0.7**
JFK	**Kawauchi**	**1.29**	**323**	P	**Pn**	**18 28 04.7**	**-0.5**
JOTO	**OTAMA OYAMA**	**1.72**	**316**	P	**Pn**	**18 28 11.8**	**+0.6**
JOTO				*e*S	**Sb**	**18 28 34.2**	**-0.3**
JMM	**Marumori**	**1.75**	**331**	P	**Pn**	**18 28 10.8**	**-0.6**
BSO3	**Boso 3**	**1.88**	**216**	P	**Pn**	**18 28 13.2**	**+0.3**
JAG	**Ashikaga**	**1.93**	**273**	P	**Pn**	**18 28 14.0**	**0.0**
JFY	**Yanaizu**	**2.03**	**303**	P	**Pn**	**18 28 16.1**	**+0.8**
JRY	**Ryogami san**	**2.40**	**263**	*i* P	**Pn**	**18 28 20.5**	**0.0**
JOD2	**Odawara 2**	**2.48**	**245**	P	**Pn**	**18 28 22.2**	**+0.7**
MJAR	**Matsushiro Arr**	**2.94**	**275**	Pn	**Pn**	**18 28 28.7**	**+0.8**
	0.8nm,0.3s,baz=106,slow=9.0,SNR=32						
	3.4nm,0.4s						
JHJ	**Hachijo jima 2**	**3.63**	**209**	Pn	**Pn**	**18 28 37.1**	**-0.2**
	8.6nm,0.3s,baz=341,slow=21,SNR=13						
JHJ				Sn	**Sn**	**18 29 16.9**	**-2.7**
	11nm,0.3s,baz=30,slow=20,SNR=1.3						
	164nm,0.9s						
ASAJ	**Asahikawa**	**7.80**	**4**	Pn	**Pn**	**18 29 34.4**	**-0.1**
	0.2nm,0.3s,baz=190,slow=14,SNR=5.3						
	4.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**27.49**	**120**	T	T	19 02 03.4	
	baz=313						
H11N1	**WAKE ISLAND Hy**	**27.50**	**120**	T	T	19 02 06.4	
	baz=313						
H11N3	**WAKE ISLAND Hy**	**27.51**	**120**	T	T	19 02 03.4	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**28.19**	**122**	T	T	19 02 56.8	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**28.19**	**122**	T	T	19 02 59.0	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**28.20**	**122**	T	T	19 03 01.9	
	baz=314						
SONM	**Songino Array**	**28.47**	**305**	P	**P**	**18 33 36.5**	**+0.5**
	0.6nm,0.5s,baz=98,slow=10,SNR=1.7						
	0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.66**	**256**	P	**P**	**18 35 29.3**	**-0.3**
	0.2nm,0.4s,baz=51,slow=8.5,SNR=2.3						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**44.79**	**303**	P	**P**	**18 35 54.5**	**0.0**
	0.5nm,0.7s,baz=91,slow=7.2,SNR=2.5						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**46.71**	**309**	P	**P**	**18 36 09.1**	**-0.5**
	0.5nm,0.6s,baz=83,slow=7.9,SNR=5.1						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**49.90**	**32**	P	**P**	**18 36 34.9**	**+0.8**
	0.2nm,0.7s,baz=266,slow=7.1,SNR=1.5						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**56.42**	**188**	P	**P**	**18 37 23.3**	**+0.8**
	0.2nm,0.6s,baz=5.1,slow=7.7,SNR=1.5						
	0.2nm,0.6s						

*IDC **02** 18:50:11.1±1.9, 36°.33N×142°.07E, h0km, mb3.5/5, mbtmp3.6/8, ML3.3/3, MS2.9/1, Error ellipse: s-maj=35.9km s-min=22.8km az=92.0*
*JMA **02** 18:50:15.8±0.3, 36°.4N±0°.6×14°.2E±°, h62km, MV3.4/32, FAR E OFF IBARAKI PREF*
ISC 02 18:50:13.6±1.1, 36°.30N±0°.05×142°.03E±0°.08, h19km, n32, σ1°33/31, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.17**	**273**	P	**Pn**	**18 50 34.0**	**-0.9**
JHYU				*e*S	**Sb**	**18 50 47.8**	**-2.1**
JHO	**Hitachi**	**1.22**	**285**	P	**Pn**	**18 50 34.3**	**-1.3**
JIHU	**Itakohorinouch**	**1.26**	**255**	*e*P	**Pn**	**18 50 36.1**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.28**	**309**	P	**Pn**	**18 50 35.2**	**-1.2**
ONAJ				*e*S	**Sb**	**18 50 51.0**	**-2.1**
JFK	**Kawauchi**	**1.42**	**319**	P	**Pn**	**18 50 38.1**	**-0.2**
BSO1	**Boso 1**	**1.85**	**208**	*e*P	**Pn**	**18 50 45.1**	**+1.3**
JMM	**Marumori**	**1.85**	**328**	P	**Pn**	**18 50 44.4**	**+0.1**
JMM	**Marumori**	**1.85**	**328**	P	**Pn**	**18 50 44.1**	**-0.2**
JOTO	**OTAMA OYAMA**	**1.85**	**313**	*e*P	**Pn**	**18 50 44.8**	**+0.4**
JOTO				*e*S	**Sn**	**18 51 07.2**	**-0.1**
BSO3	**Boso 3**	**1.94**	**220**	P	**Pn**	**18 50 46.5**	**+1.2**
JAG	**Ashikaga**	**2.08**	**274**	*e*P	**Pn**	**18 50 46.9**	**-0.7**
JFY	**Yanaizu**	**2.17**	**301**	*e*P	**Pn**	**18 50 49.0**	**+0.3**
MJAR	**Matsushiro Arr**	**3.09**	**276**	Pn	**Pn**	**18 51 01.8**	**+0.4**
	1.6nm,0.3s,baz=100,slow=8.8,SNR=75						
MJAR				Sn	**Sn**	**18 51 38.8**	**+0.9**
	0.3nm,0.3s,baz=114,slow=30,SNR=4.2						
	4.9nm,0.3s						
MAJO	**Matsushiro**	**3.09**	**276**	P	**Pn**	**18 51 02.7**	**+1.3**
JSD	**Sado**	**3.48**	**301**	P	**Pn**	**18 51 07.9**	**+1.2**
JHJ2	**Mitsune**	**3.66**	**210**	P	**Pn**	**18 51 11.3**	**+2.1**
JHJ	**Hachijo jima 2**	**3.67**	**211**	Pn	**Pn**	**18 51 10.0**	**+0.6**
	15nm,0.3s,baz=34,slow=18,SNR=20						
JHJ				Sn	**Sn**	**18 51 49.2**	**-2.9**
	32nm,0.3s,baz=72,slow=19,SNR=12						
	102nm,0.7s						
JGF	**Kuroka**	**3.85**	**261**	P	**Pn**	**18 51 14.8**	**+2.9**
INU	**Inuyama**	**4.18**	**258**	P	**Pn**	**18 51 18.6**	**+2.2**
ASAJ	**Asahikawa**	**7.82**	**3**	Pn	**Pn**	**18 52 07.0**	**+0.7**
	0.4nm,0.3s,baz=200,slow=12,SNR=6.6						
ASAJ				Sn	**Sn**	**18 53 34.2**	**-0.2**
	0.2nm,0.3s,baz=160,slow=14,SNR=1.7						
	3.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**11.00**	**319**	LR	LR	18 56 11.0	
	comp=Z,54nm,18.5s,baz=5.8,slow=33						
H11N2	**WAKE ISLAND Hy**	**27.35**	**120**	T	T	19 24 36.8	
	baz=314						
H11N1	**WAKE ISLAND Hy**	**27.35**	**120**	T	T	19 24 44.0	
	baz=314						
H11N3	**WAKE ISLAND Hy**	**27.36**	**120**	T	T	19 24 38.6	
	baz=314						
H11S1	**WAKE ISLAND Hy**	**28.04**	**123**	T	T	19 25 33.4	
	baz=314,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**28.04**	**123**	T	T	19 25 46.5	
	baz=314,slow=74,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**28.06**	**123**	T	T	19 25 32.5	
	baz=314,slow=74,SNR=4.0						
SONM	**Songino Array**	**28.61**	**305**	P	**P**	**18 56 09.0**	**+0.3**
	0.8nm,0.7s,baz=104,slow=6.1,SNR=4.1						
	0.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**41.80**	**257**	P	**P**	**18 58 03.2**	**+1.1**
	0.3nm,0.4s,baz=37,slow=7.9,SNR=4.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**44.93**	**303**	P	**P**	**18 58 27.2**	**0.0**
	0.4nm,0.7s,baz=81,slow=9.1,SNR=2.2						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**46.85**	**309**	P	**P**	**18 58 42.4**	**+0.3**
	0.3nm,0.4s,baz=81,slow=7.6,SNR=5.2						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**56.40**	**189**	P	**P**	**18 59 54.2**	**+0.4**
	0.3nm,0.8s,baz=6.0,slow=7.2,SNR=1.5						
	0.3nm,0.8s						

*JMA **02** 19:23:52.9±0.3, 24°.6N±0°.6×121°.7E±1°.0, h71km±2km, MV3.0/13, TAIWAN REGION*
*TAP **02** 19:23:53.8, 24°.58N×121°.73E, h64km, ML3.8, B*
ISC 02 19:23:53.8±1.2, 24°.60N±0°.02×121°.76E±0°.02, h68km±4km, n149, σ0°85/241, 21C-19D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDS	**Dongshan**	**0.05**	**313**	⇑*i*P	**Pn**	**19 24 03.8**	**+0.1**
NDS				*i* S	**Sn**	**19 24 11.0**	**+0.1**
ESAO	**Su ao**	**0.09**	**107**	*i* P	**Pn**	**19 24 04.0**	**+0.3**
ESAO				*e*S	**Sn**	**19 24 11.4**	**+0.4**
TWC	**Suao**	**0.09**	**84**	⇑*i*P	**Pn**	**19 24 04.0**	**+0.2**
TWC				*e*S	**Sn**	**19 24 11.8**	**+0.8**
TWE	**Neicheng**	**0.14**	**326**	⇑*i*P	**Pn**	**19 24 04.2**	**+0.2**
TWE				*i* S	**Sn**	**19 24 11.6**	**+0.3**
EWUT	**Wuta**	**0.16**	**172**	⇑*i*P	**Pn**	**19 24 04.0**	**0.0**
EWUT				*e*S	**Sn**	**19 24 11.8**	**+0.4**
ILA	**Ilan**	**0.17**	**358**	*i* P	**Pn**	**19 24 04.6**	**+0.6**
ILA				S	**Sn**	**19 24 12.3**	**+0.9**
ENA	**Nanau**	**0.17**	**184**	⇑*i*P	**Pn**	**19 24 04.0**	**-0.1**
ENA				*e*S	**Sn**	**19 24 11.9**	**+0.4**
ENTT	**Nioudou**	**0.18**	**283**	⇑*i*P	**Pn**	**19 24 04.1**	**0.0**
ENTT				*e*S	**Sn**	**19 24 11.5**	**-0.1**
LATG	**Datong**	**0.22**	**253**	⇑*i*P	**Pn**	**19 24 04.4**	**0.0**
LATG				S	**Sn**	**19 24 11.7**	**-0.4**
FUSB	**Fushanzhiwuyua**	**0.22**	**316**	⇑*i*P	**Pn**	**19 24 04.3**	**-0.1**
FUSB				S	**Sn**	**19 24 11.2**	**-0.8**
NTC	**Toucheng**	**0.26**	**15**	*e*P	**Pn**	**19 24 05.2**	**+0.6**
NTC				*e*S	**Sn**	**19 24 13.3**	**+1.0**
EAHA	**Aohua**	**0.27**	**183**	⇑⇑P	**Pn**	**19 24 04.5**	**-0.1**
EAHA				*e*S	**Sn**	**19 24 12.7**	**+0.3**
EHP	**Heping Village**	**0.29**	**183**	*e*P	**Pn**	**19 24 04.6**	**-0.1**
EHP				*e*S	**Sn**	**19 24 13.8**	**+1.1**
NWLT	**Wulai**	**0.29**	**308**	⇑*i*P	**Pn**	**19 24 04.5**	**-0.2**
NWLT				*e*S	**Sn**	**19 24 11.9**	**-0.8**
EGS		**0.29**	**33**	⇑⇑P	**Pn**	**19 24 05.5**	**+0.8**
EGS				S	**Sn**	**19 24 13.9**	**+1.3**
YHNB	**Yeheng**	**0.35**	**281**	P	**Pn**	**19 24 04.9**	**-0.3**
YHNB	**Yeheng**	**0.35**	**281**	⇑*i*P	**Pn**	**19 24 04.9**	**-0.3**
YHNB				*e*S	**Sn**	**19 24 12.1**	**-1.5**
NSK	**Sanguang**	**0.37**	**282**	⇑*i*P	**Pn**	**19 24 05.0**	**-0.4**
NSK				*i* S	**Sn**	**19 24 13.0**	**-0.8**
TIPB	**Shuangxi**	**0.38**	**10**	⇑*i*P	**Pn**	**19 24 05.8**	**+0.4**
TIPB				S	**Sn**	**19 24 14.1**	**+0.3**
NNSB	**Datong**	**0.38**	**243**	⇓*i*P	**Pn**	**19 24 05.6**	**+0.1**
NNSB				*e*S	**Sn**	**19 24 13.4**	**-0.6**
NNS	**Nan Shan**	**0.38**	**245**	⇓*i*P	**Pn**	**19 24 05.6**	**+0.1**
NNS				*e*S	**Sn**	**19 24 13.4**	**-0.7**
TWA	**Mucha**	**0.41**	**338**	⇑*i*P	**Pn**	**19 24 04.6**	**-1.1**
TWA				S	**Sn**	**19 24 12.6**	**-1.7**
TATO	**Taipei**	**0.45**	**327**	P	**Pn**	**19 24 05.9**	**0.0**
NACB	**Ninganchiao**	**0.45**	**199**	P	**Pn**	**19 24 05.0**	**-0.9**
NACB	**Ninganchiao**	**0.45**	**199**	*i* P	**Pn**	**19 24 05.1**	**-0.9**
NACB				*e*S	**Sn**	**19 24 13.7**	**-1.1**
ETL	**Fush Village**	**0.46**	**195**	*e*P	**Pn**	**19 24 05.1**	**-1.0**
TWB1	**Santiao Chiao**	**0.46**	**28**	⇑*i*P	**Pn**	**19 24 06.4**	**+0.3**
TWB1				*e*S	**Sn**	**19 24 15.1**	**+0.1**
ETLH	**Xiulin Townshi**	**0.46**	**212**	⇓P	**Pn**	**19 24 05.7**	**-0.5**
ETLH				*e*S	**Sn**	**19 24 14.4**	**-0.8**
NHY	**Taipei**	**0.47**	**339**	*e*P	**Pn**	**19 24 06.2**	**+0.1**
NHY				*e*S	**Sn**	**19 24 15.0**	**-0.2**
NWF	**Wu-fen Shan**	**0.47**	**3**	P	**Pn**	**19 24 06.6**	**+0.4**
NWF				*e*S	**Sn**	**19 24 16.0**	**+0.7**
WFSB	**Wu-fen Shan**	**0.47**	**3**	*e*P	**Pn**	**19 24 06.8**	**+0.7**
WFSB				*i* S	**Sn**	**19 24 15.7**	**+0.5**
EOS2	**EOS2**	**0.47**	**112**	*e*P	**Pn**	**19 24 07.3**	**+1.4**
TAP	**Taipei**	**0.49**	**333**	*e*P	**Pn**	**19 24 06.4**	**0.0**
TAP				*e*S	**Sn**	**19 24 15.1**	**-0.4**
SXI1	**Grass Mountain**	**0.50**	**13**	P	**Pn**	**19 24 06.9**	**+0.3**
SXI1				*i* S	**Sn**	**19 24 16.5**	**+0.6**
TWD	**Chiawan**	**0.54**	**196**	⇓*i*P	**Pn**	**19 24 05.8**	**-1.0**
TWD				*e*S	**Sn**	**19 24 15.2**	**-1.1**
KSHI	**Guanxi Townshi**	**0.56**	**289**	⇓*i*P	**Pn**	**19 24 07.2**	**+0.2**
KSHI				*e*S	**Sn**	**19 24 17.1**	**+0.4**
YM01	**YM01**	**0.57**	**343**	*e*P	**Pn**	**19 24 07.6**	**+0.4**
YM01				*e*S	**Sn**	**19 24 16.6**	**-0.5**
NFF	**Wufeng Townshi**	**0.58**	**273**	⇓P	**Pn**	**19 24 07.2**	**-0.1**
NFF				*i* S	**Sn**	**19 24 16.6**	**-0.7**
FUSS	**Fushou**	**0.58**	**233**	⇓*i*P	**Pn**	**19 24 07.8**	**+0.2**
FUSS				*i* S	**Sn**	**19 24 17.4**	**-0.2**
TWS1	**Kuangyinshan**	**0.58**	**328**	P	**Pn**	**19 24 06.4**	**-0.9**
TWS1				S	**Sn**	**19 24 16.6**	**-0.6**
ZUZH	**Zhuzihu**	**0.59**	**341**	⇑*i*P	**Pn**	**19 24 07.3**	**-0.1**
ZUZH				S	**Sn**	**19 24 16.8**	**-0.6**
EOS3	**EOS3**	**0.60**	**121**	*e*P	**Pn**	**19 24 08.2**	**+1.0**
YM08	**YM08**	**0.60**	**346**	⇑*i*P	**Pn**	**19 24 07.2**	**-0.3**
YM08				*i* S	**Sn**	**19 24 17.3**	**-0.3**
ANP	**Anpu**	**0.62**	**340**	*e*P	**Pn**	**19 24 07.5**	**-0.3**
ANP				*e*S	**Sn**	**19 24 17.7**	**-0.4**
NTST	**Danshui**	**0.63**	**334**	*e*P	**Pn**	**19 24 07.9**	**+0.2**
NTST				*i* S	**Sn**	**19 24 18.2**	**+0.2**
TWT	**Tachien**	**0.63**	**237**	⇓*i*P	**Pn**	**19 24 08.6**	**+0.6**
TWT				*i* S	**Sn**	**19 24 19.1**	**+0.7**
NCUH	**Zhongli**	**0.63**	**305**	P	**Pn**	**19 24 07.6**	**-0.2**
NCUH				*e*S	**Sn**	**19 24 17.7**	**-0.5**
HWA	**Hwalien**	**0.64**	**192**	P	**Pn**	**19 24 07.3**	**-0.5**
WHF	**Hehuan Shan**	**0.64**	**225**	P	**Pn**	**19 24 08.3**	**0.0**
WHF				*i* S	**Sn**	**19 24 18.3**	**-0.6**
TDCB	**Techi**	**0.64**	**238**	⇓*i*P	**Pn**	**19 24 08.6**	**+0.5**
TDCB				S	**Sn**	**19 24 18.5**	**-0.1**
LXIB	**Xiulin Townshi**	**0.66**	**208**	⇓*i*P	**Pn**	**19 24 07.2**	**-1.0**
LXIB				S	**Sn**	**19 24 18.4**	**-0.4**
LIOB	**Emei**	**0.67**	**274**	⇓*i*P	**Pn**	**19 24 08.4**	**+0.1**
LIOB				S	**Sn**	**19 24 18.4**	**-0.6**
ETM	**Tongmen**	**0.68**	**201**	⇓*e*P	**Pn**	**19 24 07.1**	**-1.2**
NSTT	**Nanjuang**	**0.69**	**273**	⇓*i*P	**Pn**	**19 24 08.3**	**-0.1**
NSTT				*e*S	**Sn**	**19 24 18.9**	**-0.3**
TWY	**Chenhua**	**0.69**	**348**	*e*P	**Pn**	**19 24 08.8**	**+0.3**
TWY				*e*S	**Sn**	**19 24 18.7**	**-0.5**
EOS4	**EOS4**	**0.70**	**133**	*e*P	**Pn**	**19 24 08.4**	**+0.2**
EOS4				S	**Sn**	**19 24 19.5**	**+0.7**
SBCB	**Hsinchu**	**0.73**	**285**	P	**Pn**	**19 24 08.9**	**0.0**
SBCB				S	**Sn**	**19 24 19.8**	**-0.2**
HSN	**Hsinchu**	**0.74**	**286**	*e*P	**Pn**	**19 24 08.4**	**-0.6**
HSN				*e*S	**Sn**	**19 24 19.8**	**-0.5**
TEYL	**Yanliau Villag**	**0.74**	**191**	*e*P	**Pn**	**19 24 09.4**	**+0.4**
WHP	**Taichung City**	**0.80**	**247**	⇓*i*P	**Pn**	**19 24 10.7**	**+0.8**
WHP				S	**Sn**	**19 24 22.4**	**+0.7**
SHUL	**Shoufeng**	**0.83**	**192**	⇑P	**Pn**	**19 24 09.7**	**-0.4**
SHUL				*e*S	**Sn**	**19 24 22.1**	**0.0**
OWD	**Renai**	**0.83**	**220**	⇓P	**Pn**	**19 24 10.3**	**0.0**
OWD				*i* S	**Sn**	**19 24 22.8**	**+0.1**
ESL	**Shilin**	**0.84**	**201**	⇑*e*P	**Pn**	**19 24 08.7**	**-1.5**
WUSB	**Renai**	**0.84**	**224**	⇓*i*P	**Pn**	**19 24 10.7**	**+0.3**
WUSB				S	**Sn**	**19 24 22.6**	**0.0**
NMLH	**Miaoli**	**0.88**	**266**	⇓*e*P	**Pn**	**19 24 11.1**	**+0.3**
NMLH				*i* S	**Sn**	**19 24 23.3**	**+0.1**
NSY	**Sanyi**	**0.92**	**259**	*i* P	**Pn**	**19 24 11.7**	**+0.4**
NSY				S	**Sn**	**19 24 24.6**	**+0.4**
TWQ1	**Liyutan**	**0.93**	**255**	*e*P	**Pn**	**19 24 11.6**	**+0.3**
TWQ1				*e*S	**Sn**	**19 24 24.2**	**-0.1**
WCS	**Beigang Elemen**	**0.94**	**235**	*i* P	**Pn**	**19 24 12.2**	**+0.7**
WCS				*e*S	**Sn**	**19 24 25.0**	**+0.5**
WARBT	**Fenglin Townsh**	**0.94**	**201**	⇑*e*P	**Pn**	**19 24 09.9**	**-1.6**
WARBT				*e*S	**Sn**	**19 24 22.3**	**-2.2**
EGFH	**Guangfu**	**0.97**	**198**	*e*P	**Pn**	**19 24 09.6**	**-2.3**
WDJ	**Dajia District**	**1.05**	**256**	*e*P	**Pn**	**19 24 13.2**	**+0.4**
WDJ				*e*S	**Sn**	**19 24 27.4**	**+0.5**
SMLT	**Sun Moon Lake**	**1.06**	**228**	⇓*i*P	**Pn**	**19 24 13.8**	**+0.7**
SMLT				*e*S	**Sn**	**19 24 27.2**	**-0.1**
PCYT	**Pengchaiyu**	**1.06**	**16**	*e*P	**Pn**	**19 24 13.3**	**+0.2**
PCYT				*e*S	**Sn**	**19 24 28.6**	**+1.3**
TYC	**Yuchr**	**1.07**	**230**	⇓*i*P	**Pn**	**19 24 13.7**	**+0.6**
TYC				S	**Sn**	**19 24 29.1**	**+1.7**
SSLB	**Suanglung**	**1.09**	**222**	P	**Pn**	**19 24 14.1**	**+0.7**
SSLB	**Suanglung**	**1.09**	**222**	*e*P	**Pn**	**19 24 13.8**	**+0.4**
SSLB				*e*S	**Sn**	**19 24 28.4**	**+0.4**
JYNG	**Yonagunijimaku**	**1.09**	**98**	*e*P	**Pn**	**19 24 13.3**	**-0.1**
JYNG				*e*S	**Sn**	**19 24 27.7**	**-0.3**
HGSD	**Ruisui**	**1.14**	**195**	*e*P	**Pn**	**19 24 12.9**	**-1.1**
YOJ	**Yonaguni jima**	**1.15**	**97**	*e*P	**Pn**	**19 24 14.1**	**-0.1**
YOJ				*e*S	**Sn**	**19 24 28.8**	**-0.5**
YOJ	**Yonaguni jima**	**1.15**	**97**	*e*P	**Pn**	**19 24 14.8**	**+0.6**
EHY	**Hungye**	**1.16**	**200**	*e*P	**Pn**	**19 24 12.4**	**-1.8**
EHYH	**Wanrong**	**1.16**	**199**	*e*P	**Pn**	**19 24 14.2**	**-0.1**
EHYH				*e*S	**Sn**	**19 24 27.8**	**-1.8**
WCHH	**Zhanghua**	**1.21**	**245**	*e*P	**Pn**	**19 24 15.0**	**+0.2**
WCHH				*i* S	**Sn**	**19 24 30.5**	**-0.1**
WNT	**Mingjian**	**1.21**	**234**	*e*P	**Pn**	**19 24 15.4**	**+0.5**
WNT				*e*S	**Sn**	**19 24 32.0**	**+1.2**
WJS	**Zhushan**	**1.22**	**231**	*e*P	**Pn**	**19 24 15.7**	**+0.7**
WJS				*i* S	**Sn**	**19 24 32.2**	**+1.4**
WHYT	**Xinyi Township**	**1.22**	**223**	P	**Pn**	**19 24 16.1**	**+1.0**
WHYT				*i* S	**Sn**	**19 24 33.0**	**+2.0**
WCH1	**Changhua City**	**1.22**	**245**	*e*P	**Pn**	**19 24 15.3**	**+0.3**
WCH1				S	**Sn**	**19 24 31.3**	**+0.4**
YULB	**Yu-li**	**1.27**	**199**	P	**Pn**	**19 24 14.6**	**-1.2**
YULB	**Yu-li**	**1.27**	**199**	*e*P	**Pn**	**19 24 13.9**	**-1.9**
ECBN	**Changbin**	**1.31**	**192**	*e*P	**Pn**	**19 24 16.2**	**0.0**
EYUL	**Yuli**	**1.31**	**188**	*e*P	**Pn**	**19 24 13.6**	**+0.6**
ALS	**Alishan**	**1.39**	**219**	*e*P	**Pn**	**19 24 18.5**	**+1.0**
WDL	**Douliou City**	**1.42**	**232**	*e*P	**Pn**	**19 24 17.6**	**-0.1**
WDL				*e*S	**Sn**	**19 24 35.6**	**+0.1**
WGK	**Gukeng**	**1.42**	**230**	*e*P	**Pn**	**19 24 18.4**	**+0.8**
WGK				*e*S	**Sn**	**19 24 36.9**	**+1.4**
WDLH	**Douliu**	**1.44**	**231**	P	**Pn**	**19 24 18.5**	**+0.6**
WDLH				*i* S	**Sn**	**19 24 36.1**	**+0.2**
WRL	**Guolierlin Hig**	**1.44**	**241**	*e*P	**Pn**	**19 24 18.1**	**+0.2**
WRL				*i* S	**Sn**	**19 24 36.3**	**+0.4**
CHKH	**Chenggong**	**1.44**	**193**	*e*P	**Pn**	**19 24 18.2**	**+0.3**
FULB	**Fuli**	**1.46**	**197**	*e*P	**Pn**	**19 24 17.4**	**-0.8**
FULB				*e*S	**Sn**	**19 24 37.7**	**+1.2**
EHD	**Haiduan**	**1.53**	**199**	*e*P	**Pn**	**19 24 18.9**	**-0.2**
WTCT	**Ta-ch'eng**	**1.53**	**242**	*e*P	**Pn**	**19 24 19.3**	**+0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.73**	**53**	*eP*	**Pb**	**19 25 38.4**	**+0.3**
EVAR0	**San Evaristo**	**0.96**	**256**	⇑*eP*	**Pb**	**19 25 42.5**	**+0.4**
EVAR0				*eS*	**Sb**	**19 25 54.8**	**+0.3**
EVAR0				⇓*e*		19 25 55.8	
EVAR0				IAML		19 25 55.8	
	comp=E,726nm,0.7s						
EVAR0				IAML		19 26 03.6	
	comp=N,471nm,0.7s						
EVAR0				⇓*e*		19 26 03.6	
LPIG	**La Paz**	**1.19**	**209**	*eP*	**Pn**	**19 25 45.3**	**-0.4**
SLBS	**Sierra La Lagu**	**1.48**	**189**	*eP*	**Pn**	**19 25 50.0**	**+0.3**
SLBS				*e*		19 26 19.8	
UAGRB	**Rancho Ultima**	**1.48**	**286**	*eP*	**Pn**	**19 25 49.8**	**+0.1**
UAGRB				*eS*	**Sn**	**19 26 07.8**	**-0.9**
NE80	**Navojoa**	**1.80**	**13**	*eP*	**Pn**	**19 25 54.1**	**0.0**
NE80				*eS*	**Sn**	**19 26 15.5**	**-1.1**
NE80				⇓*e*		19 26 25.0	
NE80				IAML		19 26 25.0	
	comp=E,160nm,0.3s						
NE80				⇓*e*		19 26 27.1	
NE80				IAML		19 26 27.1	
	comp=N,189nm,0.3s						
NOVRB	**El Novillo Son**	**3.77**	**1**	*eP*	**Pn**	**19 26 21.8**	**+0.6**

*NEIC **02** 19:29:31.7±1.3, 18°.2S±0°.1×178°.3W±0°.1, h595km±7km, mb4.3/117, Error ellipse: s-maj=17.5km s-min=12.8km az=147.0*
*IDC **02** 19:29:33.4±0.9, 18°.00S×178°.52W, h620km±9km, mb3.5/14, mbtmp4.5/16, Error ellipse: s-maj=16.7km s-min=10.2km az=148.0*
*NOU **02** 19:29:37.8, 22°.66S×179°.58W, h112km, mb5.6/9, South of Fiji Islands*

ISC 02 19:29:31.1±0.4, 18°.16S±0°.07×178°.33W±0°.07, h600km, n196, σ1°.02/184, mb4.3/73, 5C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.47**	**260**	P	**P**	**19 30 43.4**	**+2.0**
MSVF	**Nonsavu**	**3.48**	**276**	P	**P**	**19 30 55.0**	**+1.8**
MSVF	**Nonsavu**	**3.48**	**276**	P	**P**	**19 30 55.4**	**+2.3**
	327nm,0.8s,baz=125,slow=3.3,SNR=103						
MSVF				S	**S**	**19 32 03.5**	**+3.5**
	17nm,0.8s,baz=153,slow=22,SNR=0.7						
MSVF	**Nonsavu**	**3.48**	**276**	P	**P**	**19 30 55.6**	**+2.4**
FUTU	**Fugatoga**	**3.83**	**3**	P	**P**	**19 30 54.9**	**-0.6**
AFI	**Afiamalu**	**7.58**	**57**	P	**P**	**19 31 25.6**	**-1.0**
NIUE	**Niue**	**8.02**	**98**	P	**P**	**19 31 29.2**	**-1.4**
FUNA	**Funafuti**	**9.87**	**346**	P	**P**	**19 31 47.6**	**-1.1**
PINNC	**Pines Island,**	**14.06**	**249**	P	**P**	**19 32 30.7**	**+0.2**
DZM	**Mont Dzumac**	**14.83**	**252**	P	**P**	**19 32 38.3**	**+0.5**
DZM	**Mont Dzumac**	**14.83**	**252**	P	**P**	**19 32 37.8**	**0.0**
	6.4nm,0.6s,baz=285,slow=21,SNR=7.9						
DZM	**Mont Dzumac**	**14.83**	**252**	P	**P**	**19 32 38.2**	**+0.5**
KOUNC	**Koumac, New Ca**	**16.58**	**259**	P	**P**	**19 32 54.5**	**+0.7**
MXZ	**Matakaoa Point**	**19.56**	**188**	P	**P**	**19 33 21.0**	**+0.4**
TOZ	**Tahuroa Road**	**20.24**	**194**	P	**P**	**19 33 27.9**	**+1.1**
URZ	**Urewera**	**20.42**	**190**	P	**P**	**19 33 27.0**	**-1.4**
	12nm,0.8s,baz=16,slow=1.6,SNR=8.9						
URZ				S	**S**	**19 36 34.9**	**-5.1**
	6.2nm,1.0s,baz=85,slow=22,SNR=1.7						
URZ	**Urewera**	**20.42**	**190**	P	P	19 33 13.8	-15
RTZ	**Ruatahuna**	**20.79**	**190**	P	**P**	**19 33 30.8**	**-1.1**
HIZ	**Hauiti**	**21.14**	**195**	P	P	19 33 23.3	-12
TCW	**Tory Channel**	**23.84**	**194**	P	**P**	**19 33 58.1**	**-0.7**
TKNZ	**Takaka Hill**	**24.00**	**196**	P	**P**	**19 34 00.2**	**0.0**
BSWZ	**Blackbirch Sta**	**24.41**	**194**	P	**P**	**19 34 04.7**	**+0.8**
LBZ	**Lake Benmore**	**27.88**	**198**	P	**P**	**19 34 33.2**	**-1.1**
JCZ	**Jackson Bay**	**28.02**	**200**	P	**P**	**19 34 36.7**	**+1.1**
ODZ	**Otahua Downs**	**28.35**	**197**	P	**P**	**19 34 38.7**	**+0.4**
EIDS	**Eidsvold**	**29.26**	**250**	P	**P**	**19 34 47.2**	**+0.7**
EIDS				IAmb	IAmb	19 34 47.7	
	comp=Z,7.4nm,0.7s						
WHZ	**Wether Hill Ro**	**29.92**	**199**	P	**P**	**19 34 52.5**	**+0.7**
CTAO	**Charters Tower**	**33.48**	**261**	P	**P**	**19 35 22.4**	**-0.1**
CTAO				IAmb	IAmb	19 35 23.8	
	comp=Z,13nm,0.8s						
CAN	**Canberra**	**33.62**	**233**	P	**P**	**19 35 24.6**	**+1.2**
PMG	**Port Moresby**	**34.58**	**280**	P	**P**	**19 35 32.1**	**+0.4**
TOO	**Toolangi**	**37.08**	**231**	P	**P**	**19 35 52.7**	**+0.7**
TOO				IAmb	IAmb	19 36 35.0	
	comp=Z,7.6nm,1.1s						
COEN	**Coen**	**37.19**	**271**	P	**P**	**19 35 53.1**	**0.0**
MANU	**Manus Island**	**37.26**	**292**	P	**P**	**19 35 54.4**	**+0.6**
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**19 36 03.8**	**-0.5**
STKA	**Stephens Creek**	**38.58**	**241**	P	**P**	**19 36 05.3**	**+1.1**
	comp=Z,6.3nm,0.7s,baz=92,slow=8.5,SNR=12						
	comp=Z,6.3nm,0.7s						
MGBR	**Mount Gambier**	**40.81**	**233**	P	**P**	**19 36 21.3**	**-0.6**
BBOO	**Buckleboo**	**43.36**	**241**	P	**P**	**19 36 42.6**	**+0.7**
BBOO				IAmb	IAmb	19 36 43.2	
	comp=Z,9.8nm,0.5s						
MLH	**Mauna Loa**	**43.67**	**32**	P	**P**	**19 36 45.1**	**+0.4**
KNHH	**Kane Nui o Ham**	**43.69**	**33**	P	**P**	**19 36 45.2**	**+0.6**
STCH	**Steam Cracks**	**43.71**	**33**	P	**P**	**19 36 45.2**	**+0.3**
HMH	**Humu'ula Sheep**	**43.71**	**32**	P	**P**	**19 36 45.3**	**+0.2**
KEKH	**Kekaha**	**43.85**	**25**	P	**P**	**19 36 45.8**	**0.0**
WB2	**Warramunga Arr**	**44.66**	**260**	P	**P**	**19 36 51.5**	**-0.5**
WB2				IAmb	IAmb	19 36 52.7	
	comp=Z,8.8nm,0.6s						
WB2				PcP	**PcP**	**19 38 22.1**	**+0.6**
WRA	**Warramunga Arr**	**44.67**	**260**	P	**P**	**19 36 51.1**	**-1.0**
WRA				PcP	**PcP**	**19 38 21.7**	**+0.1**
WRA	**Warramunga Arr**	**44.67**	**260**	P	**P**	**19 36 51.8**	**-0.4**
	comp=Z,5.7nm,0.5s,baz=95,slow=7.5,SNR=101						
WRA				PcP	**PcP**	**19 38 20.9**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=100,slow=3.4,SNR=3.2						
WRA				S	**S**	**19 42 43.6**	**-2.7**
	comp=Z,1.5nm,1.2s,baz=98,slow=13,SNR=3.0						
	comp=Z,5.7nm,0.5s						
AS31	**Alice Springs**	**44.80**	**254**	P	**P**	**19 36 53.0**	**-0.2**
AS31				IAmb	IAmb	19 36 54.6	
	comp=Z,8.5nm,0.5s						
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**19 36 53.1**	**-0.1**
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**19 36 53.6**	**+0.5**
	comp=Z,23nm,0.5s,baz=88,slow=8.6,SNR=207						
ASAR				PcP	**PcP**	**19 38 21.9**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=90,slow=4.3,SNR=4.5						
ASAR				ScP	**ScP**	**19 41 17.1**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=96,slow=4.6,SNR=4.7						
ASAR				S	**S**	**19 42 46.4**	**-1.7**
	comp=Z,2.1nm,0.8s,baz=90,slow=15,SNR=17						
	comp=Z,23nm,0.5s						
MTN	**Manton Dam**	**48.87**	**269**	P	**P**	**19 37 23.6**	**-0.2**
FORT	**Forrest**	**49.97**	**245**	P	**P**	**19 37 31.7**	**0.0**
FORT				IAmb	IAmb	19 38 08.7	
	comp=Z,22nm,1.1s						
FORT				PcP	**PcP**	**19 38 40.6**	**+0.1**
KNRA	**Kununurra**	**50.54**	**264**	P	**P**	**19 37 36.0**	**0.0**
KNRA				IAmb	IAmb	19 37 58.7	
	comp=Z,30nm,1.4s						
KNRA				PcP	**PcP**	**19 38 41.4**	**-1.5**
FAKI	**Fak Fak**	**50.70**	**281**	P	**P**	**19 37 37.2**	**0.0**
FAKI				IAmb	IAmb	19 37 38.5	
	comp=Z,18nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.07**	**261**	P	**P**	**19 37 54.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**53.07**	**261**	P	**P**	**19 37 53.7**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=91,slow=6.4,SNR=11						
	comp=Z,1.5nm,0.5s						
SOEI	**Soe**	**56.15**	**270**	P	**P**	**19 38 17.3**	**+1.6**
SOEI				IAmb	IAmb	19 38 26.6	
	comp=Z,15nm,1.0s						
PSA00	**Pilbara Seismi**	**57.92**	**256**	P	**P**	**19 38 26.4**	**-1.2**
MBWA	**Marble Bar**	**58.09**	**256**	P	**P**	**19 38 27.0**	**-1.7**
MBWA				IAmb	IAmb	19 38 41.3	
	comp=Z,24nm,1.4s						
GIRL	**Giralia**	**62.90**	**253**	P	**P**	**19 38 58.8**	**-1.5**
JAGI	**Jajag, Banyuwa**	**66.11**	**269**	P	**P**	**19 39 19.6**	**-1.0**
JAGI				IAmb	IAmb	19 39 27.2	
	comp=Z,24nm,1.2s						
MJAR	**Matsushiro Arr**	**68.15**	**323**	P	**P**	**19 39 31.4**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=156,slow=6.0,SNR=5.0						
	comp=Z,0.4nm,0.4s						
ADK	**Adak**	**69.75**	**1**	P	**P**	**19 39 41.5**	**-0.3**
QSPA	**South Pole Qui**	**71.90**	**180**	P	**P**	**19 39 55.7**	**+1.2**
QSPA				IAmb	IAmb	19 39 57.1	
	comp=Z,6.3nm,0.9s						
QSPA	**South Pole Qui**	**71.90**	**180**	P	**P**	**19 39 56.2**	**+1.8**
	comp=Z,4.7nm,0.8s,baz=28,slow=0.8,SNR=16						
	comp=Z,4.7nm,0.8s						
SSLB	**Suanglung**	**72.44**	**303**	P	**P**	**19 39 57.3**	**-0.9**
PETK	**Petropavlovsk-**	**73.94**	**345**	P	**P**	**19 40 05.4**	**-0.6**
	comp=Z,3.9nm,1.1s,baz=99,slow=7.8,SNR=5.9						
	comp=Z,3.9nm,1.1s						
O02D	**Mt. Diablo Mer**	**77.69**	**40**	P	**P**	**19 40 28.8**	**+1.7**
ESJX	**Sierra Juarez**	**77.81**	**50**	P	**P**	**19 40 29.1**	**+1.0**
ESJX				IAmb	IAmb	19 41 09.6	
	comp=Z,7.8nm,1.0s						
KRMB	**Red Mountain**	**77.82**	**39**	P	**P**	**19 40 29.0**	**+1.2**
KRMB				IAmb	IAmb	19 40 30.3	
	comp=Z,8.8nm,1.0s						
CMB	**Columbia Colle**	**77.96**	**43**	P	**P**	**19 40 28.5**	**-0.1**
KSXB	**Camp Six Broad**	**78.03**	**38**	P	**P**	**19 40 30.0**	**+1.1**
KSXB				IAmb	IAmb	19 40 30.9	
	comp=Z,10nm,1.0s						
AFDM	**Forest Hills D**	**78.11**	**42**	P	**P**	**19 40 29.7**	**+0.4**
YUH	**Yuha Desert**	**78.15**	**50**	P	**P**	**19 40 30.2**	**+0.6**
SLBS	**Sierra La Lagu**	**78.61**	**60**	P	**P**	**19 40 34.3**	**+1.9**
SLBS				IAmb	IAmb	19 40 58.9	
	comp=Z,25nm,1.5s						
OMMB	**Old Mammoth Mi**	**78.64**	**44**	P	**P**	**19 40 33.3**	**+0.8**
YBH	**Yreka Blue Hor**	**78.67**	**39**	P	**P**	**19 40 33.6**	**+1.3**
WAKR	**Walker**	**78.84**	**43**	P	**P**	**19 40 34.2**	**+0.8**
WAKR				IAmb	IAmb	19 40 35.8	
	comp=Z,9.2nm,0.9s						
MPK	**Martis Peak**	**78.91**	**42**	P	**P**	**19 40 34.4**	**+0.6**
MPK				IAmb	IAmb	19 40 35.6	
	comp=Z,10nm,0.6s						
HUMO	**Hull Mountain**	**79.05**	**38**	P	**P**	**19 40 35.9**	**+1.7**
PNTR	**Pine Nut**	**79.07**	**43**	P	**P**	**19 40 35.5**	**+0.9**
PNTR				IAmb	IAmb	19 40 36.9	
	comp=Z,13nm,0.8s						
DSP	**Deep Springs**	**79.19**	**45**	P	**P**	**19 40 36.4**	**+1.4**
YERR	**Yerington**	**79.24**	**43**	P	**P**	**19 40 36.3**	**+0.8**
YERR				IAmb	IAmb	19 40 37.5	
	comp=Z,12nm,1.1s						
LHV	**Little Huntoon**	**79.32**	**44**	P	**P**	**19 40 37.1**	**+1.5**
LHV				IAmb	IAmb	19 40 38.2	
	comp=Z,8.1nm,0.9s						
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**19 40 37.8**	**+0.7**
NVAR	**Mina Array Bea**	**79.55**	**44**	P	**P**	**19 40 38.1**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=224,slow=8.6,SNR=28						
	comp=Z,3.3nm,0.7s						
PAHR	**Pah Rah Range**	**79.55**	**42**	P	**P**	**19 40 37.9**	**+0.8**
KVN	**Kaiserville**	**80.02**	**43**	P	**P**	**19 40 40.3**	**+0.7**
PRN	**Pahroc Range**	**81.19**	**46**	IAmb	IAmb	19 40 48.1	
	comp=Z,10nm,0.9s						
R11B	**Troy Canyon, C**	**81.31**	**45**	P	**P**	**19 40 47.1**	**+0.8**
BMN	**Battle Mountai**	**81.33**	**43**	IAmb	IAmb	19 40 48.4	
	comp=Z,9.3nm,0.9s						
WVOR	**Wild Horse Val**	**81.54**	**40**	P	**P**	**19 40 48.3**	**+1.0**
TUC	**Tucson**	**81.79**	**52**	P	**P**	**19 40 49.7**	**+1.0**
TUC				IAmb	IAmb	19 40 51.8	
	comp=Z,7.4nm,1.1s						
I07A	**Izee**	**81.95**	**39**	IAmb	IAmb	19 40 51.5	
	comp=Z,8.4nm,0.8s						
Q12A	**Willow Creek R**	**82.17**	**45**	IAmb	IAmb	19 40 52.6	
	comp=Z,8.1nm,0.8s						
LCMT	**Little Creek M**	**82.24**	**47**	P	**P**	**19 40 51.9**	**+1.0**
X16A	**Lo Mia Camp, P**	**82.28**	**50**	IAmb	IAmb	19 40 54.0	
	comp=Z,6.3nm,0.9s						
PSUT	**Pine Spring**	**82.57**	**46**	IAmb	IAmb	19 40 54.6	
	comp=Z,5.1nm,0.7s						
U15A	**North Rim**	**82.62**	**48**	P	**P**	**19 40 54.0**	**+0.9**
U15A				IAmb	IAmb	19 40 55.7	
	comp=Z,11nm,0.8s						
G08A	**Pilot Rock**	**82.95**	**38**	P	**P**	**19 40 55.3**	**+1.0**
GHO	**Glory Hole Cre**	**83.03**	**14**	IAmb	IAmb	19 40 54.6	
	comp=Z,12nm,0.6s						
PKCU	**Pink Cliffs**	**83.10**	**47**	IAmb	IAmb	19 40 58.7	
	comp=Z,9.2nm,0.9s						
X18A	**Snowflake**	**83.42**	**51**	IAmb	IAmb	19 40 59.4	
	comp=Z,4.0nm,0.6s						
MTPU	**Mount Pierson**	**83.48**	**47**	P	**P**	**19 40 58.6**	**+1.2**
MAW	**Mawson**	**83.66**	**200**	P	**P**	**19 40 58.0**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=123,slow=8.9,SNR=6.4						
	comp=Z,1.2nm,0.6s						
MFID	**Camas Ranch**	**83.81**	**41**	IAmb	IAmb	19 41 01.1	
	comp=Z,6.2nm,1.1s						
CAST	**Castle Rocks**	**83.85**	**12**	IAmb	IAmb	19 40 57.9	
	comp=Z,9.7nm,0.8s						
D08A	**Wollman Farm,**	**83.98**	**36**	P	**P**	**19 41 00.1**	**+0.9**
D08A				IAmb	IAmb	19 41 00.9	
	comp=Z,9.9nm,1.0s						
121A	**Cookes Peak, D**	**84.16**	**53**	IAmb	IAmb	19 41 03.4	
	comp=Z,5.8nm,0.9s						
RND	**Reindeer**	**84.49**	**13**	IAmb	IAmb	19 41 01.8	
	comp=Z,12nm,0.8s						
PLID	**Pearl Lake**	**84.59**	**39**	P	**P**	**19 41 02.6**	**+0.1**
HLID	**Hailey**	**84.76**	**41**	IAmb	IAmb	19 41 05.5	
	comp=Z,4.6nm,0.8s						
M26K	**Nabesna, AK**	**85.00**	**16**	P	**P**	**19 41 04.4**	**+0.5**
M26K				IAmb	IAmb	19 41 05.3	
	comp=Z,6.3nm,1.0s						
M27K	**Edge Creek, AK**	**85.25**	**16**	IAmb	IAmb	19 41 06.0	
	comp=Z,9.2nm,1.1s						
CCB	**Clear Creek Bu**	**85.81**	**13**	P	**P**	**19 41 06.4**	**-1.1**
CCB				IAmb	IAmb	19 41 07.4	
	comp=Z,12nm,1.2s						
TX31	**Lajitas Ar. Si**	**86.06**	**58**	IAmb	IAmb	19 41 12.9	
	comp=Z,11nm,0.9s						
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**19 41 12.0**	**+2.3**
TXAR	**Lajitas Array**	**86.06**	**58**	P	**P**	**19 41 11.8**	**+2.0**
	comp=Z,8.1nm,0.8s,baz=220,slow=5.6,SNR=24						
	comp=Z,8.1nm,0.8s						
IL31		**86.11**	**13**	IAmb	IAmb	19 41 09.1	
	comp=Z,5.2nm,1.0s						
ILAR	**Eielson Array**	**86.11**	**13**	P	**P**	**19 41 08.1**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=219,slow=5.0,SNR=31						
	comp=Z,1.7nm,0.5s						
ANMO	**Albuquerque**	**86.19**	**51**	P	**P**	**19 41 10.2**	**-0.1**
J25K	**Salcha River,**	**86.30**	**14**	IAmb	IAmb	19 41 10.2	
	comp=Z,3.0nm,0.7s						
XAN	**Xi'an**	**86.47**	**307**	⇓P	P	19 41 25.1	+14
XAN				pmax	pmax		
	comp=Z,15nm,0.9s						
ALPN	**Alpine**	**86.49**	**57**	IAmb	IAmb	19 41 14.5	
	comp=Z,10nm,1.3s						
J26L	**Joseph Creek**	**86.62**	**14**	P	**P**	**19 41 11.7**	**+0.2**
J26L				IAmb	IAmb	19 41 13.6	
	comp=Z,3.8nm,0.7s						
L29M	**L29M**	**86.88**	**17**	IAmb	IAmb	19 41 14.4	
	comp=Z,16nm,1.4s						
YHL	**Hebgen Lake**	**87.42**	**41**	IAmb	IAmb	19 41 18.8	
	comp=Z,6.9nm,0.9s						
PD31	**Pinedale Array**	**87.48**	**43**	IAmb	IAmb	19 41 17.6	
	comp=Z,4.1nm,0.8s						
PDAR	**Pinedale Array**	**87.48**	**43**	P	**P**	**19 41 16.3**	**0.0**
PDAR	**Pinedale Array**	**87.48**	**43**	P	**P**	**19 41 16.7**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=213,slow=3.4,SNR=29						
	comp=Z,3.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**87.50**	**314**	*eP*	**P**	**19 41 17.6**	**+1.3**
HHC				pmax	pmax		
	comp=Z,34nm,0.7s						
HHC				pmax	pmax		
	comp=Z,83nm,4.7s						
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,5.5s						
SAND	**Sanderson**	**87.54**	**58**	IAmb	IAmb	19 41 18.8	
	comp=Z,4.4nm,0.8s						
DRIO	**Del Rio**	**88.55**	**59**	P	**P**	**19 41 22.3**	**+1.0**
OZNA	**Ozona**	**88.70**	**57**	IAmb	IAmb	19 41 24.0	
	comp=Z,6.8nm,0.7s						
ELIB	**Princess Elisa**	**88.92**	**187**	*dP*	**P**	**19 41 23.0**	**+0.6**
	comp=Z,4.9nm,0.8s						
I30M	**Mount Dempster**	**89.02**	**16**	IAmb	IAmb	19 41 23.4	
	comp=Z,4.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.04**	**290**	P	**P**	**19 41 24.7**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=62,slow=4.2,SNR=1.7						
	comp=Z,0.5nm,0.8s						
TROLL	**Troll, Antarti**	**90.06**	**180**	⇑P	**P**	**19 41 28.0**	**+0.3**
	comp=Z,134nm,0.5s						
SNAA	**Sanae**	**90.35**	**179**	⇑P	**P**	**19 41 29.3**	**+0.4**
	comp=Z,41nm,0.6s						
SNAA	**Sanae**	**90.35**	**179**	P	**P**	**19 41 29.1**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=210,slow=11,SNR=15						
	comp=Z,1.6nm,0.7s						
APMT	**Aspermont**	**90.38**	**55**	P	**P**	**19 41 29.7**	**0.0**
APMT				IAmb	IAmb	19 41 31.2	
	comp=Z,5.0nm,0.8s						
VNA3	**Neumayer Olymp**	**90.49**	**176**	⇑P	**P**	**19 41 30.4**	**+0.9**
	comp=Z,5.3nm,0.5s						
VNA2	**Neumayer--Watz**	**90.93**	**177**	⇑P	**P**	**19 41 32.0**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=211,slow=3.4						
VNA1	**Neumayer--Stat**	**91.16**	**177**	⇑P	**P**	**19 41 32.8**	**+0.2**
	comp=Z,5.1nm,0.8s						
INK	**Inuvik**	**92.10**	**15**	P	**P**	**19 41 35.8**	**-0.9**
INK				IAmb	IAmb	19 41 37.6	
	comp=Z,5.8nm,1.2s						
MKAR	**Makanchi Array**	**109.36**	**314**	PKiKP	**PKiKP**	**19 46 53.0**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=94,slow=1.7,SNR=5.1						
KURBB	**Kurchatov Arra**	**112.12**	**318**	PKiKP	**PKiKP**	**19 46 57.0**	**-2.2**
	comp=Z,0.5nm,0.4s,baz=136,slow=2.2,SNR=6.3						
BVAR	**Borovoye Array**	**117.09**	**321**	PKP	**PKPdf**	**19 47 08.0**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=77,slow=1.6,SNR=7.4						
ARCES	**ARCESS Array B**	**126.57**	**350**	PKP	**PKPdf**	**19 47 25.6**	**-0.8**
	comp=Z,3.3nm,0.8s,baz=46,slow=2.6,SNR=10						
FINES	**FINESS Array B**	**133.45**	**344**	PKP	**PKPdf**	**19 47 38.4**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=357,slow=4.0,SNR=5.7						
NOA	**NORSAR Array B**	**136.63**	**353**	PKP	**PKPdf**	**19 47 45.4**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=48,slow=4.8,SNR=1.7						
AKASG	**Malin Array Be**	**140.81**	**332**	PKhKP	PKPpre	19 47 46.9	
	comp=Z,0.7nm,0.5s,baz=42,slow=4.2,SNR=4.8						
AKASG				PKP	**PKPdf**	**19 47 54.0**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=41,slow=3.6,SNR=3.0						
EKA	**Eskdalemuir Ar**	**142.71**	**5**	PKP	**PKPdf**	**19 47 56.3**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=62,slow=3.5,SNR=3.4						
BNN	**Bunyan**	**143.88**	**312**		PKPbc	19 47 58.8	-0.1
KWP	**Kalwaria Pacla**	**144.33**	**336**		PKPbc	19 47 59.5	-0.2
BRTR	**Keskin Array B**	**145.01**	**315**	PKPdf	**PKPdf**	**19 48 01.2**	**-0.2**
BRTR	**Keskin Array B**	**145.01**	**315**	PKP	**PKPdf**	**19 48 01.0**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=126,slow=6.3,SNR=5.0						
OSTC	**Ostas**	**145.65**	**344**	*e*PKP	**PKPbc**	**19 48 04.8**	**+1.2**
CLL	**Collm**	**145.72**	**347**	PKPdf	**PKPdf**	**19 48 03.0**	**+1.0**
DPC	**Dobruska-Polom**	**145.81**	**343**	*e*PKP	**PKPbc**	**19 48 04.1**	**0.0**
BRG	**Berggiesshubel**	**145.92**	**346**	*i* PKP	**PKPbc**	**19 48 04.9**	**+0.5**
BRG				Amp		19 48 05.6	
	comp=Z,6.5nm,0.8s						
KRLC	**Kraliky**	**145.93**	**343**	*e*PKP	**PKPbc**	**19 48 04.9**	**+0.5**
MORC	**Moravsky Berou**	**145.97**	**342**	*e*PKP	**PKPbc**	**19 48 04.7**	**+0.1**
PVCC	**Panska Ves**	**146.10**	**345**	*e*PKP	**PKPbc**	**19 48 05.7**	**+0.9**
MAUC	**Maruska**	**146.25**	**341**	*e*PKP	**PKPbc**	**19 48 05.7**	**+0.4**
HSKC	**Hora Svate Kat**	**146.29**	**346**	*e*PKP	**PKPbc**	**19 48 05.7**	**+0.3**
MMAI	**Mount Meron Ar**	**146.34**	**303**	PKPbc	**PKPbc**	**19 48 06.1**	**-0.1**
	comp=Z,4.4nm,0.7s,baz=79,slow=5.2,SNR=9.4						
PRU	**Pruhonice**	**146.60**	**345**	*e*PKP	**PKPbc**	**19 48 06.7**	**+0.5**
JAVC	**Velka Javorina**	**146.74**	**341**	*e*PKP	**PKPbc**	**19 48 08.0**	**+1.3**
KRUC	**Moravsky**	**146.95**	**342**	*e*PKP	**PKPbc**	**19 48 07.4**	**+0.2**
KHC	**Kasperske Hory**	**147.63**	**345**	*e*PKP	**PKPbc**	**19 48 09.5**	**+0.5**
CKRC	**Cesky Krumlov**	**147.74**	**344**	*e*PKP	**PKPbc**	**19 48 09.8**	**+0.5**
GERES	**GERESS Array B**	**147.87**	**345**	PKPbc	**PKPbc**	**19 48 09.5**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=28,slow=4.4,SNR=15						
CONA	**Conrad Observa**	**148.12**	**342**	*e*PKP	**PKPbc**	**19 48 10.7**	**+0.3**
	comp=Z,8.3nm,1.0s						
RONA	**Rosalia, Austr**	**148.19**	**341**	*e*PKP	**PKPbc**	**19 48 10.9**	**+0.4**
	comp=Z,10.0nm,1.2s						
WLF	**Walferdange**	**148.36**	**354**	PKPdf	**PKPdf**	**19 48 05.5**	**-0.9**
WLF					**PKPbc**	**19 48 11.1**	**+0.4**
MOA	**Molln**	**148.64**	**344**	*e*PKP	**PKPbc**	**19 48 11.7**	**+0.1**
	comp=Z,3.5nm,0.9s						
ARSA	**Arzberg**	**148.83**	**342**	*i* PKP	**PKPbc**	**19 48 11.8**	**-0.3**
	comp=Z,2.4nm,0.7s						
ARSA				*e*PKP	**PKPab**	**19 48 19.0**	**+0.6**
	comp=Z,4.0nm,0.9s						
BIOA	**Bad Ischl, Aus**	**148.96**	**344**	*e*PKP	**PKPbc**	**19 48 12.0**	**-0.3**
	comp=

comp=N,3004μm,0.4s
VLS AML AML 19 40 28.1
LXR1 Lixouri, Cepha 1.11 351 P Pg 19 40 08.4 +0.5
RLS Riolos of Patr 1.15 34 P Pn 19 40 08.0 +0.3
RLS S **Sb 19 40 22.9 +0.4**
comp=E,782nm,0.5s
RLS Riolos of Patr 1.15 34 P Pn 19 40 07.3 -0.4
RLS AML AML 19 40 29.2
comp=E,1742μm,0.4s
RLS AML AML 19 40 32.6
comp=N,1379μm,0.6s
DMLN Damoulianata-K 1.15 349 P Pg 19 40 09.6 +0.8
DMLN S **Sg 19 40 24.7 +0.8**
comp=N,3μm,0.4s
DMLN Damoulianata-K 1.15 349 P Pn 19 40 08.1 +0.4
DRO Drossia 1.20 45 P Pn 19 40 08.8 +0.5
DRO Drossia 1.20 45 P Pn 19 40 08.0 -0.3
DRO AML AML 19 40 32.0
comp=E,4659μm,0.5s
DRO AML AML 19 40 34.5
comp=N,4699μm,0.4s
FSK Fiskardo 1.35 357 P Pn 19 40 11.2 +0.8
FSK AML AML 19 40 35.4
comp=N,2742μm,0.6s
FSK AML AML 19 40 39.7
comp=E,2676μm,0.6s
EVGI Lefkada island 1.52 0 P Pn 19 40 13.3 +0.6
KLV Kalavryta, Ach 1.52 51 P Pn 19 40 12.9 +0.1
DRAG Dragano-Lefkad 1.58 358 P Pn 19 40 14.6 +1.0
GUR Goura 1.58 58 P Pn 19 40 14.6 +0.9
GUR AML AML 19 40 46.2
comp=E,1746μm,0.4s
GUR AML AML 19 40 51.7
comp=N,1744μm,0.4s
EFP Efpalio 1.65 37 P Pn 19 40 15.7 +1.1
EFP AML AML 19 40 45.8
comp=E,917μm,0.6s
EFP AML AML 19 40 46.5
comp=N,962μm,0.6s
VLI Veliai 1.87 101 P Pn 19 40 19.0 +1.4
AXAR Agios Charalam 2.30 43 P Pn 19 40 24.6 +1.1
AXAR AML AML 19 41 13.4
comp=N,1383μm,0.8s
AXAR AML AML 19 41 20.3
comp=E,910μm,0.6s
VIL2 Platees 2.35 61 P Pn 19 40 23.9 -0.4
SCTE Santa Cesarea 3.42 331 P Pn 19 40 38.9 0.0
AKASG Malin Array Be 14.92 22 Pn **P 19 43 19.8 -2.0**
comp=E,0.7nm,0.3s,baz=215,slow=10,SNR=3.1
comp=E,0.2nm,0.3s
HFS Hagfors 23.48 351 P P 19 44 54.9 +0.1
comp=E,1.0nm,0.5s,baz=162,slow=11,SNR=6.1
comp=E,1.0nm,0.5s
FINES FINESS Array B 24.60 6 P P 19 45 05.3 0.0
comp=E,3.8nm,1.0s,baz=194,slow=11,SNR=4.0
comp=E,3.8nm,1.0s
MKAR Makanchi Array 45.78 58 P P 19 48 06.0 -1.0
comp=E,0.9nm,0.9s,baz=273,slow=6.6,SNR=4.5
comp=E,0.9nm,0.9s

*IDC **02** 19:40:37.7±1.7,2°.98S×119°.31E,h0km,mb3.4/3,*
mbtmp3.5/4,ML3.6/1,MS2.5/3,Error ellipse: s-maj=76.1km
s-min=17.2km az=73.0
*DJA **02** 19:40:40.5±0.3,3°.S±2°.×12°.0E±°,h10km,M3.7/11,*
MLv3.7/11
ISC 02 19:40:39.4±1.2,2°.89S±0°.05×119°.46E±0°.09,h10km,n14,
σ1§32/14,mb3.4/3,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.39**	**113**	P	**Pg**	**19 40 45.5**	**-1.6**
TTSI				S	**Sg**	**19 40 52.0**	**-0.2**
SPSI	**Sidrap Palu**	**1.11**	**164**	P	Pg	19 40 58.3	-2.4
SPSI				S	**Sg**	**19 41 15.0**	**-0.2**
BNSI	**Bone**	**1.63**	**157**	P	**Pn**	**19 41 08.1**	**-0.1**
BNSI				S	**Sb**	**19 41 32.5**	**+2.3**
KAPI	**Kappang**	**2.13**	**172**	Pn	**Pn**	**19 41 13.8**	**-1.2**
	18nm,0.3s,baz=348,slow=10,SNR=45						
KAPI				Lg	Lg	19 41 43.0	
	26nm,0.3s,baz=252,slow=19,SNR=22						
KAPI				LR	LR	19 41 49.4	
	comp=Z,32nm,19.7s,baz=316,slow=35						
	121nm,0.6s						
BKSI	**Bulukumba**	**2.50**	**165**	P	**Pn**	**19 41 21.5**	**+1.3**
MPSI	**Mapaga**	**3.24**	**8**	P	**Pn**	**19 41 30.1**	**-0.2**
BSSI	**Bau Bau, Buton**	**3.39**	**162**	P	**Pn**	**19 41 33.6**	**+1.2**
LUWI	**Luwuk**	**3.79**	**61**	P	**Pn**	**19 41 37.9**	**+0.1**
MRSI	**Marisa**	**4.17**	**37**	P	**Pn**	**19 41 45.0**	**+2.0**
BATI	**Baumata**	**8.38**	**150**	LR	LR	19 46 09.9	
	comp=Z,87nm,19.9s,baz=354,slow=40						
WRA	**Warramunga Arr**	**22.32**	**141**	P	**P**	**19 45 36.1**	**-1.3**
	1.3nm,1.0s,baz=317,slow=11,SNR=5.0						
	1.3nm,1.0s						
ASAR	**Alice Springs**	**24.93**	**147**	P	**P**	**19 46 04.1**	**+1.1**
	0.6nm,0.9s,baz=334,slow=12,SNR=5.1						
	0.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.30**	**317**	LR	LR	19 58 48.6	
	comp=Z,10nm,18.9s,baz=130,slow=37						
MKAR	**Makanchi Array**	**59.31**	**331**	P	**P**	**19 50 41.2**	**-0.2**
	0.4nm,0.6s,baz=140,slow=7.8,SNR=2.4						
	0.4nm,0.6s						

*NEIC **02** 19:46:13.6±1.6,56°.3S±0°.1×27°.3W±0°.2,h80km±6km,*
mb4.5/21,Error ellipse: s-maj=18.1km s-min=14.7km
az=53.0
*IDC **02** 19:46:13.0±6.2,56°.26S×27°.04W,h75km±55km,mb4.1/7,*
mbtmp4.4/8,ML4.3/1,MS3.3/7,Error ellipse: s-maj=29.2km
s-min=14.0km az=68.0
ISC 02 19:46:15.4±0.5,56°.30S±0°.07×27°.39W±0°.09,h100km,n78,
σ0§93/70,mb4.4/14,5C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.58**	**287**	Pn	**Pn**	**19 47 34.8**	**-0.9**
ESPZ	**Base Esperanza**	**16.36**	**232**	Pn	**Pn**	**19 49 56.1**	**-2.6**
VNA1	**Neumayer--Stat**	**16.61**	**158**	⇑P	**P**	**19 50 03.4**	**+1.0**
	comp=Z,6.3nm,0.8s						
VNA3	**Neumayer Olymp**	**16.80**	**160**	⇑P	**Pn**	**19 50 03.4**	**-0.6**
	comp=Z,3.5nm,0.6s						
VNA2	**Neumayer--Watz**	**17.01**	**157**	⇑P	**P**	**19 50 07.0**	**+0.2**
	comp=Z,6.5nm,0.6s,baz=316,slow=13						
EFI	**East Falkland**	**18.53**	**272**		**P**	**19 50 24.0**	**+0.3**
EFI				IAmb	IAmb	19 50 26.6	
	comp=Z,26nm,0.9s						
SNAA	**Sanae**	**18.56**	**156**	P	**P**	**19 50 23.0**	**-1.0**
SNAA	**Sanae**	**18.56**	**156**	⇑P	**P**	**19 50 23.4**	**-0.6**
	comp=Z,144nm,0.6s						
SNAA	**Sanae**	**18.56**	**156**	P	**P**	**19 50 23.4**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=298,slow=10.0,SNR=60						
SNAA				S	**S**	**19 53 48.4**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=348,slow=20,SNR=1.3						
SNAA				LR	LR	19 56 18.0	
	comp=Z,50nm,18.8s,baz=354,slow=33						
	comp=Z,7.8nm,0.6s						
PMSA	**Palmer Station**	**19.65**	**230**	P	**P**	**19 50 34.3**	**-1.4**
PMSA				IAmb	IAmb	19 50 42.9	
	comp=Z,29nm,1.1s						
TROLL	**Troll, Antarti**	**20.07**	**153**	⇑P	**P**	**19 50 41.6**	**+1.0**
	comp=Z,152nm,0.6s						
BELA	**Belgrano 2**	**21.82**	**184**	P	**P**	**19 50 57.8**	**-1.2**
BELA				IAmb	IAmb	19 51 02.0	
	comp=Z,15nm,0.8s						
LL01	**San Ignacio de**	**31.84**	**277**	P	**P**	**19 52 30.4**	**0.0**
LL01				IAmb	IAmb	19 52 37.4	
	comp=Z,8.1nm,0.9s						
QSPA	**South Pole Qui**	**33.95**	**180**	P	**P**	**19 52 48.9**	**+0.1**
QSPA	**South Pole Qui**	**33.95**	**180**	P	**P**	**19 52 49.9**	**+1.1**
	comp=Z,6.7nm,0.7s,baz=204,slow=3.7,SNR=20						
				PcP	**PcP**	**19 55 25.1**	**+0.7**
	comp=Z,1.0nm,0.4s,baz=217,slow=5.1,SNR=2.5						
QSPA				LR	LR	20 05 57.6	
	comp=Z,60nm,19.0s,baz=206,slow=35						
	comp=Z,6.7nm,0.7s						
CPUP	**Villa Florida**	**36.89**	**312**	LR	LR	20 08 03.6	
	comp=Z,18nm,19.4s,baz=34,slow=35						
MAW	**Mawson**	**40.02**	**143**	P	**P**	**19 53 40.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=218,slow=8.6,SNR=6.3						
	comp=Z,1.0nm,0.6s						
SUR	**Sutherland**	**40.81**	**75**	LR	LR	20 06 17.3	
	comp=Z,41nm,18.8s,baz=292,slow=30						
GO03	**Copiapo**	**41.81**	**295**	P	**P**	**19 53 56.4**	**+1.3**
GO03				IAmb	IAmb	19 54 23.7	
	comp=Z,9.0nm,0.9s						
BDFB	**Brasilia**	**43.52**	**330**	P	**P**	**19 54 09.3**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=79,slow=5.4,SNR=5.0						
	comp=Z,2.0nm,0.6s						
LVC	**Limon Verde**	**45.33**	**301**	P	**P**	**19 54 25.1**	**+1.5**
LVC				IAmb	IAmb	19 54 35.1	
	comp=Z,5.8nm,0.9s						
SBA	**Scott Base**	**45.82**	**184**	P	**P**	**19 54 29.0**	**+2.6**
BOSA	**Boshof**	**46.14**	**76**	LR	LR	20 09 56.9	
	comp=Z,32nm,20.9s,baz=256,slow=31						
PB01	**IPOC Station P**	**46.94**	**301**	P	**P**	**19 54 36.8**	**+0.9**
PTLB	**Pontes e Lacer**	**47.40**	**316**	P	**P**	**19 54 38.9**	**-0.5**
PB08	**IPOC Station P**	**47.55**	**302**	P	**P**	**19 54 41.8**	**+0.7**
PB08				IAmb	IAmb	19 55 04.8	
	comp=Z,5.6nm,0.9s						
PB11	**IPOC Station P**	**48.12**	**302**	P	**P**	**19 54 45.1**	**-0.1**
H10S2	**ASCENSION HYDR**	**48.27**	**17**	T	T	20 47 26.6	
	baz=189,slow=74,SNR=14						
H10S3	**ASCENSION HYDR**	**48.27**	**17**	T	T	20 47 26.9	
	baz=31,slow=74,SNR=4.1						
H10N1	**ASCENSION HYDR**	**49.39**	**17**	T	T	20 48 45.3	
	baz=189						
H10N3	**ASCENSION HYDR**	**49.39**	**17**	T	T	20 48 50.8	
	baz=189,slow=74,SNR=4.1						
H10N2	**ASCENSION HYDR**	**49.41**	**17**	T	T	20 48 41.9	
	baz=189,slow=74,SNR=2.8						
LPAZ	**La Paz**	**50.43**	**306**	P	**P**	**19 55 03.5**	**+0.2**
LPAZ				IAmb	IAmb	19 55 05.8	
	comp=Z,4.5nm,0.8s						
LPAZ	**La Paz**	**50.43**	**306**	P	**P**	**19 55 03.8**	**+0.5**
	comp=Z,3.4nm,0.5s,baz=156,slow=5.4,SNR=15						
LPAZ				LR	LR	20 15 52.9	
	comp=Z,20nm,21.5s,baz=86,slow=35						
	comp=Z,3.4nm,0.5s						
CASY	**Casey**	**53.71**	**160**	P	**P**	**19 55 26.1**	**-0.2**
DBIC	**Dimbokro**	**65.44**	**25**	P	**P**	**19 56 47.1**	**-0.3**
DBIC				IAmb	IAmb	19 56 47.8	
	comp=Z,9.8nm,1.0s						
DBIC	**Dimbokro**	**65.44**	**25**	P	**P**	**19 56 47.1**	**-0.3**
	comp=Z,5.1nm,0.9s,baz=180,slow=5.0,SNR=3.9						
	comp=Z,5.1nm,0.9s						
OPO	**Ambohidratompo**	**66.21**	**88**	LR	LR	20 18 57.0	
	comp=Z,100nm,18.7s,baz=352,slow=30						
COHC	**Cochancay**	**67.70**	**302**	P	**P**	**19 57 02.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**73.33**	**30**	P	**P**	**19 57 36.1**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=203,slow=5.6,SNR=15						
TORD				pP	**pP**	**19 57 57.1**	**-3.6**
	comp=Z,1.2nm,0.6s,baz=203,slow=5.3,SNR=4.4						
	comp=Z,3.3nm,0.8s						
RAO	**Raoul Island**	**91.17**	**205**	P	**P**	**19 59 11.6**	**+2.7**
	comp=Z,1μm,0.3s,baz=135,slow=19,SNR=5.9						
STKA	**Stephens Creek**	**91.67**	**171**	P	**P**	**19 59 10.9**	**-0.3**
STKA				IAmb	IAmb	19 59 11.3	
	comp=Z,2.3nm,1.4s						
TEIG	**Tepich**	**91.75**	**305**	P	**P**	**19 59 11.6**	**+0.1**
ASAR	**Alice Springs**	**98.79**	**163**	P	**P**	**19 59 43.8**	**0.0**
	comp=Z,0.6nm,0.9s,baz=184,slow=4.5,SNR=3.0						
	comp=Z,0.6nm,0.9s						
FINES	**FINESS Array B**	**124.66**	**28**	PKP	**PKPdf**	**20 05 01.5**	**0.0**
	comp=Z,4.1nm,0.9s,baz=299,slow=2.9,SNR=9.9						
ARCES	**ARCESS Array B**	**131.22**	**22**	PKP	**PKPdf**	**20 05 13.0**	**-0.9**
	comp=Z,3.0nm,0.9s,baz=294,slow=0.9,SNR=6.5						
N31M	**Braeburn, Yuko**	**144.37**	**309**	PKPdf	PKPbc	20 05 37.4	+0.4
N30M	**Aishikik Lake**	**144.93**	**308**		PKPbc	20 05 38.0	-0.8
M30M	**Minto, Yukon**	**145.24**	**310**		**PKPbc**	**20 05 39.0**	**0.0**
H31M	**Peel River**	**145.43**	**316**		**PKPdf**	**20 05 39.9**	**0.0**
F31M	**Tsiigehtchic**	**145.74**	**319**		**PKPdf**	**20 05 40.6**	**+0.3**
G31M	**Satah River**	**145.77**	**318**		**PKPbc**	**20 05 41.1**	**0.0**
J30M	**Hart River**	**145.79**	**313**	PKPdf	**PKPab**	**20 05 42.1**	**+0.1**
M29M	**Somme Creek**	**145.91**	**309**		**PKPab**	**20 05 42.5**	**-0.1**
INK	**Inuvik**	**145.92**	**320**		**PKPbc**	**20 05 41.5**	**0.0**
I30M	**Mount Dempster**	**146.03**	**315**		**PKPbc**	**20 05 42.0**	**-0.1**
EPYK	**Eagle Plains**	**146.53**	**316**		**PKPbc**	**20 05 43.3**	**-0.2**
DAWY	**Dawson**	**146.87**	**312**		**PKPbc**	**20 05 44.5**	**-0.1**
G29M	**Pine Creek**	**147.18**	**317**		**PKPbc**	**20 05 44.9**	**-0.4**
E29M	**Blow River**	**147.51**	**320**		**PKPbc**	**20 05 45.9**	**-0.2**
L27K	**Beaver Creek,**	**147.58**	**309**		**PKPbc**	**20 05 46.8**	**+0.2**
F28M	**Old Crow**	**148.05**	**318**		**PKPbc**	**20 05 47.8**	**+0.2**
J26L	**Joseph Creek**	**148.74**	**312**		**PKPbc**	**20 05 49.0**	**-0.5**
E27K	**Coleen River**	**148.81**	**319**		**PKPbc**	**20 05 49.8**	**+0.2**
KLU	**Klutina**	**148.89**	**305**		**PKPbc**	**20 05 50.6**	**+0.6**
F26K	**Sheenjek River**	**149.67**	**318**		**PKiKP**	**20 05 52.4**	**-0.2**
BMAR	**Burnt Mountain**	**149.79**	**317**	PKPbc	**PKPbc**	**20 05 52.5**	**+0.5**
ILAR	**Eielson Array**	**150.19**	**311**		**PKPbc**	**20 05 52.4**	**-0.6**
ILAR	**Eielson Array**	**150.19**	**311**	PKPbc	**PKPbc**	**20 05 53.4**	**+0.4**
	comp=Z,5.9nm,0.8s,baz=133,slow=1.7,SNR=41						
G24K	**Hadweenzic Riv**	**150.79**	**315**	PKPbc	**PKiKP**	**20 05 54.9**	**-0.1**
SONM	**Songino Array**	**150.86**	**87**	PKPbc	**PKPbc**	**20 05 54.7**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=211,slow=2.4,SNR=4.9						
E24K	**Your Creek**	**151.35**	**318**	PKPbc	**PKiKP**	**20 05 56.4**	**+0.3**
TOLK	**Toolik Lake Re**	**151.79**	**319**		**PKPbc**	**20 05 56.6**	**-0.1**
M20K	**Styx River**	**152.30**	**304**	PKPbc	**PKPbc**	**20 05 57.6**	**-0.4**
D22K	**Ayikyak River**	**152.93**	**319**	PKPbc	**PKPbc**	**20 05 59.0**	**-0.2**
IMAR	**Indian Mountai**	**153.22**	**313**	PKPbc	**PKPbc**	**20 05 59.0**	**-0.8**
L18K	**Granite Mounta**	**154.01**	**304**	PKPbc	**PKiKP**	**20 06 02.5**	**+0.8**
E19K	**Redstone River**	**154.65**	**316**	PKPab	**PKPab**	**20 06 18.6**	**+0.4**

*SJA **02** 19:47:10.8±1.4,27°.18S×71°.42W,h20km±8km,ML3.4,*
MW3.5
*GUC **02** 19:47:13.5±0.7,27°.22S×71°.19W,h36km±3km,ML3.0*
ISC 02 19:47:11.1±1.5,27°.19S±0°.02×71°.30W±0°.05,h2km±11km,
n28,σ1§74/46,1C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC06	**Mina Casimiro**	**0.85**	**102**	⇓*i*P	**Pg**	**19 47 27.9**	**+0.4**
AC06				*i* S	**Sg**	**19 47 37.9**	**-0.7**
AC06				IAML		19 47 39.5	
	comp=N,2μm,0.2s						
GO03	**Copiapo**	**1.03**	**114**	⇓*i*P	**Pg**	**19 47 30.8**	**0.0**
GO03				*i* S	**Sg**	**19 47 43.0**	**-1.1**
GO03				IAML		19 47 43.4	
	comp=N,618nm,0.2s						
GO03	**Copiapo**	**1.03**	**114**	*e*P	**Pg**	**19 47 30.8**	**0.0**
GO03				*e*S	**Sg**	**19 47 44.8**	**+0.7**
AC04	**Llanos de Chal**	**1.03**	**169**	*e*P	**Pg**	**19 47 31.2**	**+0.3**
AC04				*i* S	**Sg**	**19 47 44.3**	**-0.1**
AC04				IAML		19 47 46.9	
	comp=E,866nm,0.2s						
AC04	**Llanos de Chal**	**1.03**	**169**	*e*P	**Pb**	**19 47 31.4**	**-0.3**
AC04				*e*S	**Sb**	**19 47 44.9**	**-0.8**
AC04				IAML		19 47 48.8	
	comp=Z,474nm,0.4s						
AC01	**Pan de Azucar**	**1.21**	**31**	⇑*i*P	**Pg**	**19 47 34.1**	**0.0**
AC01				*i* S	**Sg**	**19 47 50.4**	**+0.6**
AC01				IAML		19 47 53.3	
	comp=N,388nm,0.3s						
AC01	**Pan de Azucar**	**1.21**	**31**	*e*P	**Pg**	**19 47 34.2**	**0.0**
AC01				*e*S	**Sn**	**19 47 52.7**	**+0.8**
AC01				IAML		19 47 58.3	
	comp=Z,250nm,0.3s						
AC05	**El Transito**	**1.88**	**151**	*e*P	**Pn**	**19 47 45.1**	**+0.7**
AC05				*i* S	**Sn**	**19 48 07.3**	**-1.3**
AC05				IAML		19 48 14.2	
	comp=E,237nm,0.4s						
AC05	**El Transito**	**1.88**	**151**	*e*P	**Pn**	**19 47 45.2**	**+0.9**
AC05				*e*S	**Sn**	**19 48 08.1**	**-0.6**
AC05				IAML		19 48 16.5	
	comp=Z,204nm,0.8s						
LCO	**Las Campanas**	**1.89**	**164**	*e*P	**Pn**	**19 47 44.9**	**+0.3**
LCO				*i* S	**Sn**	**19 48 08.2**	**-1.0**
LCO	**Las Campanas**	**1.89**	**164**	*e*P	**Pn**	**19 47 45.0**	**+0.3**
LCO				*e*S	**Sn**	**19 48 08.6**	**-0.7**
LCO				IAML		19 48 19.3	
	comp=Z,469nm,0.5s						
GO02	**Mina Guanaco**	**2.53**	**38**	*e*P	**Pn**	**19 47 54.1**	**+0.6**
GO02	**Mina Guanaco**	**2.53**	**38**	*e*P	**Pn**	**19 47 54.2**	**+0.7**
GO02				*e*S	**Sn**	**19 48 27.2**	**+2.2**
PB14	**IPOC Station P**	**2.67**	**18**	IAML		19 48 40.5	
	comp=E,88nm,0.4s						
CO05	**La Serena**	**2.72**	**179**	*e*S	**Sn**	**19 48 27.9**	**-1.5**
CO01	**Juntas del Tor**	**2.98**	**159**	*e*P	**Pn**	**19 48 00.9**	**+1.4**
CO01	**Juntas del Tor**	**2.98**	**159**	*e*P	**Pn**	**19 48 00.9**	**+1.4**
CO01				*e*S	**Sn**	**19 48 37.7**	**+1.8**
CO01				IAML		19 48 46.6	
	comp=Z,57nm,0.5s						
GO04	**Tololo Observa**	**3.01**	**172**	*i* P	**Pn**	**19 48 00.6**	**+0.7**
GO04	**Tololo Observa**	**3.01**	**172**	*e*P	**Pn**	**19 48 00.7**	**+0.7**
GO04				*e*S	**Sb**	**19 48 43.6**	**+0.8**
VCA	**Vinchina**	**3.14**	**120**	*e*P	**Pn**	**19 48 04.2**	**+2.5**
VCA				*e*S	**Sb**	**19 48 47.6**	**+1.1**
VCA				IAML		19 48 57.1	
	comp=Z,81nm,0.8s						
CO03	**El Pedregal**	**3.68**	**172**	*e*P	**Pn**	**19 48 09.2**	**+0.1**
CO03	**El Pedregal**	**3.68**	**172**	*e*P	**Pn**	**19 48 07.5**	**-1.5**
CO03				*e*S	**Sb**	**19 49 04.9**	**+2.9**
CO03				IAML		19 49 11.5	
	comp=Z,60nm,0.8s						
PB15	**IPOC Station P**	**4.29**	**23**	*e*P	**Pn**	**19 48 18.6**	**+1.0**
PB15				IAML		19 49 27.8	
	comp=Z,107nm,0.5s						
ACLC	**CERRO LA CRUZ**	**4.43**	**121**	*e*P	**Pn**	**19 48 22.2**	**+2.7**
ACLC				IAML		19 49 36.6	
	comp=Z,14nm,1.0s						
PB06	**IPOC Station P**	**4.73**	**20**	*e*P	**Pn**	**19 48 22.0**	**-1.5**
PB06				IAML		19 49 55.0	
	comp=Z,51nm,0.5s						
PB04	**IPOC Station P**	**4.94**	**12**	*e*P	**Pn**	**19 48 24.6**	**-1.9**
PB04				IAML		19 49 56.7	
	comp=Z,34nm,0.7s						
CYA	**Choya**	**5.02**	**106**	*e*P	**Pn**	**19 48 30.4**	**+2.9**
CYA				IAML	**Sb**	**19 49 35.2**	**-5.5**
	comp=Z,19nm,1.2s						
CYA				*e*S	**Sb**	**19 49 35.2**	**-5.5**
LVC	**Limon Verde**	**5.04**	**26**	*e*P	**Pn**	**19 48 28.4**	**+0.3**
LVC				*e*S	**Sb**	**19 49 42.6**	**+1.1**
LVC				IAML		19 49 54.9	
	comp=Z,30nm,1.8s						

*RSNC **02** 19:50:23.8±0.0,12°.N±8°.×7°.1W±°.,h129km±15km,M3.0,*
mb3.3,ML2.8
*FUNV **02** 19:50:25.8,11°.24N×70°.54W,h5km,MW3.2*
ISC 02 19:50:23.6±1.3,11°.37N±0°.05×70°.69W±0°.03,h23km±17km,
n18,σ1§66/30,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUA1	**Aruba**	**1.31**	**31**	P	**Pb**	**19 50 46.6**	**-1.0**
AUA1				S	**Sb**	**19 51 06.0**	**+2.1**
URIC	**Uribia, Colomb**	**1.31**	**284**	P	**Pn**	**19 50 46.8**	**+0.2**
URIC				S	**Sb**	**19 51 04.5**	**+0.4**
JACV	**Jacura**	**1.85**	**99**	*e*P	**Pb**	**19 50 55.6**	**-1.2**
JACV				*e*S	**Sn**	**19 51 17.5**	**+0.7**
TEPV	**Terepaima**	**2.04**	**133**	*e*P	**Pn**	**19 50 57.1**	**+0.5**
TEPV				*e*S	**Sn**	**19 51 21.1**	**-0.3**
CRJC	**Cerrejon, Guaj**	**2.18**	**261**	P	**Pn**	**19 50 59.6**	**+1.0**
CRJC				S	**Sb**	**19 51 28.1**	**-0.9**
MCQV	**Machiques**	**2.24**	**234**	*e*P	**Pb**	**19 51 03.3**	**-0.1**
MCQV				*e*S	**Sb**	**19 51 32.1**	**+1.4**
SDV	**Santo Domingo**	**2.47**	**179**	P	**Pb**	**19 51 07.0**	**-0.5**
MAPV	**Macapo**	**2.68**	**125**	*e*P	**Pn**	**19 51 06.6**	**+1.1**
MAPV				*e*S	**Sn**	**19 51 36.6**	**-0.7**
TURV	**Turiamo**	**2.95**	**108**	*e*P	**Pn**	**19 51 09.2**	**0.0**
TURV				*e*S	**Sn**	**19 51 42.4**	**-1.5**
SOCV	**Socops**	**3.07**	**183**	*e*P	**Pn**	**19 51 12.0**	**+1.1**
SOCV				*e*S	**Sn**	**19 51 46.5**	**-0.5**
BENV	**Beln**	**3.35**	**114**	*e*P	**Pn**	**19 51 16.1**	**+1.3**
BENV				*e*S	**Sn**	**19 51 51.6**	**-2.2**
BAUV	**El Baul**	**3.56**	**133**	*e*P	**Pn**	**19 51 18.2**	**+0.7**
BAUV				*e*S	**Sn**	**19 51 56.4**	**-2.5**
TACV	**Tcata**	**3.81**	**108**	*e*P	**Pn**	**19 51 21.0**	**0.0**
TACV				*e*S	**Sn**	**19 52 03.0**	**-2.1**
OCAC	**Ocana**	**4.05**	**220**	P	**Pn**	**19 51 25.1**	**+0.7**
SJCC	**San Jacinto, C**	**4.65**	**252**	P	**Pn**	**19 51 33.7**	**+1.1**
CACV	**CAICARA DEL OR**	**5.58**	**132**	*e*P	Pn	19 51 50.8	+5.4
CACV				*e*S	**Sn**	**19 52 54.2**	**+5.4**
RUSC	**La Rusia**	**5.94**	**204**	P	**Pn**	**19 51 50.9**	**+0.2**
	4.3nm,1.0s						
PTBC	**PUERTO BERRIO,**	**6.07**	**218**	P	**Pn**	**19 51 49.8**	**-2.4**

*SJA **02** 20:37:11.2±1.0,24°.12S×66°.98W,h211km±6km,ML4.2,*
MW4.1
*IDC **02** 20:37:12.7±1.0,24°.00S×66°.86W,h183km±11km,mb3.6/7,*
mbtmp4.1/13,MS2.2/1,Error ellipse: s-maj=14.8km
s-min=13.3km az=121.0
*NEIC **02** 20:37:12.3±2.3,24°.12S±0°.05×67°.09W±0°.07,h204km±5km,*
mb4.4/11,Error ellipse: s-maj=10.5km s-min=6.8km
az=62.0
*GUC **02** 20:37:13.8±0.7,24°.07S×67°.31W,h227km±6km,ML4.4*
*VAO **02** 20:37:15.7±1.3,23°.89S×66°.89W,h214km±10km,mb4.3*
ISC 02 20:37:12.5±0.6,24°.10S±0°.03×67°.06W±0°.04,h200km±6km,
n119,σ1§51/171,mb4.0/10,2C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.54**	**318**		**Pn**	**20 37 48.1**	**+1.2**
AF01				Sn	**S**	**20 38 15.1**	**+1.9**
AF01	**San Pedro de A**	**1.54**	**318**	*e*P	**Pn**	**20 37 48.3**	**+1.4**
AF01				*i* S	**S**	**20 38 15.7**	**+2.5**
AF01	**San Pedro de A**	**1.54**	**318**	*e*P	**Pn**	**20 37 48.0**	**+1.0**
AF01				IAML		20 38 44.0	
	comp=Z,445nm,0.6s						
SLA	**San Lorenzo**	**1.54**	**114**	*e*P	**Pn**	**20 37 47.0**	**+0.2**
SLA				*e*S	**S**	**20 38 12.3**	**-0.7**
FSA	**Cafayete**	**2.23**	**154**	*e*P	**Pn**	**20 37 53.6**	**0.0**
FSA				*e*S	**S**	**20 38 23.6**	**-1.6**
LVC	**Limon Verde**	**2.26**	**311**		**Pn**	**20 37 55.0**	**+0.9**
LVC				Sn	**S**	**20 38 25.8**	**-0.1**
LVC	**Limon Verde**	**2.26**	**311**	P	**Pn**	**20 37 55.2**	**+0.9**
	comp=Z,235nm,0.3s,baz=118,slow=8.1,SNR=642						
LVC				S	**S**	**20 38 26.2**	**+0.3**
	comp=Z,215nm,0.3

PB01 IPOC Station P 3.78 323 *e*P **Pn** **20 38 11.7 0.0**
PB01 *i* S **S** **20 38 55.7 -1.8**
PB01 IPOC Station P 3.78 323 *e*P **Pn** **20 38 11.9 +0.2**
PB01 *e*S **S** **20 38 57.2 -0.3**
PB01 IAML 20 39 00.9
comp=Z,263nm,0.2s
AC01 Pan de Azucar 3.81 237 Pn **Pn** **20 38 11.6 -0.3**
AC01 Sn **S** **20 38 55.7 -2.2**
AC01 Pan de Azucar 3.81 237 *e*P **Pn** **20 38 11.6 -0.3**
AC01 *i* S **S** **20 38 56.1 -1.8**
AC01 Pan de Azucar 3.81 237 *e*P **Pn** **20 38 11.6 -0.3**
AC01 *e*S **S** **20 38 57.4 -0.4**
AC01 IAML 20 39 00.3
comp=Z,216nm,0.3s
PATCX Punta Patache 4.34 318 **Pn** **20 38 17.8 -0.9**
PATCX Sn **S** **20 39 06.7 -3.5**
PATCX Punta Patache 4.34 318 *e*P **Pn** **20 38 17.7 -1.0**
PATCX *i* S **S** **20 39 07.7 -2.4**
PATCX Punta Patache 4.34 318 *e*P **Pn** **20 38 18.3 -0.4**
PATCX *e*S **S** **20 39 04.2 -6.0**
PATCX IAML 20 39 19.9
comp=Z,240nm,0.3s
PB08 IPOC Station P 4.39 333 Pn **Pn** **20 38 20.0 +0.4**
PB08 Sn **S** **20 39 10.4 -1.4**
PB08 IPOC Station P 4.39 333 *e*P **Pn** **20 38 20.3 +0.7**
PB08 *i* S **S** **20 39 12.0 +0.2**
PB08 IPOC Station P 4.39 333 *e*P **Pn** **20 38 19.9 +0.2**
PB08 *e*S **S** **20 39 12.2 +0.4**
PB08 IAML 20 39 15.0
comp=Z,187nm,0.6s
AC06 Mina Casimiro 4.40 222 Pn **Pn** **20 38 18.9 -0.4**
AC06 Sn **S** **20 39 08.8 -2.6**
AC06 Mina Casimiro 4.40 222 ⇑*i*P **Pn** **20 38 18.8 -0.6**
AC06 *i* S **S** **20 39 09.4 -2.0**
CYA Choya 4.47 166 *e*P **Pn** **20 38 21.9 +1.7**
CYA *e*S S 20 38 59.2 -14
GO03 Copiapo 4.51 219 **Pn** **20 38 20.1 -0.6**
GO03 Sn **S** **20 39 11.2 -2.7**
GO03 Copiapo 4.51 219 *e*P **Pn** **20 38 19.9 -0.8**
GO03 *i* S **S** **20 39 12.2 -1.7**
GO03 Copiapo 4.51 219 *e*P **Pn** **20 38 20.5 -0.2**
GO03 *e*S **S** **20 39 12.4 -1.4**
TA01 Diego Aracena 4.55 320 Pn **Pn** **20 38 20.6 -0.7**
TA01 Sn **S** **20 39 11.1 -3.7**
TA01 Diego Aracena 4.55 320 *i*P **Pn** **20 38 20.4 -0.9**
TA01 Diego Aracena 4.55 320 *e*P **Pn** **20 38 20.3 -0.9**
TA01 *e*S **S** **20 39 13.5 -1.4**
TA01 IAML 20 39 21.7
comp=Z,141nm,0.6s
HMBC Humberstone 4.62 325 **Pn** **20 38 20.9 -1.4**
TA02 Huaiquique 4.76 323 **Pn** **20 38 22.0 -1.8**
GO01 Chusmiza 4.83 335 **Pn** **20 38 24.7 -0.6**
GO01 Chusmiza 4.83 335 *e*P **Pn** **20 38 25.5 +0.1**
PB11 IPOC Station P 4.95 330 Pn **Pn** **20 38 25.4 -1.0**
PB11 IPOC Station P 4.95 330 ⇑*i*P **Pn** **20 38 25.4 -1.0**
PB11 *i* S **S** **20 39 20.6 -3.6**
PB11 IPOC Station P 4.95 330 *e*P **Pn** **20 38 25.0 -1.5**
PB11 *e*S **S** **20 39 20.9 -3.3**
PB11 IAML 20 39 24.6
comp=Z,205nm,0.2s
ACLC CERRO LA CRUZ 5.31 179 *e*P **Pn** **20 38 31.2 +0.2**
ACLC *e*S **S** **20 39 32.0 -0.6**
AC04 Llanos de Chal 5.46 221 Pn **Pn** **20 38 31.1 -1.6**
AC04 Llanos de Chal 5.46 221 *i*P **Pn** **20 38 31.7 -1.0**
AC04 *i* S **S** **20 39 32.7 -3.0**
AC04 Llanos de Chal 5.46 221 *e*P **Pn** **20 38 31.5 -1.2**
AC04 *e*S **S** **20 39 34.6 -1.1**
AC04 IAML 20 39 38.6
comp=Z,91nm,0.6s
AC05 El Transito 5.53 211 **Pn** **20 38 32.3 -1.5**
LCO Las Campanas 5.88 213 Pn **Pn** **20 38 37.0 -1.5**
CO01 Juntas del Tor 6.45 204 Pn **Pn** **20 38 44.4 -1.4**
PB18 Visviri 6.86 340 Pn **Pn** **20 38 51.4 -0.1**
CO05 La Serena 6.89 212 Pn **Pn** **20 38 49.9 -1.4**
GO04 Tololo Observa 6.91 208 Pn **Pn** **20 38 50.0 -1.8**
CO03 El Pedregal 7.45 205 Pn **Pn** **20 38 56.8 -1.8**
CO06 Fray Jorge 7.71 211 Pn **Pn** **20 38 57.9 -4.1**
LPAZ La Paz 7.84 352 Pn **Pn** **20 39 04.8 +0.5**
LPAZ La Paz 7.84 352 P **Pn** **20 39 04.1 -0.2**
comp=Z,4.2nm,0.5s,baz=136,slow=4.9,SNR=30
LPAZ S **S** **20 40 31.3 -1.7**
comp=Z,2.7nm,0.5s,baz=360,slow=20,SNR=2.7
LPAZ La Paz 7.84 352 *e*P **Pn** **20 39 04.9 +0.7**
CPUP Villa Florida 9.08 106 Pn **Pn** **20 39 16.9 -2.9**
CPUP Villa Florida 9.08 106 P **Pn** **20 39 18.6 -1.2**
comp=Z,1.7nm,0.3s,baz=287,slow=13,SNR=4.0
BBSD Serra de San D 9.15 42 *e*P **Pn** **20 39 19.5 -1.2**
VA03 San Esteban 9.16 199 Pn **Pn** **20 39 19.2 -1.7**
MT02 Curacav 9.80 201 Pn **Pn** **20 39 26.3 -2.8**
SIV San Ignacio 9.83 36 P **Pn** **20 39 27.7 -1.9**
comp=Z,3.6nm,0.3s,baz=240,slow=10,SNR=21
SIV S **S** **20 41 14.6 -5.2**
comp=Z,2.3nm,0.8s,baz=279,slow=11,SNR=2.4
MT09 Talagante 10.24 199 Pn **Pn** **20 39 32.1 -2.8**
AQDB Aquidauana 11.11 73 Pn **Pn** **20 39 46.0 -0.1**
AQDB Aquidauana 11.11 73 *e*P **Pn** **20 39 46.5 +0.4**
PTLB Pontes e Lacer 11.38 42 Pn **Pn** **20 39 50.1 +0.5**
PTLB Pontes e Lacer 11.38 42 *e*P **Pn** **20 39 48.9 -0.7**
CPSB Cacapava Do Su 13.64 120 *e*P **P** **20 40 20.1 -0.2**
PTGB Pitanga 13.67 96 *e*P **P** **20 40 20.2 -0.6**
TRQA Tornquist 14.57 164 **P** **20 40 29.0 -1.6**
LDASE Londrina, Braz 14.61 90 *e*P **P** **20 40 31.7 +0.5**
PDRB Porto dos Gac 15.82 40 *e*P **P** **20 40 44.3 -0.3**
ITRB Iturama 16.10 77 *e*P **Pn** **20 40 47.6 -0.5**
ARAG Araguaiana, MT 16.58 63 *e*P **P** **20 40 52.7 -0.2**
PLCA Paso Flores 16.84 189 P **Pn** **20 40 58.2 +1.3**
comp=Z,2.1nm,0.6s,baz=11,slow=9.6,SNR=5.8
LL04 Puerto Octay 17.35 194 P **P** **20 40 59.6 -1.5**
LL04 IAmb IAmb 20 41 04.3
comp=Z,18nm,1.3s
VAO Valinhos 18.45 91 P **P** **20 41 12.8 -0.6**
VAO Valinhos 18.45 91 *e*P **P** **20 41 12.8 -0.6**
IPMB Ipameri, GO 18.60 74 *e*P **P** **20 41 14.9 -0.2**
LL01 San Ignacio de 18.77 192 P **P** **20 41 14.9 -1.5**
LL01 IAmb IAmb 20 41 22.1
comp=Z,7.7nm,0.6s
SNDB Serra Nova Dou 19.21 54 *e*P **P** **20 41 21.2 -0.3**
LL02 Futaleuf 19.45 191 P **P** **20 41 22.8 -1.1**
LL02 IAmb IAmb 20 41 29.0
comp=Z,17nm,0.8s
BDFB Brasilia 19.77 68 P **P** **20 41 27.4 -0.2**
BDFB Brasilia 19.77 68 P **P** **20 41 26.6 -1.0**
comp=Z,29nm,0.7s,baz=244,slow=11,SNR=61
JANB Januaria 23.21 71 *e*P **P** **20 42 01.3 -0.7**
SDBA SAO DESIDERIO 24.00 65 *e*P **P** **20 42 08.6 -0.5**
COHC Cochancay 24.53 329 P **P** **20 42 12.0 -1.8**
SNAA Sanae 59.27 161 P **P** **20 46 53.9 +1.2**
SNAA Sanae 59.27 161 P **P** **20 46 54.3 +1.6**
comp=Z,0.9nm,0.8s,baz=257,slow=8.4,SNR=9.7
comp=Z,0.9nm,0.8s
BRDY Brady 62.99 329 P **P** **20 47 17.5 -0.6**
BRDY IAmb IAmb 20 47 20.7
comp=Z,1.7nm,0.5s
WVT Waverly 63.04 341 P **P** **20 47 17.8 -0.5**
WVT IAmb IAmb 20 47 19.9
comp=Z,12nm,1.4s
QSPA South Pole Qui 66.11 180 P **P** **20 47 40.4 +2.4**
QSPA IAmb IAmb 20 47 41.4
comp=Z,3.0nm,0.6s
QSPA South Pole Qui 66.11 180 P **P** **20 47 40.7 +2.8**
comp=Z,2.9nm,0.5s,baz=185,slow=0.8,SNR=14
comp=Z,2.9nm,0.5s
TORD Torodi Ar. Bea 76.65 69 P **P** **20 48 42.5 +0.8**
comp=Z,0.7nm,0.5s,baz=266,slow=6.2,SNR=11
comp=Z,0.7nm,0.5s
PDAR Pinedale Array 77.21 329 P **P** **20 48 46.4 +1.9**
comp=Z,0.3nm,0.6s,baz=131,slow=8.1,SNR=2.7
comp=Z,0.3nm,0.6s
ULM Lac du Bonnet 78.30 342 P **P** **20 48 51.5 +1.4**
comp=Z,2.2nm,0.6s,baz=141,slow=4.4,SNR=4.5
comp=Z,2.2nm,0.6s
BOSA Boshof 80.73 117 P **P** **20 49 05.3 +1.3**
comp=Z,1.1nm,0.7s,baz=278,slow=7.1,SNR=1.0
comp=Z,1.1nm,0.7s
MAW Mawson 81.36 163 P **P** **20 49 08.9 +2.6**
comp=Z,1.4nm,0.5s,baz=166,slow=5.5,SNR=9.7
comp=Z,1.4nm,0.5s
LBTB Lobatse 82.39 114 P **P** **20 49 12.4 -0.3**
LBTB IAmb IAmb 20 49 31.5
comp=Z,10nm,1.3s
ASAR Alice Springs 128.34 205 PKP **PKiKP** **20 55 58.2 +1.7**
comp=Z,0.9nm,0.8s,baz=132,slow=1.9,SNR=10
WRA Warramunga Arr 131.51 207 PKP **PKiKP** **20 56 03.9 +0.9**
comp=Z,0.6nm,0.6s,baz=159,slow=1.8,SNR=8.7
ZALV Zalesovo Beam 143.50 28 PKP **PKPdf** **20 56 23.1 +0.2**
comp=Z,0.8nm,0.3s,baz=343,slow=4.5,SNR=2.2
MKAR Makanchi Array 146.63 40 PKPbc **PKiKP** **20 56 32.7 -0.3**
comp=Z,1.1nm,0.6s,baz=340,slow=2.5,SNR=10.0
PZH PanZhiHua 169.59 74 PKP **PKPdf** **20 56 54.1 -2.4**

IDC ***02*** *21:06:29.1±0.4, 1°.23S×120°.54E, h0km, mb4.5/22, mbtmp4.5/25, ML4.1/3, MS3.9/23, Error ellipse: s-maj=20.5km s-min=10.5km az=75.0*
GCMT ***02*** *21:06:30.5±0.2, 1°.24S±0°.01×120°.46E±0°.03, h14km, MW4.8/103, Moment Tensor Solution. s34, c36; s103, c143; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.80±.11; Mθθ1.53±.07; Mφφ0.26±.07; Mrθ0.60±.14; Mθφ-0.67±.04; Mφr-0.03±.16; Best double couple: M0 1.90800×10^16 NP1:φs287.00000°, δ54.00000°, λ-98.00000°. NP2:φs120.00000°, δ37.00000°, λ-80.00000°. Principal axes: T 1.9070, Plg9.0000°, Azm22.0000°; N 0.0010, Plg6.0000°, Azm291.0000°; P -1.9100, Plg79.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***02*** *21:06:31.5±1.8, 1°.30S±0°.05×120°.56E±0.05, h10km±1km, mb4.9/102 Error ellipse: s-maj=9.3km s-min=8.8km az=150.0*
DJA ***02*** *21:06:32.4±0.2, 1°S±2°×12°0E±°, h10km, M4.8/18, mb4.9/16, mB5.2/12, MLv5.1/18, Mw(mB)4.6/12, MwMwp4.6/1, Mwp4.9/1*
ISC 02 21:06:31.0±0.3,**1°.32S**±0°.04×**120°.52E**±0°.03,**h10**km,**n239,** σ**1974**/241,**mb4.8**/100,**MS3.8**/25,**2C-4D,Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.20**	**70**	P		**Pn**	**21 06 55.6**		**+1.8**
MPSI	**Mapaga**	**1.76**	**339**	P		**Pn**	**21 06 58.2**		**-3.4**
TTSI	**Tana Toraja**	**1.85**	**202**	P		**Pn**	**21 07 03.9**		**+1.1**
LUWI	**Luwuk**	**2.27**	**83**	Pn		**Pn**	**21 07 08.8**		**+0.2**
LUWI	**Luwuk**	**2.27**	**83**	P		**Pb**	**21 07 10.9**		**-1.2**
LUWI	**Luwuk**	**2.27**	**83**	P		**Pb**	**21 07 10.2**		**-1.9**
LUWI				S		**Sg**	**21 07 41.8**		**-2.1**
MRSI	**Marisa**	**2.28**	**38**	P		**Pn**	**21 07 09.2**		**+0.4**
TOLI2	**Tolitoli**	**2.43**	**6**	Pn		**Pn**	**21 07 10.9**		**+0.1**
TOLI2	**Tolitoli**	**2.43**	**6**	P		**Pn**	**21 07 12.2**		**+1.4**
SPSI	**Sidrap Palu**	**2.73**	**196**	P		**Pn**	**21 07 16.3**		**+1.4**
BNSI	**Bone**	**3.08**	**188**	P		**Pn**	**21 07 22.9**		**+3.1**
SMKI	**Samarinda**	**3.43**	**285**	P		**Pn**	**21 07 28.6**		**+4.1**
SMKI				S		**Sn**	**21 08 04.1**		**-1.2**
BKB	**Balikpapan**	**3.63**	**271**			**Pn**	**21 07 28.0**		**+0.7**
BKB	**Balikpapan**	**3.63**	**271**	P		**Pb**	**21 07 32.7**		**-2.6**
BKB	**Balikpapan**	**3.63**	**271**	P		**Pn**	**21 07 27.0**		**-0.3**
KAPI	**Kappang**	**3.75**	**192**	Pn		**Pn**	**21 07 29.6**		**+0.7**
KAPI	**Kappang**	**3.75**	**192**	Pn		**Pn**	**21 07 29.4**		**+0.5**
30nm,0.3s,baz=344,slow=9.8,SNR=68									
KAPI				Sn		**Sn**	**21 08 17.1**		**+4.0**
28nm,0.3s,baz=190,slow=22,SNR=8.6									
KAPI				LR		LR	21 09 17.8		
comp=Z,8μm,19.6s,baz=339,slow=44									
166nm,0.6s									
KAPI	**Kappang**	**3.75**	**192**	P		**Pn**	**21 07 32.2**		**+3.3**
KMSI	**Cibinong**	**3.94**	**61**	P		**Pn**	**21 07 34.5**		**+2.9**
BKSI	**Bulukumba**	**3.99**	**186**	P		**Pn**	**21 07 33.6**		**+1.3**
BBSI	**Bau Bau**	**4.61**	**154**	P		**Pn**	**21 07 44.0**		**+3.1**
BSSI	**Bau Bau, Buton**	**4.79**	**180**	P		**Pn**	**21 07 45.3**		**+2.0**
SANI	**Sanana**	**5.51**	**98**	P		**Pn**	**21 07 53.8**		**+0.6**
84nm,0.7s									
SANI	**Sanana**	**5.51**	**98**	P		**Pn**	**21 07 52.5**		**-0.7**
MTKI	**Muara Teweh, K**	**5.64**	**274**	P		**Pn**	**21 07 56.1**		**+1.1**
279nm,0.8s,5μm1.7nm									
MYLDM	**Lahad Datu**	**6.77**	**343**	Pn		**Pn**	**21 08 11.4**		**+0.9**
MYLDM	**Lahad Datu**	**6.77**	**343**	P		**Pn**	**21 08 13.0**		**+2.5**
NLAI	**Namlea**	**6.84**	**106**	P		**Pn**	**21 08 13.9**		**+2.4**
66nm,1.2s									
TNTI	**Ternate**	**7.15**	**73**			**Pn**	**21 08 16.2**		**+0.4**
TNTI	**Ternate**	**7.15**	**73**	P		**Pn**	**21 08 18.2**		**+2.4**
MMRI	**Maumere**	**7.46**	**167**	Pn		**Pn**	**21 08 22.4**		**+2.3**
MMRI	**Maumere**	**7.46**	**167**	P		**Pn**	**21 08 20.0**		**0.0**
PLAI	**Plampang**	**7.94**	**200**	P		**Pn**	**21 08 30.6**		**+4.0**
AAI	**Ambon**	**8.02**	**107**	P		**Pn**	**21 08 31.7**		**+4.1**
73nm,1.1s,1μm									
WBSI	**Waikabubak, Su**	**8.34**	**188**	P		**Pn**	**21 08 34.9**		**+2.8**
69nm,1.1s,663nm									
KKM	**Kota Kinabalu**	**8.49**	**330**	Pn		**Pn**	**21 08 37.5**		**+3.2**
KKM	**Kota Kinabalu**	**8.49**	**330**	P		**Pn**	**21 08 37.4**		**+3.2**
BASI	**Baing, Sumba**	**8.84**	**180**	P		**Pn**	**21 08 42.3**		**+3.4**
162nm,1.2s,2μm									
SBUM	**Sibu**	**9.11**	**294**	Pn		**Pn**	**21 08 44.1**		**+1.5**
STKI	**Sintang**	**9.15**	**279**	P		**Pn**	**21 08 43.0**		**-0.2**
45nm,1.2s									
SOEI	**Soe**	**9.17**	**156**	Pn		**Pn**	**21 08 43.9**		**+0.4**
SOEI	**Soe**	**9.17**	**156**	P		**Pn**	**21 08 45.8**		**+2.2**
96nm,1.0s,1μm									
BATI	**Baumata**	**9.36**	**161**	Pn		Pn	21 08 52.0		+5.9
0.9nm,0.3s,baz=149,slow=5.6,SNR=6.2									
BATI				LR		LR	21 12 50.5		
comp=Z,1μm,18.8s,baz=18,slow=40									
BATI	**Baumata**	**9.36**	**161**	P		**Pn**	**21 08 50.8**		**+4.7**
JAGI	**Jajag, Banyuwa**	**9.52**	**222**	Pn		**Pn**	**21 08 49.7**		**+1.4**
JAGI	**Jajag, Banyuwa**	**9.52**	**222**	P		Pn	21 08 54.1		+5.8
JAGI	**Jajag, Banyuwa**	**9.52**	**222**	P		**Pn**	**21 08 51.0**		**+2.7**
93nm,1.3s,1μm									
DAV	**Davao City (W)**	**9.75**	**31**	Pn		**Pn**	**21 08 55.2**		**+3.9**
34nm,0.3s,baz=62,slow=1.1,SNR=2.1									
DAV				Sn		**Sn**	**21 10 44.0**		**+3.0**
27nm,0.3s,baz=67,slow=11,SNR=1.7									
DAV				LR		LR	21 12 49.0		
comp=Z,1μm,20.6s,baz=194,slow=39									
KSM	**Kuching**	**10.58**	**285**			**Pn**	**21 09 04.3**		**+1.4**
SMRI	**Semarang**	**11.55**	**240**	Pn		**Pn**	**21 09 18.5**		**+2.4**
FAKI	**Fak Fak**	**11.82**	**98**	Pn		**Pn**	**21 09 21.4**		**+1.5**
FAKI	**Fak Fak**	**11.82**	**98**	P		**Pn**	**21 09 19.8**		**-0.1**
UGM	**Wanagama**	**11.92**	**236**	Pn		**Pn**	**21 09 24.4**		**+3.2**
LEM	**Lembang**	**13.98**	**247**	Pn		**Pn**	**21 09 48.6**		**-0.9**
1.9nm,0.3s,baz=328,slow=22,SNR=1.5									
LEM				LR		LR	21 15 47.5		
comp=Z,926nm,18.6s,baz=3.0,slow=40									
7.7nm,0.4s									
MTN	**Manton Dam**	**15.54**	**138**	P		**P**	**21 10 16.7**		**+1.9**
PMBI	**Palembang**	**15.82**	**264**	P		**P**	**21 10 19.2**		**+1.3**
MYKOM	**Kota Tinggi**	**16.95**	**280**	P		**P**	**21 10 30.6**		**+0.1**
FITZ	**Fitzroy Crossi**	**17.41**	**164**	P		**Pn**	**21 10 34.9**		**+0.7**
FITZ	**Fitzroy Crossi**	**17.41**	**164**	P		**Pn**	**21 10 34.3**		**+0.1**
0.2nm,0.3s,baz=355,slow=12,SNR=5.2									
3.8nm,1.0s									
BKNI	**Bangkinang**	**19.55**	**275**	P		**P**	**21 11 00.5**		**+1.3**
BKNI				IAmb		IAmb	21 11 05.3		
comp=Z,96nm,1.0s									
MBWA	**Marble Bar**	**19.73**	**182**	P		**P**	**21 11 02.2**		**+1.2**
PSA00	**Pilbara Seismi**	**20.14**	**182**	P		**P**	**21 11 05.8**		**+0.3**
PSA00				IAmb		IAmb	21 11 08.7		
comp=Z,39nm,0.9s									
PSA00	**Pilbara Seismi**	**20.14**	**182**	P		**P**	**21 11 05.1**		**-0.3**
PSA00				IAmb		IAmb	21 11 08.6		
comp=Z,22nm,1.0s									
JAY	**Jayapura**	**20.20**	**94**	P		Pn	21 11 08.2		0.0
KULM	**Kulim**	**20.91**	**288**	P		**P**	**21 11 14.2**		**+0.3**
KULM				IAmb		IAmb	21 11 17.9		
comp=Z,84nm,1.1s									
RPSI	**Rantau Prapat**	**21.96**	**280**	P		**P**	**21 11 26.5**		**+1.3**
RPSI				IAmb		IAmb	21 11 34.1		
comp=Z,29nm,1.0s									
QIZ	**Qiongzhong**	**22.79**	**333**	P		**P**	**21 11 32.9**		**-1.1**
QIZ	**Qiongzhong**	**22.79**	**333**	P		**P**	**21 11 35.8**		**+1.8**
QIZ				S		S	21 15 28.6		-15
QIZ				pmax		pmax			
comp=Z,48nm,1.7s									
QIZ				LR		LR			
comp=Z,400nm,15.0s									
QIZ				LR		LR			
comp=Z,190nm,7.8s									
QIZ				LR		LR			
comp=Z,380nm,12.9s									
WB0	**Warramunga Arr**	**22.81**	**144**	P		**P**	**21 11 34.1**		**-0.1**
WB0				IAmb		IAmb	21 11 46.8		
comp=Z,23nm,1.0s									
WRAB	**Tennant Creek**	**22.91**	**145**	P		**P**	**21 11 35.1**		**-0.2**
WRAB				IAmb		IAmb	21 11 38.1		
comp=Z,70nm,1.1s									
WRA	**Warramunga Arr**	**22.91**	**145**	P		**P**	**21 11 35.4**		**+0.1**
comp=Z,20nm,0.9s,baz=327,slow=9.7,SNR=61									
WRA				PcP		**PcP**	**21 15 26.0**		**-0.1**
comp=Z,1.4nm,1.0s,baz=324,slow=2.0,SNR=0.9									
WRA				LR		LR	21 22 51.4		
comp=Z,244nm,19.2s,baz=335,slow=43									
comp=Z,20nm,0.9s									
WB2	**Warramunga Arr**	**22.92**	**145**	P		**P**	**21 11 34.6**		**-0.8**
WB2				IAmb		IAmb	21 11 38.1		
comp=Z,75nm,1.1s									
WR0	**Warramunga Arr**	**23.05**	**144**	P		**P**	**21 11 36.8**		**+0.1**
WR0				IAmb		IAmb	21 11 53.1		
comp=Z,34nm,1.1s									
SRIT	**Nakonsritamara**	**23.06**	**296**	P		**P**	**21 11 37.4**		**+0.5**
SRIT				IAmb		IAmb	21 11 41.4		
comp=Z,47nm,1.1s									
GSI	**Gunungsitoli**	**23.09**	**276**	P		**P**	**21 11 37.9**		**+0.6**
GSI				IAmb		IAmb	21 11 42.8		
comp=Z,56nm,1.1s									
TWG	**Pinlang**	**24.00**	**1**	P		**P**	**21 11 44.9**		**-1.2**
TWG				IAmb		IAmb	21 11 55.6		
comp=Z,45nm,1.1s									
LHMI	**Lhok Sumawe**	**24.43**	**286**	P		**P**	**21 11 50.9**		**+0.7**
TPUB	**Ta-pu**	**24.48**	**0**	P		**P**	**21 11 49.8**		**-0.7**
YULB	**Yu-li**	**24.58**	**2**	P		**P**	**21 11 51.5**		**+0.1**
YULB				IAmb		IAmb	21 11 59.8		
comp=Z,48nm,1.0s									
SSLB	**Suanglung**	**24.96**	**1**	P		**P**	**21 11 53.4**		**-1.5**
SSLB				IAmb		IAmb	21 12 03.1		
comp=Z,43nm,1.0s									
NACB	**Ninganchiao**	**25.37**	**2**	P		**P**	**21 11 57.9**		**-0.6**
NACB				IAmb		IAmb	21 12 14.9		
comp=Z,33nm,1.1s									
AS31	**Alice Springs**	**25.72**	**151**	P		**P**	**21 12 02.0**		**+0.2**
ASAR	**Alice Springs**	**25.72**	**151**	P		**P**	**21 12 02.4**		**+0.6**
ASAR	**Alice Springs**	**25.72**	**151**	P		**P**	**21 12 02.5**		**+0.7**
comp=Z,10.0nm,0.9s,baz=324,slow=7.4,SNR=74									
ASAR				PcP		**PcP**	**21 15 32.4**		**+0.3**
comp=Z,1.8nm,0.9s,baz=336,slow=1.9,SNR=7.0									
ASAR				LR		LR	21 24 03.9		
comp=Z,138nm,18.2s,baz=318,slow=41									
comp=Z,10.0nm,0.9s									
MANU	**Manus Island**	**26.84**	**92**	P		**P**	**21 12 10.6**		**-1.5**
PMG	**Port Moresby**	**27.69**	**108**	P		**P**	**21 12 18.9**		**-0.7**
PMG				IAmb		IAmb	21 12 24.9		
comp=Z,19nm,0.9s									
PMG	**Port Moresby**	**27.69**	**108**	LR		LR	21 26 06.8		
comp=Z,193nm,18.5s,baz=288,slow=42									
SLVN	**Son La**	**27.77**	**325**	P		**P**	**21 12 21.2**		**+0.9**
MORW	**Morawa**	**27.92**	**188**	P		**P**	**21 12 20.3**		**-1.2**
MORW				IAmb		IAmb	21 12 23.3		
comp=Z,16nm,1.0s									
PHRA	**Phrae**	**28.04**	**316**	P		**P**	**21 12 22.2**		**-0.6**
GUMO	**Guam**	**28.32**	**58**	LR		LR	21 24 21.3		
comp=Z,38nm,18.4s,baz=228,slow=38									
CM31	**Chiang Mai Arr**	**28.93**	**314**	P		**P**	**21 12 31.2**		**+0.5**
CMAR	**Chiang Mai Arr**	**28.93**	**314**	P		**P**	**21 12 30.5**		**-0.2**
CMAR	**Chiang Mai Arr**	**28.93**	**314**	P		**P**	**21 12 31.1**		**+0.4**
comp=Z,3.7nm,0.8s,baz=140,slow=7.0,SNR=24									
CMAR				LR		LR	21 25 21.8		
comp=Z,149nm,18.1s,baz=130,slow=39									
comp=Z,3.7nm,0.8s									
JOW	**Kunigami**	**28.97**	**14**	LR		LR	21 23 50.0		
comp=Z,508nm,21.1s,baz=190,slow=36									
CHTO	**Chiang Mai**	**29.16**	**314**	P		**P**	**21 12 32.8**		**+0.1**
FORT	**Forrest**	**30.15**	**167**	P		**P**	**21 12 39.6**		**-1.7**
FORT				IAmb		IAmb	21 12 46.5		
comp=Z,19nm,1.0s									
GYA	**Guiyang**	**30.69**	**335**	P		**P**	**21 12 49.1**		**+2.8**
GYA				pmax		pmax			
comp=Z,20nm,1.4s									
CTA	**Charters Tower**	**31.32**	**128**	LR		LR	21 26 51.3		
comp=Z,8.8nm,18.1s,baz=295,slow=39									
KMI	**Kunming**	**31.43**	**328**	⇑P		**P**	**21 12 55.4**		**+2.4**
KMI				pmax		pmax			
comp=Z,24nm,1.2s									
NWAO	**Narrogin (SRO)**	**31.59**	**185**	LR		LR	21 25 03.5		
comp=Z,314nm,21.9s,baz=264,slow=35									
RABL	**Rabaul**	**31.73**	**96**	P		**P**	**21 12 56.4**		**+0.9**
WHN	**Wuhan**	**32.23**	**350**	P		**P**	**21 13 02.0**		**+2.4**
PZH	**PanZhiHua**	**33.07**	**328**	P		**P**	**21 13 08.8**		**+1.6**
PZH				pmax		pmax			
comp=Z,30nm,1.0s									
PZH				pmax		pmax			
comp=Z,100nm,3.5s									
ENH	**Enshi**	**33.13**	**342**	P		**P**	**21 13 08.5**		**+0.9**
ENH				IAmb		IAmb	21 13 10.6		
comp=Z,20nm,1.1s									
NJ2	**Nanjing**	**33.23**	**357**	⇓P		**P**	**21 13 11.2**		**+2.8**
NJ2				pmax		pmax			
comp=Z,18nm,1.2s									
NJ2				pmax		pmax			
comp=Z,220nm,3.8s									
TNCH	**TengChong**	**33.77**	**322**	⇑P		**P**	**21 13 15.0**		**+1.5**
TNCH				pP		sP	21 13 26.1		+7.7
TNCH				SS		SS	21 20 39.6		-24
TNCH				pmax		pmax			
comp=Z,33nm,2.0s									
TNCH				LR		LR			
comp=Z,180nm,6.8s									
TNCH				LR		LR			
comp=Z,200nm,4.5s									
TNCH				LR		LR			
comp=Z,96nm,7.3s									
JCJ	**Chichijima**	**35.12**	**35**	P		**P**	**21 13 24.1**		**-0.8**
CD2	**Chengdu**	**35.80**	**335**	P		**P**	**21 13 31.3**		**+0.5**
CD2				pP		pP	21 13 34.8		+0.8
CD2				sP		sP	21 13 36.1

comp=Z,89nm,3.9s
LSA Lhasa 41.70 320 P P 21 14 21.8 +1.0
LSA Lhasa 41.70 320 P P 21 14 07.5 -13
LSA pmax pmax
comp=Z,14nm,1.7s
JSD Sado 42.45 21 P P 21 14 23.9 -2.4
HHC Hu-ho-hao-te 42.76 350 *eP* **P 21 14 30.5 +1.7**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,140nm,4.4s
TOO Toolangi 42.77 150 P P 21 14 25.7 -3.2
BTO Baotou 42.82 348 *eP* **P 21 14 32.7 +3.4**
BTO pP **sP 21 14 37.1 +3.3**
BTO sP **pP 21 14 39.7 +7.2**
BTO PP **PP 21 16 14.1 +5.4**
BTO pmax pmax
comp=Z,35nm,1.3s
BTO pmax pmax
comp=Z,470nm,7.7s
JMM Marumori 43.26 24 P P 21 14 30.8 -2.0
JMM IAmb IAmb 21 14 36.0
comp=Z,15nm,0.9s
GOMU GeErMu 44.35 330 P P 21 14 43.5 +1.5
GOMU pP sP 21 14 48.0 +1.5
GOMU sP pP 21 14 51.8 +6.6
GOMU pmax pmax
comp=Z,10.0nm,1.1s
GTA Gaotai 44.77 337 *eP* **P 21 14 45.6 +0.5**
GTA PP **PP 21 16 35.1 +5.4**
GTA pmax pmax
comp=Z,10.0nm,1.1s
CN2 Changchun 45.14 5 *eP* **P 21 14 46.5 -1.3**
CN2 *eS* **S 21 21 21.9 -5.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,300nm,11.0s
CN2 LR LR
comp=Z,300nm,10.0s
MDJ Mudanjiang 46.45 9 P P 21 14 57.4 -0.7
MDJ Mudanjiang 46.45 9 P P 21 14 57.3 -0.8
MDJ pmax pmax
comp=Z,14nm,1.3s
USA0B Ussuriysk Arra 46.47 11 P P 21 14 56.6 -1.7
USA0B IAmb IAmb 21 15 00.5
comp=Z,12nm,1.1s
USRK Ussuriysk Ar. 46.47 11 P P 21 14 56.6 -1.7
USRK Ussuriysk Ar. 46.47 11 P **P 21 14 56.7 -1.5**
comp=Z,10nm,1.1s,baz=193,slow=7.8,SNR=13
USRK LR LR 21 34 18.5
comp=Z,133nm,19.9s,baz=184,slow=36
comp=Z,10nm,1.1s
BNX BinXian 47.26 7 ⇓*P* **P 21 15 04.4 0.0**
BNX pmax pmax
comp=Z,13nm,1.0s
DZM Mont Dzumac 49.18 118 *e*LR LR 21 29 10.7
comp=Z,107nm,27.6s
DZM Mont Dzumac 49.18 118 P **P 21 15 18.9 -1.0**
DZM IAmb IAmb 21 15 24.9
comp=Z,22nm,1.1s
ASAJ Asahikawa 49.35 21 LR LR 21 37 32.6
comp=Z,53nm,19.4s,baz=216,slow=38
ULN Ulaanbaatar 50.38 348 P P 21 15 28.9 +0.3
HIA Hailar 50.40 359 P **P 21 15 27.8 -0.7**
HIA IAmb IAmb 21 15 46.7
comp=Z,10.0nm,0.9s
SONM Songino Array 50.49 348 P P 21 15 29.1 -0.3
SONM Songino Array 50.49 348 P **P 21 15 28.5 -0.9**
comp=Z,1.5nm,0.6s,baz=164,slow=9.7,SNR=14
SONM LR LR 21 38 22.5
comp=Z,92nm,20.5s,baz=174,slow=38
comp=Z,1.5nm,0.6s
KLR Kul'dur 51.28 9 LR LR 21 37 59.9
comp=Z,53nm,20.6s,baz=256,slow=37
HEH HeiHe 51.72 6 *eP* **P 21 15 37.1 -1.3**
HEH pmax pmax
comp=Z,46nm,1.1s
WMQ Urumqi 53.68 331 *eP* **P 21 15 55.5 +2.3**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ LR LR
comp=Z,120nm,22.9s
NIL Nilore 56.41 313 P P 21 16 12.2 -0.9
NIL IAmb IAmb 21 16 14.9
comp=Z,12nm,0.8s
WUS Wushi 56.52 323 P P 21 16 14.0 +0.2
WUS IAmb IAmb 21 16 18.7
comp=Z,11nm,0.8s
KSH Kashi 57.55 320 P P 21 16 21.6 +0.5
KSH pmax pmax
comp=Z,20nm,1.1s
SHLS Shalkode 57.59 325 *eP* **P 21 16 18.6 -2.7**
comp=Z,17nm,1.2s
TARG Taragay, Kyrgy 57.69 323 P P 21 16 22.8 +0.4
TARG IAmb IAmb 21 16 33.1
comp=Z,11nm,1.1s
ZSN Zaisan 57.69 332 *eP* **P 21 16 20.8 -1.0**
comp=Z,6.9nm,1.1s
PRZ Przheval'sk 57.79 324 P P 21 16 23.1 +0.2
PRZ IAmb IAmb 21 16 26.6
comp=Z,24nm,1.0s
UZB Uzynbulak 57.83 325 *eP* **P 21 16 21.9 -1.1**
comp=Z,12nm,1.1s
SATY Saty 58.13 325 *eP* **P 21 16 24.2 -1.0**
comp=Z,21nm,1.2s
KPKS Kokpek 58.23 325 *eP* **P 21 16 24.7 -1.1**
comp=Z,14nm,1.3s
MK31 Makanchi Array 58.47 330 P P 21 16 27.2 -0.2
MK31 IAmb IAmb 21 16 29.9
comp=Z,15nm,1.1s
MKAR Makanchi Array 58.47 330 P P 21 16 26.9 -0.4
MKAR Makanchi Array 58.47 330 P P 21 16 27.2 -0.2
comp=Z,7.3nm,0.8s,baz=128,slow=6.7,SNR=33
MKAR LR LR 21 42 36.9
comp=Z,105nm,21.5s,baz=108,slow=37
comp=Z,7.3nm,0.8s
NRN Naryn 58.61 322 P P 21 16 27.8 -1.0
NRN IAmb IAmb 21 16 31.2
comp=Z,7.2nm,1.0s
MAKZ Makanchi 58.64 330 P P 21 16 28.2 -0.3
MAKZ IAmb IAmb 21 16 32.2
comp=Z,10nm,1.1s
MDOK Medeo 58.99 324 *eP* **P 21 16 30.0 -1.1**
AAA Alma-Ata 59.09 324 *eP* **P 21 16 30.9 -0.8**
comp=Z,8.1nm,0.8s
TDK Taldyqorghan 59.34 326 *eP* **P 21 16 32.5 -0.9**
TKM2 Tokmak 2 59.71 323 P P 21 16 36.7 +0.5
SNR=8.5
KBL Kabul 59.93 312 P P 21 16 37.0 -0.9
KBK Karagaybulak 59.95 323 P P 21 16 38.9 +1.1
SNR=14
AAK Ala-Archa 60.22 322 P P 21 16 40.1 +0.5
SNR=13
AAK Ala-Archa 60.22 322 P P 21 16 39.7 0.0
AAK IAmb IAmb 21 16 42.7
comp=Z,16nm,0.9s
AAK Ala-Archa 60.22 322 LR LR 21 44 60.0
comp=Z,98nm,20.6s,baz=113,slow=38
AML Almayashu 60.43 321 P P 21 16 41.7 +0.3
SNR=17
ARSB Arslanbob 60.45 320 P P 21 16 41.2 -0.1
ARSB IAmb IAmb 21 16 45.6
comp=Z,6.1nm,1.0s
USP Ospenovka 60.57 323 P P 21 16 41.8 -0.1
SNR=7.4
SGDS Sogindy 60.59 323 *eP* **P 21 16 41.1 -1.0**
comp=Z,7.0nm,1.1s
EKS2 Erkin-Say 60.67 322 P P 21 16 43.5 +0.8
SNR=7.3
GAR Garm 61.04 317 P P 21 16 44.7 -0.6
BTK Batken 61.21 318 P P 21 16 46.1 -0.3
BTK IAmb IAmb 21 16 57.4
comp=Z,16nm,1.1s
SIMJ Simiganj 61.78 316 P P 21 16 49.4 -0.9
SIMJ IAmb IAmb 21 16 52.1
comp=Z,16nm,1.0s
BTLS Baital 61.84 324 *eP* **P 21 16 49.7 -0.8**
comp=Z,9.9nm,1.4s
SEM Semipalatinsk 61.94 332 *eP* **P 21 16 50.1 -1.2**
comp=Z,4.8nm,1.0s
DZA Taraz 62.31 321 *eP* **P 21 16 52.7 -1.0**
comp=Z,4.7nm,0.9s
PETK Petropavlovsk- 62.49 24 P P 21 16 54.0 -0.6
comp=Z,5.1nm,0.9s,baz=202,slow=6.4,SNR=2.6
comp=Z,5.1nm,0.9s
ZAA0 Zalesovo Array 62.52 337 P P 21 16 53.5 -1.4
ZAA0 IAmb IAmb 21 16 55.8
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 62.52 337 P P 21 16 53.3 -1.5
ZALV Zalesovo Beam 62.52 337 P P 21 16 53.7 -1.1
comp=Z,8.0nm,0.9s,baz=115,slow=5.7,SNR=16
ZALV LR LR 21 46 30.5
comp=Z,45nm,18.3s,baz=52,slow=38
comp=Z,8.0nm,0.9s
KURBB Kurchatov Arra 62.90 331 P P 21 16 56.5 -0.9
comp=Z,11nm,0.9s,baz=140,slow=6.1,SNR=45
comp=Z,11nm,0.9s
KURK Kurchatov 62.91 332 P P 21 16 56.8 -0.7
KKAR Karatay Array 62.94 321 P P 21 16 57.3 -0.6
KKAR IAmb IAmb 21 17 00.5
comp=Z,8.8nm,0.9s
BRLS Borolday 63.33 321 *eP* **P 21 16 59.4 -1.1**
comp=Z,6.4nm,0.8s
YAK Yakutsk 63.57 5 P P 21 16 59.8 -1.8
MXZ Matakaoa Point 64.06 132 P P 21 17 04.8 -0.6
WSAR Wadi Sarin 64.90 296 LR LR 21 48 22.6
comp=Z,54nm,18.9s,baz=129,slow=39
HRA Herat 65.05 309 P P 21 17 11.0 -1.1
HRA IAmb IAmb 21 17 13.4
comp=Z,5.2nm,1.0s
BRZS Berezniki 65.44 328 *eP* **P 21 17 13.2 -0.9**
comp=Z,16nm,1.3s
BVAR Borovoye Array 68.36 330 P P 21 17 31.9 -0.8
comp=Z,12nm,1.0s,baz=134,slow=8.5,SNR=27
comp=Z,12nm,1.0s
BRVK Borovoye 68.43 330 P P 21 17 32.3 -0.7
ABKAR Akbulak array 72.28 323 P P 21 17 55.5 -1.2
ABKAR IAmb IAmb 21 17 58.7
comp=Z,9.6nm,1.1s
TIXI Tiksi 73.05 3 P P 21 17 58.9 -2.0
TIXI IAmb IAmb 21 18 00.8
comp=Z,10nm,1.1s
NRIK Noril'sk 73.96 348 P P 21 18 05.0 -1.2
NRIK IAmb IAmb 21 18 07.1
comp=Z,10nm,1.1s
NRIK Noril'sk 73.96 348 P P 21 18 04.6 -1.6
comp=Z,4.1nm,0.9s,baz=148,slow=3.7,SNR=4.0
comp=Z,4.1nm,0.9s
ARTI Arti 76.07 330 P P 21 18 16.5 -2.2
RAYN Ar Rayn 76.81 294 P P 21 18 22.4 -1.3
MAW Mawson 76.93 199 P P 21 18 22.9 -0.4
comp=Z,3.9nm,1.0s,baz=51,slow=4.9,SNR=8.6
comp=Z,3.9nm,1.0s
KARS Kars 81.34 311 P P 21 18 48.3 0.0
GURO Guroymak-BITLI 81.83 309 P P 21 18 50.8 -0.1
GURO IAmb IAmb 21 18 54.5
comp=Z,11nm,1.1s
KBZ Khabaz 81.98 314 P P 21 18 51.7 +0.4
comp=Z,4.9nm,0.9s,baz=252,slow=2.4,SNR=5.7
comp=Z,4.9nm,0.9s
KIBK Kibwezi 82.43 268 P P 21 18 54.2 -0.3
KMBO Kilima Mbogo 83.25 269 P P 21 18 57.2 -1.7
KMBO Kilima Mbogo 83.25 269 P P 21 18 58.4 -0.5
comp=Z,0.7nm,0.5s,baz=43,slow=4.4,SNR=5.2
comp=Z,0.7nm,0.5s
K13K Kusilvak Mount 84.05 27 P P 21 19 01.6 -0.1
ARPR Arapgir-MALATY 84.76 309 P P 21 19 07.2 +1.2
ARPR IAmb IAmb 21 19 11.0
comp=Z,15nm,1.1s
GHAJ Ghor Haditha 86.37 301 P P 21 19 14.4 +0.4
GHAJ IAmb IAmb 21 19 18.9
comp=Z,17nm,1.0s
MMAI Mount Meron Ar 86.62 303 P P 21 19 14.8 -0.4
comp=Z,9.9nm,1.0s,baz=108,slow=5.4,SNR=9.2
comp=Z,9.9nm,1.0s
BNN Bunyan 86.67 309 P P 21 19 14.7 -0.8
BNN IAmb IAmb 21 19 20.3
comp=Z,12nm,1.0s
BRTR Keskin Array B 88.44 310 P P 21 19 24.1 +0.1
BRTR Keskin Array B 88.44 310 P P 21 19 23.4 -0.6
comp=Z,2.2nm,0.8s,baz=106,slow=7.9,SNR=5.4
comp=Z,2.2nm,0.8s
QSPA South Pole Qui 88.62 180 P P 21 19 24.2 -0.1
QSPA South Pole Qui 88.62 180 P P 21 19 24.1 -0.1
comp=Z,5.0nm,1.0s,baz=297,slow=2.4,SNR=10
comp=Z,5.0nm,1.0s
N19K Bonanza Creek 88.69 29 P P 21 19 25.0 +0.4
PPT2 Papeete2 89.51 107 *e*LR LR 21 48 03.4
comp=Z,40nm,23.5s
AKASG Malin Array Be 91.84 320 P P 21 19 37.0 -2.4
comp=Z,0.2nm,0.2s,baz=81,slow=3.8,SNR=2.1
comp=Z,0.2nm,0.2s
ILAR Eielson Array 92.30 25 P P 21 19 39.0 -2.2
comp=Z,0.4nm,0.8s,baz=280,slow=5.2,SNR=3.0
comp=Z,0.4nm,0.8s
C27K Jago River 93.25 20 P P 21 19 45.7 +0.1
C27K IAmb IAmb 21 19 47.6
comp=Z,4.8nm,1.0s
I26K Coal Creek Min 93.85 25 P P 21 19 46.7 -1.7
I26K IAmb IAmb 21 19 50.0
comp=Z,5.5nm,1.1s
I28M Miner Creek 95.17 24 P P 21 19 53.9 -0.7
I28M IAmb IAmb 21 19 56.2
comp=Z,3.3nm,1.1s
AGG Agios Georgios 97.20 309 P P 21 20 02.9 -1.4
ULM Lac du Bonnet 122.29 27 PKP **PKPdf 21 25 24.9 -1.6**
comp=Z,0.6nm,0.4s,baz=339,slow=0.6,SNR=3.9
SCHQ Schefferville 126.33 5 PKP **PKPdf 21 25 32.3 -1.8**
comp=Z,2.5nm,0.8s,baz=270,slow=1.0,SNR=2.4
TXAR Lajitas Array 129.58 52 PKP **PKPdf 21 25 39.6 -1.5**
comp=Z,0.1nm,0.2s,baz=253,slow=2.7,SNR=2.0
CPUP Villa Florida 152.43 184 PKP **PKPdf 21 26 19.8 -1.7**
comp=Z,1.0nm,0.5s,baz=285,slow=1.9,SNR=3.7
CPUP PKPbc **PKPbc 21 26 28.2 -0.1**
comp=Z,3.9nm,0.9s,baz=246,slow=1.6,SNR=7.5
ATAH Atahualpa 159.34 114 PKP **PKPdf 21 26 32.5 +1.0**
comp=Z,4.2nm,0.7s,baz=315,slow=2.9,SNR=5.1
ATAH PKPab **PKPab 21 27 09.3 +0.5**
comp=Z,4.1nm,0.7s,baz=294,slow=14,SNR=2.2
BDFB Brasilia 159.69 213 PKP **PKPdf 21 26 31.4 -0.1**
comp=Z,1.7nm,0.7s,baz=140,slow=3.2,SNR=3.5
LPAZ La Paz 160.53 154 PKP **PKPdf 21 26 33.2 +0.2**
comp=Z,2.9nm,0.9s,baz=284,slow=4.2,SNR=10
LPAZ PKPab **PKPab 21 27 15.2 +1.3**
comp=Z,1.6nm,0.9s,baz=127,slow=5.1,SNR=2.0

SJA ***02*** *21:11:00.5±0.8, 24°.27S×67°.15W, h197km±5km, ML4.3, MW4.2*
IDC ***02*** *21:11:01.6±0.9, 24°.21S×66°.99W, h172km±9km, mb3.8/11, mbtmp4.3/18, MS3.5/2, Error ellipse: s-maj=13.1km s-min=11.1km az=54.0*
VAO ***02*** *21:11:02.1±0.3, 24°.21S×67°.00W, h170km±4km, mb4.4*
GUC ***02*** *21:11:02.8±0.8, 24°.26S×67°.46W, h211km±8km, ML4.4*
NEIC ***02*** *21:11:02.1±2.7, 24°.34S±0°.03×67°.12W±0°.08, h175km±7km, mb4.4/49, Error ellipse: s-maj=11.3km s-min=2.7km az=109.0*
ISC 02 21:11:01.9±0.6, 24°.26S±0°.03×67°.18W±0°.04, h181km±6km, n183, σ1s61/214, mb4.3/37, 16C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
AF01	**San Pedro de A**	**1.59**	**325**		**Pn**	**21 11 36.7**	**+1.5**	
AF01				Sn	**Sn**	21 12 03.4	+2.4	
AF01	**San Pedro de A**	**1.59**	**325**	*eP*	**Pn**	**21 11 36.8**	**+1.5**	
AF01				*i* S	**Sn**	21 12 03.0	+2.0	
AF01				IAML		21 12 04.6		
comp=N,2μm,0.5s								
SLA	**San Lorenzo**	**1.59**	**107**	*eP*	**Pn**	**21 11 35.4**	**+0.4**	
SLA				*e*S	**Sn**	21 12 00.7	0.0	
SLA				IAML		21 12 01.7		
comp=Z,1μm,1.0s								
FSA	**Cafayete**	**2.14**	**150**	*eP*	**Pn**	**21 11 40.8**	**0.0**	
FSA				*e*S	**Sn**	21 12 09.1	-2.0	
LVC	**Limon Verde**	**2.29**	**316**	P	**Pn**	**21 11 43.5**	**+0.9**	
comp=Z,312nm,0.4s,baz=122,slow=7.9,SNR=952								
LVC				S	**Sn**	21 12 14.7	+0.5	
comp=Z,451nm,0.3s,baz=30,slow=23,SNR=46								
LVC	**Limon Verde**	**2.29**	**316**	⇑*iP*	**Pn**	**21 11 43.5**	**+0.9**	
LVC				*e*S	**Sn**	21 12 14.7	+0.5	
LVC	**Limon Verde**	**2.29**	**316**	*eP*	**Pn**	**21 11 43.4**	**+0.7**	
LVC				*e*S	**Sn**	21 12 14.5	+0.3	
LVC				IAML		21 12 17.1		
comp=Z,435nm,0.1s								
LVC	**Limon Verde**	**2.29**	**316**	*eP*	**Pn**	**21 11 43.5**	**+0.9**	
LVC				*e*S	**Sn**	**21 12 14.6**	**+0.4**	
PB15	**IPOC Station P**	**2.35**	**296**	Pn	**Pn**	**21 11 43.8**	**+0.6**	
PB15	**IPOC Station P**	**2.35**	**296**	⇑*iP*	**Pn**	**21 11 44.0**	**+0.9**	
PB15				*i* S	**Sn**	21 12 15.1	0.0	
PB15	**IPOC Station P**	**2.35**	**296**	*eP*	**Pn**	**21 11 44.1**	**+0.9**	
PB15				*e*S	**Sn**	21 12 15.3	+0.1	
GO02	**Mina Guanaco**	**2.37**	**247**	Pn	**Pn**	**21 11 43.8**	**+0.3**	
GO02				Sn	**Sn**	21 12 15.7	-0.1	
GO02	**Mina Guanaco**	**2.37**	**247**	⇑*iP*	**Pn**	**21 11 43.8**	**+0.3**	
GO02				*i* S	**Sn**	21 12 15.5	-0.3	
GO02	**Mina Guanaco**	**2.37**	**247**	*eP*	**Pn**	**21 11 43.8**	**+0.3**	
GO02				*e*S	**Sn**	21 12 16.2	+0.4	
YJA	**Yavi**	**2.58**	**37**	*eP*	**Pn**	**21 11 46.7**	**+0.6**	
YJA				*e*S	**Sn**	21 12 21.1	+0.7	
PB06	**IPOC Station P**	**2.69**	**305**		**Pn**	**21 11 47.7**	**+0.6**	
PB06	**IPOC Station P**	**2.69**	**305**	⇑*iP*	**Pn**	**21 11 47.8**	**+0.7**	
PB06				*i* S	**Sn**	21 12 21.1	-1.1	
PB06				IAML		21 12 24.5		
comp=N,2μm,0.2s								
PB06	**IPOC Station P**	**2.69**	**305**	*eP*	**Pn**	**21 11 47.7**	**+0.7**	
PB06				*e*S	**Sn**	21 12 22.0	-0.1	
PB06				IAML		21 12 26.3		
comp=Z,1μm,0.9s								
PB14	**IPOC Station P**	**2.96**	**262**	Pn	**Pn**	**21 11 50.2**	**-0.3**	
PB14	**IPOC Station P**	**2.96**	**262**	⇑*iP*	**Pn**	**21 11 50.1**	**-0.3**	
PB14				*i* S	**Sn**	21 12 26.1	-2.2	
PB14				IAML		21 12 28.6		
comp=E,388nm,0.3s								
PB14	**IPOC Station P**	**2.96**	**262**	*eP*	**Pn**	**21 11 50.1**	**-0.3**	
PB14				*e*S	**Sn**	21 12 27.1	-1.2	
PB14				IAML		21 12 30.6		
comp=Z,635nm,0.8s								
AHML	**Horco Molle**	**3.02**	**147**	*eP*	**Pn**	**21 11 50.4**	**-0.4**	
AHML				*e*S	**Sn**	21 12 27.2	-1.9	
PB09	**IPOC Station P**	**3.10**	**322**		**Pn**	**21 11 53.0**	**+0.9**	
PB09	**IPOC Station P**	**3.10**	**322**	⇑*iP*	**Pn**	**21 11 53.1**	**+1.0**	
PB09				*i* S	**Sn**	21 12 30.7	-0.5	
PB09				IAML		21 12 33.1		
comp=N,882nm,0.5s								
PB09	**IPOC Station P**	**3.10**	**322**	*eP*	**Pn**	**21 11 53.1**	**+1.0**	
PB09				*e*S	**Sn**	21 12 30.7	-0.5	
PB09				IAML		21 12 32.2		
comp=Z,621nm,0.5s								
PB04	**IPOC Station P**	**3.34**	**304**	Pn	**Pn**	**21 11 55.2**	**+0.2**	
PB04	**IPOC Station P**	**3.34**	**304**	⇑*iP*	**Pn**	**21 11 55.0**	**0.0**	
PB04				*i* S	**Sn**	21 12 33.9	-2.4	
PB04	**IPOC Station P**	**3.34**	**304**	*eP*	**Pn**	**21 11 55.0**	**0.0**	
PB04				*e*S	**Sn**	21 12 35.1	-1.2	
PB04				IAML		21 12 37.6		
comp=Z,925nm,0.2s								
AC01	**Pan de Azucar**	**3.62**	**238**	Pn	**Pn**	**21 11 57.1**	**-1.2**	
AC01	**Pan de Azucar**	**3.62**	**238**	⇑*iP*	**Pn**	**21 11 57.1**	**-1.2**	
AC01				*e*S	**Sn**	21 12 39.1	-3.3	
AC01	**Pan de Azucar**	**3.62**	**238**	*eP*	**Pn**	**21 11 57.1**	**-1.2**	
AC01				*e*S	**Sn**	21 12 39.4	-3.0	
AC01				IAML		21 12 41.1		
comp=Z,299nm,0.1s								
PB01	**IPOC Station P**	**3.85**	**326**		**Pn**	**21 12 00.9**	**-0.4**	
PB01	**IPOC Station P**	**3.85**	**326**	⇑*iP*	**Pn**	**21 12 01.0**	**-0.3**	
PB01				*i* S	**Sn**	21 12 45.4	-2.3	
PB01	**IPOC Station P**	**3.85**	**326**	*eP*	**Pn**	**21 12 01.0**	**-0.3**	
PB01				*e*S	**Sn**	21 12 46.4	-1.2	
PB01				IAML		21 12 50.0		
comp=Z,430nm,0.2s								
GUSE	**Guasayan**	**4.18**	**150**	*eP*	**Pn**	**21 12 04.6**	**-0.7**	
GUSE				*e*S	**Sn**	21 12 53.2	-1.8	
AC06	**Mina Casimiro**	**4.21**	**222**	Pn	**Pn**	**21 12 03.4**	**-2.3**	
GO03	**Copiapo**	**4.31**	**219**		**Pn**	**21 12 05.4**	**-1.7**	
GO03	**Copiapo**	**4.31**	**219**	⇑*iP*	**Pn**	**21 12 05.3**	**-1.7**	
GO03				*e*S	**Sn**	21 12 54.7	-3.5	
GO03	**Copiapo**	**4.31**	**219**	*eP*	**Pn**	**21 12 05.7**	**-1.4**	
GO03				*e*S	**Sn**	21 12 55.1	-3.1	
CYA	**Choya**	**4.34**	**164**	*eP*	**Pn**	**21 12 07.5**	**0.0**	
CYA				*e*S	**Sn**	21 12 58.7	-0.2	
PATCX	**Punta Patache**	**4.39**	**321**		**Pn**	**21 12 08.2**	**0.0**	
PATCX	**Punta Patache**	**4.39**	**321**	*i* P	**Pn**	**21 12 07.1**	**-1.1**	
PATCX				*i* S	**Sn**	21 12 56.5	-3.6	
PATCX	**Punta Patache**	**4.39**	**321**	*eP*	**Pn**	**21 12 07.3**	**-0.9**	
PATCX				*e*S	**Sn**	21 12 51.7	-8.4	
PATCX				IAML		21 13 06.6		
comp=Z,254nm,0.3s								
PB08	**IPOC Station P**	**4.49**	**336**	Pn	**Pn**	**21 12 09.9**	**+0.2**	
PB08	**IPOC Station P**	**4.49**	**336**	⇑*iP*	**Pn**	**21 12 10.1**	**+0.3**	
PB08				*i* S	**Sn**	21 13 01.4	-1.4	
PB08	**IPOC Station P**	**4.49**	**336**	*eP*	**Pn**	**21 12 09.6**	**-0.2**	
PB08				*e*S	**Sn**	21 13 02.8	-0.1	
PB08				IAML		21 13 07.1		
comp=Z,95nm,0.2s								
TA01	**Diego Aracena**	**4.61**	**322**		**Pn**	**21 12 10.4**	**-0.5**	
TA01	**Diego Aracena**	**4.61**	**322**	*i* P	**Pn**	**21 12 09.7**	**-1.2**	
TA01				*i* S	**Sn**	21 13 01.3	-3.6	
TA01	**Diego Aracena**	**4.61**	**322**	*eP*	**Pn**	**21 12 10.0**	**-0.9**	
TA01				*e*S	Sn	21 12 52.5	-12	
TA01				IAML		21 13 13.5		
comp=Z,125nm,0.7s								
HMBC	**Humberstone**	**4.69**	**327**	⇑*iP*	**Pn**	**21 12 10.4**	**-1.7**	
HMBC				*e*S	**Sn**	21 13 01.4	-5.7	
HMBC	**Humberstone**	**4.69**	**327**	*eP*	**Pn**	**21 12 10.6**	**-1.5**	
HMBC				*e*S	**Sn**	21 13 04.9	-2.2	
HMBC				IAML		21 13 07.7		
comp=Z,322nm,0.4s								
TA02	**Huaiquique**	**4.82**	**325**		**Pn**	**21 12 13.1**	**-0.5**	
GO01	**Chusmiza**	**4.94**	**337**		**Pn**	**21 12 15.4**	**-0.2**	
PB11	**IPOC Station P**	**5.03**	**332**	*eP*	**Pn**	**21 12 15.0**	**-1.6**	
PB11				*i* S	**Sn**	21 13 10.7	-4.5	
PB11	**IPOC Station P**	**5.03**	**332**	*eS*	**Sn**	**21 13 12.2**	**-2.9**	
PB11				IAML		21 13 18.3		
comp=Z,136nm,0.4s								
ACLC	**CERRO LA CRUZ**	**5.15**	**178**	*eP*	**Pn**	**21 12 18.1**	**+0.1**	
AC04	**Llanos de Chal**	**5.26**	**221**	Pn	**Pn**	**21 12 17.1**	**-2.1**	
AC04	**Llanos de Chal**	**5.26**	**221**	*e*S	**Sn**	**21 13 15.7**	**-4.5**	
AC04				IAML		21 13 20.4		
comp=Z,145nm,1.2s								
AC05	**El Transito**	**5.33**	**211**	Pn	**Pn**	**21 12 18.9**	**-1.4**	
LCO	**Las Campanas**	**5.69**	**213**	Pn	**Pn**	**21 12 22.6**	**-2.4**	
CO01	**Juntas del Tor**	**6.26**	**204**	Pn	**Pn**	**21 12 31.2**	**-1.3**	
FDPY	**Filadelfia**	**6.94**	**75**	*eP*	**Pn**	**21 12 39.9**	**-1.4**	
PB18	**Visviri**	**6.98**	**342**	Pn	**Pn**	**21 12 43.3**	**+0.9**	
CO03	**El Pedregal**	**7.25**	**205**	Pn	**Pn**	**21 12 43.8**	**-1.7**	
ZON	**Zonda**	**7.38**	**190**		**Pn**	**21 12 46.2**	**-0.9**	
LPAZ	**La Paz**	**7.98**	**353**	P	**Pn**	**21 12 56.1**	**+0.4**	
comp=Z,4.1nm,0.3s,baz=166,slow=7.2,SNR=25								
LPAZ				S	**Sn**	**21 14 23.5**	**-2.1**	
comp=Z,4.6nm,0.7s,baz=0.7,slow=16,SNR=4.4								
LPAZ				LR	LR	21 16 42.9		
comp=Z,53nm,21.8s,baz=228,slow=43								
LPAZ	**La Paz**	**7.98**	**353**	*eP*	**Pn**	**21 12 55.9**	**+0.2**	
CPUP	**Villa Florida**	**9.15**	**105**	Pn	**Pn**	**21 13 08.8**	**-1.5**	
CPUP	**Villa Florida**	**9.15**	**105**	P	**Pn**	**21 13 08.3**	**-2.0**	
comp=Z,7.6nm,0.7s,baz=278,slow=12,SNR=15								
CPUP	**Villa Florida**	**9.15**	**105**	*eP*	**Pn**	**21 13 08.5**	**-1.8**	
MURT	**Porto Murtinho**	**9.19**	**76**	*eP*	**Pn**	**21 13 08.3**	**-2.6**	
BBSD	**Serra de San D**	**9.34**	**42**	*eP*	**Pn**	**21 13 10.5**	**-2.5**	
SIV	**San Ignacio**	**10.03**	**36**	P	**Pn**	**21 13 19.7**	**-2.2**	
comp=Z,6.9nm,0.6s,baz=213,slow=11,SNR=43								
SIV				S	**Sn**	**21 15 10.0**	**-3.7**	
comp=Z,2.0nm,0.6s,baz=110,slow=23,SNR=7.3								
SJPY	**San Joaquin**	**10.10**	**96**	*eP*	**Pn**	**21 13 20.6**	**-2.3**	
BDQN	**Bodoquena, MS**	**10.37**	**71**	*eP*	**Pn**	**21 13 23.5**	**-2.9**	
ITQB	**Itaqui**	**10.85**	**122**	*eP*	**Pn**	**21 13 32.5**	**0.0**	
PSAL	**Palomas, Salto**	**10.87**	**131**	*eP*	**Pn**	**21 13 31.1**	**-1.6**	
AMBA	**Amambai (Brazi**	**11.26**	**86**	*eP*	**Pn**	**21 13 34.8**	**-3.1**	
AQDB	**Aquidauana**	**11.27**	**73**	*eP*	**Pn**	**21 13 35.5**	**-2.5**	
PTLB	**Pontes e Lacer**	**11.57**	**42**	Pn	**Pn**	**21 13 40.5**	**-1.5**	
PTLB	**Pontes e Lacer**	**11.57**	**42**	*eP*	**Pn**	**21 13 40.1**	**-1.9**	
SALV	**Santo Antonio**	**13.62**	**54**	*eP*	**Pn**	**21 14 06.0**	**-2.0**	
CPSB	**Cacapava Do Su**	**13.65**	**120**	*eP*	**Pn**	**21 14 07.0**	**-1.3**	
PTGB	**Pitanga**	**13.77**	**95**	*eP*	**Pn**	**21 14 09.7**	**-0.2**	
ITAB	**Concordia**	**13.88**	**106**	P	**P**	**21 14 12.7**	**-1.0**	
ITAB	**Concordia**	**13.88**	**106**	*eP*	**Pn**	**21 14 09.9**	**-1.2**	
PLTB	**Pedras Altas**	**14.12**	**125**	*eP*	**Pn**	**21 14 11.9**	**-2.2**	
TRQA	**Tornquist**	**14.45**	**163**		**P**	**21 14 19.7**	**-0.2**	
LDASE	**Londrina, Braz**	**14.72**	**90**	*eP*	**Pn**	**21 14 21.0**	**-0.7**	
NNA	**Nana**

BJI **02** *21:33:34.0, 1°.20S×120°.50E, h10km, mb4.6/52, mB5.2/19, Ms4.4/25, Ms7 4.3/27*

IDC **02** *21:33:34.1±0.5, 1°.23S×120°.49E, h0km, mb4.4/19, mbtmp4.4/24, ML4.2/4, MS4.0/58, Error ellipse: s-maj=20.7km s-min=10.7km az=76.0*

GCMT **02** *21:33:36.3±0.1, 1°.25S±0°.01×120°.41E±0°.01, h13km, MW5.0/123, Moment Tensor Solution. s72,c101; s123,c201; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.32±.10; Mθθ3.47±.07; Mφφ=0.15±.07; Mrθ0.83±.16; Mθφ=0.97±.05; Mφr1.16±.19; Best double couple: M0 3.80900×10^16 NP1:φs264.00000°, δ53.00000°, λ=116.00000°. NP2:φs124.00000°, δ44.00000°, λ=60.00000°. Principal axes: T 3.7540, Plg4.0000°, Azm13.0000°; N 0.1040, Plg21.0000°, Azm281.0000°; P =3.8640, Plg69.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC **02** *21:33:36.3±1.7, 1°.26S±0°.03×120°.49E±0°.05, h10km±1km, mb4.9/68 Error ellipse: s-maj=9.1km s-min=3.9km az=252.0*

DJA **02** *21:33:37.1±0.1, 1°.S±2°.×12°.0E±°, h10km, M4.8/33, mb4.9/33, mB5.3/12, MLv5.1/24, Mw(mB)4.7/12, MwMwp4.7/7, Mwp5.1/7*

ISC 02 21:33:36.1±0.3, 1°.28S±0°.04×120°.48E±0°.04, h10km, n241, σ1938/210, mb4.8/66, MS4.1/65, 2C-4D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.22**	**72**	P		**Pg**		**21 34 00.3**	**+0.7**
MPSI	**Mapaga**	**1.71**	**340**	P		**Pn**		**21 34 03.1**	**-2.9**
TTSI	**Tana Toraja**	**1.87**	**201**	P		**Pn**		**21 34 08.6**	**+0.4**
MRSI	**Marisa**	**2.27**	**40**	P		**Pn**		**21 34 12.5**	**-1.3**
LUWI	**Luwuk**	**2.30**	**84**	Pn		**Pn**		**21 34 14.6**	**+0.4**
LUWI	**Luwuk**	**2.30**	**84**	P		**Pn**		**21 34 13.6**	**-0.5**
LUWI	**Luwuk**	**2.30**	**84**	P		**Pn**		**21 34 14.8**	**+0.7**
TOLI2	**Tolitoli**	**2.40**	**7**	Pn		**Pn**		**21 34 15.5**	**0.0**
TOLI2	**Tolitoli**	**2.40**	**7**	P		**Pb**		**21 34 19.0**	**-0.4**
SPSI	**Sidrap Palu**	**2.76**	**195**	P		**Pn**		**21 34 21.7**	**+1.3**
BNSI	**Bone**	**3.12**	**187**	P		**Pn**		**21 34 27.4**	**+2.0**
SMKI	**Samarinda**	**3.38**	**284**	P		**Pn**		**21 34 28.3**	**-0.7**
KDI	**Kendari**	**3.41**	**141**	P		**Pn**		**21 34 29.8**	**+0.4**
BKB	**Balikpapan**	**3.59**	**270**	Pn		**Pn**		**21 34 32.5**	**+0.6**
BKB	**Balikpapan**	**3.59**	**270**	P		**Pn**		**21 34 33.3**	**+1.5**
BKB	**Balikpapan**	**3.59**	**270**	P		**Pn**		**21 34 32.6**	**+0.8**
KAPI	**Kappang**	**3.78**	**191**	Pn		**Pn**		**21 34 35.6**	**+1.1**
	34nm,0.3s,baz=23,slow=5.9,SNR=123								
KAPI				Sn		**Sn**		**21 35 21.4**	**+2.4**
	44nm,0.3s,baz=168,slow=23,SNR=7.4								
KAPI				LR		LR		21 36 24.4	
	comp=Z,13μm,20.2s,baz=328,slow=44								
	92nm,0.3s								
KAPI	**Kappang**	**3.78**	**191**	P		**Pn**		**21 34 36.4**	**+1.9**
KMSI	**Cibinong**	**3.95**	**62**	P		**Pn**		**21 34 39.8**	**+2.9**
BKSI	**Bulukumba**	**4.03**	**185**	P		**Pn**		**21 34 38.7**	**+0.8**
BBSI	**Bau Bau**	**4.67**	**154**	P		**Pn**		**21 34 48.3**	**+1.6**
BSSI	**Bau Bau, Buton**	**4.83**	**180**	P		**Pn**		**21 34 50.0**	**+1.1**
SANI	**Sanana**	**5.55**	**98**	P		**Pn**		**21 34 58.2**	**-0.7**
SANI	**Sanana**	**5.55**	**98**	P		**Pn**		**21 34 57.9**	**-1.0**
	64nm,0.6s,2μm								
MTKI	**Muara Teweh, K**	**5.60**	**273**	P		**Pn**		**21 35 00.0**	**+0.5**
MYLDM	**Lahad Datu**	**6.72**	**343**	Pn		**Pn**		**21 35 16.1**	**+1.2**
MYLDM	**Lahad Datu**	**6.72**	**343**	P		**Pn**		**21 35 18.0**	**+3.1**
NLAI	**Namlea**	**6.89**	**106**	P		**Pn**		**21 35 17.0**	**-0.3**
	37nm,0.5s,1μm0.2nm								
LBMI	**Labuha**	**7.04**	**85**	P		**Pn**		**21 35 19.3**	**-0.1**
	152nm,0.8s								
TNTI	**Ternate**	**7.18**	**74**	Pn		**Pn**		**21 35 22.3**	**+1.0**
TNTI	**Ternate**	**7.18**	**74**	P		**Pn**		**21 35 24.0**	**+2.8**
	40nm,0.6s								
MMRI	**Maumere**	**7.51**	**167**	Pn		**Pn**		**21 35 25.2**	**-0.6**
MMRI	**Maumere**	**7.51**	**167**	P		**Pn**		**21 35 27.0**	**+1.2**
	33nm,0.9s,3μm0.2nm								
PLAI	**Plampang**	**7.97**	**200**	P		**Pn**		**21 35 33.4**	**+1.3**
AAI	**Ambon**	**8.06**	**107**	P		**Pn**		**21 35 35.3**	**+1.9**
	63nm,1.3s								
WBSI	**Waikabubak, Su**	**8.38**	**187**	P		**Pn**		**21 35 39.5**	**+1.8**
	63nm,0.9s								
KKM	**Kota Kinabalu**	**8.43**	**330**	Pn		**Pn**		**21 35 39.6**	**+1.0**
KKM	**Kota Kinabalu**	**8.43**	**330**	P		Pn		21 35 43.6	+5.0
SRBI	**Singaraja**	**8.56**	**218**	P		**Pn**		**21 35 42.0**	**+1.8**
	40nm,0.9s,3μm								
KMMI	**Kalianget**	**8.66**	**228**	P		**Pn**		**21 35 44.2**	**+2.6**
	61nm,1.4s,3μm								
SBUM	**Sibu**	**9.05**	**294**	Pn		**Pn**		**21 35 47.6**	**+0.6**
STKI	**Sintang**	**9.11**	**278**	P		**Pn**		**21 35 46.1**	**-1.6**
	92nm,1.1s								
SOEI	**Soe**	**9.22**	**156**	Pn		**Pn**		**21 35 50.7**	**+1.3**
SOEI	**Soe**	**9.22**	**156**	P		**Pn**		**21 35 53.1**	**+3.7**
	98nm,0.9s								
BATI	**Baumata**	**9.41**	**160**	Pn		**Pn**		**21 35 51.6**	**-0.3**
	0.5nm,0.3s,baz=293,slow=21,SNR=1.5								
BATI				LR		LR		21 39 57.3	
	comp=Z,1μm,19.2s,baz=13,slow=40								
	5.0nm,0.3s								
BATI	**Baumata**	**9.41**	**160**	P		**Pn**		**21 35 55.5**	**+3.6**
	52nm,1.1s,2μm								
JAGI	**Jajag, Banyuwa**	**9.53**	**221**	Pn		**Pn**		**21 35 54.9**	**+1.4**
JAGI	**Jajag, Banyuwa**	**9.53**	**221**	P		**Pn**		**21 35 54.8**	**+1.3**
	43nm,1.1s,3μm								
DAV	**Davao City (W)**	**9.73**	**31**	Pn		**Pn**		**21 35 55.7**	**-0.6**
	18nm,0.3s,baz=236,slow=3.8,SNR=1.8								
DAV				Sn		**Sn**		**21 37 46.0**	**+0.2**
	27nm,0.3s,baz=37,slow=14,SNR=1.4								
DAV				LR		LR		21 39 43.1	
	comp=Z,2μm,21.8s,baz=180,slow=38								
	83nm,0.4s								
KSM	**Kuching**	**10.54**	**285**	Pn		**Pn**		**21 36 06.2**	**-1.1**
SWI	**Sorong**	**10.78**	**88**	P		**Pn**		**21 36 12.0**	**+1.3**
	23nm,0.6s								
NGJI	**Ngawi**	**10.84**	**236**	P		**Pn**		**21 36 15.1**	**+3.7**
	70nm,1.8s								
PCJI	**Pacitan**	**11.54**	**233**	P		**Pn**		**21 36 24.6**	**+3.6**
	50nm,1.3s								
FAKI	**Fak Fak**	**11.87**	**98**	P		**Pn**		**21 36 26.6**	**+1.0**
FAKI	**Fak Fak**	**11.87**	**98**	P		**Pn**		**21 36 26.1**	**+0.5**
	32nm,0.8s,542nm								
LEM	**Lembang**	**13.96**	**246**	Pn		**Pn**		**21 36 53.4**	**-1.0**
	14nm,0.5s,baz=305,slow=23,SNR=1.2								
LEM				LR		LR		21 42 44.8	
	comp=Z,1μm,18.0s,baz=101,slow=39								
MTN	**Manton Dam**	**15.60**	**138**	P		**Pn**		**21 37 14.9**	**-1.3**
TPRI	**Tanjung Pinang**	**16.11**	**278**	P		**Pn**		**21 37 24.6**	**+1.8**
KASI	**Kota Agung**	**16.50**	**255**	P		**P**		**21 37 30.4**	**-0.2**
	101nm,1.2s								
LWLI	**Liwa**	**16.81**	**257**	P		**Pn**		**21 37 33.4**	**+1.4**
	91nm,1.4s								
MYKOM	**Kota Tinggi**	**16.91**	**280**	P		**Pn**		**21 37 33.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**17.46**	**163**	P		**P**		**21 37 41.2**	**+0.1**
	0.2nm,0.3s,baz=343,slow=6.8,SNR=7.1								
FITZ				LR		LR		21 46 15.3	
	comp=Z,340nm,19.5s,baz=340,slow=44								
	2.0nm,0.7s								
BKNI	**Bangkinang**	**19.51**	**275**	P		**P**		**21 38 04.3**	**+0.5**
BKNI				IAmb		IAmb		21 38 10.5	
	comp=Z,178nm,1.4s								
PSA00	**Pilbara Seismi**	**20.18**	**182**	P		**P**		**21 38 10.7**	**-0.3**
JAY	**Jayapura**	**20.25**	**94**	P		**P**		**21 38 12.2**	**+0.3**
KULM	**Kulim**	**20.86**	**288**	P		**P**		**21 38 17.2**	**-1.3**
KULM				IAmb		IAmb		21 38 22.1	
	comp=Z,52nm,1.0s								
KULM	**Kulim**	**20.86**	**288**	P		Pn		21 38 21.2	+0.3
SISI	**Saibi**	**21.39**	**270**	P		**P**		**21 38 24.2**	**0.0**
	comp=Z,124nm,1.2s								
RPSI	**Rantau Prapat**	**21.91**	**280**	P		**P**		**21 38 29.8**	**-0.1**
RPSI				IAmb		IAmb		21 38 35.6	
	comp=Z,74nm,1.2s								
QIZ	**Qiongzhong**	**22.73**	**333**	P		**P**		**21 38 38.8**	**+0.3**
QIZ				pmax		pmax			
	comp=Z,36nm,1.3s								
QIZ				pmax		pmax			
	comp=Z,810nm,4.4s								
QIZ				LR		LR			
	comp=Z,410nm,17.9s								
QIZ				LR		LR			
	comp=Z,510nm,18.6s								
QIZ				LR		LR			
	comp=Z,640nm,13.1s								
WB0	**Warramunga Arr**	**22.86**	**144**	P		**P**		**21 38 38.9**	**-1.0**
WRAB	**Tennant Creek**	**22.97**	**145**	P		**P**		**21 38 40.0**	**-1.0**
WRA	**Warramunga Arr**	**22.97**	**145**	P		**P**		**21 38 40.4**	**-0.7**
WRA	**Warramunga Arr**	**22.97**	**145**	P		**P**		**21 38 40.6**	**-0.4**
	comp=Z,9.3nm,0.8s,baz=313,slow=13,SNR=4.8								
WRA				PcP		**PcP**		**21 42 30.8**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=330,slow=2.0,SNR=1.7								
WRA				LR		LR		21 47 11.6	
	comp=Z,350nm,21.6s,baz=330,slow=36								
	comp=Z,9.3nm,0.8s								
WB2	**Warramunga Arr**	**22.98**	**145**	P		**P**		**21 38 39.8**	**-1.4**
WB2				IAmb		IAmb		21 38 43.6	
	comp=Z,25nm,1.0s								
SRIT	**Nakonsritamara**	**23.01**	**296**	P		**P**		**21 38 39.5**	**-2.0**
SRIT				IAmb		IAmb		21 38 47.5	
	comp=Z,26nm,1.0s								
GSI	**Gunungsitoli**	**23.05**	**276**	P		**P**		**21 38 40.5**	**-1.4**
GSI				IAmb		IAmb		21 38 50.6	
	comp=Z,54nm,1.1s								
GSI	**Gunungsitoli**	**23.05**	**276**	P		**P**		**21 38 44.3**	**+2.4**
GSI	**Gunungsitoli**	**23.05**	**276**	P		**P**		**21 38 42.5**	**+0.6**
	comp=Z,45nm,0.9s								
WR0	**Warramunga Arr**	**23.10**	**144**	P		**P**		**21 38 41.7**	**-0.7**
TWG	**Pinlang**	**23.96**	**1**	P		**P**		**21 38 50.9**	**+0.1**
TWG				IAmb		IAmb		21 38 59.0	
	comp=Z,53nm,0.9s								
LHMI	**Lhok Sumawe**	**24.38**	**286**	P		**P**		**21 38 52.2**	**-2.6**
TPUB	**Ta-pu**	**24.43**	**0**	P		**P**		**21 38 52.4**	**-2.8**
TPUB	**Ta-pu**	**24.43**	**0**	P		**P**		**21 38 57.4**	**+2.2**
YULB	**Yu-li**	**24.54**	**2**	P		**P**		**21 38 55.6**	**-0.5**
YULB	**Yu-li**	**24.54**	**2**	P		**P**		**21 38 57.8**	**+1.7**
MLSI	**Meulaboh, Aceh**	**24.68**	**283**	P		**P**		**21 38 59.3**	**+1.7**
WRKA	**Warakurna**	**24.79**	**163**	P		**P**		**21 38 58.5**	**0.0**
SSLB	**Suanglung**	**24.92**	**1**	P		**P**		**21 38 58.7**	**-0.9**
SSLB				IAmb		IAmb		21 39 04.1	
	comp=Z,45nm,0.9s								
MEEK	**Meekatharra**	**25.27**	**184**	P		**P**		**21 39 02.6**	**-0.2**
AS31	**Alice Springs**	**25.78**	**151**	P		**P**		**21 39 06.8**	**-0.6**
ASAR	**Alice Springs**	**25.78**	**151**	P		**P**		**21 39 07.0**	**-0.4**
ASAR	**Alice Springs**	**25.78**	**151**	P		**P**		**21 39 07.2**	**-0.3**
	comp=Z,6.9nm,0.7s,baz=323,slow=7.4,SNR=50								
ASAR				PcP		**PcP**		**21 42 37.0**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=339,slow=2.0,SNR=10								
ASAR				LR		LR		21 49 36.3	
	comp=Z,407nm,19.1s,baz=316,slow=37								
	comp=Z,6.9nm,0.7s								
AS01	**Alice Springs**	**25.80**	**151**	P		**P**		**21 39 07.7**	**+0.1**
YHNB	**Yeheng**	**25.81**	**2**	P		**P**		**21 39 09.2**	**+1.5**
QIS	**Mount Isa**	**26.76**	**137**	P		**P**		**21 39 15.7**	**-0.6**
PMG	**Port Moresby**	**27.74**	**108**	LR		LR		21 52 27.9	
	comp=Z,245nm,19.2s,baz=304,slow=41								
GUMO	**Guam**	**28.33**	**58**	LR		LR		21 48 53.6	
	comp=Z,181nm,21.9s,baz=230,slow=32								
CMAR	**Chiang Mai Arr**	**28.87**	**314**	P		**P**		**21 39 34.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**28.87**	**314**	P		**P**		**21 39 35.5**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=141,slow=7.4,SNR=26								
CMAR				PcP		**PcP**		**21 42 45.1**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=141,slow=3.0,SNR=1.8								
CMAR				LR		LR		21 52 50.1	
	comp=Z,218nm,20.3s,baz=120,slow=40								
	comp=Z,2.6nm,0.7s								
JOW	**Kunigami**	**28.94**	**14**	P		**P**		**21 39 35.7**	**0.0**
JOW	**Kunigami**	**28.94**	**14**	LR		LR		21 51 05.1	
	comp=Z,990nm,20.8s,baz=194,slow=36								
CHTO	**Chiang Mai**	**29.10**	**314**	P		**P**		**21 39 37.8**	**+0.5**
OOD	**Oodnadatta**	**30.12**	**152**	P		**P**		**21 39 46.4**	**+0.2**
FORT	**Forrest**	**30.20**	**167**	P		**P**		**21 39 46.3**	**-0.6**
	comp=Z,22nm,1.1s								
GYA	**Guiyang**	**30.64**	**335**	P		**P**		**21 39 54.7**	**+3.8**
GYA				pmax		pmax			
	comp=Z,8.0nm,0.9s								
CTA	**Charters Tower**	**31.37**	**128**	LR		LR		21 55 07.2	
	comp=Z,29nm,18.1s,baz=298,slow=41								
KMI	**Kunming**	**31.38**	**328**	⇓P		**P**		**21 39 59.5**	**+1.9**
KMI				S		**S**		**21 45 05.4**	**+0.1**
KMI				pmax		pmax			
	comp=Z,17nm,0.8s								
KMI				LR		LR			
	comp=Z,140nm,12.2s								
KMI				LR		LR			
	comp=Z,200nm,21.1s								
KMI				LR		LR			
	comp=Z,260nm,21.2s								
MULG	**Mulgathing**	**31.59**	**157**	P		**P**		**21 39 58.5**	**-0.7**
NWAO	**Narrogin (SRO)**	**31.63**	**185**	LR		LR		21 52 43.6	
	comp=Z,590nm,21.8s,baz=322,slow=36								
WHN	**Wuhan**	**32.18**	**350**	⇑P		**P**		**21 40 06.2**	**+1.9**
PZH	**PanZhiHua**	**33.02**	**328**	P		**P**		**21 40 13.0**	**+1.1**
PZH				S		**S**		**21 45 30.8**	**+0.2**
PZH				pmax		pmax			
	comp=Z,20nm,0.7s								
PZH				pmax		pmax			
	comp=Z,310nm,4.9s								
PZH				LR		LR			
	comp=Z,260nm,15.0s								
PZH				LR		LR			
	comp=Z,290nm,17.1s								
PZH				LR		LR			
	comp=Z,250nm,16.2s								
NJ2	**Nanjing**	**33.19**	**357**	*e*P		**P**		**21 40 13.8**	**+0.7**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.9s								
LCRK	**Leigh Creek**	**33.53**	**152**	P		**P**		**21 40 16.1**	**-0.1**
TNCH	**TengChong**	**33.72**	**322**	⇓P		**P**		**21 40 19.0**	**+0.9**
TNCH				pP		sP		21 40 22.8	+0.2
TNCH				sP		pP		21 40 25.6	+4.3
TNCH				ScS		ScS		21 50 41.8	-2.8
TNCH				pmax		pmax			
	comp=Z,16nm,1.4s								
TNCH				pmax		pmax			
	comp=Z,200nm,4.4s								
TNCH				LR		LR			
	comp=Z,200nm,13.6s								
TNCH				LR		LR			
	comp=Z,230nm,6.6s								
TNCH				LR		LR			
	comp=Z,230nm,22.4s								
BBOO	**Buckleboo**	**34.62**	**157**	P		**P**		**21 40 25.3**	**-0.3**
JCJ	**Chichijima**	**35.11**	**35**	P		**P**		**21 40 31.9**	**+2.0**
	comp=Z,181nm,1.7s								
JNU	**Nakatsue**	**35.60**	**15**	P		**P**		**21 40 33.3**	**-0.7**
JNU				IAmb		IAmb		21 41 20.5	
	comp=Z,17nm,1.3s								
CD2	**Chengdu**	**35.75**	**335**	P		**P**		**21 40 34.2**	**-1.2**
CD2				pP		pP		21 40 38.2	-0.4
CD2				sP		sP		21 40 41.0	+1.1
CD2				S		**S**		**21 46 14.9**	**+2.3**
CD2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CD2				pmax		pmax			
	comp=Z,190nm,7.8s								
CD2				LR		LR			
	comp=Z,480nm,19.4s								
CD2				LR		LR			
	comp=Z,290nm,17.7s								
CD2				LR		LR			
	comp=Z,500nm,21.6s								
HTT	**Hallett**	**36.36**	**154**	P		**P**		**21 40 40.3**	**-0.3**
STKA	**Stephens Creek**	**36.38**	**149**	P		**P**		**21 40 39.9**	**-0.8**
XAN	**Xi'an**	**36.78**	**344**	⇓P		**P**		**21 40 46.3**	**+2.1**
XAN				pmax		pmax			
	comp=Z,12nm,1.0s								
XAN				LR		LR			
	comp=Z,480nm,17.9s								
XAN				LR		LR			
	comp=Z,350nm,20.6s								
XAN				LR		LR			
	comp=Z,360nm,19.2s								
TIA	**Tai'an**	**37.43**	**356**	P		**P**		**21 40 50.8**	**+1.2**
TIA				pmax		pmax			
	comp=Z,8.0nm,0.8s								
CMSA	**Cobar Meteorol**	**38.38**	**144**	P		**P**		**21 40 58.6**	**+0.9**
SHL	**Shillong**	**38.44**	**316**	P		**P**		**21 40 58.5**	**0.0**
JHJ	**Hachijo jima 2**	**38.76**	**26**	LR		LR		21 56 02.5	
	comp=Z,185nm,21.4s,baz=252,slow=35								
HNS	**HongShan**	**38.86**	**353**	⇑P		**P**		**21 41 03.1**	**+1.5**
HNS				S		**S**		**21 47 03.9**	**+4.3**
HNS				LR		LR			
	comp=Z,310nm,19.1s								
HNS				LR		LR			
	comp=Z,180nm,16.1s								
HNS				LR		LR			
	comp=Z,420nm,19.1s								
KSAR	**Wonju Array Be**	**39.14**	**9**	P		**P**		**21 41 04.0**	**+0.1**
KSRS	**Korea Array**	**39.15**	**9**	P		**P**		**21 41 03.6**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=183,slow=10.0,SNR=12								
KSRS				LR		LR		21 57 21.1	
	comp=Z,388nm,20.6s,baz=200,slow=36								
	comp=Z,2.3nm,0.8s								
KS19	**Wonju Array Si**	**39.19**	**9**	P		**P**		**21 41 03.4**	**-1.0**
LZH	**Lanzhou**	**40.28**	**339**	*e*P		P		21 41 23.2	+9.5

LZH sP sP 21 41 29.4 +11
LZH pmax pmax
comp=Z,11nm,1.4s
LZH LR LR
comp=N,220nm,14.1s
LZH LR LR
comp=E,270nm,13.4s
LZH LR LR
comp=Z,330nm,14.8s
ARPS Mount Arapiles 40.46 153 P **P 21 41 15.3 +0.3**
MAJO Matsushiro 41.09 22 P **P 21 41 18.1 -2.1**
MAJO IAmb IAmb 21 41 21.0
comp=Z,44nm,1.9s
MJAR Matsushiro Arr 41.09 22 P **P 21 41 18.3 -1.9**
comp=Z,3.5nm,1.0s,baz=196,slow=9.9,SNR=1.2
MJAR LR LR 21 56 14.9
comp=Z,383nm,21.1s,baz=226,slow=33
comp=Z,3.5nm,1.0s
MJB9 Matsu-Tunnel 41.09 22 P **P 21 41 18.9 -1.3**
MJB9 IAmb IAmb 21 41 22.0
comp=Z,43nm,1.9s
BJT Baijiatuau 41.29 355 P **P 21 41 22.0 +0.2**
BJI Beijing 41.31 355 P **P 21 41 23.9 +2.0**
BJI pmax pmax
comp=Z,4.0nm,0.7s
BJI LR LR
comp=Z,80nm,24.9s
BJI LR LR
comp=Z,73nm,12.2s
BJI LR LR
comp=Z,130nm,22.4s
LSA Lhasa 41.64 320 P **P 21 41 25.6 +0.2**
LSA IAmb IAmb 21 41 31.5
comp=Z,10nm,0.6s
LSA Lhasa 41.64 320 P P 21 41 13.2 -12
LSA pmax pmax
comp=Z,6.0nm,0.6s
HHC Hu-ho-hao-te 42.71 350 *e*P **P 21 41 34.4 +0.9**
HHC S **S 21 48 00.7 +3.5**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,290nm,5.1s
HHC LR LR
comp=Z,220nm,15.3s
HHC LR LR
comp=Z,180nm,15.3s
HHC LR LR
comp=Z,290nm,16.8s
JMM Marumori 43.24 24 P **P 21 41 36.8 -0.9**
JMM IAmb IAmb 21 41 50.7
comp=Z,39nm,1.4s
GTA Gaotai 44.72 337 *e*P **P 21 41 50.3 +0.6**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA LR LR
comp=Z,120nm,14.9s
GTA LR LR
comp=Z,160nm,15.3s
GTA LR LR
comp=Z,220nm,14.5s
JTM Tenmabayashi 45.88 22 P **P 21 41 57.8 -1.0**
MDJ Mudanjiang 46.41 9 P **P 21 42 01.2 -1.7**
MDJ IAmb IAmb 21 42 04.3
comp=Z,18nm,1.0s
MDJ Mudanjiang 46.41 9 P **P 21 42 02.1 -0.8**
MDJ sP pP 21 42 06.3 +0.1
MDJ S **S 21 48 56.2 +5.5**
MDJ pmax pmax
comp=Z,19nm,1.2s
MDJ LR LR
comp=Z,310nm,17.2s
MDJ LR LR
comp=Z,200nm,21.3s
MDJ LR LR
comp=Z,600nm,24.7s
USA0B Ussuriysk Arra 46.44 11 P **P 21 42 02.3 -0.8**
USA0B IAmb IAmb 21 42 11.6
comp=Z,9.0nm,1.0s
USRK Ussuriysk Ar. 46.44 11 P **P 21 42 02.0 -1.0**
comp=Z,2.5nm,0.5s,baz=195,slow=6.8,SNR=8.5
USRK LR LR 22 01 13.5
comp=Z,207nm,20.2s,baz=146,slow=36
comp=Z,2.5nm,0.5s
BNX BinXian 47.22 7 ⇓P **P 21 42 09.5 +0.3**
BNX pmax pmax
comp=Z,7.0nm,1.1s
DZM Mont Dzumac 49.23 118 *e*LR LR 21 56 24.0
comp=Z,176nm,23.1s
ASAJ Asahikawa 49.33 21 LR LR 22 01 49.4
comp=Z,232nm,21.6s,baz=202,slow=34
ULN Ulaanbaatar 50.33 348 P **P 21 42 33.1 -0.2**
SONM Songino Array 50.44 348 P **P 21 42 33.3 -0.8**
SONM Songino Array 50.44 348 P **P 21 42 33.9 -0.2**
comp=Z,1.4nm,0.6s,baz=168,slow=9.8,SNR=9.9
SONM LR LR 22 05 16.9
comp=Z,178nm,21.2s,baz=166,slow=38
comp=Z,1.4nm,0.6s
KLR Kul'dur 51.25 9 LR LR 22 04 01.1
comp=Z,85nm,21.6s,baz=212,slow=36
HEH HeiHe 51.68 6 *e*P **P 21 42 41.7 -1.5**
HEH pmax pmax
comp=Z,17nm,0.9s
TARA Tarawa 52.50 87 P **P 21 42 49.8 -0.2**
AIS Amsterdam Isla 53.59 222 P **P 21 42 58.2 +0.6**
WMQ Urumqi 53.63 331 *e*P **P 21 42 57.9 0.0**
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ LR LR
comp=Z,280nm,21.7s
NIL Nilore 56.36 313 P **P 21 43 17.1 -0.7**
NIL IAmb IAmb 21 43 18.4
comp=Z,11nm,0.6s
WUS Wushi 56.46 323 P **P 21 43 17.6 -0.9**
WUS IAmb IAmb 21 44 05.0
comp=Z,14nm,1.2s
KSH Kashi 57.49 320 P **P 21 43 26.2 +0.4**
KSH sP sP 21 43 34.8 +3.8
KSH pmax pmax
comp=Z,12nm,0.8s
MK31 Makanchi Array 58.42 330 P **P 21 43 31.6 -0.4**
MK31 IAmb IAmb 21 43 37.5
comp=Z,25nm,1.7s
MKAR Makanchi Array 58.42 330 P **P 21 43 31.6 -0.4**
MKAR Makanchi Array 58.42 330 P **P 21 43 31.9 -0.2**
comp=Z,4.0nm,0.6s,baz=132,slow=7.4,SNR=37
MKAR LR LR 22 09 52.7
comp=Z,136nm,21.9s,baz=123,slow=37
comp=Z,4.0nm,0.6s
NRN Naryn 58.55 322 P **P 21 43 32.6 -0.9**
MAKZ Makanchi 58.59 330 P **P 21 43 32.9 -0.3**
MAKZ IAmb IAmb 21 43 38.7
comp=Z,24nm,1.5s
TKM2 Tokmak 2 59.65 323 P **P 21 43 41.5 +0.6**
SNR=6.7
KBL Kabul 59.88 312 P **P 21 43 41.6 -1.0**
KBK Karagaybulak 59.89 323 P **P 21 43 43.5 +0.9**
SNR=9.5
AAK Ala-Archa 60.16 322 P **P 21 43 44.6 +0.2**
SNR=10
AAK Ala-Archa 60.16 322 P **P 21 43 44.1 -0.3**
AAK IAmb IAmb 21 43 49.5
comp=Z,11nm,1.1s
AAK Ala-Archa 60.16 322 LR LR 22 12 16.0
comp=Z,171nm,21.8s,baz=120,slow=39
AML Almayashu 60.38 321 P **P 21 43 46.7 +0.5**
SNR=9.9
ARSB Arslanbob 60.39 320 P **P 21 43 45.6 -0.4**
USP Ospenovka 60.51 323 P **P 21 43 46.9 +0.3**
SNR=8.9
EKS2 Erkin-Say 60.61 322 P **P 21 43 48.2 +0.8**
SNR=7.0
MLZ Mavora Lakes 60.62 143 P **P 21 43 48.0 +0.8**
FOZ Fox Glacier 60.72 141 P **P 21 43 48.9 +0.9**
GAR Garm 60.98 317 P **P 21 43 49.1 -0.9**
BTK Batken 61.16 318 P **P 21 43 50.7 -0.4**
RPZ Rata Peaks 61.59 140 LR LR 22 12 08.1
comp=Z,178nm,19.4s,baz=296,slow=38
SIMJ Simiganj 61.73 316 P **P 21 43 54.1 -1.0**
SIMJ IAmb IAmb 21 43 56.4
comp=Z,9.3nm,0.8s
LTZ Lake Taylor 61.94 139 P **P 21 43 56.2 -0.2**
PETK Petropavlovsk- 62.47 24 P **P 21 43 58.3 -1.2**
comp=Z,5.1nm,0.9s,baz=200,slow=6.0,SNR=2.5
PETK LR LR 22 09 18.4
comp=Z,188nm,21.6s,baz=218,slow=34
comp=Z,5.1nm,0.9s
ZAA0 Zalesovo Array 62.47 337 P **P 21 43 58.3 -1.2**
ZAA0 IAmb IAmb 21 44 00.3
comp=Z,6.1nm,0.9s
ZALV Zalesovo Beam 62.47 337 P **P 21 43 57.7 -1.8**
ZALV Zalesovo Beam 62.47 337 P **P 21 43 58.2 -1.3**
comp=Z,3.6nm,0.6s,baz=128,slow=6.0,SNR=15
ZALV LR LR 22 12 27.8
comp=Z,79nm,20.6s,baz=131,slow=37
comp=Z,3.6nm,0.6s
KURBB Kurchatov Arra 62.84 331 P **P 21 44 01.4 -0.7**
comp=Z,4.2nm,0.7s,baz=143,slow=6.0,SNR=36
KURBB LR LR 22 13 29.8
comp=Z,120nm,21.3s,baz=144,slow=38
comp=Z,4.2nm,0.7s
KURK Kurchatov 62.86 332 P **P 21 44 01.6 -0.6**
KKAR Karatay Array 62.88 321 P **P 21 44 01.6 -1.0**
KKAR Karatay Array 62.88 321 IAmb IAmb 21 44 06.6
comp=Z,7.2nm,1.1s
URZ Urewera 63.47 133 LR LR 22 12 15.2
comp=Z,184nm,20.4s,baz=30,slow=37
YAK Yakutsk 63.53 5 LR LR 22 11 52.8
comp=Z,164nm,20.7s,baz=180,slow=36
WSAR Wadi Sarin 64.84 296 LR LR 22 15 28.1
comp=Z,107nm,19.6s,baz=128,slow=39
HRA Herat 64.99 309 P **P 21 44 17.2 +0.3**
HRA IAmb IAmb 21 44 22.0
comp=Z,6.4nm,1.1s
MA2 Magadan 65.15 16 LR LR 22 14 49.3
comp=Z,61nm,18.9s,baz=152,slow=38
BVAR Borovoye Array 68.30 330 P **P 21 44 36.1 -1.3**
comp=Z,4.0nm,0.8s,baz=136,slow=9.3,SNR=23
BVAR LR LR 22 17 08.4
comp=Z,69nm,20.8s,baz=118,slow=38
comp=Z,4.0nm,0.8s
BRVK Borovoye 68.37 330 P **P 21 44 36.7 -1.1**
BRVK IAmb IAmb 21 44 41.6
comp=Z,19nm,1.4s
SHEM Shemya Is, Ala 69.94 31 LR LR 22 16 38.8
comp=Z,37nm,18.7s,baz=94,slow=37
ABKAR Akbulak array 72.22 323 P **P 21 45 00.1 -1.4**
ABKAR Akbulak array 72.22 323 P **P 21 45 00.5 -1.0**
ABKAR IAmb IAmb 21 45 08.4
comp=Z,8.1nm,1.1s
TIXI Tiksi 73.01 3 P **P 21 45 03.9 -1.8**
TIXI IAmb IAmb 21 45 10.7
comp=Z,9.3nm,1.3s
TIXI Tiksi 73.01 3 LR LR 22 18 33.9
comp=Z,281nm,21.5s,baz=192,slow=37
NRIK Noril'sk 73.92 348 LR LR 22 19 52.1
comp=Z,141nm,20.5s,baz=145,slow=38
ARTI Arti 76.01 330 P **P 21 45 22.8 -0.7**
ARTI IAmb IAmb 21 45 27.7
comp=Z,14nm,1.6s
RAYN Ar Rayn 76.76 294 P **P 21 45 29.1 +0.6**
RAYN IAmb IAmb 21 45 35.6
comp=Z,12nm,1.5s
MAW Mawson 76.95 199 P **P 21 45 28.6 +0.1**
comp=Z,1.8nm,1.0s,baz=46,slow=7.2,SNR=3.9
MAW LR LR 22 14 24.8
comp=Z,156nm,21.5s,baz=60,slow=32
comp=Z,1.8nm,1.0s
GNI Garni 79.95 311 LR LR 22 28 44.3
comp=Z,34nm,19.5s,baz=102,slow=41
BELG Belogornoye 80.62 324 LR LR 22 25 12.5
comp=Z,82nm,21.0s,baz=86,slow=38
KIRV Kirov 81.32 330 LR LR 22 23 27.2
comp=Z,82nm,21.9s,baz=106,slow=37
GURO Guroymak-BITLI 81.77 309 IAmb IAmb 21 46 04.3
comp=Z,7.6nm,1.0s
KBZ Khabaz 81.92 314 LR LR 22 28 38.4
comp=Z,36nm,18.5s,baz=48,slow=40
KMBO Kilima Mbogo 83.21 269 P **P 21 46 03.4 -0.4**
comp=Z,1.3nm,0.7s,baz=75,slow=8.6,SNR=4.2
KMBO LR LR 22 22 58.9
comp=Z,49nm,18.5s,baz=92,slow=36
comp=Z,1.3nm,0.7s
MMAI Mount Meron Ar 86.56 303 P **P 21 46 19.6 -0.5**
comp=Z,5.3nm,0.9s,baz=92,slow=8.3,SNR=8.4
MMAI LR LR 22 30 58.4
comp=Z,74nm,18.3s,baz=60,slow=40
comp=Z,5.3nm,0.9s
EIL Elat 86.74 300 LR LR 22 28 30.0
comp=Z,41nm,21.0s,baz=70,slow=38
OBN Obninsk 87.55 325 LR LR 22 27 57.7
comp=Z,79nm,20.2s,baz=354,slow=37
BR131 Keskin Array S 88.38 310 P **P 21 46 26.7 -2.2**
BR131 IAmb IAmb 21 46 30.0
comp=Z,3.5nm,0.8s
BRTR Keskin Array B 88.38 310 P **P 21 46 27.7 -1.1**
BRTR Keskin Array B 88.38 310 P **P 21 46 28.3 -0.5**
comp=Z,1.9nm,0.8s,baz=140,slow=4.8,SNR=4.8
comp=Z,1.9nm,0.8s
QSPA South Pole Qui 88.66 180 P **P 21 46 28.8 -0.7**
comp=Z,1.4nm,0.5s,baz=266,slow=2.5,SNR=5.8
QSPA LR LR 22 26 11.7
comp=Z,248nm,18.9s,baz=325,slow=36
comp=Z,1.4nm,0.5s
KDAK Kodiak Island 89.43 32 LR LR 22 22 34.8
comp=Z,144nm,19.7s,baz=238,slow=33
PPT2 Papeete2 89.56 107 *e*LR LR 22 15 04.0
comp=Z,59nm,25.0s
MBAR Mbarara 89.73 269 LR LR 22 23 06.8
comp=Z,76nm,19.8s,baz=64,slow=33
AKASG Malin Array Be 91.78 321 P **P 21 46 42.2 -2.1**
comp=Z,0.2nm,0.3s,baz=76,slow=3.9,SNR=2.4
AKASG LR LR 22 32 34.4
comp=Z,77nm,19.2s,baz=62,slow=39
comp=Z,0.2nm,0.3s
ILAR Eielson Array 92.28 25 LR LR 22 26 11.9
comp=Z,71nm,22.0s,baz=246,slow=34
ARCES ARCESS Array B 92.94 339 LR LR 22 33 13.4
comp=Z,62nm,19.9s,baz=74,slow=38
LBTB Lobatse 93.89 245 LR LR 22 25 18.3
comp=Z,80nm,18.3s,baz=85,slow=33
BOSA Boshof 93.98 241 LR LR 22 25 38.1
comp=Z,137nm,18.3s,baz=76,slow=33
SPITS Spitsbergen Ar 94.13 348 LR LR 22 35 52.6
comp=Z,85nm,18.7s,baz=24,slow=40
I28M Miner Creek 95.15 24 P **P 21 46 58.6 -1.0**
IDI Anoyia 95.31 305 LR LR 22 38 31.8
comp=Z,42nm,19.9s,baz=324,slow=41
INK Inuvik 97.07 21 LR LR 22 33 33.1
comp=Z,42nm,19.9s,baz=241,slow=37
SUR Sutherland 97.48 237 LR LR 22 27 07.8
comp=Z,123nm,20.3s,baz=100,slow=33
SNAA Sanae 98.78 196 LR LR 22 27 52.3
comp=Z,278nm,21.0s,baz=191,slow=33
VRAC Vranov 100.01 320 LR LR 22 39 08.7
comp=Z,70nm,19.1s,baz=70,slow=39
NVAR Mina Array Bea 114.88 48 PKP **PKiKP 21 52 17.1 -0.9**
comp=Z,0.2nm,0.5s,baz=258,slow=1.7,SNR=2.0
TORD Torodi Ar. Bea 118.30 284 PKP **PKPdf 21 52 22.8 -2.1**
comp=Z,0.5nm,1.0s,baz=86,slow=3.7,SNR=2.3
SCHQ Schefferville 126.29 5 PKP **PKPdf 21 52 38.2 -1.0**
comp=Z,1.5nm,0.8s,baz=294,slow=4.5,SNR=3.8
TXAR Lajitas Array 129.58 52 PKP **PKPdf 21 52 46.0 -0.3**
comp=Z,0.5nm,0.5s,baz=146,slow=2.4,SNR=3.6
CPUP Villa Florida 152.47 184 PKPbc **PKPbc 21 53 33.0 -0.5**
comp=Z,1.5nm,0.5s,baz=144,slow=3.8,SNR=4.4
LPAZ La Paz 160.58 154 PKP **PKPdf 21 53 37.2 -1.0**
comp=Z,1.4nm,0.8s,baz=140,slow=0.1,SNR=5.0
LPAZ PKPab **PKPab 21 54 19.4 +0.1**
comp=Z,1.0nm,0.7s,baz=170,slow=3.7,SNR=2.2

*NEIC **02** 21:34:07.4±1.1, 19°.9S±0°.2×177°.7W±0°.1, h555km±12km, mb4.1/16, Error ellipse: s-maj=26.2km s-min=14.8km az=169.0*
*IDC **02** 21:34:10.9±8.9, 19°.34S×178°.18W, h569km±45km, mb3.2/3, mbtmp4.1/4, Error ellipse: s-maj=250.9km s-min=33.4km az=145.0*
ISC 02 21:34:06.7±0.8, 19°.9S±0°.2×177°.7W±0°.1, h550km, n33, σ0°66/30, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.58**	**298**	P	**P**	**21 35 33.8**	**+0.5**
	40nm,1.2s,baz=90,slow=9.1,SNR=7.7						
NIUE	**Niue**	**7.38**	**85**	P	**P**	**21 35 57.4**	**-1.0**
PINNC	**Pines Island,**	**14.10**	**256**	P	**P**	**21 37 07.0**	**0.0**
DZM	**Mont Dzumac**	**14.96**	**259**	P	**P**	**21 37 16.4**	**+0.4**
KOUNC	**Koumac, New Ca**	**16.92**	**265**	P	**P**	**21 37 34.3**	**-0.5**
MSWZ	**Moikau Station**	**22.25**	**194**	P	**P**	**21 38 24.1**	**+1.2**
CMWZ	**Cape Campbell**	**22.81**	**196**	P	**P**	**21 38 28.2**	**+0.3**
CTAO	**Charters Tower**	**33.83**	**263**	P	**P**	**21 40 03.7**	**-0.3**
CTAO				IAmb	IAmb	21 40 13.1	
	comp=Z,6.2nm,0.9s						
TOO	**Toolangi**	**36.46**	**233**	P	**P**	**21 40 25.9**	**+0.3**
STKA	**Stephens Creek**	**38.29**	**244**	P	**P**	**21 40 40.8**	**+0.2**
STKA				IAmb	IAmb	21 40 41.4	
	comp=Z,3.3nm,0.8s						
STKA	**Stephens Creek**	**38.29**	**244**				
	comp=Z,14nm,0.7s						
STKA	**Stephens Creek**	**38.29**	**244**	P	**P**	**21 40 40.5**	**-0.1**
STKA	**Stephens Creek**	**38.29**	**244**	P	**P**	**21 40 40.7**	**0.0**
	comp=Z,14nm,0.7s,baz=323,slow=9.2,SNR=29						
STKA	**Stephens Creek**	**38.29**	**244**	LR	LR	21 55 56.1	
	comp=Z,279nm,20.6s,baz=327,slow=37						
BBOO	**Buckleboo**	**43.06**	**243**	P	**P**	**21 41 18.5**	**0.0**
BBOO				IAmb	IAmb	21 41 19.2	
	comp=Z,5.8nm,0.8s						
WR0	**Warramunga Arr**	**44.77**	**261**	P	**P**	**21 41 32.3**	**+0.4**
AS31	**Alice Springs**	**44.93**	**256**	P	**P**	**21 41 32.5**	**-0.6**
ASAR	**Alice Springs**	**44.93**	**256**	P	**P**	**21 41 33.4**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=88,slow=8.0,SNR=11						
	comp=Z,2.4nm,0.6s						
WB0	**Warramunga Arr**	**44.94**	**262**	P	**P**	**21 41 33.1**	**-0.1**
WB0				IAmb	IAmb	21 41 33.5	
	comp=Z,3.4nm,0.5s						
WB2	**Warramunga Arr**	**44.95**	**261**	P	**P**	**21 41 33.2**	**-0.2**
WRAB	**Tennant Creek**	**44.95**	**261**	P	**P**	**21 41 32.6**	**-0.8**
WRAB				IAmb	IAmb	21 41 33.9	
	comp=Z,6.1nm,1.1s						
WRA	**Warramunga Arr**	**44.96**	**261**	P	**P**	**21 41 32.6**	**-0.9**
WRA	**Warramunga Arr**	**44.96**	**261**	P	**P**	**21 41 33.2**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=97,slow=7.6,SNR=16						
	comp=Z,1.1nm,0.4s						
FORT	**Forrest**	**49.78**	**246**	P	**P**	**21 42 08.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**53.38**	**262**	P	**P**	**21 42 35.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**53.38**	**262**	P	**P**	**21 42 36.0**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=73,slow=5.7,SNR=9.0						
	comp=Z,1.4nm,0.5s						
PSA00	**Pilbara Seismi**	**58.07**	**257**	P	**P**	**21 43 06.6**	**-1.4**
PSA00				IAmb	IAmb	21 43 14.0	
	comp=Z,8.0nm,1.1s						
MBWA	**Marble Bar**	**58.26**	**257**	P	**P**	**21 43 08.1**	**-1.1**
MBWA				IAmb	IAmb	21 43 24.2	
	comp=Z,11nm,1.1s						
BMN	**Battle Mountai**	**82.24**	**42**		**P**	**21 45 32.3**	**+1.4**
BMN				IAmb	IAmb	21 45 36.9	
	comp=Z,4.2nm,0.8s						
L18K	**Granite Mounta**	**83.56**	**10**	P	**P**	**21 45 36.6**	**-0.2**
AKASG	**Malin Array Be**	**142.65**	**332**	PKhKP	PKPpre	21 52 33.5	
	comp=Z,0.3nm,0.3s,baz=40,slow=4.4,SNR=5.8						
MMAI	**Mount Meron Ar**	**147.77**	**301**	PKPbc	**PKPbc**	**21 52 51.1**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=78,slow=4.4,SNR=4.3						
GERES	**GERESS Array B**	**149.73**	**345**	PKPbc	**PKPbc**	**21 52 54.3**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=36,slow=3.7,SNR=5.0						

*IDC **02** 21:49:03.1±1.0, 34°.25N×83°.09E, h0km, mb3.7/9, mbtmp3.7/12, ML2.8/3, Error ellipse: s-maj=38.6km s-min=15.7km az=51.0*
ISC 02 21:49:08.0±1.0, 34°.3N±0°.1×83°.2E±0°.2, h35km, n13, σ0°85/13, mb3.7/8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**10.70**	**323**	Pn	**Pn**	**21 51 38.2**	**-0.7**
	baz=302,slow=15,SNR=1.3						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**12.46**	**357**	Pn	**Pn**	**21 52 02.0**	**-0.8**
	0.1nm,0.3s,baz=188,slow=13,SNR=3.5						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**16.62**	**350**	Pn	**Pn**	**21 52 57.7**	**-0.4**
	0.1nm,0.3s,baz=171,slow=11,SNR=16						
	2.4nm,0.7s						
BVAR	**Borovoye Array**	**20.77**	**338**	P	**P**	**21 53 46.0**	**+0.2**
	1.8nm,0.7s,baz=152,slow=13,SNR=13						
	1.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**21.18**	**134**	P	**P**	**21 53 49.1**	**-1.3**
	0.9nm,0.8s,baz=318,slow=13,SNR=6.6						
	0.9nm,0.8s						
SONM	**Songino Array**	**22.00**	**45**	P	**P**	**21 53 59.6**	**+0.4**
	0.7nm,0.8s,baz=232,slow=9.4,SNR=5.3						
	0.7nm,0.8s						
AKASG	**Malin Array Be**	**41.99**	**310**	P	**P**	**21 56 54.9**	**-0.7**
	0.1nm,0.3s,baz=78,slow=8.9,SNR=4.7						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**44.88**	**325**	P	**P**	**21 57 19.5**	**+0.8**
	1.9nm,0.8s,baz=104,slow=5.9,SNR=3.7						
	1.9nm,0.8s						
HFS	**Hagfors**	**50.84**	**323**	P	**P**	**21 58 05.8**	**+0.9**
	2.1nm,0.6s,baz=94,slow=7.6,SNR=7.3						
	2.1nm,0.6s						
NB2	**NORSAR Subarra**	**52.02**	**324**	P	**P**	**21 58 14.4**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=86,slow=7.4						
NOA	**NORSAR Array B**	**52.02**	**324**	P	**P**	**21 58 14.7**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=86,slow=7.2,SNR=9.4						
	comp=Z,2.2nm,0.8s						
WRA	**Warramunga Arr**	**72.69**	**130**	P	**P**	**22 00 32.8**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=322,slow=6.2,SNR=6.0						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**75.18**	**133**	P	**P**	**22 00 47.9**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=314,slow=6.2,SNR=6.9						
	comp=Z,0.7nm,0.9s						

*TRN **02** 21:53:01.6, 10°.12N×61°.95W, h47km, MD3.2, Gulf of Paria, near South-west peninsula of Trinidad.*
*FUNV **02** 21:53:01.5, 10°.31N×62°.09W, h4km, MW3.3*
ISC 02 21:52:57.6±1.3, 9°.92N±0°.05×61°.91W±0°.05, h29km±16km, n12, σ2°50/23, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.84**	**27**	*e*P	**Pn**	**21 53 15.1**	**+1.6**
PSMG				*e*S	**Sn**	**21 53 24.9**	**+0.1**
TRN	**Trinidad (W)**	**0.88**	**35**	*e*P	**Pb**	**21 53 16.5**	**+2.2**
TRN				*e*S	**Sn**	**21 53 26.4**	**+0.5**
TOSP	**Speyside**	**1.93**	**45**	*e*P	**Pb**	**21 53 29.9**	**-2.2**
TOSP				*e*S	**Sb**	**21 53 53.0**	**-2.7**
GRGR	**Grenville**	**2.21**	**7**	*e*P	**Pn**	**21 53 33.9**	**+1.5**
GRGR				*e*S	**Sn**	**21 53 56.4**	**-2.5**
GCMP	**Grenada, Carri**	**2.59**	**11**	*e*P	**Pn**	**21 53 39.3**	**+1.7**
GCMP				*e*S	**Sn**	**21 54 06.5**	**-1.8**
PCRV	**Puerto La Cruz**	**2.69**	**276**	*e*P	**Pn**	**21 53 42.4**	**+3.3**
PCRV				*e*S	**Sn**	**21 54 12.0**	**+1.2**
PCRV	**Puerto La Cruz**	**2.69**	**276**	*e*P	**Pb**	**21 53 42.9**	**-2.3**
PCRV				*e*S	**Sn**	**21 54 12.3**	**+1.5**
LUEV	**Luepa**	**4.08**	**174**	*e*P	**Pb**	**21 54 08.6**	**-0.2**
LUEV				*e*S	**Sb**	**21 54 58.9**	**+1.1**
SLBI	**Saint Lucia, B**	**4.18**	**13**	*e*P	**Pn**	**21 54 00.8**	**+1.3**
CACV	**CAICARA DEL OR**	**5.14**	**243**	*e*P	**Pn**	**21 54 11.9**	**-0.8**
CACV				*e*S	**Sn**	**21 55 04.9**	**-6.1**
BAUV	**El Baul**	**6.12**	**261**	*e*P	**Pn**	**21 54 29.6**	**+3.4**
BAUV				*e*S	**Sn**	**21 55 34.0**	**-1.3**
BAUV	**El Baul**	**6.12**	**261**	*e*P	**Pn**	**21 54 29.4**	**+3.2**
BAUV				*e*S	**Sn**	**21 55 35.6**	**+0.3**

*CATAC **02** 21:54:59.0±1.2, 10°.93N×86°.78W, h17km±12km, ML3.5*
*UCR **02** 21:54:59.7±0.7, 10°.66N×86°.66W, h20km±7km, MW4.1*
ISC 02 21:54:58.8±2.1, 10°.84N±0°.09×86°.80W±0°.10, h31km, n37, σ0°72/40, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIN	**Rivas**	**1.13**	**57**	IAML		21 55 13.6	
	comp=Z,5μm,1.0s						
ARIN				*i* P	**Pn**	**21 55 17.8**	**-0.7**
LCRUZ	**La Cruz**	**1.17**	**78**	*e*P	**Pn**	**21 55 19.4**	**+0.3**
ELI1	**Hacienda Flor**	**1.24**	**99**	*e*P	**Pn**	**21 55 20.1**	**+0.1**
SABN	**Sabanita**	**1.28**	**29**	*i* P	**Pn**	**21 55 20.5**	**-0.1**
SABN				IAML		21 55 56.0	
	comp=Z,5μm,1.0s						
NANN	**Nandasmo**	**1.28**	**31**	*i* P	**Pn**	**21 55 21.3**	**+0.6**
NANN				IAML		21 55 35.0	
	comp=Z,27μm,1.0s						
JAPN	**AI SSO del Vol**	**1.30**	**58**	*i* P	**Pn**	**21 55 21.4**	**+0.6**
JAPN				IAML		21 55 28.1	
	comp=Z,1μm,1.0s						
CARN	**Rivas**	**1.30**	**74**	*i* P	**Pn**	**21 55 20.5**	**-0.4**
CARN				IAML		21 56 03.8	
	comp=Z,1μm,1.0s						
MASN	**Masaya**	**1.31**	**29**	*i* P	**Pn**	**21 55 23.3**	**+2.2**
MASN				IAML		21 55 33.0	
	comp=Z,370nm,1.0s						
MAS3	**AI N del Volca**	**1.33**	**27**	*i* P	**Pn**	**21 55 21.0**	**-0.3**
MAS3				IAML		21 55 32.0	
	comp=Z,1μm,1.0s						
MORN	**AI O del Volca**	**1.33**	**58**	*i* P	**Pn**	**21 55 21.3**	**-0.1**

MORN					IAML			21 55 28.4	
	comp=Z,150nm,1.0s								
COPN	**Copaltepe**	**1.35**	**9**	*i* P		**Pn**		**21 55 20.4**	**-1.2**
COPN					IAML			21 55 42.3	
	comp=Z,440nm,1.0s								
CONN	**Concepcion**	**1.36**	**58**	*i* P		**Pn**		**21 55 21.5**	**-0.2**
CONN					IAML			21 55 28.7	
	comp=Z,5μm,1.0s								
UNAN	**Cigeo UNAN**	**1.37**	**22**	*i* P		**Pn**		**21 55 22.1**	**+0.2**
UNAN					IAML			21 55 31.6	
	comp=Z,5μm,1.0s								
SAPS	**Ciudad Sandino**	**1.38**	**16**	*i* P		**Pn**		**21 55 22.1**	**+0.1**
SAPS					IAML			21 55 33.0	
	comp=Z,950nm,1.0s								
R0529	**La Mascota**	**1.39**	**23**	*i* P		**Pn**		**21 55 22.4**	**+0.2**
R0529					IAML			21 55 30.0	
	comp=Z,2μm,1.0s								
TISN	**Laguna Tiscapa**	**1.40**	**22**	*i* P		**Pn**		**21 55 22.3**	**0.0**
TISN					IAML			21 55 30.5	
	comp=Z,79nm,1.0s								
VRLE	**La Escondida,**	**1.41**	**92**	*e*P		**Pn**		**21 55 21.9**	**-0.6**
MGAN	**Managua**	**1.41**	**22**	*i* P		**Pn**		**21 55 22.4**	**0.0**
MGAN					IAML			21 55 30.0	
	comp=Z,1μm,1.0s								
R4DEC	**Barrio San Lui**	**1.41**	**22**	*i* P		**Pn**		**21 55 22.5**	**+0.1**
R4DEC					IAML			21 55 30.1	
	comp=Z,1μm,1.0s								
GPS2	**Hotel Rincn d**	**1.42**	**93**	*e*P		**Pn**		**21 55 22.2**	**-0.5**
APQ2	**Apoyeque**	**1.43**	**19**	*i* P		**Pn**		**21 55 22.8**	**+0.1**
APQ2					IAML			21 55 50.5	
	comp=Z,860nm,1.0s								
WILN	**Americas 2**	**1.45**	**24**	*i* P		**Pn**		**21 55 23.0**	**+0.1**
WILN					IAML			21 55 48.3	
	comp=Z,680nm,1.0s								
LEVN	**Ruinas Leon Vi**	**1.57**	**7**	*i* P		**Pn**		**21 55 24.4**	**-0.2**
LEVN					IAML			21 55 47.0	
	comp=Z,660nm,1.0s								
HORNC	**Hornillas**	**1.60**	**94**	*e*P		**Pn**		**21 55 24.5**	**-0.5**
CUI	**Cuipilapa**	**1.62**	**96**	*e*P		**Pn**		**21 55 24.9**	**-0.4**
CUI				*e*S		**Sn**		**21 55 44.6**	**-0.5**
MOM2	**El Cardon**	**1.62**	**11**	*i* P		**Pn**		**21 55 24.7**	**-0.6**
MOM2					IAML			21 55 42.4	
	comp=Z,370nm,1.0s								
CNGA	**AI SSO del Vol**	**1.65**	**3**	*i* P		**Pn**		**21 55 25.6**	**-0.2**
CNGA				*i* S		**Sn**		**21 55 46.0**	**0.0**
CNGA					IAML			21 55 53.5	
	comp=Z,420nm,1.0s								
ILCN	**San Idelfonso**	**1.73**	**3**	*i* P		**Pn**		**21 55 26.9**	**0.0**
ILCN				*i* S		**Sn**		**21 55 48.3**	**+0.3**
ILCN					IAML			21 55 49.7	
	comp=Z,100nm,1.0s								
JTS	**Las Juntas de**	**1.89**	**106**	*e*P		**Pn**		**21 55 28.2**	**-0.9**
BOAB	**BOACO BROADBAN**	**.95**	**35**	*i* P		**Pn**		**21 55 29.3**	**-0.5**
BOAB					IAML			21 55 39.1	
	comp=Z,260nm,1.0s								
ACON	**Acoyapa**	**1.95**	**55**	*i* P		**Pn**		**21 55 29.5**	**-0.3**
ACON					IAML			21 56 20.0	
	comp=Z,180nm,1.0s								
ARE1	**Arenal 1**	**2.08**	**100**	*e*P		**Pn**		**21 55 31.8**	**+0.2**
SOCE	**Pocosol**	**2.19**	**102**	*i* P		**Pn**		**21 55 35.8**	**+2.6**
SOCE					IAML			21 56 06.7	
	comp=Z,190nm,1.0s								
LIMN	**Finca el Limon**	**2.25**	**11**	*i* P		**Pn**		**21 55 33.8**	**-0.3**
LIMN					IAML			21 55 50.8	
	comp=Z,170nm,1.0s								
CSGN	**Cosiguina Volc**	**2.25**	**341**	*i* P		**Pn**		**21 55 34.4**	**+0.3**
CSGN					IAML			21 56 06.5	
	comp=Z,60nm,1.0s								
CNCH	**Conchagua**	**2.63**	**337**	*i* P		**Pn**		**21 55 39.0**	**-0.3**
CNCH					IAML			21 55 50.6	
	comp=Z,270nm,1.0s								
RCPN	**Sur Rio San Ju**	**2.76**	**14**	*i* P		**Pn**		**21 55 42.0**	**+0.9**
RCPN					IAML			21 55 55.7	
	comp=Z,0.4nm,1.0s								

IDC ***02*** *22:01:06.8±42.0, 17°.91S×179°.93E, h539km±159km, mb3.3/3, mbtmp4.2/3, Error ellipse: s-maj=911.3km s-min=121.8km az=80.0*
NEIC ***02*** *22:01:07.0±0.7, 17°.9S±0°.2×180°.0E±0°.1, h538km±10km, mb4.2/14, Error ellipse: s-maj=22.7km s-min=12.5km az=161.0*

ISC 02 22:01:06.9±0.8, 17°.8S±0°.1×179°.9E±0°.1, h550km, n21, σ1§22/21, mb4.0/10, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.80**	**271**	P	**P**	**22 02 14.7**	**-1.1**
	36nm,0.7s,baz=112,slow=19,SNR=16						
FUNA	**Funafuti**	**9.21**	**355**	P	**P**	**22 03 14.4**	**-2.5**
RTZ	**Ruatahuna**	**20.93**	**186**	P	**P**	**22 05 09.9**	**-1.4**
RTZ				IAmb	IAmb	22 05 11.2	
	comp=Z,6.2nm,0.7s						
QRZ	**Quartz Range**	**23.85**	**194**	P	**P**	**22 05 37.0**	**-0.3**
QRZ				IAmb	IAmb	22 05 42.7	
	comp=Z,58nm,1.2s						
CMWZ	**Cape Campbell**	**24.40**	**190**	P	**P**	**22 05 42.8**	**+0.6**
COEN	**Coen**	**35.53**	**271**	P	**P**	**22 07 20.5**	**+2.2**
COEN				IAmb	IAmb	22 07 34.8	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**37.32**	**241**	P	**P**	**22 07 32.7**	**-0.2**
STKA	**Stephens Creek**	**37.32**	**241**	P	**P**	**22 07 32.8**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=101,slow=10,SNR=3.7						
	comp=Z,1.6nm,0.5s						
BBOO	**Buckleboo**	**42.10**	**241**	P	**P**	**22 08 09.8**	**-1.5**
BBOO				IAmb	IAmb	22 08 23.0	
	comp=Z,7.6nm,1.1s						
WR0	**Warramunga Arr**	**42.92**	**260**	P	**P**	**22 08 18.2**	**-0.4**
WB0	**Warramunga Arr**	**43.08**	**260**	P	**P**	**22 08 19.2**	**+0.1**
WB0				IAmb	IAmb	22 08 19.7	
	comp=Z,4.1nm,1.1s						
WB2	**Warramunga Arr**	**43.10**	**260**	P	**P**	**22 08 19.4**	**+0.2**
WB2				IAmb	IAmb	22 08 27.4	
	comp=Z,3.9nm,1.1s						
WRAB	**Tennant Creek**	**43.10**	**260**	P	**P**	**22 08 19.2**	**0.0**
WRA	**Warramunga Arr**	**43.11**	**260**	P	**P**	**22 08 19.6**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=93,slow=7.6,SNR=18						
	comp=Z,0.7nm,0.5s						
AS31	**Alice Springs**	**43.31**	**254**	P	**P**	**22 08 21.0**	**+0.1**
AS31				IAmb	IAmb	22 08 21.8	
	comp=Z,2.5nm,0.6s						
ASAR	**Alice Springs**	**43.31**	**254**	P	**P**	**22 08 20.4**	**-0.6**
ASAR	**Alice Springs**	**43.31**	**254**	P	**P**	**22 08 20.9**	**-0.1**
	comp=Z,7.4nm,0.6s,baz=88,slow=8.3,SNR=136						
	comp=Z,7.4nm,0.6s						
BWN	**Browne**	**85.03**	**13**	P	**P**	**22 12 46.6**	**+2.4**
RDMU	**Red Mountain**	**87.37**	**46**	P	**P**	**22 12 57.4**	**+1.2**
RDMU				IAmb	IAmb	22 12 59.4	
	comp=Z,3.2nm,0.7s						
MG02	**Cerro Sombrero**	**87.99**	**145**	P	**P**	**22 12 59.0**	**+0.4**
AY02	**Valle Explorad**	**88.38**	**139**	P	**P**	**22 12 59.4**	**-1.2**

IDC ***02*** *22:17:26.6±0.8, 27°.93N×127°.64E, h0km, mb3.9/8, mbtmp3.9/12, ML3.2/4, MS3.3/8, Error ellipse: s-maj=31.0km s-min=12.3km az=67.0*
JMA ***02*** *22:17:26.6±0.3, 28°.1N±0°.5×128°.1E±0°.7, h10km±3km, MD4.0/17, MV3.6/17, NW OFF OKINAWAJIMA IS*
NIED ***02*** *22:17:26.6, 28°.13N×128°.08E, h10km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.61; $M_{\theta\theta}$0.36; $M_{\phi\phi}$0.25; $M_{r\theta}$0.12; $M_{\theta\phi}$1.96; $M_{\phi r}$0.80; Fault plane solution: $M_0$2.14000×10^{15} NP1: ϕ_s183.00000°, δ83.00000°, λ-155.00000°. NP2: ϕ_s90.00000°, δ65.00000°, λ-8.00000°.*

ISC 02 22:17:29.2±0.8, 28°.05N±0°.05×128°.16E±0°.07, h22km±7km, n37, σ1§29/35, mb3.9/8, MS3.4/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.75**	**110**	P	**Pb**	**22 17 42.3**	**-1.3**
JTK				S	**Sb**	**22 17 53.8**	**+0.3**
JTK	**Tokunoshima**	**0.75**	**110**	A	A	22 17 42.3	
	comp=E,7.0nm,3.0s,comp=N,8.0nm,0.6s						
JOKE	**Okinoerabujima**	**0.78**	**152**	P	**Pb**	**22 17 43.4**	**-0.6**
JOKE				*e*S	**Sb**	**22 17 55.0**	**+0.8**
JAMN	**Amaminishikomi**	**0.92**	**78**	P	**Pn**	**22 17 45.2**	**-1.7**
JAMN				S	**Sb**	**22 17 57.8**	**-0.5**
JIH	**Iheya**	**1.02**	**189**	P	**Pn**	**22 17 47.0**	**-1.2**
JIH				S	**Sn**	**22 18 01.8**	**-0.2**
JIH	**Iheya**	**1.02**	**189**	A	A	22 17 47.0	
	comp=E,10.0nm,2.1s,comp=N,5.0nm,2.6s						
JYRO	**Yoronjima**	**1.05**	**165**	P	**Pn**	**22 17 48.4**	**-0.3**
JYRO				S	**Sb**	**22 18 03.4**	**+1.3**
JYRO	**Yoronjima**	**1.05**	**165**	A	A	22 17 48.4	
	comp=E,8.0nm,2.0s,comp=N,6.0nm,3.2s						
JOW	**Kunigami**	**1.22**	**175**	Pn	**Pn**	**22 17 50.5**	**-0.5**
	comp=N,148nm,0.3s,baz=358,slow=13,SNR=170						
JOW				Sn	**Sb**	**22 18 07.7**	**+0.9**
	comp=N,88nm,0.3s,baz=350,slow=22,SNR=7.4						
JOW	**Kunigami**	**1.22**	**175**	P	**Pn**	**22 17 50.4**	**-0.5**
JOW				S	**Sb**	**22 18 07.7**	**+0.9**
JOW	**Kunigami**	**1.22**	**175**	A	A	22 17 50.4	
	comp=E,5.0nm,1.9s,comp=N,5.0nm,1.2s						
JAM	**Amami Oshima**	**1.33**	**74**	P	**Pn**	**22 17 52.1**	**-0.3**
JAM				S	**Sn**	**22 18 09.9**	**+0.4**
JAM	**Amami Oshima**	**1.33**	**74**	A	A	22 17 52.1	
	comp=E,3.0nm,1.2s,comp=N,5.0nm,2.3s						
JTAJ	**Takarajima**	**1.44**	**40**	*e*P	**Pn**	**22 17 52.0**	**-1.9**
JNTH	**Nagotoyohara**	**1.53**	**184**	*e*P	**Pn**	**22 17 55.1**	**-0.1**
JNTH				*e*S	**Sb**	**22 18 16.1**	**+0.3**
JZK	**Kikaishima**	**1.63**	**80**	*e*P	**Pn**	**22 17 58.0**	**+1.4**
JAGN	**Aguni-jima**	**1.67**	**209**	*e*P	**Pn**	**22 17 56.3**	**-0.8**
JJT3	**Tamagusuku3**	**1.93**	**190**	*e*P	**Pn**	**22 18 01.4**	**+0.8**
JYAK	**Yakushimahirau**	**3.00**	**43**	*e*P	**Pn**	**22 18 14.4**	**-1.0**
JKDJ	**Kitadaitoujima**	**3.50**	**126**	*e*P	**Pn**	**22 18 22.3**	**0.0**
JNU	**Nakatsue**	**5.58**	**24**	Pn	**Pn**	**22 18 54.9**	**+4.0**
	comp=N,1.4nm,0.3s,baz=169,slow=2.2,SNR=8.7						
	comp=N,26nm,0.8s						
KSRS	**Korea Array**	**9.38**	**359**	Pn	**Pn**	**22 19 44.6**	**+1.5**
	comp=N,0.2nm,0.3s,baz=172,slow=12,SNR=5.2						
KSRS				LR	LR	22 23 23.3	
	comp=N,102nm,18.3s,baz=220,slow=38						
	comp=N,0.8nm,0.7s						
JHJ	**Hachijo jima 2**	**11.22**	**60**	LR	LR	22 24 22.6	
	comp=N,95nm,21.6s,baz=276,slow=36						
MJAR	**Matsushiro Arr**	**12.00**	**43**	Pn	Pn	22 20 24.1	+5.2
	baz=227,slow=10,SNR=2.0						
MJAR				LR	LR	22 25 39.3	
	comp=N,72nm,19.9s,baz=208,slow=40						
	comp=N,0.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**16.41**	**10**	Pn	**P**	**22 21 22.2**	**+1.4**
	comp=N,0.1nm,0.3s,baz=202,slow=13,SNR=9.9						
	comp=N,5.0nm,0.9s						
GUMO	**Guam**	**21.20**	**129**	LR	LR	22 29 03.7	
	comp=N,95nm,20.6s,baz=45,slow=32						
SONM	**Songino Array**	**26.01**	**325**	P	**P**	**22 22 59.9**	**-0.7**
	comp=N,3.2nm,0.9s,baz=143,slow=8.1,SNR=15						
SONM				LR	LR	22 34 01.1	
	comp=N,81nm,18.4s,baz=138,slow=38						
	comp=N,3.2nm,0.9s						
YAK	**Yakutsk**	**34.00**	**1**	LR	LR	22 38 06.4	
	comp=N,67nm,18.4s,baz=184,slow=36						
MA2	**Magadan**	**35.13**	**20**	LR	LR	22 38 49.3	
	comp=N,67nm,18.6s,baz=346,slow=36						
MKAR	**Makanchi Array**	**40.29**	**310**	P	**P**	**22 25 03.0**	**-1.8**
	comp=N,1.0nm,0.7s,baz=102,slow=10.0,SNR=9.3						
	comp=N,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**40.77**	**322**	P	**P**	**22 25 07.3**	**-1.3**
	comp=N,0.4nm,0.3s,baz=99,slow=8.9,SNR=1.2						
	comp=N,0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**43.51**	**315**	P	**P**	**22 25 29.3**	**-1.6**
	comp=N,0.8nm,0.2s,baz=103,slow=8.8,SNR=5.2						
	comp=N,0.8nm,0.2s						
WRA	**Warramunga Arr**	**48.08**	**172**	P	**P**	**22 26 07.6**	**+0.3**
	comp=N,1.8nm,0.6s,baz=353,slow=8.2,SNR=7.5						
	comp=N,1.8nm,0.6s						
BVAR	**Borovoye Array**	**48.89**	**317**	P	**P**	**22 26 12.0**	**-1.2**
	comp=N,1.0nm,0.8s,baz=95,slow=6.4,SNR=7.2						
	comp=N,1.0nm,0.8s						
ASAR	**Alice Springs**	**51.71**	**173**	P	**P**	**22 26 36.1**	**+1.2**
	comp=N,0.9nm,0.8s,baz=359,slow=7.8,SNR=5.1						
	comp=N,0.9nm,0.8s						
STKA	**Stephens Creek**	**60.95**	**167**	P	**P**	**22 27 41.5**	**+0.9**
	comp=N,2.9nm,0.7s,baz=340,slow=6.8,SNR=2.7						
	comp=N,2.9nm,0.7s						
GNI	**Garni**	**67.78**	**305**	LR	LR	22 59 34.6	
	comp=N,73nm,18.6s,baz=96,slow=38						

NEIC ***02*** *22:18:26.3±1.7, 5°.90N±0°.09×126°.6E±0°.1, h86km±10km, mb4.3/15, Error ellipse: s-maj=21.6km s-min=10.5km az=65.0*
IDC ***02*** *22:18:29.7±1.2, 5°.66N×126°.38E, h116km±9km, mb3.7/13, mbtmp4.1/13, Error ellipse: s-maj=37.4km s-min=11.4km az=69.0*
DJA ***02*** *22:18:29.1±1.6, 6°N±3°×12°6E±°, h21km±13km, M4.4/12, mB5.0/6, mb4.6/12, MLv4.4/10, Mw(mB)4.3/6*

ISC 02 22:18:28.4±0.5, 5°.74N±0°.06×126°.57E±0°.10, h100km, n54, σ1§13/51, mb4.2/23, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.65**	**323**	Pn	Pn	22 18 52.1	-4.4
DAV	**Davao City (W)**	**1.65**	**323**	P	**Pn**	**22 18 57.6**	**+1.2**
	300nm,0.3s,baz=162,slow=3.6,SNR=13						
DAV				S	**Sn**	**22 19 20.2**	**+2.4**
	472nm,0.3s,baz=201,slow=16,SNR=11						
TNTI	**Ternate**	**5.00**	**171**	Pn	**Pn**	**22 19 40.6**	**-0.5**
TNTI	**Ternate**	**5.00**	**171**	P	**Pn**	**22 19 39.8**	**-1.4**
MRSI	**Marisa**	**6.98**	**222**	P	**Pn**	**22 20 08.1**	**0.0**
	60nm,0.7s,0.3nm						
TOLI2	**Tolitoli**	**7.39**	**232**	Pn	**Pn**	**22 20 11.6**	**-1.9**
LUWI	**Luwuk**	**7.74**	**209**	Pn	**Pn**	**22 20 18.6**	**+0.3**
LUWI	**Luwuk**	**7.74**	**209**	P	**Pn**	**22 20 20.1**	**+1.8**
MYLDM	**Lahad Datu**	**8.05**	**266**	Pn	**Pn**	**22 20 22.6**	**0.0**
MPSI	**Mapaga**	**8.56**	**231**	P	Pn	22 20 32.9	+3.4
NLAI	**Namlea**	**8.94**	**177**	P	**Pn**	**22 20 34.7**	**0.0**
	21nm,0.5s,1μm						
FAKI	**Fak Fak**	**10.31**	**146**	Pn	**Pn**	**22 20 54.9**	**+1.6**
TTSI	**Tana Toraja**	**11.03**	**218**	P	**Pn**	**22 21 02.8**	**-0.4**
SBUM	**Sibu**	**14.68**	**258**	P	**P**	**22 21 55.2**	**+0.5**
SOEI	**Soe**	**15.57**	**188**		**P**	**22 22 05.5**	**+0.9**
SOEI				IAmb	IAmb	22 22 10.0	
	comp=Z,25nm,1.1s						
SOEI	**Soe**	**15.57**	**188**	P	**P**	**22 22 04.6**	**0.0**
	comp=Z,25nm,0.5s						
BATI	**Baumata**	**16.11**	**190**	P	**P**	**22 22 13.9**	**+3.4**
KNRA	**Kununurra**	**21.39**	**174**	P	**P**	**22 23 07.9**	**-0.2**
KNRA				IAmb	IAmb	22 23 08.4	
	comp=Z,18nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.71**	**182**	P	**P**	**22 23 31.4**	**+0.1**
COEN	**Coen**	**25.59**	**140**	P	**P**	**22 23 48.4**	**0.0**
COEN				IAmb	IAmb	22 23 49.4	
	comp=Z,23nm,1.2s						
WB0	**Warramunga Arr**	**26.49**	**163**	P	**P**	**22 23 56.1**	**-0.5**
WRAB	**Tennant Creek**	**26.64**	**164**	P	**P**	**22 23 57.2**	**-0.6**
WRA	**Warramunga Arr**	**26.64**	**164**	P	**P**	**22 23 57.0**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=338,slow=11,SNR=14						
	comp=Z,1.4nm,0.5s						
WB2	**Warramunga Arr**	**26.65**	**164**	P	**P**	**22 23 57.0**	**-0.9**
WB2				IAmb	IAmb	22 23 57.7	
	comp=Z,13nm,1.5s						
WR0	**Warramunga Arr**	**26.72**	**163**	P	**P**	**22 23 57.8**	**-0.8**
WR0				IAmb	IAmb	22 24 03.2	
	comp=Z,12nm,1.5s						
CMAR	**Chiang Mai Arr**	**29.76**	**298**	P	**P**	**22 24 24.9**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=118,slow=8.1,SNR=4.2						
	comp=Z,0.4nm,0.3s						
AS31	**Alice Springs**	**30.09**	**167**	P	**P**	**22 24 28.2**	**-0.4**
AS31				IAmb	IAmb	22 24 29.7	
	comp=Z,1.9nm,0.4s						
ASAR	**Alice Springs**	**30.09**	**167**	P	**P**	**22 24 28.3**	**-0.3**
ASAR	**Alice Springs**	**30.09**	**167**	P	**P**	**22 24 28.0**	**-0.6**
	comp=Z,3.3nm,0.6s,baz=343,slow=7.0,SNR=41						
ASAR				PcP	**PcP**	**22 27 27.9**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=351,slow=2.2,SNR=8.1						
	comp=Z,3.3nm,0.6s						
PZH	**PanZhiHua**	**31.42**	**314**	P	**P**	**22 24 41.0**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
HHC	**Hu-ho-hao-te**	**37.45**	**341**	*e*P	**P**	**22 25 30.8**	**-1.4**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,98nm,4.4s						
USRK	**Ussuriysk Ar.**	**38.60**	**6**	P	**P**	**22 25 42.2**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=191,slow=6.9,SNR=5.2						
	comp=Z,1.1nm,0.6s						
STKA	**Stephens Creek**	**40.06**	**160**	P	**P**	**22 25 53.7**	**-0.2**
	comp=Z,5.3nm,0.7s,baz=333,slow=10,SNR=8.0						
	comp=Z,5.3nm,0.7s						
H11S3	**WAKE ISLAND Hy 41.11**	**68**		T	T	23 10 08.2	
	baz=258,slow=75,SNR=6.8						
H11S1	**WAKE ISLAND Hy 41.12**	**68**		T	T	23 10 09.6	
	baz=258,slow=75,SNR=7.0						
H11S2	**WAKE ISLAND Hy 41.12**	**68**		T	T	23 10 08.8	
	baz=258,slow=75,SNR=12						
SONM	**Songino Array**	**45.35**	**341**	P	**P**	**22 26 37.6**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=167,slow=7.8,SNR=2.4						
SONM				PcP	**PcP**	**22 28 14.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=165,slow=4.7,SNR=3.9						
	comp=Z,0.4nm,0.4s						
WMQ	**Urumqi**	**51.00**	**324**	*e*P	**P**	**22 27 20.3**	**+0.1**
WMQ				LR	LR		
	comp=N,810nm,19.3s						
WMQ				LR	LR		
	comp=E,470nm,19.7s						
WMQ				LR	LR		
	comp=Z,410nm,20.7s						
MKAR	**Makanchi Array**	**55.83**	**325**	P	**P**	**22 27 54.1**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=117,slow=7.4,SNR=18						
	comp=Z,0.6nm,0.3s						
KSH	**Kashi**	**56.52**	**314**	P	**P**	**22 28 01.7**	**+1.1**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZALV	**Zalesovo Beam**	**58.74**	**333**	P	**P**	**22 28 15.3**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=113,slow=11,SNR=2.2						
	comp=Z,0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**59.97**	**327**	P	**P**	**22 28 23.0**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=126,slow=6.9,SNR=5.9						
	comp=Z,0.8nm,0.3s						
BVAR	**Borovoye Array**	**65.56**	**327**	P	**P**	**22 29 00.6**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=126,slow=6.1,SNR=5.4						
	comp=Z,0.5nm,0.5s						
ILAR	**Eielson Array**	**83.36**	**26**	P	**P**	**22 30 44.1**	**0.0**
	comp=Z,0.4nm,0.6s,baz=237,slow=5.2,SNR=5.9						
	comp=Z,0.4nm,0.6s						
L27K	**Beaver Creek,**	**85.65**	**27**	P	**P**	**22 30 57.4**	**+1.7**
L27K				IAmb	IAmb	22 31 05.6	
	comp=Z,3.1nm,1.3s						
BCAR	**Beaver Creek A**	**85.67**	**27**	P	**P**	**22 30 56.8**	**+1.0**
F28M	**Old Crow**	**86.09**	**23**	P	P	22 30 54.0	-3.8
I28M	**Miner Creek**	**86.27**	**25**	P	**P**	**22 31 00.8**	**+2.0**
I28M				IAmb	IAmb	22 31 01.9	
	comp=Z,2.9nm,0.8s						
H29M	**Whitestone**	**86.83**	**24**	P	**P**	**22 31 00.7**	**-0.7**
SPB2	**Spitsbergen Ar**	**88.48**	**349**	P	**P**	**22 31 07.8**	**-1.3**
ARCES	**ARCESS Array B**	**88.52**	**340**	P	**P**	**22 31 07.2**	**-2.2**
ARCES				IAmb	IAmb	22 31 18.2	
	comp=Z,8.3nm,1.3s						
ARCES	**ARCESS Array B**	**88.52**	**340**	P	**P**	**22 31 08.8**	**-0.6**
	comp=Z,2.5nm,0.7s,baz=45,slow=5.3,SNR=6.1						
	comp=Z,2.5nm,0.7s						
FINES	**FINESS Array B**	**89.99**	**332**	P	**P**	**22 31 15.3**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=46,slow=5.5,SNR=8.4						
	comp=Z,1.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**122.13**	**289**	PKP	**PKPdf**	**22 37 11.4**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=49,slow=2.0,SNR=13						

IDC ***02*** *22:35:07.0±0.5, 33°.95N×83°.94E, h0km, mb4.4/26, mbtmp4.4/29, ML3.2/3, MS3.7/41, Error ellipse: s-maj=17.1km s-min=10.8km az=47.0*
NDI ***02*** *22:35:07.2±3.9, 34°.42N×84°.30E, h10km, ML3.8, MW4.2, mb4.6(NEIC)*
MOS ***02*** *22:35:08.2±1.1, 34°.13N×83°.93E, h17km, mb5.0/52, MS4.1/9, Error ellipse: s-maj=7.6km s-min=3.2km az=121.7*
BJI ***02*** *22:35:09.2, 34°.16N×84°.01E, h8km, mb4.3/49, mB4.8/21, Ms4.5/49, Ms7 4.2/46*
NEIC ***02*** *22:35:10.2±1.6, 34°.10N±0°.07×83°.92E±0°.08, h15km±1km, mb4.6/62, Error ellipse: s-maj=11.7km s-min=8.5km az=216.0*
GCMT ***02*** *22:35:13.2±0.3, 34°.10N±0°.04×84°.03E±0°.02, h23km±1km, MW4.8/71, Moment Tensor Solution. s15,c16; s71,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.06±.12; $M_{\theta\theta}$-0.66±.08; $M_{\phi\phi}$1.72±.08; $M_{r\theta}$0.63±.18; $M_{\theta\phi}$0.28±.05; $M_{\phi r}$-0.27±.09; Best double couple: $M_0$1.66500×10^{16} NP1:ϕ_s336.00000°, δ59.00000°, λ-134.00000°. NP2: ϕ_s218.00000°, δ52.00000°, λ-41.00000°. Principal axes: T 1.7660, Plg4.0000°, Azm95.0000°; N -0.2050, Plg37.0000°, Azm2.0000°; P -1.5630, Plg53.0000°, Azm191.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 22:35:09.2±0.5, 34°.03N±0°.04×83°.89E±0°.03, h11km±2km, h11km:pP-P, n372, σ1§79/385, mb4.7/121, MS3.8/57, 26C-8D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**5.05**	**228**	*e*P	Pn	22 36 30.8	+5.8
JOSI				*e*S	**Sn**	**22 37 29.6**	**+6.1**
JOSI				IAML		22 37 36.8	
	comp=E,635nm,0.5s						
JOSI		

UZB	**Uzynbulak**	**9.86 339**	*e*P	**Pn**	**22 37 30.4**	**-0.7**
	comp=N,6.7nm,1.5s					
UZB	**Uzynbulak**	**9.86 339**	*e*P	**Pn**	**22 37 30.3**	**-0.7**
UZB			pmax	pmax		
	comp=Z,7.0nm,1.5s					
SATY	**Saty**	**9.98 336**	*e*P	**Pn**	**22 37 32.0**	**-0.7**
SATY	**Saty**	**9.98 336**	*e*P	**Pn**	**22 37 31.9**	**-0.7**
WMQ	**Urumqi**	**10.21 16**	P	**Pn**	**22 37 36.3**	**+0.6**
WMQ			S	Sn	22 39 40.0	+10
WMQ			pmax	pmax		
	comp=Z,25nm,1.5s					
WMQ			pmax	pmax		
	comp=Z,190nm,4.3s					
WMQ			LR	LR		
	comp=Z,660nm,13.3s					
WMQ			LR	LR		
	comp=Z,530nm,14.5s					
KPKS	**Kokpek**	**10.26 338**	*e*P	**Pn**	**22 37 35.3**	**-1.1**
	comp=Z,5.5nm,1.3s					
KPKS			*e*S	**Sn**	**22 39 30.7**	**-0.7**
KPKS	**Kokpek**	**10.26 338**	*e*P	**Pn**	**22 37 35.2**	**-1.1**
KPKS			*e*S	**Sn**	**22 39 30.6**	**-0.8**
KPKS			pmax	pmax		
	comp=Z,6.0nm,1.3s					
BOOM	**Boomskoye usch**	**10.50 326**	Pn	**Pn**	**22 37 40.4**	**+0.6**
BOOM	**Boomskoye usch**	**10.50 326**	P	**Pn**	**22 37 40.4**	**+0.6**
MDOK	**Medeo**	**10.57 332**	*e*P	**Pn**	**22 37 39.9**	**-0.8**
MDOK	**Medeo**	**10.57 332**	*e*P	**Pn**	**22 37 39.8**	**-0.8**
ZIRO	**ZIRO**	**10.74 124**	*ex*	x	22 37 40.4	
SHL	**Shillong**	**10.92 138**		**Pn**	**22 37 46.2**	**+0.6**
SHL	**Shillong**	**10.92 138**	P	**Pn**	**22 37 46.2**	**+0.6**
AJM	**Ajmer**	**10.98 229**	*e*P	**Pn**	**22 37 47.5**	**+1.2**
AJM			*e*S	**Sn**	**22 39 50.9**	**+1.8**
ARSB	**Arslanbob**	**11.29 313**		**Pn**	**22 37 50.2**	**-0.4**
ARSB	**Arslanbob**	**11.29 313**	P	**Pn**	**22 37 50.2**	**-0.4**
AAK	**Ala-Archa**	**11.32 322**		**Pn**	**22 37 49.7**	**-1.2**
AAK	**Ala-Archa**	**11.32 322**	Pn	**Pn**	**22 37 52.4**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=136,slow=18,SNR=1.8					
AAK			Lg	Lg	22 41 09.3	
	baz=108,slow=19,SNR=1.6					
AAK			LR	LR	22 43 13.1	
	comp=Z,342nm,21.8s,baz=136,slow=43					
	comp=Z,1.3nm,0.6s					
AAK	**Ala-Archa**	**11.32 322**	*i* P	**Pn**	**22 37 50.2**	**-0.8**
FRU1	**Bishkek**	**11.37 323**		**Pn**	**22 37 52.4**	**+0.7**
FRU1	**Bishkek**	**11.37 323**	P	**Pn**	**22 37 52.4**	**+0.7**
TDK	**Taldyqorghan**	**11.74 341**	*e*P	**Pn**	**22 37 55.5**	**-1.1**
	comp=Z,9.2nm,1.3s					
TDK	**Taldyqorghan**	**11.74 341**	*e*P	**Pn**	**22 37 55.4**	**-1.1**
TDK			pmax	pmax		
	comp=Z,9.0nm,1.3s					
SGDS	**Sogindy**	**11.85 325**	*e*P	**Pn**	**22 37 57.5**	**-0.7**
	comp=Z,6.1nm,1.4s					
SGDS	**Sogindy**	**11.85 325**	*e*P	**Pn**	**22 37 57.5**	**-0.7**
SGDS			pmax	pmax		
	comp=Z,6.0nm,1.4s					
GAR	**Garm**	**11.99 298**		**Pn**	**22 37 59.8**	**-0.4**
BTK	**Batken**	**12.05 304**	Pn	**Pn**	**22 38 00.5**	**-0.4**
BTK	**Batken**	**12.05 304**	P	**Pn**	**22 38 00.5**	**-0.4**
KOHI	**KOHIMA**	**12.13 130**	*e*P	**Pn**	**22 38 00.7**	**-1.4**
BHPL	**Bhopal**	**12.16 209**	*e*P	**Pn**	**22 38 05.9**	**+3.5**
BHPL			*e*S	**Sn**	**22 40 14.9**	**-3.1**
BHPL			IAML		22 40 19.1	
	comp=N,17nm,1.1s					
BHPL			IAML		22 40 19.1	
	comp=E,18nm,0.7s					
KBL	**Kabul**	**12.29 277**		**Pn**	**22 38 03.7**	**-0.7**
KBL				**Sn**	**22 40 26.6**	**+5.0**
KBL	**Kabul**	**12.29 277**	P	**Pn**	**22 38 05.2**	**+0.8**
KBL			S	**Sn**	**22 40 26.6**	**+5.0**
KBL			pmax	pmax		
	comp=Z,24nm,0.7s					
TRKS	**Terek-Say**	**12.55 310**	P	**Pn**	**22 38 07.9**	**+0.1**
TRKS			pmax	pmax		
	comp=Z,24nm,1.2s					
NRDN	**NARMADA NAGAR**	**12.73 209**	*ex*	**P**	**22 38 18.6**	**-2.8**
NRDN			*ex*	x	22 40 44.7	
NRDN			IAML		22 41 17.2	
	comp=E,26nm,1.1s					
NRDN			IAML		22 41 28.0	
	comp=E,12nm,1.5s					
MK31	**Makanchi Array**	**12.80 355**		**Pn**	**22 38 09.1**	**-2.0**
MK31	**Makanchi Array**	**12.80 355**	*ce*P	**Pn**	**22 38 08.8**	**-2.3**
MKAR	**Makanchi Array**	**12.80 355**	Pn	**Pn**	**22 38 09.0**	**-2.2**
MKAR	**Makanchi Array**	**12.80 355**	Pn	**Pn**	**22 38 10.3**	**-0.8**
	comp=E,0.2nm,0.3s,baz=180,slow=14,SNR=24					
MKAR			Lg	Lg	22 41 54.7	
	baz=181,slow=24					
MKAR			LR	LR	22 43 25.3	
	comp=E,98nm,20.4s,baz=166,slow=39					
	comp=E,5.7nm,0.9s					
MKAR	**Makanchi Array**	**12.80 355**	*i* P	**Pn**	**22 38 09.3**	**-1.8**
MKAR			pmax	pmax		
	comp=Z,5.0nm,0.9s					
AZL	**Aizawl**	**12.82 141**	*e*P	**Pn**	**22 38 09.4**	**-2.1**
AZL			*i* x	x	22 43 15.1	
MAKZ	**Makanchi**	**12.84 354**	Pn	**Pn**	**22 38 09.9**	**-1.8**
MAKZ	**Makanchi**	**12.84 354**	P	**Pn**	**22 38 09.9**	**-1.8**
SIMJ	**Simiganj**	**12.85 295**		**Pn**	**22 38 11.4**	**-0.6**
BRDH	**Bariadhala**	**13.21 147**	Pn	**Pn**	**22 38 14.7**	**-2.0**
	comp=Z,16nm,0.3s,baz=287,slow=20,SNR=3.8					
BRDH			LR	LR	22 44 00.2	
	comp=Z,427nm,21.9s,baz=320,slow=41					
BTLS	**Baital**	**13.35 328**	*e*P	**Pn**	**22 38 17.8**	**-0.8**
BTLS	**Baital**	**13.35 328**	*e*P	**Pn**	**22 38 17.8**	**-0.8**
KKAR	**Karatay Array**	**13.83 315**	Pn	**Pn**	**22 38 25.8**	**+0.7**
KKAR	**Karatay Array**	**13.83 315**	Pn	**Pn**	**22 38 26.7**	**+1.6**
KKAR	**Karatay Array**	**13.83 315**	P	**Pn**	**22 38 25.8**	**+0.7**
GTA	**Gaotai**	**13.85 63**	*e*P	**Pn**	**22 38 28.3**	**+2.8**
GTA			sP	P	22 38 36.3	+2.4
GTA			pmax	pmax		
	comp=Z,2.0nm,1.2s					
GTA			LR	LR		
	comp=Z,2μm,13.8s					
GTA			LR	LR		
	comp=Z,380nm,14.2s					
GTA			LR	LR		
	comp=Z,1μm,13.8s					
BRLS	**Borolday**	**14.19 313**	*e*P	**Pn**	**22 38 28.8**	**-1.3**
BRLS	**Borolday**	**14.19 313**	*e*P	**Pn**	**22 38 28.7**	**-1.3**
AKL	**Akola**	**14.61 206**	*ex*	**Pn**	**22 38 34.8**	**-1.1**
AKL			*ex*	x	22 41 10.1	
TNCH	**TengChong**	**15.56 121**	*e*P	**Pn**	**22 38 50.7**	**+1.9**
TNCH			pP	P	22 38 53.4	+0.3
TNCH			sP	pP	22 38 56.0	-1.6
TNCH			PP	**sP**	**22 39 02.3**	**+2.5**
TNCH			S	**Sn**	**22 41 42.3**	**+1.0**
TNCH			sS	S	22 41 50.1	-6.8
TNCH			SS	**SnSn**	**22 41 57.1**	**+3.0**
TNCH			pmax	pmax		
	comp=Z,54nm,1.1s					
TNCH			LR	LR		
	comp=Z,770nm,7.9s					
TNCH			LR	LR		
	comp=Z,500nm,10.5s					
TNCH			LR	LR		
	comp=Z,870nm,11.0s					
LZH	**Lanzhou**	**16.47 77**	*e*P	**P**	**22 39 03.5**	**+0.4**
LZH			pP	pP	22 39 08.6	+0.9
LZH			pmax	pmax		
	comp=Z,11nm,1.5s					
LZH			LR	LR		
	comp=Z,460nm,12.0s					
LZH			LR	LR		
	comp=Z,450nm,10.7s					
LZH			LR	LR		
	comp=Z,370nm,10.7s					
SEM	**Semipalatinsk**	**16.58 352**	*e*P	**Pn**	**22 39 01.0**	**-0.8**
SEM	**Semipalatinsk**	**16.58 352**	*e*P	**Pn**	**22 39 00.9**	**-0.8**
KURBB	**Kurchatov Arra**	**17.04 348**	P	**Pn**	**22 39 07.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=176,slow=13,SNR=10					
KURBB			LR	LR	22 46 22.1	
	comp=Z,198nm,21.6s,baz=208,slow=39					
	comp=Z,6.5nm,0.8s					
CD2	**Chengdu**	**17.05 95**	P	**Pn**	**22 39 07.8**	**+0.1**
CD2			sP	pP	22 39 14.5	+0.5
CD2			S	**Sn**	**22 42 16.7**	**-0.5**
CD2			pmax	pmax		
	comp=Z,10.0nm,1.0s					
CD2			pmax	pmax		
	comp=Z,190nm,4.5s					
CD2			LR	LR		
	comp=Z,1μm,7.7s					
CD2			LR	LR		
	comp=Z,2μm,9.2s					
CD2			LR	LR		
	comp=Z,3μm,10.0s					
KURK	**Kurchatov**	**17.11 349**	P	**Pn**	**22 39 08.2**	**0.0**
KURK	**Kurchatov**	**17.11 349**	*ce*P	**Pn**	**22 39 07.5**	**-0.7**
KURK			pmax	pmax		
	comp=Z,45nm,1.7s					
PZH	**PanZhiHua**	**17.14 111**	P	**P**	**22 39 13.5**	**+3.0**
PZH			S	**Sn**	**22 42 21.8**	**+2.4**
PZH			pmax	pmax		
	comp=Z,10.0nm,1.3s					
PZH			pmax	pmax		
	comp=Z,150nm,4.1s					
PZH			LR	LR		
	comp=Z,490nm,12.0s					
PZH			LR	LR		
	comp=Z,800nm,11.0s					
PZH			LR	LR		
	comp=Z,990nm,10.8s					
HRA	**Herat**	**17.91 277**		**P**	**22 39 19.4**	**+0.3**
BRZS	**Berezniki**	**17.95 336**	*e*P	**Pn**	**22 39 17.6**	**-1.1**
BRZS	**Berezniki**	**17.95 336**	*e*P	**Pn**	**22 39 17.5**	**-1.1**
KMI	**Kunming**	**18.62 113**	⇓P	**P**	**22 39 25.8**	**-1.2**
KMI			S	**S**	**22 43 00.7**	**+1.4**
KMI			pmax	pmax		
	comp=Z,22nm,0.7s					
KMI			LR	LR		
	comp=Z,340nm,12.8s					
KMI			LR	LR		
	comp=Z,620nm,10.4s					
KMI			LR	LR		
	comp=Z,530nm,12.1s					
ZAA0	**Zalesovo Array**	**19.92 2**	P	**P**	**22 39 40.0**	**-0.7**
ZALV	**Zalesovo Beam**	**19.92 2**	P	**P**	**22 39 40.3**	**-0.5**
	comp=Z,6.4nm,0.8s,baz=180,slow=12,SNR=18					
ZALV			LR	LR	22 48 55.9	
	comp=Z,126nm,18.2s,baz=50,slow=41					
	comp=Z,6.4nm,0.8s					
ZALV	**Zalesovo Beam**	**19.92 2**	*i* P	**P**	**22 39 40.7**	**0.0**
ZALV			pmax	pmax		
	comp=Z,6.0nm,0.8s					
CHTO	**Chiang Mai**	**20.25 135**	P	**P**	**22 39 44.0**	**-0.5**
CHTO			IAmb	IAmb	22 39 48.7	
	comp=Z,27nm,1.1s					
CHTO	**Chiang Mai**	**20.25 135**	P	**P**	**22 39 44.0**	**-0.5**
CHTO			pmax	pmax		
	comp=Z,27nm,1.1s					
CM31	**Chiang Mai Arr**	**20.52 135**	P	Pn	22 39 49.2	-0.6
CM31			IAmb	IAmb	22 39 56.3	
	comp=Z,38nm,1.1s					
CMAR	**Chiang Mai Arr**	**20.52 135**	P	**P**	**22 39 46.9**	**-0.7**
	comp=Z,9.9nm,1.0s,baz=321,slow=10.0,SNR=48					
CMAR			LR	LR	22 47 25.5	
	comp=Z,166nm,18.6s,baz=320,slow=36					
	comp=Z,9.9nm,1.0s					
CMAR	**Chiang Mai Arr**	**20.52 135**	*i* P	**P**	**22 39 46.7**	**-0.9**
CMAR			pmax	pmax		
	comp=Z,10.0nm,1.0s					
XAN	**Xi'an**	**20.73 83**	⇑P	**P**	**22 39 49.1**	**-0.7**
XAN			pP	Pn	22 39 53.0	+0.8
XAN			S	**S**	**22 43 42.7**	**+1.4**
XAN			pmax	pmax		
	comp=Z,21nm,1.3s					
XAN			LR	LR		
	comp=Z,510nm,10.3s					
XAN			LR	LR		
	comp=Z,770nm,12.2s					
XAN			LR	LR		
	comp=Z,1μm,13.6s					
GYA	**Guiyang**	**21.04 105**	⇓P	**P**	**22 39 53.2**	**-0.1**
GYA			S	**S**	**22 43 38.2**	**-9.5**
GYA			pmax	pmax		
	comp=Z,17nm,1.6s					
GYA			LR	LR		
	comp=Z,410nm,8.6s					
GYA			LR	LR		
	comp=Z,580nm,9.3s					
GYA			LR	LR		
	comp=Z,580nm,12.2s					
PHRA	**Phrae**	**21.26 133**	P	**P**	**22 39 55.2**	**-0.3**
BVAR	**Borovoye Array**	**21.29 337**	P	**P**	**22 39 56.2**	**+0.6**
	comp=Z,27nm,0.9s,baz=148,slow=12,SNR=112					
BVAR			LR	LR	22 49 02.0	
	comp=Z,415nm,18.4s,baz=147,slow=39					
	comp=Z,27nm,0.9s					
BRVK	**Borovoye**	**21.35 337**	P	**P**	**22 39 56.7**	**+0.5**
BRVK	**Borovoye**	**21.35 337**	*ce*P	**P**	**22 39 57.1**	**+0.8**
BRVK			pmax	pmax		
	comp=Z,70nm,1.7s					
ZAK	**Zakamensk**	**21.65 35**	*e*P	**P**	**22 39 59.0**	**-0.6**
ZAK			pmax	pmax		
	comp=Z,6.0nm,1.3s					
SLVN	**Son La**	**21.73 120**	P	**P**	**22 40 00.9**	**+0.3**
BTO	**Baotou**	**21.75 65**	*e*P	**P**	**22 40 00.4**	**-0.3**
BTO			pP	**pP**	**22 40 04.6**	**-0.8**
BTO			sP	**sP**	**22 40 07.4**	**-0.2**
BTO			S	**S**	**22 44 00.9**	**-0.4**
BTO			sS	**sS**	**22 44 04.3**	**-4.4**
BTO			SS	**SnSn**	**22 44 31.1**	**+5.5**
BTO			pmax	pmax		
	comp=Z,32nm,1.4s					
BTO			pmax	pmax		
	comp=Z,240nm,8.5s					
BTO			LR	LR		
	comp=Z,3μm,18.0s					
BTO			LR	LR		
	comp=Z,790nm,13.2s					
BTO			LR	LR		
	comp=Z,1μm,12.5s					
SONM	**Songino Array**	**21.78 44**	P	**P**	**22 40 00.7**	**-0.4**
	comp=Z,7.3nm,1.0s,baz=235,slow=8.3,SNR=22					
	comp=Z,7.3nm,1.0s					
SONM	**Songino Array**	**21.78 44**	P	**P**	**22 40 00.5**	**-0.6**
SONM			pmax	pmax		
	comp=Z,15nm,1.0s					
ENH	**Enshi**	**21.97 93**	P	**P**	**22 40 05.5**	**+2.3**
ENH			IAmb	IAmb	22 40 12.3	
	comp=Z,32nm,1.1s					
ULN	**Ulaanbaatar**	**22.18 45**	P	**P**	**22 40 04.8**	**-0.7**
ULN	**Ulaanbaatar**	**22.18 45**	*ce*P	**P**	**22 40 05.7**	**+0.3**
ULN			pmax	pmax		
	comp=Z,26nm,1.7s					
KRAR	**Krasnoyarsk**	**22.84 13**	*i* P	**P**	**22 40 12.3**	**+0.2**
HHC	**Hu-ho-hao-te**	**22.94 65**	*e*P	**P**	**22 40 12.6**	**-0.9**
HHC			S	**S**	**22 44 23.6**	**0.0**
HHC			sS	pS	22 44 28.5	-0.3
HHC			SS	**SnSn**	**22 44 59.8**	**+4.8**
HHC			pmax	pmax		
	comp=Z,17nm,0.7s					
HHC			pmax	pmax		
	comp=Z,170nm,4.8s					
HHC			LR	LR		
	comp=Z,280nm,9.9s					
HHC			LR	LR		
	comp=Z,370nm,11.1s					
HHC			LR	LR		
	comp=Z,520nm,9.9s					
ABKAR	**Akbulak array**	**23.35 318**	P	**P**	**22 40 17.2**	**-0.2**
ABKAR			IAmb	IAmb	22 40 21.0	
	comp=Z,22nm,1.1s					
GULI	**GuiLin**	**24.55 104**	P	**P**	**22 40 31.2**	**+2.2**
GULI			S	**S**	**22 44 53.8**	**+4.2**
GULI			pmax	pmax		
	comp=Z,30nm,0.8s					
GULI			LR	LR		
	comp=Z,430nm,10.9s					
GULI			LR	LR		
	comp=Z,490nm,12.1s					
GULI			LR	LR		
	comp=Z,670nm,10.9s					
WSAR	**Wadi Sarin**	**24.58 251**	LR	LR	22 51 38.9	
	comp=Z,139nm,21.7s,baz=82,slow=40					
AKTO	**Aktyubinsk**	**25.02 319**	P	**P**	**22 40 33.5**	**+0.4**
	comp=Z,11nm,0.9s,baz=115,slow=6.2,SNR=29					
	comp=Z,11nm,0.9s					
HNS	**HongShan**	**25.19 73**	⇓P	**P**	**22 40 37.4**	**+2.7**
HNS			S	**S**	**22 45 02.8**	**+3.1**
HNS			pmax	pmax		
	comp=Z,27nm,1.3s					
HNS			LR	LR		
	comp=Z,340nm,11.2s					
HNS			LR	LR		
	comp=Z,270nm,11.9s					
HNS			LR	LR		
	comp=Z,310nm,13.5s					
WHN	**Wuhan**	**25.93 89**	P	**P**	**22 40 46.2**	**+4.7**
WHN			LR	LR		
	comp=Z,2μm,17.0s					
BJT	**Baijiatuau**	**26.36 67**	P	**P**	**22 40 46.2**	**+0.9**
BJI	**Beijing**	**26.36 67**	P	**P**	**22 40 48.1**	**+2.8**
BJI			pP	**pP**	**22 40 51.0**	**+0.7**
BJI			pmax	pmax		
	comp=Z,6.0nm,1.1s					
BJI			pmax	pmax		
	comp=Z,51nm,3.8s					
BJI			LR	LR		
	comp=Z,390nm,16.2s					
BJI			LR	LR		
	comp=Z,63nm,16.6s					
BJI			LR	LR		
	comp=Z,120nm,12.7s					
XLT	**XiLinHaoTe**	**26.75 59**	*e*P	P	22 40 40.1	-8.8
XLT			S	S	22 45 13.2	-11
XLT			pmax	pmax		
	comp=Z,9.0nm,0.7s					
XLT			pmax	pmax		
	comp=Z,110nm,4.4s					
XLT			LR	LR		
	comp=N,52nm,11.1s					
XLT			LR	LR		
	comp=E,190nm,10.0s					
XLT			LR	LR		
	comp=Z,200nm,14.0s					
TIA	**Tai'an**	**27.20 76**	P	**P**	**22 40 55.7**	**+2.8**
TIA			pmax	pmax		
	comp=Z,8.0nm,1.3s					
TIA			LR	LR		
	comp=Z,600nm,12.6s					
TIA			LR	LR		
	comp=Z,250nm,11.4s					
TIA			LR	LR		
	comp=Z,570nm,11.6s					
SVE	**Sverdlovsk**	**27.77 332**	*e*P	**P**	**22 40 58.8**	**+1.0**
SVE			pmax	pmax		
	comp=Z,16nm,1.5s					
SVE			MLR	MLR		
	comp=Z,585nm,14.0s					
ARTI	**Arti**	**28.38 330**	P	**P**	**22 41 02.9**	**-0.3**
ARTI			IAmb	IAmb	22 41 04.6	
	comp=Z,9.7nm,1.0s					
ARTI	**Arti**	**28.38 330**	P	**P**	**22 41 03.8**	**+0.6**
	comp=Z,7.9nm,1.0s,baz=114,slow=4.3,SNR=8.2					
	comp=Z,7.9nm,1.0s					
ARTI	**Arti**	**28.38 330**	P	**P**	**22 41 02.9**	**-0.3**
ARTI			pmax	pmax		
	comp=Z,10.0nm,1.0s					
NJ2	**Nanjing**	**29.29 84**	*e*P	**P**	**22 41 12.1**	**+0.5**
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.8s					
MAK	**Makhachkala**	**29.65 298**	*e*P	**P**	**22 41 11.1**	**-3.6**
MAK			*e*S	**S**	**22 46 04.8**	**-5.2**
MAK			MLR	MLR		
	comp=Z,427nm,10.0s					
KARS	**Kars**	**32.89 294**	P	**P**	**22 41 44.2**	**+0.8**
KARS			IAmb	IAmb	22 41 51.9	
	comp=Z,9.4nm,0.7s					
KARS	**Kars**	**32.89 294**	P	**P**	**22 41 44.2**	**+0.8**
KARS			pmax	pmax		
	comp=Z,9.0nm,0.7s					
KBZ	**Khabaz**	**33.06 299**	LR	LR	22 57 16.4	
	comp=Z,159nm,19.6s,baz=79,slow=40					
KVAR	**Kislovodsk Arr**	**33.22 300**	LR	LR	22 58 03.8	
	comp=Z,114nm,18.1s,baz=164,slow=41					
KIV	**Kislovodsk**	**33.22 300**	P	**P**	**22 41 45.4**	**-0.8**
KIV			IAmb	IAmb	22 41 50.8	
	comp=Z,9.2nm,1.1s					
KIV	**Kislovodsk**	**33.22 300**	*e*P	**P**	**22 41 44.7**	**-1.5**
KIV			pmax	pmax		
	comp=Z,7.0nm,1.0s					
KIV			MLR	MLR		
	comp=Z,133nm,15.0s					
CN2	**Changchun**	**33.47 61**	*e*P	**P**	**22 41 47.4**	**-0.8**
CN2			*e*S	**S**	**22 47 07.2**	**-2.5**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
CN2			pmax	pmax		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=Z,600nm,14.0s					
CN2			LR	LR		
	comp=Z,300nm,14.0s					
CN2			LR	LR		
	comp=Z,400nm,11.0s					
KIRV	**Kirov**	**33.58 328**	*ce*P	**P**	**22 41 50.1**	**+1.1**
VRH	**Novokhopyorsk**	**34.89 312**	*e*P	**P**	**22 41 59.5**	**-1.0**
VRH			pmax	pmax		
	comp=Z,10.0nm,1.0s					
BNX	**BinXian**	**34.97 57**	⇓P	**P**	**22 41 58.2**	**-3.1**
BNX			pmax	pmax		
	comp=Z,6.0nm,1.1s					
GSI	**Gunungsitoli**	**34.99 156**	P	**P**	**22 42 02.7**	**+1.0**
RAYN	**Ar Rayn**	**35.06 263**	P	**P**	**22 42 02.4**	**0.0**
RAYN			IAmb	IAmb	22 42 03.4	
	comp=Z,8.0nm,1.0s					
RAYN	**Ar Rayn**	**35.06 263**	P	**P**	**22 42 02.4**	**0.0**
RAYN			pmax	pmax		
	comp=Z,8.0nm,1.0s					
SOC	**Sochi**	**35.36 299**	*e*P	P	22 41 59.7	-4.9
SOC			*e*		22 43 18.9	
SOC			*e*S	**S**	**22 47 33.5**	**-5.4**
SOC			*e*SS	**SnSn**	**22 49 48.5**	**-8.8**
SOC			MLR	MLR		
	comp=Z,124nm,13.0s					
TJN	**Taejon**	**35.38 74**	P	**P**	**22 42 03.1**	**-1.8**
TJN	**Taejon**	**35.38 74**	P	**P**	**22 42 03.1**	**-1.8**
TJN			pmax	pmax		
	comp=Z,30nm,1.0s					
NRIK	**Noril'sk**	**35.42 2**	P	**P**	**22 42 04.3**	**-0.5**
NRIK			IAmb	IAmb	22 42 05.8	
	comp=Z,13nm,1.1s					
NRIK	**Noril'sk**	**35.42 2**	P	**P**	**22 42 04.9**	**+0.1**
	comp=Z,7.0nm,1.0s,baz=172,slow=6.1,SNR=6.2					
	comp=Z,7.0nm,1.0s					
NRIK	**Noril'sk**	**35.42 2**	*ce*P	**P**	**22 42 04.5**	**-0.3**
NRIK			pmax	pmax		
	comp=Z,15nm,1.1s					
HEH	**HeiHe**	**35.54 50**	*e*P	P	22 42 15.8	+10
HEH			LR	LR		
	comp=N,120nm,11.1s					
HEH			LR	LR		
	comp=E,220nm,10.5s					
HEH			LR	LR		
	comp=Z,350nm,11.0s					
KSRS	**Korea Array**	**35.66 72**	P	**P**	**22 42 06.1**	**-1.1**
	comp=Z,1.1nm,0.7s,baz=280,slow=9.9,SNR=6.9					
KSRS			LR	LR	22 58 09.1	
	comp=Z,152nm,18.5s,baz=275,slow=39					
	comp=Z,1.1nm,0.7s					
VORD	**Divnogorie**	**36.34 311**	*e*P	**P**	**22 42 12.2**	**-0.8**
VORD			pmax	pmax		
	comp=Z,10.0nm,1.0s					
VSR	**Storozhevoye**	**36.47 312**	*e*P	**P**	**22 42 12.5**	**-1.5**
VSR			pmax	pmax		
	comp=Z,10.0nm,1.0s					
MDJ	**Mudanjiang**	**36.47 59**	P	**P**	**22 42 16.1**	**+2.0**
MDJ			pmax	pmax		
	comp=Z,7.0nm,1.7s					
MDJ			pmax	pmax		
	comp=Z,200nm,6.9s					
VORR	**Voronezh**	**36.53 313**	*e*P	**P**	**22 42 13.5**	**-1.0**
VORR			pmax	pmax		
	comp=Z,10.0nm,1.0s					
LPSR	**Galich'ya Gora**	**36.88 314**	*e*P	**P**	**22 42 16.7**	**-0.8**
LPSR			pmax	pmax		
	comp=Z,20nm,1.0s					
KLR	**Kul'dur**	**38.19 52**	LR	LR	22 59 52.6	
	comp=Z,98nm,18.3s,baz=258,slow=39					
USRK	**Ussuriysk Ar.**	**38.19 60**	LR	LR	22 59 16.2	
	comp=Z,113nm,19.6s,baz=274,slow=38					
USRK	**Ussuriysk Ar.**	**38.19 60**	P	**P**	**22 42 29.1**	**+0.4**
MOS	**Moscow**	**38.36 319**	*e*P	**P**	**22 42 28.7**	**-1.3**
MOS			*e*		22 43 58.8	
MOS			pmax	pmax		
	comp=Z,21nm,0.6s					
JOW	**Kunigami**	**38.70 88**	LR	LR	22 59 54.3	
	comp=Z,342nm,19.0s,baz=167,slow=38					
OBN	**Obninsk**	**38.79 318**	*c i* P	**P**	**22 42 34.2**	**+0.6**
OBN			*i* *PP	**pP**	**22 42 38.4**	**-0.3**
OBN			*SP	**sP**	**22 42 43.0**	**+2.3**
OBN					22 44 09.0	
OBN					22 44 52.0	
OBN			SS	SS	22 51 12.0	-10

OBN pmax pmax
comp=Z,34nm,1.4s
OBN MLR MLR
comp=Z,87nm,15.0s
JNU Nakatsue 38.89 78 LR LR 22 58 17.7
comp=Z,53nm,20.9s,baz=305,slow=36
KLMR Klimovskoe 39.07 327 *eP* **P 22 42 33.9 -2.0**
KLMR *e* 22 44 04.4
KLMR pmax pmax
comp=Z,22nm,1.1s
KLMR MLR MLR
comp=Z,239nm,9.0s
KIRS Kirsehir-Merke 40.04 292 ⇑P **P 22 42 45.1 +0.7**
MMAI Mount Meron Ar 40.13 283 LR LR 23 01 38.5
comp=Z,115nm,21.3s,baz=35,slow=40
YAK Yakutsk 40.15 32 LR LR 22 59 55.4
comp=Z,80nm,18.0s,baz=296,slow=37
EIL Elat 41.49 278 LR LR 23 02 47.8
comp=Z,160nm,18.8s,baz=74,slow=40
AK10 Malin Array Si 42.64 310 P **P 22 43 05.1 -0.4**
AKASG Malin Array Be 42.66 310 P **P 22 43 05.7 0.0**
comp=Z,3.3nm,0.9s,baz=79,slow=6.5,SNR=17
AKASG PP **PP 22 44 45.9 +1.4**
comp=Z,0.1nm,0.3s,baz=82,slow=10.0,SNR=11
comp=Z,3.3nm,0.9s
AKBB Malin Array Si 42.66 310 P **P 22 43 04.9 -0.8**
AKBB IAmb IAmb 22 43 07.5
comp=Z,6.2nm,0.8s
AKBB Malin Array Si 42.66 310 *ceP* **P 22 43 05.4 -0.3**
AKBB pmax pmax
comp=Z,19nm,1.4s
KIEV Kiev 42.67 310 P **P 22 43 05.2 -0.6**
KIEV Kiev 42.67 310 ⇓P **P 22 43 06.5 +0.8**
KIEV Kiev 42.67 310 P **P 22 43 05.2 -0.6**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
AK11 Malin Array Si 42.70 310 P **P 22 43 04.9 -1.0**
AK04 Malin Array Si 42.70 310 P **P 22 43 04.7 -1.3**
AK12 Malin Array Si 42.71 310 P **P 22 43 05.4 -0.6**
MYLDM Lahad Datu 43.05 124 P **P 22 43 09.2 0.0**
MYLDM IAmb IAmb 22 43 28.2
comp=Z,7.3nm,0.9s
VLDR Vladesti 43.57 303 ⇓P **P 22 43 15.1 +2.0**
LUBAR Lubar, Ukraine 43.60 309 P **P 22 43 12.4 -0.8**
MI28 Mi28,Pidlybu 43.65 310 P **P 22 43 13.5 -0.2**
comp=Z,150nm,1.1s
MI28 pP **pP 22 43 17.8 -1.0**
comp=Z,150nm,1.1s
MNK Minsk 43.67 316 *i* P **P 22 43 14.5 +0.7**
comp=E,19nm,1.1s
MNK *i* P **P 22 43 14.5 +0.7**
comp=N,23nm,1.1s
MNK *i* P **P 22 43 14.5 +0.7**
comp=Z,17nm,0.9s,baz=94
MNK *i* PP **PP 22 44 57.1 +2.0**
MNK *i* PPP PPP 22 45 29.9
MNK *i* S **S 22 49 45.4 +2.0**
MNK *i* SS **SS 22 53 02.3 +4.1**
MNK *i* SSS SSS 22 53 39.7
MNK *i* LQ LQ 22 57 58.5
MNK *i* LR LR 23 01 29.2
MNK *i* LRM MLR 23 03 05.9
comp=E,103nm,16.8s
MNK *i* LRM MLR 23 03 15.5
comp=N,150nm,15.8s
MNK *i* LRM MLR 23 03 18.4
comp=Z,201nm,16.3s
MNK Minsk 43.67 316 *i* P **P 22 43 14.5 +0.7**
MNK *i* 22 44 57.1
MNK *i* 22 45 01.2
MNK *i* PPP PPP 22 45 29.9
MNK *i* S **S 22 49 45.3 +2.0**
MNK *i* SSS SSS 22 53 39.7
MNK pmax pmax
comp=Z,17nm,0.9s
MNK pmax pmax
comp=N,23nm,1.1s
MNK pmax pmax
comp=E,19nm,1.1s
MNK MLR MLR
comp=E,103nm,17.0s
MNK MLR MLR
comp=N,150nm,16.0s
MNK MLR MLR
comp=Z,201nm,16.0s
MJAR Matsushiro Arr 43.91 71 P **P 22 43 16.5 +0.5**
comp=Z,1.4nm,0.7s,baz=290,slow=10,SNR=7.4
MJAR LR LR 23 02 58.6
comp=Z,87nm,18.1s,baz=299,slow=38
comp=Z,1.4nm,0.7s
NACGM Naroch 44.34 316 *eP* **P 22 43 19.1 0.0**
comp=Z,18nm,0.8s,baz=94
TIXI Tiksi 44.40 19 P **P 22 43 18.1 -1.3**
TIXI IAmb IAmb 22 43 20.8
comp=Z,11nm,1.1s
TIXI Tiksi 44.40 19 LR LR 23 02 24.7
comp=Z,97nm,19.9s,baz=232,slow=37
TIXI Tiksi 44.40 19 *ceP* **P 22 43 18.5 -0.8**
TIXI pmax pmax
comp=Z,18nm,1.7s
HORU Horodok 44.48 308 P **P 22 43 19.9 -0.5**
HORU Horodok 44.48 308 P **P 22 43 19.9 -0.5**
VRI Vrincioaia 44.51 303 ⇑P **P 22 43 22.4 +1.8**
VRI Vrincioaia 44.51 303 P **P 22 43 22.4 +1.8**
PLOR Plostina 44.56 303 ⇑P **P 22 43 23.1 +1.9**
PLOR Plostina 44.56 303 P **P 22 43 23.0 +1.9**
PLOR3 Plostina Array 44.56 303 P **P 22 43 21.7 +0.6**
comp=Z,19nm,1.4s
ONER Baraj Valea Uz 44.69 304 ⇑P **P 22 43 24.0 +1.8**
RNPP9 Sopachiv 44.77 311 P **P 22 43 22.4 -0.2**
RNPP5 Staryi Chortor 44.78 311 P **P 22 43 22.0 -0.7**
RNPP8 Varash 44.80 311 P **P 22 43 23.0 +0.2**
COVR Voineasa-Covas 44.87 303 ⇑P **P 22 43 25.1 +1.5**
TURR Turia 44.98 303 ⇑P **P 22 43 26.3 +1.9**
MLR Muntele Rosu 45.09 303 P **P 22 43 26.6 +1.2**
MLR Muntele Rosu 45.09 303 P **P 22 43 27.2 +1.7**
comp=Z,18nm,0.9s,baz=54,slow=4.8,SNR=10
MLR PP **PP 22 45 17.1 +6.4**
comp=Z,2.5nm,0.8s,baz=84,slow=12,SNR=2.9
comp=Z,18nm,0.9s
MLR Muntele Rosu 45.09 303 ⇑P **P 22 43 27.1 +1.7**
MLR Muntele Rosu 45.09 303 P **P 22 43 26.5 +1.1**
comp=Z,33nm,1.2s
OZUR 45.14 304 ⇑P **P 22 43 26.9 +1.2**
BURAR Bucovina Array 45.38 306 P **P 22 43 27.6 -0.1**
BURAR pmax pmax
comp=Z,2.0nm,0.9s
KSV Kosov 45.43 307 P **P 22 43 28.0 0.0**
KSV Kosov 45.43 307 P **P 22 43 28.0 0.0**
FINES FINESS Array B 45.48 325 P **P 22 43 28.9 +0.8**
comp=Z,5.6nm,0.7s,baz=95,slow=7.6,SNR=23
FINES LR LR 23 03 21.9
comp=Z,132nm,18.5s,baz=81,slow=37
comp=Z,5.6nm,0.7s
STNU Starunia 45.78 307 P **P 22 43 31.0 +0.3**
ASAJ Asahikawa 45.80 59 LR LR 23 03 12.5
comp=Z,82nm,18.9s,baz=218,slow=37
ARR Arges 46.02 303 ⇑P **P 22 43 34.2 +1.4**
MORS Morshin 46.15 308 P **P 22 43 32.1 -1.5**
MORS Morshin 46.15 308 P **P 22 43 32.1 -1.5**
SHIU Shidnytsya 46.49 308 P **P 22 43 36.6 +0.3**
LOT Lotru 46.62 303 ⇑P **P 22 43 38.7 +1.2**
TRSU Trosnyk 46.86 307 P **P 22 43 41.0 +1.9**
KWP Kalwaria Pacla 46.88 309 P **P 22 43 39.4 0.0**
KWP IAmb IAmb 22 43 46.8
comp=Z,6.0nm,1.0s
KWP Kalwaria Pacla 46.88 309 P **P 22 43 39.4 0.0**
KWP pmax pmax
comp=Z,6.0nm,1.0s
KWP Kalwaria Pacla 46.88 309 P **P 22 43 39.9 +0.6**
comp=Z,19nm,2.3s
MARR Marisel-Cluj 46.91 305 ⇑P **P 22 43 41.0 +1.3**
MUKU Mukachevo 47.00 307 P **P 22 43 40.7 +0.5**
BERU Beregovo 47.05 307 P **P 22 43 41.2 +0.6**
DRGR 47.17 305 ⇑P **P 22 43 43.0 +1.2**
DRGR 47.17 305 P **P 22 43 42.9 +1.2**
HOLU Holmets 47.19 307 P **P 22 43 42.2 +0.4**
KOLS Kolonicke sedl 47.23 308 *eP* **P 22 43 43.4 +1.3**
KOLS Kolonicke sedl 47.23 308 *eP* **P 22 43 43.4 +1.3**
VAF Ylistaro 47.30 327 P **P 22 43 43.5 +1.1**
VAF pmax pmax
comp=Z,42nm,1.3s
TOLI2 Tolitoli 47.56 126 P **P 22 43 46.0 +1.0**
ARCES ARCESS Array B 47.58 336 P **P 22 43 44.9 +0.4**
comp=Z,14nm,1.0s,baz=87,slow=7.7,SNR=15
ARCES LR LR 23 05 23.9
comp=Z,167nm,19.6s,baz=72,slow=38
comp=Z,14nm,1.0s
ARCES ARCESS Array B 47.58 336 P **P 22 43 44.6 +0.1**
ARCES pmax pmax
comp=Z,16nm,1.1s
SURR Surduc 47.72 304 ⇑P **P 22 43 47.3 +1.5**
SIRR Siria 47.96 304 ⇑P **P 22 43 49.2 +1.3**
BZS Buzias 48.09 303 ⇓P **P 22 43 49.8 +1.0**
BZS Buzias 48.09 303 P **P 22 43 49.8 +1.0**
NIE Niedzica 48.46 309 P **P 22 43 54.1 +2.4**
NIE pmax pmax
comp=Z,6.0nm,1.4s
OJC Ojcow 48.70 310 P **P 22 43 52.4 -1.0**
OJC IAmb IAmb 22 43 55.0
comp=Z,12nm,1.2s
OJC Ojcow 48.70 310 P **P 22 43 52.4 -1.0**
OJC pmax pmax
comp=Z,12nm,1.2s
OJC Ojcow 48.70 310 P **P 22 43 53.6 +0.2**
comp=Z,9.6nm,1.7s
PSZ Piszkesteto 48.92 307 P **P 22 43 54.9 -0.4**
PSZ IAmb IAmb 22 43 57.3
comp=Z,5.7nm,1.1s
PSZ Piszkesteto 48.92 307 P **P 22 43 54.9 -0.4**
PSZ pmax pmax
comp=Z,6.0nm,1.1s
SRO Srobarova 49.99 307 *eP* **P 22 44 04.3 +1.0**
SRO pmax pmax
comp=Z,20nm,1.4s
SRO Srobarova 49.99 307 *eP* **P 22 44 04.3 +1.0**
MORH Mrgy, Hungar 50.03 305 ⇑P **P 22 44 04.3 +0.6**
MORH Mrgy, Hungar 50.03 305 P **P 22 44 03.8 +0.1**
comp=Z,7.4nm,1.9s
MAUC Maruska 50.07 309 *eP* **P 22 44 05.1 +1.1**
MORC Moravsky Berou 50.20 309 P **P 22 44 04.9 -0.1**
MORC IAmb IAmb 22 44 06.9
comp=Z,11nm,1.1s
MORC Moravsky Berou 50.20 309 *eP* **P 22 44 05.7 +0.8**
MORC Moravsky Berou 50.20 309 ⇓P **P 22 44 05.8 +0.9**
MORC Moravsky Berou 50.20 309 P **P 22 44 04.9 -0.1**
MORC pmax pmax
comp=Z,11nm,1.1s
JAVC Velka Javorina 50.25 308 *eP* **P 22 44 07.2 +1.9**
MPLH Magyarpolny 50.61 306 P **P 22 44 08.0 0.0**
comp=Z,21nm,1.1s
KRLC Kraliky 50.64 310 *eP* **P 22 44 09.0 +0.7**
KRLC Kraliky 50.64 310 *eP* **P 22 44 09.0 +0.7**
KSP Ksiaz 50.84 311 P **P 22 44 09.7 0.0**
KSP Ksiaz 50.84 311 P **P 22 44 09.7 0.0**
comp=Z,9.6nm,1.4s
VRAC Vranov 50.88 309 P **P 22 44 10.8 +0.8**
comp=Z,3.4nm,0.6s,baz=92,slow=7.9,SNR=10
comp=Z,3.4nm,0.6s
VRAC Vranov 50.88 309 *eP* **P 22 44 11.3 +1.3**
DPC Dobruska-Polom 50.89 310 *eP* **P 22 44 11.1 +0.9**
DPC AMS AMS 23 07 40.0
comp=Z,300nm,18.7s
DPC Dobruska-Polom 50.89 310 *eP* **P 22 44 11.1 +0.9**
DPC MLR MLR
comp=Z,300nm,18.7s
DPC Dobruska-Polom 50.89 310 P **P 22 44 09.9 -0.3**
comp=Z,9.2nm,1.5s
CHVC Chvalec 51.03 311 *eP* **P 22 44 12.4 +1.2**
CHVC Chvalec 51.03 311 *eP* **P 22 44 12.4 +1.2**
KRUC Moravsky 51.05 309 *eP* **P 22 44 12.4 +1.1**
UPC Upice 51.07 310 *eP* **P 22 44 12.8 +1.4**
UPC Upice 51.07 310 *eP* **P 22 44 12.8 +1.4**
RONA Rosalia, Austr 51.35 307 *i* P **P 22 44 14.5 +0.9**
comp=Z,12nm,1.1s,SNR=5.9
HFS Hagfors 51.46 323 P **P 22 44 14.9 +0.8**
comp=Z,6.6nm,0.7s,baz=75,slow=13,SNR=5.7
HFS LR LR 23 09 50.1
comp=Z,83nm,18.5s,baz=79,slow=40
comp=Z,6.6nm,0.7s
KAPI Kappang 51.53 132 LR LR 23 08 24.4
comp=Z,42nm,19.2s,baz=300,slow=39
CONA Conrad Observa 51.59 307 *i* P **P 22 44 16.6 +1.0**
comp=Z,15nm,1.1s,SNR=6.5
ARSA Arzberg 51.95 306 *i* P **P 22 44 18.7 +0.6**
comp=Z,11nm,1.2s
BRG Berggiesshubel 52.31 311 *i* P **P 22 44 21.9 +1.2**
BRG Amp 22 44 22.6
comp=Z,11nm,1.0s
BRG Berggiesshubel 52.31 311 *i* P **P 22 44 21.8 +1.2**
BRG pmax pmax
comp=Z,11nm,1.0s
BRG MLR MLR
comp=N,180nm,22.3s
BRG MLR MLR
comp=Z,304nm,17.6s
BRG MLR MLR
comp=E,247nm,21.6s
SPITS Spitsbergen Ar 52.37 346 LR LR 23 12 40.5
comp=E,78nm,18.4s,baz=112,slow=43
NC405 NORSAR Array S 52.38 324 P **P 22 44 20.7 -0.4**
SOKA Soboth 52.39 306 *eP* **P 22 44 22.3 +0.8**
comp=E,21nm,1.1s,SNR=8.9
NC602 NORSAR Array S 52.49 324 P **P 22 44 21.9 0.0**
NORES NORESS Array B 52.49 324 P **P 22 44 22.6 +0.7**
NORES pmax pmax
comp=Z,8.0nm,1.2s
NC303 NORSAR Array S 52.54 324 P **P 22 44 22.3 0.0**
NC303 IAmb IAmb 22 44 23.4
comp=Z,12nm,0.8s
NB201 NORSAR Array S 52.59 324 P **P 22 44 22.2 -0.4**
NB201 IAmb IAmb 22 44 23.5
comp=Z,15nm,0.9s
NB2 NORSAR Subarra 52.63 324 P **P 22 44 22.4 -0.5**
comp=Z,21nm,1.0s,baz=85,slow=7.4
NB2 NORSAR Subarra 52.63 324 P **P 22 44 22.7 -0.2**
NOA NORSAR Array B 52.63 324 P **P 22 44 23.0 +0.1**
comp=Z,9.6nm,0.8s,baz=85,slow=7.3,SNR=22
NOA LR LR 23 07 44.7
comp=Z,99nm,20.7s,baz=80,slow=37
comp=Z,9.6nm,0.8s
MOA Molln 52.66 307 *eP* **P 22 44 24.0 +0.6**
comp=Z,9.0nm,1.0s,SNR=5.3
CLL Collm 52.82 312 P **P 22 44 24.4 0.0**
CLL Collm 52.82 312 *i* P **P 22 44 24.6 +0.2**
CLL pmax pmax
comp=Z,22nm,1.8s
CLL Collm 52.82 312 *i* P **P 22 44 24.6 +0.2**
comp=Z,22nm,1.8s
CLL AMS AMS 23 08 00.0
comp=Z,200nm,21.8s
CLL Collm 52.82 312 P **P 22 44 24.2 -0.2**
comp=Z,7.9nm,2.6s
NC204 NORSAR Array S 52.83 325 P **P 22 44 24.6 +0.2**
GEC2 GERESS Array S 52.83 309 P **P 22 44 25.0 +0.3**
GEC2 IAmb IAmb 22 44 26.5
comp=Z,12nm,1.1s
GERES GERESS Array B 52.83 309 P **P 22 44 25.3 +0.6**
comp=Z,4.4nm,0.9s
comp=Z,4.4nm,0.9s
KHC Kasperske Hory 52.86 309 *eP* **P 22 44 25.5 +0.7**
KHC Kasperske Hory 52.86 309 *ceP* **P 22 44 26.4 +1.6**
KHC pmax pmax
comp=Z,35nm,2.5s
KHC Kasperske Hory 52.86 309 P **P 22 44 24.8 0.0**
comp=Z,8.3nm,1.4s
BIOA Bad Ischl, Aus 53.11 307 *i* P **P 22 44 27.0 +0.3**
comp=Z,7.7nm,1.2s
KBA Koelnbreinsper 53.44 307 *eP* **P 22 44 29.5 +0.1**
comp=Z,8.1nm,1.1s
SABO M.te Sabotino 53.52 305 P **P 22 44 29.5 -0.3**
LESA Schwarzleotal 53.80 307 *i* P **P 22 44 32.2 +0.3**
comp=Z,10.0nm,1.1s
GRF Grafenberg Arr 54.25 310 *eP* **P 22 44 36.6 +1.6**
comp=Z,20nm,1.4s,baz=78,slow=6.3
WTTA Wattenberg 54.53 307 *i* P **P 22 44 37.0 -0.3**
comp=Z,13nm,1.1s
WATA Walderalm 54.55 307 *i* P **P 22 44 37.0 -0.4**
comp=Z,10nm,1.2s
SQTA Sankt Quirin 54.82 307 *i* P **P 22 44 39.1 -0.3**
comp=Z,8.4nm,1.1s
MOTA Moosalm 54.86 307 *i* P **P 22 44 39.4 -0.3**
comp=Z,9.7nm,0.9s
RETA Reutte 55.05 308 *eP* **P 22 44 40.8 -0.2**
comp=Z,15nm,1.5s
FETA Feichten 55.19 307 *i* P **P 22 44 41.8 -0.3**
comp=Z,8.6nm,1.0s
DAVA Damuels 55.68 308 *eP* **P 22 44 45.6 0.0**
comp=Z,24nm,1.3s
KMBO Kilima Mbogo 56.00 241 LR LR 23 09 16.2
comp=Z,66nm,18.4s,baz=90,slow=37
CDF Champ du Feu 57.08 309 *eP* **P 22 44 55.2 -0.2**
CDF pmax pmax
comp=Z,16nm,1.3s
HINF Hinteralfeld 57.51 309 *eP* **P 22 44 58.1 -0.4**
HINF pmax pmax
comp=Z,30nm,1.5s
HAU Haudompre 57.79 309 *eP* **P 22 45 00.0 -0.4**
HAU pmax pmax
comp=Z,22nm,1.5s
LPG La Plagne 58.26 306 *eP* **P 22 45 04.0 -0.1**
LPG pmax pmax
comp=Z,24nm,1.1s
LPL La Plagne 58.27 306 *eP* **P 22 45 04.0 0.0**
LPL pmax pmax
comp=Z,38nm,1.2s
GUMO Guam 58.54 95 LR LR 23 12 21.4
comp=Z,30nm,18.3s,baz=34,slow=38
KEST Kesra 59.74 295 P **P 22 45 13.3 -0.9**
KEST IAmb IAmb 22 45 20.7
comp=Z,4.0nm,0.9s
SMF Signal de Mont 59.83 308 *eP* **P 22 45 13.8 -0.8**
SMF pmax pmax
comp=Z,20nm,1.3s
VIVF Saint-Julien-l 59.86 306 *eP* **P 22 45 14.4 -0.5**
VIVF pmax pmax
comp=Z,28nm,1.4s
SSF Saint Saulge 59.91 309 *eP* **P 22 45 14.4 -0.7**
SSF pmax pmax
comp=Z,22nm,1.4s
AVF Avril sur Loir 60.09 309 *eP* **P 22 45 15.7 -0.7**
AVF pmax pmax
comp=Z,17nm,1.4s
MBAR Mbarara 60.52 247 P **P 22 45 19.8 -0.1**
MBAR Mbarara 60.52 247 P **P 22 45 19.8 -0.1**
MBAR pmax pmax
comp=Z,15nm,1.0s
TCF Toulx Ste Croi 61.01 308 *eP* **P 22 45 22.4 -0.3**
TCF pmax pmax
comp=Z,27nm,1.3s
EKA Eskdalemuir Ar 61.21 319 P **P 22 45 23.2 -0.6**
comp=Z,2.4nm,0.8s,baz=81,slow=7.7,SNR=2.8
comp=Z,2.4nm,0.8s
CAF Calviac 61.58 307 *eP* **P 22 45 26.2 -0.4**
CAF pmax pmax
comp=Z,23nm,1.4s
LDF La Druitiere 61.70 311 *eP* **P 22 45 27.2 0.0**
LDF pmax pmax
comp=Z,14nm,1.2s
RJF Les Rejaudoux 61.81 307 *eP* **P 22 45 28.1 0.0**
RJF pmax pmax
comp=Z,38nm,1.6s
MAHO Mahon 61.90 301 P **P 22 45 30.0 +1.2**
MTLF Montolieu 62.05 305 *eP* **P 22 45 30.2 +0.5**
MTLF pmax pmax
comp=Z,28nm,1.4s
GRR Gorron 62.23 311 *eP* **P 22 45 30.0 -0.8**
GRR pmax pmax
comp=Z,16nm,1.2s
OPO Ambohidratompo 62.92 220 LR LR 23 07 45.6
comp=Z,119nm,21.9s,baz=244,slow=31
CEST Esterri de Car 62.98 305 P **P 22 45 36.2 +0.1**
CEST IAmb IAmb 22 45 38.6
comp=Z,19nm,1.2s
SHEM Shemya Is, Ala 63.87 43 LR LR 23 15 55.0
comp=Z,46nm,18.7s,baz=308,slow=38
FITZ Fitzroy Crossi 65.34 136 P **P 22 45 51.8 +0.3**
FITZ Fitzroy Crossi 65.34 136 LR LR 23 20 09.7
comp=Z,59nm,19.0s,baz=326,slow=41
BORG Borgarnes 65.81 333 LR LR 23 14 20.1
comp=Z,57nm,20.1s,baz=333,slow=36
EUNU Eureka 66.03 358 P **P 22 45 56.4 +1.1**
EUNU IAmb IAmb 22 46 07.8
comp=Z,4.8nm,1.1s
ESDC Sonseca Array 67.78 304 P **P 22 46 06.2 -1.0**
comp=Z,1.6nm,0.9s,baz=54,slow=7.3,SNR=7.3
comp=Z,1.6nm,0.9s
TAM Tamanrasset 68.34 283 P **P 22 46 10.5 -0.6**
TAM Tamanrasset 68.34 283 P **P 22 46 10.5 -0.6**
TAM pmax pmax
comp=Z,3.0nm,1.1s
WB0 Warramunga Arr 71.93 130 IAmb IAmb 22 46 35.4
comp=Z,11nm,0.8s
WRA Warramunga Arr 72.03 130 P **P 22 46 32.6 -0.8**
comp=Z,7.3nm,0.8s,baz=324,slow=6.1,SNR=44
WRA LR LR 23 23 30.7
comp=Z,31nm,20.4s,baz=8.5,slow=40
comp=Z,7.3nm,0.8s
WRAB Tennant Creek 72.03 130 P **P 22 46 33.1 -0.2**
WRAB Tennant Creek 72.03 130 P **P 22 46 33.2 -0.2**
WRAB pmax pmax
comp=Z,10.0nm,0.8s
WB2 Warramunga Arr 72.03 130 P **P 22 46 32.8 -0.6**
WB2 IAmb IAmb 22 46 36.2
comp=Z,10.0nm,0.8s
WR0 Warramunga Arr 72.17 130 P **P 22 46 34.4 +0.2**
WR0 IAmb IAmb 22 46 36.8
comp=Z,7.4nm,0.8s
LSZ Lusaka 72.20 237 P **P 22 46 33.6 -1.0**
LSZ IAmb IAmb 22 46 36.0
comp=Z,4.6nm,1.0s
LSZ Lusaka 72.20 237 P **P 22 46 33.6 -1.0**
LSZ pmax pmax
comp=Z,5.0nm,1.0s
NWAO Narrogin (SRO) 73.62 151 LR LR 23 22 33.7
comp=Z,29nm,18.6s,baz=211,slow=39
ILAR Eielson Array 73.84 20 P **P 22 46 42.6 -0.9**
comp=Z,1.0nm,0.8s,baz=310,slow=4.3,SNR=10
ILAR PP **PP 22 49 24.9 -2.6**
comp=Z,1.0nm,1.0s,baz=314,slow=8.0,SNR=6.0
comp=Z,1.0nm,0.8s
INK Inuvik 74.22 14 P **P 22 46 45.2 -0.4**
INK Inuvik 74.22 14 P **P 22 46 45.2 -0.4**
INK pmax pmax
comp=Z,2.0nm,1.0s
ASAR Alice Springs 74.52 133 P **P 22 46 47.4 -0.6**
comp=Z,4.4nm,0.8s,baz=318,slow=5.8,SNR=30
comp=Z,4.4nm,0.8s
C36M Paulatuk 74.89 10 P **P 22 46 48.9 -0.6**
C36M IAmb IAmb 22 46 52.2
comp=Z,4.5nm,1.1s
J26L Joseph Creek 74.98 19 P **P 22 46 49.6 -0.7**
TORD Torodi Ar. Bea 76.36 277 P **P 22 46 57.4 -1.5**
comp=Z,0.6nm,0.6s,baz=36,slow=6.4,SNR=5.5
TORD LR LR 23 24 30.8
comp=Z,86nm,19.4s,baz=352,slow=39
comp=Z,0.6nm,0.6s
L27K Beaver Creek, 76.59 20 P **P 22 46 59.2 -0.3**
BCAR Beaver Creek A 76.60 20 P **P 22 46 58.9 -0.6**
LBTB Lobatse 80.69 231 LR LR 23 22 58.9
comp=Z,32nm,18.3s,baz=16,slow=36
YKA Yellowknife Ar 82.66 9 P **P 22 47 31.4 -1.0**
comp=Z,3.5nm,1.0s,baz=345,slow=4.5,SNR=3.0
comp=Z,3.5nm,1.0s
BOSA Boshof 83.42 229 P **P 22 47 36.1 -0.7**
comp=Z,6.7nm,0.8s,baz=48,slow=4.7,SNR=8.7
comp=Z,6.7nm,0.8s
STKA Stephens Creek 85.14 134 LR LR 23 33 33.6
comp=Z,94nm,18.4s,baz=0.7,slow=41
DBIC Dimbokro 85.28 275 LR LR 23 32 10.1
comp=Z,74nm,18.9s,baz=30,slow=40
SCHQ Schefferville 87.98 344 P **P 22 48 00.8 +1.7**
comp=Z,4.4nm,0.9s,baz=81,slow=0.8,SNR=4.4
SCHQ LR LR 23 32 54.8
comp=Z,79nm,18.1s,baz=324,slow=39
comp=Z,4.4nm,0.9s
SUR Sutherland 88.78 229 LR LR 23 24 19.0
comp=Z,38nm,20.6s,baz=32,slow=33
SNAA Sanae 120.90 202 PKP **PKPdf 22 53 58.7 -1.9**
comp=Z,1.2nm,1.0s,baz=9.6,slow=1.1,SNR=2.7
QSPA South Pole Qui 123.82 180 PKP **PKPdf 22 54 04.6 -1.7**
comp=Z,1.2nm,0.8s,baz=239,slow=0.6,SNR=3.0
CPUP Villa Florida 145.77 272 PKPbc **PKPdf 22 54 47.7 -0.4**
comp=Z,3.2nm,0.9s,baz=72,slow=3.2,SNR=4.0

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*ATH **02** 22:38:19.0, 37°.34N×20°.48E, h9km±1km, ML3.8/16, Manual Solution by F.Xalaris This location: 2020/09/02 08:19:39 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*IDC **02** 22:38:19.1±0.9, 37°.55N×20°.78E, h0km, mb3.8/15, mbtmp3.7/26, ML3.3/7, MS3.4/4, Error ellipse: s-maj=17.3km s-min=13.6km az=11.0*
*THE **02** 22:38:19.5, 37°.34N×20°.50E, h9km±1km, ML3.8/10, Error ellipse: s-maj=1.1km s-min=0.4km az=337.0*

BEO ***02*** *22:38:20.3±1.0, 37.°30N×20.°25E, h27km±7km, ML3.6/7*
NAO ***02*** *22:38:29.7, 37.°37N×20.°54E, h10km, mb4.2*
ISC 02 22:38:21.4±0.5, 37.°43N±0.°03×20.°58E±0.°03, h21km±2km, n142, σ1§51/176, mb3.9/15, MS3.4/3, 11C-4D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.30**	**38**	P	**Pb**	**22 38 27.4**	**-0.7**
KRI1				S	**Sb**	**22 38 33.4**	**+0.7**
	17μm,0.4s						
LTHK	**Lithakia**	**0.35**	**35**	P	**Pb**	**22 38 28.0**	**-0.8**
LTHK				S	**Sb**	**22 38 34.0**	**+0.2**
RTZL	**Ratzakli, Kefa**	**0.67**	**13**	P	**Pb**	**22 38 33.7**	**-0.7**
RTZL				S	**Sn**	**22 38 44.8**	**-0.7**
PSDA	**Pessada-Kefalo**	**0.69**	**0**	P	**Pb**	**22 38 33.9**	**-0.8**
PSDA				S	**Sn**	**22 38 45.7**	**-0.3**
	10μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.69**	**0**	P	**Pb**	**22 38 34.1**	**-0.6**
PSDA				S	**Sb**	**22 38 44.9**	**+1.1**
LCHA	**Lechaina**	**0.74**	**46**	P	**Pb**	**22 38 35.7**	**+0.1**
VLS	**Valsamata**	**0.75**	**0**	P	**Pb**	**22 38 35.0**	**-0.8**
VLS	**Valsamata**	**0.75**	**0**	P	**Pb**	**22 38 35.1**	**-0.6**
VLS				S	**Sb**	**22 38 46.7**	**+1.1**
ARG2	**Argostoli**	**0.76**	**354**	P	**Pb**	**22 38 35.2**	**-0.6**
LXRA	**Lixouri, Kepha**	**0.78**	**352**	P	**Pb**	**22 38 36.0**	**-0.3**
LXR1	**Lixouri, Cepha**	**0.78**	**352**	P	**Pb**	**22 38 36.1**	**-0.2**
LXR1				S	**Sn**	**22 38 48.4**	**+0.1**
	25μm,0.4s						
SMHA	**Samh**	**0.82**	**4**	P	**Pb**	**22 38 36.5**	**-0.6**
DMLN	**Damoulianata-K**	**0.83**	**348**	P	**Pb**	**22 38 36.4**	**-0.7**
DMLN				S	**Sn**	**22 38 49.3**	**-0.2**
	13μm,0.6s						
DMLN	**Damoulianata-K**	**0.83**	**348**	P	**Pb**	**22 38 36.6**	**-0.5**
ZARO	**Zacharo**	**0.85**	**86**	P	**Pb**	**22 38 37.2**	**-0.3**
AMT	**Artemida-Makis**	**0.90**	**83**	P	**Pb**	**22 38 38.1**	**-0.3**
AMT				S	**Sn**	**22 38 51.7**	**+0.3**
RLS	**Riolos of Patr**	**0.94**	**48**	P	**Pb**	**22 38 38.5**	**-0.5**
RLS				S	**Sn**	**22 38 54.1**	**+1.8**
	3μm,0.8s						
RLS	**Riolos of Patr**	**0.94**	**48**	P	**Pb**	**22 38 38.8**	**-0.2**
RLS				S	**Sn**	**22 38 53.2**	**+0.9**
VSK1	**VASILIKIADES**	**0.98**	**359**	P	**Pb**	**22 38 39.5**	**-0.2**
VSK1				S	**Sn**	**22 38 54.9**	**+1.6**
	5μm,0.8s						
PYL1	**Pylos**	**1.02**	**120**	P	**Pb**	**22 38 39.5**	**-0.9**
FSK	**Fiskardo**	**1.03**	**359**	P	**Pb**	**22 38 40.0**	**-0.6**
FSK				S	**Sn**	**22 38 56.6**	**+2.1**
	4μm,0.7s						
FSK	**Fiskardo**	**1.03**	**359**	P	**Pb**	**22 38 40.2**	**-0.4**
FSK				S	**Sn**	**22 38 55.8**	**+1.3**
DRO	**Drossia**	**1.04**	**59**	P	**Pb**	**22 38 40.2**	**-0.5**
DRO				S	**Sn**	**22 38 57.2**	**+2.5**
	5μm,0.5s						
DRO	**Drossia**	**1.04**	**59**	P	**Pb**	**22 38 40.5**	**-0.1**
DRO				S	**Sn**	**22 38 56.6**	**+1.9**
PYL	**PYLOS**	**1.07**	**119**	P	**Pb**	**22 38 39.8**	**-1.4**
PYL				S	**Sn**	**22 38 56.0**	**+0.6**
	3μm,0.6s						
PYL	**PYLOS**	**1.07**	**119**	P	**Pb**	**22 38 40.2**	**-0.9**
PYL				S	**Sn**	**22 38 54.9**	**-0.4**
ITM	**Ithomi**	**1.10**	**103**	P	**Pn**	**22 38 40.8**	**-0.8**
ITM				S	**Sn**	**22 38 57.6**	**+1.4**
	4μm,0.6s						
ITM	**Ithomi**	**1.10**	**103**	P	**Pn**	**22 38 41.2**	**-0.4**
ITM				S	**Sn**	**22 38 57.2**	**+1.0**
MSL1	**Messolongi**	**1.16**	**35**	P	**Pb**	**22 38 43.3**	**+0.6**
EVGI	**Lefkada island**	**1.19**	**3**	P	**Pn**	**22 38 43.2**	**+0.2**
DRAG	**Dragano-Lefkad**	**1.26**	**360**	P	**Pn**	**22 38 43.9**	**+0.1**
LKD2	**Lefkada island**	**1.36**	**2**	P	**Pb**	**22 38 46.1**	**-0.1**
LKD2				S	**Sb**	**22 39 05.3**	**+2.1**
KLV	**Kalavryta, Ach**	**1.39**	**63**	P	**Pb**	**22 38 46.5**	**-0.2**
KLV				S	**Sb**	**22 39 05.8**	**+1.9**
VVK	**Vomvokou**	**1.39**	**44**	P	**Pb**	**22 38 46.4**	**-0.3**
TSLK	**Tsoukalades, L**	**1.40**	**2**	P	**Pb**	**22 38 46.7**	**-0.1**
EFP	**Efpalio**	**1.45**	**46**	P	**Pb**	**22 38 47.3**	**-0.3**
EFP				S	**Sb**	**22 39 07.6**	**+2.0**
GUR	**Goura**	**1.49**	**69**	P	**Pn**	**22 38 47.7**	**+0.7**
GUR				S	**Sb**	**22 39 08.2**	**+1.3**
KALE	**Kalithea**	**1.56**	**51**	P	**Pb**	**22 38 49.3**	**-0.3**
KALE				S	**Sb**	**22 39 10.0**	**+1.0**
ANX	**Ano Chora**	**1.57**	**42**	P	**Pn**	**22 38 49.1**	**+0.9**
ANX				S	**Sb**	**22 39 10.2**	**+0.8**
EVR	**Evrytania**	**1.77**	**33**	P	**Pn**	**22 38 51.7**	**+0.7**
EVR				S	**Sb**	**22 39 15.1**	**-0.1**
VLI	**Veliai**	**2.01**	**110**	P	**Pn**	**22 38 54.5**	**+0.3**
IGT	**Igoumenitsa**	**2.11**	**355**	P	**Pn**	**22 38 56.4**	**+0.8**
JAN	**Janina**	**2.24**	**5**	P	**Pn**	**22 38 58.6**	**+1.3**
KEK	**Kerkira**	**2.37**	**345**	P	**Pn**	**22 38 59.0**	**-0.1**
FNA	**Florina**	**3.41**	**10**	*e*Pn	**Pn**	**22 39 15.3**	**+1.9**
TIP	**Timpagrande**	**3.48**	**301**	⇑P	**Pn**	**22 39 15.7**	**+1.2**
OHR	**Ohrid**	**3.68**	**3**	*e*Pn	**Pn**	**22 39 17.4**	**+0.2**
OHR	**Ohrid**	**3.68**	**3**	*i* Pn	**Pn**	**22 39 20.5**	**+3.3**
TIR	**Tirane**	**3.96**	**352**	*e*Pn	**Pn**	**22 39 21.1**	**+0.2**
TIR	**Tirane**	**3.96**	**352**	⇑P	**Pn**	**22 39 23.6**	**+2.7**
APE	**Apeiranthos**	**3.96**	**94**	⇑P	**Pn**	**22 39 21.4**	**+0.4**
IDI	**Anoyia**	**4.08**	**120**	Pn	**Pn**	**22 39 22.9**	**+0.3**
	1.0nm,0.3s,baz=224,slow=13,SNR=13						
IDI				Sn	**Sn**	**22 40 11.3**	**+1.5**
	3.1nm,0.3s,baz=60,slow=23,SNR=4.0						
SRS	**Serrai**	**4.36**	**31**	*e*Pn	**Pn**	**22 39 28.1**	**+1.6**
MATE	**Matera**	**4.41**	**318**	⇓P	**Pn**	**22 39 30.0**	**+2.8**
PEHC	**Pehcevo**	**4.70**	**22**	*i* Pn	**Pn**	**22 39 33.1**	**+1.9**
VAE	**Valguarnera**	**4.91**	**272**	Pn	**Pn**	**22 39 37.4**	**+3.4**
	6.7nm,0.5s,baz=150,slow=19,SNR=9.8						
VAE				Sn	**Sn**	**22 40 32.2**	**+1.9**
	3.3nm,0.3s,baz=354,slow=22,SNR=2.1						
PDG	**Podgorica**	**5.10**	**349**	*e*Pn	**Pn**	**22 39 34.7**	**-1.9**
PDG				*e*Sn	**Sn**	**22 40 33.5**	**-1.3**
PDG	**Podgorica**	**5.10**	**349**	*e*Pn	**Pn**	**22 39 35.5**	**-1.1**
PDG	**Podgorica**	**5.10**	**349**	⇓P	**Pn**	**22 39 38.4**	**+1.8**
HCY	**Herceg Novi**	**5.27**	**343**	*e*Pn	**Pn**	**22 39 38.4**	**-0.5**
BOSS	**Bosilegrad**	**5.27**	**15**	*e*Pn	**Pn**	**22 39 39.0**	**0.0**
BARS	**Barje**	**5.47**	**10**	*e*Pn	**Pn**	**22 39 41.8**	**+0.1**
TREB	**Trebinje**	**5.55**	**343**	*e*Pn	**Pn**	**22 39 41.1**	**-1.8**
TREB				*e*Sn	**Sn**	**22 40 43.1**	**-3.0**
TREB	**Trebinje**	**5.55**	**343**	*e*Pn	**Pn**	**22 39 41.2**	**-1.7**
VTS	**Vitosha**	**5.57**	**21**	*e*Pn	**Pn**	**22 39 44.6**	**+1.4**
KARP	**Karpathos**	**5.62**	**108**	P	**Pn**	**22 39 41.4**	**-2.4**
BRY	**Bratogost**	**5.69**	**345**	*e*Pn	**Pn**	**22 39 45.0**	**+0.2**
SELS	**Selova**	**5.80**	**4**	*e*Pn	**Pn**	**22 39 46.3**	**0.0**
SJES	**Sjenica**	**5.85**	**356**	*e*Pn	**Pn**	**22 39 47.1**	**+0.1**
SJES				*e*Sn	**Sn**	**22 40 51.0**	**-2.4**
SJES	**Sjenica**	**5.85**	**356**	*e*Pn	**Pn**	**22 39 45.3**	**-1.7**
STON	**Ston**	**5.87**	**339**	*e*Pn	**Pn**	**22 39 45.8**	**-1.3**
STON				*e*Sn	**Sn**	**22 40 48.8**	**-5.0**
STON	**Ston**	**5.87**	**339**	*e*Pn	**Pn**	**22 39 46.0**	**-1.1**
UPM	**Unac-Piva**	**5.91**	**348**	*e*Pn	**Pn**	**22 39 47.4**	**-0.5**
ZAPS	**Zavoj**	**6.05**	**14**	*e*Pn	**Pn**	**22 39 49.5**	**-0.2**
IVAS	**Ivanjica**	**6.15**	**357**	*e*Pn	**Pn**	**22 39 49.5**	**-1.6**
RUDO	**Rudo**	**6.25**	**352**	*e*Pn	**Pn**	**22 39 51.4**	**-1.1**
BOVS	**Bovan**	**6.26**	**7**	*e*Pn	**Pn**	**22 39 51.2**	**-1.3**
BOVS	**Bovan**	**6.26**	**7**	⇑P	**Pn**	**22 39 54.2**	**+1.6**
GRUS	**Gruza**	**6.46**	**1**	*e*Pn	**Pn**	**22 39 54.8**	**-0.4**
BBLS	**Lazi&#263i**	**6.50**	**352**	*e*Pn	**Pn**	**22 39 55.8**	**-0.1**
BBLS	**Lazi&#263i**	**6.50**	**352**	*e*Pn	**Pn**	**22 39 55.7**	**-0.1**
DIVS	**Divibare**	**6.68**	**356**	*e*Pn	**Pn**	**22 39 58.2**	**-0.2**
HAPS	**Han Pijesak,BI**	**6.77**	**350**	*e*Pn	**Pn**	**22 39 59.3**	**-0.3**
HAPS	**Han Pijesak,BI**	**6.77**	**350**	*e*Pn	**Pn**	**22 39 59.8**	**+0.2**
TRUS	**Trudelj**	**6.79**	**359**	*e*Pn	**Pn**	**22 39 59.2**	**-0.6**
ELND	**Elena**	**6.83**	**35**	⇑P	**Pn**	**22 40 01.9**	**+1.6**
TEKS	**Tekeris**	**7.16**	**354**	*e*Pn	**Pn**	**22 40 02.6**	**-2.3**
TEKS	**Tekeris**	**7.16**	**354**	*e*Pn	**Pn**	**22 40 02.0**	**-2.9**
A050A	**Klekovaca**	**7.69**	**338**	*e*Pn	**Pn**	**22 40 12.7**	**+0.5**
FRGS	**Fruska Gora**	**7.75**	**356**	*e*Pn	**Pn**	**22 40 09.6**	**-3.4**
BLY	**Banja Luka**	**7.75**	**342**	*e*Pn	**Pn**	**22 40 13.8**	**+0.8**
A051A	**Mrakovica**	**8.07**	**341**	*e*Pn	**Pn**	**22 40 15.6**	**-1.8**
GZR	**Gura Zlata**	**8.13**	**11**	⇑P	**Pn**	**22 40 19.7**	**+1.5**
BZS	**Buzias**	**8.22**	**5**	*e*Pn	**Pn**	**22 40 18.3**	**-1.1**
BZS	**Buzias**	**8.22**	**5**	⇑P	**Pn**	**22 40 21.2**	**+1.8**
ARR	**Arges**	**8.50**	**20**	⇓P	**Pn**	**22 40 24.9**	**+1.6**
VOIR		**8.68**	**21**	⇑P	**Pn**	**22 40 27.5**	**+1.7**
MORH	**Mrgy, Hungar**	**8.90**	**351**	*e*Pn	**Pn**	**22 40 28.1**	**-0.6**
MORH	**Mrgy, Hungar**	**8.90**	**351**	⇑P	**Pn**	**22 40 30.8**	**+2.1**
MLR	**Muntele Rosu**	**9.00**	**25**	Pn	**Pn**	**22 40 29.0**	**-1.3**
	0.1nm,0.3s,baz=237,slow=3.3,SNR=7.8						
	0.9nm,0.5s						
MLR	**Muntele Rosu**	**9.00**	**25**	⇓P	**Pn**	**22 40 32.6**	**+2.3**
KEST	**Kesra**	**9.20**	**263**	Pn	**Pn**	**22 40 35.6**	**+2.7**
	0.2nm,0.3s,baz=98,slow=4.2,SNR=4.3						
KEST				Sn	**Sn**	**22 42 14.2**	**-1.6**
	0.1nm,0.3s,baz=248,slow=13,SNR=1.5						
	2.0nm,0.7s						
CEY	**Cerknica**	**9.50**	**333**	*e*Pn	**Pn**	**22 40 36.1**	**-0.9**
PLOR	**Plostina**	**9.56**	**26**	⇑P	**Pn**	**22 40 40.5**	**+2.6**
VRI	**Vrincioaia**	**9.60**	**27**	⇑P	**Pn**	**22 40 41.2**	**+2.8**
SOKA	**Soboth**	**10.12**	**338**	*i* Pn	**Pn**	**22 40 44.6**	**-1.0**
	2.4nm,0.5s						
BRTR	**Keskin Array B**	**10.48**	**73**	Pn	**Pn**	**22 40 49.9**	**-0.6**
	0.1nm,0.3s,baz=256,slow=12,SNR=1.3						
	0.5nm,0.5s						
ARSA	**Arzberg**	**10.51**	**341**	*e*Pn	**Pn**	**22 40 51.1**	**+0.3**
	1.3nm,0.5s						
KBA	**Koelnbreinsper**	**11.03**	**333**	*i* Pn	**Pn**	**22 40 58.1**	**0.0**
	1.4nm,0.6s						
MOA	**Molln**	**11.40**	**338**	*e*Pn	**Pn**	**22 41 03.3**	**+0.2**
	1.3nm,0.3s						
BIOA	**Bad Ischl, Aus**	**11.46**	**336**	*i* Pn	**Pn**	**22 41 03.7**	**-0.1**
	1.3nm,0.4s						
LESA	**Schwarzleotal**	**11.57**	**332**	*e*Pn	**Pn**	**22 41 06.4**	**+1.0**
	4.7nm,0.6s						
WTTA	**Wattenberg**	**11.84**	**329**	*e*Pn	**Pn**	**22 41 10.5**	**+1.3**
	0.9nm,0.4s						
WATA	**Walderalm**	**11.92**	**329**	*i* Pn	**Pn**	**22 41 11.5**	**+1.2**
	2.7nm,0.7s						
GERES	**GERESS Array B**	**12.46**	**338**	Pn	**Pn**	**22 41 18.1**	**+0.5**
	0.4nm,0.4s						
DAVA	**Damuels**	**12.63**	**325**	*i* Pn	**Pn**	**22 41 21.5**	**+1.6**
	2.2nm,0.6s						
MMAI	**Mount Meron Ar**	**12.89**	**106**	Pn	**Pn**	**22 41 21.0**	**-2.5**
	0.4nm,0.3s,baz=302,slow=12,SNR=1.9						
MMAI				Sn	**Sn**	**22 43 39.1**	**-7.2**
	0.4nm,0.3s,baz=292,slow=20,SNR=1.5						
	0.2nm,0.3s						
MSBI	**Mazada**	**13.64**	**112**	P	**Pn**	**22 41 36.7**	**+3.2**
HSUJ	**Al Zarqa**	**13.88**	**108**	P	**Pn**	**22 41 39.6**	**+2.6**
EIL	**Elat**	**14.25**	**119**	Pn	**Pn**	**22 41 40.9**	**-1.1**
	0.2nm,0.3s,baz=350,slow=8.3,SNR=2.3						
	1.8nm,0.8s						
AQBJ	**Aqaba**	**14.29**	**118**	P	**Pn**	**22 41 43.3**	**+0.8**
AKASG	**Malin Array Be**	**14.64**	**22**	Pn	**Pn**	**22 41 45.6**	**-1.6**
	0.1nm,0.2s,baz=249,slow=7.7,SNR=1.9						
AKASG				LR	LR	22 48 28.3	
	comp=Z,152nm,18.1s,baz=359,slow=42						
CLL	**Collm**	**14.89**	**341**	*e*PP	**P**	**22 41 59.0**	**+2.9**
CLL				*e*(sPP)		22 42 06.0	
CLL				AMS	AMS	22 46 00.0	
	comp=N,100nm,19.3s						
CLL				AMS	AMS	22 46 00.0	
	comp=E,200nm,18.6s						
CLL				AMS	AMS	22 48 00.0	
	comp=Z,100nm,18.2s						
KBZ	**Khabaz**	**18.06**	**63**	P	**Pn**	**22 42 29.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=162,slow=3.2,SNR=2.0						
	comp=Z,1.7nm,0.9s						
ESDC	**Sonseca Array**	**19.32**	**284**	P	**Pn**	**22 42 46.1**	**-0.2**
	baz=71,slow=10,SNR=5.3						
	comp=Z,1.1nm,0.9s						
HFS	**Hagfors**	**23.15**	**351**	P	**P**	**22 43 25.5**	**-0.6**
	comp=Z,4.9nm,0.7s,baz=149,slow=12,SNR=10.0						
	comp=Z,4.9nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.07**	**326**	P	**P**	**22 43 35.6**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=124,slow=7.7,SNR=5.6						
	comp=Z,2.1nm,0.6s						
NB2	**NORSAR Subarra**	**24.36**	**349**	P	**P**	**22 43 37.9**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=162,slow=9.3						
NOA	**NORSAR Array B**	**24.36**	**349**	P	**P**	**22 43 38.0**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=153,slow=11,SNR=4.9						
NOA				LR	LR	22 53 58.1	
	comp=Z,26nm,20.6s,baz=65,slow=39						
	comp=Z,1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.48**	**220**	P	**P**	**22 44 26.4**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=28,slow=9.7,SNR=3.5						
	comp=Z,0.5nm,0.7s						
AKTO	**Aktyubinsk**	**29.60**	**52**	P	**P**	**22 44 23.9**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=286,slow=14,SNR=1.9						
	comp=Z,0.7nm,0.5s						
ARTI	**Arti**	**31.48**	**41**	P	**P**	**22 44 40.3**	**-1.2**
	comp=Z,2.3nm,0.7s,baz=199,slow=7.8,SNR=3.0						
	comp=Z,2.3nm,0.7s						
ARCES	**ARCESS Array B**	**32.28**	**3**	P	**P**	**22 44 47.6**	**-0.7**
	comp=Z,3.6nm,1.0s,baz=9.9,slow=7.8,SNR=2.4						
	comp=Z,3.6nm,1.0s						
BVAR	**Borovoye Array**	**37.57**	**49**	P	**P**	**22 45 33.6**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=253,slow=4.5,SNR=3.7						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**42.64**	**53**	P	**P**	**22 46 15.2**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=281,slow=8.5,SNR=6.1						
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**45.66**	**58**	P	**P**	**22 46 39.5**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=276,slow=6.9,SNR=12						
	comp=Z,0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**46.16**	**48**	P	**P**	**22 46 43.3**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=268,slow=9.8,SNR=4.0						
	comp=Z,0.7nm,0.4s						
SONM	**Songino Array**	**60.90**	**50**	P	**P**	**22 48 32.1**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=292,slow=4.7,SNR=4.6						
	comp=Z,0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**69.95**	**82**	P	**P**	**22 49 31.4**	**0.0**
	comp=Z,0.6nm,0.4s,baz=304,slow=8.6,SNR=5.1						
	comp=Z,0.6nm,0.4s						
ILAR	**Eielson Array**	**77.66**	**355**	P	**P**	**22 50 18.1**	**+2.2**
	comp=Z,0.2nm,0.7s,baz=348,slow=6.6,SNR=1.3						
	comp=Z,0.2nm,0.7s						
KSRS	**Korea Array**	**79.77**	**51**	P	**P**	**22 50 27.4**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=331,slow=5.3,SNR=4.9						
KSRS				LR	LR	23 29 55.0	
	comp=Z,17nm,19.1s,baz=0.0,slow=39						
	comp=Z,0.7nm,0.5s						
DLBC	**Dease Lake**	**81.38**	**345**	LR	LR	23 28 12.0	
	comp=Z,68nm,18.2s,baz=52,slow=37						

PRU 02 22:41:17.6, 50.°26N×19.°27E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**1.12**	**173**	*e*PG	Pg	22 41 37.5	-1.5
LANS				*e*SG	Sg	22 41 52.6	-0.9
LANS				*e*LG	Lg	22 41 53.5	
MORC	**Moravsky Berou**	**1.22**	**247**	*e*PG	Pg	22 41 40.1	-0.8
MORC				*e*SG	Sg	22 41 55.9	-0.7
KRLC	**Kraliky**	**1.61**	**264**	*e*SG	Sn	22 42 08.4	-0.4
DPC	**Dobruska-Polom**	**1.89**	**274**	*e*SG	Sb	22 42 17.7	+0.5

IDC ***02*** *23:37:54.1±1.0, 0.°47S×67.°46E, h0km, mb3.9/11, mbtmp3.9/11, MS3.7/44, Error ellipse: s-maj=29.3km s-min=23.1km az=37.0*
NEIC ***02*** *23:37:56.3±0.8, 0.°5S±0.°1×67.°2E±0.°1, h10km±1km, mb4.4/15, Error ellipse: s-maj=23.4km s-min=15.9km az=117.0*
GCMT ***02*** *23:37:57.3±0.4, 0.°60S±0.°03×67.°29E±0.°04, h14km±1km, MW4.7/73, Moment Tensor Solution. s14,c15; s73,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.19±.11; $M_{\theta\theta}$0.83±.07; $M_{\phi\phi}$0.35±.07; $M_{r\theta}$0.14±.17; $M_{\theta\phi}$-0.46±.05; $M_{\phi r}$-0.69±.20; Best double couple: M=1.33600×10^{16} NP1:ϕ_s321.00000°, δ59.00000°, λ-70.00000°. NP2: ϕ_s106.00000°, δ36.00000°, λ-120.00000°. Principal axes: T 1.2170, Plg12.0000°, Azm37.0000°; N 0.2340, Plg17.0000°, Azm131.0000°; P -1.4550, Plg69.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 23:37:56.8±0.7, 0.°6S±0.°2×67.°3E±0.°1, h19km, n68, σ0.°77/28, mb4.1/18, MS3.7/44, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**12.49**	**251**		**Pn**	**23 40 53.4**	**-0.3**
WSAR	**Wadi Sarin**	**25.10**	**341**	LR	LR	23 51 15.0	
	comp=Z,196nm,20.2s,baz=177,slow=32						
OPO	**Ambohidratompo**	**26.65**	**227**	LR	LR	23 51 25.2	
	comp=Z,193nm,18.9s,baz=190,slow=30						
FURI	**Furi**	**30.01**	**289**	LR	LR	23 54 29.9	
	comp=Z,82nm,21.7s,baz=140,slow=33						
KMBO	**Kilima Mbogo**	**30.04**	**269**	LR	LR	23 53 59.1	
	comp=Z,126nm,21.6s,baz=95,slow=32						
BRDH	**Bariadhala**	**33.10**	**44**	LR	LR	23 59 57.9	
	comp=Z,314nm,18.0s,baz=176,slow=40						
CMAR	**Chiang Mai Arr**	**36.39**	**57**	P	**P**	**23 45 00.8**	**+0.5**
	0.4nm,0.3s,baz=250,slow=10,SNR=1.4						
	0.4nm,0.3s						
MBAR	**Mbarara**	**36.55**	**270**	LR	LR	23 57 50.3	
	comp=Z,74nm,21.6s,baz=82,slow=33						
GAR	**Garm**	**39.45**	**4**	P	**P**	**23 45 25.8**	**-0.2**
GAR				IAmb	IAmb	23 45 27.1	
	comp=Z,15nm,1.4s						
BTK	**Batken**	**40.54**	**4**	P	**P**	**23 45 35.5**	**+0.5**
BTK				IAmb	IAmb	23 45 38.4	
	comp=Z,4.4nm,1.1s						
LSZ	**Lusaka**	**41.29**	**247**	P	**P**	**23 45 40.5**	**-1.0**
LSZ				IAmb	IAmb	23 45 49.1	
	comp=Z,10nm,1.1s						
ARSB	**Arslanbob**	**42.00**	**6**	P	**P**	**23 45 47.4**	**+0.4**
WUS	**Wushi**	**42.94**	**13**	P	**P**	**23 45 54.1**	**-0.6**
EIL	**Elat**	**43.06**	**317**	LR	LR	00 02 25.1	
	comp=Z,44nm,18.6s,baz=262,slow=34						
AAK	**Ala-Archa**	**43.48**	**8**	P	**P**	**23 45 58.8**	**-0.2**
AAK				IAmb	IAmb	23 46 18.4	
	comp=Z,4.3nm,1.3s						
MMAI	**Mount Meron Ar**	**44.91**	**321**	LR	LR	00 03 43.8	
	comp=Z,39nm,18.1s,baz=76,slow=34						
GNI	**Garni**	**45.43**	**336**	LR	LR	00 05 07.3	
	comp=Z,59nm,21.3s,baz=128,slow=36						
LBTB	**Lobatse**	**47.04**	**236**	LR	LR	00 04 21.7	
	comp=Z,98nm,18.5s,baz=60,slow=34						
H04N2	**CROZET ISLANDS**	**47.42**	**195**	T	T	00 37 30.4	
	baz=18,slow=75,SNR=9.2						
H04N1	**CROZET ISLANDS**	**47.43**	**195**	T	T	00 37 28.1	
	baz=18,slow=75,SNR=9.0						
H04N3	**CROZET ISLANDS**	**47.44**	**195**	T	T	00 37 29.2	
	baz=18,slow=75,SNR=8.2						
BOSA	**Boshof**	**48.89**	**231**	LR	LR	00 05 33.6	
	comp=Z,160nm,18.1s,baz=28,slow=34						
MKAR	**Makanchi Array**	**48.95**	**14**	P	**P**	**23 46 41.1**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=206,slow=8.0,SNR=3.6						
	comp=Z,0.4nm,0.8s						
KBZ	**Khabaz**	**49.19**	**337**	LR	LR	00 07 51.0	
	comp=Z,32nm,21.2s,baz=132,slow=36						
ABKAR	**Akbulak array**	**50.02**	**354**	P	**P**	**23 46 49.0**	**-0.8**
ABKAR				IAmb	IAmb	23 46 55.5	
	comp=Z,4.4nm,1.3s						
AKTO	**Aktyubinsk**	**51.41**	**352**	P	**P**	**23 47 00.1**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=135,slow=3.1,SNR=2.8						
	comp=Z,0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**51.87**	**9**	P	**P**	**23 47 03.3**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=206,slow=7.9,SNR=8.1						
KURBB				LR	LR	00 08 20.7	
	comp=Z,128nm,20.5s,baz=169,slow=35						
	comp=Z,1.3nm,0.3s						
TSUM	**Tsumeb**	**52.10**	**246**	LR	LR	00 07 37.7	
	comp=Z,173nm,18.7s,baz=153,slow=34						
KAPI	**Kappang**	**52.57**	**96**	LR	LR	00 09 27.1	
	comp=Z,26nm,18.6s,baz=279,slow=36						
BVAR	**Borovoye Array**	**53.45**	**2**	P	**P**	**23 47 15.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=159,slow=5.6,SNR=3.7						
BVAR				LR	LR	00 10 28.4	
	comp=Z,88nm,20.8s,baz=200,slow=37						
	comp=Z,0.4nm,0.5s						
SUR	**Sutherland**	**54.01**	**229**	LR	LR	00 07 10.2	
	comp=Z,206nm,20.3s,baz=64,slow=32						
BELG	**Belogornoye**	**55.28**	**345**	LR	LR	00 12 48.1

GULT			Sg	Sb	23 42 54.7	-1.4
SAUV	**Serdivan-Sakar**	**0.52 266**	Pg	Pg	23 42 46.7	-0.1
SAUV			Sg	Sb	23 42 54.5	-1.8
KAYN	**Sakarya, Kayna**	**0.54 291**	P	Pb	23 42 47.7	-1.1
KAYN			S	Sg	23 42 54.8	+0.5
KAYN			*i* AML	AML	23 42 55.0	
	comp=N,794nm,0.7s					
GEYV	**SAKARYA_Geyve**	**0.62 242**	P	Pg	23 42 48.8	+0.2
KDZE	**Karadeniz Ereo**	**0.63 31**	Pg	Pg	23 42 48.3	-0.6
KDZE			Sg	Sg	23 42 57.4	+0.4
KDZE	**Karadeniz Ereo**	**0.63 31**	⇓S	Sb	23 42 59.6	+0.1
YUVA	**Yuva-Kibriscik**	**0.64 127**	Pg	Pg	23 42 49.4	+0.3
YUVA			Sg	Sb	23 42 59.3	-0.6
KAND	**Kocaeli-Kandir**	**0.70 297**	P	Pg	23 42 50.1	0.0
KAND			S	Sg	23 42 59.4	+0.1
KAND			*i* AML	AML	23 43 00.0	
	comp=N,451nm,0.5s					
GPA	**Golpazari**	**0.72 228**	Pg	Pg	23 42 50.8	+0.1
KIBS	**BOLU**	**0.73 119**	P	Pb	23 42 51.2	-0.9
SRCK	**Saricakaya, Es**	**0.79 202**	Pg	Pb	23 42 52.3	-0.7
BCAM	**Yenicaga**	**0.80 87**	P	Pg	23 42 51.2	-0.9
BCAM			S	Sg	23 43 01.7	-0.8
BCAM			*i* AML	AML	23 43 07.0	
	comp=N,1μm,0.8s					
DEVR	**Zonguldak/Devr**	**0.81 63**	P	Pg	23 42 51.0	-1.4
DEVR			S	Sg	23 43 01.5	-1.5
DEVR			*i* AML	AML	23 43 06.0	
	comp=N,1μm,0.3s					
HISA	**Bilecik-Osmane**	**0.89 250**	P	Pb	23 42 54.0	-0.7
SEMS	**Kocaeli-K¶rfe**	**0.97 276**	P	Pg	23 42 54.3	-1.1
SEMS			S	Sg	23 43 07.3	-0.7
SEMS			*i* AML	AML	23 43 11.0	
	comp=N,445nm,0.6s					
AUMIH	**MIHALICIK**	**0.97 158**	P	Pg	23 42 55.4	-0.1
BORA	**Eskisehir**	**0.99 206**	P	Pb	23 42 56.2	-0.3
BORA			S	Sn	23 43 11.4	-0.5
BORA			*i* AML	AML	23 43 15.0	
	comp=N,1μm,0.5s					
OSMT	**Osmaniye**	**1.01 261**	Pg	Pg	23 42 55.9	-0.3
HRT	**Hereke**	**1.02 273**	Pg	Pg	23 42 55.9	-0.5
ADVT	**Abdulvahap**	**1.03 251**	Pg	Pb	23 42 56.4	-0.7
CAVI	**Cavuskoy**	**1.06 238**	Pg	Pb	23 42 56.9	-0.8
BILE	**Bilecik/Merkez**	**1.06 235**	P	Pg	23 42 56.5	-0.7
BILE			S	Sn	23 43 12.2	-1.5
BILE			*i* AML	AML	23 43 18.0	
	comp=N,792nm,0.6s					
AUBOZ	**BOZOYUK**	**1.14 221**	P	Pg	23 42 58.4	-0.3
AUBOZ			S	Sg	23 43 12.8	-0.7
AUBOZ			*i* AML	AML	23 43 20.0	
	comp=E,1μm,0.5s					
SVRH	**Sivrihisar-ESK**	**1.38 163**	Pn	Pb	23 43 02.6	-0.6
KRSK	**Karsak**	**1.39 255**	P	Pg	23 43 02.8	-0.5
KRSK			S	Sg	23 43 21.9	+0.6
CIFT	**Cifteler, Eski**	**1.41 178**	Pn	Pg	23 43 03.9	0.0
LOD	**Lodumlu**	**1.60 123**	Pn	Pn	23 43 05.6	-0.3
CIDE	**Kastamonu/Cide**	**1.83 52**	⇓S	Sg	23 43 37.4	+1.9
BAND	**Balkesir-Ban**	**2.26 260**	⇓S	Sg	23 43 48.2	-1.1
BRTR	**Keskin Array B**	**2.27 117**	Pn	Pn	23 43 15.6	+0.5
	2.2nm,0.3s,baz=292,slow=12,SNR=38					
BRTR			Pg	Pg	23 43 19.5	-0.7
	11nm,0.3s,baz=296,slow=14,SNR=31					
BRTR			Lg	Lg	23 43 51.1	
	19nm,0.3s,baz=297,slow=32,SNR=9.1					
	17nm,0.4s					
BZK	**Bozkurt**	**2.54 61**	⇑P	Pg	23 43 24.6	-0.9
BZK			⇑S	Sg	23 43 58.0	-0.4
DIKM	**Dikmen**	**3.32 73**	⇓P	Pb	23 43 36.3	+0.2
MANR	**Mangalia**	**3.53 330**	⇓P	Pn	23 43 33.4	+1.1
ICOR	**Ion Corvin**	**4.10 326**	⇓P	Pn	23 43 41.2	+1.1
ELND	**Elena**	**4.40 301**	⇑P	Pn	23 43 46.2	+1.9
HARR	**Harsova**	**4.52 331**	⇓P	Pn	23 43 46.7	+0.8
CFR	**Carcaliu**	**4.88 335**	⇓P	Pn	23 43 51.4	+0.6
CFR			⇓S	Sn	23 44 45.1	-2.6
ISR	**Istrita**	**5.44 324**	⇑P	Pn	23 43 59.7	+1.1
BISRR	**Bisoca**	**5.71 328**	⇓P	Pn	23 44 04.1	+1.7
ODBI	**Odobesti**	**5.76 331**	⇓P	Pn	23 44 05.2	+2.2
SPBR	**Spulber**	**5.86 329**	⇓P	Pn	23 44 06.2	+1.8
GHRR		**5.90 335**	⇑P	Pn	23 44 05.8	+1.0
VRI	**Vrincioaia**	**5.97 330**	⇓P	Pn	23 44 07.7	+1.9
PLOR	**Plostina**	**5.99 329**	⇑P	Pn	23 44 06.7	+0.6
MLR	**Muntele Rosu**	**6.00 323**	Pn	Pn	23 44 07.2	+0.9
	0.3nm,0.3s,baz=125,slow=18,SNR=5.6					
MLR			Sn	Sn	23 45 18.1	+2.7
	0.3nm,0.3s,baz=222,slow=21,SNR=2.0					
MLR			LR	LR	23 46 59.4	
	comp=Z,28nm,18.3s,baz=183,slow=44					
	1.2nm,0.5s					
MLR	**Muntele Rosu**	**6.00 323**	⇓P	Pn	23 44 08.5	+2.2
COVR	**Voineasa-Covas**	**6.16 327**	⇑P	Pn	23 44 10.1	+1.6
VOIR		**6.38 319**	⇑P	Pn	23 44 12.9	+1.4
TURR	**Turia**	**6.41 327**	⇓P	Pn	23 44 13.6	+1.7
OZUR		**6.54 326**	⇓P	Pn	23 44 15.9	+2.2
ARR	**Arges**	**6.55 317**	⇓P	Pn	23 44 14.9	+1.1
DOPR	**Dopca**	**6.61 324**	⇑P	Pn	23 44 16.9	+2.3
LOT	**Lotru**	**7.06 314**	⇓P	Pn	23 44 22.8	+1.9
HERR	**Herculane**	**7.53 306**	⇑P	Pn	23 44 28.9	+1.6
GZR	**Gura Zlata**	**7.59 310**	⇓P	Pn	23 44 29.5	+1.4
BURAR	**Bucovina Array**	**8.00 331**	⇓P	Pn	23 44 36.1	+2.3
DRGR		**8.50 318**	⇓P	Pn	23 44 42.7	+2.2
KBZ	**Khabaz**	**9.29 68**	LR	LR	23 49 43.8	
	comp=Z,40nm,19.4s,baz=312,slow=46					
AKASG	**Malin Array Be**	**10.01 353**	Pn	Pn	23 45 01.4	+0.3
	1.1nm,0.3s,baz=157,slow=10.0,SNR=2.5					
	0.5nm,0.4s					
FINES	**FINESS Array B**	**20.91 353**	P	Pn	23 47 21.4	-1.0
	1.5nm,0.8s,baz=167,slow=13,SNR=1.7					
	1.5nm,0.8s					
NOA	**NORSAR Array B**	**23.64 336**	LR	LR	23 58 07.1	
	comp=Z,7.8nm,20.2s,baz=280,slow=39					
KURBB	**Kurchatov Arra**	**34.08 57**	P	P	23 49 23.0	+0.9
	0.5nm,0.5s,baz=274,slow=8.6,SNR=2.1					
	0.5nm,0.5s					
MKAR	**Makanchi Array**	**36.95 63**	P	P	23 49 47.9	+1.1
	0.5nm,0.6s,baz=274,slow=9.4,SNR=5.5					
MKAR			LR	LR	00 08 25.2	
	comp=Z,126nm,19.1s,baz=210,slow=42					
	0.5nm,0.6s					
TORD	**Torodi Ar. Bea**	**37.62 231**	P	P	23 49 52.6	-0.1
	0.5nm,0.5s,baz=35,slow=9.9,SNR=6.8					
	0.5nm,0.5s					

*IDC **02** 23:49:41.1±1.1, 37°.48N×20°.98E, h0km, mb3.7/11, mbtmp3.6/16, ML3.4/3, Error ellipse: s-maj=21.1km s-min=16.5km az=167.0*
*ATH **02** 23:49:44.3, 37°.40N×20°.81E, h11km±1km, ML3.5/8, Error ellipse: s-maj=2.1km s-min=0.8km az=51.0*
*THE **02** 23:49:44.2, 37°.39N×20°.78E, h10km±2km, ML3.5/7, Error ellipse: s-maj=2.7km s-min=0.7km az=58.0*
ISC 02 23:49:44.3±0.7, 37°.44N±0°.04×20°.83E±0°.03, h20km±2km, n71, σ1§36/85, mb3.7/11, 7C-6D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.22 357**		P	Pb	23 49 49.9	-0.2
KRI1				S	Sb	23 49 53.8	-0.3
	54μm,0.3s						
LTHK	**Lithakia**	**0.27**	**0**	P	Pb	23 49 50.5	-0.1
LTHK				S	Sb	23 49 54.9	0.0
LTHK				AML	AML	23 49 56.0	
	comp=E,54512μm,0.1s						
LTHK				AML	AML	23 49 58.2	
	comp=N,66940μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.64 356**		P	Pb	23 49 56.6	-0.2
RTZL				S	Sn	23 50 07.7	0.0
PSDA	**Pessada-Kefalo**	**0.70 344**		P	Pb	23 49 58.1	+0.2
PSDA				S	Sn	23 50 09.2	-0.1
	comp=N,8μm,0.2s						
AMT	**Artemida-Makis**	**0.70**	**82**	P	Pn	23 49 58.5	-0.7
AMT				S	Sn	23 50 08.1	-1.3
AMT				AML	AML	23 50 13.8	
	comp=N,22090μm,0.5s						
AMT				AML	AML	23 50 15.1	
	comp=E,23477μm,0.4s						
VLS	**Valsamata**	**0.76 345**		P	Pb	23 49 58.7	-0.2
VLS				S	Sn	23 50 11.0	+0.2
	comp=E,5μm,0.2s						
VLS	**Valsamata**	**0.76 345**		P	Pb	23 49 59.0	+0.1
VLS				S	Sn	23 50 10.3	-0.5
VLS				AML	AML	23 50 11.6	
	comp=E,12360μm,0.2s						
VLS				AML	AML	23 50 14.0	
	comp=N,10556μm,0.3s						

RLS	**Riolos of Patr**	**0.79**	**39**	P	Pb	23 49 59.6	+0.2
RLS				S	Sn	23 50 12.2	+0.6
	comp=N,2μm,0.4s						
RLS	**Riolos of Patr**	**0.79**	**39**	P	Pb	23 49 59.6	+0.2
RLS				S	Sn	23 50 11.2	-0.4
RLS				AML	AML	23 50 18.7	
	comp=N,3687μm,0.4s						
RLS				AML	AML	23 50 19.5	
	comp=E,3404μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.82 338**		P	Pb	23 50 00.4	+0.5
DRO	**Drossia**	**0.86 53**		P	Pn	23 50 01.0	-0.4
DRO				S	Sn	23 50 14.3	+1.0
DRO				AML	AML	23 50 18.2	
	comp=E,4925μm,0.3s						
DRO				AML	AML	23 50 21.0	
	comp=N,6773μm,0.4s						
PYL	**PYLOS**	**0.91 127**		P	Pn	23 50 01.5	-0.4
PYL				S	Sn	23 50 15.2	+0.8
	comp=N,782nm,0.6s						
PYL	**PYLOS**	**0.91 127**		P	Pn	23 50 01.5	-0.4
PYL				S	Sn	23 50 13.0	-1.4
PYL				AML	AML	23 50 22.9	
	comp=N,1645μm,0.7s						
PYL				AML	AML	23 50 23.2	
	comp=E,1756μm,0.6s						
ITM	**Ithomi**	**0.91 106**		P	Pn	23 50 01.7	-0.2
ITM				S	Sn	23 50 16.1	+1.6
	comp=E,1μm,0.6s						
ITM	**Ithomi**	**0.91 106**		P	Pn	23 50 01.8	-0.2
ITM				S	Sn	23 50 13.8	-0.7
ITM				AML	AML	23 50 19.9	
	comp=E,2169μm,0.7s						
ITM				AML	AML	23 50 20.8	
	comp=N,2670μm,0.5s						
VSK1	**VASILIKIADES**	**0.99 348**		P	Pn	23 50 03.0	-0.1
FSK	**Fiskardo**	**1.04 348**		P	Pb	23 50 03.9	+0.3
FSK				S	Sn	23 50 20.7	+3.0
	comp=N,2μm,0.4s						
FSK	**Fiskardo**	**1.04 348**		P	Pb	23 50 04.1	+0.5
FSK				S	Sn	23 50 18.7	+1.1
FSK				AML	AML	23 50 21.3	
	comp=E,5912μm,0.2s						
FSK				AML	AML	23 50 21.5	
	comp=N,3921μm,0.5s						
EVGI	**Lefkada island**	**1.19 353**		P	Pb	23 50 06.3	+0.1
KLV	**Kalavryta, Ach**	**1.20 60**		P	Pb	23 50 06.8	+0.3
GUR	**Goura**	**1.29 67**		P	Pb	23 50 08.2	+0.1
EFP	**Efpalio**	**1.30 40**		P	Pb	23 50 08.1	0.0
KALE	**Kalithea**	**1.40 47**		P	Pb	23 50 10.3	+0.4
ANX	**Ano Chora**	**1.44 36**		P	Pb	23 50 10.4	0.0
VLI	**Veliai**	**1.83 113**		P	Pb	23 50 17.4	+0.3
JAN	**Janina**	**2.21 0**		P	Pb	23 50 23.4	-0.3
TIP	**Timpagrande**	**3.65 300**		⇑P	Pn	23 50 41.3	+1.7
OHR	**Ohrid**	**3.67 360**		*i* Pn	Pn	23 50 42.5	+2.6
IDI	**Anoyia**	**3.92 122**		Pn	Pn	23 50 41.2	-2.1
	comp=N,4.1nm,0.9s,baz=266,slow=3.9,SNR=1.6						
IDI				Sn	Sn	23 51 30.0	+1.2
	comp=N,1.2nm,0.3s,baz=213,slow=19,SNR=4.8						
TIR	**Tirane**	**3.97 349**		⇑P	Pn	23 50 45.6	+1.6
PEHC	**Pehcevo**	**4.62 20**		*i* Pn	Pn	23 50 54.9	+1.9
VAE	**Valguarnera**	**5.11 272**		Pn	Pn	23 51 03.1	+3.3
	comp=N,3.5nm,0.3s,baz=7.4,slow=13,SNR=5.9						
VAE				Sn	Sn	23 51 57.6	-0.6
	comp=N,1.6nm,0.3s,baz=18,slow=19,SNR=1.5						
PDG	**Podgorica**	**5.13 347**		*e*Pn	Pn	23 50 57.7	-2.2
PDG	**Podgorica**	**5.13 347**		⇓P	Pn	23 51 05.7	+5.8
TREB	**Trebinje**	**5.60 341**		*e*Pn	Pn	23 51 05.2	-1.3
BRY	**Bratogost**	**5.73 343**		*e*Pn	Pn	23 51 04.2	-4.1
SJES	**Sjenica**	**5.85 354**		*e*Pn	Pn	23 51 11.1	+1.1
STON	**Ston**	**5.93 337**		*e*Pn	Pn	23 51 09.3	-1.6
UPM	**Unac-Piva**	**5.94 346**		*e*Pn	Pn	23 51 11.2	-0.1
BOVS	**Bovan**	**6.22 6**		⇓P	Pn	23 51 14.6	-0.4
RUDO	**Rudo**	**6.27 350**		*e*Pn	Pn	23 51 06.6	-9.0
BBLS	**Lazi&#263i**	**6.51 351**		*e*Pn	Pn	23 51 16.9	-2.1
ELND	**Elena**	**6.70 34**		⇑P	Pn	23 51 23.2	+1.6
HAPS	**Han Pijesak,Bl**	**6.79 348**		*e*Pn	Pn	23 51 22.3	-0.6
A050A	**Klekovaca**	**7.75 337**		*e*Pn	Pn	23 51 36.9	+0.9
BLY	**Banja Luka**	**7.80 340**		*e*Pn	Pn	23 51 37.2	+0.6
GZR	**Gura Zlata**	**8.08 10**		⇑P	Pn	23 51 42.5	+2.0
A051A	**Mrakovica**	**8.12 340**		*e*Pn	Pn	23 51 39.1	-2.0
ARR	**Arges**	**8.42 19**		⇓P	Pn	23 51 47.0	+1.9
VOIR		**8.59 20**		⇑P	Pn	23 51 49.5	+2.0
MLR	**Muntele Rosu**	**8.91 24**		Pn	Pn	23 51 53.0	+1.1
	comp=N,0.2nm,0.3s,baz=276,slow=12,SNR=1.9						
	comp=N,1.1nm,0.6s						
MLR	**Muntele Rosu**	**8.91 24**		⇑P	Pn	23 52 00.5	+8.5
MORH	**Mrgy, Hungar**	**8.92 350**		⇓P	Pn	23 51 50.4	-1.6
KEST	**Kesra**	**9.40 263**		Pn	Pn	23 51 59.8	+1.2
	comp=N,0.2nm,0.3s,baz=108,slow=17,SNR=5.0						
	comp=N,2.6nm,0.8s						
TURR	**Turia**	**9.44 23**		⇓P	Pn	23 52 10.2	+11
PLOR	**Plostina**	**9.46 26**		⇑P	Pn	23 52 03.0	+3.5
VRI	**Vrincioaia**	**9.50 26**		⇓P	Pn	23 52 03.8	+3.9
CEY	**Cerknica**	**9.57 332**		*e*Pn	Pn	23 52 01.3	+0.3
AKASG	**Malin Array Be**	**14.55 22**		Pn	P	23 53 14.4	-0.9
	comp=N,1.8nm,0.3s,baz=213,slow=9.5,SNR=5.6						
ESDC	**Sonseca Array**	**19.51 284**		P	Pn	23 54 11.3	-0.3
	baz=79,slow=7.6,SNR=2.3						
	comp=N,0.4nm,0.8s						
HFS	**Hagfors**	**23.16 351**		P	P	23 54 48.0	-1.2
	comp=N,1.6nm,0.7s,baz=170,slow=9.0,SNR=7.3						
	comp=N,1.6nm,0.7s						
BELG	**Belogornoye**	**23.96 43**		P	P	23 54 56.2	-0.8
	comp=N,4.6nm,0.5s,baz=199,slow=15,SNR=5.4						
	comp=N,4.6nm,0.5s						
EKA	**Eskdalemuir Ar**	**24.17 325**		P	P	23 54 59.0	0.0
	comp=N,1.0nm,0.6s,baz=122,slow=11,SNR=2.9						
	comp=N,1.0nm,0.6s						
FINES	**FINESS Array B**	**24.25 6**		P	P	23 54 58.4	-1.2
	comp=N,1.8nm,0.8s,baz=180,slow=12,SNR=8.8						
	comp=N,1.8nm,0.8s						
NOA	**NORSAR Array B**	**24.39 349**		P	P	23 55 01.3	+0.3
	comp=N,0.4nm,0.7s,baz=162,slow=9.9,SNR=1.5						
	comp=N,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.62 220**		P	P	23 55 48.6	+0.3
	comp=N,0.3nm,0.7s,baz=38,slow=8.8,SNR=2.2						
	comp=N,0.3nm,0.7s						
ARCES	**ARCESS Array B**	**32.25 3**		P	P	23 56 10.0	-1.0
	comp=N,1.2nm,0.8s,baz=178,slow=6.2,SNR=1.4						
	comp=N,1.2nm,0.8s						
BVAR	**Borovoye Array**	**37.41 49**		P	P	23 56 54.7	-1.0
	comp=N,0.3nm,0.4s,baz=256,slow=5.8,SNR=1.7						
	comp=N,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**42.47 53**		P	P	23 57 36.4	-1.4
	comp=N,0.6nm,0.6s,baz=279,slow=8.8,SNR=8.0						
	comp=N,0.6nm,0.6s						
MKAR	**Makanchi Array**	**45.48 58**		P	P	23 58 00.9	-1.2
	comp=N,0.5nm,0.5s,baz=274,slow=7.3,SNR=10						
	comp=N,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**46.00 48**		P	P	23 58 05.5	-0.5
	comp=N,0.5nm,0.3s,baz=268,slow=7.2,SNR=1.8						
	comp=N,0.5nm,0.3s						

IDC 03 00:16:22.7±2.7, 0°.55S×67°.25E, h0km, mb3.6/4, mbtmp3.6/4, MS3.5/27, Error ellipse: s-maj=95.8km s-min=36.8km az=63.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**25.09 341**		LR	LR	00 29 35.4	
	comp=Z,104nm,21.7s,baz=189,slow=32						
FURI	**Furi**	**29.96 289**		LR	LR	00 33 39.8	
	comp=Z,36nm,18.9s,baz=4.0,slow=35						
KMBO	**Kilima Mbogo**	**30.00 269**		LR	LR	00 33 26.1	
	comp=Z,32nm,18.1s,baz=89,slow=34						
CMAR	**Chiang Mai Arr**	**36.43 57**		LR	LR	00 36 47.2	
	comp=Z,36nm,21.7s,baz=250,slow=34						
MBAR	**Mbarara**	**36.51 270**		LR	LR	00 35 56.1	
	comp=Z,38nm,19.6s,baz=66,slow=32						
EIL	**Elat**	**43.03 317**		LR	LR	00 38 49.5	
	comp=Z,29nm,18.6s,baz=77,slow=31						
AAK	**Ala-Archa**	**43.48 8**		LR	LR	00 42 33.9	
	comp=Z,41nm,20.6s,baz=200,slow=36						
GNI	**Garni**	**45.41 336**		LR	LR	00 44 27.4	
	comp=Z,28nm,18.1s,baz=98,slow=37						
LBTB	**Lobatse**	**47.01 236**		LR	LR	00 41 41.3	
	comp=Z,43nm,21.6s,baz=78,slow=32						
H04N2	**CROZET ISLANDS**	**47.41 195**		T	T	01 15 54.5	
	baz=18,slow=75,SNR=9.2						
H04N1	**CROZET ISLANDS**	**47.41 195**		T	T	01 15 57.8	
	baz=18,slow=75,SNR=7.7						
H04N3	**CROZET ISLANDS**	**47.43 195**		T	T	01 15 57.7	
	baz=18,slow=75,SNR=7.4						
BOSA	**Boshof**	**48.85 231**		LR	LR	00 44 20.3	
	comp=Z,74nm,18.1s,baz=26,slow=34						

KBZ	**Khabaz**	**49.16 337**		LR	LR	00 46 17.9	
	comp=Z,33nm,19.4s,baz=9.5,slow=36						
KURBB	**Kurchatov Arra**	**51.88 9**		P	P	00 25 31.7	-1.1
	0.2nm,0.4s,baz=200,slow=7.8,SNR=1.5						
KURBB				LR	LR	00 46 49.6	
	comp=Z,77nm,20.1s,baz=163,slow=35						
	0.2nm,0.4s						
TSUM	**Tsumeb**	**52.06 246**		LR	LR	00 46 06.2	
	comp=Z,66nm,18.0s,baz=130,slow=34						
BVAR	**Borovoye Array**	**53.45 2**		LR	LR	00 49 49.1	
	comp=Z,40nm,18.8s,baz=197,slow=38						
SUR	**Sutherland**	**53.97 229**		LR	LR	00 45 48.8	
	comp=Z,86nm,19.0s,baz=62,slow=33						
BELG	**Belogornoye**	**55.27 345**		LR	LR	00 49 38.6	
	comp=Z,34nm,21.8s,baz=93,slow=36						
ZALV	**Zalesovo Beam**	**56.23 12**		LR	LR	00 49 42.5	
	comp=Z,41nm,18.7s,baz=48,slow=36						
ARTI	**Arti**	**57.21 354**		LR	LR	00 50 35.1	
	comp=Z,43nm,19.0s,baz=172,slow=36						
SONM	**Songino Array**	**58.97 30**		P	P	00 26 25.0	+0.8
	0.5nm,0.7s,baz=214,slow=8.3,SNR=2.6						
SONM				LR	LR	00 52 02.7	
	comp=Z,145nm,18.6s,baz=264,slow=36						
	0.5nm,0.7s						
KIRV	**Kirov**	**60.62 349**		LR	LR	00 52 37.7	
	comp=Z,32nm,21.4s,baz=195,slow=36						
KSRS	**Korea Array**	**67.42 49**		LR	LR	00 59 07.6	
	comp=Z,19nm,18.3s,baz=230,slow=38						
WRA	**Warramunga Arr**	**68.32 111**		P	P	00 27 26.1	-0.3
	0.7nm,0.8s,baz=282,slow=5.2,SNR=3.6						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**68.47 115**		P	P	00 27 27.3	0.0
	0.5nm,0.7s,baz=295,slow=5.0,SNR=2.4						
	0.5nm,0.7s						
KLR	**Kul'dur**	**74.04 38**		LR	LR	01 00 26.9	
	comp=Z,29nm,18.4s,baz=292,slow=36						
MJAR	**Matsushiro Arr**	**75.11 52**		LR	LR	01 03 08.2	
	comp=Z,22nm,18.0s,baz=340,slow=37						
YAK	**Yakutsk**	**77.89 25**		LR	LR	01 03 24.9	
	comp=Z,33nm,21.7s,baz=310,slow=36						
TIXI	**Tiksi**	**81.86 16**		LR	LR	01 04 53.2	
	comp=Z,43nm,18.5s,baz=16,slow=36						
SNAA	**Sanae**	**83.29 197**		LR	LR	01 00 07.1	
	comp=Z,32nm,19.4s,baz=16,slow=32						
MA2	**Magadan**	**87.18 30**		LR	LR	01 09 00.2	
	comp=Z,46nm,18.8s,baz=284,slow=36						
TXAR	**Lajitas Array**	**150.09 344**		PKPbc	PKPbc	00 36 16.4	0.0
	0.4nm,0.7s,baz=46,slow=2.6,SNR=3.6						

*SOF **03** 00:18:36.6, 41°.79N±0°.01×23°.76E±0°.01, h20km±5km, MD2.6/8*
*SKO **03** 00:18:38.6, 41°.80N×23°.69E, h3km*
*BEO **03** 00:18:38.0±0.3, 41°.80N×23°.69E, h9km±2km, ML2.4/9*
ISC 03 00:18:37.6±0.9, 41°.80N±0°.02×23°.73E±0°.02, h12km±8km, n30, σ0§65/54, 3C-1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	**Musomishta**	**0.25 177**		⇑*i* Pg	Pg	00 18 42.9	+0.1
MMB				*i* Sg	Sg	00 18 47.0	+0.6
MMB	**Musomishta**	**0.25 177**		*i* Pg	Pg	00 18 42.7	-0.1
MMB				Sg	Sg	00 18 46.3	0.0
KKB	**Krupnik**	**0.45 276**		*i* Pg	Pg	00 18 46.7	+0.2
KKB				Sg	Sb	00 18 53.1	-1.1
KKB	**Krupnik**	**0.45 276**		⇓*i* Pg	Pg	00 18 46.8	+0.3
KKB				*i* Sg	Sb	00 18 53.5	-0.8
PEHC	**Pehcevo**	**0.62 269**		*i* Pg	Pb	00 18 50.1	-0.4
PEHC				*i* Sg	Sg	00 18 57.7	-0.3
SRS	**Serrai**	**0.69 189**		*e*Pg	Pg	00 18 50.7	-0.2
SRS				*e*Sg	Sg	00 19 00.3	+0.4
SRS	**Serrai**	**0.69 189**		⇑*i* Pg	Pg	00 18 50.8	-0.1
SRS				*i* Sg	Sg	00 19 00.7	+0.7
PLNA	**Plana**	**0.71 341**		*i* Pg	Pg	00 18 51.8	+0.3
PLNA				Sg	Sg	00 19 01.2	+0.3
PGB	**Panagyurishte**	**0.79 24**		*i* Pg	Pg	00 18 52.8	0.0
PGB				Sg	Sg	00 19 03.4	+0.3
PLD	**Plovdiv**	**0.83 65**		*i* Pg	Pg	00 18 53.3	-0.4
PLD				Sg	Sg	00 19 03.9	-0.7
PLD	**Plovdiv**	**0.83 65**		*e*Pg	Pg	00 18 53.1	-0.6
PLD				*e*Sg	Sg	00 19 04.1	-0.5
PLD	**Plovdiv**	**0.83 65**		*i* Pg	Pg	00 18 53.3	-0.4
PLD				*i* Sg	Sg	00 19 04.1	-0.5

WB2 Warramunga Arr 42.66 266 P P 00 29 56.6 -0.8
WB2 IAmb IAmb 00 29 57.2
comp=Z,21nm,0.7s
WB0 Warramunga Arr 42.67 266 P P 00 29 56.5 -0.9
WRAB Tennant Creek 42.67 266 P P 00 29 56.6 -0.8
WRAB IAmb IAmb 00 29 57.2
comp=Z,18nm,0.8s
WRA Warramunga Arr 42.67 266 P P 00 29 56.5 -0.9
comp=Z,21nm,0.6s,baz=96,slow=8.4,SNR=165
WRA ScP **ScP 00 34 43.2 +3.3**
comp=Z,1.4nm,0.9s,baz=101,slow=3.7,SNR=6.1
comp=Z,21nm,0.6s
FORT Forrest 46.58 250 P 00 30 26.9 -0.5
MTN Manton Dam 47.72 274 P P 00 30 35.1 -1.1
MTN IAmb IAmb 00 30 51.1
comp=Z,9.7nm,0.9s
KNRA Kununurra 48.95 270 P P 00 30 45.2 -0.2
KNRA IAmb IAmb 00 30 46.2
comp=Z,13nm,0.7s
FAKI Fak Fak 50.82 287 P P 00 30 58.3 -1.0
FITZ Fitzroy Crossi 51.10 265 P P 00 31 01.3 +0.1
SOEI Soe 55.10 275 P P 00 31 30.8 +0.9
SOEI IAmb IAmb 00 31 40.2
comp=Z,32nm,1.0s
PSA00 Pilbara Seismi 55.43 259 P P 00 31 30.9 -1.1
NWAO Narrogin (SRO) 55.50 245 P P 00 31 31.7 -0.6
NWAO IAmb IAmb 00 31 44.7
comp=Z,28nm,1.1s
MBWA Marble Bar 55.64 260 P P 00 31 32.8 -0.6
MBWA IAmb IAmb 00 31 33.1
comp=Z,9.3nm,0.7s
MORW Morawa 57.14 250 P P 00 31 43.4 -0.3
MORW IAmb IAmb 00 31 43.8
comp=Z,12nm,0.7s
GIRL Giralia 60.19 257 P P 00 32 04.8 +0.4
TOLI2 Tolitoli 62.82 284 P P 00 32 20.5 -1.2
TOLI2 IAmb IAmb 00 32 21.3
comp=Z,12nm,0.9s
QSPA South Pole Qui 66.24 180 P P 00 32 41.9 -0.7
QSPA South Pole Qui 66.24 180 P P 00 32 44.8 +2.2
comp=Z,2.2nm,0.7s,baz=21,slow=0.6,SNR=7.5
comp=Z,2.2nm,0.7s
UGM Wanagama 68.37 271 P P 00 32 55.9 -0.6
MJAR Matsushiro Arr 72.00 325 P P 00 33 16.6 -0.9
comp=Z,0.9nm,0.3s,baz=150,slow=5.9,SNR=1.5
comp=Z,0.9nm,0.3s
TATO Taipei 74.83 306 P P 00 33 33.9 0.0
SMAI San Martin Ant 76.06 159 P P 00 33 40.0 0.0
BELA Belgrano 2 76.45 173 P P 00 33 43.5 +1.4
MAW Mawson 77.89 200 P P 00 33 51.4 +1.3
comp=Z,1.7nm,0.8s,baz=137,slow=8.5,SNR=4.6
comp=Z,1.7nm,0.8s
KSRS Korea Array 78.38 320 P P 00 33 53.9 +0.8
comp=Z,1.0nm,0.7s,baz=138,slow=5.6,SNR=4.6
comp=Z,1.0nm,0.7s
PETK Petropavlovsk- 79.11 346 P P 00 33 56.8 +0.2
PETK Petropavlovsk- 79.11 346 P P 00 33 56.7 +0.1
comp=Z,2.0nm,0.7s,baz=149,slow=5.9,SNR=1.9
comp=Z,2.0nm,0.7s
S12K Black Hills 80.65 10 P P 00 34 02.6 -2.1
SNAA Sanae 84.72 179 P P 00 34 25.5 +0.3
comp=Z,0.3nm,0.4s,baz=184,slow=13,SNR=8.3
comp=Z,0.3nm,0.4s
BMN Battle Mountai 86.38 43 pP 00 36 22.6 -3.2
CMAR Chiang Mai Arr 89.76 290 P P 00 34 51.6 +1.8
comp=Z,1.4nm,0.3s,baz=152,slow=4.1,SNR=8.0
comp=Z,1.4nm,0.3s
TXAR Lajitas Array 90.18 58 P P 00 34 53.7 +2.0
comp=Z,0.6nm,0.7s,baz=238,slow=5.0,SNR=7.9
comp=Z,0.6nm,0.7s
EGMT Eagleton 95.01 39 pP 00 37 01.8 -5.1
MKAR Makanchi Array 112.31 313 PKiKP PKiKP 00 40 22.8 -0.5
comp=Z,0.2nm,0.5s,baz=84,slow=2.0,SNR=3.5
KURBB Kurchatov Arra 115.39 316 PKP PKPdf 00 40 28.1 -0.8
comp=Z,0.3nm,0.3s,baz=88,slow=2.1,SNR=5.4
AOPR Arecibo Observ 117.71 81 PKPdf 00 40 30.0 -4.4
BVAR Borovoye Array 120.58 319 PKP PKPdf 00 40 38.2 -0.7
comp=Z,0.9nm,0.5s,baz=144,slow=2.6,SNR=6.7
ARCES ARCESS Array B 131.89 348 PKP PKPdf 00 40 60.0 0.0
comp=Z,2.9nm,0.9s,baz=45,slow=1.8,SNR=6.1
FINES FINESS Array B 138.48 342 PKhKP PKPpre 00 41 03.5
comp=Z,1.6nm,1.0s,baz=31,slow=3.0,SNR=1.1
FINES PKP **PKPdf 00 41 13.4 +1.0**
comp=Z,2.8nm,1.0s,baz=29,slow=3.2,SNR=5.3
FINES SKPbc **SKPbc 00 43 59.4 +0.7**
comp=Z,1.1nm,0.6s,baz=46,slow=5.5,SNR=8.1
NOA NORSAR Array B 142.07 351 PKhKP PKPpre 00 41 15.5
comp=Z,0.5nm,0.9s,baz=30,slow=3.9,SNR=1.6
HFS Hagfors 142.54 349 PKhKP PKPpre 00 41 16.5
comp=Z,2.2nm,0.3s,baz=53,slow=3.7,SNR=33
AKASG Malin Array Be 145.07 327 PKP PKPdf 00 41 24.7 +0.2
comp=Z,2.4nm,0.5s,baz=44,slow=4.2,SNR=21
AKASG SKPbc **SKiKP 00 44 16.8 +0.9**
comp=Z,1.6nm,0.6s,baz=41,slow=2.8,SNR=6.9
AKBB Malin Array Si 145.07 327 PKPdf 00 41 24.3 -0.1
KIEV Kiev 145.08 328 PKPdf 00 41 24.8 +0.4
BRTR Keskin Array B 147.76 307 PKPbc PKPbc 00 41 31.9 -1.3
comp=Z,0.8nm,0.4s,baz=91,slow=4.1,SNR=2.4
MMAI Mount Meron Ar 147.92 294 PKPbc PKiKP 00 41 34.6 -0.5
comp=Z,4.2nm,0.5s,baz=73,slow=5.8,SNR=31
EKA Eskdalemuir Ar 148.45 4 PKPbc PKPbc 00 41 34.0 -0.2
comp=Z,1.0nm,0.6s,baz=328,slow=2.5,SNR=3.8
LANS Liptovska Anna 150.58 334 *e*PKP **PKiKP 00 41 42.1 +1.1**
CLL Collm 150.88 344 *i* PKPbc **PKiKP 00 41 40.7 +0.2**
CLL *e*PKPab **PKPab 00 41 50.0 +0.3**
comp=Z,4.0nm,0.9s
TORD Torodi Ar. Bea 169.28 187 PKPab PKPab 00 43 11.1 +0.5
comp=Z,0.2nm,0.6s,baz=149,slow=3.4,SNR=2.7

*IDC **03** 00:33:07.1±0.7, 60°.19S×26°.78W, h0km, mb4.1/8, mbtmp4.1/8, MS3.3/7, Error ellipse: s-maj=28.8km s-min=19.4km az=45.0*
*NEIC **03** 00:33:08.3±1.5, 60°.31S±0°.05×26°.6W±0°.2, h10km±1km, mb4.6/47, Error ellipse: s-maj=15.9km s-min=8.5km az=93.0*
ISC 03 00:33:08.3±0.5, 60°.28S±0°.09×26°.6W±0°.1, h10km, n73, σ0§99/63, mb4.6/29, MS3.3/5, 5C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.06**	**314**		Pn	**Pn**	**00 35 06.2**	**+1.0**
VNA1	**Neumayer--Stat**	**12.81**	**152**	⇑P		**Pn**	**00 36 08.7**	**-1.4**
comp=Z,39nm,0.3s								
VNA3	**Neumayer Olymp**	**12.93**	**155**	⇑P		**Pn**	**00 36 09.8**	**-2.0**
comp=Z,11nm,0.3s								
VNA3				⇓S		Sn	00 38 20.7	-15
comp=Z,0.4nm,0.3s								
VNA2	**Neumayer--Watz**	**13.21**	**152**	⇑P		**Pn**	**00 36 13.6**	**-1.9**
comp=Z,3.0nm,0.2s,baz=309,slow=16								
VNA2				⇓S		Sn	00 38 28.3	-14
comp=Z,0.0nm,0.1s,baz=210,slow=13								
SNAA	**Sanae**	**14.80**	**150**			**Pn**	**00 36 35.5**	**-1.8**
SNAA	**Sanae**	**14.80**	**150**	⇑P		**Pn**	**00 36 35.2**	**-2.2**
comp=Z,94nm,0.8s								
SNAA	**Sanae**	**14.80**	**150**	Pn		**Pn**	**00 36 34.6**	**-2.8**
comp=Z,1.9nm,0.3s,baz=315,slow=14,SNR=59								
SNAA				Sn		Sn	00 39 07.7	-13
comp=Z,0.1nm,0.3s,baz=25,slow=12,SNR=2.0								
SNAA				LR		LR	00 41 19.1	
comp=Z,72nm,19.0s,baz=12,slow=33								
TROLL	**Troll, Antarti**	**16.38**	**148**	⇑P		**Pn**	**00 36 57.3**	**-0.8**
comp=Z,22nm,0.3s								
PMSA	**Palmer Station**	**17.67**	**239**	LR		LR	00 42 56.3	
comp=Z,92nm,20.4s,baz=264,slow=33								
BELA	**Belgrano 2**	**17.88**	**186**			**P**	**00 37 17.5**	**+0.3**
EFI	**East Falkland**	**19.45**	**282**			**Pn**	**00 37 35.8**	**0.0**
QSPA	**South Pole Qui**	**29.96**	**180**	P		**P**	**00 39 18.7**	**+2.3**
QSPA	**South Pole Qui**	**29.96**	**180**	P		**P**	**00 39 18.5**	**+2.1**
comp=Z,0.8nm,0.7s,baz=150,slow=18,SNR=7.3								
comp=Z,0.8nm,0.7s								
TRQA	**Tornquist**	**31.48**	**299**	P		**P**	**00 39 30.4**	**+0.5**
PLCA	**Paso Flores**	**33.28**	**286**	P		**P**	**00 39 45.0**	**-0.7**
comp=Z,1.9nm,0.9s,baz=90,slow=7.1,SNR=2.9								
PLCA				LR		LR	00 53 39.2	
comp=Z,57nm,18.6s,baz=139,slow=37								
comp=Z,1.9nm,0.9s								
MAW	**Mawson**	**36.61**	**140**	P		**P**	**00 40 15.5**	**+1.6**
comp=Z,2.2nm,1.0s,baz=240,slow=8.1,SNR=5.7								
MAW				LR		LR	00 53 39.2	
comp=Z,57nm,18.9s,baz=278,slow=34								
comp=Z,2.2nm,1.0s								
ITQB	**Itaqui**	**36.65**	**313**	P		**P**	**00 40 13.7**	**-1.0**
ITQB				IAmb		IAmb	00 40 15.9	
comp=Z,16nm,1.1s								
BO02	**Sierra Bellavi**	**38.15**	**292**	P		**P**	**00 40 26.5**	**-1.0**
BO02				IAmb		IAmb	00 40 28.6	
comp=Z,14nm,1.1s								
GO05	**Hualane**	**38.51**	**290**	P		**P**	**00 40 29.9**	**-0.5**
GO05				IAmb		IAmb	00 40 35.6	
comp=Z,17nm,1.1s								
BO01	**Tunca**	**38.62**	**292**	P		**P**	**00 40 31.1**	**-0.2**
BO04	**La Punta**	**38.74**	**293**	P		**P**	**00 40 31.6**	**-0.8**
BO04				IAmb		IAmb	00 40 33.5	
comp=Z,14nm,0.9s								
MT08	**Bocatoma Ro**	**38.92**	**294**	P		**P**	**00 40 35.0**	**+0.8**
MT08				IAmb		IAmb	00 40 36.1	
comp=Z,15nm,0.9s								
MT09	**Talagante**	**39.09**	**292**	P		**P**	**00 40 35.0**	**-0.4**
MT01	**Popeta**	**39.14**	**292**	P		**P**	**00 40 35.2**	**-0.5**
MT01				IAmb		IAmb	00 40 44.1	
comp=Z,17nm,1.1s								
MT16	**CCHEN**	**39.16**	**293**	P		**P**	**00 40 35.3**	**-0.7**
PEL	**Peldehue**	**39.48**	**293**	P		**P**	**00 40 38.8**	**+0.1**
MT02	**Curacav**	**39.59**	**293**	P		**P**	**00 40 39.4**	**0.0**
VA03	**San Esteban**	**39.73**	**294**	P		**P**	**00 40 40.7**	**-0.1**
VA03				IAmb		IAmb	00 40 46.7	
comp=Z,21nm,1.0s								
ZON	**Zonda**	**39.92**	**297**	P		**P**	**00 40 41.6**	**-0.7**
ZON				IAmb		IAmb	00 40 42.6	
comp=Z,6.6nm,0.6s								
CPUP	**Villa Florida**	**39.94**	**314**	P		**P**	**00 40 42.4**	**-0.1**
CPUP	**Villa Florida**	**39.94**	**314**	P		**P**	**00 40 41.3**	**-1.2**
comp=Z,2.3nm,0.7s,baz=163,slow=8.2,SNR=5.7								
CPUP				LR		LR	00 55 47.3	
comp=Z,34nm,20.8s,baz=183,slow=34								
comp=Z,2.3nm,0.7s								
CO03	**El Pedregal**	**41.42**	**295**	P		**P**	**00 40 55.3**	**+0.6**
CO03				IAmb		IAmb	00 40 55.7	
comp=Z,7.7nm,0.8s								
CO01	**Juntas del Tor**	**41.89**	**296**	P		**P**	**00 40 60.0**	**+1.2**
CO01				IAmb		IAmb	00 41 01.1	
comp=Z,9.4nm,0.8s								
CO06	**Fray Jorge**	**41.99**	**294**	P		**P**	**00 40 58.8**	**-0.5**
CO06				IAmb		IAmb	00 41 08.0	
comp=Z,18nm,1.1s								
GO04	**Tololo Observa**	**42.04**	**296**	P		**P**	**00 40 60.0**	**0.0**
GO04				IAmb		IAmb	00 41 18.2	
comp=Z,18nm,1.1s								
AC05	**El Transito**	**42.95**	**297**	P		**P**	**00 41 07.8**	**+0.5**
LCO	**Las Campanas**	**42.98**	**297**	P		**P**	**00 41 07.5**	**-0.2**
LCO				IAmb		IAmb	00 41 08.1	
comp=Z,8.2nm,0.7s								
AC04	**Llanos de Chal**	**43.84**	**297**	P		**P**	**00 41 14.9**	**+0.5**
AC01	**Pan de Azucar**	**45.41**	**299**	P		**P**	**00 41 26.4**	**-0.6**
H04S2	**CROZET ISLANDS**	**45.65**	**110**	T		T	01 30 56.4	
baz=223,slow=75,SNR=12								
H04S3	**CROZET ISLANDS**	**45.66**	**110**	T		T	01 31 01.7	
baz=223,slow=75,SNR=11								
H04S1	**CROZET ISLANDS**	**45.67**	**110**	T		T	01 31 01.6	
baz=223,slow=75,SNR=10								
GO02	**Mina Guanaco**	**45.84**	**300**	P		**P**	**00 41 30.3**	**-0.3**
PB14	**IPOC Station P**	**46.66**	**300**	P		**P**	**00 41 36.2**	**-0.9**
PB14				IAmb		IAmb	00 41 37.6	
comp=Z,7.7nm,0.9s								
BOSA	**Boshof**	**46.85**	**71**	P		**P**	**00 41 39.4**	**+1.0**
BOSA				IAmb		IAmb	00 41 49.9	
comp=Z,4.2nm,0.9s								
BOSA	**Boshof**	**46.85**	**71**	P		**P**	**00 41 39.1**	**+0.8**
comp=Z,1.9nm,0.7s,baz=234,slow=8.7,SNR=1.6								
comp=Z,1.9nm,0.7s								
BDFB	**Brasilia**	**47.23**	**331**	P		**P**	**00 41 41.8**	**+0.4**
BDFB				IAmb		IAmb	00 41 50.0	
comp=Z,4.3nm,1.1s								
LVC	**Limon Verde**	**47.80**	**303**	P		**P**	**00 41 46.2**	**+0.1**
LVC				IAmb		IAmb	00 41 60.0	
comp=Z,5.8nm,1.1s								
LVC	**Limon Verde**	**47.80**	**303**	LR		LR	01 01 43.1	
comp=Z,22nm,21.1s,baz=155,slow=36								
PB04	**IPOC Station P**	**48.57**	**302**	P		**P**	**00 41 51.3**	**-0.5**
PB09	**IPOC Station P**	**48.66**	**303**	P		**P**	**00 41 52.8**	**+0.3**
PB09				IAmb		IAmb	00 41 54.2	
comp=Z,8.8nm,1.1s								
PB01	**IPOC Station P**	**49.44**	**303**	P		**P**	**00 41 58.1**	**-0.2**
LBTB	**Lobatse**	**50.06**	**69**	LR		LR	00 59 48.3	
comp=Z,34nm,19.8s,baz=208,slow=32								
GO01	**Chusmiza**	**50.54**	**304**	P		**P**	**00 42 06.6**	**-0.6**
GO01				IAmb		IAmb	00 42 13.3	
comp=Z,3.1nm,0.6s								
PTLB	**Pontes e Lacer**	**50.62**	**318**	P		**P**	**00 42 07.5**	**+0.3**
TSUM	**Tsumeb**	**51.58**	**57**	P		**P**	**00 42 13.3**	**-1.3**
H10S2	**ASCENSION HYDR**	**51.99**	**15**	T		T	01 38 47.2	
baz=187,slow=74,SNR=4.6								
H10S3	**ASCENSION HYDR**	**51.99**	**15**	T		T	01 38 49.4	
baz=33,slow=74,SNR=5.8								
H10N1	**ASCENSION HYDR**	**53.11**	**15**	T		T	01 40 30.0	
H10N3	**ASCENSION HYDR**	**53.11**	**15**	T		T	01 40 18.1	
baz=182								
H10N2	**ASCENSION HYDR**	**53.12**	**15**	T		T	01 40 37.5	
baz=273								
LPAZ	**La Paz**	**53.15**	**307**	P		**P**	**00 42 26.9**	**+0.1**
LPAZ				IAmb		IAmb	00 42 27.8	
comp=Z,2.4nm,0.6s								
LPAZ	**La Paz**	**53.15**	**307**	P		**P**	**00 42 26.6**	**-0.3**
comp=Z,2.0nm,0.5s,baz=136,slow=6.8,SNR=18								
comp=Z,2.0nm,0.5s								
VILB	**Vilhena**	**53.31**	**318**	P		**P**	**00 42 26.4**	**-0.9**
VILB				IAmb		IAmb	00 42 28.2	
comp=Z,6.6nm,0.9s								
SAML	**Samuel**	**58.06**	**316**	P		**P**	**00 43 00.6**	**-0.8**
ETMB	**Extrema**	**58.34**	**312**	P		**P**	**00 43 02.5**	**-0.8**
ETMB				IAmb		IAmb	00 43 12.9	
comp=Z,2.6nm,0.7s								
BOAV	**Boa Vista**	**67.86**	**323**	P		**P**	**00 44 05.7**	**-0.8**
BOAV				IAmb		IAmb	00 44 15.3	
comp=Z,2.4nm,0.8s								
OTAV	**Otavalo**	**72.31**	**304**	P		**P**	**00 44 34.4**	**0.0**
MQZ	**McQueen's Vall**	**75.18**	**194**	P		**P**	**00 44 50.4**	**0.0**
TORD	**Torodi Ar. Bea**	**76.61**	**28**	P		**P**	**00 44 59.7**	**+1.0**
comp=Z,2.3nm,0.4s,baz=201,slow=5.9,SNR=80								
comp=Z,2.3nm,0.4s								
ASAR	**Alice Springs**	**94.85**	**162**	P		**P**	**00 46 30.2**	**-0.1**
comp=Z,0.1nm,0.4s,baz=172,slow=7.5,SNR=1.1								
comp=Z,0.1nm,0.4s								
SONM	**Songino Array**	**150.40**	**93**	PKPbc		**PKPbc**	**00 52 59.1**	**+0.3**
comp=Z,1.9nm,0.9s,baz=277,slow=1.6,SNR=6.3								
SONM				PKPab		**PKPab**	**00 53 05.7**	**+0.2**
comp=Z,0.6nm,0.7s,baz=220,slow=3.9,SNR=2.7								
ILAR	**Eielson Array**	**153.02**	**305**	PKPbc		**PKPbc**	**00 53 03.5**	**-0.7**
comp=Z,1.6nm,1.0s,baz=177,slow=2.2,SNR=5.5								

*NOU **03** 00:39:10.6, 39°.30S×177°.73W, h15km, mb4.6/7, East of North Island, N.Z.*
*WEL **03** 00:39:30.0±0.7, 39°S±6°×18°0W±°, h33km, M4.1/23, ML4.5/24, MLv4.1/23, Error ellipse: s-maj=8.1km s-min=5.0km az=23.5, confirmed*
ISC 03 00:39:19.4±3.0, 39°.48S±0°.07×179°.11W±0°.08, h16km±24km, n41, σ2§59/61, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**2.31**	**295**		P	**Pb**	**00 40 00.2**	**-0.5**
CNGZ					S	**Sn**	**00 40 24.8**	**-0.1**
MHGZ	**Mahia Peninsul**	**2.33**	**277**		P	**Pb**	**00 40 00.2**	**-0.9**
MHGZ					S	**Sn**	**00 40 23.7**	**-1.7**
GKBS	**Kaiti Beach**	**2.36**	**289**		P	**Pn**	**00 39 59.9**	**+2.5**
GKBS					S	**Sn**	**00 40 25.2**	**-0.8**
GISS	**Gisborne 2ZG**	**2.37**	**289**		S	**Sn**	**00 40 25.5**	**-0.9**
PRGZ	**Paritu Road**	**2.40**	**282**		P	**Pb**	**00 40 01.3**	**-0.9**
PRGZ					S	**Sn**	**00 40 25.3**	**-1.8**
GWTS	**Gisborne Waipa**	**2.46**	**289**		S	**Sn**	**00 40 28.0**	**-0.5**
KNZ	**Kokohu**	**2.54**	**279**		P	**Pb**	**00 40 03.3**	**-1.2**
KNZ					S	**Sn**	**00 40 29.9**	**-0.5**
RIGZ	**Rimuhau**	**2.55**	**287**		P	**Pb**	**00 40 03.7**	**-1.1**
RIGZ					S	**Sn**	**00 40 29.9**	**-0.9**
TKGZ	**Te Karaka**	**2.59**	**293**		P	**Pn**	**00 40 03.5**	**+3.0**
TKGZ					S	**Sn**	**00 40 30.3**	**-1.4**
MXZ	**Matakaoa Point**	**2.79**	**313**		P	**Pn**	**00 40 04.9**	**+1.6**
SNGZ	**Shannon Statio**	**2.84**	**283**		P	**Pb**	**00 40 08.0**	**-1.8**
SNGZ					S	**Sn**	**00 40 37.1**	**-1.0**
WHHZ	**Waihua**	**2.86**	**277**		P	**Pb**	**00 40 08.1**	**-2.0**
WHHZ					S	**Sn**	**00 40 38.3**	**-0.2**
RAGZ	**Rawiri**	**2.88**	**289**		P	**Pn**	**00 40 07.5**	**+2.9**
RAGZ					S	**Sn**	**00 40 37.6**	**-1.4**
CKHZ	**Cape Kidnapper**	**2.95**	**265**		P	**Pb**	**00 40 09.5**	**-2.1**
CKHZ					S	**Sn**	**00 40 41.6**	**+0.9**
RAHZ	**Arahi**	**3.01**	**280**		P	**Pb**	**00 40 10.3**	**-2.2**
RAHZ					S	**Sn**	**00 40 41.1**	**-1.0**
ARHZ	**Aropaoanui**	**3.02**	**273**		P	**Pn**	**00 40 10.4**	**+3.9**
ARHZ					S	**Sn**	**00 40 42.2**	**-0.2**
PXZ	**Pawanui**	**3.15**	**259**		P	**Pn**	**00 40 12.5**	**+4.2**
PXZ					S	**Sn**	**00 40 47.2**	**+1.6**
NMHZ	**Naumai**	**3.19**	**276**		P	**Pb**	**00 40 13.3**	**-2.4**
NMHZ					S	**Sn**	**00 40 46.2**	**-0.5**
URZ	**Urewera**	**3.19**	**291**		P	**Pb**	**00 40 13.2**	**-2.4**
MCHZ	**McNeill Hill**	**3.24**	**269**		P	**Pb**	**00 40 14.1**	**-2.5**
MCHZ					S	**Sn**	**00 40 47.9**	**0.0**
WHRZ	**Whale Island**	**3.46**	**297**		P	**Pn**	**00 40 17.2**	**+4.5**
EDRZ	**Edgecumbe**	**3.52**	**292**		P	**Pn**	**00 40 17.5**	**+4.1**
MRHZ	**Matea Rd**	**3.53**	**279**		P	**Pn**	**00 40 17.3**	**+3.7**
MRHZ					S	**Sn**	**00 40 53.7**	**-1.5**
TARZ	**Mount Tarawera**	**3.64**	**289**		P	Pn	00 40 19.9	+4.8
ALRZ	**Allen Road**	**3.66**	**283**		P	**Pb**	**00 40 21.5**	**-2.1**
BFZ	**Birch Farm**	**3.76**	**250**		P	**Pn**	**00 40 19.1**	**+2.5**
BFZ					S	**Sn**	**00 41 01.9**	**+1.3**
MOVZ	**Moawhango**	**3.98**	**269**		P	**Pn**	**00 40 24.3**	**+4.6**
MOVZ					S	**Sn**	**00 41 04.1**	**-1.9**
ETVZ	**East Tongariro**	**4.03**	**273**		P	Pn	00 40 25.4	+4.8
ETVZ					S	**Sn**	**00 41 05.8**	**-1.6**
TMVZ	**Te Maari**	**4.04**	**274**		P	**Pn**	**00 40 24.9**	**+4.2**
NTVZ	**North Tongarir**	**4.06**	**274**		P	**Pn**	**00 40 25.3**	**+4.3**
NTVZ					S	**Sn**	**00 41 07.3**	**-0.9**
KRVZ	**Karewarewa**	**4.09**	**274**		P	**Pn**	**00 40 25.3**	**+3.9**
KRVZ					S	**Sn**	**00 41 06.5**	**-2.4**
WTVZ	**West Tongariro**	**4.13**	**273**		P	**Pn**	**00 40 26.3**	**+4.5**
FWVZ	**Far West T-bar**	**4.14**	**271**		P	**Pn**	**00 40 26.0**	**+3.8**
FWVZ					S	**Sn**	**00 41 08.3**	**-2.0**
TRVZ	**Turoa**	**4.14**	**271**		P	**Pn**	**00 40 25.9**	**+3.8**
TRVZ					S	**Sn**	**00 41 08.4**	**-2.0**
COVZ	**Chateau Observ**	**4.15**	**272**		P	**Pn**	**00 40 26.4**	**+4.2**
COVZ					S	**Sn**	**00 41 08.5**	**-2.0**
CTZ	**Chatham Island**	**4.65**	**157**		P	**Pb**	**00 40 40.3**	**-0.2**
CTZ					S	**Sb**	**00 41 31.6**	**-4.5**
HIZ	**Hauiti**	**4.80**	**280**		P	Pn	00 40 36.9	+6.0
KUZ	**Kuaotunu**	**4.90**	**302**		P	**Pn**	**00 40 36.4**	**+4.0**
SNZO	**South Karori**	**5.06**	**247**		P	Pn	00 40 41.0	+6.4
KHEZ	**Kahui Hut**	**5.33**	**270**		P	Pn	00 40 44.7	+6.4
QRZ	**Quartz Range**	**6.54**	**255**		P	Pn	00 41 00.4	+5.5

*MDD **03** 00:44:13.2±0.7, 27°.40N×16°.05W, h30km, mb_Lg3.5/23, Error ellipse: s-maj=6.3km s-min=2.8km az=5.0*
*CNRM **03** 00:44:18.1, 28°.05N×15°.69W, h30km, ML4.1*
ISC 03 00:44:10.7±1.5, 27°.45N±0°.09×16°.00W±0°.04, h35km, n44, σ1§69/73, 6C-1D, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CLUM	**San Bartolome**	**0.48**	**40**	⇑P		**Pn**	**00 44 23.3**	**+2.1**
CLUM				S		**Sn**	**00 44 31.1**	**+2.6**
CLUM				*i* Vmb_Lg			00 44 33.8	
EOSO	**Osorio**	**0.74**	**33**	⇑P		**Pn**	**00 44 26.5**	**+1.7**
EOSO				S		**Sn**	**00 44 35.8**	**+0.9**
EOSO				*i* Vmb_Lg			00 44 38.3	
GGC	**Guia, Gran Can**	**0.74**	**26**	P		**Pn**	**00 44 26.5**	**+1.7**
GGC				S		**Sn**	**00 44 35.9**	**+1.0**
GGC				*i* Vmb_Lg			00 44 40.2	
CGRA	**Granadilla de**	**0.80**	**325**	P		**Pn**	**00 44 27.3**	**+1.7**
CGRA				S		**Sn**	**00 44 37.7**	**+1.3**
CGRA				*i* Vmb_Lg			00 44 38.9	
CTFS	**San Miguel de**	**0.84**	**319**	⇓P		**Pn**	**00 44 27.4**	**+1.2**
CTFS				S		**Sn**	**00 44 37.9**	**+0.4**
CTFS				*i* Vmb_Lg			00 44 38.4	
CVIL	**Vilaflor**	**0.91**	**322**	S		**Sn**	**00 44 39.3**	**+0.2**
MACI	**Morro de la Ar**	**0.92**	**331**	⇑P		**Pn**	**00 44 28.8**	**+1.5**
MACI				S		**Sn**	**00 44 40.3**	**+1.0**
MACI				*i* Vmb_Lg			00 44 41.4	
CCAN	**Las Canadas**	**0.94**	**325**	P		**Pn**	**00 44 28.5**	**+0.8**
CCAN				S		**Sn**	**00 44 39.8**	**-0.3**
CCAN				*i* Vmb_Lg			00 44 40.4	
CGUI	**Guimar, Teneri**	**0.95**	**336**	⇑P		**Pn**	**00 44 29.3**	**+1.5**
CGUI				S		**Sn**	**00 44 41.0**	**+0.8**
CGUI				*i* Vmb_Lg			00 44 41.4	
CDIE	**La Orotava (Te**	**0.97**	**330**	P		**Pn**	**00 44 29.2**	**+1.1**
CDIE				S		**Sn**	**00 44 41.1**	**+0.3**
CRAJ	**Montana Rajada**	**0.97**	**327**	P		**Pn**	**00 44 29.1**	**+1.0**
CRAJ				S		**Sn**	**00 44 41.3**	**+0.5**
CRAJ				*i* Vmb_Lg			00 44 43.5	
CFOR	**Fortaleza, Los**	**1.01**	**329**	P		**Pn**	**00 44 29.8**	**+1.2**
CFOR				S		**Sn**	**00 44 42.1**	**+0.4**
CFOR				*i* Vmb_Lg			00 44 43.3	
GUIA	**Guia de Isora,**	**1.02**	**322**	P		**Pn**	**00 44 29.4**	**+0.7**
GUIA				S		**Sn**	**00 44 41.4**	**-0.5**
GUIA				*i* Vmb_Lg			00 44 44.4	
CREA	**Los Realejos,**	**1.04**	**331**	P		**Pn**	**00 44 30.1**	**+1.3**
CREA				S		**Sn**	**00 44 42.6**	**+0.4**
CNOR	**Icod

n134,σ1°46/177,mb3.7/5,9C-6D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKR	**Makrakomi, Fth**	**0.02**	**342**	P	**Pn**	**00 44 51.2**	**+0.1**
MAKR				S	**Sn**	**00 45 00.4**	**-0.7**
	7μm,0.3s						
AGG	**Agios Georgios**	**0.15**	**78**	Pg	**Pn**	**00 44 51.1**	**-0.2**
AGG				Sg	**Sn**	**00 45 00.3**	**-1.1**
AGG	**Agios Georgios**	**0.15**	**78**	P	**Pn**	**00 44 51.0**	**-0.2**
AGG				S	**Sn**	**00 45 00.3**	**-1.1**
	4μm,0.2s						
EVR	**Evrytania**	**0.27**	**254**	P	**Pn**	**00 44 52.2**	**+0.5**
EVR				S	**Sn**	**00 45 01.6**	**-0.7**
	2μm,0.3s						
EVR	**Evrytania**	**0.27**	**254**	P	**Pn**	**00 44 52.9**	**+1.2**
EVR				S	**Sn**	**00 45 02.5**	**+0.2**
EVR				AML	AML	00 45 03.2	
	comp=E,3645μm,0.4s						
EVR				AML	AML	00 45 07.6	
	comp=N,2912μm,0.4s						
ANX	**Ano Chora**	**0.43**	**203**	P	**Pn**	**00 44 52.5**	**-0.1**
ANX				S	**Sn**	**00 45 03.4**	**-0.5**
	comp=N,5μm,0.3s						
ANX	**Ano Chora**	**0.43**	**203**	P	**Pn**	**00 44 53.0**	**+0.3**
AXAR	**Agios Charalam**	**0.46**	**119**	P	**Pn**	**00 44 52.5**	**-0.2**
AXAR				S	**Sn**	**00 45 03.5**	**-0.6**
	comp=N,4μm,0.3s						
THL	**Klokotos Trika**	**0.58**	**350**	P	**Pn**	**00 44 53.6**	**0.0**
THL				S	**Sn**	**00 45 05.6**	**0.0**
	comp=N,2μm,0.3s						
THL	**Klokotos Trika**	**0.58**	**350**	P	**Pn**	**00 44 53.9**	**+0.3**
THL				S	**Sn**	**00 45 05.2**	**-0.3**
DLFA	**Delphi**	**0.58**	**151**	P	**Pn**	**00 44 53.5**	**-0.2**
EFP	**Efpalio**	**0.59**	**198**	P	**Pn**	**00 44 53.9**	**+0.2**
EFP	**Efpalio**	**0.59**	**198**	P	**Pn**	**00 44 54.3**	**+0.6**
EFP				S	**Sn**	**00 45 06.2**	**+0.5**
EFP				AML	AML	00 45 09.0	
	comp=E,5630μm,0.3s						
EFP				AML	AML	00 45 09.7	
	comp=N,6377μm,0.3s						
KALE	**Kalithea**	**0.60**	**180**	P	**Pn**	**00 44 53.8**	**-0.1**
TYRN	**Tyrnavos**	**0.72**	**6**	P	**Pn**	**00 44 55.0**	**+0.2**
ALIK	**Aliki, Aigiali**	**0.73**	**182**	P	**Pn**	**00 44 55.1**	**+0.2**
NEO	**Neokhori**	**0.90**	**69**	P	**Pn**	**00 44 56.7**	**+0.1**
NEO	**Neokhori**	**0.90**	**69**	P	**Pn**	**00 44 56.8**	**+0.2**
NEO				S	**Sn**	**00 45 09.6**	**-1.4**
NEO				AML	AML	00 45 10.8	
	comp=E,11149μm,0.4s						
NEO				AML	AML	00 45 11.4	
	comp=N,10876μm,0.4s						
AST1	**Astakos**	**0.94**	**242**	P	**Pn**	**00 44 57.4**	**+0.4**
KLV	**Kalavryta, Ach**	**0.95**	**180**	P	**Pn**	**00 44 57.5**	**+0.2**
KLV	**Kalavryta, Ach**	**0.95**	**180**	P	**Pn**	**00 44 57.4**	**+0.2**
KLV				S	**Sn**	**00 45 11.3**	**-0.6**
KLV				AML	AML	00 45 11.7	
	comp=N,1060μm,0.4s						
KLV				AML	AML	00 45 11.8	
	comp=E,1016μm,0.2s						
GUR	**Goura**	**1.07**	**171**	P	**Pn**	**00 44 58.7**	**+0.1**
GUR	**Goura**	**1.07**	**171**	P	**Pn**	**00 44 58.6**	**0.0**
GUR				S	**Sn**	**00 45 13.3**	**-1.1**
GUR				AML	AML	00 45 14.9	
	comp=E,2883μm,0.2s						
GUR				AML	AML	00 45 17.7	
	comp=N,3089μm,0.3s						
RLS	**Riolos of Patr**	**1.07**	**210**	P	**Pn**	**00 44 59.0**	**+0.5**
RLS	**Riolos of Patr**	**1.07**	**210**	P	**Pn**	**00 44 59.7**	**+1.2**
RLS				S	**Sn**	**00 45 15.6**	**+1.3**
RLS				AML	AML	00 45 17.1	
	comp=E,884μm,0.4s						
RLS				AML	AML	00 45 20.6	
	comp=N,1252μm,0.5s						
DRO	**Drossia**	**1.09**	**198**	P	**Pn**	**00 44 59.9**	**+1.2**
DRO				S	**Sn**	**00 45 15.1**	**+0.4**
DRO				AML	AML	00 45 17.6	
	comp=E,3103μm,0.2s						
DRO				AML	AML	00 45 18.0	
	comp=N,1968μm,0.2s						
KPRO	**Kipourio**	**1.13**	**328**	P	**Pn**	**00 45 00.5**	**+1.2**
LIT	**Litokhoron**	**1.14**	**14**	P	**Pn**	**00 44 59.6**	**+0.3**
TSLK	**Tsoukalades, L**	**1.17**	**262**	P	**Pn**	**00 45 00.2**	**+0.6**
TSLK	**Tsoukalades, L**	**1.17**	**262**	P	**Pn**	**00 45 00.6**	**+1.0**
TSLK				S	**Sn**	**00 45 17.4**	**+1.1**
JAN	**Janina**	**1.20**	**304**	P	**Pn**	**00 45 01.9**	**+1.8**
JAN	**Janina**	**1.20**	**304**	P	**Pn**	**00 45 01.8**	**+1.8**
JAN				S	**Sn**	**00 45 18.3**	**+1.3**
JAN				AML	AML	00 45 19.7	
	comp=E,2018μm,0.3s						
JAN				AML	AML	00 45 20.2	
	comp=N,3316μm,0.3s						
VILL	**Villia**	**1.23**	**132**	P	**Pn**	**00 45 00.5**	**0.0**
AOS2	**Alonissos-2**	**1.33**	**83**	P	**Pn**	**00 45 01.8**	**+0.3**
AOS2				S	**Sn**	**00 45 18.9**	**-0.8**
AOS2				AML	AML	00 45 19.6	
	comp=E,498μm,0.3s						
AOS2				AML	AML	00 45 21.5	
	comp=N,717μm,0.3s						
FSK	**Fiskardo**	**1.34**	**247**	P	**Pn**	**00 45 01.7**	**0.0**
FSK	**Fiskardo**	**1.34**	**247**	P	**Pn**	**00 45 01.8**	**+0.2**
FSK				S	**Sn**	**00 45 19.3**	**-0.7**
FSK				AML	AML	00 45 20.4	
	comp=N,2279μm,0.5s						
FSK				AML	AML	00 45 20.6	
	comp=E,2412μm,0.2s						
KZN	**Kozani**	**1.34**	**348**	P	**Pn**	**00 45 01.5**	**-0.3**
KZN				S	**Sn**	**00 45 19.2**	**-0.9**
KZN				AML	AML	00 45 20.7	
	comp=N,1482μm,0.7s						
KZN				AML	AML	00 45 22.2	
	comp=E,2118μm,0.4s						
PENT	**Pentalofos**	**1.43**	**328**	P	**Pn**	**00 45 04.6**	**+1.8**
VLS	**Valsamata**	**1.46**	**237**	P	**Pn**	**00 45 03.1**	**-0.1**
VLS	**Valsamata**	**1.46**	**237**	P	**Pn**	**00 45 03.2**	**0.0**
VLS				S	**Sn**	**00 45 22.4**	**-0.2**
VLS				AML	AML	00 45 22.7	
	comp=E,1686μm,0.3s						
VLS				AML	AML	00 45 25.5	
	comp=N,1889μm,0.2s						
AMT	**Artemida-Makis**	**1.50**	**193**	P	**Pn**	**00 45 05.1**	**+1.5**
PSDA	**Pessada-Kefalo**	**1.50**	**235**	P	**Pn**	**00 45 04.2**	**+0.5**
PSDA				S	**Sn**	**00 45 23.2**	**-0.2**
IGT	**Igoumenitsa**	**1.50**	**292**	P	**Pn**	**00 45 04.3**	**+0.6**
IGT	**Igoumenitsa**	**1.50**	**292**	P	**Pn**	**00 45 04.3**	**+0.6**
IGT				S	**Sn**	**00 45 22.8**	**-0.7**
IGT				AML	AML	00 45 24.5	
	comp=E,1308μm,0.2s						
IGT				AML	AML	00 45 25.1	
	comp=N,1073μm,0.3s						
LXRA	**Lixouri, Kepha**	**1.55**	**240**	P	**Pn**	**00 45 04.9**	**+0.7**
LXRA				S	**Sn**	**00 45 24.8**	**+0.4**
KYMI	**Kymi, Euboea I**	**1.57**	**103**	P	**Pn**	**00 45 05.0**	**+0.5**
KYMI	**Kymi, Euboea I**	**1.57**	**103**	P	**Pn**	**00 45 05.0**	**+0.5**
ATH	**Athens Observa**	**1.60**	**129**	P	**Pn**	**00 45 05.5**	**+0.6**
ATH				S	**Sn**	**00 45 24.7**	**-0.9**
ATH				AML	AML	00 45 27.7	
	comp=N,641μm,0.5s						
ATH				AML	AML	00 45 29.0	
	comp=E,1284μm,0.4s						
LTHK	**Lithakia**	**1.64**	**219**	P	**Pn**	**00 45 06.0**	**+0.7**
LTHK				S	**Sn**	**00 45 25.9**	**-0.6**
LTHK				AML	AML	00 45 26.9	
	comp=E,2681μm,0.2s						
LTHK				AML	AML	00 45 27.3	
	comp=N,1604μm,0.3s						
PTL	**Penteli**	**1.65**	**124**	P	**Pn**	**00 45 05.8**	**+0.3**
PTL				S	**Sn**	**00 45 25.3**	**-1.4**
PTL				AML	AML	00 45 28.1	
	comp=N,434μm,0.4s						
PTL				AML	AML	00 45 28.9	
	comp=E,425μm,0.4s						
NEST	**Nestorio**	**1.65**	**330**	P	**Pn**	**00 45 07.5**	**+1.8**
DION	**Dionisos Attik**	**1.68**	**122**	P	**Pn**	**00 45 06.4**	**+0.5**
DION				S	**Sn**	**00 45 25.9**	**-1.4**
DION				AML	AML	00 45 27.1	
	comp=E,1280μm,0.3s						
DION				AML	AML	00 45 27.5	
	comp=N,755μm,0.4s						
VLY	**Voula,Athens**	**1.73**	**131**	P	**Pn**	**00 45 06.9**	**+0.4**
VLY				S	**Sn**	**00 45 26.5**	**-1.9**
VLY				AML	AML	00 45 28.0	
	comp=E,558μm,0.3s						
VLY				AML	AML	00 45 28.2	
	comp=N,336μm,0.5s						
THE	**Thessaloniki**	**1.76**	**21**	P	**Pn**	**00 45 06.7**	**-0.1**
HORT	**Hortiatis**	**1.77**	**24**	Pn	**Pn**	**00 45 07.1**	**0.0**
HORT	**Hortiatis**	**1.77**	**24**	P	**Pn**	**00 45 07.0**	**0.0**
HORT				S	**Sn**	**00 45 28.1**	**-1.4**
HORT				AML	AML	00 45 28.5	
	comp=N,472μm,0.4s						
HORT				AML	AML	00 45 30.1	
	comp=E,348μm,0.2s						
ITM	**Ithomi**	**1.82**	**185**	P	**Pn**	**00 45 09.2**	**+1.5**
FNA	**Florina**	**1.88**	**342**	Pn	**Pn**	**00 45 09.2**	**+0.7**
FNA				Sn	**Sn**	**00 45 32.9**	**+0.8**
FNA	**Florina**	**1.88**	**342**	*e*Pn	**Pn**	**00 45 09.1**	**+0.6**
FNA				*e*Sn	**Sn**	**00 45 32.7**	**+0.6**
FNA	**Florina**	**1.88**	**342**	P	**Pn**	**00 45 09.5**	**+0.9**
KEK	**Kerkira**	**1.95**	**292**	Pn	**Pn**	**00 45 09.9**	**+0.5**
KEK	**Kerkira**	**1.95**	**292**	P	**Pn**	**00 45 10.1**	**+0.7**
KEK				S	**Sn**	**00 45 33.5**	**-0.1**
KEK				AML	AML	00 45 35.1	
	comp=E,1206μm,0.2s						
KEK				AML	AML	00 45 37.5	
	comp=N,792μm,0.3s						
OUR	**Ouranopolis**	**1.95**	**46**	Pn	**Pn**	**00 45 09.8**	**+0.4**
OUR				Sn	**Sn**	**00 45 33.6**	**0.0**
OUR	**Ouranopolis**	**1.95**	**46**	P	**Pn**	**00 45 09.8**	**+0.4**
SOH	**Sokhos**	**2.05**	**27**	P	**Pn**	**00 45 11.5**	**+0.8**
PYL	**PYLOS**	**2.12**	**189**	P	**Pn**	**00 45 11.9**	**+0.4**
OHR	**Ohrid**	**2.35**	**334**	*e*Pn	**Pn**	**00 45 15.7**	**+1.0**
OHR	**Ohrid**	**2.35**	**334**	*i* Pn	**Pn**	**00 45 16.1**	**+1.5**
VLI	**Veliai**	**2.36**	**164**	P	**Pn**	**00 45 14.5**	**-0.1**
SRS	**Serrai**	**2.40**	**27**	*e*Pn	**Pn**	**00 45 15.6**	**+0.4**
SRS				*e*Sn	**Sn**	**00 45 43.1**	**-0.9**
PEHC	**Pehcevo**	**2.84**	**12**	*i* Pn	**Pn**	**00 45 23.2**	**+2.0**
SIGR	**SIGRI**	**2.90**	**84**	Pn	**Pn**	**00 45 22.4**	**+0.6**
TIR	**Tirane**	**2.93**	**324**	*e*Pn	**Pn**	**00 45 22.7**	**+0.5**
TIR				*e*Sn	**Sn**	**00 45 53.9**	**-2.7**
TIR	**Tirane**	**2.93**	**324**	⇑P	**Pn**	**00 45 23.2**	**+1.0**
TIR				⇑S	**Sn**	**00 45 57.4**	**+0.7**
CHOS	**Chios island**	**3.12**	**100**	Pn	**Pn**	**00 45 25.1**	**+0.2**
GADA	**Gvkgeada**	**3.14**	**66**	Pn	**Pn**	**00 45 25.7**	**+0.6**
APE	**Apeiranthos**	**3.29**	**125**	⇓P	**Pn**	**00 45 28.0**	**+0.8**
BOSS	**Bosilegrad**	**3.51**	**4**	*e*Pn	**Pn**	**00 45 32.2**	**+2.1**
VTS	**Vitosha**	**3.72**	**13**	*e*Pn	**Pn**	**00 45 34.4**	**+1.4**
VTS				*e*Sn	**Sn**	**00 46 14.9**	**-0.9**
BARS	**Barje**	**3.83**	**356**	*e*Pn	**Pn**	**00 45 34.6**	**+0.3**
BARS				*e*Sn	**Sn**	**00 46 18.3**	**0.0**
PDG	**Podgorica**	**4.08**	**328**	*e*Pn	**Pn**	**00 45 37.1**	**-0.5**
PDG				*e*Sn	**Sn**	**00 46 21.8**	**-2.4**
PDG	**Podgorica**	**4.08**	**328**	*e*Pn	**Pn**	**00 45 36.9**	**-0.7**
PDG	**Podgorica**	**4.08**	**328**	⇓P	**Pn**	**00 45 37.4**	**-0.3**
TIP	**Timpagrande**	**4.19**	**274**	⇑P	**Pn**	**00 45 39.5**	**+0.2**
SELS	**Selova**	**4.29**	**350**	*e*Pn	**Pn**	**00 45 40.6**	**0.0**
ZAPS	**Zavoj**	**4.29**	**5**	*e*Pn	**Pn**	**00 45 41.8**	**+1.1**
IDI	**Anoyia**	**4.30**	**148**	S	**Sn**	**00 46 25.5**	**-4.4**
	comp=N,12nm,0.3s,baz=332,slow=15,SNR=6.9						
HCY	**Herceg Novi**	**4.43**	**322**	*e*Pn	**Pn**	**00 45 40.7**	**-1.7**
MATE	**Matera**	**4.50**	**293**	⇑P	**Pn**	**00 45 43.2**	**-0.2**
SJES	**Sjenica**	**4.57**	**340**	*e*Pn	**Pn**	**00 45 44.6**	**+0.2**
SJES				*e*Sn	**Sn**	**00 46 34.1**	**-2.3**
SJES	**Sjenica**	**4.57**	**340**	*e*Pn	**Pn**	**00 45 43.4**	**-1.0**
TREB	**Trebinje**	**4.70**	**324**	*e*Pn	**Pn**	**00 45 44.5**	**-1.6**
TREB				*e*Sn	**Sn**	**00 46 34.7**	**-4.8**
BRY	**Bratogost**	**4.76**	**326**	*e*Pn	**Pn**	**00 45 45.6**	**-1.5**
IVAS	**Ivanjica**	**4.82**	**343**	*e*Pn	**Pn**	**00 45 47.0**	**-0.8**
IVAS				*e*Sn	**Sn**	**00 46 39.3**	**-3.1**
ELND	**Elena**	**4.84**	**35**	⇓P	**Pn**	**00 45 49.4**	**+1.3**
UPM	**Unac-Piva**	**4.87**	**331**	*e*Pn	**Pn**	**00 45 48.8**	**+0.3**
GRUS	**Gruza**	**5.01**	**348**	*e*Pn	**Pn**	**00 45 49.5**	**-0.8**
RUDO	**Rudo**	**5.07**	**337**	*e*Pn	**Pn**	**00 45 49.8**	**-1.3**
STON	**Ston**	**5.13**	**320**	*e*Pn	**Pn**	**00 45 49.9**	**-2.0**
STON	**Ston**	**5.13**	**320**	*e*Pn	**Pn**	**00 45 49.0**	**-2.9**
BBLS	**Lazi&#263i**	**5.29**	**338**	*e*Pn	**Pn**	**00 45 53.6**	**-0.5**
BBLS	**Lazi&#263i**	**5.29**	**338**	*e*Pn	**Pn**	**00 45 53.6**	**-0.5**
HAPS	**Han Pijesak,BI**	**5.62**	**336**	*e*Pn	**Pn**	**00 45 57.9**	**-0.9**
HAPS	**Han Pijesak,BI**	**5.62**	**336**	*e*Pn	**Pn**	**00 45 58.1**	**-0.7**
TEKS	**Tekeris**	**5.89**	**341**	*e*Pn	**Pn**	**00 46 01.1**	**-1.1**
TEKS	**Tekeris**	**5.89**	**341**	*e*Pn	**Pn**	**00 45 59.5**	**-2.7**
HERR	**Herculane**	**5.89**	**2**	⇓P	**Pn**	**00 46 06.2**	**+4.0**
VAE	**Valguarnera**	**6.27**	**258**	P	**Pn**	**00 46 08.0**	**+0.5**
	comp=N,10nm,0.9s,baz=9.5,slow=12,SNR=2.1						
VAE				S	**Sn**	**00 47 14.2**	**-3.5**
	comp=N,11nm,0.7s,baz=114,slow=20,SNR=3.1						
GZR	**Gura Zlata**	**6.41**	**4**	⇓P	Pn	00 46 15.6	+6.1
LOT	**Lotru**	**6.56**	**10**	⇑P	Pn	00 46 18.2	+6.7
BZS	**Buzias**	**6.63**	**357**	⇑P	Pn	00 46 17.4	+5.1
VOIR		**6.79**	**18**	⇑P	Pn	00 46 20.4	+5.9
BLY	**Banja Luka**	**6.84**	**329**	*e*Pn	**Pn**	**00 46 14.1**	**-1.0**
BLY	**Banja Luka**	**6.84**	**329**	*e*Pn	**Pn**	**00 46 14.3**	**-0.8**
A050A	**Klekovaca**	**6.90**	**324**	*e*Pn	**Pn**	**00 46 14.3**	**-1.8**
MLR	**Muntele Rosu**	**7.08**	**22**	P	**Pn**	**00 46 20.9**	**+2.3**
	comp=N,0.9nm,0.6s,baz=180,slow=13,SNR=1.6						
TLBR	**Topalu**	**7.09**	**37**	⇓P	**Pn**	**00 46 21.9**	**+3.4**
A051A	**Mrakovica**	**7.17**	**329**	*e*Pn	**Pn**	**00 46 17.8**	**-1.9**
MORH	**Mrgy, Hungar**	**7.67**	**341**	⇑P	**Pn**	**00 46 26.0**	**-0.4**
IZVR	**Izvoarele**	**7.76**	**31**	⇑P	**Pn**	**00 46 31.8**	**+4.1**
CEY	**Cerknica**	**8.83**	**322**	*e*Pn	**Pn**	**00 46 40.0**	**-2.3**
SKDS	**Skadanscina**	**8.89**	**320**	*e*Pn	**Pn**	**00 46 41.2**	**-2.0**
BRTR	**Keskin Array B**	**8.94**	**82**	P	**Pn**	**00 46 47.6**	**+3.8**
	comp=N,1.4nm,0.4s,baz=265,slow=12,SNR=6.1						
KEST	**Kesra**	**10.69**	**256**	P	**Pn**	**00 47 07.4**	**-0.3**
	comp=N,3.8nm,0.9s,baz=63,slow=10,SNR=4.8						
KEST				S	**Sn**	**00 49 03.4**	**-2.0**
	comp=N,6.5nm,1.1s,baz=108,slow=20,SNR=2.3						
SQTA	**Sankt Quirin**	**11.46**	**319**	*i* Pn	**Pn**	**00 47 16.6**	**-1.4**
	comp=N,0.4nm,0.2s						
SQTA				*i* Sn	**Sn**	**00 49 19.4**	**-4.5**
	comp=N,3.8nm,0.5s						
MOTA	**Moosalm**	**11.59**	**320**	*i* Pn	**Pn**	**00 47 20.0**	**+0.1**
	comp=N,0.8nm,0.3s						
MOTA				*i* Sn	**Sn**	**00 49 21.7**	**-5.6**
	comp=N,0.8nm,0.3s						
RETA	**Reutte**	**11.86**	**319**	*i* Pn	**Pn**	**00 47 27.9**	**+4.5**
	comp=N,1.0nm,0.3s						
MMAI	**Mount Meron Ar**	**12.28**	**115**	P	**Pn**	**00 47 30.2**	**+1.2**
	comp=N,0.1nm,0.3s,baz=306,slow=12,SNR=1.6						
ESDC	**Sonseca Array**	**20.18**	**280**	P	**P**	**00 49 06.0**	**+1.5**
	comp=N,0.9nm,0.6s,baz=80,slow=10,SNR=12						
	comp=N,0.9nm,0.6s						
HFS	**Hagfors**	**21.82**	**349**	P	**P**	**00 49 22.0**	**+0.3**
	comp=N,2.8nm,1.0s,baz=161,slow=13,SNR=1.5						
	comp=N,2.8nm,1.0s						
FINES	**FINESS Array B**	**22.61**	**5**	P	**P**	**00 49 28.9**	**-1.0**
	comp=N,4.1nm,1.0s,baz=188,slow=8.4,SNR=3.7						
	comp=N,4.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**31.47**	**221**	P	**P**	**00 50 49.9**	**-0.1**
	comp=N,0.3nm,1.0s,baz=32,slow=9.7,SNR=2.1						
	comp=N,0.3nm,1.0s						
MKAR	**Makanchi Array**	**43.80**	**59**	P	**P**	**00 52 34.2**	**+0.6**
	comp=N,0.6nm,0.5s,baz=277,slow=7.3,SNR=10						
	comp=N,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**44.20**	**49**	P	**P**	**00 52 37.2**	**+0.6**
	comp=N,0.8nm,0.4s,baz=269,slow=7.2,SNR=2.4						
	comp=N,0.8nm,0.4s						

*IGQ **03** 00:55:58.4±0.8, 3°S±4°×7°6W±°, h10km, M4.4/51*
*RSNC **03** 00:55:58.5±1.0, 3°S±8°×7°6W±°, h0km, M3.7, ML3.2*
*IDC **03** 00:56:02.1±4.6, 2°40S×76°60W, h102km±34km, mb3.7/7, mbtmp4.1/10, Error ellipse: s-maj=48.8km s-min=29.6km az=130.0*
*VAO **03** 00:56:05.4±0.6, 2°69S×76°48W, h135km±6km, mb4.4*
*NEIC **03** 00:56:07.8±1.9, 2°3S±0°1×76°5W±0°1, h188km±14km, mb4.4/13, Error ellipse: s-maj=24.3km s-min=12.9km az=48.0*

ISC 03 00:56:03.3±0.6, 2°77S±0°05×76°51W±0°05, h100km, n119, σ2°24/117, mb4.0/6, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAIS	**Taisha**	**1.06**	**291**	P	**Pn**	**00 56 27.0**	**+2.6**
PUYO	**Puyo, Santa Ro**	**1.97**	**310**	P	**Pn**	**00 56 37.2**	**+1.6**
BOSC	**San Juan Bosco**	**2.02**	**259**	P	**Pn**	**00 56 36.4**	**+0.1**
ARDO	**Archidona, Ten**	**2.18**	**324**	P	**Pn**	**00 56 39.6**	**+1.2**
BPAT	**Tungurahua Vol**	**2.29**	**303**	P	**Pn**	**00 56 41.3**	**+1.1**
BULB	**Ulba Tungurahu**	**2.31**	**305**	P	**Pn**	**00 56 41.4**	**+1.0**
BMAS	**Trigal station**	**2.33**	**302**	P	**Pn**	**00 56 40.7**	**+0.1**
TUYU	**Q. Yuibug Volc**	**2.34**	**303**	P	**Pn**	**00 56 41.8**	**+1.1**
BBIL	**Ulba Tungurahu**	**2.37**	**303**	P	**Pn**	**00 56 42.4**	**+1.3**
TAMH	**Tambohuasha Ch**	**2.57**	**298**	P	**Pn**	**00 56 46.0**	**+2.2**
PORT	**Chimborazo Vol**	**2.61**	**300**	P	**Pn**	**00 56 46.3**	**+1.9**
CHSH	**Refugio Sur-Vo**	**2.67**	**298**	P	**Pn**	**00 56 46.5**	**+1.2**
JSCH	**Cashca Tororas**	**2.68**	**293**	P	**Pn**	**00 56 46.6**	**+1.5**
VCES	**Cotopaxi**	**2.71**	**316**	P	**Pn**	**00 56 47.5**	**+1.7**
COHC	**Cochancay**	**2.76**	**276**	P	**Pn**	**00 56 46.5**	**+0.7**
COHC				S	**Sn**	**00 57 18.7**	**+0.1**
COHC	**Cochancay**	**2.76**	**276**	P	**Pn**	**00 56 47.1**	**+1.2**
ANTS	**Antisana-Sarah**	**2.80**	**324**	P	**Pn**	**00 56 48.4**	**+1.4**
ANTM	**Antisana-La Mi**	**2.80**	**322**	P	**Pn**	**00 56 48.3**	**+1.4**
BTAM	**Cotopaxi Volca**	**2.81**	**318**	P	**Pn**	**00 56 49.2**	**+2.1**
BMOR	**Cotopaxi Volca**	**2.81**	**316**	P	**Pn**	**00 56 49.2**	**+2.1**
BVC2	**Cotopaxi Volca**	**2.83**	**318**	P	**Pn**	**00 56 49.6**	**+2.2**
BREF	**Cotopaxi Volca**	**2.84**	**317**	P	**Pn**	**00 56 49.9**	**+2.4**
ANTG	**Antisana-Guama**	**2.84**	**322**	P	**Pn**	**00 56 49.1**	**+1.6**
MONB	**Balzapamba Mon**	**2.86**	**290**	P	**Pn**	**00 56 48.6**	**+1.4**
BNAS	**Cotopaxi Volca**	**2.87**	**317**	P	**Pn**	**00 56 51.2**	**+3.5**
REVN	**San Rafael**	**2.90**	**337**	P	**Pn**	**00 56 49.0**	**+1.0**
CASC	**Dorado de Casc**	**3.00**	**344**	P	**Pn**	**00 56 50.5**	**+1.3**
ILLI	**Illinizas Sur**	**3.01**	**313**	P	**Pn**	**00 56 52.2**	**+2.5**
PCRA	**Pucara 2**	**3.02**	**262**	P	**Pn**	**00 56 49.3**	**-0.5**
ANGU	**Angureal**	**3.17**	**332**	P	**Pn**	**00 56 53.8**	**+1.8**
CAYA	**Cayambe**	**3.18**	**332**	P	**Pn**	**00 56 53.6**	**+1.5**
PUEM	**Granja Avicola**	**3.20**	**325**	P	**Pn**	**00 56 55.9**	**+3.8**
GGPT	**Toaza - Volcan**	**3.29**	**320**	P	**Pn**	**00 56 55.8**	**+2.4**
GGPC	**Guagua Pichinc**	**3.31**	**321**	P	**Pn**	**00 56 56.2**	**+2.5**
TERV	**Terraza Guagua**	**3.32**	**321**	P	**Pn**	**00 56 56.7**	**+2.8**
ZUMB	**Zumba**	**3.35**	**232**	P	**Pn**	**00 56 54.2**	**+0.2**
BONI	**La Bonita**	**3.36**	**342**	P	**Pn**	**00 56 54.9**	**+0.8**
BONI	**La Bonita**	**3.36**	**342**	P	**Pn**	**00 56 55.0**	**+0.9**
PTLC	**Puerto Leguiza**	**3.38**	**30**	P	**Pn**	**00 56 52.7**	**-1.5**
PTLC				S	Sn	00 57 22.0	-12
PTLC	**Puerto Leguiza**	**3.38**	**30**	P	**Pn**	**00 56 53.0**	**-1.2**
PULU	**Pululahua**	**3.41**	**324**	P	**Pn**	**00 56 57.2**	**+2.2**
IMBA	**Imbabura, San**	**3.46**	**331**	P	**Pn**	**00 56 59.7**	**+4.0**
YAHU	**Yahuarcocha**	**3.48**	**333**	P	**Pn**	**00 56 58.7**	**+2.8**
CUSW	**Cuicocha Oeste**	**3.55**	**329**	P	Pn	00 57 03.6	+6.8
OTAV	**Otavalo**	**3.56**	**327**		**Pn**	**00 56 59.2**	**+2.2**
OTAV	**Otavalo**	**3.56**	**327**	P	**Pn**	**00 56 58.7**	**+1.7**
OTAV	**Otavalo**	**3.56**	**327**	P	**Pn**	**00 56 59.1**	**+2.1**
OTAV	**Otavalo**	**3.56**	**327**	*e*P	**Pn**	**00 56 58.8**	**+1.8**
CUIC	**Cuicocha-Domo**	**3.57**	**329**	P	**Pn**	**00 57 00.1**	**+3.1**
COTA	**Cotacachi**	**3.58**	**329**	P	**Pn**	**00 57 01.2**	**+3.8**
CUSE	**Cuicocha Este**	**3.59**	**328**	P	**Pn**	**00 57 01.5**	**+4.1**
CUSE	**Cuicocha Este**	**3.59**	**328**	P	**Pn**	**00 57 00.1**	**+2.8**
URCU	**Urcuqui**	**3.63**	**331**	P	**Pn**	**00 57 01.0**	**+3.0**
ARNL	**Arenillas**	**3.63**	**258**	P	**Pn**	**00 56 55.8**	**-1.7**
TULM	**Tulcn-Chalpat**	**3.69**	**340**	P	**Pn**	**00 57 00.3**	**+1.5**
TULM	**Tulcn-Chalpat**	**3.69**	**340**	P	**Pn**	**00 57 00.9**	**+2.2**
LAMO	**ALAMOR**	**3.72**	**250**	P	**Pn**	**00 56 57.2**	**-1.6**
PAC1	**Pacto, Paraso**	**3.78**	**323**	P	**Pn**	**00 57 01.3**	**+1.6**
PAC1	**Pacto, Paraso**	**3.78**	**323**	P	**Pn**	**00 57 02.0**	**+2.3**
LNGL	**El Angel-Carch**	**3.79**	**337**	P	**Pn**	**00 57 02.6**	**+2.5**
MCRA	**Macar, Loja**	**3.79**	**245**	P	**Pn**	**00 56 57.9**	**-1.8**
MCRA				S	**Sn**	**00 57 41.1**	**-2.3**
MCRA	**Macar, Loja**	**3.79**	**245**	P	**Pn**	**00 56 58.1**	**-1.6**
CHL2	**Volcn Chiles**	**3.81**	**338**	P	**

JAGI	Jajag, Banyuwa	2.23	270	P	Pn	00 58 16.3	-0.7
ABJI	Asem Bagus	2.25	287	P	Pn	00 58 18.0	+0.7
KMMI	Kalianget	2.80	300	P	Pn	00 58 25.3	+0.5
BLJI	Banyuglugur	2.88	284	P	Pn	00 58 27.8	+1.9
GMJI	Gumukmas	2.94	274	P	Pn	00 58 26.8	0.0
WBSI	Waikabubak, Su	3.17	112	P	Pn	00 58 32.5	+2.5
PWJI	Pagerwojo	4.58	275	P	Pn	00 58 50.2	+0.9
BKSI	Bulukumba	4.83	50	P	Pn	00 58 50.6	-2.3
PCJI	Pacitan	5.18	273	P	Pn	00 58 57.4	-0.3
FITZ	Fitzroy Crossi	13.12	138	Pn	Pn	01 00 47.1	+0.5
	baz=339,slow=13,SNR=1.4						
FITZ				Sn	Sn	01 03 08.4	-4.4
	0.1nm,0.3s,baz=206,slow=3.5,SNR=2.2						
	1.1nm,0.6s						
WRA	Warramunga Arr	20.77	125	P	P	01 02 20.4	-0.9
	1.6nm,0.7s,baz=300,slow=12,SNR=13						
	1.6nm,0.7s						
ASAR	Alice Springs	22.57	134	P	P	01 02 40.2	-0.4
	0.9nm,0.6s,baz=312,slow=8.8,SNR=9.4						
	0.9nm,0.6s						
SONM	Songino Array	56.75	352	P	P	01 07 14.7	-10
	0.2nm,0.5s,baz=157,slow=7.8,SNR=2.0						
	0.2nm,0.5s						
MKAR	Makanchi Array	62.84	334	P	P	01 07 55.1	-11
	0.1nm,0.5s,baz=128,slow=8.5,SNR=3.3						
	0.1nm,0.5s						

NAO ***03*** *01:10:04.9, 37.°16N×20.°60E, h10km, mb4.7*
MOS ***03*** *01:10:04.3±1.4, 37.°21N×20.°62E, h12km, mb4.6/18, MS4.0/10, Error ellipse: s-maj=5.3km s-min=2.7km az=80.0*
IDC ***03*** *01:10:04.0±0.5, 37.°29N×20.°75E, h0km, mb4.2/22, mbtmp4.1/33, ML4.0/8, MS4.0/57, Error ellipse: s-maj=11.8km s-min=11.4km az=110.0*
GII ***03*** *01:10:04.4±0.3, 36.°284N±0.°002×21.°056E±0.°001, h1km, Mws4.6, confirmed*
NEIC ***03*** *01:10:05.6±2.1, 37.°18N±0.°05×20.°59E±0.°07, h10km±1km, mb4.6/39, Error ellipse: s-maj=9.9km s-min=8.6km az=318.0*
ATH ***03*** *01:10:05.3, 37.°18N×20.°57E, h6km±1km, ML4.5/21, Manual Solution by F.Xalaris This location: 2020/10/07 15:01:18 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
THE ***03*** *01:10:05.2, 37.°16N×20.°57E, h7km, ML4.7/5, Error ellipse: s-maj=1.1km s-min=0.4km az=58.0*
MCSM ***03*** *01:10:05.8±0.6, 37.°N±3.°×2.°1E±.°, h15km±3km, mB5.0, mb4.7, MLv4.7, Mw(mB)4.3*
MED_RC ***03*** *01:10:05.0±0.2, 37.°07N×20.°58E, h18km±1km, MW4.7/43, Moment Tensor Solution. Mantle waves: s43,c69; Duration: 1*$\cdot$*0 Moment tensor: Scale 10*^{16}*Nm; Mrr0.03±.07; Mθθ-0.35±.05; Mφφ0.32±.05; Mrθ-0.33±.10; Mθφ1.45±.04; Mφr-0.12±.09; Best double couple: M0 1.53000×10*^{16} *NP1:*ϕ_s*264.00000°, δ87.00000°, λ13.00000°. NP2:*ϕ_s*173.00000°, δ77.00000°, λ177.00000°. Principal axes: T 1.5300, Plg11.0000°, Azm129.0000°; N 0.0000, Plg77.0000°, Azm277.0000°; P -1.5300, Plg7.0000°, Azm38.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
PDG ***03*** *01:10:05.9±0.2, 37.°15N×20.°50E, h18km±1km, ML4.5/13 Error ellipse: s-maj=0.4km s-min=0.4km az=90.0*
GCMT ***03*** *01:10:07.6±0.3, 37.°13N±0.°02×20.°46E±0.°02, h21km±1km, MW4.8/96, Moment Tensor Solution. s8,c8; s96,c121; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; Mrr-0.03±.08; Mθθ-0.25±.07; Mφφ0.27±.07; Mrθ0.64±.13; Mθφ1.57±.06; Mφr-0.12±.11; Best double couple: M0 1.71800×10*^{16} *NP1:*ϕ_s*264.00000°, δ85.00000°, λ-21.00000°. NP2:*ϕ_s*356.00000°, δ69.00000°, λ-175.00000°. Principal axes: T 1.6710, Plg11.0000°, Azm312.0000°; N 0.0940, Plg68.0000°, Azm72.0000°; P -1.7650, Plg18.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BEO ***03*** *01:10:08.6±0.6, 37.°44N×20.°41E, h5km±5km, ML4.2/10*
AFAD ***03*** *01:10:10.0±0.0, 37.°39N×21.°08E, h15km, MW4.4*

ISC 03 01:10:07.5±0.7, 37.°26N±0.°03×20.°64E±0.°03, h25km±4km**, n622,** σ1$**86**/608**, mb4.5**/52**, MS4.0**/55**, 30C-27D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.42**	**19**	P	**Pb**	**01 10 15.5**	**-1.0**
KRI1				S	**Sb**	**01 10 23.3**	**+0.7**
	126μm,0.4s						
KRI1	**kERI**	**0.42**	**19**	P	**Pb**	**01 10 15.4**	**-1.0**
LTHK	**Lithakia**	**0.47**	**19**	P	**Pb**	**01 10 16.3**	**-0.9**
LTHK				S	**Sb**	**01 10 24.9**	**+1.0**
	121μm,0.6s						
LTHK	**Lithakia**	**0.47**	**19**	P	**Pb**	**01 10 16.4**	**-0.9**
LTHK				S	**Sb**	**01 10 24.0**	**+0.1**
RTZL	**Ratzakli, Kefa**	**0.82**	**7**	P	**Pb**	**01 10 22.2**	**-0.9**
RTZL				S	**Sn**	**01 10 36.0**	**+1.3**
	47μm,0.9s						
LCHA	**Lechaina**	**0.83**	**36**	P	**Pb**	**01 10 23.3**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.85**	**357**	P	**Pb**	**01 10 22.9**	**-0.7**
PSDA				S	**Sn**	**01 10 36.8**	**+1.3**
	42μm,0.8s						
PSDA	**Pessada-Kefalo**	**0.85**	**357**	P	**Pb**	**01 10 22.9**	**-0.7**
PSDA				S	**Sn**	**01 10 36.0**	**+0.4**
AMT	**Artemida-Makis**	**0.89**	**72**	P	**Pb**	**01 10 24.0**	**-0.3**
AMT				S	**Sn**	**01 10 36.8**	**+0.3**
PYL1	**Pylos**	**0.91**	**112**	P	**Pb**	**01 10 23.2**	**-1.4**
VLS	**Valsamata**	**0.91**	**357**	P	**Pb**	**01 10 24.1**	**-0.6**
VLS				S	**Sn**	**01 10 39.0**	**+1.9**
	20μm,0.9s						
VLS	**Valsamata**	**0.91**	**357**	P	**Pb**	**01 10 24.1**	**-0.6**
VLS				S	**Sn**	**01 10 39.0**	**+1.9**
VLS	**Valsamata**	**0.91**	**357**	P	**Pb**	**01 10 24.1**	**-0.6**
VLS				S	**Sn**	**01 10 38.0**	**+0.9**
LXR1	**Lixouri, Cepha**	**0.95**	**350**	P	**Pn**	**01 10 24.8**	**-0.4**
LXRA	**Lixouri, Kepha**	**0.95**	**350**	P	**Pn**	**01 10 24.8**	**-0.4**
LXRA				S	**Sn**	**01 10 38.6**	**+0.6**
PYL	**PYLOS**	**0.95**	**112**	P	**Pn**	**01 10 23.5**	**-1.8**
PYL	**PYLOS**	**0.95**	**112**	P	**Pn**	**01 10 24.6**	**-0.7**
PYL				S	**Sb**	**01 10 37.1**	**-0.5**
DMLN	**Damoulianata-K**	**1.00**	**348**	P	**Pn**	**01 10 25.5**	**-0.4**
DMLN	**Damoulianata-K**	**1.00**	**348**	P	**Pn**	**01 10 25.6**	**-0.4**
DMLN				S	**Sn**	**01 10 40.7**	**+1.5**
ITM	**Ithomi**	**1.03**	**94**	P	**Pn**	**01 10 25.4**	**-0.9**
ITM	**Ithomi**	**1.03**	**94**	P	**Pn**	**01 10 25.7**	**-0.6**
ITM				S	**Sn**	**01 10 40.9**	**+1.0**
RLS	**Riolos of Patr**	**1.03**	**39**	P	**Pn**	**01 10 26.4**	**+0.1**
RLS	**Riolos of Patr**	**1.03**	**39**	P	**Pb**	**01 10 27.1**	**+0.5**
RLS				S	**Sn**	**01 10 41.7**	**+1.8**
DRO	**Drossia**	**1.09**	**51**	P	**Pb**	**01 10 27.5**	**-0.2**
DRO	**Drossia**	**1.09**	**51**	P	**Pn**	**01 10 27.4**	**+0.2**
DRO				S	**Sb**	**01 10 43.9**	**+2.3**
VSK1	**VASILIKIADES**	**1.15**	**357**	P	**Pn**	**01 10 28.1**	**+0.1**
FSK	**Fiskardo**	**1.20**	**357**	P	**Pn**	**01 10 28.9**	**+0.3**
FSK	**Fiskardo**	**1.20**	**357**	P	**Pb**	**01 10 29.1**	**-0.4**
FSK				S	**Sb**	**01 10 46.4**	**+1.8**
AST1	**Astakos**	**1.32**	**15**	P	**Pn**	**01 10 30.8**	**+0.4**
EVGI	**Lefkada island**	**1.36**	**0**	P	**Pn**	**01 10 31.1**	**+0.3**
EVGI	**Lefkada island**	**1.36**	**0**	P	**Pb**	**01 10 31.8**	**-0.4**
UPR	**University Cam**	**1.36**	**41**	P	**Pb**	**01 10 32.8**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.42**	**358**	P	**Pn**	**01 10 32.0**	**+0.3**
DRAG	**Dragano-Lefkad**	**1.42**	**358**	P	**Pb**	**01 10 32.7**	**-0.6**
KLV	**Kalavryta, Ach**	**1.43**	**56**	P	**Pn**	**01 10 32.2**	**+0.3**
KLV	**Kalavryta, Ach**	**1.43**	**56**	P	**Pb**	**01 10 32.8**	**-0.7**
KLV				S	**Sb**	**01 10 53.1**	**+1.8**
NYDR	**Nydri-Lefkada**	**1.45**	**2**	P	**Pb**	**01 10 33.3**	**-0.5**
GUR	**Goura**	**1.51**	**63**	P	**Pb**	**01 10 33.9**	**-1.0**
GUR				S	**Sb**	**01 10 54.9**	**+1.3**
PVO	**Paravola**	**1.52**	**27**	P	**Pb**	**01 10 35.1**	**0.0**
LKD2	**Lefkada island**	**1.52**	**0**	P	**Pb**	**01 10 34.9**	**-0.2**
EFP	**Efpalio**	**1.53**	**40**	P	**Pb**	**01 10 34.7**	**-0.6**
EFP				S	**Sb**	**01 10 55.8**	**+1.6**
TSLK	**Tsoukalades, L**	**1.56**	**0**	P	**Pb**	**01 10 35.2**	**-0.5**
KALE	**Kalithea**	**1.63**	**46**	P	**Pb**	**01 10 36.2**	**-0.8**
KALE				S	**Sb**	**01 10 57.2**	**-0.1**
ANX	**Ano Chora**	**1.67**	**37**	P	**Pb**	**01 10 36.9**	**-0.7**
ANX				S	**Sb**	**01 10 58.8**	**+0.5**
EVR	**Evrytania**	**1.89**	**29**	P	**Pb**	**01 10 40.7**	**-0.7**
DLFA	**Delphi**	**1.90**	**50**	P	**Pb**	**01 10 40.8**	**-0.8**
VLI	**Veliai**	**1.91**	**106**	P	**Pn**	**01 10 39.9**	**+1.4**
NPS1	**Neapolis Lacon**	**2.08**	**110**	P	**Pn**	**01 10 41.0**	**+0.2**
AXAR	**Agios Charalam**	**2.19**	**46**	P	**Pb**	**01 10 44.4**	**-2.0**
AGG	**Agios Georgios**	**2.20**	**37**	P	**Pn**	**01 10 44.1**	**+1.6**
AGG	**Agios Georgios**	**2.20**	**37**		**Pb**	**01 10 45.5**	**-1.2**
AGG	**Agios Georgios**	**2.20**	**37**	P	**Pb**	**01 10 45.5**	**-1.2**
IGT	**Igoumenitsa**	**2.28**	**354**	P	**Pb**	**01 10 47.3**	**-0.7**
IGT	**Igoumenitsa**	**2.28**	**354**	P	**Pn**	**01 10 44.6**	**+1.1**
JAN	**Janina**	**2.40**	**4**	P	**Pb**	**01 10 48.5**	**-1.5**
JAN	**Janina**	**2.40**	**4**	P	**Pn**	**01 10 47.1**	**+1.9**
KEK	**Kerkira**	**2.54**	**345**	*e*P	**Pb**	**01 10 49.7**	**-2.6**
KEK	**Kerkira**	**2.54**	**345**	Pn	**Pn**	**01 10 48.8**	**+1.8**
ANKY	**Antikythira Is**	**2.55**	**122**	P	**Pn**	**01 10 47.8**	**+0.5**
TYRN	**Tyrnavos**	**2.74**	**27**	P	**Pn**	**01 10 51.4**	**+1.5**
KZN	**Kozani**	**3.16**	**16**	P	**Pn**	**01 10 57.0**	**+1.2**
LIT	**Litokhoron**	**3.18**	**26**		**Pn**	**01 10 57.4**	**+1.5**
LIT	**Litokhoron**	**3.18**	**26**	P	**Pn**	**01 10 57.4**	**+1.5**
KNDR	**Palaiochora Ch**	**3.19**	**129**	*e*P	**Pn**	**01 10 56.4**	**+0.4**
IMMV	**Iera Moni Meta**	**3.24**	**123**	*e*P	**Pn**	**01 10 57.5**	**+0.8**
SCTE	**Santa Cesarea**	**3.28**	**329**		**Pn**	**01 10 57.0**	**-0.4**
FNA	**Florina**	**3.56**	**9**	P	**Pn**	**01 11 02.5**	**+1.3**
FNA				S	**Sn**	**01 11 41.1**	**-1.4**
FNA				*i* AML	AML	01 11 45.0	
	comp=E,239nm,0.5s						
FNA				*i* AML	AML	01 11 47.0	
	comp=N,159nm,0.5s						
FNA	**Florina**	**3.56**	**9**	*e*P	**Pn**	**01 11 03.2**	**+1.9**
FNA	**Florina**	**3.56**	**9**	Pn	**Pn**	**01 11 03.1**	**+1.9**
FNA	**Florina**	**3.56**	**9**	*e*Pn	**Pn**	**01 11 03.1**	**+1.9**
FNA				*e*Sn	**Sn**	**01 11 43.8**	**+1.3**
FNA	**Florina**	**3.56**	**9**	P	**Pn**	**01 11 03.1**	**+1.9**
TIP	**Timpagrande**	**3.61**	**303**	Pn	**Pn**	**01 11 01.1**	**-0.7**
TIP	**Timpagrande**	**3.61**	**303**	||P	**Pn**	**01 11 01.5**	**-0.4**
TIP	**Timpagrande**	**3.61**	**303**	P	**Pn**	**01 11 01.0**	**-0.9**
GVD	**Gavdhos**	**3.69**	**130**	*e*P	**Pn**	**01 11 03.2**	**+0.2**
THE	**Thessaloniki**	**3.82**	**28**	P	**Pn**	**01 11 06.7**	**+2.0**
HORT	**Hortiatis**	**3.84**	**29**	*e*P	**Pn**	**01 11 06.9**	**+1.8**
OHR	**Ohrid**	**3.84**	**2**	*e*Pn	**Pn**	**01 11 07.6**	**+2.5**
OHR	**Ohrid**	**3.84**	**2**	*i* Pn	**Pn**	**01 11 08.0**	**+2.9**
CEL	**Celeste**	**3.89**	**286**		**Pn**	**01 11 05.3**	**-0.5**
CEL	**Celeste**	**3.89**	**286**	P	**Pn**	**01 11 05.1**	**-0.7**
APE	**Apeiranthos**	**3.91**	**91**	P	**Pn**	**01 11 06.6**	**+0.7**
APE				S	Sn	01 11 39.6	-11
APE	**Apeiranthos**	**3.91**	**91**	*e*P	**Pn**	**01 11 05.9**	**-0.1**
APE	**Apeiranthos**	**3.91**	**91**	*e*P	**Pn**	**01 11 05.5**	**-0.5**
APE	**Apeiranthos**	**3.91**	**91**	||P	**Pn**	**01 11 06.3**	**+0.3**
APE	**Apeiranthos**	**3.91**	**91**	||P	**Pn**	**01 11 06.3**	**+0.3**
APE	**Apeiranthos**	**3.91**	**91**	P	**Pn**	**01 11 03.5**	**-2.5**
IDI	**Anoyia**	**3.96**	**119**	*e*P	**Pn**	**01 11 07.7**	**+1.0**
IDI	**Anoyia**	**3.96**	**119**	Pn	**Pn**	**01 11 06.5**	**-0.2**
IDI	**Anoyia**	**3.96**	**119**	Pn	**Pn**	**01 11 06.9**	**+0.3**
	12nm,0.6s,baz=312,slow=11,SNR=21						
IDI				Sn	**Sn**	**01 11 52.0**	**-0.2**
	22nm,0.3s,baz=313,slow=19,SNR=7.0						
OUR	**Ouranopolis**	**4.03**	**39**	*e*P	**Pn**	**01 11 08.8**	**+1.3**
OUR	**Ouranopolis**	**4.03**	**39**	P	**Pn**	**01 11 09.5**	**+2.0**
TIR	**Tirane**	**4.12**	**352**	Pn	**Pn**	**01 11 11.1**	**+2.2**
TIR	**Tirane**	**4.12**	**352**	*e*Pn	**Pn**	**01 11 10.5**	**+1.6**
TIR	**Tirane**	**4.12**	**352**	||P	**Pn**	**01 11 11.3**	**+2.4**
TIR	**Tirane**	**4.12**	**352**	||P	**Pn**	**01 11 11.3**	**+2.4**
TIR	**Tirane**	**4.12**	**352**	P	**Pn**	**01 11 09.6**	**+0.7**
SOH	**Sokhos**	**4.13**	**30**	P	**Pn**	**01 11 13.1**	**+2.0**
KNT	**Kendrikon**	**4.27**	**24**	P	**Pn**	**01 11 13.0**	**+2.1**
CHOS	**Chios island**	**4.43**	**74**	*e*P	**Pn**	**01 11 13.8**	**+0.7**
SRS	**Serrai**	**4.48**	**30**	*e*Pn	**Pn**	**01 11 15.2**	**+1.4**
SIGR	**SIGRI**	**4.54**	**63**	*e*P	**Pn**	**01 11 15.9**	**+1.3**
MATE	**Matera**	**4.57**	**319**	*e*P	**Pn**	**01 11 15.1**	**+0.2**
MATE	**Matera**	**4.57**	**319**	*e*P	**Pn**	**01 11 15.5**	**+0.6**
MATE	**Matera**	**4.57**	**319**	||P	**Pn**	**01 11 14.9**	**-0.1**
CUC	**Castrocucco**	**4.66**	**307**	Pn	**Pn**	**01 11 16.6**	**+0.3**
ZEYE	**Izmir, Urla-Ze**	**4.74**	**76**	P	**Pn**	**01 11 15.2**	**-2.1**
PUK	**Puka**	**4.81**	**353**		**Pn**	**01 11 19.3**	**+0.9**
ULC	**Ulcinj**	**4.82**	**347**	*e*Pn	**Pn**	**01 11 19.2**	**+0.8**
ULC				*i* Sn	**Sn**	**01 12 12.6**	**-0.8**
PEHC	**Pehcevo**	**4.83**	**20**	*i* Pn	**Pn**	**01 11 20.5**	**+1.7**
KOCA	**Canakkale, Ayv**	**4.86**	**61**	P	**Pn**	**01 11 18.6**	**-0.4**
VAE	**Valguarnera**	**4.97**	**274**	Pn	**Pn**	**01 11 21.6**	**+1.0**
	92nm,0.7s,baz=46,slow=6.6,SNR=39						
VAE				Sn	**Sn**	**01 12 15.0**	**-2.2**
	10nm,0.3s,baz=39,slow=21,SNR=3.6						
RAFF	**Raffo Rosso**	**5.01**	**271**	Pn	**Pn**	**01 11 20.6**	**-0.5**
GOAD	**anakkale-G¶**	**5.03**	**53**	P	Pn	01 10 54.2	-27
GADA	**Gvkgeada**	**5.04**	**53**	*e*P	**Pn**	**01 11 21.5**	**0.0**
DRME	**Dracevica, Mon**	**5.04**	**348**	*e*Pn	**Pn**	**01 11 22.0**	**+0.5**
DRME				*i* Sn	**Sn**	**01 12 18.4**	**-0.6**
WDD	**Wied Dalam**	**5.13**	**256**	Pn	**Pn**	**01 11 20.3**	**-2.4**
EZN	**Ezine**	**5.14**	**58**	P	**Pn**	**01 11 20.5**	**-2.3**
EZN	**Ezine**	**5.14**	**58**	*e*P	**Pn**	**01 11 24.6**	**+1.8**
EZN	**Ezine**	**5.14**	**58**	P	**Pn**	**01 11 24.6**	**+1.8**
EZN	**Ezine**	**5.14**	**58**	P	**Pn**	**01 11 24.6**	**+1.8**
	53nm,0.8s,0.4nm						
BLCB	**Balcova**	**5.19**	**76**	P	**Pn**	**01 11 22.8**	**-0.7**
BLCB	**Balcova**	**5.19**	**76**	*e*P	**Pn**	**01 11 25.1**	**+1.6**
BUM	**Brajici-Budva**	**5.21**	**346**	*e*Pn	**Pn**	**01 11 23.4**	**-0.5**
BUM				*i* Sn	**Sn**	**01 12 21.9**	**-1.2**
BAYC	**CANAKKALE_Bayr**	**5.25**	**60**	P	**Pn**	**01 11 23.9**	**-0.5**
DKL	**Dikili**	**5.25**	**68**	P	**Pn**	**01 11 23.1**	**-1.3**
DKL	**Dikili**	**5.25**	**68**	*e*P	**Pn**	**01 11 25.8**	**+1.4**
GCAM	**G?zelcaml?**	**5.26**	**83**	*e*P	**Pn**	**01 11 24.9**	**+0.4**
PDG	**Podgorica**	**5.27**	**349**	Pn	**Pn**	**01 11 24.8**	**+0.2**
PDG	**Podgorica**	**5.27**	**349**	*e*Pn	**Pn**	**01 11 24.6**	**0.0**
PDG				*e*Sn	**Sn**	**01 12 22.4**	**-2.1**
PDG	**Podgorica**	**5.27**	**349**	*e*Pn	**Pn**	**01 11 24.9**	**+0.3**
PDG	**Podgorica**	**5.27**	**349**	||P	**Pn**	**01 11 25.0**	**+0.4**
PDG	**Podgorica**	**5.27**	**349**	*e*Pn	**Pn**	**01 11 24.8**	**+0.2**
PDG				*i* Sn	**Sn**	**01 12 23.9**	**-0.6**
BODT	**Bodrum**	**5.33**	**90**	*e*P	**Pn**	**01 11 26.7**	**+1.2**
PVY	**Plav**	**5.35**	**355**	||*i*Pn	**Pn**	**01 11 27.5**	**+1.6**
PVY				*i* Sn	**Sn**	**01 12 25.8**	**-0.9**
BOSS	**Bosilegrad**	**5.41**	**15**	*e*Pn	**Pn**	**01 11 27.5**	**+0.9**
BOSS				*e*Sn	**Sn**	**01 12 27.2**	**-0.9**
HCY	**Herceg Novi**	**5.44**	**343**	*e*Pn	**Pn**	**01 11 25.8**	**-1.1**
HCY	**Herceg Novi**	**5.44**	**343**	||*i*Pn	**Pn**	**01 11 26.2**	**-0.7**
HCY				*i* Sn	**Sn**	**01 12 27.3**	**-1.3**
CEME	**Cevo**	**5.44**	**346**	*e*Pn	**Pn**	**01 11 26.4**	**-0.6**
CEME				*i* Sn	**Sn**	**01 12 27.9**	**-1.0**
GELI	**Tayfur-Gelibol**	**5.52**	**54**	*e*P	**Pn**	**01 11 29.9**	**+1.8**
KARP	**Karpathos**	**5.53**	**106**	*e*P	**Pn**	**01 11 29.6**	**+1.4**
KARP	**Karpathos**	**5.53**	**106**	Pn	**Pn**	**01 11 28.7**	**+0.5**
KARP	**Karpathos**	**5.53**	**106**	*e*P	**Pn**	**01 11 30.8**	**+2.5**
KARP	**Karpathos**	**5.53**	**106**	P	**Pn**	**01 11 27.8**	**-0.4**
	129nm,0.7s,1μm0.7nm						
ALN	**Alexandroupoli**	**5.55**	**48**	P	**Pn**	**01 11 29.1**	**+0.6**
ALN	**Alexandroupoli**	**5.55**	**48**	*e*P	**Pn**	**01 11 29.8**	**+1.3**
ALN	**Alexandroupoli**	**5.55**	**48**	Pn	**Pn**	**01 11 27.9**	**-0.6**
ALN	**Alexandroupoli**	**5.55**	**48**	P	**Pn**	**01 11 27.9**	**-0.6**
DAT	**Datca**	**5.58**	**93**	*e*P	**Pn**	**01 11 30.3**	**+1.4**
BARS	**Barje**	**5.62**	**9**	*e*Pn	**Pn**	**01 11 30.0**	**+0.6**
BARS				*e*Sn	**Sn**	**01 12 30.2**	**-3.0**
IVA	**Berane**	**5.63**	**354**	*e*Pn	**Pn**	**01 11 30.7**	**+1.0**
IVA				*i* Sn	**Sn**	**01 12 33.0**	**-0.6**
KOME	**Kolasin**	**5.65**	**352**	*e*Pn	**Pn**	**01 11 30.9**	**+1.0**
KOME				*i* Sn	**Sn**	**01 12 33.1**	**-0.9**
NKME	**Niksic**	**5.65**	**347**	*e*Pn	**Pn**	**01 11 30.8**	**+0.9**
NKME				*i* Sn	**Sn**	**01 12 33.1**	**-0.8**
ERIK	**Erikli-Kesan**	**5.70**	**52**	P	**Pn**	**01 11 29.5**	**-1.0**
ERIK	**Erikli-Kesan**	**5.70**	**52**	*e*P	**Pn**	**01 11 32.5**	**+2.0**
VTS	**Vitosha**	**5.71**	**20**	*e*Pn	**Pn**	**01 11 32.1**	**+1.3**
VTS				*e*Sn	**Sn**	**01 12 35.2**	**-0.3**
CANM	**Can-anakkale**	**5.72**	**59**	*e*P	**Pn**	**01 11 32.7**	**+1.9**
TREB	**Trebinje**	**5.72**	**343**	*e*Pn	**Pn**	**01 11 30.2**	**-0.7**
TREB				*e*Sn	**Sn**	**01 12 31.8**	**-3.9**
TREB	**Trebinje**	**5.72**	**343**	*e*Pn	**Pn**	**01 11 29.8**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**5.79**	**81**	*e*P	**Pn**	**01 11 33.4**	**+1.4**
BRY	**Bratogost**	**5.86**	**345**	*e*Pn	**Pn**	**01 11 31.4**	**-1.4**
BRY	**Bratogost**	**5.86**	**345**	||*i*Pn	**Pn**	**01 11 32.1**	**-0.7**
BRY				*i* Sn	**Sn**	**01 12 37.6**	**-1.6**
STEP	**BALIKESIR_Sava**	**5.95**	**67**	P	**Pn**	**01 11 34.8**	**+0.8**
SELS	**Selova**	**5.96**	**3**	*e*Pn	**Pn**	**01 11 34.4**	**+0.3**
SJES	**Sjenica**	**6.01**	**355**	*e*Pn	**Pn**	**01 11 36.1**	**+1.2**
SJES	**Sjenica**	**6.01**	**355**	*e*Pn	**Pn**	**01 11 35.9**	**+1.0**
STON	**Ston**	**6.04**	**339**	*e*Pn	**Pn**	**01 11 33.9**	**-1.3**
STON				*e*Sn	**Sn**	**01 12 39.1**	**-4.3**
STON	**Ston**	**6.04**	**339**	*e*Pn	**Pn**	**01 11 34.2**	**-1.0**
UPM	**Unac-Piva**	**6.08**	**348**	*e*Pn	**Pn**	**01 11 35.9**	**0.0**
UPM	**Unac-Piva**	**6.08**	**348**	*e*Pn	**Pn**	**01 11 36.7**	**+0.8**
UPM				*i* Sn	**Sn**	**01 12 43.1**	**-1.7**
ARG	**Arkhangelos**	**6.10**	**98**	P	**Pn**	**01 11 37.4**	**+1.4**
ARG				pmax	pmax		
	comp=Z,102nm,1.1s						
YER	**Yerkesik**	**6.10**	**89**	P	Pn	01 11 40.9	+4.8
NAZL	**Nazilli-Aydin**	**6.11**	**81**	*e*P	**Pn**	**01 11 37.8**	**+1.6**
PLE	**Pljevlja**	**6.14**	**351**	*e*Pn	**Pn**	**01 11 37.5**	**+0.9**
PLE				*i* Sn	**Sn**	**01 12 45.0**	**-1.0**
GORD	**Gordes-Manisa**	**6.17**	**72**	*e*P	**Pn**	**01 11 38.8**	**+1.8**
ZAPS	**Zavoj**	**6.19**	**14**	*e*Pn	**Pn**	**01 11 38.6**	**+1.3**
BKES	**Balkesir-Mer**	**6.22**	**64**	P	**Pn**	**01 11 39.2**	**+1.5**
IVAS	**Ivanjica**	**6.32**	**357**	*e*Pn	**Pn**	**01 11 39.0**	**-0.1**
BOVS	**Bovan**	**6.42**	**7**	*e*Pn	**Pn**	**01 11 39.6**	**-0.8**
BOVS	**Bovan**	**6.42**	**7**	||P	**Pn**	**01 11 40.1**	**-0.3**
RUDO	**Rudo**	**6.42**	**352**	*e*Pn	**Pn**	**01 11 39.5**	**-1.0**
EDRB	**Edirne**	**6.57**	**44**	P	**Pn**	**01 11 43.4**	**+0.9**
GRUS	**Gruza**	**6.62**	**0**	*e*Pn	**Pn**	**01 11 43.0**	**-0.1**
ZAGS	**Zajecar**	**6.65**	**10**	*e*Pn	**Pn**	**01 11 43.7**	**+0.1**
BBLS	**Lazi&#263i**	**6.66**	**352**	*e*Pn	**Pn**	**01 11 44.0**	**+0.2**
BBLS	**Lazi&#263i**	**6.66**	**352**	*e*Pn	**Pn**	**01 11 43.6**	**-0.2**
KIRK	**Kirklareli**	**6.72**	**46**	P	**Pn**	**01 11 44.5**	**-0.1**
USAK	**Uak-Merkez**	**6.77**	**75**	P	**Pn**	**01 11 47.1**	**+1.8**
DIVS	**Divibare**	**6.85**	**356**	*e*Pn	**Pn**	**01 11 46.3**	**-0.1**
ELND	**Elena**	**6.93**	**34**	||P	**Pn**	**01 11 49.6**	**+2.1**
HAPS	**Han Pijesak,BI**	**6.94**	**350**	*e*Pn	**Pn**	**01 11 47.3**	**-0.3**
HAPS	**Han Pijesak,BI**	**6.94**	**350**	*e*Pn	**Pn**	**01 11 46.8**	**-0.8**
TRUS	**Trudelj**	**6.96**	**359**	*e*Pn	**Pn**	**01 11 47.9**	**+0.1**
ARMN	**Kirklareli, Me**	**6.97**	**47**	P	**Pn**	**01 11 46.8**	**-1.2**
INTR	**Introdacqua**	**7.04**	**314**	Pn	**Pn**	**01 11 50.8**	**+1.9**
KUBS	**Kucevo**	**7.18**	**6**	*e*Pn	**Pn**	**01 11 49.8**	**-1.1**
TEKS	**Tekeris**	**7.33**	**354**	*e*Pn	**Pn**	**01 11 51.9**	**-1.0**
TEKS	**Tekeris**	**7.33**	**354**	*e*Pn	**Pn**	**01 11 51.4**	**-1.5**
ELL	**Elmali**	**7.43**	**91**		**Pn**	**01 11 58.0**	**+3.6**
ELL	**Elmali**	**7.43**	**91**	P	**Pn**	**01 11 58.0**	**+3.6**
YLV	**Yalova**	**7.56**	**61**	P	**Pn**	**01 11 58.5**	**+2.3**
	comp=Z,26nm,1.1s,comp=Z,0.1nm						
HERR	**Herculane**	**7.73**	**9**			P	**

ABTA Abfaltersbach 11.24 330 *e*Pn **Pn 01 12 46.4 -0.1**
comp=Z,2.2nm,0.3s
ABTA *i* Sn **Sn 01 14 46.6 -4.6**
comp=Z,19nm,0.8s
NSLU Nyzhne Selyshc 11.28 13 P **Pn 01 12 45.3 -1.7**
MUKU Mukachevo 11.28 7 P **Pn 01 12 48.8 +1.8**
HOLU Holmets 11.33 6 P **Pn 01 12 48.7 +1.0**
MODS Modra-Piesok 11.38 349 *e*SN **Sn 01 14 46.3 -8.2**
KSV Kosov 11.51 15 P **Pn 01 12 52.5 +2.3**
KSV Kosov 11.51 15 P **Pn 01 12 52.5 +2.3**
MOA Molln 11.57 338 *e*Pn **Pn 01 12 51.2 +0.1**
comp=Z,4.5nm,0.3s,SNR=7.9
MOA *i* Sn **Sn 01 14 54.2 -5.2**
comp=Z,15nm,0.8s
MOA Molln 11.57 338 *e*Pn **Pn 01 12 50.8 -0.2**
BIOA Bad Ischl, Aus 11.63 336 *e*Pn **Pn 01 12 52.4 +0.6**
comp=Z,3.4nm,0.3s,SNR=5.1
BIOA Sn **Sn 01 14 56.6 -4.1**
comp=Z,12nm,0.8s
KOLS Kolonicke sedl 11.72 5 *e*P **Pn 01 12 56.3 +3.2**
KOLS Kolonicke sedl 11.72 5 *e*Pn **Pn 01 12 56.3 +3.2**
LESA Schwarzleotal 11.73 332 *i* Pn **Pn 01 12 54.3 +1.1**
comp=Z,3.9nm,0.4s
LESA *e*Sn **Sn 01 14 58.2 -5.2**
comp=Z,12nm,0.7s
STNU Starunia 11.78 13 P **Pn 01 12 54.9 +1.0**
JAVC Velka Javorina 11.79 350 *e*PN **Pn 01 12 55.4 +1.3**
LANS Liptovska Anna 11.91 356 *e*P **Pn 01 12 57.4 +1.7**
LANS Liptovska Anna 11.91 356 *e*PN **Pn 01 12 57.4 +1.7**
WTTA Wattenberg 12.01 329 *i* Pn **Pn 01 12 58.1 +1.0**
comp=Z,4.0nm,0.6s
WTTA *e*Sn **Sn 01 15 06.1 -4.1**
comp=Z,27nm,0.7s
WTTA Wattenberg 12.01 329 P **Pn 01 12 58.8 +1.7**
WTTA pmax pmax
comp=Z,19nm,1.1s
WATA Walderalm 12.09 329 *i* Pn **Pn 01 12 59.6 +1.4**
comp=Z,6.2nm,0.6s
WATA *i* Sn **Sn 01 15 08.5 -3.7**
comp=Z,31nm,0.8s
FUORN Ofenpass-Fuorn 12.12 324 Pn 01 12 58.1 -0.6
NIE Niedzica 12.15 359 P **Pn 01 13 01.4 +2.4**
NIE pmax pmax
comp=Z,6.0nm,1.3s
STHS Stebnicka Huta 12.16 2 *e*P **Pn 01 13 01.5 +2.5**
STHS Stebnicka Huta 12.16 2 *e*PN **Pn 01 13 01.5 +2.5**
KRUC Moravsky 12.19 347 *e*PN **Pn 01 12 59.5 0.0**
KRUC Moravsky 12.19 347 P **Pn 01 13 01.6 +2.1**
KRUC pmax pmax
comp=Z,4.0nm,1.2s
FETA Feichten 12.21 326 Pn **Pn 01 13 00.6 +0.8**
comp=Z,3.7nm,0.6s,SNR=5.2
FETA *i* Sn **Sn 01 15 10.5 -4.5**
comp=Z,9.2nm,0.8s
SET Setif 12.28 270 P **P 01 13 17.0 +4.1**
MOTA Moosalm 12.29 328 *i* Pn **Pn 01 13 02.2 +1.2**
comp=Z,8.9nm,0.7s
MOTA *e*Sn **Sn 01 15 14.7 -2.5**
comp=Z,14nm,0.7s
VRAC Vranov 12.39 348 Pn **Pn 01 13 01.5 -0.8**
comp=Z,0.2nm,0.3s,baz=204,slow=10.0,SNR=2.2
VRAC LR LR 01 18 34.5
comp=Z,684nm,18.0s,baz=170,slow=41
comp=Z,1.0nm,0.4s
VRAC Vranov 12.39 348 *e*PN **Pn 01 13 01.5 -0.8**
CKRC Cesky Krumlov 12.44 340 *e*PN **Pn 01 13 01.6 -1.3**
CKRC AMS AMS 01 18 20.0
comp=Z,1µm,11.2s
CKRC Cesky Krumlov 12.44 340 *e*P **Pn 01 13 01.6 -1.3**
CKRC MLR MLR
comp=Z,1µm,11.2s
TUE Stuetta 12.46 321 P **Pn 01 13 03.9 +0.6**
comp=Z,82nm,1.3s
RETA Reutte 12.55 328 *e*Pn **Pn 01 13 05.9 +1.5**
comp=Z,0.6nm,0.4s
RETA *i* Sn **Sn 01 15 17.9 -5.4**
comp=Z,13nm,0.8s
TREC Trest 12.60 344 P P 01 13 10.7 -5.6
TREC pmax pmax
comp=Z,10.0nm,1.8s
HNTI Hanita 12.60 105 S Sn 01 15 12.8 -12
HNTI Hanita 12.60 105 P Pn 01 12 57.5 -7.6
GERES GERESS Array B 12.63 339 Pn **Pn 01 13 05.4 -0.2**
comp=Z,0.4nm,0.3s,baz=155,slow=14,SNR=5.6
comp=Z,0.8nm,0.3s
OFRI `Ofer 12.64 107 S Sn 01 15 13.7 -12
OFRI `Ofer 12.64 107 P Pn 01 12 57.4 -8.4
OKC Ostrava-Krasne 12.70 353 P **Pn 01 13 08.7 +2.3**
OKC pmax pmax
comp=Z,20nm,1.2s
MORC Moravsky Berou 12.71 351 *e*PN **Pn 01 13 08.6 +2.0**
MORC Moravsky Berou 12.71 351 P P 01 13 12.7 -4.8
MORC pmax pmax
comp=Z,9.0nm,1.7s
DAVA Damuels 12.79 325 *e*Pn **Pn 01 13 08.9 +1.2**
comp=Z,7.2nm,0.7s,SNR=8.7
DAVA *e*Sn **Sn 01 15 23.0 -6.3**
comp=Z,13nm,0.5s
MMA0 Mount Meron ar 12.80 105 P **Pn 01 13 04.5 -3.4**
MMA0B Mount Meron ar 12.80 105 P Pn 01 12 59.8 -8.1
MMA0B Mount Meron ar 12.80 105 S Sn 01 15 18.9 -11
MMAI Mount Meron Ar 12.80 105 Pn **Pn 01 13 04.8 -3.2**
comp=Z,1.7nm,0.3s,baz=303,slow=11,SNR=18
MMAI Sn Sn 01 15 19.1 -11
comp=Z,1.4nm,0.3s,baz=300,slow=21,SNR=2.5
MMAI LR LR 01 20 13.0
comp=Z,357nm,19.2s,baz=254,slow=48
comp=Z,1.5nm,0.4s
SLTI Sal'it 12.85 109 P **Pn 01 13 07.9 -0.7**
SLTI Sal'it 12.85 109 S Sn 01 15 17.9 -13
SLTI Sal'it 12.85 109 P Pn 01 13 00.6 -8.0
GEM Giv'at Ha'Em 12.93 104 P **Pn 01 13 07.6 -2.0**
GEM Giv'at Ha'Em 12.93 104 S Sn 01 15 21.8 -11
GEM Giv'at Ha'Em 12.93 104 P Pn 01 13 02.0 -7.6
KHC Kasperske Hory 12.93 339 *e*PN **Pn 01 13 09.4 -0.1**
KHC *e*SN **Sn 01 15 24.9 -7.6**
KHC AMS AMS 01 18 50.0
comp=Z,1µm,9.5s
KHC Kasperske Hory 12.93 339 *i* P **Pn 01 13 06.9 -2.6**
KHC Kasperske Hory 12.93 339 P **Pn 01 13 10.4 +0.9**
comp=Z,11nm,1.3s
ZVC Zvikov 13.04 341 *e*PN **Pn 01 13 11.1 +0.1**
ZVC AMS AMS 01 19 00.0
comp=Z,900nm,13.1s
KZIT Kziot 13.04 115 P **Pn 01 13 07.1 -4.0**
KZIT Kziot 13.04 115 S Sn 01 15 20.8 -15
KZIT Kziot 13.04 115 P Pn 01 13 02.3 -8.8
SALP Salfit 13.04 109 P **Pn 01 13 09.6 -1.6**
SALP Salfit 13.04 109 P Pn 01 13 02.5 -8.8
MMLI Mount Malkishu 13.05 107 P Pn 01 13 03.1 -8.3
MMLI Mount Malkishu 13.05 107 S Sn 01 15 23.7 -12
KRLC Kraliky 13.11 349 AMS AMS 01 19 30.0
comp=Z,1µm,12.2s
WET Wettzell 13.15 337 P **Pn 01 13 15.3 +2.8**
WET pmax pmax
comp=Z,14nm,1.9s
SHMJ Saham 13.19 106 P **Pn 01 13 11.7 -1.6**
GAZ Gaziantep 13.21 85 Pn 01 13 13.3 -0.2
HMDT Nahal Hemdat 13.21 108 P **Pn 01 13 13.9 +0.4**
HMDT Nahal Hemdat 13.21 108 S Sn 01 15 27.3 -12
HMDT Nahal Hemdat 13.21 108 P Pn 01 13 05.4 -8.1
QRNJ Al-Qirein 13.21 107 P **Pn 01 13 10.5 -3.0**
UJAP Al Uja 13.30 109 P **Pn 01 13 11.5 -3.2**
UJAP Al Uja 13.30 109 P Pn 01 13 07.1 -7.6
UJAP Al Uja 13.30 109 S Sn 01 15 28.8 -13
YTIR Yattir 13.33 112 P **Pn 01 13 13.2 -1.9**
YTIR Yattir 13.33 112 P Pn 01 13 07.0 -8.2
YTIR Yattir 13.33 112 S Sn 01 15 28.8 -14
BALJ Balqa 13.37 108 Pn **Pn 01 13 15.3 -0.4**
BALJ Balqa 13.37 108 P **Pn 01 13 17.1 +1.4**
DSI Dead Sea 13.42 111 P **Pn 01 13 14.3 -2.0**
DPC Dobruska-Polom 13.45 348 AMS AMS 01 19 50.0
comp=Z,800nm,14.5s
PRU Pruhonice 13.46 343 *e*PN **Pn 01 13 16.6 -0.2**
PRU AMS AMS 01 20 10.0
comp=Z,900nm,10.4s
PRU Pruhonice 13.46 343 *e*P **Pn 01 13 16.6 -0.2**
PRU MLR MLR
comp=Z,900nm,10.4s
SENIN Lac Senin/Sane 13.46 317 Pn 01 13 13.8 -3.3
MSBI Mazada 13.53 112 P **Pn 01 13 18.7 +0.9**
UPC Upice 13.65 347 AMS AMS 01 19 10.0
comp=Z,900nm,12.2s
LUBAR Lubar, Ukraine 13.65 20 P **Pn 01 13 20.0 +0.6**

LISJ El Lisan 13.66 112 P **Pn 01 13 18.9 -0.6**
GHAJ Ghor Haditha 13.69 111 Pn 01 13 17.4 -2.5
GHAJ Ghor Haditha 13.69 111 P **Pn 01 13 18.5 -1.5**
GHAJ Ghor Haditha 13.69 111 P Pn 01 13 11.7 -8.3
GHAJ Ghor Haditha 13.69 111 S Sn 01 15 37.1 -14
KRMI Paran Flat 13.71 117 P Pn 01 13 10.4 -10
PRNI Paran 13.78 116 P **Pn 01 13 17.8 -3.5**
PRNI Paran 13.78 116 P Pn 01 13 11.7 -10
PRNI Paran 13.78 116 S Sn 01 15 37.9 -16
SLE Schleitheim 13.78 323 P **Pn 01 13 22.2 +1.0**
SLE pmax pmax
comp=Z,21nm,1.0s
ZFRI Zfri 13.79 115 P **Pn 01 13 19.3 -2.1**
ZFRI Zfri 13.79 115 P Pn 01 13 12.6 -8.8
ZFRI Zfri 13.79 115 S Sn 01 15 38.9 -15
KSP Ksiaz 13.93 348 P **P 01 13 29.0 -2.0**
KSP pmax pmax
comp=Z,10.0nm,1.3s
PVCC Panska Ves 13.96 344 AMS AMS 01 19 50.0
comp=Z,700nm,12.4s
HRFI Mount Harif 13.98 117 P **Pn 01 13 21.5 -2.5**
HRFI Mount Harif 13.98 117 S Sn 01 15 42.4 -16
HRFI Mount Harif 13.98 117 P Pn 01 13 14.1 -10
MBRI Mt Berech 14.03 118 P **Pn 01 13 22.5 -2.3**
MBRI Mt Berech 14.03 118 P Pn 01 13 14.9 -10
MBRI Mt Berech 14.03 118 S Sn 01 15 43.9 -16
ARPR Arapgir-MALATY 14.04 77 P **P 01 13 31.4 -1.1**
EIL Elat 14.13 118 Pn **Pn 01 13 22.4 -3.6**
comp=Z,1.3nm,0.3s,baz=335,slow=15,SNR=15
EIL Sn Sn 01 15 47.5 -15
comp=Z,0.4nm,0.3s,baz=114,slow=20,SNR=2.1
comp=Z,8.5nm,0.6s
EIL Elat 14.13 118 P **Pn 01 13 22.1 -3.9**
EIL Elat 14.13 118 P Pn 01 13 15.6 -10
EIL Elat 14.13 118 S Sn 01 15 45.9 -16
AQBJ Aqaba 14.17 118 P **Pn 01 13 24.2 -2.3**
GRA1 Grafenberg Arr 14.17 334 P **Pn 01 13 29.5 +3.1**
GRF Grafenberg Arr 14.17 334 P **Pn 01 13 29.5 +3.1**
GRFO Grafenberg 14.17 334 P **Pn 01 13 29.4 +3.0**
GRFO Grafenberg 14.17 334 P **Pn 01 13 29.4 +3.0**
NKC Novy Kostel 14.24 338 AMS AMS 01 19 40.0
comp=Z,800nm,10.7s
NKC Novy Kostel 14.24 338 P **P 01 13 38.9 +4.4**
BFO Black Forest 14.26 325 Pn 01 13 27.8 0.0
BFO Black Forest 14.26 325 P **Pn 01 13 27.8 0.0**
ASF Jabal al Asfar 14.30 106 Pn **Pn 01 13 26.1 -2.3**
comp=Z,0.2nm,0.3s,baz=32,slow=19,SNR=7.1
comp=Z,1.8nm,0.8s
ASF Jabal al Asfar 14.30 106 P Pn 01 13 20.6 -7.8
BRG Berggiesshubel 14.42 343 *e*P **Pn 01 13 29.0 -0.9**
BRG Amp 01 13 29.8
comp=Z,1.8nm,0.9s
BRG Berggiesshubel 14.42 343 P **P 01 13 38.4 +1.8**
BRG Amp 01 13 39.5
comp=Z,2.5nm,0.7s
BRG Berggiesshubel 14.42 343 *e*P **Pn 01 13 29.0 -0.9**
BRG pmax pmax
comp=Z,2.0nm,1.0s
BRG MLR MLR
comp=Z,995nm,9.1s
BRG MLR MLR
comp=N,714nm,9.4s
BRG MLR MLR
comp=E,573nm,11.9s
RNPP5 Staryi Chortor 14.45 13 P **Pn 01 13 33.2 +2.9**
RNPP8 Varash 14.55 13 P **Pn 01 13 34.2 +2.6**
MI28 Mi28,Pidlybu 14.55 18 P **Pn 01 13 34.7 +3.0**
comp=E,254nm,0.5s
RNPP9 Sopachiv 14.63 13 P **Pn 01 13 35.6 +2.9**
AK07 Malin Array Si 14.63 22 P **P 01 13 35.9 -2.9**
AK13 Malin Array Si 14.64 22 P **Pn 01 13 35.8 +2.9**
AK12 Malin Array Si 14.70 22 P **Pn 01 13 34.6 +1.0**
AK08 Malin Array Si 14.72 22 P **Pn 01 13 34.7 +0.8**
AK02 Malin Array Si 14.73 22 P **Pn 01 13 34.8 +0.8**
AK19 Malin Array Si 14.73 21 P **Pn 01 13 35.3 +1.3**
KIEV Kiev 14.76 22 Pn 01 13 34.8 +0.3
KIEV Kiev 14.76 22 ||P **Pn 01 13 34.7 +0.3**
KIEV Kiev 14.76 22 P **Pn 01 13 34.8 +0.3**
AKASG Malin Array Be 14.77 22 Pn **Pn 01 13 33.3 -1.3**
comp=E,2.2nm,0.3s,baz=214,slow=11,SNR=6.3
AKASG LR LR 01 20 20.1
comp=E,614nm,19.1s,baz=206,slow=42
comp=E,1.0nm,0.5s
AKASG Malin Array Be 14.77 22 *i* P **Pn 01 13 36.0 +1.4**
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKBB Malin Array Si 14.77 22 *e*P **Pn 01 13 33.8 -0.8**
AKBB Malin Array Si 14.77 22 P **Pn 01 13 35.0 +0.4**
AK22 Malin Array Si 14.78 21 P **Pn 01 13 35.3 +0.6**
MOX Moxa 14.86 337 P **P 01 13 44.1 +2.7**
CLL Collm 15.06 341 IAmb IAmb 01 13 56.6
comp=Z,32nm,1.2s
CLL Collm 15.06 341 P **P 01 13 43.2 -0.3**
CLL pmax pmax
comp=Z,23nm,1.2s
CLL Collm 15.06 341 *e*P **Pn 01 13 39.0 +0.5**
CLL *e*sP **P 01 13 44.0 +0.5**
CLL *e*PP **pP 01 13 49.0 -0.3**
CLL *i* sPP 01 13 51.6
comp=Z,36nm,1.2s
CLL *i* sPPP 01 13 59.7
CLL *e*x x 01 14 53.0
CLL *e*SS **S 01 16 42.0 +0.7**
CLL AMS AMS 01 20 00.0
TNS Taunus Mts 15.64 330 P **P 01 13 49.4 -0.7**
TNS pmax pmax
comp=Z,18nm,0.8s
SOC Sochi 15.82 61 *e*P **Pn 01 13 48.5 0.0**
SOC *e* 01 16 48.3
SOC MLR MLR
comp=Z,308nm,16.0s
GKP Gorka Klasztor 16.18 353 *e*P **P 01 13 57.9 +1.9**
WLF Walferdange 16.22 324 IAmb IAmb 01 14 30.9
comp=Z,32nm,1.0s
WLF Walferdange 16.22 324 P **P 01 13 58.4 +1.9**
WLF pmax pmax
comp=Z,34nm,2.0s
WLF Walferdange 16.22 324 *d*P **P 01 13 57.3 +0.8**
comp=Z,17nm,1.1s
SUW Suwalki 16.84 5 *e*P **Pn 01 14 01.1 -0.3**
SUW Suwalki 16.84 5 *e*P **P 01 14 04.6 +1.2**
GURO Guroymak-BITLI 16.93 79 P **P 01 14 05.3 +0.8**
MEM Membach 16.96 327 P **P 01 14 08.0 +3.4**
MEM pmax pmax
comp=Z,19nm,1.1s
MEM Membach 16.96 327 *d*P **P 01 14 08.7 +4.0**
comp=Z,10nm,0.9s
BCLA Clavier 17.14 325 *d*P **Pn 01 14 03.5 -1.7**
comp=Z,5.8nm,1.1s
DOU Dourbes 17.25 323 *d*P **P 01 14 08.1 +0.2**
comp=Z,9.6nm,1.1s
KARS Kars 17.76 72 P **P 01 14 16.2 +2.4**
KARS Kars 17.76 72 P **P 01 14 16.2 +2.4**
KARS pmax pmax
comp=Z,147nm,1.5s
UCC Uccle 17.84 324 *d*P **P 01 14 16.6 +2.3**
SHA1 Shidzhatmaz 17.92 62 *i* P **P 01 14 16.3 +0.7**
MNK Minsk 17.95 14 *i* P **Pn 01 14 13.0 -2.1**
comp=E,9.0nm,1.1s
MNK *i* P **Pn 01 14 13.0 -2.1**
comp=N,7.0nm,1.1s
MNK *i* P **Pn 01 14 13.0 -2.1**
comp=Z,12nm,1.0s,baz=199
MNK *i* PP **sP 01 14 23.9 -0.5**
MNK *i* PPP PPP 01 14 31.6
MNK *i* S **Sn 01 17 33.1 -1.3**
MNK *i* SS **SnSn 01 17 48.3 +0.3**
MNK *i* SSS SSS 01 18 00.8
MNK *i* LQ LQ 01 19 29.1
MNK *i* LR LR 01 20 53.7
MNK *i* LRM MLR 01 22 01.6
comp=Z,296nm,16.4s
MNK *i* LRM MLR 01 22 06.8
comp=E,220nm,14.5s
MNK *i* LRM MLR 01 22 14.5
comp=N,269nm,14.1s
MNK Minsk 17.95 14 *i* P **Pn 01 14 12.9 -2.1**
MNK *i* S **Sn 01 17 33.0 -1.3**
MNK pmax pmax
comp=Z,12nm,1.0s
MNK pmax pmax
comp=N,7.0nm,1.1s
MNK pmax pmax
comp=E,9.0nm,1.1s

MNK MLR MLR
comp=Z,296nm,16.0s
MNK MLR MLR
comp=E,220nm,14.0s
MNK MLR MLR
comp=N,269nm,14.0s
KIV Kislovodsk 17.99 61 *e*P **P 01 14 18.2 +1.9**
KIV *e*S **S 01 17 40.3 -1.2**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,91nm,14.0s
KVAR Kislovodsk Arr 18.00 61 P **P 01 14 17.8 +1.4**
comp=Z,14nm,1.2s,baz=259,slow=19,SNR=3.0
MFF Saint Martin d 18.02 308 P **P 01 14 16.5 +0.1**
MFF pmax pmax
comp=Z,19nm,1.6s
KBZ Khabaz 18.09 62 P **P 01 14 18.7 +1.5**
comp=Z,8.6nm,1.0s,baz=255,slow=7.4,SNR=14
KBZ LR LR 01 23 20.2
comp=Z,240nm,20.4s,baz=250,slow=44
KBZ Khabaz 18.09 62 *i* P **Pn 01 14 16.4 -0.5**
NACGM Naroch 18.14 11⇑ *i* P **P 01 14 18.5 +0.9**
comp=Z,28nm,0.9s,baz=196
PABE Paberze 18.39 6 *e*P **P 01 14 19.8 -0.5**
NCK Nalchik 18.53 63 *i* P **Pn 01 14 22.8 +0.4**
VSVD Vaisvydziai 18.86 6 *e*P **Pn 01 14 26.5 +0.4**
GNI Garni 19.01 74 P **Pn 01 14 29.1 +0.7**
comp=Z,7.6nm,0.5s,baz=314,slow=3.8,SNR=8.5
GNI LR LR 01 22 06.3
comp=Z,354nm,19.0s,baz=286,slow=38
GNI Garni 19.01 74 *i* P **Pn 01 14 28.3 -0.1**
VORD Divnogorie 19.08 38 *e*P **Pn 01 14 32.3 +3.4**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 19.18 37 *e*P **Pn 01 14 32.1 +2.0**
VSR pmax pmax
comp=Z,7.0nm,0.9s
ESDC Sonseca Array 19.41 285 P **P 01 14 32.2 +0.5**
comp=Z,0.1nm,0.3s,baz=74,slow=11,SNR=16
comp=Z,4.4nm,0.9s
TAM Tamanrasset 19.44 226 P **Pn 01 14 33.8 +0.2**
TAM Tamanrasset 19.44 226 P **Pn 01 14 33.8 +0.2**
TAM pmax pmax
comp=Z,9.0nm,1.1s
VORR Voronezh 19.49 36 *i* P **P 01 14 30.8 -1.7**
VORR S **S 01 18 09.4 -1.7**
VORR pmax pmax
comp=Z,16nm,0.7s
NAX Nakhchivan 19.61 77 P **Pn 01 14 35.0 -0.4**
LPSR Galich'ya Gora 19.98 34 *e*P **P 01 14 36.1 -1.7**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
GANJ Ganja 20.23 72 P **P 01 14 41.4 +0.7**
SLIT Slitere, Latvi 20.41 3 *e*P **P 01 14 43.2 +0.8**
VRH Novokhopyorsk 20.45 40 *e*P **P 01 14 43.6 +0.7**
VRH pmax pmax
comp=Z,10.0nm,0.9s
MNGR Mingechevir, A 20.81 72 P **P 01 14 47.6 +0.7**
OBN Obninsk 20.89 26 P **P 01 14 44.7 -3.0**
OBN IAmb IAmb 01 14 56.3
comp=Z,37nm,1.1s
OBN Obninsk 20.89 26 P **P 01 14 47.2 -0.5**
comp=Z,10nm,0.4s,baz=232,slow=20,SNR=3.3
comp=Z,10nm,0.4s
OBN Obninsk 20.89 26 *de*P **P 01 14 46.7 -1.0**
OBN *e* 01 15 07.4
OBN *e*S **S 01 18 30.8 -8.4**
OBN pmax pmax
comp=Z,57nm,1.5s
OBN MLR MLR
comp=Z,409nm,16.0s
SEKA Sheki 20.91 71 P Pn 01 14 49.4 -1.3
MDT Midelt 21.12 265 P **P 01 14 51.8 +1.3**
comp=Z,8.1nm,0.8s,baz=86,slow=9.9,SNR=13
comp=Z,8.1nm,0.8s
MAK Makhachkala 21.27 66 *e*P **P 01 14 48.7 -3.1**
MAK *e*S **S 01 18 45.0 -1.9**
MAK MLR MLR
comp=Z,322nm,16.0s
AKT Akhty 21.32 70 *e*P **P 01 14 55.9 +3.3**
AKT *e* 01 15 16.4
AKT pmax pmax
comp=Z,35nm,1.9s
PBRG Braganca 21.56 291 *e*P **P 01 14 55.5 +0.4**
PBRG A A 01 15 06.7
comp=Z,32nm,1.5s
MTSE Matsula 21.57 5 *e*P **P 01 14 56.5 +1.6**
VSU Vasula 21.58 9 *ce*P **P 01 14 54.7 -0.4**
VSU pmax pmax
comp=Z,43nm,1.0s
MVO Moncorvo 21.75 289 *e*P **P 01 14 57.6 +0.4**
MVO A A 01 15 06.1
comp=Z,47nm,2.4s
MOS Moscow 21.76 26 *e*P **P 01 14 55.7 -1.3**
MOS pmax pmax
comp=Z,41nm,1.3s
MOS MLR MLR
comp=Z,600nm,14.0s
PBAR Barrancos 21.89 281 *e*P **P 01 15 00.7 +2.1**
PBAR A A 01 15 12.3
comp=Z,21nm,1.7s
PMRV Marv??o 22.06 284 *e*P **P 01 15 00.4 0.0**
PMRV A A 01 15 23.8
comp=Z,31nm,1.5s
PCBR Castelo Branco 22.11 285 *e*P **P 01 15 00.8 -0.1**
PCBR A A 01 15 21.6
comp=Z,20nm,1.4s
MTE Manteigas 22.14 287 P **P 01 14 58.6 -2.7**
MTE IAmb IAmb 01 15 19.7
comp=Z,20nm,1.0s
MTE Manteigas 22.14 287 *e*P **P 01 15 01.2 -0.2**
MTE A A 01 15 19.2
comp=Z,36nm,1.3s
LKRN Lenkeran, Azer 22.19 78 P **P 01 15 02.9 +1.1**
PESTR Estremoz 22.25 283 *e*P **P 01 15 03.6 +1.1**
PVRL Vila Real 22.27 289 *e*P **P 01 15 03.5 +0.8**
POLO Lamas de Olo 22.34 289 *e*P **P 01 15 05.3 +1.9**
PVIS Viseu 22.41 288 *e*P **P 01 15 06.0 +1.8**
PCAB Cabril 22.52 290 *e*P **P 01 15 05.0 -0.3**
PVAQ Vaqueiros 22.52 279 *e*P **P 01 15 06.5 +1.1**
PVAQ A A 01 15 22.1
comp=Z,39nm,1.7s
PBEJ Beja 22.56 281 *e*P **P 01 15 05.9 +0.2**
EVO Evora 22.61 282 *e*P **P 01 15 08.3 +2.0**
EVO A A 01 15 25.2
comp=Z,17nm,1.7s
PGAV Gavieira, Arco 22.71 291 *e*P **P 01 15 07.3 -0.1**
PBDV Barranco-do-Ve 22.71 279 *e*P **P 01 15 10.3 +2.9**
PMTG Montargil 22.73 283 *e*P **P 01 15 06.6 -1.0**
COI Coimbra 22.81 286 *e*P **P 01 15 11.4 +3.0**
COI A A 01 15 12.0
comp=Z,42nm,1.9s
PCAS Casmilo, Conde 22.88 286 *e*P **P 01 15 11.2 +2.0**
MEF Metsahovi 23.10 5 *e*P **P 01 15 13.0 +1.9**
PTEO Sao Teotonio 23.29 280 *e*P **P 01 15 15.0 +1.7**
HFS Hagfors 23.32 351 P **P 01 15 12.9 -0.4**
comp=Z,3.6nm,0.4s,baz=160,slow=11,SNR=39
HFS LR LR 01 24 39.0
comp=Z,339nm,21.2s,baz=169,slow=38
comp=Z,3.6nm,0.4s
RAF Rauma 23.79 1 *e*P **P 01 15 19.9 +2.0**
NC602 NORSAR Array S 24.19 349 IAmb IAmb 01 15 44.7
comp=Z,18nm,1.1s
NORES NORESS Array B 24.19 349 P **P 01 15 22.2 +0.5**
BELG Belogornoye 24.20 43 LR LR 01 25 31.1
comp=Z,152nm,19.4s,baz=245,slow=38
BELG Belogornoye 24.20 43 *i* P **P 01 15 21.4 -0.4**
BELG pmax pmax
comp=Z,7.0nm,0.9s
EKA Eskdalemuir Ar 24.23 326 P **P 01 15 22.1 0.0**
comp=Z,4.1nm,0.7s,baz=131,slow=12,SNR=12
comp=Z,4.1nm,0.7s
FINES FINESS Array B 24.44 6 P **P 01 15 24.0 0.0**
comp=Z,2.4nm,0.5s,baz=165,slow=11,SNR=23
FINES LR LR 01 26 14.2
comp=Z,410nm,19.6s,baz=193,slow=40
comp=Z,2.4nm,0.5s
FINES FINESS Array B 24.44 6 *i* P **P 01 15 24.2 +0.3**
FINES pmax pmax
comp=Z,3.0nm,0.5s
NC405 NORSAR Array S 24.53 350 P **P 01 15 25.1 +0.3**
NC405 IAmb IAmb 01 15 49.7
comp=Z,18nm,1.1s
NB2 NORSAR Subarra 24.53 349 P **P 01 15 25.2 +0.4**

comp=Z,23nm,1.4s,baz=162,slow=9.3
NOA NORSAR Array B 24.53 349 P **P 01 15 25.4 +0.6**
comp=Z,4.7nm,0.9s,baz=158,slow=8.8,SNR=18
NOA LR LR 01 25 57.9
comp=Z,327nm,19.2s,baz=175,slow=39
comp=Z,4.7nm,0.9s
NBO00 NORSAR Array S 24.59 348 IAmb IAmb 01 16 03.6
comp=Z,21nm,0.9s
NC303 NORSAR Array S 24.69 349 P **P 01 15 26.5 +0.3**
NC303 IAmb IAmb 01 15 50.6
comp=Z,22nm,1.0s
KEF Keuruu 25.07 5 *eP* **P 01 15 31.5 +1.9**
RAYN Ar Rayn 25.35 116 P **P 01 15 33.6 +1.0**
RAYN IAmb IAmb 01 15 35.8
comp=Z,8.0nm,0.9s
RAYN Ar Rayn 25.35 116 P **P 01 15 33.6 +1.0**
RAYN pmax pmax
comp=Z,8.0nm,1.0s
VAF Ylistaro 25.84 2 *eP* **P 01 15 37.4 +0.8**
KLMR Kiimovskoe 26.46 21 *eP* **P 01 15 39.7 -2.5**
KLMR pmax pmax
comp=Z,23nm,1.3s
KLMR MLR MLR
comp=Z,480nm,11.0s
KIRV Kirov 28.37 32 LR LR 01 27 57.2
comp=Z,239nm,20.0s,baz=235,slow=38
KIRV Kirov 28.37 32 *ceP* **P 01 16 00.0 +0.6**
TORD Torodi Ar. Bea 29.39 220 P **P 01 16 09.2 +0.4**
comp=Z,1.7nm,0.6s,baz=29,slow=9.4,SNR=17
TORD LR LR 01 29 10.9
comp=Z,219nm,18.7s,baz=36,slow=39
comp=Z,1.7nm,0.6s
AKTO Aktyubinsk 29.66 52 LR LR 01 30 18.7
comp=Z,262nm,20.6s,baz=252,slow=41
ABKAR Akbulak array 30.69 54 P **P 01 16 19.8 -0.2**
ABKAR IAmb IAmb 01 16 50.5
comp=Z,2.1nm,0.7s
ARTI Arti 31.58 41 P **P 01 16 27.1 -0.7**
ARTI Arti 31.58 41 LR LR 01 30 13.9
comp=Z,276nm,18.4s,baz=252,slow=38
ARTI Arti 31.58 41 *i P* **P 01 16 26.7 -1.1**
ARTI pmax pmax
comp=Z,10.0nm,0.9s
ARCES ARCESS Array B 32.44 3 P **P 01 16 34.3 -0.9**
comp=Z,1.9nm,0.8s,baz=199,slow=8.1,SNR=9.3
ARCES LR LR 01 31 25.9
comp=Z,305nm,18.5s,baz=182,slow=40
comp=Z,1.9nm,0.8s
SVE Sverdlovsk 32.90 41 *eP* **P 01 16 39.1 -0.2**
SVE pmax pmax
comp=Z,19nm,1.1s
SVE MLR MLR
comp=Z,332nm,13.0s
WSAR Wadi Sarin 35.42 102 LR LR 01 33 44.3
comp=Z,141nm,21.6s,baz=347,slow=40
BORG Borgarnes 36.96 332 LR LR 01 36 08.0
comp=Z,112nm,18.8s,baz=66,slow=42
BRVK Borovoye 37.58 49 P **P 01 17 20.6 +0.9**
BRVK IAmb IAmb 01 17 33.0
comp=Z,10nm,1.4s
BRVK Borovoye 37.58 49 *ceP* **P 01 17 21.0 +1.4**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 37.64 49 P **P 01 17 19.5 -0.7**
comp=Z,1.7nm,0.5s,baz=262,slow=6.7,SNR=15
BVAR LR LR 01 35 05.1
comp=Z,133nm,18.2s,baz=261,slow=40
comp=Z,1.7nm,0.5s
SIMJ Simiganj 37.81 73 P **P 01 17 22.1 +0.2**
SIMJ IAmb IAmb 01 17 39.8
comp=Z,5.5nm,0.9s
KKAR Karatay Array 38.08 65 P **P 01 17 24.5 +0.4**
DBIC Dimbokro 38.29 224 P **P 01 17 25.6 -0.4**
comp=Z,9.0nm,1.1s,baz=48,slow=5.6,SNR=2.9
DBIC LR LR 01 34 11.8
comp=Z,136nm,18.6s,baz=19,slow=38
comp=Z,9.0nm,1.1s
GAR Garm 38.72 72 IAmb IAmb 01 17 56.1
comp=Z,14nm,0.8s
MBAR Mbarara 38.82 164 LR LR 01 34 50.8
comp=Z,208nm,19.1s,baz=350,slow=38
BTK Batken 38.86 70 P **P 01 17 30.4 -0.4**
BBTS Babate 39.92 246 LR LR 01 36 02.0
comp=Z,145nm,19.0s,baz=294,slow=39
AAK Ala-Archa 41.05 65 P **P 01 17 49.5 +0.5**
AAK IAmb IAmb 01 18 10.0
comp=Z,5.3nm,1.1s
AAK Ala-Archa 41.05 65 *ceP* **P 01 17 48.5 -0.5**
AAK pmax pmax
comp=Z,4.0nm,1.0s
SPITS Spitsbergen Ar 41.06 359 LR LR 01 35 36.7
comp=Z,399nm,21.9s,baz=138,slow=37
KMBO Kilima Mbogo 41.18 154 P **P 01 17 51.9 +1.5**
comp=Z,0.8nm,0.3s,baz=356,slow=12,SNR=2.2
KMBO LR LR 01 38 23.7
comp=Z,134nm,18.1s,baz=90,slow=41
comp=Z,0.8nm,0.3s
BOOM Boomskoye usch 42.12 65 P **P 01 17 58.3 +0.5**
NIL Nilore 42.55 79 P **P 01 18 00.3 -0.9**
NIL IAmb IAmb 01 18 16.9
comp=Z,9.2nm,0.9s
NIL Nilore 42.55 79 P **P 01 18 00.3 -0.9**
NIL pmax pmax
comp=Z,9.0nm,1.0s
KURBB Kurchatov Arra 42.70 53 P **P 01 18 01.1 -1.1**
comp=Z,2.6nm,0.5s,baz=280,slow=8.6,SNR=23
comp=Z,2.6nm,0.5s
KURK Kurchatov 42.75 53 *i P* **P 01 18 01.2 -1.3**
KURK pmax pmax
comp=Z,4.0nm,0.9s
MK31 Makanchi Array 45.70 58 P **P 01 18 25.4 -0.9**
MK31 IAmb IAmb 01 18 26.6
comp=Z,2.6nm,0.6s
MK31 Makanchi Array 45.70 58 *ceP* **P 01 18 25.2 -1.1**
MKAR Makanchi Array 45.70 58 P **P 01 18 25.5 -0.8**
comp=Z,1.6nm,0.3s,baz=273,slow=7.4,SNR=42
MKAR PcP **PcP 01 20 04.1 +0.2**
comp=Z,0.9nm,0.6s,baz=272,slow=4.3,SNR=1.4
comp=Z,1.6nm,0.3s
ZAA0 Zalesovo Array 46.23 47 IAmb IAmb 01 18 55.4
comp=Z,5.2nm,0.8s
ZALV Zalesovo Beam 46.23 47 P **P 01 18 29.4 -0.9**
comp=Z,3.3nm,0.5s,baz=275,slow=8.4,SNR=14
ZALV LR LR 01 40 27.8
comp=Z,254nm,18.1s,baz=318,slow=40
comp=Z,3.3nm,0.5s
ZALV Zalesovo Beam 46.23 47 *i P* **P 01 18 29.7 -0.6**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
NRIK Noril'sk 47.57 26 LR LR 01 39 33.0
comp=Z,288nm,20.1s,baz=263,slow=37
SFJD Kangerlussuaq 49.07 330 LR LR 01 43 34.2
comp=Z,138nm,18.2s,baz=102,slow=41
MATP Matopo 57.85 171 LR LR 01 47 07.0
comp=Z,69nm,20.2s,baz=246,slow=38
SCHQ Schefferville 59.20 318 P **P 01 20 06.9 +0.7**
comp=Z,1.4nm,0.7s,baz=38,slow=8.6,SNR=1.8
comp=Z,1.4nm,0.7s
TIXI Tiksi 60.47 20 P **P 01 20 15.3 +0.7**
comp=Z,1.0nm,0.3s,baz=349,slow=5.2,SNR=1.0
comp=Z,1.0nm,0.3s
TIXI Tiksi 60.47 20 *i P* **P 01 20 14.9 +0.3**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 60.97 50 P **P 01 20 18.3 -0.3**
comp=Z,0.4nm,0.6s,baz=287,slow=6.4,SNR=3.8
SONM LR LR 01 50 25.3
comp=Z,212nm,19.3s,baz=297,slow=40
comp=Z,0.4nm,0.6s
LBTB Lobatse 62.12 175 LR LR 01 48 38.6
comp=Z,132nm,18.1s,baz=360,slow=37
LZH Lanzhou 64.53 63 *eP* P 01 20 48.5 +6.0
LZH sP pwP 01 20 55.2 +2.0
LZH pmax pmax
comp=Z,23nm,1.0s
BOSA Boshof 65.67 176 P **P 01 20 51.0 +1.2**
comp=Z,3.0nm,1.1s,baz=9.9,slow=7.2,SNR=6.1
BOSA LR LR 01 50 58.2
comp=Z,195nm,20.0s,baz=8.5,slow=37
comp=Z,3.0nm,1.1s
BOSA Boshof 65.67 176 P **P 01 20 51.0 +1.2**
YAK Yakutsk 65.86 29 LR LR 01 50 37.6
comp=Z,198nm,19.5s,baz=310,slow=37
HHC Hu-ho-hao-te 67.47 55 *eP* **P 01 21 00.1 -1.2**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,55nm,4.6s

PZH PanZhiHua 67.78 73 P **P 01 21 04.5 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.5s
A36M Sachs Harbour 68.44 349 IAmb IAmb 01 21 12.0
comp=Z,6.8nm,1.1s
XLT XiLinHaoTe 68.78 51 *eP* **P 01 21 10.9 +1.5**
XLT sP sP 01 21 18.2 -1.1
XLT pmax pmax
comp=Z,7.0nm,0.8s
SUR Sutherland 69.28 180 LR LR 01 55 40.7
comp=Z,130nm,19.3s,baz=353,slow=40
CMAR Chiang Mai Arr 69.92 82 P **P 01 21 16.3 -0.5**
comp=Z,2.8nm,0.3s,baz=302,slow=8.1,SNR=5.8
CMAR LR LR 01 56 30.5
comp=Z,37nm,20.3s,baz=290,slow=40
comp=Z,2.8nm,0.3s
CMAR Chiang Mai Arr 69.92 82 *i P* **P 01 21 14.1 -2.7**
CMAR pmax pmax
comp=Z,3.0nm,0.3s
HEH HeiHe 71.67 40 *eP* **P 01 21 31.4 +4.5**
HEH pmax pmax
comp=Z,9.0nm,0.8s
E29M Blow River 73.44 352 P **P 01 21 39.2 +2.0**
E29M IAmb IAmb 01 22 02.6
comp=Z,6.1nm,0.7s
F31M Tsiigehtchic 73.82 350 P **P 01 21 41.0 +1.6**
F31M IAmb IAmb 01 21 58.4
comp=Z,5.4nm,0.8s
KLR Kul'dur 74.52 39 LR LR 01 59 02.0
comp=Z,90nm,20.9s,baz=312,slow=40
MA2 Magadan 75.09 24 LR LR 02 00 07.5
comp=Z,143nm,18.3s,baz=320,slow=40
I30M Mount Dempster 76.28 350 P **P 01 21 55.3 +1.6**
I30M IAmb IAmb 01 22 13.3
comp=Z,4.2nm,0.9s
ULM Lac du Bonnet 76.49 324 P **P 01 21 57.1 +2.1**
comp=Z,1.4nm,0.8s,baz=329,slow=5.9,SNR=1.8
comp=Z,1.4nm,0.8s
SJG San Juan 76.78 283 LR LR 01 49 43.8
comp=Z,40nm,21.3s,baz=76,slow=31
NJ2 Nanjing 77.19 60 *eP* **P 01 21 58.6 -0.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
ILAR Eielson Array 77.83 355 P **P 01 22 04.7 +2.3**
comp=Z,0.4nm,0.9s,baz=357,slow=3.7,SNR=2.6
ILAR LR LR 01 59 03.3
comp=Z,82nm,19.9s,baz=12,slow=38
comp=Z,0.4nm,0.9s
USRK Ussuriysk Ar. 77.88 43 LR LR 02 00 22.7
comp=Z,217nm,18.2s,baz=327,slow=39
KSRS Korea Array 79.83 51 P **P 01 22 14.2 +0.4**
comp=Z,1.1nm,0.6s,baz=309,slow=4.7,SNR=4.7
KSRS LR LR 02 01 43.0
comp=Z,127nm,18.1s,baz=320,slow=39
comp=Z,1.1nm,0.6s
DLBC Dease Lake 81.55 345 LR LR 02 01 13.7
comp=Z,113nm,18.7s,baz=130,slow=38
PETK Petropavlovsk- 82.59 24 LR LR 02 05 28.4
comp=Z,114nm,18.2s,baz=322,slow=40
BDFB Brasilia 83.21 245 LR LR 02 00 28.3
comp=Z,135nm,19.1s,baz=129,slow=36
ASAJ Asahikawa 83.45 38 LR LR 02 04 19.5
comp=Z,108nm,18.1s,baz=39,slow=39
JNU Nakatsue 84.47 52 LR LR 02 07 01.3
comp=Z,73nm,18.3s,baz=326,slow=40
MJAR Matsushiro Arr 86.56 46 LR LR 02 05 09.4
comp=Z,41nm,18.0s,baz=340,slow=38
BBB Bella Bella 86.84 341 LR LR 02 03 04.5
comp=Z,65nm,20.9s,baz=22,slow=37
NEW Newport 86.91 333 LR LR 02 04 41.3
comp=Z,50nm,19.4s,baz=46,slow=38
SHEM Shemya Is, Ala 87.45 16 LR LR 02 05 46.1
comp=Z,62nm,18.2s,baz=50,slow=38
TGY Tagaytay City 89.56 73 LR LR 02 06 30.4
comp=Z,502nm,21.8s,baz=225,slow=38
ANMO Albuquerque 92.96 319 LR LR 02 05 36.5
comp=Z,82nm,18.7s,baz=200,slow=36
YBH Yreka Blue Hor 94.55 333 LR LR 02 07 26.1
comp=Z,86nm,20.5s,baz=24,slow=36
NVAR Mina Array Bea 95.70 329 LR LR 02 10 45.1
comp=Z,62nm,18.1s,baz=80,slow=38
JTS Las Juntas de 95.97 288 LR LR 02 02 35.0
comp=Z,29nm,21.3s,baz=46,slow=33
CPUP Villa Florida 96.71 242 LR LR 02 06 25.9
comp=Z,87nm,21.9s,baz=54,slow=35
LPAZ La Paz 98.72 256 LR LR 02 09 33.7
comp=Z,33nm,21.1s,baz=45,slow=36
PFO Pinyon Flats O 98.95 325 LR LR 02 09 57.6
comp=Z,52nm,19.2s,baz=26,slow=36
WRA Warramunga Arr 120.40 93 PKP **PKiKP 01 28 57.1 +0.1**
comp=Z,0.5nm,1.0s,baz=317,slow=2.0,SNR=1.6
ASAR Alice Springs 121.97 97 PKP **PKiKP 01 29 00.1 0.0**
comp=Z,0.5nm,0.7s,baz=321,slow=1.5,SNR=6.0

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*IDC **03** 01:13:33.8±0.8, 10°.51N×62°.28W, h0km, mb4.0/11, mbtmp4.1/14, ML3.3/3, MS3.6/12, Error ellipse: s-maj=25.4km s-min=15.8km az=157.0*
*TRN **03** 01:13:36.1, 10°.39N×62°.18W, h5km, MD4.5, Gulf of Paria. Felt in Trinidad, MMI IV.*
*FUNV **03** 01:13:36.7, 10°.29N×62°.09W, h6km, MW4.7*
*NEIC **03** 01:13:38.0±2.1, 10°.33N±0°.06×62°.17W±0°.08, h24km±6km, mb4.5/17, Error ellipse: s-maj=11.0km s-min=8.2km az=97.0*
*VAO **03** 01:13:46.1±0.8, 9°.26N×62°.19W, h10km, mb4.2*
ISC 03 01:13:37.4±1.1, 10°.26N±0°.04×62°.16W±0°.03, h31km±8km, n108, σ1§80/140, mb4.3/17, MS3.7/9, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.70**	**85**	*eP*	**Pb**	**01 13 50.3**	**-0.9**
PSMG	**Mucurapo Girls**	**0.74**	**57**	*eP*	**Pn**	**01 13 49.2**	**-2.5**
PSMG				*eS*	**Sb**	**01 13 59.6**	**-2.1**
PSGH	**Port of Spain**	**0.76**	**58**	*eP*	**Pn**	**01 13 49.5**	**-2.3**
PSGH				*eS*	**Sb**	**01 14 00.3**	**-1.8**
TRN	**Trinidad (W)**	**0.84**	**63**	*eP*	**Pn**	**01 13 50.9**	**-2.1**
TRN				*eS*	**Sn**	**01 14 02.9**	**-1.4**
TBH	**Brigand Hill**	**1.10**	**78**	*eP*	**Pn**	**01 13 58.4**	**+1.7**
GRFF	**Grenada Fort F**	**1.83**	**13**	*eP*	**Pn**	**01 14 06.6**	**0.0**
GRFF				*eS*	**Sn**	**01 14 29.3**	**+0.6**
TOSP	**Speyside**	**1.90**	**57**	*eP*	**Pn**	**01 14 09.5**	**+1.9**
TOSP				*eS*	**Sn**	**01 14 33.3**	**+2.8**
GRGR	**Grenville**	**1.93**	**15**		**Pn**	**01 14 08.0**	**0.0**
GRGR				Sn	**Sn**	**01 14 30.4**	**-0.8**
GRGR	**Grenville**	**1.93**	**15**	*eP*	**Pn**	**01 14 08.1**	**0.0**
GRGR				*eS*	**Sn**	**01 14 31.7**	**+0.5**
GRW	**Mount Saint Ca**	**1.95**	**15**	*eP*	**Pn**	**01 14 09.1**	**+0.6**
GRW				*eS*	**Sn**	**01 14 32.5**	**+0.6**
CUMV	**Cumana_UDO**	**2.01**	**275**	*eP*	**Pn**	**01 14 11.0**	**+1.9**
CUMV				*eS*	**Sb**	**01 14 37.1**	**-0.7**
GRHS	**Sauteurs**	**2.02**	**15**	*eP*	**Pn**	**01 14 09.8**	**+0.5**
GRHS				*eS*	**Sn**	**01 14 33.7**	**+0.3**
GRSS	**Sisters**	**2.10**	**15**	*eP*	**Pn**	**01 14 11.0**	**+0.7**
GRSS				*eS*	**Sn**	**01 14 36.2**	**+0.9**
GCMP	**Grenada, Carri**	**2.33**	**18**	*eP*	**Pn**	**01 14 14.1**	**+0.6**
GCMP				*eS*	**Sn**	**01 14 41.0**	**-0.1**
PCRV	**Puerto La Cruz**	**2.44**	**268**	*eP*	**Pn**	**01 14 17.1**	**+2.0**
PCRV				*eS*	**Sn**	**01 14 45.8**	**+2.0**
PCRV	**Puerto La Cruz**	**2.44**	**268**	Pn	**Pn**	**01 14 15.0**	**0.0**
	16nm,0.3s,baz=47,slow=4.9,SNR=59						
PCRV				Sn	**Sn**	**01 14 44.6**	**+0.8**
	37nm,0.3s,baz=251,slow=22,SNR=12						
	48nm,0.4s						
PCRV	**Puerto La Cruz**	**2.44**	**268**	*eP*	**Pn**	**01 14 16.6**	**+1.6**
PCRV				*eS*	**Sn**	**01 14 46.3**	**+2.4**
SVOC	**Richmond Hill,**	**3.02**	**18**	*eP*	**Pn**	**01 14 24.4**	**+1.4**
SVOC				*eS*	**Sn**	**01 14 59.0**	**+0.8**
SVT	**Saint Vincent**	**3.03**	**17**	*eP*	**Pn**	**01 14 23.8**	**+0.6**
SVT				*eS*	**Sn**	**01 14 58.4**	**0.0**
SVB	**Belmont**	**3.12**	**16**	*eP*	**Pn**	**01 14 25.5**	**+1.1**
SVB				*eS*	**Sn**	**01 15 00.8**	**0.0**
SVV	**Soufriere Volc**	**3.18**	**17**	*eP*	**Pn**	**01 14 25.8**	**+0.6**
SVV				*eS*	**Sn**	**01 15 02.4**	**+0.3**
SLB	**Belfond**	**3.71**	**17**	*eP*	**Pn**	**01 14 33.3**	**+0.7**
SLB				*eS*	**Sn**	**01 15 14.9**	**-0.5**
SLAC	**Saint Lucia, A**	**3.82**	**19**	*eP*	**Pn**	**01 14 35.5**	**+1.4**
SLAC				*eS*	**Sn**	**01 15 18.4**	**+0.4**
SLBI	**Saint Lucia, B**	**3.92**	**17**	*eP*	**Pn**	**01 14 36.0**	**+0.6**
SLBI				*eS*	**Sn**	**01 15 19.4**	**-0.9**
H05S1	**Guadeloupe/Mar**	**4.34**	**17**	Pn	**Pn**	**01 14 42.1**	**+1.0**
H05S1				Sn	**Sn**	**01 15 28.9**	**-1.7**
MPOM	**Morne Pois Mar**	**4.35**	**17**	Pn	**Pn**	**01 14 42.0**	**+0.7**
BIM	**Bigot**	**4.36**	**14**		**Pn**	**01 14 42.3**	**+0.8**
BIM	**Bigot**	**4.36**	**14**	*eP*	**Pn**	**01 14 42.3**	**+0.8**
BIM				*eS*	**Sn**	**01 15 29.5**	**-1.8**
LUEV	**Luepa**	**4.44**	**171**	*eP*	**Pn**	**01 14 43.2**	**+0.5**
LUEV				*eS*	**Sn**	**01 15 33.5**	**-0.1**
FDF	**Fort de France**	**4.55**	**12**	Pn	**Pn**	**01 14 44.4**	**+0.2**
FUNV	**FUNVISIS**	**4.58**	**273**	*eP*	**Pn**	**01 14 45.6**	**+1.0**
FUNV				*eS*	**Sn**	**01 15 37.4**	**+0.6**
ILAM	**Ilet Lapin Mar**	**4.66**	**16**	Pn	**Pn**	**01 14 47.0**	**+1.4**
ILAM	**Ilet Lapin Mar**	**4.66**	**16**	*eP*	**Pn**	**01 14 46.2**	**+0.6**
ILAM				*eS*	**Sn**	**01 15 37.9**	**-0.8**
TACV	**Tcata**	**4.79**	**269**	*eP*	**Pn**	**01 14 48.5**	**+1.0**
TACV				*eS*	**Sn**	**01 15 42.3**	**+0.3**
CACV	**CAICARA DEL OR**	**5.09**	**239**	*eP*	Pn	01 14 46.5	-5.0
CACV				*eS*	Sn	01 15 39.3	-10
BENV	**Beln**	**5.36**	**267**	*eP*	**Pn**	**01 14 57.1**	**+1.8**
BENV				*eS*	**Sn**	**01 15 55.7**	**-0.4**
TBG	**Guadaloupe-3**	**5.58**	**5**	*eP*	**Pn**	**01 14 59.1**	**+0.9**
MAGL	**Barre de l'ile**	**5.72**	**9**	Pn	**Pn**	**01 15 02.1**	**+1.9**
CBE	**Ff, Capester**	**5.80**	**5**		**Pn**	**01 15 02.0**	**+0.7**
BAUV	**El Baul**	**5.95**	**258**	Pn	**Pn**	**01 15 03.6**	**+0.3**
BAUV	**El Baul**	**5.95**	**258**	*eP*	**Pn**	**01 15 03.6**	**+0.3**
BAUV				*eS*	**Sn**	**01 16 09.7**	**-0.7**
BAUV	**El Baul**	**5.95**	**258**	*eP*	**Pn**	**01 15 04.0**	**+0.7**
BAUV				*eS*	**Sn**	**01 16 11.3**	**+1.0**
GDHS	**Morne Mazeau,**	**5.99**	**4**		**Pn**	**01 15 04.6**	**+0.7**
GDSD	**La Dsirade Is**	**6.11**	**10**	Pn	**Pn**	**01 15 06.5**	**+1.0**
H05N1	**Guadeloupe/Mar**	**6.12**	**10**	Pn	**Pn**	**01 15 06.0**	**+0.4**
H05N1				Sn	**Sn**	**01 16 09.9**	**-4.7**
MAPV	**Macapo**	**6.21**	**267**	*eP*	**Pn**	**01 15 08.0**	**+1.0**
MAPV				*eS*	**Sn**	**01 16 15.9**	**-1.2**
MBWH		**6.44**	**360**	*eP*	**Pn**	**01 15 11.3**	**+1.2**
MBFL	**Flemmings, Mon**	**6.45**	**360**	*eP*	**Pn**	**01 15 11.0**	**+0.7**
MBFL				*eS*	**Sn**	**01 16 20.6**	**-2.2**
JACV	**Jacura**	**6.61**	**278**	*eP*	**Pn**	**01 15 13.9**	**+1.5**
JACV				*eS*	**Sn**	**01 16 24.8**	**-1.9**
ANBD	**Bethesda, Anti**	**6.76**	**3**	*eP*	**Pn**	**01 15 15.6**	**+1.2**
ANBD				*eS*	**Sn**	**01 16 27.8**	**-2.6**
TEPV	**Terepaima**	**6.93**	**268**	*eP*	**Pn**	**01 15 17.2**	**+0.3**
TEPV				*eS*	**Sn**	**01 16 32.0**	**-2.7**
SKI	**Saint Kitts**	**7.05**	**356**	*eP*	**Pn**	**01 15 20.2**	**+1.6**
BOAV	**Boa Vista**	**7.98**	**168**	Pn	**Pn**	**01 15 31.1**	**-0.2**
BOAV	**Boa Vista**	**7.98**	**168**	*eP*	**Pn**	**01 15 28.7**	**-2.5**
BOAV				*eS*	Sn	01 16 49.4	-11
SDV	**Santo Domingo**	**8.47**	**261**	Pn	**Pn**	**01 15 38.5**	**+0.4**
SDV	**Santo Domingo**	**8.47**	**261**	Pn	**Pn**	**01 15 38.2**	**+0.1**
	4.0nm,0.3s,baz=74,slow=9.6,SNR=13						
SDV				Sn	**Sn**	**01 17 10.3**	**-2.5**
	2.7nm,0.3s,baz=266,slow=18,SNR=2.7						
SDV				LR	LR	01 20 03.0	
	comp=Z,212nm,19.2s,baz=46,slow=46						
	25nm,0.6s						
HUMP	**Col San Antoni**	**8.61**	**336**	Pn	**Pn**	**01 15 39.9**	**0.0**
SJG	**San Juan**	**8.71**	**334**	LR	LR	01 19 27.9	
	comp=Z,258nm,18.5s,baz=88,slow=42						
SOCV	**Socops**	**8.80**	**258**	*eP*	**Pn**	**01 15 43.0**	**+0.4**
SOCV				*eS*	**Sn**	**01 17 15.6**	**-5.2**
CAPV	**Capacho**	**10.30**	**257**	*eP*	**Pn**	**01 16 03.1**	**-0.3**
CAPV				*eS*	**Sn**	**01 17 51.0**	**-7.0**
MDP	**Montagnes des**	**10.73**	**118**	Pn	**Pn**	**01 16 06.1**	**-2.9**
	1.8nm,0.3s,baz=305,slow=15,SNR=34						
MDP				Sn	Sn	01 17 59.3	-8.9
	4.7nm,0.3s,baz=40,slow=23,SNR=11						
MDP				LR	LR	01 21 02.6	
	comp=Z,342nm,18.2s,baz=290,slow=41						
ROSC	**El Rosal**	**13.20**	**247**	Pn	**Pn**	**01 16 43.9**	**+0.8**
	1.9nm,0.3s,baz=19,slow=9.8,SNR=4.4						
	7.2nm,0.5s						
MACA	**Manacapuru-AM**	**13.41**	**174**	Pn	**Pn**	**01 16 45.9**	**+0.2**
NPGB	**Novo Progresso**	**18.48**	**158**	*eP*	**P**	**01 17 51.0**	**+0.1**
OTAV	**Otavalo**	**19.02**	**239**	*eP*	**Pn**	**01 18 01.0**	**+2.9**
OTAV				*eS*	**Sn**	**01 21 30.5**	**-0.1**
SAML	**Samuel**	**19.11**	**183**	P	**Pn**	**01 17 59.1**	**+0.3**
SAML				IAmb	IAmb	01 18 01.8	
	comp=Z,27nm,1.1s						
ETMB	**Extrema**	**20.35**	**192**		**P**	**01 18 13.1**	**+1.7**
ETMB	**Extrema**	**20.35**	**192**	*eP*	Pn	01 18 13.2	-0.3
ETMB				*eS*	**S**	**01 21 51.5**	**-6.4**
CZSB	**Cruzeiro do Su**	**20.73**	**211**	P	**P**	**01 18 17.3**	**+1.9**
CZSB	**Cruzeiro do Su**	**20.73**	**211**	*eP*	Pn	01 18 18.0	0.0
CZSB				*eS*	**S**	**01 22 02.4**	**-3.0**
CLDB	**Colider**	**21.93**	**163**	*eS*	**S**	**01 22 23.9**	**-5.1**
PDRB	**Porto dos Gac**	**22.39**	**166**	*eP*	**P**	**01 18 35.2**	**+1.8**
PDRB				*eS*	**S**	**01 22 33.7**	**-4.0**
VILB	**Vilhena**	**23.14**	**175**	P	**P**	**01 18 43.6**	**+2.4**
VILB				IAmb	IAmb	01 18 47.3	
	comp=Z,35nm,1.2s						
ATAH	**Atahualpa**	**23.66**	**224**	LR	LR	01 29 23.8	
	comp=Z,322nm,18.2s,baz=39,slow=40						
PTLB	**Pontes e Lacer**	**25.72**	**173**	*eP*	**P**	**01 19 08.3**	**+3.3**
LPAZ	**La Paz**	**27.03**	**193**	P	**P**	**01 19 20.7**	**+3.1**
LPAZ	**La Paz**	**27.03**	**193**	P	**P**	**01 19 20.5**	**+2.9**
	comp=Z,2.5nm,0.9s,baz=357,slow=14,SNR=5.2						
LPAZ				LR	LR	01 31 01.1	
	comp=Z,219nm,20.9s,baz=1.5,slow=38						
	comp=Z,2.5nm,0.9s						
BBSD	**Serra de San D**	**27.32**	**177**	*eP*	**P**	**01 19 21.9**	**+2.4**
BDFB	**Brasilia**	**29.30**	**151**	LR	LR	01 31 02.8	
	comp=Z,80nm,18.3s,baz=322,slow=36						
JSC	**Jenkinsville**	**29.62**	**327**	P	**P**	**01 19 41.3**	**+1.4**
LVC	**Limon Verde**	**33.33**	**191**	LR	LR	01 34 55.9	
	comp=Z,225nm,19.5s,baz=348,slow=38						
T47A	**Sharon Grove**	**34.86**	**324**	P	**P**	**01 20 25.8**	**-0.1**
T47A				IAmb	IAmb	01 20 26.9	
	comp=Z,11nm,0.8s						
CPUP	**Villa Florida**	**36.67**	**173**	LR	LR	01 37 05.5	
	comp=Z,82nm,18.3s,baz=356,slow=38						
S39A	**Bolivar**	**39.12**	**319**	P	**P**	**01 21 01.7**	**-0.3**
S39A				IAmb	IAmb	01 21 06.2	
	comp=Z,8.3nm,1.0s						
BRDY	**Brady**	**40.02**	**307**	P	**P**	**01 21 09.3**	**-0.4**
BRDY				IAmb	IAmb	01 21 14.4	
	comp=Z,9.8nm,1.1s						
X34A	**Smith Ranch, M**	**40.57**	**312**	P	**P**	**01 21 13.7**	**-0.5**
X34A				IAmb	IAmb	01 21 15.8	
	comp=Z,10nm,0.8s						
POST	**Post**	**42.67**	**308**	IAmb	IAmb	01 21 34.3	
	comp=Z,7.5nm,0.7s						
TXAR	**Lajitas Array**	**43.13**	**302**	P	**P**	**01 21 35.1**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=110,slow=7.8,SNR=5.0						
TXAR				PcP	**PcP**	**01 23 24.7**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=120,slow=5.3,SNR=10.0						
	comp=Z,0.4nm,0.6s						
SCHQ	**Schefferville**	**44.61**	**356**	P	**P**	**01 21 46.5**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=170,slow=6.1,SNR=3.8						
	comp=Z,4.2nm,0.8s						
RTBA	**Rita Blanca**	**44.97**	**312**	P	**P**	**01 21 49.2**	**-0.8**
PLCA	**Paso Flores**	**51.33**	**188**	LR	LR	01 47 40.3	
	comp=Z,115nm,18.9s,baz=16,slow=40						
DGMT	**Dagmar**	**51.79**	**325**	P	**P**	**01 22 43.3**	**+1.1**
PD31	**Pinedale Array**	**52.39**	**317**	P	**P**	**01 22 45.7**	**-1.3**
PD31				IAmb	IAmb	01 22 46.7	
	comp=Z,3.8nm,1.1s						
PDAR	**Pinedale Array**	**52.39**	**317**	P	**P**	**01 22 45.1**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=116,slow=6.1,SNR=14						
	comp=Z,1.6nm,0.8s						
RPN	**Rapa Nui**	**58.93**	**230**	LR	LR	01 45 23.0	
	comp=Z,20nm,19.8s,baz=180,slow=32						
ESDC	**Sonseca Array**	**59.15**	**50**	P	**P**	**01 23 37.6**	**+2.3**
	comp=Z,0.6nm,0.8s,baz=267,slow=8.7,SNR=5.0						
	comp=Z,0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**62.45**	**80**	P	**P**	**01 24 00.5**	**+2.3**
TORD				IAmb	IAmb	01 24

KIRV	Kirov	92.23	29	LR	LR	02 06 34.1	
	comp=Z,14nm,18.6s,baz=320,slow=35						
PZH	PanZhiHua	140.25	23	PKP	PKPdf	01 33 04.5	+0.4
CMAR	Chiang Mai Arr	145.91	33	PKPbc	PKPbc	01 33 15.8	+1.2
	comp=Z,1.2nm,0.3s,baz=320,slow=2.4,SNR=9.3						
WRA	Warramunga Arr	161.40	237	PKPab	PKPab	01 34 19.3	-0.9
	comp=Z,0.6nm,0.9s,baz=110,slow=4.4,SNR=2.9						

*IDC **03** 01:15:03.2±1.3, 37°.32N×20°.63E, h0km, mb3.6/5, mbtmp3.5/8, ML1.6/2, Error ellipse: s-maj=28.0km s-min=24.1km az=165.0*

ISC 03 01:15:05.4±0.8, 37°.3N±0°.1×20°.60E±0°.05, h15km, n9, σ1§87/12, mb3.5/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	Anoyia	4.01	119	Pn	Pn	01 16 06.4	+0.2
	0.7nm,0.3s,baz=295,slow=4.7,SNR=1.7						
IDI				Sn	Sn	01 16 51.5	-1.5
	1.4nm,0.3s,baz=94,slow=23,SNR=1.9 9.0nm,1.0s						
VAE	Valguarnera	4.93	274	Pn	Pn	01 16 19.7	+0.7
	2.9nm,0.3s,baz=144,slow=5.8,SNR=7.5						
VAE				Sn	Sn	01 17 12.8	-3.0
	0.7nm,0.3s,baz=189,slow=21,SNR=1.3 7.2nm,0.5s						
KEST	Kesra	9.20	264	Pn	Pn	01 17 20.8	+3.3
	0.1nm,0.3s,baz=48,slow=15,SNR=2.4						
KEST				Sn	Sn	01 18 58.0	-2.8
	0.1nm,0.3s,baz=53,slow=20,SNR=1.2						
MMAI	Mount Meron Ar	12.84	105	Pn	Pn	01 18 07.5	0.0
	0.2nm,0.3s,baz=295,slow=11,SNR=1.7						
HFS	Hagfors	23.27	351	P	P	01 20 12.1	0.0
	2.1nm,0.7s,baz=156,slow=11,SNR=2.0 2.1nm,0.7s						
FINES	FINESS Array B	24.41	6	P	P	01 20 23.3	+0.4
	4.5nm,1.1s,baz=181,slow=10,SNR=1.7 4.5nm,1.1s						
TORD	Torodi Ar. Bea	29.40	220	P	P	01 21 08.3	+0.1
	0.3nm,0.7s,baz=37,slow=9.1,SNR=2.3 0.3nm,0.7s						
KURBB	Kurchatov Arra	42.70	53	P	P	01 23 00.4	-1.1
	0.2nm,0.4s,baz=277,slow=8.1,SNR=2.0 0.2nm,0.4s						
MKAR	Makanchi Array	45.71	58	P	P	01 23 25.6	-0.1
	0.5nm,0.9s,baz=266,slow=9.5,SNR=2.0 0.5nm,0.9s						

*IDC **03** 01:42:44.2±1.8, 21°.20S×178°.82W, h576km±18km, mb3.3/12, mbtmp4.2/14, Error ellipse: s-maj=20.3km s-min=14.5km az=125.0*

*NEIC **03** 01:42:45.5±1.9, 21°.1S±0°.2×178°.88W±0°.09, h579km±10km, mb4.4/21, Error ellipse: s-maj=22.8km s-min=12.1km az=168.0*

ISC 03 01:42:46.2±0.5, 21°.27S±0°.10×178°.89W±0°.09, h600km, n83, σ1§10/81, mb4.2/22, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.55	320	P	P	01 44 12.2	-3.6
	37nm,0.6s,baz=146,slow=14,SNR=25						
DZM	Mont Dzumac	13.66	264	P	P	01 45 43.5	+1.6
	9.1nm,0.9s,baz=119,slow=19,SNR=2.2						
TOZ	Tahuroa Road	17.11	195	P	P	01 46 15.3	+1.8
TOZ				IAmb	IAmb	01 46 15.7	
	comp=Z,13nm,0.6s						
URZ	Urewera	17.28	191	P	P	01 46 13.0	-2.0
	comp=Z,4.1nm,0.3s,baz=12,slow=3.0,SNR=12						
URZ				S	S	01 48 58.8	-6.0
	comp=Z,8.2nm,1.1s,baz=277,slow=19,SNR=1.9						
EIDS	Eidsvold	27.85	256	P	P	01 47 49.8	+0.4
EIDS				IAmb	IAmb	01 47 50.4	
	comp=Z,5.8nm,0.6s						
ARMA	Armidale	27.99	245	P	P	01 47 52.2	+1.5
ARMA				IAmb	IAmb	01 48 27.5	
	comp=Z,17nm,1.4s						
CTAO	Charters Tower	32.59	266	P	P	01 48 30.5	+0.3
CTAO				IAmb	IAmb	01 48 31.4	
	comp=Z,11nm,1.1s						
PMG	Port Moresby	34.72	285	P	P	01 48 47.1	-0.9
TOO	Toolangi	34.77	234	P	P	01 48 48.5	+0.3
TOO				IAmb	IAmb	01 49 27.6	
	comp=Z,19nm,1.4s						
STKA	Stephens Creek	36.71	245	P	P	01 49 05.1	+1.0
STKA	Stephens Creek	36.71	245	P	P	01 49 04.8	+0.7
	comp=Z,4.0nm,0.5s,baz=94,slow=11,SNR=9.6 comp=Z,4.0nm,0.5s						
COEN	Coen	36.81	275	P	P	01 49 05.6	+0.4
BBOO	Buckleboo	41.46	244	P	P	01 49 42.4	+0.2
BBOO				IAmb	IAmb	01 49 51.9	
	comp=Z,20nm,1.2s						
WR0	Warramunga Arr	43.49	263	P	P	01 49 57.9	-0.4
AS31	Alice Springs	43.54	258	P	P	01 49 58.6	0.0
AS31				IAmb	IAmb	01 49 59.4	
	comp=Z,4.2nm,0.6s						
ASAR	Alice Springs	43.54	258	P	P	01 49 58.7	+0.1
ASAR	Alice Springs	43.54	258	P	P	01 49 58.9	+0.3
	comp=Z,13nm,0.6s,baz=96,slow=7.9,SNR=248						
ASAR				PcP	PcP	01 51 33.3	+0.7
	comp=Z,1.8nm,0.6s,baz=105,slow=4.0,SNR=7.6						
ASAR				S	S	01 55 44.7	-0.7
	comp=Z,0.8nm,0.8s,baz=83,slow=15,SNR=5.6 comp=Z,13nm,0.6s						
WRA	Warramunga Arr	43.68	263	P	P	01 49 59.0	-0.7
WRA	Warramunga Arr	43.68	263	P	P	01 49 59.2	-0.5
	comp=Z,2.9nm,0.3s,baz=97,slow=7.1,SNR=273						
WRA				PcP	PcP	01 51 33.7	+0.5
	comp=Z,0.8nm,0.5s,baz=92,slow=3.3,SNR=3.3 comp=Z,2.9nm,0.3s						
FORT	Forrest	48.23	247	P	P	01 50 33.0	-0.9
KNRA	Kununurra	49.78	267	P	P	01 50 45.7	+0.1
KNRA				IAmb	IAmb	01 51 04.0	
	comp=Z,18nm,1.2s						
FITZ	Fitzroy Crossi	52.11	263	P	P	01 51 03.0	+0.7
SOEI	Soe	55.70	273	P	P	01 51 29.4	+1.7
SOEI				IAmb	IAmb	01 51 30.2	
	comp=Z,26nm,0.7s						
PSA00	Pilbara Seismi	56.69	258	P	P	01 51 34.1	-0.2
PSA00				IAmb	IAmb	01 51 35.1	
	comp=Z,11nm,0.8s						
MBWA	Marble Bar	56.88	258	P	P	01 51 35.4	-0.2
MBWA				IAmb	IAmb	01 51 36.3	
	comp=Z,13nm,0.8s						
TOLI2	Tolitoli	62.96	283	P	P	01 52 16.1	+0.2
QSPA	South Pole Qui	68.80	180	P	P	01 52 52.5	+1.2
QSPA	South Pole Qui	68.80	180	P	P	01 52 53.0	+1.7
	comp=Z,1.2nm,0.8s,baz=45,slow=1.4,SNR=6.3 comp=Z,1.2nm,0.8s						
TPUB	Ta-pu	73.70	304	P	P	01 53 18.8	-1.7
PETK	Petropavlovsk-	76.81	346	P	P	01 53 36.8	-0.2
	comp=Z,1.9nm,0.6s,baz=195,slow=4.5,SNR=4.9 comp=Z,1.9nm,0.6s						
MAW	Mawson	80.56	200	P	P	01 53 57.8	+1.1
	comp=Z,1.3nm,0.8s,baz=127,slow=15,SNR=2.8 comp=Z,1.3nm,0.8s						
NVAR	Mina Array Bea	82.15	44	P	P	01 54 06.0	+0.3
	comp=Z,0.4nm,0.5s,baz=222,slow=8.0,SNR=5.3 comp=Z,0.4nm,0.5s						
SNAA	Sanae	87.26	179	P	P	01 54 29.5	-0.2
	comp=Z,0.4nm,0.6s,baz=202,slow=11,SNR=2.0 comp=Z,0.4nm,0.6s						
TXAR	Lajitas Array	88.17	58	P	P	01 54 35.4	+0.7
	comp=Z,0.4nm,0.8s,baz=242,slow=3.8,SNR=3.9 comp=Z,0.4nm,0.8s						
ILAR	Eielson Array	89.25	13	P	P	01 54 37.5	-1.2
	comp=Z,0.7nm,0.5s,baz=221,slow=5.8,SNR=8.4 comp=Z,0.7nm,0.5s						
CMAR	Chiang Mai Arr	89.59	290	P	P	01 54 43.0	+1.6
	comp=Z,1.1nm,0.3s,baz=136,slow=3.0,SNR=7.4 comp=Z,1.1nm,0.3s						
PDAR	Pinedale Array	90.09	44	P	P	01 54 43.8	+0.3
	comp=Z,0.6nm,0.6s,baz=232,slow=3.1,SNR=5.4 comp=Z,0.6nm,0.6s						
MKAR	Makanchi Array	111.12	313	PKiKP	PKiKP	02 00 11.7	-0.8
	comp=Z,0.1nm,0.2s,baz=79,slow=3.1,SNR=4.5						
KURBB	Kurchatov Arra	114.04	317	PKP	PKPdf	02 00 16.7	-1.2
	comp=Z,0.2nm,0.5s,baz=124,slow=1.3,SNR=4.8						
BVAR	Borovoye Array	119.13	320	PKP	PKPdf	02 00 26.8	-0.8
	comp=Z,1.6nm,0.4s,baz=103,slow=1.9,SNR=14						
ARCES	ARCESS Array B	129.52	349	PKP	PKPdf	02 00 46.4	-0.6
	comp=Z,1.5nm,0.6s,baz=294,slow=1.2,SNR=12						
FINES	FINESS Array B	136.27	343	PKhKP	PKPpre	02 00 49.8	
	comp=Z,2.8nm,0.9s,baz=33,slow=3.3,SNR=2.0						
FINES				PKP	PKPdf	02 01 00.5	+0.6
	comp=Z,1.3nm,0.6s,baz=20,slow=4.4,SNR=6.7						
HFS	Hagfors	140.16	350	PKhKP	PKPpre	02 00 59.9	
	comp=Z,2.0nm,0.5s,baz=64,slow=3.4,SNR=17						
AKASG	Malin Array Be	143.27	330	PKP	PKPab	02 01 10.7	-0.5
	comp=Z,5.6nm,0.4s,baz=44,slow=4.0,SNR=67						
AKBB	Malin Array Si	143.27	330		PKPab	02 01 10.9	-0.3
KIEV	Kiev	143.28	330		PKPab	02 01 10.9	-0.3
ARPR	Arapgir-MALATY	143.56	308		PKPdf	02 01 14.2	+0.2
LUBAR	Lubar, Ukraine	144.49	330	PKP	PKPdf	02 01 14.7	-0.3
BAL3X	Bal3x, Balta	144.90	326	PKP	PKPdf	02 01 15.8	0.0
BNN	Bunyan	145.47	308		PKPbc	02 01 19.2	+0.5
EKA	Eskdalemuir Ar	145.84	4	PKPbc	PKPdf	02 01 18.3	+1.2
	comp=Z,4.8nm,0.9s,baz=323,slow=2.1,SNR=4.6						
BRTR	Keskin Array B	146.73	311		PKPbc	02 01 21.7	-0.5
BRTR	Keskin Array B	146.73	311	PKPbc	PKPbc	02 01 22.1	-0.1
	comp=Z,2.0nm,0.5s,baz=328,slow=5.1,SNR=5.5						
BUR08	Bucovina Ar. S	147.30	329		PKPbc	02 01 23.9	+0.5
BURAR	Bucovina Array	147.31	329		PKPbc	02 01 24.3	+0.9
MMAI	Mount Meron Ar	147.46	298	PKPbc	PKPbc	02 01 25.0	+0.8
	comp=Z,4.8nm,0.6s,baz=78,slow=7.8,SNR=29						
KOLS	Kolonicke sedl	147.64	334	*e*PKP	PKiKP	02 01 25.7	+0.2
KOLS				*e*		02 01 34.3	
STHS	Stebnicka Huta	147.68	335	*e*PKP	PKPbc	02 01 24.7	+0.6
OSTC	Ostas	148.45	341	*e*PKP	PKiKP	02 01 27.4	+0.3
LANS	Liptovska Anna	148.57	337	*e*PKP	PKiKP	02 01 27.6	+0.1
DPC	Dobrovska-Polom	148.60	341	*e*PKP	PKPbc	02 01 27.3	+0.9
CLL	Collm	148.61	346		PKPbc	02 01 26.5	+0.2
CLL	Collm	148.61	346	*i* PKPbc	PKPbc	02 01 26.5	+0.2
	comp=Z,5.0nm,0.7s						
MORC	Moravsky Berou	148.71	339	⇑P	PKiKP	02 01 27.7	0.0
BRG	Berggiesshubel	148.78	344	Amp		02 01 28.2	
	comp=Z,3.1nm,0.7s						
BRG	Berggiesshubel	148.78	344	*e*P	PKPbc	02 01 27.5	+0.7
PVCC	Panska Ves	148.94	343	*e*PKP	PKPbc	02 01 27.9	+0.7
MAUC	Maruska	148.97	339	*e*PKP	PKPbc	02 01 28.1	+0.7
PRU	Pruhonice	149.43	343	*e*PKP	PKPbc	02 01 28.7	+0.3
MODS	Modra-Piesok	150.01	338	*e*PKP	PKiKP	02 01 31.0	+0.6
KHC	Kasperske Hory	150.48	343		PKPbc	02 01 31.4	+0.5
KHC	Kasperske Hory	150.48	343	*e*PKP	PKPbc	02 01 31.5	+0.5
GEC2	GERESS Array S	150.70	343		PKPbc	02 01 31.5	0.0
GERES	GERESS Array B	150.70	343	PKPbc	PKPbc	02 01 31.7	+0.2
	comp=Z,1.2nm,0.6s,baz=355,slow=3.2,SNR=6.8						
CONA	Conrad Observa	150.87	339	*i* PKP	PKPbc	02 01 32.4	+0.5
	comp=Z,3.8nm,0.6s						
RONA	Rosalia, Austr	150.92	339	*i* PKP	PKPbc	02 01 32.5	+0.5
	comp=Z,5.6nm,0.5s						
MOA	Molln	151.44	341	*i* PKP	PKPbc	02 01 33.0	-0.1
	comp=Z,2.1nm,0.7s						
BIOA	Bad Ischl, Aus	151.77	342	*i* PKP	PKPbc	02 01 34.1	+0.2
	comp=Z,4.3nm,1.1s						
LESA	Schwarzleotal	152.28	343	*i* PKP	PKPbc	02 01 35.1	0.0
	comp=Z,1.7nm,0.5s						
WATA	Walderalm	152.65	344	*i* PKP	PKPbc	02 01 35.5	-0.5
	comp=Z,1.6nm,0.5s						
WTTA	Wattenberg	152.70	344	*i* PKP	PKPbc	02 01 36.1	0.0
	comp=Z,1.8nm,0.4s						
ABTA	Abfaltersbach	152.95	343	*i* PKP	PKPbc	02 01 36.0	-0.5
	comp=Z,3.8nm,0.6s						
TORD	Torodi Ar. Bea	171.90	184	PKP	PKPdf	02 01 47.1	-0.6
	comp=Z,0.8nm,0.9s,baz=251,slow=1.6,SNR=3.7						

*NEIC **03** 01:44:02.7±1.7, 21°.0S±0°.2×178°.58W±0°.10, h593km±11km, mb4.1/13, Error ellipse: s-maj=22.7km s-min=13.2km az=170.0*

*IDC **03** 01:44:03.4±2.2, 21°.20S×178°.87W, h575km±21km, mb3.2/5, mbtmp4.2/7, Error ellipse: s-maj=27.7km s-min=22.3km az=114.0*

ISC 03 01:44:02.6±0.8, 21°.1S±0°.1×178°.7W±0°.2, h579km, n29, σ1§00/28, mb4.1/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.56	318	P	P	01 45 31.6	+0.7
	19nm,0.5s,baz=155,slow=12,SNR=5.5						
URZ	Urewera	17.43	191	P	P	01 47 32.3	-1.4
	2.3nm,0.3s,baz=19,slow=4.6,SNR=1.6						
MRZ	Mangatainoka R	20.05	193	P	P	01 47 58.6	+1.1
EIDS	Eidsvold	28.02	256	P	P	01 49 08.1	-0.4
EIDS				IAmb	IAmb	01 49 24.7	
	comp=Z,7.1nm,1.1s						
ARMA	Armidale	28.18	245	P	P	01 49 10.6	+0.7
ARMA				IAmb	IAmb	01 49 27.0	
	comp=Z,16nm,1.3s						
STKA	Stephens Creek	36.90	245	P	P	01 50 22.6	-0.8
STKA				IAmb	IAmb	01 51 02.8	
	comp=Z,2.9nm,1.4s						
STKA	Stephens Creek	36.90	245	P	P	01 50 22.6	-0.8
	comp=Z,2.7nm,0.6s,baz=60,slow=8.1,SNR=4.7 comp=Z,2.7nm,0.6s						
BBOO	Buckleboo	41.66	244	P	P	01 51 01.3	-0.2
WR0	Warramunga Arr	43.65	263	P	P	01 51 16.9	-0.4
WR0				IAmb	IAmb	01 51 17.4	
	comp=Z,6.2nm,1.1s						
AS31	Alice Springs	43.71	257	P	P	01 51 17.0	-0.7
ASAR	Alice Springs	43.71	257	P	P	01 51 17.9	+0.2
	comp=Z,4.5nm,0.5s,baz=97,slow=7.8,SNR=15						
ASAR				PcP	PcP	01 52 51.9	+0.2
	comp=Z,0.8nm,0.7s,baz=114,slow=3.4,SNR=4.1 comp=Z,4.5nm,0.5s						
WRA	Warramunga Arr	43.84	263	P	P	01 51 18.5	-0.3
WRA	Warramunga Arr	43.84	263	P	P	01 51 18.2	-0.6
	comp=Z,2.6nm,0.7s,baz=96,slow=8.2,SNR=14 comp=Z,2.6nm,0.7s						
FORT	Forrest	48.42	247	P	P	01 51 52.6	-0.5
KNRA	Kununurra	49.94	267	P	P	01 52 04.7	+0.1
KNRA				IAmb	IAmb	01 52 16.1	
	comp=Z,15nm,1.2s						
MBWA	Marble Bar	57.05	258	P	P	01 52 54.8	0.0
MBWA				IAmb	IAmb	01 52 56.6	
	comp=Z,21nm,1.5s						
QSPA	South Pole Qui	68.93	180	P	P	01 54 12.1	+1.9
QSPA				IAmb	IAmb	01 54 24.7	
	comp=Z,5.9nm,1.5s						
QSPA	South Pole Qui	68.93	180	P	P	01 54 12.0	+1.9
	comp=Z,0.8nm,0.7s,baz=74,slow=3.5,SNR=5.5 comp=Z,0.8nm,0.7s						
KIWB	Kanaga Island	72.69	1	P	P	01 54 32.4	+0.2
BELA	Belgrano 2	79.01	173	P	P	01 55 05.2	-1.5
BCAR	Beaver Creek A	88.83	16	P	P	01 55 52.5	-2.7
ILAR	Eielson Array	89.09	13	P	P	01 55 57.3	+1.0
	comp=Z,0.3nm,0.5s,baz=203,slow=6.6,SNR=1.7 comp=Z,0.3nm,0.5s						
BVAR	Borovoye Array	119.13	320	PKP	PKPdf	02 01 45.9	-0.2
	comp=Z,0.7nm,0.4s,baz=158,slow=1.1,SNR=5.9						
ARCES	ARCESS Array B	129.43	349	PKP	PKiKP	02 02 06.2	0.0
	comp=Z,2.6nm,0.9s,baz=60,slow=2.2,SNR=1.5						
FINES	FINESS Array B	136.19	343	PKP	PKiKP	02 02 20.4	+0.4
	comp=Z,3.7nm,1.0s,baz=90,slow=1.4,SNR=2.2						
HFS	Hagfors	140.06	350	PKhKP	PKPpre	02 02 17.9	
	comp=Z,1.0nm,0.5s,baz=297,slow=0.7,SNR=6.4						
AKASG	Malin Array Be	143.24	330	PKP	PKPbc	02 02 29.9	+0.2
	comp=Z,3.3nm,0.4s,baz=44,slow=4.3,SNR=15						
MMAI	Mount Meron Ar	147.53	299	PKPbc	PKiKP	02 02 44.8	+0.4
	comp=Z,2.1nm,0.6s,baz=79,slow=8.0,SNR=7.2						
GERES	GERESS Array B	150.63	343	PKPbc	PKiKP	02 02 50.6	+0.4
	comp=Z,0.6nm,0.5s,baz=345,slow=3.0,SNR=3.6						

*IDC **03** 01:47:13.5±2.1, 37°.61N×20°.81E, h0km, mb3.6/6, mbtmp3.5/9, ML3.6/2, MS3.1/1, Error ellipse: s-maj=42.5km s-min=22.8km az=34.0*

*ATH **03** 01:47:15.8, 37°.43N×20°.56E, h6km±2km, ML3.2/9, Error ellipse: s-maj=2.8km s-min=0.9km az=42.0*

*THE **03** 01:47:17.0, 37°.49N×20°.71E, h2km, ML3.3/3, Error ellipse: s-maj=1.1km s-min=0.5km az=223.0*

ISC 03 01:47:15.3±1.4, 37°.43N±0°.04×20°.62E±0°.05, h17km±8km, n35, σ1§11/48, mb3.6/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.33	32	P	Pg	01 47 22.4	+0.2
LTHK				S	Sg	01 47 27.9	+1.0
LTHK				AML	AML	01 47 28.6	
	comp=E,13033μm,0.5s						
LTHK				AML	AML	01 47 28.8	
	comp=N,16574μm,0.5s						
PSDA	Pessada-Kefalo	0.68	357	P	Pb	01 47 29.4	+0.7
VLS	Valsamata	0.74	358	P	Pg	01 47 29.1	-0.8
VLS				S	Sb	01 47 40.1	+0.4
VLS				AML	AML	01 47 45.3	
	comp=N,1915μm,0.5s						
VLS				AML	AML	01 47 45.7	
	comp=E,2003μm,0.5s						
LXRA	Lixouri, Kepha	0.78	349	P	Pg	01 47 30.5	0.0
DMLN	Damoulianata-K	0.83	346	P	Pg	01 47 31.7	+0.2
DMLN				S	Sb	01 47 43.6	+1.4
	comp=E,3μm,0.3s						
DMLN	Damoulianata-K	0.83	346	P	Pg	01 47 31.0	-0.5
AMT	Artemida-Makis	0.87	83	P	Pb	01 47 33.1	+1.1
AMT				S	Sn	01 47 45.7	+0.6
AMT				AML	AML	01 47 54.9	
	comp=E,11186μm,0.4s						
AMT				AML	AML	01 47 56.1	
	comp=N,12959μm,0.5s						
RLS	Riolos of Patr	0.92	47	P	Pg	01 47 32.3	-0.8
RLS	Riolos of Patr	0.92	47	P	Pb	01 47 33.1	+0.4
RLS				S	Sn	01 47 46.5	+0.2
RLS				AML	AML	01 47 51.3	
	comp=N,1861μm,0.5s						
RLS				AML	AML	01 47 55.4	
	comp=E,1807μm,0.9s						
DRO	Drossia	1.01	59	P	Pb	01 47 34.1	-0.2
DRO				S	Sb	01 47 47.6	+0.3
	comp=E,2μm,0.6s						
DRO	Drossia	1.01	59	P	Pn	01 47 35.7	+1.0
DRO				S	Sn	01 47 50.0	+1.5
DRO				AML	AML	01 47 57.7	
	comp=E,3447μm,0.4s						
DRO				AML	AML	01 47 57.8	
	comp=N,3749μm,0.8s						
FSK	Fiskardo	1.03	357	P	Pb	01 47 35.2	+0.6
FSK				S	Sb	01 47 49.7	+1.9
	comp=N,1μm,1.0s						
FSK	Fiskardo	1.03	357	P	Pb	01 47 35.2	+0.6
FSK				S	Sb	01 47 49.1	+1.3
FSK				AML	AML	01 47 57.7	
	comp=E,1913μm,0.5s						
FSK				AML	AML	01 48 02.9	
	comp=N,1394μm,0.9s						
PYL	PYLOS	1.04	121	P	Pb	01 47 36.3	+1.4
PYL				S	Sb	01 47 50.8	+2.4
PYL				AML	AML	01 47 54.3	
	comp=E,2247μm,0.5s						
PYL				AML	AML	01 47 55.7	
	comp=N,1546μm,0.3s						
ITM	Ithomi	1.07	103	P	Pb	01 47 35.9	+0.5
ITM				S	Sn	01 47 51.2	+1.1
ITM	Ithomi	1.07	103	P	Pn	01 47 36.8	+1.2
ITM				S	Sn	01 47 51.6	+1.6
ITM				AML	AML	01 48 00.6	
	comp=E,2134μm,0.5s						
ITM				AML	AML	01 48 01.9	
	comp=N,1800μm,0.5s						
EVGI	Lefkada island	1.19	1	P	Pb	01 47 38.2	+0.8
KLV	Kalavryta, Ach	1.36	63	P	Pn	01 47 40.9	+1.3
KLV	Kalavryta, Ach	1.36	63	P	Pn	01 47 40.7	+1.1
EFP	Efpalio	1.42	45	P	Pb	01 47 41.7	+0.4
GUR	Goura	1.45	69	P	Pb	01 47 42.4	+0.4
GUR	Goura	1.45	69	P	Pb	01 47 42.8	+0.8
ANX	Ano Chora	1.55	41	P	Pb	01 47 43.7	+0.1
ANX				S	Sn	01 48 04.0	+2.0
ANX	Ano Chora	1.55	41	P	Pb	01 47 43.6	0.0
AGG	Agios Georgios	2.08	40	P	Pn	01 47 51.5	+2.0
IDI	Anoyia	4.05	121	Pn	Pn	01 48 17.2	+0.5
	comp=N,4.2nm,0.8s,baz=280,slow=17,SNR=1.6						
IDI				Sn	Sn	01 49 03.2	-0.6
	comp=N,1.2nm,0.3s,baz=222,slow=24,SNR=1.8						
MMAI	Mount Meron Ar	12.86	106	Pn	Pn	01 50 16.0	-1.4
	comp=N,0.3nm,0.3s,baz=278,slow=11,SNR=2.2 comp=N,4.0nm,1.1s						
ESDC	Sonseca Array	19.34	284	P	P	01 51 41.1	+1.2
	baz=79,slow=9.6,SNR=1.6 comp=N,0.3nm,0.8s						
OBN	Obninsk	20.75	26	LR	LR	02 01 00.7	
	comp=N,51nm,19.2s,baz=198,slow=40						
HFS	Hagfors	23.15	351	P	P	01 52 19.5	-1.1
	comp=N,1.9nm,0.7s,baz=163,slow=15,SNR=2.3 comp=N,1.9nm,0.7s						
FINES	FINESS Array B	24.28	6	P	P	01 52 30.2	-1.2
	comp=N,2.0nm,0.8s,baz=165,slow=12,SNR=5.3 comp=N,2.0nm,0.8s						
BVAR	Borovoye Array	37.54	49	P	P	01 54 26.7	-1.7
	comp=N,0.3nm,0.5s,baz=268,slow=12,SNR=2.1 comp=N,0.3nm,0.5s						
KURBB	Kurchatov Arra	42.61	53	P	P	01 55 09.3	-1.1
	comp=N,0.2nm,0.5s,baz=281,slow=8.3,SNR=2.2 comp=N,0.2nm,0.5s						
MKAR	Makanchi Array	45.63	58	P	P	01 55 34.3	-0.4
	comp=N,0.3nm,0.5s,baz=279,slow=6.0,SNR=4.8 comp=N,0.3nm,0.5s						
ZALV	Zalesovo Beam	46.13	48	P	P	01 55 37.3	-1.2
	comp=N,0.4nm,0.3s,baz=264,slow=7.1,SNR=1.4 comp=N,0.4nm,0.3s						

*NEIC **03** 01:49:07.0±2.5, 15°.12N±0°.02×93°.92W±0°.03, h27km±8km, mb4.1/12, Md4.3/75(MEX), Error ellipse: s-maj=4.8km s-min=2.7km az=105.0*

*MEX **03** 01:49:07.7±0.7, 14°.99N×93°.95W, h18km±27km, MD4.3*

*IDC **03** 01:49:10.0±3.0, 15°.33N×93°.78W, h46km±24km, mb3.4/2, mbtmp3.9/6, ML3.8/4, MS2.6/2, Error ellipse: s-maj=35.0km s-min=14.6km az=28.0*

*CATAC **03** 01:49:13.2±1.2, 15°.15N×93°.58W, h29km±34km, ML4.4*

ISC 03 01:49:07.0±0.6, 15°.00N±0°.04×93°.96W±0°.02, h33km, n91, σ2§29/148, mb3.7/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		1.00	46		Pn	01 49 23.4	-1.4
PCIG					Sn	01 49 35.5	-2.4
PCIG		1.00	46	*e*P	Pn	01 49 23.0	-1.8
P

HUEH	**Huehuetenango**	**2.40**	**82**	*i* P		**Pn**	**01 49 44.8**	**+0.6**
HUEH				*i* S		**Sn**	**01 50 09.9**	**-2.7**
HUEH				IAML			01 50 25.4	
	comp=Z,3μm,1.0s							
SOKI	**Kika Raxquin**	**2.48**	**94**	*i* P		**Pn**	**01 49 46.7**	**+1.2**
SOKI				*i* S		**Sn**	**01 50 12.6**	**-2.3**
SOKI				IAML			01 50 31.3	
	comp=Z,480nm,1.0s							
QUIS	**Sacapulas**	**2.79**	**84**	*i* P		**Pn**	**01 49 51.0**	**+1.5**
QUIS				*i* S		**Sn**	**01 50 19.9**	**-2.2**
QUIS				IAML			01 50 36.3	
	comp=Z,1μm,1.0s							
TUIG	**Tuzandepetl**	**3.05**	**352**	*e*P		Pn	01 49 49.4	-3.6
ESSG	**Sabana Grande**	**3.09**	**101**	*i* P		**Pn**	**01 49 55.7**	**+2.0**
ESSG				IAML			01 52 05.7	
	comp=Z,720nm,1.0s							
NEUV	**Arroyo Zacate**	**3.22**	**327**	*e*P		**Pn**	**01 49 54.8**	**-0.6**
NEUV				*e*S		**Sn**	**01 50 31.8**	**-0.9**
PEIG	**Puerto Escondi**	**3.23**	**288**			**Pn**	**01 49 55.2**	**-0.2**
PEIG						**Sn**	**01 50 27.4**	**-5.4**
PEIG	**Puerto Escondi**	**3.23**	**288**	*e*P		**Pn**	**01 49 55.2**	**-0.2**
PEIG				*e*S		**Sn**	**01 50 27.4**	**-5.4**
GUMI	**Mixco**	**3.26**	**96**	*i* P		**Pn**	**01 49 58.3**	**+2.2**
GUMI				IAML			01 50 42.5	
	comp=Z,2μm,1.0s							
GCG4	**OSOP**	**3.34**	**97**	*i* P		**Pn**	**01 49 59.0**	**+1.8**
GCG4				IAML			01 50 39.8	
	comp=Z,1μm,1.0s							
OXIG	**Oaxaca**	**3.37**	**308**			**Pn**	**01 49 58.9**	**+1.4**
OXIG						**Sn**	**01 50 36.9**	**+0.3**
VHO	**Vista Hermosa**	**3.37**	**308**	*e*P		**Pn**	**01 49 58.9**	**+1.4**
VHO				*e*S		**Sn**	**01 50 36.9**	**+0.4**
PMUV	**Sontecomapan**	**3.70**	**343**	*e*P		Pn	01 49 59.4	-2.5
PMUV				*e*S		**Sn**	**01 50 43.4**	**-1.1**
YOIG	**Yosondua**	**3.91**	**299**			**Pn**	**01 50 06.9**	**+1.8**
YOIG						**Sn**	**01 50 44.2**	**-5.8**
YOIG	**Yosondua**	**3.91**	**299**	*e*P		**Pn**	**01 50 06.9**	**+1.8**
YOIG				*e*S		**Sn**	**01 50 44.2**	**-5.8**
NUBE	**Las Nubes**	**4.20**	**105**	*i* P		**Pn**	**01 50 10.2**	**+1.3**
NUBE				IAML			01 51 07.7	
	comp=Z,280nm,1.0s							
PNIG	**Pinotepa**	**4.24**	**290**			**Pn**	**01 50 09.9**	**+0.4**
PNIG						**Sn**	**01 50 52.7**	**-5.2**
PNIG	**Pinotepa**	**4.24**	**290**	*e*P		**Pn**	**01 50 09.9**	**+0.4**
PNIG				*e*S		**Sn**	**01 50 52.7**	**-5.2**
TOIG	**Toxpalan**	**4.28**	**316**			**Pn**	**01 50 11.4**	**+1.3**
TOIG						**Sn**	**01 50 55.9**	**-3.0**
TOIG	**Toxpalan**	**4.28**	**316**	*e*P		**Pn**	**01 50 11.4**	**+1.3**
TOIG				*e*S		**Sn**	**01 50 55.9**	**-3.0**
TXIG	**Tlaxiaco**	**4.29**	**302**			**Pn**	**01 50 12.3**	**+2.0**
TXIG						**Sn**	**01 50 55.5**	**-3.9**
TXIG	**Tlaxiaco**	**4.29**	**302**	*e*P		**Pn**	**01 50 12.3**	**+2.0**
TXIG				*i* S		**Sn**	**01 50 55.5**	**-3.9**
PETF	**Flores**	**4.38**	**64**	Pn		**Pn**	**01 50 11.8**	**+0.6**
PETF	**Flores**	**4.38**	**64**	*e*P		**Pn**	**01 50 11.2**	**-0.1**
PETF				*e*S		**Sn**	**01 50 59.0**	**-2.1**
PETF	**Flores**	**4.38**	**64**	*i* P		**Pn**	**01 50 12.1**	**+0.8**
PETF				*i* S		**Sn**	**01 50 58.5**	**-2.6**
PETF				IAML			01 51 07.9	
	comp=Z,600nm,1.0s							
MTO3	**Montecristo**	**4.49**	**97**	Pn		**Pn**	**01 50 13.5**	**+0.5**
HLIG	**Huajuapan de L**	**4.64**	**308**			**Pn**	**01 50 17.4**	**+2.4**
HLIG						**Sn**	**01 51 08.6**	**+0.7**
HLIG	**Huajuapan de L**	**4.64**	**308**	*e*P		**Pn**	**01 50 17.4**	**+2.4**
HLIG				*e*S		**Sn**	**01 51 08.6**	**+0.7**
PMON	**Piamonte**	**4.68**	**105**	*i* P		**Pn**	**01 50 17.9**	**+2.3**
PMON				*i* S		**Sn**	**01 51 08.5**	**-0.4**
PMON				IAML			01 51 35.3	
	comp=Z,210nm,1.0s							
TPIG	**Tehuac#an**	**4.71**	**317**			**Pn**	**01 50 16.0**	**+0.1**
TPIG						**Sn**	**01 51 07.1**	**-2.4**
TPIG	**Tehuac#an**	**4.71**	**317**	*e*P		**Pn**	**01 50 16.0**	**+0.1**
TPIG				*e*S		**Sn**	**01 51 07.1**	**-2.4**
SCIG	**Sabancuy**	**4.76**	**34**	*e*P		**Pn**	**01 50 15.4**	**-1.1**
SCIG				*e*S		**Sn**	**01 51 07.3**	**-3.2**
FTIG	**Fresnillo de T**	**4.94**	**306**			**Pn**	**01 50 21.7**	**+2.7**
FTIG						**Sn**	**01 51 17.4**	**+2.3**
FTIG	**Fresnillo de T**	**4.94**	**306**	*e*P		**Pn**	**01 50 21.7**	**+2.7**
FTIG				*e*S		**Sn**	**01 51 17.4**	**+2.3**
MGIG	**Malinaltepec**	**5.01**	**297**			**Pn**	**01 50 22.2**	**+2.1**
MGIG						**Sn**	**01 51 13.2**	**-3.7**
MGIG	**Malinaltepec**	**5.01**	**297**	*e*P		**Pn**	**01 50 22.2**	**+2.1**
MGIG				*e*S		**Sn**	**01 51 13.2**	**-3.7**
TLIG	**Tlapa**	**5.10**	**301**	Pn		**Pn**	**01 50 24.0**	**+2.7**
TLIG	**Tlapa**	**5.10**	**301**	*e*P		**Pn**	**01 50 23.4**	**+2.1**
TLIG				*e*S		**Sn**	**01 51 20.5**	**+1.3**
JAUV	**Jalcomulco**	**5.12**	**328**	*e*P		**Pn**	**01 50 20.5**	**-1.1**
JAUV				*i* S		**Sn**	**01 51 14.4**	**-5.2**
CRIG	**Cruz Grande**	**5.26**	**290**			**Pn**	**01 50 24.4**	**+1.0**
CRIG						**Sn**	**01 51 18.9**	**-4.1**
CRIG	**Cruz Grande**	**5.26**	**290**	*e*P		**Pn**	**01 50 24.4**	**+1.0**
CRIG				*i* S		**Sn**	**01 51 18.9**	**-4.1**
PBCV	**Popocatepetl**	**5.92**	**313**	*e*P		Pn	01 50 39.6	+6.8
PBCV				*i* S		**Sn**	**01 51 40.0**	**+0.3**
PBXN	**Popocatepetl**	**6.00**	**312**	*e*P		Pn	01 50 26.7	-7.3
PBXN				*e*P		Pb	01 50 38.0	-13
PBXN				*e*S		Sn	01 51 30.3	-12
PBXN				*e*S		Sb	01 51 42.9	-20
PPM	**Popocatepetl**	**6.02**	**313**	*e*P		Pn	01 50 39.6	+5.3
PPM				*e*S		**Sn**	**01 51 46.2**	**+3.8**
PPIG	**Popocatepetl**	**6.02**	**313**			Pn	01 50 39.6	+5.3
PPIG						**Sn**	**01 51 46.2**	**+3.8**
LCND	**La Caada**	**6.13**	**105**	*i* P		**Pn**	**01 50 37.7**	**+2.4**
LCND				IAML			01 50 41.7	
	comp=Z,44nm,1.0s							
CXUV	**Coxquihui**	**6.20**	**327**	*e*P		**Pn**	**01 50 36.5**	**+0.2**
CXUV				*e*S		**Sn**	**01 51 43.5**	**-2.7**
AOVM	**Tlapan**	**6.65**	**310**			Pn	01 50 49.5	+6.5
AOVM						**Sn**	**01 52 02.0**	**+4.1**
AOVM	**Tlapan**	**6.65**	**310**	*e*P		Pn	01 50 49.5	+6.5
AOVM				*e*S		**Sn**	**01 52 02.0**	**+4.1**
TEIG	**Tepich**	**7.51**	**45**	Pn		**Pn**	**01 50 52.7**	**-1.6**
TEIG	**Tepich**	**7.51**	**45**	P		**Pn**	**01 50 52.6**	**-1.7**
	comp=Z,12nm,0.3s,baz=243,slow=4.5,SNR=54							
TEIG				S		**Sn**	**01 52 12.7**	**-5.7**
	comp=Z,46nm,0.5s,baz=360,slow=21,SNR=2.0							
TEIG				LR		LR	01 54 14.3	
	comp=Z,89nm,21.1s,baz=73,slow=43							
	comp=Z,30nm,0.3s							
JTS	**Las Juntas de**	**9.96**	**117**	P		**Pn**	**01 51 30.0**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=312,slow=17,SNR=1.5							
	comp=Z,1.6nm,0.3s							
833A	**Chaparral WMA,**	**14.18**	**340**			**Pn**	**01 52 25.6**	**-0.1**
TXAR	**Lajitas Array**	**16.85**	**329**	P		**Pn**	**01 53 02.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=153,slow=11,SNR=13							
	comp=Z,1.7nm,1.0s							
BRDY	**Brady**	**16.86**	**345**			**Pn**	**01 52 59.1**	**-1.5**
OZNA	**Ozona**	**17.16**	**339**	P		**Pn**	**01 53 04.0**	**-0.4**
SGCY	**Sterling City**	**18.06**	**340**	P		**Pn**	**01 53 15.1**	**-0.5**
SGCY				IAmb		IAmb	01 53 17.5	
	comp=Z,10nm,0.8s							
MNHN	**Monahans**	**18.15**	**335**	P		**Pn**	**01 53 15.2**	**-1.4**
MSTX	**Muleshoe**	**20.50**	**339**	Pn		**P**	**01 53 43.5**	**+1.1**
MSTX				IAmb		IAmb	01 53 48.2	
	comp=Z,8.7nm,0.9s							
SMWD	**Samnorwood**	**20.80**	**345**	P		**P**	**01 53 45.9**	**+0.3**
SMWD				IAmb		IAmb	01 53 48.8	
	comp=Z,5.1nm,0.7s							
AMTX	**Amarillo**	**20.98**	**342**	P		**P**	**01 53 45.7**	**-2.0**
AMTX				IAmb		IAmb	01 53 50.7	
	comp=Z,8.5nm,0.7s							
121A	**Cookes Peak, D**	**21.52**	**327**			**P**	**01 53 54.4**	**+0.9**
121A				IAmb		IAmb	01 53 58.2	
	comp=Z,7.0nm,1.0s							
TBTG	**Tabatinga, AM**	**30.52**	**127**	P		**P**	**01 55 19.0**	**+1.5**
NVAR	**Mina Array Bea**	**31.71**	**322**	P		**P**	**01 55 29.2**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=142,slow=10,SNR=5.5							
	comp=Z,0.8nm,0.8s							
ILAR	**Eielson Array**	**61.18**	**337**	P		**P**	**01 59 17.1**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=145,slow=5.1,SNR=5.0							
	comp=Z,0.4nm,0.6s							
PZH	**PanZhiHua**	**136.01**	**340**	PKP		**PKPdf**	**02 08 23.1**	**-2.6**

*IDC **03** 01:54:27.4±1.4, 19°.43N×147°.12E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=47.7km s-min=29.2km az=77.0*

ISC 03 01:54:29.8±3.2, 19°.5N±0°.2×147°.9E±0°.8, h35km, n13, σ0§10/6, mb3.5/7, Mariana Islands region

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

H11S3	**WAKE ISLAND Hy 17.78**		**90**	T		T	02 17 03.2	
	baz=277,slow=74,SNR=14							
H11S1	**WAKE ISLAND Hy 17.79**		**90**	T		T	02 17 04.0	
	baz=277,slow=74,SNR=8.9							
H11S2	**WAKE ISLAND Hy 17.80**		**90**	T		T	02 17 01.8	
	baz=277,slow=74,SNR=8.0							
H11N1	**WAKE ISLAND Hy 17.88**		**86**	T		T	02 17 11.4	
	baz=273							
H11N2	**WAKE ISLAND Hy 17.88**		**86**	T		T	02 17 10.4	
	baz=273							
H11N3	**WAKE ISLAND Hy 17.90**		**86**	T		T	02 17 13.1	
	baz=273							
KSRS	**Korea Array**	**24.97**	**320**	P		**P**	**01 59 50.1**	**0.0**
	0.6nm,0.4s,baz=140,slow=7.8,SNR=2.1							
	0.6nm,0.4s							
WRA	**Warramunga Arr**	**41.42**	**200**	P		**P**	**02 02 13.1**	**0.0**
	0.8nm,1.0s,baz=20,slow=8.3,SNR=5.4							
	0.8nm,1.0s							
SONM	**Songino Array**	**43.84**	**320**	P		**P**	**02 02 32.7**	**0.0**
	0.3nm,0.5s,baz=133,slow=6.1,SNR=1.8							
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**62.12**	**318**	P		**P**	**02 04 47.3**	**+0.1**
	0.5nm,0.7s,baz=94,slow=7.9,SNR=4.6							
	0.5nm,0.7s							
BVAR	**Borovoye Array**	**67.18**	**320**	P		**P**	**02 05 20.1**	**-0.2**
	0.4nm,0.5s,baz=108,slow=4.7,SNR=2.5							
	0.4nm,0.5s							
NVAR	**Mina Array Bea**	**80.98**	**53**	P		P	02 06 48.7	+7.2
	0.2nm,0.6s,baz=264,slow=2.7,SNR=1.9							
	0.2nm,0.6s							
FINES	**FINESS Array B**	**87.01**	**336**	P		**P**	**02 07 11.4**	**0.0**
	2.0nm,0.9s,baz=60,slow=6.6,SNR=1.4							
	2.0nm,0.9s							

*THE **03** 01:58:17.5, 37°.43N×20°.47E, h6km±1km, ML3.2/5, Error ellipse: s-maj=1.4km s-min=0.6km az=46.0*
*IDC **03** 01:58:17.7±1.7, 37°.73N×20°.81E, h0km, mb3.4/4, mbtmp3.5/4, MS2.6/1, Error ellipse: s-maj=56.4km s-min=29.3km az=116.0*
*ATH **03** 01:58:17.0, 37°.40N×20°.44E, h10km±3km, ML3.0/1, Error ellipse: s-maj=4.6km s-min=1.4km az=32.0*

ISC 03 01:58:17.3±1.9, 37°.43N±0°.07×20°.51E±0°.07, h15km±11km, n26, σ0§50/32, mb3.5/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.34**	**47**	P	**Pg**	**01 58 24.5**	**+0.2**
KRI1				S	**Sb**	**01 58 29.6**	**-0.7**
	8μm,0.6s						
LTHK	**Lithakia**	**0.39**	**43**	P	**Pg**	**01 58 25.2**	**+0.1**
LTHK				S	**Sb**	**01 58 30.9**	**-0.6**
	6μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.68**	**18**	P	**Pg**	**01 58 30.3**	**-0.3**
RTZL				S	**Sb**	**01 58 40.4**	**+0.4**
	2μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.69**	**5**	P	**Pg**	**01 58 30.4**	**-0.3**
PSDA				S	**Sb**	**01 58 40.4**	**+0.2**
	2μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.69**	**5**	P	**Pg**	**01 58 30.9**	**+0.1**
PSDA				S	**Sb**	**01 58 41.2**	**+1.0**
VLS	**Valsamata**	**0.75**	**5**	P	**Pg**	**01 58 31.6**	**-0.3**
VLS				S	**Sb**	**01 58 42.4**	**+0.3**
	1μm,0.5s						
VLS	**Valsamata**	**0.75**	**5**	P	**Pg**	**01 58 31.8**	**-0.2**
VLS				S	**Sb**	**01 58 43.2**	**+1.1**
VLS				AML	AML	01 58 47.2	
	comp=E,2426μm,0.5s						
VLS				AML	AML	01 58 49.4	
	comp=N,2371μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.77**	**356**	P	**Pg**	**01 58 32.3**	**-0.1**
DMLN	**Damoulianata-K**	**0.81**	**353**	P	**Pg**	**01 58 32.5**	**-0.7**
SMHA	**Samh**	**0.83**	**8**	P	**Pg**	**01 58 32.8**	**-0.7**
SMHA				S	**Sb**	**01 58 45.6**	**+1.3**
AMT	**Artemida-Makis**	**0.96**	**83**	P	**Pb**	**01 58 36.0**	**+0.3**
RLS	**Riolos of Patr**	**0.99**	**50**	P	**Pb**	**01 58 36.1**	**0.0**
FSK	**Fiskardo**	**1.03**	**3**	P	**Pb**	**01 58 36.6**	**-0.2**
FSK	**Fiskardo**	**1.03**	**3**	P	**Pb**	**01 58 36.6**	**-0.2**
DRO	**Drossia**	**1.09**	**61**	P	**Pn**	**01 58 38.2**	**+0.2**
PYL	**PYLOS**	**1.12**	**118**	P	**Pb**	**01 58 38.5**	**+0.1**
ITM	**Ithomi**	**1.16**	**102**	P	**Pg**	**01 58 39.4**	**-0.3**
ITM	**Ithomi**	**1.16**	**102**	P	**Pg**	**01 58 39.6**	**-0.1**
EVGI	**Lefkada island**	**1.20**	**6**	P	**Pn**	**01 58 39.7**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.29**	**7**	P	**Pn**	**01 58 41.1**	**+0.4**
GUR	**Goura**	**1.54**	**70**	P	**Pb**	**01 58 45.4**	**-0.2**
HFS	**Hagfors**	**23.14**	**351**	P	**P**	**02 03 22.3**	**-0.3**
	comp=N,1.3nm,0.6s,baz=164,slow=11,SNR=1.9						
	comp=N,1.3nm,0.6s						
FINES	**FINESS Array B**	**24.29**	**7**	P	**P**	**02 03 33.7**	**0.0**
	comp=N,1.5nm,0.7s,baz=180,slow=8.1,SNR=1.7						
	comp=N,1.5nm,0.7s						
NOA	**NORSAR Array B**	**24.35**	**349**	LR	LR	02 14 50.3	
	comp=N,12nm,19.6s,baz=280,slow=41						
TORD	**Torodi Ar. Bea**	**29.44**	**220**	P	P	02 04 26.6	+6.2
	comp=N,0.4nm,0.9s,baz=29,slow=10,SNR=2.5						
	comp=N,0.4nm,0.9s						
MKAR	**Makanchi Array**	**45.71**	**58**	P	**P**	**02 06 37.3**	**-0.2**
	comp=N,0.2nm,0.6s,baz=271,slow=7.0,SNR=1.9						
	comp=N,0.2nm,0.6s						

*TRN **03** 02:01:12.8, 10°.47N×62°.19W, h7km, MD3.2, Gulf of Paria.*
*FUNV **03** 02:01:14.4, 10°.11N×61°.98W, h14km, MW3.6*

ISC 03 02:01:14.5±1.4, 10°.3N±0°.1×62°.1W±0°.1, h33km±12km, n14, σ1§03/22, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGH	**Port of Spain**	**0.65**	**57**	*e*P	**Pb**	**02 01 27.2**	**-0.3**
PSGH				*e*S	**Sb**	**02 01 36.5**	**+0.2**
TRN	**Trinidad (W)**	**0.73**	**63**	*e*P	**Pb**	**02 01 28.5**	**-0.3**
TRN				*e*S	**Sb**	**02 01 38.5**	**-0.1**
TOSP	**Speyside**	**1.79**	**57**	*e*P	**Pn**	**02 01 44.0**	**+0.8**
TOSP				*e*S	**Sb**	**02 02 09.3**	**+0.4**
GRGR	**Grenville**	**1.86**	**12**	*e*P	**Pn**	**02 01 44.6**	**+0.6**
GRGR				*e*S	**Sn**	**02 02 07.0**	**+0.6**
GRHS	**Sauteurs**	**1.95**	**12**	*e*S	**Sn**	**02 02 08.3**	**-0.3**
GRSS	**Sisters**	**2.03**	**13**	*e*S	**Sn**	**02 02 10.2**	**-0.4**
GCMP	**Grenada, Carri**	**2.25**	**16**	*e*P	**Pn**	**02 01 48.9**	**-0.6**
GCMP				*e*S	**Sn**	**02 02 15.4**	**-0.8**
PCRV	**Puerto La Cruz**	**2.54**	**267**	*e*P	**Pn**	**02 01 54.8**	**+1.4**
PCRV				*e*S	**Sn**	**02 02 24.6**	**+1.4**
PCRV	**Puerto La Cruz**	**2.54**	**267**	*e*P	**Pn**	**02 01 54.0**	**+0.6**
TACV	**Tcata**	**4.89**	**268**	*e*P	**Pn**	**02 02 26.9**	**+1.1**
TACV				*e*S	**Sn**	**02 03 20.7**	**-0.6**
CACV	**CAICARA DEL OR**	**5.20**	**239**	*e*P	Pn	02 02 24.2	-5.8
CACV				*e*S	Sn	02 03 15.0	-14
BENV	**Beln**	**5.46**	**267**	*e*P	**Pn**	**02 02 34.8**	**+1.1**
BENV				*e*S	**Sn**	**02 03 34.3**	**-1.2**
BAUV	**El Baul**	**6.05**	**258**	*e*P	**Pn**	**02 02 42.0**	**+0.2**
BAUV				*e*S	**Sn**	**02 03 47.1**	**-2.7**
BAUV	**El Baul**	**6.05**	**258**	*e*P	**Pn**	**02 02 41.7**	**-0.1**

TRN 03 02:28:07.8, 10°.42N×62°.17W, h5km, MD3.5, Gulf of Paria., Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.68**	**68**	*e*P	Pg	02 28 20.9	+0.1
PSMG				*e*S	Sb	02 28 31.2	-0.5
PSGH	**Port of Spain**	**0.69**	**69**	*e*P	Pg	02 28 21.4	+0.2
PSGH				*e*S	Sg	02 28 31.1	+0.9
TPP	**Pointe-a-Pierr**	**0.71**	**98**	*e*P	Pb	02 28 22.6	-0.1
TRN	**Trinidad (W)**	**0.79**	**73**	*e*P	Pg	02 28 22.1	-0.8
TRN				*e*S	Sb	02 28 34.3	-0.7
GRFF	**Grenada Fort F**	**1.68**	**15**	*e*P	Pn	02 28 38.0	+0.2
GRFF				*e*S	Sn	02 29 00.0	+0.3
GRGR	**Grenville**	**1.78**	**16**	*e*P	Pn	02 28 39.8	+0.6
GRGR				*e*S	Sn	02 29 02.9	+0.6
TOSP	**Speyside**	**1.83**	**61**	*e*P	Pn	02 28 40.0	+0.2
TOSP				*e*S	Sn	02 29 03.8	+0.4
GRHS	**Sauteurs**	**1.87**	**16**	*e*S	Sb	02 29 05.5	-0.6
GRSS	**Sisters**	**1.95**	**16**	*e*P	Pn	02 28 41.7	+0.2
GRSS				*e*S	Sn	02 29 07.2	+0.8
GCMP	**Grenada, Carri**	**2.18**	**19**	*e*S	Sn	02 29 12.8	+0.6

*NEIC **03** 02:29:40.2±0.2, 36°.423N±0°.007×96°.925W±0°.008, h5km±2km, Error ellipse: s-maj=1.3km s-min=0.6km az=137.0*

NEIC 03 02:29:40.2±0.3, 36°.419N±0°.006×96°.92W±0°.01, h5km±1km, mb_Lg2.5/3, ML1.4/27, ML2.2/23, Error ellipse: s-maj=1.7km s-min=0.9km az=90.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK048	**Pawnee Station**	**0.02**	**262**	Pg	Pg	02 29 41.4	+0.3
OK048				Sg	Sg	02 29 42.2	+0.4
OK048				IAML		02 29 42.3	
	932nm,0.3s						
OK051	**E0350 and S346**	**0.11**	**39**	Pg	Pg	02 29 42.9	+0.5
OK051				Sg	Sg	02 29 44.7	+0.6
QUOK	**Quay**	**0.30**	**145**		Pg	02 29 46.5	+0.5
QUOK					Sg	02 29 50.7	+0.7
QUOK				IAML		02 29 50.9	
	comp=E,36nm,3.9s						
BLOK	**Blackwell**	**0.41**	**325**		Pg	02 29 48.5	+0.3
BLOK				IAML		02 30 01.7	
	comp=E,32nm,0.2s						
OK052	**Battle Ridge R**	**0.43**	**167**		Pg	02 29 49.0	+0.4
OK052					Sg	02 29 55.0	+0.8
OK052				IAML		02 29 55.2	
	comp=E,33nm,0.9s						
OK031	**S. Brethren Rd**	**0.47**	**172**		Pg	02 29 49.7	+0.5
OK031					Sg	02 29 56.2	+0.9
OK031				IAML		02 29 56.3	
	comp=E,51nm,1.1s						
T35A	**Sooner Cattle**	**0.59**	**33**		Pg	02 29 51.8	+0.1
T35A					Sg	02 29 59.5	+0.1
T35A				IAML		02 30 00.0	
	comp=E,20nm,0.4s						
T35A				IAML		02 30 00.1	
	comp=N,16nm,0.2s						
DEOK	**Depew**	**0.67**	**149**		Pg	02 29 53.3	+0.3
DEOK				IAML		02 30 08.4	
	comp=N,12nm,1.5s						
DEOK				IAML		02 30 10.0	
	comp=E,13nm,2.9s						
KAN09	**Caldwell North**	**0.91**	**322**		Pg	02 29 57.7	+0.1
KAN09				IAML		02 30 30.0	
	comp=N,22nm,0.3s						
TUL3	**Leonard**	**1.04**	**119**		Pg	02 30 00.1	-0.1
TUL3					Sg	02 30 13.6	-0.2
TUL3				IAML		02 30 20.3	
	comp=E,6.2nm,1.1s						
TUL3				IAML		02 30 24.8	
	comp=N,7.1nm,1.6s						
FW13	**Cleburne**	**4.08**	**186**	IAmb_Lg		02 32 00.3	
	comp=Z,7.6nm,0.7s						
HNDO	**Hondo**	**7.15**	**197**	IAmb_Lg		02 33 41.3	
	comp=Z,3.1nm,1.2s						
Y22D	**IRIS PASSCAL I**	**8.51**	**257**	IAmb_Lg		02 34 23.8	
	comp=Z,50nm,0.8s						

*IDC **03** 02:30:11.2±0.6, 2°.80S×119°.48E, h0km, mb4.3/9, mbtmp4.3/11, ML4.0/2, MS3.6/30, Error ellipse: s-maj=45.4km s-min=12.8km az=67.0*
*DJA **03** 02:30:13.7±0.2, 3°.S±2°.×11°.9E±°, h10km, M4.7/19, mb4.5/7, mB5.3/6, MLv4.8/19, Mw(mB)4.7/6*
*NEIC **03** 02:30:13.7±2.1, 2°.96S±0°.02×119°.41E±0°.08, h10km±1km, mb4.4/17, Error ellipse: s-maj=13.1km s-min=3.3km az=77.0*

ISC 03 02:30:13.5±0.4, 2°.97S±0°.04×119°.50E±0°.06, h10km, n91, σ1§35/73, mb4.5/26, MS3.8/29, 2C, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.32**	**104**	P	**Pg**	**02 30 19.3**	**-0.6**
SPSI	**Sidrap Palu**	**1.03**	**165**	P	**Pg**	**02 30 32.1**	**-1.1**
BNSI	**Bone**	**1.55**	**157**	P	**Pn**	**02 30 41.9**	**+0.8**
KAPI	**Kappang**	**2.05**	**173**	Pn	**Pn**	**02 30 48.4**	**+0.4**
	212nm,0.3s,baz=338,slow=12,SNR=120						
KAPI				Sn	**Sb**	**02 31 17.0**	**+0.7**
	140nm,0.3s,baz=68,slow=23,SNR=4.1						
KAPI				LR	LR	02 31 24.0	
	comp=Z,568nm,18.4s,baz=330,slow=33						
	928nm,0.4s						
BKSI	**Bulukumba**	**2.42**	**165**	P	**Pn**	**02 30 54.6**	**+1.5**
APSI	**Ampana**	**2.96**	**46**	P	**Pn**	**02 31 01.4**	**+0.8**
BKB	**Balikpapan**	**3.11**	**303**	Pn	**Pn**	**02 31 02.0**	**-0.6**
BKB	**Balikpapan**	**3.11**	**303**	P	**Pn**	**02 31 03.3**	**+0.7**
BSSI	**Bau Bau, Buton**	**3.31**	**163**	P	**Pn**	**02 31 06.5**	**+1.2**
LUWI	**Luwuk**	**3.78**	**60**	Pn	**Pn**	**02 31 11.4**	**-0.5**
LUWI	**Luwuk**	**3.78**	**60**	P	**Pn**	**02 31 11.9**	**0.0**
BBSI	**Bau Bau**	**3.95**	**129**	P	**Pn**	**02 31 15.2**	**+1.0**
MRSI	**Marisa**	**4.20**	**35**	P	**Pn**	**02 31 17.2**	**-0.4**
TOLI2	**Tolito

comp=N,240nm,5.7s
TNCH LR LR
comp=E,260nm,5.1s
TNCH LR LR
comp=Z,270nm,20.1s
NJ2 Nanjing 34.83 359 *eP* **P 02 37 06.4 +1.7**
NJ2 sP **sP 02 37 11.9 +2.5**
NJ2 pmax pmax
comp=Z,11nm,0.5s
STKA Stephens Creek 35.48 147 P **P 02 37 11.6 +1.2**
comp=Z,4.2nm,0.8s,baz=310,slow=7.1,SNR=5.2
STKA LR LR 02 53 07.7
comp=Z,182nm,18.1s,baz=303,slow=39
comp=Z,4.2nm,0.8s
BRDH Bariadhala 37.27 315 LR LR 02 54 41.2
comp=Z,223nm,18.8s,baz=152,slow=40
JNU Nakatsue 37.47 16 LR LR 02 52 38.2
comp=Z,60nm,20.7s,baz=186,slow=36
XAN Xi'an 38.14 346 ⇑P **P 02 37 34.0 +1.0**
XAN pmax pmax
comp=Z,9.0nm,1.6s
SHL Shillong 39.00 318 P **P 02 37 39.3 -1.2**
HNS HongShan 40.41 354 ⇑P **P 02 37 52.4 +0.6**
HNS pmax pmax
comp=Z,10.0nm,1.5s
HNS LR LR
comp=N,130nm,15.1s
HNS LR LR
comp=E,150nm,12.0s
HNS LR LR
comp=Z,180nm,16.7s
JHJ Hachijo jima 2 40.70 26 LR LR 02 53 44.9
comp=Z,24nm,22.0s,baz=248,slow=35
KSRS Korea Array 40.97 10 LR LR 02 55 30.4
comp=Z,57nm,20.5s,baz=195,slow=37
BJI Beijing 42.91 356 P **P 02 38 12.4 +0.1**
BJI pmax pmax
comp=Z,4.0nm,0.7s
BJI pmax pmax
comp=Z,63nm,6.1s
HHC Hu-ho-hao-te 44.21 351 *eP* **P 02 38 24.1 +1.2**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.5s
GTA Gaotai 45.90 339 *eP* **P 02 38 36.7 +0.2**
GTA pmax pmax
comp=Z,5.0nm,1.2s
XLT XiLinHaoTe 46.76 357 *eP* **P 02 38 47.0 +3.9**
XLT pP sP 02 38 51.1 +3.2
XLT sP pP 02 38 54.8 +8.3
DZM Mont Dzumac 49.33 117 LR LR 03 00 52.9
comp=Z,91nm,18.2s,baz=1.0,slow=37
ULN Ulaanbaatar 51.78 349 P **P 02 39 20.5 -1.1**
ULN IAmb IAmb 02 39 23.7
comp=Z,7.0nm,1.0s
SONM Songino Array 51.88 349 P **P 02 39 21.9 -0.3**
SONM IAmb IAmb 02 39 22.6
comp=Z,3.4nm,0.8s
SONM Songino Array 51.88 349 P **P 02 39 20.7 -1.5**
comp=Z,2.9nm,0.6s,baz=169,slow=8.4,SNR=15
SONM LR LR 03 02 17.1
comp=Z,65nm,19.0s,baz=148,slow=37
comp=Z,2.9nm,0.6s
KLR Kul'dur 53.06 10 LR LR 03 04 45.4
comp=Z,36nm,18.2s,baz=204,slow=39
HEH HeiHe 53.45 6 *eP* **P 02 39 32.6 -1.0**
WMQ Urumqi 54.63 332 *eP* **P 02 39 43.3 +0.8**
WMQ pmax pmax
comp=Z,12nm,0.7s
KSH Kashi 58.16 321 P **P 02 40 07.7 -0.2**
KSH pP sP 02 40 13.9 +0.9
KSH pmax pmax
comp=Z,8.0nm,1.0s
MK31 Makanchi Array 59.40 331 P **P 02 40 15.5 -0.7**
MK31 IAmb IAmb 02 40 16.7
comp=Z,2.9nm,0.8s
MKAR Makanchi Array 59.40 331 P **P 02 40 15.5 -0.7**
comp=Z,2.2nm,0.6s,baz=139,slow=7.4,SNR=26
comp=Z,2.2nm,0.6s
AAK Ala-Archa 60.90 323 P **P 02 40 26.0 -0.8**
AAK IAmb IAmb 02 40 27.3
comp=Z,3.1nm,0.8s
AAK Ala-Archa 60.90 323 LR LR 03 11 05.5
comp=Z,58nm,19.9s,baz=132,slow=40
ARSB Arslanbob 61.07 321 IAmb IAmb 02 40 38.4
comp=Z,2.8nm,1.2s
URZ Urewera 63.07 132 LR LR 03 10 45.8
comp=Z,78nm,18.2s,baz=31,slow=38
ZALV Zalesovo Beam 63.64 338 P **P 02 40 42.0 -2.6**
comp=Z,1.3nm,0.5s,baz=141,slow=5.0,SNR=4.8
comp=Z,1.3nm,0.5s
PETK Petropavlovsk- 64.39 24 LR LR 03 07 47.7
comp=Z,25nm,20.9s,baz=0.6,slow=35
MA2 Magadan 67.03 17 LR LR 03 11 44.4
comp=Z,21nm,20.6s,baz=256,slow=37
BVAR Borovoye Array 69.28 331 P **P 02 41 17.6 -3.1**
comp=Z,1.1nm,0.9s,baz=144,slow=8.2,SNR=4.5
comp=Z,1.1nm,0.9s
ABKAR Abkulak array 72.98 324 P **P 02 41 41.8 -1.5**
ABKAR IAmb IAmb 02 41 52.4
comp=Z,5.0nm,1.2s
ABKAR Abkulak array 72.98 324 P **P 02 41 41.4 -1.9**
AKTO Aktyubinsk 74.61 324 LR LR 03 18 45.1
comp=Z,56nm,19.2s,baz=29,slow=39
TIXI Tiksi 74.73 3 P **P 02 41 50.4 -2.7**
TIXI IAmb IAmb 02 41 55.1
comp=Z,3.4nm,0.8s
TIXI Tiksi 74.73 3 LR LR 03 19 10.1
comp=Z,32nm,18.2s,baz=182,slow=39
MAW Mawson 75.05 199 P **P 02 41 55.8 +0.8**
comp=Z,4.3nm,0.8s,baz=32,slow=4.8,SNR=12
comp=Z,4.3nm,0.8s
ARTI Arti 76.97 330 LR LR 03 18 04.4
comp=Z,45nm,20.1s,baz=170,slow=37
BELG Belogornoye 81.39 324 LR LR 03 23 11.3
comp=Z,56nm,19.3s,baz=71,slow=39
KIRV Kirov 82.28 330 LR LR 03 22 29.5
comp=Z,43nm,18.0s,baz=127,slow=38
MMAI Mount Meron Ar 86.66 303 LR LR 03 24 60.0
comp=Z,14nm,21.8s,baz=22,slow=38
EIL Elat 86.72 300 LR LR 03 27 48.3
comp=Z,39nm,18.1s,baz=80,slow=40
QSPA South Pole Qui 86.99 180 LR LR 03 21 01.1
comp=Z,40nm,19.5s,baz=32,slow=35
SPITS Spitsbergen Ar 95.57 348 LR LR 03 31 56.8
comp=Z,47nm,18.5s,baz=245,slow=39
TORD Torodi Ar. Bea 117.74 283 PKP **PKPdf 02 48 58.7 -2.4**
comp=Z,0.4nm,0.7s,baz=56,slow=1.5,SNR=2.6
CPUP Villa Florida 150.71 186 PKPbc **PKPbc 02 50 07.4 +0.6**
comp=Z,2.1nm,0.8s,baz=69,slow=8.6,SNR=4.2
LPAZ La Paz 159.43 159 PKPab **PKPab 02 50 52.8 +1.2**
comp=Z,0.9nm,0.7s,baz=183,slow=5.6,SNR=5.4

*IDC **03** 02:37:34.9±1.4, 37.°25N×20.°75E, h0km, mb3.5/5, mbtmp3.4/9, ML3.2/3, Error ellipse: s-maj=31.3km s-min=21.3km az=146.0*
*THE **03** 02:37:36.9, 37.°18N×20.°54E, h9km, ML3.4/12, Error ellipse: s-maj=1.1km s-min=0.5km az=235.0*
*ATH **03** 02:37:36.8, 37.°14N×20.°54E, h9km±2km, ML3.5/4, Error ellipse: s-maj=3.9km s-min=1.9km az=55.0*
*BEO **03** 02:37:36.3±1.0, 37.°15N×20.°45E, h10km, ML3.4/7*
ISC 03 02:37:37.1±1.3, 37.°19N±0.°04×20.°57E±0.°04, h15km±8km, n49, σ0°99/70, mb3.4/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.51**	**23**	P	**Pg**	**02 37 47.2**	**-0.1**
KRI1				S	**Sb**	**02 37 55.2**	**+0.1**
9μm,0.4s							
LTHK	**Lithakia**	**0.56**	**22**	P	**Pg**	**02 37 47.9**	**-0.3**
LTHK				S	**Sg**	**02 37 56.4**	**+0.7**
6μm,0.4s							
LTHK	**Lithakia**	**0.56**	**22**	P	**Pg**	**02 37 47.9**	**-0.3**
LTHK				S	**Sb**	**02 37 56.6**	**+0.1**
LTHK				AML	AML	02 38 00.6	
comp=N,11265μm,0.6s							
LTHK				AML	AML	02 38 01.8	
comp=E,10355μm,0.4s							
RTZL	**Ratzakli, Kefa**	**0.90**	**10**	P	**Pg**	**02 37 53.7**	**-0.9**
RTZL				S	**Sb**	**02 38 07.5**	**+1.2**
comp=E,3μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.92**	**1**	P	**Pg**	**02 37 54.9**	**-0.1**
PSDA				S	**Sb**	**02 38 08.4**	**+1.5**
comp=E,3μm,0.5s							
PSDA	**Pessada-Kefalo**	**0.92**	**1**	P	**Pg**	**02 37 55.0**	**-0.1**
AMT	**Artemida-Makis**	**0.97**	**69**	P	**Pb**	**02 37 56.5**	**+0.9**
AMT				S	**Sg**	**02 38 08.7**	**0.0**
AMT				AML	AML	02 38 19.2	
comp=E,11104μm,0.4s							
AMT				AML	AML	02 38 19.3	
comp=N,10170μm,0.4s							
PYL	**PYLOS**	**0.98**	**107**	P	**Pg**	**02 37 55.5**	**-0.6**
PYL				S	**Sn**	**02 38 10.7**	**+0.7**
comp=N,995nm,0.6s							
PYL	**PYLOS**	**0.98**	**107**	P	**Pg**	**02 37 55.6**	**-0.6**
VLS	**Valsamata**	**0.99**	**1**	P	**Pg**	**02 37 55.4**	**-0.8**
VLS				S	**Sb**	**02 38 10.1**	**+1.3**
comp=N,2μm,0.6s							
VLS	**Valsamata**	**0.99**	**1**	P	**Pg**	**02 37 55.5**	**-0.8**
VLS				S	**Sb**	**02 38 09.7**	**+0.9**
VLS				AML	AML	02 38 13.6	
comp=E,3168μm,0.3s							
VLS				AML	AML	02 38 13.7	
comp=N,2683μm,0.3s							
LXRA	**Lixouri, Kepha**	**1.02**	**354**	P	**Pn**	**02 37 57.4**	**+0.6**
DMLN	**Damoulianata-K**	**1.06**	**352**	P	**Pg**	**02 37 56.8**	**-0.8**
DMLN				S	**Sb**	**02 38 11.6**	**+0.7**
comp=N,4μm,0.7s							
DMLN	**Damoulianata-K**	**1.06**	**352**	P	**Pn**	**02 37 58.1**	**+0.6**
SMHA	**Samh**	**1.06**	**3**	P	**Pg**	**02 37 56.4**	**-1.3**
SMHA				S	**Sn**	**02 38 12.4**	**+0.4**
ITM	**Ithomi**	**1.08**	**90**	P	**Pg**	**02 37 57.9**	**-0.2**
ITM				S	**Sn**	**02 38 13.6**	**+1.0**
comp=N,1μm,0.6s							
ITM	**Ithomi**	**1.08**	**90**	P	**Pg**	**02 37 57.7**	**-0.4**
RLS	**Riolos of Patr**	**1.12**	**39**	P	**Pb**	**02 37 57.7**	**-0.5**
RLS				S	**Sn**	**02 38 14.6**	**+1.1**
comp=N,778nm,0.7s							
RLS	**Riolos of Patr**	**1.12**	**39**	P	**Pb**	**02 37 57.7**	**-0.5**
DRO	**Drossia**	**1.19**	**50**	P	**Pb**	**02 37 58.8**	**-0.5**
DRO				S	**Sn**	**02 38 16.7**	**+1.6**
comp=N,2μm,0.3s							
DRO	**Drossia**	**1.19**	**50**	P	**Pb**	**02 37 59.0**	**-0.3**
FSK	**Fiskardo**	**1.27**	**360**	P	**Pn**	**02 38 00.5**	**+0.2**
FSK				S	**Sn**	**02 38 18.3**	**+1.2**
comp=N,1μm,0.6s							
FSK	**Fiskardo**	**1.27**	**360**	P	**Pn**	**02 38 00.7**	**+0.4**
FSK				S	**Sn**	**02 38 18.8**	**+1.7**
FSK				AML	AML	02 38 26.7	
comp=N,1992μm,0.7s							
FSK				AML	AML	02 38 27.9	
comp=E,3021μm,0.6s							
EVGI	**Lefkada island**	**1.43**	**3**	P	**Pn**	**02 38 03.1**	**+0.5**
EVGI				S	**Sb**	**02 38 22.4**	**+0.8**
comp=E,1μm,0.7s							
FNA	**Florina**	**3.65**	**10**	*e*Pn	**Pn**	**02 38 34.3**	**+1.3**
FNA				*e*Sn	**Sn**	**02 39 15.5**	**-0.3**
OHR	**Ohrid**	**3.92**	**3**	*e*Pn	**Pn**	**02 38 36.6**	**-0.2**
OHR				*e*Sn	**Sn**	**02 39 23.8**	**+1.2**
TIR	**Tirane**	**4.19**	**353**	*e*Pn	**Pn**	**02 38 41.4**	**+0.9**
SRS	**Serrai**	**4.57**	**30**	*e*Pn	**Pn**	**02 38 46.1**	**+0.3**
SRS				*e*Sn	**Sn**	**02 39 38.6**	**0.0**
BOSS	**Bosilegrad**	**5.50**	**15**	*e*Pn	**Pn**	**02 38 58.3**	**-0.2**
BARS	**Barje**	**5.70**	**9**	*e*Pn	**Pn**	**02 39 01.0**	**-0.3**
TREB	**Trebinje**	**5.78**	**344**	*e*Pn	**Pn**	**02 39 00.8**	**-1.5**
VTS	**Vitosha**	**5.80**	**20**	*e*Pn	**Pn**	**02 39 03.4**	**+0.7**
SELS	**Selova**	**6.04**	**4**	*e*Pn	**Pn**	**02 39 05.6**	**-0.3**
SJES	**Sjenica**	**6.08**	**356**	*e*Pn	**Pn**	**02 39 06.5**	**-0.1**
STON	**Ston**	**6.09**	**340**	*e*Pn	**Pn**	**02 39 05.2**	**-1.3**
ZAPS	**Zavoj**	**6.28**	**14**	*e*Pn	**Pn**	**02 39 09.3**	**+0.1**
IVAS	**Ivanjica**	**6.39**	**357**	*e*Pn	**Pn**	**02 39 10.4**	**-0.3**
GRUS	**Gruza**	**6.69**	**1**	*e*Pn	**Pn**	**02 39 13.3**	**-1.6**
HAPS	**Han Pijesak,BI**	**7.00**	**350**	*e*Pn	**Pn**	**02 39 18.7**	**-0.5**
MORH	**Mrgy, Hungar**	**9.13**	**352**	*e*Pn	**Pn**	**02 39 47.8**	**-0.5**
KEST	**Kesra**	**9.16**	**264**	Pn	**Pn**	**02 39 51.5**	**+2.8**
comp=E,0.1nm,0.3s,baz=75,slow=20,SNR=1.0							
KEST				Sn	**Sn**	**02 41 29.4**	**-2.2**
comp=E,0.1nm,0.3s,baz=290,slow=13,SNR=1.6							
comp=E,1.5nm,0.7s							
MMAI	**Mount Meron Ar**	**12.84**	**105**	Pn	**Pn**	**02 40 38.1**	**-1.0**
comp=E,0.3nm,0.3s,baz=305,slow=14,SNR=1.9							
comp=E,0.4nm,0.5s							
AKASG	**Malin Array Be**	**14.86**	**22**	Pn	**Pn**	**02 41 05.5**	**-1.0**
comp=E,0.1nm,0.3s,baz=212,slow=9.9,SNR=1.5							
comp=E,0.2nm,0.5s							
ESDC	**Sonseca Array**	**19.36**	**285**	P	**Pn**	**02 42 04.7**	**+1.4**
comp=E,0.4nm,0.9s,baz=78,slow=9.8,SNR=1.9							
HFS	**Hagfors**	**23.38**	**351**	P	**P**	**02 42 42.9**	**-2.0**
comp=E,2.5nm,1.0s,baz=167,slow=8.9,SNR=1.3							
comp=E,2.5nm,1.0s							
FINES	**FINESS Array B**	**24.52**	**6**	P	**P**	**02 42 54.9**	**-0.8**
comp=E,2.8nm,0.9s,baz=180,slow=11,SNR=2.0							
comp=E,2.8nm,0.9s							
TORD	**Torodi Ar. Bea**	**29.29**	**220**	P	**P**	**02 43 39.9**	**+0.9**
comp=E,0.2nm,0.6s,baz=35,slow=8.9,SNR=1.9							
comp=E,0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**42.79**	**53**	P	**P**	**02 45 33.2**	**-0.8**
comp=E,0.1nm,0.3s,baz=278,slow=8.3,SNR=2.2							
comp=E,0.1nm,0.3s							
MKAR	**Makanchi Array**	**45.79**	**58**	P	**P**	**02 45 56.2**	**-1.9**
comp=E,0.2nm,0.4s,baz=267,slow=8.1,SNR=2.1							
comp=E,0.2nm,0.4s							

*CATAC **03** 02:53:47.4±0.5, 10.°78N×86.°94W, h7km±4km, ML3.5*
*UCR **03** 02:53:50.9±0.8, 10.°84N×86.°77W, h35km±25km, MW3.7*
ISC 03 02:53:49.1±1.5, 10.°78N±0.°07×86.°87W±0.°06, h22km±8km, n47, σ0°87/61, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	**La Cruz**	**1.25**	**76**	*e*P	**Pn**	**02 54 11.1**	**-0.3**
NANN	**Nandasmo**	**1.36**	**33**	*i*P	**Pn**	**02 54 13.0**	**+0.1**
NANN				*i*S	**Sb**	**02 54 32.2**	**+1.1**
NANN				IAML		02 54 44.8	
comp=Z,21μm,1.0s							
JAPN	**AI SSO del Vol**	**1.38**	**58**	*i*P	**Pn**	**02 54 12.8**	**-0.4**
JAPN				IAML		02 54 19.9	
comp=Z,510nm,1.0s							
CARN	**Rivas**	**1.39**	**73**	*i*P	**Pb**	**02 54 13.9**	**-0.4**
CARN				*i*S	**Sb**	**02 54 33.7**	**+2.1**
CARN				IAML		02 54 45.4	
comp=Z,700nm,1.0s							
MASN	**Masaya**	**1.39**	**30**	*i*P	**Pb**	**02 54 13.6**	**-0.9**
MASN				IAML		02 54 29.5	
comp=Z,390nm,1.0s							
MASN				*i*S	**Sb**	**02 54 33.8**	**+2.0**
COPN	**Copaltepe**	**1.42**	**11**	*i*P	**Pb**	**02 54 13.9**	**-1.0**
COPN				IAML		02 54 50.8	
comp=Z,330nm,1.0s							
MORN	**AI O del Volca**	**1.42**	**58**	*i*P	**Pn**	**02 54 13.9**	**+0.2**
MORN				IAML		02 54 19.8	
comp=Z,82nm,1.0s							
UNAN	**Cigeo UNAN**	**1.45**	**24**	*i*P	**Pn**	**02 54 13.6**	**-0.4**
UNAN				*i*S	**Sb**	**02 54 34.5**	**+1.1**
UNAN				IAML		02 55 05.1	
comp=Z,3μm,1.0s							
CONN	**Concepcion**	**1.45**	**57**	*i*P	**Pb**	**02 54 14.6**	**-0.8**
CONN				IAML		02 54 20.5	
comp=Z,3μm,1.0s							
CONN				*i*S	**Sb**	**02 54 34.7**	**+1.2**
USIM	**UNAN**	**1.45**	**24**	IAML		02 54 09.9	
comp=Z,5μm,1.0s							
USIM				*i*P	**Pn**	**02 54 14.2**	**+0.1**
TISN	**Laguna Tiscapa**	**1.48**	**24**	*i*P	**Pn**	**02 54 13.9**	**-0.5**
TISN				IAML		02 54 14.3	
comp=Z,44nm,1.0s							
VRLE	**La Escondida,**	**1.48**	**90**	*e*P	**Pn**	**02 54 13.7**	**-0.9**
VRLE				*e*S	**Sn**	**02 54 31.5**	**-1.8**
GPS3	**Bodega del ICE**	**1.48**	**91**	*e*P	**Pn**	**02 54 14.3**	**-0.3**
MGAN	**Managua**	**1.49**	**24**	*i*P	**Pn**	**02 54 13.9**	**-0.7**
MGAN				IAML		02 54 20.3	
comp=Z,670nm,1.0s							
MGAN				*i*S	**Sb**	**02 54 35.4**	**+0.8**
MGAN	**Managua**	**1.49**	**24**	*e*P	**Pn**	**02 54 13.9**	**-0.7**
GPS2	**Hotel Rincn d**	**1.49**	**91**	*e*P	**Pn**	**02 54 14.0**	**-0.8**
APQ2	**Apoyeque**	**1.50**	**21**	*i*P	**Pn**	**02 54 14.3**	**-0.5**
APQ2				IAML		02 54 40.4	
comp=Z,550nm,1.0s							
WILN	**Americas 2**	**1.52**	**26**	*i*P	**Pn**	**02 54 15.0**	**-0.1**
WILN				IAML		02 54 27.6	
comp=Z,390nm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.63**	**9**	*i*P	**Pn**	**02 54 16.0**	**-0.5**
LEVN				*i*S	**Sb**	**02 54 38.4**	**-0.2**
LEVN				IAML		02 54 38.9	
comp=Z,480nm,1.0s							
COLC	**Colonia**	**1.64**	**94**	*e*P	**Pn**	**02 54 16.2**	**-0.6**
HORNC	**Hornillas**	**1.67**	**92**	*e*P	**Pn**	**02 54 16.4**	**-0.8**
CUI	**Cuipilapa**	**1.68**	**94**	*e*P	**Pn**	**02 54 16.7**	**-0.7**
MOM2	**El Cardon**	**1.69**	**13**	*i*P	**Pn**	**02 54 16.6**	**-0.7**
MOM2				IAML		02 54 31.8	
comp=Z,230nm,1.0s							
CNGA	**AI SSO del Vol**	**1.71**	**6**	*i*P	**Pn**	**02 54 16.9**	**-0.8**
CNGA				IAML		02 54 26.7	
comp=Z,440nm,1.0s							
ILCN	**San Idelfonso**	**1.79**	**5**	*i*P	**Pn**	**02 54 18.0**	**-0.8**
ILCN				IAML		02 54 41.8	
comp=Z,100nm,1.0s							
CRIN	**San Cristobal**	**1.91**	**355**	*i*P	**Pn**	**02 54 20.4**	**-0.1**
CRIN				*i*S	**Sb**	**02 54 45.8**	**-1.1**
CRIN				IAML		02 54 50.0	
comp=Z,490nm,1.0s							
CRIN	**San Cristobal**	**1.91**	**355**	*e*P	**Pn**	**02 54 20.2**	**-0.3**
JTS	**Las Juntas de**	**1.95**	**104**	*e*P	**Pn**	**02 54 20.3**	**-0.6**
BRAN	**Las Pilas**	**1.99**	**15**	*i*P	Pn	02 54 13.6	-7.9
BRAN				IAML		02 54 45.9	
comp=Z,1μm,1.0s							
BOAB	**BOACO BROADBAN**	**2.03**	**35**	*i*P	**Pn**	**02 54 22.1**	**0.0**
BOAB				*i*S	**Sb**	**02 54 48.9**	**-1.4**
BOAB				IAML		02 54 56.4	
comp=Z,170nm,1.0s							
ACON	**Acoyapa**	**2.04**	**55**	*i*P	**Pn**	**02 54 22.4**	**+0.2**
ACON				*i*S	**Sb**	**02 54 49.8**	**-0.7**
ACON				IAML		02 55 11.5	
comp=Z,140nm,1.0s							
ACON	**Acoyapa**	**2.04**	**55**	*e*P	**Pn**	**02 54 21.8**	**-0.4**
ARE1	**Arenal 1**	**2.14**	**98**	*e*P	**Pn**	**02 54 23.6**	**-0.1**
SOCE	**Pocosol**	**2.25**	**100**	*i*P	**Pn**	**02 54 26.8**	**+1.7**
SOCE				IAML		02 54 40.9	
comp=Z,110nm,1.0s							
CSGN	**Cosiguina Volc**	**2.28**	**343**	*i*P	**Pn**	**02 54 25.7**	**+0.1**
CSGN				IAML		02 54 55.2	
comp=Z,51nm,1.0s							
LIMN	**Finca el Limon**	**2.32**	**12**	*i*P	**Pn**	**02 54 26.9**	**+0.8**
LIMN				IAML		02 54 41.5	
comp=Z,93nm,1.0s							
COVE	**Coope Vega, Sa**	**2.43**	**91**	*i*P	**Pn**	**02 54 28.5**	**+1.0**
COVE				IAML		02 54 43.5	
comp=Z,140nm,1.0s							
AMPH	**Amapala**	**2.60**	**343**	*i*P	**Pn**	**02 54 30.3**	**+0.3**
CNCH	**Conchagua**	**2.65**	**339**	*i*P	**Pn**	**02 54 30.5**	**-0.2**
CNCH				*i*S	**Sn**	**02 55 03.3**	**+1.0**
CNCH				IAML		02 55 09.3	
comp=Z,220nm,1.0s							
LCND	**La Caada**	**2.70**	**338**	*i*P	**Pn**	**02 54 31.4**	**+0.1**
LCND				*i*S	**Sn**	**02 55 05.2**	**+1.8**
LCND				IAML		02 55 09.7	
comp=Z,59nm,1.0s							
HDC	**Heredia**	**2.82**	**106**	*i*P	**Pn**	**02 54 33.9**	**+0.8**
HDC				IAML		02 56 13.4	
comp=Z,130nm,1.0s							
RCPN	**Sur Rio San Ju**	**2.83**	**16**	*i*P	**Pn**	**02 54 33.4**	**+0.2**
RCPN				IAML		02 54 47.2	
comp=Z,0.6nm,1.0s							
ESPN	**Las Esperanzas**	**2.88**	**61**	*i*P	**Pn**	**02 54 34.5**	**+0.7**
ESPN				IAML		02 55 31.7	
comp=Z,120nm,1.0s							
RANC	**El Ranchito**	**2.98**	**332**	*i*P	**Pn**	**02 54 35.4**	**+0.2**
RANC				*i*S	**Sn**	**02 55 11.9**	**+1.5**
RANC				IAML		02 55 36.7	
comp=Z,270nm,1.0s							
SCLA	**Alcaldia de Sa**	**3.42**	**328**	*i*P	**Pn**	**02 54 40.6**	**-0.7**
SCLA				*i*S	**Sn**	**02 55 21.1**	**-0.1**
SCLA				IAML		02 55 26.4	
comp=Z,37nm,1.0s							
JAYA	**Jayaque - finc**	**3.81**	**319**	*i*P	**Pn**	**02 54 46.4**	**-0.3**
JAYA				IAML		02 57 14.5	
comp=Z,170nm,1.0s							
NUBE	**Las Nubes**	**4.21**	**318**	*i*P	**Pn**	**02 54 52.2**	**+0.1**
NUBE				IAML		02 55 47.5	
comp=Z,55nm,1.0s							

*ATH **03** 02:56:49.3, 37.°61N×20.°61E, h5km±2km, ML3.0/10, Error ellipse: s-maj=2.2km s-min=0.8km az=34.0*
*THE **03** 02:56:49.3, 37.°60N×20.°64E, h2km±15km, ML3.1/10, Error ellipse: s-maj=15.5km s-min=0.4km az=111.0*
ISC 03 02:56:49.6±1.5, 37.°62N±0.°05×20.°65E±0.°05, h7km±8km, n30, σ0°72/54, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.14**	**72**	P	**Pg**	**02 56 52.6**	**+0.1**
KRI1				S	**Sg**	**02 56 54.4**	**-0.1**
37μm,0.3s							
LTHK	**Lithakia**	**0.17**	**58**	P	**Pg**	**02 56 53.0**	**-0.1**
LTHK				S	**Sg**	**02 56 55.1**	**-0.4**
38μm,0.1s							
LTHK	**Lithakia**	**0.17**	**58**	P	**Pg**	**02 56 52.9**	**-0.1**
LTHK				S	**Sg**	**02 56 55.0**	**-0.5**
LTHK				AML	AML	02 56 55.7	
comp=N,80658μm,0.1s							
LTHK				AML	AML	02 56 56.1	
comp=E,65592μm,0.1s							
RTZL	**Ratzakli, Kefa**	**0.47**	**12**	P	**Pg**	**02 56 58.4**	**-0.2**
RTZL				S	**Sg**	**02 57 05.9**	**+1.2**
comp=E,7μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.50**	**354**	P	**Pg**	**02 56 59.1**	**-0.1**
PSDA				S	**Sg**	**02 57 06.8**	**+1.1**
comp=E,4μm,0.2s							
VLS	**Valsamata**	**0.56**	**355**	P	**Pg**	**02 57 00.0**	**-0.3**
VLS				S	**Sg**	**02 57 08.5**	**+0.8**
comp=E,2μm,0.3s							
VLS	**Valsamata**	**0.56**	**355**	P	**Pg**	**02 57 00.1**	**-0.3**
VLS				S	**Sg**	**02 57 07.9**	**+0.2**
VLS				AML	AML	02 57 08.8	
comp=N,3768μm,0.4s							
VLS				AML	AML	02 57 10.0	
comp=E,3107μm,0.2s							
LXRA	**Lixouri, Kepha**	**0.60**	**344**	P	**Pg**	**02 57 01.2**	**-0.1**
LXRA				S	**Sg**	**02 57 09.7**	**+0.6**
SMHA	**Samh**	**0.63**	**360**	P	**Pg**	**02 57 00.9**	**-0.9**
SMHA				S	**Sg**	**02 57 10.1**	**+0.1**
DMLN	**Damoulianata-K**	**0.66**	**340**	P	**Pg**	**02 57 02.0**	**-0.2**
DMLN				S	**Sg**	**02 57 11.4**	**+0.6**
comp=E,3μm,0.4s							
DMLN	**Damoulianata-K**	**0.66**	**340**	P	**Pg**	**02 57 02.2**	**0.0**
RLS	**Riolos of Patr**	**0.78**	**56**	P	**Pg**	**02 57 04.3**	**-0.3**
RLS				S	**Sg**	**02 57 15.8**	**+1.1**
comp=E,632nm,0.4s							
RLS	**Riolos of Patr**	**0.78**	**56**	P	**Pg**	**02 57 04.2**	**-0.3**
RLS				S	**Sg**	**02 57 15.5**	**+0.8**
RLS				AML	AML	02 57 18.7	
comp=E,1136μm,0.4s							
RLS				AML	AML	02 57 20.9	
comp=N,1392μm,0.4s							
VSK1	**VASILIKIADES**	**0.79**	**355**	P	**Pg**	**02 57 04.0**	**-0.8**
VSK1				S	**Sb**	**02 57 16.2**	**-0.4**
comp=N,1μm,0.4s							
FSK	**Fiskardo**	**0.84**	**355**	P	**Pg**	**02 57 04.7**	**-1.1**
FSK				S	**Sg**	**02 57 17.7**	**+1.0**
comp=N,922nm,0.5s							
FSK	**Fiskardo**	**0.84**	**355**	P	**Pg**	**02 57 05.0**	**-0.8**
FSK				S	**Sg**	**02 57 17.4**	**+0.7**
FSK				AML	AML	02 57 19.4	
comp=N,1716μm,0.6s							
FSK				AML	AML	02 57 20.4	
comp=E,1842μm,0.3s							
AMT	**Artemida-Makis**	**0.84**	**96**	P	**Pg**	**02 57 06.0**	**+0.2**
AMT				S	**Sb**	**02 57 18.2**	**+0.1**
AMT	

ITM				AML	AML	02 57 39.2	
	comp=E,712μm,0.8s						
PYL	**PYLOS**	**1.13**	**129**	P	**Pg**	**02 57 11.1**	**-0.2**
PYL				S	**Sb**	**02 57 26.3**	**0.0**
PYL				AML	AML	02 57 30.0	
	comp=N,708μm,0.5s						
PYL				AML	AML	02 57 30.1	
	comp=E,1384μm,0.9s						
LKD2	**Lefkada island**	**1.17**	**0**	P	**Pg**	**02 57 11.6**	**-0.4**
LKD2				S	**Sg**	**02 57 27.2**	**+0.1**
LKD2				AML	AML	02 57 36.0	
	comp=E,1010μm,0.5s						
LKD2				AML	AML	02 57 36.4	
	comp=N,2084μm,0.9s						
KLV	**Kalavryta, Ach**	**1.26**	**70**	P	**Pg**	**02 57 12.8**	**-1.0**
EFP	**Efpalio**	**1.28**	**50**	P	**Pg**	**02 57 12.7**	**-1.3**
EFP				S	**Sg**	**02 57 31.2**	**+0.5**
EFP				AML	AML	02 57 42.2	
	comp=N,1060μm,0.9s						
EFP				AML	AML	02 57 44.2	
	comp=E,452μm,0.6s						
GUR	**Goura**	**1.38**	**76**	P	**Pn**	**02 57 14.9**	**-0.3**
ANX	**Ano Chora**	**1.40**	**45**	P	**Pn**	**02 57 15.3**	**-0.3**

DJA 03 02:58:43.1±0.6, 3°S±5°×12°0E±°, h10km, M3.4/7, MLv3.4/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.32**	**113**	P	Pg	02 58 49.6	0.0
TTSI				S	Sb	02 58 55.8	-0.5
TTSI	**Tana Toraja**	**0.32**	**113**	P	Pg	02 58 49.5	-0.1
TTSI				S	Sb	02 58 55.9	-0.4
SPSI	**Sidrap Palu**	**1.07**	**167**	P	Pg	02 59 02.2	-1.5
SPSI	**Sidrap Palu**	**1.07**	**167**	P	Pg	02 59 02.5	-1.2
SPSI				S	Sn	02 59 18.8	-0.2
BNSI	**Bone**	**1.58**	**158**	P	Pn	02 59 11.7	+0.5
BNSI	**Bone**	**1.58**	**158**	P	Pn	02 59 11.4	+0.2
BNSI				S	Sg	02 59 36.6	+2.5
BKSI	**Bulukumba**	**2.46**	**166**	P	Pn	02 59 24.4	+1.1
BKSI	**Bulukumba**	**2.46**	**166**	P	Pn	02 59 24.8	+1.5
APSI	**Ampana**	**2.92**	**47**	P	Pn	02 59 29.6	0.0
APSI	**Ampana**	**2.92**	**47**	P	Pn	02 59 29.3	-0.3
BSSI	**Bau Bau, Buton**	**3.34**	**163**	P	Pn	02 59 35.8	+0.3
BSSI	**Bau Bau, Buton**	**3.34**	**163**	P	Pn	02 59 34.8	-0.7
LUWI	**Luwuk**	**3.75**	**60**	P	Pn	02 59 38.9	-2.1

*NOU **03** 03:08:31.3, 21°.22S×177°.58W, h408km, mb4.6/24, Fiji Islands Region*
*NEIC **03** 03:08:31.4±2.0, 21°.3S±0°.1×177°.5W±0°.1, h411km±9km, mb4.7/26, Error ellipse: s-maj=20.9km s-min=18.3km az=154.0*
*IDC **03** 03:08:32.8±1.8, 21°.48S×177°.99W, h396km±17km, mb3.5/14, mbtmp4.3/17, Error ellipse: s-maj=16.9km s-min=13.5km az=106.0*
ISC 03 03:08:32.3±0.4, 21°.30S±0°.06×177°.75W±0°.08, h400km, n124, σ2§13/137, mb4.3/29, 4C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.32**	**311**		**Pn**	**03 09 58.2**	**+0.4**
MSVF	**Nonsavu**	**5.32**	**311**	P	**Pn**	**03 09 58.0**	**+0.2**
	81nm,0.6s,baz=140,slow=8.3,SNR=39						
MSVF	**Nonsavu**	**5.32**	**311**	P	**Pn**	**03 09 58.2**	**+0.4**
NIUE	**Niue**	**7.67**	**75**		**Pn**	**03 10 22.0**	**-1.6**
AFI	**Afiamalu**	**9.30**	**39**	P	**P**	**03 10 39.5**	**-2.8**
PINNC	**Pines Island,**	**13.80**	**262**	P	**P**	**03 11 32.2**	**+0.5**
YATNC	**Mamie plateau,**	**14.30**	**264**	P	**P**	**03 11 38.3**	**+1.0**
DZM	**Mont Dzumac**	**14.71**	**264**	P	**P**	**03 11 42.5**	**+0.6**
DZM	**Mont Dzumac**	**14.71**	**264**	P	**P**	**03 11 41.9**	**0.0**
	13nm,0.8s,baz=90,slow=18,SNR=9.5						
DZM	**Mont Dzumac**	**14.71**	**264**	P	**P**	**03 11 42.6**	**+0.7**
OUZ	**Omahuta**	**15.81**	**207**	P	**P**	**03 11 53.8**	**+0.3**
OUZ	**Omahuta**	**15.81**	**207**	P	**P**	**03 11 54.9**	**+1.5**
KUZ	**Kuaotunu**	**16.41**	**199**	P	**P**	**03 11 59.8**	**0.0**
MXZ	**Matakaoa Point**	**16.56**	**191**	P	**P**	**03 12 00.0**	**-1.5**
RUGZ	**Raukumara Rang**	**17.07**	**192**	P	**P**	**03 12 04.3**	**-2.7**
RUGZ				S	**S**	**03 15 04.5**	**-0.2**
TWGZ	**Tauwhareparae**	**17.22**	**191**	P	**P**	**03 12 05.3**	**-3.2**
TWGZ				S	**S**	**03 15 08.1**	**+0.6**
TOZ	**Tahuroa Road**	**17.39**	**198**	P	**P**	**03 12 09.4**	**-0.8**
TOZ				IAmb	IAmb	03 12 16.0	
	comp=Z,27nm,0.7s						
TOZ	**Tahuroa Road**	**17.39**	**198**	P	**P**	**03 12 15.2**	**+5.0**
MWZ	**Matawai**	**17.46**	**192**	P	**P**	**03 12 09.8**	**-1.2**
MWZ				S	**S**	**03 15 13.7**	**+1.6**
URZ	**Urewera**	**17.48**	**194**	P	**P**	**03 12 08.4**	**-2.7**
	comp=Z,21nm,0.4s,baz=6.8,slow=2.9,SNR=18						
URZ				S	**S**	**03 15 07.2**	**-5.1**
	comp=Z,7.0nm,0.6s,baz=315,slow=20,SNR=1.7						
URZ	**Urewera**	**17.48**	**194**	P	**P**	**03 12 07.4**	**-3.7**
URZ				S	**S**	**03 15 13.0**	**+0.7**
CNGZ	**Carnagh Statio**	**17.48**	**191**	P	**P**	**03 12 05.5**	**-5.7**
TKGZ	**Te Karaka**	**17.50**	**192**	P	**P**	**03 12 10.1**	**-1.3**
TKGZ				S	**S**	**03 15 11.8**	**-0.9**
MUGZ	**Murupara**	**17.76**	**194**	P	**P**	**03 12 10.6**	**-3.6**
RIGZ	**Rimuhau**	**17.77**	**192**	P	**P**	**03 12 15.6**	**+1.3**
RIGZ				S	**S**	**03 15 19.0**	**+0.9**
SNGZ	**Shannon Statio**	**17.93**	**193**	P	**P**	**03 12 14.7**	**-1.3**
SNGZ				S	**S**	**03 15 21.9**	**+0.8**
KNZ	**Kokohu**	**18.10**	**192**	P	**P**	**03 12 15.2**	**-2.5**
KNZ				S	**S**	**03 15 25.6**	**+1.5**
MTHZ	**Maungataniwha**	**18.10**	**194**	P	**P**	**03 12 17.8**	**-0.1**
MTHZ				S	**S**	**03 15 27.6**	**+3.3**
RAHZ	**Arahi**	**18.11**	**193**	P	**P**	**03 12 13.9**	**-4.0**
RAHZ				S	**S**	**03 15 25.1**	**+0.7**
MHGZ	**Mahia Peninsul**	**18.18**	**191**	P	**P**	**03 12 18.9**	**+0.2**
MHGZ				S	**S**	**03 15 28.2**	**+2.5**
HIZ	**Hauiti**	**18.30**	**199**	P	**P**	**03 12 20.1**	**+0.1**
HIZ				IAmb	IAmb	03 12 25.3	
	comp=Z,84nm,1.1s						
HIZ	**Hauiti**	**18.30**	**199**	P	**P**	**03 12 20.0**	**+0.1**
HIZ	**Hauiti**	**18.30**	**199**	P	**P**	**03 12 19.5**	**-0.4**
NMHZ	**Naumai**	**18.34**	**194**	P	**P**	**03 12 19.1**	**-1.3**
NMHZ				S	**S**	**03 15 32.5**	**+3.7**
RATZ	**Rangitukua**	**18.37**	**196**	P	**P**	**03 12 20.4**	**-0.4**
RITZ	**Rihia Road**	**18.46**	**196**	P	**P**	**03 12 22.1**	**+0.5**
BKZ	**Black Stump Fm**	**18.48**	**194**	P	**P**	**03 12 21.7**	**-0.2**
BKZ	**Black Stump Fm**	**18.48**	**194**	P	**P**	**03 12 21.8**	**-0.1**
TMVZ	**Te Maari**	**18.63**	**196**	P	**P**	**03 12 20.9**	**-2.6**
ETVZ	**East Tongariro**	**18.64**	**196**	P	**P**	**03 12 18.8**	**-4.9**
KWHZ	**Kaweka Forest**	**18.74**	**194**	P	**P**	**03 12 21.2**	**-3.4**
KWHZ				S	**S**	**03 15 38.1**	**+2.4**
CKHZ	**Cape Kidnapper**	**18.83**	**192**	P	**P**	**03 12 26.6**	**+1.2**
MOVZ	**Moawhango**	**18.89**	**196**	P	**P**	**03 12 23.6**	**-2.6**
MOVZ				S	**S**	**03 15 42.6**	**+4.4**
VRZ	**Vera Road**	**18.89**	**198**	P	**P**	**03 12 28.7**	**+2.6**
KRHZ	**Kereru**	**18.96**	**194**	P	**P**	**03 12 22.0**	**-4.8**
KRHZ				S	**S**	**03 15 37.5**	**-1.8**
KAHZ	**Kahuranaki**	**19.00**	**193**	P	**P**	**03 12 28.7**	**+1.5**
KAHZ				S	**S**	**03 15 45.0**	**+5.1**
PXZ	**Pawanui**	**19.23**	**193**	P	**P**	**03 12 28.7**	**-0.7**
PXZ				S	**S**	**03 15 45.2**	**+1.6**
WPHZ	**Waipukurau**	**19.35**	**194**	P	**P**	**03 12 31.7**	**+1.1**
WPHZ				S	**S**	**03 15 55.0**	**+9.3**
ANWZ	**Angora Road**	**19.72**	**193**	P	**P**	**03 12 34.9**	**+0.9**
ANWZ				S	**S**	**03 15 57.9**	**+6.2**
BFZ	**Birch Farm**	**19.98**	**193**	P	**P**	**03 12 33.9**	**-2.5**
BFZ				IAmb	IAmb	03 12 39.4	
	comp=Z,44nm,0.9s						
BFZ	**Birch Farm**	**19.98**	**193**	P	**P**	**03 12 36.1**	**-0.4**
MRZ	**Mangatainoka R**	**20.12**	**195**	P	**P**	**03 12 33.6**	**-4.1**
MRZ				IAmb	IAmb	03 12 38.1	
	comp=Z,33nm,0.5s						
SNZO	**South Karori**	**20.95**	**196**	P	**P**	**03 12 44.1**	**-1.1**
SNZO	**South Karori**	**20.95**	**196**	P	**P**	**03 12 45.1**	**-0.1**
QRZ	**Quartz Range**	**21.14**	**201**	P	**P**	**03 12 45.0**	**-2.0**
QRZ	**Quartz Range**	**21.14**	**201**	P	**P**	**03 12 45.9**	**-1.1**
TKNZ	**Takaka Hill**	**21.19**	**200**	P	**P**	**03 12 45.7**	**-1.9**
THZ	**Tophouse**	**21.87**	**199**	P	**P**	**03 12 51.6**	**-2.1**
KHZ	**Kahutara**	**22.29**	**197**	P	**P**	**03 12 54.8**	**-2.6**
KHZ				IAmb	IAmb	03 13 03.5	
	comp=Z,25nm,0.7s						
KHZ	**Kahutara**	**22.29**	**197**	P	**P**	**03 12 57.0**	**-0.4**
LTZ	**Lake Taylor**	**23.00**	**199**	P	**P**	**03 13 02.7**	**-1.2**
RPZ	**Rata Peaks**	**24.22**	**200**	P	**P**	**03 13 14.3**	**-0.5**
RPZ				IAmb	IAmb	03 13 44.5	
	comp=Z,62nm,1.3s						
RPZ	**Rata Peaks**	**24.22**	**200**	P	**P**	**03 13 14.8**	**0.0**

TATA	**Tatamba Isabel**	**25.16**	**297**	P	**P**	**03 13 23.4**	**-0.2**
JCZ	**Jackson Bay**	**25.31**	**203**	P	**P**	**03 13 25.4**	**+0.7**
ODZ	**Otahua Downs**	**25.54**	**199**	P	**P**	**03 13 26.2**	**-0.4**
ARMA	**Armidale**	**28.94**	**245**	P	**P**	**03 13 57.0**	**0.0**
MGCD	**Mangrove Creek**	**30.00**	**240**	P	**P**	**03 14 06.0**	**-0.1**
CNB	**Canberra Magne**	**31.98**	**237**	P	**P**	**03 14 22.9**	**-0.4**
CAN	**Canberra**	**32.27**	**237**	P	**P**	**03 14 24.4**	**-1.4**
CAN				IAmb	IAmb	03 14 25.8	
	comp=Z,23nm,0.8s						
CAN	**Canberra**	**32.27**	**237**	P	**P**	**03 14 25.3**	**-0.5**
CTAO	**Charters Tower**	**33.65**	**265**	P	**P**	**03 14 37.1**	**-0.7**
CMSA	**Cobar Meteorol**	**34.15**	**245**	P	**P**	**03 14 40.9**	**-1.0**
QLP	**Quilpie**	**35.05**	**254**	P	**P**	**03 14 48.6**	**-0.9**
STKA	**Stephens Creek**	**37.66**	**245**	P	**P**	**03 15 10.1**	**-1.1**
STKA	**Stephens Creek**	**37.66**	**245**	P	**P**	**03 15 10.2**	**-1.0**
	comp=Z,8.1nm,0.5s,baz=92,slow=10,SNR=31						
	comp=Z,8.1nm,0.5s						
WR0	**Warramunga Arr**	**44.54**	**263**	P	**P**	**03 16 05.0**	**-1.7**
AS31	**Alice Springs**	**44.57**	**257**	P	**P**	**03 16 05.6**	**-1.3**
ASAR	**Alice Springs**	**44.57**	**257**	P	**P**	**03 16 05.1**	**-1.8**
ASAR	**Alice Springs**	**44.57**	**257**	P	**P**	**03 16 05.6**	**-1.3**
	comp=Z,5.3nm,0.6s,baz=99,slow=8.0,SNR=116						
ASAR				PcP	**PcP**	**03 17 42.0**	**0.0**
	comp=Z,1.3nm,0.7s,baz=94,slow=5.9,SNR=3.1						
ASAR				ScP	**ScP**	**03 20 55.8**	**+0.5**
	comp=Z,0.6nm,1.0s,baz=101,slow=4.8,SNR=2.4						
	comp=Z,5.3nm,0.6s						
WB0	**Warramunga Arr**	**44.71**	**263**	IAmb	IAmb	03 16 06.7	
	comp=Z,7.9nm,0.8s						
WRA	**Warramunga Arr**	**44.73**	**263**	P	**P**	**03 16 06.2**	**-2.0**
WRA	**Warramunga Arr**	**44.73**	**263**	P	**P**	**03 16 06.1**	**-2.1**
	comp=Z,3.0nm,0.7s,baz=96,slow=7.1,SNR=70						
	comp=Z,3.0nm,0.7s						
FORT	**Forrest**	**49.20**	**247**	P	**P**	**03 16 40.6**	**-1.4**
FORT				IAmb	IAmb	03 16 41.3	
	comp=Z,47nm,0.7s						
KNRA	**Kununurra**	**50.84**	**267**	IAmb	IAmb	03 16 54.6	
	comp=Z,10nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.16**	**263**	P	**P**	**03 17 11.1**	**-0.2**
PSA00	**Pilbara Seismi**	**57.72**	**257**	IAmb	IAmb	03 17 42.9	
	comp=Z,16nm,0.7s						
MBWA	**Marble Bar**	**57.91**	**258**	P	**P**	**03 17 43.2**	**-1.5**
MBWA				IAmb	IAmb	03 17 44.3	
	comp=Z,21nm,0.6s						
QSPA	**South Pole Qui**	**68.77**	**180**	P	**P**	**03 18 55.2**	**+0.8**
QSPA				IAmb	IAmb	03 19 01.3	
	comp=Z,9.5nm,0.8s						
QSPA	**South Pole Qui**	**68.77**	**180**	P	**P**	**03 18 54.9**	**+0.5**
	comp=Z,2.7nm,0.6s,baz=311,slow=1.2,SNR=25						
	comp=Z,2.7nm,0.6s						
MJAR	**Matsushiro Arr**	**70.99**	**324**	P	**P**	**03 19 08.3**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=158,slow=5.3,SNR=2.7						
	comp=Z,0.7nm,0.5s						
PETK	**Petropavlovsk-**	**77.10**	**345**	P	**P**	**03 19 42.9**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=141,slow=4.8,SNR=2.6						
	comp=Z,2.1nm,0.6s						
KSRS	**Korea Array**	**77.64**	**319**	P	**P**	**03 19 47.0**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=106,slow=4.4,SNR=2.1						
	comp=Z,0.4nm,0.4s						
NJ2	**Nanjing**	**80.56**	**310**	*e*P	**P**	**03 20 00.8**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MAW	**Mawson**	**80.89**	**200**	P	**P**	**03 20 02.4**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=129,slow=8.7,SNR=12						
	comp=Z,2.3nm,0.6s						
NVAR	**Mina Array Bea**	**81.44**	**43**	P	**P**	**03 20 09.3**	**+3.0**
	comp=Z,0.8nm,0.7s,baz=226,slow=8.3,SNR=6.6						
	comp=Z,0.8nm,0.7s						
ELIB	**Princess Elisa**	**85.88**	**186**	*d*P	**P**	**03 20 26.8**	**-1.2**
	comp=Z,3.8nm,0.7s						
TROLL	**Troll, Antarti**	**86.94**	**180**	⇑P	**P**	**03 20 31.9**	**-1.1**
	comp=Z,118nm,0.7s						
SNAA	**Sanae**	**87.21**	**178**	P	P	03 20 29.1	-5.1
SNAA	**Sanae**	**87.21**	**178**	P	**P**	**03 20 33.4**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=207,slow=4.5,SNR=2.4						
	comp=Z,0.8nm,0.6s						
TXAR	**Lajitas Array**	**87.29**	**57**	P	**P**	**03 20 38.3**	**+2.9**
	comp=Z,0.6nm,0.7s,baz=220,slow=5.4,SNR=8.4						
	comp=Z,0.6nm,0.7s						
VNA3	**Neumayer Olymp**	**87.33**	**176**	⇑P	**P**	**03 20 34.6**	**-0.2**
	comp=Z,4.1nm,0.6s						
VNA2	**Neumayer--Watz**	**87.78**	**177**	⇑P	**P**	**03 20 36.8**	**0.0**
	comp=Z,2.3nm,0.6s,baz=186,slow=3.5						
VNA1	**Neumayer--Stat**	**88.00**	**177**	⇑P	**P**	**03 20 37.1**	**-0.7**
	comp=Z,3.7nm,0.8s						
ILAR	**Eielson Array**	**89.04**	**13**	P	**P**	**03 20 43.5**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=223,slow=6.6,SNR=4.0						
	comp=Z,0.1nm,0.5s						
PDAR	**Pinedale Array**	**89.38**	**43**	P	**P**	**03 20 47.5**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=210,slow=2.1,SNR=5.3						
	comp=Z,0.5nm,0.6s						
HHC	**Hu-ho-hao-te**	**90.07**	**314**	*e*P	**P**	**03 20 46.6**	**-1.5**
HHC				pmax	pmax		
	comp=Z,19nm,0.6s						
HHC				pmax	pmax		
	comp=Z,150nm,4.4s						
CMAR	**Chiang Mai Arr**	**90.60**	**289**	P	**P**	**03 20 52.2**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=122,slow=2.3,SNR=8.4						
	comp=Z,1.2nm,0.3s						
PZH	**PanZhiHua**	**91.29**	**298**	P	**P**	**03 20 53.1**	**-1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
EGMT	**Eagleton**	**91.90**	**39**	P	P	03 20 44.5	-12
MKAR	**Makanchi Array**	**111.91**	**313**	PKiKP	**PKiKP**	**03 26 21.0**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=73,slow=2.0,SNR=2.5						
KURBB	**Kurchatov Arra**	**114.79**	**317**	PKP	PKPdf	03 26 25.7	-0.2
	comp=Z,0.6nm,0.6s,baz=50,slow=2.3,SNR=5.0						
BVAR	**Borovoye Array**	**119.84**	**320**	PKP	**PKPdf**	**03 26 35.7**	**+0.1**
	comp=Z,1.7nm,0.4s,baz=96,slow=1.5,SNR=9.9						
ARCES	**ARCESS Array B**	**129.74**	**350**	PKP	**PKPdf**	**03 26 54.3**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=35,slow=4.4,SNR=4.6						
AKASG	**Malin Array Be**	**143.82**	**331**	PKP	PKPab	03 27 18.6	-0.3
	comp=Z,5.3nm,0.6s,baz=43,slow=4.4,SNR=30						
AKBB	**Malin Array Si**	**143.82**	**331**		PKPab	03 27 18.8	-0.1
KIEV	**Kiev**	**143.83**	**331**		PKPab	03 27 18.4	-0.6
BR131	**Keskin Array S**	**147.54**	**312**		**PKPbc**	**03 27 31.4**	**+0.8**
BRTR	**Keskin Array B**	**147.54**	**312**		**PKPbc**	**03 27 31.7**	**+1.1**
BRTR	**Keskin Array B**	**147.54**	**312**	PKPbc	**PKPbc**	**03 27 32.0**	**+1.5**
	comp=Z,3.1nm,0.5s,baz=132,slow=3.9,SNR=9.1						
ANTO	**Ankara**	**148.07**	**312**		**PKiKP**	**03 27 33.6**	**+0.3**
MMAI	**Mount Meron Ar**	**148.40**	**299**	PKPbc	**PKPbc**	**03 27 33.3**	**+0.4**
	comp=Z,5.7nm,0.5s,baz=78,slow=7.8,SNR=29						
MLR	**Muntele Rosu**	**149.02**	**327**		**PKPbc**	**03 27 35.1**	**+1.1**
TORD	**Torodi Ar. Bea**	**171.88**	**176**	PKPab	**PKPab**	**03 29 18.6**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=171,slow=4.0,SNR=6.7						

IDC 03 03:13:36.7±8.3, 5°.81S×150°.11E, h104km±58km, mb3.2/2, mbtmp3.7/3, MS3.5/1, Error ellipse: s-maj=94.5km s-min=58.2km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.62**	**219**	P	Pn	03 14 45.1	+0.8
	9.9nm,0.4s,baz=52,slow=15,SNR=3.9						
PMG				S	Sn	03 15 36.7	-0.1
	30nm,0.5s,baz=48,slow=20,SNR=5.3						
WRA	**Warramunga Arr**	**20.80**	**226**	P	P	03 18 10.0	+0.1
	1.2nm,0.4s,baz=51,slow=11,SNR=9.4						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**23.64**	**220**	P	P	03 18 39.9	+1.1
	0.6nm,0.4s,baz=51,slow=9.2,SNR=6.5						
	0.6nm,0.4s						
MSVF	**Nonsavu**	**29.75**	**116**	LR	LR	03 32 34.9	
	comp=Z,83nm,18.0s,baz=176,slow=38						
TORD	**Torodi Ar. Bea**	**148.03**	**285**	PKPbc	PKPdf	03 33 09.4	+1.4
	0.3nm,0.7s,baz=92,slow=2.6,SNR=3.1						

IDC 03 03:18:46.3±3.3, 7°.31N×127°.15E, h0km, mb3.5/3, mbtmp3.5/3, MS3.0/1, Error ellipse: s-maj=186.2km s-min=31.1km az=91.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**19.45**	**3**	LR	LR	03 32 25.1	
	comp=Z,39nm,18.1s,baz=150,slow=42						
WRA	**Warramunga Arr**	**27.99**	**165**	P	P	03 24 38.7	-0.3
	0.7nm,0.7s,baz=345,slow=10,SNR=9.3						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**31.48**	**168**	P	P	03 25 10.5	+0.4
	0.2nm,0.6s,baz=359,slow=8.3,SNR=2.4						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**81.72**	**26**	P	P	03 31 06.5	0.0
	0.3nm,0.6s,baz=244,slow=6.6,SNR=6.6						
	0.3nm,0.6s						

*IDC **03** 03:21:52.2±1.5, 37°.57N×20°.12E, h0km, mb3.6/6, mbtmp3.5/8, ML3.5/2, Error ellipse: s-maj=31.4km s-min=25.3km az=125.0*
*ATH **03** 03:21:55.5, 37°.60N×20°.61E, h9km±3km, ML3.4/5, Error ellipse: s-maj=4.6km s-min=1.0km az=27.0*
*THE **03** 03:21:56.0, 37°.63N×20°.68E, h8km±2km, ML3.6/9, Error ellipse: s-maj=2.8km s-min=0.4km az=80.0*
ISC 03 03:21:53.9±1.3, 37°.60N±0°.05×20°.59E±0°.05, h13km±7km, n29, σ1§22/46, mb3.6/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.19**	**70**	P	**Pb**	**03 21 58.8**	**-0.5**
KRI1				S	**Sg**	**03 22 00.5**	**-0.6**
	66μm,0.3s						
LTHK	**Lithakia**	**0.23**	**60**	P	**Pg**	**03 21 59.1**	**+0.4**
LTHK				S	**Sg**	**03 22 01.3**	**-0.7**
	77μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.50**	**17**	P	**Pb**	**03 22 04.5**	**0.0**
RTZL				S	**Sb**	**03 22 11.4**	**-0.4**
	18μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.52**	**359**	P	**Pb**	**03 22 05.2**	**+0.4**
PSDA				S	**Sb**	**03 22 13.0**	**+0.8**
	10μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.52**	**359**	P	**Pb**	**03 22 05.3**	**+0.4**
PSDA				S	**Sb**	**03 22 13.1**	**+0.9**
VLS	**Valsamata**	**0.58**	**360**	P	**Pb**	**03 22 06.1**	**+0.2**
VLS				S	**Sb**	**03 22 14.5**	**+0.4**
	7μm,0.2s						
VLS	**Valsamata**	**0.58**	**360**	P	**Pb**	**03 22 06.2**	**+0.3**
VLS				S	**Sb**	**03 22 14.6**	**+0.5**
VLS				AML	AML	03 22 15.7	
	comp=E,10815μm,0.2s						
VLS				AML	AML	03 22 15.8	
	comp=N,15821μm,0.2s						
LXRA	**Lixouri, Kepha**	**0.61**	**349**	P	**Pb**	**03 22 07.6**	**+1.1**
LXRA				S	**Sb**	**03 22 15.7**	**+0.6**
SMHA	**Samh**	**0.65**	**4**	P	**Pg**	**03 22 06.9**	**+0.3**
SMHA				S	**Sb**	**03 22 16.6**	**+0.4**
DMLN	**Damoulianata-K**	**0.66**	**345**	P	**Pb**	**03 22 08.3**	**+1.0**
DMLN				S	**Sb**	**03 22 18.0**	**+1.5**
	comp=N,5μm,0.5s						
DMLN	**Damoulianata-K**	**0.66**	**345**	P	**Pb**	**03 22 08.4**	**+1.0**
VSK1	**VASILIKIADES**	**0.81**	**359**	P	**Pb**	**03 22 10.1**	**+0.2**
VSK1				S	**Sn**	**03 22 22.2**	**-0.8**
	comp=N,3μm,0.6s						
RLS	**Riolos of Patr**	**0.83**	**56**	P	**Pb**	**03 22 10.2**	**0.0**
RLS				S	**Sn**	**03 22 21.9**	**-1.6**
	comp=N,2μm,0.3s						
RLS	**Riolos of Patr**	**0.83**	**56**	P	**Pn**	**03 22 10.4**	**-0.9**
RLS				S	**Sn**	**03 22 22.1**	**-1.4**
RLS				AML	AML	03 22 25.2	
	comp=N,3800μm,0.4s						
RLS				AML	AML	03 22 26.2	
	comp=E,3336μm,0.5s						
FSK	**Fiskardo**	**0.86**	**359**	P	**Pb**	**03 22 11.0**	**+0.3**
FSK				S	**Sn**	**03 22 23.4**	**-0.8**
	comp=E,3μm,0.5s						
FSK	**Fiskardo**	**0.86**	**359**	P	**Pb**	**03 22 10.9**	**+0.3**
FSK				S	**Sn**	**03 22 23.9**	**-0.4**
FSK				AML	AML	03 22 26.4	
	comp=E,6111μm,0.4s						
FSK				AML	AML	03 22 28.5	
	comp=N,2953μm,0.6s						
AMT	**Artemida-Makis**	**0.89**	**94**	P	**Pn**	**03 22 12.7**	**+0.5**
AMT				S	**Sn**	**03 22 24.5**	**-0.5**
AMT				AML	AML	03 22 28.1	
	comp=N,13867μm,0.3s						
AMT				AML	AML	03 22 29.8	
	comp=E,9825μm,0.6s						
DRO	**Drossia**	**0.96**	**68**	P	**Pn**	**03 22 13.1**	**0.0**
ITM	**Ithomi**	**1.14**	**111**	P	**Pg**	**03 22 16.3**	**+0.4**
ITM				S	**Sn**	**03 22 32.2**	**+1.0**
ITM				AML	AML	03 22 39.5	
	comp=N,1599μm,0.4s						
ITM				AML	AML	03 22 45.4	
	comp=E,1031μm,0.5s						
PYL	**PYLOS**	**1.16**	**127**	P	**Pg**	**03 22 17.1**	**+1.0

*IDC **03** 03:45:49.0±1.3, 57°.22N×33°.70W, h0km, mb3.4/5, mbtmp3.6/7, ML2.0/1, MS3.3/4, Error ellipse: s-maj=41.9km s-min=22.0km az=18.0*

ISC 03 03:45:51.0±1.0, 57°.2N±0°.2×33°.7W±0°.1, h14km, n11, σ1§14/7, mb3.4/5, MS3.4/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**12.56**	**328**	Pn	**Pn**	**03 48 49.1**	**+0.2**
	6.2nm,0.5s,baz=124,slow=15,SNR=5.0						
SCHQ	**Schefferville**	**18.58**	**277**	P	**Pn**	**03 50 08.2**	**+0.7**
	0.1nm,0.3s,baz=63,slow=9.0,SNR=2.2						
	4.4nm,1.1s						
NOA	**NORSAR Array B**	**23.00**	**62**	LR	LR	03 58 57.5	
	comp=Z,21nm,18.7s,baz=290,slow=34						
HFS	**Hagfors**	**24.39**	**63**	P	**P**	**03 51 09.6**	**+1.2**
	1.1nm,0.7s,baz=300,slow=14,SNR=1.4						
	1.1nm,0.7s						
ESDC	**Sonseca Array**	**26.08**	**119**	P	**P**	**03 51 25.0**	**+1.1**
	0.5nm,0.7s,baz=322,slow=9.2,SNR=4.5						
	0.5nm,0.7s						
AKASG	**Malin Array Be**	**36.38**	**73**	P	**P**	**03 52 53.2**	**-1.2**
	0.4nm,0.5s,baz=296,slow=7.1,SNR=1.4						
	0.4nm,0.5s						
YKA	**Yellowknife Ar**	**38.47**	**313**	LR	LR	04 08 51.8	
	comp=Z,74nm,18.3s,baz=320,slow=36						
KVAR	**Kislovodsk Arr**	**47.71**	**72**	LR	LR	04 13 13.8	
	comp=Z,75nm,21.9s,baz=37,slow=34						
PDAR	**Pinedale Array**	**48.28**	**287**	P	**P**	**03 54 30.9**	**-0.7**
	0.1nm,0.4s,baz=55,slow=7.8,SNR=1.6						
	0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**51.55**	**134**	P	**P**	**03 54 56.0**	**-0.4**
	0.6nm,1.1s,baz=352,slow=8.9,SNR=2.0						
	0.6nm,1.1s						
LPIG	**La Paz**	**62.89**	**273**	LR	LR	04 22 40.0	
	comp=Z,21nm,18.2s,baz=17,slow=35						

*IDC **03** 03:54:02.1±1.2, 6°.19S×154°.86E, h0km, mb3.9/7, mbtmp3.9/7, MS2.9/1, Error ellipse: s-maj=66.9km s-min=27.5km az=134.0*

*NEIC **03** 03:54:08.7±2.7, 6°.7S±0°.1×154°.53E±0°.10, h10km±2km, mb4.3/7, Error ellipse: s-maj=21.3km s-min=10.6km az=43.0*

ISC 03 03:54:10.5±0.9, 6°.3S±0°.1×154°.8E±0°.1, h56km, n18, σ1§33/16, mb3.9/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.39**	**309**		**Pn**	**03 55 02.0**	**+1.1**
HNR	**Honiara**	**5.95**	**121**	LR	LR	03 58 07.2	
	comp=Z,102nm,18.9s,baz=120,slow=41						
PMG	**Port Moresby**	**8.16**	**248**	Pn	Pn	03 56 01.0	-5.3
EIDS	**Eidsvold**	**19.25**	**190**		**P**	**03 58 30.7**	**+0.3**
DZM	**Mont Dzumac**	**19.26**	**145**	P	**Pn**	**03 58 32.3**	**+0.2**
DZM				IAmb	IAmb	03 58 44.4	
	comp=Z,39nm,1.5s						
WR0	**Warramunga Arr**	**23.89**	**234**	P	**P**	**03 59 20.0**	**+0.8**
WR0				IAmb	IAmb	03 59 23.6	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**23.90**	**234**	P	**P**	**03 59 18.1**	**-1.2**
WB0				IAmb	IAmb	03 59 49.1	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**24.04**	**234**	P	**P**	**03 59 21.6**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=58,slow=9.3,SNR=9.7						
	comp=Z,1.0nm,0.5s						
ARMA	**Armidale**	**24.14**	**187**	P	**P**	**03 59 22.2**	**+0.8**
ARMA				IAmb	IAmb	03 59 44.5	
	comp=Z,13nm,1.2s						
ASAR	**Alice Springs**	**26.47**	**227**	P	**P**	**03 59 42.5**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=58,slow=8.8,SNR=5.0						
	comp=Z,0.3nm,0.5s						
STKA	**Stephens Creek**	**28.25**	**204**	P	**P**	**03 59 57.8**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=5.9,slow=16,SNR=2.8						
	comp=Z,0.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**30.75**	**245**	P	**P**	**04 00 17.2**	**-3.4**
BKZ	**Black Stump Fm**	**38.09**	**152**	P	**P**	**04 01 24.5**	**+0.5**
QSPA	**South Pole Qui**	**83.63**	**180**	P	**P**	**04 06 33.0**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=342,slow=3.2,SNR=9.6						
	comp=Z,1.0nm,0.5s						
MAW	**Mawson**	**84.92**	**203**	P	**P**	**04 06 39.7**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=74,slow=8.0,SNR=8.7						
	comp=Z,1.3nm,0.5s						
NVAR	**Mina Array Bea**	**91.47**	**52**	P	**P**	**04 07 11.0**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=247,slow=4.6,SNR=2.8						
	comp=Z,0.2nm,0.5s						
PDAR	**Pinedale Array**	**98.41**	**48**	P	**P**	**04 07 42.7**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=286,slow=3.7,SNR=1.8						
	comp=Z,0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**152.66**	**286**	PKPbc	**PKPbc**	**04 13 59.8**	**-2.1**
	comp=Z,0.1nm,0.4s,baz=80,slow=2.7,SNR=1.5						

*NAO **03** 03:59:26.3, 36°.46N×22°.73E, h10km, mb4.0*

*IDC **03** 03:59:34.6±1.1, 37°.23N×20°.76E, h0km, mb3.7/8, mbtmp3.6/15, ML3.4/5, MS3.3/8, Error ellipse: s-maj=21.9km s-min=17.1km az=160.0*

*THE **03** 03:59:37.2, 37°.21N×20°.62E, h4km, ML3.7/9, Error ellipse: s-maj=1.0km s-min=0.4km az=56.0*

*ATH **03** 03:59:37.3, 37°.19N×20°.59E, h7km±1km, ML3.6/31, Error ellipse: s-maj=1.9km s-min=0.7km az=54.0*

*MCSM **03** 03:59:39.0±0.6, 37°.N±6°.×2°.1E±°, h10km, mB5.9, mb4.2, MLv4.2, Mw(mB)5.5*

*BEO **03** 03:59:42.2±1.0, 37°.71N×20°.49E, h0km, ML3.8/10*

ISC 03 03:59:37.8±0.7, 37°.20N±0°.04×20°.61E±0°.04, h22km±4km, n164, σ1§42/189, mb3.7/9, MS3.4/6, 8C-4D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.49**	**20**	P	**Pb**	**03 59 46.5**	**-1.3**
KRI1				S	**Sb**	**03 59 53.6**	**-1.0**
	30μm,0.4s						
LTHK	**Lithakia**	**0.55**	**20**	P	**Pb**	**03 59 47.5**	**-1.1**
LTHK				S	**Sb**	**03 59 54.9**	**-1.2**
	45μm,0.4s						
LTHK	**Lithakia**	**0.55**	**20**	P	**Pb**	**03 59 47.6**	**-1.1**
LTHK				S	**Sb**	**03 59 55.9**	**-0.3**
LTHK				AML	AML	03 59 56.4	
LTHK				AML	AML	03 59 56.6	
	comp=E,61420μm,0.5s						
RTZL	**Ratzakli, Kefa**	**0.89**	**8**	P	**Pn**	**03 59 53.3**	**-1.7**
RTZL				S	**Sb**	**04 00 06.5**	**+0.6**
	comp=E,7μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.92**	**359**	P	**Pn**	**03 59 54.3**	**-1.1**
PSDA				S	**Sb**	**04 00 07.5**	**+0.8**
	comp=E,7μm,0.7s						
PSDA	**Pessada-Kefalo**	**0.92**	**359**	P	**Pn**	**03 59 54.3**	**-1.1**
PSDA				S	**Sb**	**04 00 07.7**	**+1.0**
AMT	**Artemida-Makis**	**0.94**	**69**	P	**Pn**	**03 59 55.4**	**-0.3**
AMT				S	**Sn**	**04 00 08.9**	**+0.4**
AMT	**Artemida-Makis**	**0.94**	**69**	P	**Pn**	**03 59 55.4**	**-0.3**
AMT				S	**Sn**	**04 00 08.9**	**+0.4**
AMT				AML	AML	04 00 16.1	
	comp=N,17196μm,0.5s						
AMT				AML	AML	04 00 21.7	
	comp=E,20930μm,0.7s						
PYL	**PYLOS**	**0.96**	**108**	P	**Pn**	**03 59 54.5**	**-1.4**
PYL				S	**Sn**	**04 00 08.9**	**0.0**
	comp=E,3μm,0.7s						
PYL	**PYLOS**	**0.96**	**108**	P	**Pn**	**03 59 54.9**	**-1.0**
PYL				S	**Sn**	**04 00 09.0**	**+0.2**
PYL				AML	AML	04 00 16.2	
	comp=N,7041μm,0.6s						
PYL				AML	AML	04 00 19.7	
	comp=E,4064μm,0.9s						
VLS	**Valsamata**	**0.98**	**359**	P	**Pn**	**03 59 55.0**	**-1.3**
VLS				S	**Sb**	**04 00 09.6**	**+1.0**
	comp=E,4μm,0.3s						
VLS	**Valsamata**	**0.98**	**359**	P	**Pn**	**03 59 55.3**	**-1.0**
VLS				S	**Sb**	**04 00 09.3**	**+0.8**
VLS				AML	AML	04 00 12.2	
	comp=N,7085μm,0.2s						
VLS				AML	AML	04 00 14.3	
	comp=E,8987μm,0.5s						
LXRA	**Lixouri, Kepha**	**1.01**	**352**	P	**Pn**	**03 59 56.9**	**+0.2**
LXRA				S	**Sb**	**04 00 10.8**	**+1.4**
LXRA				AML	AML	04 00 20.3	
	comp=E,26939μm,0.8s						
LXRA				AML	AML	04 00 20.5	
	comp=N,27087μm,0.5s						
ITM	**Ithomi**	**1.05**	**90**	P	**Pn**	**03 59 56.8**	**-0.5**
ITM				S	**Sn**	**04 00 12.0**	**+0.7**
	comp=N,2μm,0.6s						
ITM	**Ithomi**	**1.05**	**90**	P	**Pn**	**03 59 57.0**	**-0.3**
ITM				S	**Sn**	**04 00 11.4**	**+0.1**
ITM				AML	AML	04 00 22.4	
	comp=E,4628μm,0.9s						
ITM				AML	AML	04 00 26.1	
	comp=N,3722μm,0.7s						
SMHA	**Samh**	**1.05**	**2**	P	**Pn**	**03 59 56.1**	**-1.2**
DMLN	**Damoulianata-K**	**1.06**	**350**	P	**Pn**	**03 59 57.0**	**-0.3**
DMLN				S	**Sb**	**04 00 12.1**	**+1.3**
	comp=N,8μm,0.6s						
DMLN	**Damoulianata-K**	**1.06**	**350**	P	**Pn**	**03 59 57.4**	**+0.1**
DMLN				S	**Sb**	**04 00 11.9**	**+1.1**
RLS	**Riolos of Patr**	**1.10**	**38**	P	**Pn**	**03 59 57.4**	**-0.5**
RLS				S	**Sb**	**04 00 12.9**	**+1.0**
	comp=N,2μm,0.8s						
RLS	**Riolos of Patr**	**1.10**	**38**	P	**Pn**	**03 59 57.4**	**-0.5**
RLS				S	**Sn**	**04 00 12.3**	**-0.1**
RLS				AML	AML	04 00 24.1	
	comp=N,3989μm,0.8s						
RLS				AML	AML	04 00 24.6	
	comp=E,3328μm,0.8s						
DRO	**Drossia**	**1.16**	**49**	P	**Pn**	**03 59 58.4**	**-0.3**
DRO	**Drossia**	**1.16**	**49**	P	**Pn**	**03 59 58.4**	**-0.3**
DRO				AML	AML	04 00 22.6	
	comp=E,9888μm,0.4s						
DRO				AML	AML	04 00 26.6	
	comp=N,10410μm,0.6s						
FSK	**Fiskardo**	**1.26**	**358**	P	**Pn**	**03 59 59.9**	**-0.2**
FSK				S	**Sb**	**04 00 18.7**	**+2.1**
FSK	**Fiskardo**	**1.26**	**358**	P	**Pn**	**04 00 00.0**	**-0.1**
FSK				S	**Sb**	**04 00 17.1**	**+0.5**
FSK				AML	AML	04 00 29.8	
	comp=E,9252μm,1.0s						
FSK				AML	AML	04 00 32.5	
	comp=N,5086μm,0.7s						
EVGI	**Lefkada island**	**1.42**	**2**	P	**Pn**	**04 00 02.8**	**+0.5**
EVGI	**Lefkada island**	**1.42**	**2**	P	**Pn**	**04 00 03.0**	**+0.7**
EVGI				S	**Sn**	**04 00 20.9**	**+0.5**
UPR	**University Cam**	**1.43**	**40**	P	**Pn**	**04 00 02.9**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.49**	**359**	P	**Pn**	**04 00 03.7**	**+0.5**
DRAG				S	**Sb**	**04 00 24.0**	**+0.9**
DRAG	**Dragano-Lefkad**	**1.49**	**359**	P	**Pn**	**04 00 03.7**	**+0.5**
DRAG				S	**Sn**	**04 00 22.3**	**+0.3**
KLV	**Kalavryta, Ach**	**1.49**	**55**	P	**Pn**	**04 00 03.8**	**+0.5**
KLV	**Kalavryta, Ach**	**1.49**	**55**	P	**Pn**	**04 00 04.2**	**+0.9**
NYDR	**Nydri-Lefkada**	**1.52**	**3**	P	**Pn**	**04 00 04.3**	**+0.7**
NYDR				S	**Sb**	**04 00 25.1**	**+1.1**
NYDR	**Nydri-Lefkada**	**1.52**	**3**	P	**Pn**	**04 00 04.3**	**+0.7**
NYDR				S	**Sn**	**04 00 23.4**	**+0.7**
GUR	**Goura**	**1.56**	**61**	P	**Pn**	**04 00 04.8**	**+0.4**
GUR	**Goura**	**1.56**	**61**	P	**Pn**	**04 00 04.8**	**+0.4**
GUR				AML	AML	04 00 35.6	
	comp=N,4281μm,0.6s						
GUR				AML	AML	04 00 38.6	
	comp=E,4275μm,1.0s						
LKD2	**Lefkada island**	**1.59**	**1**	P	**Pn**	**04 00 05.5**	**+0.8**
LKD2	**Lefkada island**	**1.59**	**1**	P	**Pn**	**04 00 05.7**	**+1.1**
LKD2				AML	AML	04 00 39.1	
	comp=N,3744μm,0.7s						
LKD2				AML	AML	04 00 41.1	
	comp=E,5371μm,0.6s						
EFP	**Efpalio**	**1.60**	**40**	P	**Pn**	**04 00 05.5**	**+0.7**
EFP	**Efpalio**	**1.60**	**40**	P	**Pn**	**04 00 05.5**	**+0.7**
EFP				AML	AML	04 00 45.5	
	comp=N,2012μm,0.9s						
EFP				AML	AML	04 00 53.4	
	comp=E,2246μm,0.7s						
TSLK	**Tsoukalades, L**	**1.63**	**1**	P	**Pn**	**04 00 06.0**	**+0.9**
TSLK				S	**Sb**	**04 00 27.6**	**+0.4**
TSLK	**Tsoukalades, L**	**1.63**	**1**	P	**Pn**	**04 00 06.1**	**+1.0**
TSLK				S	**Sn**	**04 00 25.4**	**0.0**
TSLK				AML	AML	04 00 40.2	
	comp=N,5268μm,0.9s						
TSLK				AML	AML	04 00 41.8	
	comp=E,4428μm,1.0s						
KALE	**Kalithea**	**1.70**	**45**	P	**Pn**	**04 00 07.8**	**+1.6**
KALE				AML	AML	04 00 41.4	
	comp=E,2531μm,0.6s						
KALE				AML	AML	04 00 43.7	
	comp=N,2155μm,0.8s						
ANX	**Ano Chora**	**1.74**	**36**	P	**Pn**	**04 00 07.9**	**+1.1**
ANX				AML	AML	04 00 46.5	
	comp=E,3050μm,0.7s						
ANX				AML	AML	04 00 48.3	
	comp=N,3712μm,1.1s						
VLI	**Veliai**	**1.93**	**104**	P	**Pn**	**04 00 10.4**	**+1.2**
VLI	**Veliai**	**1.93**	**104**	P	**Pn**	**04 00 10.8**	**+1.5**
VLI				AML	AML	04 00 58.9	
	comp=N,1864μm,0.9s						
VLI				AML	AML	04 01 06.9	
	comp=E,1341μm,1.0s						
DLFA	**Delphi**	**1.97**	**49**	P	**Pn**	**04 00 09.8**	**-0.1**
MAKR	**Makrakomi, Fth**	**2.18**	**33**	P	**Pn**	**04 00 14.8**	**+2.0**
MAKR				AML	AML	04 00 58.7	
	comp=E,3216μm,0.7s						
MAKR				AML	AML	04 01 04.3	
	comp=N,3120μm,1.0s						
AXAR	**Agios Charalam**	**2.26**	**45**	P	**Pn**	**04 00 14.7**	**+0.9**
AXAR				AML	AML	04 01 03.8	
	comp=E,2631μm,1.0s						
AXAR				AML	AML	04 01 06.3	
	comp=N,4019μm,1.1s						
VIL2	**Platees**	**2.34**	**64**	P	**Pn**	**04 00 16.3**	**+1.3**
VIL2				AML	AML	04 01 03.8	
	comp=E,1758μm,0.9s						
VIL2				AML	AML	04 01 04.0	
	comp=N,1143μm,0.8s						
IGT	**Igoumenitsa**	**2.34**	**355**	P	**Pn**	**04 00 16.1**	**+1.1**
IGT				AML	AML	04 01 01.4	
	comp=E,1451μm,0.6s						
IGT				AML	AML	04 01 01.6	
	comp=N,946μm,0.5s						
JAN	**Janina**	**2.46**	**4**	P	**Pn**	**04 00 18.8**	**+2.1**
JAN				AML	AML	04 01 10.3	
	comp=E,1553μm,1.2s						
JAN				AML	AML	04 01 13.3	
	comp=N,822μm,1.1s						
ANKY	**Antikythira Is**	**2.54**	**121**	P	**Pn**	**04 00 19.1**	**+1.3**
ANKY				AML	AML	04 01 17.5	
	comp=N,566μm,0.9s						
ANKY				AML	AML	04 01 26.0	
	comp=E,615μm,0.9s						
ATH	**Athens Observa**	**2.59**	**72**	P	**Pn**	**04 00 19.3**	**+0.9**
ATH				AML	AML	04 01 08.5	
	comp=E,898μm,0.9s						
ATH				AML	AML	04 01 10.9	
	comp=N,876μm,1.1s						
KEK	**Kerkira**	**2.59**	**346**	P	**Pn**	**04 00 19.3**	**+0.9**
KEK	**Kerkira**	**2.59**	**346**	P	**Pn**	**04 00 19.0**	**+0.6**
KEK				AML	AML	04 01 19.0	
	comp=E,1135μm,0.9s						
KEK				AML	AML	04 01 20.2	
	comp=N,1183μm,0.7s						
THL	**Klokotos Trika**	**2.61**	**25**	P	**Pn**	**04 00 20.3**	**+1.6**
THL				AML	AML	04 01 16.0	
	comp=N,657μm,0.9s						
THL				AML	AML	04 01 17.1	
	comp=E,783μm,0.8s						
VLY	**Voula,Athens**	**2.62**	**75**	P	**Pn**	**04 00 19.3**	**+0.6**
VLY				AML	AML	04 01 13.4	
	comp=N,686μm,1.0s						
VLY				AML	AML	04 01 13.8	
	comp=E,633μm,0.8s						
ATHU	**Athens Univers**	**2.64**	**72**	P	**Pn**	**04 00 20.2**	**+1.1**
PTL	**Penteli**	**2.72**	**71**	P	**Pn**	**04 00 20.4**	**+0.2**
PTL				AML	AML	04 01 20.1	
	comp=E,572μm,0.8s						
PTL				AML	AML	04 01 20.8	
	comp=N,580μm,1.2s						
DION	**Dionisos Attik**	**2.78**	**71**	P	**Pn**	**04 00 22.0**	**+1.0**
TYRN	**Tyrnavos**	**2.82**	**26**	P	**Pn**	**04 00 22.9**	**+1.4**
TYRN	**Tyrnavos**	**2.82**	**26**	P	**Pn**	**04 00 23.1**	**+1.6**
KPRO	**Kipourio**	**2.82**	**12**	P	**Pn**	**04 00 23.6**	**+2.0**
NEO	**Neokhori**	**2.95**	**44**	P	**Pn**	**04 00 24.1**	**+0.7**
NEO				AML	AML	04 01 14.1	
	comp=N,542μm,0.6s						
NEO				AML	AML	04 01 17.4	
	comp=E,596μm,0.6s						
PENT	**Pentalofos**	**3.02**	**8**	P	**Pn**	**04 00 26.3**	**+1.8**
MHLO	**Agia Marina, M**	**3.08**	**98**	P	**Pn**	**04 00 26.3**	**+1.2**
KYMI	**Kymi, Euboea I**	**3.11**	**61**	P	**Pn**	**04 00 26.1**	**+0.6**
KNDR	**Palaiochora Ch**	**3.17**	**127**	P	**Pn**	**04 00 26.6**	**+0.3**
KNDR	**Palaiochora Ch**	**3.17**	**127**	P	**Pn**	**04 00 26.6**	**+0.3**
KNDR				AML	AML	04 01 42.5	
	comp=E,501μm,1.4s						
KNDR				AML	AML	04 01 48.8	
	comp=N,456μm,0.9s						
AOS2	**Alonissos-2**	**3.21**	**52**	P	**Pn**	**04 00 27.4**	**+0.5**
IMMV	**Iera Moni Meta**	**3.23**	**121**	P	**Pn**	**04 00 28.3**	**+1.1**
NEST	**Nestorio**	**3.23**	**6**	P	**Pn**	**04 00 28.9**	**+1.6**
KZN	**Kozani**	**3.24**	**16**	P	**Pn**	**04 00 28.0**	**+0.6**
KZN	**Kozani**	**3.24**	**16**	P	**Pn**	**04 00 28.0**	**+0.6**
KZN				AML	AML	04 01 11.4	
	comp=N,291μm,0.7s						
KZN				AML	AML	04 01 31.9	
	comp=E,440μm,0.8s						
SCTE	**Santa Cesarea**	**3.33**	**330**	P	**Pn**	**04 00 28.8**	**+0.4**
SCTE				AML	AML	04 01 34.5	
	comp=N,165μm,0.7s						
SCTE				AML	AML	04 01 42.3	
	comp=E,182μm,1.0s						
TIP	**Timpagrande**	**3.62**	**304**	⇑P	**Pn**	**04 00 34.6**	**+2.0**
TIP	**Timpagrande**	**3.62**	**304**	P	**Pn**	**04 00 34.8**	**+2.2**
FNA	**Florina**	**3.63**	**9**	P	**Pn**	**04 00 33.9**	**+1.2**
FNA	**Florina**	**3.63**	**9**	*e*Pn	**Pn**	**04 00 34.0**	**+1.2**
FNA				*e*Sn	**Sn**	**04 01 11.3**	**-3.7**
FNA	**Florina**	**3.63**	**9**	P	**Pn**	**04 00 34.1**	**+1.4**
GVD	**Gavdhos**	**3.67**	**129**	P	**Pn**	**04 00 34.8**	**+1.5**
CEL	**Celeste**	**3.88**	**287**	P	**Pn**	**04 00 37.0**	**+0.8**
OHR	**Ohrid**	**3.91**	**2**	*e*Pn	**Pn**	**04 00 34.9**	**-1.7**
OHR				*e*Sn	**Sn**	**04 01 17.6**	**-4.3**
OHR	**Ohrid**	**3.91**	**2**	*i* Pn	**Pn**	**04 00 38.9**	**+2.3**
HORT	**Hortiatis**	**3.92**	**29**	P	**Pn**	**04 00 37.2**	**+0.6**
IDI	**Anoyia**	**3.95**	**118**	Pn	**Pn**	**04 00 35.5**	**-1.6**
	comp=E,6.7nm,1.1s,baz=209,slow=19,SNR=1.8						
IDI				Sn	**Sn**	**04 01 18.4**	**-4.4**
	comp=E,1.6nm,0.3s,baz=320,slow=19,SNR=3.8						
IDI	**Anoyia**	**3.95**	**118**	P	**Pn**	**04 00 39.1**	**+1.9**
TIR	**Tirane**	**4.19**	**352**	*e*Pn	**Pn**	**04 00 38.4**	**-1.9**
TIR	**Tirane**	**4.19**	**352**	⇑P	**Pn**	**04 00 39.3**	**-1.1**
TIR	**Tirane**	**4.19**	**352**	P	**Pn**	**04 00 41.9**	**+1.6**
SOH	**Sokhos**	**4.21**	**30**	P	**Pn**	**04 00 42.0**	**+1.4**
KOKK	**Kokkinochori,**	**4.48**	**35**	P	**Pn**	**04 00 45.2**	**+0.9**
SRS	**Serrai**	**4.55**	**30**	*e*Pn	**Pn**	**04 00 46.2**	**+0.8**
SRS				*e*Sn	**Sn**	**04 01 33.2**	**-4.4**
SRS	**Serrai**	**4.55**	**30**	P	**Pn**	**04 00 46.4**	**+1.0**
MATE	**Matera**	**4.60**	**320**	⇑P	**Pn**	**04 00 46.1**	**+0.1**
CUC	**Castrocucco**	**4.68**	**308**	P	**Pn**	**04 00 48.3**	**+1.2**
PEHC	**Pehcevo**	**4.91**	**20**	*i* Pn	**Pn**	**04 00 51.4**	**+1.1**
VAE	**Valguarnera**	**4.94**	**275**	Pn	**Pn**	**04 00 54.0**	**+3.3**
	comp=E,24nm,0.7s,baz=184,slow=3.4,SNR=9.4						
VAE				Sn	**Sn**	**04 01 46.9**	**-0.4**
	comp=E,1.7nm,0.3s,baz=160,slow=8.5,SNR=2.2						
PDG	**Podgorica**	**5.33**	**349**	*e*Pn	**Pn**	**04 00 54.7**	**-1.3**
PDG	**Podgorica**	**5.33**	**349**	⇑P	**Pn**	**04 00 55.9**	**-0.1**
BOSS	**Bosilegrad**	**5.49**	**15**	*e*Pn	**Pn**	**04 00 59.2**	**+1.0**
KARP	**Karpathos**	**5.54**	**105**	P	**Pn**	**04 01 02.6**	**+3.7**
	comp=E,25nm,0.8s,comp=E,0.2nm						
BARS	**Barje**	**5.69**	**9**	*e*Pn	**Pn**	**04 01 00.9**	**-0.1**
TREB	**Trebinje**	**5.78**	**343**	*e*Pn	**Pn**	**04 01 00.3**	**-1.9**
VTS	**Vitosha**	**5.78**	**20**	*e*Pn	**Pn**	**04 01 03.0**	**+0.6**
SELS	**Selova**	**6.03**	**4**	*e*Pn	**Pn**	**04 01 05.2**	**-0.5**
SJES	**Sjenica**	**6.08**	**356**	*e*Pn	**Pn**	**04 01 06.4**	**0.0**
STON	**Ston**	**6.09**	**339**	*e*Pn	**Pn**	**04 01 05.1**	**-1.3**
ZAPS	**Zavoj**	**6.27**	**14**	*e*Pn	**Pn**	**04 01 09.4**	**+0.5**
IVAS	**Ivanjica**	**6.38**	**357**	*e*Pn	**Pn**	**04 01 09.5**	**-1.0**
BOVS	**Bovan**	**6.49**	**7**	*e*Pn	**Pn**	**04 01 10.8**	**-1.1**
BOVS	**Bovan**	**6.49**	**7**	⇓P	**Pn**	**04 01 12.5**	**+0.6**
GRUS	**Gruza**	**6.69**	**1**	*e*Pn	**Pn**	**04 01 14.3**	**-0.3**
BBLS	**Lazi&#263i**	**6.73**	**353**	*e*Pn	**Pn**	**04 01 15.7**	**+0.4**
DIVS	**Divibare**	**6.91**	**356**	*e*Pn	**Pn**	**04 01 16.7**	**-1.1**
HAPS	**Han Pijesak,Bl**	**7.00**	**350**	*e*Pn	**Pn**	**04 01 18.6**	**-0.4**
ELND	**Elena**	**7.01**	**34**	⇓P	Pn	04 01 25.3	+6.2
TRUS	**Trudelj**	**7.02**	**359**	*e*Pn	**Pn**	**04 01 18.2**	**-1.1**
CTYL	**Yalikoy Yolu**	**7.33**	**52**	P	**Pn**	**04 01 25.3**	**+1.9**
	comp=E,51nm,1.3s,comp=E,0.2nm						
TEKS	**Tekeris**	**7.39**	**354**	*e*Pn	**Pn**	**04 01 22.1**	**-2.2**
BZS	**Buzias**	**8.45**	**5**	⇑P	**Pn**	**04 01 38.9**	**+0.1**
VOIR		**8.88**	**21**	P	**Pn**	**04 01 46.3**	**+1.4**
	comp=E,6.6nm,0.9s						
MORH	**Mrgy, Hungar**	**9.13**	**351**	⇑P	**Pn**	**04 01 48.0**	**-0.2**
KEST	**Kesra**	**9.19**	**264**	Pn	**Pn**	**04 01 50.6**	**+1.6**
	comp=E,0.1nm,0.3s,baz=0.8,slow=23,SNR=1.5						
KEST				Sn	**Sn**	**04 03 30.6**	**-1.3**
	comp=E,0.1nm,0.3s,baz=140,slow=20,SNR=1.4						
	comp=E,3.3nm,1.0s						
MLR	**Muntele Rosu**	**9.21**	**24**	Pn	**Pn**	**04 01 50.0**	**+0.7**
	comp=E,0.1nm,0.3s,baz=156,slow=17,SNR=2.7						
MLR				LR	LR	04 06 12.2	
	comp=E,169nm,20.2s,baz=206,slow=44						
	comp=E,0.7nm,0.5s						
MLR	**Muntele Rosu**	**9.21**	**24**	⇓P	Pn	04 01 54.3	+5.0
BISRR	**Bisoca**	**9.52**	**27**	P	**Pn**	**04 01 56.2**	**+2.6**
	comp=E,24nm,0.8s,comp=E,31μm						
TURR	**Turia**	**9.73**	**23**	⇑P	Pn	04 02 01.4	+4.9
PLOR	**Plostina**	**9.76**	**26**	⇓P	Pn	04 02 02.0	+5.2
PLOR3	**Plostina Array**	**9.76**	**26**	P	**Pn**	**04 01

LBTB	Lobatse	62.06	175	LR	LR	04 41 07.8	
	comp=Z,30nm,19.9s,baz=352,slow=40						
BBB	Bella Bella	86.89	341	LR	LR	04 51 51.9	
	comp=Z,15nm,21.4s,baz=181,slow=36						
ANMO	Albuquerque	92.99	319	LR	LR	04 53 44.4	
	comp=Z,19nm,21.1s,baz=205,slow=35						

*NAO **03** 04:02:13.5,36°.28N×23°.01E,h10km,mb4.3*
*IDC **03** 04:02:25.0±0.9,37°.52N×20°.47E,h0km,mb3.8/14, mbtmp3.7/22,ML3.4/6,MS3.3/15,Error ellipse: s-maj=18.6km s-min=15.1km az=167.0*
*BEO **03** 04:02:26.2±0.8,37°.27N×20°.48E,h10km,ML4.1/12*
*ATH **03** 04:02:26.3,37°.34N×20°.53E,h11km±1km,ML4.0/31, Manual Solution by N.Liadopoulou This location: 2020/07/01 05:46:27 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **03** 04:02:27.3,37°.36N×20°.58E,h11km,ML4.1/11,Error ellipse: s-maj=0.8km s-min=0.3km az=42.0*

ISC 03 04:02:26.1±1.2,37°.34N±0°.03×20°.51E±0°.03,h10km±8km, n157,σ1§23/176,mb3.9/13,MS3.2/12,12C-5D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.41	37	P	Pg	04 02 34.3	+0.2
KRI1				S	Sg	04 02 39.5	-0.1
	58μm,0.4s						
LTHK	Lithakia	0.46	35	P	Pg	04 02 35.0	0.0
LTHK				S	Sg	04 02 41.0	-0.1
	47μm,0.4s						
LTHK	Lithakia	0.46	35	P	Pg	04 02 35.0	0.0
LTHK				S	Sg	04 02 41.0	-0.1
RTZL	Ratzakli, Kefa	0.77	16	P	Pb	04 02 40.9	-0.6
RTZL				S	Sb	04 02 52.6	+0.6
	18μm,0.5s						
PSDA	Pessada-Kefalo	0.78	5	P	Pb	04 02 41.4	-0.3
PSDA				S	Sb	04 02 52.5	+0.2
	18μm,0.6s						
PSDA	Pessada-Kefalo	0.78	5	P	Pb	04 02 41.4	-0.3
PSDA				S	Sb	04 02 52.2	-0.1
VLS	Valsamata	0.84	5	P	Pb	04 02 42.5	-0.3
VLS				S	Sb	04 02 54.5	+0.3
	13μm,0.5s						
VLS	Valsamata	0.84	5	P	Pb	04 02 42.4	-0.4
VLS				S	Sb	04 02 53.5	-0.6
LXR1	Lixouri, Cepha	0.86	356	P	Pb	04 02 43.1	-0.1
LXR1				S	Sn	04 02 55.6	-1.3
	57μm,0.5s						
LXRA	Lixouri, Kepha	0.86	356	P	Pb	04 02 43.3	+0.1
LXRA				S	Sb	04 02 55.0	+0.2
DMLN	Damoulianata-K	0.91	353	P	Pb	04 02 44.0	+0.1
DMLN				S	Sn	04 02 56.9	-1.1
	33μm,0.6s						
DMLN	Damoulianata-K	0.91	353	P	Pb	04 02 44.0	+0.1
DMLN				S	Sb	04 02 56.1	+0.1
SMHA	Samh	0.92	7	P	Pg	04 02 43.6	-0.2
SMHA				S	Sn	04 02 56.8	-1.5
AMT	Artemida-Makis	0.98	78	P	Pb	04 02 45.2	+0.1
AMT				S	Sb	04 02 57.8	-0.3
AMT	Artemida-Makis	0.98	78	P	Pb	04 02 45.2	+0.1
AMT				S	Sb	04 02 57.8	-0.3
RLS	Riolos of Patr	1.05	46	P	Pg	04 02 45.8	-0.4
RLS				S	Sb	04 03 00.1	0.0
	6μm,1.1s						
RLS	Riolos of Patr	1.05	46	P	Pg	04 02 45.9	-0.4
RLS				S	Sb	04 02 59.5	-0.6
VSK1	VASILIKIADES	1.07	2	P	Pb	04 02 46.5	-0.2
VSK1				S	Sn	04 03 02.1	0.0
	13μm,0.8s						
PYL	PYLOS	1.08	114	P	Pb	04 02 46.8	-0.1
PYL				S	Sn	04 03 01.7	-0.6
	2μm,0.3s						
PYL	PYLOS	1.08	114	P	Pb	04 02 46.7	-0.1
PYL				S	Sb	04 03 01.0	-0.1
FSK	Fiskardo	1.12	2	P	Pn	04 02 47.6	-0.2
FSK				S	Sn	04 03 03.3	0.0
FSK	Fiskardo	1.12	2	P	Pn	04 02 47.6	-0.2
FSK				S	Sn	04 03 03.3	0.0
DRO	Drossia	1.14	57	P	Pb	04 02 47.4	-0.4
DRO				S	Sn	04 03 02.8	-0.9
	8μm,0.7s						
DRO	Drossia	1.14	57	P	Pg	04 02 47.6	-0.4
DRO				S	Sn	04 03 03.0	-0.7
ITM	Ithomi	1.15	97	P	Pb	04 02 47.5	-0.5
ITM				S	Sn	04 03 03.5	-0.4
ITM	Ithomi	1.15	97	P	Pn	04 02 48.1	-0.1
ITM				S	Sb	04 03 02.5	-0.4
EVGI	Lefkada island	1.29	5	P	Pb	04 02 50.2	-0.2
EVGI	Lefkada island	1.29	5	P	Pb	04 02 50.2	-0.2
DRAG	Dragano-Lefkad	1.34	2	P	Pn	04 02 50.9	0.0
DRAG	Dragano-Lefkad	1.34	2	P	Pb	04 02 51.0	-0.4
NYDR	Nydri-Lefkada	1.38	6	P	Pn	04 02 51.4	0.0
NYDR				S	Sg	04 03 09.9	-0.7
NYDR	Nydri-Lefkada	1.38	6	P	Pb	04 02 51.5	-0.5
NYDR				S	Sn	04 03 09.4	-0.3
UPR	University Cam	1.39	47	P	Pb	04 02 52.0	-0.1
LKD2	Lefkada island	1.45	5	P	Pn	04 02 52.5	0.0
LKD2	Lefkada island	1.45	5	P	Pn	04 02 52.0	-0.4
KLV	Kalavryta, Ach	1.48	61	P	Pn	04 02 52.5	-0.4
KLV	Kalavryta, Ach	1.48	61	P	Pb	04 02 53.1	-0.7
TSLK	Tsoukalades, L	1.49	4	P	Pn	04 02 53.0	+0.1
TSLK	Tsoukalades, L	1.49	4	P	Pn	04 02 52.9	+0.1
EFP	Efpalio	1.55	45	P	Pn	04 02 53.3	-0.5
EFP	Efpalio	1.55	45	P	Pn	04 02 53.2	-0.5
GUR	Goura	1.58	67	P	Pn	04 02 53.9	-0.3
GUR	Goura	1.58	67	P	Pb	04 02 54.8	-0.6
KALE	Kalithea	1.67	50	P	Pn	04 02 55.6	+0.2
ANX	Ano Chora	1.68	41	P	Pn	04 02 55.6	-0.1
DLFA	Delphi	1.94	54	P	Pn	04 02 58.9	-0.3
VLI	Veliai	2.04	107	P	Pn	04 03 00.7	+0.2
VLI	Veliai	2.04	107	P	Pn	04 03 01.1	+0.7
MAKR	Makrakomi, Fth	2.11	37	P	Pn	04 03 01.3	-0.1
MAKR	Makrakomi, Fth	2.11	37	P	Pn	04 03 01.3	-0.1
IGT	Igoumenitsa	2.20	356	P	Pn	04 03 03.9	+1.2
AXAR	Agios Charalam	2.22	49	P	Pn	04 03 02.7	-0.2
AXAR	Agios Charalam	2.22	49	P	Pn	04 03 02.7	-0.2
JAN	Janina	2.33	7	P	Pn	04 03 05.1	+0.6
VIL2	Platees	2.36	67	P	Pn	04 03 05.4	+0.5
VILL	Villia	2.37	69	P	Pn	04 03 04.8	-0.3
KEK	Kerkira	2.44	347	P	Pn	04 03 07.7	+1.8
KEK	Kerkira	2.44	347	P	Pn	04 03 07.3	+1.4
THL	Klokotos Trika	2.52	28	P	Pn	04 03 08.0	+0.9
ATH	Athens Observa	2.63	75	P	Pn	04 03 08.7	+0.1
VLY	Voula,Athens	2.66	78	P	Pn	04 03 09.0	0.0
ATHU	Athens Univers	2.68	75	P	Pn	04 03 09.5	+0.3
ANKY	Antikythira Is	2.69	122	P	Pn	04 03 10.9	+1.6
KPRO	Kipourio	2.70	14	P	Pn	04 03 10.2	+0.6
TYRN	Tyrnavos	2.73	29	P	Pn	04 03 11.5	+1.6
PTL	Penteli	2.76	74	P	Pn	04 03 11.0	+0.6
LRSO	Larissa Observ	2.76	32	P	Pn	04 03 10.2	-0.2
DION	Dionisos Attik	2.82	74	P	Pn	04 03 11.3	+0.1
PENT	Pentalofos	2.90	10	P	Pn	04 03 13.4	+1.1
NEO	Neokhori	2.90	47	P	Pn	04 03 13.8	+1.4
NEST	Nestorio	3.10	8	P	Pn	04 03 15.4	+0.2
KYMI	Kymi, Euboea I	3.12	64	P	Pn	04 03 16.1	+0.7
KZN	Kozani	3.12	18	P	Pn	04 03 16.6	+1.1
SCTE	Santa Cesarea	3.16	330	P	Pn	04 03 17.3	+1.4
AOS2	Alonissos-2	3.19	54	P	Pn	04 03 17.6	+1.3
TIP	Timpagrande	3.48	303	⇓P	Pb	04 03 25.4	-2.4
FNA	Florina	3.51	11	*e*Pn	Pn	04 03 22.5	+1.8
FNA				*e*Sn	Sn	04 04 03.9	+1.6
FNA	Florina	3.51	11	P	Pn	04 03 22.1	+1.4
OHR	Ohrid	3.77	3	*e*Pn	Pn	04 03 26.1	+1.7
OHR	Ohrid	3.77	3	*i* Pn	Pn	04 03 27.4	+3.0
TIR	Tirane	4.04	353	*e*Pn	Pn	04 03 29.8	+1.9
TIR	Tirane	4.04	353	⇓P	Pn	04 03 31.6	+3.7
IDI	Anoyia	4.09	119	Pn	Pn	04 03 30.9	+2.1
	4.9nm,0.7s,baz=289,slow=11,SNR=1.1						
IDI				Sn	Sn	04 04 13.2	-3.4
	2.4nm,0.3s,baz=315,slow=17,SNR=4.2						
MATE	Matera	4.44	319	⇑P	Pb	04 03 41.2	-2.8
SRS	Serrai	4.47	31	*e*Pn	Pn	04 03 35.1	+1.2
SRS				*e*Sn	Sn	04 04 24.7	-1.3
CUC	Castrocucco	4.53	307	P	Pn	04 03 36.7	+2.0
PEHC	Pehcevo	4.80	22	*i* Pn	Pn	04 03 41.0	+2.4
VAE	Valguarnera	4.85	273	Pn	Pn	04 03 40.6	+1.4
	13nm,0.9s,baz=16,slow=19,SNR=1.3						
VAE				Sn	Sn	04 04 35.4	-0.1
	1.3nm,0.3s,baz=72,slow=23,SNR=1.3						
PDG	Podgorica	5.18	350	*e*Pn	Pn	04 03 44.8	+1.2
PDG				*e*Sn	Sn	04 04 43.0	-0.3
PDG	Podgorica	5.18	350	⇑P	Pn	04 03 46.0	+2.5
BOSS	Bosilegrad	5.37	16	*e*Pn	Pn	04 03 46.6	+0.3
BARS	Barje	5.56	10	*e*Pn	Pn	04 03 49.0	+0.1
TREB	Trebinje	5.62	344	*e*Pn	Pn	04 03 48.5	-1.2
VTS	Vitosha	5.67	21	*e*Pn	Pn	04 03 51.4	+0.8
SELS	Selova	5.89	4	*e*Pn	Pn	04 03 54.0	+0.5
SJES	Sjenica	5.93	356	*e*Pn	Pn	04 03 55.6	+1.6
SJES				*e*Sn	Sn	04 05 01.0	-1.1
STON	Ston	5.93	340	*e*Pn	Pn	04 03 53.6	-0.3
ZAPS	Zavoj	6.15	15	*e*Pn	Pn	04 03 57.7	+0.7
IVAS	Ivanjica	6.24	358	*e*Pn	Pn	04 03 59.1	+0.9
BOVS	Bovan	6.36	8	*e*Pn	Pn	04 03 59.5	-0.3
BOVS	Bovan	6.36	8	⇑P	Pn	04 04 00.5	+0.7
GRUS	Gruza	6.55	1	*e*Pn	Pn	04 04 02.8	+0.4
BBLS	Lazi&#263i	6.58	353	*e*Pn	Pn	04 04 03.1	+0.2
ZAGS	Zajecar	6.60	11	*e*Pn	Pn	04 04 03.4	+0.3
DIVS	Divibare	6.76	357	*e*Pn	Pn	04 04 04.2	-1.3
HAPS	Han Pijesak,BI	6.84	351	*e*Pn	Pn	04 04 06.9	+0.3
TRUS	Trudelj	6.88	359	*e*Pn	Pn	04 04 05.7	-1.3
ELND	Elena	6.93	35	⇑P	Pb	04 04 18.0	-8.6
TEKS	Tekeris	7.24	354	*e*Pn	Pn	04 04 11.1	-0.9
GZR	Gura Zlata	8.23	11	⇑P	Pn	04 04 28.9	+3.3
ARR	Arges	8.60	20	⇑P	Pn	04 04 30.9	+0.3
VOIR		8.78	21	⇑P	Pn	04 04 34.6	+1.5
MORH	Mrgy, Hungar	8.98	352	⇓P	Pn	04 04 36.8	+1.1
ISR	Istrita	9.00	28	⇓P	Pn	04 04 43.4	+7.2
MLR	Muntele Rosu	9.11	25	Pn	Pn	04 04 38.2	+0.5
	0.1nm,0.3s,baz=195,slow=12,SNR=1.8						
	4.1nm,1.0s						
MLR	Muntele Rosu	9.11	25	⇑P	Pn	04 04 43.3	+5.6
KEST	Kesra	9.12	263	Pn	Pn	04 04 41.8	+3.9
	0.1nm,0.3s,baz=87,slow=21,SNR=2.6						
DOPR	Dopca	9.36	21	⇑P	Pn	04 04 43.4	+2.3
COVR	Voineasa-Covas	9.51	25	⇑P	Pn	04 04 48.7	+5.7
TURR	Turia	9.63	24	⇑P	Pn	04 04 50.3	+5.6
PLOR	Plostina	9.67	26	⇓P	Pn	04 04 49.1	+3.9
VRI	Vrincioaia	9.71	27	⇑P	Pn	04 04 51.1	+5.4
SOKA	Soboth	10.18	338	*e*Pn	Pn	04 04 52.9	+0.6
	6.3nm,0.7s						
MODS	Modra-Piesok	11.28	349	*e*PN	Pn	04 05 10.0	+2.7
MOA	Molln	11.46	338	*e*Pn	Pn	04 05 11.6	+1.8
	1.7nm,0.4s						
BIOA	Bad Ischl, Aus	11.52	336	*i* Pn	Pn	04 05 14.3	+3.8
	3.7nm,0.7s						
VRAC	Vranov	12.30	348	LR	LR	04 10 09.7	
	comp=Z,38nm,21.1s,baz=168,slow=38						
GERES	GERESS Array B	12.52	339	Pn	Pn	04 05 22.8	-1.6
	0.2nm,0.3s,baz=153,slow=11,SNR=1.8						
GERES				LR	LR	04 11 37.5	
	comp=Z,50nm,21.2s,baz=174,slow=45						
	0.4nm,0.5s						
KHC	Kasperske Hory	12.82	339	*e*P	P	04 05 43.0	+3.7
MMAI	Mount Meron Ar	12.93	105	Pn	Pn	04 05 31.2	+1.3
	0.2nm,0.3s,baz=304,slow=10,SNR=1.5						
	0.2nm,0.3s						
EIL	Elat	14.26	118	Sn	Sn	04 08 12.6	-14
	0.1nm,0.3s,baz=27,slow=14,SNR=1.3						
AKASG	Malin Array Be	14.74	22	Pn	Pn	04 05 52.4	-2.1
	0.1nm,0.3s,baz=211,slow=8.8,SNR=1.2						
	0.1nm,0.3s						
CLL	Collm	14.95	341	*e*sP	P	04 06 03.0	+0.1
CLL				*i* PP	PnPn	04 06 06.8	+1.5
	comp=Z,8.0nm,1.1s						
CLL				*i* sPP		04 06 10.2	
CLL				*i* x	x	04 06 29.4	
KBZ	Khabaz	18.15	62	P	P	04 06 39.2	+0.8
	comp=Z,0.1nm,0.3s,baz=221,slow=20,SNR=1.1						
	comp=Z,0.7nm,0.7s						
GNI	Garni	19.10	74	LR	LR	04 14 17.9	
	comp=Z,60nm,21.0s,baz=280,slow=37						
ESDC	Sonseca Array	19.28	284	P	Pn	04 06 51.9	0.0
	baz=85,slow=11,SNR=8.1						
	comp=Z,2.8nm,1.0s						
OBN	Obninsk	20.88	26	P	P	04 07 06.7	-1.3
	comp=Z,7.1nm,0.4s,baz=127,slow=10,SNR=1.4						
	comp=Z,7.1nm,0.4s						
MDT	Midelt	21.02	265	P	P	04 07 09.6	-0.4
	comp=Z,1.6nm,0.8s,baz=27,slow=2.3,SNR=2.7						
MDT				LR	LR	04 15 53.9	
	comp=Z,29nm,19.7s,baz=102,slow=38						
	comp=Z,1.6nm,0.8s						
HFS	Hagfors	23.23	351	P	P	04 07 31.9	-1.2
	comp=Z,2.8nm,0.6s,baz=172,slow=12,SNR=5.9						
HFS				LR	LR	04 18 14.5	
	comp=Z,77nm,19.4s,baz=211,slow=41						
	comp=Z,2.8nm,0.6s						
EKA	Eskdalemuir Ar	24.11	326	P	P	04 07 39.1	-2.7
	comp=Z,1.3nm,0.7s,baz=128,slow=8.1,SNR=2.4						
	comp=Z,1.3nm,0.7s						
FINES	FINESS Array B	24.38	6	P	P	04 07 42.3	-1.8
	comp=Z,3.2nm,0.9s,baz=157,slow=10,SNR=4.5						
FINES				LR	LR	04 18 21.0	
	comp=Z,158nm,18.2s,baz=231,slow=40						
	comp=Z,3.2nm,0.9s						
NB2	NORSAR Subarra	24.44	349	P	P	04 07 44.7	-0.1
	comp=Z,8.8nm,1.4s,baz=158,slow=9.3						
NOA	NORSAR Array B	24.44	349	P	P	04 07 43.7	-1.0
	comp=Z,1.4nm,0.9s,baz=162,slow=9.8,SNR=3.1						
NOA				LR	LR	04 19 38.7	
	comp=Z,44nm,18.8s,baz=160,slow=43						
	comp=Z,1.4nm,0.9s						
TORD	Torodi Ar. Bea	29.37	220	P	P	04 08 30.6	+1.2
	comp=Z,0.7nm,0.9s,baz=26,slow=11,SNR=4.1						
	comp=Z,0.7nm,0.9s						
ARCES	ARCESS Array B	32.37	3	LR	LR	04 23 19.6	
	comp=Z,85nm,20.2s,baz=207,slow=39						
FURI	Furi	32.75	145	LR	LR	04 23 41.1	
	comp=Z,42nm,18.3s,baz=4.0,slow=39						
BVAR	Borovoye Array	37.67	49	P	P	04 09 39.9	-1.3
	comp=Z,0.4nm,0.5s,baz=338,slow=1.6,SNR=1.1						
BVAR				LR	LR	04 27 05.1	
	comp=Z,44nm,18.4s,baz=289,slow=39						
	comp=Z,0.4nm,0.5s						
MBAR	Mbarara	38.92	164	LR	LR	04 27 48.2	
	comp=Z,34nm,19.5s,baz=6.0,slow=39						
KURBB	Kurchatov Arra	42.74	53	P	P	04 10 21.2	-2.1
	comp=Z,0.7nm,0.3s,baz=279,slow=8.6,SNR=2.4						
	comp=Z,0.7nm,0.3s						
MKAR	Makanchi Array	45.76	58	P	P	04 10 46.2	-1.4
	comp=Z,0.4nm,0.5s,baz=278,slow=6.7,SNR=4.6						
	comp=Z,0.4nm,0.5s						
ZALV	Zalesovo Beam	46.26	47	P	P	04 10 49.9	-1.5
	comp=Z,0.7nm,0.3s,baz=278,slow=8.4,SNR=2.5						
ZALV				LR	LR	04 32 06.0	
	comp=Z,27nm,19.5s,baz=32,slow=39						
	comp=Z,0.7nm,0.3s						
SONM	Songino Array	61.00	50	P	P	04 12 39.6	-0.2
	comp=Z,0.3nm,0.4s,baz=251,slow=4.4,SNR=1.8						
	comp=Z,0.3nm,0.4s						
CMAR	Chiang Mai Arr	70.02	82	P	P	04 13 39.6	+1.2
	comp=Z,1.4nm,0.3s,baz=301,slow=7.3,SNR=1.9						
	comp=Z,1.4nm,0.3s						
KSRS	Korea Array	79.87	50	P	P	04 14 36.9	+1.9
	comp=Z,0.5nm,0.4s,baz=317,slow=5.0,SNR=4.6						
	comp=Z,0.5nm,0.4s						
PETK	Petropavlovsk-	82.57	24	LR	LR	04 55 53.5	
	comp=Z,32nm,19.7s,baz=347,slow=39						
BDFB	Brasilia	83.14	245	LR	LR	04 51 19.3	
	comp=Z,32nm,18.4s,baz=149,slow=35						
CPUP	Villa Florida	96.64	242	LR	LR	04 59 22.8	
	comp=Z,27nm,21.7s,baz=53,slow=35						

NNC 03 04:14:21.9±17.0,37°.17N×70°.55E,h0km,mb3.7,mpv3.4, 3C-2D,Error ellipse: s-maj=159.3km s-min=91.2km az=167.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.93	360	⇑P	Pn	04 15 53.1	+2.1
	0.8nm,0.2s,baz=177,slow=13,SNR=32						
KK31				⇓S	Sn	04 17 04.0	+4.4
	1.3nm,0.6s,baz=186,slow=22,SNR=5.4						
TKM2	Tokmak 2	6.93	32	⇑P	Pn	04 16 04.4	-0.5
	1.4nm,0.4s						
TKM2				⇑S	Sn	04 17 23.3	-1.2
	4.0nm,1.2s						
AB31	Akbulak array	14.32	331	⇓P	Pn	04 17 42.6	-3.3
	0.9nm,0.8s,baz=260,slow=36,SNR=4.2						

*NEIC **03** 04:16:49.9±1.0,20°.4S±0°.4×177°.5W±0°.2,h525km±24km, mb4.4/11,Error ellipse: s-maj=56.1km s-min=16.0km az=198.0*

*IDC **03** 04:16:54.3±3.2,20°.69S×178°.03W,h540km±33km,mb3.3/4, mbtmp4.2/6,Error ellipse: s-maj=80.2km s-min=28.5km az=43.0*

ISC 03 04:16:50.1±2.3,20°.7S±0°.2×177°.6W±0°.3,h500km,n20, σ2§30/20,mb4.3/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.08	305	P	P	04 18 18.1	+0.1
MSVF	Nonsavu	5.08	305	P	P	04 18 21.7	+3.7
	9.0nm,0.5s,baz=108,slow=20,SNR=6.1						
DZM	Mont Dzumac	14.94	262	P	P	04 20 04.4	+4.6
DZM	Mont Dzumac	14.94	262	P	P	04 20 02.7	+2.9
	5.3nm,0.6s,baz=102,slow=22,SNR=6.7						
URZ	Urewera	18.07	194	P	P	04 20 32.2	+1.3
	3.6nm,0.3s,baz=320,slow=2.1,SNR=9.1						
CTAO	Charters Tower	33.85	265	P	P	04 22 49.7	-0.8
COEN	Coen	37.98	274	P	P	04 23 22.9	-2.0
COEN				IAmb	IAmb	04 23 31.4	
	comp=Z,26nm,1.4s						
STKA	Stephens Creek	38.04	244	P	P	04 23 23.2	-2.0
	comp=Z,1.7nm,0.6s,baz=56,slow=15,SNR=3.9						
	comp=Z,1.7nm,0.6s						
BBOO	Buckleboo	42.80	244	P	P	04 24 03.9	+0.6
BBOO				IAmb	IAmb	04 24 43.4	
	comp=Z,26nm,1.5s						
WR0	Warramunga Arr	44.76	262	P	P	04 24 16.5	-2.3
WR0				IAmb	IAmb	04 24 19.0	
	comp=Z,4.3nm,0.9s						
AS31	Alice Springs	44.84	257	P	P	04 24 18.2	-1.2
AS31				IAmb	IAmb	04 24 19.9	
	comp=Z,3.0nm,0.4s						
ASAR	Alice Springs	44.85	257	P	P	04 24 17.9	-1.5
ASAR	Alice Springs	44.85	257	P	P	04 24 18.3	-1.1
	comp=Z,4.8nm,0.4s,baz=86,slow=8.7,SNR=103						
	comp=Z,4.8nm,0.4s						
WB0	Warramunga Arr	44.93	262	P	P	04 24 17.9	-2.1
WB0				IAmb	IAmb	04 24 18.5	
	comp=Z,7.0nm,0.5s						
WRA	Warramunga Arr	44.95	262	P	P	04 24 18.0	-2.2
	comp=Z,3.2nm,0.4s,baz=97,slow=6.8,SNR=116						
	comp=Z,3.2nm,0.4s						
KNRA	Kununurra	51.03	266	P	P	04 25 02.6	-3.2
KNRA				IAmb	IAmb	04 25 07.7	
	comp=Z,20nm,1.5s						
FITZ	Fitzroy Crossi	53.38	262	P	P	04 25 20.7	-2.0
QSPA	South Pole Qui	69.35	180	P	P	04 27 06.5	-0.3
QSPA	South Pole Qui	69.35	180	P	P	04 27 08.1	+1.3
	comp=Z,0.6nm,0.9s,baz=24,slow=2.5,SNR=1.5						
	comp=Z,0.6nm,0.9s						
SBUM	Sibu	72.42	280	P	P	04 27 25.3	-0.4

*CATAC **03** 04:26:37.6±0.6,12°.60N×90°.46W,h17km±7km,ML3.6*
*SNET **03** 04:26:39.7±2.1,12°.65N×90°.44W,h36km,ML3.6*
*IDC **03** 04:26:39.0±2.4,13°.31N×89°.85W,h0km,mb3.7/3, mbtmp3.7/5,ML3.1/2,Error ellipse: s-maj=56.2km s-min=25.6km az=38.0*

ISC 03 04:26:38.2±2.1,12°.71N±0°.08×90°.41W±0°.05,h16km±11km, n54,σ0§83/72,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	Alcaldia de Sa	1.19	19	*i* P	Pg	04 27 00.8	-0.5
FAME				*i* S	Sg	04 27 18.7	+1.8
FAME				IAML		04 28 06.4	
	comp=Z,2.5nm,1.0s						
LALI	Alcalda de L	1.31	54	*i* P	Pb	04 27 02.4	-0.1
LALI				*i* S	Sg	04 27 22.0	+1.3
LALI				IAML		04 27 40.2	
	comp=Z,100nm,1.0s						
JAYA	Jayaque - finc	1.33	45	*e*P	Pn	04 27 02.1	-0.1
JAYA				*e*S	Sg	04 27 20.9	-0.3
JAYA	Jayaque - finc	1.33	45	*i* P	Pn	04 27 02.0	-0.3
JAYA				IAML		04 27 21.0	
	comp=Z,1μm,1.0s						
JAYA				*i* S	Sg	04 27 21.2	0.0
NUBE	Las Nubes	1.34	27	*i* P	Pb	04 27 02.9	-0.1
NUBE				IAML		04 27 20.9	
	comp=Z,290nm,1.0s						
NUBE				*i* S	Sg	04 27 21.8	+0.3
CEVE	Cerro Verde	1.35	34	*e*P	Pb	04 27 02.9	-0.5
CEVE	Cerro Verde	1.35	34	*i* P	Pn	04 27 02.7	0.0
CEVE				*i* S	Sg	04 27 22.3	+0.3
CEVE				IAML		04 27 22.9	
	comp=Z,590nm,1.0s						
SBLS	San Blas	1.36	34	*e*P	Pn	04 27 03.0	+0.2
LOAL	Lomas de Alarc	1.42	25	*i* P	Pb	04 27 03.9	-0.5
LOAL				*i* S	Sg	04 27 24.3	+0.1
LOAL				IAML		04 27 50.6	
	comp=Z,2μm,1.0s						
PMON	Piamonte	1.46	47	*i* P	Pn	04 27 03.8	-0.3
PMON				*i* S	Sg	04 27 25.1	-0.3
PMON				IAML		04 27 33.0	
	comp=Z,460nm,1.0s						
CEDA	San Andres	1.47	42	*i* P	Pn	04 27 04.4	+0.3
CEDA				*i*

ESQI Esquipulas 2.11 29 *i* P **Pn 04 27 13.6 +0.5**
ESQI IAML 04 27 33.9
comp=Z,280nm,1.0s
RANC El Ranchito 2.19 70 *i* P **Pn 04 27 14.4 +0.3**
RANC IAML 04 27 26.1
comp=Z,320nm,1.0s
RTAL Retalhuleu 2.20 325 *i* P **Pn 04 27 14.8 +0.7**
RTAL IAML 04 28 06.2
comp=Z,230nm,1.0s
BLLM Bellamira 2.24 71 *e*P **Pn 04 27 15.8 +1.1**
CNRM Centro Naciona 2.31 70 *i* P **Pn 04 27 16.2 +0.5**
CNRM IAML 04 27 43.7
comp=Z,2μm,1.0s
SOKI Kika Raxquin 2.31 335 *i* P **Pn 04 27 15.8 -0.3**
SOKI IAML 04 28 42.4
comp=Z,240nm,1.0s
LCND La Caada 2.53 76 *e*P **Pn 04 27 19.0 +0.4**
LCND La Caada 2.53 76 *i* P **Pn 04 27 18.8 +0.2**
LCND IAML 04 27 19.4
comp=Z,210nm,1.0s
LCND *i* S **Sn 04 27 50.2 +1.1**
CNCH Conchagua 2.57 77 *i* P **Pn 04 27 19.1 -0.3**
CNCH IAML 04 27 22.3
comp=Z,240nm,1.0s
CNCH *i* S **Sn 04 27 52.2 +1.8**
QUIS Sacapulas 2.65 346 *i* P **Pn 04 27 21.6 +1.1**
QUIS IAML 04 28 07.4
comp=Z,270nm,1.0s
AMPH Amapala 2.74 78 *i* P **Pn 04 27 22.0 +0.4**
AVCB Coban 2.75 0 *i* P **Pn 04 27 22.1 +0.3**
AVCB IAML 04 28 11.2
comp=Z,2μm,1.0s
INTHN La Esperanza I 2.75 54 *i* P **Pn 04 27 22.0 0.0**
CSGN Cosiguina Volc 2.79 84 *i* P **Pn 04 27 22.5 +0.1**
CSGN IAML 04 27 42.4
comp=Z,29nm,1.0s
HUEH Huehuetenango 2.81 338 *i* P **Pn 04 27 23.0 +0.3**
HUEH IAML 04 29 00.1
comp=Z,490nm,1.0s
LIMN Finca el Limon 3.96 84 *i* P **Pn 04 27 38.5 +0.1**
LIMN IAML 04 27 38.7
comp=Z,46nm,1.0s
JTS Las Juntas de 5.86 114 Pn **Pn 04 28 04.7 +0.1**
comp=Z,0.5nm,0.3s,baz=300,slow=20,SNR=3.3
JTS Sn **Sn 04 29 11.5 0.0**
comp=Z,0.2nm,0.3s,baz=302,slow=20,SNR=1.2
comp=Z,2.9nm,0.5s
CMIG Matias Romero 6.14 316 Pn **Pn 04 28 07.6 -0.8**
comp=Z,0.2nm,0.3s,baz=46,slow=2.0,SNR=1.9
CMIG Sn **Sn 04 29 17.1 -1.2**
comp=Z,0.3nm,0.3s,baz=176,slow=18,SNR=1.5
TEIG Tepich 7.75 15 Pn Pn 04 28 24.4 -6.1
comp=Z,0.3nm,0.3s,baz=200,slow=12,SNR=1.3
comp=Z,14nm,1.0s
TXAR Lajitas Array 20.63 325 P **P 04 31 18.6 +1.4**
comp=Z,0.8nm,0.7s,baz=147,slow=12,SNR=6.3
comp=Z,0.8nm,0.7s
NVAR Mina Array Bea 35.65 321 P **P 04 33 38.2 +2.3**
comp=Z,0.9nm,0.8s,baz=133,slow=8.8,SNR=6.1
comp=Z,0.9nm,0.8s
SCHQ Schefferville 45.91 19 P **P 04 34 56.8 -3.3**
comp=Z,1.9nm,0.6s,baz=194,slow=5.3,SNR=7.4
comp=Z,1.9nm,0.6s

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*IDC **03** 04:31:57.5±1.5,37°.78N×20°.37E,h0km,mb3.6/5,*
mbtmp3.5/7,ML3.3/1, Error ellipse: s-maj=35.2km
s-min=24.1km az=109.0
*ATH **03** 04:31:58.3,37°.58N×20°.51E,h6km±1km,ML3.2/12, Error*
ellipse: s-maj=2.0km s-min=0.8km az=36.0
*THE **03** 04:31:58.1,37°.58N×20°.53E,h12km,ML3.3/10, Error*
ellipse: s-maj=1.0km s-min=0.5km az=50.0
ISC 03 04:31:58.7±1.2,37.60N±0.04×20.54E±0.04,h11km±7km,
n42,σ0=83/73,mb3.8/5,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.23**	**75**	P	**Pg**		**04 32 03.4**	**-0.2**
KRI1				S	**Sg**		**04 32 07.1**	**+0.3**
11μm,0.5s								
LTHK	**Lithakia**	**0.26**	**66**	P	**Pg**		**04 32 03.8**	**-0.3**
LTHK				S	**Sg**		**04 32 07.6**	**-0.1**
9μm,0.5s								
LTHK	**Lithakia**	**0.26**	**66**	P	**Pg**		**04 32 03.7**	**-0.3**
LTHK				S	**Sg**		**04 32 07.3**	**-0.5**
LTHK				AML	AML		04 32 10.0	
comp=E,15319μm,0.3s								
LTHK				AML	AML		04 32 11.5	
comp=N,18139μm,0.5s								
RTZL	**Ratzaki, Kefa**	**0.51**	**21**	P	**Pg**		**04 32 08.3**	**-0.4**
RTZL				S	**Sg**		**04 32 16.1**	**+0.7**
comp=N,6μm,0.4s								
PSDA	**Pessada-Kefalo**	**0.51**	**4**	P	**Pg**		**04 32 08.6**	**-0.2**
PSDA				S	**Sg**		**04 32 16.4**	**+0.9**
comp=N,5μm,0.6s								
PSDA	**Pessada-Kefalo**	**0.51**	**4**	P	**Pg**		**04 32 08.5**	**-0.2**
PSDA				S	**Sg**		**04 32 16.2**	**+0.6**
VLS	**Valsamata**	**0.58**	**4**	P	**Pg**		**04 32 09.5**	**-0.4**
VLS				S	**Sg**		**04 32 18.3**	**+0.7**
comp=N,4μm,0.5s								
VLS	**Valsamata**	**0.58**	**4**	P	**Pg**		**04 32 09.5**	**-0.4**
VLS				S	**Sg**		**04 32 17.6**	**0.0**
VLS				AML	AML		04 32 21.6	
comp=N,6021μm,0.5s								
VLS				AML	AML		04 32 21.9	
comp=E,6776μm,0.5s								
LXRA	**Lixouri, Kepha**	**0.60**	**353**	P	**Pg**		**04 32 10.4**	**0.0**
LXRA				S	**Sg**		**04 32 19.0**	**+0.6**
DMLN	**Damoulianata-K**	**0.65**	**349**	P	**Pg**		**04 32 11.2**	**-0.1**
DMLN				S	**Sb**		**04 32 21.4**	**+0.3**
comp=E,9μm,0.6s								
DMLN	**Damoulianata-K**	**0.65**	**349**	P	**Pg**		**04 32 11.1**	**-0.1**
DMLN				S	**Sg**		**04 32 19.5**	**-0.3**
SMHA	**Samh**	**0.66**	**8**	P	**Pg**		**04 32 10.5**	**-0.9**
SMHA				S	**Sg**		**04 32 20.5**	**+0.5**
VSK1	**VASILIKIADES**	**0.81**	**2**	P	**Pg**		**04 32 13.7**	**-0.6**
VSK1				S	**Sb**		**04 32 26.0**	**+0.4**
comp=E,3μm,0.5s								
FSK	**Fiskardo**	**0.86**	**1**	P	**Pg**		**04 32 14.2**	**-1.0**
FSK				S	**Sg**		**04 32 27.0**	**+0.6**
comp=E,2μm,0.5s								
FSK	**Fiskardo**	**0.86**	**1**	P	**Pg**		**04 32 14.4**	**-0.9**
FSK				S	**Sg**		**04 32 26.7**	**+0.2**
FSK				AML	AML		04 32 32.5	
comp=E,2362μm,0.9s								
FSK				AML	AML		04 32 32.5	
comp=N,2820μm,0.8s								
RLS	**Riolos of Patr**	**0.87**	**58**	P	**Pg**		**04 32 14.5**	**-0.9**
RLS				S	**Sb**		**04 32 27.8**	**+0.5**
comp=N,958nm,0.6s								
RLS	**Riolos of Patr**	**0.87**	**58**	P	**Pg**		**04 32 14.6**	**-0.8**
RLS				S	**Sg**		**04 32 27.3**	**+0.6**
RLS				AML	AML		04 32 32.5	
comp=E,1885μm,0.6s								
RLS				AML	AML		04 32 33.2	
comp=N,1638μm,0.5s								
AMT	**Artemida-Makis**	**0.94**	**94**	P	**Pg**		**04 32 16.3**	**-0.4**
AMT				S	**Sb**		**04 32 29.4**	**+0.1**
AMT				AML	AML		04 32 33.9	
comp=N,5796μm,0.4s								
AMT				AML	AML		04 32 35.2	
comp=E,9827μm,0.5s								
DRO	**Drossia**	**0.99**	**69**	P	**Pg**		**04 32 17.1**	**-0.8**
DRO				S	**Sb**		**04 32 31.5**	**+0.5**
DRO				AML	AML		04 32 39.7	
comp=N,3282μm,0.4s								
DRO				AML	AML		04 32 40.6	
comp=E,3254μm,0.4s								
EVGI	**Lefkada island**	**1.02**	**5**	P	**Pg**		**04 32 17.4**	**-1.0**
EVGI				S	**Sb**		**04 32 33.2**	**+1.4**
comp=E,1μm,0.5s								
EVGI	**Lefkada island**	**1.02**	**5**	P	**Pg**		**04 32 17.4**	**-1.0**
EVGI				S	**Sb**		**04 32 32.6**	**+0.7**
DRAG	**Dragano-Lefkad**	**1.08**	**2**	P	**Pg**		**04 32 18.3**	**-1.2**
DRAG				S	**Sb**		**04 32 34.3**	**+0.8**
DRAG	**Dragano-Lefkad**	**1.08**	**2**	P	**Pg**		**04 32 18.3**	**-1.2**
DRAG				S	**Sb**		**04 32 34.5**	**+0.9**
NYDR	**Nydri-Lefkada**	**1.12**	**7**	P	**Pg**		**04 32 18.9**	**-1.3**
NYDR				S	**Sb**		**04 32 35.6**	**+1.1**
NYDR	**Nydri-Lefkada**	**1.12**	**7**	P	**Pg**		**04 32 19.2**	**-1.0**
ITM	**Ithomi**	**1.19**	**110**	P	**Pg**		**04 32 20.8**	**-0.7**
ITM				S	**Sg**		**04 32 36.6**	**-0.3**
ITM				AML	AML		04 32 45.6	
comp=N,1652μm,0.6s								
ITM				AML	AML		04 32 47.6	
comp=E,2080μm,0.6s								
LKD2	**Lefkada island**	**1.19**	**5**	P	**Pg**		**04 32 21.3**	**-0.3**
LKD2				S	**Sg**		**04 32 36.9**	**-0.2**
LKD2				AML	AML		04 32 45.8	
comp=N,2459μm,0.6s								
LKD2				AML	AML		04 32 49.0	
comp=E,1971μm,0.8s								
PYL	**PYLOS**	**1.19**	**126**	P	**Pg**		**04 32 20.9**	**-0.7**
PYL				S	**Sb**		**04 32 37.0**	**+0.3**
PYL				AML	AML		04 32 41.0	
comp=E,2929μm,0.4s								
PYL				AML	AML		04 32 43.1	
comp=N,2226μm,0.5s								
KLV	**Kalavryta, Ach**	**1.35**	**70**	P	**Pn**		**04 32 23.1**	**-0.5**
KLV				S	**Sb**		**04 32 41.1**	**-0.3**
KLV				AML	AML		04 32 51.2	
comp=N,652μm,0.6s								
KLV				AML	AML		04 32 54.2	
comp=E,514μm,0.7s								
EFP	**Efpalio**	**1.36**	**52**	P	**Pn**		**04 32 22.9**	**-0.7**
EFP				S	**Sb**		**04 32 41.2**	**-0.3**
EFP				AML	AML		04 32 49.3	
comp=N,862μm,0.5s								
EFP				AML	AML		04 32 51.2	
comp=E,1036μm,0.4s								
GUR	**Goura**	**1.47**	**76**	P	**Pn**		**04 32 25.2**	**0.0**
GUR				S	**Sn**		**04 32 43.7**	**-0.8**
GUR				AML	AML		04 32 54.6	
comp=E,997μm,0.4s								
GUR				AML	AML		04 32 59.3	
comp=N,1463μm,0.5s								
ANX	**Ano Chora**	**1.48**	**47**	P	**Pn**		**04 32 25.1**	**-0.2**
KALE	**Kalithea**	**1.49**	**58**	P	**Pn**		**04 32 25.6**	**+0.1**
IDI	**Anoyia**	**4.20**	**122**	Pn	**Pn**		**04 33 05.6**	**+2.9**
comp=N,4.2nm,0.8s,baz=304,slow=12,SNR=1.5								
IDI				Sn	**Sn**		**04 33 52.8**	**+1.0**
comp=N,0.8nm,0.3s,baz=315,slow=11,SNR=1.8								
VAE	**Valguarnera**	**4.87**	**270**	Sn	**Sn**		**04 34 06.1**	**-2.1**
comp=N,0.7nm,0.3s,baz=353,slow=23,SNR=1.6								
MLR	**Muntele Rosu**	**8.86**	**25**	Pn	**Pn**		**04 34 07.1**	**+0.3**
comp=N,0.1nm,0.3s,baz=182,slow=15,SNR=2.7								
comp=N,0.9nm,0.7s								
CLL	**Collm**	**14.71**	**341**	*e*PKPbc	**P**		**04 35 33.0**	**+0.3**
HFS	**Hagfors**	**22.97**	**351**	P	**P**		**04 37 00.7**	**-2.2**
comp=N,2.4nm,0.8s,baz=185,slow=12,SNR=1.5								
comp=N,2.4nm,0.8s								
FINES	**FINESS Array B**	**24.12**	**7**	P	**P**		**04 37 13.6**	**-0.5**
comp=N,2.8nm,0.8s,baz=200,slow=16,SNR=1.9								
comp=N,2.8nm,0.8s								
TORD	**Torodi Ar. Bea**	**29.59**	**220**	P	**P**		**04 38 04.9**	**+1.1**
comp=N,0.2nm,0.5s,baz=26,slow=9.2,SNR=1.8								
comp=N,0.2nm,0.5s								
KURBB	**Kurchatov Arra**	**42.56**	**53**	P	**P**		**04 39 54.0**	**-0.2**
comp=N,0.5nm,0.3s,baz=281,slow=9.4,SNR=1.4								
comp=N,0.5nm,0.3s								
MKAR	**Makanchi Array**	**45.59**	**58**	P	**P**		**04 40 19.5**	**+0.8**
comp=N,0.3nm,0.7s,baz=282,slow=8.1,SNR=1.9								
comp=N,0.3nm,0.7s								

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*NEIC **03** 04:39:04.6±2.1,58°.2S±0°.2×23°.5W±0°.2,h10km±2km,*
mb4.2/5, Error ellipse: s-maj=35.9km s-min=13.4km
az=15.0.
*IDC **03** 04:39:07.3±1.3,58°.79S×26°.18W,h0km,mb3.8/4,*
mbtmp3.9/5,ML4.2/1,MS3.1/5, Error ellipse: s-maj=54.9km
s-min=31.4km az=36.0
ISC 03 04:39:10.8±0.8,59.4S±0°.1×25.6W±0°.2,h32km,n34,
σ2=19/25,mb4.0/6,MS3.3/3,9C-1D,South Sandwich
Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.40**	**155**	⇑P		**P**	**04 42 25.5**	**-2.0**
comp=E,6.1nm,0.3s								
VNA1				⇑S		**Sn**	**04 44 45.4**	**-0.7**
comp=Z,0.1nm,0.2s								
VNA3	**Neumayer Olymp**	**13.58**	**158**	⇑P		**P**	**04 42 28.3**	**-1.2**
comp=Z,12nm,0.6s								
VNA3				⇑S		**Sn**	**04 44 49.9**	**-0.5**
comp=Z,0.2nm,0.2s								
VNA2	**Neumayer--Watz**	**13.80**	**155**	⇑P		**P**	**04 42 31.4**	**-0.5**
comp=Z,1.5nm,0.3s,baz=318,slow=14								
VNA2				⇓S		**Sn**	**04 44 56.9**	**+1.2**
comp=Z,0.3nm,0.3s,baz=335,slow=10								
SNAA	**Sanae**	**15.37**	**153**	P		**P**	**04 42 51.7**	**+2.3**
SNAA	**Sanae**	**15.37**	**153**	⇑P		**P**	**04 42 52.0**	**+2.6**
comp=Z,32nm,0.3s								
SNAA				⇑S		**Sn**	**04 45 31.0**	**-3.1**
comp=Z,16nm,0.6s								
SNAA	**Sanae**	**15.37**	**153**	Pn		**P**	**04 42 52.1**	**+2.7**
comp=Z,0.9nm,0.3s,baz=322,slow=14,SNR=15								
SNAA				LR		LR	04 47 59.8	
comp=Z,42nm,19.4s,baz=12,slow=33								
comp=Z,2.6nm,0.4s								
TROLL	**Troll, Antarti**	**16.91**	**150**	⇑P		**P**	**04 43 11.9**	**+5.4**
comp=Z,186nm,0.5s								
TROLL				⇑S		**Sn**	**04 46 09.4**	**-2.0**
comp=Z,12nm,0.5s								
PMSA	**Palmer Station**	**18.59**	**237**	LR		LR	04 50 13.1	
comp=Z,44nm,18.0s,baz=5.0,slow=36								
QSPA	**South Pole Qui**	**30.88**	**180**	P		P	04 45 33.5	+10
QSPA				IAmb		IAmb	04 46 00.5	
comp=Z,4.1nm,1.4s								
PLCA	**Paso Flores**	**33.53**	**283**	LR		LR	04 57 50.3	
comp=Z,15nm,20.4s,baz=31,slow=34								
MT09	**Talagante**	**39.22**	**290**	P		**P**	**04 46 37.5**	**+1.5**
MT09				IAmb		IAmb	04 47 04.8	
comp=Z,19nm,1.4s								
CPUP	**Villa Florida**	**39.67**	**312**	P		P	04 46 34.2	-5.4
comp=Z,3.1nm,1.1s,baz=53,slow=4.7,SNR=2.8								
comp=Z,3.1nm,1.1s								
MT02	**Curacav**	**39.72**	**291**	P		**P**	**04 46 41.5**	**+1.5**
H04S2	**CROZET ISLANDS**	**45.49**	**110**	T		T	05 36 49.0	
baz=225,slow=75,SNR=8.3								
H04S3	**CROZET ISLANDS**	**45.50**	**110**	T		T	05 36 57.8	
baz=225,slow=75,SNR=7.6								
H04S1	**CROZET ISLANDS**	**45.51**	**110**	T		T	05 36 58.7	
baz=225,slow=75,SNR=6.3								
BOSA	**Boshof**	**46.08**	**71**	LR		LR	05 04 29.0	
comp=Z,30nm,19.1s,baz=26,slow=33								
SIV	**San Ignacio**	**50.50**	**314**	P		**P**	**04 48 01.7**	**-4.0**
comp=Z,0.6nm,0.7s,baz=163,slow=16,SNR=2.5								
comp=Z,0.6nm,0.7s								
H10S2	**ASCENSION HYDR**	**50.97**	**14**	T		T	05 42 37.0	
baz=187,slow=74,SNR=10								
H10S3	**ASCENSION HYDR**	**50.97**	**14**	T		T	05 42 37.7	
baz=33,slow=74,SNR=10								
H10N1	**ASCENSION HYDR**	**52.09**	**14**	T		T	05 44 00.1	
baz=188								
H10N3	**ASCENSION HYDR**	**52.09**	**14**	T		T	05 43 50.8	
baz=188,slow=74								
H10N2	**ASCENSION HYDR**	**52.10**	**14**	T		T	05 43 51.2	
baz=188,slow=74								
LPAZ	**La Paz**	**53.01**	**306**	P		**P**	**04 48 25.5**	**+0.3**
LPAZ				IAmb		IAmb	04 48 35.3	
comp=Z,2.8nm,1.5s								
LPAZ	**La Paz**	**53.01**	**306**	P		**P**	**04 48 22.5**	**-2.6**
comp=Z,0.7nm,0.7s,baz=175,slow=7.4,SNR=4.3								
comp=Z,0.7nm,0.7s								
KMBO	**Kilima Mbogo**	**75.48**	**67**	LR		LR	05 21 28.3	
comp=Z,22nm,18.0s,baz=92,slow=34								
TORD	**Torodi Ar. Bea**	**75.56**	**27**	P		**P**	**04 50 51.4**	**-0.6**
comp=Z,1.3nm,0.8s,baz=199,slow=5.8,SNR=7.3								
comp=Z,1.3nm,0.8s								
L29M	**L29M**	**148.69**	**306**			**PKiKP**	**04 58 55.3**	**+0.7**
I30M	**Mount Dempster**	**148.82**	**310**			**PKiKP**	**04 58 54.9**	**0.0**
INK	**Inuvik**	**148.88**	**317**			**PKiKP**	**04 58 55.0**	**+0.3**
SONM	**Songino Array**	**149.93**	**91**	PKPbc		**PKiKP**	**04 58 58.8**	**+1.1**
comp=Z,0.5nm,0.7s,baz=323,slow=2.2,SNR=2.2								
G29M	**Pine Creek**	**150.05**	**313**			**PKiKP**	**04 58 58.5**	**+1.3**
ILAR	**Eielson Array**	**152.89**	**307**			**PKiKP**	**04 59 05.2**	**+2.0**
ILAR	**Eielson Array**	**152.89**	**307**	PKPbc		**PKiKP**	**04 59 04.1**	**+1.0**
comp=Z,1.6nm,0.7s,baz=90,slow=1.8,SNR=17								

IDC 03 04:39:43.3±2.1,3°.34N×126°.58E,h0km,mb3.4/4,
mbtmp3.4/4, Error ellipse: s-maj=122.7km
s-min=27.1km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.32**	**182**	P		P	04 44 32.3	+0.3
3.7nm,0.9s,baz=7.1,slow=11,SNR=6.9								
3.7nm,0.9s								
WRA	**Warramunga Arr**	**24.36**	**162**	P		P	04 45 02.8	-0.5
0.4nm,0.6s,baz=341,slow=9.8,SNR=4.7								
0.4nm,0.6s								
ASAR	**Alice Springs**	**27.78**	**165**	P		P	04 45 34.3	+0.2
0.2nm,0.5s,baz=347,slow=8.0,SNR=4.7								
0.2nm,0.5s								
MKAR	**Makanchi Array**	**57.79**	**325**	P		P	04 49 36.3	-0.1
0.2nm,0.5s,baz=134,slow=6.2,SNR=1.8								
0.2nm,0.5s								

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*IDC **03** 04:55:35.2±1.1,14°.72S×173°.40W,h0km,mb3.8/6,*
mbtmp3.8/6,MS3.2/7, Error ellipse: s-maj=46.4km
s-min=27.2km az=145.0
ISC 03 04:55:40.6±1.1,14.75±0°.3×173.5W±0°.3,h35km,n17,
σ0=30/6,mb3.8/6,MS3.3/6,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.53**	**118**	LR		LR	05 04 25.9	
comp=Z,21nm,18.3s,baz=298,slow=37								
DZM	**Mont Dzumac**	**20.43**	**246**	*e*LR		LR	05 05 09.5	
70nm,28.1s								
PPT	**Papeete**	**23.10**	**100**	LR		LR	05 07 10.3	
comp=Z,32nm,19.0s,baz=242,slow=30								
PPT2	**Papeete2**	**23.10**	**100**	*e*LR		LR	05 06 02.7	
63nm,28.0s								
TBI	**Tubuai**	**24.22**	**114**	*e*LR		LR	05 06 34.4	
333nm,30.5s								
URZ	**Urewera**	**24.91**	**198**	LR		LR	05 08 43.5	
comp=Z,77nm,18.6s,baz=208,slow=32								
HNR	**Honiara**	**26.53**	**278**	LR		LR	05 09 33.0	
comp=Z,62nm,19.8s,baz=176,slow=32								
TAOE	**Nuku Hiva Isla**	**33.09**	**84**	*e*LR		LR	05 10 51.1	
28nm,26.5s								
WRA	**Warramunga Arr**	**49.96**	**256**	P		**P**	**05 04 31.9**	**+0.3**
0.4nm,0.5s,baz=92,slow=6.9,SNR=6.5								
0.4nm,0.5s								
ASAR	**Alice Springs**	**50.29**	**251**	P		**P**	**05 04 33.8**	**-0.4**
1.1nm,0.6s,baz=88,slow=8.0,SNR=16								
1.1nm,0.6s								
SHEM	**Shemya Is, Ala**	**68.01**	**352**	LR		LR	05 31 05.8	
comp=Z,20nm,20.0s,baz=304,slow=31								
JNU	**Nakatsue**	**71.29**	**313**	LR		LR	05 31 25.7	
comp=Z,18nm,19.5s,baz=140,slow=30								
NVAR	**Mina Array Bea**	**73.84**	**42**	P		**P**	**05 07 12.3**	**+0.1**
0.4nm,0.5s,baz=234,slow=8.7,SNR=1.3								
0.4nm,0.5s								
QSPA	**South Pole Qui**	**75.34**	**180**	P		**P**	**05 07 20.3**	**0.0**
1.0nm,0.7s,baz=53,slow=10,SNR=8.9								
1.0nm,0.7s								
ANMO	**Albuquerque**	**80.39**	**50**	LR		LR	05 35 14.8	
comp=Z,36nm,19.4s,baz=222,slow=30								
PDAR	**Pinedale Array**	**81.78**	**42**	P		**P**	**05 07 56.1**	**-0.2**
0.1nm,0.6s,baz=232,slow=4.4,SNR=1.7								
0.1nm,0.6s								
MAW	**Mawson**	**88.44**	**199**	P		**P**	**05 08 29.0**	**+0.1**
0.9nm,0.6s,baz=126,slow=5.1,SNR=4.7								
0.9nm,0.6s								

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*IDC **03** 05:03:59.1±0.7,2°.83S×119°.60E,h0km,mb4.0/11,*
mbtmp4.0/13,ML3.3/2,MS3.1/6, Error ellipse:
s-maj=41.1km s-min=13.3km az=70.0
*DJA **03** 05:04:00.9±0.3,3°.S±3°×11°.9E±°,h10km,M4.4/12,mb4.6/2,*
MLv4.3/12
*NEIC **03** 05:04:01.5±1.8,2°.99S±0°.03×119°.49E±0°.08,h10km±1km,*
mb4.4/16, Error ellipse: s-maj=13.4km s-min=3.9km
az=75.0
ISC 03 05:04:00.8±0.5,2°.96S±0°.05×119°.51E±0°.05,h10km,n52,
σ0=96/54,mb4.2/18,MS3.2/3,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.33**	**106**	P	**Pg**		**05 04 07.8**	**+0.5**
TTSI				S	**Sb**		**05 04 14.0**	**0.0**
SPSI	**Sidrap Palu**	**1.04**	**165**	P	**Pg**		**05 04 20.5**	**-0.2**
BNSI	**Bone**	**1.56**	**157**	P	**Pb**		**05 04 30.1**	**+0.4**
KAPI	**Kappang**	**2.06**	**173**		**Pn**		**05 04 36.4**	**+1.0**
KAPI	**Kappang**	**2.06**	**173**	Pn	**Pn**		**05 04 36.9**	**+1.4**
37nm,0.3s,baz=333,slow=11,SNR=66								
KAPI				Sn	**Sb**		**05 05 04.4**	**+0.4**
48nm,0.3s,baz=322,slow=20,SNR=9.2								
KAPI				LR		LR	05 05 11.7	
comp=Z,93nm,18.2s,baz=291,slow=33								
186nm,0.4s								
BKSI	**Bulukumba**	**2.43**	**165**	P	**Pb**		**05 04 43.0**	**-1.6**
APSI	**Ampana**	**2.95**	**47**	P	**Pn**		**05 04 47.8**	**+0.1**
BKB	**Balikpapan**	**3.10**	**303**	Pn	**Pn**		**05 04 50.9**	**+1.1**
BKB	**Balikpapan**	**3.10**	**303**	P	**Pn**		**05 04 49.7**	**-0.1**
MPSI	**Mapaga**	**3.29**	**7**	P	**Pn**		**05 04 51.2**	**-1.3**
BSSI	**Bau Bau, Buton**	**3.31**	**163**	P	**Pn**		**05 04 54.8**	**+2.1**
LUWI	**Luwuk**	**3.78**	**60**	Pn	**Pn**		**05 04 58.9**	**-0.2**
LUWI	**Luwuk**	**3.78**	**60**	P	**Pn**		**05 04 59.9**	**+0.8**
TOLI2	**Tolitoli**	**4.24**	**18**		**Pn**		**05 05 07.0**	**+1.6**
PLAI	**Plampang**	**6.08**	**196**	P	**Pn**		**05 05 31.4**	**+0.6**
31nm,1.0s,0.1nm								
MYLDM	**Lahad Datu**	**8.14**	**353**	Pn	**Pn**		**05 06 00.5**	**+1.4**
SOEI	**Soe**	**8.25**	**145**	Pn	**Pn**		**05 06 00.8**	**+0.1**
BATI	**Baumata**	**8.30**	**150**	LR	LR		05 09 33.2	
comp=Z,203nm,21.6s,baz=22,slow=40								
FITZ	**Fitzroy Crossi**	**16.21**	**159**	Pn	**P**		**05 07 51.1**	**-0.8**
baz=337,slow=4.2,SNR=2.8								
FITZ				LR		LR	05 15 34.3	
comp=Z,76nm,19.3s,baz=355,slow=43								
2.9nm,0.8s								
RPSI	**Rantau Prapat**	**21.33**	**285**	P	**P**		**05 08 49.2**	**+1.1**
RPSI				IAmb	IAmb		05 08 53.7	
comp=Z,17nm,0.7s								
WB0	**Warramunga Arr**	**22.15**	**140**	P	**P**		**05 08 56.3**	**-0.7**
WB0				IAmb	IAmb		05 08 58.9	
comp=Z,12nm,1.1s								
WRA	**Warramunga Arr**	**22.24**	**140**	P	**P**		**05 08 56.9**	**-1.1**
WRA	**Warramunga Arr**	**22.24**	**140**	P	**P**		**05 08 57.5**	**-0.4**
comp=Z,4.9nm,1.0s,baz=322,slow=10,SNR=19								
comp=Z,4.9nm,1.0s								
WB2	**Warramunga Arr**	**22.25**	**140**	P	**P**		**05 08 57.1**	**-0.9**
WB2				IAmb	IAmb		05 09 00.7	

KURK	Kurchatov	63.87	332	P	P	05 14 33.2	-0.3
PETK	Petropavlovsk-	64.38	24	P	P	05 14 38.3	+1.4
PETK	Petropavlovsk-	64.38	24	P	P	05 14 34.7	-2.2
	comp=Z,2.8nm,1.0s,baz=158,slow=1.1,SNR=1.5						
	comp=Z,2.8nm,1.0s						
BVAR	Borovoye Array	69.27	331	P	P	05 15 07.3	-0.8
	comp=Z,0.4nm,0.4s,baz=51,slow=4.6,SNR=2.3						
	comp=Z,0.4nm,0.4s						
ABKAR	Akbulak array	72.97	324	P	P	05 15 30.1	-0.5
MAW	Mawson	75.06	199	P	P	05 15 41.4	-1.0
	comp=Z,1.6nm,1.0s,baz=108,slow=19,SNR=2.4						
MAW				LR	LR	05 44 58.0	
	comp=Z,32nm,21.2s,baz=163,slow=33						
	comp=Z,1.6nm,1.0s						
QSPA	South Pole Qui	87.00	180	P	P	05 16 46.3	0.0
	comp=Z,0.6nm,0.8s,baz=349,slow=7.1,SNR=1.8						
	comp=Z,0.6nm,0.8s						

DJA 03 05:26:10.8±0.9, 3°S±6°×12°0E±°, h10km, M3.4/7, MLv3.4/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.38	126	P	Pg	05 26 18.4	+0.1
TTSI				S	Sb	05 26 24.9	-0.7
TTSI	Tana Toraja	0.38	126	P	Pg	05 26 18.4	+0.1
TTSI				S	Sb	05 26 25.4	-0.2
SPSI	Sidrap Palu	1.17	167	P	Pb	05 26 32.0	-1.1
SPSI	Sidrap Palu	1.17	167	P	Pb	05 26 30.9	-2.2
SPSI				S	Sg	05 26 48.4	0.0
BNSI	Bone	1.68	159	P	Pb	05 26 41.3	-0.5
BNSI	Bone	1.68	159	P	Pn	05 26 40.6	+0.3
BKSI	Bulukumba	2.56	166	P	Pn	05 26 53.6	+1.2
BKSI	Bulukumba	2.56	166	P	Pn	05 26 52.4	0.0
LUWI	Luwuk	3.71	62	P	Pn	05 27 09.3	+1.1

*IDC **03** 05:29:55.1±0.9, 56.21N×148.53W, h0km, mb3.8/12, mbtmp3.8/15, ML3.8/3, MS2.8/3, Error ellipse: s-maj=22.8km s-min=15.0km az=35.0*
*NEIC **03** 05:29:57.4±1.5, 56.22N±0.08×148.62W±0.10, h23km±8km, mb4.1/6, ML4.0/70, ML3.7(AEIC), Error ellipse: s-maj=11.6km s-min=7.8km az=170.0*
*AEIC **03** 05:30:00.1±1.6, 56.18N±0.07×148.6W±0.1, h10km±6km, Error ellipse: s-maj=10.8km s-min=8.5km az=168.0*

ISC 03 05:29:56.3±0.6, 56.32N±0.07×148.51W±0.05, h10km, n246, σ1§19/239, mb4.0/14, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	2.67	305	Pn	Pn	05 30 38.1	-1.2
KDAK	Kodiak Island	2.67	305	Pn	Pn	05 30 38.8	-0.6
	5.2nm,0.3s,baz=130,slow=8.6,SNR=67						
KDAK				Sn	Sn	05 31 08.5	-3.1
	20nm,0.3s,baz=116,slow=16,SNR=7.0						
KDAK				LR	LR	05 31 19.0	
	comp=Z,116nm,20.5s,baz=187,slow=31						
	17nm,0.3s						
OHAK	Old Harbor	2.78	291	Pn	Pn	05 30 39.0	-1.9
OHAK	Old Harbor	2.78	291	P	Pn	05 30 39.5	-1.4
SYI	Shuyak Island	3.11	319	Pn	Pn	05 30 45.7	+0.2
SYI				IAML		05 31 23.6	
	comp=E,388nm,0.3s						
SII	Sitkinak Islan	3.16	277	Pn	Pn	05 30 44.5	-1.7
SII				IAML		05 31 35.4	
	comp=E,356nm,3.1s						
				IAML		05 31 48.3	
	comp=N,377nm,2.8s						
SII	Sitkinak Islan	3.16	277	P	Pn	05 30 45.3	-0.8
MID	Middleton Isla	3.33	19	Pn	Pn	05 30 48.0	-0.4
MID				IAML		05 31 34.6	
	comp=N,346nm,1.9s						
MID				IAML		05 32 06.3	
	comp=E,264nm,2.0s						
MID	Middleton Isla	3.33	19	P	Pn	05 30 48.8	+0.4
Q23K	Middleton Isla	3.33	19	Pn	Pn	05 30 48.2	-0.1
Q23K				IAML		05 31 34.6	
	comp=N,337nm,1.9s						
Q23K				IAML		05 31 37.5	
	comp=E,268nm,1.4s						
R18K	Karluk	3.49	294		Pn	05 30 50.2	-0.4
R18K					Sn	05 31 28.8	-3.1
R18K	Karluk	3.49	294	IAML		05 31 30.5	
	comp=E,305nm,0.3s						
R18K				IAML		05 31 31.8	
	comp=N,341nm,0.4s						
CNPM	China Poot	3.53	337	Pn	Pn	05 30 51.8	+0.6
CNPM	China Poot	3.53	337		Sn	05 31 32.0	-1.0
BRSE	Bradley Lake S	3.64	342		Pn	05 30 52.8	+0.2
BRSE					Sn	05 31 34.9	-0.7
BRLK	Bradley Lake	3.68	341		Pn	05 30 53.0	-0.3
BRLK	Bradley Lake	3.68	341	IAML		05 31 37.6	
	comp=E,159nm,0.4s						
P23K	Montague Islan	3.74	9		Pn	05 30 54.5	+0.5
HOM	Homer	3.75	335	Pn	Pn	05 30 54.5	+0.4
Q19K	Cape Douglas,	3.81	316	Pn	Pn	05 30 55.4	+0.4
Q19K				IAML		05 31 48.9	
	comp=N,279nm,1.1s						
SEW	Seward	3.83	353		Pn	05 30 55.4	+0.1
KAHG	Katmai Hook Gl	3.93	306		Pn	05 30 57.6	+0.9
CHIR	Chirikof Islan	4.02	266		Pn	05 30 55.8	-2.1
CHIR	Chirikof Islan	4.02	266	P	Pn	05 30 55.9	-2.0
KCE	Katmai Mt Cerb	4.11	301		Pn	05 31 00.8	+1.7
ACHA	Angle Creek He	4.16	300		Pn	05 31 00.1	+0.2
P19K	Oil Pt	4.18	325		Pn	05 31 00.0	-0.2
KAHC	Katmai Hardscr	4.22	306		Pn	05 31 01.4	+0.6
KVTA	Katmai Vly 10	4.22	302		Pn	05 31 01.8	+1.1
KAIM	Kayak Island	4.22	29	Pn	Pn	05 31 00.9	+0.3
KAIM				IAML		05 33 56.7	
	comp=E,206nm,2.8s						
KAIM				IAML		05 33 58.0	
	comp=N,208nm,2.5s						
HIN	Hinchinbrook I	4.23	14		Pn	05 31 00.9	+0.1
HIN				IAML		05 31 53.2	
	comp=N,193nm,0.4s						
HIN				IAML		05 31 53.8	
	comp=E,115nm,0.8s						
O22K	Cooper Landing	4.23	352		Pn	05 31 01.1	+0.4
ANCK	Angle Creek	4.24	299		Pn	05 31 00.4	-0.6
SLKM	Skilak Lake	4.30	349		Pn	05 31 02.0	+0.3
O20K	Slope Mountain	4.36	332		Pn	05 31 02.9	+0.3
IVE	Iliamna Volcan	4.41	329		Pn	05 31 02.9	-0.5
ILSW	Iliamna Southw	4.42	328	Pn	Pn	05 31 03.5	0.0
ILSW				IAML		05 31 56.5	
	comp=N,139nm,0.3s						
ILSW				IAML		05 32 03.5	
	comp=E,114nm,0.7s						
CNTC	Contact Creek	4.45	299		Pn	05 31 02.5	-1.4
EYAK	Cordova Ski Ar	4.49	18		Pn	05 31 05.3	+1.0
EYAK	Cordova Ski Ar	4.49	18	P	Pn	05 31 05.4	+1.1
PLK4	Peulik 4	4.49	290		Pn	05 31 04.3	-0.2
PLK4	Peulik 4	4.49	290	IAML		05 31 55.8	
	comp=N,183nm,3.5s						
PLK4				IAML		05 31 59.1	
	comp=E,191nm,3.5s						
PLK2	Peulik 2	4.51	292		Pn	05 31 04.6	0.0
SUCK	Suckling Hills	4.52	32		Pn	05 31 05.3	+0.5
SUCK				IAML		05 32 01.4	
	comp=N,128nm,1.2s						
SUCK				IAML		05 32 59.5	
	comp=E,122nm,2.9s						
RAGM	Ragged Mountai	4.55	25		Pn	05 31 06.4	+1.1
PWL	Port Wells	4.56	1		Pn	05 31 05.2	-0.1
PWL				IAML		05 31 58.4	
	comp=E,102nm,0.6s						
PWL				IAML		05 31 59.0	
	comp=N,156nm,0.3s						
FID	Port Fidalgo	4.57	13		Pn	05 31 04.7	-0.8
FID				IAML		05 31 59.6	
	comp=N,100nm,0.3s						
NICHA	Nichawak Mount	4.61	29		Pn	05 31 07.1	+1.1
HMT	Hamilton	4.61	27		Pn	05 31 06.9	+0.9
GLI	Glacier Island	4.64	9	Pn	Pn	05 31 06.2	-0.2
GLI				IAML		05 32 01.4	
	comp=E,94nm,0.7s						
RED	Redoubt Volcan	4.69	333		Pn	05 31 06.8	-0.3
BGLC	Bering Glacier	4.71	34		Pn	05 31 08.6	+1.3
RDSO	Redoubt South	4.71	334		Pn	05 31 07.3	-0.2
GOAT	Goat Mountain	4.72	23		Pn	05 31 08.6	+1.0
P18K	Big Mountain,	4.73	313		Pn	05 31 07.0	-0.8
RDT	Redoubt	4.74	336		Pn	05 31 07.2	-0.6
RDWB	Redoubt West	4.76	333		Pn	05 31 07.9	-0.3
BERG	Berg Lake	4.81	30		Pn	05 31 09.4	+0.7
GRIN	Grindle Hills	4.83	32		Pn	05 31 10.3	+1.3
RC01	Rabbit Creek A	4.83	353	Pn	Pn	05 31 10.4	+1.3
RDJH	Redoubt Jeurge	4.84	334		Pn	05 31 10.1	+0.8
NCT	North Crescent	4.85	333		Pn	05 31 09.2	-0.2
SNH	Sunshine Point	4.90	35	Pn	Pn	05 31 10.6	+0.6
SNH				IAML		05 32 06.6	
	comp=N,90nm,2.1s						
SNH				IAML		05 32 22.9	
	comp=E,69nm,1.1s						
CYK	Cape Yakataga	4.94	38		Pn	05 31 11.7	+1.2
KHIT	Khitrov Hills	4.98	32		Pn	05 31 11.9	+0.7
O18K	Koktuh Hills	5.02	318		Pn	05 31 11.6	0.0
DIV	Divide	5.04	15		Pn	05 31 13.0	+1.1
BMRM	Bremner River	5.09	22		Pn	05 31 13.6	+1.0
WAX	Waxell Ridge	5.10	33		Pn	05 31 13.3	+0.5
KNK	Knik Glacier	5.11	0		Pn	05 31 13.3	+0.4
KNK				IAML		05 32 19.9	
	comp=E,65nm,0.4s						
P17K	Kvichak River	5.13	307		Pn	05 31 13.3	+0.2
BARK	Barkley Ridge	5.18	35		Pn	05 31 14.9	+1.0
MESA	MESA	5.20	39		Pn	05 31 15.0	+0.8
MESA	MESA	5.20	39	IAML		05 33 22.8	
	comp=E,52nm,3.1s						
MESA				IAML		05 33 41.9	
	comp=N,74nm,0.6s						
SPU	Mount Spurr	5.22	341		Pn	05 31 14.1	-0.3
SPU				IAML		05 32 18.5	
	comp=E,51nm,0.3s						
SPU				IAML		05 32 20.1	
	comp=N,53nm,0.3s						
SPCR	Spurr Chakacha	5.26	340		Pn	05 31 16.0	+0.9
CRQM	Cirque	5.27	30		Pn	05 31 15.6	+0.4
CRQM				IAML		05 32 17.9	
	comp=E,87nm,0.6s						
CRQM				IAML		05 32 23.3	
	comp=N,66nm,0.6s						
SUA	Susitna One	5.29	348		Pn	05 31 16.0	+0.5
SUA	Susitna One	5.29	348	IAML		05 32 20.2	
	comp=E,77nm,3.2s						
SUA				IAML		05 32 24.9	
	comp=N,66nm,3.0s						
PMR	Palmer	5.30	357	Pn	Pn	05 31 15.8	+0.3
PMR	Palmer	5.30	357	P	Pn	05 31 16.2	+0.7
ANNE	Aniakchak Nort	5.31	280		Pn	05 31 15.6	-0.1
SPCG	Spurr Capps Gl	5.32	341		Pn	05 31 16.0	+0.2
SPCP	Crater Peak Br	5.32	341		Pn	05 31 16.1	+0.3
TGL	Tana Glacier	5.35	31		Pn	05 31 16.7	+0.4
KLU	Klutina	5.36	13		Pn	05 31 17.2	+0.8
BAGL	Bagley Icefiel	5.38	36		Pn	05 31 17.5	+1.1
YAH	Yahtse	5.40	38		Pn	05 31 17.9	+0.8
CHX	Chaix Hills	5.42	43		Pn	05 31 18.6	+1.3
STLK	Strandline Lak	5.48	343		Pn	05 31 18.6	+0.6
GHO	Glory Hole Cre	5.48	358		Pn	05 31 19.0	+1.0
N19K	Bonanza Creek	5.49	328	Pn	Pn	05 31 17.3	-0.8
RKAV	Rock Avalanche	5.50	40		Pn	05 31 19.6	+1.3
M23K	Glacier View	5.51	4		Pn	05 31 19.9	+1.5
SML	Sawmill	5.51	1	Pn	Pn	05 31 19.1	+0.7
SCM	Sheep Creek Mo	5.57	6		Pn	05 31 20.0	+0.8
VRDI	Verde Repeater	5.58	26		Pn	05 31 20.4	+0.8
SAMH	Samovar Hills	5.59	44		Pn	05 31 20.7	+1.1
KIAG	Kiagna River	5.63	32		Pn	05 31 20.9	+0.8
TABL	Table Mountain	5.67	40		Pn	05 31 21.3	+0.6
GRNC	Granite Creek	5.67	36		Pn	05 31 21.1	+0.4
N25K	Chitina, Valde	5.68	19		Pn	05 31 21.6	+0.8
GLB	Gilahina Butte	5.69	23	Pn	Pn	05 31 21.7	+0.8
BALM	Bailey	5.72	32		Pn	05 31 22.2	+0.9
O17K	Koliganek Bris	5.73	311		Pn	05 31 21.9	+0.6
P16K	Nushagak River	5.77	302		Pn	05 31 22.1	+0.3
PCA	Pinnacle	5.78	46		Pn	05 31 23.3	+1.2
PTPK	Patty Peak	5.81	30		Pn	05 31 23.8	+1.1
MCARA	McCarthy VSAT	5.83	27		Pn	05 31 23.1	+0.4
N18K	Kilae Creek	5.84	322		Pn	05 31 22.6	-0.3
SKT	Skwentna	5.89	346		Pn	05 31 23.8	+0.2
PNL	Peninsula	5.90	51		Pn	05 31 25.1	+1.3
PNL	Peninsula	5.90	51	P	Pn	05 31 25.0	+1.3
M24K	Tolsona, Glenn	5.93	11		Pn	05 31 25.3	+1.1
BCPM	Bancas Point	5.95	49		Pn	05 31 25.5	+1.1
CTGM	Chitina Glacie	5.98	36		Pn	05 31 25.9	+1.0
LOGN	Logan Glacier	5.99	38		Pn	05 31 25.9	+0.8
WASW	Wrangell South	6.06	20		Pn	05 31 27.5	+1.4
M20K	Styx River	6.07	339		Pn	05 31 25.6	-0.5
VNKR	Veniaminof 5	6.07	272		Pn	05 31 25.8	-0.4
WACK	Wrangell Chich	6.08	19		Pn	05 31 28.3	+1.9
CUT	Chulitna	6.17	352	Pn	Pn	05 31 27.8	+0.4
WAZA	Wrangell Mount	6.20	19		Pn	05 31 29.6	+1.6
N17K	Nushagak Hills	6.21	316		Pn	05 31 27.8	-0.2
O28M	Mount Upton	6.24	41		Pn	05 31 29.9	+1.3
WAT6	Susitna Watana	6.30	3		Pn	05 31 30.6	+1.3
HARP	HAARP	6.34	14		Pn	05 31 31.6	+1.9
M19K	Big River Lodg	6.37	334		Pn	05 31 29.8	-0.4
M18K	Stony River	6.42	327		Pn	05 31 30.6	-0.3
CHNA	Chernabura Isl	6.46	261	P	Pn	05 31 29.6	-1.7
	comp=N,87nm,2.1s						
WAT1	Susitna Watana	6.54	360		Pn	05 31 33.9	+1.4
WAT7	Susitna Watana	6.54	359		Pn	05 31 34.1	+1.5
O29M	Mount Kennedy	6.58	49		Pn	05 31 34.2	+1.0
P29M	Windy Craggy	6.62	55	Pn	Pn	05 31 34.0	+0.4
O15K	Ungalikthiuk R	6.70	300		Pn	05 31 35.0	+0.3
L19K	White Mountain	6.72	334		Pn	05 31 33.8	-1.2
M26K	Nabesna, AK	6.72	22		Pn	05 31 36.3	+1.3
YUK8	Steele Glacier	6.74	39		Pn	05 31 37.7	+2.3
YUK2	White River	6.76	33		Pn	05 31 37.6	+2.0
DHY	Denali Highway	6.81	4		Pn	05 31 37.7	+1.4
N16K	Nishlik Lake	6.81	312		Pn	05 31 37.0	+0.7
PAX	Paxson	6.85	12		Pn	05 31 38.4	+1.6
PPLA	Purkeypile	6.86	346		Pn	05 31 38.5	+1.5
YUK3	Moose Creek	6.87	34		Pn	05 31 39.2	+2.0
S31K	Pelican	6.88	71		Pn	05 31 35.3	-1.8
M17K	Holitna River	6.88	321		Pn	05 31 36.9	-0.3
YUK7	Dusty Glacier	6.89	48		Pn	05 31 39.3	+1.8
M27K	Edge Creek, AK	6.94	26	Pn	Pn	05 31 39.3	+1.2
YUK6	Outpost Mounta	7.04	45		Pn	05 31 41.8	+2.3
RND	Reindeer	7.12	359		Pn	05 31 41.6	+1.2
P30M	Million Dollar	7.19	53		Pn	05 31 42.8	+1.3
PLBC	Pleasant Camp	7.20	59		Pn	05 31 42.8	+1.3
M16K	Timber Creek	7.21	315	Pn	Pn	05 31 40.8	-0.8
TRF	Thorofare Moun	7.21	354		Pn	05 31 43.1	+1.3
L26K	Log Cabin Wild	7.22	19		Pn	05 31 42.7	+0.9
R31K	City Hall, Gus	7.22	68		Pn	05 31 41.2	-0.5
L18K	Granite Mounta	7.25	328		Pn	05 31 41.8	-0.4
BVCY	Beaver Creek	7.25	29		Pn	05 31 44.7	+2.4
SIT	Sitka	7.30	79	P	Pn	05 31 40.8	-2.1
HYT	Haines Junctio	7.31	47	Pn	Pn	05 31 44.3	+1.1
YUK5	Granite Creek	7.35	45		Pn	05 31 46.2	+2.5
CAST	Castle Rocks	7.35	347	Pn	Pn	05 31 44.0	+0.4
KTH	Kantishna Hill	7.36	352		Pn	05 31 44.6	+0.8
MCK	McKinley	7.45	359		Pn	05 31 46.9	+2.0
PS1A	Pavlof South-1	7.50	269		Pn	05 31 44.8	-0.9
L27K	Beaver Creek,	7.56	24		Pn	05 31 48.1	+1.5
BCAR	Beaver Creek A	7.57	24	Pn	Pn	05 31 47.6	+0.9
PS4A	Pavlof South-4	7.58	268		Pn	05 31 45.3	-1.4
S12K	Black Hills	7.62	271		Pn	05 31 46.4	-1.0
K24K	Donnelly Dome	7.64	9		Pn	05 31 49.8	+2.3
PN7A	Pavlof North-7	7.64	269		Pn	05 31 46.7	-1.0
L17K	Donlin	7.69	323		Pn	05 31 48.5	+0.2
SKAG	Skagway	7.70	60	P	Pn	05 31 50.3	+2.0
BESE	Bessie Mountai	7.71	67		Pn	05 31 48.8	+0.2
S32K	Killisnoo	7.72	76	Pn	Pn	05 31 46.9	-1.7
M15K	Kasigluk River	7.74	310		Pn	05 31 48.6	-0.3
L16K	Owhat River	7.82	318		Pn	05 31 48.9	-1.2
R32K	Eaglecrest	7.83	70		Pn	05 31 50.3	+0.1
N30M	Aishikik Lake	7.84	44	Pn	Pn	05 31 51.2	+0.8
JIS	Juneau Island	7.90	70		Pn	05 31 51.3	+0.2
JIS	Juneau Island	7.90	70	P	Pn	05 31 51.8	+0.7
BPAW	Bear Paw Mtn.	7.91	352		Pn	05 31 52.2	+1.0
M29M	Somme Creek	8.00	36		Pn	05 31 53.9	+1.3
K17K	Iditarod	8.12	326	Pn	Pn	05 31 53.6	-0.5
HDA	Harding Lake	8.16	5		Pn	05 31 55.9	+1.2
WHY	Whitehorse	8.36	53	Pn	Pn	05 31 58.4	+0.9
CCB	Clear Creek Bu	8.37	2		Pn	05 31 58.3	+0.8
K27K	Chicken	8.37	20		Pn	05 31 59.0	+1.4
N31M	Braeburn, Yuko	8.38	47		Pn	05 31 59.1	+1.4
J25K	Salcha River,	8.47	9		Pn	05 31 59.3	+0.3
P32M	Atlin	8.52	61		Pn	05 32 00.3	+0.7
IL31		8.52	5		Pn	05 32 00.6	+1.0
ILAR	Eielson Array	8.52	5	Pn	Pn	05 32 00.1	+0.4
	comp=N,0.7nm,0.3s,baz=191,slow=13,SNR=23						
ILAR				Sn	Sn	05 33 32.5	-3.2
	comp=N,0.8nm,0.3s,baz=192,slow=24,SNR=6.8						
ILAR				LR	LR	05 35 01.0	
	comp=N,47nm,20.3s,baz=292,slow=35						
	comp=N,1.5nm,0.4s						
J26L	Joseph Creek	8.57	15		Pn	05 32 01.5	+1.1
FALS	False Pass	8.57	266		Pn	05 31 59.1	-1.3
FALS	False Pass	8.57	266	P	Pn	05 31 59.6	-0.7
L29M	L29M	8.59	33		Pn	05 32 02.0	+1.4
COLA	College	8.60	2	P	Pn	05 32 02.6	+2.0
CRAG	Craig	8.69	89	P	Pn	05 32 00.5	-1.4
ISLZ	Isanotski Laza	8.77	266		Pn	05 32 01.8	-1.3
ISNN	Isanotski Nort	8.78	267		Pn	05 32 02.4	-0.8
POKR	Poker Plat Res	8.85	3	Pn	Pn	05 32 05.7	+1.6
DAWY	Dawson	8.99	26	Pn	Pn	05 32 07.9	+1.8
P33M	Teslin, Yukon	9.14	58		Pn	05 32 09.1	+0.9
M31M	Drury Creek, Y	9.32	45		Pn	05 32 12.8	+2.2
K29M	Barlow Dome	9.32	31		Pn	05 32 12.3	+1.6
WESE	West Dahl East	9.33	265		Pn	05 32 09.9	-1.0
PRP	Porcupine Dome	9.35	8		Pn	05 32 12.2	+1.1
I26K	Coal Creek Min	9.39	14		Pn	05 32 13.7	+2.2
H24K	Noodor Dome	9.56	2		Pn	05 32 15.6	+1.7
H21K	Melozitna Rive	9.60	349		Pn	05 32 14.7	+0.2
R33M	Jennings River	9.84	64		Pn	05 32 19.1	+1.2
I27K	Kandik River	9.90	17		Pn	05 32 20.4	+2.0
IMAR	Indian Mountai	10.02	348		Pn	05 32 19.7	-0.5
I28M	Miner Creek	10.06	21		Pn	05 32 22.9	+2.1
DLBC	Dease Lake	10.20	70	Pn	Pn	05 32 23.0	+0.3
DLBC	Dease Lake	10.20	70	Pn	Pn	05 32 23.1	+0.4
	comp=N,0.9nm,0.3s,baz=262,slow=7.5,SNR=22						
DLBC				Sn	Sn	05 34 12.3	-4.7
	comp=N,0.3nm,0.3s,baz=180,slow=20,SNR=2.3						
	comp=N,1.7nm,0.3s						
UNV	Unalaska Valle	10.61	264	P	Pn	05 32 25.9	-2.3
I30M	Mount Dempster	10.70	28		Pn	05 32 31.5	+2.0
C36M	Paulatuk	17.00	30	Pn	Pn	05 33 53.6	-0.1
B04A	Port Angeles	17.34	108	Pn	Pn	05 33 56.5	-1.7
A36M	Sachs Harbour	18.48	23	P	Pn	05 34 13.1	+1.0
A36M				IAmb	IAmb	05 34 15.5	
	comp=Z,10nm,0.8s						
NEW	Newport	20.67	100	P	P	05 34 37.7	+1.6
	comp=Z,1.7nm,0.9s,baz=297,slow=15,SNR=2.7						
	comp=Z,1.7nm,0.9s						
HUMO	Hull Mountain	21.37	119	P	P	05 34 45.0	+1.2
HUMO				IAmb	IAmb	05 34 49.3	
	comp=Z,10nm,1.4s						
J05D	Fort Rock, OR	21.73	115	P	P	05 34 49.4	+1.7
J05D				IAmb	IAmb	05 34 50.4	
	comp=Z,6.1nm,1.0s						
L04D	Klamath Falls	21.98	119	P	P	05 34 51.2	+0.8
L04D				IAmb	IAmb	05 35 13.3	
	comp=Z,20nm,1.4s						
YBH	Yreka Blue Hor	22.16	120	P	P	05 34 52.4	+0.2
	comp=Z,1.4nm,0.8s,baz=279,slow=8.9,SNR=4.0						
	comp=Z,1.4nm,0.8s						
NVAR	Mina Array Bea	26.85	119	P	P	05 35 36.4	-0.6
	comp=Z,0.3nm,0.3s,baz=245,slow=14,SNR=2.0						
	comp=Z,0.3nm,0.3s						
PDAR	Pinedale Array	28.25	102	P	P	05 35 48.9	-0.7
PDAR	Pinedale Array	28.25	102	P	P	05 35 49.8	+0.1
	comp=Z,0.2nm,0.6s,baz=304,slow=4.5,SNR=3.9						
	comp=Z,0.2nm,0.6s						
PETK	Petropavlovsk-	30.58	287	P	P	05 36 10.6	+0.7
	comp=Z,1.8nm,0.9s,baz=80,slow=16,SNR=1.7						
	comp=Z,1.8nm,0.9s						
MA2	Magadan	31.41	302	LR	LR	05 49 13.3	
	comp=Z,28nm,18.9s,baz=251,slow=37						
H11N2	WAKE ISLAND Hy 49.27	241		T	T	06 32 34.5	
	baz=29,slow=76,SNR=5.7						
H11N3	WAKE ISLAND Hy 49.28	241		T	T	06 32 33.9	
	baz=29,slow=76,SNR=7.8						
H11N1	WAKE ISLAND Hy 49.29	241		T	T	06 32 35.6	
	baz=29,slow=76,SNR=4.6						
H11S1	WAKE ISLAND Hy 50.41	240		T	T	06 34 00.1	
	baz=28,slow=76,SNR=20						
H11S2	WAKE ISLAND Hy 50.43	240		T	T	06 34 00.4	
	baz=28,slow=76,SNR=13						
H11S3	WAKE ISLAND Hy 50.43	240		T	T	06 33 58.4	
	baz=28,slow=76,SNR=14						
ARCES	ARCESS Array B	54.38	3	P	P	05 39 22.7	0.0
	comp=Z,3.3nm,1.0s,baz=354,slow=11,SNR=5.0						
	comp=Z,3.3nm,1.0s						
KSRS	Korea Array	56.46	288	P	P	05 39 38.7	+0.7
	comp=Z,0.6nm,0.3s,baz=66,slow=12,SNR=2.3						
	comp=Z,0.6nm,0.3s						
SONM	Songino Array	58.95	311	P	P	05 39 56.7	+1.1
	comp=Z,0.6nm,0.7s,baz=64,slow=6.0,SNR=3.7						
	comp=Z,0.6nm,0.7s						
FINES	FINESS Array B	62.50	3

KPKS	**Kokpek**	**2.31**	**305**	Pg	Pg	05 34 26.1	-0.3
	1.0nm,0.3s						
KPKS				Lg	Lg	05 34 57.8	
	3.6nm,0.2s						
KPKS	**Kokpek**	**2.31**	**305**	*e*P	Pg	05 34 26.1	-0.3
	1.0nm,0.3s						
KPKS				*e*S	Sg	05 34 57.8	+1.5
	3.6nm,0.2s						

IDC 03 05:54:10.2±1.7, 55°.75N×165°.97E, h0km, mb3.6/2, mbtmp3.6/3, ML2.7/1, Error ellipse: s-maj=135.2km s-min=25.9km az=152.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.51**	**245**	Pn	Pn	05 55 34.2	+0.8
	1.2nm,0.3s,baz=64,slow=20,SNR=9.2						
PETK				Sn	Sn	05 56 36.4	-0.9
	0.5nm,0.3s,baz=76,slow=25,SNR=2.1						
	4.5nm,0.7s						
ILAR	**Eielson Array**	**24.49**	**49**	P	P	05 59 30.3	-0.3
	2.5nm,1.2s,baz=260,slow=7.3,SNR=7.7						
	2.5nm,1.2s						
H11N2	**WAKE ISLAND Hy**	**35.97**	**179**	T	T	06 38 51.8	
	baz=360						
H11N3	**WAKE ISLAND Hy**	**35.98**	**178**	T	T	06 38 56.6	
	baz=360						
H11N1	**WAKE ISLAND Hy**	**35.99**	**179**	T	T	06 38 48.9	
	baz=360						
TXAR	**Lajitas Array**	**66.49**	**72**	P	P	06 05 01.7	+0.2
	0.3nm,0.7s,baz=303,slow=4.9,SNR=4.7						
	0.3nm,0.7s						

ATH 03 06:07:33.5, 37°.38N×20°.56E, h11km±1km, ML2.7/12, Error ellipse: s-maj=2.3km s-min=0.9km az=38.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.39**	**34**	P	Pg	06 07 41.0	-0.3
LTHK				S	Sg	06 07 47.2	+0.7
PSDA	**Pessada-Kefalo**	**0.73**	**2**	P	Pg	06 07 47.0	-0.6
PSDA				S	Sb	06 07 57.7	-0.5
VLS	**Valsamata**	**0.79**	**2**	P	Pg	06 07 48.0	-0.8
VLS				S	Sg	06 07 59.4	+0.2
VLS				AML	AML	06 08 03.4	
	comp=E,1771μm,0.3s						
VLS				AML	AML	06 08 03.9	
	comp=N,1519μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.82**	**353**	P	Pg	06 07 49.0	-0.3
LXRA				S	Sb	06 08 00.5	-0.4
LXRA				AML	AML	06 08 04.4	
	comp=E,4998μm,0.3s						
LXRA				AML	AML	06 08 10.6	
	comp=N,4146μm,0.6s						
DMLN	**Damoulianata-K**	**0.87**	**350**	P	Pg	06 07 49.8	-0.4
SMHA	**Samh**	**0.87**	**5**	P	Pg	06 07 49.9	-0.4
AMT	**Artemida-Makis**	**0.93**	**80**	P	Pg	06 07 50.9	-0.4
AMT				S	Sg	06 08 03.1	-0.4
AMT				AML	AML	06 08 08.6	
	comp=N,2617μm,0.5s						
AMT				AML	AML	06 08 10.8	
	comp=E,2543μm,0.4s						
RLS	**Riolos of Patr**	**0.98**	**47**	P	Pg	06 07 51.9	-0.6
RLS				S	Sg	06 08 05.2	-0.1
RLS				AML	AML	06 08 12.1	
	comp=E,268μm,0.4s						
RLS				AML	AML	06 08 22.8	
	comp=N,313μm,0.5s						
PYL	**PYLOS**	**1.06**	**117**	P	Pb	06 07 53.3	-0.6
PYL				S	Sg	06 08 07.5	-0.3
FSK	**Fiskardo**	**1.07**	**0**	P	Pb	06 07 52.8	-1.3
FSK				AML	AML	06 08 10.8	
	comp=N,558μm,0.2s						
FSK				AML	AML	06 08 14.8	
	comp=E,570μm,0.4s						
DRO	**Drossia**	**1.07**	**58**	P	Pb	06 07 53.3	-0.8
DRO				S	Sg	06 08 07.9	-0.2
DRO				AML	AML	06 08 19.5	
	comp=N,749μm,0.3s						
DRO				AML	AML	06 08 23.4	
	comp=E,908μm,0.6s						
ITM	**Ithomi**	**1.11**	**100**	P	Pb	06 07 54.7	0.0
ITM				S	Sb	06 08 08.8	-0.3
ITM				AML	AML	06 08 13.0	
	comp=N,712μm,0.4s						
ITM				AML	AML	06 08 16.7	
	comp=E,416μm,0.4s						
EVGI	**Lefkada island**	**1.24**	**3**	P	Pn	06 07 56.2	-0.6
DRAG	**Dragano-Lefkad**	**1.30**	**1**	P	Pn	06 07 56.4	-1.1
DRAG				S	Sb	06 08 13.6	-1.1
UPR	**University Cam**	**1.32**	**47**	P	Pn	06 07 57.0	-0.9
NYDR	**Nydri-Lefkada**	**1.33**	**5**	P	Pn	06 07 57.2	-0.8
LKD2	**Lefkada island**	**1.41**	**3**	P	Pn	06 07 57.9	-1.2
LKD2				AML	AML	06 08 23.4	
	comp=E,928μm,0.4s						
LKD2				AML	AML	06 08 27.5	
	comp=N,690μm,0.6s						
KLV	**Kalavryta, Ach**	**1.42**	**62**	P	Pn	06 07 58.1	-1.2
TSLK	**Tsoukalades, L**	**1.44**	**3**	P	Pn	06 07 58.4	-1.2
TSLK				AML	AML	06 08 23.3	
	comp=E,645μm,0.4s						
TSLK				AML	AML	06 08 25.3	
	comp=N,1042μm,0.6s						
EFP	**Efpalio**	**1.49**	**45**	P	Pn	06 08 00.3	+0.1
EFP				AML	AML	06 08 31.1	
	comp=E,162μm,0.3s						
EFP				AML	AML	06 08 38.3	
	comp=N,222μm,0.6s						
GUR	**Goura**	**1.52**	**68**	P	Pn	06 08 00.3	-0.4
GUR				AML	AML	06 08 31.4	
	comp=N,324μm,0.4s						
GUR				AML	AML	06 08 32.2	
	comp=E,372μm,0.5s						
KALE	**Kalithea**	**1.60**	**51**	P	Pn	06 08 01.7	-0.2
ANX	**Ano Chora**	**1.62**	**41**	P	Pn	06 08 01.5	-0.6
ANX				AML	AML	06 08 33.0	
	comp=E,241μm,0.4s						
ANX				AML	AML	06 08 38.2	
	comp=N,336μm,0.5s						

*GII **03** 06:08:30.5±0.6, 37°.19N×20°.61E, h10km, Mws3.8, confirmed*
*IDC **03** 06:08:39.1±1.0, 37°.15N×20°.70E, h0km, mb3.7/9, mbtmp3.6/17, ML3.6/7, MS3.1/13, Error ellipse: s-maj=18.7km s-min=17.9km az=159.0*
*ATH **03** 06:08:41.3, 37°.17N×20°.56E, h7km±1km, ML3.8/29, Manual Solution by N.Liadopoulou This location: 2020/07/01 05:41:13 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **03** 06:08:42.3, 37°.21N×20°.61E, h4km, ML3.6/11, Error ellipse: s-maj=0.9km s-min=0.3km az=55.0*
*BEO **03** 06:08:43.2±0.9, 37°.31N×20°.48E, h10km, ML3.8/7*
*AFAD **03** 06:08:47.0±0.0, 37°.43N×20°.76E, h121km±62km, MW3.7*
*NAO **03** 06:09:13.7, 40°.22N×19°.26E, h10km, mb3.4*

ISC 03 06:08:42.6±1.2, 37°.21N±0°.03×20°.63E±0°.03, h24km±10km, n134, σ1°61/148, mb3.6/9, MS3.1/12, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.48**	**19**	P	Pb	06 08 51.5	-1.0
KRI1				S	Sb	06 08 58.4	-0.8
LTHK	**Lithakia**	**0.53**	**18**	P	Pb	06 08 52.5	-0.8
LTHK				S	Sb	06 09 00.1	-0.5
	22μm,0.2s						
LTHK	**Lithakia**	**0.53**	**18**	P	Pb	06 08 52.6	-0.7
LTHK				S	Sb	06 09 00.9	+0.3
PSDA	**Pessada-Kefalo**	**0.91**	**358**	P	Pb	06 08 59.2	-0.5
PSDA				S	Sn	06 09 12.4	+0.3
PSDA	**Pessada-Kefalo**	**0.91**	**358**	P	Pb	06 08 59.5	-0.2
PSDA				S	Sn	06 09 12.4	+0.3
AMT	**Artemida-Makis**	**0.92**	**69**	P	Pn	06 09 00.5	+0.3
AMT				S	Sn	06 09 13.5	+0.8
PYL	**PYLOS**	**0.95**	**109**	P	Pb	06 09 00.1	-0.3
PYL				S	Sn	06 09 14.2	+1.1
	3μm,0.5s						
PYL	**PYLOS**	**0.95**	**109**	P	Pb	06 09 00.1	-0.3
PYL				S	Sn	06 09 14.1	+0.9
VLS	**Valsamata**	**0.97**	**358**	P	Pb	06 09 00.4	-0.4
VLS				S	Sn	06 09 14.5	+0.7
	4μm,0.5s						
VLS	**Valsamata**	**0.97**	**358**	P	Pb	06 09 00.4	-0.4
VLS				S	Sn	06 09 13.4	-0.3
LXRA	**Lixouri, Kepha**	**1.00**	**351**	P	Pn	06 09 01.3	+0.1
LXRA				S	Sn	06 09 15.8	+1.2
ITM	**Ithomi**	**1.04**	**91**	P	Pb	06 09 02.0	0.0
ITM				S	Sn	06 09 17.2	+1.7
	3μm,0.5s						
ITM	**Ithomi**	**1.04**	**91**	P	Pb	06 09 02.2	+0.2
ITM				S	Sn	06 09 16.6	+1.1
SMHA	**Samh**	**1.04**	**1**	P	Pn	06 09 01.2	-0.5
DMLN	**Damoulianata-K**	**1.05**	**349**	P	Pb	06 09 01.9	-0.2
DMLN				S	Sn	06 09 17.1	+1.4
DMLN	**Damoulianata-K**	**1.05**	**349**	P	Pb	06 09 02.3	+0.1
DMLN				S	Sn	06 09 16.2	+0.4
RLS	**Riolos of Patr**	**1.08**	**38**	P	Pb	06 09 02.3	-0.4
RLS				S	Sn	06 09 18.4	+1.9
	2μm,0.6s						
RLS	**Riolos of Patr**	**1.08**	**38**	P	Pb	06 09 02.3	-0.4
RLS				S	Sn	06 09 18.0	+1.5
DRO	**Drossia**	**1.14**	**49**	P	Pb	06 09 03.5	-0.2
DRO	**Drossia**	**1.14**	**49**	P	Pb	06 09 03.7	0.0
FSK	**Fiskardo**	**1.25**	**358**	P	Pb	06 09 05.2	-0.4
FSK				S	Sb	06 09 23.7	+2.5
	3μm,0.8s						
FSK	**Fiskardo**	**1.25**	**358**	P	Pb	06 09 05.2	-0.4
EVGI	**Lefkada island**	**1.41**	**1**	P	Pb	06 09 08.0	-0.3
EVGI	**Lefkada island**	**1.41**	**1**	P	Pb	06 09 08.1	-0.3
UPR	**University Cam**	**1.41**	**40**	P	Pb	06 09 07.9	-0.4
UPR	**University Cam**	**1.41**	**40**	P	Pb	06 09 07.9	-0.4
KLV	**Kalavryta, Ach**	**1.47**	**55**	P	Pb	06 09 09.0	-0.3
KLV	**Kalavryta, Ach**	**1.47**	**55**	P	Pb	06 09 09.2	-0.2
DRAG	**Dragano-Lefkad**	**1.47**	**358**	P	Pb	06 09 08.8	-0.6
DRAG	**Dragano-Lefkad**	**1.47**	**358**	P	Pb	06 09 09.2	-0.2
NYDR	**Nydri-Lefkada**	**1.50**	**2**	P	Pb	06 09 09.4	-0.5
NYDR	**Nydri-Lefkada**	**1.50**	**2**	P	Pb	06 09 09.4	-0.5
GUR	**Goura**	**1.55**	**61**	P	Pb	06 09 10.1	-0.6
GUR	**Goura**	**1.55**	**61**	P	Pb	06 09 10.1	-0.6
LKD2	**Lefkada island**	**1.58**	**1**	P	Pb	06 09 10.1	-1.1
LKD2				S	Sb	06 09 32.1	+1.4
	2μm,0.8s						
LKD2	**Lefkada island**	**1.58**	**1**	P	Pn	06 09 09.2	0.0
EFP	**Efpalio**	**1.58**	**39**	P	Pb	06 09 10.7	-0.5
EFP	**Efpalio**	**1.58**	**39**	P	Pb	06 09 10.7	-0.5
TSLK	**Tsoukalades, L**	**1.61**	**1**	P	Pb	06 09 10.9	-0.9
TSLK	**Tsoukalades, L**	**1.61**	**1**	P	Pb	06 09 11.1	-0.6
KALE	**Kalithea**	**1.68**	**45**	P	Pb	06 09 12.2	-0.7
ANX	**Ano Chora**	**1.72**	**36**	P	Pb	06 09 12.9	-0.7
VLI	**Veliai**	**1.91**	**104**	P	Pb	06 09 15.7	-1.2
DLFA	**Delphi**	**1.95**	**49**	P	Pn	06 09 15.3	+1.0
MAKR	**Makrakomi, Fth**	**2.16**	**33**	P	Pb	06 09 19.3	-1.8
AXAR	**Agios Charalam**	**2.24**	**45**	P	Pn	06 09 19.4	+1.2
AGG	**Agios Georgios**	**2.26**	**36**	P	Pb	06 09 21.5	-1.2
VIL2	**Platees**	**2.32**	**64**	P	Pn	06 09 21.1	+1.7
IGT	**Igoumenitsa**	**2.33**	**354**	P	Pb	06 09 21.6	-2.4
JAN	**Janina**	**2.45**	**4**	P	Pn	06 09 23.1	+1.9
ANKY	**Antikythira Is**	**2.54**	**121**	P	Pn	06 09 24.1	+1.8
ATH	**Athens Observa**	**2.57**	**72**	P	Pn	06 09 23.5	+0.7
KEK	**Kerkira**	**2.58**	**346**	P	Pn	06 09 25.1	+2.2
THL	**Klokotos Trika**	**2.59**	**24**	P	Pn	06 09 24.6	+1.5
VLY	**Voula,Athens**	**2.60**	**75**	P	Pn	06 09 24.2	+1.1
ATHU	**Athens Univers**	**2.62**	**72**	P	Pn	06 09 24.6	+1.2
PTL	**Penteli**	**2.71**	**71**	P	Pn	06 09 26.6	+2.0
DION	**Dionisos Attik**	**2.77**	**71**	P	Pn	06 09 26.9	+1.5
TYRN	**Tyrnavos**	**2.80**	**26**	P	Pn	06 09 27.8	+1.9
KPRO	**Kipourio**	**2.80**	**12**	P	Pn	06 09 28.1	+2.1
LRSO	**Larissa Observ**	**2.82**	**29**	P	Pn	06 09 28.6	+2.4
NEO	**Neokhori**	**2.93**	**44**	P	Pn	06 09 29.1	+1.4
PENT	**Pentalofos**	**3.01**	**7**	P	Pn	06 09 30.4	+1.4
KYMI	**Kymi, Euboea I**	**3.09**	**62**	P	Pn	06 09 31.6	+1.6
AOS2	**Alonissos-2**	**3.19**	**52**	P	Pn	06 09 33.2	+2.0
NEST	**Nestorio**	**3.22**	**6**	P	Pn	06 09 32.8	+1.0
KZN	**Kozani**	**3.22**	**16**	P	Pn	06 09 32.5	+0.7
LIT	**Litokhoron**	**3.24**	**26**	P	Pn	06 09 33.5	+1.6
LIT				S	Sn	06 10 09.9	+0.1
LIT				*i* AML	AML	06 10 14.0	
	comp=N,113nm,0.4s						
LIT				*i* AML	AML	06 10 15.0	
	comp=E,138nm,0.3s						
SCTE	**Santa Cesarea**	**3.32**	**330**	P	Pn	06 09 33.9	+0.8
FNA	**Florina**	**3.62**	**9**	P	Pn	06 09 39.0	+1.8
FNA				S	Sn	06 10 12.8	-6.4
FNA				*i* AML	AML	06 10 22.0	
	comp=E,33nm,0.4s						
FNA	**Florina**	**3.62**	**9**	*e*Pn	Pn	06 09 39.1	+1.9
FNA				*e*Sn	Sn	06 10 19.1	-0.1
FNA	**Florina**	**3.62**	**9**	P	Pn	06 09 39.1	+1.9
HORT	**Hortiatis**	**3.90**	**29**	P	Pn	06 09 42.2	+1.2
OHR	**Ohrid**	**3.90**	**2**	*e*Pn	Pn	06 09 43.1	+2.0
APE	**Apeiranthos**	**3.92**	**91**	P	Pn	06 09 41.5	+0.1
APE	**Apeiranthos**	**3.92**	**91**	P	Pn	06 09 41.7	+0.4
IDI	**Anoyia**	**3.94**	**118**	Pn	Pn	06 09 41.4	-0.3
	7.1nm,0.8s,baz=8.4,slow=22,SNR=1.9						
IDI				Sn	Sn	06 10 22.5	-4.7
	2.4nm,0.3s,baz=277,slow=23,SNR=3.7						
TIR	**Tirane**	**4.18**	**352**	*e*Pn	Pn	06 09 46.5	+1.7
SOH	**Sokhos**	**4.19**	**30**	P	Pn	06 09 47.0	+2.0
SRS	**Serrai**	**4.53**	**30**	*e*Pn	Pn	06 09 51.2	+1.5
SRS				*e*Sn	Sn	06 10 41.4	-0.3
SRS	**Serrai**	**4.53**	**30**	P	Pn	06 09 51.3	+1.5
CUC	**Castrocucco**	**4.68**	**308**	P	Pn	06 09 54.0	+2.2
VAE	**Valguarnera**	**4.96**	**275**	Pn	Pn	06 09 59.7	+4.0
	5.3nm,0.3s,baz=353,slow=15,SNR=6.8						
VAE				Sn	Sn	06 10 51.5	-0.7
	6.0nm,0.3s,baz=18,slow=20,SNR=7.8						
BOSS	**Bosilegrad**	**5.47**	**15**	*e*Pn	Pn	06 10 03.5	+0.9
BARS	**Barje**	**5.68**	**9**	*e*Pn	Pn	06 10 05.8	+0.4
VTS	**Vitosha**	**5.76**	**20**	*e*Pn	Pn	06 10 07.8	+1.0
SELS	**Selova**	**6.02**	**3**	*e*Pn	Pn	06 10 10.0	-0.1
SJES	**Sjenica**	**6.07**	**355**	*e*Pn	Pn	06 10 11.6	+0.7
SJES				*e*Sn	Sn	06 11 17.6	-2.0
STON	**Ston**	**6.09**	**339**	*e*Pn	Pn	06 10 09.2	-1.8
ZAPS	**Zavoj**	**6.25**	**14**	*e*Pn	Pn	06 10 13.4	0.0
IVAS	**Ivanjica**	**6.37**	**357**	*e*Pn	Pn	06 10 14.3	-0.7
BOVS	**Bovan**	**6.47**	**7**	*e*Pn	Pn	06 10 15.6	-0.8
GRUS	**Gruza**	**6.67**	**1**	*e*Pn	Pn	06 10 18.8	-0.3
BBLS	**Lazi&#263i**	**6.72**	**352**	*e*Pn	Pn	06 10 20.5	+0.7
BBLS				*e*Sn	Sn	06 11 31.8	-3.7
DIVS	**Divibare**	**6.90**	**356**	*e*Pn	Pn	06 10 20.4	-1.9
IZZE	**Mula-Seydike**	**6.94**	**94**	P	Pn	06 10 25.3	+2.5
IZZE				S	Sn	06 11 34.7	-6.3
IZZE				*i* AML	AML	06 11 54.0	
	comp=N,16nm,0.6s						
HAPS	**Han Pijesak,BI**	**6.99**	**350**	*e*Pn	Pn	06 10 23.0	-0.5
TRUS	**Trudelj**	**7.01**	**359**	*e*Pn	Pn	06 10 23.8	0.0
KNIK	**Mula-Seydike**	**7.17**	**90**	P	Pn	06 10 29.7	+3.6
AKAS	**Kas**	**7.28**	**95**	P	Pn	06 10 29.7	+2.1
TEKS	**Tekeris**	**7.38**	**354**	*e*Pn	Pn	06 10 27.0	-1.9
MLR	**Muntele Rosu**	**9.19**	**24**	Pn	Pn	06 10 56.0	+2.3
	0.1nm,0.3s,baz=248,slow=11,SNR=1.8						
MLR				LR	LR	06 15 26.1	
	comp=Z,110nm,18.9s,baz=196,slow=44						
	1.5nm,0.8s						
KEST	**Kesra**	**9.21**	**264**	Pn	Pn	06 10 55.7	+1.7
	0.2nm,0.3s,baz=31,slow=11,SNR=2.3						
KEST				Sn	Sn	06 12 32.9	-3.9
	0.1nm,0.3s,baz=59,slow=18,SNR=1.7						
	3.7nm,0.8s						
GERES	**GERESS Array B**	**12.68**	**339**	Pn	Pn	06 11 42.7	+1.2
	0.2nm,0.3s,baz=140,slow=22,SNR=1.5						
	0.3nm,0.4s						
MMAI	**Mount Meron Ar**	**12.80**	**105**	Pn	Pn	06 11 41.6	-1.6
	0.5nm,0.3s,baz=277,slow=12,SNR=2.9						
	0.4nm,0.3s						
KZIT	**Kziot**	**13.03**	**115**	P	Pn	06 11 35.1	-11
MSBI	**Mazada**	**13.52**	**111**	P	Pn	06 11 43.0	-10
PRNI	**Paran**	**13.77**	**116**	S	Sn	06 14 19.1	-9.4
PRNI	**Paran**	**13.77**	**116**	P	Pn	06 11 44.9	-11
HRFI	**Mount Harif**	**13.97**	**117**	P	Pn	06 11 49.6	-9.4
EIL	**Elat**	**14.12**	**118**	Pn	Pn	06 11 58.0	-3.0
	0.3nm,0.3s,baz=354,slow=18,SNR=1.6						
EIL				Sn	Sn	06 14 27.7	-9.3
	0.2nm,0.3s,baz=287,slow=6.7,SNR=1.4						
	1.7nm,0.6s						
EIL	**Elat**	**14.12**	**118**	P	Pn	06 11 50.8	-10
EIL	**Elat**	**14.12**	**118**	S	Sn	06 14 27.5	-9.4
AKASG	**Malin Array Be**	**14.83**	**22**	Pn	Pn	06 12 10.2	-0.4
	0.6nm,0.3s,baz=212,slow=9.0,SNR=2.2						
	0.1nm,0.3s						
CLL	**Collm**	**15.10**	**341**	*e*PP	P	06 12 24.0	+4.7
CLL				*es*PP		06 12 29.0	
ESDC	**Sonseca Array**	**19.40**	**285**	P	Pn	06 13 08.0	-0.3
	baz=82,slow=8.2,SNR=3.2						
	0.8nm,1.0s						
MDT	**Midelt**	**21.11**	**266**	LR	LR	06 22 05.3	
	comp=Z,30nm,20.3s,baz=18,slow=38						
HFS	**Hagfors**	**23.37**	**351**	P	P	06 13 48.8	-0.3
	1.9nm,0.7s,baz=156,slow=11,SNR=7.6						
	1.9nm,0.7s						
BELG	**Belogornoye**	**24.25**	**43**	LR	LR	06 23 18.9	
	comp=Z,39nm,18.2s,baz=248,slow=36						
EKA	**Eskdalemuir Ar**	**24.27**	**326**	P	P	06 13 58.0	+0.3
	1.6nm,0.8s,baz=121,slow=8.3,SNR=1.5						
	1.6nm,0.8s						
FINES	**FINESS Array B**	**24.50**	**6**	P	P	06 13 59.7	0.0
	3.2nm,0.9s,baz=184,slow=7.6,SNR=1.8						
FINES				LR	LR	06 24 31.0	
	comp=Z,77nm,18.9s,baz=138,slow=39						
	3.2nm,0.9s						
NB2	**NORSAR Subarra**	**24.58**	**349**	P	P	06 14 01.3	+0.7
	comp=Z,1.0nm,0.5s,baz=163,slow=11						
NOA	**NORSAR Array B**	**24.58**	**349**	P	P	06 14 01.3	+0.7
	comp=Z,1.3nm,0.9s,baz=174,slow=12,SNR=2.3						
NOA				LR	LR	06 23 51.6	
	comp=Z,30nm,19.4s,baz=295,slow=37						
	comp=Z,1.3nm,0.9s						
KIRV	**Kirov**	**28.43**	**32**	LR	LR	06 26 42.9	
	comp=Z,54nm,19.6s,baz=273,slow=38						
TORD	**Torodi Ar. Bea**	**29.34**	**220**	P	P	06 14 43.4	-0.2
	comp=Z,0.5nm,0.5s,baz=31,slow=9.8,SNR=8.6						
TORD				LR	LR	06 26 26.6	
	comp=Z,43nm,18.3s,baz=341,slow=36						
	comp=Z,0.5nm,0.5s						
AKTO	**Aktyubinsk**	**29.71**	**52**	LR	LR	06 29 07.7	
	comp=Z,33nm,21.0s,baz=23,slow=41						
ARTI	**Arti**	**31.63**	**40**	LR	LR	06 28 50.5	
	comp=Z,32nm,19.3s,baz=238,slow=38						
ARCES	**ARCESS Array B**	**32.49**	**3**	P	P	06 15 11.2	+0.3
	comp=Z,1.8nm,0.9s,baz=196,slow=11,SNR=1.6						
	comp=Z,1.8nm,0.9s						
BVAR	**Borovoye Array**	**37.68**	**49**	LR	LR	06 32 31.2	
	comp=Z,29nm,18.4s,baz=289,slow=38						
MBAR	**Mbarara**	**38.77**	**164**	LR	LR	06 32 32.3	
	comp=Z,19nm,18.7s,baz=342,slow=37						
KURBB	**Kurchatov Arra**	**42.74**	**53**	P	P	06 16 37.2	-0.6
	comp=Z,0.3nm,0.4s,baz=278,slow=8.8,SNR=4.5						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**45.74**	**58**	P	P	06 17 01.9	0.0
	comp=Z,0.2nm,0.3s,baz=267,slow=8.6,SNR=4.2						
MKAR				LR	LR	06 38 47.6	
	comp=Z,51nm,19.3s,baz=305,slow=40						
	comp=Z,0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**46.28**	**47**	P	P	06 17 05.6	-0.3
	comp=Z,0.6nm,0.3s,baz=303,slow=9.6,SNR=2.0						
	comp=Z,0.6nm,0.3s						
ROSC	**El Rosal**	**91.04**	**277**	LR	LR	07 01 43.4	
	comp=Z,12nm,18.1s,baz=46,slow=35						

*NNC **03** 06:11:38.6±3.2, 38°.85N×70°.15E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=25.5km s-min=20.2km az=177.0*

ISC 03 06:11:35.1±2.9, 38°.6N±0°.2×70°.0E±0°.1, h10km, n9, σ0°86/11, 5C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.54**	**5**	⇓Pn	Pn	06 12 45.0	+1.1
	1.4nm,0.3s,baz=172,slow=11,SNR=42						
KK31				⇑Sn	Sn	06 13 36.3	-0.4
	3.9nm,0.3s						
KK31				⇑Lg	Lg	06 13 52.4	
	4.4nm,0.3s,baz=184,slow=25,SNR=4.5						
AML	**Almayashu**	**4.55**	**38**	P	Pn	06 12 44.7	+0.3
	SNR=12						
AAK	**Ala-Archa**	**5.32**	**39**	P	Pn	06 12 55.2	+0.4
	SNR=5.7						
KBK	**Karagaybulak**	**5.57**	**41**	P	Pn	06 12 59.7	+1.6
	SNR=14						
USP	**Ospenovka**	**5.81**	**35**	P	Pn	06 13 01.1	-0.3
	SNR=8.7						
TKM2	**Tokmak 2**	**6.09**	**43**	P	Pn	06 13 06.2	+0.8
	SNR=12						
TKM2	**Tokmak 2**	**6.09**	**43**	⇑Pn	Pn	06 13 05.3	-0.1
	13nm,0.5s						
TKM2				⇑Sn	Sn	06 14 14.9	-0.4
	3.6nm,0.6s						
AB31	**Akbulak array**	**12.87**	**329**	⇓P	Pn	06 14 38.4	+0.4
	0.8nm,0.4s,baz=142,slow=12,SNR=23						
AKTO	**Aktyubinsk**	**14.57**	**328**	⇑P	P	06 15 06.9	-0.9
	1.5nm,0.7s						

*IDC **03** 07:16:44.9±1.4, 7°.71S×129°.41E, h0km, mb3.6/3, mbtmp3.7/6, ML3.9/3, MS3.5/1, Error ellipse: s-maj=65.2km s-min=23.0km az=71.0*

ISC 03 07:16:46.8±1.4, 8°.0S±0°.1×129°.5E±0°.2, h10km, n7, σ3°44/9, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.72**	**200**	Pn	Pn	07 19 24.0	+3.5
	0.8nm,0.3s,baz=21,slow=12,SNR=21						
FITZ				Sn	Sn	07 21 17.0	-3.7
	3.0nm,0.3s,baz=65,slow=23,SNR=13						
	1.8nm,0.3s						
WRA	**Warramunga Arr**	**12.77**	**159**	Pn	Pn	07 19 50.6	+2

5.5nm,0.3s
KPKS **Kokpek** 1.92 353 *e*P Pb 07 21 55.4 +0.4
1.2nm,0.1s
KPKS *e*S Sg 07 22 19.8 -1.6
4.0nm,0.2s
TNSS **Tian-Shan** 2.13 315 Pg Pb 07 21 58.9 +0.1
1.4nm,0.1s
TNSS Lg Lg 07 22 26.0
3.1nm,0.3s
TNSS **Tian-Shan** 2.13 315 *e*P Pb 07 21 58.9 +0.1
1.4nm,0.1s
TNSS *e*S Sb 07 22 26.0 +0.3
3.1nm,0.3s
MDOK **Medeo** 2.17 318 Pg Pb 07 21 59.8 +0.5
2.1nm,0.4s
MDOK Lg Lg 07 22 27.1
6.5nm,0.7s
MDOK **Medeo** 2.17 318 *e*P Pb 07 21 59.8 +0.5
2.1nm,0.4s
MDOK *e*S Sb 07 22 27.1 +0.7
6.5nm,0.7s
ULHL **Ulahol** 2.18 289⇑*i*P Pn 07 21 56.8 +0.2
ULHL ⇑*i*S Sn 07 22 23.6 -0.4
NRN **Naryn** 2.27 268⇑*i*P Pn 07 21 57.7 -0.2
NRN ⇑*i*S Sn 07 22 24.9 -1.4
BOOM **Boomskoye usch** 2.48 293⇓*e*P Pn 07 22 01.3 +0.8
BOOM ⇓*e*S Sn 07 22 31.1 0.0
DJR **Jarkent** 2.83 11 Pg Pb 07 22 11.1 +0.6
0.6nm,0.2s
DJR Lg Lg 07 22 47.1
5.2nm,0.3s
DJR **Jarkent** 2.83 11 *e*P Pb 07 22 11.1 +0.6
0.6nm,0.2s
DJR *e*S Sb 07 22 47.1 +1.8
5.2nm,0.3s
TKM2 **Tokmak 2** 2.88 299 ⇓Pg Pb 07 22 11.9 +0.4
0.8nm,0.7s
TKM2 ⇓Lg Lg 07 22 49.2
1.0nm,0.3s
TKM2 **Tokmak 2** 2.88 299⇑*i*P Pn 07 22 06.9 +0.7
TKM2 ⇑*i*S Sn 07 22 40.9 -0.3
KBK **Karagaybulak** 3.22 291⇑*i*P Pn 07 22 11.2 +0.4
KBK ⇑*i*S Sn 07 22 48.5 -1.0
USP **Ospenovka** 3.76 299⇑*i*P Pn 07 22 18.7 +0.7
USP ⇑*i*S Sn 07 23 01.6 -0.9

*IDC **03** 07:26:26.0±3.1, 23°.62S×179°.82W, h507km±33km, mb3.4/6, mbtmp4.2/7, Error ellipse: s-maj=32.2km s-min=21.7km az=177.0*

ISC 03 07:26:25.5±1.0, 23°.8S±0°.1×179°.6W±0°.1, h500km, n9, σ1§76/10, mb3.8/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.96**	**275**	P	**P**	**07 29 16.8**	**+2.3**
1.9nm,0.6s,baz=257,slow=24,SNR=0.9							
URZ	**Urewera**	**14.69**	**190**	P	**P**	**07 29 33.8**	**+1.5**
6.4nm,0.6s,baz=226,slow=18,SNR=1.4							
URZ				S	**S**	**07 32 04.8**	**-1.6**
28nm,1.3s,baz=35,slow=23,SNR=1.3							
STKA	**Stephens Creek**	**35.09**	**248**	P	**P**	**07 32 35.7**	**-0.6**
4.0nm,0.9s,baz=97,slow=14,SNR=5.5							
4.0nm,0.9s							
ASAR	**Alice Springs**	**42.40**	**260**	P	**P**	**07 33 34.5**	**-1.3**
6.8nm,0.8s,baz=96,slow=7.4,SNR=76							
ASAR				ScP	**ScP**	**07 38 18.5**	**-2.1**
0.3nm,0.7s,baz=120,slow=4.1,SNR=4.1							
6.8nm,0.8s							
WRA	**Warramunga Arr**	**42.77**	**266**	P	**P**	**07 33 36.7**	**-2.0**
8.2nm,0.5s,baz=104,slow=7.9,SNR=333							
8.2nm,0.5s							
QSPA	**South Pole Qui**	**66.29**	**180**	P	**P**	**07 36 24.4**	**+0.9**
1.2nm,0.8s,baz=349,slow=3.3,SNR=5.9							
1.2nm,0.8s							
TXAR	**Lajitas Array**	**90.07**	**58**	P	**P**	**07 38 32.1**	**+0.2**
0.5nm,0.7s,baz=210,slow=5.5,SNR=7.1							
0.5nm,0.7s							
PDAR	**Pinedale Array**	**92.36**	**44**	P	**P**	**07 38 42.0**	**-0.4**
0.1nm,0.4s,baz=240,slow=3.9,SNR=2.3							
0.1nm,0.4s							
HFS	**Hagfors**	**142.50**	**349**	PKhKP	PKPpre	07 44 55.4	
0.8nm,0.3s,baz=32,slow=1.9,SNR=13							

IDC 03 07:36:36.9±5.9, 16°.95S×168°.88E, h256km±44km, mb3.0/3, mbtmp3.6/4, Error ellipse: s-maj=54.8km s-min=28.8km az=32.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.59**	**204**	P	Pn	07 38 00.0	-0.1
8.5nm,1.0s,baz=36,slow=19,SNR=1.9							
DZM				S	S	07 39 07.1	+0.4
2.7nm,0.4s,baz=59,slow=23,SNR=1.5							
WRA	**Warramunga Arr**	**32.87**	**259**	P	P	07 42 46.9	-0.4
0.1nm,0.5s,baz=92,slow=9.3,SNR=4.6							
0.1nm,0.5s							
ASAR	**Alice Springs**	**33.41**	**253**	P	P	07 42 52.0	+0.1
1.2nm,0.6s,baz=80,slow=9.1,SNR=27							
1.2nm,0.6s							
QSPA	**South Pole Qui**	**73.09**	**180**	P	P	07 47 39.3	+0.1
1.3nm,0.8s,baz=336,slow=1.6,SNR=8.8							
1.3nm,0.8s							
ARCES	**ARCESS Array B**	**122.78**	**346**	PKP	PKPdf	07 55 01.3	-0.4
2.3nm,0.9s,baz=64,slow=2.1,SNR=6.3							

*IDC **03** 07:42:25.8±1.3, 37°.51N×20°.69E, h0km, mb3.5/6, mbtmp3.5/9, ML1.4/2, MS2.9/3, Error ellipse: s-maj=27.3km s-min=22.4km az=128.0*

*ATH **03** 07:42:26.4, 37°.31N×20°.57E, h8km±1km, ML3.8/27, Manual Solution by N.Liadopoulou This location: 2020/07/01 05:37:15 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*

ISC 03 07:42:27.3±1.6, 37°.40N±0°.04×20°.64E±0°.04, h10km±11km, n60, σ0§98/70, mb3.4/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.35**	**26**	P	**Pb**	**07 42 35.0**	**-0.6**
LTHK				S	**Sb**	**07 42 41.2**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.72**	**356**	P	**Pb**	**07 42 41.7**	**-0.2**
PSDA				S	**Sb**	**07 42 52.7**	**+0.9**
VLS	**Valsamata**	**0.78**	**357**	P	**Pb**	**07 42 42.7**	**-0.2**
VLS				S	**Sb**	**07 42 54.7**	**+1.1**
LXRA	**Lixouri, Kepha**	**0.82**	**349**	P	**Pb**	**07 42 44.1**	**+0.6**
LXRA				S	**Sb**	**07 42 56.2**	**+1.5**
SMHA	**Samh**	**0.85**	**0**	P	**Pb**	**07 42 44.2**	**0.0**
AMT	**Artemida-Makis**	**0.86**	**81**	P	**Pb**	**07 42 44.6**	**+0.3**
AMT				S	**Sb**	**07 42 57.3**	**+1.5**
DMLN	**Damoulianata-K**	**0.87**	**346**	P	**Pb**	**07 42 45.0**	**+0.6**
DMLN				S	**Sb**	**07 42 57.5**	**+1.4**
RLS	**Riolos of Patr**	**0.93**	**44**	P	**Pb**	**07 42 45.2**	**-0.3**
RLS				S	**Sn**	**07 42 59.7**	**0.0**
PYL	**PYLOS**	**1.01**	**119**	P	**Pg**	**07 42 46.4**	**-0.3**
DRO	**Drossia**	**1.01**	**56**	P	**Pb**	**07 42 46.9**	**0.0**
ITM	**Ithomi**	**1.05**	**102**	P	**Pg**	**07 42 47.5**	**+0.1**
ITM				S	**Sb**	**07 43 02.4**	**+1.2**
FSK	**Fiskardo**	**1.06**	**357**	P	**Pb**	**07 42 47.7**	**0.0**
EVGI	**Lefkada island**	**1.22**	**0**	P	**Pg**	**07 42 50.1**	**-0.7**
UPR	**University Cam**	**1.27**	**45**	P	**Pn**	**07 42 51.6**	**+0.6**
DRAG	**Dragano-Lefkad**	**1.29**	**358**	P	**Pg**	**07 42 51.1**	**-0.9**
NYDR	**Nydri-Lefkada**	**1.32**	**2**	P	**Pn**	**07 42 53.2**	**+1.5**
KLV	**Kalavryta, Ach**	**1.36**	**61**	P	**Pg**	**07 42 53.0**	**-0.4**
LKD2	**Lefkada island**	**1.39**	**0**	P	**Pn**	**07 42 53.5**	**+0.7**
TSLK	**Tsoukalades, L**	**1.43**	**0**	P	**Pn**	**07 42 53.9**	**+0.7**
EFP	**Efpalio**	**1.43**	**44**	P	**Pn**	**07 42 54.0**	**+0.7**
GUR	**Goura**	**1.45**	**68**	P	**Pn**	**07 42 54.2**	**+0.6**
KALE	**Kalithea**	**1.54**	**50**	P	**Pn**	**07 42 55.7**	**+0.8**
ANX	**Ano Chora**	**1.56**	**40**	P	**Pb**	**07 42 56.4**	**+0.1**
DLFA	**Delphi**	**1.82**	**53**	P	**Pb**	**07 43 00.4**	**-0.3**
VLI	**Veliai**	**1.96**	**110**	P	**Pn**	**07 43 01.4**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.00**	**36**	P	**Pn**	**07 43 02.4**	**+1.3**
AXAR	**Agios Charalam**	**2.10**	**49**	P	**Pn**	**07 43 03.9**	**+1.5**
IGT	**Igoumenitsa**	**2.15**	**354**	P	**Pn**	**07 43 04.2**	**+1.1**
VIL2	**Platees**	**2.23**	**68**	P	**Pn**	**07 43 04.6**	**+0.3**
JAN	**Janina**	**2.26**	**4**	P	**Pn**	**07 43 05.0**	**+0.3**
KEK	**Kerkira**	**2.41**	**344**	P	**Pn**	**07 43 07.9**	**+1.2**
THL	**Klokotos Trika**	**2.42**	**26**	P	**Pn**	**07 43 08.1**	**+1.2**
ATH	**Athens Observa**	**2.50**	**76**	P	**Pn**	**07 43 08.7**	**+0.7**
VLY	**Voula,Athens**	**2.54**	**79**	P	**Pn**	**07 43 08.6**	**0.0**
ATHU	**Athens Univers**	**2.56**	**76**	P	**Pn**	**07 43 09.1**	**+0.4**
KPRO	**Kipourio**	**2.62**	**12**	P	**Pn**	**07 43 11.1**	**+1.4**
ANKY	**Antikythira Is**	**2.63**	**125**	P	**Pn**	**07 43 10.4**	**+0.8**
TYRN	**Tyrnavos**	**2.63**	**28**	P	**Pn**	**07 43 10.8**	**+1.1**
PTL	**Penteli**	**2.64**	**75**	P	**Pn**	**07 43 09.9**	**0.0**
DION	**Dionisos Attik**	**2.69**	**74**	P	**Pn**	**07 43 11.7**	**+1.0**
NEO	**Neokhori**	**2.79**	**46**	P	**Pn**	**07 43 12.8**	**+0.9**
PENT	**Pentalofos**	**2.82**	**8**	P	**Pn**	**07 43 13.8**	**+1.3**
KYMI	**Kymi, Euboea I**	**3.00**	**65**	P	**Pn**	**07 43 16.5**	**+1.8**
NEST	**Nestorio**	**3.03**	**6**	P	**Pn**	**07 43 17.5**	**+2.2**
KZN	**Kozani**	**3.04**	**16**	P	**Pn**	**07 43 16.0**	**+0.6**
AOS2	**Alonissos-2**	**3.07**	**54**	P	**Pn**	**07 43 16.9**	**+1.1**
SCTE	**Santa Cesarea**	**3.17**	**328**	P	**Pn**	**07 43 18.3**	**+1.2**
FNA	**Florina**	**3.43**	**9**	P	**Pn**	**07 43 21.8**	**+1.0**
HORT	**Hortiatis**	**3.73**	**30**	P	**Pn**	**07 43 25.5**	**+0.6**
IDI	**Anoyia**	**4.02**	**120**	Pn	**Pn**	**07 43 29.6**	**+0.6**
0.7nm,0.3s,baz=20,slow=13,SNR=1.7							
IDI				Sn	**Sn**	**07 44 15.6**	**-0.6**
4.6nm,0.3s,baz=353,slow=20,SNR=6.9							
2.0nm,0.3s							
CUC	**Castrocucco**	**4.58**	**306**	P	**Pn**	**07 43 37.9**	**+1.3**
VAE	**Valguarnera**	**4.96**	**273**	Pn	**Pn**	**07 43 41.7**	**-0.1**
1.4nm,0.3s,baz=42,slow=22,SNR=1.9							
VAE				Sn	**Sn**	**07 44 38.1**	**-1.2**
1.8nm,0.3s,baz=354,slow=23,SNR=1.3							
9.9nm,0.5s							
MLR	**Muntele Rosu**	**9.01**	**25**	Pn	**Pn**	**07 44 38.5**	**+1.0**
0.7nm,0.3s,baz=3.7,slow=13,SNR=2.3							
MLR				LR	LR	07 48 34.6	
comp=Z,47nm,19.8s,baz=206,slow=42							
AKASG	**Malin Array Be**	**14.65**	**22**	Pn	**P**	**07 46 00.1**	**-0.7**
0.9nm,0.3s,baz=212,slow=9.3,SNR=7.2							
HFS	**Hagfors**	**23.19**	**351**	P	**P**	**07 47 33.2**	**-0.7**
4.6nm,1.1s,baz=162,slow=10,SNR=1.8							
4.6nm,1.1s							
FINES	**FINESS Array B**	**24.31**	**6**	P	**P**	**07 47 43.0**	**-1.7**
0.7nm,0.6s,baz=181,slow=8.7,SNR=0.9							
FINES				LR	LR	07 58 02.7	
comp=Z,68nm,19.4s,baz=244,slow=39							
0.7nm,0.6s							
NOA	**NORSAR Array B**	**24.40**	**349**	P	**P**	**07 47 44.7**	**-0.9**
0.5nm,0.7s,baz=161,slow=9.4,SNR=1.4							
NOA				LR	LR	07 59 48.7	
comp=Z,18nm,19.7s,baz=250,slow=43							
0.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**29.49**	**220**	P	**P**	**07 48 33.4**	**+1.8**
0.3nm,0.7s,baz=29,slow=10,SNR=2.0							
0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**42.62**	**53**	P	**P**	**07 50 23.4**	**-0.1**
0.3nm,0.5s,baz=278,slow=9.4,SNR=2.7							
0.3nm,0.5s							
MKAR	**Makanchi Array**	**45.63**	**58**	P	**P**	**07 50 45.6**	**-2.1**
0.3nm,0.5s,baz=276,slow=7.5,SNR=6.4							
0.3nm,0.5s							

*TIR **03** 08:05:47.1, 37°.32N×20°.07E, h17km±2km, Ml4.6*

*NAO **03** 08:05:48.6, 37°.36N×23°.20E, h10km, mb4.7*

*AFAD **03** 08:05:50.0±0.0, 37°.50N×20°.04E, h15km, MW4.3*

*IDC **03** 08:05:51.7±0.6, 37°.63N×20°.39E, h0km, mb4.0/22, mbtmp4.0/33, ML3.8/9, MS3.7/38, Error ellipse: s-maj=12.7km s-min=11.6km az=166.0*

*ATH **03** 08:05:52.6, 37°.55N×20°.26E, h9km±2km, ML4.6/34, Manual Solution by A.Fokaefs This location: 2020/10/06 16:43:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*

*MCSM **03** 08:05:52.4±0.5, 37°.N±3°×2°.0E±°, h6km±3km, mB4.5, mb4.5, MLv4.6, Mw(mB)3.6*

*MOS **03** 08:05:52.6±1.3, 37°.53N×20°.27E, h14km, mb4.6/12, Error ellipse: s-maj=7.4km s-min=3.3km az=77.3*

*NEIC **03** 08:05:53.6±2.2, 37°.52N±0°.06×20°.26E±0°.07, h10km±1km, mb4.7/14, Mwr4.5/12, Error ellipse: s-maj=10.7km s-min=9.2km az=166.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}0.78; $M_{\theta\theta}$2.52; $M_{\phi\phi}$-3.29; $M_{r\theta}$-1.45; $M_{\theta\phi}$4.36; $M_{\phi r}$-4.74; Fault plane solution: $M_0$7.24000×10^15^ NP1:ϕ_s288.43000°, δ46.28000°, λ5.71000°. NP2:ϕ_s194.47000°, δ85.88000°, λ136.13000°. Principal axes: T 7.1402, Plg33.0000°, Azm142.0000°; N 0.2042, Plg46.0000°, Azm10.0000°; P -7.3444, Plg26.0000°, Azm250.0000°;*

*PDG **03** 08:05:53.1±0.9, 37°.59N×20°.22E, h1km±11km, ML4.3/12 Error ellipse: s-maj=1.3km s-min=2.3km az=0.0*

*NEIC **03** 08:05:53.7, 37°.50N×20°.24E, h10km*

*THE **03** 08:05:54.3, 37°.64N×20°.37E, h16km, ML4.5/6, Error ellipse: s-maj=1.3km s-min=0.4km az=53.0*

*MED_RC **03** 08:05:54.0±0.4, 37°.41N×20°.31E, h19km±1km, MW4.5/30, Moment Tensor Solution.Mantle waves: s30,c45; Duration: 1§0 Moment tensor: Scale 10^15^Nm; M_{rr}1.03±.53; $M_{\theta\theta}$1.09±.42; $M_{\phi\phi}$-2.12±.35; $M_{r\theta}$-1.96±.65; $M_{\theta\phi}$6.79±.31; $M_{\phi r}$0.99±.57; Best double couple: $M_0$7.36000×10^15^ NP1:ϕ_s278.00000°, δ79.00000°, λ16.00000°. NP2:ϕ_s185.00000°, δ74.00000°, λ168.00000°. Principal axes: T 7.2100, Plg19.0000°, Azm142.0000°; N 0.3000, Plg71.0000°, Azm312.0000°; P -7.5200, Plg3.0000°, Azm51.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*BEO **03** 08:05:55.5±0.7, 37°.69N×20°.07E, h10km, ML4.1/11*

ISC 03 08:05:55.1±0.7, 37°.62N±0°.03×20°.38E±0°.02, h19km±2km, n446, σ1§82/477, mb4.4/38, MS3.7/35, 26C-24D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.35**	**83**	P	**Pg**	**08 06 01.4**	**-1.1**
KRI1				S	**Sg**	**08 06 07.2**	**-0.4**
240μm,0.6s							
KRI1	**kERI**	**0.35**	**83**	P	**Pg**	**08 06 01.6**	**-1.0**
KRI1				S	**Sg**	**08 06 07.5**	**-0.1**
LTHK	**Lithakia**	**0.37**	**76**	P	**Pg**	**08 06 01.8**	**-1.1**
LTHK				S	**Sg**	**08 06 07.8**	**-0.4**
181μm,0.4s							
LTHK	**Lithakia**	**0.37**	**76**	P	**Pg**	**08 06 01.8**	**-1.1**
LTHK				S	**Sg**	**08 06 08.6**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.52**	**18**	P	**Pg**	**08 06 04.1**	**-1.5**
PSDA				S	**Sg**	**08 06 11.7**	**-0.9**
34μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.52**	**18**	P	**Pg**	**08 06 04.3**	**-1.2**
PSDA				S	**Sg**	**08 06 12.6**	**+0.1**
RTZL	**Ratzakli, Kefa**	**0.55**	**34**	P	**Pb**	**08 06 04.9**	**-1.2**
RTZL				S	**Sg**	**08 06 12.8**	**-0.7**
43μm,0.7s							
ARG2	**Argostoli**	**0.56**	**9**	P	**Pb**	**08 06 05.4**	**-0.9**
ARG2				S	**Sg**	**08 06 13.9**	**-0.1**
VLS	**Valsamata**	**0.58**	**16**	P	**Pb**	**08 06 05.1**	**-1.5**
VLS				S	**Sb**	**08 06 13.4**	**-1.0**
26μm,0.5s							
VLS	**Valsamata**	**0.58**	**16**	P	**Pb**	**08 06 05.5**	**-1.1**
VLS				S	**Sb**	**08 06 14.6**	**+0.2**
VLS	**Valsamata**	**0.58**	**16**	P	**Pb**	**08 06 05.3**	**-1.3**
VLS				S	**Sb**	**08 06 14.7**	**+0.3**
LXRA	**Lixouri, Kepha**	**0.58**	**4**	P	**Pb**	**08 06 05.6**	**-1.0**
LXRA				S	**Sb**	**08 06 14.3**	**-0.1**
DMLN	**Damoulianata-K**	**0.62**	**359**	P	**Pb**	**08 06 05.8**	**-1.5**
DMLN				S	**Sb**	**08 06 15.2**	**-0.3**
50μm,0.6s							
DMLN	**Damoulianata-K**	**0.62**	**359**	P	**Pb**	**08 06 06.4**	**-0.8**
DMLN				S	**Sb**	**08 06 14.8**	**-0.7**
SMHA	**Samh**	**0.66**	**18**	P	**Pb**	**08 06 06.4**	**-1.7**
SMHA				S	**Sb**	**08 06 16.5**	**-0.4**
VSK1	**VASILIKIADES**	**0.80**	**10**	P	**Pb**	**08 06 09.0**	**-1.4**
FSK	**Fiskardo**	**0.85**	**10**	P	**Pb**	**08 06 09.8**	**-1.5**
FSK	**Fiskardo**	**0.85**	**10**	P	**Pb**	**08 06 10.2**	**-1.0**
FSK				S	**Sg**	**08 06 23.2**	**+0.2**
RLS	**Riolos of Patr**	**0.96**	**63**	P	**Pb**	**08 06 12.1**	**-1.1**
RLS	**Riolos of Patr**	**0.96**	**63**	P	**Pb**	**08 06 12.3**	**-0.9**
AXS	**Araxos**	**0.97**	**54**	P	**Pb**	**08 06 12.3**	**-1.1**
EVGI	**Lefkada island**	**1.02**	**12**	P	**Pb**	**08 06 12.9**	**-1.3**
EVGI	**Lefkada island**	**1.02**	**12**	P	**Pb**	**08 06 13.3**	**-1.0**
AMT	**Artemida-Makis**	**1.06**	**94**	P	**Pb**	**08 06 14.6**	**-0.3**
AMT				S	**Sg**	**08 06 30.7**	**+1.1**
DRAG	**Dragano-Lefkad**	**1.07**	**8**	P	**Pb**	**08 06 13.7**	**-1.4**
DRAG	**Dragano-Lefkad**	**1.07**	**8**	P	**Pb**	**08 06 14.2**	**-0.8**
AST1	**Astakos**	**1.07**	**31**	P	**Pb**	**08 06 13.7**	**-1.4**
DRO	**Drossia**	**1.10**	**72**	P	**Pn**	**08 06 15.2**	**-0.4**
DRO	**Drossia**	**1.10**	**72**	P	**Pn**	**08 06 15.0**	**-0.6**
MSL1	**Messolongi**	**1.11**	**47**	P	**Pb**	**08 06 16.4**	**+0.6**
NYDR	**Nydri-Lefkada**	**1.12**	**13**	P	**Pn**	**08 06 14.2**	**-1.6**
NYDR	**Nydri-Lefkada**	**1.12**	**13**	P	**Pn**	**08 06 14.5**	**-1.3**
LKD2	**Lefkada island**	**1.19**	**10**	P	**Pn**	**08 06 15.9**	**-0.8**
LKD2				S	**Sg**	**08 06 37.9**	**+4.3**
LKD2				AMP			
comp=E,40nm,0.8s,baz=17							
LKD2	**Lefkada island**	**1.19**	**10**	P	**Pb**	**08 06 17.2**	**+0.1**
LKD2	**Lefkada island**	**1.19**	**10**	P	**Pn**	**08 06 15.8**	**-1.0**
TSLK	**Tsoukalades, L**	**1.22**	**10**	P	**Pn**	**08 06 15.8**	**-1.4**
TSLK	**Tsoukalades, L**	**1.22**	**10**	P	**Pn**	**08 06 16.3**	**-0.9**
PATG	**Patra B**	**1.23**	**59**	P	**Pg**	**08 06 18.8**	**-0.1**
PYL1	**Pylos**	**1.26**	**124**	P	**Pn**	**08 06 17.0**	**-0.8**
UPR	**University Cam**	**1.29**	**59**	P	**Pn**	**08 06 18.1**	**0.0**
PYL	**PYLOS**	**1.30**	**123**	P	**Pn**	**08 06 17.8**	**-0.6**
PYL				S	**Sn**	**08 06 34.3**	**-1.0**
ITM	**Ithomi**	**1.31**	**109**	P	**Pn**	**08 06 17.2**	**-1.2**
ITM	**Ithomi**	**1.31**	**109**	P	**Pn**	**08 06 18.0**	**-0.4**
ITM				S	**Sn**	**08 06 35.0**	**-0.3**
PVO	**Paravola**	**1.34**	**42**	P	**Pn**	**08 06 19.3**	**+0.4**
VVK	**Vomvokou**	**1.38**	**54**	P	**Pn**	**08 06 19.6**	**+0.1**
KLV1	**Kalavrita**	**1.43**	**73**	P	**Pg**	**08 06 22.3**	**-0.3**
EFP	**Efpalio**	**1.45**	**56**	P	**Pn**	**08 06 20.2**	**-0.1**
KLV	**Kalavryta, Ach**	**1.46**	**73**	P	**Pn**	**08 06 21.1**	**+0.6**
ANX	**Ano Chora**	**1.55**	**51**	P	**Pn**	**08 06 22.1**	**+0.2**
GUR	**Goura**	**1.58**	**78**	P	**Pn**	**08 06 22.8**	**+0.5**
KALE	**Kalithea**	**1.59**	**60**	P	**Pn**	**08 06 21.8**	**-0.6**
EVR	**Evrytania**	**1.71**	**41**	P	**Pb**	**08 06 27.2**	**+1.1**
IGT	**Igoumenitsa**	**1.91**	**359**	P	**Pn**	**08 06 27.1**	**+0.3**
IGT				S	**Sg**	**08 06 56.5**	**-0.2**
IGT				AMP			
comp=E,11nm,0.9s,baz=5.0							
IGT	**Igoumenitsa**	**1.91**	**359**	P	**Pn**	**08 06 27.0**	**+0.3**
IGT				S	**Sg**	**08 06 56.4**	**-0.2**
IGT	**Igoumenitsa**	**1.91**	**359**	P	**Pn**	**08 06 26.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.96**	**44**	P	**Pb**	**08 06 29.7**	**-0.5**
JAN	**Janina**	**2.06**	**10**	P	**Pn**	**08 06 29.6**	**+0.8**
AGG	**Agios Georgios**	**2.08**	**47**	P	**Pb**	**08 06 31.8**	**-0.4**
AGG				S	**Sg**	**08 07 03.6**	**+1.6**
AGG				*i* AML	AML	08 07 12.0	
comp=E,785nm,0.7s							
AGG	**Agios Georgios**	**2.08**	**47**	*e*P	**Pn**	**08 06 30.6**	**+1.6**
AGG	**Agios Georgios**	**2.08**	**47**		**Pn**	**08 06 30.7**	**+1.7**
AGG	**Agios Georgios**	**2.08**	**47**	P	**Pn**	**08 06 30.7**	**+1.7**
AGG	**Agios Georgios**	**2.08**	**47**	P	**Pn**	**08 06 27.9**	**-1.1**
LOUT	**Loutraki**	**2.09**	**79**	P	**Pn**	**08 06 30.1**	**+0.9**
AXAR	**Agios Charalam**	**2.13**	**57**	P	**Pn**	**08 06 31.4**	**+1.7**
KEK	**Kerkira**	**2.14**	**348**	*e*P	**Pn**	**08 06 29.9**	**+0.1**
KEK	**Kerkira**	**2.14**	**348**		**Pn**	**08 06 29.3**	**-0.5**
KEK	**Kerkira**	**2.14**	**348**	P	**Pn**	**08 06 30.2**	**+0.3**
VLI	**Veliai**	**2.23**	**113**	P	**Pn**	**08 06 31.9**	**+0.9**
SRN	**Sarande**	**2.27**	**353**	P	**Pn**	**08 06 32.4**	**+0.7**
SRN				S	**Sb**	**08 07 05.3**	**+2.0**
SRN				AMP			
comp=E,8.6nm,1.2s,baz=359							
THL	**Klokotos Trika**	**2.32**	**33**	P	**Pn**	**08 06 33.0**	**+0.6**
KPRO	**Kipourio**	**2.45**	**18**	P	**Pn**	**08 06 33.5**	**-0.8**
LSK	**Leskovik**	**2.53**	**4**	P	**Pn**	**08 06 35.8**	**+0.5**
LSK				S	**Sb**	**08 07 13.2**	**+2.4**
LSK				AMP			
comp=N,15nm,1.5s,baz=8.0							
TYRN	**Tyrnavos**	**2.54**	**34**	P	**Pn**	**08 06 35.4**	**0.0**
PENT	**Pentalofos**	**2.64**	**13**	P	**Pb**	**08 06 39.8**	**-2.0**
SCTE	**Santa Cesarea**	**2.87**	**329**	P	**Pn**	**08 06 38.6**	**-1.2**
SCTE	**Santa Cesarea**	**2.87**	**329**		**Pn**	**08 06 38.8**	**-1.1**
SCTE	**Santa Cesarea**	**2.87**	**329**	P	**Pn**	**08 06 38.8**	**-1.1**
KZN	**Kozani**	**2.89**	**22**	P	**Pn**	**08 06 41.2**	**+0.9**
KZN	**Kozani**	**2.89**	**22**	P	**Pn**	**08 06 40.2**	**-0.1**
LIT	**Litokhoron**	**2.97**	**33**	P	**Pn**	**08 06 41.6**	**+0.3**
LIT	**Litokhoron**	**2.97**	**33**		**Pn**	**08 06 42.7**	**+1.4**
LIT	**Litokhoron**	**2.97**	**33**	P	**Pn**	**08 06 42.7**	**+1.4**
TIP	**Timpagrande**	**3.24**	**300**		**Pn**	**08 06 44.0**	**-1.1**
TIP	**Timpagrande**	**3.24**	**300**	⇑P	**Pg**	**08 06 58.6**	**+1.3**
TIP	**Timpagrande**	**3.24**	**300**	P	**Pn**	**08 06 44.7**	**-0.4**
FNA	**Florina**	**3.25**	**13**	P	**Pn**	**08 06 47.0**	**+1.8**
FNA	**Florina**	**3.25**	**13**	P	**Pn**	**08 06 47.1**	**+2.0**
FNA	**Florina**	**3.25**	**13**		**Pn**	**08 06 46.6**	**+1.4**
FNA	**Florina**	**3.25**	**13**	*e*Pn	**Pn**	**08 06 46.7**	**+1.5**
FNA				*e*Sn	**Sn**	**08 07 25.3**	**+1.9**
FNA	**Florina**	**3.25**	**13**	P	**Pn**	**08 06 46.6**	**+1.4**
OHR	**Ohrid**	**3.50**	**5**	*e*Pn	**Pn**	**08 06 50.4**	**+1.8**
OHR				*e*Sn	**Sn**	**08 07 30.8**	**+1.2**
OHR	**Ohrid**	**3.50**	**5**	*i* Pn	**Pn**	**08 06 51.1**	**+2.5**
OHR	**Ohrid**	**3.50**	**5**	P	**Pn**	**08 06 52.1**	**+3.5**
KNDR	**Palaiochora Ch**	**3.57**	**131**	*e*P	**Pn**	**08 06 46.5**	**-3.0**
CEL	**Celeste**	**3.60**	**282**		**Pn**	**08 06 48.1**	**-1.9**
CEL	**Celeste**	**3.60**	**282**	P	**Pn**	**08

ALN Alexandroupoli 5.48 52 Pn **Pn 08 07 16.7 +1.0**
ALN Alexandroupoli 5.48 52 P **Pn 08 07 16.7 +1.0**
BODT Bodrum 5.55 94 *e*P **Pn 08 07 17.9 +1.2**
SELS Selova 5.62 6 *e*Pn **Pn 08 07 17.5 -0.2**
PLD Plovdiv 5.63 35 P **Pn 08 07 21.6 +3.8**
PLD pmax pmax
comp=Z,154nm,1.0s
STON Ston 5.63 339 *e*Pn **Pn 08 07 15.7 -2.1**
STON *e*Sn **Sn 08 08 17.2 -4.7**
STON Ston 5.63 339 *e*Pn **Pn 08 07 15.5 -2.3**
SJES Sjenica 5.64 357 *e*Pn **Pn 08 07 18.7 +0.6**
SJES *e*Sn **Sn 08 08 19.6 -2.8**
SJES Sjenica 5.64 357 *e*Pn **Pn 08 07 18.6 +0.5**
UPM Unac-Piva 5.69 349 *e*Pn **Pn 08 07 18.8 0.0**
UPM Unac-Piva 5.69 349 *e*Pn **Pn 08 07 19.0 +0.2**
UPM *i* Sn **Sn 08 08 21.6 -2.1**
PLE Pljevlja 5.75 353 *e*Pn **Pn 08 07 20.0 +0.4**
PLE *i* Sn **Sn 08 08 23.4 -1.7**
DAT Datca 5.81 97 *e*P **Pn 08 07 22.2 +1.7**
KARP Karpathos 5.83 109 *e*P **Pn 08 07 21.2 +0.5**
KARP Karpathos 5.83 109 **Pn 08 07 20.6 -0.1**
KARP Karpathos 5.83 109 P **Pn 08 07 24.0 +3.3**
KARP Karpathos 5.83 109 P **Pn 08 07 21.0 +0.3**
comp=Z,92nm,0.9s,comp=Z,0.6nm
ZAPS Zavoj 5.90 16 *e*Pn **Pn 08 07 22.3 +0.7**
IVAS Ivanjica 5.95 358 *e*Pn **Pn 08 07 23.0 +0.7**
AYDB Zeytinkoy-Aydi 5.96 85 *e*P **Pn 08 07 23.9 +1.5**
RUDO Rudo 6.04 353 *e*Pn Pn 08 07 14.7 -8.7
BALY Balya 6.04 67 P Pn 08 07 14.7 -8.8
BOVS Bovan 6.09 9 *e*Pn **Pn 08 07 23.2 -0.9**
BOVS Bovan 6.09 9 ⇑P **Pn 08 07 24.8 +0.7**
BLKB Belogradchik 6.24 15 ⇓P **Pn 08 07 28.2 +2.0**
GRUS Gruza 6.27 2 *e*Pn **Pn 08 07 27.3 +0.8**
BBLS Lazi&#263i 6.28 354 *e*Pn **Pn 08 07 25.9 -0.9**
BBLS Lazi&#263i 6.28 354 *e*Pn **Pn 08 07 30.4 +3.6**
YER Yerkesik 6.31 92 *e*P Pn 08 07 22.2 -5.0
TURN Turunc 6.33 95 *e*P **Pn 08 07 28.9 +1.5**
DIVS Divibare 6.48 358 *e*Pn **Pn 08 07 30.0 +0.5**
DIVS *e*Sn **Sn 08 08 38.6 -4.3**
HAPS Han Pijesak,BI 6.55 351 *e*Pn **Pn 08 07 29.4 -1.1**
HAPS Han Pijesak,BI 6.55 351 *e*Pn **Pn 08 07 28.9 -1.6**
INTR Introdacqua 6.64 313 **Pn 08 07 32.0 +0.3**
ELND Elena 6.76 37 ⇑P **Pn 08 07 36.7 +3.3**
TEKS Tekeris 6.95 355 *e*Pn **Pn 08 07 34.9 -1.1**
TEKS Tekeris 6.95 355 *e*Pn **Pn 08 07 34.5 -1.5**
A050A Klekovaca 7.45 338 *e*Pn **Pn 08 07 42.6 -0.2**
BLY Banja Luka 7.52 342 *e*Pn **Pn 08 07 44.8 +1.1**
FRGS Fruska Gora 7.54 357 *e*Pn **Pn 08 07 40.6 -3.5**
NRCA Norcia 7.62 315 **Pn 08 07 45.1 -0.1**
GUMA Gualdo di Mace 7.65 317 Pn **Pn 08 07 46.9 +1.4**
ELL Elmali 7.66 94 **Pn 08 07 49.1 +3.4**
ELL Elmali 7.66 94 P **Pn 08 07 49.1 +3.4**
A051A Mrakovica 7.83 342 *e*Pn **Pn 08 07 46.0 -2.1**
GZR Gura Zlata 7.97 12 ⇑P **Pn 08 07 50.8 +0.8**
GZR Gura Zlata 7.97 12 P **Pn 08 07 50.8 +0.8**
BZS Buzias 8.04 6 ⇑P **Pn 08 07 53.1 +2.2**
BZS Buzias 8.04 6 ⇑P **Pn 08 07 53.1 +2.2**
LOT Lotru 8.22 17 ⇓P **Pn 08 07 54.9 +1.4**
SURR Surduc 8.23 9 ⇑P **Pn 08 07 54.7 +1.2**
VOIR 8.56 23 ⇓P **Pn 08 07 59.6 +1.6**
VOIR 8.56 23 ⇓P **Pn 08 07 59.6 +1.6**
VOIR 8.56 23 P **Pn 08 07 59.3 +1.3**
comp=Z,20nm,0.9s
MORH Mrgy, Hungar 8.68 352 P **Pn 08 08 01.0 +1.3**
comp=Z,7.0nm,0.8s
ISR Istrita 8.80 30 ⇑P **Pn 08 08 03.3 +1.9**
ISR Istrita 8.80 30 ⇑P **Pn 08 08 03.3 +1.9**
ISR Istrita 8.80 30 P **Pn 08 08 02.7 +1.3**
comp=Z,69nm,1.1s
MLR Muntele Rosu 8.90 26 **Pn 08 08 05.0 +2.3**
MLR Muntele Rosu 8.90 26 Pn **Pn 08 08 02.7 -0.1**
comp=Z,0.3nm,0.3s,baz=244,slow=8.5,SNR=6.4
MLR LR LR 08 11 52.2
comp=Z,451nm,18.3s,baz=210,slow=41
comp=Z,13nm,0.9s
MLR Muntele Rosu 8.90 26 ⇓P **Pn 08 08 05.5 +2.8**
MLR Muntele Rosu 8.90 26 ⇓P **Pn 08 08 05.5 +2.8**
MLR Muntele Rosu 8.90 26 P **Pn 08 08 05.0 +2.3**
comp=Z,54nm,1.1s,comp=Z,585nm
PTJ Puntijarka 8.91 340 P **Pn 08 08 06.3 +3.4**
NEHR Nehoiu 8.97 28 ⇑P **Pn 08 08 05.3 +1.7**
KEST Kesra 9.06 261 Pn **Pn 08 08 02.8 -2.2**
KEST Kesra 9.06 261 Pn **Pn 08 08 03.6 -1.4**
comp=Z,0.2nm,0.3s,baz=251,slow=8.6,SNR=2.4
KEST LR LR 08 11 59.4
comp=Z,234nm,21.0s,baz=162,slow=40
comp=Z,4.9nm,0.9s
MARR Marisel-Cluj 9.27 12 ⇓P **Pn 08 08 09.2 +1.3**
COVR Voineasa-Covas 9.30 26 ⇑P **Pn 08 08 09.6 +1.4**
DRGR 9.32 10 ⇓P **Pn 08 08 09.3 +0.7**
DRGR 9.32 10 ⇓P **Pn 08 08 09.3 +0.7**
OZUR 9.38 24 ⇑P **Pn 08 08 10.5 +1.3**
TURR Turia 9.41 25 ⇑P **Pn 08 08 12.5 +2.7**
PLOR Plostina 9.46 28 ⇑P **Pn 08 08 13.0 +2.6**
PLOR Plostina 9.46 28 ⇑P **Pn 08 08 13.0 +2.6**
PLOR5 Plostina Array 9.46 28 P **Pn 08 08 12.4 +2.0**
comp=Z,45nm,0.9s
PLOR3 Plostina Array 9.46 28 P **Pn 08 08 12.5 +2.1**
comp=Z,45nm,1.0s
VRI Vrincioaia 9.50 28 ⇓P **Pn 08 08 13.9 +3.0**
VRI Vrincioaia 9.50 28 ⇓P **Pn 08 08 13.9 +3.0**
VRI Vrincioaia 9.50 28 P **Pn 08 08 13.0 +2.1**
comp=Z,41nm,0.9s,comp=Z,307nm
CFR Carcaliu 9.53 35 ⇑P **Pn 08 08 14.9 +3.6**
CFR Carcaliu 9.53 35 ⇑P **Pn 08 08 14.9 +3.6**
MPLH Magyarpolny 9.77 348 P **Pn 08 08 16.5 +1.9**
comp=Z,27nm,1.0s
OBKA Obir 9.88 336 *i* Pn **Pn 08 08 17.0 +0.8**
comp=Z,2.6nm,0.3s
OBKA *i* Sn **Sn 08 10 01.0 -5.6**
comp=Z,21nm,0.8s
OBKA Obir 9.88 336 *e*Pn **Pn 08 08 14.3 -1.9**
SOKA Soboth 9.88 338 *i* Pn **Pn 08 08 14.6 -1.6**
comp=Z,26nm,0.9s
SOKA *i* Sn **Sn 08 10 03.2 -3.4**
comp=Z,8.3nm,0.8s
TESR Tescani 10.03 26 ⇓P **Pn 08 08 20.0 +1.9**
TESR Tescani 10.03 26 P **Pn 08 08 20.9 +2.8**
comp=Z,15nm,1.6s
ARSA Arzberg 10.27 341 *i* Pn **Pn 08 08 20.9 -0.5**
comp=Z,4.3nm,0.4s
MYKA Terra Mystica 10.29 333 *i* Pn **Pn 08 08 22.5 +0.7**
comp=Z,1.9nm,0.3s
PSZ Piszkesteto 10.30 358 **Pn 08 08 22.6 +0.7**
PSZ Piszkesteto 10.30 358 P **Pn 08 08 22.6 +0.7**
BR104 Keskin Array S 10.58 75 P **Pn 08 08 26.7 +0.9**
comp=Z,3.5nm,0.9s,comp=Z,56nm
BRTR Keskin Array B 10.58 74 Pn **Pn 08 08 28.3 +2.5**
comp=Z,0.2nm,0.3s,baz=264,slow=12,SNR=1.9
BRTR LR LR 08 12 24.3
comp=Z,215nm,18.8s,baz=268,slow=37
comp=Z,1.0nm,0.5s
CTI Castel Tesino 10.64 325 Pn **Pn 08 08 27.5 +0.9**
CTI Castel Tesino 10.64 325 P **Pn 08 08 27.5 +0.9**
KBA Koelnbreinsper 10.79 333 P **Pn 08 08 28.9 +0.3**
KECS Kecovo 10.86 0 *e*P Pn 08 08 35.2 +5.7
KECS Kecovo 10.86 0 *e*PN Pn 08 08 35.2 +5.7
MODS Modra-Piesok 10.98 349 *e*P **Pn 08 08 35.7 +4.5**
MODS Modra-Piesok 10.98 349 *e*PN **Pn 08 08 35.7 +4.5**
MOA Molln 11.16 338 *i* Pn **Pn 08 08 33.2 -0.5**
comp=Z,5.3nm,0.4s
MOA Molln 11.16 338 *e*Pn **Pn 08 08 31.7 -2.0**
KSV Kosov 11.22 16 P **Pn 08 08 36.9 +2.4**
KSV Kosov 11.22 16 P **Pn 08 08 36.9 +2.4**
LESA Schwarzleotal 11.32 332 *i* Pn **Pn 08 08 37.7 +1.8**
comp=Z,5.2nm,0.6s
LESA *e*Sn **Sn 08 10 40.4 -1.4**
comp=Z,7.2nm,0.7s
KOLS Kolonicke sedl 11.39 6 *e*P **Pn 08 08 38.5 +1.7**
KOLS Kolonicke sedl 11.39 6 *e*PN **Pn 08 08 38.5 +1.7**
FUORN Ofenpass-Fuorn 11.71 323 Pn **Pn 08 08 42.9 +1.5**
FETA Feichten 11.79 326 *i* Sn **Sn 08 10 53.4 -0.1**
comp=Z,2.4nm,0.7s
NIE Niedzica 11.79 360 P **Pn 08 08 45.7 +3.4**
NIE Niedzica 11.79 360 P **Pn 08 08 45.7 +3.4**
comp=Z,3.2nm,2.0s
KMPD K-Podol'skiy 11.80 20 P **Pn 08 08 44.5 +2.2**
CKRC Cesky Krumlov 12.03 340 AMS AMS 08 14 10.0
comp=Z,600nm,12.8s
TUE Stuetta 12.05 321 Pn **Pn 08 08 47.1 +1.1**
TUE Stuetta 12.05 321 P **Pn 08 08 45.3 -0.7**
comp=Z,39nm,1.1s
GEC2 GERESS Array S 12.22 339 **Pn 08 08 49.1 +0.8**

GERES GERESS Array B 12.22 339 Pn **Pn 08 08 48.6 +0.4**
comp=Z,0.6nm,0.3s,baz=158,slow=15,SNR=9.2
GERES Sn **Sn 08 10 56.5 -7.5**
comp=Z,0.3nm,0.3s,baz=147,slow=19,SNR=2.0
GERES LR LR 08 15 14.9
comp=Z,248nm,18.0s,baz=143,slow=46
comp=Z,2.2nm,0.5s
OKC Ostrava-Krasne 12.32 353 AMS AMS 08 15 00.0
comp=Z,600nm,13.1s
DAVA Damuels 12.38 325 *e*Pn **Pn 08 08 54.2 +3.8**
comp=Z,2.5nm,0.5s
DAVA *e*Sn **Sn 08 11 05.3 -2.5**
comp=Z,2.9nm,0.3s
KHC Kasperske Hory 12.52 339 **Pn 08 08 51.9 -0.3**
KHC Kasperske Hory 12.52 339 *e*PN **Pn 08 08 52.6 +0.4**
KHC *e*SN **Sn 08 11 07.9 -3.1**
KHC AMS AMS 08 14 40.0
comp=Z,800nm,9.6s
KHC Kasperske Hory 12.52 339 ⇓*e*P **Pn 08 08 54.4 +2.2**
KHC Kasperske Hory 12.52 339 P **Pn 08 08 52.4 +0.2**
comp=Z,6.5nm,1.2s
OJC Ojcow 12.60 358 P **Pn 08 08 55.0 +1.7**
OJC Ojcow 12.60 358 P **Pn 08 08 55.0 +1.7**
comp=Z,5.2nm,0.8s
DPC Dobruska-Polom 13.05 348 AMS AMS 08 14 50.0
comp=Z,500nm,9.4s
DPC Dobruska-Polom 13.05 348 P **Pn 08 09 01.2 +1.7**
DPC Dobruska-Polom 13.05 348 P **Pn 08 09 01.2 +1.7**
comp=Z,3.5nm,1.1s
SENIN Lac Senin/Sane 13.06 316 Pn **Pn 08 09 01.1 +1.3**
MMAI Mount Meron Ar 13.10 106 Pn **Pn 08 08 59.3 -0.9**
comp=Z,0.9nm,0.3s,baz=295,slow=13,SNR=3.5
MMAI Sn Sn 08 11 16.6 -8.9
comp=Z,2.6nm,0.3s,baz=298,slow=25,SNR=5.6
comp=Z,0.7nm,0.3s
KZIT Kziot 13.38 116 P **Pn 08 09 01.2 -2.8**
LUBAR Lubar, Ukraine 13.39 21 P **Pn 08 09 06.0 +2.0**
SHMJ Saham 13.49 107 P **Pn 08 09 04.6 -1.0**
QRNJ Al-Qirein 13.52 108 P **Pn 08 09 05.7 -0.2**
KSP Ksiaz 13.54 349 P **Pn 08 09 07.8 +1.8**
KSP Ksiaz 13.54 349 P **Pn 08 09 07.8 +1.8**
comp=Z,6.7nm,1.4s
DSI Dead Sea 13.74 112 P **Pn 08 09 06.8 -2.2**
HSKC Hora Svate Kat 13.90 341 AMS AMS 08 15 40.0
comp=Z,600nm,12.8s
KRMI Paran Flat 14.06 118 P **Pn 08 09 09.8 -3.6**
PRNI Paran 14.12 117 P **Pn 08 09 12.5 -1.7**
ZFRI Zfri 14.13 116 P **Pn 08 09 12.3 -2.0**
RNPP5 Staryi Chortor 14.15 14 P **Pn 08 09 16.5 +2.0**
MI28 Mi28,Pidlybu 14.28 19 P **Pn 08 09 18.4 +2.2**
comp=Z,111nm,0.8s
HRFI Mount Harif 14.33 118 P **Pn 08 09 13.2 -3.8**
RNPP9 Sopachiv 14.33 14 P **Pn 08 09 18.4 +1.5**
AK07 Malin Array Si 14.38 23 P **Pn 08 09 19.9 +2.3**
MBRI Mt Berech 14.38 119 P **Pn 08 09 14.6 -3.2**
AK13 Malin Array Si 14.39 23 P **Pn 08 09 20.0 +2.3**
AK14 Malin Array Si 14.42 23 P **Pn 08 09 19.3 +1.2**
AK10 Malin Array Si 14.44 23 P **Pn 08 09 20.6 +2.2**
AK05 Malin Array Si 14.44 23 P **Pn 08 09 19.6 +1.2**
AK12 Malin Array Si 14.45 23 P **Pn 08 09 19.7 +1.2**
AK09 Malin Array Si 14.46 23 P **Pn 08 09 19.9 +1.2**
AK08 Malin Array Si 14.47 23 P **Pn 08 09 20.8 +2.0**
AK15 Malin Array Si 14.48 23 P **Pn 08 09 21.0 +2.0**
EIL Elat 14.48 119 Pn **Pn 08 09 16.8 -2.3**
comp=Z,1.4nm,0.3s,baz=317,slow=6.2,SNR=11
EIL Sn Sn 08 11 43.5 -16
comp=Z,1.6nm,0.3s,baz=330,slow=14,SNR=6.5
comp=Z,16nm,0.8s
EIL Elat 14.48 119 P **Pn 08 09 15.9 -3.2**
KIEV Kiev 14.51 23 Pn **Pn 08 09 20.9 +1.6**
KIEV Kiev 14.51 23 P **Pn 08 09 20.9 +1.6**
KIEV Kiev 14.51 23 P **Pn 08 09 21.3 +2.0**
comp=Z,38nm,0.7s
AKASG Malin Array Be 14.52 23 Pn **Pn 08 09 21.6 +2.1**
AKASG Malin Array Be 14.52 23 Pn **Pn 08 09 21.8 +2.4**
comp=Z,0.9nm,0.3s,baz=205,slow=14,SNR=2.8
AKASG Sn **Sn 08 11 58.6 -1.2**
comp=Z,0.5nm,0.3s,baz=93,slow=35,SNR=1.7
AKASG Malin Array Be 14.52 23 P **Pn 08 09 21.6 +2.1**
AKBB Malin Array Si 14.52 23 Pn **Pn 08 09 21.4 +2.0**
AKBB Malin Array Si 14.52 23 ⇑*e*P **P 08 09 23.4 -2.6**
AKBB Malin Array Si 14.52 23 P **Pn 08 09 21.3 +1.8**
AQBJ Aqaba 14.52 119 P **Pn 08 09 17.3 -2.3**
AK03 Malin Array Si 14.54 23 P **Pn 08 09 21.0 +1.3**
ASF Jabal al Asfar 14.60 107 Pn **Pn 08 09 19.7 -1.0**
comp=Z,0.2nm,0.3s,baz=208,slow=0.1,SNR=7.8
comp=Z,2.7nm,0.7s
ASF Jabal al Asfar 14.60 107 P **Pn 08 09 18.7 -2.0**
CLL Collm 14.65 341 *i* P **P 08 09 29.7 +2.3**
CLL Collm 14.65 341 *e*P **Pn 08 09 19.0 -2.3**
CLL *i* PP **P 08 09 29.7 +2.3**
CLL *ex* x 08 09 39.0
CLL *es*PPP 08 09 43.0
CLL AMS AMS 09 51 00.0
comp=Z,100nm,20.6s
HSNJ Maan 14.66 116 P **Pn 08 09 19.0 -2.7**
ANN Anapa 14.69 55 *e*P Pn 08 09 17.1 -4.7
ANN *e*S **Sn 08 11 58.5 -5.4**
ANN pmax pmax
comp=Z,47nm,0.8s
WLF Walferdange 15.81 324 P **P 08 09 43.4 +3.1**
WLF pmax pmax
comp=Z,29nm,1.5s
WLF Walferdange 15.81 324 *d*P **P 08 09 42.8 +2.5**
SOC Sochi 15.83 62 *e*P **Pn 08 09 37.8 +0.9**
SOC *e* 08 12 37.0
SOC MLR MLR
comp=Z,50nm,14.0s
SUW Suwalki 16.51 6 **Pn 08 09 46.5 +1.0**
SUW IAmb IAmb 08 10 17.0
comp=Z,80nm,1.0s
SUW Suwalki 16.51 6 P **Pn 08 09 46.5 +1.0**
SUW pmax pmax
comp=Z,80nm,1.0s
MNK Minsk 17.65 15 *i* P **Pn 08 09 57.5 -2.3**
comp=E,24nm,0.7s
MNK *i* P **Pn 08 09 57.5 -2.3**
comp=N,20nm,0.7s
MNK *i* P **Pn 08 09 57.5 -2.3**
comp=Z,18nm,0.6s,baz=200
MNK *i* PP **pwP 08 10 08.1 -0.1**
MNK *i* PPP PPP 08 10 16.3
MNK *i* S **Sn 08 13 15.0 -0.8**
MNK *i* SS **SnSn 08 13 30.1 +0.8**
MNK *i* SSS SSS 08 13 42.7
MNK *i* LQ LQ 08 15 19.7
MNK *i* LR LR 08 16 26.4
MNK *i* LRM MLR 08 17 16.6
comp=N,305nm,15.6s
MNK *i* LRM MLR 08 17 27.3
comp=Z,199nm,18.5s
MNK *i* LRM MLR 08 17 35.7
comp=E,131nm,16.0s
MNK Minsk 17.65 15 *i* P **Pn 08 09 57.4 -2.3**
MNK *i* S **Sn 08 13 14.9 -0.8**
MNK pmax pmax
comp=Z,18nm,0.6s
MNK pmax pmax
comp=N,20nm,0.7s
MNK pmax pmax
comp=E,24nm,0.7s
MNK MLR MLR
comp=N,305nm,16.0s
MNK MLR MLR
comp=Z,199nm,19.0s
MNK MLR MLR
comp=E,131nm,16.0s
NACGM Naroch 17.83 12 *e*P **P 08 10 02.8 +0.2**
comp=E,861nm,1.0s
KIV Kislovodsk 18.01 62 *e*P **P 08 10 07.9 +3.1**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,46nm,14.0s
PABE Paberze 18.05 7 **Pn 08 10 04.0 -0.7**
PABE Paberze 18.05 7 *e*P **Pn 08 10 04.5 -0.2**
KBZ Khabaz 18.11 63 P **P 08 10 06.0 +0.2**
comp=Z,0.1nm,0.3s,baz=67,slow=21,SNR=1.8
comp=Z,0.9nm,0.5s
KBZ Khabaz 18.11 63 ⇓*e*P **P 08 10 10.1 +4.3**
KBZ pmax pmax
comp=Z,10.0nm,1.5s
VORD Divnogorie 18.93 39 *e*P **P 08 10 11.9 -2.9**
VORD pmax pmax
comp=Z,8.0nm,0.8s

VSR Storozhevoye 19.02 38 *e*P **P 08 10 14.4 -1.4**
VSR pmax pmax
comp=Z,4.0nm,0.8s
ESDC Sonseca Array 19.11 284 P **P 08 10 16.6 -0.4**
comp=Z,0.1nm,0.3s,baz=112,slow=38,SNR=3.9
comp=Z,1.3nm,1.0s
GNI Garni 19.12 75 LR LR 08 17 47.5
comp=Z,293nm,19.6s,baz=278,slow=38
GNI Garni 19.12 75 P **P 08 10 16.9 -0.2**
comp=Z,24nm,1.1s
VORR Voronezh 19.33 37 P **P 08 10 16.0 -3.1**
VORR pmax pmax
comp=Z,51nm,1.8s
PAB San Pablo 19.42 283 P **P 08 10 19.4 -0.9**
LPSR Galich'ya Gora 19.80 35 *e*P **P 08 10 24.4 +0.1**
LPSR pmax pmax
comp=Z,40nm,0.8s
VRH Novokhopyorsk 20.32 41 *e*P **P 08 10 27.5 -2.4**
VRH pmax pmax
comp=Z,37nm,1.4s
OBN Obninsk 20.67 27 P **P 08 10 34.6 +1.0**
comp=Z,9.8nm,0.4s,baz=349,slow=23,SNR=1.2
comp=Z,9.8nm,0.4s
OBN Obninsk 20.67 27 ⇑*e*P Pn 08 10 37.7 +1.7
OBN *e* 08 10 52.0
OBN pmax pmax
comp=Z,33nm,1.0s
OBN MLR MLR
comp=Z,92nm,13.0s
MDT Midelt 20.95 264 P **P 08 10 36.4 -0.6**
comp=Z,2.2nm,0.8s,baz=271,slow=12,SNR=3.8
MDT LR LR 08 20 59.4
comp=Z,79nm,18.8s,baz=81,slow=43
comp=Z,2.2nm,0.8s
MTSE Matsula 21.23 5 *e*P **P 08 10 41.1 +1.5**
PBRG Braganca 21.24 290 *e*P **P 08 10 41.1 +1.0**
VSU Vasula 21.26 9*c i*P **P 08 10 40.6 +0.6**
VSU pmax pmax
comp=Z,73nm,1.0s
AKT Akhty 21.40 71 *e*P **P 08 10 44.5 +2.7**
AKT *e* 08 11 04.9
AKT *e*PPP PPP 08 11 12.6
AKT *e*S Sn 08 14 44.4 -2.2
AKT pmax pmax
comp=Z,37nm,1.5s
MVO Moncorvo 21.44 288 *e*P **P 08 10 42.4 +0.2**
MOS Moscow 21.53 27 *e*P **P 08 10 44.8 +1.8**
MOS pmax pmax
comp=Z,34nm,0.8s
PMRV Marv??o 21.77 283 *e*P **P 08 10 49.6 +3.9**
PCBR Castelo Branco 21.82 284 *e*P **P 08 10 48.7 +2.6**
MTE Manteigas 21.84 286 P **P 08 10 45.2 -1.3**
MTE Manteigas 21.84 286 *e*P **P 08 10 45.9 -0.6**
POLO Lamas de Olo 22.02 289 *e*P **P 08 10 51.9 +3.4**
ARBE Arbavere 22.13 8 *e*P **P 08 10 50.4 +1.1**
PGAV Gavieira, Arco 22.39 290 *e*P **P 08 10 58.6 +6.2**
PMTG Montargil 22.45 283 *e*P **P 08 10 52.5 -0.5**
PBDV Barranco-do-Ve 22.46 278 *e*P **P 08 10 54.1 +1.0**
PCAS Casmilo, Conde 22.59 285 *e*P **P 08 10 54.1 -0.3**
HFS Hagfors 22.93 351 P **P 08 10 56.5 -1.3**
comp=Z,2.5nm,0.5s,baz=149,slow=12,SNR=3.3
HFS LR LR 08 20 14.4
comp=Z,168nm,20.1s,baz=168,slow=38
comp=Z,2.5nm,0.5s
NORES NORESS Array B 23.80 349 P **P 08 11 11.3 +4.8**
EKA Eskdalemuir Ar 23.82 326 P **P 08 11 05.8 -0.9**
comp=Z,0.6nm,0.4s,baz=149,slow=12,SNR=4.6
comp=Z,0.6nm,0.4s
NAO01 NORSAR Array S 24.01 349 P **P 08 11 08.8 +0.3**
NAO01 IAmb IAmb 08 11 21.3
comp=Z,20nm,1.0s
BELG Belogornoye 24.08 43 LR LR 08 21 43.3
comp=Z,117nm,21.9s,baz=241,slow=40
BELG Belogornoye 24.08 43 ⇓*e*P **P 08 11 08.8 -0.4**
BELG pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 24.11 7 P **P 08 11 08.2 -1.1**
comp=Z,2.2nm,0.4s,baz=166,slow=10,SNR=31
FINES LR LR 08 21 51.3
comp=Z,248nm,18.3s,baz=198,slow=40
comp=Z,2.2nm,0.4s
FIA1 FINESS Array S 24.11 7 P **P 08 11 08.3 -1.1**
NC405 NORSAR Array S 24.14 350 P **P 08 11 09.9 +0.3**
NC405 IAmb IAmb 08 11 34.9
comp=Z,14nm,1.0s
NB2 NORSAR Subarra 24.14 349 P **P 08 11 10.3 +0.5**
comp=Z,26nm,1.2s,baz=157,slow=10
NB2 NORSAR Subarra 24.14 349 P **P 08 11 14.4 +4.6**
NOA NORSAR Array B 24.14 349 P **P 08 11 08.7 -1.1**
comp=Z,0.5nm,0.5s,baz=161,slow=9.7,SNR=3.2
NOA LR LR 08 21 33.0
comp=Z,133nm,19.4s,baz=165,slow=39
comp=Z,0.5nm,0.5s
VALR Valaam 24.66 12 ⇑*e*P **P 08 11 18.4 +4.1**
VALR pmax pmax
comp=Z,63nm,0.9s
KEF Keuruu 24.73 5 *e*P **P 08 11 16.4 +1.3**
VAF Ylistaro 25.49 2 *e*P **P 08 11 23.0 +1.1**
KLMR Klimovskoe 26.20 21 *e*P **P 08 11 31.7 +3.4**
KLMR pmax pmax
comp=Z,31nm,1.8s
KIRV Kirov 28.18 33 LR LR 08 23 46.1
comp=Z,199nm,18.3s,baz=237,slow=38
KIRV Kirov 28.18 33 ⇓*e*P **P 08 11 50.4 +4.3**
TORD Torodi Ar. Bea 29.53 219 P **P 08 11 57.9 -0.6**
comp=Z,1.3nm,0.7s,baz=27,slow=10,SNR=7.5
TORD LR LR 08 23 44.4
comp=Z,75nm,21.2s,baz=20,slow=36
comp=Z,1.3nm,0.7s
AKTO Aktyubinsk 29.61 52 LR LR 08 26 47.6
comp=Z,128nm,19.1s,baz=354,slow=42
PMPST Porto Santo, M 30.16 273 *e*P **P 08 12 03.0 -1.0**
LVZ Lovozero 31.36 10 P **P 08 12 14.8 +0.5**
LVZ Lovozero 31.36 10 P **P 08 12 14.8 +0.5**
comp=Z,23nm,2.7s
ARTI Arti 31.44 41 P **P 08 12 13.2 -1.9**
ARTI IAmb IAmb 08 12 30.7
comp=Z,6.9nm,0.9s
ARTI Arti 31.44 41 LR LR 08 26 00.6
comp=Z,64nm,19.0s,baz=239,slow=38
ARTI Arti 31.44 41*c i*P **P 08 12 13.4 -1.7**
ARTI 08 13 14.1
ARTI S **S 08 17 22.3 +0.5**
ARTI pmax pmax
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 32.09 3 P **P 08 12 19.7 -1.0**
comp=Z,1.2nm,0.5s,baz=187,slow=11,SNR=17
ARCES LR LR 08 26 57.9
comp=Z,201nm,18.2s,baz=191,slow=40
comp=Z,1.2nm,0.5s
SVE Sverdlovsk 32.76 41 *e*P **P 08 12 29.1 +2.4**
UOSS Minazif 32.92 102 P **P 08 12 28.7 +0.3**
BVAR Borovoye Array 37.56 49 P **P 08 13 06.4 -1.7**
comp=Z,1.2nm,0.5s,baz=271,slow=5.7,SNR=5.6
BVAR LR LR 08 29 52.6
comp=Z,62nm,20.1s,baz=266,slow=38
comp=Z,1.2nm,0.5s
KKAR Karatay Array 38.12 66 P **P 08 13 13.9 +1.0**
DBIC Dimbokro 38.41 223 P **P 08 13 14.4 -1.1**
comp=Z,4.6nm,0.9s,baz=45,slow=9.5,SNR=3.5
DBIC LR LR 08 28 53.9
comp=Z,104nm,21.5s,baz=21,slow=36
comp=Z,4.6nm,0.9s
MBAR Mbarara 39.22 163 LR LR 08 32 28.9
comp=Z,76nm,18.4s,baz=343,slow=41
BBTS Babate 39.88 245 LR LR 08 31 46.9
comp=Z,172nm,18.9s,baz=310,slow=39
SPITS Spitsbergen Ar 40.70 359 LR LR 08 33 09.6
comp=Z,151nm,18.0s,baz=144,slow=40
AAK Ala-Archa 41.09 65 LR LR 08 35 13.1
comp=Z,75nm,19.0s,baz=286,slow=43
AAK Ala-Archa 41.09 65 ⇓*e*P **P 08 13 41.1 +3.3**
AAK pmax pmax
comp=Z,5.0nm,1.1s
KMBO Kilima Mbogo 41.60 154 P **P 08 13 42.1 -0.1**
comp=Z,1.1nm,0.3s,baz=339,slow=9.1,SNR=3.5
KMBO LR LR 08 32 50.7
comp=Z,43nm,18.9s,baz=88,slow=39
comp=Z,1.1nm,0.3s
KURBB Kurchatov Arra 42.65 53 P **P 08 13 49.1 -1.1**
comp=Z,0.7nm,0.4s,baz=281,slow=8.9,SNR=6.7
KURBB LR LR 08 34 55.2
comp=Z,102nm,19.9s,baz=175,slow=41
comp=Z,0.7nm,0.4s
NIL Nilore 42.69 79 P **P 08 13 50.7 -0.1**
KURK Kurchatov 42.70 53 P **P 08 13 51.8 +1.2**

KURK Kurchatov 42.70 53⇓ eP P 08 13 54.3 +3.7
KURK pmax pmax
comp=Z,9.0nm,1.2s
MK31 Makanchi Array 45.69 58 P P 08 14 13.8 -1.0
MK31 Makanchi Array 45.69 58 dep P 08 14 13.9 -0.8
MKAR Makanchi Array 45.69 58 P P 08 14 13.6 -1.1
comp=Z,1.5nm,0.5s,baz=269,slow=7.1,SNR=21
MKAR LR LR 08 36 57.9
comp=Z,61nm,18.1s,baz=274,slow=41
comp=Z,1.5nm,0.5s
MKAR Makanchi Array 45.69 58 i P P 08 14 14.1 -0.6
MKAR pmax pmax
comp=Z,2.0nm,0.5s
ZAA0 Zalesovo Array 46.15 48 P P 08 14 16.9 -1.3
ZAA0 IAmb IAmb 08 14 28.7
comp=Z,5.6nm,0.6s
ZALV Zalesovo Beam 46.15 48 P P 08 14 16.9 -1.2
comp=Z,2.6nm,0.4s,baz=275,slow=9.1,SNR=13
ZALV LR LR 08 34 46.7
comp=Z,56nm,18.4s,baz=360,slow=38
comp=Z,2.6nm,0.4s
ZALV Zalesovo Beam 46.15 48 i P P 08 14 16.8 -1.3
ZALV pmax pmax
comp=Z,3.0nm,0.4s
SFJD Kangerlussuaq 48.66 330 LR LR 08 38 36.2
comp=Z,100nm,18.2s,baz=46,slow=40
WMQ Urumqi 50.13 60 eP P 08 14 50.9 +1.7
WMQ LR LR
comp=Z,110nm,24.3s
TSUM Tsumeb 56.58 183 LR LR 08 40 11.6
comp=Z,83nm,21.8s,baz=336,slow=36
SCHQ Schefferville 58.79 317 P P 08 15 51.9 0.0
SCHQ IAmb IAmb 08 16 15.8
comp=Z,6.7nm,1.1s
SCHQ Schefferville 58.79 317 P P 08 15 51.3 -0.6
comp=Z,1.2nm,0.7s,baz=236,slow=18,SNR=1.8
comp=Z,1.2nm,0.7s
TIXI Tiksi 60.21 20⇓ eP P 08 16 01.9 +0.5
TIXI pmax pmax
comp=Z,11nm,2.0s
SONM Songino Array 60.90 50 P P 08 16 05.8 -0.8
comp=Z,0.4nm,0.3s,baz=296,slow=6.5,SNR=2.6
SONM LR LR 08 45 20.1
comp=Z,93nm,18.2s,baz=308,slow=39
comp=Z,0.4nm,0.3s
LBTB Lobatse 62.49 175 LR LR 08 46 22.4
comp=Z,72nm,18.0s,baz=356,slow=39
BOSA Boshof 66.05 175 P P 08 16 40.0 -0.7
comp=Z,1.0nm,0.5s,baz=179,slow=17,SNR=1.7
comp=Z,1.0nm,0.5s
BOSA Boshof 66.05 175 P P 08 16 40.0 -0.7
HHC Hu-ho-hao-te 67.44 55 eP P 08 16 49.4 -0.3
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.7s
PZH PanZhiHua 67.87 73 P P 08 16 54.3 +1.7
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.8s
CMAR Chiang Mai Arr 70.08 82 P P 08 17 05.7 -0.6
comp=Z,1.3nm,0.3s,baz=305,slow=5.9,SNR=1.9
comp=Z,1.3nm,0.3s
HEH HeiHe 71.53 40 eP P 08 17 18.1 +3.5
HEH pmax pmax
comp=Z,7.0nm,0.8s
MDP Montagnes des 73.46 264 LR LR 08 48 36.5
comp=Z,26nm,19.9s,baz=22,slow=35
KLR Kul'dur 74.37 39⇓ eP P 08 17 31.0 -0.5
KLR pmax pmax
comp=Z,7.0nm,2.2s
MA2 Magadan 74.85 24 LR LR 08 54 58.0
comp=Z,47nm,18.2s,baz=338,slow=39
ULM Lac du Bonnet 76.08 324 P P 08 17 41.9 +0.6
comp=Z,2.2nm,0.6s,baz=67,slow=5.9,SNR=1.6
comp=Z,2.2nm,0.6s
NJ2 Nanjing 77.19 59 eP P 08 17 47.4 -0.5
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
ILAR Eielson Array 77.45 354 P P 08 17 49.7 +0.9
comp=Z,0.2nm,0.6s,baz=358,slow=3.1,SNR=2.0
comp=Z,0.2nm,0.6s
KSRS Korea Array 79.77 50 P P 08 18 02.2 +0.2
comp=Z,0.8nm,0.6s,baz=320,slow=5.4,SNR=2.6
comp=Z,0.8nm,0.6s
BDFB Brasilia 83.18 244 LR LR 08 56 42.7
comp=Z,54nm,18.1s,baz=320,slow=37
PDAR Pinedale Array 87.94 326 LR LR 09 00 19.4
comp=Z,38nm,18.4s,baz=25,slow=37
ANMO Albuquerque 92.55 319 LR LR 09 01 28.8
comp=Z,32nm,18.1s,baz=210,slow=36
YBH Yreka Blue Hor 94.14 333 LR LR 09 04 02.2
comp=Z,42nm,19.9s,baz=20,slow=37
TXAR Lajitas Array 95.28 313 P P 08 19 19.4 +1.3
baz=50,slow=4.4,SNR=2.0
NVAR Mina Array Bea 95.29 329 LR LR 09 03 31.0
comp=Z,40nm,19.2s,baz=84,slow=36
CPUP Villa Florida 96.69 242 LR LR 09 02 35.0
comp=Z,50nm,21.0s,baz=42,slow=35
LPAZ La Paz 98.61 256 LR LR 09 06 47.2
comp=Z,24nm,18.7s,baz=40,slow=37
WRA Warramunga Arr 120.62 92 PKP **PKPdf 08 24 44.7 -1.3**
comp=Z,0.2nm,0.6s,baz=309,slow=1.3,SNR=1.3
ASAR Alice Springs 122.22 96 PKP **PKiKP 08 24 50.2 +1.0**
comp=Z,0.5nm,0.9s,baz=315,slow=2.0,SNR=5.0

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*IDC **03** 08:44:04.9±0.5,2.83S×119.55E,h0km,mb4.4/14, mbtmp4.4/16,ML4.0/2,MS3.8/35,Error ellipse: s-maj=32.8km s-min=11.1km az=71.0*
*DJA **03** 08:44:06.6±0.1,3.3°S±2.3°×12.0°E±.°,h10km,M4.8/29, mB5.3/12,mb4.9/25,MLv4.9/29,Mw(mB)4.7/12*
*GCMT **03** 08:44:06.6±0.3,2.82S±0.01×119.54E±0.02,h12km, MW4.7/88,Moment Tensor Solution. s10,c11; s88,c117; Duration:0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.30±.06; $M_{\theta\theta}$0.58±.05; $M_{\phi\phi}$-0.28±.07; $M_{r\theta}$0.79±. 16; $M_{\theta\phi}$1.24±.04; $M_{r\phi}$0.38±.15; Best double couple: $M_0$1.50800×10^{16} NP1:ϕ_s99.00000°,δ84.00000°,λ26.00000°. NP2: ϕ_s6.00000°,δ64.00000°,λ173.00000°. Principal axes: T 1.8180, Plg22.0000°, Azm326.0000°; N -0.6200, Plg64.0000°, Azm111.0000°; P -1.1980, Plg13.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 08:44:06.6±1.6,2.91S±0.04×146E±0.06,h10km±1km, mb4.8/33 Error ellipse: s-maj=11.1km s-min=7.3km az=82.0*

ISC 03 08:44:06.7±0.4,**2.91S**±0.05×**119.53E**±0.05,**h10**km,**n147,** σ**1§24**/117,**mb4.8**/41,**MS3.9**/38,**1C-1D,Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.32**	**115**	P	**Pg**	**08 44 12.5**	**-0.7**
TTSI				S	**Sg**	**08 44 18.5**	**+1.0**
SPSI	**Sidrap Palu**	**1.08**	**167**	P	Pg	08 44 25.4	-2.1
BNSI	**Bone**	**1.59**	**159**	P	**Pn**	**08 44 35.1**	**+0.1**
KAPI	**Kappang**	**2.10**	**174**	Pn	**Pn**	**08 44 41.1**	**-1.0**
KAPI	**Kappang**	**2.10**	**174**	Pn	**Pn**	**08 44 41.7**	**-0.3**
	254nm,0.3s,baz=352,slow=12,SNR=78						
KAPI				LR	LR	08 45 08.6	
	comp=Z,714nm,18.0s,baz=334,slow=29						
KAPI				Sn	**Sn**	**08 45 11.2**	**+2.9**
	316nm,0.3s,baz=85,slow=12,SNR=16						
	2μm,0.6s						
KAPI	**Kappang**	**2.10**	**174**	P	**Pn**	**08 44 42.4**	**+0.3**
BKSI	**Bulukumba**	**2.47**	**166**	P	**Pn**	**08 44 47.4**	**+0.3**
APSI	**Ampana**	**2.90**	**47**	P	**Pn**	**08 44 53.4**	**+0.3**
BKB	**Balikpapan**	**3.10**	**302**	Pn	**Pn**	**08 44 55.1**	**-0.6**
BKB	**Balikpapan**	**3.10**	**302**	P	**Pn**	**08 44 57.4**	**+1.7**
BKB	**Balikpapan**	**3.10**	**302**	P	**Pn**	**08 44 55.4**	**-0.3**
KDI	**Kendari**	**3.26**	**109**	P	**Pn**	**08 44 58.6**	**+0.7**
BSSI	**Bau Bau, Buton**	**3.35**	**163**	P	**Pn**	**08 44 59.3**	**0.0**
SMKI	**Samarinda**	**3.37**	**316**	P	**Pn**	**08 44 59.6**	**+0.1**
LUWI	**Luwuk**	**3.73**	**60**	Pn	**Pn**	**08 45 04.0**	**-0.5**
LUWI	**Luwuk**	**3.73**	**60**	P	**Pn**	**08 45 05.4**	**+0.9**
LUWI	**Luwuk**	**3.73**	**60**	P	**Pn**	**08 45 04.7**	**+0.2**
BBSI	**Bau Bau**	**3.97**	**130**	P	**Pn**	**08 45 08.3**	**+0.5**
MRSI	**Marisa**	**4.14**	**36**	P	**Pn**	**08 45 10.1**	**+0.1**
TOLI2	**Tolitoli**	**4.18**	**17**	Pn	**Pn**	**08 45 11.8**	**+1.1**
TOLI2	**Tolitoli**	**4.18**	**17**	P	**Pn**	**08 45 12.7**	**+2.0**
MTKI	**Muara Teweh, K**	**5.02**	**293**	P	**Pn**	**08 45 21.0**	**-1.2**
KMSI	**Cibinong**	**5.64**	**52**	P	**Pn**	**08 45 30.1**	**-0.6**
PLAI	**Plampang**	**6.13**	**196**	P	**Pn**	**08 45 37.9**	**+0.4**
PLAI	**Plampang**	**6.13**	**196**	P	**Pn**	**08 45 37.1**	**-0.4**
	63nm,0.8s,0.4nm						
MMRI	**Maumere**	**6.30**	**155**	Pn	**Pn**	**08 45 39.0**	**-0.7**
SANI	**Sanana**	**6.51**	**83**	P	**Pn**	**08 45 42.7**	**0.0**
WBSI	**Waikabubak, Su**	**6.69**	**181**	P	**Pn**	**08 45 45.9**	**+0.7**
	146nm,0.9s,1μm0.6nm						
SRBI	**Singaraja**	**6.70**	**220**	P	Pn	08 45 43.5	-1.8
WSI	**Waingapu**	**6.76**	**174**	P	**Pn**	**08 45 45.7**	**-0.4**
KMMI	**Kalianget**	**6.90**	**233**	P	**Pn**	**08 45 48.6**	**+0.6**
BASI	**Baing, Sumba**	**7.34**	**172**	P	**Pn**	**08 45 54.7**	**+0.7**
	161nm,1.6s,3μm						
NLAI	**Namlea**	**7.57**	**93**	P	**Pn**	**08 45 58.5**	**+1.3**
	65nm,0.6s,0.2nm						
JAGI	**Jajag, Banyuwa**	**7.69**	**224**	Pn	**Pn**	**08 45 57.6**	**-1.3**
JAGI	**Jajag, Banyuwa**	**7.69**	**224**	P	**Pn**	**08 45 58.2**	**-0.7**
JAGI	**Jajag, Banyuwa**	**7.69**	**224**	P	**Pn**	**08 45 58.5**	**-0.4**
	60nm,0.8s,0.2nm						
MYLDM	**Lahad Datu**	**8.10**	**353**	Pn	**Pn**	**08 46 04.5**	**-0.1**
MYLDM	**Lahad Datu**	**8.10**	**353**	P	**Pn**	**08 46 05.7**	**+1.2**
SOEI	**Soe**	**8.27**	**146**	Pn	**Pn**	**08 46 09.7**	**+2.7**
SOEI	**Soe**	**8.27**	**146**	P	**Pn**	**08 46 09.2**	**+2.2**
	127nm,1.1s,2μm						
BATI	**Baumata**	**8.33**	**151**	LR	LR	08 49 49.1	
	comp=Z,2μm,19.9s,baz=357,slow=41						
TNTI	**Ternate**	**8.65**	**65**	Pn	**Pn**	**08 46 10.7**	**-1.3**
TNTI	**Ternate**	**8.65**	**65**	P	**Pn**	**08 46 11.3**	**-0.7**
	44nm,0.8s,2μm						
KKM	**Kota Kinabalu**	**9.49**	**340**	Pn	**Pn**	**08 46 25.6**	**+2.0**
TPI	**Tanjungpandan**	**11.86**	**270**	P	**Pn**	**08 46 55.3**	**-0.8**
	26nm,1.1s						
LEM	**Lembang**	**12.49**	**251**	LR	LR	08 52 19.3	
	comp=Z,1μm,18.3s,baz=2.0,slow=40						
FAKI	**Fak Fak**	**12.71**	**90**	Pn	**Pn**	**08 47 09.3**	**+1.6**
FITZ	**Fitzroy Crossi**	**16.24**	**159**	Pn	**Pn**	**08 47 55.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**16.24**	**159**	Pn	**Pn**	**08 47 54.5**	**-0.6**
	0.1nm,0.3s,baz=6.6,slow=4.1,SNR=9.8						
FITZ				LR	LR	08 56 12.9	
	comp=Z,744nm,18.5s,baz=330,slow=45						
	12nm,0.9s						
MBWA	**Marble Bar**	**18.14**	**179**		**Pn**	**08 48 18.7**	**-0.3**
PSA00	**Pilbara Seismi**	**18.55**	**179**	P	**P**	**08 48 23.0**	**-0.9**
SISI	**Saibi**	**20.48**	**274**	P	**P**	**08 48 43.6**	**-1.4**
	132nm,0.8s						
KULM	**Kulim**	**20.54**	**293**	P	**P**	**08 48 43.6**	**-2.0**
KULM				IAmb	IAmb	08 48 49.4	
	comp=Z,46nm,1.2s						
RPSI	**Rantau Prapat**	**21.33**	**285**	P	**P**	**08 48 53.3**	**-0.9**
WB0	**Warramunga Arr**	**22.17**	**140**	P	**P**	**08 49 01.6**	**-1.5**
WB0				IAmb	IAmb	08 49 03.9	
	132nm,0.8s						
	comp=Z,41nm,1.1s						
WRA	**Warramunga Arr**	**22.27**	**141**	P	**P**	**08 49 02.9**	**-1.3**
	comp=Z,29nm,1.0s,baz=322,slow=10,SNR=84						
WRA				PcP	**PcP**	**08 52 59.9**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=315,slow=1.8,SNR=2.9						
WRA				LR	LR	08 59 23.0	
	comp=Z,419nm,18.4s,baz=340,slow=41						
	comp=Z,29nm,1.0s						
GSI	**Gunungsitoli**	**22.34**	**281**	P	**P**	**08 49 04.1**	**-0.9**
GSI				IAmb	IAmb	08 49 21.2	
	comp=Z,57nm,1.0s						
GSI	**Gunungsitoli**	**22.34**	**281**	P	**P**	**08 49 05.0**	**0.0**
	comp=Z,72nm,1.1s						
QIZ	**Qiongzhong**	**23.79**	**337**	P	**P**	**08 49 19.8**	**0.0**
QIZ				S	**S**	**08 53 37.7**	**+2.1**
QIZ				LR	LR		
	comp=Z,320nm,17.5s						
QIZ				LR	LR		
	comp=Z,260nm,16.5s						
QIZ				LR	LR		
	comp=Z,370nm,19.9s						
AS31	**Alice Springs**	**24.88**	**147**	P	**P**	**08 49 29.3**	**-0.6**
ASAR	**Alice Springs**	**24.89**	**147**	P	**P**	**08 49 29.4**	**-0.6**
ASAR	**Alice Springs**	**24.89**	**147**	P	**P**	**08 49 29.8**	**-0.2**
	comp=Z,16nm,0.9s,baz=328,slow=8.7,SNR=87						
ASAR				PcP	**PcP**	**08 53 05.8**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=326,slow=1.7,SNR=11						
ASAR				LR	LR	08 59 44.4	
	comp=Z,436nm,21.2s,baz=312,slow=38						
	comp=Z,16nm,0.9s						
COEN	**Coen**	**25.80**	**117**	P	**P**	**08 49 38.4**	**0.0**
COEN				IAmb	IAmb	08 49 47.1	
	comp=Z,64nm,1.9s						
PHRA	**Phrae**	**28.52**	**319**	P	**P**	**08 50 03.4**	**+0.7**
SLVN	**Son La**	**28.54**	**328**	P	**P**	**08 50 02.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**29.35**	**317**	P	**P**	**08 50 09.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**29.35**	**317**	P	**P**	**08 50 10.3**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=141,slow=6.5,SNR=18						
CMAR				LR	LR	09 04 42.8	
	comp=Z,300nm,18.0s,baz=130,slow=42						
	comp=Z,1.8nm,0.7s						
CHTO	**Chiang Mai**	**29.60**	**318**	P	**P**	**08 50 12.6**	**+0.2**
NWAO	**Narrogin (SRO)**	**29.94**	**184**	LR	LR	09 04 05.5	
	comp=Z,137nm,18.1s,baz=264,slow=40						
CTA	**Charters Tower**	**31.17**	**125**	LR	LR	09 03 42.1	
	comp=Z,18nm,19.6s,baz=296,slow=38						
BBOO	**Buckleboo**	**33.54**	**154**	P	**P**	**08 50 47.5**	**+0.6**
PZH	**PanZhiHua**	**33.92**	**331**	P	**P**	**08 50 53.1**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,90nm,5.0s						
TNCH	**TengChong**	**34.45**	**325**	eP	**P**	**08 50 54.1**	**-1.0**
TNCH				pP	pP	08 51 00.4	+1.7
TNCH				pmax	pmax		
	comp=Z,52nm,0.6s						
TNCH				pmax	pmax		
	comp=Z,200nm,3.3s						
NJ2	**Nanjing**	**34.77**	**359**	eP	**P**	**08 50 58.9**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
STKA	**Stephens Creek**	**35.52**	**147**	P	**P**	**08 51 04.9**	**+0.9**
	comp=Z,4.2nm,0.8s,baz=308,slow=9.9,SNR=7.7						
STKA				LR	LR	09 07 28.5	
	comp=Z,212nm,18.7s,baz=319,slow=40						
	comp=Z,4.2nm,0.8s						
CD2	**Chengdu**	**36.84**	**337**	P	**P**	**08 51 14.4**	**-0.9**
CD2				pP	pP	08 51 18.4	-0.5
CD2				S	**S**	**08 57 01.6**	**+1.7**
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				LR	LR		
	comp=Z,230nm,15.9s						
CD2				LR	LR		
	comp=Z,230nm,14.1s						
CD2				LR	LR		
	comp=Z,350nm,13.9s						
BRDH	**Bariadhala**	**37.25**	**314**	LR	LR	09 08 34.0	
	comp=Z,345nm,19.3s,baz=136,slow=40						
JNU	**Nakatsue**	**37.41**	**16**	LR	LR	09 05 60.0	
	comp=Z,117nm,21.8s,baz=207,slow=35						
LYN	**LuoYang**	**37.85**	**350**	⇑P	**P**	**08 51 27.6**	**+3.8**
LYN				pmax	pmax		
	comp=Z,12nm,0.6s						
LYN				LR	LR		
	comp=Z,230nm,8.6s						
LYN				LR	LR		
	comp=Z,210nm,14.1s						
LYN				LR	LR		
	comp=Z,250nm,16.8s						
XAN	**Xi'an**	**38.09**	**346**	⇓P	**P**	**08 51 28.2**	**+2.3**
XAN				pmax	pmax		
	comp=Z,11nm,1.2s						
XAN				LR	LR		
	comp=Z,340nm,17.2s						
XAN				LR	LR		
	comp=Z,310nm,17.2s						
XAN				LR	LR		
	comp=Z,420nm,18.6s						
SHL	**Shillong**	**38.97**	**318**	P	**P**	**08 51 32.5**	**-1.1**
HNS	**HongShan**	**40.35**	**354**	eP	P	08 51 40.5	-4.2
HNS				LR	LR		
	comp=N,180nm,17.5s						
HNS				LR	LR		
	comp=E,230nm,14.3s						
HNS				LR	LR		
	comp=Z,310nm,17.2s						
JHJ	**Hachijo jima 2**	**40.63**	**26**	LR	LR	09 06 43.6	
	comp=Z,88nm,21.8s,baz=270,slow=34						
KSRS	**Korea Array**	**40.91**	**10**	P	**P**	**08 51 48.8**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=189,slow=9.0,SNR=4.9						
KSRS				LR	LR	09 09 34.2	
	comp=Z,109nm,20.3s,baz=190,slow=38						
	comp=Z,1.0nm,0.8s						
LZH	**Lanzhou**	**41.47**	**341**	eP	**P**	**08 51 56.2**	**+2.1**
LZH				sP	sP	08 52 03.6	+4.4
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
BJI	**Beijing**	**42.85**	**356**	P	**P**	**08 52 05.5**	**+0.4**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.4s						
BJI				pmax	pmax		
	comp=Z,48nm,4.5s						
BJI				LR	LR		
	comp=Z,57nm,16.7s						
BJI				LR	LR		
	comp=Z,48nm,13.0s						
BJI				LR	LR		
	comp=Z,85nm,18.3s						
HHC	**Hu-ho-hao-te**	**44.15**	**351**	eP	**P**	**08 52 16.0**	**+0.2**
HHC				pmax	pmax		
	comp=Z,12nm,0.5s						
HHC				pmax	pmax		
	comp=Z,120nm,4.9s						
GTA	**Gaotai**	**45.85**	**339**	eP	**P**	**08 52 29.2**	**-0.2**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
XLT	**XiLinHaoTe**	**46.70**	**357**	eP	**P**	**08 52 35.9**	**0.0**
XLT				sP	sP	08 52 45.1	+4.1
XLT				pmax	pmax		
	comp=Z,11nm,0.9s						
USRK	**Ussuriysk Ar.**	**48.21**	**12**	P	**P**	**08 52 46.4**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=197,slow=7.6,SNR=2.3						
USRK				LR	LR	09 12 30.6	
	comp=Z,43nm,21.4s,baz=199,slow=35						
	comp=Z,1.2nm,0.6s						
DZM	**Mont Dzumac**	**49.34**	**117**	eS	**S**	**08 59 59.3**	**-4.4**
	comp=Z,50nm,31.4s						
DZM				eSS	**SS**	**09 03 37.4**	**+1.9**
	comp=Z,92nm,23.6s						
DZM				eLR	LR	09 07 00.1	
	comp=Z,232nm,25.4s						
DZM	**Mont Dzumac**	**49.34**	**117**	LR	LR	09 14 57.3	
	comp=Z,130nm,18.3s,baz=200,slow=38						
ULN	**Ulaanbaatar**	**51.73**	**349**	P	**P**	**08 53 13.8**	**-0.6**
ULN				IAmb	IAmb	08 53 15.4	
	comp=Z,17nm,0.9s						
SONM	**Songino Array**	**51.83**	**349**	P	**P**	**08 53 14.3**	**-0.9**
SONM				IAmb	IAmb	08 53 16.1	
	comp=Z,10nm,0.9s						
SONM	**Songino Array**	**51.83**	**349**	P	**P**	**08 53 14.8**	**-0.3**
	comp=Z,13nm,1.0s,baz=166,slow=8.7,SNR=43						
	comp=Z,13nm,1.0s						
KLR	**Kul'dur**	**53.00**	**10**	LR	LR	09 18 20.9	
	comp=Z,51nm,18.4s,baz=230,slow=39						
HEH	**HeiHe**	**53.39**	**6**	eP	**P**	**08 53 25.4**	**-1.0**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WMQ	**Urumqi**	**54.59**	**332**	eP	**P**	**08 53 35.1**	**-0.4**
WMQ				LR	LR		
	comp=Z,130nm,24.1s						
KSH	**Kashi**	**58.13**	**321**	P	**P**	**08 54 00.7**	**-0.2**
KSH				pP	pP	08 54 07.3	+2.6
KSH				pmax	pmax		
	comp=Z,16nm,1.1s						
NRN	**Naryn**	**59.25**	**323**	P	**P**	**08 54 08.2**	**-0.7**
NRN				IAmb	IAmb	08 54 09.3	
	comp=Z,11nm,1.2s						
MK31	**Makanchi Array**	**59.36**	**331**	P	**P**	**08 54 07.8**	**-1.4**
MK31				IAmb	IAmb	08 54 09.8	
	comp=Z,9.3nm,1.1s						
MKAR	**Makanchi Array**	**59.36**	**331**	P	**P**	**08 54 07.9**	**-1.3**
MKAR	**Makanchi Array**	**59.36**	**331**	P	**P**	**08 54 08.4**	**-0.8**
	comp=Z,8.6nm,0.9s,baz=134,slow=7.8,SNR=47						
	comp=Z,8.6nm,0.9s						
MAKZ	**Makanchi**	**59.52**	**331**	P	P	08 54 08.5	-1.8
MAKZ				IAmb	IAmb	08 54 19.1	
	comp=Z,7.1nm,1.0s						
BOOM	**Boomskoye usch**	**59.92**	**324**	P	**P**	**08 54 12.0**	**-1.4**
BOOM				IAmb	IAmb	08 54 14.1	
	comp=Z,12nm,1.1s						
KBL	**Kabul**	**60.26**	**313**	P	P	08 54 11.9	-4.0
AAK	**Ala-Archa**	**60.87**	**323**	P	P	08 54 18.1	-1.7
AAK				IAmb	IAmb	08 54 20.7	
	comp=Z,8.0nm,1.0s						
ARSB	**Arslanbob**	**61.04**	**321**	P	**P**	**08 54 19.5**	**-1.4**
ARSB				IAmb	IAmb	08 54 27.7	
	comp=Z,7.9nm,1.3s						
SIMJ	**Simiganj**	**62.24**	**317**	P	**P**	**08 54 27.6**	**-1.5**
URZ	**Urewera**	**63.09**	**132**	LR	LR	09 21 39.7	
	comp=Z,128nm,21.6s,baz=31,slow=36						
KKAR	**Karatay Array**	**63.55**	**322**	P	**P**	**08 54 36.8**	**-0.8**
ZAA0	**Zalesovo Array**	**63.60**	**338**	P	**P**	**08 54 36.6**	**-1.1**
ZAA0				IAmb	IAmb	08 55 00.8	
	comp=Z,6.5nm,1.1s						
ZALV	**Zalesovo Beam**	**63.60**	**338**	P	**P**	**08 54 36.5**	**-1.2**
ZALV	**Zalesovo Beam**	**63.60**	**338**	P	**P**	**08 54 37.1**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=135,slow=7.2,SNR=5.6						
	comp=Z,1.5nm,0.5s						
KURBB	**Kurchatov Arra**	**63.81**	**332**	P	**P**	**08 54 38.1**	**-1.0**
	comp=Z,3.7nm,0.2s,baz=138,slow=6.3,SNR=10						
	comp=Z,3.7nm,0.2s						
KURK	**Kurchatov**	**63.84**	**332**	P	**P**	**08 54 38.3**	**-1.0**
KURK				IAmb	IAmb	08 54 48.9	
	comp=Z,12nm,1.1s						
BVAR	**Borovoye Array**	**69.24**	**331**	P	**P**	**08 55 12.3**	**-1.5**
	comp=Z,3.3nm,0.9s,baz=124,slow=6.6,SNR=7.3						
	comp=Z,3.3nm,0.9s						
SHEM	**Shemya Is, Ala**	**71.81**	**31**	LR	LR	09 24 01.3	
	comp=Z,15nm,21.1s,baz=296,slow=33						
ABKAR	**Akbulak array**	**72.95**	**324**	P	P	08 55 34.7	-1.7
ABKAR	**Akbulak array**	**72.95**	**324**	P	P	08 55 34.5	-1.9
ABKAR				IAmb	IAmb	08 55 46.2	
	comp=Z,6.6nm,1.4s						
AKTO	**Aktyubinsk**	**74.58**	**324**	LR	LR	09 33 26.1	
	comp=Z,97nm,19.8s,baz=295,slow=40						
TIXI	**Tiksi**	**74.67**	**3**	P	P	08 55 43.1	-2.9
TIXI				IAmb	IAmb	08 55 44.2	
	comp=Z,7.5nm,0.9s						
MAW	**Mawson**	**75.11**	**199**	P	**P**	**08 55 49.0**	**+0.3**
	comp=Z,4.5nm,0.9s,baz=52,slow=7.1,SNR=14						
	comp=Z,4.5nm,0.9s						
NRIK	**Noril'sk**	**75.31**	**349**	P	P	08 55 47.7	-2.1
	comp=Z,2.9nm,0.8s,baz=158,slow=4.0,SNR=5.0						
	comp=Z,2.9nm,0.8s						
SBA	**Scott Base**	**78.88**	**171**	P	**P**	**08 56 10.1**	**+0.4**
SBA				IAmb	IAmb	08 56 33.5	
	comp=Z,15nm,1.8s						
RAR	**Rarotonga**	**80.29**	**111**	LR	LR	09 30 30.1	
	comp=Z,23nm,19.8s,baz=183,slow=35						
GNI	**Garni**	**80.30**	**311**	LR	LR	09 40 04.9	
	comp=Z,28nm,18.3s,baz=99,slow=42						
BELG	**Belogornoye**	**81.36**	**324**	LR	LR	09 37 37.1	
	comp=Z,65nm,19.3s,baz=80,slow=40						
FURI	**Furi**	**81.42**	**279**	LR	LR	09 31 08.5	
	comp=Z,61nm,20.0s,baz=77,slow=35						
KMBO	**Kilima Mbogo**	**82.23**	**269**	LR	LR	09 31 54.2	
	comp=Z,40nm,18.4s,baz=90,slow=35						
MMAI	**Mount Meron Ar**	**86.64**	**303**	LR	LR	09 41 12.0	
	comp=Z,44nm,18.4s,baz=40,slow=40						
QSPA	**South Pole Qui**	**87.05**	**180**	P	**P**	**08 56 52.4**	**0.0**
	comp=Z,0.8nm,0.9s,baz=136,slow=1.9,SNR=2.0						
QSPA				LR	LR	09 35 24.4	
	comp=Z,60nm,18.

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**157.83**	**213**	PKPab	**PKPab**	**09 04 37.3**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=112,slow=12,SNR=3.4						
LPAZ	**La Paz**	**159.48**	**159**	PKPab	**PKPab**	**09 04 45.5**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=186,slow=3.0,SNR=9.8						

NOU 03 08:54:04.1, 11°.36S×166°.61E, h169km, mb4.6/8, Santa Cruz Islands, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**4.78**	**171**	P	Pn	08 55 13.5	-1.5
DVP	**Devils Point**	**6.51**	**167**	P	Pn	08 55 38.1	+0.4
HNR	**Honiara**	**6.83**	**286**	P	Pn	08 55 42.9	+0.9
TATA	**Tatamba Isabel**	**7.33**	**293**	P	Pn	08 55 47.5	-1.1
YATNC	**Mamie plateau,**	**10.64**	**179**	P	Pn	08 56 32.0	-0.3
	27nm,1.4s						
DZM	**Mont Dzumac**	**10.65**	**181**	P	Pn	08 56 32.6	+0.1

DJA 03 09:08:05.6±0.4, 0°.S±3°.×12°.4E±°, h77km±8km, M4.2/10, mb4.3/4, mB5.5/3, MLv4.0/10, Mw(mB)4.9/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.76**	**17**	P	Pn	09 08 22.6	+0.9
KMSI				S	Sn	09 08 36.6	+2.9
LUWI	**Luwuk**	**1.32**	**228**	P	Pn	09 08 28.4	-0.1
LUWI				S	Sn	09 08 45.9	+0.2
APSI	**Ampana**	**2.24**	**251**	P	Pn	09 08 40.8	+0.2
SANI	**Sanana**	**2.91**	**130**	P	Pn	09 08 48.2	-1.5
SANI				S	Sn	09 09 20.3	-3.4
SPSI	**Sidrap Palu**	**5.49**	**226**	P	Pn	09 09 25.5	+0.6
	21nm,0.4s,13μm						
BNSI	**Bone**	**5.57**	**221**	P	Pn	09 09 26.7	+0.7
	15nm,0.6s,5μm1.5nm						
BSSI	**Bau Bau, Buton**	**6.78**	**209**	P	Pn	09 09 44.0	+1.5

*KRNET **03** 09:27:18.7±0.1, 42°.94N×78°.35E, h15km, mb2.3*
*SOME **03** 09:27:19.5, 42°.92N×78°.33E, h15km*
*NNC **03** 09:27:20.2±1.6, 42°.90N×78°.41E, h0km, mpv2.7, Error ellipse: s-maj=9.9km s-min=5.0km az=35.0*
ISC 03 09:27:19.4±0.9, 42°.89N±0°.03×78°.38E±0°.04, h9km±8km, n17, σ0$58/34, 4C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SATY	**Saty**	**0.17**	**6**	P	**Pg**	**09 27 23.5**	**+0.2**
	9.8nm,0.1s						
SATY				S	**Sg**	**09 27 25.7**	**-0.1**
	35nm,0.1s						
SATY	**Saty**	**0.17**	**6**	*e*P	**Pg**	**09 27 23.2**	**0.0**
	9.6nm,0.1s						
SATY				*e*S	**Sg**	**09 27 25.7**	**-0.1**
	35nm,0.1s						
ZHN	**Zhinishke**	**0.28**	**8**	P	**Pg**	**09 27 25.4**	**+0.2**
	11nm,0.1s						
ZHN				S	**Sg**	**09 27 29.5**	**+0.4**
	42nm,0.2s						
ZHN	**Zhinishke**	**0.28**	**8**	*e*P	**Pg**	**09 27 25.3**	**+0.1**
	11nm,0.1s						
ZHN				*e*S	**Sg**	**09 27 29.5**	**+0.4**
	42nm,0.2s						
PRZ	**Przheval'sk**	**0.40**	**178**	⇓*e*P	**Pg**	**09 27 27.1**	**-0.3**
PRZ				⇓*e*S	**Sg**	**09 27 32.9**	**+0.2**
UZB	**Uzynbulak**	**0.54**	**61**	P	**Pg**	**09 27 29.9**	**0.0**
	2.3nm,0.1s						
UZB				S	**Sg**	**09 27 37.5**	**+0.4**
	2.5nm,0.1s						
UZB	**Uzynbulak**	**0.54**	**61**	*e*P	**Pg**	**09 27 29.7**	**-0.2**
	2.5nm,0.3s						
UZB				*e*S	**Sg**	**09 27 36.9**	**-0.2**
	2.5nm,0.1s						
KDJ	**Kajisay**	**1.17**	**230**	⇓*i*P	**Pg**	**09 27 40.9**	**-0.9**
KDJ				⇓*i*S	**Sg**	**09 27 56.8**	**-0.2**
TARG	**Taragay, Kyrgy**	**1.23**	**200**	⇑*i*P	**Pb**	**09 27 42.7**	**-0.4**
TARG				⇑*i*S	**Sg**	**09 27 59.4**	**+0.3**
ARXS	**Arharly**	**1.39**	**343**	*e*P	**Pb**	**09 27 45.1**	**-0.5**
	0.4nm,0.2s						
ARXS				*e*S	**Sg**	**09 28 03.3**	**-0.8**
	3.1nm,0.4s						
ULHL	**Ulahol**	**1.70**	**249**	⇓*e*P	**Pn**	**09 27 50.0**	**+0.4**
ULHL				⇓*i*S	**Sn**	**09 28 12.4**	**+0.8**
DJR	**Jarkent**	**1.77**	**35**	P	**Pg**	**09 27 52.6**	**-0.9**
	0.6nm,0.1s						
DJR				S	**Sg**	**09 28 15.9**	**-0.5**
	2.4nm,0.2s						
DJR	**Jarkent**	**1.77**	**35**	*e*P	**Pg**	**09 27 52.6**	**-0.9**
	0.6nm,0.1s						
DJR				*e*S	**Sg**	**09 28 15.9**	**-0.5**
	3.7nm,0.2s						
BOOM	**Boomskoye usch**	**1.84**	**258**	⇓*i*P	**Pn**	**09 27 52.1**	**+0.7**
BOOM				⇓*i*S	**Sb**	**09 28 16.4**	**-0.2**
TKM2	**Tokmak 2**	**2.05**	**272**	⇑*i*P	**Pn**	**09 27 54.9**	**+0.6**
TKM2				⇑*i*S	**Sn**	**09 28 20.7**	**+0.7**
NRN	**Naryn**	**2.29**	**231**	⇓*i*P	**Pn**	**09 27 59.0**	**+1.3**
NRN				⇓*i*S	**Sb**	**09 28 28.8**	**-0.8**
KBK	**Karagaybulak**	**2.54**	**266**	⇓*i*P	**Pn**	**09 28 01.8**	**+0.8**
KBK				⇓*i*S	**Sn**	**09 28 32.4**	**+0.3**

*IDC **03** 09:31:18.6±0.8, 36°.74N×141°.35E, h0km, mb3.6/11, mbtmp3.6/14, ML3.1/3, MS3.3/3, Error ellipse: s-maj=18.9km s-min=16.4km az=105.0*
*NIED **03** 09:31:21.1, 36°.79N×141°.35E, h42km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-1.61; Mθθ-0.03; Mφφ1.65; Mrθ-0.16; Mθφ1.08; Mφr-0.14; Fault plane solution: M0 1.91000×10^14 NP1:φs30.00000°, δ48.00000°, λ-84.00000°. NP2:φs202.00000°, δ42.00000°, λ-96.00000°.*
*JMA **03** 09:31:21.1±0.1, 36°.8N±0°.3×141°.4E±0°.7, h42km±1km, MV3.7/36, E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
ISC 03 09:31:21.0±1.6, 36°.77N±0°.04×141°.33E±0°.06, h14km±9km, n34, σ0$68/30, mb3.6/11, 5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.54**	**308**	⇓P	**Pg**	**09 31 32.2**	**+0.6**
ONAJ				⇓S	**Sb**	**09 31 40.3**	**+0.4**
JHO	**Hitachi**	**0.63**	**255**	⇓P	**Pg**	**09 31 33.6**	**+0.3**
JHO				⇓S	**Sb**	**09 31 42.9**	**+0.3**
JFFD	**Fukushimafurud**	**0.69**	**297**	*e*P	**Pg**	**09 31 34.4**	**0.0**
JFK	**Kawauchi**	**0.70**	**328**	P	**Pg**	**09 31 34.3**	**-0.2**
JFK				S	**Sg**	**09 31 43.7**	**0.0**
JHYU	**Hitachinakayam**	**0.74**	**234**	P	**Pb**	**09 31 35.4**	**-0.2**
JHYU				S	**Sb**	**09 31 46.0**	**+0.4**
JOTO	**OTAMA OYAMA**	**1.12**	**315**	P	**Pb**	**09 31 41.6**	**-0.5**
JMM	**Marumori**	**1.17**	**339**	⇓P	**Pn**	**09 31 41.2**	**-1.7**
JAG	**Ashikaga**	**1.55**	**258**	P	**Pn**	**09 31 47.5**	**-0.7**
MJAR	**Matsushiro Arr**	**2.52**	**266**	Pn	**Pn**	**09 32 01.6**	**+0.1**
	1.1nm,0.3s,baz=338,slow=9.4,SNR=55						
MJAR				Sn	**Sn**	**09 32 33.2**	**+1.1**
	2.0nm,0.3s,baz=136,slow=9.9,SNR=3.0						
	5.6nm,0.4s						
JHJ	**Hachijo jima 2**	**3.86**	**200**	Pn	**Pn**	**09 32 19.7**	**-0.3**
	3.9nm,0.3s,baz=51,slow=12,SNR=2.0						
JHJ				Sn	**Sn**	**09 33 04.2**	**-1.0**
	5.6nm,0.3s,baz=281,slow=13,SNR=2.1						
	132nm,0.9s						
ASAJ	**Asahikawa**	**7.40**	**7**	Pn	**Pn**	**09 33 08.7**	**+0.2**
	0.6nm,0.3s,baz=238,slow=13,SNR=5.8						
ASAJ				Sn	**Sn**	**09 34 34.1**	**+1.9**
	0.1nm,0.3s,baz=62,slow=16,SNR=1.6						
	8.8nm,1.0s						
KSRS	**Korea Array**	**10.73**	**278**	LR	LR	09 37 43.0	
	comp=Z,38nm,21.0s,baz=255,slow=36						
SONM	**Songino Array**	**27.88**	**304**	P	**P**	**09 37 10.2**	**-0.2**
	0.2nm,0.4s,baz=111,slow=7.9,SNR=1.9						
	0.2nm,0.4s						
H11N2	**WAKE ISLAND Hy 28.07**	**120**		T	T	10 06 41.7	
	baz=313,slow=75,SNR=122						
H11N1	**WAKE ISLAND Hy 28.08**	**120**		T	T	10 06 38.9	
	baz=313,slow=75,SNR=131						
H11N3	**WAKE ISLAND Hy 28.09**	**120**		T	T	10 06 42.5	
	baz=313,slow=75,SNR=101						
H11S1	**WAKE ISLAND Hy 28.77**	**122**		T	T	10 07 30.5	
	baz=314,slow=74						
H11S3	**WAKE ISLAND Hy 28.77**	**122**		T	T	10 07 30.4	
	baz=314,slow=74						
H11S2	**WAKE ISLAND Hy 28.79**	**122**		T	T	10 07 32.3	
	baz=314						
ZALV	**Zalesovo Beam**	**42.04**	**313**	P	**P**	**09 39 11.8**	**-0.1**
	0.5nm,0.3s,baz=99,slow=9.2,SNR=3.9						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**44.20**	**302**	P	**P**	**09 39 29.3**	**-0.2**
	0.3nm,0.6s,baz=83,slow=8.2,SNR=4.4						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**46.11**	**308**	P	**P**	**09 39 44.4**	**-0.2**
	0.8nm,0.6s,baz=85,slow=8.2,SNR=8.1						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**49.75**	**32**	P	**P**	**09 40 13.1**	**+0.5**
	0.5nm,0.8s,baz=265,slow=5.7,SNR=4.5						
	0.5nm,0.8s						
ARTI	**Arti**	**56.62**	**319**	P	**P**	**09 41 02.9**	**-0.3**
	2.0nm,0.6s,baz=106,slow=6.2,SNR=3.5						
ARTI				LR	LR	10 08 50.9	
	comp=Z,36nm,18.6s,baz=288,slow=40						
	2.0nm,0.6s						
WRA	**Warramunga Arr**	**56.79**	**188**	P	**P**	**09 41 04.4**	**-0.4**
	0.4nm,0.5s,baz=5.9,slow=7.3,SNR=10						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**60.52**	**188**	P	**P**	**09 41 30.3**	**-0.4**
	0.5nm,0.8s,baz=12,slow=6.4,SNR=4.1						
	0.5nm,0.8s						
NVAR	**Mina Array Bea**	**75.20**	**53**	P	**P**	**09 43 03.8**	**+0.4**
	0.2nm,0.4s,baz=298,slow=4.7,SNR=2.1						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**77.89**	**45**	P	**P**	**09 43 18.4**	**-0.3**
	0.2nm,0.6s,baz=307,slow=5.3,SNR=2.2						
	0.2nm,0.6s						
URZ	**Urewera**	**81.65**	**152**	LR	LR	10 11 58.5	
	comp=Z,59nm,21.6s,baz=27,slow=30						
TXAR	**Lajitas Array**	**90.33**	**52**	P	**P**	**09 44 22.0**	**0.0**
	0.3nm,0.8s,baz=318,slow=1.7,SNR=3.7						
	0.3nm,0.8s						
H03N2	**Juan Fernandez**	**147.06**	**96**	T	T	12 35 29.8	
	baz=291,slow=76,SNR=13						
H03N3	**Juan Fernandez**	**147.07**	**96**	T	T	12 35 29.7	
	baz=291,slow=76,SNR=10						
H03N1	**Juan Fernandez**	**147.08**	**96**	T	T	12 35 30.6	
	baz=291,slow=76,SNR=8.8						
PLCA	**Paso Flores**	**154.90**	**109**	PKPbc	**PKPbc**	**09 51 21.4**	**-0.5**
	0.9nm,0.3s,baz=350,slow=8.1,SNR=7.6						

*SJA **03** 09:47:29.1±0.6, 23°.95S×66°.69W, h236km±5km, ML3.9, MW3.6*
*IDC **03** 09:47:29.8±1.1, 23°.95S×66°.71W, h212km±13km, mb3.5/5, mbtmp4.0/10, Error ellipse: s-maj=19.0km s-min=13.9km az=150.0*
*VAO **03** 09:47:29.5±0.4, 24°.00S×66°.84W, h235km±5km, mb4.0*
*NEIC **03** 09:47:29.9±0.8, 23°.96S±0°.07×66°.83W±0°.06, h247km±8km, mb4..5/7, Error ellipse: s-maj=11.7km s-min=5.9km az=205.0*
*GUC **03** 09:47:31.3±0.7, 23°.91S×67°.00W, h248km±11km, ML4.2*
ISC 03 09:47:29.4±0.6, 23°.92S±0°.04×66°.75W±0°.04, h227km±6km, n114, σ1$32/143, mb3.9/7, 8C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.38**	**125**	*e*P	**Pn**	**09 48 05.2**	**+0.4**
AF01	**San Pedro de A**	**1.63**	**306**	P	**Pn**	**09 48 08.7**	**+1.7**
AF01	**San Pedro de A**	**1.63**	**306**	⇑*i*P	**Pn**	**09 48 08.8**	**+1.8**
AF01	**San Pedro de A**	**1.63**	**306**	*e*P	**Pn**	**09 48 08.4**	**+1.4**
YJA	**Yavi**	**2.08**	**33**	*e*P	**Pn**	**09 48 12.3**	**+1.0**
YJA				*e*S	**S**	**09 48 38.5**	**-5.4**
FSA	**Cafayete**	**2.29**	**162**	*e*P	**Pn**	**09 48 13.4**	**+0.4**
FSA				*e*S	**S**	**09 48 46.2**	**-1.0**
LVC	**Limon Verde**	**2.38**	**303**		**Pn**	**09 48 15.5**	**+1.3**
LVC				Sn	**S**	**09 48 49.5**	**+0.4**
LVC	**Limon Verde**	**2.38**	**303**	P	**Pn**	**09 48 15.6**	**+1.3**
	94nm,0.3s,baz=128,slow=6.5,SNR=387						
LVC				S	**S**	**09 48 48.4**	**-0.8**
	48nm,0.2s,baz=330,slow=13,SNR=14						
LVC	**Limon Verde**	**2.38**	**303**	⇑*i*P	**Pn**	**09 48 15.5**	**+1.3**
LVC				*i* S	**S**	**09 48 48.8**	**-0.3**
LVC				IAML		09 48 51.5	
	453nm,0.3s						
LVC	**Limon Verde**	**2.38**	**303**	*e*P	**Pn**	**09 48 15.6**	**+1.3**
LVC				*e*S	**S**	**09 48 49.5**	**+0.4**
LVC	**Limon Verde**	**2.38**	**303**	*e*P	**Pn**	**09 48 15.2**	**+0.9**
LVC				*e*S	**S**	**09 48 49.3**	**+0.2**
PB15	**IPOC Station P**	**2.60**	**285**	Pn	**Pn**	**09 48 17.7**	**+1.4**
PB15	**IPOC Station P**	**2.60**	**285**	⇑*i*P	**Pn**	**09 48 17.7**	**+1.4**
PB15				*i* S	**S**	**09 48 53.1**	**+0.1**
PB15	**IPOC Station P**	**2.60**	**285**	*e*P	**Pn**	**09 48 17.9**	**+1.6**
PB15				*e*S	**S**	**09 48 53.8**	**+0.8**
PB06	**IPOC Station P**	**2.87**	**294**		**Pn**	**09 48 20.4**	**+1.2**
PB06	**IPOC Station P**	**2.87**	**294**	⇑*i*P	**Pn**	**09 48 20.6**	**+1.4**
PB06				*i* S	**S**	**09 48 57.4**	**-0.8**
PB06				IAML		09 48 59.5	
	comp=N,395nm,0.2s						
PB06	**IPOC Station P**	**2.87**	**294**	*e*P	**Pn**	**09 48 20.6**	**+1.4**
PB06				*e*S	**S**	**09 48 58.4**	**+0.2**
PB06				IAML		09 49 00.9	
	comp=Z,319nm,0.3s						
GO02	**Mina Guanaco**	**2.87**	**244**		**Pn**	**09 48 20.6**	**+1.3**
GO02	**Mina Guanaco**	**2.87**	**244**	⇑*i*P	**Pn**	**09 48 20.7**	**+1.3**
GO02				*i* S	**S**	**09 48 58.8**	**+0.4**
GO02	**Mina Guanaco**	**2.87**	**244**	*e*P	**Pn**	**09 48 20.2**	**+0.8**
AHML	**Horco Molle**	**3.12**	**156**	*e*P	**Pn**	**09 48 22.5**	**+0.6**
AHML				*e*S	**S**	**09 49 03.0**	**-0.2**
PB09	**IPOC Station P**	**3.13**	**312**		**Pn**	**09 48 23.7**	**+1.5**
PB14	**IPOC Station P**	**3.41**	**257**		**Pn**	**09 48 26.4**	**+0.9**
PB14	**IPOC Station P**	**3.41**	**257**	⇑*i*P	**Pn**	**09 48 26.6**	**+1.1**
PB14				*i* S	**S**	**09 49 08.1**	**-1.5**
PB14	**IPOC Station P**	**3.41**	**257**	*e*P	**Pn**	**09 48 26.6**	**+1.1**
PB14				*e*S	**S**	**09 49 09.3**	**-0.2**
PB14				IAML		09 49 10.2	
	comp=Z,188nm,0.2s						
PB04	**IPOC Station P**	**3.51**	**296**		**Pn**	**09 48 27.6**	**+1.0**
PB04	**IPOC Station P**	**3.51**	**296**	⇑*i*P	**Pn**	**09 48 27.6**	**+1.0**
PB04				*i* S	**S**	**09 49 09.8**	**-1.6**
PB04	**IPOC Station P**	**3.51**	**296**	*e*S	**S**	**09 49 11.9**	**+0.5**
PB04				IAML		09 49 13.1	
	comp=Z,312nm,0.2s						
PB01	**IPOC Station P**	**3.83**	**318**		**Pn**	**09 48 31.0**	**+0.7**
PB01	**IPOC Station P**	**3.83**	**318**	⇑*i*P	**Pn**	**09 48 30.9**	**+0.7**
PB01				*i* S	**S**	**09 49 16.6**	**-1.6**
PB01	**IPOC Station P**	**3.83**	**318**	*e*P	**Pn**	**09 48 31.1**	**+0.9**
PB01				*e*S	**S**	**09 49 17.7**	**-0.4**
PB01				IAML		09 49 20.8	
	comp=Z,134nm,0.2s						
AC01	**Pan de Azucar**	**4.14**	**237**		**Pn**	**09 48 34.1**	**+0.2**
AC01	**Pan de Azucar**	**4.14**	**237**	*e*P	**Pn**	**09 48 34.2**	**+0.3**
AC01				*e*S	**S**	**09 49 23.3**	**-1.4**
AC01				IAML		09 49 24.3	
	comp=Z,99nm,0.2s						
PB08	**IPOC Station P**	**4.38**	**329**	Pn	**Pn**	**09 48 38.8**	**+1.7**
PB08	**IPOC Station P**	**4.38**	**329**	*i* P	**Pn**	**09 48 38.7**	**+1.5**
PB08				*i* S	**S**	**09 49 30.2**	**-0.5**
PB08	**IPOC Station P**	**4.38**	**329**	*e*P	**Pn**	**09 48 38.9**	**+1.7**
PB08				*e*S	**S**	**09 49 31.0**	**+0.4**
PB08				IAML		09 49 33.5	
	comp=Z,53nm,0.6s						
PX03	**IPOC Station P**	**4.41**	**322**	*e*P	**Pn**	**09 48 37.6**	**+0.3**
PATCX	**Punta Patache**	**4.41**	**314**		**Pn**	**09 48 38.3**	**+0.9**
PATCX	**Punta Patache**	**4.41**	**314**	*i* P	**Pn**	**09 48 37.5**	**+0.2**
PATCX				*i* S	**S**	**09 49 27.6**	**-3.3**
PATCX	**Punta Patache**	**4.41**	**314**	*e*P	**Pn**	**09 48 37.9**	**+0.5**
PATCX				*e*S	**S**	**09 49 28.9**	**-2.1**
PATCX				IAML		09 49 32.4	
	comp=Z,67nm,0.6s						
CYA	**Choya**	**4.58**	**170**	*e*P	**Pn**	**09 48 35.8**	**-3.5**
CYA				*e*S	S	09 49 21.1	-13
TA01	**Diego Aracena**	**4.61**	**316**		**Pn**	**09 48 40.4**	**+0.6**
TA01	**Diego Aracena**	**4.61**	**316**	*e*P	**Pn**	**09 48 40.6**	**+0.9**
TA01				*e*S	**S**	**09 49 34.4**	**-0.9**
TA01				IAML		09 49 37.8	
	comp=Z,36nm,0.8s						
HMBC	**Humberstone**	**4.65**	**321**		**Pn**	**09 48 40.8**	**+0.4**
HMBC	**Humberstone**	**4.65**	**321**	*i* P	**Pn**	**09 48 40.3**	**0.0**
AC06	**Mina Casimiro**	**4.72**	**223**		**Pn**	**09 48 41.5**	**+0.4**
TA02	**Huaiquique**	**4.80**	**319**		**Pn**	**09 48 42.6**	**+0.5**
GO01	**Chusmiza**	**4.81**	**331**		**Pn**	**09 48 44.0**	**+1.3**
GO01	**Chusmiza**	**4.81**	**331**	*e*P	**Pn**	**09 48 43.9**	**+1.3**
GO01				*e*S	**S**	**09 49 40.3**	**-0.1**
GO03	**Copiapo**	**4.82**	**220**		**Pn**	**09 48 42.5**	**+0.2**
GO03	**Copiapo**	**4.82**	**220**	*i* P	**Pn**	**09 48 42.5**	**+0.2**
GO03	**Copiapo**	**4.82**	**220**	*e*P	**Pn**	**09 48 42.5**	**+0.2**
GO03				*e*S	**S**	**09 49 39.0**	**-1.0**
PB11	**IPOC Station P**	**4.95**	**326**		**Pn**	**09 48 44.0**	**-0.1**
PB11	**IPOC Station P**	**4.95**	**326**	*e*P	**Pn**	**09 48 43.9**	**-0.1**
PB11				*e*S	**S**	**09 49 41.3**	**-1.7**
PB11				IAML		09 49 42.0	
	comp=Z,86nm,0.6s						
VCA	**Vinchina**	**4.97**	**195**	*e*P	Pn	09 48 35.8	-8.5
VCA				*e*P		09 48 47.0	
VCA				*e*S	**S**	**09 49 40.6**	**-2.9**
VCA				IAML		09 50 23.2	
	comp=Z,29nm,4.0s						
AC04	**Llanos de Chal**	**5.77**	**221**	Pn	**Pn**	**09 48 54.0**	**-0.2**
AC05	**El Transito**	**5.83**	**212**		**Pn**	**09 48 55.6**	**+0.6**
LCO	**Las Campanas**	**6.18**	**214**	Pn	**Pn**	**09 48 59.4**	**-0.3**
GO04	**Tololo Observa**	**7.20**	**209**	Pn	**Pn**	**09 49 11.9**	**-0.6**
LPAZ	**La Paz**	**7.71**	**350**	P	**Pn**	**09 49 21.2**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=169,slow=6.2,SNR=19						
LPAZ				S	**S**	**09 50 47.0**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=289,slow=15,SNR=2.2						
LPAZ	**La Paz**	**7.71**	**350**	*e*P	**Pn**	**09 49 20.1**	**+0.5**
CO03	**El Pedregal**	**7.73**	**206**	Pn	**Pn**	**09 49 19.1**	**-0.1**
CO06	**Fray Jorge**	**8.01**	**212**	Pn	**Pn**	**09 49 21.2**	**-1.4**
MURT	**Porto Murtinho**	**8.72**	**77**	*e*P	**Pn**	**09 49 32.3**	**+0.4**
BBSD	**Serra de San D**	**8.83**	**42**	*e*P	**Pn**	**09 49 35.5**	**+2.2**
CPUP	**Villa Florida**	**8.86**	**108**	P	**Pn**	**09 49 34.5**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=232,slow=14,SNR=2.2						
CPUP	**Villa Florida**	**8.86**	**108**	*e*P	**Pn**	**09 49 34.6**	**+0.9**
SIV	**San Ignacio**	**9.52**	**35**	P	**Pn**	**09 49 41.8**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=207,slow=11,SNR=7.3						
SIV				S	**S**	**09 51 28.7**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=273,slow=18,SNR=1.6						
SJPY	**San Joaquin**	**9.75**	**98**	*e*P	**Pn**	**09 49 45.5**	**+0.4**
BDQN	**Bodoquena, MS**	**9.88**	**71**	*e*P	**Pn**	**09 49 48.6**	**+1.8**
MT02	**Curacav**	**10.07**	**202**	Pn	**Pn**	**09 49 48.0**	**-1.0**
VA05	**Santo Domingo**	**10.60**	**203**	Pn	**Pn**	**09 49 54.1**	**-1.6**
ITQB	**Itaqui**	**10.70**	**125**	Pn	**Pn**	**09 49 57.3**	**+0.3**
ITQB	**Itaqui**	**10.70**	**125**	*e*P	**Pn**	**09 49 57.2**	**+0.2**
PSAL	**Palomas, Salto**	**10.80**	**133**	*e*P	**Pn**	**09 49 59.2**	**+0.9**
AMBA	**Amambai (Brazi**	**10.84**	**87**	*e*P	**Pn**	**09 49 59.2**	**+0.3**
SALV	**Santo Antonio**	**13.10**	**54**	*e*P	**Pn**	**09 50 27.5**	**+0.3**
PTGB	**Pitanga**	**13.41**	**96**	*e*P	**P**	**09 50 33.7**	**+0.6**
CPSB	**Cacapava Do Su**	**13.48**	**121**	*e*P	**Pn**	**09 50 32.3**	**+0.4**
ITAB	**Concordia**	**13.60**	**107**		**Pn**	**09 50 33.7**	**+0.4**
ITAB	**Concordia**	**13.60**	**107**	*e*P	**Pn**	**09 50 33.4**	**+0.1**
LDASE	**Londrina, Braz**	**14.33**	**91**	*e*P	**Pn**	**09 50 42.9**	**+0.5**
CNLB	**Canela**	**15.19**	**114**	*e*P	**P**	**09 50 52.7**	**0.0**
SAML	**Samuel**	**15.28**	**13**	*e*P	**P**	**09 50 53.5**	**-0.2**
PDRB	**Porto dos Gac**	**15.51**	**40**	*e*P	**Pn**	**09 50 57.6**	**+0.9**
FRTB	**Fartura**	**15.76**	**91**	*e*P	**Pn**	**09 51 00.6**	**+0.9**
ITRB	**Iturama**	**15.78**	**78**	*e*P	**Pn**	**09 51 02.0**	**+2.0**
ARAG	**Araguaiana, MT**	**16.25**	**63**	*e*P	**Pn**	**09 51 07.4**	**+1.9**
PLCA	**Paso Flores**	**17.06**	**190**	P	**P**	**09 51 11.4**	**-1.8**
CZSB	**Cruzeiro do Su**	**17.09**	**339**	P	**P**	**09 51 12.1**	**-1.5**
CZSB				IAmb	IAmb	09 51 17.1	
	comp=Z,5.2nm,1.2s						
VAO	**Valinhos**	**18.17**	**91**	P	**P**	**09 51 24.8**	**-0.6**
VAO				IAmb	IAmb	09 51 28.0	
	comp=Z,14nm,0.9s						
VAO	**Valinhos**	**18.17**	**91**	*e*P	**P**	**09 51 24.6**	**-0.8**
IPMB	**Ipameri, GO**	**18.28**	**75**	*e*P	**P**	**09 51 28.1**	**+1.4**
SNDB	**Serra Nova Dou**	**18.88**	**54**	*e*P	**P**	**09 51 33.8**	**+0.8**
PARB	**Paraibuna**	**19.36**	**93**	*e*P	**P**	**09 51 38.1**	**-0.1**
BDFB	**Brasilia**	**19.44**	**68**	P	**P**	**09 51 38.9**	**-0.2**
BDFB				IAmb	IAmb	09 51 41.8	
	comp=Z,15nm,0.8s						
BDFB	**Brasilia**	**19.44**	**68**	P	**P**	**09 51 41.1**	**+2.0**
	comp=Z,16nm,0.8s,baz=238,slow=11,SNR=21						
PMNB	**Patos De Minas**	**19.67**	**78**	*e*P	**P**	**09 51 42.5**	**+0.9**
ITTB	**Itaituba**	**22.15**	**30**	*e*P	**P**	**09 52 06.8**	**0.0**
JANB	**Januaria**	**22.89**	**71**	*e*P	**P**	**09 52 13.3**	**-0.3**
SMTB	**Santa Maria do**	**23.66**	**54**	*e*P	**P**	**09 52 21.8**	**+1.2**
SDBA	**SAO DESIDERIO**	**23.66**	**65**	*e*P	**P**	**09 52 20.7**	**+0.1**
SJMB	**Sao Joao De Ma**	**24.36**	**83**	*e*P	**P**	**09 52 26.3**	**-0.6**
GDU01	**Guandu, BA**	**27.60**	**73**	*e*P	**P**	**09

0.4nm,0.5s,baz=221,slow=9.0,SNR=2.9
0.4nm,0.5s
MJAR Matsushiro Arr 50.76 22 LR LR 10 32 50.6
comp=Z,31nm,21.8s,baz=114,slow=34
SONM Songino Array 58.52 352 P **P 10 14 02.4 -2.9**
0.5nm,0.5s,baz=165,slow=7.1,SNR=4.1
0.5nm,0.5s
MKAR Makanchi Array 64.53 335 P **P 10 14 44.1 -1.7**
0.4nm,0.4s,baz=143,slow=7.9,SNR=8.3
0.4nm,0.4s
KURBB Kurchatov Arra 69.07 335 P **P 10 15 13.2 -1.4**
0.8nm,0.7s,baz=149,slow=5.5,SNR=8.6
0.8nm,0.7s
ZALV Zalesovo Beam 69.39 341 P **P 10 15 13.8 -2.7**
0.8nm,0.3s,baz=144,slow=7.0,SNR=4.2
0.8nm,0.3s
BVAR Borovoye Array 74.31 333 P **P 10 15 44.7 -1.4**
0.9nm,0.6s,baz=134,slow=5.9,SNR=5.7
0.9nm,0.6s

IDC 03 10:16:49.5±6.9, 46°.21N×108°.88E, h0km, mbtmp2.7/1, ML2.7/1, Error ellipse: s-maj=43.3km s-min=39.7km az=135.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**2.32**	**314**	I	I	10 35 48.1	
baz=130,slow=332,SNR=1.4							
SONM	**Songino Array**	**2.35**	**315**	Pn	Pn	10 17 30.1	+0.5
1.7nm,0.3s,baz=136,slow=15,SNR=35							
SONM				Lg	Lg	10 18 03.7	
2.2nm,0.3s,baz=137,slow=27,SNR=14							
4.6nm,0.5s							
I45RU	**USSURIYSK INFR**	**16.39**	**89**	I	I	11 51 00.0	
baz=287,slow=312,SNR=2.2							

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*IDC **03** 10:56:30.9±6.0, 6°.10S×150°.57E, h62km±49km, mb3.7/6, mbtmp3.9/7, ML1.8/1, MS2.8/3, Error ellipse: s-maj=49.5km s-min=27.3km az=97.0*

ISC 03 10:56:29.2±0.9, 6°.1S±0°.2×150°.7E±0°.2, h48km, n12, σ0°.88/11, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	**Keravat**	**2.19**	**37**	I	I	11 07 50.0	
71nm,0.4s,baz=226,slow=310,SNR=0.6							
PMG	**Port Moresby**	**4.82**	**226**	P	**Pn**	**10 57 40.2**	**+1.0**
3.1nm,0.3s,baz=55,slow=4.7,SNR=7.0							
PMG				S	**Sn**	**10 58 32.9**	**-1.0**
36nm,0.6s,baz=108,slow=19,SNR=8.0							
PMG				LR	LR	10 58 55.8	
comp=Z,34nm,21.3s,baz=82,slow=31							
5.4nm,0.3s							
WRA	**Warramunga Arr**	**21.04**	**228**	P	**P**	**11 01 08.9**	**-0.3**
3.1nm,0.4s,baz=51,slow=9.8,SNR=18							
WRA				PcP	**PcP**	**11 05 14.7**	**-0.2**
0.5nm,0.7s,baz=49,slow=2.1,SNR=4.8							
3.1nm,0.4s							
DZM	**Mont Dzumac**	**22.03**	**138**	LR	LR	11 07 30.2	
comp=Z,40nm,18.1s,baz=232,slow=30							
ASAR	**Alice Springs**	**23.81**	**221**	P	**P**	**11 01 37.9**	**-0.1**
2.3nm,0.7s,baz=56,slow=8.2,SNR=37							
2.3nm,0.7s							
STKA	**Stephens Creek**	**27.05**	**197**	P	**P**	**11 02 08.5**	**+1.3**
2.1nm,0.8s,baz=14,slow=10,SNR=3.7							
2.1nm,0.8s							
KAPI	**Kappang**	**30.80**	**270**	LR	LR	11 17 21.5	
comp=Z,31nm,18.5s,baz=156,slow=41							
KSRS	**Korea Array**	**48.22**	**336**	P	**P**	**11 05 05.5**	**+0.3**
0.6nm,0.6s,baz=157,slow=7.7,SNR=2.3							
0.6nm,0.6s							
QSPA	**South Pole Qui**	**83.91**	**180**	P	**P**	**11 08 53.4**	**-0.4**
0.8nm,0.6s,baz=60,slow=0.2,SNR=8.8							
0.8nm,0.6s							
NVAR	**Mina Array Bea**	**94.52**	**52**	P	**P**	**11 09 45.4**	**+0.3**
0.2nm,0.5s,baz=255,slow=7.1,SNR=2.7							
0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**148.65**	**285**	PKPbc	**PKPbc**	**11 16 11.3**	**-0.9**
2.6nm,0.7s,baz=77,slow=2.7,SNR=13							
BDFB	**Brasilia**	**151.57**	**140**	PKPbc	**PKPbc**	**11 16 18.3**	**-1.0**
1.7nm,0.5s,baz=150,slow=5.7,SNR=3.1							

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*JMA **03** 11:19:03.5±0.1, 24°.0N±0°.4×12°.2E±°, h19km±1km, MV3.1/13, TAIWAN REGION*
*ASIES **03** 11:19:03.6, 24°.08N×121°.52E, h21km, ML3.8, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.94; $M_{\theta\theta}$-0.93; $M_{\phi\phi}$-1.01; $M_{r\theta}$-0.09; $M_{\theta\phi}$-0.76; $M_{\phi r}$-0.79; Fault plane solution: $M_0$2.00782×10^{21} NP1: ϕ_s211.13000°, δ55.78000°, λ77.02000°. NP2:ϕ_s53.43000°, δ36.32000°, λ108.28000°. Principal axes: T Plg75.3320°, Azm82.2760°; N Plg10.7070°, Azm218.5260°; P Plg9.9070°, Azm310.4180°;*
*TAP **03** 11:19:03.6, 24°.08N×121°.52E, h21km, ML3.8, B*

ISC 03 11:19:03.9±0.9, 24°.07N±0°.01×121°.56E±0°.01, h19km±2km, n151, σ0°.75/260, 10C-21D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.03**	**72**	⇓P	**Pg**	**11 19 07.7**	**+0.4**
TWD				*i* S	**Sg**	**11 19 10.2**	**+0.7**
HWA	**Hwalien**	**0.10**	**157**	⇓P	**Pg**	**11 19 08.5**	**+0.8**
HWA				S	**Sg**	**11 19 12.1**	**+1.9**
ETL	**Fush Village**	**0.10**	**32**	⇓*i*P	**Pg**	**11 19 07.9**	**+0.1**
ETL				S	**Sg**	**11 19 11.1**	**+0.6**
NACB	**Ninganchiao**	**0.11**	**16**	P	**Pg**	**11 19 07.7**	**-0.1**
NACB	**Ninganchiao**	**0.11**	**16**	⇑*i*P	**Pg**	**11 19 07.8**	**0.0**
NACB				*i* S	**Sg**	**11 19 10.7**	**+0.2**
ETM	**Tongmen**	**0.12**	**212**	⇑*i*P	**Pg**	**11 19 08.0**	**+0.1**
ETM				*i* S	**Sg**	**11 19 10.9**	**+0.3**
LXIB	**Xiulin Townshi**	**0.14**	**250**	⇑*i*P	**Pg**	**11 19 08.1**	**-0.3**
LXIB				S	**Sg**	**11 19 11.2**	**-0.2**
ETLH	**Xiulin Townshi**	**0.15**	**332**	⇑*i*P	**Pg**	**11 19 08.3**	**-0.1**
ETLH				*i* S	**Sg**	**11 19 11.2**	**-0.3**
TEYL	**Yanliau Villag**	**0.20**	**171**	⇓*i*P	**Pg**	**11 19 10.1**	**+1.1**
TEYL				eS	**Sg**	**11 19 14.2**	**+1.7**
ESL	**Shilin**	**0.28**	**205**	⇓*i*P	**Pg**	**11 19 09.7**	**-0.5**
ESL				S	**Sg**	**11 19 14.2**	**-0.4**
SHUL	**Shoufeng**	**0.28**	**180**	⇓*i*P	**Pg**	**11 19 10.6**	**+0.4**
SHUL				S	**Sg**	**11 19 15.7**	**+1.2**
WHF	**Hehuan Shan**	**0.28**	**285**	⇑*i*P	**Pg**	**11 19 10.1**	**-0.4**
WHF				*i* S	**Sb**	**11 19 14.4**	**-0.6**
EHP	**Heping Village**	**0.29**	**34**	e*P*	**Pg**	**11 19 10.6**	**+0.3**
EHP				*e*S	**Sb**	**11 19 15.3**	**+0.5**
EAHA	**Aohua**	**0.30**	**32**	e*P*	**Pg**	**11 19 10.6**	**0.0**
EAHA				S	**Sg**	**11 19 15.5**	**+0.3**
FUSS	**Fushou**	**0.34**	**301**	⇓*i*P	**Pg**	**11 19 11.1**	**-0.3**
FUSS				S	**Sg**	**11 19 16.1**	**-0.3**
TEGC	**Jichi Village**	**0.36**	**183**	e*P*	**Pg**	**11 19 11.8**	**+0.3**
TEGC				*e*S	**Sb**	**11 19 18.5**	**+1.4**
OWD	**Renai**	**0.37**	**252**	⇑*i*P	**Pg**	**11 19 11.5**	**-0.3**
OWD				*i* S	**Sg**	**11 19 16.3**	**-0.8**
WARBT	**Fenglin Townsh**	**0.39**	**205**	⇓*i*P	**Pg**	**11 19 11.0**	**-1.0**
WARBT				S	**Sg**	**11 19 16.7**	**-0.7**
ENA	**Nanau**	**0.39**	**25**	⇑*i*P	**Pg**	**11 19 11.9**	**-0.2**
ENA				S	**Sg**	**11 19 17.7**	**0.0**
NNSB	**Datong**	**0.39**	**335**	⇓*i*P	**Pg**	**11 19 11.8**	**-0.4**
NNSB				S	**Sg**	**11 19 17.2**	**-0.6**
TWT	**Tachien**	**0.40**	**297**	⇓*i*P	**Pg**	**11 19 12.2**	**-0.1**
TWT				*i* S	**Sg**	**11 19 17.6**	**-0.3**
NNS	**Nan Shan**	**0.41**	**335**	⇓*i*P	**Pg**	**11 19 12.0**	**-0.4**
NNS				*i* S	**Sg**	**11 19 17.6**	**-0.6**
TDCB	**Techi**	**0.41**	**296**	⇓*i*P	**Pg**	**11 19 12.2**	**-0.3**
TDCB				S	**Sg**	**11 19 17.4**	**-0.9**
WUSB	**Renai**	**0.41**	**259**	⇑*i*P	**Pg**	**11 19 12.3**	**-0.3**
WUSB				*i* S	**Sg**	**11 19 17.3**	**-1.1**
EGFH	**Guangfu**	**0.42**	**197**	P	**Pg**	**11 19 11.5**	**-1.0**
EGFH				*i* S	**Sg**	**11 19 17.8**	**-0.6**
EWUT	**Wuta**	**0.42**	**28**	P	**Pg**	**11 19 12.3**	**-0.3**
EWUT				S	**Sg**	**11 19 18.5**	**0.0**
LATG	**Datong**	**0.47**	**356**	⇓*i*P	**Pg**	**11 19 12.8**	**-0.6**
LATG				*i* S	**Sg**	**11 19 19.3**	**-0.6**
ESAO	**Su ao**	**0.56**	**27**	P	**Pb**	**11 19 14.9**	**-0.2**
ESAO				*e*S	**Sb**	**11 19 22.2**	**-0.5**
ENTT	**Nioudou**	**0.57**	**0**	⇓*i*P	**Pb**	**11 19 14.8**	**-0.3**
ENTT				*e*S	**Sb**	**11 19 22.8**	**0.0**
NDS	**Dongshan**	**0.58**	**14**	e*P*	**Pb**	**11 19 15.0**	**-0.3**
NDS				S	**Sb**	**11 19 23.1**	**0.0**
HGSD	**Ruisui**	**0.59**	**192**	e*P*	**Pb**	**11 19 15.9**	**+0.4**
HGSD				*e*S	**Sb**	**11 19 23.4**	**+0.1**
WCS	**Beigang Elemen**	**0.59**	**269**	⇓P	**Pb**	**11 19 15.1**	**-0.4**
WCS				*e*S	**Sb**	**11 19 23.0**	**-0.6**
TWC	**Suao**	**0.60**	**26**	⇓P	**Pb**	**11 19 15.4**	**-0.2**
TWC				S	**Sb**	**11 19 23.4**	**-0.2**
WHP	**Taichung City**	**0.60**	**290**	⇓P	**Pb**	**11 19 15.2**	**-0.5**
WHP				*e*S	**Sb**	**11 19 23.0**	**-0.8**
EHY	**Hungye**	**0.60**	**201**	e*P*	**Pb**	**11 19 14.0**	**-1.7**
EHY				*e*S	**Sb**	**11 19 23.8**	**0.0**
EHYH	**Wanrong**	**0.61**	**199**	P	**Pb**	**11 19 15.3**	**-0.5**
EHYH				*e*S	**Sb**	**11 19 23.2**	**-0.7**
YHNB	**Yeheng**	**0.62**	**344**	P	**Pb**	**11 19 16.0**	**-0.1**
YHNB	**Yeheng**	**0.62**	**344**	e*P*	**Pb**	**11 19 15.6**	**-0.5**
YHNB				S	**Sb**	**11 19 23.8**	**-0.6**
SSLB	**Suanglung**	**0.62**	**243**	P	**Pb**	**11 19 15.8**	**-0.3**
SSLB	**Suanglung**	**0.62**	**243**	⇓e*P*	**Pb**	**11 19 15.4**	**-0.7**
SSLB				*i* S	**Sb**	**11 19 22.9**	**-1.5**
NSK	**Sanguang**	**0.63**	**343**	⇑P	**Pb**	**11 19 16.0**	**-0.3**
NSK				S	**Sb**	**11 19 24.1**	**-0.6**
SMLT	**Sun Moon Lake**	**0.63**	**253**	e*P*	**Pb**	**11 19 15.8**	**-0.5**
SMLT				S	**Sb**	**11 19 23.8**	**-1.0**
TWE	**Neicheng**	**0.66**	**8**	⇑*i*P	**Pb**	**11 19 16.2**	**-0.5**
TWE				S	**Sb**	**11 19 25.2**	**-0.1**
TYC	**Yuchr**	**0.67**	**256**	⇓*i*P	**Pb**	**11 19 16.2**	**-0.6**
TYC				S	**Sb**	**11 19 24.3**	**-1.3**
FUSB	**Fushanzhiwuyua**	**0.69**	**2**	P	**Pb**	**11 19 17.0**	**-0.3**
FUSB				S	**Sb**	**11 19 24.7**	**-1.6**
NFF	**Wufeng Townshi**	**0.69**	**324**	e*P*	**Pb**	**11 19 16.9**	**-0.4**
NFF				*e*S	**Sb**	**11 19 25.0**	**-1.5**
EOS4	**EOS4**	**0.69**	**86**	e*P*	**Pn**	**11 19 18.4**	**+0.1**
EOS4				S	**Sn**	**11 19 28.3**	**0.0**
EOS2	**EOS2**	**0.70**	**60**	e*P*	**Pn**	**11 19 18.8**	**+0.2**
NWLT	**Wulai**	**0.71**	**356**	*i* P	**Pb**	**11 19 17.2**	**-0.3**
NWLT				*i* S	**Sb**	**11 19 25.8**	**-1.1**
ILA	**Ilan**	**0.71**	**14**	e*P*	**Pb**	**11 19 17.3**	**-0.3**
ILA				*e*S	**Sb**	**11 19 27.1**	**0.0**
YULB	**Yu-li**	**0.72**	**200**	P	**Pb**	**11 19 17.3**	**-0.4**
YULB	**Yu-li**	**0.72**	**200**	e*P*	**Pb**	**11 19 17.1**	**-0.6**
YULB				*i* S	**Sb**	**11 19 26.4**	**-0.7**
EOS3	**EOS3**	**0.72**	**72**	e*P*	**Pn**	**11 19 19.1**	**+0.2**
WHYT	**Xinyi Township**	**0.75**	**240**	P	**Pb**	**11 19 18.2**	**-0.1**
WHYT				*e*S	**Sb**	**11 19 28.4**	**+0.2**
EYUL	**Yuli**	**0.75**	**197**	e*P*	**Pb**	**11 19 17.5**	**-0.9**
EYUL				*e*S	**Sb**	**11 19 28.2**	**0.0**
ECBN	**Changbin**	**0.76**	**188**	e*P*	**Pb**	**11 19 17.7**	**-0.7**
ECBN				*e*S	**Sb**	**11 19 28.8**	**+0.5**
NSTT	**Nanjuang**	**0.76**	**318**	⇓*i*P	**Pb**	**11 19 18.3**	**-0.1**
NSTT				S	**Sb**	**11 19 27.9**	**-0.5**
LIOB	**Emei**	**0.76**	**319**	⇓P	**Pb**	**11 19 18.6**	**+0.1**
LIOB				*e*S	**Sb**	**11 19 29.2**	**+0.7**
TWQ1	**Liyutan**	**0.77**	**291**	P	**Pb**	**11 19 18.8**	**+0.1**
TWQ1				*e*S	**Sg**	**11 19 29.8**	**+0.5**
KSHI	**Guanxi Townshi**	**0.79**	**333**	e*P*	**Pb**	**11 19 19.7**	**+0.7**
KSHI				*e*S	**Sb**	**11 19 29.4**	**+0.2**
WJS	**Zhushan**	**0.80**	**252**	e*P*	**Pb**	**11 19 19.6**	**+0.5**
WJS				*e*S	**Sb**	**11 19 30.4**	**+0.7**
WNT	**Mingjian**	**0.83**	**257**	P	**Pb**	**11 19 20.0**	**+0.4**
WNT				*i* S	**Sg**	**11 19 31.9**	**+0.8**
NMLH	**Miaoli**	**0.84**	**304**	e*P*	**Pb**	**11 19 20.6**	**+0.7**
NMLH				*e*S	**Sb**	**11 19 31.2**	**+0.4**
WDJ	**Dajia District**	**0.89**	**288**	e*P*	**Pb**	**11 19 21.1**	**+0.5**
CHKH	**Chenggong**	**0.89**	**190**	e*P*	**Pb**	**11 19 19.1**	**-1.5**
CHKH				S	**Sb**	**11 19 31.3**	**-0.8**
ALS	**Alishan**	**0.89**	**231**	e*P*	**Pb**	**11 19 20.7**	**-0.1**
ALS				S	**Sb**	**11 19 32.8**	**+0.3**
SBCB	**Hsinchu**	**0.89**	**324**	e*P*	**Pb**	**11 19 21.0**	**+0.3**
SBCB				*e*S	**Sn**	**11 19 35.3**	**+1.6**
FULB	**Fuli**	**0.90**	**196**	e*P*	**Pb**	**11 19 20.3**	**-0.6**
TATO	**Taipei**	**0.90**	**356**	P	**Pb**	**11 19 20.9**	**0.0**
TWA	**Mucha**	**0.91**	**1**	e*P*	**Pb**	**11 19 20.0**	**-1.0**
TWA				*e*S	**Sb**	**11 19 31.2**	**-1.2**
HSN	**Hsinchu**	**0.91**	**324**	e*P*	**Pn**	**11 19 22.4**	**+0.8**
HSN				*e*S	**Sg**	**11 19 34.4**	**+0.8**
WCHH	**Zhanghua**	**0.92**	**271**	e*P*	**Pb**	**11 19 21.7**	**+0.5**
WCHH				*e*S	**Sb**	**11 19 34.0**	**+1.0**
TIPB	**Shuangxi**	**0.93**	**15**	e*P*	**Pb**	**11 19 20.8**	**-0.6**
TIPB				*e*S	**Sb**	**11 19 33.3**	**-0.1**
CHN5	**Tsauling**	**0.94**	**240**	e*P*	**Pb**	**11 19 22.0**	**+0.4**
CHN5				*i* S	**Sg**	**11 19 35.3**	**+0.7**
NCUH	**Zhongli**	**0.96**	**339**	*i* P	**Pn**	**11 19 22.7**	**+0.4**
NCUH				*i* S	**Sn**	**11 19 36.5**	**+1.1**
TAP	**Taipei**	**0.97**	**357**	e*P*	**Pb**	**11 19 22.2**	**+0.2**
EHD	**Haiduan**	**0.97**	**200**	e*P*	**Pb**	**11 19 21.2**	**-0.9**
EHD				*e*S	**Sb**	**11 19 33.5**	**-1.1**
WGK	**Gukeng**	**0.99**	**248**	e*P*	**Pg**	**11 19 23.7**	**+0.5**
WDL	**Douliou City**	**1.00**	**250**	e*P*	**Pb**	**11 19 21.9**	**-0.7**
WDL				*e*S	**Sn**	**11 19 36.5**	**+0.1**
ELDTW	**Lidau**	**1.01**	**210**	e*P*	**Pb**	**11 19 22.2**	**-0.6**
ELDTW				*i* S	**Sb**	**11 19 35.0**	**-0.7**
WDLH	**Douliu**	**1.01**	**248**	e*P*	**Pb**	**11 19 22.2**	**-0.5**
WDLH				S	**Sb**	**11 19 36.6**	**+0.9**
TWB1	**Santiao Chiao**	**1.01**	**22**	e*P*	**Pb**	**11 19 23.1**	**+0.3**
TWB1				*e*S	**Sb**	**11 19 36.1**	**+0.4**
NWF	**Wu-fen Shan**	**1.02**	**11**	e*P*	**Pb**	**11 19 23.2**	**+0.3**
NWF				*e*S	**Sb**	**11 19 36.2**	**+0.3**
WFSB	**Wu-fen Shan**	**1.02**	**11**	e*P*	**Pn**	**11 19 23.9**	**+0.8**
WFSB				*e*S	**Sb**	**11 19 36.0**	**+0.1**
ECS	**Chishang**	**1.02**	**198**	e*P*	**Pb**	**11 19 22.5**	**-0.4**
ECS				*e*S	**Sb**	**11 19 36.6**	**+0.7**
TWS1	**Kuangyinshan**	**1.03**	**353**	e*P*	**Pb**	**11 19 22.6**	**-0.5**
TWS1				*i* S	**Sn**	**11 19 37.6**	**+0.3**
SXI1	**Grass Mountain**	**1.06**	**16**	e*P*	**Pb**	**11 19 23.3**	**-0.3**
YM01	**YM01**	**1.07**	**0**	e*P*	**Pb**	**11 19 24.0**	**+0.2**
YM01				*e*S	**Sb**	**11 19 37.8**	**+0.3**
WCKO	**Fanlu**	**1.08**	**235**	e*P*	**Pb**	**11 19 24.5**	**+0.5**
WCKO				S	**Sn**	**11 19 39.2**	**+0.8**
ZUZH	**Zhuzihu**	**1.09**	**359**	e*P*	**Pb**	**11 19 23.5**	**-0.6**
ZUZH				*e*S	**Sb**	**11 19 38.3**	**+0.3**
NTST	**Danshui**	**1.09**	**355**	e*P*	**Pn**	**11 19 24.3**	**+0.2**
NTST				*e*S	**Sn**	**11 19 39.6**	**+0.9**
ANP	**Anpu**	**1.11**	**358**	e*P*	**Pn**	**11 19 24.3**	**-0.2**
ANP				*e*S	**Sb**	**11 19 38.2**	**-0.5**
YM08	**YM08**	**1.11**	**1**	e*P*	**Pn**	**11 19 24.5**	**+0.1**
YM08				*e*S	**Sb**	**11 19 38.5**	**-0.1**
EDH	**Donghe**	**1.12**	**192**	e*P*	**Pn**	**11 19 23.2**	**-1.3**
EDH				*e*S	**Sb**	**11 19 38.2**	**-0.6**
CHN2	**Minshiung**	**1.13**	**242**	e*P*	**Pn**	**11 19 23.8**	**-0.8**
WTK	**Tuku**	**1.14**	**251**	e*P*	**Pn**	**11 19 24.8**	**0.0**
WTK				*e*S	**Sg**	**11 19 41.4**	**+0.4**
CHN4	**Tsaushan**	**1.14**	**231**	e*P*	**Pb**	**11 19 25.6**	**+0.6**
CHN4				*e*S	**Sg**	**11 19 41.5**	**+0.5**
TPUB	**Ta-pu**	**1.15**	**228**	P	**Pn**	**11 19 25.4**	**+0.5**
TPUB	**Ta-pu**	**1.15**	**228**	P	**Pn**	**11 19 25.5**	**+0.6**
TPUB				*e*S	**Sn**	**11 19 41.1**	**+1.0**
STYH	**Taoyuan**	**1.15**	**219**	e*P*	**Pn**	**11 19 24.5**	**-0.4**
STYH				*i* S	**Sb**	**11 19 39.8**	**+0.1**
CHY	**Chiayi**	**1.19**	**242**	e*P*	**Pb**	**11 19 26.3**	**+0.5**
CHY				*e*S	**Sn**	**11 19 41.7**	**+0.6**
WTCT	**Ta-ch'eng**	**1.19**	**260**	e*P*	**Pn**	**11 19 25.0**	**-0.4**
WTCT				S	**Sg**	**11 19 42.5**	**-0.1**
WTP	**Ta-pu**	**1.20**	**227**	e*P*	**Pn**	**11 19 26.1**	**+0.5**
WTP				*e*S	**Sn**	**11 19 42.1**	**+0.7**
TWY	**Chenhua**	**1.20**	**2**	e*P*	**Pn**	**11 19 26.1**	**+0.4**
LONT	**Longtian**	**1.22**	**199**	e*P*	**Pn**	**11 19 25.9**	**0.0**
TWK	**Hsinying**	**1.27**	**231**	P	**Pb**	**11 19 27.6**	**+0.5**
TWK				*e*S	**Sb**	**11 19 43.6**	**+0.5**
SNST	**Tainan City**	**1.29**	**229**	e*P*	**Pb**	**11 19 28.3**	**+0.8**
SNST				*e*S	**Sg**	**11 19 46.2**	**+0.4**
CHN1	**Nanshi**	**1.29**	**227**	P	**Pb**	**11 19 28.4**	**+0.7**
CHN1				*e*S	**Sg**	**11 19 45.8**	**0.0**
WSF	**Szhu**	**1.30**	**251**	e*P*	**Pn**	**11 19 27.7**	**+0.7**
WSF				*e*S	**Sb**	**11 19 44.5**	**+0.5**
JYNG	**Yonagunijimaku**	**1.32**	**73**	P	**Pn**	**11 19 27.2**	**0.0**
JYNG				*e*S	**Sn**	**11 19 44.1**	**-0.2**
TWG	**Pinlang**	**1.32**	**200**	e*P*	**Pn**	**11 19 26.8**	**-0.5**
TWG				*e*S	**Sn**	**11 19 43.5**	**-0.9**
TWGBT	**Beinan**	**1.32**	**200**	P	**Pn**	**11 19 27.5**	**+0.2**
TWGBT	**Beinan**	**1.32**	**200**	e*P*	**Pn**	**11 19 24.4**	**-3.0**
SGST	**Jiashian**	**1.33**	**223**	e*P*	**Pn**	**11 19 27.2**	**-0.3**
SGST				*i* S	**Sb**	**11 19 46.0**	**+1.1**
WSL	**Shuilin Townsh**	**1.34**	**246**	e*P*	**Pb**	**11 19 28.6**	**+0.3**
WSL				*e*S	**Sb**	**11 19 46.5**	**+1.4**
SLGT	**Liugui**	**1.36**	**218**	e*P*	**Pn**	**11 19 27.3**	**-0.5**
SLGT				*e*S	**Sn**	**11 19 46.0**	**+0.6**
ICHU	**Yijhu**	**1.37**	**239**	*i* P	**Pb**	**11 19 29.2**	**+0.3**
ICHU				*e*S	**Sg**	**11 19 48.0**	**-0.3**
YOJ	**Yonaguni jima**	**1.38**	**73**	P	**Pn**	**11 19 27.9**	**-0.2**
YOJ	**Yonaguni jima**	**1.38**	**73**	e*P*	**Pn**	**11 19 27.6**	**-0.5**
YOJ				*e*S	**Sb**	**11 19 46.6**	**+0.3**
LDUT	**Ludao**	**1.39**	**184**	e*P*	**Pn**	**11 19 25.7**	**-2.6**
LDUT				*e*S	**Sn**	**11 19 45.8**	**-0.3**
CHN8	**Yiju**	**1.43**	**240**	e*P*	**Pn**	**11 19 29.5**	**+0.7**
CHN8				S	**Sb**	**11 19 49.3**	**+1.5**
SCST	**Cishan**	**1.53**	**220**	e*P*	**Pb**	**11 19 32.1**	**+0.4**
SCST				*e*S	**Sg**	**11 19 52.7**	**-0.8**
ECL	**Taimali**	**1.57**	**201**	e*P*	**Pn**	**11 19 30.4**	**-0.3**
TSMG	**Majia**	**1.60**	**212**	e*P*	**Pn**	**11 19 31.9**	**+0.8**
PCYT	**Pengchaiyu**	**1.62**	**16**	e*P*	**Pn**	**11 19 31.0**	**-0.4**
TSCK	**Chigu Township**	**1.64**	**236**	e*P*	**Pn**	**11 19 31.8**	**+0.2**
TSCK				*e*S	**Sb**	**11 19 53.6**	**-0.1**
MASBT	**Mashibuluo**	**1.68**	**211**	e*P*	**Pn**	**11 19 32.9**	**+0.6**
EAST	**Anshuo**	**1.80**	**202**	e*P*	**Pn**	**11 19 34.4**	**+0.4**
TAWH	**Dawu Township**	**1.83**	**200**	e*P*	**Pn**	**11 19 35.0**	**+0.7**
SCZT	**Fangliau**	**1.90**	**207**	e*P*	**Pn**	**11 19 35.9**	**+0.7**
PNG	**Penghu**	**1.91**	**255**	e*P*	**Pn**	**11 19 35.3**	**0.0**
PNG				*e*S	**Sn**	**11 19 58.3**	**-0.5**
PHUB	**P'eng-hu**	**1.91**	**254**	e*P*	**Pn**	**11 19 35.2**	**-0.1**
PHUB				*e*S	**Sn**	**11 19 59.8**	**+1.0**
WDGT	**Dungji**	**1.92**	**246**	e*P*	**Pn**	**11 19 35.8**	**+0.3**
SLIU	**Shizi**	**1.97**	**201**	e*P*	**Pn**	**11 19 37.2**	**+0.9**
IRIF	**Iriomote-Funau**	**2.00**	**82**	e*P*	**Pn**	**11 19 37.5**	**+0.9**
IRIF				*e*S	**Sn**	**11 20 01.8**	**+0.7**
LAY	**Lan-yu**	**2.02**	**180**	e*P*	**Pn**	**11 19 35.1**	**-1.8**
HATJ	**Hateruma jima**	**2.05**	**90**	e*S*	**Sn**	**11 20 02.5**	**+0.2**
LYUB	**Lan-yu**	**2.06**	**179**	e*P*	**Pn**	**11 19 34.2**	**-3.2**
VWUC	**VWUC**	**2.13**	**296**	e*P*	**Pn**	**11 19 37.2**	**-1.2**
VCHM	**Qimei**	**2.14**	**247**	e*P*	**Pn**	**11 19 38.2**	**-0.3**
HEN	**Hengchun**	**2.19**	**200**	e*P*	**Pn**	**11 19 39.1**	**-0.2**
TWK1	**Hengchun**	**2.23**	**198**	e*P*	**Pn**	**11 19 41.7**	**+1.9**
TWKBT	**Hengchun**	**2.23**	**198**	e*P*	**Pn**	**11 19 39.0**	**-0.8**
JKRS	**Kuro-shima**	**2.24**	**85**	e*P*	**Pn**	**11 19 39.7**	**-0.2**
JIJ	**Ishigaki jima**	**2.37**	**82**	P	**Pn**	**11 19 41.5**	**-0.3**
JIJ				S	**Sn**	**11 20 09.6**	**-0.8**
MATB	**Ma-tsu**	**2.54**	**325**	e*P*	**Pn**	**11 19 43.2**	**-0.9**
JISG	**Ishigakijimahi**	**2.56**	**78**	P	**Pn**	**11 19 44.2**	**-0.1**
JISG				S	**Sn**	**11 20 14.4**	**-0.5**
KNM	**Kinmen**	**2.88**	**278**	e*P*	**Pn**	**11 19 50.0**	**+1.4**
KNMB	**Chin-men Tao**	**2.92**	**278**	e*P*	**Pn**	**11 19 47.3**	**-2.1**
MHZQ	**Yeshan**	**3.06**	**312**	e*P*	**Pn**	**11 19 49.9**	**-1.3**
ZPLA	**Ao Xicun**	**3.49**	**268**	e*P*	**Pn**	**11 19 58.7**	**+1.6**

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*NOU **03** 11:36:50.5, 15°.47S×175°.05W, h334km, mb4.6/45, Tonga Islands*
*NEIC **03** 11:36:50.6±1.8, 15°.52S±0°.06×175°.05W±0°.09, h317km±8km, mb4.4/37, Error ellipse: s-maj=13.1km s-min=7.7km az=103.0*
*IDC **03** 11:36:52.9±2.8, 15°.50S×175°.27W, h340km±27km, mb3.6/10, mbtmp4.4/12, Error ellipse: s-maj=24.0km s-min=14.2km az=133.0*

ISC 03 11:36:50.4±0.5, 15°.53S±0°.08×175°.18W±0°.07, h317km, n105, σ1°.14/109, mb4.3/31, 3C-1D, Tonga Islands

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC

KNRA Kununurra 53.85 262 P P 11 45 42.3 +0.4
KNRA IAmb IAmb 11 46 01.3
comp=Z,29nm,1.3s
FITZ Fitzroy Crossi 56.51 258 P P 11 46 01.1 +0.4
PSA00 Pilbara Seismi 61.52 254 P P 11 46 33.7 -1.3
PSA00 IAmb IAmb 11 46 35.2
comp=Z,11nm,0.7s
PSA00 Pilbara Seismi 61.52 254 P P 11 46 34.4 -0.5
MBWA Marble Bar 61.68 254 P P 11 46 35.6 -0.4
MBWA IAmb IAmb 11 46 44.2
comp=Z,24nm,1.4s
MBWA Marble Bar 61.68 254 P P 11 46 35.5 -0.4
MEEK Meekatharra 62.18 248 P P 11 46 38.6 -0.6
KLBR Kellerberrin 62.66 242 P P 11 46 41.8 -0.5
SBA Scott Base 62.99 184 P P 11 46 44.9 +1.3
GIRL Giralia 66.56 252 P P 11 47 07.5 0.0
MJAR Matsushiro Arr 67.94 321 P P 11 47 15.7 0.0
comp=Z,0.6nm,0.7s,baz=154,slow=4.9,SNR=1.9
comp=Z,0.6nm,0.7s
PETK Petropavlovsk- 72.25 343 P P 11 47 41.6 +0.3
comp=Z,1.6nm,0.7s,baz=123,slow=7.8,SNR=1.2
comp=Z,1.6nm,0.7s
QSPA South Pole Qui 74.51 180 P P 11 47 54.9 +0.4
QSPA IAmb IAmb 11 47 55.9
comp=Z,6.7nm,1.1s
QSPA South Pole Qui 74.51 180 P P 11 47 54.9 +0.4
comp=Z,4.7nm,0.8s,baz=330,slow=0.6,SNR=31
comp=Z,4.7nm,0.8s
NVAR Mina Array Bea 75.58 43 P P 11 48 01.9 +0.7
comp=Z,1.4nm,0.6s,baz=227,slow=8.4,SNR=9.0
comp=Z,1.4nm,0.6s
Y14A Wickenburg 76.92 49 P P 11 48 08.6 0.0
PINE Pine Mountain 77.03 37 P P 11 48 09.1 0.0
PINE IAmb IAmb 11 48 12.7
comp=Z,7.5nm,1.2s
M17K Holitna River 77.97 9 P P 11 48 14.3 +0.7
PGC Sidney 78.65 32 P P 11 48 17.1 -0.5
TXAR Lajitas Array 82.11 57 P P 11 48 37.0 +0.5
comp=Z,0.9nm,1.0s,baz=222,slow=5.0,SNR=7.1
comp=Z,0.9nm,1.0s
ANMO Albuquerque 82.20 51 P P 11 48 36.8 -0.2
ANMO IAmb IAmb 11 48 38.7
comp=Z,6.3nm,1.5s
O30N Mendenhall 82.22 18 P P 11 48 36.8 +0.5
O30N IAmb IAmb 11 48 51.3
comp=Z,9.3nm,1.2s
CCB Clear Creek Bu 82.62 12 P P 11 48 38.0 -0.1
CCB IAmb IAmb 11 48 39.3
comp=Z,12nm,1.5s
ILAR Eielson Array 82.91 12 P P 11 48 39.2 -0.5
comp=Z,0.9nm,0.4s,baz=211,slow=5.5,SNR=31
comp=Z,0.9nm,0.4s
PD31 Pinedale Array 83.51 42 P P 11 48 43.1 -0.4
PDAR Pinedale Array 83.51 42 P P 11 48 43.8 +0.3
PDAR Pinedale Array 83.51 42 P P 11 48 43.1 -0.4
comp=Z,1.1nm,0.6s,baz=222,slow=3.9,SNR=13
comp=Z,1.1nm,0.6s
L29M L29M 83.52 16 P P 11 48 43.4 +0.6
L29M IAmb IAmb 11 48 44.0
comp=Z,3.6nm,0.9s
MAW Mawson 87.12 199 P P 11 49 00.7 +0.3
comp=Z,0.7nm,0.4s,baz=131,slow=11,SNR=2.5
comp=Z,0.7nm,0.4s
ELIB Princess Elisa 91.84 186 *d*P **P 11 49 21.9 -0.7**
TROLL Troll, Antarti 92.66 179 ⇑P **P 11 49 26.0 -0.4**
comp=Z,76nm,0.6s
VNA3 Neumayer Olymp 92.87 175 ⇑P **P 11 49 26.4 -0.8**
comp=Z,1.8nm,0.5s
VNA2 Neumayer--Watz 93.35 176 ⇑P **P 11 49 28.8 -0.6**
comp=Z,2.3nm,0.6s,baz=194,slow=3.4

*ATH **03** 11:38:08.5, 37°.31N×20°.82E, h8km±1km, ML3.1/16, Error ellipse: s-maj=2.2km s-min=1.0km az=42.0*
*THE **03** 11:38:08.7, 37°.34N×20°.83E, h9km, ML3.5/6, Error ellipse: s-maj=0.8km s-min=0.4km az=43.0*
ISC 03 11:38:09.5±1.3, 37°.41N±0°.05×20°.90E±0°.04, h15km±8km, n46, σ0s79/64, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.26**	**345**	P	**Pg**	**11 38 15.2**	**+0.2**
KRI1				S	**Sg**	**11 38 19.9**	**+1.1**
14μm,0.4s							
LTHK	**Lithakia**	**0.30**	**350**	P	**Pb**	**11 38 15.9**	**-0.6**
LTHK				S	**Sb**	**11 38 21.4**	**+0.1**
19μm,0.3s							
LTHK	**Lithakia**	**0.30**	**350**	P	**Pb**	**11 38 16.3**	**-0.3**
LTHK				S	**Sb**	**11 38 21.7**	**+0.3**
LTHK				AML	AML	11 38 22.1	
comp=E,24313μm,0.3s							
LTHK				AML	AML	11 38 22.3	
comp=N,47364μm,0.3s							
AMT	**Artemida-Makis**	**0.66**	**79**	P	**Pb**	**11 38 22.8**	**+0.2**
AMT				S	**Sb**	**11 38 31.9**	**+0.3**
AMT	**Artemida-Makis**	**0.66**	**79**	P	**Pb**	**11 38 22.8**	**+0.2**
AMT				S	**Sb**	**11 38 31.9**	**+0.3**
AMT				AML	AML	11 38 39.4	
comp=E,5742μm,0.4s							
AMT				AML	AML	11 38 42.3	
comp=N,6499μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.74**	**340**	P	**Pb**	**11 38 23.4**	**-0.7**
PSDA				S	**Sb**	**11 38 35.3**	**+1.2**
comp=N,4μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.74**	**340**	P	**Pb**	**11 38 23.4**	**-0.7**
PSDA				S	**Sb**	**11 38 35.3**	**+1.2**
RLS	**Riolos of Patr**	**0.79**	**35**	P	**Pn**	**11 38 25.2**	**-0.8**
RLS				S	**Sn**	**11 38 37.9**	**+0.4**
comp=N,740nm,0.5s							
RLS	**Riolos of Patr**	**0.79**	**35**	P	**Pb**	**11 38 24.9**	**+0.1**
RLS				S	**Sn**	**11 38 37.4**	**-0.1**
RLS				AML	AML	11 38 43.6	
comp=N,1621μm,0.5s							
RLS				AML	AML	11 38 44.8	
comp=E,1417μm,0.5s							
VLS	**Valsamata**	**0.80**	**342**	P	**Pb**	**11 38 24.4**	**-0.7**
VLS				S	**Sn**	**11 38 37.5**	**-0.4**
comp=E,3μm,0.2s							
VLS	**Valsamata**	**0.80**	**342**	P	**Pb**	**11 38 24.4**	**-0.7**
VLS				S	**Sn**	**11 38 37.5**	**-0.4**
VLS				AML	AML	11 38 38.5	
comp=N,5996μm,0.2s							
VLS				AML	AML	11 38 38.9	
comp=E,6883μm,0.2s							
DRO	**Drossia**	**0.84**	**50**	P	**Pn**	**11 38 26.0**	**-0.8**
DRO				S	**Sn**	**11 38 39.7**	**+0.8**
comp=E,1μm,0.5s							
DRO	**Drossia**	**0.84**	**50**	P	**Pn**	**11 38 26.0**	**-0.8**
DRO				S	**Sn**	**11 38 40.0**	**+1.1**
DRO				AML	AML	11 38 45.1	
comp=E,3161μm,0.7s							
DRO				AML	AML	11 38 46.2	
comp=N,2085μm,0.3s							
PYL	**PYLOS**	**0.85**	**127**	P	**Pg**	**11 38 24.9**	**-1.0**
PYL	**PYLOS**	**0.85**	**127**	P	**Pg**	**11 38 25.0**	**-1.0**
PYL				AML	AML	11 38 50.6	
comp=N,1279μm,0.6s							
PYL				AML	AML	11 38 51.5	
comp=E,1142μm,0.6s							
ITM	**Ithomi**	**0.85**	**106**	P	**Pg**	**11 38 25.3**	**-0.7**
ITM	**Ithomi**	**0.85**	**106**	P	**Pg**	**11 38 25.2**	**-0.7**
ITM				AML	AML	11 38 43.0	
comp=N,1256μm,0.5s							
ITM				AML	AML	11 38 51.5	
comp=E,841μm,0.6s							
LXRA	**Lixouri, Kepha**	**0.87**	**335**	P	**Pn**	**11 38 26.7**	**-0.4**
LXRA				S	**Sn**	**11 38 39.4**	**-0.1**
DMLN	**Damoulianata-K**	**0.92**	**333**	P	**Pb**	**11 38 26.9**	**-0.3**
DMLN				S	**Sn**	**11 38 41.1**	**+0.1**
DMLN	**Damoulianata-K**	**0.92**	**333**	P	**Pb**	**11 38 26.8**	**-0.4**
DMLN				S	**Sn**	**11 38 40.8**	**-0.1**
FSK	**Fiskardo**	**1.08**	**346**	P	**Pb**	**11 38 29.7**	**-0.1**
FSK				S	**Sn**	**11 38 46.4**	**+1.7**
FSK	**Fiskardo**	**1.08**	**346**	P	**Pb**	**11 38 29.7**	**-0.1**
FSK				S	**Sn**	**11 38 45.6**	**+0.9**
FSK				AML	AML	11 38 51.5	
comp=N,1977μm,0.7s							
FSK				AML	AML	11 38 58.9	
comp=E,2161μm,0.6s							
KLV	**Kalavryta, Ach**	**1.18**	**57**	P	**Pn**	**11 38 31.6**	**+0.2**
KLV	**Kalavryta, Ach**	**1.18**	**57**	P	**Pb**	**11 38 30.9**	**-0.6**
KLV				AML	AML	11 39 00.9	
comp=E,470μm,0.8s							
KLV				AML	AML	11 39 01.6	
comp=N,455μm,0.7s							

EVGI	**Lefkada island**	**1.22**	**351**	P	**Pb**	**11 38 31.8**	**-0.5**
EVGI	**Lefkada island**	**1.22**	**351**	P	**Pn**	**11 38 33.1**	**+1.1**
GUR	**Goura**	**1.26**	**65**	P	**Pn**	**11 38 32.9**	**+0.3**
GUR	**Goura**	**1.26**	**65**	P	**Pn**	**11 38 32.9**	**+0.3**
EFP	**Efpalio**	**1.29**	**38**	P	**Pn**	**11 38 33.4**	**+0.5**
EFP	**Efpalio**	**1.29**	**38**	P	**Pn**	**11 38 34.3**	**+1.4**
EFP				AML	AML	11 39 04.3	
comp=N,1123μm,0.5s							
EFP				AML	AML	11 39 06.2	
comp=E,642μm,0.8s							
DRAG	**Dragano-Lefkad**	**1.29**	**349**	P	**Pg**	**11 38 32.9**	**-1.5**
DRAG	**Dragano-Lefkad**	**1.29**	**349**	P	**Pg**	**11 38 32.7**	**-1.7**
NYDR	**Nydri-Lefkada**	**1.31**	**353**	P	**Pn**	**11 38 33.5**	**+0.3**
KALE	**Kalithea**	**1.38**	**45**	P	**Pb**	**11 38 34.6**	**-0.5**
KALE	**Kalithea**	**1.38**	**45**	P	**Pb**	**11 38 34.8**	**-0.3**
KALE				AML	AML	11 39 07.0	
comp=E,959μm,0.6s							
KALE				AML	AML	11 39 10.0	
comp=N,922μm,0.6s							
TSLK	**Tsoukalades, L**	**1.42**	**352**	P	**Pg**	**11 38 35.9**	**-0.9**
TSLK				AML	AML	11 39 07.9	
comp=N,1404μm,0.8s							
TSLK				AML	AML	11 39 13.1	
comp=E,1655μm,0.7s							
ANX	**Ano Chora**	**1.43**	**34**	P	**Pb**	**11 38 36.2**	**+0.3**
ANX				AML	AML	11 39 05.0	
comp=N,949μm,0.5s							
ANX				AML	AML	11 39 08.0	
comp=E,1214μm,0.6s							
EVR	**Evrytania**	**1.66**	**25**	P	**Pg**	**11 38 39.5**	**-1.9**
EVR				AML	AML	11 39 15.3	
comp=N,607μm,0.7s							
EVR				AML	AML	11 39 19.7	
comp=E,654μm,0.9s							
MAKR	**Makrakomi, Fth**	**1.87**	**31**	P	**Pb**	**11 38 42.0**	**-1.3**
MAKR				AML	AML	11 39 32.6	
comp=N,631μm,0.9s							
MAKR				AML	AML	11 39 34.2	
comp=E,860μm,0.8s							
AXAR	**Agios Charalam**	**1.94**	**45**	P	**Pn**	**11 38 42.4**	**+0.5**
IGT	**Igoumenitsa**	**2.16**	**348**	P	**Pn**	**11 38 45.5**	**+0.5**
IGT				AML	AML	11 39 30.1	
comp=N,231μm,0.9s							
IGT				AML	AML	11 39 30.7	
comp=E,425μm,0.7s							
THL	**Klokotos Trika**	**2.32**	**22**	P	**Pn**	**11 38 48.1**	**+1.0**
KEK	**Kerkira**	**2.45**	**340**	P	**Pn**	**11 38 49.5**	**+0.5**
TYRN	**Tyrnavos**	**2.52**	**24**	P	**Pn**	**11 38 50.2**	**+0.3**
SCTE	**Santa Cesarea**	**3.27**	**325**	P	**Pn**	**11 38 59.5**	**-0.6**
CUC	**Castrocucco**	**4.74**	**304**	P	**Pn**	**11 39 21.4**	**+1.0**

WEL 03 11:41:22.6, 42°.S±3°×17°.5E±°, h15km±6km, M2.2/9, ML2.5/15, MLv2.2/9, Error ellipse: s-maj=6.4km s-min=3.6km az=125.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHW	**Baring Head**	**0.24**	**67**	P	Pb	11 41 28.4	-0.2
WEL	**Wellington**	**0.26**	**33**	P	Pb	11 41 29.2	+0.2
CMWZ	**Cape Campbell**	**0.37**	**228**	P	Pb	11 41 30.7	-0.1
TCW	**Tory Channel**	**0.37**	**322**	P	Pb	11 41 30.7	-0.1
TUWZ	**Tuamarina**	**0.48**	**278**	P	Pg	11 41 32.3	+0.1
MSWZ	**Moikau Station**	**0.51**	**80**	P	Pb	11 41 33.5	+0.2
PLWZ	**Palliser**	**0.51**	**98**	P	Pb	11 41 33.3	0.0
CAW	**Cannon Point**	**0.54**	**43**	P	Pb	11 41 34.0	+0.2
BSWZ	**Blackbirch Sta**	**0.57**	**248**	P	Pg	11 41 33.9	+0.1
PAWZ	**Paruwai Farm**	**0.65**	**80**	P	Pb	11 41 35.9	+0.3
KIW	**Kapiti Island**	**0.69**	**21**	P	Pb	11 41 36.6	+0.3
MTW	**Mount Morrison**	**0.78**	**64**	P	Pb	11 41 38.3	+0.5
OGWZ	**Otaki Gorge**	**0.82**	**33**	P	Pb	11 41 38.9	+0.4
DUWZ	**D'Urville Isla**	**0.86**	**324**	P	Pn	11 41 40.2	0.0
NNZ	**Nelson**	**0.95**	**287**	P	Pn	11 41 41.5	+0.1
TMWZ	**Te Maipa**	**1.06**	**69**	P	Pb	11 41 42.8	+0.1
MRZ	**Mangatainoka R**	**1.13**	**42**	P	Pg	11 41 44.7	+0.3
THZ	**Tophouse**	**1.28**	**258**	P	Pb	11 41 46.9	+0.4
QRZ	**Quartz Range**	**1.69**	**293**	P	Pb	11 41 53.8	+0.5

*KRSC **03** 11:48:46.1±1.1, 51°.09N×157°.95E, h40km±15km, Ml4.4*
*MOS **03** 11:48:47.4±0.8, 51°.16N×157°.70E, h41km, mb4.0/7, Error ellipse: s-maj=16.6km s-min=4.5km az=80.9*
*IDC **03** 11:48:49.4±2.6, 51°.11N×157°.77E, h75km±23km, mb3.4/11, mbtmp3.7/12, MS2.8/5, Error ellipse: s-maj=21.9km s-min=14.8km az=161.0*
ISC 03 11:48:47.3±0.9, 51°.08N±0°.06×157°.96E±0°.06, h54km±9km, n84, σ1s62/98, mb3.8/14, 4C-5D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.73**	**6**	*e*P	**Pn**	**11 49 01.2**	**-0.4**
KDTR				*e*S	**Sn**	**11 49 11.1**	**-0.9**
KDTR	**Khodutka, Kamc**	**0.73**	**6**	PN	**Pn**	**11 49 01.2**	**-0.4**
KDTR				S	**Sn**	**11 49 11.1**	**-0.9**
PAU	**Pauzhetka**	**0.82**	**299**	*e*P	**Pn**	**11 49 02.6**	**-0.1**
PAU				*e*S	**Sn**	**11 49 13.7**	**-0.4**
PAU	**Pauzhetka**	**0.82**	**299**	PN	**Pn**	**11 49 02.6**	**-0.1**
PAU				S	**Sn**	**11 49 13.6**	**-0.4**
SKR	**Severo-Kuril's**	**1.24**	**252**	*e*P	**Pn**	**11 49 07.9**	**-0.3**
SKR				*e*S	**Sn**	**11 49 23.0**	**-0.8**
SKR	**Severo-Kuril's**	**1.24**	**252**	‖ *i*PN	**Pn**	**11 49 08.1**	**-0.1**
SKR				*i* S	**Sn**	**11 49 23.2**	**-0.6**
SKR				pmax	pmax		
comp=Z,480nm,0.4s							
SKR				smax	smax		
comp=E,4μm,0.8s							
SKR				smax	smax		
comp=N,4μm,0.7s							
ASAK	**Asacha**	**1.30**	**358**	*e*P	**Pn**	**11 49 09.2**	**0.0**
ASAK				*e*S	**Sn**	**11 49 24.9**	**-0.8**
ASAK	**Asacha**	**1.30**	**358**	PN	**Pn**	**11 49 09.2**	**0.0**
ASAK				S	**Sn**	**11 49 24.8**	**-0.8**
RUS	**Russkaya**	**1.40**	**14**	*e*P	**Pn**	**11 49 10.1**	**-0.3**
RUS				*e*S	**Sn**	**11 49 26.5**	**-1.3**
RUS	**Russkaya**	**1.40**	**14**	PN	**Pn**	**11 49 10.0**	**-0.3**
RUS				S	**Sn**	**11 49 26.4**	**-1.3**
MTVR	**Mutnovka**	**1.41**	**5**	*e*P	**Pn**	**11 49 10.8**	**+0.1**
MTVR				*e*S	**Sn**	**11 49 28.1**	**-0.3**
MTVR	**Mutnovka**	**1.41**	**5**	PN	**Pn**	**11 49 10.8**	**+0.1**
MTVR				S	**Sn**	**11 49 28.0**	**-0.3**
GRL	**Gorelyy**	**1.47**	**3**	*e*P	**Pn**	**11 49 12.1**	**+0.5**
GRL				*e*S	**Sn**	**11 49 30.2**	**+0.4**
GRL	**Gorelyy**	**1.47**	**3**	PN	**Pn**	**11 49 12.0**	**+0.5**
GRL				S	**Sn**	**11 49 30.2**	**+0.4**
KRMR	**Karymshinskiy**	**1.75**	**3**	*e*P	**Pn**	**11 49 16.0**	**+0.8**
KRMR				*e*S	**Sn**	**11 49 37.1**	**+0.7**
KRMR	**Karymshinskiy**	**1.75**	**3**	PN	**Pn**	**11 49 16.0**	**+0.8**
KRMR				S	**Sn**	**11 49 37.1**	**+0.7**
APC	**Apacha**	**1.91**	**345**	*e*P	**Pn**	**11 49 18.2**	**+0.7**
APC	**Apacha**	**1.91**	**345**	PN	**Pn**	**11 49 18.1**	**+0.7**
PET	**Petropavlovsk**	**1.99**	**12**	*e*P	**Pn**	**11 49 18.9**	**+0.4**
PET				*e*S	**Sn**	**11 49 42.5**	**+0.3**
PET	**Petropavlovsk**	**1.99**	**12**	*e*PN	**Pn**	**11 49 18.8**	**+0.4**
PET				*e*S	**Sn**	**11 49 42.5**	**+0.3**
PET				pmax	pmax		
comp=Z,57nm,0.4s							
PET				smax	smax		
comp=E,866nm,0.5s							
PET				smax	smax		
comp=N,1μm,0.4s							
DALK	**Dalny**	**2.01**	**14**	*e*P	**Pn**	**11 49 19.2**	**+0.4**
DALK				*e*S	**Sn**	**11 49 42.8**	**0.0**
DALK	**Dalny**	**2.01**	**14**	PN	**Pn**	**11 49 19.1**	**+0.4**
DALK				S	**Sn**	**11 49 42.7**	**0.0**
INSR	**Institute**	**2.03**	**11**	*e*P	**Pn**	**11 49 19.8**	**+0.8**
INSR				*e*S	**Sn**	**11 49 44.4**	**+1.3**
INSR	**Institute**	**2.03**	**11**	PN	**Pn**	**11 49 19.7**	**+0.8**
INSR				S	**Sn**	**11 49 44.4**	**+1.3**
PEA0B	**Petropavlovsk-**	**2.04**	**356**	*d i*PN	**Pn**	**11 49 20.1**	**+1.0**
PEA0B				*e*S	**Sn**	**11 49 37.5**	**-5.9**
PETK	**Petropavlovsk-**	**2.04**	**356**	P	**Pn**	**11 49 19.2**	**+0.1**
comp=N,49nm,0.6s,baz=153,slow=11,SNR=231							
PETK				S	**Sn**	**11 49 46.5**	**+3.2**
comp=N,44nm,0.5s,baz=329,slow=31,SNR=11							
PETK				LR	LR	11 50 16.1	
comp=N,120nm,20.5s,baz=169,slow=43							
UGLR	**Uglovaya**	**2.20**	**14**	*e*P	**Pn**	**11 49 23.2**	**+1.8**
UGLR	**Uglovaya**	**2.20**	**14**	PN	**Pn**	**11 49 23.1**	**+1.8**
AVH	**Avacha**	**2.24**	**12**	*e*P	**Pn**	**11 49 23.5**	**+1.5**
AVH	**Avacha**	**2.24**	**12**	PN	**Pn**	**11 49 23.4**	**+1.5**
SMAR	**Somma**	**2.25**	**13**	*e*P	**Pn**	**11 49 23.8**	**+1.7**

SMAR	**Somma**	**2.25**	**13**	PN	**Pn**	**11 49 23.8**	**+1.7**
KOK	**Koryaka**	**2.25**	**10**	*e*P	**Pn**	**11 49 24.0**	**+1.8**
KOK	**Koryaka**	**2.25**	**10**	PN	**Pn**	**11 49 23.9**	**+1.8**
SDLR	**Sedlovina**	**2.27**	**14**	*e*P	**Pn**	**11 49 22.8**	**+0.4**
SDLR	**Sedlovina**	**2.27**	**14**	PN	**Pn**	**11 49 22.8**	**+0.4**
KRER	**Koryakskii**	**2.28**	**12**	*e*P	**Pn**	**11 49 23.9**	**+1.3**
KRER	**Koryakskii**	**2.28**	**12**	PN	**Pn**	**11 49 23.9**	**+1.3**
KRX	**Arik**	**2.32**	**10**	*e*P	**Pn**	**11 49 24.5**	**+1.4**
KRX	**Arik**	**2.32**	**10**	PN	**Pn**	**11 49 24.5**	**+1.4**
SPN	**Mys Shipunski**	**2.39**	**31**	*e*P	**Pn**	**11 49 25.7**	**+1.8**
SPN	**Mys Shipunski**	**2.39**	**31**	PN	**Pn**	**11 49 25.6**	**+1.8**
GNL	**Ganaly**	**2.62**	**360**	*e*P	**Pn**	**11 49 28.6**	**+1.4**
GNL	**Ganaly**	**2.62**	**360**	PN	**Pn**	**11 49 28.5**	**+1.4**
KII	**Karymskiy**	**3.10**	**16**	*e*P	**Pn**	**11 49 36.9**	**+3.2**
KII	**Karymskiy**	**3.10**	**16**	PN	**Pn**	**11 49 36.8**	**+3.2**
TUMD	**Tumrok D**	**4.38**	**19**	*e*P	**Pn**	**11 49 55.5**	**+4.3**
MA2	**Magadan**	**9.44**	**337**	LR	LR	11 54 58.8	
comp=N,24nm,19.9s,baz=231,slow=39							
SHEM	**Shemya Is, Ala**	**10.11**	**74**	P	**Pn**	**11 51 11.1**	**+1.6**
comp=N,56nm,0.9s,baz=307,slow=5.1,SNR=2.3							
SHEM				S	**Sn**	**11 52 55.2**	**-6.2**
comp=N,59nm,0.9s,baz=288,slow=20,SNR=2.3							
SHEM				LR	LR	11 54 58.4	
comp=N,24nm,19.2s,baz=323,slow=36							
ASAJ	**Asahikawa**	**12.48**	**242**	P	**Pn**	**11 51 46.5**	**+4.5**
comp=N,3.3nm,0.4s,baz=66,slow=14,SNR=12							
ERM	**Erimo**	**13.62**	**234**	⇑ *e*P	**Pn**	**11 51 59.3**	**+1.8**
KLR	**Kul'dur**	**16.87**	**274**	LR	LR	11 59 08.7	
comp=N,43nm,20.2s,baz=274,slow=37							
BILL	**Bilibino**	**17.49**	**10**	‖ *e*P	**P**	**11 52 47.6**	**+0.1**
BILL				pmax	pmax		
comp=Z,10.0nm,1.5s							
MAJO	**Matsushiro**	**20.27**	**232**	⇑ *e*P	**P**	**11 53 17.3**	**-0.8**
MAJO				pmax	pmax		
comp=Z,10.0nm,1.6s							
TIXI	**Tiksi**	**24.41**	**338**	⇑ *e*P	**P**	**11 53 58.7**	**-1.4**
TIXI				pmax	pmax		
comp=Z,4.0nm,1.2s							
KSRS	**Korea Array**	**25.25**	**249**	P	**P**	**11 54 08.1**	**0.0**
comp=Z,1.0nm,0.8s,baz=50,slow=9.9,SNR=5.2							
comp=Z,1.0nm,0.8s							
KSRS	**Korea Array**	**25.25**	**249**	*e*P	**P**	**11 54 09.0**	**+0.9**
KSRS				pmax	pmax		
comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**31.18**	**43**	P	**P**	**11 54 59.6**	**-1.0**
comp=Z,1.0nm,0.9s,baz=261,slow=8.4,SNR=7.7							
comp=Z,1.0nm,0.9s							
ILAR	**Eielson Array**	**31.18**	**43**	*e*P	**P**	**11 55 01.1**	**+0.4**
ILAR				pmax	pmax		
comp=Z,1.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**32.07**	**164**	T	T	12 29 00.7	
baz=349,slow=76							
H11N3	**WAKE ISLAND Hy**	**32.09**	**164**	T	T	12 29 04.9	
baz=349,slow=76							
H11N1	**WAKE ISLAND Hy**	**32.09**	**164**	T	T	12 29 03.0	
baz=349,slow=76							
H11S1	**WAKE ISLAND Hy**	**33.23**	**165**	T	T	12 30 32.0	
baz=350,slow=76							
H11S3	**WAKE ISLAND Hy**	**33.24**	**165**	T	T	12 30 34.9	
baz=350,slow=76							
H11S2	**WAKE ISLAND Hy**	**33.25**	**165**	T	T	12 30 29.9	
baz=350,slow=76							
KURK	**Kurchatov**	**47.69**	**302**	‖ *e*P	**P**	**11 57 15.1**	**-2.9**
KURK				pmax	pmax		
comp=Z,2.0nm,1.3s							
KURBB	**Kurchatov Arra**	**47.79**	**302**	P	**P**	**11 57 16.2**	**-2.5**
comp=Z,0.4nm,0.4s,baz=60,slow=7.4,SNR=4.6							
comp=Z,0.4nm,0.4s							
MK31	**Makanchi Array**	**47.85**	**296**	⇑ *e*P	**P**	**11 57 17.7**	**-1.7**
MKAR	**Makanchi Array**	**47.85**	**296**	P	**P**	**11 57 17.8**	**-1.6**
comp=Z,0.5nm,0.6s,baz=63,slow=7.3,SNR=5.6							
MKAR				LR	LR	12 17 54.5	
comp=Z,43nm,18.7s,baz=299,slow=37							
comp=Z,0.5nm,0.6s							
MKAR	**Makanchi Array**	**47.85**	**296**	*e*P	**P**	**11 57 17.9**	**-1.5**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
BVAR	**Borovoye Array**	**50.62**	**309**	P	**P**	**11 57 38.4**	**-2.0**
comp=Z,0.7nm,0.5s,baz=59,slow=7.0,SNR=5.0							
comp=Z,0.7nm,0.5s							
CMAR	**Chiang Mai Arr**	**56.47**	**257**	P	**P**	**11 58 23.9**	**+0.3**
comp=Z,0.6nm,0.3s,baz=34,slow=6.8,SNR=9.3							
comp=Z,0.6nm,0.3s							
CMAR	**Chiang Mai Arr**	**56.47**	**257**	*e*P	**P**	**11 58 24.5**	**+0.9**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
NVAR	**Mina Array Bea**	**57.70**	**67**	P	**P**	**11 58 34.2**	**+1.8**
comp=Z,0.2nm,0.5s,baz=307,slow=8.9,SNR=2.6							
comp=Z,0.2nm,0.5s							
PDAR	**Pinedale Array**	**59.67**	**58**	P	**P**	**11 58 46.9**	**+0.8**
comp=Z,0.4nm,0.7s,baz=306,slow=3.3,SNR=3.9							
comp=Z,0.4nm,0.7s							
VALR	**Valaam**	**60.22**	**334**	‖ *e*P	**P**	**11 58 48.8**	**-0.3**
KIV	**Kislovodsk**	**69.99**	**316**	*e*P	**P**	**11 59 51.8**	**-1.1**
KIV				pmax	pmax		
comp=Z,5.0nm,1.0s							
TXAR	**Lajitas Array**	**72.66**	**65**	P	**P**	**12 00 10.1**	**+0.9**
comp=Z,0.8nm,0.7s,baz=294,slow=4.5,SNR=12							
comp=Z,0.8nm,0.7s							
WRA	**Warramunga Arr**	**73.71**	**203**	P	**P**	**12 00 14.6**	**-0.6**
comp=Z,0.7nm,0.6s,baz=18,slow=6.2,SNR=7.1							
comp=Z,0.7nm,0.6s							
WRA	**Warramunga Arr**	**73.71**	**203**	*e*P	**P**	**12 00 15.7**	**+0.5**
WRA				pmax	pmax		
comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**77.39**	**203**	P	**P**	**12 00 36.5**	**+0.3**
comp=Z,0.7nm,0.8s,baz=13,slow=5.5,SNR=12							
comp=Z,0.7nm,0.8s							

H11N2	**WAKE ISLAND Hy**	**28.74**	**124**	T	T	12 28 14.1	
	baz=317						
H11N1	**WAKE ISLAND Hy**	**28.75**	**124**	T	T	12 28 21.7	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**28.76**	**124**	T	T	12 28 15.3	
	baz=317						
H11S1	**WAKE ISLAND Hy**	**29.52**	**126**	T	T	12 29 06.2	
	baz=318						
H11S3	**WAKE ISLAND Hy**	**29.52**	**126**	T	T	12 29 06.3	
	baz=318						
H11S2	**WAKE ISLAND Hy**	**29.53**	**126**	T	T	12 29 07.4	
	baz=318						
MKAR	**Makanchi Array**	**43.56**	**301**	P	**P**	**11 59 45.8**	**+1.6**
	0.2nm,0.6s,baz=64,slow=6.6,SNR=2.3						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**45.27**	**307**	P	**P**	**11 59 58.1**	**+0.4**
	0.2nm,0.3s,baz=81,slow=7.4,SNR=4.1						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**58.87**	**188**	P	**P**	**12 01 39.9**	**+1.1**
	0.3nm,0.5s,baz=6.3,slow=7.0,SNR=7.6						
	0.3nm,0.5s						

*IDC **03** 11:54:20.6±1.4, 43.°46S×16.°15W, h0km, mb4.0/3, mbtmp4.0/3, MS3.6/14, Error ellipse: s-maj=54.8km s-min=32.8km az=79.0*

ISC 03 11:54:21.5±1.2, 43.°7S±0.°2×16.°2W±0.°3, h10km, n28, σ3§31/7, mb4.0/5, MS3.6/14, 3C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**27.68**	**174**	⇑P	**P**	**12 00 04.8**	**-4.4**
	comp=Z,1.0nm,0.9s,baz=330,slow=10						
VNA3	**Neumayer Olymp**	**27.84**	**175**	⇑P	**P**	**12 00 06.5**	**-4.2**
	comp=Z,0.6nm,0.8s						
SNAA	**Sanae**	**28.83**	**171**	LR	LR	12 09 52.6	
	comp=Z,44nm,19.1s,baz=13,slow=32						
TROLL	**Troll, Antarti**	**29.83**	**168**	⇑P	**P**	**12 00 29.8**	**+1.3**
	comp=Z,167nm,1.3s						
SUR	**Sutherland**	**31.01**	**81**	LR	LR	12 09 46.0	
	comp=Z,136nm,21.2s,baz=196,slow=30						
H10S2	**ASCENSION HYDR**	**34.60**	**3**	T	T	12 37 43.6	
	baz=182,slow=74,SNR=14						
H10S3	**ASCENSION HYDR**	**34.60**	**3**	T	T	12 37 44.1	
	baz=38,slow=74,SNR=15						
H10N1	**ASCENSION HYDR**	**35.71**	**3**	T	T	12 39 09.4	
	baz=189						
H10N3	**ASCENSION HYDR**	**35.71**	**3**	T	T	12 39 07.6	
	baz=189						
H10N2	**ASCENSION HYDR**	**35.73**	**3**	T	T	12 39 08.4	
	baz=189						
BOSA	**Boshof**	**36.29**	**80**	LR	LR	12 13 51.6	
	comp=Z,95nm,19.0s,baz=206,slow=32						
TSUM	**Tsumeb**	**37.34**	**60**	LR	LR	12 14 00.9	
	comp=Z,160nm,20.2s,baz=169,slow=32						
CPUP	**Villa Florida**	**37.44**	**284**	P	**P**	**12 01 35.1**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=148,slow=9.5,SNR=3.2						
CPUP				LR	LR	12 16 01.6	
	comp=Z,91nm,19.6s,baz=155,slow=35						
	comp=Z,2.1nm,0.8s						
LBTB	**Lobatse**	**38.72**	**75**	LR	LR	12 14 41.9	
	comp=Z,128nm,19.9s,baz=207,slow=32						
BDFB	**Brasilia**	**38.88**	**306**	LR	LR	12 15 03.4	
	comp=Z,82nm,18.0s,baz=147,slow=32						
PLCA	**Paso Flores**	**39.78**	**255**	LR	LR	12 16 28.7	
	comp=Z,73nm,20.0s,baz=123,slow=33						
MAW	**Mawson**	**46.51**	**149**	LR	LR	12 18 25.1	
	comp=Z,52nm,21.4s,baz=232,slow=31						
QSPA	**South Pole Qui**	**46.60**	**180**	P	**P**	**12 02 51.6**	**+2.2**
	comp=Z,2.0nm,0.8s,baz=217,slow=8.4,SNR=13						
	comp=Z,2.0nm,0.8s						
H04S2	**CROZET ISLANDS**	**46.66**	**119**	T	T	12 53 19.7	
	baz=249,slow=76						
H04S3	**CROZET ISLANDS**	**46.66**	**119**	T	T	12 53 19.9	
	baz=249,slow=76						
H04S1	**CROZET ISLANDS**	**46.68**	**119**	T	T	12 53 20.5	
	baz=249,slow=76						
SIV	**San Ignacio**	**46.93**	**292**	LR	LR	12 20 43.0	
	comp=Z,70nm,20.2s,baz=107,slow=34						
LVC	**Limon Verde**	**48.00**	**278**	LR	LR	12 22 53.2	
	comp=Z,43nm,21.0s,baz=133,slow=36						
LPAZ	**La Paz**	**51.58**	**285**	LR	LR	12 24 46.6	
	comp=Z,135nm,19.6s,baz=96,slow=35						
ATAH	**Atahualpa**	**65.12**	**285**	LR	LR	12 33 46.3	
	comp=Z,52nm,19.7s,baz=144,slow=36						
RPN	**Rapa Nui**	**73.95**	**248**	LR	LR	12 33 23.3	
	comp=Z,34nm,20.7s,baz=178,slow=32						
ESDC	**Sonseca Array**	**83.69**	**9**	P	**P**	**12 06 49.6**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=190,slow=6.4,SNR=4.9						
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**145.53**	**325**	PKPbc	**PKPdf**	**12 13 58.7**	**0.0**
	comp=Z,1.5nm,0.7s,baz=57,slow=2.0,SNR=12						

DJA 03 12:03:22.6±0.4, 0.°S±3.°×12.°3E±.°, h77km±11km, M3.9/12, mb4.0/3, mB4.7/1, MLv3.8/12, Mw(mB)3.9/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.83**	**196**	P	Pn	12 03 40.6	+1.1
KMSI	**Cibinong**	**1.27**	**50**	P	Pn	12 03 44.9	0.0
MRSI	**Marisa**	**1.28**	**304**	P	Pn	12 03 45.3	+0.4
MRSI				S	Sn	12 04 01.2	-0.5
APSI	**Ampana**	**1.51**	**244**	P	Pn	12 03 48.6	+0.7
SANI	**Sanana**	**3.49**	**121**	P	Pn	12 04 13.6	-0.9
TTSI	**Tana Toraja**	**4.23**	**229**	P	Pn	12 04 23.7	-0.9
TNTI	**Ternate**	**4.48**	**77**	P	Pn	12 04 27.4	-0.7
NLAI	**Namlea**	**5.07**	**126**	P	Pn	12 04 37.4	+1.3
	26nm,1.1s,764nm0.1nm						
FAKI	**Fak Fak**	**9.62**	**106**	P	Pn	12 05 37.6	-0.7

IDC 03 12:04:38.5±3.0, 12.°25N×120.°64E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=370.6km s-min=25.7km az=62.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.72**	**157**	P	P	12 11 30.1	-0.4
	0.9nm,0.6s,baz=335,slow=9.6,SNR=11						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**37.98**	**160**	P	P	12 11 58.5	+0.1
	0.5nm,0.6s,baz=340,slow=7.1,SNR=13						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**47.16**	**324**	P	P	12 13 12.6	-0.1
	0.3nm,0.3s,baz=126,slow=8.9,SNR=6.6						
	0.3nm,0.3s						

*IDC **03** 12:12:18.0±1.2, 37.°41N×20.°95E, h0km, mb3.8/9, mbtmp3.8/11, ML3.6/2, MS3.5/3, Error ellipse: s-maj=30.5km s-min=17.7km az=146.0*
*TIR **03** 12:12:21.9, 37.°50N×19.°94E, h25km±1km, Ml3.9*
*THE **03** 12:12:23.8, 37.°49N×20.°55E, h12km, ML3.6/8, Error ellipse: s-maj=0.7km s-min=0.3km az=48.0*
*ATH **03** 12:12:23.1, 37.°45N×20.°51E, h5km±1km, ML3.6/27, Error ellipse: s-maj=1.9km s-min=0.7km az=47.0*
*BEO **03** 12:12:23.8±0.9, 37.°55N×20.°65E, h0km, ML3.5/9*
*NAO **03** 12:12:39.9, 37.°47N×20.°52E, h10km, mb3.5*

ISC 03 12:12:22.6±1.2, 37.°45N±0.°03×20.°51E±0.°04, h15km±7km, n107, σ1§24/132, mb3.8/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.33**	**49**	P	**Pg**	**12 12 29.4**	**0.0**
KRI1				S	**Sg**	**12 12 33.7**	**-0.3**
LTHK	**Lithakia**	**0.37**	**45**	P	**Pg**	**12 12 30.1**	**-0.1**
LTHK				S	**Sg**	**12 12 35.0**	**-0.4**
	28μm,0.2s						
LTHK	**Lithakia**	**0.37**	**45**	P	**Pg**	**12 12 30.1**	**-0.1**
LTHK				S	**Sg**	**12 12 34.9**	**-0.4**
LTHK				AML	AML	12 12 35.3	
	comp=E,52061μm,0.1s						
LTHK				AML	AML	12 12 35.7	
	comp=N,58664μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.67**	**5**	P	**Pg**	**12 12 35.6**	**-0.1**
PSDA				S	**Sb**	**12 12 45.0**	**0.0**
PSDA	**Pessada-Kefalo**	**0.67**	**5**	P	**Pb**	**12 12 35.9**	**0.0**
PSDA				S	**Sb**	**12 12 45.1**	**+0.1**
VLS	**Valsamata**	**0.73**	**5**	P	**Pg**	**12 12 36.5**	**-0.4**
VLS				S	**Sb**	**12 12 46.8**	**-0.1**
	comp=N,5μm,0.3s						
VLS	**Valsamata**	**0.73**	**5**	P	**Pg**	**12 12 36.5**	**-0.4**
VLS				S	**Sb**	**12 12 46.8**	**-0.1**
VLS				AML	AML	12 12 51.0	
	comp=E,8841μm,0.2s						
VLS				AML	AML	12 12 51.3	
	comp=N,12033μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.75**	**356**	P	**Pb**	**12 12 37.4**	**+0.1**
LXRA				S	**Sb**	**12 12 47.5**	**+0.1**
LXRA				AML	AML	12 12 52.5	
	comp=E,25823μm,0.3s						
LXRA				AML	AML	12 12 52.5	
	comp=N,33141μm,0.5s						
DMLN	**Damoulianata-K**	**0.80**	**352**	P	**Pg**	**12 12 38.1**	**0.0**
DMLN				S	**Sb**	**12 12 49.2**	**+0.5**
DMLN	**Damoulianata-K**	**0.80**	**352**	P	**Pb**	**12 12 38.6**	**+0.5**
DMLN				S	**Sb**	**12 12 48.8**	**+0.1**
SMHA	**Samh**	**0.81**	**8**	P	**Pb**	**12 12 38.4**	**+0.1**
AMT	**Artemida-Makis**	**0.96**	**85**	P	**Pb**	**12 12 41.3**	**+0.4**
AMT				S	**Sb**	**12 12 53.9**	**+0.5**
	comp=N,9μm,0.5s						
AMT	**Artemida-Makis**	**0.96**	**85**	P	**Pb**	**12 12 41.3**	**+0.4**
AMT				S	**Sb**	**12 12 53.9**	**+0.5**
AMT				AML	AML	12 12 59.5	
	comp=N,22780μm,0.4s						
AMT				AML	AML	12 13 00.0	
	comp=E,11307μm,0.6s						
RLS	**Riolos of Patr**	**0.97**	**51**	P	**Pg**	**12 12 40.8**	**-0.6**
RLS				S	**Sb**	**12 12 54.5**	**+0.7**
	comp=E,3μm,0.8s						
RLS	**Riolos of Patr**	**0.97**	**51**	P	**Pg**	**12 12 40.8**	**-0.6**
RLS				S	**Sb**	**12 12 54.7**	**+0.9**
RLS				AML	AML	12 13 00.4	
	comp=N,8558μm,0.7s						
RLS				AML	AML	12 13 00.5	
	comp=E,4260μm,0.9s						
FSK	**Fiskardo**	**1.01**	**3**	P	**Pg**	**12 12 41.4**	**-0.7**
FSK				S	**Sb**	**12 12 55.6**	**+0.8**
	comp=E,3μm,0.6s						
FSK	**Fiskardo**	**1.01**	**3**	P	**Pg**	**12 12 41.7**	**-0.4**
FSK				S	**Sb**	**12 12 55.6**	**+0.8**
FSK				AML	AML	12 13 00.0	
	comp=E,6491μm,0.5s						
FSK				AML	AML	12 13 00.5	
	comp=N,7103μm,0.6s						
DRO	**Drossia**	**1.08**	**62**	P	**Pg**	**12 12 43.0**	**-0.4**
DRO	**Drossia**	**1.08**	**62**	P	**Pg**	**12 12 43.0**	**-0.4**
DRO				AML	AML	12 13 07.8	
	comp=N,7404μm,0.6s						
DRO				AML	AML	12 13 12.2	
	comp=E,9342μm,0.6s						
PYL	**PYLOS**	**1.13**	**119**	P	**Pg**	**12 12 44.2**	**-0.2**
PYL	**PYLOS**	**1.13**	**119**	P	**Pg**	**12 12 44.2**	**-0.2**
PYL				AML	AML	12 13 08.2	
	comp=N,1796μm,0.9s						
PYL				AML	AML	12 13 13.1	
	comp=E,1717μm,0.5s						
ITM	**Ithomi**	**1.16**	**103**	P	**Pg**	**12 12 44.8**	**-0.3**
ITM				S	**Sb**	**12 13 01.0**	**+1.7**
	comp=E,938nm,0.6s						
ITM	**Ithomi**	**1.16**	**103**	P	**Pg**	**12 12 45.0**	**-0.1**
ITM				S	**Sb**	**12 13 01.0**	**+1.7**
ITM				AML	AML	12 13 09.4	
	comp=N,1704μm,0.4s						
ITM				AML	AML	12 13 14.5	
	comp=E,2048μm,0.8s						
EVGI	**Lefkada island**	**1.18**	**6**	P	**Pg**	**12 12 44.6**	**-0.7**
EVGI	**Lefkada island**	**1.18**	**6**	P	**Pg**	**12 12 44.9**	**-0.4**
DRAG	**Dragano-Lefkad**	**1.23**	**3**	P	**Pg**	**12 12 45.4**	**-1.0**
DRAG	**Dragano-Lefkad**	**1.23**	**3**	P	**Pg**	**12 12 45.4**	**-1.0**
NYDR	**Nydri-Lefkada**	**1.27**	**7**	P	**Pg**	**12 12 45.9**	**-1.2**
NYDR	**Nydri-Lefkada**	**1.27**	**7**	P	**Pn**	**12 12 47.1**	**+1.3**
UPR	**University Cam**	**1.31**	**50**	P	**Pn**	**12 12 47.8**	**+1.5**
LKD2	**Lefkada island**	**1.34**	**5**	P	**Pg**	**12 12 48.4**	**-0.1**
LKD2				S	**Sn**	**12 13 08.5**	**+4.0**
LKD2				AMP			
	comp=E,16nm,0.6s,baz=23						
LKD2	**Lefkada island**	**1.34**	**5**	P	**Pn**	**12 12 46.8**	**0.0**
LKD2				S	**Sb**	**12 13 05.0**	**+0.5**
	comp=E,4μm,0.7s						
LKD2	**Lefkada island**	**1.34**	**5**	P	**Pn**	**12 12 47.6**	**+0.8**
LKD2				AML	AML	12 13 11.1	
	comp=E,9328μm,0.6s						
LKD2				AML	AML	12 13 13.5	
	comp=N,6643μm,0.7s						
TSLK	**Tsoukalades, L**	**1.38**	**5**	P	**Pn**	**12 12 47.3**	**0.0**
TSLK				S	**Sb**	**12 13 05.6**	**+0.1**
	comp=N,4μm,0.6s						
TSLK	**Tsoukalades, L**	**1.38**	**5**	P	**Pn**	**12 12 47.3**	**0.0**
TSLK				AML	AML	12 13 16.1	
	comp=E,6100μm,0.6s						
TSLK				AML	AML	12 13 16.5	
	comp=N,7971μm,0.6s						
KLV	**Kalavryta, Ach**	**1.43**	**65**	P	**Pn**	**12 12 48.9**	**+0.8**
KLV	**Kalavryta, Ach**	**1.43**	**65**	P	**Pn**	**12 12 48.9**	**+0.8**
EFP	**Efpalio**	**1.48**	**48**	P	**Pn**	**12 12 49.7**	**+1.1**
EFP				AML	AML	12 13 16.6	
	comp=N,3972μm,0.5s						
EFP				AML	AML	12 13 20.4	
	comp=E,2674μm,0.5s						
GUR	**Goura**	**1.54**	**71**	P	**Pn**	**12 12 50.4**	**+0.9**
GUR				AML	AML	12 13 25.7	
	comp=E,3110μm,0.6s						
GUR				AML	AML	12 13 26.5	
	comp=N,2628μm,0.5s						
ANX	**Ano Chora**	**1.60**	**44**	P	**Pn**	**12 12 51.8**	**+1.4**
ANX				AML	AML	12 13 21.6	
	comp=E,6320μm,0.5s						
ANX				AML	AML	12 13 24.4	
	comp=N,5297μm,0.5s						
KALE	**Kalithea**	**1.60**	**53**	P	**Pn**	**12 12 51.7**	**+1.3**
KALE				AML	AML	12 13 20.7	
	comp=E,3206μm,0.8s						
KALE				AML	AML	12 13 27.9	
	comp=N,2850μm,0.5s						
DLFA	**Delphi**	**1.88**	**56**	P	**Pn**	**12 12 56.1**	**+1.9**
MAKR	**Makrakomi, Fth**	**2.02**	**39**	P	**Pn**	**12 12 58.0**	**+1.9**
MAKR				AML	AML	12 13 32.5	
	comp=N,4479μm,0.7s						
MAKR				AML	AML	12 13 37.9	
	comp=E,3845μm,0.5s						
VLI	**Veliai**	**2.08**	**110**	P	**Pn**	**12 12 57.9**	**+1.0**
VLI				AML	AML	12 13 45.1	
	comp=E,773μm,0.8s						
VLI				AML	AML	12 13 48.9	
	comp=N,681μm,1.1s						
IGT	**Igoumenitsa**	**2.08**	**356**	P	**Pn**	**12 12 58.5**	**+1.5**
IGT				S	**Sb**	**12 13 26.1**	**+0.3**
IGT				AMP			
	comp=N,1.5nm,0.4s,baz=8.0						
IGT	**Igoumenitsa**	**2.08**	**356**	P	**Pn**	**12 12 57.8**	**+0.8**
IGT				AML	AML	12 13 35.3	
	comp=N,770μm,0.4s						
IGT				AML	AML	12 13 38.5	
	comp=E,1320μm,0.8s						
AXAR	**Agios Charalam**	**2.15**	**52**	P	**Pn**	**12 12 59.1**	**+1.3**
AXAR				AML	AML	12 13 41.4	
	comp=N,4362μm,0.7s						
AXAR				AML	AML	12 13 44.4	
	comp=E,2578μm,0.7s						
JAN	**Janina**	**2.22**	**7**	P	**Pn**	**12 12 59.5**	**+0.6**
JAN				AML	AML	12 13 44.3	
	comp=E,1620μm,0.9s						
JAN				AML	AML	12 13 54.3	
	comp=N,744μm,0.8s						
VIL2	**Platees**	**2.32**	**70**	P	**Pn**	**12 13 01.4**	**+1.3**
VIL2				AML	AML	12 13 43.2	
	comp=N,854μm,0.8s						
VIL2				AML	AML	12 13 46.2	
	comp=E,1379μm,0.7s						
KEK	**Kerkira**	**2.33**	**346**	P	**Pn**	**12 13 01.3**	**+0.9**
KEK				AML	AML	12 13 54.2	
	comp=N,873μm,0.8s						
KEK				AML	AML	12 13 58.5	
	comp=E,803μm,0.9s						
THL	**Klokotos Trika**	**2.42**	**29**	P	**Pn**	**12 13 01.7**	**+0.1**
THL				AML	AML	12 13 52.1	
	comp=E,566μm,0.8s						
THL				AML	AML	12 13 58.2	
	comp=N,1108μm,0.8s						
SRN	**Sarande**	**2.46**	**351**	P	**Pn**	**12 13 02.9**	**+0.8**
SRN				S	**Sn**	**12 13 34.0**	**+2.1**
SRN				AMP			
	comp=E,0.6nm,0.5s,baz=1.0						
KPRO	**Kipourio**	**2.59**	**15**	P	**Pn**	**12 13 04.7**	**+0.7**
ATH	**Athens Observa**	**2.60**	**77**	P	**Pn**	**12 13 05.8**	**+1.7**
ATH				AML	AML	12 13 51.1	
	comp=N,655μm,1.0s						
ATH				AML	AML	12 13 54.7	
	comp=E,852μm,1.3s						
TYRN	**Tyrnavos**	**2.63**	**30**	P	**Pn**	**12 13 06.2**	**+1.7**
VLY	**Voula,Athens**	**2.64**	**80**	P	**Pn**	**12 13 05.4**	**+0.8**
ATHU	**Athens Univers**	**2.65**	**78**	P	**Pn**	**12 13 06.0**	**+1.2**
LSK	**Leskovik**	**2.70**	**2**	P	**Pn**	**12 13 07.4**	**+1.9**
LSK				S	**Sb**	**12 13 42.4**	**-1.1**
LSK				AMP			
	comp=E,2.6nm,0.8s,baz=10.0						
PTL	**Penteli**	**2.73**	**76**	P	**Pn**	**12 13 07.1**	**+1.2**
PTL				AML	AML	12 13 57.9	
	comp=E,366μm,0.7s						
PTL				AML	AML	12 13 58.1	
	comp=N,376μm,0.8s						
ANKY	**Antikythira Is**	**2.75**	**124**	P	**Pn**	**12 13 08.0**	**+1.9**
DION	**Dionisos Attik**	**2.79**	**76**	P	**Pn**	**12 13 07.7**	**+1.0**
DION				AML	AML	12 13 47.3	
	comp=E,944μm,0.7s						
DION				AML	AML	12 13 55.5	
	comp=N,725μm,0.6s						
PENT	**Pentalofos**	**2.79**	**10**	P	**Pn**	**12 13 06.9**	**+0.1**
NEST	**Nestorio**	**2.99**	**8**	P	**Pn**	**12 13 12.9**	**+3.3**
NEST	**Nestorio**	**2.99**	**8**	P	**Pn**	**12 13 11.5**	**+2.0**
NEST				AML	AML	12 14 09.3	
	comp=E,572μm,0.6s						
NEST				AML	AML	12 14 21.3	
	comp=N,539μm,1.1s						
KZN	**Kozani**	**3.02**	**19**	P	**Pn**	**12 13 10.2**	**+0.3**
SCTE	**Santa Cesarea**	**3.07**	**329**	P	**Pn**	**12 13 09.9**	**-0.6**
SCTE	**Santa Cesarea**	**3.07**	**329**	P	**Pn**	**12 13 12.6**	**+2.1**
KYMI	**Kymi, Euboea I**	**3.08**	**66**	P	**Pn**	**12 13 11.4**	**+0.8**
AOS2	**Alonissos-2**	**3.13**	**56**	P	**Pn**	**12 13 12.1**	**+0.8**
FNA	**Florina**	**3.40**	**11**	P	**Pn**	**12 13 18.2**	**+3.1**
FNA	**Florina**	**3.40**	**11**	*e*Pn	**Pn**	**12 13 16.8**	**+1.7**
FNA				*e*Sn	**Sn**	**12 13 55.8**	**+0.6**
FNA	**Florina**	**3.40**	**11**	P	**Pn**	**12 13 16.3**	**+1.2**
OHR	**Ohrid**	**3.67**	**3**	*e*Pn	**Pn**	**12 13 21.1**	**+2.3**
OHR				*e*Sn	**Sn**	**12 14 03.1**	**+1.4**
THE	**Thessaloniki**	**3.71**	**30**	P	**Pn**	**12 13 21.1**	**+1.8**
HORT	**Hortiatis**	**3.74**	**32**	P	**Pn**	**12 13 20.5**	**+0.7**
TIR	**Tirane**	**3.93**	**353**	P	**Pn**	**12 13 25.0**	**+2.7**
SOH	**Sokhos**	**4.03**	**32**	P	**Pn**	**12 13 25.4**	**+1.6**
IDI	**Anoyia**	**4.14**	**120**	Pn	**Pn**	**12 13 23.9**	**-1.4**
	comp=N,0.5nm,0.3s,baz=151,slow=18,SNR=1.9						
IDI				Sn	**Sn**	**12 14 11.0**	**-2.6**
	comp=N,5.1nm,0.3s,baz=299,slow=14,SNR=9.1						
NOCI	**Noci**	**4.28**	**322**	P	**Pn**	**12 13 26.6**	**-0.5**
SRS	**Serrai**	**4.38**	**32**	*e*Pn	**Pn**	**12 13 29.4**	**+0.9**
SRS	**Serrai**	**4.38**	**32**	P	**Pn**	**12 13 29.5**	**+1.0**
CUC	**Castrocucco**	**4.46**	**306**	P	**Pn**	**12 13 32.3**	**+2.6**
BOSS	**Bosilegrad**	**5.26**	**16**	*e*Pn	**Pn**	**12 13 41.4**	**+0.7**
BARS	**Barje**	**5.46**	**10**	*e*Pn	**Pn**	**12 13 43.4**	**+0.1**
VTS	**Vitosha**	**5.57**	**21**	*e*Pn	**Pn**	**12 13 45.9**	**+0.9**
SELS	**Selova**	**5.78**	**4**	*e*Pn	**Pn**	**12 13 47.9**	**+0.1**
SELS				*e*Sn	**Sn**	**12 14 51.5**	**-2.4**
SJES	**Sjenica**	**5.82**	**356**	*e*Pn	**Pn**	**12 13 49.7**	**+1.3**
SJES				*e*Sn	**Sn**	**12 14 54.9**	**0.0**
ZAPS	**Zavoj**	**6.04**	**15**	*e*Pn	**Pn**	**12 13 52.3**	**+0.9**
IVAS	**Ivanjica**	**6.13**	**358**	*e*Pn	**Pn**	**12 13 54.0**	**+1.4**
BOVS	**Bovan**	**6.25**	**8**	*e*Pn	**Pn**	**12 13 53.4**	**-0.8**
GRUS	**Gruza**	**6.44**	**1**	*e*Pn	**Pn**	**12 13 57.1**	**+0.3**
DIVS	**Divibare**	**6.66**	**357**	*e*Pn	**Pn**	**12 14 01.0**	**+1.2**
MLR	**Muntele Rosu**	**9.01**	**25**	Pn	**Pn**	**12 14 33.0**	**+0.8**
	comp=N,0.2nm,0.3s,baz=153,slow=15,SNR=1.8						
MLR				LR	LR	12 18 56.0	
	comp=N,161nm,18.1s,baz=270,slow=45						
KEST	**Kesra**	**9.14**	**263**	Pn	**Pn**	**12 14 36.5**	**+2.6**
	comp=N,0.2nm,0.3s,baz=294,slow=11,SNR=3.8						
	comp=N,4.5nm,0.8s						
AKASG	**Malin Array Be**	**14.64**	**22**	Pn	**Pn**	**12 15 50.1**	**+1.1**
	comp=N,0.7nm,0.3s,baz=209,slow=8.4,SNR=2.3						
AKASG				LR	LR	12 22 42.5	
	comp=N,154nm,18.6s,baz=242,slow=43						
ESDC	**Sonseca Array**	**19.25**	**284**	P	**P**	**12 16 47.5**	**+1.1**
	comp=N,0.1nm,0.3s,baz=78,slow=12,SNR=6.9						
	comp=N,1.7nm,1.0s						
MDT	**Midelt**	**21.03**	**265**	P	**P**	**12 17 07.0**	**+1.1**
	comp=N,3.3nm,0.8s,baz=85,slow=11,SNR=6.0						
	comp=N,3.3nm,0.8s						
HFS	**Hagfors**	**23.12**	**351**	P	**P**	**12 17 26.6**	**-1.2**
	comp=N,2.5nm,0.6s,baz=156,slow=13,SNR=6.3						
	comp=N,2.5nm,0.6s						
FINES	**FINESS Array B**	**24.27**	**7**	P	**P**	**12 17 37.0**	**-1.8**
	comp=N,4.1nm,0.9s,baz=171,slow=11,SNR=8.3						
	comp=N,4.1nm,0.9s						
NB2	**NORSAR Subarra**	**24.33**	**349**	P	**P**	**12 17 38.8**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=162,slow=9.3						
NOA	**NORSAR Array B**	**24.33**	**349**	P	**P**	**12 17 38.4**	**-1.0**
	comp=Z,1.4nm,1.0s,baz=164,slow=10,SNR=1.8						
	comp=Z,1.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**29.46**	**220**	P	**P**	**12 18 25.5**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=29,slow=10,SNR=7.7						
	comp=Z,1.2nm,0.8s						
ARCES	**ARCESS Array B**	**32.26**	**3**	P	**P**	**12 18 47.2**	**-2.9**
	comp=Z,2.6nm,1.0s,baz=201,slow=9.7,SNR=1.2						
	comp=Z,2.6nm,1.0s						
FURI	**Furi**	**32.84**	**145**	LR	LR	12 34 42.9	
	comp=Z,119nm,18.5s,baz=196,slow=41						
KURBB	**Kurchatov Arra**	**42.68**	**53**	P	P	12 20 13.6	-4.9
	comp=Z,0.5nm,0.4s,baz=280,slow=8.5,SNR=3.7						
	comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array**	**45.70**	**58**	P	P	12 20 38.6	-4.2
	comp=Z,0.4nm,0.6s,baz=274,slow=6.9,SNR=8.0						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**46.19**	**48**	P	P	12 20 42.3	-4.2
	comp=Z,0.9nm,0.5s,baz=294,slow=7.7,SNR=3.2						
	comp=Z,0.9nm,0.5s						

*IDC **03** 12:24:16.2±

BOSA Boshof 34.97 106 P **P 12 31 11.4 +0.4**
comp=Z,1.7nm,0.7s,baz=270,slow=4.0,SNR=1.6
BOSA LR LR 12 42 34.3
comp=Z,230nm,21.5s,baz=218,slow=31
comp=Z,1.7nm,0.7s
LBTB Lobatse 35.50 100 LR LR 12 43 18.0
comp=Z,206nm,20.8s,baz=262,slow=32
ITQB Itaqui 38.88 252 P **P 12 31 44.4 +0.4**
ITQB IAmb IAmb 12 31 58.4
comp=Z,18nm,1.1s
TORD Torodi Ar. Bea 39.49 24 P **P 12 31 49.0 -0.2**
comp=Z,5.1nm,1.0s,baz=212,slow=6.0,SNR=16
TORD LR LR 12 44 45.0
comp=Z,188nm,21.9s,baz=186,slow=31
comp=Z,5.1nm,1.0s
CPUP Villa Florida 39.72 257 P **P 12 31 50.2 -0.9**
comp=Z,6.1nm,1.1s,baz=66,slow=12,SNR=3.0
CPUP LR LR 12 46 08.9
comp=Z,176nm,18.2s,baz=96,slow=33
comp=Z,6.1nm,1.1s
PTLB Pontes e Lacer 43.68 272 P **P 12 32 25.7 +2.0**
PTLB IAmb IAmb 12 32 25.8
comp=Z,5.9nm,1.1s
SIV San Ignacio 45.29 271 LR LR 12 50 43.3
comp=Z,188nm,18.6s,baz=107,slow=35
VNA1 Neumayer--Stat 47.08 178 ⇑P **P 12 32 49.7 -0.1**
comp=Z,3.6nm,1.1s
VNA2 Neumayer--Watz 47.38 177 ⇑P **P 12 32 51.9 -0.4**
comp=Z,3.8nm,0.7s,baz=348,slow=7.9
VNA3 Neumayer Olymp 47.62 178 ⇑P **P 12 32 53.9 -0.3**
comp=Z,2.4nm,1.2s
SNAA Sanae 48.38 176 P **P 12 32 59.5 -0.5**
SNAA IAmb IAmb 12 33 01.2
comp=Z,9.3nm,1.4s
SNAA Sanae 48.38 176 ⇑P **P 12 32 59.9 -0.2**
comp=Z,24nm,0.8s
SNAA Sanae 48.38 176 P **P 12 32 58.8 -1.3**
comp=Z,1.9nm,1.0s,baz=303,slow=11,SNR=5.1
comp=Z,1.9nm,1.0s
MBAR Mbarara 48.58 68 LR LR 12 52 10.3
comp=Z,67nm,18.5s,baz=232,slow=34
TROLL Troll, Antarti 49.18 174 ⇑P **P 12 33 06.5 +0.2**
comp=Z,113nm,0.8s
SAML Samuel 49.69 279 P **P 12 33 11.5 +0.7**
SAML IAmb IAmb 12 33 13.8
comp=Z,10.0nm,1.4s
MACA Manacapuru-AM 49.97 287 P **P 12 33 14.1 +1.2**
PLCA Paso Flores 50.36 236 LR LR 12 50 57.6
comp=Z,106nm,21.2s,baz=90,slow=32
LVC Limon Verde 50.74 259 LR LR 12 53 25.0
comp=Z,83nm,19.9s,baz=101,slow=34
LPAZ La Paz 51.67 268 P **P 12 33 26.1 -0.4**
LPAZ La Paz 51.67 268 P **P 12 33 24.6 -1.8**
comp=Z,1.1nm,0.8s,baz=70,slow=1.5,SNR=4.0
LPAZ LR LR 12 54 19.5
comp=Z,29nm,19.1s,baz=95,slow=35
comp=Z,1.1nm,0.8s
PMSA Palmer Station 52.39 205 LR LR 12 51 05.4
comp=Z,61nm,21.3s,baz=73,slow=31
ELIB Princess Elisa 52.51 166 *d*P **P 12 33 32.3 +0.9**
ELIB *d*PcP **PcP 12 34 42.5 +0.8**
comp=Z,5.3nm,1.3s
KMBO Kilima Mbogo 53.95 73 LR LR 12 54 15.8
comp=Z,142nm,20.3s,baz=11,slow=33
MDT Midelt 56.82 9 LR LR 12 56 46.9
comp=Z,81nm,19.4s,baz=152,slow=34
PCRV Puerto La Cruz 60.31 298 LR LR 12 59 23.4
comp=Z,70nm,19.7s,slow=35
FURI Furi 60.34 64 LR LR 12 59 22.4
comp=Z,146nm,18.4s,baz=184,slow=35
MAW Mawson 63.11 155 P **P 12 34 46.2 +0.5**
comp=Z,3.7nm,1.0s,baz=260,slow=5.0,SNR=9.4
comp=Z,3.7nm,1.0s
ATAH Atahualpa 64.25 273 LR LR 13 02 14.7
comp=Z,128nm,19.5s,baz=108,slow=36
ATD Arta Tunnel 65.21 64 LR LR 13 02 00.5
comp=Z,4.7nm,18.7s,baz=62,slow=35
VAE Valguarnera 66.25 24 LR LR 13 02 18.4
comp=Z,125nm,19.0s,baz=174,slow=34
QSPA South Pole Qui 66.52 180 P **P 12 35 08.7 +0.6**
QSPA South Pole Qui 66.52 180 P **P 12 35 08.1 0.0**
comp=Z,3.0nm,1.0s,baz=198,slow=5.2,SNR=5.7
comp=Z,3.0nm,1.0s
COHC Cochancay 66.91 278 P **P 12 35 11.2 -0.1**
EIL Elat 70.55 44 LR LR 13 04 10.8
comp=Z,23nm,20.9s,baz=253,slow=34
JTS Las Juntas de 77.58 287 LR LR 13 11 21.4
comp=Z,100nm,18.6s,baz=106,slow=36
MLR Muntele Rosu 77.62 27 P **P 12 36 15.4 +0.6**
MLR IAmb IAmb 12 36 32.5
comp=Z,10.0nm,1.0s
WSAR Wadi Sarin 84.10 62 LR LR 13 16 04.9
comp=Z,65nm,18.4s,baz=230,slow=37
NOA NORSAR Array B 86.77 12 LR LR 13 16 53.9
comp=Z,16nm,18.5s,baz=255,slow=36
CMIG Matias Romero 89.22 289 LR LR 13 17 26.3
comp=Z,62nm,20.6s,baz=48,slow=36
TBI Tubuai 116.67 226 *e*LR LR 13 18 22.5
comp=Z,445nm,35.0s
TAOE Nuku Hiva Isla 118.71 245 *e*LR LR 13 19 21.5
comp=Z,45nm,23.1s
PPT2 Papeete2 120.69 230 *e*LR LR 13 20 07.9
comp=Z,47nm,23.8s
ASAR Alice Springs 123.24 144 PKP **PKPdf 12 43 15.2 -1.0**
comp=Z,0.4nm,0.7s,baz=200,slow=1.4,SNR=6.9
WRA Warramunga Arr 126.45 141 PKP **PKPdf 12 43 21.5 -0.8**
comp=Z,1.4nm,1.1s,baz=235,slow=1.7,SNR=3.9
SONM Songino Array 127.05 47 PKP **PKPdf 12 43 21.8 -0.9**
comp=Z,0.7nm,0.7s,baz=325,slow=1.8,SNR=4.9
DZM Mont Dzumac 134.51 180 *e*LR LR 13 26 31.6
comp=Z,66nm,24.2s
KSAR Wonju Array Be 144.24 58 **PKPab 12 43 52.2 -0.4**
KSRS Korea Array 144.27 58 PKP PKPbc 12 43 53.0 0.0
comp=Z,2.3nm,1.0s,baz=279,slow=2.2,SNR=10

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*IDC **03** 12:32:49.0±1.1, 55°.54S×27°.91W, h0km, mb4.0/3, mbtmp4.0/4, ML4.2/1, MS3.4/2, Error ellipse: s-maj=52.4km s-min=25.6km az=76.0*
ISC 03 12:32:53.0±1.1, 55°.6S±0°.2×27°.9W±0°.3, h26km, n16, σ0s32/9, mb4.1/3, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.40**	**158**	⇑P	**P**	**12 36 54.6**	**0.0**
	comp=Z,0.2nm,0.3s						
VNA3	**Neumayer Olymp**	**17.59**	**160**	⇑P	**P**	**12 36 56.8**	**+0.1**
	comp=Z,1.7nm,0.6s						
VNA2	**Neumayer--Watz**	**17.80**	**158**	⇑P	**P**	**12 36 59.0**	**0.0**
	comp=Z,2.1nm,0.4s,baz=310,slow=15						
SNAA	**Sanae**	**19.35**	**156**	⇑P	**P**	**12 37 16.1**	**-0.1**
	comp=Z,68nm,0.5s						
SNAA	**Sanae**	**19.35**	**156**	P	**P**	**12 37 16.2**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=294,slow=13,SNR=60						
	comp=Z,3.2nm,0.5s						
QSPA	**South Pole Qui**	**34.69**	**180**	P	**P**	**12 39 40.3**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=192,slow=3.5,SNR=24						
	comp=Z,1.4nm,0.6s						
MAW	**Mawson**	**40.78**	**144**	LR	LR	12 56 18.2	
	comp=Z,38nm,19.0s,baz=282,slow=34						
H10S2	**ASCENSION HYDR**	**47.66**	**18**	T	T	13 32 49.8	
	baz=30,slow=74,SNR=5.4						
H10S3	**ASCENSION HYDR**	**47.66**	**18**	T	T	13 32 49.5	
	baz=190,slow=74,SNR=6.9						
H10N1	**ASCENSION HYDR**	**48.77**	**18**	T	T	13 34 13.1	
	baz=189						
H10N3	**ASCENSION HYDR**	**48.78**	**18**	T	T	13 34 12.8	
	baz=189,slow=74						
H10N2	**ASCENSION HYDR**	**48.79**	**18**	T	T	13 34 13.6	
	baz=189,slow=74						
LPAZ	**La Paz**	**49.76**	**306**	P	**P**	**12 41 44.1**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=180,slow=10,SNR=2.6						
	comp=Z,0.9nm,0.5s						
RPN	**Rapa Nui**	**63.34**	**260**	LR	LR	13 08 45.8	
	comp=Z,31nm,20.7s,baz=110,slow=34						
TORD	**Torodi Ar. Bea**	**72.84**	**30**	P	**P**	**12 44 19.4**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=198,slow=4.7,SNR=4.0						
	comp=Z,0.8nm,0.6s						
ILAR	**Eielson Array**	**149.49**	**312**	PKPbc	**PKPbc**	**12 52 37.5**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=111,slow=1.8,SNR=7.6						

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*IDC **03** 12:34:15.7±1.4, 38°.29N×20°.37E, h0km, mb3.6/6, mbtmp3.5/8, ML3.7/2, Error ellipse: s-maj=36.9km s-min=22.4km az=135.0*
*ATH **03** 12:34:15.9, 37°.60N×20°.28E, h7km±1km, ML3.4/20, Manual Solution by N.Liadopoulou This location:*

*2020/07/01 05:34:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km THE **03** 12:34:17.2, 37°.65N×20°.35E, h3km±1km, ML3.2/7, Error ellipse: s-maj=1.3km s-min=0.4km az=34.0*
ISC 03 12:34:15.8±1.8, 37°.64N±0°.04×20°.31E±0°.05, h15km±12km, n57, σ1s37/75, mb3.6/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.40**	**87**	P	**Pb**	**12 34 24.4**	**-0.2**
KRI1				S	**Sb**	**12 34 29.9**	**-0.6**
LTHK	**Lithakia**	**0.42**	**80**	P	**Pb**	**12 34 24.8**	**-0.1**
LTHK				S	**Sb**	**12 34 30.3**	**-0.8**
	21μm,0.2s						
LTHK	**Lithakia**	**0.42**	**80**	P	**Pb**	**12 34 24.8**	**-0.1**
LTHK				S	**Sb**	**12 34 30.3**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.52**	**24**	P	**Pb**	**12 34 26.6**	**0.0**
PSDA				S	**Sb**	**12 34 33.9**	**0.0**
PSDA	**Pessada-Kefalo**	**0.52**	**24**	P	**Pb**	**12 34 26.6**	**0.0**
PSDA				S	**Sb**	**12 34 34.4**	**+0.5**
LXRA	**Lixouri, Kepha**	**0.57**	**10**	P	**Pb**	**12 34 28.0**	**+0.6**
LXRA				S	**Sb**	**12 34 35.7**	**+0.4**
VLS	**Valsamata**	**0.58**	**22**	P	**Pb**	**12 34 28.0**	**+0.4**
VLS				S	**Sb**	**12 34 36.0**	**+0.3**
	3μm,0.4s						
VLS	**Valsamata**	**0.58**	**22**	P	**Pb**	**12 34 27.9**	**+0.4**
VLS				S	**Sb**	**12 34 36.4**	**+0.7**
DMLN	**Damoulianata-K**	**0.60**	**5**	P	**Pb**	**12 34 28.1**	**+0.1**
DMLN				S	**Sb**	**12 34 37.0**	**+0.7**
DMLN	**Damoulianata-K**	**0.60**	**5**	P	**Pb**	**12 34 28.4**	**+0.4**
DMLN				S	**Sb**	**12 34 37.0**	**+0.7**
SMHA	**Samh**	**0.67**	**23**	P	**Pb**	**12 34 29.3**	**+0.2**
FSK	**Fiskardo**	**0.84**	**13**	P	**Pb**	**12 34 32.4**	**+0.3**
FSK				S	**Sb**	**12 34 44.6**	**+1.4**
	2μm,0.3s						
FSK	**Fiskardo**	**0.84**	**13**	P	**Pb**	**12 34 32.4**	**+0.3**
FSK				S	**Sb**	**12 34 44.6**	**+1.4**
RLS	**Riolos of Patr**	**1.00**	**65**	P	**Pb**	**12 34 35.3**	**+0.5**
RLS				S	**Sb**	**12 34 49.3**	**+1.4**
	1μm,0.5s						
RLS	**Riolos of Patr**	**1.00**	**65**	P	**Pb**	**12 34 35.1**	**+0.3**
RLS				S	**Sb**	**12 34 49.3**	**+1.4**
EVGI	**Lefkada island**	**1.02**	**15**	P	**Pb**	**12 34 35.7**	**+0.6**
EVGI	**Lefkada island**	**1.02**	**15**	P	**Pb**	**12 34 35.7**	**+0.6**
DRAG	**Dragano-Lefkad**	**1.06**	**11**	P	**Pb**	**12 34 36.8**	**+0.9**
DRAG	**Dragano-Lefkad**	**1.06**	**11**	P	**Pb**	**12 34 36.5**	**+0.7**
AMT	**Artemida-Makis**	**1.11**	**95**	P	**Pb**	**12 34 37.4**	**+0.7**
AMT	**Artemida-Makis**	**1.11**	**95**	P	**Pb**	**12 34 37.4**	**+0.7**
AMT				S	**Sb**	**12 34 52.6**	**+1.5**
NYDR	**Nydri-Lefkada**	**1.11**	**16**	P	**Pb**	**12 34 37.5**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.11**	**16**	P	**Pb**	**12 34 37.5**	**+0.8**
DRO	**Drossia**	**1.15**	**74**	P	**Pg**	**12 34 37.5**	**-0.5**
DRO				S	**Sn**	**12 34 54.2**	**+1.4**
	2μm,0.4s						
DRO	**Drossia**	**1.15**	**74**	P	**Pb**	**12 34 38.2**	**+0.8**
DRO				S	**Sn**	**12 34 53.9**	**+1.1**
LKD2	**Lefkada island**	**1.18**	**13**	P	**Pn**	**12 34 39.8**	**+2.0**
TSLK	**Tsoukalades, L**	**1.21**	**13**	P	**Pn**	**12 34 39.4**	**+1.2**
TSLK				S	**Sn**	**12 34 56.9**	**+2.5**
	2μm,0.6s						
TSLK	**Tsoukalades, L**	**1.21**	**13**	P	**Pb**	**12 34 39.0**	**+0.6**
UPR	**University Cam**	**1.33**	**61**	P	**Pn**	**12 34 41.1**	**+1.4**
PYL	**PYLOS**	**1.36**	**123**	P	**Pb**	**12 34 42.0**	**+1.1**
PYL	**PYLOS**	**1.36**	**123**	P	**Pb**	**12 34 42.2**	**+1.3**
ITM	**Ithomi**	**1.36**	**109**	P	**Pb**	**12 34 42.0**	**+1.0**
ITM				S	**Sn**	**12 35 00.9**	**+2.8**
	362nm,0.7s						
ITM	**Ithomi**	**1.36**	**109**	P	**Pb**	**12 34 42.8**	**+1.7**
ITM				S	**Sn**	**12 35 00.1**	**+2.0**
EFP	**Efpalio**	**1.48**	**58**	P	**Pg**	**12 34 43.7**	**-0.6**
EFP	**Efpalio**	**1.48**	**58**	P	**Pn**	**12 34 43.3**	**+1.4**
KLV	**Kalavryta, Ach**	**1.51**	**74**	P	**Pb**	**12 34 44.0**	**+0.5**
KLV	**Kalavryta, Ach**	**1.51**	**74**	P	**Pb**	**12 34 43.8**	**+0.3**
ANX	**Ano Chora**	**1.59**	**53**	P	**Pn**	**12 34 44.8**	**+1.4**
KALE	**Kalithea**	**1.63**	**62**	P	**Pn**	**12 34 45.4**	**+1.5**
GUR	**Goura**	**1.64**	**79**	P	**Pb**	**12 34 45.8**	**+0.1**
IGT	**Igoumenitsa**	**1.89**	**0**	P	**Pn**	**12 34 49.2**	**+1.7**
MAKR	**Makrakomi, Fth**	**1.98**	**46**	P	**Pn**	**12 34 50.7**	**+1.9**
JAN	**Janina**	**2.06**	**12**	P	**Pn**	**12 34 51.8**	**+1.9**
KEK	**Kerkira**	**2.11**	**349**	P	**Pn**	**12 34 52.8**	**+2.3**
AXAR	**Agios Charalam**	**2.16**	**58**	P	**Pn**	**12 34 53.0**	**+1.8**
THL	**Klokotos Trika**	**2.34**	**34**	P	**Pn**	**12 34 55.4**	**+1.8**
KPRO	**Kipourio**	**2.45**	**19**	P	**Pn**	**12 34 57.1**	**+1.9**
TYRN	**Tyrnavos**	**2.56**	**35**	P	**Pn**	**12 34 58.5**	**+1.8**
SCTE	**Santa Cesarea**	**2.82**	**330**	P	**Pn**	**12 35 02.8**	**+2.5**
AKASG	**Malin Array Be**	**14.52**	**23**	Pn	Pn	12 37 33.6	-7.0
	0.4nm,0.3s,baz=213,slow=9.3,SNR=1.6						
	0.1nm,0.3s						
ESDC	**Sonseca Array**	**19.06**	**284**	P	**P**	**12 38 36.5**	**-1.0**
	0.1nm,0.3s,baz=112,slow=13,SNR=1.7						
	0.4nm,0.8s						
HFS	**Hagfors**	**22.91**	**351**	P	**P**	**12 39 15.2**	**-3.6**
	3.8nm,1.0s,baz=159,slow=12,SNR=1.6						
	3.8nm,1.0s						
FINES	**FINESS Array B**	**24.10**	**7**	P	**P**	**12 39 26.9**	**-3.6**
	2.1nm,0.8s,baz=171,slow=9.8,SNR=1.9						
	2.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.51**	**219**	P	P	12 40 27.3	+7.7
	0.6nm,0.7s,baz=30,slow=9.0,SNR=3.5						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**42.68**	**53**	P	**P**	**12 42 09.9**	**-1.8**
	0.2nm,0.3s,baz=274,slow=8.9,SNR=2.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**45.72**	**58**	P	**P**	**12 42 35.5**	**-0.7**
	0.2nm,0.5s,baz=275,slow=7.9,SNR=3.4						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**46.17**	**48**	P	**P**	**12 42 37.3**	**-2.3**
	0.8nm,0.5s,baz=268,slow=8.2,SNR=3.6						
	0.8nm,0.5s						

IDC 03 12:36:17.8±2.9, 8°.78S×112°.35E, h0km, mb3.1/3, mbtmp3.1/3, Error ellipse: s-maj=150.9km s-min=30.0km az=47.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.98**	**120**	P	P	12 41 35.1	+0.8
	0.4nm,0.9s,baz=293,slow=11,SNR=5.5						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**25.39**	**128**	P	P	12 41 46.5	-0.6
	0.2nm,0.5s,baz=305,slow=9.7,SNR=2.4						
	0.2nm,0.5s						
H08S2	**Diego Garcia H**	**39.45**	**269**	T	T	13 25 19.7	
	baz=94,slow=76						
H08S3	**Diego Garcia H**	**39.46**	**269**	T	T	13 25 23.1	
	baz=94						
H08S1	**Diego Carcia H**	**39.47**	**269**	T	T	13 25 23.6	
	baz=94,slow=76						
MKAR	**Makanchi Array**	**61.48**	**337**	P	P	12 46 36.1	-0.2
	0.1nm,0.4s,baz=159,slow=7.9,SNR=1.8						
	0.1nm,0.4s						

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*IDC **03** 12:42:44.0±2.1, 0°.48S×67°.07E, h0km, mb3.9/6, mbtmp3.9/6, MS3.6/2, Error ellipse: s-maj=62.0km s-min=26.1km az=67.0*
ISC 03 12:42:45.1±2.3, 0°.5S±0°.3×67°.0E±0°.4, h10km, n9, σ0s86/8, mb3.9/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**36.65**	**57**	P	**P**	**12 49 52.6**	**+0.4**
	0.5nm,0.3s,baz=244,slow=9.1,SNR=5.9						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**48.98**	**14**	P	**P**	**12 51 30.5**	**-1.3**
	0.1nm,0.4s,baz=197,slow=9.0,SNR=1.8						
KURBB	**Kurchatov Arra**	**51.88**	**9**	P	**P**	**12 51 53.1**	**-0.6**
	0.9nm,0.8s,baz=209,slow=8.0,SNR=5.2						
KURBB				LR	LR	13 12 20.9	
	comp=Z,46nm,20.0s,baz=172,slow=34						
	0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**56.25**	**13**	P	**P**	**12 52 25.3**	**-0.2**
	0.5nm,0.4s,baz=212,slow=8.1,SNR=5.4						
	0.5nm,0.4s						
SONM	**Songino Array**	**59.08**	**30**	P	**P**	**12 52 46.5**	**+0.7**
	2.9nm,1.1s,baz=219,slow=7.2,SNR=9.5						
	2.9nm,1.1s						
WRA	**Warramunga Arr**	**68.62**	**111**	P	**P**	**12 53 48.9**	**-0.2**
	2.2nm,0.9s,baz=286,slow=5.9,SNR=11						
	2.2nm,0.9s						
ASAR	**Alice Springs**	**68.76**	**115**	P	**P**	**12 53 49.3**	**-0.6**
	0.8nm,0.8s,baz=283,slow=5.8,SNR=8.6						
	0.8nm,0.8s						

DZM Mont Dzumac 98.61 112 LR LR 13 37 59.5
comp=Z,31nm,18.9s,baz=239,slow=34
TXAR Lajitas Array 149.96 343 PKPbc **PKiKP 13 02 38.4 +0.8**
0.2nm,0.4s,baz=350,slow=3.0,SNR=3.6

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*IDC **03** 12:43:52.6±3.4, 0°.69S×66°.76E, h0km, mb3.8/6, mbtmp3.8/6, MS3.6/1, Error ellipse: s-maj=93.5km s-min=29.9km az=70.0*
ISC 03 12:43:54.3±3.5, 0°.7S±0°.3×66°.8E±0°.6, h10km, n7, σ0s55/6, mb3.9/6, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**36.90**	**57**	P	**P**	**12 51 03.5**	**0.0**
	0.6nm,0.6s,baz=249,slow=12,SNR=5.7						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**49.20**	**14**	LR	LR	13 14 26.0	
	comp=Z,55nm,19.0s,baz=265,slow=37						
KURBB	**Kurchatov Arra**	**52.09**	**9**	P	**P**	**12 53 04.9**	**+0.5**
	0.7nm,0.9s,baz=207,slow=7.4,SNR=3.2						
	0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**56.47**	**13**	P	**P**	**12 53 35.5**	**-0.8**
	0.5nm,0.5s,baz=208,slow=4.9,SNR=2.1						
	0.5nm,0.5s						
SONM	**Songino Array**	**59.33**	**30**	P	**P**	**12 53 56.8**	**+0.2**
	1.1nm,0.7s,baz=219,slow=6.7,SNR=3.3						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**68.72**	**111**	P	**P**	**12 54 59.0**	**+0.2**
	1.7nm,0.8s,baz=284,slow=5.8,SNR=8.9						
	1.7nm,0.8s						
ASAR	**Alice Springs**	**68.84**	**115**	P	**P**	**12 54 59.5**	**-0.1**
	0.8nm,0.8s,baz=285,slow=6.2,SNR=8.4						
	0.8nm,0.8s						

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*SNET **03** 12:47:56.5±0.8, 12°.42N×90°.35W, h36km, ML4.0*
*CATAC **03** 12:47:56.2±0.8, 12°.40N×90°.43W, h35km±21km, ML3.9*
ISC 03 12:47:55.9±2.0, 12°.45N±0°.10×90°.39W±0°.06, h21km±7km, n65, σ0s39/89, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**1.43**	**15**	*i* P	**Pn**	**12 48 20.4**	**-0.2**
FAME				IAML		12 48 31.6	
	comp=Z,2.8nm,1.0s						
LALI	**Alcalda de L**	**1.46**	**45**	*e*P	**Pn**	**12 48 20.2**	**-0.8**
LALI				*e*S	**Sn**	**12 48 39.4**	**-0.1**
LALI	**Alcalda de L**	**1.46**	**45**	*i* P	**Pn**	**12 48 20.8**	**-0.2**
LALI				IAML		12 48 39.9	
	comp=Z,190nm,1.0s						
JAYA	**Jayaque - finc**	**1.50**	**37**	*e*P	**Pn**	**12 48 21.0**	**-0.7**
JAYA				*e*S	**Sn**	**12 48 40.9**	**+0.1**
JAYA	**Jayaque - finc**	**1.50**	**37**	*i* P	**Pn**	**12 48 21.3**	**-0.4**
JAYA				*i* S	**Sn**	**12 48 41.1**	**+0.3**
JAYA				IAML		12 48 44.3	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**1.56**	**28**	*e*P	**Pn**	**12 48 22.4**	**-0.1**
CEVE				*e*S	**Sb**	**12 48 43.3**	**-0.2**
CEVE	**Cerro Verde**	**1.56**	**28**	*i* P	**Pn**	**12 48 22.6**	**+0.1**
CEVE				*i* S	**Sb**	**12 48 43.3**	**-0.2**
CEVE				IAML		12 48 44.4	
	comp=Z,3μm,1.0s						
NUBE	**Las Nubes**	**1.56**	**22**	*e*P	**Pn**	**12 48 22.1**	**-0.3**
NUBE				*e*S	**Sn**	**12 48 42.1**	**0.0**
NUBE	**Las Nubes**	**1.56**	**22**	*i* P	**Pn**	**12 48 22.2**	**-0.3**
NUBE				IAML		12 48 43.1	
	comp=Z,550nm,1.0s						
SBLS	**San Blas**	**1.57**	**28**	*e*P	**Pn**	**12 48 22.7**	**0.0**
SBLS				*e*S	**Sn**	**12 48 42.9**	**+0.5**
SNJE	**San Jose**	**1.60**	**28**	*e*P	**Pn**	**12 48 22.9**	**-0.2**
RTR	**El Retiro**	**1.61**	**27**	*e*P	**Pn**	**12 48 23.2**	**0.0**
RTR				*e*S	**Sn**	**12 48 43.6**	**+0.2**
PMON	**Piamonte**	**1.63**	**40**	*e*P	**Pn**	**12 48 23.0**	**-0.4**
PMON				*e*S	**Sn**	**12 48 44.1**	**+0.3**
PMON	**Piamonte**	**1.63**	**40**	*i* P	**Pn**	**12 48 23.5**	**+0.1**
PMON				*i* S	**Sb**	**12 48 46.1**	**+0.6**
PMON				IAML		12 48 49.4	
	comp=Z,1μm,1.0s						
LOAL	**Lomas de Alarc**	**1.65**	**21**	*e*P	**Pn**	**12 48 23.8**	**+0.2**
LOAL				*e*S	**Sn**	**12 48 44.6**	**+0.5**
LOAL	**Lomas de Alarc**	**1.65**	**21**	*i* P	**Pn**	**12 48 23.9**	**+0.3**
LOAL				IAML		12 48 24.1	
	comp=Z,3μm,1.0s						
PANCS	**Alcalda de**	**1.65**	**45**	*i* P	**Pn**	**12 48 23.4**	**-0.2**
PANCS				IAML		12 48 25.9	
	comp=Z,2μm,1.0s						
CEDA	**San Andres**	**1.66**	**36**	*i* P	**Pn**	**12 48 24.3**	**+0.6**
CEDA				IAML		12 48 36.0	
	comp=Z,2μm,1.0s						
SNET	**Serv Nac Est T**	**1.67**	**42**	*i* P	**Pn**	**12 48 23.6**	**-0.3**
SNET				IAML		12 48 23.7	
	comp=Z,1μm,1.0s						
BOQS	**Boqueron**	**1.67**	**40**	*e*P	**Pn**	**12 48 24.0**	**-0.1**
BOQS				*e*S	**Sn**	**12 48 45.1**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.67**	**20**	*e*P	**Pn**	**12 48 23.8**	**-0.2**
SLOZ				*e*S	**Sn**	**12 48 44.7**	**-0.1**
UEES	**Universidad Ev**	**1.68**	**41**	*e*P	**Pn**	**12 48 23.5**	**-0.6**
UEES				*e*S	**Sn**	**12 48 44.9**	**-0.2**
UEES	**Universidad Ev**	**1.68**	**41**	*i* P	**Pn**	**12 48 23.9**	**-0.2**
UEES				IAML		12 48 48.9	
	comp=Z,530nm,1.0s						
PIC2	**El Picacho**	**1.69**	**40**	*e*P	**Pn**	**12 48 24.2**	**-0.2**
UTEC	**Universidad Te**	**1.70**	**43**	*i* P	**Pn**	**12 48 24.3**	**0.0**
UTEC				IAML		12 49 48.7	
	comp=Z,900nm,1.0s						
IGN	**Direccin Gen**	**1.73**	**43**	*i* P	**Pn**	**12 48 24.8**	**+0.1**
IGN				IAML		12 48 47.0	
	comp=Z,5μm,1.0s						
UNIC	**Universidad Ca**	**1.73**	**28**	*i* P	**Pn**	**12 48 25.2**	**+0.5**
UNIC				IAML		12 48 46.1	
	comp=Z,330nm,1.0s						
UDBS	**Universidad Do**	**1.74**	**44**	*e*P	**Pn**	**12 48 24.8**	**0.0**
UDBS				*e*S	**Sn**	**12 48 46.7**	**+0.3**
UDBS	**Universidad Do**	**1.74**	**44**	*i* P	**Pn**	**12 48 25.4**	**+0.6**
UDBS				IAML		12 48 47.9	
	comp=Z,1μm,1.0s						
LFRS	**El Faro**	**1.74**	**48**	*e*P	**Pn**	**12 48 24.6**	**-0.4**
LFRS				*e*S	**Sn**	**12 48 46.1**	**-0.4**
QUEZ	**Alcaldia de Qu**	**1.75**	**38**	*i* P	**Pn**	**12 48 25.4**	**+0.4**
QUEZ				IAML		12 49 57.4

BLLM	**Bellamira**	**2.31**	**65**	*e*P	**Pn**	**12 48 32.5**	**-0.3**
BLLM				*e*S	**Sn**	**12 49 00.4**	**-0.3**
ESQI	**Esquipulas**	**2.33**	**26**	*e*P	**Pn**	**12 48 33.1**	**+0.1**
ESQI				*e*S	**Sn**	**12 49 01.2**	**+0.2**
ESQI	**Esquipulas**	**2.33**	**26**	*i* P	**Pn**	**12 48 33.8**	**+0.8**
ESQI				IAML		12 49 05.6	
comp=Z,270nm,1.0s							
CNRM	**Centro Naciona**	**2.39**	**65**	*i* P	**Pn**	**12 48 34.1**	**+0.4**
CNRM				IAML		12 50 27.9	
comp=Z,2μm,1.0s							
RTAL	**Retalhuleu**	**2.42**	**328**	*i* P	**Pn**	**12 48 34.7**	**+0.5**
RTAL				*i* S	**Sn**	**12 49 01.7**	**-1.5**
RTAL				IAML		12 49 09.9	
comp=Z,240nm,1.0s							
SOKI	**Kika Raxquin**	**2.56**	**337**	*i* P	**Pn**	**12 48 36.6**	**+0.2**
SOKI				IAML		12 49 18.1	
comp=Z,210nm,1.0s							
LCND	**La Caada**	**2.58**	**70**	*e*P	**Pn**	**12 48 36.0**	**-0.4**
LCND	**La Caada**	**2.58**	**70**	*i* P	**Pn**	**12 48 36.0**	**-0.4**
LCND				IAML		12 49 44.4	
comp=Z,210nm,1.0s							
CNCH	**Conchagua**	**2.62**	**71**	*i* P	**Pn**	**12 48 36.9**	**-0.2**
CNCH				IAML		12 49 15.1	
comp=Z,500nm,1.0s							
AMPH	**Amapala**	**2.79**	**72**	*i* P	**Pn**	**12 48 39.5**	**+0.3**
CSGN	**Cosiguina Volc**	**2.81**	**79**	*i* P	**Pn**	**12 48 39.6**	**0.0**
CSGN				IAML		12 49 14.3	
comp=Z,57nm,1.0s							
QUIS	**Sacapulas**	**2.91**	**346**	*i* P	**Pn**	**12 48 41.2**	**+0.2**
QUIS				IAML		12 48 45.3	
comp=Z,480nm,1.0s							
HUEH	**Huehuetenango**	**3.05**	**339**	*i* P	**Pn**	**12 48 43.5**	**+0.4**
HUEH				IAML		12 50 39.1	
comp=Z,540nm,1.0s							
CRIN	**San Cristobal**	**3.27**	**85**	*i* P	**Pn**	**12 48 46.2**	**+0.3**
CRIN				*i* S	**Sn**	**12 49 24.9**	**+0.7**
CRIN				IAML		12 49 28.1	
comp=Z,410nm,1.0s							
COMHN	**El Horno**	**3.39**	**54**	*i* P	**Pn**	**12 48 46.7**	**-1.0**
TGUH	**Tegucigalpa,Un**	**3.43**	**62**	*i* P	**Pn**	**12 48 47.9**	**-0.2**
TGUH				IAML		12 49 38.3	
comp=Z,57nm,1.0s							
YUSH	**Yuscaran**	**3.76**	**66**	*i* P	**Pn**	**12 48 52.5**	**-0.2**

*IDC **03** 12:57:20.7±0.5, 31°.63S×58°.34E, h0km, mb4.4/17, mbtmp4.4/18, ML4.3/1, MS3.6/16, Error ellipse: s-maj=19.9km s-min=15.2km az=73.0*
*NEIC **03** 12:57:23.0±1.5, 31°.62S±0°.09×58°.3E±0°.1, h10km±1km, mb4.9/30, Error ellipse: s-maj=19.5km s-min=14.7km az=251.0*
ISC 03 12:57:23.1±0.4,**31°.62S**±0°.09×**58°.34E**±0°.09,**h14**km,**n125**, σ**1**§**01**/98,**mb4.8**/54,**MS3.7**/16,**4C-1D,Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**10.67**	**347**	Pn	**Pn**	**12 59 53.2**	**-2.5**
FOMA	**Nahampoana Res**	**11.99**	**301**	Pn	**Pn**	**13 00 13.4**	**-0.2**
VOI	**Vohitsoka**	**14.13**	**310**	Pn	**Pn**	**13 00 41.6**	**-1.3**
H04N2	**CROZET ISLANDS**	**15.38**	**197**	T	T	13 16 52.2	
baz=22,slow=75							
H04N1	**CROZET ISLANDS**	**15.39**	**197**	T	T	13 16 51.5	
baz=22,slow=75							
H04N3	**CROZET ISLANDS**	**15.40**	**197**	T	T	13 16 49.0	
baz=22,slow=75							
H04S1	**CROZET ISLANDS**	**15.99**	**196**	T	T	13 17 40.2	
baz=16							
H04S3	**CROZET ISLANDS**	**15.99**	**196**	T	T	13 17 40.2	
baz=16							
H04S2	**CROZET ISLANDS**	**16.00**	**196**	T	T	13 17 40.2	
baz=16							
ABPO	**Ambohimpanom**	**16.06**	**319**	Pn	**Pn**	**13 01 09.2**	**+0.5**
OPO	**Ambohidratompo**	**16.44**	**320**	Pn	**P**	**13 01 14.8**	**-1.5**
0.1nm,0.3s,baz=155,slow=12,SNR=8.1							
OPO				Sn	Sn	13 04 04.1	-12
0.1nm,0.3s,baz=289,slow=8.5,SNR=5.6							
4.6nm,0.5s							
H08S1	**Diego Carcia H**	**27.25**	**32**	T	T	13 31 31.6	
baz=207,slow=76							
H08S2	**Diego Garcia H**	**27.26**	**32**	T	T	13 31 34.4	
baz=207,slow=76							
H08S3	**Diego Garcia H**	**27.27**	**32**	T	T	13 31 33.1	
baz=207,slow=76							
BOSA	**Boshof**	**28.71**	**267**	P	P	13 03 11.2	-8.9
BOSA				IAmb	IAmb	13 04 22.8	
comp=Z,25nm,1.6s							
MAW	**Mawson**	**36.12**	**177**	P	**P**	**13 04 24.4**	**+0.1**
comp=Z,2.0nm,0.7s,baz=341,slow=11,SNR=6.5							
MAW				PcP	**PcP**	**13 06 50.2**	**+0.4**
comp=Z,1.5nm,0.6s,baz=21,slow=2.1,SNR=6.6							
comp=Z,2.0nm,0.7s							
KMBO	**Kilima Mbogo**	**36.29**	**323**	LR	LR	13 16 46.8	
comp=Z,52nm,20.4s,baz=90,slow=32							
TSUM	**Tsumeb**	**38.62**	**279**	P	**P**	**13 04 46.1**	**-0.1**
TSUM				IAmb	IAmb	13 04 47.4	
comp=Z,10.0nm,0.8s							
MBAR	**Mbarara**	**40.41**	**314**	LR	LR	13 19 49.8	
comp=Z,122nm,21.8s,baz=132,slow=33							
FURI	**Furi**	**44.46**	**332**	LR	LR	13 21 34.2	
comp=Z,36nm,18.8s,baz=162,slow=33							
H01W2	**Cape Leeuwin H**	**46.26**	**110**	T	T	13 55 35.6	
baz=257,slow=75							
H01W3	**Cape Leeuwin H**	**46.27**	**110**	T	T	13 55 41.3	
baz=257							
H01W1	**Cape Leeuwin H**	**46.28**	**110**	T	T	13 55 41.5	
baz=257,slow=75							
SNAA	**Sanae**	**51.32**	**201**	P	**P**	**13 06 26.2**	**-0.3**
SNAA	**Sanae**	**51.32**	**201**	⇑P	**P**	**13 06 25.4**	**-1.1**
comp=Z,24nm,0.7s							
SNAA	**Sanae**	**51.32**	**201**	P	**P**	**13 06 25.6**	**-0.9**
comp=Z,1.8nm,0.8s,baz=102,slow=7.2,SNR=8.3							
comp=Z,1.8nm,0.8s							
VNA2	**Neumayer--Watz**	**52.56**	**202**	⇑P	**P**	**13 06 35.5**	**-0.2**
comp=Z,2.5nm,0.8s,baz=86,slow=6.7							
VNA3	**Neumayer Olymp**	**53.35**	**202**	⇑P	**P**	**13 06 41.3**	**-0.2**
comp=Z,3.0nm,0.7s							
WSAR	**Wadi Sarin**	**54.55**	**0**	LR	LR	13 24 55.4	
comp=Z,69nm,20.8s,baz=232,slow=30							
PSA00	**Pilbara Seismi**	**55.28**	**96**	P	**P**	**13 06 55.9**	**-0.5**
QSPA	**South Pole Qui**	**58.55**	**180**	P	**P**	**13 07 19.2**	**+0.2**
QSPA				IAmb	IAmb	13 07 31.1	
comp=Z,12nm,1.1s							
QSPA	**South Pole Qui**	**58.55**	**180**	P	**P**	**13 07 19.1**	**+0.1**
comp=Z,2.0nm,0.5s,baz=260,slow=0.8,SNR=41							
comp=Z,2.0nm,0.5s							
CM31	**Chiang Mai Arr**	**63.21**	**44**	P	**P**	**13 07 52.0**	**+0.9**
CM31				IAmb	IAmb	13 07 52.8	
comp=Z,10nm,0.8s							
CMAR	**Chiang Mai Arr**	**63.21**	**44**	P	**P**	**13 07 51.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**63.21**	**44**	P	**P**	**13 07 51.8**	**+0.7**
comp=Z,7.2nm,0.8s,baz=230,slow=7.3,SNR=52							
CMAR				LR	LR	13 30 35.7	
comp=Z,49nm,20.7s,baz=235,slow=32							
comp=Z,7.2nm,0.8s							
EIL	**Elat**	**64.88**	**338**	LR	LR	13 32 38.3	
comp=Z,36nm,19.8s,baz=266,slow=33							
SHL	**Shillong**	**65.27**	**33**	P	**P**	**13 08 04.8**	**+0.1**
KNRA	**Kununurra**	**65.45**	**94**	P	**P**	**13 08 05.5**	**-0.4**
MGBR	**Mount Gambier**	**65.84**	**121**	P	**P**	**13 08 06.3**	**-1.9**
ASAR	**Alice Springs**	**66.22**	**104**	P	**P**	**13 08 10.8**	**0.0**
comp=Z,4.0nm,0.8s,baz=238,slow=6.0,SNR=63							
comp=Z,4.0nm,0.8s							
AS31	**Alice Springs**	**66.22**	**104**	P	**P**	**13 08 10.8**	**0.0**
MMAI	**Mount Meron Ar**	**67.84**	**339**	P	**P**	**13 08 22.2**	**+1.4**
comp=Z,2.3nm,0.7s,baz=119,slow=12,SNR=2.5							
MMAI				LR	LR	13 35 52.6	
comp=Z,22nm,18.4s,baz=112,slow=34							
comp=Z,2.3nm,0.7s							
WRA	**Warramunga Arr**	**68.22**	**101**	P	**P**	**13 08 23.3**	**-0.3**
comp=Z,4.5nm,0.8s,baz=241,slow=5.6,SNR=29							
comp=Z,4.5nm,0.8s							
WB2	**Warramunga Arr**	**68.23**	**101**	P	**P**	**13 08 23.8**	**+0.2**
WB2				IAmb	IAmb	13 08 26.1	
comp=Z,6.3nm,0.9s							
WRAB	**Tennant Creek**	**68.23**	**101**	P	**P**	**13 08 23.7**	**0.0**
WRAB				IAmb	IAmb	13 08 34.0	
comp=Z,14nm,1.3s							
WB0	**Warramunga Arr**	**68.34**	**100**	P	**P**	**13 08 24.3**	**-0.1**
WB0				IAmb	IAmb	13 08 34.5	
comp=Z,13nm,1.2s							
WR0	**Warramunga Arr**	**68.38**	**101**	P	**P**	**13 08 24.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**70.18**	**300**	P	**P**	**13 08 35.4**	**-0.2**
comp=Z,2.9nm,0.9s,baz=116,slow=5.1,SNR=16							
TORD				LR	LR	13 39 28.0	
comp=Z,83nm,19.1s,baz=119,slow=36							
comp=Z,2.9nm,0.9s							
SIMJ	**Simiganj**	**70.62**	**9**	P	**P**	**13 08 38.3**	**+0.3**
SIMJ				IAmb	IAmb	13 08 40.9	
comp=Z,8.3nm,1.1s							
PZH	**PanZhiHua**	**71.10**	**41**	P	**P**	**13 08 45.2**	**+4.0**
PZH				pmax	pmax		
comp=Z,10.0nm,0.9s							
PZH				pmax	pmax		
comp=Z,110nm,5.3s							
DBIC	**Dimbokro**	**71.22**	**291**	P	**P**	**13 08 42.1**	**+0.1**
comp=Z,4.8nm,0.7s,baz=122,slow=6.9,SNR=5.5							
comp=Z,4.8nm,0.7s							
GNI	**Garni**	**72.51**	**349**	LR	LR	13 38 11.8	
comp=Z,40nm,21.2s,baz=278,slow=34							
KSH	**Kashi**	**72.64**	**14**	P	**P**	**13 08 48.6**	**-1.6**
KSH				pP	pP	13 08 50.8	-2.3
KSH				pmax	pmax		
comp=Z,9.0nm,0.6s							
BRTR	**Keskin Array B**	**74.59**	**340**	P	**P**	**13 09 01.9**	**+0.3**
BRTR	**Keskin Array B**	**74.59**	**340**	P	**P**	**13 09 01.2**	**-0.4**
comp=Z,2.9nm,0.8s,baz=169,slow=7.6,SNR=6.9							
comp=Z,2.9nm,0.8s							
KKAR	**Karatay Array**	**75.19**	**9**	P	**P**	**13 09 05.6**	**+0.7**
AAK	**Ala-Archa**	**75.37**	**12**	P	**P**	**13 09 07.1**	**+1.0**
AAK	**Ala-Archa**	**75.37**	**12**	LR	LR	13 40 22.6	
comp=Z,41nm,18.8s,baz=294,slow=34							
BOOM	**Boomskoye usch**	**75.50**	**13**	P	**P**	**13 09 07.0**	**+0.1**
BOOM				IAmb	IAmb	13 09 10.1	
comp=Z,14nm,1.2s							
WMQ	**Urumqi**	**79.73**	**21**	*e*P	**P**	**13 09 32.5**	**+2.2**
GTA	**Gaotai**	**80.48**	**31**	*e*P	**P**	**13 09 35.7**	**+1.1**
GTA				sP	pwP	13 09 44.1	-0.1
GTA				pmax	pmax		
comp=Z,4.0nm,0.8s							
ABKAR	**Akbulak array**	**80.52**	**1**	P	**P**	**13 09 34.7**	**+0.4**
ABKAR				IAmb	IAmb	13 09 36.1	
comp=Z,14nm,1.3s							
XAN	**Xi'an**	**80.84**	**41**	⇑P	**P**	**13 09 39.4**	**+2.9**
XAN				pmax	pmax		
comp=Z,12nm,1.0s							
MAKZ	**Makanchi**	**80.93**	**16**	P	**P**	**13 09 36.5**	**-0.1**
MK31	**Makanchi Array**	**80.99**	**16**	P	**P**	**13 09 37.1**	**+0.1**
MKAR	**Makanchi Array**	**80.99**	**16**	P	**P**	**13 09 36.2**	**-0.7**
comp=Z,1.8nm,0.8s,baz=214,slow=5.9,SNR=12							
comp=Z,1.8nm,0.8s							
AKTO	**Aktyubinsk**	**81.69**	**360**	LR	LR	13 44 12.3	
comp=Z,74nm,18.8s,baz=262,slow=34							
MLR	**Muntele Rosu**	**82.19**	**338**	P	**P**	**13 09 44.0**	**+0.5**
MLR				IAmb	IAmb	13 09 44.7	
comp=Z,6.9nm,0.7s							
KURBB	**Kurchatov Arra**	**83.81**	**13**	P	**P**	**13 09 52.0**	**+0.5**
comp=Z,5.8nm,1.0s,baz=208,slow=5.7,SNR=35							
comp=Z,5.8nm,1.0s							
KURK	**Kurchatov**	**83.91**	**13**	P	**P**	**13 09 52.5**	**+0.4**
KURK				IAmb	IAmb	13 09 54.1	
comp=Z,11nm,1.1s							
BVAR	**Borovoye Array**	**84.94**	**7**	P	**P**	**13 09 58.1**	**+0.8**
comp=Z,9.3nm,0.8s,baz=177,slow=5.6,SNR=44							
comp=Z,9.3nm,0.8s							
BRVK	**Borovoye**	**84.96**	**7**	P	**P**	**13 09 57.7**	**+0.4**
BRVK				IAmb	IAmb	13 09 59.3	
comp=Z,9.6nm,0.9s							
NJ2	**Nanjing**	**85.35**	**48**	*e*P	**P**	**13 10 02.1**	**+2.3**
NJ2				pmax	pmax		
comp=Z,6.0nm,0.5s							
AKASG	**Malin Array Be**	**85.91**	**342**	P	**P**	**13 10 01.6**	**-0.5**
comp=Z,1.2nm,0.5s,baz=176,slow=4.7,SNR=7.7							
comp=Z,1.2nm,0.5s							
HNS	**HongShan**	**86.51**	**42**	⇓P	**P**	**13 10 06.0**	**+0.6**
HNS				pmax	pmax		
comp=Z,10.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**87.27**	**37**	*e*P	**P**	**13 10 06.4**	**-2.8**
HHC				pmax	pmax		
comp=Z,12nm,0.6s							
HHC				pmax	pmax		
comp=Z,150nm,6.1s							
MDT	**Midelt**	**87.40**	**311**	LR	LR	13 48 31.7	
comp=Z,51nm,20.1s,baz=346,slow=35							
ARSA	**Arzberg**	**87.45**	**332**	*e*P	**P**	**13 10 10.6**	**+0.7**
comp=Z,3.0nm,0.9s							
RONA	**Rosalia, Austr**	**87.52**	**333**	*e*P	**P**	**13 10 11.0**	**+0.9**
comp=Z,6.4nm,1.3s							
TEOL	**Teolo**	**87.55**	**329**	P	**P**	**13 10 11.1**	**+0.8**
ARTI	**Arti**	**87.66**	**0**	P	**P**	**13 10 11.0**	**+0.5**
ARTI				IAmb	IAmb	13 10 12.5	
comp=Z,13nm,1.2s							
CONA	**Conrad Observa**	**87.87**	**333**	*i* P	**P**	**13 10 12.8**	**+0.9**
comp=Z,12nm,1.3s							
JAVC	**Velka Javorina**	**87.96**	**334**	*e*P	**P**	**13 10 13.3**	**+1.1**
KBA	**Koelnbreinsper**	**88.19**	**331**	*i* P	**P**	**13 10 14.0**	**+0.5**
comp=Z,7.5nm,1.5s							
ZAA0	**Zalesovo Array**	**88.25**	**15**	P	**P**	**13 10 12.3**	**-1.0**
ZAA0				IAmb	IAmb	13 10 14.7	
comp=Z,4.0nm,1.1s							
ZALV	**Zalesovo Beam**	**88.25**	**15**	P	**P**	**13 10 12.1**	**-1.3**
comp=Z,1.9nm,0.8s,baz=227,slow=5.9,SNR=9.2							
comp=Z,1.9nm,0.8s							
ABTA	**Abfaltersbach**	**88.28**	**330**	*i* P	**P**	**13 10 15.4**	**+1.5**
comp=Z,11nm,1.1s							
MOA	**Molln**	**88.44**	**332**	*i* P	**P**	**13 10 15.4**	**+0.9**
comp=Z,5.9nm,1.1s							
KRUC	**Moravsky**	**88.60**	**334**	*e*P	**P**	**13 10 15.2**	**0.0**
LESA	**Schwarzleotal**	**88.75**	**331**	*i* P	**P**	**13 10 16.7**	**+0.7**
comp=Z,6.6nm,0.6s							
MORC	**Moravsky Berou**	**88.77**	**335**	*e*P	**P**	**13 10 16.2**	**+0.2**
WTTA	**Wattenberg**	**89.06**	**330**	*i* P	**P**	**13 10 18.6**	**+1.0**
comp=Z,9.1nm,0.5s							
WATA	**Walderalm**	**89.14**	**330**	*i* P	**P**	**13 10 18.8**	**+0.8**
comp=Z,4.8nm,0.7s							
SQTA	**Sankt Quirin**	**89.20**	**330**	*i* P	**P**	**13 10 19.3**	**+1.1**
comp=Z,8.7nm,0.6s							
FETA	**Feichten**	**89.25**	**330**	*i* P	**P**	**13 10 19.7**	**+1.2**
comp=Z,6.9nm,0.9s							
MOTA	**Moosalm**	**89.34**	**330**	*i* P	**P**	**13 10 19.8**	**+0.8**
comp=Z,7.6nm,0.8s							
RETA	**Reutte**	**89.60**	**330**	*i* P	**P**	**13 10 21.1**	**+1.1**
comp=Z,4.8nm,0.7s							
DAVA	**Damuels**	**89.83**	**329**	*i* P	**P**	**13 10 22.2**	**+1.0**
comp=Z,4.3nm,0.6s							
SONM	**Songino Array**	**90.07**	**30**	P	**P**	**13 10 22.4**	**+0.1**
comp=Z,1.5nm,0.9s,baz=223,slow=4.5,SNR=4.5							
comp=Z,1.5nm,0.9s							
URZ	**Urewera**	**90.09**	**136**	LR	LR	13 42 02.0	
comp=Z,60nm,20.7s,baz=27,slow=30							
NACGM	**Naroch**	**90.34**	**342**	*e*P	**P**	**13 10 23.9**	**+0.7**
ESDC	**Sonseca Array**	**91.47**	**317**	P	**P**	**13 10 30.1**	**+1.1**
comp=Z,2.4nm,0.9s,baz=129,slow=3.9,SNR=13							
comp=Z,2.4nm,0.9s							
PLCA	**Paso Flores**	**93.90**	**216**	LR	LR	13 45 26.0	
comp=Z,29nm,20.6s,baz=96,slow=31							
KSRS	**Korea Array**	**94.53**	**48**	LR	LR	13 50 46.2	
comp=Z,32nm,20.1s,baz=240,slow=34							
CN2	**Changchun**	**96.86**	**42**	*e*P	**P**	**13 10 53.2**	**-0.3**
NOA	**NORSAR Array B**	**99.97**	**339**	LR	LR	13 53 43.8	
comp=Z,20nm,20.1s,baz=270,slow=34							
TBI	**Tubuai**	**119.21**	**151**	*e*LR	LR	13 52 34.9	
comp=Z,600nm,39.2s							
INK	**Inuvik**	**142.63**	**7**	PKhKP	PKPpre	13 16 50.0	
comp=Z,1.4nm,0.9s,baz=284,slow=2.1,SNR=3.0							
ILAR	**Eielson Array**	**143.33**	**18**	PKhKP	PKPpre	13 16 52.5	
comp=Z,0.7nm,1.0s,baz=284,slow=3.6,SNR=3.6							
SUA	**Susitna One**	**144.65**	**24**		**PKPdf**	**13 16 58.0**	**-0.7**
T57A	**Hurt**	**144.78**	**291**	PKPdf	**PKPdf**	**13 16 58.8**	**-0.8**
H31M	**Peel River**	**144.92**	**9**		PKPbc	13 16 58.0	-0.2
I30M	**Mount Dempster**	**145.17**	**11**		**PKPdf**	**13 16 59.1**	**-0.4**
SML	**Sawmill**	**145.20**	**22**	PKPbc	**PKPdf**	**13 16 59.5**	**-0.1**
DAWY	**Dawson**	**145.68**	**14**		**PKPab**	**13 17 01.2**	**+0.2**
J30M	**Hart River**	**145.78**	**11**		**PKPab**	**13 17 01.5**	**+0.1**
N25K	**Chitina, Valde**	**146.49**	**20**		**PKPab**	**13 17 04.4**	**+0.2**
M27K	**Edge Creek, AK**	**146.60**	**17**	PKPdf	**PKPbc**	**13 17 03.9**	**+0.2**
L29M	**L29M**	**146.79**	**14**		**PKPbc**	**13 17 04.1**	**+0.1**
M29M	**Somme Creek**	**147.31**	**14**		**PKPbc**	**13 17 06.2**	**+0.6**
YKA	**Yellowknife Ar**	**148.78**	**354**	PKPbc	**PKPbc**	**13 17 08.3**	**-1.0**
comp=Z,4.2nm,0.8s,baz=359,slow=2.7,SNR=7.1							
EYMN	**Ely**	**151.90**	**314**		**PKiKP**	**13 17 17.2**	**-0.4**
EYMN					**PKPab**	**13 17 27.4**	**+0.9**
ULM	**Lac du Bonnet**	**153.27**	**322**	PKPbc	**PKPbc**	**13 17 19.2**	**-1.1**
comp=Z,4.4nm,0.8s,baz=80,slow=3.1,SNR=7.0							
PDAR	**Pinedale Array**	**165.29**	**323**	PKP	**PKPdf**	**13 17 26.4**	**-0.8**
comp=Z,0.5nm,0.8s,baz=122,slow=3.3,SNR=4.6							
PDAR				PKPab	**PKPab**	**13 18 24.1**	**-0.7**
comp=Z,0.2nm,0.3s,baz=38,slow=3.4,SNR=4.1							
NVAR	**Mina Array Bea**	**172.67**	**339**	PKPab	**PKPab**	**13 18 57.4**	**-0.1**
comp=Z,0.6nm,0.8s,baz=27,slow=6.3,SNR=4.7							

*THE **03** 13:00:22.9, 37°.51N×20°.84E, h14km, ML3.3/5, Error ellipse: s-maj=1.1km s-min=0.5km az=40.0*
*ATH **03** 13:00:22.9, 37°.48N×20°.78E, h8km±1km, ML3.1/16, Error ellipse: s-maj=1.8km s-min=0.9km az=224.0*
ISC 03 13:00:23.0±1.1,**37°.49N**±0°.04×**20°.82E**±0°.04,**h14**km±6km, **n30**, σ0§**63**/59,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.17**	**1**	P	**Pg**	**13 00 27.1**	**+0.1**
KRI1				S	**Sg**	**13 00 29.5**	**-0.3**
26μm,0.4s							
LTHK	**Lithakia**	**0.21**	**5**	P	**Pg**	**13 00 27.7**	**-0.1**
LTHK				S	**Sg**	**13 00 31.3**	**+0.2**
LTHK				AML	AML	13 00 31.3	
comp=E,37666μm,0.2s							
LTHK				AML	AML	13 00 31.4	
comp=N,37595μm,0.1s							
RTZL	**Ratzakli, Kefa**	**0.58**	**357**	P	**Pg**	**13 00 33.6**	**-0.8**
RTZL				S	**Sg**	**13 00 42.5**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.65**	**344**	P	**Pg**	**13 00 34.7**	**-0.9**
PSDA				S	**Sb**	**13 00 45.3**	**+0.4**
comp=N,3μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.65**	**344**	P	**Pg**	**13 00 34.9**	**-0.7**
PSDA				S	**Sb**	**13 00 45.0**	**+0.1**
VLS	**Valsamata**	**0.70**	**345**	P	**Pg**	**13 00 35.7**	**-1.0**
VLS				S	**Sb**	**13 00 46.8**	**+0.1**
comp=N,2μm,0.2s							
VLS	**Valsamata**	**0.70**	**345**	P	**Pg**	**13 00 35.8**	**-0.9**
VLS				S	**Sg**	**13 00 46.3**	**+0.3**
VLS				AML	AML	13 00 47.5	
comp=E,3938μm,0.2s							
VLS				AML	AML	13 00 47.8	
comp=N,3679μm,0.2s							
AMT	**Artemida-Makis**	**0.71**	**87**	P	**Pg**	**13 00 36.6**	**-0.3**
AMT				S	**Sb**	**13 00 48.0**	**+1.1**
AMT				AML	AML	13 00 49.8	
comp=E,9694μm,0.3s							
AMT				AML	AML	13 00 51.5	
comp=N,11978μm,0.4s							
RLS	**Riolos of Patr**	**0.76**	**42**	P	**Pg**	**13 00 36.7**	**-1.1**
RLS				S	**Sg**	**13 00 47.6**	**-0.3**
comp=N,462nm,0.4s							
RLS	**Riolos of Patr**	**0.76**	**42**	P	**Pg**	**13 00 36.7**	**-1.1**
RLS				S	**Sb**	**13 00 48.5**	**+0.2**
RLS				AML	AML	13 00 49.2	
comp=E,994μm,0.4s							
RLS				AML	AML	13 00 53.8	
comp=N,1116μm,0.3s							
LXRA	**Lixouri, Kepha**	**0.77**	**337**	P	**Pg**	**13 00 37.6**	**-0.3**
LXRA				S	**Sg**	**13 00 47.5**	**-0.4**
LXRA				AML	AML	13 00 51.1	
comp=E,6260μm,0.3s							
LXRA				AML	AML	13 00 54.0	
comp=N,5494μm,0.3s							
DMLN	**Damoulianata-K**	**0.82**	**335**	P	**Pg**	**13 00 38.6**	**-0.3**
DMLN				S	**Sb**	**13 00 49.9**	**-0.1**
DMLN	**Damoulianata-K**	**0.82**	**335**	P	**Pg**	**13 00 38.3**	**-0.6**
DMLN				S	**Sg**	**13 00 49.7**	**0.0**
DRO	**Drossia**	**0.84**	**57**	P	**Pg**	**13 00 38.5**	**-0.9**
DRO				S	**Sg**	**13 00 50.6**	**+0.2**
comp=N,1μm,0.3s							
DRO	**Drossia**	**0.84**	**57**	P	**Pg**	**13 00 38.5**	**-0.9**
DRO				S	**Sb**	**13 00 51.6**	**+0.9**
DRO				AML	AML	13 00 58.6	
comp=N,2214μm,0.6s							
DRO				AML	AML	13 01 01.4	
comp=E,3533μm,0.5s							
ITM	**Ithomi**	**0.94**	**109**	P	**Pb**	**13 00 41.7**	**+0.6**
ITM				S	**Sn**	**13 00 55.0**	**-0.1**
ITM				AML	AML	13 01 00.2	
comp=E,1747μm,0.4s							
ITM				AML	AML	13 01 00.5	
comp=N,1876μm,0.5s							
PYL	**PYLOS**	**0.95**	**129**	P	**Pg**	**13 00 40.5**	**-0.9**
PYL				S	**Sb**	**13 00 54.4**	**+0.7**
PYL	**PYLOS**	**0.95**	**129**	P	**Pg**	**13 00 40.4**	**-0.9**
PYL				S	**Sn**	**13 00 55.2**	**-0.2**
PYL				AML	AML	13 00 57.8	
comp=N,875μm,0.5s							
PYL				AML	AML	13 00 58.6	
comp=E,1675μm,0.4s							
FSK	**Fiskardo**	**0.98**	**348**	P	**Pg**	**13 00 41.0**	**-1.0**
FSK				S	**Sb**	**13 00 55.3**	**+0.6**
FSK	**Fiskardo**	**0.98**	**348**	P	**Pg**	**13 00 41.0**	**-1.0**
FSK				S	**Sn**	**13 00 55.8**	**-0.3**
FSK				AML	AML	13 00 58.8	
comp=N,1882μm,0.5s							
FSK				AML	AML	13 00 59.0	
comp=E

GO06	Curarrehue	3.30	116	Pn		Pn	13 16 25.2 +0.9
GO06	Curarrehue	3.30	116	*e*P		Pn	13 16 27.0 +2.7
LL05	Los Muermos	3.50	157	*e*P		Pn	13 16 28.9 +1.9
LL05				IAML			13 17 10.5
	comp=E,64nm,0.3s						
LL04	Puerto Octay	3.51	141			Pn	13 16 28.9 +1.8
LL04	Puerto Octay	3.51	141	*e*P		Pn	13 16 28.9 +1.8
LL04				IAML			13 17 09.5
	comp=N,106nm,0.3s						
BI02	San Fabin de	3.56	66	Pn		Pn	13 16 29.8 +2.0
BI02	San Fabin de	3.56	66	*e*P		Pn	13 16 30.0 +2.1
ML02	Panimavida	3.95	53	Pn		Pn	13 16 31.9 -1.3
GO05	Hualane	4.19	42	Pn		Pn	13 16 35.5 -0.9
GO05	Hualane	4.19	42	*e*P		Pn	13 16 37.5 +1.1
LL06	Loncomilla	4.21	163	Pn		Pn	13 16 37.0 +0.2
PLCA	Paso Flores	4.47	126			Pn	13 16 43.0 +2.6
BO03	Pichilemu	4.58	37	*e*P		Pn	13 16 42.8 +1.0
LL01	San Ignacio de	4.72	153			Pn	13 16 44.4 +0.6
BO02	Sierra Bellavi	4.99	48	Pn		Pn	13 16 48.5 +1.0
BO01	Tunca	5.11	43	Pn		Pn	13 16 51.1 +2.0
MT01	Popeta	5.43	38			Pn	13 16 54.8 +1.3
MT09	Talagante	5.63	40			Pn	13 16 55.7 -0.8
BO04	La Punta	5.67	44			Pn	13 16 57.3 +0.4
MT02	Curacav	5.98	36	Pn		Pn	13 17 00.5 -0.7
LMEL	Las Melosas	6.00	45			Pn	13 17 02.6 +1.1
PEL	Peldehue	6.29	38	Pn		Pn	13 17 07.1 +1.7
VA03	San Esteban	6.67	37			Pn	13 17 12.1 +1.4
CO01	Juntas del Tor	9.27	29	Pn		Pn	13 17 47.0 +0.5
LCO	Las Campanas	9.94	24	Pn		Pn	13 17 54.6 -1.0
AC05	El Transito	10.24	26	Pn		Pn	13 18 00.7 +1.1
TRQA	Tornquist	10.50	93	Pn		Pn	13 18 04.4 +1.3
HOPE	Hope Point	30.82	134	P		P	13 21 47.2 -1.1
HOPE				IAmb		IAmb	13 22 10.8
	comp=Z,43nm,1.0s						
QSPA	South Pole Qui	52.04	180	P		P	13 24 41.9 -0.2
QSPA				IAmb		IAmb	13 25 00.8
	comp=Z,2.3nm,1.2s						
MTO3	Montecristo	53.96	343	P		P	13 24 57.3 +0.5
MTO3				IAmb		IAmb	13 25 33.6
	comp=Z,5.2nm,1.3s						

DJA 03 13:18:40.0±0.3, 0°S±2°×12°0E±°, h10km, M4.0/10, mb4.2/1, MLv3.9/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	Mapaga	0.75	357	P	Pg	13 18 52.6	-2.0
APSI	Ampana	1.78	106	P	Pn	13 19 09.7	-1.1
TTSI	Tana Toraja	2.61	183	P	Pn	13 19 22.4	+0.1
LUWI	Luwuk	2.90	102	P	Pn	13 19 26.6	+0.4
SPSI	Sidrap Palu	3.52	183	P	Pn	13 19 34.5	-0.4
BNSI	Bone	3.96	178	P	Pn	13 19 41.3	+0.5
KMSI	Cibinong	4.16	76	P	Pn	13 19 43.6	0.0
BKSI	Bulukumba	4.87	178	P	Pn	13 19 52.0	-1.4

ISC 03 13:23:28.4±3.2, 26°37N±0°09×111°4W±0°3, h10km, n4, σ0§56/9, 3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NE77	Loreto B.C.S	0.36	175	*e*P	Pg	13 23 35.5	0.0
NE77				*e*S	Sg	13 23 41.1	+0.9
NE77				IAML		13 23 41.5	
	comp=E,817nm,0.3s						
NE77				⇓*e*		13 23 41.5	
UAGRB	Rancho Ultima	0.82	171	⇓*e*P	Pg	13 23 43.4	-0.7
UAGRB				*e*S	Sg	13 23 54.3	-0.4
UAGRB				*e*S	Sg	13 23 54.4	-0.4
CDOB	Cd. Obregon	1.53	47	*e*P	Pn	13 23 55.8	0.0
CDOB				*e*S	Sb	13 24 16.4	0.0
EVAR0	San Evaristo	1.58	157	*e*P	Pb	13 23 58.1	+0.3
EVAR0				*e*S	Sn	13 24 17.3	+0.3
EVAR0				IAML		13 24 21.3	
	comp=E,68nm,0.5s						
EVAR0				⇓*e*		13 24 21.3	

*IDC **03** 13:24:34.0±0.9, 9°88S×109°57E, h0km, mb4.1/13, mbtmp4.1/15, ML3.9/2, MS3.1/1, Error ellipse: s-maj=37.9km s-min=13.4km az=54.0*
*DJA **03** 13:24:34.1±0.4, 10°S±4°×10°9E±°, h10km, M4.7/20, mb4.9/6, mB5.3/3, MLv4.5/20, Mw(mB)4.7/3*
*NEIC **03** 13:24:34.6±2.8, 10°13S±0°06×109°39E±0°07, h10km±1km, mb4.5/21, Error ellipse: s-maj=13.8km s-min=7.3km az=125.0*

ISC 03 13:24:34.5±0.5, 10°13S±0°07×109°37E±0°06, h10km, n71, σ1§43/70, mb4.4/26, 1C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	Yogyakarta	2.47	22	P	Pn	13 25 13.7	-1.2
UGM	Wanagama	2.48	27		Pn	13 25 13.9	-1.1
UGM	Wanagama	2.48	27	P	Pn	13 25 12.8	-2.2
CMJI	Cimerak	2.50	339	P	Pn	13 25 13.5	-1.8
PCJI	Pacitan	2.62	43	P	Pn	13 25 15.2	-1.7
KPJI	Karang Pucung	2.81	351	P	Pn	13 25 19.9	+0.4
PWJI	Pagerwojo	3.19	49	P	Pn	13 25 24.0	-0.7
SMRI	Semarang	3.24	19		Pn	13 25 26.4	+1.0
SMRI	Semarang	3.24	19	P	Pn	13 25 26.5	+1.0
NGJI	Ngawi	3.44	37	P	Pn	13 25 29.4	+1.3
CNJI	Cibinong	3.57	321	P	Pn	13 25 29.3	-0.7
XMIS	Christmas Isla	3.68	264	Pn	Pn	13 25 32.3	+0.9
XMIS				Sn	Sn	13 26 11.6	-3.3
LEM	Lembang	3.71	332	Pn	Pn	13 25 32.8	+0.7
LEM				Sn	Sn	13 26 17.1	+1.2
	9.4nm,0.3s,baz=357,slow=22,SNR=7.6						
	14nm,0.3s,baz=162,slow=19,SNR=3.7						
	48nm,0.5s						
LEM	Lembang	3.71	332	P	Pn	13 25 32.4	+0.3
UWJI	Ujung Watu	4.00	23	P	Pn	13 25 35.5	-0.4
TBJI	Tambak Boyo	4.10	37	P	Pn	13 25 34.2	-3.1
GMJI	Gumukmas	4.42	66	P	Pn	13 25 40.2	-1.5
GRJI	Gresik	4.43	44	P	Pn	13 25 40.4	-1.4
JAGI	Jajag, Banyuwa	5.00	71		Pn	13 25 48.4	-1.2
JAGI	Jajag, Banyuwa	5.00	71	P	Pn	13 25 48.9	-0.7
ABJI	Asem Bagus	5.33	65	P	Pn	13 25 54.2	0.0
SRBI	Singaraja	6.12	71	P	Pn	13 26 03.6	-1.4
	105nm,0.9s,1μm0.4nm						
PLAI	Plampang	8.39	82	P	Pn	13 26 36.2	-0.1
	85nm,0.9s						
WBSI	Waikabubak, Su	9.88	88	P	Pn	13 26 56.4	-0.4
PSA00	Pilbara Seismi	15.19	140	Pn	Pn	13 28 07.5	-1.6
GSI	Gunungsitoli	16.34	313	P	P	13 28 27.8	+0.7
FITZ	Fitzroy Crossi	17.64	118		P	13 28 41.4	-0.1
FITZ	Fitzroy Crossi	17.64	118	P	Pn	13 28 41.0	+0.4
	0.4nm,0.3s,baz=313,slow=11,SNR=10						
FITZ				S	Sn	13 31 40.4	-17
	1.7nm,0.6s,baz=69,slow=19,SNR=2.3						
	1.3nm,0.3s						
KNRA	Kununurra	19.68	108	P	P	13 29 04.0	0.0
KNRA				IAmb	IAmb	13 29 27.5	
	comp=Z,38nm,1.5s						
NWAO	Narrogin (SRO)	23.82	163	LR	LR	13 41 22.7	
	comp=Z,44nm,18.5s,baz=236,slow=42						
WB0	Warramunga Arr	25.97	115	P	P	13 30 08.1	+0.5
WB0				IAmb	IAmb	13 30 32.7	
	comp=Z,6.9nm,1.0s						
WRA	Warramunga Arr	25.98	115	P	P	13 30 08.1	+0.5
	comp=Z,1.0nm,0.7s,baz=286,slow=11,SNR=12						
	comp=Z,1.0nm,0.7s						
WRAB	Tennant Creek	25.98	115	P	P	13 30 08.2	+0.6
WRAB				IAmb	IAmb	13 30 24.3	
	comp=Z,13nm,1.5s						
WB2	Warramunga Arr	25.99	115	P	P	13 30 07.6	-0.1
WB2				IAmb	IAmb	13 30 43.8	
	comp=Z,10nm,1.4s						
WR0	Warramunga Arr	26.16	115	P	P	13 30 09.5	+0.2
FORT	Forrest	26.91	142	P	P	13 30 15.7	-0.2
AS31	Alice Springs	27.00	123	P	P	13 30 17.4	+0.6
ASAR	Alice Springs	27.00	123	P	P	13 30 17.4	+0.6
	comp=Z,0.7nm,0.6s,baz=297,slow=9.5,SNR=13						
ASAR				PcP	PcP	13 33 40.1	+1.6
	comp=Z,0.2nm,0.5s,baz=296,slow=2.0,SNR=2.2						
	comp=Z,0.7nm,0.6s						
PHRA	Phrae	29.84	342	P	P	13 30 40.6	-1.5
CMAR	Chiang Mai Arr	30.21	340	P	P	13 30 44.9	-0.5
	comp=Z,2.5nm,0.8s,baz=175,slow=8.0,SNR=21						
	comp=Z,2.5nm,0.8s						
CHTO	Chiang Mai	30.54	340	P	P	13 30 45.4	-2.9
CHTO				IAmb	IAmb	13 30 49.0	
	comp=Z,3.5nm,0.7s						

SSLB	Suanglung	35.56	18	P	P	13 31 29.7	-2.4
H08S2	Diego Garcia H	36.51	271	T	T	14 10 23.6	
	baz=96,slow=74,SNR=11						
H08S3	Diego Garcia H	36.52	271	T	T	14 10 29.8	
	baz=96,slow=74,SNR=10						
YHNB	Yeheng	36.52	19	P	P	13 31 39.3	-1.1
H08S1	Diego Garcia H	36.52	271	T	T	14 10 30.2	
	baz=96,slow=74,SNR=9.5						
STKA	Stephens Creek	36.82	131	P	P	13 31 44.3	+1.4
	comp=Z,1.4nm,0.5s,baz=321,slow=10,SNR=3.7						
	comp=Z,1.4nm,0.5s						
PZH	PanZhiHua	37.16	349	P	P	13 31 48.8	+2.9
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
XAN	Xi'an	43.93	359	⇑P	P	13 32 45.6	+3.9
XAN				pP	pwP	13 32 58.4	+7.2
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
JMN	Monobe	49.45	27	P	P	13 33 25.1	+0.1
JMN				IAmb	IAmb	13 33 31.1	
	comp=Z,20nm,1.3s						
GTA	Gaotai	50.08	350	*e*P	P	13 33 32.1	+2.3
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSAR	Wonju Array Be	50.41	19	P	P	13 33 29.9	-2.2
KSRS	Korea Array	50.43	19	P	P	13 33 31.3	-1.0
	comp=Z,0.8nm,0.6s,baz=190,slow=8.9,SNR=4.5						
	comp=Z,0.8nm,0.6s						
HHC	Hu-ho-hao-te	50.76	2	*e*P	P	13 33 37.4	+2.5
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,100nm,4.5s						
MJAR	Matsushiro Arr	53.77	29	P	P	13 33 56.0	-1.2
	comp=Z,0.3nm,0.4s,baz=204,slow=8.0,SNR=1.9						
	comp=Z,0.3nm,0.4s						
SONM	Songino Array	57.77	358	P	P	13 34 24.6	-1.2
SONM	Songino Array	57.77	358	P	P	13 34 25.4	-0.4
	comp=Z,1.3nm,0.5s,baz=177,slow=6.4,SNR=8.1						
	comp=Z,1.3nm,0.5s						
KSH	Kashi	58.32	330	P	P	13 34 30.2	+0.3
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MK31	Makanchi Array	61.62	339	P	P	13 34 51.9	-0.4
MK31				IAmb	IAmb	13 34 54.5	
	comp=Z,2.1nm,0.6s						
MKAR	Makanchi Array	61.62	339	P	P	13 34 52.2	-0.1
	comp=Z,2.9nm,0.5s,baz=150,slow=5.8,SNR=39						
	comp=Z,2.9nm,0.5s						
HEH	HeiHe	62.16	13	*e*P	P	13 34 54.7	-1.1
KURBB	Kurchatov Arra	66.19	339	P	P	13 35 21.8	-0.5
	comp=Z,1.8nm,0.5s,baz=152,slow=6.1,SNR=23						
	comp=Z,1.8nm,0.5s						
KURK	Kurchatov	66.23	339	P	P	13 35 21.9	-0.6
KURK				IAmb	IAmb	13 35 46.9	
	comp=Z,3.5nm,0.8s						
ZALV	Zalesovo Beam	67.14	345	P	P	13 35 27.0	-1.2
ZALV	Zalesovo Beam	67.14	345	P	P	13 35 27.3	-1.0
	comp=Z,1.4nm,0.3s,baz=159,slow=6.7,SNR=11						
	comp=Z,1.4nm,0.3s						
BVAR	Borovoye Array	71.15	336	P	P	13 35 53.7	+0.5
	comp=Z,2.1nm,0.5s,baz=139,slow=9.4,SNR=10						
	comp=Z,2.1nm,0.5s						
ABKAR	Akbulak array	73.29	329	P	P	13 36 06.0	0.0
PETK	Petropavlovsk-	75.21	28	P	P	13 36 16.4	-0.9
	comp=Z,4.3nm,0.9s,baz=224,slow=6.0,SNR=5.3						
	comp=Z,4.3nm,0.9s						
QSPA	South Pole Qui	79.88	180	P	P	13 36 43.6	+0.2
QSPA				IAmb	IAmb	13 37 12.3	
	comp=Z,5.9nm,1.2s						
QSPA	South Pole Qui	79.88	180	P	P	13 36 46.0	+2.6
	comp=Z,2.2nm,1.0s,baz=313,slow=3.5,SNR=4.3						
	comp=Z,2.2nm,1.0s						
TIXI	Tiksi	82.63	6	P	P	13 36 56.5	-1.1
TIXI				IAmb	IAmb	13 37 18.2	
	comp=Z,4.8nm,1.1s						

*IDC **03** 13:46:31.5±1.2, 31°68S×179°74W, h213km±13km, mb3.8/4, mbtmp4.4/6, Error ellipse: s-maj=19.5km s-min=15.8km az=95.0*
*WEL **03** 13:46:34.4±0.6, 32°S±6°×17°9W±1°5, h150km±13km, M4.7/19, mB5.2/12, ML5.2/18, MLv5.1/19, Mw(mB)4.5/12, Error ellipse: s-maj=21.5km s-min=3.3km az=110.4, confirmed*
*NOU **03** 13:47:06.5, 35°26S×179°61W, h333km, mb4.3/7, East of North Island, N.Z.*

ISC 03 13:46:30.7±0.6, 31°90S±0°06×179°4W±0°1, h200km, n59, σ2§17/72, mb4.2/6, 4C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.93	27	S	Sn	13 47 59.0	+1.4
RAO	Raoul Island	2.94	27	P	Pn	13 47 19.0	-0.6
	107nm,0.2s,baz=316,slow=21,SNR=1.9						
RAO				S	Sn	13 48 00.2	+2.3
	331nm,0.2s,baz=77,slow=21,SNR=2.7						
RIZ	Raoul Island	2.94	26	P	Pn	13 47 19.1	-0.7
RIZ				S	Sn	13 48 01.6	+3.6
MXZ	Matakaoa Point	5.95	198	P	Pn	13 48 00.4	+3.1
MXZ				S	Sn	13 49 06.3	+0.5
MXZ	Matakaoa Point	5.95	198	P	Pn	13 48 03.2	+5.9
HAZ	Te Kaha	6.28	201	P	Pn	13 48 02.7	+1.2
HAZ				S	Sn	13 49 15.2	+1.7
PKGZ	Pakihiroa	6.30	198	P	Pn	13 48 02.5	+0.7
PKGZ				S	Sn	13 49 14.5	+0.5
PUZ	Puketiti	6.45	197	P	Pn	13 48 05.7	+2.0
PUZ				S	Sn	13 49 16.9	-0.6
RUGZ	Raukumara Rang	6.50	201	P	Pn	13 48 06.4	+1.8
RUGZ				S	Sn	13 49 17.3	-1.7
WCZ	Waipu Caves	6.56	230	P	Pn	13 48 09.9	+4.7
TWGZ	Tauwhareparae	6.62	198	P	Pn	13 48 10.3	+4.4
TWGZ				S	Sn	13 49 21.9	+0.4
OPRZ	Ohinepanea	6.79	208	P	Pn	13 48 13.1	+4.9
CNGZ	Carnagh Statio	6.85	196	P	Pn	13 48 09.9	+1.0
MKAZ	Moumakai	6.85	219	P	Pn	13 48 13.8	+4.8
MWZ	Matawai	6.89	200	P	Pn	13 48 08.6	-0.9
MWZ				S	Sn	13 49 26.0	-1.9
TKGZ	Te Karaka	6.90	198	P	Pn	13 48 13.5	+4.0
TKGZ				S	Sn	13 49 27.9	-0.1
URZ	Urewera	6.95	203	P	Pn	13 48 11.5	+1.3
	13nm,0.3s,baz=349,slow=4.9,SNR=44						
URZ				S	Sn	13 49 27.2	-2.1
	14nm,0.3s,baz=141,slow=20,SNR=11						
URZ	Urewera	6.95	203	P	Pn	13 48 10.7	+0.5
URZ				S	Sn	13 49 27.6	-1.7
URZ	Urewera	6.95	203	P	Pn	13 48 13.8	+3.6
TOZ	Tahuroa Road	7.16	214	P	Pn	13 48 20.0	+7.1
HLRZ	Highlands Stat	7.22	207	S	Sn	13 49 40.6	+4.8
MUGZ	Murupara	7.27	204	P	Pn	13 48 18.5	+4.2
PRGZ	Paritu Road	7.35	197	P	Pn	13 48 19.4	+4.0
PRGZ				S	Sn	13 49 37.9	-0.8
KNZ	Kokohu	7.49	198	P	Pn	13 48 18.7	+1.4
KNZ				S	Sn	13 49 35.8	-6.1
ALRZ	Allen Road	7.50	206	P	Pn	13 48 19.9	+2.6
MHGZ	Mahia Peninsul	7.56	196	P	Pn	13 48 22.7	+4.5
RAHZ	Arahi	7.56	201	P	Pn	13 48 21.4	+3.3
RAHZ				S	Sn	13 49 44.2	+0.6
MTHZ	Maungataniwha	7.58	203	P	Pn	13 48 21.4	+3.0
MTHZ				S	Sn	13 49 44.5	+0.3
WHHZ	Waihua	7.66	200	P	Pn	13 48 23.0	+3.5
WHHZ				S	Sn	13 49 44.3	-1.8
NMHZ	Naumai	7.81	202	P	Pn	13 48 23.8	+2.3
NMHZ				S	Sn	13 49 50.2	+0.5
ARHZ	Aropaoanui	7.91	201	P	Pn	13 48 24.8	+2.2
ARHZ				S	Sn	13 49 51.7	-0.1
BKZ	Black Stump Fm	7.98	204	P	Pn	13 48 25.8	+2.1
RATZ	Rangitukua	7.98	208	P	Pn	13 48 27.7	+4.0
HIZ	Hauiti	8.09	214	P	Pn	13 48 30.3	+5.2
HIZ	Hauiti	8.09	214	P	Pn	13 48 31.3	+6.2
MCHZ	McNeill Hill	8.16	202	P	Pn	13 48 27.5	+1.5
MCHZ				S	Sn	13 49 55.5	-2.4
TMVZ	Te Maari	8.22	208	P	Pn	13 48 29.8	+2.9
CKHZ	Cape Kidnapper	8.25	199	P	Pn	13 48 29.2	+2.1
CKHZ				S	Sn	13 49 57.6	-2.3
FWVZ	Far West T-bar	8.40	208	P	Pn	13 48 30.2	+0.9
KAHZ	Kahuranaki	8.43	200	P	Pn	13 48 29.3	-0.2
KRHZ	Kereru	8.45	203	P	Pn	13 48 30.5	+0.7
MOVZ	Moawhango	8.46	206	P	Pn	13 48 30.5	+0.6
MOVZ				S	Sn	13 50 01.5	-3.5
PXZ	Pawanui	8.65	199	P	Pn	13 48 33.4	+1.1
PXZ				S	Sn	13 50 03.2	-6.3
TSZ	Takapari Road	8.96	203	P	Pn	13 48 36.5	+0.1
TSZ				S	Sn	13 50 10.8	-6.1
SNZO	South Karori	10.51	205	P	Pn	13 48 53.9	-2.5
QRZ	Quartz Range	11.02	214	P	Pn	13 49 03.8	+0.9
KHZ	Kahutara	11.90	206	P	Pn	13 49 12.0	-2.2
ASAR	Alice Springs	41.84	269	P	P	13 53 58.6	-2.6
	1.1nm,0.4s,baz=104,slow=7.6,SNR=18						
	1.1nm,0.4s						
WRA	Warramunga Arr	42.97	275	P	P	13 54 07.7	-2.7
	2.1nm,0.3s,baz=112,slow=7.9,SNR=53						
	2.1nm,0.3s						
QSPA	South Pole Qui	58.22	180	P	P	13 56 05.6	+1.8
	7.1nm,0.5s,baz=18,slow=2.8,SNR=145						
	7.1nm,0.5s						
TROLL	Troll, Antarti	76.37	181	⇑P	P	13 57 57.4	-0.1
	comp=Z,70nm,0.3s						
SNAA	Sanae	76.69	179	⇑P	P	13 57 59.0	-0.3
	comp=Z,18nm,0.5s						
SNAA	Sanae	76.69	179	P	P	13 57 59.3	0.0
	comp=Z,0.8nm,0.5s,baz=153,slow=4.5,SNR=15						
	comp=Z,0.8nm,0.5s						
VNA3	Neumayer Olymp	76.89	177	⇑P	P	13 58 00.2	-0.2
	comp=Z,2.3nm,0.3s						
VNA2	Neumayer--Watz	77.31	177	⇑P	P	13 58 02.9	+0.3
	comp=Z,2.2nm,0.4s,baz=174,slow=5.1						
ARCES	ARCESS Array B	139.78	347	PKP	PKPdf	14 05 32.4	-1.4
	comp=Z,2.5nm,0.8s,baz=57,slow=3.3,SNR=2.2						
FINES	FINESS Array B	146.10	338	PKPbc	PKPdf	14 05 44.0	-1.1
	comp=Z,3.3nm,1.0s,baz=25,slow=4.1,SNR=16						
HFS	Hagfors	150.44	347	PKPbc	PKPbc	14 05 55.6	-2.2
	comp=Z,3.3nm,1.0s,baz=21,slow=3.9,SNR=1.9						
TORD	Torodi Ar. Bea	161.31	183	PKPab	PKPab	14 06 51.3	-1.3
	comp=Z,0.2nm,0.3s,baz=164,slow=4.1,SNR=2.1						

*IDC **03** 13:50:31.6±4.3, 18°02S×177°94W, h621km±27km, mb3.0/5, mbtmp4.1/7, Error ellipse: s-maj=117.9km s-min=33.8km az=27.0*

ISC 03 13:50:32.5±3.5, 18°5S±0°5×178°0W±0°4, h600km, n7, σ1§06/7, mb3.7/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.79	281	P	P	13 51 57.5	+0.8
	10nm,0.6s,baz=73,slow=18,SNR=7.6						
DZM	Mont Dzumac	14.99	254	P	P	13 53 41.7	+1.0
	17nm,1.2s,baz=76,slow=15,SNR=3.3						
STKA	Stephens Creek	38.67	242	P	P	13 57 06.8	+0.4
	2.1nm,0.7s,baz=76,slow=8.3,SNR=3.3						
	2.1nm,0.7s						
WRA	Warramunga Arr	44.88	260	P	P	13 57 54.3	-1.0
	0.9nm,0.3s,baz=96,slow=7.9,SNR=9.0						
	0.9nm,0.3s						
ASAR	Alice Springs	44.98	255	P	P	13 57 55.2	-0.8
	2.4nm,0.5s,baz=93,slow=7.8,SNR=29						
	2.4nm,0.5s						
FITZ	Fitzroy Crossi	53.28	261	P	P	13 58 55.9	-1.2
	1.5nm,0.8s,baz=90,slow=7.9,SNR=1.4						
	1.5nm,0.8s						
QSPA	South Pole Qui	71.58	180	P	P	14 00 54.2	+0.1
	0.7nm,1.0s,baz=140,slow=7.9,SNR=5.2						
	0.7nm,1.0s						

*IDC **03** 13:53:01.6±0.7, 0°21S×125°52E, h0km, mb3.9/13, mbtmp3.9/15, ML3.7/2, Error ellipse: s-maj=31.8km s-min=13.8km az=75.0*
*DJA **03** 13:53:08.8±1.6, 0°S±3°×12°6E±°, h27km±15km, M4.4/14, mb4.6/6, mB4.6/1, MLv4.3/14, Mw(mB)3.9/1, MwMwp6.4/1, Mwp6.4/1*

ISC 03 13:53:09.1±0.6, 0°29S±0°06×125°65E±0°05, h57km, n28, σ1§61/30, mb3.9/13, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	1.78	169	P	Pn	13 53 35.1	-2.5
SANI				S	Sn	13 54 02.2	+3.0
KMSI	Cibinong	1.87	297	P	Pn	13 53 37.2	-1.7
LBMI	Labuha	1.89	101	P	Pn	13 53 40.0	+1.0
LBMI				S	Sn	13 54 03.0	+1.3
TNTI	Ternate	2.02	59	P	Pn	13 53 41.4	+0.6
LUWI	Luwuk	2.97	255	P	Pn	13 53 56.3	+2.5
NLAI	Namlea	3.27	154	P	Pn	13 53 57.5	-0.5
APSI	Ampana	4.05	261	P	Pn	13 54 11.8	+3.2
MSAI	Masohi	4.47	133	P	Pn	13 54 14.9	+0.5
MPSI	Mapaga	5.78	276	P	Pn	13 54 32.8	+0.4
TTSI	Tana Toraja	6.44	245	P	Pn	13 54 40.2	-1.2
BNSI	Bone	6.88	233	P	Pn	13 54 47.7	+0.3
SPSI	Sidrap Palu	6.92	238	P	Pn	13 54 47.8	-0.1
KAPI	Kappang	7.53	231	Pn	Pn	13 54 52.8	-3.5
	0.8nm,0.3s,baz=39,slow=14,SNR=1.9						
	2.3nm,0.3s						
FITZ	Fitzroy Crossi	17.70	180	P	Pn	13 57 10.5	-1.3
	0.2nm,0.3s,baz=16,slow=8.1,SNR=6.1						
	1.4nm,0.6s						
WRA	Warramunga Arr	21.31	157	P	P	13 57 50.3	-1.0
	4.8nm,0.9s,baz=335,slow=11,SNR=29						
	4.8nm,0.9s						
ASAR	Alice Springs	24.58	162	P	P	13 58 24.6	+0.5
	1.2nm,0.5s,baz=345,slow=8.4,SNR=14						
	1.2nm,0.5s						
CMAR	Chiang Mai Arr	32.18	307	P	P	13 59 31.1	-0.8
	0.2nm,0.3s,baz=128,slow=5.8,SNR=1.9						
	0.2nm,0.3s						
STKA	Stephens Creek

PB15	IPOC Station P	1.41	104	⇓eP		Pn	14 24 59.8 -0.1
PB15				eS		Sb	14 25 18.5 -0.2
PB14	IPOC Station P	1.82	164			Pn	14 25 05.7 -0.1
PB14	IPOC Station P	1.82	164	⇑eP		Pn	14 25 05.7 -0.1
PB14				eS		Sn	14 25 27.9 -1.4
LVC	Limon Verde	1.91	83			Pn	14 25 07.6 +0.7
LVC	Limon Verde	1.91	83	Pn		Pn	14 25 06.9 +0.1
	comp=E,94nm,0.3s,baz=264,slow=6.4,SNR=290						
LVC				Sn		Sn	14 25 31.1 -0.2
	comp=E,233nm,0.3s,baz=31,slow=2.5,SNR=30						
LVC	Limon Verde	1.91	83	⇑eP		Pn	14 25 07.6 +0.7
LVC				eS		Sb	14 25 32.5 -0.6
LVC				IAML			14 25 37.4
	comp=E,4μm,0.4s						
LVC	Limon Verde	1.91	83	eP		Pn	14 25 07.6 +0.7
PB09	IPOC Station P	1.91	56			Pn	14 25 07.0 +0.2
PB09	IPOC Station P	1.91	56	eP		Pn	14 25 07.0 +0.2
PB09				eS		Sb	14 25 32.4 -0.7
PB09				IAML			14 25 43.0
	comp=E,1μm,0.5s						
PATCX	Punta Patache	2.17	20			Pn	14 25 09.1 -1.1
PATCX				Sg		Sg	14 25 43.7 +0.5
PATCX	Punta Patache	2.17	20	⇑eP		Pn	14 25 09.1 -1.1
PATCX				eS		Sn	14 25 38.1 +0.7
PB01	IPOC Station P	2.27	37			Pn	14 25 12.5 +0.8
PB01	IPOC Station P	2.27	37	eS		Sn	14 25 40.0 +0.1
PB01				IAML			14 25 50.1
	comp=E,667nm,0.4s						
TA01	Diego Aracena	2.40	18			Pn	14 25 12.1 -1.3
TA01	Diego Aracena	2.40	18	IAML			14 25 56.2
	comp=N,617nm,0.5s						
GO02	Mina Guanaco	2.61	152			Pn	14 25 18.0 +1.5
GO02	Mina Guanaco	2.61	152	⇑iP		Pn	14 25 18.0 +1.5
GO02				eS		Sn	14 25 48.9 +0.3
HMBC	Humberstone	2.76	21			Pn	14 25 16.9 -1.5
HMBC	Humberstone	2.76	21	⇓iP		Pn	14 25 17.5 -0.9
HMBC				eS		Sn	14 25 53.0 +0.8
HMBC				IAML			14 26 09.7
	comp=N,954nm,0.7s						
PB08	IPOC Station P	3.19	32			Pn	14 25 24.9 +0.4
PB08	IPOC Station P	3.19	32	⇓eP		Pn	14 25 25.2 +0.7
PB08				IAML			14 26 18.9
	comp=N,268nm,0.6s						
PB11	IPOC Station P	3.32	22	Pn		Pn	14 25 25.8 -0.3
PB11	IPOC Station P	3.32	22	eP		Pn	14 25 25.6 -0.5
PB11				eS		Sn	14 26 07.0 +1.1
PB11				IAML			14 26 27.2
	comp=N,475nm,0.7s						
GO01	Chusmiza	3.58	28			Pn	14 25 30.8 +0.8
AC06	Mina Casimiro	4.51	173	Pn		Pn	14 25 41.7 -0.7
LCO	Las Campanas	6.13	178			Pn	14 26 06.1 +1.2
LPAZ	La Paz	7.06	23			Pn	14 26 16.8 -1.2
LPAZ	La Paz	7.06	23	Pn		Pn	14 26 20.5 +2.4
	comp=N,1.9nm,0.3s,baz=210,slow=6.1,SNR=36						
LPAZ				LR		LR	14 29 25.0
	comp=N,177nm,18.2s,baz=196,slow=41						
	comp=N,3.9nm,0.4s						
LPAZ	La Paz	7.06	23	eP		Pn	14 26 21.0 +2.9
MT02	Curacav	10.36	181	Pn		Pn	14 27 00.9 -1.7
SIV	San Ignacio	11.56	55	Pn		Pn	14 27 18.0 -1.2
	comp=N,0.1nm,0.3s,baz=233,slow=12,SNR=19						
	comp=N,3.9nm,0.6s						
MURT	Porto Murtinho	12.42	87	eP		Pn	14 27 31.2 +0.3
H03N1	Juan Fernandez	12.65	212	T		T	14 40 43.6
	baz=39,slow=71						
H03N2	Juan Fernandez	12.66	212	T		T	14 40 40.0
	baz=39,slow=71						
H03N3	Juan Fernandez	12.67	212	T		T	14 40 37.9
	baz=39,slow=71						
VILB	Vilhena	14.20	48	eP		Pn	14 27 59.2 +3.9
TRQA	Tornquist	16.99	155	P		P	14 28 34.0 +0.2
PLCA	Paso Flores	17.82	179	P		P	14 28 43.6 +0.7
	baz=337,slow=13,SNR=2.0						
PLCA				LR		LR	14 36 21.3
	comp=N,58nm,19.4s,baz=354,slow=40						
	comp=N,1.5nm,0.9s						
ARAG	Araguaiana, MT	19.41	72	eP		P	14 29 00.3 -0.2
SNDB	Serra Nova Dou	21.63	63	eP		P	14 29 23.7 -1.0
NPGB	Novo Progresso	21.74	46	eP		P	14 29 25.4 -0.5
IPMB	Ipameri, GO	21.85	81	eP		P	14 29 27.2 +0.1
MACA	Manacapuru-AM	21.97	28	eP		P	14 29 28.9 +0.6
VAO	Valinhos	22.09	95	eP		P	14 29 27.1 -2.6
BDFB	Brasilia	22.80	76	P		P	14 29 37.2 -0.1
	comp=N,2.1nm,0.4s,baz=251,slow=3.6,SNR=4.5						
	comp=N,2.1nm,0.4s						
ITTB	Itaituba	23.55	41	eP		P	14 29 43.5 -1.3
DIAM	Diamantina, MG	25.92	85	eP		P	14 30 05.2 -1.7
JANB	Januaria	26.34	78	eP		P	14 30 09.5 -1.0
SMTB	Santa Maria do	26.38	62	eP		P	14 30 10.3 -0.6
SDBA	SAO DESIDERIO	26.87	72	eP		P	14 30 14.4 -1.0
BOAV	Boa Vista	27.09	23	eP		P	14 30 16.8 -0.4
GUA01	Guaratinga, BA	29.94	84	eP		P	14 30 41.9 -0.8
MDP	Montagnes des	33.06	35	LR		LR	14 44 27.5
	comp=N,51nm,19.9s,baz=280,slow=36						
NBLA	Lagarto - SE	33.77	75	eP		P	14 31 12.5 -3.8
VNA3	Neumayer Olymp	59.41	161	⇑P		P	14 34 36.8 +0.3
	comp=Z,1.4nm,0.8s						
VNA2	Neumayer--Watz	60.01	160	⇑P		P	14 34 41.2 +0.5
	comp=Z,1.9nm,1.3s,baz=292,slow=5.0						
SNAA	Sanae	61.62	161	P		P	14 34 50.9 -0.8
SNAA	Sanae	61.62	161	⇑P		P	14 34 51.9 +0.2
	comp=Z,28nm,0.7s						
SNAA	Sanae	61.62	161	P		P	14 34 52.5 +0.8
	comp=Z,1.1nm,0.7s,baz=271,slow=8.7,SNR=9.8						
	comp=Z,1.1nm,0.7s						
TROLL	Troll, Antarti	63.34	161	⇑P		P	14 35 02.5 -0.7
	comp=Z,28nm,0.5s						
QSPA	South Pole Qui	67.33	180	P		P	14 35 31.1 +1.9
QSPA				IAmb		IAmb	14 35 56.9
	comp=Z,1.4nm,1.1s						
QSPA	South Pole Qui	67.33	180	P		P	14 35 30.6 +1.4
	comp=Z,1.0nm,0.5s,baz=322,slow=0.8,SNR=24						
	comp=Z,1.0nm,0.5s						
TORD	Torodi Ar. Bea	79.59	71	P		P	14 36 41.6 -0.5
	comp=Z,1.4nm,0.7s,baz=255,slow=5.1,SNR=6.5						
	comp=Z,1.4nm,0.7s						
MAW	Mawson	83.56	164	P		P	14 37 03.1 +1.0
	comp=Z,1.2nm,0.8s,baz=270,slow=9.1,SNR=3.0						
	comp=Z,1.2nm,0.8s						
WRA	Warramunga Arr	130.81	212	PKP		PKiKP	14 43 47.3 -0.2
	comp=Z,0.4nm,0.7s,baz=150,slow=1.7,SNR=4.7						
ZALV	Zalesovo Beam	143.98	24	PKP		PKPdf	14 44 10.2 +0.5
	comp=Z,0.5nm,0.5s,baz=277,slow=1.2,SNR=2.2						
MKAR	Makanchi Array	147.84	36	PKPbc		PKPbc	14 44 20.1 +0.6
	comp=Z,1.0nm,0.8s,baz=308,slow=3.2,SNR=5.9						

*IDC **03** 14:30:22.8±1.0, 30.°17N×87.°64E, h0km, mb3.7/8, mbtmp3.7/10, ML3.6/2, Error ellipse: s-maj=55.4km s-min=18.8km az=58.0*

ISC 03 14:30:28.6±1.0, 30.°3N±0.°2×87.°8E±0.°3, h41km, n10, σ0.°81/10, mb3.7/8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.53	137	Pn	Pn	14 34 03.9	-0.8
	0.2nm,0.3s,baz=332,slow=12,SNR=7.2						
	0.5nm,0.3s						
MKAR	Makanchi Array	17.03	347	P	Pn	14 34 22.4	-1.2
	baz=162,slow=11,SNR=3.4						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	21.47	344	P	P	14 35 13.3	-0.1
	1.2nm,0.3s,baz=174,slow=9.3,SNR=1.7						
	1.2nm,0.3s						
ZALV	Zalesovo Beam	23.74	356	P	P	14 35 38.2	+1.4
	0.8nm,0.6s,baz=190,slow=11,SNR=4.6						
	0.8nm,0.6s						
ARCES	ARCESS Array B	52.33	337	P	P	14 39 36.3	+0.5
	1.2nm,0.7s,baz=113,slow=8.0,SNR=5.0						
	1.2nm,0.7s						
HFS	Hagfors	56.43	325	P	P	14 40 05.9	+0.1
	1.3nm,0.6s,baz=77,slow=6.4,SNR=1.8						
	1.3nm,0.6s						
NOA	NORSAR Array B	57.59	326	P	P	14 40 13.6	-0.5
	0.6nm,0.7s,baz=85,slow=7.4,SNR=2.2						
	0.6nm,0.7s						
WRA	Warramunga Arr	67.06	132	P	P	14 41 18.3	+0.4
	0.3nm,0.7s,baz=325,slow=6.9,SNR=7.9						
	0.3nm,0.7s						
ASAR	Alice Springs	69.53	135	P	P	14 41 33.6	+0.3
	0.4nm,0.8s,baz=310,slow=5.9,SNR=2.6						
	0.4nm,0.8s						
TORD	Torodi Ar. Bea	80.19	279	P	P	14 42 35.2	0.0
	0.5nm,0.5s,baz=56,slow=5.9,SNR=2.6						
	0.5nm,0.5s						

IDC 03 14:56:23.0±294.0, 53.°95N×42.°45E, h0km, Error ellipse: s-maj=127.4km s-min=83.1km az=147.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	4.08	315	I	I	15 22 20.0	
	baz=132,slow=322,SNR=1.7						
I31KZ	AKTYUBINSK INF	10.20	104	I	I	15 57 50.5	
	0.4nm,1.0s,baz=300,slow=291,SNR=29						
I46RU	ZALESOVO INFRA	24.67	73	I	I	17 26 40.0	
	baz=286,slow=306,SNR=2.2						

IDC 03 15:12:24.8±1.9, 11.°46S×165.°18E, h0km, mb3.6/3, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=43.1km s-min=32.3km az=106.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	10.63	174	Pn	Pn	15 14 58.6	+0.1
	0.5nm,0.3s,baz=291,slow=16,SNR=17						
DZM				Sn	Sn	15 16 59.1	+0.8
	0.2nm,0.3s,baz=290,slow=13,SNR=1.7						
	5.6nm,0.9s						
WRA	Warramunga Arr	30.83	250	P	P	15 18 42.9	+0.1
	1.2nm,0.6s,baz=82,slow=9.0,SNR=13						
	1.2nm,0.6s						
ASAR	Alice Springs	32.12	244	P	P	15 18 54.0	-0.1
	0.3nm,0.5s,baz=63,slow=10,SNR=6.9						
	0.3nm,0.5s						
ILAR	Eielson Array	84.07	19	P	P	15 24 57.1	0.0
	0.1nm,0.5s,baz=208,slow=5.6,SNR=1.4						
	0.1nm,0.5s						

*IDC **03** 15:28:27.0±1.5, 15.°32S×66.°41E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=50.5km s-min=27.5km az=76.0*

ISC 03 15:28:28.8±1.5, 15.°3S±0.°2×66.°4E±0.°4, h10km, n18, σ0.°82/7, mb3.9/8, 2C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	9.65	38	T	T	15 39 57.0	
	baz=216,slow=75,SNR=194						
H08S2	Diego Garcia H	9.66	39	T	T	15 39 56.6	
	baz=216,slow=75,SNR=230						
H08S3	Diego Garcia H	9.67	38	T	T	15 39 58.6	
	baz=216,slow=75,SNR=157						
H04N2	CROZET ISLANDS	33.11	199	T	T	16 10 39.5	
	baz=28,slow=75,SNR=30						
H04N1	CROZET ISLANDS	33.11	199	T	T	16 10 43.9	
	baz=28,slow=75,SNR=29						
H04N3	CROZET ISLANDS	33.13	199	T	T	16 10 47.4	
	baz=28,slow=75,SNR=34						
CMAR	Chiang Mai Arr	46.39	45	P	P	15 36 56.0	+0.3
	0.6nm,0.6s,baz=236,slow=9.2,SNR=5.8						
	0.6nm,0.6s						
H01W3	Cape Leeuwin H	46.90	124	T	T	16 26 52.3	
	baz=284,slow=75,SNR=9.7						
H01W2	Cape Leeuwin H	46.90	124	T	T	16 26 52.4	
	baz=284,slow=75,SNR=11						
H01W1	Cape Leeuwin H	46.91	124	T	T	16 26 53.5	
	baz=284,slow=75,SNR=11						
ASAR	Alice Springs	63.66	109	P	P	15 39 00.3	-0.4
	0.4nm,0.8s,baz=273,slow=6.4,SNR=4.1						
	0.4nm,0.8s						
WRA	Warramunga Arr	64.51	105	P	P	15 39 06.6	+0.2
	0.7nm,0.8s,baz=272,slow=6.3,SNR=7.2						
	0.7nm,0.8s						
KURBB	Kurchatov Arra	66.51	8	P	P	15 39 17.1	-1.4
	0.3nm,0.3s,baz=206,slow=6.2,SNR=1.9						
	0.3nm,0.3s						
BVAR	Borovoye Array	68.14	3	P	P	15 39 29.4	+0.6
	0.7nm,0.7s,baz=166,slow=8.3,SNR=3.9						
	0.7nm,0.7s						
VNA2	Neumayer--Watz	70.35	200	⇑P	P	15 39 49.2	+6.8
	baz=80,slow=6.8						
ZALV	Zalesovo Beam	70.76	11	P	P	15 39 45.4	+0.4
	0.4nm,0.6s,baz=194,slow=5.7,SNR=1.9						
	0.4nm,0.6s						
VNA3	Neumayer Olymp	71.13	199	⇑P	P	15 39 53.9	+6.7
	comp=Z,1.8nm,0.7s						
QSPA	South Pole Qui	74.77	180	P	P	15 40 09.0	+0.1
	comp=Z,1.0nm,1.0s,baz=266,slow=4.6,SNR=1.3						
	comp=Z,1.0nm,1.0s						

*TRN **03** 15:38:35.4, 10.°57N×62.°37W, h3km, MD3.1, Paria peninsula.*
*FUNV **03** 15:38:36.3, 10.°53N×62.°35W, h5km, MW3.3*

ISC 03 15:38:32.3±1.7, 10.°52N±0.°08×62.°38W±0.°04, h3km±14km, n11, σ0.°84/19, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSKH	Kent House, Po	0.86	79	eP	Pn	15 38 51.9	+0.6
PSKH				eS	Sn	15 39 03.8	-0.6
PSGH	Port of Spain	0.87	80	eP	Pn	15 38 52.3	+0.8
PSGH				eS	Sn	15 39 04.3	-0.4
TRN	Trinidad (W)	0.97	82	eP	Pn	15 38 53.8	+0.9
TRN				eS	Sn	15 39 07.5	+0.3
GRFF	Grenada Fort F	1.65	22	eS	Sg	15 39 26.2	+0.9
GRGR	Grenville	1.76	24	eP	Pg	15 39 05.8	-0.3
GRGR				eS	Sg	15 39 28.8	0.0
GRW	Mount Saint Ca	1.78	23	eS	Sg	15 39 30.0	+0.4
TOSP	Speyside	1.97	67	eP	Pg	15 39 09.7	-0.4
TOSP				eS	Sg	15 39 35.6	-0.1
GCMP	Grenada, Carri	2.17	25	eP	Pg	15 39 13.4	-0.6
GCMP				eS	Sb	15 39 39.1	-0.5
PCRV	Puerto La Cruz	2.25	262	eP	Pb	15 39 12.9	-0.8
PCRV				eS	Sb	15 39 41.1	-0.8
PCRV	Puerto La Cruz	2.25	262	eP	Pb	15 39 14.0	+0.3
BAUV	El Baul	5.80	255	eP	Pn	15 40 01.2	+1.8
BAUV				eS	Sn	15 41 05.1	-1.3

*MOS **03** 15:58:31.3±1.0, 3.°50S×102.°00E, h43km, mb6.0/106, Error ellipse: s-maj=6.7km s-min=3.3km az=115.8*
*NEIC **03** 15:58:32.3, 3.°76S×101.°84E, h46km*
*NEIC **03** 15:58:32.9±2.8, 3.°76S±0.°06×101.°82E±0.°06, h46km±4km, mb5.8/225, Mww5.2/13, Error ellipse: s-maj=9.9km s-min=8.5km az=48.0*
*NEIC **03** 15:58:32.3, 3.°76S×101.°74E, h46km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{16}Nm; M_{rr}5.07; $M_{\theta\theta}$-2.09; $M_{\phi\phi}$-2.99; $M_{r\theta}$6.70; $M_{\theta\phi}$2.71; $M_{\phi r}$-2.41; Fault plane solution: $M_0$8.79000×10^{16} NP1: ϕ_s116.75000°, δ72.93000°, λ75.91000°. NP2: ϕ_s337.27000°, δ22.00000°, λ128.40000°. Principal axes: T 9.1335, Plg60.0000°, Azm7.0000°; N -0.6865, Plg13.0000°, Azm121.0000°; P -8.4470, Plg27.0000°, Azm218.0000°;*
*IDC **03** 15:58:34.0±1.2, 3.°60S×102.°00E, h56km±10km, mb5.4/39, mbtmp5.7/41, MS4.4/62 Error ellipse: s-maj=10.8km s-min=8.2km az=57.0*
*DJA **03** 15:58:34.0±0.2, 4.°S±1.°×10.°2E±.°, h62km±2km, M5.3/129, mb5.7/129, mB5.8/85, MLv5.9/25, Mw5.3/157, Mw(mB)5.4/85, MwMwp5.0/42, Mwp5.3/42*
*GCMT **03** 15:58:35.9±0.1, 3.°89S±0.°01×101.°68E±0.°01, h53km, MW5.3/123, Moment Tensor Solution. s118,c199; s123,c218; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}1.01±.02; $M_{\theta\theta}$-0.49±.01; $M_{\phi\phi}$-0.52±.01; $M_{r\theta}$0.56±.01; $M_{\theta\phi}$0.52±.01; $M_{\phi r}$-0.32±.01; Best double couple: $M_0$1.20600×10^{17} NP1:ϕ_s127.00000°, δ61.00000°, λ82.00000°. NP2:ϕ_s324.00000°, δ30.00000°, λ105.00000°. Principal axes: T 1.2100, Plg72.0000°, Azm18.0000°; N -0.0050, Plg7.0000°, Azm131.0000°; P -1.2020, Plg16.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 15:58:33.0±0.2, 3.°72S±0.°03×101.°90E±0.°03, h52km±1km, h53km:pP-P, n1355, σ1.°30/1400, mb5.7/355, MS4.5/91, 125C-49D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	0.69	85	P	Pn	15 58 48.4	+1.6
KSI				S	Sn	15 58 59.1	+2.2
PPSI	Pulau Pagai	2.11	297	P	Pn	15 59 07.1	+1.2
LWLI	Liwa	2.51	121	P	Pn	15 59 12.9	+1.4
PMBI	Palembang	2.97	75	Pn	Pn	15 59 19.3	+1.6
PMBI				Sn	Sn	15 59 54.4	+2.2
PMBI	Palembang	2.97	75	P	Pn	15 59 19.0	+1.3
PMBI	Palembang	2.97	75	P	Pn	15 59 19.5	+1.8
PDSI	Padang	3.13	333	P	Pn	15 59 21.4	+1.4
KASI	Kota Agung	3.15	125	P	Pn	15 59 21.7	+1.6
SISI	Saibi	3.68	310	P	Pn	15 59 28.5	+1.1
BLSI	Bandar Lampung	3.72	116	P	Pn	15 59 30.3	+2.4
BKNI	Bangkinang	4.11	348	Pn	Pn	15 59 33.7	+0.4
BKNI	Bangkinang	4.11	348	P	Pn	15 59 35.8	+2.5
PPBI	Pangkal Pinang	4.50	70	P	Pn	15 59 41.0	+2.3
PBSI	Pulau Batu	5.13	315	P	Pn	15 59 48.6	+1.3
	1μm,1.1s,14μm9μm						
TPRI	Tanjung Pinang	5.30	30	P	Pn	15 59 53.1	+3.5
TNG	Tangerang	5.32	117	P	Pn	15 59 53.4	+3.5
TNG				P	Pn	15 59 53.0	+3.1
BTDF	Bukit Timah Da	5.38	20	P	Pn	15 59 54.4	+3.7
DBJI	Dramaga	5.59	120	P	Pn	15 59 56.2	+2.5
	1μm,1.3s,14μm6.6nm						
SKJI	Sukabumi	5.67	125	P	Pn	15 59 56.3	+1.6
	1μm,1.1s,15μm						
MYKOM	Kota Tinggi	5.81	20	Pn	Pn	15 59 59.8	+3.2
MYKOM	Kota Tinggi	5.81	20	P	Pn	16 00 00.7	+4.1
TPI	Tanjungpandan	5.82	81	P	Pn	15 59 58.5	+1.7
	319nm,0.8s,9μm4.9nm						
CNJI	Cibinong	6.31	125	P	Pn	16 00 03.6	+0.1
LEM	Lembang	6.48	119	P	Pn	16 00 07.5	+1.5
	78nm,0.7s,baz=231,slow=8.2,SNR=22						
LEM				S	Sn	16 01 19.0	+0.4
	544nm,1.0s,baz=249,slow=16,SNR=1.4						
LEM				LR		LR	16 02 57.0
	comp=Z,5μm,21.0s,baz=288,slow=41						
LEM	Lembang	6.48	119	P	Pn	16 00 08.7	+2.8
	836nm,1.1s,9μm2.8nm						
GSI	Gunungsitoli	6.60	319	Pn	Pn	16 00 07.9	+0.4
GSI	Gunungsitoli	6.60	319	P	Pn	16 00 08.2	+0.7
GSI	Gunungsitoli	6.60	319	P	Pn	16 00 07.8	+0.4
	482nm,0.5s,12μm7μm						
BBJI	Bungbulang	6.83	123	P	Pn	16 00 11.7	+1.1
JCJI	Jatiwangi	6.92	114	P	Pn	16 00 15.4	+3.6
	480nm,0.7s,9μm5μm3.6nm						
RPSI	Rantau Prapat	7.03	335	Pn	Pn	16 00 14.4	+1.0
PSI	Prapat	7.12	335	P	Pn	16 00 15.0	+0.2
PSI	Prapat	7.12	335	P	Pn	16 00 14.4	-0.4
CMJI	Cimerak	7.67	122	P	Pn	16 00 22.2	+0.1
	454nm,0.8s,7μm2.1nm						
XMIS	Christmas Isla	7.68	151	Pn	Pn	16 00 16.2	-6.1
KPJI	Karang Pucung	7.87	117	P	Pn	16 00 27.2	+2.4
	285nm,1.0s,4μm1.1nm						
SNSI	Sinabang, Aceh	8.25	317	P	Pn	16 00 30.7	+0.6
KCSI	Kotacane, Aceh	8.29	330	P	Pn	16 00 31.3	+0.6
	207nm,0.7s,4μm						
KULM	Kulim	9.03	352	Pn	Pn	16 00 42.0	+1.1
KULM	Kulim	9.03	352	P	Pn	16 00 43.8	+3.0
SMRI	Semarang	9.12	112		Pn	16 00 45.9	+3.8
SMRI	Semarang	9.12	112	P	Pn	16 00 45.5	+3.4
SMRI	Semarang	9.12	112	P	Pn	16 00 45.5	+3.4
	522nm,0.7s,6μm						
YOGI	Yogyakarta	9.29	116	P	Pn	16 00 45.1	+0.7
	306nm,1.0s,3μm						
UWJI	Ujung Watu	9.40	107	P	Pn	16 00 50.9	+5.0
	343nm,1.0s,3μm						
UGM	Wanagama	9.54	116	Pn	Pn	16 00 49.1	+1.4
UGM	Wanagama	9.54	116	P	Pn	16 00 48.8	+1.0
UGM	Wanagama	9.54	116	P	Pn	16 00 49.1	+1.4
	390nm,0.6s,4μm						
MLSI	Meulaboh, Aceh	9.65	325	P	Pn	16 00 49.9	+0.7
COCO	West Island	9.80	210	Pn	Pn	16 00 49.8	-1.5
COCO	West Island	9.80	210	P	Pn	16 00 50.1	-1.2
KSM	Kuching	9.86	59	Pn	Pn	16 00 55.3	+3.2
KSM	Kuching	9.86	59	P	Pn	16 00 54.2	+2.1
LHMI	Lhok Sumawe	10.17	331	Pn	Pn	16 00 55.8	-0.6
LHMI	Lhok Sumawe	10.17	331	P	Pn	16 00 58.5	+2.1
LHMI	Lhok Sumawe	10.17	331	P	Pn	16 00 58.0	+1.6
	216nm,0.9s,4μm						
NGJI	Ngawi	10.18	111	P	Pn	16 00 59.8	+3.2
	306nm,1.3s						
PCJI	Pacitan	10.24	116	P	Pn	16 00 57.6	+0.2
	199nm,0.7s,4μm						
STKI	Sintang	10.28	69	P	Pn	16 01 01.3	+3.4
	285nm,1.0s,5μm						
TBJI	Tambak Boyo	10.37	108	P	Pn	16 01 01.0	+1.8
	299nm,1.0s,3μm						
PWJI	Pagerwojo	10.74	114	P	Pn	16 01 04.9	+0.7
	196nm,0.8s,3μm						
GRJI	Gresik	11.00	107	P	Pn	16 01 09.9	+2.1
	852nm,1.2s,8μm4μm						
BSI	Banda Aceh	11.28	324	P	Pn	16 01 10.5	-1.1
	391nm,0.8s,3μm						
SBUM	Sibu	11.99	59		Pn	16 01 25.9	+4.5
SBUM	Sibu	11.99	59	P	Pn	16 01 25.5	+4.1
GMJI	Gumukmas	12.34	112	P	Pn	16 01 26.3	+0.3
	103nm,0.8s,2μm						
SRIT	Nakonsritamara	12.44	349		Pn	16 01 29.4	+1.9
KMMI	Kalianget	12.46	106	P	Pn	16 01 28.9	+1.2
	329nm,1.4s,4μm						
ABJI	Asem Bagus	12.92	109	P	Pn	16 01 36.4	+2.4
JAGI	Jajag, Banyuwa	13.06	112	Pn	Pn	16 01 35.3	-0.7
JAGI	Jajag, Banyuwa	13.06	112	P	Pn	16 01 34.7	-1.3
JAGI	Jajag, Banyuwa	13.06	112	P	Pn	16 01 34.9	-1.1
	400nm,0.8s,5μm						
MTKI	Muara Teweh, K	13.27	78	P	Pn	16 01 42.6	+3.8
	399nm,0.9s,6μm4μm						
SRBI	Singaraja	13.93	109	P	Pn	16 01 48.0	+0.2
	277nm,0.6s,4μm						
DNP	Denpasar	14.12	111	P	Pn	16 01 48.6	-1.7
	695nm,0.8s						
BKB	Balikpapan	15.18	81	Pn	Pn

comp=Z,116nm,1.0s,baz=188,slow=8.3,SNR=94
CMAR PcP **PcP** **16 07 21.6 +1.2**
comp=Z,12nm,0.7s,baz=210,slow=3.1,SNR=12
CMAR ScP **ScP** **16 10 53.8 +0.1**
comp=Z,2.4nm,0.8s,baz=212,slow=3.2,SNR=4.8
comp=Z,116nm,1.0s
GIRL Giralia 22.29 149 P **P** **16 03 25.6 -0.4**
KMSI Cibinong 22.47 80 P **P** **16 03 27.7 -0.4**
BATI Baumata 22.53 108 P **P** **16 03 27.6 -1.2**
comp=Z,121nm,0.5s,baz=260,slow=1.5,SNR=16
BATI S **S** **16 07 24.5 -8.1**
comp=Z,137nm,0.7s,baz=305,slow=5.5,SNR=7.4
comp=Z,121nm,0.5s
BATI Baumata 22.53 108 P **P** **16 03 26.4 -2.4**
comp=Z,318nm,0.7s,comp=Z,3μm
CHTO Chiang Mai 22.58 353 P **P** **16 03 28.1 -1.0**
CHTO **PcP** **16 07 21.6 +0.4**
CHTO Chiang Mai 22.58 353 P **P** **16 03 28.1 -1.0**
CHTO pmax pmax
comp=Z,90nm,0.8s
SOEI Soe 23.00 106 P **P** **16 03 31.4 -2.4**
SOEI IAmb IAmb 16 03 46.5
comp=Z,188nm,0.8s
SOEI Soe 23.00 106 P **P** **16 03 30.6 -3.1**
comp=Z,248nm,0.9s,comp=Z,3μm
QIZ Qiongzhong 23.92 19 IAmb IAmb 16 03 46.1
comp=Z,708nm,1.6s
QIZ Qiongzhong 23.92 19 P **P** **16 03 43.1 +0.9**
QIZ pP **sP** **16 03 58.8 -2.9**
QIZ sP **pP** **16 04 01.2 +5.8**
QIZ pmax pmax
comp=Z,250nm,0.9s
QIZ LR LR
comp=Z,740nm,24.3s
QIZ LR LR
comp=Z,710nm,24.1s
QIZ LR LR
comp=Z,1μm,36.2s
QIZ Qiongzhong 23.92 19 P **P** **16 03 43.1 +0.9**
SANI Sanana 24.11 87 P **P** **16 03 44.0 -0.1**
SANI Sanana 24.11 87 P **P** **16 03 43.5 -0.6**
comp=Z,259nm,1.0s,comp=Z,3μmcomp=Z,2μm
MBWA Marble Bar 24.52 136 P **P** **16 03 45.7 -2.0**
MBWA Marble Bar 24.52 136 P **P** **16 03 48.4 +0.6**
comp=Z,75nm,1.0s
MBWA Marble Bar 24.52 136 P **P** **16 03 48.3 +0.6**
PSAC1 Pilbara Seismi 24.83 137 P **P** **16 03 50.9 +0.3**
comp=Z,152nm,1.1s
PSA00 Pilbara Seismi 24.88 137 P **P** **16 03 50.9 -0.1**
PSA00 Pilbara Seismi 24.88 137 P **P** **16 03 50.5 -0.5**
PSA00 IAmb IAmb 16 04 07.1
comp=Z,74nm,1.1s
PSA00 Pilbara Seismi 24.88 137 P **P** **16 03 51.3 +0.4**
comp=Z,114nm,1.1s
PSA00 Pilbara Seismi 24.88 137 P **P** **16 03 51.4 +0.4**
NLAI Namlea 25.16 90 P **P** **16 03 54.7 +1.1**
comp=Z,168nm,0.7s,comp=Z,2μmcomp=Z,2μm
LBMI Labuha 25.76 84 P **P** **16 04 00.8 +1.7**
comp=Z,453nm,0.8s,comp=Z,6μm
TNTI Ternate 25.84 81 P **P** **16 03 58.7 -1.1**
TNTI Ternate 25.84 81 P **P** **16 03 59.4 -0.4**
TNTI Ternate 25.84 81 P **P** **16 03 58.9 -0.9**
comp=Z,84nm,1.1s
TGY Tagaytay City 25.88 46 LR LR 16 14 44.3
comp=Z,974nm,21.1s,baz=315,slow=38
DAV Davao City (W) 25.95 66 LR LR 16 15 17.8
comp=Z,745nm,20.1s,baz=257,slow=39
AAI Ambon 26.24 91 P **P** **16 04 05.3 +1.9**
comp=Z,213nm,0.8s,comp=Z,2μm
MSAI Masohi 26.98 90 P **P** **16 04 10.3 +0.2**
comp=Z,239nm,0.9s,comp=Z,2μm
FITZ Fitzroy Crossi 27.29 123 P **P** **16 04 11.1 -1.7**
FITZ Fitzroy Crossi 27.29 123 P **P** **16 04 12.7 -0.1**
comp=Z,60nm,1.0s,baz=302,slow=7.0,SNR=39
FITZ S **S** **16 08 40.4 -8.3**
comp=Z,5.6nm,0.8s,baz=306,slow=16,SNR=1.4
FITZ LR LR 16 16 40.1
comp=Z,720nm,19.7s,baz=298,slow=40
comp=Z,60nm,1.0s
MEEK Meekatharra 27.85 147 P **P** **16 04 18.7 +0.9**
comp=Z,56nm,1.4s
MEEK Meekatharra 27.85 147 P **P** **16 04 18.3 +0.5**
BNDI Bandanaira 27.94 93 P **P** **16 04 20.0 +1.3**
BRDH Bariadhala 28.08 340 LR LR 16 18 11.7
comp=Z,2μm,20.2s,baz=155,slow=42
KMI Kunming 28.68 2 ⇑P **P** **16 04 27.0 +1.6**
KMI sP sP 16 04 43.9 -1.1
KMI S **S** **16 09 10.9 0.0**
KMI pmax pmax
comp=Z,140nm,0.8s
KMI pmax pmax
comp=Z,410nm,4.0s
KMI LR LR
comp=Z,1μm,16.5s
KMI LR LR
comp=Z,500nm,20.4s
KMI LR LR
comp=Z,1μm,19.7s
TNCH TengChong 28.76 354 ⇑P **P** **16 04 25.5 -0.6**
TNCH pP pP 16 04 40.3 +0.9
TNCH sP sP 16 04 45.9 +0.2
TNCH S **S** **16 09 07.6 -4.6**
TNCH sS sS 16 09 34.2 -0.6
TNCH pmax pmax
comp=Z,29nm,1.1s
TNCH pmax pmax
comp=Z,120nm,4.0s
TNCH LR LR
comp=Z,630nm,13.5s
TNCH LR LR
comp=Z,600nm,18.6s
TNCH LR LR
comp=Z,2μm,18.8s
KNRA Kununurra 28.97 116 P **P** **16 04 26.9 -1.0**
KNRA Kununurra 28.97 116 P **P** **16 04 26.6 -1.2**
comp=Z,79nm,1.1s
SWI Sorong 29.47 85 P **P** **16 04 31.6 -0.7**
comp=Z,210nm,1.1s,comp=Z,2μm
DRS Darwin Rock St 29.96 108 P **P** **16 04 35.5 -1.1**
PZH PanZhiHua 30.04 360 P **P** **16 04 37.7 +0.4**
PZH S S 16 09 41.3 +9.2
PZH pmax pmax
comp=Z,150nm,1.1s
PZH pmax pmax
comp=Z,150nm,5.7s
PZH LR LR
comp=Z,1μm,17.8s
PZH LR LR
comp=Z,530nm,15.5s
PZH LR LR
comp=Z,1μm,18.2s
MTN Manton Dam 30.28 109 P **P** **16 04 38.0 -1.5**
MTN Manton Dam 30.28 109 P **P** **16 04 37.7 -1.8**
comp=Z,48nm,0.7s
MTN Manton Dam 30.28 109 P **P** **16 04 37.3 -2.2**
FAKI Fak Fak 30.31 89 IAmb IAmb 16 04 42.7
comp=Z,106nm,0.8s
FAKI Fak Fak 30.31 89 P **P** **16 04 39.0 -0.7**
FAKI Fak Fak 30.31 89 P **P** **16 04 38.2 -1.5**
comp=Z,141nm,0.9s,comp=Z,931nm
GYA Guiyang 30.35 8 ⇑P **P** **16 04 40.9 +0.9**
GYA pP sP 16 04 58.8 -0.9
GYA PcP **PcP** **16 07 40.0 +0.7**
GYA S **S** **16 09 32.7 -4.2**
GYA pmax pmax
comp=Z,190nm,0.8s
GYA pmax pmax
comp=Z,560nm,5.2s
GYA LR LR
comp=Z,670nm,23.2s
GYA LR LR
comp=Z,650nm,16.2s
GYA LR LR
comp=Z,2μm,15.8s
SHL Shillong 30.69 342 P **P** **16 04 42.7 -0.4**
SHL IAmb IAmb 16 04 43.7
comp=Z,126nm,0.5s
SHL Shillong 30.69 342 P **P** **16 04 42.7 -0.4**
SHL pmax pmax
comp=Z,126nm,0.5s
MUN Mundaring 31.16 156 P **P** **16 04 49.0 +1.9**
comp=Z,62nm,1.8s
MUN Mundaring 31.16 156 P **P** **16 04 48.3 +1.3**
HYB Hyderabad 31.18 313 *e*P **P** **16 04 47.9 +0.6**
KLBR Kellerberrin 31.49 153 P **P** **16 04 50.9 +0.9**
comp=Z,58nm,0.8s

KDU Kakadu 31.51 108 P **P** **16 04 47.9 -2.4**
KDU Kakadu 31.51 108 P **P** **16 04 47.3 -3.0**
RKPI Ransiki, Papua 32.31 87 P **P** **16 04 56.6 -0.8**
comp=Z,113nm,1.1s
TWG Pinlang 32.34 34 P **P** **16 04 59.5 +2.0**
TWG IAmb IAmb 16 05 01.7
comp=Z,90nm,0.9s
TWGBT Beinan 32.35 35 P **P** **16 04 59.0 +1.5**
NWAO Narrogin (SRO) 32.41 155 LR LR 16 16 33.0
comp=Z,2μm,21.6s,baz=279,slow=33
NWAO Narrogin (SRO) 32.41 155 P **P** **16 04 59.4 +1.4**
TPUB Ta-pu 32.48 33 P **P** **16 04 59.4 +0.7**
TPUB IAmb IAmb 16 05 01.6
comp=Z,260nm,1.2s
TPUB Ta-pu 32.48 33 P **P** **16 04 59.6 +0.9**
QZH Quanzhou 32.78 29 *e*P **P** **16 05 05.9 +4.6**
QZH S **S** **16 10 20.4 +5.7**
QZH LR LR
comp=Z,1μm,27.5s
QZH LR LR
comp=Z,770nm,22.7s
QZH LR LR
comp=Z,2μm,26.1s
YULB Yu-li 32.92 34 P **P** **16 05 03.6 +1.1**
YULB Yu-li 32.92 34 P **P** **16 05 03.5 +0.9**
SSLB Suanglung 33.05 33 P **P** **16 05 05.0 +1.3**
SSLB Suanglung 33.05 33 P **P** **16 05 04.5 +0.8**
WRKA Warakurna 33.08 132 P **P** **16 05 04.5 +0.5**
comp=Z,53nm,1.4s
WRKA Warakurna 33.08 132 P **P** **16 05 03.8 -0.2**
KMBL Kambalda 33.32 148 P **P** **16 05 07.6 +1.6**
comp=Z,68nm,1.3s
KMBL Kambalda 33.32 148 P **P** **16 05 06.9 +0.9**
CNSH ChangSha 33.45 18 P **P** **16 05 08.2 +1.2**
CNSH pmax pmax
comp=Z,70nm,0.9s
NACB Ninganchiao 33.70 34 P **P** **16 05 10.7 +1.4**
NACB IAmb IAmb 16 05 14.9
comp=Z,95nm,0.9s
NACB Ninganchiao 33.70 34 P **P** **16 05 10.5 +1.1**
YHNB Yeheng 33.98 33 P **P** **16 05 12.8 +0.9**
YHNB IAmb IAmb 16 05 19.4
comp=Z,126nm,1.1s
YHNB Yeheng 33.98 33 P **P** **16 05 12.8 +0.9**
TATO Taipei 34.28 33 P **P** **16 05 15.7 +1.3**
CD2 Chengdu 34.48 3 P **P** **16 05 15.7 -0.3**
CD2 pP pP 16 05 28.3 -1.3
CD2 sP sP 16 05 36.0 +0.2
CD2 PP **PP** **16 06 38.5 +3.4**
CD2 S **S** **16 10 39.0 -2.0**
CD2 sS sS 16 10 59.3 -4.5
CD2 pmax pmax
comp=Z,220nm,0.7s
CD2 pmax pmax
comp=Z,260nm,5.0s
CD2 LR LR
comp=Z,2μm,19.6s
CD2 LR LR
comp=Z,1μm,14.3s
CD2 LR LR
comp=Z,2μm,19.9s
ENH Enshi 34.57 12 IAmb IAmb 16 05 35.5
comp=Z,74nm,0.8s
ENH Enshi 34.57 12 P **P** **16 05 16.5 -0.3**
ENH Enshi 34.57 12 P **P** **16 05 16.8 0.0**
ENH pP **pP** **16 05 29.3 -1.1**
ENH sP **sP** **16 05 34.8 -1.7**
ENH PcP **PcP** **16 07 50.6 -0.1**
YOJ Yonaguni jima 34.73 35 P **P** **16 05 19.9 +1.7**
LSA Lhasa 34.79 343 IAmb IAmb 16 05 21.1
comp=Z,132nm,1.1s
LSA Lhasa 34.79 343 *i*P **P** **16 05 19.9 +0.6**
SNR=22
LSA Lhasa 34.79 343 P P 16 05 04.1 -15
LSA S S 16 10 30.4 -16
LSA pmax pmax
comp=Z,120nm,1.1s
LSA LR LR
comp=N,470nm,24.4s
LSA LR LR
comp=Z,790nm,22.3s
LSA Lhasa 34.79 343 P **P** **16 05 19.7 +0.5**
LSA pmax pmax
comp=Z,126nm,1.4s
LSA Lhasa 34.79 343 P **P** **16 05 19.7 +0.5**
LSA pP **pP** **16 05 33.3 +0.5**
LSA sP **sP** **16 05 38.3 -0.7**
WB0 Warramunga Arr 35.48 119 P **P** **16 05 24.0 -0.8**
WB0 IAmb IAmb 16 05 25.7
comp=Z,89nm,1.1s
WRA Warramunga Arr 35.50 120 P **P** **16 05 24.3 -0.7**
WRA Warramunga Arr 35.50 120 P **P** **16 05 24.6 -0.4**
comp=Z,26nm,0.6s,baz=301,slow=9.2,SNR=254
WRA PcP **PcP** **16 07 53.9 +0.3**
comp=Z,13nm,0.7s,baz=299,slow=2.5,SNR=5.5
WRA S **S** **16 10 49.4 -7.6**
comp=Z,28nm,1.2s,baz=292,slow=16,SNR=14
WRA P3KPbc 16 36 12.3
comp=Z,2.6nm,0.7s,baz=106,slow=4.2,SNR=18
comp=Z,26nm,0.6s
WRAB Tennant Creek 35.50 120 P **P** **16 05 25.0 0.0**
WRAB IAmb IAmb 16 05 28.1
comp=Z,70nm,0.8s
WRAB Tennant Creek 35.50 120 *c i*P **P** **16 05 24.8 -0.2**
WRAB pmax pmax
comp=Z,72nm,0.8s
WB2 Warramunga Arr 35.51 120 P **P** **16 05 24.8 -0.3**
WB2 IAmb IAmb 16 05 38.9
comp=Z,68nm,0.9s
WR0 Warramunga Arr 35.68 120 P **P** **16 05 26.5 0.0**
WR0 IAmb IAmb 16 05 27.7
comp=Z,143nm,1.1s
WHN Wuhan 36.09 18 ⇑P **P** **16 05 30.9 +1.1**
WHN pP **pP** **16 05 45.7 +2.3**
WHN PcP **PcP** **16 07 55.7 +0.6**
WHN S **S** **16 11 10.0 +4.5**
WHN pmax pmax
comp=Z,160nm,0.7s
WHN LR LR
comp=Z,3μm,18.1s
JMJ Miyako jima 2 36.35 38 P **P** **16 05 33.7 +1.6**
FORT Forrest 36.52 140 P **P** **16 05 34.8 +1.3**
FORT IAmb IAmb 16 05 48.4
comp=Z,102nm,0.7s
FORT Forrest 36.52 140 P **P** **16 05 34.9 +1.3**
comp=Z,142nm,0.8s
FORT Forrest 36.52 140 P **P** **16 05 34.5 +1.0**
AS31 Alice Springs 36.72 126 P **P** **16 05 35.9 +0.5**
ASAR Alice Springs 36.72 126 P **P** **16 05 35.6 +0.2**
comp=Z,40nm,0.7s,baz=297,slow=8.0,SNR=832
ASAR PcP **PcP** **16 07 57.8 +0.5**
comp=Z,14nm,0.7s,baz=308,slow=2.4,SNR=9.2
ASAR S **S** **16 11 10.2 -5.4**
comp=Z,27nm,1.0s,baz=297,slow=16,SNR=22
ASAR LR LR 16 21 44.1
comp=Z,535nm,21.0s,baz=304,slow=38
ASAR P3KPbc 16 36 05.7
comp=Z,0.8nm,0.8s,baz=122,slow=3.9,SNR=6.2
comp=Z,40nm,0.7s
XAN Xi'an 38.13 9 ⇑P **P** **16 05 47.3 +0.1**
XAN pP pP 16 06 00.8 -0.1
XAN sP sP 16 06 05.2 -1.8
XAN PcP **PcP** **16 08 00.4 -0.9**
XAN S **S** **16 11 38.1 +1.4**
XAN pmax pmax
comp=Z,270nm,0.8s
XAN LR LR
comp=Z,2μm,16.5s
XAN LR LR
comp=Z,750nm,15.8s
XAN LR LR
comp=Z,2μm,15.2s
XAN Xi'an 38.13 9 P **P** **16 05 47.0 -0.2**
XAN pP **pP** **16 06 00.5 -0.4**
XAN PcP **PcP** **16 08 01.4 +0.1**
GENI Genyem 38.22 89 P **P** **16 05 46.2 -2.0**
comp=Z,124nm,1.1s
JAY Jayapura 38.76 89 P **P** **16 05 50.5 -2.3**
comp=Z,61nm,1.0s
NJ2 Nanjing 39.05 23 *e*P **P** **16 05 55.7 +0.8**
NJ2 sP **sP** **16 06 15.2 +0.5**
NJ2 pmax pmax
comp=Z,18nm,0.6s
NJ2 LR LR
comp=Z,910nm,16.6s

NJ2 LR LR
comp=Z,680nm,16.6s
NJ2 LR LR
comp=Z,1μm,20.2s
LYN LuoYang 39.34 14 ⇑*i*P **P** **16 05 58.2 +0.9**
LYN pP pP 16 06 11.4 +0.4
LYN sP sP 16 06 15.7 -1.4
LYN PcP **PcP** **16 08 05.4 +0.4**
LYN S **S** **16 11 53.6 -1.3**
LYN pmax pmax
comp=Z,510nm,0.7s
LYN pmax pmax
comp=Z,940nm,7.5s
LYN LR LR
comp=Z,1μm,23.0s
LYN LR LR
comp=Z,1μm,20.3s
LYN LR LR
comp=Z,1μm,21.6s
LZH Lanzhou 39.64 2 ⇑P **P** **16 06 00.8 +0.9**
LZH pP pP 16 06 12.6 -1.0
LZH sP sP 16 06 18.7 -1.1
LZH PcP **PcP** **16 08 07.2 +1.0**
LZH S **S** **16 11 57.6 -2.0**
LZH sS sS 16 12 20.9 -1.7
LZH pmax pmax
comp=Z,190nm,1.1s
LZH pmax pmax
comp=Z,500nm,4.3s
LZH LR LR
comp=Z,2μm,18.0s
LZH LR LR
comp=Z,1μm,17.2s
LZH LR LR
comp=Z,2μm,18.6s
JOW Kunigami 39.65 38 P **P** **16 05 57.7 -2.3**
comp=Z,46nm,0.6s,baz=218,slow=8.4,SNR=5.2
JOW LR LR 16 21 42.9
comp=Z,434nm,21.8s,baz=170,slow=35
comp=Z,46nm,0.6s
JOW Kunigami 39.65 38 P **P** **16 06 00.9 +0.9**
OOD Oodnadatta 40.13 130 P **P** **16 06 03.8 -0.1**
GOMU GeErMu 40.26 351 P **P** **16 06 05.4 +0.1**
GOMU pP pP 16 06 21.4 +2.4
GOMU sP sP 16 06 26.9 +1.7
GOMU sS sS 16 12 31.6 -0.7
GOMU pmax pmax
comp=Z,130nm,0.9s
GOMU LR LR
comp=Z,610nm,15.7s
GOMU LR LR
comp=Z,510nm,18.8s
GOMU LR LR
comp=Z,1μm,18.8s
MULG Mulgathing 40.26 135 P **P** **16 06 05.7 +0.7**
QIS Mount Isa 40.33 118 P **P** **16 06 05.8 0.0**
comp=Z,123nm,1.1s
QIS Mount Isa 40.33 118 P **P** **16 06 05.4 -0.4**
COEN Coen 41.96 107 P **P** **16 06 18.3 -0.9**
COEN Coen 41.96 107 P **P** **16 06 17.6 -1.6**
comp=Z,37nm,0.8s
COEN Coen 41.96 107 P **P** **16 06 18.0 -1.2**
TIA Tai'an 42.20 18 P **P** **16 06 20.8 0.0**
TIA pmax pmax
comp=Z,59nm,0.7s
TIA LR LR
comp=Z,1μm,20.1s
TIA LR LR
comp=Z,480nm,17.2s
TIA LR LR
comp=Z,2μm,18.6s
TIY Taiyuan 42.37 12 P **P** **16 06 23.2 +1.0**
TIY S **S** **16 12 45.9 +6.0**
TIY pmax pmax
comp=Z,110nm,0.7s
TIY LR LR
comp=Z,750nm,21.3s
TIY LR LR
comp=Z,540nm,18.6s
TIY LR LR
comp=Z,620nm,22.0s
HNS HongShan 42.61 15 ⇑P **P** **16 06 24.6 +0.6**
HNS sP **sP** **16 06 42.5 -1.5**
HNS PcP **PcP** **16 08 16.0 +0.4**
HNS ScP **ScP** **16 12 01.1 -1.1**
HNS *e*S **S** **16 12 43.5 +0.3**
HNS pmax pmax
comp=Z,120nm,0.7s
HNS pmax pmax
comp=Z,400nm,5.0s
HNS LR LR
comp=Z,650nm,15.9s
HNS LR LR
comp=Z,430nm,14.3s
HNS LR LR
comp=Z,970nm,17.1s
GTA Gaotai 42.96 358 ⇑P **P** **16 06 27.4 +0.3**
GTA sP sP 16 06 45.5 -1.5
GTA PcP **PcP** **16 08 17.4 +0.5**
GTA S **S** **16 12 52.9 +4.2**
GTA sS sS 16 13 13.8 +1.9
GTA ScS **ScS** **16 16 20.0 -3.3**
GTA pmax pmax
comp=Z,110nm,1.1s
GTA LR LR
comp=Z,1μm,19.3s
GTA LR LR
comp=Z,730nm,18.2s
GTA LR LR
comp=Z,2μm,20.0s
BBOO Buckleboo 43.10 136 P **P** **16 06 29.0 +0.8**
BBOO Buckleboo 43.10 136 P **P** **16 06 28.7 +0.4**
comp=Z,107nm,1.0s
BBOO Buckleboo 43.10 136 P **P** **16 06 28.5 +0.2**
LCRK Leigh Creek 43.38 132 P **P** **16 06 31.0 +0.5**
MTSU Mount Surprise 43.90 112 P **P** **16 06 35.0 +0.1**
comp=Z,129nm,0.8s
MTSU Mount Surprise 43.90 112 P **P** **16 06 34.6 -0.3**
INKA Innaminka 44.05 127 P **P** **16 06 36.5 +0.6**
BTO Baotou 44.73 9 *e*P **P** **16 06 42.6 +1.4**
BTO pP **pP** **16 06 55.4 +0.2**
BTO sP **sP** **16 07 00.2 -1.1**
BTO PP **PP** **16 08 29.7 +3.1**
BTO S **S** **16 13 17.6 +3.2**
BTO sS **sS** **16 13 39.5 +1.7**
BTO SS **ScS** **16 16 31.2 -3.2**
BTO pmax pmax
comp=Z,110nm,1.0s
BTO pmax pmax
comp=Z,880nm,7.9s
BTO LR LR
comp=Z,3μm,16.3s
BTO LR LR
comp=Z,1μm,20.1s
BTO LR LR
comp=Z,2μm,15.8s
HHC Hu-ho-hao-te 45.22 10 ⇑*i*P **P** **16 06 46.3 +1.1**
HHC pP pP 16 06 58.8 -0.3
HHC S **S** **16 13 24.3 +2.7**
HHC sS sS 16 13 47.1 +2.1
HHC pmax pmax
comp=Z,120nm,0.9s
HHC pmax pmax
comp=Z,180nm,4.6s
HHC LR LR
comp=Z,500nm,19.4s
HHC LR LR
comp=Z,470nm,17.8s
HHC LR LR
comp=Z,580nm,18.6s
PMG Port Moresby 45.28 100 P **P** **16 06 45.0 -1.0**
PMG IAmb IAmb 16 06 51.5
comp=Z,88nm,0.8s
PMG Port Moresby 45.28 100 LR LR 16 28 58.4
comp=Z,376nm,20.5s,baz=272,slow=40
PMG Port Moresby 45.28 100 P **P** **16 06 45.3 -0.6**
PMG Port Moresby 45.28 100 P **P** **16 06 45.0 -1.0**
PMG Port Moresby 45.28 100 *c i*P **P** **16 06 44.7 -1.3**
PMG pmax pmax
comp=Z,101nm,0.8s
PMG Port Moresby 45.28 100 P **P** **16 06 45.4 -0.6**
PMG PcP **PcP** **16 08 26.3 +1.1**
MANU Manus Island 45.43 89 P **P** **16 06 46.7 -0.5**
MANU IAmb IAmb 16 06 51.7
comp=Z,83nm,0.7s

HTT	**Hallett**	**45.45**	**135**	P	**P**	**16 06 48.2 +1.2**
	comp=Z,252nm,1.1s					
HTT	**Hallett**	**45.45**	**135**	P	**P**	**16 06 48.2 +1.2**
BJT	**Baijiatuau**	**45.45**	**15**	IAmb	IAmb	16 06 48.7
	comp=Z,100nm,0.6s					
BJT	**Baijiatuau**	**45.45**	**15**	P	**P**	**16 06 47.7 +0.8**
BJT	**Baijiatuau**	**45.45**	**15**	P	**P**	**16 06 47.9 +1.1**
BJT				pmax	pmax	
	comp=Z,154nm,0.7s					
BJT	**Baijiatuau**	**45.45**	**15**	P	**P**	**16 06 47.7 +0.8**
BJT				PcP	**PcP**	**16 08 25.7 +0.5**
BJI	**Beijing**	**45.48**	**15**	P	**P**	**16 06 47.8 +0.8**
BJI				PcP	**PcP**	**16 08 26.0 +0.7**
BJI				pmax	pmax	
	comp=Z,67nm,0.6s					
BJI				LR	LR	
	comp=Z,210nm,19.0s					
BJI				LR	LR	
	comp=Z,270nm,17.9s					
BJI				LR	LR	
	comp=Z,310nm,23.8s					
JNU	**Nakatsue**	**45.77**	**35**	P	**P**	**16 06 49.9 +0.4**
JNU				IAmb	IAmb	16 06 51.9
	comp=Z,96nm,0.9s					
JNU	**Nakatsue**	**45.77**	**35**	P	**P**	**16 06 49.8 +0.2**
	comp=Z,68nm,0.8s,baz=251,slow=2.4,SNR=57					
JNU				PcP	**PcP**	**16 08 26.1 -0.5**
	comp=Z,13nm,0.9s,baz=199,slow=4.3,SNR=1.7					
JNU				LR	LR	16 26 43.5
	comp=Z,246nm,21.9s,baz=230,slow=37					
	comp=Z,68nm,0.8s					
JNU	**Nakatsue**	**45.77**	**35**	P	**P**	**16 06 49.4 -0.1**
GUMO	**Guam**	**45.97**	**67**	LR	LR	16 26 22.9
	comp=Z,97nm,21.9s,baz=254,slow=36					
GUMO	**Guam**	**45.97**	**67**	P	**P**	**16 06 48.9 -2.5**
NIL	**Nilore**	**45.97**	**326**	P	**P**	**16 06 50.8 -0.3**
NIL	**Nilore**	**45.97**	**326**	P	**P**	**16 06 50.8 -0.3**
NIL				pmax	pmax	
	comp=Z,400nm,0.8s					
NIL	**Nilore**	**45.97**	**326**	P	**P**	**16 06 51.4 +0.2**
NIL				pP	**pP**	**16 07 04.6 -0.5**
JTU	**Tsushima**	**46.01**	**32**	P	**P**	**16 06 51.2 -0.1**
CTA	**Charters Tower**	**46.16**	**114**	LR	LR	16 27 11.8
	comp=Z,28nm,19.2s,baz=290,slow=37					
CTA	**Charters Tower**	**46.16**	**114**	P	**P**	**16 06 53.2 +0.4**
CTA				pmax	pmax	
	comp=Z,24nm,1.0s					
CTAO	**Charters Tower**	**46.16**	**114**	P	**P**	**16 06 53.3 +0.4**
CTAO	**Charters Tower**	**46.16**	**114**	P	**P**	**16 06 52.8 0.0**
CTAO	**Charters Tower**	**46.16**	**114**	P	**P**	**16 06 53.3 +0.4**
CTAO				pmax	pmax	
	comp=Z,253nm,1.0s					
CTAO	**Charters Tower**	**46.16**	**114**	P	**P**	**16 06 53.0 +0.1**
CTAO				PcP	**PcP**	**16 08 28.6 +0.4**
CTAO				ScP	**ScP**	**16 12 17.1 -0.1**
MSEY	**Mahe Island**	**46.30**	**267**	P	**P**	**16 06 56.6 +2.5**
QLP	**Quilpie**	**46.43**	**124**	P	**P**	**16 06 55.8 +1.0**
	comp=Z,164nm,1.1s					
QLP	**Quilpie**	**46.43**	**124**	P	**P**	**16 06 55.5 +0.7**
TJN	**Taejon**	**46.44**	**29**	P	**P**	**16 06 54.5 -0.2**
TJN				PcP	**PcP**	**16 08 29.2 +0.4**
TJN	**Taejon**	**46.44**	**29**	P	**P**	**16 06 55.0 +0.3**
TJN	**Taejon**	**46.44**	**29** *c*	*i* P	**P**	**16 06 54.8 +0.1**
TV1H	**Townsville Har**	**46.45**	**113**	P	**P**	**16 06 55.2 +0.1**
STKA	**Stephens Creek**	**46.60**	**132**	P	**P**	**16 06 57.1 +1.0**
STKA	**Stephens Creek**	**46.60**	**132**	P	**P**	**16 06 57.0 +1.0**
	comp=Z,59nm,0.9s					
STKA	**Stephens Creek**	**46.60**	**132**	P	**P**	**16 06 57.1 +1.0**
	comp=Z,185nm,0.7s,baz=306,slow=7.7,SNR=288					
STKA				S	**S**	**16 13 39.1 -2.4**
	comp=Z,4.0nm,1.0s,baz=194,slow=21,SNR=2.9					
STKA				LR	LR	16 26 54.5
	comp=Z,585nm,22.0s,baz=294,slow=36					
	comp=Z,185nm,0.7s					
STKA	**Stephens Creek**	**46.60**	**132**	P	**P**	**16 06 56.8 +0.7**
STKA	**Stephens Creek**	**46.60**	**132**	P	**P**	**16 06 57.1 +1.0**
STKA				pmax	pmax	
	comp=Z,44nm,0.8s					
INCN	**Inchon**	**47.00**	**27**	P	**P**	**16 06 57.9 -1.2**
INCN	**Inchon**	**47.00**	**27**	P	**P**	**16 06 57.9 -1.2**
INCN				pmax	pmax	
	comp=Z,29nm,0.8s					
KSAR	**Wonju Array Be**	**47.54**	**28**	P	**P**	**16 07 03.5 +0.3**
KSAR	**Wonju Array Be**	**47.54**	**28**	P	**P**	**16 07 03.6 +0.3**
KSRS	**Korea Array**	**47.57**	**28**	P	**P**	**16 07 03.9 +0.4**
	comp=Z,71nm,0.9s,baz=214,slow=8.1,SNR=209					
KSRS				PcP	**PcP**	**16 08 32.9 +0.2**
	comp=Z,10nm,0.9s,baz=219,slow=3.8,SNR=4.9					
KSRS				ScP	**ScP**	**16 12 22.3 -0.4**
	comp=Z,0.9nm,0.8s,baz=225,slow=4.8,SNR=2.1					
KSRS				LR	LR	16 26 30.9
	comp=Z,142nm,21.6s,baz=225,slow=35					
	comp=Z,71nm,0.9s					
KS19	**Wonju Array Si**	**47.58**	**28**	P	**P**	**16 07 04.3 +0.7**
KS19				IAmb	IAmb	16 07 05.2
	comp=Z,66nm,0.9s					
PYAG	**Pyongyang**	**47.91**	**25**	P	**P**	**16 07 05.7 -0.4**
PYAG				AmB		
	comp=Z,243nm,0.9s					
JMN	**Monobe**	**47.94**	**36**	P	**P**	**16 07 05.6 -0.9**
JMN				PcP	**PcP**	**16 08 35.0 +0.8**
JMN	**Monobe**	**47.94**	**36**	P	**P**	**16 07 07.3 +0.8**
SUJ	**Sinuiju**	**48.29**	**23**	P	**P**	**16 07 07.8 -1.1**
SUJ				AmB		
	comp=Z,64nm,0.8s					
SUJ				AMS	AMS	
	comp=Z,134nm,4.7s					
WMQ	**Urumqi**	**49.02**	**346**	*e*P	**P**	**16 07 17.2 +2.6**
WMQ				sP	sP	16 07 33.1 -1.7
WMQ				PcP	**PcP**	**16 08 36.9 -1.0**
WMQ				pmax	pmax	
	comp=Z,620nm,0.9s					
WMQ				pmax	pmax	
	comp=Z,1μm,3.6s					
WMQ				LR	LR	
	comp=Z,500nm,16.3s					
WMQ				LR	LR	
	comp=Z,350nm,24.2s					
WMQ	**Urumqi**	**49.02**	**346**	P	**P**	**16 07 15.7 +1.1**
WMQ				sP	**sP**	**16 07 34.5 -0.3**
WMQ				PcP	**PcP**	**16 08 38.9 +1.0**
KBL	**Kabul**	**49.03**	**324**	P	**P**	**16 07 13.7 -1.4**
KBL				IAmb	IAmb	16 07 17.0
	comp=Z,47nm,0.7s					
KBL	**Kabul**	**49.03**	**324**	P	**P**	**16 07 13.7 -1.4**
KBL				pmax	pmax	
	comp=Z,47nm,0.7s					
XLT	**XiLinHaoTe**	**49.09**	**14⇑**	*i* P	**P**	**16 07 15.2 0.0**
XLT				PcP	**PcP**	**16 08 38.3 +0.1**
XLT				pmax	pmax	
	comp=Z,170nm,0.8s					
XLT				LR	LR	
	comp=Z,420nm,18.3s					
XLT				LR	LR	
	comp=Z,590nm,16.6s					
KSH	**Kashi**	**49.20**	**333**	P	**P**	**16 07 15.4 -0.8**
KSH				sP	sP	16 07 33.7 -2.6
KSH				S	**S**	**16 14 14.0 -4.3**
KSH				pmax	pmax	
	comp=Z,140nm,0.7s					
KSH				pmax	pmax	
	comp=Z,480nm,6.4s					
ARPS	**Mount Arapiles**	**49.25**	**137**	P	**P**	**16 07 18.2 +1.7**
	comp=Z,63nm,1.5s					
ARPS	**Mount Arapiles**	**49.25**	**137**	P	**P**	**16 07 16.8 +0.3**
WUS	**Wushi**	**49.27**	**337**	P	**P**	**16 07 17.2 +0.5**
WUS				pP	**pP**	**16 07 30.8 0.0**
WUS				sP	**sP**	**16 07 35.8 -1.0**
JCJ	**Chichijima**	**49.50**	**49**	LR	LR	16 26 31.3
	comp=Z,458nm,21.8s,baz=135,slow=34					
JCJ	**Chichijima**	**49.50**	**49**	P	**P**	**16 07 17.4 -1.1**
	comp=Z,243nm,1.3s					
CMSA	**Cobar Meteorol**	**49.56**	**129**	P	**P**	**16 07 20.1 +1.1**
	comp=Z,427nm,0.9s					
CMSA	**Cobar Meteorol**	**49.56**	**129**	P	**P**	**16 07 20.1 +1.1**
WSAR	**Wadi Sarin**	**49.98**	**305**	LR	LR	16 26 45.7
	comp=Z,269nm,20.2s,baz=140,slow=34					
TARG	**Taragay, Kyrgy**	**50.27**	**337**	IAmb	IAmb	16 07 46.1
	comp=Z,128nm,1.0s					
PRZ	**Przheval'sk**	**50.68**	**338**	P	**P**	**16 07 29.3 +1.9**
PRZ				pmax	pmax	
	comp=Z,244nm,0.7s					
NRN	**Naryn**	**50.76**	**335**	IAmb	IAmb	16 07 30.9
	comp=Z,94nm,0.8s					
KDJ	**Kajisay**	**50.86**	**336**	P	**P**	**16 07 29.9 +1.1**
KDJ				pmax	pmax	
	comp=Z,341nm,0.9s					
SHLS	**Shalkode**	**50.87**	**339**	*e*P	**P**	**16 07 27.5 -1.3**
	comp=Z,76nm,0.7s					
SHLS	**Shalkode**	**50.87**	**339**	*e*P	**P**	**16 07 27.4 -1.3**
SHLS				pmax	pmax	
	comp=Z,76nm,0.7s					
INU	**Inuyama**	**50.93**	**37**	P	**P**	**16 07 27.6 -1.6**
INU	**Inuyama**	**50.93**	**37**	P	**P**	**16 07 29.0 -0.2**
PDGK	**Podgornoye**	**51.01**	**339**	P	**P**	**16 07 30.1 +0.3**
UZB	**Uzynbulak**	**51.02**	**339**	*e*P	**P**	**16 07 29.9 -0.1**
	comp=Z,65nm,0.7s					
UZB				*e*S	**S**	**16 14 44.6 +1.0**
UZB	**Uzynbulak**	**51.02**	**339**	*e*P	**P**	**16 07 29.8 -0.1**
UZB				*e*S	**S**	**16 14 44.6 +1.0**
UZB				pmax	pmax	
	comp=Z,65nm,0.7s					
SATY	**Saty**	**51.17**	**338**	*e*P	**P**	**16 07 31.0 -0.1**
	comp=Z,43nm,0.8s					
SATY				*e*S	**S**	**16 14 46.5 +0.9**
SATY	**Saty**	**51.17**	**338**	*e*P	**P**	**16 07 31.0 -0.1**
SATY				*e*S	**S**	**16 14 46.5 +0.9**
SATY				pmax	pmax	
	comp=Z,43nm,0.8s					
JHJ	**Hachijo jima 2**	**51.25**	**41**	LR	LR	16 29 22.5
	comp=Z,139nm,20.7s,baz=274,slow=36					
ZHN	**Zhinishke**	**51.26**	**338**	*e*P	**P**	**16 07 31.4 -0.3**
	comp=Z,22nm,0.6s					
ZHN	**Zhinishke**	**51.26**	**338**	*e*P	**P**	**16 07 31.4 -0.3**
ZHN				pmax	pmax	
	comp=Z,22nm,0.6s					
JGF	**Kuroka**	**51.31**	**37**	P	**P**	**16 07 31.9 -0.2**
ULHL	**Ulahol**	**51.33**	**336**	P	**P**	**16 07 32.9 +0.5**
	SNR=11					
KPKS	**Kokpek**	**51.42**	**338**	*e*P	**P**	**16 07 32.5 -0.3**
	comp=Z,41nm,0.7s					
KPKS				*e*S	**S**	**16 14 49.6 +0.6**
KPKS	**Kokpek**	**51.42**	**338**	*e*P	**P**	**16 07 32.5 -0.3**
KPKS				*e*S	**S**	**16 14 49.5 +0.6**
KPKS				pmax	pmax	
	comp=Z,41nm,0.7s					
OHH	**Osh**	**51.47**	**332**	P	**P**	**16 07 33.9 +0.6**
OHH				pmax	pmax	
	comp=Z,164nm,0.9s					
SONM	**Songino Array**	**51.49**	**4**	P	**P**	**16 07 34.3 +1.0**
	comp=Z,228nm,0.7s,baz=184,slow=9.1,SNR=852					
SONM				PcP	**PcP**	**16 08 47.0 0.0**
	comp=Z,30nm,0.7s,baz=191,slow=4.1,SNR=7.3					
SONM				ScP	**ScP**	**16 12 40.2 +0.8**
	comp=Z,1.2nm,0.7s,baz=214,slow=3.5,SNR=2.7					
SONM				LR	LR	16 31 57.7
	comp=Z,662nm,19.4s,baz=182,slow=39					
	comp=Z,228nm,0.7s					
GAR	**Garm**	**51.53**	**329**	P	**P**	**16 07 33.0 -0.9**
GAR				IAmb	IAmb	16 07 50.5
	comp=Z,96nm,0.8s					
ULN	**Ulaanbaatar**	**51.56**	**4**	P	**P**	**16 07 35.1 +1.2**
ULN				PcP	**PcP**	**16 08 47.7 +0.3**
ULN	**Ulaanbaatar**	**51.56**	**4** *c*	*i* P	**P**	**16 07 34.5 +0.6**
ULN				pmax	pmax	
	comp=Z,173nm,0.9s					
ULN	**Ulaanbaatar**	**51.56**	**4**	P	**P**	**16 07 34.7 +0.8**
ULN				pP	**pP**	**16 07 48.1 0.0**
ULN				sP	**sP**	**16 07 53.0 -1.2**
ULN				PcP	**PcP**	**16 08 47.5 +0.2**
BOOM	**Boomskoye usch**	**51.66**	**336**	IAmb	IAmb	16 07 36.2
	comp=Z,94nm,0.8s					
BOOM	**Boomskoye usch**	**51.66**	**336**	P	**P**	**16 07 35.2 +0.4**
BOOM				pmax	pmax	
	comp=Z,143nm,1.0s					
TNSS	**Tian-Shan**	**51.71**	**337**	*e*P	**P**	**16 07 35.0 -0.5**
TNSS	**Tian-Shan**	**51.71**	**337**	*e*P	**P**	**16 07 34.9 -0.5**
MDOK	**Medeo**	**51.78**	**337**	*e*P	**P**	**16 07 35.3 -0.4**
MDOK				*e*S	**S**	**16 14 54.9 +0.8**
MDOK	**Medeo**	**51.78**	**337**	P	**P**	**16 07 35.9 +0.3**
CN2	**Changchun**	**51.83**	**22**	*e*P	**P**	**16 07 35.4 -0.4**
CN2				*es*P	sP	16 07 53.2 -2.8
CN2				PcP	**PcP**	**16 08 47.4 -0.8**
CN2				*e*S	**S**	**16 14 54.1 -0.3**
CN2				pmax	pmax	
	comp=Z,190nm,0.8s					
CN2				LR	LR	
	comp=Z,210nm,12.0s					
CN2				LR	LR	
	comp=Z,170nm,12.0s					
ARLS	**Aral**	**51.83**	**334**	P	**P**	**16 07 36.8 +0.7**
ARLS				pmax	pmax	
	comp=Z,220nm,0.8s					
EIDS	**Eidsvold**	**51.86**	**119**	P	**P**	**16 07 37.1 +0.7**
EIDS				IAmb	IAmb	16 07 38.2
	comp=Z,143nm,1.4s					
EIDS	**Eidsvold**	**51.86**	**119**	P	**P**	**16 07 37.0 +0.6**
	comp=Z,72nm,1.2s					
EIDS	**Eidsvold**	**51.86**	**119**	P	**P**	**16 07 36.6 +0.2**
AAA	**Alma-Ata**	**51.87**	**337**	*e*P	**P**	**16 07 36.0 -0.3**
	comp=Z,47nm,0.6s					
AAA	**Alma-Ata**	**51.87**	**337**	*e*P	**P**	**16 07 35.9 -0.3**
AAA				pmax	pmax	
	comp=Z,47nm,0.6s					
SIMJ	**Simiganj**	**51.98**	**327**	P	**P**	**16 07 35.9 -1.3**
SIMJ				IAmb	IAmb	16 07 37.6
	comp=Z,73nm,0.8s					
SIMJ				PcP	**PcP**	**16 08 50.5 +1.4**
SIMJ	**Simiganj**	**51.98**	**327**	P	**P**	**16 07 35.6 -1.6**
SIMJ				sP	**sP**	**16 07 54.5 -2.8**
SIMJ				PcP	**PcP**	**16 08 49.9 +0.8**
ARSB	**Arslanbob**	**52.01**	**332**	IAmb	IAmb	16 07 39.0
	comp=Z,50nm,0.8s					
UCH	**Uchtor**	**52.05**	**334**	P	**P**	**16 07 38.7 +0.7**
	SNR=7.8					
BTK	**Batken**	**52.07**	**330**	P	**P**	**16 07 38.4 +0.6**
BTK				IAmb	IAmb	16 07 39.0
	comp=Z,60nm,0.7s					
BTK	**Batken**	**52.07**	**330**	P	**P**	**16 07 38.4 +0.6**
BTK				pmax	pmax	
	comp=Z,60nm,0.6s					
SOHO	**SOHO**	**52.09**	**305**	*i* P	**P**	**16 07 39.4 +1.3**
	SNR=5.8					
TKM2	**Tokmak 2**	**52.16**	**336**	P	**P**	**16 07 39.0 +0.4**
	SNR=196					
TKM2	**Tokmak 2**	**52.16**	**336**	P	**P**	**16 07 38.4 -0.1**
KBK	**Karagaybulak**	**52.21**	**335**	P	**P**	**16 07 39.7 +0.8**
	SNR=68					
AML	**Almayashu**	**52.33**	**334**	P	**P**	**16 07 40.5 +0.4**
	SNR=146					
ARXS	**Arharly**	**52.38**	**338**	*e*P	**P**	**16 07 39.5 -0.5**
AAK	**Ala-Archa**	**52.39**	**335**	P	**P**	**16 07 40.7 +0.5**
	SNR=54					
AAK	**Ala-Archa**	**52.39**	**335**	P	**P**	**16 07 40.8 +0.5**
AAK	**Ala-Archa**	**52.39**	**335**	*i* P	**P**	**16 07 40.7 +0.5**
	SNR=66					
AAK	**Ala-Archa**	**52.39**	**335**	LR	LR	16 34 12.3
	comp=Z,302nm,19.1s,baz=148,slow=41					
AAK	**Ala-Archa**	**52.39**	**335** *c*	*i* P	**P**	**16 07 40.7 +0.5**
AAK				pmax	pmax	
	comp=Z,52nm,0.8s					
AAK	**Ala-Archa**	**52.39**	**335**	P	**P**	**16 07 40.8 +0.5**
AAK				PcP	**PcP**	**16 08 51.7 +1.2**
MAJO	**Matsushiro**	**52.45**	**37**	P	**P**	**16 07 39.6 -0.9**
MAJO				IAmb	IAmb	16 07 40.9
	comp=Z,75nm,1.1s					
MAJO	**Matsushiro**	**52.45**	**37**	P	**P**	**16 07 39.4 -1.2**
MAJO	**Matsushiro**	**52.45**	**37** *c*	*i* P	**P**	**16 07 39.7 -0.9**
MAJO				pmax	pmax	
	comp=Z,81nm,1.2s					
MAJO	**Matsushiro**	**52.45**	**37**	P	**P**	**16 07 39.6 -0.9**
MAJO				PcP	**PcP**	**16 08 50.5 -0.3**
MAJO				ScP	**ScP**	**16 12 42.3 -1.4**
MJAR	**Matsushiro Arr**	**52.45**	**37**	P	**P**	**16 07 39.8 -0.8**
	comp=Z,56nm,0.9s,baz=216,slow=7.0,SNR=179					
MJAR				PcP	**PcP**	**16 08 51.0 +0.2**
	comp=Z,18nm,0.8s,baz=207,slow=4.3,SNR=5.9					
MJAR				ScP	**ScP**	**16 12 42.2 -1.5**
	comp=Z,5.5nm,0.9s,baz=211,slow=4.3,SNR=12					
	comp=Z,56nm,0.9s					
MJB9	**Matsu-Tunnel**	**52.45**	**37**	P	**P**	**16 07 40.9 +0.3**
MJB9				IAmb	IAmb	16 07 41.9
	comp=Z,70nm,1.1s					
FRU1	**Bishkek**	**52.47**	**335**	IAmb	IAmb	16 07 42.4
	comp=Z,112nm,0.8s					
FRU1	**Bishkek**	**52.47**	**335**	P	**P**	**16 07 41.4 +0.7**
FRU1				pmax	pmax	
	comp=Z,161nm,0.9s					
CHMS	**Chumysh**	**52.58**	**335**	P	**P**	**16 07 41.3 -0.1**
	SNR=36					
ALNE	**Al Ain**	**52.71**	**304**	*i* P	**P**	**16 07 44.2 +1.5**
	SNR=33					
UOSS	**Minazif**	**52.72**	**305**	P	**P**	**16 07 42.0 -0.7**
UOSS	**Minazif**	**52.72**	**305**	P	**P**	**16 07 43.7 +1.0**
EKS2	**Erkin-Say**	**52.72**	**334**	P	**P**	**16 07 43.4 +0.8**
	SNR=198					
ASHO	**Ashiyiah**	**52.72**	**305**	*i* P	**P**	**16 07 44.2 +1.4**
	SNR=7.0					
HATD	**Hatta, Dubai**	**52.73**	**305**	P	**P**	**16 07 44.1 +1.3**
YNG	**Young**	**52.78**	**131**	P	**P**	**16 07 44.6 +1.5**
	comp=Z,953nm,0.9s					
YNG	**Young**	**52.78**	**131**	P	**P**	**16 07 44.2 +1.1**
MDH	**Madha**	**52.80**	**306**	P	**P**	**16 07 43.2 -0.1**
TDK	**Taldyqorghan**	**52.85**	**339**	*e*P	**P**	**16 07 43.4 0.0**
	comp=Z,79nm,0.8s					
TDK	**Taldyqorghan**	**52.85**	**339**	*e*P	**P**	**16 07 43.4 0.0**
TDK				pmax	pmax	
	comp=Z,79nm,0.8s					
USP	**Ospenovka**	**52.90**	**335**	P	**P**	**16 07 44.0 +0.2**
	SNR=71					
MSFE	**Esma-Masafi**	**52.94**	**306**	*i* P	**P**	**16 07 45.9 +1.5**
	SNR=6.2					
SGDS	**Sogindy**	**53.00**	**335**	*e*P	**P**	**16 07 43.6 -1.0**
SGDS				pmax	pmax	
	comp=Z,43nm,1.9s					
TRKS	**Terek-Say**	**53.03**	**331**	P	**P**	**16 07 44.7 -0.3**
TRKS				pmax	pmax	
	comp=Z,218nm,0.9s					
PSTR	**Posyet**	**53.05**	**26** *d*	*i* P	**P**	**16 07 45.4 +0.6**
ZSN	**Zaisan**	**53.11**	**346**	*e*P	**P**	**16 07 45.4 +0.2**
ZSN				*e*S	**S**	**16 15 13.4 +1.6**
ZSN	**Zaisan**	**53.11**	**346**	*e*P	**P**	**16 07 45.4 +0.2**
ZSN				*e*S	**S**	**16 15 13.4 +1.6**
FAQ	**Al Faqa, Dubai**	**53.13**	**305**	*i* P	**P**	**16 07 47.1 +1.3**
	SNR=25					
MSHR	**Mys Shultsa**	**53.16**	**27** *c*	*i* P	**P**	**16 07 46.1 +0.5**
MSHR				pmax	pmax	
	comp=Z,130nm,0.7s					
NAZ	**Nazwa, Dubai**	**53.18**	**305**	*i* P	**P**	**16 07 47.5 +1.3**
	SNR=6.8					
MK31	**Makanchi Array**	**53.20**	**343**	P	**P**	**16 07 46.2 +0.3**
MK31	**Makanchi Array**	**53.20**	**343** *c*	*i* P	**P**	**16 07 45.8 -0.1**
MKAR	**Makanchi Array**	**53.20**	**343**	P	**P**	**16 07 45.8 -0.1**
	comp=Z,209nm,0.7s,baz=148,slow=7.9,SNR=1043					
MKAR				PcP	**PcP**	**16 08 54.2 +0.8**
	comp=Z,18nm,0.8s,baz=152,slow=5.1,SNR=0.9					
MKAR				LR	LR	16 34 22.0
	comp=Z,324nm,22.0s,baz=142,slow=40					
	comp=Z,209nm,0.7s					
SHME	**Shamm**	**53.26**	**306**	P	**P**	**16 07 48.3 +1.6**
ASUD	**Al Ashush, Dub**	**53.30**	**304**	P	**P**	**16 07 48.5 +1.5**
MAKZ	**Makanchi**	**53.30**	**343**	P	**P**	**16 07 45.3 -1.3**
MAKZ				IAmb	IAmb	16 07 47.7
	comp=Z,93nm,0.9s					
MAKZ	**Makanchi**	**53.30**	**343**	P	**P**	**16 07 45.5 -1.1**
MAKZ	**Makanchi**	**53.30**	**343**	P	**P**	**16 07 46.4 -0.3**
MAKZ				sP	**sP**	**16 08 05.2 -1.7**
MAKZ				PcP	**PcP**	**16 08 53.0 -0.7**
JSD	**Sado**	**53.48**	**36**	P	**P**	**16 07 47.6 -0.5**
JSD	**Sado**	**53.48**	**36**	P	**P**	**16 07 47.6 -0.5**
CAN	**Canberra**	**53.66**	**132**	P	**P**	**16 07 51.1 +1.6**
CAN				IAmb	IAmb	16 07 52.2
	comp=Z,131nm,0.9s					
CAN	**Canberra**	**53.66**	**132**	P	**P**	**16 07 51.1 +1.6**
	comp=Z,156nm,1.2s					
CAN	**Canberra**	**53.66**	**132**	P	**P**	**16 07 51.0 +1.4**
CAN	**Canberra**	**53.66**	**132**	P	**P**	**16 07 51.2 +1.6**
CAN				pmax	pmax	
	comp=Z,131nm,0.9s					
CAN	**Canberra**	**53.66**	**132**	P	**P**	**16 07 51.1 +1.6**
ARMA	**Armidale**	**53.87**	**125**	P	**P**	**16 07 53.3 +2.0**
	comp=Z,137nm,1.3s					
ARMA	**Armidale**	**53.87**	**125**	P	**P**	**16 07 53.1 +1.8**
ZAK	**Zakamensk**	**53.90**	**1**	*e*P	**P**	**16 07 50.7 -0.3**
ZAK				pmax	pmax	
	comp=Z,38nm,0.9s					
VLA	**Vladivostok**	**53.91**	**27** *d*	*i* P	**P**	**16 07 51.6 +0.5**
VLA				pmax	pmax	
	comp=Z,113nm,1.1s					
CNB	**Canberra Magne**	**53.93**	**132**	P	**P**	**16 07 52.8 +1.2**
	comp=Z,78nm,1.3s					
CNB	**Canberra Magne**	**53.93**	**132**	P	**P**	**16 07 52.8 +1.2**
DZA	**Taraz**	**54.00**	**332**	*e*P	**P**	**16 07 51.6 -0.3**
	comp=Z,33nm,0.6s					
DZA	**Taraz**	**54.00**	**332**	*e*P	**P**	**16 07 51.6 -0.3**
DZA				pmax	pmax	
	comp=Z,33nm,0.6s					
MDJ	**Mudanjiang**	**54.13**	**24**	IAmb	IAmb	16 07 54.1
	comp=Z,74nm,0.9s					
MDJ	**Mudanjiang**	**54.13**	**24**	P	**P**	**16 07 52.8 +0.1**
MDJ				sP	sP	16 08 10.5 -2.5
MDJ				S	**S**	**16 15 30.5 +4.9**
MDJ				SS	**SS**	**16 19 09.8 +1.7**
MDJ				pmax	pmax	
	comp=Z,99nm,0.8s					
MDJ				pmax	pmax	
	comp=Z,310nm,3.7s					
MDJ				LR	LR	
	comp=Z,400nm,16.6s					
MDJ				LR	LR	
	comp=Z,450nm,14.5s					
MDJ				LR	LR	
	comp=Z,1μm,14.7s					
MDJ	**Mudanjiang**	**54.13**	**24**	P	**P**	**16 07 53.3 +0.6**
MDJ	**Mudanjiang**	**54.13**	**24**	P	**P**	**16 07 53.1 +0.4**
MZR	**Muzera**	**54.18**	**302**	*i* P	**P**	**16 07 55.0 +1.5**
	SNR=9.7					
BNX	**BinXian**	**54.21**	**22**	⇑P	**P**	**16 07 53.6 +0.3**
BNX				pmax	pmax	
	comp=Z,390nm,1.0s					
SYDH	**Sydney Hard Ro**	**54.35**	**129**	P	**P**	**16 07 56.2 +1.6**
MGCD	**Mangrove Creek**	**54.43**	**129**	P	**P**	**16 07 56.8 +1.6**
	comp=Z,130nm,0.8s					
MGCD	**Mangrove Creek**	**54.43**	**129**	P	**P**	**16 07 56.5 +1.3**
BTLS	**Baital**	**54.54**	**336**	*e*P	**P**	**16 07 55.1 -0.6**
BTLS	**Baital**	**54.54**	**336**	*e*P	**P**	**16 07 55.1 -0.6**
KK31	**Karatay Array**	**54.54**	**332**	P	**P**	**16 07 54.3 -1.5**
KKAR	**Karatay Array**	**54.54**	**332**	P	**P**	**16 07 55.4 -0.4**
KKAR	**Karatay Array**	**54.54**	**332**	P	**P**	**16 07 55.4 -0.4**
KKAR				pmax	pmax	
	comp=Z,21nm,0.9s					
RIV	**Riverview**	**54.70**	**129**	P	**P**	**16 07 58.5 +1.4**
BRLS	**Borolday**	**54.80**	**332**	*e*P	**P**	**16 07 56.4 -1.4**
BRLS	**Borolday**	**54.80**	**332**	*e*P	**P**	**16 07 56.3 -1.4**
USA0B	**Ussuriysk Arra**

comp=Z,118nm,0.9s,baz=159,slow=6.8,SNR=589
KURBB PcP **PcP** **16 09 11.1 +0.4**
comp=Z,32nm,0.7s,baz=155,slow=3.1,SNR=8.7
KURBB S **S** **16 16 05.5 -7.9**
comp=Z,2.0nm,0.9s,baz=145,slow=15,SNR=5.2
KURBB PKPPKP **P'P'df** **16 38 04.4 +2.7**
comp=Z,0.5nm,0.8s,baz=315,slow=2.5,SNR=3.3
KURBB LR LR 16 38 19.3
comp=Z,213nm,18.3s,baz=170,slow=41
KURBB P4KPbc 16 45 27.0
comp=Z,0.5nm,0.8s,baz=150,slow=4.0,SNR=6.1
comp=Z,118nm,0.9s
KURBB Kurchatov Arra 57.73 343 P **P** **16 08 17.3 -1.1**
KURK Kurchatov 57.79 343 P **P** **16 08 18.0 -0.7**
KURK Kurchatov 57.79 343*c i*P **P** **16 08 18.5 -0.2**
KURK pmax pmax
comp=Z,248nm,0.9s
KURK Kurchatov 57.79 343 P **P** **16 08 18.6 -0.1**
KURK PcP **PcP** **16 09 11.4 +0.5**
HNR Honiara 57.89 99 LR LR 16 34 47.1
comp=Z,110nm,21.7s,baz=259,slow=38
HEH HeiHe 58.08 19 *e*P **P** **16 08 20.9 +0.1**
HEH pmax pmax
comp=Z,350nm,0.9s
HEH LR LR
comp=Z,440nm,18.1s
HEH LR LR
comp=Z,370nm,17.3s
HEH LR LR
comp=Z,870nm,19.7s
ALEG Aligegeo Malai 58.61 98 P **P** **16 08 23.5 -1.7**
KLR Kul'dur 58.75 22 P **P** **16 08 25.7 +0.2**
comp=Z,129nm,0.8s,baz=230,slow=6.0,SNR=264
KLR LR LR 16 36 13.0
comp=Z,446nm,18.2s,baz=226,slow=38
comp=Z,129nm,0.8s
KLR Kul'dur 58.75 22*c i*P **P** **16 08 25.5 0.0**
KLR pmax pmax
comp=Z,160nm,0.8s
ERM Erimo 58.93 35 P **P** **16 08 27.5 +0.6**
ERM IAmb IAmb 16 08 28.3
comp=Z,86nm,0.8s
ERM Erimo 58.93 35 P **P** **16 08 27.6 +0.7**
ERM Erimo 58.93 35*c i*P **P** **16 08 27.1 +0.2**
ERM pmax pmax
comp=Z,105nm,1.3s
ERM Erimo 58.93 35 P **P** **16 08 27.3 +0.4**
ERM sP **sP** **16 08 46.5 -0.7**
ERM PcP **PcP** **16 09 18.2 +2.6**
BRZS Berezniki 59.13 338 *e*P **P** **16 08 27.7 -0.5**
BRZS Berezniki 59.13 338 *e*P **P** **16 08 27.6 -0.5**
ZALV Zalesovo Beam 59.21 348 **P** **16 08 28.4 -0.1**
ZALV Zalesovo Beam 59.21 348 P **P** **16 08 28.2 -0.3**
comp=Z,402nm,0.7s,baz=170,slow=5.2,SNR=1339
ZALV S **S** **16 16 29.6 -2.8**
comp=Z,3.2nm,0.8s,baz=155,slow=6.5,SNR=6.8
ZALV LR LR 16 37 20.3
comp=Z,672nm,19.8s,baz=155,slow=39
ZALV PKPPKP **P'P'df** **16 37 59.5 +0.3**
comp=Z,1.2nm,0.8s,baz=282,slow=2.9,SNR=6.1
comp=Z,402nm,0.7s
ZALV Zalesovo Beam 59.21 348 P **P** **16 08 28.5 -0.1**
ASAJ Asahikawa 59.98 33 P **P** **16 08 34.9 +0.8**
comp=Z,74nm,0.8s,baz=229,slow=8.2,SNR=51
ASAJ LR LR 16 34 07.6
comp=Z,243nm,21.5s,baz=223,slow=36
comp=Z,74nm,0.8s
JKA Kamikawa-asahi 59.98 33 P **P** **16 08 34.2 +0.1**
JKA IAmb IAmb 16 08 35.6
comp=Z,89nm,0.8s
KRAR Krasnoyarsk 59.98 354⇑*i*P **P** **16 08 33.9 0.0**
H04N2 CROZET ISLANDS 60.58 218 T T 17 13 26.4
baz=61,slow=75
H04N1 CROZET ISLANDS 60.59 218 T T 17 13 26.9
baz=61,slow=75
H04N3 CROZET ISLANDS 60.60 218 T T 17 13 25.5
baz=61,slow=75
ATD Arta Tunnel 60.65 285 LR LR 16 30 19.8
comp=Z,9.3nm,20.3s,baz=94,slow=31
H04S1 CROZET ISLANDS 60.84 217 T T 17 13 55.3
baz=60,SNR=1260
H04S3 CROZET ISLANDS 60.85 217 T T 17 13 55.8
baz=60,slow=74,SNR=2190
H04S2 CROZET ISLANDS 60.86 217 T T 17 13 57.2
baz=60,slow=74,SNR=1062
ZEA Zeya 61.05 17*ce*P **P** **16 08 42.1 +0.9**
ZEA *e* 16 09 00.4
ZEA pmax pmax
comp=N,70nm,0.8s
ZEA pmax pmax
comp=E,50nm,0.8s
ZEA pmax pmax
comp=Z,150nm,0.8s
ZEA pmax pmax
comp=Z,100nm,1.0s
RAYN Ar Rayn 61.23 299 *i* P **P** **16 08 43.8 +0.8**
SNR=17
RAYN Ar Rayn 61.23 299 P **P** **16 08 43.6 +0.6**
RAYN Ar Rayn 61.23 299 P **P** **16 08 43.7 +0.6**
YUK Yuzh-Kuril'sk 61.74 35*ce*P **P** **16 08 46.1 +0.1**
GRNR Gornyy 61.81 24⇑*i*P **P** **16 08 47.0 +0.6**
GRNR pmax pmax
comp=E,20nm,0.8s
GRNR pmax pmax
comp=N,20nm,1.2s
GRNR pmax pmax
comp=Z,60nm,1.1s
YSS Yuzh-Sakhalins 61.95 31 P **P** **16 08 47.0 -0.4**
YSS Yuzh-Sakhalins 61.95 31 P **P** **16 08 47.5 +0.1**
YSS Yuzh-Sakhalins 61.95 31 *e*P **P** **16 08 47.6 +0.1**
YSS *e* 16 09 03.0
YSS *e*S **S** **16 17 09.3 +1.5**
YSS pmax pmax
comp=Z,140nm,1.3s
YSS pmax pmax
comp=Z,300nm,2.1s
YSS Yuzh-Sakhalins 61.95 31 P **P** **16 08 47.8 +0.4**
YSS pP **pP** **16 09 02.5 +0.6**
YSS sP **sP** **16 09 07.8 -0.1**
BOD Bodaibo 62.11 7 *e*P **P** **16 08 48.0 -0.2**
BOD pmax pmax
comp=Z,142nm,1.0s
BVA0 Borovoye Array 62.45 339 *i* P **P** **16 08 49.6 -1.0**
BVAR Borovoye Array 62.45 339 P **P** **16 08 49.8 -0.9**
comp=Z,89nm,0.7s,baz=143,slow=8.8,SNR=539
BVAR LR LR 16 40 34.1
comp=Z,343nm,21.6s,baz=140,slow=40
comp=Z,89nm,0.7s
BRVK Borovoye 62.51 339 P **P** **16 08 50.4 -0.6**
BRVK IAmb IAmb 16 08 51.4
comp=Z,65nm,0.8s
BRVK Borovoye 62.51 339*c i*P **P** **16 08 50.0 -1.0**
BRVK pmax pmax
comp=Z,59nm,0.7s
BRVK Borovoye 62.51 339 P **P** **16 08 50.4 -0.6**
BRVK pP **pP** **16 09 04.6 -0.9**
BRVK PcP **PcP** **16 09 30.1 +0.3**
KOUNC Koumac, New Ca 62.87 111 P **P** **16 08 54.8 +0.6**
KOUNC Koumac, New Ca 62.87 111 P **P** **16 08 54.7 +0.6**
UGL Uglegorsk 63.07 28 *e*P **P** **16 08 55.6 +0.8**
UGL pmax pmax
comp=Z,320nm,0.9s
KUR Kuril'sk 63.60 35*ce*P **P** **16 08 58.9 +0.5**
KUR pmax pmax
comp=Z,638nm,0.9s
AB31 Akbulak array 64.05 331 *i* P **P** **16 09 00.6 -0.7**
ABKAR Akbulak array 64.05 331 P **P** **16 09 00.9 -0.4**
ABKAR Akbulak array 64.05 331 IAmb IAmb 16 09 01.9
comp=Z,184nm,0.8s
FURI Furi 64.25 282 LR LR 16 32 47.2
comp=Z,171nm,20.7s,baz=130,slow=32
TYV Tymovskoe 64.58 27 *e*P **P** **16 09 04.8 +0.1**
TYV pmax pmax
comp=Z,800nm,4.1s
TYV pmax pmax
comp=Z,62nm,1.3s
KMBO Kilima Mbogo 64.63 271 P **P** **16 09 07.8 +1.6**
KMBO Kilima Mbogo 64.63 271 *i* P **P** **16 09 08.1 +2.0**
SNR=6.1
KMBO Kilima Mbogo 64.63 271 P **P** **16 09 07.9 +1.7**
comp=Z,4.8nm,0.8s,baz=60,slow=9.4,SNR=15
KMBO LR LR 16 31 37.2
comp=Z,218nm,22.0s,baz=95,slow=31
KMBO Kilima Mbogo 64.63 271 P **P** **16 09 08.0 +1.9**
KMBO pP **pP** **16 09 23.1 +2.5**
LKRN Lenkeran, Azer 64.63 316 P **P** **16 09 05.5 +0.2**

NOUC Port Laguerre 64.92 113 P **P** **16 09 07.6 +0.1**
NOUC Port Laguerre 64.92 113 P **P** **16 09 07.4 -0.2**
DZM Mont Dzumac 65.04 113 *e*P **P** **16 09 07.8 -0.7**
comp=Z,133nm,1.2s
DZM *e*S **S** **16 17 50.6 +3.2**
comp=Z,90nm,26.3s
DZM *e*SS **SS** **16 21 59.9 -0.5**
comp=Z,125nm,22.8s
DZM *e*LR LR 16 28 44.4
comp=Z,508nm,22.6s
DZM Mont Dzumac 65.04 113 P **P** **16 09 08.8 +0.3**
comp=Z,34nm,0.9s,baz=310,slow=6.6,SNR=10
DZM LR LR 16 39 25.6
comp=Z,342nm,19.3s,baz=243,slow=38
comp=Z,34nm,0.9s
DZM Mont Dzumac 65.04 113 P **P** **16 09 08.9 +0.4**
ONTNC Ouen Toro 65.08 113 IAmb IAmb 16 09 10.0
comp=Z,58nm,1.0s
AKTO Aktyubinsk 65.77 331 LR LR 16 42 33.6
comp=Z,208nm,19.9s,baz=205,slow=40
AKTO Aktyubinsk 65.77 331 P **P** **16 09 11.3 -1.2**
AKT Akhty 66.64 318 *e*P **P** **16 09 17.8 -0.6**
AKT *e**PP **pP** **16 09 32.1 -1.0**
AKT *e**SP **sP** **16 09 37.8 -1.2**
AKT *e* 16 09 46.2
AKT *e*S **S** **16 18 06.2 0.0**
AKT pmax pmax
comp=Z,174nm,0.8s
MNGR Mingechevir, A 66.75 317 P **P** **16 09 18.4 -0.5**
SEKA Sheki 66.87 318 P **P** **16 09 18.5 -1.3**
NAX Nakhchivan 67.13 315 P **P** **16 09 22.9 +1.4**
GANJ Ganja 67.20 318 P **P** **16 09 21.9 0.0**
NFK Norfolk Island 67.30 120 P **P** **16 09 24.0 +1.3**
GNI Garni 68.07 316 P **P** **16 09 26.6 -1.0**
GNI IAmb IAmb 16 09 54.4
comp=Z,87nm,1.1s
GNI Garni 68.07 316 P **P** **16 09 28.6 +1.0**
GNI Garni 68.07 316*c i*P **P** **16 09 28.3 +0.8**
GNI pmax pmax
comp=Z,56nm,0.8s
GNI Garni 68.07 316 P **P** **16 09 27.7 +0.2**
comp=Z,76nm,1.0s,comp=Z,970nm
GNI Garni 68.07 316 P **P** **16 09 28.3 +0.8**
GNI pP **pP** **16 09 42.5 +0.2**
DRV Dumont d'Urvil 68.17 165 P **P** **16 09 28.2 +0.8**
DRV pP **pP** **16 09 42.5 +0.5**
YAK Yakutsk 68.93 14 P **P** **16 09 31.0 -1.2**
YAK Yakutsk 68.93 14 P **P** **16 09 31.3 -0.9**
comp=Z,446nm,0.8s,baz=55,slow=0.2,SNR=212
YAK LR LR 16 43 17.1
comp=Z,369nm,18.5s,baz=208,slow=39
comp=Z,446nm,0.8s
YAK Yakutsk 68.93 14*c i*P **P** **16 09 31.6 -0.6**
YAK *e**PP **sP** **16 09 52.5 -0.3**
YAK *e* 16 12 02.2
YAK *e*PPP PPP 16 13 45.0
YAK *e*S **S** **16 18 29.6 -2.9**
YAK *e**SS sS 16 19 06.6 +9.2
YAK *e*SS **SS** **16 22 58.8 -0.2**
YAK pmax pmax
comp=Z,788nm,1.4s
YAK pmax pmax
comp=N,152nm,1.4s
YAK pmax pmax
comp=E,92nm,1.6s
YAK pmax pmax
comp=Z,81nm,4.6s
YAK pmax pmax
comp=N,196nm,4.4s
YAK pmax pmax
comp=E,141nm,4.8s
YAK smax smax
comp=N,155nm,4.9s
YAK smax smax
comp=E,73nm,2.6s
YAK Yakutsk 68.93 14 P **P** **16 09 31.2 -1.0**
SVE Sverdlovsk 68.99 337*d i*P **P** **16 09 32.8 +0.1**
SVE pmax pmax
comp=Z,213nm,1.0s
TRLG Trialeti 69.10 317 P **P** **16 09 34.7 +0.7**
MAW Mawson 69.11 195 P **P** **16 09 35.2 +1.9**
comp=Z,4.5nm,0.7s,baz=37,slow=5.5,SNR=14
MAW LR LR 16 34 17.5
comp=Z,1μm,20.2s,baz=28,slow=31
MAW PKP2bc 16 37 41.0
comp=Z,9.1nm,1.1s,baz=231,slow=5.1,SNR=15
GUDG Gudauri 69.25 318 P **P** **16 09 35.9 +1.0**
GURO Guroymak-BITLI 69.34 314 IAmb IAmb 16 09 37.6
comp=Z,64nm,0.9s
ARTI Arti 69.58 336 P **P** **16 09 35.2 -1.1**
ARTI Arti 69.58 336 LR LR 16 42 37.3
comp=Z,260nm,21.9s,baz=138,slow=38
ARTI Arti 69.58 336*c i*P **P** **16 09 36.0 -0.3**
ARTI *PP **pP** **16 09 49.9 -1.2**
ARTI 16 09 58.4
ARTI 16 12 07.0
ARTI S **S** **16 18 41.9 +1.5**
ARTI pmax pmax
comp=Z,123nm,0.7s
ARTI Arti 69.58 336 P **P** **16 09 35.9 -0.5**
NCK Nalchik 70.28 319⇑*i*P **P** **16 09 41.7 +0.7**
NCK pmax pmax
comp=Z,148nm,0.8s
MOPA Mopani 70.65 246 *e*P **P** **16 09 43.6 -0.1**
MOPA IAmb IAmb 16 10 01.4
comp=Z,36nm,1.0s
BCA Borcka 70.76 316 ⇑P **P** **16 09 44.5 +0.6**
BATM Batumi 70.78 316 P **P** **16 09 44.6 +0.6**
KBZ Khabaz 70.84 319 P **P** **16 09 44.9 +0.6**
comp=Z,111nm,0.8s,baz=122,slow=5.6,SNR=181
comp=Z,111nm,0.8s
KBZ Khabaz 70.84 319*c i*P **P** **16 09 44.8 +0.5**
KBZ pmax pmax
comp=Z,159nm,0.9s
JCZ Jackson Bay 70.91 135 P **P** **16 09 46.2 +1.2**
SHA1 Shidzhatmaz 71.00 319*c i*P **P** **16 09 46.1 +0.5**
KIV Kislovodsk 71.07 319 P **P** **16 09 45.1 -0.8**
KIV IAmb IAmb 16 09 48.1
comp=Z,123nm,0.9s
KIV Kislovodsk 71.07 319 *i* P **P** **16 09 46.5 +0.6**
SNR=32
KIV Kislovodsk 71.07 319 ⇓P **P** **16 09 46.3 +0.4**
KIV Kislovodsk 71.07 319 *e*P **P** **16 09 46.1 +0.2**
KIV *e*S **S** **16 18 57.3 -1.3**
KIV pmax pmax
comp=Z,31nm,2.5s
KIV pmax pmax
comp=Z,119nm,1.0s
KIV MLR MLR
comp=Z,79nm,18.0s
KIV Kislovodsk 71.07 319 P **P** **16 09 46.3 +0.4**
KIV PcP **sP** **16 10 06.8 +0.2**
HOED Hoedspruit, Li 71.15 246 *e*P **P** **16 09 48.1 +1.4**
HOED IAmb IAmb 16 10 04.8
comp=Z,28nm,0.9s
MBAR Mbarara 71.16 271 LR LR 16 39 16.3
comp=Z,103nm,18.3s,baz=82,slow=34
MBAR Mbarara 71.16 271 P **P** **16 09 49.1 +2.0**
MBAR pmax pmax
comp=Z,25nm,1.1s
MBAR Mbarara 71.16 271 P **P** **16 09 48.9 +1.7**
MBAR pP **pP** **16 10 04.0 +2.2**
MBAR PcP **sP** **16 10 07.8 +0.1**
SKR Severo-Kuril's 71.24 33*c i*P **P** **16 09 46.8 +0.2**
GOF Gofitskoye 71.31 320*ce*P **P** **16 09 47.6 +0.4**
PILG Pilgrimsrest, 71.39 245 *e*P **P** **16 09 49.0 +0.7**
PILG IAmb IAmb 16 10 06.0
comp=Z,31nm,1.0s
MPHEP Siloam, Limpop 71.73 247 *e*P **P** **16 09 51.8 +1.5**
MPHEP IAmb IAmb 16 10 11.4
comp=Z,38nm,0.9s
DULL Dullstroom, Mp 71.91 245 *e*P **P** **16 09 52.6 +1.1**
DULL IAmb IAmb 16 10 09.3
comp=Z,38nm,1.0s
GHAJ Ghor Haditha 71.97 304 IAmb IAmb 16 09 53.9
comp=Z,110nm,0.8s
KRI Karoi 71.98 254 *e*P **P** **16 09 52.2 +0.3**
MUSN Musina, Limpop 71.98 248 *e*P **P** **16 09 53.3 +1.5**
MUSN IAmb IAmb 16 10 09.5
comp=Z,20nm,0.9s
EIL Elat 72.04 303 LR LR 16 41 32.1
comp=Z,176nm,19.3s,baz=72,slow=36
BALJ Balqa 72.12 305 IAmb IAmb 16 09 54.9
comp=Z,170nm,1.7s
BELG Belogornoye 72.17 328 LR LR 16 45 57.2

comp=Z,181nm,20.9s,baz=108,slow=39
BELG Belogornoye 72.17 328*c i*P **P** **16 09 51.5 -0.6**
BELG pmax pmax
comp=Z,40nm,0.9s
ARPR Arapgir-MALATY 72.22 313 IAmb IAmb 16 09 55.2
comp=Z,83nm,1.0s
GAZ Gaziantep 72.42 311 IAmb IAmb 16 09 56.3
comp=Z,138nm,0.9s
RPZ Rata Peaks 72.43 135 P **P** **16 09 54.2 +0.2**
RPZ IAmb IAmb 16 10 11.3
comp=Z,95nm,1.1s
RPZ Rata Peaks 72.43 135 LR LR 16 40 37.4
comp=Z,406nm,21.3s,baz=312,slow=35
RPZ Rata Peaks 72.43 135 P **P** **16 09 54.0 0.0**
MMAI Mount Meron Ar 72.58 306 P **P** **16 09 57.0 +1.9**
comp=Z,50nm,0.7s,baz=100,slow=8.8,SNR=87
MMAI LR LR 16 42 14.1
comp=Z,203nm,20.1s,baz=58,slow=36
comp=Z,50nm,0.7s
VSLR Vesyoloye 72.63 318*c i*P **P** **16 09 55.2 +0.1**
VSLR pmax pmax
comp=Z,139nm,0.9s
SOC Sochi 72.89 318 *e*P **P** **16 09 54.8 -1.9**
SOC *e**PP **pP** **16 10 07.8 -3.7**
SOC *e**SP **PcP** **16 10 14.7 +1.2**
SOC *e* 16 12 34.0
SOC *e*PPP PPP 16 14 19.2
SOC *e*S **S** **16 19 19.4 +0.2**
SOC *e*SS **SS** **16 23 56.3 -4.3**
SOC pmax pmax
comp=Z,113nm,0.7s
QRZ Quartz Range 72.95 132 P **P** **16 09 58.4 +1.3**
WTBG Waterberg Wild 73.00 246 *e*P **P** **16 09 58.7 +0.8**
WTBG IAmb IAmb 16 10 15.0
comp=Z,25nm,1.0s
BLWY Bulawayo 73.05 250 *e*P **P** **16 09 59.7 +1.4**
LSZ Lusaka 73.32 255 P **P** **16 09 59.1 -0.8**
LSZ Lusaka 73.32 255 P **P** **16 09 59.1 -0.8**
LSZ pmax pmax
comp=Z,32nm,1.5s
PEA0B Petropavlovsk- 73.33 31 IAmb IAmb 16 09 59.7
comp=Z,79nm,0.7s
PEA0B Petropavlovsk- 73.33 31*c i*P **P** **16 09 58.9 -0.2**
PETK Petropavlovsk- 73.33 31 P **P** **16 09 58.0 -1.1**
PETK Petropavlovsk- 73.33 31 P **P** **16 09 58.0 -1.1**
comp=Z,62nm,0.7s,baz=228,slow=2.1,SNR=104
PETK LR LR 16 44 31.4
comp=Z,122nm,19.4s,baz=254,slow=38
comp=Z,62nm,0.7s
RUST Rust De Winter 73.39 245 *e*P **P** **16 10 01.7 +1.6**
RUST IAmb IAmb 16 10 17.9
comp=Z,23nm,0.9s
THZ Tophouse 73.40 132 IAmb IAmb 16 10 01.9
comp=Z,85nm,1.0s
NRIK Noril'sk 73.56 355 IAmb IAmb 16 10 00.5
comp=Z,179nm,1.1s
NRIK Noril'sk 73.56 355 P **P** **16 09 59.4 -0.6**
comp=Z,82nm,0.7s,baz=144,slow=5.9,SNR=144
NRIK LR LR 16 46 12.9
comp=Z,299nm,18.7s,baz=161,slow=39
comp=Z,82nm,0.7s
NRIK Noril'sk 73.56 355*c i*P **P** **16 09 59.5 -0.6**
NRIK pmax pmax
comp=Z,149nm,1.1s
PET Petropavlovsk 73.79 32 P **P** **16 10 01.3 -0.3**
PET Petropavlovsk 73.79 32 P **P** **16 10 01.5 -0.2**
PET Petropavlovsk 73.79 32⇑*i*P **P** **16 10 01.4 -0.3**
PET *e*S **S** **16 19 29.7 +0.8**
PET pmax pmax
comp=Z,389nm,0.7s
PET pmax pmax
comp=Z,100nm,11.4s
PET MLR MLR
comp=Z,200nm,18.0s
MA2 Magadan 73.82 24 P **P** **16 10 01.4 -0.4**
MA2 Magadan 73.82 24 LR LR 16 45 45.5
comp=Z,193nm,19.1s,baz=230,slow=38
MA2 Magadan 73.82 24 P **P** **16 10 02.3 +0.5**
MA2 Magadan 73.82 24 P **P** **16 10 01.4 -0.4**
MA2 pmax pmax
comp=Z,142nm,0.8s
LEPH Lephalale, Lim 73.97 246 *e*P **P** **16 10 04.2 +0.6**
LEPH IAmb IAmb 16 10 24.0
comp=Z,31nm,0.9s
KHZ Kahutara 73.97 133 P **P** **16 10 02.7 -0.4**
BNN Bunyan 73.98 312 IAmb IAmb 16 10 04.8
comp=Z,142nm,1.0s
HRAO HartRAO 74.19 244 *e*P **P** **16 10 06.1 +1.2**
MREMI Moremi 74.23 248 *i* P **P** **16 10 06.4 +1.3**
NYAT Nyati, Northwe 74.26 245 *e*P **P** **16 10 07.3 +2.1**
NYAT IAmb IAmb 16 10 23.4
comp=Z,54nm,1.0s
SNKL Senekal, Frees 74.27 242 *e*P **P** **16 10 04.8 -0.6**
SNKL IAmb IAmb 16 10 24.2
comp=Z,37nm,1.1s
BROLN Tlhalogang 74.28 249 *i* P **P** **16 10 05.7 +0.3**
NHAM Northam, North 74.46 245 *e*P **P** **16 10 08.3 +1.9**
NHAM IAmb IAmb 16 10 24.4
comp=Z,37nm,1.0s
PRYS Parys 74.55 243 *e*P **P** **16 10 07.3 +0.4**
PRYS IAmb IAmb 16 10 24.3
comp=Z,24nm,1.0s
MTLB Matlabas, Limp 74.64 246 *e*P **P** **16 10 09.3 +1.8**
MTLB IAmb IAmb 16 10 25.8
comp=Z,36nm,1.0s
KIRV Kirov 74.72 334 LR LR 16 49 20.2
comp=Z,140nm,18.7s,baz=151,slow=41
KIRV Kirov 74.72 334*c i*P **P** **16 10 06.9 -0.1**
CSS Mathiatis 74.77 308 IAmb IAmb 16 10 09.8
comp=Z,128nm,0.9s
VRH Novokhopyorsk 74.80 326 *e*P **P** **16 10 07.5 -0.1**
VRH *e*S **S** **16 19 35.2 -5.2**
VRH pmax pmax
comp=Z,299nm,0.8s
KUZ Kuaotunu 74.83 127 P **P** **16 10 09.7 +1.5**
ANN Anapa 74.87 318 *e*P **P** **16 10 06.0 -2.2**
ANN *e**PP **PcP** **16 10 19.9 -2.0**
ANN *e* 16 12 54.7
ANN *e*S **S** **16 19 40.2 -1.2**
ANN pmax pmax
comp=Z,42nm,0.9s
MRCO Marico , North 75.32 245 *e*P **P** **16 10 13.1 +1.7**
MRCO IAmb IAmb 16 10 29.2
comp=Z,36nm,1.2s
MSVF Nonsavu 75.69 107 P **P** **16 10 13.6 0.0**
MSVF Nonsavu 75.69 107 P **P** **16 10 12.8 -0.8**
comp=Z,38nm,0.9s,baz=257,slow=3.1,SNR=7.9
comp=Z,38nm,0.9s
MSVF Nonsavu 75.69 107 P **P** **16 10 13.6 0.0**
MSVF pmax pmax
comp=Z,71nm,1.1s
BKZ Black Stump Fm 75.72 129 IAmb IAmb 16 10 14.6
comp=Z,102nm,0.7s
BKZ Black Stump Fm 75.72 129 P **P** **16 10 13.8 +0.5**
LPHEP Lephephe 75.72 247 *i* P **P** **16 10 14.3 +0.6**
BR104 Keskin Array S 75.87 312 P **P** **16 10 13.8 -0.4**
comp=Z,80nm,0.8s,comp=Z,645nm
BR131 Keskin Array S 75.87 312 IAmb IAmb 16 10 14.9
comp=Z,77nm,0.8s
BR131 Keskin Array S 75.87 312*c i*P **P** **16 10 13.7 -0.6**
BRTR Keskin Array B 75.87 312 P **P** **16 10 13.4 -0.9**
BRTR Keskin Array B 75.87 312 P **P** **16 10 13.9 -0.4**
comp=Z,55nm,0.8s,baz=130,slow=7.2,SNR=123
comp=Z,55nm,0.8s
BR105 Keskin Array S 75.89 312 P **P** **16 10 13.1 -1.3**
comp=Z,85nm,0.9s,comp=Z,703nm
LBTB Lobatse 76.03 245 IAmb IAmb 16 10 33.2
comp=Z,18nm,0.9s
LBTB Lobatse 76.03 245 *e*P **P** **16 10 16.3 +0.9**
LBTB IAmb IAmb 16 10 33.0
comp=Z,25nm,1.1s
LBTB Lobatse 76.03 245 LR LR 16 38 03.2
comp=Z,629nm,21.2s,baz=82,slow=31
RTZ Ruatahuna 76.04 129 IAmb IAmb 16 10 16.0
comp=Z,145nm,0.9s
VORD Divnogorie 76.09 325 *e*P **P** **16 10 11.9 -3.1**
VORD pmax pmax
comp=Z,70nm,0.9s
URZ Urewera 76.10 128 P **P** **16 10 16.2 +0.8**
KSANE Kasane 76.25 253 *i* P **P** **16 10 18.5 +1.6**
VSR Storozhevoye 76.26 325 *e*P **P** **16 10 13.0 -3.0**
VSR pmax pmax
comp=Z,140nm,0.9s
SWZ Schweizer 76.36 243 *e*P **P** **16 10 17.5 +0.2**
SWZ IAmb IAmb 16 10 34.9

comp=Z,28nm,0.9s
VORR Voronezh 76.42 325 *e*P **P 16 10 16.8 -0.1**
VORR *e*S **S 16 19 53.8 -4.5**
VORR pmax pmax
comp=Z,135nm,0.6s
BOSA Boshof 76.51 242 *e*P **P 16 10 19.2 +1.1**
BOSA lAmb lAmb 16 10 33.4
comp=Z,96nm,1.9s
BOSA Boshof 76.51 242 P **P 16 10 18.8 +0.6**
comp=Z,6.0nm,0.6s,baz=107,slow=4.7,SNR=19
BOSA LR LR 16 37 51.7
comp=Z,611nm,21.4s,baz=90,slow=31
comp=Z,6.0nm,0.6s
SEY Seymchan 76.51 21 P **P 16 10 17.6 +0.4**
comp=Z,66nm,0.9s,baz=238,slow=5.9,SNR=103
comp=Z,66nm,0.9s
SEY Seymchan 76.51 21*c i*P **P 16 10 17.5 +0.4**
SEY pmax pmax
comp=Z,71nm,0.8s
ANTO Ankara 76.54 312 P **P 16 10 17.9 -0.1**
ANTO lAmb lAmb 16 10 19.1
comp=Z,80nm,0.9s
ANTO Ankara 76.54 312 ⇑P **P 16 10 18.2 +0.2**
ANTO Ankara 76.54 312 ⇑P **P 16 10 18.2 +0.2**
KDWAN Kaudwane 76.83 247 *i* P **P 16 10 20.2 +0.3**
LPSR Galich'ya Gora 76.96 326 *e*P **P 16 10 18.3 -1.6**
LPSR pmax pmax
comp=Z,150nm,0.8s
SIM Simferopol' 77.14 318*c i*P **P 16 10 21.2 +0.1**
SIM *e* 16 10 31.0
SIM pmax pmax
comp=Z,194nm,0.6s
TIXI Tiksi 77.25 8 P **P 16 10 19.4 -1.8**
TIXI lAmb lAmb 16 10 20.9
comp=Z,124nm,1.2s
TIXI Tiksi 77.25 8 P **P 16 10 19.9 -1.3**
comp=Z,59nm,1.0s,baz=209,slow=3.2,SNR=201
TIXI LR LR 16 48 46.2
comp=Z,440nm,18.4s,baz=205,slow=39
comp=Z,59nm,1.0s
TIXI Tiksi 77.25 8*c i*P **P 16 10 19.8 -1.3**
TIXI pmax pmax
comp=Z,120nm,1.3s
TIXI MLR MLR
comp=Z,873nm,19.0s
SKOMA Sekoma 77.52 246 *i* P **P 16 10 25.5 +1.7**
CKGRV CKGRV 77.61 249 *i* P **P 16 10 24.3 0.0**
BRAK Brakfontein 78.71 238 *e*P **P 16 10 31.6 +1.3**
BRAK lAmb lAmb 16 10 48.2
comp=Z,239nm,2.2s
MOS Moscow 78.94 329 *e*P **P 16 10 28.7 -2.1**
MOS *e**PP **pP 16 10 43.9 -1.9**
MOS *e**SP **sP 16 10 49.1 -2.5**
MOS *e* 16 13 26.9
MOS *e*S **S 16 20 20.0 -5.3**
MOS *e* 16 20 43.7
MOS pmax pmax
comp=Z,400nm,1.4s
MOS pmax pmax
comp=Z,224nm,1.1s
KGCAE Kacgae 79.07 248 *i* P **P 16 10 31.6 -0.9**
ARG Arkhangelos 79.19 308 P **P 16 10 33.4 +0.7**
ARG pmax pmax
comp=Z,158nm,1.0s
ALKP Alkanpan, Nort 79.19 240 *e*P **P 16 10 34.3 +1.3**
OBN Obninsk 79.25 328 P **P 16 10 32.6 +0.1**
OBN Obninsk 79.25 328 LR LR 16 49 45.8
comp=Z,162nm,19.4s,baz=163,slow=39
OBN Obninsk 79.25 328*c i*P **P 16 10 32.7 +0.2**
OBN *e* 16 10 41.1
OBN *e* 16 13 32.3
OBN *e*PPP PPP 16 15 19.4
OBN pmax pmax
comp=Z,192nm,0.9s
OBN Obninsk 79.25 328 P **P 16 10 33.2 +0.7**
comp=Z,220nm,1.1s,comp=Z,2μm
GRAN Grantham 79.34 238 *e*P **P 16 10 35.7 +2.0**
GRAN lAmb lAmb 16 10 53.8
comp=Z,175nm,1.7s
ISK Istanbul-Kandi 79.60 313 P **P 16 10 34.9 +0.1**
ISK pmax pmax
comp=Z,114nm,1.1s
RAO Raoul Island 79.63 119 LR LR 16 45 41.6
comp=Z,242nm,21.1s,baz=288,slow=36
KLYT Kilyos 79.66 313 P **P 16 10 35.9 +0.8**
comp=Z,131nm,1.1s
KARP Karpathos 79.81 307 *e*P **P 16 10 36.6 +0.5**
MERW Merweville 79.91 238 *e*P **P 16 10 38.2 +1.4**
MERW lAmb lAmb 16 10 53.8
comp=Z,688nm,2.8s
FRAZ Fraserburg 79.98 238 *e*P **P 16 10 38.3 +1.0**
FRAZ lAmb lAmb 16 10 55.2
comp=Z,259nm,2.1s
LKGWB Lokgwabe 79.99 246 *i* P **P 16 10 36.0 -1.4**
KLMR Klimovskoe 80.19 334*c i*P **P 16 10 37.5 0.0**
KLMR *e* 16 13 43.9
KLMR pmax pmax
comp=Z,258nm,1.5s
CTYL Yalikoy Yolu 80.26 313 P **P 16 10 38.0 -0.4**
comp=Z,143nm,0.9s,comp=Z,1μm
KEIM Keimoes 80.28 242 *e*P **P 16 10 41.1 +2.3**
KEIM lAmb lAmb 16 10 57.9
comp=Z,31nm,1.0s
PURM Purcari 80.44 318 P **P 16 10 38.8 -0.4**
comp=Z,256nm,0.9s
SUR Sutherland 80.50 238 LR LR 16 39 10.5
comp=Z,198nm,20.9s,baz=89,slow=30
MATJ Matjiesfontein 80.72 237 *e*P **P 16 10 43.8 +2.6**
MATJ lAmb lAmb 16 11 00.1
comp=Z,63nm,1.2s
TLCR 80.81 317 ⇓P **P 16 10 42.1 +0.9**
TLCR 80.81 317 ⇓P **P 16 10 42.1 +0.9**
PSN Preselentsi 80.89 315 P **P 16 10 41.7 0.0**
TLBR Topalu 81.17 316 ⇑P **P 16 10 43.5 +0.3**
SBA Scott Base 81.22 169 P **P 16 10 44.0 +1.2**
SBA Scott Base 81.22 169 P **P 16 10 44.0 +1.2**
SBA pmax pmax
comp=Z,59nm,1.5s
ICOR Ion Corvin 81.24 316 ⇑P **P 16 10 44.2 +0.7**
MILM Milestii Mici 81.25 318 ⇑P **P 16 10 43.6 +0.1**
MILM Milestii Mici 81.25 318 ⇑P **P 16 10 43.6 +0.1**
CFR Carcaliu 81.27 317 ⇑P **P 16 10 44.1 +0.5**
CFR Carcaliu 81.27 317 P **P 16 10 44.1 +0.5**
HARR Harsova 81.29 316 ⇑P **P 16 10 44.6 +0.8**
HARR Harsova 81.29 316 P **P 16 10 44.6 +0.8**
PRD Provadia 81.29 314 P **P 16 10 44.3 +0.5**
EZN Ezine 81.35 311 P **P 16 10 43.5 -0.7**
EZN Ezine 81.35 311 P **P 16 10 43.5 -0.7**
comp=Z,66nm,1.0s
NEF NEVSHA 81.41 315 P **P 16 10 45.3 +0.8**
IDI Anoyia 81.58 306 lAmb lAmb 16 10 47.7
comp=Z,119nm,0.8s
JMB Yambol 81.77 314 P **P 16 10 46.6 +0.2**
ALN Alexandroupoli 81.79 312 lAmb lAmb 16 10 47.9
comp=Z,64nm,0.8s
AK09 Malin Array Si 81.93 322 P **P 16 10 46.7 -0.3**
AK10 Malin Array Si 81.95 322 P **P 16 10 46.8 -0.3**
AK08 Malin Array Si 81.96 322 P **P 16 10 46.8 -0.3**
AK07 Malin Array Si 81.97 322 P **P 16 10 46.8 -0.4**
GHRR 81.98 317 ⇑P **P 16 10 48.8 +1.4**
GHRR 81.98 317 P **P 16 10 47.5 +0.1**
AK05 Malin Array Si 81.98 322 P **P 16 10 46.5 -0.8**
AK02 Malin Array Si 81.99 322 P **P 16 10 46.5 -0.8**
AKASG Malin Array Be 81.99 322 P **P 16 10 46.6 -0.7**
AKASG lAmb lAmb 16 12 40.9
comp=Z,100nm,1.2s
AKASG Malin Array Be 81.99 322 P **P 16 10 47.0 -0.4**
comp=Z,21nm,0.7s,baz=90,slow=4.7,SNR=112
AKASG PP **PP 16 13 51.6 -4.1**
comp=Z,10nm,0.9s,baz=87,slow=6.6,SNR=7.7
comp=Z,21nm,0.7s
AKASG Malin Array Be 81.99 322 P **P 16 10 47.0 -0.4**
AKBB Malin Array Si 81.99 322 lAmb lAmb 16 10 47.9
comp=Z,48nm,0.7s
AKBB Malin Array Si 81.99 322*c i*P **P 16 10 46.9 -0.4**
AKBB pmax pmax
comp=Z,50nm,0.8s
AKBB Malin Array Si 81.99 322 P **P 16 10 46.3 -1.0**
AK01 Malin Array Si 82.00 322 P **P 16 10 46.3 -1.1**
KIEV Kiev 82.00 322 P **P 16 10 46.5 -0.9**
KIEV lAmb lAmb 16 10 47.9
comp=Z,44nm,0.8s
KIEV Kiev 82.00 322 *i* P **P 16 10 46.8 -0.6**
SNR=33
KIEV Kiev 82.00 322 ⇑P **P 16 10 47.2 -0.2**
KIEV Kiev 82.00 322 ⇑P **P 16 10 47.2 -0.2**
KIEV Kiev 82.00 322 P **P 16 10 46.3 -1.1**
comp=Z,295nm,0.8s
AK03 Malin Array Si 82.00 322 P **P 16 10 46.3 -1.1**
AK12 Malin Array Si 82.02 322 P **P 16 10 46.4 -1.1**
AK11 Malin Array Si 82.02 322 P **P 16 10 46.4 -1.1**
AK04 Malin Array Si 82.04 322 P **P 16 10 46.5 -1.1**
AK14 Malin Array Si 82.05 322 P **P 16 10 46.6 -1.0**
AK23 Malin Array Si 82.07 322 P **P 16 10 46.7 -1.0**
AK18 Malin Array Si 82.10 322 P **P 16 10 46.8 -1.1**
AK22 Malin Array Si 82.10 322 P **P 16 10 46.9 -1.0**
ODBI Odobesti 82.15 317 ⇓P **P 16 10 50.2 +1.9**
ODBI Odobesti 82.15 317 P **P 16 10 48.9 +0.6**
comp=Z,30nm,0.8s
SHEM Shemya Is, Ala 82.27 36 LR LR 16 48 03.3
comp=Z,65nm,20.7s,baz=248,slow=36
BISRR Bisoca 82.33 317 ⇑P **P 16 10 51.0 +1.6**
BISRR Bisoca 82.33 317 P **P 16 10 49.9 +0.5**
comp=Z,122nm,0.8s
SZH Strazhitsa 82.34 314 P **P 16 10 49.7 +0.3**
ISR Istrita 82.35 316 ⇑P **P 16 10 51.2 +1.8**
ISR Istrita 82.35 316 P **P 16 10 51.2 +1.8**
ISR Istrita 82.35 316 P **P 16 10 50.4 +1.0**
comp=Z,68nm,1.1s
VRI Vrincioaia 82.39 317 ⇓P **P 16 10 51.1 +1.5**
VRI Vrincioaia 82.39 317 P **P 16 10 51.1 +1.5**
PLOR5 Plostina Array 82.43 317 P **P 16 10 50.7 +0.9**
comp=Z,56nm,0.9s
PLOR Plostina 82.44 317 ⇓P **P 16 10 50.9 +1.0**
PLOR Plostina 82.44 317 P **P 16 10 50.9 +1.0**
PLOR3 Plostina Array 82.45 317 P **P 16 10 50.2 +0.3**
comp=Z,47nm,1.6s
KDZ Kurdzhali 82.46 313 P **P 16 10 49.9 -0.1**
NEHR Nehoiu 82.59 317 ⇑P **P 16 10 51.7 +1.1**
TESR Tescani 82.59 318 ⇑P **P 16 10 51.5 +0.9**
NDNU Novodnistrovsk 82.62 320 P **P 16 10 49.8 -0.9**
MI30 MI30,Zelenitsa 82.64 322 P **P 16 10 50.0 -0.7**
comp=Z,101nm,0.9s
ONER Baraj Valea Uz 82.73 317 ⇓P **P 16 10 52.6 +1.3**
COVR Voineasa-Covas 82.74 317 ⇓P **P 16 10 52.0 +0.6**
MI29 MI29, Kamyanyy 82.77 322 P **P 16 10 51.0 -0.4**
comp=Z,841nm,0.8s
MLR Muntele Rosu 82.84 317 lAmb lAmb 16 10 54.1
comp=Z,131nm,1.0s
MLR Muntele Rosu 82.84 317 LR LR 16 53 24.4
comp=Z,164nm,19.5s,baz=34,slow=40
MLR Muntele Rosu 82.84 317 ⇓P **P 16 10 53.2 +1.1**
MLR Muntele Rosu 82.84 317 ⇓P **P 16 10 53.2 +1.1**
MLR Muntele Rosu 82.84 317 P **P 16 10 52.0 -0.1**
comp=Z,130nm,0.9s
TURR Turia 82.92 317 ⇑P **P 16 10 53.4 +1.0**
ELIB Princess Elisa 82.94 198 *d*P **P 16 10 54.6 +2.5**
MI28 Mi28,Pidlybu 83.01 322 P **P 16 10 52.1 -0.5**
comp=Z,628nm,1.2s
PRAR RASCA 83.07 318 ⇓P **P 16 10 53.8 +0.7**
OZUR 83.08 317 ⇓P **P 16 10 53.4 +0.2**
KMPD K-Podol'skiy 83.19 320 P **P 16 10 53.3 -0.3**
DOPR Dopca 83.33 317 ⇑P **P 16 10 55.2 +0.7**
STFAR Stefanesti-Arg 83.39 316 ⇑P **P 16 10 55.6 +0.8**
MTUR Matau 83.39 316 ⇑P **P 16 10 54.7 -0.2**
MTUR Matau 83.39 316 P P 16 10 59.7 +4.8
TSUM Tsumeb 83.43 251 LR LR 16 43 29.3
comp=Z,485nm,21.0s,baz=86,slow=32
VOIR 83.45 316 ⇑P **P 16 10 55.2 0.0**
VOIR 83.45 316 ⇑P **P 16 10 55.2 0.0**
VOIR 83.45 316 P **P 16 10 54.0 -1.2**
comp=Z,23nm,0.8s
PGB Panagyurishte 83.48 313 P **P 16 10 55.5 +0.2**
MMB Musomishta 83.61 312 P **P 16 10 55.8 -0.2**
ARR Arges 83.72 316 ⇑P **P 16 10 56.6 +0.1**
BURAR Bucovina Array 83.79 319 P **P 16 10 58.2 +1.3**
BURAR lAmb lAmb 16 10 59.6
comp=Z,107nm,0.8s
BURAR Bucovina Array 83.79 319 ⇑P **P 16 10 58.3 +1.3**
MNK Minsk 83.80 326 *i* P **P 16 10 57.0 +0.4**
comp=E,25nm,0.9s
MNK *i* P **P 16 10 57.0 +0.4**
comp=N,87nm,1.0s
MNK *i* P **P 16 10 57.0 +0.4**
comp=Z,178nm,0.9s,baz=105
MNK *i* pP **pP 16 11 11.6 -0.1**
MNK *i* PP **PP 16 14 11.2 +0.8**
MNK *i* PPP PPP 16 16 02.9
MNK *i* S **SKSac 16 21 14.7 -0.5**
MNK *i* sS **sS 16 21 40.9 -0.3**
MNK *i* SS **SS 16 26 45.8 +1.8**
MNK *i* SSS SSS 16 30 16.6
MNK *i* LQ LQ 16 43 17.2
MNK *i* LR LR 16 49 37.6
MNK *i* LRM MLR 16 51 13.5
comp=E,134nm,15.7s
MNK *i* LRM MLR 16 52 05.5
comp=Z,137nm,13.7s
MNK *i* LRM MLR 16 52 13.7
comp=N,71nm,9.5s
MNK Minsk 83.80 326 *i* P **P 16 10 57.0 +0.4**
MNK *i* *PP **pP 16 11 11.6 -0.1**
MNK *i* 16 14 11.2
MNK *i* PPP PPP 16 16 02.8
MNK *i* S **SKSac 16 21 14.6 -0.5**
MNK *i* SS **SS 16 26 45.8 +1.8**
MNK *i* SSS SSS 16 30 16.6
MNK pmax pmax
comp=Z,178nm,0.9s
MNK pmax pmax
comp=E,25nm,0.9s
MNK pmax pmax
comp=N,87nm,1.0s
MNK MLR MLR
comp=E,134nm,16.0s
MNK MLR MLR
comp=Z,137nm,14.0s
MNK MLR MLR
comp=N,71nm,10.0s
BUR08 Bucovina Ar. S 83.81 319 lAmb lAmb 16 10 59.5
comp=Z,81nm,0.8s
MPEP Malo Peshtene 83.96 314 P **P 16 10 58.1 +0.4**
PUL Pulkovo 84.03 331*de*P **P 16 10 58.6 +1.0**
PUL pmax pmax
comp=Z,198nm,0.9s
TGMR Targu Mures 84.03 317 ⇓P **P 16 10 59.7 +1.7**
KSV Kosov 84.04 319 P **P 16 10 56.9 -1.1**
KSV Kosov 84.04 319 P **P 16 10 56.9 -1.1**
BILL Bilibino 84.10 20 P **P 16 10 57.4 -0.5**
BILL Bilibino 84.10 20 *i* P **P 16 10 57.4 -0.5**
BILL pmax pmax
comp=Z,65nm,1.5s
KKB Krupnik 84.12 313 P **P 16 10 58.6 0.0**
RNPP5 Staryi Chortor 84.17 322 P **P 16 10 57.5 -1.1**
VTS Vitosha 84.18 313 P **P 16 10 59.4 +0.3**
RNPP9 Sopachiv 84.21 322 P **P 16 10 58.0 -0.8**
RNPP8 Varash 84.21 322 P **P 16 10 58.1 -0.7**
ARCR ARCALIA 84.26 318 ⇑P **P 16 11 00.6 +1.5**
STNU Starunia 84.49 320 P **P 16 10 59.9 -0.4**
NACGM Naroch 84.52 326 ⇑*i* P **P 16 11 00.7 +0.4**
comp=Z,155nm,0.9s,baz=104
RAKU Rahkiv 84.57 319 P **P 16 11 00.5 -0.2**
JOF Joensuu 84.57 334 *e*P **P 16 11 01.1 +0.8**
CJR Cluj-Napoca 84.69 317 ⇓P **P 16 11 03.1 +1.7**
CJR Cluj-Napoca 84.69 317 P **P 16 11 03.1 +1.7**
BMR Baia Mare 84.94 318 ⇑P **P 16 11 04.0 +1.4**
BMR Baia Mare 84.94 318 P **P 16 11 04.0 +1.4**
BMR pmax pmax
comp=Z,180nm,0.8s
MORS Morshin 84.97 320 P **P 16 11 02.4 -0.3**
MORS Morshin 84.97 320 P **P 16 11 02.4 -0.3**
MARR Marisel-Cluj 85.01 317 ⇓P **P 16 11 04.5 +1.4**
DEV Deva 85.01 317 ⇑P **P 16 11 03.6 +0.7**
DEV Deva 85.01 317 P **P 16 11 03.6 +0.7**
LVZ Lovozero 85.04 339 P **P 16 11 02.1 -0.6**
LVZ lAmb lAmb 16 11 03.3
comp=Z,64nm,0.8s
LVZ Lovozero 85.04 339 P **P 16 11 02.1 -0.6**
LVZ pmax pmax
comp=Z,64nm,0.8s
LVZ Lovozero 85.04 339 P **P 16 11 01.6 -1.1**
comp=Z,102nm,1.1s
MEZ Mezhgor'ye 85.10 319 P **P 16 11 03.3 -0.1**
HERR Herculane 85.17 315 ⇓P **P 16 11 04.8 +1.1**
MESR Meseseni 85.21 318 ⇑P **P 16 11 05.4 +1.5**
KORU Korolevo 85.28 319 P **P 16 11 04.7 +0.5**
DRGR 85.31 317 ⇓P **P 16 11 05.2 +0.7**
DRGR 85.31 317 ⇓P **P 16 11 05.2 +0.7**
SHIU Shidnytsya 85.33 320 P **P 16 11 04.9 +0.4**
APA Apatity 85.36 339⇓*i*P **P 16 11 02.2 -2.0**
APA *i* 16 14 18.0
APA pmax pmax
comp=Z,29nm,1.1s
TRSU Trosnyk 85.38 319 P **P 16 11 06.3 +1.6**
BRIU Brid 85.39 319 P **P 16 11 05.2 +0.4**
VSU Vasula 85.44 329*c i*P **P 16 11 05.1 +0.3**
VSU pmax pmax
comp=Z,93nm,0.6s
BOVS Bovan 85.46 314 ⇓P **P 16 11 05.2 0.0**
SURR Surduc 85.52 316 ⇑P **P 16 11 06.7 +1.2**
BERU Beregovo 85.51 319 P **P 16 11 06.3 +0.4**
MUKU Mukachevo 85.62 319 P **P 16 11 06.7 +0.8**
OHR Ohrid 85.73 312 *i* P **P 16 11 06.6 -0.1**
KWP Kalwaria Pacla 85.83 320 *e*P **P 16 11 07.8 +0.8**
KWP Kalwaria Pacla 85.83 320 lAmb lAmb 16 11 08.3
comp=Z,44nm,0.8s
KWP Kalwaria Pacla 85.83 320 P **P 16 11 07.7 +0.8**
KWP pmax pmax
comp=Z,77nm,1.3s
KWP Kalwaria Pacla 85.83 320 P **P 16 11 07.6 +0.6**
comp=Z,77nm,1.3s
HOLU Holmets 85.84 319 P **P 16 11 07.7 +0.7**
BZS Buzias 85.85 316 ⇑P **P 16 11 08.1 +0.9**
BZS Buzias 85.85 316 ⇑P **P 16 11 08.1 +0.9**
UZHM Uzhgorod 85.92 319 P **P 16 11 08.1 +0.7**
SIRR Siria 85.93 317 ⇑P **P 16 11 08.8 +1.2**
KOLS Kolonicke sedl 85.98 319 *e*P **P 16 11 09.2 +1.4**
KOLS pmax pmax
comp=Z,206nm,0.8s
KOLS Kolonicke sedl 85.98 319 *e*P **P 16 11 09.2 +1.4**
ARBE Arbavere 86.06 330 *e*P **P 16 11 08.9 +1.1**
PABE Paberze 86.23 326 *e*P **P 16 11 09.7 +1.0**
QSPA South Pole Qui 86.26 180 **P 16 11 10.1 +1.2**
QSPA lAmb lAmb 16 11 26.5
comp=Z,86nm,1.8s
QSPA South Pole Qui 86.26 180 P **P 16 11 10.0 +1.1**
comp=Z,9.9nm,0.9s,baz=294,slow=1.3,SNR=38
QSPA PKKP **PKKPdf 16 29 03.7 +1.1**
comp=Z,2.1nm,0.6s,baz=175,slow=1.3,SNR=20
QSPA LR LR 16 45 55.7
comp=Z,172nm,20.2s,baz=312,slow=33
comp=Z,9.9nm,0.9s
VSVD Vaisvydziai 86.35 327 *e*P **P 16 11 10.0 +0.7**
SUW Suwalki 86.38 325 *e*P **P 16 11 09.7 +0.1**
SUW Suwalki 86.38 325 *e*P **P 16 11 10.6 +1.0**
SUW Suwalki 86.38 325 P **P 16 11 09.8 +0.3**
SUW pmax pmax
comp=Z,307nm,1.0s
TIR Tirane 86.46 312 lAmb lAmb 16 11 16.3
comp=Z,32nm,0.6s
TIR Tirane 86.46 312 P **P 16 11 11.1 +0.8**
TIR pmax pmax
comp=Z,43nm,0.9s
TIR Tirane 86.46 312 P **P 16 11 10.8 +0.5**
comp=Z,43nm,0.9s
FIA1 FINESS Array S 86.50 332 P **P 16 11 10.4 +0.4**
FINES FINESS Array B 86.50 332 P **P 16 11 10.3 +0.3**
comp=Z,36nm,0.7s,baz=106,slow=5.5,SNR=132
FINES LR LR 16 54 42.4
comp=Z,141nm,18.6s,baz=114,slow=39
comp=Z,36nm,0.7s
PUK Puka 86.54 312 lAmb lAmb 16 11 11.7
comp=Z,34nm,0.8s
SJES Sjenica 86.65 314⇑*i*P **P 16 11 12.1 +0.8**
IVA Berane 86.65 313⇑*i*P **P 16 11 11.4 +0.1**
STHS Stebnicka Huta 86.73 320 *e*P **P 16 11 11.6 +0.2**
STHS pmax pmax
comp=Z,54nm,0.8s
STHS Stebnicka Huta 86.73 320 *e*P **P 16 11 11.6 +0.2**
KOME Kolasin 86.93 313⇑*i*P **P 16 11 12.5 -0.1**
MTSE Matsula 86.98 329 *e*P **P 16 11 13.2 +0.9**
ULC Ulcinj 87.00 312⇑*i*P **P 16 11 12.7 -0.3**
MEF Metsahovi 87.02 331 *e*P **P 16 11 13.5 +1.0**
FRGS Fruska Gora 87.04 315⇑*i*P **P 16 11 12.6 -0.4**
PDG Podgorica 87.06 313 lAmb lAmb 16 11 14.4
comp=Z,53nm,0.8s
PDG Podgorica 87.06 313⇑*i*P **P 16 11 13.4 +0.3**
PDG Podgorica 87.06 313⇑*i*P **P 16 11 13.1 0.0**
KECS Kecovo 87.07 319 *e*P **P 16 11 14.0 +0.9**
KECS pmax pmax
comp=Z,42nm,0.9s
KECS Kecovo 87.07 319 *e*P **P 16 11 14.0 +0.9**
PLE Pljevlja 87.08 314⇑*i*P **P 16 11 13.3 -0.1**
RUDO Rudo 87.14 314⇑*i*P **P 16 11 13.6 +0.1**
BBLS Lazi&#263i 87.14 314⇑*i*P **P 16 11 14.4 +0.8**
TEKS Tekeris 87.15 315⇑*i*P **P 16 11 14.0 +0.4**
KEF Keuruu 87.23 333 *e*P **P 16 11 14.3 +0.8**
BUM Brajici-Budva 87.31 313⇑*i*P **P 16 11 14.3 -0.2**
CEME Cevo 87.32 313⇑*i*P **P 16 11 14.4 -0.1**
NKME Niksic 87.33 313⇑*i*P **P 16 11 14.4 -0.1**
NIE Niedzica 87.34 320 *e*P **P 16 11 16.0 +1.6**
NIE Niedzica 87.34 320 P **P 16 11 16.2 +1.8**
NIE pmax pmax
comp=Z,25nm,1.3s
NIE Niedzica 87.34 320 P **P 16 11 15.6 +1.2**
comp=Z,25nm,1.4s
PSZ Piszkesteto 87.38 318 lAmb lAmb 16 11 16.4
comp=Z,40nm,0.9s
PSZ Piszkesteto 87.38 318 *e*P **P 16 11 15.7 +1.0**
PSZ Piszkesteto 87.38 318 P **P 16 11 15.3 +0.6**
PSZ pmax pmax
comp=Z,59nm,1.0s
BEL Belsk 87.41 322 *e*P **P 16 11 15.6 +1.0**
BEL Belsk 87.41 322 P **P 16 11 15.8 +1.2**
BEL pmax pmax
comp=Z,261nm,1.1s
PBUR Paburge 87.46 326 *e*P **P 16 11 15.7 +0.9**
OUL Oulu 87.48 336 P **P 16 11 15.4 +0.8**
OUL pmax pmax
comp=Z,212nm,0.9s
HAPS Han Pijesak,Bl 87.50 314⇑*i*P **P 16 11 16.1 +0.7**
VADS Vadso 87.60 341 *e*P **P 16 11 15.3 +0.2**
ADK Adak 87.60 38 P **P 16 11 14.1 -1.4**
ADK Adak 87.60 38 P **P 16 11 15.1 -0.4**
ADK Adak 87.60 38 P **P 16 11 14.1 -1.4**
ADK pmax pmax
comp=Z,95nm,1.0s
HCY Herceg Novi 87.62 313⇑*i*P **P 16 11 16.0 +0.1**
HCY Herceg Novi 87.62 313⇑*i*P **P 16 11 15.8 -0.1**
BRY Bratogost 87.64 313⇑*i*P **P 16 11 16.2 0.0**
BRY Bratogost 87.64 313⇑*i*P **P 16 11 15.9 -0.3**
TREB Trebinje 87.76 313⇑*i*P **P 16 11 16.8 +0.3**
OJC Ojcow 87.78 320 *e*P **P 16 11 17.1 +0.7**
OJC Ojcow 87.78 320 P **P 16 11 16.9 +0.4**
OJC pmax pmax
comp=Z,37nm,0.8s
OJC Ojcow 87.78 320 P **P 16 11 16.4 -0.1**
comp=Z,37nm,0.8s
SGF Sodankyl 87.83 338 P **P 16 11 16.6 +0.3**
SGF pmax pmax
comp=Z,87nm,1.0s
LANS Liptovska Anna 87.84 319 *e*P **P 16 11 17.9 +1.1**
LANS pmax pmax
comp=Z,12nm,0.8s
LANS Liptovska Anna 87.84 319 *e*P **P 16 11 17.9 +1.1**
MORH Mrgy, Hungar 87.99 316 ⇑P **P 16 11 18.3 +0.8**
MORH Mrgy, Hungar 87.99 316 P **P 16 11 17.5 0.0**
comp=Z,49nm,1.1s
STON Ston 88.25 313⇑*i*P **P 16 11 18.8 0.0**
KEV Kevo 88.27 340 P **P 16 11 17.7 -0.6**
KEV Kevo 88.27 340 P **P 16 11 17.7 -0.6**
KEV pmax pmax
comp=Z,87nm,0.9s
VAF Ylistaro 88.41 333 *e*P **P 16 11 20.3 +1.1**
SRO Srobarova 88.42 318 *e*P **P 16 11 21.2 +1.7**
SRO pmax pmax
comp=Z,68nm,0.8s
SRO Srobarova 88.42 318 *e*P **P 16 11 21.2 +1.7**
RAF Rauma 88.45 331 *e*P **P 16 11 20.0 +0.7**
TIP Timpagrande 88.56 309 lAmb lAmb 16 11 22.6
comp=Z,32nm,0.8s
TIP Timpagrande 88.56 309 P **P 16 11 21.3 +0.8**
comp=Z,48nm,1.5s,comp=Z,730nm
ARA0 ARCESS Array S 88.72 340 *e*P **P 16 11 20.8 +0.2**
ARCES ARCESS Array B 88.72 340 P **P 16 11 20.8 +0.3**
ARCES ARCESS Array B 88.72 340 P **P 16 11 20.6 +0.1**
comp=Z,77nm,0.8s,baz=98,slow=5.0,SNR=114
ARCES LR LR 16 57 12.8
comp=Z,238nm,18.4s,baz=102,slow=40
comp=Z,77nm,0.8s
ARCES ARCESS Array B 88.72 340 P **P 16 11 20.8 +0.3**
ARCES pmax pmax

comp=Z,103nm,0.9s
MATE Matera 88.75 311 *e*P **P** **16 11 22.7 +1.5**
OKC Ostrava-Krasne 88.78 320⇓*i*P **P** **16 11 22.4 +1.2**
OKC Ostrava-Krasne 88.78 320⇓*i*P **P** **16 11 22.4 +1.2**
BLY Banja Luka 88.84 315⇑*i*P **P** **16 11 22.5 +0.9**
MPLH Magyarpolny 88.86 317 P **P** **16 11 22.5 +0.9**
comp=Z,376nm,0.9s,comp=Z,4µm
MAUC Maruska 88.93 319⇓*e*P **P** **16 11 23.0 +1.0**
JAVC Velka Javorina 88.97 319 *e*P **P** **16 11 23.6 +1.4**
A051A Mrakovica 89.06 315⇑*i*P **P** **16 11 23.2 +0.5**
SMOL Smolenice 89.09 319 *e*P **P** **16 11 23.6 +0.9**
SMOL pmax pmax
comp=Z,11nm,1.0s
CEL Celeste 89.14 308 P **P** **16 11 24.0 +0.8**
comp=Z,148nm,1.1s,comp=Z,1µm
MORC Moravsky Berou 89.16 320 IAmb IAmb 16 11 25.1
comp=Z,47nm,0.7s
MORC Moravsky Berou 89.16 320 *e*P **P** **16 11 24.0 +0.9**
MORC Moravsky Berou 89.16 320 P **P** **16 11 24.2 +1.1**
MORC pmax pmax
comp=Z,80nm,1.1s
MODS Modra-Piesok 89.18 318 *e*P **P** **16 11 24.1 +1.0**
MODS pmax pmax
comp=Z,109nm,1.1s
MODS Modra-Piesok 89.18 318 *e*P **P** **16 11 24.1 +1.0**
A050A Klekovaca 89.27 314⇑*i*P **P** **16 11 23.9 +0.2**
CUC Castrocucco 89.36 310 IAmb IAmb 16 11 25.6
comp=Z,42nm,0.9s
TROLL Troll, Antarti 89.39 198⇑P **P** **16 11 26.2 +2.4**
TROLL ⇑PKKPbc **PKKPdf** **16 28 56.4 -0.6**
comp=Z,60nm,0.8s
KTK1 Kautokeino 89.39 339 *e*P **P** **16 11 23.9 +0.2**
SOP Sopron 89.58 318 P **P** **16 11 25.4 +0.4**
SOP pmax pmax
comp=Z,39nm,0.9s
HAMF Hammerfest 89.58 341 *e*P **P** **16 11 24.5 +0.1**
KOGS Kog 89.67 316 *i* P **P** **16 11 26.4 +1.0**
KOGS *i* pP **sP** **16 11 47.0 +0.6**
KRLC Kraliky 89.69 320⇓*i*P **P** **16 11 26.9 +1.4**
KRLC Kraliky 89.69 320⇓*i*P **P** **16 11 26.9 +1.4**
VRAC Vranov 89.73 319 *e*P **P** **16 11 26.3 +0.6**
VRAC Vranov 89.73 319 P **P** **16 11 26.5 +0.8**
VRAC pmax pmax
comp=Z,20nm,2.5s
GKP Gorka Klasztor 89.76 323 *e*P **P** **16 11 26.3 +0.6**
GKP Gorka Klasztor 89.76 323 *e*P **P** **16 11 27.0 +1.4**
GKP Gorka Klasztor 89.76 323 P **P** **16 11 26.1 +0.5**
GKP pmax pmax
comp=Z,162nm,0.8s
RONA Rosalia, Austr 89.76 318 *i* P **P** **16 11 26.4 +0.5**
comp=Z,19nm,0.9s,SNR=8.8
ZAG Zagreb 89.79 316 P **P** **16 11 27.6 +1.6**
ZAG pmax pmax
comp=Z,342nm,0.8s
KRUC Moravsky 89.83 319 *e*P **P** **16 11 26.6 +0.5**
KRUC Moravsky 89.83 319 P **P** **16 11 26.9 +0.8**
KRUC pmax pmax
comp=Z,27nm,1.1s
DPC Dobruska-Polom 90.01 320⇓*i*P **P** **16 11 28.5 +1.5**
DPC Dobruska-Polom 90.01 320⇓*i*P **P** **16 11 28.5 +1.5**
DPC Dobruska-Polom 90.01 320 P **P** **16 11 27.6 +0.6**
comp=Z,55nm,1.2s
CONA Conrad Observa 90.07 318 *i* P **P** **16 11 27.9 +0.5**
comp=Z,20nm,0.9s,SNR=8.9
KSP Ksiaz 90.08 321 *e*P **P** **16 11 28.4 +1.1**
KSP Ksiaz 90.08 321 P **P** **16 11 28.6 +1.4**
KSP pmax pmax
comp=Z,61nm,1.7s
KSP Ksiaz 90.08 321 P **P** **16 11 27.9 +0.7**
comp=Z,61nm,1.7s
OSTC Ostas 90.10 321⇓*i*P **P** **16 11 28.9 +1.5**
OSTC Ostas 90.10 321⇓*i*P **P** **16 11 28.9 +1.5**
CHVC Chvalec 90.20 321 *e*P **P** **16 11 29.1 +1.2**
CHVC Chvalec 90.20 321 *e*P **P** **16 11 29.1 +1.2**
UPC Upice 90.22 320⇓*i*P **P** **16 11 29.5 +1.6**
UPC Upice 90.22 320⇓*i*P **P** **16 11 29.5 +1.6**
ARSA Arzberg 90.24 317 *i* PcP **PcP** **16 11 29.1 -0.2**
comp=Z,38nm,0.8s,SNR=18
TREC Trest 90.45 319⇓*i*P **P** **16 11 30.1 +1.1**
TREC Trest 90.45 319⇓*i*P **P** **16 11 30.1 +1.1**
JETT Jettan, Norway 90.48 340 *e*P **P** **16 11 29.1 +0.3**
SOKA Soboth 90.52 317 *i* PcP **PcP** **16 11 30.5 -0.2**
comp=Z,57nm,0.9s,SNR=31
LJU Ljubljana 90.82 316 *i* P **P** **16 11 31.9 +1.1**
LJU *i* 16 11 37.1
LJU *i* pP **sP** **16 11 52.4 +0.6**
OBKA Obir 90.84 316 *i* PcP **PcP** **16 11 32.0 -0.1**
comp=Z,28nm,0.8s,SNR=7.9
OBKA Obir 90.84 316⇑*i*P **P** **16 11 31.5 +0.5**
CEY Cerknica 90.87 316⇑*i*P **P** **16 11 31.4 +0.3**
GOPC GO Pecny, Ondr 90.95 320⇓*e*P **P** **16 11 32.5 +1.1**
GOPC GO Pecny, Ondr 90.95 320 *e*P **P** **16 11 32.5 +1.1**
TRO Tromso 91.01 340 *e*P **P** **16 11 31.0 -0.1**
SNAA Sanae 91.10 198 *e*P **P** **16 11 33.6 +1.9**
SNAA Sanae 91.10 198⇑P **P** **16 11 33.4 +1.7**
comp=Z,65nm,0.7s
SNAA ⇑PKKPdf **PKKPdf** **16 28 50.1 -3.7**
comp=Z,19nm,0.5s
SNAA Sanae 91.10 198 P **P** **16 11 33.3 +1.6**
comp=Z,3.6nm,0.9s,baz=130,slow=4.7,SNR=17
SNAA PKKP **PKKPdf** **16 28 52.0 -1.8**
comp=Z,1.8nm,0.8s,baz=239,slow=7.1,SNR=13
SNAA PKPPKP **P'P'df** **16 36 58.0 -6.8**
comp=Z,1.5nm,0.9s,baz=199,slow=3.0,SNR=6.3
SNAA LR LR 16 49 38.2
comp=Z,169nm,18.0s,baz=28,slow=34
comp=Z,3.6nm,0.9s
SNAA Sanae 91.10 198 *c*e P **P** **16 11 33.7 +1.9**
SNAA pmax pmax
comp=Z,18nm,1.8s
PRU Pruhonice 91.12 320⇓*i*P **P** **16 11 33.2 +1.1**
PRU Pruhonice 91.12 320⇓*i*P **P** **16 11 33.2 +1.1**
MOA Molln 91.14 318 *i* P **P** **16 11 32.6 +0.3**
comp=Z,18nm,0.8s,SNR=9.0
PVCC Panska Ves 91.14 320⇓*e*P **P** **16 11 33.4 +1.2**
PVCC Panska Ves 91.14 320 *e*P **P** **16 11 33.4 +1.2**
CKRC Cesky Krumlov 91.18 319⇓*i*P **P** **16 11 33.7 +1.2**
CKRC Cesky Krumlov 91.18 319⇓*i*P **P** **16 11 33.7 +1.2**
BSD Bornholm Skovb 91.29 325 *e*P **P** **16 11 33.2 +0.5**
BSD Bornholm Skovb 91.29 325 P **P** **16 11 32.9 +0.2**
BSD pmax pmax
comp=Z,45nm,1.4s
ZVC Zvikov 91.30 319⇓*e*P **P** **16 11 33.9 +0.9**
SABO M.te Sabotino 91.46 316 IAmb IAmb 16 11 35.2
comp=Z,28nm,0.9s
MYKA Terra Mystica 91.48 316 *i* PcP **PcP** **16 11 34.5 -0.4**
comp=Z,12nm,0.6s,SNR=5.7
BIOA Bad Ischl, Aus 91.55 318 *i* P **P** **16 11 34.4 +0.2**
comp=Z,20nm,0.7s,SNR=12
BRG Berggiesshubel 91.56 321 *i* P **P** **16 11 35.2 +1.0**
BRG Amp 16 11 36.2
comp=Z,27nm,0.8s
BRG pP **pP** **16 11 48.1 -1.3**
BRG Amp 16 11 56.4
comp=Z,19nm,1.1s
BRG PP **PP** **16 15 13.9 +1.1**
BRG Amp 16 15 19.2
comp=Z,6.8nm,0.9s
BRG Berggiesshubel 91.56 321 *i* P **P** **16 11 35.1 +1.0**
BRG 16 11 48.0
BRG 16 15 13.9
BRG pmax pmax
comp=Z,27nm,0.8s
BRG pmax pmax
comp=Z,7.0nm,0.9s
GEC2 GERESS Array S 91.58 319 IAmb IAmb 16 11 36.3
comp=Z,33nm,1.1s
GEC2 GERESS Array S 91.58 319 P **P** **16 11 35.2 +0.8**
GEC2 pmax pmax
comp=Z,42nm,1.2s
GERES GERESS Array B 91.58 319 P **P** **16 11 35.2 +0.8**
comp=Z,17nm,0.8s,baz=90,slow=4.9,SNR=31
comp=Z,17nm,0.8s
KHC Kasperske Hory 91.68 319⇓*i*P **P** **16 11 35.6 +0.8**
KHC Kasperske Hory 91.68 319⇓*i*P **P** **16 11 35.6 +0.8**
KHC Kasperske Hory 91.68 319 P **P** **16 11 34.8 0.0**
comp=Z,14nm,1.4s
GAMB Gambell 91.71 26 P **P** **16 11 34.4 0.0**
baz=265
KBA Koelnbreinsper 91.71 317 *i* P **P** **16 11 35.0 -0.1**
comp=Z,17nm,1.0s
KBA Koelnbreinsper 91.71 317 P **P** **16 11 35.1 -0.1**
KBA pmax pmax
comp=Z,21nm,0.9s

RUE Ruedersdorf 91.77 322 *e*P **P** **16 11 36.4 +1.4**
HSKC Hora Svate Kat 91.87 320⇓*e*P **P** **16 11 36.6 +1.0**
SPIA Saint Paul Isl 91.93 33 P **P** **16 11 35.6 -0.1**
baz=266
FAUS Fauske 92.09 337 *e*P **P** **16 11 36.6 +0.4**
WET Wettzell 92.14 319 P **P** **16 11 37.7 +0.8**
WET pmax pmax
comp=Z,37nm,1.5s
STEI Steigen 92.16 338 *e*P **P** **16 11 36.6 +0.2**
CLL Collm 92.18 321⇑*i*P **P** **16 11 37.4 +0.4**
CLL *e**PP **pP** **16 11 52.0 -0.2**
CLL *e**SP **sP** **16 11 58.0 0.0**
CLL pmax pmax
comp=Z,18nm,1.0s
CLL Collm 92.18 321⇑*i*P **P** **16 11 37.4 +0.4**
comp=Z,18nm,1.0s
CLL *e*pP **pP** **16 11 52.0 -0.2**
CLL *e*sP **sP** **16 11 58.0 0.0**
CLL Collm 92.18 321 P **P** **16 11 36.7 -0.3**
comp=Z,19nm,1.1s
LESA Schwarzleotal 92.18 317 *i* P **P** **16 11 37.1 -0.1**
comp=Z,23nm,0.6s
ABTA Abfaltersbach 92.26 317 *i* P **P** **16 11 37.5 -0.1**
comp=Z,18nm,0.9s,SNR=7.2
P08K Saint George I 92.27 34 P **P** **16 11 37.1 -0.2**
baz=267
HFS Hagfors 92.30 330 P **P** **16 11 37.7 +0.4**
comp=Z,50nm,0.8s,baz=116,slow=3.4,SNR=51
HFS PP **PP** **16 15 16.1 -2.3**
comp=Z,7.1nm,0.8s,baz=107,slow=9.5,SNR=4.5
HFS LR LR 16 58 44.3
comp=Z,367nm,18.2s,baz=90,slow=39
comp=Z,50nm,0.8s
MOR8 Moi Rana 92.34 336 *e*P **P** **16 11 37.1 -0.3**
NKC Novy Kostel 92.48 320⇓*e*P **P** **16 11 39.5 +1.1**
NKC Novy Kostel 92.48 320 *e*P **P** **16 11 39.5 +1.1**
NIKH Nikolski High 92.48 37 P **P** **16 11 37.7 -0.6**
baz=267
NIKH Nikolski High 92.48 37 P **P** **16 11 37.7 -0.6**
SPA0 Spitsbergen Ar 92.69 348 *e*P **P** **16 11 38.2 -0.7**
SPITS Spitsbergen Ar 92.69 348 P **P** **16 11 38.1 -0.7**
comp=Z,28nm,0.8s,baz=104,slow=7.0,SNR=20
SPITS LR LR 17 00 11.5
comp=Z,228nm,18.9s,baz=52,slow=40
comp=Z,28nm,0.8s
VNA2 Neumayer--Watz 92.73 198⇑P **P** **16 11 41.0 +1.8**
comp=Z,2.5nm,0.8s,baz=104,slow=3.4
VNA2 ⇑PKKPdf **PKKPdf** **16 28 47.4 -3.4**
comp=Z,0.9nm,0.5s,baz=323,slow=5.1
TEOL Teolo 92.78 315 IAmb IAmb 16 11 41.7
comp=Z,64nm,1.4s
LOF Lofoten 92.81 338 *e*P **P** **16 11 39.0 -0.5**
CTI Castel Tesino 92.82 316 IAmb IAmb 16 11 42.2
comp=Z,46nm,0.8s
WTTA Wattenberg 92.88 317 *i* P **P** **16 11 40.5 -0.1**
comp=Z,34nm,0.7s,SNR=13
WTTA Wattenberg 92.88 317 P **P** **16 11 40.6 0.0**
WTTA pmax pmax
comp=Z,48nm,1.0s
STOK Stokkvaagen 92.93 336 *e*P **P** **16 11 39.9 -0.1**
WATA Walderalm 92.93 317 *i* P **P** **16 11 40.5 -0.2**
comp=Z,19nm,0.7s,SNR=5.7
GRB1 Grafenberg Arr 92.95 319 P **P** **16 11 41.7 +1.1**
GRB1 pmax pmax
comp=Z,72nm,1.1s
MOX Moxa 93.03 320 P **P** **16 11 41.5 +0.6**
MOX pmax pmax
comp=Z,14nm,1.2s
VNA1 Neumayer--Stat 93.09 198⇑P **P** **16 11 42.3 +1.5**
comp=Z,6.2nm,1.4s
VNA1 ⇑PKKPdf **PKKPdf** **16 28 48.2 -1.9**
comp=Z,3.8nm,1.0s
SQTA Sankt Quirin 93.17 317 *i* P **P** **16 11 41.8 0.0**
comp=Z,27nm,0.6s,SNR=11
ZCCA Zocca 93.23 314 IAmb IAmb 16 11 52.0
comp=Z,31nm,0.9s
GRA1 Grafenberg Arr 93.25 319 IAmb IAmb 16 11 44.0
comp=Z,34nm,0.9s
GRF Grafenberg Arr 93.25 319 P **P** **16 11 43.5 +1.5**
GRF pmax pmax
comp=Z,43nm,0.8s
GRF Grafenberg Arr 93.25 319 *e*P **P** **16 11 42.2 +0.2**
baz=92,slow=4.4
MOTA Moosalm 93.25 317 *i* P **P** **16 11 42.2 -0.1**
comp=Z,32nm,0.9s
NSS Namsos 93.30 334 *e*P **P** **16 11 42.1 +0.3**
VNA3 Neumayer Olymp 93.31 198⇑P **P** **16 11 44.4 +2.5**
comp=Z,1.1nm,0.7s
VNA3 ⇑PKKPdf **PKKPdf** **16 28 46.0 -3.8**
comp=Z,1.1nm,0.4s
NC405 NORSAR Array S 93.32 331 IAmb IAmb 16 11 43.1
comp=Z,28nm,0.9s
NC602 NORSAR Array S 93.39 331 IAmb IAmb 16 11 43.2
comp=Z,25nm,0.9s
NC602 NORSAR Array S 93.39 331 *e*P **P** **16 11 42.3 0.0**
NORES NORESS Array B 93.39 331 P **P** **16 11 44.8 +2.4**
TNA Tin City 93.43 25 P **P** **16 11 42.2 -0.2**
baz=269
RETA Reutte 93.48 317 *i* PcP **P** **16 11 43.4 +0.2**
comp=Z,27nm,0.8s,SNR=11
NC303 NORSAR Array S 93.49 331 IAmb IAmb 16 11 46.7
comp=Z,74nm,1.6s
FETA Feichten 93.49 317 *i* PcP **PcP** **16 11 43.7 -0.2**
comp=Z,20nm,0.8s,SNR=6.8
NB2 NORSAR Subarra 93.56 331 P **P** **16 11 42.9 -0.3**
comp=Z,40nm,1.0s,baz=93,slow=4.6
NB2 NORSAR Subarra 93.56 331 P **P** **16 11 42.9 -0.3**
baz=93,slow=4.6
NB2 NORSAR Subarra 93.56 331 P **P** **16 11 40.5 -2.7**
NOA NORSAR Array B 93.56 331 P **P** **16 11 42.9 -0.3**
comp=Z,14nm,0.8s,baz=92,slow=4.6,SNR=35
NOA PP **PP** **16 15 24.1 -4.1**
comp=Z,1.7nm,0.7s,baz=100,slow=6.9,SNR=4.4
NOA LR LR 16 58 42.5
comp=Z,97nm,20.3s,baz=95,slow=39
comp=Z,14nm,0.8s
NBO00 NORSAR Array S 93.77 331 IAmb IAmb 16 11 45.1
comp=Z,27nm,0.9s
NC204 NORSAR Array S 93.78 331 IAmb IAmb 16 11 45.2
comp=Z,33nm,0.8s
OSL Oslo 93.78 330 *e*P **P** **16 11 44.8 +0.7**
FUORN Ofenpass-Fuorn 93.80 316 IAmb IAmb 16 11 46.7
comp=Z,23nm,0.9s
BSEG Bad Segeberg 93.91 324 P **P** **16 11 46.0 +1.1**
BSEG pmax pmax
comp=Z,32nm,1.3s
UNV Unalaska Valle 93.92 36 P **P** **16 11 44.2 -0.7**
baz=269
TBLU Trondheim 94.03 333 *e*P **P** **16 11 45.7 +0.5**
DAVA Damuels 94.08 317 *i* PcP **PcP** **16 11 46.5 0.0**
comp=Z,36nm,1.0s,SNR=14
F14K Arctic Creek 94.09 25 P **P** **16 11 45.3 -0.2**
baz=270
M11K Mekoryuk 94.15 30 P **P** **16 11 45.2 -0.5**
baz=270
KEST Kesra 94.22 305 IAmb IAmb 16 11 49.8
comp=Z,42nm,0.9s
KEST Kesra 94.22 305 P **P** **16 11 48.8 +1.9**
comp=Z,31nm,0.9s,baz=347,slow=1.6,SNR=19
comp=Z,31nm,0.9s
KONO Kongsberg 94.35 329 P **P** **16 11 46.8 0.0**
KONO IAmb IAmb 16 11 47.8
comp=Z,27nm,0.8s
KONO Kongsberg 94.35 329 *e*P **P** **16 11 46.7 0.0**
KONO Kongsberg 94.35 329 P **P** **16 11 46.8 0.0**
KONO pmax pmax
comp=Z,27nm,0.9s
C16K Lisburne Hills 94.45 22 P **P** **16 11 47.0 0.0**
baz=271
ANM Nome 94.51 26 P **P** **16 11 47.2 -0.2**
baz=271
STU Stuttgart 94.56 318 *e*P **P** **16 11 48.6 +0.6**
DOMB Dombas 94.59 332 *e*P **P** **16 11 48.3 +0.4**
F15K North Star Dit 94.79 24 IAmb IAmb 16 11 49.6
comp=Z,36nm,0.8s
F15K North Star Dit 94.79 24 P **P** **16 11 48.3 -0.3**
baz=272
K13K Kusilvak Mount 94.88 28 P **P** **16 11 48.8 -0.4**
baz=271
SKAR Skarslia 94.98 330 *e*P **P** **16 11 50.5 +0.8**
TNS Taunus Mts 95.05 320 P **P** **16 11 50.6 +0.3**
TNS pmax pmax
comp=Z,36nm,0.9s
G15K Niukluk 95.07 25 P **P** **16 11 49.6 -0.3**
baz=272
C17K DeLong Mountai 95.25 22 P **P** **16 11 50.9 +0.1**
baz=273

D17K Noatak River 95.33 22 P **P** **16 11 51.2 +0.1**
baz=273
J14K Nanvaranak Lak 95.37 27 P **P** **16 11 51.6 +0.2**
baz=272
RDOG Red Dog Mine 95.37 22 IAmb IAmb 16 11 51.9
comp=Z,31nm,0.9s
RDOG Red Dog Mine 95.37 22 P **P** **16 11 51.2 -0.1**
baz=274
B18K Kokolik River 95.68 21 P **P** **16 11 53.0 +0.4**
baz=275
G16K Koyuk River 95.75 25 P **P** **16 11 53.2 +0.1**
baz=274
L14K Kuka Creek 95.84 29 IAmb IAmb 16 11 56.8
comp=Z,38nm,1.4s
L14K Kuka Creek 95.84 29 P **P** **16 11 53.7 +0.2**
baz=273
E17K Hotham Inlet 95.85 23 P **P** **16 11 53.8 +0.3**
baz=274
H16K Elim 95.85 26 P **P** **16 11 53.3 -0.2**
baz=274,SNR=5.8
A19K Wainwright 95.86 20 P **P** **16 11 53.9 +0.5**
baz=275
C18K Utukok River 95.96 21 IAmb IAmb 16 11 54.7
comp=Z,33nm,0.8s
C18K Utukok River 95.96 21 P **P** **16 11 54.2 +0.1**
baz=275
F17K Baldwin Pennin 96.13 24 IAmb IAmb 16 11 55.8
comp=Z,31nm,0.8s
F17K Baldwin Pennin 96.13 24 P **P** **16 11 55.0 +0.2**
baz=275
M14K Bethel 96.23 29 P **P** **16 11 55.5 +0.3**
baz=274
E18K Tukpahlearik C 96.30 23 IAmb IAmb 16 11 56.6
comp=Z,29nm,1.0s
E18K Tukpahlearik C 96.30 23 P **P** **16 11 55.9 +0.4**
baz=276
K15K Wolf Creek Mou 96.33 28 P **P** **16 11 56.0 +0.2**
baz=274
L15K Ungalak Mounta 96.39 28 P **P** **16 11 56.6 +0.6**
baz=274
RAR Rarotonga 96.41 112 LR LR 16 56 31.0
comp=Z,81nm,20.2s,baz=210,slow=36
N14K Kuskokwak Cree 96.42 30 P **P** **16 11 56.7 +0.6**
baz=274
G17K Kiwalik Mounta 96.46 25 P **P** **16 11 56.4 +0.1**
baz=275
C19K Lookout Ridge 96.49 21 IAmb IAmb 16 11 57.8
comp=Z,41nm,1.0s
C19K Lookout Ridge 96.49 21 P **P** **16 11 56.8 +0.3**
baz=277
I17K Unalakleet 96.58 26 P **P** **16 11 57.2 +0.4**
baz=275
J16K Anvik River 96.68 27 P **P** **16 11 57.8 +0.4**
baz=275,SNR=6.4
F18K Selawik 96.75 23 P **P** **16 11 57.7 +0.2**
baz=276
H17K Granite Mounta 96.82 25 P **P** **16 11 58.2 +0.2**
baz=276,SNR=13
M15K Kasigluk River 96.86 29 P **P** **16 11 59.0 +0.9**
baz=275
D19K Kuna River 97.10 21 P **P** **16 11 59.0 -0.2**
baz=278
N15K Kwethluk River 97.19 30 IAmb IAmb 16 12 01.5
comp=Z,31nm,1.1s
N15K Kwethluk River 97.19 30 P Pdif 16 11 60.0 +0.1
baz=275
B20K Meade River 97.21 20 P **P** **16 11 59.3 -0.3**
baz=279
G18K Tagagawik 97.24 24 P **P** **16 11 59.4 -0.4**
baz=277
L16K Owhat River 97.35 28 P **P** **16 12 00.3 -0.1**
baz=276
J17K VABM Dome 97.35 27 P **P** **16 12 00.1 -0.3**
baz=276
O15K Ungalikthiuk R 97.42 31 P **P** **16 12 00.4 -0.4**
baz=275
H18K Honhosa River 97.45 25 P **P** **16 12 00.5 -0.3**
baz=277,SNR=10
F19K Shaleruckik Mo 97.46 23 IAmb IAmb 16 12 01.4
comp=Z,31nm,0.9s
F19K Shaleruckik Mo 97.46 23 P **P** **16 12 00.4 -0.4**
baz=278
E19K Redstone River 97.58 22 IAmb IAmb 16 12 02.3
comp=Z,35nm,0.9s
E19K Redstone River 97.58 22 P **P** **16 12 01.1 -0.3**
baz=279
D20K Etivluk River 97.61 21 P Pdif 16 12 01.5 0.0
baz=280
M16K Timber Creek 97.67 29 P Pdif 16 12 02.2 +0.3
baz=276
NOR Nord 97.69 353 P **P** **16 12 00.7 -0.9**
NOR pmax pmax
comp=Z,15nm,1.1s
A22K Sinclair Lake 97.76 19 P Pdif 16 12 02.6 +0.6
baz=281
K17K Iditarod 97.78 27 IAmb IAmb 16 12 03.6
comp=Z,23nm,0.8s
K17K Iditarod 97.78 27 P Pdif 16 12 02.9 +0.5
baz=277,SNR=5.6
N16K Nishlik Lake 97.82 30 P Pdif 16 12 02.8 +0.1
baz=276
G19K Purcell Mounta 97.84 24 P **P** **16 12 02.4 -0.1**
baz=279,SNR=25
E20K Nigu River 97.84 22 P Pdif 16 12 02.9 +0.3
baz=280
L17K Donlin 97.85 28 P **P** **16 12 02.7 0.0**
baz=277
CHNA Chernabura Isl 97.93 35 P **P** **16 12 03.0 -0.1**
baz=275
GCSA Galena City Sc 98.13 25 Pdiff Pdif 16 12 04.1 +0.2
baz=279
B21K Ikpikpuk River 98.15 20 Pdiff Pdif 16 12 04.0 +0.2
baz=282
C21K Knifeblade Rid 98.19 21 Pdiff Pdif 16 12 04.3 +0.2
baz=281
H19K Roundabout Mou 98.19 24 Pdiff Pdif 16 12 04.2 +0.1
baz=279,SNR=41
F20K Avaraart Lake 98.23 23 IAmb IAmb 16 12 05.2
comp=Z,34nm,0.8s
F20K Avaraart Lake 98.23 23 Pdiff **P** **16 12 04.2 -0.1**
baz=280,SNR=22
O16K Kokwok River B 98.26 30 Pdiff **P** **16 12 04.4 -0.1**
baz=277
M17K Holitna River 98.35 29 Pdiff Pdif 16 12 05.4 +0.5
baz=278
P16K Nushagak River 98.38 31 Pdiff Pdif 16 12 05.5 +0.4
baz=277
J18K Innoko River 98.39 26 Pdiff Pdif 16 12 05.2 0.0
baz=279
B22K Teshekpuk Lake 98.41 19 IAmb IAmb 16 12 05.4
comp=Z,49nm,1.1s
B22K Teshekpuk Lake 98.41 19 Pdiff **P** **16 12 04.8 -0.1**
baz=283,SNR=7.3
L18K Granite Mounta 98.59 28 Pdiff Pdif 16 12 06.0 0.0
baz=278
E21K Killik River 98.62 21 Pdiff **P** **16 12 05.9 -0.1**
baz=282
O17K Koliganek Bris 98.74 30 Pdiff **P** **16 12 06.6 -0.1**
baz=278
J19K Poorman 98.79 26 Pdiff Pdif 16 12 07.0 +0.2
baz=280
TTA Tatalina 98.79 27 Pdiff Pdif 16 12 07.3 +0.3
baz=279
H20K Anotleneega Mo 98.84 24 Pdiff Pdif 16 12 07.3 +0.2
baz=281,SNR=16
D22K Ayikyak River 98.98 21 IAmb IAmb 16 12 08.8
comp=Z,21nm,0.8s
D22K Ayikyak River 98.98 21 Pdiff Pdif 16 12 07.9 +0.3
baz=283
F21K Alatna River 99.05 22 IAmb IAmb 16 12 09.3
comp=Z,26nm,0.9s
F21K Alatna River 99.05 22 Pdiff **Pdif** **16 12 08.0 0.0**
baz=282
I20K Naaghedeneel 99.14 25 Pdiff **Pdif** **16 12 08.5 +0.2**
baz=281
P17K Kvichak River 99.15 31 Pdiff **Pdif** **16 12 08.4 -0.1**
baz=278
G21K Allakaket 99.19 23 Pdiff **Pdif** **16 12 08.6 0.0**
baz=282
N18K Kilae Creek 99.20 29 Pdiff **Pdif** **16 12 09.1 +0.3**
baz=279
IMAR Indian Mountai 99.20 24 **Pdif** **16 12 08.6 -0.1**
J20K Nowinta River 99.40 26 Pdiff **Pdif** **16 12 09.9 +0.4**
baz=281
L19K White Mountain 99.45 28 Pdiff **Pdif** **16 12 09.8 0.0**
baz=280
C23K Itkillik River 99.46 20 IAmb IAmb 16 12 10.7
comp=Z,34nm,1.1s

C23K	Itkillik River	99.46	20	Pdiff	Pdif	16 12 10.1	+0.4
	baz=285,SNR=6.5						
E22K	Anaktuvuk Pass	99.47	21	Pdiff	Pdif	16 12 09.8	-0.1
	baz=284,SNR=13						
F22K	John River	99.48	22	Pdiff	Pdif	16 12 10.0	+0.1
	baz=284						
Q17K	Contact Creek	99.57	32	Pdiff	Pdif	16 12 10.6	0.0
	baz=278						
K20K	Telida	99.59	26	Pdiff	Pdif	16 12 10.7	+0.3
	baz=281						
H21K	Melozitna Rive	99.65	24	Pdiff	Pdif	16 12 11.0	+0.3
	baz=283,SNR=13						
D23K	Nanushuk River	99.67	20	Pdiff	Pdif	16 12 10.9	+0.3
	baz=285						
M19K	Big River Lodg	99.71	28	Pdiff	Pdif	16 12 11.1	+0.1
	baz=280						
P18K	Big Mountain,	99.73	30	Pdiff	Pdif	16 12 11.1	-0.1
	baz=279						
L20K	Farewell, AK	99.84	27	Pdiff	Pdif	16 12 12.0	+0.4
	baz=281						
N19K	Bonanza Creek	99.86	29	Pdiff	Pdif	16 12 11.8	0.0
	baz=280						
G22K	Bettles	99.88	23	Pdiff	Pdif	16 12 11.4	-0.2
	baz=284						
Q18K	Katmai Hardscr	99.97	31	Pdiff	Pdif	16 12 12.5	+0.1
	baz=279						
JMIC	Jan Mayen	100.07	342	LR	LR	17 03 55.7	
	comp=Z,231nm,20.5s,baz=74,slow=39						
C24K	Franklin Bluff	100.13	20	Pdiff	Pdif	16 12 12.9	+0.3
	baz=287						
TOLK	Toolik Lake Re	100.14	21	Pdiff	Pdif	16 12 12.8	0.0
	baz=286,SNR=13						
H22K	Ishtalitna Cre	100.17	24	Pdiff	Pdif	16 12 13.4	+0.4
	baz=284						
D24K	Happy Valley	100.25	20	Pdiff	Pdif	16 12 13.4	+0.1
	baz=287						
E23K	Chandalar	100.29	21	Pdiff	Pdif	16 12 13.8	+0.3
	baz=286						
COLD	Coldfoot	100.29	22	Pdiff	Pdif	16 12 14.1	+0.7
	baz=285,SNR=5.1						
M20K	Styx River	100.30	28	Pdiff	Pdif	16 12 13.8	+0.1
	baz=282						
CAST	Castle Rocks	100.45	26	Pdiff	Pdif	16 12 14.7	+0.4
	baz=283						
G23K	Bananza Creek	100.50	23	Pdiff	Pdif	16 12 14.7	+0.2
	baz=285						
PPLA	Purkeypile	100.52	27	Pdiff	Pdif	16 12 15.1	+0.4
	baz=283						
Q19K	Cape Douglas,	100.62	31	Pdiff	Pdif	16 12 15.7	+0.5
	baz=281						
E24K	Your Creek	100.69	21	Pdiff	Pdif	16 12 15.7	+0.4
	baz=287						
SII	Sitkinak Islan	100.75	33	Pdiff	Pdif	16 12 16.1	+0.3
	baz=280						
TORD	Torodi Ar. Bea	100.77	283	P	Pdif	16 12 17.5	+0.8
	comp=Z,1.5nm,1.0s,baz=50,slow=4.4,SNR=5.9						
TORD				PKiKP	PKiKP	16 16 40.7	-2.0
	comp=Z,1.4nm,0.8s,baz=28,slow=2.2,SNR=3.6						
TORD				PKKPbc	PKKPbc	16 28 30.1	+0.2
	comp=Z,2.0nm,0.8s,baz=317,slow=3.8,SNR=7.4						
N20K	Mount Spurr	100.87	28	Pdiff	Pdif	16 12 16.5	+0.2
	baz=282						
SPCR	Spurr Chakacha	100.87	28	Pdiff	Pdif	16 12 16.5	+0.2
	baz=282						
H23K	Yukon River	100.92	23	Pdiff	Pdif	16 12 16.5	+0.2
	baz=286						
SKT	Skwentna	101.02	27	Pdiff	Pdif	16 12 17.2	+0.3
	baz=283						
D25K	Kavik River	101.03	20	Pdiff	Pdif	16 12 16.8	0.0
	baz=289						
F24K	Squaw Lake	101.07	22	Pdiff	Pdif	16 12 17.6	+0.7
	baz=288						
TRF	Thorofare Moun	101.23	26	Pdiff	Pdif	16 12 18.3	+0.4
	baz=284						
C26K	Camden Bay	101.31	19	Pdiff	Pdif	16 12 18.6	+0.7
	baz=291						
Q20K	Shuyak Island	101.32	31	Pdiff	Pdif	16 12 18.7	+0.5
	baz=282						
KDAK	Kodiak Island	101.38	32	Pdiff	Pdif	16 12 18.8	+0.4
	baz=281						
G24K	Hadweenzic Riv	101.47	22	Pdiff	Pdif	16 12 19.2	+0.4
	baz=288						
SUA	Susitna One	101.50	28	Pdiff	Pdif	16 12 18.9	-0.2
	baz=284						
H24K	Noodor Dome	101.58	23	Pdif	Pdif	16 12 18.9	-0.4
H24K	Noodor Dome	101.58	23	Pdiff	Pdif	16 12 19.4	+0.1
	baz=287,SNR=5.1						
EKA	Eskdalemuir Ar	101.59	326	PP	PP	16 16 27.7	-2.2
	comp=Z,6.4nm,0.9s,baz=93,slow=7.5,SNR=3.1						
E25K	Arctic Village	101.71	21	Pdiff	Pdif	16 12 19.9	+0.1
	baz=290						
M22K	Willow	101.72	28	Pdiff	Pdif	16 12 20.1	+0.3
	baz=284						
MCK	McKinley	101.74	25	Pdiff	Pdif	16 12 19.9	-0.1
	baz=286						
C27K	Jago River	101.81	19	Pdiff	Pdif	16 12 20.5	+0.3
	baz=292						
F25K	Christian Rive	101.86	21	Pdiff	Pdif	16 12 20.9	+0.4
	baz=290						
BRSE	Bradley Lake S	101.91	30	Pdiff	Pdif	16 12 21.2	+0.4
	baz=283						
POKR	Poker Plat Res	101.97	24	Pdiff	Pdif	16 12 21.3	+0.3
	baz=288						
WAT1	Susitna Watana	102.15	26	Pdiff	Pdif	16 12 21.9	0.0
	baz=286						
PMR	Palmer	102.22	28	Pdiff	Pdif	16 12 22.4	+0.3
	baz=285						
H25L	Birch Creek	102.24	23	Pdiff	Pdif	16 12 22.4	+0.3
	baz=289						
ILAR	Eielson Array	102.29	24	P	Pdif	16 12 20.4	-2.0
	comp=Z,1.2nm,0.7s,baz=285,slow=4.0,SNR=16						
ILAR				PP	PP	16 16 16.9	-18
	comp=Z,0.9nm,0.8s,baz=292,slow=8.8,SNR=4.4						
ILAR				PKKPbc	PKKPbc	16 28 25.1	-2.0
	comp=Z,1.2nm,0.7s,baz=110,slow=2.3,SNR=12						
BMAR	Burnt Mountain	102.31	21	Pdif	Pdif	16 12 23.3	+0.8
F26K	Sheenjek River	102.37	21	Pdiff	Pdif	16 12 22.9	+0.2
	baz=291,SNR=5.5						
SEW	Seward	102.45	29	Pdiff	Pdif	16 12 23.4	+0.3
	baz=285						
SML	Sawmill	102.53	27	Pdiff	Pdif	16 12 24.0	+0.4
	baz=286						
KNK	Knik Glacier	102.58	28	Pdiff	Pdif	16 12 24.0	+0.2
	baz=286						
WAT6	Susitna Watana	102.58	26	Pdiff	Pdif	16 12 24.0	0.0
	baz=287						
DHY	Denali Highway	102.60	26	Pdiff	Pdif	16 12 23.9	-0.1
	baz=287						
PRP	Porcupine Dome	102.60	23	Pdiff	Pdif	16 12 24.0	+0.1
	baz=289						
G26K	Porcupine Rive	102.77	22	Pdiff	Pdif	16 12 24.7	+0.3
	baz=291						
PWL	Port Wells	102.79	28	Pdiff	Pdif	16 12 24.9	+0.2
	baz=286						
D27M	Malcolm River	102.85	19	Pdiff	Pdif	16 12 25.0	+0.1
	baz=294						
J25K	Salcha River,	102.96	24	Pdiff	Pdif	16 12 25.4	-0.1
	baz=289						
K24K	Donnelly Dome	103.06	25	Pdiff	Pdif	16 12 26.0	+0.1
	baz=289						
E27K	Coleen River	103.07	20	Pdiff	Pdif	16 12 25.9	0.0
	baz=294						
GLI	Glacier Island	103.36	28	Pdiff	Pdif	16 12 27.3	+0.1
	baz=287						
D28M	Stokes Point	103.53	19	Pdiff	Pdif	16 12 28.0	+0.3
	baz=297						
E28M	Babbage River	103.59	19	Pdiff	Pdif	16 12 28.3	+0.1
	baz=296						
G27K	Doyon Strip	103.60	21	Pdiff	Pdif	16 12 28.3	0.0
	baz=293						
J26L	Joseph Creek	103.73	24	Pdiff	Pdif	16 12 29.2	+0.2
	baz=291						
SCRK	Sand Creek	103.75	24	Pdiff	Pdif	16 12 29.2	+0.2
	baz=290						
HARP	HAARP	103.78	26	Pdiff	Pdif	16 12 29.3	+0.2
	baz=289						
H27K	Steamboat Moun	103.87	22	Pdiff	Pdif	16 12 29.6	+0.2
	baz=293						
F28M	Old Crow	103.90	20	Pdiff	Pdif	16 12 29.7	+0.2
	baz=295						
I27K	Kandik River	104.09	23	Pdiff	Pdif	16 12 30.7	+0.3
	baz=293						
E29M	Blow River	104.23	19	Pdiff	Pdif	16 12 31.3	+0.4
	baz=297						
N25K	Chitina, Valde	104.29	27	Pdiff	Pdif	16 12 31.6	+0.2
	baz=289						
L26K	Log Cabin Wild	104.35	25	Pdiff	Pdif	16 12 31.8	+0.1
	baz=291						
K27K	Chicken	104.51	24	Pdiff	Pdif	16 12 32.4	+0.1
	baz=292						
ESDC	Sonseca Array	104.56	310	Pdiff	Pdif	16 12 33.8	+0.6
	comp=Z,0.4nm,0.5s,baz=79,slow=6.1,SNR=4.8						
ESDC				PKiKP	PKiKP	16 16 48.4	-0.6
	comp=Z,1.6nm,1.0s,baz=76,slow=5.6,SNR=5.0						
ESDC				PKKP	PKKPab	16 28 35.5	-1.6
	comp=Z,1.1nm,0.8s,baz=276,slow=4.5,SNR=6.2						
M26K	Nabesna, AK	104.72	26	Pdiff	Pdif	16 12 33.2	-0.2
	baz=291						
I28M	Miner Creek	104.79	22	Pdiff	Pdif	16 12 33.3	-0.3
	baz=295						
G29M	Pine Creek	104.86	21	Pdiff	Pdif	16 12 33.7	-0.1
	baz=297						
L27K	Beaver Creek,	104.98	25	PKiKP	PKiKP	16 16 48.8	-0.2
	baz=292						
H29M	Whitestone	105.04	21	PKiKP	PKiKP	16 16 48.6	-0.4
	baz=296						
TBI	Tubuai	105.53	115	eLR	LR	16 47 28.7	
	comp=Z,2μm,31.5s						
EPYK	Eagle Plains	105.57	21	PKiKP	PKiKP	16 16 49.8	-0.2
	baz=298						
INK	Inuvik	105.68	19	PKiKP	PKiKP	16 16 50.2	+0.1
	baz=302						
A36M	Sachs Harbour	105.80	14	PKiKP	PKiKP	16 16 50.4	+0.2
	baz=311						
CTG	Chitna Glacier	105.98	27	PKiKP	PKiKP	16 16 50.9	-0.2
	baz=292						
F31M	Tsiigehtchic	106.06	19	PKiKP	PKiKP	16 16 50.9	+0.1
	baz=301						
G31M	Satah River	106.15	20	PKiKP	PKiKP	16 16 50.8	-0.2
	baz=300						
I30M	Mount Dempster	106.23	22	PKiKP	PKiKP	16 16 51.1	-0.3
	baz=298						
K29M	Barlow Dome	106.42	23	PKiKP	PKiKP	16 16 51.8	0.0
	baz=296						
PPT2	Papeete2	106.44	109	eLR	LR	16 47 50.8	
	comp=Z,239nm,24.2s						
PPT2				eLR	LR	16 47 53.1	
	comp=Z,265nm,23.5s						
L29M	L29M	106.50	24	PKiKP	PKiKP	16 16 51.8	-0.1
	baz=296						
J30M	Hart River	106.55	23	PKiKP	PKiKP	16 16 52.1	+0.1
	baz=298						
YUK8	Steele Glacier	106.57	26	PKiKP	PKiKP	16 16 52.0	-0.3
	baz=294						
O28M	Mount Upton	106.58	27	PKiKP	PKiKP	16 16 51.9	-0.5
	baz=293						
H31M	Peel River	106.69	21	PKiKP	PKiKP	16 16 51.9	-0.2
	baz=300						
YUK4	Talbot Arm	107.03	26	PKiKP	PKiKP	16 16 52.8	-0.3
	baz=295						
DBIC	Dimbokro	107.05	276	PKKPbc	PKKPbc	16 28 08.9	-2.2
	comp=Z,3.2nm,0.7s,baz=309,slow=2.9,SNR=4.8						
M30M	Mino, Yukon	107.29	24	PKiKP	PKiKP	16 16 53.3	-0.1
	baz=297						
PNL	Peninsula	107.38	28	PKiKP	PKiKP	16 16 53.5	0.0
	baz=294						
HYT	Haines Junctio	107.76	26	PKiKP	PKiKP	16 16 54.4	+0.1
	baz=296						
P29M	Windy Craggy	108.16	27	PKiKP	PKiKP	16 16 55.1	0.0
	baz=295						
N31M	Braeburn, Yuko	108.21	25	PKiKP	PKiKP	16 16 55.1	0.0
	baz=298						
P30M	Million Dollar	108.31	27	PKiKP	PKiKP	16 16 55.3	-0.1
	baz=296						
O30N	Mendenhall	108.40	26	PKiKP	PKiKP	16 16 55.5	+0.1
	baz=297						
M31M	Drury Creek, Y	108.45	24	PKiKP	PKiKP	16 16 55.4	-0.1
	baz=299						
PLBC	Pleasant Camp	108.87	27	PKiKP	PKiKP	16 16 55.9	-0.3
	baz=296						
WHY	Whitehorse	108.98	26	PKiKP	PKiKP	16 16 56.3	-0.3
	baz=298						
S31K	Pelican	109.59	29	PKiKP	PKiKP	16 16 57.8	+0.1
	baz=296						
S32K	Killisnoo	110.61	29	PKiKP	PKiKP	16 16 59.6	+0.1
	baz=297						
Q32M	Nakina River	110.96	27	PKiKP	PKiKP	16 17 00.1	-0.4
	baz=300						
R33M	Jennings River	111.32	26	PKiKP	PKiKP	16 17 00.6	-0.5
	baz=302						
WTLY	Watson Lake, Y	111.86	25	PKiKP	PKiKP	16 17 01.7	-0.3
	baz=304						
U33K	Whale Pass	111.95	30	PKiKP	PKiKP	16 17 01.9	-0.3
	baz=298						
S34M	Telegraph Cree	112.01	27	PKiKP	PKiKP	16 17 02.0	-0.2
	baz=301						
WRGLY	Wrigley	112.02	20	PKiKP	PKiKP	16 17 02.1	0.0
	baz=310						
WRAK	Wrangell Islan	112.18	29	PKiKP	PKiKP	16 17 02.4	-0.2
	baz=299						
DLBC	Dease Lake	112.24	27	PKiKP	PKiKP	16 17 02.5	-0.3
	baz=302						
CRAG	Craig	112.25	30	PKiKP	PKiKP	16 17 02.8	0.0
	baz=298						
T35M	Bob Quinn	112.90	28	PKiKP	PKiKP	16 17 04.3	+0.3
	baz=301						
V35K	Ketchikan	113.07	30	PKiKP	PKiKP	16 17 04.6	+0.2
	baz=299						
TOAD	Toad River Com	114.07	25	P	PKPdf	16 17 06.0	-0.2
	baz=307						
YKA	Yellowknife Ar	115.43	18	PKP	PKiKP	16 17 07.9	-0.7
	comp=Z,0.5nm,0.5s,baz=348,slow=1.7,SNR=4.3						
TAOE	Nuku Hiva Isla	116.90	102	eLR	LR	16 52 43.8	
	comp=Z,218nm,24.1s						
RKT	Rikitea	118.48	119	eLR	LR	16 53 22.5	
	comp=Z,873nm,32.2s						
FFC	Flin Flon	125.58	17	PKPdf	PKPdf	16 17 28.6	+0.2
FFC	Flin Flon	125.58	17	PKiKP	PKPdf	16 17 28.6	+0.2
SCHQ	Schefferville	128.22	352	PKPdf	PKPdf	16 17 33.5	0.0
SCHQ	Schefferville	128.22	352	PKP	PKiKP	16 17 33.9	-0.2
	comp=Z,9.8nm,0.8s,baz=0.2,slow=4.0,SNR=11						
NVAR	Mina Array Bea	129.68	41		PKiKP	16 17 38.2	+0.4
NVAR	Mina Array Bea	129.68	41	PKP	PKiKP	16 17 38.6	+0.8
	comp=Z,6.1nm,0.7s,baz=282,slow=2.0,SNR=21						
NVAR				PP	PP	16 19 48.4	+0.7
	comp=Z,2.8nm,1.1s,baz=308,slow=7.1,SNR=3.9						
ULM	Lac du Bonnet	131.26	15	PKP	PKPdf	16 17 38.9	-0.5
	comp=Z,18nm,0.6s,baz=346,slow=2.3,SNR=31						
ULM				SKPbc	SKPbc	16 20 57.2	-2.7
	comp=Z,6.3nm,0.8s,baz=320,slow=5.5,SNR=5.3						
R11B	Troy Canyon, C	131.48	40	PKiKP	PKiKP	16 17 41.2	-0.3
	baz=306						
PDAR	Pinedale Array	132.10	31	PKPdf	PKPdf	16 17 41.5	-0.1
PDAR	Pinedale Array	132.10	31	PKP	PKPdf	16 17 40.9	-0.6
	comp=Z,2.3nm,0.7s,baz=99,slow=0.7,SNR=6.7						
PDAR				PP	PP	16 20 00.8	-2.1
	comp=Z,0.7nm,0.7s,baz=318,slow=2.0,SNR=3.8						
PDAR				SKPbc	SKPbc	16 21 01.6	-2.1
	comp=Z,2.5nm,0.8s,baz=350,slow=1.8,SNR=6.2						
PLCA	Paso Flores	135.23	188	PKhKP	PKPpre	16 17 44.4	
	comp=Z,5.7nm,1.0s,baz=86,slow=8.3,SNR=4.2						
PLCA				SKPbc	SKPbc	16 21 13.5	-0.5
	comp=Z,3.4nm,1.0s,baz=294,slow=2.8,SNR=3.4						
PLCA	Paso Flores	135.23	188	eP	PKiKP	16 17 49.3	+0.5
N23A	Red Feather La	135.31	30	PKiKP	PKPdf	16 17 48.1	+0.4
	baz=319						
TRQA	Tornquist	135.83	198	eP	PKiKP	16 17 51.0	+0.9
ALF01	Guarapari-ES	136.08	235	eP	PKPdf	16 17 49.5	+0.2
S22A	4UR Ranch, Cre	137.13	34	PKiKP	PKPdf	16 17 51.7	+0.5
	baz=315						
Q24A	Divide	137.16	31	PKiKP	PKPdf	16 17 52.0	+0.8
	baz=318						
NBLA	Lagarto - SE	137.31	250	eP	PKiKP	16 17 54.2	+0.6
CMC01	Camacan, BA	137.36	243	eP	PKiKP	16 17 53.8	+0.1
SJMB	Sao Joao De Ma	137.37	237	eP	PKiKP	16 17 53.8	+0.2
T25A	Trinidad	138.90	33	PKiKP	PKiKP	16 17 55.7	-0.9
	baz=318						
VAO	Valinhos	139.65	227	eP	PKiKP	16 17 58.4	+0.1
121A	Cookes Peak, D	140.07	41	PKiKP	PKiKP	16 17 57.8	-1.2
	baz=310						
NBPB	Pedra_Branca-C	140.45	257	eP	PKiKP	16 17 59.4	-0.7
ITQB	Itaqui	140.94	210	eP	PKiKP	16 18 00.1	-0.6
L61B	Northampton	141.13	354	PKiKP	PKiKP	16 18 00.0	-0.6
	baz=8.8						
O48B	Farmland	143.07	9	PKiKP	PKiKP	16 18 03.3	-1.4
	baz=348,SNR=5.0						
SSPA	Standing Stone	143.25	360	PKPdf	PKPbc	16 17 58.7	-0.1
SLBS	Sierra La Lagu	143.40	54	PKPdf	PKPbc	16 18 00.6	+0.7
CCM	Cathedral Cave	143.77	18		PKPab	16 17 59.6	0.0
CCM	Cathedral Cave	143.77	18	PKiKP	PKPab	16 17 59.6	-0.1
P49A	Miami Univ. Ec	143.84	9	PKiKP	PKiKP	16 18 05.3	-1.1
	baz=349,SNR=13						
CPUP	Villa Florida	144.00	213	PKP	PKPdf	16 18 02.6	-0.9
	comp=Z,17nm,0.8s,baz=122,slow=4.3,SNR=34						
BDFB	Brasilia	144.55	236	PKPdf	PKPdf	16 18 04.9	+0.1
BDFB	Brasilia	144.55	236	PKP	PKPdf	16 18 04.8	0.0
	comp=Z,28nm,0.6s,baz=129,slow=3.0,SNR=56						
TXAR	Lajitas Array	144.83	41	PKPdf	PKPdf	16 18 04.9	-0.1
TXAR	Lajitas Array	144.83	41	PKP	PKPdf	16 18 05.1	+0.1
	comp=Z,138nm,0.7s,baz=292,slow=1.5,SNR=327						
TXAR				SKPbc	SKPbc	16 21 39.9	-0.2
	comp=Z,2.2nm,0.7s,baz=117,slow=0.3,SNR=3.7						
WCI	Wyandotte Cave	144.84	11	PKPdf	PKPab	16 18 03.5	-0.2
WCI	Wyandotte Cave	144.84	11	PKiKP	PKPab	16 18 03.5	-0.2
ROSB	Rosrio	145.42	260	eP	PKPab	16 18 07.7	+1.2
RPRD	Ribas do Rio P	145.06	224	eP	PKPab	16 18 09.9	+1.1
WVT	Waverly	146.52	14		PKPbc	16 18 09.0	0.0
WVT	Waverly	146.52	14	PKP2	PKPbc	16 18 09.0	0.0
LCO	Las Campanas	146.69	192		PKPbc	16 18 09.9	-0.2
LCO	Las Campanas	146.69	192	PKP2	PKPbc	16 18 09.9	-0.2
435B	Jarrell	147.40	32	PKiKP	PKPbc	16 18 11.9	+0.2
	baz=322						
833A	Chaparral WMA,	148.22	37	PKiKP	PKPbc	16 18 14.5	+0.5
	baz=317						
Y49A	Blount Mountai	149.03	14	PKPbc	PKPbc	16 18 15.4	-0.5
Y60A	Bolivia	149.86	0	PKPbc	PKPbc	16 18 18.0	+0.1
PRPB	Parauapebas	150.10	251	eP	PKPdf	16 18 14.5	+0.4
LVC	Limon Verde	152.34	199	PKP	PKPdf	16 18 19.4	+1.7
	comp=Z,7.2nm,0.8s,baz=240,slow=2.9,SNR=6.0						
LVC				PKPbc	PKiKP	16 18 26.1	+1.4
	comp=Z,42nm,0.8s,baz=297,slow=1.0,SNR=29						
BBSD	Serra de San D	152.99	219	eP	PKPdf	16 18 20.6	+2.3
PTLB	Pontes e Lacer	153.26	224	eP	PKPdf	16 18 19.8	+1.1
CLDB	Colider	153.49	237	eP	PKPdf	16 18 21.1	+2.0
VILB	Vilhena	155.70	227	eP	PKPdf	16 18 25.1	+2.9
LPAZ	La Paz	157.81	206	PKP	PKPdf	16 18 26.4	+0.8
	comp=Z,8.4nm,1.0s,baz=55,slow=1.9,SNR=21						
LPAZ				PKPab	PKPab	16 18 58.5	+0.3
	comp=Z,3.9nm,0.8s,baz=175,slow=1.9,SNR=4.7						
MACA	Manacapuru-AM	161.30	249	eP	PKPdf	16 18 31.2	+2.3
ETMB	Extrema	162.09	221	eP	PKPdf	16 18 32.1	+2.4
NNA	Nana	164.35	185	PKP	PKPdf	16 18 32.8	+0.9
	comp=Z,11nm,0.6s,baz=355,slow=0.3,SNR=5.0						
BAUV	El Baul	168.74	298	PKPab	PKPab	16 19 45.4	-0.3
ATAH	Atahualpa	169.22	178	PKP	PKPdf	16 18 36.9	+0.8
	comp=Z,4.7nm,0.9s,baz=208,slow=8.8,SNR=5.6						
JTS	Las Juntas de	170.57	46	PKPab	PKPab	16 19 52.5	-1.2
	comp=Z,5.9nm,0.8s,baz=293,slow=8.8,SNR=4.2						
SDV	Santo Domingo	170.98	305	PKP	PKPdf	16 18 35.9	-0.9
	comp=Z,5.3nm,0.3s,baz=83,slow=2.7,SNR=4.5						
SDV				PKPab	PKPab	16 19 55.2	-0.5
	comp=Z,12nm,0.4s,baz=24,slow=1.9,SNR=4.5						
ROSC	El Rosal	176.07	287	PKP	PKPdf	16 18 38.4	-0.6
	comp=Z,7.1nm,0.5s,baz=93,slow=16,SNR=5.4						
OTAV	Otavalo	176.53	174	eP	PKPdf	16 18 40.9	+1.7

*ATH **03** 16:02:34.5, 37.70N×20.87E, h16km±1km, ML3.0/13, Error ellipse: s-maj=1.6km s-min=0.7km az=220.0*
*THE **03** 16:02:34.2, 37.68N×20.81E, h16km, ML3.0/5, Error ellipse: s-maj=2.3km s-min=0.8km az=239.0*

ISC 03 16:02:34.1±0.8, **37.71N**±0.03×**20.86E**±0.03, **h17**km±5km, **n32**,o**0**s**53**/51, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.02	279	P	Pg	16 02 36.6	-0.4
LTHK				S	Sg	16 02 39.9	+1.0
LTHK				AML	AML	16 02 42.3	
	comp=E,78331μm,0.4s						
LTHK				AML	AML	16 02 42.8	
	comp=N,62854μm,0.3s						
KRI1	kERI	0.06	220	P	Pg	16 02 37.0	-0.2
KRI1				S	Sg	16 02 39.3	0.0
	comp=N,35μm,0.4s						
PSDA	Pessada-Kefalo	0.46	332	P	Pb	16 02 43.4	-0.4
PSDA				S	Sb	16 02 51.1	+0.7
PSDA	Pessada-Kefalo	0.46	332	P	Pg	16 02 43.3	-0.1
PSDA				S	Sb	16 02 50.8	+0.3
VLS	Valsamata	0.52	335	P	Pb	16 02 44.4	-0.4
VLS				S	Sb	16 02 52.7	+0.6
VLS	Valsamata	0.52	335	P	Pg	16 02 44.2	-0.2
VLS				S	Sb	16 02 51.6	-0.5
VLS				AML	AML	16 02 53.0	
	comp=E,3001μm,0.3s						
VLS				AML	AML	16 02 56.9	
	comp=N,3183μm,0.3s						
SMHA	Samh	0.57	343	P	Pb	16 02 46.1	+0.4
SMHA				S	Sb	16 02 53.2	-0.3
SMHA				AML	AML	16 02 54.8	
	comp=E,7269μm,0.2s						
SMHA				AML	AML	16 02 57.7	
	comp=N,11159μm,0.4s						
RLS	Riolos of Patr	0.59	54	P	Pg	16 02 45.1	-0.7
RLS	Riolos of Patr	0.59	54	P	Pg	16 02 45.5	-0.4
RLS				S	Sg	16 02 54.1	+0.3
RLS				AML	AML	16 02 57.1	
	comp=N,2482μm,0.3s						
RLS				AML	AML	16 02 58.2	
	comp=E,2513μm,0.4s						
LXRA	Lixouri, Kepha	0.60	326	P	Pb	16 02 46.0	-0.1
LXRA				S	Sb	16 02 54.8	+0.5
LXRA				AML	AML	16 02 56.7	
	comp=E,12562μm,0.4s						
LXRA				AML	AML	16 02 57.0	
	comp=N,14803μm,0.4s						
DMLN	Damoul

ANX	**Ano Chora**	**1.22**	**43**	P	**Pn**	**16 02 56.4**	**-0.1**
ANX				AML	AML	16 03 19.2	
	comp=E,1096µm,0.4s						
ANX				AML	AML	16 03 22.8	
	comp=N,1473µm,0.6s						

*GUC **03** 16:03:03.7±0.7,33°.64S×70°.43W,h95km±2km,ML3.8*
*SJA **03** 16:03:04.0,33°.64S×70°.47W,h84km,ML3.3*
ISC 03 16:03:04.1±1.5,**33°.64S**±0°.04×**70°.46W**±0°.04,**h99**km±7km,
n52,σ0°**61**/69,**8C-7D**,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MT15	**Las Vizcachas**	**0.06**	**315**	*e*P	**Pn**	**16 03 17.7**	**-0.3**
MT15				*e*S	**Sn**	**16 03 28.4**	**0.0**
MT15				IAML		16 03 29.1	
	comp=N,10µm,0.2s						
MT12	**Pirque**	**0.12**	**220**	⇑*i*P	**Pn**	**16 03 18.1**	**0.0**
MT12				*e*S	**Sn**	**16 03 28.6**	**+0.1**
MT12				IAML		16 03 29.7	
	comp=E,15µm,0.3s						
MT03	**Universidad Ad**	**0.15**	**343**	*i*P	**Pn**	**16 03 17.9**	**-0.3**
MT03				*e*S	**Sn**	**16 03 28.9**	**+0.2**
MT03				IAML		16 03 29.6	
	comp=E,15µm,0.2s						
MT03	**Universidad Ad**	**0.15**	**343**	*i*P	**Pn**	**16 03 17.4**	**-0.8**
MT16	**CCHEN**	**0.22**	**345**	⇓*i*P	**Pn**	**16 03 18.3**	**-0.1**
MT16				*e*S	**Sn**	**16 03 29.2**	**+0.2**
MT16				IAML		16 03 30.2	
	comp=N,3µm,0.2s						
MT14	**Cerro Calı̨n**	**0.25**	**345**	⇓*i*P	**Pn**	**16 03 18.7**	**+0.1**
MT14				*e*S	**Sn**	**16 03 29.7**	**+0.4**
MT14				IAML		16 03 30.6	
	comp=E,14µm,0.3s						
LMEL	**Las Melosas**	**0.30**	**135**	⇓*i*P	**Pn**	**16 03 18.3**	**-0.5**
LMEL				IAML		16 03 32.4	
	comp=E,8µm,0.2s						
LMEL	**Las Melosas**	**0.30**	**135**	*i*P	**Pn**	**16 03 17.7**	**-1.1**
FCH	**Farellones**	**0.34**	**24**	⇓*i*P	**Pn**	**16 03 18.8**	**-0.5**
FCH				*e*S	**Sn**	**16 03 31.2**	**+0.6**
FCH				IAML		16 03 31.8	
	comp=N,6µm,0.2s						
MT05	**Renca**	**0.34**	**316**	*e*P	**Pn**	**16 03 18.9**	**-0.1**
MT05				*i*S	**Sn**	**16 03 30.5**	**+0.5**
MT05				IAML		16 03 31.1	
	comp=E,9µm,0.3s						
MT05	**Renca**	**0.34**	**316**	*i*P	**Pn**	**16 03 18.2**	**-0.7**
MT04	**Ro Olivares**	**0.35**	**49**	⇓*i*P	**Pn**	**16 03 18.8**	**-0.4**
MT04				*e*S	**Sn**	**16 03 30.9**	**+0.4**
MT04				IAML		16 03 31.8	
	comp=N,2µm,0.2s						
MT04	**Ro Olivares**	**0.35**	**49**	*i*P	**Pn**	**16 03 18.1**	**-1.1**
BO04	**La Punta**	**0.37**	**200**	⇑*i*P	**Pn**	**16 03 18.9**	**-0.2**
BO04				*i*S	**Sn**	**16 03 30.3**	**+0.1**
BO04				IAML		16 03 31.0	
	comp=E,7µm,0.2s						
MT10	**Hacienda Santa**	**0.37**	**350**	⇓*i*P	**Pn**	**16 03 19.1**	**-0.1**
MT10				*e*S	**Sn**	**16 03 30.9**	**+0.5**
MT10				IAML		16 03 34.3	
	comp=E,4µm,0.6s						
MT08	**Bocatoma Ro**	**0.41**	**62**	*i*P	**Pn**	**16 03 19.1**	**-0.4**
MT08	**Bocatoma Ro**	**0.41**	**62**	*i*P	**Pn**	**16 03 18.7**	**-0.9**
MT09	**Talagante**	**0.46**	**253**	⇑*i*P	**Pn**	**16 03 19.8**	**0.0**
MT09				*e*S	**Sn**	**16 03 32.0**	**+0.6**
MT09				IAML		16 03 32.4	
	comp=N,14µm,0.2s						
PEL	**Peldehue**	**0.53**	**339**	*e*P	**Pn**	**16 03 19.8**	**-0.4**
PEL				*e*S	**Sn**	**16 03 32.2**	**+0.1**
PEL				IAML		16 03 33.1	
	comp=N,4µm,0.2s						
MT02	**Curacav**	**0.68**	**304**	⇑*i*P	**Pn**	**16 03 21.5**	**+0.1**
MT02				*e*S	**Sn**	**16 03 34.6**	**+0.3**
MT02				IAML		16 03 36.0	
	comp=E,2µm,0.1s						
MT02	**Curacav**	**0.68**	**304**	*i*P	**Pn**	**16 03 20.6**	**-0.7**
MT01	**Popeta**	**0.70**	**251**	⇑*i*P	**Pn**	**16 03 21.4**	**-0.1**
MT01				*e*S	**Sn**	**16 03 34.8**	**+0.4**
MT01				IAML		16 03 35.9	
	comp=N,3µm,0.2s						
ROCH	**El Roble**	**0.81**	**325**	*i*P	**Pn**	**16 03 22.9**	**0.0**
VA03	**San Esteban**	**0.88**	**355**	⇓*i*P	**Pn**	**16 03 23.6**	**+0.2**
VA03				*e*S	**Sn**	**16 03 38.5**	**+0.8**
VA03				IAML		16 03 40.2	
	comp=E,4µm,0.1s						
VA03	**San Esteban**	**0.88**	**355**	*i*P	**Pn**	**16 03 22.8**	**-0.5**
BO01	**Tunca**	**0.91**	**215**	⇑*i*P	**Pn**	**16 03 23.6**	**0.0**
BO01				*e*S	**Sn**	**16 03 38.8**	**+0.6**
BO01				IAML		16 03 40.4	
	comp=E,2µm,0.2s						
BO01	**Tunca**	**0.91**	**215**	*i*P	**Pn**	**16 03 22.9**	**-0.7**
VA05	**Santo Domingo**	**0.97**	**269**	*i*P	**Pn**	**16 03 24.0**	**-0.1**
VA05				IAML		16 03 43.5	
	comp=N,2µm,0.2s						
VA01	**Torpederas**	**1.17**	**301**	*e*P	**Pn**	**16 03 26.9**	**+0.5**
VA01	**Torpederas**	**1.17**	**301**	*i*P	**Pn**	**16 03 26.6**	**+0.2**
BO02	**Sierra Bellavi**	**1.18**	**193**	⇑*i*P	**Pn**	**16 03 27.1**	**+0.5**
BO02				*e*S	**Sn**	**16 03 44.9**	**+1.3**
BO02				IAML		16 03 46.2	
	comp=N,3µm,0.2s						
BO02	**Sierra Bellavi**	**1.18**	**193**	*i*P	**Pn**	**16 03 26.5**	**-0.2**
AAGR	**Agrelo**	**1.47**	**68**	*i*P	**Pn**	**16 03 30.2**	**+0.1**
ARCO	**CERRO ARCO**	**1.50**	**58**	*i*P	**Pn**	**16 03 31.1**	**+0.5**
BO03	**Pichilemu**	**1.51**	**235**	⇑*i*P	**Pn**	**16 03 30.4**	**-0.1**
AVIZ	**Vizcacheras**	**1.63**	**85**	*i*P	**Pn**	**16 03 32.3**	**+0.2**
CO04	**Los Peladeros**	**1.65**	**345**	*i*P	**Pn**	**16 03 32.4**	**-0.1**
CO04				IAML		16 03 55.6	
	comp=N,843nm,0.2s						
ASAL	**Salagasta**	**1.72**	**53**	*i*P	**Pn**	**16 03 33.7**	**+0.5**
GO05	**Hualane**	**1.83**	**221**	*e*P	**Pn**	**16 03 33.5**	**-1.1**
GO05				IAML		16 03 59.9	
	comp=E,555nm,0.4s						
GO05	**Hualane**	**1.83**	**221**	*i*P	**Pn**	**16 03 33.3**	**-1.2**
ML02	**Panimavida**	**2.26**	**200**	*i*P	**Pn**	**16 03 39.8**	**-0.3**
ZON	**Zonda**	**2.57**	**36**	*i*P	**Pn**	**16 03 44.0**	**-0.3**
CO03	**El Pedregal**	**2.80**	**356**	*i*P	**Pn**	**16 03 46.9**	**-0.4**
RTLL	**Cerro Villicun**	**2.85**	**37**	*i*P	**Pn**	**16 03 47.3**	**-0.7**
DOCA	**Reserva Natura**	**2.92**	**24**	*i*P	**Pn**	**16 03 48.5**	**-0.8**
ACCO	**Cerro Coronel**	**3.26**	**22**	*i*P	**Pn**	**16 03 53.9**	**+0.2**
GO04	**Tololo Observa**	**3.47**	**355**	*i*P	**Pn**	**16 03 55.1**	**-1.3**
AROD	**Rodeo**	**3.56**	**14**	*i*P	**Pn**	**16 03 58.7**	**+0.9**
CO01	**Juntas del Tor**	**3.67**	**5**	*i*P	**Pn**	**16 03 59.3**	**+0.2**
MRA	**San Martin**	**4.16**	**74**	*i*P	**Pn**	**16 04 04.8**	**-0.8**
LCO	**Las Campanas**	**4.62**	**357**	*i*P	**Pn**	**16 04 10.0**	**-2.0**
VCA	**Vinchina**	**5.25**	**22**	*i*P	**Pn**	**16 04 20.4**	**-0.1**

JMA 03 16:05:34.3±0.1,**32°.5N**±0°.2×**131°.7E**±0°.2,**h18**km,**MV0.3**/16,
NORTHERN MIYAZAKI PREF,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHC	**Hyugahichiya**	**0.07**	**196**	P	Pg	16 05 37.7	0.0
JHHC				S	Sg	16 05 39.8	-0.1
JKIT	**Kitakata**	**0.21**	**303**	*e*P	Pg	16 05 39.4	+0.1
JKIT				*e*S	Sg	16 05 42.2	-0.6
JTSN	**Tsuno**	**0.29**	**206**	P	Pg	16 05 40.4	-0.4
JTSN				*e*S	Sg	16 05 44.7	-0.4
JSKE	**Saikikamae**	**0.35**	**35**	*e*P	Pg	16 05 41.6	-0.1
JSKE				*e*S	Sg	16 05 46.3	-0.4

IDC 03 16:07:56.6±57.0,**16°.59S**×**176°.75W**,**h0**km,**mb3.9**/3,
mbtmp3.9/3,**Error ellipse: s-maj=1063.0km**
s-min=175.2km az=78.0,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.65**	**240**	P	P	16 15 39.6	+0.8
	1.5nm,0.7s,baz=103,slow=7.1,SNR=1.3 1.5nm,0.7s						
WRA	**Warramunga Arr**	**46.44**	**258**	P	P	16 16 24.8	-0.8
	0.2nm,0.4s,baz=95,slow=8.2,SNR=9.4 0.2nm,0.4s						
ASAR	**Alice Springs**	**46.68**	**253**	P	P	16 16 27.4	-0.1
	2.0nm,0.4s,baz=89,slow=7.9,SNR=33 2.0nm,0.4s						

*GUC **03** 16:19:10.7±0.8,31°.74S×70°.59W,h16km±4km,ML2.6*
*SJA **03** 16:19:11.0,31°.65S×70°.68W,h10km,ML2.9*
ISC 03 16:19:10.0±1.2,**31°.69S**±0°.03×**70°.61W**±0°.05,**h9**km±11km,
n29,σ1§**19**/36,**3C**,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO04	**Los Peladeros**	**0.47**	**222**	⇑*e*P	**Pg**	**16 19 19.6**	**+0.4**
CO04				*e*S	**Sb**	**16 19 26.9**	**-0.8**
CO04				IAML		16 19 29.2	
	comp=E,276nm,0.5s						
CO03	**El Pedregal**	**0.85**	**355**	*e*P	**Pg**	**16 19 26.1**	**-0.4**
CO03				IAML		16 19 57.9	
	comp=E,102nm,0.3s						
CO03	**El Pedregal**	**0.85**	**355**	*i*P	**Pg**	**16 19 25.2**	**-1.3**
VA03	**San Esteban**	**1.07**	**177**	⇑*i*P	**Pb**	**16 19 29.0**	**-1.7**
VA03				*i*S	**Sb**	**16 19 43.4**	**-1.5**
VA03				IAML		16 19 44.8	
	comp=N,425nm,0.5s						
CO06	**Fray Jorge**	**1.34**	**319**	*e*P	**Pn**	**16 19 35.0**	**+0.1**
CO06				*e*S	**Sg**	**16 19 53.4**	**+0.2**
CO06				IAML		16 19 57.5	
	comp=N,94nm,0.3s						
PEL	**Peldehue**	**1.45**	**183**	*e*P	**Pn**	**16 19 35.6**	**-0.8**
PEL				*e*S	**Sn**	**16 19 54.4**	**-1.1**
PEL				IAML		16 19 56.8	
	comp=N,58nm,0.3s						
DOCA	**Reserva Natura**	**1.50**	**61**	*i*P	**Pn**	**16 19 36.0**	**-1.5**
GO04	**Tololo Observa**	**1.52**	**354**	*e*P	**Pn**	**16 19 37.8**	**+0.2**
GO04				*e*S	**Sg**	**16 19 59.4**	**+0.3**
GO04				IAML		16 20 07.3	
	comp=N,461nm,0.4s						
GO04	**Tololo Observa**	**1.52**	**354**	*i*P	**Pn**	**16 19 37.1**	**-0.6**
MT10	**Hacienda Santa**	**1.57**	**178**	*e*P	**Pn**	**16 19 38.1**	**-0.2**
MT10				*e*S	**Sn**	**16 19 58.1**	**-0.8**
MT10				IAML		16 20 01.4	
	comp=N,203nm,0.4s						
MT02	**Curacav**	**1.62**	**196**	*i*P	**Pn**	**16 19 37.8**	**-1.0**
MT05	**Renca**	**1.70**	**184**	*i*P	**Pn**	**16 19 40.0**	**+0.2**
MT14	**Cerro Calı̨n**	**1.70**	**178**	*e*S	**Sn**	**16 20 00.6**	**-1.2**
MT14				IAML		16 20 11.7	
	comp=E,269nm,0.1s						
ACCO	**Cerro Coronel**	**1.72**	**51**	*i*P	**Pn**	**16 19 41.0**	**+0.5**
ASAL	**Salagasta**	**1.75**	**121**	*i*P	**Pb**	**16 19 42.6**	**+0.3**
MT04	**Ro Olivares**	**1.75**	**167**	*i*P	**Pn**	**16 19 40.6**	**-0.2**
CO01	**Juntas del Tor**	**1.77**	**15**	*i*P	**Pb**	**16 19 43.2**	**+0.4**
MT03	**Universidad Ad**	**1.80**	**177**	*i*P	**Pb**	**16 19 42.8**	**-0.4**
AROD	**Rodeo**	**1.81**	**33**	*i*P	**Pn**	**16 19 43.1**	**+1.5**
MT08	**Bocatoma Ro**	**1.82**	**164**	*i*P	**Pg**	**16 19 45.2**	**+0.4**
RTLL	**Cerro Villicun**	**1.86**	**79**	⇑*e*		16 22 22.8	
AAGR	**Agrelo**	**2.05**	**133**	*i*P	**Pb**	**16 19 47.8**	**+0.4**
MT09	**Talagante**	**2.10**	**189**	*i*P	**Pn**	**16 19 46.7**	**+1.2**
MT09				*e*S	**Sn**	**16 20 12.9**	**+1.0**
MT09				IAML		16 20 16.1	
	comp=N,118nm,0.4s						
VA05	**Santo Domingo**	**2.13**	**203**	*e*S	**Sn**	**16 20 13.2**	**+0.8**
VA05				IAML		16 20 25.1	
	comp=E,135nm,0.3s						
LMEL	**Las Melosas**	**2.17**	**171**	*e*P	**Pn**	**16 19 48.0**	**+1.5**
LMEL				*e*S	**Sn**	**16 20 14.4**	**+0.7**
LMEL				IAML		16 20 25.8	
	comp=N,77nm,0.4s						
MT01	**Popeta**	**2.23**	**194**	*i*P	**Pn**	**16 19 48.0**	**+0.8**
LCO	**Las Campanas**	**2.67**	**358**	*i*P	**Pn**	**16 19 55.9**	**+2.4**
BO01	**Tunca**	**2.72**	**188**	*i*P	**Pn**	**16 19 55.8**	**+1.9**
BO02	**Sierra Bellavi**	**3.09**	**183**	*i*P	**Pn**	**16 20 02.4**	**+3.3**

*IDC **03** 16:31:02.1±10.0,4°.46S×129°.66E,h98km±96km,mb3.3/3,*
mbtmp3.8/7,ML3.9/4,Error ellipse: s-maj=98.8km
s-min=25.1km az=53.0
*DJA **03** 16:31:13.2±0.4,5°S±4°×13°0E±°,h202km±5km,M3.9/12,*
mb3.9/4,mB5.4/1,MLv3.9/12,Mw(mB)4.8/1
ISC 03 16:31:12.3±0.8,**4°.87S**±0°.07×**129°.48E**±0°.07,**h200**km,**n17**,
σ2§**26**/21,**mb3.2**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.55**	**51**	P	**Pn**	**16 31 42.2**	**+2.6**
BNDI				S	**Sn**	**16 32 04.5**	**+3.7**
MSAI	**Masohi**	**1.61**	**340**	P	**Pn**	**16 31 47.9**	**+0.8**
MSAI				S	**Sn**	**16 32 12.8**	**-1.4**
AAI	**Ambon**	**1.74**	**313**	P	**Pn**	**16 31 49.0**	**+0.7**
NLAI	**Namlea**	**2.87**	**304**	P	**Pn**	**16 32 02.0**	**+1.5**
FAKI	**Fak Fak**	**3.38**	**55**	P	**Pn**	**16 32 07.6**	**+1.1**
FAKI				S	**Sn**	**16 32 46.9**	**-2.1**
SWI	**Sorong**	**4.37**	**24**	P	**Pn**	**16 32 18.8**	**+0.1**
KMPI	**Kaimana, Papua**	**4.39**	**74**	P	**Pn**	**16 32 20.2**	**+1.2**
SANI	**Sanana**	**4.47**	**309**	P	**Pn**	**16 32 20.3**	**+0.3**
RKPI	**Ransiki, Papua**	**5.76**	**55**	P	**Pn**	**16 32 37.7**	**+1.1**
	217nm,0.6s,7µm						
SOEI	**Soe**	**7.08**	**227**	P	**Pn**	**16 32 56.1**	**+2.3**
	18nm,1.4s						
BATI	**Baumata**	**7.83**	**227**	P	Pn	16 32 59.4	-4.0
	2.2nm,0.3s,baz=56,slow=19,SNR=1.8 7.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**13.67**	**196**	P	**Pn**	**16 34 17.8**	**-0.4**
	0.1nm,0.3s,baz=2.4,slow=8.2,SNR=1.7						
FITZ				S	S	16 36 41.2	-9.3
	3.3nm,1.2s,baz=185,slow=7.1,SNR=1.8 1.4nm,0.7s						
WRA	**Warramunga Arr**	**15.71**	**163**	P	**P**	**16 34 41.7**	**-1.5**
	0.7nm,0.3s,baz=343,slow=12,SNR=67						
WRA				S	**S**	**16 37 32.6**	**-5.0**
	0.4nm,0.5s,baz=353,slow=24,SNR=5.6 0.9nm,0.4s						
ASAR	**Alice Springs**	**19.16**	**168**	P	**P**	**16 35 21.2**	**+0.3**
	0.7nm,0.3s,baz=350,slow=12,SNR=65						
ASAR				S	**S**	**16 38 43.5**	**-4.0**
	0.7nm,0.7s,baz=346,slow=17,SNR=6.1 2.7nm,0.4s						
STKA	**Stephens Creek**	**29.17**	**158**	P	**P**	**16 36 57.8**	**+2.8**
	0.7nm,0.4s,baz=343,slow=15,SNR=1.5 0.7nm,0.4s						
MKAR	**Makanchi Array**	**66.17**	**327**	P	**P**	**16 41 37.6**	**-0.9**
	0.4nm,0.8s,baz=107,slow=7.8,SNR=4.8 0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**70.44**	**328**	P	**P**	**16 42 04.1**	**-0.6**
	0.1nm,0.4s,baz=122,slow=6.0,SNR=2.1 0.1nm,0.4s						

*TRN **03** 16:42:28.5,10°.54N×62°.39W,h2km,MD3.8,Gulf of Paria.*
*FUNV **03** 16:42:31.3,10°.53N×62°.35W,h7km,MW4.0*
ISC 03 16:42:29.2±1.4,**10°.56N**±0°.04×**62°.39W**±0°.04,**h14**km±11km,
n25,σ1§**82**/44,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.85**	**82**	*e*P	**Pg**	**16 42 44.9**	**-0.7**
PSGH	**Port of Spain**	**0.87**	**83**	*e*P	**Pg**	**16 42 44.7**	**-1.4**
PSGH				*e*S	**Sn**	**16 42 58.6**	**-0.8**
TPP	**Pointe-a-Pierr**	**0.95**	**104**	*e*P	**Pg**	**16 42 46.7**	**-0.9**
TRN	**Trinidad (W)**	**0.97**	**84**	*e*P	**Pn**	**16 42 47.7**	**-0.7**
TRN				*e*S	**Sn**	**16 43 00.7**	**-1.3**
TBH	**Brigand Hill**	**1.30**	**93**	*e*P	**Pg**	**16 42 54.1**	**-0.1**
TBH				*e*S	**Sg**	**16 43 13.6**	**+2.4**
GRFF	**Grenada Fort F**	**1.61**	**23**	*e*P	**Pb**	**16 42 58.5**	**-0.3**
GRFF				*e*S	**Sg**	**16 43 21.6**	**+0.3**
GRGR	**Grenville**	**1.72**	**25**	*e*P	**Pn**	**16 42 59.3**	**+0.5**
GRGR				*e*S	**Sb**	**16 43 22.6**	**+0.4**
GRW	**Mount Saint Ca**	**1.75**	**24**	*e*P	**Pb**	**16 43 01.0**	**-0.1**
GRW				*e*S	**Sg**	**16 43 24.4**	**-1.1**
CUMV	**Cumana_UDO**	**1.78**	**266**	*e*P	**Pn**	**16 43 02.1**	**+2.5**
CUMV				*e*S	**Sn**	**16 43 25.6**	**+3.5**
GRSS	**Sisters**	**1.89**	**24**	*e*P	**Pn**	**16 43 01.6**	**+0.5**
GRSS				*e*S	**Sb**	**16 43 27.3**	**+0.3**
TOSP	**Speyside**	**1.96**	**68**	*e*P	**Pb**	**16 43 03.5**	**-1.2**
TOSP				*e*S	**Sb**	**16 43 28.1**	**-0.9**
GCMP	**Grenada, Carri**	**2.14**	**26**	*e*P	**Pn**	**16 43 06.1**	**+1.6**
GCMP				*e*S	**Sb**	**16 43 33.3**	**-0.8**
PCRV	**Puerto La Cruz**	**2.25**	**261**	*e*P	**Pn**	**16 43 07.1**	**+1.1**
PCRV				*e*S	**Sn**	**16 43 34.6**	**+1.0**
PCRV	**Puerto La Cruz**	**2.25**	**261**	*e*P	**Pn**	**16 43 07.4**	**+1.3**
SVB	**Belmont**	**2.92**	**22**	*e*P	**Pn**	**16 43 17.2**	**+2.0**
MERV	**Las Mercedes**	**4.07**	**252**	*e*P	**Pn**	**16 43 33.6**	**+2.6**
MERV				*e*S	**Sn**	**16 44 18.8**	**+0.3**
FUNV	**FUNVISIS**	**4.35**	**269**	*e*P	**Pn**	**16 43 37.6**	**+2.5**
FUNV				*e*S	**Sn**	**16 44 25.6**	**-0.1**
TACV	**Tcata**	**4.59**	**265**	*e*P	**Pn**	**16 43 40.3**	**+2.1**
TACV				*e*S	**Sn**	**16 44 31.8**	**+0.4**
LUEV	**Luepa**	**4.77**	**169**	*e*P	**Pn**	**16 43 41.5**	**+0.6**
LUEV				*e*S	**Sn**	**16 44 34.3**	**-1.8**
CACV	**CAICARA DEL OR**	**5.07**	**234**	*e*P	Pn	16 43 41.5	-3.2
CACV				*e*S	Sn	16 44 32.7	-10
BENV	**Beln**	**5.17**	**264**	*e*P	**Pn**	**16 43 48.1**	**+1.9**
BENV				*e*S	**Sn**	**16 44 45.2**	**-0.5**
TURV	**Turiamo**	**5.37**	**269**	*e*P	**Pn**	**16 43 50.8**	**+1.9**
TURV				*e*S	**Sn**	**16 44 48.7**	**-1.8**
BAUV	**El Baul**	**5.80**	**254**	*e*P	**Pn**	**16 43 56.2**	**+1.3**
BAUV				*e*S	**Sn**	**16 44 58.3**	**-3.0**
JACV	**Jacura**	**6.35**	**275**	*e*P	**Pn**	**16 44 04.2**	**+1.7**
JACV				*e*S	**Sn**	**16 45 13.4**	**-1.6**
SOCV	**Socops**	**8.66**	**256**	*e*P	**Pn**	**16 44 35.1**	**+0.9**
SOCV				*e*S	**Sn**	**16 46 05.5**	**-6.2**

*IDC **03** 17:03:34.0±1.3,1°.19S×120°.66E,h0km,mb3.3/5,*
mbtmp3.4/6,ML3.7/1,MS2.2/1,Error ellipse: s-maj=52.0km
s-min=19.3km az=67.0
*DJA **03** 17:03:38.9±0.2,1°S±2°×12°0E±°,h10km,M4.2/14,mb4.8/1,*
MLv3.9/14
ISC 03 17:03:41.0±0.9,**1°.23S**±0°.05×**120°.40E**±0°.06,**h49**km,**n17**,
σ1§**44**/20,**mb3.2**/5,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.28**	**76**	P	**Pn**	**17 04 00.8**	**-1.7**
MPSI	**Mapaga**	**1.64**	**342**	P	**Pn**	**17 04 06.4**	**-0.9**
TTSI	**Tana Toraja**	**1.90**	**198**	P	**Pn**	**17 04 10.7**	**-0.2**
TTSI				S	**Sn**	**17 04 36.2**	**+2.6**
MRSI	**Marisa**	**2.29**	**42**	P	**Pn**	**17 04 16.1**	**-0.2**
LUWI	**Luwuk**	**2.37**	**86**	P	**Pn**	**17 04 17.4**	**0.0**
LUWI				S	**Sn**	**17 04 47.3**	**+1.9**
SPSI	**Sidrap Palu**	**2.79**	**193**	P	**Pn**	**17 04 22.8**	**-0.4**
BNSI	**Bone**	**3.16**	**185**	P	**Pn**	**17 04 29.1**	**+0.8**
KAPI	**Kappang**	**3.82**	**190**	Pn	**Pn**	**17 04 36.7**	**-0.5**
	4.7nm,0.3s,baz=335,slow=8.1,SNR=13						
KAPI				Sn	**Sn**	**17 05 22.1**	**+1.3**
	4.9nm,0.3s,baz=54,slow=18,SNR=5.6						
KAPI				LR	LR	17 05 31.8	
	comp=Z,34nm,20.0s,baz=308,slow=30 28nm,0.5s						
KMSI	**Cibinong**	**4.00**	**63**	P	**Pn**	**17 04 40.5**	**+0.7**
BKSI	**Bulukumba**	**4.08**	**184**	P	**Pn**	**17 04 39.5**	**-1.3**
BBSI	**Bau Bau**	**4.75**	**153**	P	**Pn**	**17 04 49.7**	**-0.4**
BSSI	**Bau Bau, Buton**	**4.88**	**179**	P	**Pn**	**17 04 50.4**	**-1.5**
WRA	**Warramunga Arr**	**23.06**	**145**	P	**P**	**17 08 40.5**	**-1.9**
	0.3nm,0.7s,baz=319,slow=9.8,SNR=4.7 0.3nm,0.7s						
ASAR	**Alice Springs**	**25.86**	**151**	P	**P**	**17 09 05.7**	**-2.6**
	0.3nm,0.8s,baz=325,slow=7.9,SNR=1.5 0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.78**	**314**	P	**P**	**17 09 34.0**	**-0.4**
	0.4nm,0.6s,baz=129,slow=6.9,SNR=4.3 0.4nm,0.6s						
MKAR	**Makanchi Array**	**58.33**	**330**	P	**P**	**17 13 31.9**	**+0.8**
	0.4nm,0.6s,baz=129,slow=8.2,SNR=3.2 0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**62.76**	**331**	P	**P**	**17 14 02.7**	**+1.6**
	0.4nm,0.6s,baz=146,slow=6.7,SNR=2.4 0.4nm,0.6s						

*IDC **03** 17:05:51.9±5.0,36°.06N×71°.07E,h75km±46km,mb3.6/9,*
mbtmp3.9/12,ML4.0/3,MS3.1/1,Error ellipse:
s-maj=29.1km s-min=20.4km az=19.0
*NNC **03** 17:05:56.5±5.8,36°.74N×70°.80E,h0km,mb4.2,mpv4.2,*
Error ellipse: s-maj=61.6km s-min=32.6km az=152.0
ISC 03 17:05:54.9±0.9,**36°.25N**±0°.09×**71°.0E**±0°.1,**h100**km,**n27**,
σ1§**40**/28,**mb4.0**/8,**1C-3D**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.23**	**19**	P	**Pn**	**17 07 25.5**	**+0.8**
	SNR=298						
UCH	**Uchtor**	**6.55**	**23**	P	**Sn**	**17 08 40.6**	**-2.0**
	SNR=10						
EKS2	**Erkin-Say**	**6.75**	**17**	P	**Pn**	**17 07 32.2**	**+0.8**
	SNR=19						
KK31	**Karatay Array**	**6.86**	**357**	P	**Pn**	**17 07 33.2**	**+0.3**
	3.8nm,0.2s,baz=177,slow=12,SNR=158						
KK31				⇑S	**Sn**	**17 08 46.2**	**-3.2**
	2.5nm,0.2s,baz=192,slow=24,SNR=4.8						
AAK	**Ala-Archa**	**6.92**	**22**	P	**Pn**	**17 07 34.8**	**+1.0**
	12nm,0.3s,baz=182,slow=6.2,SNR=168						
AAK				S	**Sn**	**17 08 50.9**	**-0.2**
	9.4nm,0.5s,baz=354,slow=20,SNR=8.1						
KBK	**Karagaybulak**	**7.08**	**24**	P	**Pn**	**17 07 37.9**	**+1.9**
	SNR=9.3						
ULHL	**Ulahol**	**7.23**	**32**	P	**Pn**	**17 07 39.2**	**+1.2**
	SNR=18						
CHMS	**Chumysh**	**7.33**	**22**	P	**Pn**	**17 07 40.0**	**+0.8**
	SNR=21						
USP	**Ospenovka**	**7.50**	**20**	P	**Pn**	**17 07 42.4**	**+0.8**
	SNR=21						
TKM2	**Tokmak 2**

*NEIC **03** 17:19:04.7±1.0, 36°.3S±0°.1×53°.4E±0°.2, h10km±1km, mb4.3/8, Error ellipse: s-maj=27.6km s-min=21.6km az=236.0*

ISC 03 17:19:03.9±0.8, 36°2S±0°.1×53°4E±0°.2, h10km, n26, σ1°06/14, mb4.1/6, MS3.3/4, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N1	**CROZET ISLANDS**	**10.02**	**187**	T	T	17 31 26.9	
	baz=6.4,slow=75,SNR=232						
H04N2	**CROZET ISLANDS**	**10.02**	**187**	T	T	17 31 26.7	
	baz=6.4,slow=75,SNR=212						
H04N3	**CROZET ISLANDS**	**10.04**	**187**	T	T	17 31 28.9	
	baz=6.4,slow=75,SNR=250						
FOMA	**Nahampoana Res**	**12.49**	**332**	Pn	**Pn**	**17 22 03.3**	**+1.5**
VOI	**Vohitsoka**	**15.38**	**336**	Pn	**Pn**	**17 22 42.2**	**+1.0**
VOI				IAmb	IAmb	17 22 44.1	
	comp=Z,39nm,1.4s						
ABPO	**Ambohimpanom**	**17.98**	**341**	P	**Pn**	**17 23 12.1**	**-2.0**
LBTB	**Lobatse**	**26.33**	**287**	P	**P**	**17 24 38.9**	**-1.3**
LBTB				IAmb	IAmb	17 24 40.6	
	comp=Z,4.0nm,1.1s						
MAW	**Mawson**	**31.90**	**173**	LR	LR	17 35 13.3	
	comp=Z,59nm,19.0s,baz=6.5,slow=30						
H08S1	**Diego Carcia H**	**33.33**	**36**	T	T	18 00 34.7	
	baz=213						
H08S2	**Diego Garcia H**	**33.34**	**36**	T	T	18 00 34.5	
	baz=213						
H08S3	**Diego Garcia H**	**33.35**	**36**	T	T	18 00 37.9	
	baz=213						
SNAA	**Sanae**	**45.57**	**202**	P	**P**	**17 27 23.8**	**+0.1**
SNAA				IAmb	IAmb	17 27 34.2	
	comp=Z,2.2nm,0.9s						
SNAA	**Sanae**	**45.57**	**202**	P	**P**	**17 27 24.1**	**+0.4**
	comp=Z,2.0nm,1.0s,baz=88,slow=7.7,SNR=6.8						
	comp=Z,2.0nm,1.0s						
FURI	**Furi**	**46.96**	**340**	LR	LR	17 44 19.2	
	comp=Z,35nm,21.2s,baz=80,slow=32						
H01W2	**Cape Leeuwin H**	**48.68**	**107**	T	T	18 20 09.2	
	baz=249,slow=75,SNR=2.9						
H01W3	**Cape Leeuwin H**	**48.69**	**107**	T	T	18 19 55.5	
	baz=249,slow=75,SNR=3.9						
H01W1	**Cape Leeuwin H**	**48.70**	**107**	T	T	18 20 05.4	
	baz=249,slow=75,SNR=2.8						
QSPA	**South Pole Qui**	**53.98**	**180**	P	**P**	**17 28 27.8**	**-0.1**
QSPA				IAmb	IAmb	17 28 30.7	
	comp=Z,2.6nm,0.9s						
QSPA	**South Pole Qui**	**53.98**	**180**	P	**P**	**17 28 28.0**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=267,slow=3.4,SNR=6.5						
QSPA				LR	LR	17 49 33.1	
	comp=Z,35nm,19.4s,baz=238,slow=34						
	comp=Z,1.9nm,0.9s						
FORT	**Forrest**	**61.06**	**108**	P	**P**	**17 29 18.1**	**0.0**
ASAR	**Alice Springs**	**69.06**	**104**	P	**P**	**17 30 10.9**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=234,slow=5.9,SNR=9.8						
	comp=Z,0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**69.34**	**46**	LR	LR	17 58 11.3	
	comp=Z,10nm,18.2s,baz=315,slow=34						
WRA	**Warramunga Arr**	**71.36**	**101**	P	**P**	**17 30 25.5**	**+1.1**
	comp=Z,0.7nm,0.9s,baz=234,slow=5.4,SNR=4.3						
	comp=Z,0.7nm,0.9s						
WB0	**Warramunga Arr**	**71.50**	**101**	P	**P**	**17 30 25.2**	**0.0**
TOLI2	**Tolitoli**	**72.54**	**75**	P	**P**	**17 30 31.0**	**-0.4**
TOLI2				IAmb	IAmb	17 30 50.1	
	comp=Z,7.2nm,1.1s						
ILAR	**Eielson Array**	**148.92**	**17**	PKPbc	**PKiKP**	**17 38 51.4**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=315,slow=4.0,SNR=6.2						

*IDC **03** 17:20:51.7±1.6, 40°.03N×77°.55E, h0km, mb3.8/5, mbtmp3.9/11, ML3.4/5, MS3.2/1, Error ellipse: s-maj=19.8km s-min=16.8km az=147.0*

*SOME **03** 17:20:52.8, 40°.28N×77°.55E, h0km*

*BJI **03** 17:20:54.0, 40°.24N×77°.61E, h15km, mb4.3/5, mB4.4/1, ML4.0/8, Ms3.6/3, Ms7 3.7/3*

*MOS **03** 17:20:54.1±0.7, 40°.09N×77°.55E, h15km, mb4.0/4, Error ellipse: s-maj=9.4km s-min=4.7km az=107.4*

*NNC **03** 17:20:56.7±1.0, 40°.35N×77°.61E, h0km, mb4.7, mpv4.4, Error ellipse: s-maj=7.3km s-min=6.3km az=162.0*

*KRNET **03** 17:20:57.4±0.1, 40°.15N×77°.34E, mb3.8*

ISC 03 17:20:56.3±1.3, 40°27N±0°.04×77°47E±0°.03, h17km±8km, n124, σ2°17/169, mb3.9/6, 45C-23D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.38**	**237**	Pn	**Pg**	**17 21 27.2**	**+4.3**
KSH				Sn	Sg	17 21 54.0	+13
KSH				smax	smax		
	comp=N,1μm,0.5s						
KSH				smax	smax		
	comp=E,1μm,0.5s						
NRN	**Naryn**	**1.61**	**317**	⇑*i*P	**Pn**	**17 21 24.7**	**+0.4**
NRN				⇑*i*S	**Sn**	**17 21 45.0**	**+0.2**
NRN	**Naryn**	**1.61**	**317**	*i* PN	**Pn**	**17 21 24.7**	**+0.4**
NRN				S	**Sn**	**17 21 44.6**	**-0.2**
KDJ	**Kajisay**	**1.87**	**353**	⇑*e*P	**Pn**	**17 21 29.3**	**+1.6**
KDJ				⇑*i*S	**Sb**	**17 21 53.1**	**-0.2**
KDJ	**Kajisay**	**1.87**	**353**	*e*PN	**Pn**	**17 21 29.3**	**+1.6**
ULHL	**Ulahol**	**2.18**	**335**	P	**Pb**	**17 21 35.2**	**-0.3**
	SNR=76						
ULHL	**Ulahol**	**2.18**	**335**	⇑*e*P	**Pn**	**17 21 33.6**	**+1.6**
ULHL				⇑*i*S	**Sn**	**17 21 59.5**	**+0.8**
ULHL	**Ulahol**	**2.18**	**335**	*e*PN	**Pn**	**17 21 33.6**	**+1.6**
PRZ	**Przheval'sk**	**2.32**	**17**	⇑*e*P	**Pb**	**17 21 36.7**	**-1.1**
PRZ				⇑*e*S	**Sb**	**17 22 05.4**	**-0.8**
BOOM	**Boomskoye usch**	**2.50**	**333**	⇓*i*P	**Pn**	**17 21 37.8**	**+1.5**
BOOM				⇓*i*S	**Sn**	**17 22 07.1**	**+0.6**
BOOM	**Boomskoye usch**	**2.50**	**333**	⇓*i*PN	**Pn**	**17 21 37.8**	**+1.5**
TNSS	**Tian-Shan**	**2.79**	**352**	Pg	**Pb**	**17 21 45.7**	**-0.3**
	242nm,0.5s						
TNSS				Lg	Lg	17 22 24.8	
	250nm,0.8s						
TNSS	**Tian-Shan**	**2.79**	**352**	*e*P	**Pb**	**17 21 46.2**	**+0.2**
	242nm,0.5s						
TNSS				*e*S	**Sg**	**17 22 24.8**	**-1.4**
	390nm,0.5s						
ARLS	**Aral**	**2.86**	**305**	⇑*i*P	**Pn**	**17 21 41.8**	**+0.5**
ARLS				⇑*i*S	**Sn**	**17 22 13.7**	**-1.8**
ARLS	**Aral**	**2.86**	**305**	*i* PN	**Pn**	**17 21 42.5**	**+1.2**
SATY	**Saty**	**2.87**	**14**	Pg	**Pb**	**17 21 47.3**	**+0.1**
	135nm,0.5s						
SATY				Lg	Lg	17 22 26.3	
	473nm,0.8s						
SATY	**Saty**	**2.87**	**14**	*e*P	**Pb**	**17 21 47.1**	**-0.1**
	135nm,0.5s						
SATY				*e*S	**Sg**	**17 22 26.3**	**-2.3**
	480nm,0.7s						
MDOK	**Medeo**	**2.91**	**354**	⇑Pn	**Pn**	**17 21 44.8**	**+2.9**
	77nm,0.6s						
MDOK				Pg	**Pb**	**17 21 47.6**	**-0.2**
	91nm,0.4s						
MDOK				Lg	Lg	17 22 27.6	
	556nm,0.6s						
MDOK				⇑Lg	Lg	17 22 28.4	
	837nm,0.7s						
MDOK	**Medeo**	**2.91**	**354**	*e*P	**Pb**	**17 21 48.0**	**+0.2**
	91nm,0.4s						
MDOK				*e*S	**Sg**	**17 22 27.6**	**-2.2**
	777nm,0.7s						
MDOK	**Medeo**	**2.91**	**354**	PN	**Pn**	**17 21 44.8**	**+2.9**
MTBS	**Maitube**	**2.96**	**345**	Pg	**Pb**	**17 21 48.6**	**-0.1**
	69nm,0.4s						
MTBS				Lg	Lg	17 22 29.6	
	174nm,0.4s						
MTBS	**Maitube**	**2.96**	**345**	*e*P	**Pb**	**17 21 49.2**	**+0.5**
	69nm,0.4s						
MTBS				*e*S	**Sg**	**17 22 29.6**	**-1.9**
	174nm,0.4s						
AAA	**Alma-Ata**	**2.97**	**352**	Pg	**Pb**	**17 21 50.2**	**+1.4**
	298nm,0.4s						
AAA				Lg	Lg	17 22 30.8	
	68nm,0.6s						
AAA	**Alma-Ata**	**2.97**	**352**	*e*P	**Pb**	**17 21 49.9**	**+1.1**
	298nm,0.4s						
AAA				*e*S	**Sg**	**17 22 31.2**	**-0.5**
	518nm,0.4s						
UCH	**Uchtor**	**2.97**	**312**	P	**Pn**	**17 21 46.2**	**+3.2**
	SNR=10						
UCH	**Uchtor**	**2.97**	**312**	⇑*i*P	**Pn**	**17 21 44.0**	**+1.0**
UCH				⇑*i*S	**Sn**	**17 22 17.4**	**-1.0**
UCH	**Uchtor**	**2.97**	**312**	*i* PN	**Pn**	**17 21 44.0**	**+1.0**
KNDC	**Almaty**	**2.97**	**353**	⇑Pn	**Pn**	**17 21 46.0**	**+3.3**
	153nm,0.5s						
KNDC				⇑Lg	Lg	17 22 30.1	
	1μm,0.7s						
KNDC	**Almaty**	**2.97**	**353**	PN	**Pn**	**17 21 46.0**	**+3.3**
ZHN	**Zhinishke**	**2.98**	**14**	Pg	**Pb**	**17 21 48.9**	**-0.1**
	59nm,0.3s						
ZHN				Lg	Lg	17 22 29.5	
	368nm,0.4s						
ZHN	**Zhinishke**	**2.98**	**14**	*e*P	**Pb**	**17 21 49.0**	**-0.1**
	62nm,0.5s						
ZHN				*e*S	**Sg**	**17 22 29.5**	**-2.7**
	368nm,0.4s						
ZHN	**Zhinishke**	**2.98**	**14**	*e*PN	**Pn**	**17 21 45.8**	**+2.9**
KST	**Kastek**	**2.99**	**338**	Pg	**Pb**	**17 21 49.8**	**+0.5**
	53nm,0.4s						
KST				Lg	Lg	17 22 31.2	
	446nm,0.8s						
KST	**Kastek**	**2.99**	**338**	*e*P	**Pb**	**17 21 50.0**	**+0.8**
	53nm,0.4s						
KST				*e*S	**Sg**	**17 22 31.2**	**-1.3**
	446nm,0.8s						
TKM2	**Tokmak 2**	**3.00**	**333**	P	**Pn**	**17 21 46.6**	**+3.4**
	SNR=61						
TKM2	**Tokmak 2**	**3.00**	**333**	⇑Pn	**Pn**	**17 21 46.7**	**+3.4**
	50nm,0.6s						
TKM2				⇑Lg	Lg	17 22 32.2	
	243nm,0.6s						
TKM2	**Tokmak 2**	**3.00**	**333**	⇑*i*P	**Pn**	**17 21 44.8**	**+1.6**
TKM2				⇑*i*S	**Sn**	**17 22 19.3**	**+0.4**
TKM2	**Tokmak 2**	**3.00**	**333**	*i* PN	**Pn**	**17 21 44.8**	**+1.6**
KASK	**Kaskelen**	**3.01**	**348**	⇓Pg	**Pb**	**17 21 49.9**	**+0.4**
KASK				⇓Lg	Lg	17 22 32.1	
KBK	**Karagaybulak**	**3.05**	**322**	P	**Pn**	**17 21 48.2**	**+4.4**
	SNR=8.8						
KBK	**Karagaybulak**	**3.05**	**322**	⇓*i*P	**Pn**	**17 21 45.3**	**+1.4**
KBK				⇓*i*S	**Sn**	**17 22 20.0**	**0.0**
KBK	**Karagaybulak**	**3.05**	**322**	*i* PN	**Pn**	**17 21 45.3**	**+1.4**
SFK	**Sufi-Kurgan**	**3.05**	**266**	⇑*e*P	**Pn**	**17 21 43.2**	**-0.8**
SFK				⇑*e*S	**Sn**	**17 22 16.2**	**-4.1**
UZB	**Uzynbulak**	**3.10**	**21**	Pg	**Pb**	**17 21 50.6**	**-0.4**
	75nm,0.3s						
UZB				Lg	Lg	17 22 32.4	
	184nm,0.7s						
UZB	**Uzynbulak**	**3.10**	**21**	*e*P	**Pb**	**17 21 50.6**	**-0.4**
	75nm,0.3s						
UZB				*e*S	**Sg**	**17 22 32.4**	**-3.5**
	184nm,0.7s						
UZB	**Uzynbulak**	**3.10**	**21**	*e*PN	**Pn**	**17 21 47.1**	**+2.5**
SHLS	**Shalkode**	**3.25**	**27**	Pg	**Pb**	**17 21 55.2**	**+1.6**
	158nm,0.4s						
SHLS				Lg	Lg	17 22 40.2	
	402nm,0.5s						
SHLS	**Shalkode**	**3.25**	**27**	*e*P	**Pb**	**17 21 55.2**	**+1.6**
	158nm,0.4s						
SHLS				*e*S	**Sg**	**17 22 40.2**	**-0.4**
	402nm,0.5s						
SHLS	**Shalkode**	**3.25**	**27**	*e*PN	**Pb**	**17 21 50.7**	**-2.8**
AAK	**Ala-Archa**	**3.26**	**318**	Pn	**Pn**	**17 21 49.9**	**+3.2**
	3.0nm,0.3s,baz=126,slow=8.6,SNR=30						
AAK				Pg	**Pb**	**17 21 55.5**	**+1.7**
	9.8nm,0.3s,baz=126,slow=11,SNR=41						
AAK				Lg	Lg	17 22 40.5	
	12nm,0.3s,baz=12,slow=22,SNR=13						
	18nm,0.6s						
AAK	**Ala-Archa**	**3.26**	**318**	*de*PN	**Pn**	**17 21 50.8**	**+4.1**
KURS	**Kuram**	**3.26**	**9**	Pg	**Pb**	**17 21 53.6**	**-0.1**
	52nm,0.5s						
KURS				Lg	Lg	17 22 37.5	
	193nm,0.7s						
KURS	**Kuram**	**3.26**	**9**	*e*P	**Pb**	**17 21 53.6**	**-0.1**
	52nm,0.5s						
KURS				*e*S	**Sg**	**17 22 37.5**	**-3.4**
	193nm,0.7s						
FRU1	**Bishkek**	**3.32**	**321**	⇑*e*P	**Pn**	**17 21 49.0**	**+1.5**
FRU1				⇑*i*S	**Sn**	**17 22 25.4**	**-1.1**
FRU1	**Bishkek**	**3.32**	**321**	*i* PN	**Pn**	**17 21 49.0**	**+1.5**
KPKS	**Kokpek**	**3.32**	**15**	Pg	**Pb**	**17 21 54.7**	**-0.1**
	118nm,0.3s						
KPKS				Lg	Lg	17 22 39.3	
	350nm,0.4s						
KPKS	**Kokpek**	**3.32**	**15**	*e*P	**Pb**	**17 21 54.7**	**-0.1**
	118nm,0.3s						
KPKS				*e*S	**Sg**	**17 22 39.3**	**-3.6**
	350nm,0.4s						
KPKS	**Kokpek**	**3.32**	**15**	*e*PN	**Pn**	**17 21 49.9**	**+2.4**
AML	**Almayashu**	**3.40**	**304**	P	**Pn**	**17 21 52.4**	**+3.4**
	SNR=24						
AML	**Almayashu**	**3.40**	**304**	⇑*i*P	**Pn**	**17 21 49.3**	**+0.3**
AML				⇑*i*S	**Sn**	**17 22 26.5**	**-2.6**
AML	**Almayashu**	**3.40**	**304**	*i* PN	**Pn**	**17 21 50.2**	**+1.2**
CHMS	**Chumysh**	**3.41**	**324**	P	**Pn**	**17 21 52.1**	**+3.4**
	SNR=21						
CHMS	**Chumysh**	**3.41**	**324**	⇑Pg	**Pb**	**17 21 59.9**	**+3.7**
	35nm,0.5s						
CHMS				⇓Lg	Lg	17 22 44.2	
	189nm,0.7s						
CHMS	**Chumysh**	**3.41**	**324**	⇑*e*P	**Pn**	**17 21 50.1**	**+1.5**
CHMS				⇑*i*S	**Sn**	**17 22 28.4**	**-0.2**
CHMS	**Chumysh**	**3.41**	**324**	*i* PN	**Pn**	**17 21 50.1**	**+1.5**
PDGK	**Podgornoye**	**3.41**	**26**	Pg	**Pb**	**17 21 55.8**	**-0.5**
	63nm,0.3s						
PDGK				Lg	Lg	17 22 41.3	
	222nm,0.8s						
PDGK	**Podgornoye**	**3.41**	**26**	⇑Pn	**Pn**	**17 21 50.6**	**+1.8**
	139nm,0.8s						
PDGK				⇑Lg	Lg	17 22 40.9	
	482nm,0.7s						
PDGK	**Podgornoye**	**3.41**	**26**	PN	**Pn**	**17 21 50.6**	**+1.8**
KTBS	**Karatobe**	**3.49**	**351**	Pg	**Pb**	**17 21 58.5**	**+0.9**
	48nm,0.3s						
KTBS				Lg	Lg	17 22 46.0	
	140nm,0.5s						
KTBS	**Karatobe**	**3.49**	**351**	*e*P	**Pb**	**17 21 58.5**	**+0.9**
	48nm,0.3s						
KTBS				*e*S	**Sg**	**17 22 46.0**	**-2.4**
	140nm,0.5s						
ARSB	**Arslanbob**	**3.57**	**289**	⇑*i*P	**Pn**	**17 21 51.2**	**+0.2**
ARSB				⇑*i*S	**Sn**	**17 22 30.0**	**-2.8**
ARSB	**Arslanbob**	**3.57**	**289**	⇓*i*PN	**Pn**	**17 21 52.3**	**+1.3**
CHKK	**Chushkaly**	**3.60**	**354**	Pg	**Pb**	**17 22 00.3**	**+0.8**
	60nm,0.3s						
CHKK				Lg	Lg	17 22 48.9	
	304nm,0.6s						
CHKK	**Chushkaly**	**3.60**	**354**	*e*P	**Pb**	**17 22 00.3**	**+0.8**
	60nm,0.3s						
CHKK				*e*S	**Sg**	**17 22 48.9**	**-3.0**
	304nm,0.6s						
EKS2	**Erkin-Say**	**3.66**	**312**	P	**Pb**	**17 21 59.1**	**-1.6**
	SNR=16						
EKS2	**Erkin-Say**	**3.66**	**312**	⇓*i*P	**Pn**	**17 21 53.7**	**+1.4**
EKS2				⇓*i*S	**Sn**	**17 22 33.8**	**-1.3**
EKS2	**Erkin-Say**	**3.66**	**312**	⇓*i*PN	**Pn**	**17 21 53.7**	**+1.4**
KUU	**Kurty**	**3.72**	**347**	Pg	**Pb**	**17 22 01.8**	**+0.2**
	47nm,0.7s						
KUU				Lg	Lg	17 22 51.5	
	219nm,0.7s						
KUU	**Kurty**	**3.72**	**347**	*e*P	**Pb**	**17 22 01.8**	**+0.2**
	47nm,0.7s						
KUU				*e*S	**Sg**	**17 22 51.5**	**-4.2**
	219nm,0.7s						
USP	**Ospenovka**	**3.73**	**324**	P	**Pn**	**17 21 56.9**	**+3.8**
	SNR=6.3						
USP	**Ospenovka**	**3.73**	**324**	⇑*e*P	**Pn**	**17 21 54.6**	**+1.5**
USP				⇑*i*S	**Sn**	**17 22 36.1**	**-0.5**
USP	**Ospenovka**	**3.73**	**324**	*i* PN	**Pn**	**17 21 54.6**	**+1.5**
SGDS	**Sogindy**	**3.82**	**327**	Pg	**Pb**	**17 22 03.5**	**+0.2**
	29nm,0.6s						
SGDS				Lg	Lg	17 22 54.5	
	182nm,0.6s						
SGDS	**Sogindy**	**3.82**	**327**	*e*PN	**Pb**	**17 22 03.8**	**+0.5**
ARXS	**Arharly**	**3.95**	**4**	Pg	**Pb**	**17 22 06.6**	**+1.1**
	60nm,0.5s						
ARXS				Lg	Lg	17 22 59.7	
	468nm,0.5s						
ARXS	**Arharly**	**3.95**	**4**	*e*P	**Pb**	**17 22 06.6**	**+1.1**
	60nm,0.5s						
ARXS				*e*S	**Sg**	**17 22 59.7**	**-3.4**
	466nm,0.6s						
ARXS	**Arharly**	**3.95**	**4**	*e*PN	**Pn**	**17 21 58.8**	**+2.6**
MRKS	**Merke**	**4.04**	**309**	Pg	**Pb**	**17 22 08.6**	**+1.6**
	19nm,0.6s						
MRKS				Lg	Lg	17 23 03.1	
	75nm,0.5s						
MRKS	**Merke**	**4.04**	**309**	*e*P	**Pb**	**17 22 08.6**	**+1.6**
	15nm,0.6s						
MRKS				*e*S	**Sg**	**17 23 03.1**	**-2.7**
	81nm,0.6s						
MNAS	**Manas**	**4.34**	**302**	⇓*i*P	**Pn**	**17 22 02.2**	**+0.5**
MNAS				⇓*i*S	**Sn**	**17 22 49.3**	**-2.7**
MNAS	**Manas**	**4.34**	**302**	⇓*i*PN	**Pn**	**17 22 03.2**	**+1.5**
DJR	**Jarkent**	**4.41**	**22**	Pg	**Pb**	**17 22 14.0**	**+0.7**
	19nm,0.2s						
DJR				Lg	Lg	17 23 11.6	
	128nm,0.5s						
DJR	**Jarkent**	**4.41**	**22**	*e*P	**Pb**	**17 22 14.0**	**+0.7**
	19nm,0.2s						
DJR				*e*S	**Sg**	**17 23 11.6**	**-6.2**
	128nm,0.5s						
DRK	**Karamyk**	**4.44**	**262**	⇑*i*P	**Pn**	**17 22 02.4**	**-0.7**
DRK				⇑*i*S	**Sn**	**17 22 49.3**	**-5.1**
DRK	**Karamyk**	**4.44**	**262**	⇓*i*PN	**Pn**	**17 22 04.4**	**+1.3**
DRK				*i* S	**Sn**	**17 22 53.5**	**-0.9**
TDK	**Taldyqorghan**	**4.78**	**8**	Pg	**Pb**	**17 22 20.5**	**+0.9**
	88nm,0.6s						
TDK				Lg	Lg	17 23 23.5	
	379nm,0.5s						
TDK	**Taldyqorghan**	**4.78**	**8**	*e*P	**Pb**	**17 22 20.4**	**+0.9**
	88nm,0.6s						
TDK				*e*S	**Sg**	**17 23 23.5**	**-6.1**
	379nm,0.5s						
TRKS	**Terek-Say**	**4.96**	**287**	⇓*i*P	**Pn**	**17 22 09.0**	**-1.2**
TRKS				⇓*i*S	**Sn**	**17 23 01.6**	**-5.6**
TRKS	**Terek-Say**	**4.96**	**287**	*i* PN	**Pn**	**17 22 11.0**	**+0.8**
KK31	**Karatay Array**	**5.93**	**301**	⇑Pn	**Pn**	**17 22 27.7**	**+4.4**
	2.4nm,0.7s,baz=122,slow=12,SNR=9.4						
KK31				⇓Pg	**Pg**	**17 22 49.6**	**-0.2**
	11nm,0.6s,baz=124,slow=16,SNR=6.1						
KK31				⇓Lg	Lg	17 24 05.4	
	26nm,0.7s,baz=113,slow=26,SNR=5.6						
KK31	**Karatay Array**	**5.93**	**301**	PN	**Pn**	**17 22 27.7**	**+4.4**
MK31	**Makanchi Array**	**7.40**	**27**	⇑Pn	**Pn**	**17 22 43.9**	**+0.5**
	2.5nm,0.5s,baz=206,slow=11,SNR=36						
MK31				⇑Pg	**Pb**	**17 23 08.2**	**+4.0**
	7.0nm,0.7s,baz=209,slow=15,SNR=4.5						
MK31				Sn	**Sn**	**17 24 11.0**	**+4.0**
	1.9nm,0.5s,baz=203,slow=21,SNR=3.6						
MK31				⇑Lg	Lg	17 24 44.6	
	11nm,0.8s,baz=205,slow=30,SNR=5.2						
MK31	**Makanchi Array**	**7.40**	**27**	*e*P	**Pn**	**17 22 43.8**	**+0.3**
MKAR	**Makanchi Array**	**7.40**	**27**	Pn	**Pn**	**17 22 44.1**	**+0.6**
	1.0nm,0.3s,baz=190,slow=13,SNR=44						
MKAR				Pg	Pb	17 23 09.5	+5.3
	1.0nm,0.3s,baz=203,slow=15,SNR=7.4						
MKAR				Sn	**Sn**	**17 24 08.8**	**+1.8**
	0.6nm,0.3s,baz=207,slow=15,SNR=3.6						
MKAR				Lg	Lg	17 24 51.0	
	1.0nm,0.3s,baz=208,slow=30,SNR=5.0						
	2.1nm,0.5s						
KURBB	**Kurchatov Arra**	**10.38**	**4**	⇑Pn	**Pn**	**17 23 23.8**	**-0.5**
	4.2nm,0.6s						
KURBB				⇓Lg	Lg	17 26 24.1	
	58nm,0.9s						
KURBB	**Kurchatov Arra**	**10.38**	**4**	Pn	**Pn**	**17 23 24.8**	**+0.5**
	0.5nm,0.3s,baz=194,slow=12,SNR=12						
KURBB				Sn	**Sn**	**17 25 21.2**	**+1.1**
	0.1nm,0.3s,baz=194,slow=27,SNR=1.5						
KURBB				Lg	Lg	17 26 25.6	
	0.1nm,0.3s,baz=192,slow=28,SNR=9.1						
	2.6nm,0.2s						
KURBB	**Kurchatov Arra**	**10.38**	**4**	P	**Pn**	**17 23 23.7**	**-0.5**
KURK	**Kurchatov**	**10.48**	**4**	⇓*i*P	**Pn**	**17 23 26.3**	**+0.7**
BVAR	**Borovoye Array**	**13.64**	**342**	Pn	**Pn**	**17 24 08.3**	**-0.5**
	1.3nm,0.7s						
BRVK	**Borovoye**	**13.70**	**341**	⇑*e*P	**Pn**	**17 24 09.3**	**-0.3**
GOMU	**GeErMu**	**14.22**	**101**	P	Pn	17 24 12.9	-4.3
GOMU				pP	P	17 24 19.1	-5.5
GOMU				sP		17 24 22.8	
GOMU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**14.56**	**17**	Pn	**Pn**	**17 24 19.8**	**-1.6**
	0.2nm,0.3s,baz=195,slow=11,SNR=9.0						
	2.3nm,0.6s						
AKTO	**Aktyubinsk**	**16.99**	**313**	P	**Pn**	**17 24 54.3**	**+1.3**
	0.2nm,0.3s,baz=127,slow=12,SNR=5.9						
	2.7nm,0.8s						
ARTI	**Arti**	**20.41**	**329**	P	**P**	**17 25 33.2**	**+1.0**
	1.1nm,0.5s,baz=149,slow=5.9,SNR=1.9						
	1.1nm,0.5s						
ARTI	**Arti**	**20.41**	**329**	P	**P**	**17 25 34.4**	**+2.2**
ARTI						17 25 51.7	
ARTI				S	Sn	17 29 25.6	+1.9
ARTI				SS	**SnSn**	**17 29 44.6**	**+6.3**
SONM	**Songino Array**	**22.03**	**60**	P	**P**	**17 25 49.1**	**-0.8**
	0.7nm,0.6s,baz=250,slow=11,SNR=6.2						
	0.7nm,0.6s						
SONM	**Songino Array**	**22.03**	**60**	*e*P	**P**	**17 25 49.6**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ULN	**Ulaanbaatar**	**22.47**	**60**	⇑*e*P	**P**	**17 25 54.6**	**-0.1**
ULN				pmax	pmax		
	comp=Z,7.0nm,2.3s						
TNCH	**TengChong**	**23.26**	**124**	P	**P**	**17 25 59.8**	**-3.3**
TNCH				pP	pP	17 26 03.1	-5.6
TNCH				S	S	17 30 02.5	-12
TNCH				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,75nm,4.6s						
TNCH				LR	LR		
	comp=Z,130nm,4.8s						
TNCH				LR	LR		
	comp=Z,110nm,5.0s						
TNC

TA01	Diego Aracena	2.13	356	*i* P	Pg	17 34 15.1	-0.8
GO02	Mina Guanaco	2.48	171	*i* P	Pg	17 34 23.0	+0.4
PB08	IPOC Station P	2.67	18	*i* P	Pb	17 34 23.6	+0.8
PB11	IPOC Station P	2.94	7	*i* P	Pb	17 34 28.1	+0.8
AC01	Pan de Azucar	3.47	189	*i* P	Pb	17 34 35.1	-1.0

*JSO **03** 17:35:23, 33.°64N×34.°88E, h9km, ML2.3/25*
*GII **03** 17:35:23.9±0.5, 33.°662N±0.°003×35.°004E±0.°001, h9km, Md2.2/7, Mws2.4/9, confirmed*
*GRAL **03** 17:35:24.7±0.3, 33.°71N×35.°05E, h26km±3km, MD3.3*
*NIC **03** 17:35:25.2, 33.°67N×35.°01E, h32km±37km, Ml2.3/8*
ISC 03 17:35:23.1±3.1, **33.°70N**±0.°02×**35.°02E**±0.°04, **h16**km±23km, **n69**, σ0.9**64**/80, **1C-1D, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	**Deir Qamar**	**0.46**	**89**	*eP*	**Pb**	**17 35 33.3**	**+0.4**
DQRL				*eS*	**Sb**	**17 35 39.6**	**+0.1**
BHL	**Bhannes**	**0.56**	**69**	*eP*	**Pb**	**17 35 34.9**	**+0.2**
QRWL	**Qaraoun**	**0.57**	**105**	*eP*	**Pb**	**17 35 35.1**	**+0.2**
QRWL				*eS*	**Sb**	**17 35 42.8**	**+0.1**
HNTI	**Hanita**	**0.63**	**168**	P	**Pb**	**17 35 35.9**	**+0.1**
HNTI	**Hanita**	**0.63**	**168**	P	**Pb**	**17 35 35.8**	**+0.1**
HNTI	**Hanita**	**0.63**	**168**	S	**Sb**	**17 35 43.3**	**-1.1**
SHBL	**Chebaa**	**0.70**	**120**	*eP*	**Pb**	**17 35 37.2**	**+0.2**
RCY	**Rachaya**	**0.71**	**107**	*eP*	**Pb**	**17 35 37.4**	**+0.1**
GEM	**Giv'at Ha'Em**	**0.72**	**132**	P	**Pb**	**17 35 37.6**	**+0.2**
GEM	**Giv'at Ha'Em**	**0.72**	**132**	S	**Sb**	**17 35 46.4**	**-0.7**
GEM	**Giv'at Ha'Em**	**0.72**	**132**	⇓*i*P	**Pb**	**17 35 37.6**	**+0.2**
ZAHL	**Zahle**	**0.73**	**78**	*eP*	**Pb**	**17 35 37.7**	**+0.1**
MMC1	**Mount Meron ar**	**0.74**	**154**	P	**Pb**	**17 35 37.6**	**-0.1**
MMA0B	**Mount Meron ar**	**0.76**	**155**	⇑*i*P	**Pb**	**17 35 37.9**	**-0.1**
MMA0B	**Mount Meron ar**	**0.76**	**155**	S	**Sb**	**17 35 47.3**	**-0.7**
MMB1	**Mount Meron ar**	**0.76**	**155**	P	**Pb**	**17 35 37.9**	**-0.1**
HWQ	**Hawqa**	**0.96**	**53**	*eP*	**Pb**	**17 35 41.2**	**-0.3**
KSHT	**Keshet**	**0.97**	**137**	S	**Sb**	**17 35 54.2**	**-0.2**
KSHT	**Keshet**	**0.97**	**137**	P	**Pb**	**17 35 41.8**	**+0.1**
BLGI	**Bet Lehem HaGe**	**0.98**	**172**	P	**Pb**	**17 35 41.4**	**-0.3**
BLGI	**Bet Lehem HaGe**	**0.98**	**172**	S	**Sb**	**17 35 53.3**	**-1.0**
BLGI	**Bet Lehem HaGe**	**0.98**	**172**	P	**Pb**	**17 35 41.3**	**-0.3**
OFRI	**`Ofer**	**1.08**	**182**	P	**Pb**	**17 35 43.1**	**-0.4**
OFRI				S	**Sb**	**17 35 56.8**	**-0.5**
OFRI	**`Ofer**	**1.08**	**182**	S	**Sb**	**17 35 56.4**	**-0.9**
OFRI	**`Ofer**	**1.08**	**182**	P	**Pb**	**17 35 43.0**	**-0.5**
BEIL	**Beino**	**1.28**	**49**	*eP*	**Pn**	**17 35 45.8**	**-0.6**
MMLI	**Mount Malkishu**	**1.30**	**165**	S	**Sn**	**17 36 03.0**	**-0.8**
MMLI	**Mount Malkishu**	**1.30**	**165**	P	**Pn**	**17 35 46.4**	**-0.3**
MMLI	**Mount Malkishu**	**1.30**	**165**	P	**Pn**	**17 35 46.4**	**-0.3**
MMLI				AML	AML	17 36 01.9	
	0.2nm,0.6s						
MMLI				AML	AML	17 36 02.5	
	0.2nm,0.3s						
MMLI				S	**Sn**	**17 36 02.8**	**-1.1**
QRNJ	**Al-Qirein**	**1.44**	**161**	P	**Pn**	**17 35 48.8**	**+0.3**
SLTI	**Sal'it**	**1.46**	**179**	P	**Pn**	**17 35 49.2**	**+0.3**
SLTI				S	**Sn**	**17 36 07.6**	**0.0**
SLTI	**Sal'it**	**1.46**	**179**	S	**Sn**	**17 36 07.4**	**-0.2**
SLTI	**Sal'it**	**1.46**	**179**	P	**Pn**	**17 35 49.1**	**+0.3**
HMDT	**Nahal Hemdat**	**1.50**	**164**	P	**Pn**	**17 35 49.7**	**+0.2**
HMDT	**Nahal Hemdat**	**1.50**	**164**	S	**Sn**	**17 36 09.0**	**+0.2**
HMDT	**Nahal Hemdat**	**1.50**	**164**	P	**Pn**	**17 35 49.9**	**+0.4**
SALP	**Salfit**	**1.64**	**175**	P	**Pn**	**17 35 51.8**	**+0.5**
SALP	**Salfit**	**1.64**	**175**	P	**Pn**	**17 35 51.6**	**+0.3**
SALP	**Salfit**	**1.64**	**175**	S	**Sn**	**17 36 12.1**	**+0.1**
BALJ	**Balqa**	**1.69**	**162**	P	**Pn**	**17 35 53.2**	**+1.1**
MVOU	**Mavrovouni**	**1.75**	**319**	P	**Pn**	**17 35 53.0**	**+0.2**
MVOU				S	**Sn**	**17 36 13.9**	**-0.8**
MVOU				AML	AML	17 36 16.5	
MVOU				AML	AML	17 36 17.1	
ASGA	**Asgata**	**1.82**	**307**	P	**Pn**	**17 35 54.6**	**+0.7**
ASGA				AML	AML	17 36 14.2	
ASGA				S	**Sn**	**17 36 15.6**	**-1.2**
ASGA				AML	AML	17 36 24.0	
	0.1nm,0.4s						
HSUJ	**Al Zarqa**	**1.87**	**148**	P	**Pb**	**17 35 56.8**	**-0.2**
CSS	**Mathiatis**	**1.88**	**312**	P	**Pn**	**17 35 54.9**	**+0.2**
CSS	**Mathiatis**	**1.88**	**312**	P	**Pn**	**17 35 54.8**	**+0.2**
CSS	**Mathiatis**	**1.88**	**312**	P	**Pn**	**17 35 55.1**	**+0.4**
CSS				S	**Sn**	**17 36 17.8**	**-0.3**
APOL	**The Sanctuary**	**2.04**	**299**	P	**Pn**	**17 35 57.6**	**+0.8**
APOL				S	**Sn**	**17 36 22.2**	**+0.4**
APOL				AML	AML	17 36 24.3	
	0.1nm,0.1s						
APOL				AML	AML	17 36 32.7	
	0.1nm,0.6s						
DSI	**Dead Sea**	**2.15**	**172**	P	**Pn**	**17 35 58.9**	**+0.6**
DSI	**Dead Sea**	**2.15**	**172**	P	**Pn**	**17 35 58.7**	**+0.4**
DSI	**Dead Sea**	**2.15**	**172**	S	**Sn**	**17 36 25.1**	**+0.5**
AMAZ	**Amatzia**	**2.17**	**182**	P	**Pn**	**17 35 59.6**	**+1.0**
AMAZ	**Amatzia**	**2.17**	**182**	S	**Sn**	**17 36 25.8**	**+0.7**
AMAZ	**Amatzia**	**2.17**	**182**	P	**Pn**	**17 35 59.4**	**+0.7**
AMAZ	**Amatzia**	**2.17**	**182**	P	**Pn**	**17 35 59.3**	**+0.7**
AMAZ				S	**Sn**	**17 36 24.8**	**-0.3**
AMAZ				AML	AML	17 36 30.2	
	0.1nm,0.3s						
AMAZ				AML	AML	17 36 32.4	
	0.2nm,0.3s						
TROD	**Troodos**	**2.17**	**305**	P	**Pn**	**17 35 59.6**	**+0.7**
TROD				AML	AML	17 36 34.1	
	0.1nm,0.3s						
TROD				AML	AML	17 36 37.1	
ASF	**Jabal al Asfar**	**2.19**	**134**	P	**Pb**	**17 36 02.1**	**-0.4**
YTIR	**Yattir**	**2.33**	**178**	P	**Pn**	**17 36 01.4**	**+0.4**
YTIR	**Yattir**	**2.33**	**178**	S	**Sn**	**17 36 30.3**	**+0.9**
MSBI	**Mazada**	**2.40**	**173**	P	**Pn**	**17 36 03.5**	**+1.8**
MSBI	**Mazada**	**2.40**	**173**	P	**Pn**	**17 36 01.2**	**-0.6**
AKMS	**Akamas**	**2.58**	**301**	P	**Pn**	**17 36 05.5**	**+1.2**
AKMS				S	**Sn**	**17 36 35.9**	**+0.5**
AKMS				AML	AML	17 36 37.4	
	0.1nm,0.6s						
AKMS				AML	AML	17 36 38.8	
	0.1nm,0.4s						
KZIT	**Kziot**	**2.84**	**191**	S	**Sn**	**17 36 41.8**	**+0.1**
KZIT	**Kziot**	**2.84**	**191**	P	**Pn**	**17 36 08.2**	**+0.3**
KZIT	**Kziot**	**2.84**	**191**	S	**Sn**	**17 36 41.0**	**-0.7**
KZIT				AML	AML	17 36 44.2	
	0.1nm,0.7s						
KZIT				AML	AML	17 36 45.2	
PRNI	**Paran**	**3.34**	**180**	P	**Pn**	**17 36 16.1**	**+1.3**
PRNI	**Paran**	**3.34**	**180**	P	**Pn**	**17 36 15.3**	**+0.5**
HRFI	**Mount Harif**	**3.65**	**180**	P	**Pn**	**17 36 20.4**	**+1.3**
HRFI	**Mount Harif**	**3.65**	**180**	S	**Sn**	**17 37 03.4**	**+1.5**
MBRI	**Mt Berech**	**3.90**	**181**	P	**Pn**	**17 36 23.1**	**+0.6**

*HLW **03** 17:42:49.1, 33.°74N×35.°02E, h14km±20km, Md4.2, Ml4.1*
*JSO **03** 17:42:50, 33.°61N×34.°95E, h10km, ML3.6/45, Mw3.7/45*
*GII **03** 17:42:50.8±0.4, 33.°641N±0.°002×35.°026E±0.°001, h10km, Md3.6/11, Mws3.6/10, confirmed*
*ISK **03** 17:42:50.6, 33.°70N×35.°03E, h55km, ML3.8/29*
*GRAL **03** 17:42:51.9±0.3, 33.°69N×35.°07E, h28km±2km, MD3.8*
*NEIC **03** 17:42:51.9±2.0, 33.°67N±0.°05×34.°91E±0.°09, h32km±7km, mb3.8/6, Error ellipse: s-maj=11.6km s-min=4.8km az=62.0*
*NIC **03** 17:42:51.4, 33.°73N×35.°13E, h32km±33km, Ml3.5/13*
*AFAD **03** 17:42:54.8±0.0, 34.°19N×34.°98E, h24km±3km, MWS.7*
ISC 03 17:42:48.6±0.6, **33.°72N**±0.°02×**35.°02E**±0.°03, **h12**km, **n182**, σ1.9**58**/225, **16C-1D, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEYL	**Beirut**	**0.42**	**68**	*eP*	**Pb**	**17 42 60.0**	**+2.0**
DQRL	**Deir Qamar**	**0.46**	**91**	*eP*	**Pb**	**17 43 00.3**	**+1.6**
DQRL				*eS*	**Sb**	**17 43 06.7**	**+1.2**
BHL	**Bhannes**	**0.56**	**70**	*eP*	**Pb**	**17 43 01.8**	**+1.4**
QRWL	**Qaraoun**	**0.57**	**107**	*eP*	**Pb**	**17 43 01.9**	**+1.2**
HNTI	**Hanita**	**0.64**	**169**	P	**Pb**	**17 43 02.6**	**+0.8**
HNTI	**Hanita**	**0.64**	**169**	S	**Sg**	**17 43 09.9**	**+0.2**
HNTI	**Hanita**	**0.64**	**169**	⇑*i*P	**Pb**	**17 43 02.8**	**+0.9**
SHBL	**Chebaa**	**0.70**	**121**	*eP*	**Pb**	**17 43 04.1**	**+1.1**
SHBL				*eS*	**Sb**	**17 43 12.9**	**+0.3**
RCY	**Rachaya**	**0.71**	**108**	*eP*	**Pb**	**17 43 04.3**	**+1.2**
ZAHL	**Zahle**	**0.73**	**79**	*eP*	**Pb**	**17 43 04.7**	**+1.3**
GEM	**Giv'at Ha'Em**	**0.73**	**133**	P	**Pb**	**17 43 04.6**	**+1.2**
GEM	**Giv'at Ha'Em**	**0.73**	**133**	S	**Sb**	**17 43 13.6**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.73**	**133**	⇓*i*P	**Pb**	**17 43 04.6**	**+1.2**
MMC1	**Mount Meron ar**	**0.75**	**155**	P	**Pb**	**17 43 04.5**	**+0.7**
MMA0B	**Mount Meron ar**	**0.77**	**155**	⇑*i*P	**Pb**	**17 43 04.8**	**+0.8**
MMA0B	**Mount Meron ar**	**0.77**	**155**	S	**Sg**	**17 43 14.2**	**+0.6**
MMB1	**Mount Meron ar**	**0.77**	**155**	P	**Pb**	**17 43 04.7**	**+0.7**
HWQ	**Hawqa**	**0.95**	**54**	*eP*	**Pg**	**17 43 08.2**	**+1.2**
KSHT	**Keshet**	**0.98**	**138**	S	**Sg**	**17 43 21.1**	**+0.7**
KSHT	**Keshet**	**0.98**	**138**	⇑*i*P	**Pb**	**17 43 08.7**	**+1.1**
BLGI	**Bet Lehem HaGe**	**0.99**	**172**	P	**Pg**	**17 43 08.2**	**+0.5**
BLGI	**Bet Lehem HaGe**	**0.99**	**172**	S	**Sg**	**17 43 20.7**	**0.0**
BLGI	**Bet Lehem HaGe**	**0.99**	**172**	⇑*i*P	**Pg**	**17 43 08.3**	**+0.5**
OFRI	**`Ofer**	**1.09**	**182**	P	**Pb**	**17 43 09.9**	**+0.4**
OFRI	**`Ofer**	**1.09**	**182**	S	**Sb**	**17 43 23.8**	**+0.1**
OFRI	**`Ofer**	**1.09**	**182**	⇑*i*P	**Pb**	**17 43 09.8**	**+0.3**
SHMJ	**Saham**	**1.17**	**148**	P	**Pb**	**17 43 11.5**	**+0.8**
BEIL	**Beino**	**1.27**	**49**	*eP*	**Pn**	**17 43 12.8**	**+0.5**
MMLI	**Mount Malkishu**	**1.32**	**165**	Pn	**Pn**	**17 43 13.3**	**+0.4**
MMLI				Sn	**Sb**	**17 43 29.8**	**-0.4**
MMLI	**Mount Malkishu**	**1.32**	**165**	P	**Pn**	**17 43 13.2**	**+0.4**
MMLI	**Mount Malkishu**	**1.32**	**165**	S	**Sb**	**17 43 30.3**	**+0.1**
MMLI	**Mount Malkishu**	**1.32**	**165**	⇑*i*P	**Pn**	**17 43 13.3**	**+0.4**
MMLI	**Mount Malkishu**	**1.32**	**165**	⇑*i*P	**Pn**	**17 43 13.3**	**+0.4**
MMLI				AML	AML	17 43 29.7	
	2.4nm,0.4s						
MMLI				S	**Sb**	**17 43 30.0**	**-0.2**
MMLI				AML	AML	17 43 40.2	
	2.2nm,0.5s						
QRNJ	**Al-Qirein**	**1.45**	**161**	P	**Pn**	**17 43 15.4**	**+0.7**
QRNJ				S	**Sn**	**17 43 33.6**	**0.0**
SLTI	**Sal'it**	**1.47**	**179**	P	**Pn**	**17 43 15.7**	**+0.7**
SLTI	**Sal'it**	**1.47**	**179**	S	**Sn**	**17 43 34.4**	**+0.2**
SLTI	**Sal'it**	**1.47**	**179**	⇑*i*P	**Pn**	**17 43 15.5**	**+0.5**
PARAL	**Paralimni**	**1.51**	**328**	P	**Pn**	**17 43 16.9**	**+1.3**
PARAL				S	**Sn**	**17 43 35.7**	**+0.5**
PARAL				AML	AML	17 43 36.2	
	1.0nm,0.8s						
PARAL				AML	AML	17 43 37.0	
	0.9nm,0.3s						
HMDT	**Nahal Hemdat**	**1.52**	**164**	P	**Pn**	**17 43 16.5**	**+0.9**
HMDT	**Nahal Hemdat**	**1.52**	**164**	S	**Sn**	**17 43 35.6**	**+0.3**
HMDT	**Nahal Hemdat**	**1.52**	**164**	⇑*i*P	**Pn**	**17 43 16.3**	**+0.7**
PAR1C	**Paralimni Civi**	**1.57**	**327**	S	**Sn**	**17 43 37.8**	**+1.2**
SALP	**Salfit**	**1.65**	**175**	P	**Pn**	**17 43 18.5**	**+1.1**
SALP	**Salfit**	**1.65**	**175**	⇑*i*P	**Pn**	**17 43 18.5**	**+1.1**
SALP	**Salfit**	**1.65**	**175**	S	**Sn**	**17 43 39.2**	**+0.6**
BALJ	**Balqa**	**1.71**	**162**		**Pn**	**17 43 18.8**	**+0.6**
BALJ				Sn	**Sn**	**17 43 39.7**	**-0.3**
BALJ	**Balqa**	**1.71**	**162**	P	**Pn**	**17 43 19.4**	**+1.2**
MVOU	**Mavrovouni**	**1.73**	**319**	P	**Pn**	**17 43 19.5**	**+0.9**
MVOU				AML	AML	17 43 41.0	
	0.6nm,0.3s						
MVOU				AML	AML	17 43 42.9	
	0.8nm,0.4s						
UJAP	**Al Uja**	**1.80**	**168**	P	**Pn**	**17 43 20.4**	**+1.0**
UJAP	**Al Uja**	**1.80**	**168**	P	**Pn**	**17 43 20.7**	**+1.3**
UJAP	**Al Uja**	**1.80**	**168**	S	**Sn**	**17 43 43.3**	**+1.1**
ASGA	**Asgata**	**1.82**	**306**	P	**Pn**	**17 43 21.1**	**+1.4**
ASGA				S	**Sn**	**17 43 43.8**	**+1.1**
ASGA				AML	AML	17 43 46.3	
	0.4nm,0.3s						
ASGA				AML	AML	17 43 51.0	
	0.7nm,0.4s						
AKIN	**Akıncılar- Kıb**	**1.83**	**316**	Pn	**Pn**	**17 43 20.9**	**+1.0**
CSS	**Mathiatis**	**1.87**	**312**	Pn	**Pn**	**17 43 21.9**	**+1.3**
CSS				Sn	**Sn**	**17 43 43.9**	**-0.2**
CSS	**Mathiatis**	**1.87**	**312**		**Pn**	**17 43 21.8**	**+1.3**
CSS				Sn	**Sn**	**17 43 42.5**	**-1.7**
CSS	**Mathiatis**	**1.87**	**312**	P	**Pn**	**17 43 22.1**	**+1.6**
CSS	**Mathiatis**	**1.87**	**312**	P	**Pn**	**17 43 22.1**	**+1.6**
CSS	**Mathiatis**	**1.87**	**312**	P	**Pn**	**17 43 21.8**	**+1.3**
CSS				AML	AML	17 43 44.2	
	0.6nm,0.7s						
CSS				S	**Sn**	**17 43 44.5**	**+0.4**
CSS				AML	AML	17 43 46.6	
	0.7nm,0.6s						
HSUJ	**Al Zarqa**	**1.88**	**148**	P	**Pn**	**17 43 22.0**	**+1.3**
EREN	**Erenkoy**	**1.94**	**339**	P	**Pn**	**17 43 23.3**	**+1.8**
EREN				S	**Sn**	**17 43 42.3**	**-3.5**
EREN				*i* AML	AML	17 43 56.0	
	comp=E,478nm,0.6s						
EREN	**Erenkoy**	**1.94**	**339**	Pn	**Pn**	**17 43 22.9**	**+1.4**
ATHAL	**Athalassa**	**1.96**	**317**	P	**Pn**	**17 43 23.3**	**+1.6**
ATHAL				S	**Sn**	**17 43 47.5**	**+1.3**
ATHAL				AML	AML	17 43 49.5	
	1.2nm,0.8s						
ATHAL				AML	AML	17 43 56.8	
	1.5nm,0.8s						
APOL	**The Sanctuary**	**2.03**	**299**	P	**Pn**	**17 43 24.2**	**+1.5**
APOL				S	**Sn**	**17 43 49.7**	**+1.7**
APOL				AML	AML	17 43 51.1	
	0.8nm,0.3s						
APOL				AML	AML	17 43 51.2	
	0.8nm,0.2s						
DSI	**Dead Sea**	**2.16**	**172**	P	**Pn**	**17 43 25.5**	**+1.0**
DSI	**Dead Sea**	**2.16**	**172**	⇑*i*P	**Pn**	**17 43 25.3**	**+0.8**
TROD	**Troodos**	**2.17**	**305**	P	**Pn**	**17 43 26.8**	**+2.0**
TROD				S	**Sn**	**17 43 53.5**	**+1.9**
TROD				AML	AML	17 43 55.9	
	0.5nm,0.6s						
TROD				AML	AML	17 44 01.2	
	0.8nm,0.3s						
AMAZ	**Amatzia**	**2.18**	**182**	P	**Pn**	**17 43 25.8**	**+1.1**
AMAZ	**Amatzia**	**2.18**	**182**	S	**Sn**	**17 43 52.5**	**+0.8**
AMAZ	**Amatzia**	**2.18**	**182**	⇑*i*P	**Pn**	**17 43 26.2**	**+1.5**
AMAZ	**Amatzia**	**2.18**	**182**	⇑*i*P	**Pn**	**17 43 26.2**	**+1.5**
AMAZ				S	**Sn**	**17 43 52.9**	**+1.2**
AMAZ				AML	AML	17 43 53.6	
	2.3nm,0.5s						
AMAZ				AML	AML	17 43 56.7	
	3.2nm,0.3s						
ASF	**Jabal al Asfar**	**2.20**	**134**	P	**Pn**	**17 43 26.9**	**+1.8**
LEF	**Lefka**	**2.25**	**309**	P	**Pb**	**17 43 30.7**	**+1.4**
LEF	**Lefka**	**2.25**	**309**	Pn	**Pn**	**17 43 27.6**	**+1.9**
LEF				Sn	**Sn**	**17 43 54.3**	**+0.9**
NATA	**Nata**	**2.29**	**298**	P	**Pn**	**17 43 28.6**	**+2.3**
NATA				AML	AML	17 44 01.6	
	1.8nm,0.4s						
NATA				AML	AML	17 44 03.2	
	1.3nm,0.4s						
YTIR	**Yattir**	**2.35**	**178**	P	**Pn**	**17 43 28.6**	**+1.5**
YTIR				S	**Sn**	**17 43 56.2**	**+0.3**
YTIR	**Yattir**	**2.35**	**178**	⇑*i*P	**Pn**	**17 43 28.6**	**+1.5**
MDBI	**Mazsada**	**2.41**	**173**	P	**Pn**	**17 43 29.1**	**+1.2**
MDBI	**Mazsada**	**2.41**	**173**	P	**Pn**	**17 43 29.0**	**+1.1**
MSBI	**Mazada**	**2.41**	**173**	P	**Pn**	**17 43 29.2**	**+1.3**
MSBI	**Mazada**	**2.41**	**173**	S	**Sn**	**17 43 58.2**	**+0.8**
MSBI	**Mazada**	**2.41**	**173**	⇑*i*P	**Pn**	**17 43 29.1**	**+1.3**
GHAJ	**Ghor Haditha**	**2.45**	**169**		**Pn**	**17 43 30.3**	**+1.9**
GHAJ	**Ghor Haditha**	**2.45**	**169**	P	**Pn**	**17 43 30.3**	**+1.9**
GHAJ	**Ghor Haditha**	**2.45**	**169**	P	**Pn**	**17 43 29.9**	**+1.5**
ALFC	**Alefka**	**2.47**	**306**	P	**Pn**	**17 43 30.6**	**+1.9**
ALFC				S	**Sn**	**17 44 00.8**	**+2.0**
ALFC				AML	AML	17 44 01.3	
	1.2nm,0.7s						
ALFC				AML	AML	17 44 02.0	
	1.8nm,0.4s						
LISJ	**El Lisan**	**2.50**	**171**	P	**Pn**	**17 43 31.4**	**+2.3**
AKMS	**Akamas**	**2.58**	**301**	P	**Pn**	**17 43 32.3**	**+2.1**
AKMS				S	**Sn**	**17 44 04.0**	**+2.6**
AKMS				AML	AML	17 44 07.6	
	0.6nm,0.4s						
AKMS				AML	AML	17 44 08.4	
	0.5nm,0.3s						
SWQJ	**Swaqa**	**2.62**	**160**	P	**Pb**	**17 43 34.6**	**-0.9**
ASUZ	**Hatay-Arsuz**	**2.65**	**13**	P	**Pn**	**17 43 32.0**	**+0.9**
ASUZ				S	**Sn**	**17 44 01.8**	**-1.3**
ASUZ				*i* AML	AML	17 44 05.0	
	comp=E,100nm,0.4s						
ASUZ				*i* AML	AML	17 44 06.0	
	comp=N,106nm,0.3s						
TISA	**Tisan-Mersin**	**2.68**	**336**	Pn	**Pn**	**17 43 33.1**	**+1.5**
AKKU	**Akkuyu-Mersin**	**2.72**	**334**	Pn	**Pn**	**17 43 33.7**	**+1.5**
AKKU				Sn	**Sn**	**17 44 04.3**	**-0.7**
GULN	**MERSIN_Gulnar**	**2.75**	**334**	P	**Pn**	**17 43 32.9**	**+0.4**
GULN				S	**Sn**	**17 44 03.3**	**-2.3**
IKL	**Isikli**	**2.75**	**337**	Pn	**Pn**	**17 43 33.8**	**+1.3**
IKL				Sn	**Sn**	**17 44 06.1**	**+0.5**
SILI	**Silifke-Mersin**	**2.79**	**341**	Pn	**Pn**	**17 43 34.8**	**+1.6**
SILI				Sn	**Sn**	**17 44 06.7**	**-0.1**
SLFK	**Silifke-Mersin**	**2.81**	**342**	Pn	**Pn**	**17 43 34.9**	**+1.5**
RHAN	**Hatay/Reyhanl**	**2.85**	**27**	P	**Pn**	**17 43 35.3**	**+1.4**
KIZK	**Mersin**	**2.85**	**346**	P	**Pn**	**17 43 34.9**	**+1.0**
KIZK				S	**Sn**	**17 44 03.5**	**-4.7**
KIZK				*i* AML	AML	17 44 12.0	
	comp=E,99nm,0.7s						
KIZK	**Mersin**	**2.85**	**346**	Pn	**Pn**	**17 43 35.5**	**+1.5**
KIZK				Sn	**Sn**	**17 44 08.3**	**+0.1**
KZIT	**Kziot**	**2.85**	**191**	P	**Pn**	**17 43 35.3**	**+1.3**
KZIT	**Kziot**	**2.85**	**191**	S	**Sn**	**17 44 08.4**	**+0.1**
KZIT	**Kziot**	**2.85**	**191**	P	**Pn**	**17 43 35.5**	**+1.5**
KZIT	**Kziot**	**2.85**	**191**	P	**Pn**	**17 43 35.1**	**+1.2**
KZIT				S	**Sn**	**17 44 09.0**	**+0.8**
KZIT				AML	AML	17 44 12.0	
	1.0nm,0.4s						
KZIT				AML	AML	17 44 12.1	
	1.0nm,0.4s						
TEKE	**Tekeli-Mersin**	**2.88**	**328**	Pn	**Pn**	**17 43 35.8**	**+1.4**
KEBE	**Keben-Mersin**	**2.93**	**339**	Pn	**Pn**	**17 43 36.7**	**+1.6**
KEBE				Sn	**Sn**	**17 44 10.4**	**+0.1**
TEVE	**Tevekalti-Mers**	**3.01**	**335**	Pn	**Pn**	**17 43 37.9**	**+1.7**
BERE	**Bereket-Mersin**	**3.01**	**331**	Pn	**Pn**	**17 43 37.9**	**+1.6**
BERE				Sn	**Sn**	**17 44 12.6**	**+0.2**
YURE	**YUREGIR**	**3.14**	**9**	P	**Pn**	**17 43 39.7**	**+1.7**
ZFRI	**Zfri**	**3.15**	**178**	P	**Pn**	**17 43 39.4**	**+1.3**
ZFRI	**Zfri**	**3.15**	**178**	P	**Pn**	**17 43 39.2**	**+1.1**
MERS	**Mersin**	**3.17**	**353**	Pn	**Pn**	**17 43 40.1**	**+1.7**
DED	**Mersin**	**3.24**	**357**	P	**Pn**	**17 43 40.2**	**+0.8**
DED				S	**Sn**	**17 44 15.1**	**-2.9**
DED				*i* AML	AML	17 44 21.0	
	comp=E,77nm,0.5s						
HASA	**Hatay-Hassa-Ha**	**3.26**	**21**	P	**Pn**	**17 43 40.8**	**+1.2**
PRNI	**Paran**	**3.35**	**180**	P	**Pn**	**17 43 42.2**	**+1.3**
PRNI	**Paran**	**3.35**	**180**	S	**Sn**	**17 44 21.0**	**+0.3**
PRNI	**Paran**	**3.35**	**180**	⇑*i*P	**Pn**	**17 43 42.0**	**+1.1**
GAZI	**Gazipasa**	**3.35**	**319**	P	**Pn**	**17 43 43.1**	**+2.2**
GAZI				S	**Sn**	**17 44 20.7**	**0.0**
GAZI				*i* AML	AML	17 44 25.0	
	comp=N,213nm,0.5s						
GAZI				*i* AML	AML	17 44 25.0	
	comp=E,244nm,0.6s						
GAZI	**Gazipasa**	**3.35**	**319**	Pn	**Pn**	**17 43 42.8**	**+1.9**
ERMK	**Ermenek**	**3.39**	**330**	P	**Pn**	**17 43 45.9**	**+4.3**
ERMK				S	**Sn**	**17 44 23.1**	**+1.2**
KUZU	**Kuzuini**	**3.48**	**28**	P	**Pn**	**17 43 43.5**	**+0.8**
HSNJ	**Maan**	**3.50**	**171**	P	**Pn**	**17 43 44.5**	**+1.6**
GULE	**Gulek**	**3.57**	**357**	P	**Pn**	**17 43 45.5**	**+1.5**
GULE				S	**Sn**	**17 44 24.1**	**-2.0**
GULE				*i* AML	AML	17 44 30.0	
	comp=E,158nm,0.5s						
KRMI	**Paran Flat**	**3.60**	**184**	P	**Pn**	**17 43 45.6**	**+1.3**
KRMI	**Paran Flat**	**3.60**	**184**	P	**Pn**	**17 43 45.5**	**+1.3**
HRFI	**Mount Harif**	**3.67**	**180**	P	**Pn**	**17 43 46.7**	**+1.5**
HRFI	**Mount Harif**	**3.67**	**180**	S	**Sn**	**17 44 29.0**	**+0.6**
HRFI	**Mount Harif**	**3.67**	**180**	P	**Pn**	**17 43 46.4**	**+1.2**
KAMA	**Osmaniye**	**3.71**	**21**	P	**Pn**	**17 43 45.6**	**-0.3**
KRMN	**Karaman**	**3.74**	**338**	Pn	**Pn**	**17 43 48.1**	**+1.8**
ALAN	**Alanya-ANTALYA**	**3.75**	**320**	Pn	**Pn**	**17 43 48.8**	**+2.5**
AKO	**Adana**	**3.75**	**5**	P	**Pn**	**17 43 47.7**	**+1.3**
AKO				S	**Sn**	**17 44 26.5**	**-4.1**
AKO				*i* AML	AML	17

BVAR	Borovoye Array	45.84	311	P		P	17 52 42.8	-0.7
	0.3nm,0.4s,baz=90,slow=7.3,SNR=2.9							
	0.3nm,0.4s							
WRA	Warramunga Arr	57.53	180	P		P	17 54 07.7	-1.3
	0.3nm,0.8s,baz=0.5,slow=7.6,SNR=4.6							
	0.3nm,0.8s							
ASAR	Alice Springs	61.24	181	P		P	17 54 33.1	-0.9
	0.1nm,0.8s,baz=356,slow=7.5,SNR=4.1							
	0.1nm,0.8s							
EKA	Eskdalemuir Ar	80.31	337	P		P	17 56 26.5	-0.5
	3.9nm,1.0s,baz=17,slow=3.0,SNR=3.9							
	3.9nm,1.0s							

CATAC 03 17:49:49.4±0.6, 11°.27N×87°.12W, h10km±4km, ML3.5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.04	29	*i* P	Pg	17 50 08.6	-0.9
COPN				IAML		17 50 30.4	
	comp=Z,790nm,1.0s						
SAPS	Ciudad Sandino	1.14	38	*i* P	Pb	17 50 10.3	-0.9
SAPS				IAML		17 50 42.3	
	comp=Z,1μm,1.0s						
SABN	Sabanita	1.16	54	*i* P	Pb	17 50 10.7	-0.9
SABN				IAML		17 50 57.8	
	comp=Z,3μm,1.0s						
NADN	Granada	1.17	66	*i* P	Pb	17 50 10.9	-0.8
NADN				*i* S	Sn	17 50 29.1	+1.3
NADN				IAML		17 50 42.3	
	comp=Z,2μm,1.0s						
NANN	Nandasmo	1.18	55	*i* P	Pb	17 50 11.6	-0.4
NANN				IAML		17 50 49.6	
	comp=Z,13μm,1.0s						
APQ2	Apoyeque	1.21	40	*i* P	Pn	17 50 11.3	-1.1
APQ2				IAML		17 50 44.8	
	comp=Z,880nm,1.0s						
APYN	Apoyeque	1.22	38	*i* P	Pn	17 50 11.2	-1.4
APYN				IAML		17 50 35.8	
	comp=Z,26nm,1.0s						
ILCN	San Idelfonso	1.37	17	*i* P	Pn	17 50 13.3	-1.3
ILCN				*i* S	Sb	17 50 31.2	-1.4
ILCN				IAML		17 50 35.7	
	comp=Z,340nm,1.0s						
PKGN	Cerro Pekin	1.40	6	*i* P	Pn	17 50 13.2	-1.9
PKGN				*i* S	Sg	17 50 37.8	+3.2
PKGN				IAML		17 50 40.5	
	comp=Z,2μm,1.0s						
CRIN	San Cristobal	1.43	3	*i* P	Pn	17 50 15.2	-0.3
CRIN				IAML		17 50 42.8	
	comp=Z,2μm,1.0s						
MORN	Al O del Volca	1.47	79	*i* P	Pn	17 50 15.0	-0.9
MORN				*i* S	Sn	17 50 35.0	-0.2
MORN				IAML		17 50 42.9	
	comp=Z,100nm,1.0s						
CARN	Rivas	1.56	93	*i* P	Pn	17 50 16.9	-0.4
CARN				*i* S	Sb	17 50 39.0	+0.7
CARN				IAML		17 50 47.8	
	comp=Z,1μm,1.0s						
CSGN	Cosiguina Volc	1.75	346	*i* P	Pn	17 50 19.2	-0.8
CSGN				IAML		17 50 55.8	
	comp=Z,100nm,1.0s						
BOAB	BOACO BROADBAN	.84	50	*i* P	Pn	17 50 19.5	-1.6
BOAB				*i* S	Sb	17 50 46.7	+0.3
BOAB				IAML		17 51 02.9	
	comp=Z,150nm,1.0s						
AMPH	Amapala	2.08	345	*i* P	Pn	17 50 24.3	0.0
RANC	El Ranchito	2.44	332	*i* P	Pb	17 50 31.9	-1.6
RANC				IAML		17 50 34.4	
	comp=Z,300nm,1.0s						
RCPN	Sur Rio San Ju	2.46	24	*i* P	Pn	17 50 29.8	+0.1
RCPN				IAML		17 50 46.1	
	comp=Z,0.7nm,1.0s						
RCPN				*i* S	Sn	17 50 59.3	-0.6
RCVN	Varillal2	2.47	21	*i* P	Pn	17 50 29.8	-0.1
RCVN				*i* S	Sn	17 50 58.2	-2.1
RCVN				IAML		17 51 04.9	
	comp=Z,2μm,1.0s						
YUSH	Yuscaran	2.69	6	*i* P	Pn	17 50 33.3	+0.5
COMHN	El Horno	3.19	352	*i* P	Pn	17 50 40.0	+0.2

*ISK **03** 17:51:35.5, 33°.94N×26°.19E, h5km, ML3.2/18*
*IDC **03** 17:51:36.9±1.0, 34°.06N×26°.06E, h0km, mb3.9/11, mbtmp3.8/16, ML3.5/5, Error ellipse: s-maj=21.7km s-min=15.8km az=13.0*
*AFAD **03** 17:51:40.5±0.0, 34°.41N×26°.20E, h6km±3km, ML2.8*
*ATH **03** 17:51:41.7, 34°.19N×26°.03E, h10km±5km, ML2.8/4, Error ellipse: s-maj=8.2km s-min=2.3km az=329.0*
ISC 03 17:51:38.8±1.8, 34°.05N±0°.06×26°.08E±0°.04, h14km±11km, n58, σ19°71/70, mb3.8/11, 3C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	1.07	6	Pn	Pg	17 51 58.7	-0.7
ZKR	Zakros	1.07	6	P	Pg	17 51 58.4	-1.0
ZKR				S	Sb	17 52 12.3	-0.7
ZKR				AML	AML	17 52 17.2	
	comp=E,1463μm,0.6s						
ZKR				AML	AML	17 52 24.2	
	comp=N,609μm,0.5s						
IDI	Anoyia	1.57	322	Pn	Pn	17 52 07.8	+1.4
IDI	Anoyia	1.57	322	Pn	Pn	17 52 07.9	+1.5
	comp=N,3.2nm,0.3s,baz=332,slow=23,SNR=20						
IDI				Sn	Sn	17 52 25.1	-1.5
	comp=N,6.6nm,0.3s,baz=342,slow=19,SNR=10.0						
IDI	Anoyia	1.57	322	P	Pn	17 52 07.5	+1.1
IDI				AML	AML	17 52 52.0	
	comp=E,352μm,0.6s						
IDI				AML	AML	17 52 53.8	
	comp=N,326μm,1.0s						
KARP	Karpathos	1.74	31	Pn	Pn	17 52 09.0	+0.3
KARP	Karpathos	1.74	31	P	Pn	17 52 10.3	+1.7
KARP				S	Sn	17 52 29.7	-1.0
KARP				AML	AML	17 53 03.5	
	comp=N,545μm,1.0s						
KARP				AML	AML	17 53 07.4	
	comp=E,629μm,0.8s						
GVD	Gavdhos	1.82	296	Pn	Pn	17 52 10.8	+1.1
GVD				Sn	Sg	17 52 37.1	-0.3
GVD	Gavdhos	1.82	296	P	Pn	17 52 10.4	+0.7
GVD				AML	AML	17 52 59.5	
	comp=N,599μm,0.6s						
GVD				AML	AML	17 53 03.9	
	comp=E,637μm,0.6s						
IMMV	Iera Moni Meta	2.23	310	Pn	Pn	17 52 17.0	+1.7
IMMV				Sn	Sb	17 52 47.1	+0.9
IMMV	Iera Moni Meta	2.23	310	P	Pn	17 52 16.4	+1.1
RODP	Rodopos	2.43	309	Pn	Pn	17 52 20.2	+2.1
THR5	Thira Island,	2.44	346	P	Pn	17 52 19.4	+1.3
YAZI	Mula-Dat§a-	2.86	23	P	Pn	17 52 23.8	-0.2
DAT	Datca	2.94	24	P	Pn	17 52 26.6	+1.3
DAT	Datca	2.94	24	Pn	Pn	17 52 26.4	+1.2
APE	Apeiranthos	3.04	352	Pn	Pn	17 52 28.5	+1.9
TURN	Turunc	3.24	32	P	Pn	17 52 31.7	+2.4
TURN				S	Sn	17 53 09.5	+1.8
TURN	Turunc	3.24	32	Pn	Pn	17 52 30.2	+0.9
DALY	Dalyan (Mula)	3.47	37	Pn	Pn	17 52 33.4	+1.0
IZZE	Mula-Seydike	3.51	46	P	Pn	17 52 33.6	+0.6
IZZE				S	Sn	17 53 12.3	-2.0
IZZE				*i* AML	AML	17 53 18.0	
	comp=E,28nm,0.4s						
FETY	Fethiye	3.56	43	P	Pn	17 52 37.6	+3.9
FETY	Fethiye	3.56	43	Pn	Pn	17 52 34.3	+0.6
YER	Yerkesik	3.56	30	Pn	Pn	17 52 34.9	+1.1
AKAS	Kas	3.62	52	P	Pn	17 52 36.3	+1.7
AKAS				S	Sn	17 53 13.1	-4.2
AKAS				*i* AML	AML	17 53 22.0	
	comp=E,27nm,0.4s						
AKAS	Kas	3.62	52	Pn	Pn	17 52 34.9	+0.3
SABU	Mula-Dalaman	3.64	40	P	Pn	17 52 36.3	+1.5
SABU				S	Sn	17 53 17.1	-0.4
CAME	Cameli-Denizli	3.91	41	Pn	Pn	17 52 39.2	+0.6
KNIK	Mula-Seydike	3.99	45	P	Pn	17 52 43.2	+3.5
DNZT	Denizli-Tavas-	4.02	36	P	Pn	17 52 41.7	+1.7
TAVA	DENIZLI_Tavas	4.12	33	P	Pn	17 52 43.3	+1.9
ELL	Elmali	4.13	48	Pn	Pn	17 52 41.9	+0.3
AYDB	Zeytinkoy-Aydi	4.16	20	Pn	Pn	17 52 43.4	+1.4
AKUM	Antalya-Kumluc	4.17	56	P	Pn	17 52 43.8	+1.9
AKUM				S	Sn	17 53 27.2	-3.2
AKUM				*i* AML	AML	17 53 39.0	
	comp=E,16nm,0.7s						
ESEN	Aydn-Nazilli	4.17	26	P	Pn	17 52 43.2	+1.2
APMY	Acipayam-Deniz	4.30	37	Pn	Pn	17 52 45.1	+1.1
KORT	Korkueli	4.56	49	P	Pn	17 52 48.3	+0.7
KORT				S	Sn	17 53 40.6	+0.1
KORT				*i* AML	AML	17 53 48.0	
	comp=E,18nm,0.5s						
KORT	Korkueli	4.56	49	Pn	Pn	17 52 48.3	+0.7
MMAI	Mount Meron Ar	7.86	95	Pn	Pn	17 53 34.0	+1.2
	comp=E,0.3nm,0.3s,baz=297,slow=13,SNR=2.0						
MMAI				Sn	Sn	17 55 00.6	-1.0
	comp=E,1.2nm,0.3s,baz=283,slow=28,SNR=2.1						
	comp=E,0.7nm,0.3s						
EIL	Elat	8.72	118	Pn	Pn	17 53 45.4	+0.9
	comp=E,1.5nm,0.3s,baz=259,slow=7.5,SNR=12						
EIL				Sn	Sn	17 55 22.0	-0.7
	comp=E,0.4nm,0.3s,baz=295,slow=15,SNR=2.0						
	comp=E,5.7nm,0.5s						
ASF	Jabal al Asfar	9.27	99	Pn	Pn	17 53 50.1	-2.1
	comp=E,0.2nm,0.3s,baz=46,slow=0.2,SNR=2.3						
	comp=E,1.6nm,0.5s						
KBZ	Khabaz	16.25	49	Pn	Pn	17 55 28.5	+1.9
	comp=E,0.1nm,0.3s,baz=248,slow=10,SNR=1.4						
	comp=E,1.4nm,0.9s						
AKASG	Malin Array Be	16.80	7	Pn	Pn	17 55 34.8	+1.3
	comp=E,1.0nm,0.3s,baz=196,slow=12,SNR=4.3						
	comp=E,0.2nm,0.2s						
ESDC	Sonseca Array	24.61	292	P	P	17 56 58.9	+0.1
	comp=E,1.0nm,0.8s,baz=80,slow=9.0,SNR=10						
	comp=E,1.0nm,0.8s						
HFS	Hagfors	27.33	346	P	P	17 57 22.2	-0.7
	comp=E,4.7nm,1.0s,baz=150,slow=9.9,SNR=1.9						
	comp=E,4.7nm,1.0s						
FINES	FINESS Array B	27.41	0	P	P	17 57 22.3	-1.3
	comp=E,1.0nm,0.4s,baz=162,slow=10,SNR=8.2						
	comp=E,1.0nm,0.4s						
TORD	Torodi Ar. Bea	30.39	233	P	P	17 57 50.9	+0.3
	comp=E,0.6nm,0.5s,baz=36,slow=10,SNR=5.1						
	comp=E,0.6nm,0.5s						
ARCES	ARCESS Array B	35.54	360	P	P	17 58 33.5	-1.6
	comp=E,3.4nm,1.0s,baz=182,slow=8.1,SNR=5.7						
	comp=E,3.4nm,1.0s						
BVAR	Borovoye Array	36.58	45	P	P	17 58 44.6	+0.4
	comp=E,1.7nm,1.0s,baz=262,slow=3.0,SNR=6.1						
	comp=E,1.7nm,1.0s						
KURBB	Kurchatov Arra	41.24	50	P	P	17 59 23.9	+0.7
	comp=E,1.7nm,1.0s,baz=275,slow=8.8,SNR=9.9						
	comp=E,1.7nm,1.0s						
MKAR	Makanchi Array	43.77	56	P	P	17 59 44.6	+0.7
	comp=E,1.0nm,0.8s,baz=284,slow=4.9,SNR=7.6						
	comp=E,1.0nm,0.8s						
ZALV	Zalesovo Beam	45.23	45	P	P	17 59 56.0	+0.5
	comp=E,1.0nm,0.5s,baz=259,slow=7.6,SNR=6.9						
	comp=E,1.0nm,0.5s						
SONM	Songino Array	59.61	50	P	P	18 01 43.0	+0.7
	comp=E,0.5nm,0.8s,baz=272,slow=7.3,SNR=3.6						
	comp=E,0.5nm,0.8s						
CMAR	Chiang Mai Arr	65.95	83	P	P	18 02 25.3	+0.4
	comp=E,0.7nm,0.8s,baz=289,slow=7.0,SNR=5.8						
	comp=E,0.7nm,0.8s						
VNA1	Neumayer--Stat	107.28	191	⇑P	Pdif	18 05 50.9	-4.1
	comp=Z,0.2nm,0.2s						
VNA2	Neumayer--Watz	107.38	191	⇑P	Pdif	18 05 55.4	-0.1
	comp=Z,0.1nm,0.1s,baz=311,slow=13						
VNA3	Neumayer Olymp	108.02	191	⇑P	Pdif	18 05 52.6	-5.8
	comp=Z,0.2nm,0.2s						
ASAR	Alice Springs	117.10	101	PKP	PKPdf	18 10 23.2	-0.7
	comp=Z,0.4nm,1.0s,baz=327,slow=1.2,SNR=4.1						

*GRAL **03** 18:01:56.4±0.3, 33°.70N×35°.05E, h20km±11km, MD2.8*
*GII **03** 18:01:56.7±0.3, 33°.577N±0°.002×35°.053E±0°.001, h10km, Mws1.9, confirmed*
ISC 03 18:01:55.0±1.8, 33°.67N±0°.06×35°.02E±0°.07, h12km, n30, σ0°49/32, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	Deir Qamar	0.46	85	*e*P	Pb	18 02 04.8	-0.3
DQRL				*e*S	Sg	18 02 10.8	+0.5
QRWL	Qaraoun	0.57	102	*e*P	Pg	18 02 06.4	+0.4
BHL	Bhannes	0.58	66	*e*P	Pg	18 02 06.3	0.0
HNTI	Hanita	0.60	167	S	Sg	18 02 14.8	+0.3
HNTI	Hanita	0.60	167	P	Pb	18 02 07.3	0.0
SHBL	Chebaa	0.69	117	*e*P	Pb	18 02 08.6	-0.3
RCY	Rachaya	0.70	104	*e*P	Pg	18 02 08.9	+0.2
RCY				*e*S	Sg	18 02 17.9	0.0
GEM	Giv'at Ha'Em	0.71	130	S	Sb	18 02 18.1	-0.7
GEM	Giv'at Ha'Em	0.71	130	P	Pb	18 02 09.1	-0.1
NATI	Neve Ativ	0.72	124	S	Sb	18 02 18.9	-0.5
NATI	Neve Ativ	0.72	124	P	Pb	18 02 09.5	0.0
MMA0B	Mount Meron ar	0.72	153	P	Pg	18 02 09.3	+0.3
MMA0B	Mount Meron ar	0.72	153	S	Sb	18 02 18.8	-0.7
ZAHL	Zahle	0.75	75	*e*P	Pg	18 02 09.2	-0.2
BLGI	Bet Lehem HaGe	0.94	171	S	Sg	18 02 25.1	-0.3
BLGI	Bet Lehem HaGe	0.94	171	P	Pg	18 02 13.2	0.0
KSHT	Keshet	0.95	136	S	Sb	18 02 26.0	0.0
KSHT	Keshet	0.95	136	P	Pb	18 02 13.4	-0.1
OFRI	`Ofer	1.04	182	S	Sg	18 02 28.0	-0.6
OFRI	`Ofer	1.04	182	P	Pb	18 02 14.7	-0.3
MMLI	Mount Malkishu	1.27	164	P	Pn	18 02 18.0	-0.6
MMLI	Mount Malkishu	1.27	164	S	Sb	18 02 34.4	-0.8
SLTI	Sal'it	1.42	179	S	Sn	18 02 39.3	0.0
SLTI	Sal'it	1.42	179	P	Pn	18 02 20.9	+0.2
HMDT	Nahal Hemdat	1.47	163	P	Pb	18 02 22.0	-0.3
HMDT	Nahal Hemdat	1.47	163	S	Sn	18 02 40.4	-0.1
DSI	Dead Sea	2.11	172	P	Pn	18 02 30.6	+0.5
DSI	Dead Sea	2.11	172	S	Sn	18 02 56.6	+0.3
YTIR	Yattir	2.30	178	P	Pn	18 02 33.4	+0.6
YTIR	Yattir	2.30	178	S	Sn	18 03 02.6	+1.5

*JMA **03** 18:10:08.8±0.1, 25°.N±3°.×12°.2E±°, h77km±2km, MV2.2/10, TAIWAN REGION*
*TAP **03** 18:10:09.4, 24°.65N×122°.21E, h84km, ML2.8, C*
ISC 03 18:10:08.8±1.3, 24°.60N±0°.04×122°.34E±0°.02, h81km±6km, n100, σ0°88/173, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	EOS2	0.20	209	*i* P	Pn	18 10 21.4	+0.8
EOS2				S	Sn	18 10 31.1	+1.8
EOS3	EOS3	0.31	184	*i* P	Pn	18 10 22.0	+0.9
EOS3				S	Sn	18 10 32.0	+1.8
TWC	Suao	0.45	272	P	Pn	18 10 21.9	-0.3
TWC				*i* S	Sn	18 10 31.1	-1.1
ESAO	Su ao	0.45	268	*i* S	Sn	18 10 31.6	-0.7
EOS4	EOS4	0.47	182	*e*P	Pn	18 10 22.4	+0.3
EOS4				*e*S	Sn	18 10 32.1	+0.2
TWB1	Santiao Chiao	0.52	322	*e*P	Pn	18 10 22.5	-0.4
EWUT	Wuta	0.53	254	P	Pn	18 10 23.2	+0.2
EWUT				*i* S	Sn	18 10 33.7	+0.2
NDS	Dongshan	0.57	274	P	Pn	18 10 23.8	+0.5
NDS				S	Sn	18 10 33.6	-0.5
ENA	Nanau	0.57	253	P	Pn	18 10 23.5	+0.2
ENA				S	Sn	18 10 34.3	+0.2
JYNG	Yonagunijimaku	0.57	104	*i* P	Pn	18 10 23.4	+0.1
JYNG				S	Sn	18 10 34.3	+0.2
TIPB	Shuangxi	0.60	309	P	Pn	18 10 23.5	-0.2
TIPB				S	Sn	18 10 33.6	-1.1
EAHA	Aohua	0.61	244	P	Pn	18 10 23.6	-0.1
EAHA				S	Sn	18 10 35.1	+0.3
TWE	Neicheng	0.62	282	*i* P	Pn	18 10 24.0	+0.1
TWE				S	Sn	18 10 34.5	-0.5
YOJ	Yonaguni jima	0.63	102	*e*P	Pn	18 10 23.9	+0.1
YOJ				S	Sn	18 10 35.1	+0.1
YOJ	Yonaguni jima	0.63	102	*i* P	Pn	18 10 23.9	+0.1
YOJ				*i* S	Sn	18 10 35.2	+0.1
SXI1	Grass Mountain	0.65	320	*e*P	Pn	18 10 23.9	-0.4
SXI1				*e*S	Sn	18 10 34.9	-0.7
FUSB	Fushanzhiwuyua	0.70	284	P	Pn	18 10 24.8	0.0
FUSB				*e*S	Sn	18 10 35.9	-0.7
ENTT	Nioudou	0.70	274	*i* P	Pn	18 10 25.2	+0.5
ENTT				S	Sn	18 10 36.4	-0.1
LATG	Datong	0.74	266	P	Pn	18 10 25.4	+0.2
LATG				*e*S	Sn	18 10 38.0	+0.6
NWLT	Wulai	0.78	284	*e*P	Pn	18 10 25.9	+0.4
NWLT				*e*S	Sn	18 10 37.0	-1.0
ETL	Fush Village	0.79	236	*e*P	Pn	18 10 25.0	-0.6
ETL				*e*S	Sn	18 10 37.6	-0.4
TWA	Mucha	0.79	299	*e*P	Pn	18 10 24.8	-0.8
TWA				*e*S	Sn	18 10 35.8	-2.2
NACB	Ninganchiao	0.80	238	P	Pn	18 10 25.3	-0.4
NACB				S	Sn	18 10 37.6	-0.6
TWD	Chiawan	0.85	233	*e*P	Pn	18 10 26.0	-0.3
TWD				S	Sn	18 10 38.8	-0.4
ETLH	Xiulin Townshi	0.87	244	P	Pn	18 10 26.2	-0.4
ETLH				S	Sn	18 10 39.2	-0.6
YHNB	Yeheng	0.88	275	P	Pn	18 10 26.7	0.0
YHNB				*e*S	Sn	18 10 39.7	-0.3
NNSB	Datong	0.89	259	*i* P	Pn	18 10 26.8	0.0
NNSB				*e*S	Sn	18 10 40.1	-0.1
NNS	Nan Shan	0.89	260	P	Pn	18 10 26.8	-0.1
NNS				S	Sn	18 10 39.9	-0.5
NSK	Sanguang	0.90	275	P	Pn	18 10 26.9	0.0
NSK				S	Sn	18 10 40.0	-0.3
HWA	Hwalien	0.91	228	*e*P	Pn	18 10 27.4	+0.5
HWA				*e*S	Sn	18 10 41.4	+0.9
ZUZH	Zhuzihu	0.92	308	*e*P	Pn	18 10 26.4	-0.6
ZUZH				*e*S	Sn	18 10 39.2	-1.4
NTST	Danshui	0.99	305	*e*S	Sn	18 10 41.5	-0.4
ETM	Tongmen	0.99	231	P	Pn	18 10 27.6	-0.3
ETM				S	Sn	18 10 41.5	-0.7
LXIB	Xiulin Townshi	1.02	236	*i* P	Pn	18 10 27.8	-0.6
LXIB				S	Sn	18 10 41.7	-1.3
FUSS	Fushou	1.06	251	P	Pn	18 10 29.2	+0.3
FUSS				*e*S	Sn	18 10 43.7	-0.2
KSHI	Guanxi Townshi	1.07	280	P	Pn	18 10 29.2	+0.3
KSHI				*e*S	Sn	18 10 44.1	+0.3
SHUL	Shoufeng	1.07	222	*e*P	Pn	18 10 29.5	+0.6
SHUL				*e*S	Sn	18 10 43.7	-0.1
WHF	Hehuan Shan	1.08	246	P	Pn	18 10 29.1	-0.2
WHF				S	Sn	18 10 43.9	-0.7
NFF	Wufeng Townshi	1.11	272	P	Pn	18 10 29.6	+0.2
NFF				*e*S	Sn	18 10 44.3	-0.5
NCUH	Zhongli	1.11	290	*e*S	Sn	18 10 45.1	+0.4
TWT	Tachien	1.11	252	*e*P	Pn	18 10 30.3	+0.7
TWT				*e*S	Sn	18 10 45.4	+0.3
TDCB	Techi	1.13	253	*e*P	Pn	18 10 31.0	+1.3
TDCB				*e*S	Sn	18 10 44.9	-0.4
ESL	Shilin	1.14	227	*e*P	Pn	18 10 28.7	-0.9
ESL				*e*S	Sn	18 10 43.6	-1.6
LIOB	Emei	1.21	273	*e*P	Pn	18 10 31.2	+0.7
LIOB				*e*S	Sn	18 10 46.8	0.0
NSTT	Nanjuang	1.22	272	*e*P	Pn	18 10 30.6	-0.1
NSTT				*e*S	Sn	18 10 46.7	-0.4
WARBT	Fenglin Townsh	1.23	225	*i* P	Pn	18 10 29.8	-1.0
WARBT				*i* S	Sn	18 10 45.8	-1.6
OWD	Renai	1.24	239	P	Pn	18 10 30.9	-0.1
OWD				S	Sn	18 10 46.6	-1.1
EGFH	Guangfu	1.24	222	*e*P	Pn	18 10 30.2	-0.7
WUSB	Renai	1.27	242	P	Pn	18 10 31.6	+0.2
WUSB				*e*S	Sn	18 10 48.3	0.0
IRIF	Iriomote-Funau	1.29	101	*e*P	Pn	18 10 31.5	-0.1
IRIF				*e*S	Sn	18 10 48.4	-0.2
WHP	Taichung City	1.31	256	P	Pn	18 10 32.8	+0.9
WHP				S	Sn	18 10 50.0	+0.8
HGSD	Ruisui	1.38	217	*e*P	Pn	18 10 33.5	+0.8
HGSD				*e*S	Sn	18 10 50.4	-0.2
DPDB	Guoxing	1.41	247	*e*P	Pn	18 10 33.8	+0.7
WCS	Beigang Elemen	1.41	248	*e*P	Pn	18 10 34.2	+1.2
WCS				*e*S	Sn	18 10 51.8	+0.5
EHY	Hungye	1.43	221	*e*P	Pn	18 10 32.4	-1.0
TWQ1	Liyutan	1.45	261	*e*S	Sn	18 10 52.2	-0.1
SMLT	Sun Moon Lake	1.49	242	*e*P	Pn	18 10 35.8	+1.6
SMLT				*e*S	Sn	18 10 55.0	+1.6
SSLB	Suanglung	1.50	238	*e*P	Pn	18 10 34.9	+0.6
SSLB				*e*S	Sn	18 10 54.3	+0.9
ECBN	Changbin	1.51	213	*e*S	Sn	18 10 52.4	-1.3
TYC	Yuchr	1.52	243	*e*P	Pn	18 10 35.7	+1.3
TYC				*e*S	Sn	18 10 55.2	+1.5
YULB	Yu-li	1.53	219	*e*P	Pn	18 10 33.6	-1.1
YULB				*e*S	Sn	18 10 51.9	-2.2
EYUL	Yuli	1.55	217	*e*P	Pn	18 10 34.2	-0.7
EYUL				*e*S	Sn	18 10 54.6	-0.1
JKRS	Kuro-shima	1.56	103	*e*P	Pn	18 10 35.5	+0.5
JKRS				*e*S	Sn	18 10 55.5	+0.6
WWF	Wufeng	1.59	250	*e*P	Pn	18 10 36.1	+0.6
WWF				*e*S	Sn	18 10 56.9	+1.3
WHYT	Xinyi Township	1.63	237	*e*P	Pn	18 10 37.3	+1.4
WHYT				*e*S	Sn	18 10 58.6	+2.2
CHKH	Chenggong	1.64	212	*e*P	Pn	18 10 35.4	-0.7
JIJ	Ishigaki jima	1.66	98	*e*P	Pn	18 10 36.2	-0.1
JIJ				S	Sn	18 10 56.4	-0.7
WJS	Zhushan	1.66	243	*e*P	Pn	18 10 37.3	+1.0
WJS				*e*S	Sn	18 10 58.9	+1.8
WNT	Mingjian	1.67	245	*e*P	Pn	18 10 37.4	+0.9
WNT				*e*S	Sn	18 10 58.5	+1.1
FULB	Fuli	1.69	215	*e*P	Pn	18 10 36.3	-0.4
FULB				*e*S	Sn	18 10 57.3	-0.5
WYL	Yuanlin Townsh	1.73	249	*e*P	Pn	18 10 38.1	+0.9
ALS	Alishan	1.77	233	*e*P	Pn	18 10 38.9	+0.9
ALS				*e*S	Sn	18 11 00.8	+0.7
JISG	Ishigakijimahi	1.79	90	*e*P	Pn	18 10 38.2	+0.2
JISG				*e*S	Sn	18 11 00.4	+0.1
CHN5	Tsauling	1.81	237	P	Pn	18 10 39.5	+1.1
CHN5				*e*S	Sn	18 11 02.9	+2.0
ELDTW	Lidau	1.85	221	*e*P	Pn	18 10 38.6	-0.4
ELDTW				*e*S	Sn	18 11

AUSP Uspallata 1.72 250 *e*P **Pn 18 22 34.8 +0.5**
AUSP *e*S **Sb 18 22 59.8 +2.1**
ACCO Cerro Coronel 1.72 307 *e*P **Pb 18 22 35.7 -0.7**
ACCO *e*S **Sb 18 23 00.1 +2.4**
AAGR Agrelo 1.83 218 *e*P **Pb 18 22 36.7 -1.6**
AAGR *e*S **Sb 18 23 02.4 +1.6**
PEL Peldehue 3.09 240 *e*P **Pn 18 22 54.3 +1.3**
PEL *e*S **Sn 18 23 32.3 +2.9**
ROC1 El Roble 3.27 245 *e*P **Pn 18 22 57.8 +2.1**
ROC1 *e*S **Sn 18 23 37.0 +2.9**
CYA Choya 3.51 25 *e*P **Pn 18 23 00.8 +2.1**
CYA *e*S Sb 18 23 59.3 +10
GO03 Copiapo 4.70 329 *e*P **Pn 18 23 17.5 +2.4**
GO03 *e*S **Sb 18 24 18.0 -5.2**
AHML Horco Molle 5.20 22 *e*P **Pn 18 23 24.4 +2.5**
AHML *e*S **Sn 18 24 26.0 +4.8**
FSA Cafayete 5.67 14 *e*P **Pn 18 23 31.4 +2.8**
LVC Limon Verde 9.09 352 Pn **Pn 18 24 16.6 +0.9**
comp=Z,0.3nm,0.3s,baz=225,slow=14,SNR=1.7
comp=Z,1.8nm,0.6s
CPUP Villa Florida 10.35 62 Pn **Pn 18 24 31.2 -1.4**
comp=Z,0.3nm,0.3s,baz=202,slow=15,SNR=3.3
comp=Z,0.8nm,0.3s
LPAZ La Paz 15.30 358 Pn **P 18 25 46.9 +1.4**
comp=Z,0.3nm,0.3s,baz=174,slow=8.2,SNR=6.6
SNAA Sanae 52.35 159 P **P 18 31 14.4 -1.0**
comp=Z,0.7nm,0.6s,baz=191,slow=20,SNR=8.0
comp=Z,0.7nm,0.6s
QSPA South Pole Qui 58.59 180 P **P 18 31 59.6 -0.9**
comp=Z,0.7nm,0.5s,baz=177,slow=0.8,SNR=8.5
comp=Z,0.7nm,0.5s
TORD Torodi Ar. Bea 79.79 68 P **P 18 34 12.0 -0.4**
comp=Z,1.2nm,0.6s,baz=285,slow=5.2,SNR=8.7
comp=Z,1.2nm,0.6s
ASAR Alice Springs 121.31 203 PKP **PKPdf 18 40 55.5 -2.0**
comp=Z,0.8nm,1.1s,baz=150,slow=2.2,SNR=2.8
WRA Warramunga Arr 124.60 205 PKP **PKPdf 18 41 02.8 -1.1**
comp=Z,0.2nm,0.3s,baz=162,slow=1.8,SNR=9.7
KURBB Kurchatov Arra 148.53 43 PKPbc **PKPbc 18 41 48.8 -1.4**
comp=Z,0.6nm,0.5s,baz=300,slow=3.4,SNR=4.1
ZALV Zalesovo Beam 150.17 34 PKPbc **PKPbc 18 41 52.7 -1.5**
comp=Z,0.5nm,0.5s,baz=282,slow=2.9,SNR=4.1
MKAR Makanchi Array 152.34 48 PKPbc **PKPbc 18 41 59.0 -0.5**
comp=Z,0.4nm,0.8s,baz=302,slow=2.7,SNR=3.6

CATAC 03 18:25:53.2±0.4, 16°.19N×87°.71W, h30km, ML3.9, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTHN	**La Esperanza I**	**1.90**	**192**	*i* P	Pn	18 26 18.1	-5.7
INTHN				*i* S	Sn	18 26 41.8	-5.1
TGUH	**Tegucigalpa,Un**	**2.16**	**169**	*i* P	Pn	18 26 23.0	-4.3
TGUH				*i* S	Sn	18 26 47.9	-5.2
TGUH				IAML		18 26 57.6	
	comp=Z,1μm,1.0s						
PETF	**Flores**	**2.19**	**290**	*i* P	Pn	18 26 28.6	+1.0
PETF				*i* S	Sb	18 26 56.5	-2.4
PETF				IAML		18 27 06.6	
	comp=Z,380nm,1.0s						
ESQI	**Esquipulas**	**2.26**	**224**	*i* P	Pn	18 26 27.4	-1.2
ESQI				*i* S	Sn	18 26 55.0	-0.5
ESQI				IAML		18 27 01.7	
	comp=Z,380nm,1.0s						
LLGN	**La Laguna**	**2.34**	**211**	*i* P	Pn	18 26 29.1	-0.6
LLGN				IAML		18 27 00.2	
	comp=Z,350nm,1.0s						
YUSH	**Yuscaran**	**2.37**	**159**	*i* P	Pn	18 26 26.9	-3.3
YUSH				*i* S	Sn	18 26 54.5	-3.9
MTO3	**Montecristo**	**2.39**	**222**	*i* P	Pn	18 26 28.7	-1.8
MTO3				*i* S	Sn	18 26 57.4	-1.4
MTO3				IAML		18 27 01.2	
	comp=Z,240nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.66**	**202**	*i* P	Pn	18 26 33.8	-0.3
SCLA				*i* S	Sn	18 27 05.3	-0.1
SCLA				IAML		18 27 09.7	
	comp=Z,160nm,1.0s						
JUAM	**Asuncion Mita**	**2.66**	**227**	*i* P	Pn	18 26 34.0	-0.1
JUAM				*i* S	Sn	18 27 08.0	+2.6
JUAM				IAML		18 27 58.5	
	comp=Z,560nm,1.0s						
PAVA	**Las Pavas**	**2.73**	**206**	*i* P	Pn	18 26 36.2	+1.1
PAVA				*i* S	Sn	18 27 06.6	-0.6
PAVA				IAML		18 27 12.8	
	comp=Z,680nm,1.0s						
RANC	**El Ranchito**	**2.79**	**192**	*i* P	Pn	18 26 35.1	-0.9
RANC				*i* S	Sn	18 27 09.0	+0.2
RANC				IAML		18 27 18.7	
	comp=Z,230nm,1.0s						
TECO	**Alcaldia de Te**	**2.83**	**202**	*i* P	Pn	18 26 34.9	-1.5
TECO				IAML		18 27 02.9	
	comp=Z,180nm,1.0s						
AMPH	**Amapala**	**2.88**	**179**	*i* P	Pn	18 26 38.6	+1.5
AMPH				*i* S	Sn	18 27 09.9	-0.9
CNCH	**Conchagua**	**2.90**	**182**	*i* P	Pn	18 26 35.5	-1.9
CNCH				*i* S	Sn	18 27 10.8	-0.5
CNCH				IAML		18 27 16.9	
	comp=Z,1μm,1.0s						
RCVN	**Varilla2**	**2.98**	**150**	*i* P	Pn	18 26 37.4	-1.1
RCVN				*i* S	Sn	18 27 14.2	+0.9
RCVN				IAML		18 27 20.1	
	comp=Z,7μm,1.0s						
CEVE	**Cerro Verde**	**2.99**	**218**	*i* P	Pn	18 26 41.6	+2.8
CEVE				*i* S	Sb	18 27 17.9	-4.1
CEVE				IAML		18 27 21.7	
	comp=Z,210nm,1.0s						
NUBE	**Las Nubes**	**3.02**	**222**	*i* P	Pn	18 26 41.4	+2.2
NUBE				*i* S	Sb	18 27 19.3	-3.8
NUBE				IAML		18 27 40.4	
	comp=Z,140nm,1.0s						
RCPN	**Sur Rio San Ju**	**3.07**	**149**	*i* P	Pn	18 26 39.5	-0.4
RCPN				IAML		18 27 21.1	
	comp=Z,1.8nm,1.0s						
CSGN	**Cosiguina Volc**	**3.19**	**177**	*i* P	Pn	18 26 39.2	-2.3
CSGN				*i* S	Sn	18 27 21.8	+3.2
CSGN				IAML		18 27 24.1	
	comp=Z,60nm,1.0s						
LIMN	**Finca el Limon**	**3.37**	**157**	*i* P	Pn	18 26 43.6	-0.3
LIMN				*i* S	Sn	18 27 26.8	+3.9
LIMN				IAML		18 27 30.5	
	comp=Z,180nm,1.0s						
PLRN	**Geotermica Pol**	**3.70**	**166**	*i* P	Pn	18 26 47.9	-0.4
PLRN				*i* S	Sn	18 27 34.2	+3.3
PLRN				IAML		18 27 48.0	
	comp=Z,260nm,1.0s						
ILCN	**San Idelfonso**	**3.72**	**165**	*i* P	Pn	18 26 46.9	-1.8
ILCN				*i* S	Sn	18 27 36.0	+4.5
ILCN				IAML		18 27 44.9	
	comp=Z,58nm,1.0s						
MOM2	**El Cardon**	**3.91**	**162**	*i* P	Pn	18 26 48.7	-2.6
MOM2				*i* S	Sn	18 27 41.9	+5.7
MOM2				IAML		18 27 54.1	
	comp=Z,150nm,1.0s						
BOAB	**BOACO BROADBAN**	**4.21**	**152**	*i* P	Pb	18 27 01.3	-5.3
BOAB				*i* S	Sb	18 27 52.5	-4.6
BOAB				IAML		18 27 55.2	
	comp=Z,100nm,1.0s						

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*IDC **03** 18:35:48.4±1.0, 37°.28N×20°.77E, h0km, mb3.7/11, mbtmp3.7/18, ML3.7/6, Error ellipse: s-maj=20.8km s-min=15.5km az=162.0*
*TIR **03** 18:35:49.5, 37°.35N×20°.65E, h26km±6km, Ml3.6*
*THE **03** 18:35:50.7, 37°.30N×20°.52E, h3km, ML3.5/6, Error ellipse: s-maj=1.0km s-min=0.3km az=57.0*
*ATH **03** 18:35:50.6, 37°.29N×20°.49E, h7km±2km, ML3.6/11, Error ellipse: s-maj=3.4km s-min=1.1km az=56.0*

ISC 03 18:35:50.0±1.4, 37°.29N±0°.04×20°.61E±0°.04, h11km±9km, n71, σ1±45/91, mb3.7/11, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.41**	**24**	P	**Pb**	**18 35 59.0**	**-0.2**
KRI1				S	**Sb**	**18 36 05.3**	**-0.1**
LTHK	**Lithakia**	**0.46**	**23**	P	**Pb**	**18 35 59.8**	**-0.2**
LTHK				S	**Sb**	**18 36 06.8**	**0.0**
	13μm,0.4s						
LTHK	**Lithakia**	**0.46**	**23**	P	**Pb**	**18 36 00.1**	**+0.1**
LTHK				S	**Sb**	**18 36 06.6**	**-0.2**
LTHK				AML	AML	18 36 06.8	
	comp=N,28047μm,0.5s						
LTHK				AML	AML	18 36 12.0	
	comp=E,22914μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.79**	**9**	P	**Pg**	**18 36 05.7**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.82**	**359**	P	**Pg**	**18 36 05.9**	**0.0**
PSDA				S	**Sb**	**18 36 17.8**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.82**	**359**	P	**Pg**	**18 36 05.7**	**-0.2**
VLS	**Valsamata**	**0.88**	**359**	P	**Pg**	**18 36 07.1**	**0.0**
VLS				S	**Sb**	**18 36 19.6**	**+0.4**
	comp=E,4μm,0.4s						
VLS	**Valsamata**	**0.88**	**359**	P	**Pg**	**18 36 07.3**	**+0.2**
VLS				AML	AML	18 36 28.5	
	comp=N,6834μm,0.4s						
VLS				AML	AML	18 36 29.1	
	comp=E,7660μm,0.5s						
AMT	**Artemida-Makis**	**0.91**	**74**	P	**Pn**	**18 36 09.2**	**+0.5**
AMT	**Artemida-Makis**	**0.91**	**74**	P	**Pn**	**18 36 09.2**	**+0.5**
AMT				AML	AML	18 36 26.5	
	comp=N,30832μm,0.4s						
AMT				AML	AML	18 36 29.9	
	comp=E,30830μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.92**	**352**	P	**Pg**	**18 36 08.1**	**+0.4**
LXRA				S	**Sg**	**18 36 19.7**	**+0.1**
LXRA				AML	AML	18 36 27.6	
	comp=E,11880μm,0.5s						
LXRA				AML	AML	18 36 29.9	
	comp=N,20924μm,0.6s						
SMHA	**Samh**	**0.96**	**2**	P	**Pg**	**18 36 08.8**	**+0.3**
DMLN	**Damoulianata-K**	**0.96**	**349**	P	**Pg**	**18 36 08.3**	**-0.3**
DMLN	**Damoulianata-K**	**0.96**	**349**	P	**Pg**	**18 36 08.3**	**-0.3**
PYL	**PYLOS**	**0.99**	**113**	P	**Pn**	**18 36 10.5**	**+0.7**
PYL				S	**Sn**	**18 36 25.9**	**+2.1**
	comp=N,2μm,0.3s						
PYL	**PYLOS**	**0.99**	**113**	P	**Pn**	**18 36 10.5**	**+0.7**
PYL				S	**Sn**	**18 36 25.5**	**+1.7**
PYL				AML	AML	18 36 28.4	
	comp=E,4537μm,0.3s						
PYL				AML	AML	18 36 28.9	
	comp=N,3314μm,0.3s						
RLS	**Riolos of Patr**	**1.02**	**41**	P	**Pn**	**18 36 10.4**	**+0.1**
RLS	**Riolos of Patr**	**1.02**	**41**	P	**Pn**	**18 36 10.4**	**+0.1**
RLS				AML	AML	18 36 29.5	
	comp=E,5143μm,0.6s						
RLS				AML	AML	18 36 38.6	
	comp=N,3833μm,0.9s						
ITM	**Ithomi**	**1.06**	**96**	P	**Pn**	**18 36 11.8**	**+1.0**
ITM				S	**Sn**	**18 36 28.2**	**+2.7**
	comp=N,2μm,0.4s						
ITM	**Ithomi**	**1.06**	**96**	P	**Pn**	**18 36 12.4**	**+1.6**
ITM				AML	AML	18 36 31.4	
	comp=E,4037μm,0.4s						
ITM				AML	AML	18 36 36.0	
	comp=N,3661μm,0.5s						
DRO	**Drossia**	**1.10**	**53**	P	**Pn**	**18 36 12.1**	**+0.8**
DRO	**Drossia**	**1.10**	**53**	P	**Pn**	**18 36 11.8**	**+0.5**
DRO				AML	AML	18 36 32.4	
	comp=N,7634μm,0.4s						
DRO				AML	AML	18 36 42.6	
	comp=E,8615μm,0.6s						
FSK	**Fiskardo**	**1.17**	**358**	P	**Pb**	**18 36 12.3**	**+0.1**
FSK				S	**Sn**	**18 36 29.1**	**+0.9**
	comp=E,2μm,0.6s						
FSK	**Fiskardo**	**1.17**	**358**	P	**Pb**	**18 36 12.0**	**-0.2**
FSK				AML	AML	18 36 30.7	
	comp=E,4401μm,0.2s						
FSK				AML	AML	18 36 36.1	
	comp=N,5206μm,1.0s						
EVGI	**Lefkada island**	**1.33**	**2**	P	**Pb**	**18 36 15.1**	**+0.2**
EVGI	**Lefkada island**	**1.33**	**2**	P	**Pb**	**18 36 15.1**	**+0.2**
UPR	**University Cam**	**1.36**	**43**	P	**Pg**	**18 36 16.9**	**+0.8**
DRAG	**Dragano-Lefkad**	**1.39**	**359**	P	**Pn**	**18 36 16.0**	**+0.7**
DRAG	**Dragano-Lefkad**	**1.39**	**359**	P	**Pn**	**18 36 16.0**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.42**	**3**	P	**Pb**	**18 36 16.6**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.42**	**3**	P	**Pb**	**18 36 16.6**	**+0.1**
LKD2	**Lefkada island**	**1.50**	**1**	P	**Pg**	**18 36 19.7**	**+1.0**
LKD2				S	**Sn**	**18 36 35.2**	**-1.1**
LKD2				AMP			
	comp=E,5.0nm,0.4s,baz=0.0						
LKD2	**Lefkada island**	**1.50**	**1**	P	**Pn**	**18 36 17.5**	**+0.7**
LKD2	**Lefkada island**	**1.50**	**1**	P	**Pn**	**18 36 16.9**	**+0.1**
LKD2				AML	AML	18 36 52.1	
	comp=E,3106μm,0.4s						
LKD2				AML	AML	18 36 55.8	
	comp=N,3868μm,0.5s						
EFP	**Efpalio**	**1.53**	**42**	P	**Pb**	**18 36 18.6**	**+0.3**
EFP	**Efpalio**	**1.53**	**42**	P	**Pb**	**18 36 18.4**	**0.0**
EFP				AML	AML	18 36 48.6	
	comp=N,2026μm,0.6s						
EFP				AML	AML	18 36 55.4	
	comp=E,1714μm,1.1s						
TSLK	**Tsoukalades, L**	**1.53**	**1**	P	**Pn**	**18 36 18.0**	**+0.7**
TSLK	**Tsoukalades, L**	**1.53**	**1**	P	**Pb**	**18 36 18.3**	**-0.1**
IGT	**Igoumenitsa**	**2.25**	**355**	P	**Pg**	**18 36 32.4**	**-0.7**
IGT				S	**Sb**	**18 37 00.1**	**+1.7**
IGT				AMP			
	comp=E,1.5nm,0.5s,baz=354						
SRN	**Sarande**	**2.63**	**350**	P	**Pn**	**18 36 33.8**	**+1.4**
SRN				S	**Sb**	**18 37 09.0**	**-0.3**
SRN				AMP			
	comp=E,0.7nm,0.6s,baz=349						
LSK	**Leskovik**	**2.85**	**360**	P	**Pn**	**18 36 37.6**	**+2.0**
LSK				S	**Sb**	**18 37 18.3**	**+2.4**
LSK				AMP			
	comp=N,2.0nm,0.8s,baz=0.0						
NEST	**Nestorio**	**3.14**	**6**	P	**Pb**	**18 36 43.1**	**-2.8**
NEST				S	**Sn**	**18 37 16.6**	**-0.3**
NEST				AMP			
	comp=N,0.2nm,0.6s,baz=5.0						
SCTE	**Santa Cesarea**	**3.24**	**330**	P	**Pn**	**18 36 41.7**	**+1.0**
SCTE				S	**Sb**	**18 37 24.1**	**-2.9**
SCTE				AMP			
	comp=E,0.2nm,1.1s,baz=329						
FNA	**Florina**	**3.54**	**9**	P	**Pn**	**18 36 46.8**	**+1.9**
FNA				S	**Sn**	**18 37 24.2**	**-2.5**
FNA				AMP			
	comp=N,0.2nm,0.4s,baz=9.0						
THE	**Thessaloniki**	**3.81**	**28**	P	**Pn**	**18 36 50.1**	**+1.6**
THE				AMP			
	comp=N,0.1nm,0.5s,baz=28						
IDI	**Anoyia**	**4.00**	**119**	Pn	**Pn**	**18 36 52.9**	**+1.7**
	comp=N,2.7nm,0.3s,baz=264,slow=7.3,SNR=18						
IDI				Sn	**Sn**	**18 37 31.4**	**-6.7**
	comp=N,3.1nm,0.3s,baz=323,slow=20,SNR=5.8						
TIR	**Tirane**	**4.09**	**352**	P	**Pb**	**18 36 57.6**	**-4.4**
NOCI	**Noci**	**4.45**	**323**	P	**Pn**	**18 36 57.7**	**+0.3**
PUK	**Puka**	**4.78**	**354**	P	**Pn**	**18 37 02.9**	**+0.9**
PUK				S	**Sn**	**18 37 58.5**	**+1.1**
VAE	**Valguarnera**	**4.94**	**274**	Pn	**Pn**	**18 37 08.2**	**+4.0**
	comp=N,16nm,0.5s,baz=172,slow=10,SNR=6.4						
VAE				Sn	**Sn**	**18 37 59.9**	**-1.4**
	comp=N,4.2nm,0.3s,baz=228,slow=20,SNR=2.2						
BCI	**Bajram Curri**	**5.09**	**355**	P	**Pn**	**18 37 08.1**	**+2.0**
BCI				AMP			
	comp=N,0.4nm,0.6s,baz=356						
MLR	**Muntele Rosu**	**9.12**	**24**	Pn	**Pn**	**18 38 01.4**	**-0.2**
	comp=N,0.3nm,0.3s,baz=247,slow=24,SNR=1.8						
	comp=N,0.9nm,0.5s						
KEST	**Kesra**	**9.20**	**264**	Pn	**Pn**	**18 38 04.7**	**+2.0**
	comp=N,0.4nm,0.3s,baz=84,slow=6.1,SNR=6.2						
	comp=N,5.8nm,0.9s						
SOKA	**Soboth**	**10.25**	**338**	*e*Pn	**Pn**	**18 38 16.7**	**-0.4**
	comp=N,2.6nm,0.5s						
MOA	**Molln**	**11.54**	**338**	*i* Pn	**Pn**	**18 38 35.2**	**+0.7**
	comp=N,1.8nm,0.5s						
GERES	**GERESS Array B**	**12.60**	**339**	Pn	**Pn**	**18 38 50.5**	**+1.3**
	comp=N,0.1nm,0.3s,baz=149,slow=17,SNR=2.0						
	comp=N,0.5nm,0.5s						
MMAI	**Mount Meron Ar**	**12.84**	**105**	Pn	**Pn**	**18 38 51.0**	**-1.5**
	comp=N,0.6nm,0.3s,baz=187,slow=40,SNR=1.8						
	comp=N,0.3nm,0.3s						
EIL	**Elat**	**14.17**	**118**	Pn	**Pn**	**18 39 08.5**	**-2.1**
	comp=N,0.2nm,0.3s,baz=41,slow=15,SNR=1.6						
	comp=N,1.0nm,0.3s						
ESDC	**Sonseca Array**	**19.37**	**285**	P	**P**	**18 40 16.3**	**+0.6**
	baz=80,slow=12,SNR=6.6						
	comp=N,0.8nm,0.8s						
MDT	**Midelt**	**21.10**	**265**	P	**P**	**18 40 35.5**	**+0.9**
	comp=N,2.2nm,0.8s,baz=95,slow=9.8,SNR=4.6						
	comp=N,2.2nm,0.8s						
HFS	**Hagfors**	**23.29**	**351**	P	**P**	**18 40 57.6**	**+0.1**
	comp=N,1.4nm,0.6s,baz=190,slow=14,SNR=1.8						
	comp=N,1.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**24.20**	**326**	P	**P**	**18 41 07.0**	**+0.8**
	comp=N,2.7nm,0.8s,baz=126,slow=50,SNR=2.3						
	comp=N,2.7nm,0.8s						
FINES	**FINESS Array B**	**24.42**	**6**	P	**P**	**18 41 09.2**	**+1.0**
	comp=N,2.0nm,0.9s,baz=163,slow=20,SNR=4.7						
	comp=N,2.0nm,0.9s						
NOA	**NORSAR Array B**	**24.50**	**349**	P	**P**	**18 41 08.6**	**-0.5**
	comp=N,0.4nm,0.7s,baz=149,slow=12,SNR=1.5						
	comp=N,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.39**	**220**	P	**P**	**18 41 53.6**	**+0.3**
	comp=N,0.2nm,0.4s,baz=31,slow=10.0,SNR=3.1						
	comp=N,0.2nm,0.4s						
ARCES	**ARCESS Array B**	**32.41**	**3**	P	**P**	**18 42 20.7**	**+1.2**
	comp=N,1.3nm,0.9s,baz=174,slow=9.9,SNR=1.2						
	comp=N,1.3nm,0.9s						
BVAR	**Borovoye Array**	**37.64**	**49**	P	**P**	**18 43 04.2**	**-0.5**
	comp=N,0.3nm,0.5s,baz=274,slow=6.0,SNR=2.6						
	comp=N,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**42.70**	**53**	P	**P**	**18 43 46.5**	**-0.2**
	comp=N,1.9nm,0.2s,baz=213,slow=26,SNR=2.6						
	comp=N,1.9nm,0.2s						
MKAR	**Makanchi Array**	**45.71**	**58**	P	**P**	**18 44 10.3**	**-0.7**
	comp=N,0.2nm,0.4s,baz=272,slow=7.9,SNR=5.7						
	comp=N,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**46.23**	**47**	P	**P**	**18 44 13.5**	**-1.4**
	comp=N,0.4nm,0.4s,baz=268,slow=8.8,SNR=2.8						
	comp=N,0.4nm,0.4s						
ASAR	**Alice Springs**	**122.00**	**97**	PKP	**PKPdf**	**18 54 44.7**	**-0.1**
	comp=N,0.3nm,0.8s,baz=314,slow=1.2,SNR=2.4						

IDC 03 19:22:26.4±63.0, 21°.27S×179°.96E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=1135.0km s-min=160.7km az=83.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.74**	**245**	P	P	19 29 26.1	-0.9
	0.9nm,0.5s,baz=86,slow=14,SNR=3.1						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**42.49**	**258**	P	P	19 30 23.5	-0.2
	0.3nm,0.4s,baz=89,slow=7.8,SNR=11						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**42.61**	**263**	P	P	19 30 25.2	+0.4
	0.4nm,0.4s,baz=96,slow=8.5,SNR=20						
	0.4nm,0.4s						

CATAC 03 19:31:45.6±0.5, 13°.30N×91°.10W, h28km, ML3.5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**1.11**	**13**	*i* P	Pn	19 32 03.4	-2.0
ESSG				IAML		19 32 17.8	
	comp=Z,790nm,1.0s						
ESSG				*i* S	Sn	19 32 17.9	-2.0
FAME	**Alcaldia de Sa**	**1.19**	**63**	*i* P	Pn	19 32 05.0	-1.3
FAME				*i* S	Sn	19 32 19.7	-1.9
FAME				IAML		19 32 36.4	
	comp=Z,2.6nm,1.0s						
RTAL	**Retalhuleu**	**1.35**	**335**	*i* P	Pb	19 32 12.0	+1.7
RTAL				*i* S	Sn	19 32 25.6	-0.1
RTAL				IAML		19 32 42.8	
	comp=Z,270nm,1.0s						
NUBE	**Las Nubes**	**1.42**	**65**	IAML		19 32 03.7	
	comp=Z,250nm,1.0s						
NUBE				*i* P	Pn	19 32 07.9	-1.7
NUBE				*i* S	Sn	19 32 27.4	-0.1
LOAL	**Lomas de Alarc**	**1.46**	**61**	*i* P	Pn	19 32 11.1	+1.0
LOAL				IAML		19 32 35.9	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**1.53**	**70**	*i* P	Pn	19 32 11.1	-0.2
CEVE				*i* S	Sn	19 32 30.4	+0.1
CEVE				IAML		19 32 32.6	
	comp=Z,590nm,1.0s						
SOKI	**Kika Raxquin**	**1.54**	**349**	*i* P	Pn	19 32 10.7	-1.0
SOKI				*i* S	Sn	19 32 30.3	-0.7
SOKI				IAML		19 32 33.7	
	comp=Z,380nm,1.0s						
JAYA	**Jayaque - finc**	**1.64**	**77**	*i* P	Pn	19 32 12.4	-0.4
JAYA				*i* S	Sn	19 32 33.8	+0.7
JAYA				IAML		19 32 40.4	
	comp=Z,1μm,1.0s						
UNIC	**Universidad Ca**	**1.65**	**65**	*i* P	Pn	19 32 12.7	-0.1
UNIC				IAML		19 32 22.1	
	comp=Z,230nm,1.0s						
UNIC				*i* S	Sn	19 32 33.9	+0.7
JUAM	**Asuncion Mita**	**1.70**	**52**	*i* P	Pn	19 32 13.3	-0.2
JUAM				*i* S	Sn	19 32 33.8	-0.6
JUAM				IAML		19 33 20.7	
	comp=Z,620nm,1.0s						
CEDA	**San Andres**	**1.73**	**73**	*i* P	Pn	19 32 14.2	+0.3
CEDA				*i* S	Sb	19 32 37.2	-0.9
CEDA				IAML		19 32 49.9	
	comp=Z,1μm,1.0s						
PMON	**Piamonte**	**1.78**	**76**	*i* P	Pn	19 32 15.1	+0.4
PMON				*i* S	Sn	19 32 38.0	+1.5
PMON				IAML		19 32 46.6	
	comp=Z,510nm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.85**	**73**	*i* P	Pn	19 32 15.7	+0.1
QUEZ				IAML		19 32 17.0	
	comp=Z,4μm,1.0s						
UEES	**Universidad Ev**	**1.85**	**77**	*i* P	Pb	19 32 17.6	-1.3
UEES				IAML		19 32 44.7	
	comp=Z,270nm,1.0s						
PANCS	**Alcalda de**	**1.89**	**80**	*i* P	Pn	19 32 17.0	+0.9
PANCS				*i* S	Sn	19 32 39.8	+0.7
PANCS				IAML		19 33 08.8	
	comp=Z,2μm,1.0s						
UDBS	**Universidad Do**	**1.93**	**77**	*i* P	Pn	19 32 17.3	+0.6
UDBS				*i* S	Sn	19 32 41.7	+1.5
UDBS				IAML		19 33 46.3	
	comp=Z,470nm,1.0s						
QUIS	**Sacapulas**	**1.98**	**0**	*i* P	Pn	19 32 17.7	+0.2
QUIS				IAML		19 32 18.8	
	comp=Z,430nm,1.0s						
QUIS				*i* S	Sn	19 32 43.2	+1.7
MTO3	**Montecristo**	**2.01**	**57**	*i* P	Pn	19 32 17.5	-0.4
MTO3				IAML		19 32 20.2	
	comp=Z,93nm,1.0s						
MTO3				*i* S	Sn	19 32 42.0	-0.3
HUEH	**Huehuetenango**	**2.05**	**349**	*i* P	Pn	19 32 18.9	+0.5
HUEH				*i* S	Sb	19 32 45.8	-1.7
HUEH				IAML		19 32 54.5	
	comp=Z,570nm,1.0s						
ESQI	**Esquipulas**	**2.12**	**53**	*i* P	Pn	19 32 19.8	+0.5
ESQI				IAML		19 32 36.8	
	comp=Z,190nm,1.0s						
ESQI				*i* S	Sn	19 32 44.8	+0.1
**P

comp=E,29941μm,0.4s
LTHK AML AML 19 33 18.9
comp=N,26123μm,0.2s
RTZL Ratzakli, Kefa 0.97 13 P **Pb 19 33 15.6 +0.3**
RTZL S **Sb 19 33 28.8 +1.0**
PSDA Pessada-Kefalo 0.98 4 P **Pn 19 33 16.1 +0.1**
PSDA S **Sn 19 33 30.0 +0.6**
PSDA Pessada-Kefalo 0.98 4 P **Pn 19 33 16.3 +0.4**
PSDA S **Sn 19 33 30.0 +0.6**
PYL PYLOS 1.03 103 P **Pb 19 33 16.5 +0.2**
PYL S **Sb 19 33 30.4 +0.9**
comp=N,2μm,0.4s
PYL PYLOS 1.03 103 P **Pb 19 33 16.6 +0.2**
PYL AML AML 19 33 33.9
comp=N,2843μm,0.3s
PYL AML AML 19 33 36.2
comp=E,4361μm,0.4s
VLS Valsamata 1.05 4 P **Pn 19 33 17.2 +0.3**
VLS S **Sg 19 33 31.7 +0.5**
comp=E,3μm,0.4s
VLS Valsamata 1.05 4 P **Pn 19 33 17.1 +0.3**
VLS AML AML 19 33 34.1
comp=E,6831μm,0.6s
VLS AML AML 19 33 34.7
comp=N,5235μm,0.3s
AMT Artemida-Makis 1.05 67 P **Pb 19 33 16.8 +0.1**
AMT Artemida-Makis 1.05 67 P **Pb 19 33 16.8 +0.1**
AMT AML AML 19 33 35.5
comp=N,35494μm,0.5s
AMT AML AML 19 33 36.1
comp=E,32752μm,0.4s
LXRA Lixouri, Kepha 1.07 358 P **Pg 19 33 18.7 +0.9**
LXRA AML AML 19 33 40.9
comp=E,10294μm,0.6s
LXRA AML AML 19 33 50.7
comp=N,14760μm,0.6s
DMLN Damoulianata-K 1.11 355 P **Pg 19 33 18.7 +0.1**
DMLN Damoulianata-K 1.11 355 P **Pg 19 33 18.5 -0.1**
SMHA Samh 1.12 6 P **Pn 19 33 18.2 +0.3**
SMHA AML AML 19 33 35.4
comp=N,21158μm,0.3s
SMHA AML AML 19 33 40.9
comp=E,14996μm,0.5s
ITM Ithomi 1.15 87 P **Pn 19 33 18.4 +0.1**
ITM Ithomi 1.15 87 P **Pn 19 33 18.6 +0.3**
ITM AML AML 19 33 36.2
comp=N,4851μm,0.5s
ITM AML AML 19 33 38.0
comp=E,4804μm,0.4s
RLS Riolos of Patr 1.21 40 P **Pn 19 33 19.0 0.0**
RLS Riolos of Patr 1.21 40 P **Pn 19 33 19.0 0.0**
RLS AML AML 19 33 43.3
comp=E,2576μm,0.4s
RLS AML AML 19 33 46.7
comp=N,2178μm,0.4s
DRO Drossia 1.27 49 P **Pn 19 33 20.2 +0.3**
DRO Drossia 1.27 49 P **Pn 19 33 20.2 +0.3**
DRO AML AML 19 33 42.0
comp=N,7752μm,0.4s
DRO AML AML 19 33 44.9
comp=E,6626μm,0.4s
VSK1 VASILIKIADES 1.28 3 P **Pg 19 33 21.6 -0.2**
FSK Fiskardo 1.33 2 P **Pb 19 33 22.3 +0.9**
FSK Fiskardo 1.33 2 P **Pb 19 33 21.9 +0.4**
FSK AML AML 19 33 44.6
comp=E,2884μm,0.4s
FSK AML AML 19 33 45.6
comp=N,2879μm,0.8s
EVGI Lefkada island 1.49 5 P **Pb 19 33 24.7 +0.4**
EVGI Lefkada island 1.49 5 P **Pb 19 33 24.6 +0.4**
UPR University Cam 1.54 41 P **Pb 19 33 24.9 -0.2**
UPR University Cam 1.54 41 P **Pn 19 33 24.8 +1.1**
DRAG Dragano-Lefkad 1.55 2 P **Pb 19 33 25.7 +0.4**
DRAG Dragano-Lefkad 1.55 2 P **Pb 19 33 25.9 +0.6**
NYDR Nydri-Lefkada 1.59 6 P **Pb 19 33 25.9 +0.1**
NYDR Nydri-Lefkada 1.59 6 P **Pb 19 33 25.9 +0.1**
KLV Kalavryta, Ach 1.60 55 P **Pn 19 33 25.6 +1.1**
KLV Kalavryta, Ach 1.60 55 P **Pn 19 33 25.4 +0.9**
KLV AML AML 19 33 54.1
comp=E,1396μm,0.7s
KLV AML AML 19 34 00.8
comp=N,995μm,0.7s
LKD2 Lefkada island 1.66 5 P **Pb 19 33 28.3 +1.1**
LKD2 AML AML 19 34 02.1
comp=N,3048μm,0.7s
LKD2 AML AML 19 34 04.4
comp=E,2915μm,0.7s
GUR Goura 1.68 61 P **Pn 19 33 26.6 +1.0**
GUR Goura 1.68 61 P **Pn 19 33 26.2 +0.6**
GUR AML AML 19 33 57.5
comp=E,2556μm,0.4s
GUR AML AML 19 34 00.1
comp=N,3258μm,0.7s
TSLK Tsoukalades, L 1.69 4 P **Pb 19 33 27.6 -0.1**
TSLK Tsoukalades, L 1.69 4 P **Pb 19 33 27.1 -0.6**
EFP Efpalio 1.71 41 P **Pn 19 33 27.4 +1.4**
EFP Efpalio 1.71 41 P **Pb 19 33 27.6 -0.4**
EFP AML AML 19 34 01.1
comp=E,1427μm,0.5s
EFP AML AML 19 34 01.7
comp=N,1318μm,0.5s
KALE Kalithea 1.81 46 P **Pn 19 33 28.8 +1.4**
KALE Kalithea 1.81 46 P **Pb 19 33 29.3 -0.5**
KALE AML AML 19 34 06.3
comp=N,2003μm,0.6s
KALE AML AML 19 34 08.5
comp=E,1492μm,0.8s
ANX Ano Chora 1.85 37 P **Pb 19 33 29.6 -0.7**
ANX AML AML 19 34 09.8
comp=N,2223μm,0.7s
ANX AML AML 19 34 10.9
comp=E,2430μm,0.5s
VLI Veliai 2.00 101 P **Pb 19 33 32.7 -0.3**
VLI AML AML 19 34 14.5
comp=E,998μm,0.7s
VLI AML AML 19 34 20.2
comp=N,1413μm,0.9s
EVR Evrytania 2.06 30 P **Pb 19 33 34.0 -0.1**
EVR AML AML 19 34 10.6
comp=N,1252μm,0.8s
EVR AML AML 19 34 14.7
comp=E,1025μm,0.8s
MAKR Makrakomi, Fth 2.28 34 P **Pb 19 33 36.3 -1.4**
MAKR AML AML 19 34 15.8
comp=E,1951μm,0.5s
MAKR AML AML 19 34 22.9
comp=N,1869μm,1.0s
AXAR Agios Charalam 2.37 46 P **Pn 19 33 36.4 +1.4**
AXAR AML AML 19 34 19.7
comp=N,2444μm,0.6s
AXAR AML AML 19 34 29.0
comp=E,1802μm,0.9s
KEST Kesra 9.09 264 Pn Pn 19 35 13.4 +6.0
comp=E,0.1nm,0.3s,baz=68,slow=14,SNR=1.8
comp=E,4.0nm,1.0s
GERES GERESS Array B 12.71 339 Pn Pn 19 35 50.5 -6.4
comp=E,0.2nm,0.3s,baz=144,slow=15,SNR=4.0
comp=E,0.5nm,0.5s
HFS Hagfors 23.43 351 P **P 19 38 02.2 -2.7**
comp=E,2.6nm,0.9s,baz=165,slow=12,SNR=2.2
comp=E,2.6nm,0.9s
FINES FINESS Array B 24.59 6 P **P 19 38 12.6 -3.2**
comp=E,3.7nm,1.0s,baz=172,slow=11,SNR=3.3
comp=E,3.7nm,1.0s
KURBB Kurchatov Arra 42.88 53 P **P 19 40 54.6 +0.5**
comp=E,0.6nm,0.6s,baz=282,slow=8.8,SNR=5.3
comp=E,0.6nm,0.6s
MKAR Makanchi Array 45.88 58 P **P 19 41 19.1 +0.8**
comp=E,0.4nm,0.6s,baz=272,slow=7.4,SNR=6.5
comp=E,0.4nm,0.6s
ZALV Zalesovo Beam 46.41 47 P **P 19 41 22.8 +0.5**
comp=E,0.6nm,0.5s,baz=284,slow=8.9,SNR=4.0
comp=E,0.6nm,0.5s

*IDC **03** 19:41:05.8±3.5, 7.°24S×129.°30E, h94km±33km, mb3.5/10, mbtmp4.0/14, MS2.9/1, Error ellipse: s-maj=38.0km s-min=16.6km az=66.0*
*DJA **03** 19:41:08.8±0.4, 7.°S±3.°×12.°9E±.°, h169km±14km, M4.4/14, mb4.5/9, mB5.0/5, MLv4.4/14, Mw(mB)4.4/5*
*NEIC **03** 19:41:09.6±1.4, 7.°30S±0.°08×129.°09E±0.°07, h126km±6km, mb4.1/12, Error ellipse: s-maj=12.0km s-min=9.5km az=180.0*
ISC 03 19:41:09.3±0.5, 7.°42S±0.°05×129.°13E±0.°05, h131km, n73,
σ1§92/76, mb3.8/13, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.22**	**105**		**Pn**	**19 41 47.0**	**+0.9**
SAUI				Sn	**Sn**	**19 42 15.7**	**+1.4**
SAUI	**Saumlaki**	**2.22**	**105**	P	**Pn**	**19 41 47.3**	**+1.2**
SAUI	**Saumlaki**	**2.22**	**105**	P	**Pn**	**19 41 47.1**	**+1.0**
BNDI	**Bandanaira**	**2.98**	**15**	P	**Pn**	**19 41 56.1**	**+0.3**
BNDI	**Bandanaira**	**2.98**	**15**	P	**Pn**	**19 41 56.0**	**+0.3**
MSAI	**Masohi**	**4.05**	**357**	P	**Pn**	**19 42 09.4**	**-0.4**
DRS	**Darwin Rock St**	**5.28**	**161**	P	**Pn**	**19 42 27.5**	**+1.3**
SOEI	**Soe**	**5.34**	**244**	Pn	**Pn**	**19 42 28.8**	**+1.6**
SOEI	**Soe**	**5.34**	**244**	P	**Pn**	**19 42 28.4**	**+1.3**
SOEI	**Soe**	**5.34**	**244**	P	**Pn**	**19 42 28.2**	**+1.1**
118nm,0.5s,0.8nm							
FAKI	**Fak Fak**	**5.44**	**35**		**Pn**	**19 42 26.3**	**-2.1**
FAKI	**Fak Fak**	**5.44**	**35**	P	**Pn**	**19 42 26.0**	**-2.4**
49nm,0.6s,0.2nm							
MTN	**Manton Dam**	**5.74**	**160**	Pn	**Pn**	**19 42 33.3**	**+0.8**
MTN	**Manton Dam**	**5.74**	**160**	P	**Pn**	**19 42 33.1**	**+0.7**
BATI	**Baumata**	**6.07**	**242**	P	**Pn**	**19 42 38.0**	**+1.1**
120nm,0.4s,baz=124,slow=3.7,SNR=88							
BATI				S	**Sn**	**19 43 45.0**	**-0.2**
124nm,0.4s,baz=87,slow=22,SNR=6.6							
BATI	**Baumata**	**6.07**	**242**	P	**Pn**	**19 42 38.0**	**+1.1**
167nm,0.7s,2μm0.7nm							
KDU	**Kakadu**	**6.18**	**148**	P	**Pn**	**19 42 37.9**	**-0.5**
SWI	**Sorong**	**6.85**	**18**	P	**Pn**	**19 42 45.3**	**-2.1**
15nm,0.7s,0.1nm							
MMRI	**Maumere**	**6.93**	**259**	Pn	**Pn**	**19 42 49.4**	**+1.0**
MMRI	**Maumere**	**6.93**	**259**	P	**Pn**	**19 42 49.4**	**+1.0**
MMRI	**Maumere**	**6.93**	**259**	P	**Pn**	**19 42 49.7**	**+1.2**
19nm,0.8s,0.2nm							
RKPI	**Ransiki, Papua**	**7.73**	**41**	P	**Pn**	**19 42 57.1**	**-2.1**
90nm,0.7s,2μm0.4nm							
KNRA	**Kununurra**	**8.22**	**182**	Pn	**Pn**	**19 43 05.5**	**-0.3**
BASI	**Baing, Sumba**	**8.90**	**251**	P	**Pn**	**19 43 15.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**11.15**	**197**	Pn	**Pn**	**19 43 42.8**	**-2.2**
FITZ	**Fitzroy Crossi**	**11.15**	**197**	P	**Pn**	**19 43 43.2**	**-1.8**
9.4nm,0.3s,baz=32,slow=11,SNR=101							
FITZ				S	**Sn**	**19 45 42.5**	**-5.4**
12nm,0.3s,baz=72,slow=18,SNR=6.1							
FITZ	**Fitzroy Crossi**	**11.15**	**197**	P	**Pn**	**19 43 43.4**	**-1.6**
PLAI	**Plampang**	**11.33**	**262**	P	**Pn**	**19 43 48.6**	**+1.2**
WB0	**Warramunga Arr**	**13.29**	**158**	Pn	**Pn**	**19 44 10.8**	**-2.3**
WRA	**Warramunga Arr**	**13.44**	**158**		**Pn**	**19 44 11.2**	**-3.7**
WRA	**Warramunga Arr**	**13.44**	**158**	P	**Pn**	**19 44 12.6**	**-2.3**
5.5nm,0.4s,baz=341,slow=13,SNR=116							
WRA				S	Sn	19 46 33.9	-9.4
6.8nm,0.5s,baz=339,slow=22,SNR=13							
JAGI	**Jajag, Banyuwa**	**14.87**	**265**	P	**Pn**	**19 44 33.7**	**+0.5**
COEN	**Coen**	**15.25**	**116**	P	**P**	**19 44 41.1**	**+1.4**
COEN	**Coen**	**15.25**	**116**	P	**P**	**19 44 39.8**	**0.0**
MBWA	**Marble Bar**	**16.41**	**213**	P	**Pn**	**19 44 51.9**	**-0.2**
MBWA				IAmb	IAmb	19 44 59.6	
comp=Z,18nm,1.3s							
MBWA	**Marble Bar**	**16.41**	**213**	P	**Pn**	**19 44 52.7**	**+0.6**
QIS	**Mount Isa**	**16.54**	**143**	P	**P**	**19 44 56.1**	**+2.1**
PSA00	**Pilbara Seismi**	**16.68**	**212**	P	**P**	**19 44 56.7**	**+1.1**
AS31	**Alice Springs**	**16.79**	**165**		**P**	**19 44 56.4**	**-0.4**
ASAR	**Alice Springs**	**16.79**	**165**	P	**P**	**19 44 57.9**	**+1.0**
ASAR	**Alice Springs**	**16.79**	**165**	P	**P**	**19 44 56.6**	**-0.2**
comp=Z,3.4nm,0.7s,baz=334,slow=8.8,SNR=46							
ASAR				S	**Sn**	**19 47 56.5**	**-7.7**
comp=Z,3.6nm,0.8s,baz=326,slow=16,SNR=8.3							
AS01	**Alice Springs**	**16.80**	**165**	P	**P**	**19 44 57.1**	**+0.2**
WRKA	**Warakurna**	**17.54**	**183**	P	**Pn**	**19 45 07.4**	**+1.6**
SBUM	**Sibu**	**19.51**	**300**	P	**P**	**19 45 27.2**	**+0.6**
OOD	**Oodnadatta**	**21.20**	**164**	P	**P**	**19 45 48.3**	**+3.7**
MEEK	**Meekatharra**	**21.57**	**206**	P	**P**	**19 45 52.3**	**+3.6**
INKA	**Innaminka**	**23.01**	**153**	P	**P**	**19 46 06.2**	**+3.2**
MULG	**Mulgathing**	**23.21**	**169**	P	**P**	**19 46 07.8**	**+3.0**
QLP	**Quilpie**	**23.86**	**145**	P	**P**	**19 46 13.6**	**+2.8**
LCRK	**Leigh Creek**	**24.44**	**161**	P	**P**	**19 46 19.0**	**+3.0**
GUMO	**Guam**	**26.07**	**37**	LR	LR	19 56 20.3	
comp=Z,27nm,21.4s,baz=74,slow=35							
STKA	**Stephens Creek**	**26.97**	**156**	P	**P**	**19 46 40.8**	**+2.0**
STKA	**Stephens Creek**	**26.97**	**156**	P	**P**	**19 46 40.7**	**+2.0**
comp=Z,1.0nm,0.5s,baz=321,slow=8.3,SNR=5.0							
comp=Z,1.0nm,0.5s							
CMSA	**Cobar Meteorol**	**28.55**	**149**	P	**P**	**19 46 55.7**	**+2.9**
CMAR	**Chiang Mai Arr**	**39.35**	**311**	P	**P**	**19 48 27.0**	**+0.9**
comp=Z,0.6nm,0.4s,baz=144,slow=7.7,SNR=2.7							
comp=Z,0.6nm,0.4s							
MJAR	**Matsushiro Arr**	**44.55**	**10**	P	**P**	**19 49 06.2**	**-2.0**
comp=Z,0.7nm,0.7s,baz=188,slow=9.3,SNR=4.4							
comp=Z,0.7nm,0.7s							
SHL	**Shillong**	**48.85**	**313**	P	**P**	**19 49 40.9**	**-1.2**
SONM	**Songino Array**	**58.57**	**342**	P	**P**	**19 50 52.6**	**+0.3**
comp=Z,0.2nm,0.4s,baz=166,slow=8.4,SNR=1.9							
comp=Z,0.2nm,0.4s							
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**19 51 54.7**	**-0.4**
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**19 51 55.2**	**+0.1**
comp=Z,0.6nm,0.6s,baz=120,slow=7.8,SNR=11							
comp=Z,0.6nm,0.6s							
MAKZ	**Makanchi**	**68.28**	**327**	P	**P**	**19 51 56.1**	**-0.1**
MAKZ				IAmb	IAmb	19 52 11.7	
comp=Z,2.0nm,1.4s							
ZALV	**Zalesovo Beam**	**71.58**	**334**	P	**P**	**19 52 15.2**	**-0.9**
comp=Z,0.8nm,0.5s,baz=121,slow=4.9,SNR=5.3							
comp=Z,0.8nm,0.5s							
KURBB	**Kurchatov Arra**	**72.42**	**329**	P	**P**	**19 52 20.9**	**-0.3**
comp=Z,1.1nm,0.5s,baz=134,slow=5.1,SNR=9.5							
comp=Z,1.1nm,0.5s							
KURK	**Kurchatov**	**72.43**	**329**	P	**P**	**19 52 21.2**	**-0.1**
KURK				IAmb	IAmb	19 52 23.8	
comp=Z,4.0nm,1.2s							
KKAR	**Karatay Array**	**73.09**	**319**	P	**P**	**19 52 25.4**	**0.0**
BVAR	**Borovoye Array**	**77.96**	**328**	P	**P**	**19 52 53.5**	**+0.6**
comp=Z,0.4nm,0.4s,baz=126,slow=7.4,SNR=2.1							
comp=Z,0.4nm,0.4s							
ABKAR	**Akbulak array**	**82.30**	**322**	P	**P**	**19 53 15.7**	**-0.6**
QSPA	**South Pole Qui**	**82.56**	**180**	P	**P**	**19 53 19.0**	**+1.5**
QSPA				IAmb	IAmb	19 53 33.0	
comp=Z,3.0nm,1.4s							
QSPA	**South Pole Qui**	**82.56**	**180**	P	**P**	**19 53 19.0**	**+1.5**
comp=Z,1.0nm,0.6s,baz=303,slow=0.7,SNR=11							
comp=Z,1.0nm,0.6s							
RAYN	**Ar Rayn**	**87.12**	**294**	P	**P**	**19 53 41.3**	**+0.1**
RAYN				IAmb	IAmb	19 54 09.4	
comp=Z,2.7nm,1.2s							
ILAR	**Eielson Array**	**94.09**	**25**	P	**P**	**19 54 13.9**	**+1.3**
comp=Z,0.1nm,0.6s,baz=203,slow=5.9,SNR=0.9							
comp=Z,0.1nm,0.6s							
BELA	**Belgrano 2**	**94.35**	**183**		**P**	**19 54 14.9**	**+1.2**
TORD	**Torodi Ar. Bea**	**128.04**	**281**	PKP	**PKPdf**	**20 00 01.3**	**+0.4**
comp=Z,0.2nm,0.6s,baz=99,slow=2.7,SNR=2.2							

*ATH **03** 20:02:24.6, 37.°40N×20.°46E, h6km±2km, ML3.2/17, Error ellipse: s-maj=2.9km s-min=1.3km az=63.0*
*THE **03** 20:02:24.7, 37.°43N×20.°47E, h0km±1km, ML3.3/4, Error ellipse: s-maj=2.0km s-min=0.5km az=222.0*
*IDC **03** 20:02:30.3±3.0, 38.°18N×20.°22E, h0km, mb3.6/5, mbtmp3.5/6, ML2.7/1, MS3.9/2, Error ellipse: s-maj=63.1km s-min=32.1km az=6.0*
ISC 03 20:02:25.7±1.1, 37.°45N±0.°05×20.°50E±0.°05, h10km, n48,
σ1§21/51, mb3.8/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.33**	**49**	P	**Pg**	**20 02 31.7**	**-0.6**
KRI1				S	**Sg**	**20 02 37.0**	**+0.3**
9μm,0.7s							
LTHK	**Lithakia**	**0.37**	**45**	P	**Pg**	**20 02 32.5**	**-0.6**
LTHK				S	**Sg**	**20 02 38.3**	**+0.2**
5μm,0.3s							
LTHK	**Lithakia**	**0.37**	**45**	P	**Pg**	**20 02 32.5**	**-0.6**
LTHK				S	**Sg**	**20 02 38.5**	**+0.4**
LTHK				AML	AML	20 02 38.9	
comp=E,8870μm,0.3s							
LTHK				AML	AML	20 02 39.0	
comp=N,11640μm,0.4s							
RTZL	**Ratzakli, Kefa**	**0.66**	**19**	P	**Pg**	**20 02 37.8**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.67**	**5**	P	**Pg**	**20 02 37.7**	**-1.0**
PSDA				S	**Sg**	**20 02 48.0**	**+0.5**
comp=N,3μm,0.8s							
PSDA	**Pessada-Kefalo**	**0.67**	**5**	P	**Pg**	**20 02 37.5**	**-1.2**
PSDA				S	**Sg**	**20 02 48.0**	**+0.5**
VLS	**Valsamata**	**0.73**	**5**	P	**Pg**	**20 02 38.9**	**-1.0**
VLS				S	**Sg**	**20 02 49.9**	**+0.4**
comp=N,2μm,0.8s							
VLS	**Valsamata**	**0.73**	**5**	P	**Pg**	**20 02 39.2**	**-0.7**
VLS				AML	AML	20 02 55.2	
comp=N,2293μm,0.4s							
VLS				AML	AML	20 02 56.4	
comp=E,3291μm,0.8s							
LXRA	**Lixouri, Kepha**	**0.75**	**356**	P	**Pg**	**20 02 39.7**	**-0.6**
LXRA				AML	AML	20 03 02.3	
comp=E,9930μm,0.8s							
LXRA				AML	AML	20 03 03.4	
comp=N,7981μm,0.7s							
DMLN	**Damoulianata-K**	**0.80**	**353**	P	**Pg**	**20 02 40.1**	**-1.0**
DMLN	**Damoulianata-K**	**0.80**	**353**	P	**Pg**	**20 02 40.5**	**-0.7**
AMT	**Artemida-Makis**	**0.96**	**85**	P	**Pg**	**20 02 43.4**	**-0.9**
AMT	**Artemida-Makis**	**0.96**	**85**	P	**Pg**	**20 02 43.4**	**-0.9**
AMT				AML	AML	20 03 01.9	
comp=E,5343μm,0.4s							
AMT				AML	AML	20 03 08.1	
comp=N,5011μm,0.4s							
RLS	**Riolos of Patr**	**0.98**	**51**	P	**Pg**	**20 02 43.5**	**-1.0**
RLS	**Riolos of Patr**	**0.98**	**51**	P	**Pg**	**20 02 43.5**	**-1.0**
RLS				AML	AML	20 03 02.7	
comp=N,1140μm,0.6s							
RLS				AML	AML	20 03 05.1	
comp=E,1268μm,0.7s							
FSK	**Fiskardo**	**1.01**	**3**	P	**Pg**	**20 02 43.9**	**-1.3**
FSK	**Fiskardo**	**1.01**	**3**	P	**Pg**	**20 02 43.8**	**-1.4**
FSK				AML	AML	20 03 05.0	
comp=N,3374μm,0.8s							
FSK				AML	AML	20 03 07.8	
comp=E,3563μm,0.7s							
DRO	**Drossia**	**1.08**	**62**	P	**Pb**	**20 02 44.5**	**-2.0**
DRO				AML	AML	20 03 12.9	
comp=N,2361μm,0.6s							
DRO				AML	AML	20 03 13.1	
comp=E,2378μm,0.4s							
PYL	**PYLOS**	**1.13**	**119**	P	**Pb**	**20 02 45.9**	**-1.5**
PYL				AML	AML	20 03 09.1	
comp=E,980μm,0.5s							
PYL				AML	AML	20 03 14.5	
comp=N,560μm,0.5s							
ITM	**Ithomi**	**1.17**	**103**	P	**Pb**	**20 02 47.0**	**-1.0**
ITM	**Ithomi**	**1.17**	**103**	P	**Pb**	**20 02 47.2**	**-0.8**
ITM				AML	AML	20 03 17.6	
comp=E,1316μm,1.4s							
ITM				AML	AML	20 03 19.2	
comp=N,990μm,1.1s							
EVGI	**Lefkada island**	**1.18**	**6**	P	**Pn**	**20 02 47.0**	**-1.3**
EVGI	**Lefkada island**	**1.18**	**6**	P	**Pn**	**20 02 47.0**	**-1.3**
DRAG	**Dragano-Lefkad**	**1.24**	**3**	P	**Pn**	**20 02 48.0**	**-1.1**
DRAG	**Dragano-Lefkad**	**1.24**	**3**	P	**Pn**	**20 02 47.8**	**-1.3**
NYDR	**Nydri-Lefkada**	**1.27**	**7**	P	**Pn**	**20 02 49.0**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.27**	**7**	P	**Pn**	**20 02 48.5**	**-1.0**
LKD2	**Lefkada island**	**1.34**	**5**	P	**Pn**	**20 02 49.5**	**-1.2**
LKD2				AML	AML	20 03 23.1	
comp=N,2061μm,0.7s							
LKD2				AML	AML	20 03 23.1	
comp=E,1327μm,0.6s							
TSLK	**Tsoukalades, L**	**1.38**	**5**	P	**Pn**	**20 02 50.6**	**-0.5**
TSLK	**Tsoukalades, L**	**1.38**	**5**	P	**Pb**	**20 02 51.0**	**-0.6**
KLV	**Kalavryta, Ach**	**1.44**	**65**	P	**Pn**	**20 02 51.6**	**-0.3**
KLV	**Kalavryta, Ach**	**1.44**	**65**	P	**Pn**	**20 02 51.6**	**-0.3**
KLV				AML	AML	20 03 22.0	
comp=E,577μm,0.9s							
KLV				AML	AML	20 03 25.4	
comp=N,670μm,0.8s							
EFP	**Efpalio**	**1.48**	**48**	P	**Pn**	**20 02 52.2**	**-0.2**
EFP	**Efpalio**	**1.48**	**48**	P	**Pn**	**20 02 52.4**	**-0.1**
EFP				AML	AML	20 03 26.1	
comp=E,946μm,1.1s							
EFP				AML	AML	20 03 29.2	
comp=N,881μm,1.0s							
ANX	**Ano Chora**	**1.60**	**44**	P	**Pn**	**20 02 53.2**	**-1.0**
ANX				AML	AML	20 03 27.4	
comp=N,1922μm,0.8s							
ANX				AML	AML	20 03 30.3	
comp=E,1521μm,0.8s							
KALE	**Kalithea**	**1.60**	**53**	P	**Pn**	**20 02 53.8**	**-0.4**
KALE	**Kalithea**	**1.60**	**53**	P	**Pn**	**20 02 54.1**	**-0.1**
KALE				AML	AML	20 03 25.9	
comp=E,884μm,1.1s							
KALE				AML	AML	20 03 32.6	
comp=N,872μm,0.6s							
EVR	**Evrytania**	**1.79**	**35**	P	**Pn**	**20 02 56.7**	**-0.1**
EVR				AML	AML	20 03 42.4	
comp=N,914μm,0.9s							
EVR				AML	AML	20 03 46.1	
comp=E,620μm,1.0s							
MAKR	**Makrakomi, Fth**	**2.02**	**39**	P	**Pn**	**20 02 59.1**	**-0.9**
MAKR				AML	AML	20 03 47.9	
comp=E,1325μm,1.1s							
MAKR				AML	AML	20 03 53.0	
comp=N,1398μm,0.9s							
VLI	**Veliai**	**2.08**	**110**	P	**Pn**	**20 02 59.1**	**-1.6**
VLI				AML	AML	20 04 00.6	
comp=E,395μm,1.3s							
VLI				AML	AML	20 04 01.0	
comp=N,404μm,1.3s							
ESDC	**Sonseca Array**	**19.25**	**284**	P	**Pn**	**20 06 52.0**	**+0.7**
baz=78,slow=12,SNR=2.6							
comp=N,0.6nm,0.9s							
HFS	**Hagfors**	**23.12**	**351**	P	**P**	**20 07 30.4**	**-1.2**
comp=N,2.8nm,0.8s,baz=165,slow=12,SNR=2.5							
comp=N,2.8nm,0.8s							
FINES	**FINESS Array B**	**24.27**	**7**	P	**P**	**20 07 41.5**	**-1.4**
comp=N,2.2nm,0.9s,baz=168,slow=9.8,SNR=3.9							
comp=N,2.2nm,0.9s							
ARTI	**Arti**	**31.51**	**41**	LR	LR	20 21 01.1	
comp=N,109nm,21.1s,baz=301,slow=36							
KURBB	**Kurchatov Arra**	**42.68**	**53**	P	**P**	**20 10 26.4**	**+4.0**
comp=N,0.2nm,0.4s,baz=277,slow=8.4,SNR=3.4							
comp=N,0.2nm,0.4s							
MKAR	**Makanchi Array**	**45.70**	**58**	P	P	20 10 51.0	+4.2
comp=N,0.2nm,0.5s,baz=271,slow=7.1,SNR=6.2							
comp=N,0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**46.19**	**48**	P	**P**	**20 10 54.0**	**+3.5**
comp=N,0.5nm,0.4s,baz=264,slow=7.3,SNR=2.4							
comp=N,0.5nm,0.4s							
BBB	**Bella Bella**	**86.63**	**341**	LR	LR	20 55 32.6	
comp=N,147nm,19.1s,baz=222,slow=37							

*NOU **03** 20:03:44.7, 39.°44S×179.°61W, h0km, MLv5.5/36, East of North Island, N.Z.*
*IDC **03** 20:03:44.4±0.7, 39.°22S×179.°56W, h0km, mb4.6/12, mbtmp4.6/14, ML5.0/2, MS4.2/49, Error ellipse: s-maj=23.9km s-min=15.6km az=45.0*
*NEIC **03** 20:03:45.0±2.2, 39.°34S±0.°07×179.°8W±0.°1, h10km±1km, mb5.0/26, Error ellipse: s-maj=14.2km s-min=10.5km az=54.0*
*WEL **03** 20:03:45.7±0.6, 39.°S±5.°×17.°9W±.°, h33km, M5.3/22, mB6.6/1, ML5.6/22, MLv5.3/22, Mw(mB)6.4/1, Error ellipse: s-maj=6.2km s-min=5.2km az=168.8, confirmed*
*GCMT **03** 20:03:47.0±0.2, 39.°13S±0.°01×179.°31W±0.°01, h18km, MW5.1/129, Moment Tensor Solution. s72, c105; s129, c217; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}-0.99±.13; $M_{\theta\theta}$-1.36±.11; $M_{\phi\phi}$2.36±.10; $M_{r\theta}$0.41±.25; $M_{\theta\phi}$5.53±.11; $M_{\phi r}$1.54±.24; Best double couple: $M_0$6.01800×10^16 NP1:ϕ_s351.00000°, δ88.00000°, λ167.00000°. NP2:ϕ_s81.00000°, δ77.00000°, λ2.00000°. Principal axes: T 6.6260, Plg11.0000°, Azm305.0000°; N -1.2090, Plg76.0000°, Azm161.0000°; P -5.4110, Plg8.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*WEL **03** 20:03:49.4, 39.°27S×179.°68W, h7km, ML5.3, Mw5.1, Moment

MHGZ S Sn 20 04 42.2 -0.3
GKBS Kaiti Beach 2.00 291 P Pn 20 04 19.2 +0.1
GHHS Gisborne Hospi 2.02 291 P Pn 20 04 17.7 -1.7
PRGZ Paritu Road 2.03 283 P Pn 20 04 19.2 -0.4
PRGZ S Sn 20 04 44.8 +0.6
GWTS Gisborne Waipa 2.10 291 P Pn 20 04 19.2 -1.3
PUZ Puketiti 2.15 308 P Pn 20 04 19.4 -1.9
PUZ S Sn 20 04 45.1 -2.1
KNZ Kokohu 2.17 279 P Pn 20 04 20.9 -0.6
KNZ S Sn 20 04 47.0 -0.4
RIGZ Rimuhau 2.19 288 P Pn 20 04 21.4 -0.4
TKGZ Te Karaka 2.23 295 P Pn 20 04 21.6 -0.6
TKGZ S Sn 20 04 47.3 -1.6
TWGZ Tauwhareparae 2.27 302 P Pn 20 04 21.8 -1.1
PKGZ Pakihiroa 2.39 309 P Pn 20 04 22.7 -1.9
SNGZ Shannon Statio 2.48 284 P Pn 20 04 25.5 -0.2
SNGZ S Sn 20 04 54.6 -0.5
MXZ Matakaoa Point 2.48 317 Pn Pn 20 04 23.4 -2.4
MXZ Matakaoa Point 2.48 317 P Pn 20 04 23.7 -2.1
MXZ S Sn 20 04 53.2 -1.9
MXZ Matakaoa Point 2.48 317 P Pn 20 04 23.5 -2.2
WHHZ Waihua 2.50 277 P Pn 20 04 26.0 0.0
WHHZ S Sn 20 04 56.3 +0.8
MWZ Matawai 2.50 294 P Pn 20 04 25.2 -0.9
MWZ S Sn 20 04 53.8 -1.9
RAGZ Rawiri 2.51 290 P Pn 20 04 25.8 -0.5
RAGZ S Sn 20 04 54.9 -1.2
RUGZ Raukumara Rang 2.58 303 P Pn 20 04 26.0 -1.3
CKHZ Cape Kidnapper 2.60 263 P Pn 20 04 27.3 0.0
CKHZ S Sn 20 04 58.5 +0.4
RAHZ Arahi 2.64 280 P Pn 20 04 28.1 +0.1
RAHZ S Sn 20 04 59.6 +0.5
HAZ Te Kaha 2.64 308 P Pn 20 04 26.2 -1.8
ARHZ Aropaoanui 2.66 272 P Pn 20 04 28.7 +0.5
NGHS Napier Girls H 2.71 267 P Pn 20 04 29.5 +0.6
NCHS Napier Colenso 2.73 267 S Sn 20 05 01.9 +0.6
KAHZ Kahuranaki 2.76 261 P Pn 20 04 30.7 +1.0
RTZ Ruatahuna 2.79 285 Pn Pn 20 04 29.6 -0.5
RTZ Ruatahuna 2.79 285 P Pn 20 04 29.8 -0.3
RTZ S Sn 20 05 02.3 -0.8
PXZ Pawanui 2.81 256 P Pn 20 04 30.2 -0.2
NMHZ Naumai 2.82 275 P Pn 20 04 30.7 +0.2
URZ Urewera 2.83 293 Pn Pn 20 04 30.4 -0.1
230nm,0.3s,baz=279,slow=1.5,SNR=339
URZ Sn **Sn 20 05 03.5 -0.2**
410nm,0.3s,baz=43,slow=0.4,SNR=5.3
URZ LR LR 20 05 27.7
comp=Z,3μm,21.8s,baz=204,slow=37
644nm,0.3s
URZ Urewera 2.83 293 P Pn 20 04 30.6 +0.1
URZ S Sn 20 05 04.2 +0.4
URZ Urewera 2.83 293 P Pn 20 04 31.4 +0.9
MTHZ Maungataniwha 2.84 280 P Pn 20 04 30.6 -0.1
MUGZ Murupara 2.99 287 P Pn 20 04 32.8 0.0
PRHZ Porangahau 3.04 252 P Pn 20 04 33.3 -0.2
BKZ Black Stump Fm 3.06 273 Pn Pn 20 04 33.4 -0.4
BKZ Black Stump Fm 3.06 273 P Pn 20 04 33.6 -0.1
BKZ Black Stump Fm 3.06 273 P Pn 20 04 34.3 +0.6
KFHS Kaweka Forest 3.06 268 P Pn 20 04 33.2 -0.6
WHRZ Whale Island 3.11 299 P Pn 20 04 35.3 +0.9
WPHZ Waipukurau 3.14 257 P Pn 20 04 34.9 +0.1
WIZ White Island 3.16 306 P Pn 20 04 34.0 -1.1
EDRZ Edgecumbe 3.16 293 P Pn 20 04 35.7 +0.6
MRHZ Matea Rd 3.17 279 P Pn 20 04 35.9 +0.7
MRHZ S Sn 20 05 12.1 -0.1
ANWZ Angora Road 3.21 250 P Pn 20 04 35.5 -0.2
ANWZ S Sn 20 05 13.1 -0.1
RRRZ Republican Roa 3.23 288 P Pn 20 04 36.4 +0.3
MARZ Manawahe 3.26 295 P Pn 20 04 37.2 +0.8
PRRZ Plateau Road 3.27 285 P Pn 20 04 36.9 +0.3
TARZ Mount Tarawera 3.27 290 P Pn 20 04 37.6 +0.9
ALRZ Allen Road 3.29 284 P Pn 20 04 37.5 +0.7
HLRZ Highlands Stat 3.38 289 P Pn 20 04 39.4 +1.2
HRRZ Handcock Road 3.38 286 P Pn 20 04 38.6 +0.4
HATZ Hinemaiaia 3.40 277 P Pn 20 04 38.9 +0.5
OPRZ Ohinepanea 3.41 296 P Pn 20 04 37.5 -1.0
OPRZ S Sn 20 05 17.2 -0.8
OMRZ Omania 3.42 291 P Pn 20 04 39.1 +0.3
WPRZ Whakapatarin 3.44 284 P Pn 20 04 39.6 +0.7
HSRZ Hossack Road 3.44 287 P Pn 20 04 39.5 +0.6
BFZ Birch Farm 3.45 247 P Pn 20 04 38.9 -0.1
LIRZ Lichensteins R 3.46 293 P Pn 20 04 39.5 +0.4
UTU Utuhina 3.52 289 P Pn 20 04 41.8 +1.7
GRRZ Galatos Road 3.53 286 P Pn 20 04 40.7 +0.6
KARZ Kaharoa 3.55 292 P Pn 20 04 40.5 +0.1
WHTZ Whakaora 3.55 281 P Pn 20 04 43.0 +2.4
NGRZ Ngongotaha 3.56 290 P Pn 20 04 41.5 +0.9
MOVZ Moawhango 3.62 269 P Pn 20 04 42.1 +0.6
MOVZ S Sn 20 05 22.2 -1.1
ETVZ East Tongariro 3.67 273 P Pn 20 04 43.0 +0.9
ETVZ S Sn 20 05 23.2 -1.4
TGRZ Tauranga 3.67 296 P Pn 20 04 42.0 -0.1
TMVZ Te Maari 3.67 273 P Pn 20 04 42.9 +0.7
NTVZ North Tongarir 3.70 273 P Pn 20 04 43.9 +1.3
KATZ Kakaramea 3.70 275 P Pn 20 04 44.7 +2.1
OTVZ Oturere 3.70 292 P Pn 20 04 43.5 +0.9
TUVZ Tukino 3.70 271 P Pn 20 04 43.6 +1.0
KUTZ Kaahu Road 3.70 283 P Pn 20 04 42.8 +0.2
SNVZ South Ngauruho 3.71 272 P Pn 20 04 43.5 +0.6
WATZ Wairara 3.71 279 P Pn 20 04 43.1 +0.3
KRVZ Karewarewa 3.72 273 P Pn 20 04 43.7 +0.8
WNVZ Wahianoa 3.74 270 P Pn 20 04 43.8 +0.6
NNVZ North Ngauruho 3.74 273 P Pn 20 04 44.0 +0.8
NGZ Ngauruhoe 3.75 272 P Pn 20 04 44.0 +0.7
WHVZ Whangaehu Hut 3.75 270 P Pn 20 04 43.9 +0.5
WTVZ West Tongariro 3.76 273 P Pn 20 04 44.5 +1.0
MAVZ Matarangi 3.77 271 P Pn 20 04 44.2 +0.4
FWVZ Far West T-bar 3.78 271 P Pn 20 04 44.1 +0.3
TRVZ Turoa 3.78 270 P Pn 20 04 44.1 +0.3
COVZ Chateau Observ 3.79 272 P Pn 20 04 44.3 +0.5
MTVZ Mangateitei 3.83 269 P Pn 20 04 46.2 +1.7
TWVZ Taurewa 3.88 273 P Pn 20 04 45.9 +0.8
MYRZ Mayor Island 3.91 302 P Pn 20 04 45.8 +0.4
MRZ Mangatainoka R 3.92 250 Pn Pn 20 04 44.4 -1.2
MRZ Mangatainoka R 3.92 250 P Pn 20 04 44.8 -0.8
TLZ Tolley Road 3.96 284 P Pn 20 04 47.5 +1.3
TOZ Tahuroa Road 4.20 292 Pn Pn 20 04 48.3 -1.1
TOZ Tahuroa Road 4.20 292 P Pn 20 04 48.9 -0.5
WAZ Wanganui 4.21 264 P Pn 20 04 51.6 +2.0
VRZ Vera Road 4.40 272 P Pn 20 04 53.4 +1.3
MSWZ Moikau Station 4.43 241 Pn Pn 20 04 50.4 -2.1
HIZ Hauiti 4.43 280 Pn Pn 20 04 52.2 -0.3
HIZ Hauiti 4.43 280 P Pn 20 04 53.1 +0.5
HIZ Hauiti 4.43 280 P Pn 20 04 52.6 +0.1
PLWZ Palliser 4.49 240 Pn Pn 20 04 51.0 -2.4
KUZ Kuaotunu 4.56 304 P Pn 20 04 52.2 -2.2
KUZ Kuaotunu 4.56 304 P Pn 20 04 52.3 -2.0
LREZ Lake Rotokare 4.66 267 P Pn 20 04 57.6 +1.9
BHW Baring Head 4.68 243 Pn Pn 20 04 53.8 -2.2
MKAZ Moumakai 4.74 297 P Pn 20 04 55.9 -0.8
MHEZ Mangahewa 4.75 272 P Pn 20 04 59.6 +2.7
SNZO South Karori 4.76 245 Pn Pn 20 04 54.9 -2.2
SNZO South Karori 4.76 245 P Pn 20 04 56.1 -1.0
PREZ Palmer Road 4.85 269 P Pn 20 05 01.7 +3.3
CTZ Chatham Island 4.86 154 Pn Pn 20 04 58.4 -0.1
CTZ Chatham Island 4.86 154 P Pn 20 04 58.4 -0.1
CTZ S Sn 20 05 49.7 -4.2
CTZ Chatham Island 4.86 154 P Pn 20 04 58.3 -0.1
NEZ North Egmont 4.91 270 P Pn 20 05 01.2 +2.0
WIAZ Waiheke Island 4.92 300 P Pn 20 04 59.6 +0.3
KHEZ Kahui Hut 4.97 269 P Pn 20 05 02.2 +2.3
KHEZ Kahui Hut 4.97 269 P Pn 20 05 02.3 +2.3
ETAZ East Tamaki Re 4.97 298 P Pn 20 05 00.2 +0.2
PKE Pukeiti 5.00 270 P Pn 20 05 02.5 +2.1
TCW Tory Channel 5.03 247 Pn Pn 20 04 59.0 -1.8
GRZ Great Barrier 5.04 307 P Pn 20 04 59.9 -1.0
NBEZ Newall Road No 5.08 270 P Pn 20 05 03.5 +2.0
MBAZ Motutapu North 5.09 299 P Pn 20 05 02.2 +0.6
AWAZ Awhitu Peninsu 5.12 295 P Pn 20 05 02.9 +0.9
EPAZ Eden Park BICE 5.14 298 P Pn 20 05 03.3 +1.0
HBAZ Herne Bay Bore 5.16 298 P Pn 20 05 03.3 +0.7
ABAZ Army Bay 5.23 301 P Pn 20 05 04.1 +0.6
WTAZ Waiatarua 5.23 296 P Pn 20 05 04.4 +0.8
RVAZ Riverhead Bore 5.31 298 P Pn 20 05 05.7 +1.1
BSWZ Blackbirch Sta 5.49 243 Pn 20 05 04.8 -2.3
WCZ Waipu Caves 5.93 304 P Pn 20 05 12.1 -1.1
TKNZ Takaka Hill 5.94 252 Pn 20 05 12.0 -1.3
KHZ Kahutara 6.02 238 P Pn 20 05 13.0 -1.3
QRZ Quartz Range 6.21 254 Pn 20 05 15.7 -1.3
QRZ Quartz Range 6.21 254 P Pn 20 05 15.9 -1.1

GVZ Greta Valley S 6.61 235 Pn 20 05 19.4 -3.0
OUZ Omahuta 6.86 305 P Pn 20 05 26.1 +0.2
RPZ Rata Peaks 8.23 235 Pn Pn 20 05 45.1 +0.4
22nm,0.3s,baz=67,slow=4.1,SNR=18
RPZ Sn **Sn 20 07 11.3 -5.6**
71nm,0.3s,baz=322,slow=21,SNR=21
RPZ LR LR 20 09 01.0
comp=Z,2μm,19.2s,baz=26,slow=38
44nm,0.4s
RPZ Rata Peaks 8.23 235 P Pn 20 05 44.2 -0.6
ODZ Otahua Downs 9.18 229 Pn 20 05 54.1 -3.6
ODZ Otahua Downs 9.18 229 P Pn 20 05 56.7 -1.0
JCZ Jackson Bay 9.86 238 P Pn 20 06 08.1 +0.9
GLKZ Green Lake 10.21 8 S Sn 20 07 49.3 -16
RAO Raoul Island 10.22 8 Sn Sn 20 07 51.7 -14
64nm,0.3s,baz=186,slow=17,SNR=5.9
RAO LR LR 20 10 24.9
comp=Z,334nm,18.3s,baz=189,slow=40
SYZ Scrubby Hill 10.90 226 P Pn 20 06 19.7 -1.6
WHZ Wether Hill Ro 11.23 231 Pn Pn 20 06 26.0 +0.2
DCZ Deep Cove 11.51 234 Pn Pn 20 06 27.9 -1.7
PINNC Pines Island, 20.06 323 P 20 08 14.9 -3.4
PINNC IAmb IAmb 20 08 30.6
comp=Z,65nm,1.0s
ONTNC Ouen Toro 20.80 321 P P 20 08 23.8 -2.5
YATNC Mamie plateau, 20.80 322 P Pn 20 08 28.9 +0.1
DZM Mont Dzumac 21.00 321 *e*P P 20 08 26.9 -1.7
comp=Z,132nm,1.0s
DZM *e*S S 20 12 17.8 -3.5
comp=Z,410nm,22.9s
DZM *e*LR LR 20 13 26.6
comp=Z,2μm,29.2s
DZM Mont Dzumac 21.00 321 P 20 08 26.3 -2.3
DZM IAmb IAmb 20 08 40.7
comp=Z,50nm,0.8s
DZM Mont Dzumac 21.00 321 P P 20 08 28.9 +0.3
comp=Z,44nm,0.9s,baz=155,slow=12,SNR=19
DZM LR LR 20 14 43.5
comp=Z,1μm,20.5s,baz=103,slow=32
comp=Z,44nm,0.9s
DZM Mont Dzumac 21.00 321 P P 20 08 29.4 +0.8
MSVF Nonsavu 21.70 354 LR LR 20 15 06.9
comp=Z,424nm,19.9s,baz=170,slow=32
MSVF Nonsavu 21.70 354 P P 20 08 37.8 +1.7
NIUE Niue 21.91 25 P P 20 08 39.1 +0.8
KOUNC Koumac, New Ca 23.35 319 P 20 08 48.4 -5.0
KOUNC IAmb IAmb 20 08 57.4
comp=Z,79nm,1.3s
RAR Rarotonga 24.83 49 P P 20 09 08.3 +1.1
RAR Rarotonga 24.83 49 LR LR 20 17 44.2
comp=Z,487nm,18.0s,baz=227,slow=34
ARMA Armidale 25.17 282 P P 20 09 08.8 -1.6
ARMA IAmb IAmb 20 09 34.9
comp=Z,51nm,1.5s
TOO Toolangi 27.30 263 P P 20 09 27.5 -2.1
EIDS Eidsvold 28.31 291 P P 20 09 35.3 -3.3
EIDS Eidsvold 28.31 291 P P 20 09 40.2 +1.7
comp=Z,16nm,0.9s
CMSA Cobar Meteorol 29.22 275 P P 20 09 49.9 +3.3
comp=Z,20nm,1.3s
CMSA Cobar Meteorol 29.22 275 P P 20 09 49.2 +2.6
TBI Tubuai 30.11 67 *e*P P 20 09 45.5 -9.0
comp=Z,894nm,39.8s
TBI *e*LQ LQ 20 15 55.2
comp=Z,4μm,24.5s
TBI *e*LR LR 20 17 15.6
comp=Z,1μm,29.0s
TBI *e*LR LR 20 17 17.5
comp=Z,3μm,28.5s
STKA Stephens Creek 32.24 271 P P 20 10 12.0 -1.3
STKA Stephens Creek 32.24 271 P P 20 10 16.2 +2.9
comp=Z,3.2nm,1.0s
STKA Stephens Creek 32.24 271 P P 20 10 15.5 +2.2
comp=Z,6.8nm,0.8s,baz=100,slow=12,SNR=15
STKA LR LR 20 22 50.7
comp=Z,412nm,19.7s,baz=109,slow=36
comp=Z,6.8nm,0.8s
STKA Stephens Creek 32.24 271 P P 20 10 16.3 +3.0
QLP Quilpie 32.72 282 P P 20 10 19.1 +1.7
comp=Z,47nm,1.2s
HTT Hallett 33.70 267 P P 20 10 31.3 +5.2
HTT Hallett 33.70 267 P P 20 10 27.9 +1.8
PPT2 Papeete2 33.92 59 *e*P P 20 10 16.1 -12
comp=Z,35nm,24.2s
PPT2 *e*S S 20 15 36.9 -14
comp=Z,86nm,24.8s
PPT2 *e*LQ LQ 20 17 34.6
comp=Z,832nm,27.8s
PPT2 *e*LR LR 20 19 00.2
comp=Z,1μm,27.5s
PPT2 *e*LR LR 20 19 00.8
comp=Z,922nm,30.0s
PPT Papeete 33.93 59 LR LR 20 20 46.3
comp=Z,359nm,19.1s,baz=226,slow=30
INKA Innaminka 34.78 277 P P 20 10 37.4 +1.9
HNR Honiara 35.01 323 LR LR 20 23 13.9
comp=Z,328nm,18.8s,baz=170,slow=34
CTA Charters Tower 35.08 293 LR LR 20 23 26.3
comp=Z,49nm,22.0s,baz=136,slow=34
CTAO Charters Tower 35.08 293 P P 20 10 36.0 -2.0
CTAO Charters Tower 35.08 293 P P 20 10 39.7 +1.6
LCRK Leigh Creek 35.47 271 P P 20 10 43.2 +1.8
BBOO Buckleboo 36.15 266 P P 20 10 44.9 -2.3
BBOO IAmb IAmb 20 10 50.0
comp=Z,34nm,1.2s
BBOO Buckleboo 36.15 266 P P 20 10 49.5 +2.3
MTSU Mount Surprise 37.73 294 P P 20 11 02.2 +1.4
comp=Z,12nm,1.1s
OOD Oodnadatta 38.66 274 P P 20 11 10.3 +1.8
MULG Mulgathing 38.77 269 P P 20 11 11.1 +1.8
QIS Mount Isa 39.63 286 P P 20 11 17.8 +1.1
comp=Z,16nm,0.9s
QIS Mount Isa 39.63 286 P P 20 11 17.3 +0.6
RKT Rikitea 41.01 80 *e*LR LR 20 22 14.9
comp=Z,1μm,30.5s
COEN Coen 41.38 297 P P 20 11 29.5 -1.7
COEN IAmb IAmb 20 11 50.3
comp=Z,25nm,0.9s
COEN Coen 41.38 297 P P 20 11 32.1 +0.9
PMG Port Moresby 42.11 306 P P 20 11 34.1 -3.0
PMG IAmb IAmb 20 11 46.3
comp=Z,29nm,0.8s
PMG Port Moresby 42.11 306 LR LR 20 25 59.3
comp=Z,325nm,21.9s,baz=148,slow=32
AS01 Alice Springs 42.13 278 P P 20 11 37.4 +0.1
comp=Z,37nm,0.9s
AS31 Alice Springs 42.17 278 P P 20 11 34.7 -2.9
AS31 Alice Springs 42.17 278 P P 20 11 38.3 +0.7
comp=Z,9.6nm,0.8s
ASAR Alice Springs 42.17 278 P P 20 11 37.2 -0.4
ASAR Alice Springs 42.17 278 P P 20 11 37.9 +0.3
comp=Z,21nm,0.8s,baz=119,slow=7.3,SNR=123
ASAR LR LR 20 30 19.9
comp=Z,1μm,18.1s,baz=128,slow=38
comp=Z,21nm,0.8s
FORT Forrest 43.19 265 P P 20 11 45.3 -0.4
FORT Forrest 43.19 265 P P 20 11 47.5 +1.8
RABL Rabaul 43.41 317 P 20 11 45.5 -2.1
WR0 Warramunga Arr 43.79 283 P P 20 11 48.6 -2.1
WRAB Tennant Creek 43.95 282 P P 20 11 50.3 -1.7
WRAB IAmb IAmb 20 11 59.1
comp=Z,38nm,1.4s
WRA Warramunga Arr 43.95 282 P P 20 11 50.4 -1.7
WRA Warramunga Arr 43.95 282 P P 20 11 51.9 -0.1
comp=Z,15nm,1.0s,baz=125,slow=7.2,SNR=48
WRA LR LR 20 30 03.1
comp=Z,774nm,20.0s,baz=139,slow=36
comp=Z,15nm,1.0s
WRKA Warakurna 45.77 272 P P 20 12 06.7 +0.3
comp=Z,26nm,1.6s
WRKA Warakurna 45.77 272 P P 20 12 07.6 +1.1
TAOE Nuku Hiva Isla 46.52 60 *e*LR LR 20 24 52.8
comp=Z,840nm,26.9s
NWAO Narrogin (SRO) 50.51 257 LR LR 20 31 06.3
comp=Z,295nm,21.2s,baz=50,slow=32
QSPA South Pole Qui 50.72 180 P P 20 12 47.1 +2.8
QSPA IAmb IAmb 20 12 49.8
comp=Z,12nm,0.8s
QSPA South Pole Qui 50.72 180 P P 20 12 48.3 +4.0
comp=Z,11nm,0.8s,baz=36,slow=1.7,SNR=59
QSPA LR LR 20 30 37.7
comp=Z,317nm,20.1s,baz=42,slow=32
comp=Z,11nm,0.8s
KNRA Kununurra 50.75 283 P P 20 12 41.4 -3.5
KNRA IAmb IAmb 20 12 45.4
comp=Z,35nm,1.4s

KNRA Kununurra 50.75 283 P P 20 12 45.2 +0.3
comp=Z,18nm,1.4s
MTN Manton Dam 50.77 287 P P 20 12 44.0 -1.0
MTN IAmb IAmb 20 13 26.5
comp=Z,14nm,0.8s
JAY Jayapura 51.47 305 P P 20 12 49.4 -1.0
comp=Z,27nm,1.1s
FITZ Fitzroy Crossi 51.67 278 P P 20 12 48.5 -3.4
FITZ Fitzroy Crossi 51.67 278 P P 20 12 52.6 +0.8
comp=Z,332nm,1.2s
FITZ Fitzroy Crossi 51.67 278 LR LR 20 35 09.0
comp=Z,633nm,18.3s,baz=126,slow=36
MUN Mundaring 51.71 257 P P 20 12 54.0 +2.0
MEEK Meekatharra 52.44 264 P P 20 12 58.6 +1.0
SOEI Soe 57.87 285 P P 20 13 38.2 +1.2
BATI Baumata 58.04 284 LR LR 20 40 31.4
comp=Z,903nm,18.4s,baz=162,slow=38
RPN Rapa Nui 58.66 101 LR LR 20 33 13.9
comp=Z,227nm,19.0s,baz=227,slow=30
SWI Sorong 58.93 298 P P 20 13 43.6 -0.6
comp=Z,17nm,0.9s
BELA Belgrano 2 61.06 172 P P 20 13 59.1 +1.1
BELA IAmb IAmb 20 14 00.9
comp=Z,9.1nm,0.9s
SANI Sanana 61.78 293 P P 20 14 03.3 -0.4
comp=Z,27nm,1.1s
GUMO Guam 62.27 320 LR LR 20 36 53.3
comp=Z,66nm,21.9s,baz=148,slow=32
MAW Mawson 63.47 202 P P 20 14 17.1 +3.0
comp=Z,4.9nm,0.8s,baz=118,slow=9.2,SNR=12
MAW LR LR 20 41 10.2
comp=Z,878nm,18.0s,baz=114,slow=35
comp=Z,4.9nm,0.8s
KAPI Kappang 64.34 286 LR LR 20 44 25.1
comp=Z,550nm,18.1s,baz=130,slow=38
PMSA Palmer Station 64.65 155 LR LR 20 36 58.7
comp=Z,272nm,18.9s,baz=316,slow=31
DAV Davao City (W) 68.56 299 LR LR 20 48 55.8
comp=Z,77nm,18.1s,baz=151,slow=40
TROLL Troll, Antarti 68.88 181 ⇑P P 20 14 51.4 +2.4
comp=Z,0.0nm,0.1s
SNAA Sanae 69.20 179 P P 20 14 52.6 +1.7
SNAA IAmb IAmb 20 15 06.6
comp=Z,17nm,1.3s
SNAA Sanae 69.20 179 ⇑P P 20 14 52.2 +1.3
comp=Z,54nm,0.8s
SNAA Sanae 69.20 179 P P 20 14 53.4 +2.4
comp=Z,4.2nm,1.0s,baz=201,slow=6.8,SNR=11
SNAA LR LR 20 41 39.9
comp=Z,129nm,19.4s,baz=192,slow=33
comp=Z,4.2nm,1.0s
VNA3 Neumayer Olymp 69.42 177 ⇑P P 20 14 53.9 +1.7
comp=Z,3.9nm,0.7s
VNA2 Neumayer--Watz 69.83 177 ⇑P P 20 14 55.8 +1.0
comp=Z,4.0nm,0.6s,baz=171,slow=3.4
VNA1 Neumayer--Stat 70.07 177 ⇑P P 20 14 57.2 +1.0
comp=Z,7.1nm,1.0s
LEM Lembang 72.42 276 LR LR 20 46 50.9
comp=Z,434nm,21.5s,baz=194,slow=36
H03S2 Juan Fernandez 76.63 123 T T 21 39 48.3
baz=229,slow=74,SNR=4.9
H03S1 Juan Fernandez 76.64 123 T T 21 40 01.3
baz=229,slow=74,SNR=5.0
H03S3 Juan Fernandez 76.65 123 T T 21 39 44.2
baz=229,slow=74,SNR=4.2
TGY Tagaytay City 76.78 301 LR LR 20 53 27.6
comp=Z,63nm,18.1s,baz=135,slow=39
H03N3 Juan Fernandez 76.87 122 T T 21 39 52.9
baz=234,slow=72,SNR=19
H03N2 Juan Fernandez 76.87 122 T T 21 39 51.7
baz=234,slow=72,SNR=25
H03N1 Juan Fernandez 76.89 122 T T 21 39 49.8
baz=234,slow=72,SNR=20
PLCA Paso Flores 77.35 133 P P 20 15 40.9 +1.3
comp=Z,5.0nm,1.0s,baz=219,slow=7.4,SNR=4.3
PLCA LR LR 20 42 59.8
comp=Z,70nm,20.7s,baz=210,slow=30
comp=Z,5.0nm,1.0s
JHJ Hachijo jima 2 81.40 326 LR LR 20 46 23.6
comp=Z,56nm,21.4s,baz=338,slow=32
MJAR Matsushiro Arr 84.99 327 P P 20 16 21.2 +1.3
comp=Z,1.1nm,0.8s,baz=162,slow=5.1,SNR=2.5
MJAR LR LR 20 50 28.3
comp=Z,52nm,20.0s,baz=146,slow=33
comp=Z,1.1nm,0.8s
ASAJ Asahikawa 89.88 334 LR LR 20 51 31.4
comp=Z,74nm,20.3s,baz=185,slow=32
LPIG La Paz 90.35 59 LR LR 20 47 37.5
comp=Z,216nm,20.4s,baz=218,slow=29
KSRS Korea Array 90.43 321 P P 20 16 47.8 +1.9
comp=Z,1.5nm,1.0s,baz=146,slow=5.1,SNR=6.0
KSRS LR LR 20 52 25.1
comp=Z,21nm,20.2s,baz=135,slow=32
comp=Z,1.5nm,1.0s
KSAR Wonju Array Be 90.44 321 P P 20 16 46.4 +0.4
LVC Limon Verde 90.63 120 LR LR 20 48 28.4
comp=Z,307nm,20.9s,baz=222,slow=30
NJ2 Nanjing 91.19 312 *e*P P 20 16 46.1 -3.5
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
SHEM Shemya Is, Ala 91.93 356 LR LR 20 51 04.2
comp=Z,72nm,20.9s,baz=132,slow=31
NNA Nana 92.10 107 LR LR 20 50 42.1
comp=Z,104nm,19.8s,baz=223,slow=31
PFO Pinyon Flats O 93.22 48 LR LR 20 48 56.1
comp=Z,158nm,21.0s,baz=214,slow=29
USRK Ussuriysk Ar. 93.99 327 LR LR 20 55 17.2
comp=Z,80nm,19.1s,baz=344,slow=33
ATAH Atahualpa 94.08 103 LR LR 20 49 21.5
comp=Z,253nm,21.9s,baz=242,slow=29
PETK Petropavlovsk- 94.22 346 LR LR 20 52 12.8
comp=Z,91nm,21.9s,baz=155,slow=31
CMAR Chiang Mai Arr 95.16 290 P P 20 17 10.1 +1.9
comp=Z,0.3nm,0.3s,baz=144,slow=4.0,SNR=2.3
CMAR LR LR 21 06 05.3
comp=Z,46nm,18.2s,baz=135,slow=39
comp=Z,0.3nm,0.3s
CPUP Villa Florida 95.28 130 LR LR 20 54 10.9
comp=Z,302nm,18.2s,baz=220,slow=32
LPAZ La Paz 95.50 116 P P 20 17 11.0 +0.3
LPAZ IAmb IAmb 20 17 21.6
comp=Z,7.0nm,1.4s
LPAZ La Paz 95.50 116 P P 20 17 11.8 +1.1
comp=Z,1.5nm,0.9s,baz=225,slow=7.1,SNR=4.1
LPAZ LR LR 20 50 11.0
comp=Z,107nm,21.7s,baz=194,slow=29
comp=Z,1.5nm,0.9s
NVAR Mina Array Bea 95.68 44 LR LR 20 54 35.9
comp=Z,170nm,18.8s,baz=272,slow=32
YBH Yreka Blue Hor 95.88 39 LR LR 20 51 07.6
comp=Z,189nm,21.8s,baz=191,slow=30
CMIG Matias Romero 96.67 73 LR LR 20 52 39.2
comp=Z,71nm,20.1s,baz=24,slow=30
TXAR Lajitas Array 98.25 59 LR LR 20 52 25.9
comp=Z,141nm,21.1s,baz=248,slow=30
PZH PanZhiHua 98.30 297 P P 20 17 19.1 -3.4
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.7s
KDAK Kodiak Island 99.45 14 LR LR 20 53 31.0
comp=Z,152nm,20.9s,baz=181,slow=30
JTS Las Juntas de 100.00 85 LR LR 20 54 02.1
comp=Z,82nm,18.5s,baz=280,slow=30
ANMO Albuquerque 100.12 53 LR LR 20 55 33.6
comp=Z,299nm,19.2s,baz=60,slow=31
XLT XiLinHaoTe 101.21 318 *e*P **Pdif 20 17 33.5 -1.4**
HHC Hu-ho-hao-te 101.54 314 *e*P **Pdif 20 17 31.5 -5.0**
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,110nm,5.0s
WMQ Urumqi 117.58 305 *e*PKP **PKPdf 20 22 24.0 -6.2**
WMQ LR LR
comp=N,520nm,11.1s
WMQ LR LR
comp=Z,110nm,15.9s
MKAR Makanchi Array 122.32 306 PKP **PKiKP 20 22 39.8 +0.4**
comp=Z,0.2nm,0.6s,baz=53,slow=3.9,SNR=2.1
KURBB Kurchatov Arra 126.09 310 PKP **PKiKP 20 22 47.9 +1.2**
comp=Z,0.2nm,0.6s,baz=116,slow=1.9,SNR=3.0
BVAR Borovoye Array 131.62 311 PKP **PKiKP 20 22 58.1 +0.4**
comp=Z,0.2nm,0.6s,baz=90,slow=2.9,SNR=1.9
ARCES ARCESS Array B 147.00 344 PKPbc **PKPbc 20 23 26.4 +0.2**
comp=Z,6.0nm,0.5s,baz=43,slow=2.4,SNR=20
DBIC Dimbokro 147.06 170 PKPbc **PKPab 20 23 29.8 +0.4**
comp=Z,3.2nm,0.8s,baz=180,slow=3.0,SNR=2.3
KBZ Khabaz 148.19 292 PKPbc **PKiKP 20 23 31.7 -0.2**

comp=Z,2.7nm,1.0s,baz=121,slow=5.9,SNR=3.0
MMAI Mount Meron Ar 151.19 268 PKPbc **PKiKP 20 23 40.2 +1.6**
comp=Z,1.0nm,0.7s,baz=32,slow=5.6,SNR=1.9
FINES FINESS Array B 152.88 333 PKPbc **PKiKP 20 23 41.2 +0.3**
comp=Z,5.9nm,1.0s,baz=52,slow=3.4,SNR=11
TORD Torodi Ar. Bea 153.82 183 PKPbc **PKiKP 20 23 45.8 +1.5**
comp=Z,0.6nm,0.9s,baz=90,slow=1.8,SNR=3.0
HFS Hagfors 157.64 342 PKPab **PKPab 20 24 12.8 +0.4**
comp=Z,7.4nm,1.1s,baz=205,slow=3.1,SNR=3.8

*IDC **03** 20:09:12.0±3.5, 14°.11N×93°.00W, h0km, mb3.4/3, mbtmp3.7/6, ML3.9/3, MS3.1/2, Error ellipse: s-maj=64.7km s-min=47.9km az=7.0*
*MEX **03** 20:09:16.1±1.1, 14°.24N×93°.25W, h22km±616km, MD4.3*
ISC 03 20:09:13.9±1.0, 14°.39N±0°.06×93°.29W±0°.03, h10km, n34, σ2s68/58, mb3.5/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.11**	**63**	*eP*	**Pn**	**20 09 34.1**	**-1.4**
THIG				*eS*	**Sb**	**20 09 48.5**	**-1.3**
PCIG		**1.31**	**3**	*eP*	**Pb**	**20 09 38.0**	**-0.5**
PCIG				*eS*	**Sg**	**20 09 56.1**	**+0.2**
PAVE	**Pavencul**	**1.34**	**53**	*eP*	**Pn**	**20 09 37.4**	**-1.5**
PAVE				*eS*	**Sb**	**20 09 54.0**	**-2.5**
RTAL	**Retalhuleu**	**1.55**	**85**	*eP*	**Pn**	**20 09 39.9**	**-1.6**
RTAL				*eS*	**Sn**	**20 09 58.4**	**-3.3**
CARR	**Arriaga**	**1.94**	**342**	*eP*	**Pb**	**20 09 47.8**	**-1.5**
CARR				*eS*	**Sb**	**20 10 13.1**	**-0.5**
HUEH	**Huehuetenango**	**1.96**	**62**	*eP*	**Pb**	**20 09 48.3**	**-1.5**
HUEH				*eS*	**Sn**	**20 10 10.3**	**-1.8**
CCIG	**Comitan**	**2.18**	**30**	*eP*	**Pb**	**20 09 51.6**	**-2.0**
CCIG				*eS*	**Sb**	**20 10 19.2**	**-1.6**
TGIG		**2.38**	**4**	*eP*	**Pb**	**20 09 54.8**	**-2.0**
TGIG				*eS*	**Sb**	**20 10 25.1**	**-1.2**
TGBT	**Tuxtla Gutierr**	**2.38**	**5**	*eP*	**Pg**	**20 09 57.7**	**-1.7**
TGBT				*eS*	**Sn**	**20 10 17.3**	**-4.9**
UXUV	**UXUV**	**3.02**	**344**	*eP*	**Pb**	**20 10 04.5**	**-3.3**
UXUV				*eS*	**Sn**	**20 10 39.9**	**+1.8**
HUIG	**Huatulco**	**3.05**	**297**	*eP*	**Pn**	**20 10 01.1**	**-1.1**
HUIG				*eS*	**Sn**	**20 10 33.3**	**-5.4**
CMIG	**Matias Romero**	**3.09**	**330**	Pn	**Pb**	**20 10 05.3**	**-3.7**
	5.6nm,0.3s,baz=164,slow=14,SNR=43						
CMIG				Sn	**Sb**	**20 10 44.5**	**-2.3**
	18nm,0.3s,baz=214,slow=16,SNR=7.3						
	20nm,0.3s						
NEUV	**Arroyo Zacate**	**4.09**	**324**	*eP*	**Pn**	**20 10 17.1**	**+0.6**
NEUV				*eS*	**Sb**	**20 11 10.5**	**-5.0**
PETF	**Flores**	**4.14**	**52**	*eP*	**Pn**	**20 10 19.5**	**+2.3**
PETF				*eS*	**Sn**	**20 11 08.3**	**+2.5**
VHO	**Vista Hermosa**	**4.25**	**309**	*eP*	**Pn**	**20 10 18.4**	**-0.5**
VHO				*eS*	**Sn**	**20 11 08.1**	**-0.7**
YOIG	**Yosondua**	**4.78**	**301**	*eP*	**Pn**	**20 10 29.3**	**+3.1**
YOIG				*eS*	**Sn**	**20 11 22.8**	**+1.0**
SCIG	**Sabancuy**	**4.97**	**24**	*eP*	**Pn**	**20 10 27.8**	**-0.9**
SCIG				*eS*	**Sn**	**20 11 28.3**	**+2.0**
PNIG	**Pinotepa**	**5.07**	**294**	*eP*	**Pn**	**20 10 30.3**	**+0.3**
PNIG				*eS*	**Sn**	**20 11 23.8**	**-5.0**
TXIG	**Tlaxiaco**	**5.16**	**304**	*eP*	**Pn**	**20 10 34.6**	**+3.1**
TXIG				*eS*	**Sn**	**20 11 27.1**	**-4.2**
TOIG	**Toxpalan**	**5.17**	**316**	*eP*	Pn	20 10 35.5	+4.1
TOIG				*eS*	**Sn**	**20 11 31.6**	**+0.4**
HLIG	**Huajuapan de L**	**5.52**	**309**	*eP*	**Pn**	**20 10 38.5**	**+2.1**
HLIG				*eS*	**Sn**	**20 11 39.1**	**-1.1**
FTIG	**Fresnillo de T**	**5.82**	**308**	*eP*	Pn	20 10 46.9	+6.5
FTIG				*eS*	**Sn**	**20 11 46.1**	**-1.2**
MGIG	**Malinaltepec**	**5.87**	**299**	*eP*	**Pn**	**20 10 43.3**	**+2.2**
MGIG				*eS*	**Sn**	**20 11 45.7**	**-2.9**
TLIG	**Tlapa**	**5.97**	**303**	*eP*	**Pn**	**20 10 46.0**	**+3.5**
TLIG				*eS*	**Sn**	**20 11 49.1**	**-2.0**
JAUV	**Jalcomulco**	**5.98**	**326**	*eP*	**Pn**	**20 10 42.1**	**-0.4**
JAUV				*eS*	**Sn**	**20 11 51.6**	**+0.4**
CRIG	**Cruz Grande**	**6.09**	**293**	*eP*	**Pn**	**20 10 47.2**	**+3.2**
CRIG				*eS*	**Sn**	**20 11 50.4**	**-3.4**
PBXN	**Popocatepetl**	**6.89**	**312**	*eP*	Pn	20 11 01.5	+6.0
PBXN				*eS*	**Sn**	**20 12 20.1**	**+5.8**
PPM	**Popocatepetl**	**6.91**	**313**	*eP*	Pn	20 11 01.6	+5.9
TEIG	**Tepich**	**7.52**	**39**	Pn	**Pn**	**20 11 03.9**	**+0.3**
	3.6nm,0.3s,baz=265,slow=1.4,SNR=14						
TEIG				Sn	**Sn**	**20 12 25.9**	**-3.1**
	3.5nm,0.3s,baz=59,slow=19,SNR=6.5						
TEIG				LR	LR	20 14 31.6	
	comp=Z,187nm,20.1s,baz=23,slow=42						
	13nm,0.4s						
TXAR	**Lajitas Array**	**17.70**	**329**	P	**P**	**20 13 26.2**	**+4.6**
	0.1nm,0.3s,baz=137,slow=12,SNR=10						
TXAR				LR	LR	20 21 28.8	
	comp=Z,42nm,19.2s,baz=54,slow=41						
	2.2nm,1.0s						
PDAR	**Pinedale Array**	**31.56**	**337**	P	**P**	**20 15 40.1**	**+3.4**
	0.2nm,0.8s,baz=128,slow=7.1,SNR=1.8						
	0.2nm,0.8s						
NVAR	**Mina Array Bea**	**32.59**	**322**	P	**P**	**20 15 49.3**	**+3.5**
	0.2nm,0.3s,baz=160,slow=4.7,SNR=3.6						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**61.99**	**337**	P	**P**	**20 19 36.0**	**+2.0**
	0.5nm,0.9s,baz=117,slow=7.2,SNR=2.5						
	0.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**145.20**	**339**	PKPbc	**PKPdf**	**20 28 52.0**	**-0.8**
	0.4nm,0.7s,baz=320,slow=2.7,SNR=2.7						

HEL 03 20:10:35.1±0.1, 67°.64N×33°.85E, h0km, ML1.2, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.40**	**50**	*eP*	Pg	20 10 42.1	-0.7
LVZ				*eS*	Sg	20 10 47.7	-0.2
VRF	**Varrio**	**1.62**	**276**	*eP*	Pn	20 11 04.3	-0.6
VRF				MSG		20 11 24.5	
	comp=Z,1.1nm,0.2s						
VRF				*eS*	Sn	20 11 25.0	-1.4
OLKF	**Oulanka, Finla**	**2.19**	**235**	*ePG*	Pn	20 11 14.1	+1.3
OLKF				MSG		20 11 39.8	
	comp=Z,1.1nm,0.2s						
OLKF				*eSG*	Sb	20 11 42.8	-0.5
RAJF	**Raja-Jooseppi**	**2.24**	**294**	*eSB*	Sn	20 11 42.4	+0.7
KU6	**Riekki**	**2.26**	**226**	*ePB*	Pn	20 11 14.7	+1.1
KU6				MSG		20 11 41.4	
	comp=Z,1.1nm,0.2s						
KU6				*eSG*	Sb	20 11 44.0	-1.1
KMNF	**Kaamanen**	**2.95**	**304**	*eP*	Pn	20 11 23.1	0.0
KMNF				*eS*	Sn	20 11 58.5	-0.7
KEV	**Kevo**	**3.27**	**313**	*eP*	Pn	20 11 27.6	0.0
KEV				*eS*	Sn	20 12 06.5	-0.7
ARA0	**ARCESS Array S**	**3.60**	**306**	*eP*	Pn	20 11 31.5	-0.6
ARA0				*eS*	Sn	20 12 13.4	-1.8
HEF	**Hetta**	**3.90**	**286**	*ePG*	Pb	20 11 45.2	+0.5

HEL 03 20:11:41.5±0.1, 65°.79N×24°.71E, h0km, ML0.6, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.33**	**332**	*eP*	Pg	20 11 47.2	-0.6
TOF				*eS*	Sg	20 11 51.8	-0.4
KALU	**Kalix**	**0.56**	**278**	*eP*	Pg	20 11 51.2	-1.0
KALU				*eS*	Sg	20 11 58.9	-0.6
OUL	**Oulu**	**0.86**	**144**	*eP*	Pg	20 11 56.6	-1.4
RANF	**Ranua**	**0.89**	**74**	*eP*	Pg	20 11 57.0	-1.5
RNF	**Rovaniemi**	**0.98**	**32**	*e*	Pg	20 11 59.5	-0.7
RNF	**Rovaniemi**	**0.98**	**32**	*eP*	Pg	20 11 59.6	-0.7
OBF4	**Vikkela, Lumij**	**0.99**	**170**	*eP*	Pg	20 11 59.5	-1.0
OBF4				*eS*	Sg	20 12 12.3	-0.9
OBF4				MSG		20 12 16.7	
	comp=Z,0.5nm,0.1s						
OBF0	**Syolatti, Pyha**	**1.31**	**189**	*eP*	Pg	20 12 04.8	-1.8
OUF	**Merijarvi**	**1.43**	**180**	*eP*	Pn	20 12 07.2	-1.4
OUF				*eS*	Sg	20 12 25.9	-1.3
OUF				MSG		20 12 30.4	
	comp=Z,0.4nm,0.1s						
KLF	**Kolari**	**1.48**	**349**	*eP*	Pn	20 12 08.6	-0.8

IDC 03 20:13:01.1±1.6, 23°.13N×99°.68E, h0km, mb3.3/3, mbtmp3.1/4, ML3.3/1, Error ellipse: s-maj=71.9km s-min=28.6km az=67.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**4.70**	**189**	Pn	Pn	20 14 13.5	+0.2
	0.3nm,0.3s,baz=302,slow=14,SNR=13						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**27.46**	**334**	P	P	20 18 48.8	0.0
	0.2nm,0.6s,baz=155,slow=9.5,SNR=2.5						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**54.55**	**139**	P	P	20 22 31.8	+0.5
	0.4nm,0.8s,baz=320,slow=7.5,SNR=4.8						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**57.18**	**142**	P	P	20 22 49.3	-0.8
	0.2nm,0.6s,baz=320,slow=8.0,SNR=1.9						
	0.2nm,0.6s						

IDC 03 20:26:52.6±999.0, 62°.50N×45°.16E, h0km, Error ellipse: s-maj=413.6km s-min=218.1km az=139.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**14.02**	**144**	I	I	21 50 30.0	
	0.1nm,0.9s,baz=333,slow=317,SNR=5.0						
I46RU	**ZALESOVO INFRA**	**22.23**	**94**	I	I	22 40 00.0	
	0.1nm,1.4s,baz=312,slow=320,SNR=1.9						
I34MN	**SONGINO INFRAS**	**36.42**	**85**	I	I	00 10 20.0	
	baz=317,slow=328,SNR=1.1						
I53US	**FAIRBANKS INFR**	**52.56**	**7**	I	I	02 03 20.0	
	0.1nm,1.1s,baz=352,slow=332,SNR=1.4						

IDC 03 20:32:18.5±923.0, 62°.14N×51°.71E, h0km, Error ellipse: s-maj=422.5km s-min=186.8km az=134.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**12.26**	**161**	I	I	21 44 46.0	
	baz=346,slow=322,SNR=1.1						
I46RU	**ZALESOVO INFRA**	**19.15**	**100**	I	I	22 28 40.0	
	baz=309,slow=322,SNR=1.3						
I34MN	**SONGINO INFRAS**	**33.38**	**90**	I	I	23 56 10.0	
	baz=316,slow=330,SNR=0.8						

*SKO **03** 20:42:50.3, 41°.35N×19°.35E, h54km*
*TIR **03** 20:42:52.3, 41°.44N×19°.56E, h16km, Md2.7, Ml2.5*
*BEO **03** 20:42:53.8±0.4, 41°.41N×19°.59E, h13km±2km, ML2.3/8*
*PDG **03** 20:42:53.4±0.1, 41°.41N×19°.61E, h17km, ML2.5/13, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*RHSSO **03** 20:42:55.1±0.7, 41°.48N×19°.60E, h8km±2km, ML2.5/8*
ISC 03 20:42:53.9±0.9, 41°.45N±0°.02×19°.60E±0°.02, h10km±8km, n64, σ0s77/111, 12C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.22**	**118**	P	**Pg**	**20 42 58.3**	**-0.2**
TIR				S	**Sg**	**20 43 02.3**	**+0.7**
TIR				AMP			
	comp=E,14nm,0.1s,baz=112						
TIR	**Tirane**	**0.22**	**118**	*e*Pg	**Pg**	**20 42 58.3**	**-0.2**
TIR				*e*Sg	**Sg**	**20 43 02.4**	**+0.7**
ULC	**Ulcinj**	**0.58**	**332**	*i* Pg	**Pg**	**20 43 04.7**	**-0.4**
ULC	**Ulcinj**	**0.58**	**332**	↑*i*Pg	**Pg**	**20 43 04.7**	**-0.4**
ULC				*i* Sg	**Sb**	**20 43 14.8**	**+0.5**
PUK	**Puka**	**0.63**	**20**	P	**Pg**	**20 43 05.2**	**-0.9**
PUK				S	**Sb**	**20 43 15.4**	**-0.5**
PUK				AMP			
	comp=E,1.3nm,0.3s,baz=22						
DRME	**Dracevica, Mon**	**0.80**	**337**	↑*i*Pg	**Pg**	**20 43 09.0**	**-0.3**
DRME				*i* Sg	**Sn**	**20 43 22.6**	**-0.5**
OHR	**Ohrid**	**0.96**	**110**	*e*Pg	**Pg**	**20 43 11.2**	**-1.2**
OHR				*e*Sg	**Sb**	**20 43 25.5**	**0.0**
OHR	**Ohrid**	**0.96**	**110**	*i* Pg	**Pg**	**20 43 11.4**	**-1.0**
OHR				*i* Sg	**Sn**	**20 43 26.7**	**-0.5**
BCI	**Bajram Curri**	**0.98**	**21**	P	**Pg**	**20 43 11.8**	**-0.9**
BCI				S	**Sb**	**20 43 26.2**	**+0.4**
BCI				AMP			
	comp=N,0.6nm,0.3s,baz=22						
BUM	**Brajici-Budva**	**1.00**	**328**	*e*Pg	**Pg**	**20 43 12.8**	**-0.3**
BUM				*i* Sg	**Sn**	**20 43 29.3**	**+1.1**
PDG	**Podgorica**	**1.01**	**345**	*e*Pg	**Pg**	**20 43 13.1**	**-0.2**
PDG				*e*Sg	**Sn**	**20 43 28.5**	**+0.2**
PDG	**Podgorica**	**1.01**	**345**	↓*i*Pg	**Pg**	**20 43 13.1**	**-0.2**
PDG				*e*Sg	**Sb**	**20 43 26.4**	**-0.4**
PDG	**Podgorica**	**1.01**	**345**	*i* Pg	**Pg**	**20 43 11.7**	**-1.6**
PDG	**Podgorica**	**1.01**	**345**	↑*i*Pg	**Pg**	**20 43 13.0**	**-0.3**
PDG				*i* Sg	**Sn**	**20 43 29.5**	**+1.2**
PVY	**Plav**	**1.17**	**13**	↑*i*Pg	**Pb**	**20 43 16.0**	**-0.3**
PVY				*i* Sg	**Sn**	**20 43 35.1**	**+2.6**
CEME	**Cevo**	**1.21**	**335**	↓*i*Pg	**Pn**	**20 43 16.6**	**-0.3**
CEME				*i* Sg	**Sn**	**20 43 35.6**	**+2.3**
HCY	**Herceg Novi**	**1.29**	**321**	↑*i*Pg	**Pn**	**20 43 17.8**	**-0.2**
HCY				*e*Sg	**Sg**	**20 43 35.5**	**0.0**
HCY	**Herceg Novi**	**1.29**	**321**	↓*i*Pg	**Pb**	**20 43 18.1**	**-0.2**
HCY				*i* Sg	**Sg**	**20 43 37.9**	**+2.4**
KOME	**Kolasin**	**1.40**	**357**	↑*i*Pg	**Pb**	**20 43 19.8**	**-0.3**
KOME				*i* Sg	**Sg**	**20 43 40.5**	**+1.6**
NKME	**Niksic**	**1.40**	**340**	↑*i*Pg	**Pb**	**20 43 19.8**	**-0.3**
NKME				*i* Sg	**Sg**	**20 43 40.5**	**+1.5**
IVA	**Berane**	**1.44**	**9**	↓*i*Pg	**Pb**	**20 43 20.2**	**-0.6**
IVA				*i* Sg	**Sg**	**20 43 41.5**	**+1.4**
FNA	**Florina**	**1.50**	**116**	P	**Pn**	**20 43 20.5**	**-0.3**
FNA				S	**Sg**	**20 43 42.6**	**+0.6**
FNA				AMP			
	comp=N,0.2nm,0.3s,baz=115						
FNA	**Florina**	**1.50**	**116**	*e*Pg	**Pn**	**20 43 20.7**	**-0.1**
FNA				*e*Sg	**Sg**	**20 43 42.0**	**0.0**
FNA	**Florina**	**1.50**	**116**	*i* Pg	**Pn**	**20 43 20.9**	**+0.1**
FNA				*i* Sg	**Sg**	**20 43 42.3**	**+0.3**
LSK	**Leskovik**	**1.50**	**149**	P	**Pn**	**20 43 21.0**	**0.0**
LSK				S	**Sg**	**20 43 42.5**	**+0.2**
NEST	**Nestorio**	**1.51**	**133**	P	**Pb**	**20 43 22.1**	**+0.1**
NEST				S	**Sg**	**20 43 43.0**	**+0.6**
TREB	**Trebinje**	**1.57**	**324**	*e*Pg	**Pb**	**20 43 22.5**	**-0.5**
TREB				*e*Sg	**Sg**	**20 43 44.7**	**+0.3**
TREB	**Trebinje**	**1.57**	**324**	*e*Pg	**Pb**	**20 43 22.3**	**-0.7**
TREB				*e*Sg	**Sg**	**20 43 43.4**	**-1.0**
SRN	**Sarande**	**1.60**	**169**	P	**Pn**	**20 43 22.6**	**+0.4**
SRN				S	**Sg**	**20 43 44.9**	**-0.5**
SRN				AMP			
	comp=E,0.1nm,0.4s,baz=167						
SCTE	**Santa Cesarea**	**1.63**	**212**	P	**Pn**	**20 43 22.4**	**-0.1**
SCTE				S	**Sb**	**20 43 44.8**	**+0.3**
SCTE				AMP			
	comp=E,0.1nm,0.3s,baz=212						
DBRK	**Dubrovnik**	**1.63**	**319**	*e*Pn	**Pn**	**20 43 22.5**	**-0.1**
DBRK				Sn	**Sb**	**20 43 44.0**	**-0.6**
BRY	**Bratogost**	**1.65**	**332**	↑*i*Pg	**Pb**	**20 43 24.1**	**-0.3**
BRY				*e*Sg	**Sg**	**20 43 46.7**	**-0.3**
BRY	**Bratogost**	**1.65**	**332**	↑*i*Pn	**Pn**	**20 43 23.2**	**+0.2**
BRY				*i* Sn	**Sg**	**20 43 46.6**	**-0.4**
UPM	**Unac-Piva**	**1.82**	**344**	*e*Pn	**Pb**	**20 43 26.7**	**-0.8**
UPM				*e*Sn	**Sn**	**20 43 48.9**	**+0.2**
UPM	**Unac-Piva**	**1.82**	**344**	↑*i*Pn	**Pn**	**20 43 25.8**	**+0.3**
UPM				*i* Sn	**Sb**	**20 43 50.5**	**+0.1**
SJES	**Sjenica**	**1.83**	**9**	*e*Pg	**Pb**	**20 43 27.8**	**+0.3**
SJES				*e*Sg	**Sg**	**20 43 52.6**	**-0.1**
SJES	**Sjenica**	**1.83**	**9**	↑*i*Pn	**Pb**	**20 43 26.5**	**-1.0**
SJES				*e*Sn	**Sb**	**20 43 49.6**	**-0.8**
KLINJ	**Klinje**	**1.87**	**337**	*e*Pn	**Pb**	**20 43 27.1**	**-1.1**
KLINJ				*e*Sn	**Sb**	**20 43 50.8**	**-1.0**
PLE	**Pljevlja**	**1.88**	**355**	↓*i*Pn	**Pn**	**20 43 26.7**	**+0.5**
PLE				*i* Sn	**Sb**	**20 43 52.5**	**+0.5**
IGT	**Igoumenitsa**	**2.00**	**164**	P	**Pn**	**20 43 28.4**	**+0.7**
IGT				S	**Sb**	**20 43 56.4**	**+1.2**
IGT				AMP			
	comp=N,0.1nm,0.5s,baz=162						
STON	**Ston**	**2.00**	**316**	*e*Pn	**Pn**	**20 43 27.3**	**-0.4**
STON				*e*Sn	**Sn**	**20 43 52.3**	**-0.5**
STON	**Ston**	**2.00**	**316**	*e*Pn	**Pn**	**20 43 27.7**	**0.0**
STON	**Ston**	**2.00**	**316**	*e*Pn	**Pn**	**20 43 28.7**	**+1.0**
STON				*e*Sn	**Sb**	**20 43 54.0**	**-1.3**
SELS	**Selova**	**2.09**	**32**	*e*Pn	**Pn**	**20 43 29.4**	**+0.4**
SELS				*e*Sn	**Sn**	**20 43 54.9**	**-0.2**
BARS	**Barje**	**2.14**	**50**	*e*Pn	**Pn**	**20 43 29.4**	**-0.2**
BARS	**Barje**	**2.14**	**50**	*i* Pg	**Pb**	**20 43 32.7**	**0.0**
IVAS	**Ivanjica**	**2.16**	**11**	*e*Pn	**Pn**	**20 43 29.5**	**-0.5**
IVAS				*e*Sn	**Sn**	**20 43 57.4**	**+0.6**
RUDO	**Rudo**	**2.17**	**356**	↑*i*Pn	**Pn**	**20 43 31.3**	**+1.2**
RUDO				*e*Sn	**Sn**	**20 43 57.5**	**+0.5**
KALIN	**Kalinovik**	**2.22**	**338**	*e*Pn	**Pn**	**20 43 31.4**	**+0.6**
KALIN				*e*Sn	**Sn**	**20 43 58.7**	**+0.4**
BOSS	**Bosilegrad**	**2.39**	**63**	*e*Pn	**Pn**	**20 43 31.8**	**-1.2**
LSTV	**Lastovo**	**2.41**	**304**	*e*Pn	**Pn**	**20 43 32.5**	**-0.8**
BBLS	**Lazi&#263i**	**2.42**	**357**	*e*Pn	**Pn**	**20 43 34.4**	**+0.9**
BBLS	**Lazi&#263i**	**2.42**	**357**	*e*Pn	**Pn**	**20 43 34.1**	**+0.6**
BBLS				*e*Sn	**Sn**	**20 44 03.9**	**+0.8**
GRUS	**Gruza**	**2.57**	**18**	*e*Pn	**Pn**	**20 43 36.0**	**+0.5**
MAKA	**Makarska**	**2.65**	**315**	*e*Pn	**Pn**	**20 43 36.2**	**-0.4**
DIVS	**Divibare**	**2.66**	**6**	*e*Pn	**Pn**	**20 43 36.7**	**-0.1**
HAPS	**Han Pijesak,Bl**	**2.68**	**350**	*e*Pn	**Pn**	**20 43 37.7**	**+0.6**
HAPS				*e*Sn	**Sn**	**20 44 10.8**	**+1.2**
RICI	**Ricice**	**2.74**	**319**	*e*Pn	**Pn**	**20 43 37.7**	**-0.2**
VTS	**Vitosha**	**2.95**	**66**	*e*Pn	**Pn**	**20 43 41.0**	**+0.2**
KIJV	**Kijevo**	**3.47**	**318**	*e*Pn	**Pn**	**20 43 48.1**	**+0.2**
ZIRJ	**Zirje**	**3.66**	**308**	*e*Pn	**Pn**	**20 43 51.0**	**+0.5**
MORI	**Morici**	**3.75**	**311**	*e*Pn	**Pn**	**20 43 52.2**	**+0.5**
A050A	**Klekovaca**	**3.77**	**324**	*e*Pn	**Pn**	**20 43 53.2**	**+1.0**
A050A				*e*Sn	**Sn**	**20 44 36.9**	**+0.3**
BZS	**Buzias**	**4.41**	**19**	*e*Pn	**Pn**	**20 44 00.6**	**-0.2**

*IDC **03** 20:47:51.9±2.7, 9°.77S×112°.55E, h0km, mb3.4/3, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=136.2km s-min=27.9km az=47.0*
*DJA **03** 20:47:58.7±1.1, 9°.5±5°×11°.3E±°, h16km±12km, M4.0/15, mb4.2/1, MLv3.9/15*
ISC 03 20:47:57.9±1.1, 9°.64S±0°.09×112°.77E±0°.05, h35km, n19, σ1s20/23, mb3.5/3, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.51**	**26**	P	**Pn**	**20 48 22.3**	**-0.2**
GMJI				S	**Sn**	**20 48 40.2**	**-0.8**
JAGI	**Jajag, Banyuwa**	**1.79**	**50**	P	**Pn**	**20 48 26.3**	**-0.1**
JAGI				S	**Sn**	**20 48 49.4**	**+1.5**
PWJI	**Pagerwojo**	**1.87**	**329**	P	**Pn**	**20 48 27.8**	**+0.3**
PWJI				S	**Sn**	**20 48 49.6**	**-0.3**
BLJI	**Banyuglugur**	**2.05**	**23**	P	**Pn**	**20 48 30.9**	**+0.9**
BLJI				S	**Sn**	**20 48 55.2**	**+0.9**
PCJI	**Pacitan**	**2.13**	**312**	P	**Pn**	**20 48 32.0**	**+0.9**
ABJI	**Asem Bagus**	**2.33**	**38**	P	**Pn**	**20 48 34.5**	**+0.7**
DNP	**Denpasar**	**2.59**	**69**	P	**Pn**	**20 48 39.3**	**+1.9**
NGJI	**Ngawi**	**2.60**	**330**	P	**Pn**	**20 48 38.3**	**+0.7**
GRJI	**Gresik**	**2.72**	**354**	P	**Pn**	**20 48 40.0**	**+0.8**
UGM	**Wanagama**	**2.81**	**308**	P	**Pn**	**20 48 41.8**	**+1.4**
KMMI	**Kalianget**	**2.83**	**25**	P	**Pn**	**20 48 40.6**	**-0.1**
SRBI	**Singaraja**	**2.87**	**58**	P	**Pn**	**20 48 42.5**	**+1.4**
UWJI	**Ujung Watu**	**3.67**	**330**	P	**Pn**	**20 48 53.0**	**+0.7**
PLAI	**Plampang**	**5.01**	**81**	P	**Pn**	**20 49 12.4**	**+1.8**
CNJI	**Cibinong**	**6.04**	**292**	P	**Pn**	**20 49 26.7**	**+1.8**
FITZ	**Fitzroy Crossi**	**15.05**	**125**	Pn	**Pn**	**20 51 25.6**	**-2.6**
	0.2nm,0.3s,baz=308,slow=13,SNR=2.3						
FITZ				Sn	Sn	20 54 01.2	-13
	0.2nm,0.3s,baz=14,slow=15,SNR=2.1						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**23.20**	**119**	P	**P**	**20 53 02.3**	**+0.3**
	0.4nm,0.6s,baz=291,slow=11,SNR=5.3						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**24.53**	**127**	P	**P**	**20 53 14.6**	**+0.1**
	1.2nm,0.7s,baz=304,slow=9.1,SNR=19						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**62.42**	**337**	P	**P**	**20 58 16.9**	**-0.5**
	0.2nm,0.5s,baz=134,slow=6.2,SNR=2.5						
	0.2nm,0.5s						

*SJA **03** 21:00:38.6±0.7, 23°.98S×66°.81W, h217km±5km, ML3.6, MW3.6*
*GUC **03** 21:00:40.7±0.6, 23°.97S×67°.23W, h245km±12km, ML4.0*
ISC 03 21:00:37.7±1.8, 23°.97S±0°.04×66°.86W±0°.05, h229km±16km, n33, σ1s56/60, 5C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.45**	**121**	*eP*	**Pn**	**21 01 13.6**	**-0.2**
YJA	**Yavi**	**2.18**	**35**	*eP*	**Pn**	**21 01 21.4**	**+0.7**
YJA				*eS*	**S**	**21 01 53.1**	**-1.1**
FSA	**Cafayete**	**2.28**	**160**	*eP*	**Pn**	**21 01 21.4**	**0.0**
LVC	**Limon Verde**	**2.32**	**305**	↑*eP*	**Pn**	**21 01 23.2**	**+1.2**
LVC				*eS*	**S**	**21 01 56.1**	**-0.5**

PB11 IAML 21 02 53.7
comp=Z,68nm,0.3s

*NEIC **03** 21:21:59.2±1.4, 8°.57N±0°.09×126°.91E±0°.08, h10km±1km, mb4.5/31, Error ellipse: s-maj=15.3km s-min=13.9km az=350.0*
*IDC **03** 21:22:04.3±5.3, 8°.50N×127°.04E, h57km±49km, mb3.8/12, mbtmp4.1/14, ML4.5/2, MS3.1/2, Error ellipse: s-maj=39.2km s-min=16.8km az=62.0*
ISC 03 21:22:02.3±0.6, 8°.54N±0°.06×126°.99E±0°.09, h39km, n54, σ1°.12/51, mb4.5/27, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.02**	**224**	**Pn**		**21 22 33.7**	**-0.2**
DAV	**Davao City (W)**	**2.02**	**224**	P	**Pn**	**21 22 36.2**	**+2.3**
	90nm,0.3s,baz=30,slow=3.2,SNR=15						
DAV				S	**Sn**	**21 23 00.8**	**+2.8**
	572nm,0.5s,baz=79,slow=22,SNR=6.7						
DAV				LR	LR	21 23 11.8	
	comp=Z,395nm,20.1s,baz=242,slow=33						
	217nm,0.3s						
DAV	**Davao City (W)**	**2.02**	**224**	P	Pn	21 22 29.0	-4.9
TNTI	**Ternate**	**7.73**	**177**	Pn	**Pn**	**21 23 52.3**	**-0.1**
TOLI2	**Tolitoli**	**9.63**	**220**	Pn	**Pn**	**21 24 17.1**	**-1.3**
SOEI	**Soe**	**18.38**	**189**		**Pn**	**21 26 14.6**	**+0.2**
SOEI				IAmb	IAmb	21 26 41.0	
	comp=Z,16nm,0.8s						
BATI	**Baumata**	**18.92**	**190**	P	**P**	**21 26 20.1**	**+0.2**
	comp=Z,2.6nm,0.3s,baz=174,slow=3.4,SNR=4.3						
	comp=Z,21nm,0.8s						
MTN	**Manton Dam**	**21.64**	**169**	P	**P**	**21 26 49.3**	**-0.1**
MTN				IAmb	IAmb	21 27 01.9	
	comp=Z,14nm,1.3s						
UBPT	**Khong Chiam**	**22.08**	**290**	P	**P**	**21 26 53.6**	**-0.6**
KNRA	**Kununurra**	**24.13**	**176**	P	**P**	**21 27 14.0**	**-0.7**
KNRA				IAmb	IAmb	21 27 29.4	
	comp=Z,16nm,1.1s						
KULM	**Kulim**	**26.34**	**265**	P	**P**	**21 27 34.2**	**-0.8**
KULM				IAmb	IAmb	21 27 54.9	
	comp=Z,17nm,1.3s						
FITZ	**Fitzroy Crossi**	**26.50**	**183**	P	**P**	**21 27 36.4**	**+0.1**
PHRA	**Phrae**	**27.80**	**294**	P	**P**	**21 27 47.5**	**-0.5**
KSRS	**Korea Array**	**28.79**	**2**	LR	LR	21 40 18.0	
	comp=Z,36nm,19.7s,baz=355,slow=38						
CM31	**Chiang Mai Arr**	**28.96**	**293**	P	**P**	**21 27 58.3**	**0.0**
CM31				IAmb	IAmb	21 28 00.0	
	comp=Z,6.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**28.96**	**293**	P	**P**	**21 27 58.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**28.96**	**293**	P	**P**	**21 27 59.3**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=112,slow=6.8,SNR=18						
	comp=Z,1.8nm,0.8s						
WB0	**Warramunga Arr**	**29.06**	**166**	P	**P**	**21 28 01.3**	**+2.1**
WRA	**Warramunga Arr**	**29.22**	**166**	P	**P**	**21 27 58.8**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=348,slow=11,SNR=2.1						
	comp=Z,0.3nm,0.6s						
AS31	**Alice Springs**	**32.72**	**168**	P	**P**	**21 28 29.0**	**-2.4**
ASAR	**Alice Springs**	**32.72**	**168**	P	**P**	**21 28 28.2**	**-3.2**
ASAR	**Alice Springs**	**32.72**	**168**	P	**P**	**21 28 31.7**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=342,slow=7.3,SNR=22						
	comp=Z,0.5nm,0.4s						
LZH	**Lanzhou**	**34.59**	**326**	*e*P	P	21 28 53.0	+5.2
LZH				sP	sP	21 29 02.0	+0.6
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
SHL	**Shillong**	**37.42**	**301**		**P**	**21 29 11.1**	**-1.1**
SHL				IAmb	IAmb	21 29 20.6	
	comp=Z,11nm,1.0s						
GTA	**Gaotai**	**39.20**	**326**	*e*P	P	21 29 35.9	+9.0
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BBOO	**Buckleboo**	**42.02**	**169**	P	**P**	**21 29 49.4**	**-0.7**
BBOO				IAmb	IAmb	21 29 58.4	
	comp=Z,25nm,1.4s						
SONM	**Songino Array**	**42.88**	**340**	P	**P**	**21 29 57.3**	**+0.3**
SONM	**Songino Array**	**42.88**	**340**	P	**P**	**21 29 57.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=163,slow=6.2,SNR=6.6						
	comp=Z,0.6nm,0.5s						
MK31	**Makanchi Array**	**53.83**	**323**	P	**P**	**21 31 20.6**	**-0.8**
MKAR	**Makanchi Array**	**53.83**	**323**	P	**P**	**21 31 20.8**	**-0.5**
MKAR	**Makanchi Array**	**53.83**	**323**	P	**P**	**21 31 21.6**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=119,slow=8.1,SNR=23						
	comp=Z,1.8nm,0.6s						
NIL	**Nilore**	**55.29**	**305**	P	**P**	**21 31 31.2**	**-1.0**
MIDW	**Midway**	**55.80**	**62**	P	**P**	**21 31 36.6**	**+0.7**
ZALV	**Zalesovo Beam**	**56.47**	**332**	P	**P**	**21 31 39.2**	**-1.0**
ZALV	**Zalesovo Beam**	**56.47**	**332**	P	**P**	**21 31 39.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=110,slow=8.5,SNR=5.0						
	comp=Z,0.9nm,0.7s						
KURK	**Kurchatov**	**57.88**	**326**	P	**P**	**21 31 50.0**	**-0.2**
KURK				IAmb	IAmb	21 31 52.6	
	comp=Z,3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**57.89**	**326**	P	**P**	**21 31 51.0**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=128,slow=6.5,SNR=8.4						
	comp=Z,1.5nm,0.7s						
BTK	**Batken**	**58.85**	**312**	P	**P**	**21 31 56.6**	**-0.7**
BTK				IAmb	IAmb	21 31 58.4	
	comp=Z,4.9nm,1.1s						
KBL	**Kabul**	**58.90**	**305**	P	**P**	**21 31 57.1**	**-0.8**
KBL				IAmb	IAmb	21 32 10.8	
	comp=Z,3.6nm,0.6s						
GAR	**Garm**	**58.94**	**311**	P	**P**	**21 31 57.5**	**-0.5**
SIMJ	**Simiganj**	**59.84**	**310**	P	**P**	**21 32 03.5**	**-0.8**
SIMJ				IAmb	IAmb	21 32 05.4	
	comp=Z,8.0nm,1.4s						
KKAR	**Karatay Array**	**59.97**	**315**	P	**P**	**21 32 04.2**	**-0.6**
TIXI	**Tiksi**	**63.06**	**1**	P	**P**	**21 32 25.7**	**+0.6**
TIXI				IAmb	IAmb	21 32 38.4	
	comp=Z,5.3nm,0.9s						
BVAR	**Borovoye Array**	**63.48**	**326**	P	**P**	**21 32 29.0**	**+0.7**
	comp=Z,4.2nm,0.9s,baz=120,slow=8.8,SNR=15						
	comp=Z,4.2nm,0.9s						
BRVK	**Borovoye**	**63.55**	**326**	P	**P**	**21 32 28.5**	**-0.3**
BRVK				IAmb	IAmb	21 32 29.9	
	comp=Z,5.2nm,0.9s						
NRIK	**Noril'sk**	**65.85**	**346**	P	**P**	**21 32 42.7**	**-0.8**
	comp=Z,2.9nm,0.6s,baz=107,slow=6.4,SNR=4.0						
	comp=Z,2.9nm,0.6s						
ABKAR	**Akbulak array**	**68.64**	**320**	P	**P**	**21 33 01.5**	**0.0**
ABKAR	**Akbulak array**	**68.64**	**320**	P	**P**	**21 33 01.7**	**+0.1**
ABKAR				IAmb	IAmb	21 33 02.2	
	comp=Z,1.9nm,0.9s						
L14K	**Kuka Creek**	**73.15**	**28**	P	**P**	**21 33 30.3**	**+1.7**
C18K	**Utukok River**	**75.50**	**21**	P	**P**	**21 33 43.9**	**+1.6**
ILAR	**Eielson Array**	**80.68**	**26**	P	**P**	**21 34 12.1**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=235,slow=5.0,SNR=4.8						
	comp=Z,0.4nm,0.7s						
BMAR	**Burnt Mountain**	**81.57**	**23**	P	**P**	**21 34 17.5**	**+1.7**
ARCES	**ARCESS Array B**	**86.05**	**340**	P	**P**	**21 34 39.3**	**+0.7**
	comp=Z,7.8nm,1.2s,baz=72,slow=5.8,SNR=2.2						
	comp=Z,7.8nm,1.2s						
FINES	**FINESS Array B**	**87.74**	**332**	P	**P**	**21 34 46.7**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=98,slow=3.9,SNR=7.9						
	comp=Z,1.1nm,0.5s						

*ATH **03** 21:32:43.2, 37°.35N×20°.50E, h7km±1km, ML3.5/5, Error ellipse: s-maj=2.3km s-min=0.8km az=53.0*
*THE **03** 21:32:45.0, 37°.46N×20°.53E, h9km±1km, ML3.5/3, Error ellipse: s-maj=1.9km s-min=0.7km az=42.0*
ISC 03 21:32:42.8±1.8, 37°.35N±0°.06×20°.49E±0°.06, h10km±11km, n27, σ0°.53/46, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.40**	**39**	P	**Pg**	**21 32 51.1**	**+0.4**
KRI1				S	**Sg**	**21 32 55.8**	**-0.3**
	17μm,0.3s						
LTHK	**Lithakia**	**0.45**	**37**	P	**Pg**	**21 32 51.9**	**+0.3**
LTHK				S	**Sg**	**21 32 57.8**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.77**	**5**	P	**Pg**	**21 32 57.5**	**-0.1**
PSDA				S	**Sg**	**21 33 07.1**	**-0.5**
	5μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.77**	**5**	P	**Pg**	**21 32 57.8**	**+0.2**
PSDA				S	**Sb**	**21 33 08.0**	**-0.7**
VLS	**Valsamata**	**0.83**	**5**	P	**Pg**	**21 32 58.6**	**-0.2**
VLS				S	**Sg**	**21 33 09.2**	**-0.4**
VLS	**Valsamata**	**0.83**	**5**	P	**Pg**	**21 32 58.6**	**-0.2**
VLS				S	**Sg**	**21 33 09.6**	**0.0**
VLS				AML	AML	21 33 14.8	
	comp=E,8970μm,0.5s						
VLS				AML	AML	21 33 14.9	
	comp=N,5489μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.85**	**357**	P	**Pg**	**21 32 59.2**	**+0.1**
LXRA				S	**Sb**	**21 33 11.9**	**+0.8**
DMLN	**Damoulianata-K**	**0.89**	**354**	P	**Pg**	**21 32 59.9**	**-0.1**
DMLN				S	**Sb**	**21 33 12.3**	**0.0**
SMHA	**Samh**	**0.91**	**8**	P	**Pg**	**21 33 00.4**	**+0.1**
SMHA				S	**Sb**	**21 33 12.4**	**-0.3**
AMT	**Artemida-Makis**	**0.98**	**79**	P	**Pg**	**21 33 01.4**	**-0.3**
AMT				S	**Sg**	**21 33 15.2**	**+0.7**
AMT				AML	AML	21 33 20.3	
	comp=N,18956μm,0.4s						
AMT				AML	AML	21 33 22.3	
	comp=E,18646μm,0.3s						
RLS	**Riolos of Patr**	**1.05**	**47**	P	**Pg**	**21 33 02.2**	**-0.7**
RLS				S	**Sb**	**21 33 16.8**	**+0.1**
VSK1	**VASILIKIADES**	**1.06**	**3**	P	**Pg**	**21 33 02.9**	**-0.2**
VSK1				S	**Sg**	**21 33 16.6**	**-0.3**
	comp=E,2μm,0.6s						
PYL	**PYLOS**	**1.10**	**114**	P	**Pg**	**21 33 03.1**	**-0.7**
PYL				S	**Sg**	**21 33 18.9**	**+0.8**
PYL				AML	AML	21 33 21.0	
	comp=E,2744μm,0.3s						
PYL				AML	AML	21 33 21.9	
	comp=N,2184μm,0.2s						
FSK	**Fiskardo**	**1.11**	**3**	P	**Pg**	**21 33 03.6**	**-0.5**
FSK	**Fiskardo**	**1.11**	**3**	P	**Pg**	**21 33 03.8**	**-0.3**
FSK				S	**Sb**	**21 33 18.9**	**+0.3**
FSK				AML	AML	21 33 22.4	
	comp=N,2698μm,0.2s						
FSK				AML	AML	21 33 24.9	
	comp=E,4621μm,0.6s						
DRO	**Drossia**	**1.14**	**58**	P	**Pg**	**21 33 04.0**	**-0.7**
DRO				S	**Sb**	**21 33 19.8**	**+0.4**
ITM	**Ithomi**	**1.16**	**98**	P	**Pg**	**21 33 04.5**	**-0.5**
ITM				S	**Sg**	**21 33 20.7**	**+0.7**
ITM				AML	AML	21 33 23.1	
	comp=N,4314μm,0.3s						
ITM				AML	AML	21 33 27.1	
	comp=E,2504μm,0.3s						
EVGI	**Lefkada island**	**1.27**	**6**	P	**Pb**	**21 33 06.8**	**-0.1**
EVGI	**Lefkada island**	**1.27**	**6**	P	**Pb**	**21 33 06.7**	**-0.1**
EVGI				S	**Sg**	**21 33 23.4**	**-0.4**
DRAG	**Dragano-Lefkad**	**1.33**	**3**	P	**Pn**	**21 33 07.6**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.33**	**3**	P	**Pn**	**21 33 07.3**	**-0.2**
DRAG				S	**Sb**	**21 33 24.2**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.37**	**7**	P	**Pn**	**21 33 08.1**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.37**	**7**	P	**Pn**	**21 33 08.3**	**+0.4**
NYDR				S	**Sb**	**21 33 25.3**	**-0.8**
LKD2	**Lefkada island**	**1.44**	**5**	P	**Pg**	**21 33 12.3**	**+1.8**
TSLK	**Tsoukalades, L**	**1.48**	**5**	P	**Pn**	**21 33 09.7**	**+0.3**
GUR	**Goura**	**1.58**	**68**	P	**Pn**	**21 33 10.9**	**0.0**
VIL2	**Platees**	**2.36**	**68**	P	**Pn**	**21 33 22.1**	**+0.5**

*MOS **03** 21:36:18.5±1.0, 40°.02N×77°.63E, h13km, mb5.4/96, MS4.8/15, Error ellipse: s-maj=4.1km s-min=2.6km az=119.1*
*IDC **03** 21:36:18.5±0.4, 40°.10N×77°.60E, h0km, mb4.8/35, mbtmp4.9/41, ML4.1/6, MS4.3/70, Error ellipse: s-maj=10.3km s-min=8.3km az=43.0*
*SOME **03** 21:36:19.9, 40°.32N×77°.57E, h0km*
*BJI **03** 21:36:20.5, 40°.22N×77°.61E, h22km, mb4.9/70, mB5.2/39, ML5.5/8, Ms5.1/40, Ms7 4.7/70*
*GCMT **03** 21:36:22.5±0.3, 40°.24N±0°.02×77°.66E±0°.02, h12km, MW4.9/94, Moment Tensor Solution. s27,c29; s94,c144; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.06±.04; $M_{\theta\theta}$-0.67±.04; $M_{\phi\phi}$-0.38±.03; $M_{r\theta}$2.44±.12; $M_{\theta\phi}$-0.39±.03; $M_{r\phi}$0.67±.12; Best double couple: $M_0$2.71800×10^{16} NP1:ϕ_s73.00000°, δ80.00000°, λ95.00000°. NP2: ϕ_s225.00000°, δ12.00000°, λ63.00000°. Principal axes: T 2.8160, Plg55.0000°, Azm350.0000°; N -0.1940, Plg5.0000°, Azm252.0000°; P -2.6190, Plg34.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NNC **03** 21:36:22.9±1.3, 40°.32N×77°.57E, h0km, mb5.9, mpv5.7 Error ellipse: s-maj=9.2km s-min=7.7km az=156.0*
*KRNET **03** 21:36:23.2±0.1, 40°.36N×77°.36E, mb5.6*
*NEIC **03** 21:36:23.5±1.3, 40°.24N±0°.05×77°.66E±0°.08, h30km±4km, mb5.3/167, Mww4.9/20, Error ellipse: s-maj=8.6km s-min=6.9km az=118.0*
ISC 03 21:36:21.4±0.3, 40°.19N±0°.02×77°.56E±0°.02, h19km±1km, h19km:pP-P, n1268, σ1°.59/1378, mb5.1/261, MS4.4/100, 105C-65D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.39**	**242**	Pn	Pg	21 36 54.1	+5.7
KSH				Sn	Sg	21 37 20.6	+14
TARG	**Taragay, Kyrgy**	**1.54**	**7**		**Pn**	**21 36 48.2**	**-0.2**
TARG				Sn	**Sn**	**21 37 05.0**	**-3.1**
TARG	**Taragay, Kyrgy**	**1.54**	**7**	PN	**Pn**	**21 36 48.2**	**-0.2**
WUS	**Wushi**	**1.61**	**51**	Pn	**Pn**	**21 36 48.6**	**-0.5**
NRN	**Naryn**	**1.71**	**317**		**Pb**	**21 36 51.7**	**-0.8**
NRN	**Naryn**	**1.71**	**317**	⇓*i*P	**Pn**	**21 36 50.9**	**+0.3**
NRN				⇓*i*S	**Sn**	**21 37 11.3**	**-0.8**
NRN	**Naryn**	**1.71**	**317**	PN	**Pb**	**21 36 51.7**	**-0.8**
KDJ	**Kajisay**	**1.96**	**352**	Pn	**Pb**	**21 36 56.3**	**-0.3**
KDJ	**Kajisay**	**1.96**	**352**	⇓*e*P	**Pb**	**21 36 55.6**	**-1.0**
KDJ				⇓*i*S	**Sb**	**21 37 19.1**	**-1.6**
KDJ	**Kajisay**	**1.96**	**352**	PN	**Pb**	**21 36 56.3**	**-0.3**
ULHL	**Ulahol**	**2.28**	**335**	P	**Pb**	**21 37 01.7**	**-0.4**
	SNR=2914						
ULHL	**Ulahol**	**2.28**	**335**	⇑*i*P	**Pn**	**21 36 59.8**	**+1.5**
ULHL				⇑*i*S	**Sn**	**21 37 26.8**	**+0.8**
ULHL	**Ulahol**	**2.28**	**335**	*i* PN	**Pn**	**21 36 59.8**	**+1.5**
ULHL				*i* S	**Sn**	**21 37 26.8**	**+0.8**
PRZ	**Przheval'sk**	**2.37**	**15**		**Pb**	**21 37 03.4**	**-0.3**
PRZ	**Przheval'sk**	**2.37**	**15**	⇓*e*P	**Pb**	**21 37 03.1**	**-0.6**
PRZ				⇓*e*S	**Sb**	**21 37 32.4**	**-0.3**
PRZ	**Przheval'sk**	**2.37**	**15**	PN	**Pb**	**21 37 03.4**	**-0.3**
BOOM	**Boomskoye usch**	**2.60**	**333**		**Pb**	**21 37 06.5**	**-1.0**
BOOM	**Boomskoye usch**	**2.60**	**333**	⇑*i*P	**Pn**	**21 37 04.3**	**+1.7**
BOOM				⇑*i*S	**Sn**	**21 37 34.4**	**+0.6**
BOOM	**Boomskoye usch**	**2.60**	**333**	PN	**Pb**	**21 37 06.5**	**-1.0**
TNSS	**Tian-Shan**	**2.88**	**351**	Pg	**Pb**	**21 37 13.5**	**+1.0**
	3μm,0.5s						
TNSS				Lg	Lg	21 37 52.1	
	8μm,1.1s						
TNSS	**Tian-Shan**	**2.88**	**351**	*e*Pn	**Pb**	**21 37 10.3**	**-2.2**
TNSS				*e*Pg	**Pg**	**21 37 13.4**	**-3.3**
TNSS				*e*Lg	Lg	21 37 52.7	
TNSS	**Tian-Shan**	**2.88**	**351**	*e*P	**Pb**	**21 37 13.5**	**+1.0**
	3μm,0.5s						
TNSS				*e*S	**Sg**	**21 37 52.1**	**-1.9**
	7μm,0.7s						
TNSS	**Tian-Shan**	**2.88**	**351**	*e*PN	**Pb**	**21 37 10.2**	**-2.2**
TNSS				*e*		21 37 13.3	
TNSS				*e*		21 37 52.7	
SATY	**Saty**	**2.93**	**12**	Pg	**Pb**	**21 37 14.4**	**+1.1**
	6μm,0.8s						
SATY				Lg	Lg	21 37 53.3	
	15μm,1.2s						
SATY	**Saty**	**2.93**	**12**	*e*Pn	**Pb**	**21 37 10.7**	**-2.6**
SATY				*e*Pg	**Pg**	**21 37 14.2**	**-3.5**
SATY				*e*Lg	Lg	21 37 54.1	
SATY	**Saty**	**2.93**	**12**	*e*P	**Pb**	**21 37 14.4**	**+1.1**
	6μm,0.8s						
SATY				*e*S	**Sg**	**21 37 53.3**	**-2.4**
	15μm,1.2s						
SATY	**Saty**	**2.93**	**12**	*e*PN	**Pb**	**21 37 10.6**	**-2.6**
SATY				*e*		21 37 14.2	
SATY				*e*		21 37 54.1	
ARLS	**Aral**	**2.96**	**305**	⇑*i*P	**Pn**	**21 37 09.6**	**+2.0**
ARLS				⇑*i*S	**Sn**	**21 37 43.1**	**+0.4**
ARLS	**Aral**	**2.96**	**305**	*i* PN	**Pn**	**21 37 09.6**	**+2.0**
ARLS				*i* S	**Sn**	**21 37 43.1**	**+0.4**
MDOK	**Medeo**	**2.99**	**353**	⇓Pn	**Pb**	**21 37 11.8**	**-2.5**
MDOK				Pg	**Pb**	**21 37 15.5**	**+1.3**
	4μm,0.8s						
MDOK				⇓Lg	Lg	21 37 54.5	
MDOK				Lg	Lg	21 37 55.3	
	12μm,0.6s						
MDOK	**Medeo**	**2.99**	**353**	*e*Pn	**Pb**	**21 37 11.8**	**-2.5**
MDOK				*e*Pg	**Pg**	**21 37 15.2**	**-3.6**
MDOK				*e*Lg	Lg	21 37 55.9	
MDOK	**Medeo**	**2.99**	**353**	*e*P	**Pb**	**21 37 15.5**	**+1.3**
	4μm,0.8s						
MDOK				*e*S	**Sg**	**21 37 55.3**	**-2.3**
	12μm,0.6s						
MDOK	**Medeo**	**2.99**	**353**	*e*PN	**Pb**	**21 37 11.7**	**-2.5**
MDOK				*e*		21 37 15.2	
MDOK				*e*		21 37 55.8	
ZHN	**Zhinishke**	**3.04**	**12**	Pg	**Pb**	**21 37 16.3**	**+1.2**
	2μm,0.6s						
ZHN				Lg	Lg	21 37 56.8	
	4μm,0.5s						
ZHN	**Zhinishke**	**3.04**	**12**	*e*Pn	**Pb**	**21 37 12.2**	**-2.9**
ZHN				*e*Pg	**Pg**	**21 37 16.2**	**-3.6**
ZHN	**Zhinishke**	**3.04**	**12**	*e*P	**Pb**	**21 37 16.3**	**+1.2**
	2μm,0.6s						
ZHN				*e*S	**Sg**	**21 37 56.8**	**-2.5**
	4μm,0.5s						
ZHN	**Zhinishke**	**3.04**	**12**	*e*PN	**Pb**	**21 37 12.2**	**-2.9**
ZHN				*e*		21 37 16.1	
AAA	**Alma-Ata**	**3.05**	**351**	Pg	**Pb**	**21 37 17.1**	**+1.9**
	6μm,0.2s						
AAA				Lg	Lg	21 37 57.8	
	15μm,0.8s						
AAA	**Alma-Ata**	**3.05**	**351**	*e*Pn	**Pb**	**21 37 13.0**	**-2.2**
AAA				*e*Pg	**Pg**	**21 37 16.7**	**-3.2**
AAA				*e*Lg	Lg	21 37 58.2	
AAA	**Alma-Ata**	**3.05**	**351**	*e*P	**Pb**	**21 37 17.1**	**+1.9**
	6μm,0.2s						
AAA				*e*S	**Sg**	**21 37 57.8**	**-1.7**
	15μm,0.8s						
AAA	**Alma-Ata**	**3.05**	**351**	*e*PN	**Pb**	**21 37 13.0**	**-2.2**
KNDC	**Almaty**	**3.05**	**352**	⇓Pn	**Pb**	**21 37 13.0**	**-2.2**
KNDC				⇓Lg	Lg	21 37 56.5	
KNDC	**Almaty**	**3.05**	**352**	PN	**Pb**	**21 37 13.0**	**-2.2**
MTBS	**Maitube**	**3.05**	**344**	Pg	**Pb**	**21 37 16.2**	**+1.0**
	2μm,0.3s						
MTBS				Lg	Lg	21 37 56.5	
	3μm,0.4s						
MTBS	**Maitube**	**3.05**	**344**	*e*P	**Pb**	**21 37 16.2**	**+1.0**
	2μm,0.3s						
MTBS				*e*S	**Sg**	**21 37 56.5**	**-3.1**
	3μm,0.4s						
UCH	**Uchtor**	**3.07**	**312**	P	**Pb**	**21 37 12.7**	**-3.0**
	SNR=169						
UCH	**Uchtor**	**3.07**	**312**	⇓*i*P	**Pn**	**21 37 11.2**	**+1.9**
UCH				⇓*i*S	**Sn**	**21 37 46.1**	**+0.4**
UCH	**Uchtor**	**3.07**	**312**	⇓*i*PN	**Pn**	**21 37 11.2**	**+1.9**
UCH				*i* S	**Sn**	**21 37 46.1**	**+0.4**
TKM2	**Tokmak 2**	**3.10**	**332**	P	**Pb**	**21 37 13.5**	**-2.6**
	SNR=493						
TKM2	**Tokmak 2**	**3.10**	**332**	⇑Pn	**Pb**	**21 37 13.4**	**-2.7**
	6μm,1.1s						
TKM2				⇑Lg	Lg	21 37 59.0	
	16μm,1.5s						
TKM2	**Tokmak 2**	**3.10**	**332**	⇑*i*P	**Pn**	**21 37 11.6**	**+2.1**
TKM2				⇑*i*S	**Sn**	**21 37 46.6**	**+0.5**
TKM2	**Tokmak 2**	**3.10**	**332**	*i* PN	**Pb**	**21 37 13.3**	**-2.7**
TKM2				pmax	pmax		
	comp=Z,6μm,1.1s						
KASK	**Kaskelen**	**3.10**	**348**	⇑Pg	**Pb**	**21 37 13.7**	**-2.3**
KASK				⇑Lg	Lg	21 38 00.5	
SFK	**Sufi-Kurgan**	**3.12**	**268**	⇓*e*P	**Pn**	**21 37 12.9**	**+3.1**
SFK				⇓*e*S	**Sn**	**21 37 48.9**	**+2.3**
KBK	**Karagaybulak**	**3.15**	**322**	P	**Pb**	**21 37 14.2**	**-2.7**
	SNR=392						
KBK	**Karagaybulak**	**3.15**	**322**	⇓*i*P	**Pn**	**21 37 12.1**	**+1.9**
KBK				⇓*i*S	**Sn**	**21 37 47.7**	**+0.4**
KBK	**Karagaybulak**	**3.15**	**322**	⇓*i*PN	**Pn**	**21 37 12.1**	**+1.9**
UZB	**Uzynbulak**	**3.15**	**20**	Pg	**Pb**	**21 37 17.7**	**+0.8**
	comp=Z,2μm,0.9s						
UZB				Lg	Lg	21 37 59.5	
	comp=Z,3μm,0.8s						
UZB	**Uzynbulak**	**3.15**	**20**	*e*Pn	**Pb**	**21 37 13.5**	**-3.4**
UZB				*e*Pg	**Pg**	**21 37 17.9**	**-4.0**
UZB	**Uzynbulak**	**3.15**	**20**	*e*P	**Pb**	**21 37 17.7**	**+0.8**
	comp=Z,2μm,0.9s						
UZB				*e*S	**Sg**	**21 37 59.5**	**-3.1**
	comp=Z,3μm,0.8s						
UZB	**Uzynbulak**	**3.15**	**20**	*e*PN	**Pb**	**21 37 13.5**	**-3.4**
UZB				*e*		21 37 17.8	
SHLS	**Shalkode**	**3.29**	**25**	Pg	**Pg**	**21 37 22.8**	**-1.6**
	comp=Z,2μm,0.4s						
SHLS				Lg	Lg	21 38 07.8	
	comp=Z,10μm,0.5s						
SHLS	**Shalkode**	**3.29**	**25**	*e*Pn	**Pb**	**21 37 17.7**	**-1.5**
SHLS				*e*Pg	**Pg**	**21 37 22.7**	**-1.8**
SHLS	**Shalkode**	**3.29**	**25**	*e*P	**Pg**	**21 37 22.8**	**-1.6**
	comp=Z,2μm,0.4s						
SHLS				*e*S	**Sg**	**21 38 07.8**	**+0.8**
	comp=Z,10μm,0.5s						
SHLS	**Shalkode**	**3.29**	**25**	*e*PN	**Pb**	**21 37 17.6**	**-1.6**
SHLS				*e*		21 37 22.6	
KURS	**Kuram**	**3.32**	**8**	Pg	**Pb**	**21 37 21.3**	**+1.5**
	comp=Z,1μm,0.9s						
KURS				Lg	Lg	21 38 05.0	
	comp=Z,5μm,1.4s						
KURS	**Kuram**	**3.32**	**8**	*e*P	**Pb**	**21 37 21.3**	**+1.5**
	comp=Z,1μm,0.9s						
KURS				*e*S	**Sg**	**21 38 05.0**	**-3.2**
	comp=Z,5μm,1.4s						
AAK	**Ala-Archa**	**3.36**	**318**	Pn	**Pn**	**21 37 16.7**	**+3.6**
AAK	**Ala-Archa**	**3.36**	**318**

CHKK Lg Lg 21 38 15.8
comp=Z,5μm,0.6s
CHKK Chushkaly 3.68 354 *e*Pn **Pn 21 37 21.1 +3.7**
CHKK *e*Pg **Pb 21 37 27.5 +1.6**
CHKK Chushkaly 3.68 354 *e*P **Pb 21 37 27.3 +1.4**
comp=Z,1μm,0.8s
CHKK *e*S **Sg 21 38 15.8 -3.9**
comp=Z,5μm,0.6s
CHKK Chushkaly 3.68 354 *e*PN **Pn 21 37 21.1 +3.7**
CHKK *e* 21 37 27.5
EKS2 Erkin-Say 3.76 312 P **Pn 21 37 22.6 +4.0**
SNR=280
EKS2 Erkin-Say 3.76 312 ⇑*i*P **Pn 21 37 20.5 +1.9**
EKS2 ⇑*i*S **Sn 21 38 02.3 -0.1**
EKS2 Erkin-Say 3.76 312 *i* PN **Pn 21 37 20.5 +1.9**
KRBS Karabastau 3.77 339 Pg **Pb 21 37 29.3 +1.9**
comp=Z,558nm,0.4s
KRBS Lg Lg 21 38 19.0
comp=Z,5μm,0.8s
KRBS Karabastau 3.77 339 *e*P **Pb 21 37 29.3 +1.9**
comp=Z,558nm,0.4s
KRBS *e*S **Sg 21 38 19.0 -3.6**
comp=Z,5μm,0.8s
KUU Kurty 3.81 347 Pg **Pb 21 37 29.2 +1.1**
comp=Z,1μm,0.7s
KUU Lg Lg 21 38 18.7
comp=Z,4μm,1.2s
KUU Kurty 3.81 347 *e*Pn **Pn 21 37 22.4 +3.3**
KUU Kurty 3.81 347 *e*P **Pb 21 37 29.2 +1.1**
comp=Z,1μm,0.7s
KUU *e*S **Sg 21 38 18.7 -5.0**
comp=Z,4μm,1.2s
KUU Kurty 3.81 347 *e*PN **Pn 21 37 22.4 +3.3**
USP Ospenovka 3.83 324 P **Pn 21 37 23.2 +3.8**
SNR=126
USP Ospenovka 3.83 324 ⇑*i*P **Pn 21 37 21.5 +2.1**
USP ⇑*i*S **Sn 21 38 03.8 -0.2**
USP Ospenovka 3.83 324 *i* PN **Pn 21 37 21.5 +2.1**
SGDS Sogindy 3.92 327 Pg **Pb 21 37 31.0 +1.0**
comp=Z,1μm,0.6s
SGDS Lg Lg 21 38 21.9
comp=Z,5μm,0.7s
SGDS Sogindy 3.92 327 *e*Pn **Pn 21 37 23.4 +2.7**
SGDS Sogindy 3.92 327 *e*PN **Pn 21 37 23.4 +2.7**
ARXS Arharly 4.02 3 Pg **Pb 21 37 33.4 +1.7**
comp=Z,924nm,0.7s
ARXS Lg Lg 21 38 26.7
comp=Z,4μm,1.4s
ARXS Arharly 4.02 3 *e*P **Pb 21 37 33.4 +1.7**
comp=Z,924nm,0.7s
ARXS *e*S **Sg 21 38 25.8 -4.7**
comp=Z,4μm,0.9s
ARXS Arharly 4.02 3 *e*PN **Pn 21 37 25.2 +3.1**
MRKS Merke 4.13 309 Pg **Pb 21 37 36.3 +2.7**
comp=Z,1μm,0.8s
MRKS Lg Lg 21 38 30.1
comp=Z,4μm,0.8s
MRKS Merke 4.13 309 *e*P **Pb 21 37 37.0 +3.4**
comp=Z,1μm,0.8s
MRKS *e*S **Sg 21 38 32.1 -2.1**
comp=Z,4μm,0.8s
MNAS Manas 4.44 303 ⇑*i*P **Pn 21 37 30.0 +2.1**
MNAS ⇑*i*S **Sn 21 38 18.7 -0.5**
MNAS Manas 4.44 303 *i* PN **Pn 21 37 30.0 +2.1**
DJR Jarkent 4.46 21 Pg **Pb 21 37 40.9 +1.8**
comp=Z,667nm,0.8s
DJR Lg Lg 21 38 38.8
comp=Z,2μm,0.7s
DJR Jarkent 4.46 21 *e*P **Pb 21 37 40.9 +1.8**
comp=Z,667nm,0.8s
DJR *e*S **Sg 21 38 38.8 -5.6**
comp=Z,2μm,0.7s
DRK Karamyk 4.49 263 **Pn 21 37 31.7 +2.9**
DRK Karamyk 4.49 263 ⇑*i*P **Pn 21 37 31.5 +2.7**
DRK ⇑*i*S **Sn 21 38 22.2 +1.6**
DRK Karamyk 4.49 263 PN **Pn 21 37 31.7 +2.9**
ARK Arkit 4.53 293 ⇑*i*P **Pn 21 37 31.5 +2.4**
ARK ⇑*i*S **Sn 21 38 21.2 -0.1**
ARK Arkit 4.53 293 *i* PN **Pn 21 37 31.5 +2.4**
TDK Taldyqorghan 4.85 7 *e*Pn **Pn 21 37 36.4 +3.0**
TDK Taldyqorghan 4.85 7 *e*PN **Pn 21 37 36.4 +3.0**
TRKS Terek-Say 5.05 287 ⇑*e*P **Pn 21 37 38.2 +1.9**
TRKS ⇑*i*S **Sn 21 38 33.1 -1.0**
TRKS Terek-Say 5.05 287 *i* PN **Pn 21 37 38.2 +1.9**
BTK Batken 5.17 271 Pn **Pn 21 37 39.5 +1.6**
BTK Batken 5.17 271 PN **Pn 21 37 39.5 +1.6**
DZA Taraz 5.39 302 *e*Pn **Pn 21 37 43.8 +2.8**
DZA Taraz 5.39 302 *e*PN **Pn 21 37 43.7 +2.8**
BTLS Baital 5.49 333 Pg **Pb 21 37 59.9 +3.2**
comp=Z,985nm,0.9s
BTLS Lg Lg 21 39 11.4
comp=Z,1μm,0.7s
BTLS Baital 5.49 333 *e*Pn **Pn 21 37 44.9 +2.6**
BTLS Baital 5.49 333 *e*P **Pb 21 37 59.9 +3.2**
comp=Z,985nm,0.9s
BTLS *e*S **Sg 21 39 11.4 -6.3**
comp=Z,1μm,0.7s
BTLS Baital 5.49 333 *e*PN **Pn 21 37 44.8 +2.6**
GAR Garm 5.72 260 **Pn 21 37 46.7 +1.3**
KK31 Karatay Array 6.03 301 Pn **Pn 21 37 51.7 +2.1**
comp=Z,59nm,0.7s,baz=117,slow=12,SNR=911
KK31 ⇑Pg **Pg 21 38 16.9 +0.1**
comp=Z,882nm,0.8s,baz=129,slow=16,SNR=24
KK31 ⇑Lg Lg 21 39 30.4
comp=Z,1μm,0.8s,baz=118,slow=25,SNR=6.6
KKAR Karatay Array 6.03 301 Pn **Pn 21 37 51.3 +1.7**
KKAR Karatay Array 6.03 301 Pn **Pn 21 37 51.4 +1.7**
KKAR Karatay Array 6.03 301 ⇑*i*P **Pn 21 37 51.5 +1.9**
KKAR ⇑*i*S **Sn 21 38 56.4 -1.6**
KKAR Karatay Array 6.03 301 PN **Pn 21 37 51.4 +1.9**
BRLS Borolday 6.44 299 *e*Pn **Pn 21 37 57.9 +2.6**
BRLS Borolday 6.44 299 *e*PN **Pn 21 37 58.5 +3.2**
SIMJ Simiganj 6.79 260 Pn **Pn 21 38 00.4 +0.1**
MAKZ Makanchi 7.35 24 **Pn 21 38 09.1 +1.3**
MAKZ Makanchi 7.35 24 P **Pn 21 38 09.1 +1.3**
NIL Nilore 7.38 209 Pn **Pn 21 38 10.7 +2.4**
NIL Nilore 7.38 209 P **Pn 21 38 10.1 +1.9**
NIL S **Sn 21 39 32.7 +1.1**
NIL Nilore 7.38 209 P **Pn 21 38 09.0 +0.7**
MK31 Makanchi Array 7.44 26 ⇑Pn **Pn 21 38 10.7 +1.7**
comp=Z,15nm,0.4s,baz=199,slow=11,SNR=461
MK31 ⇑Pg **Pb 21 38 33.4 +3.5**
comp=Z,159nm,0.8s,baz=228,slow=15,SNR=4.3
MK31 ⇓Sn **Sn 21 39 35.9 +3.1**
comp=Z,204nm,0.8s,baz=200,slow=21,SNR=5.5
MK31 ⇑Lg Lg 21 40 12.0
comp=Z,585nm,0.8s,baz=202,slow=28,SNR=3.7
MK31 Makanchi Array 7.44 26 Pn **Pn 21 38 10.5 +1.5**
MK31 Makanchi Array 7.44 26 P **Pn 21 38 10.5 +1.5**
MKAR Makanchi Array 7.44 26 Pn **Pn 21 38 10.6 +1.6**
comp=Z,11nm,0.3s,baz=197,slow=12,SNR=202
MKAR Sn **Sn 21 39 35.6 +2.8**
comp=Z,12nm,0.3s,baz=210,slow=24,SNR=7.7
MKAR Lg Lg 21 40 13.7
comp=Z,16nm,0.3s,baz=219,slow=27,SNR=5.0
comp=Z,38nm,0.6s
DHRM DHARAMSHALA 7.99 188 *e*P **Pn 21 38 15.8 -1.0**
DHRM *e*S **Sn 21 39 46.4 -0.4**
DHRM IAML 21 39 51.5
comp=E,1μm,0.3s
DHRM IAML 21 39 54.3
comp=E,2μm,0.5s
WMQ Urumqi 8.37 61 P **Pn 21 38 23.6 +1.8**
WMQ S **Sn 21 39 56.7 +0.8**
WMQ smax smax
comp=E,1μm,1.3s
WMQ smax smax
comp=E,1μm,0.9s
BHK Bhakra 8.81 186 *e*P **Pn 21 38 28.2 +0.4**
BHK *e*S **Sn 21 40 06.0 -0.6**
KBL Kabul 8.82 233 Pn **Pn 21 38 29.0 +0.9**
KBL Kabul 8.82 233 P **Pn 21 38 29.2 +1.1**
SNR=139
KBL S **Sn 21 40 08.5 +1.5**
KBL Kabul 8.82 233 P **Pn 21 38 29.0 +0.9**
ZSN Zaisan 8.97 34 *e*P **Pn 21 38 30.9 +0.9**
ZSN Zaisan 8.97 34 *e*P **Pn 21 38 30.8 +0.9**
SMLA Simla 9.05 182 *e*P **Pn 21 38 31.0 -0.1**
SMLA IAML 21 40 13.6
comp=E,983nm,0.6s
SMLA *e*S **Sn 21 40 15.4 +2.9**
SMLA IAML 21 40 16.3
comp=E,618nm,0.7s
DDI Dehra Dun 9.86 177 *e*P **Pn 21 38 42.0 -0.2**
DDI *e*S **Sn 21 40 29.4 -3.0**

DDI IAML 21 40 33.7
comp=N,836nm,0.2s
DDI IAML 21 40 33.9
comp=E,861nm,0.8s
DDI IAML 21 40 37.1
comp=N,873nm,0.3s
BRZS Berezniki 10.38 342 *e*P **Pn 21 38 50.1 +0.9**
BRZS Berezniki 10.38 342 *e*P **Pn 21 38 50.1 +0.9**
SEM Semipalatinsk 10.39 10 *e*P **Pn 21 38 51.1 +1.5**
SEM Semipalatinsk 10.39 10 *e*P **Pn 21 38 51.0 +1.5**
KURBB Kurchatov Arra 10.45 3 Pn **Pn 21 38 50.8 +0.5**
comp=N,1.8nm,0.3s,baz=194,slow=12,SNR=267
KURBB Sn **Sn 21 40 40.0 -6.8**
comp=N,0.4nm,0.3s,baz=188,slow=25,SNR=2.9
KURBB Lg Lg 21 41 47.9
comp=N,1.8nm,0.3s,baz=192,slow=27,SNR=11
KURBB LR LR 21 43 08.9
comp=N,5μm,21.5s,baz=176,slow=39
comp=N,68nm,0.8s
KURK Kurchatov 10.55 4 ⇑Pn **Pn 21 38 51.6 +0.1**
comp=N,222nm,0.9s
KURK ⇑Lg Lg 21 41 52.9
comp=N,3μm,1.4s
KURK Kurchatov 10.55 4 **Pn 21 38 51.9 +0.4**
KURK Kurchatov 10.55 4 P **Pn 21 38 52.0 +0.4**
KURK S **Sn 21 40 57.3 +8.2**
KURK Kurchatov 10.55 4 P **Pn 21 38 51.9 +0.4**
NDI New Delhi 11.49 182 *e*P **Pn 21 39 01.6 -2.9**
SONA Sohna 11.92 182 *e*P **Pn 21 39 07.8 -2.6**
KUDL Kundal 12.05 185 *e*P **Pn 21 39 09.5 -2.7**
HRA Herat 13.49 249 Pn **Pn 21 39 29.6 -2.5**
BVA0 Borovoye Array 13.74 341 ⇓P **Pn 21 39 34.2 -0.9**
comp=N,130nm,1.1s,baz=150,slow=14,SNR=161
BVA0 Borovoye Array 13.74 341 P **Pn 21 39 34.2 -0.9**
BVAR Borovoye Array 13.74 341 Pn **Pn 21 39 34.5 -0.6**
comp=N,0.3nm,0.3s,baz=150,slow=12,SNR=264
BVAR Lg Lg 21 43 30.6
comp=N,0.5nm,0.3s,baz=146,slow=26,SNR=3.7
BVAR LR LR 21 45 11.9
comp=N,2μm,21.5s,baz=153,slow=38
comp=N,74nm,0.8s
BRVK Borovoye 13.79 341 **Pn 21 39 35.1 -0.8**
BRVK Borovoye 13.79 341 P **Pn 21 39 36.0 +0.2**
BRVK S **Sn 21 42 13.4 +5.0**
BRVK Borovoye 13.79 341 *c i*P **Pn 21 39 35.4 -0.5**
BRVK pmax pmax
comp=Z,68nm,0.7s
AJM Ajmer 13.89 191 *e*P **Pn 21 39 34.0 -3.4**
GOMU GeErMu 14.14 101 P **Pn 21 39 37.7 -3.4**
GOMU S **Sn 21 42 15.3 -2.4**
GOMU LR LR
comp=Z,3μm,8.4s
GOMU LR LR
comp=Z,2μm,10.0s
GOMU LR LR
comp=Z,4μm,11.3s
JASL Jaisalmer 14.34 205 *e*P **Pn 21 39 40.4 -3.1**
ZAA0 Zalesovo Array 14.61 17 Pn **Pn 21 39 46.3 -0.7**
ZALV Zalesovo Beam 14.61 17 Pn **Pn 21 39 46.1 -0.8**
ZALV Zalesovo Beam 14.61 17 Pn **Pn 21 39 46.4 -0.6**
comp=Z,1.3nm,0.3s,baz=200,slow=12,SNR=114
ZALV Lg Lg 21 44 06.4
comp=Z,0.2nm,0.3s,baz=237,slow=27,SNR=2.3
ZALV LR LR 21 45 42.7
comp=Z,3μm,19.6s,baz=206,slow=38
comp=Z,127nm,0.9s
ZALV Zalesovo Beam 14.61 17 *i* P **Pn 21 39 46.2 -0.8**
ZALV pmax pmax
comp=Z,107nm,0.8s
ALBI Allahabad 15.26 165 *ex* **Pn 21 39 50.0 -5.9**
LSA Lhasa 15.27 129 Pn **Pn 21 39 56.0 -0.5**
LSA Lhasa 15.27 129 P **Pn 21 39 56.6 +0.1**
LSA Lhasa 15.27 129 P **Pn 21 39 55.9 -0.6**
LSA Lhasa 15.27 129 P **Pn 21 39 56.0 -0.5**
LSA pmax pmax
comp=Z,30nm,0.9s
AB31 Akbulak array 15.42 312 ⇑P **Pn 21 39 56.2 -1.7**
comp=Z,46nm,0.8s,baz=114,slow=12,SNR=190
AB31 Akbulak array 15.42 312 *i* P **Pn 21 39 56.2 -1.7**
AB31 pmax pmax
comp=Z,46nm,0.7s
ABKAR Akbulak array 15.42 312 Pn **Pn 21 39 56.8 -1.1**
ABKAR Akbulak array 15.42 312 Pn **Pn 21 39 56.8 -1.1**
ABKAR IAmb IAmb 21 40 04.8
comp=Z,42nm,0.8s
GTK Tadong 15.77 141 *ex* **Pn 21 39 55.8 -6.8**
GTK IAmb IAmb 21 40 04.4
comp=Z,96nm,0.3s
BHPL Bhopal 16.90 180 *e*P **Pn 21 40 11.8 -5.2**
BHPL *i* x x 21 46 58.6
AKTO Aktyubinsk 17.09 313 ⇑P **Pn 21 40 18.6 -0.6**
comp=Z,95nm,0.9s
AKTO Aktyubinsk 17.09 313 P **Pn 21 40 19.3 +0.1**
comp=Z,0.5nm,0.3s,baz=118,slow=12,SNR=31
AKTO Lg Lg 21 45 24.6
comp=Z,0.2nm,0.3s,baz=228,slow=22,SNR=3.7
AKTO LR LR 21 47 13.6
comp=Z,3μm,19.2s,baz=84,slow=38
comp=Z,22nm,0.9s
GTA Gaotai 17.12 85 P **Pn 21 40 16.6 -3.2**
GTA sP pP 21 40 24.9 -2.3
GTA pmax pmax
comp=Z,22nm,1.0s
GTA LR LR
comp=Z,2μm,11.1s
BOK Bokaro 17.80 154 *ex* **Pn 21 40 21.7 -6.4**
KRAR Krasnoyarsk 18.77 27 ⇓*i*P **Pn 21 40 40.0 +0.2**
SHL Shillong 18.87 136 P **P 21 40 37.1 -3.7**
SHL IAmb IAmb 21 40 43.0
comp=Z,139nm,0.9s
SHL Shillong 18.87 136 P **P 21 40 37.9 -2.9**
SNR=58
SHL Shillong 18.87 136 *e*P **P 21 40 38.5 -2.3**
SHL Shillong 18.87 136 P **P 21 40 37.1 -3.7**
SHL pmax pmax
comp=Z,139nm,0.9s
JHSG JHARSUGUGA 19.12 162 *e*P **P 21 40 41.1 -2.3**
AKL Akola 19.43 182 *e*P **P 21 40 43.0 -3.8**
AKL IAmb IAmb 21 40 47.3
comp=Z,133nm,0.7s
MOY Mondy 19.84 47 *e*P **Pn 21 40 52.3 -0.5**
MOY pmax pmax
comp=Z,66nm,1.5s
LKP Lekhapani 19.84 125 *e*P **P 21 40 51.4 +0.2**
SVE Sverdlovsk 19.97 332 *de*P **Pn 21 40 53.6 -0.6**
SVE pmax pmax
comp=Z,92nm,1.1s
SVE MLR MLR
comp=Z,5μm,13.0s
KOHI KOHIMA 19.98 131 *e*P **P 21 40 53.1 +0.2**
ARTI Arti 20.51 329 P **P 21 40 58.2 0.0**
ARTI IAmb IAmb 21 41 04.3
comp=Z,110nm,1.0s
ARTI Arti 20.51 329 P **P 21 40 58.8 +0.5**
comp=Z,89nm,0.9s,baz=162,slow=4.7,SNR=56
ARTI Lg Lg 21 47 05.2
baz=49,slow=21
ARTI LR LR 21 49 42.9
comp=Z,468nm,21.0s,baz=132,slow=39
comp=Z,89nm,0.9s
ARTI Arti 20.51 329 *d i*P **P 21 40 58.6 +0.4**
ARTI 21 41 16.6
ARTI S **S 21 44 48.2 +1.5**
ARTI SS **SnSn 21 45 06.3 +0.7**
ARTI pmax pmax
comp=Z,24nm,1.2s
IMP Imphal 20.58 133 *e*P **P 21 41 00.2 +0.9**
IMP IAmb IAmb 21 41 02.2
comp=Z,179nm,1.0s
ZAK Zakamensk 20.67 52 *e*P **P 21 41 00.8 +0.6**
ZAK pmax pmax
comp=Z,52nm,1.2s
LZH Lanzhou 21.05 93 ⇓P **P 21 41 05.0 +0.5**
LZH sP sP 21 41 12.3 -0.6
LZH S **S 21 45 00.7 +2.6**
LZH pmax pmax
comp=Z,67nm,1.1s
LZH pmax pmax
comp=Z,310nm,3.6s
LZH LR LR
comp=Z,3μm,10.3s
LZH LR LR
comp=Z,1μm,11.2s
LZH LR LR
comp=Z,3μm,14.9s

BRDH Bariadhala 21.15 141 P **P 21 41 05.3 -0.1**
comp=Z,68nm,0.4s,baz=4.4,slow=4.1,SNR=12
BRDH LR LR 21 50 44.5
comp=Z,910nm,18.4s,baz=326,slow=41
comp=Z,68nm,0.4s
JASK Jask - Hormozg 21.77 235 P **P 21 41 14.4 +2.4**
POO Poona 21.83 190 *e*P **P 21 41 11.0 -1.7**
IRK Irkutsk 21.92 48 *e*P **P 21 41 14.7 +1.2**
IRK pmax pmax
comp=Z,197nm,2.0s
SONM Songino Array 22.01 60 P **P 21 41 15.5 +0.9**
comp=Z,12nm,0.9s,baz=258,slow=9.6,SNR=60
SONM Lg Lg 21 47 57.3
comp=Z,0.1nm,0.3s,baz=264,slow=25,SNR=3.6
SONM LR LR 21 51 07.9
comp=Z,307nm,20.2s,baz=266,slow=40
comp=Z,12nm,0.9s
SONM Songino Array 22.01 60 P **P 21 41 15.1 +0.5**
SONM pmax pmax
comp=Z,197nm,1.8s
LKRN Lenkeran, Azer 22.23 275 P **P 21 41 17.4 +0.4**
ULN Ulaanbaatar 22.45 60 P **P 21 41 19.5 +0.1**
ULN Ulaanbaatar 22.45 60 P **P 21 41 20.5 +1.1**
ULN Ulaanbaatar 22.45 60 *d i*P **P 21 41 19.1 -0.3**
ULN pmax pmax
comp=Z,87nm,1.3s
AKT Akhty 22.56 283 *e*P **P 21 41 21.8 +1.3**
AKT *e* 21 41 46.3
AKT *e*PPP PPP 21 41 52.8
AKT pmax pmax
comp=Z,127nm,1.2s
MAK Makhachkala 22.59 287 *e*P **P 21 41 18.2 -2.6**
MAK *e*S **S 21 45 24.4 -3.0**
MAK pmax pmax
comp=Z,311nm,1.0s
MAK MLR MLR
comp=Z,4μm,13.0s
HYB Hyderabad 22.71 178 *e*P **P 21 41 20.6 -1.6**
HYB IVmB_BB 21 41 25.5
comp=Z,2μm,2.8s
HYB IVMs_BB IVMs_BB 21 50 30.8
comp=Z,2μm,15.4s
SHME Shamm 22.74 238 P **P 21 41 25.8 +3.3**
SHME P **P 21 41 25.8 +3.3**
SEKA Sheki 22.99 282 P **P 21 41 24.6 -0.4**
KAD Karad 22.99 188 *e*P **P 21 41 23.6 -1.5**
MNGR Mingechevir, A 23.13 281 P **P 21 41 26.9 +0.5**
MDH Madha 23.16 237 P **P 21 41 29.6 +2.8**
TNCH TengChong 23.16 124 ⇓P **P 21 41 27.3 +0.2**
TNCH pP pP 21 41 29.2 -3.8
TNCH PP **PnPn 21 41 57.0 +4.5**
TNCH S **S 21 45 27.5 -10**
TNCH SS **SnSn 21 46 19.7 +8.2**
TNCH pmax pmax
comp=Z,48nm,1.5s
TNCH pmax pmax
comp=Z,380nm,3.5s
TNCH LR LR
comp=Z,1μm,14.8s
CD2 Chengdu 23.17 105 P **P 21 41 27.3 +0.3**
CD2 pP pP 21 41 30.6 -2.3
CD2 S **S 21 45 35.7 -2.1**
CD2 sS pS 21 45 41.4 -3.3
CD2 pmax pmax
comp=Z,70nm,1.0s
CD2 pmax pmax
comp=Z,290nm,5.5s
CD2 LR LR
comp=Z,910nm,8.1s
CD2 LR LR
comp=Z,1μm,7.8s
CD2 LR LR
comp=Z,1μm,8.0s
MASF Masafi 23.20 237 P **P 21 41 30.1 +2.8**
MSFE Esma-Masafi 23.21 237 P **P 21 41 27.4 0.0**
WSAR Wadi Sarin 23.26 229 LR LR 21 53 01.9
comp=Z,479nm,19.9s,baz=66,slow=43
BIDO Bidbid 23.34 230 P **P 21 41 30.0 +1.4**
UOSS Minazif 23.47 236 P **P 21 41 30.8 +0.9**
UOSS Minazif 23.47 236 P **P 21 41 31.9 +2.0**
UOSS Minazif 23.47 236 P **P 21 41 31.9 +2.0**
UOSS P **P 21 41 31.9 +2.0**
WBK Wadi Bani Khal 23.56 227 P **P 21 41 32.0 +1.2**
HATD Hatta, Dubai 23.60 236 P **P 21 41 34.5 +3.3**
JLN Jalan Bani Buh 23.68 226 P **P 21 41 32.5 +0.5**
JLN P **P 21 41 32.5 +0.5**
GANJ Ganja 23.73 281 P **P 21 41 32.9 +0.6**
SMDO Samad 23.74 230 P **P 21 41 34.7 +2.0**
SMDO P **P 21 41 34.7 +2.0**
ASHO Ashiyiah 23.75 236 *i* P **P 21 41 34.0 +1.3**
SNR=12
ASHO Ashiyiah 23.75 236 P **P 21 41 33.4 +0.8**
SNR=12
HOQ Hoqain 23.78 232 P **P 21 41 35.5 +2.5**
HOQ P **P 21 41 35.5 +2.5**
BELG Belogornoye 23.82 311 LR LR 21 51 48.9
comp=Z,2μm,19.9s,baz=94,slow=39
BELG Belogornoye 23.82 311 *c i*P **P 21 41 33.0 -0.1**
BELG pmax pmax
comp=Z,51nm,0.9s
SOHO SOHO 23.85 234 P **P 21 41 33.3 -0.2**
FAQ Al Faqa, Dubai 24.00 237 P **P 21 41 37.8 +2.8**
JMDO Jabal Madar 24.24 229 P **P 21 41 37.5 +0.2**
JMDO P **P 21 41 37.5 +0.2**
PZH PanZhiHua 24.29 117 P **P 21 41 39.5 +1.7**
PZH pP **pP 21 41 41.2 -2.8**
PZH S **S 21 45 52.4 -3.5**
PZH sS **pS 21 46 01.8 -1.4**
PZH pmax pmax
comp=Z,60nm,1.8s
PZH pmax pmax
comp=Z,730nm,4.1s
PZH LR LR
comp=Z,840nm,14.3s
ALNE Al Ain 24.39 235 P **P 21 41 39.3 +0.6**
ARQ Araqi 24.44 233 P **P 21 41 40.6 +1.5**
SNR=13
ARQ P **P 21 41 40.6 +1.5**
SNR=13
BSY Bisya 24.48 231 P **P 21 41 40.4 +0.9**
NAX Nakhchivan 24.63 278 P **P 21 41 41.2 +0.4**
BTO Baotou 24.66 78 *e*P **P 21 41 41.1 +0.1**
BTO pP **sP 21 41 52.8 +3.0**
BTO PP **PnPn 21 42 18.0 +5.3**
BTO S **S 21 46 02.5 +0.9**
BTO sS **sS 21 46 14.0 +2.2**
BTO SS **SnSn 21 46 52.3 +4.8**
BTO pmax pmax
comp=Z,53nm,0.9s
BTO pmax pmax
comp=Z,720nm,5.8s
BTO LR LR
comp=Z,2μm,17.7s
BTO LR LR
comp=Z,2μm,10.8s
BTO LR LR
comp=Z,2μm,11.3s
GOA Goa 24.83 189 *e*P **P 21 41 42.3 -0.2**
GNI Garni 25.00 281 P **P 21 41 44.4 +0.2**
GNI Garni 25.00 281 P **P 21 41 45.3 +1.1**
GNI Garni 25.00 281 LR LR 21 53 18.1
comp=Z,680nm,18.5s,baz=40,slow=41
GNI Garni 25.00 281 P **P 21 41 46.6 +2.4**
GNI P **P 21 41 46.6 +2.4**
GNI Garni 25.00 281 *c i*P **P 21 41 47.5 +3.3**
GNI pmax pmax
comp=Z,115nm,1.2s
MHTO MHTO 25.41 227 P **P 21 41 48.5 +0.7**
SNR=6.6
NCK Nalchik 25.41 289 ⇑*e*P **P 21 41 49.4 +1.7**
NCK pmax pmax
comp=Z,26nm,0.9s
KIRV Kirov 25.66 325 LR LR 21 52 18.0
comp=Z,2μm,20.7s,baz=142,slow=37
KIRV Kirov 25.66 325 *c i*P **P 21 41 50.9 +1.2**
XAN Xi'an 25.67 94 ⇓P **P 21 41 50.8 +0.6**
XAN sP sP 21 41 59.0 +0.1
XAN S **S 21 46 22.7 +4.9**
XAN sS sS 21 46 30.0 +2.0
XAN pmax pmax
comp=Z,75nm,0.8s
XAN pmax pmax
comp=Z,490nm,7.3s
XAN LR LR

comp=Z,2μm,19.6s
GOF Gofitskoye 25.73 292 *c e* P **P 21 41 52.4 +1.8**
UMZA Um Al Zommool 25.74 234 P **P 21 41 51.3 +0.4**
UMZA P **P 21 41 51.3 +0.4**
HHC Hu-ho-hao-te 25.77 77 ⇑ *i* P **P 21 41 52.0 +0.9**
HHC pP pP 21 41 56.2 -1.1
HHC S **S 21 46 18.1 -1.3**
HHC sS pS 21 46 24.9 -1.5
HHC pmax pmax
comp=Z,34nm,1.1s
HHC LR LR
comp=Z,860nm,13.7s
KMI Kunming 25.87 118 ⇓ P **P 21 41 52.8 +0.5**
KMI S **S 21 46 25.4 +4.0**
KMI sS sS 21 46 36.0 +3.6
KMI pmax pmax
comp=Z,46nm,0.8s
KMI pmax pmax
comp=Z,360nm,6.4s
KMI LR LR
comp=Z,1μm,14.0s
KBZ Khabaz 25.90 289 P **P 21 41 54.4 +2.3**
comp=Z,3.1nm,0.8s,baz=105,slow=9.1,SNR=5.8
KBZ LR LR 21 54 03.1
comp=Z,901nm,18.7s,baz=88,slow=41
comp=Z,3.1nm,0.8s
KBZ Khabaz 25.90 289 ⇓ *e* P **P 21 41 52.9 +0.8**
KBZ pmax pmax
comp=Z,68nm,1.3s
KVAR Kislovodsk Arr 26.03 290 LR LR 21 54 12.0
comp=Z,737nm,18.1s,baz=286,slow=41
KIV Kislovodsk 26.04 290 P **P 21 41 54.4 +0.9**
KIV lAmb lAmb 21 42 24.6
comp=Z,73nm,0.9s
KIV Kislovodsk 26.04 290 P **P 21 41 54.8 +1.3**
KIV P **P 21 41 54.8 +1.3**
KIV Kislovodsk 26.04 290 *e* P **P 21 41 53.6 +0.1**
KIV *e* S **S 21 46 25.2 +1.7**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,1μm,15.0s
KIV Kislovodsk 26.04 290 P **P 21 41 54.0 +0.5**
comp=Z,53nm,1.1s,comp=Z,687nm
SHA1 Shidzhatmaz 26.07 289 ⇑ *e* P **P 21 41 53.5 -0.5**
KARS Kars 26.16 282 P **P 21 41 54.7 0.0**
KARS Kars 26.16 282 P **P 21 41 54.7 0.0**
KARS pmax pmax
comp=Z,484nm,1.4s
GHWR Ruwais 26.32 240 P **P 21 41 58.7 +2.6**
SHMA Al-Shehemyia 26.36 245 P **P 21 41 58.8 +2.4**
SAKB Bahrain 26.58 246 P **P 21 41 60.0 +1.5**
MZR Muzera 26.60 237 *i* P **P 21 41 58.1 -0.5**
SNR=10
MZR Muzera 26.60 237 P **P 21 41 58.4 -0.3**
KBD Kabd 26.79 255 P **P 21 42 02.7 +2.5**
SLWR Sila 27.03 241 P **P 21 42 02.5 0.0**
VRH Novokhopyorsk 27.08 306 *e* P **P 21 42 03.0 +0.3**
VRH pmax pmax
comp=Z,119nm,1.4s
TIY Taiyuan 27.13 84 P **P 21 42 04.9 +1.5**
TIY PP **PnPn 21 42 53.2 +6.7**
TIY S **S 21 46 45.4 +4.5**
TIY pmax pmax
comp=Z,40nm,1.1s
TIY pmax pmax
comp=Z,240nm,5.5s
TIY LR LR
comp=Z,1μm,11.7s
SMRA Abu-Samra 27.17 244 P **P 21 42 04.4 +0.6**
CIT Chita 27.33 52 *e* P **P 21 42 06.2 +1.2**
CIT *e* 21 43 04.0
CIT *e* 21 52 59.3
CIT pmax pmax
comp=Z,108nm,1.5s
ENH Enshi 27.77 101 P **P 21 42 09.1 0.0**
ENH Enshi 27.77 101 P **P 21 42 10.2 +1.1**
GYA Guiyang 27.77 111 ⇓ P **P 21 42 10.0 +0.7**
GYA S **S 21 46 51.7 +0.5**
GYA pmax pmax
comp=Z,32nm,0.8s
GYA pmax pmax
comp=Z,330nm,3.7s
GYA LR LR
comp=Z,1μm,12.4s
CHTO Chiang Mai 28.15 133 P **P 21 42 11.2 -1.4**
CHTO Chiang Mai 28.15 133 P **P 21 42 11.2 -1.4**
CHTO pmax pmax
comp=Z,24nm,0.7s
LYN LuoYang 28.19 90 P **P 21 42 14.9 +2.1**
LYN pmax pmax
comp=Z,20nm,1.4s
LYN LR LR
comp=Z,1μm,10.0s
LYN LR LR
comp=Z,1μm,13.4s
LYN LR LR
comp=Z,2μm,14.1s
CM31 Chiang Mai Arr 28.44 133 P **P 21 42 13.6 -1.5**
CMAR Chiang Mai Arr 28.44 133 P **P 21 42 14.5 -0.7**
comp=Z,9.7nm,1.0s,baz=317,slow=9.2,SNR=30
comp=Z,9.7nm,1.0s
VORD Divnogorie 28.56 305 *e* P **P 21 42 14.5 -1.4**
VORD pmax pmax
comp=Z,130nm,1.4s
VORD MLR MLR
comp=Z,480nm,8.0s
XLT XiLinHaoTe 28.67 70 *e* P **P 21 42 17.8 +0.7**
XLT pP sP 21 42 29.6 +3.7
XLT S **S 21 46 56.8 -8.2**
XLT pmax pmax
comp=Z,6.0nm,1.2s
XLT pmax pmax
comp=Z,140nm,5.8s
XLT LR LR
comp=Z,1μm,13.2s
VSR Storozhevoye 28.67 306 *e* P **P 21 42 15.0 -1.9**
VSR pmax pmax
comp=Z,60nm,1.2s
VSR MLR MLR
comp=Z,2μm,12.0s
VORR Voronezh 28.71 306 *e* P **P 21 42 17.9 +0.7**
VORR pmax pmax
comp=Z,78nm,1.5s
HNS HongShan 28.95 83 ⇑ P **P 21 42 20.5 +0.9**
HNS *e* S **S 21 47 08.2 -1.2**
HNS pmax pmax
comp=Z,12nm,0.9s
HNS LR LR
comp=Z,1μm,11.8s
HNS LR LR
comp=Z,990nm,12.3s
HNS LR LR
comp=Z,1μm,12.5s
LPSR Galich'ya Gora 29.02 308 *e* P **P 21 42 18.4 -1.6**
LPSR pmax pmax
comp=Z,40nm,0.9s
LPSR MLR MLR
comp=Z,2μm,12.0s
PHRA Phrae 29.14 131 P **P 21 42 20.8 -0.5**
BOD Bodaibo 29.21 41 *e* P **P 21 42 21.6 -0.1**
BOD pmax pmax
comp=Z,26nm,1.8s
SLVN Son La 29.25 122 P **P 21 42 23.1 +0.6**
SLVN Son La 29.25 122 P **P 21 42 24.0 +1.6**
BJI Beijing 29.38 78 P **P 21 42 25.1 +1.8**
BJI pmax pmax
comp=Z,3.0nm,0.8s
BJI pmax pmax
comp=Z,100nm,6.1s
BJI LR LR
comp=Z,620nm,14.8s
BJT Baijiatuau 29.38 78 P **P 21 42 23.9 +0.6**
DOK Doka 29.48 230 P **P 21 42 24.0 -0.4**
NRIK Noril'sk 29.69 7 P **P 21 42 26.0 +0.2**
NRIK Noril'sk 29.69 7 P **P 21 42 26.6 +0.8**
comp=Z,14nm,0.8s,baz=196,slow=8.2,SNR=16
NRIK LR LR 21 55 37.7
comp=Z,863nm,20.0s,baz=172,slow=39
comp=Z,14nm,0.8s
NRIK Noril'sk 29.69 7 *c i* P **P 21 42 26.5 +0.8**
NRIK pmax pmax
comp=Z,54nm,1.5s
DMTO DMTO 29.72 228 P **P 21 42 26.1 -0.4**
ANN Anapa 29.72 292 *e* P **P 21 42 25.2 -1.1**

ANN *e* *PP **pP 21 42 29.4 -3.2**
ANN *e* S **S 21 47 22.2 +0.9**
ANN pmax pmax
comp=Z,30nm,1.4s
ANN MLR MLR
comp=E,990nm,9.0s
ANN MLR MLR
comp=N,969nm,12.0s
ANN MLR MLR
comp=Z,977nm,10.0s
ARPR Arapgir-MALATY 30.06 281 P **P 21 42 31.2 +1.6**
ARPR lAmb lAmb 21 43 20.6
comp=Z,32nm,1.0s
DGPR DIGLIPUR 30.12 149 *e* P **P 21 42 28.8 -1.2**
WHFO Wadi Hawf 30.24 230 P **P 21 42 30.2 -1.0**
WHFO P **P 21 42 30.2 -1.0**
MOS Moscow 30.42 314 *e* P **P 21 42 31.3 -1.0**
MOS *e* PPP PPP 21 43 38.9
MOS pmax pmax
comp=Z,100nm,1.3s
MOS pmax pmax
comp=Z,94nm,1.2s
MOS pmax pmax
comp=E,66nm,1.0s
MOS MLR MLR
comp=Z,2μm,11.0s
MOS MLR MLR
comp=E,2μm,10.0s
OBN Obninsk 30.87 313 P **P 21 42 36.5 +0.2**
OBN Obninsk 30.87 313 LR LR 21 55 38.3
comp=E,994nm,19.4s,baz=97,slow=38
OBN Obninsk 30.87 313 *c e* P **P 21 42 36.6 +0.3**
OBN *e* 21 43 41.8
OBN *e* PPP PPP 21 43 50.0
OBN pmax pmax
comp=Z,115nm,1.7s
OBN MLR MLR
comp=Z,918nm,17.0s
OBN Obninsk 30.87 313 P **P 21 42 37.0 +0.7**
comp=Z,62nm,1.2s
OBN Obninsk 30.87 313 P **P 21 42 37.0 +0.7**
OBN pP **sP 21 42 45.7 +0.5**
HIA Hailar 30.96 59 P **P 21 42 37.9 +0.6**
HIA Hailar 30.96 59 P **P 21 42 37.9 +0.6**
HIA pmax pmax
comp=Z,21nm,1.3s
GULI GuiLin 31.14 108 P **P 21 42 39.6 +0.6**
GULI S **S 21 47 46.3 +2.4**
GULI pmax pmax
comp=Z,60nm,0.8s
GULI pmax pmax
comp=Z,180nm,5.2s
GULI LR LR
comp=Z,770nm,14.9s
KLMR Klimovskoe 31.14 324 *e* P **P 21 42 36.6 -2.1**
KLMR pmax pmax
comp=Z,132nm,1.3s
KLMR MLR MLR
comp=Z,3μm,11.0s
TIA Tai'an 31.17 84 P **P 21 42 40.2 +1.0**
TIA S **S 21 47 48.0 +3.8**
TIA pmax pmax
comp=Z,23nm,1.0s
TIA LR LR
comp=Z,1μm,16.2s
TIA LR LR
comp=Z,540nm,11.3s
TIA LR LR
comp=Z,1μm,9.3s
WHN Wuhan 31.32 96 P **P 21 42 41.0 +0.4**
WHN S **S 21 47 50.7 +4.1**
WHN pmax pmax
comp=Z,80nm,0.8s
WHN LR LR
comp=Z,2μm,12.7s
WHN LR LR
comp=Z,3μm,15.0s
WHN LR LR
comp=Z,3μm,14.9s
GAZ Gaziantep 31.45 278 P **P 21 42 43.1 +1.3**
RAYN Ar Rayn 31.68 248 P **P 21 42 44.6 +0.7**
RAYN lAmb lAmb 21 42 49.6
comp=Z,64nm,0.9s
RAYN Ar Rayn 31.68 248 *i* P **P 21 42 44.5 +0.7**
SNR=52
RAYN Ar Rayn 31.68 248 P **P 21 42 44.9 +1.1**
RAYN Ar Rayn 31.68 248 ⇑ P **P 21 42 44.8 +1.0**
RAYN 21 42 49.2
RAYN Ar Rayn 31.68 248 P **P 21 42 44.5 +0.7**
SRDT SRDT 31.92 138 P **P 21 42 46.4 +0.5**
BNN Bunyan 31.99 281 P **P 21 42 48.0 +1.4**
BNN lAmb lAmb 21 43 20.8
comp=Z,42nm,1.2s
SIM Simferopol' 32.05 293 *e* P **P 21 42 47.7 +0.8**
SIM *e* 21 43 54.0
SIM pmax pmax
comp=Z,8.0nm,0.5s
SIM MLR MLR
comp=Z,300nm,15.4s
BR131 Keskin Array S 33.41 284 P **P 21 42 59.7 +0.7**
BR131 Keskin Array S 33.41 284 P **P 21 42 59.7 +0.7**
BR131 pmax pmax
comp=Z,19nm,0.9s
BRTR Keskin Array B 33.41 284 P **P 21 42 59.5 +0.5**
BRTR Keskin Array B 33.41 284 P **P 21 43 00.1 +1.1**
comp=Z,9.3nm,0.9s,baz=96,slow=7.6,SNR=20
BRTR LR LR 21 58 28.7
comp=Z,251nm,19.5s,baz=68,slow=40
comp=Z,9.3nm,0.9s
BRTR Keskin Array B 33.41 284 *i* P **P 21 43 00.2 +1.1**
BRTR pmax pmax
comp=Z,10.0nm,0.9s
BR104 Keskin Array S 33.41 284 P **P 21 42 59.5 +0.5**
comp=Z,21nm,1.1s,comp=Z,155nm
BR106 Keskin Array S 33.42 284 P **P 21 42 59.8 +0.7**
comp=Z,21nm,0.9s,comp=Z,158nm
BR105 Keskin Array S 33.43 284 P **P 21 42 59.8 +0.6**
comp=Z,21nm,0.9s,comp=Z,158nm
DL2 Dalian 33.75 78 P **P 21 43 05.3 +3.6**
DL2 S **S 21 48 30.2 +5.9**
DL2 pmax pmax
comp=Z,47nm,1.4s
DL2 pmax pmax
comp=Z,350nm,4.9s
DL2 LR LR
comp=Z,660nm,13.2s
ANTO Ankara 34.00 284 P **P 21 43 05.3 +1.2**
ANTO lAmb lAmb 21 43 09.7
comp=Z,35nm,1.4s
ANTO Ankara 34.00 284 P **P 21 43 05.3 +1.2**
ANTO pmax pmax
comp=Z,35nm,1.5s
ANTO Ankara 34.00 284 P **P 21 43 04.9 +0.8**
comp=Z,9.2nm,1.2s
BR231 Keskin MP Arra 34.02 284 P **P 21 43 04.5 +0.3**
BR231 lAmb lAmb 21 43 37.4
comp=Z,62nm,2.0s
NJ2 Nanjing 34.09 91 *e* P **P 21 43 05.3 +0.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 LR LR
comp=Z,870nm,14.2s
NJ2 LR LR
comp=Z,610nm,11.4s
NJ2 LR LR
comp=Z,870nm,15.2s
MMAI Mount Meron Ar 34.34 272 P **P 21 43 08.2 +1.1**
comp=Z,1.2nm,0.6s,baz=45,slow=12,SNR=6.9
MMAI LR LR 21 58 25.1
comp=Z,174nm,18.9s,baz=8.5,slow=39
comp=Z,1.2nm,0.6s
SNY Shenyang 34.45 72 ⇓ P **P 21 43 08.0 +0.2**
SNY S **S 21 48 38.7 +3.7**
SNY pmax pmax
comp=Z,6.0nm,0.5s
SNY LR LR
comp=Z,640nm,12.3s
SNY LR LR
comp=Z,540nm,9.0s
SNY LR LR
comp=Z,500nm,9.0s
BALJ Balqa 34.55 270 P **P 21 43 10.4 +1.7**
UBPT Khong Chiam 34.75 128 P **P 21 43 10.2 -0.5**
UBPT Khong Chiam 34.75 128 P **P 21 43 10.4 -0.2**
PURM Purcari 34.81 297 ⇑ P **P 21 43 11.8 +1.0**
PURM Purcari 34.81 297 P **P 21 43 11.0 +0.2**

comp=Z,83nm,0.9s,comp=Z,3μm
QIZ Qiongzhong 34.82 118 P **P 21 43 11.3 +0.1**
QIZ S **S 21 48 41.0 -0.1**
QIZ pmax pmax
comp=Z,21nm,1.2s
QIZ pmax pmax
comp=Z,280nm,2.6s
QIZ LR LR
comp=Z,600nm,11.1s
AK09 Malin Array Si 34.88 304 P **P 21 43 11.4 -0.1**
AK08 Malin Array Si 34.90 304 P **P 21 43 11.5 -0.1**
AK10 Malin Array Si 34.91 304 P **P 21 43 11.6 0.0**
AKASG Malin Array Be 34.92 304 P **P 21 43 11.9 +0.1**
comp=Z,8.3nm,0.8s,baz=77,slow=8.0,SNR=34
AKASG LR LR 21 58 49.9
comp=Z,2μm,18.4s,baz=78,slow=39
comp=Z,8.3nm,0.8s
AKASG Malin Array Be 34.92 304 *i* P **P 21 43 11.8 0.0**
AKASG pmax pmax
comp=Z,9.0nm,0.7s
AKBB Malin Array Si 34.92 304 P **P 21 43 11.9 +0.1**
AKBB lAmb lAmb 21 43 16.3
comp=Z,106nm,1.6s
AKBB Malin Array Si 34.92 304 *c i* P **P 21 43 11.7 -0.1**
AKBB pmax pmax
comp=Z,58nm,1.4s
AKBB Malin Array Si 34.92 304 P **P 21 43 11.9 +0.1**
AK03 Malin Array Si 34.92 304 P **P 21 43 11.6 -0.2**
AK01 Malin Array Si 34.93 304 P **P 21 43 11.6 -0.2**
KIEV Kiev 34.93 304 P **P 21 43 12.0 +0.2**
KIEV lAmb lAmb 21 43 16.3
comp=Z,104nm,1.6s
KIEV Kiev 34.93 304 *i* P **P 21 43 11.9 0.0**
SNR=18
KIEV Kiev 34.93 304 ⇑ P **P 21 43 12.2 +0.4**
KIEV Kiev 34.93 304 P **P 21 43 12.2 +0.4**
KIEV Kiev 34.93 304 P **P 21 43 11.8 0.0**
comp=Z,102nm,1.1s
KIEV Kiev 34.93 304 P **P 21 43 12.1 +0.2**
KIEV pP **sP 21 43 20.6 0.0**
AK02 Malin Array Si 34.93 304 P **P 21 43 11.7 -0.2**
AK05 Malin Array Si 34.94 304 P **P 21 43 11.7 -0.2**
AK07 Malin Array Si 34.94 304 P **P 21 43 11.9 0.0**
GHAJ Ghor Haditha 34.95 269 P **P 21 43 13.4 +1.2**
GHAJ lAmb lAmb 21 43 45.3
comp=Z,42nm,1.4s
AK04 Malin Array Si 34.96 304 P **P 21 43 12.1 0.0**
AK11 Malin Array Si 34.96 304 P **P 21 43 12.1 0.0**
AK12 Malin Array Si 34.97 304 P **P 21 43 12.2 0.0**
AK23 Malin Array Si 34.98 304 P **P 21 43 12.3 0.0**
CN2 Changchun 35.38 68 *e* P **P 21 43 18.6 +2.8**
CN2 PcP **PcP 21 45 48.1 +2.5**
CN2 *e* S **S 21 48 48.0 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
JOF Joensuu 35.51 325 *e* P **P 21 43 17.9 +1.2**
ZEA Zeya 35.76 51 *e* P **P 21 43 20.7 +1.7**
ZEA pmax pmax
comp=N,100nm,2.7s
ZEA pmax pmax
comp=Z,100nm,5.1s
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,30nm,1.1s
ZEA MLR MLR
comp=E,600nm,9.0s
ZEA MLR MLR
comp=Z,600nm,9.0s
MNK Minsk 35.78 310 *i* P **P 21 43 19.8 +0.7**
comp=E,9.0nm,0.8s
MNK *i* P **P 21 43 19.8 +0.7**
comp=N,30nm,0.9s
MNK *i* P **P 21 43 19.8 +0.7**
comp=Z,54nm,0.8s,baz=92
MNK *i* PP **PnPn 21 44 39.8 +0.7**
MNK *i* PPP PPP 21 44 54.7
MNK *i* S **S 21 48 59.0 +3.7**
MNK *i* SS **SnSn 21 51 22.8 +5.1**
MNK *i* SSS SSS 21 51 38.6
MNK *i* LQ LQ 21 55 19.7
MNK *i* LR LR 21 57 46.7
MNK *i* LRM MLR 21 58 56.5
comp=Z,1μm,16.0s
MNK *i* LRM MLR 21 58 58.5
comp=E,391nm,14.5s
MNK *i* LRM MLR 21 59 02.8
comp=N,850nm,16.8s
MNK Minsk 35.78 310 *i* P **P 21 43 19.7 +0.7**
MNK *i* 21 44 39.7
MNK *i* PPP PPP 21 44 54.6
MNK *i* S **S 21 48 58.9 +3.7**
MNK *i* SS **SnSn 21 51 22.7 +5.1**
MNK pmax pmax
comp=E,9.0nm,0.8s
MNK pmax pmax
comp=Z,54nm,0.8s
MNK pmax pmax
comp=N,30nm,0.9s
MNK MLR MLR
comp=Z,1μm,16.0s
MNK MLR MLR
comp=E,391nm,14.0s
MNK MLR MLR
comp=N,850nm,17.0s
LUBAR Lubar, Ukraine 35.90 303 P **P 21 43 19.7 -0.5**
MI28 Mi28,Pidlybu 35.90 304 P **P 21 43 20.6 +0.4**
comp=N,521nm,1.3s
HEH HeiHe 35.91 57 *e* P **P 21 43 21.5 +1.2**
HEH pmax pmax
comp=N,76nm,1.1s
HEH LR LR
comp=N,570nm,13.7s
HEH LR LR
comp=N,1μm,13.0s
HEH LR LR
comp=N,1μm,12.8s
LVZ Lovozero 36.16 334 P **P 21 43 22.5 +0.2**
LVZ Lovozero 36.16 334 P **P 21 43 24.8 +2.5**
LVZ Lovozero 36.16 334 P **P 21 43 22.5 +0.2**
comp=N,128nm,1.0s
LVZ Lovozero 36.16 334 P **P 21 43 23.1 +0.8**
LVZ pP **sP 21 43 32.0 +0.8**
EIL Elat 36.17 267 LR LR 22 00 49.3
comp=N,228nm,18.9s,baz=32,slow=41
SCTR Scanteieesti 36.22 295 ⇓ P **P 21 43 24.4 +1.3**
NDNU Novodnistrovsk 36.26 300 P **P 21 43 23.7 +0.4**
YLV Yalova 36.34 287 P **P 21 43 24.6 +0.4**
comp=N,23nm,1.1s
BNX BinXian 36.41 64 ⇓ P **P 21 43 26.3 +1.7**
BNX pmax pmax
comp=N,8.0nm,0.8s
BNX pmax pmax
comp=N,360nm,7.3s
NACGM Naroch 36.43 311 *e* P **P 21 43 25.8 +1.1**
comp=Z,47nm,1.1s,baz=92
GHRR 36.57 296 ⇓ P **P 21 43 26.6 +0.6**
GHRR 36.57 296 P **P 21 43 26.8 +0.9**
SURA Surathani 36.62 142 P **P 21 43 27.1 +0.5**
VSU Vasula 36.75 317 ⇓ *i* P **P 21 43 27.5 +0.1**
VSU pmax pmax
comp=Z,87nm,1.4s
HORU Horodok 36.82 302 P **P 21 43 28.9 +0.8**
HORU Horodok 36.82 302 P **P 21 43 28.9 +0.8**
ODBI Odobesti 36.86 296 P **P 21 43 29.9 +1.5**
comp=Z,21nm,0.9s,comp=Z,537nm
ODBI pP **pP 21 43 33.3 -1.4**
comp=Z,21nm,0.9s,comp=Z,537nm
KMPD K-Podol'skiy 36.86 300 P **P 21 43 27.9 -0.5**
RNPP9 Sopachiv 36.99 305 P **P 21 43 29.9 +0.4**
RNPP5 Staryi Chortor 37.01 305 P **P 21 43 30.0 +0.4**
TESR Tescani 37.01 297 ⇑ P **P 21 43 30.6 +0.8**
TESR Tescani 37.01 297 P **P 21 43 30.1 +0.3**
comp=Z,29nm,1.7s
RNPP8 Varash 37.02 305 P **P 21 43 30.1 +0.4**
VRI Vrincioaia 37.07 296 ⇓ P **P 21 43 31.9 +1.6**
VRI Vrincioaia 37.07 296 ⇓ P **P 21 43 31.9 +1.6**
VRI Vrincioaia 37.07 296 P **P 21 43 31.2 +1.0**
comp=Z,15nm,0.8s,comp=Z,180nm
SRIT Nakonsritamara 37.10 142 P **P 21 43 30.6 -0.1**
SRIT lAmb lAmb 21 43 31.8
comp=Z,44nm,0.8s
SRIT Nakonsritamara 37.10 142 P **P 21 43 31.2 +0.5**

PLOR5	**Plostina Array**	**37.11 296**	P	**P**	**21 43 32.1 +1.4**
	comp=Z,55nm,0.8s				
ELL	**Elmali**	**37.12 280**	P	**P**	**21 43 31.7 +0.8**
ELL			IAmb	IAmb	21 43 58.5
	comp=Z,40nm,0.9s				
ELL	**Elmali**	**37.12 280**	P	**P**	**21 43 31.7 +0.8**
ELL			pmax	pmax	
	comp=Z,40nm,0.9s				
PLOR	**Plostina**	**37.12 296**	⇑P	**P**	**21 43 31.7 +0.9**
PLOR	**Plostina**	**37.12 296**	⇑P	**P**	**21 43 31.7 +0.9**
PLOR3	**Plostina Array**	**37.12 296**	P	**P**	**21 43 31.7 +0.9**
BISRR	**Bisoca**	**37.13 295**	P	**P**	**21 43 31.6 +0.7**
	comp=Z,104nm,1.1s				
ONER	**Baraj Valea Uz**	**37.22 297**	⇑P	**P**	**21 43 33.2 +1.7**
ARBE	**Arbavere**	**37.26 319**	*e*P	**P**	**21 43 33.0 +1.3**
ISR	**Istrita**	**37.33 295**	⇑P	**P**	**21 43 34.5 +2.0**
ISR	**Istrita**	**37.33 295**	⇑P	**P**	**21 43 34.5 +2.0**
ISR	**Istrita**	**37.33 295**	P	**P**	**21 43 33.3 +0.8**
	comp=Z,38nm,1.4s				
COVR	**Voineasa-Covas**	**37.43 296**	⇓P	**P**	**21 43 35.0 +1.6**
NEHR	**Nehoiu**	**37.44 295**	⇓P	**P**	**21 43 36.0 +2.5**
TURR	**Turia**	**37.52 296**	⇓P	**P**	**21 43 35.6 +1.5**
FIA1	**FINESS Array S**	**37.53 322**	P	**P**	**21 43 34.5 +0.5**
FIA1			IAmb	IAmb	21 43 39.3
	comp=Z,70nm,0.9s				
FINES	**FINESS Array B**	**37.53 322**	P	**P**	**21 43 34.8 +0.9**
	comp=Z,15nm,0.7s,baz=106,slow=9.0,SNR=67				
FINES			LR	LR	22 01 22.1
	comp=Z,168nm,19.6s,baz=86,slow=40				
	comp=Z,15nm,0.7s				
FINES	**FINESS Array B**	**37.53 322**	*i* P	**P**	**21 43 34.7 +0.7**
FINES			pmax	pmax	
	comp=Z,15nm,0.7s				
MLR	**Muntele Rosu**	**37.67 296**	P	**P**	**21 43 36.6 +1.1**
MLR			IAmb	IAmb	21 43 42.8
	comp=Z,54nm,1.1s				
MLR	**Muntele Rosu**	**37.67 296**	LR	LR	22 01 37.5
	comp=Z,902nm,19.3s,baz=76,slow=40				
MLR	**Muntele Rosu**	**37.67 296**	⇑P	**P**	**21 43 37.6 +2.1**
MLR	**Muntele Rosu**	**37.67 296**	⇑P	**P**	**21 43 37.6 +2.1**
MLR	**Muntele Rosu**	**37.67 296**	P	**P**	**21 43 36.4 +0.9**
BURAR	**Bucovina Array**	**37.81 299**	⇓P	**P**	**21 43 37.7 +1.0**
BURAR	**Bucovina Array**	**37.81 299**	⇓P	**P**	**21 43 37.7 +1.0**
KSV	**Kosov**	**37.81 300**	P	**P**	**21 43 37.0 +0.4**
KSV	**Kosov**	**37.81 300**	P	**P**	**21 43 37.0 +0.4**
BUR08	**Bucovina Ar. S**	**37.82 299**	P	**P**	**21 43 37.1 +0.4**
INCN	**Inchon**	**37.94 78**	P	**P**	**21 43 38.5 +0.8**
INCN			IAmb	IAmb	21 43 41.3
	comp=Z,20nm,0.7s				
INCN	**Inchon**	**37.94 78**	P	**P**	**21 43 38.5 +0.8**
INCN			pmax	pmax	
	comp=Z,21nm,0.7s				
YAK	**Yakutsk**	**37.94 37**	P	**P**	**21 43 36.7 -0.6**
YAK	**Yakutsk**	**37.94 37**	LR	LR	21 59 55.8
	comp=Z,915nm,18.1s,baz=260,slow=37				
YAK	**Yakutsk**	**37.94 37**	*e*P	**P**	**21 43 36.1 -1.3**
YAK			*e*		21 45 06.2
YAK			*e*		21 45 50.7
YAK			*e*S	**S**	**21 49 25.6 -2.4**
YAK			*e*SS	**SnSn**	**21 52 09.2 -0.6**
YAK			*e*		21 53 47.2
YAK			pmax	pmax	
	comp=Z,33nm,2.0s				
YAK			pmax	pmax	
	comp=N,11nm,2.0s				
YAK			pmax	pmax	
	comp=E,28nm,1.7s				
YAK			pmax	pmax	
	comp=Z,434nm,5.3s				
YAK			pmax	pmax	
	comp=N,209nm,4.4s				
YAK			pmax	pmax	
	comp=E,172nm,3.1s				
YAK			smax	smax	
	comp=E,264nm,4.2s				
YAK			smax	smax	
	comp=N,249nm,4.1s				
DOPR	**Dopca**	**37.97 296**	⇓P	**P**	**21 43 39.5 +1.6**
PABE	**Paberze**	**38.06 312**	P	**P**	**21 43 39.0 +0.5**
PABE			IAmb	IAmb	21 43 44.6
	comp=Z,56nm,1.1s				
PABE	**Paberze**	**38.06 312**	*e*P	**P**	**21 43 38.3 -0.2**
VSVD	**Vaisvydziai**	**38.09 313**	*e*P	**P**	**21 43 39.5 +0.7**
STNU	**Starunia**	**38.13 301**	P	**P**	**21 43 39.6 +0.4**
MDJ	**Mudanjiang**	**38.14 66**	P	**P**	**21 43 39.5 +0.2**
MDJ	**Mudanjiang**	**38.14 66**	P	**P**	**21 43 39.8 +0.5**
MDJ			pP	sP	21 43 50.1 +2.0
MDJ			PcP	**PcP**	**21 45 53.0 -0.9**
MDJ			S	**S**	**21 49 31.6 +0.2**
MDJ			PcS	**PcS**	**21 49 40.4 -2.3**
MDJ			pmax	pmax	
	comp=Z,13nm,1.4s				
MDJ			LR	LR	
	comp=Z,1μm,13.7s				
MDJ			LR	LR	
	comp=Z,960nm,14.2s				
MDJ			LR	LR	
	comp=Z,1μm,14.7s				
MEF	**Metsahovi**	**38.16 320**	*e*P	**P**	**21 43 40.4 +1.2**
KEF	**Keuruu**	**38.23 323**	*e*P	**P**	**21 43 40.4 +0.6**
ELND	**Elena**	**38.27 292**	⇑P	**P**	**21 43 41.3 +0.8**
VOIR		**38.30 296**	⇑P	**P**	**21 43 42.0 +1.2**
VOIR		**38.30 296**	⇑P	**P**	**21 43 42.0 +1.2**
VOIR		**38.30 296**	P	**P**	**21 43 41.1 +0.3**
	comp=Z,8.7nm,0.9s				
ARCR	**ARCALIA**	**38.48 298**	⇓P	**P**	**21 43 43.9 +1.8**
MORS	**Morshin**	**38.48 302**	P	**P**	**21 43 41.0 -1.1**
MORS	**Morshin**	**38.48 302**	P	**P**	**21 43 41.0 -1.1**
SUW	**Suwalki**	**38.53 310**	*e*P	**P**	**21 43 42.8 +0.3**
SUW	**Suwalki**	**38.53 310**	P	**P**	**21 43 41.9 -0.6**
SUW	**Suwalki**	**38.53 310**	*e*P	**P**	**21 43 42.8 +0.3**
SUW	**Suwalki**	**38.53 310**	P	**P**	**21 43 41.9 -0.6**
SUW			pmax	pmax	
	comp=Z,292nm,1.9s				
ARR	**Arges**	**38.60 296**	⇑P	**P**	**21 43 44.3 +1.0**
KLR	**Kul'dur**	**38.81 58**	LR	LR	22 01 03.6
	comp=Z,702nm,18.4s,baz=266,slow=38				
KLR	**Kul'dur**	**38.81 58**	⇑P	**P**	**21 43 45.7 +0.8**
KLR			pmax	pmax	
	comp=Z,32nm,1.8s				
MEZ	**Mezhgor'ye**	**38.81 301**	P	**P**	**21 43 45.8 +0.9**
SHIU	**Shidnytsya**	**38.81 302**	P	**P**	**21 43 45.6 +0.6**
KS19	**Wonju Array Si**	**38.85 77**	P	**P**	**21 43 45.2 -0.2**
VADS	**Vadso**	**38.86 336**	*e*P	**P**	**21 43 45.4 +0.4**
TJN	**Taejon**	**38.87 79**	⇓*e*P	**P**	**21 43 44.9 -0.6**
KSAR	**Wonju Array Be**	**38.89 77**	P	**P**	**21 43 44.6 -1.1**
KSRS	**Korea Array**	**38.91 77**	P	**P**	**21 43 46.1 +0.2**
	comp=Z,5.2nm,0.9s,baz=286,slow=7.5,SNR=15				
KSRS			PcP	**PcP**	**21 45 57.4 +1.0**
	comp=Z,4.2nm,0.9s,baz=286,slow=3.3,SNR=6.8				
	comp=Z,5.2nm,0.9s				
LHMI	**Lhok Sumawe**	**38.94 148**	P	**P**	**21 43 46.2 0.0**
BMR	**Baia Mare**	**38.95 300**	⇑P	**P**	**21 43 46.5 +0.4**
BMR	**Baia Mare**	**38.95 300**	P	**P**	**21 43 46.5 +0.4**
CJR	**Cluj-Napoca**	**39.05 298**	P	**P**	**21 43 49.3 +2.3**
BRIU	**Brid**	**39.16 301**	P	**P**	**21 43 48.6 +0.8**
KWP	**Kalwaria Pacla**	**39.18 303**	*e*P	**P**	**21 43 48.9 +0.8**
KWP	**Kalwaria Pacla**	**39.18 303**	P	**P**	**21 43 48.8 +0.8**
KWP	**Kalwaria Pacla**	**39.18 303**	P	**P**	**21 43 48.8 +0.8**
KWP			pmax	pmax	
	comp=Z,410nm,2.0s				
KWP	**Kalwaria Pacla**	**39.18 303**	P	**P**	**21 43 48.7 +0.7**
	comp=Z,89nm,1.6s				
LOT	**Lotru**	**39.18 296**	⇓P	**P**	**21 43 49.8 +1.6**
MUKU	**Mukachevo**	**39.36 301**	P	**P**	**21 43 50.0 +0.5**
VAF	**Yiistaro**	**39.38 324**	*e*P	**P**	**21 43 51.0 +1.6**
MARR	**Marisel-Cluj**	**39.38 298**	⇓P	**P**	**21 43 50.5 +0.6**
BERU	**Beregovo**	**39.43 301**	P	**P**	**21 43 50.6 +0.6**
KEV	**Kevo**	**39.46 335**	P	**P**	**21 43 50.5 +0.5**
KEV			IAmb	IAmb	21 43 51.6
	comp=Z,33nm,0.8s				
KEV	**Kevo**	**39.46 335**	P	**P**	**21 43 50.5 +0.5**
KEV			pmax	pmax	
	comp=Z,33nm,0.8s				
KEV	**Kevo**	**39.46 335**	P	**P**	**21 43 50.8 +0.7**
HOLU	**Holmets**	**39.55 301**	P	**P**	**21 43 51.3 +0.2**
KOLS	**Kolonicke sedl**	**39.56 302**	*e*P	**P**	**21 43 52.3 +1.1**
KOLS			pmax	pmax	
	comp=Z,10.0nm,0.8s				
KOLS	**Kolonicke sedl**	**39.56 302**	*e*P	**P**	**21 43 52.3 +1.1**
KARP	**Karpathos**	**39.62 280**	P	**P**	**21 43 52.0 +0.2**
KARP			IAmb	IAmb	21 44 09.1
	comp=Z,89nm,1.1s				
DRGR		**39.64 298**	⇑P	**P**	**21 43 52.2 +0.3**
DRGR		**39.64 298**	⇑P	**P**	**21 43 52.2 +0.3**
KAAM	**Kaadhehdhoo**	**39.73 187**	P	**P**	**21 43 52.4 -0.5**
SSLB	**Suanglung**	**39.85 101**	P	**P**	**21 43 54.2 +0.3**
SSLB			IAmb	IAmb	21 44 00.6
	comp=Z,54nm,1.3s				
SSLB	**Suanglung**	**39.85 101**	P	**P**	**21 43 56.1 +2.2**
ARA0	**ARCESS Array S**	**39.88 334**	*e*P	**P**	**21 43 54.8 +1.3**
ARCES	**ARCESS Array B**	**39.88 334**	P	**P**	**21 43 54.7 +1.2**
	comp=Z,41nm,0.8s,baz=107,slow=8.0,SNR=87				
ARCES			LR	LR	22 01 05.7
	comp=Z,1μm,19.7s,baz=110,slow=37				
	comp=Z,41nm,0.8s				
GZR	**Gura Zlata**	**39.88 296**	⇑P	**P**	**21 43 55.2 +1.2**
USRK	**Ussuriysk Ar.**	**39.91 66**	P	**P**	**21 43 55.2 +1.1**
	comp=Z,5.5nm,1.0s,baz=278,slow=9.8,SNR=5.9				
USRK			LR	LR	22 01 58.6
	comp=Z,591nm,18.1s,baz=289,slow=39				
	comp=Z,5.5nm,1.0s				
STHS	**Stebnicka Huta**	**40.16 303**	*e*P	**P**	**21 43 55.4 -0.7**
STHS			pmax	pmax	
	comp=Z,6.0nm,0.9s				
STHS	**Stebnicka Huta**	**40.16 303**	*e*P	**P**	**21 43 55.4 -0.7**
HERR	**Herculane**	**40.24 295**	⇓P	**P**	**21 43 58.7 +1.8**
SURR	**Surduc**	**40.25 297**	⇑P	**P**	**21 43 58.5 +1.6**
TIXI	**Tiksi**	**40.41 22**	P	**P**	**21 43 58.0 +1.1**
TIXI	**Tiksi**	**40.41 22**	LR	LR	22 01 33.9
	comp=Z,2μm,19.1s,baz=264,slow=37				
TIXI	**Tiksi**	**40.41 22**	*c i* P	**P**	**21 43 57.8 -0.1**
TIXI			pmax	pmax	
	comp=Z,64nm,1.7s				
TIXI	**Tiksi**	**40.41 22**	P	**P**	**21 43 58.2 +0.3**
SIRR	**Siria**	**40.45 298**	⇑P	**P**	**21 43 60.0 +1.4**
KTK1	**Kautokeino**	**40.48 333**	*e*P	**P**	**21 43 59.6 +1.1**
KULM	**Kulim**	**40.49 143**	P	**P**	**21 43 58.1 -1.0**
KULM			IAmb	IAmb	21 43 59.9
	comp=Z,32nm,0.8s				
KULM	**Kulim**	**40.49 143**	P	**P**	**21 43 59.0 -0.2**
TWG	**Pinlang**	**40.50 102**	P	**P**	**21 44 00.1 +0.8**
TWG			IAmb	IAmb	21 44 05.0
	comp=Z,65nm,1.2s				
TWGBT	**Beinan**	**40.51 102**	P	**P**	**21 44 01.9 +2.6**
BZS	**Buzias**	**40.62 297**	⇓P	**P**	**21 44 01.2 +1.2**
BZS	**Buzias**	**40.62 297**	⇓P	**P**	**21 44 01.2 +1.2**
MDVR	**Moldovita**	**40.75 295**	⇑P	**P**	**21 44 02.8 +1.7**
NIE	**Niedzica**	**40.77 303**	*e*P	**P**	**21 44 03.4 +2.2**
NIE	**Niedzica**	**40.77 303**	P	**P**	**21 44 02.3 +1.1**
NIE	**Niedzica**	**40.77 303**	P	**P**	**21 44 02.3 +1.1**
	comp=Z,21nm,1.0s				
KECS	**Kecovo**	**40.80 301**	*e*P	**P**	**21 44 02.7 +1.2**
KECS			pmax	pmax	
	comp=Z,19nm,0.9s				
KECS	**Kecovo**	**40.80 301**	*e*P	**P**	**21 44 02.7 +1.2**
HAMF	**Hammerfest**	**40.83 336**	*e*P	**P**	**21 44 03.1 +1.7**
OJC	**Ojcow**	**40.96 304**	*e*P	**P**	**21 44 03.3 +0.5**
OJC	**Ojcow**	**40.96 304**	P	**P**	**21 44 03.2 +0.4**
OJC	**Ojcow**	**40.96 304**	P	**P**	**21 44 03.2 +0.4**
OJC			pmax	pmax	
	comp=Z,214nm,2.0s				
OJC	**Ojcow**	**40.96 304**	P	**P**	**21 44 03.1 +0.4**
	comp=Z,42nm,1.6s				
BOVS	**Bovan**	**41.04 294**	⇓P	**P**	**21 44 04.4 +0.9**
PSZ	**Piszkesteto**	**41.30 301**	P	**P**	**21 44 06.5 +0.9**
PSZ	**Piszkesteto**	**41.30 301**	*e*P	**P**	**21 44 06.6 +0.9**
PSZ	**Piszkesteto**	**41.30 301**	⇓P	**P**	**21 44 06.7 +1.0**
PSZ	**Piszkesteto**	**41.30 301**	⇓P	**P**	**21 44 06.7 +1.0**
PSZ					21 44 13.4
LANS	**Liptovska Anna**	**41.35 302**	*e*P	**P**	**21 44 07.6 +1.6**
LANS			pmax	pmax	
	comp=Z,4.0nm,1.1s				
LANS	**Liptovska Anna**	**41.35 302**	*e*P	**P**	**21 44 07.6 +1.6**
JETT	**Jettan, Norway**	**41.59 334**	*e*P	**P**	**21 44 09.1 +1.3**
ATD	**Arta Tunnel**	**41.86 237**	LR	LR	22 03 30.2
	comp=Z,9.3nm,19.6s,baz=25,slow=39				
FRGS	**Fruska Gora**	**41.97 297**	⇑*i*P	**P**	**21 44 11.4 +0.3**
OKC	**Ostrava-Krasne**	**42.07 304**	P	**P**	**21 44 13.6 +1.7**
FNA	**Florina**	**42.10 290**	P	**P**	**21 44 12.1 -0.2**
FNA	**Florina**	**42.10 290**	P	**P**	**21 44 12.1 -0.2**
FNA			pmax	pmax	
	comp=Z,10.0nm,1.0s				
GKP	**Gorka Klasztor**	**42.12 309**	*e*P	**P**	**21 44 13.0 +0.8**
GKP	**Gorka Klasztor**	**42.12 309**	*e*P	**P**	**21 44 13.3 +1.1**
GKP	**Gorka Klasztor**	**42.12 309**	P	**P**	**21 44 15.9 +3.7**
TRO	**Tromso**	**42.12 334**	*e*P	**P**	**21 44 12.8 +0.9**
TEKS	**Tekeris**	**42.32 296**	⇑*i*P	**P**	**21 44 14.4 +0.4**
SJES	**Sjenica**	**42.36 294**	⇑*i*P	**P**	**21 44 15.6 +1.2**
SRO	**Srobarova**	**42.36 301**	*e*P	**P**	**21 44 16.1 +1.9**
SRO			pmax	pmax	
	comp=Z,16nm,0.8s				
SRO	**Srobarova**	**42.36 301**	*e*P	**P**	**21 44 16.1 +1.9**
MAUC	**Maruska**	**42.36 303**	*e*P	**P**	**21 44 15.8 +1.5**
MORC	**Moravsky Berou**	**42.47 304**	P	**P**	**21 44 15.7 +0.5**
MORC			IAmb	IAmb	21 44 21.5
	comp=Z,69nm,1.6s				
MORC	**Moravsky Berou**	**42.47 304**	*e*P	**P**	**21 44 16.0 +0.8**
MORC			*e*		21 45 54.6
MORC	**Moravsky Berou**	**42.47 304**	⇑P	**P**	**21 44 16.6 +1.4**
MORC	**Moravsky Berou**	**42.47 304**	⇑P	**P**	**21 44 16.6 +1.4**
MORC					21 44 20.8
MORH	**Mrgy, Hungar**	**42.50 298**	⇑P	**P**	**21 44 16.1 +0.7**
MORH	**Mrgy, Hungar**	**42.50 298**	P	**P**	**21 44 15.8 +0.4**
	comp=Z,20nm,1.6s				
JAVC	**Velka Javorina**	**42.56 302**	*e*P	**P**	**21 44 17.9 +1.9**
BBLS	**Lazi&#263i**	**42.59 295**	⇑*i*P	**P**	**21 44 16.9 +0.7**
BLEU	**Blekinge**	**42.62 314**	*i* P	**P**	**21 44 16.2 0.0**
RUDO	**Rudo**	**42.68 294**	⇑*i*P	**P**	**21 44 17.2 +0.3**
PUK	**Puka**	**42.77 292**	P	**P**	**21 44 18.4 +0.7**
GSI	**Gunungsitoli**	**42.77 150**	P	**P**	**21 44 18.0 +0.1**
SMOL	**Smolenice**	**42.79 302**	*e*P	**P**	**21 44 18.4 +0.6**
SMOL			pmax	pmax	
	comp=Z,17nm,1.3s				
JNU	**Nakatsue**	**42.81 82**	P	**P**	**21 44 17.9 -0.3**
JNU	**Nakatsue**	**42.81 82**	LR	LR	22 04 29.8
	comp=Z,220nm,19.6s,baz=299,slow=40				
JNU	**Nakatsue**	**42.81 82**	P	**P**	**21 44 19.7 +1.5**
HAPS	**Han Pijesak,Bl**	**42.84 295**	⇑*i*P	**P**	**21 44 19.2 +0.9**
KRLC	**Kraliky**	**42.90 304**	*e*P	**P**	**21 44 19.5 +0.9**
KRLC			*ex*	**pP**	**21 44 22.2 -2.8**
KRLC	**Kraliky**	**42.90 304**	*e*P	**P**	**21 44 19.5 +0.9**
KRLC			*e**PP	**pP**	**21 44 22.2 -2.8**
MODS	**Modra-Piesok**	**42.92 302**	*e*P	**P**	**21 44 20.2 +1.4**
MODS			pmax	pmax	
	comp=Z,34nm,1.3s				
MODS	**Modra-Piesok**	**42.92 302**	*e*P	**P**	**21 44 20.2 +1.4**
MPLH	**Magyarpolny**	**43.02 300**	P	**P**	**21 44 20.1 +0.5**
	comp=Z,61nm,1.5s				
FAUS	**Fauske**	**43.06 330**	*e*P	**P**	**21 44 20.7 +1.1**
KSP	**Ksiaz**	**43.06 305**	*e*P	**P**	**21 44 20.8 +0.8**
KSP	**Ksiaz**	**43.06 305**	P	**P**	**21 44 20.6 +0.7**
KSP	**Ksiaz**	**43.06 305**	P	**P**	**21 44 20.6 +0.7**
	comp=Z,17nm,0.9s				
PDG	**Podgorica**	**43.10 293**	⇑*i*P	**P**	**21 44 20.4 +0.1**
PDG	**Podgorica**	**43.10 293**	⇑P	**P**	**21 44 21.2 +0.9**
UPM	**Unac-Piva**	**43.12 294**	⇑*i*P	**P**	**21 44 21.7 +1.0**
DPC	**Dobruska-Polom**	**43.13 305**	*e*P	**P**	**21 44 21.7 +1.1**
DPC			*ex*	**pP**	**21 44 24.4 -2.5**
DPC	**Dobruska-Polom**	**43.13 305**	*e*P	**P**	**21 44 21.7 +1.1**
DPC			*e**PP	**pP**	**21 44 24.4 -2.5**
DPC	**Dobruska-Polom**	**43.13 305**	P	**P**	**21 44 21.3 +0.7**
	comp=Z,21nm,1.1s				
STEI	**Steigen**	**43.14 331**	*e*P	**P**	**21 44 21.2 +1.0**
OSTC	**Ostas**	**43.16 305**	*e*P	**P**	**21 44 21.9 +1.1**
OSTC			AMS	AMS	22 03 20.0
	comp=Z,2μm,17.7s				
OSTC	**Ostas**	**43.16 305**	*e*P	**P**	**21 44 21.9 +1.1**
OSTC			MLR	MLR	
	comp=Z,2μm,17.7s				
VRAC	**Vranov**	**43.17 303**	*e*P	**P**	**21 44 21.9 +1.1**
VRAC			*e*		21 46 09.7
VRAC	**Vranov**	**43.17 303**	⇑P	**P**	**21 44 21.6 +0.8**
VRAC	**Vranov**	**43.17 303**	P	P	21 44 27.4 +6.6
BSD	**Bornholm Skovb**	**43.25 312**	*i* P	**P**	**21 44 21.8 +0.5**
CHVC	**Chvalec**	**43.26 305**	*e*P	**P**	**21 44 22.6 +1.1**
CHVC	**Chvalec**	**43.26 305**	*e*P	**P**	**21 44 22.6 +1.1**
MORB	**Moi Rana**	**43.27 328**	*e*P	**P**	**21 44 21.3 -0.1**
UPC	**Upice**	**43.30 305**	*e*P	**P**	**21 44 23.2 +1.4**
UPC	**Upice**	**43.30 305**	*e*P	**P**	**21 44 23.2 +1.4**
KRUC	**Moravsky**	**43.34 303**	*e*P	**P**	**21 44 23.4 +1.2**
KRUC			*e*		21 46 03.8
BRY	**Bratogost**	**43.47 294**	*e*P	**P**	**21 44 24.8 +1.3**
HFS	**Hagfors**	**43.50 319**	P	**P**	**21 44 23.8 +0.5**
	comp=Z,19nm,0.7s,baz=98,slow=11,SNR=23				
HFS			LR	LR	22 03 56.2
	comp=Z,326nm,21.6s,baz=124,slow=38				
	comp=Z,19nm,0.7s				
SOP	**Sopron**	**43.55 301**	P	**P**	**21 44 25.7 +1.9**
HCY	**Herceg Novi**	**43.64 293**	*e*P	**P**	**21 44 29.2 +4.5**
TREB	**Trebinje**	**43.66 293**	*e*P	**P**	**21 44 24.7 -0.1**
DEL	**Delary**	**43.68 314**	*i* P	**P**	**21 44 24.8 0.0**
BEHE	**Becsehely**	**43.70 299**	P	**P**	**21 44 25.7 +0.6**
BEHE			IAmb	IAmb	21 44 31.3
	comp=Z,30nm,0.9s				
RONA	**Rosalia, Austr**	**43.71 301**	*i* P	**P**	**21 44 26.2 +1.0**
	comp=Z,16nm,1.1s,SNR=13				
BLY	**Banja Luka**	**43.88 297**	⇑*i*P	**P**	**21 44 26.8 +0.3**
CONA	**Conrad Observa**	**43.95 301**	*i* P	**P**	**21 44 28.3 +1.1**
	comp=Z,25nm,1.0s,SNR=17				
A051A	**Mrakovica**	**43.99 297**	⇑*i*P	**P**	**21 44 27.6 0.0**
LUNU	**Lund**	**44.02 313**	*i* P	**P**	**21 44 28.7 +1.2**
STON	**Ston**	**44.06 294**	⇑*i*P	**P**	**21 44 27.8 -0.2**
BJUU	**Bjuv**	**44.20 313**	*i* P	**P**	**21 44 29.5 +0.6**
PVCC	**Panska Ves**	**44.20 305**	*e*P	**P**	**21 44 30.4 +1.4**
PVCC	**Panska Ves**	**44.20 305**	*e*P	**P**	**21 44 30.4 +1.4**
FABU	**Falkenberg**	**44.25 315**	*i* P	**P**	**21 44 30.0 +0.6**
PRU	**Pruhonice**	**44.33 305**	*e*P	**P**	**21 44 31.1 +1.0**
PRU	**Pruhonice**	**44.33 305**	*e*P	**P**	**21 44 31.1 +1.0**
ARSA	**Arzberg**	**44.33 301**	*i* P	**P**	**21 44 30.8 +0.6**
	comp=Z,8.2nm,0.9s				
PTJ	**Puntijarka**	**44.38 299**	P	**P**	**21 44 32.1 +1.4**
A050A	**Klekovaca**	**44.40 296**	⇑*i*P	**P**	**21 44 31.7 +0.9**
NC405	**NORSAR Array S**	**44.42 321**	P	**P**	**21 44 31.2 +0.5**
NC405			IAmb	IAmb	21 44 35.0
	comp=Z,36nm,0.8s				
BRG	**Berggiesshubel**	**44.52 306**	*i* P	**P**	**21 44 32.7 +1.0**
BRG			Amp		21 44 37.2
	comp=Z,15nm,1.0s				
BRG			PP	**PcP**	**21 46 11.2 -3.4**
BRG			Amp		21 46 16.0
	comp=Z,8.2nm,0.9s				
BRG	**Berggiesshubel**	**44.52 306**	*i* P	**P**	**21 44 32.6 +1.0**
BRG					21 46 11.2
BRG			pmax	pmax	
	comp=Z,15nm,1.0s				
BRG			MLR	MLR	
	comp=Z,2μm,11.9s				
BRG			MLR	MLR	
	comp=N,637nm,7.8s				
BRG			MLR	MLR	
	comp=E,2μm,9.5s				
NC602	**NORSAR Array S**	**44.53 320**	*e*P	**P**	**21 44 32.0 +0.5**
NORES	**NORESS Array B**	**44.53 320**	P	**P**	**21 44 32.2 +0.6**
NB2	**NORSAR Subarra**	**44.67 321**	P	**P**	**21 44 32.7 0.0**
	comp=Z,10nm,0.7s,baz=88,slow=7.9				
NB2	**NORSAR Subarra**	**44.67 321**	P	**P**	**21 44 32.7 0.0**
	baz=88,slow=7.9				
NOA	**NORSAR Array B**	**44.67 321**	P	**P**	**21 44 33.2 +0.5**
	comp=Z,12nm,0.7s,baz=88,slow=7.8,SNR=44				
NOA			LR	LR	22 03 59.4
	comp=Z,1μm,18.2s,baz=80,slow=37				
	comp=Z,12nm,0.7s				
CKRC	**Cesky Krumlov**	**44.74 303**	*e*P	**P**	**21 44 35.2 +1.8**
CKRC			*ex*	**pP**	**21 44 37.8 -2.0**
CKRC	**Cesky Krumlov**	**44.74 303**	*e*P	**P**	**21 44 35.2 +1.8**
CKRC			*e**PP	**pP**	**21 44 37.8 -2.0**
PERS	**Pernice**	**44.76 300**	*i* P	**P**	**21 44 34.1 +0.5**
SOKA	**Soboth**	**44.80 300**	*i* P	**P**	**21 44 34.8 +0.8**
	comp=Z,33nm,1.2s,SNR=21				
JMN	**Monobe**	**44.82 80**	P	**P**	**21 44 33.9 -0.4**
JMN			IAmb	IAmb	21 45 49.2
	comp=Z,27nm,0.7s				
JMN	**Monobe**	**44.82 80**	P	**P**	**21 44 37.5 +3.2**
STRU	**Stroemstad**	**44.85 318**	*i* P	**P**	**21 44 33.8 -0.2**
HSKC	**Hora Svate Kat**	**44.89 306**	*e*P	**P**	**21 44 36.1 +1.5**
MOA	**Molln**	**45.01 302**	*i* P	**P**	**21 44 36.1 +0.6**
	comp=Z,10nm,1.0s				
CLL	**Collm**	**45.01 307**	P	**P**	**21 44 35.8 +0.3**
CLL			IAmb	IAmb	21 44 40.5
	comp=Z,86nm,1.9s				
CLL	**Collm**	**45.01 307**	⇑*i*P	**P**	**21 44 35.5 0.0**
CLL			pmax	pmax	
	comp=Z,18nm,0.9s				
CLL	**Collm**	**45.01 307**	⇑*i*P	**P**	**21 44 35.5 0.0**
	comp=Z,18nm,0.9s				
CLL			*e*PP	**PP**	**21 46 19.0 -1.6**
CLL			*i* sPP		21 46 37.2
CLL			*e*PPP	PPP	21 47 01.0
CLL			*e*PPPP		21 47 10.0
CLL	**Collm**	**45.01 307**	P	**P**	**21 44 35.1 -0.4**
	comp=Z,20nm,1.2s				
MYKOM	**Kota Tinggi**	**45.06 141**	P	**P**	**21 44 35.3 -0.9**
MYKOM			IAmb	IAmb	21 44 36.8
	comp=Z,24nm,0.8s				
MYKOM	**Kota Tinggi**	**45.06 141**	P	**P**	**21 44 36.5 +0.3**
BKNI	**Bangkinang**	**45.08 146**	P	**P**	**21 44 32.3 -4.1**
GEC2	**GERESS Array S**	**45.12 303**	P	**P**	**21 44 37.6 +1.0**
GEC2			IAmb	IAmb	21 44 41.4
	comp=Z,35nm,1.0s				
GERES	**GERESS Array B**	**45.12 303**	P	**P**	**21 44 36.9 +0.3**
	comp=Z,13nm,0.8s				
GERES			LR	LR	22 05 02.2
	comp=Z,959nm,18.4s,baz=90,slow

YSS pmax pmax
comp=Z,30nm,1.1s
FURI Furi 46.53 239 P P 21 44 50.2 +1.9
FURI IAmb IAmb 21 44 58.2
comp=Z,41nm,1.1s
FURI Furi 46.53 239 LR LR 22 07 22.8
comp=Z,109nm,18.6s,baz=30,slow=40
JGF Kuroka 46.64 76 P **P 21 44 49.1 +0.4**
WTTA Wattenberg 46.88 302 *i* P **P 21 44 50.7 +0.2**
comp=Z,24nm,1.2s,SNR=10
MJB9 Matsu-Tunnel 46.88 74 P **P 21 44 51.3 +0.8**
MAJO Matsushiro 46.88 74 P **P 21 44 50.7 +0.2**
MAJO Matsushiro 46.88 74 P **P 21 44 53.1 +2.6**
MAJO Matsushiro 46.88 74⇓ *eP* **P 21 44 49.2 -1.3**
MAJO pmax pmax
comp=Z,27nm,1.5s
MJAR Matsushiro Arr 46.89 74 P **P 21 44 51.2 +0.6**
comp=Z,9.4nm,0.9s,baz=297,slow=8.4,SNR=22
MJAR PcP **PcP 21 46 23.3 +0.2**
comp=Z,5.2nm,1.0s,baz=298,slow=3.2,SNR=6.0
MJAR LR LR 22 05 03.2
comp=Z,149nm,20.4s,baz=299,slow=37
comp=Z,9.4nm,0.9s
WATA Walderalm 46.90 302 *i* P **P 21 44 50.8 +0.1**
comp=Z,31nm,1.5s,SNR=11
INTR Introdacqua 47.00 294 P **P 21 44 52.0 +0.6**
INTR IAmb IAmb 21 45 07.9
comp=Z,24nm,1.1s
CAMP Campotosto 47.17 295 P **P 21 44 53.3 +0.5**
SQTA Sankt Quirin 47.17 302 *i* P **P 21 44 52.7 -0.1**
comp=Z,13nm,1.2s
MOTA Moosalm 47.20 302 *i* P **P 21 44 53.0 0.0**
comp=Z,25nm,1.2s
CTI Castel Tesino 47.23 300 P **P 21 44 52.6 -0.6**
CTI Castel Tesino 47.23 300 P **P 21 44 52.6 -0.6**
CTI pmax pmax
comp=Z,14nm,1.0s
ASAJ Asahikawa 47.25 63 LR LR 22 06 39.6
comp=Z,221nm,21.0s,baz=285,slow=38
RETA Reutte 47.38 302 *i* P **P 21 44 54.6 +0.3**
comp=Z,32nm,1.4s,SNR=14
FETA Feichten 47.54 302 *i* P **P 21 44 55.5 -0.1**
comp=Z,14nm,1.3s
FUORN Ofenpass-Fuorn 47.97 301 P **P 21 44 58.8 -0.4**
FUORN IAmb IAmb 21 45 09.3
comp=Z,54nm,1.8s
DAVA Damuels 48.01 302 *i* P **P 21 44 59.8 +0.4**
comp=Z,25nm,0.8s,SNR=15
STU Stuttgart 48.02 304 P **P 21 44 59.6 +0.4**
STU IAmb IAmb 21 45 05.2
comp=Z,28nm,1.1s
STU Stuttgart 48.02 304 *eP* **P 21 44 60.0 +0.8**
STU Stuttgart 48.02 304 P **P 21 44 59.6 +0.4**
STU pmax pmax
comp=Z,28nm,1.1s
MA2 Magadan 48.24 41 LR LR 22 06 06.6
comp=Z,409nm,19.5s,baz=280,slow=37
JMM Marumori 48.25 71 P **P 21 45 01.0 -0.1**
JMM IAmb IAmb 21 45 04.3
comp=Z,50nm,1.2s
JMM Marumori 48.25 71 P **P 21 45 01.9 +0.9**
KKM Kota Kinabalu 48.54 124 P **P 21 45 03.9 +0.2**
KKM Kota Kinabalu 48.54 124 P **P 21 45 04.7 +1.1**
BFO Black Forest 48.70 304 P **P 21 45 04.6 +0.2**
BFO IAmb IAmb 21 45 09.2
comp=Z,55nm,1.7s
BFO Black Forest 48.70 304 P **P 21 45 04.6 +0.2**
BFO pmax pmax
comp=Z,55nm,1.7s
BFO Black Forest 48.70 304 P **P 21 45 04.8 +0.3**
BFO pP **sP 21 45 14.2 +0.8**
SBUM Sibu 48.95 131 P **P 21 45 06.3 -0.3**
SBUM Sibu 48.95 131 P **P 21 45 07.8 +1.2**
CDF Champ du Feu 49.34 304 *eP* **P 21 45 09.3 -0.1**
CDF pmax pmax
comp=Z,30nm,1.2s
ECH Echery 49.48 304 P **P 21 45 09.9 -0.5**
ECH Echery 49.48 304 P **P 21 45 09.9 -0.5**
ECH pmax pmax
comp=Z,132nm,2.0s
ECH Echery 49.48 304 P **P 21 45 10.8 +0.4**
JHJ Hachijo jima 2 49.52 77 LR LR 22 08 18.4
comp=Z,116nm,18.4s,baz=265,slow=39
PMBI Palembang 49.63 143 P **P 21 45 11.0 -0.8**
WLF Walferdange 49.66 306 P **P 21 45 12.6 +0.9**
WLF IAmb IAmb 21 45 16.0
comp=Z,18nm,0.9s
WLF Walferdange 49.66 306 P **P 21 45 12.6 +0.9**
WLF pmax pmax
comp=Z,18nm,0.9s
HINF Hinteralfeld 49.80 304 *eP* **P 21 45 12.8 -0.1**
HINF pmax pmax
comp=Z,27nm,1.1s
SENIN Lac Senin/Sane 49.99 302 P **P 21 45 14.4 -0.2**
HAU Haudompre 50.06 304 *eP* **P 21 45 14.7 -0.1**
HAU pmax pmax
comp=Z,11nm,0.9s
GIVF Givet 50.34 307 *eP* **P 21 45 17.2 +0.3**
GIVF pmax pmax
comp=Z,131nm,1.8s
STKI Sintang 50.48 134 P **P 21 45 19.9 +1.6**
comp=Z,74nm,1.3s
LPG La Plagne 50.65 301 *eP* **P 21 45 19.9 +0.3**
LPG pmax pmax
comp=Z,132nm,1.6s
LPL La Plagne 50.65 301 *eP* **P 21 45 19.9 +0.3**
LPL pmax pmax
comp=Z,51nm,1.3s
MYLDM Lahad Datu 50.66 122 P **P 21 45 21.3 +1.7**
MYLDM Lahad Datu 50.66 122 P **P 21 45 21.8 +2.1**
CABF La Chapelle 50.69 302 *eP* **P 21 45 20.3 +0.6**
CABF pmax pmax
comp=Z,22nm,1.1s
BAIF Baives 50.73 307 *eP* **P 21 45 20.3 +0.5**
BAIF pmax pmax
comp=Z,33nm,1.4s
SBF Sospel 50.78 299 *eP* **P 21 45 20.5 +0.1**
SBF pmax pmax
comp=Z,56nm,1.1s
BNI Bardonecchia 50.85 300 P **P 21 45 22.0 +1.0**
JMIC Jan Mayen 51.35 335 LR LR 22 06 17.5
comp=Z,217nm,19.9s,baz=108,slow=35
ORIF Oris-en-Rattie 51.43 300 *eP* **P 21 45 25.5 +0.2**
ORIF pmax pmax
comp=Z,82nm,1.7s
LOR Lormes 51.89 304 *eP* **P 21 45 27.7 -0.9**
LOR pmax pmax
comp=Z,16nm,1.2s
SMF Signal de Mont 52.13 303 *eP* **P 21 45 29.9 -0.5**
SMF pmax pmax
comp=Z,86nm,1.6s
SSB Saint Sauveur 52.18 301 P **P 21 45 31.1 +0.2**
SSB IAmb IAmb 21 45 44.5
comp=Z,33nm,1.3s
SSB Saint Sauveur 52.18 301 P **P 21 45 31.1 +0.2**
SSB pmax pmax
comp=Z,33nm,1.3s
SSB Saint Sauveur 52.18 301 P **P 21 45 31.0 +0.2**
SSB sP **sP 21 45 43.8 +4.0**
SSF Saint Saulge 52.19 304 *eP* **P 21 45 30.3 -0.5**
SSF pmax pmax
comp=Z,32nm,1.3s
VIVF Saint-Julien-l 52.25 301 *eP* **P 21 45 31.2 -0.1**
VIVF pmax pmax
comp=Z,37nm,1.1s
AVF Avril sur Loir 52.39 303 *eP* **P 21 45 31.9 -0.4**
AVF pmax pmax
comp=Z,27nm,0.8s
CLF Chambon-Foret 52.63 305 P **P 21 45 34.2 +0.2**
CLF Chambon-Foret 52.63 305 P **P 21 45 34.4 +0.3**
DAG Danmarks Havn 52.66 343 P **P 21 45 34.4 +0.5**
KEST Kesra 52.77 288 LR LR 22 12 46.0
comp=Z,262nm,18.2s,baz=11,slow=41
BGF Bois d'Agland 52.80 303 *eP* **P 21 45 36.9 +1.6**
BGF pmax pmax
comp=Z,26nm,1.2s
LODK Lodwar 52.80 237 P **P 21 45 36.7 +0.9**
LODK Lodwar 52.80 237 P **P 21 45 37.4 +1.6**
SNR=6.9
BILL Bilibino 52.98 28 P **P 21 45 36.0 -0.3**
BILL IAmb IAmb 21 45 38.4
comp=Z,30nm,1.1s
BILL Bilibino 52.98 28⇑ *eP* **P 21 45 36.2 -0.1**
BILL pmax pmax
comp=Z,28nm,1.0s
BILL Bilibino 52.98 28 P **P 21 45 37.1 +0.8**
EKA Eskdalemuir Ar 53.26 315 P **P 21 45 38.9 +0.3**
comp=Z,14nm,0.8s,baz=76,slow=7.9,SNR=15
comp=Z,14nm,0.8s
TCF Toulx Ste Croi 53.31 303 *eP* **P 21 45 39.0 -0.1**
TCF pmax pmax
comp=Z,18nm,1.0s
PETK Petropavlovsk- 53.70 47 LR LR 22 11 06.7
comp=Z,142nm,18.1s,baz=295,slow=39
LDF La Druitiere 53.90 307 *eP* **P 21 45 42.8 -0.6**
LDF pmax pmax
comp=Z,146nm,1.8s
CAF Calviac 53.93 302 *eP* **P 21 45 43.9 +0.2**
CAF pmax pmax
comp=Z,55nm,1.8s
DAV Davao City (W) 54.05 114 LR LR 22 10 35.7
comp=Z,257nm,18.4s,baz=350,slow=38
FLN La Foliniere 54.05 307 *eP* **P 21 45 45.8 +1.3**
FLN pmax pmax
comp=Z,260nm,2.4s
RJF Les Rejaudoux 54.14 302 *eP* **P 21 45 45.5 +0.3**
RJF pmax pmax
comp=Z,35nm,1.2s
LEM Lembang 54.38 142 LR LR 22 12 48.0
comp=Z,254nm,19.4s,baz=202,slow=40
GRR Gorron 54.43 307 *eP* **P 21 45 46.6 -0.6**
GRR pmax pmax
comp=Z,107nm,1.7s
MTLF Montolieu 54.47 300 *eP* **P 21 45 47.7 0.0**
MTLF pmax pmax
comp=Z,48nm,1.4s
BKB Balikpapan 54.67 129 P **P 21 45 49.9 +0.5**
BKB IAmb IAmb 21 46 14.3
comp=Z,37nm,0.8s
MFF Saint Martin d 54.68 304 *eP* **P 21 45 48.5 -0.6**
MFF pmax pmax
comp=Z,44nm,1.5s
LFF La Frestale 54.79 302 *eP* **P 21 45 50.1 +0.2**
LFF pmax pmax
comp=Z,54nm,1.4s
KMBO Kilima Mbogo 55.15 232 P **P 21 45 54.0 +0.9**
KMBO IAmb IAmb 21 45 59.2
comp=Z,32nm,1.1s
KMBO Kilima Mbogo 55.15 232 *i* P **P 21 45 53.7 +0.6**
SNR=30
KMBO Kilima Mbogo 55.15 232 P **P 21 45 53.8 +0.6**
comp=Z,20nm,1.0s,baz=19,slow=8.8,SNR=20
comp=Z,20nm,1.0s
KMBO Kilima Mbogo 55.15 232 P **P 21 45 54.0 +0.9**
KMBO pmax pmax
comp=Z,32nm,1.2s
TOLI2 Tolitoli 55.22 124 P **P 21 45 53.6 +0.2**
TOLI2 IAmb IAmb 21 45 58.6
comp=Z,58nm,1.4s
CEST Esterri de Car 55.43 299 P **P 21 45 54.7 0.0**
CEST IAmb IAmb 21 45 59.2
comp=Z,94nm,1.8s
SGMF Saint Gilles 55.52 307 *eP* **P 21 45 54.9 -0.2**
SGMF pmax pmax
comp=Z,45nm,1.1s
KIBK Kibwezi 55.64 230 P **P 21 45 57.2 +0.7**
KIBK IAmb IAmb 21 46 02.0
comp=Z,22nm,0.9s
KIBK Kibwezi 55.64 230 P **P 21 45 58.5 +2.0**
SNR=15
EPF Esparros 55.85 300 *eP* **P 21 45 57.9 +0.2**
EPF pmax pmax
comp=Z,52nm,1.7s
QUIF Quistinic 56.03 307 *eP* **P 21 45 58.3 -0.5**
QUIF pmax pmax
comp=Z,285nm,2.2s
SJPF Ste Jean 56.85 301 *eP* **P 21 46 05.0 +0.3**
SJPF pmax pmax
comp=Z,42nm,1.9s
BORG Borgarnes 58.00 330 LR LR 22 11 08.7
comp=Z,549nm,18.4s,baz=100,slow=36
NEEM North Greenlan 58.49 348 *i* P **P 21 46 15.7 -0.4**
NEEM IAmb IAmb 21 46 24.7
comp=Z,34nm,0.7s
MBAR Mbarara 58.84 238 P **P 21 46 19.5 +0.3**
MBAR IAmb IAmb 21 46 24.9
comp=Z,28nm,0.8s
MBAR Mbarara 58.84 238 P **P 21 46 21.1 +1.9**
MBAR Mbarara 58.84 238 P **P 21 46 19.5 +0.3**
MBAR pmax pmax
comp=Z,28nm,0.8s
SUMG Summit 59.22 342 P **P 21 46 21.4 +0.1**
SUMG Summit 59.22 342 P **P 21 46 21.4 +0.1**
SUMG pmax pmax
comp=Z,142nm,1.9s
SUMG Summit 59.22 342 *i* P **P 21 46 22.0 +0.7**
SUMG IAmb IAmb 21 46 23.1
comp=Z,13nm,0.9s
SBV Sambava 59.23 212 P **P 21 46 23.2 +1.7**
CART Cartagena 59.26 295 P **P 21 46 21.9 +0.2**
CART IAmb IAmb 21 46 27.2
comp=Z,40nm,1.0s
TNTI Ternate 59.81 118 P **P 21 46 27.2 +1.5**
TNTI Ternate 59.81 118 P **P 21 46 29.8 +4.1**
ESBB Sonseca Array 60.27 298 P **P 21 46 28.5 -0.1**
ESBB IAmb IAmb 21 46 29.8
comp=Z,18nm,1.0s
ESDC Sonseca Array 60.27 298 P **P 21 46 28.8 +0.1**
comp=Z,10nm,0.8s,baz=55,slow=7.0,SNR=88
ESDC LR LR 22 15 50.5
comp=Z,242nm,18.9s,baz=9.0,slow=39
comp=Z,10nm,0.8s
PAB San Pablo 60.59 299 P **P 21 46 31.0 +0.1**
PAB IAmb IAmb 21 46 36.3
comp=Z,26nm,1.2s
PAB San Pablo 60.59 299 P **P 21 46 31.0 +0.1**
PAB pmax pmax
comp=Z,27nm,1.2s
PAB San Pablo 60.59 299 P **P 21 46 31.0 +0.1**
SANI Sanana 60.98 121 P **P 21 46 33.6 -0.1**
SANI Sanana 60.98 121 P **P 21 46 34.8 +1.1**
comp=Z,44nm,1.5s,comp=Z,801nm
PBRG Braganca 61.07 302 *eP* **P 21 46 34.3 +0.2**
PBRG A A 21 46 39.0
comp=Z,28nm,1.5s
MVO Moncorvo 61.57 301 *eP* **P 21 46 38.0 +0.5**
MVO A A 21 46 41.5
comp=Z,29nm,2.0s
KULLO Kullorsuaq 61.64 348 *i* P **P 21 46 36.8 -0.6**
ICESG Greenland Ices 61.69 339 *i* P **P 21 46 37.4 -0.8**
ICESG IAML 21 46 40.2
comp=Z,35nm,0.8s
PCAB Cabril 61.95 302 *eP* **P 21 46 40.4 +0.4**
PCAB A A 21 46 45.8
comp=Z,68nm,1.5s
PVRL Vila Real 61.96 302 *eP* **P 21 46 40.4 +0.3**
PVRL A A 21 46 45.1
comp=Z,29nm,1.6s
POLO Lamas de Olo 61.97 302 *eP* **P 21 46 40.7 +0.5**
POLO A A 21 46 45.3
comp=Z,13nm,1.4s
PGAV Gavieira, Arco 61.98 303 *eP* **P 21 46 41.1 +0.8**
PGAV A A 21 46 48.3
comp=Z,40nm,1.4s
A19K Wainwright 62.06 19 P **P 21 46 39.1 -1.1**
baz=312
C16K Lisburne Hills 62.18 22 P **P 21 46 41.4 +0.3**
C16K Lisburne Hills 62.18 22 P **P 21 46 40.4 -0.6**
baz=310
TAM Tamanrasset 62.25 277 P **P 21 46 42.9 +0.5**
TAM Tamanrasset 62.25 277 P **P 21 46 42.9 +0.5**
TAM pmax pmax
comp=Z,12nm,1.0s
TAM Tamanrasset 62.25 277 P **P 21 46 43.2 +0.8**
MTE Manteigas 62.29 301 *eP* **P 21 46 43.2 +0.8**
MTE A A 21 46 48.4
comp=Z,44nm,1.7s
A21K Barrow 62.35 17 P **P 21 46 41.8 -0.3**
baz=316
PVIS Viseu 62.36 301 *eP* **P 21 46 43.4 +0.6**
B18K Kokolik River 62.44 20 P **P 21 46 41.5 -1.3**
baz=312
PCBR Castelo Branco 62.53 300 *eP* **P 21 46 45.0 +1.1**
PCBR A A 21 46 48.9
comp=Z,26nm,1.7s
PTO Porto 62.61 302 *eP* **P 21 46 46.3 +1.9**
C17K DeLong Mountai 62.66 21 P **P 21 46 43.1 -1.2**
baz=311
PMRV Marv??o 62.69 300 *eP* **P 21 46 45.5 +0.5**
PMRV A A 21 46 50.6
comp=Z,53nm,1.4s
SHEM Shemya Is, Ala 62.79 43 LR LR 22 15 11.8
comp=Z,128nm,18.8s,baz=286,slow=37
GAMB Gambell 62.91 28 P **P 21 46 44.7 -1.3**
baz=306
A22K Sinclair Lake 62.95 17 P **P 21 46 45.6 -0.6**
baz=317
COI Coimbra 62.96 301 *eP* **P 21 46 48.6 +1.9**
COI A A 21 46 51.9
comp=Z,66nm,0.9s
RDOG Red Dog Mine 63.02 22 P **P 21 46 45.6 -1.1**
baz=312
C18K Utukok River 63.09 21 P **P 21 46 47.4 +0.2**
C18K Utukok River 63.09 21 P **P 21 46 46.8 -0.4**
baz=313
PBAR Barrancos 63.09 298 *eP* **P 21 46 48.1 +0.4**
PBAR A A 21 46 53.4
comp=Z,57nm,1.3s
PCAS Casmilo, Conde 63.10 301 *eP* **P 21 46 48.9 +1.2**
PCAS A A 21 46 52.0
comp=Z,44nm,1.8s
PESTR Estremoz 63.11 299 *eP* **P 21 46 48.5 +0.7**
PESTR A A 21 47 29.3
comp=Z,19nm,1.7s
TNA Tin City 63.11 25 P **P 21 46 46.4 -0.9**
baz=309
B20K Meade River 63.16 18 P **P 21 46 46.9 -0.7**
baz=316
C19K Lookout Ridge 63.20 20 P **P 21 46 48.6 +0.7**
C19K Lookout Ridge 63.20 20 P **P 21 46 46.7 -1.2**
baz=314
D17K Noatak River 63.20 22 P **P 21 46 47.6 -0.3**
baz=312
PMTG Montargil 63.42 300 *eP* **P 21 46 50.1 +0.3**
PMTG A A 21 46 58.3
comp=Z,23nm,1.4s
PSBE So Bento 63.57 300 *eP* **P 21 46 51.8 +0.9**
PSBE A A 21 46 56.3
comp=Z,67nm,1.5s
SWI Sorong 63.65 116 P **P 21 46 53.5 +1.9**
comp=Z,28nm,1.8s,comp=Z,1µm
F14K Arctic Creek 63.68 25 P **P 21 46 50.3 -0.8**
baz=310
PBEJ Beja 63.73 299 *eP* **P 21 46 52.5 +0.6**
PBEJ A A 21 46 57.7
comp=Z,29nm,1.3s
B22K Teshekpuk Lake 63.79 17 P **P 21 46 51.6 -0.1**
baz=318
PVAQ Vaqueiros 63.95 298 *eP* **P 21 46 53.7 +0.3**
PVAQ A A 21 46 57.4
comp=Z,44nm,1.2s
E17K Hotham Inlet 63.98 22 P **P 21 46 52.2 -0.9**
baz=313
D19K Kuna River 64.01 20 P **P 21 46 52.6 -0.7**
baz=315
B21K Ikpikpuk River 64.05 18 P **P 21 46 54.0 +0.6**
B21K Ikpikpuk River 64.05 18 P **P 21 46 53.1 -0.4**
baz=318
PCVE Castro Verde 64.05 298 *eP* **P 21 46 54.8 +0.8**
PCVE A A 21 48 19.0
comp=Z,28nm,1.6s
F15K North Star Dit 64.06 24 P **P 21 46 53.0 -0.6**
baz=311
GUMO Guam 64.06 94 LR LR 22 16 27.3
comp=Z,50nm,18.5s,baz=18,slow=38
MESJ Messejana 64.06 299 *eP* **P 21 46 54.6 +0.5**
MESJ A A 21 47 01.8
comp=Z,32nm,1.5s
MESJ Messejana 64.06 299 *eP* **P 21 46 54.2 +0.1**
MESJ IAmb IAmb 21 46 55.7
comp=Z,12nm,0.7s
E18K Tukpahlearik C 64.09 21 P **P 21 46 53.3 -0.4**
baz=314
PBDV Barranco-do-Ve 64.19 298 *eP* **P 21 46 55.8 +0.9**
PBDV A A 21 47 01.0
comp=Z,71nm,1.2s
D20K Etivluk River 64.23 19 P **P 21 46 54.4 -0.3**
baz=316
MDT Midelt 64.24 292 LR LR 22 17 45.0
comp=Z,179nm,20.5s,baz=18,slow=39
C21K Knifeblade Rid 64.36 18 P **P 21 46 55.4 -0.1**
baz=318
ANM Nome 64.58 25 P **P 21 46 56.6 -0.5**
baz=311
F17K Baldwin Pennin 64.58 22 P **P 21 46 56.4 -0.6**
baz=314
E20K Nigu River 64.67 19 P **P 21 46 57.3 -0.4**
baz=317
G15K Niukluk 64.72 24 P **P 21 46 57.1 -0.8**
baz=312
C23K Itkillik River 64.80 17 P **P 21 46 58.7 +0.4**
C23K Itkillik River 64.80 17 P **P 21 46 58.0 -0.4**
baz=321
F18K Selawik 64.94 22 P **P 21 46 58.7 -0.5**
baz=315
OPO Ambohidratompo 64.95 212 LR LR 22 12 52.3
comp=Z,65nm,21.2s,baz=194,slow=34
G16K Koyuk River 64.98 24 P **P 21 46 59.0 -0.5**
baz=313
E19K Redstone River 64.99 20 P **P 21 46 59.2 -0.5**
baz=316
D22K Ayikyak River 65.07 18 P **P 21 47 00.0 -0.1**
baz=320
E21K Killik River 65.09 19 P **P 21 47 00.4 +0.1**
E21K IAmb IAmb 21 47 04.9
comp=Z,31nm,1.1s
E21K Killik River 65.09 19 P **P 21 47 00.2 -0.1**
baz=319
F19K Shaleruckik Mo 65.29 21 P **P 21 47 00.6 -1.0**
baz=316
RES Resolute Bay 65.30 358 P **P 21 47 01.7 +0.2**
RES Resolute Bay 65.30 358 P **P 21 47 01.7 +0.2**
RES pmax pmax
comp=Z,4.0nm,0.8s
C24K Franklin Bluff 65.30 16 P **P 21 47 01.2 -0.4**
baz=322
DY2G Dye2 65.31 338 *i* P **P 21 47 01.9 -0.1**
DY2G IAmb IAmb 21 47 03.8
comp=Z,19nm,0.7s
ABPO Ambohimpanom 65.34 212 P **P 21 47 03.0 +0.4**
ABPO IAmb IAmb 21 47 06.5
comp=Z,24nm,1.1s
ABPO Ambohimpanom 65.34 212 P **P 21 47 03.0 +0.4**
ABPO pmax pmax
comp=Z,25nm,1.2s
G17K Kiwalik Mounta 65.42 23 P **P 21 47 01.3 -1.1**
baz=314
D23K Nanushuk River 65.46 17 P **P 21 47 02.3 -0.4**
baz=321
H16K Elim 65.53 24 P **P 21 47 01.5 -1.7**
baz=313
F20K Avaraart Lake 65.69 20 P **P 21 47 04.1 -0.1**
F20K IAmb IAmb 21 47 55.2
comp=Z,25nm,1.4s
F20K Avaraart Lake 65.69 20 P **P 21 47 02.8 -1.3**
baz=318
G18K Tagagawik 65.72 22 P **P 21 47 03.0 -1.4**
baz=316
D24K Happy Valley 65.73 17 P **P 21 47 03.0 -1.4**
baz=322
FAKI Fak Fak 65.82 117 P **P 21 47 05.8 0.0**
FAKI IAmb IAmb 21 47 09.4
comp=Z,33nm,1.0s
FAKI Fak Fak 65.82 117 P **P 21 47 07.6 +1.9**
BATI Baumata 65.82 129 P **P 21 47 05.3 -0.4**
comp=Z,17nm,0.5s,baz=285,slow=6.4,SNR=2.6
comp=Z,17nm,0.5s
SOEI Soe 65.83 128 P **P 21 47 05.9 0.0**
E22K Anaktuvuk Pass 65.85 18 P **P 21 47 03.7 -1.5**
baz=320
C26K Camden Bay 65.91 15 P **P 21 47 04.8 -0.7**
baz=326
TOLK Toolik Lake Re 65.97 17 P **P 21 47 06.2 +0.1**
TOLK Toolik Lake Re 65.97 17 P **P 21 47 05.4 -0.6**
baz=322
G19K Purcell Mounta 65.98 21 P **P 21 47 05.2 -0.9**
baz=317
H17K Granite Mounta 66.04 23 P **P 21 47 05.5 -0.9**
baz=315
SFJD Kangerlussuaq 66.11 340 LR LR 22 20 38.5
comp=Z,316nm,18.4s,baz=49,slow=40
SFJD Kangerlussuaq 66.11 340 P **P 21 47 07.0 +0.2**
D25K Kavik River 66.11 16 P **P 21 47 07.3 +0.4**
D25K IAmb IAmb 21 47 12.1
comp=Z,34nm,1.1s
D25K Kavik River 66.11 16 P **P 21 47 06.1 -0.8**
baz=324
F21K Alatna River 66.14 19 P **P 21 47 06.6 -0.5**

baz=319
F22K John River 66.24 19 P P 21 47 07.6 -0.1
baz=320
H18K Honhosa River 66.34 22 P P 21 47 08.1 -0.4
baz=316
C27K Jago River 66.39 15 P P 21 47 08.7 0.0
baz=326
J14K Nanvaranak Lak 66.40 26 P P 21 47 08.9 +0.1
baz=313
E23K Chandalar 66.42 18 P P 21 47 08.8 -0.2
baz=322
I17K Unalakleet 66.54 24 P P 21 47 09.1 -0.5
baz=315
K13K Kusilvak Mount 66.58 27 P P 21 47 09.5 -0.5
baz=312
H19K Roundabout Mou 66.62 22 P P 21 47 09.5 -0.6
baz=318
E24K Your Creek 66.67 17 P P 21 47 10.7 +0.2
E24K IAmb IAmb 21 47 14.7
comp=Z,24nm,1.4s
E24K Your Creek 66.67 17 P P 21 47 09.8 -0.7
baz=323
G21K Allakaket 66.67 20 P P 21 47 09.9 -0.6
baz=320
G22K Bettles 66.86 19 P P 21 47 10.9 -0.8
baz=321
COLD Coldfoot 66.94 18 P P 21 47 11.8 -0.5
baz=322
A36M Sachs Harbour 66.97 8 P P 21 47 12.1 -0.2
A36M Sachs Harbour 66.97 8 P P 21 47 12.0 -0.2
baz=341,SNR=43
J16K Anvik River 67.00 25 P P 21 47 12.7 +0.1
baz=315
IMAR Indian Mountai 67.01 20 P P 21 47 12.5 -0.2
M11K Mekoryuk 67.06 29 P P 21 47 12.0 -1.0
baz=312
GCSA Galena City Sc 67.07 22 P P 21 47 12.0 -1.0
baz=317
H20K Anotleneega Mo 67.08 21 P P 21 47 13.0 -0.1
baz=319,SNR=16
D27M Malcolm River 67.23 14 P P 21 47 13.9 -0.2
baz=329
F24K Squaw Lake 67.25 17 P P 21 47 13.8 -0.4
baz=324
E25K Arctic Village 67.27 16 P P 21 47 13.8 -0.5
baz=325
G23K Bananza Creek 67.39 19 P P 21 47 14.7 -0.4
baz=322
K15K Wolf Creek Mou 67.39 26 P P 21 47 14.9 -0.3
baz=315
J17K VABM Dome 67.40 24 P P 21 47 14.8 -0.4
baz=316
H21K Melozitna Rive 67.51 20 P P 21 47 15.7 -0.1
baz=320,SNR=14
D28M Stokes Point 67.56 13 P P 21 47 16.2 +0.2
baz=331
SPIA Saint Paul Isl 67.57 33 P P 21 47 14.8 -1.5
baz=310
L14K Kuka Creek 67.67 27 P P 21 47 16.8 -0.1
baz=314
F25K Christian Rive 67.69 16 P P 21 47 17.5 +0.5
F25K IAmb IAmb 21 47 18.9
comp=Z,15nm,0.9s
F25K Christian Rive 67.69 16 P P 21 47 17.0 0.0
baz=326
H22K Ishtalitna Cre 67.70 20 P P 21 47 16.2 -0.8
baz=321
I20K Naaghedeneel 67.72 21 P P 21 47 16.8 -0.3
baz=319
L15K Ungalak Mounta 67.84 26 P P 21 47 17.3 -0.7
baz=315
F26K Sheenjek River 67.92 16 P P 21 47 18.3 -0.2
baz=327
J19K Poorman 68.00 22 P P 21 47 18.9 0.0
baz=319,SNR=11
G24K Hadweenzic Riv 68.01 18 P P 21 47 19.1 +0.1
baz=324
E27K Coleen River 68.02 15 P P 21 47 19.1 +0.1
baz=329
E28M Babbage River 68.05 14 P P 21 47 19.8 +0.6
baz=330
BMAR Burnt Mountain 68.05 16 P P 21 47 19.8 +0.5
J18K Innoko River 68.07 23 P P 21 47 19.7 +0.3
baz=319,SNR=6.0
M13K Dall Lake 68.08 28 P P 21 47 18.7 -0.8
baz=314
VOI Vohitsoka 68.11 211 P P 21 47 20.0 -0.2
VOI IAmb IAmb 21 47 27.4
comp=Z,37nm,1.1s
K17K Iditarod 68.14 24 P P 21 47 20.5 +0.7
baz=317
H23K Yukon River 68.22 19 P P 21 47 20.8 +0.5
baz=323
G25K Bearman Lake 68.27 17 P P 21 47 21.2 +0.6
baz=325
J20K Nowinta River 68.28 22 P P 21 47 21.0 +0.3
baz=320,SNR=10
M14K Bethel 68.34 27 P P 21 47 20.5 -0.6
baz=315
L16K Owhat River 68.49 25 P P 21 47 22.4 +0.3
baz=316
E29M Blow River 68.53 13 P P 21 47 22.3 +0.1
baz=332
MLY Manley 68.55 20 P P 21 47 22.4 -0.1
MLY IAmb IAmb 21 47 26.6
comp=Z,37nm,1.4s
MLY Manley 68.55 20 P P 21 47 22.3 -0.1
baz=322
L17K Donlin 68.56 25 P P 21 47 22.5 0.0
baz=317
H24K Noodor Dome 68.62 18 P P 21 47 22.4 -0.4
baz=324
G26K Porcupine Rive 68.63 16 P P 21 47 22.9 +0.1
baz=327
TTA Tatalina 68.68 23 P P 21 47 23.0 -0.4
baz=319
TTA Tatalina 68.68 23 P P 21 47 23.7 +0.4
H25L Birch Creek 68.75 17 P P 21 47 23.2 -0.3
baz=326
I23K Minto, Yukon-K 68.81 19 P P 21 47 23.7 -0.2
baz=323,SNR=11
M15K Kasigluk River 68.82 27 P P 21 47 24.1 0.0
baz=316
F28M Old Crow 68.85 14 P P 21 47 24.4 +0.2
baz=330,SNR=13
NRS Narsarsuaq 68.89 334 P P 21 47 25.0 +0.4
NRS IAmb IAmb 21 49 53.4
comp=Z,59nm,1.3s
NRS Narsarsuaq 68.89 334 P P 21 47 25.0 +0.4
NRS pmax pmax
comp=Z,59nm,1.3s
K20K Telida 68.94 22 P P 21 47 25.1 +0.3
baz=320
L18K Granite Mounta 69.01 24 P P 21 47 25.2 0.0
baz=318
N14K Kuskokwak Cree 69.02 28 P P 21 47 24.8 -0.6
baz=315
CHUM Lake Minchumin 69.03 21 P P 21 47 25.3 0.0
baz=321
M16K Timber Creek 69.17 26 P P 21 47 25.6 -0.6
baz=317
G27K Doyon Strip 69.19 16 P P 21 47 25.8 -0.6
baz=329
BPAW Bear Paw Mtn. 69.22 21 P P 21 47 26.5 -0.1
BPAW IAmb IAmb 21 47 31.1
comp=Z,56nm,1.6s
BPAW Bear Paw Mtn. 69.22 21 P P 21 47 25.8 -0.7
baz=322
POKR Poker Plat Res 69.31 19 P P 21 47 27.1 -0.1
POKR Poker Plat Res 69.31 19 P P 21 47 27.3 +0.2
baz=325,SNR=5.6
NEA2 Nenana 69.33 20 P P 21 47 26.5 -0.7
baz=324
INK Inuvik 69.34 12 LR LR 22 21 12.4
comp=Z,153nm,19.6s,baz=294,slow=39
INK Inuvik 69.34 12 P P 21 47 27.2 0.0
baz=335,SNR=22
INK Inuvik 69.34 12 P P 21 47 27.2 0.0
M17K Holitna River 69.38 25 P P 21 47 27.6 0.0
baz=318
N15K Kwethluk River 69.40 27 P P 21 47 27.6 -0.2
baz=316
COLA College 69.41 19 P P 21 47 27.7 0.0
COLA College 69.41 19 P P 21 47 27.3 -0.3
baz=324
COLA College 69.41 19 P P 21 47 27.9 +0.2
COLA College 69.41 19 ℹeP P 21 47 26.5 -1.2
COLA pmax pmax
comp=Z,46nm,1.5s
COLA College 69.41 19 P P 21 47 27.9 +0.2
COLA pP sP 21 47 37.0 +0.2
COLA sP pP 21 47 40.9 +6.5
PRP Porcupine Dome 69.44 18 P P 21 47 28.0 -0.1
baz=326
CAST Castle Rocks 69.45 21 P P 21 47 28.2 +0.1
CAST Castle Rocks 69.45 21 P P 21 47 28.4 +0.4
baz=321,SNR=11
F30M Barrier River 69.59 13 P P 21 47 29.1 +0.2
baz=333
L19K White Mountain 69.60 23 P P 21 47 29.4 +0.4
baz=320,SNR=5.0
C36M Paulatuk 69.61 8 P P 21 47 28.5 -0.3
baz=342,SNR=18
N16K Nishlik Lake 69.63 26 P P 21 47 29.3 +0.1
baz=317
O14K Tigyukauivet M 69.65 28 P P 21 47 29.1 -0.1
baz=316
L20K Farewell, AK 69.67 23 P P 21 47 29.4 0.0
baz=320
KTH Kantishna Hill 69.67 21 P P 21 47 29.7 +0.2
H27K Steamboat Moun 69.72 16 P P 21 47 29.6 -0.1
baz=329,SNR=11
IL31 69.73 19 P P 21 47 29.1 -0.6
ILAR Eielson Array 69.73 19 P P 21 47 29.2 -0.5
comp=Z,5.8nm,0.8s,baz=319,slow=5.1,SNR=68
ILAR LR LR 22 22 20.9
comp=Z,715nm,18.3s,baz=301,slow=40
comp=Z,5.8nm,0.8s
G29M Pine Creek 69.82 14 P P 21 47 30.3 +0.1
baz=332
M18K Stony River 69.83 24 P P 21 47 30.5 +0.2
baz=319
PPLA Purkeypile 69.83 22 P P 21 47 30.3 -0.2
baz=322
TRF Thorofare Moun 69.92 21 P P 21 47 30.3 -0.8
baz=323
M19K Big River Lodg 69.96 23 P P 21 47 31.0 -0.2
baz=320
HDA Harding Lake 70.01 19 P P 21 47 30.5 -0.9
baz=325
MCK McKinley 70.06 20 P P 21 47 31.0 -0.8
baz=324
G30M tAoh Zraii Nji 70.08 13 P P 21 47 31.3 -0.6
baz=333
F31M Tsiigehtchic 70.09 12 P P 21 47 31.9 +0.1
baz=335,SNR=14
N17K Nushagak Hills 70.12 25 P P 21 47 31.8 -0.4
baz=318
O15K Ungalikthiuk R 70.22 27 P P 21 47 32.6 -0.2
baz=317
J25K Salcha River, 70.23 18 P P 21 47 32.3 -0.6
baz=326
I27K Kandik River 70.24 16 P P 21 47 32.6 -0.3
baz=329
M20K Styx River 70.35 23 P P 21 47 33.3 -0.4
baz=321
H29M Whitestone 70.36 15 P P 21 47 34.1 +0.5
baz=332,SNR=12
N18K Kilae Creek 70.42 25 P P 21 47 34.2 +0.1
baz=319
G31M Satah River 70.47 13 P P 21 47 34.2 0.0
baz=335,SNR=14
O16K Kokwok River B 70.51 26 P P 21 47 34.1 -0.5
baz=318
EPYK Eagle Plains 70.54 14 P P 21 47 34.0 -0.7
EPYK IAmb IAmb 21 48 31.6
comp=Z,46nm,1.7s
EPYK Eagle Plains 70.54 14 P P 21 47 33.9 -0.7
baz=333
O17K Koliganek Bris 70.72 26 P P 21 47 35.6 -0.1
baz=319
I28M Miner Creek 70.72 16 P P 21 47 35.7 -0.2
baz=330,SNR=10
SKT Skwentna 70.75 22 P P 21 47 35.5 -0.5
SKT Skwentna 70.75 22 P P 21 47 36.1 +0.1
baz=322,SNR=11
J26L Joseph Creek 70.75 18 P P 21 47 36.1 +0.1
baz=328,SNR=19
CUT Chulitna 70.77 21 P P 21 47 36.2 +0.1
baz=323
N19K Bonanza Creek 70.77 24 P P 21 47 36.0 -0.3
baz=320
K24K Donnelly Dome 70.81 19 P P 21 47 35.2 -1.1
baz=326
TORD Torodi Ar. Bea 70.88 271 P P 21 47 37.1 -0.4
comp=Z,49nm,0.6s,baz=37,slow=6.2,SNR=140
comp=Z,49nm,0.6s
WAT1 Susitna Watana 70.89 20 P P 21 47 36.1 -0.8
baz=324
NIKH Nikolski High 70.94 36 P P 21 47 37.2 0.0
baz=312
P16K Nushagak River 70.97 27 P P 21 47 36.9 -0.4
baz=318
DHY Denali Highway 71.00 20 P P 21 47 37.1 -0.6
baz=325
RIDG Independent Ri 71.09 18 P P 21 47 37.4 -0.7
baz=327
SCRK Sand Creek 71.09 18 P P 21 47 37.3 -0.9
baz=328,SNR=6.0
I29M Ogilvie Camp, 71.13 15 P P 21 47 37.9 -0.4
baz=332,SNR=10
GENI Genyem 71.15 110 P P 21 47 40.0 +0.9
GENI Genyem 71.15 110 P P 21 47 43.0 +3.9
N20K Mount Spurr 71.16 23 P P 21 47 38.5 -0.1
baz=322
SPCR Spurr Chakacha 71.16 23 P P 21 47 38.3 -0.3
baz=322
GIRL Giralia 71.25 144 P P 21 47 39.6 +0.2
O18K Koktuh Hills 71.28 25 P P 21 47 39.6 +0.4
baz=320
WAT6 Susitna Watana 71.31 20 P P 21 47 39.6 0.0
baz=325
M22K Willow 71.33 22 P P 21 47 38.8 -0.7
baz=323
P17K Kvichak River 71.37 26 P P 21 47 39.5 -0.2
baz=319
SUA Susitna One 71.39 22 P P 21 47 38.8 -1.2
baz=323
H31M Peel River 71.48 13 P P 21 47 40.1 -0.3
baz=335,SNR=9.2
K27K Chicken 71.49 17 P P 21 47 40.9 +0.4
baz=329
PAX Paxson 71.58 19 P P 21 47 41.2 +0.1
baz=327,SNR=10.0
P18K Big Mountain, 71.62 25 P P 21 47 41.5 +0.1
baz=320
I30M Mount Dempster 71.63 14 P P 21 47 41.3 -0.1
baz=333,SNR=16
GHO Glory Hole Cre 71.65 21 P P 21 47 41.1 -0.5
Q16K King Salmon 71.69 27 P P 21 47 41.9 +0.2
baz=319
PMR Palmer 71.74 21 P P 21 47 42.1 +0.1
baz=324
PMR Palmer 71.74 21 P P 21 47 42.1 +0.1
LSZ Lusaka 71.75 230 P P 21 47 42.9 +0.1
LSZ Lusaka 71.75 230 P P 21 47 42.9 +0.1
LSZ pmax pmax
comp=Z,11nm,0.8s
SML Sawmill 71.79 21 P P 21 47 42.0 -0.3
SML Sawmill 71.79 21 P P 21 47 42.0 -0.3
baz=325,SNR=10
CAPN Captain Cook N 71.82 23 P P 21 47 41.6 -0.8
baz=323
S12K Black Hills 71.90 31 P P 21 47 42.8 -0.3
baz=316
O20K Slope Mountain 71.92 24 P P 21 47 42.8 -0.4
baz=322
J29N Klondike Camp 71.95 15 P P 21 47 43.6 +0.3
baz=332
FALS False Pass 71.97 32 P P 21 47 43.3 -0.1
baz=315
M23K Glacier View 71.97 21 P P 21 47 43.6 +0.3
baz=325
RC01 Rabbit Creek A 71.98 22 P P 21 47 43.5 +0.1
baz=324
SCM Sheep Creek Mo 72.04 21 P P 21 47 43.8 -0.1
SCM IAmb IAmb 21 47 45.1
comp=Z,34nm,0.8s
SCM Sheep Creek Mo 72.04 21 P P 21 47 43.7 -0.1
baz=325
SCM Sheep Creek Mo 72.04 21 P P 21 47 43.8 -0.1
SCM pmax pmax
comp=Z,34nm,0.8s
DAWY Dawson 72.05 16 P P 21 47 43.6 -0.3
DAWY IAmb IAmb 21 47 48.2
comp=Z,31nm,1.5s
DAWY Dawson 72.05 16 P P 21 47 43.7 -0.2
baz=331,SNR=9.0
L26K Log Cabin Wild 72.06 18 P P 21 47 43.7 -0.2
baz=328
P19K Oil Pt 72.07 24 P P 21 47 43.7 -0.3
baz=321
KNK Knik Glacier 72.08 21 P P 21 47 44.2 +0.1
baz=325
M24K Tolsona, Glenn 72.12 20 P P 21 47 44.7 +0.3
baz=326
HARP HAARP 72.14 19 P P 21 47 44.4 0.0
baz=327,SNR=9.4
R16K Pilot Point 72.21 28 P P 21 47 44.7 -0.1
baz=319
J30M Hart River 72.22 15 P P 21 47 45.1 +0.1
baz=333,SNR=14
Q17K Contact Creek 72.27 26 P P 21 47 45.3 -0.1
baz=320
Q18K Katmai Hardscr 72.27 26 P P 21 47 45.0 -0.3
baz=320
L27K Beaver Creek, 72.38 18 P P 21 47 45.7 -0.2
baz=329,SNR=9.2
BCAR Beaver Creek A 72.39 18 P P 21 47 46.1 +0.2
S14K Fog Glacier 72.44 29 P P 21 47 46.0 -0.4
baz=318
MTN Manton Dam 72.45 125 P P 21 47 46.8 0.0
O22K Cooper Landing 72.47 22 P P 21 47 46.1 -0.2
baz=324
Q19K Cape Douglas, 72.50 25 P P 21 47 46.6 0.0
baz=321
HOM Homer 72.56 24 P P 21 47 45.6 -1.3
baz=323
PWL Port Wells 72.56 22 P P 21 47 46.5 -0.4
baz=325
MBWA Marble Bar 72.59 139 P P 21 47 47.2 -0.3
MBWA IAmb IAmb 21 47 50.6
comp=Z,20nm,0.8s
MBWA Marble Bar 72.59 139 P P 21 47 47.7 +0.3
comp=Z,36nm,0.9s
MBWA Marble Bar 72.59 139 P P 21 47 47.5 0.0
MBWA Marble Bar 72.59 139 P P 21 47 47.8 +0.3
K29M Barlow Dome 72.64 15 P P 21 47 46.9 -0.5
baz=332,SNR=12
M26K Nabesna, AK 72.67 18 P P 21 47 47.5 -0.1
baz=329
KLU Klutina 72.70 20 P P 21 47 47.9 +0.1
baz=326
BRSE Bradley Lake S 72.77 23 P P 21 47 48.0 -0.2
baz=323
CHGN Chignik 72.86 29 P P 21 47 48.1 -0.6
baz=318
SEW Seward 72.86 23 P P 21 47 47.9 -0.7
baz=324
GLI Glacier Island 72.89 21 P P 21 47 48.5 -0.4
baz=326
PSAC1 Pilbara Seismi 72.94 139 P P 21 47 49.5 -0.1
comp=Z,67nm,0.8s
N25K Chitina, Valde 72.95 20 P P 21 47 49.6 +0.3
baz=328,SNR=6.0
FRB Frobisher Bay 72.96 345 LR LR 22 25 42.0
comp=Z,190nm,18.6s,baz=59,slow=41
M27K Edge Creek, AK 72.98 18 P P 21 47 49.8 +0.2
baz=329,SNR=6.4
PSA00 Pilbara Seismi 73.00 139 P P 21 47 49.6 -0.2
PSA00 IAmb IAmb 21 47 50.5
comp=Z,32nm,0.8s
PSA00 Pilbara Seismi 73.00 139 P P 21 47 49.7 -0.2
comp=Z,56nm,0.8s
PSA00 Pilbara Seismi 73.00 139 P P 21 47 49.5 -0.4
KNRA Kununurra 73.16 128 P P 21 47 50.8 -0.2
KNRA IAmb IAmb 21 47 54.6
comp=Z,61nm,1.4s
KNRA Kununurra 73.16 128 P P 21 47 51.5 +0.5
comp=Z,37nm,1.1s
L29M L29M 73.16 16 P P 21 47 50.4 -0.1
baz=332,SNR=6.1
BVCY Beaver Creek 73.17 18 P P 21 47 51.0 +0.5
baz=330
KDU Kakadu 73.18 123 P P 21 47 51.2 +0.1
comp=Z,19nm,0.8s
KDU Kakadu 73.18 123 P P 21 47 50.9 -0.2
FITZ Fitzroy Crossi 73.25 132 P P 21 47 50.7 -0.7
comp=Z,20nm,1.0s,baz=306,slow=3.2,SNR=12
FITZ LR LR 22 24 58.7
comp=Z,143nm,18.2s,baz=324,slow=40
comp=Z,20nm,1.0s
BMRM Bremner River 73.49 20 P P 21 47 52.5 0.0
baz=328
EYAK Cordova Ski Ar 73.54 21 P P 21 47 52.7 +0.1
baz=327
MCARA McCarthy VSAT 73.54 19 P P 21 47 52.9 +0.2
baz=329
VRDI Verde Repeater 73.56 19 P P 21 47 53.1 0.0
VRDI IAmb IAmb 21 48 09.3
comp=Z,28nm,1.2s
M29M Somme Creek 73.68 17 P P 21 47 53.1 -0.5
baz=332,SNR=6.0
KDAK Kodiak Island 73.75 25 LR LR 22 23 07.8
comp=Z,375nm,19.2s,baz=359,slow=38
KDAK Kodiak Island 73.75 25 P P 21 47 54.0 +0.1
baz=322
YUK3 Moose Creek 73.82 18 P P 21 47 54.2 -0.4
baz=331
OHAK Old Harbor 73.96 26 P P 21 47 54.9 -0.2
baz=322
CRQE Cirque 74.06 19 P P 21 47 55.6 -0.3
baz=329
SII Sitkinak Islan 74.17 27 P P 21 47 56.2 -0.3
baz=321
CHIR Chirikof Islan 74.24 28 P P 21 47 56.9 +0.1
baz=320
CTG Chitna Glacier 74.32 19 P P 21 47 57.1 -0.4
baz=330
YUK8 Steele Glacier 74.41 18 P P 21 47 57.7 -0.4
baz=331
KAIM Kayak Island 74.42 20 P P 21 47 57.2 -0.6
baz=328
YUK4 Talbot Arm 74.62 17 P P 21 47 58.8 -0.4
baz=332
M31M Drury Creek, Y 74.75 15 P P 21 47 59.8 0.0
baz=335
O28M Mount Upton 74.76 18 P P 21 47 59.4 -0.8
baz=331
MESA MESA 74.85 19 P P 21 48 00.8 +0.3
baz=330
N30M Aishikik Lake 74.86 16 P P 21 48 00.8 +0.3
baz=333
FARO Faro, Yukon 74.92 14 P P 21 48 00.5 -0.3
baz=336
MMPY Sheldon Lake, 74.95 13 P P 21 48 01.0 +0.1
baz=338
YUK6 Outpost Mounta 75.04 17 P P 21 48 01.5 -0.2
baz=332
N31M Braeburn, Yuko 75.11 16 P P 21 48 02.5 +0.6
baz=334
HYT Haines Junctio 75.33 17 P P 21 48 03.7 +0.4
HYT IAmb IAmb 21 48 04.8
comp=Z,16nm,0.7s
HYT Haines Junctio 75.33 17 P P 21 48 03.4 +0.1
baz=333
PINM Pinnacle 75.34 19 P P 21 48 03.1 -0.2
baz=331
WRGLY Wrigley 75.56 10 P P 21 48 04.4 0.0
baz=344
O30N Mendenhall 75.69 16 P P 21 48 04.9 -0.4
baz=334
PNL Peninsula 75.92 18 P P 21 48 06.6 0.0
baz=332
N32M Quiet Lake 75.96 15 P P 21 48 06.6 -0.2
baz=336
WHY Whitehorse 76.05 16 P P 21 48 07.2 -0.2
baz=335
P30M Million Dollar 76.09 17 P P 21 48 06.9 -0.6
baz=333
P29M Windy Craggy 76.35 18 P P 21 48 08.3 -0.7
baz=333
TGTN Hyland Airport 76.48 12 P P 21 48 10.2 +0.4
baz=340
MEEK Meekatharra 76.68 143 P P 21 48 10.3 -0.9
comp=Z,25nm,1.7s
MEEK Meekatharra 76.68 143 P P 21 48 10.6 -0.6
PLBC Pleasant Camp 76.82 17 P P 21 48 11.9 +0.3
baz=334
BROLN Tlhalogang 76.85 227 ℹP P 21 48 12.4 +0.1
P33M Teslin, Yukon 76.88 15 P P 21 48 12.0 -0.1
baz=337
SKAG Skagway 77.04 17 P P 21 48 13.3 +0.4
baz=335

SKAG Skagway 77.04 17 P P 21 48 13.7 +0.9
SOOWA Sowa 77.06 229 *i* P **P 21 48 14.8 +1.3**
YKA Yellowknife Ar 77.19 6 P P 21 48 13.7 +0.1
comp=Z,11nm,0.8s,baz=347,slow=5.8,SNR=23
YKA LR LR 22 24 37.6
comp=Z,197nm,19.6s,baz=354,slow=38
comp=Z,11nm,0.8s
YKA Yellowknife Ar 77.19 6 *i* P **P 21 48 13.3 -0.3**
YKA pmax pmax
comp=Z,12nm,0.8s
MORW Morawa 77.63 146 P P 21 48 16.2 -0.3
MORW Morawa 77.63 146 P P 21 48 16.3 -0.1
comp=Z,21nm,1.4s
WTLY Watson Lake, Y 77.72 13 P P 21 48 17.2 +0.5
baz=340
R33M Jennings River 78.00 14 P P 21 48 18.8 +0.4
baz=338
Q32M Nakina River 78.14 15 P P 21 48 19.7 +0.5
baz=337
S31K Pelican 78.20 18 P P 21 48 20.1 +0.8
baz=334
R32K Eaglecrest 78.30 17 P P 21 48 20.0 +0.2
baz=336
LIRD Liard River Hi 78.84 12 P P 21 48 23.2 +0.4
baz=342
S32K Killisnoo 79.02 17 P P 21 48 24.0 +0.2
baz=336
DLBC Dease Lake 79.07 14 P P 21 48 24.0 -0.2
baz=339
SIT Sitka 79.23 18 P P 21 48 24.6 -0.4
baz=335
QNGWA Qangwa 79.26 233 *i* P **P 21 48 26.6 +0.9**
S34M Telegraph Cree 79.34 15 P P 21 48 26.6 +1.0
baz=338
LPHEP Lephephe 79.47 227 *i* P **P 21 48 27.2 +0.4**
TOAD Toad River Com 79.51 12 P P 21 48 27.4 +0.8
baz=342
WB0 Warramunga Arr 79.72 127 P P 21 48 26.9 -1.3
WB0 IAmb IAmb 21 48 31.3
comp=Z,26nm,1.3s
WRA Warramunga Arr 79.81 127 P P 21 48 27.9 -0.7
comp=Z,7.2nm,0.9s,baz=320,slow=4.8,SNR=29
WRA LR LR 22 29 24.0
comp=Z,86nm,20.2s,baz=295,slow=40
comp=Z,7.2nm,0.9s
WRA Warramunga Arr 79.81 127 P P 21 48 28.0 -0.7
WRAB Tennant Creek 79.81 127 ||*eP* **P 21 48 28.1 -0.6**
WRAB pmax pmax
comp=Z,28nm,1.3s
DBIC Dimbokro 79.94 270 P P 21 48 29.6 +0.1
DBIC Dimbokro 79.94 270 P P 21 48 30.1 +0.5
comp=Z,10nm,0.7s,baz=26,slow=6.7,SNR=12
comp=Z,10nm,0.7s
WRKA Warakurna 80.26 135 P P 21 48 30.5 -0.5
T35M Bob Quinn 80.39 15 P P 21 48 31.7 +0.3
baz=339
WRAK Wrangell Islan 80.48 16 P P 21 48 31.8 +0.1
baz=337
SCHQ Schefferville 80.56 340 P P 21 48 31.7 -0.6
comp=Z,7.0nm,0.8s,baz=41,slow=1.7,SNR=7.0
SCHQ LR LR 22 28 13.8
comp=Z,166nm,18.3s,baz=334,slow=39
comp=Z,7.0nm,0.8s
U33K Whale Pass 80.59 17 P P 21 48 32.4 +0.1
baz=337
GRTLG Ghanzi 80.62 232 *i* P **P 21 48 32.8 -0.3**
LBTB Lobatse 80.91 226 P P 21 48 34.6 0.0
LBTB IAmb IAmb 21 48 38.7
comp=Z,32nm,1.1s
LBTB Lobatse 80.91 226 LR LR 22 28 36.1
comp=Z,105nm,18.4s,baz=350,slow=39
LBTB Lobatse 80.91 226 P P 21 48 34.6 0.0
LBTB pmax pmax
comp=Z,32nm,1.2s
KGCAE Kacgae 81.17 230 *i* P **P 21 48 37.0 +1.0**
CRAG Craig 81.18 17 P P 21 48 35.8 +0.3
baz=337
TSUM Tsumeb 81.25 236 P P 21 48 37.7 +1.1
TSUM IAmb IAmb 21 48 41.1
comp=Z,41nm,1.4s
TSUM Tsumeb 81.25 236 LR LR 22 28 28.8
comp=Z,167nm,18.8s,baz=338,slow=38
NWAO Narrogin (SRO) 81.49 147 LR LR 22 27 12.5
comp=Z,103nm,19.5s,baz=312,slow=38
AS31 Alice Springs 82.38 130 P P 21 48 41.6 -0.7
AS31 Alice Springs 82.38 130 P P 21 48 41.8 -0.5
comp=Z,4.7nm,0.7s
ASAR Alice Springs 82.38 130 P P 21 48 41.5 -0.8
comp=Z,5.2nm,0.8s,baz=326,slow=5.3,SNR=21
ASAR LR LR 22 30 22.2
comp=Z,75nm,19.8s,baz=314,slow=39
comp=Z,5.2nm,0.8s
AS01 Alice Springs 82.41 130 P P 21 48 41.3 -1.1
LKGWB Lokgwabe 82.72 230 *i* P **P 21 48 43.4 -0.7**
QIS Mount Isa 83.57 124 P P 21 48 48.8 +0.4
comp=Z,27nm,1.2s
QIS Mount Isa 83.57 124 P P 21 48 47.6 -0.9
BBTS Babate 83.75 284 LR LR 22 31 11.1
comp=Z,144nm,18.2s,baz=268,slow=39
BOSA Boshof 83.94 224 P P 21 48 50.4 +0.1
BOSA IAmb IAmb 21 48 53.6
comp=Z,50nm,1.6s
BOSA Boshof 83.94 224 P P 21 48 49.7 -0.7
comp=Z,6.8nm,0.9s,baz=95,slow=11,SNR=5.0
BOSA LR LR 22 26 11.8
comp=Z,121nm,21.0s,baz=20,slow=36
comp=Z,6.8nm,0.9s
BOSA Boshof 83.94 224 P P 21 48 50.4 +0.1
BOSA pmax pmax
comp=Z,50nm,1.6s
MTSU Mount Surprise 84.92 119 P P 21 48 57.7 +2.3
comp=Z,14nm,1.0s
MTSU Mount Surprise 84.92 119 P P 21 48 55.8 +0.4
BBB Bella Bella 85.33 16 LR LR 22 31 27.8
comp=Z,68nm,18.5s,baz=341,slow=39
FFC Flin Flon 85.45 360 P P 21 48 57.2 -0.4
FFC IAmb IAmb 21 48 58.3
comp=Z,20nm,0.9s
FFC Flin Flon 85.45 360 P P 21 48 57.2 -0.4
FFC pmax pmax
comp=Z,20nm,0.9s
OOD Oodnadatta 86.55 131 P P 21 49 02.4 -0.9
GRHM Grahamstown, E 87.07 221 P P 21 49 06.0 +0.3
MULG Mulgathing 87.53 134 P P 21 49 07.5 -0.4
CTA Charters Tower 87.59 119 P P 21 49 08.4 -0.1
CTAO Charters Tower 87.59 119 P P 21 49 08.1 -0.4
CTAO Charters Tower 87.59 119 P P 21 49 09.7 +1.2
INKA Innaminka 89.51 128 P P 21 49 17.6 +0.2
ULM Lac du Bonnet 89.75 356 P P 21 49 17.9 -0.5
ULM IAmb IAmb 21 49 21.2
comp=Z,20nm,1.3s
ULM Lac du Bonnet 89.75 356 P P 21 49 17.7 -0.6
comp=Z,8.0nm,0.8s,baz=11,slow=3.7,SNR=16
ULM PKKP **PKKPdf 22 06 37.6 -6.7**
comp=Z,1.5nm,0.7s,baz=276,slow=5.2,SNR=3.0
ULM LR LR 22 34 11.9
comp=Z,560nm,18.1s,baz=7.5,slow=39
comp=Z,8.0nm,0.8s
ULM Lac du Bonnet 89.75 356 P P 21 49 17.9 -0.5
ULM pmax pmax
comp=Z,20nm,1.3s
HNR Honiara 90.26 102 LR LR 22 30 05.8
comp=Z,30nm,20.2s,baz=12,slow=36
QLP Quilpie 90.83 125 P P 21 49 23.9 +0.3
NEW Newport 90.97 10 P P 21 49 24.1 0.0
NEW IAmb IAmb 21 49 28.5
comp=Z,14nm,1.2s
NEW Newport 90.97 10 P P 21 49 24.0 0.0
comp=Z,6.5nm,0.9s,baz=328,slow=6.6,SNR=12
NEW LR LR 22 36 27.2
comp=Z,112nm,18.3s,baz=10.0,slow=40
comp=Z,6.5nm,0.9s
NEW Newport 90.97 10 P P 21 49 24.1 0.0
NEW pmax pmax
comp=Z,14nm,1.2s
EYMN Ely 91.70 353 P P 21 49 27.3 -0.2
EYMN IAmb IAmb 21 49 31.1
comp=Z,17nm,1.4s
SADO Sadowa 92.86 344 LR LR 22 34 33.7
comp=Z,299nm,20.5s,baz=60,slow=38
STKA Stephens Creek 93.01 130 P P 21 49 32.5 -1.1
comp=Z,2.6nm,0.8s,baz=14,slow=11,SNR=3.0
comp=Z,2.6nm,0.8s
YBH Yreka Blue Hor 96.40 15 P P 21 49 49.0 -0.3
comp=Z,1.1nm,0.8s,baz=132,slow=3.2,SNR=2.0
YBH LR LR 22 37 02.9
comp=Z,134nm,21.0s,baz=3.0,slow=38
comp=Z,1.1nm,0.8s
YBH Yreka Blue Hor 96.40 15 P P 21 49 49.0 -0.3
PDAR Pinedale Array 97.17 5 LR LR 22 39 09.0
comp=Z,134nm,18.2s,baz=12,slow=39
O48B Farmland 98.39 347 P P 21 49 58.2 0.0
baz=13
121A Cookes Peak, D 107.47 5 P PKiKP 21 54 47.7 +0.5
baz=356
TROLL Troll, Antarti 123.33 201 ⇑PKPdf **PKPdf 21 55 16.3 +0.2**
comp=Z,78nm,0.5s
SNAA Sanae 124.71 202 ⇑PKPdf **PKPdf 21 55 18.1 -0.5**
comp=Z,3.0nm,0.4s
SNAA Sanae 124.71 202 PKP PKPdf 21 55 18.5 -0.1
comp=Z,1.4nm,0.9s,baz=29,slow=4.3,SNR=4.2
VNA2 Neumayer--Watz 125.80 204 ⇑PKPdf **PKPdf 21 55 20.3 -0.3**
comp=Z,2.0nm,0.6s,baz=17,slow=1.7
VNA3 Neumayer Olymp 126.60 204 ⇑PKPdf **PKPdf 21 55 22.1 -0.1**
comp=Z,1.4nm,0.5s
QSPA South Pole Qui 129.98 180 PKP PKPdf 21 55 28.1 -0.7
comp=Z,3.4nm,1.0s,baz=249,slow=1.2,SNR=6.1
SAML Samuel 133.26 301 *eP* **PKPdf 21 55 35.4 -1.1**
PPT2 Papeete2 133.64 75 *e*LR LR 22 38 15.9
comp=Z,62nm,21.5s
BBSD Serra de San D 137.25 290 *eP* **PKPdf 21 55 43.5 -0.4**
CPUP Villa Florida 140.24 276 PKP PKPdf 21 55 48.8 -0.3
comp=Z,1.5nm,0.7s,baz=303,slow=0.4,SNR=3.7

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*IDC **03** 21:38:43.7±0.8, 5°.68S×110°.40E, h549km±11km, mb3.4/12, mbtmp4.3/14, Error ellipse: s-maj=25.2km s-min=10.5km az=50.0*
*NEIC **03** 21:38:44.1±1.6, 5°.8S±0°.1×110°.4E±0°.1, h551km±6km, mb4.4/19, Error ellipse: s-maj=21.8km s-min=10.3km az=222.0*
*DJA **03** 21:38:44.7±0.4, 6°.S±9°×110°.0E±°, h554km±4km, M3.9/21, mb4.1/5, MLv3.8/21*
ISC 03 21:38:43.6±0.5, **5°.84S**±0°.08×**110°.38E**±0°.06, **h552**km±6km, **n69**, σ1°**23**/81, **mb4.0**/20, **Java Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWJI	**Ujung Watu**	**0.81**	**135**	P	**P**	**21 39 49.7**	**0.0**
UWJI				S	**S**	**21 40 43.9**	**+0.5**
SMRI	**Semarang**	**1.20**	**177**		**P**	**21 39 51.6**	**+0.9**
SMRI	**Semarang**	**1.20**	**177**	P	**P**	**21 39 51.4**	**+0.7**
SMRI				S	**S**	**21 40 47.8**	**+2.6**
TBJI	**Tambak Boyo**	**1.75**	**124**	P	**P**	**21 39 53.7**	**+1.2**
TBJI				S	**S**	**21 40 50.6**	**+2.2**
NGJI	**Ngawi**	**1.86**	**145**	P	**P**	**21 39 54.8**	**+1.9**
YOGI	**Yogyakarta**	**1.96**	**182**	P	**P**	**21 39 53.1**	**-0.3**
UGM	**Wanagama**	**2.06**	**176**		**P**	**21 39 53.8**	**-0.1**
UGM	**Wanagama**	**2.06**	**176**	P	**P**	**21 39 53.9**	**0.0**
UGM				S	**S**	**21 40 49.9**	**-1.1**
KPJI	**Karang Pucung**	**2.06**	**224**	P	**P**	**21 39 53.9**	**+0.1**
KPJI				S	**S**	**21 40 51.7**	**+0.8**
GRJI	**Gresik**	**2.35**	**117**	P	**P**	**21 39 56.2**	**+1.0**
PCJI	**Pacitan**	**2.47**	**161**	P	**P**	**21 39 55.3**	**-0.5**
PCJI				S	**S**	**21 40 52.5**	**-2.0**
PWJI	**Pagerwojo**	**2.59**	**147**	P	**P**	**21 39 56.2**	**-0.2**
PWJI				S	**S**	**21 40 54.5**	**-1.2**
CMJI	**Cimerak**	**2.72**	**225**	P	**P**	**21 39 55.9**	**-1.3**
LEM	**Lembang**	**2.91**	**250**	P	**P**	**21 39 59.1**	**+0.6**
115nm,0.6s,baz=59,slow=6.0,SNR=30							
LEM				S	**S**	**21 41 00.2**	**+0.8**
47nm,0.7s,baz=351,slow=22,SNR=5.6							
LEM	**Lembang**	**2.91**	**250**	P	**P**	**21 39 59.1**	**+0.6**
LEM				S	**S**	**21 40 59.8**	**+0.4**
CNJI	**Cibinong**	**3.54**	**245**	P	**P**	**21 40 02.0**	**-0.4**
CNJI				S	**S**	**21 41 03.5**	**-3.0**
BLJI	**Banyuglugur**	**3.71**	**121**	P	**P**	**21 40 04.0**	**+0.4**
BLJI				S	**S**	**21 41 09.9**	**+1.2**
KMMI	**Kalianget**	**3.76**	**109**	P	**P**	**21 40 04.8**	**+0.9**
KMMI				S	**S**	**21 41 10.2**	**+0.9**
GMJI	**Gumukmas**	**3.89**	**129**	P	**P**	**21 40 04.2**	**-0.6**
GMJI				S	**S**	**21 41 08.8**	**-2.2**
SKJI	**Sukabumi**	**3.97**	**253**	P	**P**	**21 40 05.6**	**+0.2**
JAGI	**Jajag, Banyuwa**	**4.57**	**125**		**P**	**21 40 09.9**	**-0.2**
JAGI	**Jajag, Banyuwa**	**4.57**	**125**	P	**P**	**21 40 09.6**	**-0.5**
JAGI				S	**S**	**21 41 18.6**	**-1.9**
KASI	**Kota Agung**	**5.86**	**273**	P	**P**	**21 40 20.3**	**-0.8**
LWLI	**Liwa**	**6.34**	**277**	P	P	21 40 19.6	-6.1
XMIS	**Christmas Isla**	**6.57**	**225**		**P**	**21 40 27.7**	**+0.1**
PLAI	**Plampang**	**7.92**	**112**	P	**P**	**21 40 41.0**	**+0.4**
SBUM	**Sibu**	**8.44**	**13**		**P**	**21 40 45.6**	**-0.3**
BATI	**Baumata**	**13.85**	**109**	S	**S**	**21 44 02.1**	**-5.6**
13nm,0.6s,baz=299,slow=19,SNR=2.4							
MBWA	**Marble Bar**	**17.72**	**150**	P	**P**	**21 42 20.1**	**+1.3**
MBWA				IAmb	IAmb	21 42 25.7	
comp=Z,17nm,1.2s							
TNTI	**Ternate**	**18.19**	**69**		**PcP**	**21 46 26.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**19.25**	**131**	P	**P**	**21 42 33.8**	**+1.0**
comp=Z,1.8nm,0.7s,baz=322,slow=9.2,SNR=2.5							
KNRA	**Kununurra**	**20.52**	**120**	P	**P**	**21 42 44.0**	**-0.3**
KNRA				IAmb	IAmb	21 43 01.0	
comp=Z,28nm,1.5s							
MTN	**Manton Dam**	**21.62**	**110**	P	**P**	**21 42 55.7**	**+1.4**
MTN				IAmb	IAmb	21 42 58.8	
comp=Z,12nm,1.1s							
WB0	**Warramunga Arr**	**27.15**	**123**	P	**P**	**21 43 43.4**	**+0.1**
WRA	**Warramunga Arr**	**27.18**	**123**	P	**P**	**21 43 43.9**	**+0.3**
WRA	**Warramunga Arr**	**27.18**	**123**	P	**P**	**21 43 44.1**	**+0.5**
comp=Z,2.0nm,0.7s,baz=306,slow=8.8,SNR=31							
WRA				PcP	**PcP**	**21 46 46.0**	**+0.3**
comp=Z,0.3nm,0.4s,baz=317,slow=2.2,SNR=7.7							
comp=Z,2.0nm,0.7s							
AS31	**Alice Springs**	**28.75**	**130**	P	**P**	**21 43 57.4**	**+0.1**
ASAR	**Alice Springs**	**28.75**	**130**	P	**P**	**21 43 57.5**	**+0.2**
ASAR	**Alice Springs**	**28.75**	**130**	P	**P**	**21 43 58.0**	**+0.7**
comp=Z,1.4nm,0.7s,baz=310,slow=8.5,SNR=17							
ASAR				PcP	**PcP**	**21 46 50.2**	**+0.6**
comp=Z,0.5nm,0.5s,baz=307,slow=2.0,SNR=5.1							
comp=Z,1.4nm,0.7s							
BBOO	**Buckleboo**	**35.95**	**142**	P	**P**	**21 44 58.3**	**+0.1**
BBOO				IAmb	IAmb	21 45 06.0	
comp=Z,18nm,1.4s							
SHL	**Shillong**	**36.02**	**331**	P	**P**	**21 44 58.8**	**-0.2**
SHL				IAmb	IAmb	21 45 24.0	
comp=Z,13nm,0.9s							
STKA	**Stephens Creek**	**39.02**	**136**	P	**P**	**21 45 24.2**	**+1.0**
STKA	**Stephens Creek**	**39.02**	**136**	P	**P**	**21 45 24.5**	**+1.3**
comp=Z,4.3nm,0.4s,baz=314,slow=7.1,SNR=19							
comp=Z,4.3nm,0.4s							
EIDS	**Eidsvold**	**43.50**	**121**	P	**P**	**21 45 59.4**	**+0.6**
SONM	**Songino Array**	**53.56**	**357**	P	**P**	**21 47 12.7**	**-0.5**
comp=Z,4.4nm,1.0s,baz=177,slow=7.6,SNR=4.4							
comp=Z,4.4nm,1.0s							
MKAR	**Makanchi Array**	**58.02**	**338**	P	**P**	**21 47 43.5**	**-0.4**
comp=Z,3.5nm,0.6s,baz=147,slow=7.4,SNR=7.5							
comp=Z,3.5nm,0.6s							
ZALV	**Zalesovo Beam**	**63.32**	**343**	P	**P**	**21 48 17.5**	**-1.1**
comp=Z,2.1nm,0.5s,baz=156,slow=6.6,SNR=5.4							
comp=Z,2.1nm,0.5s							
BVAR	**Borovoye Array**	**67.67**	**335**	P	**P**	**21 48 45.1**	**-0.8**
comp=Z,3.9nm,0.8s,baz=120,slow=8.5,SNR=1.7							
comp=Z,3.9nm,0.8s							
BKZ	**Black Stump Fm**	**67.87**	**130**	P	**P**	**21 48 47.8**	**+0.3**
BKZ				IAmb	IAmb	21 48 49.1	
comp=Z,14nm,1.1s							
RAYN	**Ar Rayn**	**69.66**	**298**	P	**P**	**21 48 57.6**	**-1.0**
RAYN				IAmb	IAmb	21 49 03.2	
comp=Z,4.0nm,1.1s							
ABKAR	**Akbulak array**	**70.19**	**328**	P	**P**	**21 49 00.3**	**-0.8**
ABKAR	**Akbulak array**	**70.19**	**328**	P	**P**	**21 49 00.5**	**-0.7**
ABKAR				IAmb	IAmb	21 49 04.3	
comp=Z,45nm,1.4s							
PEA0B	**Petropavlovsk-**	**70.98**	**28**	P	**P**	**21 49 05.0**	**-0.6**
PETK	**Petropavlovsk-**	**70.98**	**28**	P	**P**	**21 49 05.0**	**-0.7**
PETK	**Petropavlovsk-**	**70.98**	**28**	P	**P**	**21 49 05.1**	**-0.6**
comp=Z,3.2nm,1.0s,baz=236,slow=1.1,SNR=5.5							
comp=Z,3.2nm,1.0s							
TIXI	**Tiksi**	**78.29**	**6**	P	**P**	**21 49 44.8**	**-1.5**
TIXI				IAmb	IAmb	21 49 45.9	
comp=Z,4.2nm,0.7s							
MMAI	**Mont Meron Ar**	**80.68**	**305**	P	**P**	**21 50 00.7**	**+0.9**
comp=Z,1.0nm,0.5s,baz=120,slow=8.5,SNR=2.7							
comp=Z,1.0nm,0.5s							
BILL	**Bilibino**	**83.33**	**18**	P	**P**	**21 50 15.4**	**+3.0**
BILL				IAmb	IAmb	21 50 17.0	
comp=Z,10nm,1.4s							
BRTR	**Keskin Array B**	**83.59**	**311**	P	**P**	**21 50 14.1**	**-0.4**
QSPA	**South Pole Qui**	**84.14**	**180**	P	**P**	**21 50 17.6**	**+1.0**
QSPA	**South Pole Qui**	**84.14**	**180**	P	**P**	**21 50 17.7**	**+1.0**
comp=Z,1.4nm,0.5s,baz=201,slow=0.4,SNR=26							
comp=Z,1.4nm,0.5s							
AKASG	**Malin Array Be**	**88.89**	**321**	P	**P**	**21 50 38.3**	**-1.1**
comp=Z,0.8nm,0.5s,baz=131,slow=6.2,SNR=5.0							
comp=Z,0.8nm,0.5s							
SNAA	**Sanae**	**91.61**	**197**	P	**P**	**21 50 53.1**	**+1.4**
SNAA				IAmb	IAmb	21 50 57.9	
comp=Z,2.7nm,1.3s							
FINES	**FINESS Array B**	**92.36**	**331**	P	**P**	**21 50 54.4**	**-0.6**
comp=Z,2.2nm,0.9s,baz=132,slow=4.1,SNR=3.8							
comp=Z,2.2nm,0.9s							
MIAR	**Mount Ida**	**143.86**	**35**		PKPbc	21 57 15.8	-0.2
LCAR	**Lake Charles**	**144.00**	**30**	PKPbc	PKPbc	21 57 15.7	-0.7
WHAR	**Wooly Hollow**	**144.01**	**32**	PKPbc	PKPbc	21 57 15.1	-1.4
WVT	**Waverly**	**145.53**	**27**		**PKPdf**	**21 57 20.8**	**+1.1**
BDFB	**Brasilia**	**149.78**	**225**	PKPbc	**PKPbc**	**21 57 32.9**	**+0.3**
comp=Z,1.6nm,0.5s,baz=161,slow=3.7,SNR=4.4							

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*IDC **03** 21:39:10.9±0.7, 2°.86S×119°.51E, h0km, mb4.4/11, mbtmp4.4/13, ML3.0/1, MS3.3/9, Error ellipse: s-maj=48.8km s-min=13.3km az=69.0*
*NEIC **03** 21:39:12.7±1.5, 2°.95S±0°.05×119°.49E±0°.08, h10km±1km, mb4.7/19, Error ellipse: s-maj=13.1km s-min=7.5km az=73.0*
*DJA **03** 21:39:12.3±0.2, 3°.S±1°×119°.9E±°, h10km, M4.7/23, mb4.7/10, mB5.3/2, MLv4.7/23, Mw(mB)4.8/2*
ISC 03 21:39:13.5±0.7, **2°.97S**±0°.04×**119°.49E**±0°.06, **h17**km±4km, **n69**, σ1°**98**/77, **mb4.6**/26, **MS3.3**/6, **1D, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.34**	**103**	P	**Pg**	**21 39 18.8**	**-1.8**
TTSI				S	**Sg**	**21 39 25.1**	**-0.4**
SPSI	**Sidrap Palu**	**1.03**	**164**	P	**Pb**	**21 39 31.5**	**-1.4**
SPSI				S	**Sn**	**21 39 47.9**	**+0.6**
BNSI	**Bone**	**1.55**	**157**	P	**Pn**	**21 39 41.3**	**+0.9**
BNSI				S	**Sg**	**21 40 03.1**	**-0.5**
KAPI	**Kappang**	**2.05**	**173**	Pn	**Pn**	**21 39 47.8**	**+0.5**
KAPI	**Kappang**	**2.05**	**173**	Pn	**Pn**	**21 39 48.0**	**+0.7**
873nm,0.4s,baz=338,slow=13,SNR=124							
KAPI				LR	LR	21 40 14.3	
comp=Z,178nm,19.2s,baz=311,slow=29							
KAPI				Sn	**Sb**	**21 40 16.6**	**+1.0**
176nm,0.3s,baz=197,slow=22,SNR=14							
BKSI	**Bulukumba**	**2.42**	**165**	P	**Pn**	**21 39 53.2**	**+0.8**
BKSI				S	**Sb**	**21 40 24.8**	**-1.5**
APSI	**Ampana**	**2.97**	**47**	P	**Pn**	**21 39 59.9**	**-0.1**
BKB	**Balikpapan**	**3.10**	**303**		**Pn**	**21 40 01.2**	**-0.5**
BKB	**Balikpapan**	**3.10**	**303**	P	**Pn**	**21 40 01.2**	**-0.5**
BSSI	**Bau Bau, Buton**	**3.31**	**162**	P	**Pn**	**21 40 05.4**	**+0.8**
MPSI	**Mapaga**	**3.31**	**7**	P	**Pn**	**21 40 02.5**	**-2.1**
SMKI	**Samarinda**	**3.39**	**318**	P	**Pn**	**21 40 04.7**	**-1.0**
LUWI	**Luwuk**	**3.80**	**60**	Pn	**Pn**	**21 40 10.9**	**-0.5**
LUWI	**Luwuk**	**3.80**	**60**	P	**Pn**	**21 40 10.9**	**-0.5**
BBSI	**Bau Bau**	**3.96**	**129**	P	**Pn**	**21 40 15.6**	**+2.0**
MRSI	**Marisa**	**4.21**	**36**	P	**Pn**	**21 40 16.1**	**-0.9**
TOLI2	**Tolitoli**	**4.25**	**18**	Pn	**Pn**	**21 40 17.9**	**+0.3**
MTKI	**Muara Teweh, K**	**5.01**	**294**	P	**Pn**	**21 40 25.9**	**-2.2**
KMSI	**Cibinong**	**5.70**	**52**	P	**Pn**	**21 40 35.8**	**-1.8**
PLAI	**Plampang**	**6.07**	**196**	P	**Pn**	**21 40 39.5**	**-3.1**
60nm,1.6s,0.3nm							
MMRI	**Maumere**	**6.26**	**154**	P	**Pn**	**21 40 42.4**	**-2.8**
55nm,1.5s,0.2nm							
SANI	**Sanana**	**6.56**	**82**	P	**Pn**	**21 40 48.1**	**-1.2**
SRBI	**Singaraja**	**6.63**	**220**	P	**Pn**	**21 40 49.8**	**-0.5**
57nm,1.9s,0.3nm							
WBSI	**Waikabubak, Su**	**6.63**	**181**	P	**Pn**	**21 40 51.3**	**+0.9**
61nm,0.6s,0.3nm							
MYLDM	**Lahad Datu**	**8.15**	**353**	Pn	**Pn**	**21 41 10.3**	**-0.9**
BATI	**Baumata**	**8.30**	**150**	LR	LR	21 44 55.4	
comp=Z,371nm,20.3s,baz=21,slow=41							
KKM	**Kota Kinabalu**	**9.53**	**340**		**Pn**	**21 41 30.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**16.20**	**159**	Pn	**Pn**	**21 43 00.9**	**+0.3**
baz=270,slow=7.7,SNR=3.1							
FITZ				LR	LR	21 51 28.4	
comp=Z,165nm,18.1s,baz=334,slow=45							
3.4nm,0.8s							
MBWA	**Marble Bar**	**18.08**	**179**	P	**P**	**21 43 25.2**	**+0.7**
KULM	**Kulim**	**20.53**	**294**	P	**P**	**21 43 49.8**	**-1.5**
RPSI	**Rantau Prapat**	**21.31**	**285**	P	**P**	**21 43 59.0**	**-0.8**
RPSI				IAmb	IAmb	21 44 04.6	
comp=Z,34nm,0.9s							
WB0	**Warramunga Arr**	**22.15**	**140**	P	**P**	**21 44 08.0**	**-0.8**
WB0				IAmb	IAmb	21 44 10.3	
comp=Z,23nm,1.1s							
WRA	**Warramunga Arr**	**22.24**	**140**	P	**P**	**21 44 08.6**	**-1.2**
WRA	**Warramunga Arr**	**22.24**	**140**	P	**P**	**21 44 09.3**	**-0.5**
comp=Z,14nm,1.0s,baz=321,slow=10,SNR=32							
WRA				PcP	**PcP**	**21 48 06.0**	**0.0**
comp=Z,0.4nm,0.8s,baz=315,slow=2.2,SNR=1.9							
WRA				LR	LR	21 52 38.9	
comp=Z,114nm,21.4s,baz=3.5,slow=36							
comp=Z,14nm,1.0s							
GSI	**Gunungsitoli**	**22.31**	**281**	P	**P**	**21 44 09.9**	**-0.7**
WR0	**Warramunga Arr**	**22.39**	**140**	P	**P**	**21 44 10.7**	**-0.6**
WR0				IAmb	IAmb	21 44 12.9	
comp=Z,21nm,1.1s							
AS31	**Alice Springs**	**24.86**	**147**	P	**P**	**21 44 34.4**	**-1.1**
ASAR	**Alice Springs**	**24.86**	**147**	P	**P**	**21 44 35.4**	**-0.1**
ASAR	**Alice Springs**	**24.86**	**147**	P	**P**	**21 44 36.5**	**+1.1**
comp=Z,6.3nm,0.9s,baz=329,slow=8.8,SNR=30							
ASAR				PcP	**PcP**	**21 48 11.3**	**-0.2**
comp=Z,0.7nm,0.6s,baz=334,slow=2.3,SNR=8.5							
ASAR				LR	LR	21 54 50.4	
comp=Z,120nm,18.8s,baz=304,slow=38							
comp=Z,6.3nm,0.9s							
GUMO	**Guam**	**30.08**	**56**	LR	LR	21 56 19.7	
comp=Z,39nm,21.2s,baz=49,slow=34							
CTA	**Charters Tower**	**31.17**	**125**	LR	LR	21 58 47.0	
comp=Z,8.6nm,18.4s,baz=278,slow=38							
PZH	**PanZhiHua**	**33.95**	**331**	P	**P**	**21 45 58.8**	**+2.4**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,110nm,4.7s							
TNCH	**TengChong**	**34.48**	**325**	||*eP*	**P**	**21 46 03.1**	**+2.0**
TNCH				pP	pP	21 46 06.0	-0.7
TNCH				sP	sP	21 46 08.5	-0.5
TNCH				PP	**PP**	**21 47 26.1**	**+6.8**
TNCH				S	S	21 51 11.1	-18
TNCH				sS	pS	21 51 27.3	-8.7
TNCH				SS	**SnSn**	**21 53 30.1**	**-10**
TNCH				pmax	pmax		
comp=Z,12nm,0.4s							
TNCH				pmax	pmax		
comp=Z,260nm,5.0s							
TNCH				LR	LR		
comp=N,380nm,7.6s							
TNCH				LR	LR		
comp=E,220nm,5.7s							
TNCH				LR	LR		
comp=Z,380nm,8.5s							
NJ2	**Nanjing**	**34.83**	**359**	*eP*	**P**	**21 46 05.0**	**+1.2**
NJ2				pmax	pmax		
comp=Z,9.0nm,0.5s							
STKA	**Stephens Creek**	**35.49**	**147**	P	**P**	**21 46 09.5**	**0.0**
STKA	**Stephens Creek**	**35.49**	**147**	P	**P**	**21 46 10.9**	**+1.4**
comp=Z,2.1nm,0.7s,baz=324,slow=

```
      comp=Z,8.0nm,1.2s
DZM   Mont Dzumac      49.34 117  LR    LR    22 12 35.3
      comp=Z,35nm,18.3s,baz=82,slow=41
SONM  Songino Array    51.88 349  P     P     21 48 20.4 -0.9
      comp=Z,7.9nm,0.9s,baz=166,slow=8.5,SNR=9.9
      comp=Z,7.9nm,0.9s
MK31  Makanchi Array   59.39 331  P     P     21 49 14.6 -0.5
MK31                              IAmb  IAmb  21 49 28.2
      comp=Z,14nm,1.3s
MKAR  Makanchi Array   59.39 331  P     P     21 49 14.5 -0.6
      comp=Z,2.7nm,0.7s,baz=141,slow=6.1,SNR=4.5
      comp=Z,2.7nm,0.7s
AAK   Ala-Archa        60.89 323  P     P     21 49 26.3 +0.6
AAK                               IAmb  IAmb  21 49 40.0
      comp=Z,16nm,1.1s
ARSB  Arslanbob        61.06 321  P     P     21 49 27.4 +0.6
ARSB                              IAmb  IAmb  21 49 45.6
      comp=Z,14nm,1.4s
GAR   Garm             61.54 318  P     P     21 49 29.3 -0.8
ZAA0  Zalesovo Array   63.64 338  P     P     21 49 43.3 -0.3
ZALV  Zalesovo Beam    63.64 338  P     P     21 49 42.1 -1.5
      comp=Z,2.2nm,0.7s,baz=144,slow=6.8,SNR=2.6
      comp=Z,2.2nm,0.7s
KURBB Kurchatov Arra   63.85 332  P     P     21 49 44.8 -0.3
      comp=Z,3.8nm,1.0s,baz=142,slow=6.1,SNR=2.2
      comp=Z,3.8nm,1.0s
KURK  Kurchatov        63.87 332  P     P     21 49 45.8 +0.6
BVAR  Borovoye Array   69.27 331  P     P     21 50 20.4 +0.7
      comp=Z,8.1nm,1.2s,baz=134,slow=10,SNR=1.8
      comp=Z,8.1nm,1.2s
AKTO  Aktyubinsk       74.61 324  P     P     21 50 50.8 -1.1
      comp=Z,5.1nm,1.0s,baz=94,slow=7.3,SNR=1.6
      comp=Z,5.1nm,1.0s
TIXI  Tiksi            74.73   3  P     P     21 50 50.0 -2.1
TIXI                              IAmb  IAmb  21 51 05.0
      comp=Z,4.6nm,1.1s
MAW   Mawson           75.05 199  P     P     21 50 54.5 +0.5
      comp=Z,2.5nm,0.7s,baz=25,slow=7.1,SNR=7.7
      comp=Z,2.5nm,0.7s
QSPA  South Pole Qui   86.99 180  P     P     21 51 57.5 -0.3
QSPA                              IAmb  IAmb  21 52 27.8
      comp=Z,2.1nm,1.1s
QSPA  South Pole Qui   86.99 180  P     P     21 51 59.2 +1.4
      comp=Z,1.8nm,1.1s,baz=1.2,slow=1.8,SNR=2.0
      comp=Z,1.8nm,1.1s
```

*PRE **03** 21:42:12.0±1.0, 26°36S×27°41E, h2km, ML2.2*
*BGSI **03** 21:42:13.5±2.8, 26°52S×27°81E, h0km±78km, ML2.8*
ISC 03 21:42:12.4±1.2, 26°37S±0°03×27°44E±0°04, h9km±9km, n27, σ2°30/50, South Africa

```
Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC   h m s     ISC
HRAO  HartRAO           0.53  25  eP    Pg    21 42 22.5  -0.2
HRAO                              eS    Sg    21 42 29.4  -0.2
HRAO                              IAML        21 42 30.8
      comp=Z,276nm,0.1s
PRYS  Parys             0.56 187  eP    Pg    21 42 23.5  +0.3
PRYS                              eS    Sg    21 42 31.2  +0.6
PRYS                              IAML        21 42 39.1
      comp=Z,72nm,0.4s
LBTB  Lobatse           2.14 309  eP    Pb    21 42 50.1  -1.2
LBTB                              eS    Sn    21 43 16.6  +1.6
LBTB                              IAML        21 43 23.2
      comp=Z,62nm,0.3s
CRLN  Carolina, Mapu    2.35  81  eP    Pn    21 42 52.6  +1.3
CRLN                              eS    Sn    21 43 21.9  +1.4
CRLN                              IAML        21 43 24.0
      comp=Z,7.7nm,0.2s
LEPH  Lephalale, Lim    2.52   8  eP    Pn    21 42 55.4  +1.8
LEPH                              eS    Sn    21 43 25.3  +0.8
LEPH                              IAML        21 43 34.9
      comp=Z,25nm,0.6s
NWCL  Newcastle         2.58 122  eP    Pn    21 42 56.2  +1.8
NWCL                              eS    Sn    21 43 28.2  +2.2
NWCL                              IAML        21 43 32.3
      comp=Z,24nm,0.4s
BOSA  Boshof            2.96 220  eP    Pn    21 43 00.9  +1.3
BOSA                              eS    Sn    21 43 37.2  +1.9
BOSA                              IAML        21 43 46.4
      comp=Z,9.2nm,0.5s
PILG  Pilgrimsrest,     3.28  65  eP    Pn    21 43 06.5  +2.3
PILG                              eS    Sn    21 43 45.1  +1.6
PILG                              IAML        21 43 59.5
      comp=Z,13nm,0.6s
LPHEP Lephephe          3.32 334  iP    Pb    21 43 08.5  -2.9
LPHEP                             iS    Sb    21 43 49.3  -2.7
LPHEP                             IAML        21 44 04.6
      comp=E,22nm,0.4s
MREMI Moremi            3.78   0  iP    Pn    21 43 14.1  +3.1
MREMI                             IAML        21 43 59.1
      comp=N,52nm,0.3s
KDWAN Kaudwane          3.90 319  iP    Pn    21 43 15.4  +2.9
KDWAN                             iS    Sb    21 44 05.5  -3.2
KDWAN                             IAML        21 44 16.2
      comp=E,39nm,0.3s
PMBG  Pietermaritzbu    4.15 140  eP    Pn    21 43 17.4  +1.5
PMBG                              eS    Sn    21 44 06.0  +1.5
PMBG                              IAML        21 44 23.2
      comp=Z,12nm,0.4s
MOPA  Mopani            4.58  53  eP    Pn    21 43 23.9  +2.0
MOPA                              eS    Sn    21 44 14.7  -0.5
MOPA                              IAML        21 44 40.1
      comp=Z,11nm,0.4s
MUSN  Musina, Limpop    4.63  29  eP    Pn    21 43 23.8  +1.3
MUSN                              eS    Sn    21 44 16.1  -0.2
MUSN                              IAML        21 44 37.7
      comp=Z,10nm,0.5s
BROLN Tlhalogang        5.25 359  iP    Pn    21 43 34.0  +2.9
BROLN                             iS    Sn    21 44 31.6  -0.2
BROLN                             IAML        21 44 52.9
      comp=E,9.9nm,1.9s
SOOWA Sowa              5.89 349  iP    Pn    21 43 42.9  +3.0
SOOWA                             iS    Sn    21 44 49.5  +2.0
SOOWA                             IAML        21 45 21.2
      comp=N,26nm,0.6s
KGCAE Kacgae            5.91 305  iP    Pn    21 43 43.6  +3.4
KGCAE                             iS    Sn    21 44 52.5  +4.4
KGCAE                             IAML        21 45 19.0
      comp=E,22nm,0.7s
CKGRV CKGRV             5.97 325  iP    Pn    21 43 43.5  +2.5
CKGRV                             iS    Sn    21 44 53.3  +3.6
CKGRV                             IAML        21 45 25.0
      comp=E,31nm,0.8s
LKGWB Lokgwabe          6.06 290  iP    Pn    21 43 48.8  +6.5
LKGWB                             IAML        21 45 13.1
      comp=E,27nm,1.6s
GRAF  Camdeboo Natio    6.42 203  eP    Pn    21 43 48.7  +1.5
GRAF                              eS    Sn    21 44 59.0  -1.7
GRAF                              IAML        21 45 46.8
      comp=Z,2.3nm,0.9s
BRAK  Brakfontein       6.70 215  eP    Pn    21 43 52.0  +1.0
BRAK                              eS    Sn    21 45 05.6  -1.8
BRAK                              IAML        21 45 14.5
      comp=Z,2.4nm,0.3s
PHDHD Phuduhudu         6.70 336  iP    Pn    21 43 55.4  +4.4
ROOI  Rooidraai Farm    6.98 208  eP    Pn    21 43 56.4  +1.5
ROOI                              eS    Sn    21 45 11.7  -2.7
ROOI                              IAML        21 45 33.7
      comp=Z,1.5nm,0.5s
GRAN  Grantham          7.49 217  eP    Pn    21 44 03.5  +1.7
GRAN                              eS    Sn    21 45 24.3  -2.6
GRAN                              IAML        21 46 10.5
      comp=Z,4.5nm,0.4s
FRAZ  Fraserburg        7.64 222  eP    Pn    21 44 05.5  +1.5
FRAZ                              eS    Sn    21 45 27.7  -3.1
FRAZ                              IAML        21 45 57.3
      comp=Z,1.6nm,0.4s
MERW  Merweville        8.12 218  eP    Pn    21 44 12.0  +1.5
MERW                              eS    Sn    21 45 39.2  -3.4
MERW                              IAML        21 45 56.2
      comp=Z,2.5nm,0.7s
CVNA  Calvinia          8.43 231  eP    Pn    21 44 15.7  +0.8
CVNA                              eS    Sn    21 45 47.2  -3.0
CVNA                              IAML        21 46 44.3
      comp=Z,5.3nm,0.4s
```

TAP 03 21:45:08.1, 23°13N×120°91E, h8km, ML1.2, 1C, B, Taiwan

```
Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC   h m s     ISC
ELDTW Lidau             0.12  59  ⇑P    Pg    21 45 12.1  +1.3
STYH  Taoyuan           0.13 289  eP    Pg    21 45 12.7  +1.7
STYH                              iS    Sg    21 45 14.5  +1.6
WTP   Ta-pu             0.29 293  P     Pg    21 45 14.8  +0.7
WTP                               eS    Sg    21 45 18.0  +0.1
SGST  Jiashian          0.30 261  iP    Pb    21 45 15.4  -0.5
SGST                              S     Sb    21 45 20.4  -0.6
TPUB  Ta-pu             0.31 304  eP    Pb    21 45 16.3  +0.3
TPUB                              iS    Sb    21 45 21.1  -0.1
TWG   Pinlang           0.34 154  iP    Pb    21 45 16.3  -0.2
TWGBT Beinan            0.35 153  iP    Pb    21 45 16.2  -0.3
ALS   Alishan           0.39 346  P     Pb    21 45 17.5  -0.1
ALS                               eS    Sb    21 45 23.1  -0.7
```

IDC 03 21:50:50.4±26.0, 18°48S×179°88W, h598km±112km, mb3.1/3, mbtmp4.0/4, Error ellipse: s-maj=568.3km s-min=113.5km az=85.0, Fiji Islands region

```
Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC   h m s     ISC
MSVF  Nonsavu           2.11 290  P     P     21 52 05.1  0.0
      24nm,0.6s,baz=126,slow=19,SNR=12
STKA  Stephens Creek   37.13 241  P     P     21 57 11.9  -0.1
      1.9nm,0.8s,baz=76,slow=12,SNR=3.2
      1.9nm,0.8s
WRA   Warramunga Arr   43.16 260  P     P     21 57 59.7  -0.4
      1.3nm,0.6s,baz=95,slow=7.0,SNR=39
      1.3nm,0.6s
ASAR  Alice Springs    43.30 255  P     P     21 58 01.1  +0.1
      2.8nm,0.6s,baz=90,slow=7.9,SNR=40
      2.8nm,0.6s
```

IDC 03 21:58:51.4±999.0, 61°36N×153°49W, h0km, Error ellipse: s-maj=514.5km s-min=93.2km az=37.0, Southern Alaska

```
Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC   h m s     ISC
I53US FAIRBANKS INFR    4.35  33  I     I     22 23 50.0
      baz=219,slow=315,SNR=1.7
I18DK QAANAAQ INFRAS   30.02  26  I     I     01 06 23.7
      baz=285,slow=336,SNR=6.5
I10CA LAC DU BONNET    33.08  83  I     I     01 20 40.0
      baz=312,slow=329,SNR=1.6
```

*IDC **03** 22:12:07.5±1.0, 37°37N×20°80E, h0km, mb3.7/7, mbtmp3.6/13, ML3.3/3, MS3.0/1, Error ellipse: s-maj=19.6km s-min=15.5km az=2.0*
*THE **03** 22:12:08.9, 37°20N×20°63E, h6km, ML3.6/3, Error ellipse: s-maj=1.1km s-min=0.3km az=55.0*
*ATH **03** 22:12:08.5, 37°16N×20°59E, h10km±1km, ML3.7/13, Error ellipse: s-maj=3.6km s-min=1.5km az=52.0*
*BEO **03** 22:12:11.1±0.8, 37°28N×20°74E, h10km, ML3.6/5*
ISC 03 22:12:09.7±1.5, 37°29N±0°03×20°77E±0°04, h13km±10km, n69, σ1°02/84, mb3.7/7, Ionian Sea

```
Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC   h m s     ISC
KRI1  kERI              0.37   6  P     Pb    22 12 18.3  +0.1
KRI1                              S     Sb    22 12 25.5  +1.6
LTHK  Lithakia          0.42   8  P     Pb    22 12 19.2  +0.2
LTHK                              S     Sb    22 12 27.1  +1.8
      17μm,0.4s
LTHK  Lithakia          0.42   8  P     Pb    22 12 19.3  +0.3
LTHK                              S     Sb    22 12 27.5  +2.2
LTHK                              AML   AML   22 12 27.9
      comp=E,28339μm,0.3s
LTHK                              AML   AML   22 12 28.0
      comp=N,41330μm,0.4s
RTZL  Ratzakli, Kefa    0.79   0  P     Pb    22 12 25.4  +0.2
RTZL                              S     Sn    22 12 38.5  +0.5
AMT   Artemida-Makis    0.79  72  P     Pn    22 12 26.6  +0.1
AMT   Artemida-Makis    0.79  72  P     Pn    22 12 26.6  +0.1
AMT                               AML   AML   22 12 45.4
      comp=N,45643μm,0.4s
AMT                               AML   AML   22 12 47.0
      comp=E,51685μm,0.4s
PSDA  Pessada-Kefalo    0.83 350  P     Pb    22 12 26.1  +0.1
PSDA                              S     Sn    22 12 39.3  0.0
PSDA  Pessada-Kefalo    0.83 350  P     Pn    22 12 26.3  -0.8
PYL   PYLOS             0.88 116  P     Pb    22 12 26.6  -0.1
PYL                               S     Sn    22 12 40.2  -0.1
      comp=E,3μm,0.6s
PYL   PYLOS             0.88 116  P     Pb    22 12 26.7  -0.1
PYL                               AML   AML   22 12 44.0
      comp=N,4989μm,0.7s
PYL                               AML   AML   22 12 45.7
      comp=E,6178μm,0.4s
VLS   Valsamata         0.90 351  P     Pn    22 12 27.3  -0.7
VLS                               S     Sn    22 12 41.6  +0.7
      comp=E,3μm,0.3s
VLS   Valsamata         0.90 351  P     Pn    22 12 27.4  -0.6
VLS                               AML   AML   22 12 43.5
      comp=E,5780μm,0.3s
VLS                               AML   AML   22 12 45.3
      comp=N,5661μm,0.4s
ITM   Ithomi            0.93  96  P     Pn    22 12 28.4  -0.1
ITM   Ithomi            0.93  96  P     Pn    22 12 28.6  +0.1
ITM                               AML   AML   22 12 46.0
      comp=N,6440μm,0.3s
ITM                               AML   AML   22 12 47.7
      comp=E,5528μm,0.3s
LXRA  Lixouri, Kepha    0.94 344  P     Pn    22 12 28.4  -0.2
LXRA                              AML   AML   22 12 51.9
      comp=E,12246μm,0.6s
LXRA                              AML   AML   22 12 54.2
      comp=N,14286μm,0.7s
RLS   Riolos of Patr    0.95  36  P     Pn    22 12 28.6  0.0
RLS   Riolos of Patr    0.95  36  P     Pn    22 12 28.7  0.0
RLS                               AML   AML   22 12 51.6
      comp=E,3498μm,0.6s
RLS                               AML   AML   22 12 58.0
      comp=N,3346μm,0.8s
SMHA  Samh              0.96 354  P     Pb    22 12 28.1  -0.1
SMHA                              AML   AML   22 12 45.9
      comp=E,17526μm,0.4s
SMHA                              AML   AML   22 12 47.8
      comp=N,21532μm,0.6s
DMLN  Damoulianata-K    1.00 342  P     Pn    22 12 28.8  -0.6
DMLN  Damoulianata-K    1.00 342  P     Pn    22 12 28.9  -0.5
DRO   Drossia           1.00  48  P     Pn    22 12 30.0  +0.6
DRO   Drossia           1.00  48  P     Pn    22 12 30.0  +0.6
DRO                               AML   AML   22 12 51.5
      comp=N,8343μm,0.5s
DRO                               AML   AML   22 12 52.2
      comp=E,10407μm,0.5s
VSK1  VASILIKIADES      1.13 352  P     Pn    22 12 31.1  -0.1
FSK   Fiskardo          1.18 352  P     Pg    22 12 32.2  -0.2
FSK   Fiskardo          1.18 352  P     Pg    22 12 32.2  -0.2
UPR   University Cam    1.28  39  P     Pg    22 12 34.7  +0.4
EVGI  Lefkada island    1.33 356  P     Pg    22 12 34.5  -0.8
EVGI  Lefkada island    1.33 356  P     Pg    22 12 34.9  -0.4
KLV   Kalavryta, Ach    1.33  55  P     Pg    22 12 35.2  -0.1
KLV   Kalavryta, Ach    1.33  55  P     Pg    22 12 35.5  +0.1
GUR   Goura             1.41  62  P     Pg    22 12 36.3  -0.5
GUR   Goura             1.41  62  P     Pg    22 12 36.3  -0.5
GUR                               AML   AML   22 13 06.7
      comp=E,3934μm,0.4s
GUR                               AML   AML   22 13 11.2
      comp=N,4486μm,0.5s
EFP   Efpalio           1.45  38  P     Pg    22 12 36.9  -0.7
EFP   Efpalio           1.45  38  P     Pg    22 12 36.8  -0.7
EFP                               AML   AML   22 13 06.0
      comp=N,1490μm,0.4s
EFP                               AML   AML   22 13 11.1
      comp=E,1831μm,0.5s
KALE  Kalithea          1.55  44  P     Pb    22 12 38.1  -0.1
KALE  Kalithea          1.55  44  P     Pb    22 12 38.1  -0.1
KALE                              AML   AML   22 13 11.9
      comp=E,2007μm,0.6s
KALE                              AML   AML   22 13 18.2
      comp=N,2796μm,0.5s
ANX   Ano Chora         1.59  35  P     Pb    22 12 38.9  -0.1
ANX   Ano Chora         1.59  35  P     Pg    22 12 40.0  -0.3
ANX                               AML   AML   22 13 13.1
      comp=E,2928μm,0.6s
ANX                               AML   AML   22 13 16.1
      comp=N,2555μm,0.5s
FNA   Florina           3.52   8  ePn   Pn    22 13 06.2  +2.1
FNA                               eSn   Sn    22 13 46.7  +1.0
OHR   Ohrid             3.82   0  ePn   Pn    22 13 09.9  +1.7
IDI   Anoyia            3.88 120  Pn    Pn    22 13 10.8  +1.6
      comp=N,15nm,1.1s,baz=43,slow=8.9,SNR=2.7
IDI                               Pg    Pb    22 13 18.5  +0.4
      comp=N,1.1nm,0.3s,baz=282,slow=10,SNR=8.2
IDI                               Sn    Sn    22 13 56.2  +1.5
      comp=N,4.9nm,0.3s,baz=31,slow=19,SNR=8.0
TIR   Tirane            4.11 351  ePn   Pn    22 13 14.7  +2.5
SRS   Serrai            4.41  29  ePn   Pn    22 13 18.1  +1.8
SRS                               eSn   Sn    22 14 07.9  +0.5
VAE   Valguarnera       5.06 274  Pn    Pn    22 13 26.6  +1.3
      comp=N,8.6nm,0.4s,baz=164,slow=16,SNR=6.6
VAE                               Sn    Sn    22 14 26.2  +2.5
      comp=N,2.0nm,0.3s,baz=348,slow=20,SNR=2.1
PDG   Podgorica         5.26 348  ePn   Pn    22 13 29.2  +1.2
PDG                               eSn   Sn    22 14 28.4  -0.1
BOSS  Bosilegrad        5.36  14  ePn   Pn    22 13 30.1  +0.7
BARS  Barje             5.58   8  ePn   Pn    22 13 33.3  +1.0
VTS   Vitosha           5.65  19  ePn   Pn    22 13 35.0  +1.5
SELS  Selova            5.93   3  ePn   Pn    22 13 38.5  +1.3
SJES  Sjenica           6.00 354  ePn   Pn    22 13 39.6  +1.4
SJES                              eSn   Sn    22 14 46.3  -0.4
STON  Ston              6.05 338  ePn   Pn    22 13 38.3  -0.5
ZAPS  Zavoj             6.14  13  ePn   Pn    22 13 41.5  +1.3
IVAS  Ivanjica          6.30 356  ePn   Pn    22 13 42.9  +0.6
DIVS  Divibare          6.83 355  ePn   Pn    22 13 51.9  +2.3
DIVS                              eSn   Sn    22 15 04.3  -2.8
HAPS  Han Pijesak,Bl    6.93 349  ePn   Pn    22 13 51.5  +0.5
HAPS                              eSn   Sn    22 15 09.0  -0.7
TRUS  Trudelj           6.93 358  ePn   Pn    22 13 52.3  +1.4
MLR   Muntele Rosu      9.07  24  Pn    Pn    22 14 19.6  -0.7
      comp=N,0.1nm,0.3s,baz=185,slow=18,SNR=2.4
      comp=N,0.8nm,0.7s
KEST  Kesra             9.32 264  Pn    Pn    22 14 24.4  +0.5
      comp=N,0.1nm,0.3s,baz=217,slow=23,SNR=1.3
      comp=N,2.0nm,0.8s
BRTR  Keskin Array B   10.38  73  LR    LR    22 19 45.1
      comp=N,86nm,19.0s,baz=295,slow=44
MMAI  Mount Meron Ar   12.71 105  Pn    Pn    22 15 10.1  -0.1
      comp=N,0.4nm,0.3s,baz=302,slow=14,SNR=2.2
      comp=N,0.3nm,0.3s
AKASG Malin Array Be   14.71  22  Pn    Pn    22 15 37.8  +0.5
      comp=N,0.8nm,0.3s,baz=213,slow=10,SNR=2.8
ESDC  Sonseca Array    19.49 285  P     Pn    22 16 36.6  -1.0
      comp=N,0.5nm,0.9s,baz=75,slow=12,SNR=2.3
HFS   Hagfors          23.31 351  P     P     22 17 15.9  -1.1
      comp=N,1.4nm,0.6s,baz=159,slow=13,SNR=5.3
      comp=N,1.4nm,0.6s
FINES FINESS Array B   24.41   6  P     P     22 17 26.6  -0.9
      comp=N,2.0nm,0.8s,baz=160,slow=28,SNR=4.6
      comp=N,2.0nm,0.8s
NOA   NORSAR Array B   24.52 349  P     P     22 17 28.4  -0.3
      comp=N,0.7nm,0.8s,baz=157,slow=9.1,SNR=2.0
      comp=N,0.7nm,0.8s
TORD  Torodi Ar. Bea   29.47 220  P     P     22 18 12.9  -0.5
      comp=N,0.3nm,0.5s,baz=30,slow=9.2,SNR=4.1
      comp=N,0.3nm,0.5s
KURBB Kurchatov Arra   42.61  53  P     P     22 20 04.4  -0.9
      comp=N,0.7nm,0.5s,baz=278,slow=8.6,SNR=8.0
      comp=N,0.7nm,0.5s
MKAR  Makanchi Array   45.61  58  P     P     22 20 28.6  -0.9
      comp=N,0.5nm,0.5s,baz=273,slow=7.7,SNR=9.7
      comp=N,0.5nm,0.5s
ZALV  Zalesovo Beam    46.14  47  P     P     22 20 32.7  -0.8
      comp=N,0.9nm,0.5s,baz=278,slow=8.9,SNR=5.5
      comp=N,0.9nm,0.5s
```

*IDC **03** 22:14:22.7±0.7, 2°75S×119°65E, h0km, mb4.0/10, mbtmp4.1/12, ML3.8/2, MS3.3/5, Error ellipse: s-maj=48.7km s-min=12.8km az=67.0*
*DJA **03** 22:14:24.8±0.2, 3°S±2°×11°9E±°, h10km, M4.6/19, mb4.7/6, mB5.5/2, MLv4.6/19, Mw(mB)4.9/2*
*NEIC **03** 22:14:24.9±1.3, 2°92S±0°06×119°40E±0°06, h10km±1km, mb4.4/18, Error ellipse: s-maj=12.0km s-min=8.6km az=52.0*
ISC 03 22:14:24.2±0.5, 2°92S±0°04×119°47E±0°06, h10km, n67, σ1°17/67, mb4.3/21, MS3.4/5, Sulawesi

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Code  Station Name      Δ°   AZ°  Phase ID   Time      Res
                                Op    ISC   h m s     ISC
TTSI  Tana Toraja       0.37 109  P     Pg    22 14 31.0  -0.5
TTSI                              S     Sg    22 14 34.2  -2.2
SPSI  Sidrap Palu       1.08 164  P     Pb    22 14 43.6  -1.3
SPSI                              S     Sg    22 14 58.8  -0.2
BNSI  Bone              1.60 157  P     Pn    22 14 53.5  +1.0
BNSI                              S     Sb    22 15 15.9  +1.8
KAPI  Kappang           2.10 172  Pn    Pn    22 14 59.7  +0.3
KAPI  Kappang           2.10 172  Pn    Pn    22 15 00.3  +0.9
      48nm,0.3s,baz=356,slow=12,SNR=70
KAPI                              Sn    Sb    22 15 28.9  +0.5
      48nm,0.3s,baz=93,slow=18,SNR=4.8
KAPI                              LR    LR    22 15 43.6
      comp=Z,386nm,18.0s,baz=314,slow=36
      236nm,0.5s
BKSI  Bulukumba         2.47 165  P     Pn    22 15 06.3  +1.8
APSI  Ampana            2.96  48  P     Pn    22 15 12.2  +1.0
BKB   Balikpapan        3.06 303  Pn    Pn    22 15 12.9  +0.4
BKB   Balikpapan        3.06 303  P     Pn    22 15 13.1  +0.5
MPSI  Mapaga            3.27   8  P     Pn    22 15 15.1  -0.4
BSSI  Bau Bau, Buton    3.36 162  P     Pn    22 15 18.2  +1.5
LUWI  Luwuk             3.79  61  Pn    Pn    22 15 23.3  +0.6
LUWI  Luwuk             3.79  61  P     Pn    22 15 23.3  +0.6
BBSI  Bau Bau           4.01 130  P     Pn    22 15 28.2  +2.5
MRSI  Marisa            4.18  36  P     Pn    22 15 28.6  +0.5
TOLI2 Tolitoli          4.21  18  Pn    Pn    22 15 30.0  +1.4
MTKI  Muara Teweh, K    4.98 293  P     Pn    22 15 39.2  +0.2
KMSI  Cibinong          5.69  52  P     Pn    22 15 52.9  +4.1
PLAI  Plampang          6.10 196  P     Pn    22 15 54.4  -0.1
      48nm,1.0s,1μm0.3nm
SANI  Sanana            6.57  83  P     Pn    22 16 00.9  0.0
SRBI  Singaraja         6.65 219  P     Pn    22 16 00.7  -1.4
      94nm,2.0s,0.3nm
WBSI  Waikabubak, Su    6.68 181  P     Pn    22 16 02.7  +0.3
      43nm,0.9s,0.2nm
KMMI  Kalianget         6.85 233  P     Pn    22 16 04.7  0.0
MYLDM Lahad Datu        8.11 353  P     Pn    22 16 23.6  +1.5
TNTI  Ternate           8.71  65  Pn    Pn    22 16 30.4  +0.1
KKM   Kota Kinabalu     9.48 340  Pn    Pn    22 16 42.4  +1.4
FITZ  Fitzroy Crossi   16.25 159  Pn    Pn    22 18 15.1  +2.3
      0.2nm,0.3s,baz=14,slow=17,SNR=6.8
      5.9nm,0.9s
KULM  Kulim            20.49 293  P     P     22 19 01.8  -0.8
KULM                              IAmb  IAmb  22 19 05.0
      comp=Z,16nm,1.0s
RPSI  Rantau Prapat    21.28 285  P     P     22 19 10.5  -0.6
WB0   Warramunga Arr   22.20 140  P     P     22 19 20.9  0.0
WB0                               IAmb  IAmb  22 19 22.4
      comp=Z,12nm,1.1s
WRA   Warramunga Arr   22.29 140  P     P     22 19 22.5  +0.6
WRA   Warramunga Arr   22.29 140  P     P     22 19 21.6  -0.3
      comp=Z,6.7nm,0.9s,baz=321,slow=10,SNR=26
      comp=Z,6.7nm,0.9s
AS31  Alice Springs    24.90 147  P     P     22 19 48.9  +1.3
ASAR  Alice Springs    24.90 147  P     P     22 19 47.6  +0.1
ASAR  Alice Springs    24.90 147  P     P     22 19 48.5  +0.9
      comp=Z,3.6nm,0.8s,baz=336,slow=11,SNR=29
      comp=Z,3.6nm,0.8s
COEN  Coen             25.85 116  P     P     22 19 55.2  -1.0
CMAR  Chiang Mai Arr   29.33 317  P     P     22 20 27.6  +0.3
CMAR  Chiang Mai Arr   29.33 317  P     P     22 20 27.5  +0.2
      comp=Z,0.7nm,0.5s,baz=140,slow=6.6,SNR=6.6
CMAR                              LR    LR    22 34 51.5
      comp=Z,53nm,18.6s,baz=140,slow=42
      comp=Z,0.7nm,0.5s
PZH   PanZhiHua        33.90 331  P     P     22 21 10.6  +3.0
PZH                               pmax  pmax
      comp=Z,9.0nm,1.0s
PZH                               pmax  pmax
      comp=Z,100nm,4.4s
STKA  Stephens Creek   35.54 147  P     P     22 21 22.8  +1.2
      comp=Z,2.4nm,0.8s,baz=328,slow=9.5,SNR=4.2
      comp=Z,2.4nm,0.8s
JNU   Nakatsue         37.44  16  P     P     22 21 37.6  -0.2
JNU                               IAmb  IAmb  22 21 53.1
      comp=Z,8.0nm,1.1s
JNU   Nakatsue         37.44  16  LR    LR    22 38 42.2
      comp=Z,60nm,19.2s,baz=326,slow=39
SHL   Shillong         38.94 318  P     P     22 21 50.0  -0.8
SHL                               IAmb  IAmb  22 21 52.3
      comp=Z,7.5nm,0.9s
KSRS  Korea Array      40.93  10  LR    LR    22 39 51.4
      comp=Z,22nm,20.3s,baz=345,slow=38
LSA   Lhasa            42.27 322  P     P     22 22 18.9  +0.3
LSA                               IAmb  IAmb  22 22 20.6
      comp=Z,4.2nm,0.7s
HHC   Hu-ho-hao-te     44.16 351  eP    P     22 22 34.5  +1.2
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HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,110nm,5.0s
GTA Gaotai 45.84 339 *e*P **P 22 22 47.5 +0.8**
GTA pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 51.73 349 P **P 22 23 31.7 -0.2**
ULN IAmb IAmb 22 23 34.8
comp=Z,4.6nm,0.9s
SONM Songino Array 51.83 349 P **P 22 23 31.9 -0.7**
comp=Z,1.5nm,0.6s,baz=171,slow=7.5,SNR=13
comp=Z,1.5nm,0.6s
KSH Kashi 58.11 321 P **P 22 24 18.4 +0.2**
MK31 Makanchi Array 59.34 331 P **P 22 24 26.6 +0.1**
MK31 IAmb IAmb 22 24 29.6
comp=Z,3.4nm,0.8s
MKAR Makanchi Array 59.34 331 P **P 22 24 26.5 0.0**
MKAR Makanchi Array 59.34 331 P **P 22 24 26.6 +0.1**
comp=Z,3.0nm,0.7s,baz=136,slow=7.6,SNR=29
comp=Z,3.0nm,0.7s
MAKZ Makanchi 59.50 331 P **P 22 24 27.4 -0.2**
KBL Kabul 60.22 313 P **P 22 24 32.4 -0.7**
AAK Ala-Archa 60.85 323 P **P 22 24 37.2 +0.1**
ARSB Arslanbob 61.01 321 P **P 22 24 38.3 +0.1**
ARSB IAmb IAmb 22 24 39.6
comp=Z,2.4nm,1.0s
KKAR Karatay Array 63.52 322 P **P 22 24 55.1 +0.2**
ZALV Zalesovo Beam 63.59 338 P **P 22 24 53.6 -1.4**
ZALV Zalesovo Beam 63.59 338 P **P 22 24 54.2 -0.8**
comp=Z,0.8nm,0.7s,baz=150,slow=6.5,SNR=4.5
comp=Z,0.8nm,0.7s
KURBB Kurchatov Arra 63.80 332 P **P 22 24 56.1 -0.4**
comp=Z,0.8nm,0.7s,baz=140,slow=6.1,SNR=8.5
comp=Z,0.8nm,0.7s
KURK Kurchatov 63.82 332 P **P 22 24 55.9 -0.8**
KURK IAmb IAmb 22 24 58.6
comp=Z,3.8nm,0.9s
BVAR Borovoye Array 69.22 331 P **P 22 25 30.8 -0.3**
comp=Z,1.0nm,0.7s,baz=149,slow=9.9,SNR=4.1
comp=Z,1.0nm,0.7s
TIXI Tiksi 74.69 3 P **P 22 26 01.5 -2.0**
TIXI Tiksi 74.69 3 P **P 22 26 01.6 -2.0**
comp=Z,1.6nm,0.8s,baz=192,slow=2.1,SNR=9.1
comp=Z,1.6nm,0.8s
MATP Matopo 89.90 250 LR LR 23 02 16.3
comp=Z,57nm,21.9s,baz=60,slow=32
MLR Muntele Rosu 94.54 315 LR LR 23 21 11.7
comp=Z,272nm,18.6s,baz=301,slow=42

*THE **03** 22:17:51.8, 37.°64N×20.°34E, h12km, ML3.3/6, Error ellipse: s-maj=0.8km s-min=0.4km az=54.0*
*ATH **03** 22:17:51.1, 37.°62N×20.°29E, h10km±3km, ML3.3/6, Error ellipse: s-maj=4.6km s-min=1.4km az=44.0*
*IDC **03** 22:17:51.9±1.6, 37.°74N×21.°07E, h0km, mb3.5/5, mbtmp3.4/7, ML3.2/2, Error ellipse: s-maj=38.8km s-min=22.8km az=131.0*

ISC 03 22:17:49.7±1.6, 37.°58N±0.°05×20.°24E±0.°05, h11km±10km, n33, σ0°81/44, mb3.6/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.46**	**80**	P	**Pg**	**22 17 59.3**	**+0.5**
KRI1				S	**Sg**	**22 18 04.8**	**-0.1**
11μm,0.5s							
LTHK	**Lithakia**	**0.49**	**74**	P	**Pg**	**22 17 59.5**	**+0.3**
LTHK				S	**Sg**	**22 18 05.4**	**-0.4**
LTHK	**Lithakia**	**0.49**	**74**	P	**Pg**	**22 17 59.5**	**+0.3**
LTHK				S	**Sg**	**22 18 05.4**	**-0.4**
LTHK				AML	AML	22 18 05.6	
comp=E,26063μm,0.3s							
LTHK				AML	AML	22 18 07.0	
comp=N,11294μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.60**	**27**	P	**Pg**	**22 18 01.7**	**+0.4**
PSDA				S	**Sg**	**22 18 09.2**	**0.0**
comp=N,5μm,0.2s							
LXRA	**Lixouri, Kepha**	**0.64**	**14**	P	**Pg**	**22 18 02.9**	**+0.8**
LXRA				S	**Sg**	**22 18 10.8**	**+0.3**
LXR1	**Lixouri, Cepha**	**0.64**	**14**	P	**Pg**	**22 18 02.6**	**+0.5**
LXR1				S	**Sg**	**22 18 10.9**	**+0.4**
comp=N,12μm,0.3s							
VLS	**Valsamata**	**0.66**	**25**	P	**Pg**	**22 18 02.7**	**+0.3**
VLS				S	**Sg**	**22 18 11.1**	**0.0**
VLS	**Valsamata**	**0.66**	**25**	P	**Pg**	**22 18 02.6**	**+0.1**
VLS				S	**Sg**	**22 18 11.0**	**-0.1**
VLS				AML	AML	22 18 16.5	
comp=E,5326μm,0.6s							
VLS				AML	AML	22 18 18.3	
comp=N,5414μm,0.5s							
DMLN	**Damoulianata-K**	**0.67**	**9**	P	**Pg**	**22 18 02.9**	**+0.3**
DMLN	**Damoulianata-K**	**0.67**	**9**	P	**Pg**	**22 18 02.9**	**+0.3**
SMHA	**Samh**	**0.74**	**25**	P	**Pg**	**22 18 03.8**	**-0.3**
SMHA				S	**Sg**	**22 18 13.1**	**-0.7**
VSK1	**VASILIKIADES**	**0.87**	**17**	P	**Pg**	**22 18 06.7**	**+0.3**
VSK1				S	**Sb**	**22 18 18.3**	**-0.1**
comp=N,3μm,0.5s							
FSK	**Fiskardo**	**0.91**	**16**	P	**Pg**	**22 18 07.5**	**+0.2**
FSK	**Fiskardo**	**0.91**	**16**	P	**Pg**	**22 18 07.5**	**+0.2**
FSK				AML	AML	22 18 26.1	
comp=N,3479μm,0.5s							
FSK				AML	AML	22 18 26.1	
comp=E,2710μm,0.2s							
RLS	**Riolos of Patr**	**1.08**	**63**	P	**Pg**	**22 18 10.2**	**-0.3**
RLS				S	**Sb**	**22 18 24.5**	**0.0**
comp=E,995nm,0.4s							
RLS	**Riolos of Patr**	**1.08**	**63**	P	**Pg**	**22 18 10.1**	**-0.3**
RLS				S	**Sb**	**22 18 24.5**	**0.0**
RLS				AML	AML	22 18 28.4	
comp=E,1466μm,0.5s							
RLS				AML	AML	22 18 29.5	
comp=N,2505μm,0.4s							
EVGI	**Lefkada island**	**1.09**	**17**	P	**Pg**	**22 18 10.6**	**-0.1**
EVGI				S	**Sb**	**22 18 25.3**	**+0.5**
comp=N,2μm,0.3s							
DRAG	**Dragano-Lefkad**	**1.13**	**13**	P	**Pg**	**22 18 11.5**	**0.0**
DRAG	**Dragano-Lefkad**	**1.13**	**13**	P	**Pg**	**22 18 11.3**	**-0.2**
AMT	**Artemida-Makis**	**1.17**	**92**	P	**Pg**	**22 18 12.7**	**+0.6**
AMT	**Artemida-Makis**	**1.17**	**92**	P	**Pg**	**22 18 12.7**	**+0.6**
AMT				AML	AML	22 18 32.6	
comp=E,4230μm,0.4s							
AMT				AML	AML	22 18 35.9	
comp=N,3618μm,0.4s							
NYDR	**Nydri-Lefkada**	**1.19**	**17**	P	**Pb**	**22 18 12.2**	**0.0**
NYDR	**Nydri-Lefkada**	**1.19**	**17**	P	**Pb**	**22 18 11.8**	**-0.4**
DRO	**Drossia**	**1.22**	**72**	P	**Pb**	**22 18 12.6**	**-0.2**
DRO	**Drossia**	**1.22**	**72**	P	**Pb**	**22 18 13.1**	**+0.3**
DRO				AML	AML	22 18 38.6	
comp=N,2699μm,0.5s							
DRO				AML	AML	22 18 41.3	
comp=E,3141μm,0.7s							
VAE	**Valguarnera**	**4.64**	**271**	Sn	**Sb**	**22 20 05.9**	**-1.0**
comp=E,1.1nm,0.3s,baz=221,slow=13,SNR=2.4							
MLR	**Muntele Rosu**	**8.98**	**27**	Pn	**Pn**	**22 19 57.4**	**-2.0**
comp=E,0.1nm,0.3s,baz=159,slow=16,SNR=1.3							
comp=E,0.9nm,0.6s							
ESDC	**Sonseca Array**	**19.02**	**284**	P	Pn	22 22 22.1	+10
baz=87,slow=9.3,SNR=1.8							
comp=E,0.3nm,0.8s							
HFS	**Hagfors**	**22.96**	**352**	P	**P**	**22 22 57.3**	**+3.6**
comp=E,2.7nm,0.9s,baz=174,slow=14,SNR=5.2							
comp=E,2.7nm,0.9s							
FINES	**FINESS Array B**	**24.17**	**7**	P	**P**	**22 23 07.4**	**+1.8**
comp=E,0.8nm,0.5s,baz=162,slow=11,SNR=8.5							
comp=E,0.8nm,0.5s							
TORD	**Torodi Ar. Bea**	**29.43**	**219**	P	P	22 24 01.6	+8.2
comp=E,0.3nm,0.7s,baz=31,slow=12,SNR=2.4							
comp=E,0.3nm,0.7s							
MKAR	**Makanchi Array**	**45.80**	**58**	P	**P**	**22 26 10.4**	**-0.9**
comp=E,0.2nm,0.5s,baz=264,slow=8.2,SNR=1.6							
comp=E,0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**46.26**	**48**	P	**P**	**22 26 14.6**	**-0.2**
comp=E,0.6nm,0.4s,baz=280,slow=7.5,SNR=3.0							
comp=E,0.6nm,0.4s							

*NOU **03** 22:21:43.6, 19.°63S×179.°91W, h539km, mb4.9/91, Fiji Islands Region*
*NEIC **03** 22:21:44.1±1.8, 19.°68S±0.°10×180.°0W±0.°1, h530km±6km, mb4.7/104, Error ellipse: s-maj=16.0km s-min=13.5km az=126.0*
*IDC **03** 22:21:45.0±1.1, 19.°66S×179.°83E, h540km±10km, mb4.0/22, mbtmp4.9/24, Error ellipse: s-maj=12.8km s-min=9.5km az=142.0*

ISC 03 22:21:43.3±0.3, 19.°68S±0.°05×179.°98W±0.°06, h530km, n703, σ0°87/699, mb4.6/86, 45C-40D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**1.82**	**38**	P	**P**	**22 22 51.3**	**+0.9**
MSVF	**Nonsavu**	**2.69**	**316**	P	**P**	**22 22 56.8**	**+1.8**
MSVF	**Nonsavu**	**2.69**	**316**	P	**P**	**22 22 56.5**	**+1.5**
355nm,0.5s,baz=166,slow=4.8,SNR=152							
MSVF	**Nonsavu**	**2.69**	**316**	P	**P**	**22 22 57.5**	**+2.5**
DGTI	**Dogotuki**	**3.37**	**355**	P	**P**	**22 23 00.2**	**+0.9**
FUTU	**Fugatoga**	**5.63**	**19**	P	**P**	**22 23 17.7**	**0.0**
FUTU	**Fugatoga**	**5.63**	**19**	P	**P**	**22 23 18.4**	**+0.7**
NIUE	**Niue**	**9.51**	**88**	P	**P**	**22 23 55.3**	**-0.6**
NIUE	**Niue**	**9.51**	**88**	P	**P**	**22 23 55.8**	**-0.1**
RAO	**Raoul Island**	**9.71**	**169**	S	**S**	**22 25 49.3**	**+0.9**
278nm,0.6s,baz=98,slow=21,SNR=2.3							
AFI	**Afiamalu**	**9.73**	**55**	P	P	22 23 54.4	-3.9
AFI	**Afiamalu**	**9.73**	**55**	P	**P**	**22 23 56.1**	**-2.2**
MARNC	**Mare, Loyalty**	**11.37**	**259**	P	**P**	**22 24 16.2**	**+1.0**
DVP	**Devils Point**	**11.38**	**278**	P	**P**	**22 24 16.3**	**+0.9**
LIFNC	**LIFOU**	**12.04**	**263**	P	**P**	**22 24 22.1**	**-0.2**
PINNC	**Pines Island,**	**12.09**	**254**	P	**P**	**22 24 23.6**	**+0.9**
PINNC	**Pines Island,**	**12.09**	**254**	P	**P**	**22 24 23.6**	**+0.9**
YATNC	**Mamie plateau,**	**12.50**	**257**	P	**P**	**22 24 27.2**	**+0.2**
VLAKA	**Lakatoro**	**12.51**	**285**	P	**P**	**22 24 28.3**	**+1.1**
OUENC	**Ouen Island, N**	**12.60**	**255**	P	**P**	**22 24 28.8**	**+0.7**
DZM	**Mont Dzumac**	**12.91**	**257**	P	**P**	**22 24 31.6**	**+0.1**
71nm,0.6s,baz=78,slow=22,SNR=45							
DZM	**Mont Dzumac**	**12.91**	**257**	P	**P**	**22 24 31.5**	**+0.1**
ONTNC	**Ouen Toro**	**12.94**	**256**	P	**P**	**22 24 31.3**	**-0.3**
ONTNC	**Ouen Toro**	**12.94**	**256**	P	**P**	**22 24 31.8**	**+0.2**
NOUC	**Port Laguerre**	**13.04**	**257**	P	**P**	**22 24 32.8**	**+0.1**
NFK	**Norfolk Island**	**14.41**	**227**	P	**P**	**22 24 49.5**	**+2.6**
KOUNC	**Koumac, New Ca**	**14.80**	**264**	P	**P**	**22 24 51.1**	**0.0**
KOUNC	**Koumac, New Ca**	**14.80**	**264**	P	**P**	**22 24 51.4**	**+0.3**
LUES	**Luesalemba Tem**	**16.29**	**301**	P	**P**	**22 25 06.6**	**+0.2**
OUZ	**Omahuta**	**16.48**	**199**	P	**P**	**22 25 09.9**	**+1.9**
OUZ	**Omahuta**	**16.48**	**199**	P	**P**	**22 25 08.8**	**+0.9**
WCZ	**Waipu Caves**	**16.95**	**196**	P	**P**	**22 25 15.0**	**+2.6**
KUZ	**Kuaotunu**	**17.41**	**192**	P	**P**	**22 25 19.5**	**+2.9**
KUZ	**Kuaotunu**	**17.41**	**192**	P	**P**	**22 25 17.1**	**+0.5**
MBAZ	**Motutapu North**	**17.61**	**194**	P	**P**	**22 25 20.6**	**+2.2**
HAZ	**Te Kaha**	**18.11**	**186**	P	**P**	**22 25 22.8**	**-0.1**
HAZ				S	**S**	**22 28 19.1**	**-2.8**
RUGZ	**Raukumara Rang**	**18.33**	**186**	P	**P**	**22 25 23.3**	**-1.9**
PUZ	**Puketiti**	**18.39**	**184**	P	**P**	**22 25 24.2**	**-1.3**
TOZ	**Tahuroa Road**	**18.41**	**191**	P	**P**	**22 25 26.3**	**+0.6**
TOZ	**Tahuroa Road**	**18.41**	**191**	P	**P**	**22 25 26.3**	**+0.6**
TWGZ	**Tauwhareparae**	**18.51**	**185**	P	**P**	**22 25 27.6**	**+0.9**
TWGZ				S	**S**	**22 28 29.1**	**+0.6**
URZ	**Urewera**	**18.68**	**187**	P	**P**	**22 25 26.0**	**-2.2**
42nm,0.6s,baz=9.4,slow=2.7,SNR=21							
URZ				S	**S**	**22 28 27.8**	**-3.4**
17nm,0.7s,baz=299,slow=21,SNR=2.9							
URZ	**Urewera**	**18.68**	**187**	P	**P**	**22 25 26.2**	**-2.0**
URZ				S	**S**	**22 28 29.9**	**-1.3**
URZ	**Urewera**	**18.68**	**187**	P	**P**	**22 25 27.4**	**-0.8**
MWZ	**Matawai**	**18.71**	**186**	P	**P**	**22 25 27.0**	**-1.5**
MWZ				S	**S**	**22 28 29.1**	**-2.7**
CNGZ	**Carnagh Statio**	**18.80**	**184**	P	**P**	**22 25 29.5**	**+0.2**
RIGZ	**Rimuhau**	**19.06**	**185**	P	**P**	**22 25 27.6**	**-4.1**
RIGZ				S	**S**	**22 28 33.1**	**-4.3**
HIZ	**Hauiti**	**19.29**	**192**	P	**P**	**22 25 34.7**	**+1.0**
NMHZ	**Naumai**	**19.55**	**187**	P	**P**	**22 25 36.1**	**0.0**
BKZ	**Black Stump Fm**	**19.65**	**188**	P	**P**	**22 25 35.9**	**-1.1**
BKZ	**Black Stump Fm**	**19.65**	**188**	P	**P**	**22 25 36.0**	**-1.1**
BKZ				S	**S**	**22 28 46.5**	**-0.5**
BKZ	**Black Stump Fm**	**19.65**	**188**	P	**P**	**22 25 36.0**	**-1.1**
MOVZ	**Moawhango**	**20.00**	**190**	P	**P**	**22 25 41.5**	**+1.3**
QRZ	**Quartz Range**	**22.03**	**195**	P	**P**	**22 25 58.8**	**+0.3**
SNZO	**South Karori**	**22.03**	**191**	P	**P**	**22 25 59.1**	**+0.7**
TATA	**Tatamba Isabel**	**22.57**	**297**	P	**P**	**22 26 02.4**	**-1.3**
KHZ	**Kahutara**	**23.32**	**192**	P	**P**	**22 26 09.4**	**-0.5**
LTZ	**Lake Taylor**	**23.94**	**194**	P	**P**	**22 26 14.4**	**-1.1**
RPZ	**Rata Peaks**	**25.11**	**195**	P	**P**	**22 26 25.8**	**-0.1**
GC1S	**Gold Coast 1 S**	**25.62**	**246**	P	**P**	**22 26 30.9**	**+0.3**
AUWSH	**Wavell State H**	**25.86**	**248**	P	**P**	**22 26 33.9**	**+1.2**
JCZ	**Jackson Bay**	**26.07**	**199**	P	**P**	**22 26 34.7**	**+0.2**
ODZ	**Otahua Downs**	**26.46**	**195**	P	**P**	**22 26 37.9**	**+0.1**
TW1H	**Toowoomba 1 Ha**	**26.82**	**248**	P	**P**	**22 26 42.9**	**+1.6**
EIDS	**Eidsvold**	**27.29**	**253**	P	**P**	**22 26 45.5**	**+0.1**
EIDS	**Eidsvold**	**27.29**	**253**	P	**P**	**22 26 46.0**	**+0.6**
RK1H	**Rockhampton Ha**	**27.69**	**257**	P	**P**	**22 26 49.0**	**+0.2**
ARMA	**Armidale**	**27.78**	**242**	P	**P**	**22 26 51.1**	**+1.3**
ARMA	**Armidale**	**27.78**	**242**	P	**P**	**22 26 51.0**	**+1.3**
SYZ	**Scrubby Hill**	**28.23**	**196**	P	**P**	**22 26 53.8**	**+0.5**
AUPHS	**Peel High Scho**	**28.58**	**241**	P	**P**	**22 26 58.1**	**+1.5**
MGCD	**Mangrove Creek**	**29.07**	**237**	P	**P**	**22 27 02.7**	**+1.9**
SYDH	**Sydney Hard Ro**	**29.55**	**236**	P	**P**	**22 27 06.0**	**+1.1**
AULRC	**Lightning Ridg**	**30.63**	**245**	P	**P**	**22 27 15.1**	**+0.8**
AUDCS	**Dubbo College**	**30.75**	**240**	P	**P**	**22 27 16.5**	**+1.2**
CNB	**Canberra Magne**	**31.17**	**234**	P	**P**	**22 27 20.5**	**+1.5**
TV1H	**Townsville Har**	**31.30**	**265**	P	**P**	**22 27 20.2**	**0.0**
CAN	**Canberra**	**31.45**	**234**	P	**P**	**22 27 22.1**	**+0.7**
CAN				IAmb	IAmb	22 27 23.3	
comp=Z,46nm,1.4s							
CAN	**Canberra**	**31.45**	**234**	P	**P**	**22 27 21.2**	**-0.2**
YNG	**Young**	**31.56**	**236**	P	**P**	**22 27 23.3**	**+1.0**
CTAO	**Charters Tower**	**31.72**	**263**	P	**P**	**22 27 24.3**	**+0.4**
CTAO	**Charters Tower**	**31.72**	**263**	P	**P**	**22 27 23.8**	**-0.1**
CMSA	**Cobar Meteorol**	**32.99**	**242**	P	**P**	**22 27 34.9**	**+0.4**
PMG	**Port Moresby**	**33.34**	**283**	P	**P**	**22 27 37.6**	**-0.1**
PMG	**Port Moresby**	**33.34**	**283**	P	**P**	**22 27 37.8**	**+0.2**
comp=Z,38nm,0.7s,baz=96,slow=7.4,SNR=10							
comp=Z,38nm,0.7s							
PMG	**Port Moresby**	**33.34**	**283**	P	**P**	**22 27 37.9**	**+0.2**
QLP	**Quilpie**	**33.54**	**251**	P	**P**	**22 27 39.3**	**+0.2**
MTSU	**Mount Surprise**	**33.77**	**267**	P	**P**	**22 27 41.0**	**-0.3**
PATS	**Pohnpei**	**33.93**	**319**	P	**P**	**22 27 42.6**	**+0.1**
GLAD	**Gladstone**	**34.55**	**225**	P	**P**	**22 27 48.2**	**+0.8**
TOO	**Toolangi**	**34.90**	**232**	P	**P**	**22 27 51.4**	**+0.9**
TOO				IAmb	IAmb	22 27 52.3	
comp=Z,11nm,0.7s							
COEN	**Coen**	**35.67**	**273**	P	**P**	**22 27 57.1**	**-0.1**
COEN	**Coen**	**35.67**	**273**	P	**P**	**22 27 57.2**	**0.0**
TAU	**Tasmania Unive**	**35.93**	**223**	P	**P**	**22 27 58.7**	**-0.2**
BRAT	**Ballarat**	**36.06**	**233**	P	**P**	**22 28 02.1**	**+2.1**
STKA	**Stephens Creek**	**36.48**	**243**	P	**P**	**22 28 04.5**	**+0.8**
STKA	**Stephens Creek**	**36.48**	**243**	P	**P**	**22 28 04.3**	**+0.6**
comp=Z,36nm,0.8s,baz=90,slow=9.6,SNR=58							
comp=Z,36nm,0.8s							
STKA	**Stephens Creek**	**36.48**	**243**	P	**P**	**22 28 04.5**	**+0.8**
INKA	**Innaminka**	**36.72**	**250**	P	**P**	**22 28 06.5**	**+0.9**
ARPS	**Mount Arapiles**	**37.41**	**235**	P	**P**	**22 28 11.3**	**+0.1**
QIS	**Mount Isa**	**37.89**	**262**	P	**P**	**22 28 15.0**	**-0.4**
HTT	**Hallett**	**38.98**	**241**	P	**P**	**22 28 23.9**	**-0.1**
AUMBR	**Murray Bridge**	**39.01**	**238**	P	**P**	**22 28 24.8**	**+0.6**
comp=Z,61nm,1.0s							
LCRK	**Leigh Creek**	**39.16**	**246**	P	**P**	**22 28 25.7**	**+0.2**
TAOE	**Nuku Hiva Isla**	**39.98**	**80**	P	**P**	**22 28 31.3**	**-1.1**
WHYH	**Whyalla**	**40.02**	**242**	P	**P**	**22 28 32.8**	**+0.4**
WAKE	**Wake Island**	**40.88**	**341**	P	**P**	**22 28 38.6**	**-0.7**
OOD	**Oodnadatta**	**41.20**	**250**	P	**P**	**22 28 42.5**	**+0.7**
BBOO	**Buckleboo**	**41.26**	**242**	P	**P**	**22 28 42.4**	**+0.1**
BBOO	**Buckleboo**	**41.26**	**242**	P	**P**	**22 28 42.0**	**-0.3**
JAY	**Jayapura**	**42.02**	**289**	P	**P**	**22 28 47.9**	**-0.7**
comp=Z,16nm,0.7s							
WR0	**Warramunga Arr**	**42.68**	**262**	P	**P**	**22 28 52.7**	**-1.0**
MULG	**Mulgathing**	**42.73**	**246**	P	**P**	**22 28 53.6**	**-0.3**
AS01	**Alice Springs**	**42.86**	**256**	P	**P**	**22 28 54.4**	**-0.6**
WRA	**Warramunga Arr**	**42.87**	**262**	P	**P**	**22 28 54.4**	**-0.8**
comp=Z,17nm,0.8s,baz=95,slow=7.7,SNR=304							
WRA				ScP	**ScP**	**22 33 35.6**	**+0.8**
comp=Z,2.7nm,0.9s,baz=87,slow=3.7,SNR=7.1							
WRA				S	**S**	**22 34 37.3**	**-4.3**
comp=Z,1.7nm,0.8s,baz=95,slow=14,SNR=8.2							
comp=Z,17nm,0.8s							
AS31	**Alice Springs**	**42.90**	**256**	P	**P**	**22 28 55.3**	**-0.1**
AS31				IAmb	IAmb	22 28 55.9	
comp=Z,23nm,0.7s							
ASAR	**Alice Springs**	**42.90**	**256**	P	**P**	**22 28 55.3**	**-0.1**
ASAR	**Alice Springs**	**42.90**	**256**	P	**P**	**22 28 55.1**	**-0.2**
comp=Z,83nm,0.7s,baz=90,slow=8.4,SNR=914							
ASAR				ScP	**ScP**	**22 33 36.3**	**+1.4**
comp=Z,4.8nm,0.8s,baz=101,slow=4.1,SNR=13							
ASAR				S	**S**	**22 34 39.4**	**-2.5**
comp=Z,2.0nm,0.7s,baz=92,slow=16,SNR=9.6							
comp=Z,83nm,0.7s							
MLH	**Mauna Loa**	**45.80**	**33**	P	**P**	**22 29 17.8**	**-0.2**
KDU	**Kakadu**	**46.07**	**271**	P	**P**	**22 29 18.7**	**-1.2**
DHH	**Diamond Head**	**46.12**	**29**	P	**P**	**22 29 20.4**	**+0.3**
MTN	**Manton Dam**	**47.29**	**271**	P	**P**	**22 29 28.1**	**-1.0**
MTN				IAmb	IAmb	22 29 28.7	
comp=Z,9.9nm,0.7s							
DRS	**Darwin Rock St**	**47.62**	**271**	P	**P**	**22 29 31.1**	**-0.5**
WRKA	**Warakurna**	**47.90**	**254**	P	**P**	**22 29 33.1**	**-0.5**
FORT	**Forrest**	**47.92**	**246**	P	**P**	**22 29 33.2**	**-0.3**
FORT	**Forrest**	**47.92**	**246**	P	**P**	**22 29 33.0**	**-0.6**
KNRA	**Kununurra**	**48.85**	**266**	P	**P**	**22 29 40.0**	**-0.8**
KNRA				IAmb	IAmb	22 29 41.0	
comp=Z,17nm,0.8s							
FAKI	**Fak Fak**	**49.50**	**283**	P	**P**	**22 29 44.3**	**-1.3**
FAKI				IAmb	IAmb	22 30 06.2	
comp=Z,40nm,1.5s							
SWI	**Sorong**	**51.23**	**285**	P	**P**	**22 29 57.6**	**-0.6**
comp=Z,22nm,0.8s,comp=Z,983nm							
FITZ	**Fitzroy Crossi**	**51.29**	**262**	P	**P**	**22 29 58.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**51.29**	**262**	P	**P**	**22 29 58.7**	**+0.1**
KMBL	**Kambalda**	**53.21**	**245**	P	**P**	**22 30 11.7**	**-0.5**
SOEI	**Soe**	**54.61**	**272**	P	**P**	**22 30 22.3**	**-0.2**
SOEI				IAmb	IAmb	22 30 24.6	
comp=Z,45nm,0.8s							
SOEI	**Soe**	**54.61**	**272**	P	**P**	**22 30 23.7**	**+1.2**
SOEI	**Soe**	**54.61**	**272**	P	**P**	**22 30 23.0**	**+0.5**
comp=Z,64nm,1.1s							
SANI	**Sanana**	**55.60**	**281**	P	**P**	**22 30 28.6**	**-0.6**
SANI	**Sanana**	**55.60**	**281**	P	**P**	**22 30 28.3**	**-0.9**
PSA00	**Pilbara Seismi**	**56.04**	**257**	P	**P**	**22 30 31.6**	**-0.6**
PSA00				IAmb	IAmb	22 30 32.6	
comp=Z,37nm,0.8s							
PSA00	**Pilbara Seismi**	**56.04**	**257**	P	**P**	**22 30 31.9**	**-0.3**
MBWA	**Marble Bar**	**56.21**	**257**	P	**P**	**22 30 32.9**	**-0.5**
MBWA				IAmb	IAmb	22 30 33.8	
comp=Z,28nm,0.8s							
MBWA	**Marble Bar**	**56.21**	**257**	P	**P**	**22 30 33.1**	**-0.3**
MEEK	**Meekatharra**	**56.43**	**251**	P	**P**	**22 30 34.2**	**-0.7**
KLBR	**Kellerberrin**	**56.72**	**245**	P	**P**	**22 30 36.4**	**-0.3**
NWAO	**Narrogin (SRO)**	**57.07**	**243**	P	**P**	**22 30 38.9**	**-0.2**
NWAO				IAmb	IAmb	22 30 39.9	
comp=Z,50nm,1.3s							
NWAO	**Narrogin (SRO)**	**57.07**	**243**	P	**P**	**22 30 39.3**	**+0.1**
MORW	**Morawa**	**58.42**	**247**	P	**P**	**22 30 48.0**	**-0.4**
MORW				IAmb	IAmb	22 30 48.4	
comp=Z,16nm,0.8s							
MORW	**Morawa**	**58.42**	**247**	P	**P**	**22 30 48.3**	**-0.1**
SBA	**Scott Base**	**58.57**	**183**	P	**P**	**22 30 51.0**	**+2.5**
TOLI2	**Tolitoli**	**61.61**	**282**	P	**P**	**22 31 09.2**	**-0.6**
CASY	**Casey**	**63.91**	**205**	P	**P**	**22 31 24.3**	**+0.7**
JAGI	**Jajag, Banyuwa**	**64.53**	**270**	P	**P**	**22 31 27.1**	**-1.4**
JAGI				IAmb	IAmb	22 31 28.9	
comp=Z,52nm,1.3s							
JHJ2	**Mitsune**	**65.04**	**323**	P	**P**	**22 31 31.6**	**+0.3**
KKM	**Kota Kinabalu**	**67.75**	**285**	P	**P**	**22 31 48.2**	**-0.5**
KKM				IAmb	IAmb	22 31 56.5	
comp=Z,25nm,1.2s							
JMM	**Marumori**	**68.09**	**327**	P	**P**	**22 31 49.9**	**-0.2**
JMM				IAmb	IAmb	22 31 51.4	
comp=Z,22nm,1.0s							
JMM	**Marumori**	**68.09**	**327**	P	**P**	**22 31 49.5**	**-0.6**
UGM	**Wanagama**	**68.11**	**269**	P	**P**	**22 31 50.0**	**-0.8**
JGF	**Kuroka**	**68.24**	**324**	P	**P**	**22 31 50.8**	**-0.4**
JGF				IAmb	IAmb	22 31 52.9	
comp=Z,22nm,1.4s							
MJAR	**Matsushiro Arr**	**68.46**	**325**	P	**P**	**22 31 52.2**	**-0.3**
comp=Z,12nm,0.6s,baz=154,slow=5.8,SNR=39							
comp=Z,12nm,0.6s							
MAJO	**Matsushiro**	**68.46**	**325**	P	**P**	**22 31 52.4**	**0.0**
MAJO				IAmb	IAmb	22 31 53.3	
comp=Z,20nm,0.9s							
MAJO	**Matsushiro**	**68.46**	**325**	P	**P**	**22 31 52.3**	**-0.1**
MJB9	**Matsu-Tunnel**	**68.47**	**325**	P	**P**	**22 31 53.5**	**+1.0**
MJB9				IAmb	IAmb	22 31 54.2	
comp=Z,20nm,0.9s							
JSD	**Sado**	**69.54**	**326**	P	**P**	**22 31 59.1**	**+0.3**
JTM	**Tenmabay

comp=Z,40nm,1.4s
KDAK Kodiak Island 80.48 14 P P 22 32 58.9 -0.6
baz=206
P16K Nushagak River 80.49 11 P P 22 32 58.8 -0.8
baz=201
CN2 Changchun 80.53 323 eP P 22 33 00.9 +0.8
CN2 eS S 22 42 23.1 -0.1
CN2 pmax pmax
comp=Z,20nm,1.0s
M11K Mekoryuk 80.56 7 P P 22 32 60.0 +0.1
baz=193
BELA Belgrano 2 80.60 173 P P 22 33 00.1 0.0
BNX BinXian 80.69 326 ⇑P P 22 33 01.6 +0.6
BNX pmax pmax
comp=Z,20nm,0.7s
N14K Kuskokwak Cree 80.71 9 P P 22 33 00.2 -0.5
baz=197
Q18K Katmai Hardscr 80.72 13 P P 22 32 59.8 -1.1
baz=204
YBH Yreka Blue Hor 80.83 40 P P 22 33 03.1 +1.2
KLR Kul'dur 80.89 330 P P 22 33 02.8 +0.9
comp=Z,3.4nm,0.7s,baz=146,slow=4.1,SNR=8.7
comp=Z,3.4nm,0.7s
P17K Kvichak River 80.94 12 P P 22 33 00.6 -1.3
baz=202
M13K Dall Lake 80.95 8 P P 22 33 01.5 -0.4
baz=196
O16K Kokwok River B 81.00 11 P P 22 33 01.5 -0.6
O16K IAmb IAmb 22 33 16.3
comp=Z,26nm,1.2s
O16K Kokwok River B 81.00 11 P P 22 33 01.9 -0.2
baz=201
WAKR Walker 81.03 44 P P 22 33 04.6 +1.5
WAKR IAmb IAmb 22 33 05.8
comp=Z,14nm,1.0s
N15K Kwethluk River 81.20 10 P P 22 33 03.7 +0.4
baz=199
HUMO Hull Mountain 81.21 39 P P 22 33 05.1 +1.3
PNTR Pine Nut 81.25 43 P P 22 33 05.4 +1.1
PNTR IAmb IAmb 22 33 06.8
comp=Z,20nm,0.8s
Q20K Shuyak Island 81.27 14 P P 22 33 03.8 +0.2
baz=206
Q19K Cape Douglas, 81.27 13 P P 22 33 02.5 -1.2
baz=205
O17K Koliganek Bris 81.35 11 P P 22 33 03.3 -0.7
baz=202
P18K Big Mountain, 81.36 13 P P 22 33 03.7 -0.5
baz=204
L04D Klamath Falls 81.37 39 P P 22 33 05.9 +1.2
L04D IAmb IAmb 22 33 07.0
comp=Z,18nm,0.9s
YERR Yerington 81.42 43 P P 22 33 06.5 +1.3
YERR IAmb IAmb 22 33 07.4
comp=Z,11nm,0.8s
M14K Bethel 81.47 9 P P 22 33 04.4 -0.2
baz=197
M15K Kasigluk River 81.60 9 P P 22 33 05.5 +0.2
baz=198
MAW Mawson 81.69 200 P P 22 33 06.4 +0.6
comp=Z,5.6nm,0.8s,baz=114,slow=6.6,SNR=9.6
comp=Z,5.6nm,0.8s
N16K Nishlik Lake 81.70 10 P P 22 33 04.9 -1.0
baz=200
NVAR Mina Array Bea 81.73 44 P P 22 33 07.7 +0.9
NVAR Mina Array Bea 81.73 44 P P 22 33 08.0 +1.2
comp=Z,4.8nm,0.7s,baz=225,slow=8.6,SNR=29
comp=Z,4.8nm,0.7s
O18K Koktuh Hills 81.79 12 P P 22 33 05.5 -0.8
baz=204
KULM Kulim 81.81 279 P P 22 33 07.8 +0.3
NV11 Mina Array Sit 81.83 44 P P 22 33 07.8 +0.6
L14K Kuka Creek 81.93 8 P P 22 33 07.8 +0.9
L14K IAmb IAmb 22 33 08.8
comp=Z,26nm,1.0s
L14K Kuka Creek 81.93 8 P P 22 33 07.1 +0.1
baz=196,SNR=5.1
P19K Oil Pt 82.02 13 P P 22 33 06.7 -0.8
baz=205
N17K Nushagak Hills 82.03 11 P P 22 33 06.8 -0.8
baz=202
M16K Timber Creek 82.19 10 P P 22 33 08.5 +0.2
baz=200,SNR=6.3
I04A Tendick Farm, 82.24 38 P P 22 33 10.0 +1.0
K13K Kusilvak Mount 82.25 7 P P 22 33 08.2 -0.3
baz=195
TPH Tonopah 82.25 45 P P 22 33 10.5 +1.0
HOM Homer 82.38 14 P P 22 33 08.8 -0.5
baz=207
N18K Kilae Creek 82.42 12 P P 22 33 08.9 -0.6
baz=203
L15K Ungalak Mounta 82.42 9 P P 22 33 09.2 -0.3
baz=198,SNR=6.4
O20K Slope Mountain 82.54 13 P P 22 33 10.0 -0.2
baz=206
BRSE Bradley Lake S 82.66 14 P P 22 33 10.0 -0.7
baz=208
L16K Owhat River 82.76 10 P P 22 33 10.6 -0.5
baz=199
M17K Holitna River 82.81 11 P P 22 33 10.5 -0.9
baz=201,SNR=5.6
N19K Bonanza Creek 82.82 12 P P 22 33 11.3 -0.2
baz=204
SHPR Sheep Range 82.84 47 P P 22 33 13.3 +0.9
K15K Wolf Creek Mou 83.00 9 P P 22 33 12.5 +0.2
baz=198,SNR=8.4
J14K Nanvaranak Lak 83.18 8 P P 22 33 12.6 -0.6
baz=196
M18K Stony River 83.18 11 P P 22 33 12.6 -0.7
baz=203
SEW Seward 83.29 15 P P 22 33 13.9 +0.1
baz=209
GSI Gunungsitoli 83.32 274 P P 22 33 15.6 +0.5
GSI IAmb IAmb 22 33 44.2
comp=Z,20nm,1.2s
L17K Donlin 83.35 10 P P 22 33 14.0 -0.1
baz=200
GAMB Gambell 83.44 4 P P 22 33 14.5 0.0
baz=188
R11B Troy Canyon, C 83.49 46 P P 22 33 14.7 -0.9
baz=239,SNR=5.7
Q23K Middleton Isla 83.50 17 P P 22 33 14.4 -0.5
baz=212
O22K Cooper Landing 83.56 15 P P 22 33 14.7 -0.5
baz=208
HNS HongShan 83.63 313 ⇑P P 22 33 17.6 +1.6
HNS pmax pmax
comp=Z,8.0nm,0.4s
N20K Mount Spurr 83.64 13 P P 22 33 15.3 -0.4
baz=206
SPCR Spurr Chakacha 83.64 13 P P 22 33 15.3 -0.4
baz=206
L18K Granite Mounta 83.70 11 P P 22 33 15.6 -0.2
baz=202
P23K Montague Islan 83.71 16 P P 22 33 15.1 -0.9
baz=211
M19K Big River Lodg 83.83 12 P P 22 33 15.5 -1.1
baz=204
K17K Iditarod 83.89 10 P P 22 33 16.6 -0.2
baz=200
TUC Tucson 83.96 53 P P 22 33 19.1 +1.2
L19K White Mountain 84.00 12 P P 22 33 16.2 -1.2
baz=204,SNR=7.0
ENH Enshi 84.04 305 P P 22 33 19.0 +0.6
ENH IAmb IAmb 22 33 21.1
comp=Z,12nm,1.1s
M20K Styx River 84.06 12 P P 22 33 16.6 -1.2
baz=205
J16K Anvik River 84.08 9 P P 22 33 17.1 -0.6
baz=198
RC01 Rabbit Creek A 84.09 14 P P 22 33 17.7 -0.1
baz=208
SUA Susitna One 84.19 14 P P 22 33 17.9 -0.5
baz=208
PWL Port Wells 84.22 15 P P 22 33 17.9 -0.6
baz=210
J17K VABM Dome 84.41 9 P P 22 33 18.4 -0.9
baz=200
KAIM Kayak Island 84.44 17 P P 22 33 18.2 -1.4
baz=213
L20K Farewell, AK 84.46 12 P P 22 33 18.9 -0.8
baz=205
TTA Tatalina 84.48 11 P P 22 33 18.9 -0.9
baz=203
SKT Skwentna 84.48 13 P P 22 33 19.1 -0.6
baz=207
GLI Glacier Island 84.55 15 P P 22 33 18.8 -1.2
baz=211
M22K Willow 84.59 14 P P 22 33 19.2 -1.0
baz=208
I17K Unalakleet 84.64 8 P P 22 33 19.3 -1.1
baz=198
PMR Palmer 84.67 14 P P 22 33 19.7 -0.9
baz=209
KNK Knik Glacier 84.68 15 P P 22 33 19.8 -0.9
baz=210
ANM Nome 84.73 6 P P 22 33 19.9 -1.0
baz=194
CRAG Craig 84.74 25 P P 22 33 19.8 -1.3
baz=224
J18K Innoko River 84.86 10 P P 22 33 22.0 +0.5
baz=202
GHO Glory Hole Cre 84.88 14 P P 22 33 21.8 +0.1
GHO IAmb IAmb 22 33 22.5
comp=Z,22nm,0.8s
SML Sawmill 85.05 14 P P 22 33 21.7 -0.8
baz=210
SIT Sitka 85.08 23 P P 22 33 21.3 -1.3
baz=222
CUT Chulitna 85.14 13 P P 22 33 22.6 -0.2
CUT Chulitna 85.14 13 P P 22 33 21.9 -0.9
baz=208
H16K Elim 85.16 8 P P 22 33 21.3 -1.7
baz=197
PPLA Purkeypile 85.17 12 P P 22 33 21.6 -1.6
baz=206
M23K Glacier View 85.18 15 P P 22 33 22.4 -0.7
baz=210
K20K Telida 85.22 11 P P 22 33 23.1 -0.2
baz=204
V35K Ketchikan 85.24 25 P P 22 33 23.1 -0.4
baz=225
BMRM Bremner River 85.27 16 P P 22 33 22.7 -0.9
baz=213
G15K Niukluk 85.29 7 P P 22 33 23.0 -0.5
baz=195
SCM Sheep Creek Mo 85.31 15 P P 22 33 23.2 -0.7
baz=211
MESA MESA 85.36 18 P P 22 33 23.7 -0.5
baz=216
KLU Klutina 85.37 16 P P 22 33 23.6 -0.6
baz=212
HAWA Hanford 85.41 37 P P 22 33 25.5 +0.9
HAWA IAmb IAmb 22 33 26.8
comp=Z,13nm,0.9s
S31K Pelican 85.44 22 P P 22 33 23.6 -0.8
baz=221
TNA Tin City 85.47 5 P P 22 33 23.5 -0.8
baz=191
CRQE Cirque 85.50 17 P P 22 33 23.6 -1.2
baz=214
F14K Arctic Creek 85.53 6 P P 22 33 24.0 -0.7
baz=193
J19K Poorman 85.53 11 P P 22 33 24.4 -0.4
baz=203
S32K Killisnoo 85.66 23 P P 22 33 25.2 -0.2
baz=222
MTPU Mount Pierson 85.66 47 P P 22 33 27.1 +0.6
CAST Castle Rocks 85.66 12 P P 22 33 24.4 -1.1
baz=206,SNR=5.0
PNL Peninsula 85.72 19 P P 22 33 24.7 -1.1
baz=218
WRAK Wrangell Islan 85.73 24 P P 22 33 25.2 -0.6
baz=224
H17K Granite Mounta 85.75 8 P P 22 33 25.2 -0.6
baz=199
PINM Pinnacle 85.79 19 P P 22 33 25.4 -0.8
baz=217
N25K Chitina, Valde 85.81 16 P P 22 33 25.6 -0.6
baz=213
M24K Tolsona, Glenn 85.83 15 P P 22 33 26.1 -0.2
baz=212
WAT6 Susitna Watana 85.86 14 P P 22 33 26.1 -0.5
baz=210
G16K Koyuk River 85.87 7 P P 22 33 26.5 +0.1
baz=197
WAT1 Susitna Watana 85.89 14 P P 22 33 26.5 -0.1
baz=210
J20K Nowinta River 85.96 11 P P 22 33 27.3 +0.5
baz=204
GCSA Galena City Sc 86.02 10 P P 22 33 27.6 +0.6
baz=202
CHUM Lake Minchumin 86.03 12 P P 22 33 26.7 -0.4
baz=206
MCARA McCarthy VSAT 86.04 17 P P 22 33 27.8 +0.5
baz=215
TRF Thorofare Moun 86.06 13 P P 22 33 27.1 -0.4
baz=208
XLT XiLinHaoTe 86.11 319 eP P 22 33 28.5 +0.4
XLT pP pP 22 35 29.4 +5.3
XLT pmax pmax
comp=Z,6.0nm,1.1s
XAN Xi'an 86.16 308 P P 22 33 28.0 -0.5
XAN IAmb IAmb 22 33 30.6
comp=Z,7.9nm,0.8s
XAN Xi'an 86.16 308 ⇑P P 22 33 30.1 +1.6
XAN pmax pmax
comp=Z,16nm,0.7s
CTG Chitna Glacier 86.17 18 P P 22 33 26.9 -1.2
baz=216
P29M Windy Craggy 86.21 20 P P 22 33 26.9 -1.2
baz=219
R32K Eaglecrest 86.28 22 P P 22 33 27.3 -1.1
baz=222
121A Cookes Peak, D 86.32 54 P P 22 33 27.4 -2.1
baz=244
HARP HAARP 86.33 15 P P 22 33 27.4 -1.2
baz=213
O28M Mount Upton 86.35 18 P P 22 33 28.1 -1.0
baz=217
DHY Denali Highway 86.37 14 P P 22 33 28.5 -0.5
baz=211
I20K Naaghedeneel 86.47 11 P P 22 33 28.7 -0.5
baz=204
O29M Mount Kennedy 86.47 19 P P 22 33 29.3 -0.2
baz=219
BPAW Bear Paw Mtn. 86.49 12 P P 22 33 28.8 -0.6
baz=207
PLBC Pleasant Camp 86.53 21 P P 22 33 28.6 -0.9
baz=221
MCK McKinley 86.60 13 P P 22 33 29.5 -0.4
baz=209
PAX Paxson 86.74 15 P P 22 33 29.7 -1.0
baz=212
PLID Pearl Lake 86.76 40 P P 22 33 32.2 +0.8
H19K Roundabout Mou 86.82 10 P P 22 33 30.1 -0.7
baz=202
G18K Tagagawik 86.83 9 P P 22 33 29.9 -1.0
baz=200
P30M Million Dollar 86.84 20 P P 22 33 30.6 -0.6
baz=220
SKAG Skagway 86.88 21 P P 22 33 30.6 -0.6
baz=222
YUK8 Steele Glacier 86.89 18 P P 22 33 31.0 -0.6
baz=218
M26K Nabesna, AK 86.89 16 P P 22 33 31.3 0.0
baz=215
HLID Hailey 86.94 42 P P 22 33 33.3 +1.1
HLID IAmb IAmb 22 33 34.7
comp=Z,7.3nm,0.8s
T35M Bob Quinn 86.95 25 P P 22 33 31.4 -0.3
baz=226
F17K Baldwin Pennin 87.01 7 P P 22 33 31.8 +0.1
baz=198
YUK6 Outpost Mounta 87.04 19 P P 22 33 31.9 -0.3
baz=219
H20K Anotleneega Mo 87.04 10 P P 22 33 32.1 +0.2
baz=204
YUK3 Moose Creek 87.08 18 P P 22 33 32.1 -0.3
baz=217
M27K Edge Creek, AK 87.15 17 P P 22 33 32.7 +0.1
baz=216
HYT Haines Junctio 87.21 19 P P 22 33 33.0 0.0
baz=220
ELIB Princess Elisa 87.23 187 dP P 22 33 32.7 -0.4
comp=Z,7.0nm,0.8s
ELIB dpP pwP 22 35 32.5 -0.4
ELIB dsP sP 22 36 18.1 -3.5
S34M Telegraph Cree 87.26 24 P P 22 33 33.2 +0.1
baz=225
YUK4 Talbot Arm 87.27 19 P P 22 33 33.4 +0.1
baz=219
G19K Purcell Mounta 87.30 9 P P 22 33 33.6 +0.5
baz=202
F18K Selawik 87.37 8 P P 22 33 33.5 +0.2
baz=199
K24K Donnelly Dome 87.37 14 P P 22 33 33.8 +0.2
baz=212
MLY Manley 87.37 12 P P 22 33 33.7 +0.1
baz=207
HHC Hu-ho-hao-te 87.46 315 eP P 22 33 36.3 +1.7
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.0s
BVCY Beaver Creek 87.48 17 P P 22 33 34.2 +0.2
baz=216
P32M Atlin 87.53 22 P P 22 33 34.4 +0.1
baz=223
RIDG Independent Ri 87.54 15 P P 22 33 33.5 -0.8
baz=213
H21K Melozitna Rive 87.55 11 P P 22 33 33.9 -0.4
baz=206,SNR=5.1
E17K Hotham Inlet 87.56 7 P P 22 33 33.9 -0.4
baz=197
Q32M Nakina River 87.58 23 P P 22 33 34.0 -0.8
baz=224
O30N Mendenhall 87.62 20 P P 22 33 34.2 -0.6
baz=221
HDA Harding Lake 87.62 14 P P 22 33 33.9 -0.7
baz=211,SNR=5.5
CCB Clear Creek Bu 87.64 13 P P 22 33 34.1 -0.6
CCB IAmb IAmb 22 33 34.8
comp=Z,12nm,0.6s
IMAR Indian Mountai 87.68 10 P P 22 33 34.9 0.0
L27K Beaver Creek, 87.74 16 P P 22 33 34.2 -1.1
baz=216
I23K Minto, Yukon-K 87.75 12 P P 22 33 35.0 -0.2
baz=209
BCAR Beaver Creek A 87.76 16 P P 22 33 35.4 0.0
COLA College 87.83 13 P P 22 33 35.0 -0.6
baz=210
COLA College 87.83 13 P P 22 33 34.8 -0.7
N30M Aishikik Lake 87.83 19 P P 22 33 34.6 -1.1
baz=220
F19K Shaleruckik Mo 87.84 9 P P 22 33 34.6 -1.0
baz=201
WHY Whitehorse 87.93 20 P P 22 33 36.7 +0.4
WHY IAmb IAmb 22 33 37.5
comp=Z,7.4nm,0.7s
WHY Whitehorse 87.93 20 P P 22 33 35.5 -0.8
baz=222
IL31 87.95 14 P P 22 33 35.4 -0.7
IL31 IAmb IAmb 22 33 36.3
comp=Z,8.9nm,0.8s
ILAR Eielson Array 87.95 14 P P 22 33 35.5 -0.6
comp=Z,6.7nm,0.8s,baz=222,slow=4.5,SNR=57
comp=Z,6.7nm,0.8s
SCRK Sand Creek 87.95 15 P P 22 33 35.7 -0.6
baz=214
H22K Ishtalitna Cre 88.02 11 P P 22 33 35.9 -0.6
baz=207
E18K Tukpahlearik C 88.03 7 P P 22 33 35.5 -1.0
baz=198
CMAR Chiang Mai Arr 88.09 290 P P 22 33 38.8 +0.9
CMAR Chiang Mai Arr 88.09 290 P P 22 33 39.5 +1.6
comp=Z,0.6nm,0.3s,baz=132,slow=3.1,SNR=8.7
comp=Z,0.6nm,0.3s
POKR Poker Plat Res 88.13 13 P P 22 33 36.5 -0.5
baz=210
J25K Salcha River, 88.15 14 P P 22 33 37.2 0.0
J25K IAmb IAmb 22 33 37.8
comp=Z,8.1nm,0.6s
J25K Salcha River, 88.15 14 P P 22 33 36.3 -0.9
baz=212,SNR=7.8
M29M Somme Creek 88.18 18 P P 22 33 36.3 -1.2
baz=219
TX31 Lajitas Ar. Si 88.20 58 P P 22 33 39.8 +1.5
TX31 IAmb IAmb 22 33 41.4
comp=Z,7.9nm,0.9s
TXAR Lajitas Array 88.20 58 P P 22 33 40.0 +1.7
TXAR Lajitas Array 88.20 58 P P 22 33 40.5 +2.2
comp=Z,5.4nm,0.8s,baz=220,slow=6.0,SNR=48
comp=Z,5.4nm,0.8s
G21K Allakaket 88.21 10 P P 22 33 36.4 -0.9
baz=205
N31M Braeburn, Yuko 88.26 20 P P 22 33 37.1 -0.6
baz=221
P33M Teslin, Yukon 88.29 21 P P 22 33 37.3 -0.7
baz=224
H23K Yukon River 88.31 12 P P 22 33 37.2 -0.6
baz=208
F20K Avaraart Lake 88.34 9 P P 22 33 37.4 -0.5
baz=203
R33M Jennings River 88.36 23 P P 22 33 38.0 -0.4
baz=225
K27K Chicken 88.47 16 P P 22 33 39.4 +0.8
K27K IAmb IAmb 22 33 40.1
comp=Z,6.3nm,0.9s
K27K Chicken 88.47 16 P P 22 33 38.2 -0.4
baz=215
J26L Joseph Creek 88.49 15 P P 22 33 38.4 -0.4
baz=214,SNR=13
E19K Redstone River 88.50 9 P P 22 33 38.4 -0.3
baz=201
TROLL Troll, Antarti 88.53 181 ⇑P P 22 33 39.1 -0.1
comp=Z,37nm,0.3s
TROLL ⇑pP pP 22 35 36.2 +1.4
comp=Z,50nm,0.8s
AHID Auburn Hatcher 88.65 43 P P 22 33 40.8 +0.5
AHID IAmb IAmb 22 33 43.2
comp=Z,7.1nm,0.9s
H24K Noodor Dome 88.66 13 P P 22 33 39.1 -0.5
baz=210
PZH PanZhiHua 88.68 299 P P 22 33 42.3 +1.6
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.8s
C17K DeLong Mountai 88.76 6 P P 22 33 40.1 +0.2
baz=196
L29M L29M 88.80 18 P P 22 33 39.9 -0.3
baz=219,SNR=5.6
F21K Alatna River 88.86 10 P P 22 33 40.4 +0.1
baz=205
SNAA Sanae 88.86 179 P P 22 33 40.7 +0.1
SNAA Sanae 88.86 179 ⇑P P 22 33 39.6 -1.0
comp=Z,24nm,0.6s
SNAA Sanae 88.86 179 P P 22 33 41.1 +0.5
comp=Z,1.0nm,0.7s,baz=197,slow=5.3,SNR=13
comp=Z,1.0nm,0.7s
N32M Quiet Lake 88.89 21 P P 22 33 40.2 -0.5
baz=223
PRP Porcupine Dome 88.89 14 P P 22 33 40.9 +0.2
baz=212
G22K Bettles 88.92 11 P P 22 33 40.5 -0.1
baz=207
G23K Bananza Creek 89.00 11 P P 22 33 40.5 -0.5
baz=208
VNA3 Neumayer Olymp 89.06 177 ⇑P P 22 33 40.9 -0.6
comp=Z,7.2nm,0.7s
VNA3 ⇓pP pP 22 35 36.4 -0.9
comp=Z,1.0nm,0.7s
DAWY Dawson 89.20 17 P P 22 33 42.4 +0.4
DAWY IAmb IAmb 22 33 43.2
comp=Z,9.1nm,0.9s
DAWY Dawson 89.20 17 P P 22 33 41.6 -0.4
baz=218,SNR=5.9
M31M Drury Creek, Y 89.23 20 P P 22 33 42.0 -0.2
baz=222
S22A 4UR Ranch, Cre 89.29 49 P P 22 33 42.1 -1.3
baz=244
EGAK Eagle 89.31 16 P P 22 33 42.7 +0.3
baz=216,SNR=5.3
F22K John River 89.33 10 P P 22 33 42.3 -0.3
baz=206
O20A White River Ci 89.35 47 P P 22 33 44.4 +0.8
O20A IAmb IAmb 22 33 46.1
comp=Z,14nm,1.1s
D19K Kuna River 89.36 8 P P 22 33 42.5 -0.2
baz=201
E20K Nigu River 89.40 9 P P 22 33 42.5 -0.4
baz=202
COLD Coldfoot 89.43 11 P P 22 33 43.7 +0.7
COLD IAmb IAmb 22 33 44.4
comp=Z,12nm,0.8s
COLD Coldfoot 89.43 11 P P 22 33 42.8 -0.1
baz=208
H25L Birch Creek 89.46 13 P P 22 33 42.5 -0.6
baz=212
VNA2 Neumayer--Watz 89.48 178 ⇑P P 22 33 43.3 -0.1
comp=Z,2.6nm,0.6s,baz=188,slow=4.8
G24K Hadweenzic Riv 89.49 12 P P 22 33 43.5 +0.2

baz=210
K29M Barlow Dome 89.54 17 P P 22 33 43.9 +0.2
K29M IAmb IAmb 22 33 45.2
comp=Z,8.0nm,0.8s
K29M Barlow Dome 89.54 17 P P 22 33 43.6 -0.2
baz=220,SNR=6.6
OVMT Ovando 89.57 39 P P 22 33 44.6 +0.3
FARO Faro, Yukon 89.58 20 P P 22 33 43.4 -0.5
baz=223
PD31 Pinedale Array 89.66 44 P P 22 33 45.4 +0.4
PD31 IAmb IAmb 22 33 46.6
comp=Z,6.3nm,0.9s
PDAR Pinedale Array 89.66 44 P P 22 33 45.2 +0.3
PDAR Pinedale Array 89.66 44 P P 22 33 45.8 +0.9
comp=Z,4.2nm,0.8s,baz=212,slow=3.0,SNR=35
comp=Z,4.2nm,0.8s
WTLY Watson Lake, Y 89.66 23 P P 22 33 44.2 -0.1
baz=227
VNA1 Neumayer--Stat 89.72 177 ⇑P P 22 33 44.1 -0.4
comp=Z,3.6nm,0.9s
C19K Lookout Ridge 89.75 7 P P 22 33 45.0 +0.5
baz=199
D20K Etivluk River 89.76 8 P P 22 33 44.8 +0.3
baz=202
MAYO Mayo, Yukon 89.82 18 P P 22 33 45.2 +0.3
baz=221
J29N Klondike Camp 89.82 17 P P 22 33 45.0 0.0
baz=219
G25K Bearman Lake 89.83 13 P P 22 33 45.6 +0.8
baz=212
I27K Kandik River 89.87 15 P P 22 33 45.1 -0.1
baz=216
E21K Killik River 89.89 9 P P 22 33 45.2 +0.1
baz=204
E22K Anaktuvuk Pass 89.96 10 P P 22 33 46.0 +0.5
baz=206
F24K Squaw Lake 90.12 12 P P 22 33 46.7 +0.5
baz=210
I28M Miner Creek 90.16 16 P P 22 33 46.7 +0.2
baz=217,SNR=5.1
TOAD Toad River Com 90.19 25 P P 22 33 46.9 +0.2
baz=230
E23K Chandalar 90.27 11 P P 22 33 47.7 +0.7
baz=208
H27K Steamboat Moun 90.40 15 P P 22 33 48.2 +0.6
baz=216
C21K Knifeblade Rid 90.43 9 P P 22 33 48.4 +0.8
baz=204
J30M Hart River 90.44 17 P P 22 33 48.4 +0.5
baz=221
G26K Porcupine Rive 90.48 13 P P 22 33 48.1 +0.3
baz=214
E24K Your Creek 90.49 11 P P 22 33 48.4 +0.4
baz=210
D22K Ayikyak River 90.49 10 P P 22 33 47.6 -0.3
baz=206
I29M Ogilvie Camp, 90.51 16 P P 22 33 47.9 -0.2
baz=219
MMPY Sheldon Lake, 90.54 20 P P 22 33 49.3 +1.0
MMPY IAmb IAmb 22 33 50.0
comp=Z,6.2nm,0.8s
MMPY Sheldon Lake, 90.54 20 P P 22 33 48.5 +0.1
baz=225
F25K Christian Rive 90.63 12 P P 22 33 49.6 +1.0
baz=212
YAK Yakutsk 90.67 339 P P 22 33 48.1 -0.7
BMAR Burnt Mountain 90.71 13 P P 22 33 49.4 +0.4
T25A Trinidad 90.78 51 P P 22 33 49.6 -0.7
baz=246
TOLK Toolik Lake Re 90.79 11 P P 22 33 49.7 +0.3
baz=208
LZH Lanzhou 90.80 308 eP P 22 33 51.7 +1.4
LZH pP pP 22 35 46.0 -1.0
LZH sP sP 22 36 34.9 -5.1
LZH pmax pmax
comp=Z,13nm,1.1s
TGTN Hyland Airport 90.80 22 P P 22 33 50.0 +0.4
baz=228
G27K Doyon Strip 90.84 14 P P 22 33 50.6 +1.0
baz=216
B21K Ikpikpuk River 90.88 9 P P 22 33 50.4 +0.8
baz=204
D23K Nanushuk River 90.89 10 P P 22 33 50.5 +0.8
D23K Nanushuk River 90.89 10 P P 22 33 49.6 -0.2
baz=208
B20K Meade River 90.90 8 P P 22 33 49.7 0.0
baz=201
I30M Mount Dempster 90.92 17 P P 22 33 49.5 -0.6
baz=220,SNR=7.2
Q24A Divide 91.00 49 P P 22 33 50.0 -1.3
baz=245
F26K Sheenjek River 91.02 13 P P 22 33 50.9 +0.5
baz=214
E25K Arctic Village 91.09 12 P P 22 33 51.3 +0.5
baz=212
H29M Whitestone 91.17 16 P P 22 33 51.0 -0.1
baz=219
N23A Red Feather La 91.25 47 P P 22 33 50.2 -2.2
baz=245
833A Chaparral WMA, 91.27 60 P P 22 33 50.2 -2.2
baz=248
D24K Happy Valley 91.37 11 P P 22 33 51.8 -0.2
baz=209
KOTAN Kotaneelee Air 91.47 25 P P 22 33 52.4 -0.1
baz=231
C23K Itkillik River 91.68 10 P P 22 33 53.5 +0.2
baz=208
B22K Teshekpuk Lake 91.71 9 P P 22 33 53.7 +0.3
baz=205
EPYK Eagle Plains 91.71 16 P P 22 33 53.4 -0.2
EPYK Eagle Plains 91.71 16 P P 22 33 53.5 -0.1
baz=220
G29M Pine Creek 91.80 15 P P 22 33 54.1 +0.1
baz=219
C24K Franklin Bluff 91.89 10 P P 22 33 55.1 +0.9
baz=209
F28M Old Crow 91.90 14 P P 22 33 54.3 -0.2
baz=217
H31M Peel River 91.92 17 P P 22 33 54.0 -0.6
baz=222
D25K Kavik River 91.96 11 P P 22 33 54.8 +0.1
baz=211
E27K Coleen River 91.98 13 P P 22 33 54.9 +0.2
baz=216
A22K Sinclair Lake 92.10 8 P P 22 33 54.9 -0.3
baz=204
G30M tAoh Zraii Nji 92.30 16 P P 22 33 56.5 +0.2
baz=221
C27K Jago River 92.72 12 P P 22 33 58.5 +0.3
baz=214
C26K Camden Bay 92.74 11 P P 22 33 58.5 +0.4
baz=213
G31M Satah River 92.77 16 P P 22 33 58.8 +0.4
baz=222
E28M Babbage River 92.77 14 P P 22 33 58.8 +0.4
baz=218
F30M Barrier River 92.89 16 P P 22 33 59.8 +0.8
baz=221
D27M Malcolm River 92.97 13 P P 22 34 00.1 +0.8
baz=216
E29M Blow River 92.98 14 P P 22 33 59.5 +0.2
baz=219
F31M Tsiigehtchic 93.29 16 P P 22 34 01.0 +0.3
baz=223
D28M Stokes Point 93.52 14 P P 22 34 02.4 +0.7
baz=218
WRGLY Wrigley 93.62 22 P P 22 34 02.8 +0.5
baz=232
SONM Songino Array 93.92 320 P P 22 34 04.2 -0.1
SONM Songino Array 93.92 320 P P 22 34 04.2 -0.1
comp=Z,0.5nm,0.7s,baz=54,slow=2.6,SNR=4.7
comp=Z,0.5nm,0.7s
INK Inuvik 93.98 16 P P 22 34 04.0 +0.1
baz=223
GTA Gaotai 95.02 310 eP P 22 34 10.2 +0.7
GTA pmax pmax
comp=Z,2.0nm,1.2s
C36M Paulatuk 97.22 17 Pdiff Pdif 22 34 18.8 +0.4
baz=232
TIXI Tiksi 97.49 346 P Pdif 22 34 18.8 -0.8
comp=Z,2.0nm,0.3s,baz=114,slow=3.9,SNR=7.8
comp=Z,2.0nm,0.3s
A36M Sachs Harbour 98.56 15 Pdiff Pdif 22 34 24.7 +0.3
baz=231
O48B Farmland 106.03 53 PKiKP PKiKP 22 39 06.5 -0.7
baz=258
P49A Miami Univ. Ec 106.21 53 PKiKP PKiKP 22 39 06.8 -0.8
baz=258

ZALV Zalesovo Beam 108.69 322 PKiKP PKiKP 22 39 11.0 -0.7
comp=Z,0.5nm,0.4s,baz=243,slow=2.1,SNR=4.7
MKAR Makanchi Array 109.29 314 PKiKP PKiKP 22 39 12.3 -0.8
comp=Z,0.6nm,0.4s,baz=107,slow=0.8,SNR=18
KURBB Kurchatov Arra 112.19 318 PKiKP PKiKP 22 39 17.5 -0.9
comp=Z,1.0nm,0.5s,baz=102,slow=1.6,SNR=13
GAR Garm 117.22 304 PKPdf 22 39 28.4 -0.2
BVAR Borovoye Array 117.26 320 PKP PKPdf 22 39 27.6 -0.5
comp=Z,4.7nm,0.3s,baz=114,slow=2.1,SNR=57
KKAR Karatay Array 117.28 309 PKPdf 22 39 27.9 -0.6
SPA0 Spitsbergen Ar 120.93 356 PKPdf PKPdf 22 39 34.4 -0.2
SPITS Spitsbergen Ar 120.93 356 PKP PKPdf 22 39 34.2 -0.4
comp=Z,6.1nm,0.5s,baz=91,slow=5.0,SNR=18
ARTI Arti 123.58 325 PKPdf PKPdf 22 39 40.0 -0.1
ARCES ARCESS Array B 127.78 349 PKP PKPdf 22 39 47.6 -0.2
comp=Z,3.5nm,0.6s,baz=12,slow=1.7,SNR=21
FINES FINESS Array B 134.46 343 PKhKP PKPpre 22 39 54.6
comp=Z,1.1nm,0.7s,baz=8.1,slow=2.0,SNR=3.5
FINES PKP PKPdf 22 39 59.8 -0.8
comp=Z,3.6nm,0.5s,baz=106,slow=4.2,SNR=8.4
FINES SKPbc SKPbc 22 42 40.2 -0.6
comp=Z,3.1nm,0.9s,baz=59,slow=2.9,SNR=6.0
NB2 NORSAR Subarra 137.93 352 PKPdf PKPpre 22 39 58.7
comp=Z,7.2nm,0.5s,baz=14,slow=1.8
NB2 NORSAR Subarra 137.93 352 PKPdf PKPpre 22 39 58.7
baz=14,slow=1.8
NOA NORSAR Array B 137.93 352 PKP PKPdf 22 40 08.0 +0.8
comp=Z,0.6nm,0.5s,baz=14,slow=3.7,SNR=4.2
HFS Hagfors 138.43 350 PKhKP PKPpre 22 39 57.8
comp=Z,4.1nm,0.7s,baz=43,slow=2.4,SNR=16
NACGM Naroch 139.40 336 ePKP PKiKP 22 40 12.4 0.0
comp=Z,12nm,0.9s,baz=41
BORU Boraas 140.95 349 i P PKPpre 22 40 06.6
ONAU Onsala 141.32 350 i P PKPpre 22 40 08.4
AKASG Malin Array Be 141.39 330 PKhKP PKPpre 22 40 08.1
comp=Z,4.8nm,0.5s,baz=44,slow=4.1,SNR=48
KIEV Kiev 141.40 330 ⇑P PKPpre 22 40 07.5
FABU Falkenberg 141.56 349 i P PKPpre 22 40 08.4
BLEU Blekinge 141.57 346 i P PKPpre 22 40 08.4
DEL Delary 141.84 348 i P PKPpre 22 40 09.7
RNPP9 Sopachiv 142.37 335 PKP PKPdf 22 40 14.2 -1.2
BJUU Bjuv 142.37 348 i P PKPpre 22 40 11.6
LUNU Lund 142.70 347 i P PKPpre 22 40 12.7
BSD Bornholm Skovb 142.87 346 i P PKPdf 22 40 13.3 -2.8
GAZ Gaziantep 143.23 306 PKPdf PKPab 22 40 16.2 +0.8
BNN Bunyan 143.68 309 PKPdf PKPab 22 40 17.2 +0.1
NDNU Novodnistrovsk 143.71 329 PKP PKPab 22 40 15.7 -1.0
HORU Horodok 143.73 330 PKP PKPab 22 40 15.8 -1.0
MBAR Mbarara 143.76 240 PKPab 22 40 17.2 -0.9
GKP Gorka Klasztor 143.93 342 ePKP PKPbc 22 40 17.5 +0.3
BEL Belsk 144.02 338 ePKP PKPbc 22 40 18.2 +0.6
MILM Milestii Mici 144.08 326 ⇓P PKPbc 22 40 17.8 -0.2
KMPD K-Podol'skiy 144.17 330 PKP PKPbc 22 40 17.1 -1.1
EKA Eskdalemuir Ar 144.33 3 PKP PKPbc 22 40 18.4 0.0
comp=Z,16nm,0.6s,baz=342,slow=2.9,SNR=33
ESK Eskdalemuir 144.34 3 PKPbc PKPbc 22 40 18.6 +0.1
BR131 Keskin Array S 144.91 312 PKPdf PKPdf 22 40 20.9 +0.5
BRTR Keskin Array B 144.91 312 PKPdf PKPdf 22 40 20.5 +0.1
BRTR Keskin Array B 144.91 312 PKP PKPdf 22 40 20.8 +0.4
comp=Z,5.3nm,0.7s,baz=139,slow=5.0,SNR=21
BR104 Keskin Array S 144.92 312 PKP PKPdf 22 40 19.5 -0.9
MORS Morshin 144.93 332 PKP PKPdf 22 40 18.3 -1.6
KIRS Kirsehir-Merke 144.96 311 ⇑P PKPdf 22 40 21.3 +0.9
KSV Kosov 145.00 330 PKP PKPdf 22 40 20.1 0.0
KWP Kalwaria Pacla 145.05 334 ePKP PKPdf 22 40 21.1 +1.0
KWP Kalwaria Pacla 145.05 334 PKPdf 22 40 21.0 +0.8
KWP Kalwaria Pacla 145.05 334 PKP PKPdf 22 40 19.1 -1.0
VLDR Vladesti 145.15 325 ⇓P PKPbc 22 40 21.8 +0.5
TLCR 145.15 323 ⇑P PKPdf 22 40 20.5 +0.1
JURR Jurilovca 145.37 323 ⇑P PKPdf 22 40 22.0 +1.3
GHRR 145.37 326 ⇓P PKPbc 22 40 22.8 +0.8
BUR08 Bucovina Ar. S 145.41 330 PKPbc 22 40 22.8 +0.6
BURAR Bucovina Array 145.43 329 PKPbc 22 40 22.9 +0.7
BURAR Bucovina Array 145.43 329 ⇓P PKPbc 22 40 22.9 +0.7
NEGRR Negrea 145.46 325 ⇓P PKPdf 22 40 22.0 +1.1
TESR Tescani 145.47 327 ⇑P PKPdf 22 40 21.7 +0.7
SLCR Slobozia Conac 145.48 325 ⇓P PKPbc 22 40 23.1 +0.9
IZVR Izvoarele 145.51 325 ⇑P PKPdf 22 40 22.1 +1.1
CFR Carcaliu 145.54 324 ⇓P PKPdf 22 40 21.5 +0.5
COSR Cosmesti PH 145.56 325 ⇑P PKPdf 22 40 21.5 +0.5
PANC Panciu 145.63 326 ⇑P PKPbc 22 40 23.2 +0.6
OJC Ojcow 145.71 337 ePKP PKPbc 22 40 23.0 +0.2
OJC Ojcow 145.71 337 PKPbc 22 40 22.9 +0.1
ONER Baraj Valea Uz 145.72 327 ⇓P PKPbc 22 40 23.7 +0.7
KOLS Kolonicke sedl 145.77 334 ePKP PKPbc 22 40 23.7 +0.7
MMAI Mount Meron Ar 145.79 300 PKPbc PKPbc 22 40 24.5 +0.8
comp=Z,16nm,0.5s,baz=70,slow=4.7,SNR=51
STHS Stebnicka Huta 145.81 335 ePKP PKPdf 22 40 23.0 +1.6
VRI Vrincioaia 145.86 326 ⇓P PKPbc 22 40 23.5 +0.1
PLOR Plostina 145.91 326 ⇑P PKPdf 22 40 23.2 +1.5
HARR Harsova 145.95 323 ⇑P PKPbc 22 40 24.1 +0.4
TLBR Topalu 145.98 323 ⇑P PKPbc 22 40 23.7 0.0
UZHM Uzhgorod 146.00 333 PKP PKPdf 22 40 21.0 -0.7
TURR Turia 146.11 327 ⇓P PKPbc 22 40 25.1 +1.0
CVDA Cernavoda 146.11 323 ⇓P PKPbc 22 40 25.0 +0.9
COVR Voineasa-Covas 146.15 326 ⇑P PKPbc 22 40 24.1 -0.1
BMR Baia Mare 146.19 331 ⇑P PKPbc 22 40 24.5 +0.3
OZUR 146.20 327 ⇑P PKPbc 22 40 24.3 -0.1
KSP Ksiaz 146.34 341 ePKP PKPbc 22 40 25.4 +0.8
ISR Istrita 146.45 325 ⇓P PKPab 22 40 28.6 +1.1
DOPR Dopca 146.49 327 ⇓P PKPbc 22 40 25.8 +0.6
MLR Muntele Rosu 146.52 326 PKPbc 22 40 25.4 0.0
MLR Muntele Rosu 146.52 326 ⇓P PKPbc 22 40 25.3 0.0
OSTC Ostas 146.62 341⇑ePKP PKPbc 22 40 26.0 +0.7
CHVC Chvalec 146.64 341⇑ePKP PKPbc 22 40 26.1 +0.7
LEHL Lehliu 146.71 324 ⇑P PKPbc 22 40 26.1 +0.4
LANS Liptovska Anna 146.71 337 ePKP PKPbc 22 40 27.0 +1.3
UPC Upice 146.72 341⇑ePKP PKPbc 22 40 26.3 +0.7
DPC Dobruska-Polom 146.77 341⇑ePKP PKPbc 22 40 26.5 +0.7
CLL Collm 146.82 345 PKPbc 22 40 26.0 +0.2
CLL Collm 146.82 345 ⇓iPKPbc PKPbc 22 40 26.2 +0.4
comp=Z,41nm,0.9s
CLL ⇑iPKPab PKiKP 22 40 28.9 +1.1
comp=Z,21nm,0.6s
KRLC Kraliky 146.86 340⇑ePKP PKPbc 22 40 26.6 +0.6
MORC Moravsky Berou 146.87 339 PKPbc 22 40 25.6 -0.5
MORC Moravsky Berou 146.87 339 ePKP PKPbc 22 40 26.3 +0.2
BRG Berggiesshubel 146.98 344 i PKP PKPbc 22 40 26.8 +0.6
BRG Amp 22 40 27.7
comp=Z,14nm,0.7s
BRG Berggiesshubel 146.98 344 P PKPab 22 40 29.9 +0.5
BRG Amp 22 40 30.5
comp=Z,9.4nm,0.7s
VOIR 147.02 327 ⇑P PKPbc 22 40 27.1 +0.5
MARR Marisel-Cluj 147.10 330 ⇑P PKPbc 22 40 27.1 +0.2
MAUC Maruska 147.12 338⇑ePKP PKPbc 22 40 27.7 +1.0
PVCC Panska Ves 147.13 343⇑ePKP PKPbc 22 40 27.3 +0.7
RICC Richard 147.24 343⇑ePKP PKPbc 22 40 27.9 +1.0
ARR Arges 147.28 327 ⇑P PKPbc 22 40 28.5 +1.2
HSKC Hora Svate Kat 147.36 344⇑ePKP PKPbc 22 40 27.9 +0.6
PSZ Piszkesteto 147.55 335 PKPbc 22 40 27.7 -0.2
VRAC Vranov 147.59 340 ePKP PKPbc 22 40 28.3 +0.4
JAVC Velka Javorina 147.61 338 ePKP PKiKP 22 40 29.6 0.0
PRU Pruhonice 147.62 342⇑ePKP PKPbc 22 40 28.5 +0.6
KRUC Moravsky 147.87 340 ePKP PKPbc 22 40 29.1 +0.5
NKC Novy Kostel 147.95 345⇑ePKP PKPbc 22 40 29.5 +0.7
SIRR Siria 148.07 331 ⇓P PKPbc 22 40 30.0 +0.8
MODS Modra-Piesok 148.16 338 ePKP PKPbc 22 40 30.7 +1.3
MODS e 22 40 36.4
GZR Gura Zlata 148.19 329 ⇑P PKPbc 22 40 29.4 -0.3
ELND Elena 148.21 323 ⇑P PKPbc 22 40 29.8 +0.1
ZVC Zvikov 148.21 342⇑ePKP PKPbc 22 40 29.8 +0.3
ZVC ex x 22 40 34.8
SURR Surduc 148.24 330 ⇓P PKPbc 22 40 29.6 -0.1
SRO Srobarova 148.25 336 ePKP PKPbc 22 40 30.2 +0.6
SRO e 22 40 36.0
BZS Buzias 148.58 330 ⇓P PKPbc 22 40 30.8 +0.3
BEBN Eben Emael 148.63 353 dPKP PKPab 22 40 36.2 +0.2
KHC Kasperske Hory 148.66 343 PKPbc 22 40 31.1 +0.4
KHC Kasperske Hory 148.66 343⇑ePKP PKPbc 22 40 31.3 +0.6
CKRC Cesky Krumlov 148.73 342⇑ePKP PKPbc 22 40 31.5 +0.7
HERR Herculane 148.74 329 ⇑P PKPbc 22 40 30.9 -0.1
GRF Grafenberg Arr 148.75 346 ePKP PKPbc 22 40 30.9 +0.1
baz=21,slow=1.9
UCC Uccle 148.76 355 dPKP PKPbc 22 40 31.1 +0.3
UCC dPKPab PKPab 22 40 36.4 -0.2
MEM Membach 148.78 353 dPKP PKPbc 22 40 31.1 +0.3
BTNL Ternell 148.78 352 dPKP PKPbc 22 40 30.9 0.0
ELL Elmali 148.83 309 PKPbc 22 40 31.3 -0.3
BSTI Sart Tilman 148.85 353 dPKP PKPbc 22 40 31.2 +0.2
GEC2 GERESS Array S 148.89 342 PKPbc 22 40 31.1 -0.1
GERES GERESS Array B 148.89 342 PKPbc PKPbc 22 40 31.6 +0.3
comp=Z,10nm,0.7s,baz=21,slow=3.9,SNR=34
BHOU Houvegnez 149.03 353 dPKPdf PKPdf 22 40 27.2 +0.5
BHOU dPKP PKPab 22 40 37.6 -0.2
CONA Conrad Observa 149.03 339 ePKiKP PKPbc 22 40 32.3 +0.6
comp=Z,7.0nm,0.5s,SNR=9.8
BCLA Clavier 149.04 353 dPKPdf PKPdf 22 40 28.5 +1.8
BCLA dPKP PKPab 22 40 37.4 -0.4
RONA Rosalia, Austr 149.08 338 i PKiKP PKPbc 22 40 32.2 +0.5
comp=Z,8.4nm,0.4s,SNR=9.7
BGES Gesves 149.10 354 dPKP PKPbc 22 40 32.4 +0.8
BGES dpPKPab PKPab 22 40 38.5 +0.5
BMRD Maredsous 149.21 354 dPKP PKPbc 22 40 32.1 +0.2
BMRD dPKPab PKPab 22 40 38.2 -0.3
RCHB Rochefort 149.31 353 dPKP PKPbc 22 40 31.5 -0.6
DOU Dourbes 149.44 354 dPKP PKPbc 22 40 32.9 +0.5
MOA Molln 149.61 341 ePKiKP PKPbc 22 40 33.1 +0.1
comp=Z,4.7nm,0.5s
WLF Walferdange 149.69 352 PKPbc 22 40 33.1 +0.1
WLF Walferdange 149.69 352 dPKP PKPbc 22 40 33.0 0.0
ARSA Arzberg 149.73 339 ePKiKP PKPbc 22 40 33.4 +0.1
comp=Z,1.3nm,0.5s
BIOA Bad Ischl, Aus 149.94 341 i PKiKP PKPbc 22 40 33.7 -0.1
comp=Z,2.9nm,0.3s
BOVS Bovan 149.99 328 ⇓P PKPbc 22 40 33.1 -0.9
SOKA Soboth 150.40 339 ePKiKP PKPbc 22 40 34.6 -0.3
comp=Z,3.7nm,0.4s
LESA Schwarzleotal 150.47 342 i PKiKP PKPbc 22 40 34.8 -0.2
comp=Z,4.7nm,0.3s
KBA Koelnbreinsper 150.58 341 i PKiKP PKPbc 22 40 35.0 -0.5
comp=Z,3.3nm,0.4s,SNR=6.6
BFO Black Forest 150.64 349 PKPbc 22 40 35.2 -0.2
OBKA Obir 150.71 339 i PKP PKPbc 22 40 34.8 -0.8
comp=Z,1.1nm,0.3s
WATA Walderalm 150.85 344 i PKiKP PKPbc 22 40 35.9 -0.1
comp=Z,11nm,0.5s,SNR=6.7
MYKA Terra Mystica 150.89 341 ePKP PKPbc 22 40 35.2 -0.8
comp=Z,8.4nm,0.4s
WTTA Wattenberg 150.90 344 i PKiKP PKPbc 22 40 36.3 +0.1
comp=Z,17nm,0.4s,SNR=12
RETA Reutte 150.92 345 i PKiKP PKPbc 22 40 36.2 +0.1
comp=Z,4.0nm,0.5s
MOTA Moosalm 150.96 344 ePKiKP PKPbc 22 40 36.1 -0.2
comp=Z,2.2nm,0.3s
SQTA Sankt Quirin 151.05 344 i PKiKP PKPbc 22 40 36.5 +0.1
comp=Z,9.8nm,0.6s,SNR=5.4
ABTA Abfaltersbach 151.13 342 i PKP PKPbc 22 40 36.1 -0.5
comp=Z,8.6nm,0.5s,SNR=6.9
DAVA Damuels 151.31 346 i PKiKP PKPbc 22 40 37.1 0.0
comp=Z,2.0nm,0.5s
FETA Feichten 151.36 345 i PKiKP PKPbc 22 40 37.5 +0.2
comp=Z,3.9nm,0.4s
FUORN Ofenpass-Fuorn 151.85 345 PKPbc 22 40 38.9 +0.4
CTI Castel Tesino 152.01 343 PKPbc 22 40 37.8 -0.9
FNA Florina 152.16 324 PKPbc 22 40 38.6 -0.5
TUE Stuetta 152.20 346 PKPbc 22 40 39.5 +0.3
PCAB Cabril 157.00 16 ePKPab PKPab 22 41 12.9 +1.0
PBRG Braganca 157.21 13 ePKPab PKPab 22 41 13.9 +1.0
POLO Lamas de Olo 157.38 15 ePKPab PKPab 22 41 14.2 +0.5
PVRL Vila Real 157.49 15 ePKPab PKPab 22 41 14.8 +0.7
PVIS Viseu 157.97 16 ePKPab PKPab 22 41 16.6 +0.4
MTE Manteigas 158.36 16 ePKPab PKPab 22 41 18.4 +0.5
PCAS Casmilo, Conde 158.42 18 ePKPab PKPab 22 41 18.4 +0.3
PCBR Castelo Branco 158.90 16 ePKPab PKPab 22 41 20.1 -0.1
PMRV Marv??o 159.31 16 ePKPab PKPab 22 41 22.6 +0.6
PMTG Montargil 159.41 19 ePKPab PKPab 22 41 22.4 0.0
PESTR Estremoz 159.78 17 ePKPab PKPab 22 41 24.2 +0.1
ESDC Sonseca Array 159.78 9 PKPab PKPab 22 41 24.0 -0.1
comp=Z,0.5nm,0.5s,baz=345,slow=3.6,SNR=14
PBAR Barrancos 160.58 17 ePKPab PKPab 22 41 27.8 +0.2
PVAQ Vaqueiros 161.09 19 ePKPab PKPab 22 41 30.5 +0.6
TORD Torodi Ar. Bea 173.31 194 PKPab PKPab 22 42 24.3 +0.1
comp=Z,0.8nm,0.8s,baz=162,slow=4.2,SNR=4.5

NIED ***03*** *22:23:27.0,24°.70N×124°.83E,h19km,MW3.7,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr-2.72; Mθθ0.35; Mφφ2.37; Mrθ1.44; Mθφ-1.43; Mφr-2.02; Fault plane solution: M0 3.83000×10¹⁴ NP1: φs327.00000°, δ65.00000°, λ-95.00000°. NP2: φs160.00000°, δ25.00000°, λ-79.00000°.*

JMA 03 22:23:27.0±0.1,25°.N±1°×124°.8E±0°.5,h19km±1km, MD3.8/11,MV3.5/11,NEAR MIYAKOJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	Tarama	0.13	245	iP	Pg	22 23 31.0	-0.1
JTJ				S	Sg	22 23 34.0	+0.1
JTJ	Tarama	0.13	245	A	A	22 23 31.0	
comp=E,35nm,0.9s,comp=N,24nm,1.2s							
JIRB	Irabujima	0.34	67	P	Pg	22 23 33.9	-0.4
JIRB				S	Sg	22 23 38.9	-0.3
JIRB	Irabujima	0.34	67	A	A	22 23 33.9	
comp=E,10.0nm,3.7s,comp=N,8.0nm,1.7s							
JIKM	Ikemajima	0.44	59	P	Pg	22 23 35.9	-0.2
JIKM				S	Sb	22 23 42.8	+0.3
JIKM	Ikemajima	0.44	59	A	A	22 23 35.9	
comp=E,10.0nm,0.7s,comp=N,7.0nm,6.0s							
JMJ2	Miyako jima3	0.45	84	iP	Pg	22 23 36.0	-0.3
JMJ2				S	Sg	22 23 42.4	-0.1
JMJ2	Miyako jima3	0.45	84	A	A	22 23 36.0	
comp=E,20nm,1.8s,comp=N,13nm,3.8s							
JISG	Ishigakijimahi	0.49	257	P	Pg	22 23 36.7	-0.2
JISG				S	Sg	22 23 43.6	+0.1
JISG	Ishigakijimahi	0.49	257	A	A	22 23 36.7	
comp=E,14nm,0.7s,comp=N,13nm,0.6s							
JOGS	Gusukube	0.53	83	iP	Pb	22 23 37.4	-0.2
JOGS				S	Sb	22 23 46.2	+1.4
JOGS	Gusukube	0.53	83	A	A	22 23 37.4	
comp=E,16nm,2.4s,comp=N,11nm,1.2s							
JIJ	Ishigaki jima	0.71	242	iP	Pb	22 23 40.2	-0.5
JIJ				S	Sb	22 23 49.6	-0.5
JIJ	Ishigaki jima	0.71	242	A	A	22 23 40.2	
comp=E,4.0nm,0.7s,comp=N,4.0nm,4.2s							
JKRS	Kuro-shima	0.88	239	eP	Pb	22 23 43.6	0.0
JKRS				S	Sg	22 23 56.0	+0.3
JKRS	Kuro-shima	0.88	239	A	A	22 23 43.6	
comp=E,11nm,1.1s,comp=N,10.0nm,1.7s							
IRIF	Iriomote-Funau	1.06	251	P	Pb	22 23 46.5	-0.3
IRIF				S	Sn	22 24 00.9	-0.3
IRIF	Iriomote-Funau	1.06	251	A	A	22 23 46.5	
comp=E,6.0nm,2.1s,comp=N,5.0nm,3.9s							
HATJ	Hateruma jima	1.13	236	eP	Pb	22 23 48.0	0.0
HATJ				eS	Sg	22 24 03.4	-0.4
HATJ	Hateruma jima	1.13	236	A	A	22 23 48.0	
comp=E,6.0nm,1.5s,comp=N,7.0nm,2.9s							

TRN ***03*** *22:47:11.7,10°.31N×62°.14W,h9km,MD3.7,Gulf of Paria.*
FUNV ***03*** *22:47:13.4,10°.26N×62°.10W,h5km,MW3.8*

ISC 03 22:47:11.7±3.2,10°.25N±0°.04×62°.09W±0°.04,h15km±23km, n23,σ1.904/40,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	Pointe-a-Pierr	0.63	84	eP	Pn	22 47 25.5	-0.6
PSMG	Mucurapo Girls	0.69	53	eP	Pb	22 47 25.4	0.0
PSMG				eS	Sb	22 47 34.8	0.0
PSGH	Port of Spain	0.70	54	eP	Pb	22 47 25.9	+0.3
PSGH				eS	Sb	22 47 35.5	+0.3
TRN	Trinidad (W)	0.78	60	eP	Pn	22 47 27.4	-0.8
TRN				eS	Sb	22 47 38.1	+0.7
GRFF	Grenada Fort F	1.82	11	eP	Pn	22 47 43.1	+0.6
GRFF				eS	Sn	22 48 05.6	+0.3
TOSP	Speyside	1.85	56	eP	Pb	22 47 44.4	-0.8
TOSP				eS	Sb	22 48 07.9	-0.2
GRGR	Grenville	1.92	13	eP	Pn	22 47 44.4	+0.5
GRGR				eS	Sn	22 48 08.0	+0.3
GRW	Mount Saint Ca	1.94	12	eP	Pn	22 47 45.0	+0.7
GRW				eS	Sn	22 48 08.9	+0.4
GRHS	Sauteurs	2.01	13	eP	Pn	22 47 45.5	+0.4
GRHS				eS	Sn	22 48 10.2	+0.2
CUMV	Cumana_UDO	2.08	275	eP	Pn	22 47 47.8	+1.8
GRSS	Sisters	2.09	13	eP	Pb	22 47 47.7	-1.6
GRSS				eS	Sn	22 48 12.7	+0.7
GCMP	Grenada, Carri	2.31	16	eP	Pn	22 47 49.9	+0.6
GCMP				eS	Sn	22 48 17.9	+0.4
PCRV	Puerto La Cruz	2.51	269	eP	Pn	22 47 53.1	+1.2
PCRV				eS	Sn	22 48 23.3	+0.9
PCRV	Puerto La Cruz	2.51	269	eP	Pn	22 47 53.2	+1.3
SVB	Belmont	3.11	15	eP	Pn	22 48 01.1	+0.8
SVB				eS	Sn	22 48 37.5	+0.2
SLAC	Saint Lucia, A	3.81	18	eP	Pn	22 48 09.8	0.0

SLAC				eS		Sn	22 48 53.2	-1.2
SLBI	**Saint Lucia, B**	**3.91**	**16**	eP		**Pn**	**22 48 12.1**	**+1.0**
SLBI				eS		Sn	22 48 57.4	+0.6
LUEV	**Luepa**	**4.42**	**172**	eP		**Pn**	**22 48 19.9**	**+1.5**
LUEV				eS		Sn	22 49 10.2	+0.4
TACV	**Tcata**	**4.86**	**269**	eP		**Pn**	**22 48 25.0**	**+0.6**
CACV	**CAICARA DEL OR**	**5.14**	**239**	eP		Pn	22 48 23.1	-5.1
CACV				eS		Sn	22 49 15.8	-12
BENV	**Beln**	**5.43**	**267**	eP		**Pn**	**22 48 33.3**	**+1.0**
BENV				eS		Sn	22 49 32.8	-1.8
BAUV	**El Baul**	**6.01**	**258**	eP		**Pn**	**22 48 40.0**	**-0.1**
BAUV				eS		Sn	22 49 46.1	-2.7
BAUV	**El Baul**	**6.01**	**258**	eP		**Pn**	**22 48 40.9**	**+0.8**
BAUV				eS		Sn	22 49 46.3	-2.5

*HEL **03** 23:42:33.8±0.3, 67°.19N×20°.53E, h0km, ML0.7, Suspected explosion*
*UPP **03** 23:42:33.8±0.1, 67°.19N×20°.71E, h0km, ML2.5, Unknown*
ISC 03 23:42:33.9±1.1, 67°.20N±0°.04×20.75E±0°.04, h0km, n11, σ0°38/15, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.11**	**222**	P	**Pg**	**23 42 35.7**	**-0.2**
DUNU				S	**Sg**	23 42 37.1	-0.1
RATU	**Laukkuluspa**	**0.77**	**325**	P	**Pg**	**23 42 48.3**	**-0.3**
ERTU	**Ertsjaerv**	**0.86**	**138**	P	**Pg**	**23 42 49.8**	**-0.5**
ERTU	**Ertsjaerv**	**0.86**	**138**	PG	**Pg**	**23 42 49.8**	**-0.5**
ERTU				SG	**Sg**	23 43 02.2	+0.7
PAJU	**Pajala**	**0.94**	**100**	P	**Pg**	**23 42 51.8**	**-0.1**
LANU	**Lannavaara**	**0.98**	**29**	PN	**Pn**	**23 42 55.2**	**+0.4**
HARU	**Harads**	**1.04**	**175**	P	**Pg**	**23 42 53.5**	**-0.3**
KLF	**Kolari**	**1.25**	**87**	PG	**Pg**	**23 42 57.6**	**-0.2**
	baz=266						
KLF				MSG		23 43 14.2	
	comp=Z,0.4nm,0.2s						
KLF				SG	**Sb**	**23 43 14.7**	**-0.2**
SJUU	**Sjulsmark**	**1.73**	**168**	P	**Pn**	**23 43 05.7**	**+0.5**
TOF	**Tornio**	**1.81**	**127**	PG	**Pb**	**23 43 07.7**	**-0.1**
TOF				MSG		23 43 29.8	
	comp=Z,0.3nm,0.2s						
TOF				SG	**Sg**	**23 43 32.1**	**0.0**
RNF	**Rovaniemi**	**2.16**	**104**	SG	**Sg**	**23 43 43.0**	**-0.1**

*THE **03** 23:57:48.5, 37°.59N×20°.46E, h10km, ML3.8/9, Error ellipse: s-maj=1.1km s-min=0.5km az=46.0*
*BEO **03** 23:57:48.4±0.7, 37°.60N×20°.24E, h0km, ML3.9/7*
*ATH **03** 23:57:49.0, 37°.64N×20°.46E, h12km±2km, ML3.7/10, Error ellipse: s-maj=3.2km s-min=1.1km az=42.0*
*IDC **03** 23:57:49.5±1.1, 37°.73N×20°.55E, h0km, mb3.7/10, mbtmp3.7/13, ML1.0/2, MS3.3/3, Error ellipse: s-maj=22.5km s-min=17.3km az=179.0*
ISC 03 23:57:51.0±1.0, 37°.70N±0°.03×20°.58E±0°.03, h12km±6km, n76, σ1°20/98, mb3.7/10, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.20**	**102**	P	**Pg**	**23 57 54.7**	**-0.6**
KRI1				S	**Sg**	**23 57 58.9**	**+0.7**
	30μm,0.6s						
LTHK	**Lithakia**	**0.21**	**88**	P	**Pg**	**23 57 54.9**	**-0.5**
LTHK				S	**Sg**	**23 57 59.5**	**+1.0**
	36μm,0.5s						
LTHK	**Lithakia**	**0.21**	**88**	P	**Pg**	**23 57 54.9**	**-0.5**
LTHK				S	**Sg**	**23 57 59.5**	**+1.0**
LTHK				AML	AML	23 58 02.9	
	comp=N,61300μm,0.4s						
LTHK				AML	AML	23 58 05.1	
	comp=E,77876μm,0.5s						
RTZL	**Ratzakli, Kefa**	**0.40**	**23**	P	**Pg**	**23 57 59.0**	**0.0**
RTZL				S	**Sb**	**23 58 06.9**	**+0.7**
	comp=E,22μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.41**	**1**	P	**Pg**	**23 57 58.9**	**-0.2**
PSDA				S	**Sb**	**23 58 06.9**	**+0.5**
	comp=E,10μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.41**	**1**	P	**Pg**	**23 57 58.8**	**-0.3**
PSDA				S	**Sg**	**23 58 05.6**	**+1.0**
VLS	**Valsamata**	**0.47**	**1**	P	**Pg**	**23 57 59.8**	**-0.5**
VLS				S	**Sb**	**23 58 08.7**	**+0.4**
	comp=E,7μm,0.5s						
VLS	**Valsamata**	**0.47**	**1**	P	**Pg**	**23 57 59.3**	**-1.0**
VLS				S	**Sg**	**23 58 07.4**	**+0.8**
VLS				AML	AML	23 58 12.9	
	comp=N,16596μm,0.4s						
VLS				AML	AML	23 58 14.7	
	comp=E,20989μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.51**	**348**	P	**Pg**	**23 58 00.6**	**-0.3**
LXR1	**Lixouri, Cepha**	**0.51**	**348**	P	**Pg**	**23 58 00.9**	**0.0**
LXR1				S	**Sb**	**23 58 09.6**	**+0.4**
	comp=E,22μm,0.7s						
SMHA	**Samh**	**0.55**	**6**	P	**Pg**	**23 58 00.7**	**-1.0**
SMHA				S	**Sg**	**23 58 09.9**	**+0.8**
DMLN	**Damoulianata-K**	**0.56**	**343**	P	**Pg**	**23 58 01.1**	**-0.8**
DMLN				S	**Sb**	**23 58 10.9**	**+0.2**
	comp=E,13μm,0.6s						
DMLN	**Damoulianata-K**	**0.56**	**343**	P	**Pg**	**23 58 00.4**	**-1.5**
VSK1	**VASILIKIADES**	**0.70**	**359**	P	**Pg**	**23 58 03.9**	**-0.8**
VSK1				S	**Sb**	**23 58 15.9**	**+1.0**
	comp=E,6μm,0.6s						
FSK	**Fiskardo**	**0.75**	**359**	P	**Pg**	**23 58 04.5**	**-1.1**
FSK				S	**Sb**	**23 58 17.4**	**+1.1**
	comp=E,5μm,0.5s						
FSK	**Fiskardo**	**0.75**	**359**	P	**Pg**	**23 58 04.4**	**-1.2**
RLS	**Riolos of Patr**	**0.79**	**63**	P	**Pg**	**23 58 05.7**	**-0.5**
RLS				S	**Sb**	**23 58 18.4**	**+1.1**
RLS				AML	AML	23 58 22.3	
	comp=N,7503μm,0.9s						
RLS				AML	AML	23 58 23.6	
	comp=E,5993μm,0.4s						
AMT	**Artemida-Makis**	**0.92**	**100**	P	**Pg**	**23 58 07.4**	**-1.2**
AMT				AML	AML	23 58 29.3	
	comp=E,23800μm,0.7s						
AMT				AML	AML	23 58 32.9	
	comp=N,17708μm,0.7s						
EVGI	**Lefkada island**	**0.92**	**4**	P	**Pg**	**23 58 07.6**	**-1.1**
EVGI				S	**Sn**	**23 58 23.1**	**+0.2**
EVGI	**Lefkada island**	**0.92**	**4**	P	**Pg**	**23 58 07.3**	**-1.4**
DRO	**Drossia**	**0.93**	**74**	P	**Pg**	**23 58 08.2**	**-0.8**
DRO				S	**Sn**	**23 58 23.8**	**+0.5**
DRO	**Drossia**	**0.93**	**74**	P	**Pg**	**23 58 07.9**	**-1.0**
DRO				AML	AML	23 58 37.0	
	comp=E,8805μm,0.8s						
DRO				AML	AML	23 58 37.3	
	comp=N,8064μm,0.5s						
DRAG	**Dragano-Lefkad**	**0.98**	**360**	P	**Pg**	**23 58 08.6**	**-1.3**
DRAG				S	**Sn**	**23 58 25.0**	**+0.6**
DRAG	**Dragano-Lefkad**	**0.98**	**360**	P	**Pg**	**23 58 08.4**	**-1.5**
NYDR	**Nydri-Lefkada**	**1.01**	**5**	P	**Pg**	**23 58 09.2**	**-1.3**
NYDR				S	**Sn**	**23 58 26.4**	**+1.2**
NYDR	**Nydri-Lefkada**	**1.01**	**5**	P	**Pg**	**23 58 08.4**	**-2.1**
TSLK	**Tsoukalades, L**	**1.12**	**3**	P	**Pg**	**23 58 10.7**	**-1.9**
ITM	**Ithomi**	**1.20**	**116**	P	**Pb**	**23 58 11.8**	**-1.8**
ITM				AML	AML	23 58 39.3	
	comp=N,3443μm,0.8s						
ITM				AML	AML	23 58 41.9	
	comp=E,2652μm,0.8s						
PYL	**PYLOS**	**1.23**	**131**	P	**Pn**	**23 58 12.3**	**-1.8**
PYL				AML	AML	23 58 34.4	
	comp=E,3489μm,0.8s						
PYL				AML	AML	23 58 51.4	
	comp=N,2172μm,0.6s						
EFP	**Efpalio**	**1.27**	**55**	P	**Pn**	**23 58 13.6**	**-1.0**
EFP				AML	AML	23 58 44.0	
	comp=E,3748μm,0.6s						
EFP				AML	AML	23 58 45.7	
	comp=N,4202μm,0.7s						
KLV	**Kalavryta, Ach**	**1.29**	**74**	P	**Pn**	**23 58 13.6**	**-1.3**
ANX	**Ano Chora**	**1.38**	**50**	P	**Pn**	**23 58 15.5**	**-0.8**
ANX				AML	AML	23 58 46.3	
	comp=N,13131μm,0.7s						
ANX				AML	AML	23 58 48.3	
	comp=E,8709μm,0.5s						
KALE	**Kalithea**	**1.41**	**60**	P	**Pn**	**23 58 15.7**	**-0.9**
KALE				AML	AML	23 58 48.5	
	comp=N,3780μm,0.8s						
KALE				AML	AML	23 58 51.4	
	comp=E,3305μm,0.9s						
FNA	**Florina**	**3.14**	**11**	ePn	**Pn**	**23 58 42.5**	**+2.2**
FNA				eSn	**Sn**	**23 59 21.9**	**+4.1**
OHR	**Ohrid**	**3.41**	**3**	ePn	**Pn**	**23 58 45.4**	**+1.4**
OHR				eSn	**Sn**	**23 59 25.5**	**+1.1**
OHR	**Ohrid**	**3.41**	**3**	*i* Pn	**Pn**	**23 58 46.1**	**+2.1**
TIR	**Tirane**	**3.68**	**352**	ePn	**Pn**	**23 58 47.4**	**-0.3**
TIR				eSn	**Sn**	**23 59 31.9**	**+0.9**
SRS	**Serrai**	**4.13**	**33**	ePn	**Pn**	**23 58 55.1**	**+1.2**
SRS				eSn	**Sn**	**23 59 44.3**	**+2.1**
IDI	**Anoyia**	**4.23**	**123**	Pn	**Pn**	**23 58 56.5**	**+1.2**
	comp=E,0.3nm,0.3s,baz=232,slow=22,SNR=1.3						
IDI				Sn	**Sn**	**23 59 45.7**	**+1.0**
	comp=E,2.5nm,0.3s,baz=355,slow=7.5,SNR=7.6						
	comp=E,5.5nm,0.9s						
PDG	**Podgorica**	**4.83**	**348**	ePn	**Pn**	**23 59 01.5**	**-2.0**
PDG				eSn	**Sn**	**23 59 58.1**	**-1.2**
VAE	**Valguarnera**	**4.90**	**269**	Pn	**Pn**	**23 59 06.8**	**+2.2**
	comp=E,0.6nm,0.3s,baz=33,slow=17,SNR=1.9						
VAE				Sn	**Sn**	**00 00 02.3**	**+1.1**
	comp=E,1.7nm,0.3s,baz=170,slow=19,SNR=1.4						
	comp=E,15nm,1.0s						
BOSS	**Bosilegrad**	**5.00**	**16**	ePn	**Pn**	**23 59 05.8**	**-0.1**
BARS	**Barje**	**5.19**	**10**	ePn	**Pn**	**23 59 08.9**	**+0.4**
TREB	**Trebinje**	**5.29**	**342**	eSn	**Sn**	**00 00 07.6**	**-3.1**
TREB	**Trebinje**	**5.29**	**342**	ePn	**Pn**	**23 59 07.9**	**-1.9**
VTS	**Vitosha**	**5.31**	**22**	ePn	**Pn**	**23 59 12.0**	**+1.7**
SELS	**Selova**	**5.53**	**4**	eSn	**Sn**	**00 00 16.7**	**+0.1**
SELS	**Selova**	**5.53**	**4**	ePn	**Pn**	**23 59 13.0**	**-0.1**
SJES	**Sjenica**	**5.57**	**355**	eSn	**Sn**	**00 00 18.0**	**+0.2**
SJES	**Sjenica**	**5.57**	**355**	ePn	**Pn**	**23 59 13.2**	**-0.6**
STON	**Ston**	**5.61**	**338**	ePn	**Pn**	**23 59 12.2**	**-2.0**
ZAPS	**Zavoj**	**5.78**	**15**	ePn	**Pn**	**23 59 17.7**	**+1.1**
IVAS	**Ivanjica**	**5.88**	**357**	ePn	**Pn**	**23 59 15.8**	**-2.1**
GRUS	**Gruza**	**6.18**	**1**	ePn	**Pn**	**23 59 21.0**	**-1.0**
DIVS	**Divibare**	**6.40**	**356**	ePn	**Pn**	**23 59 25.5**	**+0.3**
HAPS	**Han Pijesak,BI**	**6.49**	**350**	ePn	**Pn**	**23 59 24.7**	**-1.8**
MLR	**Muntele Rosu**	**8.76**	**26**	Pn	**Pn**	**00 00 03.1**	**+5.6**
	comp=E,0.2nm,0.3s,baz=178,slow=11,SNR=5.4						
MLR				LR	LR	00 03 51.6	
	comp=E,168nm,21.8s,baz=288,slow=41						
SOKA	**Soboth**	**9.86**	**337**	ePn	**Pn**	**00 00 11.7**	**-0.9**
	comp=E,0.8nm,0.3s						
OBKA	**Obir**	**9.87**	**335**	ePn	**Pn**	**00 00 12.5**	**-0.2**
	comp=E,1.6nm,0.4s						
KBA	**Koelnbreinsper**	**10.78**	**333**	ePn	**Pn**	**00 00 25.2**	**-0.1**
	comp=E,0.2nm,0.2s						
MOA	**Molln**	**11.14**	**337**	ePn	**Pn**	**00 00 28.8**	**-1.3**
	comp=E,0.7nm,0.3s						
BIOA	**Bad Ischl, Aus**	**11.21**	**335**	ePn	**Pn**	**00 00 30.4**	**-0.5**
	comp=E,0.4nm,0.2s						
LESA	**Schwarzleotal**	**11.32**	**332**	ePn	**Pn**	**00 00 33.1**	**+0.5**
	comp=E,0.9nm,0.4s						
MMAI	**Mount Meron Ar**	**12.97**	**107**	LR	LR	00 07 52.7	
	comp=E,86nm,18.9s,baz=261,slow=46						
ESDC	**Sonseca Array**	**19.24**	**283**	P	**P**	**00 02 14.9**	**-0.3**
	comp=E,0.7nm,1.0s,baz=111,slow=12,SNR=4.0						
MDT	**Midelt**	**21.11**	**264**	LR	LR	00 11 14.7	
	comp=E,113nm,18.5s,baz=31,slow=38						
HFS	**Hagfors**	**22.87**	**351**	P	**P**	**00 02 54.0**	**-0.2**
	comp=E,3.8nm,0.7s,baz=149,slow=12,SNR=4.2						
	comp=E,3.8nm,0.7s						
EKA	**Eskdalemuir Ar**	**23.84**	**325**	P	**P**	**00 03 04.0**	**+0.2**
	comp=E,3.5nm,0.9s,baz=125,slow=10,SNR=3.9						
	comp=E,3.5nm,0.9s						
FINES	**FINESS Array B**	**24.01**	**6**	P	**P**	**00 03 05.0**	**-0.4**
	comp=E,1.4nm,0.5s,baz=176,slow=10,SNR=12						
	comp=E,1.4nm,0.5s						
NOA	**NORSAR Array B**	**24.09**	**349**	P	**P**	**00 03 06.6**	**+0.4**
	comp=E,1.2nm,0.8s,baz=152,slow=11,SNR=3.3						
	comp=E,1.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.69**	**220**	P	**P**	**00 03 56.8**	**-0.1**
	comp=E,0.3nm,0.8s,baz=36,slow=7.1,SNR=2.3						
	comp=E,0.3nm,0.8s						
ARCES	**ARCESS Array B**	**32.00**	**3**	P	**P**	**00 04 16.4**	**-0.4**
	comp=E,2.0nm,0.9s,baz=186,slow=8.2,SNR=1.7						
	comp=E,2.0nm,0.9s						
BVAR	**Borovoye Array**	**37.39**	**49**	P	**P**	**00 05 04.2**	**+0.6**
	comp=E,0.4nm,0.5s,baz=267,slow=3.8,SNR=3.6						
	comp=E,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**42.48**	**53**	P	**P**	**00 05 46.3**	**+0.5**
	comp=E,0.6nm,0.6s,baz=279,slow=8.8,SNR=4.8						
	comp=E,0.6nm,0.6s						
MKAR	**Makanchi Array**	**45.51**	**58**	P	**P**	**00 06 10.5**	**+0.2**
	comp=E,0.5nm,0.6s,baz=274,slow=7.3,SNR=9.5						
	comp=E,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**45.98**	**48**	P	**P**	**00 06 13.9**	**+0.1**
	comp=E,1.4nm,0.6s,baz=276,slow=8.5,SNR=8.0						
	comp=E,1.4nm,0.6s						

*SJA **03** 23:59:55.7±0.6, 34°.30S×70°.80W, h101km±2km, ML3.5, MW3.7*
*NEIC **03** 23:59:57.2±0.7, 34°.30S±0°.04×70°.79W±0°.03, h96km±5km, mb4.0/5, Error ellipse: s-maj=5.3km s-min=3.0km az=197.0*
*GUC **03** 23:59:57.1±0.5, 34°.30S×70°.75W, h92km±1km, ML3.8*
ISC 03 23:59:57.0±1.8, 34°.30S±0°.03×70°.81W±0°.04, h98km±5km, n95, σ1°03/143, 12C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BO01	**Tunca**	**0.25**	**248**		**Pn**	**00 00 10.8**	**-0.3**
BO01	**Tunca**	**0.25**	**248**	⇑eP	**Pn**	**00 00 11.0**	**-0.1**
BO01				eS	**Sn**	**00 00 21.4**	**-0.3**
BO01				IAML		00 00 22.0	
	comp=E,4μm,0.1s						
BO01	**Tunca**	**0.25**	**248**	IAML		00 00 23.1	
	comp=Z,1μm,0.2s						
BO01				eP	**Pn**	**00 00 10.7**	**-0.4**
BO01				eS	**Sn**	**00 00 22.1**	**+0.4**
BO04	**La Punta**	**0.35**	**28**		**Pn**	**00 00 11.1**	**-0.6**
BO04	**La Punta**	**0.35**	**28**	⇑eP	**Pn**	**00 00 11.1**	**-0.6**
BO04				eS	**Sn**	**00 00 21.9**	**-0.7**
BO02	**Sierra Bellavi**	**0.49**	**178**	Pn	**Pn**	**00 00 12.5**	**-0.2**
BO02				Sn	**Sn**	**00 00 24.1**	**-0.2**
BO02	**Sierra Bellavi**	**0.49**	**178**	⇓eP	**Pn**	**00 00 12.5**	**-0.2**
BO02				eS	**Sn**	**00 00 24.1**	**-0.2**
BO02	**Sierra Bellavi**	**0.49**	**178**	IAML		00 00 26.9	
	comp=Z,4μm,0.1s						
BO02				eP	**Pn**	**00 00 12.4**	**-0.2**
BO02				eS	**Sn**	**00 00 25.0**	**+0.7**
MT09	**Talagante**	**0.54**	**344**		**Pn**	**00 00 12.9**	**-0.1**
MT09				Sn	**Sn**	**00 00 25.1**	**0.0**
MT09	**Talagante**	**0.54**	**344**	⇑eP	**Pn**	**00 00 13.0**	**-0.1**
MT09				eS	**Sn**	**00 00 25.4**	**+0.2**
MT01	**Popeta**	**0.57**	**320**		**Pn**	**00 00 13.1**	**0.0**
MT01				Sn	**Sn**	**00 00 25.2**	**0.0**
MT01	**Popeta**	**0.57**	**320**	⇑eP	**Pn**	**00 00 13.2**	**+0.1**
MT01				eS	**Sn**	**00 00 25.2**	**0.0**
MT01	**Popeta**	**0.57**	**320**	IAML		00 00 25.9	
	comp=Z,816nm,0.2s						
MT01				eP	**Pn**	**00 00 13.0**	**-0.2**
MT01				eS	**Sn**	**00 00 25.9**	**+0.7**
MT12	**Pirque**	**0.60**	**21**	⇑eP	**Pn**	**00 00 13.2**	**-0.3**
MT12				eS	**Sn**	**00 00 25.4**	**-0.4**
MT12				IAML		00 00 26.5	
	comp=E,7μm,0.4s						
LMEL	**Las Melosas**	**0.67**	**48**		**Pn**	**00 00 13.8**	**-0.4**
LMEL				Sn	**Sn**	**00 00 26.7**	**-0.3**
LMEL	**Las Melosas**	**0.67**	**48**	⇑eP	**Pn**	**00 00 13.8**	**-0.4**
LMEL				eS	**Sn**	**00 00 26.7**	**-0.3**
LMEL				IAML		00 00 28.5	
	comp=N,5μm,0.1s						
LMEL	**Las Melosas**	**0.67**	**48**	eP	**Pn**	**00 00 13.2**	**-1.0**
MT15	**Las Vizcachas**	**0.74**	**20**	⇑eP	**Pn**	**00 00 14.6**	**-0.1**
MT15				eS	**Sn**	**00 00 27.8**	**-0.2**
MT15				IAML		00 00 28.6	
	comp=E,8μm,0.3s						
MT03	**Universidad Ad**	**0.84**	**17**		**Pn**	**00 00 15.6**	**-0.1**
MT03				Sn	**Sn**	**00 00 29.6**	**-0.2**
MT03	**Universidad Ad**	**0.84**	**17**	⇑eP	**Pn**	**00 00 15.6**	**-0.1**
MT03				*i* S	**Sn**	**00 00 29.4**	**-0.3**
MT03				IAML		00 00 31.3	
	comp=E,7μm,0.2s						
MT03	**Universidad Ad**	**0.84**	**17**	IAML		00 00 30.3	
	comp=Z,4μm,0.1s						
MT03				eP	**Pn**	**00 00 15.7**	**-0.1**
MT03				eS	**Sn**	**00 00 29.9**	**+0.1**
MT16	**CCHEN**	**0.90**	**15**		**Pn**	**00 00 16.4**	**+0.1**
MT16				Sn	**Sn**	**00 00 30.6**	**-0.1**
MT05	**Renca**	**0.91**	**4**		**Pn**	**00 00 16.5**	**+0.1**
MT05	**Renca**	**0.91**	**4**	⇑eP	**Pn**	**00 00 16.5**	**+0.1**
MT05				eS	**Sn**	**00 00 31.0**	**+0.1**
MT05	**Renca**	**0.91**	**4**	IAML		00 00 32.6	
	comp=Z,4μm,0.2s						
MT05				eS	**Sn**	**00 00 31.2**	**+0.3**
VA05	**Santo Domingo**	**0.93**	**313**		**Pn**	**00 00 16.8**	**+0.4**
VA05	**Santo Domingo**	**0.93**	**313**	eP	**Pn**	**00 00 16.8**	**+0.4**
VA05				eS	**Sn**	**00 00 31.6**	**+0.5**
VA05				IAML		00 00 33.7	
	comp=N,5μm,0.3s						
MT14	**Cerro Calın**	**0.93**	**14**	⇑eP	**Pn**	**00 00 16.7**	**+0.1**
MT14				eS	**Sn**	**00 00 31.2**	**-0.1**
MT14				IAML		00 00 32.7	
	comp=N,6μm,0.2s						
BO03	**Pichilemu**	**0.97**	**258**	⇑eP	**Pn**	**00 00 17.5**	**+0.6**
BO03				eS	**Sn**	**00 00 32.7**	**+0.7**
BO03				IAML		00 00 34.4	
	comp=E,2μm,0.3s						
MT10	**Hacienda Santa**	**1.05**	**12**	⇓eP	**Pn**	**00 00 17.9**	**0.0**
MT10				eS	**Sn**	**00 00 33.8**	**+0.1**
MT10				IAML		00 00 39.6	
	comp=E,4μm,0.2s						
MT04	**Ro Olivares**	**1.05**	**32**	⇓eP	**Pn**	**00 00 18.1**	**0.0**
MT04				eS	**Sn**	**00 00 33.9**	**-0.1**
MT04				IAML		00 00 35.2	
	comp=N,2μm,0.3s						
MT04	**Ro Olivares**	**1.05**	**32**	IAML		00 00 35.5	
	comp=Z,1μm,0.1s						
MT04				eP	**Pn**	**00 00 18.1**	**0.0**
MT04				eS	**Sn**	**00 00 34.3**	**+0.3**
FCH	**Farellones**	**1.06**	**24**	⇓eP	**Pn**	**00 00 18.1**	**-0.2**
FCH				eS	**Sn**	**00 00 33.6**	**-0.7**
FCH				IAML		00 00 35.6	
	comp=N,5μm,0.3s						
MT02	**Curacav**	**1.07**	**345**	Pn	**Pn**	**00 00 18.3**	**+0.2**
MT02	**Curacav**	**1.07**	**345**	⇑eP	**Pn**	**00 00 18.3**	**+0.2**
MT02				eS	**Sn**	**00 00 33.6**	**-0.4**
MT02				IAML		00 00 35.2	
	comp=N,1μm,0.4s						
MT02	**Curacav**	**1.07**	**345**	IAML		00 00 34.7	
	comp=Z,601nm,0.2s						
MT02				eP	**Pn**	**00 00 18.2**	**+0.2**
MT02				eS	**Sn**	**00 00 34.2**	**+0.2**
MT08	**Bocatoma Ro**	**1.08**	**38**		**Pn**	**00 00 18.4**	**+0.1**
MT08	**Bocatoma Ro**	**1.08**	**38**	⇓eP	**Pn**	**00 00 18.5**	**+0.1**
MT08				eS	**Sn**	**00 00 34.8**	**+0.4**
MT08	**Bocatoma Ro**	**1.08**	**38**	IAML		00 00 36.0	
	comp=Z,816nm,1.2s						
MT08				eP	**Pn**	**00 00 17.9**	**-0.5**
PEL	**Peldehue**	**1.16**	**5**	Pn	**Pn**	**00 00 19.3**	**+0.1**
PEL	**Peldehue**	**1.16**	**5**	eP	**Pn**	**00 00 19.4**	**+0.3**
PEL				eS	**Sn**	**00 00 36.4**	**+0.7**
PEL	**Peldehue**	**1.16**	**5**	eP	Pn	00 00 13.8	-5.4
PEL				eS	**Sn**	**00 00 36.5**	**+0.8**
GO05	**Hualane**	**1.17**	**232**	Pn	**Pn**	**00 00 19.3**	**+0.2**
GO05	**Hualane**	**1.17**	**232**	⇓*i* P	**Pn**	**00 00 19.3**	**+0.2**
GO05				eS	**Sn**	**00 00 36.0**	**+0.1**
GO05				IAML		00 00 37.9	
	comp=E,3μm,0.1s						
GO05	**Hualane**	**1.17**	**232**	eP	**Pn**	**00 00 19.3**	**+0.2**
GO05				eS	**Sn**	**00 00 36.4**	**+0.5**
ROC1	**El Roble**	**1.33**	**352**	eP	**Pn**	**00 00 21.6**	**+0.2**
ROC1				eS	**Sn**	**00 00 40.0**	**+0.2**
ROCH	**El Roble**	**1.33**	**353**	*i* P	**Pn**	**00 00 21.5**	**+0.2**
ROCH				eS	**Sn**	**00 00 39.4**	**-0.3**
ROCH				IAML		00 00 45.8	
	comp=N,1μm,0.5s						
VA01	**Torpederas**	**1.45**	**331**	Pn	**Pn**	**00 00 23.3**	**+0.8**
VA01	**Torpederas**	**1.45**	**331**	IAML		00 00 44.9	
	comp=Z,453nm,0.8s						
VA01				eP	**Pn**	**00 00 23.4**	**+0.8**
ML02	**Panimavida**	**1.54**	**199**	Pn	**Pn**	**00 00 23.8**	**+0.1**
ML02	**Panimavida**	**1.54**	**199**	⇓eP	**Pn**	**00 00 23.8**	**+0.1**
ML02				eS	**Sn**	**00 00 44.2**	**+0.3**
ML02				IAML		00 00 45.4	
	comp=E,1μm,0.5s						
ML02	**Panimavida**	**1.54**	**199**	IAML		00 00 51.5	
	comp=Z,327nm,0.6s						
ML02				eP	**Pn**	**00 00 23.2**	**-0.4**
VA03	**San Esteban**	**1.55**	**8**		**Pn**	**00 00 24.0**	**+0.1**
VA03	**San Esteban**	**1.55**	**8**	eP	**Pn**	**00 00 24.0**	**+0.1**
VA03				eS	**Sn**	**00 00 44.5**	**+0.4**
VA03				IAML		00 00 47.5	
	comp=E,2μm,0.1s						
VA03	**San Esteban**	**1.55**	**8**	IAML		00 00 46.9	
	comp=Z,1μm,0.3s						
VA03				eS	**Sn**	**00 00 45.1**	**+1.0**
AAGR	**Agrelo**	**2.05**	**54**	IAML		00 01 03.4	
	comp=Z,73nm,1.0s						
AAGR				eP	**Pn**	**00 00 30.9**	**+0.7**
AVIZ	**Vizcacheras**	**2.08**	**67**	eP	Pn	00 00 25.5	-5.0
ARCO	**CERRO ARCO**	**2.14**	**48**	IAML		00 01 04.4	
	comp=Z,62nm,0.3s						
ARCO				eP	**Pn**	**00 00 32.1**	**+0.7**
CO04	**Los Peladeros**	**2.25**	**356**	eP	**Pn**	**00 00 32.8**	**-0.3**
CO04				*i* S	**Sn**	**00 01 00.4**	**-0.3**
ASAL	**Salagasta**	**2.37**	**45**	IAML		00 01 09.9	
	comp=Z,28nm,0.4s		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RA5A7	**El Crucero**	**1.05**	**54**	*i* P	**Pb**	**00 05 48.9**	**-0.4**
RA5A7	comp=Z,5μm,1.0s			IAML		00 06 13.2	
SAPS	**Ciudad Sandino**	**1.10**	**44**	*i* P	**Pb**	**00 05 49.3**	**-0.8**
SAPS	comp=Z,1μm,1.0s			IAML		00 06 17.5	
ABCN	**Banco Central**	**1.14**	**49**	*i* P	**Pb**	**00 05 50.3**	**-0.4**
ABCN	comp=Z,7μm,1.0s			IAML		00 06 57.9	
SABN	**Sabanita**	**1.16**	**60**	*i* P	**Pb**	**00 05 50.3**	**-0.8**
SABN	comp=Z,2μm,1.0s			IAML		00 06 26.5	
UNAN	**Cigeo UNAN**	**1.16**	**50**	*i* P	**Pb**	**00 05 50.5**	**-0.6**
UNAN	comp=Z,4μm,1.0s			IAML		00 05 58.2	
UNAN				*i* S	**Sn**	**00 06 09.3**	**+2.9**
LEVN	**Ruinas Leon Vi**	**1.16**	**28**	*i* P	**Pn**	**00 05 50.8**	**-0.2**
LEVN				*i* S	**Sn**	**00 06 08.8**	**+2.2**
LEVN	comp=Z,1μm,1.0s			IAML		00 06 14.7	
APQ2	**Apoyeque**	**1.18**	**46**	*i* P	**Pb**	**00 05 51.1**	**-0.2**
APQ2	comp=Z,920nm,1.0s			IAML		00 06 08.0	
APQ2				*i* S	**Sn**	**00 06 09.3**	**+2.5**
TISN	**Laguna Tiscapa**	**1.18**	**49**	*i* P	**Pn**	**00 05 50.7**	**-0.5**
TISN	comp=Z,100nm,1.0s			IAML		00 06 00.6	
MAS3	**Al N del Volca**	**1.18**	**57**	*i* P	**Pn**	**00 05 50.9**	**-0.4**
MAS3	comp=Z,950nm,1.0s			IAML		00 05 58.3	
MAS3				*i* S	**Sn**	**00 06 08.3**	**+1.3**
APYN	**Apoyeque**	**1.18**	**44**	*i* P	**Pg**	**00 05 52.0**	**-0.3**
APYN	comp=Z,26nm,1.0s			IAML		00 06 16.1	
NANN	**Nandasmo**	**1.18**	**61**	*i* P	**Pg**	**00 05 51.6**	**-0.7**
NANN	comp=Z,14μm,1.0s			IAML		00 06 06.1	
NANN				*i* S	**Sn**	**00 06 09.7**	**+2.6**
PACN	**Al O del Volca**	**1.19**	**19**	*i* P	**Pn**	**00 05 50.3**	**-1.0**
PACN	comp=Z,1μm,1.0s			IAML		00 06 00.8	
NADN	**Granada**	**1.19**	**72**	*i* P	**Pn**	**00 05 51.0**	**-0.4**
NADN				*i* S	**Sn**	**00 06 07.4**	**+0.2**
R0529	**La Mascota**	**1.19**	**51**	*i* P	**Pn**	**00 05 50.9**	**-0.5**
R0529	comp=Z,890nm,1.0s			IAML		00 05 58.4	
MGAN	**Managua**	**1.20**	**50**	*i* P	**Pn**	**00 05 50.1**	**-1.4**
MGAN	comp=Z,970nm,1.0s			IAML		00 05 58.4	
MGAN				*i* S	**Sg**	**00 06 10.8**	**+2.5**
MGAN	**Managua**	**1.20**	**50**	*e*P	**Pn**	**00 05 49.8**	**-1.7**
R4DEC	**Barrio San Lui**	**1.20**	**50**	*i* P	**Pn**	**00 05 50.2**	**-1.3**
R4DEC	comp=Z,1μm,1.0s			IAML		00 05 58.4	
R4DEC				*i* S	**Sg**	**00 06 08.3**	**0.0**
CNGA	**Al SSO del Vol**	**1.21**	**23**	*i* P	**Pn**	**00 05 51.1**	**-0.6**
CNGA	comp=Z,1μm,1.0s			IAML		00 06 20.1	
ROCN	**Rota Cerro Neg**	**1.22**	**21**	*i* P	**Pn**	**00 05 51.1**	**-0.7**
ROCN	comp=Z,870nm,1.0s			IAML		00 06 00.0	
ROCN				*i* S	**Sg**	**00 06 09.6**	**+0.6**
WILN	**Americas 2**	**1.25**	**51**	*i* P	**Pn**	**00 05 51.7**	**-0.5**
WILN				*i* S	**Sg**	**00 06 11.0**	**+1.0**
WILN	comp=Z,650nm,1.0s			IAML		00 06 30.1	
MOM2	**El Cardon**	**1.26**	**33**	*i* P	**Pn**	**00 05 51.6**	**-0.8**
MOM2				*i* S	**Sg**	**00 06 11.4**	**+1.1**
MOM2	comp=Z,740nm,1.0s			IAML		00 06 17.4	
PLRN	**Geotermica Pol**	**1.27**	**19**	*i* P	**Pn**	**00 05 50.9**	**-1.6**
PLRN	comp=Z,590nm,1.0s			IAML		00 05 59.6	
ILCN	**San Idelfonso**	**1.29**	**21**	*i* P	**Pn**	**00 05 51.2**	**-1.6**
ILCN	comp=Z,420nm,1.0s			IAML		00 06 01.4	
ILCN				*i* S	**Sg**	**00 06 11.9**	**+0.7**
PKGN	**Cerro Pekin**	**1.31**	**9**	*i* P	**Pn**	**00 05 51.8**	**-1.2**
PKGN	comp=Z,2μm,1.0s			IAML		00 06 04.0	
CRIN	**San Cristobal**	**1.33**	**6**	*i* P	**Pn**	**00 05 52.4**	**-0.9**
CRIN	comp=Z,2μm,1.0s			IAML		00 06 01.6	
CRIN	**San Cristobal**	**1.33**	**6**	*e*P	**Pn**	**00 05 52.1**	**-1.2**
JAPN	**Al SSO del Vol**	**1.48**	**84**	*i* P	**Pb**	**00 05 55.7**	**-0.9**
JAPN				*i* S	**Sb**	**00 06 15.0**	**-0.2**
JAPN	comp=Z,440nm,1.0s			IAML		00 06 15.1	
MORN	**Al O del Volca**	**1.52**	**83**	*i* P	**Pn**	**00 05 55.5**	**-0.4**
MORN				*i* S	**Sb**	**00 06 16.0**	**-0.2**
MORN	comp=Z,76nm,1.0s			IAML		00 06 25.3	
CONN	**Concepcion**	**1.54**	**83**	*i* P	**Pn**	**00 05 55.4**	**-0.8**
CONN				*i* S	**Sb**	**00 06 17.0**	**+0.2**
CONN	comp=Z,3μm,1.0s			IAML		00 06 30.6	
BRAN	**Las Pilas**	**1.57**	**31**	*i* P	Pn	00 05 50.3	-6.3
BRAN	comp=Z,810nm,1.0s			IAML		00 05 52.3	
BRAN				*i* S	**Sn**	**00 06 10.3**	**-6.3**
CSGN	**Cosiguina Volc**	**1.64**	**347**	*i* P	**Pn**	**00 05 56.9**	**-0.7**
CSGN				*i* S	**Sn**	**00 06 19.4**	**+1.0**
CSGN	comp=Z,220nm,1.0s			IAML		00 06 24.5	
CARN	**Rivas**	**1.64**	**96**	*i* P	**Pn**	**00 05 57.2**	**-0.4**
CARN	comp=Z,600nm,1.0s			IAML		00 06 33.3	
BOAB	**BOACO BROADBAN**	**.83**	**54**	*i* P	**Pn**	**00 05 59.1**	**-1.1**
BOAB	comp=Z,290nm,1.0s			IAML		00 06 10.5	
LIMN	**Finca el Limon**	**1.86**	**25**	*i* P	**Pn**	**00 06 00.1**	**-0.6**
LIMN	comp=Z,270nm,1.0s			IAML		00 06 12.4	
VRLE	**La Escondida,**	**1.88**	**108**	*e*P	**Pn**	**00 06 00.5**	**-0.4**
VRLE				*e*S	**Sn**	**00 06 24.2**	**-0.1**
CNCH	**Conchagua**	**2.00**	**342**	*i* P	**Pn**	**00 06 02.4**	**-0.2**
CNCH	comp=Z,600nm,1.0s			IAML		00 06 34.9	
LCND	**La Caada**	**2.05**	**340**	*i* P	**Pn**	**00 06 03.4**	**+0.2**
LCND	comp=Z,200nm,1.0s			IAML		00 06 38.9	
ACON	**Acoyapa**	**2.06**	**73**	*i* P	**Pn**	**00 06 03.6**	**+0.3**
ACON	comp=Z,120nm,1.0s			IAML		00 06 43.8	
ACON	**Acoyapa**	**2.06**	**73**	*e*P	**Pn**	**00 06 03.6**	**+0.3**
CUI	**Cuipilapa**	**2.11**	**109**	*e*P	**Pn**	**00 06 04.0**	**-0.1**
RCFN	**Al S de San Ju**	**2.35**	**24**	*i* P	**Pn**	**00 06 07.6**	**+0.1**
RCFN	comp=Z,1μm,1.0s			IAML		00 07 20.4	
RCPN	**Sur Rio San Ju**	**2.39**	**26**	*i* P	**Pn**	**00 06 08.3**	**+0.3**
RCPN	comp=Z,0.8nm,1.0s			IAML		00 06 16.7	
RCVN	**Varillal2**	**2.40**	**24**	*i* P	**Pn**	**00 06 07.7**	**-0.5**
RCVN	comp=Z,2μm,1.0s			IAML		00 06 44.5	
YUSH	**Yuscaran**	**2.59**	**7**	*i* P	**Pn**	**00 06 10.6**	**-0.1**
TECO	**Alcaldia de Te**	**2.66**	**324**	*i* P	**Pn**	**00 06 12.4**	**+0.8**
TECO	comp=Z,110nm,1.0s			IAML		00 06 49.3	
SOCE	**Pocosol**	**2.71**	**111**	*i* P	**Pn**	**00 06 12.0**	**-0.3**
SOCE	comp=Z,58nm,1.0s			IAML		00 06 47.4	
PAVA	**Las Pavas**	**2.89**	**324**	*i* P	**Pn**	**00 06 14.9**	**0.0**
PAVA	comp=Z,170nm,1.0s			IAML		00 07 04.3	
ESPN	**Las Esperanzas**	**2.94**	**74**	*i* P	**Pn**	**00 06 15.7**	**+0.2**
ESPN	comp=Z,150nm,1.0s			IAML		00 06 38.6	
NUBE	**Las Nubes**	**3.57**	**315**	*i* P	**Pn**	**00 06 22.7**	**-1.6**
NUBE	comp=Z,53nm,1.0s			IAML		00 07 04.1	
MTO3	**Montecristo**	**3.68**	**325**	*i* P	**Pn**	**00 06 27.8**	**+1.9**
MTO3	comp=Z,92nm,1.0s			IAML		00 07 34.6	

RSNC 04 00:08:05.7±0.0, 11°.N±1°×7°.4W±°, h22km±1km, M2.8, mb4.1, ML2.6, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	**Cerrejon, Guaj**	**0.71**	**98**	P	Pb	00 08 18.6	-0.9
CRJC				S	Sb	00 08 29.1	+0.2
ARGC	**Ariguani, Magd**	**1.41**	**207**	P	Pn	00 08 28.9	-1.1
ARGC				S	Sn	00 08 47.9	0.0
URIC	**Uribia, Colomb**	**1.68**	**70**	P	Pn	00 08 32.7	-1.1
URIC				S	Sn	00 08 54.1	-0.5
SJCC	**San Jacinto, C**	**1.97**	**232**	P	Pn	00 08 36.8	-1.1
SJCC				S	Sb	00 09 04.8	-0.4
OCAC	**Ocana**	**2.88**	**174**	P	Pn	00 08 49.2	-1.2
OCAC				S	Sn	00 09 25.2	+0.8
SDV	**Santo Domingo**	**3.67**	**127**	P	Pn	00 09 00.9	-0.5
SDV				S	Sn	00 09 42.7	-1.4
ZARC	**Zaragoza, Cauc**	**3.81**	**199**	P	Pn	00 09 05.3	+2.1
ZARC				S	Sn	00 09 51.1	+3.7
UREC	**San Jos de Ur**	**3.85**	**210**	P	Pn	00 09 06.4	+2.7
UREC				S	Sn	00 09 49.3	+1.0
PAMC	**Pamplona, Colo**	**3.86**	**167**	P	Pn	00 09 03.5	-0.7
PAMC				S	Sn	00 09 48.6	-0.6
BRJC	**Barrancabermej**	**4.12**	**182**	P	Pn	00 09 05.6	-1.8
CAPC	**Capurgana**	**4.45**	**237**	P	Pn	00 09 10.0	-1.8
CAPC				S	Sn	00 09 57.5	-5.5
BARC	**Barichara**	**4.52**	**175**	P	Pn	00 09 12.9	-0.2
BARC				S	Sn	00 10 03.2	-1.9
PTBC	**PUERTO BERRIO,**	**4.63**	**191**	P	Pn	00 09 14.6	+0.2
PTBC				S	Sn	00 10 10.7	+3.2
TAMC	**Tame, Arauca**	**4.99**	**159**	P	Pn	00 09 18.0	-1.3
TAMC				S	Sn	00 10 14.7	-1.7
RUSC	**La Rusia**	**5.22**	**174**	P	Pn	00 09 22.2	-0.7
	5.6nm,1.1s						
HELC	**Santa Helena**	**5.26**	**201**	P	Pn	00 09 26.1	+2.8
HELC				S	Sn	00 10 25.0	+1.5
NORC	**Norcasia**	**5.66**	**193**	P	Pn	00 09 30.1	+1.5
NORC				S	Sn	00 10 32.6	-0.5
GUY2C	**Guyana, Caldas**	**6.11**	**197**	P	Pn	00 09 36.6	+1.4

*IDC **04** 00:08:12.3±1.6, 30°.95N×100°.56E, h0km, mb3.5/6, mbtmp3.5/7, ML3.4/1, MS3.3/3, Error ellipse: s-maj=46.4km s-min=24.2km az=45.0*

ISC 04 00:08:17.7±1.4, 31°.0N±0°.2×100°.7E±0°.2, h35km, n9, σ0°.84/7, mb3.4/6, MS3.2/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**17.34**	**13**	P	**P**	**00 12 17.9**	**-0.2**
	0.1nm,0.3s,baz=198,slow=11,SNR=5.4						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**21.18**	**323**	P	**P**	**00 12 58.9**	**-1.1**
	0.8nm,0.7s,baz=126,slow=11,SNR=6.7						
	0.8nm,0.7s						
KSRS	**Korea Array**	**23.38**	**67**	P	**P**	**00 13 23.1**	**-0.1**
	0.3nm,0.3s,baz=250,slow=9.2,SNR=2.8						
KSRS				LR	LR	00 22 46.4	
	comp=Z,28nm,18.9s,baz=315,slow=37						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**25.58**	**326**	P	**P**	**00 13 42.5**	**-0.8**
	1.1nm,0.7s,baz=134,slow=9.3,SNR=12						
	1.1nm,0.7s						
ZALV	**Zalesovo Beam**	**25.59**	**338**	P	**P**	**00 13 43.7**	**+0.4**
	0.4nm,0.6s,baz=143,slow=11,SNR=2.8						
	0.4nm,0.6s						
USRK	**Ussuriysk Ar.**	**27.90**	**53**	LR	LR	00 26 22.3	
	comp=Z,64nm,19.3s,baz=118,slow=39						
GNI	**Garni**	**45.72**	**298**	LR	LR	00 40 00.9	
	comp=Z,102nm,21.8s,baz=328,slow=42						
FINES	**FINESS Array B**	**55.98**	**326**	P	**P**	**00 17 53.2**	**+1.0**
	4.6nm,1.2s,baz=100,slow=7.6,SNR=1.1						
	4.6nm,1.2s						
WRA	**Warramunga Arr**	**60.13**	**143**	P	**P**	**00 18 21.6**	**-0.2**
	0.4nm,0.8s,baz=324,slow=8.5,SNR=2.9						
	0.4nm,0.8s						

*IDC **04** 00:11:13.1±1.4, 38°.51N×70°.51E, h0km, mb3.7/5, mbtmp3.7/11, ML2.9/5, Error ellipse: s-maj=21.2km s-min=13.4km az=148.0*
*NNC **04** 00:11:16.7±4.7, 38°.32N×71°.18E, h290km±44km, mb2.7, mpv4.2, Error ellipse: s-maj=48.1km s-min=28.3km az=15.0*

ISC 04 00:11:14.7±1.1, 38°.53N±0°.08×70°.25E±0°.08, h10km, n24, σ2°.18/26, mb3.7/5, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.45**	**35**	P	**Pn**	**00 12 23.8**	**+1.1**
	SNR=27						
KK31	**Karatay Array**	**4.57**	**2**	⇑P	Pb	00 12 29.2	-5.8
	6.6nm,0.3s,baz=184,slow=12,SNR=127						
KK31				S	**Sb**	**00 13 33.3**	**+3.2**
	44nm,0.7s,baz=176,slow=28,SNR=7.3						
EKS2	**Erkin-Say**	**4.92**	**32**	P	**Pn**	**00 12 30.0**	**+1.2**
	SNR=23						
UCH	**Uchtor**	**4.92**	**40**	P	Pn	00 12 30.9	+1.8
	SNR=7.4						
AAK	**Ala-Archa**	**5.22**	**37**	P	**Pn**	**00 12 34.4**	**+1.4**
	SNR=26						
AAK	**Ala-Archa**	**5.22**	**37**	Pn	**Pn**	**00 12 34.2**	**+1.3**
	32nm,0.4s,baz=210,slow=7.0,SNR=124						
AAK				Sn	**Sn**	**00 13 34.6**	**+1.4**
	1.8nm,0.3s,baz=152,slow=19,SNR=1.6						
AAK				Lg	Lg	00 13 53.3	
	0.5nm,0.3s,baz=278,slow=14,SNR=1.9						
KBK	**Karagaybulak**	**5.45**	**39**	P	Pn	00 12 38.4	+2.2
	SNR=108						
CHMS	**Chumysh**	**5.62**	**36**	P	**Pn**	**00 12 39.6**	**+1.3**
	SNR=26						
CHMS	**Chumysh**	**5.62**	**36**	⇑P	**Pn**	**00 12 38.9**	**+0.6**
	27nm,0.6s						
CHMS				⇓S	**Sn**	**00 13 42.6**	**-0.3**
	53nm,0.8s						
USP	**Ospenovka**	**5.72**	**33**	P	**Pn**	**00 12 40.5**	**+0.8**
	SNR=31						
TKM2	**Tokmak 2**	**5.97**	**41**	P	Pn	00 12 45.7	+2.3
	SNR=27						
TKM2	**Tokmak 2**	**5.97**	**41**	⇓P	**Pn**	**00 12 44.2**	**+0.9**
	14nm,0.5s						
TKM2				⇓S	**Sn**	**00 13 51.9**	**0.0**
	22nm,0.8s						
MKAR	**Makanchi Array**	**12.10**	**43**	Pn	**Pn**	**00 14 05.3**	**-1.8**
	0.1nm,0.3s,baz=241,slow=18,SNR=3.7						
	0.7nm,0.7s						
AB31	**Akbulak array**	**13.03**	**329**	⇑P	**Pn**	**00 14 18.4**	**-1.4**
	1.1nm,0.4s,baz=144,slow=13,SNR=48						
AB31				⇓S	**Sn**	**00 16 48.0**	**+3.2**
	2.9nm,0.7s,baz=152,slow=24,SNR=5.7						
KURBB	**Kurchatov Arra**	**13.44**	**23**	Pn	**Pn**	**00 14 21.7**	**-3.6**
	baz=216,slow=13,SNR=5.1						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**14.49**	**0**	Pn	**Pn**	**00 14 37.4**	**-2.4**
	baz=180,slow=14,SNR=6.5						
BVAR				Lg	Lg	00 18 48.3	
	baz=177,slow=27,SNR=2.7						
	0.6nm,0.5s						
AKTO	**Aktyubinsk**	**14.73**	**328**	⇓P	Pn	00 14 38.3	-4.8
	1.1nm,0.6s						
AKTO				⇑S	**Sn**	**00 17 24.7**	**-1.7**
	3.7nm,1.1s						
AKTO	**Aktyubinsk**	**14.73**	**328**	Pn	**Pn**	**00 14 41.5**	**-1.6**
	0.1nm,0.3s,baz=150,slow=9.8,SNR=2.0						
AKTO				Sn	**Sn**	**00 17 20.1**	**-6.2**
	0.1nm,0.3s,baz=150,slow=14,SNR=2.1						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**18.36**	**28**	P	**P**	**00 15 28.0**	**-1.3**
	0.2nm,0.3s,baz=219,slow=13,SNR=6.0						
	1.1nm,0.6s						
KVAR	**Kislovodsk Arr**	**21.37**	**293**	P	**P**	**00 16 04.7**	**+2.4**
	2.8nm,0.8s,baz=95,slow=14,SNR=2.2						
	2.8nm,0.8s						
FINES	**FINESS Array B**	**35.48**	**325**	P	**P**	**00 18 11.6**	**+0.6**
	1.2nm,0.8s,baz=113,slow=9.7,SNR=1.0						
	1.2nm,0.8s						
HFS	**Hagfors**	**41.11**	**321**	P	**P**	**00 18 58.6**	**+0.1**
	1.2nm,0.6s,baz=99,slow=9.3,SNR=5.4						
	1.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.20**	**267**	P	**P**	**00 21 57.5**	**+1.0**
	0.5nm,0.8s,baz=50,slow=5.6,SNR=2.5						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**83.56**	**122**	P	**P**	**00 23 42.8**	**-0.4**
	0.3nm,0.9s,baz=329,slow=5.0,SNR=2.3						
	0.3nm,0.9s						

*IDC **04** 00:15:03.5±10.0, 38°.56N×20°.64E, h0km, mb3.6/2, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=389.2km s-min=35.1km az=172.0*

*ATH **04** 00:15:06.4, 38°.88N×20°.14E, h7km±1km, ML2.8/10, Error ellipse: s-maj=2.0km s-min=0.7km az=238.0*

ISC 04 00:15:06.3±1.4, 38°.90N±0°.03×20°.23E±0°.05, h13km±10km, n21, σ0°.78/36, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.34**	**102**	P	**Pg**	**00 15 13.5**	**+0.2**
TSLK				S	**Sn**	**00 15 24.0**	**+0.2**
TSLK				AML	AML	00 15 25.9	
	comp=E,4160μm,0.5s						
TSLK				AML	AML	00 15 26.2	
	comp=N,3682μm,0.5s						
DRAG	**Dragano-Lefkad**	**0.35**	**128**	P	**Pg**	**00 15 13.2**	**-0.2**
DRAG				S	**Sb**	**00 15 19.1**	**-0.7**
LKD2	**Lefkada island**	**0.35**	**108**	P	**Pb**	**00 15 14.8**	**+0.3**
LKD2				S	**Sb**	**00 15 20.1**	**+0.1**
LKD2				AML	AML	00 15 27.4	
	comp=E,3202μm,0.9s						
LKD2				AML	AML	00 15 27.6	
	comp=N,5434μm,0.5s						
NYDR	**Nydri-Lefkada**	**0.41**	**117**	P	**Pg**	**00 15 14.6**	**0.0**
NYDR				S	**Sb**	**00 15 22.4**	**+0.7**
EVGI	**Lefkada island**	**0.44**	**129**	P	**Pg**	**00 15 14.7**	**-0.4**
EVGI				S	**Sb**	**00 15 22.1**	**-0.2**
FSK	**Fiskardo**	**0.51**	**149**	P	**Pg**	**00 15 16.1**	**-0.4**
FSK				S	**Sb**	**00 15 24.5**	**0.0**
FSK				AML	AML	00 15 29.5	
	comp=E,603μm,0.3s						
FSK				AML	AML	00 15 34.9	
	comp=N,458μm,0.5s						
IGT	**Igoumenitsa**	**0.64**	**7**	P	**Pg**	**00 15 18.7**	**-0.1**
IGT				S	**Sb**	**00 15 28.6**	**+0.4**
IGT				AML	AML	00 15 29.5	
	comp=E,1741μm,0.3s						
IGT				AML	AML	00 15 29.8	
	comp=N,1605μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.72**	**167**	P	**Pg**	**00 15 20.1**	**-0.2**
LXRA				S	**Sb**	**00 15 29.8**	**-0.5**
SMHA	**Samh**	**0.73**	**153**	P	**Pg**	**00 15 19.9**	**-0.6**
SMHA				S	**Sb**	**00 15 31.2**	**+0.5**
SMHA				AML	AML	00 15 34.3	
	comp=E,2453μm,0.4s						
SMHA				AML	AML	00 15 35.3	
	comp=N,2881μm,0.7s						
VLS	**Valsamata**	**0.78**	**158**	P	**Pg**	**00 15 21.1**	**-0.3**
VLS				S	**Sb**	**00 15 32.3**	**+0.2**
VLS				AML	AML	00 15 35.6	
	comp=E,806μm,0.3s						
VLS				AML	AML	00 15 38.9	
	comp=N,818μm,0.6s						
KEK	**Kerkira**	**0.88**	**338**	P	**Pb**	**00 15 23.0**	**-0.4**
KEK				S	**Sb**	**00 15 35.0**	**0.0**
KEK				AML	AML	00 15 40.0	
	comp=E,932μm,0.2s						
KEK				AML	AML	00 15 41.1	
	comp=N,757μm,0.4s						
JAN	**Janina**	**0.90**	**33**	P	**Pb**	**00 15 23.7**	**-0.1**
JAN				S	**Sn**	**00 15 37.3**	**-0.2**
JAN				AML	AML	00 15 40.7	
	comp=N,1248μm,0.3s						
JAN				AML	AML	00 15 42.8	
	comp=E,1082μm,0.3s						
PENT	**Pentalofos**	**1.48**	**28**	P	**Pb**	**00 15 34.1**	**+0.4**
PENT				S	**Sb**	**00 15 52.8**	**+0.4**
THL	**Klokotos Trika**	**1.54**	**64**	P	**Pb**	**00 15 35.2**	**+0.5**
THL				S	**Sb**	**00 15 54.7**	**+0.6**
THL				AML	AML	00 16 00.6	
	comp=E,310μm,0.6s						
THL				AML	AML	00 16 01.3	
	comp=N,699μm,0.6s						
TYRN	**Tyrnavos**	**1.75**	**62**	P	**Pb**	**00 15 37.8**	**-0.6**
KZN	**Kozani**	**1.84**	**40**	P	**Pn**	**00 15 37.9**	**+0.2**
KZN				S	**Sb**	**00 16 02.1**	**-0.9**
KZN				AML	AML	00 16 08.3	
	comp=E,491μm,0.6s						
KZN				AML	AML	00 16 11.0	
	comp=N,387μm,0.6s						
FNA	**Florina**	**2.08**	**25**	P	**Pb**	**00 15 42.6**	**-1.4**
HORT	**Hortiatis**	**2.79**	**52**	P	**Pn**	**00 15 51.5**	**+0.7**
ESDC	**Sonseca Array**	**18.73**	**280**	P	**Pn**	**00 19 28.0**	**+2.8**
	baz=93,slow=8.4,SNR=2.4						
	comp=N,0.3nm,0.8s						
MKAR	**Makanchi Array**	**45.12**	**59**	P	**P**	**00 23 20.8**	**-1.5**
	comp=N,0.3nm,0.5s,baz=279,slow=8.1,SNR=7.7						
	comp=N,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**45.38**	**49**	P	**P**	**00 23 22.9**	**-1.3**
	comp=N,0.6nm,0.5s,baz=262,slow=7.3,SNR=3.6						
	comp=N,0.6nm,0.5s						

IDC 04 00:20:34.0±5.0, 17°.58S×177°.82W, h599km±24km, mb3.1/3, mbtmp4.1/4, Error ellipse: s-maj=130.0km s-min=79.2km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.94**	**267**	P	P	00 21 59.0	0.0
	27nm,0.6s,baz=105,slow=12,SNR=14						
STKA	**Stephens Creek**	**39.28**	**241**	P	P	00 27 12.6	-0.2
	1.0nm,0.4s,baz=51,slow=13,SNR=3.2						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**45.24**	**259**	P	P	00 27 59.5	-0.1
	0.9nm,0.5s,baz=95,slow=7.2,SNR=38						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**45.42**	**254**	P	P	00 28 00.8	-0.1
	3.1nm,0.6s,baz=86,slow=8.7,SNR=52						
ASAR				PcP	PcP	00 29 26.8	-0.4
	0.2nm,0.4s,baz=114,slow=3.9,SNR=4.8						
	3.1nm,0.6s						

*RSNC **04** 00:20:37.4±0.0, 13°.N±2°.×8°.1W±°, h1km±2km, M3.3, mb4.2, ML3.3*
*IDC **04** 00:20:43.0±2.2, 13°.23N×81°.78W, h0km, mb3.4/4, mbtmp3.6/6, ML3.6/2, MS3.0/2, Error ellipse: s-maj=48.1km s-min=28.6km az=95.0*

ISC 04 00:20:37.5±0.7, 13°.14N±0°.05×81°.14W±0°.04, h10km, n19, σ2°.39/28, mb3.3/4, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.32**	**318**	P	**Pb**	**00 20 44.0**	**-1.3**
PRVC				S	**Sb**	**00 20 48.1**	**-2.5**
RNCC	**Cayo Roncador,**	**1.11**	**67**	P	**Pb**	**00 20 58.8**	**-0.1**
RNCC				S	**Sb**	**00 21 14.6**	**+1.2**
SERC	**Banco Serrana,**	**1.37**	**33**	P	**Pn**	**00 21 02.2**	**-0.5**
SERC				S	**Sg**	**00 21 21.9**	**+0.2**
ACON	**Acoyapa**	**4.10**	**254**	P	**Pn**	**00 21 39.9**	**-0.4**
ACON				S	**Sn**	**00 22 26.2**	**-2.2**
BCIP	**Isla Barro Col**	**4.15**	**162**	P	**Pn**	**00 21 38.6**	**-2.3**
BCIP				S	**Sn**	**00 22 24.8**	**-4.7**
JTS	**Las Juntas de**	**4.68**	**233**	Pn	**Pn**	**00 21 49.6**	**+1.3**
	1.7nm,0.3s,baz=83,slow=22,SNR=7.7						
JTS				Sn	**Sn**	**00 22 39.9**	**-2.8**
	1.3nm,0.3s,baz=212,slow=12,SNR=5.5						
	4.2nm,0.3s						
JTS	**Las Juntas de**	**4.68**	**233**	P	**Pn**

0.4nm,0.7s,baz=144,slow=6.3,SNR=3.6
0.4nm,0.7s
ILAR Eielson Array 67.94 335 P P 00 31 40.9 +4.6
0.3nm,0.7s,baz=101,slow=4.7,SNR=3.0
0.3nm,0.7s
ASAR Alice Springs 145.22 247 PKP **PKiKP 00 40 21.9 +1.7**
0.5nm,0.7s,baz=108,slow=3.9,SNR=8.7
WRA Warramunga Arr 145.37 254 PKP **PKiKP 00 40 22.5 +1.9**
0.9nm,0.7s,baz=94,slow=3.5,SNR=9.9

RSNC 04 00:30:05.8±0.0, 13°N±3°×8°1W±°, h2km±4km, M3.2, mb4.3, ML3.2, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.28**	**317**	P	Pg	00 30 11.6	+0.4
PRVC				S	Sg	00 30 15.8	+1.0
RNCC	**Cayo Roncador,**	**1.12**	**69**	P	Pb	00 30 27.7	-0.3
RNCC				S	Sg	00 30 42.2	+0.2
SERC	**Banco Serrana,**	**1.36**	**35**	P	Pn	00 30 30.0	-1.8
SERC				S	Sb	00 30 49.8	0.0
ACON	**Acoyapa**	**4.09**	**253**	P	Pn	00 31 12.7	+3.3
ACON				S	Sb	00 32 05.5	-2.9
BCIP	**Isla Barro Col**	**4.19**	**162**	P	Pn	00 31 06.2	-4.5
BCIP				S	Sn	00 31 54.7	-5.6
JTS	**Las Juntas de**	**4.68**	**233**	P	Pn	00 31 16.2	-1.4
JTS				S	Sn	00 32 09.8	-2.7
CACAO	**El Cacao, Vera** 34nm,1.1s	**5.80**	**177**	P	Pn	00 31 31.8	-1.1
CACAO				S	Sn	00 32 39.5	-0.5
CAPC	**Capurgana** 15nm,2.8s	**5.86**	**140**	P	Pn	00 31 30.9	-2.9
CAPC				S	Sn	00 32 36.2	-5.4
TGUH	**Tegucigalpa,Un** 37nm,0.8s	**6.00**	**279**	P	Pn	00 31 34.8	-1.0
TGUH				S	Sn	00 32 44.3	-0.9
SJCC	**San Jacinto, C** 25nm,0.8s	**6.71**	**118**	P	Pn	00 31 41.4	-4.1
SJCC				S	Sn	00 32 55.4	-7.3
UREC	**San Jos de Ur** 5.6nm,0.6s	**7.73**	**134**	P	Pn	00 31 56.6	-2.8
UREC				S	Sn	00 33 21.7	-5.9
GTBY	**Guantanamo Bay** 48nm,1.5s	**8.88**	**40**	P	Pn	00 32 14.8	-0.4
URIC	**Uribia, Colomb** 12nm,1.2s	**9.08**	**98**	P	Pn	00 32 15.7	-2.3
URIC				S	Sn	00 33 52.5	-8.4
OCAC	**Ocana** 20nm,0.7s	**9.14**	**122**	P	Pn	00 32 19.1	+0.2
OCAC				S	Sn	00 33 56.5	-6.0
PTBC	**PUERTO BERRIO,**	**9.33**	**134**	P	Pn	00 32 19.0	-2.5
PTBC				S	Sn	00 33 59.1	-8.1

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*JMA **04** 00:36:10.9±0.2, 24°N±2°×122°6E±0°6, h23km±4km, MV2.6/13, NW OFF ISHIGAKIJIMA IS*
*TAP **04** 00:36:10.5, 24°03N×122°59E, h16km, ML2.9, C*
ISC 04 00:36:10.5±1.0, 24°05N±0°03×122°56E±0°02, h24km±8km, n76, σ0°71/115, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.23**	**288**	*i* P	**Pb**	**00 36 16.2**	**+0.1**
EOS4				*i* S	**Sb**	**00 36 20.1**	**+0.1**
EOS3	**EOS3**	**0.33**	**317**	*i* P	**Pb**	**00 36 17.8**	**+0.1**
EOS3				*i* S	**Sb**	**00 36 22.9**	**+0.3**
EOS2	**EOS2**	**0.48**	**321**	*i* P	**Pb**	**00 36 20.6**	**+0.5**
EOS2				*i* S	**Sn**	**00 36 28.1**	**-1.1**
JYNG	**Yonagunijimaku**	**0.53**	**41**	P	**Pb**	**00 36 20.8**	**-0.4**
JYNG				S	**Sb**	**00 36 27.4**	**-1.1**
YOJ	**Yonaguni jima**	**0.58**	**45**	*e* P	**Pb**	**00 36 21.8**	**-0.3**
YOJ				S	**Sb**	**00 36 28.9**	**-1.0**
YOJ	**Yonaguni jima**	**0.58**	**45**	*i* P	**Pb**	**00 36 21.7**	**-0.3**
YOJ				*i* S	**Sb**	**00 36 28.8**	**-1.1**
EWUT	**Wuta**	**0.82**	**299**	*i* P	**Pb**	**00 36 25.5**	**-0.5**
EWUT				S	**Sb**	**00 36 36.2**	**-0.5**
ENA	**Nanau**	**0.84**	**297**	P	**Pb**	**00 36 25.9**	**-0.6**
ENA				*e*S	**Sb**	**00 36 36.5**	**-0.8**
ESAO	**Su ao**	**0.84**	**309**	P	**Pb**	**00 36 25.7**	**-0.7**
ESAO				*e*S	**Sb**	**00 36 36.2**	**-1.1**
TWC	**Suao**	**0.86**	**311**	P	**Pb**	**00 36 25.9**	**-0.8**
TWC				S	**Sb**	**00 36 36.4**	**-1.4**
TWD	**Chiawan**	**0.88**	**272**	*e*P	**Pb**	**00 36 26.7**	**-0.4**
TWD				*e*S	**Sn**	**00 36 39.2**	**-0.2**
NACB	**Ninganchiao**	**0.89**	**278**	*i* P	**Pb**	**00 36 27.1**	**-0.2**
SHUL	**Shoufeng**	**0.95**	**254**	*e*S	**Sn**	**00 36 41.9**	**+0.8**
NDS	**Dongshan**	**0.97**	**307**	P	**Pb**	**00 36 28.4**	**-0.2**
ETM	**Tongmen**	**0.98**	**265**	*e*P	**Pb**	**00 36 28.1**	**-0.7**
ETM				S	**Sn**	**00 36 41.6**	**-0.3**
ETLH	**Xiulin Townshi**	**1.00**	**279**	P	**Pb**	**00 36 28.8**	**-0.4**
LXIB	**Xiulin Townshi**	**1.05**	**269**	P	**Pb**	**00 36 29.4**	**-0.6**
LXIB				*e*S	**Sn**	**00 36 43.8**	**0.0**
TWE	**Neicheng**	**1.06**	**310**	*i* P	**Pb**	**00 36 29.7**	**-0.3**
TWE				*e*S	**Sn**	**00 36 43.7**	**0.0**
ESL	**Shilin**	**1.06**	**258**	S	**Sb**	**00 36 43.0**	**-0.5**
LATG	**Datong**	**1.06**	**297**	P	**Pb**	**00 36 30.1**	**-0.2**
ENTT	**Nioudou**	**1.08**	**303**	*i* P	**Pn**	**00 36 30.3**	**+0.1**
ENTT				*e*S	**Sb**	**00 36 44.1**	**-0.2**
TWB1	**Santiao Chiao**	**1.09**	**331**	P	**Pn**	**00 36 29.7**	**-0.5**
TWB1				*e*S	**Sb**	**00 36 43.5**	**-1.0**
IRIF	**Iriomote-Funau**	**1.10**	**75**	P	**Pn**	**00 36 30.7**	**+0.3**
IRIF				S	**Sn**	**00 36 45.2**	**+0.3**
EGFH	**Guangfu**	**1.10**	**250**	S	**Sb**	**00 36 44.8**	**-0.1**
WARBT	**Fenglin Townsh**	**1.12**	**253**	*e*P	**Pn**	**00 36 29.8**	**-1.0**
HATJ	**Hateruma jima**	**1.14**	**89**	*e*P	**Pb**	**00 36 31.6**	**+0.1**
HATJ				*e*S	**Sb**	**00 36 45.7**	**0.0**
FUSB	**Fushanzhiwuyua**	**1.14**	**309**	P	**Pb**	**00 36 31.4**	**-0.1**
FUSB				*e*S	**Sn**	**00 36 46.4**	**+0.5**
TIPB	**Shuangxi**	**1.14**	**324**	*e*P	**Pb**	**00 36 31.6**	**+0.1**
TIPB				*e*S	**Sb**	**00 36 45.4**	**-0.5**
NNSB	**Datong**	**1.14**	**290**	*e*P	**Pb**	**00 36 31.3**	**-0.3**
NNSB				*e*S	**Sn**	**00 36 47.2**	**+1.1**
HGSD	**Ruisui**	**1.18**	**242**	*e*P	**Pn**	**00 36 31.5**	**0.0**
WHF	**Hehuan Shan**	**1.19**	**275**	*e*P	**Pn**	**00 36 32.1**	**+0.1**
WHF				*e*S	**Sb**	**00 36 47.2**	**-0.5**
NWLT	**Wulai**	**1.21**	**307**	*e*P	**Pb**	**00 36 32.8**	**+0.1**
NWLT				*e*S	**Sn**	**00 36 48.1**	**+0.5**
SXI1	**Grass Mountain**	**1.22**	**329**	P	**Pn**	**00 36 32.0**	**0.0**
SXI1				S	**Sn**	**00 36 48.5**	**+0.7**
YHNB	**Yeheng**	**1.25**	**300**	*e*P	**Pb**	**00 36 33.3**	**-0.1**
YHNB				*e*S	**Sn**	**00 36 50.1**	**+1.6**
EHY	**Hungye**	**1.26**	**245**	*e*P	**Pn**	**00 36 32.0**	**-0.6**
NSK	**Sanguang**	**1.26**	**300**	P	**Pb**	**00 36 33.5**	**-0.2**
NSK				S	**Sb**	**00 36 50.1**	**+0.6**
OWD	**Renai**	**1.27**	**266**	P	**Pn**	**00 36 32.9**	**0.0**
OWD				*e*S	**Sn**	**00 36 48.7**	**-0.6**
TWA	**Mucha**	**1.29**	**316**	P	**Pb**	**00 36 34.0**	**0.0**
TWA				S	**Sb**	**00 36 50.1**	**-0.1**
WUSB	**Renai**	**1.32**	**268**	P	**Pn**	**00 36 33.6**	**0.0**
WUSB				S	**Sb**	**00 36 51.6**	**+0.4**
YULB	**Yu-li**	**1.33**	**241**	*e*P	**Pn**	**00 36 33.3**	**-0.3**
JKRS	**Kuro-shima**	**1.33**	**82**	P	**Pb**	**00 36 34.9**	**+0.7**
EYUL	**Yuli**	**1.34**	**239**	*e*P	**Pb**	**00 36 36.0**	**+1.2**
CHKH	**Chenggong**	**1.37**	**232**	*e*P	**Pb**	**00 36 35.2**	**-0.2**
YM01	**YM01**	**1.42**	**321**	*e*P	**Pb**	**00 36 35.9**	**-0.4**
FULB	**Fuli**	**1.44**	**234**	*e*P	**Pn**	**00 36 34.4**	**-0.7**
NFF	**Wufeng Townshi**	**1.44**	**294**	P	**Pb**	**00 36 37.1**	**+0.5**
NFF				*e*S	**Sb**	**00 36 56.5**	**+1.9**
ZUZH	**Zhuzihu**	**1.45**	**320**	*e*P	**Pb**	**00 36 36.4**	**-0.3**
KSHI	**Guanxi Townshi**	**1.46**	**300**	*e*P	**Pb**	**00 36 37.1**	**+0.2**
JIJ	**Ishigaki jima**	**1.48**	**77**	P	**Pn**	**00 36 36.2**	**+0.6**
JIJ				S	**Sn**	**00 36 54.7**	**+0.5**
SSLB	**Suanglung**	**1.49**	**260**	*e*P	**Pn**	**00 36 36.0**	**+0.1**
WHP	**Taichung City**	**1.49**	**279**	*e*P	**Pb**	**00 36 37.9**	**+0.3**
WCS	**Beigang Elemen**	**1.51**	**271**	*e*P	**Pn**	**00 36 36.4**	**+0.4**
SMLT	**Sun Moon Lake**	**1.53**	**264**	*e*P	**Pb**	**00 36 38.4**	**+0.1**
LIOB	**Emei**	**1.53**	**293**	*e*P	**Pb**	**00 36 38.2**	**0.0**
NSTT	**Nanjuang**	**1.54**	**293**	*e*P	**Pb**	**00 36 38.4**	**+0.1**
TYC	**Yuchr**	**1.57**	**265**	*e*P	**Pb**	**00 36 39.4**	**+0.6**
EDH	**Donghe**	**1.57**	**227**	*e*P	**Pn**	**00 36 36.1**	**-0.8**
WHYT	**Xinyi Township**	**1.60**	**258**	*e*P	**Pb**	**00 36 38.4**	**-1.0**
ELDTW	**Lidau**	**1.66**	**239**	*e*P	**Pn**	**00 36 37.8**	**-0.3**
JISG	**Ishigakijimahi**	**1.68**	**71**	P	**Pn**	**00 36 38.8**	**+0.4**
JISG				S	**Sn**	**00 36 59.6**	**+0.4**
ALS	**Alishan**	**1.70**	**252**	*e*P	**Pn**	**00 36 39.8**	**+1.0**
ALS				*e*S	**Sn**	**00 37 00.5**	**+0.5**
LDUT	**Ludao**	**1.70**	**217**	*e*P	**Pn**	**00 36 37.4**	**-1.1**
WNT	**Mingjian**	**1.73**	**265**	P	**Pb**	**00 36 41.1**	**-0.4**
WNT				*e*S	**Sb**	**00 37 03.1**	**+0.3**
TWGBT	**Beinan**	**1.83**	**228**	*e*P	**Pn**	**00 36 41.1**	**+0.7**
TWG	**Pinlang**	**1.83**	**229**	*e*P	**Pn**	**00 36 40.8**	**+0.4**
WDLH	**Douliu**	**1.89**	**260**	*e*P	**Pb**	**00 36 43.0**	**-1.2**
TPUB	**Ta-pu**	**1.92**	**248**	*e*P	**Pn**	**00 36 43.2**	**+1.5**
TPUB				*e*S	**Sb**	**00 37 07.5**	**-0.9**
CHN4	**Tsaushan**	**1.93**	**249**	*e*P	**Pb**	**00 36 43.7**	**-1.3**
CHN4				*e*S	**Sb**	**00 37 08.3**	**-0.4**
SLGT	**Liugui**	**2.05**	**240**	*e*P	**Pb**	**00 36 46.3**	**-0.7**
SLGT				*e*S	**Sb**	**00 37 11.6**	**-0.4**
CHN1	**Nanshi**	**2.05**	**246**	*e*P	**Pb**	**00 36 45.6**	**-1.5**
CHN1				*e*S	**Sb**	**00 37 11.5**	**-0.7**
TWK	**Hsinying**	**2.05**	**248**	*e*P	**Pn**	**00 36 45.3**	**+1.7**
TWK				*e*S	**Sb**	**00 37 12.0**	**-0.3**
SGST	**Jiashian**	**2.06**	**243**	*e*P	**Pn**	**00 36 45.1**	**+1.6**
MASBT	**Mashibuluo**	**2.28**	**232**	*e*P	**Pn**	**00 36 47.4**	**+0.8**
WDGT	**Dungji**	**2.77**	**254**	*e*P	**Pn**	**00 36 55.1**	**+1.7**
PHUB	**P'eng-hu**	**2.79**	**260**	*e*P	**Pn**	**00 36 54.7**	**+1.1**
VWUC	**VWUC**	**2.99**	**289**	*e*P	**Pn**	**00 36 55.8**	**-0.6**

IDC 04 00:58:41.9±27.0, 17°47S×179°40W, h581km±244km, mb3.4/4, mbtmp4.4/4, Error ellipse: s-maj=197.4km s-min=89.1km az=72.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 2.6nm,0.3s,baz=104,slow=12,SNR=7.8	**38.01**	**240**	P	P	01 05 11.8	+0.3
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=95,slow=7.8,SNR=47	**43.78**	**259**	P	P	01 05 56.7	-0.7
WRA				PcP	PcP	01 07 30.3	-0.7
ASAR	**Alice Springs** 0.6nm,0.8s,baz=96,slow=3.5,SNR=3.1	**44.00**	**254**	P	P	01 05 59.0	-0.1
ASAR				PcP	PcP	01 07 31.2	-0.5
FITZ	**Fitzroy Crossi** 0.7nm,0.3s	**52.16**	**260**	P	P	01 06 59.9	+0.1
MMAI	**Mount Meron Ar** 1.4nm,0.4s,baz=103,slow=8.1,SNR=15 1.2nm,0.6s,baz=65,slow=7.8,SNR=4.4	**145.11**	**303**	PKPbc	PKPdf	01 17 14.7	+0.4

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*ATH **04** 00:59:35.9, 37°62N×20°47E, h10km±2km, ML3.4/12, Error ellipse: s-maj=3.1km s-min=1.2km az=39.0*
*THE **04** 00:59:36.4, 37°64N×20°49E, h2km±36km, ML3.3/9, Error ellipse: s-maj=36.3km s-min=0.8km az=80.0*
*IDC **04** 00:59:43.6±14.0, 38°43N×21°41E, h0km, mb3.6/5, mbtmp3.7/5, MS3.0/1, Error ellipse: s-maj=270.8km s-min=43.7km az=41.0*
ISC 04 00:59:37.4±1.3, 37°71N±0°05×20°57E±0°06, h12km±6km, n36, σ0°89/49, mb3.8/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.20**	**103**	P	**Pg**	**00 59 41.5**	**-0.2**
KRI1				S	**Sg**	**00 59 45.0**	**+0.3**
LTHK	**Lithakia** 14μm,0.5s	**0.21**	**89**	P	**Pg**	**00 59 41.7**	**-0.2**
LTHK				S	**Sg**	**00 59 45.7**	**+0.7**
LTHK	**Lithakia** 16μm,0.5s	**0.21**	**89**	P	**Pg**	**00 59 41.5**	**-0.4**
LTHK				S	**Sg**	**00 59 45.8**	**+0.9**
LTHK	comp=N,24972μm,0.4s			AML	AML	00 59 50.0	
LTHK	comp=E,38094μm,0.6s			AML	AML	00 59 51.9	
RTZL	**Ratzakli, Kefa**	**0.40**	**23**	P	**Pg**	**00 59 45.5**	**+0.1**
RTZL				S	**Sb**	**00 59 52.7**	**+0.1**
PSDA	**Pessada-Kefalo** comp=E,8μm,0.5s	**0.41**	**1**	P	**Pg**	**00 59 45.6**	**+0.1**
PSDA				S	**Sb**	**00 59 52.8**	**+0.1**
PSDA	**Pessada-Kefalo** comp=E,4μm,0.5s	**0.41**	**1**	P	**Pg**	**00 59 45.5**	**0.0**
PSDA				S	**Sb**	**00 59 52.4**	**-0.4**
VLS	**Valsamata** comp=E,4μm,0.5s	**0.47**	**2**	P	**Pg**	**00 59 46.6**	**-0.1**
VLS				S	**Sb**	**00 59 54.8**	**+0.2**
VLS	**Valsamata**	**0.47**	**2**	P	**Pg**	**00 59 46.4**	**-0.3**
VLS				S	**Sb**	**00 59 54.8**	**+0.2**
VLS	comp=N,9415μm,0.6s			AML	AML	00 59 59.6	
VLS	comp=E,6528μm,0.6s			AML	AML	01 00 01.4	
LXRA	**Lixouri, Kepha**	**0.50**	**348**	P	**Pg**	**00 59 47.5**	**+0.2**
SMHA	**Samh**	**0.55**	**6**	P	**Pg**	**00 59 47.4**	**-0.7**
SMHA				S	**Sb**	**00 59 57.0**	**+0.2**
DMLN	**Damoulianata-K**	**0.55**	**344**	P	**Pg**	**00 59 48.1**	**-0.2**
FSK	**Fiskardo**	**0.75**	**359**	P	**Pg**	**00 59 51.3**	**-0.7**
FSK				AML	AML	01 00 12.3	
FSK	comp=N,4084μm,0.7s			AML	AML	01 00 13.0	
RLS	**Riolos of Patr** comp=E,4325μm,0.9s	**0.79**	**63**	P	**Pb**	**00 59 52.4**	**-0.7**
RLS				S	**Sn**	**01 00 05.0**	**-1.1**
RLS	**Riolos of Patr** comp=E,2μm,0.7s	**0.79**	**63**	P	**Pb**	**00 59 52.4**	**-0.7**
RLS				S	**Sn**	**01 00 05.1**	**-1.0**
RLS	comp=E,4217μm,0.6s			AML	AML	01 00 06.4	
RLS	comp=N,3433μm,0.9s			AML	AML	01 00 09.8	
EVGI	**Lefkada island**	**0.91**	**4**	P	**Pb**	**00 59 54.5**	**-0.7**
AMT	**Artemida-Makis**	**0.92**	**101**	P	**Pb**	**00 59 54.6**	**-0.8**
AMT	comp=E,11993μm,0.6s			AML	AML	01 00 18.4	
AMT	comp=N,9951μm,0.5s			AML	AML	01 00 20.2	
DRO	**Drossia** comp=N,2μm,0.5s	**0.93**	**74**	P	**Pb**	**00 59 54.6**	**-1.0**
DRO				S	**Sn**	**01 00 10.6**	**+0.9**
DRO	**Drossia** comp=E,4852μm,0.4s	**0.93**	**74**	P	**Pb**	**00 59 55.0**	**-0.6**
DRO				AML	AML	01 00 15.8	
DRO	comp=N,4051μm,0.5s			AML	AML	01 00 19.3	
DRAG	**Dragano-Lefkad**	**0.97**	**0**	P	**Pb**	**00 59 55.4**	**-0.9**
NYDR	**Nydri-Lefkada**	**1.01**	**6**	P	**Pb**	**00 59 56.0**	**-0.8**
TSLK	**Tsoukalades, L**	**1.12**	**3**	P	**Pb**	**00 59 57.7**	**-1.0**
ITM	**Ithomi** comp=N,968nm,0.9s	**1.20**	**116**	P	**Pn**	**00 59 58.4**	**-1.7**
ITM				S	**Sg**	**01 00 18.5**	**+2.4**
ITM	**Ithomi**	**1.20**	**116**	P	**Pn**	**00 59 59.0**	**-1.0**
ITM	comp=E,1662μm,0.8s			AML	AML	01 00 26.4	
ITM	comp=N,2214μm,1.0s			AML	AML	01 00 28.4	
PYL	**PYLOS**	**1.24**	**131**	P	**Pn**	**00 59 59.3**	**-1.2**
PYL				S	**Sg**	**01 00 18.3**	**+1.1**
PYL	**PYLOS** comp=N,895nm,0.7s	**1.24**	**131**	P	**Pn**	**00 59 58.9**	**-1.7**
PYL				AML	AML	01 00 22.9	
PYL	comp=N,1708μm,0.8s			AML	AML	01 00 23.1	
EFP	**Efpalio** comp=E,2019μm,0.6s	**1.27**	**55**	P	**Pb**	**01 00 01.0**	**-0.4**
EFP				AML	AML	01 00 30.1	
EFP	comp=E,1717μm,0.6s			AML	AML	01 00 30.6	
KLV	**Kalavryta, Ach** comp=N,1643μm,0.8s	**1.29**	**74**	P	**Pn**	**00 59 59.6**	**-1.8**
ANX	**Ano Chora**	**1.38**	**50**	P	**Pb**	**01 00 02.4**	**-0.8**
ANX	comp=N,5010μm,0.7s			AML	AML	01 00 33.0	
ANX	comp=E,3487μm,0.5s			AML	AML	01 00 35.1	
KALE	**Kalithea**	**1.41**	**61**	P	**Pn**	**01 00 02.8**	**-0.3**
KALE	comp=E,1644μm,0.6s			AML	AML	01 00 35.6	
KALE	comp=N,1371μm,0.5s			AML	AML	01 00 39.6	
GUR	**Goura** comp=N,3124μm,0.5s	**1.42**	**80**	P	**Pn**	**01 00 02.2**	**-1.0**
GUR				AML	AML	01 00 37.4	
GUR	comp=E,3277μm,0.5s			AML	AML	01 00 39.9	
EIL	**Elat** comp=E,51nm,18.4s,baz=262,slow=48	**14.39**	**120**	LR	LR	01 11 02.9	
HFS	**Hagfors** comp=E,4.5nm,0.9s,baz=152,slow=12,SNR=3.2	**22.87**	**351**	P	**P**	**01 04 41.9**	**+1.4**
FINES	**FINESS Array B** comp=E,4.5nm,0.9s	**24.01**	**7**	P	**P**	**01 04 52.0**	**+0.2**
MKAR	**Makanchi Array** comp=E,3.4nm,1.1s,baz=169,slow=9.9,SNR=5.2 comp=E,3.4nm,1.1s	**45.51**	**58**	P	**P**	**01 07 57.5**	**+0.8**
ZALV	**Zalesovo Beam** comp=E,0.2nm,0.4s,baz=275,slow=7.6,SNR=5.0 comp=E,0.2nm,0.4s	**45.98**	**48**	P	**P**	**01 08 00.2**	**0.0**
SONM	**Songino Array** comp=E,0.6nm,0.5s,baz=284,slow=7.5,SNR=4.0 comp=E,0.6nm,0.5s	**60.73**	**50**	P	**P**	**01 09 50.0**	**+1.1**
	comp=E,0.2nm,0.3s,baz=278,slow=7.0,SNR=2.2 comp=E,0.2nm,0.3s						

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*TIR **04** 01:05:56.3, 37°42N×20°23E, h5km±3km, Md3.9, Ml3.9*
*IDC **04** 01:05:58.6±1.0, 37°62N×20°95E, h0km, mb3.4/10, mbtmp3.5/13, ML1.1/2, MS3.3/2, Error ellipse: s-maj=22.6km s-min=17.4km az=172.0*
*ATH **04** 01:05:59.5, 37°55N×20°62E, h11km±1km, ML3.7/35, Manual Solution by G.Panopoulou This location: 2020/08/17 16:13:14 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **04** 01:06:00.7, 37°59N×20°66E, h0km±2km, ML3.6/17, Error ellipse: s-maj=2.3km s-min=0.5km az=227.0*
ISC 04 01:06:00.4±0.9, 37°60N±0°03×20°67E±0°02, h11km±5km, n125, σ1°45/165, mb3.4/11, 7C-3D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.13**	**60**	P	**Pg**	**01 06 03.7**	**+0.1**
KRI1				S	**Sg**	**01 06 05.6**	**-0.4**
KRI1	**kERI** 79μm,0.6s	**0.13**	**60**	P	**Pg**	**01 06 03.8**	**+0.1**
KRI1				S	**Sg**	**01 06 05.8**	**-0.2**
LTHK	**Lithakia**	**0.17**	**49**	P	**Pg**	**01 06 04.4**	**+0.2**
LTHK				S	**Sg**	**01 06 06.8**	**-0.2**
LTHK	**Lithakia** 128μm,0.2s	**0.17**	**49**	P	**Pg**	**01 06 04.5**	**+0.2**
LTHK				S	**Sg**	**01 06 07.1**	**+0.1**
RTZL	**Ratzakli, Kefa**	**0.49**	**9**	P	**Pb**	**01 06 10.1**	**-0.9**
RTZL				S	**Sb**	**01 06 17.4**	**-0.7**
PSDA	**Pessada-Kefalo** 18μm,0.4s	**0.52**	**352**	P	**Pb**	**01 06 10.8**	**-0.8**
PSDA				S	**Sb**	**01 06 18.8**	**-0.3**
PSDA	**Pessada-Kefalo** 16μm,0.5s	**0.52**	**352**	P	**Pb**	**01 06 10.9**	**-0.6**
VLS	**Valsamata**	**0.58**	**353**	P	**Pb**	**01 06 11.6**	**-1.1**
VLS				S	**Sb**	**01 06 20.6**	**-0.4**
VLS	**Valsamata** 9μm,0.4s	**0.58**	**353**	P	**Pb**	**01 06 11.8**	**-0.9**
VLS				S	**Sb**	**01 06 20.8**	**-0.2**
ARG2	**Argostoli**	**0.60**	**346**	P	**Pb**	**01 06 12.2**	**-0.7**
ARG2				S	**Sb**	**01 06 20.1**	**-1.3**
LXR1	**Lixouri, Cepha**	**0.63**	**343**	P	**Pb**	**01 06 13.0**	**-0.5**
LXR1				S	**Sb**	**01 06 22.7**	**+0.4**
LXRA	**Lixouri, Kepha** 23μm,0.5s	**0.63**	**343**	P	**Pb**	**01 06 12.7**	**-0.7**
LXRA				S	**Sb**	**01 06 21.3**	**-1.0**
SMHA	**Samh**	**0.66**	**358**	P	**Pg**	**01 06 12.5**	**-0.7**
SMHA				S	**Sb**	**01 06 22.9**	**0.0**
DMLN	**Damoulianata-K**	**0.69**	**340**	P	**Pb**	**01 06 13.6**	**-0.8**
DMLN				S	**Sb**	**01 06 24.3**	**+0.5**
DMLN	**Damoulianata-K** 9μm,0.5s	**0.69**	**340**	P	**Pb**	**01 06 13.6**	**-0.8**
DMLN				S	**Sb**	**01 06 23.9**	**+0.1**
RLS	**Riolos of Patr**	**0.78**	**53**	P	**Pg**	**01 06 15.1**	**-0.4**
RLS				S	**Sb**	**01 06 26.5**	**0.0**
RLS	**Riolos of Patr** 2μm,0.4s	**0.78**	**53**	P	**Pb**	**01 06 15.6**	**-0.3**
RLS				S	**Sb**	**01 06 26.6**	**0.0**
ZARO	**Zacharo**	**0.78**	**98**	P	**Pb**	**01 06 16.2**	**+0.2**
VSK1	**VASILIKIADES**	**0.82**	**354**	P	**Pb**	**01 06 15.8**	**-0.8**
VSK1				S	**Sb**	**01 06 27.5**	**-0.1**
AXS	**Araxos** 9μm,0.5s	**0.82**	**43**	P	**Pb**	**01 06 16.1**	**-0.5**
AXS				S	**Sb**	**01 06 28.2**	**+0.6**
AMT	**Artemida-Makis**	**0.82**	**94**	P	**Pb**	**01 06 16.7**	**-0.1**
AMT				S	**Sb**	**01 06 28.5**	**+0.7**
FSK	**Fiskardo**	**0.87**	**354**	P	**Pg**	**01 06 16.4**	**-0.8**
FSK				S	**Sb**	**01 06 29.6**	**+0.5**
FSK	**Fiskardo** 6μm,0.6s	**0.87**	**354**	P	**Pg**	**01 06 16.6**	**-0.6**
FSK				S	**Sb**	**01 06 29.9**	**+0.9**
DRO	**Drossia**	**0.90**	**66**	P	**Pb**	**01 06 17.7**	**-0.3**
DRO				S	**Sn**	**01 06 32.2**	**+0.3**
DRO	**Drossia** 4μm,0.4s	**0.90**	**66**	P	**Pb**	**01 06 17.6**	**-0.3**
DRO				S	**Sb**	**01 06 30.9**	**+1.0**
EVGI	**Lefkada island**	**1.02**	**359**	P	**Pb**	**01 06 19.6**	**-0.5**
EVGI				S	**Sn**	**01 06 34.7**	**-0.3**
PATG	**Patra B**	**1.05**	**52**	P	**Pn**	**01 06 20.8**	**-0.2**
PATG				S	**Sn**	**01 06 36.3**	**+0.6**
PYL1	**Pylos**	**1.06**	**130**	P	**Pb**	**01 06 20.4**	**-0.4**
PDO	**Prodromos**	**1.08**	**22**	P	**Pb**	**01 06 20.6**	**-0.5**
PDO				S	**Sb**	**01 06 35.7**	**+0.5**
ITM	**Ithomi**	**1.08**	**112**	P	**Pn**	**01 06 21.4**	**-0.1**
ITM				S	**Sn**	**01 06 36.8**	**+0.4**
ITM	**Ithomi** 2μm,0.4s	**1.08**	**112**	P	**Pg**	**01 06 20.5**	**-0.7**
ITM				S	**Sg**	**01 06 34.5**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.09**	**356**	P	**Pg**	**01 06 20.6**	**-0.8**
PATC	**Patra C**	**1.09**	**52**	P	**Pn**	**01 06 21.4**	**-0.1**
PYL	**PYLOS**	**1.10**	**129**	P	**Pn**	**01 06 21.5**	**-0.2**
PYL				S	**Sn**	**01 06 38.2**	**+1.3**
PYL	**PYLOS** 2μm,0.5s	**1.10**	**129**	P	**Pg**	**01 06 20.8**	**-0.9**
PYL				S	**Sb**	**01 06 36.0**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.12**	**1**	P	**Pg**	**01 06 20.9**	**-1.0**
NYDR				S	**Sn**	**01 06 37.3**	**0.0**
UPR	**University Cam**	**1.12**	**52**	P	**Pn**	**01 06 22.2**	**+0.2**
MTHA	**Methoni**	**1.13**	**133**	P	**Pn**	**01 06 22.1**	**-0.1**
LKD2	**Lefkada island**	**1

LSK	Leskovik	2.55	359	P	Pn	01 06 43.4	+1.6
LSK				S	Sg	01 07 21.1	-1.3
LSK				AMP			
comp=E,2.1nm,0.8s,baz=5.0							
PTL	Penteli	2.57	79	P	Pn	01 06 43.3	+1.3
DION	Dionisos Attik	2.62	78	P	Pn	01 06 43.8	+1.1
NEO	Neokhori	2.63	49	P	Pn	01 06 43.7	+0.9
NEST	Nestorio	2.83	6	P	Pb	01 06 49.9	-1.1
SCTE	Santa Cesarea	3.01	326	P	Pn	01 06 48.5	+0.5
SCTE				S	Sb	01 07 28.2	-2.7
FNA	Florina	3.23	10	P	Pn	01 06 53.7	+2.7
TIP	Timpagrande	3.46	298	⇓P	Pn	01 06 55.9	+1.6
OHR	Ohrid	3.51	2	i Pn	Pb	01 06 59.3	-3.3
OUR	Ouranopolis	3.76	42	P	Pn	01 06 58.6	+0.4
TIR	Tirane	3.80	351	⇑P	Pn	01 07 02.2	+3.3
IDI	Anoyia	4.11	123	Pn	Pn	01 07 01.3	-1.9
comp=E,0.4nm,0.3s,baz=302,slow=5.0,SNR=1.8							
IDI				Sn	Sn	01 07 50.0	-1.1
comp=E,1.6nm,0.3s,baz=263,slow=17,SNR=3.5							
comp=E,12nm,1.1s							
KOKK	Kokkinochori,	4.13	38	P	Pn	01 07 04.7	+1.4
MATE	Matera	4.34	316	⇓P	Pg	01 07 26.3	+2.8
PDG	Podgorica	4.95	348	ePn	Pn	01 07 14.5	-0.1
PDG	Podgorica	4.95	348	⇑P	Pn	01 07 14.0	-0.7
VAE	Valguarnera	4.98	271	Pn	Pn	01 07 19.4	+4.3
comp=E,0.5nm,0.3s,baz=116,slow=14,SNR=1.3							
VAE				Sn	Sn	01 08 13.5	+0.9
comp=E,2.1nm,0.3s,baz=35,slow=18,SNR=1.9							
comp=E,6.2nm,0.6s							
HCY	Herceg Novi	5.13	342	ePn	Pn	01 07 14.6	-2.5
TREB	Trebinje	5.42	342	ePn	Pn	01 07 20.4	-0.7
BRY	Bratogost	5.55	344	ePn	Pn	01 07 17.4	-5.6
SJES	Sjenica	5.69	355	ePn	Pn	01 07 25.0	+0.1
STON	Ston	5.74	338	ePn	Pn	01 07 24.6	-0.9
RUDO	Rudo	6.10	351	ePn	Pn	01 07 31.8	+1.4
BBLS	Lazi&#263i	6.34	352	ePn	Pn	01 07 37.2	+3.4
HAPS	Han Pijesak,BI	6.61	349	ePn	Pn	01 07 35.0	-2.6
TEKS	Tekeris	7.00	353	ePn	Pn	01 07 39.5	-3.3
HERR	Herculane	7.40	10	⇑P	Pn	01 07 52.8	+4.5
A050A	Klekovaca	7.56	337	ePn	Pn	01 07 50.1	-0.4
FRGS	Fruska Gora	7.58	355	ePn	Pn	01 07 45.7	-5.1
BLY	Banja Luka	7.62	341	ePn	Pn	01 07 52.8	+1.6
A051A	Mrakovica	7.93	340	ePn	Pn	01 07 53.6	-2.1
GZR	Gura Zlata	7.95	11	⇑P	Pn	01 08 00.4	+4.5
VOIR		8.49	21	⇑P	Pn	01 08 05.8	+2.4
MLR	Muntele Rosu	8.82	25	Pn	Pn	01 08 13.1	+5.3
MLR	Muntele Rosu	8.82	25	⇑P	Pn	01 08 13.3	+5.4
PLOR	Plostina	9.38	27	⇓P	Pn	01 08 17.5	+2.1
CEY	Cerknica	9.38	332	ePn	Pn	01 08 14.2	-1.3
VRI	Vrincioaia	9.42	27	⇑P	Pn	01 08 20.3	+4.4
SOKA	Soboth	9.99	337	ePn	Pn	01 08 23.6	-0.3
comp=E,0.8nm,0.4s							
OBKA	Obir	10.00	335	ePn	Pn	01 08 25.7	+1.6
comp=E,2.6nm,0.4s							
OBKA	Obir	10.00	335	ePn	Pn	01 08 26.1	+2.1
KBA	Koelnbreinsper	10.91	333	ePn	Pn	01 08 39.2	+2.6
comp=E,0.3nm,0.3s							
MOA	Molln	11.27	337	ePn	Pn	01 08 43.0	+1.6
comp=E,0.6nm,0.2s							
BIOA	Bad Ischl, Aus	11.34	335	ePn	Pn	01 08 44.5	+2.3
comp=E,0.9nm,0.3s							
LESA	Schwarzleotal	11.45	332	ePn	Pn	01 08 44.3	+0.4
comp=E,2.2nm,0.6s							
AKASG	Malin Array Be	14.45	22	Pn	P	01 09 30.8	-0.8
comp=E,0.7nm,0.3s,baz=211,slow=8.9,SNR=5.5							
ESDC	Sonseca Array	19.35	284	P	Pn	01 10 27.9	+1.0
comp=E,1.9nm,1.0s,baz=74,slow=12,SNR=8.9							
MDT	Midelt	21.18	265	P	P	01 10 48.7	+2.9
comp=E,1.3nm,0.9s,baz=43,slow=9.9,SNR=2.1							
comp=E,1.3nm,0.9s							
HFS	Hagfors	22.99	351	P	P	01 11 04.7	-0.2
comp=E,1.2nm,0.4s,baz=170,slow=9.9,SNR=8.6							
comp=E,1.2nm,0.4s							
EKA	Eskdalemuir Ar	23.97	325	P	P	01 11 15.9	+1.3
comp=E,1.4nm,0.8s,baz=118,slow=10,SNR=1.5							
comp=E,1.4nm,0.8s							
FINES	FINESS Array B	24.11	6	P	P	01 11 15.2	-0.6
comp=E,1.6nm,0.8s,baz=184,slow=9.6,SNR=5.6							
comp=E,1.6nm,0.8s							
NOA	NORSAR Array B	24.21	349	P	P	01 11 16.8	0.0
comp=E,0.6nm,0.8s,baz=153,slow=11,SNR=1.3							
NOA				LR	LR	01 22 08.2	
comp=E,58nm,20.0s,baz=250,slow=40							
comp=E,0.6nm,0.8s							
TORD	Torodi Ar. Bea	29.66	220	P	P	01 12 06.4	+0.3
comp=E,0.5nm,0.8s,baz=24,slow=9.8,SNR=3.0							
comp=E,0.5nm,0.8s							
BVAR	Borovoye Array	37.40	49	P	P	01 13 12.2	-0.9
comp=E,0.5nm,0.8s,baz=272,slow=5.2,SNR=1.9							
comp=E,0.5nm,0.8s							
MBAR	Mbarara	39.13	164	LR	LR	01 31 24.2	
comp=E,41nm,18.1s,baz=354,slow=39							
KURBB	Kurchatov Arra	42.48	53	P	P	01 13 53.5	-1.8
comp=E,0.2nm,0.6s,baz=277,slow=8.6,SNR=2.4							
comp=E,0.2nm,0.6s							
MKAR	Makanchi Array	45.51	58	P	P	01 14 17.7	-2.0
comp=E,0.2nm,0.5s,baz=287,slow=10,SNR=2.3							
comp=E,0.2nm,0.5s							
ZALV	Zalesovo Beam	45.99	48	P	P	01 14 21.0	-2.4
comp=E,0.3nm,0.4s,baz=277,slow=8.8,SNR=2.1							
comp=E,0.3nm,0.4s							
PETK	Petropavlovsk-	82.28	25	P	P	01 18 21.3	-0.4
comp=E,9.3nm,1.0s,baz=335,slow=6.4,SNR=3.9							

DJA 04 01:11:09.2±0.8, 8°S±6°×117°E±°, h19km±10km, M4.0/7, mB6.7/1, MLv4.0/7, Mw(mB)6.6/1, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	1.07	112	P	Pb	01 11 29.0	-0.2
SRBI	Singaraja	1.58	282	P	Pn	01 11 36.2	0.0
JAGI	Jajag, Banyuwa	2.59	269	P	Pn	01 11 50.1	0.0
TTSI	Tana Toraja	6.14	30	P	Pn	01 12 39.2	+0.2
MTKI	Muara Teweh, K	7.66	346	P	Pn	01 12 59.6	-0.3
SMKI	Samarinda	7.93	3	P	Pn	01 13 03.7	+0.1

*DJA **04** 01:18:04.2±0.3, 5°S±3°×113°1E±°, h10km, M4.7/13, mb5.0/2, mB5.0/2, MLv4.5/13, Mw(mB)4.3/2*
*NEIC **04** 01:18:06.9±1.1, 4°56S±0°08×130°75E±0°08, h85km±10km, mb4.4/13, Error ellipse: s-maj=16.9km s-min=2.7km az=134.0*
*IDC **04** 01:18:10.6±6.5, 4°70S×130°62E, h123km±57km, mb3.8/8, mbtmp4.4/10, MS2.9/2, Error ellipse: s-maj=52.6km s-min=15.6km az=62.0*

ISC 04 01:18:06.9±0.5, 4°64S±0°05×130°74E±0°05, h100km, n71, σ2°94/71, mb4.3/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	0.84	278	P	Pn	01 18 24.5	-1.2
BNDI	Bandanaira	0.84	278	P	Pn	01 18 24.4	-1.2
BNDI				S	Sn	01 18 35.0	-4.7
MSAI	Masohi	2.21	305	P	Pn	01 18 40.6	-1.7
FAKI	Fak Fak	2.28	42		Pn	01 18 41.8	-1.4
FAKI				Sn	Sn	01 19 07.8	-3.0
FAKI	Fak Fak	2.28	42	P	Pn	01 18 41.7	-1.4
FAKI	Fak Fak	2.28	42	P	Pn	01 18 41.7	-1.4
FAKI				S	Sn	01 19 07.9	-3.0
AAI	Ambon	2.70	290	P	Pn	01 18 48.1	-0.6
KMPI	Kaimana, Papua	3.12	72	P	Pn	01 18 53.7	-0.5
SAUI	Saumlaki	3.37	170	Pn	Pn	01 18 58.3	+0.6
SAUI	Saumlaki	3.37	170	P	Pn	01 18 58.3	+0.6
SAUI	Saumlaki	3.37	170	P	Pn	01 18 58.2	+0.5
SWI	Sorong	3.79	8	P	Pn	01 19 01.1	-2.2
NLAI	Namlea	3.88	291	P	Pn	01 19 06.6	+2.0
RKPI	Ransiki, Papua	4.63	48	P	Pn	01 19 13.6	-1.1
SANI	Sanana	5.39	298	P	Pn	01 19 22.7	-2.3
SANI	Sanana	5.39	298	P	Pn	01 19 21.9	-3.1
DRS	Darwin Rock St	7.75	179	P	Pn	01 19 55.9	-1.1
MTN	Manton Dam	8.16	177	Pn	Pn	01 20 01.1	-1.6
SOEI	Soe	8.19	231	Pn	Pn	01 20 04.9	+1.8
BATI	Baumata	8.93	231	P	Pn	01 20 15.6	+2.4
72nm,0.7s,baz=300,slow=0.7,SNR=6.8							
BATI				S	Sn	01 21 52.6	+0.5
12nm,0.3s,baz=119,slow=20,SNR=1.4							
BATI	Baumata	8.93	231	P	Pn	01 20 13.9	+0.7
KNRA	Kununurra	11.14	190	Pn	Pn	01 20 39.1	-4.0
FITZ	Fitzroy Crossi	14.28	200	Pn	Pn	01 21 20.0	-4.5
FITZ	Fitzroy Crossi	14.28	200	P	Pn	01 21 20.7	-3.8
2.1nm,0.3s,baz=36,slow=11,SNR=43							
FITZ				S	Sn	01 23 47.2	-15
4.2nm,0.3s,baz=311,slow=21,SNR=6.5							

WRA	Warramunga Arr	15.61	167		Pn	01 21 36.4	-5.1
WRA	Warramunga Arr	15.61	167	P	Pn	01 21 37.1	-4.4
1.2nm,0.3s,baz=335,slow=14,SNR=24							
WRA				S	Sn	01 24 21.0	-13
2.3nm,0.5s,baz=332,slow=22,SNR=8.2							
WR0	Warramunga Arr	15.67	167	Pn	Pn	01 21 37.9	-4.3
QIS	Mount Isa	18.02	152	P	P	01 22 11.1	+0.9
AS31	Alice Springs	19.16	171		P	01 22 24.1	+1.4
AS31				IAmb	IAmb	01 22 25.1	
comp=Z,8.8nm,0.5s							
ASAR	Alice Springs	19.16	171		P	01 22 23.8	+1.1
ASAR	Alice Springs	19.16	171	P	P	01 22 24.3	+1.6
comp=Z,14nm,0.4s,baz=351,slow=10,SNR=246							
ASAR				S	S	01 25 45.9	-8.8
comp=Z,1.4nm,0.7s,baz=356,slow=25,SNR=6.0							
AS01	Alice Springs	19.17	171	P	P	01 22 23.9	+1.2
MBWA	Marble Bar	19.59	212	P	P	01 22 27.4	+0.1
comp=Z,7.4nm,2.6s							
PSA00	Pilbara Seismi	19.87	211	P	P	01 22 29.8	-0.6
PSA00				IAmb	IAmb	01 22 45.6	
comp=Z,16nm,1.1s							
PSA00	Pilbara Seismi	19.87	211	P	P	01 22 30.3	-0.1
WRKA	Warakurna	20.42	186	P	P	01 22 36.7	+0.5
KSM	Kuching	21.29	286	P	P	01 22 44.9	-0.8
OOD	Oodnadatta	23.51	169	P	P	01 23 08.7	+0.7
MEEK	Meekatharra	24.76	207	P	P	01 23 18.8	-0.6
MULG	Mulgathing	25.70	173	P	P	01 23 29.0	+1.2
LCRK	Leigh Creek	26.62	165	P	P	01 23 37.7	+1.5
KMBL	Kambalda	27.86	196	P	P	01 23 47.5	+0.3
STKA	Stephens Creek	28.95	161	P	P	01 23 58.0	+1.1
comp=Z,1.0nm,0.3s,baz=314,slow=12,SNR=4.9							
comp=Z,1.0nm,0.3s							
KLBR	Kellerberrin	29.45	203	P	P	01 24 01.3	-0.1
BKNI	Bangkinang	30.07	279	P	P	01 24 06.2	-0.9
comp=Z,243nm,0.5s							
NWAO	Narrogin (SRO)	30.84	203	LR	LR	01 36 40.5	
comp=Z,41nm,21.1s,baz=268,slow=36							
CMAR	Chiang Mai Arr	38.84	307	P	P	01 25 23.6	+1.0
comp=Z,1.6nm,0.3s,baz=142,slow=7.8,SNR=18							
comp=Z,1.6nm,0.3s							
CHTO	Chiang Mai	39.03	308	P	P	01 25 24.2	0.0
CHTO				IAmb	IAmb	01 25 25.9	
comp=Z,6.1nm,0.8s							
PZH	PanZhiHua	41.79	319	P	P	01 25 48.7	+1.8
PZH				pmax	pmax		
comp=Z,7.0nm,1.0s							
PZH				pmax	pmax		
comp=Z,100nm,4.7s							
KSRS	Korea Array	41.96	357	LR	LR	01 41 55.6	
comp=Z,9.5nm,21.6s,baz=350,slow=34							
HHC	Hu-ho-hao-te	48.56	341	eP	P	01 26 42.5	+2.3
HHC				pmax	pmax		
comp=Z,12nm,0.5s							
HHC				pmax	pmax		
comp=Z,120nm,6.7s							
SONM	Songino Array	56.46	341	P	P	01 27 40.0	+1.5
comp=Z,0.3nm,0.4s,baz=76,slow=10,SNR=2.3							
comp=Z,0.3nm,0.4s							
MK31	Makanchi Array	66.68	326	P	P	01 28 47.8	+0.7
MK31				IAmb	IAmb	01 28 49.2	
comp=Z,3.1nm,0.8s							
MKAR	Makanchi Array	66.68	326	P	P	01 28 48.4	+1.2
comp=Z,4.1nm,0.7s,baz=124,slow=8.0,SNR=40							
comp=Z,4.1nm,0.7s							
ZAA0	Zalesovo Array	69.81	333	P	P	01 29 06.7	+0.2
ZAA0				IAmb	IAmb	01 29 07.7	
comp=Z,2.8nm,0.9s							
ZALV	Zalesovo Beam	69.81	333	P	P	01 29 07.3	+0.8
ZALV	Zalesovo Beam	69.81	333	P	P	01 29 07.1	+0.6
comp=Z,1.8nm,0.6s,baz=113,slow=4.6,SNR=10							
comp=Z,1.8nm,0.6s							
KURBB	Kurchatov Arra	70.90	328	P	P	01 29 14.2	+1.1
comp=Z,4.4nm,0.8s,baz=129,slow=5.4,SNR=48							
comp=Z,4.4nm,0.8s							
KURK	Kurchatov	70.91	328	P	P	01 29 14.2	+1.0
KURK				IAmb	IAmb	01 29 15.2	
comp=Z,5.0nm,0.8s							
KKAR	Karatay Array	72.07	318	P	P	01 29 21.1	+0.7
BVAR	Borovoye Array	76.47	327	P	P	01 29 46.6	+0.8
comp=Z,1.7nm,0.7s,baz=120,slow=8.8,SNR=12							
comp=Z,1.7nm,0.7s							
ABKAR	Akbulak array	81.13	321	P	P	01 30 11.3	0.0
ABKAR	Akbulak array	81.13	321	P	P	01 30 11.9	+0.6
ABKAR				IAmb	IAmb	01 30 38.8	
comp=Z,1.2nm,0.8s							
QSPA	South Pole Qui	85.32	180	P	P	01 30 32.9	+0.2
comp=Z,1.1nm,0.9s,baz=320,slow=7.9,SNR=2.5							
comp=Z,1.1nm,0.9s							
OHAK	Old Harbor	86.33	32	P	P	01 30 39.3	+1.7
J18K	Innoko River	86.42	25	P	P	01 30 39.6	+1.7
RAYN	Ar Rayn	87.47	294	P	P	01 30 45.2	+1.2
RAYN				IAmb	IAmb	01 30 45.6	
comp=Z,4.0nm,0.8s							
BMAR	Burnt Mountain	92.20	23	P	P	01 31 07.2	+2.1
BCAR	Beaver Creek A	92.95	27	P	P	01 31 10.3	+1.6
TORD	Torodi Ar. Bea	129.03	283	PKP	PKiKP	01 37 05.0	+0.1
comp=Z,0.6nm,0.7s,baz=43,slow=1.9,SNR=3.9							
LPAZ	La Paz	152.06	138	PKPbc	PKiKP	01 37 53.8	+1.0
comp=Z,0.7nm,0.3s,baz=331,slow=1.7,SNR=5.0							

*KRSC **04** 01:52:39.7±0.7, 54°17N×159°92E, h4km±6km, Ml4.0*
*IDC **04** 01:52:39.0±0.8, 54°23N×159°86E, h0km, mb3.6/11, mbtmp3.6/11, MS3.1/3, Error ellipse: s-maj=25.1km s-min=15.0km az=146.0*

ISC 04 01:52:39.4±1.2, 54°20N±0°03×159°88E±0°06, h1km±9km, n59, σ0°75/69, mb3.7/11, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	Karymskiy	0.30	237	eP	Pb	01 52 46.7	-0.9
TUMD	Tumrok D	1.05	17	eP	Pg	01 52 59.5	0.0
TUMD				eS	Sb	01 53 14.7	+0.2
NLC	Nalytchevo	1.08	197	eP	Pg	01 52 59.8	-0.3
TUMR	Tumrok	1.09	8	eP	Pb	01 53 01.0	-0.1
TUMR				eS	Sn	01 53 18.1	+0.4
SDLR	Sedlovina	1.10	213	eP	Pg	01 53 00.6	+0.3
SDLR				eS	Sb	01 53 16.6	+0.7
KRX	Arik	1.11	221	eP	Pg	01 53 00.7	-0.1
KRX				eS	Sb	01 53 16.1	-0.4
KRER	Koryakskii	1.12	217	eP	Pb	01 53 01.5	-0.1
KRER				eS	Sb	01 53 16.9	+0.1
SMAR	Somma	1.14	215	eP	Pg	01 53 01.5	+0.3
SMAR				eS	Sb	01 53 17.4	+0.2
AVH	Avacha	1.16	216	eP	Pb	01 53 02.1	-0.1
AVH				eS	Sb	01 53 18.0	+0.4
KOK	Koryaka	1.17	219	eP	Pg	01 53 01.8	0.0
UGLR	Uglovaya	1.18	213	eP	Pg	01 53 02.1	+0.2
GNL	Ganaly	1.25	247	eP	Pg	01 53 02.9	-0.5
DALK	Dalny	1.35	210	eP	Pn	01 53 04.3	-1.0
DALK				eS	Sg	01 53 22.6	-0.1
PET	Petropavlovsk	1.39	212	eP	Pn	01 53 05.3	-0.5
PET				eS	Sb	01 53 24.4	+0.2
KMNR	Kamenistaya	1.57	7	eP	Pb	01 53 09.1	-0.2
PETK	Petropavlovsk-	1.70	231	Pn	Pn	01 53 09.8	-0.2
18nm,0.3s,baz=66,slow=20,SNR=114							
PETK				Sn	Sg	01 53 34.5	+0.7
28nm,0.3s,baz=2.5,slow=13,SNR=3.3							
PETK				LR	LR	01 54 07.5	
comp=Z,187nm,20.1s,baz=43,slow=52							
KRMR	Karymshinskiy	1.73	218	eP	Pn	01 53 09.9	-0.5
KRMR				eS	Sb	01 53 34.1	+0.2
BZP	Bezymyannyi-Pe	1.76	12	eP	Pb	01 53 11.7	-0.8
BZMR	Bezymyannaya	1.77	11	eP	Pb	01 53 12.2	-0.5
KIRR	Kirishev	1.77	8	eP	Pn	01 53 11.6	+0.3
KIRR				eS	Sg	01 53 37.1	+0.7
KPT	Kopyto	1.78	6	eP	Pb	01 53 12.0	-0.8
BZWR	Bezymyannyi-We	1.80	11	eP	Pb	01 53 12.4	-0.8
BZGR	Bezymyannyi-Gr	1.81	15	eP	Pb	01 53 12.8	-0.4
ESO	Esso	1.85	339	eP	Pn	01 53 12.9	+0.7
ESO				eS	Sb	01 53 37.4	-0.3
KOZ	Kozyrevsk	1.86	360	eP	Pg	01 53 14.7	-0.3
KOZ				eS	Sg	01 53 40.4	+1.3
ZLN	Zelenaya	1.90	16	eP	Pb	01 53 14.1	-0.7
RUS	Russkaya	1.95	205	eP	Pn	01 53 14.4	+0.9
RUS				eS	Sn	01 53 39.2	+0.6
GRL	Gorelyy	1.97	214	eP	Pb	01 53 15.2	-0.9
CIRR	Tsirk	1.98	14	eP	Pb	01 53 16.5	+0.2
MTVR	Mutnovka	2.00	211	eP	Pb	01 53 15.8	-0.8
KRSR	Krestovskiy	2.06	11	eP	Pn	01 53 15.7	+0.6
APC	Apacha	2.06	233	eP	Pn	01 53 16.3	+1.2
APC				eS	Sg	01 53 45.3	-0.3
SRDR	Sredinnyy	2.12	358	eP	Pb	01 53 18.3	-0.3

KLY	Klyuchi	2.16	12	eS	Sg	01 53 49.1	+0.3
ASAK	Asacha	2.17	214	eP	Pb	01 53 18.7	-0.8
SMKR	Semkarok	2.55	20	eP	Pb	01 53 24.7	-1.3
KBG	Krutoberegovo	2.62	37	eP	Pn	01 53 24.3	+1.6
KBG				eS	Sb	01 53 58.1	-1.6
KBTR	Krutoberegovo	2.62	39	eP	Pn	01 53 23.5	+0.7
KDTR	Khodutka, Kamc	2.63	205	eP	Pn	01 53 23.8	+1.0
KDTR				eS	Sn	01 53 57.5	+2.2
MA2	Magadan	7.34	321	LR	LR	01 57 40.3	
comp=Z,102nm,21.0s,baz=126,slow=41							
SHEM	Shemya Is, Ala	8.62	94	LR	LR	01 57 50.0	
comp=Z,88nm,20.7s,baz=254,slow=36							
TIXI	Tiksi	22.02	334	P	P	01 57 35.8	+1.2
0.6nm,0.3s,baz=124,slow=8.8,SNR=3.8							
0.6nm,0.3s							
MJAR	Matsushiro Arr	23.16	229	P	P	01 57 47.7	+0.7
0.5nm,0.5s,baz=27,slow=7.8,SNR=3.4							
0.5nm,0.5s							
ILAR	Eielson Array	28.14	47	P	P	01 58 31.0	-1.5
1.0nm,0.8s,baz=265,slow=7.4,SNR=13							
1.0nm,0.8s							
H11N2	WAKE ISLAND Hy	34.83	168	T	T	02 36 19.4	
baz=354,slow=76,SNR=39							
H11N3	WAKE ISLAND Hy	34.84	168	T	T	02 36 17.6	
baz=354,slow=76,SNR=38							
H11N1	WAKE ISLAND Hy	34.84	168	T	T	02 36 20.7	
baz=354,slow=76,SNR=45							
H11S1	WAKE ISLAND Hy	36.01	169	T	T	02 37 11.8	
baz=358							
H11S3	WAKE ISLAND Hy	36.02	169	T	T	02 37 15.1	
baz=358							
H11S2	WAKE ISLAND Hy	36.03	169	T	T	02 37 16.2	
baz=358							
KURBB	Kurchatov Arra	47.15	301	P	P	02 01 12.6	-0.1
0.5nm,0.3s,baz=57,slow=7.7,SNR=3.3							
0.5nm,0.3s							
MKAR	Makanchi Array	47.56	295	P	P	02 01 15.4	-0.8
0.3nm,0.7s,baz=56,slow=6.1,SNR=2.5							
0.3nm,0.7s							
BVAR	Borovoye Array	49.60	308	P	P	02 01 30.3	-1.5
0.6nm,0.7s,baz=64,slow=6.8,SNR=3.5							
0.6nm,0.7s							
NVAR	Mina Array Bea	55.49	71	P	P	02 02 16.6	+0.8
0.9nm,0.7s,baz=303,slow=7.5,SNR=8.1							
0.9nm,0.7s							
PDAR	Pinedale Array	57.10	61	P	P	02 02 27.2	0.0
0.3nm,0.8s,baz=169,slow=1.5,SNR=2.0							
0.3nm,0.8s							
TXAR	Lajitas Array	70.32	67	P	P	02 03 54.5	-0.1
0.4nm,0.7s,baz=305,slow=5.1,SNR=4.8							
TXAR				LR	LR	02 33 34.8	
comp=Z,21nm,19.1s,baz=28,slow=35							
0.4nm,0.7s							
WRA	Warramunga Arr	77.04	205	P	P	02 04 33.2	-0.5
0.5nm,0.7s,baz=18,slow=6.4,SNR=3.2							
0.5nm,0.7s							
ASAR	Alice Springs	80.72	204	P	P	02 04 54.0	0.0
0.5nm,0.7s,baz=7.7,slow=5.4,SNR=4.7							
0.5nm,0.7s							
QSPA	South Pole Qui	143.95	180	PKP	PKPdf	02 12 15.0	0.0
2.1nm,1.1s,baz=17,slow=0.7,SNR=6.5							

*NEIC **04** 02:10:43.6±1.3, 35°757N±0°009×97°96W±0°01, h8km±8km, mb_Lg2.3/12, ML2.3/44, ML2.6, Error ellipse: s-maj=1.8km s-min=1.2km az=68.0*

NEIC 04 02:10:43.6±1.3, 35°76N±0°01×97°94W±0°01, h5km±5km, Error ellipse: s-maj=1.7km s-min=1.4km az=179.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.40	84	Pg	Pg	02 10 51.7	+0.3
OK029				Sg	Sg	02 10 56.9	+0.3
CSTR	Hydro, Custer	0.62	260	Pg	Pg	02 10 55.1	-0.4
FNO	Franklin	0.67	138	Pg	Pg	02 10 55.8	-0.6
FNO				Sg	Sg	02 11 05.7	+0.5
FNO				IAML		02 11 21.3	
comp=E,126nm,0.5s							
CROK	Carrier	0.75	358	Pg	Pg	02 10 57.3	-0.6
CROK					Sg	02 11 07.7	+0.1
OK031	S. Brethren Rd	0.92	77	Pg	Pg	02 11 00.6	-0.6
OK031					Sg	02 11 13.7	+0.5
OK031				IAML		02 11 18.8	
comp=E,88nm,0.3s							
OK031				IAML		02 11 23.6	
comp=E,100nm,0.4s							
OK052	Battle Ridge R	0.96	75	Pg	Pg	02 11 01.4	-0.6
OK052					Sg	02 11 14.8	+0.4
OK052				IAML		02 11 20.3	
comp=E,90nm,0.3s							
OK052

AFRZ	**Afriz**	**4.88 7**	Pn	Pn	02 14 22.6	+1.9
WBK	**Wadi Bani Khal**	**5.97 174**	Pn	Pn	02 14 37.4	+1.8
ZNGN	**Zangian**	**7.33 301**	Pn	Pn	02 14 56.9	+2.3

TRN 04 02:17:29.1, 18°.02N×61°.89W, h25km, MD3.5, North of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.36**	**164**	*eP*	Pn	02 17 38.8	-0.1
ANWB				*eS*	Sn	02 17 45.7	+0.4
ANBD	**Bethesda, Anti**	**0.97**	**173**	*eP*	Pb	02 17 47.8	+0.4
ANBD				*eS*	Sn	02 18 02.6	+2.3
SKI	**Saint Kitts**	**1.06**	**230**	*eP*	Pb	02 17 50.3	+1.5
SKI				*eS*	Sn	02 18 05.2	+2.8
MBFL	**Flemmings, Mon**	**1.30**	**194**	*eP*	Pb	02 17 53.4	+0.5
MBFL				*eS*	Sb	02 18 10.6	+1.4

*KRNET **04** 02:29:04.0±0.1, 40°.18N×77°.45E, h12km, mb3.5*
*SOME **04** 02:29:03.1, 40°.25N×77°.47E, h0km*
*IDC **04** 02:29:03.5±2.0, 40°.07N×77°.41E, h0km, mb3.9/2, mbtmp3.7/7, ML3.2/4, Error ellipse: s-maj=26.1km s-min=18.2km az=133.0*
*NNC **04** 02:29:07.8±0.9, 40°.35N×77°.50E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=6.6km s-min=5.6km az=162.0*
ISC 04 02:29:06.1±2.5, 40°.11N±0°.07×77°.53E±0°.04, h11km±16km, n80, σ1§81/115, 36C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.63**	**7**	⇑*iP*	Pn	02 29 33.4	-1.7
TARG				⇑*iS*	Sn	02 29 55.2	-1.1
NRN	**Naryn**	**1.76**	**319**	⇑*iP*	Pn	02 29 35.2	-1.7
NRN				⇑*iS*	Sn	02 29 58.3	-1.1
KDJ	**Kajisay**	**2.03**	**353**	⇑*iP*	Pn	02 29 40.5	0.0
KDJ				⇑*iS*	Sn	02 30 06.6	+0.6
ULHL	**Ulahol**	**2.34**	**336**	P	Pn	02 29 46.1	+1.3
	SNR=79						
ULHL	**Ulahol**	**2.34**	**336**	⇑*iP*	Pn	02 29 44.6	-0.2
ULHL				⇑*eS*	Sn	02 30 14.5	+0.8
PRZ	**Przheval'sk**	**2.46**	**15**	⇑*eP*	Pn	02 29 47.1	+0.8
PRZ				⇑*eS*	Sn	02 30 18.1	+1.6
BOOM	**Boomskoye usch**	**2.66**	**334**	⇑*iP*	Pn	02 29 49.0	-0.1
BOOM				⇑*iS*	Sn	02 30 22.1	+0.6
SALK	**Salom-Alik**	**2.93**	**286**	⇑*eP*	Pn	02 29 52.9	0.0
SALK				⇑*eS*	Sn	02 30 28.5	+0.3
TNSS	**Tian-Shan**	**2.95**	**352**	Pg	Pb	02 29 57.3	-1.8
	236nm,0.4s						
TNSS				Lg	Lg	02 30 35.8	
	153nm,0.6s						
TNSS	**Tian-Shan**	**2.95**	**352**	*eP*	Pb	02 29 57.2	-1.8
	236nm,0.4s						
TNSS				*eS*	Sb	02 30 35.8	+0.5
	153nm,0.6s						
ARLS	**Aral**	**2.99**	**307**	⇑*iP*	Pn	02 29 53.5	-0.2
ARLS				⇑*iS*	Sn	02 30 29.5	-0.1
SATY	**Saty**	**3.02**	**12**	Pg	Pb	02 29 58.6	-1.3
	65nm,0.4s						
SATY				Lg	Lg	02 30 39.2	
	225nm,0.4s						
SATY	**Saty**	**3.02**	**12**	*eP*	Pb	02 29 58.6	-1.3
	40nm,0.4s						
SATY				*eS*	Sb	02 30 38.0	+1.2
	226nm,0.4s						
MDOK	**Medeo**	**3.07**	**353**	⇑Pn	Pn	02 29 55.9	+1.2
	40nm,0.4s						
MDOK				Pg	Pb	02 29 59.1	-1.7
	91nm,0.4s						
MDOK				⇑Lg	Lg	02 30 37.7	
	186nm,0.5s						
MDOK				Lg	Lg	02 30 39.3	
	342nm,0.4s						
MDOK	**Medeo**	**3.07**	**353**	*eP*	Pb	02 29 59.1	-1.7
	91nm,0.4s						
MDOK				*eS*	Sb	02 30 39.3	+0.9
	342nm,0.4s						
SFK	**Sufi-Kurgan**	**3.09**	**269**	⇑*eP*	Pn	02 29 55.4	+0.3
SFK				⇑*eS*	Sn	02 30 33.2	+0.9
UCH	**Uchtor**	**3.11**	**314**	P	Pb	02 29 59.6	-2.1
	SNR=5.4						
MTBS	**Maitube**	**3.12**	**345**	Pg	Pb	02 29 59.8	-2.0
	42nm,0.4s						
MTBS				Lg	Lg	02 30 40.2	
	352nm,0.5s						
MTBS	**Maitube**	**3.12**	**345**	*eP*	Pb	02 29 59.8	-2.0
	42nm,0.4s						
MTBS				*eS*	Sb	02 30 40.2	+0.2
	352nm,0.5s						
ZHN	**Zhinishke**	**3.12**	**12**	Pg	Pb	02 30 00.8	-1.0
	40nm,0.3s						
ZHN				Lg	Lg	02 30 41.8	
	363nm,0.3s						
ZHN	**Zhinishke**	**3.12**	**12**	*eP*	Pb	02 30 00.8	-1.0
	40nm,0.3s						
ZHN				*eS*	Sb	02 30 41.8	+1.8
	363nm,0.3s						
AAA	**Alma-Ata**	**3.13**	**352**	Pg	Pb	02 30 00.7	-1.1
	302nm,0.4s						
AAA				Lg	Lg	02 30 41.8	
	310nm,0.5s						
AAA	**Alma-Ata**	**3.13**	**352**	*eP*	Pb	02 30 00.7	-1.1
	302nm,0.4s						
AAA				*eS*	Sb	02 30 41.8	+1.8
	310nm,0.5s						
KNDC	**Almaty**	**3.13**	**352**	⇑Pn	Pn	02 29 57.4	+1.9
	20nm,0.5s						
KNDC				⇑Lg	Lg	02 30 41.3	
	873nm,0.5s						
KST	**Kastek**	**3.15**	**339**	Pg	Pb	02 30 00.6	-1.7
	27nm,0.4s						
KST				Lg	Lg	02 30 41.8	
	240nm,0.6s						
KST	**Kastek**	**3.15**	**339**	*eP*	Pb	02 30 00.6	-1.7
	27nm,0.4s						
KST				*eS*	Sb	02 30 41.8	+1.0
	240nm,0.6s						
TKM2	**Tokmak 2**	**3.16**	**333**	P	Pn	02 29 57.4	+1.3
	SNR=29						
TKM2	**Tokmak 2**	**3.16**	**333**	⇑Pn	Pn	02 29 57.2	+1.2
	4.3nm,0.3s						
TKM2				⇓Lg	Lg	02 30 40.8	
	87nm,0.6s						
TKM2	**Tokmak 2**	**3.16**	**333**	⇑*iP*	Pn	02 29 56.0	0.0
TKM2				⇑*iS*	Sn	02 30 34.0	+0.2
KBK	**Karagaybulak**	**3.20**	**323**	P	Pn	02 29 58.5	+1.9
	SNR=31						
KBK	**Karagaybulak**	**3.20**	**323**	⇑*iP*	Pn	02 29 56.5	0.0
KBK				⇑*iS*	Sn	02 30 34.7	-0.1
UZB	**Uzynbulak**	**3.23**	**20**	Pg	Pb	02 30 02.3	-1.2
	21nm,0.5s						
UZB				Lg	Lg	02 30 44.5	
	64nm,0.5s						
UZB	**Uzynbulak**	**3.23**	**20**	*eP*	Pb	02 30 02.4	-1.2
	21nm,0.5s						
UZB				*eS*	Sb	02 30 44.5	+1.5
	64nm,0.5s						
SHLS	**Shalkode**	**3.37**	**25**	Pg	Pb	02 30 07.7	+1.8
	47nm,0.6s						
SHLS				Lg	Lg	02 30 53.8	
	110nm,0.6s						
SHLS	**Shalkode**	**3.37**	**25**	*eP*	Pb	02 30 07.7	+1.8
	47nm,0.6s						
SHLS				*eS*	Sg	02 30 53.8	-0.5
	110nm,0.6s						
AAK	**Ala-Archa**	**3.40**	**319**	P	Pb	02 30 04.3	-2.3
	SNR=11						
AAK	**Ala-Archa**	**3.40**	**319**	Pn	Pn	02 30 00.8	+1.5
	5.1nm,0.3s,baz=138,slow=14,SNR=32						
AAK				Lg	Lg	02 30 49.2	
	10nm,0.3s,baz=206,slow=16,SNR=14						
	14nm,0.6s						
KURS	**Kuram**	**3.41**	**8**	Pg	Pb	02 30 05.0	-1.5
	44nm,0.5s						
KURS				Lg	Lg	02 30 49.4	
	71nm,0.9s						
KURS	**Kuram**	**3.41**	**8**	*eP*	Pb	02 30 05.0	-1.5
	44nm,0.5s						
KURS				*eS*	Sb	02 30 49.4	+1.5
	71nm,0.9s						
KPKS	**Kokpek**	**3.46**	**14**	Pg	Pb	02 30 06.0	-1.4
	35nm,0.4s						
KPKS				Lg	Lg	02 30 51.1	
	180nm,0.5s						
KPKS	**Kokpek**	**3.46**	**14**	*eP*	Pb	02 30 06.0	-1.4
	35nm,0.4s						
KPKS				*eS*	Sb	02 30 51.1	+1.6
	180nm,0.5s						
PDGK	**Podgornoye**	**3.53**	**24**	Pg	Pb	02 30 07.3	-1.4
	15nm,0.5s						
PDGK				Lg	Lg	02 30 53.3	
	60nm,0.8s						
PDGK	**Podgornoye**	**3.53**	**24**	⇓Pn	Pn	02 30 01.9	+0.8
	9.1nm,0.5s						
PDGK				⇑Lg	Lg	02 30 52.4	
	133nm,0.8s						
AML	**Almayashu**	**3.53**	**306**	P	Pn	02 30 03.0	+1.7
	SNR=21						
CHMS	**Chumysh**	**3.56**	**325**	P	Pn	02 30 02.7	+1.4
	SNR=7.1						
CHMS	**Chumysh**	**3.56**	**325**	⇑Pn	Pn	02 30 02.1	+0.7
	1.3nm,0.3s						
CHMS				⇑Lg	Lg	02 30 53.3	
	76nm,0.6s						
KTBS	**Karatobe**	**3.65**	**350**	Pg	Pb	02 30 09.4	-1.3
	23nm,0.4s						
KTBS				Lg	Lg	02 30 57.1	
	254nm,0.4s						
KTBS	**Karatobe**	**3.65**	**350**	*eP*	Pb	02 30 09.4	-1.3
	23nm,0.4s						
KTBS				*eS*	Sb	02 30 57.1	+2.0
	254nm,0.4s						
ARSB	**Arslanbob**	**3.66**	**291**	⇑*iP*	Pn	02 30 03.1	+0.2
ARSB				⇑*iS*	Sn	02 30 46.1	-0.1
CHKK	**Chushkaly**	**3.76**	**354**	Pg	Pb	02 30 10.7	-1.8
	30nm,0.4s						
CHKK				Lg	Lg	02 30 59.8	
	188nm,0.4s						
CHKK	**Chushkaly**	**3.76**	**354**	*eP*	Pb	02 30 10.7	-1.8
	30nm,0.4s						
CHKK				*eS*	Sb	02 30 58.7	+0.6
	265nm,0.3s						
EKS2	**Erkin-Say**	**3.80**	**313**	P	Pn	02 30 06.3	+1.5
	SNR=7.1						
KRBS	**Karabastau**	**3.84**	**339**	Pg	Pb	02 30 12.7	-1.2
	25nm,0.5s						
KRBS				Lg	Lg	02 31 02.5	
	94nm,0.6s						
KRBS	**Karabastau**	**3.84**	**339**	*eP*	Pb	02 30 12.7	-1.2
	25nm,0.5s						
KRBS				*eS*	Sb	02 31 02.5	+2.1
	94nm,0.6s						
KUU	**Kurty**	**3.88**	**347**	Pg	Pb	02 30 12.8	-1.8
	5.6nm,0.1s						
KUU				Lg	Lg	02 31 02.5	
	257nm,0.7s						
KUU	**Kurty**	**3.88**	**347**	*eP*	Pb	02 30 12.8	-1.8
	5.6nm,0.1s						
KUU				*eS*	Sb	02 31 02.5	+0.9
	257nm,0.7s						
USP	**Ospenovka**	**3.88**	**325**	P	Pb	02 30 13.6	-1.1
	SNR=17						
SGDS	**Sogindy**	**3.98**	**328**	Pg	Pb	02 30 14.1	-2.2
	12nm,0.6s						
SGDS				Lg	Lg	02 31 04.8	
	69nm,0.7s						
ARXS	**Arharly**	**4.10**	**3**	Pg	Pb	02 30 16.8	-1.6
	22nm,0.5s						
ARXS				Lg	Lg	02 31 10.1	
	106nm,0.5s						
ARXS	**Arharly**	**4.10**	**3**	*eP*	Pb	02 30 17.8	-0.6
	22nm,0.5s						
ARXS				*eS*	Sb	02 31 11.0	+3.0
	106nm,0.5s						
MRKS	**Merke**	**4.17**	**310**	Pg	Pb	02 30 19.5	-0.1
	9.2nm,0.5s						
MRKS				Lg	Lg	02 31 14.0	
	44nm,0.6s						
MRKS	**Merke**	**4.17**	**310**	*eP*	Pb	02 30 19.5	-0.1
	9.2nm,0.5s						
MRKS				*eS*	Sb	02 31 14.0	+4.0
	44nm,0.6s						
DJR	**Jarkent**	**4.54**	**21**	Pg	Pb	02 30 25.3	-0.5
	5.8nm,0.5s						
DJR				Lg	Lg	02 31 24.9	
	49nm,0.5s						
DJR	**Jarkent**	**4.54**	**21**	*eP*	Pb	02 30 26.1	+0.3
	5.8nm,0.2s						
DJR				*eS*	Sb	02 31 25.1	+4.6
	53nm,0.5s						
TDK	**Taldyqorghan**	**4.93**	**7**	Pg	Pb	02 30 32.2	-0.2
	30nm,0.4s						
TDK				Lg	Lg	02 31 35.8	
	171nm,0.5s						
TDK	**Taldyqorghan**	**4.93**	**7**	*eP*	Pb	02 30 33.0	+0.6
	16nm,0.1s						
TDK				*eS*	Sb	02 31 36.9	+5.2
	171nm,0.5s						
KAPS	**Kapalarasan**	**5.34**	**14**	Pg	Pb	02 30 40.6	+1.1
	10nm,0.5s						
KAPS				Lg	Lg	02 31 50.5	
	41nm,0.5s						
KAPS	**Kapalarasan**	**5.34**	**14**	*eP*	Pb	02 30 40.6	+1.1
	10nm,0.5s						
KAPS				*eS*	Sb	02 31 50.5	+6.9
	41nm,0.5s						
BTLS	**Baital**	**5.56**	**334**	Pg	Pb	02 30 44.0	+0.9
	15nm,0.7s						
BTLS				Lg	Lg	02 31 57.1	
	29nm,0.7s						
BTLS	**Baital**	**5.56**	**334**	*eP*	Pb	02 30 44.0	+0.9
	15nm,1.0s						
BTLS				*eS*	Sb	02 31 56.3	+6.6
	22nm,0.7s						
KK31	**Karatay Array**	**6.05**	**302**	⇑Pg	Pb	02 30 55.7	+4.1
	2.9nm,0.6s,baz=130,slow=15,SNR=8.7						
KK31				⇑Lg	Lg	02 32 14.8	
	19nm,1.1s,baz=118,slow=26,SNR=5.9						
MAKZ	**Makanchi**	**7.43**	**24**	⇑Pn	Pn	02 30 53.8	-0.6
	0.3nm,0.3s						
MAKZ				⇑Lg	Lg	02 32 56.0	
	3.9nm,0.8s						
MK31	**Makanchi Array**	**7.52**	**26**	⇓Pn	Pn	02 30 55.4	-0.3
	0.4nm,0.4s,baz=207,slow=12,SNR=14						
MK31				⇓Lg	Lg	02 32 56.5	
	2.4nm,0.7s,baz=199,slow=25,SNR=6.2						
MKAR	**Makanchi Array**	**7.52**	**26**	Pn	Pn	02 30 56.6	+0.9
	0.3nm,0.3s,baz=203,slow=15,SNR=13						
MKAR				Sn	Sn	02 32 21.1	+0.1
	0.5nm,0.3s,baz=216,slow=27,SNR=2.4						
MKAR				Lg	Lg	02 33 03.5	
	0.5nm,0.3s,baz=211,slow=30,SNR=2.1						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**10.53**	**3**	Pn	Pn	02 31 36.1	-0.9
	0.2nm,0.3s,baz=189,slow=11,SNR=4.3						
KURBB				Lg	Lg	02 34 33.7	
	0.2nm,0.3s,baz=191,slow=29,SNR=5.4						
	1.5nm,0.2s						
BVAR	**Borovoye Array**	**13.81**	**342**	Pn	Pn	02 32 18.5	-3.2
	0.9nm,0.7s,baz=150,slow=12,SNR=3.4						
BVAR				Lg	Lg	02 36 13.7	
	baz=150,slow=24,SNR=5.1						
ZALV	**Zalesovo Beam**	**14.69**	**17**	Pn	Pn	02 32 32.8	-1.0
	0.4nm,0.3s,baz=203,slow=12,SNR=2.4						
ZALV				Lg	Lg	02 36 53.4	
	0.3nm,0.3s,baz=196,slow=26,SNR=1.9						
	0.6nm,0.3s						
ARTI	**Arti**	**20.56**	**329**	P	P	02 33 46.5	+1.8
	1.1nm,0.5s,baz=196,slow=8.6,SNR=3.9						
FINES	**FINESS Array B**	**37.59**	**322**	P	P	02 36 19.1	-1.2
	2.2nm,0.9s,baz=106,slow=6.8,SNR=6.4						
	2.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**70.86**	**271**	P	P	02 40 21.4	-2.0
	0.6nm,0.6s,baz=44,slow=6.4,SNR=6.1						
	0.6nm,0.6s						

*ISK **04** 02:32:16.6, 36°.47N×26°.98E, h117km±1km, ML2.6/13*
*AFAD **04** 02:32:18.0±0.0, 36°.60N×27°.17E, h102km±11km, ML2.6*
*ATH **04** 02:32:20.1, 36°.53N×26°.72E, h31km±6km, ML2.8/7, Error ellipse: s-maj=6.5km s-min=1.4km az=348.0*
ISC 04 02:32:14.8±1.5, 36°.50N±0°.05×26°.94E±0°.04, h125km±11km, n37, σ1§91/58, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAZI	**Mula-Dat§a-**	**0.45**	**67**	P	Pn	02 32 33.8	+0.7
DAT	**Datca**	**0.56**	**66**	P	Pn	02 32 34.5	+0.7
DAT	**Datca**	**0.56**	**66**	Pg	Pn	02 32 35.1	+1.2
BODT	**Bodrum**	**0.63**	**28**	Pg	Pn	02 32 35.3	+1.0
BODT				Sg	Sn	02 32 49.9	+0.9
BDRM	**Kayabasi**	**0.69**	**36**	P	Pn	02 32 35.5	+0.8
KARP	**Karpathos**	**0.97**	**169**	Pg	Pn	02 32 38.4	+1.3
KARP				Sg	Sn	02 32 54.1	+0.2
KARP	**Karpathos**	**0.97**	**169**	P	Pn	02 32 38.3	+1.2
KARP				S	Sn	02 32 51.0	-2.9
KARP				AML	AML	02 32 55.0	
	comp=N,939μm,0.2s						
KARP				AML	AML	02 32 55.1	
	comp=E,1057μm,0.1s						
ARG	**Arkhangelos**	**1.00**	**106**	P	Pn	02 32 39.1	+1.8
ARG				S	Sn	02 32 54.3	0.0
ARG				AML	AML	02 32 57.1	
	comp=N,460μm,0.2s						
ARG				AML	AML	02 32 57.2	
	comp=E,597μm,0.2s						
MRSB	**Marmaris-Mugla**	**1.04**	**78**	Pg	Pn	02 32 38.7	+1.0
TURN	**Turunc**	**1.09**	**75**	P	Pn	02 32 38.9	+0.8
TURN				S	Sn	02 32 55.1	-0.7
TURN				*i* AML	AML	02 32 56.0	
	comp=E,144nm,0.4s						
TURN				*i* AML	AML	02 32 58.0	
	comp=E,142nm,0.3s						
TURN	**Turunc**	**1.09**	**75**	Pg	Pn	02 32 39.5	+1.4
TURN				Sg	Sn	02 32 56.3	+0.5
SMG	**Samos**	**1.21**	**356**	P	Pn	02 32 40.0	+0.6
YER	**Yerkesik**	**1.25**	**59**	Pn	Pn	02 32 41.9	+2.0
MULA	**Mugla, Merkez-**	**1.34**	**55**	P	Pn	02 32 42.2	+1.3
MULA				S	Sn	02 33 00.1	-0.7
MULA				*i* AML	AML	02 33 02.0	
	comp=E,64nm,0.8s						
DALY	**Dalyan (Mula)**	**1.42**	**77**	Pn	Pn	02 32 43.8	+2.2
ZKR	**Zakros**	**1.50**	**203**	P	Pn	02 32 44.7	+2.1
ZKR				S	Sn	02 33 01.2	-2.7
ZKR				AML	AML	02 33 07.2	
	comp=E,794μm,0.7s						
ZKR				AML	AML	02 33 08.7	
	comp=N,252μm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**1.63**	**28**	Pn	Pn	02 32 45.4	+1.2
SABU	**Mula-Dalaman**	**1.67**	**78**	P	Pn	02 32 46.7	+2.1
SABU				S	Sn	02 33 07.4	+0.2
SABU				*i* AML	AML	02 33 10.0	
	comp=N,166nm,0.3s						
SABU				*i* AML	AML	02 33 12.0	
	comp=N,103nm,0.3s						
ESEN	**Aydn-Nazilli**	**1.72**	**41**	P	Pn	02 32 45.8	+0.7
ESEN				S	Sn	02 33 07.9	-0.3
FETY	**Fethiye**	**1.73**	**85**	P	Pn	02 32 47.8	+2.4
FETY				S	Sn	02 33 07.4	-1.2
FETY	**Fethiye**	**1.73**	**85**	Pn	Pn	02 32 46.9	+1.6
NAZL	**Nazilli-Aydin**	**1.82**	**36**	Pn	Pn	02 32 48.4	+2.1
DNZT	**Denizli-Tavas-**	**1.84**	**65**	P	Pn	02 32 48.9	+2.2
DNZT				S	Sn	02 33 10.5	-0.6
DNZT				*i* AML	AML	02 33 12.0	
	comp=N,17nm,0.4s						
IZZE	**Mula-Seydike**	**1.85**	**91**	P	Pn	02 32 47.8	+1.1
IZZE				S	Sn	02 33 06.1	-4.9
IZZE				*i* AML	AML	02 33 13.0	
	comp=N,82nm,0.2s						
TAVA	**DENIZLI_Tavas**	**1.85**	**58**	P	Pn	02 32 47.2	+0.4
TAVA				S	Sn	02 33 07.4	-3.9
CAME	**Cameli-Denizli**	**1.95**	**76**	Pn	Pn	02 32 49.9	+1.8
CAEL	**Denizli, Camel**	**2.01**	**71**	P	Pn	02 32 51.1	+2.3
CAEL				S	Sn	02 33 12.5	-2.3
CAEL				*i* AML	AML	02 33 27.0	
	comp=N,62nm,0.4s						
DNIZ	**Denizli-Tavas-**	**2.02**	**56**	P	Pn	02 32 48.9	0.0
KIRA	**zmir-Kiraz**	**2.05**	**34**	P	Pn	02 32 49.4	+0.1
IDI	**Anoyia**	**2.06**	**234**	P	Pn	02 32 50.3	+1.0
IDI				S	Sn	02 33 12.3	-3.4
IDI				AML	AML	02 33 16.9	
	comp=E,166μm,0.2s						
IDI				AML	AML	02 33 17.4	
	comp=N,184μm,0.2s						
APMY	**Acipayam-Deniz**	**2.13**	**62**	Pn	Pn	02 32 52.2	+2.0
KNIK	**Mula-Seydike**	**2.15**	**80**	P	Pn	02 32 51.7	+1.2
KNIK				S	Sn	02 33 13.6	-4.2
KNIK				*i* AML	AML	02 33 19.0	
	comp=N,56nm,1.0s						
AKAS	**Kas**	**2.17**	**96**	Pn	Pn	02 32 52.4	+1.6
TMBK	**Timbaki Herakl**	**2.27**	**232**	P	Pn	02 32 53.5	+1.6
TMBK				S	Sn	02 33 17.5	-2.8
IMMV	**Iera Moni Meta**	**2.61**	**247**	P	Pn	02 32 58.1	+1.8
IMMV				S	Sn	02 33 25.5	-2.6
IMMV				AML	AML	02 33 34.1	
	comp=E,344μm,0.4s						
IMMV				AML	AML	02 33 35.5	
	comp=N,267μm,0.3s						
GVD	**Gavdhos**	**2.85**	**235**	P	Pn	02 33 00.8	+1.5
GVD				S	Sn	02 33 33.2	-0.5
GVD				AML	AML	02 33 36.1	
	comp=N,128μm,0.2s						
GVD				AML	AML	02 33 36.6	
	comp=E,155μm,0.3s						
KNDR	**Palaiochora Ch**	**2.93**	**245**	P	Pn	02 33 03.2	+2.9
KNDR				S	Sn	02 33 34.6	-0.7
KNDR				AML	AML	02 33 42.9	
	comp=N,174μm,0.6s						
KNDR				AML	AML	02 33 43.5	
	comp=E,182μm,0.7s						

*IDC **04** 02:43:47.5±1.1, 37°.59N×20°.55E, h0km, mb3.7/9, mbtmp3.6/16, ML3.3/4, MS3.3/1, Error ellipse: s-maj=18.8km s-min=14.5km az=37.0*
*ATH **04** 02:43:49.0, 37°.62N×20°.32E, h9km±1km, ML3.6/26, Manual Solution by N.Liadopoulou This location: 2020/07/01 05:29:13 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **04** 02:43:50.2, 37°.66N×20°.39E, h8km, ML3.7/11, Error ellipse: s-maj=0.8km s-min=0.3km az=41.0*
*NAO **04** 02:44:04.6, 39°.42N×22°.30E, h10km, mb3.9*
ISC 04 02:43:48.9±1.3, 37°.61N±0°.04×20°.37E±0°.04, h11km±8km, n129, σ1§13/141, mb3.7/8, 6C-4D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.36**	**81**	P	Pb	02 43 56.8	-0.5
KRI1				S	Sb	02 44 02.1	-0.8
	19μm,0.5s						
LTHK	**Lithakia**	**0.38**	**74**	P	Pb	02 43 57.3	-0.4
LTHK				S	Sb	02 44 02.7	-0.9
	15μm,0.4s						
LTHK	**Lithakia**	**0.38**	**74**	P	Pb	02 43 57.3	-0.4
LTHK				S	Sb	02 44 02.7	-0.9
PSDA	**Pessada-Kefalo**	**0.53**	**18**	P	Pg	02 43 59.4	+0.1
PSDA				S	Sg	02 44 06.5	+0.2
	18μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.53**	**18**	P	Pg	02 43 59.6	+0.3
PSDA				S	Sg	02 44 06.7	+0.4
RTZL	**Ratzakli, Kefa**	**0.56**	**34**	P	Pg	02 43 59.9	0.0
RTZL				S	Sg	02 44 07.7	+0.4
LXRA	**Lixouri, Kepha**	**0.59**	**5**	P	Pg	02 44 00.7	+0.3
LXRA				S	Sb	02 44 08.8	-0.9
VLS	**Valsamata**	**0.59**	**17**	P	Pg	02 44 00.6	+0.2
VLS				S	Sg	02 44 08.5	+0.2
	11μm,0.4s						
VLS	**Valsamata**	**0.59**	**17**	P	Pg	02 44 00.6	+0.2
VLS				S	Sg	02 44 08.3	0.0
LXR1	**Lixouri, Cepha**	**0.59**	**5**	P	Pg	02 44 00.5	+0.1
LXR1				S	Sb	02 44 08.8	-0.9
	40μm,0.4s						
DMLN	**Damoulianata-K**	**0.63

AMT	**Artemida-Makis**	**1.06**	**94**	P	**Pn**	**02 44 10.4**	**+0.7**
DRAG	**Dragano-Lefkad**	**1.09**	**8**	P	**Pg**	**02 44 09.6**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.09**	**8**	P	**Pg**	**02 44 09.4**	**-0.3**
DRO	**Drossia**	**1.11**	**72**	P	**Pn**	**02 44 10.7**	**+0.2**
DRO				S	**Sn**	**02 44 26.5**	**+0.7**
	4μm,0.6s						
DRO	**Drossia**	**1.11**	**72**	P	**Pn**	**02 44 10.7**	**+0.2**
DRO				S	**Sn**	**02 44 26.5**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.13**	**13**	P	**Pb**	**02 44 10.5**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.13**	**13**	P	**Pb**	**02 44 10.6**	**+0.1**
LKD2	**Lefkada island**	**1.20**	**11**	P	**Pb**	**02 44 11.7**	**0.0**
LKD2	**Lefkada island**	**1.20**	**11**	P	**Pn**	**02 44 12.0**	**+0.4**
TSLK	**Tsoukalades, L**	**1.24**	**10**	P	**Pb**	**02 44 12.2**	**0.0**
TSLK	**Tsoukalades, L**	**1.24**	**10**	P	**Pg**	**02 44 12.4**	**-0.2**
PYL	**PYLOS**	**1.30**	**123**	P	**Pg**	**02 44 14.0**	**+0.1**
PYL	**PYLOS**	**1.30**	**123**	P	**Pg**	**02 44 14.0**	**+0.1**
UPR	**University Cam**	**1.31**	**58**	P	**Pb**	**02 44 13.5**	**+0.1**
UPR	**University Cam**	**1.31**	**58**	P	**Pg**	**02 44 13.9**	**0.0**
ITM	**Ithomi**	**1.31**	**109**	P	**Pg**	**02 44 14.1**	**+0.1**
ITM				S	**Sn**	**02 44 32.4**	**+1.8**
	1μm,0.6s						
ITM	**Ithomi**	**1.31**	**109**	P	**Pg**	**02 44 14.3**	**+0.3**
ITM				S	**Sn**	**02 44 31.8**	**+1.1**
EFP	**Efpalio**	**1.46**	**56**	P	**Pn**	**02 44 15.7**	**+0.5**
EFP	**Efpalio**	**1.46**	**56**	P	**Pn**	**02 44 15.7**	**+0.5**
KLV	**Kalavryta, Ach**	**1.47**	**72**	P	**Pn**	**02 44 15.7**	**+0.2**
KLV	**Kalavryta, Ach**	**1.47**	**72**	P	**Pn**	**02 44 15.7**	**+0.2**
ANX	**Ano Chora**	**1.57**	**51**	P	**Pn**	**02 44 17.2**	**+0.5**
GUR	**Goura**	**1.60**	**78**	P	**Pn**	**02 44 17.8**	**+0.6**
KALE	**Kalithea**	**1.60**	**60**	P	**Pn**	**02 44 17.9**	**+0.7**
DLFA	**Delphi**	**1.89**	**62**	P	**Pn**	**02 44 21.9**	**+0.8**
IGT	**Igoumenitsa**	**1.92**	**359**	P	**Pn**	**02 44 22.0**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.97**	**44**	P	**Pn**	**02 44 22.9**	**+0.6**
AXAR	**Agios Charalam**	**2.14**	**57**	P	**Pn**	**02 44 25.5**	**+0.9**
KEK	**Kerkira**	**2.15**	**348**	P	**Pn**	**02 44 25.5**	**+0.8**
VLI	**Veliai**	**2.23**	**113**	P	**Pn**	**02 44 27.3**	**+1.5**
THL	**Klokotos Trika**	**2.34**	**33**	P	**Pn**	**02 44 28.0**	**+0.7**
VIL2	**Platees**	**2.37**	**74**	P	**Pn**	**02 44 29.6**	**+1.8**
KPRO	**Kipourio**	**2.47**	**18**	P	**Pn**	**02 44 29.7**	**+0.6**
TYRN	**Tyrnavos**	**2.56**	**34**	P	**Pn**	**02 44 31.3**	**+1.1**
LRSO	**Larissa Observ**	**2.60**	**37**	P	**Pn**	**02 44 32.0**	**+1.2**
PENT	**Pentalofos**	**2.65**	**13**	P	**Pn**	**02 44 31.7**	**0.0**
VLY	**Voula,Athens**	**2.72**	**84**	P	**Pn**	**02 44 33.6**	**+1.0**
ATHU	**Athens Univers**	**2.73**	**81**	P	**Pn**	**02 44 34.1**	**+1.5**
PTL	**Penteli**	**2.80**	**80**	P	**Pn**	**02 44 34.7**	**+1.0**
NEO	**Neokhori**	**2.81**	**52**	P	**Pn**	**02 44 34.3**	**+0.6**
NEST	**Nestorio**	**2.85**	**10**	P	**Pn**	**02 44 35.2**	**+0.8**
DION	**Dionisos Attik**	**2.86**	**79**	P	**Pn**	**02 44 35.5**	**+1.0**
SCTE	**Santa Cesarea**	**2.88**	**329**	P	**Pn**	**02 44 35.4**	**+0.7**
KZN	**Kozani**	**2.91**	**22**	P	**Pn**	**02 44 35.2**	**+0.1**
KYMI	**Kymi, Euboea I**	**3.11**	**70**	P	**Pn**	**02 44 38.8**	**+0.8**
AOS2	**Alonissos-2**	**3.13**	**60**	P	**Pn**	**02 44 38.8**	**+0.6**
TIP	**Timpagrande**	**3.24**	**300**	⇑P	**Pn**	**02 44 43.2**	**+3.5**
FNA	**Florina**	**3.27**	**14**	P	**Pn**	**02 44 40.2**	**+0.1**
OHR	**Ohrid**	**3.52**	**5**	*i* Pn	**Pn**	**02 44 46.3**	**+2.8**
HORT	**Hortiatis**	**3.66**	**35**	P	**Pn**	**02 44 46.0**	**+0.5**
TIR	**Tirane**	**3.76**	**354**	⇑P	**Pb**	**02 44 52.9**	**-2.3**
OUR	**Ouranopolis**	**3.92**	**45**	P	**Pn**	**02 44 49.5**	**+0.5**
SOH	**Sokhos**	**3.96**	**35**	P	**Pn**	**02 44 50.3**	**+0.8**
MATE	**Matera**	**4.17**	**318**	⇑P	Pg	02 45 18.0	+9.4
KOKK	**Kokkinochori,**	**4.27**	**40**	P	**Pn**	**02 44 54.7**	**+1.0**
CUC	**Castrocucco**	**4.28**	**305**	P	**Pn**	**02 44 55.1**	**+1.1**
SRS	**Serrai**	**4.30**	**34**	P	**Pn**	**02 44 55.0**	**+0.8**
IDI	**Anoyia**	**4.32**	**121**	Pg	**Pb**	**02 45 03.2**	**-1.6**
	0.3nm,0.3s,baz=45,slow=17,SNR=1.5						
IDI				Sn	**Sn**	**02 45 42.3**	**-2.6**
	1.4nm,0.3s,baz=246,slow=23,SNR=2.1						
IDI				Lg	Lg	02 46 00.6	
	1.7nm,0.3s,baz=316,slow=18,SNR=2.1						
PEHC	**Pehcevo**	**4.60**	**24**	*e*Pn	**Pn**	**02 45 00.0**	**+1.6**
NVR	**Nevrokopi**	**4.61**	**35**	P	**Pn**	**02 44 59.5**	**+0.9**
KAVA	**Kavala**	**4.67**	**42**	P	**Pn**	**02 44 59.7**	**+0.5**
VAE	**Valguarnera**	**4.74**	**270**	Pn	**Pn**	**02 45 03.1**	**+2.8**
	6.8nm,0.8s,baz=73,slow=19,SNR=1.3						
PDG	**Podgorica**	**4.89**	**350**	*e*Pn	**Pn**	**02 45 02.1**	**-0.2**
HCY	**Herceg Novi**	**5.04**	**344**	*e*Pn	**Pn**	**02 45 04.5**	**0.0**
TREB	**Trebinje**	**5.33**	**344**	*e*Pn	**Pn**	**02 45 06.7**	**-1.7**
BRY	**Bratogost**	**5.47**	**346**	*e*Pn	**Pn**	**02 45 09.2**	**-1.2**
STON	**Ston**	**5.64**	**340**	*e*Pn	**Pn**	**02 45 11.8**	**-0.8**
SJES	**Sjenica**	**5.66**	**357**	*e*Pn	**Pn**	**02 45 14.0**	**+1.0**
UPM	**Unac-Piva**	**5.70**	**349**	*e*Pn	**Pn**	**02 45 17.0**	**+3.4**
RUDO	**Rudo**	**6.05**	**353**	*e*Pn	**Pn**	**02 45 17.8**	**-0.5**
BBLS	**Lazi&#263i**	**6.29**	**354**	*e*Pn	**Pn**	**02 45 23.8**	**+2.1**
HAPS	**Han Pijesak,BI**	**6.56**	**351**	*e*Pn	**Pn**	**02 45 24.7**	**-0.7**
A050A	**Klekovaca**	**7.46**	**338**	*e*Pn	**Pn**	**02 45 38.5**	**+0.9**
BLY	**Banja Luka**	**7.53**	**342**	*e*Pn	**Pn**	**02 45 40.3**	**+1.8**
FRGS	**Fruska Gora**	**7.55**	**357**	*e*Pn	**Pn**	**02 45 41.2**	**+2.3**
A051A	**Mrakovica**	**7.84**	**342**	*e*Pn	**Pn**	**02 45 41.1**	**-1.8**
GZR	**Gura Zlata**	**7.99**	**12**	⇓P	**Pn**	**02 45 43.3**	**-1.6**
VOIR		**8.57**	**23**	⇓P	**Pn**	**02 45 54.7**	**+1.8**
MLR	**Muntele Rosu**	**8.91**	**26**	Pn	**Pn**	**02 45 59.0**	**+1.4**
	8.0nm,0.9s,baz=211,slow=11						
MLR	**Muntele Rosu**	**8.91**	**26**	⇑P	**Pn**	**02 46 01.0**	**+3.4**
NEHR	**Nehoiu**	**8.98**	**28**	⇓P	**Pn**	**02 46 00.3**	**+1.7**
CEY	**Cerknica**	**9.26**	**333**	*e*Pn	**Pn**	**02 46 00.8**	**-1.5**
TURR	**Turia**	**9.43**	**25**	⇓P	**Pn**	**02 46 07.0**	**+2.4**
PLOR	**Plostina**	**9.48**	**28**	⇑P	**Pn**	**02 46 07.1**	**+1.8**
VRI	**Vrincioaia**	**9.52**	**28**	⇑P	**Pn**	**02 46 08.4**	**+2.6**
OBKA	**Obir**	**9.89**	**336**	*e*Pn	Pn	02 46 18.5	+7.5
SOKA	**Soboth**	**9.89**	**338**	*e*Pn	Pn	02 46 20.8	+10
	2.4nm,0.5s						
ARSA	**Arzberg**	**10.28**	**341**	*e*Pn	Pn	02 46 25.1	+8.8
	0.4nm,0.3s						
BRTR	**Keskin Array B**	**10.59**	**74**	LR	LR	02 50 52.7	
	comp=Z,147nm,18.6s,baz=292,slow=41						
KBA	**Koelnbreinsper**	**10.79**	**333**	*e*Pn	Pn	02 46 32.6	+9.2
	0.9nm,0.4s						
MOA	**Molln**	**11.17**	**338**	*e*Pn	Pn	02 46 39.1	+11
	0.1nm,0.2s						
BIOA	**Bad Ischl, Aus**	**11.22**	**336**	*e*Pn	Pn	02 46 39.6	+10
	0.8nm,0.3s						
GERES	**GERESS Array B**	**12.23**	**339**	Pn	**Pn**	**02 46 45.2**	**+2.1**
	0.2nm,0.3s						
KHC	**Kasperske Hory**	**12.53**	**339**	*e*PN	Pn	02 46 57.1	+10
MMAI	**Mount Meron Ar**	**13.10**	**106**	Pn	**Pn**	**02 46 53.0**	**-2.0**
	0.1nm,0.3s,baz=281,slow=15,SNR=1.4						
	2.0nm,0.9s						
AKASG	**Malin Array Be**	**14.54**	**23**	Pn	**Pn**	**02 47 14.6**	**+0.2**
	0.2nm,0.3s,baz=213,slow=10,SNR=2.1						
	0.1nm,0.2s						
ESDC	**Sonseca Array**	**19.11**	**284**	P	**Pn**	**02 48 13.9**	**+1.3**
	baz=85,slow=10,SNR=2.9						
	0.3nm,0.8s						
GNI	**Garni**	**19.13**	**75**	P	**P**	**02 48 10.7**	**-1.4**
	0.3nm,0.3s,baz=232,slow=12,SNR=2.1						
	1.8nm,0.5s						
OBN	**Obninsk**	**20.68**	**27**	P	**P**	**02 48 28.3**	**-0.3**
	4.3nm,0.4s,baz=242,slow=15,SNR=1.8						
	4.3nm,0.4s						
HFS	**Hagfors**	**22.95**	**351**	P	**P**	**02 48 52.8**	**-0.1**
	1.2nm,0.6s,baz=187,slow=12,SNR=5.7						
	1.2nm,0.6s						
FINES	**FINESS Array B**	**24.13**	**7**	P	**P**	**02 49 04.0**	**-0.4**
	4.2nm,0.9s,baz=175,slow=10.0,SNR=19						
	4.2nm,0.9s						
NB2	**NORSAR Subarra**	**24.15**	**349**	P	**P**	**02 49 05.5**	**+0.7**
	comp=Z,6.5nm,1.2s,baz=157,slow=10						
NOA	**NORSAR Array B**	**24.15**	**349**	P	**P**	**02 49 05.1**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=157,slow=10,SNR=1.4						
	comp=Z,0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.51**	**219**	P	**P**	**02 49 54.6**	**+1.3**
	comp=Z,0.5nm,1.0s,baz=30,slow=9.1,SNR=1.6						
	comp=Z,0.5nm,1.0s						
ARCES	**ARCESS Array B**	**32.11**	**3**	P	**P**	**02 50 15.3**	**-0.5**
	comp=Z,2.9nm,1.0s,baz=193,slow=11,SNR=1.7						
	comp=Z,2.9nm,1.0s						
MKAR	**Makanchi Array**	**45.70**	**58**	P	**P**	**02 52 09.0**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=268,slow=7.2,SNR=2.6						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.16**	**48**	P	**P**	**02 52 12.6**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=280,slow=9.0,SNR=4.1						
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**60.91**	**50**	P	**P**	**02 54 01.8**	**0.0**
	comp=Z,0.3nm,0.5s,baz=309,slow=9.1,SNR=1.9						
	comp=Z,0.3nm,0.5s						

SJA ***04*** *02:46:11.0, 23°.38S×68°.05W, h168km, ML3.3*
GUC ***04*** *02:46:13.2±0.7, 23°.33S×67°.89W, h142km±7km, ML3.6*
ISC 04 02:46:11.3±1.5, 23°.34S±0°.04×67°.97W±0°.05,
h162km±14km, n31, σ0°.68/40, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.13**	**310**	*e*P	**Pn**	**02 46 38.8**	**0.0**
LVC				*e*S	**Sn**	**02 46 58.8**	**-1.0**
LVC	**Limon Verde**	**1.13**	**310**	*i* P	**Pn**	**02 46 38.3**	**-0.5**
PB15	**IPOC Station P**	**1.38**	**275**	⇑*i* P	**Pn**	**02 46 41.6**	**+0.6**
PB15				*e*S	**Sn**	**02 47 04.1**	**+0.5**
PB15	**IPOC Station P**	**1.38**	**275**	*i* P	**Pn**	**02 46 41.1**	**+0.1**
PB06	**IPOC Station P**	**1.60**	**293**	⇑*i* P	**Pn**	**02 46 43.8**	**+0.8**
PB06				*e*S	**Sn**	**02 47 07.4**	**-0.1**
PB06				IAML		02 47 09.9	
	comp=E,522nm,0.2s						
PB06	**IPOC Station P**	**1.60**	**293**	*i* P	**Pn**	**02 46 43.2**	**+0.2**
PB04	**IPOC Station P**	**2.24**	**296**	*e*P	**Pn**	**02 46 51.0**	**+0.8**
PB04				*e*S	**Sn**	**02 47 19.8**	**-0.4**
PB04				IAML		02 47 21.4	
	comp=E,301nm,0.5s						
PB04	**IPOC Station P**	**2.24**	**296**	*i* P	**Pn**	**02 46 50.6**	**+0.4**
GO02	**Mina Guanaco**	**2.34**	**219**	⇑*i* P	**Pn**	**02 46 52.1**	**+0.7**
GO02				*e*S	**Sn**	**02 47 22.9**	**+0.4**
GO02	**Mina Guanaco**	**2.34**	**219**	*i* P	**Pn**	**02 46 51.5**	**0.0**
YJA	**Yavi**	**2.55**	**63**	*e*P	**Pn**	**02 46 53.6**	**-0.5**
YJA	**Yavi**	**2.55**	**63**	*i* P	**Pn**	**02 46 53.9**	**-0.2**
PB14	**IPOC Station P**	**2.56**	**240**	*e*P	**Pn**	**02 46 55.2**	**+1.1**
PB14				*e*S	**Sn**	**02 47 26.9**	**-0.4**
SLA	**San Lorenzo**	**2.64**	**122**	*i* P	**Pn**	**02 46 56.0**	**+1.0**
PB01	**IPOC Station P**	**2.68**	**328**	⇑*e*P	**Pn**	**02 46 55.6**	**+0.2**
PB01				*e*S	**Sn**	**02 47 28.7**	**-0.8**
PB01				IAML		02 47 29.2	
	comp=E,173nm,0.2s						
PB01	**IPOC Station P**	**2.68**	**328**	*i* P	**Pn**	**02 46 55.0**	**-0.4**
PATCX	**Punta Patache**	**3.22**	**321**	*i* P	**Pn**	**02 47 03.1**	**+1.0**
FSA	**Cafayete**	**3.30**	**147**	*i* P	**Pn**	**02 47 03.6**	**+0.5**
PB08	**IPOC Station P**	**3.37**	**341**	*e*P	**Pn**	**02 47 05.2**	**+1.0**
PB08				*e*S	**Sn**	**02 47 45.3**	**+0.1**
PB08	**IPOC Station P**	**3.37**	**341**	*i* P	**Pn**	**02 47 04.6**	**+0.3**
TA01	**Diego Aracena**	**3.44**	**323**	*e*P	**Pn**	**02 47 05.7**	**+1.0**
TA01	**Diego Aracena**	**3.44**	**323**	*i* P	**Pn**	**02 47 04.9**	**+0.1**
AC01	**Pan de Azucar**	**3.68**	**220**	*e*P	**Pn**	**02 47 07.5**	**-0.3**
AC01	**Pan de Azucar**	**3.68**	**220**	*i* P	**Pn**	**02 47 06.9**	**-0.8**
GO01	**Chusmiza**	**3.83**	**342**	⇑*i* P	**Pn**	**02 47 10.3**	**+0.1**
GO01				*e*S	**Sn**	**02 47 56.5**	**+0.5**
GO01	**Chusmiza**	**3.83**	**342**	*i* P	**Pn**	**02 47 09.8**	**-0.3**
PB11	**IPOC Station P**	**3.89**	**336**	*e*P	**Pn**	**02 47 10.1**	**-0.7**
PB11	**IPOC Station P**	**3.89**	**336**	*i* P	**Pn**	**02 47 09.4**	**-1.3**
AHML	**Horco Molle**	**4.18**	**146**	*i* P	**Pn**	**02 47 14.8**	**+0.5**
GO03	**Copiapo**	**4.70**	**205**	*i* P	**Pn**	**02 47 19.8**	**-1.3**
VCA	**Vinchina**	**5.38**	**182**	*i* P	**Pn**	**02 47 29.9**	**-0.2**

NNC 04 02:50:53.2±6.9, 37°.07N×70°.04E, h0km, mb3.7, mpv3.3, 3C-2D, Error ellipse: s-maj=55.0km s-min=51.9km az=123.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.03**	**3**	P	Pn	02 52 25.0	+1.3
	0.5nm,0.3s,baz=196,slow=17,SNR=13						
KK31				⇓S	Sn	02 53 34.7	+1.2
	4.2nm,0.7s,baz=194,slow=24,SNR=17						
CHMS	**Chumysh**	**6.93**	**30**	⇑P	Pn	02 52 35.3	-0.7
	3.0nm,0.4s						
CHMS				⇓S	Sn	02 53 56.6	+1.0
	4.4nm,0.5s						
TKM2	**Tokmak 2**	**7.23**	**34**	⇑P	Pn	02 52 39.8	-0.5
	0.5nm,0.3s						
TKM2				⇑S	Sn	02 54 04.3	+1.2
	2.9nm,1.1s						

NEIC 04 03:00:08.1±1.5, 28°.99N±0°.06×97°.90W±0°.04, h5km±2km, mb_Lg2.8/38, Error ellipse: s-maj=10.9km s-min=5.7km az=199.0, Near coast of Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
735A	**Kenedy**	**0.16**	**148**	Pg	Pg	03 00 11.2	0.0
MLDN	**Muldoon**	**1.07**	**42**		Pg	03 00 27.7	-1.0
MLDN					Sg	03 00 43.1	+0.4
MLDN				IAmb_Lg		03 00 43.7	
	comp=Z,63nm,0.8s						
HNDO	**Hondo**	**1.32**	**294**		Pn	03 00 30.9	-2.3
HNDO					Sg	03 00 49.3	-1.2
833A	**Chaparral WMA,**	**1.47**	**244**	Pg	Pn	03 00 34.3	-0.9
435B	**Jarrell**	**1.81**	**9**		Pn	03 00 38.9	-1.0
435B				IAmb_Lg		03 01 05.4	
	comp=Z,44nm,0.8s						
JCT	**Junction City**	**2.22**	**312**	Pn	Pn	03 00 44.7	-1.0
JCT				IAmb_Lg		03 01 22.0	
	comp=Z,48nm,0.9s						
DRIO	**Del Rio**	**2.41**	**281**		Pn	03 00 47.9	-0.4
BRDY	**Brady**	**2.48**	**338**		Pn	03 00 47.3	-1.8
BRDY				IAmb_Lg		03 01 32.1	
	comp=Z,33nm,0.8s						
WHTX	**Lake Whitney,**	**3.02**	**7**	IAmb_Lg		03 01 51.7	
	comp=Z,24nm,0.7s						
OZNA	**Ozona**	**3.40**	**305**		Pn	03 01 01.8	-0.1
OZNA				IAmb_Lg		03 02 00.1	
	comp=Z,28nm,0.9s						
FW16	**Waxahatchie**	**3.59**	**14**	IAmb_Lg		03 02 03.1	
	comp=Z,29nm,0.8s						
SAND	**Sanderson**	**3.80**	**286**		Pn	03 01 06.3	-1.1
ABTX	**Abilene, Hawle**	**3.92**	**338**		Pn	03 01 07.4	-1.6
ABTX				IAmb_Lg		03 02 19.7	
	comp=Z,16nm,0.9s						
FW06	**Azle**	**3.98**	**4**		Pn	03 01 09.3	-0.5
FW03	**Perrin-Whitt E**	**4.04**	**358**	IAmb_Lg		03 02 25.4	
	comp=Z,17nm,0.8s						
Z35A	**Perchaven, San**	**4.36**	**7**	IAmb_Lg		03 02 38.2	
	comp=Z,22nm,0.8s						
SN05	**Snyder 5**	**4.65**	**327**		Pn	03 01 18.5	-0.5
APMT	**Aspermont**	**4.72**	**337**		Pn	03 01 17.9	-2.1
APMT				IAmb_Lg		03 02 48.2	
	comp=Z,19nm,0.9s						
MNHN	**Monahans**	**4.82**	**300**	IAmb_Lg		03 02 45.7	
	comp=Z,16nm,0.8s						
SN07	**Snyder 07**	**4.83**	**329**		Pn	03 01 21.1	-0.3
LOOK	**Love County**	**5.03**	**7**		Pn	03 01 23.6	-0.6
TX31	**Lajitas Ar. Si**	**5.05**	**275**		Pn	03 01 22.5	-2.1
POST	**Post**	**5.10**	**324**		Pn	03 01 23.8	-1.5
DKNS	**Dickens**	**5.33**	**332**		Pn	03 01 26.9	-1.5
PECS	**Pecos**	**5.68**	**296**	IAmb_Lg		03 03 15.5	
	comp=Z,14nm,0.8s						
WMOK	**Wichita Mounta**	**5.78**	**353**	IAmb_Lg		03 03 18.4	
	comp=Z,12nm,0.9s						
MSTX	**Muleshoe**	**6.48**	**321**	IAmb_Lg		03 03 39.0	
	comp=Z,11nm,1.0s						
AMTX	**Amarillo**	**6.70**	**332**	IAmb_Lg		03 03 38.9	
	comp=Z,11nm,0.8s						

ISK 04 03:03:44.4, 36°.45N×28°.72E, h15km, ML1.2/7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.35**	**58**	Pg	Pg	03 03 51.8	+0.3
FETY				Sg	Sb	03 03 57.5	-0.2
DALY	**Dalyan (Mula)**	**0.37**	**352**	Pg	Pg	03 03 51.9	0.0
DALY				Sg	Sb	03 03 58.1	-0.1
TURN	**Turunc**	**0.50**	**310**	Pg	Pb	03 03 54.6	-0.3
TURN				Sg	Sb	03 04 02.3	+0.3
CAME	**Cameli-Denizli**	**0.68**	**44**	Pg	Pb	03 03 57.9	-0.2
AKAS	**Kas**	**0.75**	**107**	Pg	Pb	03 03 59.5	+0.2
YER	**Yerkesik**	**0.76**	**333**	Pg	Pb	03 03 59.5	0.0
APMY	**Acipayam-Deniz**	**1.12**	**25**	Pn	Pg	03 04 06.1	+0.1

GII ***04*** *03:04:21.2±0.5, 37°.17N×20°.64E, h10km, Mws4.9, confirmed*
IDC ***04*** *03:04:29.4±0.5, 37°.25N×20°.85E, h0km, mb4.1/25, mbtmp4.1/36, ML3.6/9, MS4.2/68, Error ellipse: s-maj=12.6km s-min=10.9km az=177.0*
NAO ***04*** *03:04:29.5, 37°.17N×20°.64E, h10km, mb4.9*
THE ***04*** *03:04:30.1, 37°.16N×20°.57E, h3km, ML4.5/9, Error ellipse: s-maj=0.8km s-min=0.3km az=59.0*
ATH ***04*** *03:04:30.2, 37°.16N×20°.57E, h7km±1km, ML4.3/26, Error ellipse: s-maj=2.0km s-min=0.8km az=43.0*
MOS ***04*** *03:04:30.7±1.5, 37°.18N×20°.78E, h13km, mb4.7/17, MS4.2/11, Error ellipse: s-maj=4.8km s-min=2.9km az=81.6*
NEIC ***04*** *03:04:31.5±2.7, 37°.21N±0°.07×20°.72E±0°.07, h10km±1km, mb4.6/32, Error ellipse: s-maj=11.5km s-min=9.5km az=184.0*
MCSM ***04*** *03:04:32.8±0.6, 37°.N×3°.2°1E±°, h11km±4km, mB4.8, mb4.6, MLv4.7, Mw(mB)4.1*
GCMT ***04*** *03:04:33.5±0.2, 37°.15N±0°.01×20°.57E±0°.01, h12km±1km, MW4.9/117, Moment Tensor Solution. s25,c29; s117,c184; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.09±.07; Mθθ-0.94±.07; Mφφ0.84±.07; Mrθ0.94±.22; Mθφ2.25±.07; Mφr-0.01±.18; Best double couple: M□2.59000×10^16 NP1:φs259.00000°, δ88.00000°, λ-21.00000°. NP2:φs350.00000°, δ70.00000°, λ-178.00000°. Principal axes: T 2.4930, Plg13.0000°, Azm306.0000°; N 0.1960, Plg69.0000°, Azm73.0000°; P -2.6880, Plg16.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MED_RC ***04*** *03:04:33.0±0.2, 37°.10N×20°.56E, h13km±1km, MW4.9/47, Moment Tensor Solution.Mantle waves: s47,c81; Duration: 1ŝ1 Moment tensor: Scale 10^16Nm; Mrr0.10±.09; Mθθ-1.08±.06; Mφφ0.98±.07; Mrθ-0.15±.15; Mθφ2.21±.06; Mφr0.52±.15; Best double couple: M□2.50000×10^16 NP1:φs167.00000°, δ90.00000°, λ-167.00000°. NP2:φs77.00000°, δ77.00000°, λ0.00000°. Principal axes: T 2.4400, Plg9.0000°, Azm302.0000°; N 0.1000, Plg77.0000°, Azm168.0000°; P -2.5500, Plg9.0000°, Azm33.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
BEO ***04*** *03:04:33.5±0.6, 37°.45N×20°.46E, h0km, ML4.2/8*
PDG ***04*** *03:04:37.9±1.2, 37°.29N×20°.61E, h15km±10km, ML4.6/12, Error ellipse: s-maj=1.7km s-min=3.4km az=0.0*
AFAD ***04*** *03:04:38.0±0.0, 37°.09N×21°.54E, h15km, MW4.6*
ISC 04 03:04:30.5±0.3, 37°.22N±0°.03×20°.69E±0°.03, h6km, n585, σ1ŝ90/543, mb4.4/49, MS4.3/69, 26C-31D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.45**	**13**	P	**Pb**	**03 04 40.4**	**-0.5**
KRI1				S	**Sb**	**03 04 48.4**	**+0.5**
	97μm,0.5s						
LTHK	**Lithakia**	**0.50**	**13**	P	**Pb**	**03 04 41.3**	**-0.4**
LTHK				S	**Sb**	**03 04 50.0**	**+0.7**
	86μm,0.2s						
LTHK	**Lithakia**	**0.50**	**13**	P	**Pb**	**03 04 41.6**	**-0.2**
LTHK				S	**Sb**	**03 04 50.0**	**+0.7**
LTHK				AML	AML	03 04 51.1	
LTHK				AML	AML	03 04 51.9	
RTZL	**Ratzakli, Kefa**	**0.86**	**4**	P	**Pg**	**03 04 47.5**	**+0.5**
RTZL				S	**Sn**	**03 05 01.1**	**-0.9**
	38μm,0.7s						
AMT	**Artemida-Makis**	**0.87**	**69**	P	**Pb**	**03 04 48.9**	**+0.9**
AMT				S	**Sn**	**03 05 01.7**	**-0.6**
AMT	**Artemida-Makis**	**0.87**	**69**	P	**Pb**	**03 04 48.9**	**+0.9**
AMT				S	**Sn**	**03 05 01.7**	**-0.6**
AMT				AML	AML	03 05 09.9	
AMT				AML	AML	03 05 13.2	
PSDA	**Pessada-Kefalo**	**0.90**	**355**	P	**Pg**	**03 04 48.0**	**+0.2**
PSDA				S	**Sn**	**03 05 02.2**	**-0.7**
	29μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.90**	**355**	P	**Pg**	**03 04 48.0**	**+0.2**
PYL	**PYLOS**	**0.90**	**111**	P	**Pb**	**03 04 48.6**	**+0.1**
PYL				S	**Sn**	**03 05 02.7**	**-0.3**
	13μm,0.6s						
PYL	**PYLOS**	**0.90**	**111**	P	**Pb**	**03 04 48.6**	**+0.1**
PYL				AML	AML	03 05 08.9	
	comp=N,24141μm,0.7s						
PYL				AML	AML	03 05 12.6	
	comp=E,26384μm,0.5s						
VLS	**Valsamata**	**0.96**	**355**	P	**Pg**	**03 04 49.1**	**

DLFA Delphi 1.90 48 P Pb 03 05 05.5 -0.1
DLFA AML AML 03 05 47.2
comp=N,7164µm,0.8s
DLFA AML AML 03 05 49.9
comp=E,5638µm,0.8s
EVR Evrytania 1.91 27 P Pb 03 05 05.6 -0.2
EVR AML AML 03 05 51.7
comp=N,10315µm,1.2s
EVR AML AML 03 06 00.1
comp=E,12214µm,1.4s
MAKR Makrakomi, Fth 2.12 32 P Pb 03 05 08.6 -0.8
MAKR AML AML 03 05 51.6
comp=E,16359µm,0.8s
MAKR AML AML 03 06 06.0
comp=N,14356µm,1.0s
AXAR Agios Charalam 2.19 45 P Pb 03 05 09.9 -0.7
AXAR AML AML 03 05 59.4
comp=E,12548µm,1.1s
AXAR AML AML 03 06 03.4
comp=N,21609µm,1.0s
AGG Agios Georgios 2.22 35 Pb 03 05 10.6 -0.4
AGG Agios Georgios 2.22 35 P Pb 03 05 10.6 -0.4
VIL2 Platees 2.27 63 P Pn 03 05 09.6 +1.0
IGT Igoumenitsa 2.33 353 P Pb 03 05 12.5 -0.4
IGT Igoumenitsa 2.33 353 P Pn 03 05 08.9 -0.4
IGT AML AML 03 06 11.8
comp=E,5053µm,1.1s
IGT AML AML 03 06 13.6
comp=N,3778µm,1.4s
JAN Janina 2.44 3 P Pb 03 05 14.1 -0.6
JAN Janina 2.44 3 P Pn 03 05 12.0 +1.2
JAN AML AML 03 06 05.4
comp=E,7077µm,1.1s
JAN AML AML 03 06 08.6
comp=N,5688µm,0.6s
ANKY Antikythira Is 2.50 122 P Pn 03 05 12.0 +0.4
ATH Athens Observa 2.52 72 P Pb 03 05 15.0 -1.1
VLY Voula,Athens 2.55 75 P Pn 03 05 12.2 -0.1
VLY AML AML 03 06 05.3
comp=N,3531µm,1.0s
VLY AML AML 03 06 09.2
comp=E,2889µm,0.9s
ATHU Athens Univers 2.57 72 P Pn 03 05 12.9 +0.3
ATHU AML AML 03 06 10.5
comp=E,1045µm,2.1s
ATHU AML AML 03 06 17.8
comp=N,1756µm,0.8s
KEK Kerkira 2.59 345 Pn 03 05 14.5 +1.6
KEK Kerkira 2.59 345 P Pn 03 05 13.1 +0.2
KEK AML AML 03 06 17.3
comp=N,4018µm,0.6s
KEK AML AML 03 06 19.4
comp=E,5003µm,1.0s
DION Dionisos Attik 2.71 71 P Pn 03 05 15.2 +0.6
DION AML AML 03 06 15.8
comp=N,4802µm,1.3s
DION AML AML 03 06 19.4
comp=E,5362µm,1.0s
TYRN Tyrnavos 2.77 25 P Pn 03 05 15.5 +0.2
KPRO Kipourio 2.78 11 P Pn 03 05 17.8 +2.1
NEO Neokhori 2.88 43 P Pn 03 05 17.5 +0.4
NEO AML AML 03 06 08.4
comp=N,2038µm,0.4s
NEO AML AML 03 06 13.5
comp=E,2763µm,0.8s
PENT Pentalofos 2.99 7 P Pn 03 05 20.7 +2.2
KYMI Kymi, Euboea I 3.04 61 P Pn 03 05 18.8 -0.4
KZN Kozani 3.20 15 P Pn 03 05 22.5 +1.1
LIT Litokhoron 3.20 26 Pn 03 05 22.6 +1.2
LIT Litokhoron 3.20 26 P Pn 03 05 22.6 +1.2
SCTE Santa Cesarea 3.34 329 Pn 03 05 23.4 +0.2
FNA Florina 3.60 8 Pn 03 05 28.4 +1.5
FNA Florina 3.60 8 *e*Pn **Pn 03 05 28.3 +1.5**
FNA *e*Sn **Sn 03 06 09.0 -0.7**
FNA Florina 3.60 8 P Pn 03 05 28.4 +1.5
TIP Timpagrande 3.66 303 Pn 03 05 28.0 +0.2
TIP Timpagrande 3.66 303 ⇑P **Pn 03 05 27.9 +0.2**
TIP Timpagrande 3.66 303 P **Pn 03 05 28.3 +0.5**
THE Thessaloniki 3.84 27 P Pn 03 05 32.3 +2.2
APE Apeiranthos 3.87 91 P Pn 03 05 28.5 -2.1
APE Apeiranthos 3.87 91 *e*P **Pb 03 05 35.5 -3.6**
APE Apeiranthos 3.87 91 P Pn 03 05 29.9 -0.7
OHR Ohrid 3.89 1 *e*Pn **Pn 03 05 31.9 +1.1**
OHR Ohrid 3.89 1 *i* Pn **Pn 03 05 33.7 +2.9**
IDI Anoyia 3.90 118 Pn 03 05 31.9 +0.9
IDI Anoyia 3.90 118 Pn **Pn 03 05 30.8 -0.3**
comp=E,3.7nm,0.4s,baz=257,slow=10,SNR=14
IDI Pg **Pb 03 05 37.4 -2.4**
comp=E,6.0nm,0.3s,baz=265,slow=10,SNR=7.0
IDI Sn **Sn 03 06 15.8 -1.4**
comp=E,8.9nm,0.3s,baz=357,slow=23,SNR=2.6
CEL Celeste 3.94 287 Pn 03 05 32.3 +0.7
CEL Celeste 3.94 287 P Pn 03 05 32.5 +0.9
OUR Ouranopolis 4.04 39 P Pn 03 05 36.6 +3.8
SOH Sokhos 4.15 29 P Pn 03 05 36.6 +2.1
TIR Tirane 4.17 351 Pn 03 05 36.9 +2.2
TIR Tirane 4.17 351 *e*Pn **Pn 03 05 35.5 +0.8**
TIR Tirane 4.17 351 ⇓P **Pn 03 05 36.6 +2.0**
TIR Tirane 4.17 351 P Pn 03 05 36.9 +2.2
TIR Tirane 4.17 351 P Pn 03 05 36.5 +1.8
KNT Kendrikon 4.29 23 P Pn 03 05 38.3 +1.9
SRS Serrai 4.50 29 *e*Pn **Pn 03 05 40.3 +1.1**
SRS Serrai 4.50 29 P Pn 03 05 41.1 +1.9
MATE Matera 4.62 319 *e*P Pn 03 05 46.0 +5.1
CUC Castrocucco 4.72 307 Pn 03 05 43.7 +1.5
ZEYE Izmir, Urla-Ze 4.72 76 P Pn 03 05 38.0 -4.2
KOCA Canakkale, Ayv 4.85 60 P Pn 03 05 47.5 +3.5
PUK Puka 4.86 353 Pn 03 05 44.7 +0.5
PEHC Pehcevo 4.86 20 *i* Pn **Pn 03 05 46.0 +1.7**
ULC Ulcinj 4.87 347 ⇓*i* Pn **Pn 03 05 44.0 -0.3**
ULC *i* Sn **Sn 03 06 38.3 -2.7**
MMB Musomishta 4.93 28 P Pn 03 05 46.6 +1.5
MMB Musomishta 4.93 28 P Pn 03 05 46.8 +1.7
DGB zmir 4.98 79 P Pn 03 05 46.7 +0.8
KKB Krupnik 4.99 21 P Pn 03 05 47.8 +1.9
VAE Valguarnera 5.01 275 Pn **Pn 03 05 48.1 +1.8**
comp=E,13nm,0.3s,baz=167,slow=9.0,SNR=38
VAE Sn **Sn 03 06 44.2 -0.3**
comp=E,46nm,0.3s,baz=108,slow=20,SNR=6.7
comp=E,115nm,0.7s
RAFF Raffo Rosso 5.05 272 Pn 03 05 46.5 -0.2
DRME Dracevica, Mon 5.09 347 ⇓*i* Pn **Pn 03 05 47.7 +0.3**
DRME *i* Sn **Sn 03 06 42.7 -3.8**
EZN Ezine 5.13 58 P Pn 03 05 50.8 +3.0
comp=E,55nm,0.9s,comp=E,0.5nm
WDD Wied Dalam 5.15 256 Pn 03 05 48.8 +0.6
AYVA Ayvalik 5.16 64 P Pn 03 05 49.8 +1.6
BLCB Balcova 5.16 75 P Pn 03 05 50.6 +2.3
GCAM G?zelcaml? 5.23 83 P Pn 03 05 48.2 -0.9
BAYC CANAKKALE_Bayr 5.24 59 P Pn 03 05 53.0 +3.6
BUM Brajici-Budva 5.26 345 ⇓*i* Pn **Pn 03 05 49.4 -0.3**
BUM *i* Sn **Sn 03 06 46.5 -4.2**
BODT Bodrum 5.29 90 P Pn 03 05 50.4 +0.4
PDG Podgorica 5.32 348 Pn 03 05 49.9 -0.6
PDG Podgorica 5.32 348 *e*Pn **Pn 03 05 50.6 +0.2**
PDG *e*Sn **Sn 03 06 49.3 -2.7**
PDG Podgorica 5.32 348 *e*Pn **Pn 03 05 51.6 +1.2**
PDG Podgorica 5.32 348 ⇑P **Pn 03 05 51.1 +0.6**
PDG Podgorica 5.32 348 ⇑*i* Pn **Pn 03 05 50.9 +0.5**
PDG *i* Sn **Sn 03 06 48.5 -3.5**
BDRM Kayabasi 5.40 90 P Pn 03 05 54.6 +3.0
BDRM S Sn 03 06 39.8 -14
BDRM *i* AML AML 03 06 42.0
comp=E,36nm,0.9s
YAZI Mula-Dat§a- 5.44 94 P Pn 03 05 52.2 +0.1
BOSS Bosilegrad 5.45 14 *e*Pn **Pn 03 05 52.9 +0.7**
RZN Rozhen 5.46 34 P Pn 03 05 54.1 +1.6
KARP Karpathos 5.48 106 Pn 03 05 53.5 +0.8
KARP Karpathos 5.48 106 P Pn 03 05 56.0 +3.3
KARP Karpathos 5.48 106 P Pn 03 05 55.9 +3.3
comp=E,142nm,0.8s,comp=E,2µmcomp=E,0.6nm
HCY Herceg Novi 5.49 343 *e*Pn **Pn 03 05 52.8 0.0**
HCY Herceg Novi 5.49 343 ⇓*i* Pn **Pn 03 05 52.7 0.0**
HCY *i* Sn **Sn 03 06 52.4 -3.8**
CEME Cevo 5.49 346 ⇓*i* Pn **Pn 03 05 52.8 -0.1**
CEME *i* Sn **Sn 03 06 52.8 -3.6**
BUHA Balikesir, Bur 5.51 64 P Pn 03 05 55.4 +2.3
ALN Alexandroupoli 5.55 47 Pn 03 05 55.2 +1.5
ALN Alexandroupoli 5.55 47 P Pn 03 05 55.2 +1.5
BARS Barje 5.66 8 *e*Pn **Pn 03 05 55.2 +0.1**
IVA Berane 5.68 354 ⇑*i* Pn **Pn 03 05 56.4 +0.9**
IVA *i* Sn **Sn 03 06 56.9 -4.1**
KOME Kolasin 5.70 351 ⇓*i* Pn **Pn 03 05 57.2 +1.5**
KOME *i* Sn **Sn 03 06 57.8 -3.7**
NKME Niksic 5.70 347 ⇑*i* Pn **Pn 03 05 55.9 +0.2**
NKME *i* Sn **Sn 03 06 58.1 -3.4**
VTS Vitosha 5.74 19 P Pn 03 05 57.5 +1.2
VTS Vitosha 5.74 19 *e*Pn **Pn 03 05 57.1 +0.8**
VTS *e*Sn **Sn 03 07 00.5 -2.0**
TREB Trebinje 5.78 343 *e*Pn **Pn 03 05 57.2 +0.5**
TREB *e*Sn **Sn 03 06 57.1 -6.2**
TREB Trebinje 5.78 343 *e*Pn **Pn 03 05 57.6 +0.9**
PLD Plovdiv 5.83 31 *e*Pn **Pn 03 05 58.7 +1.2**
BRY Bratogost 5.91 344 *e*Pn **Pn 03 05 57.6 -1.1**
BRY Bratogost 5.91 344 ⇑*i* Pn **Pn 03 05 58.8 +0.1**
BRY *i* Sn **Sn 03 07 02.6 -4.2**
SELS Selova 6.00 3 *e*Pn **Pn 03 05 59.4 -0.5**
SELS *e*Sn **Sn 03 07 04.0 -4.9**
ARG Arkhangelos 6.06 97 P Pn 03 06 05.1 +4.5
ARG pmax pmax
comp=Z,78nm,0.8s
SJES Sjenica 6.06 355 *e*Pn **Pn 03 06 01.0 +0.3**
SJES *e*Sn **Sn 03 07 04.9 -5.5**
SJES Sjenica 6.06 355 *e*Pn **Pn 03 06 01.1 +0.3**
TURN Turunc 6.06 92 P Pn 03 06 03.3 +2.6
YER Yerkesik 6.06 89 P Pn 03 06 04.1 +3.3
YER Yerkesik 6.06 89 P Pn 03 06 06.0 +5.3
MULA Mugla, Merkez- 6.09 87 P Pn 03 06 06.4 +5.3
STON Ston 6.09 339 *e*Pn **Pn 03 06 00.1 -0.9**
STON *e*Sn **Sn 03 07 05.0 -6.1**
STON Ston 6.09 339 *e*Pn **Pn 03 06 01.2 +0.2**
ESEN Aydn-Nazilli 6.12 82 P Pn 03 06 04.1 +2.7
UPM Unac-Piva 6.13 348 *e*Pn **Pn 03 06 02.8 +1.0**
UPM Unac-Piva 6.13 348 ⇑*i* Pn **Pn 03 06 03.1 +1.3**
UPM *i* Sn **Sn 03 07 08.4 -3.9**
PLE Pljevlja 6.18 351 ⇓*i* Pn **Pn 03 06 03.2 +0.8**
PLE *i* Sn **Sn 03 07 09.3 -4.2**
ZAPS Zavoj 6.23 13 *e*Pn **Pn 03 06 03.9 +1.0**
IVAS Ivanjica 6.36 356 *e*Pn **Pn 03 06 03.9 -0.9**
BOVS Bovan 6.46 7 *e*Pn **Pn 03 06 05.1 -0.9**
RUDO Rudo 6.47 351 *e*Pn **Pn 03 06 04.4 -1.9**
TAVA DENIZLI_Tavas 6.55 85 P Pb 03 06 16.7 -8.3
MPEP Malo Peshtene 6.56 20 P Pn 03 06 08.8 +1.4
SABU Mula-Dalaman 6.63 91 P Pn 03 06 12.0 +3.4
GRUS Gruza 6.66 0 *e*Pn **Pn 03 06 08.2 -0.7**
ZAGS Zajecar 6.69 10 *e*Pn **Pn 03 06 09.6 +0.3**
BBLS Lazi&#263i 6.71 352 *e*Pn **Pn 03 06 09.8 +0.2**
BBLS Lazi&#263i 6.71 352 *e*Pn **Pn 03 06 10.2 +0.6**
DIVS Divibare 6.89 356 *e*Pn **Pn 03 06 11.1 -1.0**
DIVS *e*Sn **Sn 03 07 24.7 -6.2**
ELND Elena 6.95 33 ⇓P **Pn 03 06 14.6 +1.7**
HAPS Han Pijesak,Bl 6.99 350 *e*Pn **Pn 03 06 13.3 -0.1**
HAPS Han Pijesak,Bl 6.99 350 *e*Pn **Pn 03 06 13.4 0.0**
TRUS Trudelj 7.00 358 *e*Pn **Pn 03 06 12.2 -1.3**
INTR Introdacqua 7.09 315 Pn 03 06 16.5 +1.6
KUBS Kucevo 7.22 6 *e*Pn **Pn 03 06 14.7 -1.9**
TEKS Tekeris 7.38 354 *e*Pn **Pn 03 06 17.3 -1.4**
TEKS Tekeris 7.38 354 *e*Pn **Pn 03 06 16.7 -2.0**
ELL Elmali 7.39 91 Pn 03 06 23.1 +4.1
ELL Elmali 7.39 91 P Pn 03 06 23.1 +4.1
YLV Yalova 7.55 61 P Pn 03 06 24.1 +3.0
comp=Z,29nm,1.4s,comp=Z,0.1nm
HERR Herculane 7.76 9 ⇓P **Pn 03 06 24.1 +0.1**
A050A Klekovaca 7.91 338 *e*Pn **Pn 03 06 27.1 +1.0**
FRGS Fruska Gora 7.96 355 *e*Pn **Pn 03 06 24.9 -1.8**
FRGS Fruska Gora 7.96 355 *e*Pn **Pn 03 06 25.4 -1.3**
BLY Banja Luka 7.97 342 *e*Pn **Pn 03 06 27.8 +0.9**
BLY Banja Luka 7.97 342 *e*Pn **Pn 03 06 28.0 +1.1**
CESX Cesi 8.23 313 Pn 03 06 31.6 +1.2
A051A Mrakovica 8.29 341 *e*Pn **Pn 03 06 30.4 -0.9**
BZS Buzias 8.42 4 *e*Pn **Pn 03 06 31.1 -1.9**
LOT Lotru 8.54 15 ⇓P **Pn 03 06 36.9 +2.1**
SURR Surduc 8.60 7 ⇑P **Pn 03 06 36.2 +0.8**
ARR Arges 8.66 19 ⇑P **Pn 03 06 37.4 +1.0**
DEV Deva 8.81 10 P Pn 03 06 45.1 +6.7
DEV pmax pmax
comp=Z,19nm,0.8s
VOIR 8.84 20 ⇑P **Pn 03 06 40.4 +1.6**
VOIR 8.84 20 P Pn 03 06 40.4 +1.6
VOIR 8.84 20 P Pn 03 06 39.6 +0.8
comp=Z,24nm,0.9s
ISR Istrita 9.04 27 ⇓P **Pn 03 06 44.3 +2.8**
ISR Istrita 9.04 27 P Pn 03 06 44.3 +2.8
ISR Istrita 9.04 27 P Pn 03 06 43.6 +2.1
comp=Z,41nm,1.7s
SIRR Siria 9.07 4 ⇓P **Pn 03 06 42.4 +0.5**
MORH Mrgy, Hungar 9.12 351 ⇑P **Pn 03 06 42.0 -0.5**
MLR Muntele Rosu 9.16 24 Pn 03 06 46.5 +3.2
MLR Muntele Rosu 9.16 24 Pn **Pn 03 06 46.3 +3.1**
comp=Z,0.5nm,0.3s,baz=179,slow=3.2,SNR=15
MLR Muntele Rosu 9.16 24 ⇓P **Pn 03 06 46.4 +3.2**
MLR Muntele Rosu 9.16 24 P Pn 03 06 46.5 +3.2
MLR Muntele Rosu 9.16 24 P Pn 03 06 46.8 +3.6
comp=Z,48nm,1.0s
NEHR Nehoiu 9.22 25 ⇓P **Pn 03 06 46.7 +2.8**
HARR Harsova 9.25 34 ⇓P **Pn 03 06 45.7 +1.3**
HARR Harsova 9.25 34 P Pn 03 06 45.7 +1.3
KEST Kesra 9.26 264 Pn **Pn 03 06 46.6 +2.0**
comp=Z,1.1nm,0.3s,baz=91,slow=6.5,SNR=11
KEST Sn **Sn 03 08 22.6 -6.5**
comp=Z,0.5nm,0.3s,baz=248,slow=20,SNR=2.0
KEST LR LR 03 11 38.3
comp=Z,396nm,18.8s,baz=80,slow=46
comp=Z,15nm,0.7s
BISRR Bisoca 9.47 27 ⇓P **Pn 03 06 50.1 +2.6**
BISRR Bisoca 9.47 27 P Pn 03 06 49.9 +2.5
comp=Z,91nm,0.8s
COVR Voineasa-Covas 9.55 24 ⇓P **Pn 03 06 51.2 +2.6**
MARR Marisel-Cluj 9.62 10 ⇑P **Pn 03 06 51.6 +2.1**
OZUR 9.65 22 ⇑P **Pn 03 06 51.9 +2.0**
DRGR 9.68 8 *e*Pn **Pn 03 06 49.3 -1.1**
DRGR 9.68 8 ⇓P **Pn 03 06 52.6 +2.2**
DRGR 9.68 8 P Pn 03 06 52.5 +2.2
TURR Turia 9.68 23 ⇑P **Pn 03 06 52.9 +2.5**
PLOR Plostina 9.71 25 ⇑P **Pn 03 06 53.7 +3.0**
PLOR Plostina 9.71 25 P Pn 03 06 53.7 +3.0
PLOR5 Plostina Array 9.71 26 P Pn 03 06 51.2 +0.5
comp=Z,27nm,1.1s
PLOR3 Plostina Array 9.71 25 P Pn 03 06 52.5 +1.8
comp=Z,45nm,1.2s
CEY Cerknica 9.72 333 *e*Pn **Pn 03 06 51.3 +0.5**
VRI Vrincioaia 9.75 26 ⇓P **Pn 03 06 53.9 +2.6**
VRI Vrincioaia 9.75 26 P Pn 03 06 53.8 +2.6
VRI Vrincioaia 9.75 26 P Pn 03 06 53.0 +1.8
comp=Z,20nm,0.9s,comp=Z,218nm
GHRR 10.16 27 P Pn 03 06 59.6 +2.8
TESR Tescani 10.29 24 ⇑P **Pn 03 07 01.3 +2.7**
TESR Tescani 10.29 24 P Pn 03 07 01.1 +2.5
comp=Z,13nm,0.9s
SOKA Soboth 10.35 338 *e*Pn **Pn 03 06 59.4 0.0**
comp=Z,4.9nm,0.4s,SNR=11
OBKA Obir 10.35 336 *e*Pn **Pn 03 06 59.8 +0.4**
comp=Z,3.9nm,0.4s
OBKA Obir 10.35 336 *e*Pn **Pn 03 07 01.9 +2.4**
BR131 Keskin Array S 10.46 72 ⇑*e*P **Pn 03 07 04.0 +2.9**
BRTR Keskin Array B 10.46 72 Pn **Pn 03 07 02.9 +1.8**
comp=Z,0.1nm,0.3s,baz=266,slow=14,SNR=2.8
comp=Z,1.1nm,0.7s
CSS Mathiatis 10.47 99 P Pn 03 06 53.1 -8.1
CSS Mathiatis 10.47 99 S Sn 03 08 50.7 -8.2
TEOL Teolo 10.59 323 Pn 03 07 02.1 -0.6
PSZ Piszkesteto 10.71 357 *e*P **Pn 03 07 05.7 +1.3**
PSZ Piszkesteto 10.71 357 ⇑P **Pn 03 07 04.7 +0.3**
PSZ Piszkesteto 10.71 357 P Pn 03 07 04.7 +0.3
ARSA Arzberg 10.73 341 *e*Pn **Pn 03 07 04.9 +0.2**
comp=Z,1.7nm,0.3s
SRO Srobarova 10.73 351 *e*P **Pn 03 07 07.2 +2.6**
SRO Srobarova 10.73 351 *e*PN **Pn 03 07 07.2 +2.6**
BURAR Bucovina Array 10.91 16 ⇑P **Pn 03 07 09.8 +2.5**
BURAR Bucovina Array 10.91 16 P Pn 03 07 09.7 +2.5
RONA Rosalia, Austr 10.96 344 *e*Pn **Pn 03 07 08.0 +0.1**
comp=Z,0.4nm,0.2s
KORU Korolevo 11.08 9 P Pn 03 07 10.3 +0.9
BERU Beregovo 11.10 7 P Pn 03 07 10.6 +0.9
CTI Castel Tesino 11.11 325 Pn 03 07 09.8 -0.1
CTI Castel Tesino 11.11 325 P Pn 03 07 09.8 -0.1
BRIU Brid 11.24 8 P Pn 03 07 13.6 +2.0
KBA Koelnbreinsper 11.25 333 *e*Pn **Pn 03 07 12.4 +0.5**
comp=Z,5.9nm,0.6s
KBA Koelnbreinsper 11.25 333 P Pn 03 07 15.8 +3.8
KBA pmax pmax
comp=Z,25nm,0.8s
CONA Conrad Observa 11.28 343 *e*Pn **Pn 03 07 12.3 +0.1**
comp=Z,0.1nm,0.2s
ABTA Abfaltersbach 11.29 330 *e*Pn **Pn 03 07 12.0 -0.4**
comp=Z,0.9nm,0.2s
NSLU Nyzhne Selyshc 11.31 13 P Pn 03 07 11.5 -1.1
MUKU Mukachevo 11.32 7 P Pn 03 07 14.7 +2.0
HOLU Holmets 11.37 6 P Pn 03 07 14.7 +1.3
MODS Modra-Piesok 11.43 348 *e*P **Pn 03 07 16.1 +1.9**
MODS Modra-Piesok 11.43 348 *e*PN **Pn 03 07 16.1 +1.9**
MOA Molln 11.63 338 *e*Pn **Pn 03 07 17.1 +0.2**
comp=Z,2.7nm,0.4s,SNR=10
BIOA Bad Ischl, Aus 11.68 336 *e*Pn **Pn 03 07 18.2 +0.5**
comp=Z,3.0nm,0.4s,SNR=5.0
KOLS Kolonicke sedl 11.77 5 *e*P **Pn 03 07 21.3 +2.5**
KOLS Kolonicke sedl 11.77 5 *e*PN **Pn 03 07 21.3 +2.5**
LESA Schwarzleotal 11.79 332 *e*Pn **Pn 03 07 20.4 +1.2**
comp=Z,3.7nm,0.4s
STNU Starunia 11.82 12 P Pn 03 07 21.8 +2.3
JAVC Velka Javorina 11.84 350 *e*PN **Pn 03 07 23.7 +3.8**
WTTA Wattenberg 12.06 329 *e*Pn **Pn 03 07 25.3 +2.3**
comp=Z,2.0nm,0.5s
WTTA Wattenberg 12.06 329 P Pn 03 07 30.1 +7.1
WTTA pmax pmax
comp=Z,23nm,1.1s
WATA Walderalm 12.14 329 *e*Pn **Pn 03 07 26.4 +2.3**
comp=Z,2.8nm,0.4s
NIE Niedzica 12.20 359 P Pn 03 07 31.6 +6.9
NIE pmax pmax
comp=Z,7.0nm,1.4s
NIE Niedzica 12.20 359 P Pn 03 07 27.0 +2.3
comp=Z,7.2nm,1.4s
SQTA Sankt Quirin 12.21 328 *e*Pn **Pn 03 07 26.0 +1.0**
comp=Z,1.4nm,0.3s
KRUC Moravsky 12.24 347 *e*PN **Pn 03 07 27.7 +2.4**
KRUC Moravsky 12.24 347 P Pn 03 07 31.6 +6.3
KRUC pmax pmax
comp=Z,6.0nm,0.9s
FETA Feichten 12.26 326 *e*Pn **Pn 03 07 28.1 +2.4**
comp=Z,3.1nm,0.6s
MAUC Maruska 12.32 351 *e*PN **Pn 03 07 28.0 +1.6**
MOTA Moosalm 12.35 328 *e*Pn **Pn 03 07 28.0 +1.1**
comp=Z,2.3nm,0.4s
VRAC Vranov 12.44 347 *e*PN **Pn 03 07 30.1 +2.0**
CKRC Cesky Krumlov 12.49 340 *e*PN **Pn 03 07 29.5 +0.7**
CKRC Cesky Krumlov 12.49 340 *e*P **Pn 03 07 29.5 +0.7**
TUE Stuetta 12.52 321 P Pn 03 07 29.7 +0.4
comp=Z,71nm,1.3s
RETA Reutte 12.61 328 *e*Pn **Pn 03 07 34.2 +3.9**
comp=Z,1.4nm,0.4s
TREC Trest 12.65 344 P Pn 03 07 36.4 +5.5
TREC pmax pmax
comp=Z,8.0nm,1.6s
GEC2 GERESS Array S 12.69 339 P Pn 03 07 36.3 +4.8
GEC2 pmax pmax
comp=Z,9.0nm,1.7s
GERES GERESS Array B 12.69 339 Pn **Pn 03 07 32.7 +1.2**
comp=Z,1.1nm,0.5s
GERES Sn **Sn 03 09 50.3 -2.7**
HORU Horodok 12.69 17 P Pn 03 07 33.4 +2.0
MMA0 Mount Meron ar 12.75 105 P Pn 03 07 36.1 +3.7
MMA0B Mount Meron ar 12.75 105 P Pn 03 07 22.7 -10
MMA0B Mount Meron ar 12.75 105 S Sn 03 09 46.1 -8.7
MMAI Mount Meron Ar 12.75 105 Pn **Pn 03 07 28.1 -4.4**
comp=Z,1.4nm,0.3s,baz=301,slow=11,SNR=6.8
MMAI LR LR 03 14 37.9
comp=Z,629nm,20.5s,baz=252,slow=48
MORC Moravsky Berou 12.76 351 *e*PN **Pn 03 07 34.3 +1.9**
SLTI Sal'it 12.80 109 S Sn 03 09 46.6 -9.2
SLTI Sal'it 12.80 109 P Pn 03 07 22.8 -10
DAVA Damuels 12.84 325 *e*Pn **Pn 03 07 36.3 +2.6**
comp=Z,3.7nm,0.6s,SNR=6.5
GEM Giv'at Ha'Em 12.88 104 P Pn 03 07 27.0 -7.1
GEM Giv'at Ha'Em 12.88 104 P Pn 03 07 24.0 -10
GEM Giv'at Ha'Em 12.88 104 S Sn 03 09 48.8 -8.9
KHC Kasperske Hory 12.98 339 *e*PN **Pn 03 07 36.6 +1.2**
KHC *e*SN **Sn 03 09 53.3 -6.8**
KHC AMS AMS 03 13 20.0
comp=Z,2µm,9.4s
KHC Kasperske Hory 12.98 339 ⇑*e*P **Pn 03 07 37.0 +1.5**
KHC Kasperske Hory 12.98 339 P Pn 03 07 36.9 +1.5
comp=Z,13nm,1.4s
KZIT Kziot 12.98 115 P Pn 03 07 33.1 -2.4
KZIT Kziot 12.98 115 S Sn 03 09 49.8 -11
KZIT Kziot 12.98 115 P Pn 03 07 25.6 -10
SALP Salfit 12.99 109 P Pn 03 07 32.2 -3.5
MMLI Mount Malkishu 13.01 107 S Sn 03 09 51.3 -10
MMLI Mount Malkishu 13.01 107 P Pn 03 07 27.0 -8.8
AMAZ Amatzia 13.04 112 P Pn 03 07 37.2 +0.9
AMAZ Amatzia 13.04 112 S Sn 03 09 51.9 -10
AMAZ Amatzia 13.04 112 P Pn 03 07 27.2 -9.2
SHMJ Saham 13.15 105 P Pn 03 07 41.1 +3.3
KRLC Kraliky 13.16 349 AMS AMS 03 14 00.0
comp=Z,2µm,11.2s
HMDT Nahal Hemdat 13.16 108 P Pn 03 07 40.8 +2.8
HMDT Nahal Hemdat 13.16 108 S Sn 03 09 55.1 -10
HMDT Nahal Hemdat 13.16 108 P Pn 03 07 28.8 -9.2
QRNJ Al-Qirein 13.17 107 P Pn 03 07 39.0 +1.0
WET Wettzell 13.20 337 P Pn 03 07 41.3 +2.9
WET pmax pmax
comp=Z,12nm,1.8s
UJAP Al Uja 13.25 109 P Pn 03 07 39.1 -0.1
YTIR Yattir 13.28 112 P Pn 03 07 39.0 -0.6
YTIR Yattir 13.28 112 S Sn 03 09 57.4 -10
YTIR Yattir 13.28 112 P Pn 03 07 30.6 -9.0
DSI Dead Sea 13.37 111 P Pn 03 07 41.6 +0.8
DSI Dead Sea 13.37 111 P Pn 03 07 32.0 -8.8
DSI Dead Sea 13.37 111 S Sn 03 09 60.0 -10
GOPC GO Pecny, Ondr 13.39 343 AMS AMS 03 13 20.0
comp=Z,2µm,10.0s
MSBI Mazada 13.48 112 P Pn 03 07 32.5 -10
DPC Dobruska-Polom 13.50 348 *e*PN **Pn 03 07 44.7 +2.2**
DPC AMS AMS 03 13 00.0
comp=Z,2µm,12.2s
DPC Dobruska-Polom 13.50 348 *e*P **Pn 03 07 44.7 +2.2**
DPC MLR MLR
comp=Z,2µm,12.2s
DPC Dobruska-Polom 13.50 348 P Pn 03 07 44.1 +1.6
comp=Z,8.4nm,3.0s
PRU Pruhonice 13.51 343 AMS AMS 03 14 30.0
comp=Z,2µm,11.5s
PRU Pruhonice 13.51 343 P P 03 07 48.3 -3.7
PRU pmax pmax
comp=Z,10.0nm,1.0s
SENIN Lac Senin/Sane 13.52 317 Pn 03 07 43.5 +0.5
LISJ El Lisan 13.61 112 P Pn 03 07 42.8 -1.2
GHAJ Ghor Haditha 13.64 111 Pn 03 07 44.5 +0.1
GHAJ Ghor Haditha 13.64 111 P Pn 03 07 45.4 +1.0
LUBAR Lubar, Ukraine 13.68 20 P Pn 03 07 47.9 +3.0
PRNI Paran 13.73 116 P Pn 03 07 41.9 -3.8
ZFRI Zfri 13.74 115 S Sn 03 10 08.1 -11
ZFRI Zfri 13.74 115 P Pn 03 07 36.1 -10
SLE Schleitheim 13.84 323 P Pn 03 07 51.4 +4.2
SLE pmax pmax
comp=Z,34nm,1.0s
HRFI Mount Harif 13.93 117 P Pn 03 07 49.3 +0.9
HRFI Mount Harif 13.93 117 S Sn 03 10 13.4 -10
HRFI Mount Harif 13.93 117 P Pn 03 07 39.6 -8.8
KSP Ksiaz 13.98 348 P Pn 03 07 51.3 +2.3
comp=Z,11nm,1.5s
MBRI Mt Berech 13.98 118 P Pn 03 07 47.9 -1.3
MBRI Mt Berech 13.98 118 P Pn 03 07 39.2 -10
PVCC Panska Ves 14.01 344 P P 03 07 57.6 +0.1
PVCC pmax pmax
comp=Z,11nm,1.3s
ARPR Arapgir-MALATY 14.01 77 P 03 07 56.0 -1.7
EIL Elat 14.08 118 Pn **Pn 03 07 48.9 -1.6**
comp=Z,0.9nm,0.3s,baz=326,slow=18,SNR=29
EIL Sn Sn 03 10 14.4 -13
comp=Z,0.8nm,0.3s,baz=310,slow=17,SNR=2.9
comp=Z,2.6nm,0.3s
EIL Elat 14.08 118 P Pn 03 07 50.0 -0.5
AQBJ Aqaba 14.11 118 P Pn 03 07 51.3 +0.4
ASF Jabal al Asfar 14.25 106 Pn **Pn 03 07 51.2 -1.7**
comp=Z,0.2nm,0.3s,baz=210,slow=0.2,SNR=8.7
comp=Z,1.2nm,0.3s
VIVF Saint-Julien-I 14.28 307 *e*P **P 03 08 00.7 +0.1**
VIVF pmax pmax
comp=Z,42nm,1.8s
NKC Novy Kostel 14.30 338 AMS AMS 03 14 00.0
comp=Z,2µm,10.6s
BFO Black Forest 14.32 325 Pn 03 07 53.8 +0.1
BFO Black Forest 14.32 325 P Pn 03 07 53.8 +0.1
BRG Berggiesshubel 14.48 343 *e*P **P 03 08 03.7 +1.0**
BRG Amp 03 08 05.2
comp=Z,1.8nm,0.7s
BRG Berggiesshubel 14.48 343 P P 03 08 10.3 +7.6
BRG Amp 03 08 13.6

comp=Z,7.0nm,1.1s
BRG Berggiesshubel 14.48 343 *e*P **P 03 08 03.7 +1.0**
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG MLR MLR
comp=N,2µm,8.7s
BRG MLR MLR
comp=Z,2µm,8.9s
BRG MLR MLR
comp=E,1µm,11.3s
RNPP8 Varash 14.58 13 P **Pn 03 07 59.5 +2.2**
MI28 Mi28,Pidlybu 14.59 18 P **Pn 03 07 59.9 +2.6**
comp=E,190nm,0.9s
BEL Belsk 14.61 0 *e*P P 03 08 10.7 +6.5
AK07 Malin Array Si 14.66 22 P **Pn 03 08 00.5 +2.2**
RNPP9 Sopachiv 14.66 13 P **Pn 03 07 59.5 +1.2**
AK13 Malin Array Si 14.67 21 P **Pn 03 08 00.7 +2.3**
HINF Hinteralfeld 14.68 321 *e*P **P 03 08 02.9 -2.1**
HINF pmax pmax
comp=Z,5.0nm,0.6s
AK10 Malin Array Si 14.71 22 P **Pn 03 08 01.1 +2.1**
AK05 Malin Array Si 14.72 22 P **Pn 03 07 59.5 +0.4**
ANN Anapa 14.72 54 *e*P **Pn 03 07 57.9 -1.2**
ANN *e*S **Sn 03 10 42.6 +0.1**
ANN pmax pmax
comp=Z,28nm,1.1s
ANN MLR MLR
comp=Z,456nm,9.0s
KIEV Kiev 14.79 22 Pn 03 08 00.9 +0.9
KIEV Kiev 14.79 22 P **Pn 03 08 00.9 +0.9**
KIEV Kiev 14.79 22 P **Pn 03 08 02.3 +2.3**
comp=Z,43nm,1.4s
AKBB Malin Array Si 14.80 22 Pn 03 08 00.8 +0.6
AKBB Malin Array Si 14.80 22 P **Pn 03 08 00.8 +0.6**
AKBB Malin Array Si 14.80 22 P **Pn 03 08 02.2 +2.0**
AKASG Malin Array Be 14.80 22 Pn 03 08 00.3 +0.1
AKASG Malin Array Be 14.80 22 Pn **Pn 03 07 58.4 -1.7**
comp=Z,0.6nm,0.3s,baz=209,slow=12,SNR=1.4
AKASG LR LR 03 14 46.2
comp=Z,2µm,18.5s,baz=210,slow=42
comp=Z,0.2nm,0.3s
AKASG Malin Array Be 14.80 22 P **Pn 03 08 00.3 +0.1**
MOX Moxa 14.91 337 P **P 03 08 09.1 +1.6**
MOX pmax pmax
comp=Z,17nm,0.9s
HAU Haudompre 15.06 320 *e*P **P 03 08 07.6 -1.6**
HAU pmax pmax
comp=Z,27nm,1.1s
CLL Collm 15.11 341 IAmb IAmb 03 08 45.1
comp=Z,41nm,1.5s
CLL Collm 15.11 341 *e*P **P 03 08 11.0 +1.3**
CLL pmax pmax
comp=Z,42nm,1.7s
CLL Collm 15.11 341 *e*PP **P 03 08 12.0 +2.3**
comp=Z,42nm,1.7s
CLL *es*PP 03 08 18.0
CLL *ex* x 03 08 26.0
CLL *ex* x 03 08 43.0
CLL *e*SS **S 03 11 12.0 +2.6**
CLL Collm 15.11 341 P **Pn 03 08 06.6 +2.2**
comp=Z,16nm,1.2s
SMF Signal de Mont 15.65 312 *e*P **P 03 08 16.4 +0.6**
SMF pmax pmax
comp=Z,13nm,1.0s
TNS Taunus Mts 15.70 330 P **P 03 08 19.9 +3.6**
TNS pmax pmax
comp=Z,25nm,1.3s
SOC Sochi 15.81 60 *e*P **Pn 03 08 14.1 +0.5**
SOC *e* 03 11 12.7
SOC MLR MLR
comp=Z,599nm,15.0s
CEST Esterri de Car 15.84 296 P **P 03 08 21.2 +3.1**
CEST IAmb IAmb 03 08 23.2
comp=Z,52nm,1.5s
LOR Lormes 15.97 314 *e*P **Pn 03 08 17.9 +2.2**
LOR pmax pmax
comp=Z,13nm,1.0s
VSLR Vesyoloye 16.00 61⇓*e*P **Pn 03 08 17.5 +1.5**
AVF Avril sur Loir 16.02 312 *e*P **P 03 08 19.1 -0.7**
AVF pmax pmax
comp=Z,42nm,1.8s
SSF Saint Saulge 16.07 313 *e*P **P 03 08 19.6 -0.8**
SSF pmax pmax
comp=Z,50nm,1.9s
WLF Walferdange 16.28 324 IAmb IAmb 03 08 52.4
comp=Z,61nm,1.2s
WLF Walferdange 16.28 324 P **P 03 08 27.0 +4.3**
WLF pmax pmax
comp=Z,46nm,2.1s
WLF Walferdange 16.28 324 *d*P **P 03 08 26.6 +3.9**
comp=Z,21nm,1.2s
RJF Les Rejaudoux 16.50 305 *e*P **P 03 08 26.5 +1.3**
RJF pmax pmax
comp=Z,18nm,1.2s
EPF Esparros 16.60 297 *e*P **P 03 08 27.3 +1.0**
EPF pmax pmax
comp=Z,30nm,1.7s
LABN Labinsk 16.83 58 *e*P **Pn 03 08 26.1 -0.6**
LABN pmax pmax
comp=Z,16nm,0.2s
LFF La Frestale 16.88 303 *e*P **P 03 08 31.1 +1.8**
LFF pmax pmax
comp=Z,128nm,2.3s
SUW Suwalki 16.88 5 *e*P **P 03 08 34.5 +5.2**
SUW Suwalki 16.88 5 IAmb IAmb 03 08 53.6
comp=Z,72nm,0.8s
SUW Suwalki 16.88 5 *e*P **P 03 08 32.0 +2.7**
SUW Suwalki 16.88 5 P **P 03 08 31.7 +2.4**
SUW pmax pmax
comp=Z,91nm,1.0s
MEM Membach 17.02 327 *d*P **P 03 08 35.2 +4.4**
comp=Z,12nm,1.2s
DOU Dourbes 17.31 323 *d*P **P 03 08 35.8 +1.7**
comp=Z,13nm,1.4s
SHA1 Shidzhatmaz 17.91 62⇓*e*P **P 03 08 43.4 +2.4**
MNK Minsk 17.98 14 *i* P **Pn 03 08 38.4 -2.5**
comp=E,5.0nm,0.8s
MNK *i* P **Pn 03 08 38.4 -2.5**
comp=N,8.0nm,1.0s
MNK *i* P **Pn 03 08 38.4 -2.5**
comp=Z,11nm,0.9s,baz=199
MNK *i* PP **PnPn 03 08 49.3 -2.5**
MNK *i* PPP PPP 03 08 56.9
MNK *i* S **Sn 03 11 60.0 -1.6**
MNK *i* SSS SSS 03 12 27.7
MNK *i* LQ LQ 03 13 59.7
MNK *i* LR LR 03 14 53.1
MNK *i* LRM MLR 03 16 22.0
comp=N,313nm,11.2s
MNK *i* LRM MLR 03 16 23.0
comp=Z,591nm,16.1s
MNK *i* LRM MLR 03 16 27.7
comp=E,509nm,14.7s
MNK Minsk 17.98 14 *i* P **Pn 03 08 38.3 -2.5**
MNK *i* S **Sn 03 11 59.9 -1.6**
MNK pmax pmax
comp=E,5.0nm,0.8s
MNK pmax pmax
comp=Z,11nm,0.9s
MNK pmax pmax
comp=N,8.0nm,1.0s
MNK MLR MLR
comp=N,313nm,11.0s
MNK MLR MLR
comp=Z,591nm,16.0s
MNK MLR MLR
comp=E,509nm,15.0s
KIV Kislovodsk 17.98 61 *e*P **P 03 08 42.2 +0.5**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,214nm,14.0s
KBZ Khabaz 18.08 62 Pn **Pn 03 08 41.8 -0.4**
comp=Z,0.2nm,0.3s,baz=146,slow=16,SNR=1.6
comp=Z,0.9nm,0.7s
KBZ Khabaz 18.08 62⇓*e*P **P 03 08 44.7 +2.1**
KBZ pmax pmax
comp=Z,18nm,1.1s
MFF Saint Martin d 18.08 308 *e*P **P 03 08 43.6 +1.0**
MFF pmax pmax
comp=Z,219nm,2.6s
NACGM Naroch 18.17 11 *e*P **P 03 08 43.9 +0.3**
comp=Z,13nm,1.0s,baz=196
PABE Paberze 18.43 6 *e*P **P 03 08 48.6 +2.2**
GOF Gofitskoye 18.53 58*ce*P Pn 03 08 58.0 +10

VSVD Vaisvydziai 18.89 6 *e*P **Pn 03 08 54.2 +2.2**
LDF La Druitiere 18.95 313 *e*P **P 03 08 52.8 +0.6**
LDF pmax pmax
comp=Z,78nm,1.6s
GNI Garni 18.99 74 P **Pn 03 08 54.5 +0.9**
GNI IAmb IAmb 03 09 36.1
comp=Z,49nm,1.3s
GNI Garni 18.99 74 P **P 03 08 52.5 -0.3**
comp=Z,0.7nm,0.3s,baz=66,slow=20,SNR=1.9
GNI LR LR 03 16 31.1
comp=Z,591nm,18.7s,baz=290,slow=38
comp=Z,3.0nm,0.4s
GNI Garni 18.99 74⇑*e*P **Pn 03 08 55.8 +2.3**
GNI pmax pmax
comp=Z,13nm,0.9s
GNI Garni 18.99 74 P **Pn 03 08 55.4 +1.9**
comp=Z,32nm,1.3s
VSR Storozhevoye 19.19 37 *e*P **Pn 03 08 56.3 +0.7**
VSR pmax pmax
comp=Z,10.0nm,0.4s
BLEU Blekinge 19.37 352 *e*P **P 03 08 56.0 -0.7**
TAM Tamanrasset 19.44 227 P **Pn 03 09 01.1 +2.1**
TAM Tamanrasset 19.44 227 P **Pn 03 09 01.1 +2.1**
TAM pmax pmax
comp=Z,18nm,1.4s
ESDC Sonseca Array 19.45 285 P **Pn 03 08 59.0 +0.1**
comp=Z,0.1nm,0.3s,baz=81,slow=10,SNR=15
comp=Z,3.0nm,0.9s
VORR Voronezh 19.50 36 *e*P **P 03 08 58.0 -0.2**
VORR pmax pmax
comp=Z,40nm,0.4s
BJUU Bjuv 19.56 347 *e*P **Pn 03 09 02.9 +2.9**
PAB San Pablo 19.75 284 P **Pn 03 09 03.2 +0.6**
PAB IAmb IAmb 03 09 07.5
comp=Z,34nm,1.4s
PAB San Pablo 19.75 284 P **Pn 03 09 03.2 +0.6**
PAB pmax pmax
comp=Z,34nm,1.5s
DEL Delary 19.80 349 *e*P **Pn 03 09 02.9 0.0**
LPSR Galich'ya Gora 19.99 34 *e*P **P 03 09 04.1 +0.6**
LPSR pmax pmax
comp=Z,50nm,0.8s
VRH Novokhopyorsk 20.46 40 *e*P **P 03 09 08.9 +0.3**
VRH pmax pmax
comp=Z,26nm,0.9s
QUIF Quistinic 20.49 309 *e*P Pn 03 09 11.8 +0.7
QUIF pmax pmax
comp=Z,133nm,1.6s
MUD Monsted U'grnd 20.74 342 *i* P **P 03 09 13.0 +1.4**
MUD IAmb IAmb 03 09 13.7
comp=Z,11nm,0.8s
OBN Obninsk 20.92 26 P **P 03 09 13.1 -0.4**
comp=Z,12nm,0.8s,baz=266,slow=19,SNR=2.8
OBN LR LR 03 17 18.3
comp=Z,586nm,19.7s,baz=211,slow=37
comp=Z,12nm,0.8s
OBN Obninsk 20.92 26 *i* P **P 03 09 12.0 -1.5**
OBN *i* SS **SnSn 03 13 26.1 -1.0**
OBN pmax pmax
comp=Z,41nm,1.4s
OBN MLR MLR
comp=Z,687nm,15.0s
OBN Obninsk 20.92 26 P **P 03 09 14.9 +1.4**
comp=Z,31nm,1.0s
MDT Midelt 21.16 266 P **P 03 09 17.3 +0.8**
comp=Z,11nm,0.9s,baz=86,slow=12,SNR=19
comp=Z,11nm,0.9s
MAK Makhachkala 21.25 66 *e*P **P 03 09 15.5 -1.8**
MAK *e*S **S 03 13 12.4 -1.3**
MAK pmax pmax
comp=Z,248nm,1.3s
MAK MLR MLR
comp=Z,568nm,17.0s
AKT Akhty 21.30 70 *e*P **P 03 09 20.2 +2.2**
AKT *e* 03 09 40.6
AKT *e*PPP PPP 03 09 47.6
AKT pmax pmax
comp=Z,31nm,1.6s
PBRG Braganca 21.61 291 *e*P **P 03 09 22.4 +1.2**
PBRG A A 03 09 28.0
comp=Z,63nm,1.4s
VSU Vasula 21.62 9 *e*P **P 03 09 22.1 +1.0**
VSU pmax pmax
comp=Z,28nm,0.7s
MOS Moscow 21.78 26 *e*P **P 03 09 23.0 +0.2**
MOS pmax pmax
comp=Z,28nm,0.8s
MOS MLR MLR
comp=Z,1µm,13.0s
MVO Moncorvo 21.80 289 *e*P **P 03 09 23.5 +0.2**
MVO A A 03 09 32.5
comp=Z,73nm,1.1s
PBAR Barrancos 21.94 281 *e*P **P 03 09 26.5 +1.8**
PBAR A A 03 09 51.4
comp=Z,27nm,1.8s
PMRV Marv??o 22.11 284 *e*P **P 03 09 25.8 -0.8**
PMRV A A 03 09 37.4
comp=Z,43nm,1.8s
PCBR Castelo Branco 22.16 285 *e*P **P 03 09 27.1 +0.1**
PCBR A A 03 09 35.1
comp=Z,34nm,1.3s
MTE Manteigas 22.19 287 P **P 03 09 26.7 -0.8**
MTE IAmb IAmb 03 09 37.8
comp=Z,28nm,1.0s
MTE Manteigas 22.19 287 *e*P **P 03 09 27.6 +0.1**
MTE A A 03 09 38.6
comp=Z,54nm,1.5s
MTE Manteigas 22.19 287 *e*P **P 03 09 29.3 +1.8**
PESTR Estremoz 22.30 283 P **P 03 09 29.6 +1.0**
PESTR IAmb IAmb 03 09 38.1
comp=Z,15nm,1.0s
PESTR Estremoz 22.30 283 *e*P **P 03 09 30.0 +1.4**
PESTR A A 03 09 43.5
comp=Z,37nm,1.9s
PVRL Vila Real 22.32 289 *e*P **P 03 09 30.9 +2.0**
PVRL A A 03 09 31.7
comp=Z,38nm,1.6s
POLO Lamas de Olo 22.39 290 *e*P **P 03 09 31.7 +2.1**
POLO A A 03 10 08.5
comp=Z,24nm,1.9s
PVIS Viseu 22.45 288 *e*P **P 03 09 32.4 +2.1**
PVAQ Vaqueiros 22.57 279 *e*P **P 03 09 32.7 +1.3**
PCAB Cabril 22.57 290 *e*P **P 03 09 33.6 +2.1**
PCAB A A 03 09 42.1
comp=Z,50nm,1.8s
PBEJ Beja 22.60 281 *e*P **P 03 09 33.4 +1.6**
PBEJ A A 03 10 01.6
comp=Z,30nm,2.0s
PMTG Montargil 22.78 284 *e*P **P 03 09 32.5 -1.2**
PMTG A A 03 09 43.6
comp=Z,34nm,1.6s
COI Coimbra 22.86 286 P **P 03 09 35.6 +1.2**
COI IAmb IAmb 03 09 43.7
comp=Z,25nm,1.0s
COI Coimbra 22.86 286 *e*P **P 03 09 35.5 +1.0**
COI A A 03 09 45.4
comp=Z,44nm,1.4s
COI Coimbra 22.86 286 P **P 03 09 35.7 +1.2**
COI pmax pmax
comp=Z,25nm,1.0s
MESJ Messejana 22.90 280 *e*P **P 03 09 36.0 +1.0**
MESJ A A 03 09 47.1
comp=Z,32nm,1.8s
PCAS Casmilo, Conde 22.93 286 *e*P **P 03 09 34.9 -0.4**
PTO Porto 22.99 289 *e*P **P 03 09 37.3 +1.5**
PTO A A 03 09 45.8
comp=Z,41nm,1.8s
PSBE So Bento 23.19 285 *e*P **P 03 09 39.6 +1.6**
PSBE A A 03 09 52.4
comp=Z,56nm,1.9s
HFS Hagfors 23.37 351 P **P 03 09 38.9 -0.6**
comp=Z,7.3nm,0.5s,baz=164,slow=13,SNR=29
HFS LR LR 03 19 13.7
comp=Z,668nm,18.6s,baz=169,slow=38
comp=Z,7.3nm,0.5s
BELG Belogornoye 24.21 43 P **P 03 09 46.7 -0.9**
comp=Z,22nm,0.5s,baz=231,slow=15,SNR=10
BELG LR LR 03 19 57.6
comp=Z,280nm,20.7s,baz=313,slow=38
comp=Z,22nm,0.5s
BELG Belogornoye 24.21 43⇓*e*P **P 03 09 46.6 -1.0**
BELG pmax pmax
comp=Z,10.0nm,1.0s
NC602 NORSAR Array S 24.24 349 P **P 03 09 47.6 -0.4**
NORES NORESS Array B 24.24 349 P **P 03 09 48.4 +0.5**
EKA Eskdalemuir Ar 24.29 326 P **P 03 09 49.3 +0.9**

comp=Z,5.9nm,0.7s,baz=124,slow=11,SNR=10
comp=Z,5.9nm,0.7s
FINES FINESS Array B 24.48 6 P **P 03 09 49.2 -0.9**
comp=Z,2.5nm,0.6s,baz=171,slow=9.1,SNR=15
FINES LR LR 03 20 09.2
comp=Z,618nm,18.4s,baz=189,slow=38
comp=Z,2.5nm,0.6s
FINES FINESS Array B 24.48 6 *i* P **P 03 09 49.5 -0.6**
FINES pmax pmax
comp=Z,3.0nm,0.6s
NC405 NORSAR Array S 24.58 350 P **P 03 09 49.8 -1.2**
NB2 NORSAR Subarra 24.58 349 P **P 03 09 50.6 -0.5**
comp=Z,24nm,1.1s,baz=162,slow=9.3
NOA NORSAR Array B 24.58 349 P **P 03 09 50.4 -0.7**
comp=Z,1.8nm,0.5s,baz=157,slow=9.1,SNR=16
NOA LR LR 03 20 23.1
comp=Z,732nm,18.1s,baz=165,slow=39
comp=Z,1.8nm,0.5s
NBO00 NORSAR Array S 24.64 348 P **P 03 09 51.5 -0.1**
NBO00 IAmb IAmb 03 10 23.2
comp=Z,18nm,0.9s
KLMR Klimovskoe 26.48 21 *e*P **P 03 10 07.5 -0.7**
KLMR pmax pmax
comp=Z,26nm,1.2s
KLMR MLR MLR
comp=Z,1µm,12.0s
KIRV Kirov 28.39 32 P **P 03 10 22.5 -2.8**
comp=Z,4.7nm,0.5s,baz=249,slow=11,SNR=2.6
KIRV LR LR 03 23 24.1
comp=Z,340nm,18.2s,baz=237,slow=40
comp=Z,4.7nm,0.5s
KIRV Kirov 28.39 32⇑*e*P **P 03 10 25.1 -0.2**
TORD Torodi Ar. Bea 29.38 220 P **P 03 10 34.8 +0.3**
comp=Z,1.5nm,0.6s,baz=30,slow=9.2,SNR=30
TORD LR LR 03 23 46.1
comp=Z,491nm,18.1s,baz=34,slow=39
comp=Z,1.5nm,0.6s
AKTO Aktyubinsk 29.66 52 LR LR 03 25 53.6
comp=Z,432nm,18.2s,baz=236,slow=44
ABKAR Akbulak array 30.68 54 P **P 03 10 43.3 -2.4**
ARTI Arti 31.59 40 P **P 03 10 52.3 -1.4**
ARTI Arti 31.59 40 LR LR 03 23 36.5
comp=Z,420nm,21.2s,baz=252,slow=36
ARTI Arti 31.59 40*c i*P **P 03 10 51.8 -1.9**
ARTI S **S 03 16 01.8 -0.8**
ARTI SS **SnSn 03 17 45.7 -1.9**
ARTI pmax pmax
comp=Z,12nm,1.1s
ARTI MLR MLR
comp=Z,589nm,16.0s
ARCES ARCESS Array B 32.48 3 P **P 03 11 00.2 -1.2**
comp=Z,1.6nm,0.6s,baz=188,slow=11,SNR=14
ARCES LR LR 03 25 51.6
comp=Z,703nm,18.0s,baz=184,slow=40
comp=Z,1.6nm,0.6s
SVE Sverdlovsk 32.91 41 *e*P **P 03 11 05.4 +0.2**
SVE pmax pmax
comp=Z,24nm,1.1s
BORG Borgarnes 37.02 332 LR LR 03 30 06.4
comp=Z,284nm,18.5s,baz=127,slow=42
JMIC Jan Mayen 37.12 345 LR LR 03 27 59.8
comp=Z,207nm,18.5s,baz=296,slow=38
BRVK Borovoye 37.58 49 P **P 03 11 45.8 +0.3**
BRVK IAmb IAmb 03 12 27.2
comp=Z,4.6nm,0.8s
BRVK Borovoye 37.58 49 P **P 03 11 45.8 +0.3**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 37.64 49 P **P 03 11 44.3 -1.8**
comp=Z,0.8nm,0.4s,baz=260,slow=7.0,SNR=8.2
BVAR LR LR 03 29 52.3
comp=Z,292nm,18.4s,baz=260,slow=41
comp=Z,0.8nm,0.4s
KKAR Karatay Array 38.07 65 P **P 03 11 49.3 -0.5**
KKAR IAmb IAmb 03 11 59.6
comp=Z,7.0nm,1.4s
KKAR Karatay Array 38.07 65 P **P 03 11 49.7 -0.1**
DBIC Dimbokro 38.29 224 P **P 03 11 51.0 -0.9**
comp=Z,3.4nm,0.8s,baz=49,slow=8.9,SNR=2.4
DBIC LR LR 03 28 38.1
comp=Z,302nm,18.6s,baz=21,slow=38
comp=Z,3.4nm,0.8s
DBIC Dimbokro 38.29 224 P **P 03 11 51.0 -0.9**
GAR Garm 38.70 72 IAmb IAmb 03 12 01.9
comp=Z,9.9nm,0.8s
BBTS Babate 39.94 246 LR LR 03 30 20.1
comp=Z,149nm,18.5s,baz=294,slow=39
AAK Ala-Archa 41.03 65⇓*i*P **P 03 12 14.1 -0.6**
AAK pmax pmax
comp=Z,5.0nm,1.1s
SPITS Spitsbergen Ar 41.11 359 LR LR 03 30 02.0
comp=Z,788nm,21.7s,baz=140,slow=37
KMBO Kilima Mbogo 41.13 154 P **P 03 12 16.6 +0.8**
comp=Z,0.9nm,0.5s,baz=331,slow=6.5,SNR=6.8
KMBO LR LR 03 32 23.5
comp=Z,233nm,18.2s,baz=350,slow=41
comp=Z,0.9nm,0.5s
KURBB Kurchatov Arra 42.70 53 P **P 03 12 26.6 -1.4**
comp=Z,3.7nm,0.6s,baz=281,slow=8.7,SNR=15
KURBB LR LR 03 33 11.9
comp=Z,486nm,19.2s,baz=315,slow=40
comp=Z,3.7nm,0.6s
KURK Kurchatov 42.74 53⇓*i*P **P 03 12 29.3 +0.9**
KURK pmax pmax
comp=Z,7.0nm,1.3s
MK31 Makanchi Array 45.69 58 P **P 03 12 50.3 -1.8**
MK31 Makanchi Array 45.69 58⇑*e*P **P 03 12 50.1 -2.0**
MKAR Makanchi Array 45.69 58 P **P 03 12 50.5 -1.6**
comp=Z,0.8nm,0.4s,baz=274,slow=7.6,SNR=18
MKAR LR LR 03 34 37.5
comp=Z,370nm,20.6s,baz=270,slow=40
comp=Z,0.8nm,0.4s
MKAR Makanchi Array 45.69 58 P **P 03 12 50.7 -1.4**
ZAA0 Zalesovo Array 46.23 47 P **P 03 12 54.6 -1.6**
ZAA0 IAmb IAmb 03 13 28.2
comp=Z,6.1nm,0.9s
ZALV Zalesovo Beam 46.23 47 P **P 03 12 54.5 -1.7**
comp=Z,2.2nm,0.4s,baz=279,slow=8.1,SNR=9.3
ZALV LR LR 03 35 02.6
comp=Z,275nm,20.4s,baz=284,slow=40
comp=Z,2.2nm,0.4s
ZALV Zalesovo Beam 46.23 47 *i* P **P 03 12 55.2 -1.0**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
SFJD Kangerlussuaq 49.13 331 LR LR 03 37 10.7
comp=Z,275nm,18.6s,baz=84,slow=40
TSUM Tsumeb 56.19 184 LR LR 03 42 28.8
comp=Z,461nm,18.0s,baz=357,slow=40
FRB Frobisher Bay 57.03 328 LR LR 03 40 07.9
comp=Z,339nm,18.5s,baz=94,slow=38
SCHQ Schefferville 59.26 318 P **P 03 14 33.1 +0.6**
comp=Z,0.8nm,0.3s,baz=54,slow=4.9,SNR=7.4
SCHQ LR LR 03 40 13.7
comp=Z,184nm,18.0s,baz=347,slow=36
comp=Z,0.8nm,0.3s
TIXI Tiksi 60.50 20⇑*e*P **P 03 14 41.7 +0.9**
TIXI pmax pmax
comp=Z,11nm,2.0s
SONM Songino Array 60.96 50 P **P 03 14 43.5 -1.0**
comp=Z,0.4nm,0.6s,baz=290,slow=8.6,SNR=3.4
SONM LR LR 03 44 51.0
comp=Z,377nm,19.8s,baz=284,slow=40
comp=Z,0.4nm,0.6s
LBTB Lobatse 62.07 175 LR LR 03 46 10.9
comp=Z,259nm,18.5s,baz=357,slow=40
BOSA Boshof 65.63 176 LR LR 03 46 57.9
comp=Z,519nm,18.1s,baz=6.5,slow=39
YAK Yakutsk 65.88 29 LR LR 03 45 02.9
comp=Z,329nm,19.5s,baz=305,slow=37
HHC Hu-ho-hao-te 67.47 55 *e*P **P 03 15 25.9 -1.4**
HHC pmax pmax
comp=Z,28nm,0.5s
HHC pmax pmax
comp=Z,150nm,4.1s
HHC LR LR
comp=N,250nm,13.7s
HHC LR LR
comp=E,230nm,16.1s
HHC LR LR
comp=Z,280nm,17.2s
PZH PanZhiHua 67.75 73 P **P 03 15 30.2 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.4s
A36M Sachs Harbour 68.49 349 P **P 03 15 34.3 +1.3**
XAN Xi'an 69.14 63⇓P **P 03 15 39.8 +2.0**
XAN pmax pmax

comp=Z,9.0nm,0.9s
SUR Sutherland 69.24 180 LR LR 03 50 06.9
comp=Z,262nm,18.5s,baz=356,slow=40
ZEA Zeya 69.55 37 *e*P P 03 15 48.8 +8.9
ZEA MLR MLR
comp=Z,300nm,14.0s
CMAR Chiang Mai Arr 69.89 82 P **P 03 15 41.6 -0.9**
comp=Z,1.0nm,0.3s,baz=302,slow=7.8,SNR=8.8
CMAR LR LR 03 51 37.7
comp=Z,56nm,18.6s,baz=295,slow=40
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 69.89 82 *i* P **P 03 15 42.5 -0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
SADO Sadowa 71.00 312 LR LR 03 47 49.2
comp=Z,147nm,18.1s,baz=52,slow=37
E29M Blow River 73.49 352 P **P 03 16 03.7 +0.2**
E29M IAmb IAmb 03 16 18.7
comp=Z,6.3nm,0.8s
TIA Tai'an 73.62 57 P **P 03 16 06.3 +1.5**
TIA pmax pmax
comp=Z,3.0nm,0.4s
YKA Yellowknife Ar 74.34 340 P **P 03 16 09.3 +0.9**
comp=Z,1.3nm,0.9s,baz=39,slow=9.1,SNR=2.6
comp=Z,1.3nm,0.9s
KLR Kul'dur 74.53 39 LR LR 03 53 27.2
comp=Z,145nm,18.9s,baz=305,slow=40
KLR Kul'dur 74.53 39 *de*P **P 03 16 11.6 +1.8**
KLR pmax pmax
comp=Z,10.0nm,1.5s
MA2 Magadan 75.11 24 LR LR 03 54 24.4
comp=Z,301nm,18.5s,baz=322,slow=40
ULM Lac du Bonnet 76.55 324 LR LR 03 49 49.4
comp=Z,190nm,19.6s,baz=57,slow=36
SJG San Juan 76.83 283 LR LR 03 48 19.7
comp=Z,32nm,18.3s,baz=42,slow=34
NJ2 Nanjing 77.18 60 *e*P **P 03 16 25.2 -0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,220nm,4.0s
ILAR Eielson Array 77.87 355 P **P 03 16 29.0 +0.4**
comp=Z,0.4nm,0.9s,baz=349,slow=4.7,SNR=5.2
ILAR LR LR 03 53 18.7
comp=Z,154nm,19.0s,baz=351,slow=38
comp=Z,0.4nm,0.9s
USRK Ussuriysk Ar. 77.88 43 LR LR 03 54 57.4
comp=Z,380nm,18.1s,baz=336,slow=39
TKL Tuckaleechee C 79.21 307 LR LR 03 51 53.4
comp=Z,81nm,19.3s,baz=42,slow=36
KSRS Korea Array 79.83 51 P **P 03 16 39.1 -0.7**
comp=Z,1.6nm,0.8s,baz=305,slow=5.2,SNR=7.3
KSRS LR LR 03 56 17.0
comp=Z,193nm,18.1s,baz=295,slow=39
comp=Z,1.6nm,0.8s
PCRV Puerto La Cruz 80.23 275 LR LR 03 52 49.6
comp=Z,64nm,18.6s,slow=36
DLBC Dease Lake 81.60 345 LR LR 03 54 34.7
comp=Z,168nm,19.0s,baz=26,slow=37
PETK Petropavlovsk- 82.62 24 LR LR 03 56 40.8
comp=Z,228nm,18.0s,baz=324,slow=38
BDFB Brasilia 83.23 245 LR LR 03 54 44.5
comp=Z,341nm,19.6s,baz=49,slow=36
ASAJ Asahikawa 83.46 38 LR LR 03 57 45.7
comp=Z,154nm,19.2s,baz=144,slow=38
MGMO Mountain Grove 83.49 312 P **P 03 17 00.1 +0.9**
FCAR Ozark Folk Cen 84.25 311 P **P 03 17 01.3 -1.8**
FCAR IAmb IAmb 03 17 06.9
comp=Z,4.7nm,0.8s
JNU Nakatsue 84.47 52 LR LR 03 58 31.5
comp=Z,93nm,18.1s,baz=320,slow=38
KDAK Kodiak Island 85.19 356 LR LR 03 58 44.2
comp=Z,60nm,18.6s,baz=30,slow=38
SDV Santo Domingo 85.75 278 LR LR 03 54 16.7
comp=Z,29nm,19.2s,baz=52,slow=35
MJAR Matsushiro Arr 86.56 46 P **P 03 17 14.7 +0.1**
comp=Z,1.2nm,0.7s,baz=320,slow=5.4,SNR=7.2
comp=Z,1.2nm,0.7s
JOW Kunigami 86.85 59 LR LR 04 00 32.1
comp=Z,130nm,21.0s,baz=108,slow=39
BBB Bella Bella 86.89 341 LR LR 03 59 48.1
comp=Z,146nm,18.4s,baz=3,0,slow=38
NEW Newport 86.97 333 LR LR 03 56 51.7
comp=Z,83nm,20.8s,baz=25,slow=36
SHEM Shemya Is, Ala 87.48 16 LR LR 04 03 12.5
comp=Z,64nm,18.2s,baz=296,slow=40
PDAR Pinedale Array 88.42 326 P **P 03 17 24.8 +1.1**
comp=Z,0.2nm,0.6s,baz=46,slow=6.4,SNR=1.9
PDAR LR LR 03 59 21.7
comp=Z,106nm,19.4s,baz=21,slow=37
comp=Z,0.2nm,0.6s
JHJ Hachijo jima 2 89.90 47 LR LR 04 00 24.5
comp=Z,120nm,20.6s,baz=314,slow=37
ROSC El Rosal 91.09 277 LR LR 03 57 36.4
comp=Z,40nm,18.2s,baz=42,slow=35
ANMO Albuquerque 93.01 319 LR LR 03 59 42.5
comp=Z,151nm,19.4s,baz=201,slow=36
SIV San Ignacio 93.15 252 LR LR 04 01 10.3
comp=Z,108nm,19.6s,baz=108,slow=36
YBH Yreka Blue Hor 94.61 333 LR LR 04 01 52.6
comp=Z,162nm,20.5s,baz=17,slow=36
TXAR Lajitas Array 95.73 314 P **P 03 17 58.5 +0.8**
comp=Z,0.3nm,0.7s,baz=72,slow=4.1,SNR=4.5
TXAR LR LR 04 01 14.4
comp=Z,62nm,18.3s,baz=23,slow=36
comp=Z,0.3nm,0.7s
NVAR Mina Array Bea 95.76 329 LR LR 04 04 52.5
comp=Z,193nm,18.1s,baz=36,slow=38
JTS Las Juntas de 96.02 288 LR LR 03 57 13.9
comp=Z,73nm,21.8s,baz=52,slow=33
CPUP Villa Florida 96.72 242 LR LR 04 03 26.4
comp=Z,172nm,18.4s,baz=51,slow=36
DAV Davao City (W) 97.47 75 LR LR 04 08 31.2
comp=Z,84nm,18.4s,baz=348,slow=40
LPAZ La Paz 98.75 256 LR LR 04 03 59.6
comp=Z,71nm,20.3s,baz=52,slow=36
PFO Pinyon Flats O 99.01 325 LR LR 04 06 35.9
comp=Z,156nm,18.4s,baz=28,slow=38
WRA Warramunga Arr 120.36 93 PKP **PKPdf 03 23 22.4 -0.7**
comp=Z,0.4nm,0.6s,baz=324,slow=2.1,SNR=3.0
ASAR Alice Springs 121.93 97 PKP **PKPdf 03 23 25.6 -0.5**
comp=Z,0.3nm,0.7s,baz=299,slow=1.9,SNR=5.1
QSPA South Pole Qui 127.08 180 PKP **PKPdf 03 23 34.1 -0.5**
comp=Z,1.0nm,1.0s,baz=174,slow=3.5,SNR=1.7

NEIC ***04*** *03:08:17.1±1.5,21°.6S±0°.1×170°.8E±0°.1,h122km±9km, mb4.3/8, Error ellipse: s-maj=21.8km s-min=7.9km az=129.0*
IDC ***04*** *03:08:21.6±4.4,21°.73S×170°.37E,h150km±31km,mb3.5/5, mbtmp3.9/6, Error ellipse: s-maj=43.7km s-min=30.5km az=42.0*
NOU ***04*** *03:08:25.0,21°.46S×170°.12E,h104km,MLv4.1/9, Southeast of Loyalty Islands*
ISC 04 03:08:18.8±0.9,**21°.6S**±0°.1×**170°.56E**±0°.10,**h134km,n31,** σ0**977**/32,**mb4.1**/11,**4C,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.36**	**273**	P	**Pn**	**03 08 57.2**	**-0.1**
PINNC	**Pines Island,**	**3.04**	**251**		**Pn**	**03 09 06.3**	**+0.3**
LIFNC	**LIFOU**	**3.21**	**285**	P	**Pn**	**03 09 07.7**	**-0.6**
YATNC	**Mamie plateau,**	**3.43**	**262**	P	**Pn**	**03 09 11.8**	**+0.7**
DZM	**Mont Dzumac**	**3.84**	**263**		**Pn**	**03 09 17.6**	**+0.9**
DZM	**Mont Dzumac**	**3.84**	**263**	P	**Pn**	**03 09 17.2**	**+0.6**
	4.0nm,0.3s,baz=123,slow=20,SNR=16						
DZM				S	**Sn**	**03 10 01.5**	**0.0**
	26nm,0.4s,baz=188,slow=21,SNR=3.5						
DZM	**Mont Dzumac**	**3.84**	**263**	P	**Pn**	**03 09 17.3**	**+0.6**
ONTNC	**Ouen Toro**	**3.86**	**259**	Pn	**Pn**	**03 09 17.2**	**+0.4**
NOUC	**Port Laguerre**	**3.98**	**263**	P	**Pn**	**03 09 18.8**	**+0.5**
DVP	**Devils Point**	**4.49**	**330**	P	**Pn**	**03 09 26.5**	**+1.3**
KOUNC	**Koumac, New Ca**	**5.95**	**279**	Pn	**Pn**	**03 09 45.0**	**+0.3**
KOUNC	**Koumac, New Ca**	**5.95**	**279**	P	**Pn**	**03 09 45.0**	**+0.3**
EIDS	**Eidsvold**	**18.24**	**254**	P	**Pn**	**03 12 24.8**	**+1.3**
EIDS				IAmb	IAmb	03 12 58.1	
	comp=Z,8.4nm,1.4s						
CAN	**Canberra**	**23.27**	**230**	P	**P**	**03 13 15.2**	**+0.6**
CAN				IAmb	IAmb	03 13 42.5	
	comp=Z,39nm,1.4s						
STKA	**Stephens Creek**	**27.72**	**242**	P	**P**	**03 13 55.2**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=48,slow=7.1,SNR=3.4						
	comp=Z,0.7nm,0.3s						
WR0	**Warramunga Arr**	**33.66**	**266**	P	**P**	**03 14 45.8**	**-1.3**
WR0				IAmb	IAmb	03 15 19.2	
	comp=Z,4.6nm,1.2s						
AS31	**Alice Springs**	**33.83**	**259**	P	**P**	**03 14 48.0**	**-0.5**
ASAR	**Alice Springs**	**33.83**	**259**	P	**P**	**03 14 48.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=76,slow=8.4,SNR=14						
	comp=Z,0.7nm,0.6s						
WB0	**Warramunga Arr**	**33.83**	**267**	P	**P**	**03 14 48.0**	**-0.6**
WB0				IAmb	IAmb	03 15 08.8	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**33.85**	**266**	P	**P**	**03 14 47.6**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=101,slow=8.7,SNR=6.2						
	comp=Z,0.5nm,0.6s						
FITZ	**Fitzroy Crossi**	**42.28**	**267**	P	**P**	**03 15 58.9**	**-0.5**
QSPA	**South Pole Qui**	**68.42**	**180**	P	**P**	**03 19 06.8**	**+0.9**
QSPA	**South Pole Qui**	**68.42**	**180**	P	**P**	**03 19 06.8**	**+0.9**
	comp=Z,3.2nm,1.0s,baz=270,slow=1.0,SNR=7.0						
	comp=Z,3.2nm,1.0s						
BELA	**Belgrano 2**	**79.61**	**175**	P	**P**	**03 20 10.6**	**-0.1**
BELA				IAmb	IAmb	03 20 11.3	
	comp=Z,4.1nm,0.9s						
TROLL	**Troll, Antarti**	**86.23**	**184**	⇑P	**P**	**03 20 44.2**	**-0.9**
	comp=Z,162nm,0.7s						
SNAA	**Sanae**	**86.82**	**182**	⇑P	**P**	**03 20 46.7**	**-1.1**
	comp=Z,29nm,0.7s						
SNAA	**Sanae**	**86.82**	**182**	P	**P**	**03 20 47.5**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=176,slow=8.4,SNR=7.8						
	comp=Z,1.2nm,0.7s						
VNA3	**Neumayer Olymp**	**87.36**	**180**	⇑P	**P**	**03 20 50.2**	**-0.2**
	comp=Z,3.6nm,0.8s						
VNA2	**Neumayer–Watz**	**87.67**	**181**	⇑P	**P**	**03 20 52.0**	**+0.2**
	comp=Z,6.2nm,0.7s,baz=185,slow=4.7						
FINES	**FINESS Array B**	**133.27**	**337**	PKP	**PKiKP**	**03 27 19.1**	**-0.4**
	comp=Z,3.3nm,0.9s,baz=29,slow=3.2,SNR=2.8						
GERES	**GERESS Array B**	**147.18**	**331**	PKPbc	**PKPab**	**03 27 46.8**	**-1.5**

BJI ***04*** *03:12:42.9,37°.81N×20°.62E,h5km,mb4.8/24,mB5.1/8, Ms4.9/10,Ms7 4.6/10*
IDC ***04*** *03:12:43.2±0.5,37°.52N×20°.63E,h0km,mb4.4/32, mbtmp4.3/41,ML3.8/5,MS4.1/2,Error ellipse: s-maj=11.7km s-min=9.8km az=143.0*
ATH ***04*** *03:12:44.4,37°.38N×20°.41E,h5km,Mw4.7,Moment Tensor Solution. s9 Moment tensor: Mrr0.12; Mθθ-0.36; Mφφ0.24; Mrθ0.19; Mrφ 1.22; Mθφ0.22; Fault plane solution: NP1:φs84.00000°,δ81.00000°,λ11.00000°. NP2: φs352.00000°,δ80.00000°,λ170.00000°.*
MOS ***04*** *03:12:44.0±1.2,37°.48N×20°.64E,h12km,mb5.0/30, MS4.1/8 Error ellipse: s-maj=4.9km s-min=2.4km az=81.8*
MCSM ***04*** *03:12:45.7±0.6,37°.N±3°×2°.1E±°,h11km±4km,mB5.2, mb4.9,MLv5.0,Mw(mB)4.6*
NEIC ***04*** *03:12:45.3±2.7,37°.51N±0°.04×20°.60E±0°.06,h10km±1km, mb4.9/96,Error ellipse: s-maj=9.5km s-min=5.9km az=230.0*
MED_RC ***04*** *03:12:45.0±0.2,37°.31N×20°.48E,h22km±1km,MW4.8/37, Moment Tensor Solution.Mantle waves: s37,c58; Duration: 1s2 Moment tensor: Scale 10^16Nm; Mrr-0.04±.09; Mθθ-0.50±.06; Mφφ0.54±.06; Mrθ0.02±.08; Mθφ1.60±.05; Mrφ0.03±.07; Best double couple: M0 1.68000×10^16 NP1:φs351.00000°,δ89.00000°, λ179.00000°. NP2:φs81.00000°,δ89.00000°,λ1.00000°. Principal axes: T 1.7000, Plg1.0000°, Azm306.0000°; N -0.0400, Plg89.0000°, Azm133.0000°; P -1.6600, Plg0.0000°, Azm36.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
THE ***04*** *03:12:46.0,37°.43N×20°.52E,h8km±1km,ML5.0/6 Error ellipse: s-maj=1.3km s-min=0.5km az=40.0*
BEO ***04*** *03:12:47.7±0.6,37°.73N×20°.33E,h0km,ML4.6/14*
GCMT ***04*** *03:12:49.3±0.3,37°.39N±0°.02×20°.43E±0°.02,h22km±1km, MW4.8/88,Moment Tensor Solution. s8,c8; s88,c119; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.21±.10; Mθθ-0.28±.08; Mφφ0.48±.08; Mrθ0.50±.12; Mθφ 1.75±.06; Mrφ-0.04±.10; Best double couple: M0 1.86600×10^16 NP1:φs263.00000°,δ85.00000°,λ-16.00000°. NP2: φs354.00000°,δ74.00000°,λ-175.00000°. Principal axes: T 1.9350, Plg8.0000°, Azm310.0000°; N -0.1380, Plg73.0000°, Azm66.0000°; P -1.7970, Plg15.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
PDG ***04*** *03:12:49.3±0.8,37°.48N×20°.53E,h7km±2km,MD5.0/1, ML4.9/13 Error ellipse: s-maj=1.3km s-min=1.6km az=0.0*
AFAD ***04*** *03:12:52.0±0.0,37°.60N×20°.89E,h36km±82km,MW4.8*
GII ***04*** *03:12:58.9±0.5,37°.006N±0°.003×21°.364E±0°.001,h300km, Mws4.9,confirmed*
NAO ***04*** *03:13:03.5,39°.46N×21°.19E,h10km,mb4.4*
ISC 04 03:12:46.0±0.8,**37°.51N**±0°.03×**20°.64E**±0°.02,**h17**km±4km, **n828,**σ1§**80**/811,**mb4.8**/99,**MS4.6**/10,**55C-43D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.21**	**42**	P	**Pb**	**03 12 52.9**	**+1.5**
KRI1				S	**Sb**	**03 12 57.5**	**+2.5**
	412μm,0.5s						
LTHK	**Lithakia**	**0.26**	**37**	P	**Pb**	**03 12 53.2**	**+1.0**
LTHK				S	**Sn**	**03 12 58.6**	**-1.9**
	316μm,0.2s						
LTHK	**Lithakia**	**0.26**	**37**	P	**Pb**	**03 12 53.6**	**+1.4**
LTHK				S	**Sn**	**03 12 59.0**	**-1.5**
LTHK				AML	AML	03 12 59.2	
LTHK				AML	AML	03 13 00.6	
RTZL	**Ratzakli, Kefa**	**0.58**	**10**	P	**Pn**	**03 12 58.9**	**-0.6**
RTZL				S	**Sn**	**03 13 08.6**	**+0.1**
	210μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.61**	**356**	P	**Pb**	**03 12 58.7**	**+0.5**
PSDA				S	**Sn**	**03 13 08.9**	**-0.4**
	148μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.61**	**356**	P	**Pb**	**03 12 58.7**	**+0.5**
PSDA				S	**Sn**	**03 13 08.0**	**-1.3**
VLS	**Valsamata**	**0.67**	**356**	P	**Pb**	**03 12 59.8**	**+0.5**
VLS				S	**Sn**	**03 13 10.9**	**0.0**
	127μm,0.6s						
VLS	**Valsamata**	**0.67**	**356**	P	**Pb**	**03 12 59.8**	**+0.5**
VLS				S	**Sn**	**03 13 10.9**	**0.0**
VLS	**Valsamata**	**0.67**	**356**	P	**Pb**	**03 12 59.6**	**+0.3**
VLS				S	**Sn**	**03 13 10.0**	**-0.9**
VLS				AML	AML	03 13 13.7	
VLS				AML	AML	03 13 16.9	
LXR1	**Lixouri, Cepha**	**0.71**	**347**	P	**Pg**	**03 13 00.4**	**+0.4**
LXR1				S	**Sn**	**03 13 11.9**	**+0.1**
	377μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.71**	**347**	P	**Pg**	**03 13 00.1**	**+0.1**
LXRA				AML	AML	03 13 15.0	
LXRA				AML	AML	03 13 20.6	
SMHA	**Samh**	**0.74**	**0**	P	**Pg**	**03 13 00.5**	**-0.1**
DMLN	**Damoulianata-K**	**0.76**	**344**	P	**Pg**	**03 13 01.2**	**+0.2**
DMLN	**Damoulianata-K**	**0.76**	**344**	P	**Pg**	**03 13 01.1**	**+0.1**
AMT	**Artemida-Makis**	**0.85**	**88**	P	**Pn**	**03 13 03.8**	**+0.6**
AMT				S	**Sn**	**03 13 17.5**	**+2.3**
AMT				AML	AML	03 13 22.3	
AMT				AML	AML	03 13 22.6	
RLS	**Riolos of Patr**	**0.85**	**50**	P	**Pn**	**03 13 04.2**	**+1.0**
RLS	**Riolos of Patr**	**0.85**	**50**	P	**Pn**	**03 13 03.9**	**+0.7**
RLS				AML	AML	03 13 21.4	
RLS				AML	AML	03 13 21.6	
	comp=E,71548μm,0.8s						
VSK1	**VASILIKIADES**	**0.90**	**356**	P	**Pn**	**03 13 04.2**	**+0.2**
FSK	**Fiskardo**	**0.95**	**356**	P	**Pn**	**03 13 05.2**	**+0.6**
FSK	**Fiskardo**	**0.95**	**356**	P	**Pg**	**03 13 04.3**	**-0.3**
FSK				AML	AML	03 13 26.2	
FSK				AML	AML	03 13 27.6	
DRO	**Drossia**	**0.96**	**62**	P	**Pn**	**03 13 06.2**	**+1.5**
DRO	**Drossia**	**0.96**	**62**	P	**Pn**	**03 13 06.0**	**+1.3**
DRO				AML	AML	03 13 26.6	
DRO				AML	AML	03 13 32.0	
PYL	**PYLOS**	**1.07**	**124**	P	**Pg**	**03 13 06.7**	**0.0**
PYL	**PYLOS**	**1.07**	**124**	P	**Pn**	**03 13 06.4**	**+0.2**
PYL				AML	AML	03 13 27.3	
	comp=E,48764μm,0.5s						
PYL				AML	AML	03 13 34.6	
	comp=N,44846μm,0.8s						
ITM	**Ithomi**	**1.07**	**107**	P	**Pg**	**03 13 07.2**	**+0.3**
ITM	**Ithomi**	**1.07**	**107**	P	**Pg**	**03 13 06.9**	**0.0**
ITM				AML	AML	03 13 30.0	
	comp=N,45433μm,0.5s						
ITM				AML	AML	03 13 37.2	
	comp=E,61811μm,0.7s						
AST1	**Astakos**	**1.09**	**19**	P	**Pg**	**03 13 08.2**	**+1.0**
EVGI	**Lefkada island**	**1.11**	**1**	P	**Pg**	**03 13 08.1**	**+0.5**
EVGI	**Lefkada island**	**1.11**	**1**	P	**Pg**	**03 13 07.4**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.18**	**357**	P	**Pg**	**03 13 08.7**	**-0.1**
DRAG	**Dragano-Lefkad**	**1.18**	**357**	P	**Pg**	**03 13 08.4**	**-0.4**
UPR	**University Cam**	**1.19**	**49**	P	**Pg**	**03 13 09.7**	**+0.6**
UPR	**University Cam**	**1.19**	**49**	P	**Pg**	**03 13 10.3**	**+1.2**
NYDR	**Nydri-Lefkada**	**1.21**	**2**	P	**Pg**	**03 13 09.6**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.21**	**2**	P	**Pg**	**03 13 08.9**	**-0.4**
LKD2	**Lefkada island**	**1.28**	**1**	P	**Pg**	**03 13 11.3**	**+0.5**
LKD2				AML	AML	03 13 35.7	
LKD2				AML	AML	03 13 39.4	
KLV	**Kalavryta, Ach**	**1.31**	**65**	P	**Pg**	**03 13 11.3**	**0.0**
KLV	**Kalavryta, Ach**	**1.31**	**65**	P	**Pg**	**03 13 11.8**	**+0.5**
KLV				AML	AML	03 13 41.4	
	comp=E,28625μm,0.9s						
KLV				AML	AML	03 13 41.9	
	comp=N,28958μm,0.8s						
TSLK	**Tsoukalades, L**	**1.32**	**0**	P	**Pg**	**03 13 11.0**	**-0.5**
TSLK	**Tsoukalades, L**	**1.32**	**0**	P	**Pb**	**03 13 10.7**	**+0.4**
EFP	**Efpalio**	**1.36**	**47**	P	**Pg**	**03 13 12.1**	**-0.2**
EFP	**Efpalio**	**1.36**	**47**	P	**Pg**	**03 13 12.0**	**-0.2**
EFP				AML	AML	03 13 38.7	
	comp=N,39203μm,0.7s						
EFP				AML	AML	03 13 44.0	
	comp=E,39664μm,0.8s						
ALIK	**Aliki, Aigiali**	**1.39**	**57**	P	**Pg**	**03 13 13.1**	**+0.3**
GUR	**Goura**	**1.42**	**72**	P	**Pg**	**03 13 13.2**	**-0.1**
GUR	**Goura**	**1.42**	**72**	P	**Pg**	**03 13 12.8**	**-0.5**
GUR				AML	AML	03 13 53.6	
	comp=N,65388μm,0.5s						
GUR				AML	AML	03 13 58.5	
	comp=E,54891μm,0.8s						
KALE	**Kalithea**	**1.48**	**53**	P	**Pg**	**03 13 14.2**	**-0.4**
ANX	**Ano Chora**	**1.48**	**43**	P	**Pg**	**03 13 14.2**	**-0.5**
ANX				AML	AML	03 13 53.1	
	comp=N,96719μm,0.6s						
ANX				AML	AML	03 13 54.9	
	comp=E,68128μm,0.6s						
EVR	**Evrytania**	**1.68**	**33**	P	**Pg**	**03 13 17.6**	**-0.9**
EVR				AML	AML	03 13 54.1	
	comp=E,32707μm,0.6s						
EVR				AML	AML	03 13 55.1	
	comp=N,28312μm,0.7s						
DLFA	**Delphi**	**1.76**	**56**	P	**Pb**	**03 13 18.9**	**+1.0**
DLFA				AML	AML	03 14 03.7	
	comp=E,21608μm,1.1s						
DLFA				AML	AML	03 14 06.1	
	comp=N,23961μm,0.9s						
MAKR	**Makrakomi, Fth**	**1.91**	**37**	P	**Pb**	**03 13 21.2**	**+0.8**
MAKR				AML	AML	03 13 59.0	
	comp=N,62272μm,1.1s						
MAKR				AML	AML	03 14 02.4	
	comp=E,62466μm,1.1s						
VLI	**Veliai**	**2.00**	**113**	P	**Pb**	**03 13 21.1**	**-0.8**
AGG	**Agios Georgios**	**2.01**	**41**	P	**Pb**	**03 13 22.7**	**+0.6**
AGG				S	**Sg**	**03 13 50.6**	**-0.4**
AGG				*i* AML	AML	03 14 08.0	
	comp=E,2μm,0.7s						
AGG	**Agios Georgios**	**2.01**	**41**		**Pb**	**03 13 22.8**	**+0.6**
AGG	**Agios Georgios**	**2.01**	**41**	P	**Pb**	**03 13 22.8**	**+0.6**
AXAR	**Agios Charalam**	**2.03**	**51**	P	**Pb**	**03 13 22.4**	**-0.1**
AXAR				AML	AML	03 14 08.2	
	comp=E,58074μm,0.9s						
AXAR				AML	AML	03 14 10.9	
	comp=N,50901μm,0.7s						
IGT	**Igoumenitsa**	**2.04**	**353**	P	**Pb**	**03 13 22.9**	**+0.3**
IGT	**Igoumenitsa**	**2.04**	**353**	P	**Pn**	**03 13 19.6**	**0.0**
IGT				AML	AML	03 14 00.2	
	comp=E,34220μm,0.9s						
IGT				AML	AML	03 14 07.5	
	comp=N,20742μm,1.5s						
MNVA	**Monemvasia**	**2.08**	**112**	P	**Pb**	**03 13 23.2**	**-0.1**
MNVA				AML	AML	03 14 10.9	
	comp=E,13804μm,1.1s						
MNVA				AML	AML	03 14 13.4	
	comp=N,10033μm,1.5s						
JAN	**Janina**	**2.15**	**4**	P	**Pb**	**03 13 23.6**	**-1.0**
JAN	**Janina**	**2.15**	**4**	P	**Pn**	**03 13 22.4**	**+1.3**
JAN				AML	AML	03 14 11.0	
	comp=E,45807μm,1.0s						
JAN				AML	AML	03 14 11.4	
	comp=N,25257μm,0.8s						
VIL2	**Platees**	**2.19**	**70**	P	**Pn**	**03 13 23.3**	**+1.6**
VIL2				AML	AML	03 14 11.6	
	comp=E,27696μm,0.9s						
VIL2				AML	AML	03 14 13.8	
	comp=N,18400μm,1.2s						
KEK	**Kerkira**	**2.30**	**344**		**Pn**	**03 13 23.8**	**+0.6**
KEK	**Kerkira**	**2.30**	**344**	P	**Pn**	**03 13 22.8**	**-0.4**
KEK				AML	AML	03 14 16.3	
	comp=E,18936μm,0.8s						
KEK				AML	AML	03 14 26.2	
	comp=N,16041μm,0.7s						
THL	**Klokotos Trika**	**2.32**	**27**	P	**Pb**	**03 13 26.2**	**-1.2**
THL				AML	AML	03 14 16.1	
	comp=N,12716μm,1.0s						
THL				AML	AML	03 14 26.7	
	comp=E,14378μm,1.0s						
ATH	**Athens Observa**	**2.48**	**78**	P	**Pn**	**03 13 27.4**	**+1.8**
ATH				AML	AML	03 14 19.7	
	comp=N,11086μm,1.2s						
ATH				AML	AML	03 14 21.0	
	comp=E,19412μm,0.9s						
KPRO	**Kipourio**	**2.51**	**13**	P	**Pb**	**03 13 29.1**	**-1.6**
VLY	**Voula,Athens**	**2.52**	**81**	P	**Pn**	**03 13 27.2**	**+0.9**
VLY				AML	AML	03 14 19.5	
	comp=N,12170μm,1.1s						
VLY				AML	AML	03 14 27.5	
	comp=E,12800μm,0.8s						
TYRN	**Tyrnavos**	**2.53**	**29**	P	**Pb**	**03 13 28.6**	**-2.4**
ATHU	**Athens Univers**	**2.53**	**79**	P	**Pn**	**03 13 28.1**	**+1.8**
PTL	**Penteli**	**2.61**	**77**	P	**Pn**	**03 13 29.0**	**+1.5**
PTL				AML	AML	03 14 17.5	
	comp=E,9471μm,1.1s						
PTL				AML	AML	03 14 18.2	
	comp=N,8848μm,1.1s						
DION	**Dionisos Attik**	**2.67**	**77**	P	**Pn**	**03 13 29.8**	**+1.5**
DION				AML	AML	03 14 23.7	
	comp=N,13981μm,1.0s						
DION				AML	AML	03 14 30.9	
	comp=E,15363μm,1.2s						
ANKY	**Antikythira Is**	**2.69**	**127**	P	**Pn**	**03 13 29.7**	**+1.2**
ANKY				AML	AML	03 14 35.3	
	comp=E,11174μm,1.7s						
ANKY				AML	AML	03 14 49.2	
	comp=N,8520μm,1.0s						
NEO	**Neokhori**	**2.71**	**48**	P	**Pn**	**03 13 30.4**	**+1.6**
PENT	**Pentalofos**	**2.71**	**8**	P	**Pb**	**03 13 31.7**	**-2.5**
KZN	**Kozani**	**2.93**	**17**	P	**Pn**	**03 13 32.9**	**+1.0**
KZN	**Kozani**	**2.93**	**17**	P	**Pn**	**03 13 32.3**	**+0.4**
KYMI	**Kymi, Euboea I**	**2.95**	**67**	P	**Pn**	**03 13 33.5**	**+1.4**
LIT	**Litokhoron**	**2.97**	**29**	P	**Pn**	**03 13 34.5**	**+2.2**
LIT				S	**Sn**	**03 14 06.5**	**-1.0**
LIT				*i* AML	AML	03 14 38.0	
	comp=N,2μm,0.8s						
LIT	**Litokhoron**	**2.97**	**29**		**Pn**	**03 13 34.5**	**+2.2**
LIT	**Litokhoron**	**2.97**	**29**	P	**Pn**	**03 13 34.5**	**+2.2**
SCTE	**Santa Cesarea**	**3.08**	**327**		**Pn**	**03 13 33.1**	**-0.6**
FNA	**Florina**	**3.32**	**10**	P	**Pn**	**03 13 39.9**	**+2.7**
FNA	**Florina**	**3.32**	**10**		**Pn**	**03 13 39.5**	**+2.2**
FNA	**Florina**	**3.32**	**10**	*e*Pn	**Pn**	**03 13 39.7**	**+2.4**
FNA				*e*Sn	**Sn**	**03 14 17.5**	**+1.2**
FNA	**Florina**	**3.32**	**10**	P	**Pn

CUC Castrocucco 4.52 305 Pn 03 13 54.2 +0.6
CUC Castrocucco 4.52 305 P Pn 03 13 52.2 -1.5
PUK Puka 4.57 353 Pn Pn 03 13 55.3 +0.9
ULC Ulcinj 4.58 347 ePn Pn 03 13 54.9 +0.4
ULC i Sn Sn 03 14 45.7 -1.6
PEHC Pehcevo 4.61 22 i Pn Pn 03 13 57.4 +2.4
ZEYE Izmir, Urla-Ze 4.69 79 P Pn 03 13 54.6 -1.5
KARB zmir-Karabur 4.70 74 P Pn 03 13 57.7 +1.7
KARB i AML AML 03 14 38.0
comp=N,145nm,0.9s
MMB Musomishta 4.70 30 P Pn 03 13 58.7 +2.6
KKB Krupnik 4.74 23 P Pn 03 13 58.8 +2.2
KOCA Canakkale, Ayv 4.75 64 P Pn 03 13 58.5 +1.7
KOCA i AML AML 03 14 32.0
comp=N,226nm,0.8s
DRME Dracevica, Mon 4.81 347⇑ iPn Pn 03 13 58.8 +1.2
DRME i Sn Sn 03 14 51.3 -1.6
BOZC Bozcaada 4.83 59 P Pn 03 14 00.2 +2.3
GOAD anakkale-G¶ 4.89 56 P Pn 03 14 00.2 +1.4
VAE Valguarnera 4.96 272 Pn Pn 03 13 59.1 -0.6
comp=N,80nm,0.9s,baz=149,slow=5.1,SNR=16
VAE Sn Sn 03 14 55.5 -1.0
comp=N,11nm,0.3s,baz=40,slow=8.7,SNR=3.8
DGB zmir 4.97 82 P Pn 03 14 00.1 +0.2
BUM Brajici-Budva 4.97 345 ePn Pn 03 13 59.6 -0.3
BUM i Sn Sn 03 14 55.3 -1.8
RAFF Raffo Rosso 5.01 269 Pn 03 13 58.1 -2.3
EZN Ezine 5.01 61 P Pn 03 14 00.8 +0.3
EZN Ezine 5.01 61 Pn Pn 03 14 01.5 +1.1
comp=N,155nm,0.7s,comp=N,0.8nm
PDG Podgorica 5.03 348 Pn Pn 03 14 00.6 -0.1
PDG Podgorica 5.03 348 ePn Pn 03 14 00.0 -0.7
PDG eSn Sn 03 14 56.0 -2.4
PDG Podgorica 5.03 348 ePn Pn 03 14 00.5 -0.1
PDG Podgorica 5.03 348 ⇓P Pn 03 14 00.9 +0.3
PDG Podgorica 5.03 348 ePn Pn 03 14 01.7 +1.0
PDG i Sn Sn 03 14 56.7 -1.7
AYVA Ayvalik 5.08 67 P Pn 03 14 05.6 +4.3
PVY Plav 5.11 354 ePn Pn 03 14 03.1 +1.2
PVY i Sn Sn 03 14 58.8 -1.7
BAYC CANAKKALE_Bayr 5.13 62 P Pn 03 14 05.2 +3.1
BLCB Balcova 5.13 78 P Pn 03 14 04.0 +2.0
BLCB i AML AML 03 14 50.0
comp=N,155nm,1.2s
DKL Dikili 5.17 70 P Pn 03 14 04.0 +1.5
DKL i AML AML 03 14 38.0
comp=N,104nm,0.9s
BOSS Bosilegrad 5.18 15 ePn Pn 03 14 04.4 +1.7
WDD Wied Dalam 5.19 253 Pn 03 14 01.7 -1.2
HCY Herceg Novi 5.20 342 ePn Pn 03 14 01.5 -1.5
HCY Herceg Novi 5.20 342 ePn Pn 03 14 02.6 -0.4
HCY i Sn Sn 03 15 00.7 -1.9
CEME Cevo 5.21 346 ePn Pn 03 14 04.2 +1.1
CEME i Sn Sn 03 15 00.8 -2.0
GCAM G?zelcaml? 5.24 86 P Pn 03 14 04.8 +1.4
GCAM i AML AML 03 14 48.0
comp=N,89nm,0.7s
RZN Rozhen 5.24 36 P Pn 03 14 06.9 +3.1
DDIM Aydin, Didim 5.25 89 P Pb 03 14 12.8 -4.5
ZEDA zmir-Bergama 5.27 72 P Pn 03 14 08.8 +4.8
BODT Bodrum 5.33 93 P Pn 03 14 04.8 0.0
CAVK Edirne/Enez-Ca 5.35 52 P Pn 03 14 05.2 +0.2
CAVK Edirne/Enez-Ca 5.35 52 ⇓P Pn 03 14 09.0 +4.0
BARS Barje 5.38 9 ePn Pn 03 14 06.3 +0.8
BARS eSn Sn 03 15 04.1 -2.9
IVA Berane 5.39 354⇓ iPn Pn 03 14 06.9 +1.2
IVA i Sn Sn 03 15 05.4 -1.9
ALN Alexandroupoli 5.39 49 P Pn 03 14 05.2 -0.4
ALN Alexandroupoli 5.39 49 Pn Pn 03 14 07.0 +1.4
ALN Alexandroupoli 5.39 49 P Pn 03 14 07.0 +1.4
PLNA Plana 5.41 22 P Pn 03 14 08.7 +2.8
KOME Kolasin 5.41 351⇑ iPn Pn 03 14 07.1 +1.2
KOME i Sn Sn 03 15 05.8 -2.0
NKME Niksic 5.41 347 ePn Pn 03 14 07.0 +1.1
NKME i Sn Sn 03 15 05.8 -2.0
BUHA Balikesir, Bur 5.43 66 P Pn 03 14 08.8 +2.7
BUHA i AML AML 03 14 44.0
comp=N,117nm,0.8s
BDRM Kayabasi 5.44 93 P Pn 03 14 07.2 +0.9
BDRM i AML AML 03 14 46.0
comp=N,42nm,0.9s
VTS Vitosha 5.48 20 P Pn 03 14 09.2 +2.2
VTS Vitosha 5.48 20 ePn Pn 03 14 08.9 +1.9
VTS eSn Sn 03 15 09.2 -0.4
KDZ Kurdzhali 5.49 40 P Pn 03 14 09.1 +2.1
TREB Trebinje 5.49 342 ePn Pn 03 14 05.2 -1.8
TREB eSn Sn 03 15 05.0 -4.8
TREB Trebinje 5.49 342 ePn Pn 03 14 05.6 -1.4
YAZI Mula-Dat§a- 5.51 97 P Pn 03 14 08.8 +1.5
YAZI i AML AML 03 15 42.0
comp=N,55nm,2.1s
TRAN Tran 5.54 15 P Pn 03 14 09.7 +2.0
ERIK Erikli-Kesan 5.55 54 P Pn 03 14 09.0 +1.2
KARP Karpathos 5.60 108 Pn Pn 03 14 09.1 +0.6
KARP Karpathos 5.60 108 P Pn 03 14 09.6 +1.1
KARP Karpathos 5.60 108 Pn Pn 03 14 09.8 +1.3
comp=N,350nm,0.8s,comp=N,4µmcomp=N,2.3nm
PLD Plovdiv 5.61 33 P Pn 03 14 10.5 +1.9
PLD Plovdiv 5.61 33 ePn Pn 03 14 10.5 +1.9
PLD Plovdiv 5.61 33 P Pn 03 14 10.8 +2.2
PLD pmax pmax
comp=Z,445nm,1.0s
BRY Bratogost 5.62 344 ePn Pn 03 14 07.9 -1.1
BRY Bratogost 5.62 344 ePn Pn 03 14 09.6 +0.6
BRY i Sn Sn 03 15 10.7 -2.5
PGB Panagyurishte 5.69 27 P Pn 03 14 12.3 +2.6
SELS Selova 5.72 3 ePn Pn 03 14 10.9 +0.8
SJES Sjenica 5.77 355 ePn Pn 03 14 11.7 +0.8
SJES Sjenica 5.77 355 ePn Pn 03 14 11.8 +0.8
STON Ston 5.81 338 ePn Pn 03 14 09.9 -1.4
STON eSn Sn 03 15 13.2 -4.4
STON Ston 5.81 338 ePn Pn 03 14 10.0 -1.4
UPM Unac-Piva 5.84 347 ePn Pn 03 14 14.0 +2.0
UPM Unac-Piva 5.84 347 ePn Pn 03 14 13.1 +1.1
UPM i Sn Sn 03 15 16.1 -2.5
PLE Pljevlja 5.90 351⇑ iPn Pn 03 14 13.8 +1.1
PLE i Sn Sn 03 15 17.5 -2.3
DIM Dimitrovgrad 5.92 38 P Pn 03 14 14.9 +2.1
ZAPS Zavoj 5.96 14 ePn Pn 03 14 14.9 +1.5
IVAS Ivanjica 6.08 357 ePn Pn 03 14 15.1 0.0
IVAS eSn Sn 03 15 19.9 -4.3
YER Yerkesik 6.10 91 P Pn 03 14 21.4 +6.0
TURN Turunc 6.12 95 P Pn 03 14 17.5 +1.9
TURN i AML AML 03 15 45.0
comp=Z,40nm,0.4s
MULA Mugla, Merkez- 6.12 90 P Pn 03 14 17.5 +1.8
MULA i AML AML 03 14 58.0
comp=Z,30nm,0.9s
ESEN Aydn-Nazilli 6.12 85 P Pn 03 14 19.9 +4.2
ARG Arkhangelos 6.14 100 P Pn 03 14 18.7 +2.8
ARG pmax pmax
comp=Z,387nm,0.9s
BOVS Bovan 6.18 7 ePn Pn 03 14 16.2 -0.2
RUDO Rudo 6.18 351 ePn Pn 03 14 16.7 +0.2
MPEP Malo Peshtene 6.30 21 P Pn 03 14 20.7 +2.6
GRUS Gruza 6.38 0 ePn Pn 03 14 19.3 +0.2
ZAGS Zajecar 6.42 10 ePn Pn 03 14 19.4 -0.3
BBLS Lazi&#263i 6.42 352 ePn Pn 03 14 20.0 +0.2
BBLS Lazi&#263i 6.42 352 ePn Pn 03 14 22.3 +2.5
BAND Balkesir-Ban 6.47 62 ⇑P Pn 03 14 26.1 +5.6
VALD Valchedram 6.53 18 P Pn 03 14 23.1 +1.8
TAVA DENIZLI_Tavas 6.58 88 P Pn 03 14 26.2 +4.2
TAVA i AML AML 03 15 44.0
comp=Z,27nm,1.6s
DIVS Divibare 6.60 356 ePn Pn 03 14 22.8 +0.4
HAPS Han Pijesak,BI 6.70 349 ePn Pn 03 14 23.0 -0.6
HAPS eSn Sn 03 15 33.9 -5.7
HAPS Han Pijesak,BI 6.70 349 ePn Pn 03 14 23.1 -0.6
TRUS Trudelj 6.71 359 ePn Pn 03 14 23.4 -0.4
JMB Yambol 6.72 40 P Pn 03 14 25.4 +1.5
ELND Elena 6.74 35 ⇓P Pn 03 14 26.8 +2.8
ARMN Kirklareli, Me 6.81 48 P Pn 03 14 23.8 -1.2
BAIL Bailesti 6.82 17 ⇑P Pn 03 14 27.7 +2.5
INTR Introdacqua 6.87 313 Pn Pn 03 14 27.6 +1.6
KUBS Kucevo 6.94 6 ePn Pn 03 14 25.8 -1.1
PUNG Punghina 6.98 14 ⇑P Pn 03 14 29.0 +1.6
VLAD Vladila 7.09 23 ⇑P Pn 03 14 31.0 +2.1
TEKS Tekeris 7.09 354 ePn Pn 03 14 28.0 -0.9
TEKS Tekeris 7.09 354 ePn Pn 03 14 28.0 -0.9
CTYL Yalikoy Yolu 7.12 54 Pn Pn 03 14 31.2 +1.9
comp=Z,129nm,0.8s,comp=Z,0.4nm

MDVR Moldovita 7.31 6 ⇓P Pn 03 14 32.5 +0.5
SRE Strehaia 7.41 14 ⇓P Pn 03 14 34.4 +1.1
SRE Strehaia 7.41 14 P Pn 03 14 34.4 +1.1
ELL Elmali 7.44 93 Pn 03 14 38.6 +4.7
ELL Elmali 7.44 93 P Pn 03 14 38.6 +4.7
YLV Yalova 7.45 63 Pn Pn 03 14 35.7 +1.7
comp=Z,86nm,0.9s,comp=Z,0.3nm
DOB Doboj 7.47 346 ePn Pn 03 14 32.3 -1.8
HERR Herculane 7.49 10 ⇓P Pn 03 14 36.3 +1.9
ROIA ROIAK 7.59 41 P Pn 03 14 38.4 +2.6
A050A Klekovaca 7.63 337 ePn Pn 03 14 36.7 +0.3
PRD Provadia 7.65 40 P Pn 03 14 38.9 +2.2
FRGS Fruska Gora 7.67 356 ePn Pn 03 14 35.7 -1.2
FRGS Fruska Gora 7.67 356 ePn Pn 03 14 35.9 -1.0
BLY Banja Luka 7.69 341 ePn Pn 03 14 36.9 -0.3
BLY Banja Luka 7.69 341 ePn Pn 03 14 37.5 +0.3
SGRR Singureni 7.83 29 ⇓P Pn 03 14 41.2 +2.1
NRCA Norcia 7.84 315 Pn Pn 03 14 40.4 +1.1
A051A Mrakovica 8.01 341 ePn Pn 03 14 39.6 -2.0
PRIJ Prijedor 8.03 340 ePn Pn 03 14 45.5 +3.7
STFAR Stefanesti-Arg 8.04 23 ⇓P Pn 03 14 44.9 +2.9
GZR Gura Zlata 8.04 11 ⇑P Pn 03 14 42.9 +0.8
GZR Gura Zlata 8.04 11 P Pn 03 14 42.8 +0.8
BZS Buzias 8.14 5 ePn Pn 03 14 42.4 -0.9
BZS Buzias 8.14 5 P Pn 03 14 43.2 -0.1
BZS pmax pmax
comp=Z,33nm,0.7s
SAUV Serdivan-Sakar 8.19 64 P Pn 03 14 49.1 +5.1
KAND Kocaeli-Kandir 8.22 61 P Pn 03 14 46.8 +2.3
LOT Lotru 8.27 15 ⇑P Pn 03 14 46.7 +1.4
KAYN Sakarya, Kayna 8.28 62 P Pn 03 14 48.3 +3.1
SURR Surduc 8.32 7 ⇑P Pn 03 14 47.5 +1.8
PSN Preselentsi 8.37 41 P Pn 03 14 49.3 +2.9
MTUR Matau 8.40 22 ⇑P Pn 03 14 49.7 +2.8
MTUR Matau 8.40 22 P Pn 03 14 49.7 +2.8
ARR Arges 8.41 20 ⇓P Pn 03 14 48.7 +1.7
DEV Deva 8.54 11 ⇓P Pn 03 14 50.3 +1.5
DEV Deva 8.54 11 P Pn 03 14 50.3 +1.5
ICOR Ion Corvin 8.54 37 ⇑P Pn 03 14 51.5 +2.6
VOIR 8.59 21 ⇑P Pn 03 14 51.7 +2.1
VOIR 8.59 21 P Pn 03 14 51.6 +2.1
VOIR 8.59 21 Pn Pn 03 14 51.2 +1.7
comp=Z,108nm,0.8s
MDUB Mudurnu 8.74 67 Pn 03 14 56.3 +4.7
SIRR Siria 8.79 5 ⇑P Pn 03 14 53.5 +1.2
ISR Istrita 8.80 28 ⇓P Pn 03 14 55.8 +3.3
ISR Istrita 8.80 28 P Pn 03 14 55.8 +3.3
ISR Istrita 8.80 28 P Pn 03 14 54.5 +2.0
comp=Z,225nm,0.9s
MORH Mrgy, Hungar 8.83 351 ⇑P Pn 03 14 53.3 +0.5
MORH Mrgy, Hungar 8.83 351 P Pn 03 14 54.3 +1.5
comp=Z,14nm,0.9s
MLR Muntele Rosu 8.91 25 Pn 03 14 57.5 +3.4
MLR Muntele Rosu 8.91 25 Pn Pn 03 14 56.3 +2.3
comp=Z,4.3nm,0.3s,baz=205,slow=3.3,SNR=28
MLR Sn Sn 03 16 34.9 +0.9
baz=160,slow=15
MLR Muntele Rosu 8.91 25 P Pn 03 14 57.5 +3.4
MLR Muntele Rosu 8.91 25 P Pn 03 14 55.9 +1.9
comp=Z,179nm,0.8s
BOJS Bojanci 8.95 335 i Pn Pn 03 14 53.7 -0.7
NEHR Nehoiu 8.98 26 ⇑P Pn 03 14 57.5 +2.6
TLBR Topalu 8.98 36 ⇑P Pn 03 14 57.3 +2.4
HARR Harsova 9.04 35 ⇑P Pn 03 14 57.8 +2.1
HARR Harsova 9.04 35 P Pn 03 14 57.7 +2.1
PTJ Puntijarka 9.09 339 P Pn 03 14 58.6 +2.1
DOPR Dopca 9.17 21 ⇑P Pn 03 14 59.9 +2.5
BISRR Bisoca 9.23 28 ⇓P Pn 03 15 01.8 +3.4
BISRR Bisoca 9.23 28 P Pn 03 15 00.2 +1.9
comp=Z,408nm,0.9s
KEST Kesra 9.25 262 Pn Pn 03 14 57.2 -1.5
comp=Z,0.4nm,0.3s,baz=21,slow=2.9,SNR=6.7
KEST Sn Sn 03 16 43.0 +0.6
comp=Z,0.3nm,0.3s,baz=45,slow=14,SNR=1.4
comp=Z,9.0nm,0.8s
COVR Voineasa-Covas 9.31 25 ⇑P Pn 03 15 02.6 +3.2
MARR Marisel-Cluj 9.35 11 ⇓P Pn 03 15 00.8 +0.8
OZUR 9.40 22 ⇑P Pn 03 15 03.4 +2.7
DRGR 9.40 9 ePn Pn 03 15 01.1 +0.4
DRGR 9.40 9 ⇑P Pn 03 15 01.3 +0.6
DRGR 9.40 9 P Pn 03 15 01.3 +0.6
TURR Turia 9.44 23 ⇑P Pn 03 15 03.4 +2.3
CEY Cerknica 9.45 332 ePn Pn 03 15 00.7 -0.6
CJR Cluj-Napoca 9.46 12 ⇑P Pn 03 15 04.1 +2.6
CJR Cluj-Napoca 9.46 12 P Pn 03 15 04.0 +2.6
PLOR Plostina 9.47 26 ⇓P Pn 03 15 04.9 +3.2
PLOR Plostina 9.47 26 P Pn 03 15 04.8 +3.2
PLOR5 Plostina Array 9.47 26 P Pn 03 15 03.5 +1.9
comp=Z,129nm,0.8s
PLOR3 Plostina Array 9.47 26 P Pn 03 15 03.5 +1.9
comp=Z,154nm,1.1s
CBBR Cluj-Babes-Bol 9.50 12 ⇑P Pn 03 15 03.8 +1.7
VRI Vrincioaia 9.51 27 ⇑P Pn 03 15 05.4 +3.2
VRI Vrincioaia 9.51 27 P Pn 03 15 05.3 +3.2
VRI Vrincioaia 9.51 27 P Pn 03 15 04.0 +1.9
comp=Z,76nm,0.9s,comp=Z,756nm
ODBI Odobesti 9.54 28 ⇑P Pn 03 15 05.7 +3.2
ODBI Odobesti 9.54 28 P Pn 03 15 04.5 +2.0
comp=Z,55nm,0.7s,comp=Z,424nm
JURR Jurilovca 9.54 38 ⇑P Pn 03 15 05.0 +2.4
GBAS Gorenja Brezov 9.61 333 i Pn Pn 03 15 03.3 -0.2
MESR Meseseni 9.79 9 ⇑P Pn 03 15 07.9 +2.0
ANTO Ankara 9.79 72 P Pn 03 15 05.3 -0.7
ANTO Ankara 9.79 72 P Pn 03 15 08.0 +2.0
ANTO Ankara 9.79 72 P Pn 03 15 08.0 +2.0
comp=Z,9.1nm,0.8s
ONER Baraj Valea Uz 9.80 24 ⇑P Pn 03 15 09.1 +2.9
TLCR 9.82 36 ⇓P Pn 03 15 08.7 +2.2
TLCR 9.82 36 P Pn 03 15 08.6 +2.2
SCTR Scanteiesti 9.84 32 ⇑P Pn 03 15 09.2 +2.6
VOJS Vojsko 9.90 332 i Pn Pn 03 15 06.9 -0.6
GHRR 9.93 28 ⇓P Pn 03 15 10.0 +2.2
GHRR 9.93 28 P Pn 03 15 09.7 +1.9
MPLH Magyarpolny 9.93 348 P Pn 03 15 09.2 +1.4
comp=Z,101nm,1.0s
ARCR ARCALIA 9.96 15 ⇑P Pn 03 15 10.0 +1.8
VLDR Vladesti 10.01 31 ⇓P Pn 03 15 11.3 +2.3
BUD Budapest 10.04 354 P Pn 03 15 11.8 +2.4
BUD pmax pmax
comp=Z,19nm,0.7s
TESR Tescani 10.04 24 ⇑P Pn 03 15 11.7 +2.3
TESR Tescani 10.04 24 P Pn 03 15 11.3 +1.9
comp=Z,51nm,1.0s
SOKA Soboth 10.06 337 ePn Pn 03 15 08.6 -1.2
comp=Z,4.8nm,0.5s,SNR=18
OBKA Obir 10.07 335 ePn Pn 03 15 09.5 -0.5
comp=Z,3.1nm,0.2s
OBKA Obir 10.07 335 ePn Pn 03 15 09.4 -0.5
BIR Birlad 10.18 29 ⇑P Pn 03 15 14.5 +3.2
BIR Birlad 10.18 29 P Pn 03 15 14.4 +3.2
BMR Baia Mare 10.38 11 ⇑P Pn 03 15 16.1 +2.1
BMR Baia Mare 10.38 11 P Pn 03 15 16.1 +2.1
BR131 Keskin Array S 10.41 74 i Pn Pn 03 15 19.3 +4.6
BR131 Keskin Array S 10.41 74 ⇓ ePn Pn 03 15 19.2 +4.6
BRTR Keskin Array B 10.41 74 Pn Pn 03 15 18.2 +3.6
comp=Z,0.6nm,0.3s,baz=249,slow=12,SNR=12
comp=Z,1.3nm,0.5s
PSZ Piszkesteto 10.42 357 Pn 03 15 15.2 +0.6
PSZ Piszkesteto 10.42 357 P Pn 03 15 15.2 +0.6
SRO Srobarova 10.44 351 ePN Pn 03 15 17.1 +2.2
SRO e 03 17 15.6
SRO Srobarova 10.44 351 ePN Pn 03 15 17.1 +2.2
SRO eSN Sn 03 17 15.6 +4.2
ARSA Arzberg 10.45 340 ePn Pn 03 15 14.7 -0.2
comp=Z,1.9nm,0.3s
MYKA Terra Mystica 10.49 333 ePn Pn 03 15 16.0 +0.3
comp=Z,2.1nm,0.4s
KIRS Kirsehir-Merke 10.56 77 ⇓P Pn 03 15 22.9 +6.3
CSS Mathiatis 10.56 100 Pn 03 15 14.4 -2.1
CSS Mathiatis 10.56 100 P Pn 03 15 15.6 -1.0
CSS Mathiatis 10.56 100 P Pn 03 15 18.0 +1.5
comp=Z,48nm,0.8s
BURAR Bucovina Array 10.65 17 Pn 03 15 19.7 +1.9
BURAR Bucovina Array 10.65 17 ⇑P Pn 03 15 20.5 +2.7
BURAR Bucovina Array 10.65 17 P Pn 03 15 20.4 +2.7
PRAR RASCA 10.68 21 ⇑P Pn 03 15 20.7 +2.6
RONA Rosalia, Austr 10.68 344 ePn Pn 03 15 17.9 -0.2
comp=Z,2.2nm,0.5s
TRSU Trosnyk 10.72 8 P Pn 03 15 19.5 +0.9
TRSU Trosnyk 10.72 8 P Pn 03 15 19.5 +0.9
KORU Korolevo 10.80 9 P Pn 03 15 21.2 +1.4
BERU Beregovo 10.82 7 P Pn 03 15 21.5 +1.5

BRIU Brid 10.96 8 P Pn 03 15 23.4 +1.4
KECS Kecovo 10.97 359 P Pn 03 15 24.1 +2.0
KECS Kecovo 10.97 359 ePN Pn 03 15 24.1 +2.0
KBA Koelnbreinsper 10.98 333 ePn Pn 03 15 23.3 +0.9
comp=Z,3.5nm,0.5s,SNR=8.9
KBA Koelnbreinsper 10.98 333 P Pn 03 15 23.0 +0.6
KBA pmax pmax
comp=Z,26nm,0.8s
CONA Conrad Observa 10.99 343 ePn Pn 03 15 22.5 0.0
comp=Z,1.5nm,0.6s
ABTA Abfaltersbach 11.03 329 ePn Pn 03 15 22.4 -0.6
comp=Z,1.3nm,0.2s
MUKU Mukachevo 11.04 7 P Pn 03 15 24.5 +1.4
NSLU Nyzhne Selyshc 11.04 13 P Pn 03 15 22.3 -0.8
HOLU Holmets 11.09 6 P Pn 03 15 25.1 +1.4
MODS Modra-Piesok 11.14 348 eP Pn 03 15 26.1 +1.7
MODS e 03 17 27.2
MODS Modra-Piesok 11.14 348 ePN Pn 03 15 26.1 +1.7
MODS Modra-Piesok 11.14 348 eSN Sn 03 17 27.2 -1.2
MILM Milestii Mici 11.18 30 ⇑P Pn 03 15 27.9 +3.0
MILM Milestii Mici 11.18 30 P Pn 03 15 27.9 +3.0
MEZ Mezhgor'ye 11.20 10 P Pn 03 15 25.8 +0.5
KSV Kosov 11.28 15 P Pn 03 15 27.8 +1.5
KSV Kosov 11.28 15 P Pn 03 15 27.8 +1.5
PURM Purcari 11.32 34 ⇓P Pn 03 15 30.4 +3.5
PURM Purcari 11.32 34 P Pn 03 15 28.6 +1.7
comp=Z,73nm,1.1s
MOA Molln 11.35 338 ePn Pn 03 15 26.7 -0.6
comp=Z,3.1nm,0.4s,SNR=11
MOA Molln 11.35 338 ePn Pn 03 15 26.5 -0.8
BIOA Bad Ischl, Aus 11.41 335 ePn Pn 03 15 28.3 +0.2
comp=Z,5.1nm,0.4s,SNR=7.4
KOLS Kolonicke sedl 11.48 5 eP Pn 03 15 31.4 +2.3
KOLS Kolonicke sedl 11.48 5 ePN Pn 03 15 31.4 +2.3
LESA Schwarzleotal 11.52 332 ePn Pn 03 15 31.1 +1.4
comp=Z,20nm,0.5s
STNU Starunia 11.55 13 P Pn 03 15 31.4 +1.4
JAVC Velka Javorina 11.55 350 ePN Pn 03 15 31.2 +1.1
WTTA Wattenberg 11.80 329 ePn Pn 03 15 34.4 +0.8
comp=Z,3.2nm,0.4s,SNR=6.7
WTTA Wattenberg 11.80 329 P Pn 03 15 36.3 +2.7
WTTA pmax pmax
comp=Z,36nm,0.8s
KMPD K-Podol'skiy 11.84 19 P Pn 03 15 35.5 +1.6
MORS Morshin 11.86 10 P Pn 03 15 35.5 +1.3
MORS Morshin 11.86 10 P Pn 03 15 35.5 +1.3
SHIU Shidnytsya 11.88 9 P Pn 03 15 35.9 +1.4
WATA Walderalm 11.88 329 ePn Pn 03 15 36.0 +1.3
comp=Z,5.4nm,0.6s,SNR=7.5
NIE Niedzica 11.91 359 P Pn 03 15 37.7 +2.7
NIE pmax pmax
comp=Z,10.0nm,1.5s
NIE Niedzica 11.91 359 P Pn 03 15 36.2 +1.2
comp=Z,9.9nm,1.5s
STHS Stebnicka Huta 11.91 2 eP Pn 03 15 35.4 +0.4
STHS Stebnicka Huta 11.91 2 ePN Pn 03 15 35.3 +0.3
FUORN Ofenpass-Fuorn 11.92 323 Pn 03 15 36.5 +1.1
SQTA Sankt Quirin 11.95 327 ePn Pn 03 15 35.7 +0.1
comp=Z,3.6nm,0.3s,SNR=5.0
KRUC Moravsky 11.96 346 ePN Pn 03 15 36.0 +0.4
FETA Feichten 12.00 326 ePn Pn 03 15 37.5 +1.1
comp=Z,0.9nm,0.4s
SORM Soroca 12.03 26 P Pn 03 15 38.2 +1.7
SORM Soroca 12.03 26 P Pn 03 15 38.2 +1.7
comp=Z,12nm,0.9s
MAUC Maruska 12.03 351 ePN Pn 03 15 37.4 +0.8
MOTA Moosalm 12.09 327 ePn Pn 03 15 38.7 +1.2
comp=Z,2.8nm,0.6s
NDNU Novodnistrovsk 12.12 22 P Pn 03 15 39.4 +1.6
VRAC Vranov 12.16 347 ePN Pn 03 15 38.3 0.0
VRAC Vranov 12.16 347 ⇓P Pn 03 15 39.1 +0.7
VRAC Vranov 12.16 347 P Pn 03 15 39.0 +0.7
CKRC Cesky Krumlov 12.21 340 ePN Pn 03 15 38.4 -0.7
CKRC Cesky Krumlov 12.21 340 eP Pn 03 15 38.4 -0.7
KWP Kalwaria Pacla 12.21 6 P Pn 03 15 41.9 +2.8
KWP pmax pmax
comp=Z,29nm,1.1s
KWP Kalwaria Pacla 12.21 6 P Pn 03 15 40.4 +1.3
comp=Z,28nm,1.1s
TUE Stuetta 12.27 320 P Pn 03 15 40.5 +0.4
comp=Z,89nm,0.8s
BAL3X Bal3x, Balta 12.32 29 P Pn 03 15 42.2 +1.7
RETA Reutte 12.34 327 ePn Pn 03 15 41.4 +0.4
comp=Z,0.3nm,0.3s
TREC Trest 12.36 344 P Pn 03 15 39.6 -1.5
TREC pmax pmax
comp=Z,10.0nm,1.0s
GEC2 GERESS Array S 12.41 338 P Pn 03 15 42.3 +0.5
GEC2 pmax pmax
comp=Z,11nm,0.9s
GERES GERESS Array B 12.41 338 Pn Pn 03 15 40.7 -1.1
comp=Z,0.9nm,0.4s
GERES Sn Sn 03 17 52.5 -7.1
HORU Horodok 12.43 18 P Pn 03 15 43.6 +1.5
OKC Ostrava-Krasne 12.46 352 P Pn 03 15 43.8 +1.4
MORC Moravsky Berou 12.47 351 ePN Pn 03 15 43.6 +1.0
MORC Moravsky Berou 12.47 351 ⇓P Pn 03 15 42.8 +0.1
MORC Moravsky Berou 12.47 351 P Pn 03 15 42.7 +0.1
SIM Simferopol' 12.57 50 eP Pn 03 15 45.2 +1.3
SIM eS Sn 03 17 59.5 -3.9
SIM pmax pmax
comp=Z,15nm,1.3s
SIM smax smax
comp=N,164nm,12.6s
DAVA Damuels 12.59 324 ePn Pn 03 15 45.4 +1.0
comp=N,4.0nm,0.6s,SNR=5.5
FUR Furstenfeldbru 12.67 330 P Pn 03 15 47.7 +2.4
FUR pmax pmax
comp=Z,30nm,0.9s
KHC Kasperske Hory 12.70 338 ePN Pn 03 15 45.5 -0.3
KHC eSN Sn 03 18 01.4 -5.3
KHC AMS AMS 03 21 50.0
comp=Z,2µm,11.7s
KHC Kasperske Hory 12.70 338 eP Pn 03 15 45.5 -0.3
KHC e 03 18 01.4
KHC MLR MLR
comp=Z,2µm,11.7s
KHC Kasperske Hory 12.70 338 P Pn 03 15 46.6 +0.8
comp=Z,16nm,0.8s
OFRI `Ofer 12.72 108 P Pn 03 15 41.6 -4.5
OFRI `Ofer 12.72 108 S Sn 03 17 56.3 -11
DQRL Deir Qamar 12.72 103 eP Pn 03 15 44.3 -1.9
ZVC Zvikov 12.81 341 ePN Pn 03 15 47.1 -0.1
HWQ Hawqa 12.82 100 eP Pn 03 15 45.5 -2.0
MMAI Mount Meron Ar 12.87 106 Pn Pn 03 15 43.6 -4.5
comp=Z,3.7nm,0.3s,baz=310,slow=12,SNR=26
MMAI Sn Sn 03 18 03.1 -7.8
comp=Z,12nm,0.3s,baz=281,slow=22,SNR=8.2
QRWL Qaraoun 12.87 103 eP Pn 03 15 45.1 -3.1
ZAHL Zahle 12.91 102 eP Pn 03 15 46.3 -2.6
WET Wettzell 12.92 337 P Pn 03 15 50.8 +2.0
WET pmax pmax
comp=Z,18nm,0.7s
BEIL Beino 12.93 99 eP Pn 03 15 46.6 -2.3
SLTI Sal'it 12.93 110 P Pn 03 15 48.1 -0.9
GEM Giv'at Ha'Em 12.99 105 P Pn 03 15 47.7 -2.0
GEM Giv'at Ha'Em 12.99 105 S Sn 03 18 02.5 -11
GEM Giv'at Ha'Em 12.99 105 P Pn 03 15 44.9 -4.8
SHBL Chebaa 12.99 104 eP Pn 03 15 46.8 -3.1
RCY Rachaya 13.01 103 eP Pn 03 15 46.2 -3.9
SALP Salfit 13.13 110 P Pn 03 15 49.5 -2.2
SALP Salfit 13.13 110 P Pn 03 15 46.4 -5.2
SALP Salfit 13.13 110 S Sn 03 18 05.6 -12
MMLI Mount Malkishu 13.13 108 S Sn 03 18 04.1 -13
MMLI Mount Malkishu 13.13 108 P Pn 03 15 45.9 -5.8
KZIT Kziot 13.14 116 P Pn 03 15 48.0 -3.9
KZIT Kziot 13.14 116 S Sn 03 18 04.1 -14
KZIT Kziot 13.14 116 P Pn 03 15 45.9 -6.0
AMAZ Amatzia 13.19 113 P Pn 03 15 49.4 -3.1
AMAZ Amatzia 13.19 113 P Pn 03 15 47.3 -5.1
AMAZ Amatzia 13.19 113 S Sn 03 18 05.5 -13
KSHT Keshet 13.19 105 P Pn 03 15 47.0 -5.5
DPC Dobruska-Polom 13.21 348 P Pn 03 15 53.8 +1.1
DPC Dobruska-Polom 13.21 348 P Pn 03 15 53.8 +1.1
comp=Z,9.4nm,2.3s
PRU Pruhonice 13.23 343 ePN Pn 03 15 53.6 +0.7
PRU Pruhonice 13.23 343 eP Pn 03 15 53.6 +0.7
SHMJ Saham 13.26 107 P Pn 03 15 51.3 -2.2
SENIN Lac Senin/Sane 13.29 316 Pn 03 15 52.7 -1.3
HMDT Nahal Hemdat 13.29 109 P Pn 03 15 53.9 0.0
HMDT Nahal Hemdat 13.29 109 P Pn 03 15 48.1 -5.8
HMDT Nahal Hemdat 13.29 109 S Sn 03 18 08.8 -12
QRNJ Al-Qirein 13.29 108 P Pn 03 15 50.1 -3.7

UJAP	**Al Uja**	**13.39 110**	P	**Pn**	**03 15 53.0**	**-2.1**
UJAP	**Al Uja**	**13.39 110**	P	Pn	03 15 49.2	-5.9
UJAP	**Al Uja**	**13.39 110**	S	Sn	03 18 10.1	-13
YTIR	**Yattir**	**13.42 113**	P	**Pn**	**03 15 51.4**	**-4.3**
YTIR	**Yattir**	**13.42 113**	P	Pn	03 15 49.6	-6.1
YTIR	**Yattir**	**13.42 113**	S	Sn	03 18 11.2	-13
LUBAR	**Lubar, Ukraine**	**13.43 20**	P	**Pn**	**03 15 57.2**	**+1.6**
DSI	**Dead Sea**	**13.51 112**	P	**Pn**	**03 15 53.7**	**-3.2**
DSI	**Dead Sea**	**13.51 112**	P	Pn	03 15 51.7	-5.1
DSI	**Dead Sea**	**13.51 112**	S	Sn	03 18 13.2	-13
SLE	**Schleitheim**	**13.59 323**	P	**Pn**	**03 16 00.7**	**+2.8**
MDBI	**Mazsada**	**13.62 113**	P	Pn	03 15 52.8	-5.5
MSBI	**Mazada**	**13.62 113**	P	**Pn**	**03 15 58.7**	**+0.3**
MSBI	**Mazada**	**13.62 113**	P	Pn	03 15 52.4	-6.0
MSBI	**Mazada**	**13.62 113**	S	Sn	03 18 16.3	-13
KSP	**Ksiaz**	**13.69 348**	P	**Pn**	**03 16 00.3**	**+1.1**
KSP	**Ksiaz**	**13.69 348**	P	**Pn**	**03 16 00.3**	**+1.1**
	comp=Z,13nm,1.0s					
LISJ	**El Lisan**	**13.75 113**	P	**Pn**	**03 15 57.2**	**-2.9**
GHAJ	**Ghor Haditha**	**13.78 112**		**Pn**	**03 15 57.2**	**-3.3**
GHAJ	**Ghor Haditha**	**13.78 112**	P	**Pn**	**03 15 57.9**	**-2.6**
KRMI	**Paran Flat**	**13.82 118**	P	Pn	03 15 55.6	-5.7
KRMI	**Paran Flat**	**13.82 118**	S	Sn	03 18 18.9	-15
PRNI	**Paran**	**13.89 117**	P	**Pn**	**03 15 58.3**	**-3.8**
PRNI	**Paran**	**13.89 117**	P	Pn	03 15 55.6	-6.5
PRNI	**Paran**	**13.89 117**	S	Sn	03 18 21.1	-15
ZFRI	**Zfri**	**13.90 116**	P	**Pn**	**03 15 59.5**	**-2.6**
ZFRI	**Zfri**	**13.90 116**	P	Pn	03 15 55.3	-6.8
ZFRI	**Zfri**	**13.90 116**	S	Sn	03 18 21.9	-14
STU	**Stuttgart**	**14.00 327**	*eP*	**P**	**03 16 12.7**	**+1.3**
BFO	**Black Forest**	**14.07 324**		**Pn**	**03 16 03.9**	**-0.5**
BFO	**Black Forest**	**14.07 324**	P	**Pn**	**03 16 03.9**	**-0.5**
HRFI	**Mount Harif**	**14.09 118**	P	Pn	03 15 57.4	-7.4
HRFI	**Mount Harif**	**14.09 118**	S	Sn	03 18 25.9	-15
MBRI	**Mt Berech**	**14.15 119**	P	**Pn**	**03 16 02.0**	**-3.7**
MBRI	**Mt Berech**	**14.15 119**	P	Pn	03 15 58.2	-7.5
MBRI	**Mt Berech**	**14.15 119**	S	Sn	03 18 27.5	-15
BRG	**Berggiesshubel**	**14.19 342**	*eP*	**P**	**03 16 11.4**	**-2.1**
BRG			Amp		03 16 16.0	
	comp=Z,3.9nm,0.7s					
BRG	**Berggiesshubel**	**14.19 342**	*eP*	**P**	**03 16 11.3**	**-2.1**
BRG			pmax	pmax		
	comp=Z,4.0nm,0.7s					
BRG			MLR	MLR		
	comp=N,1μm,11.0s					
BRG			MLR	MLR		
	comp=E,1μm,11.4s					
BRG			MLR	MLR		
	comp=Z,2μm,10.4s					
RNPP5	**Staryi Chortor**	**14.22 14**	P	**Pn**	**03 16 07.7**	**+1.3**
EIL	**Elat**	**14.25 119**	Pn	**Pn**	**03 16 02.7**	**-4.3**
	comp=Z,3.4nm,0.3s,baz=302,slow=8.9,SNR=26					
EIL			Sn	Sn	03 18 28.4	-16
	comp=Z,5.1nm,0.3s,baz=298,slow=15,SNR=4.3					
EIL	**Elat**	**14.25 119**	P	**Pn**	**03 16 05.0**	**-2.0**
AQBJ	**Aqaba**	**14.28 119**	P	**Pn**	**03 16 05.3**	**-2.1**
RNPP8	**Varash**	**14.31 13**	P	**Pn**	**03 16 09.3**	**+1.6**
MI28	**Mi28,Pidlybu**	**14.32 18**	P	**Pn**	**03 16 09.5**	**+1.6**
	comp=Z,304nm,0.6s					
BEL	**Belsk**	**14.33 0**	P	**P**	**03 16 17.7**	**+2.7**
ASF	**Jabal al Asfar**	**14.37 107**	Pn	Pn	03 16 02.6	-6.1
	comp=Z,0.2nm,0.3s,baz=230,slow=20,SNR=7.6					
ASF	**Jabal al Asfar**	**14.37 107**	P	**Pn**	**03 16 07.9**	**-0.8**
RNPP9	**Sopachiv**	**14.39 13**	P	**Pn**	**03 16 09.3**	**+0.5**
AK07	**Malin Array Si**	**14.41 22**	P	**Pn**	**03 16 09.8**	**+0.8**
AK13	**Malin Array Si**	**14.42 22**	P	**Pn**	**03 16 10.7**	**+1.5**
HSNJ	**Maan**	**14.43 116**	P	**Pn**	**03 16 08.0**	**-1.6**
AK05	**Malin Array Si**	**14.47 22**	P	**Pn**	**03 16 10.3**	**+0.4**
AK12	**Malin Array Si**	**14.47 22**	P	**Pn**	**03 16 10.0**	**+0.1**
KIEV	**Kiev**	**14.54 22**		**Pn**	**03 16 10.2**	**-0.5**
KIEV	**Kiev**	**14.54 22**	⇓P	**Pn**	**03 16 12.6**	**+1.8**
KIEV	**Kiev**	**14.54 22**	P	**Pn**	**03 16 12.5**	**+1.8**
KIEV	**Kiev**	**14.54 22**	P	**Pn**	**03 16 11.3**	**+0.5**
	comp=Z,155nm,1.1s					
AKASG	**Malin Array Be**	**14.55 22**		**Pn**	**03 16 09.2**	**-1.7**
AKASG	**Malin Array Be**	**14.55 22**	Pn	**Pn**	**03 16 10.3**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=211,slow=12,SNR=18					
AKASG			LR	LR	03 23 10.2	
	comp=Z,847nm,18.9s,baz=207,slow=43					
AKBB	**Malin Array Si**	**14.55 22**	*ceP*	**Pn**	**03 16 10.5**	**-0.4**
ANN	**Anapa**	**14.58 55**	*eP*	**P**	**03 16 18.0**	**+0.2**
ANN			pmax	pmax		
	comp=Z,35nm,0.6s					
ANN			MLR	MLR		
	comp=Z,254nm,7.0s					
MOX	**Moxa**	**14.63 337**	P	**P**	**03 16 20.4**	**+2.0**
CLL	**Collm**	**14.83 341**	*eP*	**Pn**	**03 16 16.0**	**+1.3**
CLL	**Collm**	**14.83 341**	*eP*	**Pn**	**03 16 16.0**	**+1.3**
CLL			*i* PP	**PnPn**	**03 16 22.9**	**+0.2**
	comp=Z,22nm,1.3s					
CLL			*i* x	x	03 16 34.4	
CLL	**Collm**	**14.83 341**	P	**Pn**	**03 16 15.8**	**+1.1**
	comp=Z,22nm,1.1s					
KTUT	**Trabzon**	**15.22 71**	⇑P	**P**	**03 16 25.5**	**+0.5**
TNS	**Taunus Mts**	**15.43 329**	P	**Pn**	**03 16 24.2**	**+1.4**
TNS			pmax	pmax		
	comp=Z,26nm,1.4s					
SMF	**Signal de Mont**	**15.44 312**	*eP*	**Pn**	**03 16 24.8**	**+1.9**
SMF			pmax	pmax		
	comp=Z,34nm,1.6s					
CEST	**Esterri de Car**	**15.69 295**	IAmb	IAmb	03 16 34.3	
	comp=Z,14nm,1.0s					
LOR	**Lormes**	**15.75 314**	*eP*	**P**	**03 16 32.3**	**+1.5**
LOR			pmax	pmax		
	comp=Z,27nm,1.4s					
SSF	**Saint Saulge**	**15.85 312**	*eP*	**P**	**03 16 30.8**	**-1.0**
SSF			pmax	pmax		
	comp=Z,182nm,2.6s					
WLF	**Walferdange**	**16.02 324**	P	**P**	**03 16 36.5**	**+2.7**
WLF			pmax	pmax		
	comp=Z,62nm,0.9s					
WLF	**Walferdange**	**16.02 324**	*dP*	**P**	**03 16 37.0**	**+3.1**
	comp=Z,36nm,0.9s					
TCF	**Toulx Ste Croi**	**16.26 308**	*eP*	**P**	**03 16 35.3**	**-1.2**
TCF			pmax	pmax		
	comp=Z,17nm,1.2s					
RJF	**Les Rejaudoux**	**16.30 305**	*eP*	**P**	**03 16 41.1**	**+4.1**
RJF			pmax	pmax		
	comp=Z,50nm,1.6s					
SUW	**Suwalki**	**16.60 5**	IAmb	IAmb	03 16 40.6	
	comp=Z,120nm,1.0s					
SUW	**Suwalki**	**16.60 5**	*eP*	**P**	**03 16 39.0**	**-1.2**
SUW	**Suwalki**	**16.60 5**	P	**Pn**	**03 16 37.9**	**+0.1**
SUW			pmax	pmax		
	comp=Z,301nm,0.9s					
LFF	**La Frestale**	**16.69 303**	*eP*	**P**	**03 16 45.6**	**+4.4**
LFF			pmax	pmax		
	comp=Z,38nm,1.4s					
LABN	**Labinsk**	**16.71 58**	*eP*	**P**	**03 16 40.6**	**-0.9**
LABN			*eS*	**Sn**	**03 19 49.6**	**+5.2**
LABN			pmax	pmax		
	comp=Z,87nm,1.7s					
MEM	**Membach**	**16.76 326**	P	**P**	**03 16 46.4**	**+4.5**
MEM	**Membach**	**16.76 326**	*dP*	**P**	**03 16 46.2**	**+4.3**
	comp=Z,23nm,0.8s					
KHAM	**Kharkiv**	**16.78 37**	P	**P**	**03 16 41.9**	**-0.3**
DOU	**Dourbes**	**17.06 323**	*dP*	**P**	**03 16 45.0**	**-0.2**
	comp=Z,14nm,0.9s					
DOU			*d*PP	**pwP**	**03 16 51.9**	**-0.3**
SJPF	**Ste Jean**	**17.57 295**	*eP*	**Pn**	**03 16 50.1**	**0.0**
SJPF			pmax	pmax		
	comp=Z,16nm,1.0s					
UCC	**Uccle**	**17.64 324**	*dP*	**P**	**03 16 53.5**	**+1.9**
	comp=Z,16nm,0.8s					
MNK	**Minsk**	**17.71 14**	*i* P	**Pn**	**03 16 47.5**	**-4.1**
	comp=E,29nm,0.9s					
MNK			*i* P	**Pn**	**03 16 47.5**	**-4.1**
	comp=N,10.0nm,1.1s					
MNK			*i* P	**Pn**	**03 16 47.5**	**-4.1**
	comp=Z,32nm,0.9s,baz=200					
MNK			*i* PP	**pP**	**03 16 54.8**	**-2.3**
MNK			*i* PPP	PPP	03 17 05.6	
MNK			*i* S	**Sn**	**03 20 04.5**	**-3.9**
MNK			*i* SS	**SnSn**	**03 20 19.4**	**-2.5**
MNK			*i* SSS	SSS	03 20 32.2	
MNK			*i* LQ	LQ	03 21 52.7	
MNK			*i* LR	LR	03 23 40.3	
MNK			*i* LRM	MLR	03 24 09.3	
	comp=N,319nm,13.2s					
MNK			*i* LRM	MLR	03 24 28.7	
	comp=E,388nm,14.3s					
MNK			*i* LRM	MLR	03 24 32.6	
	comp=Z,376nm,15.6s					
MNK	**Minsk**	**17.71 14**	*i* P	**Pn**	**03 16 47.4**	**-4.1**
MNK			*i* S	**Sn**	**03 20 04.5**	**-3.9**
MNK			pmax	pmax		
	comp=Z,32nm,0.9s					
MNK			pmax	pmax		
	comp=E,29nm,0.9s					
MNK			pmax	pmax		
	comp=N,10.0nm,1.1s					
MNK			MLR	MLR		
	comp=N,319nm,13.0s					
MNK			MLR	MLR		
	comp=E,388nm,14.0s					
MNK			MLR	MLR		
	comp=Z,376nm,16.0s					
SHA1	**Shidzhatmaz**	**17.81 63**	⇑*eP*	**P**	**03 16 55.9**	**+2.0**
KIV	**Kislovodsk**	**17.88 62**	P	**P**	**03 16 56.0**	**+1.5**
KIV	**Kislovodsk**	**17.88 62**	P	**P**	**03 16 55.6**	**+1.1**
KIV	**Kislovodsk**	**17.88 62**	⇓P	**P**	**03 16 58.3**	**+3.8**
KIV	**Kislovodsk**	**17.88 62**	*eP*	**P**	**03 16 55.6**	**+1.1**
KIV			pmax	pmax		
	comp=Z,7.0nm,1.0s					
KIV			MLR	MLR		
	comp=Z,192nm,14.0s					
NACGM	**Naroch**	**17.90 12**	*eP*	**Pn**	**03 16 52.9**	**-1.0**
	comp=Z,42nm,0.8s,baz=197					
BSEG	**Bad Segeberg**	**17.91 340**	P	**P**	**03 16 57.2**	**+2.6**
BSEG			pmax	pmax		
	comp=Z,24nm,1.3s					
KBZ	**Khabaz**	**17.98 63**	P	**P**	**03 16 56.4**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=272,slow=4.9,SNR=9.5					
	comp=Z,2.9nm,0.5s					
KBZ	**Khabaz**	**17.98 63**	⇓*eP*	**P**	**03 16 58.4**	**+3.0**
KBZ			pmax	pmax		
	comp=Z,18nm,1.1s					
BSD	**Bornholm Skovb**	**18.04 349**	*eP*	**P**	**03 16 57.1**	**+1.0**
BSD	**Bornholm Skovb**	**18.04 349**	*eP*	**P**	**03 16 56.8**	**+0.7**
PABE	**Paberze**	**18.15 6**	P	**Pn**	**03 16 55.8**	**-1.1**
PABE	**Paberze**	**18.15 6**	*eP*	**Pn**	**03 16 56.1**	**-0.9**
NCK	**Nalchik**	**18.43 64**	⇓*eP*	**Pn**	**03 17 03.1**	**+2.6**
NCK			pmax	pmax		
	comp=Z,43nm,1.0s					
PBUR	**Paburge**	**18.55 2**	*eP*	**P**	**03 17 00.8**	**-0.7**
VSVD	**Vaisvydziai**	**18.61 6**	*eP*	**Pn**	**03 17 03.6**	**+1.0**
LDF	**La Druitiere**	**18.73 313**	*eP*	**Pn**	**03 17 06.1**	**+2.0**
LDF			pmax	pmax		
	comp=Z,9.0nm,0.8s					
LUNU	**Lund**	**18.77 347**	*i* P	**P**	**03 17 04.0**	**-0.1**
VORD	**Divnogorie**	**18.89 39**	*eP*	**P**	**03 17 05.1**	**-0.3**
VORD			pmax	pmax		
	comp=Z,10.0nm,0.4s					
GNI	**Garni**	**18.95 75**	P	**Pn**	**03 17 08.6**	**+1.5**
GNI	**Garni**	**18.95 75**	P	**P**	**03 17 06.4**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=44,slow=23,SNR=3.3					
	comp=Z,3.4nm,0.4s					
GNI	**Garni**	**18.95 75**	P	**Pn**	**03 17 08.8**	**+1.7**
GNI	**Garni**	**18.95 75**	⇓*eP*	**Pn**	**03 17 08.4**	**+1.3**
GNI			pmax	pmax		
	comp=Z,51nm,1.6s					
GNI	**Garni**	**18.95 75**	P	**Pn**	**03 17 07.9**	**+0.8**
	comp=Z,26nm,1.1s					
VSR	**Storozhevoye**	**18.98 38**	*eP*	**P**	**03 17 05.3**	**-1.2**
VSR			pmax	pmax		
	comp=Z,20nm,0.8s					
FLN	**La Foliniere**	**19.02 313**	*eP*	**Pn**	**03 17 10.5**	**+2.9**
FLN			pmax	pmax		
	comp=Z,177nm,2.1s					
GRR	**Gorron**	**19.07 312**	*eP*	**Pn**	**03 17 12.5**	**+4.3**
GRR			pmax	pmax		
	comp=Z,51nm,1.6s					
BLEU	**Blekinge**	**19.08 352**	*i* P	**P**	**03 17 06.2**	**-1.3**
BJUU	**Bjuv**	**19.27 347**	*eP*	**Pn**	**03 17 12.2**	**+1.7**
VORR	**Voronezh**	**19.30 37**	*eP*	**P**	**03 17 09.0**	**-0.9**
VORR			pmax	pmax		
	comp=Z,50nm,0.4s					
ESDC	**Sonseca Array**	**19.34 284**	P	**P**	**03 17 09.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=79,slow=11,SNR=30					
	comp=Z,5.8nm,0.9s					
DEL	**Delary**	**19.51 349**	*eP*	**P**	**03 17 12.2**	**+0.1**
NAX	**Nakhchivan**	**19.55 77**	P	**Pn**	**03 17 17.6**	**+3.4**
TAM	**Tamanrasset**	**19.61 226**	P	**Pn**	**03 17 14.8**	**-0.3**
TAM	**Tamanrasset**	**19.61 226**	P	**Pn**	**03 17 14.8**	**-0.3**
TAM			pmax	pmax		
	comp=Z,6.0nm,1.1s					
PAB	**San Pablo**	**19.64 284**	P	**Pn**	**03 17 15.7**	**+0.4**
PAB	**San Pablo**	**19.64 284**	P	**Pn**	**03 17 15.7**	**+0.4**
PAB			pmax	pmax		
	comp=Z,31nm,1.6s					
LPSR	**Galich'ya Gora**	**19.78 34**	*eP*	**P**	**03 17 13.6**	**-1.5**
LPSR			pmax	pmax		
	comp=Z,100nm,0.9s					
GANJ	**Ganja**	**20.16 73**	P	Pn	03 17 24.3	+2.9
SLIT	**Slitere, Latvi**	**20.16 3**	*eP*	**P**	**03 17 18.7**	**-0.6**
VRH	**Novokhopyorsk**	**20.27 41**	*eP*	**P**	**03 17 20.9**	**+0.5**
VRH			*eS*	**S**	**03 21 03.2**	**-3.7**
VRH			pmax	pmax		
	comp=Z,65nm,0.6s					
QUIF	**Quistinic**	**20.28 308**	*eP*	Pn	03 17 25.1	+2.5
QUIF			pmax	pmax		
	comp=Z,59nm,1.2s					
MUD	**Monsted U'grnd**	**20.46 342**	*i* P	**P**	**03 17 23.0**	**+0.6**
OBN	**Obninsk**	**20.68 27**	P	**P**	**03 17 25.1**	**+0.2**
OBN			IAmb	IAmb	03 17 35.5	
	comp=Z,56nm,0.7s					
OBN	**Obninsk**	**20.68 27**	P	**P**	**03 17 24.7**	**-0.1**
	comp=Z,40nm,0.4s,baz=22,slow=1.0,SNR=12					
	comp=Z,40nm,0.4s					
OBN	**Obninsk**	**20.68 27**	⇑P	Pn	03 17 28.3	+1.1
OBN	**Obninsk**	**20.68 27**	*d i* P	**P**	**03 17 24.8**	**-0.1**
OBN			pmax	pmax		
	comp=Z,52nm,0.8s					
OBN			MLR	MLR		
	comp=Z,822nm,14.0s					
OBN	**Obninsk**	**20.68 27**	P	Pn	03 17 26.7	-0.5
	comp=Z,89nm,0.6s,comp=Z,2μm					
OBN			pP	pP	03 17 29.4	-0.2
	comp=Z,89nm,0.6s,comp=Z,2μm					
ONAU	**Onsala**	**20.72 347**	*i* P	Pn	03 17 29.9	+2.2
MNGR	**Mingechevir, A**	**20.74 73**	P	Pn	03 17 30.3	+2.2
BORU	**Boraas**	**20.80 348**	*i* P	**P**	**03 17 26.8**	**+0.6**
SEKA	**Sheki**	**20.83 72**	P	Pn	03 17 32.3	+3.0
MDT	**Midelt**	**21.14 265**	P	**P**	**03 17 29.8**	**-0.5**
	comp=Z,14nm,0.8s,baz=89,slow=11,SNR=35					
	comp=Z,14nm,0.8s					
MAK	**Makhachkala**	**21.17 67**	*eP*	**P**	**03 17 26.8**	**-3.5**
MAK			*eS*	**S**	**03 21 23.0**	**-2.1**
MAK			pmax	pmax		
	comp=Z,252nm,0.9s					
MAK			MLR	MLR		
	comp=Z,325nm,15.0s					
AKT	**Akhty**	**21.24 71**	*eP*	**P**	**03 17 31.2**	**0.0**
AKT			*e*		03 17 51.9	
AKT			*e*PPP	PPP	03 18 00.2	
AKT			pmax	pmax		
	comp=Z,46nm,1.0s					
MTSE	**Matsula**	**21.32 5**	*eP*	**P**	**03 17 32.2**	**+0.4**
VSU	**Vasula**	**21.34 9**	*d i* P	**P**	**03 17 31.9**	**-0.1**
VSU			pmax	pmax		
	comp=Z,180nm,0.7s					
PBRG	**Braganca**	**21.48 290**	*eP*	**P**	**03 17 33.3**	**-0.4**
PBRG			A	A	03 17 47.1	
	comp=Z,50nm,1.5s					
MOS	**Moscow**	**21.54 27**	*eP*	**P**	**03 17 32.3**	**-1.9**
MOS			*eS*	**S**	**03 21 26.3**	**-5.8**
MOS			pmax	pmax		
	comp=Z,64nm,0.7s					
MOS			MLR	MLR		
	comp=E,1μm,13.0s					
MOS			MLR	MLR		
	comp=Z,1μm,13.0s					
MOS			MLR	MLR		
	comp=N,900nm,11.0s					
MVO	**Moncorvo**	**21.68 288**	*eP*	**P**	**03 17 34.9**	**-0.9**
MVO			A	A	03 17 49.9	
	comp=N,42nm,1.4s					
PBAR	**Barrancos**	**21.84 280**	*eP*	**P**	**03 17 38.0**	**+0.4**
PBAR			A	A	03 18 16.5	
	comp=N,32nm,1.9s					
PMRV	**Marv??o**	**22.00 284**	*eP*	**P**	**03 17 39.5**	**+0.2**
PMRV			A	A	03 17 56.8	
	comp=N,27nm,1.1s					
PCBR	**Castelo Branco**	**22.04 285**	*eP*	**P**	**03 17 39.1**	**-0.6**
PCBR			A	A	03 18 17.3	
	comp=N,23nm,1.4s					
MTE	**Manteigas**	**22.07 286**	P	**P**	**03 17 38.2**	**-2.0**
MTE	**Manteigas**	**22.07 286**	*eP*	**P**	**03 17 38.9**	**-1.2**
MTE			A	A	03 17 46.9	
	comp=N,38nm,1.6s					
MTE	**Manteigas**	**22.07 286**	*eP*	**P**	**03 17 39.6**	**-0.5**
LKRN	**Lenkeran, Azer**	**22.14 78**	P	**P**	**03 17 45.5**	**+4.7**
PESTR	**Estremoz**	**22.20 282**	P	**P**	**03 17 39.4**	**-2.1**
PESTR	**Estremoz**	**22.20 282**	*eP*	**P**	**03 17 40.4**	**-1.1**
PESTR			A	A	03 19 11.2	
	comp=N,27nm,1.6s					
ARBE	**Arbavere**	**22.22 7**	*eP*	**P**	**03 17 41.4**	**+0.1**
POLO	**Lamas de Olo**	**22.25 289**	*eP*	**P**	**03 17 41.5**	**-0.6**
POLO			A	A	03 18 03.0	
	comp=N,19nm,1.6s					
PVIS	**Viseu**	**22.33 287**	*eP*	**P**	**03 17 43.1**	**+0.2**
PCAB	**Cabril**	**22.43 290**	*eP*	**P**	**03 17 42.5**	**-1.5**
PCAB			A	A	03 17 50.1	
	comp=N,58nm,1.7s					
PVAQ	**Vaqueiros**	**22.48 278**	*eP*	**P**	**03 17 44.3**	**-0.2**
PBEJ	**Beja**	**22.51 280**	*eP*	**P**	**03 17 45.4**	**+0.6**
PGAV	**Gavieira, Arco**	**22.62 290**	*eP*	**P**	**03 17 45.8**	**-0.2**
PMTG	**Montargil**	**22.68 283**	*eP*	**P**	**03 17 44.3**	**-2.2**
PMTG			A	A	03 17 47.3	
	comp=N,26nm,1.7s					
PBDV	**Barranco-do-Ve**	**22.68 278**	*eP*	**P**	**03 17 47.3**	**+0.7**
COI	**Coimbra**	**22.74 286**	*eP*	**P**	**03 17 48.4**	**+1.2**
COI			A	A	03 17 57.7	
	comp=N,45nm,1.6s					
MESJ	**Messejana**	**22.81 280**	*eP*	**P**	**03 17 48.9**	**+0.9**
MESJ			A	A	03 17 49.8	
	comp=N,27nm,1.3s					
PCAS	**Casmilo, Conde**	**22.82 285**	*eP*	**P**	**03 17 47.7**	**-0.3**
PCAS			A	A	03 18 18.1	
	comp=N,33nm,1.6s					
MEF	**Metsahovi**	**22.86 5**	*eP*	**P**	**03 17 47.8**	**-0.3**
PTO	**Porto**	**22.86 288**	*eP*	**P**	**03 17 47.4**	**-1.0**
PTO			A	A	03 17 56.4	
	comp=N,39nm,1.6s					
HFS	**Hagfors**	**23.08 351**	P	**P**	**03 17 49.5**	**-1.0**
	comp=N,13nm,0.6s,baz=156,slow=11,SNR=61					
	comp=N,13nm,0.6s					
PUL	**Pulkovo**	**23.14 13**	⇑*eP*	**P**	**03 17 47.6**	**-3.4**
PUL			pmax	pmax		
	comp=Z,88nm,0.9s					
OSL	**Oslo**	**23.33 347**	*eP*	**P**	**03 17 52.4**	**-0.6**
RAF	**Rauma**	**23.55 1**	*eP*	**P**	**03 17 53.9**	**-1.2**
BLS5	**Blasjo**	**23.76 342**	*eP*	**P**	**03 17 58.1**	**+0.8**
NC602	**NORSAR Array S**	**23.95 349**	P	**P**	**03 17 58.5**	**-0.6**
NC602			IAmb	IAmb	03 18 20.5	
	comp=Z,56nm,1.4s					
NC602	**NORSAR Array S**	**23.95 349**	*eP*	**P**	**03 17 58.8**	**-0.3**
NORES	**NORESS Array B**	**23.95 349**	P	**P**	**03 18 00.6**	**+1.5**
KBD	**Kabd**	**24.02 102**	P	**P**	**03 17 59.8**	**-0.1**
BELG	**Belogornoye**	**24.02 43**	P	**P**	**03 17 59.3**	**-0.5**
	comp=Z,88nm,0.7s,baz=12,slow=4.7,SNR=24					
BELG			LR	LR	03 28 50.8	
	comp=Z,378nm,18.7s,baz=325,slow=40					
BELG	**Belogornoye**	**24.02 43**	*d i* P	**P**	**03 17 59.5**	**-0.3**
BELG			pmax	pmax		
	comp=Z,13nm,0.8s					
EKA	**Eskdalemuir Ar**	**24.03 326**	P	**P**	**03 17 59.6**	**-0.3**
	comp=Z,7.7nm,0.8s,baz=127,slow=7.2,SNR=16					
	comp=Z,7.7nm,0.8s					
ODD1	**Odda**	**24.15 343**	*eP*	**P**	**03 18 00.8**	**-0.2**
NAO01	**NORSAR Array S**	**24.16 348**	IAmb	IAmb	03 18 16.6	
	comp=Z,44nm,1.1s					
FINES	**FINESS Array B**	**24.20 6**	P	**P**	**03 18 00.5**	**-0.9**
	comp=Z,7.0nm,0.3s,baz=181,slow=11,SNR=145					
	comp=Z,7.0nm,0.3s					
FIA1	**FINESS Array S**	**24.20 6**	P	**P**	**03 18 00.5**	**-0.9**
NB2	**NORSAR Subarra**	**24.30 349**	P	**P**	**03 18 01.9**	**-0.3**
	comp=Z,24nm,1.2s,baz=160,slow=10					
NB2	**NORSAR Subarra**	**24.30 349**	P	**P**	**03 18 01.9**	**-0.3**
	baz=160,slow=10					
NOA	**NORSAR Array B**	**24.30 349**	P	**P**	**03 18 02.0**	**-0.3**
	comp=Z,3.4nm,0.7s,baz=158,slow=10.0,SNR=19					
	comp=Z,3.4nm,0.7s					
NOA	**NORSAR Array B**	**24.30 349**	P	**P**	**03 18 02.0**	**-0.3**
NC303	**NORSAR Array S**	**24.45 349**	P	**P**	**03 18 03.5**	**-0.1**
NC303			IAmb	IAmb	03 18 24.7	
	comp=Z,38nm,0.8s					
SKAR	**Skarslia**	**24.48 345**	*eP*	**P**	**03 18 04.3**	**+0.4**
NC204	**NORSAR Array S**	**24.59 349**	P	**P**	**03 18 03.7**	**-1.2**
KEF	**Keuruu**	**24.83 5**	*eP*	**P**	**03 18 07.7**	**+0.7**
RAYN	**Ar Rayn**	**25.46 116**	P	**P**	**03 18 13.8**	**+0.6**
RAYN			IAmb	IAmb	03 18 24.4	
	comp=Z,51nm,1.8s					
RAYN	**Ar Rayn**	**25.46 116**	P	**P**	**03 18 13.3**	**+0.2**
RAYN	**Ar Rayn**	**25.46 116**	P	**P**	**03 18 13.8**	**+0.6**
RAYN			pmax	pmax		
	comp=Z,51nm,1.8s					
DOMB	**Dombas**	**25.59 347**	*eP*	**P**	**03 18 14.7**	**+0.7**
VAF	**Ylistaro**	**25.60 2**	*eP*	**P**	**03 18 15.8**	**+1.8**
KLMR	**Klimovskoe**	**26.23 21**	*eP*	**P**	**03 18 19.7**	**0.0**
KLMR			pmax	pmax		
	comp=Z,63nm,1.4s					
JOF	**Joensuu**	**26.27 11**	*eP*	**P**	**03 18 20.4**	**+0.3**
NSS	**Namsos**	**27.55 352**	*eP*	**P**	**03 18 31.2**	**-0.4**
KIRV	**Kirov**	**28.17 32**	P	**P**	**03 18 36.1**	**-1.0**
	comp=Z,14nm,0.5s,baz=238,slow=7.1,SNR=8.1					
	comp=Z,14nm,0.5s					
KIRV	**Kirov**	**28.17 32**	⇓*i* P	**P**	**03 18 36.9**	**-0.2**
MOR8	**Moi Rana**	**28.93 355**	*eP*	**P**	**03 18 46.4**	**+2.5**
STOK	**Stokkvaagen**	**29.21 354**	*eP*	**P**	**03 18 46.6**	**+0.3**
KONS	**Konsvik**	**29.36 354**	*eP*	**P**	**03 18 47.8**	**+0.1**
AKTO	**A

SNR=15
ABTO Aybut 35.00 116 P P 03 19 38.1 +0.5
SMDO Samad 35.12 103 P P 03 19 38.7 -0.1
JMDO Jabal Madar 35.54 104 P P 03 19 42.4 +0.1
RBK Rabkut 35.55 115 P P 03 19 43.0 +0.6
DMTO DMTO 35.95 114 P P 03 19 45.6 -0.2
SNR=10
WBK Wadi Bani Khal 36.08 103 P P 03 19 48.0 +1.2
WBK P **P 03 19 48.0 +1.2**
MHTO MHTO 36.21 106 P P 03 19 48.5 +0.5
DQM DQM 36.51 108 P P 03 19 50.9 +0.4
LODK Lodwar 36.51 155 P P 03 19 53.1 +2.5
LODK Lodwar 36.51 155 P P 03 19 53.4 +2.7
JLN Jalan Bani Buh 36.67 104 P P 03 19 52.2 +0.3
JLN P **P 03 19 52.2 +0.3**
BRVK Borovoye 37.42 49 P P 03 19 58.0 +0.1
BRVK IAmb IAmb 03 20 18.7
comp=Z,19nm,1.0s
BRVK Borovoye 37.42 49 P P 03 19 58.2 +0.3
BRVK Borovoye 37.42 49⇑ *e*P P 03 19 57.8 -0.1
BRVK pmax pmax
comp=Z,9.0nm,1.1s
BVA0 Borovoye Array 37.48 49 *i* P P 03 19 57.6 -0.9
BVAR Borovoye Array 37.48 49 P P 03 19 58.3 -0.1
comp=Z,2.5nm,0.4s,baz=265,slow=5.9,SNR=15
comp=Z,2.5nm,0.4s
SIMJ Simiganj 37.74 73 P P 03 20 00.8 -0.2
KK31 Karatay Array 37.98 65 *i* P P 03 20 01.8 -1.1
KKAR Karatay Array 37.98 65 P P 03 20 02.2 -0.6
KKAR Karatay Array 37.98 65 P P 03 20 02.3 -0.6
DBIC Dimbokro 38.47 223 P P 03 20 06.3 -0.8
DBIC IAmb IAmb 03 20 18.2
comp=Z,14nm,0.7s
DBIC Dimbokro 38.47 223 P P 03 20 06.9 -0.2
comp=Z,9.4nm,0.8s,baz=29,slow=11,SNR=9.1
comp=Z,9.4nm,0.8s
DBIC Dimbokro 38.47 223 P P 03 20 06.4 -0.8
DBIC pmax pmax
comp=Z,14nm,0.7s
SPA0 Spitsbergen Ar 40.82 359 *e*P P 03 20 26.7 +0.6
SPITS Spitsbergen Ar 40.82 359 P P 03 20 26.7 +0.6
comp=Z,7.4nm,0.9s,baz=162,slow=11,SNR=9.0
comp=Z,7.4nm,0.9s
AAK Ala-Archa 40.95 65 P P 03 20 27.9 +0.1
AAK Ala-Archa 40.95 65 P P 03 20 27.6 -0.2
AAK Ala-Archa 40.95 65⇑ *e*P P 03 20 27.7 -0.1
AAK pmax pmax
comp=Z,6.0nm,0.8s
KMBO Kilima Mbogo 41.40 154 P P 03 20 32.1 +0.3
comp=Z,0.5nm,0.5s,baz=79,slow=23,SNR=1.5
comp=Z,0.5nm,0.5s
KMBO Kilima Mbogo 41.40 154 P P 03 20 36.7 +5.0
KMBO P P 03 20 36.7 +5.0
NIL Nilore 42.51 79 P P 03 20 41.1 +0.7
NIL IAmb IAmb 03 20 56.0
comp=Z,30nm,1.1s
NIL Nilore 42.51 79 P P 03 20 41.2 +0.7
NIL pmax pmax
comp=Z,30nm,1.2s
KURBB Kurchatov Arra 42.55 53 P P 03 20 39.7 -0.9
comp=Z,5.3nm,0.6s,baz=282,slow=8.7,SNR=27
comp=Z,5.3nm,0.6s
KURBB Kurchatov Arra 42.55 53 P P 03 20 39.5 -1.1
KURK Kurchatov 42.60 53 P P 03 20 40.3 -0.6
KURK IAmb IAmb 03 21 12.1
comp=Z,42nm,1.6s
KURK Kurchatov 42.60 53 P P 03 20 40.0 -1.0
KURK P **P 03 20 40.0 -1.0**
KURK Kurchatov 42.60 53⇑ *e*P P 03 20 40.1 -0.9
KURK pmax pmax
comp=Z,7.0nm,0.7s
MAKZ Makanchi 45.36 58 P P 03 21 02.5 -0.7
MAKZ Makanchi 45.36 58 P P 03 21 02.5 -0.7
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
SUMG Summit 45.48 339 *i* P P 03 21 05.3 +1.0
MK31 Makanchi Array 45.57 58 P P 03 21 04.0 -0.9
MK31 IAmb IAmb 03 21 24.4
comp=Z,6.7nm,0.6s
MK31 Makanchi Array 45.57 58 *c i* P P 03 21 03.8 -1.1
MKAR Makanchi Array 45.57 58 P P 03 21 03.9 -1.0
comp=Z,2.1nm,0.3s,baz=272,slow=7.7,SNR=40
comp=Z,2.1nm,0.3s
ZALV Zalesovo Beam 46.07 48 P P 03 21 07.7 -1.0
comp=Z,12nm,0.3s,baz=274,slow=8.3,SNR=35
comp=Z,12nm,0.3s
NOR Nord 46.16 353 *i* P P 03 21 08.9 -0.2
NOR IAmb IAmb 03 21 09.9
comp=Z,3.3nm,0.5s
NRIK Noril'sk 47.35 26 P P 03 21 17.6 -0.9
comp=Z,2.9nm,0.4s,baz=262,slow=2.0,SNR=5.6
comp=Z,2.9nm,0.4s
NRIK Noril'sk 47.35 26⇑ *e*P P 03 21 19.8 +1.3
NRIK pmax pmax
comp=Z,9.0nm,1.0s
NEEM North Greenlan 49.74 344 *i* P P 03 21 37.2 0.0
NEEM IAmb IAmb 03 21 39.3
comp=Z,4.5nm,0.8s
WMQ Urumqi 50.00 60 *e*P P 03 21 41.5 +2.1
WMQ LR LR
comp=Z,520nm,15.3s
WMQ LR LR
comp=Z,560nm,12.9s
WMQ LR LR
comp=Z,280nm,23.9s
EUNU Eureka 56.19 348 P P 03 22 25.9 +1.5
EUNU IAmb IAmb 03 23 06.0
comp=Z,32nm,1.9s
SCHQ Schefferville 59.02 318 P P 03 22 44.0 -0.6
comp=Z,6.6nm,0.6s,baz=42,slow=5.1,SNR=9.5
comp=Z,6.6nm,0.6s
TIXI Tiksi 60.25 20 P P 03 22 50.7 -2.1
TIXI IAmb IAmb 03 23 03.8
comp=Z,9.4nm,0.9s
TIXI Tiksi 60.25 20⇑ *e*P P 03 22 53.4 +0.6
TIXI pmax pmax
comp=Z,10.0nm,0.9s
RES Resolute Bay 60.44 344 IAmb IAmb 03 23 05.6
comp=Z,8.6nm,1.2s
RES Resolute Bay 60.44 344 P P 03 22 55.4 +1.4
SHL Shillong 60.58 79 P P 03 22 54.6 -1.4
SHL Shillong 60.58 79 P P 03 22 54.6 -1.4
SHL pmax pmax
comp=Z,52nm,1.3s
SONM Songino Array 60.81 50 P P 03 22 56.5 -0.7
comp=Z,1.9nm,0.7s,baz=290,slow=7.9,SNR=8.4
comp=Z,1.9nm,0.7s
ULN Ulaanbaatar 61.20 50⇓ *i* P P 03 23 00.0 +0.1
ULN pmax pmax
comp=Z,19nm,3.3s
YAK Yakutsk 65.65 29 *e*P P 03 23 27.8 -1.0
YAK pmax pmax
comp=Z,7.0nm,0.7s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.6s
BOSA Boshof 65.91 176 P P 03 23 31.8 +0.8
comp=E,2.0nm,0.6s,baz=33,slow=1.6,SNR=4.0
comp=E,2.0nm,0.6s
CD2 Chengdu 66.93 68 P P 03 23 38.4 +0.7
HHC Hu-ho-hao-te 67.34 55 *e*P P 03 23 39.0 -1.2
HHC pmax pmax
comp=E,16nm,0.5s
HHC pmax pmax
comp=E,130nm,4.0s
PZH PanZhiHua 67.71 73 P P 03 23 44.1 +1.4
PZH pmax pmax
comp=E,8.0nm,0.6s
PZH pmax pmax
comp=E,90nm,4.5s
XAN Xi'an 69.05 63 ⇑P P 03 23 53.0 +2.1
XAN pP sP 03 23 57.6 -0.3
XAN sP pwP 03 24 00.3 +1.6
XAN PcP **PcP 03 24 15.9 +0.9**
XAN pmax pmax
comp=E,10.0nm,1.2s
XAN LR LR
comp=E,310nm,18.6s
XAN LR LR
comp=E,220nm,14.4s
XAN LR LR
comp=E,290nm,16.5s
ZEA Zeya 69.35 37⇓ *e*P P 03 23 52.6 +0.2
CHTO Chiang Mai 69.69 82 P P 03 23 54.5 -0.6
CHTO Chiang Mai 69.69 82 P P 03 23 54.5 -0.6
CHTO pmax pmax
comp=Z,17nm,1.2s
CMAR Chiang Mai Arr 69.89 82 P P 03 23 56.5 +0.2
comp=Z,1.7nm,0.3s,baz=303,slow=8.0,SNR=8.9
comp=Z,1.7nm,0.3s
CMAR Chiang Mai Arr 69.89 82 *ce*P P 03 23 58.0 +1.7
CMAR pmax pmax
comp=Z,2.0nm,0.5s
C36M Paulatuk 70.33 347 IAmb IAmb 03 24 09.2
comp=Z,8.0nm,0.9s
PHRA Phrae 70.88 81 P P 03 24 02.8 +0.5
HNS HongShan 71.23 57 *e*P P 03 24 10.9 +6.8
HNS LR LR
comp=N,160nm,12.7s
HNS LR LR
comp=E,250nm,14.3s
HNS LR LR
comp=Z,300nm,15.1s
HEH HeiHe 71.48 40 *e*P P 03 24 05.8 +0.3
HEH pmax pmax
comp=Z,18nm,0.8s
BILL Bilibino 71.65 13⇓ *e*P P 03 24 06.8 +0.6
BILL pmax pmax
comp=Z,8.0nm,0.9s
SEY Seymchan 72.73 21⇑ *e*P P 03 24 13.9 +1.2
SEY pmax pmax
comp=Z,60nm,2.5s
INK Inuvik 72.74 350 IAmb IAmb 03 26 39.9
comp=Z,25nm,2.0s
D25K Kavik River 73.05 355 IAmb IAmb 03 24 25.9
comp=Z,9.5nm,1.2s
E28M Babbage River 73.17 353 IAmb IAmb 03 24 46.5
comp=Z,19nm,1.6s
TIA Tai'an 73.50 57 P P 03 24 21.3 +3.5
TIA pmax pmax
comp=Z,4.0nm,0.3s
D23K Nanushuk River 73.65 357 IAmb IAmb 03 24 56.3
comp=Z,19nm,1.2s
E27K Coleen River 73.78 353 IAmb IAmb 03 24 30.1
comp=Z,7.6nm,1.0s
YKA Yellowknife Ar 74.05 340 P P 03 24 19.8 -0.7
comp=Z,2.5nm,1.0s,baz=336,slow=12,SNR=4.3
comp=Z,2.5nm,1.0s
YKA Yellowknife Ar 74.05 340 *i* P P 03 24 22.1 +1.6
YKA pmax pmax
comp=Z,1.0nm,0.6s
G31M Satah River 74.14 350 P P 03 24 20.9 0.0
G31M IAmb IAmb 03 24 31.1
comp=Z,12nm,1.1s
E25K Arctic Village 74.18 355 IAmb IAmb 03 25 05.0
comp=Z,15nm,1.4s
KLR Kul'dur 74.33 39⇑ *e*P P 03 24 23.0 +0.6
KLR pmax pmax
comp=Z,35nm,2.6s
G30M tAoh Zraii Nji 74.35 351 IAmb IAmb 03 25 02.2
comp=Z,28nm,1.7s
E23K Chandalar 74.50 356 IAmb IAmb 03 25 05.3
comp=Z,19nm,1.4s
G29M Pine Creek 74.63 351 IAmb IAmb 03 24 34.6
comp=Z,11nm,0.8s
F25K Christian Rive 74.71 355 IAmb IAmb 03 26 38.8
comp=Z,15nm,1.8s
MA2 Magadan 74.87 24⇓ *e*P P 03 24 21.9 -3.4
F24K Squaw Lake 74.94 355 IAmb IAmb 03 24 37.0
comp=Z,7.7nm,0.9s
H29M Whitestone 75.34 351 P P 03 24 28.4 +0.4
H29M IAmb IAmb 03 24 38.5
comp=Z,7.7nm,0.9s
E19K Redstone River 75.35 359 IAmb IAmb 03 24 43.0
comp=Z,12nm,0.8s
WRGLY Wrigley 75.59 344 IAmb IAmb 03 24 40.8
comp=Z,14nm,0.9s
I30M Mount Dempster 76.04 350 IAmb IAmb 03 25 02.9
comp=Z,8.5nm,0.9s
I29M Ogilvie Camp, 76.16 351 IAmb IAmb 03 24 43.3
comp=Z,7.3nm,0.8s
I28M Miner Creek 76.27 352 IAmb IAmb 03 25 46.0
comp=Z,12nm,1.4s
ULM Lac du Bonnet 76.30 324 P P 03 24 35.1 +1.4
comp=Z,1.3nm,0.5s,baz=134,slow=9.2,SNR=2.4
comp=Z,1.3nm,0.5s
J30M Hart River 76.65 350 IAmb IAmb 03 24 46.9
comp=Z,7.8nm,0.8s
H23K Yukon River 76.72 356 IAmb IAmb 03 25 08.1
comp=Z,17nm,1.6s
H21K Melozitna Rive 77.04 357 IAmb IAmb 03 24 49.6
comp=Z,12nm,1.1s
NJ2 Nanjing 77.07 60 *e*P P 03 24 38.7 +0.4
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,240nm,4.0s
K29M Barlow Dome 77.51 350 IAmb IAmb 03 24 55.5
comp=Z,28nm,1.8s
DAWY Dawson 77.54 351 P P 03 24 41.2 +0.8
DAWY IAmb IAmb 03 24 51.5
comp=Z,9.7nm,1.0s
ILAR Eielson Array 77.59 355 P P 03 24 41.5 +0.8
comp=Z,0.5nm,0.5s,baz=340,slow=3.6,SNR=13
comp=Z,0.5nm,0.5s
MMPY Sheldon Lake, 77.69 347 IAmb IAmb 03 24 54.2
comp=Z,9.4nm,1.0s
USRK Ussuriysk Ar. 77.70 43 P P 03 24 41.8 +0.1
comp=Z,2.9nm,0.6s,baz=297,slow=4.5,SNR=7.1
comp=Z,2.9nm,0.6s
K27K Chicken 77.88 352 IAmb IAmb 03 25 07.9
comp=Z,8.8nm,1.1s
QIZ Qiongzhong 78.05 75 P P 03 24 52.7 +8.7
QIZ S S 03 34 48.4 +11
QIZ LR LR
comp=N,120nm,19.4s
QIZ LR LR
comp=E,200nm,11.2s
QIZ LR LR
comp=Z,190nm,14.0s
M29M Somme Creek 78.98 350 IAmb IAmb 03 25 00.5
comp=Z,10nm,0.9s
RPSI Rantau Prapat 79.07 95 IAmb IAmb 03 24 59.7
comp=Z,14nm,1.2s
DHY Denali Highway 79.30 354 IAmb IAmb 03 25 00.9
comp=Z,11nm,1.1s
KS19 Wonju Array Si 79.62 51 P P 03 24 50.7 -1.7
KS19 IAmb IAmb 03 25 03.0
comp=Z,9.3nm,0.8s
KSAR Wonju Array Be 79.67 51 P P 03 24 52.7 +0.1
KSRS Korea Array 79.68 51 P P 03 24 52.9 +0.2
comp=Z,4.6nm,0.7s,baz=312,slow=5.0,SNR=22
comp=Z,4.6nm,0.7s
YSS Yuzh-Sakhalins 81.25 36 *e*P P 03 25 05.0 +4.1
YSS pmax pmax
comp=Z,20nm,1.2s
YSS MLR MLR
comp=Z,1μm,13.0s
BDFB Brasília 83.31 245 P P 03 25 12.7 +0.5
comp=Z,1.7nm,0.9s,baz=151,slow=10,SNR=1.7
comp=Z,1.7nm,0.9s
MJAR Matsushiro Arr 86.39 46 P P 03 25 27.8 +0.3
comp=Z,1.2nm,0.7s,baz=328,slow=3.1,SNR=5.0
comp=Z,1.2nm,0.7s
NEW Newport 86.70 333 P P 03 25 29.6 +0.8
NEW IAmb IAmb 03 25 45.7
comp=Z,15nm,1.4s
NEW Newport 86.70 333 P P 03 25 29.6 +0.8
NEW pmax pmax
comp=Z,15nm,1.4s
PDAR Pinedale Array 88.16 326 P P 03 25 35.5 -0.6
comp=Z,0.3nm,0.8s,baz=80,slow=7.4,SNR=2.5
comp=Z,0.3nm,0.8s
NVAR Mina Array Bea 95.49 329 P P 03 26 10.7 +0.5
comp=Z,0.1nm,0.3s,baz=95,slow=2.0,SNR=1.9
comp=Z,0.1nm,0.3s
TXAR Lajitas Array 95.50 314 P P 03 26 10.7 +0.4
comp=Z,0.2nm,0.6s,baz=90,slow=8.8,SNR=2.1
comp=Z,0.2nm,0.6s
WRA Warramunga Arr 120.41 93 PKP PKPdf 03 31 36.4 -0.4
comp=Z,0.5nm,0.6s,baz=322,slow=1.9,SNR=8.7
ASAR Alice Springs 122.00 97 PKP PKPdf 03 31 39.4 -0.4
comp=Z,1.1nm,0.7s,baz=324,slow=1.6,SNR=24
QSPA South Pole Qui 127.36 180 PKP PKPdf 03 31 48.1 -0.6
comp=Z,0.9nm,0.7s,baz=253,slow=0.8,SNR=8.7
TAOE Nuku Hiva Isla 146.60 324 *e*LR LR 04 20 34.8
comp=Z,92nm,24.0s
DZM Mont Dzumac 146.79 72 *e*LR LR 04 20 40.8
comp=Z,97nm,25.9s
DZM Mont Dzumac 146.79 72 PKPbc PKPbc 03 32 27.0 -0.5
comp=Z,6.3nm,0.8s,baz=315,slow=1.4,SNR=2.6
PPT2 Papeete2 158.38 334 *e*LR LR 04 25 04.7
comp=Z,74nm,22.8s
TBI Tubuai 163.53 326 *e*LR LR 04 28 24.2
comp=Z,510nm,27.2s

RSNC 04 03:35:08.0±0.0, 13°N±1°×8°1W±°, h14km±2km, mb3.8, ML2.9, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PRVC	**Isla de Provid**	**0.30**	**336**	P		Pg	03 35 14.0	-0.3
PRVC				S		Sg	03 35 18.2	-0.3
RNCC	**Cayo Roncador,**	**1.21**	**67**	P		Pn	03 35 29.5	-1.1
RNCC				S		Sb	03 35 45.4	-0.9
SERC	**Banco Serrana,**	**1.45**	**36**	P		Pn	03 35 32.8	-1.1
SERC				S		Sn	03 35 51.9	-0.8
BCIP	**Isla Barro Col**	**4.14**	**160**	P		Pn	03 36 09.5	-1.4
BCIP				S		Sn	03 36 57.2	-2.0
SJCC	**San Jacinto, C**	**6.74**	**118**	P		Pn	03 36 44.9	-1.8
SJCC				S		Sn	03 37 58.7	-4.6

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*CATAC **04** 03:35:21.1±1.0, 14°.38N×92°.37W, h30km±5km, ML3.4*
*MEX **04** 03:35:22.0±0.9, 14°.50N×92°.42W, h60km±14km, MD4.1*
ISC 04 03:35:20.3±1.3, 14°.44N±0°.05×92°.45W±0°.03, h54km±14km, n31, σ2s07/53, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
THIG		**0.49**	**21**	*e*P		**Pn**	**03 35 31.6**	**-0.1**
THIG				*e*S		**Sn**	**03 35 40.5**	**+0.5**
RTAL	**Retalhuleu**	**0.73**	**84**	*e*P		**Pn**	**03 35 34.5**	**-0.2**
RTAL				*e*S		**Sn**	**03 35 45.1**	**0.0**
RTAL	**Retalhuleu**	**0.73**	**84**	*i* P		**Pn**	**03 35 34.3**	**-0.4**
RTAL				*i* S		**Sn**	**03 35 45.4**	**+0.2**
RTAL				IAML			03 35 53.0	
comp=Z,710nm,1.0s								
PAVE	**Pavencul**	**0.79**	**19**	*i* P		**Pn**	**03 35 34.9**	**-0.7**
PAVE				*e*S		**Sn**	**03 35 45.3**	**-1.5**
SOKI	**Kika Raxquin**	**1.08**	**70**	*i* P		**Pn**	**03 35 39.4**	**-0.2**
SOKI				*i* S		**Sn**	**03 35 54.2**	**+0.4**
SOKI				IAML			03 36 36.1	
comp=Z,570nm,1.0s								
HUEH	**Huehuetenango**	**1.26**	**46**	*e*P		**Pn**	**03 35 42.1**	**+0.2**
HUEH				*e*S		**Sn**	**03 35 57.5**	**-0.5**
HUEH	**Huehuetenango**	**1.26**	**46**	*i* P		**Pn**	**03 35 42.3**	**+0.4**
HUEH				IAML			03 35 42.7	
comp=Z,2μm,1.0s								
PCIG		**1.46**	**329**	*e*P		**Pn**	**03 35 43.8**	**-0.5**
PCIG				*e*S		**Sn**	**03 36 01.6**	**-0.8**
QUIS	**Sacapulas**	**1.56**	**57**	*i* P		**Pn**	**03 35 46.2**	**+0.4**
QUIS				IAML			03 35 48.6	
comp=Z,350nm,1.0s								
QUIS				*i* S		**Sn**	**03 36 05.9**	**+0.9**
CCIG	**Comitan**	**1.85**	**9**	*e*P		**Pn**	**03 35 51.3**	**+1.4**
CCIG				*e*S		**Sn**	**03 36 15.2**	**+3.0**
CCIG	**Comitan**	**1.85**	**9**	*i* P		**Pn**	**03 35 51.0**	**+1.1**
CCIG				*i* S		**Sn**	**03 36 15.8**	**+3.5**
CCIG				IAML			03 36 20.9	
comp=Z,160nm,1.0s								
CARR	**Arriaga**	**2.28**	**322**	*e*P		**Pn**	**03 35 56.8**	**+1.2**
CARR				*e*S		**Sn**	**03 36 23.0**	**+0.4**
TGIG		**2.41**	**344**	*e*P		**Pn**	**03 35 57.2**	**-0.2**
TGIG				*e*S		**Sn**	**03 36 24.8**	**-1.0**
FAME	**Alcaldia de Sa**	**2.44**	**104**	*i* S		**Sn**	**03 36 24.2**	**-2.1**
NUBE	**Las Nubes**	**2.64**	**101**	*i* P		**Pn**	**03 36 01.5**	**+0.8**
NUBE				*i* S		**Sn**	**03 36 30.9**	**-0.7**
NUBE				IAML			03 36 35.9	
comp=Z,87nm,1.0s								
CEVE	**Cerro Verde**	**2.81**	**102**	*i* S		**Sn**	**03 36 36.7**	**+0.9**
JAYA	**Jayaque - finc**	**3.01**	**105**	*i* P		**Pn**	**03 36 06.6**	**+0.8**
JAYA				*i* S		**Sn**	**03 36 40.3**	**-0.5**
JAYA				IAML			03 36 44.7	
comp=Z,340nm,1.0s								
UXUV	**UXUV**	**3.29**	**330**	*e*P		**Pn**	**03 36 10.3**	**+0.9**
UXUV				*e*S		**Sn**	**03 36 47.4**	**0.0**
PETF	**Flores**	**3.50**	**45**	*e*P		**Pn**	**03 36 12.2**	**0.0**
PETF				*e*S		**Sn**	**03 36 49.0**	**-3.3**
CMIG	**Matias Romero**	**3.52**	**319**	*e*P		**Pn**	**03 36 13.3**	**+0.6**
CMIG				*e*S		**Sn**	**03 36 52.5**	**-0.7**
HUIG	**Huatulco**	**3.77**	**291**	*e*P		**Pn**	**03 36 16.2**	**+0.2**
HUIG				*e*S		Sn	03 36 51.4	-7.8
NEUV	**Arroyo Zacate**	**4.58**	**316**	*e*P		**Pn**	**03 36 31.8**	**+4.8**
NEUV				*e*S		**Sn**	**03 37 17.5**	**-1.5**
SCIG	**Sabancuy**	**4.66**	**15**	*e*P		Pn	03 36 23.2	-4.9
SCIG				*e*S		**Sn**	**03 37 15.4**	**-5.5**
PEIG	**Puerto Escondi**	**4.79**	**289**	*e*P		**Pn**	**03 36 29.6**	**-0.5**
PEIG				*e*S		**Sn**	**03 37 22.1**	**-2.3**
YOIG	**Yosondua**	**5.46**	**297**	*e*P		**Pn**	**03 36 42.3**	**+2.8**
YOIG				*e*S		**Sn**	**03 37 37.3**	**-3.9**
TOIG	**Toxpalan**	**5.73**	**310**	*e*P		**Pn**	**03 36 45.5**	**+2.5**
TOIG				*e*S		**Sn**	**03 37 46.0**	**-1.5**
PNIG	**Pinotepa**	**5.81**	**290**	*e*P		**Pn**	**03 36 45.3**	**+1.3**
PNIG				*e*S		Sn	03 37 41.6	-7.8
TXIG	**Tlaxiaco**	**5.83**	**299**	*e*P		**Pn**	**03 36 47.9**	**+3.4**
TXIG				*e*S		**Sn**	**03 37 47.9**	**-2.4**
HLIG	**Huajuapan de L**	**6.15**	**304**	*e*P		**Pn**	**03 36 52.2**	**+3.4**
JAUV	**Jalcomulco**	**6.43**	**320**	*e*S		**Sn**	**03 37 59.5**	**-5.1**
FTIG	**Fresnillo de T**	**6.46**	**303**	*e*P		**Pn**	**03 36 55.6**	**+2.7**

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*IDC **04** 04:20:32.1±1.1, 37°.69N×20°.49E, h0km, mb3.6/8,*
mbtmp3.5/14, ML3.1/3, Error ellipse: s-maj=21.1km
s-min=17.2km az=149.0
*ATH **04** 04:20:33.9, 37°.62N×20°.49E, h6km±1km, ML3.6/28, Error*
ellipse: s-maj=2.1km s-min=0.7km az=35.0
*THE **04** 04:20:33.9, 37°.63N×20°.51E, h8km, ML3.8/13, Error*
ellipse: s-maj=1.0km s-min=0.3km az=36.0
ISC 04 04:20:33.6±1.1, 37°.62N±0°.03×20°.48E±0°.04, h14km±7km, n116, σ1s06/141, mb3.6/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KRI1	**kERI**	**0.27**	**81**	P		**Pg**	**04 20 39.0**	**-0.3**
KRI1				S		**Sg**	**04 20 42.6**	**-0.5**
31μm,0.4s								
LTHK	**Lithakia**	**0.29**	**72**	P		**Pg**	**04 20 39.3**	**-0.4**
LTHK				S		**Sg**	**04 20 43.3**	**-0.6**
30μm,0.3s								
LTHK	**Lithakia**	**0.29**	**72**	P		**Pg**	**04 20 39.5**	**-0.3**
LTHK				S		**Sg**	**04 20 43.3**	**-0.6**
LTHK				AML		AML	04 20 43.8	
comp=N,59786μm,0.3s								
LTHK				AML		AML	04 20 45.0	
comp=E,61689μm,0.4s								
PSDA	**Pessada-Kefalo**	**0.50**	**9**	P		**Pg**	**04 20 43.4**	**-0.1**
PSDA				S		**Sg**	**04 20 50.5**	**+0.4**
comp=E,17μm,0.3s								
PSDA	**Pessada-Kefalo**	**0.50**	**9**	P		**Pg**	**04 20 43.7**	**+0.2**
PSDA				S		**Sg**	**04 20 50.4**	**+0.2**
RTZL	**Ratzakli, Kefa**	**0.51**	**27**	P		**Pg**	**04 20 43.4**	**-0.2**
RTZL				S		**Sg**	**04 20 50.6**	**+0.2**
comp=E,26μm,0.3s								
VLS	**Valsamata**	**0.56**	**9**	P		**Pg**	**04 20 44.5**	**-0.2**
VLS				S		**Sg**	**04 20 52.7**	**+0.5**
comp=E,11μm,0.3s								
VLS	**Valsamata**	**0.56**	**9**	P		**Pg**	**04 20 44.3**	**-0.3**
VLS				S		**Sg**	**04 20 52.7**	**+0.5**
VLS				AML		AML	04 20 53.3	
comp=N,26763μm,0.3s								
VLS				AML		AML	04 20 56.9	
comp=E,15705μm,0.3s								
LXRA	**Lixouri, Kepha**	**0.58**	**356**	P		**Pg**	**04 20 45.4**	**+0.4**
LXRA				S		**Sg**	**04 20 52.7**	**0.0**
LXRA				AML		AML	04 20 57.7	
comp=E,74905μm,0.8s								
LXRA				AML		AML	04 21 03.8	
comp=N,88056μm,0.9s								
LXR1	**Lixouri, Cepha**	**0.58**	**356**	P		**Pg**	**04 20 45.0**	**0.0**
LXR1				S		**Sg**	**04 20 53.4**	**+0.7**
comp=N,60μm,0.5s								
DMLN	**Damoulianata-K**	**0.62**	**352**	P		**Pg**	**04 20 45.8**	**0.0**
DMLN				S		**Sg**	**04 20 54.9**	**+0.8**
comp=N,29μm,0.8s								
DMLN	**Damoulianata-K**	**0.62**	**352**	P		**Pg**	**04 20 46.0**	**+0.2**
SMHA	**Samh**	**0.64**	**12**	P		**Pg**	**04 20 45.5**	**-0.7**
VSK1	**VASILIKIADES**	**0.79**	**5**	P		**Pg**	**04 20 48.6**	**-0.4**
VSK1				S		**Sb**	**04 21 00.2**	**+0.5**
comp=N,9μm,0.7s								
FSK	**Fiskardo**	**0.84**	**4**	P		**Pg**	**04 20 49.3**	**-0.6**
FSK				S		**Sb**	**04 21 01.8**	**+0.7**
comp=N,5μm,0.4s								
FSK	**Fiskardo**	**0.84**	**4**	P		**Pg**	**04 20 49.5**	**-0.4**

FSK					AML	AML	04 21 07.0		
	comp=E,8343μm,0.2s								
FSK					AML	AML	04 21 11.5		
	comp=N,10065μm,0.6s								
RLS	**Riolos of Patr**	**0.89**	**60**	P	**Pg**	**04 20 50.4**	**-0.5**		
RLS				S	**Sg**	**04 21 02.9**	**+0.3**		
	comp=N,4μm,0.8s								
RLS	**Riolos of Patr**	**0.89**	**60**	P	**Pg**	**04 20 50.4**	**-0.5**		
RLS				S	**Sg**	**04 21 02.5**	**-0.1**		
RLS				AML	AML	04 21 04.0			
	comp=E,10529μm,0.6s								
RLS				AML	AML	04 21 05.2			
	comp=N,7162μm,1.0s								
AMT	**Artemida-Makis**	**0.98**	**95**	P	**Pg**	**04 20 52.2**	**-0.3**		
AMT				S	**Sg**	**04 21 05.5**	**+0.2**		
AMT	**Artemida-Makis**	**0.98**	**95**	P	**Pg**	**04 20 52.2**	**-0.3**		
AMT				S	**Sg**	**04 21 05.5**	**+0.2**		
AMT				AML	AML	04 21 13.3			
	comp=E,17850μm,0.4s								
AMT				AML	AML	04 21 18.4			
	comp=N,18486μm,0.5s								
EVGI	**Lefkada island**	**1.01**	**8**	P	**Pg**	**04 20 52.4**	**-0.7**		
EVGI	**Lefkada island**	**1.01**	**8**	P	**Pg**	**04 20 52.4**	**-0.7**		
DRO	**Drossia**	**1.03**	**71**	P	**Pg**	**04 20 52.7**	**-0.7**		
DRO				S	**Sb**	**04 21 07.4**	**+0.9**		
	comp=N,5μm,0.7s								
DRO	**Drossia**	**1.03**	**71**	P	**Pg**	**04 20 52.7**	**-0.7**		
DRO				AML	AML	04 21 16.9			
	comp=N,9054μm,0.5s								
DRO				AML	AML	04 21 21.2			
	comp=E,10092μm,0.9s								
DRAG	**Dragano-Lefkad**	**1.06**	**4**	P	**Pg**	**04 20 53.4**	**-0.8**		
DRAG	**Dragano-Lefkad**	**1.06**	**4**	P	**Pg**	**04 20 53.4**	**-0.8**		
NYDR	**Nydri-Lefkada**	**1.10**	**9**	P	**Pg**	**04 20 53.9**	**-1.0**		
NYDR	**Nydri-Lefkada**	**1.10**	**9**	P	**Pg**	**04 20 53.9**	**-1.0**		
LKD2	**Lefkada island**	**1.17**	**7**	P	**Pb**	**04 20 56.5**	**+0.8**		
LKD2				AML	AML	04 21 23.3			
	comp=E,4554μm,0.5s								
LKD2				AML	AML	04 21 23.9			
	comp=N,6051μm,0.9s								
TSLK	**Tsoukalades, L**	**1.21**	**6**	P	**Pg**	**04 20 56.0**	**-0.9**		
TSLK	**Tsoukalades, L**	**1.21**	**6**	P	**Pg**	**04 20 56.0**	**-0.9**		
TSLK				AML	AML	04 21 23.9			
	comp=E,5841μm,0.8s								
TSLK				AML	AML	04 21 27.2			
	comp=N,6280μm,0.5s								
UPR	**University Cam**	**1.22**	**57**	P	**Pg**	**04 20 56.3**	**-0.9**		
UPR	**University Cam**	**1.22**	**57**	P	**Pg**	**04 20 57.1**	**0.0**		
ITM	**Ithomi**	**1.23**	**111**	P	**Pg**	**04 20 56.5**	**-0.8**		
ITM				S	**Sb**	**04 21 13.8**	**+1.4**		
	comp=N,2μm,0.8s								
ITM	**Ithomi**	**1.23**	**111**	P	**Pg**	**04 20 56.5**	**-0.8**		
ITM				S	**Sg**	**04 21 13.2**	**-0.1**		
ITM				AML	AML	04 21 22.4			
	comp=N,4225μm,0.5s								
ITM				AML	AML	04 21 30.7			
	comp=E,3307μm,1.1s								
PYL	**PYLOS**	**1.24**	**125**	P	**Pg**	**04 20 56.7**	**-0.7**		
PYL				S	**Sb**	**04 21 14.0**	**+1.4**		
	comp=E,3μm,0.6s								
PYL	**PYLOS**	**1.24**	**125**	P	**Pg**	**04 20 56.8**	**-0.7**		
PYL				S	**Sg**	**04 21 12.9**	**-0.7**		
PYL				AML	AML	04 21 17.5			
	comp=E,6779μm,0.5s								
PYL				AML	AML	04 21 17.6			
	comp=N,4067μm,0.6s								
EFP	**Efpalio**	**1.38**	**54**	P	**Pn**	**04 20 58.5**	**+0.1**		
EFP	**Efpalio**	**1.38**	**54**	P	**Pn**	**04 20 58.5**	**+0.1**		
KLV	**Kalavryta, Ach**	**1.39**	**72**	P	**Pn**	**04 20 58.6**	**0.0**		
KLV	**Kalavryta, Ach**	**1.39**	**72**	P	**Pn**	**04 20 58.6**	**0.0**		
ANX	**Ano Chora**	**1.49**	**49**	P	**Pn**	**04 21 00.1**	**0.0**		
ANX	**Ano Chora**	**1.49**	**49**	P	**Pn**	**04 21 00.5**	**+0.4**		
ANX				AML	AML	04 21 30.2			
	comp=E,6329μm,0.9s								
ANX				AML	AML	04 21 30.6			
	comp=N,9298μm,0.6s								
GUR	**Goura**	**1.50**	**77**	P	**Pn**	**04 21 00.2**	**-0.1**		
GUR	**Goura**	**1.50**	**77**	P	**Pn**	**04 21 00.8**	**+0.5**		
GUR				AML	AML	04 21 34.7			
	comp=N,4740μm,0.6s								
GUR				AML	AML	04 21 35.1			
	comp=E,4504μm,0.6s								
KALE	**Kalithea**	**1.52**	**59**	P	**Pn**	**04 21 00.4**	**0.0**		
KALE	**Kalithea**	**1.52**	**59**	P	**Pn**	**04 21 00.6**	**+0.2**		
KALE				AML	AML	04 21 29.6			
	comp=E,2817μm,0.5s								
KALE				AML	AML	04 21 30.7			
	comp=N,3461μm,0.6s								
DLFA	**Delphi**	**1.80**	**61**	P	**Pn**	**04 21 04.4**	**+0.1**		
MAKR	**Makrakomi, Fth**	**1.90**	**42**	P	**Pn**	**04 21 05.6**	**-0.1**		
MAKR				AML	AML	04 21 43.0			
	comp=N,3878μm,1.2s								
MAKR				AML	AML	04 21 47.3			
	comp=E,4041μm,0.6s								
IGT	**Igoumenitsa**	**1.91**	**356**	P	**Pn**	**04 21 06.8**	**+1.0**		
IGT				AML	AML	04 21 45.9			
	comp=E,1788μm,0.6s								
IGT				AML	AML	04 21 47.3			
	comp=N,1145μm,0.6s								
JAN	**Janina**	**2.05**	**8**	P	**Pn**	**04 21 08.1**	**+0.4**		
JAN				AML	AML	04 21 50.6			
	comp=N,784μm,0.7s								
JAN				AML	AML	04 21 51.9			
	comp=E,1586μm,1.0s								
AXAR	**Agios Charalam**	**2.06**	**56**	P	**Pn**	**04 21 08.9**	**+1.0**		
AXAR				AML	AML	04 21 53.9			
	comp=E,3567μm,0.7s								
AXAR				AML	AML	04 21 55.9			
	comp=N,3842μm,1.3s								
KEK	**Kerkira**	**2.16**	**346**	P	**Pn**	**04 21 10.2**	**+1.0**		
KEK				AML	AML	04 21 59.2			
	comp=E,1392μm,0.6s								
KEK				AML	AML	04 22 00.7			
	comp=N,1261μm,0.7s								
VLI	**Veliai**	**2.16**	**114**	P	**Pn**	**04 21 10.2**	**+1.0**		
VLI				AML	AML	04 22 04.6			
	comp=N,1519μm,0.9s								
VLI				AML	AML	04 22 05.3			
	comp=E,1600μm,0.9s								
VIL2	**Platees**	**2.28**	**74**	P	**Pn**	**04 21 12.0**	**+1.1**		
VIL2				AML	AML	04 21 58.5			
	comp=N,632μm,0.9s								
VIL2				AML	AML	04 22 05.7			
	comp=E,1378μm,0.9s								
THL	**Klokotos Trika**	**2.28**	**31**	P	**Pn**	**04 21 11.6**	**+0.8**		
TYRN	**Tyrnavos**	**2.50**	**33**	P	**Pn**	**04 21 13.8**	**0.0**		
ATH	**Athens Observa**	**2.58**	**81**	P	**Pn**	**04 21 16.1**	**+1.1**		
ATH				AML	AML	04 22 05.0			
	comp=E,844μm,1.0s								
ATH				AML	AML	04 22 15.2			
	comp=N,1108μm,1.1s								
PENT	**Pentalofos**	**2.62**	**11**	P	**Pn**	**04 21 16.1**	**+0.5**		
VLY	**Voula,Athens**	**2.63**	**84**	P	**Pn**	**04 21 16.5**	**+0.8**		
VLY				AML	AML	04 22 19.8			
	comp=E,499μm,1.5s								
VLY				AML	AML	04 22 22.4			
	comp=N,634μm,1.5s								
ATHU	**Athens Univers**	**2.64**	**81**	P	**Pn**	**04 21 16.8**	**+1.0**		
PTL	**Penteli**	**2.71**	**80**	P	**Pn**	**04 21 17.7**	**+0.9**		
PTL				AML	AML	04 22 05.5			
	comp=E,605μm,0.5s								
PTL				AML	AML	04 22 15.7			
	comp=N,563μm,0.7s								
NEO	**Neokhori**	**2.73**	**51**	P	**Pn**	**04 21 18.4**	**+1.3**		
NEO				AML	AML	04 21 54.9			
	comp=E,653μm,0.8s								
NEO				AML	AML	04 21 58.2			
	comp=N,754μm,0.5s								
DION	**Dionisos Attik**	**2.77**	**79**	P	**Pn**	**04 21 18.7**	**+1.1**		
DION				AML	AML	04 21 59.6			
	comp=E,833μm,1.1s								
DION				AML	AML	04 22 11.2			
	comp=N,887μm,1.2s								
NEST	**Nestorio**	**2.82**	**9**	P	**Pn**	**04 21 19.3**	**+0.9**		
NEST				AML	AML	04 22 29.5			
	comp=N,372μm,0.7s								
NEST				AML	AML	04 22 36.5			
	comp=E,557μm,1.3s								
KZN	**Kozani**	**2.86**	**20**	P	**Pn**	**04 21 19.7**	**+0.8**		
SCTE	**Santa Cesarea**	**2.91**	**328**	P	**Pn**	**04 21 20.6**	**+1.1**		
KYMI	**Kymi, Euboea I**	**3.02**	**69**	P	**Pn**	**04 21 21.8**	**+0.7**		
AOS2	**Alonissos-2**	**3.05**	**59**	P	**Pn**	**04 21 22.8**	**+1.4**		
FNA	**Florina**	**3.23**	**12**	P	**Pn**	**04 21 24.5**	**+0.5**		
FNA				AML	AML	04 22 35.1			
	comp=E,386μm,0.6s								
FNA				AML	AML	04 22 36.0			
	comp=N,271μm,0.6s								
OHR	**Ohrid**	**3.49**	**4**	*i* Pn	**Pn**	**04 21 30.8**	**+3.2**		
HORT	**Hortiatis**	**3.60**	**34**	P	**Pn**	**04 21 30.7**	**+1.6**		
OUR	**Ouranopolis**	**3.84**	**44**	P	**Pn**	**04 21 34.1**	**+1.8**		
SOH	**Sokhos**	**3.90**	**34**	P	**Pn**	**04 21 33.7**	**+0.6**		
KOKK	**Kokkinochori,**	**4.20**	**39**	P	**Pn**	**04 21 39.3**	**+2.0**		
SRS	**Serrai**	**4.24**	**34**	P	**Pn**	**04 21 39.5**	**+1.7**		
IDI	**Anoyia**	**4.25**	**122**	Pn	**Pn**	**04 21 40.4**	**+2.5**		
	comp=N,6.5nm,1.0s,baz=59,slow=4.4,SNR=1.2								
IDI				Sn	**Sn**	**04 22 27.4**	**+0.1**		
	comp=N,5.2nm,0.3s,baz=319,slow=20,SNR=11								
CUC	**Castrocucco**	**4.35**	**304**	P	**Pn**	**04 21 41.1**	**+1.8**		
PEHC	**Pehcevo**	**4.55**	**23**	*e*Pn	**Pn**	**04 21 43.3**	**+1.2**		
VAE	**Valguarnera**	**4.83**	**270**	Pn	**Pn**	**04 21 48.8**	**+2.9**		
	comp=N,2.7nm,0.7s,baz=14,slow=6.4,SNR=7.2								
VAE				Sn	**Sn**	**04 22 40.9**	**-0.8**		
	comp=N,5.1nm,0.3s,baz=286,slow=20,SNR=3.9								
PDG	**Podgorica**	**4.89**	**349**	*e*Pn	**Pn**	**04 21 46.8**	**0.0**		
HCY	**Herceg Novi**	**5.06**	**343**	*e*Pn	**Pn**	**04 21 48.0**	**-1.0**		
TREB	**Trebinje**	**5.35**	**343**	*e*Pn	**Pn**	**04 21 52.5**	**-0.5**		
BRY	**Bratogost**	**5.48**	**345**	*e*Pn	**Pn**	**04 21 54.8**	**-0.1**		
SJES	**Sjenica**	**5.65**	**356**	*e*Pn	**Pn**	**04 21 58.1**	**+0.9**		
STON	**Ston**	**5.66**	**339**	*e*Pn	**Pn**	**04 21 56.9**	**-0.3**		
UPM	**Unac-Piva**	**5.70**	**348**	*e*Pn	**Pn**	**04 21 59.3**	**+1.2**		
RUDO	**Rudo**	**6.05**	**352**	*e*Pn	**Pn**	**04 21 59.7**	**-3.0**		
BBLS	**Lazi&#263i**	**6.29**	**353**	*e*Pn	**Pn**	**04 22 08.6**	**+2.6**		
HAPS	**Han Pijesak,Bl**	**6.56**	**350**	*e*Pn	**Pn**	**04 22 09.5**	**-0.3**		
TEKS	**Tekeris**	**6.96**	**354**	*e*Pn	**Pn**	**04 22 12.4**	**-2.7**		
A050A	**Klekovaca**	**7.47**	**338**	*e*Pn	**Pn**	**04 22 22.2**	**-0.1**		
BLY	**Banja Luka**	**7.54**	**342**	*e*Pn	**Pn**	**04 22 23.5**	**+0.4**		
A051A	**Mrakovica**	**7.86**	**341**	*e*Pn	**Pn**	**04 22 24.8**	**-2.7**		
MLR	**Muntele Rosu**	**8.86**	**26**	Pn	**Pn**	**04 22 41.4**	**0.0**		
	comp=N,0.1nm,0.3s,baz=220,slow=10,SNR=4.2								
	comp=N,4.3nm,1.1s								
KEST	**Kesra**	**9.14**	**261**	Pn	**Pn**	**04 22 43.9**	**-1.3**		
	comp=N,0.1nm,0.3s,baz=62,slow=21,SNR=1.9								
	comp=N,2.3nm,0.9s								
CEY	**Cerknica**	**9.29**	**333**	*e*Pn	**Pn**	**04 22 45.9**	**-1.2**		
SOKA	**Soboth**	**9.91**	**338**	*e*Pn	**Pn**	**04 22 55.6**	**-0.1**		
	comp=N,2.3nm,0.6s								
OBKA	**Obir**	**9.91**	**335**	*e*Pn	**Pn**	**04 22 56.5**	**+0.8**		
	comp=N,2.3nm,0.3s								
OBKA	**Obir**	**9.91**	**335**	*e*Pn	**Pn**	**04 22 53.6**	**-2.1**		
KBA	**Koelnbreinsper**	**10.82**	**333**	*e*Pn	**Pn**	**04 23 09.5**	**+1.3**		
	comp=N,0.5nm,0.4s								
MOA	**Molln**	**11.19**	**338**	*e*Pn	**Pn**	**04 23 13.7**	**+0.5**		
	comp=N,1.0nm,0.4s								
LESA	**Schwarzleotal**	**11.36**	**332**	*i* Pn	**Pn**	**04 23 16.6**	**+1.1**		
	comp=N,2.0nm,0.4s								
WTTA	**Wattenberg**	**11.63**	**329**	*e*Pn	**Pn**	**04 23 21.4**	**+2.1**		
	comp=N,0.4nm,0.3s								
WATA	**Walderalm**	**11.72**	**329**	*e*Pn	**Pn**	**04 23 23.5**	**+3.1**		
	comp=N,1.3nm,0.4s								
KHC	**Kasperske Hory**	**12.55**	**339**	*e*PN	**Pn**	**04 23 31.6**	**-0.1**		
KHC				*e*SN	**Sn**	**04 25 48.5**	**-2.6**		
AKASG	**Malin Array Be**	**14.49**	**23**	Pn	**Pn**	**04 23 57.6**	**-0.5**		
	comp=N,0.8nm,0.8s,baz=213,slow=12,SNR=2.4								
ESDC	**Sonseca Array**	**19.19**	**284**	P	**P**	**04 24 56.0**	**-1.0**		
	baz=73,slow=10,SNR=4.2								
	comp=N,0.6nm,1.0s								
HFS	**Hagfors**	**22.95**	**351**	P	**P**	**04 25 36.3**	**-0.9**		
	comp=N,4.5nm,0.9s,baz=178,slow=37,SNR=3.6								
	comp=N,4.5nm,0.9s								
EKA	**Eskdalemuir Ar**	**23.87**	**326**	P	**P**	**04 25 46.4**	**0.0**		
	comp=N,1.9nm,0.7s,baz=124,slow=9.7,SNR=2.0								
	comp=N,1.9nm,0.7s								
FINES	**FINESS Array B**	**24.10**	**7**	P	**P**	**04 25 48.3**	**-0.2**		
	comp=N,1.2nm,0.6s,baz=156,slow=11,SNR=6.8								
	comp=N,1.2nm,0.6s								
NOA	**NORSAR Array B**	**24.16**	**349**	P	**P**	**04 25 49.9**	**+0.7**		
	comp=N,0.6nm,0.9s,baz=149,slow=9.8,SNR=3.3								
	comp=N,0.6nm,0.9s								
TORD	**Torodi Ar. Bea**	**29.58**	**219**	P	**P**	**04 26 39.4**	**+1.2**		
	comp=N,0.3nm,0.8s,baz=37,slow=9.4,SNR=2.6								
	comp=N,0.3nm,0.8s								
ARCES	**ARCESS Array B**	**32.09**	**3**	P	**P**	**04 27 00.5**	**+0.6**		
	comp=N,1.5nm,0.8s,baz=190,slow=10,SNR=5.3								
	comp=N,1.5nm,0.8s								
KURBB	**Kurchatov Arra**	**42.59**	**53**	P	**P**	**04 28 28.7**	**-0.2**		
	comp=N,0.3nm,0.5s,baz=278,slow=8.7,SNR=5.4								
	comp=N,0.3nm,0.5s								
MKAR	**Makanchi Array**	**45.62**	**58**	P	**P**	**04 28 53.5**	**+0.1**		
	comp=N,0.3nm,0.5s,baz=273,slow=6.2,SNR=3.0								
	comp=N,0.3nm,0.5s								

*THE **04** 04:39:39.8, 37.°63N×20.°59E, h11km, ML3.0/12, Error ellipse: s-maj=0.7km s-min=0.2km az=44.0*
*ATH **04** 04:39:39.3, 37.°60N×20.°55E, h7km±1km, ML3.0/21, Error ellipse: s-maj=2.5km s-min=0.8km az=34.0*
ISC 04 04:39:39.7±1.2, 37.°63N±0.°04×20.°58E±0.°04, h12km±7km, n56, σ0°59/80, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.19**	**79**	P	**Pg**	**04 39 43.7**	**-0.1**
KRI1				S	**Sg**	**04 39 46.7**	**0.0**
	8μm,0.3s						
LTHK	**Lithakia**	**0.22**	**67**	P	**Pg**	**04 39 44.1**	**-0.2**
LTHK				S	**Sg**	**04 39 47.6**	**+0.1**
	6μm,0.2s						
LTHK	**Lithakia**	**0.22**	**67**	P	**Pg**	**04 39 44.2**	**-0.2**
LTHK				S	**Sg**	**04 39 48.1**	**+0.6**
LTHK				AML	AML	04 39 50.5	
	comp=E,10994μm,0.1s						
LTHK				AML	AML	04 39 50.9	
	comp=N,14401μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.47**	**18**	P	**Pg**	**04 39 48.8**	**-0.2**
RTZL				S	**Sg**	**04 39 55.7**	**+0.4**
	comp=N,5μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.49**	**0**	P	**Pg**	**04 39 49.1**	**-0.1**
PSDA				S	**Sg**	**04 39 56.2**	**+0.5**
	comp=N,3μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.49**	**0**	P	**Pg**	**04 39 49.2**	**0.0**
PSDA				S	**Sg**	**04 39 56.7**	**+0.9**
VLS	**Valsamata**	**0.55**	**1**	P	**Pg**	**04 39 50.1**	**-0.3**
VLS				S	**Sg**	**04 39 58.2**	**+0.4**
	comp=N,2μm,0.4s						
VLS	**Valsamata**	**0.55**	**1**	P	**Pg**	**04 39 50.1**	**-0.3**
VLS				S	**Sg**	**04 39 58.6**	**+0.8**
VLS				AML	AML	04 40 02.9	
	comp=E,4366μm,0.3s						
VLS				AML	AML	04 40 05.6	
	comp=N,4239μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.58**	**349**	P	**Pg**	**04 39 51.1**	**0.0**
LXRA				S	**Sg**	**04 39 59.2**	**+0.3**
LXRA				AML	AML	04 40 07.4	
	comp=E,11679μm,0.5s						
LXRA				AML	AML	04 40 08.2	
	comp=N,17324μm,0.5s						
SMHA	**Samh**	**0.63**	**5**	P	**Pg**	**04 39 51.2**	**-0.7**
SMHA				S	**Sg**	**04 40 00.6**	**+0.5**
DMLN	**Damoulianata-K**	**0.63**	**345**	P	**Pg**	**04 39 51.8**	**-0.2**
DMLN				S	**Sg**	**04 40 01.0**	**+0.6**
	comp=N,5μm,0.6s						
DMLN	**Damoulianata-K**	**0.63**	**345**	P	**Pg**	**04 39 52.0**	**0.0**
DMLN				S	**Sg**	**04 40 00.8**	**+0.4**
RLS	**Riolos of Patr**	**0.82**	**58**	P	**Pg**	**04 39 55.0**	**-0.6**
RLS				S	**Sg**	**04 40 06.9**	**+0.6**
	comp=N,800nm,0.6s						
RLS	**Riolos of Patr**	**0.82**	**58**	P	**Pg**	**04 39 54.8**	**-0.7**
RLS				S	**Sg**	**04 40 06.3**	**0.0**
RLS				AML	AML	04 40 08.4	
	comp=N,1782μm,0.6s						
RLS				AML	AML	04 40 08.8	
	comp=E,1425μm,0.7s						
FSK	**Fiskardo**	**0.83**	**359**	P	**Pg**	**04 39 55.1**	**-0.7**
FSK	**Fiskardo**	**0.83**	**359**	P	**Pg**	**04 39 55.1**	**-0.7**
FSK				AML	AML	04 40 09.5	
	comp=E,2518μm,0.2s						
FSK				AML	AML	04 40 13.1	
	comp=N,1932μm,0.5s						
AMT	**Artemida-Makis**	**0.90**	**96**	P	**Pg**	**04 39 56.5**	**-0.5**
AMT				S	**Sb**	**04 40 09.4**	**+0.2**
AMT	**Artemida-Makis**	**0.90**	**96**	P	**Pg**	**04 39 56.5**	**-0.5**
AMT				S	**Sb**	**04 40 09.4**	**+0.2**
AMT				AML	AML	04 40 14.7	
	comp=E,5724μm,0.4s						
AMT				AML	AML	04 40 18.0	
	comp=N,3569μm,0.3s						
DRO	**Drossia**	**0.95**	**70**	P	**Pg**	**04 39 57.6**	**-0.4**
DRO				S	**Sb**	**04 40 11.4**	**+0.7**
	comp=N,1μm,0.6s						
DRO	**Drossia**	**0.95**	**70**	P	**Pg**	**04 39 58.0**	**0.0**
DRO				AML	AML	04 40 15.7	
	comp=E,2826μm,0.6s						
DRO				AML	AML	04 40 19.3	
	comp=N,1856μm,0.6s						
EVGI	**Lefkada island**	**1.00**	**3**	P	**Pg**	**04 39 58.1**	**-0.8**
EVGI				S	**Sb**	**04 40 12.7**	**+0.7**
EVGI	**Lefkada island**	**1.00**	**3**	P	**Pg**	**04 39 58.1**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.06**	**360**	P	**Pg**	**04 39 58.9**	**-1.1**
DRAG				S	**Sb**	**04 40 14.5**	**+0.8**
DRAG	**Dragano-Lefkad**	**1.06**	**360**	P	**Pg**	**04 39 58.9**	**-1.1**
NYDR	**Nydri-Lefkada**	**1.09**	**5**	P	**Pg**	**04 39 59.6**	**-1.1**
NYDR	**Nydri-Lefkada**	**1.09**	**5**	P	**Pg**	**04 39 59.9**	**-0.7**
UPR	**University Cam**	**1.16**	**55**	P	**Pb**	**04 40 00.9**	**-0.7**
ITM	**Ithomi**	**1.16**	**112**	P	**Pb**	**04 40 01.1**	**-0.5**
ITM				S	**Sn**	**04 40 17.7**	**+0.2**
	comp=N,378nm,0.7s						
ITM	**Ithomi**	**1.16**	**112**	P	**Pb**	**04 40 01.3**	**-0.4**
ITM				S	**Sn**	**04 40 18.0**	**+0.5**
ITM				AML	AML	04 40 27.1	
	comp=N,818μm,0.8s						
ITM				AML	AML	04 40 30.0	
	comp=E,689μm,0.7s						
LKD2	**Lefkada island**	**1.16**	**3**	P	**Pb**	**04 40 01.1**	**-0.6**
LKD2				S	**Sb**	**04 40 17.5**	**+0.7**
	comp=E,772nm,0.9s						
LKD2	**Lefkada island**	**1.16**	**3**	P	**Pb**	**04 40 01.7**	**-0.1**
LKD2				AML	AML	04 40 29.9	
	comp=N,1466μm,0.8s						
LKD2				AML	AML	04 40 33.2	
	comp=E,1622μm,1.0s						
PYL	**PYLOS**	**1.18**	**128**	P	**Pb**	**04 40 01.3**	**-0.6**
PYL				S	**Sn**	**04 40 18.1**	**+0.2**
	comp=E,592nm,0.4s						
PYL	**PYLOS**	**1.18**	**128**	P	**Pb**	**04 40 01.3**	**-0.6**
PYL				AML	AML	04 40 21.2	
	comp=E,1503μm,0.5s						
PYL				AML	AML	04 40 21.5	
	comp=N,868μm,0.3s						
TSLK	**Tsoukalades, L**	**1.20**	**3**	P	**Pb**	**04 40 01.7**	**-0.6**
TSLK				S	**Sg**	**04 40 18.5**	**+0.2**
	comp=N,510nm,0.6s						
TSLK	**Tsoukalades, L**	**1.20**	**3**	P	**Pb**	**04 40 01.7**	**-0.6**
TSLK				AML	AML	04 40 32.9	
	comp=E,1094μm,0.7s						
TSLK				AML	AML	04 40 33.8	
	comp=N,946μm,0.5s						
KLV	**Kalavryta, Ach**	**1.31**	**71**	P	**Pn**	**04 40 03.0**	**-0.8**
KLV	**Kalavryta, Ach**	**1.31**	**71**	P	**Pn**	**04 40 03.0**	**-0.8**
EFP	**Efpalio**	**1.32**	**52**	P	**Pn**	**04 40 03.7**	**-0.2**
EFP				AML	AML	04 40 30.6	
	comp=E,556μm,0.8s						
EFP				AML	AML	04 40 32.2	
	comp=N,762μm,0.7s						
GUR	**Goura**	**1.43**	**77**	P	**Pn**	**04 40 05.8**	**+0.3**
GUR				AML	AML	04 40 36.7	
	comp=N,761μm,0.6s						
GUR				AML	AML	04 40 39.1	
	comp=E,887μm,0.7s						
ANX	**Ano Chora**	**1.43**	**47**	P	**Pn**	**04 40 05.8**	**+0.3**
ANX				AML	AML	04 40 33.9	
	comp=E,1489μm,0.6s						
ANX				AML	AML	04 40 35.9	
	comp=N,2510μm,0.6s						
KALE	**Kalithea**	**1.45**	**58**	P	**Pn**	**04 40 06.3**	**+0.6**
KALE				AML	AML	04 40 36.4	
	comp=E,630μm,0.7s						
KALE				AML	AML	04 40 42.8	
	comp=N,855μm,0.7s						
MAKR	**Makrakomi, Fth**	**1.84**	**41**	P	**Pn**	**04 40 10.7**	**-0.5**
MAKR				AML	AML	04 40 48.5	
	comp=N,1041μm,1.2s						
MAKR				AML	AML	04 40 54.6	
	comp=E,910μm,0.8s						
IGT	**Igoumenitsa**	**1.91**	**354**	P	**Pn**	**04 40 11.8**	**-0.4**
IGT				AML	AML	04 40 50.0	
	comp=E,377μm,0.6s						
IGT				AML	AML	04 41 00.1	
	comp=N,217μm,0.6s						
AXAR	**Agios Charalam**	**1.99**	**55**	P	**Pn**	**04 40 13.0**	**-0.2**
AXAR				AML	AML	04 40 54.1	
	comp=N,1066μm,1.0s						
AXAR				AML	AML	04 40 58.2	
	comp=E,802μm,0.9s						
JAN	**Janina**	**2.04**	**6**	P	**Pn**	**04 40 13.2**	**-0.6**
VLI	**Veliai**	**2.09**	**115**	P	**Pn**	**04 40 14.9**	**+0.4**
VLI				AML	AML	04 41 05.1	
	comp=E,320μm,1.1s						
VLI				AML	AML	04 41 06.4	
	comp=N,297μm,1.3s						
KEK	**Kerkira**	**2.17**	**344**	P	**Pn**	**04 40 14.8**	**-0.9**
KEK				AML	AML	04 41 03.2	
	comp=E,289μm,0.5s						
KEK				AML	AML	04 41 08.0	
	comp=N,352μm,0.9s						
THL	**Klokotos Trika**	**2.24**	**

comp=E,420nm,0.6s
NE80 e 04 58 21.6
NE80 IAML 04 58 24.2
comp=N,397nm,0.7s
NE80 e 04 58 24.2
CSIG Choix 2.15 32 eP **Pn 04 57 46.6 -2.0**
CSIG i S **Sn 04 58 12.7 -3.1**
CDOB Cd. Obregon 2.42 350 eP **Pn 04 57 50.7 -1.8**
GUYB Guaymas 3.07 339 eP Pn 04 57 58.8 -2.5
GUYB i S **Sn 04 58 32.3 -6.2**
PDIG Papasquiaro 3.87 89 eP **Pn 04 58 14.1 +1.6**
PDIG eS **Sn 04 58 55.5 -3.1**
HPIG 4.07 61 eP **Pn 04 58 14.5 -0.8**
HPIG eS **Sn 04 59 05.3 +1.8**
HSIG 4.15 344 eP **Pn 04 58 15.1 -1.1**
BCIG La Boquilla 4.57 56 eP **Pn 04 58 21.2 -0.8**
BCIG eS **Sn 04 59 13.1 -2.6**
CGIG 5.53 15 eP Pn 04 58 31.2 -4.2
CGIG i S **Sn 04 59 39.0 -0.6**
LAPR La Primavera 5.95 337 eP **Pn 04 58 41.8 +0.8**
LAPR eS **Sn 04 59 53.1 +3.5**
TXAR Lajitas Array 6.85 50 Pn **Pn 04 58 52.6 -0.9**
comp=N,0.6nm,0.3s,baz=232,slow=13,SNR=36
TXAR Lg Lg 05 00 44.5
comp=N,0.7nm,0.3s,baz=240,slow=24,SNR=3.6
TXAR LR LR 05 01 14.3
comp=N,33nm,21.1s,baz=226,slow=36
comp=N,0.6nm,0.3s
121A Cookes Peak, D 7.67 12 eP **Pn 04 59 08.5 +3.8**
ANMO Albuquerque 10.28 15 Pn **Pn 04 59 42.6 +2.1**
comp=N,0.1nm,0.3s,baz=142,slow=18,SNR=5.4
ANMO Lg Lg 05 02 39.7
comp=N,0.1nm,0.3s,baz=272,slow=19,SNR=1.9
comp=N,0.8nm,0.6s
NVAR Mina Array Bea 15.25 333 Pn **P 05 00 53.9 +0.4**
baz=153,slow=13,SNR=7.0
comp=N,1.4nm,0.9s
CMIG Matias Romero 15.88 117 LR LR 05 06 09.9
comp=N,37nm,20.8s,baz=358,slow=35
ELK Elko 16.36 345 Pn **P 05 01 07.8 +1.9**
baz=189,slow=11,SNR=5.0
comp=N,0.8nm,0.7s
PDAR Pinedale Array 17.70 0 P **P 05 01 22.7 +2.0**
comp=N,0.1nm,0.3s,baz=171,slow=11,SNR=14
comp=N,1.2nm,0.8s
ROSC El Rosal 39.40 115 LR LR 05 22 55.1
comp=N,65nm,18.4s,baz=116,slow=40
ILAR Eielson Array 46.40 339 P **P 05 05 41.3 +1.9**
comp=N,0.9nm,0.9s,baz=151,slow=6.5,SNR=7.6
comp=N,0.9nm,0.9s
H03N2 Juan Fernandez 65.08 152 T T 06 18 50.0
baz=323
H03N1 Juan Fernandez 65.08 152 T T 06 18 49.0
baz=323,slow=74
H03N3 Juan Fernandez 65.09 152 T T 06 18 45.2
baz=323,slow=74
JMIC Jan Mayen 70.13 20 LR LR 05 41 24.7
comp=N,184nm,20.1s,baz=24,slow=38

*SJA **04** 05:15:18.8±0.7, 22°.33S×68°.92W, h86km±8km, ML4.0, MW4.0*
*GUC **04** 05:15:20.5±0.8, 22°.36S×68°.91W, h96km±5km, ML4.0*
ISC 04 05:15:20.6±1.4**, 22°.39S**±0°.03×**68°.94W**±0°.05**, h91**km±9km**,**
n30, σ1§**35/40, 5C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.22**	**174**	eP	**Pn**	**05 15 32.8**	**-1.4**
LVC				i S	**Sn**	**05 15 44.0**	**-0.4**
LVC	**Limon Verde**	**0.22**	**174**	eP	**Pn**	**05 15 32.9**	**-1.4**
PB06	**IPOC Station P**	**0.67**	**242**	⇓iP	**Pn**	**05 15 37.0**	**0.0**
PB06				i S	**Sn**	**05 15 50.1**	**+0.8**
PB06	**IPOC Station P**	**0.67**	**242**	eP	**Pn**	**05 15 36.4**	**-0.7**
PB06				IAML		05 15 53.9	
comp=Z,1μm,0.4s							
AF01	**San Pedro de A**	**0.90**	**129**	⇑iP	**Pn**	**05 15 39.4**	**-0.1**
AF01				i S	**Sn**	**05 15 54.4**	**+0.8**
AF01				IAML		05 15 54.8	
comp=E,15μm,0.3s							
AF01	**San Pedro de A**	**0.90**	**129**	eP	**Pn**	**05 15 38.6**	**-0.9**
AF01				IAML		05 16 02.9	
comp=Z,4μm,0.3s							
PB15	**IPOC Station P**	**0.95**	**211**	⇑iP	**Pn**	**05 15 40.2**	**+0.2**
PB15				i S	**Sn**	**05 15 56.2**	**+1.6**
PB15	**IPOC Station P**	**0.95**	**211**	eP	**Pn**	**05 15 39.6**	**-0.4**
PB15				IAML		05 15 57.5	
comp=Z,10μm,0.2s							
PB04	**IPOC Station P**	**1.12**	**273**	⇓iP	**Pn**	**05 15 42.0**	**+0.1**
PB04				eS	**Sn**	**05 15 59.3**	**+1.3**
PB04				IAML		05 16 03.2	
comp=N,3μm,0.2s							
PB04	**IPOC Station P**	**1.12**	**273**	eP	**Pn**	**05 15 41.3**	**-0.6**
PB04				IAML		05 16 03.9	
comp=Z,2μm,0.2s							
PB01	**IPOC Station P**	**1.43**	**339**	⇓iP	**Pn**	**05 15 45.8**	**+0.1**
PB01				i S	**Sn**	**05 16 05.8**	**+1.3**
PB01				IAML		05 16 08.7	
comp=E,1μm,0.4s							
PB01	**IPOC Station P**	**1.43**	**339**	eP	**Pn**	**05 15 45.1**	**-0.5**
PB01				IAML		05 16 12.0	
comp=Z,950nm,0.2s							
PATCX	**Punta Patache**	**1.93**	**324**	⇑iP	**Pn**	**05 15 51.6**	**-0.4**
PATCX				i S	**Sn**	**05 16 16.5**	**+0.6**
PATCX	**Punta Patache**	**1.93**	**324**	eP	**Pn**	**05 15 51.0**	**-0.9**
PATCX				IAML		05 16 21.2	
comp=Z,1μm,0.5s							
TA01	**Diego Aracena**	**2.15**	**327**	eP	**Pn**	**05 15 54.0**	**-0.8**
TA01				eS	**Sn**	**05 16 21.9**	**+0.9**
TA01				IAML		05 16 29.1	
comp=N,999nm,0.2s							
TA01	**Diego Aracena**	**2.15**	**327**	eP	**Pn**	**05 15 53.5**	**-1.4**
TA01				IAML		05 16 27.8	
comp=Z,571nm,0.6s							
PB08	**IPOC Station P**	**2.24**	**355**	⇑iP	**Pn**	**05 15 56.9**	**+0.5**
PB08				eS	**Sn**	**05 16 24.6**	**+0.8**
PB08	**IPOC Station P**	**2.24**	**355**	eP	**Pn**	**05 15 56.3**	**-0.1**
HMBC	**Humberstone**	**2.28**	**337**	⇑iP	**Pn**	**05 15 55.8**	**-0.9**
HMBC				i S	**Sn**	**05 16 24.4**	**+0.2**
HMBC				IAML		05 16 33.3	
comp=N,1μm,0.4s							
HMBC	**Humberstone**	**2.28**	**337**	eP	**Pn**	**05 15 55.2**	**-1.4**
HMBC				IAML		05 16 33.8	
comp=Z,790nm,0.2s							
PB11	**IPOC Station P**	**2.70**	**345**	eP	**Pn**	**05 16 01.4**	**-0.9**
PB11				i S	**Sn**	**05 16 34.0**	**-0.2**
PB11				IAML		05 16 42.6	
comp=E,645nm,0.3s							
PB11	**IPOC Station P**	**2.70**	**345**	eP	**Pn**	**05 16 01.0**	**-1.3**
PB11				IAML		05 16 44.4	
comp=Z,457nm,0.2s							
GO01	**Chusmiza**	**2.72**	**355**	eP	**Pn**	**05 16 02.9**	**+0.1**
GO01	**Chusmiza**	**2.72**	**355**	eP	**Pn**	**05 16 02.2**	**-0.6**
GO02	**Mina Guanaco**	**2.83**	**192**	eP	**Pn**	**05 16 02.6**	**-1.4**
YJA	**Yavi**	**3.18**	**87**	eP	Pn	05 16 10.9	+1.9
SLA	**San Lorenzo**	**3.91**	**127**	eP	Pn	05 16 21.1	+2.5
AC01	**Pan de Azucar**	**4.04**	**202**	eP	**Pn**	**05 16 17.6**	**-2.6**
AC01				eS	**Sn**	**05 17 10.9**	**+4.5**
AC01				IAML		05 17 18.4	
comp=Z,314nm,0.8s							
FSA	**Cafayete**	**4.59**	**145**	eP	**Pn**	**05 16 28.4**	**+0.6**
GO03	**Copiapo**	**5.32**	**193**	eP	**Pn**	**05 16 34.1**	**-3.4**

*SOME **04** 05:24:51.6, 42°.53N×78°.57E, h10km*
*NNC **04** 05:24:51.8±0.8, 42°.56N×78°.64E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=6.2km s-min=2.5km az=165.0*
*KRNET **04** 05:24:51.7±0.1, 42°.42N×78°.57E, h21km, mb2.2*
ISC 04 05:24:51.8±1.0**, 42°.51N**±0°.03×**78°.56E**±0°.03**, h8**km±7km**,**
n39, σ1§**12/76, 15C-7D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.12**	**259**	⇓eP	**Pg**	**05 24 55.0**	**+0.4**
PRZ				⇓eS	**Sg**	**05 24 58.1**	**+1.5**
SATY	**Saty**	**0.56**	**349**	P	**Pg**	**05 25 02.4**	**-0.3**
5.8nm,0.1s							
SATY				S	**Sg**	**05 25 09.9**	**-0.3**
47nm,0.1s							
SATY	**Saty**	**0.56**	**349**	eP	**Pg**	**05 25 02.3**	**-0.4**
5.6nm,0.1s							
SATY				eS	**Sg**	**05 25 09.9**	**-0.3**
59nm,0.1s							
ZHN	**Zhinishke**	**0.67**	**352**	P	**Pg**	**05 25 04.3**	**-0.4**
11nm,0.1s							
ZHN				S	**Sg**	**05 25 13.3**	**-0.1**
35nm,0.2s							
ZHN	**Zhinishke**	**0.67**	**352**	eP	**Pg**	**05 25 04.3**	**-0.4**
11nm,0.1s							
ZHN				eS	**Sg**	**05 25 13.3**	**-0.1**
42nm,0.2s							
UZB	**Uzynbulak**	**0.72**	**28**	P	**Pg**	**05 25 04.8**	**-1.0**
1.3nm,0.1s							
UZB				S	**Sg**	**05 25 14.2**	**-1.1**
28nm,0.1s							
UZB	**Uzynbulak**	**0.72**	**28**	eP	**Pg**	**05 25 04.8**	**-1.0**
1.3nm,0.1s							
UZB				eS	**Sg**	**05 25 14.2**	**-1.1**
28nm,0.1s							
SHLS	**Shalkode**	**0.93**	**45**	P	**Pn**	**05 25 13.3**	**+2.1**
9.2nm,0.1s							
SHLS				S	**Sn**	**05 25 28.6**	**+3.8**
19nm,0.3s							
SHLS	**Shalkode**	**0.93**	**45**	eP	**Pn**	**05 25 13.3**	**+2.1**
9.2nm,0.1s							
SHLS				eS	**Sn**	**05 25 28.6**	**+3.8**
19nm,0.3s							
TARG	**Taragay, Kyrgy**	**0.96**	**216**	⇑iP	**Pg**	**05 25 08.6**	**-1.6**
TARG				⇑iS	**Sg**	**05 25 21.3**	**-1.4**
KPKS	**Kokpek**	**0.96**	**5**	P	**Pg**	**05 25 09.2**	**-1.1**
6.3nm,0.1s							
KPKS				S	**Sg**	**05 25 21.8**	**-1.0**
19nm,0.2s							
KPKS	**Kokpek**	**0.96**	**5**	eP	**Pg**	**05 25 09.2**	**-1.1**
6.3nm,0.1s							
KPKS				eS	**Sg**	**05 25 21.8**	**-1.0**
19nm,0.2s							
KURS	**Kuram**	**1.02**	**344**	P	**Pg**	**05 25 10.9**	**-0.5**
1.3nm,0.1s							
KURS				S	**Sb**	**05 25 25.0**	**-0.3**
2.4nm,0.2s							
KURS	**Kuram**	**1.02**	**344**	eP	**Pg**	**05 25 10.9**	**-0.5**
1.3nm,0.1s							
KURS				eS	**Sb**	**05 25 25.0**	**-0.3**
2.4nm,0.2s							
PDGK	**Podgornoye**	**1.07**	**39**	P	**Pg**	**05 25 10.4**	**-1.9**
0.9nm,0.1s							
PDGK				S	**Sg**	**05 25 24.2**	**-2.1**
7.9nm,0.2s							
PDGK	**Podgornoye**	**1.07**	**39**	⇑P	**Pg**	**05 25 10.4**	**-1.9**
0.5nm,0.3s							
PDGK				⇑S	**Sg**	**05 25 24.2**	**-2.1**
2.9nm,0.4s							
KDJ	**Kajisay**	**1.09**	**250**	⇑eP	**Pg**	**05 25 11.7**	**-1.0**
KDJ				⇑iS	**Sg**	**05 25 25.8**	**-1.0**
MDOK	**Medeo**	**1.29**	**301**	⇑P	**Pn**	**05 25 15.7**	**-0.5**
1.7nm,0.4s							
MDOK				Pg	**Pn**	**05 25 15.9**	**-0.3**
1.9nm,0.2s							
MDOK				Lg	Lg	05 25 33.2	
6.2nm,0.2s							
MDOK				⇓S	**Sn**	**05 25 33.6**	**-0.1**
7.7nm,0.6s							
MDOK	**Medeo**	**1.29**	**301**	eP	**Pn**	**05 25 15.9**	**-0.3**
1.9nm,0.2s							
MDOK				eS	**Sn**	**05 25 33.2**	**-0.5**
6.2nm,0.2s							
TNSS	**Tian-Shan**	**1.30**	**295**	P	**Pn**	**05 25 16.0**	**-0.6**
5.8nm,0.2s							
TNSS				S	**Sn**	**05 25 33.7**	**-0.6**
5.9nm,0.1s							
TNSS	**Tian-Shan**	**1.30**	**295**	eP	**Pn**	**05 25 16.0**	**-0.6**
5.8nm,0.2s							
TNSS				eS	**Sn**	**05 25 33.7**	**-0.6**
5.9nm,0.1s							
ULHL	**Ulahol**	**1.74**	**262**	⇑iP	**Pb**	**05 25 23.5**	**-0.5**
ULHL				⇑eS	**Sb**	**05 25 46.7**	**+0.7**
CHKK	**Chushkaly**	**1.77**	**320**	P	**Pb**	**05 25 24.6**	**+0.1**
14nm,0.1s							
CHKK				S	**Sg**	**05 25 48.2**	**-0.4**
10nm,0.2s							
CHKK	**Chushkaly**	**1.77**	**320**	eP	**Pb**	**05 25 24.6**	**+0.1**
14nm,0.1s							
CHKK				eS	**Sg**	**05 25 48.2**	**-0.4**
10nm,0.2s							
ARXS	**Arharly**	**1.79**	**343**	P	**Pb**	**05 25 24.3**	**-0.4**
5.5nm,0.2s							
ARXS				S	**Sg**	**05 25 48.4**	**-0.8**
12nm,0.2s							
ARXS	**Arharly**	**1.79**	**343**	eP	**Pb**	**05 25 24.3**	**-0.4**
5.5nm,0.2s							
ARXS				eS	**Sg**	**05 25 48.4**	**-0.8**
12nm,0.2s							
KTBS	**Karatobe**	**1.83**	**312**	P	**Pb**	**05 25 25.8**	**+0.3**
6.2nm,0.2s							
KTBS				S	**Sg**	**05 25 50.1**	**-0.4**
12nm,0.2s							
KTBS	**Karatobe**	**1.83**	**312**	eP	**Pb**	**05 25 25.8**	**+0.3**
6.2nm,0.2s							
KTBS				eS	**Sg**	**05 25 50.1**	**-0.4**
12nm,0.2s							
BOOM	**Boomskoye usch**	**1.94**	**270**	⇑iP	**Pb**	**05 25 26.6**	**-0.8**
BOOM				⇑iS	**Sb**	**05 25 52.3**	**+0.6**
KST	**Kastek**	**1.98**	**287**	Pg	**Pb**	**05 25 28.7**	**+0.5**
3.6nm,0.3s							
KST				Lg	Lg	05 25 55.1	
10nm,0.5s							
KST	**Kastek**	**1.98**	**287**	eP	**Pb**	**05 25 28.7**	**+0.5**
3.6nm,0.3s							
KST				eS	**Sg**	**05 25 55.1**	**-0.4**
10nm,0.5s							
DJR	**Jarkent**	**2.03**	**26**	Pg	**Pb**	**05 25 28.2**	**-0.8**
3.0nm,0.2s							
DJR				Lg	Lg	05 25 54.5	
22nm,0.3s							
DJR	**Jarkent**	**2.03**	**26**	eP	**Pb**	**05 25 28.2**	**-0.8**
3.0nm,0.2s							
DJR				eS	**Sb**	**05 25 54.5**	**0.0**
22nm,0.3s							
NRN	**Naryn**	**2.19**	**242**	⇑iP	**Pn**	**05 25 30.1**	**+1.4**
NRN				⇑iS	**Sb**	**05 25 58.3**	**-0.8**
TKM2	**Tokmak 2**	**2.22**	**282**	⇑Pn	**Pb**	**05 25 32.5**	**+0.3**
0.6nm,0.5s							
TKM2				⇑Sn	**Sg**	**05 26 02.7**	**-0.4**
3.2nm,0.5s							
TKM2	**Tokmak 2**	**2.22**	**282**	⇓iP	**Pb**	**05 25 31.2**	**-1.1**
TKM2				⇓eS	**Sb**	**05 25 59.8**	**-0.2**
KRBS	**Karabastau**	**2.42**	**300**	Pg	**Pb**	**05 25 35.7**	**+0.1**
1.8nm,0.3s							
KRBS				Lg	Lg	05 26 07.1	
12nm,0.3s							
KRBS	**Karabastau**	**2.42**	**300**	eP	**Pb**	**05 25 35.7**	**+0.1**
1.8nm,0.3s							
KRBS				eS	**Sb**	**05 26 07.1**	**+1.5**
12nm,0.3s							
ARLS	**Aral**	**3.21**	**260**	⇓iP	**Pn**	**05 25 44.1**	**+1.5**
ARLS				⇓iS	**Sn**	**05 26 22.3**	**+1.2**

*GII **04** 05:27:24.0±0.3, 33°.95N±0°.04×28°.89E±0°.01, h16km, Mws2.8, confirmed*
*ISK **04** 05:27:27.3, 33°.89N×28°.57E, h86km, ML3.2/18*
*AFAD **04** 05:27:35.0±0.0, 34°.84N×28°.45E, h5km±12km, ML2.2*
ISC 04 05:27:21.1±1.5**, 33°.94N**±0°.05×**28°.58E**±0°.04**, h28**km±18km**,**
n50, σ2§**09/58, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.99**	**324**	Pn	Pb	05 28 00.9	+4.3
KARP				Sn	**Sb**	**05 28 25.7**	**+4.8**
ZKR	**Zakros**	**2.27**	**302**	Pn	**Pb**	**05 28 04.5**	**+3.0**
ZKR				Sn	**Sb**	**05 28 32.0**	**+2.8**
AKAS	**Kas**	**2.44**	**20**	P	**Pb**	**05 28 06.5**	**+2.1**
AKAS				S	**Sb**	**05 28 31.8**	**-2.3**
AKAS				i AML	AML	05 28 37.0	
comp=N,35nm,0.8s							
AKAS				i AML	AML	05 28 37.0	
comp=E,32nm,0.2s							
AKAS	**Kas**	**2.44**	**20**	Pn	**Pb**	**05 28 07.2**	**+2.8**
IZZE	**Mula-Seydike**	**2.55**	**12**	P	**Pb**	**05 28 07.9**	**+1.8**
IZZE				S	**Sn**	**05 28 29.4**	**-1.4**
IZZE				i AML	AML	05 28 39.0	
comp=E,17nm,0.3s							
FETY	**Fethiye**	**2.73**	**9**	Pn	**Pb**	**05 28 10.4**	**+1.2**
AKUM	**Antalya-Kumluc**	**2.79**	**31**	P	**Pb**	**05 28 10.2**	**0.0**
TURN	**Turunc**	**2.85**	**355**	P	**Pb**	**05 28 12.5**	**+1.3**
TURN	**Turunc**	**2.85**	**355**	Pn	**Pb**	**05 28 12.9**	**+1.7**
TURN				Sn	**Sb**	**05 28 45.7**	**+0.1**
DALY	**Dalyan (Mula)**	**2.88**	**1**	Pn	**Pb**	**05 28 13.2**	**+1.5**
YAZI	**Mula-Dat§a-**	**2.89**	**342**	P	**Pb**	**05 28 14.4**	**+2.5**
YAZI				S	**Sn**	**05 28 40.8**	**+1.7**
SABU	**Mula-Dalaman**	**2.90**	**6**	P	**Pb**	**05 28 13.0**	**+0.9**
ELL	**Elmali**	**3.01**	**21**	Pn	**Pb**	**05 28 15.1**	**+1.0**
KNIK	**Mula-Seydike**	**3.02**	**15**	P	**Pb**	**05 28 14.6**	**+0.4**
KNIK				S	**Sb**	**05 28 47.3**	**-3.3**
CAME	**Cameli-Denizli**	**3.06**	**11**	Pn	**Pb**	**05 28 15.6**	**+0.7**
YER	**Yerkesik**	**3.20**	**356**	Pn	**Pb**	**05 28 17.8**	**+0.5**
BODT	**Bodrum**	**3.29**	**342**	Pn	**Pb**	**05 28 18.9**	**+0.2**
IDI	**Anoyia**	**3.33**	**295**	Pn	**Pb**	**05 28 18.9**	**-0.5**
DNZT	**Denizli-Tavas-**	**3.36**	**6**	P	**Pb**	**05 28 20.5**	**+0.6**
KORT	**Korkueli**	**3.38**	**25**	Pn	**Pb**	**05 28 20.2**	**-0.2**
TAVA	**DENIZLI_Tavas**	**3.53**	**4**	P	**Pb**	**05 28 21.8**	**-1.2**
TAVA				S	**Sb**	**05 29 01.0**	**-4.5**
TAVA				i AML	AML	05 29 03.0	
comp=E,16nm,0.4s							
APMY	**Acipayam-Deniz**	**3.58**	**9**	Pn	**Pb**	**05 28 22.9**	**-0.8**
DNIZ	**Denizli-Tavas-**	**3.70**	**6**	P	**Pb**	**05 28 23.9**	**-1.9**
DNIZ				S	**Sn**	**05 29 03.3**	**+4.0**
DNIZ				i AML	AML	05 29 06.0	
comp=N,43nm,0.3s							
DNIZ				i AML	AML	05 29 08.0	
comp=E,55nm,0.2s							
GVD	**Gavdhos**	**3.82**	**285**	Pn	**Pb**	**05 28 25.3**	**-2.5**
ESEN	**Aydn-Nazilli**	**3.86**	**357**	P	**Pb**	**05 28 26.7**	**-1.7**
APE	**Apeiranthos**	**3.99**	**322**	P	**Pb**	**05 28 26.9**	**-3.8**
AYDB	**Zeytinkoy-Aydi**	**4.04**	**352**	Pn	**Pb**	**05 28 28.8**	**-2.8**
CSS	**Mathiatis**	**4.06**	**74**	P	**Pn**	**05 28 21.8**	**+0.5**
CSS	**Mathiatis**	**4.06**	**74**	S	**Sn**	**05 29 06.6**	**-1.4**
IMMV	**Iera Moni Meta**	**4.08**	**293**	Pn	**Pb**	**05 28 28.8**	**-3.4**
RODP	**Rodopos**	**4.29**	**294**	Pn	**Pb**	**05 28 31.9**	**-3.8**
KULA	**Kula-Manisa**	**4.57**	**1**	Pn	**Pb**	**05 28 36.3**	**-4.3**
KZIT	**Kziot**	**5.77**	**120**	S	**Sn**	**05 29 49.9**	**-0.4**
KZIT	**Kziot**	**5.77**	**120**	P	**Pn**	**05 28 46.0**	**+1.1**
HMDT	**Nahal Hemdat**	**6.07**	**104**	P	**Pn**	**05 28 50.6**	**+1.6**
HMDT	**Nahal Hemdat**	**6.07**	**104**	S	**Sn**	**05 29 56.8**	**-0.7**
YTIR	**Yattir**	**6.08**	**113**	S	**Sn**	**05 29 57.4**	**-0.6**
YTIR	**Yattir**	**6.08**	**113**	P	**Pn**	**05 28 49.9**	**+0.6**
DSI	**Dead Sea**	**6.20**	**111**	P	**Pn**	**05 28 51.3**	**+0.6**
DSI	**Dead Sea**	**6.20**	**111**	S	**Sn**	**05 29 60.0**	**-0.8**
MSBI	**Mazada**	**6.29**	**113**	P	**Pn**	**05 28 53.9**	**+1.9**
MSBI	**Mazada**	**6.29**	**113**	S	**Sn**	**05 30 01.8**	**-1.1**
KRMI	**Paran Flat**	**6.46**	**124**	S	**Sn**	**05 30 07.0**	**-0.2**
KRMI	**Paran Flat**	**6.46**	**124**	P	**Pn**	**05 28 55.9**	**+1.5**
PRNI	**Paran**	**6.52**	**121**	S	**Sn**	**05 30 08.8**	**+0.2**
PRNI	**Paran**	**6.52**	**121**	P	**Pn**	**05 28 57.1**	**+1.9**
ZFRI	**Zfri**	**6.53**	**119**	S	**Sn**	**05 30 08.5**	**-0.4**
ZFRI	**Zfri**	**6.53**	**119**	P	**Pn**	**05 28 57.0**	**+1.7**
MBRI	**Mt Berech**	**6.79**	**126**	P	**Pn**	**05 29 00.2**	**+1.3**
MBRI	**Mt Berech**	**6.79**	**126**	S	**Sn**	**05 30 15.6**	**+0.2**

*KRNET **04** 05:41:49.4±0.1, 39°.04N×75°.35E, mb3.2*
*SOME **04** 05:41:52.4, 39°.78N×74°.82E, h0km*
*NNC **04** 05:41:54.3±0.6, 39°.81N×74°.84E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=4.0km s-min=2.8km az=173.0*
ISC 04 05:41:46.5±2.9**, 39°.0N**±0°.1×**75°.39E**±0°.07**, h10**km**, n20,**
σ2§63/33, 6C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**2.49**	**11**	⇓iP	**Pn**	**05 42 27.9**	**+0.5**
NRN				⇓iS	**Sn**	**05 42 56.1**	**-1.9**
ARSB	**Arslanbob**	**2.98**	**323**	⇑eP	**Pn**	**05 42 34.8**	**+0.9**
ARSB				⇑eS	**Sn**	**05 43 07.9**	**-1.9**
ARLS	**Aral**	**2.99**	**345**	⇓iP	**Pn**	**05 42 34.8**	**+0.7**
ARLS				⇓iS	**Sn**	**05 43 07.6**	**-2.4**
TARG	**Taragay, Kyrgy**	**3.31**	**33**	⇓iP	**Pn**	**05 42 39.3**	**+0.6**
TARG				⇓iS	**Sn**	**05 43 16.2**	**-2.1**
ULHL	**Ulahol**	**3.32**	**11**	⇑iP	**Pn**	**05 42 39.4**	**+0.7**
ULHL				⇑iS	**Sn**	**05 43 16.6**	**-1.8**
AML	**Almayashu**	**3.40**	**338**	⇓eP	**Pn**	**05 42 40.8**	**+0.9**
AML				⇓iS	**Sn**	**05 43 18.1**	**-2.4**
KDJ	**Kajisay**	**3.43**	**23**	⇓eP	**Pn**	**05 42 41.4**	**+1.3**
KDJ				⇓eS	**Sn**	**05 43 19.3**	**-1.6**
BOOM	**Boomskoye usch**	**3.53**	**7**	⇑iP	**Pn**	**05 42 42.8**	**+1.3**
BOOM				⇑iS	**Sn**	**05 43 21.6**	**-1.8**
KBK	**Karagaybulak**	**3.69**	**355**	⇓iP	**Pn**	**05 42 44.5**	**+0.8**
KBK				⇓iS	**Sn**	**05 43 25.3**	**-2.0**
KST	**Kastek**	**4.08**	**6**	Pg	Pn	05 42 55.1	+6.1
4.8nm,0.5s							
KST				Lg	Lg	05 43 40.2	
16nm,0.7s							
KST	**Kastek**	**4.08**	**6**	eP	Pn	05 42 55.1	+6.1
4.8nm,0.5s							
KST				eS	**Sn**	**05 43 40.2**	**+3.3**
16nm,0.7s							
MRKS	**Merke**	**4.10**	**337**	Pg	**Pn**	**05 42 52.4**	**+3.1**
1.0nm,0.2s							
MRKS				Lg	Lg	05 43 35.3	
5.1nm,0.7s							
MRKS	**Merke**	**4.10**	**337**	eP	**Pn**	**05 42 52.4**	**+3.1**
1.0nm,0.2s							
MRKS				eS	**Sn**	**05 43 35.3**	**-2.1**
5.1nm,0.7s							
MTBS	**Maitube**	**4.22**	**10**	eP	**Pb**	**05 42 59.2**	**-1.6**
1.1nm,0.1s							
MTBS				eS	**Sn**	**05 43 47.2**	**+7.0**
8.0nm,0.4s							
TNSS	**Tian-Shan**	**4.22**	**16**	Pg	**Pb**	**05 42 59.9**	**-1.1**
3.4nm,0.5s							
TNSS				Lg	Lg	05 43 48.8	
4.0nm,0.5s							
TNSS	**Tian-Shan**	**4.22**	**16**	eP	**Pb**	**05 42 59.9**	**-1.1**
3.4nm,0.5s							
TNSS				eS	**Sb**	**05 43 48.9**	**-3.3**
4.0nm,0.5s							
MDOK	**Medeo**	**4.36**	**16**	Pg	**Pb**	**05 43 02.6**	**-0.7**
4.4nm,0.7s							
MDOK				Lg	Lg	05 43 53.4	
7.7nm,0.9s							
MDOK	**Medeo**	**4.36**	**16**	eP	**Pb**	**05 43 02.6**	**-0.7**
4.4nm,0.7s							
MDOK				eS	**Sb**	**05 43 53.4**	**-2.6**
7.7nm,0.9s							
KRBS	**Karabastau**	**4.71**	**3**	eP	Pb	05 43 06.5	-2.8
2.7nm,0.2s							
KRBS				eS	**Sn**	**05 43 59.8**	**+7.4**
4.0nm,0.6s							
CHKK	**Chushkaly**	**5.01**	**13**	eP	**Pb**	**05 43 14.0**	**-0.3**
1.6nm,0.1s							
C

S11A	**Rachel**	**2.60 296**		Pn	05 59 40.8	+0.6
Y14A	**Wickenburg**	**2.61 184**		Pn	05 59 40.4	+0.3
Y14A			IAML		06 00 21.5	
	comp=N,24nm,0.6s					
Y14A			IAML		06 00 27.3	
	comp=E,19nm,0.8s					
SPR3	**Spring Creek 3**	**2.73 334**		Pn	05 59 42.2	+0.1
TPNV	**Topopah Spring**	**2.80 279**		Pn	05 59 44.3	+1.4
TPNV			IAML		06 00 26.6	
	comp=E,24nm,0.4s					
TPNV			IAML		06 00 33.6	
	comp=E,19nm,0.5s					
BLYC	**Blythe**	**3.13 207**		Pn	05 59 47.4	+0.2
BLYC			IAML		06 00 38.5	
	comp=E,11nm,1.2s					
BLYC			IAML		06 00 40.4	
	comp=N,12nm,0.5s					
JLU	**Jordanelle**	**4.18 14**	Pn	Pn	06 00 02.3	+0.3
JLU			IAML		06 01 12.8	
	comp=N,8.0nm,4.0s					
JLU			IAML		06 02 04.0	
	comp=E,6.6nm,4.2s					
PFO	**Pinyon Flats O**	**4.19 227**	Pn	Pn	06 00 02.0	0.0
PFO			IAML		06 01 17.5	
	comp=E,5.9nm,3.9s					
PFO			IAML		06 01 21.1	
	comp=E,5.1nm,4.5s					
DSP	**Deep Springs**	**4.22 283**	Pn	Pn	06 00 04.1	+1.9
DSP			IAML		06 01 19.3	
	comp=N,5.3nm,4.4s					
NV11	**Mina Array Sit**	**4.66 295**	Pn	Pn	06 00 09.4	+1.1
NV11			IAML		06 00 48.0	
	comp=N,5.8nm,4.9s					
NVAR	**Mina Array Bea**	**4.76 295**	Pn	Pn	06 00 11.6	+1.7

*CATAC **04** 06:00:23.9±0.4, 14°.58N×92°.23W, h70km±6km, mb3.5, ML4.0*
*MEX **04** 06:00:24.2±0.7, 14°.63N×92°.10W, h100km±3km, MD4.3*
*SNET **04** 06:00:25.1±0.9, 14°.73N×91°.98W, h90km±11km, ML3.9*
*GCG **04** 06:00:28.6±0.3, 14°.76N×91°.83W, h64km±13km, MD4.1*

ISC 04 06:00:23.1±1.3, 14°.62N±0°.05×92°.17W±0°.03, h99km±9km, n67, σ2s11/113, 1C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.30**	**343**	*i* P	**Pn**	**06 00 37.5**	**-0.1**
THIG				*i* S	**Sn**	**06 00 48.3**	**0.0**
RTAL	**Retalhuleu**	**0.47**	**102**	*e*P	**Pn**	**06 00 38.0**	**-0.7**
RTAL				*e*S	**Sn**	**06 00 49.2**	**-1.0**
RTAL	**Retalhuleu**	**0.47**	**102**	*i* P	**Pn**	**06 00 37.9**	**-0.7**
RTAL				*i* S	**Sn**	**06 00 48.9**	**-1.3**
RTAL				IAML		06 00 51.7	
	comp=Z,6μm,1.0s						
PAVE	**Pavencul**	**0.57**	**360**	*i* P	**Pn**	**06 00 39.0**	**-0.6**
PAVE				*i* S	**Sn**	**06 00 51.0**	**-0.9**
STG3	**Santiaguito 3,**	**0.59**	**81**	*i* P	**Pn**	**06 00 39.5**	**-0.2**
SULM	**Suchitepequez,**	**0.67**	**118**	*i* P	**Pn**	**06 00 41.0**	**+0.9**
SOKI	**Kika Raxquin**	**0.77**	**75**	*i* P	**Pn**	**06 00 41.4**	**-0.1**
SOKI				IAML		06 00 42.7	
	comp=Z,2μm,1.0s						
SOKI				*i* S	**Sn**	**06 00 56.0**	**+0.7**
HUEH	**Huehuetenango**	**0.95**	**43**	⇓*i*P	**Pn**	**06 00 42.8**	**-0.4**
HUEH				IAML		06 00 43.3	
	comp=Z,4μm,0.2s						
HUEH				*e*S	**Sn**	**06 00 56.9**	**-1.3**
HUEH	**Huehuetenango**	**0.95**	**43**	*i* P	**Pn**	**06 00 42.8**	**-0.4**
HUEH				*i* S	**Sn**	**06 00 56.6**	**-1.7**
HUEH	**Huehuetenango**	**0.95**	**43**	*i* P	**Pn**	**06 00 42.7**	**-0.4**
HUEH				IAML		06 00 43.0	
	comp=Z,11μm,1.0s						
HUEH				*i* S	**Sn**	**06 00 56.7**	**-1.5**
QUIS	**Sacapulas**	**1.24**	**57**	*i* P	**Pn**	**06 00 46.1**	**-0.2**
QUIS				IAML		06 00 46.5	
	comp=Z,7μm,1.0s						
QUIS				*i* S	**Sn**	**06 01 03.3**	**-0.5**
FUG	**Fuego 3**	**1.30**	**97**	*i* P	**Pn**	**06 00 47.5**	**+0.5**
ESSG	**Sabana Grande**	**1.32**	**100**	*i* P	**Pn**	**06 00 46.7**	**-0.5**
ESSG				*i* S	**Sn**	**06 01 04.5**	**-0.9**
ESSG				IAML		06 01 11.0	
	comp=Z,2μm,1.0s						
PCIG		**1.48**	**317**	*i* P	**Pn**	**06 00 50.0**	**+0.9**
PCIG				*e*S	**Sn**	**06 01 09.6**	**+0.9**
PCG	**Pacaya**	**1.53**	**98**	*i* P	**Pn**	**06 00 50.7**	**+0.7**
PCG				*i* S	**Sn**	**06 01 10.1**	**-0.2**
CCIG	**Comitan**	**1.65**	**1**	*e*P	**Pn**	**06 00 52.3**	**+0.8**
CCIG				*e*S	**Sn**	**06 01 12.8**	**-0.1**
CCIG	**Comitan**	**1.65**	**1**	*i* P	**Pn**	**06 00 52.1**	**+0.7**
CCIG				*i* S	**Sn**	**06 01 13.6**	**+0.7**
CCIG				IAML		06 01 15.7	
	comp=Z,760nm,1.0s						
NBG	**Las Nubes**	**1.77**	**91**	*i* P	**Pn**	**06 00 53.7**	**+0.8**
AVCB	**Coban**	**1.91**	**63**	*i* P	**Pn**	**06 00 55.4**	**+0.8**
AVCB				*i* S	**Sn**	**06 01 18.5**	**0.0**
AVCB				IAML		06 01 37.7	
	comp=Z,2μm,1.0s						
FAME	**Alcaldia de Sa**	**2.23**	**110**	*i* S	**Sn**	**06 01 26.0**	**+0.1**
CARR	**Arriaga**	**2.33**	**314**	*e*P	**Pn**	**06 01 01.3**	**+1.4**
CARR				*e*S	**Sn**	**06 01 30.1**	**+1.9**
TGIG		**2.33**	**337**	*e*P	**Pn**	**06 00 59.0**	**-1.0**
TGIG				*e*S	**Sn**	**06 01 28.1**	**-0.3**
NUBE	**Las Nubes**	**2.43**	**107**	*e*P	**Pn**	**06 01 01.4**	**0.0**
NUBE	**Las Nubes**	**2.43**	**107**	*i* P	**Pn**	**06 01 01.4**	**0.0**
NUBE				*i* S	**Sn**	**06 01 31.6**	**+0.9**
NUBE				IAML		06 01 37.0	
	comp=Z,310nm,1.0s						
MRL	**Marmol**	**2.45**	**79**	*i* P	**Pn**	**06 01 02.4**	**+0.7**
SBLS	**San Blas**	**2.59**	**107**	*e*P	**Pn**	**06 01 05.1**	**+1.5**
CEVE	**Cerro Verde**	**2.59**	**107**	*e*P	**Pn**	**06 01 05.0**	**+1.4**
CEVE				IAML		06 01 43.7	
	comp=Z,586nm,0.4s						
CEVE	**Cerro Verde**	**2.59**	**107**	*i* P	**Pn**	**06 01 05.6**	**+1.9**
CEVE				*i* S	**Sn**	**06 01 36.8**	**+2.0**
CEVE				IAML		06 01 39.3	
	comp=Z,620nm,1.0s						
MTO3	**Montecristo**	**2.73**	**94**	*e*P	**Pn**	**06 01 05.3**	**-0.2**
ESQI	**Esquipulas**	**2.74**	**91**	*e*P	**Pn**	**06 01 05.6**	**+0.1**
JAYA	**Jayaque - finc**	**2.81**	**110**	*e*P	**Pn**	**06 01 06.5**	**0.0**
JAYA				IAML		06 01 42.6	
	comp=Z,360nm,0.2s						
JAYA	**Jayaque - finc**	**2.81**	**110**	*i* P	**Pn**	**06 01 06.5**	**0.0**
JAYA				*i* S	**Sn**	**06 01 40.4**	**+0.6**
JAYA				IAML		06 01 43.0	
	comp=Z,1μm,1.0s						
PMON	**Piamonte**	**2.92**	**108**	*e*P	**Pn**	**06 01 08.0**	**+0.2**
PMON	**Piamonte**	**2.92**	**108**	*i* P	**Pn**	**06 01 08.0**	**+0.2**
PMON				*i* S	**Sn**	**06 01 44.7**	**+2.4**
PMON				IAML		06 01 55.0	
	comp=Z,480nm,1.0s						
PETF	**Flores**	**3.18**	**44**	⇑*e*P	**Pn**	**06 01 11.0**	**-0.3**
PETF	**Flores**	**3.18**	**44**	*e*P	**Pn**	**06 01 10.8**	**-0.5**
PETF				*i* S	**Sn**	**06 01 45.2**	**-3.3**
PAVA	**Las Pavas**	**3.27**	**106**	*e*P	**Pn**	**06 01 13.0**	**+0.5**
PAVA	**Las Pavas**	**3.27**	**106**	*i* P	**Pn**	**06 01 13.1**	**+0.6**
PAVA				IAML		06 02 20.9	
	comp=Z,150nm,1.0s						
UXUV	**UXUV**	**3.29**	**325**	*e*P	**Pn**	**06 01 13.3**	**+0.6**
UXUV				*i* S	**Sn**	**06 01 53.9**	**+3.0**
CMIG	**Matias Romero**	**3.58**	**314**	*e*P	**Pn**	**06 01 17.4**	**+0.7**
CMIG				*i* S	**Sn**	**06 01 59.0**	**+0.8**
HUIG	**Huatulco**	**3.97**	**287**	*e*P	**Pn**	**06 01 21.6**	**-0.3**
HUIG				*i* S	**Sn**	**06 02 03.1**	**-4.3**
SCIG	**Sabancuy**	**4.42**	**12**	*e*P	**Pn**	**06 01 27.7**	**-0.4**
SCIG				*i* S	**Sn**	**06 02 15.5**	**-2.9**
NEUV	**Arroyo Zacate**	**4.65**	**312**	*e*P	**Pn**	**06 01 31.6**	**+0.6**
NEUV				*e*S	**Sn**	**06 02 23.4**	**-0.5**
TGUH	**Tegucigalpa,Un**	**4.78**	**96**	*i* P	**Pn**	**06 01 33.0**	**0.0**
TGUH				*i* S	**Sn**	**06 02 29.9**	**+2.5**
TGUH				IAML		06 03 05.5	
	comp=Z,34nm,1.0s						
PEIG	**Puerto Escondi**	**4.99**	**287**	*i* P	**Pn**	**06 01 36.2**	**+0.5**
PEIG				*e*S	**Sn**	**06 02 27.5**	**-4.8**
VHO	**Vista Hermosa**	**5.02**	**300**	*e*P	**Pn**	**06 01 36.8**	**+0.5**
VHO				*e*S	**Sn**	**06 02 32.2**	**-1.0**
YOIG	**Yosondua**	**5.63**	**294**	*e*P	**Pn**	**06 01 46.9**	**+2.3**
YOIG				*i* S	**Sn**	**06 02 48.0**	**-0.2**
TOIG	**Toxpalan**	**5.83**	**307**	*e*P	**Pn**	**06 01 47.6**	**+0.4**
TOIG				*e*S	**Sn**	**06 02 53.5**	**+0.7**
TXIG	**Tlaxiaco**	**5.99**	**297**	*e*P	**Pn**	**06 01 51.8**	**+2.3**
TXIG				*e*S	**Sn**	**06 02 53.8**	**-3.0**
PNIG	**Pinotepa**	**6.00**	**288**	*e*P	**Pn**	**06 01 50.6**	**+1.1**
PNIG				*e*S	**Sn**	**06 02 50.9**	**-6.0**
HLIG	**Huajuapan de L**	**6.28**	**301**	*e*P	**Pn**	**06 01 56.2**	**+2.7**
HLIG				*e*S	**Sn**	**06 02 59.9**	**-4.0**
JAUV	**Jalcomulco**	**6.47**	**317**	*e*P	**Pn**	**06 01 54.1**	**-1.8**
FTIG	**Fresnillo de T**	**6.59**	**301**	*e*P	**Pn**	**06 02 00.8**	**+3.2**
FTIG				*e*S	**Sn**	**06 03 08.5**	**-2.9**
MGIG	**Malinaltepec**	**6.74**	**294**	*e*P	**Pn**	**06 02 02.2**	**+2.6**
MGIG				*e*S	**Sn**	**06 03 12.1**	**-2.9**
TLIG	**Tlapa**	**6.81**	**296**	*e*P	**Pn**	**06 02 03.3**	**+2.8**
TLIG				*e*S	**Sn**	**06 03 16.3**	**-0.3**
TLIG	**Tlapa**	**6.81**	**296**	*i* P	**Pn**	**06 02 00.5**	**0.0**
TLIG				IAmb	IAmb	06 02 24.2	
	comp=Z,7.0nm,1.5s						
TLIG				*i* S	**Sn**	**06 03 17.3**	**+0.7**
TLIG				IAML		06 03 47.5	
	comp=Z,36nm,1.0s						
CRIG	**Cruz Grande**	**7.03**	**288**	*e*P	**Pn**	**06 02 04.9**	**+1.6**
CRIG				*e*S	**Sn**	**06 03 16.2**	**-5.5**
PBCV	**Popocatepetl**	**7.50**	**306**	*e*P	**Pn**	**06 02 14.1**	**+3.9**
PBCV				*i* S	**Sn**	**06 03 39.5**	**+5.8**
CXUV	**Coxquihui**	**7.56**	**318**	*e*P	**Pn**	**06 02 10.4**	**-0.3**
DAIG	**Los Arroyos**	**7.58**	**289**	*i* P	**Pn**	**06 02 13.1**	**+2.1**
DAIG				*e*S	**Sn**	**06 03 32.6**	**-2.8**
PBPN	**Popocatepetl**	**7.58**	**306**	*e*P	**Pn**	**06 02 12.9**	**+1.4**
PBPN				*e*S	**Sn**	**06 03 32.2**	**-3.9**
PBXN	**Popocatepetl**	**7.59**	**306**	*e*	Pn	06 02 02.7	-8.8
PBXN				*e*P	**Pn**	**06 02 15.6**	**+4.1**
PBXN				*e*		06 03 20.4	
PBXN				*e*S	**Sn**	**06 03 31.7**	**-4.5**
PPM	**Popocatepetl**	**7.60**	**306**	*e*P	**Pn**	**06 02 16.2**	**+4.6**
PPM				*e*S	**Sn**	**06 03 32.9**	**-3.5**
YAIG	**Yautepec**	**7.84**	**304**	*e*P	**Pn**	**06 02 18.1**	**+3.6**
MEIG	**Mezcala**	**7.87**	**296**	*e*P	**Pn**	**06 02 17.9**	**+3.0**
MEIG				*e*S	**Sn**	**06 03 39.6**	**-2.9**
PLIG	**Platanillo**	**7.97**	**299**	*e*P	**Pn**	**06 02 19.9**	**+3.6**
CAIG	**El Cayaco**	**8.16**	**288**	*i* P	**Pn**	**06 02 20.9**	**+2.2**

NEIC 04 06:20:26.7±0.6, 31°.74N±0°.02×104°.57W±0°.02, h5km±1km, mb_Lg2.6/30, ML2.6/18, Error ellipse: s-maj=4.2km s-min=3.2km az=344.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.71**	**121**		Pg	06 20 40.4	+0.1
PECS				IAML		06 20 49.8	
	238nm,0.3s						
PECS				IAML		06 20 50.3	
	242nm,0.3s						
VHRN	**Van Horn**	**1.01**	**200**	Pg	Pg	06 20 46.1	-0.1
VHRN				Sg	Sg	06 20 59.3	-0.1
ALPN	**Alpine**	**1.58**	**149**	Pg	Pn	06 20 55.1	-0.4
MNHN	**Monahans**	**1.60**	**104**		Pn	06 20 56.0	+0.3
EPT	**El Paso**	**1.65**	**272**		Pn	06 20 56.3	-0.1
EPT				IAML		06 21 23.1	
	comp=E,93nm,0.4s						
EPT				IAML		06 21 23.3	
	comp=N,84nm,0.4s						
ODSA	**Odessa**	**1.76**	**77**		Pn	06 20 58.1	+0.1
TX31	**Lajitas Ar. Si**	**2.52**	**162**		Pn	06 21 09.8	+1.3
TXAR	**Lajitas Array**	**2.52**	**162**		Pn	06 21 09.8	+1.4
MSTX	**Muleshoe**	**2.69**	**34**	Pn	Pn	06 21 13.0	+2.2
SAND	**Sanderson**	**2.76**	**130**	IAmb_Lg		06 21 54.1	
	comp=Z,23nm,0.7s						
121A	**Cookes Peak, D**	**2.84**	**287**		Pn	06 21 14.8	+1.9
121A				IAmb_Lg		06 22 04.5	
	comp=Z,19nm,1.1s						
121A				IAML		06 22 04.9	
	comp=E,22nm,0.4s						
121A				IAML		06 22 09.4	
	comp=N,22nm,0.5s						
POST	**Post**	**2.92**	**62**		Pn	06 21 15.3	+1.5
POST				IAmb_Lg		06 22 07.0	
	comp=Z,14nm,0.9s						
SGCY	**Sterling City**	**2.94**	**86**	Pn	Pn	06 21 14.0	-0.2
OZNA	**Ozona**	**3.06**	**105**	Pn	Pn	06 21 16.1	+0.3
SN05	**Snyder 5**	**3.32**	**69**	Pn	Pn	06 21 21.2	+1.8
SN05				IAmb_Lg		06 22 17.3	
	comp=Z,17nm,0.7s						
ANMO	**Albuquerque**	**3.56**	**334**	IAmb_Lg		06 22 18.7	
	comp=Z,10nm,0.8s						
DKNS	**Dickens**	**3.63**	**57**	Pn	Pn	06 21 25.1	+1.5
AMTX	**Amarillo**	**3.96**	**37**		Pn	06 21 30.0	+1.8
APMT	**Aspermont**	**4.08**	**66**	Pn	Pn	06 21 31.2	+1.5
APMT				IAmb_Lg		06 22 40.8	
	comp=Z,16nm,1.0s						
DRIO	**Del Rio**	**4.12**	**123**	IAmb_Lg		06 22 39.3	
	comp=Z,18nm,0.8s						
JCT	**Junction City**	**4.28**	**106**	IAmb_Lg		06 22 51.4	
	comp=Z,11nm,0.8s						
BRDY	**Brady**	**4.78**	**94**	IAmb_Lg		06 23 04.6	
	comp=Z,8.1nm,0.8s						
HNDO	**Hondo**	**5.07**	**114**	Pn	Pn	06 21 42.7	-0.7
HNDO				IAmb_Lg		06 23 09.1	
	comp=Z,14nm,1.0s						
T25A	**Trinidad**	**5.39**	**1**	IAmb_Lg		06 23 22.8	
	comp=Z,9.8nm,0.8s						
WMOK	**Wichita Mounta**	**5.70**	**57**	IAmb_Lg		06 23 39.2	
	comp=Z,6.1nm,0.8s						
435B	**Jarrell**	**6.06**	**97**	IAmb_Lg		06 23 43.6	
	comp=Z,8.6nm,0.8s						

IDC 04 06:22:24.4±2.3, 6°.77S×129°.82E, h0km, mb3.6/1, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=89.5km s-min=29.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.97**	**200**	Pn	Pn	06 25 17.6	+1.0
	0.9nm,0.3s,baz=26,slow=9.8,SNR=18						
FITZ				Sn	Sn	06 27 19.6	-11
	0.5nm,0.3s,baz=144,slow=21,SNR=8.0						
	2.1nm,0.3s						
WRA	**Warramunga Arr**	**13.81**	**162**	Pn	Pn	06 25 41.6	-0.1
	0.3nm,0.3s,baz=343,slow=13,SNR=14						
WRA				Sn	Sn	06 28 01.2	-15
	0.6nm,0.3s,baz=336,slow=21,SNR=10						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**17.25**	**167**	P	Pn	06 26 26.1	-0.9
	0.1nm,0.3s,baz=340,slow=10,SNR=9.0						
ASAR				S	Sn	06 29 26.4	-13
	0.3nm,0.5s,baz=356,slow=27,SNR=5.5						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**67.94**	**327**	P	P	06 33 25.1	0.0
	0.3nm,0.5s,baz=136,slow=7.7,SNR=4.0						
	0.3nm,0.5s						

IDC 04 06:23:55.3±7.3, 19°.60S×177°.38W, h577km±65km, mb2.9/3, mbtmp3.9/4, Error ellipse: s-maj=252.9km s-min=27.6km az=157.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.71**	**293**	P	P	06 25 24.6	0.0
	22nm,0.6s,baz=136,slow=14,SNR=14						
ASAR	**Alice Springs**	**45.29**	**256**	P	P	06 31 23.1	+0.3
	1.0nm,0.5s,baz=89,slow=7.6,SNR=7.6						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**45.31**	**261**	P	P	06 31 22.4	-0.5
	0.5nm,0.4s,baz=98,slow=7.0,SNR=8.3						
	0.5nm,0.4s						
TXAR	**Lajitas Array**	**86.08**	**57**	P	P	06 35 36.1	-0.1
	0.5nm,0.7s,baz=218,slow=6.9,SNR=6.5						
	0.5nm,0.7s						

*IDC **04** 06:39:20.1±0.8, 27°.00N×140°.39E, h404km±9km, mb3.2/11, mbtmp4.0/11, Error ellipse: s-maj=26.5km s-min=21.9km az=69.0*

ISC 04 06:39:20.0±0.9, 27°.0N±0°.2×140°.3E±0°.2, h400km, n13, σ0s82/14, mb3.5/11, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.73**	**86**	P	**Pn**	**06 40 15.8**	**+1.3**
JCJ				S	**S**	**06 40 57.6**	**-0.7**
WRA	**Warramunga Arr**	**47.01**	**188**	P	**P**	**06 47 13.0**	**-0.3**
	0.4nm,0.8s,baz=5.1,slow=7.7,SNR=4.8						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**48.43**	**319**	P	**P**	**06 47 24.1**	**+0.5**
	0.8nm,0.6s,baz=99,slow=9.2,SNR=2.6						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**51.87**	**315**	P	**P**	**06 47 50.1**	**+0.9**
	0.7nm,0.3s,baz=95,slow=8.0,SNR=9.7						
	0.7nm,0.3s						
BVAR	**Borovoye Array**	**56.95**	**317**	P	**P**	**06 48 25.9**	**+0.8**
	1.0nm,0.5s,baz=74,slow=7.8,SNR=7.2						
	1.0nm,0.5s						
ILAR	**Eielson Array**	**58.62**	**29**	P	**P**	**06 48 36.0**	**-0.5**
	0.4nm,0.6s,baz=260,slow=5.8,SNR=4.6						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**73.06**	**340**	P	**P**	**06 50 07.4**	**+0.1**
	2.0nm,0.8s,baz=46,slow=6.4,SNR=5.5						
	2.0nm,0.8s						
FINES	**FINESS Array B**	**77.26**	**333**	P	**P**	**06 50 31.1**	**0.0**
	2.2nm,0.4s,baz=65,slow=5.2,SNR=42						
	2.2nm,0.4s						
AKASG	**Malin Array Be**	**81.67**	**323**	P	**P**	**06 50 54.4**	**-0.4**
	0.8nm,0.5s,baz=55,slow=5.2,SNR=6.5						
	0.8nm,0.5s						
NVAR	**Mina Array Bea**	**81.93**	**51**	P	**P**	**06 50 56.8**	**+0.1**
	0.3nm,0.6s,baz=296,slow=4.9,SNR=4.8						
	0.3nm,0.6s						
HFS	**Hagfors**	**82.82**	**336**	P	**P**	**06 50 59.4**	**-1.1**
	1.4nm,0.7s,baz=86,slow=4.5,SNR=8.4						
	1.4nm,0.7s						
NB2	**NORSAR Subarra**	**83.05**	**338**	P	**P**	**06 51 00.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=46,slow=4.8						
NOA	**NORSAR Array B**	**83.05**	**338**	P	**P**	**06 51 00.8**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=46,slow=5.1,SNR=2.1						
	comp=Z,0.9nm,0.5s						

*KRNET **04** 06:59:30.6±0.1, 41°.33N×78°.24E, h17km, mb2.7*
*SOME **04** 06:59:32.2, 41°.37N×78°.17E, h15km*
*NNC **04** 06:59:34.1±1.3, 41°.41N×78°.23E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=8.9km s-min=6.1km az=170.0*

ISC 04 06:59:32.9±1.7, 41°.44N±0°.06×78°.14E±0°.03, h7km±10km, n50, σ1s51/82, 15C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.38**	**319**	⇓*i*P	**Pg**	**06 59 40.5**	**0.0**
TARG				⇓*i*S	**Sg**	**06 59 47.9**	**+2.3**
KDJ	**Kajisay**	**0.99**	**314**	⇑*i*P	**Pb**	**06 59 51.2**	**-1.4**
KDJ				⇑*i*S	**Sb**	**07 00 06.4**	**+0.5**
PRZ	**Przheval'sk**	**1.06**	**11**	⇑*e*P	**Pb**	**06 59 52.6**	**-1.1**
PRZ				⇑*e*S	**Sg**	**07 00 08.4**	**+1.4**
NRN	**Naryn**	**1.61**	**270**	⇑*i*P	**Pb**	**07 00 02.0**	**-1.1**
NRN				⇑*i*S	**Sg**	**07 00 24.8**	**+0.2**
SATY	**Saty**	**1.63**	**7**	P	**Pg**	**07 00 04.3**	**+0.1**
	26nm,0.5s						
SATY				S	**Sg**	**07 00 27.7**	**+2.4**
	60nm,0.3s						
SATY	**Saty**	**1.63**	**7**	*e*P	**Pg**	**07 00 04.3**	**+0.1**
	26nm,0.5s						
SATY				*e*S	**Sg**	**07 00 26.8**	**+1.6**
	75nm,0.1s						
ULHL	**Ulahol**	**1.63**	**300**	⇑*i*P	**Pb**	**07 00 02.6**	**-0.8**
ULHL				⇑*i*S	**Sg**	**07 00 26.0**	**+0.7**
ZHN	**Zhinishke**	**1.74**	**7**	P	**Pg**	**07 00 06.2**	**-0.1**
	13nm,0.3s						
ZHN				S	**Sg**	**07 00 30.3**	**+1.4**
	81nm,0.2s						
ZHN	**Zhinishke**	**1.74**	**7**	*e*P	**Pg**	**07 00 05.0**	**-1.2**
	11nm,0.1s						
ZHN				*e*S	**Sb**	**07 00 28.1**	**+0.7**
	116nm,0.2s						
TNSS	**Tian-Shan**	**1.82**	**331**	P	**Pg**	**07 00 07.7**	**-0.2**
	11nm,0.2s						
TNSS				S	**Sg**	**07 00 32.9**	**+1.3**
	30nm,0.3s						
TNSS	**Tian-Shan**	**1.82**	**331**	*e*P	**Pb**	**07 00 06.8**	**0.0**
	24nm,0.2s						
TNSS				*e*S	**Sb**	**07 00 31.4**	**+1.3**
	30nm,0.3s						
UZB	**Uzynbulak**	**1.83**	**21**	P	**Pg**	**07 00 06.4**	**-1.5**
	42nm,0.5s						
UZB				S	**Sg**	**07 00 30.6**	**-1.0**
	136nm,0.5s						
UZB	**Uzynbulak**	**1.83**	**21**	*e*P	**Pn**	**07 00 03.7**	**-1.2**
	40nm,0.3s						
UZB				*e*S	**Sn**	**07 00 26.1**	**-2.3**
	134nm,0.5s						
MDOK	**Medeo**	**1.90**	**335**	Pn	**Pb**	**07 00 08.3**	**+0.3**
	8.6nm,0.4s						
MDOK				Pg	**Pg**	**07 00 09.4**	**+0.1**
	7.9nm,0.3s						
MDOK				Lg	Lg	07 00 35.9	
	69nm,0.6s						
MDOK				Sn	**Sg**	**07 00 37.3**	**+3.2**
	61nm,0.7s						
MDOK	**Medeo**	**1.90**	**335**	*e*P	**Pg**	**07 00 09.4**	**+0.1**
	7.9nm,0.3s						
MDOK				*e*S	**Sg**	**07 00 35.9**	**+1.9**
	69nm,0.6s						
BOOM	**Boomskoye usch**	**1.95**	**303**	⇓*i*P	**Pb**	**07 00 07.1**	**-1.7**
BOOM				⇓*i*S	**Sb**	**07 00 34.0**	**+0.7**
SHLS	**Shalkode**	**1.98**	**29**	Pg	**Pg**	**07 00 13.8**	**+3.0**
	24nm,0.3s						
SHLS				Lg	Lg	07 00 43.4	
	158nm,0.4s						
SHLS	**Shalkode**	**1.98**	**29**	*e*P	**Pg**	**07 00 12.4**	**+1.7**
	35nm,0.3s						
SHLS				*e*S	**Sg**	**07 00 40.8**	**+4.4**
	158nm,0.4s						
KNDC	**Almaty**	**1.98**	**334**	Pn	**Pb**	**07 00 08.8**	**-0.4**
	17nm,0.5s						
KNDC				Sn	**Sg**	**07 00 37.9**	**+1.5**
	122nm,0.8s						
KURS	**Kuram**	**2.05**	**1**	Pg	**Pg**	**07 00 12.0**	**-0.2**
	8.7nm,0.4s						
KURS				Lg	Lg	07 00 40.4	

	86nm,0.3s						
ARXS	Arharly	2.78	355	Pg	Pb	07 00 22.8	-0.1
	7.9nm,0.3s						
ARXS				Lg	Lg	07 00 59.3	
	23nm,0.6s						
ARXS	Arharly	2.78	355	eP	Pb	07 00 23.8	+0.9
	7.1nm,0.3s						
ARXS				eS	Sg	07 01 00.6	-1.6
	27nm,0.4s						
KUU	Kurty	2.79	332	Pg	Pb	07 00 23.2	+0.2
	3.3nm,0.1s						
KUU				Lg	Lg	07 00 59.5	
	31nm,0.4s						
KUU	Kurty	2.79	332	eP	Pg	07 00 24.5	-1.8
	3.7nm,0.1s						
KUU				eS	Sg	07 01 01.7	-0.7
	20nm,0.1s						
ARLS	Aral	2.89	280	⇑iP	Pn	07 00 19.7	+0.2
ARLS				⇑iS	Sn	07 00 56.1	+1.5
KRBS	Karabastau	2.90	322	Pg	Pb	07 00 25.7	+0.7
	3.9nm,0.4s						
KRBS				Lg	Lg	07 01 03.9	
	9.4nm,0.4s						
KRBS	Karabastau	2.90	322	eP	Pg	07 00 26.8	-1.6
	3.7nm,0.5s						
KRBS				eS	Sg	07 01 05.5	-0.5
	12nm,0.3s						
CHMS	Chumysh	2.96	303	⇑Pn	Pb	07 00 25.6	-0.4
	2.1nm,0.5s						
CHMS				⇑Lg	Lg	07 01 08.7	
	15nm,0.8s						
DJR	Jarkent	3.13	22	Pg	Pg	07 00 30.2	-2.8
	2.7nm,0.3s						
DJR				Lg	Lg	07 01 11.7	
	48nm,0.3s						
DJR	Jarkent	3.13	22	eP	Pg	07 00 31.0	-1.9
	2.6nm,0.2s						
DJR				eS	Sg	07 01 12.7	-0.9
	48nm,0.3s						
KAPS	Kapalarasan	3.94	13	Pg	Pg	07 00 44.7	-3.7
	1.0nm,0.1s						
KAPS				Lg	Lg	07 01 36.6	
	16nm,0.2s						
KAPS	Kapalarasan	3.94	13	eP	Pg	07 00 45.9	-2.6
	2.5nm,0.1s						
KAPS				eS	Sg	07 01 38.1	-1.4
	16nm,0.2s						
KK31	Karatay Array	5.90	289	⇓Pg	Pg	07 01 26.5	+0.6
	0.2nm,0.4s						
KK31				⇓Lg	Lg	07 02 44.8	
	1.4nm,0.7s						
MAKZ	Makanchi	6.03	26	⇑Pn	Pn	07 01 05.5	+3.0
	0.6nm,0.4s						
MAKZ				⇓Lg	Lg	07 02 45.1	
	1.2nm,0.7s						
MK31	Makanchi Array	6.13	28	⇑Pn	Pn	07 01 04.7	+0.8
	0.1nm,0.3s,baz=197,slow=15,SNR=6.4						
MK31				Sn	Sn	07 02 17.8	+3.6
	0.6nm,0.6s,baz=209,slow=24,SNR=4.1						
MK31				⇓Lg	Lg	07 02 49.1	
	1.9nm,0.7s,baz=210,slow=27,SNR=5.8						

NIED ***04*** *07:05:49.8, 23°.98N×122°.65E, h26km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}3.06; $M_{\theta\theta}$-4.23; $M_{\phi\phi}$1.17; $M_{r\theta}$4.81; $M_{\theta\phi}$1.07; $M_{r\phi}$3.40; Fault plane solution: $M_0$7.05000×10^{14} NP1:ϕ_s65.00000°, δ77.00000°, λ66.00000°. NP2:ϕ_s309.00000°, δ28.00000°, λ150.00000°.*

JMA ***04*** *07:05:49.8±0.2, 24°.N±1°.×122°.7E±0°.5, h26km±3km, MV3.9/19, NW OFF ISHIGAKIJIMA IS*

TAP ***04*** *07:05:50.0, 24°.02N×122°.69E, h32km, ML4.0, C*

ASIES ***04*** *07:05:50.0, 24°.02N×122°.69E, h32km, ML4.0, Mw3.7, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}2.78; $M_{\theta\theta}$-3.19; $M_{\phi\phi}$0.41; $M_{r\theta}$3.05; $M_{\theta\phi}$-0.40; $M_{\phi r}$1.90; Fault plane solution: $M_0$4.69969×10^{21} NP1:ϕ_s64.22000°, δ70.98000°, λ74.99000°. NP2:ϕ_s283.66000°, δ24.06000°, λ126.91000°. Principal axes: T Plg61.1850°, Azm311.8900°; N Plg14.1730°, Azm69.2160°; P Plg24.5300°, Azm165.8340°;*

IDC ***04*** *07:05:53.9±6.3, 24°.12N×122°.63E, h68km±59km, mb3.4/9, mbtmp3.7/10, ML4.0/1, MS3.0/5 Error ellipse: s-maj=42.1km s-min=17.0km az=72.0*

ISC 04 07:05:49.5±1.0, 23°.96N±0°.02×122°.73E±0°.02, h33km±7km, n185, σ1°45/305, mb3.6°/9, MS3.4°/3, 12C-11D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.41	293	⇓iP	Pn	07 05 58.2	-0.6
EOS4				iS	Sb	07 06 04.4	-0.2
EOS3	EOS3	0.50	311	⇓eP	Pn	07 05 59.8	-0.4
EOS3				eS	Sn	07 06 06.9	-0.6
JYNG	Yonagunijimaku	0.53	22	iP	Pn	07 06 00.5	-0.1
JYNG				S	Sn	07 06 07.6	-0.8
YOJ	Yonaguni jima	0.56	27	P	Pn	07 06 01.1	+0.1
YOJ	Yonaguni jima	0.56	27	iP	Pn	07 06 01.2	+0.1
YOJ				S	Sn	07 06 08.9	-0.3
YOJ	Yonaguni jima	0.56	27	⇓P	Pn	07 06 01.2	+0.1
YOJ				iS	Sn	07 06 09.1	-0.1
EOS2	EOS2	0.65	315	⇓eP	Pn	07 06 02.4	+0.3
EOS2				iS	Sn	07 06 12.3	+1.2
EAHA	Aohua	0.98	292	⇓P	Pb	07 06 07.2	-0.7
EAHA				iS	Sn	07 06 20.6	+1.0
IRIF	Iriomote-Funau	0.98	68	iP	Pn	07 06 08.6	+1.7
IRIF				S	Sn	07 06 23.6	+3.9
HATJ	Hateruma jima	0.98	84	P	Pn	07 06 09.0	+2.1
HATJ				eS	Sn	07 06 23.0	+3.3
EWUT	Wuta	1.00	299	⇑iP	Pn	07 06 06.9	-0.1
EWUT				eS	Sn	07 06 20.6	+0.7
ESAO	Su ao	1.02	307	eP	Pb	07 06 07.6	-1.0
ESAO				eS	Sn	07 06 21.1	+0.6
ENA	Nanau	1.02	297	P	Pn	07 06 07.5	+0.1
ENA				eS	Sn	07 06 21.2	+0.7
HWA	Hwalien	1.03	271	iP	Pn	07 06 07.5	-0.1
HWA				eS	Sb	07 06 20.7	-1.4
ETL	Fush Village	1.03	281	eP	Pn	07 06 07.6	-0.1
ETL				S	Sn	07 06 22.2	+1.2
TWC	Suao	1.03	309	iP	Pn	07 06 07.5	-0.1
TWC				iS	Sb	07 06 20.5	-1.6
TEYL	Yanliau Villag	1.04	265	eP	Pb	07 06 08.8	-0.2
TEYL				eS	Sn	07 06 22.9	+1.8
TWD	Chiawan	1.05	277	P	Pn	07 06 07.2	-0.6
TWD				eS	Sb	07 06 20.4	-2.1
NACB	Ninganchiao	1.06	282	P	Pn	07 06 07.4	-0.6
NACB	Ninganchiao	1.06	282	⇑P	Pn	07 06 07.5	-0.6
NACB				eS	Sb	07 06 21.5	-1.5
SHUL	Shoufeng	1.08	261	⇑iP	Pn	07 06 08.1	-0.2
SHUL				eS	Sb	07 06 23.1	-0.5
TEGC	Jichi Village	1.12	257	P	Pb	07 06 10.3	0.0
TEGC				eS	Sn	07 06 24.1	+1.0
ETM	Tongmen	1.13	271	⇓P	Pn	07 06 08.4	-0.6
ETM				eS	Sn	07 06 22.5	-1.0
EGS		1.14	321	eP	Pb	07 06 11.4	+0.7
EGS				eS	Sb	07 06 23.9	-1.4
NDS	Dongshan	1.14	306	eP	Pb	07 06 10.5	-0.2
NDS				eS	Sb	07 06 25.3	-0.1
ETLH	Xiulin Townshi	1.17	282	⇑P	Pn	07 06 09.3	-0.3
ETLH				eS	Sb	07 06 25.4	-0.7
ESL	Shilin	1.20	263	⇑P	Pn	07 06 08.9	-0.9
ESL				eS	Sn	07 06 23.9	-1.1
JKRS	Kuro-shima	1.20	76	P	Pb	07 06 12.4	+0.8
JKRS				S	Sb	07 06 29.4	+2.5
ILA	Ilan	1.20	312	P	Pb	07 06 11.6	-0.2
ILA				eS	Sb	07 06 28.3	+1.3
LXIB	Xiulin Townshi	1.21	273	⇑P	Pn	07 06 09.7	-0.5
LXIB				eS	Sn	07 06 24.9	-0.6
EGFH	Guangfu	1.23	257	eP	Pn	07 06 10.5	+0.2
EGFH				eS	Sn	07 06 26.1	+0.3
TWE	Neicheng	1.23	308	⇑eP	Pb	07 06 12.6	+0.4
TWE				eS	Sb	07 06 28.7	+0.9
LATG	Datong	1.24	298	eP	Pn	07 06 11.0	+0.4
LATG				eS	Sb	07 06 28.6	+0.5
TWB1	Santiao Chiao	1.24	327	P	Pb	07 06 10.9	-1.5
TWB1				iS	Sb	07 06 26.9	-1.2
WARBT	Fenglin Townsh	1.26	259	⇓P	Pn	07 06 09.9	-0.8
WARBT				eS	Sn	07 06 25.4	-1.1
ENTT	Nioudou	1.26	303	eP	Pb	07 06 11.4	-1.3
ENTT				eS	Sb	07 06 27.9	-0.8
HGSD	Ruisui	1.29	249	eP	Pn	07 06 10.7	-0.4
HGSD				eS	Sb	07 06 30.2	+0.8
TIPB	Shuangxi	1.30	321	eP	Pb	07 06 12.1	-1.4
TIPB				eS	Sb	07 06 29.4	-0.4
FUSB	Fushanzhiwuyua	1.31	308	iP	Pb	07 06 12.6	-1.0
FUSB				eS	Sb	07 06 31.1	+0.9
NNSH	Datong	1.32	291	⇑P	Pn	07 06 11.7	+0.1
NNSH				S	Sn	07 06 28.8	+0.7
NNS	Nan Shan	1.33	291	eP	Pn	07 06 12.0	+0.2
NNS				eS	Sb	07 06 30.8	+0.1
ECBN	Changbin	1.34	242	⇑P	Pn	07 06 12.1	+0.3
ECBN				eS	Sn	07 06 27.3	-1.2
JIJ	Ishigaki jima	1.35	72	P	Pb	07 06 13.8	-0.4
JIJ				S	Sb	07 06 31.4	+0.2
EHYH	Wanrong	1.35	250	P	Pn	07 06 12.2	+0.2
EHYH				eS	Sn	07 06 28.5	-0.4
WHF	Hehuan Shan	1.35	278	eP	Pn	07 06 12.2	-0.2
WHF				eS	Sn	07 06 29.6	+0.2
EHY	Hungye	1.37	251	eP	Pn	07 06 12.5	+0.2
EHY				S	Sn	07 06 28.2	-1.0
SXI1	Grass Mountain	1.37	326	iP	Pb	07 06 13.0	-1.7
SXI1				eS	Sb	07 06 30.4	-1.5
NWLT	Wulai	1.39	306	⇑P	Pb	07 06 14.2	-0.6
NWLT				eS	Sb	07 06 32.4	+0.1
FUSS	Fushou	1.39	282	eP	Pn	07 06 13.3	+0.6
FUSS				eS	Sn	07 06 29.9	-0.2
NWF	Wu-fen Shan	1.41	322	iP	Pb	07 06 13.4	-1.7
NWF				eS	Sn	07 06 30.9	+0.6
WFSB	Wu-fen Shan	1.41	322	eP	Pb	07 06 13.5	-1.6
WFSB				eS	Sb	07 06 32.4	-0.3
OWD	Renai	1.42	270	P	Pn	07 06 13.2	+0.1
OWD				eS	Sn	07 06 29.9	-0.9
YHNB	Yeheng	1.43	300	P	Pn	07 06 13.7	+0.6
YHNB	Yeheng	1.43	300	iP	Pn	07 06 13.9	+0.9
YULB	Yu-li	1.43	247	P	Pn	07 06 13.2	+0.1
YULB	Yu-li	1.43	247	P	Pn	07 06 13.2	+0.1
YULB				S	Sn	07 06 30.1	-0.7
EYUL	Yuli	1.43	245	eP	Pn	07 06 13.2	+0.1
EYUL				eS	Sn	07 06 30.8	0.0
NSK	Sanguang	1.44	300	⇑P	Pn	07 06 13.8	+0.5
NSK				eS	Sb	07 06 33.9	0.0
CHKH	Chenggong	1.45	238	P	Pn	07 06 12.9	-0.3
CHKH				eS	Sn	07 06 29.3	-1.7
TWT	Tachien	1.45	282	eP	Pn	07 06 14.6	+1.1
TWT				eS	Sn	07 06 30.1	-1.4
TWA	Mucha	1.46	314	eP	Pn	07 06 14.1	+0.6
TWA				eS	Sb	07 06 33.3	-1.0
TDCB	Techi	1.47	282	eP	Pn	07 06 14.6	+0.9
TDCB				eS	Sn	07 06 32.4	+0.6
TNOU	National Taiwa	1.47	324	S	Sn	07 06 30.8	-0.9
WUSB	Renai	1.48	272	iP	Pn	07 06 14.1	+0.3
WUSB				S	Sn	07 06 32.9	+0.8
NHDH	Xindian Distri	1.49	312	eP	Pb	07 06 16.1	-0.4
NHDH				eS	Sb	07 06 35.3	+0.3
TATO	Taipei	1.52	312	P	Pb	07 06 16.0	-1.0
TATO	Taipei	1.52	312	⇓P	Pb	07 06 15.8	-1.2
FULB	Fuli	1.52	240	P	Pn	07 06 13.8	-0.5
FULB				eS	Sn	07 06 32.6	-0.5
TAP	Taipei	1.55	314	P	Pb	07 06 15.9	-1.7
TAP				eS	Sb	07 06 36.3	-0.5
JISG	Ishigakijimahi	1.57	66	iP	Pb	07 06 16.6	-1.3
JISG				S	Sb	07 06 36.8	-0.7
YM01	YM01	1.59	318	eP	Pb	07 06 16.5	-1.7
YM01				eS	Sn	07 06 35.7	+1.0
YM08	YM08	1.60	320	eP	Pb	07 06 17.1	-1.4
YM08				eS	Sb	07 06 36.6	-1.8
ZUZH	Zhuzihu	1.61	318	eP	Pn	07 06 16.6	+0.9
ZUZH				eS	Sb	07 06 37.2	-1.5
EHD	Haiduan	1.62	240	P	Pn	07 06 15.7	+0.1
EHD				eS	Sn	07 06 34.5	-0.9
NFF	Wufeng Townshi	1.62	295	eP	Pb	07 06 17.4	-1.3
NFF				eS	Sb	07 06 37.4	-1.4
ECS	Chishang	1.63	239	eP	Pb	07 06 18.0	-1.0
ECS				eS	Sn	07 06 36.0	+0.2
KSHI	Guanxi Townshi	1.64	300	eP	Pb	07 06 17.6	-1.4
KSHI				eS	Sb	07 06 40.0	+0.7
SSLB	Suanglung	1.64	264	P	Pn	07 06 16.4	+0.4
SSLB	Suanglung	1.64	264	eP	Pn	07 06 16.7	+0.8
TWS1	Kuangyinshan	1.65	314	P	Pn	07 06 16.1	0.0
TWS1				eS	Sb	07 06 39.2	-0.5
WHP	Taichung City	1.66	281	eP	Pb	07 06 18.8	-0.8
WHP				eS	Sb	07 06 39.6	-0.5
TWY	Chenhua	1.67	322	⇓eP	Pb	07 06 18.1	-1.5
TWY				eS	Sn	07 06 37.9	+1.3
WCS	Beigang Elemen	1.67	274	P	Pn	07 06 17.1	+0.7
NTST	Danshui	1.67	316	eP	Pb	07 06 19.2	-0.4
NTST				eS	Sb	07 06 40.0	-0.4
SMLT	Sun Moon Lake	1.68	268	P	Pn	07 06 17.2	+0.6
SMLT				eS	Sn	07 06 37.0	-0.1
LIOB	Emei	1.71	294	eP	Pb	07 06 18.6	-1.6
LIOB				eS	Sb	07 06 39.7	-1.7
NSTT	Nanjuang	1.71	293	eP	Pb	07 06 18.5	-1.9
NSTT				eS	Sb	07 06 40.3	-1.3
TYC	Yuchr	1.72	269	⇓P	Pn	07 06 17.8	+0.8
LDUT	Ludao	1.73	222	eP	Pn	07 06 16.6	-0.6
NCUH	Zhongli	1.73	306	eP	Pb	07 06 19.3	-1.3
WHYT	Xinyi Township	1.74	262	eP	Pn	07 06 18.4	+1.1
ELDTW	Lidau	1.75	244	P	Pn	07 06 17.4	-0.2
ELDTW				eS	Sn	07 06 38.3	-0.5
PCYT	Pengchaiyu	1.77	340	eP	Pn	07 06 18.5	+0.8
LONT	Longtian	1.81	235	eP	Pn	07 06 19.2	+0.9
LONT				eS	Sn	07 06 40.0	-0.1
ALS	Alishan	1.82	256	eP	Pn	07 06 19.7	+1.0
ALS				S	Sn	07 06 41.4	+0.5
TWQ1	Liyutan	1.83	283	eP	Pb	07 06 20.5	-1.9
TWQ1				eS	Sb	07 06 43.9	-1.4
WJS	Zhushan	1.84	266	eP	Pb	07 06 22.2	-0.3
WJS				S	Sn	07 06 43.4	+2.5
NSY	Sanyi	1.86	285	eP	Pb	07 06 22.0	-0.8
NMLH	Miaoli	1.86	288	eP	Pb	07 06 20.9	-2.0
WNT	Mingjian	1.88	268	eP	Pb	07 06 21.4	-1.7
WNT				S	Sb	07 06 45.0	-1.2
TTN	Taitung	1.89	231	P	Pn	07 06 20.6	+1.2
TTN				eS	Sn	07 06 42.3	+0.3
TCU	Taichung	1.89	276	P	Pn	07 06 21.1	+1.7
TCU				S	Sb	07 06 45.2	-1.3
TWGBT	Beinan	1.90	233	P	Pn	07 06 19.6	+0.1
TWGBT	Beinan	1.90	233	eP	Pn	07 06 19.8	+0.3
TWG	Pinlang	1.90	234	eP	Pn	07 06 19.7	+0.1
CHN5	Tsauling	1.92	260	eP	Pb	07 06 22.2	-1.7
JTJ	Tarama	1.92	69	P	Pb	07 06 22.8	-1.0
JTJ				eS	Sb	07 06 46.1	-1.3
STYH	Taoyuan	1.96	247	eP	Pb	07 06 23.8	-0.7
WCHH	Zhanghua	1.99	274	eS	Sb	07 06 47.3	-2.2
WCH1	Changhua City	2.00	274	eP	Pb	07 06 25.6	+0.4
WGK	Gukeng	2.01	263	eS	Sb	07 06 50.4	+0.5
WCKO	Fanlu	2.02	256	eP	Pb	07 06 24.1	-1.4
WCKO				eS	Sb	07 06 49.5	-0.8
WDL	Douliou City	2.02	264	eS	Sb	07 06 50.5	+0.1
WDLH	Douliu	2.03	263	eP	Pn	07 06 22.1	+0.8
WDLH				S	Sn	07 06 48.0	+2.5
TPUB	Ta-pu	2.04	252	P	Pn	07 06 23.2	+1.7
TPUB	Ta-pu	2.04	252	iP	Pn	07 06 23.5	+2.0
TPUB				S	Sn	07 06 48.4	+2.6
CHN4	Tsaushan	2.05	253	eP	Pb	07 06 24.8	-1.3
CHN4				eS	Sb	07 06 49.3	-2.0
WTP	Ta-pu	2.07	250	P	Pb	07 06 24.7	-1.7
WTP				eS	Sb	07 06 50.4	-1.4
CHN2	Minshiung	2.11	259	eS	Sb	07 06 51.2	-1.7
ECL	Taimali	2.12	231	eP	Pn	07 06 22.3	-0.3
SLGT	Liugui	2.14	244	eP	Pb	07 06 26.6	-1.0
SLGT				eS	Sb	07 06 52.2	-1.7
WRL	Guolierlin Hig	2.16	269	eP	Pb	07 06 26.7	-1.2
WRL				iS	Sn	07 06 51.0	+2.3
SGST	Jiashian	2.16	247	P	Pn	07 06 25.3	+2.2
SGST				S	Sn	07 06 50.4	+1.7
WTK	Tuku	2.16	263	eP	Pb	07 06 25.7	-2.3
WTK				S	Sn	07 06 52.0	+3.1
CHN1	Nanshi	2.17	250	eP	Pb	07 06 26.0	-2.0
CHN1				iS	Sn	07 06 51.9	+3.0
CHY	Chiayi	2.17	258	eS	Sn	07 06 51.8	+2.9
TWK	Hsinying	2.17	252	eS	Sn	07 06 52.1	+2.9
SNST	Tainan City	2.18	251	eP	Pb	07 06 26.1	-2.2
SNST				iS	Sn	07 06 52.4	+3.2
LAY	Lan-yu	2.20	210	eP	Pn	07 06 24.0	+0.3
LYUB	Lan-yu	2.22	209	eP	Pn	07 06 22.3	-1.6
LYUB				eS	Sn	07 06 47.9	-2.2
WTCT	Ta-ch'eng	2.25	268	eS	Sn	07 06 53.9	+3.0
SSD	Sandimen	2.28	238	eP	Pn	07 06 27.4	+2.7
TSMG	Majia	2.29	237	eP	Pn	07 06 27.4	+2.5
TSMG				eS	Sn	07 06 54.0	+2.0
SCST	Cishan	2.32	243	eP	Pb	07 06 30.0	-0.6
SCST				eS	Sb	07 06 57.7	-1.1
WSF	Szhu	2.32	263	eS	Sn	07 06 56.1	+3.3
TAW	Tawu	2.32	227	eP	Pn	07 06 23.7	-1.7
TAW				eS	Sn	07 06 51.8	-0.9
ICHU	Yijhu	2.33	256	eP	Pn	07 06 28.1	+2.7
ICHU				eS	Sn	07 06 54.8	+1.9
WSL	Shuilin Townsh	2.34	260	eS	Sn	07 06 56.1	+3.0
EAST	Anshuo	2.34	228	⇑P	Pn	07 06 25.4	-0.3
EAST				eS	Sn	07 06 55.0	+1.7
TAWH	Dawu Township	2.34	227	eP	Pn	07 06 25.8	+0.2
MASBT	Mashibuluo	2.35	236	eP	Pb	07 06 29.3	-1.9
JIRB	Irabujima	2.39	68	eP	Pb	07 06 29.0	-2.8
JIRB				eS	Sb	07 06 58.1	-2.7
SSHA	Shanhua	2.39	250	eP	Pb	07 06 31.1	-0.7
CHN8	Yiju	2.39	256	eS	Sn	07 06 56.6	+2.2
SGLT	Jiouru	2.40	240	eS	Sb	07 07 01.8	+0.6
SCLT	Jiali	2.46	252	eS	Sn	07 06 59.2	+3.2
SSPT	Xinbi	2.48	234	eP	Pn	07 06 28.6	+1.1
JIKM	Ikemajima	2.48	67	eS	Sb	07 06 59.6	-4.0
JMJ	Miyako jima 2	2.48	69	P	Pb	07 06 30.8	-2.6
JMJ	Miyako jima 2	2.48	69	⇓P	Pb	07 06 30.5	-2.9
JMJ				eS	Sb	07 07 00.3	-3.3
SLIU	Shizi	2.49	226	eP	Pb	07 06 31.2	-2.3
SLIU				eS	Sb	07 07 01.4	-2.3
JMJ2	Miyako jima3	2.49	71	eS	Sb	07 07 00.5	-3.4
SCZT	Fangliau	2.51	231	eP	Pn	07 06 31.0	+3.2
SNJT	Kaohsiung City	2.51	242	eP	Pn	07 06 30.8	+2.9
SNJT				eS	Sb	07 07 03.3	-1.0
TSCK	Chigu Township	2.56	252	eP	Pn	07 06 30.7	+2.1
TSCK				eS	Sn	07 07 00.5	+1.9
JOGS	Gusukube	2.56	71	P	Pb	07 06 32.2	-2.6
JOGS				eS	Sb	07 07 03.0	-3.0
WSSB	Gushan	2.62	240	eP	Pb	07 06 33.4	-2.4
WSSB				eS	Sb	07 07 05.2	-2.5
TSEB	Hengchuen, Pin	2.66	220	P	Pn	07 06 31.4	+1.4
HEN	Hengchun	2.68	224	P	Pn	07 06 32.6	+2.4
HEN				eS	Sn	07 07 02.5	+1.0
TWKBT	Hengchun	2.68	222	eP	Pn	07 06 32.3	+2.1
TWKBT				iS	Sn	07 07 03.2	+1.7
TWK1	Hengchun	2.68	222	eS	Sn	07 07 03.8	+2.2
WDGT	Dungji	2.90	257	eP	Pn	07 06 35.0	+1.7
WDGT				eS	Sn	07 07 07.7	+0.6
PHUB	P'eng-hu	2.93	262	P	Pn	07 06 35.3	+1.6
PHUB				iS	Sn	07 07 08.2	+0.5
PNG	Penghu	2.94	263	eP	Pn	07 06 35.0	+1.2
PNG				iS	Sn	07 07 08.3	+0.3
VCHM	Qimei	3.12	257	eP	Pn	07 06 38.5	+2.1
VCHM				eS	Sn	07 07 12.9	+0.5
VWUC	VWUC	3.16	290	eP	Pn	07 06 36.6	-0.3
MATB	Ma-tsu	3.34	311	eP	Pn	07 06 39.6	+0.3
MATB				eS	Sn	07 07 17.4	-0.4
XPSS	Dashiqiu	3.75	323	eP	Pn	07 06 45.1	+0.2
XPSS				eS	Sn	07 07 29.0	+1.2
KNM	Kinmen	3.95	277	P	Pn	07 06 49.8	+2.1
KNM				eS	Sn	07 07 33.4	+0.4
MHZQ	Yeshan	3.98	303	eP	Pn	07 06 48.1	0.0
MHZQ				eS	Sn	07 07 35.1	+1.5
KNMB	Chin-men Tao	4.00	278	eP	Pn	07 06 49.0	+0.6
KNMB				eS	Sn	07 07 33.1	-1.0
ZPLA	Ao Xicun	4.56	271	eP	Pn	07 06 59.1	+3.0
ZPLA				eS	Sn	07 07 49.1	+1.2
JNU	Nakatsue	11.60	36	LR	LR	07 13 12.5	
	comp=Z,46nm,21.7s,baz=244,slow=38						
KSRS	Korea Array	14.17	17	P	Pn	07 09 10.6	+2.8
	0.7nm,0.3s,baz=198,slow=12,SNR=19						
KSRS				LR	LR	07 15 08.3	
	comp=Z,35nm,19.3s,baz=200,slow=40						
	3.5nm,0.6s						
CMAR	Chiang Mai Arr	22.83	261	LR	LR	07 20 44.7	
	comp=Z,13nm,20.2s,baz=35,slow=39						
KLR	Kul'dur	26.20	13	P	P	07 11 21.0	+0.1
	0.7nm,0.3s,baz=216,slow=8.7,SNR=3.6						
	0.7nm,0.3s						
SONM	Songino Array	27.14	335	P	P	07 11 28.3	-1.3
	0.8nm,0.6s,baz=166,slow=8.9,SNR=3.6						
SONM				LR	LR	07 23 14.8	
	comp=Z,90nm,18.6s,baz=5.5,slow=39						
	0.8nm,0.6s						
MKAR	Makanchi Array	39.48	316	P	P	07 13 16.4	-0.4
	0.7nm,0.6s,baz=101,slow=11,SNR=4.0						
MKAR				PcP	PcP	07 15 24.1	0.0
	0.7nm,0.8s,baz=108,slow=4.0,SNR=4.5						
	0.7nm,0.6s						
WRA	Warramunga Arr	45.08	164	P	P	07 14 03.9	+1.4
	0.7nm,0.6s,baz=346,slow=8.7,SNR=6.5						
	0.7nm,0.6s						
TIXI	Tiksi	47.84	3	LR	LR	07 37 23.7	
	comp=Z,58nm,18.1s,baz=14,slow=40						
ASAR	Alice Springs	48.57	166	P	P	07 14 32.4	+2.6
	0.3nm,0.5s,baz=347,slow=8.6,SNR=11						
	0.3nm,0.5s						
BVAR	Borovoye Array	48.74	320	P	P	07 14 29.8	-1.1
	0.

mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=117.0km s-min=24.6km az=60.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.49**	**341**	Pn	Pn	07 30 53.4	-1.5
	baz=137,slow=15,SNR=2.2						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**19.02**	**339**	P	P	07 31 50.4	-1.6
	0.7nm,0.6s,baz=146,slow=13,SNR=7.0						
ZALV	**Zalesovo Beam**	**20.89**	**353**	P	P	07 32 12.4	+0.1
	0.8nm,0.4s,baz=186,slow=12,SNR=6.0						
	0.8nm,0.4s						
FINES	**FINESS Array B**	**48.63**	**325**	P	P	07 36 14.3	+0.4
	2.6nm,0.9s,baz=79,slow=7.2,SNR=5.0						
	2.6nm,0.9s						
WRA	**Warramunga Arr**	**68.24**	**134**	P	P	07 38 31.4	0.0
	0.7nm,0.6s,baz=325,slow=6.7,SNR=6.4						
	0.7nm,0.6s						

TRN 04 07:28:56.3, 10°.40N×62°.32W, h26km, MD3.5, Gulf of Paria., Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.82**	**70**	*eP*	Pn	07 29 12.4	+0.2
PSMG				*eS*	Sn	07 29 23.0	-0.4
PSGH	**Port of Spain**	**0.84**	**72**	*eP*	Pn	07 29 12.8	+0.5
PSGH				*eS*	Sn	07 29 24.3	+0.5
TRN	**Trinidad (W)**	**0.93**	**74**	*eP*	Pn	07 29 13.4	-0.3
TRN				*eS*	Sn	07 29 27.2	+1.0
GRFF	**Grenada Fort F**	**1.74**	**19**	*eP*	Pn	07 29 24.9	0.0
GRFF				*eS*	Sn	07 29 46.7	+0.5
GRGR	**Grenville**	**1.84**	**21**	*eP*	Pn	07 29 26.7	+0.5
GRGR				*eS*	Sn	07 29 48.2	-0.6
GRW	**Mount Saint Ca**	**1.87**	**20**	*eP*	Pn	07 29 27.4	+0.7
GRW				*eS*	Sn	07 29 48.7	-0.7
GRHS	**Sauteurs**	**1.94**	**20**	*eS*	Sn	07 29 51.3	+0.4
TOSP	**Speyside**	**1.97**	**63**	*eP*	Pn	07 29 28.8	+0.9
TOSP				*eS*	Sn	07 29 51.7	-0.1
GCMP	**Grenada, Carri**	**2.25**	**23**	*eP*	Pn	07 29 32.6	+0.8
GCMP				*eS*	Sn	07 29 58.8	0.0
PCRV	**Puerto La Cruz**	**2.29**	**265**	*eP*	Pn	07 29 33.6	+1.1
PCRV				*eS*	Sn	07 29 58.7	-1.2

DJA 04 07:33:09.6±0.6, 4°S±8°×12°E±°, h53km±35km, M3.9/9, mb4.3/4, MLv3.6/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.14**	**359**	P	Pn	07 33 29.0	-0.4
AAI	**Ambon**	**1.28**	**57**	P	Pn	07 33 31.6	+0.4
MSAI	**Masohi**	**2.08**	**60**	P	Pn	07 33 41.7	-0.4
SANI	**Sanana**	**2.58**	**334**	P	Pn	07 33 49.0	0.0
FAKI	**Fak Fak**	**5.32**	**74**	P	Pn	07 34 28.9	+2.3
FAKI				S	Sn	07 35 13.9	-13
APSI	**Ampana**	**6.47**	**302**	P	Pn	07 34 42.3	0.0
	20nm,0.7s						
BKSI	**Bulukumba**	**7.03**	**262**	P	Pn	07 34 49.3	-0.7
	19nm,0.6s,0.1nm						
SPSI	**Sidrap Palu**	**7.34**	**273**	P	Pn	07 34 54.8	+0.5

BJI ***04*** *07:55:24.3, 7°.31N×124°.13E, h609km, mb5.7/94, mB5.4/52*
MAN ***04*** *07:55:26.9, 7°.78N×124°.02E, h629km, mb6.3, ML5.4, MS6.0*
MOS ***04*** *07:55:28.8±0.8, 7°.77N×123°.86E, h623km, mb5.6/89, Error ellipse: s-maj=7.3km s-min=4.1km az=111.5*
IPGP ***04*** *07:55:29.0, 7°.81N×123°.87E, h603km, Mw6.1, Fault plane solution: NP1:ϕ_s337.00000°, δ62.00000°, λ-99.00000°. NP2:ϕ_s177.00000°, δ29.00000°, λ-73.00000°.*
GCMT ***04*** *07:55:29.3±0.1, 7°.82N±0°.01×123°.75E±0°.01, h599km, MW6.0/173, Moment Tensor Solution. s173, c367; s131, c147; Duration: 2s4 Moment tensor: Scale 10^{18} Nm; M_{rr}=0.96±.01; $M_{\theta\theta}$=0.04±.01; $M_{\phi\phi}$=0.91±.01; $M_{r\theta}$=0.34±.01; $M_{r\phi}$=-0.27±.01; $M_{\theta r}$=-0.63±.01; Best double couple: M_0=1.20800×10^{18} NP1:ϕ_s336.00000°, δ63.00000°, λ-97.00000°. NP2:ϕ_s172.00000°, δ28.00000°, λ-77.00000°. Principal axes: T 1.2180, Plg18.0000°, Azm72.0000°; N -0.0190, Plg6.0000°, Azm340.0000°; P -1.1990, Plg71.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
NEIC ***04*** *07:55:29, 7°.77N×123°.85E, h597km*
IDC ***04*** *07:55:29.5±0.4, 7°.73N×123°.83E, h612km±4km, mb5.0/35, mbtmp6.0/39, Error ellipse: s-maj=8.4km s-min=4.4km az=74.0*
NEIC ***04*** *07:55:29.3±1.2, 7°.76N±0°.08×123°.87E±0°.08, h601km±3km, mb5.4/367, Mwb6.0/39, Mww6.0/74, Error ellipse: s-maj=12.2km s-min=11.2km az=218.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}=1.18; $M_{\theta\theta}$0.11; $M_{\phi\phi}$1.06; $M_{r\theta}$0.37; $M_{\theta\phi}$-0.23; $M_{\phi r}$-0.69; Fault plane solution: $M_0$1.39000×10^{18} NP1:ϕ_s338.92000°, δ62.23000°, λ-97.16000°. NP2:ϕ_s174.01000°, δ28.61000°, λ-76.68000°. Principal axes: T 1.3471, Plg17.0000°, Azm74.0000°; N 0.0824, Plg6.0000°, Azm342.0000°; P -1.4295, Plg72.0000°, Azm232.0000°;*
NEIC ***04*** *07:55:29, 7°.77N×123°.85E, h610km*
NEIC ***04*** *07:55:29, 7°.67N×123°.95E, h610km, Moment Tensor Solution. Duration: 5s1 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.98; $M_{\theta\theta}$0.02; $M_{\phi\phi}$0.97; $M_{r\theta}$0.36; $M_{\theta\phi}$-0.20; $M_{\phi r}$-0.59; Fault plane solution: $M_0$1.21000×10^{18} NP1: ϕ_s337.27000°, δ62.47000°, λ-100.52000°. NP2: ϕ_s179.16000°, δ29.32000°, λ-70.70000°. Principal axes: T 1.2042, Plg17.0000°, Azm75.0000°; N 0.0152, Plg9.0000°, Azm342.0000°; P -1.2194, Plg71.0000°, Azm224.0000°;*
DJA ***04*** *07:55:30.0±0.7, 8°N±8°×12°4E±°, h592km±7km, M5.3/32, mB5.7/31, mb5.7/32, MLv6.5/11, Mw(mB)5.3/31, MwMwp5.2/25, Mwp5.4/25*

ISC 04 07:55:29.1±0.2, 7.73N±0°.02×123°.86E±0°.03, h607km±1km, h609km; pP-P, n1878, σ1s36/2421, mb5.5/342, 139C-174D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLNP	**Bacolod Lanao**	**0.45**	**22**	↓*eP*	**P**	**07 56 40.5**	**+0.3**
BLNP				*i* S	**S**	**07 57 38.9**	**+0.9**
PAGZ	**Pagadian**	**0.48**	**284**	↓*eP*	**P**	**07 56 40.4**	**+0.2**
PAGZ				*eS*	**S**	**07 57 35.0**	**-2.9**
MARW	**Marawi**	**0.50**	**56**	↓*eP*	**P**	**07 56 41.2**	**+0.8**
MARW				*eS*	**S**	**07 57 39.7**	**+1.4**
CTBH	**Cotabato--PC H**	**0.64**	**143**	↓*iP*	**P**	**07 56 40.6**	**+0.1**
DCPH	**Dipolog City**	**0.98**	**329**	↓*iP*	**P**	**07 56 40.0**	**-1.0**
DCPH				*i* S	**S**	**07 57 38.0**	**-1.4**
PICP	**Pikit**	**1.05**	**129**	↓*eP*	**P**	**07 56 41.6**	**+0.4**
PICP				*i* S	**S**	**07 57 40.1**	**+0.5**
CGP	**Cagayan de Oro**	**1.10**	**49**	↓*iP*	**P**	**07 56 41.0**	**-0.2**
CGP				*i* S	**S**	**07 57 38.4**	**-1.5**
BUKP	**Musuan**	**1.20**	**83**	↓*iP*	**P**	**07 56 41.9**	**+0.3**
BUKP				*eS*	**S**	**07 57 40.8**	**+0.4**
SKMP	**Bagumbayan, Su**	**1.38**	**151**	↓*iP*	**P**	**07 56 42.6**	**+0.6**
SKMP				*i* S	**S**	**07 57 41.4**	**+0.2**
LSIP	**Lazi, Siquijor**	**1.41**	**351**	↓*eP*	**P**	**07 56 40.5**	**-1.5**
LSIP				*eS*	**S**	**07 57 38.5**	**-2.9**
KCP	**Kidapawan**	**1.42**	**120**	↑*iP*	**P**	**07 56 42.5**	**+0.3**
DAV	**Davao City (W)**	**1.83**	**111**	P	**P**	**07 56 43.1**	**-0.3**
DAV	**Davao City (W)**	**1.83**	**111**	P	**P**	**07 56 43.9**	**+0.5**
	3μm,0.5s,baz=59,slow=1.2,SNR=44						
DAV				S	**S**	**07 57 44.2**	**+0.4**
	2μm,0.8s,baz=249,slow=21,SNR=1.6						
DAV	**Davao City (W)**	**1.83**	**111**	P	**P**	**07 56 44.0**	**+0.5**
DAV	**Davao City (W)**	**1.83**	**111**	P	P	07 56 38.0	-5.4
LCVP	**Laak**	**1.91**	**87**	↓*iP*	**P**	**07 56 43.4**	**-0.3**
LCVP				*eS*	**S**	**07 57 44.2**	**-0.2**
ZCP	**Zamboanga City**	**1.94**	**246**	↓*iP*	**P**	**07 56 43.9**	**0.0**
ZCP				*i* S	**S**	**07 57 45.5**	**+0.9**
GHBP	**Garcia Hernand**	**1.94**	**14**	↓*eP*	**P**	**07 56 43.0**	**-0.8**
GHBP				*eS*	**S**	**07 57 43.8**	**-0.9**
TBP	**Tagbilaran**	**1.95**	**0**	↓*iP*	**P**	**07 56 43.4**	**-0.5**
TBP				*i* S	**S**	**07 57 44.7**	**0.0**
GSPH	**General Santos**	**1.96**	**146**	↑*iP*	**P**	**07 56 44.8**	**+0.7**
GSPH				*i* S	**S**	**07 57 53.2**	**+8.1**
DACP	**Dalaguete, Ceb**	**2.05**	**351**	↓*eP*	**P**	**07 56 44.0**	**-0.3**
DACP				*i* S	**S**	**07 57 45.1**	**-0.3**
TASP	**Talacogon, Agu**	**2.06**	**70**	↓*eP*	**P**	**07 56 44.9**	**+0.6**
TASP				*eS*	**S**	**07 57 46.9**	**+1.4**
BUTP	**Butuan**	**2.13**	**55**	*eP*	**P**	**07 56 44.6**	**0.0**
BUTP				*eS*	**S**	**07 57 47.8**	**+1.8**
TABP	**Talibon, Bohol**	**2.39**	**11**	↓*eP*	**P**	**07 56 45.0**	**-0.7**
TABP				*eS*	**S**	**07 57 47.2**	**-0.9**
CNOP	**Candoni, Negro**	**2.40**	**330**	↓*eP*	**P**	**07 56 43.9**	**-1.9**
CNOP				*eS*	**S**	**07 57 44.5**	**-3.7**
DDMP	**Don Marcelino,**	**2.45**	**131**	↓*eP*	**P**	**07 56 44.7**	**-1.4**
DDMP				*eS*	**S**	**07 57 44.5**	**-4.1**
MATI	**Mati**	**2.50**	**108**	↓*eP*	**P**	**07 56 44.9**	**-1.4**
MATI				*eS*	**S**	**07 57 46.6**	**-2.5**
BIPH	**Bislig**	**2.52**	**80**	↓*eP*	**P**	**07 56 45.0**	**-1.3**
BIPH				*i* S	**S**	**07 57 45.5**	**-3.6**
GNOP	**Guihulngan Cit**	**2.55**	**346**	↓*iP*	**P**	**07 56 46.0**	**-0.5**
GNOP				*i* S	**S**	**07 57 49.1**	**-0.5**
CDOP	**Cateel, Davao**	**2.56**	**89**	↓*eP*	**P**	**07 56 45.6**	**-0.9**
CDOP				*eS*	**S**	**07 57 47.2**	**-2.3**
LLP	**Lapu-Lapu**	**2.57**	**2**	↑*eP*	**P**	**07 56 45.6**	**-1.0**
LLP				*i* S	**S**	**07 57 48.0**	**-1.7**
MSLP	**Maasin**	**2.58**	**22**	↓*iP*	**P**	**07 56 46.1**	**-0.6**
MSLP				*eS*	**S**	**07 57 50.0**	**+0.2**
TSSP	**Tandag City**	**2.66**	**61**	↓*iP*	**P**	**07 56 45.8**	**-1.2**
TSSP				*eS*	**S**	**07 57 47.0**	**-3.5**
SFCP	**San Francisco,**	**2.93**	**10**	↓*eP*	**P**	**07 56 48.4**	**0.0**
SFCP				*eS*	**S**	**07 57 52.4**	**-0.8**
GUIM	**Jordan**	**3.14**	**337**	↓*eP*	**P**	**07 56 47.8**	**-1.8**
GUIM				*eS*	**S**	**07 57 51.8**	**-3.4**
LDIP	**Loreto**	**3.16**	**33**	↓*eP*	**P**	**07 56 48.2**	**-1.6**
LDIP				*eS*	**S**	**07 57 51.4**	**-4.1**
CADP	**Cadiz City**	**3.22**	**350**	↓*eP*	**P**	**07 56 49.8**	**-0.3**
CADP				*i* S	**S**	**07 57 56.6**	**+0.5**
OCLP	**Ormoc**	**3.38**	**13**	↓*eP*	**P**	**07 56 50.8**	**-0.2**
OCLP				*eS*	**S**	**07 58 00.5**	**+2.6**
MECP	**Medelin, Cebu**	**3.41**	**2**	↓*eP*	**P**	**07 56 51.4**	**+0.1**
MECP				*i* S	**S**	**07 57 58.7**	**+0.6**
PLP	**Palo**	**3.58**	**18**	↓*iP*	**P**	**07 56 51.4**	**-1.0**
PLP				*eS*	**S**	**07 57 56.9**	**-3.3**
RCP	**Roxas**	**3.96**	**344**	↓*eP*	**P**	**07 56 53.4**	**-1.4**
BESP	**Borongan**	**4.15**	**22**	↑*eP*	**P**	**07 56 54.5**	**-1.5**
BESP				*eS*	**S**	**07 58 00.4**	**-6.6**
IBAJ	**Ibajay, Aklan**	**4.39**	**338**	↓*iP*	**P**	**07 56 57.5**	**-0.3**
IBAJ				*eS*	**S**	**07 58 09.9**	**-0.3**
MMPH	**Masbate**	**4.60**	**357**	↑*eP*	**P**	**07 56 59.7**	**+0.3**
CNP	**Catarman**	**4.81**	**9**	↓*eP*	**P**	**07 56 59.9**	**-1.1**
CNP				*eS*	**S**	**07 58 12.6**	**-3.3**
BTTP	**Bongao, Tawi-T**	**4.88**	**237**	↑*eP*	**P**	**07 57 02.4**	**+0.8**
BTTP				*i* S	**S**	**07 58 16.6**	**-0.3**
OTRP	**Odiongan**	**4.94**	**339**	↓*eP*	**P**	**07 57 01.7**	**-0.3**
OTRP				*eS*	**S**	**07 58 17.0**	**-0.8**
SJMP	**San Jose**	**5.42**	**330**	↓*iP*	**P**	**07 57 06.1**	**+0.4**
SJMP				*i* S	**S**	**07 58 23.7**	**-1.0**
PPR	**Puerto Princes**	**5.46**	**292**	↓*eP*	**P**	**07 57 07.2**	**+1.1**
BUSP	**Coron**	**5.57**	**320**	↓*eP*	**P**	**07 57 06.8**	**-0.1**
BUSP				*i* S	**S**	**07 58 28.3**	**+1.4**
ENPP	**El Nido**	**5.57**	**309**	↓*iP*	**P**	**07 57 07.5**	**+0.5**
ENPP				*i* S	**S**	**07 58 27.3**	**+0.3**
AUQP	**San Andres**	**5.68**	**348**	↓*eP*	**P**	**07 57 09.0**	**+1.1**
AUQP				*eS*	**S**	**07 58 31.5**	**+3.0**
PVCP	**Virac**	**5.83**	**3**	↓*eP*	**P**	**07 57 08.4**	**-0.8**
PVCP				*eS*	**S**	**07 58 26.2**	**-4.8**
SCSP	**San Jose Seism**	**5.89**	**357**	↓*eP*	**P**	**07 57 09.1**	**-0.6**
SCSP				*eS*	**S**	**07 58 30.2**	**-1.7**
MYLDM	**Lahad Datu**	**5.90**	**245**	P	**P**	**07 57 11.8**	**+2.1**
MYLDM	**Lahad Datu**	**5.90**	**245**	P	**P**	**07 57 11.5**	**+1.7**
BOAC	**Boac**	**6.03**	**341**	↓*eP*	**P**	**07 57 10.6**	**-0.2**
BATP	**Bataraza**	**6.09**	**280**	↑*eP*	**P**	**07 57 11.9**	**+0.6**
BATP				*eS*	**S**	**07 58 35.1**	**+0.1**
GQP	**Guinayangan**	**6.29**	**347**	↓*eP*	**P**	**07 57 12.3**	**-0.8**
GQP				*i* S	**S**	**07 58 35.4**	**-2.7**
JCNP	**Jose Panganiba**	**6.61**	**350**	↓*eP*	**P**	**07 57 14.4**	**-1.5**
JCNP				*eS*	**S**	**07 58 38.1**	**-5.2**
LQP	**Lukban**	**6.74**	**340**	↓*iP*	**P**	**07 57 16.3**	**-1.0**
LBLP	**Los Banos, Lag**	**6.90**	**338**	↓*eP*	**P**	**07 57 17.6**	**-0.9**
LBLP				*eS*	**S**	**07 58 46.5**	**-1.4**
TGY	**Tagaytay City**	**6.95**	**336**	P	**P**	**07 57 19.0**	**0.0**
	8μm,0.9s						
TGY				S	**S**	**07 58 49.7**	**+0.7**
TGY	**Tagaytay City**	**6.95**	**336**	↓*iP*	**P**	**07 57 19.1**	**0.0**
TGY				*i* S	**S**	**07 58 49.0**	**0.0**
GTOI	**Gorontalo**	**7.10**	**187**	P	**P**	**07 57 19.9**	**-0.5**
	489nm,0.6s,6μm4μm						
KMSI	**Cibinong**	**7.11**	**179**	P	**P**	**07 57 21.9**	**+1.4**
	2μm,1.1s,20μm5μm17nm						
MACP	**Maragondon, Ca**	**7.18**	**335**	↓*eP*	**P**	**07 57 19.6**	**-1.5**
MACP				*eS*	**S**	**07 58 49.1**	**-3.6**
TOLI2	**Tolitoli**	**7.26**	**205**	P	**P**	**07 57 22.1**	**+0.2**
TOLI2	**Tolitoli**	**7.26**	**205**	P	**P**	**07 57 22.3**	**+0.5**
QVP	**Quezon City--P**	**7.40**	**338**	↓*eP*	**P**	**07 57 22.8**	**-0.2**
QVP				*eS*	**S**	**07 58 58.6**	**+2.3**
MRSI	**Marisa**	**7.46**	**195**	P	**P**	**07 57 24.5**	**+0.8**
	2μm,0.8s,22μm16μm5.9nm						
RTBP	**Dona Remedios**	**7.70**	**339**	↓*eP*	**P**	**07 57 24.7**	**-1.1**
RTBP				*eS*	**S**	**07 58 53.3**	**-8.0**
ABPP	**Abucay Bataan**	**7.72**	**335**	↓*eP*	**P**	**07 57 24.2**	**-1.9**
ABPP				*eS*	**S**	**07 58 58.0**	**-4.0**
TNTI	**Ternate**	**7.75**	**153**	P	**P**	**07 57 26.4**	**0.0**
TNTI	**Ternate**	**7.75**	**153**	P	**P**	**07 57 27.1**	**+0.7**
TNTI	**Ternate**	**7.75**	**153**	P	**P**	**07 57 26.9**	**+0.5**
	627nm,0.6s,12μm3μm18nm						
KKM	**Kota Kinabalu**	**7.77**	**258**	P	**P**	**07 57 26.4**	**-0.3**
KKM	**Kota Kinabalu**	**7.77**	**258**	P	**P**	**07 57 26.8**	**+0.1**
BALP	**Baler**	**8.27**	**345**	↑*eP*	**P**	**07 57 29.9**	**-1.2**
BALP				*eS*	**S**	**07 59 04.4**	**-6.8**
MPSI	**Mapaga**	**8.34**	**208**	P	**P**	**07 57 32.2**	**+0.2**
	1μm,2.0s,23μm18μm4.9nm						
IBZP	**Iba, Zambales**	**8.49**	**334**	↓*eP*	**P**	**07 57 30.6**	**-2.7**
IBZP				*eS*	**S**	**07 59 10.9**	**-4.2**
CAAP	**Casiguran, Aur**	**8.61**	**348**	↓*eP*	**P**	**07 57 33.0**	**-1.5**
CAAP				*eS*	**S**	**07 59 13.1**	**-4.1**
LUWI	**Luwuk**	**8.78**	**187**	P	**P**	**07 57 34.7**	**-1.5**
LUWI	**Luwuk**	**8.78**	**187**	P	**P**	**07 57 34.1**	**-2.1**
LUWI				S	**S**	**07 59 13.2**	**-7.2**
LUWI	**Luwuk**	**8.78**	**187**	P	**P**	**07 57 36.1**	**-0.1**
LUWI	**Luwuk**	**8.78**	**187**	P	**P**	**07 57 36.7**	**+0.5**
	861nm,0.6s,14μm5μm						
APSI	**Ampana**	**8.86**	**194**	P	**P**	**07 57 37.3**	**+0.3**
	1μm,0.6s,9μm						
SMPP	**San Manuel, Pa**	**8.92**	**340**	↓*eP*	**P**	**07 57 36.8**	**-0.7**
SMPP				*i* S	**S**	**07 59 20.5**	**-2.3**
LBMI	**Labuha**	**9.07**	**156**	P	**P**	**07 57 40.3**	**+1.3**
	919nm,0.9s,14μm						
CAUP	**Cauayan**	**9.37**	**348**	↓*eP*	**P**	**07 57 41.4**	**-0.4**
CAUP				*eS*	**S**	**07 59 33.2**	**+2.6**
BOLP	**Bolinao**	**9.42**	**336**	↑*eP*	**P**	**07 57 40.4**	**-1.9**
BOLP				*eS*	**S**	**07 59 27.7**	**-3.8**
SAMP	**Sagada Mountai**	**9.73**	**343**	↓*eP*	**P**	**07 57 44.5**	**-0.8**
SAMP				*eS*	**S**	**07 59 35.6**	**-1.5**
SANI	**Sanana**	**9.95**	**168**	P	**P**	**07 57 46.0**	**-1.5**
SANI	**Sanana**	**9.95**	**168**	P	**P**	**07 57 45.9**	**-1.7**
SANI	**Sanana**	**9.95**	**168**	P	**P**	**07 57 45.0**	**-2.6**
SZP	**Santa**	**10.31**	**342**	P	**P**	**07 57 50.6**	**-0.4**
ABRA	**Dolores**	**10.32**	**343**	↑*eP*	**P**	**07 57 48.7**	**-2.5**
ABRA				*eS*	**S**	**07 59 44.3**	**-3.5**
SMKI	**Samarinda**	**10.49**	**220**	P	**P**	**07 57 55.1**	**+2.2**
SGCP	**Gonzaga**	**10.59**	**351**	↑*eP*	**P**	**07 57 49.8**	**-4.1**
SGCP				*eS*	**S**	**07 59 51.6**	**-1.1**
SIPP	**Brgy, Tapao**	**10.66**	**342**	↑*eP*	**P**	**07 57 52.1**	**-2.4**
PACPP	**Pamplona Cagay**	**10.94**	**347**	↓*eP*	**P**	**07 57 54.8**	**-2.5**
PACPP				*eS*	**S**	**07 59 54.9**	**-3.9**
PIP	**Pasuquin**	**10.99**	**344**	↑*eP*	**P**	**07 57 55.8**	**-2.0**
PIP				*eS*	**S**	**07 59 55.9**	**-4.0**
SWI	**Sorong**	**11.29**	**139**	P	**P**	**07 58 02.1**	**+1.2**
	523nm,0.7s,8μm4μm						
BKB	**Balikpapan**	**11.31**	**218**	P	**P**	**07 58 02.2**	**+1.0**
BKB	**Balikpapan**	**11.31**	**218**	P	**P**	**07 58 02.6**	**+1.5**
BKB	**Balikpapan**	**11.31**	**218**	P	**P**	**07 58 02.1**	**+1.0**
NLAI	**Namlea**	**11.37**	**163**	P	**P**	**07 58 03.3**	**+1.6**
	665nm,0.7s,6μm						
TTSI	**Tana Toraja**	**11.44**	**201**	P	**P**	**07 58 03.9**	**+1.5**
	438nm,0.8s,6μm5μm						
CICP	**Calayan Island**	**11.69**	**349**	↓*eP*	**P**	**07 58 01.7**	**-3.1**
CICP				*eS*	**S**	**08 00 06.1**	**-6.5**
MSAI	**Masohi**	**12.11**	**155**	P	**P**	**07 58 11.4**	**+2.3**
	418nm,0.7s,5μm						
AAI	**Ambon**	**12.14**	**159**	P	**P**	**07 58 10.5**	**+1.2**
	496nm,0.7s,7μm						
SPSI	**Sidrap Palu**	**12.31**	**199**	P	**P**	**07 58 11.5**	**+0.5**
MTKI	**Muara Teweh, K**	**12.41**	**226**	P	**P**	**07 58 12.8**	**+0.7**
BNSI	**Bone**	**12.62**	**197**	P	**P**	**07 58 15.1**	**+1.0**
	552nm,0.7s,6μm4μm						
SBUM	**Sibu**	**12.72**	**246**	P	**P**	**07 58 16.0**	**+0.9**
SBUM	**Sibu**	**12.72**	**246**	P	**P**	**07 58 16.3**	**+1.2**
BBPB	**Basco Batanes**	**12.76**	**352**	↑*eP*	**P**	**07 58 13.0**	**-2.4**
BBPB				*eS*	S	08 00 14.3	-18
BBP	**Basco**	**12.77**	**352**	↑*eP*	**P**	**07 58 14.3**	**-1.1**
BBSI	**Bau Bau**	**13.20**	**186**	P	**P**	**07 58 20.8**	**+0.9**
	352nm,0.8s,5μm2μm						
KAPI	**Kappang**	**13.31**	**198**	P	**P**	**07 58 20.0**	**-1.0**
KAPI	**Kappang**	**13.31**	**198**	P	**P**	**07 58 21.4**	**+0.4**
	41nm,0.6s,baz=350,slow=6.4,SNR=16						
KAPI				S	**S**	**08 00 35.5**	**-6.5**
	55nm,0.9s,baz=149,slow=6.9,SNR=1.3						
KAPI	**Kappang**	**13.31**	**198**	P	**P**	**07 58 21.9**	**+0.9**
KAPI	**Kappang**	**13.31**	**198**	P	**P**	**07 58 21.7**	**+0.7**
KAPI	**Kappang**	**13.31**	**198**	*d iP*	**P**	**07 58 21.5**	**+0.5**
KAPI				pmax	pmax		
	comp=Z,56nm,0.8s						
BKSI	**Bulukumba**	**13.49**	**196**	P	**P**	**07 58 24.1**	**+1.3**
FAKI	**Fak Fak**	**13.49**	**141**	P	**P**	**07 58 23.3**	**+0.4**
FAKI	**Fak Fak**	**13.49**	**141**	P	**P**	**07 58 23.6**	**+0.7**
FAKI	**Fak Fak**	**13.49**	**141**	P	**P**	**07 58 23.9**	**+1.0**
	comp=Z,973nm,0.8s,comp=Z,12μmcomp=Z,3μm						
BNDI	**Bandanaira**	**13.59**	**153**	P	**P**	**07 58 25.0**	**+1.2**
BNDI	**Bandanaira**	**13.59**	**153**	P	**P**	**07 58 24.8**	**+1.0**
	comp=Z,1μm,0.8s,comp=Z,3μm						
RKPI	**Ransiki, Papua**	**13.79**	**131**	P	**P**	**07 58 27.8**	**+1.9**
	comp=Z,2μm,0.8s,comp=Z,28μmcomp=Z,9μm						
BSSI	**Bau Bau, Buton**	**14.19**	**194**	P	**P**	**07 58 27.5**	**-2.1**
STKI	**Sintang**	**14.50**	**239**	P	**P**	**07 58 33.4**	**+0.8**
	comp=Z,1μm,1.5s,comp=Z,27μmcomp=Z,18μm						
KSM	**Kuching**	**14.86**	**246**	P	**P**	**07 58 36.8**	**+0.9**
KSM	**Kuching**	**14.86**	**246**	P	**P**	**07 58 36.6**	**+0.7**
KMPI	**Kaimana, Papua**	**14.99**	**139**	P	**P**	**07 58 38.1**	**+1.1**
TWGBT	**Beinan**	**15.23**	**350**	P	**P**	**07 58 37.5**	**-1.6**
TWG	**Pinlang**	**15.24**	**350**	P	**P**	**07 58 37.5**	**-1.6**
YULB	**Yu-li**	**15.76**	**351**	P	**P**	**07 58 42.4**	**-1.6**
YULB	**Yu-li**	**15.76**	**351**	P	**P**	**07 58 42.4**	**-1.6**
TPUB	**Ta-pu**	**15.79**	**349**	P	**P**	**07 58 44.2**	**+0.1**
TPUB	**Ta-pu**	**15.79**	**349**	P	**P**	**07 58 44.4**	**+0.2**
SSLB	**Suanglung**	**16.20**	**350**	P	**P**	**07 58 47.4**	**-0.6**
SSLB	**Suanglung**	**16.20**	**350**	P	**P**	**07 58 47.9**	**-0.1**
MMRI	**Maumere**	**16.34**	**186**	P	**P**	**07 58 50.5**	**+1.2**
MMRI	**Maumere**	**16.34**	**186**	P	**P**	**07 58 51.8**	**+2.5**
NACB	**Ninganchiao**	**16.49**	**353**	P	**P**	**07 58 50.1**	**-0.5**
NACB	**Ninganchiao**	**16.49**	**353**	P	**P**	**07 58 50.0**	**-0.5**
YOJ	**Yonaguni jima**	**16.66**	**357**	P	**P**	**07 58 51.8**	**-0.2**
YOJ	**Yonaguni jima**	**16.66**	**357**	P	**P**	**07 58 53.8**	**+1.8**
YOJ	**Yonaguni jima**	**16.66**	**357**	P	**P**	**07 58 51.8**	**-0.2**
YHNB	**Yeheng**	**17.01**	**352**	P	**P**	**07 58 54.7**	**-0.7**
YHNB	**Yeheng**	**17.01**	**352**	P	**P**	**07 58 55.3**	**-0.1**
JMJ	**Miyako jima 2**	**17.04**	**4**	P	**P**	**07 58 57.5**	**+1.9**
HKPS	**Hong Kong Po S**	**17.23**	**328**	P	**P**	**07 58 57.5**	**+0.2**
HKC	**Hong Kong Obse**	**17.23**	**328**	↑*iP*	**P**	**07 58 59.0**	**+1.7**
SAUI	**Saumlaki**	**17.29**	**154**	P	**P**	**07 58 58.0**	**+0.1**
SAUI	**Saumlaki**	**17.29**	**154**	P	**P**	**07 58 59.7**	**+1.7**
TATO	**Taipei**	**17.30**	**353**	P	**P**	**07 58 57.

GYA	**Guiyang**	**24.78 321**	⇓P	**P**	**08 00 06.7**	**+1.6**
GYA			sP	sP	08 02 47.0	-0.7
GYA			PcP	**PcP**	**08 03 21.9**	**+1.8**
GYA			S	**S**	**08 03 46.1**	**-0.4**
GYA			ScP	**ScP**	**08 06 02.7**	**+0.2**
GYA			ScS	**ScS**	**08 09 51.0**	**-1.0**
GYA			pmax	pmax		
	comp=Z,55nm,0.7s					
GYA			pmax	pmax		
	comp=Z,560nm,3.6s					
SRDT	**SRDT**	**25.14 287**	P	**P**	**08 00 09.9**	**+1.6**
JFU	**Fukue jima 2**	**25.21 10**	P	**P**	**08 00 09.4**	**+0.7**
PSI	**Prapat**	**25.30 260**	P	**P**	**08 00 10.5**	**+0.6**
PSI	**Prapat**	**25.30 260**	P	**P**	**08 00 10.2**	**+0.3**
RPSI	**Rantau Prapat**	**25.32 260**	P	**P**	**08 00 10.2**	**+0.3**
PHRA	**Phrae**	**25.34 297**	P	**P**	**08 00 10.9**	**+0.8**
MANU	**Manus Island**	**25.38 112**	P	**P**	**08 00 11.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**25.73 176**	P	**P**	**08 00 13.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**25.73 176**	P	**P**	**08 00 13.6**	**+0.1**
	comp=Z,114nm,0.4s,baz=7.6,slow=7.7,SNR=387					
FITZ			S	**S**	**08 03 57.1**	**-4.0**
	comp=Z,93nm,0.8s,baz=65,slow=22,SNR=14					
	comp=Z,114nm,0.4s					
CBIJ	**Chichi jima**	**25.94 40**	P	**P**	**08 00 14.4**	**-0.9**
JCJ	**Chichijima**	**25.94 40**	P	**P**	**08 00 14.5**	**-0.8**
JCJ	**Chichijima**	**25.94 40**	P	**P**	**08 00 09.1**	**-6.2**
JCJ	**Chichijima**	**25.94 40**	P	**P**	**08 00 14.4**	**-0.8**
JNU	**Nakatsue**	**26.09 13**	P	**P**	**08 00 15.9**	**-0.6**
JNU	**Nakatsue**	**26.09 13**	P	**P**	**08 00 16.2**	**-0.2**
	comp=Z,192nm,0.9s,baz=212,slow=3.4,SNR=107					
JNU			ScP	**ScP**	**08 06 05.6**	**-0.5**
	comp=Z,56nm,0.9s,baz=101,slow=3.4,SNR=13					
	comp=Z,192nm,0.9s					
JNU	**Nakatsue**	**26.09 13**	P	**P**	**08 00 16.1**	**-0.4**
ENH	**Enshi**	**26.16 331**	P	**P**	**08 00 17.8**	**+0.7**
ENH	**Enshi**	**26.16 331**	P	**P**	**08 00 18.5**	**+1.4**
CM31	**Chiang Mai Arr**	**26.47 296**	P	**P**	**08 00 19.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**26.47 296**	P	**P**	**08 00 20.9**	**+0.9**
	comp=Z,79nm,0.6s,baz=104,slow=6.9,SNR=271					
CMAR			PcP	**PcP**	**08 03 25.9**	**+1.8**
	comp=Z,32nm,0.9s,baz=132,slow=1.1,SNR=10.0					
CMAR			S	**S**	**08 04 14.2**	**+1.3**
	comp=Z,29nm,1.2s,baz=82,slow=15,SNR=8.5					
CMAR			ScP	**ScP**	**08 06 08.1**	**+0.6**
	comp=Z,54nm,0.8s,baz=96,slow=1.1,SNR=32					
CMAR			PKiKP	**PKiKP**	**08 11 00.8**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=282,slow=1.3,SNR=6.2					
	comp=Z,79nm,0.6s					
CMAR	**Chiang Mai Arr**	**26.47 296**	*i* P	**P**	**08 00 20.8**	**+0.9**
CMAR			pmax	pmax		
	comp=Z,87nm,0.6s					
KMI	**Kunming**	**26.56 313**	⇓P	**P**	**08 00 22.9**	**+1.9**
KMI			PcP	**PcP**	**08 03 25.3**	**+0.8**
KMI			S	**S**	**08 04 15.8**	**+1.2**
KMI			ScP	**ScP**	**08 06 08.6**	**+0.7**
KMI			ScS	**ScS**	**08 09 59.7**	**-0.3**
KMI			pmax	pmax		
	comp=Z,97nm,1.5s					
CHTO	**Chiang Mai**	**26.59 297**	P	**P**	**08 00 21.6**	**+0.5**
CHTO	**Chiang Mai**	**26.59 297**	P	**P**	**08 00 21.6**	**+0.5**
LHMI	**Lhok Sumawe**	**26.85 266**	P	**P**	**08 00 24.1**	**+0.7**
LHMI	**Lhok Sumawe**	**26.85 266**	P	**P**	**08 00 24.9**	**+1.5**
GSI	**Gunungsitoli**	**26.95 258**	P	**P**	**08 00 23.6**	**-0.7**
GSI	**Gunungsitoli**	**26.95 258**	P	**P**	**08 00 23.9**	**-0.4**
JTU	**Tsushima**	**27.15 10**	P	**P**	**08 00 26.4**	**+0.8**
JMN	**Monobe**	**27.48 18**	P	**P**	**08 00 28.7**	**+0.1**
JMN	**Monobe**	**27.48 18**	P	**P**	**08 00 29.2**	**+0.6**
JMN	**Monobe**	**27.48 18**	P	**P**	**08 00 28.8**	**+0.2**
PZH	**PanZhiHua**	**28.11 314**	P	**P**	**08 00 35.0**	**+0.7**
PZH			sP	**sP**	**08 03 18.2**	**-1.5**
PZH			S	**S**	**08 04 37.2**	**-1.2**
PZH			ScS	**ScS**	**08 10 03.8**	**-3.1**
PZH			pmax	pmax		
	comp=Z,80nm,1.2s					
PZH			pmax	pmax		
	comp=Z,100nm,4.2s					
LYN	**LuoYang**	**28.68 340**	⇓P	**P**	**08 00 40.4**	**+1.5**
LYN			PcP	**PcP**	**08 03 31.3**	**+2.0**
LYN			S	**S**	**08 04 49.0**	**+2.3**
LYN			ScP	**ScP**	**08 06 15.0**	**+1.0**
LYN			ScS	**ScS**	**08 10 10.0**	**+1.1**
LYN			pmax	pmax		
	comp=Z,420nm,0.8s					
LYN			pmax	pmax		
	comp=Z,440nm,11.0s					
JAD	**Aida**	**28.69 18**	P	**P**	**08 00 38.7**	**-0.4**
TJN	**Taejon**	**28.69 6**	IAmb	IAmb	08 00 44.2	
	comp=Z,132nm,0.7s					
TJN	**Taejon**	**28.69 6**	P	**P**	**08 00 39.1**	**+0.1**
TJN	**Taejon**	**28.69 6**	*ce*P	**P**	**08 00 38.9**	**-0.1**
PMG	**Port Moresby**	**28.79 126**	P	**P**	**08 00 40.2**	**0.0**
PMG			IAmb	IAmb	08 00 41.9	
	comp=Z,114nm,0.8s					
PMG	**Port Moresby**	**28.79 126**	P	**P**	**08 00 40.8**	**+0.6**
PMG	**Port Moresby**	**28.79 126**	*c i* P	**P**	**08 00 40.2**	**0.0**
PMG			pmax	pmax		
	comp=Z,99nm,0.6s					
COEN	**Coen**	**28.84 138**	P	**P**	**08 00 39.8**	**-0.9**
COEN			IAmb	IAmb	08 00 41.9	
	comp=Z,84nm,0.8s					
COEN	**Coen**	**28.84 138**	P	**P**	**08 00 40.0**	**-0.7**
MBWA	**Marble Bar**	**29.00 188**	P	**P**	**08 00 41.2**	**-0.6**
MBWA	**Marble Bar**	**29.00 188**	P	**P**	**08 00 41.9**	**0.0**
MBWA	**Marble Bar**	**29.00 188**	P	**P**	**08 00 41.9**	**0.0**
TIA	**Tai'an**	**29.01 349**	P	**P**	**08 00 42.3**	**+0.5**
TIA			PcP	**PcP**	**08 03 32.0**	**+1.9**
TIA			S	**S**	**08 04 50.5**	**-1.3**
TIA			ScP	**ScP**	**08 06 15.1**	**0.0**
TIA			ScS	**ScS**	**08 10 12.0**	**+1.5**
TIA			pmax	pmax		
	comp=Z,64nm,0.6s					
TIA			pmax	pmax		
	comp=Z,220nm,3.8s					
JIE	**Ise**	**29.05 22**	P	**P**	**08 00 42.4**	**+0.2**
JHJ	**Hachijo jima 2**	**29.26 28**	P	**P**	**08 00 42.5**	**-1.5**
	comp=Z,186nm,0.4s,baz=215,slow=16,SNR=10					
	comp=Z,186nm,0.4s					
WRAB	**Tennant Creek**	**29.37 160**	P	**P**	**08 00 45.0**	**-0.2**
WRAB	**Tennant Creek**	**29.37 160**	*d i* P	**P**	**08 00 44.9**	**-0.2**
WRAB			pmax	pmax		
	comp=Z,292nm,0.9s					
WRA	**Warramunga Arr**	**29.37 160**	P	**P**	**08 00 44.7**	**-0.5**
	comp=Z,195nm,0.4s,baz=342,slow=8.8,SNR=883					
WRA			PcP	**PcP**	**08 03 32.1**	**+0.8**
	comp=Z,30nm,0.5s,baz=334,slow=3.1,SNR=12					
WRA			S	**S**	**08 04 53.5**	**-4.3**
	comp=Z,281nm,0.7s,baz=334,slow=15,SNR=38					
WRA			ScP	**ScP**	**08 06 16.2**	**-0.4**
	comp=Z,34nm,0.7s,baz=336,slow=3.1,SNR=1.2					
WRA			ScS	**ScS**	**08 10 09.6**	**-3.2**
	comp=Z,16nm,1.0s,baz=323,slow=5.0,SNR=9.5					
WRA			P3KPbc		08 32 30.1	
	comp=Z,0.7nm,0.6s,baz=156,slow=3.8,SNR=3.4					
WRA			P4KPbc		08 39 24.9	
	comp=Z,0.3nm,0.5s,baz=339,slow=4.3,SNR=2.5					
	comp=Z,195nm,0.4s					
WRA	**Warramunga Arr**	**29.37 160**	*i* P	**P**	**08 00 42.2**	**-3.0**
WRA			pmax	pmax		
	comp=Z,222nm,0.4s					
WB2	**Warramunga Arr**	**29.38 160**	P	**P**	**08 00 45.0**	**-0.2**
PSA00	**Pilbara Seismi**	**29.39 188**	P	**P**	**08 00 45.4**	**+0.1**
JWT	**Wachi**	**29.39 19**	P	**P**	**08 00 44.9**	**-0.3**
WR0	**Warramunga Arr**	**29.46 159**	P	**P**	**08 00 45.7**	**-0.2**
XAN	**Xi'an**	**29.59 334**	⇑P	**P**	**08 00 47.1**	**+0.2**
XAN			PcP	**sP**	**08 03 33.1**	**-0.8**
XAN			S	**S**	**08 04 59.6**	**-1.2**
XAN			ScP	**ScP**	**08 06 17.1**	**0.0**
XAN			ScS	**ScS**	**08 10 12.1**	**-1.4**
XAN			pmax	pmax		
	comp=Z,230nm,0.5s					
XAN			pmax	pmax		
	comp=Z,1μm,6.2s					
TNCH	**TengChong**	**29.68 308**	P	**P**	**08 00 49.3**	**+1.3**
TNCH			sP	sP	08 03 34.2	+0.2
TNCH			S	**S**	**08 05 05.9**	**+3.1**
TNCH			ScS	**ScS**	**08 10 15.8**	**+1.2**
TNCH			pmax	pmax		
	comp=Z,150nm,0.7s					
TNCH			pmax	pmax		
	comp=Z,690nm,4.3s					
INCN	**Inchon**	**29.72 4**	P	**P**	**08 00 47.1**	**-0.9**
INCN			IAmb	IAmb	08 00 49.2	
	comp=Z,53nm,0.7s					
INCN	**Inchon**	**29.72 4**	P	**P**	**08 00 48.4**	**+0.5**
INCN	**Inchon**	**29.72 4**	P	**P**	**08 00 48.6**	**+0.7**
INCN	**Inchon**	**29.72 4**	P	**P**	**08 00 47.1**	**-0.9**
INCN			pmax	pmax		
	comp=Z,53nm,0.7s					
CD2	**Chengdu**	**29.75 323**	P	**P**	**08 00 48.9**	**+0.6**
CD2			sP	PcP	08 03 32.0	-0.2
CD2			S	**S**	**08 05 04.0**	**+0.6**
CD2			pmax	pmax		
	comp=Z,280nm,0.8s					
CD2			pmax	pmax		
	comp=Z,540nm,4.4s					
KSRS	**Korea Array**	**29.82 7**	P	**P**	**08 00 49.5**	**+0.8**
	comp=Z,64nm,0.8s,baz=187,slow=9.8,SNR=282					
KSRS			PcP	**sP**	**08 03 33.6**	**-0.9**
	comp=Z,16nm,0.7s,baz=190,slow=2.4,SNR=10					
KSRS			ScP	**ScP**	**08 06 18.0**	**+0.4**
	comp=Z,44nm,0.9s,baz=190,slow=3.6,SNR=31					
KSRS			PKiKP	**PKiKP**	**08 11 03.4**	**0.0**
	comp=Z,1.2nm,0.8s,baz=180,slow=2.0,SNR=4.2					
KSRS			P3KPbc		08 32 29.3	
	comp=Z,1.9nm,0.9s,baz=1.6,slow=5.2,SNR=8.9					
	comp=Z,64nm,0.8s					
KS19	**Wonju Array Si**	**29.86 6**	P	**P**	**08 00 48.9**	**-0.2**
KS19			IAmb	IAmb	08 00 52.5	
	comp=Z,90nm,0.9s					
JSG	**Sagara**	**29.88 24**	P	**P**	**08 00 49.9**	**+0.6**
JGF	**Kuroka**	**30.37 22**	IAmb	IAmb	08 00 56.3	
	comp=Z,190nm,1.0s					
JGF	**Kuroka**	**30.37 22**	P	**P**	**08 00 52.7**	**-0.9**
JGF	**Kuroka**	**30.37 22**	P	**P**	**08 00 52.4**	**-1.1**
RABL	**Rabaul**	**30.62 112**	P	**P**	**08 00 57.9**	**+1.8**
HNS	**HongShan**	**30.68 346**	⇑P	**P**	**08 00 56.9**	**+0.8**
HNS			S	**S**	**08 05 16.8**	**-0.5**
HNS			ScP	**ScP**	**08 06 20.3**	**-0.2**
HNS			ScS	**ScS**	**08 10 18.4**	**-0.2**
HNS			pmax	pmax		
	comp=Z,170nm,0.8s					
JOD2	**Odawara 2**	**30.76 25**	P	**P**	**08 00 55.5**	**-1.4**
DGPR	**DIGLIPUR**	**30.87 283**	*ex*	x	08 00 49.4	
PBA	**Port Blair**	**30.91 280**	P	**P**	**08 00 58.9**	**+0.5**
JGN	**Niukaw**	**30.91 21**	P	**P**	**08 00 57.2**	**-0.9**
DL2	**Dalian**	**31.10 357**	P	**P**	**08 01 00.3**	**+0.6**
DL2			PcP	**PcP**	**08 03 37.0**	**+1.4**
DL2			S	**S**	**08 05 22.2**	**-1.6**
DL2			ScP	**ScP**	**08 06 21.6**	**-0.3**
DL2			ScS	**ScS**	**08 10 19.9**	**-0.8**
DL2			pmax	pmax		
	comp=Z,220nm,0.7s					
DL2			pmax	pmax		
	comp=Z,710nm,7.0s					
PYAG	**Pyongyang**	**31.23 3**	P	**P**	**08 01 01.9**	**+1.2**
PYAG			sP	**PcP**	**08 03 37.2**	**+1.3**
PYAG			S	**S**	**08 05 26.6**	**+1.0**
PYAG			AmB			
	comp=Z,121nm,0.9s					
JRY	**Ryogami san**	**31.33 24**	P	**P**	**08 01 00.2**	**-1.5**
MAJO	**Matsushiro**	**31.52 22**	P	**P**	**08 01 02.4**	**-0.9**
MAJO	**Matsushiro**	**31.52 22**	P	**P**	**08 01 02.0**	**-1.3**
MAJO	**Matsushiro**	**31.52 22**	*c i* P	**P**	**08 01 02.2**	**-1.1**
MAJO			pmax	pmax		
	comp=Z,227nm,0.9s					
MAJO	**Matsushiro**	**31.52 22**	P	**P**	**08 01 02.0**	**-1.3**
MAJO			pP	**pP**	**08 02 39.7**	**+0.5**
MAJO			PcP	**PcP**	**08 03 38.1**	**+1.2**
MAJO			ScP	**ScP**	**08 06 24.2**	**+0.7**
MAT	**Matsushiro**	**31.52 22**	P	**P**	**08 01 01.9**	**-1.4**
MJAR	**Matsushiro Arr**	**31.52 22**	P	**P**	**08 01 01.9**	**-1.4**
	comp=Z,296nm,0.9s,baz=194,slow=8.7,SNR=464					
MJAR			PcP	**PcP**	**08 03 38.7**	**+1.8**
	comp=Z,21nm,0.7s,baz=179,slow=2.7,SNR=8.7					
MJAR			ScP	**ScP**	**08 06 23.7**	**+0.2**
	comp=Z,50nm,1.1s,baz=198,slow=3.7,SNR=13					
MJAR			P3KPbc		08 32 22.8	
	comp=Z,3.3nm,1.0s,baz=356,slow=5.7,SNR=6.4					
	comp=Z,296nm,0.9s					
TIY	**Taiyuan**	**31.59 343**	P	**P**	**08 01 05.1**	**+1.1**
TIY			PcP	**PcP**	**08 03 38.4**	**+1.3**
TIY			sP	**sP**	**08 03 56.2**	**+4.4**
TIY			S	**S**	**08 05 28.9**	**-2.6**
TIY			pmax	pmax		
	comp=Z,250nm,0.8s					
GIRL	**Giralia**	**31.62 197**	P	**P**	**08 01 05.8**	**+1.5**
QIS	**Mount Isa**	**32.10 151**	P	**P**	**08 01 08.1**	**-0.3**
SUJ	**Sinuiju**	**32.24 1**	P	**P**	**08 01 09.8**	**+0.5**
SUJ			S	**S**	**08 05 41.3**	**+0.3**
SUJ			AmB			
	comp=Z,346nm,1.6s					
MTSU	**Mount Surprise**	**32.69 142**	P	**P**	**08 01 14.2**	**+0.8**
AS31	**Alice Springs**	**32.71 163**	P	**P**	**08 01 14.2**	**+0.6**
ASAR	**Alice Springs**	**32.72 163**	P	**P**	**08 01 14.2**	**+0.6**
	comp=Z,174nm,0.3s,baz=341,slow=7.3,SNR=4438					
ASAR			PcP	**PcP**	**08 03 40.4**	**-0.1**
	comp=Z,43nm,0.5s,baz=346,slow=2.7,SNR=11					
ASAR			S	**S**	**08 05 48.9**	**0.0**
	comp=Z,229nm,0.7s,baz=350,slow=23,SNR=57					
ASAR			ScP	**ScP**	**08 06 27.2**	**-0.6**
	comp=Z,48nm,0.7s,baz=340,slow=3.6,SNR=5.1					
ASAR			P3KPbc		08 32 16.8	
	comp=Z,1.1nm,0.6s,baz=158,slow=3.3,SNR=18					
ASAR			P4KPbc		08 39 38.0	
	comp=Z,0.3nm,0.5s,baz=338,slow=3.7,SNR=3.8					
	comp=Z,174nm,0.3s					
AS01	**Alice Springs**	**32.73 163**	P	**P**	**08 01 14.1**	**+0.4**
WRKA	**Warakurna**	**32.86 173**	P	**P**	**08 01 15.4**	**+0.6**
JSD	**Sado**	**32.87 21**	P	**P**	**08 01 13.4**	**-1.3**
JSD			IAmb	IAmb	08 01 14.8	
	comp=Z,146nm,0.7s					
JSD	**Sado**	**32.87 21**	P	**P**	**08 01 13.5**	**-1.1**
JSD	**Sado**	**32.87 21**	P	**P**	**08 01 13.3**	**-1.3**
BJT	**Baijiatuau**	**32.88 349**	P	**P**	**08 01 15.5**	**+0.8**
BJT	**Baijiatuau**	**32.88 349**	P	**P**	**08 01 15.0**	**+0.3**
BJT			PcP	**PcP**	**08 03 41.7**	**+1.1**
BJT			ScP	**ScP**	**08 06 28.8**	**+0.8**
BJI	**Beijing**	**32.90 349**	P	**P**	**08 01 15.4**	**+0.6**
BJI			PcP	**PcP**	**08 03 42.1**	**+1.5**
BJI			S	**S**	**08 05 49.8**	**-1.2**
BJI			ScP	**ScP**	**08 06 28.8**	**+0.7**
BJI			ScS	**ScS**	**08 10 30.0**	**0.0**
BJI			pmax	pmax		
	comp=Z,62nm,0.8s					
IMP	**Imphal**	**33.24 304**	*eP*	**P**	**08 01 17.6**	**-0.6**
IMP			IAmb	IAmb	08 01 19.4	
	comp=Z,72nm,0.6s					
IMP			*i* x	x	08 02 53.0	
MOKO	**MOKOCHONG**	**33.46 307**	⇓*i* P	**P**	**08 01 19.9**	**0.0**
MOKO			IAmb	IAmb	08 01 23.2	
	comp=Z,134nm,1.1s					
MOKO			*i* x	x	08 02 57.1	
KOHI	**KOHIMA**	**33.51 306**	⇓*i* P	**P**	**08 01 20.0**	**-0.4**
LZH	**Lanzhou**	**33.63 330**	⇓*i* P	**P**	**08 01 23.3**	**+2.0**
LZH			pP	pP	08 03 01.4	+1.5
LZH			PcP	**PcP**	**08 03 45.4**	**+2.3**
LZH			S	**S**	**08 06 04.0**	**+1.4**
LZH			sS	sS	08 09 08.1	+2.1
LZH			ScS	**ScS**	**08 10 33.8**	**-0.7**
LZH			pmax	pmax		
	comp=Z,650nm,0.9s					
LZH			pmax	pmax		
	comp=Z,1μm,4.1s					
JMM	**Marumori**	**33.69 25**	P	**P**	**08 01 21.6**	**+0.1**
JMM	**Marumori**	**33.69 25**	P	**P**	**08 01 21.2**	**-0.3**
AZL	**Aizawl**	**33.84 302**	⇓*i* P	**P**	**08 01 23.7**	**+0.6**
AZL			*i* x	x	08 02 59.3	
AZL			*ex*	**S**	**08 06 05.4**	**-0.6**
JYA	**Atsumi**	**33.89 23**	P	**P**	**08 01 23.3**	**+0.1**
SNY	**Shenyang**	**33.96 360**	⇑P	**P**	**08 01 24.0**	**+0.3**
SNY			S	**S**	**08 06 06.6**	**-0.3**
SNY			pmax	pmax		
	comp=Z,100nm,0.6s					
PATS	**Pohnpei**	**34.18 89**	P	**P**	**08 01 26.1**	**+0.1**
PATS	**Pohnpei**	**34.18 89**	P	**P**	**08 01 27.3**	**+1.3**
MEEK	**Meekatharra**	**34.54 188**	P	**P**	**08 01 28.9**	**+0.1**
ZIRO	**ZIRO**	**34.55 308**	*eP*	**P**	**08 01 29.9**	**+0.8**
ZIRO			IAmb	IAmb	08 01 31.8	
	comp=Z,466nm,0.4s					
HHC	**Hu-ho-hao-te**	**34.75 344**	⇓*i* P	**P**	**08 01 31.9**	**+1.5**
HHC			pP	pP	08 03 10.7	+0.9
HHC			sP	sP	08 04 18.2	-1.5
HHC			S	**S**	**08 06 20.7**	**+1.6**
HHC			ScS	**ScS**	**08 10 41.0**	**+0.7**
HHC			pmax	pmax		
	comp=Z,65nm,1.2s					
HHC			pmax	pmax		
	comp=Z,130nm,4.8s					
BTO	**Baotou**	**34.98 341**	*eP*	**P**	**08 01 34.9**	**+2.5**
BTO			pP	**PP**	**08 03 15.4**	**-1.2**
BTO			PP	**PP**	**08 03 16.4**	**-0.2**
BTO			sP	**sP**	**08 04 23.1**	**+1.4**
BTO			S	**S**	**08 06 29.1**	**+6.4**
BTO			sS	**sS**	**08 09 30.6**	**+3.5**
BTO			SS	**SS**	**08 09 35.4**	**-3.3**
BTO			pmax	pmax		
	comp=Z,94nm,0.9s					
BTO			pmax	pmax		
	comp=Z,910nm,7.1s					
TV1H	**Townsville Har**	**35.08 140**	P	**P**	**08 01 34.4**	**+1.1**
SHL	**Shillong**	**35.25 304**	P	**P**	**08 01 35.0**	**+0.1**
SHL	**Shillong**	**35.25 304**	P	**P**	**08 01 35.3**	**+0.3**
	SNR=161					
SHL	**Shillong**	**35.25 304**	*eP*	**P**	**08 01 35.2**	**+0.3**
SHL	**Shillong**	**35.25 304**	P	**P**	**08 01 35.0**	**+0.1**
SHL			pmax	pmax		
	comp=Z,517nm,0.6s					
JOM	**Ohasama**	**35.27 24**	P	**P**	**08 01 34.2**	**-0.4**
MSHR	**Mys Shultsa**	**35.30 9**	⇑*eP*	**P**	**08 01 35.2**	**+0.4**
MSHR			pmax	pmax		
	comp=Z,241nm,0.9s					
PSTR	**Posyet**	**35.31 9**	*c i* P	**P**	**08 01 35.9**	**+1.0**
CTA	**Charters Tower**	**35.36 142**	P	**P**	**08 01 36.9**	**+1.3**
CTAO	**Charters Tower**	**35.36 142**	P	**P**	**08 01 35.6**	**0.0**
CTAO			IAmb	IAmb	08 01 38.7	
	comp=Z,183nm,1.2s					
CTAO	**Charters Tower**	**35.36 142**	P	**P**	**08 01 36.4**	**+0.8**
CTAO	**Charters Tower**	**35.36 142**	P	**P**	**08 01 35.6**	**0.0**
CTAO			pmax	pmax		
	comp=Z,183nm,1.2s					
CTAO	**Charters Tower**	**35.36 142**	P	**P**	**08 01 36.6**	**+1.0**
CTAO			PcP	**PcP**	**08 03 50.5**	**+2.2**
AUAYR	**Ayr State High**	**35.70 140**	P	**P**	**08 01 39.8**	**+1.3**
VLA	**Vladivostok**	**35.95 10**	⇓*eP*	**P**	**08 01 40.1**	**0.0**
VLA			pmax	pmax		
	comp=Z,98nm,0.6s					
CN2	**Changchun**	**35.95 2**	⇑P	**P**	**08 01 39.9**	**-0.3**
CN2			*eS*	**S**	**08 06 38.9**	**+2.1**
CN2			pmax	pmax		
	comp=Z,20nm,0.6s					
CN2			pmax	pmax		
	comp=Z,300nm,4.0s					
JTM	**Tenmabayashi**	**36.31 22**	P	**P**	**08 01 43.1**	**-0.1**
JTM	**Tenmabayashi**	**36.31 22**	P	**P**	**08 01 44.2**	**+1.0**
JTM	**Tenmabayashi**	**36.31 22**	P	**P**	**08 01 43.8**	**+0.6**
XLT	**XiLinHaoTe**	**36.66 351**	*eP*	**P**	**08 01 46.6**	**+0.5**
XLT			pP	pP	08 03 28.8	+2.0
XLT			ScP	**ScP**	**08 06 42.5**	**+0.6**
XLT			S	**S**	**08 06 45.6**	**-1.9**
XLT			sS	sS	08 09 52.8	-0.5
XLT			ScS	**ScS**	**08 10 50.5**	**-0.4**
XLT			pmax	pmax		
	comp=Z,94nm,0.8s					
JOT	**Ohata**	**36.82 22**	P	**P**	**08 01 47.6**	**+0.3**
USA0B	**Ussuriysk Arra**	**37.01 10**	P	**P**	**08 01 49.0**	**+0.2**
USA0B			IAmb	IAmb	08 01 50.5	
	comp=Z,89nm,0.8s					
USA0B	**Ussuriysk Arra**	**37.01 10**	*c i* P	**P**	**08 01 49.4**	**+0.6**
USRK	**Ussuriysk Ar.**	**37.01 10**	P	**P**	**08 01 49.3**	**+0.5**
	comp=Z,88nm,0.7s,baz=202,slow=6.9,SNR=112					
USRK			ScP	**ScP**	**08 06 42.6**	**-0.4**
	comp=Z,9.0nm,0.9s,baz=209,slow=3.5,SNR=5.8					
	comp=Z,88nm,0.7s					
MDJ	**Mudanjiang**	**37.08 7**	P	**P**	**08 01 49.8**	**+0.4**
MDJ			IAmb	IAmb	08 01 51.2	
	comp=Z,117nm,0.7s					
MDJ	**Mudanjiang**	**37.08 7**	P	**P**	**08 01 50.3**	**+0.9**
MDJ			PP	**PP**	**08 03 35.8**	**0.0**
MDJ			sP	sP	08 04 39.7	+0.6
MDJ			ScP	**ScP**	**08 06 44.7**	**+1.4**
MDJ			S	**S**	**08 06 53.7**	**+0.3**
MDJ			sS	sS	08 09 58.6	-1.0
MDJ			SS	**SS**	**08 10 13.4**	**+0.3**
MDJ			ScS	**ScS**	**08 10 55.4**	**+2.4**
MDJ			pmax	pmax		
	comp=Z,170nm,0.7s					
MDJ			pmax	pmax		
	comp=Z,290nm,4.0s					
MDJ	**Mudanjiang**	**37.08 7**	P	**P**	**08 01 50.2**	**+0.9**
MDJ	**Mudanjiang**	**37.08 7**	P	**P**	**08 01 49.9**	**+0.6**
OOD	**Oodnadatta**	**37.13 162**	P	**P**	**08 01 50.5**	**+0.5**
MORW	**Morawa**	**37.35 191**	P	**P**	**08 01 51.8**	**0.0**
MORW	**Morawa**	**37.35 191**	P	**P**	**08 01 52.1**	**+0.3**
JSH	**Shimam**	**37.58 20**	P	**P**	**08 01 54.0**	**+0.5**
LSA	**Lhasa**	**37.68 310**	P	**P**	**08 01 56.7**	**+1.6**
LSA	**Lhasa**	**37.68 310**	P	**P**	**08 01 57.0**	**+1.9**
LSA	**Lhasa**	**37.68 310**	P	P	08 01 41.1	-14
LSA			S	S	08 06 41.0	-23
LSA			LR	LR		
	comp=N,2μm,20.5s					
LSA			LR	LR		
	comp=Z,550nm,11.1s					
LSA	**Lhasa**	**37.68 310**	P	**P**	**08 01 56.7**	**+1.6**
LSA			pmax	pmax		
	comp=Z,755nm,1.9s					
BNX	**BinXian**	**37.99 4**	⇓P	**P**	**08 01 56.9**	**+0.2**
BNX			pP	**pP**	**08 03 38.8**	**+0.5**
BNX			sP	**sP**	**08 04 46.7**	**-1.0**
BNX			ScP	**ScP**	**08 06 46.7**	**-0.1**
BNX			S	**S**	**08 07 05.2**	**-1.5**
BNX			sS	**sS**	**08 10 15.7**	**+1.9**
BNX			pmax	pmax		
	comp=Z,120nm,0.8s					
BNX			pmax	pmax		
	comp=Z,260nm,4.4s					
ERM	**Erimo**	**38.17 23**	P	**P**	**08 01 58.2**	**-0.1**
ERM			IAmb	IAmb	08 02 02.6	
	comp=Z,127nm,0.8s					
ERM	**Erimo**	**38.17 23**	P	**P**	**08 01 59.4**	**+1.1**
ERM	**Erimo**	**38.17 23**	*c i* P	**P**	**08 01 59.1**	**+0.8**
ERM			pmax	pmax		
	comp=Z,143nm,0.9s					
GTA	**Gaotai**	**38.22 329**	P	**P**	**08 02 00.0**	**+1.1**

NWAO	**Narrogin (SRO)**	**40.92**	**189**	P	**P**	**08 02 20.6 +0.2**
NWAO	**Narrogin (SRO)**	**40.92**	**189**	P	**P**	**08 02 20.7 +0.3**
NWAO	**Narrogin (SRO)**	**40.92**	**189**	P	**P**	**08 02 20.7 +0.3**
NWAO				pmax	pmax	
	comp=Z,390nm,0.7s					
NWAO	**Narrogin (SRO)**	**40.92**	**189**	P	**P**	**08 02 20.7 +0.3**
YUK	**Yuzh-Kuril'sk**	**40.95**	**24***c*	*i*P	**P**	**08 02 20.7 +0.3**
JHSG	**JHARSUGUGA**	**41.05**	**294**	*e*P	**P**	**08 02 22.6 +1.0**
GD1S	**Gladstone Soft**	**41.19**	**140**	P	**P**	**08 02 23.7 +1.1**
AUHAR	**St Anne's Scho**	**41.30**	**190**	P	**P**	**08 02 24.6 +1.3**
HIA	**Hailar**	**41.54**	**356**	P	**P**	**08 02 25.5 +0.5**
HIA				IAmb	IAmb	08 02 26.8
	comp=Z,85nm,0.9s					
HIA	**Hailar**	**41.54**	**356**	P	**P**	**08 02 25.8 +0.8**
HIA	**Hailar**	**41.54**	**356**	P	**P**	**08 02 25.5 +0.5**
HIA				pmax	pmax	
	comp=Z,85nm,0.9s					
KLR	**Kul'dur**	**41.89**	**8***c*	*i*P	**P**	**08 02 27.8 +0.1**
KLR				pmax	pmax	
	comp=Z,68nm,0.7s					
BBOO	**Buckleboo**	**41.96**	**165**	P	**P**	**08 02 29.1 +0.6**
BBOO	**Buckleboo**	**41.96**	**165**	P	**P**	**08 02 28.6 +0.1**
EIDS	**Eidsvold**	**42.24**	**142**	P	**P**	**08 02 30.5 -0.4**
EIDS				IAmb	IAmb	08 02 33.6
	comp=Z,111nm,0.8s					
EIDS	**Eidsvold**	**42.24**	**142**	P	**P**	**08 02 31.3 +0.4**
YSS	**Yuzh-Sakhalins**	**42.30**	**19**	P	**P**	**08 02 30.9 0.0**
YSS				IAmb	IAmb	08 02 33.2
	comp=Z,107nm,1.0s					
YSS	**Yuzh-Sakhalins**	**42.30**	**19**	P	**P**	**08 02 31.2 +0.3**
YSS	**Yuzh-Sakhalins**	**42.30**	**19**	*e*P	**P**	**08 02 31.1 +0.2**
YSS				*e**PP	**pP**	**08 04 12.3 -1.7**
YSS				*e*		08 04 17.5
YSS				*e*S	**S**	**08 08 09.7 +0.7**
YSS				*e*SS	**SS**	**08 11 31.7 -6.2**
YSS				pmax	pmax	
	comp=Z,100nm,1.0s					
YSS				pmax	pmax	
	comp=Z,1μm,4.6s					
YSS				smax	smax	
	comp=N,700nm,11.3s					
YSS				smax	smax	
	comp=E,2μm,11.2s					
ULN	**Ulaanbaatar**	**42.47**	**343**	P	**P**	**08 02 32.9 +0.5**
ULN				IAmb	IAmb	08 02 35.4
	comp=Z,100nm,0.9s					
ULN	**Ulaanbaatar**	**42.47**	**343**	P	**P**	**08 02 33.6 +1.1**
ULN				P	**P**	**08 02 33.6 +1.1**
ULN	**Ulaanbaatar**	**42.47**	**343***d*	*i*P	**P**	**08 02 33.6 +1.1**
ULN				pmax	pmax	
	comp=Z,223nm,1.7s					
ULN	**Ulaanbaatar**	**42.47**	**343**	P	**P**	**08 02 33.4 +0.9**
ULN				PcP	**PcP**	**08 04 11.3 +0.4**
ULN				ScP	**ScP**	**08 07 04.9 +0.2**
HEH	**HeiHe**	**42.49**	**3** ⇑	P	**P**	**08 02 32.8 +0.5**
HEH				PcP	**PcP**	**08 04 10.5 -0.1**
HEH				ScP	**ScP**	**08 07 04.4 -0.1**
HEH				S	**S**	**08 08 09.7 -1.9**
HEH				ScS	**ScS**	**08 11 22.5 -3.0**
HEH				pmax	pmax	
	comp=Z,180nm,1.0s					
WHYH	**Whyalla**	**42.59**	**163**	P	**P**	**08 02 34.2 +0.8**
RKGY	**Rocky Gully**	**42.61**	**188**	P	**P**	**08 02 35.0 +1.4**
BLSP	**Bilaspur**	**42.62**	**294** ⇓	*i*P	**P**	**08 02 34.4 +0.5**
BLSP				*i*pP	**PcP**	**08 04 10.8 -1.0**
SONM	**Songino Array**	**42.63**	**343**	P	**P**	**08 02 34.7 +1.0**
	comp=Z,69nm,0.8s,baz=159,slow=8.4,SNR=125					
SONM				PcP	**PcP**	**08 04 12.0 +0.6**
	comp=Z,36nm,0.8s,baz=153,slow=3.8,SNR=12					
SONM				ScP	**ScP**	**08 07 05.4 0.0**
	comp=Z,17nm,0.8s,baz=158,slow=4.1,SNR=8.4					
	comp=Z,69nm,0.8s					
KUR	**Kuril'sk**	**42.76**	**25**	*e*P	**P**	**08 02 34.7 +0.2**
KUR				*i*		08 04 27.4
KUR				*i*S	**S**	**08 08 14.5 -1.1**
KUR				*e*SS	**SS**	**08 11 47.9 +2.5**
KUR				pmax	pmax	
	comp=Z,1μm,4.7s					
PTPS	**Port Pirie**	**42.84**	**162**	P	**P**	**08 02 37.7 +2.3**
AUALB	**St Joseph's Co**	**42.87**	**187**	P	**P**	**08 02 37.1 +1.5**
MALK	**Mahakanadarawa**	**42.88**	**274**	P	**P**	**08 02 33.9 -2.1**
MALK				S	**S**	**08 08 12.1 -6.2**
STKA	**Stephens Creek**	**42.88**	**158**	P	**P**	**08 02 36.1 +0.4**
STKA				IAmb	IAmb	08 02 38.0
	comp=Z,40nm,0.5s					
STKA	**Stephens Creek**	**42.88**	**158**	P	**P**	**08 02 36.4 +0.7**
	comp=Z,155nm,0.5s,baz=333,slow=8.2,SNR=350					
STKA				ScP	**ScP**	**08 07 04.4 -2.0**
	comp=Z,28nm,0.6s,baz=328,slow=6.8,SNR=5.0					
STKA				S	**S**	**08 08 17.8 +0.1**
	comp=Z,18nm,0.8s,baz=252,slow=24,SNR=9.9					
	comp=Z,155nm,0.5s					
STKA	**Stephens Creek**	**42.88**	**158**	P	**P**	**08 02 36.3 +0.6**
STKA	**Stephens Creek**	**42.88**	**158***d*	*i*P	**P**	**08 02 36.3 +0.6**
H11S3	**WAKE ISLAND Hy**	**42.96**	**71**	P	**P**	**08 02 37.6 +1.3**
	baz=246,slow=6.2,SNR=6.3					
H11S1	**WAKE ISLAND Hy**	**42.97**	**71**	P	**P**	**08 02 38.2 +1.7**
	baz=246,slow=6.2,SNR=4.8					
H11S2	**WAKE ISLAND Hy**	**42.97**	**71**	P	**P**	**08 02 38.2 +1.7**
	baz=246,slow=6.2,SNR=5.5					
WAKE	**Wake Island**	**43.05**	**70**	P	**P**	**08 02 38.7 +1.5**
MDRS	**Chennai**	**43.18**	**281** ⇓	*i*P	**P**	**08 02 39.7 +1.4**
H11N1	**WAKE ISLAND Hy**	**43.34**	**70**	P	**P**	**08 02 40.7 +1.4**
	baz=314,slow=75,SNR=7.1					
H11N2	**WAKE ISLAND Hy**	**43.35**	**69**	P	**P**	**08 02 40.3 +1.0**
	baz=314,slow=75,SNR=5.6					
H11N3	**WAKE ISLAND Hy**	**43.36**	**70**	P	**P**	**08 02 40.7 +1.3**
	baz=314,slow=75,SNR=8.5					
HTT	**Hallett**	**43.37**	**162**	P	**P**	**08 02 40.4 +0.9**
H01W3	**Cape Leeuwin H**	**43.37**	**192**	P	**P**	**08 02 41.5 +2.4**
	baz=18,slow=5.0,SNR=6.4					
H01W1	**Cape Leeuwin H**	**43.38**	**192**	P	**P**	**08 02 40.8 +1.6**
	baz=18,slow=5.0,SNR=6.9					
H01W2	**Cape Leeuwin H**	**43.38**	**192**	P	**P**	**08 02 41.6 +2.4**
	baz=18,slow=5.0,SNR=3.3					
AULRC	**Lightning Ridg**	**43.64**	**149**	P	**P**	**08 02 42.4 +0.8**
ALBI	**Allahabad**	**43.70**	**299**	*e*P	**P**	**08 02 42.5 +0.2**
ALBI				*i* x	x	08 04 15.0
ALBI				*e*x	**S**	**08 08 28.9 -0.8**
UGL	**Uglegorsk**	**43.97**	**17**	*e*P	**P**	**08 02 44.8 +1.0**
UGL				*e*S	**S**	**08 08 33.4 +0.8**
UGL				pmax	pmax	
	comp=Z,310nm,0.8s					
GRNR	**Gornyy**	**44.15**	**11** ⇑	*i*P	**P**	**08 02 46.3 +1.0**
GRNR				pmax	pmax	
	comp=N,30nm,1.0s					
GRNR				pmax	pmax	
	comp=Z,80nm,0.9s					
CMSA	**Cobar Meteorol**	**44.28**	**153**	P	**P**	**08 02 48.0 +1.5**
TW1H	**Toowoomba 1 Ha**	**44.39**	**143**	P	**P**	**08 02 48.9 +1.4**
BRCI	**Bahraich**	**44.56**	**302**	*e*P	**P**	**08 02 50.0 +1.2**
GHSS	**Government Hou**	**44.65**	**163**	P	**P**	**08 02 50.8 +1.5**
AUWSH	**Wavell State H**	**44.92**	**142**	P	**P**	**08 02 52.2 +0.7**
CIT	**Chita**	**44.96**	**351**	*e*P	**P**	**08 02 52.4 +0.9**
CIT				*e*		08 04 19.2
CIT				*e*		08 04 43.2
CIT				*e*		08 08 46.2
CIT				*e*		08 11 40.6
CIT				*e*		08 12 24.1
CIT				pmax	pmax	
	comp=Z,354nm,2.2s					
AUMBR	**Murray Bridge**	**45.06**	**162**	P	**P**	**08 02 53.0 +0.7**
SALM	**Salem**	**45.14**	**279** ⇓	*i*P	**P**	**08 02 54.1 +0.7**
HYB	**Hyderabad**	**45.15**	**287**	*e*P	**P**	**08 02 54.3 +0.8**
HYB				IVmB_BB		08 02 54.6
	comp=Z,3μm,2.1s					
HYB				*e*PcP	**PcP**	**08 04 21.1 +0.5**
HYB				*e*sP	**sP**	**08 05 48.5 +0.6**
HYB				*e*ScP	**ScP**	**08 07 15.6 -0.7**
HYB				*e*PcS	**PcS**	**08 08 15.1 -1.0**
HYB				*e*S	**S**	**08 08 50.5 +0.2**
HYB				*e*ScS	**ScS**	**08 11 41.5 -2.6**
HYB				*e*sS	**sS**	**08 12 04.1 -0.6**
HYB				*e*SS	**SS**	**08 12 27.0 +2.3**
NGP	**Nagpur**	**45.23**	**292**	*e*P	**P**	**08 02 54.4 +0.4**
TYV	**Tymovskoe**	**45.74**	**17**	*e*P	**P**	**08 02 58.0 +0.7**
TYV				*e*S	**S**	**08 08 59.3 +1.9**
TYV				pmax	pmax	
	comp=Z,43nm,0.9s					
TYV				pmax	pmax	
	comp=Z,600nm,3.4s					
TYV				smax	smax	
	comp=N,2μm,6.3s					
TYV				smax	smax	
	comp=E,2μm,6.3s					
GC1S	**Gold Coast 1 S**	**45.76**	**142**	P	**P**	**08 02 59.0 +1.2**
ZAK	**Zakamensk**	**45.84**	**342**	*e*P	**P**	**08 02 58.0 -0.2**
ZAK				pmax	pmax	
	comp=Z,41nm,1.6s					
KOD	**Kodaikanal**	**45.86**	**277** ⇓	*i*P	**P**	**08 02 59.6 +0.4**
ZEA	**Zeya**	**45.95**	**3**	*e*P	**P**	**08 02 59.0 +0.1**
ZEA				*e*		08 04 24.6
ZEA				*e*		08 04 47.8
ZEA				*e*		08 05 56.9
ZEA				*e*S	**S**	**08 08 59.3 -1.0**
ZEA				*e*		08 11 43.1
ZEA				pmax	pmax	
	comp=N,30nm,1.0s					
ZEA				pmax	pmax	
	comp=Z,50nm,0.9s					
ZEA				pmax	pmax	
	comp=Z,100nm,3.5s					
ZEA				pmax	pmax	
	comp=Z,200nm,9.3s					
ZEA				smax	smax	
	comp=E,500nm,8.6s					
ZEA				smax	smax	
	comp=N,600nm,8.0s					
ZEA				MLR	MLR	
	comp=E,300nm,16.0s					
ZEA				MLR	MLR	
	comp=N,700nm,13.0s					
ZEA				MLR	MLR	
	comp=Z,600nm,12.0s					
AUDCS	**Dubbo College**	**46.24**	**151**	P	**P**	**08 03 03.0 +1.6**
PTH	**Pithoragarh**	**46.33**	**304** ⇓	*i*P	**P**	**08 03 01.6 -0.8**
ARMA	**Armidale**	**46.36**	**146**	P	**P**	**08 03 03.8 +1.3**
ARMA				IAmb	IAmb	08 03 06.9
	comp=Z,212nm,0.9s					
ARMA	**Armidale**	**46.36**	**146**	P	**P**	**08 03 04.4 +1.9**
TRD	**Trivandrum**	**46.41**	**274**	*e*P	**P**	**08 03 03.0 0.0**
AUPHS	**Peel High Scho**	**46.49**	**147**	P	**P**	**08 03 04.8 +1.5**
JHNI	**Jhansi**	**46.60**	**298** ⇓	*i*P	**P**	**08 03 03.2 -1.1**
JHNI				IAmb	IAmb	08 03 05.5
	comp=Z,194nm,1.1s					
JHNI				*i* x	x	08 04 24.5
AKL	**Akola**	**47.03**	**291** ⇓	*i*P	**P**	**08 03 08.0 +0.4**
BHPL	**Bhopal**	**47.10**	**295** ⇓	*i*P	**P**	**08 03 08.3 +0.2**
BHPL				IAmb	IAmb	08 03 10.5
	comp=Z,173nm,1.0s					
IRK	**Irkutsk**	**47.19**	**344**	*e*P	**P**	**08 03 06.6 -1.7**
IRK				*e*S	**S**	**08 09 20.4 +2.9**
IRK				*e*		08 11 55.6
IRK				pmax	pmax	
	comp=Z,298nm,2.2s					
JOSI	**Joshimath**	**47.20**	**305** ⇓	*i*P	**P**	**08 03 09.6 +0.7**
NRDN	**NARMADA NAGAR**	**47.23**	**294** ⇓	*i*P	**P**	**08 03 13.7 +4.6**
ARPS	**Mount Arapiles**	**47.37**	**160**	P	**P**	**08 03 10.3 +0.5**
GUNA	**GUNA**	**47.48**	**296** ⇓	*i*P	**P**	**08 03 10.8 -0.1**
AUMAG	**Moama Anglican**	**47.82**	**157**	P	**P**	**08 03 14.7 +1.5**
WMQ	**Urumqi**	**47.83**	**325** ⇓	P	**P**	**08 03 14.6 +1.4**
WMQ				PcP	**PcP**	**08 04 31.1 +1.3**
WMQ				pP	pP	08 05 02.9 +0.8
WMQ				ScP	**ScP**	**08 07 29.7 +2.7**
WMQ				PcS	**PcS**	**08 08 25.9 -0.7**
WMQ				S	**S**	**08 09 26.5 -0.2**
WMQ				pmax	pmax	
	comp=Z,340nm,1.1s					
WMQ				pmax	pmax	
	comp=Z,1μm,3.7s					
WMQ	**Urumqi**	**47.83**	**325**	P	**P**	**08 03 14.7 +1.5**
WMQ				PcP	**PcP**	**08 04 30.6 +0.8**
YNG	**Young**	**47.83**	**152**	P	**P**	**08 03 14.5 +1.2**
MGBR	**Mount Gambier**	**47.84**	**162**	P	**P**	**08 03 13.1 -0.2**
MGCD	**Mangrove Creek**	**48.26**	**149**	P	**P**	**08 03 18.8 +2.3**
NTLH	**Newcastle Hard**	**48.32**	**148**	P	**P**	**08 03 18.5 +1.6**
DDI	**Dehra Dun**	**48.35**	**304**	*e*P	**P**	**08 03 18.1 +0.7**
DDI				IAmb	IAmb	08 03 20.3
	comp=Z,586nm,0.7s					
BISR	**Bishrakh**	**48.35**	**302**	*e*P	**P**	**08 03 16.8 -0.5**
HNLY	**HANLEY**	**48.43**	**307** ⇓	*i*P	**P**	**08 03 19.4 +0.9**
HNLY				*i* x	x	08 04 33.5
HNLY				*e*x	x	08 05 09.8
SYDH	**Sydney Hard Ro**	**48.52**	**150**	P	**P**	**08 03 20.1 +1.8**
SONA	**Sohna**	**48.57**	**301**	*e*P	**P**	**08 03 18.6 -0.2**
NDI	**New Delhi**	**48.57**	**302** ⇓	*i*P	**P**	**08 03 18.1 -0.9**
NDI				*i* x	x	08 04 31.9
NDI				*e*x	**S**	**08 09 33.2 -4.0**
KLP	**Kalpa**	**48.58**	**306** ⇓	*i*P	**P**	**08 03 20.3 +0.9**
NPLP	**NPLP New Delhi**	**48.60**	**301**	*e*P	**P**	**08 03 18.2 -0.9**
KOUNC	**Koumac, New Ca**	**48.68**	**126**	P	**P**	**08 03 20.8 +1.1**
KOUNC				IAmb	IAmb	08 03 23.3
	comp=Z,215nm,1.5s					
KOUNC	**Koumac, New Ca**	**48.68**	**126**	P	**P**	**08 03 21.3 +1.5**
RIV	**Riverview**	**48.78**	**149**	P	**P**	**08 03 22.3 +2.1**
BRAT	**Ballarat**	**48.80**	**159**	P	**P**	**08 03 21.3 +1.0**
CAN	**Canberra**	**48.95**	**153**	P	**P**	**08 03 22.1 +0.5**
CAN	**Canberra**	**48.95**	**153**	P	**P**	**08 03 22.9 +1.3**
CAN	**Canberra**	**48.95**	**153**	P	**P**	**08 03 22.1 +0.5**
CAN				pmax	pmax	
	comp=Z,542nm,1.5s					
CAN	**Canberra**	**48.95**	**153**	P	**P**	**08 03 23.0 +1.4**
CAN				PcP	**PcP**	**08 04 35.6 +1.6**
KUDL	**Kundal**	**49.05**	**301**	*e*P	**P**	**08 03 21.8 -0.6**
KUDL				*i* x	x	08 09 37.0
KUDL				*e*x	x	08 12 58.6
WOLH	**Wollongong Har**	**49.10**	**150**	P	**P**	**08 03 24.6 +2.0**
CNB	**Canberra Magne**	**49.11**	**152**	P	**P**	**08 03 24.1 +1.3**
VLAKA	**Lakatoro**	**49.20**	**119**	P	**P**	**08 03 24.9 +1.2**
KKR	**Kurukshetra**	**49.27**	**303**	*e*P	**P**	**08 03 24.7 +0.7**
TARA	**Tarawa**	**49.29**	**95**	P	**P**	**08 03 23.8 -0.7**
KAD	**Karad**	**49.29**	**286** ⇓	*i*P	**P**	**08 03 23.9 -0.5**
KAD				*i* x	x	08 04 33.2
KAD				*e*x	**S**	**08 09 41.3 -6.1**
SMLA	**Simla**	**49.33**	**305** ⇓	*i*P	**P**	**08 03 24.8 +0.3**
SMLA				*i* x	x	08 09 37.9
SMLA				*e*x	x	08 13 06.5
TOO	**Toolangi**	**49.40**	**157**	P	**P**	**08 03 25.9 +1.1**
TOO				IAmb	IAmb	08 03 28.5
	comp=Z,246nm,1.6s					
TOO	**Toolangi**	**49.40**	**157**	P	**P**	**08 03 25.9 +1.1**
TOO				pmax	pmax	
	comp=Z,246nm,1.6s					
GEXS	**Deakin Univers**	**49.51**	**159**	P	**P**	**08 03 27.3 +1.8**
AUUHS	**Ulladulla High**	**49.67**	**151**	P	**P**	**08 03 28.4 +1.6**
AUSMG	**Snowy Mountain**	**49.69**	**154**	P	**P**	**08 03 28.7 +1.6**
POO	**Poona**	**49.72**	**288** ⇓	*i*P	**P**	**08 03 27.4 -0.2**
POO				IAmb	IAmb	08 03 30.9
	comp=Z,88nm,1.1s					
BHK	**Bhakra**	**50.03**	**305** ⇓	*i*x	**P**	**08 03 30.2 +0.6**
AJM	**Ajmer**	**50.24**	**298** ⇓	*i*P	**P**	**08 03 30.8 -0.5**
AJM				*i* x	**S**	**08 09 57.7 -2.3**
HMDM	**Hanimaadhoo**	**50.26**	**272**	P	**P**	**08 03 31.6 +0.1**
HMDM				IAmb	IAmb	08 03 34.4
	comp=Z,253nm,1.1s					
HMDM	**Hanimaadhoo**	**50.26**	**272**	P	**P**	**08 03 32.8 +1.4**
	SNR=7.7					
DHRM	**DHARAMSHALA**	**50.38**	**306**	*e*P	**P**	**08 03 32.5 +0.1**
DHRM				IAmb	IAmb	08 03 35.9
	comp=Z,817nm,1.2s					
AUSSC	**Sale College,**	**50.48**	**156**	P	**P**	**08 03 34.5 +1.9**
SKR	**Severo-Kuril's**	**50.49**	**26**	*e*P	**P**	**08 03 33.2 +0.7**
SKR				pmax	pmax	
	comp=Z,156nm,0.9s					
THN	**Thein Dam**	**50.91**	**306**	*e*P	**P**	**08 03 35.6 -0.2**
THN				IAmb	IAmb	08 03 38.3
	comp=Z,825nm,1.0s					
NOUC	**Port Laguerre**	**51.08**	**126**	P	**P**	**08 03 38.9 +1.6**
DZM	**Mont Dzumac**	**51.18**	**126**	*e*P	**P**	**08 03 36.5 -1.6**
	comp=Z,216nm,1.6s					
DZM				*e*pP	**pP**	**08 05 20.6 -7.2**
	comp=Z,382nm,26.1s					
DZM				*e*S	**S**	**08 10 14.0 +1.3**
	comp=Z,1μm,26.4s					
DZM				*e*SS	**SKiKP**	**08 13 56.0 -2.7**
	comp=Z,3μm,42.4s					
DZM				*e*LQ	LQ	08 16 54.7
	comp=Z,888nm,24.8s					
DZM	**Mont Dzumac**	**51.18**	**126**	IAmb	IAmb	08 03 41.3
	comp=Z,151nm,1.4s					
DZM	**Mont Dzumac**	**51.18**	**126**	P	**P**	**08 03 39.5 +1.4**
DZM	**Mont Dzumac**	**51.18**	**126**	P	**P**	**08 03 39.1 +1.0**
DZM				PcP	**PcP**	**08 04 44.8 +2.1**
DZM				ScP	**ScP**	**08 07 43.7 +1.8**
LIFNC	**LIFOU**	**51.18**	**124**	P	**P**	**08 03 39.5 +1.5**
KAAM	**Kaadhehdhoo**	**51.20**	**264**	P	**P**	**08 03 37.9 -0.4**
KAAM	**Kaadhehdhoo**	**51.20**	**264**	P	**P**	**08 03 38.9 +0.6**
	SNR=6.4					
ONTNC	**Ouen Toro**	**51.31**	**127**	IAmb	IAmb	08 03 41.9
	comp=Z,300nm,1.7s					
ONTNC	**Ouen Toro**	**51.31**	**127**	P	**P**	**08 03 40.3 +1.4**
YATNC	**Mamie plateau,**	**51.53**	**126**	P	**P**	**08 03 42.0 +1.5**
ZSN	**Zaisan**	**51.62**	**327**	*e*P	**P**	**08 03 41.6 +0.8**
ZSN				*e*S	**S**	**08 10 19.2 +1.6**
ZSN	**Zaisan**	**51.62**	**327**	*e*P	**P**	**08 03 41.5 +0.8**
ZSN				*e*S	**S**	**08 10 19.2 +1.6**
JMU	**Jammu**	**51.65**	**306**	*e*P	**P**	**08 03 42.8 +1.6**
OUENC	**Ouen Island, N**	**51.67**	**126**	P	**P**	**08 03 43.3 +1.8**
WUS	**Wushi**	**51.70**	**317**	P	**P**	**08 03 42.8 +1.2**
WUS				PcP	**PcP**	**08 04 44.8 +0.4**
BKNR	**BIKANER**	**51.77**	**300**	*e*P	**P**	**08 03 42.0 -0.2**
BKNR				*i* x	**S**	**08 10 19.4 -0.9**
PINNC	**Pines Island,**	**52.25**	**126**	IAmb	IAmb	08 03 49.4
	comp=Z,572nm,1.9s					
PINNC	**Pines Island,**	**52.25**	**126**	P	**P**	**08 03 47.0 +1.3**
SHLS	**Shalkode**	**52.46**	**320**	*e*P	**P**	**08 03 45.8 -1.2**
	comp=Z,192nm,0.9s					
SHLS				*e*S	**S**	**08 10 26.9 -2.3**
SHLS	**Shalkode**	**52.46**	**320**	*e*P	**P**	**08 03 45.8 -1.2**
SHLS				*e*S	**S**	**08 10 26.9 -2.3**
SHLS				pmax	pmax	
	comp=Z,192nm,0.9s					
PDGK	**Podgornoye**	**52.53**	**320**	P	**P**	**08 03 47.3 -0.2**
MK31	**Makanchi Array**	**52.66**	**325**	P	**P**	**08 03 48.5 +0.3**
MK31	**Makanchi Array**	**52.66**	**325**	*i* P	**P**	**08 03 48.0 -0.2**
MK31				pmax	pmax	
	comp=Z,215nm,0.5s					
MKAR	**Makanchi Array**	**52.66**	**325**	P	**P**	**08 03 48.5 +0.3**
	comp=Z,278nm,0.5s,baz=119,slow=7.9,SNR=1206					
MKAR				PcP	**PcP**	**08 04 46.6 -1.2**
	comp=Z,76nm,0.7s,baz=116,slow=5.5,SNR=10					
MKAR				S	**S**	**08 10 33.0 +1.6**
	comp=Z,20nm,0.9s,baz=120,slow=14,SNR=13					
MKAR				PKPPKP	**P'P'df**	**08 33 57.2 -7.7**
	comp=Z,5.9nm,1.2s,baz=286,slow=2.7,SNR=11					
MKAR				P4KPbc		08 41 02.6
	comp=Z,3.1nm,0.7s,baz=108,slow=5.2,SNR=22					
	comp=Z,278nm,0.5s					
UZB	**Uzynbulak**	**52.74**	**320**	*e*P	**P**	**08 03 49.6 +0.5**
UZB	**Uzynbulak**	**52.74**	**320**	*e*P	**P**	**08 03 49.5 +0.5**
MAKZ	**Makanchi**	**52.84**	**325**	P	**P**	**08 03 49.8 +0.3**
MAKZ	**Makanchi**	**52.84**	**325**	P	**P**	**08 03 50.7 +1.2**
MAKZ	**Makanchi**	**52.84**	**325**	P	**P**	**08 03 50.1 +0.6**
MAKZ				PcP	**PcP**	**08 04 48.5 0.0**
PEA0B	**Petropavlovsk-**	**52.92**	**25**	IAmb	IAmb	08 03 53.5
	comp=Z,208nm,1.1s					
PEA0B	**Petropavlovsk-**	**52.92**	**25***de*	P	**P**	**08 03 51.3 +1.4**
PETK	**Petropavlovsk-**	**52.92**	**25**	P	**P**	**08 03 50.8 +0.8**
	comp=Z,152nm,1.0s,baz=197,slow=3.6,SNR=73					
PETK				ScP	**ScP**	**08 07 49.0 +0.3**
	comp=Z,38nm,1.0s,baz=207,slow=2.3,SNR=7.8					
	comp=Z,152nm,1.0s					
SATY	**Saty**	**53.09**	**319**	*e*P	**P**	**08 03 52.3 +0.7**
	comp=Z,184nm,0.7s					
SATY				*e*S	**S**	**08 10 38.8 +1.2**
SATY	**Saty**	**53.09**	**319**	*e*P	**P**	**08 03 52.2 +0.7**
SATY				*e*S	**S**	**08 10 38.8 +1.2**
SATY				pmax	pmax	
	comp=Z,184nm,0.7s					
KPKS	**Kokpek**	**53.11**	**320**	*e*P	**P**	**08 03 52.0 +0.5**
	comp=Z,145nm,0.8s					
KPKS				*e*S	**S**	**08 10 38.6 +1.0**
KPKS	**Kokpek**	**53.11**	**320**	*e*P	**P**	**08 03 52.0 +0.5**
KPKS				*e*S	**S**	**08 10 38.6 +1.0**
KPKS				pmax	pmax	
	comp=Z,145nm,0.8s					
ZHN	**Zhinishke**	**53.13**	**319**	*e*P	**P**	**08 03 52.2 +0.5**
ZHN	**Zhinishke**	**53.13**	**319**	*e*P	**P**	**08 03 52.2 +0.5**
KSH	**Kashi**	**53.22**	**314**	P	**P**	**08 03 54.8 +2.4**
KSH				PcP	**PcP**	**08 04 52.5 +2.3**
KSH				S	**S**	**08 10 41.8 +2.5**
KSH				ScS	**ScS**	**08 12 39.6 +0.6**
KSH				sS	sS	08 14 06.5 +4.5
KSH				pmax	pmax	
	comp=Z,290nm,1.2s					
NIL	**Nilore**	**53.25**	**306**	P	**P**	**08 03 53.0 +0.4**
NIL	**Nilore**	**53.25**	**306**	P	**P**	**08 03 53.7 +1.1**
NIL	**Nilore**	**53.25**	**306**	P	**P**	**08 03 53.0 +0.4**
NIL				pmax	pmax	
	comp=Z,598nm,0.9s					
NIL	**Nilore**	**53.25**	**306**	P	**P**	**08 03 53.6 +1.0**
NIL				pP	**pP**	**08 05 47.1 +1.7**
PET	**Petropavlovsk**	**53.26**	**25**	P	**P**	**08 03 53.0 +0.7**
PET				IAmb	IAmb	08 03 55.9
	comp=Z,115nm,0.9s					
PET	**Petropavlovsk**	**53.26**	**25**	P	**P**	**08 03 53.3 +1.0**
PET	**Petropavlovsk**	**53.26**	**25**	*e*P	**P**	**08 03 51.1 -1.2**
PET				*e*		08 04 43.2
PET				*e*		08 06 02.6
PET				*e**SP	**sP**	**08 06 49.4 +0.2**
PET				*e*S	**S**	**08 10 38.7 -0.4**
PET				*e*SP	**SPn**	**08 10 48.3 -0.2**
PET				*e*		08 12 35.8
PET				*e**SS	**SKiKP**	**08 13 57.4 -2.6**
PET				pmax	pmax	
	comp=Z,400nm,7.4s					
PET				pmax	pmax	
	comp=Z,151nm,0.9s					
PET				pmax	pmax	
	comp=Z,500nm,11.5s					
GLAD	**Gladstone**	**53.33**	**157**	P	**P**	**08 03 54.2 +1.3**
CORO	**Coronation Par**	**53.41**	**158**	P	**P**	**08 03 55.2 +1.7**
DGAR	**Diego Garcia**	**53.42**	**255**	P	**P**	**08 03 54.3 +0.2**
DGAR	**Diego Garcia

YAK PcP **PcP** **08 04 54.8 +0.9**
YAK ScP **ScP** **08 07 55.8 +1.0**
CHKK Chushkaly 54.38 319 *e*P **P** **08 04 00.9 +0.5**
CHKK Chushkaly 54.38 319 *e*P **P** **08 04 00.9 +0.5**
BOOM Boomskoye usch 54.46 318 IAmb IAmb 08 04 04.0
comp=Z,150nm,1.0s
BOOM Boomskoye usch 54.46 318 P **P** **08 04 02.4 +1.2**
TAU Tasmania Unive 54.74 159 P **P** **08 04 03.7 +0.9**
TAU Tasmania Unive 54.74 159 P **P** **08 04 04.4 +1.6**
TAU Tasmania Unive 54.74 159 P **P** **08 04 03.7 +0.9**
TAU pmax pmax
comp=Z,87nm,0.8s
KUU Kurty 54.81 319 *e*P **P** **08 04 04.0 +0.6**
comp=Z,563nm,0.9s
KUU Kurty 54.81 319 *e*P **P** **08 04 04.0 +0.6**
KUU pmax pmax
comp=Z,563nm,0.9s
TKM2 Tokmak 2 54.88 318 P **P** **08 04 04.5 +0.4**
SNR=238
TKM2 Tokmak 2 54.88 318 *i*P **P** **08 04 04.2 +0.1**
TKM2 pmax pmax
comp=Z,244nm,0.8s
KBK Karagaybulak 55.20 317 P **P** **08 04 07.4 +1.1**
SNR=54
UCH Uchtor 55.31 317 P **P** **08 04 09.2 +1.7**
SNR=66
CHMS Chumysh 55.47 318 P **P** **08 04 09.1 +1.1**
SNR=18
FRU1 Bishkek 55.48 317 P **P** **08 04 08.8 +0.7**
FRU1 IAmb IAmb 08 04 10.7
comp=Z,194nm,1.1s
FRU1 Bishkek 55.48 317 P **P** **08 04 08.8 +0.7**
FRU1 pmax pmax
comp=Z,194nm,1.1s
AAK Ala-Archa 55.49 317 P **P** **08 04 08.8 +0.5**
AAK IAmb IAmb 08 04 11.2
comp=Z,504nm,1.7s
AAK Ala-Archa 55.49 317 *i*P **P** **08 04 09.5 +1.2**
SNR=126
AAK Ala-Archa 55.49 317 S **S** **08 11 10.0 +1.1**
comp=Z,3.4nm,0.8s,baz=17,slow=21,SNR=8.2
AAK Ala-Archa 55.49 317 P **P** **08 04 09.2 +0.8**
AAK P **P** **08 04 09.2 +0.8**
AAK Ala-Archa 55.49 317 *d*i*P **P** **08 04 09.6 +1.2**
AAK pmax pmax
comp=Z,285nm,1.7s
AAK Ala-Archa 55.49 317 P **P** **08 04 09.6 +1.2**
AAK PcP **PcP** **08 05 00.4 +1.3**
MA2 Magadan 55.61 16 P **P** **08 04 09.4 +0.9**
MA2 IAmb IAmb 08 04 10.7
comp=Z,179nm,0.8s
MA2 Magadan 55.61 16 P **P** **08 04 09.5 +0.9**
MA2 Magadan 55.61 16 *c*i*P **P** **08 04 09.6 +1.0**
MA2 pmax pmax
comp=Z,153nm,0.7s
MA2 Magadan 55.61 16 P **P** **08 04 09.8 +1.2**
comp=Z,238nm,0.8s
MA2 Magadan 55.61 16 P **P** **08 04 09.6 +1.0**
MA2 PcP **PcP** **08 05 00.4 +1.5**
MA2 ScP **ScP** **08 08 01.4 +1.0**
SGDS Sogindy 55.74 318 *e*P **P** **08 04 08.6 -1.3**
SGDS pmax pmax
comp=Z,25nm,0.4s
ZAA0 Zalesovo Array 55.75 333 P **P** **08 04 09.4 -0.2**
ZAA0 IAmb IAmb 08 04 11.2
comp=Z,153nm,1.0s
ZALV Zalesovo Beam 55.75 333 P **P** **08 04 09.0 -0.6**
comp=Z,161nm,1.0s,baz=122,slow=7.3,SNR=176
ZALV PcP **PcP** **08 04 59.5 -0.1**
comp=Z,28nm,0.8s,baz=94,slow=4.5,SNR=5.3
ZALV S **S** **08 11 10.7 -0.7**
comp=Z,4.4nm,0.6s,baz=132,slow=12,SNR=6.0
ZALV PKP2bc **P'P'bc** **08 34 11.6 -2.3**
comp=Z,6.4nm,1.0s,baz=302,slow=3.3,SNR=9.6
comp=Z,161nm,1.0s
ZALV Zalesovo Beam 55.75 333 *i*P **P** **08 04 08.6 -1.0**
ZALV pmax pmax
comp=Z,103nm,0.8s
USP Ospenovka 55.75 318 P **P** **08 04 10.3 +0.4**
SNR=302
SEM Semipalatinsk 55.81 328 *e*P **P** **08 04 10.6 +0.2**
SEM Semipalatinsk 55.81 328 *e*P **P** **08 04 10.6 +0.2**
AML Almayashu 55.84 316 P **P** **08 04 12.7 +1.7**
SNR=21
EKS2 Erkin-Say 55.99 317 P **P** **08 04 13.4 +1.7**
SNR=33
DRK Karamyk 56.20 313 P **P** **08 04 14.4 +1.0**
BTLS Baital 56.79 320 *e*P **P** **08 04 17.4 +0.4**
BTLS Baital 56.79 320 *e*P **P** **08 04 17.4 +0.4**
KBL Kabul 56.85 306 P **P** **08 04 18.0 +0.2**
KBL IAmb IAmb 08 04 20.0
comp=Z,281nm,0.8s
KBL Kabul 56.85 306 P **P** **08 04 18.4 +0.6**
SNR=126
KBL P **P** **08 04 18.4 +0.6**
SNR=126
KBL Kabul 56.85 306 P **P** **08 04 18.0 +0.2**
KBL pmax pmax
comp=Z,281nm,0.8s
KURBB Kurchatov Arra 56.85 327 P **P** **08 04 17.6 +0.4**
comp=Z,385nm,0.7s,baz=125,slow=7.1,SNR=13
KURBB PcP **PcP** **08 05 03.5 -0.5**
comp=Z,28nm,1.1s,baz=145,slow=5.2,SNR=4.7
KURBB S **S** **08 11 20.1 -5.5**
comp=Z,12nm,1.1s,baz=118,slow=16,SNR=8.3
KURBB PKPPKP **P'P'df** **08 33 52.0 -6.6**
comp=Z,2.9nm,0.9s,baz=268,slow=3.4,SNR=9.7
KURBB P4KPbc 08 41 18.9
comp=Z,0.3nm,0.8s,baz=113,slow=4.0,SNR=1.6
comp=Z,385nm,0.7s
KURBB Kurchatov Arra 56.85 327 P **P** **08 04 16.5 -0.7**
KURK Kurchatov 56.85 327 P **P** **08 04 17.4 +0.2**
KURK Kurchatov 56.85 327 *d*i*P **P** **08 04 17.1 -0.1**
KURK pmax pmax
comp=Z,649nm,0.7s
KURK Kurchatov 56.85 327 P **P** **08 04 17.8 +0.6**
KURK pP **pP** **08 06 12.7 +0.6**
BTK Batken 57.11 313 IAmb IAmb 08 04 22.0
comp=Z,376nm,1.1s
DZA Taraz 57.74 316 *e*P **P** **08 04 23.9 +0.3**
DZA Taraz 57.74 316 *e*P **P** **08 04 23.8 +0.3**
SIMJ Simiganj 58.00 311 P **P** **08 04 26.0 +0.5**
SIMJ IAmb IAmb 08 04 27.7
comp=Z,174nm,1.0s
SIMJ Simiganj 58.00 311 P **P** **08 04 25.8 +0.3**
KK31 Karatay Array 58.38 316 P **P** **08 04 27.4 -0.4**
KKAR Karatay Array 58.38 316 P **P** **08 04 27.8 0.0**
KKAR IAmb IAmb 08 04 30.5
comp=Z,177nm,0.8s
KKAR Karatay Array 58.38 316 P **P** **08 04 27.8 0.0**
KKAR pmax pmax
comp=Z,177nm,0.8s
BRLS Borolday 58.81 316 *e*P **P** **08 04 31.4 +0.7**
BRLS Borolday 58.81 316 *e*P **P** **08 04 31.4 +0.7**
SEY Seymchan 58.86 15 *de*P **P** **08 04 32.2 +1.7**
SEY pmax pmax
comp=Z,183nm,2.5s
MIDW Midway 58.92 62 P **P** **08 04 31.9 +0.3**
MIDW IAmb IAmb 08 04 35.1
comp=Z,350nm,1.4s
MIDW Midway 58.92 62 P **P** **08 04 33.1 +1.5**
MSVF Nonsavu 59.19 116 P **P** **08 04 34.3 +0.6**
MSVF Nonsavu 59.19 116 P **P** **08 04 35.5 +1.8**
MSVF Nonsavu 59.19 116⇑ *i*P **P** **08 04 34.8 +1.1**
MSVF pmax pmax
comp=Z,35nm,0.8s
BRZS Berezniki 59.79 324 *e*P **P** **08 04 37.5 +0.5**
BRZS Berezniki 59.79 324 *e*P **P** **08 04 37.5 +0.5**
DGTI Dogotuki 60.23 114 P **P** **08 04 42.0 +1.5**
NGCH Negor - Chabah 62.10 295 P **P** **08 04 53.9 +1.3**
SNR=6.2
HRA Herat 62.30 305 P **P** **08 04 54.1 +0.1**
HRA IAmb IAmb 08 04 56.0
comp=Z,176nm,0.9s
BVA0 Borovoye Array 62.43 327 *i*P **P** **08 04 53.2 -1.0**
BVAR Borovoye Array 62.43 327 P **P** **08 04 54.5 +0.3**
comp=Z,426nm,0.9s,baz=126,slow=9.0,SNR=299
BVAR PcP **PcP** **08 05 27.4 +0.9**
comp=Z,45nm,0.7s,baz=116,slow=3.4,SNR=5.0
BVAR S **S** **08 12 33.4 -1.8**
comp=Z,8.0nm,0.9s,baz=128,slow=16,SNR=8.6
BVAR P4KPbc 08 41 45.6
comp=Z,0.3nm,0.5s,baz=123,slow=4.3,SNR=1.4
comp=Z,426nm,0.9s
BRVK Borovoye 62.50 327 P **P** **08 04 55.0 +0.4**
BRVK Borovoye 62.50 327 P **P** **08 04 54.7 +0.1**
BRVK P **P** **08 04 54.7 +0.1**
BRVK Borovoye 62.50 327 *de*P **P** **08 04 54.3 -0.3**
BRVK pmax pmax
comp=Z,573nm,1.0s
BRVK Borovoye 62.50 327 P **P** **08 04 54.9 +0.3**
BRVK PcP **PcP** **08 05 27.4 +0.6**
BRVK pP **pP** **08 06 54.5 +1.5**
JLN Jalan Bani Buh 63.49 291 P **P** **08 05 00.8 -0.7**
SNR=6.5
WBK Wadi Bani Khal 63.91 291 P **P** **08 05 04.5 +0.3**
SNR=8.9
TIXI Tiksi 63.93 2 P **P** **08 05 02.5 -0.8**
TIXI IAmb IAmb 08 05 06.0
comp=Z,86nm,0.8s
TIXI Tiksi 63.93 2 S **S** **08 12 48.7 -3.8**
comp=Z,8.9nm,0.8s,baz=222,slow=8.9,SNR=4.4
TIXI Tiksi 63.93 2 *ce*P **P** **08 05 02.4 -0.9**
TIXI pmax pmax
comp=Z,295nm,2.5s
TIXI Tiksi 63.93 2 P **P** **08 05 02.6 -0.8**
TIXI pP **pP** **08 07 01.6 -0.9**
JMDO Jabal Madar 64.70 291 P **P** **08 05 09.3 +0.1**
SNR=13
BIDO Bidbid 64.73 292 P **P** **08 05 09.8 +0.5**
SNR=26
SMDO Samad 64.78 292 P **P** **08 05 09.7 -0.1**
SNR=11
MHTO MHTO 64.79 289 P **P** **08 05 09.6 -0.1**
SNR=18
KIWB Kanaga Island 65.07 36 P **P** **08 05 10.9 0.0**
JASK Jask - Hormozg 65.08 295 P **P** **08 05 13.0 +1.5**
SNR=19
DQM DQM 65.18 288 P **P** **08 05 13.0 +0.8**
SNR=14
DQM P **P** **08 05 13.0 +0.8**
SNR=14
ADK Adak 65.35 36 P **P** **08 05 12.3 -0.3**
ADK Adak 65.35 36 P **P** **08 05 12.7 +0.1**
ADK Adak 65.35 36 P **P** **08 05 12.3 -0.3**
ADK pmax pmax
comp=Z,53nm,0.8s
JOHN Johnston Islan 65.47 75 P **P** **08 05 16.5 +2.5**
JOHN IAmb IAmb 08 05 17.0
comp=Z,246nm,0.8s
HOQ Hoqain 65.48 292 P **P** **08 05 14.3 +0.3**
SNR=30
HOQ P **P** **08 05 14.3 +0.3**
SNR=30
ROCAM Rodrigues Isla 65.49 244 P **P** **08 05 14.3 +0.2**
BSY Bisya 65.55 291 P **P** **08 05 14.6 +0.1**
SNR=14
JCZ Jackson Bay 65.60 146 P **P** **08 05 15.5 +1.0**
DCZ Deep Cove 65.63 148 P **P** **08 05 15.5 +1.1**
DCZ IAmb IAmb 08 05 17.6
comp=Z,434nm,1.6s
QRZ Quartz Range 65.82 141 P **P** **08 05 17.3 +1.5**
QRZ IAmb IAmb 08 05 19.9
comp=Z,286nm,1.1s
NRIK Noril'sk 65.89 347 P **P** **08 05 16.0 +0.3**
NRIK Noril'sk 65.89 347 P **P** **08 05 15.4 -0.2**
comp=Z,228nm,0.7s,baz=128,slow=6.3,SNR=272
NRIK S **S** **08 13 12.8 -3.2**
comp=Z,23nm,1.1s,baz=16,slow=23,SNR=58
comp=Z,228nm,0.7s
NRIK Noril'sk 65.89 347 *de*P **P** **08 05 15.3 -0.4**
NRIK pmax pmax
comp=Z,209nm,0.9s
HIZ Hauiti 66.02 138 IAmb IAmb 08 05 21.5
comp=Z,376nm,1.2s
ARQ Araqi 66.19 292 P **P** **08 05 18.8 +0.3**
SNR=13
ARQ P **P** **08 05 18.8 +0.3**
SNR=13
SOHO SOHO 66.21 293 *i*P **P** **08 05 18.1 -0.5**
SNR=29
SOHO SOHO 66.21 293 P **P** **08 05 18.5 0.0**
SOHO P **P** **08 05 18.5 0.0**
INZ Inchbonnie 66.28 144 IAmb IAmb 08 05 20.9
comp=Z,124nm,1.0s
WHZ Wether Hill Ro 66.33 148 IAmb IAmb 08 05 53.9
comp=Z,278nm,1.8s
MDH Madha 66.47 294 *i*P **P** **08 05 18.7 -1.4**
SNR=7.9
MDH Madha 66.47 294 P **P** **08 05 19.2 -0.9**
BILL Bilibino 66.48 16 P **P** **08 05 19.4 0.0**
BILL Bilibino 66.48 16 *ce*P **P** **08 05 19.3 0.0**
BILL pmax pmax
comp=Z,94nm,2.5s
BANOM Banah 66.50 295 P **P** **08 05 20.8 +0.4**
UOSS Minazif 66.54 294 P **P** **08 05 20.2 -0.4**
UOSS IAmb IAmb 08 05 21.9
comp=Z,201nm,1.3s
UOSS Minazif 66.54 294 *i*P **P** **08 05 20.0 -0.6**
SNR=7.7
UOSS Minazif 66.54 294 P **P** **08 05 20.4 -0.2**
UOSS Minazif 66.54 294 P **P** **08 05 20.0 -0.6**
UOSS PcP **PcP** **08 05 44.3 0.0**
LBZ Lake Benmore 66.58 146 IAmb IAmb 08 05 24.0
comp=Z,242nm,0.8s
THZ Tophouse 66.59 142 IAmb IAmb 08 05 23.7
comp=Z,86nm,0.7s
MSFE Esma-Masafi 66.60 294 *i*P **P** **08 05 21.1 +0.1**
SNR=17
MASF Masafi 66.60 294 P **P** **08 05 22.4 +1.4**
SNR=8.7
HATD Hatta, Dubai 66.60 294 *i*P **P** **08 05 21.1 +0.1**
SNR=29
HATD Hatta, Dubai 66.60 294 P **P** **08 05 21.4 +0.4**
SNR=16
SHME Shamm 66.64 295 *i*P **P** **08 05 21.5 +0.3**
SNR=13
SHME Shamm 66.64 295 P **P** **08 05 21.7 +0.5**
SNR=5.4
ASHO Ashiyiah 66.66 293 *i*P **P** **08 05 21.3 -0.1**
SNR=50
ASHO Ashiyiah 66.66 293 P **P** **08 05 21.7 +0.3**
SNR=19
KARZ Kaharoa 66.69 137 P **P** **08 05 24.0 +2.7**
TWVZ Taurewa 66.70 138 P **P** **08 05 22.8 +1.4**
LTZ Lake Taylor 66.81 143 IAmb IAmb 08 05 24.5
comp=Z,444nm,1.6s
OMRZ Omania 66.82 137 P **P** **08 05 24.9 +2.8**
WTVZ West Tongariro 66.83 138 P **P** **08 05 24.3 +2.1**
COVZ Chateau Observ 66.84 138 P **P** **08 05 23.9 +1.7**
NGZ Ngauruhoe 66.87 138 P **P** **08 05 24.4 +2.0**
FWVZ Far West T-bar 66.88 139 P **P** **08 05 25.0 +2.3**
MAVZ Matarangi 66.89 139 P **P** **08 05 24.5 +1.7**
TRVZ Turoa 66.90 139 P **P** **08 05 24.3 +1.6**
TMVZ Te Maari 66.90 138 P **P** **08 05 24.3 +1.7**
ATKA Atka Island 66.91 36 IAmb IAmb 08 05 23.3
comp=Z,134nm,0.8s
ATKA Atka Island 66.91 36 P **P** **08 05 22.6 +0.3**
WHVZ Whangaehu Hut 66.92 139 P **P** **08 05 24.5 +1.6**
ALNE Al Ain 66.92 293 *i*P **P** **08 05 23.2 +0.2**
SNR=82
ALNE Al Ain 66.92 293 P **P** **08 05 23.5 +0.5**
SNR=44
RITZ Rihia Road 66.93 138 P **P** **08 05 24.9 +2.2**
WNVZ Wahianoa 66.95 139 P **P** **08 05 24.8 +1.8**
NAZ Nazwa, Dubai 67.03 294 *i*P **P** **08 05 23.3 -0.3**
SNR=12
NAZ Nazwa, Dubai 67.03 294 P **P** **08 05 23.9 +0.3**
SNR=8.8
NAZ P **P** **08 05 23.9 +0.3**
SNR=8.8
PRRZ Plateau Road 67.04 137 P **P** **08 05 26.2 +2.9**
RRRZ Republican Roa 67.04 137 P **P** **08 05 20.4 -3.0**
FAQ Al Faqa, Dubai 67.09 294 *i*P **P** **08 05 24.0 +0.1**
SNR=25
FAQ Al Faqa, Dubai 67.09 294 P **P** **08 05 24.1 +0.1**
SNR=8.5
AB31 Akbulak array 67.26 320 *i*P **P** **08 05 23.7 -0.8**
MUGZ Murupara 67.28 137 P **P** **08 05 25.6 +0.8**
ASUD Al Ashush, Dub 67.32 293 *i*P **P** **08 05 25.8 +0.5**
SNR=41
ASUD Al Ashush, Dub 67.32 293 P **P** **08 05 26.2 +0.8**
SNR=8.0
ASUD P **P** **08 05 26.2 +0.8**
SNR=8.0
KHZ Kahutara 67.36 142 IAmb IAmb 08 05 26.5
comp=Z,252nm,1.5s
URZ Urewera 67.40 137 P **P** **08 05 26.5 +1.0**
BKZ Black Stump Fm 67.45 138 P **P** **08 05 26.4 +0.5**
MQZ McQueen's Vall 67.58 144 IAmb IAmb 08 05 29.4
comp=Z,291nm,1.4s
KRHZ Kereru 67.62 139 P **P** **08 05 27.9 +1.0**
NMHZ Naumai 67.62 138 P **P** **08 05 28.7 +1.7**
AJN Ajban 67.63 293 *i*P **P** **08 05 27.3 0.0**
SNR=26
AJN Ajban 67.63 293 P **P** **08 05 27.6 +0.3**
SNR=9.9
RUGZ Raukumara Rang 67.64 136 P **P** **08 05 26.7 -0.4**
DMTO DMTO 67.65 286 P **P** **08 05 28.0 +0.6**
SNR=16
DMTO P **P** **08 05 28.0 +0.6**
SNR=16
MRZ Mangatainoka R 67.65 140 IAmb IAmb 08 05 29.0
comp=Z,90nm,1.0s
MWZ Matawai 67.72 137 P **P** **08 05 27.8 +0.3**
BFZ Birch Farm 68.09 140 IAmb IAmb 08 05 32.0
comp=Z,74nm,0.8s
BFZ Birch Farm 68.09 140 P **P** **08 05 30.1 +0.4**
RBK Rabkut 68.36 286 P **P** **08 05 32.2 +0.3**
SNR=44
RBK P **P** **08 05 32.2 +0.3**
SNR=44
DOK Doka 68.41 287 P **P** **08 05 32.0 -0.1**
SNR=43
WHFO Wadi Hawf 68.76 286 P **P** **08 05 34.1 -0.1**
SNR=37
WHFO P **P** **08 05 34.1 -0.1**
SNR=37
AKTO Aktyubinsk 68.77 321 S **S** **08 13 49.1 -1.0**
comp=Z,5.7nm,0.9s,baz=353,slow=23,SNR=26
AKTO Aktyubinsk 68.77 321 P **P** **08 05 33.0 -0.6**
MZR Muzera 68.99 292 *i*P **P** **08 05 36.0 +0.6**
SNR=124
MZR Muzera 68.99 292 P **P** **08 05 36.2 +0.7**
SNR=47
SVE Sverdlovsk 69.08 328 *ce*P **P** **08 05 35.0 -0.3**
SVE *e*S **S** **08 13 51.5 -1.9**
SVE pmax pmax
comp=Z,476nm,0.9s
ABTO Aybut 69.23 286 P **P** **08 05 37.2 +0.2**
SNR=50
ABTO P **P** **08 05 37.2 +0.2**
SNR=50
MSEY Mahe Island 69.32 262 P **P** **08 05 37.5 -0.1**
MSEY IAmb IAmb 08 05 39.3
comp=Z,266nm,1.2s
MSEY Mahe Island 69.32 262 *i*P **P** **08 05 37.8 +0.2**
SNR=13
MSEY Mahe Island 69.32 262 P **P** **08 05 37.7 0.0**
MSEY Mahe Island 69.32 262 P **P** **08 05 37.6 0.0**
MSEY pmax pmax
comp=Z,266nm,1.2s
MSEY Mahe Island 69.32 262 P **P** **08 05 37.2 -0.4**
JRN Qarnain Island 69.58 294 P **P** **08 05 39.3 +0.3**
SNR=13
ARTI Arti 70.13 327 P **P** **08 05 40.9 -0.6**
ARTI IAmb IAmb 08 05 43.0
comp=Z,207nm,0.8s
ARTI Arti 70.13 327 S **S** **08 14 02.1 -3.3**
comp=Z,7.2nm,0.8s,baz=210,slow=22,SNR=28
ARTI Arti 70.13 327 *d*i*P **P** **08 05 40.6 -1.0**
ARTI 08 05 55.2
ARTI 08 08 23.9
ARTI S **S** **08 14 02.6 -2.8**
ARTI 08 14 39.2
ARTI pmax pmax
comp=Z,281nm,0.9s
NIKH Nikolski High 70.25 36 P **P** **08 05 42.2 -0.1**
NIKH IAmb IAmb 08 05 44.3
comp=Z,171nm,0.8s
NIKH Nikolski High 70.25 36 P **P** **08 05 42.0 -0.4**
baz=256
NIKH Nikolski High 70.25 36 P **P** **08 05 42.9 +0.5**
SPIA Saint Paul Isl 70.58 32 P **P** **08 05 45.2 +1.0**
SPIA Saint Paul Isl 70.58 32 P **P** **08 05 44.9 +0.7**
baz=254
P08K Saint George I 70.79 33 P **P** **08 05 45.4 0.0**
baz=254
TRNA Turayna 71.07 293 P **P** **08 05 48.3 +0.6**
SNR=9.2
SHMA Al-Shehemyia 71.30 295 P **P** **08 05 49.7 +0.6**
SNR=8.1
SMRA Abu-Samra 71.42 293 P **P** **08 05 50.3 +0.5**
SNR=14
SAKB Bahrain 71.68 295 P **P** **08 05 52.1 +0.8**
UNV Unalaska Valle 71.82 36 P **P** **08 05 51.3 -0.2**
UNV IAmb IAmb 08 05 52.8
comp=Z,125nm,0.8s
UNV Unalaska Valle 71.82 36 P **P** **08 05 51.3 -0.2**
baz=258
UNV Unalaska Valle 71.82 36 P **P** **08 05 51.5 0.0**
GAMB Gambell 71.96 25 P **P** **08 05 53.2 +1.2**
GAMB IAmb IAmb 08 05 53.9
comp=Z,74nm,0.9s
GAMB Gambell 71.96 25 P **P** **08 05 52.6 +0.6**
baz=250
GAMB S **S** **08 14 26.0 +0.4**
baz=250
RER Riviere de l'E 72.73 245 IAmb IAmb 08 05 59.3
comp=Z,279nm,1.2s
RER Riviere de l'E 72.73 245 P **P** **08 05 57.8 +0.3**
SNR=5.2
M11K Mekoryuk 73.45 29 P **P** **08 06 01.6 +0.9**
baz=256
M11K S **S** **08 14 42.8 +0.7**
baz=256
FALS False Pass 73.79 35 P **P** **08 06 03.1 +0.4**
FALS IAmb IAmb 08 06 03.4
comp=Z,162nm,0.7s
FALS False Pass 73.79 35 P **P** **08 06 02.4 -0.3**
baz=260
FALS False Pass 73.79 35 P **P** **08 06 02.7 0.0**
TNA Tin City 74.06 24 P **P** **08 06 04.7 +0.6**
baz=253
KBD Kabd 74.21 298 P **P** **08 06 05.9 +0.2**
CASY Casey 74.46 186 P **P** **08 06 06.4 +0.3**
CASY IAmb IAmb 08 06 07.6
comp=Z,123nm,0.7s
AKT Akhty 74.53 311 *e*P **P** **08 06 07.6 +0.3**
AKT *e* 08 06 17.8
AKT *e**PP **pP** **08 08 12.5 +0.8**
AKT *e*S **S** **08 14 54.2 -0.7**
AKT pmax pmax
comp=Z,322nm,0.8s
K13K Kusilvak Mount 74.54 28 P **P** **08 06 07.7 +0.9**
baz=257,SNR=9.3
K13K S **S** **08 14 53.2 -0.7**
baz=257
F14K Arctic Creek 74.68 24 P **P** **08 06 08.4 +0.9**
baz=255
F14K S **S** **08 14 54.9 -0.5**
baz=255
S12K Black Hills 74.69 34 P **P** **08 06 07.5 -0.3**
baz=261
S12K S **S** **08 14 50.9 -5.0**
baz=261
MAK Makhachkala 74.79 312 *e*P **P** **08 06 08.5 -0.1**
MAK *e* 08 09 06.2
MAK *e*PPP PPP 08 10 56.4
MAK *e*S **S** **08 14 57.5 +0.2**
MAK *e*SSS SSS 08 23 32.0
MAK pmax pmax
comp=Z,409nm,1.0s
M13K Dall Lake 74.84 29 P **P** **08 06 08.6 +0.2**
baz=259
ANM Nome 74.84 25 P **P** **08 06 08.2 -0.2**
baz=256
ANM S **S** **08 14 58.4 +1.2**
baz=256
J14K Nanvaranak Lak 75.22 27 P **P** **08 06 10.3 -0.2**
baz=258
J14K S **S** **08 14 59.9 -1.3**
baz=258
L14K Kuka Creek 75.34 29 P **P** **08 06 12.4 +1.2**
baz=259,SNR=22
L14K S **S** **08 15 01.4 -1.1**
baz=259
KIRV Kirov 75.34 329 *d*i*P **P** **08 06 10.3 -1.0**
F15K North Star Dit 75.42 24 P **P** **08 06 12.3 +0.7**
baz=256
F15K S **S** **08 15 03.3 0.0**
baz=256
G15K Niukluk 75.50 25 P **P** **08 06 12.7 +0.7**
baz=257
G15K S **S** **08 15 02.3 -1.9**
baz=257
BELG Belogornoye 75.51 322 *c*i*P **P** **08 06 11.8 -0.6**

BELG				pmax	pmax	
	comp=Z,114nm,1.0s					
N14K	**Kuskokwak Cree**	**75.57**	**30**	P	**P**	**08 06 13.2 +0.7**
	baz=260,SNR=11					
N14K				S	**S**	**08 15 05.0 -0.1**
	baz=260					
M14K	**Bethel**	**75.58**	**29**	P	**P**	**08 06 13.5 +0.9**
M14K				IAmb	IAmb	08 06 16.2
	comp=Z,62nm,0.8s					
M14K	**Bethel**	**75.58**	**29**	P	**P**	**08 06 13.3 +0.7**
	baz=260,SNR=15					
M14K				S	**S**	**08 15 05.0 -0.1**
	baz=260					
O14K	**Tigyukauivet M**	**75.67**	**31**	IAmb	IAmb	08 06 14.8
	comp=Z,67nm,0.8s					
O14K	**Tigyukauivet M**	**75.67**	**31**	P	**P**	**08 06 13.5 +0.4**
	baz=261,SNR=12					
O14K				S	**S**	**08 15 05.0 -1.2**
	baz=261					
C16K	**Lisburne Hills**	**75.79**	**21**	P	**P**	**08 06 14.2 +0.6**
	baz=255					
C16K				S	**S**	**08 15 08.2 +1.0**
	baz=255					
L15K	**Ungalak Mounta**	**75.96**	**28**	P	**P**	**08 06 15.3 +0.6**
	baz=260,SNR=9.3					
L15K				S	**S**	**08 15 09.1 -0.1**
	baz=260					
CNBA	**Chernabura Isl**	**75.97**	**35**	IAmb	IAmb	08 06 16.7
	comp=Z,92nm,0.9s					
CHNA	**Chernabura Isl**	**75.97**	**35**	P	**P**	**08 06 14.6 -0.2**
	baz=263					
CHNA				S	**S**	**08 15 08.3 -1.2**
	baz=263					
K15K	**Wolf Creek Mou**	**76.05**	**28**	P	**P**	**08 06 16.0 +0.9**
	baz=260,SNR=10					
K15K				S	**S**	**08 15 10.5 +0.3**
	baz=260					
S14K	**Fog Glacier**	**76.17**	**34**	P	**P**	**08 06 15.9 -0.2**
	baz=263					
H16K	**Elim**	**76.17**	**25**	P	**P**	**08 06 16.3 +0.6**
	baz=259,SNR=9.7					
H16K				S	**S**	**08 15 10.3 -1.1**
	baz=259					
M15K	**Kasigluk River**	**76.18**	**29**	P	**P**	**08 06 16.4 +0.5**
	baz=261,SNR=19					
M15K				S	**S**	**08 15 09.8 -1.8**
	baz=261					
KIP	**Kipapa**	**76.20**	**70**	P	**P**	**08 06 19.9 +3.0**
KIP				IAmb	IAmb	08 06 20.5
	comp=Z,71nm,0.7s					
KIP	**Kipapa**	**76.20**	**70**	*de*P	**P**	**08 06 17.6 +0.8**
KIP				pmax	pmax	
	comp=Z,74nm,1.8s					
G16K	**Koyuk River**	**76.28**	**24**	P	**P**	**08 06 17.1 +0.8**
	baz=258					
G16K				S	**S**	**08 15 12.3 -0.1**
	baz=258					
RAYN	**Ar Rayn**	**76.31**	**292**	P	**P**	**08 06 17.5 0.0**
RAYN	**Ar Rayn**	**76.31**	**292**	*i* P	**P**	**08 06 17.5 0.0**
	SNR=34					
RAYN	**Ar Rayn**	**76.31**	**292**	P	**P**	**08 06 17.7 +0.2**
RAYN	**Ar Rayn**	**76.31**	**292**	P	**P**	**08 06 18.4 +0.9**
SBV	**Sambava**	**76.36**	**254**	P	**P**	**08 06 17.9 +0.2**
	SNR=10					
O15K	**Ungalikthiuk R**	**76.39**	**31**	P	**P**	**08 06 17.5 +0.4**
	baz=262,SNR=6.7					
O15K				S	**S**	**08 15 12.9 -1.0**
	baz=262					
N15K	**Kwethluk River**	**76.40**	**30**	P	**P**	**08 06 18.0 +0.9**
	baz=262,SNR=17					
N15K				S	**S**	**08 15 13.2 -0.7**
	baz=262					
D17K	**Noatak River**	**76.48**	**22**	P	**P**	**08 06 18.7 +1.3**
	baz=257,SNR=28					
D17K				S	**S**	**08 15 15.7 +1.2**
	baz=257					
C17K	**DeLong Mountai**	**76.62**	**21**	P	**P**	**08 06 19.2 +0.9**
	baz=257					
C17K				S	**S**	**08 15 15.6 -0.5**
	baz=257					
RDOG	**Red Dog Mine**	**76.62**	**22**	P	**P**	**08 06 19.2 +0.9**
	baz=257,SNR=5.6					
RDOG				S	**S**	**08 15 15.3 -0.8**
	baz=257					
J16K	**Anvik River**	**76.64**	**27**	P	**P**	**08 06 19.5 +1.2**
	baz=260,SNR=8.2					
J16K				S	**S**	**08 15 18.0 +1.6**
	baz=260					
I17K	**Unalakleet**	**76.70**	**26**	P	**P**	**08 06 19.9 +1.2**
	baz=260					
I17K				S	**S**	**08 15 16.9 0.0**
	baz=260					
GNI	**Garni**	**76.75**	**309**	*e*P	**P**	**08 06 20.2 +0.6**
GNI	**Garni**	**76.75**	**309**	P	**P**	**08 06 20.3 +0.6**
GNI	**Garni**	**76.75**	**309**	P	**P**	**08 06 20.8 +1.2**
GNI	**Garni**	**76.75**	**309**	P	**P**	**08 06 21.7 +2.1**
GNI	**Garni**	**76.75**	**309**	*d i* P	**P**	**08 06 20.9 +1.2**
GNI				pmax	pmax	
	comp=Z,484nm,1.7s					
CHGN	**Chignik**	**76.80**	**34**	IAmb	IAmb	08 06 23.4
	comp=Z,74nm,0.7s					
CHGN	**Chignik**	**76.80**	**34**	P	**P**	**08 06 19.0 -0.4**
	baz=264					
E17K	**Hotham Inlet**	**76.83**	**23**	P	**P**	**08 06 20.7 +1.4**
	baz=258,SNR=16					
E17K				S	**S**	**08 15 19.0 +0.8**
	baz=258					
L16K	**Owhat River**	**76.92**	**28**	P	**P**	**08 06 20.9 +1.0**
	baz=262,SNR=26					
L16K				S	**S**	**08 15 18.6 -0.7**
	baz=262					
F17K	**Baldwin Pennin**	**76.93**	**23**	IAmb	IAmb	08 06 23.2
	comp=Z,198nm,2.0s					
F17K	**Baldwin Pennin**	**76.93**	**23**	P	**P**	**08 06 20.8 +1.0**
	baz=259,SNR=6.3					
F17K				S	**S**	**08 15 19.6 +0.3**
	baz=259					
G17K	**Kiwalik Mounta**	**77.00**	**24**	P	**P**	**08 06 21.3 +1.1**
	baz=260,SNR=17					
G17K				S	**S**	**08 15 19.4 -0.7**
	baz=260					
M16K	**Timber Creek**	**77.07**	**29**	P	**P**	**08 06 21.7 +1.0**
	baz=262,SNR=23					
M16K				S	**S**	**08 15 20.3 -0.7**
	baz=262					
N16K	**Nishlik Lake**	**77.09**	**30**	P	**P**	**08 06 21.9 +1.0**
	baz=263,SNR=24					
N16K				S	**S**	**08 15 21.6 +0.3**
	baz=263					
TASB	**TASBURUN-IGDIR**	**77.13**	**309**	*e*P	**P**	**08 06 22.8 +1.2**
H17K	**Granite Mounta**	**77.21**	**25**	P	**P**	**08 06 22.8 +1.4**
	baz=261,SNR=20					
H17K				S	**S**	**08 15 22.8 +0.5**
	baz=261					
B18K	**Kokolik River**	**77.30**	**20**	P	**P**	**08 06 23.0 +1.2**
	baz=258					
B18K				S	**S**	**08 15 23.6 +0.5**
	baz=258					
P16K	**Nushagak River**	**77.31**	**31**	P	**P**	**08 06 22.9 +0.9**
	baz=264					
O16K	**Kokwok River B**	**77.32**	**31**	P	**P**	**08 06 22.9 +0.8**
	baz=264,SNR=24					
O16K				S	**S**	**08 15 23.1 -0.5**
	baz=264					
J17K	**VABM Dome**	**77.34**	**27**	P	**P**	**08 06 23.3 +1.2**
	baz=262,SNR=13					
J17K				S	**S**	**08 15 24.4 +0.6**
	baz=262					
J17K				S	**S**	**08 15 24.4 +0.6**
	baz=262					
E18K	**Tukpahlearik C**	**77.36**	**23**	P	**P**	**08 06 23.5 +1.3**
	baz=260					
E18K				S	**S**	**08 15 24.2 +0.4**
	baz=260					
C18K	**Utukok River**	**77.37**	**21**	P	**P**	**08 06 23.0 +0.7**
	baz=259					
C18K				S	**S**	**08 15 23.7 -0.4**
	baz=259					
L17K	**Donlin**	**77.52**	**28**	P	**P**	**08 06 24.3 +1.2**
	baz=263,SNR=23					
L17K				S	**S**	**08 15 26.2 +0.5**
	baz=263					
F18K	**Selawik**	**77.58**	**23**	P	**P**	**08 06 24.3 +0.9**
	baz=261,SNR=17					
F18K				S	**S**	**08 15 26.6 +0.4**
	baz=261					
K17K	**Iditarod**	**77.59**	**27**	P	**P**	**08 06 24.5 +1.0**
	baz=263,SNR=20					
K17K				S	**S**	**08 15 26.9 +0.4**
	baz=263					
CUKT	**Cukurca**	**77.61**	**306**	*e*P	**P**	**08 06 24.6 +0.2**
AKH	**Akhalkalaki**	**77.71**	**311**	*e*P	**P**	**08 06 26.4 +1.5**
A19K	**Wainwright**	**77.72**	**20**	P	**P**	**08 06 24.9 +0.9**
	baz=258					
A19K				S	**S**	**08 15 27.0 -0.5**
	baz=258					
VANB	**Van**	**77.78**	**308**	*e*P	**P**	**08 06 26.1 +0.9**
M17K	**Holitna River**	**77.84**	**29**	P	**P**	**08 06 26.4 +1.5**
	baz=264,SNR=15					
M17K				S	**S**	**08 15 29.4 +0.3**
	baz=264					
O17K	**Koliganek Bris**	**77.84**	**31**	P	**P**	**08 06 25.8 +0.9**
	baz=264					
N17K	**Nushagak Hills**	**77.87**	**30**	P	**P**	**08 06 26.4 +1.3**
	baz=264,SNR=11					
N17K				S	**S**	**08 15 30.8 +1.3**
	baz=264					
G18K	**Tagagawik**	**77.88**	**24**	P	**P**	**08 06 25.4 +0.4**
	baz=262,SNR=11					
G18K				S	**S**	**08 15 27.2 -2.1**
	baz=262					
H18K	**Honhosa River**	**77.89**	**25**	P	**P**	**08 06 25.7 +0.6**
	baz=262					
H18K				S	**S**	**08 15 29.4 -0.1**
	baz=262					
Q16K	**King Salmon**	**77.97**	**32**	P	**P**	**08 06 25.5 -0.1**
	baz=265					
Q16K				S	**S**	**08 15 30.9 +0.4**
	baz=265					
KARS	**Kars**	**78.02**	**310**	*e*P	**P**	**08 06 27.9 +1.4**
C19K	**Lookout Ridge**	**78.03**	**21**	IAmb	IAmb	08 06 30.1
	comp=Z,119nm,0.7s					
C19K	**Lookout Ridge**	**78.03**	**21**	P	**P**	**08 06 26.2 +0.4**
	baz=260,SNR=28					
C19K				S	**S**	**08 15 30.9 0.0**
	baz=260					
R17L	**Mt. Peulik Vol**	**78.04**	**33**	P	**P**	**08 06 26.4 +0.3**
	baz=266,SNR=6.3					
PLK4	**Peulik 4**	**78.04**	**33**	IAmb	IAmb	08 06 27.1
	comp=Z,92nm,0.9s					
AGRB	**Hanur-Agry**	**78.09**	**309**	*e*P	**P**	**08 06 28.3 +1.3**
GOF	**Gofitskoye**	**78.09**	**314**	*d i* P	**P**	**08 06 26.9 +0.3**
GOF				*e*S	**S**	**08 15 31.6 -0.7**
AKDM	**Akdamar-Van**	**78.10**	**307**	*e*P	**P**	**08 06 28.2 +1.1**
P17K	**Kvichak River**	**78.12**	**31**	P	**P**	**08 06 26.9 +0.5**
	baz=265,SNR=19					
P17K				S	**S**	**08 15 31.1 -0.9**
	baz=265					
P17K				S	**S**	**08 15 31.1 -0.9**
	baz=265					
KBZ	**Khabaz**	**78.17**	**313**	P	**P**	**08 06 27.4 +0.4**
	comp=Z,84nm,1.0s,baz=95,slow=4.4,SNR=90					
KBZ				S	**S**	**08 15 30.1 -3.0**
	comp=Z,6.0nm,1.1s,baz=16,slow=8.9,SNR=3.6					
	comp=Z,84nm,1.0s					
L18K	**Granite Mounta**	**78.28**	**28**	P	**P**	**08 06 27.9 +0.6**
	baz=264,SNR=26					
L18K				S	**S**	**08 15 33.7 +0.1**
	baz=264					
L18K				S	**S**	**08 15 33.7 +0.1**
	baz=264					
CHIR	**Chirikof Islan**	**78.32**	**35**	P	**P**	**08 06 27.7 +0.1**
	baz=266					
KIV	**Kislovodsk**	**78.33**	**313**	*e*P	**P**	**08 06 27.6 -0.4**
KIV	**Kislovodsk**	**78.33**	**313**	P	**P**	**08 06 29.2 +1.2**
KIV				IAmb	IAmb	08 06 31.0
	comp=Z,223nm,1.0s					
KIV	**Kislovodsk**	**78.33**	**313**	*i* P	**P**	**08 06 28.2 +0.2**
	SNR=25					
KIV	**Kislovodsk**	**78.33**	**313**	P	**P**	**08 06 28.8 +0.7**
KIV	**Kislovodsk**	**78.33**	**313**	⇑P	**P**	**08 06 29.2 +1.2**
KIV	**Kislovodsk**	**78.33**	**313**	*e*P	**P**	**08 06 28.1 +0.1**
KIV				*e**PP	**pP**	**08 08 32.9 -0.7**
KIV				*e*		08 09 36.5
KIV				*e*S	**S**	**08 15 35.1 0.0**
KIV				*e*SSS	SSS	08 24 28.9
KIV				pmax	pmax	
	comp=Z,263nm,3.9s					
KIV				pmax	pmax	
	comp=Z,182nm,1.1s					
KIV				MLR	MLR	
	comp=Z,277nm,19.0s					
KIV	**Kislovodsk**	**78.33**	**313**	P	**P**	**08 06 29.0 +1.0**
	comp=Z,197nm,1.5s,comp=Z,3μm					
Q17K	**Contact Creek**	**78.34**	**32**	P	**P**	**08 06 27.5 -0.3**
	baz=266,SNR=15					
SHA1	**Shidzhatmaz**	**78.35**	**313**	*d i* P	**P**	**08 06 28.3 0.0**
F19K	**Shaleruckik Mo**	**78.36**	**23**	P	**P**	**08 06 27.6 +0.1**
	baz=262					
F19K				S	**S**	**08 15 33.9 -0.3**
	baz=262					
J18K	**Innoko River**	**78.40**	**27**	P	**P**	**08 06 28.5 +0.6**
J18K	**Innoko River**	**78.40**	**27**	P	**P**	**08 06 28.4 +0.6**
	baz=264,SNR=31					
J18K				S	**S**	**08 15 33.4 -1.4**
	baz=264					
MLAZ	**Malazgirt-MUS**	**78.43**	**308**	*e*P	**P**	**08 06 29.9 +1.1**
D19K	**Kuna River**	**78.46**	**22**	P	**P**	**08 06 28.6 +0.5**
	baz=262					
D19K				S	**S**	**08 15 34.7 -0.6**
	baz=262					
GCSA	**Galena City Sc**	**78.47**	**25**	P	**P**	**08 06 28.9 +0.8**
	baz=264,SNR=20					
GCSA				S	**S**	**08 15 35.5 +0.1**
	baz=264					
N18K	**Kilae Creek**	**78.53**	**30**	P	**P**	**08 06 29.6 +1.0**
	baz=265,SNR=10					
N18K				S	**S**	**08 15 36.5 +0.2**
	baz=265					
N18K				S	**S**	**08 15 36.5 +0.2**
	baz=265					
G19K	**Purcell Mounta**	**78.54**	**24**	P	**P**	**08 06 29.3 +0.7**
	baz=263,SNR=24					
G19K				S	**S**	**08 15 35.6 -0.6**
	baz=263					
SENK	**Senkaya-Erzuru**	**78.57**	**310**	*e*P	**P**	**08 06 30.6 +1.1**
M18K	**Stony River**	**78.62**	**29**	P	**P**	**08 06 30.1 +1.0**
	baz=265,SNR=41					
E19K	**Redstone River**	**78.65**	**23**	P	**P**	**08 06 30.0 +0.9**
	baz=263					
E19K				S	**S**	**08 15 36.4 -0.8**
	baz=263					
TTA	**Tatalina**	**78.66**	**27**	P	**P**	**08 06 30.2 +0.8**
	baz=265,SNR=26					
TTA				S	**S**	**08 15 37.9 +0.2**
	baz=265					
TTA	**Tatalina**	**78.66**	**27**	P	**P**	**08 06 30.7 +1.3**
SVW2	**Sparrevohn**	**78.71**	**29**	P	**P**	**08 06 31.3 +1.7**
H19K	**Roundabout Mou**	**78.73**	**25**	P	**P**	**08 06 30.5 +1.0**
	baz=264,SNR=31					
H19K				S	**S**	**08 15 39.2 +1.0**
	baz=264					
P18K	**Big Mountain,**	**78.76**	**31**	P	**P**	**08 06 30.1 +0.2**
	baz=266,SNR=7.3					
P18K				S	**S**	**08 15 40.0 +1.2**
	baz=266					
MLH	**Mauna Loa**	**78.78**	**72**	P	**P**	**08 06 33.6 +2.5**
MLH				IAmb	IAmb	08 06 35.6
	comp=Z,430nm,1.4s					
O18K	**Koktuh Hills**	**78.80**	**31**	IAmb	IAmb	08 06 34.5
	comp=Z,121nm,0.8s					
O18K	**Koktuh Hills**	**78.80**	**31**	P	**P**	**08 06 30.9 +0.8**
	baz=266,SNR=31					
O18K				S	**S**	**08 15 39.4 +0.2**
	baz=266					
O18K				S	**S**	**08 15 39.4 +0.2**
	baz=266					
Q18K	**Katmai Hardscr**	**78.83**	**32**	P	**P**	**08 06 30.0 -0.4**
	baz=266,SNR=5.5					
Q18K				S	**S**	**08 15 39.5 -0.1**
	baz=266					
GURO	**Guroymak-BITLI**	**78.84**	**308**	*e*P	**P**	**08 06 31.9 +1.0**
GURO	**Guroymak-BITLI**	**78.84**	**308**	IAmb	IAmb	08 06 34.1
	comp=Z,333nm,1.0s					
UWE	**Uwekahuna**	**78.88**	**72**	IAmb	IAmb	08 06 35.9
	comp=Z,225nm,1.1s					
BYL	**Byron's Ledge**	**78.91**	**72**	IAmb	IAmb	08 06 36.0
	comp=Z,284nm,1.5s					
J19K	**Poorman**	**78.94**	**26**	P	**P**	**08 06 31.5 +0.8**
J19K	**Poorman**	**78.94**	**26**	P	**P**	**08 06 31.7 +1.0**
	baz=265,SNR=25					
J19K				S	**S**	**08 15 40.4 0.0**
	baz=265					
J19K				S	**S**	**08 15 40.4 0.0**
	baz=265					
PUH	**Pauahi**	**78.95**	**72**	P	**P**	**08 06 34.0 +2.2**
PUH				IAmb	IAmb	08 06 35.5
	comp=Z,171nm,0.8s					
KOPR	**Koprukoy-ERZUR**	**78.96**	**309**	*e*P	**P**	**08 06 31.9 +0.3**
B20K	**Meade River**	**79.01**	**20**	IAmb	IAmb	08 06 33.9
	comp=Z,121nm,0.7s					
B20K	**Meade River**	**79.01**	**20**	P	**P**	**08 06 32.0 +1.1**
	baz=262,SNR=19					
B20K				S	**S**	**08 15 41.3 +0.5**
	baz=262					
D20K	**Etivluk River**	**79.03**	**21**	P	**P**	**08 06 32.1 +0.9**
	baz=263					
D20K				S	**S**	**08 15 40.9 -0.4**
	baz=263					
STCH	**Steam Cracks**	**79.04**	**72**	IAmb	IAmb	08 06 36.3
	comp=Z,132nm,1.1s					
R18K	**Karluk**	**79.06**	**33**	P	**P**	**08 06 31.7 +0.3**
	baz=267					
R18K				S	**S**	**08 15 39.3 -2.4**
	baz=267					
R18K				S	**S**	**08 15 39.3 -2.4**
	baz=267					
BATM	**Batumi**	**79.06**	**311**	*e*P	**P**	**08 06 32.2 +0.4**
BATM	**Batumi**	**79.06**	**311**	⇓P	**P**	**08 06 32.3 +0.5**
BATM	**Batumi**	**79.06**	**311**	P	**P**	**08 06 33.6 +1.8**
VRH	**Novokhopyorsk**	**79.09**	**321**	*e*P	**P**	**08 06 30.8 -0.9**
VRH				*e*S	**S**	**08 15 38.7 -3.7**
VRH				pmax	pmax	
	comp=Z,323nm,0.8s					
BCA	**Borcka**	**79.12**	**311**	*e*P	**P**	**08 06 32.5 +0.3**
BCA	**Borcka**	**79.12**	**311**	⇑P	**P**	**08 06 32.3 +0.1**
E20K	**Nigu River**	**79.14**	**22**	P	**P**	**08 06 32.7 +0.9**
	baz=264					
E20K				S	**S**	**08 15 42.1 -0.3**
	baz=264					
L19K	**White Mountain**	**79.14**	**28**	P	**P**	**08 06 32.8 +1.0**
L19K	**White Mountain**	**79.14**	**28**	P	**P**	**08 06 32.8 +1.0**
	baz=266,SNR=32					
L19K				S	**S**	**08 15 43.6 +1.0**
	baz=266					
L19K				S	**S**	**08 15 43.6 +1.0**
	baz=266					
SII	**Sitkinak Islan**	**79.16**	**34**	P	**P**	**08 06 32.6 +0.6**
	baz=268					
F20K	**Avaraart Lake**	**79.18**	**23**	P	**P**	**08 06 32.8 +1.0**
	baz=264					
F20K				S	**S**	**08 15 43.2 +0.5**
	baz=264					
N19K	**Bonanza Creek**	**79.22**	**30**	P	**P**	**08 06 33.6 +1.2**
N19K				IAmb	IAmb	08 06 35.5
	comp=Z,120nm,0.7s					
N19K	**Bonanza Creek**	**79.22**	**30**	P	**P**	**08 06 33.2 +0.8**
	baz=266,SNR=41					
N19K				S	**S**	**08 15 44.0 +0.4**
	baz=266					
N19K				S	**S**	**08 15 44.0 +0.4**
	baz=266					
O19K	**Port Alsworth**	**79.27**	**30**	IAmb	IAmb	08 06 35.8
	comp=Z,344nm,1.9s					
O19K	**Port Alsworth**	**79.27**	**30**	P	**P**	**08 06 33.0 +0.5**
	baz=267,SNR=12					
O19K				S	**S**	**08 15 44.4 +0.6**
	baz=267					
O19K				S	**S**	**08 15 44.4 +0.6**
	baz=267					
VRTB	**Varto-Mus**	**79.28**	**308**	*e*P	**P**	**08 06 34.9 +1.6**
M19K	**Big River Lodg**	**79.34**	**28**	P	**P**	**08 06 33.9 +1.1**
	baz=266					
M19K				S	**S**	**08 15 44.7 +0.2**
	baz=266					
M19K				S	**S**	**08 15 44.7 +0.2**
	baz=266					
A21K	**Barrow**	**79.36**	**19**	P	**P**	**08 06 33.8 +1.1**
	baz=262					
A21K				S	**S**	**08 15 44.3 -0.1**
	baz=262					
A21K				S	**S**	**08 15 44.3 -0.1**
	baz=262					
H20K	**Anotleneega Mo**	**79.38**	**25**	P	**P**	**08 06 33.7 +0.7**
	baz=265,SNR=33					
H20K				S	**S**	**08 15 45.3 +0.3**
	baz=265					
I20K	**Naaghedeneel**	**79.50**	**26**	IAmb	IAmb	08 06 36.2
	comp=Z,139nm,0.9s					
I20K	**Naaghedeneel**	**79.50**	**26**	P	**P**	**08 06 35.0 +1.4**
	baz=266					
I20K				S	**S**	**08 15 46.7 +0.7**
	baz=266					
Q19K	**Cape Douglas,**	**79.55**	**32**	IAmb	IAmb	08 06 35.5
	comp=Z,92nm,0.7s					
Q19K	**Cape Douglas,**	**79.55**	**32**	P	**P**	**08 06 34.1 +0.1**
	baz=268					
K20K	**Telida**	**79.58**	**27**	IAmb	IAmb	08 06 38.8
	comp=Z,76nm,0.7s					
K20K	**Telida**	**79.58**	**27**	P	**P**	**08 06 35.3 +1.2**
	baz=266					
K20K				S	**S**	**08 15 48.3 +1.3**
	baz=266					
K20K				S	**S**	**08 15 48.3 +1.3**
	baz=266					
J20K	**Nowinta River**	**79.59**	**26**	P	**P**	**08 06 35.2 +1.1**
	baz=266,SNR=46					
J20K				S	**S**	**08 15 48.5 +1.4**
	baz=266					
J20K				S	**S**	**08 15 48.5 +1.4**
	baz=266					
KARO	**Karliova-Bingo**	**79.59**	**309**	*e*P	**P**	**08 06 36.2 +1.3**
L20K	**Farewell, AK**	**79.61**	**28**	P	**P**	**08 06 35.2 +0.9**
	baz=267,SNR=28					
L20K				S	**S**	**08 15 48.7 +1.3**
	baz=267					
L20K				S	**S**	**08 15 48.7 +1.3**
	baz=267					
OHAK	**Old Harbor**	**79.68**	**33**	P	**P**	**08 06 35.5 +0.8**
	baz=268,SNR=5.8					
OHAK				S	**S**	**08 15 47.9 -0.2**
	baz=268					
OHAK	**Old Harbor**	**79.68**	**33**	P	**P**	**08 06 36.0 +1.3**
LABN	**Labinsk**	**79.74**	**314**	*e*P	**P**	**08 06 33.6 -1.7**
LABN				*e*S	**S**	**08 15 49.2 -0.1**
LABN				*e*		08 15 55.6
LABN				pmax	pmax	
	comp=Z,156nm,0.8s					
C21K	**Knifeblade Rid**	**79.74**	**21**	P	**P**	**08 06 35.7 +0.9**
	baz=265					
C21K				S	**S**	**08 15 49.0 +0.5**
	baz=265					
P19K	**Oil Pt**	**79.79**	**31**	IAmb	IAmb	08 06 47.8
	comp=Z,217nm,1.8s					
P19K	**Oil Pt**	**79.79**	**31**	P	**P**	**08 06 35.5 +0.2**
	baz=268					
B21K	**Ikpikpuk River**	**79.84**	**21**	IAmb	IAmb	08 06 39.4
	comp=Z,149nm,0.7s					
B21K	**Ikpikpuk River**	**79.84**	**21**	P	**P**	**08 06 36.0 +0.7**
	baz=265,SNR=65					
B21K				S	**S**	**08 15 49.8 +0.4**
	baz=265					
A22K	**Sinclair Lake**	**79.86**	**19**	P	**P**	**08 06 36.3 +0.9**
	baz=264,SNR=17					
A22K				S	**S**	**08 15 48.7 -0.7**
	baz=264					
IMAR	**Indian Mountai**	**79.88**	**24**	P	**P**	**08 06 36.8 +1.1**
BNGB	**Bingl**	**79.89**	**308**	*e*P	**P**	**08 06 36.9 +0.5**
M20K	**Styx River**	**79.93**	**29**	IAmb	IAmb	08 06 38.5
	comp=Z,88nm,0.8s					
M20K	**Styx River**	**79.93**	**29**	P	**P**	**08 06 37.0 +0.9**
	baz=268,SNR=49					
M20K				S	**S**	**08 15 51.7 +0.9**
	baz=268					
M20K				S	**S**	**08 15 51.7 +0.9**
	baz=268					
E21K	**Killik River**	**79.97**	**22**	P	**P**	**08 06 36.6 +0.5**
	baz=266					
E21K				S	**S**	**08 15 50.0 -0.9**
	baz=266					
ABPO	**Ambohimpanom**	**80.01**	**249**	P	**P**	**08 06 36.7 -0.7**
ABPO				IAmb	IAmb	08 06 38.7
	comp=Z,88nm,0.9s					
ABPO	**Ambohimpanom**	**80.01**	**249**	P	**P**	**08 06 36.7 -0.7**
ABPO				pmax	pmax	
	comp=Z,88nm,0.9s					
G21K	**Allakaket**	**80.02**	**24**	P	**P**	**08 06 37.1 +0.7**
	baz=266					
G21K				S	**S**	**08 15 52.4 +1.0**
	baz=266					
F21K	**Alatna River**	**80.07**	**23**	P	**P**	**08 06 37.2 +0.6**
	baz=266					

F21K				S	S	08 15 52.0	0.0	
	baz=266							
KDAK	**Kodiak Island**	**80.07**	**33**	P	**P**	**08 06 37.2**	**+0.5**	
KDAK				IAmb	IAmb	08 06 40.4		
	comp=Z,82nm,0.7s							
KDAK	**Kodiak Island**	**80.07**	**33**	P	**P**	**08 06 36.9**	**+0.2**	
	baz=269							
KDAK	**Kodiak Island**	**80.07**	**33**	*c iP*	**P**	**08 06 37.3**	**+0.5**	
KDAK				pmax	pmax			
	comp=Z,69nm,0.8s							
O20K	**Slope Mountain**	**80.11**	**30**	P	**P**	**08 06 36.7**	**-0.3**	
	baz=268							
O20K				S	**S**	**08 15 52.3**	**-0.3**	
	baz=268							
O20K				S	**S**	**08 15 52.3**	**-0.3**	
	baz=268							
MAZI	**Mazidag**	**80.13**	**307**	*eP*	**P**	**08 06 38.1**	**+0.4**	
Q20K	**Shuyak Island**	**80.19**	**32**	P	**P**	**08 06 37.4**	**+0.1**	
	baz=269							
Q20K				S	**S**	**08 15 54.7**	**+1.4**	
	baz=269							
SYI	**Shuyak Island**	**80.19**	**32**	IAmb	IAmb	08 06 40.4		
	comp=Z,120nm,0.8s							
H21K	**Melozitna Rive**	**80.25**	**25**	P	**P**	**08 06 38.2**	**+0.6**	
	baz=267,SNR=54							
H21K				S	**S**	**08 15 54.9**	**+1.1**	
	baz=267							
H21K				S	**S**	**08 15 54.9**	**+1.1**	
	baz=267							
VSLR	**Vesyoloye**	**80.26**	**313**	*d iP*	**P**	**08 06 38.0**	**0.0**	
VSLR				pmax	pmax			
	comp=Z,281nm,0.9s							
BAYT	**Aydıntepe-Bayb**	**80.26**	**310**	*eP*	**P**	**08 06 39.5**	**+1.1**	
B22K	**Teshekpuk Lake**	**80.31**	**20**	IAmb	IAmb	08 06 39.9		
	comp=Z,106nm,0.8s							
B22K	**Teshekpuk Lake**	**80.31**	**20**	P	**P**	**08 06 38.0**	**+0.3**	
	baz=266							
B22K				S	**S**	**08 15 54.5**	**+0.4**	
	baz=266							
N20K	**Mount Spurr**	**80.35**	**29**	P	**P**	**08 06 37.9**	**-0.3**	
	baz=268,SNR=18							
SPCR	**Spurr Chakacha**	**80.35**	**29**	P	**P**	**08 06 37.8**	**-0.4**	
	baz=268,SNR=9.2							
DYBB	**Diyarbakir**	**80.35**	**307**	*eP*	**P**	**08 06 39.8**	**+1.1**	
CHUM	**Lake Minchumin**	**80.39**	**27**	P	**P**	**08 06 39.2**	**+0.9**	
	baz=268,SNR=25							
CHUM				S	**S**	**08 15 56.3**	**+1.2**	
	baz=268							
PPLA	**Purkeypile**	**80.41**	**28**	P	**P**	**08 06 38.9**	**+0.3**	
	baz=268,SNR=21							
CAST	**Castle Rocks**	**80.47**	**27**	IAmb	IAmb	08 06 43.1		
	comp=Z,104nm,0.7s							
CAST	**Castle Rocks**	**80.47**	**27**	P	**P**	**08 06 39.4**	**+0.6**	
	baz=268,SNR=81							
CAST				S	**S**	**08 15 55.5**	**-0.7**	
	baz=268							
D22K	**Ayikyak River**	**80.47**	**21**	P	**P**	**08 06 39.3**	**+0.6**	
	baz=267							
D22K				S	**S**	**08 15 56.5**	**+0.5**	
	baz=267							
SOC	**Sochi**	**80.48**	**313**	*eP*	**P**	**08 06 37.1**	**-2.1**	
SOC				*e*PP*	**pP**	**08 08 43.1**	**-2.2**	
SOC				*e*		08 09 51.3		
SOC				*e*PPP	PPP	08 11 46.4		
SOC				*e*S	**S**	**08 15 55.4**	**-1.5**	
SOC				*e*SSS	SSS	08 25 01.3		
SOC				pmax	pmax			
	comp=Z,94nm,0.7s							
KTUT	**Trabzon**	**80.53**	**310**	*eP*	**P**	**08 06 38.8**	**-0.7**	
I21K	**Tanana**	**80.58**	**25**	P	**P**	**08 06 39.9**	**+0.7**	
	baz=268							
I21K				S	**S**	**08 15 57.1**	**+0.1**	
	baz=268							
I21K				S	**S**	**08 15 57.1**	**+0.1**	
	baz=268							
F22K	**John River**	**80.59**	**23**	P	**P**	**08 06 40.2**	**+0.9**	
	baz=267							
F22K				S	**SKSac**	**08 15 59.9**	**-0.1**	
	baz=267							
ERZN	**Erzincan**	**80.61**	**309**	*eP*	**P**	**08 06 41.4**	**+1.3**	
VORD	**Divnogorie**	**80.62**	**320**	*eP*	**P**	**08 06 37.2**	**-2.5**	
VORD				pmax	pmax			
	comp=Z,150nm,0.9s							
VORR	**Voronezh**	**80.67**	**321**	P	**P**	**08 06 39.9**	**0.0**	
VORR				S	**S**	**08 15 54.9**	**-3.5**	
VORR				pmax	pmax			
	comp=Z,289nm,0.6s							
SKT	**Skwentna**	**80.69**	**28**	IAmb	IAmb	08 06 41.9		
	comp=Z,70nm,0.8s							
SKT	**Skwentna**	**80.69**	**28**	P	**P**	**08 06 39.6**	**-0.3**	
	baz=269,SNR=40							
VSR	**Storozhevoye**	**80.70**	**321**	*eP*	**P**	**08 06 37.2**	**-2.9**	
VSR				pmax	pmax			
	comp=Z,120nm,0.8s							
E22K	**Anaktuvuk Pass**	**80.76**	**22**	P	**P**	**08 06 41.4**	**+1.2**	
	baz=268							
E22K				S	**S**	**08 15 59.6**	**+0.7**	
	baz=268							
CNPM	**China Poot**	**80.80**	**31**	IAmb	IAmb	08 06 42.7		
	comp=Z,118nm,0.7s							
G22K	**Bettles**	**80.83**	**23**	P	**P**	**08 06 41.4**	**+0.9**	
	baz=268							
G22K				S	**S**	**08 16 00.3**	**+0.8**	
	baz=268							
LPSR	**Galich'ya Gora**	**80.83**	**322**	*eP*	**P**	**08 06 38.7**	**-2.1**	
LPSR				pmax	pmax			
	comp=Z,250nm,0.8s							
H22K	**Ishtalitna Cre**	**80.85**	**24**	P	**P**	**08 06 42.1**	**+1.4**	
	baz=268,SNR=16							
H22K				S	**S**	**08 16 00.9**	**+1.1**	
	baz=268							
H22K				S	**S**	**08 16 00.9**	**+1.1**	
	baz=268							
CAPN	**Captain Cook N**	**80.85**	**30**	P	**P**	**08 06 41.4**	**+0.7**	
	baz=269							
CAPN				S	**S**	**08 15 59.7**	**-0.2**	
	baz=269							
PTK	**Pertek**	**80.90**	**308**	*eP*	**P**	**08 06 42.7**	**+1.0**	
BPAW	**Bear Paw Mtn.**	**80.98**	**26**	IAmb	IAmb	08 06 44.3		
	comp=Z,88nm,0.9s							
BPAW	**Bear Paw Mtn.**	**80.98**	**26**	P	**P**	**08 06 42.1**	**+0.8**	
	baz=269,SNR=26							
BPAW				S	**S**	**08 16 00.9**	**-0.3**	
	baz=269							
BRLK	**Bradley Lake**	**80.98**	**31**	IAmb	IAmb	08 06 42.4		
	comp=Z,116nm,0.8s							
SVRC	**Sivrice-ELAZID**	**80.99**	**308**	*eP*	**P**	**08 06 43.1**	**+0.9**	
VOI	**Vohitsoka**	**81.00**	**246**	IAmb	IAmb	08 06 43.5		
	comp=Z,342nm,1.3s							
VOI	**Vohitsoka**	**81.00**	**246**	P	**P**	**08 06 41.7**	**-0.7**	
	SNR=9.4							
BRSE	**Bradley Lake S**	**81.05**	**31**	P	**P**	**08 06 41.8**	**0.0**	
	baz=270,SNR=25							
SUA	**Susitna One**	**81.06**	**29**	IAmb	IAmb	08 06 44.1		
	comp=Z,195nm,0.8s							
SUA	**Susitna One**	**81.06**	**29**	P	**P**	**08 06 41.7**	**-0.2**	
	baz=270,SNR=53							
SUA				S	**S**	**08 16 01.4**	**-0.8**	
	baz=270							
MLY	**Manley**	**81.10**	**25**	P	**P**	**08 06 42.5**	**+0.5**	
	baz=269,SNR=19							
MLY				S	**S**	**08 16 02.9**	**+0.5**	
	baz=269							
D23K	**Nanushuk River**	**81.20**	**21**	P	**P**	**08 06 43.5**	**+1.1**	
	baz=269							
D23K				S	**S**	**08 16 04.0**	**+0.8**	
	baz=269							
C23K	**Itkillik River**	**81.25**	**20**	P	**P**	**08 06 43.3**	**+0.8**	
	baz=268							
C23K				S	**S**	**08 16 04.1**	**+0.5**	
	baz=268							
TRF	**Thorofare Moun**	**81.28**	**27**	P	**P**	**08 06 43.2**	**+0.1**	
	baz=270,SNR=43							
TRF				S	**S**	**08 16 03.8**	**-0.7**	
	baz=270							
CUT	**Chulitna**	**81.29**	**28**	IAmb	IAmb	08 06 45.8		
	comp=Z,460nm,1.8s							
CUT	**Chulitna**	**81.29**	**28**	P	**P**	**08 06 42.7**	**-0.2**	
	baz=270,SNR=10							
CUT				S	**S**	**08 16 03.9**	**-0.3**	
	baz=270							
ESPY	**Espiye-Giresun**	**81.32**	**310**	*eP*	**P**	**08 06 43.1**	**-0.5**	
COLD	**Coldfoot**	**81.35**	**23**	P	**P**	**08 06 44.0**	**+0.8**	
	baz=269,SNR=30							
COLD				S	**S**	**08 16 05.9**	**+1.1**	
	baz=269							
M22K	**Willow**	**81.36**	**29**	IAmb	IAmb	08 06 45.4		
	comp=Z,216nm,0.8s							
M22K	**Willow**	**81.36**	**29**	P	**P**	**08 06 43.0**	**-0.2**	
	baz=270,SNR=31							
G23K	**Bananza Creek**	**81.41**	**24**	IAmb	IAmb	08 06 46.4		
	comp=Z,294nm,1.9s							
G23K	**Bananza Creek**	**81.41**	**24**	P	**P**	**08 06 44.5**	**+0.9**	
	baz=270							
G23K				S	**SKSac**	**08 16 07.4**	**+1.8**	
	baz=270							
URFA	**Urfa**	**81.42**	**307**	*eP*	**P**	**08 06 44.8**	**+0.5**	
FOMA	**Nahampoana Res**	**81.49**	**243**	P	**P**	**08 06 45.2**	**+0.5**	
	SNR=6.0							
TEND	**Ethiopian Broa**	**81.50**	**281**	*eP*	**P**	**08 06 47.3**	**+2.3**	
MOS	**Moscow**	**81.54**	**325**	*eP*	**P**	**08 06 39.9**	**-4.4**	
MOS				*e*PP*	**pwP**	**08 08 53.5**	**-0.4**	
MOS				*e*		08 10 01.6		
MOS				*e*PPP	PPP	08 11 55.8		
MOS				*e*S	**SKSac**	**08 15 59.8**	**-6.9**	
MOS				pmax	pmax			
	comp=Z,417nm,1.0s							
MOS				pmax	pmax			
	comp=Z,2μm,2.4s							
MOS				smax	smax			
	comp=N,1μm,2.8s							
RC01	**Rabbit Creek A**	**81.55**	**29**	P	**P**	**08 06 44.0**	**-0.2**	
	baz=271,SNR=31							
RC01				S	**S**	**08 16 08.0**	**+1.1**	
	baz=271							
O22K	**Cooper Landing**	**81.56**	**30**	IAmb	IAmb	08 06 56.0		
	comp=Z,155nm,0.7s							
O22K	**Cooper Landing**	**81.56**	**30**	P	**P**	**08 06 44.5**	**+0.2**	
	baz=271,SNR=11							
O22K				S	**SKSac**	**08 16 07.7**	**+1.1**	
	baz=271							
E23K	**Chandalar**	**81.58**	**22**	P	**P**	**08 06 45.4**	**+0.9**	
	baz=270							
E23K				S	**SKSac**	**08 16 07.8**	**+1.1**	
	baz=270							
TOLK	**Toolik Lake Re**	**81.60**	**22**	IAmb	IAmb	08 06 48.1		
	comp=Z,511nm,1.9s							
TOLK	**Toolik Lake Re**	**81.60**	**22**	P	**P**	**08 06 45.3**	**+0.8**	
	baz=270,SNR=63							
TOLK				S	**SKSac**	**08 16 07.4**	**+0.7**	
	baz=270							
TOLK				S	**SKSac**	**08 16 07.4**	**+0.7**	
	baz=270							
H23K	**Yukon River**	**81.60**	**25**	P	**P**	**08 06 45.5**	**+0.9**	
	baz=270							
H23K				S	**S**	**08 16 08.6**	**+1.2**	
	baz=270							
H23K				S	**S**	**08 16 08.6**	**+1.2**	
	baz=270							
BWN	**Browne**	**81.64**	**26**	IAmb	IAmb	08 06 47.3		
	comp=Z,169nm,0.8s							
I23K	**Minto, Yukon-K**	**81.68**	**25**	P	**P**	**08 06 45.8**	**+0.9**	
	baz=270,SNR=59							
I23K				S	**SKSac**	**08 16 07.9**	**+0.7**	
	baz=270							
I23K				S	**SKSac**	**08 16 07.9**	**+0.7**	
	baz=270							
SEW	**Seward**	**81.70**	**30**	P	**P**	**08 06 45.4**	**+0.4**	
	baz=271,SNR=9.7							
SEW				S	**SKSac**	**08 16 07.8**	**+0.3**	
	baz=271							
ARPR	**Arapgir-MALATY**	**81.71**	**308**	*eP*	**P**	**08 06 47.1**	**+1.3**	
NEA2	**Nenana**	**81.81**	**26**	IAmb	IAmb	08 06 47.5		
	comp=Z,63nm,0.8s							
NEA2	**Nenana**	**81.81**	**26**	P	**P**	**08 06 45.6**	**0.0**	
	baz=271,SNR=25							
PMR	**Palmer**	**81.83**	**29**	IAmb	IAmb	08 06 46.7		
	comp=Z,348nm,2.0s							
PMR	**Palmer**	**81.83**	**29**	P	**P**	**08 06 45.3**	**-0.4**	
	baz=271,SNR=22							
PMR	**Palmer**	**81.83**	**29**	P	**P**	**08 06 45.6**	**-0.1**	
D24K	**Happy Valley**	**81.87**	**21**	IAmb	IAmb	08 06 49.6		
	comp=Z,154nm,0.9s							
D24K	**Happy Valley**	**81.87**	**21**	P	**P**	**08 06 47.0**	**+1.2**	
	baz=270,SNR=95							
MCK	**McKinley**	**81.88**	**27**	P	**P**	**08 06 45.7**	**-0.2**	
	baz=271,SNR=225							
C24K	**Franklin Bluff**	**81.91**	**21**	P	**P**	**08 06 46.8**	**+0.9**	
	baz=270							
RND	**Reindeer**	**81.93**	**27**	P	**P**	**08 06 46.1**	**-0.2**	
E24K	**Your Creek**	**82.00**	**22**	P	**P**	**08 06 47.6**	**+1.0**	
	baz=271							
ANN	**Anapa**	**82.08**	**314**	*d iP*	**P**	**08 06 46.6**	**-0.7**	
ANN				*e*PP*	**pP**	**08 08 52.7**	**-1.4**	
ANN				*e*		08 10 03.3		
ANN				*e*S	**SKSac**	**08 16 09.8**	**-0.8**	
ANN				*e*		08 16 13.2		
ANN				pmax	pmax			
	comp=Z,656nm,0.9s							
WAT1	**Susitna Watana**	**82.08**	**28**	P	**P**	**08 06 46.6**	**-0.4**	
	baz=271							
KNK	**Knik Glacier**	**82.16**	**29**	IAmb	IAmb	08 06 50.0		
	comp=Z,113nm,0.7s							
KNK	**Knik Glacier**	**82.16**	**29**	P	**P**	**08 06 47.4**	**0.0**	
	baz=272,SNR=38							
OBN	**Obninsk**	**82.16**	**325**	P	**P**	**08 06 47.9**	**+0.4**	
OBN	**Obninsk**	**82.16**	**325**	⇑P	**P**	**08 06 48.6**	**+1.1**	
OBN	**Obninsk**	**82.16**	**325**	*d iP*	**P**	**08 06 47.3**	**-0.2**	
OBN				*i *PP*	**pwP**	**08 08 58.5**	**+0.7**	
OBN				*i* S	S	08 16 00.7	-13	
OBN				*i* SS	**SS**	**08 21 48.3**	**-2.9**	
OBN				pmax	pmax			
	comp=Z,418nm,1.1s							
OBN	**Obninsk**	**82.16**	**325**	P	**P**	**08 06 47.5**	**0.0**	
	comp=Z,554nm,1.6s,comp=Z,8μm							
SML	**Sawmill**	**82.21**	**29**	P	**P**	**08 06 47.9**	**+0.2**	
SML				IAmb	IAmb	08 06 50.1		
	comp=Z,137nm,0.7s							
SML	**Sawmill**	**82.21**	**29**	P	**P**	**08 06 47.6**	**0.0**	
	baz=272,SNR=48							
PWL	**Port Wells**	**82.23**	**30**	IAmb	IAmb	08 06 49.1		
	comp=Z,80nm,0.8s							
PWL	**Port Wells**	**82.23**	**30**	P	**P**	**08 06 47.6**	**-0.2**	
	baz=272,SNR=19							
WRH	**Wood River Hil**	**82.24**	**26**	IAmb	IAmb	08 06 48.9		
	comp=Z,106nm,1.0s							
F24K	**Squaw Lake**	**82.24**	**23**	IAmb	IAmb	08 06 51.5		
	comp=Z,115nm,0.7s							
F24K	**Squaw Lake**	**82.24**	**23**	P	**P**	**08 06 49.0**	**+1.3**	
	baz=271							
H24K	**Noodor Dome**	**82.29**	**25**	IAmb	IAmb	08 06 51.5		
	comp=Z,105nm,0.8s							
H24K	**Noodor Dome**	**82.29**	**25**	P	**P**	**08 06 48.8**	**+0.8**	
	baz=272,SNR=142							
COLA	**College**	**82.33**	**26**	P	**P**	**08 06 48.0**	**0.0**	
	baz=272							
COLA	**College**	**82.33**	**26**	P	**P**	**08 06 48.1**	**0.0**	
COLA	**College**	**82.33**	**26**	*d iP*	**P**	**08 06 48.2**	**+0.1**	
COLA				pmax	pmax			
	comp=Z,41nm,0.7s							
CCB	**Clear Creek Bu**	**82.36**	**26**	IAmb	IAmb	08 06 49.3		
	comp=Z,284nm,1.7s							
DARE	**Darende-Malaty**	**82.41**	**308**	*eP*	**P**	**08 06 49.8**	**+0.5**	
RSDY	**Resadiye-TOKAT**	**82.41**	**310**	*eP*	**P**	**08 06 49.9**	**+0.8**	
G24K	**Hadweenzic Riv**	**82.43**	**24**	IAmb	IAmb	08 06 52.3		
	comp=Z,71nm,0.8s							
G24K	**Hadweenzic Riv**	**82.43**	**24**	P	**P**	**08 06 49.8**	**+1.2**	
	baz=272							
WAT6	**Susitna Watana**	**82.46**	**28**	P	**P**	**08 06 49.3**	**+0.2**	
	baz=272,SNR=49							
M23K	**Glacier View**	**82.49**	**29**	P	**P**	**08 06 49.1**	**+0.1**	
	baz=272,SNR=42							
POKR	**Poker Plat Res**	**82.50**	**25**	P	**P**	**08 06 48.8**	**-0.3**	
	baz=272,SNR=6.3							
LVZ	**Lovozero**	**82.59**	**338**	P	**P**	**08 06 49.1**	**-0.4**	
LVZ				IAmb	IAmb	08 06 51.8		
	comp=Z,106nm,0.8s							
LVZ	**Lovozero**	**82.59**	**338**	*d iP*	**P**	**08 06 49.3**	**-0.2**	
LVZ				pmax	pmax			
	comp=Z,107nm,0.7s							
LVZ	**Lovozero**	**82.59**	**338**	P	**P**	**08 06 49.6**	**+0.1**	
	comp=Z,167nm,1.4s							
KHAM	**Kharkiv**	**82.60**	**319**	P	**P**	**08 06 50.0**	**+0.1**	
DHY	**Denali Highway**	**82.60**	**27**	IAmb	IAmb	08 06 52.5		
	comp=Z,62nm,0.8s							
DHY	**Denali Highway**	**82.60**	**27**	P	**P**	**08 06 49.9**	**+0.1**	
	baz=272,SNR=52							
SCM	**Sheep Creek Mo**	**82.68**	**29**	P	**P**	**08 06 50.4**	**+0.3**	
	baz=273,SNR=15							
SVSK	**Karacayir**	**82.69**	**309**	*eP*	**P**	**08 06 51.6**	**+1.1**	
GAZ	**Gaziantep**	**82.72**	**306**	*eP*	**P**	**08 06 51.6**	**+0.8**	
P23K	**Montague Islan**	**82.73**	**30**	P	**P**	**08 06 50.4**	**+0.2**	
	baz=273							
HDA	**Harding Lake**	**82.73**	**26**	IAmb	IAmb	08 06 51.8		
	comp=Z,126nm,0.7s							
HDA	**Harding Lake**	**82.73**	**26**	P	**P**	**08 06 49.5**	**-0.7**	
	baz=273,SNR=123							
HDA				S	**S**	**08 16 18.2**	**-0.4**	
	baz=273							
D25K	**Kavik River**	**82.74**	**21**	P	**P**	**08 06 51.0**	**+0.8**	
	baz=272							
D25K				S	**S**	**08 16 18.5**	**-0.1**	
	baz=272							
ILAR	**Eielson Array**	**82.75**	**26**	P	**P**	**08 06 49.4**	**-0.9**	
	comp=Z,28nm,0.7s,baz=254,slow=4.4,SNR=255							
ILAR				S	**SKSac**	**08 16 13.3**	**-0.9**	
	comp=Z,0.7nm,1.0s,baz=122,slow=1.2,SNR=1.9							
ILAR				PKKPbc	**PKKPbc**	**08 25 08.8**	**-3.5**	
	comp=Z,2.3nm,0.5s,baz=89,slow=1.3,SNR=20							
	comp=Z,28nm,0.7s							
GLI	**Glacier Island**	**82.84**	**30**	IAmb	IAmb	08 06 54.2		
	comp=Z,89nm,0.7s							
GLI	**Glacier Island**	**82.84**	**30**	P	**P**	**08 06 51.1**	**+0.3**	
	baz=273,SNR=13							
KMRS	**Kahramanmaras**	**82.94**	**307**	*eP*	**P**	**08 06 52.1**	**+0.2**	
G25K	**Bearman Lake**	**82.97**	**24**	P	**P**	**08 06 52.4**	**+1.1**	
	baz=273,SNR=36							
G25K				S	**S**	**08 16 22.2**	**+1.4**	
	baz=273							
ANKE	**Ethiopia-Afar**	**82.98**	**279**	*eP*	**P**	**08 06 55.1**	**+2.2**	
TOKT	**Tokat**	**83.01**	**310**	*eP*	**P**	**08 06 52.2**	**0.0**	
E25K	**Arctic Village**	**83.10**	**22**	P	**P**	**08 06 53.1**	**+1.2**	
E25K				IAmb	IAmb	08 06 55.7		
	comp=Z,68nm,0.9s							
E25K	**Arctic Village**	**83.10**	**22**	P	**P**	**08 06 53.0**	**+1.0**	
	baz=273,SNR=61							
E25K				S	**S**	**08 16 22.6**	**+0.5**	
	baz=273							
F25K	**Christian Rive**	**83.10**	**23**	P	**P**	**08 06 53.1**	**+1.1**	
	baz=273,SNR=32							
F25K				S	**S**	**08 16 23.6**	**+1.4**	
	baz=273							
M24K	**Tolsona, Glenn**	**83.21**	**28**	P	**P**	**08 06 53.6**	**+0.9**	
	baz=274,SNR=12							
M24K				S	**S**	**08 16 23.9**	**+0.4**	
	baz=274							
C26K	**Camden Bay**	**83.22**	**20**	P	**P**	**08 06 53.5**	**+1.0**	
	baz=274							
C26K				S	**S**	**08 16 22.7**	**-0.5**	
	baz=274							
PRP	**Porcupine Dome**	**83.28**	**25**	P	**P**	**08 06 52.3**	**-0.8**	
	baz=274,SNR=15							
PRP				S	**S**	**08 16 22.7**	**-1.5**	
	baz=274							
K24K	**Donnelly Dome**	**83.28**	**27**	P	**P**	**08 06 52.8**	**-0.2**	
	baz=274,SNR=28							
K24K				S	**S**	**08 16 25.1**	**+1.0**	
	baz=274							
K24K				S	**S**	**08 16 25.1**	**+1.0**	
	baz=274							
H04N2	**CROZET ISLANDS**	**83.33**	**222**	P	**P**	**08 06 55.5**	**+2.3**	
	baz=85,slow=4.6,SNR=5.7							
KVT	**Kavak**	**83.33**	**310**	*eP*	**P**	**08 06 53.9**	**+0.2**	
H04N1	**CROZET ISLANDS**	**83.35**	**222**	P	**P**	**08 06 55.7**	**+2.4**	
	baz=85,slow=4.6,SNR=7.6							
H04N3	**CROZET ISLANDS**	**83.35**	**222**	P	**P**	**08 06 55.3**	**+2.0**	
	baz=85,slow=4.6,SNR=4.5							
KLU	**Klutina**	**83.37**	**29**	P	**P**	**08 06 53.3**	**-0.3**	
	baz=274							
KLU				S	**S**	**08 16 24.2**	**-0.9**	
	baz=274							
J25K	**Salcha River,**	**83.41**	**26**	IAmb	IAmb	08 06 55.1		
	comp=Z,52nm,0.7s							
J25K	**Salcha River,**	**83.41**	**26**	P	**P**	**08 06 52.5**	**-1.1**	
	baz=274,SNR=67							
J25K				S	**S**	**08 16 24.6**	**-0.7**	
	baz=274							
J25K				S	**S**	**08 16 24.6**	**-0.7**	
	baz=274							
PAX	**Paxson**	**83.48**	**27**	P	**P**	**08 06 53.7**	**-0.4**	
	baz=274,SNR=22							
PAX				S	**S**	**08 16 24.2**	**-1.9**	
	baz=274							
BMAR	**Burnt Mountain**	**83.52**	**23**	P	**P**	**08 06 55.2**	**+1.1**	
EYAK	**Cordova Ski Ar**	**83.52**	**30**	P	**P**	**08 06 53.6**	**-0.6**	
	baz=274							
EYAK				S	**S**	**08 16 27.3**	**+0.9**	
	baz=274							
C27K	**Jago River**	**83.66**	**21**	P	**P**	**08 06 55.5**	**+0.9**	
	baz=275							
C27K				S	**S**	**08 16 27.4**	**-0.1**	
	baz=275							
BNN	**Bunyan**	**83.66**	**308**	*eP*	**P**	**08 06 55.1**	**-0.5**	
F26K	**Sheenjek River**	**83.66**	**23**	IAmb	IAmb	08 07 00.4		
	comp=Z,145nm,1.9s							
F26K	**Sheenjek River**	**83.66**	**23**	P	**P**	**08 06 55.5**	**+0.7**	
	baz=275,SNR=20							
F26K				S	**S**	**08 16 28.5**	**+0.8**	
	baz=275							
HARP	**HAARP**	**83.67**	**28**	P	**P**	**08 06 55.0**	**+0.2**	
	baz=274							
RIDG	**Independent Ri**	**83.70**	**27**	IAmb	IAmb	08 06 56.5		
	comp=Z,116nm,1.1s							
RIDG	**Independent Ri**	**83.70**	**27**	P	**P**	**08 06 55.1**	**0.0**	
	baz=275,SNR=15							
KOZT	**Kozan**	**83.80**	**307**	*eP*	**P**	**08 06 56.6**	**+0.5**	
G26K	**Porcupine Rive**	**83.87**	**23**	P	**P**	**08 06 56.8**	**+1.0**	
	baz=275,SNR=43							
G26K				S	**S**	**08 16 30.0**	**+0.4**	
	baz=275							
DIKM	**Dikmen**	**83.88**	**311**	*eP*	**P**	**08 06 55.8**	**-0.6**	
DIKM	**Dikmen**	**83.88**	**311**	⇑P	**P**	**08 06 57.3**	**+0.9**	
DIKM	**Dikmen**	**83.88**	**311**	P	**P**	**08 06 57.4**	**+1.0**	
	comp=Z,65nm,1.2s,comp=Z,2μm							
HWQ	**Hawqa**	**83.98**	**304**	*eP*	**P**	**08 06 57.5**	**+0.3**	
N25K	**Chitina, Valde**	**83.99**	**29**	IAmb	IAmb	08 06 58.8		
	comp=Z,192nm,1.9s							
N25K	**Chitina, Valde**	**83.99**	**29**	P	**P**	**08 06 56.9**	**+0.3**	
	baz=275,SNR=7.2							
N25K				S	**S**	**08 16 31.1**	**-0.1**	
	baz=275							
YOZ	**Yozgat**	**84.00**	**309**	*eP*	**P**	**08 06 56.9**	**-0.3**	
BMRM	**Bremner River**	**84.05**	**29**	P	**P**	**08 06 56.9**	**+0.1**	
	baz=275							
BMRM				S	**S**	**08 16 31.4**	**-0.3**	
	baz=275							
WLRA	**Wolmera**	**84.05**	**278**	*eP*	**P**	**08 07 00.0**	**+1.8**	
SCRK	**Sand Creek**	**84.06**	**26**	P	**P**	**08 06 56.6**	**-0.3**	
	baz=275,SNR=30							
SCRK				S	**S**	**08 16 29.9**	**-1.9**	
	baz=275							
FURI	**Furi**	**84.10**	**278**	*eP*	**P**	**08 07 00.5**	**+2.1**	
J26L

E27K				S	S	08 16 37.0	+0.6
	baz=277						
MMLI	Mount Malkishu	84.59	302	eP	P	08 07 00.7	+0.6
HOPEN	Hopen	84.60	347	eP	P	08 07 01.1	+2.0
HOPEN				epP	pP	08 09 07.7	-0.7
HOPEN				eSKSac	SKSac	08 16 27.1	+1.6
D27M	Malcolm River	84.66	21	IAmb	IAmb	08 07 03.5	
	comp=Z,66nm,0.7s						
D27M	Malcolm River	84.66	21	P	P	08 07 00.2	+0.5
	baz=278						
D27M				S	S	08 16 37.5	+0.1
	baz=278						
M26K	Nabesna, AK	84.67	28	P	P	08 06 59.9	0.0
	baz=276,SNR=5.7						
M26K				S	S	08 16 38.8	+1.2
	baz=276						
M26K				S	S	08 16 38.8	+1.2
	baz=276						
G27K	Doyon Strip	84.72	23	P	P	08 06 59.9	-0.1
	baz=277						
G27K				S	S	08 16 39.3	+1.4
	baz=277						
MCARA	McCarthy VSAT	84.77	29	P	P	08 07 00.2	-0.1
	baz=276						
MCARA				S	S	08 16 37.7	-0.7
	baz=276						
BGLC	Bering Glacier	84.78	30	P	P	08 07 00.7	+0.4
	baz=276						
DILA	Dilla	84.78	276	eP	P	08 07 03.1	+1.6
BZK	Bozkurt	84.78	312	eP	P	08 06 59.9	-0.8
BZK	Bozkurt	84.78	312	P	P	08 07 01.4	+0.7
	comp=Z,133nm,0.9s,comp=Z,3μm						
CRQE	Cirque	84.81	29	P	P	08 07 00.8	+0.1
	baz=276,SNR=6.0						
CRQE				S	S	08 16 38.7	-0.4
	baz=276						
H27K	Steamboat Moun	84.84	24	P	P	08 07 01.1	+0.5
	baz=277,SNR=33						
H27K				S	S	08 16 40.4	+1.3
	baz=277						
I27K	Kandik River	84.89	25	P	P	08 07 01.6	+0.7
	baz=277,SNR=221						
I27K				S	S	08 16 40.6	+1.0
	baz=277						
I27K				S	S	08 16 40.6	+1.0
	baz=277						
K27K	Chicken	84.89	26	P	P	08 07 01.7	+0.8
	baz=277						
K27K				S	S	08 16 40.4	+0.8
	baz=277						
K27K				S	S	08 16 40.4	+0.8
	baz=277						
MERS	Mersin	84.89	306	eP	P	08 07 00.7	-0.8
WAX	Waxell Ridge	84.96	30	IAmb	IAmb	08 07 03.6	
	comp=Z,66nm,0.7s						
L27K	Beaver Creek,	85.12	27	P	P	08 07 02.9	+0.8
	baz=277,SNR=25						
L27K				S	S	08 16 41.5	-0.4
	baz=277						
KIRS	Kirsehir-Merke	85.13	309	⇑P	P	08 07 02.0	-0.7
BCAR	Beaver Creek A	85.14	27	P	P	08 07 02.8	+0.7
PUL	Pulkovo	85.16	330	deP	P	08 07 02.2	+0.1
PUL				pmax	pmax		
	comp=Z,277nm,0.8s						
KEV	Kevo	85.17	340	P	P	08 07 02.1	+0.1
KEV				IAmb	IAmb	08 07 03.0	
	comp=Z,76nm,1.0s						
KEV	Kevo	85.17	340	P	P	08 07 02.1	+0.1
KEV				pmax	pmax		
	comp=Z,76nm,1.0s						
EGAK	Eagle	85.19	25	P	P	08 07 02.3	+0.1
	baz=278,SNR=40						
EGAK				S	S	08 16 43.1	+0.8
	baz=278						
M27K	Edge Creek, AK	85.19	28	P	P	08 07 02.7	+0.2
	baz=277,SNR=6.8						
M27K				S	S	08 16 41.8	-1.0
	baz=277						
M27K				S	S	08 16 41.8	-1.0
	baz=277						
CANT	Cankiri	85.21	310	eP	P	08 07 02.1	-0.9
KIZK	Mersin	85.23	306	eP	P	08 07 01.9	-1.2
KAMT	Kaman	85.27	309	eP	P	08 07 02.6	-0.7
E28M	Babbage River	85.27	21	IAmb	IAmb	08 07 06.1	
	comp=Z,49nm,0.8s						
E28M	Babbage River	85.27	21	P	P	08 07 02.5	0.0
	baz=279						
E28M				S	S	08 16 43.0	-0.1
	baz=279						
EIL	Elat	85.28	299	eP	P	08 07 03.4	0.0
BR104	Keskin Array S	85.29	309	P	P	08 07 02.4	-1.0
	comp=Z,89nm,0.9s,comp=Z,660nm						
BR131	Keskin Array S	85.29	309	eP	P	08 07 02.5	-0.9
BR131	Keskin Array S	85.29	309	P	P	08 07 02.5	-0.9
BR131				IAmb	IAmb	08 07 05.8	
	comp=Z,93nm,0.9s						
BR131	Keskin Array S	85.29	309	P	P	08 07 02.5	-0.9
BR131				pmax	pmax		
	comp=Z,93nm,1.0s						
BRTR	Keskin Array B	85.29	309	P	P	08 07 02.3	-1.1
BRTR	Keskin Array B	85.29	309	P	P	08 07 02.1	-1.4
	comp=Z,56nm,0.8s,baz=114,slow=4.4,SNR=113						
	comp=Z,56nm,0.8s						
BRTR	Keskin Array B	85.29	309	i P	P	08 07 02.0	-1.4
BRTR				pmax	pmax		
	comp=Z,59nm,0.9s						
F28M	Old Crow	85.30	22	IAmb	IAmb	08 07 06.2	
	comp=Z,91nm,0.7s						
F28M	Old Crow	85.30	22	P	P	08 07 03.0	+0.3
	baz=279,SNR=136						
F28M				S	S	08 16 43.4	0.0
	baz=279						
BR106	Keskin Array S	85.30	309	P	P	08 07 02.5	-1.0
	comp=Z,76nm,0.9s,comp=Z,573nm						
BR105	Keskin Array S	85.30	309	P	P	08 07 02.9	-0.6
	comp=Z,107nm,0.9s,comp=Z,814nm						
EREN	Erenkoy	85.31	305	eP	P	08 07 03.7	+0.3
YESY	Yesilyurt	85.41	307	eP	P	08 07 03.8	-0.3
SILI	Silifke-Mersin	85.42	306	eP	P	08 07 03.2	-0.7
SERE	Sereflikochisa	85.43	309	eP	P	08 07 03.4	-0.7
D28M	Stokes Point	85.44	21	P	P	08 07 03.6	+0.4
	baz=280						
D28M				S	S	08 16 44.5	+0.1
	baz=280						
MESA	MESA	85.44	30	IAmb	IAmb	08 07 51.7	
	comp=Z,50nm,0.7s						
MESA	MESA	85.44	30	P	P	08 07 03.7	-0.1
	baz=278						
MESA				S	S	08 16 46.1	+0.8
	baz=278						
GRNC	Granite Creek	85.46	29	IAmb	IAmb	08 07 06.7	
	comp=Z,37nm,0.7s						
YAH	Yahtse	85.51	30	IAmb	IAmb	08 07 07.2	
	comp=Z,59nm,0.7s						
SULT	Sultanhani-AKS	85.55	308	eP	P	08 07 03.9	-0.7
KEBE	Keben-Mersin	85.58	306	eP	P	08 07 04.7	-0.1
I28M	Miner Creek	85.60	25	IAmb	IAmb	08 07 08.0	
	comp=Z,128nm,0.7s						
I28M	Miner Creek	85.60	25	P	P	08 07 04.8	+0.5
	baz=279,SNR=159						
I28M				S	S	08 16 47.9	+1.4
	baz=279						
IKL	Isikli	85.63	306	eP	P	08 07 04.6	-0.3
CTG	Chitna Glacier	85.63	29	P	P	08 07 05.1	+0.5
	baz=278,SNR=17						
CTG				S	S	08 16 46.8	-0.3
	baz=278						
BVCY	Beaver Creek	85.65	28	P	P	08 07 05.2	+0.6
	baz=278,SNR=11						
BVCY				S	S	08 16 47.4	+0.4
	baz=278						
ARA0	ARCESS Array S	85.73	340	eP	P	08 07 03.5	-1.2
ARA0				IVmBBB		08 07 05.1	
	comp=Z,1μm,1.1s						
ARA0				eSKSac	SKSac	08 16 34.0	+1.3
ARCES	ARCESS Array B	85.73	340	P	P	08 07 03.2	-1.5
	comp=Z,80nm,0.7s,baz=83,slow=7.3,SNR=130						
ARCES				PKiKP	PKiKP	08 12 09.3	+0.2
	comp=Z,1.2nm,0.5s,baz=90,slow=1.7,SNR=4.9						
ARCES				S	SKSac	08 16 31.0	-1.7
	comp=Z,3.3nm,1.0s,baz=32,slow=7.1,SNR=1.9						
ARCES				PKKP	PKKPdf	08 24 58.9	+2.5
	comp=Z,0.7nm,0.4s,baz=230,slow=2.2,SNR=8.6						
	comp=Z,80nm,0.7s						
KURC	Kurucasile-Bar	85.73	311	eP	P	08 07 04.5	-0.8
AKKU	Akkuyu-Mersin	85.74	306	eP	P	08 07 04.8	-0.7
AFSR	Afar-Bala (An	85.75	309	eP	P	08 07 05.2	-0.4
TABL	Table Mountain	85.80	30	IAmb	IAmb	08 07 09.5	
	comp=Z,57nm,0.7s						
KULU	Kulu	85.85	309	eP	P	08 07 06.3	+0.2
E29M	Blow River	85.90	22	P	P	08 07 05.3	-0.2
	baz=280,SNR=22						
E29M				S	S	08 16 48.0	-1.0
	baz=280						
ANTO	Ankara	85.92	310	eP	P	08 07 05.7	-0.7
ANTO	Ankara	85.92	310	P	P	08 07 06.4	+0.1
ANTO				IAmb	IAmb	08 07 07.6	
	comp=Z,75nm,0.9s						
ANTO	Ankara	85.92	310	⇓P	P	08 07 03.7	-2.6
ANTO	Ankara	85.92	310	P	P	08 07 06.4	+0.1
ANTO				pmax	pmax		
	comp=Z,75nm,0.9s						
ANTO	Ankara	85.92	310	P	P	08 07 06.9	+0.5
	comp=Z,45nm,1.5s,comp=Z,763nm						
YUK3	Moose Creek	85.93	28	P	P	08 07 05.9	-0.2
	baz=279						
YUK3				S	S	08 16 50.3	+0.2
	baz=279						
LOD	Lodumlu	85.94	310	eP	P	08 07 05.6	-0.9
BERE	Bereket-Mersin	85.98	306	eP	P	08 07 05.7	-1.1
CHBY	Cihanbeyli	85.99	308	eP	P	08 07 03.6	-3.2
SPA0	Spitsbergen Ar	86.02	349	IVmBBB		08 07 06.6	
	comp=Z,2μm,1.3s						
SPA0				eP	P	08 07 06.8	+0.9
SPA0				eSKSac	SKSac	08 16 35.7	+1.4
SPITS	Spitsbergen Ar	86.02	349	P	P	08 07 05.8	-0.1
	comp=Z,107nm,0.7s,baz=95,slow=7.6,SNR=53						
	comp=Z,107nm,0.7s						
SPITS	Spitsbergen Ar	86.02	349	P	P	08 07 06.7	+0.7
SPITS				pmax	pmax		
	comp=Z,129nm,0.8s						
DAWY	Dawson	86.05	26	P	P	08 07 06.2	-0.2
	baz=279,SNR=24						
DAWY				S	S	08 16 50.3	-0.4
	baz=279						
CSS	Mathiatis	86.06	305	eP	P	08 07 06.8	-0.2
CSS	Mathiatis	86.06	305	IAmb	IAmb	08 07 08.6	
	comp=Z,142nm,0.9s						
CSS	Mathiatis	86.06	305	P	P	08 07 07.1	+0.1
	comp=Z,181nm,0.8s,comp=Z,3μm						
TEKE	Tekeli-Mersin	86.10	306	eP	P	08 07 05.8	-1.4
H29M	Whitestone	86.11	24	IAmb	IAmb	08 07 09.6	
	comp=Z,55nm,0.7s						
H29M	Whitestone	86.11	24	P	P	08 07 06.4	-0.2
	baz=280,SNR=40						
H29M				S	S	08 16 51.4	+0.2
	baz=280						
HAMF	Hammerfest	86.12	341	eP	P	08 07 05.3	-1.3
HAMF				IVmB_BB		08 07 07.0	
	comp=Z,1μm,1.0s						
HAMF				eSKSac	SKSac	08 16 35.0	0.0
G29M	Pine Creek	86.12	23	P	P	08 07 06.4	-0.3
	baz=280						
G29M				S	S	08 16 50.1	-1.1
	baz=280						
KIBK	Kibwezi	86.16	267	P	P	08 07 07.8	-0.3
KIBK				S	S	08 16 49.1	-4.7
KIBK	Kibwezi	86.16	267	P	P	08 07 08.8	+0.8
	SNR=66						
O28M	Mount Upton	86.21	29	P	P	08 07 06.9	-0.7
	baz=279,SNR=9.3						
O28M				S	S	08 16 53.4	+0.5
	baz=279						
PINM	Pinnacle	86.29	30	P	P	08 07 08.2	+0.5
	baz=279,SNR=5.2						
PINM				S	S	08 16 53.8	+0.6
	baz=279						
I29M	Ogilvie Camp,	86.29	25	IAmb	IAmb	08 07 09.9	
	comp=Z,38nm,0.8s						
I29M	Ogilvie Camp,	86.29	25	P	P	08 07 07.5	0.0
	baz=280,SNR=54						
I29M				S	S	08 16 52.5	-0.4
	baz=280						
YUK8	Steele Glacier	86.34	29	P	P	08 07 08.4	+0.3
	baz=279,SNR=12						
YUK8				S	S	08 16 53.0	-1.0
	baz=279						
LEF	Lefka	86.40	305	eP	P	08 07 08.5	-0.1
LADK	Ladik-KONYA	86.45	308	eP	P	08 07 07.5	-1.4
NE56	Odesa	86.46	316	P	P	08 07 07.2	-1.4
KONT	Konya--Tatoy	86.48	308	eP	P	08 07 07.9	-1.1
J29N	Klondike Camp	86.49	25	P	P	08 07 08.7	+0.2
	baz=280,SNR=14						
J29N				S	S	08 16 56.8	+1.9
	baz=280						
HDMB	Hadim	86.50	307	eP	P	08 07 08.7	-0.6
MAW	Mawson	86.52	200	P	P	08 07 07.7	-0.6
	comp=Z,30nm,0.7s,baz=48,slow=6.0,SNR=59						
MAW				PKKPbc	PKKPbc	08 25 02.0	-1.6
	comp=Z,2.3nm,0.5s,baz=249,slow=5.9,SNR=6.2						
	comp=Z,30nm,0.7s						
BJO1	Bjornoya	86.54	345	eP	P	08 07 08.3	-0.1
BJO1				IVmB_BB		08 07 22.0	
	comp=Z,6μm,3.2s						
BJO1				eSKSac	SKSac	08 16 39.4	+2.0
HSPB	Hornsund (broa	86.58	348	eP	P	08 07 09.0	+0.5
KBS	Kingsbay	86.58	350	eP	P	08 07 09.4	+0.9
KBS				epP	pP	08 09 18.5	+0.1
KBS				eSKSac	SKSac	08 16 40.1	+2.5
KBS				eSP	SP	08 18 00.6	+1.2
KBS				eSS	SS	08 22 59.3	+5.1
KBS	Kingsbay	86.58	350	deP	P	08 07 09.5	+0.9
KBS				pmax	pmax		
	comp=Z,77nm,1.7s						
KTK1	Kautokeino	86.62	339	eP	P	08 07 08.5	-0.5
GAZI	Gazipasa	86.73	306	eP	P	08 07 09.2	-1.0
EPYK	Eagle Plains	86.74	23	P	P	08 07 09.4	-0.2
	baz=282,SNR=23						
EPYK				S	S	08 16 56.4	-0.7
	baz=282						
KIZT	Kizilcal	86.74	309	eP	P	08 07 09.6	-0.7
M29M	Somme Creek	86.75	27	P	P	08 07 10.3	+0.5
	baz=280,SNR=16						
M29M				S	S	08 16 58.2	+0.8
	baz=280						
KDZE	Karadeniz Ereo	86.76	311	eP	P	08 07 08.7	-1.5
L29M	L29M	86.78	27	P	P	08 07 10.5	+0.7
	baz=281,SNR=20						
L29M				S	S	08 16 57.6	0.0
	baz=281						
PNL	Peninsula	86.78	30	P	P	08 07 09.7	-0.2
	baz=280						
PNL				S	S	08 16 57.1	-0.6
	baz=280						
KMBO	Kilima Mbogo	86.79	268	P	P	08 07 11.3	+0.2
KMBO	Kilima Mbogo	86.79	268	i P	P	08 07 11.5	+0.3
	SNR=101						
KMBO	Kilima Mbogo	86.79	268	P	P	08 07 11.3	+0.2
	comp=Z,92nm,0.9s,baz=60,slow=5.9,SNR=143						
	comp=Z,92nm,0.9s						
KMBO	Kilima Mbogo	86.79	268	eP	P	08 07 11.2	0.0
KMBO	Kilima Mbogo	86.79	268	d iP	P	08 07 12.0	+0.8
KMBO				pmax	pmax		
	comp=Z,92nm,0.9s						
G30M	tAoh Zraii Nji	86.80	23	P	P	08 07 09.4	-0.5
	baz=282						
G30M				S	S	08 16 55.4	-2.3
	baz=282						
F30M	Barrier River	86.83	22	P	P	08 07 10.0	+0.1
	baz=282						
F30M				S	S	08 16 56.3	-1.6
	baz=282						
YUK4	Talbot Arm	86.86	29	P	P	08 07 10.1	-0.4
	baz=280						
YUK4				S	S	08 16 59.4	+0.7
	baz=280						
K29M	Barlow Dome	86.91	26	P	P	08 07 10.9	+0.4
	baz=281,SNR=23						
K29M				S	S	08 16 59.0	+0.1
	baz=281						
SVRH	Sivrihisar-ESK	86.94	309	eP	P	08 07 10.5	-0.7
SEYD	Seydisehir-KON	86.96	307	eP	P	08 07 10.5	-0.9
FIA1	FINESS Array S	86.97	332	P	P	08 07 09.8	-0.9
FINES	FINESS Array B	86.97	332	P	P	08 07 09.4	-1.3
	comp=Z,135nm,0.6s,baz=77,slow=4.2,SNR=313						
FINES				S	SKSac	08 16 37.3	-3.2
	comp=Z,6.3nm,1.1s,baz=107,slow=12,SNR=4.3						
	comp=Z,135nm,0.6s						
AKASG	Malin Array Be	87.00	321	P	P	08 07 09.4	-1.6
	comp=Z,49nm,0.8s,baz=73,slow=4.2,SNR=154						
AKASG				pP	pwP	08 09 23.4	-0.6
	comp=Z,3.2nm,0.7s,baz=65,slow=4.6,SNR=2.7						
	comp=Z,49nm,0.8s						
AKBB	Malin Array Si	87.00	321	IAmb	IAmb	08 07 11.9	
	comp=Z,108nm,1.1s						
AKBB	Malin Array Si	87.00	321	d iP	P	08 07 09.9	-1.2
AKBB	Malin Array Si	87.00	321	P	P	08 07 10.2	-0.9
KIEV	Kiev	87.02	321	P	P	08 07 10.1	-1.1
KIEV				IAmb	IAmb	08 07 11.9	
	comp=Z,89nm,1.0s						
KIEV	Kiev	87.02	321	i P	P	08 07 10.5	-0.7
	SNR=51						
KIEV	Kiev	87.02	321	⇑P	P	08 07 09.9	-1.3
KIEV	Kiev	87.02	321	P	P	08 07 10.1	-1.1
KIEV				pmax	pmax		
	comp=Z,89nm,1.0s						
MDUB	Mudurnu	87.06	310	eP	P	08 07 10.8	-0.9
YUK6	Outpost Mounta	87.07	29	P	P	08 07 11.3	-0.2
	baz=280						
YUK6				S	S	08 17 00.8	0.0
	baz=280						
O29M	Mount Kennedy	87.08	30	IAmb	IAmb	08 07 13.3	
	comp=Z,95nm,2.0s						
O29M	Mount Kennedy	87.08	30	P	P	08 07 11.8	+0.3
	baz=280						
O29M				S	S	08 17 00.0	-0.6
	baz=280						
I30M	Mount Dempster	87.11	25	P	P	08 07 11.2	-0.2
	baz=282,SNR=25						
I30M				S	S	08 16 59.9	-0.9
	baz=282						
PURM	Purcari	87.18	316	⇓P	P	08 07 11.5	-0.5
VSU	Vasula	87.18	329	d iP	P	08 07 11.3	-0.4
VSU				pmax	pmax		
	comp=Z,147nm,0.7s						
MNK	Minsk	87.22	324	i P	P	08 07 11.1	-1.0
	comp=E,53nm,0.9s						
MNK				i P	P	08 07 11.1	-1.0
	comp=N,156nm,1.0s						
MNK				i P	P	08 07 11.1	-1.0
	comp=Z,284nm,0.8s,baz=81						
MNK				i pP	pP	08 09 19.8	-2.2
MNK				i PP	PP	08 10 46.4	-1.1
MNK				i PPP	PPP	08 12 47.2	
MNK				i S	SKSac	08 16 41.1	-1.2
MNK				i sS	sS	08 20 46.2	-5.3
MNK				i SS	SS	08 23 05.6	+1.1
MNK				i SSS	SSS	08 26 47.4	
MNK				i LR	LR	08 47 31.6	
MNK				i LRM	MLR	08 48 01.7	
	comp=E,135nm,13.6s						
MNK				i LRM	MLR	08 48 31.7	
	comp=N,207nm,15.5s						
MNK				i LRM	MLR	08 49 30.8	
	comp=Z,327nm,19.1s						
MNK	Minsk	87.22	324	i P	P	08 07 11.0	-1.0
MNK				i *PP	pP	08 09 19.8	-2.2
MNK				i		08 10 46.3	
MNK				i PPP	PPP	08 12 47.2	
MNK				i S	SKSac	08 16 41.0	-1.2
MNK				i SS	SS	08 23 05.6	+1.1
MNK				i SSS	SSS	08 26 47.3	
MNK				pmax	pmax		
	comp=Z,284nm,0.8s						
MNK				pmax	pmax		
	comp=N,156nm,1.0s						
MNK				pmax	pmax		
	comp=E,53nm,0.9s						
MNK				MLR	MLR		
	comp=E,135nm,14.0s						
MNK				MLR	MLR		
	comp=N,207nm,16.0s						
MNK				MLR	MLR		
	comp=Z,327nm,19.0s						
J30M	Hart River	87.27	25	P	P	08 07 12.1	-0.2
	baz=282,SNR=22						
J30M				S	S	08 17 01.4	-0.8
	baz=282						
CIFT	Cifteler, Eski	87.31	309	eP	P	08 07 11.4	-1.5
GRD1	Great Renaissa	87.36	281	eP	P	08 07 13.5	-0.1
ARBE	Arbavere	87.39	330	eP	P	08 07 13.1	+0.4
KEF	Keuruu	87.40	332	eP	P	08 07 13.1	+0.4
JETT	Jettan, Norway	87.47	340	eP	P	08 07 11.9	-1.0
JETT				IVmB_BB		08 07 13.7	
	comp=Z,2μm,0.8s						
JETT				eSKSac	SKSac	08 16 45.3	+2.0
JETT				eSS	SS	08 23 11.7	+4.3
INK	Inuvik	87.50	21	P	P	08 07 12.5	-0.5
	baz=284,SNR=31						
INK				S	S	08 17 03.3	-0.6
	baz=284						
HYT	Haines Junctio	87.50	29	P	P	08 07 13.2	-0.2
	baz=281,SNR=20						
HYT				S	S	08 17 05.1	+0.6
	baz=281						
SRCK	Saricakaya, Es	87.55	310	eP	P	08 07 12.9	-1.0
G31M	Satah River	87.57	23	IAmb	IAmb	08 07 15.3	
	comp=Z,33nm,0.8s						
G31M	Satah River	87.57	23	P	P	08 07 12.6	-0.8
	baz=284,SNR=26						
G31M				S	S	08 17 02.3	-2.3
	baz=284						
N30M	Aishikik Lake	87.57	28	P	P	08 07 13.6	0.0
	baz=282,SNR=7.4						
N30M				S	S	08 17 04.7	-0.4
	baz=282						
GULT	Gulveren	87.58	310	eP	P	08 07 12.5	-1.7
P29M	Windy Craggy	87.62	30	IAmb	IAmb	08 07 17.3	
	comp=Z,48nm,0.7s						
P29M	Windy Craggy	87.62	30	P	P	08 07 14.1	+0.2
	baz=281						
P29M				S	S	08 17 06.7	+1.2
	baz=281						
F31M	Tsiigehtchic	87.64	22	IAmb	IAmb	08 07 15.5	
	comp=Z,47nm,0.8s						
F31M	Tsiigehtchic	87.64	22	P	P	08 07 13.1	-0.6
	baz=284,SNR=36						
F31M				S	S	08 17 03.9	-1.3
	baz=284						
MAYO	Mayo, Yukon	87.67	26	IAmb	IAmb	08 07 15.8	
	comp=Z,39nm,0.8s						
MAYO	Mayo, Yukon	87.67	26	P	P	08 07 14.0	0.0
	baz=283,SNR=6.4						
MAYO				S	S	08 17 04.6	-1.1
	baz=283						
NACGM	Naroch	87.79	325	⇓i P	P	08 07 14.0	-0.7
	comp=Z,253nm,0.9s,baz=80						
H31M	Peel River	87.81	24	IAmb	IAmb	08 07 16.7	
	comp=Z,115nm,1.9s						
H31M	Peel River	87.81	24	P	P	08 07 13.9	-0.7
	baz=284,SNR=18						
H31M				S	S	08 17 04.7	-2.3
	baz=284						
SHUT	Suhut-Afyon	87.81	308	eP	P	08 07 14.6	-0.7
MILM	Milestii Mici	87.85	317	⇓P	P	08 07 13.9	-1.2
MILM	Milestii Mici	87.85	317	P	P	08 07 14.3	-0.8
P30M	Million Dollar	87.91	30	P	P	08 07 15.5	+0.3
	baz=282						
P30M				S	S	08 17 08.5	+0.4
	baz=282						
ISP	Isparta	87.94	308	eP	P	08 07 13.8	-2.1
ISP	Isparta	87.94	308	IAmb	IAmb	08 07 16.2	
	comp=Z,129nm,1.0s						
ISP	Isparta	87.94	308	eP	P	08 07 15.8	-0.1
ISP	Isparta	87.94	308	d iP	P	08 07 14.4	-1.5
ISP				pmax	pmax		
	comp=Z,165nm,1.3s						
MI28	Mi28,Pidlybu	87.94	321	P	P	08 07 14.4	-1.1
	comp=Z,1μm,1.0s,comp=Z,13μm						
TRO	Tromso	87.95	340	eP	P	08 07 14.4	-0.7
TRO				eSKSac	SKSac	08 16 48.2	+2.3
MEF	Metsahovi	88.02	330	eP	P	08 07 16.1	+0.5
LODK	Lodwar	88.06	273	IAmb	IAmb	08 07 19.2	
	comp=Z,100nm,1.4s						
LODK	Lodwar	88.06	273	P	P	08 07 17.9	+1.0
	SNR=21						
LODK	Lodwar	88.06	273	eP	P	08 07 17.4	+0.5
TLCR		88.11	315	⇑P	P	08 07 16.1	-0.2
TLCR		88.11	315	P	P	08 07 18.2	+1.8
CAVI	Cavuskoy	88.12	310	eP	P	08 07 15.9	-0.7
JURR	Jurilovca	88.14	315	⇓P	P	08 07 16.6	+0.1
HRT	Hereke	88.16	311	eP	P	08 07 15.0	-1.8
ADVT	Abdulvahap	88.17	310	eP	P	08 07 15.8	-1.0
N31M	Braeburn, Yuko	88.18	28	IAmb	IAmb	08 07 21.2	
	comp=Z,129nm,1.9s						
N31M	Braeburn, Yuko	88.18	28	P	P	08 07 17.2

KORT Korkueli 88.19 307 eP P 08 07 15.8 -1.4
O30N Mendenhall 88.19 29 P P 08 07 16.8 +0.3
baz=282,SNR=6.9
O30N S S 08 17 10.1 -0.6
baz=282
VAF Ylistaro 88.20 333 eP P 08 07 16.4 0.0
PLBC Pleasant Camp 88.34 30 P P 08 07 17.8 +0.7
baz=282
PLBC S S 08 17 11.8 -0.1
baz=282
YLV Yalova 88.42 311 eP P 08 07 16.8 -1.3
YLV Yalova 88.42 311 P P 08 07 17.5 -0.6
comp=Z,93nm,0.9s,comp=Z,1µm
VLDR Vladesti 88.52 316 ⇑P P 08 07 18.0 -0.3
TVSB Tavsanli 88.52 309 eP P 08 07 17.5 -1.1
ELL Elmali 88.58 307 eP P 08 07 17.5 -1.4
CFR Carcaliu 88.59 315 ⇑P P 08 07 18.4 -0.2
CFR Carcaliu 88.59 315 ⇑P P 08 07 18.4 -0.2
SCTR Scanteiesti 88.61 316 ⇓P P 08 07 18.8 +0.1
MTSE Matsula 88.63 329 eP P 08 07 19.2 +0.7
M31M Drury Creek, Y 88.66 27 P P 08 07 19.0 +0.4
baz=284,SNR=10
M31M S S 08 17 13.8 -1.1
baz=284
SBA Scott Base 88.67 172 P P 08 07 19.5 +1.2
SBA Scott Base 88.67 172 P P 08 07 19.5 +1.2
SBA pmax pmax
comp=Z,170nm,1.4s
NEGRR Negrea 88.71 316 ⇑P P 08 07 19.2 0.0
S31K Pelican 88.73 32 P P 08 07 19.5 +0.5
baz=282
S31K S S 08 17 16.0 +0.5
baz=282
S31K S S 08 17 16.0 +0.5
baz=282
SCHL Schela 88.75 316 ⇑P P 08 07 20.1 +0.7
SCHLR Schela 88.75 316 ⇑P P 08 07 19.5 +0.1
SLCR Slobozia Conac 88.78 316 ⇑P P 08 07 19.5 +0.1
IZVR Izvoarele 88.78 316 ⇑P P 08 07 20.4 +0.9
WHY Whitehorse 88.80 29 IAmb IAmb 08 07 22.4
comp=Z,42nm,0.8s
WHY Whitehorse 88.80 29 P P 08 07 19.4 0.0
baz=284,SNR=22
WHY S S 08 17 15.5 -0.9
baz=284
ARMT Armutlu 88.81 311 eP P 08 07 18.4 -1.4
HARR Harsova 88.81 315 ⇓P P 08 07 19.4 -0.3
HARR Harsova 88.81 315 ⇓P P 08 07 19.4 -0.3
TUDR 88.84 316 ⇑P P 08 07 20.3 +0.5
SKAG Skagway 88.86 30 IAmb IAmb 08 07 22.6
comp=Z,33nm,0.8s
SKAG Skagway 88.86 30 P P 08 07 20.1 +0.6
baz=283
SKAG S S 08 17 16.3 -0.3
baz=283
SKAG Skagway 88.86 30 P P 08 07 21.0 +1.5
NOR Nord 88.87 355 i P P 08 07 18.2 -1.0
NOR IAmb IAmb 08 07 20.5
comp=Z,74nm,0.9s
AKAS Kas 88.90 306 eP P 08 07 18.8 -1.6
SIMA Simav-Kutahya 88.95 309 eP P 08 07 18.9 -1.7
RNPP9 Sopachiv 88.96 322 P P 08 07 20.5 +0.3
RNPP5 Staryi Chortor 89.00 321 P P 08 07 20.3 -0.1
ICOR Ion Corvin 89.00 314 ⇓P P 08 07 21.9 +1.3
A36M Sachs Harbour 89.02 17 IAmb IAmb 08 07 24.4
comp=Z,22nm,0.7s
A36M Sachs Harbour 89.02 17 P P 08 07 20.3 +0.2
baz=292,SNR=27
A36M S S 08 17 17.8 +0.1
baz=292
COSR Cosmesti PH 89.05 316 ⇑P P 08 07 21.1 +0.4
PPT2 Papeete2 89.06 108 eP P 08 07 14.9 -6.5
comp=Z,66nm,24.2s
PPT2 epP pP 08 09 25.1 -7.1
comp=Z,269nm,26.0s
PPT2 eS S 08 17 07.5 -13
comp=Z,1µm,26.0s
PPT2 eSS SS 08 23 27.2 -5.9
comp=Z,1µm,26.5s
PPT2 eLQ LQ 08 32 56.4
comp=Z,766nm,37.8s
PPT2 eLR LR 08 36 48.2
comp=Z,358nm,23.2s
RAF Rauma 89.10 332 eP P 08 07 21.1 +0.5
FARO Faro, Yukon 89.12 27 IAmb IAmb 08 07 23.6
comp=Z,66nm,0.8s
FARO Faro, Yukon 89.12 27 P P 08 07 20.9 +0.1
baz=285,SNR=66
FARO S S 08 17 19.6 +0.5
baz=285
PANC Panciu 89.16 316 ⇑P P 08 07 22.1 +0.9
VSVD Vaisvydziai 89.17 326 eP P 08 07 20.3 -0.7
SLVT Silivri 89.19 311 eP P 08 07 20.3 -1.2
KCTX Karacabey (Bur 89.23 310 eP P 08 07 20.5 -1.3
ODBI Odobesti 89.24 316 ⇑P P 08 07 22.9 +1.3
PABE Paberze 89.25 326 eP P 08 07 22.2 +0.8
FETY Fethiye 89.25 307 eP P 08 07 20.7 -1.2
KULA Kula-Manisa 89.28 309 eP P 08 07 21.3 -0.8
GRER 89.36 316 ⇑P P 08 07 23.3 +1.1
TESR Tescani 89.38 317 ⇑P P 08 07 21.7 -0.6
SIT Sitka 89.41 32 P P 08 07 22.1 0.0
baz=283
BAND Balkesir-Ban 89.41 311 ⇑P P 08 07 21.4 -1.2
PGOR Pogoanele 89.44 315 ⇑P P 08 07 24.2 +1.6
PRD Provadia 89.44 313 P P 08 07 23.3 +0.7
VRI Vrincioaia 89.45 316 ⇑P P 08 07 22.6 0.0
VRI Vrincioaia 89.45 316 ⇑P P 08 07 22.6 0.0
PLOR Plostina 89.50 316 ⇓P P 08 07 23.0 +0.1
PLOR Plostina 89.50 316 ⇓P P 08 07 23.0 +0.1
BISRR Bisoca 89.52 316 ⇑P P 08 07 23.9 +0.8
NEF NEVSHA 89.52 313 P P 08 07 23.8 +0.8
N32M Quiet Lake 89.53 28 P P 08 07 22.7 +0.1
baz=285
N32M S S 08 17 22.0 -0.9
baz=285
R32K Eaglecrest 89.54 31 P P 08 07 23.5 +0.7
baz=284
ONER Baraj Valea Uz 89.59 317 ⇑P P 08 07 23.1 -0.2
EDC Edincik 89.59 311 eP P 08 07 22.9 -0.5
P32M Atlin 89.62 30 P P 08 07 23.3 +0.1
baz=285
P32M S S 08 17 26.3 +2.6
baz=285
NAZL Nazilli-Aydin 89.66 308 eP P 08 07 24.4 +0.6
SLIT Silitere, Latvi 89.67 328 eP P 08 07 22.8 -0.5
S32K Kilisnoo 89.71 32 P P 08 07 23.6 +0.1
baz=284
ISR Istrita 89.71 315 ⇓P P 08 07 23.7 -0.2
ISR Istrita 89.71 315 ⇓P P 08 07 23.7 -0.2
STEI Steigen 89.76 339 eP P 08 07 22.4 -1.1
YER Yerkesik 89.80 307 eP P 08 07 23.7 -0.8
COVR Voineasa-Covas 89.81 316 ⇓P P 08 07 23.8 -0.5
NEHR Nehoiu 89.82 316 ⇑P P 08 07 24.3 -0.1
TURN Turunc 89.89 307 eP P 08 07 23.5 -1.3
TURR Turia 89.90 316 ⇑P P 08 07 25.8 +1.1
P33M Teslin, Yukon 89.90 29 P P 08 07 24.7 +0.2
baz=285
P33M S S 08 17 26.5 +0.3
baz=285
FAUS Fauske 89.93 338 eP P 08 07 22.8 -1.6
FAUS IVmB_BB 08 07 24.5
comp=Z,1µm,1.3s
FAUS eSKSac SKSac 08 16 59.4 +1.9
MMPY Sheldon Lake, 89.95 27 IAmb IAmb 08 07 27.7
comp=Z,37nm,1.0s
MMPY Sheldon Lake, 89.95 27 P P 08 07 25.2 +0.6
baz=287,SNR=18
MMPY S S 08 17 25.5 -1.1
baz=287
AYDB Zeytinkoy-Aydi 89.98 308 eP P 08 07 25.0 -0.4
TBI Tubuai 90.00 113 epP pP 08 09 25.4 -11
comp=Z,774nm,32.2s
TBI eS S 08 17 17.0 -11
comp=Z,3µm,27.0s
TBI eSS SS 08 23 47.8 +1.6
comp=Z,6µm,28.5s
TBI eLQ LQ 08 33 20.0
comp=Z,3µm,33.5s
TBI eLR LR 08 37 11.7
comp=Z,2µm,25.2s
SUW Suwalki 90.03 325 eP P 08 07 24.2 -0.9
SUW Suwalki 90.03 325 eP P 08 07 24.7 -0.3
OZUR 90.05 316 ⇑P P 08 07 26.1 +0.7
MLR Muntele Rosu 90.05 316 eP P 08 07 24.6 -1.0
MLR Muntele Rosu 90.05 316 ⇓P P 08 07 25.3 -0.3
MLR Muntele Rosu 90.05 316 ⇓P P 08 07 25.3 -0.3
BURAR Bucovina Array 90.13 318 ⇑P P 08 07 25.5 -0.4
BURAR Bucovina Array 90.13 318 ⇑P P 08 07 25.5 -0.4
BUR08 Bucovina Ar. S 90.14 318 IAmb IAmb 08 07 27.6
comp=Z,58nm,0.9s
EDRB Edirne 90.16 312 eP P 08 07 25.1 -0.9
JMB Yambol 90.20 313 P P 08 07 26.5 +0.3
PBUR Paburge 90.25 327 eP P 08 07 26.9 +0.9
SGRR Singureni 90.28 315 ⇑P P 08 07 26.4 -0.1
DOPR Dopca 90.34 316 ⇑P P 08 07 26.8 0.0
C36M Paulatuk 90.41 19 P P 08 07 26.3 -0.2
baz=293,SNR=17
C36M S S 08 17 30.9 +0.7
baz=293
LVV L'vov 90.44 320 P P 08 07 27.7 +0.6
SZH Strazhitsa 90.46 314 P P 08 07 27.8 +0.5
Q32M Nakina River 90.50 30 P P 08 07 27.6 +0.1
baz=286
GCAM G?zelcaml? 90.53 308 eP P 08 07 27.5 -0.3
DKL Dikili 90.54 309 eP P 08 07 26.6 -1.2
ERIK Erikli-Kesan 90.55 311 eP P 08 07 26.7 -1.1
BLCB Balcova 90.56 309 eP P 08 07 27.1 -0.8
BODT Bodrum 90.58 307 eP P 08 07 26.0 -2.1
ELND Elena 90.59 313 ⇑P P 08 07 27.1 -0.9
MOR8 Moi Rana 90.67 337 eP P 08 07 26.6 -1.2
MOR8 IVmBBB 08 07 27.5
comp=Z,662nm,0.7s
MOR8 eSKSac SKSac 08 17 03.8 +2.0
VOIR 90.68 316 ⇑P P 08 07 27.2 -1.2
VOIR 90.68 316 ⇑P P 08 07 27.2 -1.2
VOIR 90.68 316 P P 08 07 28.5 +0.1
comp=Z,24nm,1.8s
T33K Petersburg 90.73 32 P P 08 07 29.1 +0.9
baz=285
ARCR ARCALIA 90.81 318 ⇑P P 08 07 28.6 -0.3
U33K Whale Pass 90.82 33 P P 08 07 28.4 -0.3
baz=285
U33K S S 08 17 33.1 -1.2
baz=285
U33K S S 08 17 33.1 -1.2
baz=285
EZN Ezine 90.85 310 P P 08 07 28.6 -0.6
EZN Ezine 90.85 310 P P 08 07 28.6 -0.6
ALN Alexandroupoli 90.86 311 IAmb IAmb 08 07 29.7
comp=Z,58nm,1.1s
STFAR Stefanesti-Arg 90.86 315 ⇑P P 08 07 29.7 +0.6
KARP Karpathos 90.97 306 eP P 08 07 29.2 -0.7
KARP Karpathos 90.97 306 eP P 08 07 30.8 +0.9
DIM Dimitrovgrad 90.98 313 P P 08 07 30.1 +0.3
ARR Arges 90.98 316 ⇓P P 08 07 29.3 -0.5
EUNU Eureka 90.98 5 IAmb IAmb 08 07 30.7
comp=Z,87nm,1.8s
CRAG Craig 90.99 34 P P 08 07 29.9 +0.4
baz=285
CRAG S S 08 17 36.4 +0.5
baz=285
MDB Medias 91.00 317 ⇑P P 08 07 31.2 +1.5
MDB Medias 91.00 317 ⇑P P 08 07 31.2 +1.5
R33M Jennings River 91.03 30 P P 08 07 29.9 +0.1
baz=287,SNR=8.7
R33M S S 08 17 36.9 +0.5
baz=287
KONS Konsvik 91.05 338 eP P 08 07 29.3 -0.2
STOK Stokkvaagen 91.15 338 eP P 08 07 29.4 -0.5
STOK eSKSac SKSac 08 17 06.9 +2.6
WRAK Wrangell Islan 91.16 33 IAmb IAmb 08 07 33.4
comp=Z,35nm,0.8s
WRAK Wrangell Islan 91.16 33 P P 08 07 30.7 +0.5
baz=286
WRAK S S 08 17 37.3 0.0
baz=286
KDZ Kurdzhali 91.24 312 P P 08 07 30.8 -0.2
BMR Baia Mare 91.26 318 ⇑P P 08 07 31.3 +0.4
BMR Baia Mare 91.26 318 ⇑P P 08 07 31.3 +0.4
S34M Telegraph Cree 91.37 31 IAmb IAmb 08 08 10.6
comp=Z,71nm,1.9s
S34M Telegraph Cree 91.37 31 P P 08 07 31.9 +0.7
baz=287
CJR Cluj-Napoca 91.40 317 ⇑P P 08 07 31.8 +0.1
CJR Cluj-Napoca 91.40 317 ⇑P P 08 07 31.8 +0.1
CBBR Cluj-Babes-Bol 91.42 317 ⇑P P 08 07 32.1 +0.3
VLAD Vladila 91.43 315 ⇑P P 08 07 32.6 +0.8
LOT Lotru 91.56 316 ⇓P P 08 07 32.3 -0.2
PLD Plovdiv 91.56 313 P P 08 07 32.5 0.0
TGTN Hyland Airport 91.63 27 P P 08 07 32.8 +0.4
baz=289,SNR=47
TGTN S S 08 17 39.3 -2.2
baz=289
RZN Rozhen 91.66 312 P P 08 07 33.1 -0.1
MARR Marisel-Cluj 91.73 317 ⇑P P 08 07 32.9 -0.4
KOLS Kolonicke sedl 91.76 320 eP P 08 07 34.2 +1.0
KOLS pmax pmax
comp=Z,30nm,0.9s
KOLS Kolonicke sedl 91.76 320 eP P 08 07 34.2 +1.0
DLBC Dease Lake 91.78 30 P P 08 07 33.7 +0.6
baz=288,SNR=5.5
DLBC S S 08 17 41.6 -1.2
baz=288
UZHM Uzhgorod 91.82 319 P P 08 07 34.4 +0.9
WTLY Watson Lake, Y 91.85 29 IAmb IAmb 08 07 36.5
comp=Z,51nm,0.8s
WTLY Watson Lake, Y 91.85 29 P P 08 07 34.0 +0.6
baz=289,SNR=24
WTLY S S 08 17 42.1 -1.2
baz=289
V35K Ketchikan 91.86 34 P P 08 07 33.8 +0.3
baz=286
V35K S S 08 17 42.0 -1.4
baz=286
V35K S S 08 17 42.0 -1.4
baz=286
PGB Panagyurishte 91.91 313 P P 08 07 34.1 0.0
H02S1 DAWSON INLET T 91.95 36 P P 08 07 35.7 +1.8
BEL Belsk 91.96 323 eP P 08 07 35.1 +1.1
DRGR 91.98 318 ⇑P P 08 07 33.8 -0.6
DRGR 91.98 318 ⇑P P 08 07 33.8 -0.6
MPEP Malo Peshtene 92.04 314 P P 08 07 35.0 +0.4
DEV Deva 92.06 317 ⇑P P 08 07 35.8 +1.2
DEV Deva 92.06 317 ⇑P P 08 07 35.8 +1.2
T35M Bob Quinn 92.11 32 IAmb IAmb 08 07 37.7
comp=Z,21nm,0.8s
T35M Bob Quinn 92.11 32 P P 08 07 34.8 +0.2
baz=288
T35M S S 08 17 44.1 -1.6
baz=288
SRE Strehaia 92.12 315 ⇑P P 08 07 36.0 +1.0
SRE Strehaia 92.12 315 ⇑P P 08 07 36.0 +1.0
VALD Valchedram 92.18 314 P P 08 07 35.5 +0.3
NSS Namsos 92.25 336 eP P 08 07 34.4 -0.7
NSS IVmB_BB 08 07 44.4
comp=Z,2µm,5.9s
NSS eSKSac SKSac 08 17 12.6 +2.1
GZR Gura Zlata 92.26 316 ⇓P P 08 07 35.2 -0.5
STHS Stebnicka Huta 92.30 320 eP P 08 07 35.6 -0.1
STHS pmax pmax
comp=Z,27nm,1.2s
STHS Stebnicka Huta 92.30 320 eP P 08 07 35.6 -0.1
PUNG Punghina 92.40 315 ⇓P P 08 07 36.2 0.0
MMB Musomishta 92.42 312 P P 08 07 36.1 -0.4
RMGR Halanga-Turnu 92.48 316 ⇑P P 08 07 37.7 +1.1
BORR Bors 92.52 318 ⇓P P 08 07 38.4 +1.7
U35K Hyder 92.55 33 P P 08 07 37.0 +0.4
baz=288
U35K S S 08 17 47.4 -2.0
baz=288
VTS Vitosha 92.56 313 P P 08 07 37.4 +0.2
SURR Surduc 92.62 317 ⇑P P 08 07 36.3 -0.9
HERR Herculane 92.62 316 ⇓P P 08 07 36.7 -0.5
SIRR Siria 92.81 317 ⇓P P 08 07 37.8 -0.3
KKB Krupnik 92.81 313 P P 08 07 38.1 -0.1
IDI Anoyia 92.84 306 IAmb IAmb 08 07 40.1
comp=Z,92nm,1.1s
IDI Anoyia 92.84 306 P P 08 07 37.4 -1.1
NIE Niedzica 92.89 321 eP P 08 07 40.4 +1.9
DAG Danmarks Havn 92.92 352 i P P 08 07 36.1 -1.8
DAG IAmb IAmb 08 07 38.7
comp=Z,86nm,0.7s
PEHC Pehcevo 92.99 313 i P P 08 07 37.9 -1.3
OJC Ojcow 92.99 321 eP P 08 07 39.5 +0.7
OJC Ojcow 92.99 321 IAmb IAmb 08 07 40.4
comp=Z,39nm,1.0s
BZS Buzias 93.00 317 ⇑P P 08 07 37.7 -1.2
BZS Buzias 93.00 317 ⇑P P 08 07 37.7 -1.2
KECS Kecovo 93.02 320 eP P 08 07 40.0 +1.0
KECS pmax pmax
comp=Z,63nm,0.9s
KECS Kecovo 93.02 320 eP P 08 07 40.0 +1.0
WRGLY Wrigley 93.09 25 P P 08 07 39.2 +0.3
baz=294
WRGLY S S 08 17 51.7 -2.2
baz=294
MDVR Moldovita 93.13 316 ⇑P P 08 07 38.9 -0.7
HFS Hagfors 93.17 332 P P 08 07 37.8 -1.6
comp=Z,56nm,0.8s,baz=98,slow=4.5,SNR=112
HFS PKKPbc PKKPdf 08 24 44.8 +1.4
comp=Z,1.7nm,0.5s,baz=222,slow=3.7,SNR=2.4
comp=Z,56nm,0.8s
MBAR Mbarara 93.17 270 P P 08 07 40.6 0.0
MBAR IAmb IAmb 08 07 42.0
comp=Z,30nm,1.1s
MBAR Mbarara 93.17 270 P P 08 07 41.3 +0.7
MBAR Mbarara 93.17 270 eP P 08 07 40.5 -0.2
MBAR Mbarara 93.17 270 eP P 08 07 40.3 -0.3
MBAR pmax pmax
comp=Z,19nm,1.0s
TIM Timisoara 93.23 317 ⇑P P 08 07 40.9 +0.9
TIM Timisoara 93.23 317 ⇑P P 08 07 40.9 +0.9
LIRD Liard River Hi 93.37 29 P P 08 07 40.7 +0.3
baz=291
BOVS Bovan 93.41 315 ⇑P P 08 07 39.4 -1.4
LANS Liptovska Anna 93.49 320 eP P 08 07 42.6 +1.4
LANS pmax pmax
comp=Z,11nm,0.9s
LANS Liptovska Anna 93.49 320 eP P 08 07 42.6 +1.4
PSZ Piszkesteto 93.55 319 IAmb IAmb 08 07 42.8
comp=Z,48nm,1.1s
PSZ Piszkesteto 93.55 319 eP P 08 07 42.5 +0.9
PSZ Piszkesteto 93.55 319 ⇓P P 08 07 40.3 -1.2
PSZ Piszkesteto 93.55 319 ⇓P P 08 07 40.3 -1.2
GKP Gorka Klasztor 93.63 325 eP P 08 07 42.7 +1.1
NC602 NORSAR Array S 93.93 333 IAmb IAmb 08 07 43.2
comp=Z,48nm,1.1s
NC602 NORSAR Array S 93.93 333 eP P 08 07 42.7 -0.1
NORES NORESS Array B 93.93 333 P P 08 07 42.2 -0.6
NORES pmax pmax
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 93.95 333 P P 08 07 41.2 -1.8
comp=Z,66nm,0.8s,baz=66,slow=4.8
NB2 PKKP PKKPdf 08 24 42.7 +0.7
comp=Z,0.8nm,0.7s,baz=237,slow=2.6
NB2 NORSAR Subarra 93.95 333 P P 08 07 41.2 -1.8
baz=66,slow=4.8
NOA NORSAR Array B 93.95 333 P P 08 07 41.3 -1.8
comp=Z,60nm,0.9s,baz=66,slow=4.6,SNR=106
NOA pP pP 08 09 55.9 +1.4
comp=Z,1.0nm,0.8s,baz=63,slow=7.0,SNR=1.8
NOA PP PP 08 11 35.6 -3.8
comp=Z,4.2nm,0.8s,baz=74,slow=7.7,SNR=4.1
comp=Z,60nm,0.9s
TOAD Toad River Com 94.00 29 P P 08 07 43.3 +0.1
baz=292
KOTAN Kotaneelee Air 94.06 28 P P 08 07 44.1 +0.6
baz=293
KOTAN S S 08 18 01.3 -1.2
baz=293
OKC Ostrava-Krasne 94.12 321 eP P 08 07 44.5 +0.5
OKC Ostrava-Krasne 94.12 321 eP P 08 07 44.5 +0.5
BSD Bornholm Skovb 94.33 327 eP P 08 07 44.7 -0.1
BSD Bornholm Skovb 94.33 327 i P P 08 07 43.6 -1.1
BSD IAmb IAmb 08 07 45.4
comp=Z,80nm,1.0s
FNA Florina 94.34 312 IAmb IAmb 08 07 44.6
comp=Z,26nm,0.9s
FRGS Fruska Gora 94.34 316 ⇑i P P 08 07 44.8 -0.3
RES Resolute Bay 94.39 10 IAmb IAmb 08 07 46.5
comp=Z,16nm,0.8s
MAUC Maruska 94.46 321 eP P 08 07 46.2 +0.6
DOMB Dombas 94.47 335 eP P 08 07 45.5 +0.2
DOMB eSS SS 08 24 46.2 -0.6
MORC Moravsky Berou 94.51 321 P P 08 07 45.4 -0.5
MORC IAmb IAmb 08 07 47.7
comp=Z,33nm,1.1s
MORC Moravsky Berou 94.51 321 eP P 08 07 46.6 +0.8
MORC ePP PP 08 11 45.4 +1.3
MORC Moravsky Berou 94.51 321 ⇑P P 08 07 46.2 +0.4
MORC Moravsky Berou 94.51 321 ⇑P P 08 07 46.2 +0.4
SRO Srobarova 94.60 319 eP P 08 07 47.1 +0.9
SRO pmax pmax
comp=Z,34nm,0.9s
SRO Srobarova 94.60 319 eP P 08 07 47.1 +0.9
OSL Oslo 94.62 332 eP P 08 07 46.3 +0.3
OHR Ohrid 94.68 312 i P P 08 07 46.1 -0.7
TEKS Tekeris 94.70 316 eP P 08 07 45.4 -1.3
JAVC Velka Javorina 94.71 320 eP P 08 07 48.4 +1.7
JAVC ePP PP 08 11 49.7 +4.1
SJES Sjenica 94.73 315 ⇑i P P 08 07 44.4 -2.6
MORH Mrgy, Hungar 94.84 318 ⇑P P 08 07 47.1 -0.2
MOL Molde 94.87 335 eP P 08 07 47.6 +0.6
IVA Berane 94.89 314 ⇓i P P 08 07 46.8 -0.9
KRLC Kraliky 94.89 322 eP P 08 07 48.2 +0.7
KRLC Kraliky 94.89 322 eP P 08 07 48.2 +0.7
NEEM North Greenlan 94.91 359 i P P 08 07 46.6 -0.7
NEEM IAmb IAmb 08 07 49.0
comp=Z,48nm,0.7s
KSP Ksiaz 94.95 323 eP P 08 07 48.9 +1.2
SMOL Smolenice 94.96 320 eP P 08 07 48.5 +0.7
SMOL pmax pmax
comp=Z,18nm,1.9s
BBLS Lazi&#263i 94.97 315 eP P 08 07 47.4 -0.6
RUDO Rudo 95.06 315 eP P 08 07 47.0 -1.4
OSTC Ostas 95.08 322 eP P 08 07 49.8 +1.4
OSTC Ostas 95.08 322 eP P 08 07 49.8 +1.4
DPC Dobruska-Polom 95.09 322 eP P 08 07 48.3 -0.1
DPC Dobruska-Polom 95.09 322 eP P 08 07 48.3 -0.1
MODS Modra-Piesok 95.10 320 eP P 08 07 49.2 +0.7
MODS pmax pmax
comp=Z,57nm,1.4s
MODS Modra-Piesok 95.10 320 eP P 08 07 49.1 +0.6
PLE Pljevlja 95.12 315 ⇓i P P 08 07 48.1 -0.7
DBG Daneborg 95.15 351 i P P 08 07 48.4 +0.3
DBG IAmb IAmb 08 07 50.4
comp=Z,49nm,1.1s
KOME Kolasin 95.16 314 ⇓i P P 08 07 48.1 -0.9
CHVC Chvalec 95.17 322 eP P 08 07 49.1 +0.3
CHVC Chvalec 95.17 322 eP P 08 07 49.1 +0.3
HAPS Han Pijesak,Bl 95.22 316 eP P 08 07 47.3 -1.9
VRAC Vranov 95.25 321 eP P 08 07 50.1 +1.0
VRAC ePP PP 08 11 49.1 -0.5
VRAC Vranov 95.25 321 ⇑P P 08 07 50.4 +1.3
VRAC Vranov 95.25 321 ⇑P P 08 07 50.4 +1.3
KONO Kongsberg 95.26 332 eP P 08 07 48.8 0.0
KONO Kongsberg 95.26 332 ⇓eP P 08 07 48.8 0.0
KONO pmax pmax
comp=Z,31nm,1.0s
AKN Aaknes 95.28 335 eP P 08 07 49.6 +0.7
TIR Tirane 95.30 313 ⇑P P 08 07 48.6 -0.9
TIR Tirane 95.30 313 ⇑P P 08 07 48.6 -0.9
SKAR Skarslia 95.40 334 eP P 08 07 50.2 +0.6
COP Copenhagen 95.44 328 i P P 08 07 50.0 +0.3
KRUC Moravsky 95.45 321 eP P 08 07 50.8 +0.8
KRUC ePP PP 08 11 50.2 -0.9
PDG Podgorica 95.46 314 IAmb IAmb 08 07 50.8
comp=Z,49nm,0.9s
PDG Podgorica 95.46 314 eP P 08 07 48.8 -1.4
PDG Podgorica 95.46 314 ⇑P P 08 07 50.2 0.0
PDG Podgorica 95.46 314 ⇓i P P 08 07 49.4 -0.8
UPM Unac-Piva 95.50 315 ⇑i P P 08 07 50.1 -0.5
UPM Unac-Piva 95.50 315 ⇓i P P 08 07 49.4 -1.2
DRME Dracevica, Mon 95.57 314 ⇓i P P 08 07 50.2 -0.5
NKME Niksic 95.58 314 ⇓i P P 08 07 49.7 -1.1
ULC Ulcinj 95.59 314 ⇓i P P 08 07 50.0 -0.8
CEME Cevo 95.67 314 ⇓i P P 08 07 50.2 -1.0
BUM Brajici-Budva 95.75 314 ⇓i P P 08 07 49.7 -1.9
KEK Kerkira 95.78 311 IAmb IAmb 08 07 51.6
comp=Z,48nm,1.0s
BRY Bratogost 95.84 315 ⇑i P P 08 07 51.6 -0.5
BRY Bratogost 95.84 315 ⇓i P P 08 07 50.8 -1.3
RUE Ruedersdorf 95.87 325 eP P 08 07 53.6 +1.8
OVD Ostervraa, Den 95.94 330 i P P 08 07 51.6 -0.3
OVD IAmb IAmb 08 07 53.0
comp=Z,66nm,0.7s
RONA Rosalia, Austr 95.94 320 ePcP PcP 08 07 52.4 +0.1
comp=Z,11nm,1.0s,SNR=5.0
RONA ePP PP 08 11 57.3 +2.4
comp=Z,18nm,1.1s
RONA ePKKP PKKPdf 08 24 37.9 -0.4

comp=Z,1.8nm,0.5s
HCY Herceg Novi 96.00 314 *e*P **P 08 07 50.8 -1.8**
HCY Herceg Novi 96.00 314 ⇓*i*P **P 08 07 51.8 -0.8**
BEHE Becsehely 96.00 318 IAmb IAmb 08 07 54.2
comp=Z,51nm,1.0s
PVCC Panska Ves 96.09 323 *e*P **P 08 07 53.7 +0.9**
PVCC Panska Ves 96.09 323 *e*P **P 08 07 53.7 +0.9**
HYA Hoyanger 96.09 334 *e*P **P 08 07 52.7 +0.1**
CONA Conrad Observa 96.14 320 *e*PcP **PcP 08 07 53.5 +0.2**
comp=Z,11nm,1.1s,SNR=5.9
CONA *e*PP **PP 08 11 59.6 +3.0**
comp=Z,32nm,2.0s
CONA *e*PKKP **PKKPdf 08 24 37.0 -1.0**
comp=Z,2.2nm,0.6s
BLY Banja Luka 96.25 317 *e*P **P 08 07 53.5 -0.2**
PRU Pruhonice 96.29 322 *e*P **P 08 07 54.5 +0.8**
PRU Pruhonice 96.29 322 *e*P **P 08 07 54.5 +0.8**
BRG Berggiesshubel 96.34 323 *i*P **P 08 07 53.7 -0.2**
BRG Amp 08 07 55.9
comp=Z,61nm,1.0s
BRG pP pwP 08 10 17.3 +10
BRG Amp 08 10 22.3
comp=Z,6.0nm,1.1s
BRG sP **sP 08 11 02.4 -3.5**
BRG Amp 08 11 03.4
comp=Z,6.7nm,0.9s
BRG PP **PP 08 11 54.1 -3.7**
BRG Amp 08 11 59.5
comp=Z,8.5nm,0.9s
BRG Berggiesshubel 96.34 323 *i*P **P 08 07 53.7 -0.2**
BRG 08 11 54.1
BRG pmax pmax
comp=Z,61nm,1.0s
BRG pmax pmax
comp=Z,9.0nm,1.0s
A051A Mrakovica 96.36 317⇑*i*P **P 08 07 51.9 -2.4**
STON Ston 96.44 315⇑*i*P **P 08 07 53.8 -0.7**
ARSA Arzberg 96.58 319 *e*Pdiff **P 08 07 55.3 +0.2**
comp=Z,12nm,1.0s,SNR=7.9
ARSA *e*PP **PP 08 12 02.1 +2.3**
comp=Z,7.3nm,1.3s
ZVC Zvikov 96.69 322 *e*P **P 08 07 55.5 0.0**
HSKC Hora Svate Kat 96.74 323 *e*P **P 08 07 55.8 0.0**
CLL Collm 96.74 324 IAmb IAmb 08 07 57.3
comp=Z,41nm,1.0s
CLL Collm 96.74 324⇑*i*P **P 08 07 56.3 +0.6**
CLL *e**PP **pP 08 10 06.0 -1.4**
CLL *e*S **S 08 18 25.0 -0.7**
CLL pmax pmax
comp=Z,63nm,1.2s
CLL Collm 96.74 324⇑*i*P **P 08 07 56.3 +0.6**
comp=Z,63nm,1.2s
CLL *e*pP **pP 08 10 06.0 -1.4**
CLL *e*sP **sP 08 11 06.0 -1.6**
CLL *e*x x 08 11 24.0
CLL *e*PP **PP 08 11 59.0 -1.8**
CLL *e*sPP 08 14 54.0
CLL *e*PPPP 08 15 48.0
CLL *e*S **S 08 18 25.0 -0.7**
CLL *e*(SP) 08 19 54.0
CLL *e*pSKKSac 08 21 06.0
CLL *e*sS **sS 08 22 23.0 +0.9**
CLL *e*sPS 08 23 36.0
CLL *e*sPPS 08 24 15.0
CLL *e*SS **SS 08 25 22.0 +3.1**
CLL *e*sSS 08 28 31.0
A050A Klekovaca 96.77 317 *e*P **P 08 07 53.8 -2.3**
BLS5 Blasjo 96.79 333 *e*P **P 08 07 56.2 +0.4**
MUD Monsted U'grnd 96.81 329 *i*P **P 08 07 55.5 -0.4**
MUD IAmb IAmb 08 07 57.2
comp=Z,35nm,0.8s
GROS Grobnik 96.84 319 *e*P **P 08 07 55.1 -1.3**
GCIS Gornji Cirnik 96.95 318 *i*P **P 08 07 57.2 +0.4**
YKA Yellowknife Ar 97.02 23 P Pdif 08 07 56.5 -0.2
comp=Z,5.4nm,0.7s,baz=302,slow=5.1,SNR=11
comp=Z,5.4nm,0.7s
YKA Yellowknife Ar 97.02 23 *i*P **P 08 07 57.2 +0.5**
YKA pmax pmax
comp=Z,5.0nm,0.7s
TAOE Nuku Hiva Isla 97.05 98 *e*S **S 08 18 31.4 +1.5**
comp=Z,944nm,28.1s
TAOE *e*SS **SS 08 25 24.1 -1.8**
comp=Z,1μm,28.8s
TAOE Nuku Hiva Isla 97.05 98 *e*LQ LQ 08 36 10.8
comp=Z,392nm,50.4s
TAOE *e*LR LR 08 40 24.9
comp=Z,345nm,23.8s
SOKA Soboth 97.08 319 *e*Pdiff **P 08 07 57.4 -0.1**
comp=Z,17nm,1.1s,SNR=8.6
SOKA *e*PP **PP 08 12 07.1 +3.4**
comp=Z,19nm,1.1s
SOKA *e*PKKP **PKKPbc 08 24 35.1 -1.2**
comp=Z,7.8nm,1.3s
KHC Kasperske Hory 97.17 322 IAmb IAmb 08 07 59.5
comp=Z,17nm,1.0s
KHC Kasperske Hory 97.17 322 *e*P Pdif 08 07 57.4 -0.4
KHC *e*PP **PP 08 12 07.4 +3.2**
KHC Kasperske Hory 97.17 322 *de*P Pdif 08 07 57.7 -0.1
KHC pmax pmax
comp=Z,39nm,1.0s
MOA Molln 97.18 320 *e*Pdiff **P 08 07 58.3 +0.5**
comp=Z,38nm,1.1s,SNR=15
MOA *e*PP **PP 08 12 07.0 +2.7**
comp=Z,9.1nm,1.1s
MOA *e*PKKP **PKKPbc 08 24 34.2 -1.8**
comp=Z,2.6nm,0.7s
GEC2 GERESS Array S 97.19 321 IAmb IAmb 08 07 59.6
comp=Z,32nm,1.1s
GERES GERESS Array B 97.19 321 P Pdif 08 07 57.1 -0.9
comp=Z,13nm,0.9s,baz=54,slow=5.1,SNR=56
GERES PP **PP 08 11 59.1 -5.3**
comp=Z,3.1nm,0.8s,baz=61,slow=8.0,SNR=4.3
GERES PKKPbc **PKKPbc 08 24 35.6 -0.5**
comp=Z,1.1nm,0.7s,baz=288,slow=0.9,SNR=4.2
comp=Z,13nm,0.9s
LSZ Lusaka 97.44 256 Pdif 08 07 59.2 -0.5
LSZ IAmb IAmb 08 08 00.3
comp=Z,37nm,0.9s
LSZ Lusaka 97.44 256 P **P 08 07 59.8 +0.1**
OBKA Obir 97.45 319 *e*Pdiff **P 08 07 59.2 +0.1**
comp=Z,19nm,1.0s
OBKA *e*PP **PP 08 12 09.0 +2.6**
comp=Z,12nm,1.0s
OBKA Obir 97.45 319⇑*i*P Pdif 08 07 58.9 -0.2
QSPA South Pole Qui 97.61 180 Pdif 08 07 59.0 -0.3
QSPA IAmb IAmb 08 08 01.4
comp=Z,32nm,1.2s
QSPA South Pole Qui 97.61 180 P Pdif 08 07 59.0 -0.4
comp=Z,10nm,1.0s,baz=299,slow=0.7,SNR=32
QSPA S **SKSac 08 17 36.0 -2.5**
comp=Z,4.7nm,1.0s,baz=36,slow=23,SNR=16
comp=Z,10nm,1.0s
BIOA Bad Ischl, Aus 97.63 320 *e*Pdiff **P 08 08 00.0 +0.2**
comp=Z,13nm,1.1s,SNR=5.8
BIOA *e*PP **PP 08 12 10.5 +2.8**
comp=Z,24nm,1.2s
CRNS Crni Vrh 97.78 319 *e*P Pdif 08 08 00.3 -0.2
CEY Cerknica 97.79 318 *e*P Pdif 08 07 57.5 -3.1
KULLO Kullorsuaq 97.83 0 *i*P **P 08 08 00.1 0.0**
KULLO IAmb IAmb 08 08 02.0
comp=Z,18nm,0.8s
MYKA Terra Mystica 98.00 319 *e*Pdiff Pdif 08 08 00.7 -0.9
comp=Z,13nm,1.5s
MYKA *e*PP **PP 08 12 13.7 +3.2**
comp=Z,10nm,0.9s
KBA Koelnbreinsper 98.03 320 *e*Pdiff Pdif 08 08 01.2 -0.7
comp=Z,8.6nm,0.8s
TIP Timpagrande 98.19 311 Pdif 08 08 02.0 -0.6
TIP Timpagrande 98.19 311 ⇑P **P 08 08 03.1 +0.5**
LESA Schwarzleotal 98.34 320 *e*Pdiff Pdif 08 08 01.8 -1.3
comp=Z,19nm,1.1s
LESA *e*PP **PP 08 12 15.7 +2.6**
comp=Z,32nm,1.1s
GRA1 Grafenberg Arr 98.40 323 **P 08 08 03.4 +0.2**
GRA1 IAmb IAmb 08 08 05.2
comp=Z,36nm,1.2s
ABTA Abfaltersbach 98.69 320 *e*Pdiff Pdif 08 08 04.0 -0.6
comp=Z,16nm,1.2s,SNR=5.3
ABTA *e*PKKP **PKKPbc 08 24 31.0 -0.9**
comp=Z,14nm,1.2s
SUMG Summit 99.03 355 *i*P **Pdif 08 08 06.0 0.0**
WTTA Wattenberg 99.06 320 *i*Pdiff **Pdif 08 08 06.3 0.0**
comp=Z,40nm,0.9s,SNR=13
WTTA *e*PP **PP 08 12 18.5 0.0**
comp=Z,34nm,1.6s
WATA Walderalm 99.07 320 *e*Pdiff **Pdif 08 08 06.1 -0.3**
comp=Z,32nm,1.2s,SNR=8.5
WATA *e*PP **PP 08 12 21.1 +2.6**
comp=Z,28nm,1.5s
SQTA Sankt Quirin 99.34 320 *e*Pdiff **Pdif 08 08 07.6 0.0**
comp=Z,26nm,1.1s,SNR=7.7
MOTA Moosalm 99.36 321 *i*Pdiff **Pdif 08 08 07.1 -0.6**
comp=Z,13nm,0.7s
MOTA *e*PP **PP 08 12 23.1 +2.3**
comp=Z,14nm,0.9s
MOTA *e*PKKP **PKKPbc 08 24 28.5 -1.7**
comp=Z,10nm,1.2s
RETA Reutte 99.52 321 *e*PP **PP 08 12 23.3 +1.4**
comp=Z,10nm,1.0s
FETA Feichten 99.72 320 *e*Pdiff **Pdif 08 08 09.6 +0.3**
comp=Z,27nm,1.1s,SNR=6.3
FETA *e*PKKP **PKKPbc 08 24 27.4 -1.8**
comp=Z,4.9nm,1.0s
STU Stuttgart 99.98 322 *e*P **Pdif 08 08 11.3 +1.1**
DAVA Damuels 100.15 321 *e*Pdiff **Pdif 08 08 11.6 +0.4**
comp=Z,14nm,1.3s
ELIB Princess Elisa 100.57 198 *d*Pdif **Pdif 08 08 13.6 +1.1**
comp=Z,9.3nm,1.3s
NUUG Nuugaatsiaq 100.87 359 *i*P **Pdif 08 08 17.6 +3.9**
NUUG IAmb IAmb 08 08 19.8
comp=Z,37nm,1.3s
BTNL Ternell 101.01 325 *d*Pdif **Pdif 08 08 15.9 +1.1**
comp=Z,11nm,1.2s
MEM Membach 101.07 325 *d*Pdif **Pdif 08 08 16.1 +1.2**
comp=Z,14nm,1.2s
BHOU Houvegnez 101.18 325 *d*Pdif **Pdif 08 08 16.0 +0.4**
comp=Z,7.4nm,1.1s
BOSA Boshof 101.19 242 P **Pdif 08 08 16.9 +0.7**
comp=Z,3.6nm,0.9s,baz=115,slow=11,SNR=5.4
BSTI Sart Tilman 101.33 325 *d*Pdif **Pdif 08 08 17.5 +1.4**
comp=Z,6.4nm,1.1s
WLF Walferdange 101.41 324 *d*Pdif **Pdif 08 08 18.5 +1.9**
comp=Z,12nm,0.9s
WLF *dx* x 08 08 31.4
BCLA Clavier 101.55 325 *d*Pdif **Pdif 08 08 17.7 +0.5**
comp=Z,11nm,1.3s
BGES Gesves 101.69 325 *d*Pdif **Pdif 08 08 18.6 +0.9**
comp=Z,7.6nm,1.4s
RCHB Rochefort 101.72 325 *d*Pdif **Pdif 08 08 18.7 +0.8**
comp=Z,10.0nm,1.3s
UCC Uccle 101.91 326 *d*Pdif **Pdif 08 08 19.6 +0.9**
comp=Z,14nm,0.9s
BMRD Maredsous 101.91 325 *d*Pdif **Pdif 08 08 20.1 +1.3**
comp=Z,16nm,1.0s
DOU Dourbes 102.11 325 *d*Pdif **Pdif 08 08 20.3 +0.7**
comp=Z,14nm,1.0s
ICESG Greenland Ices 102.50 354 *i*P **Pdif 08 08 22.4 +1.0**
RKT Rikitea 103.23 112 *e*S **Sdif 08 19 17.5 -3.4**
comp=Z,2μm,29.5s
RKT *e*SS **SS 08 26 51.1 +1.0**
comp=Z,4μm,32.2s
RKT Rikitea 103.23 112 *e*LR LR 08 43 16.3
comp=Z,1μm,26.2s
EKA Eskdalemuir Ar 103.37 332 Pdiff **Pdif 08 08 25.0 -0.1**
comp=Z,4.1nm,0.8s,baz=50,slow=7.8,SNR=5.1
EKA PKKPbc **PKKPbc 08 24 16.3 -2.6**
comp=Z,2.8nm,0.5s,baz=243,slow=3.6,SNR=5.7
EKA Eskdalemuir Ar 103.37 332 P **Pdif 08 08 26.2 +1.1**
DY2G Dye2 105.63 356 *i*P **Pdif 08 08 35.0 -0.3**
NVAR Mina Array Bea 106.31 46 Pdiff **Pdif 08 08 39.6 +0.7**
comp=Z,1.4nm,0.7s,baz=268,slow=5.1,SNR=13
NVAR PKiKP **PKiKP 08 12 47.8 +1.4**
comp=Z,3.7nm,0.8s,baz=265,slow=3.8,SNR=9.4
NVAR PKKPbc **PKKPbc 08 24 08.5 -1.3**
comp=Z,2.9nm,0.7s,baz=133,slow=4.5,SNR=12
NVAR PKKPab **PKKPab 08 24 25.0 -3.5**
comp=Z,3.0nm,0.6s,baz=125,slow=3.9,SNR=7.8
TROLL Troll, Antarti 106.69 196 ⇑PKKPbc **PKKPbc 08 24 07.5 -1.9**
comp=Z,209nm,0.8s
TROLL ⇑Pdiff **Pdif 08 08 41.2 +1.5**
comp=Z,84nm,0.5s
TROLL ⇑PKiKP **PKiKP 08 12 45.6 -0.3**
comp=Z,171nm,0.3s
TROLL ⇑PKKPdf **PKKPab 08 24 23.6 -1.7**
comp=Z,170nm,0.8s
TROLL SKKPbc SKKPbc 08 26 50.5 -5.2
comp=Z,74nm,0.8s
R11B Troy Canyon, C 108.27 45 P **PKiKP 08 12 50.0 0.0**
baz=296
SNAA Sanae 108.31 195 ⇑PKKPbc **PKKPbc 08 24 02.0 -2.2**
comp=Z,105nm,0.8s
SNAA ⇑Pdiff **Pdif 08 08 47.4 +0.6**
comp=Z,55nm,0.7s
SNAA ⇑PKiKP **PKiKP 08 12 48.0 -0.9**
comp=Z,61nm,0.8s
SNAA ⇑PKKPdf **PKKPdf 08 24 16.7 -0.1**
comp=Z,133nm,0.8s
SNAA SKKPbc SKKPbc 08 26 45.4 -5.6
comp=Z,62nm,0.7s
SNAA Sanae 108.31 195 Pdiff **Pdif 08 08 48.5 +1.7**
comp=Z,2.5nm,0.7s,baz=10.0,slow=3.8,SNR=5.9
SNAA PKKPbc **PKKPbc 08 24 01.6 -2.7**
comp=Z,4.6nm,0.8s,baz=331,slow=1.6,SNR=12
VNA2 Neumayer--Watz 109.94 195 ⇑PKKPbc **PKKPbc 08 23 56.4 -2.6**
comp=Z,4.3nm,0.6s,baz=307,slow=4.6
VNA2 ⇑Pdiff **Pdif 08 08 57.8 +3.8**
comp=Z,2.2nm,0.6s,baz=111,slow=9.2
VNA2 ⇑PKiKP **PKiKP 08 12 50.9 -1.0**
comp=Z,12nm,0.6s,baz=118,slow=1.1
VNA2 ⇑PKKPdf **PKKPab 08 24 08.7 -2.0**
comp=Z,5.5nm,0.7s,baz=292,slow=18
VNA2 SKKPbc SKKPbc 08 26 39.2 -7.1
comp=Z,1.8nm,0.8s,baz=41,slow=8.2
PDAR Pinedale Array 110.15 39 PKiKP **PKiKP 08 12 53.8 +0.3**
comp=Z,2.0nm,0.6s,baz=82,slow=0.9,SNR=18
PDAR PP **PP 08 13 37.8 -1.5**
comp=Z,2.5nm,0.9s,baz=318,slow=2.0,SNR=5.2
PDAR PKKPbc **PKKPbc 08 23 55.5 -2.6**
comp=Z,1.5nm,0.7s,baz=131,slow=5.0,SNR=9.5
PDAR PKKPab **PKKPab 08 24 08.2 -3.3**
comp=Z,4.5nm,0.7s,baz=124,slow=5.4,SNR=21
VNA3 Neumayer Olymp 110.32 194 ⇑PKKPbc **PKKPbc 08 23 54.9 -2.9**
comp=Z,3.6nm,0.7s
VNA3 ⇑Pdiff Pdif 08 09 12.9 +17
comp=Z,2.0nm,0.8s
VNA3 ⇑PKiKP **PKiKP 08 12 51.8 -0.8**
comp=Z,9.5nm,0.6s
VNA3 ⇑PKKPdf **PKKPab 08 24 08.8 -0.2**
comp=Z,6.2nm,0.8s
VNA3 SKKPbc SKKPbc 08 26 38.7 -6.5
comp=Z,1.7nm,0.8s
VNA1 Neumayer--Stat 110.34 195 ⇑PKKPdf **PKKPab 08 24 08.2 -0.7**
comp=Z,7.8nm,0.7s
VNA1 ⇑PKiKP **PKiKP 08 12 53.0 +0.4**
comp=Z,12nm,1.0s
VNA1 SKKPbc SKKPbc 08 26 38.3 -6.8
comp=Z,5.4nm,1.2s
UCM Universidad Co 111.78 319 PKP **PKiKP 08 12 56.5 +0.2**
ESDC Sonseca Array 112.58 319 PKiKP **PKiKP 08 12 58.3 +0.3**
comp=Z,0.9nm,0.4s,baz=24,slow=2.9,SNR=9.5
ESDC PP **PP 08 13 56.8 +0.6**
comp=Z,4.7nm,0.9s,baz=54,slow=8.7,SNR=4.5
ESDC PKKPbc **PKKPbc 08 23 46.9 -3.1**
comp=Z,2.9nm,1.1s,baz=242,slow=2.8,SNR=7.2
ESDC PKKPab **PKKPab 08 24 01.0 +0.6**
comp=Z,2.4nm,1.1s,baz=259,slow=3.4,SNR=6.3
ULM Lac du Bonnet 112.75 26 PKiKP **PKiKP 08 12 56.8 -1.1**
comp=Z,11nm,0.7s,baz=321,slow=1.8,SNR=14
ULM PKKPbc **PKKPbc 08 23 47.0 -2.7**
comp=Z,3.3nm,0.6s,baz=185,slow=8.2,SNR=3.2
N23A Red Feather La 113.44 39 P **PKiKP 08 12 59.3 -0.5**
baz=304
MVO Moncorvo 113.71 321 *e*PKPdf **PKiKP 08 13 01.5 +1.4**
MVO Moncorvo 113.71 321 *e*PP **PP 08 14 05.2 +1.2**
PGAV Gavieira, Arco 114.00 323 *e*PKPdf **PKiKP 08 13 01.6 +0.9**
PCAB Cabril 114.00 322 *e*PKPdf **PKiKP 08 13 01.8 +1.2**
PCAB Cabril 114.00 322 *e*PP **PP 08 14 06.9 +1.0**
POLO Lamas de Olo 114.06 322 *e*PKPdf **PKiKP 08 13 01.9 +1.1**
PVRL Vila Real 114.07 322 *e*PKPdf **PKiKP 08 13 01.9 +1.1**
PVRL Vila Real 114.07 322 *e*PP **PP 08 14 07.4 +1.0**
MTE Manteigas 114.47 321 *e*PKPdf **PKiKP 08 13 01.6 0.0**
TUC Tucson 114.49 49 **PKiKP 08 13 03.8 +1.9**
TUC Tucson 114.49 49 PKIKP **PKiKP 08 13 03.8 +1.9**
PVIS Viseu 114.50 321 *e*PKPdf **PKiKP 08 13 01.9 +0.3**
PVIS Viseu 114.50 321 *e*PP **PP 08 14 09.8 +0.3**
S22A 4UR Ranch, Cre 114.60 42 P PKPdf 08 13 01.6 -0.6
baz=303
PCBR Castelo Branco 114.75 320 *e*PKPdf **PKiKP 08 13 02.1 +0.1**
PMRV Marv??o 114.93 320 *e*PKPdf PKPdf 08 13 02.0 -0.4
PMRV Marv??o 114.93 320 *e*PP **PP 08 14 13.3 +0.9**
Q24A Divide 115.03 40 P **PKPdf 08 13 02.5 -0.5**
baz=304
PCAS Casmilo, Conde 115.27 321 *e*PKPdf **PKPdf 08 13 02.8 -0.2**
PCAS Casmilo, Conde 115.27 321 *e*PP **PP 08 14 14.9 +0.2**
PESTR Estremoz 115.38 320 **PKiKP 08 13 03.7 +0.4**
PESTR Estremoz 115.38 320 *e*PKPdf **PKPdf 08 13 03.3 0.0**
PESTR Estremoz 115.38 320 *e*PP **PP 08 14 17.6 +2.1**
PBAR Barrancos 115.41 319 *e*PKPdf **PKiKP 08 13 03.5 +0.1**
PMTG Montargil 115.67 320 *e*PKPdf **PKPdf 08 13 03.6 -0.2**
PMTG Montargil 115.67 320 *e*PP **PP 08 14 17.7 +0.2**
PSBE So Bento 115.77 321 *e*PKPdf **PKiKP 08 13 04.1 0.0**
PBEJ Beja 116.03 319 *e*PKPdf **PKiKP 08 13 04.7 +0.1**
PBEJ Beja 116.03 319 *e*PP **PP 08 14 19.2 -0.8**
PVAQ Vaqueiros 116.29 318 *e*PKPdf **PKiKP 08 13 05.3 +0.2**
ANMO Albuquerque 116.34 45 **PKiKP 08 13 06.1 +0.6**
ANMO Albuquerque 116.34 45 PKIKP **PKiKP 08 13 06.1 +0.6**
MESJ Messejana 116.37 319 *e*PKPdf **PKiKP 08 13 05.4 +0.2**
MESJ Messejana 116.37 319 *e*PKPdf **PKiKP 08 13 05.4 +0.2**
Y22D IRIS PASSCAL I 116.46 46 P **PKPdf 08 13 05.6 -0.1**
baz=301
PBDV Barranco-do-Ve 116.52 318 *e*PKPdf **PKiKP 08 13 06.8 +1.2**
T25A Trinidad 116.54 42 P **PKiKP 08 13 06.0 +0.2**
baz=304
121A Cookes Peak, D 116.61 48 P **PKPdf 08 13 05.6 -0.5**
baz=300
PTEO Sao Teotonio 116.86 319 *e*PKPdf **PKiKP 08 13 07.4 +1.2**
MORF Marmelete 116.96 319 *e*PKPdf **PKiKP 08 13 07.5 +1.1**
MORF Marmelete 116.96 319 *e*PKPdf **PKiKP 08 13 06.6 +0.2**
SCHQ Schefferville 117.03 7 PKP **PKPdf 08 13 05.0 -1.0**
comp=Z,18nm,0.6s,baz=337,slow=1.6,SNR=32
PFVI Vila Bisbo 117.17 319 *e*PKPdf **PKiKP 08 13 07.2 +0.4**
TORD Torodi Ar. Bea 118.93 290 PKP **PKPdf 08 13 09.6 -1.2**
comp=Z,42nm,0.7s,baz=46,slow=2.2,SNR=96
TORD PKKPbc **PKKPbc 08 23 27.9 +0.4**
comp=Z,1.7nm,0.5s,baz=290,slow=3.3,SNR=8.1
TIO Tiouine 119.45 312 PKP **PKPdf 08 13 08.3 -3.3**
TXAR Lajitas Array 121.28 49 PKP **PKPdf 08 13 15.1 +0.1**
comp=Z,12nm,0.8s,baz=358,slow=3.7,SNR=56
TXAR PKKPbc **PKKPbc 08 23 19.8 +0.2**
comp=Z,4.1nm,0.9s,baz=120,slow=3.6,SNR=10
L44A Lake County Fo 122.47 28 P **PKPdf 08 13 15.9 -0.9**
baz=322
435B Jarrell 124.84 44 P **PKPdf 08 13 21.2 -0.5**
baz=307
833A Chaparral WMA, 124.98 47 P **PKPdf 08 13 21.7 -0.4**
baz=304
PMAR Madeira 125.11 319 *e*PKPdf **PKiKP 08 13 23.7 +0.9**
O48B Farmland 125.25 27 P **PKPdf 08 13 22.1 -0.2**
baz=324
P49A Miami Univ. Ec 126.04 27 P **PKPdf 08 13 23.6 -0.1**
baz=324
DBIC Dimbokro 126.89 284 PKP **PKPdf 08 13 26.1 +0.1**
comp=Z,59nm,0.9s,baz=71,slow=1.9,SNR=35
DBIC PP **PP 08 15 33.0 -0.7**
comp=Z,16nm,0.9s,baz=80,slow=6.3,SNR=7.2
WVT Waverly 127.17 32 **PKPdf 08 13 26.2 +0.2**
WVT Waverly 127.17 32 PKIKP **PKPdf 08 13 26.2 +0.2**
L61B Northampton 127.83 15 P **PKPdf 08 13 26.5 -0.6**
baz=339
SSPA Standing Stone 127.87 21 **PKiKP 08 13 27.6 -0.2**
M65A Busby, Falmout 129.17 14 P **PKPdf 08 13 29.9 +0.3**
baz=341
COYC Coyhaique 139.86 163 **PKPdf 08 13 50.2 +0.8**
PLCA Paso Flores 144.72 161 PKP **PKPab 08 13 59.3 -0.2**
comp=Z,80nm,0.7s,baz=217,slow=3.2,SNR=117
PLCA SKPbc **SKiKP 08 16 41.4 -0.3**
comp=Z,9.7nm,0.8s,baz=182,slow=3.5,SNR=3.5
MCJ Malvern 146.79 40 *i*P **PKPab 08 14 08.8 +0.4**
H03N3 Juan Fernandez 146.85 144 PKPbc **PKiKP 08 14 05.8 -0.6**
baz=164,slow=18,SNR=19
H03N2 Juan Fernandez 146.85 144 PKPbc **PKiKP 08 14 05.8 -0.6**
baz=164,slow=18,SNR=22
H03N1 Juan Fernandez 146.87 144 PKPbc **PKiKP 08 14 05.6 -0.8**
baz=164,slow=18,SNR=9.8
HDC Heredia 147.04 58 *e*P **PKPdf 08 13 59.5 -3.4**
STH Stony Hill 147.23 38 *i*P **PKiKP 08 14 07.8 -0.2**
HOJ Hope 147.32 38 *i*P **PKiKP 08 14 09.2 +1.1**
ML02 Panimavida 148.79 156 *i*P **PKPdf 08 14 05.6 +0.6**
GO05 Hualane 149.22 154 *i*P **PKPbc 08 14 10.4 -0.4**
TRQA Tornquist 149.35 171 **PKPdf 08 14 07.1 +1.2**
TRQA PKPbc **PKPbc 08 14 11.2 +0.2**
TRQA Tornquist 149.35 171 PKHKP PKPpre 08 14 07.1
BO02 Sierra Bellavi 149.89 156 *i*P **PKPdf 08 14 07.6 +0.8**
BO01 Tunca 150.11 155 *i*P **PKPdf 08 14 07.2 +0.1**
MT01 Popeta 150.49 154 *i*P **PKPbc 08 14 12.6 -1.2**
LMEL Las Melosas 150.95 155 *i*P **PKPbc 08 14 15.2 +0.1**
MT02 Curacav 151.05 153 *i*P **PKPbc 08 14 14.2 -0.9**
MT05 Renca 151.11 154 *i*P **PKPbc 08 14 14.9 -0.4**
MT03 Universidad Ad 151.12 155 *i*P **PKPbc 08 14 12.8 -2.5**
ROC1 El Roble 151.34 153 *i*P **PKPdf 08 14 09.1 -0.3**
PEL Peldehue 151.35 154 *i*P **PKPbc 08 14 14.7 -1.1**
MT04 Ro Olivares 151.36 155 *i*P **PKPdf 08 14 10.2 +0.9**
MT08 Bocatoma Ro 151.37 155 *i*P **PKPbc 08 14 13.8 -2.4**
VA03 San Esteban 151.73 154 *i*P **PKPdf 08 14 10.4 +0.7**
AAGR Agrelo 152.17 157 *i*P **PKPdf 08 14 11.7 +1.3**
ARCO CERRO ARCO 152.34 156 *i*P **PKiKP 08 14 19.2 +0.9**
SJG San Juan 152.49 21 **PKiKP 08 14 20.6 +1.8**
SJG **PKPab 08 14 32.8 +1.0**
SJG San Juan 152.49 21 PKP2 **PKPab 08 14 32.8 +1.0**
ASAL Salagasta 152.60 156 *i*P **PKPdf 08 14 12.4 +1.4**
CO03 El Pedregal 153.29 151 *i*P **PKPdf 08 14 11.2 -0.8**
GO04 Tololo Observa 153.78 150 *i*P PKPdf 08 14 04.2 -8.8
RTLL Cerro Villicun 153.85 155 *i*P **PKPbc 08 14 20.1 -1.2**
MRA San Martin 153.87 161 *i*P **PKPdf 08 14 11.1 -1.7**
DOCA Reserva Natura 153.92 154 *i*P **PKPdf 08 14 13.5 +0.2**
ACCO Cerro Coronel 154.24 154 *i*P **PKPdf 08 14 14.4 +0.7**
CO01 Juntas del Tor 154.29 151 *i*P **PKPdf 08 14 14.4 +0.7**
ANBD Bethesda, Anti 154.76 13 *e* **PKPdf 08 14 18.7 +4.4**
LCO Las Campanas 154.78 149 **PKPdf 08 14 14.9 +0.5**
LCO Las Campanas 154.78 149 PKIKP **PKPdf 08 14 14.9 +0.5**
PLTB Pedras Altas 155.97 185 **PKPdf 08 14 16.1 +0.5**
PLTB Pedras Altas 155.97 185 *e*P **PKPdf 08 14 15.4 -0.2**
ACLC CERRO LA CRUZ 156.15 156 *i*P **PKPdf 08 14 16.8 +0.7**
PSAL Palomas, Salto 156.73 177 *e*P **PKPdf 08 14 15.7 -0.8**
CPSB Cacapava Do Su 157.30 186 *e*P **PKPdf 08 14 15.9 -1.3**
BIM Bigot 157.36 12 *e* **PKPdf 08 14 22.5 +4.7**
SLBI Saint Lucia, B 157.86 13 *e* **PKPdf 08 14 22.5 +4.2**
ATAH Atahualpa 157.93 90 PKP **PKPdf 08 14 20.1 +1.1**
comp=Z,44nm,1.1s,baz=317,slow=1.5,SNR=32
ATAH PKPab **PKPab 08 14 55.8 -0.4**
comp=Z,3.7nm,0.6s,baz=212,slow=18,SNR=1.1
ROSC El Rosal 157.98 56 PKP **PKPdf 08 14 19.8 +0.7**
comp=Z,26nm,0.8s,baz=75,slow=1.4,SNR=19
ROSC PKPab **PKPab 08 14 56.1 -0.3**
comp=Z,14nm,0.7s,baz=11,slow=20,SNR=2.6
SDV Santo Domingo 158.07 41 **PKPdf 08 14 18.4 -0.5**
SDV **PKPab 08 14 56.7 +0.3**
ITQB Itaqui 158.17 179 *e*P **PKPdf 08 14 17.8 -0.5**
SVB Belmont 158.52 14 *e* **PKPdf 08 14 22.5 +3.3**
BBGH Gun Hill 158.98 9 *e* **PKPdf 08 14 24.6 +5.0**
NNA Nana 159.18 103 PKP **PKPdf 08 14 20.6 +0.7**
comp=Z,44nm,1.1s,baz=305,slow=3.7,SNR=8.4
NNA PKPab **PKPab 08 15 00.9 -0.3**
comp=Z,8.6nm,0.6s,baz=278,slow=8.2,SNR=2.2
GCMP Grenada, Carri 159.24 15 *e* **PKPdf 08 14 17.1 -2.9**
GRGR Grenville 159.52 16 *e* **PKPdf 08 14 19.8 -0.5**
RCBR Riachuelo 159.81 274 **PKPab 08 15 04.6 +0.5**
RCBR Riachuelo 159.81 274 PKP2 **PKPab 08 15 04.6 +0.5**
NBCA Caruaru-PE 160.06 267 *e*P **PKPdf 08 14 19.3 -1.7**
ITAB Concordia 160.23 191 *e*P **PKPdf 08 14 17.8 -2.9**
NBAN Anadia - AL 160.27 263 *e*P **PKPdf 08 14 19.3 -1.8**
PCRV Puerto La Cruz 160.30 26 PKPab **PKPab 08 15 06.7 +0.9**
comp=Z,6.8nm,0.5s,baz=26,slow=13,SNR=2.1
ALF01 Guarapari-ES 160.34 228 *e*P **PKPdf 08 14 20.1 -0.9**
TOSP Speyside 160.59 13 *e* **PKPdf 08 14 22.5 +1.0**
LVC Limon Verde 160.77 142 PKP **PKPdf 08 14 21.4 -0.5**
comp=Z,7.4nm,0.9s,baz=235,slow=0.1,SNR=5.8
LVC PKPab **PKPab 08 15 09.8 +1.6**
comp=Z,17nm,0.8s,baz=202,slow=3.2,SNR=7.9
TRN Trinidad (W) 161.00 16 *e* **PKPdf 08 14 21.1 -0.8**
NAN01 Guarapari, ES 161.44 236 *e*P **PKPdf 08 14 21.1 -1.2**
CPUP Villa Florida 161.47 177 PKP **PKPdf 08 14 21.9 -0.2**
comp=Z,18nm,1.0s,baz=161,slow=0.9,SNR=25
CPUP PKPab **PKPab 08 15 10.7 +0.1**
comp=Z,20nm,0.8s,baz=187,slow=4.6,SNR=14
CPUP PP **PP 08 18 56.9 +2.2**
comp=Z,21nm,1.3s,baz=164,slow=9.0,SNR=3.8
CMC01 Camacan, BA 162.04 244 *e*P **PKPdf 08 14 21.4 -1.5**
VAO Valinhos 162.44 209 *e*P **PKPdf 08 14 22.4 -0.9**
PTGB Pitanga 162.67 193 *e*P **PKPdf 08 14 22.2 -1.2**
SJPY San Joaquin 162.83 180 *e*P **PKPdf 08 14 22.6 -0.9**
FRTB Fartura 163.24 201 *e*P **PKPdf 08 14 23.3 -0.6**
PAPY Pozo Azul 163.61 173 *e*P **PKPdf 08 14 23.1 -1.1**
LDASE Londrina, Braz 163.70 197 *e*P **PKPdf 08 14 23.1 -1.2**
DIAM Diamantina, MG 163.95 228 *e*P **PKPdf 08 14 23.1 -1.7**

LPAZ	**La Paz**	**165.52**	**127**	PKP	**PKPdf**	**08 14 27.1**	**+0.2**
	comp=Z,41nm,1.1s,baz=16,slow=1.4,SNR=70						
LPAZ				PKPab	**PKPab**	**08 15 30.5**	**+0.8**
	comp=Z,15nm,1.0s,baz=214,slow=1.1,SNR=7.0						
MURT	**Porto Murtinho**	**166.08**	**174**	*eP*	**PKPdf**	**08 14 25.0**	**-1.3**
BDQN	**Bodoquena, MS**	**167.34**	**177**	*eP*	**PKPdf**	**08 14 26.4**	**-0.9**
BDFB	**Brasilia**	**168.82**	**225**		**PKPdf**	**08 14 28.2**	**-0.3**
BDFB					**PKPab**	**08 15 43.6**	**0.0**
BDFB	**Brasilia**	**168.82**	**225**	PKP	**PKPdf**	**08 14 27.9**	**-0.7**
	comp=Z,19nm,1.0s,baz=128,slow=2.3,SNR=19						
BDFB				PKPab	**PKPab**	**08 15 43.8**	**+0.2**
	comp=Z,21nm,0.9s,baz=17,slow=6.2,SNR=9.7						
BDFB				PP	**PP**	**08 19 37.4**	**+3.8**
	comp=Z,7.2nm,0.9s,baz=60,slow=6.4,SNR=4.1						
BDFB	**Brasilia**	**168.82**	**225**	PKIKP	**PKPdf**	**08 14 28.2**	**-0.3**
BDFB						08 15 43.6	
SIV	**San Ignacio**	**170.48**	**150**	PKPab	**PKPab**	**08 15 50.7**	**-0.1**
	comp=Z,29nm,1.1s,baz=191,slow=5.5,SNR=12						
SIV				PP	**PP**	**08 19 44.9**	**+3.7**
	comp=Z,3.7nm,0.8s,baz=191,slow=4.6,SNR=4.6						
PTLB	**Pontes e Lacer**	**171.79**	**159**		**PKPdf**	**08 14 29.9**	**-0.1**
PTLB					**PKPab**	**08 15 57.2**	**+0.8**
SAML	**Samuel**	**172.93**	**100**		**PKPdf**	**08 14 30.1**	**-0.5**
SAML	**Samuel**	**172.93**	**100**	PKIKP	**PKPdf**	**08 14 30.1**	**-0.5**

TAP 04 07:58:25.1, 22°.37N×120°.83E, h6km, ML1.6, 1C-3D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAST	**Anshuo**	**0.03**	**52**	⇓*eP*	Pg	07 58 26.9	+0.5
EAST				*i* S	Sg	07 58 28.1	+0.8
TAWH	**Dawu Township**	**0.06**	**114**	⇓*iP*	Pg	07 58 27.0	+0.3
TAWH				S	Sg	07 58 28.6	+0.7
TAW	**Tawu**	**0.07**	**97**	⇑P	Pg	07 58 27.4	+0.6
TAW				*i* S	Sg	07 58 29.1	+1.2
SCZT	**Fangliau**	**0.19**	**272**	*i* P	Pg	07 58 29.6	+0.7
SCZT				*i* S	Sg	07 58 33.1	+1.6
MASBT	**Mashibuluo**	**0.30**	**324**	⇓*iP*	Pg	07 58 32.0	+0.9
MASBT				*e*S	Sg	07 58 36.3	+1.2

*SOME **04** 08:10:14.8, 43°.30N×86°.28E, h0km, MS3.9*
*IDC **04** 08:10:23.2±0.6, 43°.64N×86°.01E, h0km, mb4.1/18, mbtmp4.1/24, ML3.6/6, Error ellipse: s-maj=17.9km s-min=9.0km az=47.0*
*NNC **04** 08:10:24.6±2.5, 43°.73N×86°.01E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=21.8km s-min=11.7km az=136.0*
*NEIC **04** 08:10:25.9±1.6, 43°.70N±0°.06×86°.1E±0°.1, h10km±2km, mb4.4/4, Error ellipse: s-maj=17.0km s-min=3.4km az=57.0*
ISC 04 08:10:24.9±0.5, 43°.59N±0°.04×85°.98E±0°.04, h10km, n97, σ2S 21/118, mb4.1/18, 9C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.94**	**349**	Pg	**Pn**	**08 11 28.0**	**+2.6**
	149nm,0.3s						
ZSN				Lg	Lg	08 12 23.6	
	290nm,0.5s						
ZSN	**Zaisan**	**3.94**	**349**	*e*P	**Pb**	**08 11 35.7**	**+1.3**
	74nm,0.3s						
ZSN				*e*S	**Sg**	**08 12 34.7**	**+3.3**
	380nm,0.7s						
MK31	**Makanchi Array**	**4.13**	**322**	⇓Pn	**Pn**	**08 11 29.5**	**+1.4**
	4.8nm,0.3s,baz=136,slow=14,SNR=589						
MK31				⇑Pg	**Pb**	**08 11 41.1**	**+3.4**
	32nm,0.3s,baz=135,slow=16,SNR=8.1						
MK31				⇑Lg	Lg	08 12 34.0	
	152nm,0.5s,baz=145,slow=28,SNR=6.7						
MK31	**Makanchi Array**	**4.13**	**322**	Pn	**Pn**	**08 11 29.7**	**+1.6**
MKAR	**Makanchi Array**	**4.13**	**322**	Pn	**Pn**	**08 11 29.6**	**+1.5**
MKAR	**Makanchi Array**	**4.13**	**322**	Pn	**Pn**	**08 11 29.7**	**+1.6**
	7.5nm,0.3s,baz=137,slow=14,SNR=206						
MKAR				Pg	**Pb**	**08 11 39.0**	**+1.3**
	40nm,0.3s,baz=136,slow=16,SNR=28						
MKAR				Sn	**Sn**	**08 12 17.1**	**+0.7**
	34nm,0.3s,baz=124,slow=15,SNR=6.5						
MKAR				Lg	Lg	08 12 33.1	
	104nm,0.3s,baz=120,slow=30,SNR=12						
	24nm,0.5s						
MAKZ	**Makanchi**	**4.29**	**320**	⇓Pn	**Pn**	**08 11 31.9**	**+1.7**
	14nm,0.5s						
MAKZ				⇓Lg	Lg	08 12 39.4	
	128nm,0.6s						
MAKZ	**Makanchi**	**4.29**	**320**	Pn	**Pn**	**08 11 31.7**	**+1.6**
DJR	**Jarkent**	**4.53**	**282**	Pg	**Pb**	**08 11 42.5**	**-2.0**
	9.2nm,0.1s						
DJR				Lg	Lg	08 12 47.5	
	233nm,0.5s						
DJR	**Jarkent**	**4.53**	**282**	*e*P	**Pb**	**08 11 44.4**	**-0.1**
	13nm,0.1s						
DJR				*e*S	**Sg**	**08 12 49.0**	**-1.4**
	215nm,0.5s						
PDGK	**Podgornoye**	**4.74**	**269**	Pg	Pb	08 11 46.0	-2.1
	30nm,0.7s						
PDGK				Lg	Lg	08 12 54.0	
	80nm,0.5s						
PDGK	**Podgornoye**	**4.74**	**269**	⇑Pn	**Pn**	**08 11 38.9**	**+2.4**
	13nm,0.5s						
PDGK				⇓Pg	Pb	08 11 53.7	+5.7
	11nm,0.3s						
PDGK				⇑Sn	**Sn**	**08 12 35.8**	**+4.4**
	236nm,0.7s						
PDGK				⇑Lg	Lg	08 12 59.4	
	171nm,0.8s						
SHLS	**Shalkode**	**4.77**	**267**	Pg	Pn	08 11 44.2	+7.3
	117nm,0.4s						
SHLS				Lg	Lg	08 12 50.5	
	710nm,0.7s						
SHLS	**Shalkode**	**4.77**	**267**	*e*P	Pn	08 11 42.2	+5.2
	24nm,0.1s						
SHLS				*e*S	**Sb**	**08 12 45.7**	**-0.5**
	252nm,0.4s						
KAPS	**Kapalarasan**	**5.04**	**292**	Pg	**Pb**	**08 11 51.4**	**-1.8**
	9.6nm,0.1s						
KAPS				Lg	Lg	08 13 03.1	
	146nm,0.2s						
KAPS	**Kapalarasan**	**5.04**	**292**	*e*P	**Pb**	**08 11 55.6**	**+2.4**
	9.4nm,0.1s						
KAPS				*e*S	**Sg**	**08 13 08.2**	**+1.6**
	352nm,0.2s						
UZB	**Uzynbulak**	**5.09**	**267**	Pg	Pb	08 11 50.4	-3.8
	20nm,0.3s						
UZB				Lg	Lg	08 13 00.9	
	62nm,0.6s						
UZB	**Uzynbulak**	**5.09**	**267**	*e*P	**Pb**	**08 11 53.0**	**-1.2**
	9.9nm,0.1s						
UZB				*e*S	**Sg**	**08 13 05.0**	**-3.5**
	100nm,0.4s						
KPKS	**Kokpek**	**5.31**	**271**	Pg	**Pb**	**08 11 56.3**	**-1.5**
	20nm,0.3s						
KPKS				Lg	Lg	08 13 12.3	
	154nm,0.5s						
KPKS	**Kokpek**	**5.31**	**271**	*e*P	**Pb**	**08 11 57.9**	**0.0**
	19nm,0.2s						
KPKS				*e*S	**Sg**	**08 13 12.2**	**-3.1**
	167nm,0.5s						
ZHN	**Zhinishke**	**5.52**	**268**	Pg	**Pb**	**08 12 01.9**	**+0.5**
	15nm,0.2s						
ZHN				Lg	Lg	08 13 20.7	
	81nm,0.2s						
ZHN	**Zhinishke**	**5.52**	**268**	*e*P	**Pb**	**08 12 01.9**	**+0.5**
	15nm,0.2s						
ZHN				*e*S	**Sg**	**08 13 20.7**	**-1.3**
	81nm,0.2s						
WUS	**Wushi**	**5.55**	**247**		**Pn**	**08 11 51.7**	**+4.0**
SATY	**Saty**	**5.55**	**267**	Pg	**Pb**	**08 12 01.1**	**-0.9**
	32nm,0.4s						
SATY				Lg	Lg	08 13 19.3	
	65nm,0.3s						
SATY	**Saty**	**5.55**	**267**	*e*P	**Pb**	**08 12 02.5**	**+0.5**
	14nm,0.1s						
SATY				*e*S	**Sg**	**08 13 19.7**	**-3.4**
	81nm,0.3s						
TDK	**Taldyqorghan**	**5.62**	**287**	Pg	**Pb**	**08 12 03.2**	**+0.2**
	104nm,0.5s						
TDK				Lg	Lg	08 13 22.9	
	0.6nm,0.3s						
TDK	**Taldyqorghan**	**5.62**	**287**	*e*P	**Pb**	**08 12 05.7**	**+2.7**
	79nm,0.5s						
TDK				*e*S	**Sg**	**08 13 25.1**	**-0.1**
	375nm,0.4s						
PRZ	**Przheval'sk**	**5.67**	**261**	Pn	**Pn**	**08 11 52.7**	**+3.4**
KURS	**Kuram**	**5.68**	**272**	Pg	**Pb**	**08 12 05.3**	**+1.1**
	13nm,0.6s						
KURS				Lg	Lg	08 13 26.5	
	54nm,0.4s						
KURS	**Kuram**	**5.68**	**272**	*e*P	**Pb**	**08 12 05.9**	**+1.8**
	7.6nm,0.3s						
KURS				*e*S	**Sg**	**08 13 25.4**	**-1.9**
	54nm,0.4s						
ARXS	**Arharly**	**5.93**	**279**	Pg	**Pb**	**08 12 09.3**	**+1.0**
	21nm,0.5s						
ARXS				Lg	Lg	08 13 34.1	
	249nm,0.4s						
ARXS	**Arharly**	**5.93**	**279**	*e*P	**Pb**	**08 12 10.4**	**+2.1**
	18nm,0.4s						
ARXS				*e*S	**Sg**	**08 13 33.4**	**-1.7**
	133nm,0.4s						
TARG	**Taragay, Kyrgy**	**6.31**	**256**		**Pn**	**08 12 01.9**	**+3.6**
MDOK	**Medeo**	**6.53**	**269**	Pn	**Pn**	**08 12 04.0**	**+2.9**
	17nm,0.6s						
MDOK				Pg	**Pb**	**08 12 21.8**	**+3.2**
	15nm,0.5s						
MDOK				Lg	Lg	08 13 54.8	
	41nm,0.6s						
MDOK				⇓Lg	Lg	08 13 55.9	
	82nm,0.7s						
MDOK	**Medeo**	**6.53**	**269**	*e*P	**Pb**	**08 12 20.0**	**+1.4**
	12nm,0.4s						
MDOK				*e*S	**Sg**	**08 13 50.4**	**-3.9**
	45nm,0.7s						
TNSS	**Tian-Shan**	**6.62**	**268**	Pg	**Pb**	**08 12 18.8**	**-1.4**
	18nm,0.2s						
TNSS				Lg	Lg	08 13 47.8	
	21nm,0.6s						
TNSS	**Tian-Shan**	**6.62**	**268**	*e*P	**Pb**	**08 12 20.9**	**+0.7**
	18nm,0.3s						
TNSS				*e*S	Sg	08 13 52.2	-5.0
	23nm,0.4s						
KDJ	**Kajisay**	**6.63**	**260**		**Pn**	**08 12 05.2**	**+2.7**
KTBS	**Karatobe**	**6.75**	**274**	Pg	**Pb**	**08 12 25.7**	**+3.4**
	11nm,0.3s						
KTBS				Lg	Lg	08 14 01.5	
	90nm,0.5s						
KTBS	**Karatobe**	**6.75**	**274**	*e*P	**Pb**	**08 12 25.7**	**+3.4**
	11nm,0.3s						
KTBS				*e*S	**Sg**	**08 14 01.5**	**0.0**
	90nm,0.5s						
MTBS	**Maitube**	**6.98**	**270**	Pg	**Pb**	**08 12 30.8**	**+4.6**
	9.1nm,0.3s						
MTBS				Lg	Lg	08 14 10.3	
	51nm,0.5s						
MTBS	**Maitube**	**6.98**	**270**	*e*P	**Pb**	**08 12 29.0**	**+2.8**
	6.8nm,0.3s						
MTBS				*e*S	**Sg**	**08 14 06.0**	**-2.9**
	28nm,0.4s						
KUU	**Kurty**	**6.99**	**276**	Pg	**Pb**	**08 12 26.7**	**+0.3**
	5.0nm,0.1s						
KUU				Lg	Lg	08 14 03.2	
	77nm,0.6s						
KUU	**Kurty**	**6.99**	**276**	*e*P	**Pb**	**08 12 29.2**	**+2.8**
	3.8nm,0.1s						
KUU				*e*S	**Sg**	**08 14 06.2**	**-3.1**
	77nm,0.6s						
KST	**Kastek**	**7.33**	**269**	Pg	**Pb**	**08 12 32.0**	**-0.2**
	12nm,0.5s						
KST				Lg	Lg	08 14 13.1	
	53nm,1.1s						
KST	**Kastek**	**7.33**	**269**	*e*P	**Pb**	**08 12 35.2**	**+3.0**
	5.7nm,0.3s						
KST				*e*S	**Sg**	**08 14 16.4**	**-3.7**
	43nm,0.5s						
BOOM	**Boomskoye usch**	**7.44**	**265**		**Pn**	**08 12 16.9**	**+3.2**
KRBS	**Karabastau**	**7.48**	**274**	Pg	**Pb**	**08 12 38.9**	**+4.1**
	9.5nm,0.4s						
KRBS				Lg	Lg	08 14 25.0	
	17nm,0.6s						
KRBS	**Karabastau**	**7.48**	**274**	*e*P	**Pb**	**08 12 38.9**	**+4.1**
	9.5nm,0.4s						
KRBS				*e*S	**Sg**	**08 14 24.9**	**+0.1**
	17nm,0.6s						
TKM2	**Tokmak 2**	**7.61**	**269**	⇓Pn	**Pn**	**08 12 20.3**	**+4.2**
	11nm,0.6s						
TKM2				⇑Lg	Lg	08 14 33.9	
	36nm,0.7s						
NRN	**Naryn**	**7.69**	**257**	Pn	**Pn**	**08 12 19.4**	**+2.3**
SEM	**Semipalatinsk**	**7.87**	**332**	Pg	**Pb**	**08 12 42.2**	**+0.9**
	17nm,0.3s						
SEM				Lg	Lg	08 14 29.8	
	90nm,0.4s						
SEM	**Semipalatinsk**	**7.87**	**332**	*e*P	Pb	08 12 47.7	+6.4
	9.1nm,0.2s						
SEM				*e*S	**Sg**	**08 14 38.5**	**+1.3**
	63nm,0.3s						
AAK	**Ala-Archa**	**8.46**	**267**	Pn	**Pn**	**08 12 30.0**	**+2.4**
AAK	**Ala-Archa**	**8.46**	**267**	Pn	**Pn**	**08 12 29.5**	**+1.9**
	0.5nm,0.3s,baz=200,slow=5.8,SNR=2.9						
AAK				Lg	Lg	08 14 52.1	
	0.9nm,0.3s,baz=249,slow=19,SNR=1.3						
	3.3nm,0.6s						
KURBB	**Kurchatov Arra**	**8.68**	**327**	⇑Pn	**Pn**	**08 12 29.8**	**-0.6**
	17nm,0.4s						
KURBB				⇓Lg	Lg	08 14 57.2	
	121nm,0.9s						
KURBB	**Kurchatov Arra**	**8.68**	**327**	Pn	**Pn**	**08 12 30.1**	**-0.2**
	2.7nm,0.3s,baz=134,slow=13,SNR=99						
KURBB				Sn	**Sn**	**08 14 05.5**	**-2.7**
	0.9nm,0.3s,baz=347,slow=25,SNR=1.7						
KURBB				Lg	Lg	08 14 56.1	
	1.7nm,0.3s,baz=144,slow=26,SNR=8.2						
	11nm,0.4s						
KURK	**Kurchatov**	**8.71**	**327**	⇑Pn	**Pn**	**08 12 30.4**	**-0.5**
	6.2nm,0.4s						
KURK				⇑Lg	Lg	08 14 59.7	
	108nm,0.8s						
KURK	**Kurchatov**	**8.71**	**327**	Pn	**Pn**	**08 12 30.8**	**-0.1**
ARSB	**Arslanbob**	**9.87**	**261**	Pn	**Pn**	**08 12 49.5**	**+2.5**
ZAA0	**Zalesovo Array**	**10.40**	**356**	⇓Pn	**Pn**	**08 12 52.4**	**-1.5**
	3.7nm,0.5s						
ZAA0				⇓Sn	**Sn**	**08 14 44.7**	**-5.6**
	2.0nm,0.7s						
ZAA0	**Zalesovo Array**	**10.40**	**356**		**Pn**	**08 12 53.1**	**-0.8**
ZALV	**Zalesovo Beam**	**10.40**	**356**	Pn	**Pn**	**08 12 53.0**	**-0.9**
ZALV	**Zalesovo Beam**	**10.40**	**356**	Pn	**Pn**	**08 12 52.5**	**-1.5**
	11nm,0.3s,baz=176,slow=14,SNR=31						
ZALV				Sn	**Sn**	**08 14 44.5**	**-5.8**
	4.2nm,0.3s,baz=182,slow=26,SNR=5.8						
ZALV				Lg	Lg	08 15 47.5	
	baz=176,slow=26						
	28nm,0.3s						
KKAR	**Karatay Array**	**11.28**	**273**	Pn	**Pn**	**08 13 08.9**	**+2.8**
BTK	**Batken**	**11.85**	**258**	Pn	**Pn**	**08 13 16.5**	**+2.5**
GAR	**Garm**	**12.64**	**254**	Pn	**Pn**	**08 13 27.1**	**+2.3**
SIMJ	**Simiganj**	**13.71**	**255**	Pn	**Pn**	**08 13 42.3**	**+2.9**
BVAR	**Borovoye Array**	**14.00**	**318**	Pn	**Pn**	**08 13 39.6**	**-3.6**
	baz=126,slow=12,SNR=2.2						
BVAR				Sn	Sn	08 16 10.2	-8.4
	0.1nm,0.3s,baz=115,slow=27,SNR=2.0						
BVAR				Lg	Lg	08 17 44.2	
	0.1nm,0.3s,baz=119,slow=26,SNR=2.5						
	3.5nm,0.7s						
NIL	**Nilore**	**14.04**	**229**	Pn	**Pn**	**08 13 45.6**	**+1.8**
BRVK	**Borovoye**	**14.07**	**318**	Pn	**Pn**	**08 13 43.5**	**-0.7**
LSA	**Lhasa**	**14.46**	**162**	Pn	**Pn**	**08 13 51.1**	**+1.0**
SONM	**Songino Array**	**14.87**	**66**	Pn	**Pn**	**08 13 54.6**	**-0.6**
	0.2nm,0.3s,baz=260,slow=11,SNR=2.6						
SONM				Lg	Lg	08 18 13.3	
	0.1nm,0.3s,baz=257,slow=26,SNR=3.0						
	1.0nm,0.9s						
AKTO	**Aktyubinsk**	**20.18**	**300**	P	**P**	**08 14 59.5**	**+0.1**
	1.1nm,0.4s,baz=318,slow=17,SNR=0.9						
	1.1nm,0.4s						
ARTI	**Arti**	**21.70**	**316**	P	**P**	**08 15 15.9**	**+0.1**
ARTI				IAmb	IAmb	08 15 33.5	
	comp=Z,13nm,0.9s						
ARTI	**Arti**	**21.70**	**316**	P	**P**	**08 15 15.2**	**-0.6**
	comp=Z,2.1nm,0.3s,baz=140,slow=9.7,SNR=4.6						
	comp=Z,2.1nm,0.3s						
NRIK	**Noril'sk**	**25.83**	**1**	P	**P**	**08 15 55.4**	**-0.6**
NRIK	**Noril'sk**	**25.83**	**1**	P	**P**	**08 15 55.4**	**-0.6**
	comp=Z,10nm,0.6s,baz=174,slow=6.4,SNR=15						
	comp=Z,10nm,0.6s						
CMAR	**Chiang Mai Arr**	**27.34**	**152**	P	**P**	**08 16 11.2**	**+1.2**
	comp=Z,1.3nm,0.4s,baz=331,slow=9.2,SNR=10						
	comp=Z,1.3nm,0.4s						
TIXI	**Tiksi**	**34.88**	**22**	P	**P**	**08 17 15.4**	**-0.5**
TIXI				IAmb	IAmb	08 17 20.0	
	comp=Z,5.8nm,1.1s						
TIXI	**Tiksi**	**34.88**	**22**	P	**P**	**08 17 14.8**	**-1.1**
	comp=Z,2.1nm,0.3s,baz=267,slow=8.6,SNR=1.4						
	comp=Z,2.1nm,0.3s						
AKASG	**Malin Array Be**	**38.42**	**301**	P	**P**	**08 17 46.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=63,slow=9.5,SNR=2.0						
	comp=Z,0.3nm,0.3s						
BRTR	**Keskin Array B**	**38.77**	**283**	P	**P**	**08 17 50.4**	**+0.8**
BRTR	**Keskin Array B**	**38.77**	**283**	P	**P**	**08 17 49.5**	**0.0**
	comp=Z,1.0nm,0.5s,baz=71,slow=7.3,SNR=4.5						
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**38.96**	**319**	P	**P**	**08 17 50.4**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=59,slow=7.5,SNR=8.5						
	comp=Z,1.4nm,0.5s						
ARCES	**ARCESS Array B**	**39.73**	**331**	P	**P**	**08 17 57.0**	**0.0**
	comp=Z,0.9nm,0.6s,baz=90,slow=7.3,SNR=12						
	comp=Z,0.9nm,0.6s						
HFS	**Hagfors**	**45.14**	**318**	P	**P**	**08 18 40.9**	**-0.3**
	comp=Z,3.9nm,0.5s,baz=101,slow=7.7,SNR=20						
	comp=Z,3.9nm,0.5s						
NB2	**NORSAR Subarra**	**46.12**	**319**	P	**P**	**08 18 48.6**	**-0.4**
	comp=Z,2.7nm,0.4s,baz=76,slow=7.9						
NOA	**NORSAR Array B**	**46.12**	**319**	P	**P**	**08 18 48.8**	**-0.2**
	comp=Z,2.9nm,0.4s,baz=77,slow=7.8,SNR=28						
	comp=Z,2.9nm,0.4s						
CLL	**Collm**	**48.06**	**306**	*i* P	**P**	**08 19 04.6**	**+0.4**
	comp=Z,4.0nm,0.6s						
CLL				*i* x	x	08 19 13.4	
EKA	**Eskdalemuir Ar**	**55.25**	**316**	P	**P**	**08 19 56.9**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=62,slow=6.5,SNR=2.0						
	comp=Z,1.4nm,0.7s						
ESDC	**Sonseca Array**	**64.06**	**301**	P	**P**	**08 20 57.4**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=55,slow=7.0,SNR=7.3						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**64.36**	**22**	P	**P**	**08 21 00.1**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=310,slow=4.0,SNR=5.9						
	comp=Z,0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.95**	**276**	P	**P**	**08 22 18.3**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=33,slow=4.5,SNR=2.0						
	comp=Z,0.3nm,0.4s						
WRA	**Warramunga Arr**	**77.22**	**134**	P	**P**	**08 22 19.1**	**0.0**
	comp=Z,2.7nm,0.8s,baz=328,slow=4.7,SNR=28						
	comp=Z,2.7nm,0.8s						
ASAR	**Alice Springs**	**80.08**	**136**	P	**P**	**08 22 34.9**	**0.0**
	comp=Z,1.3nm,0.6s,baz=332,slow=5.7,SNR=24						
	comp=Z,1.3nm,0.6s						
STKA	**Stephens Creek**	**90.68**	**135**	P	**P**	**08 23 27.0**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=301,slow=3.5,SNR=6.3						
	comp=Z,1.5nm,0.6s						

*ISK **04** 08:18:42.6, 37°.63N×26°.88E, h16km, ML2.6/28*
*ATH **04** 08:18:43.6, 37°.60N×26°.82E, h9km±1km, ML3.0/6, Error ellipse: s-maj=2.9km s-min=0.8km az=75.0*
*AFAD **04** 08:18:43.3±0.0, 37°.63N×26°.87E, h7km±2km, ML2.4*
ISC 04 08:18:43.3±0.8, 37°.62N±0°.02×26°.87E±0°.02, h14km±6km, n55, σ0S 59/80, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.09**	**342**	P	**Pg**	**08 18 46.1**	**-0.2**
SMG				S	**Sg**	**08 18 48.1**	**-0.4**
SMG				AML	AML	08 18 48.6	
	comp=N,83850μm,0.3s						
SMG				AML	AML	08 18 49.1	
	comp=E,39313μm,0.4s						
GCAM	**G?zelcaml?**	**0.30**	**75**	P	**Pg**	**08 18 49.6**	**+0.1**
GCAM				*i* AML	AML	08 18 54.0	
	comp=E,2μm,0.2s						
GCAM				*i* AML	AML	08 18 54.0	
	comp=E,923nm,0.4s						
GCAM				S	**Sg**	**08 18 54.1**	**+0.4**
GCAM	**G?zelcaml?**	**0.30**	**75**	Pg	**Pg**	**08 18 49.5**	**+0.1**
GCAM				Sg	**Sg**	**08 18 54.1**	**+0.4**
DDIM	**Aydin, Didim**	**0.34**	**119**	P	**Pg**	**08 18 50.7**	**+0.5**
DDIM				*i* AML	AML	08 18 56.0	
	comp=E,365nm,0.3s						
DDIM				*i* AML	AML	08 18 56.0	
	comp=E,432nm,0.3s						
DDIM				S	**Sb**	**08 18 56.2**	**-0.1**
DIDI	**Didim-Aydin**	**0.38**	**130**	Pg	**Pg**	**08 18 50.9**	**-0.1**
DIDI				Sg	**Sg**	**08 18 57.0**	**+0.8**
DGB	**zmir**	**0.43**	**1**	P	**Pg**	**08 18 51.6**	**-0.2**
DGB				*i* AML	AML	08 18 58.0	
	comp=E,470nm,0.5s						
DGB				*i* AML	AML	08 18 58.0	
	comp=E,376nm,0.3s						
DGB				S	**Sg**	**08 18 58.2**	**+0.6**
GMLD	**Gumuldur**	**0.45**	**4**	Pg	**Pg**	**08 18 51.9**	**-0.4**
GMLD				Sg	**Sg**	**08 18 58.9**	**+0.5**
YKAV	**Yalikavak-Bodr**	**0.59**	**147**	Pg	**Pg**	**08 18 54.8**	**-0.1**
BODT	**Bodrum**	**0.66**	**148**	Pg	**Pg**	**08 18 55.9**	**-0.3**
KLNA	**Kalymnos**	**0.67**	**173**	P	**Pg**	**08 18 55.7**	**-0.7**
KLNA				S	**Sg**	**08 19 05.0**	**-0.2**
ZEYE	**Izmir, Urla-Ze**	**0.68**	**335**	P	**Pg**	**08 18 56.5**	**-0.1**
ZEYE				S	**Sb**	**08 19 06.6**	**+0.5**
ZEYE				*i* AML	AML	08 19 08.0	
	comp=E,669nm,0.2s						
ZEYE				*i* AML	AML	08 19 09.0	
	comp=E,792nm,0.6s						
BDRM	**Kayabasi**	**0.72**	**141**	P	**Pb**	**08 18 58.0**	**+0.4**
BDRM				S	**Sb**	**08 19 07.7**	**+0.4**
BDRM				*i* AML	AML	08 19 09.0	
	comp=E,310nm,0.3s						
BLCB	**Balcova**	**0.77**	**10**	Pg	**Pg**	**08 18 57.8**	**-0.5**
BLCB				Sg	**Sg**	**08 19 08.7**	**+0.3**
CESE	**eme**	**0.84**	**327**	Pg	**Pg**	**08 18 59.3**	**-0.2**
CESE				Sg	**Sg**	**08 19 08.7**	**-1.8**
AYDB	**Zeytinkoy-Aydi**	**0.87**	**68**	Pg	**Pg**	**08 18 59.6**	**-0.5**
AYDB				Sg	**Sb**	**08 19 11.9**	**+0.2**
IZMR	**zmir-demi**	**1.00**	**59**	P	**Pg**	**08 19 02.1**	**-0.4**
IZMR				S	**Sg**	**08 19 14.8**	**-0.8**
IZMR				*i* AML	AML	08 19 16.0	
	comp=E,142nm,0.6s						
IZMR				*i* AML	AML	08 19 19.0	

MULA			S	Sb	08 19 21.1	-0.4
MULA			*i* AML	AML	08 19 24.0	
	comp=N,38nm,0.5s					
MULA			*i* AML	AML	08 19 31.0	
	comp=N,56nm,0.7s					
YER	**Yerkesik**	**1.23 113**	Pn	**Pb**	**08 19 05.7**	**-0.5**
KIRA	**zmir-Kiraz**	**1.34 64**	P	**Pn**	**08 19 07.3**	**-0.3**
KIRA			S	**Sn**	**08 19 26.2**	**+1.0**
KIRA			*i* AML	AML	08 19 30.0	
	comp=N,86nm,0.7s					
KIRA			*i* AML	AML	08 19 31.0	
	comp=N,54nm,0.4s					
TURN	**Turunc**	**1.39 127**	Pn	**Pn**	**08 19 07.4**	**-0.7**
MRSB	**Marmaris-Mugla**	**1.39 130**	Pn	**Pn**	**08 19 08.2**	**0.0**
DKL	**Dikili**	**1.45 1**	Pn	**Pn**	**08 19 08.6**	**-0.3**
AKS	**Akhisar**	**1.46 30**	Pn	**Pn**	**08 19 08.8**	**-0.3**
SOMA	**Soma-Manisa**	**1.62 19**	Pn	**Pn**	**08 19 11.1**	**-0.2**
DALY	**Dalyan (Mula)**	**1.63 119**	Pn	**Pn**	**08 19 11.5**	**0.0**
GORD	**Gordes-Manisa**	**1.64 38**	Pn	**Pn**	**08 19 11.1**	**-0.6**
KULA	**Kula-Manisa**	**1.67 57**	Pn	**Pn**	**08 19 11.7**	**-0.4**
PRK	**Paraskevi**	**1.69 344**	P	**Pn**	**08 19 13.0**	**+0.7**
PRK			S	**Sn**	**08 19 34.0**	**+0.3**
PRK			AML	AML	08 19 43.2	
	comp=N,394μm,0.4s					
PRK			AML	AML	08 19 44.4	
	comp=E,560μm,0.6s					
THR3	**Thira Island,**	**1.69 225**	P	**Pn**	**08 19 13.0**	**+0.7**
SNT5	**Nea Kammeni, S**	**1.70 225**	P	**Pn**	**08 19 13.6**	**+1.2**
THR5	**Thira Island,**	**1.71 226**	P	**Pn**	**08 19 13.0**	**+0.3**
ARG	**Arkhangelos**	**1.73 144**	P	**Pn**	**08 19 12.9**	**+0.1**
APMY	**Acipayam-Deniz**	**1.94 94**	Pn	**Pn**	**08 19 15.7**	**-0.1**
FETY	**Fethiye**	**2.02 119**	Pn	**Pn**	**08 19 17.2**	**+0.3**
CAME	**Cameli-Denizli**	**2.05 109**	Pn	**Pn**	**08 19 17.8**	**+0.3**
KARP	**Karpathos**	**2.09 174**	Pn	**Pn**	**08 19 17.1**	**-0.7**
KARP	**Karpathos**	**2.09 174**	P	**Pn**	**08 19 17.1**	**-0.7**
SIMA	**Simav-Kutahya**	**2.21 48**	Pn	**Pn**	**08 19 19.9**	**+0.4**
EZN	**Ezine**	**2.24 349**	Pn	**Pn**	**08 19 20.5**	**+0.6**
DION	**Dionisos Attik**	**2.37 282**	P	**Pn**	**08 19 22.0**	**+0.3**
PTL	**Penteli**	**2.42 281**	P	**Pn**	**08 19 22.7**	**+0.3**
AKAS	**Kas**	**2.59 122**	Pn	**Pn**	**08 19 25.3**	**+0.4**

IDC 04 08:24:46.8±7.4, 4°.49S×148°.39E, h0km, mb3.0/3, mbtmp3.1/3, Error ellipse: s-maj=234.2km s-min=38.5km az=102.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.57**	**221**	P	P	08 29 27.5	0.0
	0.2nm,0.7s,baz=45,slow=11,SNR=1.9						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**23.64**	**215**	P	P	08 29 59.9	-0.1
	0.6nm,0.9s,baz=48,slow=7.4,SNR=4.2						
	0.6nm,0.9s						
MKAR	**Makanchi Array**	**77.23**	**320**	P	P	08 36 43.0	0.0
	0.2nm,0.5s,baz=96,slow=7.2,SNR=1.7						
	0.2nm,0.5s						

*IDC **04** 08:34:28.9±1.2, 19°.84N×109°.17W, h0km, mb3.5/6, mbtmp3.6/10, ML3.5/4, MS3.8/7, Error ellipse: s-maj=46.0km s-min=21.2km az=72.0*
*MEX **04** 08:34:32.6±0.4, 19°.25N×109°.15W, h15km, MD4.1*
ISC 04 08:34:28.9±0.8, 19°.67N±0°.08×109°.35W±0°.04, h10km, n30, σ2°.49/27, mb3.4/5, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E		**1.73**	**239**	*eP*	**Pn**	**08 34 59.1**	**+0.1**
H06E				*eS*	**Sn**	**08 35 19.6**	**-1.6**
H06E1	**SOCORRO T-PHAS**	**1.73**	**240**	T	T	08 37 05.1	
	SNR=6.9						
H06S		**1.79**	**239**	*eP*	**Pn**	**08 34 59.5**	**-0.3**
H06S				*eS*	**Sn**	**08 35 19.9**	**-2.7**
CJM	**Chamela**	**4.06**	**92**	*eP*	**Pn**	**08 35 29.6**	**-1.6**
CJM				*eS*	**Sn**	**08 36 13.6**	**-5.2**
LPIG	**La Paz**	**4.50**	**349**	Pn	**Pn**	**08 35 35.9**	**-1.2**
	9.1nm,0.3s,baz=183,slow=2.5,SNR=13						
LPIG				LR	LR	08 37 03.4	
	comp=Z,852nm,20.8s,baz=146,slow=35						
	45nm,0.5s						
ANIG	**Ahuacatlan**	**4.73**	**72**	*eP*	**Pn**	**08 35 40.4**	**-0.1**
CEGR	**Campo Tres**	**5.18**	**92**	*eP*	**Pn**	**08 35 46.8**	**0.0**
CEGR				*eS*	**Sn**	**08 36 41.3**	**-5.5**
COIG	**Colima**	**5.36**	**94**	*eP*	**Pn**	**08 35 50.0**	**+0.8**
COIG				*eS*	**Sn**	**08 36 50.1**	**-0.9**
SOMAC	**Volcano de Col**	**5.39**	**91**	*eP*	**Pn**	**08 35 51.8**	**+2.0**
SOMAC				*eS*	**Sn**	**08 36 45.4**	**-6.8**
MNGA	**Volcan de Coli**	**5.40**	**91**	*eP*	Pn	08 35 53.0	+3.1
MNGA				*eS*	**Sn**	**08 36 54.2**	**+1.9**
INCO	**Volcan de Coli**	**5.42**	**91**	*eP*	Pn	08 35 54.1	+3.9
INCO				*eS*	**Sn**	**08 36 55.3**	**+2.5**
EZ5V		**5.42**	**91**	*eP*	Pn	08 35 53.1	+3.0
EZ5V				*eS*	**Sn**	**08 36 54.6**	**+1.9**
TXAR	**Lajitas Array**	**10.92**	**27**	Pn	**Pn**	**08 37 06.2**	**+0.8**
	0.1nm,0.3s,baz=198,slow=17,SNR=8.0						
	2.6nm,1.1s						
CMIG	**Matias Romero**	**13.97**	**98**	LR	LR	08 42 56.8	
	comp=Z,543nm,18.6s,baz=248,slow=37						
PFO	**Pinyon Flats O**	**15.26**	**337**	Pn	**Pn**	**08 38 05.1**	**+0.4**
	0.1nm,0.3s,baz=205,slow=20,SNR=2.3						
PFO				LR	LR	08 43 39.5	
	comp=Z,564nm,18.3s,baz=111,slow=36						
	1.3nm,0.8s						
ANMO	**Albuquerque**	**15.43**	**9**	Pn	**Pn**	**08 38 05.8**	**-1.2**
	0.1nm,0.3s,baz=335,slow=13,SNR=1.4						
ANMO				LR	LR	08 44 12.8	
	comp=Z,258nm,19.1s,baz=5.5,slow=38						
	0.2nm,0.3s						
TEIG	**Tepich**	**19.82**	**85**	LR	LR	08 47 30.8	
	comp=Z,224nm,19.0s,baz=254,slow=40						
NVAR	**Mina Array Bea**	**20.25**	**339**	P	Pn	08 39 06.3	-0.2
	0.8nm,0.7s,baz=164,slow=14,SNR=8.9						
	0.8nm,0.7s						
ELK	**Elko**	**21.60**	**348**	P	**P**	**08 39 19.0**	**-0.3**
	0.2nm,0.3s,baz=152,slow=14,SNR=3.4						
	0.2nm,0.3s						
PDAR	**Pinedale Array**	**23.03**	**360**	P	**P**	**08 39 34.0**	**-0.5**
	0.4nm,0.5s,baz=160,slow=11,SNR=6.2						
	0.4nm,0.5s						
BBB	**Bella Bella**	**35.61**	**340**	LR	LR	08 55 04.9	
	comp=Z,135nm,19.1s,baz=203,slow=35						
DLBC	**Dease Lake**	**41.56**	**344**	LR	LR	09 00 01.5	
	comp=Z,228nm,18.2s,baz=226,slow=37						
ILAR	**Eielson Array**	**51.50**	**341**	P	**P**	**08 43 35.1**	**+0.7**
	0.3nm,0.6s,baz=146,slow=6.1,SNR=6.8						
	0.3nm,0.6s						
LPAZ	**La Paz**	**54.02**	**129**	P	**P**	**08 43 55.7**	**+1.2**
	1.6nm,1.0s,baz=330,slow=7.3,SNR=5.0						
	1.6nm,1.0s						
H03N2	**Juan Fernandez**	**60.26**	**151**	T	T	09 50 19.6	
	baz=329,slow=77,SNR=34						
H03N1	**Juan Fernandez**	**60.27**	**151**	T	T	09 50 14.1	
	baz=329,slow=77,SNR=41						
H03N3	**Juan Fernandez**	**60.28**	**151**	T	T	09 50 12.9	
	baz=329,slow=77,SNR=36						
ARCES	**ARCESS Array B**	**85.44**	**14**	P	**P**	**08 47 06.3**	**-0.2**
	2.2nm,0.9s,baz=325,slow=4.6,SNR=5.5						
	2.2nm,0.9s						
WRA	**Warramunga Arr**	**120.43**	**258**	PKP	**PKiKP**	**08 53 24.0**	**+2.5**
	1.0nm,1.2s,baz=83,slow=3.5,SNR=3.1						
ASAR	**Alice Springs**	**121.50**	**254**	PKP	**PKiKP**	**08 53 25.1**	**+1.5**
	0.2nm,0.8s,baz=102,slow=2.3,SNR=1.6						

WEL 04 08:35:28.4, 39°.S±2°.×17°.4E±°, h10km±4km, M2.3/7, ML2.6/6, MLv2.3/7, Error ellipse: s-maj=5.5km s-min=3.3km az=109.1, confirmed, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPCS	**New Plymouth C**	**0.09**	**88**	P	Pg	08 35 30.0	-0.9
NPCS				S	Sg	08 35 32.9	+0.2
PKE	**Pukeiti**	**0.13**	**171**	P	Pb	08 35 32.3	-0.7
PKE				S	Sg	08 35 35.3	+1.5
PKE	**Pukeiti**	**0.13**	**171**	P	Pg	08 35 32.1	+0.5
PKE				S	Sg	08 35 35.3	+1.5
INHS	**Inglewood High**	**0.20**	**117**	P	Pg	08 35 33.4	+0.7
INHS				S	Sg	08 35 38.0	+2.4
INHS	**Inglewood High**	**0.20**	**117**	P	Pg	08 35 33.3	+0.6
NBEZ	**Newall Road No**	**0.21**	**200**	P	Pg	08 35 33.7	+0.7
NBEZ				S	Sg	08 35 38.4	+2.4
NBEZ	**Newall Road No**	**0.21**	**200**	P	Pg	08 35 33.5	+0.5
NBEZ				S	Sg	08 35 38.3	+2.3
DREZ	**Durham Road**	**0.22**	**124**	P	Pb	08 35 34.0	-0.7
DREZ				S	Sg	08 35 38.7	+2.4
DREZ	**Durham Road**	**0.22**	**124**	P	Pg	08 35 33.7	+0.6
DREZ				S	Sg	08 35 38.7	+2.4
NEZ	**North Egmont**	**0.23**	**153**	P	Pb	08 35 34.1	-0.7
NEZ				S	Sg	08 35 38.5	+1.9
NEZ	**North Egmont**	**0.23**	**153**	P	Pg	08 35 33.8	+0.5
NEZ				S	Sg	08 35 38.4	+1.9
KHEZ	**Kahui Hut**	**0.23**	**170**	P	Pb	08 35 34.2	-0.6
KHEZ				S	Sg	08 35 38.8	+2.1
KHEZ	**Kahui Hut**	**0.23**	**170**	P	Pg	08 35 33.9	+0.5
KHEZ				S	Sg	08 35 38.7	+2.1
MHEZ	**Mangahewa**	**0.28**	**92**	P	Pg	08 35 34.8	+0.7
MHEZ	**Mangahewa**	**0.28**	**92**	P	Pg	08 35 34.7	+0.6
MHEZ				S	Sb	08 35 39.9	-0.5
PREZ	**Palmer Road**	**0.32**	**151**	P	Pb	08 35 36.0	-0.2
PREZ	**Palmer Road**	**0.32**	**151**	P	Pb	08 35 35.8	-0.4
PREZ				S	Sb	08 35 42.4	+0.9
LREZ	**Lake Rotokare**	**0.52**	**139**	P	Pb	08 35 39.7	0.0
LREZ	**Lake Rotokare**	**0.52**	**139**	P	Pb	08 35 39.5	-0.2
LREZ				S	Sb	08 35 48.3	+1.0
VRZ	**Vera Road**	**0.62**	**96**	P	Pg	08 35 40.2	-0.4
VRZ				S	Sb	08 35 51.6	+1.4
HIZ	**Hauiti**	**0.89**	**52**	P	Pg	08 35 44.5	-1.1
HIZ	**Hauiti**	**0.89**	**52**	P	Pg	08 35 44.3	-1.3
HIZ				S	Sg	08 35 56.6	-0.6
WAZ	**Wanganui**	**1.05**	**131**	P	Pg	08 35 48.6	-0.1
WAZ				S	Sn	08 36 04.5	+0.6
TWVZ	**Taurewa**	**1.15**	**91**	P	Pb	08 35 49.3	-1.2
MTVZ	**Mangateitei**	**1.22**	**106**	P	Pn	08 35 50.5	-1.0
MTVZ				S	Sn	08 36 08.5	+0.5
COVZ	**Chateau Observ**	**1.24**	**97**	P	Pn	08 35 50.5	-1.4
COVZ				S	Sn	08 36 08.6	-0.1
TRVZ	**Turoa**	**1.26**	**101**	P	Pn	08 35 51.1	-1.2
TRVZ				S	Sg	08 36 08.9	0.0
MAVZ	**Matarangi**	**1.26**	**100**	P	Pn	08 35 51.4	-0.9
MAVZ				S	Sg	08 36 09.1	0.0
WTVZ	**West Tongariro**	**1.27**	**93**	P	Pn	08 35 51.3	-1.0
WTVZ				S	Sn	08 36 09.6	+0.2
NGZ	**Ngauruhoe**	**1.28**	**95**	P	Pn	08 35 50.7	-1.8
NGZ				S	Sg	08 36 09.6	-0.2
WHVZ	**Whangaehu Hut**	**1.28**	**100**	P	Pn	08 35 51.7	-0.9
WHVZ				P	Pg	08 36 10.1	+17
NNVZ	**North Ngauruho**	**1.29**	**93**	P	Pn	08 35 51.6	-1.1
NNVZ				S	Sn	08 36 10.8	+0.8
WNVZ	**Wahianoa**	**1.30**	**102**	P	Pn	08 35 52.1	-0.7
WNVZ				S	Sb	08 36 10.0	+0.2
SNVZ	**South Ngauruho**	**1.31**	**96**	P	Pn	08 35 52.4	-0.6
RATZ	**Rangitukua**	**1.43**	**83**	P	Pn	08 35 53.8	-0.6
RATZ				S	Sb	08 36 13.5	+0.2
TSZ	**Takapari Road**	**1.84**	**123**	P	Pb	08 36 02.0	-0.1
TSZ				S	Sg	08 36 27.3	-0.3
OGWZ	**Otaki Gorge**	**1.98**	**152**	P	Pb	08 36 04.6	0.0
OGWZ				S	Sb	08 36 29.9	+0.6
MRZ	**Mangatainoka R**	**2.02**	**143**	P	Pb	08 36 05.1	-0.2
MRZ				S	Sg	08 36 32.1	-1.3

RSNC 04 09:13:13.3±0.0, 7°.N±1°.×7°.3W±°, h145km±2km, M2.7, mb2.9, mB5.0, ML2.4, Mw(mB)4.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**196**	P	Pn	09 13 32.9	-0.5
BARC				S	Sn	09 13 47.8	-0.8
BRJC	**Barrancabermej**	**0.64**	**285**	P	Pn	09 13 34.9	0.0
BRJC				S	Sn	09 13 51.7	+0.4
PAMC	**Pamplona, Colo**	**0.67**	**38**	P	Pn	09 13 35.7	0.0
PAMC				S	Sn	09 13 52.7	+0.1
RUSC	**La Rusia**	**0.91**	**178**	P	Pn	09 13 36.9	-0.6
RUSC				S	Sn	09 13 55.0	-0.8
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	P	Pn	09 13 39.6	-1.4
PTBC				S	Sn	09 14 01.3	-0.8
TAMC	**Tame, Arauca**	**1.37**	**106**	P	Pn	09 13 41.2	0.0
TAMC				S	Sn	09 14 02.2	-0.3
OCAC	**Ocana**	**1.43**	**352**	P	Pn	09 13 41.2	-0.8
OCAC				S	Sn	09 14 02.7	-1.2
SPBC	**San Pablo de B**	**1.49**	**219**	P	Pn	09 13 41.9	-0.6
SPBC				S	Sn	09 14 03.8	-1.0
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	P	Pn	09 13 45.9	-0.5
ZARC				S	Sn	09 14 11.8	0.0
NORC	**Norcasia**	**2.13**	**235**	P	Pn	09 13 49.5	-0.3
NORC				S	Sn	09 14 17.7	-0.1
CHIC	**Chingaza**	**2.25**	**196**	P	Pn	09 13 51.1	-0.5
CHIC				S	Sn	09 14 19.0	-1.9
ROSC	**El Rosal**	**2.29**	**211**	P	Pn	09 13 52.9	+0.8
ROSC				S	Sn	09 14 23.1	+1.3
CVER	**Cruz Verde, Cu**	**2.46**	**203**	P	Pn	09 13 54.4	+0.2
CVER				S	Sn	09 14 25.5	-0.2
HELC	**Santa Helena**	**2.47**	**256**	P	Pn	09 13 54.1	-0.1
HELC				S	Sn	09 14 24.6	-1.0
UREC	**San Jos de Ur**	**2.57**	**291**	P	Pn	09 13 53.7	-1.4
UREC				S	Sn	09 14 25.0	-2.3
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	09 13 57.9	+0.3
GUY2C				S	Sn	09 14 34.2	+2.6
VILC	**Villavicencio,**	**2.74**	**192**	P	Pn	09 13 57.0	-0.4
VILC				S	Sn	09 14 34.2	+2.9
PTGC	**Puerto Gaitan,**	**2.77**	**159**	P	Pn	09 13 56.1	-1.6
PTGC				S	Sn	09 14 29.1	-2.8
RECRC	**Villamaria, Ca**	**2.88**	**231**	P	Pn	09 14 01.8	+2.3
RECRC				S	Sn	09 14 36.5	+1.4
NIZA	**Niza - Manizal**	**2.92**	**233**	P	Pn	09 13 58.4	-1.3
NIZA				S	Sn	09 14 39.5	+4.0
CBOC	**Ciudad Bolivar**	**3.02**	**252**	P	Pn	09 14 01.0	0.0
CBOC				S	Sn	09 14 37.9	+0.2
DBBC	**Dabeiba**	**3.07**	**274**	P	Pn	09 14 01.1	-0.4
DBBC				S	Sn	09 14 37.1	-1.7
SDV	**Santo Domingo**	**3.21**	**50**	P	Pn	09 14 00.8	-2.6
SDV				S	Sn	09 14 39.6	-2.5
ARGC	**Ariguani, Magd**	**3.23**	**340**	P	Pn	09 14 03.4	0.0
ARGC				S	Sn	09 14 43.0	+0.8
ANIL	**Santa Ana**	**3.24**	**225**	P	Pn	09 14 04.6	+0.8
ANIL				S	Sn	09 14 43.8	+1.0
PRAC	**Prado**	**3.54**	**210**	P	Pn	09 14 06.7	-0.8
PRAC				S	Sn	09 14 50.0	+0.4
ORTC	**Ortega, Tolima**	**3.58**	**216**	P	Pn	09 14 07.9	-0.1
ORTC				S	Sn	09 14 50.0	-0.3
APAC	**Apartado, Choc**	**3.60**	**288**	P	Pn	09 14 07.8	-0.4
APAC				S	Sn	09 14 48.9	-1.9
SJCC	**San Jacinto, C**	**3.68**	**327**	P	Pn	09 14 07.3	-2.1
SJCC				S	Sn	09 14 49.4	-3.4
URMC	**La Uribe, Meta**	**3.75**	**200**	P	Pn	09 14 10.0	-0.4
URMC				S	Sn	09 14 54.1	-0.5
CRJC	**Cerrejon, Guaj**	**4.19**	**3**	P	Pn	09 14 13.5	-2.5
CRJC				S	Sn	09 15 01.0	-3.8
GUVC	**San Jose del G**	**4.26**	**173**	P	Pn	09 14 15.6	-1.4
GUVC				S	Sn	09 15 05.0	-1.5
YOTC	**Yotoco, Valle**	**4.26**	**229**	P	Pn	09 14 16.3	-0.8
YOTC				S	Sn	09 15 06.9	+0.3
CAPC	**Capurgana**	**4.57**	**294**	P	Pn	09 14 21.2	+0.3
CAPC				S	Sn	09 15 06.9	-6.7
MACC	**Macarena, Meta**	**4.69**	**189**	P	Pn	09 14 20.1	-2.5
MACC				S	Sn	09 15 11.5	-5.1
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	09 14 23.7	-2.8
URIC				S	Sn	09 15 18.6	-4.9
JAMC	**Jamundi, Valle**	**5.03**	**225**	P	Pn	09 14 27.9	+0.6
	4.2nm,2.3s						
MALC	**Bahia Malaga**	**5.03**	**237**	P	Pn	09 14 28.7	+1.6
BBAC	**Balboa, Cauca**	**6.29**	**221**	P	Pn	09 14 44.8	+0.7

*NOU **04** 09:32:34.8, 40°.14S×177°.69E, h69km, MLv4.8/14, Off E. Coast of N. Island, N.Z.*
*IDC **04** 09:32:36.6±0.8, 39°.92S×176°.84E, h0km, mb4.5/9, mbtmp4.4/11, ML3.6/2, MS3.7/2, Error ellipse: s-maj=23.3km s-min=15.9km az=123.0*
*NEIC **04** 09:32:37.6±2.2, 39°.97S±0°.03×176°.98E±0°.04, h10km±1km, mb4.7/22, Error ellipse: s-maj=7.5km s-min=3.8km az=132.0*
*WEL **04** 09:32:40.9±0.4, 40°.S±2°.×17°.7E±°, h18km±3km, M4.5/151, ML4.8/148, MLv4.5/151, Error ellipse: s-maj=5.0km s-min=2.6km az=110.6, confirmed*
*WEL **04** 09:32:40.9, 39°.88S×176°.83E, h17km, ML4.5, Mw4.3, Moment Tensor Solution. s5 Moment tensor: Scale 10^{15} Nm; M_{rr}1.45; $M_{\theta\theta}$-0.52; $M_{\phi\phi}$-0.93; $M_{r\theta}$0.37; $M_{\theta\phi}$-0.52; $M_{\phi r}$2.87; Fault plane solution: $M_0$3.19000×10^{15} NP1: ϕ_s224.00000°, δ14.00000°, λ123.00000°. NP2: ϕ_s11.00000°, δ78.00000°, λ82.00000°. Principal axes: T -3.0083, Plg56.0000°, Azm272.0000°; N -0.3564, Plg7.0000°, Azm12.0000°; P 3.3647, Plg33.0000°, Azm107.0000°; Stations used: TSZ BKZ MRZ VRZ HIZ REVERSE FAULTING*

ISC 04 09:32:40.6±0.7, 39°.95S±0°.02×176°.87E±0°.03, h27km±4km, n243, σ1°.20/261, mb4.7/26, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.08**	**186**	P	**Pb**	**09 32 45.5**	**+0.1**
PXZ				S	**Sb**	**09 32 49.9**	**+1.3**
KAHZ	**Kahuranaki**	**0.15**	**1**	P	**Pb**	**09 32 44.9**	**-1.1**
KAHZ				S	**Sb**	**09 32 48.8**	**-0.9**
CKHZ	**Cape Kidnapper**	**0.33**	**28**	P	**Pb**	**09 32 48.6**	**+0.4**
CKHZ				S	**Sn**	**09 32 54.8**	**-0.7**
WPHZ	**Waipukurau**	**0.35**	**251**	P	**Pb**	**09 32 48.6**	**+0.1**
PRHZ	**Porangahau**	**0.37**	**210**	P	**Pn**	**09 32 50.1**	**0.0**
PRHZ				S	**Sn**	**09 32 58.9**	**+2.4**
KRHZ	**Kereru**	**0.49**	**308**	P	**Pb**	**09 32 49.8**	**-1.0**
KRHZ				S	**Sb**	**09 32 57.1**	**-0.6**
MCHZ	**McNeill Hill**	**0.52**	**345**	P	**Pb**	**09 32 51.0**	**-0.3**
ANWZ	**Angora Road**	**0.59**	**211**	P	**Pn**	**09 32 53.8**	**+0.6**
ANWZ				S	**Sn**	**09 33 05.4**	**+3.3**
KWHZ	**Kaweka Forest**	**0.63**	**326**	P	**Pb**	**09 32 52.3**	**-0.7**
KWHZ				S	**Sb**	**09 33 01.8**	**+0.2**
DVHZ	**Dannevirke**	**0.65**	**237**	P	**Pn**	**09 32 54.0**	**0.0**
DVHZ				S	**Sn**	**09 33 05.4**	**+2.0**
ARHZ	**Aropaoanui**	**0.69**	**8**	P	**Pn**	**09 32 54.9**	**+0.3**
TSZ	**Takapari Road**	**0.71**	**261**	P	**Pn**	**09 32 54.2**	**-0.6**
BKZ	**Black Stump Fm**	**0.84**	**339**		**Pb**	**09 32 56.1**	**-0.4**
BKZ				Sn	**Sn**	**09 33 08.3**	**+0.3**
BKZ	**Black Stump Fm**	**0.84**	**339**	P	**Pb**	**09 32 56.2**	**-0.4**
BKZ	**Black Stump Fm**	**0.84**	**339**	P	**Pb**	**09 32 56.3**	**-0.2**
NMHZ	**Naumai**	**0.85**	**356**	P	**Pn**	**09 32 57.5**	**+0.6**
BFZ	**Birch Farm**	**0.88**	**213**		**Pn**	**09 32 57.5**	**+0.4**
BFZ					**Sn**	**09 33 11.8**	**+2.8**
BFZ	**Birch Farm**	**0.88**	**213**	P	**Pn**	**09 32 57.5**	**+0.4**
BFZ	**Birch Farm**	**0.88**	**213**	P	**Pn**	**09 32 57.7**	**+0.6**
WHHZ	**Waihua**	**0.92**	**18**	P	**Pb**	**09 32 57.8**	**0.0**
PRWZ	**Pori Road**	**0.92**	**229**	P	**Pn**	**09 32 58.5**	**+0.8**
POWZ	**Post Office Ro**	**0.96**	**242**	P	**Pn**	**09 32 58.8**	**+0.6**
MOVZ	**Moawhango**	**1.02**	**302**	P	**Pn**	**09 32 59.1**	**-0.1**
RAHZ	**Arahi**	**1.04**	**9**	P	**Pn**	**09 32 59.8**	**+0.3**
CPWZ	**Castlepoint**	**1.09**	**208**	P	**Pn**	**09 33 00.9**	**+0.1**
MTHZ	**Maungataniwha**	**1.10**	**359**	P	**Pn**	**09 33 00.4**	**+0.2**
KNZ	**Kokohu**	**1.11**	**34**	P	**Pn**	**09 32 59.8**	**-0.6**
TIWZ	**Tintock**	**1.12**	**222**	P	**Pb**	**09 33 00.9**	**-0.4**
MHGZ	**Mahia Peninsul**	**1.13**	**45**	P	**Pn**	**09 33 00.4**	**-0.2**
TUVZ	**Tukino**	**1.16**	**305**	P	**Pb**	**09 33 02.0**	**-0.1**
WNVZ	**Wahianoa**	**1.17**	**302**	P	**Pb**	**09 33 02.0**	**-0.2**
MRHZ	**Matea Rd**	**1.17**	**342**	P	**Pb**	**09 33 01.8**	**-0.3**
WHVZ	**Whangaehu Hut**	**1.20**	**303**	P	**Pb**	**09 33 02.6**	**-0.2**
ETVZ	**East Tongariro**	**1.21**	**312**	P	**Pb**	**09 33 02.8**	**-0.1**
TRVZ	**Turoa**	**1.21**	**302**	P	**Pb**	**09 33 02.8**	**-0.2**
HATZ	**Hinemaiaia**	**1.22**	**330**	P	**Pb**	**09 33 02.7**	**-0.3**
MRZ	**Mangatainoka R**	**1.22**	**234**	Pn	**Pb**	**09 33 02.1**	**-0.9**
MRZ				Sn	**Sb**	**09 33 19.3**	**+1.0**
MRZ	**Mangatainoka R**	**1.22**	**234**	P	**Pb**	**09 33 02.1**	**-0.9**
OTVZ	**Oturere**	**1.22**	**310**	P	**Pb**	**09 33 03.0**	**-0.1**
SNVZ	**South Ngauruho**	**1.22**	**308**	P	**Pb**	**09 33 03.0**	**-0.1**
MAVZ	**Matarangi**	**1.22**	**303**	P	**Pb**	**09 33 02.9**	**-0.3**
MTVZ	**Mangateitei**	**1.22**	**297**	P	**Pb**	**09 33 03.2**	**+0.2**
SNGZ	**Shannon Statio**	**1.22**	**17**	P	**Pn**	**09 33 02.0**	**+0.1**
TMVZ	**Te Maari**	**1.23**	**312**	P	**Pb**	**09 33 03.3**	**0.0**
FWVZ	**Far West T-bar**	**1.23**	**304**	P	**Pb**	**09 33 03.1**	**-0.3**
RITZ	**Rihia Road**	**1.25**	**321**	P	**Pb**	**09 33 03.4**	**-0.1**
NGZ	**Ngauruhoe**	**1.25**	**308**	P	**Pb**	**09 33 03.3**	**-0.3**
NTVZ	**North Tongarir**	**1.26**	**312**	P	**Pb**	**09 33 03.8**	**+0.1**
NNVZ	**North Ngauruho**	**1.27**	**310**	P	**Pb**	**09 33 03.6**	**-0.4**
COVZ	**Chateau Observ**	**1.27**	**306**	P	**Pb**	**09 33 03.5**	**-0.5**
KRVZ	**Karewarewa**	**1.28**	**311**	P	**Pb**	**09 33 03.6**	**-0.5**
PRGZ	**Paritu Road**

BSWZ Blackbirch Sta 2.88 231 Pn 09 33 23.5 -1.2
BSWZ Blackbirch Sta 2.88 231 P **Pn 09 33 23.2 -1.5**
NNZ Nelson 2.95 243 Pn 09 33 24.8 -0.8
NNZ Nelson 2.95 243 P **Pn 09 33 24.9 -0.8**
MKAZ Moumakai 3.14 334 P Pn 09 33 28.6 +0.3
TKNZ Takaka Hill 3.17 249 Pn 09 33 28.5 -0.3
TKNZ Takaka Hill 3.17 249 P **Pn 09 33 28.5 -0.3**
KUZ Kuaotunu 3.33 344 P **Pn 09 33 31.2 +0.4**
KUZ Kuaotunu 3.33 344 P **Pn 09 33 31.3 +0.5**
ETAZ East Tamaki Re 3.36 332 P **Pn 09 33 32.5 +1.2**
AWAZ Awhitu Peninsu 3.37 328 P **Pn 09 33 32.7 +1.2**
QRZ Quartz Range 3.43 254 Pn 09 33 31.7 -0.6
QRZ Quartz Range 3.43 254 P **Pn 09 33 31.5 -0.8**
QRZ Quartz Range 3.43 254 P **Pn 09 33 31.7 -0.6**
WIAZ Waiheke Island 3.44 336 P **Pn 09 33 33.4 +1.0**
MRNZ Matariki Terra 3.45 244 Pn 09 33 32.1 -0.4
MRNZ Matariki Terra 3.45 244 P **Pn 09 33 31.8 -0.7**
EPAZ Eden Park BICE 3.50 331 P **Pn 09 33 34.5 +1.3**
WTAZ Waiatarua 3.51 328 P **Pn 09 33 34.9 +1.5**
THZ Tophouse 3.51 238 Pn 09 33 32.1 -1.3
THZ Tophouse 3.51 238 P **Pn 09 33 31.9 -1.6**
KHZ Kahutara 3.52 225 Pn 09 33 31.5 -2.0
KHZ Kahutara 3.52 225 P **Pn 09 33 31.0 -2.5**
KHZ Kahutara 3.52 225 P **Pn 09 33 31.1 -2.4**
MBAZ Motutapu North 3.54 333 P **Pn 09 33 34.8 +1.2**
RVAZ Riverhead Bore 3.65 330 P **Pn 09 33 36.9 +1.6**
ABAZ Army Bay 3.71 334 P **Pn 09 33 37.4 +1.3**
GRZ Great Barrier 3.86 343 P **Pn 09 33 38.8 +0.7**
GVZ Greta Valley S 4.17 222 Pn 09 33 39.1 -3.4
GVZ Greta Valley S 4.17 222 P **Pn 09 33 40.5 -1.9**
LTZ Lake Taylor 4.47 229 Pn 09 33 44.2 -2.4
LTZ Lake Taylor 4.47 229 P **Pn 09 33 44.4 -2.2**
WCZ Waipu Caves 4.47 333 P **Pn 09 33 47.7 +1.1**
AMCZ Amberley 4.52 223 P **Pn 09 33 46.3 -1.0**
OKCZ Okains Bay 4.73 216 P **Pn 09 33 47.1 -3.0**
MQZ McQueen's Vall 4.90 219 Pn 09 33 50.5 -1.9
MQZ McQueen's Vall 4.90 219 P **Pn 09 33 49.5 -3.0**
AKCZ Akaroa Harbour 4.91 216 P **Pn 09 33 50.5 -2.1**
INZ Inchbonnie 4.94 234 Pn 09 33 51.0 -2.0
INZ Inchbonnie 4.94 234 P **Pn 09 33 50.6 -2.4**
OXZ Oxford 4.95 225 Pn 09 33 52.5 -0.7
OXZ Oxford 4.95 225 P **Pn 09 33 51.1 -2.0**
MHCZ Mount Hutt 5.34 226 P **Pn 09 33 57.1 -1.5**
OUZ Omahuta 5.39 330 P **Pn 09 34 00.3 +1.1**
OUZ Omahuta 5.39 330 P **Pn 09 34 00.3 +1.1**
WACZ Wakanui South 5.48 222 P **Pn 09 33 57.5 -2.8**
WVZ Waitaha Valley 5.56 234 P **Pn 09 34 00.7 -0.8**
RPZ Rata Peaks 5.75 227 Pn 09 34 02.8 -1.3
RPZ Rata Peaks 5.75 227 Pn **Pn 09 34 03.0 -1.1**
1.0nm,0.3s,baz=30,slow=18,SNR=1.7
RPZ Pg **Pb 09 34 22.0 +1.9**
7.5nm,0.3s,baz=288,slow=5.7,SNR=13
RPZ Sn **Sn 09 35 04.1 -5.1**
15nm,0.3s,baz=297,slow=23,SNR=20
RPZ Lg Lg 09 35 38.3
baz=70,slow=18
7.2nm,0.4s
RPZ Rata Peaks 5.75 227 P **Pn 09 34 03.0 -1.1**
RPZ Rata Peaks 5.75 227 P **Pn 09 34 03.4 -0.7**
ARCZ Arundel 5.83 225 P **Pn 09 34 03.7 -1.5**
TMZ Timaru 6.21 223 P **Pn 09 34 08.0 -2.5**
FOZ Fox Glacier 6.38 234 Pn **Pn 09 34 12.3 -0.4**
LBZ Lake Benmore 6.66 226 Pn **Pn 09 34 15.0 -1.6**
LBZ Lake Benmore 6.66 226 P **Pn 09 34 14.4 -2.2**
ODZ Otahua Downs 6.86 220 Pn **Pn 09 34 17.0 -2.4**
ODZ Otahua Downs 6.86 220 P **Pn 09 34 16.8 -2.6**
ODZ Otahua Downs 6.86 220 P **Pn 09 34 17.0 -2.4**
JCZ Jackson Bay 7.30 233 P **Pn 09 34 23.6 -1.8**
JCZ Jackson Bay 7.30 233 P **Pn 09 34 23.9 -1.5**
DZM Mont Dzumac 19.91 330 P **P 09 37 09.2 -1.1**
0.2nm,0.3s,baz=207,slow=11,SNR=1.5
3.4nm,0.7s
ARMA Armidale 22.66 287 P **P 09 37 40.4 +0.6**
TOO Toolangi 24.52 265 P **P 09 37 59.5 +1.7**
EIDS Eidsvold 26.01 296 P **P 09 38 08.4 -3.0**
AFI Afiamalu 27.79 24 P **P 09 38 27.2 -0.3**
STKA Stephens Creek 29.54 275 P **P 09 38 44.8 +1.9**
STKA Stephens Creek 29.54 275 P **P 09 38 44.2 +1.4**
11nm,0.6s,baz=112,slow=11,SNR=25
11nm,0.6s
CTAO Charters Tower 32.84 298 P **P 09 39 12.9 +0.9**
CTAO IAmb IAmb 09 39 26.0
comp=Z,15nm,1.5s
BBOO Buckleboo 33.40 269 P **P 09 39 17.6 +0.7**
COEN Coen 39.27 302 P **P 09 40 07.5 +0.4**
COEN IAmb IAmb 09 40 13.6
comp=Z,14nm,1.1s
AS31 Alice Springs 39.55 281 P **P 09 40 09.4 0.0**
ASAR Alice Springs 39.55 281 P **P 09 40 09.0 -0.5**
ASAR Alice Springs 39.55 281 P **P 09 40 09.1 -0.4**
comp=Z,14nm,0.9s,baz=118,slow=6.7,SNR=97
ASAR PcP **PcP 09 42 15.7 -0.9**
comp=Z,0.8nm,0.8s,baz=126,slow=3.6,SNR=2.9
comp=Z,14nm,0.9s
PMG Port Moresby 40.30 311 LR LR 09 55 49.0
comp=Z,90nm,20.8s,baz=142,slow=35
FORT Forrest 40.42 267 P **P 09 40 16.7 +0.2**
FORT IAmb IAmb 09 40 19.9
comp=Z,26nm,1.2s
WR0 Warramunga Arr 41.27 286 P **P 09 40 23.6 0.0**
WR0 IAmb IAmb 09 40 24.3
comp=Z,8.8nm,0.9s
WB2 Warramunga Arr 41.42 286 P **P 09 40 24.7 -0.2**
WB2 IAmb IAmb 09 40 25.5
comp=Z,9.8nm,0.7s
WRAB Tennant Creek 41.43 286 P **P 09 40 24.7 -0.3**
WRAB IAmb IAmb 09 40 25.5
comp=Z,9.1nm,0.7s
WRA Warramunga Arr 41.43 286 P **P 09 40 24.6 -0.4**
comp=Z,7.8nm,0.6s,baz=126,slow=8.0,SNR=115
WRA LR LR 09 57 08.3
comp=Z,100nm,19.3s,baz=114,slow=36
comp=Z,7.8nm,0.6s
WB0 Warramunga Arr 41.50 286 P **P 09 40 25.5 -0.1**
WB0 IAmb IAmb 09 40 26.0
comp=Z,8.7nm,0.8s
KNRA Kununurra 48.23 286 P **P 09 41 19.5 +0.4**
KNRA IAmb IAmb 09 41 29.6
comp=Z,12nm,1.4s
MTN Manton Dam 48.35 291 P **P 09 41 19.4 -0.7**
MTN IAmb IAmb 09 41 21.4
comp=Z,17nm,1.3s
FITZ Fitzroy Crossi 49.06 281 P **P 09 41 25.7 +0.2**
FITZ Fitzroy Crossi 49.06 281 P **P 09 41 25.7 +0.2**
comp=Z,6.4nm,0.6s,baz=147,slow=5.3,SNR=26
comp=Z,6.4nm,0.6s
QSPA South Pole Qui 50.18 180 P **P 09 41 36.8 +3.2**
comp=Z,1.5nm,1.0s,baz=241,slow=2.1,SNR=5.9
PSA00 Pilbara Seismi 51.45 273 P **P 09 41 42.7 -0.9**
PSA00 IAmb IAmb 09 41 48.3
comp=Z,18nm,1.2s
MBWA Marble Bar 51.77 274 P **P 09 41 44.9 -1.1**
MBWA IAmb IAmb 09 41 58.9
comp=Z,19nm,1.2s
FAKI Fak Fak 54.63 301 P **P 09 42 05.9 -1.2**
FAKI IAmb IAmb 09 42 41.5
comp=Z,9.0nm,1.0s
GIRL Giralia 55.16 268 P **P 09 42 10.5 -0.4**
LUWI Luwuk 62.47 294 P **P 09 43 00.3 -1.4**
MJAR Matsushiro Arr 84.02 330 P **P 09 45 08.1 -0.2**
comp=Z,1.4nm,0.8s,baz=166,slow=4.7,SNR=2.9
comp=Z,1.4nm,0.8s
KSRS Korea Array 89.17 323 P **P 09 45 34.3 +0.9**
comp=Z,1.7nm,0.9s,baz=144,slow=5.4,SNR=7.9
comp=Z,1.7nm,0.9s
NJ2 Nanjing 89.54 314 *eP* **P 09 45 37.2 +1.9**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
NJ2 pmax pmax
comp=Z,250nm,4.3s
CMAR Chiang Mai Arr 92.79 292 P **P 09 45 50.9 +0.1**
comp=Z,0.6nm,0.3s,baz=142,slow=3.3,SNR=5.7
comp=Z,0.6nm,0.3s
TIA Tai'an 93.61 316 P **P 09 45 50.4 -3.7**
TIA pmax pmax
comp=Z,5.0nm,0.4s
PZH PanZhiHua 96.15 299 P **P 09 46 07.8 +1.7**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,4.7s
CPUP Villa Florida 96.97 133 P **P 09 46 10.7 +0.8**
comp=Z,1.1nm,0.8s,baz=202,slow=5.4,SNR=1.8
comp=Z,1.1nm,0.8s

NVAR Mina Array Bea 97.99 46 P **P 09 46 13.9 -0.5**
comp=Z,0.1nm,0.6s,baz=191,slow=4.4,SNR=1.5
comp=Z,0.1nm,0.6s
HHC Hu-ho-hao-te 99.97 316 *eP* **Pdif 09 46 23.9 +1.0**
HHC pmax pmax
comp=Z,22nm,0.5s
HHC pmax pmax
comp=Z,96nm,3.9s
KURBB Kurchatov Arra 124.34 310 PKP **PKPdf 09 51 36.0 -0.3**
comp=Z,0.5nm,0.3s,baz=103,slow=1.9,SNR=1.6
KBZ Khabaz 145.84 292 PKPbc **PKPdf 09 52 16.6 +0.3**
comp=Z,5.4nm,1.1s,baz=193,slow=4.8,SNR=5.5
ARCES ARCESS Array B 146.72 342 PKPbc **PKPbc 09 52 18.8 +0.1**
comp=Z,5.8nm,0.9s,baz=10,slow=1.6,SNR=9.9
BRTR Keskin Array B 151.89 282 PKPbc **PKPbc 09 52 33.1 +0.2**
comp=Z,3.2nm,0.8s,baz=142,slow=4.2,SNR=10
BRTR PKPab **PKPab 09 52 41.9 -0.3**
comp=Z,3.1nm,0.9s,baz=133,slow=5.2,SNR=5.9
FINES FINESS Array B 152.05 330 PKPbc **PKPbc 09 52 31.9 -0.4**
comp=Z,3.6nm,0.8s,baz=358,slow=4.9,SNR=12
FINES PKPab **PKPab 09 52 41.9 0.0**
comp=Z,2.8nm,0.9s,baz=63,slow=5.1,SNR=5.2
TORD Torodi Ar. Bea 152.97 190 PKPbc **PKPbc 09 52 36.0 +0.2**
comp=Z,0.7nm,0.6s,baz=335,slow=1.8,SNR=4.8
TORD PKPab **PKPab 09 52 47.8 +0.8**
comp=Z,1.8nm,0.7s,baz=158,slow=2.2,SNR=10.0
AKASG Malin Array Be 155.03 306 PKPbc PKPdf 09 52 38.9 +8.6
comp=Z,0.6nm,0.5s,baz=70,slow=2.5,SNR=2.2
AKASG PKPab **PKPab 09 52 53.7 -1.2**
comp=Z,0.4nm,0.5s,baz=67,slow=4.7,SNR=2.2

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*IDC **04** 09:40:49.6±1.3, 1°.09N×126°.91E, h0km, mb3.9/5, mbtmp3.9/6, ML3.5/1, Error ellipse: s-maj=103.5km s-min=17.9km az=71.0*
*DJA **04** 09:40:59.3±0.3, 1°.N±3°×12°.7E±°, h46km±18km, M4.1/11, mb4.3/1, MLv4.0/11*
ISC 04 09:40:58.5±1.0, 1°.02N±0°.08×126°.90E±0°.07, h72km, n13, σ1§44/16, mb3.8/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.53**	**118**	P	**Pn**	**09 41 12.4**	**+0.6**
LBMI	**Labuha**	**1.76**	**160**	P	**Pn**	**09 41 28.8**	**+1.8**
LBMI				S	**Sn**	**09 41 50.4**	**+1.8**
KMSI	**Cibinong**	**2.95**	**261**	P	**Pn**	**09 41 43.9**	**+0.8**
KMSI				S	**Sn**	**09 42 18.3**	**+0.9**
SANI	**Sanana**	**3.18**	**197**	P	**Pn**	**09 41 46.0**	**-0.3**
NLAI	**Namlea**	**4.24**	**177**	P	**Pn**	**09 42 01.5**	**+0.8**
LUWI	**Luwuk**	**4.61**	**244**	P	**Pn**	**09 42 06.5**	**+0.8**
APSI	**Ampana**	**5.59**	**250**	P	**Pn**	**09 42 19.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**19.04**	**184**	P	**P**	**09 45 13.8**	**-1.2**
	0.1nm,0.3s,baz=14,slow=8.3,SNR=1.5						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**22.08**	**161**	P	**P**	**09 45 46.5**	**-1.3**
	0.8nm,0.3s,baz=340,slow=11,SNR=31						
WRA				S	**S**	**09 49 43.7**	**-3.5**
	0.4nm,0.9s,baz=336,slow=18,SNR=1.6						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**25.47**	**165**	P	**P**	**09 46 20.8**	**+0.7**
	0.6nm,0.4s,baz=344,slow=11,SNR=24						
	0.6nm,0.4s						
SONM	**Songino Array**	**49.91**	**342**	P	**P**	**09 49 44.8**	**-0.2**
	0.5nm,0.5s,baz=142,slow=7.3,SNR=2.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**59.87**	**326**	P	**P**	**09 50 57.5**	**+0.6**
	0.9nm,0.3s,baz=117,slow=7.4,SNR=14						
	0.9nm,0.3s						
KURBB	**Kurchatov Arra**	**64.10**	**328**	P	**P**	**09 51 24.4**	**-0.7**
	1.5nm,0.5s,baz=126,slow=6.3,SNR=8.7						
	1.5nm,0.5s						

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*IDC **04** 09:42:38.9±9.7, 19°.97S×175°.52W, h224km±85km, mb3.1/4, mbtmp3.8/5, Error ellipse: s-maj=34.7km s-min=33.7km az=178.0*
ISC 04 09:42:36.7±1.1, 19°.9S±0°.3×175°.5W±0°.2, h204km, n7, σ0§56/9, mb3.3/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.03**	**260**	P	**Pn**	**09 46 24.0**	**+0.7**
	4.4nm,0.6s,baz=288,slow=5.3,SNR=3.3						
ASAR	**Alice Springs**	**46.97**	**256**	P	**P**	**09 50 47.2**	**-0.3**
	0.6nm,0.5s,baz=97,slow=8.1,SNR=22						
ASAR				PcP	**PcP**	**09 52 16.8**	**+0.2**
	0.4nm,0.6s,baz=98,slow=4.4,SNR=6.0						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**47.04**	**261**	P	**P**	**09 50 47.4**	**-0.7**
	0.3nm,0.3s,baz=96,slow=7.0,SNR=28						
WRA				PcP	**PcP**	**09 52 16.9**	**+0.1**
	0.7nm,1.0s,baz=99,slow=4.3,SNR=3.4						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**70.13**	**180**	P	**P**	**09 53 26.7**	**0.0**
	0.9nm,0.7s,baz=4.0,slow=1.4,SNR=6.7						
	0.9nm,0.7s						
NVAR	**Mina Array Bea**	**79.00**	**42**	P	**P**	**09 54 18.5**	**+0.3**
	0.3nm,0.7s,baz=224,slow=7.6,SNR=2.5						
	0.3nm,0.7s						
ARCES	**ARCESS Array B**	**128.78**	**351**	PKP	**PKPdf**	**10 01 19.4**	**+0.3**
	4.0nm,1.1s,baz=19,slow=3.1,SNR=3.7						
GERES	**GERESS Array B**	**150.24**	**348**	PKPbc	**PKPbc**	**10 02 02.8**	**-0.7**
	0.7nm,0.5s,baz=26,slow=5.4,SNR=4.4						

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*IDC **04** 09:50:14.7±1.3, 1°.39S×120°.61E, h0km, mb3.4/4, mbtmp3.4/5, ML3.6/1, MS2.8/1, Error ellipse: s-maj=70.1km s-min=22.0km az=65.0*
*DJA **04** 09:50:17.3±0.3, 2°.S±2°×12°.0E±°, h10km, M4.0/13, mb4.1/2, MLv3.9/13*
ISC 04 09:50:16.4±1.1, 1°.49S±0°.05×120°.15E±0°.08, h10km, n16, σ1§45/16, mb3.4/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.58**	**192**	P	**Pn**	**09 50 43.6**	**-0.9**
APSI	**Ampana**	**1.61**	**69**	P	**Pn**	**09 50 44.9**	**0.0**
MPSI	**Mapaga**	**1.83**	**352**	P	**Pn**	**09 50 47.6**	**-0.4**
SPSI	**Sidrap Palu**	**2.48**	**189**	P	**Pn**	**09 50 56.3**	**-0.7**
MRSI	**Marisa**	**2.66**	**43**	P	**Pn**	**09 50 59.7**	**+0.4**
LUWI	**Luwuk**	**2.66**	**80**	P	**Pn**	**09 50 59.6**	**+0.2**
BNSI	**Bone**	**2.89**	**181**	P	**Pn**	**09 51 03.4**	**+0.9**
KAPI	**Kappang**	**3.52**	**186**	Pn	**Pn**	**09 51 12.7**	**+1.5**
	4.7nm,0.3s,baz=17,slow=16,SNR=5.1						
KAPI				LR	LR	09 52 44.2	
	comp=Z,112nm,18.8s,baz=76,slow=40						
	15nm,0.4s						
BKSI	**Bulukumba**	**3.81**	**180**	P	**Pn**	**09 51 15.9**	**+0.8**
KMSI	**Cibinong**	**4.35**	**62**	P	**Pn**	**09 51 24.8**	**+2.2**
BSSI	**Bau Bau, Buton**	**4.63**	**176**	P	**Pn**	**09 51 28.9**	**+2.4**
SANI	**Sanana**	**5.87**	**96**	P	**Pn**	**09 51 42.7**	**-0.8**
	5.5nm,0.5s,0.0nm						
WRA	**Warramunga Arr**	**23.00**	**144**	P	**P**	**09 55 19.0**	**-2.6**
	0.8nm,0.7s,baz=321,slow=11,SNR=3.9						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**25.76**	**150**	P	**P**	**09 55 46.5**	**-1.1**
	0.4nm,0.7s,baz=343,slow=13,SNR=7.7						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**58.43**	**330**	P	**P**	**10 00 12.2**	**-0.2**
	0.4nm,0.6s,baz=124,slow=6.5,SNR=3.7						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**62.86**	**332**	P	**P**	**10 00 44.3**	**+1.8**
	0.2nm,0.6s,baz=130,slow=5.8,SNR=2.3						
	0.2nm,0.6s						

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*IDC **04** 09:57:46.4±0.9, 47°.14S×12°.85W, h0km, mb4.1/3, mbtmp4.1/3, MS3.6/18, Error ellipse: s-maj=96.5km s-min=26.8km az=94.0*
*NEIC **04** 09:57:49.1±1.8, 47°.2S±0°.1×13°.3W±0°.2, h10km±1km, mb4.5/10, Error ellipse: s-maj=24.3km s-min=16.4km az=60.0*
ISC 04 09:57:47.9±0.6, 47°.2S±0°.1×13°.3W±0°.2, h10km, n63, σ0§73/41, mb4.4/6, MS3.6/18, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**25.08**	**172**	LR	LR	10 10 23.5	
	comp=Z,57nm,20.6s,baz=11,slow=30						
SUR	**Sutherland**	**29.78**	**73**	LR	LR	10 12 46.8	
	comp=Z,175nm,21.2s,baz=196,slow=30						
BELA	**Belgrano 2**	**31.93**	**188**	P	**P**	**10 04 12.2**	**-0.9**
PMSA	**Palmer Station**	**32.30**	**218**	LR	LR	10 14 44.8	
	comp=Z,42nm,21.4s,baz=97,slow=31						

BOSA Boshof 35.14 72 P **P 10 04 42.5 +0.8**
BOSA IAmb IAmb 10 05 17.5
comp=Z,16nm,1.4s
BOSA Boshof 35.14 72 LR LR 10 15 52.0
comp=Z,127nm,21.9s,baz=210,slow=31
TSUM Tsumeb 37.56 53 LR LR 10 16 47.2
comp=Z,99nm,19.6s,baz=160,slow=31
PLCA Paso Flores 40.95 257 LR LR 10 23 17.1
comp=Z,45nm,18.2s,baz=180,slow=37
BDFB Brasília 42.60 306 LR LR 10 19 36.1
comp=Z,125nm,20.7s,baz=158,slow=31
QSPA South Pole Qui 43.10 180 P **P 10 05 48.1 +0.2**
QSPA IAmb IAmb 10 05 55.1
comp=Z,12nm,1.2s
QSPA PcP **PcP 10 07 37.5 0.0**
QSPA South Pole Qui 43.10 180 P **P 10 05 48.3 +0.3**
comp=Z,3.5nm,0.9s,baz=220,slow=6.1,SNR=15
QSPA PcP **PcP 10 07 37.0 -0.5**
comp=Z,0.7nm,0.6s,baz=197,slow=2.6,SNR=5.7
comp=Z,3.5nm,0.9s
H04S2 CROZET ISLANDS 43.24 115 T T 10 52 23.4
baz=245,slow=75,SNR=99
H04S3 CROZET ISLANDS 43.25 115 T T 10 52 24.7
baz=245,slow=75,SNR=95
H04S1 CROZET ISLANDS 43.26 115 T T 10 52 24.2
baz=245,slow=75,SNR=112
MT09 Talagante 44.93 266 P **P 10 06 03.4 +0.4**
SIV San Ignacio 50.14 292 LR LR 10 26 58.6
comp=Z,84nm,18.8s,baz=110,slow=35
LVC Limon Verde 50.56 279 LR LR 10 26 23.5
comp=Z,53nm,20.6s,baz=102,slow=34
LPAZ La Paz 54.49 285 LR LR 10 28 08.2
comp=Z,60nm,21.9s,baz=108,slow=33
SBA Scott Base 55.27 180 P **P 10 07 21.3 +0.7**
SAML Samuel 56.84 295 P **P 10 07 33.2 +0.5**
SAML IAmb IAmb 10 07 40.0
comp=Z,3.7nm,0.9s
MBAR Mbarara 60.09 53 LR LR 10 32 09.3
comp=Z,69nm,18.6s,baz=198,slow=34
TORD Torodi Ar. Bea 61.50 17 P **P 10 08 03.4 -1.4**
comp=Z,1.3nm,0.9s,baz=205,slow=6.6,SNR=4.8
comp=Z,1.3nm,0.9s
MDP Montagnes des 62.56 315 LR LR 10 31 05.2
comp=Z,59nm,20.6s,baz=101,slow=32
KMBO Kilima Mbogo 63.37 60 LR LR 10 35 32.0
comp=Z,51nm,18.9s,baz=88,slow=36
BOAV Boa Vista 64.38 306 P **P 10 08 24.2 +0.1**
BOAV IAmb IAmb 10 08 52.7
comp=Z,6.2nm,1.4s
ATAH Atahualpa 67.98 284 LR LR 10 36 15.1
comp=Z,29nm,19.9s,baz=143,slow=34
FURI Furi 72.33 55 LR LR 10 39 31.9
comp=Z,50nm,18.9s,baz=190,slow=35
PCRV Puerto La Cruz 73.08 306 LR LR 10 38 41.4
comp=Z,75nm,19.8s,slow=34
SJG San Juan 80.46 310 LR LR 10 44 04.6
comp=Z,24nm,20.5s,baz=278,slow=34
AOPR Arecibo Observ 80.97 309 P **P 10 10 01.6 -1.0**
H01W2 Cape Leeuwin H 85.66 139 T T 11 46 09.5
baz=213
H01W1 Cape Leeuwin H 85.68 139 T T 11 46 06.6
baz=213
H01W3 Cape Leeuwin H 85.68 139 T T 11 46 04.6
baz=213
ESDC Sonseca Array 86.84 7 P **P 10 10 33.4 +1.3**
comp=Z,2.3nm,1.1s,baz=183,slow=5.3,SNR=7.3
comp=Z,2.3nm,1.1s
MMAI Mount Meron Ar 91.01 39 LR LR 10 49 25.9
comp=Z,54nm,19.8s,baz=258,slow=34
PRZ Przheval'sk 120.43 59 PKPdf 10 16 37.5 -1.7
PDAR Pinedale Array 123.34 299 PKP **PKPdf 10 16 44.1 -0.6**
comp=Z,0.4nm,0.8s,baz=125,slow=2.8,SNR=3.8
KURBB Kurchatov Arra 125.24 51 PKP **PKPdf 10 16 47.6 -0.2**
comp=Z,0.2nm,0.6s,baz=260,slow=1.7,SNR=2.2
NVAR Mina Array Bea 126.27 290 PKP **PKiKP 10 16 51.7 +0.8**
comp=Z,0.5nm,0.8s,baz=165,slow=3.7,SNR=3.6
EPYK Eagle Plains 145.14 324 PKPab 10 17 24.2 +0.3
E29M Blow River 145.35 328 PKPdf 10 17 24.7 +0.2
N30M Aishikik Lake 145.44 315 PKPbc 10 17 25.3 +0.3
G29M Pine Creek 145.60 325 PKPdf **PKPab 10 17 25.8 +0.2**
H29M Whitestone 145.82 324 PKPab 10 17 26.8 +0.3
E28M Babbage River 145.90 328 PKPdf **PKPbc 10 17 26.6 +0.4**
F28M Old Crow 146.21 326 PKPbc 10 17 27.7 +0.6
D27M Malcolm River 146.27 329 PKPab 10 17 28.7 +0.6
DAWY Dawson 146.45 320 PKPdf **PKPbc 10 17 27.9 -0.1**
I28M Miner Creek 146.55 323 PKPbc 10 17 28.8 +0.5
E27K Coleen River 146.74 328 PKPdf **PKPbc 10 17 29.1 +0.4**
EGAK Eagle 147.15 321 PKPdf **PKPbc 10 17 30.2 +0.3**
BCAR Beaver Creek A 147.60 318 PKPdf **PKPbc 10 17 30.3 -1.0**
K27K Chicken 147.63 320 PKPbc 10 17 32.3 +1.1
F26K Sheenjek River 147.79 327 PKPbc 10 17 32.4 +0.7
I26K Coal Creek Min 147.91 323 PKPbc 10 17 32.9 +0.9
BMAR Burnt Mountain 148.02 327 PKPbc **PKiKP 10 17 33.4 -0.7**
J26L Joseph Creek 148.21 321 PKPbc 10 17 32.4 -0.5
WAX Waxell Ridge 148.26 313 PKPdf **PKPbc 10 17 31.6 -1.5**
F24K Squaw Lake 149.21 328 PKPbc 10 17 36.1 +0.7
E24K Your Creek 149.25 329 PKPbc 10 17 35.2 -0.2
IL31 149.56 322 PKPbc 10 17 36.6 +0.5
ILAR Eielson Array 149.56 322 PKPbc 10 17 36.4 +0.2
ILAR Eielson Array 149.56 322 PKPbc **PKPbc 10 17 36.2 0.0**
comp=Z,2.5nm,0.7s,baz=53,slow=2.7,SNR=34

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*SJA **04** 10:12:13.0±0.3, 40°.06S×71°.90W, h152km±3km, ML3.6, MW3.5*
*GUC **04** 10:12:14.8±0.8, 40°.08S×71°.89W, h144km±3km, ML3.1*
ISC 04 10:12:13.2±1.4, 40°.10S±0°.04×71°.85W±0°.07, h151km±8km, n21, σ1§17/34, 2C-3D, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LR05	**Currie**	**0.18**	**223**	||*iP*	**Pn**	**10 12 34.3**	**+0.8**
LR05				*eS*	**Sn**	**10 12 48.6**	**-0.4**
LR05				IAML		10 12 50.1	
	comp=E,2μm,0.4s						
LR05	**Currie**	**0.18**	**223**	*eP*	**Pn**	**10 12 33.6**	**+0.2**
GO06	**Curarrehue**	**0.59**	**29**	||*iP*	**Pn**	**10 12 35.6**	**+0.3**
GO06	**Curarrehue**	**0.59**	**29**	*eP*	**Pn**	**10 12 35.6**	**+0.3**
GO06				*eS*	Sn	10 12 35.7	-16
GO06				*eP*	Sn	10 12 35.7	-16
LR03	**Panguipulli**	**0.61**	**321**	*iP*	**Pn**	**10 12 36.0**	**+0.7**
LR03				*eS*	**Sn**	**10 12 51.3**	**-0.7**
LR03				IAML		10 12 53.8	
	comp=E,1μm,0.3s						
LR03	**Panguipulli**	**0.61**	**321**	*eP*	**Pn**	**10 12 35.3**	**+0.1**
LR03				IAML		10 12 53.9	
	comp=Z,1μm,0.3s						
LL04	**Puerto Octay**	**0.91**	**208**	||*iP*	**Pn**	**10 12 38.4**	**+1.1**
LL04				IAML		10 12 39.5	
	comp=N,205nm,0.3s						
LL04	**Puerto Octay**	**0.91**	**208**	*eP*	**Pn**	**10 12 37.8**	**+0.5**
LR02	**Universidad Au**	**1.12**	**285**	*eP*	**Pn**	**10 12 40.5**	**+1.4**
LR02				*eS*	**Sn**	**10 12 58.3**	**-0.4**
PLCA	**Paso Flores**	**1.17**	**123**	*eP*	**Pn**	**10 12 40.6**	**+0.9**
LR04	**Corral**	**1.23**	**280**	||*eP*	**Pn**	**10 12 41.4**	**+1.2**
LR04				*eS*	**Sn**	**10 12 59.7**	**-0.9**
LC02	**Puerto Saavedr**	**1.77**	**317**	*eS*	**Sn**	**10 13 09.8**	**-0.8**
LL05	**Los Muermos**	**1.79**	**223**	*eP*	**Pn**	**10 12 46.6**	**+0.6**
LL05				*eS*	**Sn**	**10 13 11.1**	**-0.1**
LL05				IAML		10 13 12.7	
	comp=E,362nm,0.3s						
BI04	**Isla Mocha**	**2.31**	**316**	*eP*	**Pn**	**10 12 53.3**	**+1.2**
BI04				*eS*	**Sn**	**10 13 20.5**	**-1.5**
LL06	**Loncomilla**	**2.50**	**212**	||*eP*	**Pn**	**10 12 55.0**	**+0.7**
LL06				*eS*	**Sn**	**10 13 25.1**	**-1.1**
LL07	**Hotel Espejo d**	**2.99**	**204**	*eP*	**Pn**	**10 13 01.7**	**+1.3**
LL07				*eS*	**Sn**	**10 13 36.3**	**-0.6**
GO07	**Milladeo Hill,**	**3.30**	**204**	*eP*	**Pn**	**10 13 05.2**	**+0.9**
GO07				*eS*	**Sn**	**10 13 42.1**	**-2.0**
GO07	**Milladeo Hill,**	**3.30**	**204**	*eP*	**Pn**	**10 13 05.4**	**+1.0**
GO07				*eS*	**Sn**	**10 13 42.5**	**-1.6**
BI02	**San Fabin de**	**3.46**	**8**	*eP*	**Pn**	**10 13 07.6**	**+1.0**

Error ellipse: s-maj=4.6km s-min=2.0km az=156.0
*SOME **04** 10:16:20.4, 42°.58N×78°.97E, h15km*
*KRNET **04** 10:16:21.3±0.1, 42°.46N×79°.07E, h19km, mb2.4*
ISC 04 10:16:20.3±1.3, 42°.63N±0°.03×78°.98E±0°.03, h4km±10km, n42, σ0.88/79, 15C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.45**	**251**	⇑*i*P	**Pb**	**10 16 30.9**	**0.0**
PRZ				⇑*i*S	**Sb**	**10 16 38.1**	**0.0**
UZB	**Uzynbulak**	**0.52**	**4**	P	**Pb**	**10 16 31.4**	**-0.6**
UZB	17nm,0.1s			S	**Sb**	**10 16 39.5**	**-0.4**
UZB	**Uzynbulak**	**0.52**	**4**	*e*P	**Pb**	**10 16 31.4**	**-0.6**
UZB	48nm,0.1s 9.1nm,0.1s			*e*S	**Sb**	**10 16 39.5**	**-0.4**
SATY	**Saty**	**0.60**	**316**	P	**Pb**	**10 16 33.1**	**-0.3**
SATY	4.1nm,0.2s			S	**Sb**	**10 16 42.6**	**+0.3**
SATY	**Saty**	**0.60**	**316**	*e*P	**Pb**	**10 16 32.8**	**-0.6**
SATY	68nm,0.1s 2.4nm,0.1s			*e*S	**Sb**	**10 16 42.0**	**-0.2**
SHLS	**Shalkode**	**0.64**	**34**	P	**Pn**	**10 16 36.3**	**0.0**
SHLS	118nm,0.1s 13nm,0.1s			S	**Sn**	**10 16 48.3**	**+1.5**
SHLS	**Shalkode**	**0.64**	**34**	*e*P	**Pn**	**10 16 36.3**	**0.0**
SHLS	61nm,0.2s 13nm,0.1s			*e*S	**Sn**	**10 16 47.8**	**+0.9**
ZHN	**Zhinishke**	**0.67**	**324**	P	**Pb**	**10 16 34.9**	**+0.3**
ZHN	4.9nm,0.1s			S	**Sn**	**10 16 45.0**	**-2.7**
ZHN	**Zhinishke**	**0.67**	**324**	*e*P	**Pb**	**10 16 34.3**	**-0.2**
ZHN	97nm,0.2s 5.4nm,0.1s			*e*S	**Sb**	**10 16 44.6**	**+0.3**
PDGK	**Podgornoye**	**0.79**	**28**	P	**Pg**	**10 16 35.5**	**0.0**
PDGK	6.1nm,0.2s			S	**Sb**	**10 16 46.8**	**-1.1**
PDGK	**Podgornoye**	**0.79**	**28**	⇑P	**Pg**	**10 16 35.0**	**-0.5**
PDGK	2.8nm,0.2s			⇑S	**Sg**	**10 16 46.4**	**+0.6**
KPKS	**Kokpek**	**0.86**	**346**	P	**Pb**	**10 16 38.0**	**+0.1**
KPKS	13nm,0.1s			S	**Sn**	**10 16 50.5**	**-1.9**
KPKS	**Kokpek**	**0.86**	**346**	*e*P	**Pb**	**10 16 37.2**	**-0.7**
KPKS	33nm,0.3s 5.9nm,0.1s			*e*S	**Sb**	**10 16 49.4**	**-0.4**
KURS	**Kuram**	**1.04**	**326**	P	**Pn**	**10 16 41.7**	**0.0**
KURS	18nm,0.1s 2.4nm,0.1s			S	**Sn**	**10 16 56.6**	**-0.2**
KURS	**Kuram**	**1.04**	**326**	*e*P	**Pb**	**10 16 40.6**	**-0.3**
KURS	9.9nm,0.4s 1.2nm,0.2s			*e*S	**Sn**	**10 16 55.3**	**-1.4**
TARG	**Taragay, Kyrgy**	**1.25**	**224**	⇓*i*P	**Pg**	**10 16 43.2**	**-1.1**
TARG	7.3nm,0.2s			⇓*i*S	**Sg**	**10 16 59.5**	**-1.1**
KDJ	**Kajisay**	**1.42**	**250**	⇑*i*P	**Pg**	**10 16 47.5**	**0.0**
KDJ				⇑*i*S	**Sg**	**10 17 06.5**	**+0.5**
MDOK	**Medeo**	**1.51**	**291**	Pg	**Pg**	**10 16 49.4**	**+0.2**
MDOK	2.1nm,0.1s 0.9nm,0.3s			P	**Pg**	**10 16 49.5**	**+0.2**
MDOK				S	**Sg**	**10 17 10.5**	**+1.6**
MDOK	9.5nm,0.6s 13nm,0.3s			Lg	Lg	10 17 10.6	
MDOK	**Medeo**	**1.51**	**291**	*e*P	**Pb**	**10 16 48.4**	**-0.6**
MDOK	0.9nm,0.2s 14nm,0.2s			*e*S	**Sg**	**10 17 08.7**	**-0.1**
TNSS	**Tian-Shan**	**1.54**	**286**	P	**Pg**	**10 16 50.0**	**+0.1**
TNSS	3.9nm,0.1s 15nm,0.3s			S	**Sg**	**10 17 11.3**	**+1.3**
TNSS	**Tian-Shan**	**1.54**	**286**	*e*P	**Pg**	**10 16 49.7**	**-0.2**
TNSS	4.1nm,0.1s 13nm,0.2s			*e*S	**Sg**	**10 17 11.0**	**+1.0**
ARXS	**Arharly**	**1.79**	**332**	P	**Pg**	**10 16 54.4**	**-0.2**
ARXS	7.8nm,0.3s 27nm,0.3s			S	**Sg**	**10 17 19.4**	**+1.7**
ARXS	**Arharly**	**1.79**	**332**	*e*P	**Pg**	**10 16 54.4**	**-0.2**
ARXS	7.8nm,0.3s 27nm,0.3s			*e*S	**Sg**	**10 17 19.4**	**+1.7**
DJR	**Jarkent**	**1.80**	**19**	P	**Pb**	**10 16 53.5**	**-0.3**
DJR	12nm,0.2s 28nm,0.4s			S	**Sg**	**10 17 18.2**	**+0.1**
DJR	**Jarkent**	**1.80**	**19**	*e*P	**Pg**	**10 16 54.3**	**-0.5**
DJR	7.5nm,0.1s 28nm,0.2s			*e*S	**Sg**	**10 17 18.8**	**+0.7**
CHKK	**Chushkaly**	**1.90**	**311**	*e*P	**Pg**	**10 16 56.0**	**-0.6**
CHKK	1.8nm,0.2s 32nm,0.3s			*e*S	**Sg**	**10 17 21.8**	**+0.6**
MTBS	**Maitube**	**1.94**	**286**	Pg	**Pg**	**10 16 56.8**	**-0.6**
MTBS	3.8nm,0.2s 16nm,0.3s			Lg	Lg	10 17 23.6	
MTBS	**Maitube**	**1.94**	**286**	*e*P	**Pb**	**10 16 55.4**	**-0.8**
MTBS	1.3nm,0.1s 22nm,0.3s			*e*S	**Sb**	**10 17 20.6**	**-0.1**
KTBS	**Karatobe**	**1.99**	**304**	*e*P	**Pg**	**10 16 58.0**	**-0.5**
KTBS	2.6nm,0.2s 40nm,0.3s			*e*S	**Sg**	**10 17 25.1**	**+0.8**
ULHL	**Ulahol**	**2.06**	**260**	⇑*i*P	**Pb**	**10 16 57.8**	**-0.6**
ULHL				⇑*i*S	**Sb**	**10 17 24.6**	**+0.2**
BOOM	**Boomskoye usch**	**2.25**	**267**	⇑*i*P	**Pb**	**10 17 00.8**	**-0.7**
BOOM				⇑*i*S	**Sb**	**10 17 29.7**	**-0.1**
KST	**Kastek**	**2.25**	**282**	Pg	**Pb**	**10 17 02.1**	**+0.4**
KST	3.8nm,0.3s 8.4nm,0.2s			Lg	Lg	10 17 33.4	
KST	**Kastek**	**2.25**	**282**	*e*P	**Pb**	**10 17 01.6**	**0.0**
KST	3.8nm,0.2s 8.4nm,0.2s			*e*S	**Sg**	**10 17 31.3**	**-1.3**
KUU	**Kurty**	**2.30**	**304**	*e*P	**Pb**	**10 17 02.9**	**+0.5**
KUU	4.1nm,0.1s 26nm,0.2s			*e*S	**Sg**	**10 17 33.5**	**-0.7**
TKM2	**Tokmak 2**	**2.50**	**278**	⇓Pn	**Pb**	**10 17 05.1**	**-0.8**
TKM2	0.5nm,0.3s 5.1nm,0.6s			⇓Lg	Lg	10 17 39.7	
TKM2	**Tokmak 2**	**2.50**	**278**	⇑*i*P	**Pb**	**10 17 04.9**	**-1.0**
TKM2				⇑*i*S	**Sb**	**10 17 36.5**	**-0.7**
NRN	**Naryn**	**2.52**	**243**	⇑*i*P	**Pn**	**10 17 03.8**	**+1.5**
NRN				⇑*i*S	**Sn**	**10 17 34.7**	**+1.1**
KRBS	**Karabastau**	**2.64**	**295**	*e*P	**Pb**	**10 17 07.2**	**-0.9**
KRBS	1.0nm,0.2s 6.5nm,0.5s			*e*S	**Sb**	**10 17 41.2**	**+0.3**
KAPS	**Kapalarasan**	**2.67**	**6**	Pg	**Pg**	**10 17 10.2**	**-1.2**
KAPS	3.1nm,0.1s 24nm,0.1s			Lg	Lg	10 17 45.1	
KAPS	**Kapalarasan**	**2.67**	**6**	*e*P	**Pg**	**10 17 10.4**	**-1.0**
KAPS	3.1nm,0.1s 29nm,0.2s			*e*S	**Sg**	**10 17 46.1**	**+0.2**
MAKZ	**Makanchi**	**4.69**	**26**	⇓Pn	**Pn**	**10 17 32.5**	**+0.7**
MAKZ	0.2nm,0.3s 1.0nm,0.7s			⇑Lg	Lg	10 18 47.2	
MK31	**Makanchi Array**	**4.78**	**28**	⇓Pn	**Pn**	**10 17 35.9**	**+2.7**
MK31	0.1nm,0.3s,baz=206,slow=13,SNR=3.9 1.0nm,0.6s,baz=206,slow=27			⇓Lg	Lg	10 18 50.3	

*NEIC **04** 10:19:30.6±1.4, 10°.49S±0°.09×165°.2E±0°.1, h35km±2km, mb4.9/53, Error ellipse: s-maj=19.2km s-min=14.9km az=71.0*
*GCMT **04** 10:19:32.7±0.3, 10°.44S±0°.02×164°.94E±0°.02, h66km±3km, MW5.0/87, Moment Tensor Solution. s22,c23; s87,c124; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.16±.21; Mθθ0.91±.16; Mφφ-3.07±.13; Mrθ-1.83±.08; Mφθ0.09±.13; Mφr-0.40±.09; Best double couple: Mo3.29600×10^16 NP1:φs209.00000°, δ59.00000°, λ132.00000°. NP2: φs329.00000°, δ51.00000°, λ42.00000°. Principal axes: T 3.4910, Plg54.0000°, Azm174.0000°; N -0.3900, Plg35.0000°, Azm4.0000°; P -3.1010, Plg5.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **04** 10:19:33.5±2.7, 10°.49S×164°.97E, h75km±23km, mb4.2/18, mbtmp4.5/21, MS3.8/43 Error ellipse: s-maj=17.9km s-min=13.4km az=71.0*
ISC 04 10:19:30.6±0.3, 10°.55S±0°.05×165°.17E±0°.05, h46km, n193, σ1.67/168, mb4.8/61, MS3.9/44, 5C-3D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**0.74**	**98**	P	**Pn**	**10 19 47.5**	**+2.8**
ALEG	**Aligegeo Malai**	**4.76**	**292**	P	**Pn**	**10 20 40.6**	**+0.8**
HNR	**Honiara**	**5.26**	**282**		**Pn**	**10 20 48.0**	**+1.3**
HNR	**Honiara**	**5.26**	**282**	P	**Pn**	**10 20 48.8**	**+2.1**
HNR	3μm,0.5s,baz=151,slow=3.1,SNR=170 2μm,0.7s,baz=86,slow=16,SNR=4.4			S	**Sn**	**10 21 48.9**	**+2.7**
HNR	**Honiara**	**5.26**	**282**	P	**Pn**	**10 20 48.9**	**+2.2**
TATA	**Tatamba Isabel**	**5.71**	**292**	P	**Pn**	**10 20 54.1**	**+1.2**
VLAKA	**Lakatoro**	**5.94**	**159**	P	**Pn**	**10 20 59.2**	**+3.2**
DVP	**Devils Point**	**7.71**	**158**	P	**Pn**	**10 21 24.9**	**+4.7**
KOUNC	**Koumac, New Ca**	**9.97**	**185**		**Pn**	**10 21 53.9**	**+2.5**
LIFNC	**LIFOU**	**10.36**	**169**	P	**Pn**	**10 22 00.9**	**+4.3**
DZM	**Mont Dzumac**	**11.52**	**174**	*e*Pn	**Pn**	**10 22 16.1**	**+3.6**
DZM	228nm,1.4s 236nm,1.2s			*e*Sn	**Sn**	**10 24 20.2**	**+0.3**
DZM	2μm,26.8s			*e*LR	LR	10 24 50.2	
DZM	**Mont Dzumac**	**11.52**	**174**		**Pn**	**10 22 15.3**	**+2.8**
DZM	**Mont Dzumac**	**11.52**	**174**	P	**Pn**	**10 22 15.8**	**+3.2**
DZM	19nm,0.3s,baz=320,slow=7.5,SNR=177 8.7nm,0.5s,baz=153,slow=21,SNR=1.7			S	**Sn**	**10 24 15.3**	**-4.6**
DZM	comp=Z,605nm,20.8s,baz=22,slow=33			LR	LR	10 25 58.0	
DZM	**Mont Dzumac**	**11.52**	**174**	P	**Pn**	**10 22 16.4**	**+3.9**
NOUC	**Port Laguerre**	**11.53**	**175**	P	**Pn**	**10 22 17.2**	**+4.5**
YATNC	**Mamie plateau,**	**11.56**	**172**	P	**Pn**	**10 22 16.3**	**+3.3**
ONTNC	**Ouen Toro**	**11.75**	**174**		**Pn**	**10 22 16.6**	**+1.0**
ONTNC	**Ouen Toro**	**11.75**	**174**	P	Pn	10 22 20.7	+5.1
OUENC	**Ouen Island, N**	**11.91**	**172**	P	Pn	10 22 23.2	+5.4
PINNC	**Pines Island,**	**12.19**	**170**		**Pn**	**10 22 23.8**	**+2.2**
TARA	**Tarawa**	**14.12**	**34**		**Pn**	**10 22 46.7**	**-1.3**
RABL	**Rabaul**	**14.36**	**295**		**Pn**	**10 22 52.0**	**+0.8**
MSVF	**Nonsavu**	**14.38**	**121**	P	**P**	**10 22 56.1**	**-1.4**
MSVF	9.2nm,1.0s,baz=26,slow=21,SNR=1.5			LR	LR	10 27 33.7	
PMG	**Port Moresby**	**17.77**	**272**		**Pn**	**10 23 34.6**	**-0.1**
PMG	**Port Moresby**	**17.77**	**272**	P	**P**	**10 23 35.0**	**-0.1**
PMG	32nm,0.9s,baz=58,slow=9.0,SNR=5.2 comp=Z,470nm,21.4s,baz=112,slow=35			LR	LR	10 29 44.0	
PATS	**Pohnpei**	**18.58**	**338**	P	**Pn**	**10 23 45.1**	**+0.6**
PATS	comp=Z,66nm,0.7s			IAmb	IAmb	10 23 48.2	
PATS	**Pohnpei**	**18.58**	**338**	P	**Pn**	**10 23 46.3**	**+1.8**
NFK	**Norfolk Island**	**18.58**	**172**	P	**P**	**10 23 40.6**	**-3.2**
MANU	**Manus Island**	**19.60**	**294**	P	**P**	**10 23 56.0**	**+0.8**
EIDS	**Eidsvold**	**19.89**	**220**	P	**Pn**	**10 23 59.6**	**-0.6**
EIDS	comp=Z,73nm,0.9s			IAmb	IAmb	10 24 01.0	
EIDS	**Eidsvold**	**19.89**	**220**	P	**Pn**	**10 23 59.3**	**-0.8**
EIDS	comp=Z,90nm,1.0s **Eidsvold**	**19.89**	**220**	P	**Pn**	**10 23 59.9**	**-0.2**
CTA	**Charters Tower**	**20.54**	**240**	LR	LR	10 30 44.6	
CTAO	**Charters Tower**	**20.54**	**240**	P	**P**	**10 24 06.0**	**+0.6**
CTAO	**Charters Tower**	**20.54**	**240**	P	Pn	10 24 07.2	-0.7
MTSU	**Mount Surprise**	**21.55**	**247**	P	**P**	**10 24 16.2**	**-0.1**
COEN	**Coen**	**21.75**	**259**	P	**P**	**10 24 17.4**	**-1.1**
COEN	**Coen**	**21.75**	**259**	P	**P**	**10 24 17.2**	**-1.2**
ARMA	**Armidale**	**23.44**	**211**	P	**P**	**10 24 36.8**	**+0.8**
ARMA	**Armidale**	**23.44**	**211**	P	**P**	**10 24 36.5**	**+0.5**
ARMA	**Armidale**	**23.44**	**211**	P	**P**	**10 24 37.0**	**+1.0**
QLP	**Quilpie**	**25.39**	**228**	P	**P**	**10 24 53.0**	**-0.8**
QLP	**Quilpie**	**25.39**	**228**	P	**P**	**10 24 55.2**	**+1.4**
JAY	**Jayapura**	**25.56**	**287**	P	**P**	**10 24 55.3**	**-0.2**
OUZ	**Omahuta**	**25.73**	**164**	P	P	10 24 49.4	-7.3
GENI	**Genyem**	**26.05**	**286**	P	**P**	**10 24 58.8**	**-1.0**
CMSA	**Cobar Meteorol**	**27.59**	**218**	P	**P**	**10 25 12.5**	**-1.1**
CMSA	**Cobar Meteorol**	**27.59**	**218**	P	**P**	**10 25 13.3**	**-0.3**
YNG	**Young**	**28.18**	**210**	P	**P**	**10 25 17.5**	**-1.3**
CNB	**Canberra Magne**	**28.54**	**208**	P	**P**	**10 25 20.1**	**-1.9**
CAN	**Canberra**	**28.71**	**208**	P	**P**	**10 25 24.3**	**+0.7**
H11S2	**WAKE ISLAND Hy**	**28.90**	**3**	T	T	10 55 38.4	
H11S3	**WAKE ISLAND Hy**	**28.90**	**3**	T	T	10 55 50.7	
H11S1	**WAKE ISLAND Hy**	**28.92**	**3**	T	T	10 55 47.1	
HAZ	**Te Kaha**	**29.36**	**159**	P	**P**	**10 25 31.9**	**+2.7**
MXZ	**Matakaoa Point**	**29.38**	**158**	P	**P**	**10 25 31.9**	**+2.6**
URZ	**Urewera**	**29.59**	**161**	P	**P**	**10 25 32.5**	**+1.3**
URZ	comp=Z,23nm,0.9s,baz=66,slow=3.9,SNR=8.9			LR	LR	10 36 36.9	
URZ	**Urewera**	**29.59**	**161**	P	**P**	**10 25 32.8**	**+1.6**
MUGZ	**Murupara**	**29.68**	**161**	P	**P**	**10 25 34.9**	**+2.8**
MWZ	**Matawai**	**29.80**	**160**	P	**P**	**10 25 34.7**	**+1.5**
PUZ	**Puketiti**	**29.81**	**159**	P	**P**	**10 25 34.5**	**+1.2**
RTZ	**Ruatahuna**	**29.88**	**161**	P	**P**	**10 25 35.9**	**+2.0**
TKGZ	**Te Karaka**	**30.00**	**160**	P	**P**	**10 25 36.0**	**+1.2**
H11N1	**WAKE ISLAND Hy**	**30.12**	**3**	T	T	10 57 11.2	
H11N3	**WAKE ISLAND Hy**	**30.13**	**3**	T	T	10 57 22.3	
SNGZ	**Shannon Statio**	**30.14**	**161**	P	**P**	**10 25 37.3**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**30.14**	**3**	T	T	10 57 15.1	
RIGZ	**Rimuhau**	**30.21**	**160**	P	**P**	**10 25 38.0**	**+1.2**
STKA	**Stephens Creek**	**30.41**	**222**	P	**P**	**10 25 39.2**	**+0.5**
STKA	**Stephens Creek**	**30.41**	**222**	P	**P**	**10 25 38.1**	**-0.6**
STKA	**Stephens Creek**	**30.41**	**222**	P	**P**	**10 25 38.4**	**-0.2**
STKA	comp=Z,8.9nm,0.7s,baz=44,slow=9.7,SNR=22			LR	LR	10 36 57.8	
WB0	**Warramunga Arr**	**31.04**	**249**	P	**P**	**10 25 42.7**	**-1.6**
WRAB	**Tennant Creek**	**31.11**	**249**	P	**P**	**10 25 44.4**	**-0.6**
WB2	**Warramunga Arr**	**31.11**	**249**	P	**P**	**10 25 43.4**	**-1.6**
WB2				IAmb	IAmb	10 26 10.5	
WRA	**Warramunga Arr**	**31.12**	**249**	P	**P**	**10 25 42.9**	**-2.2**
WRA	comp=Z,1.6nm,0.8s,baz=78,slow=9.1,SNR=10 comp=Z,1.9nm,0.7s,baz=83,slow=2.8,SNR=8.5			PcP	**PcP**	**10 28 39.4**	**-0.4**
WRA				LR	LR	10 37 47.0	
GUMO	**Guam**	**31.32**	**320**	LR	LR	10 37 11.4	
TOO	**Toolangi**	**32.20**	**210**	P	**P**	**10 25 55.2**	**+0.8**
AS31	**Alice Springs**	**32.51**	**242**	P	**P**	**10 25 55.0**	**-2.3**
ASAR	**Alice Springs**	**32.51**	**242**	P	**P**	**10 25 54.8**	**-2.5**
ASAR	comp=Z,1.8nm,0.7s,baz=67,slow=10.0,SNR=18			PcP	**PcP**	**10 28 42.7**	**-0.8**
ASAR	comp=Z,2.0nm,0.7s,baz=71,slow=2.4,SNR=10 comp=Z,160nm,19.0s,baz=77,slow=35 comp=Z,1.8nm,0.7s			LR	LR	10 38 37.3	
HTT	**Hallett**	**33.14**	**223**	P	**P**	**10 26 02.4**	**-0.3**
RPZ	**Rata Peaks**	**33.43**	**172**	LR	LR	10 38 17.9	
ARPS	**Mount Arapiles**	**33.54**	**215**	P	**P**	**10 26 06.2**	**+0.2**
RAR	**Rarotonga**	**35.27**	**112**	LR	LR	10 38 04.7	
KNRA	**Kununurra**	**35.79**	**258**	P	**P**	**10 26 24.4**	**-1.3**
KNRA	comp=Z,24nm,1.3s			IAmb	IAmb	10 27 15.0	
FITZ	**Fitzroy Crossi**	**38.96**	**254**	LR	LR	10 42 00.1	
BATI	**Baumata**	**40.81**	**267**	LR	LR	10 45 11.2	
MIDW	**Midway**	**42.08**	**23**	P	**P**	**10 27 20.2**	**+2.0**
DAV	**Davao City (W)**	**43.13**	**292**	LR	LR	10 44 52.9	
PPT	**Papeete**	**44.36**	**104**	LR	LR	10 42 03.7	
PPT2	**Papeete2**	**44.37**	**104**	*e*S	**S**	**10 34 07.4**	**-1.1**
PPT2	comp=Z,76nm,28.2s			*e*SS	**SS**	**10 37 30.0**	**+1.3**
PPT2				*e*LR	LR	10 40 06.6	
PPT2				*e*LR	LR	10 40 10.9	
TBI	**Tubuai**	**45.04**	**112**	*e*LR	LR	10 40 28.5	
KAPI	**Kappang**	**45.30**	**273**	LR	LR	10 47 16.8	
MYLDM	**Lahad Datu**	**49.03**	**286**	P	**P**	**10 28 13.6**	**+0.2**
NWAO	**Narrogin (SRO)**	**49.27**	**235**	LR	LR	10 48 35.4	
JHJ	**Hachijo jima 2**	**49.72**	**332**	LR	LR	10 46 13.9	
JOW	**Kunigami**	**51.61**	**317**	LR	LR	10 49 43.1	
MJAR	**Matsushiro Arr**	**53.28**	**333**	P	**P**	**10 28 41.7**	**-3.2**
MJAR	comp=Z,3.3nm,1.0s,baz=162,slow=7.4,SNR=7.3 comp=Z,20nm,18.0s,baz=118,slow=39 comp=Z,3.3nm,1.0s			LR	LR	10 54 27.6	
TAOE	**Nuku Hiva Isla**	**53.87**	**93**	*e*LR	LR	10 44 31.7	
JNU	**Nakatsue**	**54.35**	**324**	P	**P**	**10 28 53.0**	**+0.2**
JNU	**Nakatsue**	**54.35**	**324**	LR	LR	10 48 58.5	
ASAJ	**Asahikawa**	**58.15**	**341**	LR	LR	10 50 49.0	
RKT	**Rikitea**	**58.29**	**111**	*e*LR	LR	10 46 37.5	
DRV	**Dumont d'Urvil**	**58.57**	**191**	P	**P**	**10 29 22.2**	**0.0**
KSRS	**Korea Array**	**59.16**	**326**	P	**P**	**10 29 24.4**	**-2.3**
KSRS	comp=Z,1.1nm,0.8s,baz=142,slow=7.2,SNR=6.3 comp=Z,32nm,18.8s,baz=300,slow=35 comp=Z,1.1nm,0.8s			LR	LR	10 54 04.8	
NJ2	**Nanjing**	**61.27**	**316**	⇓P	**P**	**10 29 42.5**	**+1.1**
NJ2				PcP	**PcP**	**10 30 27.0**	**+3.4**
NJ2	comp=Z,11nm,0.5s			pmax	pmax		
NJ2	comp=Z,440nm,5.2s			pmax	pmax		
USRK	**Ussuriysk Ar.**	**62.26**	**334**	P	**P**	**10 29 47.6**	**-0.1**
SHEM	**Shemya Is, Ala**	**63.49**	**6**	LR	LR	10 50 52.3	
PETK	**Petropavlovsk-**	**63.73**	**355**	LR	LR	10 52 13.0	
TIA	**Tai'an**	**64.87**	**318**	P	**P**	**10 30 05.6**	**+0.4**
TIA	comp=Z,4.0nm,0.4s			pmax	pmax		
KLR	**Kul'dur**	**66.39**	**337**	LR	LR	10 55 25.5	
HNS	**HongShan**	**67.14**	**318**	⇑P	**P**	**10 30 20.7**	**+1.0**
HNS				pP	**pwP**	**10 30 34.1**	**-1.1**
HNS	comp=Z,7.0nm,0.7s			pmax	pmax		
HNS	comp=N,170nm,15.1s			LR	LR		
HNS	comp=Z,200nm,22.6s			LR	LR		
SBA	**Scott Base**	**67.29**	**180**	P	**P**	**10 30 22.0**	**+2.0**
SBA	**Scott Base**	**67.29**	**180**	P	**P**	**10 30 21.8**	**+1.8**
CCD	**Concordia, Ant**	**68.58**	**191**	P	**P**	**10 30 28.9**	**+0.2**
HHC	**Hu-ho-hao-te**	**71.09**	**320**	*e*P	**P**	**10 30 46.3**	**+2.0**
HHC	comp=Z,18nm,0.6s			pmax	pmax		
HHC	comp=Z,120nm,5.7s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**71.40**	**294**	P	**P**	**10 30 45.8**	**-0.7**
CMAR	comp=Z,1.4nm,0.6s,baz=120,slow=4.0,SNR=9.9 comp=Z,20nm,18.3s,baz=115,slow=38 comp=Z,1.4nm,0.6s			LR	LR	11 04 04.5	
PZH	**PanZhiHua**	**71.73**	**302**	P	**P**	**10 30 50.7**	**+2.2**
PZH	comp=Z,11nm,1.2s			pmax	pmax		
PZH	comp=Z,110nm,5.2s			pmax	pmax		
CD2	**Chengdu**	**71.86**	**307**	P	**P**	**10 30 49.7**	**+0.6**
LZH	**Lanzhou**	**74.01**	**312**	*e*P	**P**	**10 31 04.1**	**+2.2**
LZH				pP	sP	10 31 22.6	+3.1
LZH	comp=Z,16nm,1.0s			pmax	pmax		
KDAK	**Kodiak Island**	**76.33**	**22**	LR	LR	10 57 58.8	
M16K	**Timber Creek**	**76.76**	**17**	P	**P**	**10 31 18.5**	**+1.6**
M16K	comp=Z,16nm,1.1s			IAmb	IAmb	10 31 39.7	
YAK	**Yakutsk**	**77.47**	**344**	LR	LR	11 07 03.8	
ULN	**Ulaanbaatar**	**77.57**	**324**	P	**P**	**10 31 22.4**	**+0.5**
ULN	comp=Z,6.9nm,0.7s			IAmb	IAmb	10 31 23.7	
SONM	**Songino Array**	**77.94**	**324**	P	**P**	**10 31 22.1**	**-1.8**
SONM	comp=Z,2.3nm,0.9s,baz=146,slow=7.9,SNR=8.5 comp=Z,67nm,21.5s,baz=360,slow=34 comp=Z,2.3nm,0.9s			LR	LR	11 03 13.1	
GTA	**Gaotai**	**78.31**	**314**	*e*P	**P**	**10 31 27.6**	**+1.4**
GTA				pP	pwP	10 31 41.4	-0.6
GTA	comp=Z,5.0nm,0.9s			pmax	pmax		
L18K	**Granite Mounta**	**78.37**	**17**	P	**P**	**10 31 27.4**	**+1.6**
L18K	comp=Z,18nm,1.2s			IAmb	IAmb	10 31 43.9	
BILL	**Bilibino**	**78.39**	**0**	P	**P**	**10 31 26.1**	**+0.2**
BILL	comp=Z,12nm,0.9s			IAmb	IAmb	10 31 28.3	
J17K	**VABM Dome**	**78.65**	**16**	P	**P**	**10 31 28.1**	**+0.7**
L19K	**White Mountain**	**78.89**	**18**	P	**P**	**10 31 29.7**	**+1.0**
L19K	comp=Z,7.4nm,0.8s			IAmb	IAmb	10 31 30.9	
J18K	**Innoko River**	**79.35**	**16**	P	**P**	**10 31 31.9**	**+0.7**
J18K	comp=Z,38nm,1.9s			IAmb	IAmb	10 32 22.3	
QSPA	**South Pole Qui**	**79.45**	**180**	P	**P**	**10 31 32.6**	**+0.6**
QSPA	**South Pole Qui**	**79.45**	**180**	P	**P**	**10 31 32.5**	**+0.6**
QSPA	comp=Z,32nm,1.0s,baz=350,slow=1.1,SNR=64			LR	LR	11 03 10.5	
H17K	**Granite Mounta**	**79.70**	**14**	P	**P**	**10 31 34.5**	**+1.5**
H17K	comp=Z,40nm,20.6s,baz=34,slow=33 comp=Z,32nm,1.0s			IAmb	IAmb	10 31 50.7	
RPN	**Rapa Nui**	**81.30**	**116**	LR	LR	11 00 04.6	
G19K	**Purcell Mounta**	**81.37**	**15**	P	**P**	**10 31 43.0**	**+1.0**
G19K	comp=Z,72nm,21.7s,baz=255,slow=30			IAmb	IAmb	10 31 44.2	
F19K	**Shaleruckik Mo**	**81.76**	**14**	P	**P**	**10 31 45.1**	**+1.1**
F19K	comp=Z,8.7nm,0.8s			IAmb	IAmb	10 32 01.3	
IMAR	**Indian Mountai**	**82.11**	**16**	P	**P**	**10 31 46.5**	**+0.6**
E19K	**Redstone River**	**82.39**	**14**	P	**P**	**10 31 48.5**	**+1.2**
E19K	comp=Z,31nm,1.7s			IAmb	IAmb	10 31 49.5	
CCB	**Clear Creek Bu**	**82.86**	**19**	P	**P**	**10 31 50.8**	**+1.0**

CCB IAmb IAmb 10 33 43.9
comp=Z,26nm,1.9s
IL31 **83.23 19** P **P** **10 31 51.9 +0.2**
ILAR **Eielson Array** **83.23 19** P **P** **10 31 51.2 -0.6**
comp=Z,1.7nm,0.8s,baz=232,slow=5.0,SNR=27
ILAR LR LR 11 02 25.9
comp=Z,72nm,21.0s,baz=258,slow=31
comp=Z,1.7nm,0.8s
POKR **Poker Plat Res** **83.30 18** P **P** **10 31 52.5 +0.4**
J25K **Salcha River,** **83.61 19** P **P** **10 31 54.5 +0.7**
J25K IAmb IAmb 10 32 10.8
comp=Z,9.9nm,0.9s
SCRK **Sand Creek** **83.65 20** P **P** **10 31 54.7 +0.6**
SCRK IAmb IAmb 10 32 10.9
comp=Z,6.4nm,0.9s
YBH **Yreka Blue Hor** **83.96 46** LR LR 11 02 33.8
comp=Z,36nm,19.0s,baz=354,slow=31
J26L **Joseph Creek** **84.13 20** P **P** **10 31 58.7 +2.2**
J26L IAmb IAmb 10 32 02.6
comp=Z,26nm,2.0s
HYT **Haines Junctio** **84.18 24** P **P** **10 31 57.5 +0.6**
BBB **Bella Bella** **84.50 35** LR LR 11 02 27.7
comp=Z,36nm,20.4s,baz=327,slow=30
D22K **Ayikyak River** **84.57 14** P **P** **10 31 60.0 +1.4**
D22K IAmb IAmb 10 32 20.6
comp=Z,8.0nm,0.8s
B21K **Ikpikpuk River** **84.69 13** P **P** **10 32 00.4 +1.3**
B21K IAmb IAmb 10 32 17.1
comp=Z,11nm,0.9s
I26K **Coal Creek Min** **84.78 19** P **P** **10 32 00.2 +0.6**
I26K IAmb IAmb 10 32 39.5
comp=Z,16nm,1.4s
F24K **Squaw Lake** **84.83 16** **P** **10 32 01.0 +1.1**
MAW **Mawson** **84.96 202** P **P** **10 32 00.4 -0.2**
comp=Z,6.5nm,1.0s,baz=87,slow=3.5,SNR=7.4
MAW LR LR 11 05 25.7
comp=Z,54nm,20.3s,baz=116,slow=32
comp=Z,6.5nm,1.0s
EGAK **Eagle** **85.11 20** P **P** **10 32 01.9 +0.6**
TOLK **Toolik Lake Re** **85.17 15** P **P** **10 32 03.0 +1.4**
TOLK IAmb IAmb 10 32 19.4
comp=Z,16nm,1.6s
DAWY **Dawson** **85.31 21** P **P** **10 32 03.1 +0.8**
TIXI **Tiksi** **85.50 349** P **P** **10 32 03.0 -0.1**
TIXI **Tiksi** **85.50 349** LR LR 11 08 43.0
comp=Z,61nm,19.7s,baz=24,slow=34
DSP **Deep Springs** **86.10 51** P **P** **10 32 07.2 +0.5**
NVAR **Mina Array Bea** **86.14 50** P **P** **10 32 07.5 +0.1**
comp=Z,2.5nm,0.9s,baz=234,slow=6.3,SNR=14
comp=Z,2.5nm,0.9s
DLBC **Dease Lake** **86.25 28** LR LR 11 03 33.1
comp=Z,56nm,20.2s,baz=256,slow=31
PFO **Pinyon Flats O** **86.27 55** LR LR 11 07 27.0
comp=Z,38nm,18.5s,baz=356,slow=33
WVOR **Wild Horse Val** **87.06 46** P **P** **10 32 11.6 0.0**
D27M **Malcolm River** **87.90 17** P **P** **10 32 16.6 +1.6**
D27M IAmb IAmb 10 32 41.1
comp=Z,5.9nm,0.9s
E28M **Babbage River** **87.93 18** **P** **10 32 16.1 +1.0**
E28M IAmb IAmb 10 32 42.9
comp=Z,6.9nm,1.1s
G30M **tAoh Zraii Nji** **88.05 20** P **P** **10 32 17.1 +1.4**
PRN **Pahroc Range** **88.35 52** P **P** **10 32 18.4 +0.5**
PRN IAmb IAmb 10 32 20.0
comp=Z,6.4nm,1.2s
WMQ **Urumqi** **88.35 315** *e*P **P** **10 32 18.9 +1.2**
WMQ LR LR
comp=Z,120nm,22.3s
MKAR **Makanchi Array** **92.78 317** P **P** **10 32 38.1 0.0**
comp=Z,3.1nm,0.7s,baz=94,slow=6.8,SNR=23
comp=Z,3.1nm,0.7s
ZALV **Zalesovo Beam** **92.83 324** P **P** **10 32 36.6 -1.6**
comp=Z,1.9nm,0.6s,baz=108,slow=4.6,SNR=9.2
comp=Z,1.9nm,0.6s
PDAR **Pinedale Array** **93.64 47** P **P** **10 32 42.7 +0.2**
comp=Z,1.0nm,0.9s,baz=222,slow=2.0,SNR=7.2
PDAR LR LR 11 10 17.0
comp=Z,34nm,18.6s,baz=21,slow=32
comp=Z,1.0nm,0.9s
ELIB **Princess Elisa** **93.90 191** *d*P **P** **10 32 42.4 -0.7**
comp=Z,3.3nm,1.1s
YKA **Yellowknife Ar** **94.80 27** LR LR 11 08 20.5
comp=Z,64nm,20.7s,baz=318,slow=31
KURBB **Kurchatov Arra** **95.94 320** P **P** **10 32 51.2 -1.3**
comp=Z,0.3nm,0.3s,baz=84,slow=4.5,SNR=4.6
KURBB LR LR 11 14 27.5
comp=Z,78nm,21.9s,baz=181,slow=34
comp=Z,0.3nm,0.3s
PMSA **Palmer Station** **96.36 161** LR LR 11 14 10.8
comp=Z,60nm,18.5s,baz=196,slow=34
TROLL **Troll, Antarti** **96.82 185** ⇑P **P** **10 32 56.3 0.0**
comp=Z,335nm,0.8s
SNAA **Sanae** **97.57 184** P Pdif 10 32 59.9 +0.1
SNAA IAmb IAmb 10 32 60.0
comp=Z,4.1nm,1.0s
SNAA **Sanae** **97.57 184** ⇑P **P** **10 32 58.1 -1.6**
comp=Z,61nm,0.7s
SNAA **Sanae** **97.57 184** P **P** **10 32 57.8 -1.9**
comp=Z,3.5nm,0.9s,baz=131,slow=6.3,SNR=6.5
SNAA LR LR 11 14 57.3
comp=Z,52nm,20.1s,baz=193,slow=34
comp=Z,3.5nm,0.9s
VNA3 **Neumayer Olymp** **98.31 182** ⇑P **P** **10 33 01.9 -1.1**
comp=Z,1.6nm,0.6s
VNA2 **Neumayer--Watz** **98.55 182** ⇑P **P** **10 33 02.3 -1.7**
comp=Z,3.3nm,0.7s,baz=183,slow=3.4
BVAR **Borovoye Array** **101.22 322** P **Pdif** **10 33 14.4 -1.8**
comp=Z,0.6nm,0.5s,baz=108,slow=4.7,SNR=2.8
ARCES **ARCESS Array B** **115.72 345** PKP **PKiKP** **10 38 06.2 -1.2**
comp=Z,3.5nm,0.9s,baz=64,slow=2.4,SNR=6.2
LPAZ **La Paz** **120.91 116** PKP **PKPdf** **10 38 19.2 -0.5**
comp=Z,2.2nm,0.8s,baz=239,slow=1.3,SNR=7.6
FINES **FINESS Array B** **121.11 338** PKP **PKPdf** **10 38 16.2 -1.7**
comp=Z,1.8nm,0.8s,baz=343,slow=2.0,SNR=5.0
MNK **Minsk** **124.69 331** *i* P **Pdif** **10 34 58.7 -1.8**
comp=E,10.0nm,0.7s
MNK *i* P **Pdif** **10 34 58.7 -1.8**
comp=N,14nm,0.7s
MNK *i* P **Pdif** **10 34 58.7 -1.8**
comp=Z,9.0nm,0.8s,baz=54
MNK *i* pP **sPdif** **10 35 18.1 -0.1**
MNK *i* PP **PP** **10 40 11.6 -0.7**
MNK *i* PPP PPP 10 42 51.5
MNK *i* SKS **SKSdf** **10 45 28.4 -4.7**
MNK *i* PS **PS** **10 50 12.0 -0.7**
MNK *i* SS **SS** **10 57 02.3 -0.4**
MNK *i* SSS SSS 11 01 39.4
MNK *i* LR LR 11 28 01.6
MNK *i* LRM MLR 11 32 48.9
comp=N,104nm,16.0s
MNK *i* LRM MLR 11 32 54.6
comp=Z,211nm,19.2s
MNK *i* LRM MLR 11 33 00.4
comp=E,211nm,21.3s
CPUP **Villa Florida** **124.77 132** PKP **PKPdf** **10 38 25.5 -0.6**
comp=E,2.9nm,0.8s,baz=187,slow=0.8,SNR=5.5
BOSA **Boshof** **125.08 224** PKP **PKPdf** **10 38 25.2 -1.6**
comp=E,1.8nm,0.5s,baz=135,slow=4.5,SNR=5.5
DOU **Dourbes** **137.43 342** *d*PKP **PKPdf** **10 38 49.9 +0.6**
BDFB **Brasilia** **138.08 128** PKP **PKPdf** **10 38 50.3 -1.3**
comp=E,3.6nm,1.0s,baz=65,slow=17,SNR=3.9
KEST **Kesra** **146.68 323** PKPbc **PKPdf** **10 39 06.1 -0.2**
comp=E,5.8nm,0.9s,baz=103,slow=3.6,SNR=3.7
ESDC **Sonseca Array** **149.43 343** PKPbc **PKPbc** **10 39 14.3 -0.8**
comp=E,1.4nm,0.7s,baz=357,slow=2.2,SNR=5.4
TORD **Torodi Ar. Bea** **163.62 281** PKP **PKPdf** **10 39 27.6 -1.8**
comp=E,1.1nm,0.8s,baz=56,slow=3.1,SNR=5.8
TORD PKPab **PKPab** **10 40 20.3 -1.1**
comp=E,1.4nm,1.1s,baz=83,slow=3.4,SNR=3.9

IDC 04 10:23:55.4±19.0, 24°.79S×179°.10E, h544km±191km, mb2.9/4, mbtmp3.9/4, Error ellipse: s-maj=134.0km s-min=99.2km az=120.0, Sxth of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.64**	**249**	P	P	10 29 49.9	-1.3
	0.7nm,0.5s,baz=73,slow=11,SNR=1.4						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**41.09**	**262**	P	P	10 30 52.4	+0.1
	0.8nm,0.3s,baz=92,slow=7.4,SNR=25						
ASAR				PcP	PcP	10 32 37.7	-1.2
	0.4nm,0.9s,baz=114,slow=3.4,SNR=2.2						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**41.54**	**267**	P	P	10 30 55.7	-0.2
	0.6nm,0.3s,baz=102,slow=8.2,SNR=28						
	0.6nm,0.3s						
FITZ	**Fitzroy Crossi**	**49.95**	**267**	P	P	10 32 00.6	+0.7
	2.0nm,0.8s,baz=104,slow=6.2,SNR=2.1						
	2.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**149.44**	**3**	PKPbc	PKPbc	10 42 42.9	-0.1
	4.2nm,1.0s,baz=31,slow=2.1,SNR=3.6						

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*IDC **04** 10:37:59.5±1.5, 37°.45N×20°.80E, h0km, mb3.5/6, mbtmp3.4/8, ML4.2/2, Error ellipse: s-maj=35.6km s-min=23.6km az=131.0*
*THE **04** 10:38:02.8, 37°.41N×20°.66E, h4km, ML3.2/6, Error ellipse: s-maj=0.9km s-min=0.3km az=50.0*
*ATH **04** 10:38:02.4, 37°.38N×20°.61E, h6km±1km, ML3.2/24, Error ellipse: s-maj=2.0km s-min=0.7km az=48.0*
ISC 04 10:38:02.4±1.2, 37°.42N±0°.04×20°.64E±0°.04, h17km±7km, n71, σ1§24/90, mb3.4/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.28**	**30**	P	**Pg**	**10 38 08.3**	**-0.2**
KRI1				S	**Sg**	**10 38 12.6**	**-0.2**
	14μm,0.4s						
LTHK	**Lithakia**	**0.33**	**28**	P	**Pg**	**10 38 09.4**	**0.0**
LTHK				S	**Sg**	**10 38 14.2**	**+0.1**
LTHK	**Lithakia**	**0.33**	**28**	P	**Pg**	**10 38 09.4**	**0.0**
LTHK				S	**Sg**	**10 38 14.2**	**+0.1**
LTHK				AML	AML	10 38 14.6	
	comp=E,23720μm,0.3s						
LTHK				AML	AML	10 38 14.7	
	comp=N,52380μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.70**	**356**	P	**Pg**	**10 38 16.1**	**0.0**
PSDA				S	**Sb**	**10 38 26.5**	**+1.1**
	comp=N,5μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.70**	**356**	P	**Pg**	**10 38 16.0**	**0.0**
PSDA				S	**Sb**	**10 38 26.7**	**+1.3**
VLS	**Valsamata**	**0.76**	**357**	P	**Pg**	**10 38 17.3**	**0.0**
VLS				S	**Sb**	**10 38 28.5**	**+1.3**
	comp=N,2μm,0.2s						
VLS	**Valsamata**	**0.76**	**357**	P	**Pg**	**10 38 17.4**	**+0.2**
VLS				S	**Sb**	**10 38 28.5**	**+1.3**
VLS				AML	AML	10 38 31.0	
	comp=N,3826μm,0.2s						
VLS				AML	AML	10 38 33.1	
	comp=E,3072μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.80**	**348**	P	**Pg**	**10 38 17.8**	**-0.2**
LXRA				S	**Sb**	**10 38 29.8**	**+1.5**
LXRA				AML	AML	10 38 36.9	
	comp=E,8211μm,0.4s						
LXRA				AML	AML	10 38 37.8	
	comp=N,9229μm,0.5s						
SMHA	**Samh**	**0.83**	**0**	P	**Pg**	**10 38 18.3**	**-0.3**
DMLN	**Damoulianata-K**	**0.85**	**346**	P	**Pg**	**10 38 19.0**	**+0.1**
DMLN	**Damoulianata-K**	**0.85**	**346**	P	**Pg**	**10 38 19.0**	**+0.1**
DMLN				S	**Sb**	**10 38 31.0**	**+1.3**
AMT	**Artemida-Makis**	**0.86**	**82**	P	**Pg**	**10 38 19.1**	**0.0**
AMT				S	**Sb**	**10 38 31.6**	**+1.6**
AMT	**Artemida-Makis**	**0.86**	**82**	P	**Pg**	**10 38 19.1**	**0.0**
AMT				S	**Sb**	**10 38 31.6**	**+1.6**
AMT				AML	AML	10 38 36.8	
	comp=E,9282μm,0.8s						
AMT				AML	AML	10 38 38.0	
	comp=N,8541μm,0.4s						
RLS	**Riolos of Patr**	**0.92**	**45**	P	**Pg**	**10 38 19.8**	**-0.4**
RLS				S	**Sb**	**10 38 33.1**	**+1.4**
	comp=N,810nm,0.3s						
RLS	**Riolos of Patr**	**0.92**	**45**	P	**Pg**	**10 38 19.6**	**-0.5**
RLS				S	**Sb**	**10 38 33.0**	**+1.4**
RLS				AML	AML	10 38 34.5	
	comp=N,1572μm,0.3s						
RLS				AML	AML	10 38 38.9	
	comp=E,1667μm,0.4s						
DRO	**Drossia**	**1.00**	**57**	P	**Pg**	**10 38 21.4**	**-0.4**
DRO	**Drossia**	**1.00**	**57**	P	**Pg**	**10 38 21.4**	**-0.4**
DRO				AML	AML	10 38 47.1	
	comp=E,2757μm,0.6s						
DRO				AML	AML	10 38 51.0	
	comp=N,3273μm,0.4s						
PYL	**PYLOS**	**1.02**	**120**	P	**Pg**	**10 38 21.5**	**-0.7**
PYL				S	**Sb**	**10 38 36.3**	**+1.6**
	comp=N,1μm,0.4s						
PYL	**PYLOS**	**1.02**	**120**	P	**Pg**	**10 38 21.4**	**-0.7**
PYL				S	**Sb**	**10 38 35.8**	**+1.0**
PYL				AML	AML	10 38 37.7	
	comp=N,2028μm,0.5s						
PYL				AML	AML	10 38 37.8	
	comp=E,2087μm,0.4s						
FSK	**Fiskardo**	**1.04**	**357**	P	**Pg**	**10 38 22.3**	**-0.3**
FSK				S	**Sb**	**10 38 37.9**	**+2.6**
FSK	**Fiskardo**	**1.04**	**357**	P	**Pg**	**10 38 22.1**	**-0.5**
FSK				S	**Sb**	**10 38 37.8**	**+2.4**
FSK				AML	AML	10 38 43.1	
	comp=E,2854μm,0.5s						
FSK				AML	AML	10 38 43.2	
	comp=N,2866μm,0.8s						
ITM	**Ithomi**	**1.05**	**103**	P	**Pg**	**10 38 22.1**	**-0.7**
ITM				S	**Sb**	**10 38 37.3**	**+1.7**
	comp=N,800nm,0.6s						
ITM	**Ithomi**	**1.05**	**103**	P	**Pb**	**10 38 22.9**	**+0.7**
ITM				S	**Sb**	**10 38 37.3**	**+1.7**
ITM				AML	AML	10 38 47.5	
	comp=E,1706μm,0.6s						
ITM				AML	AML	10 38 48.4	
	comp=N,1490μm,0.6s						
EVGI	**Lefkada island**	**1.20**	**1**	P	**Pg**	**10 38 25.4**	**-0.2**
EVGI	**Lefkada island**	**1.20**	**1**	P	**Pg**	**10 38 25.2**	**-0.4**
UPR	**University Cam**	**1.25**	**46**	P	**Pg**	**10 38 26.0**	**-0.6**
UPR	**University Cam**	**1.25**	**46**	P	**Pg**	**10 38 25.7**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.27**	**358**	P	**Pg**	**10 38 25.9**	**-1.0**
NYDR	**Nydri-Lefkada**	**1.29**	**2**	P	**Pn**	**10 38 26.4**	**+0.7**
KLV	**Kalavryta, Ach**	**1.35**	**62**	P	**Pn**	**10 38 27.3**	**+0.8**
KLV	**Kalavryta, Ach**	**1.35**	**62**	P	**Pn**	**10 38 27.5**	**+1.0**
LKD2	**Lefkada island**	**1.37**	**1**	P	**Pn**	**10 38 28.4**	**+1.7**
LKD2				AML	AML	10 38 54.6	
	comp=N,2347μm,0.5s						
LKD2				AML	AML	10 38 57.8	
	comp=E,1363μm,0.4s						
TSLK	**Tsoukalades, L**	**1.41**	**0**	P	**Pn**	**10 38 28.3**	**+1.1**
TSLK	**Tsoukalades, L**	**1.41**	**0**	P	**Pn**	**10 38 28.7**	**+1.5**
TSLK				AML	AML	10 38 54.7	
	comp=N,3199μm,0.5s						
TSLK				AML	AML	10 38 56.4	
	comp=E,1803μm,0.4s						
EFP	**Efpalio**	**1.42**	**44**	P	**Pn**	**10 38 28.4**	**+1.0**
EFP	**Efpalio**	**1.42**	**44**	P	**Pn**	**10 38 28.1**	**+0.7**
EFP				AML	AML	10 38 53.7	
	comp=N,922μm,0.7s						
EFP				AML	AML	10 38 58.4	
	comp=E,1044μm,0.8s						
GUR	**Goura**	**1.45**	**68**	P	**Pn**	**10 38 28.6**	**+0.7**
GUR	**Goura**	**1.45**	**68**	P	**Pn**	**10 38 29.1**	**+1.2**
GUR				AML	AML	10 39 02.1	
	comp=N,1777μm,0.5s						
GUR				AML	AML	10 39 04.8	
	comp=E,1372μm,0.5s						
KALE	**Kalithea**	**1.53**	**50**	P	**Pn**	**10 38 30.4**	**+1.4**
KALE	**Kalithea**	**1.53**	**50**	P	**Pn**	**10 38 30.4**	**+1.4**
KALE				AML	AML	10 38 59.3	
	comp=E,1306μm,0.6s						
KALE				AML	AML	10 39 00.6	
	comp=N,1036μm,0.6s						
ANX	**Ano Chora**	**1.55**	**40**	P	**Pn**	**10 38 30.6**	**+1.3**
ANX				AML	AML	10 38 58.2	
	comp=E,1553μm,0.7s						
ANX				AML	AML	10 39 01.5	
	comp=N,1829μm,0.5s						
VLI	**Veliai**	**1.96**	**110**	P	**Pn**	**10 38 36.1**	**+1.2**
VLI				AML	AML	10 39 21.4	
	comp=E,403μm,1.1s						
VLI				AML	AML	10 39 24.3	
	comp=N,426μm,1.0s						
MAKR	**Makrakomi, Fth**	**1.98**	**36**	P	**Pn**	**10 38 37.2**	**+2.1**
MAKR				AML	AML	10 39 15.1	
	comp=E,1221μm,0.8s						
MAKR				AML	AML	10 39 16.9	
	comp=N,1176μm,1.0s						
AXAR	**Agios Charalam**	**2.08**	**49**	P	**Pn**	**10 38 38.0**	**+1.4**
AXAR				AML	AML	10 39 17.3	
	comp=N,1338μm,0.6s						
AXAR				AML	AML	10 39 24.2	
	comp=E,874μm,0.5s						
IGT	**Igoumenitsa**	**2.13**	**354**	P	**Pn**	**10 38 37.7**	**+0.6**
IGT				AML	AML	10 39 17.9	
	comp=E,348μm,0.6s						
IGT				AML	AML	10 39 23.7	
	comp=N,300μm,0.6s						
VIL2	**Platees**	**2.23**	**68**	P	**Pn**	**10 38 39.9**	**+1.4**
VIL2				AML	AML	10 39 20.8	
	comp=E,559μm,0.7s						
VIL2				AML	AML	10 39 23.3	
	comp=N,418μm,0.7s						
JAN	**Janina**	**2.24**	**4**	P	**Pn**	**10 38 40.5**	**+1.7**
KEK	**Kerkira**	**2.39**	**344**	P	**Pn**	**10 38 41.8**	**+1.1**
KEK				AML	AML	10 39 34.7	
	comp=N,331μm,0.6s						
KEK				AML	AML	10 39 43.7	
	comp=E,288μm,0.7s						
THL	**Klokotos Trika**	**2.40**	**26**	P	**Pn**	**10 38 42.0**	**+1.1**
THL				AML	AML	10 39 29.3	
	comp=E,275μm,0.6s						
THL				AML	AML	10 39 30.6	
	comp=N,206μm,0.6s						
VLY	**Voula,Athens**	**2.54**	**79**	P	**Pn**	**10 38 44.0**	**+1.2**
TYRN	**Tyrnavos**	**2.61**	**28**	P	**Pn**	**10 38 45.2**	**+1.5**
PTL	**Penteli**	**2.63**	**75**	P	**Pn**	**10 38 45.4**	**+1.3**
DION	**Dionisos Attik**	**2.69**	**75**	P	**Pn**	**10 38 46.6**	**+1.7**
NEO	**Neokhori**	**2.77**	**46**	P	**Pn**	**10 38 47.6**	**+1.6**
NEO				AML	AML	10 39 27.5	
	comp=E,276μm,0.5s						
NEO				AML	AML	10 39 27.8	
	comp=N,318μm,0.4s						
PENT	**Pentalofos**	**2.80**	**8**	P	**Pn**	**10 38 48.0**	**+1.5**
KYMI	**Kymi, Euboea I**	**2.99**	**65**	P	**Pn**	**10 38 50.7**	**+1.7**
NEST	**Nestorio**	**3.01**	**6**	P	**Pn**	**10 38 50.1**	**+0.8**
KZN	**Kozani**	**3.02**	**17**	P	**Pn**	**10 38 51.2**	**+1.7**
AOS2	**Alonissos-2**	**3.06**	**55**	P	**Pn**	**10 38 51.7**	**+1.8**
SCTE	**Santa Cesarea**	**3.15**	**328**	P	**Pn**	**10 38 53.2**	**+2.1**
FNA	**Florina**	**3.41**	**9**	P	**Pn**	**10 38 57.1**	**+2.3**
FNA				AML	AML	10 40 03.4	
	comp=N,169μm,0.8s						
FNA				AML	AML	10 40 08.5	
	comp=E,132μm,0.8s						
OHR	**Ohrid**	**3.69**	**2**	*i* Pn	**Pb**	**10 39 05.4**	**-1.8**
HORT	**Hortiatis**	**3.71**	**30**	P	**Pn**	**10 39 01.1**	**+2.2**
AKASG	**Malin Array Be**	**14.63**	**22**	Pn	**Pn**	**10 41 26.1**	**-2.3**
	comp=E,0.5nm,0.3s,baz=204,slow=14,SNR=1.6						
	comp=E,0.2nm,0.4s						
ESDC	**Sonseca Array**	**19.36**	**284**	P	**P**	**10 42 27.2**	**0.0**
	comp=E,0.2nm,0.3s,baz=95,slow=9.8,SNR=2.1						
	comp=E,0.2nm,0.3s						
HFS	**Hagfors**	**23.16**	**351**	P	**P**	**10 43 08.1**	**+0.4**
	comp=E,1.8nm,0.6s,baz=157,slow=8.0,SNR=7.3						
	comp=E,1.8nm,0.6s						
FINES	**FINESS Array B**	**24.29**	**6**	P	**P**	**10 43 17.1**	**-1.4**
	comp=E,4.7nm,1.1s,baz=183,slow=9.5,SNR=6.9						
	comp=E,4.7nm,1.1s						
NOA	**NORSAR Array B**	**24.38**	**349**	P	**P**	**10 43 19.3**	**-0.2**
	comp=E,0.5nm,0.7s,baz=163,slow=12,SNR=1.9						
	comp=E,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.50**	**220**	P	**P**	**10 44 06.7**	**+0.9**
	comp=E,0.3nm,0.7s,baz=22,slow=8.8,SNR=2.0						
	comp=E,0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**42.61**	**53**	P	**P**	**10 45 56.1**	**-1.3**
	comp=E,0.2nm,0.3s,baz=279,slow=8.5,SNR=2.7						
	comp=E,0.2nm,0.3s						
MKAR	**Makanchi Array**	**45.62**	**58**	P	**P**	**10 46 20.3**	**-1.4**
	comp=E,0.2nm,0.4s,baz=283,slow=6.9,SNR=2.2						
	comp=E,0.2nm,0.4s						

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*IDC **04** 10:47:18.1±3.0, 5°.72N×125°.48E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=287.1km s-min=28.2km az=65.0*
ISC 04 10:47:17.7±1.2, 6°.11N±0°.08×126°.08E±0°.08, h10km, n9, σ1§18/13, mb3.1/3, 5C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.12**	**269**	⇑*i*P	**Pb**	**10 47 37.9**	**-1.4**
GSPH				*i* S	**Sg**	**10 47 53.0**	**-1.0**
KCP	**Kidapawan**	**1.33**	**312**	⇑*e*P	**Pb**	**10 47 42.6**	**-0.2**
KCP				*i* S	**Sn**	**10 48 00.2**	**+0.1**
BIPH	**Bislig**	**2.08**	**8**	⇑*e*P	**Pn**	**10 47 51.6**	**-1.1**
BIPH				*e*S	**Sn**	**10 48 17.0**	**-1.5**
CTBH	**Cotabato--PC H**	**2.13**	**301**	⇑*i*P	**Pb**	**10 47 57.3**	**+1.0**
CGP	**Cagayan de Oro**	**2.70**	**330**	⇓*e*P	**Pb**	**10 48 05.1**	**-1.0**
CGP				*e*S	**Sn**	**10 48 33.4**	**-0.6**
PLP	**Palo**	**5.14**	**348**	⇑*e*P	**Pn**	**10 48 35.9**	**+1.2**
WRA	**Warramunga Arr**	**27.14**	**163**	P	**P**	**10 53 01.9**	**+0.6**
	0.4nm,1.0s,baz=341,slow=10,SNR=2.2						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**30.57**	**166**	P	**P**	**10 53 31.5**	**-0.3**
	0.2nm,0.6s,baz=338,slow=7.0,SNR=6.2						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**55.24**	**325**	P	**P**	**10 56 53.0**	**+1.8**
	0.3nm,0.4s,baz=120,slow=8.9,SNR=4.7						
	0.3nm,0.4s						

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*ATH **04** 10:49:08.3, 37°.62N×20°.50E, h13km±1km, ML3.3/10, Error ellipse: s-maj=2.2km s-min=0.8km az=43.0*
*THE **04** 10:49:08.4, 37°.63N×20°.50E, h2km±1km, ML3.2/13, Error ellipse: s-maj=1.5km s-min=0.5km az=11.0*
ISC 04 10:49:07.7±1.5, 37°.62N±0°.05×20°.50E±0°.05, h13km±8km, n33, σ0§71/65, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.26**	**80**	P	**Pg**	**10 49 13.7**	**+0.6**
KRI1				S	**Sg**	**10 49 17.3**	**+0.5**
	16μm,0.4s						
LTHK	**Lithakia**	**0.28**	**71**	P	**Pb**	**10 49 13.9**	**-0.7**
LTHK				S	**Sb**	**10 49 17.9**	**-1.3**
	8μm,0.2s						
LTHK	**Lithakia**	**0.28**	**71**	P	**Pb**	**10 49 13.7**	**-0.9**
LTHK				S	**Sg**	**10 49 17.6**	**+0.1**
LTHK				AML	AML	10 49 17.9	
	comp=N,16425μm,0.3s						
LTHK				AML	AML	10 49 19.6	
	comp=E,15323μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.50**	**8**	P	**Pb**	**10 49 17.9**	**-0.4**
PSDA				S	**Sb**	**10 49 25.4**	**-0.1**
	comp=E,4μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.50**	**8**	P	**Pb**	**10 49 17.7**	**-0.6**
PSDA				S	**Sb**	**10 49 24.9**	**-0.5**
RTZL	**Ratzakli, Kefa**	**0.50**	**25**	P	**Pb**	**10 49 17.6**	**-0.8**
RTZL				S	**Sb**	**10 49 25.0**	**-0.6**
	comp=E,9μm,0.3s						
VLS	**Valsamata**	**0.56**	**7**	P	**Pb**	**10 49 18.9**	**-0.5**
VLS				S	**Sb**	**10 49 27.0**	**-0.3**
	comp=E,4μm,0.3s						
VLS	**Valsamata**	**0.56**	**7**	P	**Pb**	**10 49 18.8**	**-0.5**
VLS				S	**Sb**	**10 49 26.7**	**-0.7**
VLS				AML	AML	10 49 27.4	
	comp=E,10041μm,0.4s						
VLS				AML	AML	10 49 32.6	
	comp=N,4311μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.58**	**355**	P	**Pb**	**10 49 19.9**	**+0.2**
LXRA				S	**Sb**	**10 49 27.3**	**-0.6**
LXRA				AML	AML	10 49 34.4	
	comp=E,10401μm,0.5s						
LXRA				AML	AML	10 49 35.2	
	comp=N,11220μm,0.4s						
DMLN	**Damoulianata-K**	**0.63**	**351**	P	**Pb**	**10 49 20.5**	**0.0**
DMLN				S	**Sb**	**10 49 29.1**	**-0.1**
	comp=N,4μm,0.7s						
DMLN	**Damoulianata-K**	**0.63**	**351**	P	**Pb**	**10 49 20.4**	**0.0**
DMLN				S	**Sb**	**10 49 29.6**	**+0.4**
SMHA	**Samh**	**0.64**	**10**	P	**Pb**	**10 49 20.1**	**-0.6**
SMHA				S	**Sb**	**10 49 29.9**	**+0.3**
SMHA				AML	AML	10 49 31.

RLS	**Riolos of Patr**	**0.88**	**60**	P	**Pb**	**10 49 24.6**	**-0.2**
RLS				S	**Sb**	**10 49 37.3**	**+0.9**
RLS				AML	AML	10 49 38.0	
	comp=N,2906μm,0.6s						
RLS				AML	AML	10 49 38.3	
	comp=E,2755μm,0.5s						
AMT	**Artemida-Makis**	**0.96**	**95**	P	**Pb**	**10 49 26.4**	**+0.1**
AMT				S	**Sn**	**10 49 40.0**	**-0.5**
AMT				AML	AML	10 49 44.1	
	comp=E,8611μm,0.3s						
AMT				AML	AML	10 49 44.8	
	comp=N,8083μm,0.3s						
EVGI	**Lefkada island**	**1.01**	**7**	P	**Pb**	**10 49 27.0**	**0.0**
EVGI				S	**Sb**	**10 49 40.4**	**+0.2**
DRO	**Drossia**	**1.01**	**71**	P	**Pb**	**10 49 27.1**	**0.0**
DRO				S	**Sn**	**10 49 41.8**	**+0.1**
DRO	**Drossia**	**1.01**	**71**	P	**Pb**	**10 49 26.9**	**-0.2**
DRO				S	**Sn**	**10 49 41.4**	**-0.3**
DRO				AML	AML	10 49 46.9	
	comp=N,3351μm,0.4s						
DRO				AML	AML	10 49 50.7	
	comp=E,3080μm,0.4s						
DRAG	**Dragano-Lefkad**	**1.06**	**3**	P	**Pb**	**10 49 27.7**	**-0.3**
DRAG				S	**Sn**	**10 49 43.4**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.06**	**3**	P	**Pg**	**10 49 27.5**	**-0.8**
DRAG				S	**Sn**	**10 49 42.7**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.10**	**8**	P	**Pg**	**10 49 28.2**	**-0.8**
NYDR				S	**Sn**	**10 49 44.4**	**+0.5**
	comp=E,685nm,0.5s						
NYDR	**Nydri-Lefkada**	**1.10**	**8**	P	**Pg**	**10 49 28.1**	**-0.9**
NYDR				S	**Sn**	**10 49 43.9**	**0.0**
LKD2	**Lefkada island**	**1.17**	**6**	P	**Pn**	**10 49 30.9**	**+1.1**
LKD2				S	**Sn**	**10 49 46.8**	**+1.1**
	comp=E,668nm,0.6s						
LKD2	**Lefkada island**	**1.17**	**6**	P	**Pg**	**10 49 29.5**	**-0.9**
LKD2				S	**Sg**	**10 49 44.3**	**-1.3**
TSLK	**Tsoukalades, L**	**1.21**	**6**	P	**Pn**	**10 49 30.5**	**+0.2**
TSLK				S	**Sn**	**10 49 48.1**	**+1.6**
	comp=E,742nm,0.6s						
ITM	**Ithomi**	**1.22**	**111**	P	**Pn**	**10 49 31.1**	**+0.7**
ITM				S	**Sg**	**10 49 46.2**	**-0.8**
ITM				AML	AML	10 49 56.8	
	comp=N,1273μm,0.5s						
ITM				AML	AML	10 49 57.0	
	comp=E,1042μm,0.4s						
PYL	**PYLOS**	**1.23**	**126**	P	**Pg**	**10 49 31.3**	**0.0**
PYL				S	**Sg**	**10 49 45.7**	**-1.6**
PYL				AML	AML	10 49 51.8	
	comp=E,2331μm,0.5s						
PYL				AML	AML	10 49 52.5	
	comp=N,1252μm,0.3s						
KLV	**Kalavryta, Ach**	**1.37**	**72**	P	**Pg**	**10 49 33.3**	**-0.8**
KLV				S	**Sg**	**10 49 54.0**	**+2.0**
	comp=N,262nm,0.9s						
GUR	**Goura**	**1.49**	**77**	P	**Pg**	**10 49 35.5**	**-0.9**
GUR				S	**Sg**	**10 49 55.9**	**+0.1**
OHR	**Ohrid**	**3.50**	**4**	*i* Pn	**Pb**	**10 50 09.9**	**+0.5**

*GUC **04** 10:59:59.9±0.7, 31°.32S×69°.01W, h163km±8km, ML4.2*
*SJA **04** 11:00:00.0±0.8, 31°.28S×68°.77W, h110km±3km, ML3.8, MW3.8*
*IDC **04** 11:00:00.1±0.7, 31°.32S×68°.69W, h102km±5km, mb3.6/6, mbtmp3.9/9, MS2.9/1, Error ellipse: s-maj=35.9km s-min=17.0km az=94.0*

ISC 04 10:59:60.0±0.6, 31°.27S±0°.03×68°.78W±0°.03, h107km±4km, n67, σ1§93/106, mb4.0/8, 10C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.27**	**103**	*eP*	**Pn**	**11 00 16.4**	**+1.1**
RTLL				*eS*	**Sn**	**11 00 28.1**	**+1.2**
ZON	**Zonda**	**0.29**	**163**	*eP*	**Pn**	**11 00 15.7**	**+0.3**
ZON				IAML		11 00 29.2	
	comp=Z,4μm,0.5s						
SJA	**San Juan**	**0.32**	**144**	*eP*	**Pn**	**11 00 16.9**	**+1.4**
SJA				IAML		11 00 31.9	
	comp=Z,2μm,0.2s						
DOCA	**Reserva Natura**	**0.41**	**321**	*eP*	**Pn**	**11 00 17.2**	**+0.8**
RTCV	**Cerro Valdivia**	**0.62**	**161**	*eP*	**Pn**	**11 00 18.7**	**+1.2**
RTCV				*eS*	**Sn**	**11 00 32.0**	**+1.3**
ACCO	**Cerro Coronel**	**0.72**	**340**	*eP*	**Pn**	**11 00 20.1**	**+1.4**
ACDV	**Cuesta del Vie**	**1.14**	**345**	*eP*	**Pn**	**11 00 24.3**	**+1.7**
ACDV				IAML		11 00 42.8	
	comp=Z,1μm,0.6s						
AROD	**Rodeo**	**1.25**	**331**	*eP*	**Pn**	**11 00 25.7**	**+1.6**
AROD				*eS*	**Sn**	**11 00 44.3**	**+2.0**
ASAL	**Salagasta**	**1.32**	**182**	*eP*	**Pn**	**11 00 25.8**	**+1.2**
ARCO	**CERRO ARCO**	**1.57**	**185**	*eP*	**Pn**	**11 00 28.9**	**+1.2**
ARCO				*eS*	**Sn**	**11 00 50.4**	**+1.7**
ARCO				IAML		11 00 53.1	
	comp=Z,1μm,0.4s						
CO03	**El Pedregal**	**1.69**	**284⇑**	*iP*	**Pn**	**11 00 30.2**	**+1.1**
CO03				*eS*	**Sn**	**11 00 52.5**	**+1.2**
CO03				IAML		11 00 54.2	
	comp=N,3μm,0.4s						
CO03	**El Pedregal**	**1.69**	**284**	*eP*	**Pn**	**11 00 30.4**	**+1.3**
CO03				*eS*	**Sn**	**11 00 53.5**	**+2.2**
CO03				IAML		11 00 53.6	
	comp=Z,2μm,0.7s						
CO01	**Juntas del Tor**	**1.72**	**318⇑**	*iP*	**Pn**	**11 00 31.8**	**+2.2**
CO01				*eS*	**Sn**	**11 00 55.0**	**+3.0**
CO01				IAML		11 00 56.3	
	comp=N,1μm,0.6s						
CO01	**Juntas del Tor**	**1.72**	**318**	*eP*	**Pn**	**11 00 31.8**	**+2.2**
CO01				*eS*	**Sn**	**11 00 55.2**	**+3.2**
CO01				IAML		11 00 55.8	
	comp=Z,675nm,0.6s						
AAGR	**Agrelo**	**1.81**	**181**	*eP*	**Pn**	**11 00 31.8**	**+1.2**
AAGR				*eS*	**Sn**	**11 00 55.0**	**+1.1**
CO04	**Los Peladeros**	**2.02**	**247⇑**	*iP*	**Pn**	**11 00 33.4**	**0.0**
CO04				*eS*	**Sn**	**11 00 59.1**	**+0.2**
CO04				IAML		11 01 00.7	
	comp=N,2μm,0.2s						
GO04	**Tololo Observa**	**2.06**	**302**	*eP*	**Pn**	**11 00 34.3**	**+0.5**
GO04				*eS*	**Sn**	**11 01 00.6**	**+1.0**
GO04	**Tololo Observa**	**2.06**	**302**	*eP*	**Pn**	**11 00 34.5**	**+0.7**
GO04				*eS*	**Sn**	**11 01 01.2**	**+1.6**
VA03	**San Esteban**	**2.12**	**225⇑**	*eP*	**Pn**	**11 00 35.2**	**+0.7**
VA03	**San Esteban**	**2.12**	**225**	*eP*	**Pn**	**11 00 35.4**	**+0.9**
VA03				*eS*	**Sn**	**11 01 03.0**	**+2.3**
VA03				IAML		11 01 10.3	
	comp=Z,404nm,0.5s						
AVIZ	**Vizcacheras**	**2.21**	**174**	*eP*	**Pn**	**11 00 36.9**	**+1.3**
AVIZ				*eS*	**Sn**	**11 01 02.8**	**-0.1**
MT08	**Bocatoma Ro**	**2.41**	**205**	*eP*	**Pn**	**11 00 40.2**	**+1.9**
MT08				IAML		11 01 12.1	
	comp=Z,218nm,1.4s						
MT04	**Ro Olivares**	**2.42**	**208**	*eP*	**Pn**	**11 00 40.4**	**+1.9**
MT04				*eS*	**Sn**	**11 01 06.2**	**-1.8**
ACLC	**CERRO LA CRUZ**	**2.42**	**41**	*eP*	**Pn**	**11 00 40.0**	**+1.5**
ACLC				*eS*	**Sn**	**11 01 10.0**	**+2.0**
ACLC				IAML		11 01 15.0	
	comp=Z,214nm,0.3s						
PEL	**Peldehue**	**2.47**	**220**	*eP*	**Pn**	**11 00 38.9**	**-0.1**
PEL				*eS*	**Sn**	**11 01 08.7**	**-0.2**
PEL	**Peldehue**	**2.47**	**220**	*eP*	**Pn**	**11 00 39.4**	**+0.4**
PEL				*eS*	**Sn**	**11 01 09.4**	**+0.5**
MT10	**Hacienda Santa**	**2.49**	**216**	*eP*	**Pn**	**11 00 40.1**	**+0.8**
CO05	**La Serena**	**2.51**	**302⇑**	*eP*	**Pn**	**11 00 39.3**	**-0.2**
CO05				IAML		11 01 08.8	
	comp=E,952nm,0.4s						
ROCH	**El Roble**	**2.54**	**228⇑**	*iP*	**Pn**	**11 00 39.7**	**-0.4**
ROCH				*eS*	**Sn**	**11 01 10.3**	**-0.5**
ROC1	**El Roble**	**2.55**	**228**	*eP*	**Pn**	**11 00 39.7**	**-0.5**
ROC1				*eS*	**Sn**	**11 01 11.0**	**0.0**
VCA	**Vinchina**	**2.58**	**11**	*eP*	**Pn**	**11 00 42.8**	**+2.3**
VCA				*eS*	**Sn**	**11 01 14.4**	**+2.9**
VCA	**Vinchina**	**2.58**	**11**	*eP*	**Pn**	**11 00 42.7**	**+2.3**
VCA				*eS*	**Sn**	**11 01 14.7**	**+3.1**
VCA				IAML		11 01 19.4	
	comp=Z,642nm,0.5s						
MT03	**Universidad Ad**	**2.66**	**213**	*eP*	**Pn**	**11 00 42.4**	**+1.0**
MT03				*eS*	**Sn**	**11 01 15.0**	**+1.7**
MT03				IAML		11 01 15.9	
	comp=Z,340nm,0.5s						
MT05	**Renca**	**2.69**	**218**	*eP*	**Pn**	**11 00 42.3**	**+0.4**
MT05				*eS*	**Sn**	**11 01 15.3**	**+1.4**
MT05				IAML		11 01 16.1	
	comp=Z,286nm,0.5s						
MT15	**Las Vizcachas**	**2.74**	**212**	*eP*	**Pn**	**11 00 43.9**	**+1.3**
MT15				*eS*	**Sn**	**11 01 17.0**	**+1.7**
AC05	**El Transito**	**2.75**	**332⇑**	*iP*	**Pn**	**11 00 44.7**	**+2.0**
AC05				*eS*	**Sn**	**11 01 17.6**	**+2.0**
AC05				IAML		11 01 20.4	
	comp=E,464nm,0.3s						
AC05	**El Transito**	**2.75**	**332**	*eP*	**Pn**	**11 00 44.8**	**+2.0**
AC05				*eS*	**Sn**	**11 01 17.8**	**+2.2**
AC05				IAML		11 01 23.7	
	comp=Z,177nm,0.2s						
LCO	**Las Campanas**	**2.80**	**323**	*eP*	**Pn**	**11 00 44.3**	**+0.8**
LCO				*eS*	**Sn**	**11 01 18.4**	**+1.4**
LCO				IAML		11 01 23.8	
	comp=Z,587nm,0.4s						
MT02	**Curacav**	**2.81**	**225**	*eP*	**Pn**	**11 00 42.5**	**-0.9**
MT02				IAML		11 01 17.9	
	comp=Z,105nm,0.5s						
LMEL	**Las Melosas**	**2.84**	**205**	*eP*	**Pn**	**11 00 45.0**	**+1.1**
MRA	**San Martin**	**2.85**	**115**	*eP*	**Pn**	**11 00 45.4**	**+1.4**
MRA				*eS*	Sn	11 01 07.7	-10
MT12	**Pirque**	**2.87**	**211**	*eP*	**Pn**	**11 00 45.2**	**+0.9**
MT09	**Talagante**	**3.12**	**216**	*eP*	**Pn**	**11 00 46.9**	**-0.7**
MT09				*eS*	**Sn**	**11 01 18.8**	**-5.6**
VA05	**Santo Domingo**	**3.38**	**224**	*eP*	**Pn**	**11 00 49.2**	**-1.6**
VA05				*eS*	**Sn**	**11 01 25.2**	**-5.0**
AC04	**Llanos de Chal**	**3.65**	**326**	*eP*	**Pn**	**11 00 54.7**	**+0.1**
CYA	**Choya**	**3.83**	**43**	*eS*	**Sn**	**11 01 41.4**	**+0.2**
CYA				IAML		11 01 41.9	
	comp=Z,93nm,0.8s						
BO02	**Sierra Bellavi**	**3.89**	**205**	*eP*	**Pn**	**11 00 58.0**	**+0.1**
BO02				*eS*	**Sn**	**11 01 46.2**	**+3.4**
BO02				IAML		11 01 49.2	
	comp=Z,102nm,0.3s						
AC01	**Pan de Azucar**	**5.35**	**342**	IAML		11 02 56.2	
	comp=Z,43nm,0.8s						
LVC	**Limon Verde**	**8.63**	**359**	P	**Pn**	**11 01 59.8**	**-2.6**
	comp=Z,6.4nm,0.5s,baz=194,slow=7.9,SNR=24						
LVC				S	**Sn**	**11 03 30.6**	**-7.6**
	comp=Z,3.5nm,0.5s,baz=165,slow=17,SNR=1.5						
PLCA	**Paso Flores**	**9.55**	**188**	P	**Pn**	**11 02 12.5**	**-2.0**
	comp=Z,3.1nm,1.1s,baz=350,slow=11,SNR=5.8						
CPUP	**Villa Florida**	**11.18**	**67**	P	**Pn**	**11 02 33.2**	**-3.4**
	comp=Z,1.5nm,0.9s,baz=44,slow=19,SNR=2.3						
CPUP				S	**Sn**	**11 04 32.7**	**-6.9**
	comp=Z,2.3nm,0.6s,baz=248,slow=17,SNR=1.7						
LPAZ	**La Paz**	**14.93**	**2**	P	**Pn**	**11 03 26.6**	**+0.4**
	comp=Z,5.5nm,0.7s,baz=166,slow=6.1,SNR=24						
LPAZ				LR	LR	11 09 03.1	
	comp=Z,50nm,21.7s,baz=103,slow=36						
SIV	**San Ignacio**	**16.76**	**27**	P	**Pn**	**11 03 47.4**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=224,slow=9.4,SNR=5.2						
VNA3	**Neumayer Olymp**	**50.88**	**159⇑**	P	**P**	**11 08 49.8**	**+0.3**
	comp=Z,2.2nm,0.7s						
VNA2	**Neumayer--Watz**	**51.49**	**158⇑**	P	**P**	**11 08 53.6**	**-0.5**
	comp=Z,3.0nm,0.6s,baz=296,slow=6.3						
SNAA	**Sanae**	**53.10**	**159**	P	**P**	**11 09 06.2**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=9.7,slow=22,SNR=2.6						
	comp=Z,1.3nm,0.7s						
TROLL	**Troll, Antarti**	**54.81**	**159⇑**	P	**P**	**11 09 18.7**	**+0.1**
	comp=Z,90nm,0.6s						
QSPA	**South Pole Qui**	**58.96**	**180**	P	**P**	**11 09 48.8**	**+0.8**
	comp=Z,2.9nm,0.6s,baz=160,slow=1.6,SNR=39						
	comp=Z,2.9nm,0.6s						
TXAR	**Lajitas Array**	**68.81**	**328**	P	**P**	**11 10 54.6**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=133,slow=8.0,SNR=2.1						
	comp=Z,0.3nm,0.7s						
MAW	**Mawson**	**74.99**	**163**	P	**P**	**11 11 29.4**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=84,slow=22,SNR=1.4						
	comp=Z,1.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**80.67**	**68**	P	**P**	**11 12 01.9**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=264,slow=4.9,SNR=8.1						
TORD				pP	**pP**	**11 12 27.5**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=238,slow=5.7,SNR=3.0						
	comp=Z,1.8nm,0.9s						
PDAR	**Pinedale Array**	**82.64**	**331**	P	**P**	**11 12 12.2**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=104,slow=6.6,SNR=2.2						
	comp=Z,0.3nm,0.8s						
WRA	**Warramunga Arr**	**124.45**	**207**	PKP	**PKPdf**	**11 18 46.5**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=171,slow=1.8,SNR=8.5						
AAK	**Ala-Archa**	**148.76**	**58**	PKPbc	**PKPbc**	**11 19 35.2**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=179,slow=22,SNR=4.5						
KURBB	**Kurchatov Arra**	**149.01**	**42**	PKPbc	**PKiKP**	**11 19 35.5**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=312,slow=3.0,SNR=4.8						
KURBB				pPKPbc	**pPKPbc**	**11 20 04.1**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=288,slow=3.1,SNR=4.2						
ZALV	**Zalesovo Beam**	**150.46**	**32**	PKP	**PKPdf**	**11 19 34.3**	**+1.2**
	comp=Z,1.6nm,0.5s,baz=328,slow=1.9,SNR=1.7						
ZALV				PKPbc	**PKiKP**	**11 19 39.1**	**0.0**
	comp=Z,1.9nm,0.5s,baz=310,slow=3.6,SNR=10						
ZALV				pPKPbc	**pPKPdf**	**11 20 05.8**	**+3.0**
	comp=Z,2.2nm,0.6s,baz=313,slow=3.0,SNR=7.7						
MKAR	**Makanchi Array**	**152.90**	**47**	PKP	**PKPdf**	**11 19 38.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=284,slow=5.8,SNR=1.7						
MKAR				PKPbc	**PKiKP**	**11 19 44.5**	**0.0**
	comp=Z,0.8nm,0.8s,baz=304,slow=2.4,SNR=6.2						
MKAR				PKPab	**PKPab**	**11 19 56.6**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=294,slow=3.9,SNR=5.7						
MKAR				pPKPbc	**pPKPbc**	**11 20 13.6**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=310,slow=3.2,SNR=6.3						

*IDC **04** 11:01:12.2±0.7, 1°.60N×125°.86E, h0km, mb3.9/11, mbtmp3.9/12, ML4.1/1, MS3.2/4, Error ellipse: s-maj=52.0km s-min=14.0km az=73.0*
*NEIC **04** 11:01:14.7±1.8, 1°.78N±0°.09×126°.43E±0°.09, h15km±4km, mb4.3/15, Error ellipse: s-maj=16.9km s-min=8.3km az=46.0*
*DJA **04** 11:01:16.3±0.3, 2°N±4°×12°6E±°, h10km, M4.2/13, mb4.5/5, mB4.8/1, MLv4.0/13, Mw(mB)4.0/1*

ISC 04 11:01:18.4±0.6, 1°.70N±0°.07×126°.39E±0°.07, h47km, n46, σ1§02/44, mb4.2/19, MS3.0/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.34**	**133**		**Pn**	**11 01 40.0**	**-0.7**
TNTI	**Ternate**	**1.34**	**133**	P	**Pn**	**11 01 40.3**	**-0.4**
KMSI	**Cibinong**	**2.66**	**245**	P	**Pn**	**11 01 59.0**	**+0.3**
SANI	**Sanana**	**3.74**	**186**	P	**Pn**	**11 02 12.8**	**-0.9**
LUWI	**Luwuk**	**4.53**	**233**	Pn	**Pn**	**11 02 24.4**	**0.0**
LUWI	**Luwuk**	**4.53**	**233**	P	**Pn**	**11 02 25.3**	**+0.8**
MRSI	**Marisa**	**4.61**	**255**	P	**Pn**	**11 02 27.2**	**+1.6**
NLAI	**Namlea**	**4.95**	**172**	P	**Pn**	**11 02 31.4**	**+1.1**
APSI	**Ampana**	**5.40**	**241**	P	**Pn**	**11 02 36.4**	**-0.1**
TOLI2	**Tolitoli**	**5.64**	**264**	Pn	**Pn**	**11 02 37.3**	**-2.4**
AAI	**Ambon**	**5.64**	**161**	P	**Pn**	**11 02 39.6**	**-0.2**
	31nm,0.5s,0.2nm						
KNRA	**Kununurra**	**17.42**	**172**		**Pn**	**11 05 17.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.68**	**182**	P	**P**	**11 05 42.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.68**	**182**	P	**P**	**11 05 42.8**	**-1.0**
	0.4nm,0.3s,baz=24,slow=7.6,SNR=7.2						
	2.8nm,0.7s						
GUMO	**Guam**	**21.77**	**56**	LR	LR	11 12 29.1	
	comp=Z,20nm,21.9s,baz=159,slow=30						
TPUB	**Ta-pu**	**22.19**	**346**	P	**P**	**11 06 09.0**	**-1.9**
WB0	**Warramunga Arr**	**22.73**	**160**	P	**P**	**11 06 16.2**	**-0.4**
WB0				IAmb	IAmb	11 06 19.8	
	comp=Z,5.8nm,0.7s						
WRAB	**Tennant Creek**	**22.87**	**160**	P	**P**	**11 06 17.9**	**-0.1**
WRAB				IAmb	IAmb	11 06 23.9	
	comp=Z,5.8nm,0.7s						
WRA	**Warramunga Arr**	**22.88**	**160**	P	**P**	**11 06 16.4**	**-1.7**
WRA	**Warramunga Arr**	**22.88**	**160**	P	**P**	**11 06 17.2**	**-0.9**
	comp=Z,2.9nm,0.6s,baz=338,slow=11,SNR=32						
WRA				PcP	**PcP**	**11 10 09.2**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=324,slow=1.8,SNR=2.2						
	comp=Z,2.9nm,0.6s						
WB2	**Warramunga Arr**	**22.88**	**160**	P	**P**	**11 06 17.6**	**-0.6**
WB2				IAmb	IAmb	11 06 23.9	
	comp=Z,7.0nm,0.7s						
WR0	**Warramunga Arr**	**22.96**	**160**	P	**P**	**11 06 18.2**	**-0.8**
WR0				IAmb	IAmb	11 06 19.6	
	comp=Z,5.5nm,0.9s						
PMG	**Port Moresby**	**23.45**	**118**	LR	LR	11 16 56.8	
	comp=Z,66nm,21.2s,baz=8.0,slow=40						
PSA00	**Pilbara Seismi**	**24.00**	**195**	P	**P**	**11 06 27.6**	**-1.2**
PSA00				IAmb	IAmb	11 06 29.4	
	comp=Z,9.1nm,0.8s						
AS31	**Alice Springs**	**26.25**	**164**	P	**P**	**11 06 49.5**	**+0.1**
ASAR	**Alice Springs**	**26.25**	**164**	P	**P**	**11 06 49.5**	**+0.1**
ASAR	**Alice Springs**	**26.25**	**164**	P	**P**	**11 06 49.6**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=343,slow=7.6,SNR=24						
ASAR				PcP	**PcP**	**11 10 16.0**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=358,slow=2.1,SNR=7.0						
	comp=Z,1.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**31.66**	**304**	LR	LR	11 22 13.6	
	comp=Z,33nm,19.1s,baz=105,slow=40						
BBOO	**Buckleboo**	**35.52**	**166**	P	**P**	**11 08 10.2**	**-0.6**
KSRS	**Korea Array**	**35.61**	**2**	P	**P**	**11 08 13.1**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=177,slow=9.7,SNR=2.7						
	comp=Z,0.4nm,0.4s						
MJAR	**Matsushiro Arr**	**36.36**	**16**	P	**P**	**11 08 20.3**	**+2.3**
	comp=Z,0.7nm,0.7s,baz=205,slow=10,SNR=2.0						
	comp=Z,0.7nm,0.7s						
STKA	**Stephens Creek**	**36.37**	**158**	P	**P**	**11 08 19.0**	**+0.7**
STKA	**Stephens Creek**	**36.37**	**158**	P	**P**	**11 08 18.9**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=276,slow=9.1,SNR=4.7						
	comp=Z,0.8nm,0.3s						
MK31	**Makanchi Array**	**59.03**	**326**	P	**P**	**11 11 13.3**	**-0.3**
MK31				IAmb	IAmb	11 11 18.6	
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**59.03**	**326**	P	**P**	**11 11 13.1**	**-0.5**
MKAR	**Makanchi Array**	**59.03**	**326**	P	**P**	**11 11 12.2**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=123,slow=8.2,SNR=12						
	comp=Z,1.0nm,0.6s						
MAKZ	**Makanchi**	**59.22**	**326**	P	**P**	**11 11 13.9**	**-0.9**
MAKZ				IAmb	IAmb	11 11 19.8	
	comp=Z,1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**62.24**	**334**	P	**P**	**11 11 34.1**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=134,slow=6.2,SNR=1.7						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**63.27**	**328**	P	**P**	**11 11 40.9**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=129,slow=6.2,SNR=10						
	comp=Z,1.1nm,0.5s						
KURK	**Kurchatov**	**63.27**	**328**	P	**P**	**11 11 42.7**	**+0.5**
KURK				IAmb	IAmb	11 11 46.1	
	comp=Z,3.1nm,0.8s						
BVAR	**Borovoye Array**	**68.84**	**328**	P	**P**	**11 12 17.6**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=102,slow=11,SNR=3.9						
	comp=Z,0.6nm,0.6s						
TIXI	**Tiksi**	**69.87**	**1**	LR	LR	11 43 13.0	
	comp=Z,55nm,21.8s,baz=10,slow=36						
NRIK	**Noril'sk**	**72.31**	**346**	P	**P**	**11 12 38.8**	**0.0**
	comp=Z,2.3nm,0.6s,baz=180,slow=17,SNR=1.9						
	comp=Z,2.3nm,0.6s						
QSPA	**South Pole Qui**	**91.62**	**180**	P	**P**	**11 14 20.1**	**-0.2**
QSPA				IAmb	IAmb	11 14 22.2	
	comp=Z,6.4nm,1.5s						
QSPA	**South Pole Qui**	**91.62**	**180**	P	**P**	**11 14 21.4**	**+1.1**
	comp=Z,1.0nm,1.0s,baz=270,slow=8.2,SNR=2.2						
	comp=Z,1.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**123.20**	**287**	PKP	**PKiKP**	**11 20 11.5**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=44,slow=1.9,SNR=3.5						

*NEIC **04** 11:12:08.1±1.3, 10°.68S±0°.10×166°.3E±0°.1, h104km±8km, mb4.5/31, Error ellipse: s-maj=17.0km s-min=14.1km az=73.0*
*IDC **04** 11:12:15.4±2.8, 10°.84S×166°.20E, h183km±24km, mb3.6/8, mbtmp4.1/10, Error ellipse: s-maj=21.2km s-min=18.2km az=111.0*

ISC 04 11:12:11.8±0.5, 10°.85S±0°.07×166°.39E±0°.08, h146km, n56, σ1§15/53, mb4.3/25, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.49**	**282**	Pn	Pn	11 13 39.1	-6.1
HNR	**Honiara**	**6.49**	**282**	P	**Pn**	**11 13 45.8**	**+0.7**
	68nm,0.6s,baz=230,slow=8.1,SNR=3.6						
HNR				S	**Sn**	**11 14 59.7**	**+1.6**
	35nm,0.4s,baz=188,slow=22,SNR=1.4						
KOUNC	**Koumac, New Ca**	**9.86**	**192**	Pn	**Pn**	**11 14 29.3**	**-0.7**
DZM	**Mont Dzumac**	**11.16**	**180**		**Pn**	**11 14 47.5**	**+0.1**
DZM	**Mont Dzumac**	**11.16**	**180**	P	**Pn**	**11 14 50.8**	**+3.4**
	11nm,0.4s,baz=310,slow=12,SNR=73						
DZM				S	**Sn**	**11 16 48.6**	**-2.2**
	3.1nm,0.8s,baz=101,slow=22,SNR=1.1						
ONTNC	**Ouen Toro**	**11.40**	**180**	Pn	**Pn**	**11 14 51.0**	**+0.7**
PINNC	**Pines Island,**	**11.75**	**175**	Pn	**Pn**	**11 14 57.1**	**+2.1**
EIDS	**Eidsvold**	**20.47**	**223**	P	**P**	**11 16 39.1**	**+0.9**
CTAO	**Charters Tower**	**21.45**	**242**	P	**P**	**11 16 48.4**	**-0.4**
NIUE	**Niue**	**24.28**	**112**	P	**P**	**11 17 17.2**	**+1.4**
H11S2	**WAKE ISLAND Hy**	**29.15**	**1**	T	T	11 48 49.2	
	baz=181,slow=76,SNR=8.4						
H11S3	**W

comp=Z,1.0nm,0.8s,baz=239,slow=8.6,SNR=6.7
comp=Z,1.0nm,0.8s
PDAR Pinedale Array 92.95 47 P P 11 25 09.2 +0.2
comp=Z,0.3nm,0.7s,baz=271,slow=4.1,SNR=2.6
comp=Z,0.3nm,0.7s
MKAR Makanchi Array 93.81 317 P P 11 25 11.4 -1.0
comp=Z,0.6nm,0.5s,baz=96,slow=5.7,SNR=5.5
comp=Z,0.6nm,0.5s
TXAR Lajitas Array 95.18 61 P **P 11 25 18.3 -1.0**
comp=Z,0.1nm,0.5s,baz=224,slow=5.0,SNR=1.8
comp=Z,0.1nm,0.5s
ARCES ARCESS Array B 116.30 346 PKP **PKPdf 11 30 35.5 -2.0**
comp=Z,5.2nm,1.1s,baz=101,slow=0.9,SNR=6.1
FINES FINESS Array B 121.81 339 PKP **PKPdf 11 30 46.7 -1.5**
comp=Z,2.4nm,0.9s,baz=343,slow=1.5,SNR=4.8
ESDC Sonseca Array 150.03 345 PKPbc **PKPbc 11 31 43.9 -1.6**
comp=Z,0.5nm,0.3s,baz=355,slow=2.7,SNR=5.0

RSNC 04 11:33:32.9±0.6, 4°N±2°×8°3W±°, h0km, M3.1, mb3.5, mB4.7, ML2.6, Mw(mB)4.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**3.45**	**28**	P	Pn	11 34 29.5	+1.6
CACAO				S	Sn	11 35 05.0	-4.5
GR1C	**Gorgona, Isla**	**4.52**	**106**	P	Pn	11 34 45.5	+2.8
GR1C				S	Sn	11 35 34.5	-1.5
MALC	**Bahia Malaga**	**5.17**	**93**	P	Pn	11 34 56.0	+4.4
MALC				S	Sn	11 35 53.4	+1.4
PAC1	**Pacto, Paraso**	**5.46**	**137**	P	Pn	11 34 55.9	+0.2
PAC1				S	Sn	11 35 59.5	+0.2
BCIP	**Isla Barro Col**	**5.52**	**29**	P	Pn	11 34 58.4	+1.9
BCIP	9.9nm,2.1s			S	Sn	11 35 59.0	-1.8
	9.9nm,2.1s						
OTAV	**Otavalo**	**5.71**	**135**	P	Pn	11 35 00.2	+0.7
	2.8nm,1.1s						
BBAC	**Balboa, Cauca**	**5.72**	**113**	P	Pn	11 35 02.6	+3.3
BBAC	3.8nm,0.4s			S	Sn	11 36 07.6	+1.8
	3.8nm,0.4s						
GCUF	**Volcan Galeras**	**5.99**	**120**	P	Pn	11 35 06.4	+3.1
PPLP	**Puerto Lpez**	**6.05**	**163**	P	Pn	11 35 02.4	-1.4
PPLP				S	Sn	11 36 08.6	-5.2
PRAC	**Prado**	**7.63**	**94**	P	Pn	11 35 30.5	+5.1
PRAC				S	Sn	11 36 56.3	+3.6
NORC	**Norcasia**	**7.72**	**80**	P	Pn	11 35 32.8	+6.1
SJCC	**San Jacinto, C**	**9.16**	**52**	P	Pn	11 35 53.8	+7.3

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*ATH **04** 11:48:51.6, 39°.77N×20°.69E, h14km±1km, ML2.2/8, Error ellipse: s-maj=1.7km s-min=1.1km az=122.0*
*TIR **04** 11:48:51.6, 39°.81N×20°.63E, h27km±2km, Md3.2, Ml2.5*
ISC 04 11:48:51.8±0.9, 39°.75N±0°.02×20°.73E±0°.03, h14km±7km, n22, σ1°01/33, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.13**	**133**	P	**Pg**	**11 48 55.2**	**-0.3**
JAN				S	**Sg**	**11 48 58.8**	**+0.9**
JAN				AML	AML	11 48 59.0	
	comp=N,10611µm,0.2s						
JAN				AML	AML	11 48 59.1	
	comp=E,7114µm,0.2s						
IGT	**Igoumenitsa**	**0.37**	**235**	P	**Pg**	**11 48 58.8**	**-0.6**
IGT				S	**Sb**	**11 49 06.1**	**+0.2**
IGT				AMP			
	comp=E,2.4nm,0.1s,baz=220						
IGT	**Igoumenitsa**	**0.37**	**235**	P	**Pg**	**11 48 58.7**	**-0.6**
IGT				S	**Sg**	**11 49 04.7**	**+0.2**
IGT				AML	AML	11 49 06.8	
	comp=N,1934µm,0.2s						
IGT				AML	AML	11 49 06.9	
	comp=E,1241µm,0.4s						
LSK	**Leskovik**	**0.41**	**347**	P	**Pg**	**11 48 59.3**	**-0.8**
LSK				S	**Sb**	**11 49 06.5**	**-0.6**
LSK				AMP			
	comp=E,2.3nm,0.5s,baz=356						
PENT	**Pentalofos**	**0.55**	**35**	P	**Pg**	**11 49 02.0**	**-0.7**
PENT				S	**Sg**	**11 49 10.0**	**0.0**
SRN	**Sarande**	**0.57**	**283**	P	**Pg**	**11 49 02.0**	**-1.1**
SRN				S	**Sb**	**11 49 11.7**	**+0.1**
SRN				AMP			
	comp=E,0.5nm,0.2s,baz=279						
NEST	**Nestorio**	**0.71**	**20**	P	**Pg**	**11 49 04.8**	**-0.9**
NEST				S	**Sg**	**11 49 15.4**	**+0.3**
NEST				AMP			
	comp=E,0.2nm,0.3s,baz=27						
NEST	**Nestorio**	**0.71**	**20**	P	**Pg**	**11 49 05.1**	**-0.6**
NEST				AML	AML	11 49 20.5	
	comp=E,327µm,0.4s						
NEST				AML	AML	11 49 21.8	
	comp=N,370µm,0.4s						
KEK	**Kerkira**	**0.71**	**267**	P	**Pg**	**11 49 04.2**	**-1.5**
KEK				AML	AML	11 49 20.3	
	comp=N,293µm,0.2s						
KEK				AML	AML	11 49 22.8	
	comp=E,300µm,0.2s						
TSLK	**Tsoukalades, L**	**0.93**	**183**	P	**Pb**	**11 49 08.8**	**-0.8**
TSLK				AML	AML	11 49 28.6	
	comp=N,255µm,0.3s						
TSLK				AML	AML	11 49 34.0	
	comp=E,297µm,0.4s						
LKD2	**Lefkada island**	**0.96**	**183**	P	**Pn**	**11 49 11.3**	**+0.4**
LKD2				S	**Sn**	**11 49 26.7**	**+2.3**
LKD2				AMP			
	comp=E,0.4nm,0.2s,baz=178						
LKD2	**Lefkada island**	**0.96**	**183**	P	**Pb**	**11 49 10.4**	**+0.1**
LKD2				AML	AML	11 49 31.1	
	comp=E,270µm,0.3s						
LKD2				AML	AML	11 49 32.5	
	comp=N,280µm,0.2s						
NYDR	**Nydri-Lefkada**	**1.03**	**181**	P	**Pb**	**11 49 10.9**	**-0.6**
DRAG	**Dragano-Lefkad**	**1.07**	**186**	P	**Pb**	**11 49 12.2**	**+0.1**
EVGI	**Lefkada island**	**1.13**	**183**	P	**Pn**	**11 49 12.5**	**-0.7**
FNA	**Florina**	**1.15**	**26**	P	**Pn**	**11 49 12.7**	**-0.8**
FNA				S	**Sg**	**11 49 30.2**	**+1.2**
FNA				AMP			
	comp=E,0.3nm,0.6s,baz=30						
FNA	**Florina**	**1.15**	**26**	P	**Pn**	**11 49 12.6**	**-0.8**
FNA				AML	AML	11 49 31.2	
	comp=E,440µm,0.6s						
FNA				AML	AML	11 49 32.6	
	comp=N,317µm,0.6s						
TYRN	**Tyrnavos**	**1.16**	**91**	P	**Pn**	**11 49 12.1**	**-1.6**
TYRN				AML	AML	11 49 32.6	
	comp=N,138µm,0.4s						
TYRN				AML	AML	11 49 36.2	
	comp=E,147µm,0.5s						
EVR	**Evrytania**	**1.18**	**134**	P	**Pn**	**11 49 13.1**	**-0.9**
MAKR	**Makrakomi, Fth**	**1.31**	**124**	P	**Pn**	**11 49 15.5**	**-0.3**
OHR	**Ohrid**	**1.36**	**2**	*i* Pn	**Pb**	**11 49 17.6**	**+0.5**
OHR				*i* Sn	**Sg**	**11 49 38.6**	**+2.8**
SCTE	**Santa Cesarea**	**1.77**	**281**	P	**Pb**	**11 49 24.5**	**+0.5**
SCTE				S	**Sb**	**11 49 45.9**	**-0.1**

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*NEIC **04** 11:54:14.1±1.4, 15°.33S±0°.08×74°.24W±0°.09, h67km±7km, mb4.9/102, Error ellipse: s-maj=14.6km s-min=9.2km az=57.0*
*IDC **04** 11:54:14.6±0.6, 15°.24S×74°.20W, h75km±6km, mb4.0/13, mbtmp4.3/18, MS3.6/15, Error ellipse: s-maj=21.6km s-min=9.2km az=57.0*
*VAO **04** 11:54:14.8±0.6, 15°.33S×74°.09W, h64km±4km, mb5.2*
ISC 04 11:54:14.1±0.4, 15°.36S±0°.05×74°.18W±0°.07, h71km, n221, σ1°14/213, mb4.9/60, 7C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.24**	**322**	Pn	**Pn**	**11 55 16.1**	**-0.2**
NNA	**Nana**	**4.24**	**322**	P	**Pn**	**11 55 16.3**	**+0.1**
	228nm,0.5s,baz=165,slow=12,SNR=24						
NNA				S	**Sn**	**11 56 01.3**	**-3.2**
	568nm,0.3s,baz=204,slow=22,SNR=13						
AP01	**Chacalluta**	**4.74**	**130**	Pn	**Pn**	**11 55 24.1**	**+1.0**
PB18	**Visviri**	**5.03**	**117**	Pn	**Pn**	**11 55 31.4**	**+3.9**
LPAZ	**La Paz**	**5.90**	**100**	Pn	Pn	11 55 44.4	+4.9
LPAZ	**La Paz**	**5.90**	**100**	P	**Pn**	**11 55 43.9**	**+4.3**
	62nm,0.4s,baz=267,slow=7.4,SNR=155						
LPAZ	**La Paz**	**5.90**	**100**	*eP*	**Pn**	**11 55 38.4**	**-1.2**
PB11	**IPOC Station P**	**6.15**	**136**		**Pn**	**11 55 42.8**	**+0.3**
TA02	**Huaiquique**	**6.22**	**142**		**Pn**	**11 55 43.7**	**+0.3**
GO01	**Chusmiza**	**6.40**	**133**	Pn	**Pn**	**11 55 46.9**	**+0.6**
TA01	**Diego Aracena**	**6.42**	**144**	Pn	**Pn**	**11 55 46.1**	**0.0**
PATCX	**Punta Patache**	**6.64**	**145**		**Pn**	**11 55 49.1**	**-0.1**
PB08	**IPOC Station P**	**6.75**	**136**		**Pn**	**11 55 51.2**	**+0.3**
PB01	**IPOC Station P**	**7.20**	**142**		**Pn**	**11 55 57.1**	**+0.2**
CZSB	**Cruzeiro do Su**	**7.72**	**11**	Pn	**Pn**	**11 56 03.7**	**-0.2**
CZSB	**Cruzeiro do Su**	**7.72**	**11**	*eP*	**Pn**	**11 56 03.6**	**-0.3**
LVC	**Limon Verde**	**8.77**	**146**	P	**Pn**	**11 56 19.7**	**+1.1**
	34nm,0.4s,baz=0.2,slow=8.6,SNR=51						
LVC				S	**Sn**	**11 57 52.9**	**-3.0**
	233nm,0.6s,baz=89,slow=20,SNR=16						
LVC				LR	LR	11 59 09.6	
	comp=Z,123nm,21.5s,baz=314,slow=33						
LVC	**Limon Verde**	**8.77**	**146**	*eP*	**Pn**	**11 56 19.6**	**+1.1**
ATAH	**Atahualpa**	**9.16**	**333**	P	**Pn**	**11 56 24.4**	**+0.4**
	6.4nm,0.6s,baz=144,slow=3.0,SNR=3.9						
ATAH				S	**Sn**	**11 58 10.9**	**+5.2**
	35nm,0.9s,baz=354,slow=20,SNR=1.2						
ETMB	**Extrema**	**9.53**	**56**	Pn	**Pn**	**11 56 29.4**	**+0.7**
ETMB	**Extrema**	**9.53**	**56**	*eP*	**Pn**	**11 56 29.3**	**+0.7**
GO02	**Mina Guanaco**	**10.66**	**157**	Pn	**Pn**	**11 56 44.8**	**+0.5**
AC01	**Pan de Azucar**	**11.24**	**163**	Pn	**Pn**	**11 56 51.2**	**-0.7**
TBTG	**Tabatinga, AM**	**11.87**	**21**		**Pn**	**11 57 00.4**	**-0.3**
TBTG	**Tabatinga, AM**	**11.87**	**21**	*eP*	**Pn**	**11 56 60.0**	**-0.7**
AC06	**Mina Casimiro**	**12.46**	**164**		**Pn**	**11 57 08.5**	**-0.1**
SAML	**Samuel**	**12.50**	**61**	Pn	**Pn**	**11 57 07.3**	**-1.8**
SAML	**Samuel**	**12.50**	**61**	*eP*	**Pn**	**11 57 08.1**	**-1.1**
SIV	**San Ignacio**	**12.64**	**95**	P	**Pn**	**11 57 09.5**	**-1.7**
	14nm,0.6s,baz=275,slow=14,SNR=88						
GO03	**Copiapo**	**12.71**	**164**		**Pn**	**11 57 11.0**	**-1.1**
BBSD	**Serra de San D**	**13.16**	**100**	*eP*	**Pn**	**11 57 15.0**	**-3.1**
VILB	**Vilhena**	**13.77**	**82**	Pn	**Pn**	**11 57 25.0**	**-1.2**
VILB	**Vilhena**	**13.77**	**82**	*eP*	**Pn**	**11 57 25.7**	**-0.6**
LCO	**Las Campanas**	**13.96**	**167**	Pn	**Pn**	**11 57 26.8**	**-2.0**
PTLB	**Pontes e Lacer**	**14.51**	**92**		**Pn**	**11 57 33.1**	**-2.7**
PTLB	**Pontes e Lacer**	**14.51**	**92**	*eP*	**Pn**	**11 57 35.9**	**+0.1**
FDPY	**Filadelfia**	**15.13**	**119**	*eP*	**Pn**	**11 57 42.5**	**-1.4**
OTAV	**Otavalo**	**16.06**	**344**	P	**P**	**11 57 59.6**	**+1.3**
OTAV	**Otavalo**	**16.06**	**344**	*eP*	**Pn**	**11 57 57.5**	**+1.3**
BDQN	**Bodoquena, MS**	**17.34**	**110**	*eP*	**Pn**	**11 58 11.3**	**-0.3**
PDRB	**Porto dos Gac**	**17.38**	**80**	*eP*	**Pn**	**11 58 11.5**	**-0.5**
SALV	**Santo Antonio**	**17.82**	**94**	*eP*	**P**	**11 58 16.6**	**-0.7**
MACA	**Manacapuru-AM**	**17.99**	**49**	P	**P**	**11 58 18.8**	**-0.4**
MACA				IAmb	IAmb	11 58 23.5	
	comp=Z,43nm,0.7s						
MACA	**Manacapuru-AM**	**17.99**	**49**	*eP*	**P**	**11 58 19.6**	**+0.4**
AQDB	**Aquidauana**	**18.30**	**109**	P	**P**	**11 58 24.0**	**+1.4**
AQDB	**Aquidauana**	**18.30**	**109**	*eP*	**P**	**11 58 23.8**	**+1.2**
CLDB	**Colider**	**18.45**	**78**	*eP*	**P**	**11 58 24.0**	**-0.3**
H03N1	**Juan Fernandez**	**18.50**	**193**	T	T	12 17 11.2	
	baz=15,slow=74,SNR=8918						
H03N2	**Juan Fernandez**	**18.51**	**193**	T	T	12 17 00.4	
	baz=15,slow=74,SNR=2092						
H03N3	**Juan Fernandez**	**18.52**	**193**	T	T	12 16 59.7	
	baz=15,slow=74,SNR=1836						
LMEL	**Las Melosas**	**18.75**	**170**	P	**P**	**11 58 27.5**	**-0.1**
CPUP	**Villa Florida**	**19.14**	**127**	P	**P**	**11 58 32.4**	**+0.7**
CPUP	**Villa Florida**	**19.14**	**127**	P	**P**	**11 58 31.6**	**-0.1**
	comp=Z,7.1nm,0.9s,baz=300,slow=11,SNR=12						
CPUP	**Villa Florida**	**19.14**	**127**	*eP*	**P**	**11 58 32.2**	**+0.5**
SJPY	**San Joaquin**	**19.47**	**122**	*eP*	**P**	**11 58 35.8**	**+0.4**
BO02	**Sierra Bellavi**	**19.59**	**172**		**P**	**11 58 38.2**	**+1.6**
ROSC	**El Rosal**	**20.07**	**360**	P	**P**	**11 58 42.6**	**+0.3**
	comp=Z,7.3nm,0.7s,baz=152,slow=22,SNR=1.6						
RPRD	**Ribas do Rio P**	**20.14**	**108**	*eP*	**P**	**11 58 42.8**	**+0.1**
NPGB	**Novo Progresso**	**20.22**	**68**	*eP*	**P**	**11 58 43.9**	**+0.4**
ITTB	**Itaituba**	**21.18**	**61**	*eP*	**P**	**11 58 53.8**	**-0.1**
ITQB	**Itaqui**	**21.54**	**134**	*eP*	**P**	**11 58 58.9**	**+1.2**
ARAG	**Araguaiana, MT**	**21.56**	**94**	*eP*	**P**	**11 58 58.0**	**+0.1**
PSAL	**Palomas, Salto**	**21.79**	**139**	*eP*	**P**	**11 59 01.6**	**+1.3**
BOAV	**Boa Vista**	**22.23**	**39**	P	**P**	**11 59 05.4**	**+0.3**
BOAV	**Boa Vista**	**22.23**	**39**	*eP*	**P**	**11 59 05.0**	**-0.1**
SNDB	**Serra Nova Dou**	**22.49**	**84**	*eP*	**P**	**11 59 07.5**	**-0.4**
PTGB	**Pitanga**	**22.74**	**118**	*eP*	**P**	**11 59 10.2**	**-0.4**
ITRB	**Iturama**	**23.11**	**104**	*eP*	**P**	**11 59 15.5**	**+1.1**
LDASE	**Londrina, Braz**	**23.16**	**114**	*eP*	**P**	**11 59 15.2**	**+0.4**
ITAB	**Concordia**	**23.66**	**124**	P	**P**	**11 59 21.7**	**+2.4**
ITAB				IAmb	IAmb	11 59 48.3	
	comp=Z,26nm,1.0s						
ITAB	**Concordia**	**23.66**	**124**	*eP*	**P**	**11 59 19.9**	**+0.7**
CPSB	**Cacapava Do Su**	**24.21**	**132**	*eP*	**P**	**11 59 25.2**	**+0.9**
SDV	**Santo Domingo**	**24.35**	**9**	LR	LR	12 10 02.7	
	comp=Z,147nm,19.1s,baz=118,slow=39						
SDV	**Santo Domingo**	**24.35**	**9**	*eP*	**P**	**11 59 26.5**	**+0.8**
FRTB	**Fartura**	**24.52**	**113**	*eP*	**P**	**11 59 28.2**	**+1.0**
BAUV	**El Baul**	**24.90**	**15**	P	**P**	**11 59 30.8**	**+0.2**
BB19B	**Bebedouro**	**25.00**	**107**	*eP*	**P**	**11 59 32.1**	**+0.5**
IPMB	**Ipameri, GO**	**25.01**	**100**	*eP*	**P**	**11 59 32.5**	**+0.8**
TRQA	**Tornquist**	**25.05**	**157**	P	**P**	**11 59 31.4**	**-0.4**
BDFB	**Brasilia**	**25.21**	**94**	P	**P**	**11 59 33.7**	**+0.1**
BDFB	**Brasilia**	**25.21**	**94**	P	**P**	**11 59 33.7**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=258,slow=10,SNR=4.9						
BDFB				LR	LR	12 10 05.6	
	comp=Z,170nm,19.9s,baz=314,slow=38						
	comp=Z,2.5nm,0.6s						
PLCA	**Paso Flores**	**25.48**	**174**	P	**P**	**11 59 36.7**	**+1.0**
PLCA				IAmb	IAmb	11 59 56.6	
	comp=Z,33nm,1.1s						
PLCA	**Paso Flores**	**25.48**	**174**	P	**P**	**11 59 36.8**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=355,slow=8.1,SNR=5.8						
PLCA				LR	LR	12 07 07.4	
	comp=Z,98nm,21.1s,baz=278,slow=30						
	comp=Z,2.3nm,0.7s						
PLCA	**Paso Flores**	**25.48**	**174**	*eP*	**P**	**11 59 37.5**	**+1.7**
PRPB	**Parauapebas**	**25.59**	**72**	*eP*	**P**	**11 59 37.3**	**+0.4**
RCLB	**Rio Claro- Sao**	**26.15**	**110**	*eP*	**P**	**11 59 42.8**	**+0.8**
SPB	**Sao Paulo**	**26.48**	**112**	*eP*	**P**	**11 59 45.8**	**+0.9**
PMNB	**Patos De Minas**	**26.71**	**101**	*eP*	**P**	**11 59 48.1**	**+0.9**
SMTB	**Santa Maria do**	**26.77**	**79**	*eP*	**P**	**11 59 48.2**	**+0.6**
PCRV	**Puerto La Cruz**	**27.08**	**21**	LR	LR	12 12 02.3	
	comp=Z,103nm,18.6s,slow=40						
JTS	**Las Juntas de**	**27.63**	**337**	LR	LR	12 10 22.6	
	comp=Z,91nm,20.6s,baz=114,slow=35						
BSCB	**Bom Sucesso**	**28.47**	**106**	*eP*	**P**	**12 00 02.6**	**-0.3**
JANB	**Januaria**	**28.82**	**93**	*eP*	**P**	**12 00 06.2**	**+0.2**
DIAM	**Diamantina, MG**	**29.33**	**100**	*eP*	**P**	**12 00 11.3**	**+0.7**
MDP	**Montagnes des**	**29.47**	**48**	LR	LR	12 12 44.9	
	comp=Z,185nm,18.4s,baz=244,slow=38						
RIB01	**Linhares ES**	**32.46**	**102**	*eP*	**P**	**12 00 39.1**	**+1.2**
MTDJ	**Mount Denham**	**33.54**	**354**	P	**P**	**12 00 48.1**	**+0.7**
OBIP	**Obispado Ponce**	**34.02**	**13**		**P**	**12 00 50.8**	**-0.7**
SJG	**San Juan**	**34.19**	**14**	P	**P**	**12 00 52.2**	**-0.7**
RPN	**Rapa Nui**	**34.67**	**244**	LR	LR	12 10 50.6	
	comp=Z,132nm,18.6s,baz=68,slow=29						
NBCA	**Caruaru-PE**	**37.98**	**84**	*eP*	**P**	**12 01 26.4**	**+0.8**
RCBR	**Riachuelo**	**38.74**	**80**	LR	LR	12 17 42.1	
	comp=Z,62nm,21.4s,baz=332,slow=36						
154A	**Montrose**	**48.46**	**350**	P	**P**	**12 02 48.7**	**-0.9**
250A	**Grady**	**48.48**	**346**	P	**P**	**12 02 49.8**	**+0.1**
152A	**Waverly Hall**	**48.81**	**348**	P	**P**	**12 02 51.8**	**-0.5**
152A				IAmb	IAmb	12 02 52.3	
	comp=Z,19nm,1.0s						
GOGA	**Godfrey**	**49.30**	**350**	P	**P**	**12 02 55.0**	**-0.9**
GOGA				IAmb	IAmb	12 02 56.2	
	comp=Z,16nm,1.0s						
Y57A	**Sumter**	**49.46**	**353**	P	**P**	**12 02 56.7**	**-0.5**
LRAL	**Lakeview Retre**	**49.66**	**346**	P	**P**	**12 02 57.2**	**-1.5**
LRAL				IAmb	IAmb	12 02 58.8	
	comp=Z,26nm,1.2s						
JSC	**Jenkinsville**	**49.82**	**352**	P	**P**	**12 02 59.3**	**-0.6**
JSC				IAmb	IAmb	12 03 00.5	
	comp=Z,15nm,0.9s						
PMSA	**Palmer Station**	**49.85**	**174**	LR	LR	12 22 28.7	
	comp=Z,53nm,18.5s,baz=312,slow=34						
HODGE	**Hodges**	**49.91**	**351**	P	**P**	**12 03 00.1**	**-0.5**
HODGE				IAmb	IAmb	12 03 00.6	
	comp=Z,11nm,0.7s						
Z47A	**Carrollton**	**50.08**	**345**	P	**P**	**12 03 00.5**	**-1.4**
BIRD	**Birdtown, Kers**	**50.09**	**353**	P	**P**	**12 03 00.8**	**-1.1**
W50A	**Signal Mountai**	**51.38**	**348**	P	**P**	**12 03 10.6**	**-1.1**
W50A				IAmb	IAmb	12 03 11.6	
	comp=Z,24nm,1.0s						
V53A	**Saluda**	**51.41**	**351**	P	**P**	**12 03 11.6**	**-0.3**
V53A				IAmb	IAmb	12 03 12.1	
	comp=Z,6.7nm,0.8s						
TKL	**Tuckaleechee C**	**51.55**	**350**	P	**P**	**12 03 12.2**	**-0.7**
TKL				IAmb	IAmb	12 03 12.8	
	comp=Z,10.0nm,0.8s						
U54A	**Nelsons Funny**	**52.10**	**352**	P	**P**	**12 03 16.2**	**-0.9**
U54A				IAmb	IAmb	12 03 17.4	
	comp=Z,17nm,0.9s						
T59A	**Double "B" Far**	**52.15**	**357**	P	**P**	**12 03 16.1**	**-1.2**
V48A	**Smith Brothers**	**52.21**	**347**	P	**P**	**12 03 15.5**	**-2.4**
V48A				IAmb	IAmb	12 03 18.2	
	comp=Z,17nm,0.9s						
T57A	**Hurt**	**52.30**	**355**	P	**P**	**12 03 18.1**	**-0.4**
TZTN	**Tazewell**	**52.38**	**350**	P	**P**	**12 03 17.8**	**-1.3**
TZTN				IAmb	IAmb	12 04 38.8	
	comp=Z,23nm,1.4s						
TXAR	**Lajitas Array**	**52.77**	**327**	P	**P**	**12 03 22.0**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=154,slow=8.8,SNR=20						
	comp=Z,2.1nm,0.6s						
TX31	**Lajitas Ar. Si**	**52.77**	**327**	P	**P**	**12 03 21.6**	**-0.7**
WVT	**Waverly**	**52.81**	**346**	P	**P**	**12 03 20.7**	**-1.6**
WVT				IAmb	IAmb	12 03 21.2	
	comp=Z,16nm,1.1s						
WVT	**Waverly**	**52.81**	**346**	P	**P**	**12 03 20.4**	**-1.9**
FW07	**Weatherford**	**52.86**	**335**	P	**P**	**12 03 21.4**	**-1.3**
MIAR	**Mount Ida**	**52.95**	**340**	P	**P**	**12 03 23.0**	**-0.4**
MIAR				IAmb	IAmb	12 03 23.8	
	comp=Z,11nm,0.7s						
T50A	**Nancy**	**53.06**	**349**	P	**P**	**12 03 23.2**	**-0.9**
T50A				IAmb	IAmb	12 03 23.8	
	comp=Z,12nm,0.9s						
R58B	**Mineral**	**53.15**	**356**	P	**P**	**12 03 24.9**	**+0.1**
R58B				IAmb	IAmb	12 03 26.8	
	comp=Z,26nm,1.2s						
Z35A	**Perchaven, San**	**53.20**	**336**	P	**P**	**12 03 25.4**	**+0.2**
PBMO	**Poplar Bluff**	**54.08**	**344**	P	**P**	**12 03 30.5**	**-1.0**
PBMO				IAmb	IAmb	12 03 31.2	
	comp=Z,16nm,0.8s						
R50A	**Paris**	**54.20**	**350**	P	**P**	**12 03 31.4**	**-1.1**
R50A				IAmb	IAmb	12 03 32.4	
	comp=Z,14nm,1.1s						
APMT	**Aspermont**	**54.38**	**333**	P	**P**	**12 03 33.6**	**-0.3**
APMT				IAmb	IAmb	12 03 34.6	
	comp=Z,19nm,0.8s						
WCI	**Wyandotte Cave**	**54.51**	**348**	P	**P**	**12 03 33.1**	**-1.4**
WCI	**Wyandotte Cave**	**54.51**	**348**	P	**P**	**12 03 33.2**	**-1.4**
X34A	**Smith Ranch, M**	**54.54**	**336**		**P**	**12 03 34.7**	**-0.3**
HHAR	**Hobbs**	**54.65**	**340**	P	**P**	**12 03 34.7**	**-1.1**
HHAR				IAmb	IAmb	12 03 36.0	
	comp=Z,18nm,1.1s						
TUL3	**Leonard**	**54.94**	**339**	P	**P**	**12 03 36.5**	**-1.3**
MGMO	**Mountain Grove**	**54.94**	**342**	P	**P**	**12 03 37.0**	**-0.8**
MGMO				IAmb	IAmb	12 03 38.1	
	comp=Z,26nm,1.1s						
DKNS	**Dickens**	**55.02**	**333**	P	**P**	**12 03 38.4**	**-0.1**
DKNS				IAmb	IAmb	12 03 39.0	
	comp=Z,13nm,0.7s						
WMOK	**Wichita Mounta**	**55.03**	**335**	P	**P**	**12 03 37.5**	**-1.1**
MVL	**Millersville**	**55.11**	**358**	P	**P**	**12 03 39.9**	**+0.9**
MVL				IAmb	IAmb	12 03 40.1	
	comp=Z,13nm,0.9s						
CCM	**Cathedral Cave**	**55.50**	**344**	P	**P**	**12 03 42.2**	**+0.4**
CCM				IAmb	IAmb	12 03 49.7	
	comp=Z,18nm,1.4s						
CCM	**Cathedral Cave**	**55.50**	**344**	P	**P**	**12 03 40.9**	**-0.9**
CCM				PcP	**PcP**	**12 04 40.6**	**-0.4**
Q44A	**Meyer Farm, Va**	**55.74**	**346**	P	**P**	**12 03 42.4**	**-1.1**
S39A	**Bolivar**	**55.76**	**342**	P	**P**	**12 03 43.1**	**-0.6**
S39A				IAmb	IAmb	12 03 43.7	
	comp=Z,21nm,0.9s						
SSPA	**Standing Stone**	**55.81**	**357**	P	**P**	**12 03 43.9**	**-0.1**
SMWD	**Samnorwood**	**55.95**	**334**	P	**P**	**12 03 44.5**	**-0.7**
N58A	**Sunbury**	**55.96**	**358**	P	**P**	**12 03 45.2**	**+0.2**
R40A	**Maddies Statio**	**56.00**	**343**	P	**P**	**12 03 44.7**	**-0.7**
R40A				IAmb	IAmb	12 03 45.2	
	comp=Z,12nm,0.9s						
K57A	**Scipio Center**	**57.84**	**358**	P	**P**	**12 03 58.3**	**-0.1**
MMNY	**Mt. Morris Dam**	**57.91**	**357**	P	**P**	**12 03 58.2**	**-0.6**
MMNY				IAmb	IAmb	12 03 59.7	
	comp=Z,22nm,1.6s						
R32A	**Long Quarter,**	**58.23**	**337**	P	**P**	**12 04 00.4**	**-0.8**
ANMO	**Albuquerque**	**58.67**	**329**	P	**P**	**12 04 03.2**	**-1.4**
ANMO	**Albuquerque**	**58.67**	**329**	P	**P**	**12 04 04.5**	**0.0**
T25A	**Trinidad**	**59.48**	**332**	P	**P**	**12 04 09.0**	**-1.1**
T25A				IAmb	IAmb	12 04 11.1	
	comp=Z,9.5nm,0.9s						
DELO	**Deloro Mine**	**59.67**	**357

SNAA				IAmb	IAmb	12 05 46.9	
	comp=Z,14nm,0.7s						
SNAA	**Sanae**	**69.67**	**161**	⇑PcP	sP	12 05 45.5	+2.2
	comp=Z,310nm,0.6s						
SNAA				⇑pP	**pP**	**12 05 36.4**	**+1.1**
	comp=Z,125nm,1.2s						
SNAA	**Sanae**	**69.67**	**161**	P	**P**	**12 05 16.0**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=188,slow=11,SNR=2.7						
SNAA				pP	**pP**	**12 05 36.3**	**+1.1**
	comp=Z,8.4nm,1.1s,baz=217,slow=8.0,SNR=6.3						
	comp=Z,1.4nm,0.7s						
MFID	**Camas Ranch**	**69.82**	**329**	P	**P**	**12 05 16.6**	**-0.6**
SCHQ	**Schefferville**	**70.19**	**5**	P	**P**	**12 05 18.4**	**-0.7**
SCHQ	**Schefferville**	**70.19**	**5**	P	**P**	**12 05 18.1**	**-1.0**
	comp=Z,4.8nm,0.8s,baz=193,slow=4.4,SNR=3.6						
SCHQ				LR	LR	12 37 05.0	
	comp=Z,93nm,19.8s,baz=315,slow=37						
	comp=Z,4.8nm,0.8s						
DBIC	**Dimbokro**	**72.06**	**78**	P	**P**	**12 05 30.9**	**-0.4**
	comp=Z,6.0nm,0.6s,baz=234,slow=6.1,SNR=6.8						
DBIC				LR	LR	12 35 20.7	
	comp=Z,82nm,18.9s,baz=329,slow=34						
	comp=Z,6.0nm,0.6s						
QSPA	**South Pole Qui**	**74.79**	**180**	P	**P**	**12 05 47.5**	**+0.9**
QSPA				IAmb	IAmb	12 06 18.3	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**74.79**	**180**	P	**P**	**12 05 47.6**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=308,slow=1.3,SNR=18						
QSPA				pP	**pP**	**12 06 07.6**	**+1.4**
	comp=Z,11nm,1.2s,baz=145,slow=5.4,SNR=12						
	comp=Z,0.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**80.22**	**73**	P	**P**	**12 06 17.6**	**-0.1**
	comp=Z,10nm,0.7s,baz=270,slow=5.1,SNR=58						
	comp=Z,10nm,0.7s						
YKA	**Yellowknife Ar**	**83.81**	**342**	P	**P**	**12 06 35.2**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=63,slow=9.1,SNR=4.1						
	comp=Z,1.9nm,0.9s						
ESDC	**Sonseca Array**	**85.15**	**47**	P	**P**	**12 06 42.6**	**-0.1**
	comp=Z,3.2nm,0.9s,baz=256,slow=4.9,SNR=14						
	comp=Z,3.2nm,0.9s						
SUMG	**Summit**	**90.86**	**10**	P	**P**	**12 07 10.1**	**+0.3**
SUMG	**Summit**	**90.86**	**10**	*i* P	**P**	**12 07 09.0**	**-0.8**
MAW	**Mawson**	**91.57**	**165**	LR	LR	12 48 39.2	
	comp=Z,51nm,19.3s,baz=172,slow=36						
KDAK	**Kodiak Island**	**96.80**	**328**	LR	LR	12 49 37.1	
	comp=Z,26nm,18.8s,baz=80,slow=34						
ASAR	**Alice Springs**	**132.48**	**216**	PKP	**PKPdf**	**12 13 19.8**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=123,slow=1.7,SNR=5.9						
WRA	**Warramunga Arr**	**135.09**	**220**	PKP	**PKPdf**	**12 13 25.9**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=140,slow=1.6,SNR=6.8						
WRA				pPKP	**pPKPdf**	**12 13 48.0**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=146,slow=1.3,SNR=5.4						
ZALV	**Zalesovo Beam**	**138.13**	**19**	PKP	**PKPdf**	**12 13 29.6**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=270,slow=1.5,SNR=6.9						
ZALV				pPKP	**pPKPdf**	**12 13 50.8**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=318,slow=1.9,SNR=1.4						
KURBB	**Kurchatov Arra**	**138.51**	**26**	PKP	**PKPdf**	**12 13 28.5**	**-3.1**
	comp=Z,0.4nm,0.5s,baz=331,slow=2.7,SNR=5.4						
MKAR	**Makanchi Array**	**143.04**	**27**	PKhKP	PKPpre	12 13 36.6	
	comp=Z,0.7nm,0.7s,baz=329,slow=3.2,SNR=8.0						
KSH	**Kashi**	**144.50**	**42**	PKP	PKPbc	12 13 42.8	+1.2
SONM	**Songino Array**	**147.62**	**359**	PKPbc	**PKPbc**	**12 13 50.8**	**+0.1**
	comp=Z,5.1nm,0.6s,baz=339,slow=1.6,SNR=26						
XLT	**XiLinHaoTe**	**150.24**	**345**	*e*PKPbc	**PKPdf**	**12 13 54.6**	**+2.4**
KSRS	**Korea Array**	**150.54**	**322**	PKPbc	**PKPbc**	**12 13 58.6**	**+0.4**
	comp=Z,2.7nm,1.0s,baz=353,slow=1.8,SNR=12						
JOW	**Kunigami**	**156.19**	**302**	PKPbc	PKPdf	12 14 11.7	+11
	comp=Z,12nm,0.5s,baz=291,slow=21,SNR=2.1						
PZH	**PanZhiHua**	**168.28**	**18**	PKP	**PKPdf**	**12 14 12.1**	**-1.4**

*AEIC **04** 12:00:02.2±1.9, 52°.38N±0°.10×169°.8W±0°.1, h44km±9km, Error ellipse: s-maj=16.5km s-min=5.3km az=146.0*

NEIC 04 12:00:04.1±2.1, 52°.45N±0°.04×169°.77W±0°.10, h37km±19km, ML3.5/8, ML3.2(AEIC), Error ellipse: s-maj=10.1km s-min=2.7km az=122.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.34**	**5**		Pn	12 00 11.8	-0.7
CLCO					Sn	12 00 20.2	+1.0
NIKH	**Nikolski High**	**0.77**	**47**		Pn	12 00 16.7	-1.7
NIKH					Sn	12 00 27.9	-0.7
OKWE	**Okmok W'ng Wal**	**1.38**	**42**		Pn	12 00 26.2	-0.6
OKRE	**Okmok R'deer P**	**1.45**	**42**		Pn	12 00 27.1	-0.7
OKFG	**Magazine Ridge**	**1.48**	**49**		Pn	12 00 27.7	-0.5
OKFG					Sn	12 00 47.0	+0.7
MAPS	**Pakushin South**	**2.18**	**50**		Pn	12 00 37.5	-0.3
MAPS					Sn	12 01 02.9	-0.7
MREP	**Makushin Rep't**	**2.28**	**52**		Pn	12 00 38.5	-0.7
MSW	**Makushin Switc**	**2.32**	**50**		Pn	12 00 38.9	-0.8
UNV	**Unalaska Valle**	**2.42**	**53**		Pn	12 00 40.4	-0.6
UNV					Sn	12 01 09.1	-0.1
KOFP	**Korovin Flat P**	**2.66**	**268**		Pn	12 00 44.4	0.0
ATKA	**Atka Island**	**2.72**	**267**		Pn	12 00 44.1	-1.2
ATKA					Sn	12 01 16.1	-0.7
AKRB	**Akutan Reef Bi**	**2.79**	**51**		Pn	12 00 45.9	-0.3
AKMO	**Akutan Morgan**	**2.79**	**52**		Pn	12 00 46.5	+0.2
ZRO	**Akutan Zero**	**2.81**	**53**		Pn	12 00 47.0	+0.5
LVA	**Lava Point**	**2.82**	**51**		Pn	12 00 47.2	+0.5
LVA	**Lava Point**	**2.82**	**51**	IAML		12 01 36.1	
	comp=E,154nm,0.7s						
AKGG	**Akutan Green G**	**2.87**	**51**		Pn	12 00 47.7	+0.4
AHB	**Akutan Harbor**	**2.90**	**53**		Pn	12 00 48.4	+0.6
AKSA	**Akutan Strait**	**2.97**	**54**		Pn	12 00 48.5	-0.2
GSTR	**Great Sitkin T**	**3.88**	**267**	Pn	Pn	12 00 59.0	-2.2
P08K	**Saint George I**	**4.16**	**2**	Pn	Pn	12 01 03.7	-1.3
P08K				IAML		12 01 59.3	
	comp=E,82nm,1.1s						
ADK	**Adak**	**4.29**	**265**		Pn	12 01 05.8	-1.0
ADK					Sn	12 01 56.4	+0.9
ADK	**Adak**	**4.29**	**265**	IAML		12 01 58.2	
	comp=E,52nm,0.9s						
ADK				IAML		12 02 06.1	
	comp=E,42nm,0.4s						
KIWB	**Kanaga Island**	**4.58**	**265**	Pn	Pn	12 01 11.5	+0.7
SPIA	**Saint Paul Isl**	**4.75**	**357**		Pn	12 01 13.2	+0.2
S12K	**Black Hills**	**5.59**	**51**	Pn	Pn	12 01 23.3	-1.3
M11K	**Mekoryuk**	**8.20**	**13**	Pn	Pn	12 02 00.4	+0.1
O14K	**Tigyukauivet M**	**8.33**	**32**	Pn	Pn	12 02 02.5	+0.4
M13K	**Dall Lake**	**8.74**	**21**	Pn	Pn	12 02 09.4	+1.7
M14K	**Bethel**	**9.36**	**24**	Pn	Pn	12 02 16.6	+0.3
N15K	**Kwethluk River**	**9.41**	**31**	Pn	Pn	12 02 17.6	+0.6
O16K	**Kokwok River B**	**9.68**	**38**	Pn	Pn	12 02 21.1	+0.4
L14K	**Kuka Creek**	**9.71**	**21**	Pn	Pn	12 02 22.2	+1.1
N17K	**Nushagak Hills**	**10.66**	**36**	Pn	Pn	12 02 35.1	+1.1
L16K	**Owhat River**	**10.83**	**27**	Pn	Pn	12 02 36.6	+0.2
K17K	**Iditarod**	**11.97**	**26**	Pn	Pn	12 02 53.1	+1.2
L18K	**Granite Mounta**	**12.05**	**31**	Pn	Pn	12 02 54.5	+1.5
M19K	**Big River Lodg**	**12.59**	**35**	Pn	Pn	12 03 01.3	+0.9
L19K	**White Mountain**	**12.62**	**34**	Pn	Pn	12 03 00.7	-0.2

*IDC **04** 12:00:33.8±2.5, 24°.61S×179°.86E, h520km±25km, mb3.2/4, mbtmp4.1/5, Error ellipse: s-maj=35.6km s-min=31.9km az=159.0*

ISC 04 12:00:34.3±1.8, 24°.7S±0°.2×179°.8E±0°.3, h517km, n6, σ0s59/6, mb3.8/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.12**	**347**	P	**P**	**12 02 22.4**	**0.0**
	4.7nm,0.5s,baz=205,slow=23,SNR=6.2						
STKA	**Stephens Creek**	**34.23**	**249**	P	**P**	**12 06 37.0**	**+0.2**
	1.2nm,0.4s,baz=78,slow=10,SNR=6.1						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**41.70**	**262**	P	**P**	**12 07 37.8**	**-0.1**
	0.9nm,0.3s,baz=92,slow=6.8,SNR=94						
	0.9nm,0.3s						
WRA	**Warramunga Arr**	**42.15**	**267**	P	**P**	**12 07 40.9**	**-0.5**
	4.7nm,0.5s,baz=100,slow=6.8,SNR=252						
WRA				ScP	**ScP**	**12 12 26.1**	**+0.9**
	0.7nm,1.2s,baz=96,slow=3.9,SNR=5.3						
	4.7nm,0.5s						
QSPA	**South Pole Qui**	**65.39**	**180**	P	**P**	**12 10 25.1**	**-0.2**
	0.6nm,1.0s,baz=271,slow=4.9,SNR=1.6						
	0.6nm,1.0s						
HFS	**Hagfors**	**143.28**	**348**	PKP	PKPbc	12 19 06.5	-0.7
	2.7nm,0.8s,baz=48,slow=2.1,SNR=7.8						

*JMA **04** 12:04:00.9±0.1, 38°.8N±0°.4×140°.5E±0°.6, h143km, MV3.3/40, NORTHERN YAMAGATA PREF*

*IDC **04** 12:04:01.5±1.9, 38°.70N×140°.40E, h152km±18km, mb3.3/12, mbtmp3.7/16, MS3.0/1, Error ellipse: s-maj=19.8km s-min=13.4km az=65.0*

ISC 04 12:04:00.7±0.7, 38°.81N±0°.05×140°.49E±0°.06, h144km±5km, n32, σ1s26/45, mb3.4/12, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYK	**Kaneyama**	**0.15**	**317**	P	**Pn**	**12 04 20.3**	**+0.1**
JYK				S	**Sn**	**12 04 34.5**	**-0.6**
JOFO	**Osakifurukawao**	**0.39**	**122**	*i* P	**Pn**	**12 04 21.4**	**+0.6**
JOFO				S	**Sn**	**12 04 37.2**	**+1.1**
JOU	**Okura**	**0.46**	**163**	P	**Pn**	**12 04 21.6**	**+0.4**
JOU				S	**Sn**	**12 04 37.3**	**+0.5**
JMK	**Ichinoseki**	**0.58**	**75**	*i* P	**Pn**	**12 04 22.0**	**+0.2**
JRG	**Rokugo**	**0.60**	**10**	*i* P	**Pn**	**12 04 22.2**	**+0.2**
JRG				S	**Sn**	**12 04 38.5**	**+0.4**
JYA	**Atsumi**	**0.65**	**251**	*i* P	**Pn**	**12 04 22.3**	**+0.1**
JYA				S	**Sn**	**12 04 38.4**	**-0.1**
JYS	**Shiratake**	**0.67**	**210**	P	**Pn**	**12 04 22.5**	**+0.1**
JYS				*e*S	**Sn**	**12 04 39.3**	**+0.4**
JIO	**Ouri**	**0.76**	**117**	*i* P	**Pn**	**12 04 23.0**	**+0.1**
JIO				S	**Sn**	**12 04 39.3**	**-0.6**
JOM	**Ohasama**	**0.91**	**43**	*i* P	**Pn**	**12 04 24.7**	**+0.5**
JMM	**Marumori**	**0.97**	**166**	*i* P	**Pn**	**12 04 24.8**	**+0.2**
JMM				S	**Sn**	**12 04 42.7**	**-0.2**
JAW	**Awa shima**	**1.04**	**251**	P	**Pn**	**12 04 25.2**	**0.0**
JAW				S	**Sn**	**12 04 44.0**	**+0.2**
JOTO	**OTAMA OYAMA**	**1.25**	**186**	P	**Pn**	**12 04 27.6**	**+0.3**
JOTO				S	**Sn**	**12 04 48.1**	**+0.6**
JNS	**Sasagawa**	**1.35**	**224**	P	**Pn**	**12 04 28.3**	**0.0**
JANG	**Nango**	**1.75**	**26**	*i* P	**Pn**	**12 04 32.9**	**+0.3**
JANG				S	**Sn**	**12 04 56.6**	**-0.4**
JSD	**Sado**	**1.92**	**247**	P	**Pn**	**12 04 34.1**	**-0.3**
MJAR	**Matsushiro Arr**	**2.90**	**219**	P	**Pn**	**12 04 47.2**	**+0.6**
	11nm,0.7s,baz=29,slow=13,SNR=62						
ASAJ	**Asahikawa**	**5.54**	**16**	P	**Pn**	**12 05 19.4**	**-1.6**
	3.0nm,0.3s,baz=190,slow=11,SNR=14						
ASAJ				S	**Sn**	**12 06 19.8**	**-4.0**
	4.7nm,0.4s,baz=217,slow=15,SNR=5.1						
JHJ	**Hachijo jima 2**	**5.71**	**186**	P	**Pn**	**12 05 22.5**	**-0.9**
	355nm,1.3s,baz=15,slow=18,SNR=2.5						
JHJ				S	**Sn**	**12 06 23.2**	**-4.8**
	104nm,0.7s,baz=54,slow=19,SNR=2.3						
USRK	**Ussuriysk Ar.**	**8.35**	**313**	P	**Pn**	**12 06 00.8**	**+2.1**
	1.2nm,0.4s,baz=122,slow=13,SNR=4.7						
KSRS	**Korea Array**	**10.00**	**266**	P	**Pn**	**12 06 22.6**	**+1.9**
	0.7nm,0.7s,baz=81,slow=14,SNR=4.4						
ZALV	**Zalesovo Beam**	**40.20**	**311**	P	**P**	**12 11 21.1**	**-1.5**
	0.4nm,0.3s,baz=93,slow=8.7,SNR=3.9						
	0.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**41.29**	**253**	P	**P**	**12 11 31.1**	**-0.9**
	0.4nm,0.4s,baz=47,slow=8.5,SNR=2.3						
CMAR				LR	LR	12 28 17.9	
	comp=Z,18nm,18.4s,baz=305,slow=35						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**42.58**	**300**	P	**P**	**12 11 42.1**	**-0.1**
	1.1nm,0.7s,baz=84,slow=10,SNR=13						
	1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**44.35**	**306**	P	**P**	**12 11 55.8**	**-0.4**
	2.8nm,0.5s,baz=82,slow=8.2,SNR=19						
	2.8nm,0.5s						
ILAR	**Eielson Array**	**48.40**	**33**	P	**P**	**12 12 28.4**	**+0.7**
	0.4nm,0.6s,baz=271,slow=4.8,SNR=3.5						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**48.85**	**311**	P	**P**	**12 12 30.9**	**-0.4**
	0.9nm,0.5s,baz=80,slow=10,SNR=4.8						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**58.72**	**187**	P	**P**	**12 13 42.8**	**-0.5**
	0.4nm,0.9s,baz=4.2,slow=7.2,SNR=6.5						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**62.45**	**187**	P	**P**	**12 14 08.8**	**+0.3**
	0.3nm,0.7s,baz=358,slow=4.7,SNR=5.0						
	0.3nm,0.7s						
HFS	**Hagfors**	**72.18**	**335**	P	**P**	**12 15 09.4**	**+0.2**
	2.3nm,0.9s,baz=22,slow=1.6,SNR=1.2						
	2.3nm,0.9s						
NVAR	**Mina Array Bea**	**74.51**	**53**	P	**P**	**12 15 25.3**	**+1.7**
	0.3nm,0.6s,baz=297,slow=6.0,SNR=3.9						
	0.3nm,0.6s						
PDAR	**Pinedale Array**	**76.94**	**45**	P	**P**	**12 15 38.4**	**+1.0**
	0.1nm,0.3s,baz=267,slow=1.8,SNR=2.3						
	0.1nm,0.3s						
TXAR	**Lajitas Array**	**89.61**	**52**	P	**P**	**12 16 41.2**	**-1.1**
	0.1nm,0.5s,baz=325,slow=7.7,SNR=3.2						
	0.1nm,0.5s						

JMA 04 12:11:22.1±0.2, 24°.0N±0°.7×122°.8E±0°.5, h14km±3km, MV1.9/11, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.43**	**18**	*e*P	Pg	12 11 30.6	-0.1
JYNG				*e*S	Sg	12 11 36.8	+0.2
YOJ	**Yonaguni jima**	**0.47**	**25**	*e*S	Sg	12 11 37.8	+0.2
IRIF	**Iriomote-Funau**	**0.90**	**71**	*e*P	Pb	12 11 38.8	-0.6
IRIF				*e*S	Sb	12 11 51.2	-0.1
HATJ	**Hateruma jima**	**0.92**	**88**	*e*P	Pb	12 11 39.7	-0.1
JKRS	**Kuro-shima**	**1.12**	**79**	*e*P	Pb	12 11 42.8	-0.4
JKRS				*e*S	Sb	12 11 57.9	+0.1
JIJ	**Ishigaki jima**	**1.27**	**75**	*e*P	Pn	12 11 44.6	-0.8
JIJ				*e*S	Sb	12 12 01.5	-0.4
JISG	**Ishigakijimahi**	**1.49**	**68**	*e*P	Pn	12 11 47.9	-0.5
JISG				*e*S	Sn	12 12 07.5	0.0

TAP 04 12:11:35.1, 23°.79N×121°.45E, h11km, ML0.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.03**	**335**	P	Pg	12 11 37.4	+0.2
ESL				S	Sg	12 11 38.7	0.0
WARBT	**Fenglin Townsh**	**0.09**	**219**	P	Pg	12 11 38.0	+0.2
WARBT				S	Sg	12 11 39.9	+0.2
SHUL	**Shoufeng**	**0.11**	**89**	*e*S	Sg	12 11 40.7	+0.7
EGFH	**Guangfu**	**0.12**	**189**	*e*P	Pg	12 11 38.4	+0.2
EGFH				*e*S	Sg	12 11 40.7	+0.4
OWD	**Renai**	**0.30**	**304**	*e*P	Pb	12 11 42.0	-0.6
OWD				*e*S	Sg	12 11 46.3	+0.9
WUSB	**Renai**	**0.36**	**304**	*e*P	Pb	12 11 43.2	-0.5
WUSB				*e*S	Sg	12 11 48.3	+0.9

*IDC **04** 12:14:55.0±1.7, 22°.96S×70°.38W, h0km, mb4.0/4, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=66.2km s-min=26.4km az=115.0*

*GUC **04** 12:14:56.5±0.8, 22°.86S×70°.85W, h31km±3km, ML3.8*

ISC 04 12:14:55.1±3.7, 22°.85S±0°.04×70°.81W±0°.07, h11km±23km, n21, σ1s23/27, mb3.9/4, 4C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.80**	**50**	⇓*e*P	**Pb**	**12 15 11.1**	**0.0**
PB04				*e*S	**Sb**	**12 15 21.8**	**-0.2**
PB04				IAML		12 15 24.4	
	comp=N,4μm,0.5s						
PB06	**IPOC Station P**	**1.15**	**83**	⇓*e*P	**Pn**	**12 15 16.7**	**-0.6**
PB06				*e*S	**Sn**	**12 15 32.5**	**-0.7**
PB06				IAML		12 15 34.8	
	comp=N,2μm,0.5s						
PB15	**IPOC Station P**	**1.28**	**106**	⇑*e*P	**Pn**	**12 15 19.0**	**-0.1**
PB15				*e*S	**Sn**	**12 15 36.5**	**0.0**
PB15				IAML		12 15 40.4	
	comp=E,8μm,0.3s						
LVC	**Limon Verde**	**1.77**	**83**	LR	LR	12 15 36.8	
	comp=E,49nm,19.1s,baz=193,slow=30						
LVC	**Limon Verde**	**1.77**	**83**	⇑*e*P	**Pn**	**12 15 26.8**	**+0.8**
LVC				*e*S	**Sb**	**12 15 49.8**	**-0.3**
LVC				IAML		12 15 56.3	
	comp=E,1μm,0.3s						
PB09	**IPOC Station P**	**1.79**	**54**	⇑*e*P	**Pn**	**12 15 26.6**	**+0.5**
PB09				*e*S	**Sb**	**12 15 50.4**	**-0.2**
PB09				IAML		12 15 59.7	
	comp=E,935nm,0.4s						
PB14	**IPOC Station P**	**1.81**	**168**	*e*P	**Pn**	**12 15 25.2**	**-1.2**
PB14				*e*S	**Sn**	**12 15 49.4**	**-0.2**
PATCX	**Punta Patache**	**2.11**	**17**	⇑*e*P	**Pn**	**12 15 29.1**	**-1.3**
PATCX				*e*S	**Sn**	**12 15 56.9**	**+0.2**
PATCX				IAML		12 16 07.8	
	comp=E,527nm,0.6s						
PB01	**IPOC Station P**	**2.18**	**35**	*e*P	**Pn**	**12 15 31.9**	**+0.6**
PB01				*i* S	**Sn**	**12 15 57.9**	**-0.5**
TA01	**Diego Aracena**	**2.35**	**15**	*e*P	**Pn**	**12 15 32.8**	**-0.8**
TA01				*e*S	**Sn**	**12 15 59.1**	**-3.3**
TA01				IAML		12 16 16.3	
	comp=N,609nm,0.5s						
GO02	**Mina Guanaco**	**2.56**	**154**	*e*S	**Sn**	**12 16 07.8**	**-0.3**
GO01	**Chusmiza**	**3.51**	**26**	*e*P	**Pn**	**12 15 50.6**	**+0.7**
GO01				*e*S	**Sn**	**12 16 31.3**	**-0.4**
GO01				IAML		12 16 49.6	
	comp=E,275nm,0.5s						
LPAZ	**La Paz**	**7.00**	**22**	Pn	**Pn**	**12 16 40.8**	**+2.6**
	comp=E,1.3nm,0.3s,baz=199,slow=5.2,SNR=18						
	comp=E,3.0nm,0.3s						
H03N1	**Juan Fernandez**	**12.74**	**212**	T	T	12 31 07.8	
	baz=38,slow=71,SNR=78						
H03N2	**Juan Fernandez**	**12.74**	**212**	T	T	12 31 07.2	
	baz=38,slow=71,SNR=51						
H03N3	**Juan Fernandez**	**12.75**	**212**	T	T	12 31 06.1	
	baz=38,slow=71,SNR=49						
BDFB	**Brasilia**	**22.67**	**76**	P	**P**	**12 19 55.0**	**-1.7**
	comp=E,1.4nm,0.5s,baz=255,slow=12,SNR=3.1						
	comp=E,1.4nm,0.5s						
QSPA	**South Pole Qui**	**67.35**	**180**	P	**P**	**12 25 50.7**	**+0.7**
	comp=E,0.5nm,0.5s,baz=134,slow=10,SNR=11						
	comp=E,0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**79.46**	**71**	P	**P**	**12 27 00.9**	**-1.2**
	comp=E,1.0nm,0.8s,baz=251,slow=5.6,SNR=5.1						
	comp=E,1.0nm,0.8s						
MAW	**Mawson**	**83.54**	**164**	P	**P**	**12 27 25.1**	**+2.3**
	comp=E,1.9nm,0.4s,baz=242,slow=17,SNR=6.8						
	comp=E,1.9nm,0.4s						
MKAR	**Makanchi Array**	**147.75**	**36**	PKPbc	**PKPbc**	**12 34 40.1**	**+0.2**
	comp=E,0.5nm,0.6s,baz=349,slow=2.6,SNR=5.6						

DJA 04 12:50:14.2±0.3, 8°S±4°×116°E±°, h10km, M4.0/6, mB5.7/1, mb4.6/3, MLv3.6/6, Mw(mB)5.3/1, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**0.73**	**283**	P	Pg	12 50 28.4	+0.1
SRBI				S	Sb	12 50 39.1	+0.1
PLAI	**Plampang**	**1.91**	**108**	P	Pn	12 50 46.9	0.0
PLAI				S	Sn	12 51 11.9	+0.8
MTKI	**Muara Teweh, K**	**7.33**	**352**	P	Pn	12 52 01.9	+0.5
SOEI	**Soe**	**8.37**	**101**	P	Pn	12 52 16.1	+0.3

*BJI **04** 13:08:23.1, 41°.70N×141°.73E, h110km, mb4.7/52, mB5.0/17*

*MOS **04** 13:08:26.2±0.8, 41°.83N×141°.53E, h114km, mb4.7/24, Error ellipse: s-maj=6.8km s-min=5.3km az=102.4*

*IDC **04** 13:08:27.0±1.1, 41°.84N×141°.52E, h108km±8km, mb4.1/24, mbtmp4.4/30, MS3.0/9, Error ellipse: s-maj=12.9km s-min=9.2km az=134.0*

*NEIC **04** 13:08:27.3±1.1, 41°.84N±0°.07×141°.5E±0°.1, h105km±7km, mb4.7/268, Error ellipse: s-maj=12.6km s-min=8.9km az=119.0*

*NIED **04** 13:08:27.3, 41°.79N×141°.54E, h108km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.55; $M_{\theta\theta}$=0.40; $M_{\phi\phi}$=0.94; $M_{r\theta}$=0.94; $M_{\theta\phi}$=3.29; $M_{\phi r}$=2.48; Fault plane solution: M_0=4.29000×10^{15} NP1: ϕ_s=176.00000°, δ=82.00000°, λ=-143.00000°. NP2: ϕ_s=80.00000°, δ=53.00000°, λ=-10.00000°.*

*JMA **04** 13:08:27.3±0.1, 41°.8N±0°.3×141°.5E±0°.6, h108km±1km, MD4.2/39, MW4.5/39, S OFF TOMAKOMAI*

JMA Felt II J1 at S OFF TOMAKOMAI .

ISC 04 13:08:26.9±0.5, 41°.81N±0°.04×141°.57E±0°.04, h110km±3km, n643, σ1s11/540, mb4.7/174, 17C-34D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.41**	**281**	⇓P	**Pn**	**13 08 43.2**	**+0.1**
JKB				⇓S	**Sn**	**13 08 55.9**	**+0.6**
JKB	**Kayabe**	**0.41**	**281**	A	A	13 08 43.2	
	comp=E,12nm,1.2s,comp=N,17nm,1.5s						
JAHD	**Aomorihigashid**	**0.57**	**198**	⇓P	**Pn**	**13 08 44.4**	**+0.2**
JAHD				⇓S	**Sn**	**13 08 57.2**	**-0.1**
JAHD	**Aomorihigashid**	**0.57**	**198**	A	A	13 08 44.4	
	comp=E,57nm,1.3s,comp=N,47nm,0.4s						
JOT	**Ohata**	**0.58**	**222**	⇓P	**Pn**	**13 08 44.4**	**+0.1**
JOT				⇓S	**Sn**	**13 08 58.1**	**+0.7**
JOT	**Ohata**	**0.58**	**222**	A	A	13 08 44.4	
	comp=E,12nm,1.3s,comp=N,7.0nm,2.0s						
JNB	**Noboribetsu**	**0.76**	**329**	P	**Pn**	**13 08 46.0**	**+0.2**
JNB	**Noboribetsu**	**0.76**	**329**	A	A	13 08 46.0	
	comp=E,5.0nm,1.1s,comp=N,14nm,1.4s

JOB Onbets 2.00 56 A A 13 09 01.1
comp=E,11nm,0.7s,comp=N,27nm,0.8s
JSZI Iwateshizukuis 2.12 193 A A 13 09 01.8
comp=E,12nm,1.5s,comp=N,16nm,3.6s
JAR Ashorobuto 2.20 47 A A 13 09 03.7
comp=E,7.0nm,0.8s,comp=N,9.0nm,0.8s
JOM Ohasama 2.35 185 A A 13 09 04.8
comp=E,6.0nm,1.1s,comp=N,3.0nm,0.7s
ASAJ Asahikawa 2.42 18 P **Pn 13 09 06.0 +0.7**
comp=N,154nm,0.4s,baz=214,slow=13,SNR=424
ASAJ S **Sn 13 09 34.8 +0.1**
comp=N,258nm,0.5s,baz=224,slow=16,SNR=12
ASAJ Asahikawa 2.42 18 P **Pn 13 09 05.6 +0.4**
JKA Kamikawa-asahi 2.42 18 Pn **Pn 13 09 05.6 +0.4**
JAK Akkeshi 2.60 62 A A 13 09 09.0
comp=E,6.0nm,1.0s,comp=N,10.0nm,1.0s
JTKR Abashiri--Toko 2.76 38 A A 13 09 11.1
comp=E,2.0nm,0.9s,comp=N,3.0nm,2.8s
YUK Yuzh-Kuril'sk 3.85 53 *e*P **Pn 13 09 24.6 +0.4**
YUK *i* S **Sn 13 10 06.7 -1.9**
YUK pmax pmax
comp=N,80nm,0.2s
YUK pmax pmax
comp=Z,692nm,0.2s
YUK pmax pmax
comp=E,77nm,0.1s
YUK smax smax
comp=N,3μm,0.6s
YUK smax smax
comp=E,3μm,0.6s
JMM Marumori 3.99 189 Pn **Pn 13 09 25.1 -1.0**
SHO Shikotan 4.38 60 *e*P **Pn 13 09 30.7 -0.5**
SHO *i* S **Sn 13 10 16.1 -5.1**
SHO pmax pmax
comp=Z,140nm,0.3s
SHO pmax pmax
comp=N,51nm,0.2s
SHO pmax pmax
comp=E,68nm,0.4s
SHO smax smax
comp=N,1μm,0.3s
SHO smax smax
comp=E,977nm,0.3s
JSD Sado 4.55 215 Pn **Pn 13 09 33.6 0.0**
TEY Ternei 4.84 313⇑*e*P **Pn 13 09 38.2 +0.8**
TEY pmax pmax
comp=N,200nm,1.0s
TEY pmax pmax
comp=E,200nm,1.0s
TEY pmax pmax
comp=Z,300nm,1.0s
TEY pmax pmax
comp=N,190nm,0.8s
TEY pmax pmax
comp=E,230nm,0.8s
TEY pmax pmax
comp=Z,290nm,0.8s
YSS Yuzh-Sakhalins 5.21 9 Pn **Pn 13 09 42.7 +0.3**
YSS Yuzh-Sakhalins 5.21 9⇓*e*P **Pn 13 09 43.2 +0.8**
YSS *e*S **Sn 13 10 40.1 -1.1**
YSS pmax pmax
comp=Z,120nm,0.9s
YSS smax smax
comp=N,50nm,0.8s
YSS smax smax
comp=E,40nm,0.8s
KUR Kuril'sk 5.71 51 *e*P **Pn 13 09 50.0 +0.8**
KUR *i* S **Sn 13 10 53.9 +0.5**
KUR pmax pmax
comp=N,39nm,0.3s
KUR pmax pmax
comp=E,54nm,0.3s
KUR pmax pmax
comp=Z,97nm,0.3s
KUR smax smax
comp=E,152nm,0.4s
KUR smax smax
comp=N,243nm,0.5s
MJB9 Matsu-Tunnel 5.87 208 **Pn 13 09 53.2 +1.6**
MAJO Matsushiro 5.88 207 Pn **Pn 13 09 52.0 +0.4**
MAJO Matsushiro 5.88 207*de*P **Pn 13 09 51.9 +0.4**
MAJO pmax pmax
comp=Z,33nm,1.0s
MJAR Matsushiro Arr 5.88 207 P **Pn 13 09 51.9 +0.4**
comp=Z,9.2nm,0.8s,baz=19,slow=15,SNR=30
MJAR LR LR 13 12 48.4
comp=Z,26nm,20.0s,baz=50,slow=44
JGF Kuroka 7.02 209 Pn **Pn 13 10 08.0 +0.9**
VLA Vladivostok 7.28 284*d i*P **Pn 13 10 11.9 +1.5**
VLA pmax pmax
comp=Z,155nm,1.1s
USA0B Ussuriysk Arra 7.42 292 Pn **Pn 13 10 12.9 +0.6**
USA0B Ussuriysk Arra 7.42 292*c i*P **Pn 13 10 13.2 +0.9**
USRK Ussuriysk Ar. 7.42 292 Pn **Pn 13 10 13.0 +0.7**
USRK Ussuriysk Ar. 7.42 292 P **Pn 13 10 12.9 +0.7**
comp=Z,16nm,0.5s,baz=94,slow=14,SNR=32
USRK Ussuriysk Ar. 7.42 292 P **Pn 13 10 13.0 +0.7**
MSHR Mys Shultsa 7.77 279*ce*P **Pn 13 10 18.5 +1.4**
MSHR pmax pmax
comp=Z,45nm,1.3s
PSTR Posyet 8.03 280*d i*P **Pn 13 10 22.2 +1.5**
JHJ Hachijo jima 2 8.79 190 P **Pn 13 10 27.6 -3.5**
comp=Z,111nm,0.9s,baz=342,slow=19,SNR=2.2
JHJ S Sn 13 11 58.8 -10
comp=Z,62nm,0.4s,baz=323,slow=20,SNR=1.8
TYV Tymovskoe 9.08 4 *e*P **Pn 13 10 35.8 +1.0**
TYV *e*S **Sn 13 12 12.1 -3.1**
TYV pmax pmax
comp=Z,26nm,0.7s
TYV pmax pmax
comp=Z,300nm,3.9s
TYV smax smax
comp=E,15nm,1.7s
TYV smax smax
comp=N,400nm,3.8s
TYV smax smax
comp=E,500nm,3.8s
MDJ Mudanjiang 9.18 292 Pn **Pn 13 10 35.6 -0.6**
MDJ Mudanjiang 9.18 292 P **Pn 13 10 37.5 +1.2**
MDJ sP 13 11 03.7
MDJ S **Sn 13 12 18.6 +0.9**
MDJ pmax pmax
comp=E,48nm,0.9s
MDJ pmax pmax
comp=E,170nm,4.5s
KLR Kul'dur 10.12 320 P **Pn 13 10 48.6 -0.3**
comp=E,12nm,1.0s,baz=133,slow=8.1,SNR=16
KLR LR LR 13 14 48.5
comp=E,78nm,20.2s,baz=11,slow=38
KLR Kul'dur 10.12 320*de*P **Pn 13 10 49.1 +0.2**
KLR pmax pmax
comp=Z,23nm,1.3s
BNX BinXian 10.97 296 ⇑P **Pn 13 10 59.8 -0.6**
BNX pmax pmax
comp=Z,28nm,0.9s
KSRS Korea Array 11.38 252 P **Pn 13 11 06.8 +0.7**
comp=Z,1.4nm,0.8s,baz=65,slow=12,SNR=7.7
KSRS S **Sn 13 13 18.2 +7.0**
comp=Z,1.0nm,0.8s,baz=64,slow=25,SNR=3.5
KSRS LR LR 13 15 05.0
comp=Z,64nm,20.2s,baz=30,slow=35
JNU Nakatsue 12.13 228 LR LR 13 16 13.9
comp=Z,78nm,18.3s,baz=9.5,slow=38
TJN Taejon 12.29 248⇑*e*P **P 13 11 21.9 -3.8**
HEH HeiHe 12.94 315 *e*P **Pn 13 11 25.1 -1.4**
HEH pmax pmax
comp=Z,8.0nm,1.1s
ZEA Zeya 15.29 326 *e*P **Pn 13 11 56.8 +0.3**
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,30nm,0.6s
ZEA pmax pmax
comp=Z,50nm,0.7s
PEA0B Petropavlovsk- 15.66 38 Pn **Pn 13 11 58.3 -2.9**
PEA0B IAmb IAmb 13 12 38.0
comp=Z,70nm,1.3s
PEA0B Petropavlovsk- 15.66 38 P **Pn 13 11 58.3 -2.9**
PEA0B pmax pmax
comp=Z,70nm,1.3s
PETK Petropavlovsk- 15.66 38 Pn **Pn 13 11 58.2 -3.0**
PETK Petropavlovsk- 15.66 38 P **Pn 13 11 58.5 -2.7**
comp=Z,6.7nm,0.6s,baz=230,slow=11,SNR=17
PETK LR LR 13 18 21.7
comp=Z,43nm,18.7s,baz=263,slow=38
PETK Petropavlovsk- 15.66 38 P **Pn 13 11 58.2 -3.0**

HIA Hailar 16.97 303 Pn **Pn 13 12 13.9 -3.5**
HIA IAmb IAmb 13 12 17.6
comp=Z,29nm,0.8s
HIA Hailar 16.97 303 P **Pn 13 12 13.9 -3.5**
HIA pmax pmax
comp=Z,29nm,0.8s
MA2 Magadan 18.68 15 P **P 13 12 35.7 -0.4**
comp=Z,32nm,0.9s,baz=197,slow=19,SNR=7.3
BJI Beijing 19.25 273 P **P 13 12 41.3 -1.2**
BJI pmax pmax
comp=Z,11nm,1.2s
BJT Baijiatuau 19.26 273 P **P 13 12 39.7 -2.9**
BJT Baijiatuau 19.26 273 P **P 13 12 39.7 -2.9**
BJT pmax pmax
comp=Z,23nm,1.0s
TIA Tai'an 19.77 262 P **P 13 12 46.8 -1.4**
TIA PcP **PcP 13 17 02.9 +1.1**
TIA ScS ScS 13 24 12.3 +2.2
TIA pmax pmax
comp=Z,15nm,0.9s
TIA pmax pmax
comp=Z,96nm,3.5s
NJ2 Nanjing 20.55 249 *e*P Pn 13 12 58.6 -1.3
NJ2 pmax pmax
comp=Z,12nm,0.7s
HNS HongShan 21.12 267 ⇑P **P 13 12 59.8 -2.9**
HNS pmax pmax
comp=Z,9.0nm,0.9s
YAK Yakutsk 21.46 345 P **P 13 13 03.2 -2.8**
YAK IAmb IAmb 13 13 05.6
comp=Z,43nm,0.8s
YAK Yakutsk 21.46 345 P **P 13 13 04.5 -1.5**
comp=Z,33nm,0.7s,baz=125,slow=2.5,SNR=13
YAK ScP **ScP 13 20 30.9 -0.3**
comp=Z,5.4nm,0.5s,baz=140,slow=3.1,SNR=2.0
comp=Z,33nm,0.7s
YAK Yakutsk 21.46 345 *e*P **P 13 13 05.0 -1.1**
YAK *e*S **S 13 16 55.3 -2.2**
YAK *e* 13 17 06.3
YAK *e* 13 24 17.7
YAK pmax pmax
comp=Z,43nm,0.9s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,13nm,1.2s
YAK smax smax
comp=E,111nm,1.6s
YAK smax smax
comp=N,44nm,1.5s
SEY Seymchan 22.10 13*c i*P **P 13 13 12.3 -0.5**
SEY pmax pmax
comp=Z,40nm,1.3s
HHC Hu-ho-hao-te 22.50 278 *e*P **P 13 13 14.2 -3.1**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,79nm,3.7s
BTO Baotou 23.70 278 *e*P **P 13 13 27.2 -1.4**
BTO pP **pP 13 13 50.9 -0.4**
BTO sP **sP 13 14 04.2 -1.0**
BTO PP **PnPn 13 14 05.3 +2.3**
BTO pmax pmax
comp=Z,27nm,1.0s
BTO pmax pmax
comp=Z,340nm,5.2s
SHEM Shemya Is, Ala 24.42 52 LR LR 13 22 04.4
comp=Z,38nm,21.1s,baz=231,slow=34
ULN Ulaanbaatar 25.07 296 P **P 13 13 39.2 -1.8**
ULN Ulaanbaatar 25.07 296*ce*P **P 13 13 41.1 +0.1**
ULN pmax pmax
comp=Z,10.0nm,0.6s
SONM Songino Array 25.51 296 P **P 13 13 44.0 -0.9**
SONM Songino Array 25.51 296 P **P 13 13 44.4 -0.5**
comp=Z,5.6nm,0.5s,baz=89,slow=11,SNR=29
SONM ScP **ScP 13 20 42.6 0.0**
comp=Z,2.1nm,1.1s,baz=82,slow=3.1,SNR=5.2
comp=Z,5.6nm,0.5s
XAN Xi'an 26.78 264 ⇓P **P 13 13 56.9 +0.5**
XAN ScP **ScP 13 20 47.2 +0.8**
XAN pmax pmax
comp=Z,15nm,0.9s
ZAK Zakamensk 27.64 301 *e*P **P 13 14 02.8 -1.2**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
MOY Mondy 29.16 304 *e*P **P 13 14 19.1 +1.6**
MOY pmax pmax
comp=Z,25nm,1.8s
BILL Bilibino 29.44 19⇑*e*P **P 13 14 19.7 +0.1**
BILL *i* *PP **pP 13 14 44.1 +0.2**
BILL pmax pmax
comp=Z,25nm,2.5s
H11N2 WAKE ISLAND Hy 30.75 128 T T 13 47 06.7
baz=321,slow=76,SNR=56
H11N1 WAKE ISLAND Hy 30.76 128 T T 13 47 07.6
baz=321,slow=76,SNR=140
H11N3 WAKE ISLAND Hy 30.77 128 T T 13 47 08.2
baz=321,slow=76,SNR=91
GTA Gaotai 31.57 280 *e*P **P 13 14 39.1 +0.2**
GTA pmax pmax
comp=Z,4.0nm,0.7s
H11S1 WAKE ISLAND Hy 31.59 130 T T 13 47 47.3
baz=323,slow=74
H11S3 WAKE ISLAND Hy 31.60 130 T T 13 47 48.9
baz=323,slow=74
H11S2 WAKE ISLAND Hy 31.61 130 T T 13 48 20.2
baz=323
SPIA Saint Paul Isl 34.05 46 P **P 13 14 59.4 -0.7**
baz=264
P08K Saint George I 34.38 48 P **P 13 15 02.4 -0.6**
baz=266
NIKH Nikolski High 34.70 54 P **P 13 15 06.2 +0.4**
baz=272
PZH PanZhiHua 35.98 258 P **P 13 15 18.6 +1.4**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,120nm,5.1s
UNV Unalaska Valle 36.08 52 P **P 13 15 16.4 -1.1**
baz=272
GOMU GeErMu 36.41 277 P **P 13 15 20.7 -0.3**
GOMU pmax pmax
comp=Z,15nm,0.8s
M11K Mekoryuk 36.49 41 P **P 13 15 20.4 -0.6**
baz=264
TNA Tin City 36.70 32 P **P 13 15 22.1 -0.6**
baz=255
F14K Arctic Creek 37.32 33 P **P 13 15 28.0 +0.1**
baz=257
DAV Davao City (W) 37.40 207 LR LR 13 29 21.3
comp=Z,52nm,21.1s,baz=328,slow=34
K13K Kusilvak Mount 37.42 39 P **P 13 15 30.3 +1.4**
K13K Kusilvak Mount 37.42 39 P **P 13 15 29.5 +0.7**
baz=263
ANM Nome 37.52 35 P **P 13 15 29.8 +0.1**
baz=259
FALS False Pass 37.84 51 P **P 13 15 32.5 +0.1**
baz=273
M13K Dall Lake 37.91 41 P **P 13 15 34.4 +1.5**
M13K Dall Lake 37.91 41 P **P 13 15 33.4 +0.5**
baz=266
J14K Nanvaranak Lak 38.03 38 P **P 13 15 34.2 +0.2**
baz=263
F15K North Star Dit 38.05 33 P **P 13 15 33.9 -0.2**
baz=258
G15K Niukluk 38.16 34 P **P 13 15 35.8 +0.7**
baz=260
L14K Kuka Creek 38.30 40 P **P 13 15 37.2 +1.0**
baz=266
C16K Lisburne Hills 38.41 29 P **P 13 15 37.1 +0.1**
baz=254
S12K Black Hills 38.56 49 P **P 13 15 38.9 +0.3**
baz=273
M14K Bethel 38.61 41 P **P 13 15 40.1 +1.3**
M14K Bethel 38.61 41 P **P 13 15 39.5 +0.7**
baz=267,SNR=5.2
N14K Kuskokwak Cree 38.71 42 P **P 13 15 39.5 -0.2**
baz=268
H16K Elim 38.87 35 P **P 13 15 41.1 +0.2**
baz=262
L15K Ungalak Mounta 38.90 40 P **P 13 15 41.5 +0.3**
baz=266
O14K Tigyukauivet M 38.91 43 P **P 13 15 41.9 +0.6**
baz=270
ZAA0 Zalesovo Array 38.92 308 P **P 13 15 40.8 -0.7**
ZALV Zalesovo Beam 38.92 308 P **P 13 15 40.9 -0.6**

ZALV Zalesovo Beam 38.92 308 P **P 13 15 41.4 -0.1**
comp=Z,12nm,0.6s,baz=90,slow=8.0,SNR=76
ZALV PcP **PcP 13 17 50.3 +0.5**
comp=Z,1.7nm,0.5s,baz=96,slow=3.0,SNR=3.7
ZALV ScP **ScP 13 21 27.7 -0.2**
comp=Z,1.0nm,0.6s,baz=241,slow=26,SNR=5.6
comp=Z,12nm,0.6s
K15K Wolf Creek Mou 38.92 39 P **P 13 15 43.0 +1.5**
K15K IAmb IAmb 13 15 44.9
comp=Z,24nm,1.1s
K15K Wolf Creek Mou 38.92 39 P **P 13 15 41.8 +0.4**
baz=266
G16K Koyuk River 38.93 34 IAmb IAmb 13 15 45.8
comp=Z,16nm,0.9s
G16K Koyuk River 38.93 34 P **P 13 15 41.9 +0.4**
baz=261
WMQ Urumqi 38.98 292 *e*P **P 13 15 40.9 -1.4**
WMQ pmax pmax
comp=Z,18nm,0.7s
NRIK Noril'sk 39.02 333 P **P 13 15 42.7 +0.5**
comp=Z,3.4nm,0.6s,baz=98,slow=7.1,SNR=3.7
comp=Z,3.4nm,0.6s
D17K Noatak River 39.09 30 P **P 13 15 43.2 +0.5**
baz=257
C17K DeLong Mountai 39.23 29 P **P 13 15 44.9 +0.9**
baz=256
RDOG Red Dog Mine 39.23 29 P **P 13 15 44.1 +0.1**
baz=257
M15K Kasigluk River 39.23 41 P **P 13 15 44.6 +0.5**
baz=268
E17K Hotham Inlet 39.44 31 P **P 13 15 46.1 +0.5**
baz=259,SNR=6.5
N15K Kwethluk River 39.52 42 P **P 13 15 47.2 +0.8**
N15K Kwethluk River 39.52 42 P **P 13 15 46.9 +0.5**
baz=270
F17K Baldwin Pennin 39.55 32 P **P 13 15 46.7 +0.2**
baz=261
G17K Kiwalik Mounta 39.65 34 P **P 13 15 47.6 +0.1**
baz=262
O15K Ungalikthiuk R 39.66 44 P **P 13 15 47.7 +0.2**
baz=271
L16K Owhat River 39.86 40 P **P 13 15 50.5 +1.3**
L16K IAmb IAmb 13 15 52.1
comp=Z,21nm,1.1s
L16K Owhat River 39.86 40 P **P 13 15 49.6 +0.4**
baz=268,SNR=6.2
H17K Granite Mounta 39.89 34 P **P 13 15 49.7 +0.2**
baz=264
B18K Kokolik River 39.93 27 P **P 13 15 49.9 +0.2**
baz=257
S14K Fog Glacier 39.93 48 P **P 13 15 50.2 +0.2**
baz=275
E18K Tukpahlearik C 39.97 31 IAmb IAmb 13 15 53.2
comp=Z,14nm,0.8s
E18K Tukpahlearik C 39.97 31 P **P 13 15 49.7 -0.4**
baz=260
C18K Utukok River 39.98 29 P **P 13 15 50.2 0.0**
baz=258
CHNA Chernabura Isl 40.05 50 P **P 13 15 51.7 +0.9**
baz=276
M16K Timber Creek 40.09 41 P **P 13 15 52.4 +1.2**
M16K IAmb IAmb 13 15 53.6
comp=Z,16nm,1.1s
M16K Timber Creek 40.09 41 P **P 13 15 51.8 +0.7**
baz=269,SNR=5.1
J17K VABM Dome 40.12 37 P **P 13 15 52.0 +0.6**
baz=266,SNR=6.1
N16K Nishlik Lake 40.18 41 P **P 13 15 52.2 +0.3**
baz=270,SNR=6.5
F18K Selawik 40.21 32 P **P 13 15 52.0 0.0**
baz=262
A19K Wainwright 40.37 26 P **P 13 15 53.9 +0.6**
baz=256
L17K Donlin 40.43 39 P **P 13 15 54.2 +0.3**
baz=269,SNR=5.8
K17K Iditarod 40.44 38 P **P 13 15 55.7 +1.7**
K17K Iditarod 40.44 38 P **P 13 15 54.1 +0.1**
baz=268,SNR=9.6
G18K Tagagawik 40.52 33 IAmb IAmb 13 15 56.5
comp=Z,15nm,0.8s
G18K Tagagawik 40.52 33 P **P 13 15 54.6 -0.1**
baz=264,SNR=7.9
O16K Kokwok River B 40.53 43 P **P 13 15 55.3 +0.5**
baz=272
H18K Honhosa River 40.57 34 IAmb IAmb 13 15 56.7
comp=Z,11nm,0.9s
H18K Honhosa River 40.57 34 P **P 13 15 55.6 +0.5**
baz=265
P16K Nushagak River 40.60 44 P **P 13 15 55.6 +0.3**
baz=273
C19K Lookout Ridge 40.65 28 P **P 13 15 54.9 -0.8**
baz=259
M17K Holitna River 40.83 40 P **P 13 15 59.3 +2.1**
M17K Holitna River 40.83 40 P **P 13 15 56.6 -0.6**
baz=270,SNR=5.3
N17K Nushagak Hills 40.96 41 P **P 13 15 58.4 +0.1**
baz=272
F19K Shaleruckik Mo 40.98 32 IAmb IAmb 13 16 00.6
comp=Z,13nm,1.0s
F19K Shaleruckik Mo 40.98 32 P **P 13 15 58.1 -0.2**
baz=264
O17K Koliganek Bris 41.03 43 P **P 13 15 58.4 -0.4**
baz=272
D19K Kuna River 41.07 29 P **P 13 15 58.8 -0.3**
baz=261,SNR=7.9
GCSA Galena City Sc 41.17 35 P **P 13 15 59.9 0.0**
baz=267
L18K Granite Mounta 41.18 39 IAmb IAmb 13 16 03.6
comp=Z,14nm,0.9s
L18K Granite Mounta 41.18 39 P **P 13 16 00.1 0.0**
baz=270,SNR=6.2
G19K Purcell Mounta 41.18 33 IAmb IAmb 13 16 01.5
comp=Z,8.0nm,0.7s
G19K Purcell Mounta 41.18 33 P **P 13 16 00.2 +0.2**
baz=265
J18K Innoko River 41.19 37 IAmb IAmb 13 16 02.7
comp=Z,18nm,1.1s
J18K Innoko River 41.19 37 P **P 13 16 00.8 +0.6**
baz=269,SNR=8.2
E19K Redstone River 41.26 31 IAmb IAmb 13 16 02.5
comp=Z,15nm,0.8s
E19K Redstone River 41.26 31 P **P 13 16 01.1 +0.4**
baz=264
Q16K King Salmon 41.32 44 P **P 13 16 01.1 -0.1**
baz=274
P17K Kvichak River 41.40 43 P **P 13 16 02.3 +0.5**
baz=274
H19K Roundabout Mou 41.40 34 P **P 13 16 02.2 +0.4**
baz=266,SNR=12
TTA Tatalina 41.50 38 P **P 13 16 04.0 +1.2**
TTA IAmb IAmb 13 16 05.4
comp=Z,8.3nm,0.9s
TTA Tatalina 41.50 38 P **P 13 16 02.5 -0.2**
baz=270
TTA Tatalina 41.50 38 P **P 13 16 04.0 +1.2**
TTA pmax pmax
comp=Z,8.0nm,0.9s
R17L Mt. Peulik Vol 41.56 46 P **P 13 16 03.2 0.0**
baz=276
N18K Kilae Creek 41.59 41 P **P 13 16 03.7 +0.2**
baz=272,SNR=5.3
M18K Stony River 41.60 40 P **P 13 16 03.7 +0.2**
baz=272
B20K Meade River 41.65 27 P **P 13 16 03.7 -0.1**
baz=261
D20K Etivluk River 41.65 29 P **P 13 16 03.7 -0.1**
baz=263,SNR=8.1
J19K Poorman 41.69 36 IAmb IAmb 13 16 06.6
comp=Z,18nm,0.8s
J19K Poorman 41.69 36 P **P 13 16 04.9 +0.7**
baz=269,SNR=10
E20K Nigu River 41.74 30 P **P 13 16 04.9 +0.2**
baz=264
Q17K Contact Creek 41.75 45 P **P 13 16 05.1 +0.2**
baz=275
F20K Avaraart Lake 41.80 32 P **P 13 16 04.8 -0.3**
baz=265
MK31 Makanchi Array 41.84 298 P **P 13 16 05.5 -0.3**
MK31 IAmb IAmb 13 16 08.7
comp=Z,13nm,1.1s
MK31 Makanchi Array 41.84 298*c i*P **P 13 16 05.4 -0.3**
MKAR Makanchi Array 41.84 298 P **P 13 16 05.2 -0.5**
MKAR Makanchi Array 41.84 298 P **P 13 16 05.6 -0.1**
comp=Z,9.9nm,0.8s,baz=81,slow=9.2,SNR=36
MKAR PcP **PcP 13 18 00.1 +0.6**
comp=Z,0.3nm,0.3s,baz=80,slow=4.7,SNR=1.6
MKAR ScP **ScP 13 21 39.2 -0.3**
comp=Z,1.2nm,0.7s,baz=63,slow=3.5,SNR=7.4

comp=Z,9.9nm,0.8s
O18K **Koktuh Hills** 41.98 42 P P 13 16 07.4 +0.7
baz=274
P18K **Big Mountain,** 42.00 43 P P 13 16 07.2 +0.4
baz=274
L19K **White Mountain** 42.04 39 IAmb IAmb 13 16 12.8
comp=Z,15nm,1.3s
L19K **White Mountain** 42.04 39 P P 13 16 07.9 +0.7
baz=272
MAKZ **Makanchi** 42.04 298 P P 13 16 07.1 -0.2
MAKZ IAmb IAmb 13 16 10.5
comp=Z,21nm,1.1s
MAKZ **Makanchi** 42.04 298 P P 13 16 07.1 -0.2
MAKZ pmax pmax
comp=Z,21nm,1.1s
H20K **Anotleneega Mo** 42.05 34 P P 13 16 07.6 +0.5
baz=268,SNR=7.9
PHRA **Phrae** 42.09 249 P P 13 16 08.1 +0.1
CHIR **Chirikof Islan** 42.17 48 P P 13 16 08.4 +0.2
baz=278
Q18K **Katmai Hardscr** 42.18 44 P P 13 16 09.3 +0.9
baz=276
I20K **Naaghedeneel** 42.20 35 P P 13 16 07.7 -0.6
baz=269
M19K **Big River Lodg** 42.27 39 IAmb IAmb 13 16 12.4
comp=Z,11nm,1.2s
M19K **Big River Lodg** 42.27 39 P P 13 16 09.1 +0.2
baz=272
N19K **Bonanza Creek** 42.28 41 P P 13 16 08.9 -0.3
baz=274
J20K **Nowinta River** 42.34 36 P P 13 16 09.4 -0.1
baz=270,SNR=19
C21K **Knifeblade Rid** 42.35 28 P P 13 16 09.9 +0.3
baz=264
K20K **Telida** 42.38 37 IAmb IAmb 13 16 12.8
comp=Z,14nm,0.8s
K20K **Telida** 42.38 37 P P 13 16 10.5 +0.7
baz=271,SNR=9.7
O19K **Port Alsworth** 42.40 42 P P 13 16 10.4 +0.5
baz=274
B21K **Ikpikpuk River** 42.47 28 P P 13 16 10.3 -0.1
baz=264,SNR=7.0
L20K **Farewell, AK** 42.49 38 P P 13 16 11.6 +0.8
baz=272
A22K **Sinclair Lake** 42.52 26 P P 13 16 10.9 0.0
baz=262
IMAR **Indian Mountai** 42.53 33 P P 13 16 11.4 +0.4
E21K **Killik River** 42.58 30 IAmb IAmb 13 16 14.1
comp=Z,9.1nm,0.8s
E21K **Killik River** 42.58 30 P P 13 16 11.5 +0.1
baz=266
R18K **Karluk** 42.59 46 P P 13 16 11.7 +0.2
baz=277
G21K **Allakaket** 42.65 32 IAmb IAmb 13 16 14.3
comp=Z,12nm,0.9s
G21K **Allakaket** 42.65 32 P P 13 16 12.4 +0.5
baz=268
F21K **Alatna River** 42.69 31 IAmb IAmb 13 16 14.4
comp=Z,7.6nm,0.8s
F21K **Alatna River** 42.69 31 P P 13 16 12.3 0.0
baz=267,SNR=6.0
CHTO **Chiang Mai** 42.78 251 P P 13 16 13.9 +0.3
CHTO **Chiang Mai** 42.78 251 P P 13 16 13.9 +0.3
CHTO pmax pmax
comp=Z,5.0nm,0.7s
Q19K **Cape Douglas,** 42.86 44 P P 13 16 13.4 -0.4
baz=276
SII **Sitkinak Islan** 42.87 47 P P 13 16 13.8 0.0
baz=278
M20K **Styx River** 42.87 39 P P 13 16 13.9 0.0
baz=274
H21K **Melozitna Rive** 42.92 34 P P 13 16 13.9 -0.2
baz=270
B22K **Teshekpuk Lake** 42.95 27 P P 13 16 14.5 +0.1
baz=264
CMAR **Chiang Mai Arr** 43.02 250 P P 13 16 16.1 +0.6
comp=Z,1.8nm,0.7s,baz=40,slow=7.4,SNR=13
comp=Z,1.8nm,0.7s
D22K **Ayikyak River** 43.09 29 IAmb IAmb 13 16 17.2
comp=Z,13nm,0.7s
D22K **Ayikyak River** 43.09 29 P P 13 16 15.5 +0.1
baz=266,SNR=7.0
F22K **John River** 43.20 31 P P 13 16 16.4 0.0
baz=268,SNR=7.2
KURK **Kurchatov** 43.21 304 P P 13 16 16.2 -0.5
KURK **Kurchatov** 43.21 304*c* iP P 13 16 16.4 -0.3
KURK pmax pmax
comp=Z,31nm,0.8s
PPLA **Purkeypile** 43.25 38 P P 13 16 17.3 +0.3
baz=273,SNR=6.4
O20K **Slope Mountain** 43.26 42 P P 13 16 17.2 +0.2
baz=276
OHAK **Old Harbor** 43.26 46 P P 13 16 16.6 -0.3
baz=278
I21K **Tanana** 43.26 34 P P 13 16 17.3 +0.4
baz=271
CAST **Castle Rocks** 43.27 37 P P 13 16 18.3 +1.2
CAST IAmb IAmb 13 16 20.1
comp=Z,23nm,1.0s
CAST **Castle Rocks** 43.27 37 P P 13 16 16.9 -0.1
baz=273,SNR=13
KURBB **Kurchatov Arra** 43.29 304 P P 13 16 17.3 0.0
comp=Z,23nm,0.6s,baz=78,slow=8.8,SNR=75
KURBB PcP PcP 13 18 04.3 +0.1
comp=Z,0.5nm,0.4s,baz=84,slow=2.9,SNR=2.0
KURBB ScP ScP 13 21 45.1 -0.2
comp=Z,0.2nm,0.5s,baz=79,slow=5.8,SNR=1.9
comp=Z,23nm,0.6s
N20K **Mount Spurr** 43.36 40 P P 13 16 17.4 -0.4
baz=275,SNR=7.0
SPCR **Spurr Chakacha** 43.36 40 P P 13 16 17.0 -0.8
baz=275
E22K **Anaktuvuk Pass** 43.37 30 P P 13 16 17.8 0.0
baz=268
SPU **Mount Spurr** 43.43 40 P P 13 16 19.9 +1.5
SPU IAmb IAmb 13 16 22.0
comp=Z,20nm,1.4s
G22K **Bettles** 43.45 32 P P 13 16 18.4 0.0
baz=270
H22K **Ishtalitna Cre** 43.51 33 P P 13 16 18.4 -0.5
baz=271,SNR=6.1
Q20K **Shuyak Island** 43.54 44 P P 13 16 18.6 -0.6
baz=276
KDAK **Kodiak Island** 43.55 45 P P 13 16 19.4 +0.1
baz=278
SKT **Skwentna** 43.62 39 P P 13 16 19.8 0.0
baz=275
BPAW **Bear Paw Mtn.** 43.73 36 IAmb IAmb 13 16 23.0
comp=Z,14nm,0.9s
BPAW **Bear Paw Mtn.** 43.73 36 P P 13 16 20.4 -0.3
baz=273
SHL **Shillong** 43.79 264 IAmb IAmb 13 16 22.8
comp=Z,6.6nm,0.7s
MLY **Manley** 43.79 35 IAmb IAmb 13 16 24.0
comp=Z,11nm,0.8s
MLY **Manley** 43.79 35 P P 13 16 21.6 +0.4
baz=272,SNR=6.0
HOM **Homer** 43.79 42 P P 13 16 21.4 +0.2
baz=277
D23K **Nanushuk River** 43.81 29 IAmb IAmb 13 16 23.3
comp=Z,8.8nm,0.9s
D23K **Nanushuk River** 43.81 29 P P 13 16 21.5 +0.2
baz=268
C23K **Itkillik River** 43.87 28 IAmb IAmb 13 16 23.4
comp=Z,15nm,0.8s
C23K **Itkillik River** 43.87 28 P P 13 16 22.6 +0.8
baz=267,SNR=5.5
COLD **Coldfoot** 43.97 31 P P 13 16 22.4 -0.1
baz=270,SNR=5.3
SUA **Susitna One** 44.03 40 P P 13 16 22.9 -0.3
baz=276
G23K **Bananza Creek** 44.04 32 IAmb IAmb 13 16 25.1
comp=Z,10nm,0.8s
G23K **Bananza Creek** 44.04 32 P P 13 16 23.3 +0.2
baz=271,SNR=6.9
TRF **Thorofare Moun** 44.07 37 P P 13 16 23.4 -0.2
baz=274
CUT **Chulitna** 44.17 38 P P 13 16 24.9 +0.8
baz=275
E23K **Chandalar** 44.19 30 IAmb IAmb 13 16 26.4
comp=Z,9.7nm,0.8s
E23K **Chandalar** 44.19 30 P P 13 16 24.6 +0.2
baz=270,SNR=9.6
TOLK **Toolik Lake Re** 44.21 29 IAmb IAmb 13 16 27.1
comp=Z,7.5nm,0.8s
TOLK **Toolik Lake Re** 44.21 29 P P 13 16 25.0 +0.5
baz=270
BRSE **Bradley Lake S** 44.24 42 P P 13 16 26.0 +1.1
baz=278
H23K **Yukon River** 44.26 33 P P 13 16 25.9 +1.0
baz=272
M22K **Willow** 44.30 39 P P 13 16 26.0 +0.7
baz=276
I23K **Minto, Yukon-K** 44.37 34 IAmb IAmb 13 16 28.0
comp=Z,11nm,0.8s
I23K **Minto, Yukon-K** 44.37 34 P P 13 16 26.2 +0.5
baz=273,SNR=6.6
D24K **Happy Valley** 44.48 29 P P 13 16 26.6 0.0
baz=270,SNR=23
NEA2 **Nenana** 44.53 35 P P 13 16 27.4 +0.3
baz=274,SNR=20
C24K **Franklin Bluff** 44.53 28 P P 13 16 26.3 -0.7
baz=269
RC01 **Rabbit Creek A** 44.56 40 P P 13 16 27.6 +0.2
baz=277
E24K **Your Creek** 44.61 30 IAmb IAmb 13 16 29.4
comp=Z,8.3nm,0.6s
E24K **Your Creek** 44.61 30 P P 13 16 27.3 -0.5
baz=271
MCK **McKinley** 44.66 36 P P 13 16 27.9 -0.2
baz=275,SNR=9.6
RND **Reindeer** 44.72 37 P P 13 16 29.2 +0.5
RND IAmb IAmb 13 16 30.7
comp=Z,22nm,1.2s
RND **Reindeer** 44.72 37 P P 13 16 29.2 +0.5
RND pmax pmax
comp=Z,22nm,1.2s
PMR **Palmer** 44.79 39 P P 13 16 28.8 -0.3
baz=277
PDGK **Podgornoye** 44.80 294 P P 13 16 29.1 -0.5
F24K **Squaw Lake** 44.85 31 IAmb IAmb 13 16 31.8
comp=Z,5.9nm,0.7s
F24K **Squaw Lake** 44.85 31 P P 13 16 29.8 +0.1
baz=272,SNR=8.4
GHO **Glory Hole Cre** 44.87 39 P P 13 16 31.0 +1.1
WAT1 **Susitna Watana** 44.92 38 P P 13 16 29.8 -0.4
baz=276
H24K **Noodor Dome** 44.95 33 P P 13 16 31.7 +1.3
H24K IAmb IAmb 13 16 33.4
comp=Z,17nm,0.9s
H24K **Noodor Dome** 44.95 33 P P 13 16 31.0 +0.6
baz=274,SNR=14
COLA **College** 45.03 35 P P 13 16 32.0 +1.1
COLA **College** 45.03 35 P P 13 16 30.7 -0.2
baz=275
COLA **College** 45.03 35*d* iP P 13 16 32.4 +1.5
COLA pmax pmax
comp=Z,40nm,0.9s
G24K **Hadweenzic Riv** 45.05 32 IAmb IAmb 13 16 33.9
comp=Z,26nm,1.5s
G24K **Hadweenzic Riv** 45.05 32 P P 13 16 31.9 +0.7
baz=273,SNR=6.6
CCB **Clear Creek Bu** 45.07 35 IAmb IAmb 13 16 33.4
comp=Z,12nm,1.2s
KNK **Knik Glacier** 45.13 40 P P 13 16 32.4 +0.5
baz=278
SML **Sawmill** 45.14 39 IAmb IAmb 13 16 36.2
comp=Z,19nm,0.9s
SML **Sawmill** 45.14 39 P P 13 16 32.3 +0.3
baz=278
POKR **Poker Plat Res** 45.19 34 P P 13 16 32.2 -0.1
baz=275,SNR=10
PWL **Port Wells** 45.27 40 P P 13 16 33.4 +0.4
baz=278
WAT6 **Susitna Watana** 45.32 38 P P 13 16 34.5 +1.0
baz=277
D25K **Kavik River** 45.35 28 IAmb IAmb 13 16 35.0
comp=Z,12nm,0.7s
D25K **Kavik River** 45.35 28 P P 13 16 34.3 +0.7
baz=272,SNR=16
DHY **Denali Highway** 45.42 37 IAmb IAmb 13 16 37.1
comp=Z,17nm,0.9s
DHY **Denali Highway** 45.42 37 P P 13 16 35.5 +1.2
baz=277,SNR=9.6
M23K **Glacier View** 45.43 39 P P 13 16 34.6 +0.4
baz=278
IL31 45.45 35 P P 13 16 35.0 +0.8
ILAR **Eielson Array** 45.45 35 P P 13 16 35.3 +1.0
ILAR **Eielson Array** 45.45 35 P P 13 16 35.1 +0.7
comp=Z,15nm,0.8s,baz=272,slow=6.4,SNR=122
ILAR PcP PcP 13 18 11.1 -0.3
comp=Z,0.5nm,0.7s,baz=270,slow=3.7,SNR=2.1
comp=Z,15nm,0.8s
ILAR **Eielson Array** 45.45 35 P P 13 16 35.3 +1.0
HDA **Harding Lake** 45.46 35 P P 13 16 35.1 +0.7
HDA IAmb IAmb 13 16 36.2
comp=Z,15nm,0.7s
HDA **Harding Lake** 45.46 35 P P 13 16 35.1 +0.7
baz=276,SNR=12
G25K **Bearman Lake** 45.59 32 P P 13 16 36.3 +0.9
baz=275
SCM **Sheep Creek Mo** 45.61 39 P P 13 16 36.6 +1.0
SCM IAmb IAmb 13 16 38.1
comp=Z,17nm,0.9s
SCM **Sheep Creek Mo** 45.61 39 P P 13 16 36.8 +1.1
baz=278
SCM **Sheep Creek Mo** 45.61 39 P P 13 16 36.7 +1.0
SCM pmax pmax
comp=Z,17nm,0.9s
E25K **Arctic Village** 45.70 30 P P 13 16 37.2 +0.9
baz=274
F25K **Christian Rive** 45.71 31 P P 13 16 37.3 +0.9
baz=274,SNR=6.6
C26K **Camden Bay** 45.85 27 P P 13 16 38.8 +1.4
baz=273
P23K **Montague Islan** 45.86 41 P P 13 16 38.3 +0.7
baz=280
GLI **Glacier Island** 45.87 40 P P 13 16 39.1 +1.5
baz=280
PRP **Porcupine Dome** 45.94 34 P P 13 16 39.5 +1.1
baz=276,SNR=30
FYU **Fort Yukon** 45.96 32 IAmb IAmb 13 16 43.5
comp=Z,17nm,0.8s
K24K **Donnelly Dome** 46.04 36 P P 13 16 39.4 +0.4
baz=278
M24K **Tolsona, Glenn** 46.11 38 P P 13 16 41.1 +1.5
baz=279
J25K **Salcha River,** 46.11 35 P P 13 16 40.5 +0.9
baz=277
BMAR **Burnt Mountain** 46.13 31 P P 13 16 41.3 +1.6
F26K **Sheenjek River** 46.27 31 P P 13 16 42.1 +1.3
F26K IAmb IAmb 13 16 43.7
comp=Z,12nm,0.9s
F26K **Sheenjek River** 46.27 31 P P 13 16 41.8 +1.0
baz=275,SNR=14
C27K **Jago River** 46.28 28 IAmb IAmb 13 16 42.9
comp=Z,11nm,0.7s
C27K **Jago River** 46.28 28 P P 13 16 41.5 +0.7
baz=274
PAX **Paxson** 46.30 37 P P 13 16 42.2 +1.1
baz=279
KLU **Klutina** 46.32 39 IAmb IAmb 13 16 43.9
comp=Z,17nm,1.0s
KLU **Klutina** 46.32 39 P P 13 16 42.8 +1.5
baz=280,SNR=5.2
RIDG **Independent Ri** 46.46 36 P P 13 16 43.3 +1.0
baz=279
G26K **Porcupine Rive** 46.49 32 P P 13 16 44.0 +1.5
baz=276,SNR=16
MDOK **Medeo** 46.52 294 P P 13 16 43.4 +0.1
HARP **HAARP** 46.53 38 P P 13 16 43.7 +0.8
baz=280
EYAK **Cordova Ski Ar** 46.57 41 P P 13 16 43.9 +0.7
baz=281
SCRK **Sand Creek** 46.80 36 P P 13 16 45.0 -0.1
baz=279,SNR=26
J26L **Joseph Creek** 46.90 35 P P 13 16 45.9 0.0
baz=279
N25K **Chitina, Valde** 46.93 39 P P 13 16 46.7 +0.6
baz=281
I26K **Coal Creek Min** 46.95 34 IAmb IAmb 13 16 48.0
comp=Z,9.0nm,1.0s
I26K **Coal Creek Min** 46.95 34 P P 13 16 46.8 +0.7
baz=278,SNR=7.8
BMRM **Bremner River** 47.05 40 P P 13 16 46.8 -0.1
baz=281
E27K **Coleen River** 47.18 30 P P 13 16 48.4 +0.5
baz=277
L26K **Log Cabin Wild** 47.24 37 P P 13 16 49.2 +0.8
baz=280,SNR=9.3
D27M **Malcolm River** 47.28 28 P P 13 16 49.3 +0.6
baz=277
G27K **Doyon Strip** 47.34 32 P P 13 16 48.4 -0.7
baz=278,SNR=9.4
KAIM **Kayak Island** 47.35 41 P P 13 16 49.9 +0.7
baz=282
H27K **Steamboat Moun** 47.48 32 P P 13 16 51.0 +0.8
baz=279,SNR=15
M26K **Nabesna, AK** 47.52 38 P P 13 16 51.4 +0.8
M26K IAmb IAmb 13 16 53.9
comp=Z,12nm,1.1s
M26K **Nabesna, AK** 47.52 38 P P 13 16 51.1 +0.5
baz=281
I27K **Kandik River** 47.54 33 P P 13 16 51.5 +0.7
baz=280,SNR=14
BVA0 **Borovoye Array** 47.54 309 *i* P P 13 16 50.9 +0.1
BVAR **Borovoye Array** 47.54 309 P P 13 16 51.1 +0.2
comp=Z,5.5nm,0.4s,baz=70,slow=9.2,SNR=31
BVAR PcP PcP 13 18 19.6 +0.5
comp=Z,1.2nm,0.6s,baz=48,slow=2.1,SNR=1.4
BVAR ScP ScP 13 22 03.7 +0.8
comp=Z,1.4nm,0.8s,baz=57,slow=5.3,SNR=4.1
comp=Z,5.5nm,0.4s
BRVK **Borovoye** 47.60 309 P P 13 16 51.1 -0.1
BRVK IAmb IAmb 13 16 57.2
comp=Z,26nm,1.4s
BRVK **Borovoye** 47.60 309*d* iP P 13 16 51.8 +0.6
BRVK pmax pmax
comp=Z,16nm,1.3s
TKM2 **Tokmak 2** 47.60 295 P P 13 16 52.1 +0.4
K27K **Chicken** 47.62 35 P P 13 16 51.5 +0.3
baz=281
MCARA **McCarthy VSAT** 47.71 39 P P 13 16 52.1 0.0
baz=282
CRQE **Cirque** 47.81 40 P P 13 16 52.8 -0.2
baz=283
EGAK **Eagle** 47.88 34 IAmb IAmb 13 16 56.0
comp=Z,20nm,0.8s
EGAK **Eagle** 47.88 34 P P 13 16 53.6 +0.4
baz=281,SNR=17
E28M **Babbage River** 47.88 29 IAmb IAmb 13 16 55.7
comp=Z,8.0nm,0.8s
E28M **Babbage River** 47.88 29 P P 13 16 52.7 -0.5
baz=279,SNR=18
F28M **Old Crow** 47.91 30 IAmb IAmb 13 16 56.4
comp=Z,11nm,0.8s
F28M **Old Crow** 47.91 30 P P 13 16 54.6 +1.1
baz=279,SNR=12
L27K **Beaver Creek,** 47.92 37 IAmb IAmb 13 16 56.9
comp=Z,14nm,0.9s
L27K **Beaver Creek,** 47.92 37 P P 13 16 54.5 +0.9
baz=282,SNR=12
BCAR **Beaver Creek A** 47.94 37 P P 13 16 54.8 +1.1
M27K **Edge Creek, AK** 48.04 38 P P 13 16 56.2 +1.6
M27K IAmb IAmb 13 16 57.9
comp=Z,14nm,0.8s
M27K **Edge Creek, AK** 48.04 38 P P 13 16 53.6 -1.1
baz=282,SNR=7.3
D28M **Stokes Point** 48.05 28 P P 13 16 53.3 -1.2
baz=279
I28M **Miner Creek** 48.26 33 P P 13 16 57.3 +1.0
baz=281,SNR=42
AAK **Ala-Archa** 48.46 295 P P 13 16 58.0 -0.2
AAK **Ala-Archa** 48.46 295⇑ *e* P P 13 16 59.1 +0.9
AAK pmax pmax
comp=Z,3.0nm,0.6s
BVCY **Beaver Creek** 48.49 37 P P 13 16 58.9 +0.9
baz=283
E29M **Blow River** 48.51 29 IAmb IAmb 13 17 01.0
comp=Z,12nm,0.8s
E29M **Blow River** 48.51 29 P P 13 16 59.4 +1.4
baz=280,SNR=17
CTG **Chitna Glacier** 48.60 39 P P 13 17 00.0 +1.0
baz=284
CTGM **Chitina Glacie** 48.60 39 IAmb IAmb 13 17 01.8
comp=Z,22nm,1.1s
KSH **Kashi** 48.71 290 P P 13 17 04.6 +4.4
KSH pmax pmax
comp=Z,4.0nm,0.8s
G29M **Pine Creek** 48.74 31 P P 13 17 01.8 +2.0
baz=282,SNR=12
H29M **Whitestone** 48.74 32 IAmb IAmb 13 17 02.5
comp=Z,14nm,0.8s
H29M **Whitestone** 48.74 32 P P 13 17 01.7 +1.8
baz=282,SNR=8.8
DAWY **Dawson** 48.77 35 P P 13 17 00.8 +0.6
baz=283
YUK3 **Moose Creek** 48.82 38 P P 13 17 01.9 +1.1
baz=284
I29M **Ogilvie Camp,** 48.95 33 P P 13 17 02.7 +1.2
baz=283,SNR=18
J29N **Klondike Camp** 49.19 34 P P 13 17 04.5 +1.2
baz=283
O28M **Mount Upton** 49.20 39 P P 13 17 04.8 +1.0
baz=285
YUK8 **Steele Glacier** 49.26 39 P P 13 17 05.4 +1.2
baz=285
PINM **Pinnacle** 49.34 40 P P 13 17 05.8 +1.2
baz=286
EPYK **Eagle Plains** 49.36 32 P P 13 17 06.0 +1.4
EPYK **Eagle Plains** 49.36 32 P P 13 17 05.2 +0.6
baz=283,SNR=22
G30M **tAoh Zraii Nji** 49.42 31 P P 13 17 06.1 +1.1
baz=283,SNR=17
F30M **Barrier River** 49.44 30 P P 13 17 07.0 +1.8
baz=283
L29M **L29M** 49.55 36 P P 13 17 07.8 +1.7
L29M **L29M** 49.55 36 P P 13 17 08.2 +2.1
baz=285,SNR=10.0
M29M **Somme Creek** 49.57 37 P P 13 17 07.4 +1.1
baz=285
K29M **Barlow Dome** 49.63 35 P P 13 17 08.5 +1.8
K29M IAmb IAmb 13 17 09.9
comp=Z,12nm,0.9s
K29M **Barlow Dome** 49.63 35 P P 13 17 08.4 +1.7
baz=284,SNR=12
I30M **Mount Dempster** 49.77 33 P P 13 17 09.1 +1.3
baz=284,SNR=48
YUK4 **Talbot Arm** 49.77 38 P P 13 17 09.4 +1.4
baz=286
PNL **Peninsula** 49.87 41 P P 13 17 09.7 +1.1
baz=286
J30M **Hart River** 49.95 34 IAmb IAmb 13 17 12.3
comp=Z,20nm,1.4s
J30M **Hart River** 49.95 34 P P 13 17 10.0 +0.8
baz=285,SNR=12
YUK6 **Outpost Mounta** 50.01 39 P P 13 17 10.9 +1.1
baz=286
O29M **Mount Kennedy** 50.09 40 P P 13 17 10.3 0.0
baz=287
INK **Inuvik** 50.11 29 P P 13 17 11.2 +1.0
INK **Inuvik** 50.11 29 P P 13 17 11.5 +1.4
baz=284,SNR=30
INK **Inuvik** 50.11 29 P P 13 17 11.2 +1.0
INK pmax pmax
comp=Z,30nm,1.1s
G31M **Satah River** 50.18 31 P P 13 17 11.7 +1.1
G31M **Satah River** 50.18 31 P P 13 17 11.1 +0.5
baz=285,SNR=11
F31M **Tsiigehtchic** 50.25 30 P P 13 17 12.1 +0.9
F31M **Tsiigehtchic** 50.25 30 P P 13 17 11.8 +0.6
baz=285,SNR=11
M30M **Minto, Yukon** 50.28 37 P P 13 17 11.9 +0.3
baz=286
MAYO **Mayo, Yukon** 50.39 35 P P 13 17 14.3 +1.9
baz=286
H31M **Peel River** 50.44 32 P P 13 17 13.1 +0.4
baz=286,SNR=29
HYT **Haines Junctio** 50.45 39 P P 13 17 14.8 +1.8
HYT **Haines Junctio** 50.45 39 P P 13 17 14.6 +1.6
baz=287,SNR=23
N30M **Aishikik Lake** 50.46 38 P P 13 17 14.9 +1.9
baz=287
P29M **Windy Craggy** 50.69 40 P P 13 17 16.3 +1.6
baz=288,SNR=9.4
P30M **Million Dollar** 50.91 40 P P 13 17 17.9 +1.4
baz=288
KK31 **Karatay Array** 50.95 297 *i* P P 13 17 16.1 -0.8
KKAR **Karatay Array** 50.95 297 P P 13 17 16.4 -0.6
KKAR **Karatay Array** 50.95 297 P P 13 17 16.4 -0.6
N31M **Braeburn, Yuko** 51.05 38 P P 13 17 19.0 +1.6
N31M **Braeburn, Yuko** 51.05 38 P P 13 17 19.0 +1.6
baz=288
O30N **Mendenhall** 51.13 39 P P 13 17 18.4 +0.4
O30N IAmb IAmb 13 17 21.7
comp=Z,18nm,1.2s
O30N **Mendenhall** 51.13 39 P P 13 17 19.3 +1.3
baz=288
TRKS **Terek-Say** 51.19 295 P P 13 17 19.5 +0.6
PLBC **Pleasant Camp** 51.41 40 P P 13 17 21.3 +1.3
baz=289
M31M **Drury Creek, Y** 51.46 37 IAmb IAmb 13 17 23.1
comp=Z,5.9nm,0.8s

M31M **Drury Creek, Y** 51.46 37 P P 13 17 21.5 +1.1
baz=288
SVE **Sverdlovsk** 51.71 316 *de*P P 13 17 27.2 +4.9
SVE pmax pmax
comp=Z,30nm,0.8s
WHY **Whitehorse** 51.73 39 IAmb IAmb 13 17 25.4
comp=Z,7.5nm,0.8s
WHY **Whitehorse** 51.73 39 P P 13 17 23.4 +0.9
baz=289
A36M **Sachs Harbour** 51.80 23 P P 13 17 23.5 +0.7
baz=288,SNR=39
SKAG **Skagway** 51.91 40 P P 13 17 25.3 +1.5
baz=290
FARO **Faro, Yukon** 51.91 36 P P 13 17 24.4 +0.6
baz=289
S31K **Pelican** 51.97 42 P P 13 17 25.0 +0.8
baz=290
N32M **Quiet Lake** 52.39 38 P P 13 17 28.2 +0.8
baz=290
P32M **Atlin** 52.64 40 P P 13 17 29.9 +0.7
baz=291
R32K **Eaglecrest** 52.71 41 P P 13 17 30.2 +0.5
baz=291
SIT **Sitka** 52.75 43 P P 13 17 30.8 +0.9
baz=291
P33M **Teslin, Yukon** 52.84 39 P P 13 17 31.4 +0.7
baz=291,SNR=7.9
S32K **Killisnoo** 52.98 42 P P 13 17 32.5 +0.9
baz=292
ARTI **Arti** 53.03 316 P P 13 17 32.0 -0.1
ARTI **Arti** 53.03 316 *c i*P P 13 17 32.5 +0.4
ARTI *PP **pP** 13 17 57.3 -1.0
ARTI S **S** 13 24 53.3 +0.1
ARTI SS **SS** 13 28 29.9 -3.3
ARTI pmax pmax
comp=Z,6.0nm,0.6s
C36M **Paulatuk** 53.07 26 P P 13 17 32.8 +0.7
C36M **Paulatuk** 53.07 26 P P 13 17 32.9 +0.7
baz=291,SNR=10
Q32M **Nakina River** 53.56 40 P P 13 17 36.8 +0.6
baz=292
HNR **Honiara** 53.72 157 LR LR 13 41 27.7
comp=Z,30nm,18.4s,baz=136,slow=37
SIMJ **Simiganj** 53.94 292 P P 13 17 38.3 -0.9
SIMJ IAmb IAmb 13 17 43.4
comp=Z,8.8nm,0.8s
R33M **Jennings River** 54.01 39 P P 13 17 40.4 +1.0
baz=293
T33K **Petersburg** 54.04 43 P P 13 17 40.6 +1.2
baz=293
U33K **Whale Pass** 54.23 43 P P 13 17 42.1 +1.3
baz=294
TGTN **Hyland Airport** 54.41 36 P P 13 17 42.8 +0.7
baz=293
CRAG **Craig** 54.49 44 P P 13 17 43.4 +0.7
baz=294
WRAK **Wrangell Islan** 54.51 43 P P 13 17 43.6 +0.8
baz=294
S34M **Telegraph Cree** 54.52 41 P P 13 17 43.7 +0.8
baz=294
WTLY **Watson Lake, Y** 54.74 38 IAmb IAmb 13 17 47.5
comp=Z,8.7nm,0.8s
WTLY **Watson Lake, Y** 54.74 38 P P 13 17 45.2 +0.7
baz=294
DLBC **Dease Lake** 54.84 40 P P 13 17 46.5 +1.2
baz=294
AB31 **Akbulak array** 55.03 308 *e*P P 13 17 46.8 +0.1
ABKAR **Akbulak array** 55.03 308 P P 13 17 46.1 -0.6
T35M **Bob Quinn** 55.33 42 P P 13 17 50.2 +1.4
baz=295
V35K **Ketchikan** 55.33 44 P P 13 17 49.9 +1.2
baz=295
AKTO **Aktyubinsk** 55.64 310 P P 13 17 51.0 -0.1
LIRD **Liard River Hi** 56.27 38 P P 13 17 56.9 +1.4
baz=296
NOR **Nord** 56.30 356 *e* P 13 17 55.4 +0.1
NOR *e* 13 18 49.2
KIRV **Kirov** 56.56 321⇑ *e*P P 13 17 58.4 +1.0
KOTAN **Kotaneelee Air** 56.88 37 P P 13 18 00.6 +0.9
baz=297
TOAD **Toad River Com** 56.92 38 P P 13 18 01.4 +1.2
baz=297,SNR=7.4
RES **Resolute Bay** 57.95 15 P P 13 18 07.6 +0.6
RES pmax pmax
comp=Z,16nm,1.0s
ARCES **ARCESS Array B** 59.58 339 P P 13 18 18.6 +0.2
comp=Z,6.6nm,1.2s,baz=49,slow=8.5,SNR=4.5
comp=Z,6.6nm,1.2s
YKA **Yellowknife Ar** 59.65 31 P P 13 18 19.7 +0.8
comp=Z,4.5nm,0.8s,baz=306,slow=7.2,SNR=7.9
comp=Z,4.5nm,0.8s
NEEM **North Greenlan** 60.76 3 *i*P P 13 18 26.7 0.0
NEEM IAmb IAmb 13 18 27.7
comp=Z,7.7nm,0.8s
WRA **Warramunga Arr** 61.81 188 P P 13 18 33.7 -0.4
comp=Z,0.4nm,0.5s,baz=5.5,slow=7.2,SNR=11
comp=Z,0.4nm,0.5s
LLLB **Lillooet** 62.77 45 P P 13 18 41.2 +1.0
LLLB IAmb IAmb 13 18 43.2
comp=Z,13nm,1.2s
FINES **FINESS Array B** 64.66 331 P P 13 18 52.4 0.0
comp=Z,3.6nm,0.6s,baz=63,slow=6.8,SNR=14
comp=Z,3.6nm,0.6s
ASAR **Alice Springs** 65.53 188 P P 13 18 58.6 +0.2
comp=Z,0.6nm,0.9s,baz=1.4,slow=6.5,SNR=5.2
comp=Z,0.6nm,0.9s
SUMG **Summit** 65.91 0 *i*P P 13 19 00.5 -0.3
SUMG IAmb IAmb 13 19 02.6
comp=Z,8.2nm,0.8s
L04D **Klamath Falls** 67.33 53 IAmb IAmb 13 19 12.7
comp=Z,16nm,0.9s
UMMG **Uummannaq** 67.38 5 *e* P 13 19 11.6 +2.0
KIV **Kislovodsk** 67.91 310 P P 13 19 14.6 +1.0
KIV **Kislovodsk** 67.91 310 *e*P P 13 19 15.0 +1.4
KIV pmax pmax
comp=Z,13nm,1.1s
KBZ **Khabaz** 67.92 309 P P 13 19 14.0 +0.5
comp=Z,2.2nm,0.7s,baz=59,slow=5.9,SNR=4.5
comp=Z,2.2nm,0.7s
KBZ **Khabaz** 67.92 309 *de*P P 13 19 14.6 +1.1
KBZ pmax pmax
comp=Z,5.0nm,0.9s
SHA1 **Shidzhatmaz** 68.06 309⇑ *e*P P 13 19 16.4 +1.7
O02D **Mt. Diablo Mer** 68.25 55 IAmb IAmb 13 19 18.8
comp=Z,12nm,1.1s
BMO **Blue Mountains** 68.64 49 IAmb IAmb 13 19 20.5
comp=Z,7.5nm,1.0s
J08A **Circle Bar Ran** 68.89 50 IAmb IAmb 13 19 23.0
comp=Z,9.7nm,1.0s
FFC **Flin Flon** 69.64 34 P P 13 19 24.4 +0.5
FFC IAmb IAmb 13 19 25.4
comp=Z,14nm,0.9s
FFC **Flin Flon** 69.64 34 P P 13 19 24.5 +0.5
FFC pmax pmax
comp=Z,14nm,0.9s
HFS **Hagfors** 69.80 335 P P 13 19 24.8 0.0
comp=Z,1.9nm,0.4s,baz=34,slow=3.8,SNR=15
comp=Z,1.9nm,0.4s
NB2 **NORSAR Subarra** 69.84 337 P P 13 19 25.1 0.0
comp=Z,4.7nm,0.8s,baz=39,slow=6.5
NOA **NORSAR Array B** 69.84 337 P P 13 19 24.7 -0.4
comp=Z,1.3nm,0.7s,baz=37,slow=6.2,SNR=3.4
comp=Z,1.3nm,0.7s
MFID **Camas Ranch** 70.36 49 IAmb IAmb 13 19 31.1
comp=Z,16nm,1.4s
MPK **Martis Peak** 70.47 55 P P 13 19 31.6 +1.9
MPK **Martis Peak** 70.47 55 IAmb IAmb 13 19 32.3
comp=Z,21nm,1.1s
PAHR **Pah Rah Range** 70.61 54 IAmb IAmb 13 19 32.7
comp=Z,11nm,1.0s
AKASG **Malin Array Be** 70.62 321 P P 13 19 29.6 -0.3
comp=Z,0.6nm,0.4s,baz=46,slow=6.1,SNR=5.0
comp=Z,0.6nm,0.4s
EMB **Emerald Bay** 70.63 55 IAmb IAmb 13 19 32.6
comp=Z,8.9nm,0.8s
EGMT **Eagleton** 70.63 42 IAmb IAmb 13 19 32.3
comp=Z,15nm,1.0s
PNTR **Pine Nut** 70.86 54 IAmb IAmb 13 19 34.7
comp=Z,8.5nm,0.8s
CMB **Columbia Colle** 71.04 56 IAmb IAmb 13 19 35.3
comp=Z,9.1nm,1.0s
YERR **Yerington** 71.15 54 IAmb IAmb 13 19 36.2
comp=Z,14nm,0.8s
BOZ **Bozeman (W)** 71.26 45 IAmb IAmb 13 19 36.5
comp=Z,10.0nm,0.8s
KVN **Kaiserville** 71.80 54 IAmb IAmb 13 19 40.1
comp=Z,12nm,0.8s

DY2G **Dye2** 71.88 3 *i*P P 13 19 37.1 -0.5
DY2G IAmb IAmb 13 19 39.3
comp=Z,16nm,0.8s
LHV **Little Huntoon** 72.06 55 IAmb IAmb 13 19 42.2
comp=Z,14nm,0.9s
NVAR **Mina Array Bea** 72.07 54 P P 13 19 39.9 +0.7
NVAR **Mina Array Bea** 72.07 54 P P 13 19 40.0 +0.8
comp=Z,5.7nm,0.7s,baz=297,slow=5.9,SNR=56
comp=Z,5.7nm,0.7s
NV11 **Mina Array Sit** 72.16 54 P P 13 19 40.6 +0.9
ELK **Elko** 72.41 51 P P 13 19 43.0 +1.8
ELK **Elko** 72.41 51 IAmb IAmb 13 19 43.8
comp=Z,4.8nm,0.9s
ELK **Elko** 72.41 51 P P 13 19 43.0 +1.8
ELK pmax pmax
comp=Z,5.0nm,1.0s
YFT **Old Faithful** 72.44 46 IAmb IAmb 13 19 45.2
comp=Z,8.2nm,0.8s
H17A **Grant Village** 72.61 46 IAmb IAmb 13 19 47.1
comp=Z,12nm,0.9s
DSP **Deep Springs** 72.94 55 IAmb IAmb 13 19 47.2
comp=Z,10nm,1.1s
TPAW **Teton Pass** 73.02 47 IAmb IAmb 13 19 48.0
comp=Z,20nm,1.4s
HVU **Hansel Valley** 73.14 49 IAmb IAmb 13 19 48.1
comp=Z,9.2nm,1.0s
LAO **LASA Array** 73.31 42 IAmb IAmb 13 19 48.5
comp=Z,12nm,1.1s
Q12A **Willow Creek R** 73.75 52 IAmb IAmb 13 19 51.8
comp=Z,9.5nm,0.9s
R11B **Troy Canyon, C** 73.76 53 P P 13 19 49.5 +0.3
R11B **Troy Canyon, C** 73.76 53 P P 13 19 49.7 +0.6
baz=311
HWUT **Hardware Ranch** 73.93 48 IAmb IAmb 13 19 52.8
comp=Z,17nm,1.2s
SPR3 **Spring Creek 3** 74.07 52 P P 13 19 51.9 +0.7
S11A **Rachel** 74.12 54 IAmb IAmb 13 19 54.0
comp=Z,9.8nm,1.0s
WCT **Wildcat Mounta** 74.14 55 P P 13 19 52.1 +0.8
DUG **Dugway, Tooele** 74.17 50 IAmb IAmb 13 19 54.1
comp=Z,8.8nm,0.8s
DUG **Dugway, Tooele** 74.17 50 P P 13 19 53.3 +1.8
DUG pmax pmax
comp=Z,13nm,0.9s
PD31 **Pinedale Array** 74.26 46 P P 13 19 52.3 +0.2
PD31 IAmb IAmb 13 19 54.0
comp=Z,9.7nm,0.9s
PDAR **Pinedale Array** 74.26 46 P P 13 19 52.5 +0.4
PDAR **Pinedale Array** 74.26 46 P P 13 19 53.0 +0.9
comp=Z,6.8nm,0.8s,baz=292,slow=2.4,SNR=67
comp=Z,6.8nm,0.8s
TPNV **Topopah Spring** 74.27 54 P P 13 19 53.1 +1.0
TPNV IAmb IAmb 13 19 54.6
comp=Z,9.3nm,0.8s
TPNV **Topopah Spring** 74.27 54 P P 13 19 53.1 +1.0
TPNV pmax pmax
comp=Z,9.0nm,0.9s
TCUT **Toone Canyon** 74.35 49 IAmb IAmb 13 19 55.2
comp=Z,17nm,0.9s
BUR08 **Bucovina Ar. S** 74.64 321 P P 13 19 54.4 +0.3
BURAR **Bucovina Array** 74.66 321 P P 13 19 54.4 +0.3
BURAR **Bucovina Array** 74.66 321 P P 13 19 54.4 +0.3
BURAR pmax pmax
comp=Z,2.0nm,0.8s
JLU **Jordanelle** 74.67 49 IAmb IAmb 13 19 57.0
comp=Z,12nm,1.4s
MPU **Maple Canyon** 74.96 50 IAmb IAmb 13 19 58.6
comp=Z,10nm,0.8s
ULM **Lac du Bonnet** 75.46 34 P P 13 19 58.9 +0.3
comp=Z,1.6nm,0.3s,baz=328,slow=16,SNR=4.5
comp=Z,1.6nm,0.3s
MVU **Marysvale** 75.64 51 IAmb IAmb 13 20 03.1
comp=Z,18nm,0.9s
TMUT **Trail Mountain** 75.69 50 IAmb IAmb 13 20 02.9
comp=Z,16nm,1.4s
BRTR **Keskin Array B** 75.80 311 P P 13 20 01.8 +1.0
comp=Z,0.4nm,0.4s,baz=49,slow=14,SNR=2.2
comp=Z,0.4nm,0.4s
P17A **Butcher Ranch,** 75.83 50 IAmb IAmb 13 20 03.6
comp=Z,12nm,1.0s
P18A **Preston Nutter** 76.01 49 IAmb IAmb 13 20 05.4
comp=Z,7.6nm,0.8s
SRU **San Rafael Swe** 76.20 50 P P 13 20 03.9 +0.7
SRU IAmb IAmb 13 20 05.4
comp=Z,10.0nm,0.9s
SRU **San Rafael Swe** 76.20 50 P P 13 20 03.9 +0.7
SRU pmax pmax
comp=Z,10.0nm,0.9s
RSSD **Black Hills** 76.20 42 P P 13 20 03.2 +0.1
RSSD **Black Hills** 76.20 42 P P 13 20 03.3 +0.1
RSSD pmax pmax
comp=Z,6.0nm,0.8s
PFO **Pinyon Flats O** 76.32 57⇑ *e*P P 13 20 05.1 +1.2
PFO pmax pmax
comp=Z,6.0nm,0.9s
O20A **White River Ci** 76.78 48 IAmb IAmb 13 20 08.3
comp=Z,6.1nm,0.7s
HMU **Henry Mountain** 76.88 51 IAmb IAmb 13 20 09.4
comp=Z,24nm,1.4s
U15A **North Rim** 76.99 53 IAmb IAmb 13 20 10.8
comp=Z,9.5nm,1.0s
CLL **Collm** 77.02 330 *e*P P 13 20 12.0 +4.7
CLL **Collm** 77.02 330 *e*Px Px 13 20 12.0
N23A **Red Feather La** 77.50 46 P P 13 20 11.4 +0.8
baz=315
MODS **Modra-Piesok** 77.63 326 *e*P P 13 20 13.4 +2.6
MODS **Modra-Piesok** 77.63 326 *e*P P 13 20 13.4 +2.6
ESJX **Sierra Juarez** 77.70 58 IAmb IAmb 13 20 14.2
comp=Z,12nm,1.3s
WUAZ **Wupatki** 78.15 53 IAmb IAmb 13 20 17.0
comp=Z,8.4nm,0.9s
KHC **Kasperske Hory** 78.54 328⇓ *e*P P 13 20 16.4 +0.5
KHC pmax pmax
comp=Z,3.0nm,0.9s
F33A **5 Mile Ranch,** 78.64 37 IAmb IAmb 13 20 17.3
comp=Z,8.5nm,0.6s
EKA **Eskdalemuir Ar** 78.67 340 P P 13 20 16.9 +0.5
comp=Z,0.8nm,0.6s,baz=35,slow=6.4,SNR=3.6
comp=Z,0.8nm,0.6s
S22A **4UR Ranch, Cre** 79.24 49 P P 13 20 20.8 +0.6
baz=315
Q24A **Divide** 79.30 47 P P 13 20 21.2 +0.6
baz=316
OGNE **Ogallala** 79.52 44 IAmb IAmb 13 20 23.1
comp=Z,20nm,1.2s
ECSD **EROS Data Cent** 80.10 39 P P 13 20 24.2 -0.2
ECSD IAmb IAmb 13 20 25.6
comp=Z,7.8nm,0.8s
T25A **Trinidad** 81.02 48 P P 13 20 30.1 +0.4
baz=316
ANMO **Albuquerque** 81.43 50 *d i*P P 13 20 33.4 +1.5
ANMO pmax pmax
comp=Z,3.0nm,1.3s
DUN6 **Lazy B Ranch** 81.57 54 IAmb IAmb 13 20 35.3
comp=Z,14nm,0.7s
121A **Cookes Peak, D** 82.37 53 P P 13 20 37.3 +0.5
baz=315
P38A **Dawn** 84.74 40 IAmb IAmb 13 20 50.0
comp=Z,13nm,0.7s
L44A **Lake County Fo** 85.22 35 P P 13 20 51.8 +0.9
baz=325
DKNS **Dickens** 85.49 48 IAmb IAmb 13 20 55.0
comp=Z,7.4nm,0.8s
PECS **Pecos** 85.51 51 IAmb IAmb 13 20 54.8
comp=Z,6.2nm,0.8s
POST **Post** 85.62 49 IAmb IAmb 13 20 55.3
comp=Z,7.3nm,0.9s
S39A **Bolivar** 86.37 41 IAmb IAmb 13 20 57.4
comp=Z,5.0nm,0.8s
PPT **Papeete** 86.68 117 LR LR 13 52 54.1
comp=Z,24nm,21.6s,baz=341,slow=31
SGCY **Sterling City** 86.69 49 IAmb IAmb 13 21 01.0
comp=Z,11nm,0.9s
U38A **Gravette** 86.83 42 IAmb IAmb 13 21 00.7
comp=Z,6.3nm,1.0s
CCM **Cathedral Cave** 87.07 39 P P 13 21 00.1 0.0
CCM IAmb IAmb 13 21 01.5
comp=Z,10.0nm,0.9s
CCM **Cathedral Cave** 87.07 39 P P 13 21 00.1 0.0
CCM pmax pmax
comp=Z,10.0nm,0.9s
TXAR **Lajitas Array** 87.12 53 P P 13 21 01.2 +0.6
comp=Z,1.2nm,0.8s,baz=324,slow=4.5,SNR=10.0
comp=Z,1.2nm,0.8s
SIUC **Southern Illin** 88.29 38 P P 13 21 06.5 +0.6
MIAR **Mount Ida** 88.72 43 IAmb IAmb 13 21 09.8
comp=Z,7.1nm,0.9s

P49A **Miami Univ. Ec** 88.76 34 P P 13 21 08.9 +0.8
baz=328
833A **Chaparral WMA,** 90.37 50 P P 13 21 16.7 +0.9
baz=319
L61B **Northampton** 90.61 25 P P 13 21 16.5 -0.1
baz=335
H03N2 **Juan Fernandez** 147.10 89 T T 16 13 02.0
baz=300,slow=76,SNR=16
H03N3 **Juan Fernandez** 147.11 89 T T 16 13 03.3
baz=300,slow=76,SNR=8.8
H03N1 **Juan Fernandez** 147.12 89 T T 16 13 03.3
baz=300,slow=76,SNR=8.6

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*IDC **04** 13:12:23.2±0.9, 37°.13N±20°.59E, h0km, mb3.6/10, mbtmp3.6/18, ML3.6/6, MS3.6/3, Error ellipse: s-maj=17.7km s-min=14.4km az=161.0*
*ATH **04** 13:12:25.8, 37°.28N±20°.49E, h7km±1km, ML3.8/25, Manual Solution by G.Panopoulou This location: 2020/08/17 15:50:32 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **04** 13:12:26.9, 37°.32N±20°.54E, h2km±1km, ML3.6/10, Error ellipse: s-maj=1.4km s-min=0.4km az=278.0*
ISC 04 13:12:25.6±1.2, 37°.26N±0°.04±20°.54E±0°.03, h11km±8km, n79, σ1§16/102, mb3.5/10, MS3.5/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	0.46	29	P	Pg	13 12 34.7	0.0
KRI1				S	Sg	13 12 40.5	-0.3
45μm,0.5s							
KRI1	**kERI**	0.46	29	P	Pg	13 12 35.0	+0.4
KRI1				S	Sg	13 12 41.0	+0.2
LTHK	**Lithakia**	0.51	28	P	Pg	13 12 35.5	-0.1
LTHK				S	Sg	13 12 42.0	-0.3
17μm,0.4s							
LTHK	**Lithakia**	0.51	28	P	Pg	13 12 35.6	+0.1
LTHK				S	Sg	13 12 42.0	-0.3
RTZL	**Ratzakli, Kefa**	0.84	13	P	Pg	13 12 41.4	-0.4
RTZL				S	Sg	13 12 53.0	+0.3
9μm,0.5s							
PSDA	**Pessada-Kefalo**	0.86	2	P	Pg	13 12 42.1	0.0
PSDA				S	Sg	13 12 53.3	0.0
8μm,0.3s							
PSDA	**Pessada-Kefalo**	0.86	2	P	Pg	13 12 41.2	-0.9
PSDA				S	Sg	13 12 52.9	-0.4
VLS	**Valsamata**	0.92	3	P	Pg	13 12 43.0	-0.3
VLS				S	Sg	13 12 55.1	-0.2
5μm,0.4s							
VLS	**Valsamata**	0.92	3	P	Pg	13 12 42.6	-0.7
VLS				S	Sg	13 12 54.8	-0.6
ARG2	**Argostoli**	0.92	358	P	Pg	13 12 43.2	-0.2
LXRA	**Lixouri, Kepha**	0.95	355	P	Pg	13 12 43.7	-0.1
LXRA				S	Sg	13 12 56.1	0.0
AMT	**Artemida-Makis**	0.97	73	P	Pb	13 12 44.8	+0.3
AMT				S	Sb	13 12 58.1	+0.7
PYL1	**Pylos**	0.99	110	P	Pb	13 12 45.8	+1.1
DMLN	**Damoulianata-K**	0.99	352	P	Pg	13 12 44.4	-0.3
SMHA	**Samh**	1.00	5	P	Pg	13 12 44.7	-0.1
PYL	**PYLOS**	1.03	110	P	Pb	13 12 46.3	+0.8
PYL				S	Sn	13 13 01.9	+1.5
3μm,0.3s							
PYL	**PYLOS**	1.03	110	P	Pb	13 12 46.2	+0.8
PYL				S	Sb	13 13 00.9	+1.9
MTHA	**Methoni**	1.03	115	P	Pn	13 12 47.4	+1.4
RLS	**Riolos of Patr**	1.09	42	P	Pg	13 12 45.8	-0.7
RLS				S	Sb	13 13 01.8	+1.1
2μm,0.7s							
RLS	**Riolos of Patr**	1.09	42	P	Pg	13 12 45.8	-0.7
RLS				S	Sb	13 13 01.3	+0.7
ITM	**Ithomi**	1.11	94	P	Pb	13 12 47.7	+0.8
ITM				S	Sn	13 13 03.9	+1.4
3μm,0.4s							
ITM	**Ithomi**	1.11	94	P	Pg	13 12 47.3	+0.4
ITM				S	Sb	13 13 03.0	+1.6
DRO	**Drossia**	1.16	53	P	Pg	13 12 47.5	-0.4
DRO				S	Sb	13 13 04.0	+1.1
4μm,0.4s							
DRO	**Drossia**	1.16	53	P	Pg	13 12 47.7	-0.2
DRO				S	Sb	13 13 03.9	+1.1
FSK	**Fiskardo**	1.20	1	P	Pg	13 12 48.0	-0.7
FSK				S	Sg	13 13 03.7	-0.6
EVGI	**Lefkada island**	1.37	4	P	Pg	13 12 50.4	-1.4
UPR	**University Cam**	1.43	44	P	Pb	13 12 52.6	+0.4
DRAG	**Dragano-Lefkad**	1.43	1	P	Pn	13 12 51.9	+0.4
NYDR	**Nydri-Lefkada**	1.46	5	P	Pn	13 12 52.1	+0.1
KLV	**Kalavryta, Ach**	1.50	58	P	Pn	13 12 53.5	+0.9
KLV				S	Sn	13 13 14.1	+1.9
960nm,0.6s							
KLV	**Kalavryta, Ach**	1.50	58	P	Pn	13 12 53.1	+0.5
LKD2	**Lefkada island**	1.53	4	P	Pn	13 12 52.7	-0.3
VVK	**Vomvokou**	1.54	41	P	Pn	13 12 53.6	+0.5
VVK				S	Sn	13 13 14.0	+0.9
PVO	**Paravola**	1.57	30	P	Pb	13 12 54.8	+0.2
PVO				S	Sn	13 13 14.7	+0.9
TSLK	**Tsoukalades, L**	1.57	3	P	Pn	13 12 53.9	+0.5
GUR	**Goura**	1.59	64	P	Pn	13 12 54.4	+0.6
EFP	**Efpalio**	1.59	42	P	Pn	13 12 54.8	+1.0
SERG	**Sergoula**	1.67	46	P	Pn	13 12 55.5	+0.7
KALE	**Kalithea**	1.70	48	P	Pn	13 12 56.4	+1.1
ANX	**Ano Chora**	1.73	39	P	Pn	13 12 56.9	+1.2
DLFA	**Delphi**	1.97	51	P	Pn	13 13 00.5	+1.5
AXAR	**Agios Charalam**	2.25	47	P	Pn	13 13 03.4	+0.5
IGT	**Igoumenitsa**	2.28	356	P	Pn	13 13 03.7	+0.5
JAN	**Janina**	2.41	6	P	Pn	13 13 06.2	+1.2
THL	**Klokotos Trika**	2.58	26	P	Pn	13 13 08.0	+0.7
ATHU	**Athens Univers**	2.67	74	P	Pn	13 13 09.4	+0.7
TYRN	**Tyrnavos**	2.79	28	P	Pn	13 13 11.2	+1.0
DION	**Dionisos Attik**	2.82	72	P	Pn	13 13 11.5	+0.9
KYMI	**Kymi, Euboea I**	3.13	63	P	Pn	13 13 15.8	+0.8
OHR	**Ohrid**	3.85	3	*i* Pn	Pn	13 13 27.9	+2.9
IDI	**Anoyia**	4.03	118	Pn	Pn	13 13 26.4	-1.0
IDI	4.4nm,0.8s,baz=302,slow=19,SNR=1.4			Sn	Sn	13 14 12.9	-1.6
	2.6nm,0.3s,baz=270,slow=20,SNR=2.0						
CUC	**Castrocucco**	4.60	308	P	Pn	13 13 36.4	+1.3
PEHC	**Pehcevo**	4.87	21	*i* Pn	Pn	13 13 38.4	-0.5
VAE	**Valguarnera**	4.88	274	Pn	Pn	13 13 40.7	+1.6
	9.3nm,0.6s,baz=114,slow=20,SNR=1.9						
VAE				Sn	Sn	13 14 37.9	+2.3
	3.2nm,0.3s,baz=90,slow=20,SNR=2.2						
KEST	**Kesra**	9.14	264	Pn	Pn	13 14 38.5	+1.0
	0.3nm,0.3s,baz=42,slow=9.1,SNR=2.9						
	3.9nm,0.6s						
MLR	**Munteles Rosu**	9.17	25	Pn	Pn	13 14 40.0	+2.0
	0.1nm,0.3s,baz=196,slow=15,SNR=2.0						
MLR				Sn	Sn	13 16 23.2	+2.0
	0.1nm,0.3s,baz=230,slow=18,SNR=1.3						
	1.3nm,0.6s						
SOKA	**Soboth**	10.26	338	*e*Pn	Pn	13 14 52.6	-0.3
	1.3nm,0.4s						
KBA	**Koelnbreinsper**	11.17	334	*e*Pn	Pn	13 15 07.5	+2.2
	1.2nm,0.6s						
MOA	**Molln**	11.55	338	*i* Pn	Pn	13 15 12.9	+2.6
	0.2nm,0.1s						
LESA	**Schwarzleotal**	11.70	333	*e*Pn	Pn	13 15 14.0	+1.5
	0.4nm,0.3s						
GERES	**GERESS Array B**	12.61	339	Pn	Pn	13 15 28.1	+3.2
	0.1nm,0.3s,baz=162,slow=9.9,SNR=1.6						
	0.3nm,0.4s						
KHC	**Kasperske Hory**	12.90	339	*e*PN	Pn	13 15 42.0	+13
EIL	**Elat**	14.20	118	Pn	Pn	13 15 44.1	-2.6
	0.2nm,0.3s,baz=0.0,slow=13,SNR=2.2						
	3.4nm,0.9s						
AKASG	**Malin Array Be**	14.81	22	Pn	Pn	13 15 54.9	0.0
	0.5nm,0.3s,baz=211,slow=8.9,SNR=1.3						
	0.2nm,0.3s						
NACGM	**Naroch**	18.16	12	*e*P	Pn	13 16 33.8	-3.8
	comp=Z,9.0nm,1.0s,baz=197						
ESDC	**Sonseca Array**	19.32	285	P	P	13 16 50.2	-0.7
	comp=Z,0.1nm,0.3s,baz=96,slow=12,SNR=6.0						
	comp=Z,1.0nm,0.9s						
MDT	**Midelt**	21.04	265	P	P	13 17 08.5	-1.1
	comp=Z,1.3nm,0.7s,baz=114,slow=10.0,SNR=4.3						
	comp=Z,1.3nm,0.7s						
HFS	**Hagfors**	23.31	351	P	P	13 17 33.2	-0.2
	comp=Z,3.6nm,0.9s,baz=165,slow=12,SNR=6.0						
	comp=Z,3.6nm,0.9s						
EKA	**Eskdalemuir Ar**	24.19	326	P	P	13 17 42.3	+0.4
	comp=Z,3.3nm,0.8s,baz=128,slow=9.1,SNR=4.0						
	comp=Z,3.3nm,0.8s						
FINES	**FINESS Array B**	24.46	6	P	P	13 17 43.4	-0.9
	comp=Z,0.9nm,0.7s,baz=191,slow=11,SNR=1.2						

comp=Z,0.9nm,0.7s
NOA NORSAR Array B 24.52 349 P P 13 17 45.1 +0.2
comp=Z,0.7nm,0.8s,baz=157,slow=9.0,SNR=1.9
comp=Z,0.7nm,0.8s
TORD Torodi Ar. Bea 29.33 220 P P 13 18 26.7 -1.8
comp=Z,0.3nm,0.6s,baz=38,slow=7.3,SNR=1.7
TORD LR LR 13 30 54.0
comp=Z,67nm,18.0s,baz=341,slow=38
comp=Z,0.3nm,0.6s
KURBB Kurchatov Arra 42.77 53 P P 13 20 22.0 -1.0
comp=Z,0.4nm,0.5s,baz=277,slow=8.9,SNR=4.2
comp=Z,0.4nm,0.5s
MKAR Makanchi Array 45.78 58 P P 13 20 46.6 -0.5
comp=Z,0.2nm,0.4s,baz=271,slow=8.6,SNR=3.2
comp=Z,0.2nm,0.4s
ZALV Zalesovo Beam 46.30 47 P P 13 20 49.5 -1.6
comp=Z,0.4nm,0.3s,baz=280,slow=8.6,SNR=2.4
comp=Z,0.4nm,0.3s
MDP Montagnes des 73.55 264 LR LR 13 54 13.0
comp=Z,29nm,20.7s,baz=80,slow=34
USRK Ussuriysk Ar. 77.94 43 LR LR 14 03 40.5
comp=Z,76nm,18.3s,baz=346,slow=40
KSRS Korea Array 79.90 50 P P 13 24 34.5 -0.1
comp=Z,0.6nm,0.7s,baz=310,slow=4.8,SNR=3.0
comp=Z,0.6nm,0.7s
ASAR Alice Springs 122.06 97 PKP PKPdf 13 31 20.9 +0.3
comp=Z,0.3nm,1.1s,baz=308,slow=1.5,SNR=1.5

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*IDC **04** 13:17:09.7±1.0,36°.46N×21°.60E,h0km,mb4.0/15, mbtmp3.9/22,ML3.4/3,Error ellipse: s-maj=19.9km s-min=14.5km az=21.0*
*BEO **04** 13:17:14.8±1.2,36°.50N×21°.34E,h16km±8km,ML3.7/7*
*NEIC **04** 13:17:15.8±1.4,36°.42N±0°.04×21°.57E±0°.10,h37km±9km, mb4.4/24,Error ellipse: s-maj=12.8km s-min=1.9km az=65.0*
*ATH **04** 13:17:16.2,36°.54N×21°.51E,h12km±2km,ML3.8/4,Error ellipse: s-maj=4.8km s-min=1.8km az=58.0*
ISC 04 13:17:14.9±1.2,36°.48N±0°.05×21°.55E±0°.04,h32km±8km, n89,σ1°38/102,mb4.2/27,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.44**	**20**	P	**Pb**	**13 17 24.0**	**-0.4**
PYL				S	**Sb**	**13 17 29.5**	**-1.6**
PYL				AML	AML	13 17 33.2	
	comp=N,53726μm,0.5s						
PYL				AML	AML	13 17 33.7	
	comp=E,42978μm,0.4s						
ITM	**Ithomi**	**0.76**	**23**	P	**Pb**	**13 17 30.1**	**+0.5**
ITM				S	**Sb**	**13 17 39.1**	**-0.6**
ITM				AML	AML	13 17 43.6	
	comp=N,15521μm,0.4s						
ITM				AML	AML	13 17 48.8	
	comp=E,11564μm,0.6s						
AMT	**Artemida-Makis**	**1.05**	**7**	P	**Pb**	**13 17 35.0**	**+0.4**
AMT				S	**Sb**	**13 17 48.6**	**+0.4**
AMT				AML	AML	13 17 53.2	
	comp=E,20032μm,0.3s						
AMT				AML	AML	13 17 56.3	
	comp=N,21561μm,0.3s						
VLI	**Veliai**	**1.14**	**78**	P	**Pb**	**13 17 37.2**	**+1.2**
VLI				S	**Sb**	**13 17 53.7**	**+3.2**
MNVA	**Monemvasia**	**1.21**	**80**	P	**Pb**	**13 17 39.3**	**+2.1**
DRO	**Drossia**	**1.47**	**5**	P	**Pn**	**13 17 40.3**	**+1.2**
DRO				S	**Sn**	**13 17 58.6**	**+1.3**
ANKY	**Antikythira Is**	**1.54**	**113**	P	**Pb**	**13 17 43.1**	**+0.3**
RLS	**Riolos of Patr**	**1.57**	**358**	P	**Pb**	**13 17 42.9**	**-0.5**
GUR	**Goura**	**1.58**	**23**	P	**Pb**	**13 17 43.1**	**-0.5**
GUR				S	**Sb**	**13 18 04.3**	**+1.1**
GUR				AML	AML	13 18 16.5	
	comp=N,3922μm,0.4s						
GUR				AML	AML	13 18 21.1	
	comp=E,3543μm,0.5s						
KLV	**Kalavryta, Ach**	**1.63**	**17**	P	**Pb**	**13 17 43.9**	**-0.4**
AGG	**Agios Georgios**	**2.61**	**13**		**Pn**	**13 17 57.2**	**+2.5**
IDI	**Anoyia**	**2.96**	**113**		**Pn**	**13 18 00.2**	**+0.5**
IDI	**Anoyia**	**2.96**	**113**	Pn	**Pn**	**13 17 58.6**	**-1.0**
	comp=E,8.3nm,0.3s,baz=284,slow=16,SNR=15						
IDI				Sn	**Sn**	**13 18 35.0**	**+0.9**
	comp=E,24nm,0.3s,baz=273,slow=19,SNR=9.6						
KEK	**Kerkira**	**3.51**	**337**	Pn	**Pn**	**13 18 08.4**	**+1.3**
LIT	**Litokhoron**	**3.69**	**11**		**Pn**	**13 18 11.1**	**+1.5**
FNA	**Florina**	**4.30**	**358**		**Pn**	**13 18 19.6**	**+1.6**
FNA	**Florina**	**4.30**	**358**	*e*Pn	**Pn**	**13 18 19.7**	**+1.7**
FNA				*e*Sn	**Sn**	**13 19 06.7**	**-0.3**
SCTE	**Santa Cesarea**	**4.33**	**327**	Pn	**Pn**	**13 18 19.1**	**+0.7**
OHR	**Ohrid**	**4.66**	**353**	*e*Pn	**Pn**	**13 18 24.6**	**+1.6**
OHR				*e*Sn	**Sn**	**13 19 16.2**	**+0.3**
OHR	**Ohrid**	**4.66**	**353**	*i* Pn	**Pn**	**13 18 25.6**	**+2.7**
CEL	**Celeste**	**4.84**	**293**		**Pn**	**13 18 26.4**	**+0.9**
SRS	**Serrai**	**4.89**	**18**	*e*Pn	**Pn**	**13 18 27.4**	**+1.2**
TIR	**Tirane**	**5.03**	**345**	Pn	**Pn**	**13 18 29.5**	**+1.4**
PEHC	**Pehcevo**	**5.39**	**11**	*i* Pn	**Pn**	**13 18 34.8**	**+1.7**
PUK	**Puka**	**5.70**	**347**		**Pn**	**13 18 37.5**	**+0.2**
CUC	**Castrocucco**	**5.71**	**310**	Pn	**Pn**	**13 18 38.5**	**+1.0**
VAE	**Valguarnera**	**5.80**	**282**	Pn	**Pn**	**13 18 38.3**	**-0.4**
	comp=E,4.9nm,0.5s,baz=129,slow=13,SNR=1.5						
VAE				Sn	**Sn**	**13 19 45.4**	**+1.3**
	comp=E,7.0nm,0.3s,baz=149,slow=18,SNR=7.0						
BOSS	**Bosilegrad**	**6.05**	**7**	*e*Pn	**Pn**	**13 18 43.8**	**+1.8**
PDG	**Podgorica**	**6.20**	**344**		**Pn**	**13 18 43.1**	**-1.0**
VTS	**Vitosha**	**6.26**	**11**	*e*Pn	**Pn**	**13 18 46.2**	**+1.1**
BARS	**Barje**	**6.33**	**2**	*e*Pn	**Pn**	**13 18 46.8**	**+0.9**
BARS				*e*Sn	**Sn**	**13 19 55.4**	**-1.6**
SELS	**Selova**	**6.74**	**357**	*e*Pn	**Pn**	**13 18 51.5**	**0.0**
ZAPS	**Zavoj**	**6.83**	**7**	*e*Pn	**Pn**	**13 18 54.6**	**+1.8**
SJES	**Sjenica**	**6.88**	**350**	*e*Pn	**Pn**	**13 18 54.2**	**+0.7**
SJES				*e*Sn	**Sn**	**13 20 09.0**	**-1.7**
IVAS	**Ivanjica**	**7.17**	**352**	*e*Pn	**Pn**	**13 18 56.9**	**-0.5**
GRUS	**Gruza**	**7.42**	**355**	*e*Pn	**Pn**	**13 19 00.6**	**-0.3**
BBLS	**Lazi&#263i**	**7.55**	**348**	*e*Pn	**Pn**	**13 19 02.9**	**+0.2**
DIVS	**Divibare**	**7.70**	**352**	*e*Pn	**Pn**	**13 19 04.2**	**-0.5**
INTR	**Introdacqua**	**8.10**	**315**	Pn	**Pn**	**13 19 11.4**	**+1.2**
TEKS	**Tekeris**	**8.20**	**350**	*e*Pn	**Pn**	**13 19 10.6**	**-1.0**
MLR	**Muntele Rosu**	**9.59**	**19**	Pn	**Pn**	**13 19 30.6**	**-0.1**
	comp=E,0.1nm,0.3s,baz=167,slow=19,SNR=1.6						
	comp=E,1.2nm,0.7s						
SABO	**M.te Sabotino**	**11.21**	**330**	Pn	**Pn**	**13 19 52.6**	**-0.2**
SOKA	**Soboth**	**11.29**	**336**	*e*Pn	**Pn**	**13 19 52.7**	**-1.2**
	comp=E,0.8nm,0.4s						
MMAI	**Mount Meron Ar**	**11.90**	**103**	Pn	**Pn**	**13 19 59.0**	**-3.4**
	comp=E,0.6nm,0.2s,baz=294,slow=11,SNR=1.8						
MMAI				Sn	**Sn**	**13 22 07.7**	**-6.5**
	comp=E,2.3nm,0.3s,baz=288,slow=24,SNR=2.0						
BIOA	**Bad Ischl, Aus**	**12.64**	**335**	Pn	**Pn**	**13 20 11.9**	**-0.4**
	comp=E,1.0nm,0.3s						
EIL	**Elat**	**13.12**	**117**	Pn	**Pn**	**13 20 15.8**	**-3.1**
	comp=E,0.4nm,0.3s,baz=311,slow=20,SNR=1.9						
EIL				Sn	Sn	13 22 33.4	-10
	comp=E,1.2nm,0.3s,baz=9.0,slow=18,SNR=3.4						
	comp=E,1.4nm,0.4s						
FUORN	**Ofenpass-Fuorn**	**13.18**	**324**	Pn	**Pn**	**13 20 21.4**	**+1.6**
TUE	**Stuetta**	**13.52**	**321**	Pn	**Pn**	**13 20 26.3**	**+1.8**
AKASG	**Malin Array Be**	**15.25**	**19**	Pn	**Pn**	**13 20 46.6**	**-0.9**
	comp=E,0.2nm,0.2s,baz=215,slow=11,SNR=1.2						
KBZ	**Khabaz**	**17.83**	**60**	P	**Pn**	**13 21 20.4**	**+0.1**
	comp=E,0.1nm,0.3s,baz=266,slow=16,SNR=2.3						
	comp=E,1.3nm,0.6s						
ESDC	**Sonseca Array**	**20.32**	**287**	P	**P**	**13 21 46.9**	**-1.3**
	comp=E,0.3nm,0.9s,baz=88,slow=10,SNR=1.5						
HFS	**Hagfors**	**24.20**	**350**	P	**P**	**13 22 27.0**	**-1.1**
	comp=E,1.5nm,0.4s,baz=161,slow=11,SNR=13						
	comp=E,1.5nm,0.4s						
NC602	**NORSAR Array S**	**25.10**	**348**	P	**P**	**13 22 36.5**	**+0.2**
NC602				IAmb	IAmb	13 23 00.6	
	comp=Z,30nm,1.4s						
FINES	**FINESS Array B**	**25.14**	**5**	P	**P**	**13 22 36.1**	**-0.6**
	comp=Z,2.6nm,0.6s,baz=175,slow=9.7,SNR=17						
	comp=Z,2.6nm,0.6s						
FIA1	**FINESS Array S**	**25.15**	**5**	P	**P**	**13 22 36.4**	**-0.3**
FIA1				IAmb	IAmb	13 22 48.5	
	comp=Z,21nm,1.1s						
EKA	**Eskdalemuir Ar**	**25.29**	**326**	P	**P**	**13 22 37.9**	**-0.2**
	comp=Z,2.6nm,1.0s,baz=121,slow=9.3,SNR=2.4						
	comp=Z,2.6nm,1.0s						
NAO01	**NORSAR Array S**	**25.31**	**348**	P	**P**	**13 22 39.2**	**+0.9**
NOA	**NORSAR Array B**	**25.44**	**348**	P	**P**	**13 22 39.3**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=157,slow=9.1,SNR=1.9						
	comp=Z,0.6nm,0.7s						
NC303	**NORSAR Array S**	**25.59**	**349**	P	**P**	**13 22 42.0**	**+1.2**
NC204	**NORSAR Array S**	**25.74**	**348**	P	**P**	**13 22 43.6**	**+1.5**
NC204				IAmb	IAmb	13 23 19.0	
	comp=Z,26nm,1.2s						
TORD	**Torodi Ar. Bea**	**29.29**	**223**	P	**P**	**13 23 15.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=27,slow=9.9,SNR=1.8						
	comp=Z,0.3nm,0.6s						
ABKAR	**Akbulak array**	**30.56**	**53**	P	**P**	**13 23 24.8**	**-0.4**
ARTI	**Arti**	**31.71**	**39**	P	**P**	**13 23 34.5**	**-0.8**
ARTI				IAmb	IAmb	13 23 36.0	
	comp=Z,6.1nm,1.1s						
ARCES	**ARCESS Array B**	**33.18**	**3**	P	**P**	**13 23 48.2**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=185,slow=10.0,SNR=9.4						
	comp=Z,3.9nm,0.9s						
BRVK	**Borovoye**	**37.55**	**48**	P	**P**	**13 24 26.2**	**+0.4**
BVAR	**Borovoye Array**	**37.60**	**48**	P	**P**	**13 24 26.1**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=259,slow=5.1,SNR=6.5						
	comp=Z,1.4nm,0.6s						
AAK	**Ala-Archa**	**40.72**	**65**	P	**P**	**13 24 53.0**	**+0.4**
AAK				IAmb	IAmb	13 24 54.9	
	comp=Z,2.2nm,0.7s						
BOOM	**Boomskoye usch**	**41.80**	**64**	P	**P**	**13 25 01.1**	**-0.4**
SPITS	**Spitsbergen Ar**	**41.86**	**358**	P	**P**	**13 25 01.3**	**-0.1**
	comp=Z,13nm,1.0s,baz=219,slow=13,SNR=2.2						
	comp=Z,13nm,1.0s						
NRN	**Naryn**	**42.04**	**66**	P	**P**	**13 25 03.6**	**-0.1**
NRN				IAmb	IAmb	13 25 05.0	
	comp=Z,7.1nm,1.2s						
KURBB	**Kurchatov Arra**	**42.60**	**52**	P	**P**	**13 25 05.8**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=274,slow=8.6,SNR=4.9						
	comp=Z,0.6nm,0.3s						
TARG	**Taragay, Kyrgy**	**43.31**	**65**	P	**P**	**13 25 13.8**	**-0.2**
MAKZ	**Makanchi**	**45.29**	**57**	P	**P**	**13 25 28.9**	**-0.6**
MK31	**Makanchi Array**	**45.51**	**57**	P	**P**	**13 25 30.1**	**-1.1**
MKAR	**Makanchi Array**	**45.51**	**57**	P	**P**	**13 25 30.2**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=270,slow=8.0,SNR=16						
	comp=Z,0.9nm,0.3s						
ZALV	**Zalesovo Beam**	**46.23**	**47**	P	**P**	**13 25 35.4**	**-1.2**
	comp=Z,2.3nm,0.3s,baz=273,slow=7.8,SNR=6.3						
	comp=Z,2.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**69.31**	**82**	P	**P**	**13 28 17.5**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=297,slow=7.4,SNR=4.9						
	comp=Z,0.6nm,0.6s						
A36M	**Sachs Harbour**	**69.34**	**350**	P	**P**	**13 28 20.0**	**+1.3**
A36M				IAmb	IAmb	13 28 38.7	
	comp=Z,4.0nm,1.1s						
B21K	**Ikpikpuk River**	**74.17**	**359**	P	**P**	**13 28 47.6**	**0.0**
E29M	**Blow River**	**74.32**	**352**	P	**P**	**13 28 49.9**	**+1.3**
E29M				IAmb	IAmb	13 29 13.4	
	comp=Z,3.6nm,1.4s						
D23K	**Nanushuk River**	**74.70**	**357**	P	**P**	**13 28 52.5**	**+1.7**
D23K				IAmb	IAmb	13 29 13.5	
	comp=Z,5.8nm,1.4s						
F31M	**Tsiigehtchic**	**74.71**	**350**	P	**P**	**13 28 52.0**	**+1.1**
F31M				IAmb	IAmb	13 28 52.7	
	comp=Z,5.3nm,1.5s						
G29M	**Pine Creek**	**75.75**	**352**	P	**P**	**13 28 57.7**	**+0.8**
G29M				IAmb	IAmb	13 29 30.6	
	comp=Z,10.0nm,1.5s						
I30M	**Mount Dempster**	**77.17**	**351**	P	**P**	**13 29 06.2**	**+1.2**
I30M				IAmb	IAmb	13 29 47.8	
	comp=Z,4.2nm,1.5s						
Q52A	**Bidwell**	**77.25**	**309**	P	**P**	**13 29 05.1**	**-0.7**
KSRS	**Korea Array**	**79.76**	**51**	P	**P**	**13 29 19.9**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=305,slow=4.6,SNR=9.8						
	comp=Z,1.4nm,0.6s						
HMT	**Hamilton**	**82.82**	**353**	P	**P**	**13 29 35.5**	**-0.1**
PETK	**Petropavlovsk-**	**83.00**	**25**	P	**P**	**13 29 38.5**	**+1.9**
	comp=Z,4.3nm,0.9s,baz=305,slow=5.1,SNR=1.8						
	comp=Z,4.3nm,0.9s						
MJAR	**Matsushiro Arr**	**86.57**	**46**	P	**P**	**13 29 55.8**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=316,slow=3.4,SNR=1.5						
	comp=Z,0.7nm,0.8s						

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*ATH **04** 13:25:12.2,37°.60N×20°.78E,h14km±1km,ML3.1/8,Error ellipse: s-maj=2.1km s-min=0.8km az=43.0*
*THE **04** 13:25:12.9,37°.63N×20°.83E,h9km,ML2.9/5,Error ellipse: s-maj=1.2km s-min=0.4km az=231.0*
ISC 04 13:25:11.9±1.1,37°.61N±0°.04×20°.80E±0°.04,h12km±5km, n32,σ0°66/53,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.05**	**17**	P	**Pg**	**13 25 14.6**	**+0.3**
KRI1				S	**Sg**	**13 25 15.8**	**-0.3**
	231μm,0.3s						
LTHK	**Lithakia**	**0.10**	**18**	P	**Pg**	**13 25 15.1**	**+0.2**
LTHK	**Lithakia**	**0.10**	**18**	P	**Pg**	**13 25 15.1**	**+0.2**
LTHK				S	**Sg**	**13 25 16.7**	**-0.3**
LTHK				AML	AML	13 25 16.8	
	comp=E,96616μm,0.2s						
LTHK				AML	AML	13 25 16.9	
PSDA	**Pessada-Kefalo**	**0.53**	**342**	P	**Pg**	**13 25 22.9**	**+0.6**
PSDA				S	**Sg**	**13 25 30.6**	**+1.2**
	comp=E,2μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.53**	**342**	P	**Pg**	**13 25 22.9**	**+0.6**
PSDA				S	**Sb**	**13 25 30.9**	**+0.1**
VLS	**Valsamata**	**0.59**	**344**	P	**Pg**	**13 25 23.9**	**+0.4**
VLS				S	**Sg**	**13 25 32.4**	**+1.1**
VLS	**Valsamata**	**0.59**	**344**	P	**Pg**	**13 25 23.8**	**+0.4**
VLS				S	**Sg**	**13 25 31.9**	**+0.7**
VLS				AML	AML	13 25 33.6	
	comp=N,2874μm,0.2s						
VLS				AML	AML	13 25 35.6	
	comp=E,2906μm,0.5s						
SMHA	**Samh**	**0.65**	**350**	P	**Pg**	**13 25 24.2**	**-0.4**
SMHA				S	**Sg**	**13 25 33.7**	**+0.5**
RLS	**Riolos of Patr**	**0.69**	**50**	P	**Pg**	**13 25 25.3**	**-0.1**
RLS	**Riolos of Patr**	**0.69**	**50**	P	**Pg**	**13 25 25.5**	**+0.1**
RLS				S	**Sg**	**13 25 34.9**	**+0.4**
RLS				AML	AML	13 25 37.8	
	comp=N,1586μm,0.4s						
RLS				AML	AML	13 25 38.1	
	comp=E,3210μm,0.5s						
DMLN	**Damoulianata-K**	**0.71**	**332**	P	**Pg**	**13 25 26.2**	**+0.5**
DMLN	**Damoulianata-K**	**0.71**	**332**	P	**Pg**	**13 25 26.2**	**+0.5**
DMLN				S	**Sg**	**13 25 34.9**	**-0.2**
AMT	**Artemida-Makis**	**0.73**	**96**	P	**Pg**	**13 25 26.4**	**+0.3**
AMT				S	**Sb**	**13 25 37.2**	**+0.7**
AMT				AML	AML	13 25 42.8	
	comp=N,10991μm,0.3s						
AMT				AML	AML	13 25 45.1	
	comp=E,11578μm,0.5s						
DRO	**Drossia**	**0.80**	**64**	P	**Pg**	**13 25 27.4**	**0.0**
DRO	**Drossia**	**0.80**	**64**	P	**Pg**	**13 25 27.5**	**0.0**
DRO				S	**Sb**	**13 25 40.0**	**+1.4**
DRO				AML	AML	13 25 43.1	
	comp=N,3667μm,0.4s						
DRO				AML	AML	13 25 45.5	
	comp=E,3588μm,0.5s						
FSK	**Fiskardo**	**0.87**	**348**	P	**Pg**	**13 25 28.5**	**-0.2**
FSK				S	**Sb**	**13 25 41.5**	**+1.0**
FSK	**Fiskardo**	**0.87**	**348**	P	**Pg**	**13 25 28.2**	**-0.5**
FSK				S	**Sb**	**13 25 41.5**	**+1.0**
ITM	**Ithomi**	**1.00**	**115**	P	**Pg**	**13 25 31.1**	**-0.1**
ITM				S	**Sb**	**13 25 45.6**	**+1.4**
	comp=E,640nm,0.6s						
ITM	**Ithomi**	**1.00**	**115**	P	**Pg**	**13 25 30.9**	**-0.3**
ITM				S	**Sg**	**13 25 43.9**	**-0.3**
ITM				AML	AML	13 25 52.1	
	comp=E,1271μm,0.4s						
ITM				AML	AML	13 25 54.0	
	comp=N,1162μm,0.6s						
EVGI	**Lefkada island**	**1.01**	**354**	P	**Pg**	**13 25 31.1**	**-0.4**
EVGI				S	**Sb**	**13 25 46.1**	**+1.4**
	comp=N,542nm,0.3s						
EVGI	**Lefkada island**	**1.01**	**354**	P	**Pg**	**13 25 31.1**	**-0.4**
EVGI				S	**Sg**	**13 25 45.0**	**+0.3**
PYL	**PYLOS**	**1.04**	**133**	P	**Pb**	**13 25 31.5**	**-0.3**
PYL				S	**Sb**	**13 25 46.1**	**+0.8**
PYL				AML	AML	13 25 51.7	
	comp=E,1092μm,0.5s						
PYL				AML	AML	13 25 53.9	
	comp=N,742μm,0.6s						
DRAG	**Dragano-Lefkad**	**1.09**	**351**	P	**Pb**	**13 25 32.1**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.10**	**356**	P	**Pb**	**13 25 32.2**	**-0.7**
NYDR				S	**Sb**	**13 25 47.1**	**-0.2**
KLV	**Kalavryta, Ach**	**1.16**	**68**	P	**Pb**	**13 25 33.4**	**-0.4**
KLV				S	**Sb**	**13 25 49.3**	**+0.5**
LKD2	**Lefkada island**	**1.18**	**355**	P	**Pb**	**13 25 33.1**	**-1.2**
LKD2				S	**Sb**	**13 25 48.2**	**-1.4**
LKD2				AML	AML	13 26 01.7	
	comp=N,1264μm,0.7s						
LKD2				AML	AML	13 26 01.8	
	comp=E,1164μm,0.7s						
EFP	**Efpalio**	**1.20**	**47**	P	**Pb**	**13 25 34.0**	**-0.6**
TSLK	**Tsoukalades, L**	**1.22**	**355**	P	**Pn**	**13 25 34.5**	**-0.2**
GUR	**Goura**	**1.27**	**75**	P	**Pn**	**13 25 35.8**	**+0.3**
KALE	**Kalithea**	**1.32**	**53**	P	**Pn**	**13 25 35.7**	**-0.4**
ANX	**Ano Chora**	**1.32**	**42**	P	**Pn**	**13 25 36.3**	**0.0**
VLI	**Veliai**	**1.93**	**117**	P	**Pn**	**13 25 43.7**	**-0.8**

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*NEIC **04** 13:27:31.5±2.1,18°.75S±0°.1×177°.5W±0°.1,h544km±9km, mb4.5/34,Error ellipse: s-maj=21.2km s-min=17.2km az=152.0*
*IDC **04** 13:27:39.0±1.0,18°.11S×178°.29W,h595km±9km,mb3.6/13, mbtmp4.5/15,Error ellipse: s-maj=18.2km s-min=11.6km az=139.0*
ISC 04 13:27:34.1±0.5,18°.4S±0°.1×177°.83W±0°.09,h557km,n145, σ1°39/143,mb4.5/38,37C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.98**	**279**	P	**P**	**13 28 59.3**	**+2.9**
MSVF	**Nonsavu**	**3.98**	**279**	P	**P**	**13 28 59.8**	**+3.4**
	214nm,0.7s,baz=112,slow=14,SNR=131						
MSVF				S	**S**	**13 30 08.4**	**+4.9**
	34nm,1.0s,baz=108,slow=20,SNR=8.3						
FUTU	**Fugatoga**	**4.10**	**356**	P	**P**	**13 28 56.2**	**-1.2**
AFI	**Afiamalu**	**7.34**	**53**	P	**P**	**13 29 22.1**	**-3.7**
DZM	**Mont Dzumac**	**15.20**	**254**	P	**P**	**13 30 44.8**	**-0.8**
DZM				IAmb	IAmb	13 31 17.8	
	comp=Z,24nm,1.5s						
DZM	**Mont Dzumac**	**15.20**	**254**	P	**P**	**13 30 46.2**	**+0.6**
	comp=Z,6.7nm,0.7s,baz=80,slow=19,SNR=9.2						
KOUNC	**Koumac, New Ca**	**17.00**	**260**	P	**P**	**13 31 03.1**	**+0.6**
RAR	**Rarotonga**	**17.22**	**102**	P	**P**	13 30 56.8	-7.7
URZ	**Urewera**	**20.26**	**192**	P	**P**	**13 31 32.7**	**+0.8**
	comp=Z,7.4nm,0.4s,baz=13,slow=2.1,SNR=17						
SNZO	**South Karori**	**23.70**	**194**	P	**P**	**13 31 58.2**	**-4.5**
EIDS	**Eidsvold**	**29.61**	**251**	P	**P**	**13 32 53.7**	**-1.3**
EIDS				IAmb	IAmb	13 32 55.6	
	comp=Z,7.8nm,0.7s						
ARMA	**Armidale**	**30.17**	**241**	P	**P**	**13 33 00.9**	**+1.2**
ARMA				IAmb	IAmb	13 33 34.1	
	comp=Z,11nm,1.2s						
CAN	**Canberra**	**33.84**	**233**	P	**P**	**13 33 31.7**	**+0.9**
CAN				IAmb	IAmb	13 34 03.1	
	comp=Z,18nm,1.4s						
CTAO	**Charters Tower**	**33.91**	**261**	P	**P**	**13 33 30.8**	**-0.8**
CTAO				IAmb	IAmb	13 33 31.8	
	comp=Z,12nm,0.7s						
PMG	**Port Moresby**	**35.09**	**280**	P	**P**	**13 33 40.9**	**-0.6**
TOO	**Toolangi**	**37.28**	**232**	P	**P**	**13 33 59.5**	**+0.3**
COEN	**Coen**	**37.66**	**271**	P	**P**	**13 34 02.2**	**-0.5**
COEN				IAmb	IAmb	13 34 03.1	
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**38.87**	**242**	P	**P**	**13 34 12.7**	**+0.4**
STKA	**Stephens Creek**	**38.87**	**242**	P	**P**	**13 34 13.4**	**+1.1**
	comp=Z,8.3nm,0.5s,baz=78,slow=9.9,SNR=19						
	comp=Z,8.3nm,0.5s						
WB0	**Warramunga Arr**	**45.05**	**260**	P	**P**	**13 34 59.6**	**-1.4**
WB0				IAmb	IAmb	13 35 00.6	
	comp=Z,11nm,0.7s						
WB2	**Warramunga Arr**	**45.07**	**260**	P	**P**	**13 34 59.7**	**-1.5**
WB2				IAmb	IAmb	13 35 00.9	
	comp=Z,12nm,0.7s						
WRAB	**Tennant Creek**	**45.07**	**260**	P	**P**	**13 34 59.6**	**-1.6**
WRAB				IAmb	IAmb	13 35 00.8	
	comp=Z,9.2nm,0.7s						
WRA	**Warramunga Arr**	**45.08**	**260**	P	**P**	**13 34 59.9**	**-1.4**
	comp=Z,8.6nm,0.7s,baz=96,slow=7.0,SNR=187						
WRA				PcP	**PcP**	**13 36 30.0**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=95,slow=3.2,SNR=6.5						
WRA				S	S	13 40 49.0	-11
	comp=Z,0.4nm,0.8s,baz=95,slow=12,SNR=1.9						
	comp=Z,8.6nm,0.7s						
AS31	**Alice Springs**	**45.18**	**255**	P	**P**	**13 35 01.3**	**-0.7**
ASAR	**Alice Springs**	**45.18**	**255**	P	**P**	**13 35 01.5**	**-0.5**
	comp=Z,41nm,0.6s,baz=87,slow=8.8,SNR=907						
ASAR				PcP	**PcP**	**13 36 30.5**	**0.0**
	comp=Z,2.4nm,0.5s,baz=101,slow=3.7,SNR=9.8						
ASAR				S	**S**	**13 40 55.1**	**-6.7**
	comp=Z,2.3nm,1.2s,baz=96,slow=16,SNR=6.5						
	comp=Z,41nm,0.6s						
MTN	**Manton Dam**	**49.34**	**269**	P	**P**	**13 35 31.6**	**-1.6**
MTN				IAmb	IAmb	13 35 32.8	
	comp=Z,13nm,0.8s						
SOEI	**Soe**	**56.62**	**270**	P	**P**	**13 36 24.7**	**-0.6**
SOEI				IAmb	IAmb	13 36 26.6	
	comp=Z,22nm,0.7s						
MJAR	**Matsushiro Arr**	**68.64**	**323**	P	**P**	**13 37 40.7**	**-1.4**
	comp=Z,4.7nm,0.6s,baz=161,slow=5.9,SNR=23						
	comp=Z,4.7nm,

comp=Z,0.5nm,0.5s,baz=137,slow=1.4,SNR=9.5
KURBB Kurchatov Arra 112.62 318 PKiKP PKiKP 13 45 06.1 -1.3
comp=Z,0.2nm,0.3s,baz=89,slow=2.1,SNR=7.7
BVAR Borovoye Array 117.59 321 PKP PKPdf 13 45 16.4 -0.5
comp=Z,1.3nm,0.5s,baz=106,slow=4.0,SNR=7.2
ARTI Arti 123.68 326 PKP PKPdf 13 45 28.3 -0.2
comp=Z,2.8nm,0.6s,baz=68,slow=5.4,SNR=5.2
AKTO Aktyubinsk 125.61 319 PKP PKiKP 13 45 32.8 0.0
comp=Z,0.9nm,0.5s,baz=34,slow=3.6,SNR=3.9
ARCES ARCESS Array B 126.91 350 PKP PKPdf 13 45 34.1 -0.2
comp=Z,3.2nm,0.9s,baz=14,slow=0.4,SNR=5.2
FINES FINESS Array B 133.83 344 PKhKP PKPpre 13 45 43.2
comp=Z,4.0nm,1.0s,baz=106,slow=3.0,SNR=1.5
FINES PKP sPdif 13 45 46.9 -0.3
comp=Z,2.7nm,0.9s,baz=72,slow=4.5,SNR=4.7
HFS Hagfors 137.52 351 PKhKP PKPpre 13 45 48.7
comp=Z,2.8nm,0.9s,baz=14,slow=3.0,SNR=5.0
AKASG Malin Array Be 141.26 332 PKP PKiKP 13 46 03.1 -1.4
comp=Z,0.5nm,0.4s,baz=36,slow=3,1,SNR=4.6
SORM Soroca 143.50 330 ⇑P PKiKP 13 46 27.7 +18
DIKM Dikmen 143.52 317 ⇑P **PKiKP 13 46 13.7 +4.2**
OJC Ojcow 145.28 340 *e*PKP **PKPbc 13 46 09.7 0.0**
TLCR 145.30 326 ⇑P **PKPbc 13 46 09.8 -0.1**
BUR08 Bucovina Ar. S 145.31 332 PKPab **PKPab 13 46 10.8 -0.5**
BURAR Bucovina Array 145.32 332 ⇑P **PKPab 13 46 11.4 +0.1**
SCTR Scanteiesti 145.40 327 ⇑P **PKPab 13 46 10.9 -0.7**
GHRR 145.43 328 ⇑P **PKPab 13 46 11.5 -0.2**
STHS Stebnicka Huta 145.47 338 *e*PKP **PKPbc 13 46 10.1 -0.3**
TESR Tescani 145.47 330 ⇑P **PKPbc 13 46 10.1 -0.3**
KOLS Kolonicke sedl 145.49 336 *e*PKP **PKPbc 13 46 10.9 +0.5**
BRTR Keskin Array B 145.53 315 PKPbc **PKPdf 13 46 09.0 -0.6**
BRTR Keskin Array B 145.53 315 PKPbc **PKPbc 13 46 10.6 -0.5**
comp=Z,2.9nm,0.6s,baz=80,slow=0.9,SNR=9.3
JURR Jurilovca 145.54 326 ⇑P **PKPdf 13 46 08.4 -0.8**
IZVR Izvoarele 145.60 327 ⇑P **PKPab 13 46 11.9 -0.5**
KIRS Kirsehir-Merke 145.62 314 ⇑P **PKPdf 13 46 10.4 +0.7**
CFR Carcaliu 145.66 327 ⇑P **PKPbc 13 46 10.2 -0.8**
ONER Baraj Valea Uz 145.72 330 ⇑P **PKPbc 13 46 11.7 +0.5**
KSP Ksiaz 145.75 344 *e*PKP **PKPbc 13 46 11.6 +0.5**
NIE Niedzica 145.80 339 *e*PKP **PKPab 13 46 12.7 -0.4**
ODBI Odobesti 145.81 328 ⇑P **PKPab 13 46 12.6 -0.5**
VRI Vrincioaia 145.90 329 ⇑P **PKPbc 13 46 11.7 0.0**
PLOR Plostina 145.95 329 ⇑P **PKPdf 13 46 06.6 -3.3**
BMR Baia Mare 146.01 334 ⇑P **PKPbc 13 46 11.9 0.0**
OSTC Ostas 146.03 344 *e*PKP **PKPbc 13 46 12.5 +0.6**
CHVC Chvalec 146.04 344 *e*PKP **PKPbc 13 46 12.4 +0.4**
CLL Collm 146.08 348 PKPbc **PKPdf 13 46 10.6 +0.7**
CLL Collm 146.08 348 *i* PKPbc **PKPbc 13 46 11.8 -0.2**
comp=Z,14nm,0.8s
HARR Harsova 146.10 326 ⇑P **PKPbc 13 46 12.8 +0.6**
TURR Turia 146.11 330 ⇑P **PKPbc 13 46 13.1 +0.8**
UPC Upice 146.13 344 *e*PKP **PKPbc 13 46 12.5 +0.3**
KDZE Karadeniz Ereo 146.14 319 ⇑P **PKPbc 13 46 12.3 -0.3**
COVR Voineasa-Covas 146.17 329 ⇑P **PKPbc 13 46 12.5 0.0**
DPC Dobruska-Polom 146.19 344 *e*PKP **PKPbc 13 46 13.1 +0.7**
BRG Berggiesshubel 146.29 347 *i* PKP **PKPbc 13 46 13.2 +0.6**
BRG Amp 13 46 13.8
comp=Z,6.7nm,0.7s
LANS Liptovska Anna 146.31 339 *e*PKP **PKiKP 13 46 14.1 -0.9**
MORC Moravsky Berou 146.37 342 *e*PKP **PKPbc 13 46 13.3 +0.4**
MORC Moravsky Berou 146.37 342 ⇑P **PKPbc 13 46 12.8 -0.1**
PVCC Panska Ves 146.47 346 *e*PKP **PKPbc 13 46 13.7 +0.6**
DOPR Dopca 146.47 330 ⇑P **PKPbc 13 46 14.1 +0.8**
ISR Istrita 146.52 328 ⇑P **PKPbc 13 46 12.7 -0.7**
MLR Muntele Rosu 146.55 329 ⇑P **PKPbc 13 46 13.7 0.0**
MAUC Maruska 146.65 341 *e*PKP **PKPbc 13 46 14.4 +0.7**
HSKC Hora Svate Kat 146.65 347 *e*PKP **PKPbc 13 46 13.9 +0.3**
MMAI Mount Meron Ar 146.88 303 PKPbc **PKPbc 13 46 15.1 +0.3**
comp=Z,5.3nm,0.5s,baz=64,slow=6,6,SNR=6.5
MARR Marisel-Cluj 146.96 333 ⇑P **PKPbc 13 46 15.0 +0.3**
PRU Pruhonice 146.98 345 *e*PKP **PKPbc 13 46 15.0 +0.5**
VOIR 147.02 330 ⇑P **PKPbc 13 46 15.1 +0.3**
DRGR 147.04 334 ⇑P **PKPbc 13 46 15.2 +0.3**
VRAC Vranov 147.06 343 *e*PKP **PKPab 13 46 18.3 +0.2**
VYHS Vyhne 147.09 339 *e*PKP **PKPbc 13 46 15.4 +0.6**
JAVC Velka Javorina 147.14 341 *e*PKP **PKiKP 13 46 16.6 -0.2**
PSZ Piszkesteto 147.21 338 ⇑P **PKPdf 13 46 10.5 -1.5**
ARR Arges 147.27 330 ⇑P **PKiKP 13 46 16.6 -0.6**
KRUC Moravsky 147.34 343 *e*PKP **PKPbc 13 46 15.9 +0.5**
MODS Modra-Piesok 147.69 341 *e*PKP **PKiKP 13 46 17.5 -0.4**
SIRR Siria 147.90 334 ⇑P **PKPbc 13 46 17.0 0.0**
KHC Kasperske Hory 148.00 346 *e*PKP **PKPbc 13 46 17.6 +0.4**
SURR Surduc 148.11 333 ⇑P **PKPbc 13 46 17.4 -0.1**
CKRC Cesky Krumlov 148.12 345 *e*PKP **PKiKP 13 46 18.1 -0.7**
GERES GERESS Array B 148.24 345 PKPbc **PKPbc 13 46 18.2 +0.3**
comp=Z,3.2nm,0.7s,baz=23,slow=5,3,SNR=14
ELND Elena 148.39 326 ⇑P **PKPab 13 46 23.9 +0.2**
BZS Buzias 148.43 333 ⇑P **PKPbc 13 46 18.0 -0.3**
CONA Conrad Observa 148.52 342 *i* PKiKP **PKPbc 13 46 18.7 +0.1**
comp=Z,2.8nm,0.7s
RONA Rosalia, Austr 148.59 342 *e*PKiKP **PKPbc 13 46 18.4 -0.3**
comp=Z,1.6nm,0.6s
MORH Mrgy, Hungar 149.11 337 ⇓P **PKPbc 13 46 17.7 -2.2**
LESA Schwarzleotal 149.81 346 *e*PKiKP **PKPbc 13 46 21.6 -0.1**
comp=Z,1.4nm,0.3s
SOKA Soboth 149.89 342 *e*PKiKP **PKPbc 13 46 21.5 -0.4**
comp=Z,1.2nm,0.6s
BOVS Bovan 149.95 331 ⇑P **PKPbc 13 46 21.4 -0.6**
KBA Koelnbreinsper 149.98 345 *i* PKiKP **PKPbc 13 46 21.6 -0.7**
comp=Z,2.3nm,0.5s
WATA Walderalm 150.15 347 *e*PKiKP **PKPbc 13 46 22.6 +0.1**
comp=Z,0.6nm,0.1s
WTTA Wattenberg 150.20 347 *e*PKiKP **PKPbc 13 46 22.9 +0.1**
comp=Z,5.2nm,0.5s
MOTA Moosalm 150.23 348 *e*PKiKP **PKPbc 13 46 22.8 0.0**
comp=Z,1.8nm,0.6s
MYKA Terra Mystica 150.32 344 *i* PKiKP **PKPbc 13 46 22.2 -0.7**
comp=Z,2.5nm,0.4s
SQTA Sankt Quirin 150.33 348 *i* PKiKP **PKiKP 13 46 23.2 -0.3**
comp=Z,4.7nm,0.5s
ABTA Abfaltersbach 150.49 345 *e*PKiKP **PKPbc 13 46 23.1 -0.2**
comp=Z,6.3nm,0.6s
DAVA Damuels 150.52 349 *e*PKiKP **PKiKP 13 46 24.2 +0.3**
comp=Z,2.8nm,0.5s
FETA Feichten 150.62 348 *i* PKiKP **PKiKP 13 46 24.0 -0.2**
comp=Z,1.7nm,0.4s
FNA Florina 152.27 328 PKPbc 13 46 26.4 -1.0
MATE Matera 154.56 334 ⇑P PKPdf 13 46 13.7 -10
ESDC Sonseca Array 158.16 13 PKPab **PKPab 13 47 05.3 -0.1**
comp=Z,0.7nm,1.0s,baz=352,slow=6.5,SNR=2.6

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*IDC **04** 13:27:45.9±2.3, 6°.43N×126°.63E, h0km, mb3.3/4, mbtmp3.3/4, MS3.8/2, Error ellipse: s-maj=206.8km s-min=23.9km az=67.0*
ISC 04 13:27:52.7±1.3, 6°.44N±0°.08×127°.0E±0°.1, h50km, n8, σ1♀14/10, mb3.2/4, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.85**	**340**	⇓*e*P	**Pn**	**13 28 23.7**	**+1.6**
BIPH				*e*S	**Sn**	**13 28 44.0**	**-0.3**
KCP	**Kidapawan**	**1.99**	**287**	⇑*e*P	**Pn**	**13 28 24.5**	**+0.5**
KCP				*e*S	**Sn**	**13 28 48.3**	**+0.4**
GSPH	**General Santos**	**2.08**	**260**	⇑P	**Pn**	**13 28 26.3**	**+1.0**
GSPH				*i* S	**Sn**	**13 28 50.0**	**-0.1**
WRA	**Warramunga Arr**	**27.19**	**165**	P	**P**	**13 33 31.9**	**+0.1**
	0.2nm,0.7s,baz=344,slow=10,SNR=2.0						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**30.67**	**168**	P	**P**	**13 34 03.3**	**+0.6**
	0.2nm,0.9s,baz=340,slow=6.9,SNR=1.3						
	0.2nm,0.9s						
MKAR	**Makanchi Array**	**55.52**	**324**	P	**P**	**13 37 21.2**	**-1.6**
	0.4nm,0.6s,baz=116,slow=7.8,SNR=5.9						
MKAR				LR	LR	14 04 54.8	
	comp=Z,57nm,18.9s,baz=340,slow=40						
	0.4nm,0.6s						
AAK	**Ala-Archa**	**58.57**	**317**	LR	LR	14 04 27.4	
	comp=Z,122nm,19.3s,baz=332,slow=38						
KURBB	**Kurchatov Arra**	**59.64**	**326**	P	**P**	**13 37 50.4**	**-1.3**
	0.5nm,0.6s,baz=125,slow=6.4,SNR=7.1						
	0.5nm,0.6s						

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*IDC **04** 13:48:58.0±1.5, 37°.40N×20°.74E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=42.2km s-min=27.7km az=120.0*
*ATH **04** 13:49:00.8, 37°.21N×20°.71E, h9km±1km, ML3.6/9, Error ellipse: s-maj=2.7km s-min=1.0km az=48.0*
*THE **04** 13:49:00.7, 37°.21N×20°.70E, h6km±1km, ML3.5/10, Error ellipse: s-maj=1.6km s-min=0.5km az=59.0*
ISC 04 13:49:00.6±1.3, 37°.22N±0°.04×20°.71E±0°.05, h18km±7km,

n33, σ0♀86/55, mb3.4/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.45**	**11**	P	**Pg**	**13 49 09.7**	**0.0**
KRI1				S	**Sb**	**13 49 16.6**	**+0.2**
10μm,0.2s							
LTHK	**Lithakia**	**0.50**	**11**	P	**Pg**	**13 49 10.3**	**-0.3**
LTHK				S	**Sb**	**13 49 18.3**	**+0.5**
19μm,0.2s							
LTHK	**Lithakia**	**0.50**	**11**	P	**Pg**	**13 49 10.8**	**+0.2**
LTHK				S	**Sg**	**13 49 17.4**	**0.0**
LTHK				AML	AML	13 49 19.2	
comp=N,44622μm,0.2s							
LTHK				AML	AML	13 49 20.1	
comp=E,29583μm,0.2s							
AMT	**Artemida-Makis**	**0.85**	**68**	P	**Pb**	**13 49 17.0**	**+0.1**
AMT				S	**Sn**	**13 49 29.1**	**-0.7**
AMT				AML	AML	13 49 34.6	
comp=N,29351μm,0.3s							
AMT				AML	AML	13 49 35.0	
comp=E,24710μm,0.5s							
RTZL	**Ratzakli, Kefa**	**0.85**	**3**	P	**Pb**	**13 49 16.4**	**-0.5**
RTZL				S	**Sn**	**13 49 29.7**	**-0.1**
comp=E,7μm,0.2s							
PYL	**PYLOS**	**0.89**	**111**	P	**Pb**	**13 49 17.5**	**+0.1**
PYL				S	**Sn**	**13 49 30.6**	**0.0**
comp=E,2μm,0.3s							
PYL	**PYLOS**	**0.89**	**111**	P	**Pb**	**13 49 17.1**	**-0.3**
PYL				S	**Sg**	**13 49 29.6**	**+0.2**
PYL				AML	AML	13 49 33.1	
comp=E,5151μm,0.4s							
PYL				AML	AML	13 49 33.8	
comp=N,3208μm,0.5s							
PSDA	**Pessada-Kefalo**	**0.90**	**353**	P	**Pb**	**13 49 17.5**	**-0.1**
PSDA				S	**Sn**	**13 49 31.3**	**+0.4**
comp=N,5μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.90**	**353**	P	**Pb**	**13 49 17.7**	**0.0**
PSDA				S	**Sg**	**13 49 29.8**	**-0.1**
VLS	**Valsamata**	**0.96**	**354**	P	**Pb**	**13 49 18.9**	**+0.2**
VLS				S	**Sn**	**13 49 33.5**	**+1.0**
comp=N,3μm,0.3s							
VLS	**Valsamata**	**0.96**	**354**	P	**Pb**	**13 49 18.9**	**+0.2**
VLS				S	**Sg**	**13 49 32.1**	**+0.3**
VLS				AML	AML	13 49 34.7	
comp=N,6938μm,0.2s							
VLS				AML	AML	13 49 35.9	
comp=E,4146μm,0.1s							
ITM	**Ithomi**	**0.97**	**92**	P	**Pb**	**13 49 19.2**	**+0.3**
ITM				S	**Sn**	**13 49 33.2**	**+0.5**
comp=E,2μm,0.5s							
ITM	**Ithomi**	**0.97**	**92**	P	**Pb**	**13 49 19.2**	**+0.3**
ITM				S	**Sn**	**13 49 32.4**	**-0.3**
ITM				AML	AML	13 49 35.9	
comp=N,2614μm,0.3s							
ITM				AML	AML	13 49 37.5	
comp=E,5186μm,0.7s							
LXRA	**Lixouri, Kepha**	**1.00**	**347**	P	**Pn**	**13 49 20.3**	**+0.5**
LXRA				S	**Sn**	**13 49 33.8**	**+0.4**
RLS	**Riolos of Patr**	**1.03**	**35**	P	**Pb**	**13 49 19.7**	**-0.2**
RLS				S	**Sn**	**13 49 35.0**	**+0.9**
comp=E,1μm,0.4s							
RLS	**Riolos of Patr**	**1.03**	**35**	P	**Pb**	**13 49 19.9**	**+0.1**
RLS				S	**Sn**	**13 49 33.8**	**-0.3**
RLS				AML	AML	13 49 38.5	
comp=E,2537μm,0.4s							
RLS				AML	AML	13 49 39.4	
comp=N,1895μm,0.5s							
SMHA	**Samh**	**1.03**	**357**	P	**Pb**	**13 49 19.4**	**-0.5**
SMHA				S	**Sn**	**13 49 34.7**	**+0.6**
SMHA				AML	AML	13 49 37.0	
comp=N,29817μm,0.3s							
SMHA				AML	AML	13 49 38.4	
comp=E,14471μm,0.2s							
DRO	**Drossia**	**1.08**	**47**	P	**Pb**	**13 49 20.8**	**+0.1**
DRO				S	**Sn**	**13 49 37.1**	**+1.7**
comp=E,4μm,0.5s							
DRO	**Drossia**	**1.08**	**47**	P	**Pb**	**13 49 20.6**	**-0.1**
DRO				S	**Sn**	**13 49 36.8**	**+1.5**
DRO				AML	AML	13 49 41.5	
comp=N,8371μm,0.4s							
DRO				AML	AML	13 49 43.0	
comp=E,5851μm,0.4s							
FSK	**Fiskardo**	**1.24**	**354**	P	**Pn**	**13 49 23.7**	**+0.6**
FSK				S	**Sg**	**13 49 42.1**	**+1.3**
comp=E,1μm,0.2s							
FSK	**Fiskardo**	**1.24**	**354**	P	**Pn**	**13 49 22.8**	**-0.3**
FSK				S	**Sg**	**13 49 40.3**	**-0.5**
FSK				AML	AML	13 49 43.6	
comp=N,1677μm,0.2s							
FSK				AML	AML	13 49 43.7	
comp=E,2924μm,0.2s							
EVGI	**Lefkada island**	**1.40**	**358**	P	**Pn**	**13 49 25.8**	**+0.5**
EVGI				S	**Sg**	**13 49 45.1**	**-0.7**
KLV	**Kalavryta, Ach**	**1.41**	**54**	P	**Pn**	**13 49 26.0**	**+0.6**
GUR	**Goura**	**1.48**	**61**	P	**Pn**	**13 49 27.1**	**+0.6**
EFP	**Efpalio**	**1.53**	**38**	P	**Pn**	**13 49 27.7**	**+0.6**
VLI	**Veliai**	**1.85**	**105**	P	**Pn**	**13 49 32.4**	**+0.9**
OHR	**Ohrid**	**3.88**	**1**	*i* Pn	**Pn**	**13 50 02.5**	**+3.0**
HFS	**Hagfors**	**23.37**	**351**	P	**P**	**13 54 05.1**	**-2.8**
comp=E,1.2nm,0.5s,baz=162,slow=12,SNR=6.7							
comp=E,1.2nm,0.5s							
FINES	**FINESS Array B**	**24.48**	**6**	P	**P**	**13 54 17.3**	**-1.1**
comp=E,0.6nm,0.6s,baz=165,slow=11,SNR=3.7							
comp=E,0.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**29.39**	**220**	P	**P**	**13 55 04.5**	**+1.5**
comp=E,0.2nm,0.4s,baz=22,slow=10,SNR=2.1							
comp=E,0.2nm,0.4s							
ARCES	**ARCESS Array B**	**32.48**	**3**	P	**P**	**13 55 29.1**	**-0.5**
comp=E,2.1nm,0.9s,baz=180,slow=10,SNR=1.7							
comp=E,2.1nm,0.9s							
KURBB	**Kurchatov Arra**	**42.68**	**53**	P	**P**	**13 56 55.3**	**-0.9**
comp=E,0.3nm,0.4s,baz=279,slow=8.4,SNR=4.8							
comp=E,0.3nm,0.4s							
MKAR	**Makanchi Array**	**45.68**	**58**	P	**P**	**13 57 19.1**	**-1.2**
comp=E,0.2nm,0.4s,baz=279,slow=7.2,SNR=4.9							
comp=E,0.2nm,0.4s							

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*JMA **04** 13:58:33.1±0.3, 38°N±2°×13°5E±°, h426km, MV2.2/21, SEA OF JAPAN*
*IDC **04** 13:58:35.7±5.1, 37°.86N×134°.59E, h389km±93km, mbtmp3.4/5, Error ellipse: s-maj=63.8km s-min=28.6km az=176.0*
ISC 04 13:58:35.2±1.2, 37°.8N±0°.1×134°.65E±0°.09, h407km, n13, σ0♀87/14, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**2.24**	**171**	*e*P	**P**	**13 59 33.4**	**0.0**
JWT	**Wachi**	**2.62**	**166**	*e*P	**P**	**13 59 36.2**	**+0.1**
JWT				*e*S	**S**	**14 00 25.4**	**0.0**
JSD	**Sado**	**2.86**	**85**	*e*P	**P**	**13 59 38.4**	**+0.7**
JHS	**Saijyo**	**3.09**	**204**	*e*P	**P**	**13 59 39.2**	**-0.6**
JNG	**Nsakai**	**3.10**	**116**	*e*P	**P**	**13 59 40.9**	**+1.0**
MAT	**Matsushiro**	**3.12**	**113**	*e*P	**P**	**13 59 40.3**	**+0.4**
MJAR	**Matsushiro Arr**	**3.12**	**113**	P	**P**	**13 59 40.0**	**+0.1**
3.6nm,0.7s,baz=298,slow=9.6,SNR=15							
JIE	**Ise**	**3.82**	**154**	*e*P	**P**	**13 59 46.4**	**+0.4**
JFK	**Kawauchi**	**4.96**	**94**	*e*S	**S**	**14 01 01.6**	**-2.3**
KSRS	**Korea Array**	**5.35**	**268**	P	**P**	**14 00 00.5**	**-0.4**
0.6nm,0.5s,baz=82,slow=11,SNR=5.1							
USRK	**Ussuriysk Ar.**	**6.67**	**343**	P	**P**	**14 00 15.2**	**-0.4**
2.4nm,0.7s,baz=164,slow=11,SNR=4.1							
ASAJ	**Asahikawa**	**8.68**	**41**	P	**P**	**14 00 38.1**	**+0.2**
4.7nm,0.8s,baz=231,slow=16,SNR=9.1							
KLR	**Kul'dur**	**11.58**	**350**	P	**P**	**14 01 10.5**	**+0.7**
0.7nm,0.4s,baz=174,slow=9.2,SNR=2.4							

NNC 04 13:58:42.6±7.1, 37°.11N×71°.68E, h0km, mb3.7, mpv3.3, 3C-3D, Error ellipse: s-maj=55.2km s-min=51.7km az=153.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.05**	**352**	⇓P	Pn	14 00 12.2	-1.2
2.8nm,0.3s,baz=180,slow=13,SNR=139							
KK31				⇑S	Sn	14 01 25.0	+1.6
3.2nm,0.3s,baz=183,slow=23,SNR=9.1							
CHMS	**Chumysh**	**6.33**	**21**	⇓P	Pn	14 00 18.3	+1.0
0.8nm,0.3s							
CHMS				⇑S	Sn	14 01 33.3	+3.0
1.6nm,0.7s							
TKM2	**Tokmak 2**	**6.54**	**26**	⇓P	Pn	14 00 20.7	+0.5
0.6nm,0.5s							
TKM2				⇑S	Sn	14 01 34.2	-1.4
0.4nm,0.6s							

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*IDC **04** 14:20:42.4±0.5, 33°.31N×89°.19E, h0km, mb4.2/18, mbtmp4.2/21, ML3.4/2, MS3.7/27, Error ellipse: s-maj=19.1km s-min=12.2km az=52.0*
*MOS **04** 14:20:43.8±1.8, 33°.44N×89°.22E, h13km, mb4.7/22, Error ellipse: s-maj=10.1km s-min=5.5km az=111.1*
*BJI **04** 14:20:44.9, 33°.42N×89°.27E, h6km, mb4.3/23, mB4.8/6, ML4.0/3, Ms4.2/26, Ms7 3.9/27*
*NEIC **04** 14:20:44.4±0.9, 33°.56N±0°.08×89°.4E±0°.1, h7km±5km, mb4.5/27, Error ellipse: s-maj=12.8km s-min=10.3km az=60.0*
*NDI **04** 14:20:51.6±3.2, 33°.13N×89°.07E, h10km, ML4.2, MW3.9, mb4.5(NEIC)*
ISC 04 14:20:44.9±0.3, 33°.48N±0°.04×89°.35E±0°.04, h10km, n161, σ1♀89/139, mb4.5/43, MS3.7/27, 7C-6D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.07**	**157**	Pn	**Pn**	**14 21 48.2**	**+0.6**
LSA	**Lhasa**	**4.07**	**157**	P	Pn	14 21 36.4	-11
LSA				S	Sn	14 22 20.3	-15
LSA				LR	LR		
comp=N,2μm,7.9s							
LSA				LR	LR		
comp=Z,2μm,10.1s							
LSA	**Lhasa**	**4.07**	**157**	P	**Pn**	**14 21 48.2**	**+0.6**
GOMU	**GeErMu**	**5.25**	**57**	Pn	Pn	14 22 08.3	+4.4
GOMU				Sg	**Sg**	**14 23 28.7**	**-5.0**
GOMU				LR	LR		
comp=Z,3μm,4.6s							
GOMU				LR	LR		
comp=Z,2μm,7.0s							
GOMU				LR	LR		
comp=Z,2μm,6.5s							
GTK	**Tadong**	**6.17**	**186**	*e*P	**Pn**	**14 22 19.8**	**+3.5**
GTK				*i* x	x	14 24 40.8	
ZIRO	**ZIRO**	**7.09**	**146**	*e*P	**Pn**	**14 22 32.5**	**+3.6**
ZIRO				*e*S	**Sn**	**14 23 48.7**	**-1.0**
ZIRO				IAML		14 23 58.6	
comp=N,181nm,0.6s							
ZIRO				IAML		14 23 58.9	
comp=E,176nm,0.4s							
ZIRO				*i* x	x	14 24 57.1	
SHL	**Shillong**	**8.19**	**164**	Pn	**Pn**	**14 22 44.3**	**+0.4**
SHL	**Shillong**	**8.19**	**164**	*e*P	**Pn**	**14 22 44.4**	**+0.4**
SHL				*i* x	x	14 25 50.4	
SHL	**Shillong**	**8.19**	**164**	P	**Pn**	**14 22 44.3**	**+0.4**
LKP	**Lekhapani**	**8.30**	**136**	IAML		14 24 24.4	
comp=N,158nm,1.4s							
LKP				IAML		14 24 26.8	
comp=E,156nm,0.7s							
PTH	**Pithoragarh**	**8.72**	**246**	*e*P	**Pn**	**14 22 53.7**	**+2.4**
PTH				*i* x	x	14 25 48.6	
HNLY	**HANLEY**	**8.73**	**268**	*e*P	**Pn**	**14 22 54.2**	**+2.5**
HNLY				*ex*	**Pg**	**14 23 29.5**	**-2.5**
HNLY				*i* x	x	14 26 07.0	
LGTI	**Lohaghat**	**8.74**	**245**	*e*P	**Pn**	**14 22 54.4**	**+2.9**
KOHI	**KOHIMA**	**8.77**	**151**	*e*P	**Pn**	**14 22 53.6**	**+1.7**
KOHI				IAML		14 24 49.6	
comp=N,119nm,0.2s							
JOSI	**Joshimath**	**8.80**	**253**	*e*P	**Pn**	**14 22 55.1**	**+2.6**
JOSI				*i* x	x	14 25 41.1	
IMP	**Imphal**	**9.50**	**154**	*e*P	**Pn**	**14 23 03.8**	**+1.9**
IMP				IAML		14 24 52.8	
comp=N,118nm,1.6s							
KLP	**Kalpa**	**9.57**	**261**	*i* x	x	14 26 24.1	
DDI	**Dehra Dun**	**10.10**	**255**	*i* Rg	Rg	14 26 53.2	
BOK	**Bokaro**	**10.11**	**198**	*e*P	**Pn**	**14 23 10.0**	**-0.2**
BOK				*i* x	x	14 27 07.0	
AZL	**Aizawl**	**10.14**	**162**	*e*P	**Pn**	**14 23 13.2**	**+2.6**
AZL				⇓*ex*	x	14 23 14.8	
GTA	**Gaotai**	**10.30**	**52**	*e*P	Pn	14 23 16.6	+3.7
GTA				LR	LR		
comp=N,970nm,16.4s							
GTA				LR	LR		
comp=N,550nm,15.3s							
GTA				LR	LR		
comp=N,290nm,13.5s							
WMQ	**Urumqi**	**10.41**	**353**	*e*P	**Pn**	**14 23 14.2**	**-0.1**
WMQ				S	**Sn**	**14 25 14.1**	**+3.1**
WMQ				pmax	pmax		
comp=N,13nm,0.7s							
WMQ				LR	LR		
comp=N,750nm,9.3s							
WMQ				LR	LR		
comp=N,520nm,9.3s							
WMQ				LR	LR		
comp=N,280nm,15.5s							
ALBI	**Allahabad**	**10.46**	**221**	*i* x	x	14 26 57.3	
SMLA	**Simla**	**10.57**	**261**	*e*P	**Pn**	**14 23 16.3**	**-0.1**
SMLA				*i* x	x	14 27 08.0	
KNTI	**KHUNTI**	**10.98**	**200**	*i* x	x	14 32 37.3	
DHRM	**DHARAMSHALA**	**11.04**	**267**	*e*P	**Pn**	**14 23 26.5**	**+3.4**
DHRM				*i* x	x	14 27 24.9	
NDI	**New Delhi**	**11.44**	**249**	*i* x	x	14 28 15.9	
TNCH	**TengChong**	**11.61**	**134**	P	**Pn**	**14 23 33.6**	**+2.7**
TNCH				pP		14 23 34.9	
TNCH				sP		14 23 37.1	
TNCH				S	**Sn**	**14 25 45.0**	**+4.2**
TNCH				pmax	pmax		
comp=N,11nm,0.7s							
TNCH				pmax	pmax		
comp=N,58nm,4.6s							
TNCH				LR	LR		
comp=N,320nm,6.9s							
TNCH				LR	LR		
comp=N,460nm,6.0s							
TNCH				LR	LR		
comp=N,610nm,14.4s							
JHNI	**Jhansi**	**12.34**	**232**	*i* x	x	14 27 55.0	
JHSG	**JHARSUGUGA**	**12.67**	**204**	*i* x	x	14 28 36.4	
NIL	**Nilore**	**13.43**	**275**		**Pn**	**14 23 54.8**	**-0.8**
NIL	**Nilore**	**13.43**	**275**	P	**Pn**	**14 23 54.8**	**-0.8**
MK31	**Makanchi Array**	**14.35**	**340**	Pn	**Pn**	**14 24 05.3**	**-2.7**
MK31	**Makanchi Array**	**14.35**	**340**	⇑*e*P	**Pn**	**14 24 05.1**	**-3.0**
MKAR	**Makanchi Array**	**14.35**	**340**		**Pn**	**14 24 05.6**	**-2.5**
MKAR	**Makanchi Array**	**14.35**	**340**	Pn	**Pn**	**14 24 05.3**	**-

ENH IAmb IAmb 14 25 00.7
comp=Z,24nm,1.3s
SLVN Son La 17.68 129 Pn 14 24 51.8 +0.4
KURBB Kurchatov Arra 18.89 338 P **Pn 14 25 04.3 -1.6**
comp=Z,1.5nm,0.3s,baz=148,slow=12,SNR=28
KURBB LR LR 14 33 24.6
comp=Z,154nm,18.6s,baz=160,slow=40
KURK Kurchatov 18.94 339 P 14 25 04.6 -1.3
KURK Kurchatov 18.94 339 *de*P **Pn 14 25 06.6 0.0**
KURK pmax pmax
comp=Z,9.0nm,1.0s
HHC Hu-ho-hao-te 19.15 61 *e*P **P 14 25 06.7 -1.7**
HHC pmax pmax
comp=Z,22nm,0.5s
HHC pmax pmax
comp=Z,140nm,4.5s
HHC LR LR
comp=N,240nm,13.3s
HHC LR LR
comp=E,250nm,11.0s
HHC LR LR
comp=Z,290nm,12.4s
SONM Songino Array 19.25 37 P **Pn 14 25 11.2 +0.7**
comp=Z,0.3nm,0.3s,baz=229,slow=13,SNR=20
SONM LR LR 14 33 18.2
comp=Z,158nm,21.1s,baz=258,slow=39
comp=Z,5.1nm,1.0s
ULN Ulaanbaatar 19.61 38 Pn **Pn 14 25 13.6 -1.2**
ULN IAmb IAmb 14 25 19.0
comp=Z,15nm,1.0s
ULN Ulaanbaatar 19.61 38 *de*P **Pn 14 25 15.8 +1.0**
ULN pmax pmax
comp=Z,28nm,1.7s
ZAK Zakamensk 19.76 27 *e*P **Pn 14 25 16.4 -0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
MOY Mondy 20.06 22 *e*P **Pn 14 25 22.2 +2.2**
MOY pmax pmax
comp=Z,24nm,1.8s
ZAA0 Zalesovo Array 20.72 352 P **P 14 25 24.6 -0.7**
ZAA0 IAmb IAmb 14 25 27.8
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 20.72 352 P Pn 14 25 25.3 -2.3
comp=Z,8.5nm,0.8s,baz=161,slow=9.2,SNR=35
ZALV LR LR 14 33 43.8
comp=Z,136nm,20.6s,baz=300,slow=38
comp=Z,8.5nm,0.8s
ZALV Zalesovo Beam 20.72 352 *e*P Pn 14 25 25.3 -2.3
ZALV pmax pmax
comp=Z,8.0nm,0.8s
HNS HongShan 21.01 72 *e*P **P 14 25 33.3 +4.7**
HNS LR LR
comp=Z,900nm,13.1s
HNS LR LR
comp=Z,270nm,9.4s
KAD Karad 21.09 224 *ex* **P 14 25 28.4 -1.3**
TIA Tai'an 22.93 75 P P 14 25 36.2 -13
TIA pP pP 14 25 41.3 -12
TIA PP **PnPn 14 26 05.5 -8.2**
TIA S S 14 29 38.2 -21
TIA SS Sn 14 30 08.6 -6.1
TIA pmax pmax
comp=Z,3.0nm,1.2s
TIA pmax pmax
comp=Z,79nm,5.2s
TIA LR LR
comp=N,640nm,15.5s
TIA LR LR
comp=E,120nm,13.4s
TIA LR LR
comp=Z,130nm,13.4s
QIZ Qiongzhong 23.28 123 P **P 14 25 54.0 +1.1**
QIZ S **S 14 30 05.8 +0.4**
QIZ LR LR
comp=Z,270nm,11.3s
QIZ LR LR
comp=Z,250nm,11.9s
QIZ LR LR
comp=Z,290nm,11.4s
BVAR Borovoye Array 23.79 331 P **P 14 25 57.9 +0.3**
comp=Z,4.7nm,0.8s,baz=134,slow=12,SNR=12
BVAR LR LR 14 36 22.1
comp=Z,174nm,19.5s,baz=309,slow=39
comp=Z,4.7nm,0.8s
BRVK Borovoye 23.86 331⇓*e*P **P 14 26 00.3 +2.0**
BRVK pmax pmax
comp=Z,21nm,2.5s
NJ2 Nanjing 24.82 85 *e*P **P 14 26 06.4 -0.9**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
NJ2 pmax pmax
comp=Z,170nm,3.8s
AKTO Aktyubinsk 28.52 316 LR LR 14 39 42.6
comp=Z,215nm,20.7s,baz=260,slow=40
WSAR Wadi Sarin 28.80 257 LR LR 14 40 27.0
comp=Z,74nm,20.3s,baz=84,slow=41
KSRS Korea Array 31.52 72 P **P 14 27 07.3 +0.1**
comp=Z,1.1nm,0.5s,baz=274,slow=9.2,SNR=12
KSRS LR LR 14 40 20.1
comp=Z,57nm,20.0s,baz=260,slow=37
comp=Z,1.1nm,0.5s
KSRS Korea Array 31.52 72 *e*P **P 14 27 07.4 +0.3**
KSRS pmax pmax
comp=Z,1.0nm,0.6s
ZEA Zeya 33.55 41 *e*P **P 14 27 27.9 +3.2**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
JNU Nakatsue 34.55 79 LR LR 14 41 56.2
comp=Z,86nm,20.6s,baz=347,slow=37
BELG Belogornoye 35.30 315 LR LR 14 43 08.6
comp=Z,129nm,21.1s,baz=320,slow=38
NRIK Noril'sk 35.93 359 P **P 14 27 46.4 +1.4**
comp=Z,4.8nm,0.7s,baz=173,slow=17,SNR=10
NRIK LR LR 14 44 20.8
comp=Z,124nm,18.2s,baz=314,slow=39
comp=Z,4.8nm,0.7s
NRIK Noril'sk 35.93 359 *e*P **P 14 27 47.3 +2.2**
NRIK pmax pmax
comp=Z,5.0nm,0.7s
GNI Garni 36.03 294 *ce*P **P 14 27 48.5 +2.0**
GNI pmax pmax
comp=Z,8.0nm,1.7s
KIRV Kirov 36.55 326⇓*e*P **P 14 27 51.8 +1.3**
YAK Yakutsk 38.32 29 LR LR 14 45 00.6
comp=Z,89nm,20.3s,baz=317,slow=38
VRH Novokhopyorsk 38.63 312 *e*P **P 14 28 04.8 -3.4**
VRH pmax pmax
comp=Z,7.0nm,0.9s
MJAR Matsushiro Arr 39.80 71 P **P 14 28 18.7 +0.5**
comp=Z,2.0nm,1.0s,baz=293,slow=7.4,SNR=4.5
comp=Z,2.0nm,1.0s
MJA0 Matsu Arr-Jizo 39.83 71 *e*P **P 14 28 22.2 +3.7**
MJA0 pmax pmax
comp=Z,2.0nm,1.1s
VORD Divnogorie 40.12 311 *e*P P 14 28 10.8 -10
VORD pmax pmax
comp=Z,7.0nm,0.8s
VSR Storozhevoye 40.23 312 *e*P **P 14 28 19.0 -2.6**
VSR pmax pmax
comp=Z,7.0nm,0.8s
VORR Voronezh 40.26 312 *e*P **P 14 28 17.5 -4.3**
VORR pmax pmax
comp=Z,9.0nm,0.8s
LPSR Galich'ya Gora 40.55 314 *e*P **P 14 28 21.4 -2.8**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 42.04 326 *e*P **P 14 28 34.5 -1.8**
KLMR pmax pmax
comp=Z,25nm,1.1s
ASAJ Asahikawa 42.18 59 LR LR 14 47 47.5
comp=Z,46nm,18.8s,baz=312,slow=38
TIXI Tiksi 43.53 17 P **P 14 28 47.4 -0.9**
TIXI Tiksi 43.53 17⇑*e*P **P 14 28 49.3 +1.0**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
BR131 Keskin Array S 44.55 295⇑*e*P **P 14 28 58.8 +1.7**
BRTR Keskin Array B 44.55 295 *e*P **P 14 28 59.4 +2.3**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
MMAI Mount Meron Ar 44.68 285 LR LR 14 50 38.4
comp=Z,76nm,18.8s,baz=7.0,slow=40
EIL Elat 46.06 281 LR LR 14 52 50.7
comp=Z,77nm,19.4s,baz=82,slow=42
AKASG Malin Array Be 46.49 311 P **P 14 29 10.6 -1.5**
comp=Z,2.5nm,0.8s,baz=80,slow=6.9,SNR=12
AKASG LR LR 14 51 23.0
comp=Z,226nm,18.3s,baz=328,slow=40
comp=Z,2.5nm,0.8s
AKASG Malin Array Be 46.49 311 *e*P **P 14 29 13.2 +1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 46.49 311⇓*e*P **P 14 29 13.2 +1.1**
MNK Minsk 47.25 316 *i* P **P 14 29 18.0 0.0**
comp=E,10.0nm,0.9s
MNK *i* P **P 14 29 18.0 0.0**
comp=N,22nm,0.9s
MNK *i* P **P 14 29 18.0 0.0**
comp=Z,12nm,0.8s,baz=90
MNK *i* PP **PP 14 31 09.1 +0.3**
MNK *i* PPP PPP 14 31 53.5
MNK *i* S **S 14 36 12.4 +1.5**
MNK *i* SS **SS 14 39 41.6 +3.8**
MNK *i* SSS SSS 14 40 43.0
MNK *i* LQ LQ 14 45 48.1
MNK *i* LR LR 14 48 10.8
MNK *i* LRM MLR 14 50 35.2
comp=E,220nm,15.7s
MNK *i* LRM MLR 14 50 39.0
comp=Z,91nm,10.4s
MNK *i* LRM MLR 14 50 43.8
comp=N,180nm,14.3s
MNK Minsk 47.25 316 *i* P **P 14 29 17.9 0.0**
MNK *i* 14 30 48.6
MNK *i* 14 31 09.1
MNK *i* PPP PPP 14 31 53.5
MNK *i* S **S 14 36 12.4 +1.5**
MNK *i* 14 39 12.1
MNK *i* SSS SSS 14 40 43.0
MNK pmax pmax
comp=N,22nm,0.9s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK MLR MLR
comp=E,220nm,16.0s
MNK MLR MLR
comp=Z,91nm,10.0s
MNK MLR MLR
comp=N,180nm,14.0s
MA2 Magadan 47.46 37 LR LR 14 50 45.0
comp=N,100nm,18.6s,baz=300,slow=38
KAPI Kappang 47.90 137 LR LR 14 52 08.0
comp=N,49nm,18.2s,baz=289,slow=39
VSU Vasula 48.00 321⇑*e*P **P 14 29 25.1 +1.4**
VSU pmax pmax
comp=Z,13nm,0.9s
FINES FINESS Array B 48.54 325 P **P 14 29 26.7 -1.1**
comp=Z,4.2nm,0.6s,baz=105,slow=8.8,SNR=23
comp=Z,4.2nm,0.6s
FINES FINESS Array B 48.54 325 *e*P **P 14 29 29.6 +1.7**
FINES pmax pmax
comp=Z,4.0nm,0.6s
MLR Muntele Rosu 49.20 304 P **P 14 29 33.4 0.0**
MLR IAmb IAmb 14 29 39.5
comp=Z,11nm,1.0s
MLR Muntele Rosu 49.20 304 P **P 14 29 33.4 0.0**
MLR pmax pmax
comp=Z,11nm,1.0s
ARCES ARCESS Array B 49.94 336 P **P 14 29 37.5 -1.1**
comp=Z,3.0nm,0.7s,baz=96,slow=7.5,SNR=10
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 49.94 336 *e*P **P 14 29 42.0 +3.4**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
PETK Petropavlovsk- 51.40 46 LR LR 14 51 53.6
comp=Z,51nm,19.4s,baz=291,slow=36
HFS Hagfors 54.62 324 P **P 14 30 12.7 -0.7**
comp=Z,1.3nm,0.6s,baz=96,slow=10,SNR=7.2
comp=Z,1.3nm,0.6s
NB2 NORSAR Subarra 55.72 325 P **P 14 30 21.9 +0.5**
comp=Z,0.7nm,0.6s,baz=82,slow=7.4
NOA NORSAR Array B 55.72 325 P **P 14 30 20.5 -0.9**
comp=Z,1.3nm,0.7s,baz=82,slow=7.1,SNR=3.7
NOA LR LR 14 55 48.3
comp=Z,104nm,18.6s,baz=280,slow=38
comp=Z,1.3nm,0.7s
NOA NORSAR Array B 55.72 325 *e*P **P 14 30 22.6 +1.2**
NOA pmax pmax
comp=Z,1.0nm,0.6s
CLL Collm 56.55 313 *e*P **P 14 30 29.0 +1.6**
GERES GERESS Array B 56.70 310 P **P 14 30 27.9 -0.7**
comp=Z,1.0nm,0.7s,baz=81,slow=6.4,SNR=4.1
GERES LR LR 14 58 23.7
comp=Z,223nm,19.7s,baz=353,slow=40
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 59.82 246 P **P 14 30 49.4 -1.7**
baz=57,slow=17,SNR=1.1
FITZ Fitzroy Crossi 61.89 140 P **P 14 31 02.7 -1.9**
comp=Z,1.0nm,0.5s,baz=333,slow=11,SNR=6.7
comp=Z,1.0nm,0.5s
MBAR Mbarara 64.56 251 LR LR 14 58 15.0
comp=Z,37nm,19.4s,baz=10.0,slow=35
MBAR Mbarara 64.56 251 *ce*P **P 14 31 22.3 -0.5**
MBAR pmax pmax
comp=Z,5.0nm,1.7s
EUNU Eureka 66.69 359 P **P 14 31 35.0 -0.5**
EUNU IAmb IAmb 14 31 38.8
comp=Z,4.7nm,0.8s
WB0 Warramunga Arr 68.19 134 P **P 14 31 45.3 -0.4**
WRAB Tennant Creek 68.29 134 P **P 14 31 46.0 -0.3**
WRAB Tennant Creek 68.29 134 P **P 14 31 46.0 -0.3**
WRAB pmax pmax
comp=Z,9.0nm,1.0s
WRA Warramunga Arr 68.29 134 P **P 14 31 45.5 -0.8**
comp=Z,4.1nm,0.5s,baz=327,slow=6.4,SNR=109
comp=Z,4.1nm,0.5s
WRA Warramunga Arr 68.29 134 *e*P **P 14 31 45.9 -0.4**
WRA pmax pmax
comp=Z,4.0nm,0.5s
WB2 Warramunga Arr 68.30 134 P **P 14 31 45.9 -0.5**
WR0 Warramunga Arr 68.42 134 P **P 14 31 46.5 -0.6**
WR0 IAmb IAmb 14 31 47.5
comp=Z,4.4nm,0.8s
K15K Wolf Creek Mou 69.06 28 P **P 14 31 50.1 -0.5**
C27K Jago River 70.23 17 P **P 14 31 57.2 -0.5**
C27K IAmb IAmb 14 32 30.1
comp=Z,6.0nm,1.4s
AS31 Alice Springs 70.92 137 P **P 14 32 01.7 -0.9**
AS31 IAmb IAmb 14 32 02.8
comp=Z,1.2nm,0.6s
ASAR Alice Springs 70.92 137 P **P 14 32 01.8 -0.7**
comp=Z,3.0nm,0.7s,baz=323,slow=6.4,SNR=64
comp=Z,3.0nm,0.7s
BMAR Burnt Mountain 71.55 19 P **P 14 32 05.4 -0.4**
ESDC Sonseca Array 71.83 306 LR LR 15 10 54.2
comp=Z,139nm,19.6s,baz=352,slow=42
PAB San Pablo 72.15 306 P **P 14 32 08.9 -1.1**
PAB IAmb IAmb 14 32 10.4
comp=Z,12nm,1.4s
PAB San Pablo 72.15 306 P **P 14 32 08.9 -1.1**
PAB pmax pmax
comp=Z,12nm,1.4s
ILAR Eielson Array 72.73 22 P **P 14 32 13.5 +0.7**
comp=Z,0.8nm,0.9s,baz=302,slow=5.2,SNR=6.6
comp=Z,0.8nm,0.9s
ILAR Eielson Array 72.73 22 *e*P **P 14 32 15.4 +2.6**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
H29M Whitestone 74.11 18 P **P 14 32 20.2 -0.7**
H29M IAmb IAmb 14 32 21.4
comp=Z,2.8nm,1.1s
C36M Paulatuk 74.59 12 P **P 14 32 23.8 +0.2**
C36M IAmb IAmb 14 32 26.8
comp=Z,8.8nm,1.4s
SCM Sheep Creek Mo 74.61 24 P **P 14 32 23.8 -0.2**
SCM IAmb IAmb 14 32 37.2
comp=Z,14nm,1.2s
SCM Sheep Creek Mo 74.61 24 P **P 14 32 23.8 -0.2**
SCM pmax pmax
comp=Z,14nm,1.2s
KDAK Kodiak Island 75.35 29 LR LR 15 06 40.8
comp=Z,141nm,18.1s,baz=2.9,slow=36
I30M Mount Dempster 75.41 18 P **P 14 32 27.2 -1.4**
I30M IAmb IAmb 14 33 05.5
comp=Z,5.5nm,1.4s
CTAO Charters Tower 76.03 126 P **P 14 32 32.6 0.0**
CTAO Charters Tower 76.03 126 P **P 14 32 32.7 0.0**
CTAO pmax pmax
comp=Z,23nm,1.5s
TORD Torodi Ar. Bea 80.94 280 P **P 14 32 59.5 -0.5**
comp=Z,0.4nm,0.5s,baz=47,slow=4.7,SNR=5.4
comp=Z,0.4nm,0.5s
FRB Frobisher Bay 81.53 350 LR LR 15 14 00.6
comp=Z,139nm,18.1s,baz=68,slow=39
STKA Stephens Creek 81.56 137 P **P 14 33 02.1 -0.7**
STKA Stephens Creek 81.56 137 P **P 14 33 01.4 -1.4**
comp=Z,3.7nm,0.8s,baz=311,slow=7.4,SNR=7.0
comp=Z,3.7nm,0.8s
STKA Stephens Creek 81.56 137 P **P 14 33 02.1 -0.7**
STKA pmax pmax
comp=Z,1.0nm,0.8s
Q32M Nakina River 81.62 20 P **P 14 33 02.3 -0.8**
BOSA Boshof 86.59 232 P **P 14 33 27.6 -1.1**
comp=Z,3.4nm,0.8s,baz=45,slow=5.7,SNR=1.6
comp=Z,3.4nm,0.8s
SUR Sutherland 91.94 232 LR LR 15 14 20.4
comp=Z,58nm,18.1s,baz=352,slow=35
TXAR Lajitas Array 116.33 13 PKP **PKPdf 14 39 30.2 +0.9**
comp=Z,0.1nm,0.3s,baz=336,slow=2.0,SNR=1.5
QSPA South Pole Qui 123.26 180 PKP **PKPdf 14 39 39.3 -1.8**
comp=Z,1.4nm,0.9s,baz=299,slow=1.1,SNR=7.4
CPUP Villa Florida 150.34 275 PKPbc **PKPdf 14 40 33.0 +1.5**
comp=Z,1.9nm,0.9s,baz=34,slow=3.6,SNR=3.1

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*NNC **04** 14:21:36.4±9.4, 38°.94N×70°.74E, h0km, mb3.3, mpv2.9,*
Error ellipse: s-maj=79.8km s-min=54.5km az=172.0
*ISU **04** 14:21:38.1, 39°.12N×68°.35E, h10km*
ISC 04 14:21:37.3±1.3, 39°.10N±0°.06×68°.42E±0°.06, h10km, n8,
σ1♀13/14, 5C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZI	**Dzhizak**	**1.11**	**336**	P	**Pn**	**14 21 59.2**	**+0.2**
DZI				S	**Sn**	**14 22 15.0**	**+0.6**
KTAB	**Kitab**	**1.19**	**272**	P	**Pg**	**14 22 00.1**	**-0.1**
KTAB				S	**Sn**	**14 22 16.9**	**+0.6**
BAYS	**Baysun**	**1.30**	**227**	P	**Pn**	**14 22 02.0**	**+0.4**
BAYS				S	**Sn**	**14 22 20.0**	**+0.9**
TGS	**TashGRES**	**2.47**	**20**	P	**Pn**	**14 22 20.0**	**+2.4**
TGS				S	**Sb**	**14 22 52.3**	**0.0**
NUT	**Nurota**	**2.56**	**305**	P	**Pb**	**14 22 21.6**	**-1.7**
NUT				S	**Sb**	**14 22 55.4**	**+0.6**
KK31	**Karatay Array**	**4.30**	**21**	⇑Pn	**Pn**	**14 22 41.4**	**-1.4**
	0.6nm,0.3s,baz=213,slow=15,SNR=16						
KK31				⇓Pg	**Pb**	**14 22 53.3**	**+0.3**
	0.6nm,0.3s,baz=26,slow=75,SNR=11						
KK31				⇑Lg	Lg	14 23 47.4	
	12nm,0.6s,baz=205,slow=31,SNR=10						
CHMS	**Chumysh**	**6.17**	**49**	⇑Pg	**Pn**	**14 23 07.9**	**-0.6**
	0.7nm,0.3s						
CHMS				⇑Lg	Lg	14 24 18.7	
	5.6nm,0.7s						
TKM2	**Tokmak 2**	**6.64**	**53**	⇑Pg	**Pn**	**14 23 14.1**	**-0.9**
	1.1nm,0.4s						
TKM2				⇓Lg	Lg	14 24 27.6	
	3.7nm,0.8s						

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*SJA **04** 14:25:20.8±0.7, 24°.19S×67°.34W, h198km±5km, ML4.0, MW3.8*
*VAO **04** 14:25:22.2±0.6, 24°.22S×67°.51W, h198km±7km, mb4.0*
*NEIC **04** 14:25:22.1±1.5, 24°.20S±0°.07×67°.3W±0°.1, h175km±9km, mb4.4/6, Error ellipse: s-maj=18.5km s-min=9.7km az=92.0*
*IDC **04** 14:25:22.1±1.3, 24°.14S×67°.15W, h161km±13km, mb3.4/5, mbtmp4.0/10, Error ellipse: s-maj=18.7km s-min=16.3km az=12.0*
*GUC **04** 14:25:24.1±1.2, 24°.18S×67°.55W, h185km±13km, ML4.2*
ISC 04 14:25:22.1±0.7, 24°.18S±0°.03×67°.34W±0°.04, h176km±7km,
n99, σ1♀33/129, mb3.9/6, 8C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.45**	**328**		**Pn**	**14 25 54.7**	**+1.2**
AF01	**San Pedro de A**	**1.45**	**328**	*e*P	**Pn**	**14 25 54.8**	**+1.2**
AF01	**San Pedro de A**	**1.45**	**328**	*e*P	**Pn**	**14 25 54.7**	**+1.2**
SLA	**San Lorenzo**	**1.75**	**108**	*e*P	**Pn**	**14 25 57.4**	**+1.1**
LVC	**Limon Verde**	**2.13**	**317**	Pn	**Pn**	**14 26 01.7**	**+1.0**
LVC	**Limon Verde**	**2.13**	**317**	P	**Pn**	**14 26 01.8**	**+1.1**
	221nm,0.3s,baz=130,slow=7.4,SNR=915						
LVC				S	**Sn**	**14 26 30.8**	**+0.2**
	136nm,0.3s,baz=167,slow=1.2,SNR=23						
LVC	**Limon Verde**	**2.13**	**317**⇑	*e*P	**Pn**	**14 26 01.8**	**+1.0**
LVC				*e*S	**Sn**	**14 26 30.7**	**+0.2**
LVC				IAML		14 26 33.6	
	2μm,0.2s						
LVC	**Limon Verde**	**2.13**	**317**	*e*P	**Pn**	**14 26 01.8**	**+1.1**
LVC				*e*S	**Sn**	**14 26 31.7**	**+1.1**
LVC	**Limon Verde**	**2.13**	**317**	*e*P	**Pn**	**14 26 01.9**	**+1.1**
LVC				*e*S	**Sn**	**14 26 30.8**	**+0.2**
PB15	**IPOC Station P**	**2.18**	**296**		**Pn**	**14 26 02.0**	**+0.9**
PB15	**IPOC Station P**	**2.18**	**296**⇑	*e*P	**Pn**	**14 26 02.3**	**+1.2**
PB15				*e*S	**Sn**	**14 26 30.1**	**-1.3**
PB15	**IPOC Station P**	**2.18**	**296**	*e*P	**Pn**	**14 26 02.3**	**+1.2**
PB15				*e*S	**Sn**	**14 26 33.2**	**+1.8**
PB15				IAML		14 26 41.1	
	comp=Z,2μm,0.1s						
GO02	**Mina Guanaco**	**2.27**	**244**	Pn	**Pn**	**14 26 02.9**	**+0.8**
GO02	**Mina Guanaco**	**2.27**	**244**⇑	*e*P	**Pn**	**14 26 03.1**	**+0.9**
GO02				*e*S	**Sn**	**14 26 33.6**	**+0.3**
GO02				IAML		14 26 34.3	
	comp=E,1μm,0.5s						
GO02	**Mina Guanaco**	**2.27**	**244**	*e*P	**Pn**	**14 26 03.1**	**+0.9**
GO02				*e*S	**Sn**	**14 26 34.1**	**+0.7**
FSA	**Cafayete**	**2.28**	**148**	*e*P	**Pn**	**14 26 02.7**	**+0.6**
PB06	**IPOC Station P**	**2.52**	**305**		**Pn**	**14 26 05.4**	**+0.4**
PB06	**IPOC Station P**	**2.52**	**305**⇑	*e*P	**Pn**	**14 26 06.0**	**+1.0**
PB06				*e*S	**Sn**	**14 26 37.0**	**-1.3**
PB06				IAML		14 26 39.9	
	comp=N,840nm,0.2s						
PB06	**IPOC Station P**	**2.52**	**305**	*e*P	**Pn**	**14 26 06.0**	**+1.0**
PB06				*e*S	**Sn**	**14 26 38.5**	**+0.2**
PB06				IAML		14 26 42.1	
	comp=Z,429nm,0.3s						
YJA	**Yavi**	**2.61**	**40**	*e*P	**Pn**	**14 26 07.5**	**+1.3**
YJA				*e*S	**Sn**	**14 26 36.4**	**-4.1**
PB14	**IPOC Station P**	**2.83**	**260**	Pn	**Pn**	**14 26 08.9**	**+0.1**
PB14	**IPOC Station P**	**2.83**	**260**⇑	*e*P	**Pn**	**14 26 09.1**	**+0.3**
PB14				*e*S	**Sn**	**14 26 43.4**	**-1.7**
PB14				IAML		14 26 44.6	
	comp=E,303nm,0.3s						
PB14	**IPOC Station P**	**2.83**	**260**	*e*P	**Pn**	**14 26 09.1**	**+0.3**
PB14				*e*S	**Sn**	**14 26 44.4**	**-0.7**
PB14				IAML		14 26 46.7	
	comp=Z,286nm,0.2s						
PB09	**IPOC Station P**	**2.95**	**323**		**Pn**	**14 26 11.3**	**+1.1**
PB09	**IPOC Station P**	**2.95**	**323**⇑	*e*P	**Pn**	**14 26 11.5**	**+1.3**
PB09				*i*S	**Sn**	**14 26 47.5**	**0.0**
PB09				IAML		14 26 48.6	
	comp=N,576nm,0.7s						
PB09	**IPOC Station P**	**2.95**	**323**	*e*P	**Pn**	**14 26 11.6**	**+1.5**
PB09				*e*S	**Sn**	**14 26 48.3**	**+0.8**
PB09				IAML		14 26 48.5	
	comp=Z,376nm,0.4s						
AHML	**Horco Molle**	**3.16**	**146**	*e*P	**Pn**	**14 26 12.8**	**+0.3**
AHML				*e*S	**Sn**	**14 26 51.6**	**-0.3**
PB04	**IPOC Station P**	**3.17**	**305**	Pn	**Pn**	**14 26 13.2**	**+0.3**
PB04	**IPOC Station P**	**3.17**	**305**⇑	*e*P	**Pn**	**14 26 13.3**	**+0.4**
PB04				*e*S	**Sn**	**14 26 51.0**	**-1.4**
PB04				IAML		14 26 52.9	
	comp=N,618nm,0.2s						
PB04	**IPOC Station P**	**3.17**	**305**	*e*P	**Pn**	**14 26 13.4**	**+0.5**
PB04				*e*S	**Sn**	**14 26 51.7**	**-0.7**
PB04				IAML		14 26 56.2	
	comp=Z,416nm,0.2s						
AC01	**Pan de Azucar**	**3.55**	**236**	Pn	**Pn**	**14 26 16.6**	**-0.7**
AC01	**Pan de Azucar**	**3.55**	**236**⇑	*e*P	**Pn**	**14 26 16.7**	**-0.6**
AC01				*e*S	**Sn**	**14 26 57.8**	**-2.6**
AC01	**Pan de Azucar**	**3.55**	**236**	*e*P	**Pn**	**14 26 16.7**	**-0.6**
AC01				*e*S	**Sn**	**14 26 59.2**	**-1.3**
AC01				IAML		14 27 00.6	
	comp=Z,224nm,0.5s						
PB01	**IPOC Station P**	**3.70**	**327**		**Pn**	**14 26 19.1**	**-0.3**
PB01	**IPOC Station P**	**3.70**	**327**	*e*P	**Pn**	**14 26 19.5**	**+0.1**
PB01	**IPOC Station P**	**3.70**	**327**	*e*P	**Pn**	**14 26 19.3**	**-0.1**
PB01				*e*S	**Sn**	**14 27 02.5**	**-1.6**
PB01				IAML		14 27 04.6	
	comp=Z,253nm,0.5s						
AC06	**Mina Casimiro**	**4.17**	**220**	Pn	**Pn**	**14 26 24.4**	**-0.8**
PATCX	**Punta Patache**	**4.24**	**322**		**Pn**	**14 26 25.3**	**-0.9**
PATCX	**Punta Patache**	**4.24**	**322**	*e*P	**Pn**	**14 26 25.9**	**-0.4**
GO03	**Copiapo**	**4.29**	**217**		**Pn**	**14 26 25.6**	**-1.1**

GO03	**Copiapo**	**4.29**	**217**	*eP*	**Pn**	**14 26 25.9**	**-0.8**
GO03				*eS*	**Sn**	**14 27 14.6**	**-2.8**
GO03	**Copiapo**	**4.29**	**217**	*eP*	**Pn**	**14 26 26.1**	**-0.6**
GO03				*eS*	**Sn**	**14 27 15.6**	**-1.9**
PB08	**IPOC Station P**	**4.36**	**337**		**Pn**	**14 26 28.0**	**-0.1**
PB08	**IPOC Station P**	**4.36**	**337**	*eP*	**Pn**	**14 26 28.7**	**+0.6**
PB08	**IPOC Station P**	**4.36**	**337**	*eP*	**Pn**	**14 26 28.4**	**+0.3**
PB08				*eS*	**Sn**	**14 27 18.9**	**-0.8**
PB08				IAML		14 27 20.6	
	comp=Z,99nm,0.2s						
TA01	**Diego Aracena**	**4.46**	**323**	Pn	**Pn**	**14 26 28.2**	**-0.8**
TA01	**Diego Aracena**	**4.46**	**323**	*eP*	**Pn**	**14 26 28.7**	**-0.2**
TA01				*eS*	**Sn**	**14 27 20.0**	**-1.3**
TA01				IAML		14 27 22.4	
	comp=Z,110nm,0.3s						
VCA	**Vinchina**	**4.60**	**190**	*eP*	**Pn**	**14 26 33.1**	**+2.1**
VCA				*eP*		14 26 33.2	
TA02	**Huaiquique**	**4.67**	**326**		**Pn**	**14 26 31.3**	**-0.5**
GO01	**Chusmiza**	**4.81**	**339**	Pn	**Pn**	**14 26 34.0**	**0.0**
GO01	**Chusmiza**	**4.81**	**339**	*eP*	**Pn**	**14 26 34.1**	**0.0**
GO01				*eS*	**Sn**	**14 27 28.0**	**-2.3**
PB11	**IPOC Station P**	**4.90**	**333**		**Pn**	**14 26 33.7**	**-1.1**
PB11	**IPOC Station P**	**4.90**	**333**	*eP*	**Pn**	**14 26 33.8**	**-1.1**
PB11				*eS*	**Sn**	**14 27 27.6**	**-4.2**
PB11	**IPOC Station P**	**4.90**	**333**	*eP*	**Pn**	**14 26 33.5**	**-1.4**
PB11				*eS*	**Sn**	**14 27 27.4**	**-4.5**
PB11				IAML		14 27 29.7	
	comp=Z,164nm,0.3s						
AC04	**Llanos de Chal**	**5.23**	**219**	*eP*	**Pn**	**14 26 37.4**	**-1.5**
AC04				*eS*	Sn	14 27 24.3	-15
AC04				IAML		14 27 40.2	
	comp=Z,46nm,0.6s						
ACLC	**CERRO LA CRUZ**	**5.23**	**176**	*eP*	**Pn**	**14 26 39.6**	**+0.4**
AC05	**El Transito**	**5.33**	**209**		**Pn**	**14 26 39.1**	**-1.2**
AC05	**El Transito**	**5.33**	**209**	*eP*	**Pn**	**14 26 40.1**	**-0.3**
AC05				*eS*	**Sn**	**14 27 39.2**	**-2.7**
AC05				IAML		14 27 42.9	
	comp=Z,26nm,0.2s						
GO04	**Tololo Observa**	**6.72**	**207**	Pn	**Pn**	**14 26 56.6**	**-2.1**
CO03	**El Pedregal**	**7.27**	**203**	Pn	**Pn**	**14 27 04.2**	**-1.6**
CO06	**Fray Jorge**	**7.51**	**210**	Pn	**Pn**	**14 27 06.8**	**-2.0**
LPAZ	**La Paz**	**7.89**	**354**	P	**Pn**	**14 27 15.4**	**+0.8**
	comp=Z,3.3nm,0.4s,baz=180,slow=5.4,SNR=12						
LPAZ				S	**Sn**	**14 28 40.1**	**-3.3**
	comp=Z,1.3nm,0.4s,baz=176,slow=14,SNR=2.0						
LPAZ	**La Paz**	**7.89**	**354**	*eP*	**Pn**	**14 27 15.5**	**+0.9**
CPUP	**Villa Florida**	**9.31**	**105**	P	**Pn**	**14 27 31.0**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=274,slow=15,SNR=3.6						
BBSD	**Serra de San D**	**9.38**	**43**	*eP*	**Pn**	**14 27 35.2**	**+1.6**
SIV	**San Ignacio**	**10.05**	**37**	P	**Pn**	**14 27 41.4**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=228,slow=12,SNR=12						
PSAL	**Palomas, Salto**	**11.02**	**131**	*eP*	**Pn**	**14 27 55.5**	**+0.6**
CPSB	**Cacapava Do Su**	**13.82**	**120**	*eP*	**Pn**	**14 28 31.4**	**+0.8**
PTGB	**Pitanga**	**13.92**	**95**	*eP*	**P**	**14 28 33.7**	**-1.0**
ITAB	**Concordia**	**14.04**	**106**	P	**P**	**14 28 35.5**	**-0.4**
ITAB	**Concordia**	**14.04**	**106**	*eP*	**P**	**14 28 35.2**	**-0.6**
PLTB	**Pedras Altas**	**14.28**	**125**	P	**P**	**14 28 37.8**	**-0.8**
PLTB	**Pedras Altas**	**14.28**	**125**	*eP*	**P**	**14 28 37.8**	**-0.8**
TRQA	**Tornquist**	**14.57**	**163**	Pn	**Pn**	**14 28 39.2**	**-0.7**
LDASE	**Londrina, Braz**	**14.87**	**90**	*eP*	**P**	**14 28 45.6**	**+0.5**
CNLB	**Canela**	**15.58**	**113**	*eP*	**P**	**14 28 52.5**	**-0.5**
ITRB	**Iturama**	**16.37**	**78**	*eP*	**Pn**	**14 29 03.0**	**+1.0**
ARAG	**Araguaiana, MT**	**16.84**	**63**	*eP*	**Pn**	**14 29 08.3**	**+0.6**
BB19B	**Bebedouro**	**17.64**	**84**	*eP*	**Pn**	**14 29 16.4**	**-0.8**
SPB	**Sao Paulo**	**18.21**	**92**	*eP*	**P**	**14 29 21.8**	**-0.1**
VAO	**Valinhos**	**18.71**	**91**	P	**P**	**14 29 26.6**	**-0.8**
VAO				IAmb	IAmb	14 29 28.5	
	comp=Z,31nm,0.6s						
VAO	**Valinhos**	**18.71**	**91**	*eP*	**P**	**14 29 26.9**	**-0.5**
IPMB	**Ipameri, GO**	**18.87**	**75**	*eP*	**P**	**14 29 29.1**	**-0.1**
SNDB	**Serra Nova Dou**	**19.47**	**54**	*eP*	**P**	**14 29 34.8**	**-0.7**
BDFB	**Brasilia**	**20.04**	**68**	P	**P**	**14 29 41.2**	**-0.6**
BDFB				IAmb	IAmb	14 29 42.6	
	comp=Z,17nm,0.8s						
BDFB	**Brasilia**	**20.04**	**68**	P	**P**	**14 29 41.5**	**-0.3**
	comp=Z,15nm,0.6s,baz=236,slow=7.7,SNR=27						
PMNB	**Patos De Minas**	**20.25**	**78**	*eP*	**P**	**14 29 43.3**	**-0.7**
JANB	**Januaria**	**23.48**	**72**	*eP*	**P**	**14 30 15.1**	**-1.0**
SDBA	**SAO DESIDERIO**	**24.26**	**65**	*eP*	**P**	**14 30 22.3**	**-0.9**
HOPE	**Hope Point**	**37.84**	**151**	P	**P**	**14 32 21.7**	**+0.3**
QSPA	**South Pole Qui**	**66.02**	**180**	P	**P**	**14 35 51.5**	**+1.9**
QSPA	**South Pole Qui**	**66.02**	**180**	P	**P**	**14 35 51.3**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=126,slow=19,SNR=19						
	comp=Z,0.9nm,0.5s						
S39A	**Bolivar**	**66.22**	**338**	P	**P**	**14 35 50.5**	**-0.5**
S39A				IAmb	IAmb	14 36 14.6	
	comp=Z,10nm,1.5s						
TORD	**Torodi Ar. Bea**	**76.92**	**69**	P	**P**	**14 36 55.8**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=258,slow=5.2,SNR=13						
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**77.15**	**329**	P	**P**	**14 36 58.8**	**+2.4**
	comp=Z,0.2nm,0.4s,baz=128,slow=5.8,SNR=2.9						
	comp=Z,0.2nm,0.4s						
NVAR	**Mina Array Bea**	**78.49**	**321**	P	**P**	**14 37 06.8**	**+2.9**
	comp=Z,0.3nm,0.6s,baz=143,slow=9.1,SNR=2.9						
	comp=Z,0.3nm,0.6s						
BOSA	**Boshof**	**80.92**	**117**	P	**P**	**14 37 18.0**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=243,slow=6.8,SNR=1.8						
	comp=Z,2.4nm,0.9s						
MKAR	**Makanchi Array**	**146.86**	**39**	PKPbc	**PKiKP**	**14 44 44.8**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=282,slow=2.8,SNR=3.6						
PZH	**PanZhiHua**	**169.85**	**75**	PKP	**PKPdf**	**14 45 07.7**	**-1.5**

*DJA **04** 14:35:56.4±0.4, 7°S±3°×13°2E±°, h10km, M4.3/12, mb4.4/6, mB4.8/6, MLv4.3/12, Mw(mB)4.1/6*
*NEIC **04** 14:35:57.6±2.4, 6°95S±0°06×132°3E±0°1, h101km±16km, mb4.2/3, Error ellipse: s-maj=18.0km s-min=6.1km az=109.0*
*IDC **04** 14:36:05.1±4.3, 8°07S×131°82E, h0km, mb3.7/1, mbtmp4.1/5, ML4.1/4, Error ellipse: s-maj=53.9km s-min=30.7km az=14.0*

ISC 04 14:35:55.4±0.9, 6°98S±0°07×132°14E±0°07, h10km, n45, σ1°78/42, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.30**	**220**	Pn	**Pg**	**14 36 22.6**	**+2.1**
SAUI	**Saumlaki**	**1.30**	**220**	P	**Pg**	**14 36 22.3**	**+1.9**
SAUI	**Saumlaki**	**1.30**	**220**	P	**Pg**	**14 36 21.7**	**+1.3**
SAUI				S	**Sb**	**14 36 38.0**	**+1.2**
BNDI	**Bandanaira**	**3.31**	**317**	P	**Pn**	**14 36 48.6**	**+1.4**
BNDI	**Bandanaira**	**3.31**	**317**	P	**Pn**	**14 36 48.4**	**+1.2**
KMPI	**Kaimana, Papua**	**3.64**	**25**	P	**Pn**	**14 36 52.5**	**+0.6**
FAKI	**Fak Fak**	**4.03**	**1**	Pn	**Pn**	**14 36 57.4**	**+0.1**
FAKI	**Fak Fak**	**4.03**	**1**	P	**Pn**	**14 36 57.3**	**+0.1**
FAKI	**Fak Fak**	**4.03**	**1**	P	**Pn**	**14 36 57.8**	**+0.5**
MSAI	**Masohi**	**4.83**	**318**	P	**Pn**	**14 37 08.6**	**+0.4**
DRS	**Darwin Rock St**	**5.55**	**193**	P	**Pn**	**14 37 19.6**	**+1.4**
KDU	**Kakadu**	**5.68**	**177**	P	**Pn**	**14 37 20.8**	**+0.9**
RKPI	**Ransiki, Papua**	**5.80**	**21**	P	**Pn**	**14 37 23.1**	**+1.6**
MTN	**Manton Dam**	**5.91**	**190**		**Pn**	**14 37 24.0**	**+0.9**
MTN	**Manton Dam**	**5.91**	**190**	P	**Pn**	**14 37 24.4**	**+1.3**
SWI	**Sorong**	**5.14**	**352**	P	**Pn**	**14 37 24.7**	**-1.5**
	29nm,0.7s,904nm0.2nm						
NLAI	**Namlea**	**6.25**	**306**	P	**Pn**	**14 37 28.8**	**+1.1**
SANI	**Sanana**	**7.85**	**308**	P	**Pn**	**14 37 51.5**	**+1.8**
SANI	**Sanana**	**7.85**	**308**	P	**Pn**	**14 37 50.5**	**+0.8**
	15nm,0.5s,0.1nm						
SOEI	**Soe**	**8.27**	**250**	Pn	**Pn**	**14 37 57.2**	**+1.6**
SOEI	**Soe**	**8.27**	**250**	P	**Pn**	**14 37 54.8**	**-0.8**
	21nm,0.7s						
BATI	**Baumata**	**8.98**	**248**	Pn	**Pn**	**14 38 06.8**	**+1.6**
	3.4nm,0.3s,baz=79,slow=5.2,SNR=2.0						
BATI				Sn	**Sn**	**14 39 43.5**	**-3.0**
	7.3nm,0.3s,baz=47,slow=18,SNR=6.9						
	11nm,0.5s						
BATI	**Baumata**	**8.98**	**248**	P	**Pn**	**14 38 05.9**	**+0.6**
KNRA	**Kununurra**	**9.26**	**201**	Pn	**Pn**	**14 38 08.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**12.74**	**209**	Pn	**Pn**	**14 38 54.3**	**-2.5**
	2.1nm,0.3s,baz=36,slow=14,SNR=58						
FITZ				Sn	Sn	14 41 05.2	-14
	3.4nm,0.3s,baz=30,slow=20,SNR=12						
	4.6nm,0.3s						
COEN	**Coen**	**12.87**	**123**	Pn	**Pn**	**14 38 57.8**	**-0.8**
COEN	**Coen**	**12.87**	**123**	P	**Pn**	**14 38 58.5**	**-0.1**
WB0	**Warramunga Arr**	**12.90**	**170**		Pn	14 38 55.8	-3.1
WRAB	**Tennant Creek**	**13.05**	**171**		**Pn**	**14 38 58.6**	**-2.5**
WRA	**Warramunga Arr**	**13.06**	**171**	Pn	Pn	14 38 57.6	-3.6
	0.6nm,0.3s,baz=348,slow=14,SNR=50						
WRA				Sn	Sn	14 41 14.7	-12
	1.1nm,0.3s,baz=350,slow=24,SNR=7.0						
	1.4nm,0.3s						
WB2	**Warramunga Arr**	**13.06**	**171**		**Pn**	**14 38 58.2**	**-3.0**
PLAI	**Plampang**	**14.35**	**262**	P	**Pn**	**14 39 19.7**	**+0.9**
QIS	**Mount Isa**	**15.31**	**153**	P	**Pn**	**14 39 30.7**	**-1.1**
AS31	**Alice Springs**	**16.68**	**174**		**Pn**	**14 39 46.0**	**-3.4**
AS31				IAmb	IAmb	14 39 54.4	
	comp=Z,3.5nm,0.6s						
ASAR	**Alice Springs**	**16.68**	**174**		**Pn**	**14 39 46.0**	**-3.4**
ASAR	**Alice Springs**	**16.68**	**174**	Pn	**Pn**	**14 39 46.2**	**-3.2**
	comp=Z,0.7nm,0.3s,baz=350,slow=9.5,SNR=76						
ASAR				Sn	Sn	14 42 43.1	-12
	comp=Z,0.3nm,0.3s,baz=357,slow=28,SNR=5.8						
	comp=Z,1.0nm,0.4s						
CTAO	**Charters Tower**	**18.90**	**135**	P	P	14 40 08.3	-8.0
CTAO				IAmb	IAmb	14 40 43.0	
	comp=Z,16nm,1.4s						
OOD	**Oodnadatta**	**20.97**	**171**	P	**P**	**14 40 39.7**	**+0.9**
INKA	**Innaminka**	**22.20**	**159**	P	**P**	**14 40 54.5**	**+2.5**
QLP	**Quilpie**	**22.64**	**151**	P	**P**	**14 40 58.9**	**+2.1**
MULG	**Mulgathing**	**23.25**	**176**	P	**P**	**14 41 03.5**	**+0.4**
LCRK	**Leigh Creek**	**24.03**	**167**	P	**P**	**14 41 11.2**	**+0.5**
STKA	**Stephens Creek**	**26.30**	**162**	P	**P**	**14 41 34.2**	**+2.9**
	comp=Z,0.6nm,0.4s,baz=337,slow=13,SNR=4.2						
	comp=Z,0.6nm,0.4s						
DZM	**Mont Dzumac**	**36.31**	**118**	P	P	14 42 49.8	-10
DZM				IAmb	IAmb	14 43 03.3	
	comp=Z,19nm,1.3s						
HHC	**Hu-ho-hao-te**	**51.22**	**340**	*eP*	P	14 45 05.6	+6.3

*GII **04** 14:41:08.9±0.4, 33°609N±0°007×35°031E±0°004, h6km, Md1.9/6, Mws2.2/7, confirmed*
*GRAL **04** 14:41:09.6±0.3, 33°68N×35°06E, h29km±2km, MD2.9*
*JSO **04** 14:41:11, 33°44N×35°04E, h6km, ML2.0/12, Mw2.2/12*

ISC 04 14:41:08.0±1.6, 33°64N±0°04×35°03E±0°07, h12km±10km, n47, σ0°52/56, 2D, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	**Deir Qamar**	**0.45**	**81**	*eP*	**Pb**	**14 41 18.3**	**+0.3**
DQRL				*eS*	**Sb**	**14 41 24.5**	**-0.2**
QRWL	**Qaraoun**	**0.55**	**99**	*eP*	**Pb**	**14 41 19.8**	**+0.2**
HNTI	**Hanita**	**0.56**	**168**	P	**Pg**	**14 41 19.4**	**+0.4**
HNTI	**Hanita**	**0.56**	**168**	S	**Sb**	**14 41 28.1**	**+0.3**
HNTI	**Hanita**	**0.56**	**168**	P	**Pb**	**14 41 19.6**	**-0.3**
BHL	**Bhannes**	**0.58**	**63**	*eP*	**Pg**	**14 41 19.9**	**+0.5**
BHL				*eS*	**Sg**	**14 41 27.5**	**+0.3**
SHBL	**Chebaa**	**0.66**	**116**	*eP*	**Pb**	**14 41 21.8**	**+0.2**
GEM	**Giv'at Ha'Em**	**0.68**	**129**	P	**Pb**	**14 41 22.3**	**+0.6**
GEM	**Giv'at Ha'Em**	**0.68**	**129**	S	**Sb**	**14 41 31.4**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.68**	**129**	||*P*	**Pb**	**14 41 22.3**	**+0.6**
MMC1	**Mount Meron ar**	**0.68**	**153**	P	**Pb**	**14 41 21.8**	**0.0**
RCY	**Rachaya**	**0.69**	**102**	*eP*	**Pb**	**14 41 21.9**	**0.0**
RCY				*eS*	**Sb**	**14 41 31.2**	**-0.3**
MMA0B	**Mount Meron ar**	**0.69**	**153**	P	**Pb**	**14 41 22.5**	**+0.5**
MMA0B	**Mount Meron ar**	**0.69**	**153**	S	**Sb**	**14 41 31.4**	**-0.2**
MMB1	**Mount Meron ar**	**0.70**	**153**	P	**Pb**	**14 41 22.4**	**+0.3**
NATI	**Neve Ativ**	**0.70**	**122**	S	**Sb**	**14 41 32.0**	**+0.4**
NATI	**Neve Ativ**	**0.70**	**122**	||*P*	**Pb**	**14 41 22.5**	**+0.4**
ZAHL	**Zahle**	**0.74**	**73**	*eP*	**Pg**	**14 41 22.6**	**+0.2**
AMID	**Amiad**	**0.83**	**149**	P	**Pb**	**14 41 24.6**	**+0.3**
AMID				S	**Sb**	**14 41 35.7**	**+0.4**
HDNS	**Had-Ness**	**0.87**	**144**	P	**Pg**	**14 41 24.9**	**+0.1**
HDNS				S	**Sn**	**14 41 37.8**	**-0.8**
KNHM	**Kefar Nahum**	**0.88**	**148**	P	**Pb**	**14 41 25.4**	**+0.3**
KNHM				S	**Sb**	**14 41 37.6**	**+0.7**
SPIR	**Sapir Facility**	**0.88**	**151**	P	**Pg**	**14 41 24.6**	**-0.3**
SPIR				S	**Sb**	**14 41 37.6**	**+0.8**
BLGI	**Bet Lehem HaGe**	**0.91**	**172**	S	**Sb**	**14 41 38.3**	**+0.5**
BLGI	**Bet Lehem HaGe**	**0.91**	**172**	P	**Pg**	**14 41 25.6**	**0.0**
KSHT	**Keshet**	**0.92**	**135**	S	**Sb**	**14 41 38.9**	**+0.7**
KSHT	**Keshet**	**0.92**	**135**	P	**Pg**	**14 41 25.3**	**-0.5**
RMOT	**Ramot**	**0.95**	**146**	P	**Pg**	**14 41 26.3**	**+0.1**
RMOT				S	**Sn**	**14 41 39.9**	**-0.6**
HWQ	**Hawqa**	**0.99**	**50**	*eP*	**Pg**	**14 41 26.2**	**-1.0**
OFRI	**`Ofer**	**1.01**	**182**	P	**Pg**	**14 41 27.5**	**0.0**
OFRI	**`Ofer**	**1.01**	**182**	S	**Sb**	**14 41 41.4**	**+0.7**
OFRI	**`Ofer**	**1.01**	**182**	P	**Pg**	**14 41 27.7**	**+0.1**
GOLA	**Golan Heights**	**1.06**	**150**	P	**Pg**	**14 41 28.6**	**+0.3**
GOLA				S	**Sn**	**14 41 42.9**	**-0.3**
MMLI	**Mount Malkishu**	**1.24**	**165**	P	**Pn**	**14 41 31.2**	**+0.1**
MMLI	**Mount Malkishu**	**1.24**	**165**	S	**Sg**	**14 41 47.6**	**-0.3**
MMLI	**Mount Malkishu**	**1.24**	**165**	P	**Pn**	**14 41 31.1**	**-0.1**
QRNJ	**Al-Qirein**	**1.38**	**160**	P	**Pb**	**14 41 33.5**	**-0.1**
SLTI	**Sal'it**	**1.39**	**180**	P	**Pn**	**14 41 33.7**	**+0.5**
SLTI	**Sal'it**	**1.39**	**180**	S	**Sg**	**14 41 52.2**	**-0.6**
SLTI	**Sal'it**	**1.39**	**180**	P	**Pn**	**14 41 33.6**	**+0.4**
HMDT	**Nahal Hemdat**	**1.44**	**163**	P	**Pn**	**14 41 34.4**	**+0.5**
HMDT	**Nahal Hemdat**	**1.44**	**163**	S	**Sg**	**14 41 53.7**	**-0.7**
HMDT	**Nahal Hemdat**	**1.44**	**163**	P	**Pb**	**14 41 34.5**	**-0.2**
SALP	**Salfit**	**1.57**	**175**	P	**Pn**	**14 41 36.2**	**+0.5**
DSI	**Dead Sea**	**2.08**	**172**	P	**Pn**	**14 41 43.7**	**+1.0**
DSI	**Dead Sea**	**2.08**	**172**	P	**Pn**	**14 41 43.6**	**+0.9**
DSI	**Dead Sea**	**2.08**	**172**	S	**Sb**	**14 42 10.3**	**-1.2**
ASF	**Jabal al Asfar**	**2.14**	**132**	P	**Pb**	**14 41 45.6**	**-1.2**

*DJA **04** 14:59:51.6±1.3, 2°S±3°×12°9E±°, h26km±13km, M4.3/13, mb4.9/1, MLv4.0/13*
*NEIC **04** 14:59:53.3±1.2, 2°04S±0°10×129°10E±0°08, h45km±9km, mb4.2/16, Error ellipse: s-maj=15.4km s-min=9.8km az=215.0*
*IDC **04** 14:59:54.5±1.5, 2°76S×129°33E, h0km, mb3.7/3, mbtmp3.8/6, ML3.5/3, MS3.2/4, Error ellipse: s-maj=44.6km s-min=14.9km az=72.0*

ISC 04 14:59:50.7±0.7, 2°04S±0°05×129°08E±0°05, h24km, n44, σ1°15/41, mb4.4/7, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.30**	**187**	P	**Pb**	**15 00 16.5**	**+1.9**
AAI	**Ambon**	**1.86**	**208**	P	**Pb**	**15 00 23.8**	**-0.2**
LBMI	**Labuha**	**2.11**	**311**	P	**Pn**	**15 00 25.0**	**+0.5**
NLAI	**Namlea**	**2.31**	**239**	P	**Pn**	**15 00 28.7**	**+1.4**
NLAI				S	**Sn**	**15 00 56.4**	**+1.5**
SWI	**Sorong**	**2.47**	**62**	P	**Pn**	**15 00 30.3**	**+0.7**
SWI				S	**Sn**	**15 01 00.5**	**+1.5**
BNDI	**Bandanaira**	**2.60**	**162**	P	**Pn**	**15 00 30.6**	**-0.6**
SANI	**Sanana**	**3.09**	**270**	P	**Pn**	**15 00 36.6**	**-1.5**
TNTI	**Ternate**	**3.28**	**328**	Pn	**Pn**	**15 00 41.6**	**+0.9**
TNTI	**Ternate**	**3.28**	**328**	P	**Pn**	**15 00 40.7**	**0.0**
FAKI	**Fak Fak**	**3.28**	**105**		**Pn**	**15 00 41.7**	**+0.9**
FAKI	**Fak Fak**	**3.28**	**105**	P	**Pn**	**15 00 41.6**	**+0.9**
KMPI	**Kaimana, Papua**	**4.89**	**109**	P	**Pn**	**15 01 02.1**	**-0.7**
RKPI	**Ransiki, Papua**	**5.12**	**84**	P	**Pn**	**15 01 05.8**	**-0.2**
LUWI	**Luwuk**	**6.38**	**279**	Pn	**Pn**	**15 01 24.2**	**+0.8**
TOLI2	**Tolitoli**	**8.87**	**291**	Pn	**Pn**	**15 01 58.5**	**+1.0**
DAV	**Davao City (W)**	**9.70**	**339**	LR	LR	15 06 40.9	
	comp=Z,80nm,18.9s,baz=360,slow=39						
KAPI	**Kappang**	**9.77**	**252**	Pn	Pn	15 02 15.9	+6.0
	2.6nm,0.3s,baz=92,slow=14,SNR=9.3						
KAPI				LR	LR	15 06 36.3	
	comp=Z,47nm,19.1s,baz=91,slow=41						
	13nm,0.5s						
MTN	**Manton Dam**	**10.92**	**169**	Pn	**Pn**	**15 02 27.6**	**+2.0**
KNRA	**Kununurra**	**13.55**	**181**	Pn	**Pn**	**15 03 00.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**16.31**	**192**		**P**	**15 03 41.1**	**0.0**
FITZ	**Fitzroy Crossi**	**16.31**	**192**	Pn	**Pn**	**15 03 37.1**	**-1.2**
	baz=0.0,slow=18,SNR=2.0						
	1.8nm,0.9s						
COEN	**Coen**	**18.28**	**131**	P	**P**	**15 04 03.4**	**+0.4**
COEN				IAmb	IAmb	15 04 43.9	
	comp=Z,12nm,1.1s						
WB0	**Warramunga Arr**	**18.36**	**164**		**P**	**15 04 02.6**	**-1.3**
WB0				IAmb	IAmb	15 04 25.7	
	comp=Z,15nm,1.5s						
WRAB	**Tennant Creek**	**18.51**	**164**	P	**P**	**15 04 04.4**	**-1.1**
WRA	**Warramunga Arr**	**18.52**	**164**	P	**P**	**15 04 04.4**	**-1.2**
WRA	**Warramunga Arr**	**18.52**	**164**	P	**P**	**15 04 05.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=347,slow=12,SNR=18						
WRA				S	Sn	15 07 20.7	-12
	comp=Z,0.3nm,0.5s,baz=354,slow=24,SNR=2.6						
	comp=Z,0.7nm,0.6s						
WB2	**Warramunga Arr**	**18.52**	**164**	P	**P**	**15 04 05.7**	**+0.1**
WB2				IAmb	IAmb	15 04 34.5	
	comp=Z,12nm,1.5s						
WR0	**Warramunga Arr**	**18.59**	**164**	P	**P**	**15 04 06.0**	**-0.3**
WR0				IAmb	IAmb	15 04 48.1	
	comp=Z,11nm,1.4s						
KSM	**Kuching**	**19.09**	**280**	P	**P**	**15 04 12.2**	**+0.3**
PSA00	**Pilbara Seismi**	**21.39**	**204**	P	**P**	**15 04 36.5**	**-0.4**
PSA00				IAmb	IAmb	15 05 09.4	
	comp=Z,21nm,1.4s						
AS31	**Alice Springs**	**22.00**	**168**	P	**P**	**15 04 43.3**	**-0.1**
ASAR	**Alice Springs**	**22.00**	**168**	P	**P**	**15 04 43.5**	**+0.1**
ASAR	**Alice Springs**	**22.00**	**168**	P	**P**	**15 04 43.3**	**0.0**
	comp=Z,4.2nm,0.8s,baz=346,slow=11,SNR=54						
ASAR				S	**S**	**15 08 41.1**	**-4.0**
	comp=Z,1.7nm,0.9s,baz=350,slow=21,SNR=8.6						
	comp=Z,4.2nm,0.8s						
CTAO	**Charters Tower**	**24.56**	**138**	P	**P**	**15 05 08.3**	**-0.7**
CTAO				IAmb	IAmb	15 05 30.7	
	comp=Z,15nm,1.4s						
KULM	**Kulim**	**29.32**	**284**	P	**P**	**15 05 51.7**	**-0.1**
MORW	**Morawa**	**29.61**	**204**	P	**P**	**15 05 53.6**	**-0.5**
STKA	**Stephens Creek**	**31.93**	**160**	P	**P**	**15 06 16.5**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=338,slow=11,SNR=1.7						
	comp=Z,0.9nm,0.6s						
TOO	**Toolangi**	**38.44**	**159**	P	**P**	**15 07 10.4**	**-0.3**
TOO				IAmb	IAmb	15 07 47.5	
	comp=Z,10nm,1.5s						
PETK	**Petropavlovsk-**	**59.96**	**19**	LR	LR	15 41 24.0	
	comp=Z,17nm,18.1s,baz=337,slow=41						
MA2	**Magadan**	**63.76**	**12**	P	**P**	**15 10 19.6**	**-0.9**
KURBB	**Kurchatov Arra**	**67.84**	**328**	P	P	15 10 57.8	+11
	comp=Z,0.3nm,0.5s,baz=122,slow=6.7,SNR=2.8						
	comp=Z,0.3nm,0.5s						
QSPA	**South Pole Qui**	**87.90**	**180**	P	**P**	**15 12 38.2**	**-0.1**
QSPA				IAmb	IAmb	15 12 43.8	
	comp=Z,4.8nm,1.3s						
SNAA	**Sanae**	**100.23**	**194**	LR	LR	16 00 02.0	
	comp=Z,32nm,18.2s,baz=2.0,slow=36						
TXAR	**Lajitas Array**	**123.06**	**56**	PKP	PKiKP	15 18 54.8	+8.5
	comp=Z,0.1nm,0.3s,baz=282,slow=4.4,SNR=1.7						

RSNC 04 15:06:52.8±0.8, 12°N±3°×7°0W±°, h0km, mb3.6, mB5.5, ML2.4, Mw(mB)5.0, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUA1	**Aruba**	**0.54**	**336**	P	Pg	15 07 02.6	-0.5
AUA1				S	Sg	15 07 10.1	0.0
URIC	**Uribia, Colomb**	**2.18**	**262**	P	Pn	15 07 29.9	-0.4
URIC				S	Sn	15 07 59.1	+1.1
CRJC	**Cerrejon, Guaj**	**3.19**	**252**	P	Pn	15 07 46.0	+1.7
CRJC				S	Sn	15 08 21.6	-1.5
PAMC	**Pamplona, Colo**	**5.46**	**212**	P	Pn	15 08 14.7	-1.2
PAMC				S	Sn	15 09 13.7	-5.9
SJCC	**San Jacinto, C**	**5.69**	**249**	P	Pn	15 08 19.2	+0.4
	11nm,1.6s						
SJCC				S	Sn	15 09 25.4	+0.5
	11nm,1.6s						
RUSC	**La Rusia**	**6.89**	**208**	P	Pn

comp=E,5030μm,0.6s
LKD2 AML AML 15 20 01.6
comp=N,4364μm,0.7s
TSLK Tsoukalades, L 1.17 5 P **Pb 15 19 34.2 -0.1**
TSLK Tsoukalades, L 1.17 5 P **Pb 15 19 34.2 -0.1**
TSLK S **Sb 15 19 49.7 +0.4**
ITM Ithomi 1.22 113 P **Pn 15 19 34.7 -0.4**
ITM S **Sb 15 19 51.9 +1.0**
comp=N,2μm,0.5s
ITM Ithomi 1.22 113 P **Pn 15 19 34.5 -0.6**
ITM S **Sb 15 19 51.1 +0.2**
ITM AML AML 15 19 59.7
comp=E,3465μm,0.4s
ITM AML AML 15 20 02.6
comp=N,3570μm,0.6s
PYL PYLOS 1.24 128 P **Pn 15 19 35.0 -0.3**
PYL S **Sg 15 19 52.5 +0.2**
comp=N,3μm,0.5s
PYL PYLOS 1.24 128 P **Pn 15 19 35.1 -0.2**
PYL S **Sb 15 19 51.1 -0.4**
PYL AML AML 15 19 55.4
comp=E,5636μm,0.5s
PYL AML AML 15 19 55.7
comp=N,4368μm,0.5s
EFP Efpalio 1.33 55 P **Pn 15 19 36.5 -0.1**
EFP Efpalio 1.33 55 P **Pn 15 19 36.8 +0.2**
KLV Kalavryta, Ach 1.35 73 P **Pn 15 19 36.6 -0.2**
KLV Kalavryta, Ach 1.35 73 P **Pn 15 19 37.0 +0.1**
ANX Ano Chora 1.45 50 P **Pn 15 19 38.9 +0.7**
ANX Ano Chora 1.45 50 P **Pn 15 19 38.9 +0.7**
GUR Goura 1.47 79 P **Pn 15 19 38.3 -0.3**
GUR Goura 1.47 79 P **Pn 15 19 39.2 +0.6**
IGT Igoumenitsa 1.87 356 P **Pn 15 19 45.1 +1.0**
IGT S **Sb 15 20 09.1 -0.6**
IGT AMP
comp=E,2.2nm,0.5s,baz=11
AGG Agios Georgios 1.97 46 **Pn 15 19 46.9 +1.5**
KEK Kerkira 2.12 345 Pn **Pn 15 19 48.1 +0.6**
SRN Sarande 2.25 350 P **Pn 15 19 50.3 +1.1**
SRN S **Sn 15 20 17.9 +1.1**
SRN AMP
comp=E,1.1nm,0.6s,baz=2.0
LSK Leskovik 2.48 1 P **Pb 15 19 55.0 -1.8**
LSK S **Sb 15 20 25.6 -1.8**
LSK AMP
comp=N,2.6nm,0.8s,baz=13
LIT Litokhoron 2.88 32 **Pn 15 19 59.9 +2.0**
SCTE Santa Cesarea 2.89 327 P **Pn 15 19 58.7 +0.7**
SCTE Santa Cesarea 2.89 327 Pn **Pn 15 19 58.5 +0.5**
FNA Florina 3.19 12 P **Pb 15 20 06.2 -2.6**
FNA Florina 3.19 12 **Pn 15 20 04.2 +2.0**
FNA Florina 3.19 12 *e*Pn **Pn 15 20 03.9 +1.7**
FNA *e*Sn **Sn 15 20 41.1 +1.0**
TIP Timpagrande 3.32 298 Pn **Pn 15 20 04.7 +0.7**
OHR Ohrid 3.45 4 *e*Pn **Pn 15 20 06.9 +1.1**
OHR Ohrid 3.45 4 *i* Pn **Pn 15 20 09.0 +3.3**
CEL Celeste 3.70 281 Pn **Pn 15 20 09.3 +0.1**
TIR Tirane 3.71 352 P **Pn 15 20 11.2 +1.9**
TIR Tirane 3.71 352 **Pn 15 20 10.9 +1.6**
TIR Tirane 3.71 352 *e*Pn **Pn 15 20 09.2 -0.1**
SRS Serrai 4.19 34 *e*Pn **Pn 15 20 17.0 +1.1**
SRS *e*Sn **Sn 15 21 05.2 +0.4**
IDI Anoyia 4.25 123 Pn **Pn 15 20 16.6 -0.1**
comp=N,7.6nm,0.8s,baz=104,slow=22,SNR=1.6
IDI Sn **Sn 15 21 07.1 +1.0**
comp=N,7.2nm,0.3s,baz=287,slow=20,SNR=11
PUK Puka 4.40 354 **Pn 15 20 19.5 +0.6**
VAE Valguarnera 4.86 270 Sn **Sn 15 21 22.2 +1.0**
comp=N,2.8nm,0.3s,baz=61,slow=6.1,SNR=4.0
PDG Podgorica 4.86 349 **Pn 15 20 25.4 +0.3**
PDG Podgorica 4.86 349 *e*Pn **Pn 15 20 24.8 -0.3**
RAFF Raffo Rosso 4.92 267 Pn **Pn 15 20 25.3 -0.6**
BARS Barje 5.24 11 *e*Pn **Pn 15 20 31.4 +1.0**
TREB Trebinje 5.32 342 *e*Pn **Pn 15 20 30.3 -1.0**
TREB *e*Sn **Sn 15 21 29.4 -3.0**
VTS Vitosha 5.37 22 *e*Pn **Pn 15 20 34.5 +2.3**
VTS *e*Sn **Sn 15 21 34.4 +0.4**
SELS Selova 5.57 5 *e*Pn **Pn 15 20 35.8 +0.9**
SJES Sjenica 5.61 356 *e*Pn **Pn 15 20 34.1 -1.4**
SJES *e*Sn **Sn 15 21 39.3 -0.5**
STON Ston 5.63 338 *e*Pn **Pn 15 20 34.8 -0.8**
KARP Karpathos 5.75 110 Pn **Pn 15 20 37.2 -0.1**
ZAPS Zavoj 5.83 15 *e*Pn **Pn 15 20 40.3 +1.8**
IVAS Ivanjica 5.92 357 *e*Pn **Pn 15 20 39.1 -0.5**
IVAS *e*Sn **Sn 15 21 45.2 -2.1**
BBLS Lazi&#263i 6.25 353 *e*Pn **Pn 15 20 41.9 -2.4**
DIVS Divibare 6.44 357 *e*Pn **Pn 15 20 45.9 -1.0**
HAPS Han Pijesak,BI 6.53 350 *e*Pn **Pn 15 20 47.4 -0.7**
TRUS Trudelj 6.55 359 *e*Pn **Pn 15 20 48.2 -0.2**
CAMP Campotosto 7.30 314 Pn **Pn 15 21 00.1 +1.4**
NRCA Norcia 7.66 315 **Pn 15 21 05.0 +1.4**
MLR Muntele Rosu 8.81 26 Pn **Pn 15 21 22.6 +3.2**
comp=N,0.1nm,0.3s,baz=167,slow=11,SNR=2.0
SABO M.te Sabotino 9.78 330 Pn **Pn 15 21 33.0 +0.4**
ANTO Ankara 9.84 73 Pn **Pn 15 21 35.6 +2.1**
SOKA Soboth 9.88 337 *e*Pn **Pn 15 21 33.5 -0.5**
comp=N,3.6nm,0.5s,SNR=8.9
OBKA Obir 9.89 335 *e*Pn **Pn 15 21 34.0 -0.1**
comp=N,2.0nm,0.4s
ARSA Arzberg 10.27 341 *e*Pn **Pn 15 21 38.2 -1.1**
comp=N,0.8nm,0.3s
BRTR Keskin Array B 10.46 75 Pn **Pn 15 21 44.6 +2.5**
comp=N,0.1nm,0.3s,baz=243,slow=11,SNR=3.7
comp=N,0.7nm,0.7s
VYHS Vyhne 10.90 354 *e*PN **Pn 15 21 48.3 +0.4**
MOA Molln 11.16 338 *e*Pn **Pn 15 21 52.1 +0.5**
comp=N,2.5nm,0.5s,SNR=6.5
BIOA Bad Ischl, Aus 11.22 335 *e*Pn **Pn 15 21 52.5 +0.1**
comp=N,1.8nm,0.4s
LESA Schwarzleotal 11.33 332 *e*Pn **Pn 15 21 54.0 +0.1**
comp=N,2.3nm,0.4s
WTTA Wattenberg 11.61 329 *e*Pn **Pn 15 21 59.9 +2.1**
comp=N,0.9nm,0.4s
TUE Stuetta 12.09 320 Pn **Pn 15 22 05.7 +1.4**
KHC Kasperske Hory 12.52 339 Pn **Pn 15 22 11.5 +1.5**
EIL Elat 14.41 119 Pn **Pn 15 22 35.3 -0.7**
comp=N,0.2nm,0.3s,baz=246,slow=22,SNR=1.6
EIL Sn Sn 15 25 04.4 -11
comp=N,0.4nm,0.3s,baz=344,slow=12,SNR=2.1
comp=N,1.7nm,0.6s
KVAR Kislovodsk Arr 17.90 62 P **Pn 15 23 20.4 -0.6**
baz=22,slow=22
comp=N,2.7nm,0.8s
PABE Paberze 18.00 6 P **Pn 15 23 21.3 -0.7**
PABE IAmb IAmb 15 23 22.1
comp=Z,26nm,0.7s
ESDC Sonseca Array 19.21 284 P **Pn 15 23 39.0 +2.1**
comp=Z,0.1nm,0.3s,baz=249,slow=16,SNR=4.1
comp=Z,0.7nm,0.9s
HFS Hagfors 22.91 351 P **P 15 24 15.8 +0.2**
comp=Z,1.8nm,0.5s,baz=163,slow=11,SNR=12
comp=Z,1.8nm,0.5s
EKA Eskdalemuir Ar 23.85 325 P **P 15 24 26.3 +1.2**
comp=Z,1.0nm,0.6s,baz=132,slow=6.7,SNR=5.4
comp=Z,1.0nm,0.6s
ESK Eskdalemuir 23.86 325 P **P 15 24 25.2 0.0**
ESK IAmb IAmb 15 24 51.8
comp=Z,36nm,1.3s
FINES FINESS Array B 24.06 7 P **P 15 24 26.8 -0.2**
comp=Z,1.4nm,0.4s,baz=167,slow=10,SNR=14
comp=Z,1.4nm,0.4s
FIA1 FINESS Array S 24.06 7 P **P 15 24 26.0 -1.0**
FIA1 IAmb IAmb 15 24 36.9
comp=Z,43nm,1.2s
NC405 NORSAR Array S 24.12 350 P **P 15 24 28.3 +0.8**
NC405 IAmb IAmb 15 24 55.4
comp=Z,45nm,1.5s
NB2 NORSAR Subarra 24.12 349 P **P 15 24 28.0 +0.4**
comp=Z,0.6nm,0.6s,baz=165,slow=11
NOA NORSAR Array B 24.12 349 P **P 15 24 27.9 +0.4**
comp=Z,0.4nm,0.6s,baz=152,slow=9.5,SNR=1.6
comp=Z,0.4nm,0.6s
NC303 NORSAR Array S 24.28 349 P **P 15 24 29.5 +0.5**
NC303 IAmb IAmb 15 24 36.6
comp=Z,17nm,1.2s
KIRV Kirov 28.09 33 LR LR 15 37 52.5
comp=Z,227nm,20.4s,baz=299,slow=40
TORD Torodi Ar. Bea 29.63 219 P **P 15 25 20.4 +3.0**
comp=Z,0.3nm,0.6s,baz=20,slow=10,SNR=1.9
comp=Z,0.3nm,0.6s
ARCES ARCESS Array B 32.05 3 P **P 15 25 38.1 -0.2**
comp=Z,2.0nm,0.8s,baz=192,slow=12,SNR=1.9
comp=Z,2.0nm,0.8s
DBIC Dimbokro 38.51 223 P **P 15 26 31.9 -2.5**
DBIC IAmb IAmb 15 27 12.0
comp=Z,14nm,1.4s
MBAR Mbarara 39.23 164 LR LR 15 43 10.3
comp=Z,52nm,18.0s,baz=356,slow=37
KBS Kingsbay 41.52 358 P **P 15 26 57.7 -1.1**
SACV Santiago Islan 45.03 252 P **P 15 27 26.6 -1.2**
MKAR Makanchi Array 45.58 58 P **P 15 27 30.1 -1.7**
comp=Z,0.1nm,0.3s,baz=275,slow=7.6,SNR=3.3
comp=Z,0.1nm,0.3s
ZALV Zalesovo Beam 46.04 48 P **P 15 27 34.7 -0.7**
comp=Z,0.7nm,0.6s,baz=284,slow=7.5,SNR=3.6
comp=Z,0.7nm,0.6s
NRIK Noril'sk 47.26 26 LR LR 15 49 50.7
comp=Z,217nm,19.5s,baz=312,slow=39
E29M Blow River 73.04 352 P **P 15 30 43.0 +1.6**
H29M Whitestone 75.17 351 P **P 15 30 54.9 +1.0**
M29M Somme Creek 78.81 350 P **P 15 31 16.0 +1.4**
M29M IAmb IAmb 15 31 57.8
comp=Z,4.9nm,1.1s

DJA 04 15:28:17.8±0.3, 1°S±2°×12°0E±°, h10km, M4.0/13, mb4.1/3, MLv4.0/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**0.86**	**353**	P	Pg	15 29 32.3	-2.1
MPSI				S	Sg	15 28 46.0	+0.4
APSI	**Ampana**	**1.68**	**103**	P	Pb	15 28 49.0	+0.1
MRSI	**Marisa**	**2.17**	**63**	P	Pb	15 28 55.7	-1.5
MRSI				S	Sn	15 29 19.1	-1.9
TTSI	**Tana Toraja**	**2.52**	**184**	P	Pn	15 28 59.9	+1.1
LUWI	**Luwuk**	**2.81**	**101**	P	Pn	15 29 02.8	0.0
SPSI	**Sidrap Palu**	**3.43**	**184**	P	Pn	15 29 11.5	+0.1
BNSI	**Bone**	**3.86**	**179**	P	Pn	15 29 17.9	+0.7
KMSI	**Cibinong**	**4.12**	**75**	P	Pn	15 29 20.6	-0.2
BKSI	**Bulukumba**	**4.77**	**179**	P	Pn	15 29 28.3	-1.5
BBSI	**Bau Bau**	**5.56**	**153**	P	Pn	15 29 41.5	+0.9
	19nm,0.9s,0.1nm						
SANI	**Sanana**	**6.17**	**104**	P	Pn	15 29 46.7	-2.3

*NEIC **04** 15:56:10.0±2.3, 5°.05S±0°.09×151°.27E±0°.09, h72km±8km, mb4.1/12, Error ellipse: s-maj=14.8km s-min=11.0km az=141.0*
*IDC **04** 15:56:14.6±8.6, 5°.11S×150°.86E, h103km±60km, mb3.6/2, mbtmp3.8/3, MS3.2/1, Error ellipse: s-maj=101.5km s-min=57.4km az=118.0*
ISC 04 15:56:10.7±0.8, 5°.08S±0°.08×151°.30E±0°.09, h100km, n21, σ1°79/21, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.23**	**45**	Pn	**Pn**	**15 56 30.1**	**-3.7**
MANU	**Manus Island**	**4.95**	**307**	Pn	**Pn**	**15 57 21.3**	**-1.5**
PMG	**Port Moresby**	**5.95**	**223**	Pn	**Pn**	**15 57 34.7**	**-1.6**
PMG	**Port Moresby**	**5.95**	**223**	P	**Pn**	**15 57 34.5**	**-1.8**
	2.7nm,0.3s,baz=28,slow=23,SNR=1.1						
PMG				S	**Sn**	**15 58 41.5**	**-1.6**
	9.2nm,0.5s,baz=222,slow=18,SNR=5.9						
PATS	**Pohnpei**	**13.75**	**31**		**P**	**15 59 27.3**	**+0.6**
KOUNC	**Koumac, New Ca**	**19.90**	**142**	P	**Pn**	**16 00 37.4**	**+0.4**
KOUNC				IAmb	IAmb	16 00 51.9	
	comp=Z,20nm,1.1s						
EIDS	**Eidsvold**	**20.18**	**181**	P	**P**	**16 00 36.8**	**-0.6**
EIDS				IAmb	IAmb	16 00 40.7	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**22.00**	**227**	P	**P**	**16 00 57.7**	**+0.7**
WR0	**Warramunga Arr**	**22.02**	**226**	P	**P**	**16 00 58.2**	**+1.0**
WRAB	**Tennant Creek**	**22.14**	**227**	P	**P**	**16 00 59.6**	**+1.1**
WRAB				IAmb	IAmb	16 01 00.3	
	comp=Z,4.1nm,0.7s						
WB2	**Warramunga Arr**	**22.15**	**227**	P	**P**	**16 00 59.7**	**+1.2**
WB2				IAmb	IAmb	16 01 00.4	
	comp=Z,4.4nm,0.6s						
WRA	**Warramunga Arr**	**22.15**	**227**	P	**P**	**16 00 58.6**	**0.0**
	comp=Z,2.5nm,0.5s,baz=52,slow=10.0,SNR=47						
	comp=Z,2.5nm,0.5s						
DZM	**Mont Dzumac**	**22.37**	**140**	LR	LR	16 07 31.2	
	comp=Z,58nm,19.6s,baz=190,slow=30						
AS31	**Alice Springs**	**24.95**	**221**	P	**P**	**16 01 25.0**	**0.0**
ASAR	**Alice Springs**	**24.95**	**221**	P	**P**	**16 01 24.8**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=57,slow=8.9,SNR=44						
	comp=Z,1.9nm,0.7s						
ARMA	**Armidale**	**25.21**	**179**	P	**P**	**16 01 29.7**	**+2.4**
ARMA				IAmb	IAmb	16 01 46.8	
	comp=Z,18nm,1.4s						
SOEI	**Soe**	**27.20**	**259**	P	**P**	**16 01 43.3**	**-2.1**
FITZ	**Fitzroy Crossi**	**28.22**	**241**	P	**P**	**16 01 55.0**	**+0.7**
QSPA	**South Pole Qui**	**84.89**	**180**	P	**P**	**16 08 34.2**	**-0.1**
G29M	**Pine Creek**	**87.18**	**22**	P	**P**	**16 08 49.4**	**+4.0**
G29M				IAmb	IAmb	16 09 00.8	
	comp=Z,0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.96**	**287**	PKPbc	**PKPab**	**16 15 51.4**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=89,slow=3.1,SNR=3.1						

*GUC **04** 16:16:19.8±0.9, 28°.18S×68°.99W, h23km±999km, ML3.5*
*SJA **04** 16:16:21.7±0.7, 28°.29S×68°.86W, h10km, ML2.8, MW3.0*
ISC 04 16:16:16.5±1.2, 28°.12S±0°.02×68°.92W±0°.02, h0km±12km, n24, σ0°85/41, 3C, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.88**	**135**	⇑*e*P	**Pn**	**16 16 36.0**	**-0.3**
VCA				*e*S	**Sn**	**16 16 48.7**	**-1.1**
VCA	**Vinchina**	**0.88**	**135**	*e*P	**Pn**	**16 16 36.0**	**-0.3**
VCA				*e*S	**Sb**	**16 16 47.1**	**0.0**
VCA				IAML		16 16 50.7	
	comp=Z,309nm,0.3s						
GO03	**Copiapo**	**1.28**	**294**	⇑*e*P	**Pn**	**16 16 41.9**	**+0.2**
GO03				*e*S	**Sg**	**16 16 58.2**	**+0.5**
AC05	**El Transito**	**1.40**	**239**	*e*P	**Pb**	**16 16 43.9**	**+0.3**
AC05				*e*S	**Sg**	**16 17 01.0**	**-0.4**
AC06	**Mina Casimiro**	**1.48**	**300**	*e*P	**Pg**	**16 16 45.5**	**+0.5**
AC06				*e*S	**Sg**	**16 17 04.8**	**+0.6**
LCO	**Las Campanas**	**1.81**	**240**	*e*P	**Pb**	**16 16 50.5**	**-0.2**
LCO				*e*S	**Sn**	**16 17 12.6**	**-0.4**
LCO				IAML		16 17 22.3	
	comp=Z,987nm,0.2s						
AC04	**Llanos de Chal**	**1.91**	**267**	*e*P	**Pb**	**16 16 52.4**	**+0.1**
AC04				*e*S	**Sb**	**16 17 16.8**	**+0.2**
AC04				IAML		16 17 19.3	
	comp=N,365nm,0.3s						
ACDV	**Cuesta del Vie**	**2.06**	**185**	*e*P	**Pg**	**16 16 56.3**	**+0.4**
ACDV				*e*S	**Sg**	**16 17 22.3**	**-0.3**
ACDV				IAML		16 17 28.5	
	comp=Z,37nm,0.5s						
AROD	**Rodeo**	**2.10**	**193**	*e*P	**Pg**	**16 16 57.3**	**+0.4**
AROD				*e*S	**Sg**	**16 17 24.3**	**+0.2**
ACLC	**CERRO LA CRUZ**	**2.16**	**128**	*e*P	**Pg**	**16 16 58.9**	**+0.9**
ACLC				*e*S	**Sg**	**16 17 25.3**	**-0.7**
ACLC				IAML		16 17 32.9	
	comp=Z,67nm,0.4s						
ACCO	**Cerro Coronel**	**2.47**	**183**	*e*P	**Pb**	**16 17 03.0**	**+1.1**
ACCO				*e*S	**Sb**	**16 17 33.6**	**+0.6**
AC01	**Pan de Azucar**	**2.47**	**322**	*e*P	**Pb**	**16 17 02.6**	**+0.8**
AC01				*e*S	**Sg**	**16 17 34.8**	**-1.1**
AC01				IAML		16 17 38.4	
	comp=E,300nm,0.3s						
GO04	**Tololo Observa**	**2.63**	**218**	⇑*e*P	**Pb**	**16 17 05.1**	**+0.4**
GO04				*e*S	**Sb**	**16 17 37.1**	**-0.6**
GO04				*i* S	**Sg**	**16 17 39.3**	**-1.8**
GO04				IAML		16 17 46.2	
	comp=N,336nm,0.6s						
CO05	**La Serena**	**2.71**	**228**	*e*P	**Pb**	**16 17 04.7**	**-1.2**
CO05				*e*S	**Sb**	**16 17 39.1**	**-0.7**
CO05				IAML		16 17 45.0	
	comp=N,317nm,0.4s						
CYA	**Choya**	**2.76**	**97**	*e*P	**Pb**	**16 17 07.7**	**+0.9**
CYA				*e*S	**Sb**	**16 17 41.3**	**0.0**
CYA				IAML		16 17 47.5	
	comp=Z,60nm,0.7s						
GO02	**Mina Guanaco**	**3.00**	**348**	*e*P	**Pg**	**16 17 12.8**	**-1.4**
GO02				*e*S	**Sg**	**16 17 52.6**	**-0.5**
GO02				IAML		16 18 00.6	
	comp=E,193nm,0.5s						
GO02	**Mina Guanaco**	**3.00**	**348**	*e*P	**Pg**	**16 17 14.1**	**-0.1**
GO02				*e*S	**Sg**	**16 17 54.1**	**+1.0**
RTLL	**Cerro Villicun**	**3.22**	**173**	*e*P	**Pb**	**16 17 14.2**	**-0.5**
FSA	**Cafayete**	**3.29**	**53**	*e*P	**Pg**	**16 17 18.2**	**-1.4**
FSA				*e*S	**Sb**	**16 17 58.8**	**+2.1**
AHML	**Horco Molle**	**3.45**	**68**	*e*P	**Pb**	**16 17 18.1**	**-0.4**
AHML				IAML		16 18 09.6	
	comp=Z,22nm,0.7s						
AUSP	**Uspallata**	**4.11**	**186**	*e*P	**Pb**	**16 17 30.6**	**+0.6**
ASAL	**Salagasta**	**4.46**	**179**	*e*P	Pn	16 17 30.4	+4.9
ASAL				IAML		16 18 48.3	
	comp=Z,9.7nm,0.6s						
AAGR	**Agrelo**	**4.95**	**179**	*e*P	**Pn**	**16 17 33.5**	**+1.2**
ROC1	**El Roble**	**5.17**	**200**	*e*P	Pb	16 17 41.7	-6.3

*SOME **04** 16:29:32.3, 42°.67N×79°.18E, h20km*
*KRNET **04** 16:29:33.1±0.1, 42°.72N×79°.18E, h20km, mb3.4*
*NNC **04** 16:29:33.2±0.7, 42°.76N×79°.16E, h1km±3km, mb3.4, mpv3.5, Error ellipse: s-maj=5.0km s-min=2.3km az=162.0*
ISC 04 16:29:34.1±1.3, 42°.86N±0°.03×79°.13E±0°.03, h3km±10km, n70, σ1°48/127, 21C-18D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.30**	**345**	P	**Pb**	**16 29 42.3**	**0.0**
	183nm,0.2s						
UZB				S	**Sb**	**16 29 48.8**	**+1.1**
	228nm,0.1s						
UZB	**Uzynbulak**	**0.30**	**345**	*e*P	**Pb**	**16 29 42.0**	**-0.3**
	79nm,0.1s						
UZB				*e*S	**Sb**	**16 29 48.8**	**+1.1**
	228nm,0.1s						
UZB	**Uzynbulak**	**0.30**	**345**	*e*P	**Pb**	**16 29 42.0**	**-0.3**
UZB				*e*S	**Sb**	**16 29 48.8**	**+1.1**
SHLS	**Shalkode**	**0.39**	**39**	P	**Pn**	**16 29 46.6**	**-0.1**
	119nm,0.2s						
SHLS				S	Sb	16 29 56.3	+6.2
	764nm,0.3s						
SHLS	**Shalkode**	**0.39**	**39**	*e*P	**Pn**	**16 29 45.8**	**-1.0**
	117nm,0.1s						
SHLS				*e*S	**Sb**	**16 29 55.2**	**+5.0**
	764nm,0.3s						
SHLS	**Shalkode**	**0.39**	**39**	*e*P	**Pn**	**16 29 45.8**	**-1.0**
SHLS				*e*S	**Sb**	**16 29 55.2**	**+5.0**
PDGK	**Podgornoye**	**0.54**	**29**	P	**Pn**	**16 29 45.7**	**-3.2**
	34nm,0.2s						
PDGK				S	**Sn**	**16 29 54.5**	**-4.0**
	93nm,0.2s						
PDGK	**Podgornoye**	**0.54**	**29**	⇓P	**Pn**	**16 29 45.5**	**-3.4**
	16nm,0.3s						
PDGK				⇑S	**Sn**	**16 29 53.8**	**-4.8**
	145nm,0.4s						
SATY	**Saty**	**0.57**	**291**	P	**Pb**	**16 29 45.9**	**-0.8**
	14nm,0.1s						
SATY				S	**Sb**	**16 29 55.5**	**+0.2**
	349nm,0.1s						
SATY	**Saty**	**0.57**	**291**	*e*P	**Pb**	**16 29 45.9**	**-0.8**
	14nm,0.1s						
SATY				*e*S	**Sb**	**16 29 55.5**	**+0.2**
	349nm,0.1s						
SATY	**Saty**	**0.57**	**291**	*e*P	**Pb**	**16 29 45.9**	**-0.8**
SATY				*e*S	**Sb**	**16 29 55.5**	**+0.2**
ZHN	**Zhinishke**	**0.59**	**302**	P	**Pb**	**16 29 46.5**	**-0.7**
	16nm,0.1s						
ZHN				S	**Sb**	**16 29 56.5**	**+0.3**
	322nm,0.2s						
ZHN	**Zhinishke**	**0.59**	**302**	*e*P	**Pb**	**16 29 46.5**	**-0.7**
	16nm,0.1s						
ZHN				*e*S	**Sb**	**16 29 56.5**	**+0.3**
	322nm,0.2s						
ZHN	**Zhinishke**	**0.59**	**302**	*e*P	**Pb**	**16 29 46.5**	**-0.7**
ZHN				*e*S	**Sb**	**16 29 56.5**	**+0.3**
PRZ	**Przheval'sk**	**0.65**	**235**	⇑*e*P	**Pg**	**16 29 45.0**	**-1.6**
PRZ				⇑*e*S	**Sg**	**16 29 53.7**	**-1.4**
KPKS	**Kokpek**	**0.69**	**332**	P	**Pn**	**16 29 49.0**	**-1.9**
	176nm,0.1s						
KPKS				S	**Sn**	**16 30 00.2**	**-1.9**
	119nm,0.2s						
KPKS	**Kokpek**	**0.69**	**332**	*e*P	**Pn**	**16 29 49.0**	**-1.9**
	207nm,0.1s						
KPKS				*e*S	**Sn**	**16 30 00.3**	**-1.9**
	127nm,0.1s						
KPKS	**Kokpek**	**0.69**	**332**	*e*P	**Pn**	**16 29 49.0**	**-1.9**
KPKS				*e*S	**Sn**	**16 30 00.3**	**-1.9**
KURS	**Kuram**	**0.94**	**312**	P	**Pn**	**16 29 53.2**	**-1.1**
	13nm,0.2s						
KURS				S	**Sn**	**16 30 07.2**	**-1.1**
	59nm,0.3s						
KURS	**Kuram**	**0.94**	**312**	*e*P	**Pn**	**16 29 53.0**	**-1.3**
	9.8nm,0.2s						
KURS				*e*S	**Sn**	**16 30 07.6**	**-0.7**
	61nm,0.3s						
KURS	**Kuram**	**0.94**	**312**	*e*P	**Pn**	**16 29 53.0**	**-1.3**
KURS				*e*S	**Sn**	**16 30 07.6**	**-0.7**
DJR	**Jarkent**	**1.55**	**18**	P	**Pg**	**16 30 03.1**	**-0.7**
	18nm,0.2s						
DJR				S	**Sg**	**16 30 25.8**	**+1.8**
	136nm,0.4s						
DJR	**Jarkent**	**1.55**	**18**	*e*P	**Pg**	**16 30 03.1**	**-0.7**
	18nm,0.2s						
DJR				*e*S	**Sg**	**16 30 25.8**	**+1.8**
	136nm,0.4s						
MDOK	**Medeo**	**1.56**	**282**	P	**Pn**	**16 30 01.6**	**-1.3**
	2.3nm,0.4s						
MDOK				Pg	**Pb**	**16 30 02.8**	**-0.9**
	6.6nm,0.3s						
MDOK				S	**Sn**	**16 30 23.3**	**-0.3**
	36nm,0.6s						
MDOK				Lg	Lg	16 30 24.6	
	42nm,0.5s						
MDOK	**Medeo**	**1.56**	**282**	*e*P	**Pb**	**16 30 02.8**	**-0.9**
	6.6nm,0.3s						
MDOK				*e*S	**Sb**	**16 30 24.6**	**+0.8**
	42nm,0.5s						
MDOK	**Medeo**	**1.56**	**282**	*e*P	**Pb**	**16 30 02.8**	**-0.9**
MDOK				*e*S	**Sb**	**16 30 24.6**	**+0.8**
TNSS	**Tian-Shan**	**1.61**	**277**	P	**Pn**	**16 30 03.4**	**-0.4**
	14nm,0.1s						
TNSS				S	**Sb**	**16 30 26.4**	**+0.8**
	30nm,0.2s						
TNSS	**Tian-Shan**	**1.61**	**277**	*e*P	**Pn**	**16 30 03.4**	**-0.4**
	14nm,0.1s						
TNSS				*e*S	**Sb**	**16 30 26.4**	**+0.8**
	30nm,0.2s						
TNSS	**Tian-Shan**	**1.61**	**277**	*e*P	**Pn**	**16 30 03.4**	**-0.4**
TNSS				*e*S	**Sb**	**16 30 26.4**	**+0.8**
KDJ	**Kajisay**	**1.61**	**244**	⇑*e*P	**Pn**	**16 30 02.3**	**-1.3**
KDJ				⇑*e*S	**Sn**	**16 30 23.2**	**-1.8**
KNDC	**Almaty**	**1.62**	**284**	⇓P	**Pn**	**16 30 02.6**	**-1.1**
	4.3nm,0.2s						
KNDC				⇑S	**Sb**	**16 30 26.4**	**+0.7**
	51nm,0.7s						
ARXS	**Arharly**	**1.65**	**326**	P	**Pg**	**16 30 05.3**	**-0.5**
	21nm,0.2s						
ARXS				S	**Sg**	**16 30 29.0**	**+1.8**
	114nm,0.4s						
ARXS	**Arharly**	**1.65**	**326**	*e*P	**Pg**	**16 30 05.3**	**-0.5**
	21nm,0.2s						
ARXS				*e*S	**Sg**	**16 30 29.0**	**+1.8**
	114nm,0.4s						
AAA	**Alma-Ata**	**1.66**	**283**	P	**Pg**	**16 30 05.5**	**-0.4**
	26nm,0.1s						
AAA				S	**Sg**	**16 30 29.1**	**+1.7**
	26nm,0.2s						
AAA	**Alma-Ata**	**1.66**	**283**	*e*P	**Pb**	**16 30 04.6**	**-0.8**
	17nm,0.1s						
AAA				*e*S	**Sb**	**16 30 27.7**	**+1.1**
	28nm,0.1s						
AAA	**Alma-Ata**	**1.66**	**283**	*e*P	**Pb**	**16 30 04.6**	**-0.8**
AAA				*e*S	**Sb**	**16 30 27.8**	**+1.1**
CHKK	**Chushkaly**	**1.85**	**303**	Pg	**Pb**

64nm,0.4s
MTBS Maitube 2.00 279 *e*P **Pb 16 30 09.9 -1.2**
35nm,0.3s
MTBS *e*S **Sb 16 30 36.6 +0.2**
102nm,0.5s
MTBS Maitube 2.00 279 *e*P **Pb 16 30 09.9 -1.2**
MTBS *e*S **Sb 16 30 36.6 +0.2**
ULHL Ulahol 2.22 255⇓*e*P **Pn 16 30 12.0 0.0**
ULHL ⇓*e*S **Sn 16 30 40.5 +0.5**
KUU Kurty 2.28 298 Pg **Pb 16 30 15.3 -0.7**
3.5nm,0.0s
KUU Lg Lg 16 30 45.9
120nm,0.5s
KUU Kurty 2.28 298 *e*P **Pb 16 30 15.3 -0.7**
3.5nm,0.0s
KUU *e*S **Sb 16 30 45.9 +1.4**
120nm,0.5s
KST Kastek 2.33 276 Pg **Pb 16 30 15.6 -1.3**
23nm,0.4s
KST Lg Lg 16 30 47.1
60nm,0.5s
KST Kastek 2.33 276 *e*P **Pb 16 30 15.6 -1.3**
23nm,0.4s
KST *e*S **Sb 16 30 47.1 +1.0**
60nm,0.5s
BOOM Boomskoye usch 2.38 262⇑*e*P **Pn 16 30 14.7 +0.5**
BOOM ⇑*e*S **Sn 16 30 44.4 +0.5**
KAPS Kapalarasan 2.43 4 Pg **Pg 16 30 19.1 -1.7**
5.4nm,0.1s
KAPS Lg Lg 16 30 52.7
18nm,0.1s
KAPS Kapalarasan 2.43 4 *e*P **Pg 16 30 19.1 -1.7**
5.4nm,0.1s
KAPS *e*S **Sg 16 30 52.7 +0.5**
18nm,0.1s
TKM2 Tokmak 2 2.59 273 ⇓Pn **Pb 16 30 18.6 -2.8**
3.1nm,0.4s
TKM2 ⇑Lg Lg 16 30 55.4
21nm,0.6s
TKM2 Tokmak 2 2.59 273⇑*i*P **Pn 16 30 18.5 +1.3**
TKM2 ⇑*e*S **Sn 16 30 51.0 +1.7**
KRBS Karabastau 2.66 290 Pg **Pb 16 30 20.5 -1.8**
2.2nm,0.3s
KRBS Lg Lg 16 30 55.3
26nm,0.3s
KRBS Karabastau 2.66 290 *e*P **Pb 16 30 20.6 -1.8**
2.2nm,0.3s
KRBS *e*S **Sb 16 30 55.3 -0.1**
26nm,0.3s
NRN Naryn 2.73 240⇑*e*P **Pn 16 30 18.8 -0.3**
NRN ⇑*e*S **Sn 16 30 52.7 0.0**
KBK Karagaybulak 3.08 268⇓*i*P **Pn 16 30 24.8 +0.9**
KBK ⇓*e*S **Sn 16 31 02.0 +0.7**
CHMS Chumysh 3.22 274 ⇓Pn **Pn 16 30 27.3 +1.7**
0.8nm,0.3s
CHMS ⇓Lg Lg 16 31 13.0
5.7nm,0.6s
CHMS Chumysh 3.22 274⇓*e*P **Pn 16 30 26.9 +1.3**
CHMS ⇓*e*S **Sn 16 31 05.7 +1.3**
SGDS Sogindy 3.34 282 Pg **Pb 16 30 33.4 -0.7**
3.0nm,0.3s
SGDS Lg Lg 16 31 16.9
9.0nm,0.5s
USP Ospenovka 3.42 278⇑*e*P **Pn 16 30 30.0 +1.7**
USP ⇑*e*S **Sn 16 31 10.3 +1.0**
UCH Uchtor 3.47 261⇑*e*P **Pn 16 30 29.8 +0.4**
UCH ⇑*e*S **Sn 16 31 10.6 -0.6**
ARLS Aral 3.70 256⇑*e*P **Pn 16 30 32.5 +0.2**
ARLS ⇑*e*S **Sn 16 31 15.3 -1.1**
EKS2 Erkin-Say 3.94 269⇓*e*P **Pn 16 30 36.8 +1.2**
EKS2 ⇓*e*S **Sn 16 31 22.7 +0.2**
AML Almayashu 4.08 262⇓*e*P **Pn 16 30 38.4 +0.6**
AML ⇓*e*S **Sn 16 31 25.8 -0.5**
MAKZ Makanchi 4.44 26 ⇓Pn **Pn 16 30 43.7 +1.4**
0.3nm,0.4s
MAKZ ⇑Lg Lg 16 31 56.2
1.9nm,0.8s
MK31 Makanchi Array 4.53 29 Pn **Pn 16 30 44.6 +1.0**
0.1nm,0.3s,baz=213,slow=14,SNR=11
MK31 ⇑Lg Lg 16 31 57.9
2.4nm,0.5s,baz=207,slow=28,SNR=5.3
KK31 Karatay Array 6.33 275 ⇓Pg **Pb 16 31 29.1 +4.3**
0.3nm,0.3s,baz=86,slow=14,SNR=6.5
KK31 ⇓Lg Lg 16 32 54.0
1.6nm,0.6s,baz=92,slow=28,SNR=9.3

*JMA **04** 16:44:14.0±0.2,44°.6N±0°.7×14°.6E±°,h20km±1km, MV3.4/39,NEAR KUNASHIRI ISLAND*
*SKHL **04** 16:44:14.8±0.4,44°.40N×145°.50E,h32km±1km,mb4.5/2*
ISC 04 16:44:13.5±2.1,44°.54N±0°.04×145°.71E±0°.04,h16km±18km, n13,σ0s56/23,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.52**	**168**	*i* P	**Pb**	**16 44 24.4**	**+0.1**
YUK				AMB	AMB	16 44 24.8	
470nm,0.5s							
YUK				*i* S	**Sb**	**16 44 31.7**	**+0.1**
YUK				A	A	16 44 32.1	
1μm,0.2s							
YUK				A	A	16 44 32.1	
2μm,0.2s							
JRA	**Rausu**	**0.74**	**215**	*i* P	**Pb**	**16 44 28.1**	**+0.1**
JRA				S	**Sb**	**16 44 37.9**	**+0.1**
JNSB	**Nemuroshibetsu**	**0.92**	**214**	P	**Pb**	**16 44 31.2**	**+0.1**
JNSB				S	**Sb**	**16 44 43.7**	**+0.6**
SHO	**Shikotan**	**1.05**	**130**	*i* P	**Pn**	**16 44 33.5**	**-0.1**
SHO				AMB	AMB	16 44 34.1	
330nm,0.5s							
SHO				*i* S	**Sn**	**16 44 47.6**	**-0.3**
SHO				A	A	16 44 49.0	
980nm,0.5s							
SHO				A	A	16 44 49.0	
2μm,0.5s							
NEM2	**Nemuro 2**	**1.18**	**179**	*i* P	**Pb**	**16 44 34.8**	**-0.7**
NEM2				S	**Sb**	**16 44 50.5**	**0.0**
JNK	**Nakash**	**1.20**	**217**	P	**Pn**	**16 44 35.4**	**-0.2**
JNK				*e*S	**Sb**	**16 44 50.9**	**-0.1**
JTKR	**Abashiri--Toko**	**1.42**	**247**	P	**Pn**	**16 44 38.5**	**-0.1**
JTKR				*e*S	**Sn**	**16 44 56.5**	**-0.4**
JKHN	**Kushirohamanak**	**1.51**	**195**	P	**Pn**	**16 44 40.2**	**+0.3**
JKHN				*e*S	**Sn**	**16 44 59.8**	**+0.5**
KUR	**Kuril'sk**	**1.68**	**65**	*e*P	**Pb**	**16 44 44.7**	**+0.6**
KUR				AMB	AMB	16 44 49.2	
70nm,0.7s							
KUR				*e*S	**Sg**	**16 45 07.2**	**-0.4**
KUR				A	A	16 45 13.9	
90nm,0.4s							
KUR				A	A	16 45 13.9	
90nm,0.4s							
JAK	**Akkeshi**	**1.71**	**206**	*e*P	**Pn**	**16 44 42.7**	**0.0**
JMP	**Maruseppu**	**1.77**	**253**	P	**Pn**	**16 44 44.1**	**+0.5**
JAR	**Ashorobuto**	**1.88**	**229**	*e*P	**Pn**	**16 44 46.2**	**+1.2**
YSS	**Yuzh-Sakhalins**	**3.18**	**320**	*e*P	**Pn**	**16 45 03.2**	**+0.4**
YSS				AMB	AMB	16 45 04.8	
10.0nm,0.3s							
YSS				*e*S	**Sn**	**16 45 39.0**	**-1.4**
YSS				A	A	16 45 40.5	
10.0nm,0.6s							
YSS				A	A	16 45 40.5	
10.0nm,0.6s							

*NEIC **04** 16:53:41.3±1.3,6°.71S±0°.04×129°.6E±0°.1,h149km±15km, mb4.3/7,Error ellipse: s-maj=15.9km s-min=4.6km az=107.0*
*DJA **04** 16:53:42.3±0.4,7°.5±3°.×13°.0E±°,h173km±9km,M4.0/13, mb4.0/7,mB4.7/3,MLv4.0/13,Mw(mB)3.9/3*
*IDC **04** 16:53:44.6±4.8,7°.16S×129°.61E,h172km±49km,mb3.5/2, mbtmp3.8/6,Error ellipse: s-maj=42.9km s-min=19.2km az=51.0*
ISC 04 16:53:40.9±0.7,6°.81S±0°.05×129°.78E±0°.06,h150km,n32, σ2s51/36,mb3.8/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.91**	**128**	Pn	**Pn**	**16 54 17.9**	**+3.0**
SAUI	**Saumlaki**	**1.91**	**128**	P	**Pn**	**16 54 18.2**	**+3.2**
SAUI				S	**Sn**	**16 54 42.1**	**+0.9**
BNDI	**Bandanaira**	**2.28**	**3**	P	**Pn**	**16 54 22.5**	**+3.1**
MSAI	**Masohi**	**3.54**	**346**	P	**Pn**	**16 54 38.6**	**+3.3**
NLAI	**Namlea**	**4.44**	**323**	P	Pn	16 54 50.9	+3.9
FAKI	**Fak Fak**	**4.58**	**33**	Pn	**Pn**	**16 54 48.7**	**-0.2**
FAKI	**Fak Fak**	**4.58**	**33**	P	**Pn**	**16 54 48.7**	**-0.2**
FAKI				S	**Sn**	**16 55 37.2**	**-4.7**
KMPI	**Kaimana, Papua**	**5.01**	**52**	P	**Pn**	**16 54 51.6**	**-2.9**
SWI	**Sorong**	**6.09**	**14**	P	**Pn**	**16 55 08.0**	**-0.9**
MTN	**Manton Dam**	**6.14**	**168**		**Pn**	**16 55 11.1**	**+1.5**
SOEI	**Soe**	**6.19**	**241**	Pn	**Pn**	**16 55 14.4**	**+4.1**
SOEI	**Soe**	**6.19**	**241**	P	**Pn**	**16 55 14.4**	**+4.1**
20nm,1.5s,0.1nm							
RKPI	**Ransiki, Papua**	**6.85**	**40**	P	**Pn**	**16 55 19.6**	**+0.5**
BATI	**Baumata**	**6.92**	**240**	P	**Pn**	**16 55 19.7**	**-0.3**
8.1nm,0.4s,baz=245,slow=13,SNR=2.3							
BATI				S	**Sn**	**16 56 36.0**	**-1.8**
11nm,0.4s,baz=324,slow=0.8,SNR=1.9							
KNRA	**Kununurra**	**8.87**	**186**	Pn	**Pn**	**16 55 46.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**11.92**	**199**	Pn	**Pn**	**16 56 26.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.92**	**199**	P	**Pn**	**16 56 24.0**	**-2.2**
0.9nm,0.3s,baz=17,slow=11,SNR=30							
FITZ				S	**Sn**	**16 58 32.5**	**-5.7**
1.4nm,0.3s,baz=253,slow=20,SNR=5.5							
WB0	**Warramunga Arr**	**13.64**	**161**	Pn	**Pn**	**16 56 46.6**	**-1.8**
WRAB	**Tennant Creek**	**13.78**	**162**	Pn	**Pn**	**16 56 48.1**	**-2.0**
WRA	**Warramunga Arr**	**13.78**	**162**	P	**Pn**	**16 56 48.8**	**-1.4**
0.9nm,0.6s,baz=336,slow=13,SNR=13							
WRA				S	Sn	16 59 17.2	-5.7
1.6nm,0.6s,baz=328,slow=24,SNR=8.6							
WB2	**Warramunga Arr**	**13.79**	**162**	Pn	**Pn**	**16 56 49.1**	**-1.2**
WR0	**Warramunga Arr**	**13.86**	**161**	Pn	**Pn**	**16 56 50.4**	**-0.8**
COEN	**Coen**	**14.96**	**119**		**Pn**	**16 57 08.1**	**+3.1**
COEN				IAmb	IAmb	16 57 23.2	
comp=Z,26nm,1.4s							
JAGI	**Jajag, Banyuwa**	**15.57**	**263**	Pn	**Pn**	**16 57 10.5**	**-2.1**
JAGI				IAmb	IAmb	16 57 30.3	
comp=Z,45nm,1.4s							
AS31	**Alice Springs**	**17.22**	**167**		**P**	**16 57 33.9**	**+2.1**
ASAR	**Alice Springs**	**17.22**	**167**		**Pn**	**16 57 34.3**	**+1.7**
ASAR	**Alice Springs**	**17.22**	**167**	P	**P**	**16 57 32.5**	**+0.8**
comp=Z,1.1nm,0.4s,baz=349,slow=11,SNR=55							
ASAR				S	**S**	**17 00 39.6**	**-4.1**
comp=Z,0.2nm,0.3s,baz=351,slow=23,SNR=6.7							
PSA00	**Pilbara Seismi**	**17.54**	**212**	Pn	**Pn**	**16 57 36.4**	**+0.1**
PSA00				IAmb	IAmb	16 58 20.0	
comp=Z,19nm,1.3s							
MKAR	**Makanchi Array**	**67.95**	**327**	P	**P**	**17 04 26.4**	**+2.8**
comp=Z,0.8nm,0.3s,baz=115,slow=8.0,SNR=18							
comp=Z,0.8nm,0.3s							
BRVK	**Borovoye**	**77.86**	**328**	P	**P**	**17 05 21.3**	**-0.6**
BRVK				IAmb	IAmb	17 06 00.7	
comp=Z,1.9nm,0.9s							
O14K	**Tigyukauivet M**	**85.29**	**29**	P	**P**	**17 06 00.1**	**-0.6**
ILAR	**Eielson Array**	**93.27**	**25**	P	**P**	**17 06 39.5**	**+1.2**
comp=Z,0.2nm,0.8s,baz=274,slow=2.6,SNR=4.5							
comp=Z,0.2nm,0.8s							

*IDC **04** 17:04:24.9±1.5,10°.40S×124°.72E,h0km,mb3.5/2, mbtmp3.4/5,ML3.4/3,MS3.5/2,Error ellipse: s-maj=31.6km s-min=13.9km az=19.0*
*DJA **04** 17:04:29.7±1.6,11°.5±10°.×12°.4E±°,h14km±6km,M3.6/6, mb4.0/1,MLv3.4/6*
ISC 04 17:04:29.7±0.9,10°.66S±0°.08×124°.50E±0°.10,h35km,n13, σ1s54/14,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.93**	**346**	P	**Pn**	**17 04 46.2**	**-0.2**
BATI	**Baumata**	**0.94**	**299**	Pg	**Pn**	**17 04 45.0**	**-1.4**
70nm,0.3s,baz=151,slow=4.2,SNR=66							
BATI				Lg	Lg	17 05 00.0	
56nm,0.3s,baz=354,slow=19,SNR=6.6							
BATI				LR	LR	17 05 09.6	
comp=Z,49nm,18.2s,baz=210,slow=42							
BATI	**Baumata**	**0.94**	**299**	P	**Pn**	**17 04 45.2**	**-1.2**
MMRI	**Maumere**	**3.00**	**312**	P	**Pn**	**17 05 15.0**	**-0.2**
WBSI	**Waikabubak, Su**	**5.13**	**281**	P	**Pn**	**17 05 44.2**	**+0.1**
BBSI	**Bau Bau**	**5.49**	**340**	P	**Pn**	**17 05 49.7**	**+0.7**
KAPI	**Kappang**	**7.32**	**320**	LR	LR	17 09 35.7	
comp=Z,52nm,18.2s,baz=311,slow=43							
FITZ	**Fitzroy Crossi**	**7.47**	**172**	Pn	**Pn**	**17 06 18.2**	**+1.9**
0.4nm,0.3s,baz=351,slow=12,SNR=17							
FITZ				Sn	**Sn**	**17 07 41.9**	**+2.1**
0.8nm,0.3s,baz=150,slow=20,SNR=6.9							
1.3nm,0.3s							
WRA	**Warramunga Arr**	**13.23**	**135**	Pn	**Pn**	**17 07 34.9**	**-0.3**
0.2nm,0.3s,baz=307,slow=13,SNR=6.9							
WRA				Sn	**Sn**	**17 09 58.2**	**-3.0**
0.2nm,0.3s,baz=309,slow=24,SNR=5.4							
0.2nm,0.4s							
ASAR	**Alice Springs**	**15.74**	**146**	Pn	**Pn**	**17 08 10.2**	**+1.3**
0.1nm,0.3s,baz=321,slow=12,SNR=19							
ASAR				Sn	**Sn**	**17 11 00.8**	**-1.5**
0.1nm,0.3s,baz=316,slow=21,SNR=6.8							
0.4nm,0.5s							
CMAR	**Chiang Mai Arr**	**38.38**	**319**	P	**P**	**17 11 48.5**	**+0.6**
0.3nm,0.6s,baz=141,slow=6.4,SNR=4.2							
0.3nm,0.6s							
MKAR	**Makanchi Array**	**68.49**	**330**	P	**P**	**17 15 27.7**	**-0.7**
0.8nm,0.8s,baz=125,slow=8.2,SNR=6.6							
0.8nm,0.8s							
NRIK	**Noril'sk**	**83.86**	**348**	LR	LR	17 54 57.1	
comp=Z,175nm,20.5s,baz=325,slow=36							

*RSNC **04** 17:13:53.7±0.0,6°.87N×73°.13W,h154km±1km,M3.2, mb3.7,mB4.9,ML3.5,Mw(mB)4.2*
ISC 04 17:13:52.4±1.3,6°.86N±0°.03×73°.11W±0°.03,h154km±8km, n43,σ1s55/84,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**196**	P	**Pn**	**17 14 14.2**	**+0.5**
BARC				S	**Sn**	**17 14 27.8**	**-2.1**
PAMC	**Pamplona, Colo**	**0.63**	**40**	P	**Pn**	**17 14 16.9**	**+1.4**
PAMC				S	**Sn**	**17 14 34.0**	**+0.9**
BRJC	**Barrancabermej**	**0.64**	**280**	P	**Pn**	**17 14 15.8**	**+0.8**
BRJC				S	**Sn**	**17 14 32.6**	**+0.4**
RUSC	**La Rusia**	**0.96**	**179**	P	**Pn**	**17 14 18.0**	**+0.2**
RUSC				S	**Sn**	**17 14 36.5**	**-0.7**
TAMC	**Tame, Arauca**	**1.37**	**108**	P	**Pn**	**17 14 22.5**	**+1.5**
TAMC				S	**Sn**	**17 14 44.3**	**+1.4**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	P	**Pn**	**17 14 20.7**	**-0.3**
PTBC				S	**Sn**	**17 14 41.6**	**-1.3**
OCAC	**Ocana**	**1.39**	**351**	P	**Pn**	**17 14 22.3**	**+1.0**
OCAC				S	**Sn**	**17 14 44.1**	**+0.5**
SPBC	**San Pablo de B**	**1.53**	**219**	P	**Pn**	**17 14 23.1**	**+0.4**
SPBC				S	**Sn**	**17 14 44.8**	**-1.2**
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	P	**Pn**	**17 14 26.6**	**+0.6**
ZARC				S	**Sn**	**17 14 52.1**	**+0.2**
NORC	**Norcasia**	**2.17**	**234**	P	**Pn**	**17 14 29.9**	**+0.1**
NORC				S	**Sn**	**17 14 57.7**	**-1.0**
CHIC	**Chingaza**	**2.30**	**196**	P	**Pn**	**17 14 32.1**	**+0.4**
CHIC				S	**Sn**	**17 15 01.6**	**-0.4**
ROSC	**El Rosal**	**2.34**	**211**	P	**Pn**	**17 14 33.9**	**+1.7**
ROSC				S	**Sn**	**17 15 05.0**	**+2.2**
BOG	**Bogota**	**2.42**	**203**	P	**Pn**	**17 14 33.1**	**+0.1**
BOG				S	**Sn**	**17 15 03.6**	**-0.8**
HELC	**Santa Helena**	**2.50**	**255**	P	**Pn**	**17 14 36.0**	**+2.0**
HELC				S	**Sn**	**17 15 05.2**	**-0.9**
CVER	**Cruz Verde, Cu**	**2.51**	**203**	P	**Pn**	**17 14 35.5**	**+1.2**
CVER				S	**Sn**	**17 15 07.5**	**+0.8**
MEDEC	**Medelln, Ant**	**2.53**	**257**	P	**Pn**	**17 14 34.8**	**+0.5**
MEDEC				S	**Sn**	**17 15 06.9**	**+0.3**
UREC	**San Jos de Ur**	**2.57**	**290**	P	**Pn**	**17 14 33.9**	**-0.6**
UREC				S	**Sn**	**17 15 05.2**	**-1.9**
GUY2C	**Guyana, Caldas**	**2.77**	**234**	P	**Pn**	**17 14 39.2**	**+1.7**
GUY2C				S	**Sn**	**17 15 12.6**	**+0.3**
VILC	**Villavicencio,**	**2.79**	**192**	P	**Pn**	**17 14 37.6**	**+0.2**
VILC				S	**Sn**	**17 15 10.5**	**-1.8**
PTGC	**Puerto Gaitan,**	**2.81**	**160**	P	**Pn**	**17 14 37.4**	**-0.2**
PTGC				S	**Sn**	**17 15 10.5**	**-2.1**
RECRC	**Villamaria, Ca**	**2.92**	**230**	P	**Pn**	**17 14 42.0**	**+2.5**
RECRC				S	**Sn**	**17 15 19.5**	**+3.7**
NIZA	**Niza - Manizal**	**2.95**	**233**	P	**Pn**	**17 14 44.3**	**+4.7**
NIZA				S	**Sn**	**17 15 18.0**	**+1.9**
CBOC	**Ciudad Bolivar**	**3.05**	**251**	P	**Pn**	**17 14 42.5**	**+1.8**
CBOC				S	**Sn**	**17 15 17.7**	**-0.4**
DBBC	**Dabeiba**	**3.08**	**273**	P	**Pn**	**17 14 41.6**	**+0.5**
DBBC				S	**Sn**	**17 15 17.2**	**-1.5**
SDV	**Santo Domingo**	**3.17**	**50**	P	**Pn**	**17 14 43.7**	**+1.4**
SDV				S	**Sn**	**17 15 21.2**	**+0.2**
ARGC	**Ariguani, Magd**	**3.19**	**339**	P	**Pn**	**17 14 45.4**	**+3.1**
ARGC				S	**Sn**	**17 15 20.9**	**-0.2**
ANIL	**Santa Ana**	**3.28**	**224**	P	**Pn**	**17 14 45.8**	**+2.1**
ANIL				S	**Sn**	**17 15 23.8**	**+0.3**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**17 14 48.1**	**+0.6**
PRAC				S	**Sn**	**17 15 29.7**	**-0.6**
APAC	**Apartado, Choc**	**3.60**	**287**	P	**Pn**	**17 14 47.8**	**+0.3**
APAC				S	**Sn**	**17 15 30.7**	**+0.3**
ORTC	**Ortega, Tolima**	**3.62**	**216**	P	**Pn**	**17 14 48.8**	**+0.9**
ORTC				S	**Sn**	**17 15 31.8**	**+0.8**
SJCC	**San Jacinto, C**	**3.65**	**326**	P	**Pn**	**17 14 48.2**	**-0.1**
SJCC				S	**Sn**	**17 15 29.1**	**-2.7**
PLMC	**San Jos del P**	**3.71**	**239**	P	**Pn**	**17 14 50.0**	**+1.0**
PLMC				S	**Sn**	**17 15 32.2**	**-0.8**
URMC	**La Uribe, Meta**	**3.80**	**200**	P	**Pn**	**17 14 51.3**	**+1.0**
URMC				S	**Sn**	**17 15 34.2**	**-1.1**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P	**Pn**	**17 14 54.5**	**-0.2**
CRJC				S	**Sn**	**17 15 40.6**	**-2.7**
YOTC	**Yotoco, Valle**	**4.30**	**229**	P	**Pn**	**17 14 57.7**	**+0.8**
YOTC				S	**Sn**	**17 15 47.0**	**-0.1**
GUVC	**San Jose del G**	**4.31**	**174**	P	**Pn**	**17 14 56.9**	**+0.1**
GUVC				S	**Sn**	**17 15 44.7**	**-2.4**
CAPC	**Capurgana**	**4.56**	**293**	P	**Pn**	**17 14 59.3**	**-0.8**
CAPC				S	**Sn**	**17 15 49.6**	**-3.3**
MACC	**Macarena, Meta**	**4.74**	**189**	P	**Pn**	**17 15 01.5**	**-1.0**
MACC				S	**Sn**	**17 15 53.6**	**-3.6**
URIC	**Uribia, Colomb**	**4.94**	**13**	P	**Pn**	**17 15 05.1**	**0.0**
URIC				S	**Sn**	**17 16 01.7**	**-0.2**
GARC	**Garzon, Huila**	**5.21**	**207**	P	**Pn**	**17 15 08.3**	**-0.7**
GARC				S	**Sn**	**17 16 06.1**	**-2.6**
BAUV	**El Baul**	**5.43**	**67**	*e*P	**Pn**	**17 15 10.5**	**-1.1**
BAUV	**El Baul**	**5.43**	**67**	*e*S	**Sn**	**17 16 09.8**	**-3.7**
FLOC	**Florencia**	**5.82**	**206**	P	**Pn**	**17 15 17.0**	**+0.2**
FLOC				S	**Sn**	**17 16 22.3**	**-0.6**

*IDC **04** 17:16:54.9±53.0,21°.09S×174°.86W,h0km,mb4.2/3, mbtmp4.2/3,Error ellipse: s-maj=1005.0km s-min=165.5km az=85.0*
*NEIC **04** 17:16:59.9±2.3,22°.9S±0°.2×174°.9W±0°.1,h10km±2km, mb4.7/17,Error ellipse: s-maj=32.9km s-min=17.4km az=158.0*
ISC 04 17:16:59.7±0.9,22°.9S±0°.2×175°.0W±0°.1,h10km,n22, σ0s98/22,mb4.7/12,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.03**	**52**	Pn	**Pn**	**17 18 29.1**	**+0.1**
DZM	**Mont Dzumac**	**17.20**	**269**		**Pn**	**17 20 59.8**	**-0.5**
ARMA	**Armidale**	**30.71**	**249**	P	**P**	**17 23 15.8**	**+0.7**
ARMA				IAmb	IAmb	17 23 57.2	
comp=Z,17nm,1.4s							
EIDS	**Eidsvold**	**31.04**	**258**	P	**P**	**17 23 18.3**	**+0.4**
EIDS				IAmb	IAmb	17 23 19.0	
comp=Z,17nm,1.5s							
CTAO	**Charters Tower**	**36.12**	**267**	P	**P**	**17 24 03.0**	**+0.8**
CTAO				IAmb	IAmb	17 24 03.8	
comp=Z,8.9nm,0.6s							
PMG	**Port Moresby**	**38.62**	**284**	P	**P**	**17 24 23.1**	**-0.4**
PMG				IAmb	IAmb	17 24 26.8	
comp=Z,16nm,0.9s							
STKA	**Stephens Creek**	**39.39**	**247**	P	**P**	**17 24 28.6**	**-1.2**
STKA	**Stephens Creek**	**39.39**	**247**	P	**P**	**17 24 32.0**	**+2.2**
comp=Z,2.7nm,0.7s,baz=96,slow=12,SNR=8.2							
comp=Z,2.7nm,0.7s							
BBOO	**Buckleboo**	**44.09**	**246**	P	**P**	**17 25 08.2**	**-0.1**
BBOO				IAmb	IAmb	17 25 39.8	
comp=Z,18nm,1.4s							
AS31	**Alice Springs**	**46.76**	**258**	P	**P**	**17 25 30.2**	**+0.5**
ASAR	**Alice Springs**	**46.77**	**258**	P	**P**	**17 25 29.7**	**+0.1**
ASAR	**Alice Springs**	**46.77**	**258**	P	**P**	**17 25 30.1**	**+0.5**
comp=Z,1.5nm,0.6s,baz=91,slow=6.4,SNR=65							
comp=Z,1.5nm,0.6s							
WR0	**Warramunga Arr**	**46.91**	**264**	P	**P**	**17 25 29.2**	**-1.6**
WR0				IAmb	IAmb	17 25 49.4	
comp=Z,5.9nm,1.3s							
WB2	**Warramunga Arr**	**47.09**	**264**	P	**P**	**17 25 30.4**	**-1.8**
WB2				IAmb	IAmb	17 25 46.4	
comp=Z,3.7nm,1.1s							
WB0	**Warramunga Arr**	**47.09**	**264**	P	**P**	**17 25 31.5**	**-0.7**
WB0				IAmb	IAmb	17 25 32.3	
comp=Z,5.4nm,0.8s							
WRA	**Warramunga Arr**	**47.10**	**264**	P	**P**	**17 25 32.2**	**0.0**
comp=Z,2.9nm,0.6s,baz=95,slow=8.3,SNR=124							
comp=Z,2.9nm,0.6s							
FORT	**Forrest**	**50.99**	**248**	P	**P**	**17 26 02.6**	**+0.6**
FORT				IAmb	IAmb	17 26 06.2	
comp=Z,11nm,0.9s							
KNRA	**Kununurra**	**53.33**	**267**	P	**P**	**17 26 20.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**55.53**	**263**	P	**P**	**17 26 34.2**	**-1.3**
SBA	**Scott Base**	**55.74**	**185**	P	**P**	**17 26 36.1**	**-0.1**
MBWA	**Marble Bar**	**60.10**	**258**	P	**P**	**17 27 06.9**	**-0.7**
CASY	**Casey**	**63.07**	**206**	P	**P**	**17 27 26.5**	**-0.4**

*IDC **04** 17:47:48.1±0.9,10°.36S×107°.06E,h0km,mb3.9/10, mbtmp4.0/12,ML4.0/2,MS3.2/2,Error ellipse: s-maj=43.5km s-min=14.5km az=55.0*
*DJA **04** 17:47:49.6±0.3,10°.5±3°.×10°.7E±°,h10km,M4.6/20, mb4.6/10,mB5.5/2,MLv4.5/20,Mw(mB)5.0/2*
ISC 04 17:47:49.3±0.6,10°.25S±0°.06×107°.11E±0°.05,h10km,n46, σ1s55/44,mb4.0/10,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMI	**Christmas Isla**	**1.41**	**262**	P	**Pg**	**17 48 15.2**	**-1.2**
XMIS	**Christmas Isla**	**1.45**	**261**	P	**Pn**	**17 48 15.2**	**-0.4**
CMJI	**Cimerak**	**2.79**	**29**	P	**Pn**	**17 48 32.9**	**-1.1**
CMJI				S	**Sn**	**17 49 00.4**	**-7.3**
BBJI	**Bungbulang**	**2.82**	**11**	P	**Pn**	**17 48 33.6**	**-1.0**
CNJI	**Cibinong**	**2.92**	**0**	P	**Pn**	**17 48 35.5**	**-0.4**
SKJI	**Sukabumi**	**3.27**	**350**	P	**Pn**	**17 48 41.3**	**+0.6**
SKJI				S	**Sn**	**17 49 16.6**	**-3.1**
KPJI	**Karang Pucung**	**3.41**	**32**	P	**Pn**	**17 48 43.0**	**+0.3**
KPJI				S	**Sn**	**17 49 23.3**	**+0.1**
LEM	**Lembang**	**3.44**	**8**	Pn	**Pn**	**17 48 44.0**	**+0.8**
35nm,0.3s,baz=38,slow=11,SNR=32							
LEM				Sn	**Sn**	**17 49 25.5**	**+1.4**
52nm,0.3s,baz=351,slow=20,SNR=12							
164nm,0.6s							
LEM	**Lembang**	**3.44**	**8**

H08S3	**Diego Garcia H**	**34.29 271**	T	T	18 29 30.7	
	baz=97,slow=75,SNR=5.9					
H08S1	**Diego Garcia H**	**34.30 271**	T	T	18 29 34.4	
	baz=97,slow=75,SNR=3.9					
STKA	**Stephens Creek**	**38.45 129**	P	**P**	**17 55 12.2**	**+0.6**
	3.2nm,0.6s,baz=306,slow=9.1,SNR=7.5					
	3.2nm,0.6s					
SONM	**Songino Array**	**57.83 359**	P	**P**	**17 57 42.0**	**+0.8**
	0.7nm,0.6s,baz=175,slow=7.7,SNR=5.8					
	0.7nm,0.6s					
H04N2	**CROZET ISLANDS**	**58.90 222**	T	T	19 00 51.0	
	baz=69,slow=75,SNR=5.6					
H04N1	**CROZET ISLANDS**	**58.92 222**	T	T	19 00 50.2	
	baz=69,slow=75,SNR=3.8					
H04N3	**CROZET ISLANDS**	**58.92 222**	T	T	19 00 49.8	
	baz=69,slow=75,SNR=5.1					
MKAR	**Makanchi Array**	**60.97 341**	P	**P**	**17 58 03.8**	**+1.0**
	1.3nm,0.7s,baz=140,slow=8.3,SNR=16					
	1.3nm,0.7s					
KURBB	**Kurchatov Arra**	**65.53 340**	P	**P**	**17 58 34.3**	**+1.5**
	1.5nm,0.5s,baz=160,slow=5.2,SNR=16					
	1.5nm,0.5s					
ZALV	**Zalesovo Beam**	**66.69 346**	P	**P**	**17 58 41.0**	**+0.7**
	0.6nm,0.5s,baz=168,slow=7.4,SNR=3.6					
	0.6nm,0.5s					
KMBO	**Kilima Mbogo**	**69.98 273**	LR	LR	18 27 08.2	
	comp=Z,56nm,18.4s,baz=92,slow=34					
BVAR	**Borovoye Array**	**70.39 337**	P	**P**	**17 59 03.1**	**-0.3**
	1.3nm,0.6s,baz=143,slow=10.0,SNR=6.5					
	1.3nm,0.6s					
QSPA	**South Pole Qui**	**79.76 180**	P	**P**	**17 59 56.8**	**-0.8**
	0.8nm,0.9s,baz=335,slow=0.8,SNR=1.0					
	0.8nm,0.9s					
TXAR	**Lajitas Array**	**145.55 52**	PKPbc	**PKPab**	**18 07 30.4**	**+1.4**
	0.8nm,0.8s,baz=259,slow=2.6,SNR=7.6					

*ISK **04** 17:54:09.5,36°.44N×28°.72E,h2km,ML3.1/28*
*AFAD **04** 17:54:10.6±0.0,36°.45N×28°.71E,h7km±3km,ML2.8*
*ATH **04** 17:54:10.6,36°.41N×28°.78E,h6km±2km,ML2.9/3,Error ellipse: s-maj=3.2km s-min=1.8km az=185.0*

ISC 04 17:54:10.7±1.1,36°.43N±0°.03×28°.72E±0°.02,h9km±9km, n62,σ0§61/86,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.36**	**56**	Pg	**Pg**	**17 54 17.3**	**-0.5**
FETY				Sg	**Sg**	**17 54 23.4**	**+0.9**
DALY	**Dalyan (Mula)**	**0.39**	**352**	Pg	**Pg**	**17 54 17.9**	**-0.4**
DALY				Sg	**Sg**	**17 54 24.3**	**+0.9**
SABU	**Mula-Dalaman**	**0.44**	**27**	P	**Pg**	**17 54 19.2**	**-0.1**
SABU				S	**Sg**	**17 54 25.7**	**+0.7**
MRSB	**Marmaris-Mugla**	**0.51**	**304**	Pg	**Pg**	**17 54 20.4**	**-0.1**
TURN	**Turunc**	**0.51**	**312**	P	**Pg**	**17 54 20.2**	**-0.4**
TURN				S	**Sg**	**17 54 27.4**	**+0.1**
TURN	**Turunc**	**0.51**	**312**	Pg	**Pg**	**17 54 20.2**	**-0.4**
TURN				Sg	**Sg**	**17 54 27.9**	**+0.6**
ARG	**Arkhangelos**	**0.53**	**246**	P	**Pg**	**17 54 20.6**	**-0.2**
ARG				S	**Sb**	**17 54 29.6**	**-0.2**
ARG				AML	AML	17 54 32.0	
	comp=N,1270μm,0.3s						
ARG				AML	AML	17 54 32.6	
	comp=E,2125μm,0.3s						
CAME	**Cameli-Denizli**	**0.69**	**43**	Pg	**Pg**	**17 54 23.5**	**-0.6**
CAME				Sg	**Sb**	**17 54 34.5**	**-0.3**
AKAS	**Kas**	**0.74**	**105**	P	**Pg**	**17 54 25.3**	**+0.3**
AKAS				S	**Sb**	**17 54 36.2**	**-0.1**
AKAS				*i* AML	AML	17 54 44.0	
	comp=E,585nm,0.4s						
AKAS	**Kas**	**0.74**	**105**	Pg	**Pg**	**17 54 25.2**	**+0.1**
YER	**Yerkesik**	**0.78**	**334**	Pg	**Pg**	**17 54 25.6**	**-0.2**
KNIK	**Mula-Seydike**	**0.80**	**59**	P	**Pg**	**17 54 26.0**	**-0.2**
KNIK				S	**Sg**	**17 54 36.7**	**+0.1**
KNIK				*i* AML	AML	17 54 41.0	
	comp=E,271nm,0.4s						
KNIK				*i* AML	AML	17 54 43.0	
	comp=E,274nm,0.5s						
CAEL	**Denizli, Camel**	**0.84**	**35**	P	**Pg**	**17 54 27.2**	**+0.3**
CAEL				S	**Sg**	**17 54 35.8**	**-2.1**
CAEL				*i* AML	AML	17 54 49.0	
	comp=E,356nm,1.0s						
DNZT	**Denizli-Tavas-**	**0.88**	**16**	P	**Pg**	**17 54 27.3**	**-0.4**
DNZT				S	**Sg**	**17 54 39.1**	**0.0**
MULA	**Mugla, Merkez-**	**0.88**	**339**	P	**Pg**	**17 54 27.8**	**+0.2**
DATC	**Datca-Mugla**	**0.91**	**291**	Pg	**Pg**	**17 54 27.9**	**-0.3**
DAT	**Datca**	**0.96**	**288**	P	**Pg**	**17 54 28.9**	**-0.3**
DAT				S	**Sb**	**17 54 43.5**	**+0.9**
DAT				*i* AML	AML	17 54 50.0	
	comp=E,335nm,0.7s						
DAT				*i* AML	AML	17 54 52.0	
	comp=E,310nm,0.4s						
DAT	**Datca**	**0.96**	**288**	Pg	**Pg**	**17 54 29.2**	**0.0**
DEMR	**Demre-Antalya**	**0.98**	**101**	Pg	**Pg**	**17 54 28.9**	**-0.6**
ELL	**Elmali**	**1.01**	**72**	Pg	**Pg**	**17 54 29.7**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.04**	**9**	P	**Pb**	**17 54 31.2**	**+0.2**
TAVA				S	**Sn**	**17 54 46.1**	**-0.4**
TAVA				*i* AML	AML	17 54 51.0	
	comp=E,277nm,0.4s						
YAZI	**Mula-Dat§a-**	**1.05**	**284**	P	**Pg**	**17 54 30.3**	**-0.5**
APMY	**Acipayam-Deniz**	**1.14**	**24**	Pn	**Pg**	**17 54 31.9**	**-0.7**
BDRM	**Kayabasi**	**1.20**	**302**	P	**Pg**	**17 54 33.5**	**-0.2**
BDRM				*i* AML	AML	17 54 54.0	
	comp=E,210nm,0.4s						
DNIZ	**Denizli-Tavas-**	**1.22**	**12**	P	**Pg**	**17 54 33.7**	**-0.4**
DNIZ				S	**Sn**	**17 54 50.9**	**+0.2**
BODT	**Bodrum**	**1.29**	**299**	Pn	**Pn**	**17 54 35.1**	**+0.1**
NISR	**Nisiros**	**1.29**	**278**	P	**Pn**	**17 54 34.8**	**-0.1**
NISR				S	**Sn**	**17 54 53.4**	**+1.0**
NISR				AML	AML	17 54 59.7	
	comp=N,672μm,0.6s						
NISR				AML	AML	17 55 01.8	
	comp=E,977μm,0.5s						
AKUM	**Antalya-Kumluc**	**1.32**	**94**	P	**Pg**	**17 54 36.1**	**+0.1**
AKUM				*i* AML	AML	17 55 03.0	
	comp=E,153nm,0.4s						
YKAV	**Yalikavak-Bodr**	**1.34**	**301**	Pn	**Pg**	**17 54 36.3**	**-0.2**
ESEN	**Aydn-Nazilli**	**1.39**	**348**	P	**Pn**	**17 54 36.7**	**+0.4**
ESEN				S	**Sb**	**17 54 53.1**	**-1.8**
ESEN				*i* AML	AML	17 55 00.0	
	comp=E,165nm,0.4s						
KORT	**Korkueli**	**1.43**	**66**	P	**Pg**	**17 54 39.0**	**+0.8**
KORT				S	**Sg**	**17 54 58.5**	**+1.8**
KORT	**Korkueli**	**1.43**	**66**	Pn	**Pg**	**17 54 38.9**	**+0.8**
INCE	**Denizli-Bozkur**	**1.45**	**28**	P	**Pg**	**17 54 38.2**	**-0.3**
INCE				S	**Sg**	**17 54 57.6**	**+0.3**
INCE				*i* AML	AML	17 55 02.0	
	comp=E,195nm,0.5s						
INCE				*i* AML	AML	17 55 03.0	
	comp=E,181nm,0.5s						
KLNA	**Kalymnos**	**1.50**	**291**	P	**Pb**	**17 54 38.5**	**-0.1**
KLNA				S	**Sn**	**17 54 57.6**	**+0.1**
DIDI	**Didim-Aydin**	**1.51**	**309**	Pn	**Pn**	**17 54 38.3**	**+0.3**
KARP	**Karpathos**	**1.54**	**235**	Pn	**Pn**	**17 54 38.9**	**+0.4**
KARP	**Karpathos**	**1.54**	**235**	P	**Pn**	**17 54 38.7**	**+0.2**
KARP				S	**Sn**	**17 54 57.9**	**-0.8**
KARP				AML	AML	17 55 06.9	
	comp=N,861μm,0.8s						
KARP				AML	AML	17 55 09.9	
	comp=E,701μm,0.4s						
DDIM	**Aydin, Didim**	**1.56**	**311**	P	**Pb**	**17 54 39.5**	**-0.3**
DDIM				S	**Sg**	**17 55 01.4**	**+0.5**
DDIM				*i* AML	AML	17 55 09.0	
	comp=E,191nm,1.0s						
DDIM				*i* AML	AML	17 55 18.0	
	comp=E,182nm,0.9s						
NAZL	**Nazilli-Aydin**	**1.56**	**348**	Pn	**Pn**	**17 54 39.4**	**+0.6**
ANTB	**Antalya**	**1.62**	**73**	Pn	**Pn**	**17 54 39.4**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.65**	**337**	Pn	**Pn**	**17 54 40.7**	**+0.7**
BRDR	**BURDUR-Merkez**	**1.66**	**40**	P	**Pb**	**17 54 41.4**	**+0.1**
BRDR				S	**Sg**	**17 55 04.4**	**+0.4**
BRDR				*i* AML	AML	17 55 14.0	
	comp=E,86nm,0.6s						
BRDR				*i* AML	AML	17 55 17.0	
	comp=E,82nm,1.0s						
BUCA	**Burdur, Bucak-**	**1.73**	**58**	P	**Pb**	**17 54 42.8**	**+0.2**
GCAM	**G?zelcaml?**	**1.73**	**317**	P	**Pn**	**17 54 41.6**	**+0.5**
GCAM				S	**Sn**	**17 55 03.8**	**+0.5**
GCAM	**G?zelcaml?**	**1.73**	**317**	Pn	**Pn**	**17 54 41.6**	**+0.5**
KIRA	**zmir-Kiraz**	**1.78**	**352**	P	**Pb**	**17 54 43.1**	**-0.4**
KIRA				S	**Sn**	**17 55 04.1**	**-0.5**
KIRA				*i* AML	AML	17 55 15.0	
	comp=E,77nm,0.6s						
IZMR	**zmir-demi**	**1.81**	**340**	P	**Pb**	**17 54 43.4**	**-0.5**
BCK	**Bucak**	**1.82**	**55**	Pn	**Pn**	**17 54 42.9**	**+0.6**
BASM	**Basmaki-Afyon**	**1.82**	**35**	Pn	**Pn**	**17 54 42.7**	**+0.3**
SMG	**Samos**	**1.97**	**311**	P	**Pn**	**17 54 44.5**	**+0.1**
ISP	**Isparta**	**2.00**	**46**	Pn	**Pn**	**17 54 45.4**	**+0.6**
PASA	**Karahalli, USA**	**2.01**	**18**	P	**Pb**	**17 54 46.3**	**-1.1**
KULA	**Kula-Manisa**	**2.08**	**359**	Pn	**Pn**	**17 54 46.6**	**+0.7**
GMLD	**Gumuldur**	**2.18**	**319**	Pn	**Pn**	**17 54 47.9**	**+0.7**
BLCB	**Balcova**	**2.36**	**326**	Pn	**Pn**	**17 54 50.4**	**+0.7**
ZKR	**Zakros**	**2.42**	**238**	P	**Pn**	**17 54 50.7**	**+0.2**
GORD	**Gordes-Manisa**	**2.51**	**350**	Pn	**Pn**	**17 54 52.6**	**+0.8**
APE	**Apeiranthos**	**2.64**	**285**	P	**Pn**	**17 54 54.0**	**+0.5**
CHOS	**Chios island**	**2.88**	**313**	P	**Pn**	**17 54 57.6**	**+0.7**
AKMS	**Akamas**	**3.27**	**115**	P	**Pn**	**17 55 01.5**	**-0.6**
IDI	**Anoyia**	**3.31**	**251**	P	**Pn**	**17 55 03.3**	**+0.5**
NATA	**Nata**	**3.55**	**117**	P	**Pn**	**17 55 05.2**	**-0.8**

JMA 04 18:02:22.0±0.0,35°.1N±0°.1×133°.1E±0°.1,h9km,MV-0.1/12, SHIMANE HIROSHIMA BORDER,Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHS	**Saijyo**	**0.09**	**182**	*i* P	Pg	18 02 24.4	0.0
JHS				*e*S	Sg	18 02 26.0	-0.1
JGT2	**ShimaneMisato**	**0.50**	**267**	*e*P	Pg	18 02 31.7	-0.1
JGT2				S	Sg	18 02 38.5	0.0

*MOS **04** 18:02:39.8±1.1,38°.77N×141°.89E,h59km,mb4.6/10,Error ellipse: s-maj=9.9km s-min=6.4km az=94.5*
*NEIC **04** 18:02:41.6±1.8,38°.74N±0°.07×141°.9E±0°.1,h57km±8km, mb4.6/33,Error ellipse: s-maj=15.0km s-min=7.0km az=122.0*
*IDC **04** 18:02:41.4±1.8,38°.71N×141°.92E,h61km±15km,mb3.8/20, mbtmp4.2/26,MS3.2/5,Error ellipse: s-maj=15.2km s-min=10.8km az=108.0*
*NIED **04** 18:02:42.0,38°.69N×141°.87E,h64km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr0.73; Mθθ0.52; Mφφ-1.26; Mrθ0.34; Mθφ-0.66; Mφr-0.92; Fault plane solution: Mo1.59000×1015 NP1: φs166.00000°,δ72.00000°,λ52.00000°. NP2:φs55.00000°, δ42.00000°,λ153.00000°.*
*JMA **04** 18:02:42.0±0.1,38°.7N±0°.2×141°.9E±0°.5,h64km,MD4.1/40, MV4.3/40,KINKAZAN REGION*
JMA Felt II J1 at KINKAZAN REGION .

ISC 04 18:02:40.7±0.6,38°.67N±0°.04×142°.07E±0°.05,h59km±4km, n155,σ1§34/153,mb4.4/41,MS3.5/4,3C-13D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.49**	**287**	P	**Pn**	**18 02 52.9**	**+0.5**
JKMT				S	**Sn**	**18 03 00.6**	**-0.3**
JKMT	**Kesennumamotoy**	**0.49**	**287**	A	A	18 02 52.9	
	comp=E,9.0nm,0.7s,comp=N,18nm,4.5s						
OFUJ	**Ofunato**	**0.52**	**323**	P	**Pn**	**18 02 53.6**	**+0.9**
OFUJ				S	**Sn**	**18 03 01.9**	**+0.5**
OFUJ	**Ofunato**	**0.52**	**323**	A	A	18 02 53.6	
	comp=E,5.0nm,5.3s,comp=N,10.0nm,0.8s						
JIKH	**Ishinomakikobu**	**0.59**	**233**	P	**Pn**	**18 02 54.2**	**+0.7**
JIKH				S	**Sn**	**18 03 02.9**	**0.0**
JIO	**Ouri**	**0.60**	**250**	P	**Pn**	**18 02 54.1**	**+0.4**
JIO				S	**Sn**	**18 03 02.5**	**-0.6**
JIO	**Ouri**	**0.60**	**250**	A	A	18 02 54.1	
	comp=E,17nm,0.2s,comp=N,8.0nm,0.2s						
JMK	**Ichinoseki**	**0.72**	**293**	P	**Pn**	**18 02 55.2**	**+0.1**
JMK				S	**Sn**	**18 03 04.7**	**-0.9**
JMK	**Ichinoseki**	**0.72**	**293**	A	A	18 02 55.2	
	comp=E,38nm,0.9s,comp=N,21nm,1.0s						
JOFO	**Osakifurukawao**	**0.91**	**266**	A	A	18 02 57.2	
	comp=E,50nm,0.9s,comp=N,33nm,0.3s						
JOM	**Ohasama**	**1.01**	**323**	⇓P	**Pn**	**18 02 59.1**	**+0.4**
JOM				⇓S	**Sn**	**18 03 11.8**	**-0.2**
JOM	**Ohasama**	**1.01**	**323**	A	A	18 02 59.1	
	comp=E,20nm,0.3s,comp=N,13nm,1.0s						
JOU	**Okura**	**1.14**	**255**	P	**Pn**	**18 03 00.3**	**-0.2**
JOU				S	**Sn**	**18 03 13.8**	**-1.6**
JOU	**Okura**	**1.14**	**255**	A	A	18 03 00.3	
	comp=E,15nm,0.6s,comp=N,18nm,0.7s						
JTH	**Tanohata**	**1.28**	**353**	A	A	18 03 03.8	
	comp=E,5.0nm,0.4s,comp=N,5.0nm,1.3s						
JMM	**Marumori**	**1.28**	**232**		**Pn**	**18 03 02.1**	**-0.3**
JMM				Sn	**Sn**	**18 03 17.2**	**-1.4**
JMM	**Marumori**	**1.28**	**232**	P	**Pn**	**18 03 02.5**	**+0.1**
JMM	**Marumori**	**1.28**	**232**	P	**Pn**	**18 03 02.2**	**-0.3**
JMM				S	**Sn**	**18 03 17.0**	**-1.7**
JMM	**Marumori**	**1.28**	**232**	A	A	18 03 02.2	
	comp=E,5.0nm,0.7s,comp=N,7.0nm,0.4s						
JMST	**Minamisoumatoc**	**1.32**	**225**	A	A	18 03 03.6	
	comp=E,13nm,1.1s,comp=N,8.0nm,1.0s						
JRG	**Rokugo**	**1.33**	**304**	⇓P	**Pn**	**18 03 02.8**	**-0.3**
JRG				⇓*e*S	**Sn**	**18 03 18.6**	**-1.3**
JRG	**Rokugo**	**1.33**	**304**	A	A	18 03 02.8	
	comp=E,9.0nm,0.5s,comp=N,6.0nm,0.9s						
JYK	**Kaneyama**	**1.36**	**281**	⇓P	**Pn**	**18 03 03.0**	**-0.4**
JYK				⇓*e*S	**Sn**	**18 03 19.0**	**-1.4**
JYK	**Kaneyama**	**1.36**	**281**	A	A	18 03 03.0	
	comp=E,7.0nm,2.1s,comp=N,7.0nm,1.5s						
JSZI	**Iwateshizukuis**	**1.38**	**321**	A	A	18 03 04.0	
	comp=E,6.0nm,5.2s,comp=N,8.0nm,4.0s						
JKEN	**Kujiedanarisaw**	**1.56**	**350**	A	A	18 03 07.5	
	comp=E,8.0nm,0.4s,comp=N,12nm,0.9s						
JFK	**Kawauchi**	**1.60**	**216**	P	**Pn**	**18 03 07.2**	**+0.4**
JFK				S	**Sn**	**18 03 26.0**	**-0.5**
JFK	**Kawauchi**	**1.60**	**216**	A	A	18 03 07.2	
	comp=E,7.0nm,0.5s,comp=N,6.0nm,0.4s						
JYS	**Shirataka**	**1.63**	**255**	⇓P	**Pn**	**18 03 07.1**	**-0.1**
JYS				⇓S	**Sn**	**18 03 26.3**	**-0.9**
JYS	**Shirataka**	**1.63**	**255**	A	A	18 03 07.1	
	comp=E,20nm,0.6s,comp=N,16nm,1.0s						
JYW	**Yuwa**	**1.69**	**302**	A	A	18 03 07.9	
	comp=E,9.0nm,1.3s,comp=N,10.0nm,1.0s						
JYAR	**Yonezawaarcadi**	**1.69**	**244**	A	A	18 03 08.1	
	comp=E,10.0nm,0.5s,comp=N,11nm,0.6s						
JANG	**Nango**	**1.76**	**346**	A	A	18 03 10.1	
	comp=E,2.0nm,1.7s,comp=N,3.0nm,2.4s						
JOTO	**OTAMA OYAMA**	**1.76**	**232**	A	A	18 03 09.4	
	comp=E,7.0nm,1.1s,comp=N,7.0nm,0.4s						
JYA	**Atsumi**	**1.84**	**268**	A	A	18 03 09.9	
	comp=E,6.0nm,1.8s,comp=N,5.0nm,0.3s						
ONAJ	**Iwakimizuishiy**	**1.86**	**213**	A	A	18 03 11.3	
	comp=E,10.0nm,0.3s,comp=N,12nm,0.3s						
JNTW	**Noshirotokiwa**	**2.18**	**318**	A	A	18 03 15.0	
	comp=E,5.0nm,2.7s,comp=N,6.0nm,2.6s						
JTM	**Tenmabayashi**	**2.25**	**340**	Pn	**Pn**	**18 03 16.4**	**+0.8**
JTM	**Tenmabayashi**	**2.25**	**340**	P	**Pn**	**18 03 16.5**	**+1.0**
JOG3	**Oga3**	**2.63**	**299**	A	A	18 03 14.4	
	comp=E,2.0nm,5.4s,comp=N,3.0nm,4.7s						
JSD	**Sado**	**3.06**	**259**	Pn	**Pn**	**18 03 25.0**	**-1.5**
ERM	**Erimo**	**3.44**	**14**	Pn	**Pn**	**18 03 32.3**	**+0.5**
ERM	**Erimo**	**3.44**	**14**	P	**Pn**	**18 03 32.3**	**+0.5**
ERM	**Erimo**	**3.44**	**14**	P	**Pn**	**18 03 32.3**	**+0.5**
MJAR	**Matsushiro Arr**	**3.73**	**236**	P	**Pn**	**18 03 36.8**	**+1.0**
	comp=N,15nm,0.5s,baz=32,slow=13,SNR=196						
MJAR				S	**Sn**	**18 04 22.0**	**+3.6**
	comp=N,22nm,0.8s,baz=78,slow=15,SNR=5.7						
MAJO	**Matsushiro**	**3.73**	**237**	Pn	**Pn**	**18 03 37.4**	**+1.6**
MAJO	**Matsushiro**	**3.73**	**237**	P	**Pn**	**18 03 37.8**	**+2.1**
MAJO	**Matsushiro**	**3.73**	**237**	*d* iP	**Pn**	**18 03 37.3**	**+1.6**
MJB9	**Matsu-Tunnel**	**3.73**	**237**		**Pn**	**18 03 39.0**	**+3.3**
JGF	**Kuroka**	**4.85**	**232**	Pn	**Pn**	**18 03 52.9**	**+1.8**
JGF	**Kuroka**	**4.85**	**232**	P	**Pn**	**18 03 53.1**	**+1.9**
INU	**Inuyama**	**5.23**	**232**	Pn	**Pn**	**18 03 57.6**	**+1.4**
INU	**Inuyama**	**5.23**	**232**	P	**Pn**	**18 03 57.9**	**+1.7**
ASAJ	**Asahikawa**	**5.46**	**4**	P	**Pn**	**18 03 59.4**	**0.0**
	comp=N,20nm,0.3s,baz=218,slow=9.8,SNR=73						
ASAJ				S	**Sn**	**18 04 59.9**	**-0.9**
	comp=N,16nm,0.4s,baz=166,slow=26,SNR=4.7						
JKA	**Kamikawa-asahi**	**5.46**	**4**	Pn	**Pn**	**18 03 59.5**	**+0.2**
JHJ2	**Mitsune**	**5.84**	**199**	P	**Pn**	**18 04 04.0**	**-0.6**
JHJ	**Hachijo jima 2**	**5.84**	**199**	P	**Pn**	**18 04 04.8**	**+0.2**
	comp=N,55nm,0.3s,baz=135,slow=20,SNR=11						
JHJ				S	**Sn**	**18 05 06.9**	**-3.3**
	comp=N,130nm,0.3s,baz=89,slow=23,SNR=7.8						
YUK	**Yuzh-Kuril'sk**	**6.07**	**27**	*c iP*	**Pn**	**18 04 07.0**	**-0.8**
YUK				*i* S	**Sn**	**18 05 12.4**	**-3.5**
YUK				pmax	pmax		
	comp=Z,87nm,0.4s						
YUK				pmax	pmax		
	comp=N,14nm,0.2s						
YUK				pmax	pmax		
	comp=E,14nm,0.2s						
YUK				smax	smax		
	comp=E,447nm,0.4s						
YUK				smax	smax		
	comp=N,680nm,0.5s						
SHO	**Shikotan**	**6.31**	**33**	*e*P	**Pn**	**18 04 10.4**	**-0.7**
SHO				*i* S	**Sn**	**18 05 16.0**	**-5.8**
SHO				pmax	pmax		
	comp=Z,38nm,0.7s						
SHO				pmax	pmax		
	comp=N,22nm,0.4s						
SHO				pmax	pmax		
	comp=E,22nm,0.6s						
SHO				smax	smax		
	comp=N,270nm,0.5s						
SHO				smax	smax		
	comp=E,186nm,0.3s						
TEY	**Ternei**	**7.56**	**329**	*e*P	Pn	18 04 34.7	+6.6
JMN	**Monobe**	**8.25**	**236**	P	**Pn**	**18 04 38.9**	**+1.2**
YSS	**Yuzh-Sakhalins**	**8.30**	**3**	Pn	**Pn**	**18 04 38.3**	**+0.1**
YSS	**Yuzh-Sakhalins**	**8.30**	**3**	P	**Pn**	**18 04 38.6**	**+0.4**
YSS	**Yuzh-Sakhalins**	**8.30**	**3**	*e*P	**Pn**	**18 04 38.0**	**-0.2**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
USA0B	**Ussuriysk Arra**	**9.37**	**309**		**Pn**	**18 04 53.2**	**+0.3**
USA0B	**Ussuriysk Arra**	**9.37**	**309**	⇑*e*P	**Pn**	**18 04 52.7**	**-0.2**
USRK	**Ussuriysk Ar.**	**9.37**	**309**	P	**Pn**	**18 04 52.0**	**-0.9**
	comp=Z,4.2nm,0.4s,baz=115,slow=14,SNR=16						
USRK				LR	LR	18 08 22.7	
	comp=Z,109nm,19.1s,baz=28,slow=37						
JNU	**Nakatsue**	**10.63**	**242**	Pn	**Pn**	**18 05 07.9**	**-2.3**
JNU	**Nakatsue**	**10.63**	**242**	P	**Pn**	**18 05 10.0**	**-0.2**
	comp=Z,6.9nm,0.7s,baz=57,slow=5.3,SNR=6.9						
KSRS	**Korea Array**	**11.22**	**268**	P	**Pn**	**18 05 17.9**	**-0.3**
	comp=Z,8.5nm,0.6s,baz=75,slow=14,SNR=47						
KSRS				S	**Sn**	**18 07 23.5**	**+1.5**
	comp=Z,2.5nm,0.8s,baz=79,slow=24,SNR=5.2						
KSRS				LR	LR	18 09 16.7	
	comp=Z,36nm,19.3s,baz=85,slow=36						
KSRS	**Korea Array**	**11.22**	**268**	*e*P	**Pn**	**18 05 21.2**	**+3.0**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSAR	**Wonju Array Be**	**11.25**	**268**		**Pn**	**18 05 17.0**	**-1.6**
KSAR	**Wonju Array Be**	**11.25**	**268**	P	**Pn**	**18 05 17.0**	**-1.6**
KS19	**Wonju Array Si**	**11.26**	**268**		**Pn**	**18 05 20.9**	**+2.2**
JCJ	**Chichijima**	**11.54**	**179**	P	Pn	18 05 14.2	-8.4
JCJ				S	Sn	18 07 15.7	-14
JCJ	**Chichijima**	**11.54**	**179**	P	**Pn**	**18 05 22.5**	**-0.2**
	comp=Z,214nm,1.3s						
ZEA	**Zeya**	**18.17**	**331**	*e*P	**P**	**18 06 46.2**	**-2.0**
ZEA				pmax	pmax		
	comp=N,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MA2	**Magadan**	**21.65**	**12**	P	**P**	**18 07 25.6**	**-0.3**
MA2	**Magadan**	**21.65**	**12**	P	**P**	**18 07 27.3**	**+1.4**
	comp=Z,23nm,0.9s,baz=220,slow=9.7,SNR=5.4						
	comp=Z,23nm,0.9s						
YAK	**Yakutsk**	**24.60**	**346**	P	**P**	**18 07 54.6**	**-0.4**
YAK	**Yakutsk**	**24.60**	**346**	⇓*e*P	**P**	**18 07 55.1**	**+0.1**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SEY	**Seymchan**	**25.09**	**11**	⇓*e*P	**P**	**18 08 01.5**	**+2.1**
SEY				pmax	pmax		
	comp=Z,38nm,2.5s						
ULN	**Ulaanbaatar**	**26.91**	**301**	P	**P**	**18 08 15.2**	**-1.1**
ULN	**Ulaanbaatar**	**26.91**	**301**	⇓*e*P	**P**	**18 08 16.2**	**0.0**
ULN				pmax	pmax		
	comp=Z,16nm,2.5s						
SONM	**Songino Array**	**27.34**	**301**	P	**P**	**18 08 19.4**	**-0.7**
SONM	**Songino Array**	**27.34**	**301**	P	**P**	**18 08 19.5**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=102,slow=8.9,SNR=9.5						
SONM				LR	LR	18 20 41.9	
	comp=Z,85nm,18.9s,baz=24,slow=40						
	comp=Z,0.7nm,0.4s						
SONM	**Songino Array**	**27.34**	**301**	*e*P	**P**	**18 08 21.0**	**+0.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ENH	**Enshi**	**28.02**	**263**	P	**P**	**18 08 24.4**	**-1.8**
ENH				IAmb	IAmb	18 08 27.0	
	comp=Z,16nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**28.59**	**124**	T	T	18 38 45.4	
	baz=316,slow=76,SNR=503						
H11N1	**WAKE ISLAND Hy**	**28.60**	**124**	T	T	18 38 56.2	
	baz=316,slow=76,SNR=337						
H11N3	**WAKE ISLA

BVAR	**Borovoye Array**	**49.87**	**311**	P	**P**	**18 11 27.2**	**-0.6**
	comp=Z,2.2nm,0.5s,baz=74,slow=7.7,SNR=12						
	comp=Z,2.2nm,0.5s						
I30M	**Mount Dempster**	**52.21**	**32**	P	**P**	**18 11 45.9**	**+0.6**
I30M				IAmb	IAmb	18 11 48.5	
	comp=Z,4.6nm,0.8s						
INK	**Inuvik**	**52.70**	**28**	P	**P**	**18 11 50.2**	**+1.5**
INK				pmax	pmax		
	comp=Z,5.0nm,2.8s						
KKAR	**Karatay Array**	**52.77**	**299**	P	**P**	**18 11 48.5**	**-1.2**
KKAR	**Karatay Array**	**52.77**	**299**	P	**P**	**18 11 48.5**	**-1.2**
SIMJ	**Simiganj**	**55.55**	**295**	P	**P**	**18 12 10.3**	**+0.2**
SIMJ				IAmb	IAmb	18 12 12.0	
	comp=Z,5.2nm,0.9s						
ARTI	**Arti**	**55.59**	**318**	P	**P**	**18 12 10.4**	**+0.4**
ARTI				IAmb	IAmb	18 12 26.1	
	comp=Z,4.5nm,0.6s						
ARTI	**Arti**	**55.59**	**318**	*d iP*	**P**	**18 12 09.8**	**-0.2**
ARTI				S	**S**	**18 19 52.3**	**+1.1**
ARTI				pmax	pmax		
	comp=Z,13nm,2.0s						
ABKAR	**Akbulak array**	**57.29**	**310**	P	**P**	**18 12 21.4**	**-0.7**
WRA	**Warramunga Arr**	**58.75**	**189**	P	**P**	**18 12 32.4**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=5.2,slow=6.8,SNR=19						
WRA				LR	LR	18 38 53.4	
	comp=Z,58nm,18.1s,baz=41,slow=37						
	comp=Z,0.6nm,0.5s						
SPITS	**Spitsbergen Ar**	**59.02**	**349**	P	**P**	**18 12 33.8**	**-0.1**
	comp=Z,8.0nm,0.9s,baz=191,slow=13,SNR=1.3						
	comp=Z,8.0nm,0.9s						
ASAR	**Alice Springs**	**62.48**	**188**	P	**P**	**18 12 58.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=10,slow=9.3,SNR=16						
	comp=Z,0.4nm,0.6s						
FINES	**FINESS Array B**	**67.61**	**332**	P	**P**	**18 13 30.4**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=32,slow=7.6,SNR=3.8						
	comp=Z,2.6nm,0.8s						
MNK	**Minsk**	**71.44**	**326**	*i* P	**P**	**18 13 53.4**	**-1.1**
	comp=E,17nm,0.8s						
MNK				*i* P	**P**	**18 13 53.4**	**-1.1**
	comp=N,11nm,0.8s						
MNK				*i* P	**P**	**18 13 53.4**	**-1.1**
	comp=Z,17nm,0.6s,baz=49						
MNK				*i* pP	**pP**	**18 14 09.8**	**-0.7**
MNK				*i* PP	**PP**	**18 16 32.3**	**-0.7**
MNK				*i* PPP	PPP	18 18 15.9	
MNK				*i* S	**S**	**18 23 07.8**	**-0.4**
MNK				*i* sS	**sS**	**18 23 36.1**	**+0.6**
MNK				*i* SS	**SS**	**18 27 44.4**	**+1.7**
MNK				*i* SSS	SSS	18 31 04.0	
MNK				*i* LQ	LQ	18 42 31.1	
MNK				*i* LR	LR	18 47 53.7	
MNK				*i* LRM	MLR	18 48 36.4	
	comp=E,182nm,13.4s						
MNK				*i* LRM	MLR	18 48 44.1	
	comp=N,208nm,16.4s						
MNK				*i* LRM	MLR	18 49 43.2	
	comp=Z,105nm,10.2s						
MNK	**Minsk**	**71.44**	**326**	*i* P	**P**	**18 13 53.3**	**-1.1**
MNK				*i* *PP	**pP**	**18 14 09.8**	**-0.7**
MNK				*i*		18 16 32.2	
MNK				*i* PPP	PPP	18 18 15.9	
MNK				*i* S	**S**	**18 23 07.7**	**-0.4**
MNK				*i* *SS	**sS**	**18 23 36.1**	**+0.6**
MNK				*i*		18 23 52.7	
MNK				*i* SS	**SS**	**18 27 44.3**	**+1.7**
MNK				pmax	pmax		
	comp=Z,17nm,0.6s						
MNK				pmax	pmax		
	comp=E,17nm,0.8s						
MNK				pmax	pmax		
	comp=N,11nm,0.8s						
MNK				MLR	MLR		
	comp=E,182nm,13.0s						
MNK				MLR	MLR		
	comp=N,208nm,16.0s						
MNK				MLR	MLR		
	comp=Z,105nm,10.0s						
HFS	**Hagfors**	**72.81**	**336**	P	**P**	**18 14 02.7**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=54,slow=7.6,SNR=7.9						
	comp=Z,1.1nm,0.4s						
NOA	**NORSAR Array B**	**72.88**	**337**	P	**P**	**18 14 02.6**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=32,slow=5.6,SNR=2.3						
	comp=Z,0.7nm,0.6s						
AKASG	**Malin Array Be**	**73.32**	**322**	P	**P**	**18 14 05.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=46,slow=6.4,SNR=5.0						
	comp=Z,0.3nm,0.3s						
AKASG	**Malin Array Be**	**73.32**	**322**	*ce* P	**P**	**18 14 07.0**	**+1.2**
NVAR	**Mina Array Bea**	**73.60**	**54**	P	**P**	**18 14 08.9**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=289,slow=7.1,SNR=4.8						
	comp=Z,0.4nm,0.6s						
DUG	**Dugway, Tooele**	**75.90**	**50**	P	**P**	**18 14 23.2**	**+2.1**
DUG				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PDAR	**Pinedale Array**	**76.16**	**46**	P	**P**	**18 14 23.6**	**+0.9**
PDAR	**Pinedale Array**	**76.16**	**46**	P	**P**	**18 14 24.0**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=261,slow=1.9,SNR=13						
	comp=Z,1.5nm,0.6s						
KWP	**Kalwaria Pacla**	**77.10**	**324**	P	**P**	**18 14 31.4**	**+3.8**
KWP	**Kalwaria Pacla**	**77.10**	**324**	P	**P**	**18 14 31.4**	**+3.8**
BRTR	**Keskin Array B**	**78.16**	**312**	P	**P**	**18 14 33.7**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=86,slow=5.3,SNR=2.3						
	comp=Z,0.4nm,0.6s						
TXAR	**Lajitas Array**	**88.72**	**53**	P	**P**	**18 15 29.6**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=296,slow=2.9,SNR=5.8						
	comp=Z,0.4nm,0.6s						
LPAZ	**La Paz**	**145.41**	**58**	*e* PKIKP	**PKPab**	**18 22 13.7**	**+0.3**
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SIV	**San Ignacio**	**149.62**	**48**	PKPbc	**PKiKP**	**18 22 24.9**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=206,slow=1.4,SNR=5.8						

RSNC 04 18:25:11.2±1.0, 4°N±5°×8°2W±°, h0km, M3.3, mb4.1, mB4.8, ML2.8, Mw(mB)4.1, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**3.32**	**19**	P	Pn	18 26 02.8	-1.7
CACAO				S	Sn	18 26 44.0	-0.7
GR1C	**Gorgona, Isla**	**3.98**	**107**	P	Pn	18 26 11.7	-1.8
GR1C				S	Sn	18 26 59.1	-1.7
MALC	**Bahia Malaga**	**4.63**	**92**	P	Pn	18 26 25.3	+2.9
BBAC	**Balboa, Cauca**	**5.18**	**114**	P	Pn	18 26 28.0	-2.3
	10.0nm,0.5s						
CUSE	**Cuicocha Este**	**5.25**	**137**	P	Pn	18 26 26.7	-4.8
JAMC	**Jamundi, Valle**	**5.37**	**100**	P	Pn	18 26 33.6	+0.7
	8.0nm,0.7s						
JAMC				S	Sn	18 27 36.0	+0.3
	8.0nm,0.7s						
GCUF	**Volcan Galeras**	**5.48**	**122**	P	Pn	18 26 32.6	-2.0
	9.1nm,0.7s						
YOTC	**Yotoco, Valle**	**5.62**	**92**	P	Pn	18 26 38.4	+2.3
	4.6nm,0.7s						
PLMC	**San Jos del P**	**5.71**	**83**	P	Pn	18 26 39.5	+2.0
	30nm,0.4s,825nm						

CATAC ***04*** *18:28:07.0±0.3, 12°.48N×87°.79W, h39km±5km, ML4.3*
SNET ***04*** *18:28:08.9±1.0, 12°.60N×87°.87W, h57km±38km, ML3.9*
UCR ***04*** *18:28:09.7±2.1, 12°.61N×87°.53W, h77km±31km, MW4.2*
IDC ***04*** *18:28:17.4±11.0, 13°.31N×87°.82W, h105km±90km, mb3.1/3, mbtmp3.5/4, Error ellipse: s-maj=233.8km s-min=81.3km az=26.0*

ISC 04 18:28:07.3±1.0, 12°.50N±0°.05×87°.79W±0°.03, h55km±11km, n100, σ0.80/149, mb3.4/3, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.52**	**26**	*i* P	**Pn**	**18 28 18.6**	**-0.7**
CSGN				IAML		18 28 31.5	
	comp=Z,3μm,1.0s						
EVIJ	**El Viejo**	**0.68**	**77**	*i* P	**Pn**	**18 28 20.3**	**-0.7**
EVIJ				*i* S	**Sn**	**18 28 30.9**	**-0.1**
EVIJ				IAML		18 28 33.1	
	comp=Z,18μm,1.0s						
CRIN	**San Cristobal**	**0.75**	**75**	*i* P	**Pn**	**18 28 22.2**	**+0.2**
CRIN				IAML		18 28 41.4	
	comp=Z,27μm,1.0s						
CRIN	**San Cristobal**	**0.75**	**75**	*e* P	**Pn**	**18 28 22.5**	**+0.4**
CRIN				*e* S	**Sn**	**18 28 34.6**	**+1.8**
CNCH	**Conchagua**	**0.77**	**357**	*e* P	**Pn**	**18 28 22.3**	**0.0**
CNCH				*e* S	**Sn**	**18 28 34.2**	**+0.9**
CNCH	**Conchagua**	**0.77**	**357**	*i* P	**Pn**	**18 28 22.2**	**-0.1**
CNCH				*i* S	**Sn**	**18 28 34.0**	**+0.7**
CNCH				IAML		18 28 37.0	
	comp=Z,13μm,1.0s						
AMPH	**Amapala**	**0.79**	**10**	*i* P	**Pn**	**18 28 22.5**	**0.0**
AMPH				*i* S	**Sn**	**18 28 33.3**	**-0.2**
LCND	**La Caada**	**0.81**	**353**	*e* P	**Pn**	**18 28 22.7**	**0.0**
LCND				*e* S	**Sn**	**18 28 34.6**	**+0.7**
LCND				IAML		18 28 37.0	
	comp=Z,7μm,0.4s						
LCND	**La Caada**	**0.81**	**353**	*i* P	**Pn**	**18 28 22.4**	**-0.3**
LCND				*i* S	**Sn**	**18 28 34.6**	**+0.7**
LCND				IAML		18 28 36.5	
	comp=Z,6μm,1.0s						
PLRN	**Geotermica Pol**	**1.00**	**85**	*i* P	**Pn**	**18 28 24.1**	**-1.2**
PLRN				*i* S	**Sn**	**18 28 37.2**	**-1.3**
PLRN				IAML		18 28 38.1	
	comp=Z,13μm,1.0s						
BLLM	**Bellamira**	**1.03**	**335**	*e* P	**Pn**	**18 28 25.9**	**+0.2**
CNRM	**Centro Naciona**	**1.03**	**339**	*e* P	**Pn**	**18 28 26.0**	**+0.4**
CNRM	**Centro Naciona**	**1.03**	**339**	*i* P	**Pn**	**18 28 25.7**	**0.0**
CNRM				*i* S	**Sn**	**18 28 40.0**	**+0.8**
CNRM				IAML		18 28 42.5	
	comp=Z,17μm,1.0s						
LCY	**Lacayo**	**1.04**	**332**	*e* P	**Pn**	**18 28 26.0**	**+0.2**
RANC	**El Ranchito**	**1.04**	**333**	*e* P	**Pn**	**18 28 26.1**	**+0.2**
RANC	**El Ranchito**	**1.04**	**333**	*i* P	**Pn**	**18 28 26.4**	**+0.5**
RANC				*i* S	**Sn**	**18 28 40.2**	**+0.5**
RANC				IAML		18 28 43.0	
	comp=Z,6μm,1.0s						
CNGA	**AI SSO del Vol**	**1.07**	**90**	*i* P	**Pn**	**18 28 25.7**	**-0.4**
CNGA				*i* S	**Sn**	**18 28 40.1**	**0.0**
CNGA				IAML		18 28 43.2	
	comp=Z,11μm,1.0s						
ILCN	**San Idelfonso**	**1.07**	**86**	*i* P	**Pn**	**18 28 25.8**	**-0.3**
ILCN				*i* S	**Sn**	**18 28 39.7**	**-0.4**
ILCN				IAML		18 28 41.5	
	comp=Z,3μm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.15**	**95**	*i* P	**Pn**	**18 28 27.1**	**-0.1**
LEVN				*i* S	**Sn**	**18 28 41.7**	**-0.4**
LEVN				IAML		18 28 45.3	
	comp=Z,5μm,1.0s						
TECA	**Tecapa**	**1.20**	**325**	*e* P	**Pn**	**18 28 28.2**	**+0.1**
TECA				*e* P		18 28 28.4	
TECA				*e* S	**Sn**	**18 28 43.3**	**-0.3**
TECA				IAML		18 28 45.0	
	comp=Z,2μm,0.3s						
BC86	**Nagarote**	**1.22**	**101**	*i* P	**Pn**	**18 28 27.3**	**-0.9**
BC86				*i* S	**Sn**	**18 28 42.8**	**-1.0**
BC86				IAML		18 28 44.4	
	comp=Z,9μm,1.0s						
BC84	**Volcan Momotom**	**1.23**	**95**	*i* P	**Pn**	**18 28 27.8**	**-0.5**
BC84				*i* S	**Sn**	**18 28 43.0**	**-0.9**
BC84				IAML		18 29 27.8	
	comp=Z,6μm,1.0s						
MOM2	**El Cardon**	**1.28**	**93**	*i* P	**Pn**	**18 28 28.8**	**-0.1**
MOM2				*i* S	**Sn**	**18 28 44.7**	**-0.4**
MOM2				IAML		18 28 46.2	
	comp=Z,2μm,1.0s						
CAHU	**Cacacuatique**	**1.32**	**342**	*e* P	**Pn**	**18 28 30.4**	**+0.7**
PQSS	**Presa 15 de Se**	**1.34**	**326**	*i* P	**Pn**	**18 28 29.7**	**-0.1**
PQSS				*i* S	**Sn**	**18 28 47.0**	**+0.4**
PQSS				IAML		18 28 49.3	
	comp=Z,2μm,1.0s						
SAPS	**Ciudad Sandino**	**1.40**	**104**	*i* P	**Pn**	**18 28 30.4**	**-0.1**
SAPS				*i* S	**Sn**	**18 28 47.6**	**-0.4**
SAPS				IAML		18 28 51.0	
	comp=Z,6μm,1.0s						
TECO	**Alcaldia de Te**	**1.41**	**317**	*e* P	**Pn**	**18 28 30.4**	**-0.3**
TECO	**Alcaldia de Te**	**1.41**	**317**	*i* P	**Pn**	**18 28 30.3**	**-0.4**
TECO				*i* S	**Sn**	**18 28 47.8**	**-0.4**
TECO				IAML		18 28 52.9	
	comp=Z,1μm,1.0s						
BRAN	**Las Pilas**	**1.43**	**81**	*i* P	**Pn**	**18 28 31.2**	**+0.3**
BRAN				*i* S	**Sn**	**18 28 49.3**	**+0.7**
BRAN				IAML		18 28 52.9	
	comp=Z,4μm,1.0s						
APYN	**Apoyeque**	**1.44**	**101**	*i* P	**Pn**	**18 28 30.8**	**-0.3**
APYN				IAML		18 28 51.4	
	comp=Z,130nm,1.0s						
APQ2	**Apoyeque**	**1.47**	**102**	*i* P	**Pn**	**18 28 31.1**	**-0.4**
APQ2				*i* S	**Sn**	**18 28 49.3**	**-0.3**
APQ2				IAML		18 28 55.0	
	comp=Z,2μm,1.0s						
UESV	**Universidad de**	**1.48**	**319**	*e* P	**Pn**	**18 28 32.0**	**+0.2**
UESV				IAML		18 28 52.9	
	comp=Z,2μm,0.3s						
UESV	**Universidad de**	**1.48**	**319**	*i* P	**Pn**	**18 28 32.0**	**+0.2**
UESV				*i* S	**Sn**	**18 28 49.9**	**-0.2**
UESV				IAML		18 28 54.6	
	comp=Z,2μm,1.0s						
ABCN	**Banco Central**	**1.50**	**105**	*i* P	**Pn**	**18 28 31.9**	**0.0**
ABCN				*i* S	**Sn**	**18 28 50.4**	**0.0**
ABCN				IAML		18 28 58.6	
	comp=Z,9μm,1.0s						
LIMN	**Finca el Limon**	**1.50**	**68**	*i* P	**Pn**	**18 28 31.7**	**-0.3**
LIMN				IAML		18 28 51.2	
	comp=Z,2μm,1.0s						
SCLA	**Alcaldia de Sa**	**1.50**	**323**	*e* P	**Pn**	**18 28 32.4**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.50**	**323**	*i* P	**Pn**	**18 28 32.0**	**0.0**
SCLA				*i* S	**Sn**	**18 28 50.6**	**+0.1**
SCLA				IAML		18 28 58.6	
	comp=Z,1μm,1.0s						
SNVI	**San Vicente**	**1.50**	**317**	*e* P	**Pn**	**18 28 32.4**	**+0.3**
ALLN	**Telcor Managua**	**1.52**	**103**	*i* P	**Pn**	**18 28 32.3**	**0.0**
ALLN				*i* S	**Sn**	**18 28 50.4**	**-0.6**
ALLN				IAML		18 29 07.7	
	comp=Z,10μm,1.0s						
TISN	**Laguna Tiscapa**	**1.53**	**103**	*i* P	**Pn**	**18 28 32.1**	**-0.3**
TISN				IAML		18 28 54.9	
	comp=Z,210nm,1.0s						
USIM	**UNAN**	**1.53**	**104**	*i* P	**Pn**	**18 28 32.6**	**+0.2**
USIM				*i* S	**Sn**	**18 28 51.0**	**-0.3**
USIM				IAML		18 28 54.6	
	comp=Z,8μm,1.0s						
RA5A7	**El Crucero**	**1.54**	**109**	*i* P	**Pn**	**18 28 32.8**	**+0.3**
RA5A7				IAML		18 29 01.6	
	comp=Z,11μm,1.0s						
UNAN	**Cigeo UNAN**	**1.54**	**105**	*i* P	**Pn**	**18 28 32.4**	**-0.1**
UNAN				*i* S	**Sn**	**18 28 50.7**	**-0.7**
UNAN				IAML		18 28 54.6	
	comp=Z,13μm,1.0s						
ENAN	**Enatrel Managu**	**1.55**	**104**	*i* P	**Pn**	**18 28 32.6**	**0.0**
ENAN				*i* S	**Sn**	**18 28 51.2**	**-0.4**
ENAN				IAML		18 28 55.8	
	comp=Z,10μm,1.0s						
MGA1	**Managua**	**1.55**	**103**	*i* P	**Pn**	**18 28 32.0**	**-0.6**
MGA1				IAML		18 28 36.3	
	comp=Z,6μm,1.0s						
MGA1				*i* S	**Sn**	**18 28 50.9**	**-0.8**
R4DEC	**Barrio San Lui**	**1.55**	**103**	*i* P	**Pn**	**18 28 32.5**	**-0.1**
R4DEC				*i* S	**Sn**	**18 28 51.2**	**-0.5**
R4DEC				IAML		18 28 54.4	
	comp=Z,2μm,1.0s						
MGAN	**Managua**	**1.55**	**103**	*i* P	**Pn**	**18 28 32.5**	**-0.1**
MGAN				*i* S	**Sn**	**18 28 51.1**	**-0.6**
MGAN				IAML		18 28 54.4	
	comp=Z,2μm,1.0s						
MGAN	**Managua**	**1.55**	**103**	*e* P	**Pn**	**18 28 32.5**	**-0.2**
MGAN				*e* S	**Sn**	**18 28 51.3**	**-0.4**
R0529	**La Mascota**	**1.57**	**104**	*i* P	**Pn**	**18 28 32.2**	**-0.6**
R0529				IAML		18 28 55.8	
	comp=Z,3μm,1.0s						
MAFN	**Magfor**	**1.57**	**105**	*i* P	**Pn**	**18 28 32.4**	**-0.5**
MAFN				*i* S	**Sn**	**18 28 51.8**	**-0.4**
MAFN				IAML		18 28 53.0	
	comp=Z,6μm,1.0s						
WILN	**Americas 2**	**1.61**	**102**	*i* P	**Pn**	**18 28 32.9**	**-0.5**
WILN				*i* S	**Sn**	**18 28 52.7**	**-0.3**
WILN				IAML		18 28 57.6	
	comp=Z,2μm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.62**	**18**	*i* P	**Pn**	**18 28 34.1**	**+0.3**
TGUH				*i* S	**Sn**	**18 28 54.0**	**+0.3**
TGUH				IAML		18 28 55.8	
	comp=Z,1μm,1.0s						
AERN	**Aeropuerto Man**	**1.63**	**102**	*i* S	**Sn**	**18 28 53.2**	**-0.4**
PAVA	**Las Pavas**	**1.64**	**317**	*i* P	**Pn**	**18 28 33.7**	**-0.2**
PAVA				IAML		18 28 56.9	
	comp=Z,2μm,1.0s						
MAS3	**AI N del Volca**	**1.65**	**107**	*i* P	**Pn**	**18 28 33.5**	**-0.5**
MAS3				*i* S	**Sn**	**18 28 53.3**	**-0.9**
MAS3				IAML		18 28 55.9	
	comp=Z,3μm,1.0s						
LFRS	**El Faro**	**1.66**	**312**	*e* P	**Pn**	**18 28 34.4**	**+0.1**
MASN	**Masaya**	**1.69**	**108**	*i* S	**Sn**	**18 28 54.4**	**-0.6**
YUSH	**Yuscaran**	**1.71**	**33**	*i* P	**Pn**	**18 28 35.0**	**+0.1**
YUSH				*i* S	**Sn**	**18 28 55.8**	**0.0**
NANN	**Nandasmo**	**1.73**	**109**	*i* P	**Pn**	**18 28 35.4**	**+0.3**
NANN				*i* S	**Sn**	**18 28 55.7**	**-0.4**
NANN				IAML		18 28 59.9	
	comp=Z,39μm,1.0s						
PANCS	**Alcalda de**	**1.74**	**309**	*i* P	**Pn**	**18 28 35.4**	**+0.1**
PANCS				*i* S	**Sn**	**18 28 56.1**	**-0.4**
PANCS				IAML		18 28 56.9	
	comp=Z,4μm,1.0s						
LALI	**Alcalda de L**	**1.78**	**303**	*i* P	**Pn**	**18 28 35.0**	**-0.8**
LALI				*i* S	**Sn**	**18 28 56.3**	**-1.0**
LALI				IAML		18 28 58.8	
	comp=Z,520nm,1.0s						
UDBS	**Universidad Do**	**1.79**	**312**	*i* P	**Pn**	**18 28 35.9**	**-0.1**
UDBS				*i* S	**Sn**	**18 28 57.7**	**0.0**
UDBS				IAML		18 29 02.2	
	comp=Z,2μm,1.0s						
IGN	**Direccin Gen**	**1.80**	**312**	*i* S	**Sn**	**18 28 57.7**	**-0.2**
UTEC	**Universidad Te**	**1.82**	**311**	*i* S	**Sn**	**18 28 58.5**	**+0.2**
SNET	**Serv Nac Est T**	**1.83**	**310**	*i* S	**Sn**	**18 28 58.7**	**+0.1**
RCFN	**Al S de San Ju**	**1.85**	**56**	*i* P	**Pn**	**18 28 37.0**	**+0.2**
RCFN				IAML		18 28 37.6	
	comp=Z,23μm,1.0s						
RCFN				*i* S	**Sn**	**18 28 59.1**	**-0.1**
UEES	**Universidad Ev**	**1.85**	**311**	*e* P	**Pn**	**18 28 37.2**	**+0.4**
UEES	**Universidad Ev**	**1.85**	**311**	*i* P	**Pn**	**18 28 37.0**	**+0.2**
UEES				*i* S	**Sn**	**18 28 59.0**	**-0.2**
UEES				IAML		18 29 03.4	
	comp=Z,890nm,1.0s						
NADN	**Granada**	**1.88**	**113**	*i* P	**Pn**	**18 28 36.0**	**-1.1**
PIC2	**El Picacho**	**1.89**	**311**	*e* P	**Pn**	**18 28 38.1**	**+0.7**
RCVN	**Varillal2**	**1.89**	**55**	*i* P	**Pn**	**18 28 37.5**	**+0.1**
RCVN				*i* S	**Sn**	**18 29 00.6**	**+0.4**
RCVN				IAML		18 29 02.2	
	comp=Z,36μm,1.0s						
PMON	**Piamonte**	**1.91**	**309**	*e* P	**Pn**	**18 28 37.9**	**+0.3**
PMON	**Piamonte**	**1.91**	**309**	*i* P	**Pn**	**18 28 37.5**	**-0.1**
PMON				*i* S	**Sn**	**18 29 00.7**	**+0.1**
PMON				IAML		18 29 12.9	
	comp=Z,2μm,1.0s						
RCPN	**Sur Rio San Ju**	**1.94**	**58**	*i* P	**Pn**	**18 28 38.4**	**+0.3**
RCPN				*i* S	**Sn**	**18 29 02.5**	**+1.1**
RCPN				IAML		18 29 03.9	
	comp=Z,13nm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.96**	**313**	*i* S	**Sn**	**18 29 03.4**	**+1.8**
JAYA	**Jayaque - finc**	**1.98**	**306**	*e* P	**Pn**	**18 28 39.5**	**+0.9**
JAYA	**Jayaque - finc**	**1.98**	**306**	*i* P	**Pn**	**18 28 37.5**	**-1.1**
JAYA				IAML		18 29 03.9	
	comp=Z,4μm,1.0s						
BOAB	**BOACO BROADBAN**	**2.08**	**91**	*i* P	**Pn**	**18 28 39.0**	**-0.8**
BOAB				IAML		18 28 58.6	
	comp=Z,320nm,1.0s						
CEVE	**Cerro Verde**	**2.22**	**307**	*i* P	**Pn**	**18 28 41.5**	**-0.4**
CEVE				IAML		18 29 20.7	
	comp=Z,1μm,1.0s						
SNJE	**San Jose**	**2.23**	**308**	*e* P	**Pn**	**18 28 42.6**	**+0.6**
UNIC	**Universidad Ca**	**2.25**	**311**	*i* P	**Pn**	**18 28 40.3**	**-2.0**
UNIC				IAML		18 29 12.1	
	comp=Z,510nm,1.0s						
CONN	**Concepcion**	**2.32**	**114**	*i* P	**Pn**	**18 28 42.7**	**-0.4**
CONN				IAML		18 29 18.1	
	comp=Z,4μm,1.0s						
NUBE	**Las Nubes**	**2.38**	**306**	*e* P	**Pn**	**18 28 44.4**	**+0.3**
NUBE	**Las Nubes**	**2.38**	**306**	*i* P	**Pn**	**18 28 44.2**	**+0.1**
NUBE				*i* S	**Sn**	**18 29 12.3**	**+0.1**
NUBE				IAML		18 29 14.5	
	comp=Z,1μm,1.0s						
MTO3	**Montecristo**	**2.42**	**321**	*i* P	**Pn**	**18 28 44.9**	**+0.2**
MTO3				IAML		18 29 05.6	
	comp=Z,150nm,1.0s						
LCRUZ	**La Cruz**	**2.55**	**124**	*e* P	**Pn**	**18 28 46.9**	**+0.6**
LCRUZ				*e* S	**Sn**	**18 29 15.2**	**-0.9**
ACON	**Acoyapa**	**2.62**	**101**	*i* P	**Pn**	**18 28 46.1**	**-1.1**
ACON				IAML		18 29 40.6	
	comp=Z,180nm,1.0s						
ACON	**Acoyapa**	**2.62**	**101**	*e* P	**Pn**	**18 28 46.6**	**-0.6**
VRLE	**La Escondida,**	**2.93**	**125**	*e* P	**Pn**	**18 28 52.3**	**+0.8**
CUI	**Cuipilapa**	**3.16**	**125**	*e* P	**Pn**	**18 28 55.6**	**+0.9**
JTS	**Las Juntas de**	**3.55**	**128**	*e* P	Pn	18 29 04.4	+4.4
JUNT	**Juntas**	**3.55**	**128**	*e* P	**Pn**	**18 29 02.6**	**+2.6**
CEDE	**Laguna Cedeo**	**3.63**	**123**	*e* P	**Pn**	**18 29 03.5**	**+2.3**
ARE1	**Arenal 1**	**3.63**	**124**	*e* P	**Pn**	**18 29 03.5**	**+2.4**
VACR	**Volcan Arenal**	**3.66**	**123**	*e* P	**Pn**	**18 29 01.4**	**-0.2**
SOCE	**Pocosol**	**3.76**	**124**	*e* P	**Pn**	**18 29 06.8**	**+3.9**
CMIG	**Matias Romero**	**8.23**	**304**	P	**Pn**	**18 30 08.0**	**+3.8**
	comp=Z,2.3nm,0.4s,baz=138,slow=11,SNR=0.7						
CMIG				S	**Sn**	**18 31 35.1**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=152,slow=4.3,SNR=2.0						
TXAR	**Lajitas Array**	**22.32**	**321**	P	**P**	**18 33 00.1**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=130,slow=9.8,SNR=8.5						
	comp=Z,1.3nm,0.8s						
PDAR	**Pinedale Array**	**35.57**	**332**	P	**P**	**18 34 58.8**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=135,slow=10,SNR=4.3						
	comp=Z,0.2nm,0.4s						
NVAR	**Mina Array Bea**	**37.44**	**319**	P	**P**	**18 35 15.4**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=135,slow=9.0,SNR=2.4

SYI	Shuyak Island	2.93	334		Sn	18 49 46.1	-0.6
CHIR	Chirikof Islan	3.19	269		Pn	18 49 14.2	-1.0
CHIR	Chirikof Islan	3.19	269	IAML		18 49 44.9	
	comp=N,278nm,3.0s						
CHIR				IAML		18 50 00.3	
	comp=E,337nm,2.6s						
CHIR	Chirikof Islan	3.19	269		Sn	18 49 49.8	-3.4
CHIR	Chirikof Islan	3.19	269	P	Pn	18 49 14.2	-1.0
KAHG	Katmai Hook Gl	3.53	317		Pn	18 49 21.2	+1.3
Q19K	Cape Douglas,	3.54	327		Pn	18 49 21.1	+1.1
CNPM	China Poot	3.60	350	Pn	Pn	18 49 19.8	-1.0
CNPM				IAML		18 50 04.2	
	comp=E,133nm,0.7s						
CNPM	China Poot	3.60	350		Sn	18 50 02.8	-0.5
ACHA	Angle Creek He	3.67	309		Pn	18 49 22.2	+0.4
BRLK	Bradley Lake	3.81	353		Pn	18 49 22.7	-0.9
BRLK				IAML		18 50 15.3	
	comp=E,130nm,0.7s						
BRLK				IAML		18 50 15.5	
	comp=N,116nm,1.0s						
PLK3	Peulik 3	3.85	299		Pn	18 49 24.4	+0.1
PLK4	Peulik 4	3.87	298		Pn	18 49 24.1	-0.6
PLK4				IAML		18 50 18.4	
	comp=E,212nm,0.8s						
PLK4				IAML		18 50 26.9	
	comp=N,161nm,2.0s						
Q23K	Middleton Isla	3.95	28		Pn	18 49 25.4	-0.2
Q23K	Middleton Isla	3.95	28	IAML		18 50 15.6	
	comp=E,336nm,2.3s						
Q23K				IAML		18 51 30.4	
	comp=N,290nm,1.7s						
MID	Middleton Isla	3.95	28		Pn	18 49 25.6	+0.1
MID	Middleton Isla	3.95	28	IAML		18 50 15.6	
	comp=N,310nm,3.3s						
MID				IAML		18 51 57.2	
	comp=E,323nm,2.5s						
MID	Middleton Isla	3.95	28	P	Pn	18 49 25.1	-0.4
P19K	Oil Pt	4.05	336		Pn	18 49 26.5	-0.6
P19K				IAML		18 50 18.7	
	comp=N,288nm,0.6s						
P19K				IAML		18 50 18.7	
	comp=E,292nm,0.6s						
PLK1	Peulik 1	4.06	299		Pn	18 49 27.2	+0.1
P23K	Montague Islan	4.23	18		Pn	18 49 29.4	0.0
P23K					Sn	18 50 15.9	-3.0
O20K	Slope Mountain	4.33	342		Pn	18 49 31.0	+0.1
ILSW	Iliamna Southw	4.33	338		Pn	18 49 30.4	-0.6
ILSW				IAML		18 50 24.6	
	comp=E,126nm,0.7s						
ILSW				IAML		18 50 29.0	
	comp=N,88nm,0.7s						
IVE	Iliamna Volcan	4.34	339		Pn	18 49 30.9	-0.1
P18K	Big Mountain,	4.42	322	Pn	Pn	18 49 32.0	-0.1
R16K	Pilot Point	4.47	294		Pn	18 49 32.0	-0.7
R16K	Pilot Point	4.47	294	IAML		18 50 48.9	
	comp=N,239nm,1.9s						
O22K	Cooper Landing	4.49	2		Pn	18 49 33.6	+0.6
RED	Reoubt Volcan	4.67	343		Pn	18 49 35.1	-0.5
O18K	Koktuh Hills	4.77	326	Pn	Pn	18 49 37.1	+0.2
O18K				IAML		18 50 45.5	
	comp=N,79nm,0.8s						
O18K				IAML		18 50 46.7	
	comp=E,73nm,0.8s						
HIN	Hinchinbrook I	4.77	21		Pn	18 49 36.8	-0.2
HIN				IAML		18 50 36.4	
	comp=N,111nm,1.5s						
KAIM	Kayak Island	4.92	35	Pn	Pn	18 49 38.9	0.0
KAIM	Kayak Island	4.92	35		Sn	18 50 33.4	-2.4
PWL	Port Wells	4.95	9		Pn	18 49 39.4	+0.1
PWL				IAML		18 50 34.5	
	comp=E,94nm,0.6s						
PWL				IAML		18 50 44.1	
	comp=N,106nm,0.7s						
EYAK	Cordova Ski Ar	5.07	24	P	Pn	18 49 40.9	-0.1
FID	Port Fidalgo	5.10	20		Pn	18 49 40.4	-1.0
FID				IAML		18 50 43.1	
	comp=E,86nm,0.6s						
FID				IAML		18 50 46.3	
	comp=N,66nm,0.5s						
RC01	Rabbit Creek A	5.10	1		Pn	18 49 42.2	+0.8
RC01				IAML		18 50 46.9	
	comp=N,78nm,0.6s						
RC01				IAML		18 50 48.9	
	comp=E,60nm,1.7s						
RC01	Rabbit Creek A	5.10	1		Sn	18 50 37.4	-3.0
GLI	Glacier Island	5.12	16	Pn	Pn	18 49 42.8	+1.1
GLI				IAML		18 50 41.3	
	comp=E,90nm,0.6s						
GLI				IAML		18 50 42.3	
	comp=N,60nm,1.3s						
RAGM	Ragged Mountai	5.21	30		Pn	18 49 42.9	-0.1
SUCK	Suckling Hills	5.24	36		Pn	18 49 43.4	0.0
SUCK	Suckling Hills	5.24	36	IAML		18 53 10.3	
	comp=N,127nm,2.5s						
P16K	Nushagak River	5.28	308		Pn	18 49 44.4	+0.5
HMT	Hamilton	5.29	32		Pn	18 49 43.9	-0.2
O17K	Koliganek Bris	5.36	318		Pn	18 49 44.8	-0.1
N19K	Bonanza Creek	5.38	336		Pn	18 49 45.3	0.0
KNK	Knik Glacier	5.48	8		Pn	18 49 45.6	-1.1
SUA	Susitna One	5.49	356		Pn	18 49 46.3	-0.6
PMR	Palmer	5.62	4	P	Pn	18 49 49.8	+1.2
N18K	Kilae Creek	5.63	329	Pn	Pn	18 49 49.0	+0.3
SNH	Sunshine Point	5.64	39		Pn	18 49 48.9	0.0
O16K	Kokwok River B	5.64	313		Pn	18 49 49.1	+0.3
SML	Sawmill	5.88	8	Pn	Pn	18 49 52.5	+0.3
M23K	Glacier View	5.92	10		Pn	18 49 53.3	+0.6
N17K	Nushagak Hills	5.92	323		Pn	18 49 52.5	-0.2
MESA	MESA	5.96	42	Pn	Pn	18 49 53.4	0.0
CRQM	Cirque	5.97	34		Pn	18 49 53.4	-0.1
TGL	Tana Glacier	6.07	35		Pn	18 49 54.6	-0.1
YAH	Yahtse	6.16	41		Pn	18 49 56.2	-0.1
O15K	Ungalikthiuk R	6.18	305		Pn	18 49 56.0	-0.2
CHX	Chaix Hills	6.22	45		Pn	18 49 57.2	+0.4
VRDI	Verde Repeater	6.25	30		Pn	18 49 57.2	-0.1
SAMH	Samovar Hills	6.39	46		Pn	18 49 59.3	+0.1
M24K	Tolsona, Glenn	6.43	16		Pn	18 50 00.6	+0.9
PTPK	Patty Peak	6.51	34		Pn	18 50 01.1	+0.2
PCA	Pinnacle	6.59	47		Pn	18 50 02.3	+0.4
M17K	Holitna River	6.67	327		Pn	18 50 02.7	-0.1
WACK	Wrangell Chich	6.67	24		Pn	18 50 04.1	+1.0
PNL	Peninsula	6.73	53	P	Pn	18 50 04.0	+0.2
LOGN	Logan Glacier	6.75	41		Pn	18 50 03.9	-0.2
WAZA	Wrangell Mount	6.79	24		Pn	18 50 05.8	+1.0
L20K	Farewell, AK	6.80	344		Pn	18 50 05.2	+0.4
N15K	Kwethluk River	6.80	312		Pn	18 50 05.3	+0.6
S12K	Black Hills	6.82	272	Pn	Pn	18 50 04.5	-0.5
HARP	HAARP	6.87	19		Pn	18 50 06.8	+1.0
O14K	Tigyukauivet M	6.88	303		Pn	18 50 05.9	0.0
M16K	Timber Creek	6.89	321		Pn	18 50 06.8	+0.8
M15K	Kasigluk River	7.34	314		Pn	18 50 12.2	+0.1
M26K	Nabesna, AK	7.34	26		Pn	18 50 12.7	+0.5
N14K	Kuskokwak Cree	7.37	307		Pn	18 50 12.1	-0.3
O29M	Mount Kennedy	7.41	50		Pn	18 50 13.3	+0.2
RND	Reindeer	7.45	4		Pn	18 50 14.3	+0.6
P29M	Windy Craggy	7.47	56		Pn	18 50 13.5	-0.5
YUK2	White River	7.48	35		Pn	18 50 14.4	+0.3
L17K	Donlin	7.50	329		Pn	18 50 14.6	+0.3
YUK3	Moose Creek	7.59	36		Pn	18 50 16.3	+0.5
TTA	Tatalina	7.60	339	P	Pn	18 50 16.4	+0.7
M27K	Edge Creek, AK	7.60	30		Pn	18 50 16.0	+0.1
S31K	Pelican	7.76	70	Pn	Pn	18 50 15.0	-2.8
YUK6	Outpost Mounta	7.84	46		Pn	18 50 20.0	+0.8
P30M	Million Dollar	8.03	54		Pn	18 50 21.8	0.0
HYT	Haines Junctio	8.13	48	Pn	Pn	18 50 23.4	+0.3
L15K	Ungalak Mounta	8.24	318		Pn	18 50 24.7	+0.2
M13K	Dall Lake	8.33	308	Pn	Pn	18 50 27.4	+1.7
L14K	Kuka Creek	8.51	314	Pn	Pn	18 50 29.7	+1.6
BESE	Bessie Mountai	8.58	66		Pn	18 50 28.4	-0.8
S32K	Killisnoo	8.59	74	Pn	Pn	18 50 27.4	-1.8
N30M	Aishikik Lake	8.64	45	Pn	Pn	18 50 30.2	+0.2
M29M	Somme Creek	8.74	38	Pn	Pn	18 50 32.0	+0.7
JIS	Juneau Island	8.77	69	P	Pn	18 50 31.9	+0.2
ILAR	Eielson Array	8.93	9	Pn	Pn	18 50 34.6	+0.7
	comp=N,0.4nm,0.3s,baz=190,slow=13,SNR=21						
ILAR				Sn	Sn	18 52 11.2	-3.2
	comp=N,0.6nm,0.3s,baz=186,slow=23,SNR=7.2						
	comp=N,1.2nm,0.5s						
COLA	College	8.96	6	P	Pn	18 50 36.4	+2.1
J26L	Joseph Creek	9.10	18	Pn	Pn	18 50 37.2	+1.0
L29M	L29M	9.31	35	Pn	Pn	18 50 39.8	+0.6
P32M	Atlin	9.39	61	Pn	Pn	18 50 39.9	-0.3
U33K	Whale Pass	9.43	82		Pn	18 50 39.3	-1.4
H21K	Melozitna Rive	9.79	353	Pn	Pn	18 50 46.8	+1.1
DLBC	Dease Lake	11.07	69	Pn	Pn	18 51 04.7	+1.4
	comp=N,0.2nm,0.3s,baz=231,slow=14,SNR=3.0						
	comp=N,0.9nm,0.4s						
MMPY	Sheldon Lake,	11.60	48	Pn	Pn	18 51 11.7	+1.3
BMAR	Burnt Mountain	11.74	10	Pn	Pn	18 51 14.5	+2.1
E25K	Arctic Village	12.33	8	Pn	Pn	18 51 22.5	+2.1
G31M	Satah River	13.22	28	Pn	Pn	18 51 33.7	+1.3
BBB	Bella Bella	13.37	97	LR	LR	18 55 15.6	
	comp=N,108nm,20.5s,baz=309,slow=31						
INK	Inuvik	14.46	25	Pn	Pn	18 51 49.9	+0.5
INK	Inuvik	14.46	25	Pn	Pn	18 51 50.8	+1.4
	comp=N,0.1nm,0.3s,baz=211,slow=16,SNR=9.9						
	comp=N,5.7nm,1.1s						
CLRS	Cowichan Lake	17.25	104	Pn	Pn	18 52 22.4	-3.3
CLRS				IAmb	IAmb	18 52 55.8	
	comp=Z,42nm,1.4s						
YKA	Yellowknife Ar	19.02	56	P	Pn	18 52 47.9	+0.5
	comp=Z,0.1nm,0.3s,baz=264,slow=10,SNR=3.4						
	comp=Z,2.3nm,1.0s						
A36M	Sachs Harbour	19.09	23		Pn	18 52 48.5	+0.3
A36M				IAmb	IAmb	18 52 58.5	
	comp=Z,20nm,0.8s						
YBH	Yreka Blue Hor	22.72	117	LR	LR	19 00 01.7	
	comp=Z,81nm,21.4s,baz=357,slow=31						
NVAR	Mina Array Bea	27.42	116	P	P	18 54 18.0	+7.0
	comp=Z,0.7nm,0.8s,baz=290,slow=9.4,SNR=5.4						
NVAR				LR	LR	19 02 04.3	
	comp=Z,74nm,18.5s,baz=338,slow=30						
	comp=Z,0.7nm,0.8s						
PDAR	Pinedale Array	28.99	100	P	P	18 54 28.8	+3.9
	comp=Z,0.5nm,0.9s,baz=65,slow=7.1,SNR=1.7						
	comp=Z,0.5nm,0.9s						
EUNU	Eureka	30.88	18	P	P	18 54 50.8	+10
EUNU				IAmb	IAmb	18 55 34.7	
	comp=Z,21nm,1.2s						
PFO	Pinyon Flats O	32.14	120	LR	LR	19 04 15.2	
	comp=Z,42nm,21.8s,baz=6.0,slow=30						
FRB	Frobisher Bay	38.90	44	LR	LR	19 12 16.9	
	comp=Z,140nm,19.4s,baz=116,slow=37						
TXAR	Lajitas Array	42.09	110	P	P	18 56 24.1	+7.0
	comp=Z,0.5nm,0.8s,baz=316,slow=7.0,SNR=5.2						
	comp=Z,0.5nm,0.8s						
H11N2	WAKE ISLAND Hy	48.41	239	T	T	19 49 16.1	
	baz=31,slow=76,SNR=13						
H11N3	WAKE ISLAND Hy	48.41	239	T	T	19 49 15.9	
	baz=31,slow=76,SNR=18						
H11N1	WAKE ISLAND Hy	48.43	239	T	T	19 49 19.6	
	baz=31,slow=76,SNR=16						
H11S1	WAKE ISLAND Hy	49.55	239	T	T	19 50 38.2	
	baz=30,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	49.56	239	T	T	19 50 39.2	
	baz=30,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	49.57	239	T	T	19 50 39.5	
	baz=30,slow=76,SNR=11						
SONM	Songino Array	58.53	310	P	P	18 58 30.5	+9.2
	comp=Z,0.7nm,0.8s,baz=37,slow=7.4,SNR=4.0						
	comp=Z,0.7nm,0.8s						
NOA	NORSAR Array B	62.36	10	P	P	18 58 52.8	+5.7
	comp=Z,1.5nm,0.8s,baz=348,slow=6.8,SNR=4.1						
	comp=Z,1.5nm,0.8s						
FINES	FINESS Array B	62.85	2	P	P	18 58 55.3	+4.9
	comp=Z,4.5nm,1.0s,baz=257,slow=17,SNR=2.6						
	comp=Z,4.5nm,1.0s						
HFS	Hagfors	63.48	9	P	P	18 58 59.3	+4.7
	comp=Z,2.9nm,0.8s,baz=104,slow=6.1,SNR=2.8						
	comp=Z,2.9nm,0.8s						
EKA	Eskdalemuir Ar	65.77	20	P	P	18 59 12.3	+2.7
	comp=Z,1.0nm,0.7s,baz=317,slow=6.2,SNR=3.6						
KURBB	Kurchatov Arra	66.38	329	P	P	18 59 19.3	+5.7
	comp=Z,0.4nm,0.7s,baz=32,slow=6.6,SNR=3.4						
	comp=Z,0.4nm,0.7s						
MKAR	Makanchi Array	68.60	324	P	P	18 59 34.1	+6.3
	comp=Z,0.5nm,0.8s,baz=40,slow=6.3,SNR=4.2						
	comp=Z,0.5nm,0.8s						
AKASG	Malin Array Be	73.66	1	P	P	19 00 06.0	+7.7
	comp=Z,0.5nm,0.6s,baz=358,slow=7.3,SNR=1.9						
	comp=Z,0.5nm,0.6s						
ESDC	Sonseca Array	80.41	26	P	P	19 00 42.6	+6.1
	comp=Z,0.9nm,0.9s,baz=333,slow=4.7,SNR=3.5						
	comp=Z,0.9nm,0.9s						
QSPA	South Pole Qui	145.79	180	PKPbc	PKiKP	19 08 10.0	+3.6
	comp=Z,0.6nm,0.5s,baz=136,slow=3.7,SNR=4.3						

MOS ***04*** *18:54:23.3±0.9,23°.48N×143°.33E,h10km,mb5.0/37, Error ellipse: s-maj=12.2km s-min=5.3km az=121.1*
BJI ***04*** *18:54:23.9,23°.47N×143°.28E,h10km,mb4.7/55,mB5.0/19, Ms4.5/43,Ms7 4.3/41*
IDC ***04*** *18:54:23.3±0.5,23°.47N×143°.38E,h0km,mb4.5/23, mbtmp4.5/29,ML4.0/6,MS4.2/18, Error ellipse: s-maj=19.4km s-min=11.9km az=75.0*
NEIC ***04*** *18:54:26.7±1.5,23°.49N±0°.07×143°.30E±0°.10,h15km±4km, mb4.9/104, Error ellipse: s-maj=13.3km s-min=9.2km az=110.0*
JMA ***04*** *18:54:28.7±0.3,24°N±3°×14°5E±°, h48km, MV5.4/23, FAR E OFF OGASAWARA*
GCMT ***04*** *18:54:31.7±0.3,23°.58N±0°.02×143°.33E±0°.02, h23km±1km, MW5.0/89, Moment Tensor Solution. s36,c42; s89,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.25±.15; $M_{\theta\theta}$0.73±.09; $M_{\phi\phi}$-2.97±.11; $M_{r\theta}$0.25±.14; $M_{\theta\phi}$1.03±.07; $M_{\phi r}$2.01±.18; Best double couple: $M_0$3.45600×10^{16} NP1:ϕ_s2.00000°, δ65.00000°, λ109.00000°. NP2: ϕ_s143.00000°, δ31.00000°, λ55.00000°. Principal axes: T 3.0810, Plg65.0000°, Azm306.0000°; N 0.7570, Plg17.0000°, Azm174.0000°; P -3.8310, Plg17.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 18:54:25.5±0.3,23°.50N±0°.04×143°.39E±0°.06,h10km,n323, σ1$58/297,mb4.8/134,MS4.2/27,13C-12D,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	Haha-jima-NKT2	3.31	341	P	Pn	18 55 18.7	+1.4
JHH2				*e*S	Sn	18 55 56.7	-0.1
CBIJ	Chichi jima	3.74	343	*e*P	Pn	18 55 23.7	+0.4
CBIJ				*e*S	Sn	18 56 05.0	-2.5
JCJ	Chichijima	3.74	343	Pn	Pn	18 55 24.2	+0.9
JCJ				Sn	Sn	18 56 08.7	+1.2
JCJ	Chichijima	3.74	343	Pn	Pn	18 55 18.9	-4.4
JCJ				Sn	Sn	18 56 01.3	-6.2
GUMO	Guam	9.96	172	Pn	Pn	18 56 45.8	-2.9
	1.8nm,0.3s,baz=340,slow=16,SNR=1.6						
GUMO				LR	LR	18 59 57.9	
	comp=Z,1μm,21.2s,baz=6.5,slow=34						
	41nm,0.8s						
JHJ2	Mitsune	10.08	343	*e*P	Pn	18 56 49.5	-0.8
JHJ	Hachijo jima 2	10.10	342	Pn	Pn	18 56 49.0	-1.6
	7.6nm,0.3s,baz=100,slow=15,SNR=1.9						
JHJ				LR	LR	19 00 53.9	
	comp=Z,1μm,18.2s,baz=170,slow=39						
	298nm,1.1s						
JMZ	Minamidaito 2	11.30	284	Pn	Pn	18 57 08.3	+1.2
JMZ	Minamidaito 2	11.30	284	*e*P	Pn	18 57 10.8	+3.7
BSO1	Boso 1	11.31	350	*e*P	Pn	18 57 02.3	-4.4
JOD2	Odawara 2	12.31	343	*e*P	Pn	18 57 19.4	-1.4
INU	Inuyama	13.04	336	Pn	Pn	18 57 27.0	-3.9
JRY	Ryogami san	13.07	344	*e*P	Pn	18 57 29.4	-1.8
JGF	Kuroka	13.15	338	Pn	Pn	18 57 30.1	-2.3
JMN	Monobe	13.17	323	Pn	Pn	18 57 29.9	-2.7
JTO	Tosashimizu	13.19	317	*e*P	Pn	18 57 35.6	+2.7
JAG	Ashikaga	13.32	346	*e*P	Pn	18 57 31.8	-2.9
JAG				*e*S	Sn	18 59 52.2	-11
JAMN	Amaminishikomi	13.64	293	*e*P	Pn	18 57 42.6	+3.6
MJAR	Matsushiro Arr	13.75	342	Pn	Pn	18 57 37.8	-2.7
	0.4nm,0.3s,baz=154,slow=11,SNR=24						
MJAR				Sn	Sn	19 00 05.8	-7.5
	baz=216,slow=18,SNR=1.7						
MJAR				LR	LR	19 03 05.9	
	comp=Z,1μm,18.7s,baz=160,slow=38						
	6.0nm,0.6s						
MAJO	Matsushiro	13.75	342	Pn	Pn	18 57 36.7	-3.8
MAJO	Matsushiro	13.75	342	*de*P	Pn	18 57 38.6	-1.9
MJB9	Matsu-Tunnel	13.75	342		Pn	18 57 39.6	-0.9
JOW	Kunigami	14.08	287	Pn	Pn	18 57 44.6	-0.5
	1.0nm,0.3s,baz=90,slow=16,SNR=1.5						
JOW				LR	LR	19 02 33.2	
	comp=Z,2μm,20.0s,baz=122,slow=35						
	9.3nm,0.6s						
JOW	Kunigami	14.08	287	P	P	18 57 49.7	-3.2
JOW	Kunigami	14.08	287	*e*P	P	18 57 53.6	+0.6
JMM	Marumori	14.49	352	Pn	Pn	18 57 48.2	-2.5
JHS	Saijyo	14.54	324	*e*P	Pn	18 57 51.7	+0.4
JNU	Nakatsue	14.59	314	Pn	Pn	18 57 52.4	+0.2
	0.3nm,0.3s,baz=112,slow=9.2,SNR=7.7						
JNU				LR	LR	19 02 52.6	
	comp=Z,550nm,20.6s,baz=126,slow=35						
	14nm,0.9s						
JNU	Nakatsue	14.59	314	P	Pn	18 57 55.1	+3.0
JSJ	Shimokoshiki	14.60	307	*e*P	P	18 57 59.8	+1.1
JSD	Sado	15.14	344		Pn	18 57 55.6	-3.8
JMK	Ichinoseki	15.52	354	*e*P	Pn	18 58 02.2	-2.1
JMK				*e*S	Sn	19 00 44.1	-12
JTU	Tsushima	16.43	315	P	P	18 58 19.3	+0.4
JTU	Tsushima	16.43	315	*e*P	P	18 58 18.6	-0.3
JTM	Tenmabayashi	17.35	354	Pn	Pn	18 58 27.9	+0.2
JTM				IAmb	IAmb	18 58 37.8	
	comp=Z,69nm,0.9s						
JTM	Tenmabayashi	17.35	354	P	P	18 58 29.9	+0.8
ERM	Erimo	18.47	359	P	P	18 58 41.8	+0.4
ERM	Erimo	18.47	359	P	Pn	18 58 45.1	+3.7
ERM	Erimo	18.47	359	‖*e*P	Pn	18 58 42.8	+1.4
TJN	Taejon	18.88	316	*ce*P	P	18 58 46.3	+0.4
KSRS	Korea Array	19.23	320	P	P	18 58 49.6	-0.1
	comp=Z,1.6nm,0.3s,baz=137,slow=11,SNR=44						
KSRS				LR	LR	19 06 06.8	
	comp=Z,1μm,18.2s,baz=135,slow=36						
	comp=Z,8.1nm,0.6s						
KSAR	Wonju Array Be	19.24	320	P	P	18 58 49.1	-0.8
KS19	Wonju Array Si	19.29	320	P	P	18 58 49.6	-1.0
NACB	Ninganchiao	19.95	276	P	P	18 58 58.1	+0.3
NACB	Ninganchiao	19.95	276	P	Pn	18 59 02.6	+3.1
YHNB	Yeheng	20.13	278	P	Pn	18 59 03.4	+1.7
YULB	Yu-li	20.27	274	P	Pn	18 59 05.1	+1.8
SSLB	Suanglung	20.56	275	P	Pn	18 59 08.4	+1.7
ASAJ	Asahikawa	20.58	358	P	Pn	18 59 07.3	+0.6
	comp=Z,9.1nm,0.6s,baz=214,slow=11,SNR=7.8						
ASAJ				LR	LR	19 09 49.3	
	comp=Z,294nm,18.5s,baz=200,slow=45						
TPUB	Ta-pu	20.89	274	P	Pn	18 59 12.1	+1.5
H11N1	WAKE ISLAND Hy	22.16	95	T	T	19 23 55.0	
	baz=282,slow=74,SNR=5.4						
H11N2	WAKE ISLAND Hy	22.17	95	T	T	19 23 30.0	
	baz=282,slow=74,SNR=7.8						
H11N3	WAKE ISLAND Hy	22.18	95	T	T	19 23 42.2	
	baz=282,slow=74,SNR=2.7						
QZH	Quanzhou	22.66	279	*e*P	P	18 59 31.5	+4.5
QZH				S	Sn	19 03 48.2	-0.7
QZH				LR	LR		
	comp=E,1μm,21.0s						
QZH				LR	LR		
	comp=Z,1μm,21.6s						
USA0B	Ussuriysk Arra	22.67	338	P	P	18 59 26.6	-0.4
USA0B	Ussuriysk Arra	22.67	338	‖*e*P	P	18 59 25.9	-1.1
USRK	Ussuriysk Ar.	22.67	338	P	P	18 59 26.8	-0.2
	comp=Z,15nm,0.7s,baz=164,slow=10.0,SNR=22						
USRK				LR	LR	19 07 36.6	
	comp=Z,810nm,20.3s,baz=160,slow=35						
	comp=Z,15nm,0.7s						
TGY	Tagaytay City	23.19	250	LR	LR	19 07 35.3	
	comp=Z,949nm,20.0s,baz=314,slow=34						
NJ2	Nanjing	23.28	297	⇑P	P	18 59 33.9	+0.5
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,380nm,12.3s						
NJ2				LR	LR		
	comp=Z,670nm,18.0s						
NJ2				LR	LR		
	comp=Z,600nm,14.2s						
YSS	Yuzh-Sakhalins	23.41	359	*e*P	P	18 59 37.5	+3.0
YSS				*e*S	S	19 03 50.6	+3.0
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
DAV	Davao City (W)	23.66	229	LR	LR	19 06 50.3	
	comp=Z,951nm,21.6s,baz=62,slow=32						
MDJ	Mudanjiang	23.90	335	P	P	18 59 39.9	+0.6
MDJ				PP	PnPn	19 00 08.9	+1.4
MDJ				S	S	19 03 58.7	+3.1
MDJ				sS	sS	19 04 04.9	+6.5
MDJ				pmax	pmax		
	comp=Z,24nm,1.2s						
MDJ				LR	LR		
	comp=Z,1μm,17.5s						
MDJ				LR	LR		
	comp=Z,720nm,18.2s						
MDJ				LR	LR		
	comp=Z,1μm,18.9s						
CN2	Changchun	25.06	328	*e*P	P	18 59 50.5	+0.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MANU	Manus Island	25.68	171	P	P	18 59 58.0	+2.2
BNX	BinXian	25.70	334	‖P	P	18 59 56.9	+1.2
BNX				pmax	pmax		
	comp=Z,18nm,0.6s						
TIA	Tai'an	25.97	305	P	P	18 59 57.0	-1.4
TIA				S	S	19 04 30.2	+1.2
TIA				pmax	pmax		
	comp=Z,32nm,0.8s						
TIA				pmax	pmax		
	comp=Z,160nm,6.2s						
TIA				LR	LR		
	comp=Z,290nm,13.7s						
TIA				LR	LR		
	comp=Z,460nm,16.1s						
TIA				LR	LR		
	comp=Z,490nm,

HHC LR LR
comp=Z,580nm,19.8s
ZEA Zeya 32.56 342 *eP* **P** **19 00 57.4 +0.7**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.8s
PMG Port Moresby 32.91 173 P **P** **19 01 00.4 +0.3**
PMG Port Moresby 32.91 173 P **P** **19 01 00.1 0.0**
BBSI Bau Bau 35.26 218 P **P** **19 01 23.4 +2.9**
comp=Z,45nm,1.0s
TATA Tatamba Isabel 35.52 151 P **P** **19 01 24.5 +1.7**
SPSI Sidrap Palu 35.72 223 P **P** **19 01 25.0 +0.5**
comp=Z,39nm,0.8s
BNSI Bone 35.84 222 P **P** **19 01 27.1 +1.5**
comp=Z,28nm,0.6s,comp=Z,4µm
CD2 Chengdu 35.87 291 P **P** **19 01 24.8 -1.0**
CD2 S **S** **19 07 02.3 -1.5**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 LR LR
comp=Z,550nm,16.2s
CD2 LR LR
comp=Z,530nm,17.2s
LZH Lanzhou 36.30 299 *eP* **P** **19 01 33.7 +4.2**
LZH sP pwP 19 01 38.4 +0.9
LZH pmax pmax
comp=Z,15nm,0.9s
LZH LR LR
comp=Z,500nm,14.3s
LZH LR LR
comp=Z,310nm,14.9s
LZH LR LR
comp=Z,580nm,18.4s
HNR Honiara 36.52 152 LR LR 19 15 05.2
comp=Z,492nm,21.8s,baz=352,slow=34
KAPI Kappang 36.54 222 LR LR 19 15 26.4
comp=Z,152nm,21.1s,baz=32,slow=35
BKSI Bulukumba 36.56 221 P **P** **19 01 34.6 +2.9**
comp=Z,14nm,0.9s
BSSI Bau Bau, Buton 36.99 220 P **P** **19 01 34.6 -0.8**
comp=Z,49nm,1.1s
COEN Coen 37.23 180 P **P** **19 01 38.3 +0.9**
COEN IAmb IAmb 19 01 54.1
comp=Z,17nm,0.8s
COEN Coen 37.23 180 P **P** **19 01 37.5 +0.2**
KDU Kakadu 37.52 198 P **P** **19 01 39.0 -0.8**
ULN Ulaanbaatar 37.71 319 *deP* **P** **19 01 40.9 -0.5**
ULN pmax pmax
comp=Z,14nm,2.5s
PZH PanZhiHua 37.75 283 P **P** **19 01 42.4 +0.5**
PZH pmax pmax
comp=Z,8.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.2s
SOEI Soe 37.98 212 P **P** **19 01 42.0 -1.8**
SOEI IAmb IAmb 19 01 58.6
comp=Z,61nm,1.5s
SOEI Soe 37.98 212 P **P** **19 01 42.5 -1.3**
SOEI Soe 37.98 212 P **P** **19 01 41.6 -2.2**
comp=Z,29nm,1.0s
MMRI Maumere 38.05 215 P **P** **19 01 43.8 -0.5**
MMRI IAmb IAmb 19 02 02.5
comp=Z,30nm,0.9s
MMRI Maumere 38.05 215 P **P** **19 01 45.9 +1.6**
comp=Z,33nm,0.7s
MTN Manton Dam 38.06 200 P **P** **19 01 43.1 -1.3**
MTN IAmb IAmb 19 01 56.9
comp=Z,24nm,1.4s
MTN Manton Dam 38.06 200 P **P** **19 01 45.4 +1.1**
SONM Songino Array 38.09 319 P **P** **19 01 43.7 -0.9**
SONM Songino Array 38.09 319 P **P** **19 01 43.1 -1.5**
comp=Z,1.3nm,0.5s,baz=121,slow=6.5,SNR=7.9
SONM LR LR 19 18 17.6
comp=Z,667nm,18.4s,baz=119,slow=38
comp=Z,1.3nm,0.5s
BATI Baumata 38.66 212 LR LR 19 15 14.9
comp=Z,151nm,20.1s,baz=53,slow=32
BATI Baumata 38.66 212 P **P** **19 01 50.7 +1.2**
comp=Z,22nm,0.5s
STKI Sintang 38.76 238 P **P** **19 01 48.9 -1.5**
YAK Yakutsk 39.63 350 *c iP* **P** **19 01 56.9 -0.2**
YAK pmax pmax
comp=Z,15nm,0.8s
GTA Gaotai 40.01 304 *eP* **P** **19 02 02.5 +1.8**
GTA pmax pmax
comp=Z,2.0nm,0.5s
GTA LR LR
comp=Z,280nm,17.1s
GTA LR LR
comp=Z,300nm,16.7s
GTA LR LR
comp=Z,320nm,18.5s
BASI Baing, Sumba 40.26 216 P **P** **19 02 01.6 -1.2**
WBSI Waikabubak, Su 40.45 218 P **P** **19 02 04.3 -0.1**
comp=Z,29nm,0.7s
PHRA Phrae 40.49 271 P **P** **19 02 02.8 -2.0**
PLAI Plampang 40.74 221 P **P** **19 02 06.2 -0.6**
PLAI Plampang 40.74 221 P **P** **19 02 06.4 -0.4**
comp=Z,32nm,1.1s
MTSU Mount Surprise 41.39 179 P **P** **19 02 15.3 +3.3**
KNRA Kununurra 41.48 202 P **P** **19 02 12.5 -0.3**
CHTO Chiang Mai 41.59 272 P **P** **19 02 13.2 -0.7**
CHTO Chiang Mai 41.59 272 P **P** **19 02 13.2 -0.7**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CMAR Chiang Mai Arr 41.68 272 P **P** **19 02 13.9 -0.7**
CMAR Chiang Mai Arr 41.68 272 P **P** **19 02 14.8 +0.2**
comp=Z,2.1nm,0.6s,baz=59,slow=7.4,SNR=19
CMAR LR LR 19 18 09.7
comp=Z,444nm,21.4s,baz=80,slow=34
comp=Z,2.1nm,0.6s
JAGI Jajag, Banyuwa 42.74 225 P **P** **19 02 22.1 -1.1**
JAGI IAmb IAmb 19 02 36.9
comp=Z,51nm,1.2s
CTA Charters Tower 43.41 176 LR LR 19 20 06.6
comp=Z,7.1nm,21.1s,baz=348,slow=36
CTAO Charters Tower 43.41 176 P **P** **19 02 29.3 +0.8**
CTAO Charters Tower 43.41 176 P **P** **19 02 29.3 +0.8**
CTAO Charters Tower 43.41 176 P **P** **19 02 29.3 +0.8**
CTAO pmax pmax
comp=Z,10.0nm,0.8s
GOMU GeErMu 43.58 298 P **P** **19 02 30.7 +0.4**
GOMU pP pwP 19 02 36.3 -2.0
GOMU sP sP 19 02 39.3 +6.8
GOMU pmax pmax
comp=Z,10.0nm,1.5s
QIS Mount Isa 43.95 185 P **P** **19 02 33.3 +0.5**
WR0 Warramunga Arr 44.05 192 IAmb IAmb 19 02 48.5
comp=Z,22nm,1.2s
WRAB Tennant Creek 44.06 192 P **P** **19 02 32.9 -0.9**
WRAB IAmb IAmb 19 02 47.9
comp=Z,36nm,1.3s
WRAB Tennant Creek 44.06 192 *d iP* **P** **19 02 32.8 -0.9**
WRAB pmax pmax
comp=Z,6.0nm,0.8s
WB2 Warramunga Arr 44.07 192 IAmb IAmb 19 02 48.0
comp=Z,38nm,1.3s
WRA Warramunga Arr 44.07 192 P **P** **19 02 32.9 -1.0**
comp=Z,6.9nm,0.6s,baz=11,slow=8.2,SNR=97
WRA PcP **PP** **19 04 18.6 +1.9**
comp=Z,2.8nm,0.6s,baz=5.5,slow=3.3,SNR=5.9
comp=Z,6.9nm,0.6s
FITZ Fitzroy Crossi 44.83 204 P **P** **19 02 39.5 -0.4**
KULM Kulim 44.95 253 P **P** **19 02 39.2 -1.9**
KULM IAmb IAmb 19 03 06.2
comp=Z,18nm,1.3s
KULM Kulim 44.95 253 P **P** **19 02 40.9 -0.2**
VLAKA Lakatoro 45.84 147 P **P** **19 02 50.5 +2.6**
BILL Bilibino 46.73 12⇑ *eP* **P** **19 02 54.3 0.0**
BILL pmax pmax
comp=Z,2.0nm,1.0s
DVP Devils Point 47.60 147 P **P** **19 03 03.0 +1.3**
AS01 Alice Springs 47.77 192 P **P** **19 03 02.0 -1.0**
AS31 Alice Springs 47.78 192 P **P** **19 03 02.3 -0.8**
ASAR Alice Springs 47.78 192 P **P** **19 03 02.1 -1.0**
ASAR Alice Springs 47.78 192 P **P** **19 03 01.9 -1.2**
comp=Z,3.0nm,0.6s,baz=17,slow=9.0,SNR=58
ASAR PcP **PcP** **19 04 30.8 -1.3**
comp=Z,0.5nm,0.6s,baz=18,slow=3.8,SNR=1.1
comp=Z,3.0nm,0.6s
TIXI Tiksi 48.89 354 P **P** **19 03 11.7 +0.7**
TIXI Tiksi 48.89 354⇓ *eP* **P** **19 03 11.9 +0.9**
TIXI pmax pmax
comp=Z,11nm,1.7s
EIDS Eidsvold 49.15 171 P **P** **19 03 13.1 -0.5**
EIDS IAmb IAmb 19 03 33.6
comp=Z,13nm,1.4s
GSI Gunungsitoli 49.56 250 P **P** **19 03 16.4 -0.6**
WMQ Urumqi 49.60 308 *eP* **P** **19 03 18.0 +0.9**
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ LR LR
comp=Z,400nm,13.7s
WMQ LR LR
comp=Z,510nm,19.7s
WMQ LR LR
comp=Z,280nm,24.1s
PSA00 Pilbara Seismi 50.32 209 P **P** **19 03 21.4 -1.2**
PSA00 IAmb IAmb 19 03 36.0
comp=Z,24nm,1.2s
WRKA Warakurna 50.42 198 P **P** **19 03 22.0 -1.3**
DZM Mont Dzumac 50.55 152 *eS* **S** **19 10 33.7 -5.2**
comp=Z,75nm,25.7s
DZM *e*LR LR 19 17 49.9
comp=Z,708nm,22.6s
DZM Mont Dzumac 50.55 152 P **P** **19 03 24.2 -0.2**
DZM IAmb IAmb 19 03 51.0
comp=Z,12nm,1.0s
DZM Mont Dzumac 50.55 152 LR LR 19 22 29.3
comp=Z,438nm,21.3s,baz=24,slow=33
DZM Mont Dzumac 50.55 152 P **P** **19 03 25.7 +1.3**
INKA Innaminka 51.01 183 P **P** **19 03 26.9 -0.7**
OOD Oodnadatta 51.53 189 P **P** **19 03 31.3 -0.3**
ZSN Zaisan 51.94 313 *eP* **P** **19 03 34.6 0.0**
ZSN Zaisan 51.94 313 *eP* **P** **19 03 34.5 0.0**
ZAA0 Zalesovo Array 52.93 321 P **P** **19 03 40.3 -1.5**
ZALV Zalesovo Beam 52.93 321 P **P** **19 03 40.8 -0.9**
ZALV Zalesovo Beam 52.93 321 P **P** **19 03 41.0 -0.8**
comp=Z,3.8nm,0.4s,baz=111,slow=8.3,SNR=20
comp=Z,3.8nm,0.4s
K15K Wolf Creek Mou 53.41 29 P **P** **19 03 46.6 +1.5**
K15K IAmb IAmb 19 04 03.0
comp=Z,28nm,1.3s
MK31 Makanchi Array 53.64 312 *c iP* **P** **19 03 46.6 -0.5**
MKAR Makanchi Array 53.64 312 P **P** **19 03 46.8 -0.3**
comp=Z,3.1nm,0.4s,baz=88,slow=9.4,SNR=70
comp=Z,3.1nm,0.4s
MAKZ Makanchi 53.85 312 P **P** **19 03 48.4 -0.3**
MAKZ IAmb IAmb 19 03 49.9
comp=Z,14nm,1.2s
KIP Kipapa 53.87 80⇑ *eP* **P** **19 03 47.8 -1.3**
KIP pmax pmax
comp=Z,64nm,2.5s
J16K Anvik River 54.15 28 P **P** **19 03 50.3 -0.3**
J16K IAmb IAmb 19 03 55.4
comp=Z,14nm,1.1s
H17K Granite Mounta 55.01 26 P **P** **19 03 57.1 +0.3**
H17K IAmb IAmb 19 04 02.6
comp=Z,9.8nm,1.1s
STKA Stephens Creek 55.09 182 P **P** **19 03 56.6 -1.1**
comp=Z,4.7nm,1.0s
STKA Stephens Creek 55.09 182 P **P** **19 03 56.3 -1.4**
comp=Z,5.0nm,0.6s,baz=353,slow=9.2,SNR=19
comp=Z,5.0nm,0.6s
STKA Stephens Creek 55.09 182⇓ *eP* **P** **19 03 57.2 -0.5**
SHLS Shalkode 55.56 307 *eP* **P** **19 03 59.1 -2.3**
comp=Z,4.8nm,0.6s
SHLS Shalkode 55.56 307 *eP* **P** **19 03 59.0 -2.3**
SHLS pmax pmax
comp=Z,5.0nm,0.6s
H18K Honhosa River 55.70 26 P **P** **19 04 02.0 +0.2**
H18K IAmb IAmb 19 04 13.4
comp=Z,15nm,1.2s
UZB Uzynbulak 55.89 307 *eP* **P** **19 04 03.6 -0.1**
UZB Uzynbulak 55.89 307 *eP* **P** **19 04 03.5 -0.1**
FORT Forrest 55.94 196 P **P** **19 04 03.2 -0.6**
KPKS Kokpek 56.13 308 *eP* **P** **19 04 05.3 -0.1**
KPKS Kokpek 56.13 308 *eP* **P** **19 04 05.2 -0.1**
TDK Taldyqorghan 56.30 309 *eP* **P** **19 04 06.5 +0.1**
comp=Z,5.6nm,0.7s
TDK Taldyqorghan 56.30 309 *eP* **P** **19 04 06.5 +0.1**
TDK pmax pmax
comp=Z,6.0nm,0.7s
KURK Kurchatov 56.30 316 P **P** **19 04 05.4 -0.9**
KURK Kurchatov 56.30 316 *ceP* **P** **19 04 05.7 -0.6**
KURK pmax pmax
comp=Z,54nm,2.5s
ZHN Zhinishke 56.32 307 *eP* **P** **19 04 06.8 0.0**
ZHN Zhinishke 56.32 307 *eP* **P** **19 04 06.7 0.0**
SATY Saty 56.34 307 *eP* **P** **19 04 06.9 -0.1**
comp=Z,16nm,1.3s
SATY Saty 56.34 307 *eP* **P** **19 04 06.8 -0.1**
SATY pmax pmax
comp=Z,16nm,1.3s
KURBB Kurchatov Arra 56.35 316 P **P** **19 04 06.1 -0.6**
comp=Z,12nm,0.7s,baz=91,slow=7.9,SNR=129
comp=Z,12nm,0.7s
NRIK Noril'sk 56.38 339 IAmb IAmb 19 04 17.8
comp=Z,12nm,0.9s
NRIK Noril'sk 56.38 339 P **P** **19 04 06.2 -0.4**
comp=Z,12nm,0.9s,baz=113,slow=8.5,SNR=15
comp=Z,12nm,0.9s
NRIK Noril'sk 56.38 339 *c iP* **P** **19 04 06.8 +0.2**
NRIK pmax pmax
comp=Z,12nm,1.0s
BBOO Buckleboo 56.43 187 P **P** **19 04 06.1 -1.2**
J19K Poorman 56.48 28 P **P** **19 04 08.3 +0.9**
J20K Nowinta River 57.16 28 P **P** **19 04 13.6 +1.5**
J20K IAmb IAmb 19 04 23.9
comp=Z,14nm,1.2s
MDOK Medeo 57.33 307 *eP* **P** **19 04 14.1 +0.1**
MDOK Medeo 57.33 307 *eP* **P** **19 04 14.0 +0.1**
CHKK Chushkaly 57.34 308 *eP* **P** **19 04 13.8 -0.1**
CHKK Chushkaly 57.34 308 *eP* **P** **19 04 13.8 -0.1**
TNSS Tian-Shan 57.41 307 *eP* **P** **19 04 14.7 -0.1**
TNSS Tian-Shan 57.41 307 *eP* **P** **19 04 14.7 -0.1**
AAA Alma-Ata 57.42 307 *eP* **P** **19 04 14.6 0.0**
comp=Z,8.2nm,0.7s
AAA Alma-Ata 57.42 307 *eP* **P** **19 04 14.5 0.0**
AAA pmax pmax
comp=Z,8.0nm,0.7s
CAST Castle Rocks 57.88 29 P **P** **19 04 17.8 +0.5**
CAST IAmb IAmb 19 04 27.2
comp=Z,12nm,1.3s
H21K Melozitna Rive 58.08 26 IAmb IAmb 19 04 39.9
comp=Z,14nm,1.4s
BOOM Boomskoye usch 58.18 306 IAmb IAmb 19 04 36.5
comp=Z,11nm,0.6s
NRN Naryn 58.21 305 IAmb IAmb 19 04 22.4
comp=Z,6.8nm,0.8s
KSH Kashi 58.40 303 P **P** **19 04 25.2 +3.7**
KSH pmax pmax
comp=Z,20nm,0.8s
TKM2 Tokmak 2 58.41 307 P **P** **19 04 22.6 +1.0**
SNR=14
KBK Karagaybulak 58.90 307 P **P** **19 04 25.9 +0.9**
SNR=10
CHMS Chumysh 59.02 307 P **P** **19 04 26.6 +0.9**
SNR=6.5
SGDS Sogindy 59.08 308 *eP* **P** **19 04 26.4 +0.3**
SGDS Sogindy 59.08 308 *eP* **P** **19 04 26.4 +0.3**
USP Ospenovka 59.18 307 P **P** **19 04 26.9 +0.1**
SNR=7.7
AAK Ala-Archa 59.24 307 P **P** **19 04 27.8 +0.4**
AAK IAmb IAmb 19 04 29.1
comp=Z,12nm,1.2s
AAK Ala-Archa 59.24 307⇓ *eP* **P** **19 04 28.1 +0.8**
AAK pmax pmax
comp=Z,12nm,1.7s
SML Sawmill 59.32 31 IAmb IAmb 19 04 48.0
comp=Z,11nm,0.9s
I23K Minto, Yukon-K 59.38 27 IAmb IAmb 19 04 58.2
comp=Z,10nm,1.2s
BTLS Baital 59.39 310 *eP* **P** **19 04 28.2 +0.1**
comp=Z,13nm,1.3s
BTLS Baital 59.39 310 *eP* **P** **19 04 28.2 +0.1**
BTLS pmax pmax
comp=Z,13nm,1.3s
EKS2 Erkin-Say 59.76 307 P **P** **19 04 31.4 +0.6**
SNR=6.3
E23K Chandalar 59.85 24 IAmb IAmb 19 05 00.2
comp=Z,8.7nm,0.9s
AML Almayashu 59.87 306 P **P** **19 04 33.4 +1.4**
SNR=16
C23K Itkillik River 59.91 21 P **P** **19 04 33.3 +2.0**
IL31 60.36 28 IAmb IAmb 19 04 48.0
comp=Z,6.4nm,0.9s
ILAR Eielson Array 60.36 28 P **P** **19 04 34.5 0.0**
comp=Z,2.1nm,0.7s,baz=261,slow=5.7,SNR=23
comp=Z,2.1nm,0.7s
ARSB Arslanbob 60.48 305 IAmb IAmb 19 04 38.1
comp=Z,7.5nm,0.6s
F25K Christian Rive 61.25 24 IAmb IAmb 19 04 56.4
comp=Z,12nm,1.4s
D25K Kavik River 61.26 22 IAmb IAmb 19 04 55.6
comp=Z,7.2nm,0.7s
E25K Arctic Village 61.36 24 IAmb IAmb 19 05 04.0
comp=Z,17nm,1.4s
NIL Nilore 61.39 297 P **P** **19 04 41.5 -0.5**
NIL Nilore 61.39 297 P **P** **19 04 41.5 -0.5**
NIL pmax pmax
comp=Z,26nm,0.7s
BVAR Borovoye Array 61.44 319 P **P** **19 04 42.0 0.0**
comp=Z,35nm,0.7s,baz=92,slow=7.8,SNR=92
comp=Z,35nm,0.7s
BRVK Borovoye 61.50 319 P **P** **19 04 42.0 -0.4**
BRVK Borovoye 61.50 319 *ceP* **P** **19 04 42.5 +0.1**
BRVK pmax pmax
comp=Z,43nm,1.0s
SCRK Sand Creek 61.53 29 P **P** **19 04 43.4 +0.8**
SCRK IAmb IAmb 19 04 56.8
comp=Z,11nm,0.9s
DZA Taraz 61.53 307 *eP* **P** **19 04 42.8 0.0**
comp=Z,5.0nm,0.6s
DZA Taraz 61.53 307 *eP* **P** **19 04 42.8 0.0**
DZA pmax pmax
comp=Z,5.0nm,0.6s
J26L Joseph Creek 61.75 28 IAmb IAmb 19 04 58.3
comp=Z,14nm,1.2s
F26K Sheenjek River 61.83 24 IAmb IAmb 19 05 06.4
comp=Z,4.8nm,0.8s
KKAR Karatay Array 62.10 308 P **P** **19 04 46.8 +0.1**
KKAR Karatay Array 62.10 308 IAmb IAmb 19 04 48.7
comp=Z,19nm,0.8s
BRLS Borolday 62.60 308 *eP* **P** **19 04 51.0 +1.0**
comp=Z,4.3nm,0.7s
BRLS Borolday 62.60 308 *eP* **P** **19 04 51.0 +1.0**
BRLS pmax pmax
comp=Z,4.0nm,0.7s
CHM Chimkent 62.87 307 *eP* **P** **19 04 51.1 -0.7**
comp=Z,4.7nm,0.6s
CHM Chimkent 62.87 307 *eP* **P** **19 04 51.9 +0.1**
CHM pmax pmax
comp=Z,5.0nm,0.6s
I28M Miner Creek 63.34 27 P **P** **19 04 55.9 +1.3**
I28M IAmb IAmb 19 05 09.5
comp=Z,8.1nm,1.0s
F28M Old Crow 63.45 25 IAmb IAmb 19 05 17.9
comp=Z,8.3nm,1.1s
E28M Babbage River 63.63 24 IAmb IAmb 19 05 06.9
comp=Z,12nm,1.3s
SIMJ Simiganj 63.89 303 P **P** **19 04 59.0 +0.2**
M29M Somme Creek 63.98 30 P **P** **19 05 00.6 +1.7**
M29M IAmb IAmb 19 05 28.4
comp=Z,5.7nm,0.8s
I29M Ogilvie Camp, 64.03 27 IAmb IAmb 19 05 09.6
comp=Z,8.5nm,1.2s
E29M Blow River 64.22 24 IAmb IAmb 19 05 23.3
comp=Z,11nm,1.5s
K29M Barlow Dome 64.38 29 IAmb IAmb 19 05 11.5
comp=Z,6.9nm,1.1s
KBL Kabul 64.64 298 P **P** **19 05 04.1 +0.2**
KBL Kabul 64.64 298 P **P** **19 05 04.1 +0.2**
KBL pmax pmax
comp=Z,37nm,0.9s
EPYK Eagle Plains 64.67 26 IAmb IAmb 19 05 22.5
comp=Z,16nm,1.1s
G30M tAoh Zraii Nji 64.86 25 IAmb IAmb 19 05 26.0
comp=Z,13nm,1.1s
H31M Peel River 65.66 27 IAmb IAmb 19 05 27.9
comp=Z,13nm,1.2s
INK Inuvik 65.85 24 IAmb IAmb 19 05 28.1
comp=Z,11nm,1.4s
SVE Sverdlovsk 66.74 324 *eP* **P** **19 05 16.9 +0.1**
SVE pmax pmax
comp=Z,17nm,0.8s
ARTI Arti 68.04 323 P **P** **19 05 23.1 -1.9**
ARTI Arti 68.04 323 *c iP* **P** **19 05 24.8 -0.2**
ARTI 19 05 47.5
ARTI S **S** **19 14 25.3 +1.0**
ARTI pmax pmax
comp=Z,16nm,0.7s
ABKAR Akbulak array 68.40 316 P **P** **19 05 26.6 -0.8**
ABKAR Akbulak array 68.40 316 IAmb IAmb 19 05 28.2
comp=Z,11nm,0.6s
RTZ Ruatahuna 69.35 152 P **P** **19 05 33.6 +0.2**
BKZ Black Stump Fm 69.61 153 P **P** **19 05 34.8 -0.1**
KIRV Kirov 72.28 327⇑ *eP* **P** **19 05 50.8 -0.1**
SPITS Spitsbergen Ar 74.10 350 P **P** **19 06 02.2 +0.8**
comp=Z,5.2nm,0.7s,baz=83,slow=7.1,SNR=5.7
comp=Z,5.2nm,0.7s
YKA Yellowknife Ar 74.78 28 P **P** **19 06 04.7 -0.8**
comp=Z,0.9nm,0.6s,baz=81,slow=15,SNR=5.0
comp=Z,0.9nm,0.6s
BELG Belogornoye 75.12 321⇑ *eP* **P** **19 06 08.3 +0.6**
BELG pmax pmax
comp=Z,4.0nm,0.9s
KLMR Klimovskoe 76.23 331 *eP* **P** **19 06 12.0 -1.9**
KLMR *e* 19 06 23.1
KLMR pmax pmax
comp=Z,24nm,1.5s
PPT2 Papeete2 77.14 116 *eS* **S** **19 16 11.8 +2.4**
comp=Z,32nm,23.2s
PPT2 Papeete2 77.14 116 *e*LR LR 19 29 50.1
comp=Z,138nm,37.8s
PPT2 *e*LR LR 19 30 02.5
comp=Z,197nm,25.0s
ARCES ARCESS Array B 77.28 341 P **P** **19 06 19.5 -0.2**
comp=Z,7.8nm,0.8s,baz=72,slow=8.1,SNR=26
comp=Z,7.8nm,0.8s
JOF Joensuu 78.78 334 *eP* **P** **19 06 27.4 -0.7**
AKT Akhty 78.84 310 *eP* **P** **19 06 26.3 -2.8**
AKT *e* 19 06 36.8
AKT *e* 19 09 22.0
AKT pmax pmax
comp=Z,33nm,1.4s
VRH Novokhopyorsk 78.97 321 P **P** **19 06 29.8 +0.4**
VRH pmax pmax
comp=Z,26nm,2.1s
LPSR Galich'ya Gora 79.96 323 *eP* **P** **19 06 34.4 -0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 80.10 326 *i* P **P** **19 06 36.0 +0.5**
OBN *i* 19 06 40.2
OBN pmax pmax
comp=Z,6.0nm,0.8s
TBI Tubuai 80.13 121 *e*LR LR 19 31 33.2
comp=Z,2µm,33.5s
VORR Voronezh 80.20 322 *eP* **P** **19 06 34.9 -1.2**
VSR Storozhevoye 80.42 322 *eP* **P** **19 06 35.6 -1.7**
VSR pmax pmax
comp=Z,6.0nm,0.6s
KBZ Khabaz 81.26 314 P **P** **19 06 41.6 -0.3**
comp=Z,9.7nm,0.7s,baz=85,slow=4.5,SNR=20
comp=Z,9.7nm,0.7s
KBZ Khabaz 81.26 314⇓ *eP* **P** **19 06 42.5 +0.6**
KBZ pmax pmax
comp=Z,11nm,0.8s
KIV Kislovodsk 81.31 314 *eP* **P** **19 06 42.8 +0.5**
KIV pmax pmax
comp=Z,6.0nm,1.1s
FINES FINESS Array B 81.64 334 P **P** **19 06 42.6 -1.0**
comp=Z,3.6nm,0.4s,baz=66,slow=5.0,SNR=40
comp=Z,3.6nm,0.4s
KEF Keuruu 81.70 335 *eP* **P** **19 06 43.2 -0.7**
NVAR Mina Array Bea 81.88 52 P **P** **19 06 45.0 -0.6**
comp=Z,1.1nm,0.7s,baz=290,slow=5.5,SNR=6.0
comp=Z,1.1nm,0.7s
ARBE Arbavere 82.83 333 *eP* **P** **19 06 49.1 -0.7**
SOC Sochi 83.42 315 *eP* **P** **19 06 51.6 -1.6**
SOC *e* 19 09 58.5
SOC *e*S **S** **19 17 12.5 -2.1**
SOC *e*SS **SS** **19 22 45.7 +6.4**
TPNV Topopah Spring 83.97 52 P **P** **19 06 57.4 +0.9**
ANN Anapa 84.33 317 *eP* **P** **19 06 56.1 -1.8**
ANN *e*'PP **pP** **19 06 59.5 -0.1**
ANN *e*S **SKSac** **19 17 17.3 -4.4**
ANN pmax pmax
comp=Z,47nm,1.1s
MNK Minsk 84.75 328 *i* P **P** **19 06 58.5 -1.3**
comp=E,12nm,0.9s
MNK *i* P **P** **19 06 58.5 -1.3**
comp=N,20nm,0.9s
MNK *i* P **P** **19 06 58.5 -1.3**
comp=Z,9.0nm,0.8s,baz=56
MNK *i* PP **PP** **19 10 14.4 -0.9**
MNK *i* PPP PPP 19 12 07.1

MNK				*i* S	**SKSac**	**19 17 21.9**	**-2.2**
MNK				*i* SS	**SS**	**19 23 00.0**	**+1.7**
MNK				*i* SSS	SSS	19 26 30.5	
MNK				*i* LR	LR	19 42 53.2	
MNK				*i* LRM	MLR	19 46 19.8	
	comp=N,628nm,14.8s						
MNK				*i* LRM	MLR	19 47 36.2	
	comp=Z,526nm,14.7s						
MNK				*i* LRM	MLR	19 47 37.2	
	comp=E,788nm,19.9s						
MNK	**Minsk**	**84.75**	**328**	*i* P	**P**	**19 06 58.4**	**-1.3**
MNK				*i*		19 10 14.3	
MNK				*i* PPP	PPP	19 12 07.1	
MNK				*i* S	**SKSac**	**19 17 21.9**	**-2.2**
MNK				*i* SS	**SS**	**19 23 00.0**	**+1.7**
MNK				*i* SSS	SSS	19 26 30.5	
MNK				pmax	pmax		
	comp=E,12nm,0.9s						
MNK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MNK				pmax	pmax		
	comp=N,20nm,0.9s						
MNK				MLR	MLR		
	comp=N,628nm,15.0s						
MNK				MLR	MLR		
	comp=Z,526nm,15.0s						
MNK				MLR	MLR		
	comp=E,788nm,20.0s						
DUG	**Dugway, Tooele**	**85.00**	**48**	P	**P**	**19 07 01.6**	**0.0**
DUG	**Dugway, Tooele**	**85.00**	**48**	P	**P**	**19 07 01.6**	**0.0**
DUG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
NACGM	**Naroch**	**85.06**	**329**	*e*P	**P**	**19 07 00.1**	**-1.2**
JLU	**Jordanelle**	**85.74**	**47**	IAmb	IAmb	19 07 31.3	
	comp=Z,11nm,1.4s						
PDAR	**Pinedale Array**	**85.99**	**45**	P	**P**	**19 07 05.7**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=90,slow=1.5,SNR=2.5						
	comp=Z,0.2nm,0.5s						
PABE	**Paberze**	**86.02**	**330**	P	**P**	**19 07 04.2**	**-1.8**
PABE	**Paberze**	**86.02**	**330**	*e*P	**P**	**19 07 05.2**	**-0.8**
AKASG	**Malin Array Be**	**86.16**	**324**	P	**P**	**19 07 05.2**	**-1.7**
	comp=Z,1.3nm,0.5s,baz=55,slow=5.0,SNR=8.9						
	comp=Z,1.3nm,0.5s						
AKASG	**Malin Array Be**	**86.16**	**324**	*i* P	**P**	**19 07 08.8**	**+1.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKBB	**Malin Array Si**	**86.16**	**324**	*e*P	**P**	**19 07 08.5**	**+1.6**
U15A	**North Rim**	**87.06**	**51**	P	**P**	**19 07 13.5**	**+1.5**
U15A				IAmb	IAmb	19 07 33.6	
	comp=Z,7.5nm,1.4s						
SRU	**San Rafael Swe**	**87.06**	**48**	P	**P**	**19 07 12.9**	**+1.0**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HFS	**Hagfors**	**87.15**	**337**	P	**P**	**19 07 09.8**	**-1.8**
	comp=Z,1.7nm,0.5s,baz=95,slow=3.6,SNR=11						
	comp=Z,1.7nm,0.5s						
NB2	**NORSAR Subarra**	**87.34**	**339**	P	**P**	**19 07 12.1**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=46,slow=4.8						
NOA	**NORSAR Array B**	**87.34**	**339**	P	**P**	**19 07 11.0**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=43,slow=4.5,SNR=2.0						
	comp=Z,0.7nm,0.7s						
RAYN	**Ar Rayn**	**87.61**	**294**	P	**P**	**19 07 14.1**	**-0.5**
RAYN				IAmb	IAmb	19 07 28.4	
	comp=Z,8.2nm,0.8s						
RAYN	**Ar Rayn**	**87.61**	**294**	P	**P**	**19 07 14.1**	**-0.5**
BRTR	**Keskin Array B**	**89.25**	**313**	P	**P**	**19 07 21.3**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=116,slow=2.9,SNR=6.8						
	comp=Z,1.4nm,0.8s						
RKT	**Rikitea**	**91.83**	**114**	*e*LR	LR	19 36 55.7	
	comp=Z,707nm,27.5s						
LANS	**Liptovska Anna**	**92.14**	**327**	*e*P	P	19 07 46.9	+12
VYHS	**Vyhne**	**92.89**	**327**	*e*P	**P**	**19 07 38.7**	**0.0**
VYHS	**Vyhne**	**92.89**	**327**	*e*P	**P**	**19 07 38.7**	**0.0**
VYHS				*e*		19 07 51.0	
BOSA	**Boshof**	**124.72**	**251**	PKP	**PKPdf**	**19 13 25.2**	**-0.8**
	comp=Z,1.9nm,1.0s,baz=117,slow=6.8,SNR=1.0						
TORD	**Torodi Ar. Bea**	**127.75**	**310**	PKP	**PKPdf**	**19 13 31.8**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=16,slow=4.0,SNR=3.7						
PLCA	**Paso Flores**	**146.77**	**129**	PKPbc	**PKPdf**	**19 14 08.2**	**+1.9**
	comp=Z,3.0nm,0.5s,baz=238,slow=11,SNR=7.1						
LPAZ	**La Paz**	**149.55**	**82**	PKPbc	**PKPbc**	**19 14 16.9**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=208,slow=4.2,SNR=9.0						

*PRE **04** 18:58:06.2±0.7, 26°.33S×27°.70E, h2km, ML2.5*
*IDC **04** 18:58:10.4±2.1, 26°.13S×27°.46E, h0km, mb3.5/1, mbtmp3.7/5, ML3.1/4, Error ellipse: s-maj=35.3km s-min=12.8km az=111.0*
*BGSI **04** 18:58:13.9±3.4, 26°.22S×28°.00E, h122km±137km, ML2.9*

ISC 04 18:58:06.6±0.7, 26°.33S±0°.04×27°.76E±0°.04, h5km, n30, σ2°.30/52, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HRAO	**HartRAO**	**0.44**	**351**	*e*P	**Pg**	**18 58 14.5**	**-0.6**
HRAO				*e*S	**Sg**	**18 58 21.2**	**+0.3**
HRAO				IAML		18 58 26.9	
	comp=Z,461nm,1.0s						
CRLN	**Carolina, Mapu**	**2.06**	**81**	*e*P	**Pb**	**18 58 43.6**	**-1.0**
CRLN				*e*S	**Sg**	**18 59 11.0**	**-1.9**
CRLN				IAML		18 59 13.8	
	comp=Z,43nm,0.6s						
LEPH	**Lephalale, Lim**	**2.46**	**1**	*e*P	**Pn**	**18 58 48.4**	**+0.9**
LEPH				*e*S	**Sn**	**18 59 18.0**	**+0.1**
LEPH				IAML		18 59 24.8	
	comp=Z,32nm,0.7s						
BOSA	**Boshof**	**3.18**	**224**	*e*P	**Pn**	**18 58 58.1**	**+0.6**
BOSA				*e*S	**Sn**	**18 59 35.5**	**-0.3**
BOSA				IAML		18 59 56.1	
	comp=Z,23nm,0.5s						
BOSA	**Boshof**	**3.18**	**224**	Pn	**Pb**	**18 59 02.0**	**-1.7**
	comp=Z,3.8nm,0.3s,baz=44,slow=13,SNR=155						
BOSA				Pg	**Pg**	**18 59 08.7**	**+1.0**
	comp=Z,6.3nm,0.3s,baz=46,slow=15,SNR=31						
BOSA				Sn	**Sn**	**18 59 39.6**	**+3.8**
	comp=Z,2.9nm,0.3s,baz=213,slow=18,SNR=5.9						
BOSA				Lg	Lg	18 59 50.0	
	comp=Z,4.6nm,0.3s,baz=319,slow=15,SNR=9.9						
	comp=Z,8.1nm,0.3s						
LPHEP	**Lephephe**	**3.42**	**329**	*i* P	**Pn**	**18 59 04.7**	**+4.0**
LPHEP				*i* S	**Sn**	**18 59 42.5**	**+0.8**
LPHEP				IAML		18 59 59.4	
	comp=E,26nm,0.5s						
SKOMA	**Sekoma**	**3.90**	**297**	*i* P	**Pn**	**18 59 10.8**	**+3.5**
SKOMA				IAML		19 00 15.5	
	comp=N,51nm,0.4s						
PMBG	**Pietermaritzbu**	**4.00**	**143**	*e*P	**Pn**	**18 59 09.7**	**+1.1**
PMBG				IAML		19 00 17.8	
	comp=Z,22nm,0.5s						
KDWAN	**Kaudwane**	**4.07**	**316**	*i* P	**Pn**	**18 59 13.2**	**+3.6**
KDWAN				*i* S	**Sn**	**18 59 57.7**	**+0.1**
KDWAN				IAML		19 00 17.1	
	comp=E,62nm,0.4s						
MOPA	**Mopani**	**4.33**	**51**	*e*P	**Pn**	**18 59 14.2**	**+1.1**
MOPA				*e*S	**Sn**	**19 00 03.9**	**-0.1**
MOPA				IAML		19 00 22.4	
	comp=Z,30nm,0.3s						
MUSN	**Musina, Limpop**	**4.46**	**26**	*e*P	**Pn**	**18 59 16.3**	**+1.4**
MUSN				*e*S	**Sn**	**19 00 07.0**	**-0.1**
MUSN				IAML		19 00 28.4	
	comp=Z,16nm,0.3s						
BROLN	**Tlhalogang**	**5.22**	**356**	*i* P	**Pn**	**18 59 25.9**	**+0.5**
BROLN				*i* S	Sn	19 00 17.6	-8.5
BROLN				IAML		19 00 32.2	
	comp=N,10nm,1.6s						
SOOWA	**Sowa**	**5.91**	**346**	*i* P	**Pn**	**18 59 37.4**	**+2.4**
SOOWA				IAML		19 01 14.4	
	comp=E,33nm,1.6s						
MATP	**Matopo**	**5.91**	**7**	Pn	**Pn**	**18 59 38.4**	**+3.4**
	comp=E,0.3nm,0.3s,baz=186,slow=13,SNR=12						
MATP				Sn	**Sn**	**19 00 43.4**	**+0.1**
	comp=E,0.5nm,0.3s,baz=86,slow=22,SNR=6.3						
MATP				Lg	Lg	19 01 11.5	
	comp=E,0.7nm,0.3s,baz=93,slow=21,SNR=5.1						
	comp=E,0.9nm,0.4s						
ALKP	**Alkanpan, Nort**	**6.05**	**232**	*e*P	**Pn**	**18 59 37.6**	**+0.7**
ALKP				*e*S	**Sn**	**19 00 43.4**	**-3.2**
ALKP				IAML		19 01 29.5	
	comp=Z,12nm,0.6s						
CKGRV	**CKGRV**	**6.11**	**323**	*i* P	**Pn**	**18 59 40.5**	**+2.8**
CKGRV				*i* S	Sn	19 00 41.3	-6.8
CKGRV				IAML		19 01 25.3	
	comp=E,46nm,0.7s						
KGCAE	**Kacgae**	**6.12**	**303**	*i* P	**Pn**	**18 59 40.0**	**+2.1**
KGCAE				*i* S	**Sn**	**19 00 45.8**	**-2.6**
KGCAE				IAML		19 01 27.9	
	comp=N,36nm,1.4s						
LKGWB	**Lokgwabe**	**6.32**	**289**	*i* P	**Pn**	**18 59 41.8**	**+1.2**
KEIM	**Keimoes**	**6.48**	**247**	*e*P	**Pn**	**18 59 43.0**	**+0.3**
KEIM				*e*S	**Sn**	**19 00 53.2**	**-3.8**
KEIM				IAML		19 01 41.7	
	comp=Z,9.3nm,0.4s						
BFON	**Badsfontein, M**	**6.51**	**212**	*e*P	**Pn**	**18 59 43.7**	**+0.5**
BFON				*e*S	**Sn**	**19 00 55.1**	**-2.8**
BFON				IAML		19 01 46.7	
	comp=Z,8.5nm,0.5s						
GRAF	**Camdeboo Natio**	**6.58**	**205**	*e*P	**Pn**	**18 59 44.8**	**+0.6**
GRAF				*e*S	**Sn**	**19 00 56.8**	**-2.8**
GRAF				IAML		19 01 42.0	
	comp=Z,4.4nm,0.5s						
BRAK	**Brakfontein**	**6.90**	**217**	*e*P	**Pn**	**18 59 49.0**	**+0.5**
BRAK				*e*S	**Sn**	**19 01 04.1**	**-3.4**
BRAK				IAML		19 01 16.2	
	comp=Z,3.9nm,0.3s						
GRAN	**Grantham**	**7.70**	**218**	*e*P	**Pn**	**19 00 00.0**	**+0.6**
GRAN				*e*S	**Sn**	**19 01 23.5**	**-3.6**
GRAN				IAML		19 02 31.3	
	comp=Z,6.2nm,1.0s						
FRAZ	**Fraserburg**	**7.87**	**223**	*e*P	**Pn**	**19 00 02.5**	**+0.6**
FRAZ				*e*S	**Sn**	**19 01 28.0**	**-3.5**
FRAZ				IAML		19 01 38.3	
	comp=Z,2.6nm,0.4s						
SUR	**Sutherland**	**8.55**	**224**	Pn	**Pn**	**19 00 15.9**	**+4.7**
	comp=Z,0.8nm,0.3s,baz=56,slow=12,SNR=12						
SUR				Sn	**Sn**	**19 01 49.4**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=141,slow=22,SNR=5.7						
SUR				Lg	Lg	19 02 39.2	
	comp=Z,0.8nm,0.3s,baz=286,slow=22,SNR=2.2						
	comp=Z,12nm,0.9s						
QNGWA	**Qangwa**	**9.09**	**317**	*i* P	**Pn**	**19 00 20.6**	**+2.0**
KOMG	**Komaggas**	**9.71**	**247**	*e*P	**Pn**	**19 00 27.6**	**+0.6**
KOMG				*e*S	**Sn**	**19 02 11.3**	**-5.2**
KOMG				IAML		19 02 18.0	
	comp=Z,3.0nm,0.5s						
TSUM	**Tsumeb**	**11.76**	**305**	Pn	**Pn**	**19 00 54.7**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=132,slow=14,SNR=2.0						
TSUM				Sn	**Sn**	**19 03 04.4**	**-2.6**
	comp=Z,0.7nm,0.3s,baz=117,slow=16,SNR=1.9						
TSUM				Lg	Lg	19 04 11.6	
	comp=Z,0.2nm,0.3s,baz=135,slow=15,SNR=1.1						
	comp=Z,1.9nm,0.4s						
TORD	**Torodi Ar. Bea**	**46.72**	**324**	P	**P**	**19 06 39.7**	**+2.9**
	comp=Z,0.5nm,0.6s,baz=132,slow=7.3,SNR=4.2						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	**137.18**	**286**	PKP	**PKiKP**	**19 17 33.5**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=142,slow=4.6,SNR=4.9						

*IDC **04** 19:02:22.4±3.3, 22°.30N×141°.75E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=146.7km s-min=31.4km az=76.0*

ISC 04 19:02:21.1±2.7, 22°.6N±0°.2×142°.7E±0°.8, h10km, n6, σ1°.54/6, mb4.0/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**14.41**	**345**	Pn	**Pn**	**19 05 43.8**	**-1.4**
	baz=173,slow=12,SNR=1.0						
ASAR	**Alice Springs**	**46.79**	**191**	P	**P**	**19 10 50.1**	**-0.9**
	0.4nm,0.7s,baz=360,slow=9.0,SNR=3.8						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**53.72**	**312**	P	**P**	**19 11 43.3**	**-0.2**
	0.3nm,0.4s,baz=81,slow=8.9,SNR=6.8						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**56.53**	**317**	P	**P**	**19 12 04.1**	**+0.6**
	0.7nm,0.4s,baz=89,slow=7.7,SNR=13						
	0.7nm,0.4s						
BVAR	**Borovoye Array**	**61.66**	**319**	P	**P**	**19 12 39.9**	**+0.7**
	2.8nm,0.7s,baz=85,slow=6.7,SNR=13						
	2.8nm,0.7s						
FINES	**FINESS Array B**	**82.15**	**334**	P	**P**	**19 14 43.8**	**+1.8**
	1.9nm,0.9s,baz=57,slow=5.1,SNR=5.0						
	1.9nm,0.9s						

ANF 04 19:07:34.0±0.2, 61°.19N×140°.58W, h8km±2km, Error ellipse: s-maj=1.5km s-min=1.5km az=138.0, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK8	**Steele Glacier**	**0.41**	**75**	P	Pg	19 07 42.2	+0.3
	baz=256,SNR=49						
YUK8				S	Sg	19 07 47.7	+0.4
	baz=256						
CTG	**Chitna Glacier**	**0.43**	**240**	P	Pg	19 07 42.6	+0.2
	baz=58,SNR=29						
CTG				S	Sg	19 07 48.7	+0.7
	baz=58						
O28M	**Mount Upton**	**0.46**	**155**	P	Pg	19 07 43.1	+0.3
	baz=334,SNR=53						
O28M				S	Sg	19 07 49.7	+0.8
	baz=334						
YUK3	**Moose Creek**	**0.60**	**5**	P	Pg	19 07 45.6	+0.1
	baz=186,SNR=15						
YUK3				S	Sg	19 07 54.2	+0.9
	baz=186						
PINM	**Pinnacle**	**1.10**	**171**	S	Sn	19 08 10.7	-0.6
	baz=351						
YUK6	**Outpost Mounta**	**1.10**	**102**	P	Pg	19 07 54.9	-0.2
	baz=283,SNR=11						
CRQE	**Cirque**	**1.30**	**252**	P	Pn	19 07 58.2	-0.3
	baz=69						
CRQE				S	Sn	19 08 16.5	+0.4
	baz=69						
O29M	**Mount Kennedy**	**1.32**	**131**	P	Pg	19 07 59.3	0.0
	baz=313,SNR=7.2						
O29M				S	Sn	19 08 17.3	+0.6
	baz=313						
M27K	**Edge Creek, AK**	**1.33**	**333**	P	Pb	19 07 59.1	-0.1
	baz=152,SNR=7.6						
M27K				S	Sn	19 08 17.5	+0.6
	baz=152						
M27K				S	Sn	19 08 17.5	+0.6
	baz=152						
M26K	**Nabesna, AK**	**1.68**	**318**	Sb	Sg	19 08 27.9	+0.1
	baz=136						

ANF 04 19:08:24.5±0.3, 61°.18N×140°.56W, h12km±3km, Error ellipse: s-maj=2.4km s-min=2.1km az=106.0, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK8	**Steele Glacier**	**0.40**	**74**	P	Pg	19 08 32.9	+0.3
	baz=255,SNR=15						
YUK8				S	Sg	19 08 37.9	+0.1
	baz=255						
CTG	**Chitna Glacier**	**0.44**	**241**	P	Pg	19 08 33.3	+0.1
	baz=60,SNR=16						
CTG				S	Sg	19 08 39.6	+0.6
	baz=60						
O28M	**Mount Upton**	**0.44**	**156**	P	Pg	19 08 33.8	+0.5
	baz=334,SNR=24						
O28M				S	Sb	19 08 40.3	-0.9
	baz=334						
YUK3	**Moose Creek**	**0.60**	**4**	S	Sb	19 08 45.2	-0.5
	baz=186						
YUK6	**Outpost Mounta**	**1.09**	**101**	P	Pg	19 08 45.6	+0.1
	baz=283,SNR=6.8						
PINM	**Pinnacle**	**1.09**	**172**	S	Sg	19 09 00.2	+0.4
	baz=351						
MCARA	**McCarthy VSAT**	**1.21**	**281**	S	Sn	19 09 03.6	0.0
	baz=99						
CRQE	**Cirque**	**1.31**	**252**	P	Pn	19 08 48.8	0.0
	baz=70						
CRQE				S	Sn	19 09 06.2	-0.1
	baz=70						
O29M	**Mount Kennedy**	**1.31**	**131**	Sb	Sg	19 09 07.5	+0.8
	baz=312						
M27K	**Edge Creek, AK**	**1.34**	**333**	S	Sg	19 09 07.9	+0.2
	baz=152						
M29M	**Somme Creek**	**1.61**	**37**	Sb	Sg	19 09 16.6	+0.2
	baz=219						
M26K	**Nabesna, AK**	**1.69**	**318**	S	Sg	19 09 17.9	-1.0
	baz=136						

*IDC **04** 19:13:16.8±3.0, 37°.20N×20°.29E, h0km, mb3.6/6, mbtmp3.6/9, ML3.4/2, MS3.0/1, Error ellipse: s-maj=56.0km s-min=28.7km az=56.0*

*ATH **04** 19:13:21.4, 37°.44N×20°.42E, h10km±2km, ML3.5/8, Error ellipse: s-maj=3.0km s-min=1.1km az=31.0*
*TIR **04** 19:13:21.6, 37°.58N×19°.72E, h12km±4km, Ml3.5*
*THE **04** 19:13:22.4, 37°.50N×20°.49E, h11km, ML3.4/6, Error ellipse: s-maj=0.9km s-min=0.3km az=21.0*

ISC 04 19:13:19.7±1.4, 37°.39N±0°.04×20°.40E±0°.04, h8km±9km, n64, σ1°.20/99, mb3.6/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.43**	**51**	P	**Pg**	**19 13 28.5**	**+0.4**
KRI1				S	**Sg**	**19 13 34.0**	**+0.2**
	47μm,0.3s						
LTHK	**Lithakia**	**0.47**	**47**	P	**Pg**	**19 13 29.3**	**+0.4**
LTHK				S	**Sg**	**19 13 34.8**	**-0.3**
LTHK	**Lithakia**	**0.47**	**47**	P	**Pg**	**19 13 29.3**	**+0.4**
LTHK				S	**Sg**	**19 13 34.6**	**-0.5**
LTHK				AML	AML	19 13 35.8	
	comp=E,62689μm,0.4s						
LTHK				AML	AML	19 13 35.8	
	comp=N,54436μm,0.3s						
LTHK	**Lithakia**	**0.47**	**47**	P	**Pg**	**19 13 29.3**	**+0.4**
LTHK				S	**Sg**	**19 13 34.8**	**-0.3**
LTHK				AML	AML	19 13 35.8	
	comp=E,62689μm,0.4s						
LTHK				AML	AML	19 13 35.8	
	comp=N,54436μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.74**	**11**	P	**Pg**	**19 13 34.2**	**+0.3**
PSDA				S	**Sg**	**19 13 43.4**	**-0.2**
	comp=N,4μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.74**	**11**	P	**Pg**	**19 13 34.3**	**+0.4**
PSDA				S	**Sg**	**19 13 43.8**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.74**	**11**	P	**Pb**	**19 13 34.6**	**-0.2**
PSDA				S	**Sg**	**19 13 43.4**	**-0.2**
VLS	**Valsamata**	**0.80**	**11**	P	**Pg**	**19 13 35.3**	**+0.2**
VLS				S	**Sg**	**19 13 45.5**	**-0.1**
VLS	**Valsamata**	**0.80**	**11**	P	**Pg**	**19 13 35.5**	**+0.4**
VLS				S	**Sg**	**19 13 45.2**	**-0.4**
VLS				AML	AML	19 13 50.5	
	comp=E,3169μm,0.4s						
VLS				AML	AML	19 13 51.2	
	comp=N,7801μm,0.6s						
VLS	**Valsamata**	**0.80**	**11**	P	**Pg**	**19 13 35.3**	**+0.2**
VLS				S	**Sg**	**19 13 45.9**	**+0.3**
VLS				AML	AML	19 13 50.5	
	comp=E,3169μm,0.4s						
VLS				AML	AML	19 13 51.2	
	comp=N,7801μm,0.6s						
LXRA	**Lixouri, Kepha**	**0.81**	**2**	P	**Pb**	**19 13 36.4**	**+0.4**
LXRA				S	**Sg**	**19 13 45.1**	**-0.7**
LXRA	**Lixouri, Kepha**	**0.81**	**2**	P	**Pb**	**19 13 36.4**	**+0.4**
DMLN	**Damoulianata-K**	**0.85**	**359**	P	**Pg**	**19 13 36.4**	**+0.4**
DMLN	**Damoulianata-K**	**0.85**	**359**	P	**Pb**	**19 13 36.5**	**-0.2**
DMLN				S	**Sg**	**19 13 47.1**	**0.0**
DMLN	**Damoulianata-K**	**0.85**	**359**	P	**Pg**	**19 13 36.4**	**+0.4**
DMLN				S	**Sn**	**19 13 50.0**	**-0.6**
VSK1	**VASILIKIADES**	**1.03**	**7**	P	**Pg**	**19 13 39.5**	**+0.1**
AMT	**Artemida-Makis**	**1.05**	**82**	P	**Pn**	**19 13 40.8**	**+0.1**
AMT				S	**Sn**	**19 13 56.1**	**+0.5**
AMT	**Artemida-Makis**	**1.05**	**82**	P	**Pb**	**19 13 40.4**	**+0.2**
AMT				S	**Sg**	**19 13 52.7**	**-0.8**
AMT				AML	AML	19 14 01.8	
	comp=E,17206μm,0.3s						
AMT				AML	AML	19 14 02.9	
	comp=N,17640μm,0.3s						
AMT	**Artemida-Makis**	**1.05**	**82**	P	**Pn**	**19 13 40.8**	**+0.1**
AMT				S	**Sn**	**19 13 56.1**	**+0.5**
AMT				AML	AML	19 14 01.8	
	comp=E,17206μm,0.3s						
AMT				AML	AML	19 14 02.9	
	comp=N,17640μm,0.3s						
FSK	**Fiskardo**	**1.08**	**7**	P	**Pb**	**19 13 40.6**	**+0.1**
FSK				S	**Sg**	**19 13 54.6**	**+0.2**
FSK	**Fiskardo**	**1.08**	**7**	P	**Pg**	**19 13 40.5**	**+0.1**
FSK				S	**Sg**	**19 13 53.8**	**-0.6**
FSK				AML	AML	19 14 03.1	
	comp=E,1979μm,0.4s						
FSK				AML	AML	19 14 04.9	
	comp=N,2846μm,0.6s						
FSK	**Fiskardo**	**1.08**	**7**	P	**Pb**	**19 13 40.6**	**+0.1**
FSK				S	**Sg**	**19 13 54.6**	**+0.2**
FSK				AML	AML	19 13 59.1	
	comp=E,1987μm,0.4s						
FSK				AML	AML	19 14 04.9	
	comp=N,2846μm,0.6s						
RLS	**Riolos of Patr**	**1.08**	**51**	P	**Pg**	**19 13 40.2**	**-0.2**
RLS				S	**Sg**	**19 13 54.2**	**-0.2**
	comp=N,1μm,0.4s						
RLS	**Riolos of Patr**	**1.08**	**51**	P	**Pg**	**19 13 39.6**	**-0.8**
RLS				S	**Sg**	**19 13 53.5**	**-0.9**
RLS				AML	AML	19 13 59.0	
	comp=E,2547μm,0.4s						
RLS				AML	AML	19 14 00.7	
	comp=N,2998μm,0.5s						
RLS	**Riolos of Patr**	**1.08**	**51**	P	**Pg**	**19 13 39.9**	**-0.5**
RLS				S	**Sg**	**19 13 54.2**	**-0.2**
RLS				AML	AML	19 13 59.0	
	comp=E,2547μm,0.4s						
RLS				AML	AML	19 14 00.7	
	comp=N,2998μm,0.5s						
PYL	**PYLOS**	**1.18**	**114**	P	**Pn**	**19 13 43.2**	**+0.7**
PYL				S	**Sn**	**19 14 00.4**	**+1.7**
	comp=N,2μm,0.3s						
PYL	**PYLOS**	**1.18**	**114**	P	**Pn**	**19 13 43.2**	**+0.7**
PYL				S	**Sb**	**19 13 57.9**	**+0.1**
PYL				AML	AML	19 14 02.0	
	comp=N,3857μm,0.3s						
PYL				AML	AML	19 14 03.5	
	comp=E,2209μm,0.4s						
PYL	**PYLOS**	**1.18**	**114**	P	**Pn**	**19 13 43.2**	**+0.7**
PYL				S	**Sn**	**19 13 59.7**	**+0.9**
PYL				AML	AML	19 14 02.0	
	comp=N,3857μm,0.3s						
PYL				AML	AML	19 14 03.5	
	comp=E,2209μm,0.4s						
DRO	**Drossia**	**1.18**	**61**	P	**Pb**	**19 13 42.2**	**-0.2**
DRO				S	**Sg**	**19 13 57.8**	**0.0**
	comp=E,3μm,0.6s						
DRO	**Drossia**	**1.18**	**61**	P	**Pn**	**19 13 42.9**	**+0.4**
DRO				S	**Sg**	**19 13 57.4**	**-0.3**
DRO				AML	AML	19 14 03.8	
	comp=E,6016μm,0.7s						
DRO				AML	AML	19 14 08.1	
	comp=N,6682μm,0.4s						
DRO	**Drossia**	**1.18**	**61**	P	**Pn**	**19 13 43.0**	**+0.4**
DRO				S	**Sg**	**19 13 57.5**	**-0.3**
DRO				AML	AML	19 14 03.8	
	comp=E,6016μm,0.7s						
DRO				AML	AML	19 14 08.1	
	comp=N,6682μm,0.4s						
ITM	**Ithomi**	**1.24**	**99**	P	**Pg**	**19 13 44.0**	**+0.6**
ITM				S	**Sn**	**19 14 01.2**	**+1.0**
	comp=N,980nm,0.4s						
**

LSK AMP
comp=E,0.9nm,0.8s,baz=14
SCTE Santa Cesarea 3.08 331 P **Pn 19 14 11.3 +2.8**
FNA Florina 3.48 12 P **Pn 19 14 17.7 +3.6**
OHR Ohrid 3.73 5 *i* Pn **Pb 19 14 23.3 -2.6**
IDI Anoyia 4.19 119 Pn **Pn 19 14 26.7 +2.8**
comp=E,0.4nm,0.3s,baz=295,slow=14,SNR=2.5
IDI Sn **Sn 19 15 13.9 +0.8**
comp=E,2.1nm,0.3s,baz=324,slow=14,SNR=2.7
NOCI Noci 4.27 324 P **Pn 19 14 29.4 +4.4**
VAE Valguarnera 4.76 273 Sn **Sb 19 15 36.2 -4.8**
comp=E,1.2nm,0.3s,baz=358,slow=21,SNR=2.0
PEHC Pehcevo 4.79 23 *i* Pn **Pn 19 14 33.1 +0.9**
MLR Muntele Rosu 9.10 25 Pn **Pn 19 15 34.2 +2.8**
comp=E,3.9nm,0.8s,baz=164,slow=18
EIL Elat 14.36 118 Pn **Pn 19 16 41.6 -1.7**
comp=E,0.1nm,0.3s,baz=285,slow=13,SNR=1.3
EIL Sn Sn 19 19 12.7 -10
comp=E,0.2nm,0.3s,baz=168,slow=18,SNR=2.0
EIL LR LR 19 24 10.2
comp=E,63nm,18.8s,baz=264,slow=46
comp=E,1.9nm,0.7s
AKASG Malin Array Be 14.73 23 Pn **Pn 19 16 49.4 +1.3**
comp=E,0.3nm,0.3s,baz=211,slow=9.1,SNR=1.8
comp=E,0.1nm,0.3s
HFS Hagfors 23.16 351 P **P 19 18 26.5 +0.2**
comp=E,3.0nm,0.9s,baz=173,slow=12,SNR=2.0
comp=E,3.0nm,0.9s
FINES FINESS Array B 24.34 7 P **P 19 18 37.1 -0.5**
comp=E,2.2nm,0.7s,baz=167,slow=13,SNR=5.5
comp=E,2.2nm,0.7s
NOA NORSAR Array B 24.37 349 P **P 19 18 38.4 +0.4**
comp=E,0.7nm,0.8s,baz=107,slow=14,SNR=1.8
comp=E,0.7nm,0.8s
MKAR Makanchi Array 45.80 58 P **P 19 21 40.6 -1.2**
comp=E,0.2nm,0.4s,baz=273,slow=7.3,SNR=5.4
comp=E,0.2nm,0.4s
ZALV Zalesovo Beam 46.29 48 P **P 19 21 43.9 -1.6**
comp=E,0.5nm,0.5s,baz=270,slow=10,SNR=2.2
comp=E,0.5nm,0.5s
CMAR Chiang Mai Arr 70.10 82 P **P 19 24 33.2 +0.6**
comp=E,0.1nm,0.3s,baz=298,slow=7.8,SNR=1.8
comp=E,0.1nm,0.3s

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*IDC **04** 19:18:47.3±1.0, 21°.78S×68°.95E, h0km, mb3.7/9, mbtmp3.7/9, Error ellipse: s-maj=33.1km s-min=23.7km az=53.0*
ISC 04 19:18:50.6±1.0, 21°.8S±0°.2×68°.9E±0°.2, h19km, n15, σ0°86/9, mb3.8/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**14.48**	**14**	T	T	19 36 58.6	
baz=194,slow=76							
H08S2	**Diego Garcia H**	**14.48**	**14**	T	T	19 36 59.1	
baz=194,slow=76							
H08S3	**Diego Garcia H**	**14.50**	**14**	T	T	19 37 00.1	
baz=194,slow=76							
H04N2	**CROZET ISLANDS**	**28.03**	**206**	T	T	19 54 15.5	
baz=36,slow=75,SNR=199							
H04N1	**CROZET ISLANDS**	**28.04**	**206**	T	T	19 54 06.7	
baz=36,slow=75,SNR=213							
H04N3	**CROZET ISLANDS**	**28.05**	**206**	T	T	19 54 15.1	
baz=36,slow=75,SNR=255							
CMAR	**Chiang Mai Arr**	**49.63**	**39**	P	**P**	**19 27 42.1 +1.1**	
0.6nm,1.1s,baz=229,slow=8.2,SNR=4.1							
0.6nm,1.1s							
ASAR	**Alice Springs**	**59.47**	**105**	P	**P**	**19 28 52.1 -0.6**	
1.1nm,0.8s,baz=263,slow=6.4,SNR=14							
1.1nm,0.8s							
WRA	**Warramunga Arr**	**60.71**	**101**	P	**P**	**19 29 01.1 -0.1**	
1.2nm,0.8s,baz=255,slow=6.8,SNR=7.3							
1.2nm,0.8s							
QSPA	**South Pole Qui**	**68.31**	**180**	P	**P**	**19 29 50.7 +0.4**	
0.6nm,0.3s,baz=295,slow=6.9,SNR=4.3							
0.6nm,0.3s							
MKAR	**Makanchi Array**	**69.33**	**10**	P	**P**	**19 29 56.1 -0.5**	
0.9nm,1.0s,baz=191,slow=6.9,SNR=4.9							
0.9nm,1.0s							
BRTR	**Keskin Array B**	**69.52**	**332**	P	**P**	**19 29 58.9 +0.8**	
0.5nm,0.8s,baz=140,slow=4.7,SNR=2.9							
0.5nm,0.8s							
BVAR	**Borovoye Array**	**74.52**	**1**	P	**P**	**19 30 26.7 -0.9**	
0.3nm,0.3s,baz=192,slow=11,SNR=2.8							
0.3nm,0.3s							
TORD	**Torodi Ar. Bea**	**74.53**	**291**	P	**P**	**19 30 28.3 -0.2**	
0.4nm,0.6s,baz=109,slow=5.5,SNR=3.0							
0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**76.67**	**10**	P	**P**	**19 30 38.9 -1.0**	
0.3nm,0.4s,baz=183,slow=2.9,SNR=1.5							
0.3nm,0.4s							

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*JSO **04** 19:20:51, 33°.37N×34°.54E, h5km, ML2.0/17*
*GRAL **04** 19:20:52.1±0.3, 33°.40N×34°.55E, h26km±1km, MD2.8*
*GII **04** 19:20:53.5±0.5, 33°.441N±0°.002×34°.515E±0°.001, h31km, Md1.8/4, Mws2.1/13, confirmed*
ISC 04 19:20:48.2±1.0, 33°.42N±0°.03×34°.51E±0°.04, h13km, n65, σ1°09/67, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	**Hanita**	**0.65**	**121**	S	**Sn**	**19 21 12.5**	**-0.9**
HNTI	**Hanita**	**0.65**	**121**	P	**Pn**	**19 21 04.1**	**+0.8**
MMA0B	**Mount Meron ar**	**0.85**	**118**	P	**Pn**	**19 21 07.0**	**+1.0**
MMA0B	**Mount Meron ar**	**0.85**	**118**	S	**Sn**	**19 21 17.6**	**-0.9**
MMB1	**Mount Meron ar**	**0.86**	**118**	P	**Pn**	**19 21 07.3**	**+1.2**
OFRI	**`Ofer**	**0.90**	**153**	P	**Pn**	**19 21 07.1**	**+0.6**
OFRI	**`Ofer**	**0.90**	**153**	S	**Sn**	**19 21 18.3**	**-1.1**
OFRI	**`Ofer**	**0.90**	**153**	P	**Pn**	**19 21 07.2**	**+0.6**
BLGI	**Bet Lehem HaGe**	**0.90**	**140**	P	**Pn**	**19 21 07.4**	**+0.9**
BLGI	**Bet Lehem HaGe**	**0.90**	**140**	S	**Sn**	**19 21 18.3**	**-1.1**
BLGI	**Bet Lehem HaGe**	**0.90**	**140**	P	**Pn**	**19 21 07.9**	**+1.3**
DQRL	**Deir Qamar**	**0.93**	**72**	*eP*	**Pn**	**19 21 08.0**	**+0.9**
DQRL				*eS*	**Sn**	**19 21 20.0**	**-0.4**
GEM	**Giv'at Ha'Em**	**0.99**	**102**	P	**Pn**	**19 21 09.1**	**+1.3**
GEM	**Giv'at Ha'Em**	**0.99**	**102**	S	**Sn**	**19 21 20.8**	**-0.9**
GEM	**Giv'at Ha'Em**	**0.99**	**102**	P	**Pn**	**19 21 08.9**	**+1.0**
SHBL	**Chebaa**	**1.04**	**94**	*eP*	**Pn**	**19 21 09.7**	**+1.1**
NATI	**Neve Ativ**	**1.04**	**99**	S	**Sn**	**19 21 22.6**	**-0.3**
NATI	**Neve Ativ**	**1.04**	**99**	P	**Pn**	**19 21 09.7**	**+1.2**
BHL	**Bhannes**	**1.07**	**63**	*eP*	**Pn**	**19 21 10.4**	**+1.4**
RCY	**Rachaya**	**1.11**	**86**	*eP*	**Pn**	**19 21 10.8**	**+1.1**
RCY				*eS*	**Sn**	**19 21 24.6**	**-0.3**
KSHT	**Keshet**	**1.18**	**112**	S	**Sn**	**19 21 26.5**	**+0.1**
KSHT	**Keshet**	**1.18**	**112**	P	**Pg**	**19 21 12.1**	**+1.2**
ZAHL	**Zahle**	**1.23**	**69**	*eP*	**Pg**	**19 21 12.5**	**+0.6**
MMLI	**Mount Malkishu**	**1.25**	**142**	P	**Pg**	**19 21 12.6**	**+0.4**
MMLI	**Mount Malkishu**	**1.25**	**142**	S	**Sg**	**19 21 28.0**	**-0.5**
MMLI	**Mount Malkishu**	**1.25**	**142**	P	**Pg**	**19 21 12.4**	**+0.2**
SLTI	**Sal'it**	**1.26**	**159**	S	**Sb**	**19 21 27.2**	**-0.8**
SLTI	**Sal'it**	**1.26**	**159**	P	**Pg**	**19 21 12.4**	**-0.1**
SHMJ	**Saham**	**1.26**	**123**	P	**Pg**	**19 21 13.6**	**+1.1**
QRNJ	**Al-Qirein**	**1.41**	**140**	P	**Pg**	**19 21 15.6**	**+0.3**
HMDT	**Nahal Hemdat**	**1.45**	**143**	P	**Pg**	**19 21 16.0**	**-0.1**
HMDT	**Nahal Hemdat**	**1.45**	**143**	S	**Sb**	**19 21 32.7**	**-0.7**
HMDT	**Nahal Hemdat**	**1.45**	**143**	P	**Pb**	**19 21 15.1**	**+0.1**
SALP	**Salfit**	**1.47**	**157**	P	**Pg**	**19 21 15.8**	**-0.7**
SALP	**Salfit**	**1.47**	**157**	P	**Pb**	**19 21 15.0**	**-0.4**
SALP	**Salfit**	**1.47**	**157**	S	**Sb**	**19 21 34.1**	**+0.1**
HWQ	**Hawqa**	**1.47**	**54**	*eP*	**Pg**	**19 21 15.9**	**-0.6**
BEIL	**Beino**	**1.79**	**51**	*eP*	**Pb**	**19 21 20.4**	**-0.5**
CSS	**Mathiatis**	**1.82**	**328**	P	**Pn**	**19 21 20.7**	**+1.5**
CSS	**Mathiatis**	**1.82**	**328**	S	**Sn**	**19 21 41.0**	**-1.2**
AMAZ	**Amatzia**	**1.92**	**170**	S	**Sn**	**19 21 44.8**	**+0.2**
AMAZ	**Amatzia**	**1.92**	**170**	P	**Pb**	**19 21 22.1**	**-1.0**
DSI	**Dead Sea**	**1.99**	**158**	P	**Pb**	**19 21 23.7**	**-0.6**
DSI	**Dead Sea**	**1.99**	**158**	P	**Pb**	**19 21 23.5**	**-0.8**
DSI	**Dead Sea**	**1.99**	**158**	S	**Sb**	**19 21 47.9**	**-1.1**
YTIR	**Yattir**	**2.12**	**166**	P	**Pb**	**19 21 25.5**	**-1.0**
YTIR	**Yattir**	**2.12**	**166**	S	**Sn**	**19 21 49.9**	**+0.2**
YTIR	**Yattir**	**2.12**	**166**	P	**Pb**	**19 21 25.1**	**-1.4**
MSBI	**Mazada**	**2.22**	**161**	P	**Pb**	**19 21 27.1**	**-1.2**
MSBI	**Mazada**	**2.22**	**161**	P	**Pb**	**19 21 26.9**	**-1.4**
MSBI	**Mazada**	**2.22**	**161**	S	**Sn**	**19 21 52.3**	**+0.2**
GHAJ	**Ghor Haditha**	**2.30**	**157**	P	**Pb**	**19 21 28.4**	**-1.1**
GHAJ	**Ghor Haditha**	**2.30**	**157**	P	**Pn**	**19 21 27.1**	**+1.3**
GHAJ	**Ghor Haditha**	**2.30**	**157**	S	**Sn**	**19 21 54.0**	**+0.2**
KZIT	**Kziot**	**2.51**	**182**	P	**Pb**	**19 21 31.0**	**-2.2**
KZIT	**Kziot**	**2.51**	**182**	S	**Sn**	**19 21 59.1**	**-0.1**
KZIT	**Kziot**	**2.51**	**182**	P	**Pn**	**19 21 30.8**	**+2.0**
ZFRI	**Zfri**	**2.92**	**169**	P	**Pn**	**19 21 35.9**	**+1.6**
ZFRI	**Zfri**	**2.92**	**169**	S	**Sn**	**19 22 08.9**	**-0.3**
PRNI	**Paran**	**3.09**	**172**	P	**Pn**	**19 21 38.9**	**+2.1**
PRNI	**Paran**	**3.09**	**172**	S	**Sn**	**19 22 14.1**	**+0.5**
PRNI	**Paran**	**3.09**	**172**	P	**Pn**	**19 21 39.4**	**+2.6**
KRMI	**Paran Flat**	**3.30**	**177**	P	**Pn**	**19 21 42.2**	**+2.5**
MBRI	**Mt Berech**	**3.63**	**174**	P	**Pn**	**19 21 46.2**	**+2.0**
MBRI	**Mt Berech**	**3.63**	**174**	S	**Sn**	**19 22 27.4**	**+0.4**

JMA 04 19:24:34.2±0.1, 34°.0N±0°.1×136°.2E±0°.2, h22km, MV0.2/16, SOUTHERN MIE PREF, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMMH	**Miemihama**	**0.23**	**209**	P	Pb	19 24 39.8	-0.4
JMMH				S	Sb	19 24 43.7	-0.6
JKN2	**Miekihoku**	**0.23**	**24**	P	Pb	19 24 39.9	-0.3
JKN2				S	Sb	19 24 43.8	-0.6
JNTK	**Naratenkawa**	**0.34**	**317**	P	Pb	19 24 41.6	0.0
JNTK				*eS*	Sb	19 24 46.5	-0.1

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*JMA **04** 19:26:01.7±0.2, 44°.6N±0°.7×145°.8E±1°.0, h20km±1km, MD6.3/40, MW6.0/40, NEAR KUNASHIRI ISLAND*
JMA Felt IV J1 at NEAR KUNASHIRI ISLAND .
*NIED **04** 19:26:01.7, 44°.61N×145°.81E, h20km, MW6.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.95; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-0.84; $M_{r\theta}$-0.63; $M_{\theta\phi}$-0.24; $M_{\phi r}$-0.41; Fault plane solution: $M_0$1.19000×10^{18} NP1: ϕ_s218.00000°, δ64.00000°, λ108.00000°. NP2:ϕ_s1.00000°, δ31.00000°, λ57.00000°.*
*NEIC **04** 19:26:02.3, 44°.54N×145°.65E, h2km*
*IDC **04** 19:26:02.2±0.3, 44°.59N×145°.68E, h0km, mb5.4/34, mbtmp5.3/43, ML4.5/7, MS5.5/85, Error ellipse: s-maj=10.3km s-min=9.5km az=98.0*
*SKHL **04** 19:26:03.6±0.5, 44°.50N×145°.70E, h14km±3km, mb6.0/15, mbv6.7/5, ms6.2/9, msh6.2/2*
*NEIC **04** 19:26:03.4±1.8, 44°.55N±0°.06×145°.66E±0°.09, h9km±1km, mb6.2/993, Ms_20 5.6/959, Mwb5.8/94, Mww5.9/48, Error ellipse: s-maj=11.7km s-min=9.5km az=110.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}5.70; $M_{\theta\theta}$0.48; $M_{\phi\phi}$-6.18; $M_{r\theta}$-1.39; $M_{\theta\phi}$-3.01; $M_{\phi r}$-0.34; Fault plane solution: $M_0$6.82000×10^{17} NP1: ϕ_s215.13000°, δ50.39000°, λ109.35000°. NP2:ϕ_s6.29000°, δ43.37000°, λ68.18000°. Principal axes: T 6.0634, Plg75.0000°, Azm188.0000°; N 1.3272, Plg15.0000°, Azm23.0000°; P -7.3906, Plg4.0000°, Azm292.0000°;*
*BJI **04** 19:26:03.0, 44°.56N×145°.66E, h10km, mb5.7/94, mB6.3/78, Ms6.2/98, Ms7 5.9/96*
*NEIC **04** 19:26:03.4, 44°.55N×145°.65E, h12km*
*MOS **04** 19:26:03.7±1.0, 44°.50N×145°.65E, h24km, mb6.2/112, MS5.8/88, Error ellipse: s-maj=5.0km s-min=3.5km az=109.2*
MOS Felt (V) at Golovnino, Goryachiy Plyazh, Lagunnoye, Mendeleyevo, Yuzhno-Kuril'sk; (III) at Malokuril'skoye.
*IPGP **04** 19:26:03.0, 44°.56N×145°.59E, h8km, Mwv5.8, Fault plane solution: NP1:ϕ_s212.00000°, δ50.00000°, λ103.00000°. NP2:ϕ_s12.00000°, δ42.00000°, λ74.00000°.*
*NEIC **04** 19:26:03.4, 44°.45N×145°.79E, h12km, Moment Tensor Solution. Duration: 4s9 Moment tensor: Scale 10^{17}Nm; M_{rr}8.99; $M_{\theta\theta}$-1.36; $M_{\phi\phi}$-7.62; $M_{r\theta}$-0.80; $M_{\theta\phi}$-3.56; $M_{\phi r}$-1.86; Fault plane solution: $M_0$9.33000×10^{17} NP1: ϕ_s204.10000°, δ51.27000°, λ89.72000°. NP2:ϕ_s24.55000°, δ38.73000°, λ90.35000°. Principal axes: T 9.2092, Plg84.0000°, Azm112.0000°; N 0.2440, Plg0.0000°, Azm204.0000°; P -9.4532, Plg6.0000°, Azm294.0000°;*
*GCMT **04** 19:26:06.4±0.1, 44°.60N×145°.68E, h12km, MW6.0/175, Moment Tensor Solution. s155,c336; s175,c616; Duration: 2s4 Moment tensor: Scale 10^{18}Nm; M_{rr}1.06±.01; $M_{\theta\theta}$-0.13±.01; $M_{\phi\phi}$-0.92±.01; $M_{r\theta}$-0.36±.01; $M_{\theta\phi}$-0.41±.00; $M_{\phi r}$-0.41±.01; Best double couple: $M_0$1.21000×10^{18} NP1:ϕ_s211.00000°, δ58.00000°, λ99.00000°. NP2:ϕ_s14.00000°, δ33.00000°, λ76.00000°. Principal axes: T 1.2040, Plg75.0000°, Azm146.0000°; N 0.0150, Plg8.0000°, Azm26.0000°; P -1.2160, Plg13.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*BGR **04** 19:26:55.2, 44°.12N×146°.61E, h10km, mb6.2, mB_BB6.5, Ms5.8*
ISC 04 19:26:04.3±0.3, 44°.52N±0°.02×145°.70E±0°.02, h15km±1km, h15km:pP-P, n2539, σ1°43/2002, mb6.2/753, MS5.6/615, 230C-70D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.50**	**167**	*i* P	**Pg**	**19 26 13.3**	**-0.8**
YUK				AMB	AMB	19 26 15.3	
91μm,0.2s							
YUK				*i* S	**Sg**	**19 26 20.6**	**-0.2**
YUK				A	A	19 26 22.9	
370μm,0.6s							
YUK				A	A	19 26 22.9	
454μm,0.6s							
YUK	**Yuzh-Kuril'sk**	**0.50**	**167**	*c i* PN	**Pg**	**19 26 13.3**	**-0.8**
YUK				*i* S	**Sg**	**19 26 21.1**	**+0.3**
YUK				pmax	pmax		
comp=Z,101μm,0.2s							
YUK				pmax	pmax		
comp=N,21μm,0.1s							
YUK				pmax	pmax		
comp=E,16μm,0.1s							
YUK				smax	smax		
comp=N,261μm,0.5s							
YUK				smax	smax		
comp=E,270μm,0.6s							
JRA	**Rausu**	**0.71**	**216**	P	**Pg**	**19 26 17.0**	**-1.2**
JRA				S	**Sb**	**19 26 28.0**	**0.0**
JRA	**Rausu**	**0.71**	**216**	A	A	19 26 17.0	
comp=E,1μm,6.8s,comp=N,2μm,6.1s							
JNSB	**Nemuroshibetsu**	**0.90**	**214**	P	**Pb**	**19 26 20.1**	**-1.4**
JNSB				S	**Sg**	**19 26 33.6**	**+0.2**
JNSB	**Nemuroshibetsu**	**0.90**	**214**	A	A	19 26 20.1	
comp=E,2μm,6.4s,comp=N,3μm,4.9s							
SHO	**Shikotan**	**1.04**	**128**	*i* P	**Pb**	**19 26 22.4**	**-1.6**
SHO				AMB	AMB	19 26 24.8	
comp=N,52μm,0.4s							
SHO				*i* S	**Sb**	**19 26 36.0**	**-1.4**
SHO				A	A	19 26 38.3	
comp=N,577μm,0.5s							
SHO				A	A	19 26 38.3	
comp=N,427μm,0.5s							
SHO	**Shikotan**	**1.04**	**128**	⇑*i* PN	**Pb**	**19 26 22.4**	**-1.6**
SHO				*i* S	**Sb**	**19 26 37.4**	**0.0**
SHO				pmax	pmax		
comp=Z,24μm,0.3s							
SHO				pmax	pmax		
comp=N,46μm,0.4s							
SHO				pmax	pmax		
comp=E,23μm,0.4s							
SHO				smax	smax		
comp=N,646μm,0.4s							
SHO				smax	smax		
comp=E,351μm,0.5s							
NEM2	**Nemuro 2**	**1.15**	**178**	P	**Pn**	**19 26 23.7**	**-2.2**
NEM2				S	**Sb**	**19 26 39.8**	**-0.9**
NEM2	**Nemuro 2**	**1.15**	**178**	A	A	19 26 23.7	
comp=E,649nm,17.3s,comp=N,663nm,4.7s							
JNK	**Nakash**	**1.17**	**218**	*i* P	**Pn**	**19 26 24.3**	**-1.9**
JNK	**Nakash**	**1.17**	**218**	A	A	19 26 24.3	
comp=E,863nm,9.2s,comp=N,606nm,9.3s							
JTKR	**Abashiri--Toko**	**1.40**	**248**	P	**Pn**	**19 26 27.5**	**-1.8**
JTKR				S	**Sn**	**19 26 46.8**	**-0.7**
JTKR	**Abashiri--Toko**	**1.40**	**248**	A	A	19 26 27.5	
comp=E,372nm,3.5s,comp=N,652nm,4.9s							
JKHN	**Kushirohamanak**	**1.49**	**195**	P	**Pn**	**19 26 29.1**	**-1.3**
JKHN				S	**Sn**	**19 26 49.5**	**-0.1**
JKHN	**Kushirohamanak**	**1.49**	**195**	A	A	19 26 29.1	
comp=E,688nm,5.9s,comp=N,958nm,1.9s							
JAK	**Akkeshi**	**1.69**	**206**	*eP*	**Pn**	**19 26 31.5**	**-1.7**
JAK	**Akkeshi**	**1.69**	**206**	A	A	19 26 31.5	
comp=E,608nm,3.2s,comp=N,749nm,7.0s							
KUR	**Kuril'sk**	**1.70**	**64**	*eP*	**Pn**	**19 26 31.9**	**-1.5**
KUR				AMB	AMB	19 26 40.2	
comp=N,5μm,0.5s							
KUR				AMB	AMB	19 26 51.5	
comp=N,350μm,6.0s							
KUR				*eS*	**Sn**	**19 26 53.5**	**-1.3**
KUR				A	A	19 27 09.9	
comp=N,25μm,0.5s							
KUR				A	A	19 27 09.9	
comp=N,33μm,0.5s							
KUR				AMS	AMS	19 28 17.0	
comp=N,1007μm,11.0s							
KUR				AMS	AMS	19 28 17.0	
comp=N,1556μm,11.0s							
KUR				AMS	AMS	19 28 17.0	
comp=N,388μm,11.0s							
KUR	**Kuril'sk**	**1.70**	**64**	*c i* PN	**Pn**	**19 26 31.9**	**-1.5**
KUR				*eS*	**Sb**	**19 26 56.5**	**+0.1**
KUR				pmax	pmax		
comp=Z,5μm,0.7s							
KUR				pmax	pmax		
comp=N,2μm,0.6s							
KUR				pmax	pmax		
comp=E,2μm,0.6s							
KUR				pmax	pmax		
comp=Z,350μm,6.4s							
KUR				smax	smax		
comp=N,20μm,0.6s							
KUR				smax	smax		
comp=E,12μm,0.5s							
KUR				smax	smax		
comp=E,1556μm,10.0s							
KUR				smax	smax		
comp=N,1007μm,10.9s							
JMP	**Maruseppu**	**1.76**	**254**	P	**Pn**	**19 26 33.2**	**-1.0**
JMP				*eS*	**Sn**	**19 26 56.8**	**+0.4**
JMP	**Maruseppu**	**1.76**	**254**	A	A	19 26 33.2	
comp=E,388nm,6.4s,comp=N,414nm,2.3s							
JAR	**Ashorobuto**	**1.85**	**230**	P	**Pn**	**19 26 35.0**	**-0.5**
JAR	**Ashorobuto**	**1.85**	**230**	A	A	19 26 35.0	
comp=E,433nm,6.1s,comp=N,296nm,6.2s							
JOB	**Onbets**	**2.11**	**221**	A	A	19 26 38.5	
comp=E,715nm,3.4s,comp=N,756nm,4.1s							
JKK2	**Kamakawa 2**	**2.22**	**254**	A	A	19 26 39.9	
comp=E,311nm,5.2s,comp=N,383nm,3.7s							
JKK2	**Kamakawa 2**	**2.22**	**254**	⇓P	**Pn**	**19 26 40.0**	**-0.6**
JKA	**Kamikawa-asahi**	**2.26**	**261**		**Pn**	**19 26 40.8**	**-0.4**
JKA	**Kamikawa-asahi**	**2.26**	**261**	*e*P	**Pn**	**19 26 40.8**	**-0.4**
ASAJ	**Asahikawa**	**2.26**	**261**	Pn	**Pn**	**19 26 41.0**	**-0.2**
comp=N,144nm,0.3s,baz=80,slow=15,SNR=611							
ASAJ				Sn	**Sb**	**19 27 12.2**	**-0.5**
comp=N,2μm,0.3s,baz=68,slow=19,SNR=12							
ASAJ				LR	LR	19 27 28.6	
comp=N,158μm,18.1s,baz=53,slow=38							
comp=N,2μm,0.5s							
ASAJ	**Asahikawa**	**2.26**	**261**	PN	**Pn**	**19 26 40.8**	**-0.4**
ASAJ	**Asahikawa**	**2.26**	**261**	A	A	19 26 40.4	
comp=E,320nm,4.8s,comp=N,298nm,4.1s							
JSE	**Soyaes**	**2.27**	**282**	A	A	19 26 39.9	
comp=E,348nm,7.3s,comp=N,274nm,3.9s							
JCH	**Churui**	**2.55**	**223**	A	A	19 26 44.9	
comp=E,296nm,11.1s,comp=N,256nm,6.5s							
JCH	**Churui**	**2.55**	**223**	P	**Pn**	**19 26 44.5**	**-0.6**
JFR	**Furan**	**2.62**	**240**	A	A	19 26 45.8	
comp=E,173nm,3.6s,comp=N,271nm,5.3s							
JFR	**Furan**	**2.62**	**240**	P	**Pn**	**19 26 46.3**	**+0.2**
JAB	**Ashibetsu**	**2.71**	**249**	A	A	19 26 46.9	
comp=E,336nm,3.4s,comp=N,620nm,3.7s							
JAB	**Ashibetsu**	**2.71**	**249**	P	**Pn**	**19 26 48.0**	**+0.7**
JSS	**Shosan**	**2.76**	**269**	A	A	19 26 47.3	
comp=E,492nm,4.6s,comp=N,569nm,7.6s							
JWK2	**Keihoku**	**2.82**	**288**	A	A	19 26 47.7	
comp=E,676nm,3.4s,comp=N,444nm,4.0s							
JTHR	**Tokachihiroo**	**2.83**	**219**	A	A	19 26 48.9	
comp=E,313nm,4.5s,comp=N,310nm,4.4s							
JHR	**Hokuryu**	**2.97**	**256**	A	A	19 26 50.5	
comp=E,475nm,3.6s,comp=N,527nm,4.6s							
JBT2	**Biratori 2**	**2.98**	**235**	A	A	19 26 51.0	
comp=E,122nm,7.8s,comp=N,286nm,6.3s							
JYG	**Yagishiri**	**3.06**	**270**	A	A	19 26 51.6	
comp=E,341nm,6.7s,comp=N,342nm,4.8s							
JNBK	**Urakawa-nobuka**	**3.10**	**225**	A	A	19 26 52.7	
comp=E,182nm,10.4s,comp=N,208nm,7.2s							
JEM	**Erimo**	**3.12**	**217**	A	A	19 26 52.9	
comp=E,154nm,6.4s,comp=N,119nm,5.2s							
ERM	**Erimo**	**3.12**	**217**		**Pn**	**19 26 52.2**	**-0.7**
ERM	**Erimo**	**3.12**	**217**	P	**Pn**	**19 26 55.0**	**+2.1**
ERM	**Erimo**	**3.12**	**217**	⇑P	**Pn**	**19 26 51.5**	**-1.4**
ERM	**Erimo**	**3.12**	**217**	⇑*e*PN	**Pn**	**19 26 52.9**	**0.0**
ERM				pmax	pmax		
comp=Z,1μm,1.7s							
JSHD	**Hidakashinhida**	**3.16**	**229**	A	A	19 26 53.5	
comp=E,243nm,3.5s,comp=N,342nm,5.8s							
JRR	**Rishiri**	**3.19**	**283**	A	A	19 26 53.1	
comp=E,1μm,5.0s,comp=N,953nm,4.0s							
YSS	**Yuzh-Sakhalins**	**3.19**	**321**	Pn	**Pn**	**19 26 52.9**	**-1.0**
YSS	**Yuzh-Sakhalins**	**3.19**	**321**	*i* P	**Pn**	**19 26 53.4**	**-0.5**
YSS				AMB	AMB	19 26 57.7	
comp=N,17μm,4.5s							
YSS				AMB	AMB	19 27 02.1	
comp=N,3μm,0.5s							
YSS				*eS*	**Sn**	**19 27 30.8**	**-0.9**
YSS				A	A	19 27 33.6	
comp=N,6μm,0.7s							
YSS				A	A	19 27 33.6	
comp=N,10μm,0.7s							
YSS				AMS	AMS	19 28 38.2	
comp=N,119μm,11.0s							
YSS				AMS	AMS	19 28 38.2	
comp=N,130μm,11.0s							
YSS				AMS	AMS	19 28 38.2	
comp=N,185μm,11.0s							
YSS	**Yuzh-Sakhalins**	**3.19**	**321**	P	**Pn**	**19 26 53.9**	**0.0**
YSS	**Yuzh-Sakhalins**	**3.19**	**321**	⇑P	**Pn**	**19 26 52.6**	**-1.3**
YSS	**Yuzh-Sakhalins**	**3.19**	**321**	κ *i* PN	**Pn**	**19 26 53.5**	**-0.5**
YS

comp=E,49nm,4.0s,comp=N,42nm,8.5s
JOMM Oshimamatsumae 5.13 236 A A 19 27 21.3
comp=E,72nm,13.1s,comp=N,47nm,5.4s
JOSM Okushiri--Mats 5.15 244 A A 19 27 21.5
comp=E,63nm,5.0s,comp=N,74nm,12.3s
JANG Nango 5.17 218 A A 19 27 21.9
comp=E,33nm,5.4s,comp=N,33nm,6.2s
UGL Uglegorsk 5.20 333 *i* P **Pn 19 27 21.4 -0.1**
UGL AMB AMB 19 27 29.0
comp=N,1μm,1.0s
UGL AMB AMB 19 27 37.5
comp=N,10μm,4.0s
UGL *e*S **Sn 19 28 19.3 -1.8**
UGL A A 19 28 27.5
comp=N,46μm,5.0s
UGL A A 19 28 27.5
comp=N,41μm,5.0s
UGL A A 19 28 31.0
comp=N,8μm,1.0s
UGL A A 19 28 31.0
comp=N,5μm,1.0s
UGL AMS AMS 19 30 38.0
comp=N,48μm,9.0s
UGL AMS AMS 19 30 38.0
comp=N,84μm,9.0s
UGL AMS AMS 19 30 38.0
comp=N,78μm,9.0s
UGL Uglegorsk 5.20 333 *d i* PN **Pn 19 27 21.4 -0.1**
UGL pmax pmax
comp=Z,1μm,1.0s
UGL pmax pmax
comp=Z,10μm,4.0s
UGL MLR MLR
comp=E,84μm,16.0s
UGL MLR MLR
comp=N,48μm,10.0s
UGL MLR MLR
comp=Z,78μm,9.0s
JSI2 Shiura 2 5.21 230 A A 19 27 22.4
comp=E,52nm,5.7s,comp=N,49nm,10.9s
JKEN Kujiedanarisaw 5.22 216 A A 19 27 22.7
comp=E,39nm,5.8s,comp=N,27nm,6.6s
JTH Tanohata 5.39 213 A A 19 27 24.9
comp=E,27nm,7.4s,comp=N,22nm,5.7s
JHHS Hirosakihyakuz 5.52 227 A A 19 27 26.8
comp=E,112nm,4.8s,comp=N,175nm,4.9s
JKZ Kuzumaki 5.57 217 A A 19 27 27.5
comp=E,31nm,3.8s,comp=N,28nm,5.7s
JAH Hinai 5.73 223 A A 19 27 29.7
comp=E,34nm,5.6s,comp=N,37nm,5.5s
JIW Iwasaki 5.75 229 A A 19 27 30.0
comp=E,38nm,10.0s,comp=N,41nm,6.0s
JNTW Noshirotokiwa 5.90 226 A A 19 27 32.1
comp=E,117nm,4.5s,comp=N,112nm,5.5s
JSZI Iwateshizukuis 5.94 218 A A 19 27 32.6
comp=E,52nm,4.6s,comp=N,66nm,4.4s
JOM Ohasama 6.01 215 A A 19 27 33.7
comp=E,19nm,5.0s,comp=N,19nm,10.2s
OFUJ Ofunato 6.21 210 A A 19 27 36.4
comp=E,27nm,6.7s,comp=N,16nm,12.4s
JRG Rokugo 6.36 218 A A 19 27 38.5
comp=E,48nm,5.8s,comp=N,32nm,9.1s
JYW Yuwa 6.44 221 A A 19 27 39.6
comp=E,57nm,5.0s,comp=N,68nm,5.8s
JMK Ichinoseki 6.49 213 A A 19 27 40.3
comp=E,20nm,8.3s,comp=N,16nm,7.5s
TEY Ternei 6.50 278 *e*P **Pn 19 27 40.0 +0.7**
TEY AMS AMS 19 31 47.6
comp=N,12μm,9.0s
TEY AMS AMS 19 31 47.6
comp=N,10μm,9.0s
TEY AMS AMS 19 31 47.6
comp=N,6μm,9.0s
TEY Ternei 6.50 278 *e*PN **Pn 19 27 43.9 +4.6**
JKMT Kesennumamotoy 6.52 210 A A 19 27 40.7
comp=E,23nm,5.4s,comp=N,16nm,8.9s
TYV Tymovskoe 6.67 343 AMB AMB 19 27 45.7
TYV comp=N,4μm,4.6s
TYV AMB AMB 19 27 49.2
comp=N,470nm,0.7s
TYV *e*S **Sn 19 28 56.0 -1.4**
TYV A A 19 28 56.6
comp=N,860nm,1.0s
TYV A A 19 28 56.6
comp=N,710nm,1.0s
TYV A A 19 29 00.0
comp=N,8μm,5.0s
TYV AMS AMS 19 30 38.7
comp=N,81μm,15.0s
TYV AMS AMS 19 30 38.7
comp=N,88μm,15.0s
TYV AMS AMS 19 30 38.7
comp=N,89μm,15.0s
TYV Tymovskoe 6.67 343 *e*PN **Pn 19 27 42.0 +0.3**
TYV pmax pmax
comp=Z,4μm,4.6s
TYV pmax pmax
comp=Z,472nm,0.7s
TYV MLR MLR
comp=Z,89μm,16.0s
JOG3 Oga3 6.73 229 A A 19 27 38.3
comp=E,48nm,12.2s,comp=N,53nm,5.8s
JOFO Osakifurukawao 6.92 213 A A 19 27 46.3
comp=E,86nm,4.3s,comp=N,74nm,3.5s
JYYZ Yamagatayuza 6.99 220 A A 19 27 47.3
comp=E,102nm,5.5s,comp=N,79nm,5.8s
JOU Okura 7.22 213 A A 19 27 50.5
comp=E,21nm,6.5s,comp=N,16nm,4.3s
JYA Atsumi 7.43 219 A A 19 27 53.4
comp=E,24nm,17.3s,comp=N,18nm,4.8s
JYS Shirataka 7.58 216 A A 19 27 55.6
comp=E,22nm,14.5s,comp=N,20nm,3.6s
JMM Marumori 7.60 211 Pn **Pn 19 27 52.7 -1.8**
JMM Marumori 7.60 211 P **Pn 19 27 54.3 -0.2**
JMM Marumori 7.60 211 ⇑P **Pn 19 27 51.8 -2.7**
JMM Marumori 7.60 211 A A 19 27 55.8
comp=E,12nm,8.8s,comp=N,12nm,7.0s
JMST Minamisoumatoc 7.70 210 A A 19 27 57.1
comp=E,13nm,6.2s,comp=N,10.0nm,4.9s
JYAR Yonezawaarcadi 7.81 214 A A 19 27 58.8
comp=E,30nm,4.5s,comp=N,17nm,5.6s
JNS Sasagawa 8.24 218 A A 19 28 04.7
comp=E,21nm,8.2s,comp=N,13nm,5.0s
JFY Yanaizu 8.43 215 A A 19 28 07.2
comp=E,19nm,6.8s,comp=N,11nm,7.4s
JSD Sado 8.56 223 Pn **Pn 19 28 06.1 -1.5**
JSD Sado 8.56 223 P **Pn 19 28 08.3 +0.7**
JSD Sado 8.56 223 ⇑P **Pn 19 28 06.9 -0.7**
GRNR Gornyy 8.85 318 *e*P **Pn 19 28 12.5 +0.9**
GRNR AMB AMB 19 28 13.2
comp=N,60nm,0.9s
GRNR AMS AMS 19 32 55.0
comp=N,55μm,13.0s
GRNR AMS AMS 19 32 55.0
comp=N,43μm,13.0s
GRNR Gornyy 8.85 318 ⇓ *i* PN **Pn 19 28 12.5 +0.9**
GRNR pmax pmax
comp=E,40nm,0.8s
GRNR pmax pmax
comp=N,30nm,0.9s
GRNR pmax pmax
comp=Z,60nm,0.9s
GRNR MLR MLR
comp=E,55μm,15.0s
GRNR MLR MLR
comp=Z,43μm,11.0s
OKH Okha 9.22 350 *i* P **Pn 19 28 18.1 +1.5**
OKH AMB AMB 19 28 24.4
comp=Z,8μm,3.0s
OKH *e*S **Sn 19 29 58.9 -1.1**
OKH AMS AMS 19 32 28.0
comp=Z,136μm,15.0s
OKH AMS AMS 19 32 28.0
comp=Z,66μm,15.0s
OKH AMS AMS 19 32 28.0
comp=Z,58μm,15.0s
OKH Okha 9.22 350 *d i* PN **Pn 19 28 16.2 -0.4**
OKH pmax pmax
comp=Z,2μm,11.1s
OKH MLR MLR
comp=E,66μm,15.0s
OKH MLR MLR
comp=Z,45μm,14.0s
NKL Nikolayevsk 9.25 341 *e*P **Pn 19 28 16.8 -0.2**
NKL AMB AMB 19 28 27.3
comp=Z,1μm,0.7s
NKL *e*S **Sn 19 29 58.7 -2.0**
NKL AMS AMS 19 30 11.8
comp=Z,191μm,15.0s
NKL AMS AMS 19 30 11.8
comp=Z,123μm,15.0s
NKL AMS AMS 19 30 11.8
comp=Z,100μm,15.0s
NKL A A 19 30 11.8
comp=Z,2μm,1.0s
NKL A A 19 30 11.8
comp=Z,3μm,1.0s
NKL Nikolayevsk 9.25 341 *e*PN **Pn 19 28 14.9 -2.1**
NKL pmax pmax
comp=E,1μm,1.2s
NKL pmax pmax
comp=N,402nm,0.8s
NKL pmax pmax
comp=Z,1μm,1.3s
NKL MLR MLR
comp=N,191μm,13.0s
NKL MLR MLR
comp=Z,100μm,12.0s
NKL MLR MLR
comp=E,123μm,14.0s
SKR Severo-Kuril's 9.35 45 *i* P **Pn 19 28 21.0 +2.6**
SKR AMB AMB 19 28 26.5
comp=E,2μm,0.9s
SKR AMB AMB 19 28 32.7
comp=E,50μm,4.0s
SKR *e*S **Sn 19 30 02.2 -1.0**
SKR AMS AMS 19 32 09.5
comp=E,87μm,14.0s
SKR AMS AMS 19 32 09.5
comp=E,77μm,14.0s
SKR AMS AMS 19 32 09.5
comp=E,136μm,14.0s
SKR Severo-Kuril's 9.35 45 *i* PN **Pn 19 28 22.6 +4.2**
SKR *e*S **Sn 19 30 11.8 +8.6**
SKR pmax pmax
comp=Z,2μm,0.9s
SKR pmax pmax
comp=Z,52μm,4.8s
SKR MLR MLR
comp=Z,144μm,14.0s
MJB9 Matsu-Tunnel 9.79 218 **Pn 19 28 24.3 -0.3**
MAJO Matsushiro 9.79 218 Pn **Pn 19 28 23.1 -1.5**
MAJO Matsushiro 9.79 218 P **Pn 19 28 24.4 -0.2**
MAJO Matsushiro 9.79 218 ⇑P **Pn 19 28 23.5 -1.1**
MAJO Matsushiro 9.79 218 *c i* PN **Pn 19 28 23.6 -1.0**
MAJO pmax pmax
comp=Z,61nm,0.7s
MAJO MLR MLR
comp=Z,29nm,17.0s
MJAR Matsushiro Arr 9.79 218 Pn **Pn 19 28 24.2 -0.4**
comp=Z,0.6nm,0.3s,baz=31,slow=13,SNR=62
MJAR LR LR 19 33 09.1
comp=Z,31μm,18.4s,baz=44,slow=43
comp=Z,49nm,0.8s
USA0B Ussuriysk Arra 9.83 273 *d i* PN **Pn 19 28 26.9 +1.9**
USRK Ussuriysk Ar. 9.83 273 Pn **Pn 19 28 25.5 +0.5**
comp=Z,15nm,0.9s,baz=80,slow=13,SNR=7.4
USRK LR LR 19 32 01.8
comp=Z,76μm,19.3s,baz=87,slow=37
VLA Vladivostok 10.09 267 ⇑ *e*PN **Pn 19 28 28.7 +0.2**
VLA MLR MLR
comp=Z,59μm,17.0s
PAU Pauzhetka 10.18 43 *i* P **Pn 19 28 32.7 +2.9**
PAU AMB AMB 19 28 42.1
comp=Z,830nm,0.8s
KLR Kul'dur 10.65 301 Pn **Pn 19 28 38.1 +1.9**
comp=Z,2.5nm,0.3s,baz=107,slow=13,SNR=60
KLR Sn **Sn 19 30 30.9 -4.2**
comp=Z,3.1nm,0.3s,baz=275,slow=13,SNR=7.4
KLR LR LR 19 32 55.5
comp=Z,46μm,19.9s,baz=117,slow=39
KLR Kul'dur 10.65 301 *e*P **Pn 19 28 38.5 +2.3**
KLR AMB AMB 19 28 42.7
comp=Z,90nm,1.0s
KLR Kul'dur 10.65 301 *d i* PN **Pn 19 28 38.9 +2.7**
KLR pmax pmax
comp=Z,88nm,1.0s
KLR MLR MLR
comp=Z,41μm,13.0s
MSHR Mys Shultsa 10.74 265 ⇑ *e*PN **Pn 19 28 39.4 +2.0**
MSHR pmax pmax
comp=Z,19nm,0.7s
MSHR MLR MLR
comp=Z,33μm,16.0s
JGF Kuroka 10.96 218 Pn **Pn 19 28 38.8 -1.7**
JGF Kuroka 10.96 218 P **Pn 19 28 40.4 -0.1**
JGF Kuroka 10.96 218 ⇑P **Pn 19 28 39.2 -1.3**
PSTR Posyet 10.97 265 ⇑ *e*PN **Pn 19 28 43.8 +3.2**
KDTR Khodutka, Kamc 11.01 44 *e*P **Pn 19 28 43.5 +2.3**
INU Inuyama 11.32 219 Pn **Pn 19 28 43.4 -2.1**
INU Inuyama 11.32 219 P **Pn 19 28 48.0 +2.6**
INU Inuyama 11.32 219 ⇑P **Pn 19 28 43.8 -1.6**
JSG Sagara 11.41 213 **Pn 19 28 45.0 -1.6**
JSG Sagara 11.41 213 P **Pn 19 28 48.3 +1.7**
MDJ Mudanjiang 11.50 276 Pn **Pn 19 28 51.2 +3.3**
MDJ Mudanjiang 11.50 276 P **Pn 19 28 52.5 +4.7**
MDJ PP **PnPn 19 29 00.6 +5.2**
MDJ S **Sn 19 30 57.3 +1.4**
MDJ SS **SnSn 19 31 09.9 +2.4**
MDJ pmax pmax
comp=Z,380nm,1.9s
MDJ pmax pmax
comp=Z,18μm,4.8s
MDJ LR LR
comp=Z,133μm,15.1s
MDJ LR LR
comp=Z,53μm,15.8s
MDJ LR LR
comp=Z,86μm,11.7s
MDJ Mudanjiang 11.50 276 P **Pn 19 28 49.1 +1.3**
PEA0B Petropavlovsk- 11.67 38 **Pn 19 28 51.4 +1.2**
PEA0B Petropavlovsk- 11.67 38 *ce*PN **Pn 19 28 52.0 +1.9**
PETK Petropavlovsk- 11.67 38 Pn **Pn 19 28 51.2 +1.1**
comp=Z,5.7nm,0.3s,baz=211,slow=9.2,SNR=94
comp=Z,21nm,0.4s
PET Petropavlovsk 12.04 40 **Pn 19 28 56.2 +0.9**
PET Petropavlovsk 12.04 40 *e*P **Pn 19 28 55.1 -0.2**
PET Petropavlovsk 12.04 40 P **Pn 19 28 57.4 +2.1**
PET Petropavlovsk 12.04 40 ⇑P **Pn 19 28 57.3 +2.1**
PET Petropavlovsk 12.04 40 *e*PN **Pn 19 28 58.0 +2.7**
PET *e*S **Sn 19 31 16.2 +7.0**
PET pmax pmax
comp=Z,431nm,1.6s
PET pmax pmax
comp=Z,20μm,5.8s
PET pmax pmax
comp=Z,13μm,7.3s
PET smax smax
comp=E,18μm,10.4s
PET smax smax
comp=E,22μm,10.7s
PET smax smax
comp=N,15μm,9.7s
PET smax smax
comp=N,11μm,10.4s
PET MLR MLR
comp=Z,34μm,12.0s
PET MLR MLR
comp=Z,39μm,12.0s
JHJ2 Mitsune 12.27 204 Pn **Pn 19 28 57.5 -1.0**
JHJ Hachijo jima 2 12.28 204 Pn **Pn 19 28 57.7 -0.8**
comp=Z,14nm,0.3s,baz=31,slow=13,SNR=1.9
JHJ Sn **Sn 19 31 08.0 -7.1**
comp=Z,29nm,0.3s,baz=65,slow=19,SNR=2.1
JHJ LR LR 19 33 55.6
comp=Z,12μm,18.1s,baz=44,slow=38
comp=Z,86nm,0.5s
BNX BinXian 12.98 282 ⇓P **Pn 19 29 10.2 +2.1**
BNX S **Sn 19 31 38.3 +6.1**
BNX pmax pmax
comp=Z,250nm,2.1s
BNX pmax pmax
comp=Z,15μm,7.4s
BNX LR LR
comp=Z,62μm,10.2s
BNX LR LR
comp=Z,83μm,10.6s
BNX LR LR
comp=Z,83μm,10.4s
HEH HeiHe 13.64 301 *e*P **Pn 19 29 17.9 +0.8**
HEH pP **P 19 29 22.8 -3.1**
HEH S **Sn 19 31 51.3 +3.0**
HEH SS **S 19 32 09.8 -1.4**
HEH pmax pmax
comp=Z,240nm,1.0s
HEH pmax pmax
comp=Z,11μm,5.1s
HEH LR LR
comp=Z,121μm,13.7s
HEH LR LR
comp=Z,50μm,14.9s
HEH LR LR
comp=Z,117μm,10.7s
JMN Monobe 14.13 224 **Pn 19 29 21.9 -2.0**
JMN Monobe 14.13 224 P **Pn 19 29 25.5 +1.5**
CN2 Changchun 14.56 274 ⇓P **Pn 19 29 31.0 +1.3**
CN2 *es*P P 19 29 37.0 +0.9
CN2 *e*S **Sn 19 32 11.6 +0.9**
CN2 pmax pmax
comp=Z,30nm,0.7s
CN2 pmax pmax
comp=Z,6μm,4.0s
CN2 LR LR
comp=Z,52μm,12.0s
CN2 LR LR
comp=Z,59μm,12.0s
CN2 LR LR
comp=Z,70μm,13.0s
KSRS Korea Array 15.15 248 Pn **Pn 19 29 38.2 +0.6**
comp=Z,0.3nm,0.3s,baz=60,slow=12,SNR=52
KSRS LR LR 19 35 09.0
comp=Z,20μm,18.7s,baz=55,slow=36
comp=Z,27nm,0.9s
ZEA Zeya 15.16 314 *e*P **Pn 19 29 37.0 -0.7**
ZEA Zeya 15.16 314 *e*P **Pn 19 29 38.4 +0.7**
ZEA pmax pmax
comp=E,4μm,3.5s
ZEA pmax pmax
comp=N,3μm,3.7s
ZEA pmax pmax
comp=Z,5μm,3.7s
ZEA pmax pmax
comp=E,320nm,0.9s
ZEA pmax pmax
comp=N,370nm,0.8s
ZEA pmax pmax
comp=Z,550nm,0.8s
ZEA MLR MLR
comp=E,20μm,11.0s
ZEA MLR MLR
comp=N,15μm,13.0s
ZEA MLR MLR
comp=Z,27μm,12.0s
KSAR Wonju Array Be 15.18 248 **Pn 19 29 37.0 -1.1**
KSAR Wonju Array Be 15.18 248 P **Pn 19 29 37.0 -1.1**
MA2 Magadan 15.39 10 **Pn 19 29 40.5 -0.2**
MA2 Magadan 15.39 10 Pn **Pn 19 29 40.1 -0.7**
comp=Z,50nm,0.4s,baz=183,slow=13,SNR=50
MA2 Sn **Sn 19 32 27.5 -3.3**
comp=Z,1.3nm,0.3s,baz=223,slow=20,SNR=1.3
MA2 LR LR 19 36 16.8
comp=Z,6μm,18.4s,baz=188,slow=40
MA2 Magadan 15.39 10 *e*P **Pn 19 29 40.7 0.0**
MA2 Magadan 15.39 10 P **Pn 19 29 40.5 -0.2**
MA2 Magadan 15.39 10 *ce*P **Pn 19 29 40.7 0.0**
MA2 pmax pmax
comp=Z,458nm,1.7s
MA2 MLR MLR
comp=Z,12μm,13.0s
MA2 Magadan 15.39 10 P **Pn 19 29 41.9 +1.2**
comp=Z,1μm,1.7s,comp=Z,25μm
INCN Inchon 16.00 251 Pn **Pn 19 29 48.0 -0.8**
INCN Inchon 16.00 251 P **Pn 19 29 47.8 -1.0**
INCN P **Pn 19 29 47.8 -1.0**
INCN Inchon 16.00 251 P **Pn 19 29 49.2 +0.4**
INCN Inchon 16.00 251 P **Pn 19 29 48.0 -0.8**
INCN pmax pmax
comp=Z,122nm,1.9s
JTU Tsushima 16.03 237 P **P 19 29 51.0 -1.5**
TJN Taejon 16.13 246 Pn **Pn 19 29 48.8 -1.6**
TJN Taejon 16.13 246 P **Pn 19 29 51.3 +0.9**
TJN Taejon 16.13 246 *c i* P **Pn 19 29 49.4 -1.0**
JNU Nakatsue 16.19 230 Pn **Pn 19 29 50.3 -0.9**
comp=Z,0.5nm,0.3s,baz=43,slow=11,SNR=26
JNU LR LR 19 35 51.8
comp=Z,18μm,21.0s,baz=38,slow=36
comp=Z,45nm,1.1s
JNU Nakatsue 16.19 230 P **Pn 19 29 49.9 -1.3**
SNY Shenyang 16.36 268 ⇓P **P 19 29 55.0 -1.1**
SNY S **Sn 19 32 56.2 +1.8**
SNY pmax pmax
comp=Z,87nm,1.4s
SNY pmax pmax
comp=Z,4μm,5.5s
SNY LR LR
comp=Z,35μm,10.4s
SNY LR LR
comp=Z,40μm,11.0s
SNY LR LR
comp=Z,39μm,16.5s
HIA Hailar 18.33 294 P **P 19 30 18.2 +0.3**
HIA Hailar 18.33 294 P **P 19 30 19.2 +1.3**
HIA Hailar 18.33 294 P **P 19 30 18.2 +0.3**
HIA pmax pmax
comp=Z,2μm,1.8s
DL2 Dalian 18.80 261 P **P 19 30 22.8 -0.3**
DL2 S **Sn 19 33 53.9 +0.4**
DL2 pmax pmax
comp=Z,660nm,1.6s
DL2 pmax pmax
comp=Z,12μm,9.6s
DL2 LR LR
comp=Z,26μm,10.5s
DL2 LR LR
comp=Z,19μm,11.1s
DL2 LR LR
comp=Z,22μm,11.4s
SEY Seymchan 18.85 9 P **Pn 19 30 27.4 +3.4**
comp=Z,377nm,1.2s,baz=193,slow=8.4,SNR=110
SEY Seymchan 18.85 9 *c i* P **Pn 19 30 25.6 +1.6**
SEY pmax pmax
comp=Z,984nm,1.2s
SEY MLR MLR
comp=Z,19μm,14.0s
YAK Yakutsk 19.89 338 P **P 19 30 34.9 +0.2**
YAK Yakutsk 19.89 338 P **Pn 19 30 35.8 -0.6**
comp=Z,6.7nm,0.3s,baz=22,slow=1.1,SNR=42
YAK LR LR 19 38 18.7
comp=Z,12μm,18.5s,baz=139,slow=37
comp=Z,96nm,0.8s
YAK Yakutsk 19.89 338 ⇑P **P 19 30 34.9 +0.2**
YAK Yakutsk 19.89 338 *e*P **P 19 30 35.0 +0.2**
YAK *e*S **S 19 34 17.9 0.0**
YAK pmax pmax
comp=Z,66nm,0.8s
YAK pmax pmax
comp=E,22nm,1.8s
YAK pmax pmax
comp=N,69nm,1.8s
YAK smax smax
comp=N,1μm,2.2s
YAK smax smax
comp=E,1μm,2.3s
YAK MLR MLR
comp=Z,12μm,16.0s
YAK MLR MLR
comp=N,5μm,16.0s
YAK MLR MLR
comp=E,5μm,18.0s
SHEM Shemya Is, Ala 20.39 56 P **P 19 30 39.1 -1.2**
comp=E,53nm,0.5s,baz=270,slow=5.1,SNR=7.5
SHEM LR LR 19 38 12.9
comp=E,5μm,20.1s,baz=266,slow=36
comp=E,53nm,0.5s
XLT XiLinHaoTe 21.19 279 *e*P **P 19 30 48.5 -0.7**
XLT sP pwP 19 30 56.3 +1.0
XLT S **S 19 34 40.2 -4.2**
XLT PcS **PcS 19 38 33.1 +0.8**
XLT pmax pmax
comp=E,440nm,0.9s
XLT pmax pmax
comp=E,12μm,3.9s
XLT LR LR
comp=E,50μm,11.6s
XLT LR LR
comp=E,57μm,10.8s
JMZ Minamidaito 2 22.03 217 P **P 19 31 01.1 +2.9**
BJI Beijing 22.24 269 P **P 19 30 59.5 -0.8**
BJI pP **pP 19 31 03.7 -0.3**

BJI			sP	**pwP**	**19 31 06.9**	**+0.3**
BJI			PP	**PnPn**	**19 31 26.3**	**+3.6**
BJI			PcP	**PcP**	**19 34 57.1**	**+0.9**
BJI			S	**S**	**19 34 59.2**	**-5.3**
BJI			pmax	pmax		
	comp=E,85nm,1.2s					
BJI			pmax	pmax		
	comp=E,1μm,5.4s					
BJI			LR	LR		
	comp=E,14μm,11.2s					
BJI			LR	LR		
	comp=E,13μm,13.9s					
BJI			LR	LR		
	comp=E,14μm,15.4s					
BJT	**Baijiatuau**	**22.25 269**	P	**P**	**19 30 59.6**	**-0.9**
BJT	**Baijiatuau**	**22.25 269**	IAMs_20	IAMs_20	19 39 17.6	
	comp=Z,22μm,19.0s					
BJT	**Baijiatuau**	**22.25 269**	P	**P**	**19 31 00.1**	**-0.4**
BJT	**Baijiatuau**	**22.25 269**	P	**P**	**19 30 59.6**	**-0.9**
BJT			pmax	pmax		
	comp=Z,309nm,1.1s					
BJT			MLR	MLR		
	comp=Z,22μm,19.0s					
CIT	**Chita**	**22.54 301**	*e*P	**P**	**19 31 01.6**	**-1.9**
CIT			*e*		19 31 26.7	
CIT			*e*		19 31 37.5	
CIT			pmax	pmax		
	comp=Z,2μm,2.3s					
JOW	**Kunigami**	**22.54 224**	IAmb	IAmb	19 31 12.5	
	comp=Z,992nm,1.2s					
JOW	**Kunigami**	**22.54 224**	LR	LR	19 41 15.0	
	comp=Z,7μm,20.2s,baz=44,slow=40					
JOW	**Kunigami**	**22.54 224**	P	**P**	**19 31 05.2**	**+1.5**
JOW	**Kunigami**	**22.54 224**	⇑P	**P**	**19 31 03.8**	**+0.1**
TIA	**Tai'an**	**23.21 259**	P	**P**	**19 31 09.1**	**-1.6**
TIA			pP	**sP**	**19 31 16.3**	**+0.4**
TIA			S	**S**	**19 35 15.2**	**-6.8**
TIA			pmax	pmax		
	comp=Z,220nm,0.6s					
TIA			pmax	pmax		
	comp=Z,1μm,3.5s					
TIA			LR	LR		
	comp=Z,7μm,12.7s					
TIA			LR	LR		
	comp=Z,14μm,12.7s					
TIA			LR	LR		
	comp=Z,12μm,14.8s					
SSE	**Sheshan**	**23.44 243**	P	**P**	**19 31 11.8**	**-1.1**
SSE			S	**S**	**19 35 24.1**	**-1.7**
SSE			pmax	pmax		
	comp=Z,250nm,1.3s					
SSE			pmax	pmax		
	comp=Z,4μm,3.9s					
SSE			LR	LR		
	comp=Z,6μm,14.1s					
SSE			LR	LR		
	comp=Z,8μm,14.1s					
BOD	**Bodaibo**	**23.65 316**	*e*P	**P**	**19 31 13.0**	**-1.8**
BOD			pmax	pmax		
	comp=Z,88nm,1.9s					
NJ2	**Nanjing**	**24.35 248**	⇑P	**P**	**19 31 21.0**	**-0.6**
NJ2			S	**S**	**19 35 43.0**	**+2.7**
NJ2			pmax	pmax		
	comp=Z,130nm,1.2s					
NJ2			pmax	pmax		
	comp=Z,7μm,4.3s					
NJ2			LR	LR		
	comp=Z,25μm,17.1s					
NJ2			LR	LR		
	comp=Z,20μm,15.2s					
NJ2			LR	LR		
	comp=Z,31μm,12.8s					
HNS	**HongShan**	**24.36 264**	⇑P	**P**	**19 31 21.1**	**-0.5**
HNS			sP	**pwP**	**19 31 29.9**	**+1.3**
HNS			PcP	**PcP**	**19 35 02.7**	**+2.0**
HNS			S	**S**	**19 35 34.9**	**-5.5**
HNS			sS	**pS**	**19 35 44.9**	**-0.4**
HNS			pmax	pmax		
	comp=Z,410nm,1.6s					
HNS			pmax	pmax		
	comp=Z,8μm,5.7s					
HNS			LR	LR		
	comp=Z,16μm,11.9s					
HNS			LR	LR		
	comp=Z,19μm,11.3s					
HNS			LR	LR		
	comp=Z,22μm,11.0s					
HHC	**Hu-ho-hao-te**	**25.25 274**	⇑*i*P	**P**	**19 31 30.0**	**+0.2**
HHC			pP	pP	19 31 33.7	+0.1
HHC			sP	pwP	19 31 38.6	+1.9
HHC			S	**S**	**19 35 50.4**	**-4.5**
HHC			sS	sS	19 36 00.4	-1.1
HHC			pmax	pmax		
	comp=Z,240nm,1.8s					
HHC			pmax	pmax		
	comp=Z,10μm,3.7s					
HHC			LR	LR		
	comp=Z,16μm,11.1s					
HHC			LR	LR		
	comp=Z,37μm,11.3s					
HHC			LR	LR		
	comp=Z,48μm,12.3s					
JMJ	**Miyako jima 2**	**25.72 227**	P	**P**	**19 31 35.9**	**+1.9**
TIY	**Taiyuan**	**25.84 266**	P	**P**	**19 31 37.2**	**+2.0**
TIY			PP	**PnPn**	**19 32 19.8**	**+7.6**
TIY			S	**S**	**19 36 06.5**	**+2.2**
TIY			pmax	pmax		
	comp=Z,250nm,1.5s					
TIY			pmax	pmax		
	comp=Z,12μm,5.3s					
TIY			LR	LR		
	comp=Z,18μm,11.7s					
TIY			LR	LR		
	comp=Z,10μm,19.9s					
TIY			LR	LR		
	comp=Z,10μm,15.8s					
ADK	**Adak**	**25.90 60**	P	**P**	**19 31 34.1**	**-1.3**
ADK				**PcP**	**19 35 04.2**	**+0.3**
ADK	**Adak**	**25.90 60**	P	**P**	**19 31 34.8**	**-0.6**
ADK	**Adak**	**25.90 60**	P	**P**	**19 31 34.1**	**-1.3**
ADK					19 35 04.2	
ADK			pmax	pmax		
	comp=Z,177nm,1.0s					
BILL	**Biiibino**	**25.93 18**	P	**P**	**19 31 33.2**	**-2.3**
BILL	**Biiibino**	**25.93 18**	*ce*P	**P**	**19 31 33.1**	**-2.4**
BILL			pmax	pmax		
	comp=Z,95nm,1.5s					
BILL			MLR	MLR		
	comp=Z,29μm,16.0s					
BTO	**Baotou**	**26.44 274**	*e*P	**P**	**19 31 42.5**	**+1.9**
BTO			pP	**sP**	**19 31 46.7**	**+0.8**
BTO			sP	**pwP**	**19 31 49.7**	**+2.2**
BTO			PP	**PnPn**	**19 32 25.8**	**+5.5**
BTO			S	**S**	**19 36 17.2**	**+3.5**
BTO			sS	**sS**	**19 36 20.6**	**+0.4**
BTO			SS	**SnSn**	**19 37 24.8**	**+10**
BTO			pmax	pmax		
	comp=Z,370nm,1.3s					
BTO			pmax	pmax		
	comp=Z,22μm,5.0s					
BTO			LR	LR		
	comp=Z,85μm,11.9s					
BTO			LR	LR		
	comp=Z,73μm,11.3s					
BTO			LR	LR		
	comp=Z,73μm,11.0s					
ULN	**Ulaanbaatar**	**26.77 291**	P	**P**	**19 31 42.4**	**-1.2**
ULN	**Ulaanbaatar**	**26.77 291**	P	**P**	**19 31 44.3**	**+0.7**
ULN			P	**P**	**19 31 44.3**	**+0.7**
ULN			P	**P**	**19 31 44.3**	**+0.7**
ULN	**Ulaanbaatar**	**26.77 291**	*e*P	**P**	**19 31 43.5**	**-0.1**
ULN	**Ulaanbaatar**	**26.77 291**	⇑P	**P**	**19 31 43.5**	**-0.1**
ULN	**Ulaanbaatar**	**26.77 291**	*c i*P	**P**	**19 31 43.5**	**-0.1**
ULN			pmax	pmax		
	comp=Z,285nm,1.7s					
ULN			MLR	MLR		
	comp=Z,36μm,16.0s					
SONM	**Songino Array**	**27.22 291**	P	**P**	**19 31 47.1**	**-0.5**
SONM	**Songino Array**	**27.22 291**	P	**P**	**19 31 48.5**	**+0.9**
	comp=Z,68nm,0.7s,baz=82,slow=8.1,SNR=252					
SONM			PcP	**PcP**	**19 35 05.5**	**-1.7**
	comp=Z,24nm,1.1s,baz=96,slow=1.3,SNR=4.3					
SONM			LR	LR	19 43 11.5	
	comp=Z,45μm,19.4s,baz=86,slow=38					
	comp=Z,68nm,0.7s					
SONM	**Songino Array**	**27.22 291**	P	**P**	**19 31 47.1**	**-0.5**
SONM			pmax	pmax		
	comp=Z,2μm,1.9s					
YOJ	**Yonaguni jima**	**27.23 230**	IAMs_20	IAMs_20	19 44 04.3	
	comp=Z,12μm,18.0s					
LYN	**LuoYang**	**27.33 260**	P	**P**	**19 31 48.8**	**+0.3**
LYN			sP	pwP	19 31 55.6	+0.1
LYN			S	**S**	**19 36 27.5**	**-0.1**
LYN			sS	sS	19 36 33.7	-0.9
LYN			pmax	pmax		
	comp=Z,370nm,1.6s					
LYN			pmax	pmax		
	comp=Z,11μm,4.5s					
LYN			LR	LR		
	comp=Z,34μm,12.4s					
LYN			LR	LR		
	comp=Z,21μm,12.0s					
LYN			LR	LR		
	comp=Z,30μm,11.3s					
ATKA	**Atka Island**	**27.44 59**	P	**P**	**19 31 48.3**	**-1.0**
TATO	**Taipei**	**27.68 233**	IAMs_20	IAMs_20	19 43 37.2	
	comp=Z,21μm,19.0s					
TATO	**Taipei**	**27.68 233**	P	**P**	**19 31 54.1**	**+2.4**
TATO			P	**P**	**19 31 54.1**	**+2.4**
TATO			P	**P**	**19 31 54.1**	**+2.4**
TATO	**Taipei**	**27.68 233**	P	**P**	**19 31 53.0**	**+1.3**
YHNB	**Yeheng**	**27.98 233**	P	**P**	**19 31 56.1**	**+1.6**
NACB	**Ninganchiao**	**28.24 232**	IAMs_20	IAMs_20	19 42 50.3	
	comp=Z,19μm,20.0s					
NACB	**Ninganchiao**	**28.24 232**	P	**P**	**19 31 55.6**	**-1.1**
IRK	**Irkutsk**	**28.26 301**	*e*P	**P**	**19 31 55.2**	**-1.5**
IRK			pmax	pmax		
	comp=Z,495nm,2.2s					
WHN	**Wuhan**	**28.31 251**	⇑*i*P	**P**	**19 31 57.1**	**-0.2**
WHN			sP	**pwP**	**19 32 04.5**	**+0.3**
WHN			S	**S**	**19 36 42.2**	**-0.9**
WHN			pmax	pmax		
	comp=Z,620nm,2.5s					
WHN			LR	LR		
	comp=Z,17μm,12.0s					
WHN			LR	LR		
	comp=Z,11μm,10.6s					
WHN			LR	LR		
	comp=Z,12μm,11.2s					
TIXI	**Tiksi**	**28.40 349**	P	**P**	**19 31 55.8**	**-1.9**
TIXI	**Tiksi**	**28.40 349**	LR	LR	19 43 39.9	
	comp=Z,7μm,18.1s,baz=164,slow=37					
TIXI	**Tiksi**	**28.40 349**	⇑P	**P**	**19 31 55.4**	**-2.3**
TIXI	**Tiksi**	**28.40 349**	*de*P	**P**	**19 31 56.1**	**-1.6**
TIXI			pmax	pmax		
	comp=Z,35nm,1.7s					
TIXI			MLR	MLR		
	comp=Z,10μm,15.0s					
SSLB	**Suanglung**	**28.91 232**	P	**P**	**19 32 01.4**	**-1.3**
SSLB				**PcP**	**19 35 12.7**	**+1.0**
SSLB	**Suanglung**	**28.91 232**	P	**P**	**19 32 04.0**	**+1.3**
ZAK	**Zakamensk**	**28.97 297**	*e*P	**P**	**19 32 02.6**	**-0.5**
ZAK			pmax	pmax		
	comp=Z,149nm,1.5s					
YULB	**Yu-li**	**29.03 231**	IAMs_20	IAMs_20	19 42 18.0	
	comp=Z,16μm,22.0s					
YULB	**Yu-li**	**29.03 231**	P	**P**	**19 32 05.2**	**+1.5**
QZH	**Quanzhou**	**29.41 237**	⇑*i*P	**P**	**19 32 07.9**	**+0.8**
QZH			S	**S**	**19 37 00.7**	**+0.3**
QZH			pmax	pmax		
	comp=Z,500nm,2.2s					
QZH			pmax	pmax		
	comp=Z,7μm,5.3s					
QZH			LR	LR		
	comp=Z,16μm,16.5s					
QZH			LR	LR		
	comp=Z,18μm,14.4s					
QZH			LR	LR		
	comp=Z,12μm,13.4s					
TPUB	**Ta-pu**	**29.47 232**	P	**P**	**19 32 05.4**	**-2.3**
TPUB			IAmb	IAmb	19 32 17.3	
	comp=Z,449nm,1.0s					
TPUB	**Ta-pu**	**29.47 232**	P	**P**	**19 32 09.1**	**+1.4**
TWGBT	**Beinan**	**29.60 231**	P	**P**	**19 32 09.9**	**+1.1**
TWG	**Pinlang**	**29.60 231**	IAMs_20	IAMs_20	19 42 45.4	
	comp=Z,18μm,22.0s					
KNMB	**Chin-men Tao**	**29.89 237**	P	**P**	**19 32 09.7**	**-1.7**
KNMB			IAmb	IAmb	19 32 27.1	
	comp=Z,688nm,1.2s					
SPIA	**Saint Paul Isl**	**30.00 49**	P	**P**	**19 32 11.2**	**-0.8**
	baz=264					
SPIA	**Saint Paul Isl**	**30.00 49**	P	**P**	**19 32 14.6**	**+2.6**
XAN	**Xi'an**	**30.10 262**	⇑P	**P**	**19 32 13.2**	**-0.1**
XAN			pP	sP	19 32 18.1	-0.6
XAN			PP	**PP**	**19 33 17.0**	**-4.1**
XAN			PcP	**PcP**	**19 35 16.0**	**+1.4**
XAN			S	**S**	**19 37 15.5**	**+4.1**
XAN			PcS	**PcS**	**19 38 58.2**	**+0.1**
XAN			pmax	pmax		
	comp=Z,100nm,2.0s					
XAN			pmax	pmax		
	comp=Z,5μm,5.4s					
XAN			LR	LR		
	comp=Z,10μm,15.1s					
XAN			LR	LR		
	comp=Z,26μm,15.8s					
XAN			LR	LR		
	comp=Z,17μm,18.5s					
MOY	**Mondy**	**30.31 300**	*e*P	**P**	**19 32 14.1**	**-0.9**
MOY			pmax	pmax		
	comp=Z,328nm,2.1s					
P08K	**Saint George I**	**30.33 50**	P	**P**	**19 32 14.6**	**-0.3**
	baz=266					
WAKE	**Wake Island**	**30.64 138**	IAMs_20	IAMs_20	19 41 26.4	
	comp=Z,10μm,21.0s					
NIKH	**Nikolski High**	**30.68 58**	P	**P**	**19 32 18.0**	**-0.1**
	baz=273					
GAMB	**Gambell**	**30.69 36**	P	**P**	**19 32 16.7**	**-1.3**
	baz=252					
CNSH	**ChangSha**	**30.76 249**	P	**P**	**19 32 19.0**	**-0.1**
CNSH			S	**S**	**19 37 21.3**	**-0.4**
CNSH			pmax	pmax		
	comp=Z,200nm,1.2s					
CNSH			LR	LR		
	comp=Z,12μm,19.6s					
CNSH			LR	LR		
	comp=Z,20μm,13.3s					
CNSH			LR	LR		
	comp=Z,20μm,14.9s					
GUMO	**Guam**	**30.83 182**	IAMs_20	IAMs_20	19 41 09.6	
	comp=Z,10μm,18.0s					
GUMO	**Guam**	**30.83 182**	LR	LR	19 45 08.5	
	comp=Z,3μm,18.6s,baz=18,slow=37					
ENH	**Enshi**	**31.81 256**	P	**P**	**19 32 28.6**	**+0.3**
UNV	**Unalaska Valle**	**32.05 56**	P	**P**	**19 32 29.6**	**-0.5**
	baz=273					
LVA	**Lava Point**	**32.31 55**	IAMs_20	IAMs_20	19 44 06.9	
	comp=Z,9μm,19.0s					
M11K	**Mekoryuk**	**32.46 44**	P	**P**	**19 32 33.1**	**-0.6**
	baz=263					
LZH	**Lanzhou**	**32.72 270**	⇑P	**P**	**19 32 37.2**	**+0.8**
LZH			sP	pwP	19 32 45.0	+1.6
LZH			PP	**PP**	**19 33 52.2**	**+1.9**
LZH			PcP	**PcP**	**19 35 23.7**	**+2.0**
LZH			S	**S**	**19 37 45.4**	**-7.0**
LZH			pmax	pmax		
	comp=Z,330nm,1.2s					
LZH			pmax	pmax		
	comp=Z,4μm,5.2s					
LZH			LR	LR		
	comp=Z,22μm,11.9s					
LZH			LR	LR		
	comp=Z,24μm,12.0s					
LZH			LR	LR		
	comp=Z,25μm,12.7s					
TNA	**Tin City**	**32.78 34**	P	**P**	**19 32 35.3**	**-1.1**
	baz=253					
F14K	**Arctic Creek**	**33.40 34**	P	**P**	**19 32 41.0**	**-0.8**
	baz=255					
K13K	**Kusilvak Mount**	**33.41 41**	P	**P**	**19 32 41.7**	**-0.2**
	baz=262,SNR=22					
MIDW	**Midway**	**33.56 106**	IAMs_20	IAMs_20	19 42 59.9	
	comp=Z,13μm,22.0s					
ANM	**Nome**	**33.57 36**	IAMs_20	IAMs_20	19 47 51.3	
	comp=Z,8μm,19.0s					
ANM	**Nome**	**33.57 36**	P	**P**	**19 32 42.9**	**-0.4**
	baz=257					
FALS	**False Pass**	**33.79 54**	P	**P**	**19 32 43.4**	**-2.0**
	baz=274					
M13K	**Dall Lake**	**33.87 44**	P	**P**	**19 32 47.0**	**+1.0**
M13K			IAmb	IAmb	19 32 55.8	
	comp=Z,468nm,1.4s					
M13K	**Dall Lake**	**33.87 44**	P	**P**	**19 32 45.8**	**-0.2**
	baz=266,SNR=14					
J14K	**Nanvaranak Lak**	**34.04 40**	P	**P**	**19 32 47.2**	**-0.1**
	baz=262					
HKC	**Hong Kong Obse**	**34.07 240**	⇑P	**P**	**19 32 49.0**	**+0.9**
HKPS	**Hong Kong Po S**	**34.11 240**	IAMs_20	IAMs_20	19 46 04.5	
	comp=Z,12μm,19.0s					
HKPS	**Hong Kong Po S**	**34.11 240**	P	**P**	**19 32 50.7**	**+2.3**
F15K	**North Star Dit**	**34.13 34**	P	**P**	**19 32 47.9**	**-0.3**
	baz=256					
GTA	**Gaotai**	**34.15 278**	P	**P**	**19 32 49.1**	**+0.3**
GTA			sP	pwP	19 32 57.5	+1.8
GTA			PP	**PP**	**19 34 03.4**	**-2.6**
GTA			PcP	**PcP**	**19 35 27.7**	**+2.0**
GTA			S	**S**	**19 38 09.5**	**-5.0**
GTA			PcS	**PcS**	**19 39 13.1**	**+1.2**
GTA			ScS	**ScS**	**19 43 11.8**	**-0.4**
GTA			pmax	pmax		
	comp=Z,74nm,1.7s					
GTA			pmax	pmax		
	comp=Z,2μm,5.6s					
GTA			LR	LR		
	comp=Z,38μm,12.7s					
GTA			LR	LR		
	comp=Z,20μm,13.5s					
GTA			LR	LR		
	comp=Z,38μm,12.4s					
G15K	**Niukluk**	**34.22 36**	P	**P**	**19 32 48.4**	**-0.5**
	baz=258					
SZP	**Santa**	**34.23 226**	P	**P**	**19 32 51.2**	**+1.7**
SZP	**Santa**	**34.23 226**	⇑P	**P**	**19 32 49.9**	**+0.3**
L14K	**Kuka Creek**	**34.28 42**	IAmb	IAmb	19 32 58.9	
	comp=Z,340nm,1.4s					
L14K	**Kuka Creek**	**34.28 42**	P	**P**	**19 32 50.1**	**+0.7**
	baz=265,SNR=20					
S12K	**Black Hills**	**34.51 52**	IAmb	IAmb	19 33 57.2	
	comp=Z,761nm,1.9s					
S12K	**Black Hills**	**34.51 52**	P	**P**	**19 32 49.9**	**-1.7**
	baz=274					
C16K	**Lisburne Hills**	**34.57 30**	IAMs_20	IAMs_20	19 48 23.1	
	comp=Z,11μm,18.0s					
C16K	**Lisburne Hills**	**34.57 30**	P	**P**	**19 32 50.0**	**-1.9**
	baz=252					
M14K	**Bethel**	**34.58 43**	IAmb	IAmb	19 33 01.5	
	comp=Z,361nm,1.5s					
M14K	**Bethel**	**34.58 43**	P	**P**	**19 32 52.2**	**+0.1**
	baz=266,SNR=27					
N14K	**Kuskokwak Cree**	**34.67 45**	P	**P**	**19 32 53.2**	**+0.3**
	baz=268,SNR=22					
O14K	**Tigyukauivet M**	**34.87 46**	IAMs_20	IAMs_20	19 45 60.0	
	comp=Z,8μm,20.0s					
O14K	**Tigyukauivet M**	**34.87 46**	P	**P**	**19 32 55.1**	**+0.6**
	baz=269,SNR=17					
L15K	**Ungalak Mounta**	**34.88 42**	P	**P**	**19 32 54.7**	**+0.1**
	baz=265,SNR=14					
H16K	**Elim**	**34.91 36**	P	**P**	**19 32 54.4**	**-0.5**
	baz=260,SNR=6.3					
K15K	**Wolf Creek Mou**	**34.91 41**	IAmb	IAmb	19 32 57.6	
	comp=Z,467nm,1.9s					
K15K			IAMs_20	IAMs_20	19 49 13.0	
	comp=Z,9μm,18.0s					
K15K	**Wolf Creek Mou**	**34.91 41**	P	**P**	**19 32 55.2**	**+0.3**
	baz=264,SNR=15					
G16K	**Koyuk River**	**35.00 35**	P	**P**	**19 32 54.8**	**-0.9**
	baz=259,SNR=8.0					
M15K	**Kasigluk River**	**35.20 43**	P	**P**	**19 32 57.2**	**-0.3**
	baz=268,SNR=39					
D17K	**Noatak River**	**35.23 31**	P	**P**	**19 32 55.3**	**-2.3**
	baz=255					
RDOG	**Red Dog Mine**	**35.38 30**	P	**P**	**19 32 57.7**	**-1.3**
	baz=255					
C17K	**DeLong Mountai**	**35.40 30**	P	**P**	**19 32 57.4**	**-1.8**
	baz=254					
J16K	**Anvik River**	**35.44 39**	P	**P**	**19 32 59.6**	**+0.1**
	baz=264					
CD2	**Chengdu**	**35.46 262**	P	**P**	**19 33 00.1**	**0.0**
CD2			sP	sP	19 33 05.4	-0.1
CD2			PP	**PP**	**19 34 20.9**	**+0.3**
CD2			S	**S**	**19 38 34.5**	**-0.2**
CD2			sS	sS	19 38 42.6	+0.8
CD2			pmax	pmax		
	comp=Z,150nm,0.9s					
CD2			pmax	pmax		
	comp=Z,2μm,5.7s					
CD2			LR	LR		
	comp=Z,17μm,14.9s					
CD2			LR	LR		
	comp=Z,13μm,13.7s					
CD2			LR	LR		
	comp=Z,14μm,16.7s					
I17K	**Unalakleet**	**35.47 38**	IAMs_20	IAMs_20	19 49 32.5	
	comp=Z,9μm,18.0s					
I17K	**Unalakleet**	**35.47 38**	P	**P**	**19 32 59.6**	**-0.1**
	baz=263					
N15K	**Kwethluk River**	**35.48 44**	IAmb	IAmb	19 33 10.3	
	comp=Z,244nm,0.8s					
N15K	**Kwethluk River**	**35.48 44**	P	**P**	**19 33 00.4**	**+0.5**
	baz=269,SNR=34					
E17K	**Hotham Inlet**	**35.55 32**	P	**P**	**19 32 59.3**	**-1.2**
	baz=257,SNR=13					
O15K	**Ungalikthiuk R**	**35.61 46**	P	**P**	**19 33 01.3**	**+0.3**
	baz=270,SNR=38					
F17K	**Baldwin Pennin**	**35.64 33**	IAMs_20	IAMs_20	19 47 56.6	
	comp=Z,7μm,18.0s					
F17K	**Baldwin Pennin**	**35.64 33**	P	**P**	**19 33 00.2**	**-1.0**
	baz=259					
G17K	**Kiwalik Mounta**	**35.72 35**	P	**P**	**19 33 01.8**	**0.0**
	baz=261					
L16K	**Owhat River**	**35.84 42**	P	**P**	**19 33 03.1**	**+0.1**
	baz=267					
H17K	**Granite Mounta**	**35.94 36**	P	**P**	**19 33 03.8**	**0.0**
	baz=262,SNR=17					
CHNA	**Chernabura Isl**	**36.00 53**	P	**P**	**19 33 02.8**	**-1.6**
	baz=277					
CHNA	**Chernabura Isl**	**36.00 53**	P	**P**	**19 33 05.5**	**+1.1**
CNBA	**Chernabura Isl**	**36.00 53**	IAmb	IAmb	19 33 16.2	
	comp=Z,508nm,1.7s					
CNBA			IAMs_20	IAMs_20	19 49 08.5	
	comp=Z,7μm,19.0s					
M16K	**Timber Creek**	**36.06 43**	IAmb	IAmb	19 33 08.1	
	comp=Z,488nm,1.6s					
M16K			IAMs_20	IAMs_20	19 50 02.4	
	comp=Z,10μm,19.0s					
M16K	**Timber Creek**	**36.06 43**	P	**P**	**19 33 05.0**	**+0.1**
	baz=269,SNR=37					
E18K	**Tukpahlearik C**	**36.09 32**		**PcP**	**19 35 31.7**	**+1.0**
E18K			IAMs_20	IAMs_20	19 48 50.2	
	comp=Z,8μm,18.0s					
E18K	**Tukpahlearik C**	**36.09 32**	P	**P**	**19 33 04.1**	**-1.0**
	baz=258,SNR=5.3					
GYA	**Guiyang**	**36.12 253**	⇑P	**P**	**19 33 04.7**	**-1.2**
GYA			PcP	**PcP**	**19 35 32.8**	**+1.2**
GYA			S	**S**	**19 38 37.0**	**-8.0**
GYA			pmax	pmax		
	comp=Z,120nm,1.5s					
GYA			LR	LR		
	comp=Z,10μm,17.1s					
GYA			LR	LR		
	comp=Z,5μm,16.4s					
GYA			LR	LR		
	comp=Z,17μm,15.3s					
B18K	**Kokolik River**	**36.12 28**	P	**P**	**19 33 04.3**	**-1.0**
	baz=254					
J17K	**VABM Dome**	**36.13 39**	IAMs_20	IAMs_20	19 49 55.2	
	comp=Z,9μm,18.0s					
J17K	**VABM Dome**	**36.13 39**	P	**P**	**19 33 05.6**	**+0.1**
	baz=265,SNR=26					
N16K	**Nishlik Lake**	**36.14 44**	P	**P**	**19 33 05.9**	**+0.3**
	baz=270,SNR=50					
C18K	**Utukok River**	**36.15 30**	IAMs_20	IAMs_20	19 49 25.9	
	comp=Z,11μm,18.0s					
C18K	**Utukok River**	**36.15 30**	P	**P**	**19 33 03.8**	**-1.9**
	baz=256					
F18K	**Selawik**	**36.30 33**	P	**P**	**19 33 06.0**	**-0.8**
	baz=260,SNR=8.1					
L17K	**Donlin**	**36.41 41**	P	**P**	**19 33 08.3**	**+0.4**
	baz=268,SNR=23					
K17K	**Iditarod**	**36.44 40**	P	**P**	**19 33 09.1**	**+1.0**
K17K	**Iditarod**	**36.44 40**	P	**P**	**19 33 08.6**	**+0.5**
	baz=267,SNR=20					
O16K	**Kokwok River B**	**36.49 45**	P	**P**	**19 33 09.0**	**+0.5**
	baz=271,SNR=72					
P16K	**Nushagak River**	**36.56 46**	P	**P**	**19 33 09.8**	**+0.7**
	baz=272,SNR=17					
G18K	**Tagagawik**	**36.59 35**	P	**P**	**19 33 08.8**	**-0.5**
	baz=262					

A19K	**Wainwright**	36.60	27	P	P	19 33 08.2	-1.1
	baz=254						
H18K	**Honhosa River**	36.62	36	P	P	19 33 09.5	-0.1
	baz=264,SNR=27						
M17K	**Holitna River**	36.80	42	IAmb	IAmb	19 33 13.8	
	comp=Z,1μm,2.0s						
M17K	**Holitna River**	36.80	42	P	P	19 33 11.7	+0.5
	baz=269,SNR=42						
C19K	**Lookout Ridge**	36.82	29	P	P	19 33 10.4	-1.0
	baz=257						
R16K	**Pilot Point**	36.86	49	P	P	19 33 11.7	0.0
	baz=274						
TGY	**Tagaytay City**	36.92	223	LR	LR	19 50 49.3	
	comp=Z,5μm,18.4s,baz=55,slow=40						
N17K	**Nushagak Hills**	36.93	44	IAMs_20	IAMs_20	19 50 43.3	
	comp=Z,8μm,18.0s						
N17K	**Nushagak Hills**	36.93	44	P	P	19 33 12.9	+0.6
	baz=271,SNR=42						
O17K	**Koliganek Bris**	36.99	45	P	P	19 33 13.7	+0.9
	baz=272,SNR=59						
F19K	**Shaleruckik Mo**	37.08	33	P	P	19 33 12.3	-1.1
	baz=262						
L18K	**Granite Mounta**	37.17	41	IAMs_20	IAMs_20	19 50 24.6	
	comp=Z,8μm,20.0s						
L18K	**Granite Mounta**	37.17	41	P	P	19 33 15.0	+0.7
	baz=269,SNR=28						
J18K	**Innoko River**	37.20	39	P	P	19 33 14.5	-0.1
	baz=267,SNR=41						
GCSA	**Galena City Sc**	37.21	37	P	P	19 33 13.5	-1.1
	baz=266,SNR=6.5						
D19K	**Kuna River**	37.22	30	P	P	19 33 13.1	-1.6
	baz=259						
G19K	**Purcell Mounta**	37.26	34	P	P	19 33 13.7	-1.4
	baz=264						
Q16K	**King Salmon**	37.27	47	P	P	19 33 15.5	+0.4
	baz=274,SNR=7.5						
P17K	**Kvichak River**	37.35	46	P	P	19 33 16.5	+0.7
	baz=273						
E19K	**Redstone River**	37.38	32	IAMs_20	IAMs_20	19 49 57.7	
	comp=Z,6μm,18.0s						
E19K	**Redstone River**	37.38	32	P	P	19 33 15.3	-0.7
	baz=262						
H19K	**Roundabout Mou**	37.46	35	IAMs_20	IAMs_20	19 51 21.0	
	comp=Z,8μm,18.0s						
H19K	**Roundabout Mou**	37.46	35	P	P	19 33 16.3	-0.4
	baz=265,SNR=78						
TTA	**Tatalina**	37.50	40	P	P	19 33 17.0	-0.2
	baz=269,SNR=28						
TTA	**Tatalina**	37.50	40	P	P	19 33 17.2	0.0
TTA	**Tatalina**	37.50	40	⇑P	P	19 33 16.9	-0.2
TTA	**Tatalina**	37.50	40	⇑P	P	19 33 16.9	-0.3
R17L	**Mt. Peulik Vol**	37.51	48	P	P	19 33 16.9	-0.3
	baz=275						
PLK4	**Peulik 4**	37.51	48	IAMs_20	IAMs_20	19 50 04.8	
	comp=Z,7μm,19.0s						
N18K	**Kilae Creek**	37.56	43	IAmb	IAmb	19 33 21.4	
	comp=Z,635nm,1.6s						
N18K				IAMs_20	IAMs_20	19 50 50.1	
	comp=Z,9μm,20.0s						
N18K	**Kilae Creek**	37.56	43	P	P	19 33 18.7	+1.0
	baz=272,SNR=58						
M18K	**Stony River**	37.58	42	P	P	19 33 18.3	+0.5
	baz=271,SNR=26						
Q17K	**Contact Creek**	37.70	47	P	P	19 33 18.4	-0.6
	baz=275,SNR=26						
SVW2	**Sparrevohn**	37.70	43	P	P	19 33 20.8	+2.0
J19K	**Poorman**	37.71	38	IAMs_20	IAMs_20	19 50 51.8	
	comp=Z,9μm,18.0s						
J19K	**Poorman**	37.71	38	P	P	19 33 18.4	-0.4
	baz=268,SNR=36						
D20K	**Etivluk River**	37.80	30	P	P	19 33 17.8	-1.8
	baz=261						
B20K	**Meade River**	37.85	28	P	P	19 33 18.1	-1.8
	baz=258						
E20K	**Nigu River**	37.89	31	P	P	19 33 19.0	-1.4
	baz=262						
F20K	**Avaraart Lake**	37.90	33	P	P	19 33 19.6	-0.8
	baz=264						
O18K	**Koktuh Hills**	37.94	45	P	P	19 33 21.2	+0.4
	baz=273,SNR=33						
P18K	**Big Mountain,**	37.96	46	IAmb	IAmb	19 33 31.8	
	comp=Z,483nm,0.8s						
P18K	**Big Mountain,**	37.96	46	P	P	19 33 21.7	+0.7
	baz=274,SNR=65						
L19K	**White Mountain**	38.03	41	IAMs_20	IAMs_20	19 51 21.4	
	comp=Z,7μm,18.0s						
L19K	**White Mountain**	38.03	41	P	P	19 33 22.2	+0.5
	baz=271,SNR=20						
NRIK	**Noril'sk**	38.07	331	P	P	19 33 20.6	-1.2
	comp=Z,25nm,1.1s,baz=103,slow=12,SNR=30						
NRIK				LR	LR	19 50 02.8	
	comp=Z,8μm,18.1s,baz=97,slow=38						
	comp=Z,25nm,1.1s						
NRIK	**Noril'sk**	38.07	331	*i* P	P	19 33 20.0	-1.8
NRIK				pmax	pmax		
	comp=Z,34nm,1.1s						
NRIK				MLR	MLR		
	comp=Z,8μm,15.1s						
H20K	**Anotleneega Mo**	38.11	36	P	P	19 33 21.8	-0.4
	baz=266,SNR=62						
CHIR	**Chirikof Islan**	38.12	51	IAmb	IAmb	19 33 30.9	
	comp=Z,434nm,0.8s						
CHIR				IAMs_20	IAMs_20	19 46 45.6	
	comp=Z,8μm,21.0s						
CHIR	**Chirikof Islan**	38.12	51	P	P	19 33 22.3	-0.1
	baz=278						
CHIR	**Chirikof Islan**	38.12	51	P	P	19 33 22.8	+0.4
Q18K	**Katmai Hardscr**	38.13	47	P	P	19 33 22.5	-0.1
	baz=275,SNR=42						
I20K	**Naaghedeneel**	38.24	37	IAMs_20	IAMs_20	19 51 59.7	
	comp=Z,9μm,22.0s						
I20K	**Naaghedeneel**	38.24	37	P	P	19 33 23.3	0.0
	baz=268,SNR=7.1						
N19K	**Bonanza Creek**	38.25	43	IAMs_20	IAMs_20	19 51 20.2	
	comp=Z,7μm,19.0s						
N19K	**Bonanza Creek**	38.25	43	P	P	19 33 24.1	+0.6
	baz=273,SNR=29						
M19K	**Big River Lodg**	38.25	41	IAMs_20	IAMs_20	19 49 34.8	
	comp=Z,7μm,19.0s						
M19K	**Big River Lodg**	38.25	41	P	P	19 33 24.2	+0.7
	baz=271						
A21K	**Barrow**	38.31	26	P	P	19 33 22.1	-1.6
	baz=257						
J20K	**Nowinta River**	38.36	38	IAMs_20	IAMs_20	19 51 31.0	
	comp=Z,8μm,20.0s						
J20K	**Nowinta River**	38.36	38	P	P	19 33 24.1	-0.2
	baz=269,SNR=50						
K20K	**Telida**	38.39	39	IAMs_20	IAMs_20	19 51 16.7	
	comp=Z,8μm,18.0s						
K20K	**Telida**	38.39	39	P	P	19 33 24.6	0.0
	baz=270,SNR=22						
L20K	**Farewell, AK**	38.48	40	P	P	19 33 25.5	+0.1
	baz=271,SNR=15						
C21K	**Knifeblade Rid**	38.52	30	P	P	19 33 24.6	-1.1
	baz=262						
R18K	**Karluk**	38.53	48	P	P	19 33 25.0	-0.8
	baz=277,SNR=10						
IMAR	**Indian Mountai**	38.60	35	P	P	19 33 25.6	-0.7
B21K	**Ikpikpuk River**	38.65	29	IAMs_20	IAMs_20	19 51 29.0	
	comp=Z,9μm,18.0s						
B21K	**Ikpikpuk River**	38.65	29	P	P	19 33 25.2	-1.5
	baz=262						
E21K	**Killik River**	38.73	31	IAMs_20	IAMs_20	19 50 19.0	
	comp=Z,8μm,18.0s						
E21K	**Killik River**	38.73	31	P	P	19 33 25.8	-1.6
	baz=264						
G21K	**Allakaket**	38.73	34	IAMs_20	IAMs_20	19 52 04.7	
	comp=Z,7μm,19.0s						
G21K	**Allakaket**	38.73	34	P	P	19 33 26.8	-0.6
	baz=266						
A22K	**Sinclair Lake**	38.77	27	P	P	19 33 25.9	-1.7
	baz=259						
F21K	**Alatna River**	38.79	33	P	P	19 33 26.6	-1.3
	baz=266						
Q19K	**Cape Douglas,**	38.81	46	IAmb	IAmb	19 33 37.3	
	comp=Z,560nm,1.1s						
Q19K				IAMs_20	IAMs_20	19 51 47.2	
	comp=Z,6μm,19.0s						
Q19K	**Cape Douglas,**	38.81	46	P	P	19 33 28.0	-0.2
	baz=276,SNR=8.7						
SII	**Sitkinak Islan**	38.81	50	P	P	19 33 27.2	-1.0
SII				IAmb	IAmb	19 33 36.4	
	comp=Z,892nm,1.6s						
SII				IAMs_20	IAMs_20	19 50 52.4	
	comp=Z,6μm,19.0s						
SII	**Sitkinak Islan**	38.81	50	P	P	19 33 27.4	-0.9
	baz=278						
SII	**Sitkinak Islan**	38.81	50	P	P	19 33 28.7	+0.5

M20K	**Styx River**	38.85	41	P	P	19 33 29.3	+0.7
	baz=273						
P19K	**Oil Pt**	38.95	45	P	P	19 33 29.1	-0.3
	baz=275						
H21K	**Melozitna Rive**	38.98	35	IAMs_20	IAMs_20	19 52 34.2	
	comp=Z,8μm,19.0s						
H21K	**Melozitna Rive**	38.98	35	P	P	19 33 29.0	-0.5
	baz=268,SNR=31						
GOMU	**GeErMu**	39.11	276	P	P	19 33 31.2	-0.2
GOMU				pP	pwP	19 33 39.2	+0.8
GOMU				sP	sP	19 33 45.7	+8.8
GOMU				S	S	19 39 28.0	-2.8
GOMU				pmax	pmax		
	comp=Z,310nm,1.0s						
GOMU				LR	LR		
	comp=Z,43μm,17.8s						
GOMU				LR	LR		
	comp=Z,46μm,14.9s						
GOMU				LR	LR		
	comp=Z,74μm,18.0s						
PATS	**Pohnpei**	39.12	160	P	P	19 33 30.6	-0.5
PATS				IAMs_20	IAMs_20	19 46 45.7	
	comp=Z,12μm,20.0s						
PATS	**Pohnpei**	39.12	160	P	P	19 33 29.2	-1.9
	comp=Z,0.0nmcomp=Z,185nm,1.8s						
PATS	**Pohnpei**	39.12	160	P	P	19 33 33.4	+2.3
B22K	**Teshekpuk Lake**	39.17	28	IAMs_20	IAMs_20	19 52 06.9	
	comp=Z,6μm,18.0s						
B22K	**Teshekpuk Lake**	39.17	28	P	P	19 33 29.6	-1.4
	baz=262						
CHUM	**Lake Minchumin**	39.17	38	P	P	19 33 31.3	+0.2
	baz=271,SNR=22						
QIZ	**Qiongzhong**	39.20	241	IAMs_20	IAMs_20	19 50 24.6	
	comp=Z,10μm,18.0s						
QIZ	**Qiongzhong**	39.20	241	P	P	19 33 32.9	+1.1
QIZ				PP	PnPn	19 35 07.6	+3.2
QIZ				PcP	PcP	19 35 41.6	+0.6
QIZ				S	S	19 39 36.0	+4.4
QIZ				pmax	pmax		
	comp=Z,79nm,2.0s						
QIZ				pmax	pmax		
	comp=Z,3μm,10.3s						
QIZ				LR	LR		
	comp=Z,12μm,15.2s						
QIZ				LR	LR		
	comp=Z,6μm,13.0s						
QIZ				LR	LR		
	comp=Z,12μm,16.1s						
QIZ	**Qiongzhong**	39.20	241	P	P	19 33 33.6	+1.8
OHAK	**Old Harbor**	39.20	49	P	P	19 33 30.7	-0.7
	baz=278,SNR=20						
OHAK	**Old Harbor**	39.20	49	P	P	19 33 31.0	-0.4
O20K	**Slope Mountain**	39.22	44	P	P	19 33 31.5	-0.2
	baz=275,SNR=6.7						
D22K	**Ayikyak River**	39.24	30	IAMs_20	IAMs_20	19 49 47.5	
	comp=Z,7μm,20.0s						
D22K	**Ayikyak River**	39.24	30	P	P	19 33 30.7	-1.0
	baz=264						
PPLA	**Purkeypile**	39.25	40	P	P	19 33 32.7	+0.7
	baz=272,SNR=45						
CAST	**Castle Rocks**	39.28	39	P	P	19 33 32.5	+0.4
	baz=272,SNR=43						
F22K	**John River**	39.32	32	P	P	19 33 31.2	-1.1
	baz=266						
N20K	**Mount Spurr**	39.33	42	P	P	19 33 33.3	+0.7
	baz=274,SNR=56						
SPCR	**Spurr Chakacha**	39.33	42	P	P	19 33 33.3	+0.7
	baz=274,SNR=21						
Q20K	**Shuyak Island**	39.49	47	P	P	19 33 33.4	-0.4
	baz=277,SNR=8.8						
SYI	**Shuyak Island**	39.49	47	IAmb	IAmb	19 33 42.9	
	comp=Z,422nm,0.8s						
KDAK	**Kodiak Island**	39.50	48	P	P	19 33 32.9	-1.1
KDAK				IAmb	IAmb	19 33 42.9	
	comp=Z,569nm,0.9s						
KDAK	**Kodiak Island**	39.50	48	LR	LR	19 50 34.9	
	comp=Z,4μm,19.1s,baz=270,slow=37						
KDAK	**Kodiak Island**	39.50	48	P	P	19 33 33.5	-0.4
	baz=278						
KDAK	**Kodiak Island**	39.50	48	⇑P	P	19 33 33.2	-0.7
KDAK	**Kodiak Island**	39.50	48*c*	*i* P	P	19 33 33.1	-0.8
KDAK				pmax	pmax		
	comp=Z,275nm,1.0s						
KDAK				MLR	MLR		
	comp=Z,5μm,15.0s						
PZH	**PanZhiHua**	39.50	258	P	P	19 33 34.0	-0.5
PZH				pP	pwP	19 33 41.1	-0.4
PZH				PP	PnPn	19 35 15.4	+7.4
PZH				S	S	19 39 34.0	-2.3
PZH				sS	sS	19 39 44.2	+0.7
PZH				pmax	pmax		
	comp=Z,180nm,2.8s						
PZH				pmax	pmax		
	comp=Z,3μm,7.9s						
PZH				LR	LR		
	comp=Z,6μm,17.7s						
PZH				LR	LR		
	comp=Z,6μm,14.2s						
PZH				LR	LR		
	comp=Z,10μm,14.2s						
G22K	**Bettles**	39.55	33	P	P	19 33 33.0	-1.2
	baz=268						
H22K	**Ishtalitna Cre**	39.57	35	P	P	19 33 34.2	-0.3
	baz=269,SNR=52						
SKT	**Skwentna**	39.60	41	IAMs_20	IAMs_20	19 50 25.9	
	comp=Z,6μm,20.0s						
SKT	**Skwentna**	39.60	41	P	P	19 33 34.8	0.0
	baz=274,SNR=22						
KMI	**Kunming**	39.68	255	⇑P	P	19 33 35.9	-0.2
KMI				PP	PnPn	19 35 13.1	+2.8
KMI				PcS	PcS	19 39 29.4	-3.7
KMI				S	S	19 39 41.6	+2.4
KMI				SS	SS	19 42 31.1	-3.5
KMI				pmax	pmax		
	comp=Z,260nm,1.7s						
KMI				pmax	pmax		
	comp=Z,3μm,4.2s						
KMI				LR	LR		
	comp=Z,12μm,13.0s						
KMI				LR	LR		
	comp=Z,5μm,10.8s						
KMI				LR	LR		
	comp=Z,9μm,16.4s						
ZALV	**Zalesovo Beam**	39.70	306	P	P	19 33 33.7	-2.0
ZALV	**Zalesovo Beam**	39.70	306	P	P	19 33 34.9	-0.8
	comp=Z,17nm,1.0s,baz=77,slow=6.5,SNR=63						
ZALV				PcP	PcP	19 35 42.9	+0.9
	comp=Z,58nm,1.0s,baz=90,slow=3.0,SNR=16						
ZALV				PKiKP	PKiKP	19 42 52.0	-1.1
	comp=Z,2.3nm,0.9s,baz=350,slow=3.4,SNR=3.9						
ZALV				LR	LR	19 49 47.0	
	comp=Z,11μm,18.8s,baz=83,slow=36						
	comp=Z,17nm,1.0s						
BPAW	**Bear Paw Mtn.**	39.75	38	IAMs_20	IAMs_20	19 52 05.7	
	comp=Z,7μm,18.0s						
BPAW	**Bear Paw Mtn.**	39.75	38	P	P	19 33 36.0	0.0
	baz=272,SNR=11						
HOM	**Homer**	39.75	45	IAmb	IAmb	19 33 45.6	
	comp=Z,468nm,1.0s						
HOM	**Homer**	39.75	45	P	P	19 33 34.6	-1.4
	baz=276						
KTH	**Kantishna Hill**	39.80	39	IAmb	IAmb	19 33 46.1	
	comp=Z,416nm,1.0s						
MLY	**Manley**	39.84	36	P	P	19 33 35.9	-0.8
MLY	**Manley**	39.84	36	P	P	19 33 36.2	-0.5
	baz=271,SNR=28						
CAPN	**Captain Cook N**	39.88	43	IAMs_20	IAMs_20	19 52 13.4	
	comp=Z,7μm,18.0s						
CAPN	**Captain Cook N**	39.88	43	P	P	19 33 37.4	+0.4
	baz=276						
D23K	**Nanushuk River**	39.97	30	IAMs_20	IAMs_20	19 49 49.1	
	comp=Z,9μm,21.0s						
D23K	**Nanushuk River**	39.97	30	P	P	19 33 36.8	-0.9
	baz=266						
SUA	**Susitna One**	40.01	42	P	P	19 33 38.0	-0.3
	baz=275,SNR=18						
C23K	**Itkillik River**	40.06	29	IAMs_20	IAMs_20	19 52 34.2	
	comp=Z,8μm,19.0s						
C23K	**Itkillik River**	40.06	29	P	P	19 33 37.5	-1.0
	baz=265						
COLD	**Coldfoot**	40.07	33	P	P	19 33 37.7	-0.9
	baz=269,SNR=24						
TRF	**Thorofare Moun**	40.09	39	P	P	19 33 38.6	-0.4
	baz=273,SNR=22						
G23K	**Bananza Creek**	40.13	34	P	P	19 33 37.8	-1.3
	baz=269						
CUT	**Chulitna**	40.16	40	IAMs_20	IAMs_20	19 50 54.8	

	comp=Z,6μm,21.0s						
CUT	**Chulitna**	40.16	40	P	P	19 33 38.9	-0.5
	baz=274,SNR=14						
BRSE	**Bradley Lake S**	40.20	45	P	P	19 33 39.0	-0.7
	baz=277,SNR=8.7						
M22K	**Willow**	40.28	41	P	P	19 33 39.8	-0.6
	baz=275						
E23K	**Chandalar**	40.32	32	IAMs_20	IAMs_20	19 52 13.0	
	comp=Z,8μm,18.0s						
E23K	**Chandalar**	40.32	32	P	P	19 33 39.9	-0.8
	baz=268						
H23K	**Yukon River**	40.33	35	IAMs_20	IAMs_20	19 53 07.9	
	comp=Z,6μm,18.0s						
H23K	**Yukon River**	40.33	35	P	P	19 33 40.7	0.0
	baz=271						
TOLK	**Toolik Lake Re**	40.35	31	IAMs_20	IAMs_20	19 51 22.4	
	comp=Z,9μm,18.0s						
TOLK	**Toolik Lake Re**	40.35	31	P	P	19 33 39.8	-1.2
	baz=268,SNR=20						
BWN	**Browne**	40.41	38	IAmb	IAmb	19 33 51.5	
	comp=Z,831nm,1.1s						
BWN				IAMs_20	IAMs_20	19 53 07.1	
	comp=Z,8μm,18.0s						
I23K	**Minto, Yukon-K**	40.42	36	IAMs_20	IAMs_20	19 53 32.3	
	comp=Z,8μm,19.0s						
I23K	**Minto, Yukon-K**	40.42	36	P	P	19 33 40.9	-0.5
	baz=272,SNR=45						
RC01	**Rabbit Creek A**	40.53	42	P	P	19 33 42.2	-0.3
RC01	**Rabbit Creek A**	40.53	42	P	P	19 33 41.4	-1.1
	baz=276,SNR=40						
NEA2	**Nenana**	40.56	37	IAMs_20	IAMs_20	19 52 59.2	
	comp=Z,7μm,18.0s						
NEA2	**Nenana**	40.56	37	P	P	19 33 42.4	-0.3
	baz=273,SNR=56						
O22K	**Cooper Landing**	40.61	43	IAmb	IAmb	19 33 51.9	
	comp=Z,249nm,0.6s						
O22K	**Cooper Landing**	40.61	43	P	P	19 33 42.2	-0.9
	baz=277,SNR=7.7						
D24K	**Happy Valley**	40.65	30	IAMs_20	IAMs_20	19 52 54.9	
	comp=Z,10μm,18.0s						
D24K	**Happy Valley**	40.65	30	P	P	19 33 42.3	-1.0
	baz=268						
MCK	**McKinley**	40.67	38	P	P	19 33 43.3	-0.4
	baz=274,SNR=69						
MCK	**McKinley**	40.67	38	P	P	19 33 43.2	-0.4
C24K	**Franklin Bluff**	40.72	29	IAMs_20	IAMs_20	19 52 57.6	
	comp=Z,9μm,21.0s						
C24K	**Franklin Bluff**	40.72	29	P	P	19 33 42.5	-1.4
	baz=267,SNR=54						
RND	**Reindeer**	40.73	39	IAMs_20	IAMs_20	19 50 37.6	
	comp=Z,6μm,18.0s						
RND	**Reindeer**	40.73	39	P	P	19 33 43.6	-0.6
E24K	**Your Creek**	40.74	32	IAMs_20	IAMs_20	19 53 35.2	
	comp=Z,10μm,18.0s						
E24K	**Your Creek**	40.74	32	P	P	19 33 43.2	-1.0
	baz=269						
PMR	**Palmer**	40.77	42	IAMs_20	IAMs_20	19 51 05.9	
	comp=Z,6μm,21.0s						
PMR	**Palmer**	40.77	42	P	P	19 33 43.7	-0.7
	baz=276,SNR=15						
PMR	**Palmer**	40.77	42	P	P	19 33 44.7	+0.3
PMR	**Palmer**	40.77	42	P	P	19 33 46.0	+1.6
SEW	**Seward**	40.79	44	P	P	19 33 43.8	-0.8
	baz=278,SNR=11						
WMQ	**Urumqi**	40.85	290	*e* P	P	19 33 46.2	+0.8
WMQ				PcS	PcS	19 39 36.7	-0.1
WMQ				S	S	19 39 57.8	+1.8
WMQ				pmax	pmax		
	comp=Z,230nm,1.7s						
WMQ				pmax	pmax		
	comp=Z,6μm,3.7s						
WMQ				LR	LR		
	comp=Z,31μm,16.7s						
WMQ				LR	LR		
	comp=Z,38μm,15.3s						
WMQ				LR	LR		
	comp=Z,29μm,19.5s						
GHO	**Glory Hole Cre**	40.85	41	IAMs_20	IAMs_20	19 51 08.9	
	comp=Z,8μm,19.0s						
WAT1	**Susitna Watana**	40.92	40	P	P	19 33 44.9	-0.8
	baz=275						
F24K	**Squaw Lake**	40.97	33	IAMs_20	IAMs_20	19 52 21.8	
	comp=Z,5μm,18.0s						
F24K	**Squaw Lake**	40.97	33	P	P	19 33 45.2	-0.9
	baz=270						
WRH	**Wood River Hil**	40.99	37	IAMs_20	IAMs_20	19 53 21.5	
	comp=Z,9μm,18.0s						
H24K	**Noodor Dome**	41.01	35	IAMs_20	IAMs_20	19 53 28.9	
	comp=Z,7μm,21.0s						
H24K	**Noodor Dome**	41.01	35	P	P	19 33 46.3	-0.2
	baz=272,SNR=72						
COLA	**College**	41.07	37	P	P	19 33 46.3	-0.5
COLA				IAmb	IAmb	19 33 56.2	
	comp=Z,348nm,0.8s						
COLA	**College**	41.07	37	IAMs_20	IAMs_20	19 53 44.4	
	comp=Z,8μm,18.0s						
COLA	**College**	41.07	37	P	P	19 33 46.6	-0.2
	baz=274						
COLA	**College**	41.07	37	P	P	19 33 47.2	+0.4
COLA	**College**	41.07	37	⇑P	P	19 33 45.0	-1.8
COLA	**College**	41.07	37*c*	*i* P	P	19 33 46.6	-0.2
COLA				pmax	pmax		
	comp=Z,170nm,1.0s						
COLA				MLR	MLR		
	comp=Z,8μm,17.0s						
CCB	**Clear Creek Bu**	41.11	37	IAMs_20	IAMs_20	19 52 53.5	
	comp=Z,6μm,18.0s						
KNK	**Knik Glacier**	41.11	42	IAmb	IAmb	19 33 55.9	
	comp=Z,698nm,1.4s						
KNK				IAMs_20	IAMs_20	19 52 09.9	
	comp=Z,7μm,20.0s						
KNK	**Knik Glacier**	41.11	42	P	P	19 33 46.9	-0.3
	baz=277,SNR=42						
SML	**Sawmill**	41.13	41	IAmb	IAmb	19 33 57.6	
	comp=Z,476nm,0.9s						
SML				IAMs_20	IAMs_20	19 53 11.2	
	comp=Z,6μm,19.0s						
SML	**Sawmill**	41.13	41	P	P	19 33 47.1	-0.4
	baz=277,SNR=54						
G24K	**Hadweenzic Riv**	41.14	34	P	P	19 33 47.3	-0.1
	baz=272						
DAV	**Davao City (W)**	41.23	211	LR	LR	19 49 58.3	
	comp=Z,4μm,21.5s,baz=342,slow=35						
DAV	**Davao City (W)**	41.23	211	P	P	19 33 47.0	-1.6
POKR	**Poker Plat Res**	41.23	36	IAMs_20	IAMs_20	19 53 48.8	
	comp=Z,9μm,19.0s						
POKR	**Poker Plat Res**	41.23	36	P	P	19 33 48.3	+0.1
	baz=274,SNR=28						
PWL	**Port Wells**	41.24	43	IAMs_20	IAMs_20	19 52 17.4	
	comp=Z,6μm,20.0s						
PWL	**Port Wells**	41.24	43	P	P	19 33 47.7	-0.7
	baz=278,SNR=12						
WAT6	**Susitna Watana**	41.31	40	P	P	19 33 48.5	-0.6
	baz=276,SNR=19						
M23K	**Glacier View**	41.41	41	P	P	19 33 49.5	-0.2
	baz=277,SNR=14						
SLVN	**Son La**	41.41	250	P	P	19 33 49.9	-0.4
SLVN	**Son La**	41.41	250	P	P	19 33 51.4	+1.1
DHY	**Denali Highway**	41.43	39	IAMs_20	IAMs_20	19 54 17.1	
	comp=Z,6μm,18.0s						
DHY	**Denali Highway**	41.43	39	P	P	19 33 49.3	-0.7
	baz=276,SNR=39						
ZSN	**Zaisan**	41.43	296	*e* P	P	19 33 49.7

	comp=Z,6µm,20.0s						
SCM	**Sheep Creek Mo**	**41.59**	**41**	P	**P**	**19 33 51.3**	**0.0**
	baz=278,SNR=21						
G25K	**Bearman Lake**	**41.69**	**34**	P	**P**	**19 33 51.3**	**-0.6**
	baz=273						
F25K	**Christian Rive**	**41.83**	**32**	P	**P**	**19 33 52.9**	**-0.2**
	baz=272						
P23K	**Montague Islan**	**41.83**	**44**	P	**P**	**19 33 53.3**	**+0.2**
	baz=279,SNR=8.6						
H25L	**Birch Creek**	**41.83**	**34**	P	**P**	**19 33 52.7**	**-0.3**
	baz=274						
E25K	**Arctic Village**	**41.84**	**32**	IAMs_20	IAMs_20	19 54 11.5	
	comp=Z,10µm,18.0s						
E25K	**Arctic Village**	**41.84**	**32**	P	**P**	**19 33 52.4**	**-0.8**
	baz=272,SNR=48						
GLI	**Glacier Island**	**41.84**	**43**	P	**P**	**19 33 52.8**	**-0.4**
	baz=279,SNR=6.7						
PRP	**Porcupine Dome**	**42.00**	**35**	IAMs_20	IAMs_20	19 54 28.2	
	comp=Z,7µm,21.0s						
PRP	**Porcupine Dome**	**42.00**	**35**	P	**P**	**19 33 53.9**	**-0.8**
	baz=275,SNR=75						
C26K	**Camden Bay**	**42.04**	**29**	P	**P**	**19 33 53.5**	**-1.2**
	baz=270,SNR=26						
FYU	**Fort Yukon**	**42.04**	**34**	IAmb	IAmb	19 34 03.4	
	comp=Z,924nm,1.6s						
FYU				IAMs_20	IAMs_20	19 51 36.1	
	comp=Z,6µm,19.0s						
K24K	**Donnelly Dome**	**42.06**	**38**	P	**P**	**19 33 54.1**	**-1.0**
	baz=276,SNR=45						
M24K	**Tolsona, Glenn**	**42.10**	**41**	IAMs_20	IAMs_20	19 52 16.9	
	comp=Z,5µm,20.0s						
M24K	**Tolsona, Glenn**	**42.10**	**41**	P	**P**	**19 33 55.8**	**+0.4**
	baz=278,SNR=20						
J25K	**Salcha River,**	**42.15**	**37**	IAMs_20	IAMs_20	19 54 35.2	
	comp=Z,7µm,19.0s						
J25K	**Salcha River,**	**42.15**	**37**	P	**P**	**19 33 54.4**	**-1.5**
	baz=276,SNR=24						
FID	**Port Fidalgo**	**42.16**	**43**	IAMs_20	IAMs_20	19 51 17.1	
	comp=Z,6µm,20.0s						
HIN	**Hinchinbrook I**	**42.20**	**43**	IAMs_20	IAMs_20	19 54 06.8	
	comp=Z,6µm,18.0s						
BMAR	**Burnt Mountain**	**42.24**	**33**	P	**P**	**19 33 55.6**	**-0.9**
PAX	**Paxson**	**42.30**	**39**	P	**P**	**19 33 56.5**	**-0.6**
	baz=278,SNR=24						
KLU	**Klutina**	**42.31**	**41**	P	**P**	**19 33 57.1**	**0.0**
	baz=279,SNR=39						
F26K	**Sheenjek River**	**42.39**	**32**	P	**P**	**19 33 57.5**	**-0.2**
	baz=274						
Q23K	**Middleton Isla**	**42.45**	**45**	P	**P**	**19 33 57.5**	**-0.7**
	baz=281						
C27K	**Jago River**	**42.46**	**29**	IAMs_20	IAMs_20	19 51 39.5	
	comp=Z,8µm,22.0s						
C27K	**Jago River**	**42.46**	**29**	P	**P**	**19 33 57.0**	**-1.2**
	baz=272						
RIDG	**Independent Ri**	**42.48**	**38**	IAMs_20	IAMs_20	19 53 58.9	
	comp=Z,8µm,19.0s						
RIDG	**Independent Ri**	**42.48**	**38**	P	**P**	**19 33 57.7**	**-0.8**
	baz=277,SNR=9.9						
HARP	**HAARP**	**42.53**	**40**	P	**P**	**19 33 58.9**	**+0.1**
	baz=279,SNR=20						
EYAK	**Cordova Ski Ar**	**42.55**	**43**	P	**P**	**19 33 59.0**	**0.0**
	baz=280,SNR=8.4						
EYAK	**Cordova Ski Ar**	**42.55**	**43**	P	**P**	**19 33 59.7**	**+0.8**
TNCH	**TengChong**	**42.69**	**259**	⇑P	**P**	**19 34 00.9**	**+0.1**
TNCH				pP	pP	19 34 03.4	-1.3
TNCH				PP	**PP**	**19 35 42.2**	**+2.5**
TNCH				PcP	**PcP**	**19 35 54.1**	**+1.6**
TNCH				PcS	**PcS**	**19 39 44.9**	**0.0**
TNCH				S	**S**	**19 40 23.1**	**-0.7**
TNCH				ScS	**ScS**	**19 43 58.4**	**-3.4**
TNCH				pmax	pmax		
	comp=Z,170nm,1.6s						
TNCH				pmax	pmax		
	comp=Z,3µm,4.4s						
TNCH				LR	LR		
	comp=Z,3µm,15.1s						
TNCH				LR	LR		
	comp=Z,8µm,13.7s						
TNCH				LR	LR		
	comp=Z,8µm,16.7s						
SCRK	**Sand Creek**	**42.83**	**38**	IAMs_20	IAMs_20	19 54 09.0	
	comp=Z,7µm,19.0s						
SCRK	**Sand Creek**	**42.83**	**38**	P	**P**	**19 34 00.4**	**-1.0**
	baz=278,SNR=55						
N25K	**Chitina, Valde**	**42.91**	**41**	P	**P**	**19 34 02.5**	**+0.4**
	baz=280,SNR=22						
J26L	**Joseph Creek**	**42.94**	**37**	IAMs_20	IAMs_20	19 53 00.0	
	comp=Z,8µm,21.0s						
J26L	**Joseph Creek**	**42.94**	**37**	P	**P**	**19 34 00.5**	**-1.8**
	baz=278,SNR=13						
I26K	**Coal Creek Min**	**43.01**	**36**	IAMs_20	IAMs_20	19 54 52.4	
	comp=Z,9µm,19.0s						
I26K	**Coal Creek Min**	**43.01**	**36**	P	**P**	**19 34 01.4**	**-1.3**
	baz=277						
BMRM	**Bremner River**	**43.02**	**42**	P	**P**	**19 34 02.7**	**-0.2**
	baz=281,SNR=16						
RAGM	**Ragged Mountai**	**43.10**	**43**	IAmb	IAmb	19 34 13.1	
	comp=Z,427nm,1.2s						
RAGM				IAMs_20	IAMs_20	19 54 54.4	
	comp=Z,9µm,19.0s						
MENT	**Mentasta**	**43.10**	**39**	IAMs_20	IAMs_20	19 55 19.3	
	comp=Z,8µm,21.0s						
MENT	**Mentasta**	**43.10**	**39**	P	**P**	**19 34 04.0**	**+0.5**
LKP	**Lekhapani**	**43.16**	**264**	⇑*i*P	**P**	**19 34 04.8**	**+0.5**
LKP				IAmb	IAmb	19 34 08.3	
	comp=Z,872nm,1.7s						
LKP				*i* x	x	19 40 40.8	
L26K	**Log Cabin Wild**	**43.25**	**39**	IAMs_20	IAMs_20	19 54 27.4	
	comp=Z,8µm,18.0s						
L26K	**Log Cabin Wild**	**43.25**	**39**	P	**P**	**19 34 04.8**	**+0.1**
	baz=279,SNR=44						
MK31	**Makanchi Array**	**43.31**	**296**	IAmb	IAmb	19 34 14.9	
	comp=Z,626nm,1.9s						
MK31	**Makanchi Array**	**43.31**	**296**	*c i*P	**P**	**19 34 04.7**	**-0.7**
MKAR	**Makanchi Array**	**43.31**	**296**	P	**P**	**19 34 04.8**	**-0.6**
MKAR	**Makanchi Array**	**43.31**	**296**	P	**P**	**19 34 05.8**	**+0.4**
	comp=Z,40nm,0.7s,baz=79,slow=8.0,SNR=209						
MKAR				PcP	**PcP**	**19 35 54.3**	**+0.3**
	comp=Z,41nm,1.0s,baz=75,slow=5.3,SNR=6.6						
MKAR				LR	LR	19 52 46.5	
	comp=Z,22µm,18.8s,baz=60,slow=37						
	comp=Z,40nm,0.7s						
MKAR	**Makanchi Array**	**43.31**	**296**	P	**P**	**19 34 04.8**	**-0.6**
HMT	**Hamilton**	**43.31**	**43**	IAMs_20	IAMs_20	19 55 01.1	
	comp=Z,7µm,18.0s						
E27K	**Coleen River**	**43.32**	**31**	IAMs_20	IAMs_20	19 54 01.2	
	comp=Z,8µm,18.0s						
E27K	**Coleen River**	**43.32**	**31**	P	**P**	**19 34 04.6**	**-0.6**
	baz=275						
GLB	**Gilahina Butte**	**43.32**	**41**	IAMs_20	IAMs_20	19 54 30.1	
	comp=Z,5µm,19.0s						
KAIM	**Kayak Island**	**43.32**	**44**	IAMs_20	IAMs_20	19 54 53.2	
	comp=Z,8µm,18.0s						
KAIM	**Kayak Island**	**43.32**	**44**	P	**P**	**19 34 05.7**	**+0.5**
	baz=282,SNR=6.5						
D27M	**Malcolm River**	**43.45**	**30**	IAMs_20	IAMs_20	19 51 47.8	
	comp=Z,6µm,22.0s						
D27M	**Malcolm River**	**43.45**	**30**	P	**P**	**19 34 05.4**	**-0.9**
	baz=275						
MAKZ	**Makanchi**	**43.50**	**297**	P	**P**	**19 34 06.2**	**-0.8**
MAKZ	**Makanchi**	**43.50**	**297**	P	**P**	**19 34 06.2**	**-0.8**
MAKZ				pmax	pmax		
	comp=Z,79nm,0.8s						
MAKZ				MLR	MLR		
	comp=Z,26µm,18.0s						
M26K	**Nabesna, AK**	**43.52**	**40**	IAmb	IAmb	19 34 16.6	
	comp=Z,538nm,1.4s						
M26K				IAMs_20	IAMs_20	19 54 21.4	
	comp=Z,6µm,18.0s						
M26K	**Nabesna, AK**	**43.52**	**40**	P	**P**	**19 34 07.8**	**+0.9**
	baz=280,SNR=121						
H27K	**Steamboat Moun**	**43.56**	**34**	P	**P**	**19 34 07.4**	**+0.2**
	baz=278,SNR=68						
BERG	**Berg Lake**	**43.57**	**43**	IAmb	IAmb	19 34 16.9	
	comp=Z,914nm,1.5s						
BERG				IAMs_20	IAMs_20	19 54 02.0	
	comp=Z,6µm,18.0s						
SUCK	**Suckling Hills**	**43.60**	**43**	IAmb	IAmb	19 34 10.4	
	comp=Z,823nm,1.8s						
SUCK				IAMs_20	IAMs_20	19 55 11.7	
	comp=Z,10µm,18.0s						
I27K	**Kandik River**	**43.61**	**35**	P	**P**	**19 34 07.6**	**0.0**
	baz=278,SNR=38						
K27K	**Chicken**	**43.65**	**37**	IAmb	IAmb	19 34 17.6	
	comp=Z,287nm,0.9s						
K27K				IAMs_20	IAMs_20	19 55 03.4	
	comp=Z,5µm,20.0s						
K27K	**Chicken**	**43.65**	**37**	P	**P**	**19 34 07.9**	**0.0**
	baz=279						
MCARA	**McCarthy VSAT**	**43.70**	**41**	IAmb	IAmb	19 34 11.0	
	comp=Z,461nm,1.6s						
MCARA	**McCarthy VSAT**	**43.70**	**41**	P	**P**	**19 34 09.5**	**+1.2**
	baz=281,SNR=21						
CRQM	**Cirque**	**43.77**	**42**	IAmb	IAmb	19 34 18.6	
	comp=Z,861nm,1.4s						
CRQM				IAMs_20	IAMs_20	19 53 03.8	
	comp=Z,7µm,21.0s						
CRQE	**Cirque**	**43.79**	**42**	P	**P**	**19 34 09.8**	**+0.6**
	baz=282,SNR=51						
BGLC	**Bering Glacier**	**43.83**	**43**	P	**P**	**19 34 09.2**	**-0.1**
	baz=282						
TGL	**Tana Glacier**	**43.92**	**42**	IAmb	IAmb	19 34 19.6	
	comp=Z,630nm,1.4s						
TGL				IAMs_20	IAMs_20	19 53 08.1	
	comp=Z,6µm,20.0s						
PANO	**Nakornpanom**	**43.92**	**245**	P	**P**	**19 34 11.5**	**+0.9**
	comp=Z,81nm,1.0s						
EGAK	**Eagle**	**43.93**	**36**	IAMs_20	IAMs_20	19 55 21.0	
	comp=Z,8µm,18.0s						
EGAK	**Eagle**	**43.93**	**36**	P	**P**	**19 34 09.0**	**-1.1**
	baz=279,SNR=77						
L27K	**Beaver Creek,**	**43.93**	**39**	P	**P**	**19 34 10.7**	**+0.5**
	baz=281,SNR=104						
BCAR	**Beaver Creek A**	**43.95**	**39**	P	**P**	**19 34 10.1**	**-0.3**
WAX	**Waxell Ridge**	**43.97**	**43**	IAmb	IAmb	19 34 20.2	
	comp=Z,432nm,1.2s						
WAX				IAMs_20	IAMs_20	19 52 47.5	
	comp=Z,6µm,19.0s						
F28M	**Old Crow**	**44.03**	**32**	P	**P**	**19 34 11.2**	**+0.3**
	baz=278,SNR=34						
E28M	**Babbage River**	**44.03**	**31**	IAMs_20	IAMs_20	19 54 36.0	
	comp=Z,9µm,18.0s						
E28M	**Babbage River**	**44.03**	**31**	P	**P**	**19 34 10.1**	**-0.8**
	baz=277						
SNH	**Sunshine Point**	**44.04**	**43**	IAmb	IAmb	19 34 21.1	
	comp=Z,905nm,1.4s						
SNH				IAMs_20	IAMs_20	19 52 25.3	
	comp=Z,7µm,19.0s						
M27K	**Edge Creek, AK**	**44.04**	**40**	IAmb	IAmb	19 34 20.7	
	comp=Z,381nm,1.4s						
M27K				IAMs_20	IAMs_20	19 54 46.2	
	comp=Z,5µm,18.0s						
M27K	**Edge Creek, AK**	**44.04**	**40**	P	**P**	**19 34 11.8**	**+0.6**
	baz=281,SNR=48						
ISLE	**Juniper Island**	**44.19**	**42**	IAmb	IAmb	19 34 21.6	
	comp=Z,324nm,1.1s						
ISLE				IAMs_20	IAMs_20	19 52 54.2	
	comp=Z,6µm,21.0s						
D28M	**Stokes Point**	**44.23**	**30**	P	**P**	**19 34 11.5**	**-0.9**
	baz=277,SNR=9.3						
KURK	**Kurchatov**	**44.24**	**303**	P	**P**	**19 34 11.3**	**-1.4**
KURK	**Kurchatov**	**44.24**	**303**	P	**P**	**19 34 11.9**	**-0.8**
KURK				P	**P**	**19 34 11.9**	**-0.8**
KURK	**Kurchatov**	**44.24**	**303**	*e*P	**P**	**19 34 11.6**	**-1.1**
KURK	**Kurchatov**	**44.24**	**303**	*c i*P	**P**	**19 34 11.6**	**-1.1**
KURK				pmax	pmax		
	comp=Z,177nm,2.5s						
KURK				MLR	MLR		
	comp=Z,12µm,16.0s						
KURBB	**Kurchatov Arra**	**44.32**	**303**	P	**P**	**19 34 12.8**	**-0.6**
	comp=Z,57nm,1.0s,baz=72,slow=8.5,SNR=90						
KURBB				PcP	**PcP**	**19 35 57.6**	**+0.3**
	comp=Z,30nm,0.9s,baz=76,slow=2.9,SNR=9.8						
KURBB				LR	LR	19 53 23.2	
	comp=Z,13µm,18.3s,baz=74,slow=37						
KURBB				PKP2ab	P'P'ab	20 07 00.7	-8.6
	comp=Z,0.1nm,0.2s,baz=250,slow=4.3,SNR=4.0						
	comp=Z,57nm,1.0s						
I28M	**Miner Creek**	**44.33**	**35**	IAMs_20	IAMs_20	19 53 17.5	
	comp=Z,5µm,20.0s						
I28M	**Miner Creek**	**44.33**	**35**	P	**P**	**19 34 13.6**	**+0.2**
	baz=280,SNR=165						
GRNC	**Granite Creek**	**44.44**	**42**	IAmb	IAmb	19 34 24.4	
	comp=Z,268nm,1.0s						
GRNC				IAMs_20	IAMs_20	19 53 24.3	
	comp=Z,5µm,20.0s						
ZIRO	**ZIRO**	**44.47**	**266**	*i* P	**P**	**19 34 15.4**	**+0.3**
ZIRO				IAmb	IAmb	19 34 24.4	
ZIRO				*i* x	x	19 40 52.4	
MESA	**MESA**	**44.47**	**43**	IAmb	IAmb	19 34 24.3	
	comp=Z,478nm,1.3s						
MESA				IAMs_20	IAMs_20	19 54 03.7	
	comp=Z,6µm,19.0s						
MESA	**MESA**	**44.47**	**43**	P	**P**	**19 34 15.6**	**+0.9**
	baz=283,SNR=8.1						
BVCY	**Beaver Creek**	**44.49**	**40**	P	**P**	**19 34 15.1**	**+0.4**
	baz=282,SNR=45						
YAH	**Yahtse**	**44.53**	**43**	IAMs_20	IAMs_20	19 53 05.2	
	comp=Z,7µm,19.0s						
CTG	**Chitna Glacier**	**44.58**	**42**	P	**P**	**19 34 15.9**	**+0.3**
	baz=283,SNR=39						
CTGM	**Chitina Glacie**	**44.59**	**42**	IAmb	IAmb	19 34 24.9	
	comp=Z,408nm,1.4s						
CTGM				IAMs_20	IAMs_20	19 52 25.7	
	comp=Z,5µm,20.0s						
E29M	**Blow River**	**44.66**	**31**	IAMs_20	IAMs_20	19 55 01.9	
	comp=Z,6µm,19.0s						
E29M	**Blow River**	**44.66**	**31**	P	**P**	**19 34 15.1**	**-0.8**
	baz=278						
LOGN	**Logan Glacier**	**44.78**	**42**	IAmb	IAmb	19 34 33.5	
	comp=Z,386nm,1.6s						
TABL	**Table Mountain**	**44.80**	**42**	IAmb	IAmb	19 34 26.4	
	comp=Z,482nm,1.5s						
TABL				IAMs_20	IAMs_20	19 53 14.4	
	comp=Z,6µm,21.0s						
DAWY	**Dawson**	**44.81**	**37**	IAMs_20	IAMs_20	19 56 07.4	
	comp=Z,8µm,18.0s						
DAWY	**Dawson**	**44.81**	**37**	P	**P**	**19 34 16.9**	**-0.3**
	baz=282,SNR=16						
YUK3	**Moose Creek**	**44.81**	**40**	P	**P**	**19 34 17.5**	**0.0**
	baz=283,SNR=51						
H29M	**Whitestone**	**44.83**	**34**	IAMs_20	IAMs_20	19 54 57.7	
	comp=Z,5µm,18.0s						
H29M	**Whitestone**	**44.83**	**34**	P	**P**	**19 34 17.3**	**0.0**
	baz=280,SNR=29						
G29M	**Pine Creek**	**44.84**	**33**	IAmb	IAmb	19 34 26.1	
	comp=Z,312nm,1.4s						
G29M	**Pine Creek**	**44.84**	**33**	P	**P**	**19 34 17.6**	**+0.2**
	baz=280						
I29M	**Ogilvie Camp,**	**45.01**	**35**	IAmb	IAmb	19 34 28.2	
	comp=Z,211nm,0.9s						
I29M				IAMs_20	IAMs_20	19 56 23.2	
	comp=Z,6µm,18.0s						
I29M	**Ogilvie Camp,**	**45.01**	**35**	P	**P**	**19 34 18.5**	**-0.3**
	baz=281,SNR=104						
LSA	**Lhasa**	**45.14**	**270**	IAmb	IAmb	19 34 30.8	
	comp=Z,453nm,1.8s						
LSA	**Lhasa**	**45.14**	**270**	P	**P**	**19 34 21.5**	**+0.8**
LSA	**Lhasa**	**45.14**	**270**	P	P	19 34 05.6	-15
LSA				S	S	19 40 37.2	-23
LSA				pmax	pmax		
	comp=Z,110nm,1.4s						
LSA				LR	LR		
	comp=N,7µm,14.7s						
LSA				LR	LR		
	comp=Z,10µm,27.7s						
O28M	**Mount Upton**	**45.18**	**42**	P	**P**	**19 34 21.3**	**+0.8**
	baz=284,SNR=13						
J29N	**Klondike Camp**	**45.23**	**36**	IAMs_20	IAMs_20	19 56 11.5	
	comp=Z,8µm,18.0s						
J29N	**Klondike Camp**	**45.23**	**36**	P	**P**	**19 34 20.4**	**-0.2**
	baz=282						
YUK8	**Steele Glacier**	**45.25**	**41**	P	**P**	**19 34 21.3**	**+0.3**
	baz=284,SNR=16						
PINM	**Pinnacle**	**45.31**	**43**	P	**P**	**19 34 21.6**	**+0.3**
	baz=285,SNR=6.7						
KOHI	**KOHIMA**	**45.37**	**263**	*i* P	**P**	**19 34 22.1**	**-0.2**
KOHI				IAmb	IAmb	19 34 30.8	
	comp=Z,164nm,0.7s						
KOHI				*i* x	x	19 41 14.6	
EPYK	**Eagle Plains**	**45.45**	**34**	IAmb	IAmb	19 34 30.5	
	comp=Z,683nm,1.8s						
EPYK				IAMs_20	IAMs_20	19 55 26.3	
	comp=Z,4µm,18.0s						
EPYK	**Eagle Plains**	**45.45**	**34**	P	**P**	**19 34 21.5**	**-0.8**
	baz=282,SNR=68						
PAYA	**Payao**	**45.50**	**252**	P	**P**	**19 34 24.1**	**+0.9**
G30M	**tAoh Zraii Nji**	**45.53**	**33**	IAMs_20	IAMs_20	19 55 43.8	
	comp=Z,5µm,18.0s						
G30M	**tAoh Zraii Nji**	**45.53**	**33**	P	**P**	**19 34 22.6**	**-0.3**
	baz=281						
L29M	**L29M**	**45.57**	**38**	IAmb	IAmb	19 34 34.1	
	comp=Z,277nm,0.9s						
L29M				IAMs_20	IAMs_20	19 55 45.5	
	comp=Z,5µm,20.0s						
L29M	**L29M**	**45.57**	**38**	P	**P**	**19 34 24.2**	**+0.9**
	baz=284,SNR=118						
F30M	**Barrier River**	**45.57**	**32**	P	**P**	**19 34 23.0**	**-0.2**
	baz=281						
M29M	**Somme Creek**	**45.58**	**39**	IAMs_20	IAMs_20	19 54 08.7	
	comp=Z,5µm,20.0s						
M29M	**Somme Creek**	**45.58**	**39**	P	**P**	**19 34 23.9**	**+0.6**
	baz=284,SNR=19						
BCPM	**Bancas Point**	**45.65**	**43**	IAmb	IAmb	19 34 33.0	
	comp=Z,303nm,1.3s						
K29M	**Barlow Dome**	**45.66**	**37**	IAMs_20	IAMs_20	19 56 46.0	
	comp=Z,8µm,19.0s						
K29M	**Barlow Dome**	**45.66**	**37**	P	**P**	**19 34 24.5**	**+0.4**
	baz=283,SNR=62						
YUK4	**Talbot Arm**	**45.76**	**41**	P	**P**	**19 34 25.6**	**+0.6**
	baz=285,SNR=22						
I30M	**Mount Dempster**	**45.83**	**35**	IAmb	IAmb	19 34 34.9	
	comp=Z,210nm,0.8s						
I30M				IAMs_20	IAMs_20	19 56 57.4	
	comp=Z,5µm,19.0s						
I30M	**Mount Dempster**	**45.83**	**35**	P	**P**	**19 34 25.1**	**-0.3**
	baz=283,SNR=81						
PNL	**Peninsula**	**45.84**	**43**	P	**P**	**19 34 26.0**	**+0.6**
	baz=286						
PNL	**Peninsula**	**45.84**	**43**	P	**P**	**19 34 27.6**	**+2.2**
PHRA	**Phrae**	**45.86**	**251**	P	**P**	**19 34 26.2**	**+0.2**
MYLDM	**Lahad Datu**	**45.86**	**219**	IAmb	IAmb	19 34 36.6	
	comp=Z,571nm,1.6s						
MYLDM	**Lahad Datu**	**45.86**	**219**	P	**P**	**19 34 28.2**	**+2.2**
YUK6	**Outpost Mounta**	**46.00**	**41**	P	**P**	**19 34 27.6**	**+0.7**
	baz=285,SNR=14						
J30M	**Hart River**	**46.00**	**36**	IAMs_20	IAMs_20	19 57 05.8	
	comp=Z,7µm,19.0s						
J30M	**Hart River**	**46.00**	**36**	P	**P**	**19 34 26.8**	**0.0**
	baz=284,SNR=44						
IMP	**Imphal**	**46.04**	**262**	*i* P	**P**	**19 34 25.8**	**-1.6**
IMP				IAmb	IAmb	19 34 35.0	
	comp=Z,37nm,0.7s						
IMP				*i* x	x	19 41 26.2	
O29M	**Mount Kennedy**	**46.07**	**42**	IAMs_20	IAMs_20	19 56 13.9	
	comp=Z,5µm,19.0s						
O29M	**Mount Kennedy**	**46.07**	**42**	P	**P**	**19 34 28.4**	**+1.1**
	baz=286,SNR=20						
KKM	**Kota Kinabalu**	**46.18**	**223**	P	**P**	**19 34 29.9**	**+1.3**
LAMP	**Lampang**	**46.25**	**251**	P	**P**	**19 34 29.1**	**+0.1**
INK	**Inuvik**	**46.27**	**31**	IAMs_20	IAMs_20	19 55 13.6	
	comp=Z,5µm,21.0s						
INK	**Inuvik**	**46.27**	**31**	P	**P**	**19 34 27.6**	**-1.0**
	baz=282,SNR=26						
INK	**Inuvik**	**46.27**	**31**	⇑P	**P**	**19 34 26.9**	**-1.7**
INK	**Inuvik**	**46.27**	**31**	P	**P**	**19 34 27.6**	**-1.0**
G31M	**Satah River**	**46.29**	**32**	IAmb	IAmb	19 36 06.5	
	comp=Z,314nm,1.8s						
G31M	**Satah River**	**46.29**	**32**	P	**P**	**19 34 27.9**	**-0.9**
	baz=283,SNR=23						
F31M	**Tsiigehtchic**	**46.38**	**32**	IAmb	IAmb	19 34 37.0	
	comp=Z,243nm,1.4s						
F31M	**Tsiigehtchic**	**46.38**	**32**	P	**P**	**19 34 28.4**	**-1.0**
	baz=283,SNR=24						
MANU	**Manus Island**	**46.38**	**178**	P	**P**	**19 34 29.1**	**-1.0**
MANU				IAmb	IAmb	19 34 31.9	
	comp=Z,416nm,2.0s						
MAYO	**Mayo, Yukon**	**46.43**	**37**	IAmb	IAmb	19 34 51.9	
	comp=Z,203nm,1.0s						
MAYO				IAMs_20	IAMs_20	19 57 17.2	
	comp=Z,7µm,18.0s						
MAYO	**Mayo, Yukon**	**46.43**	**37**	P	**P**	**19 34 30.6**	**+0.6**
	baz=285,SNR=7.8						
HYT	**Haines Junctio**	**46.44**	**41**	P	**P**	**19 34 31.1**	**+0.9**
HYT				IAMs_20	IAMs_20	19 56 30.5	
	comp=Z,6µm,19.0s						
HYT	**Haines Junctio**	**46.44**	**41**	P	**P**	**19 34 31.5**	**+1.3**
	baz=286,SNR=157						
N30M	**Aishikik Lake**	**46.45**	**40**	P	**P**	**19 34 31.0**	**+0.7**
	baz=286,SNR=12						
TNTI	**Ternate**	**46.50**	**206**	P	**P**	**19 34 30.1**	**-0.8**
TNTI				IAmb	IAmb	19 34 48.2	
	comp=Z,276nm,1.4s						
TNTI	**Ternate**	**46.50**	**206**	P	**P**	**19 34 30.9**	**-0.1**
TNTI	**Ternate**	**46.50**	**206**	P	**P**	**19 34 31.1**	**+0.1**
	comp=Z,119nm,1.8s,comp=Z,3µm						
TDK	**Taldyqorghan**	**46.50**	**296**	*e*P	**P**	**19 34 31.0**	**+0.1**
TDK				LR	LR	19 56 00.9	
	comp=Z,7µm,12.8s						
TDK	**Taldyqorghan**	**46.50**	**296**	*e*P	**P**	**19 34 30.9**	**+0.1**
TDK				MLR	MLR		
	comp=Z,7µm,13.0s						
CHTO	**Chiang Mai**	**46.51**	**252**	P	**P**	**19 34 30.5**	**-0.6**
CHTO				IAmb	IAmb	19 34 33.4	
	comp=Z,154nm,0.9s						
CHTO				IAMs_20	IAMs_20	19 54 46.6	
	comp=Z,9µm,20.0s						
CHTO	**Chiang Mai**	**46.51**	**252**	P	**P**	**19 34 30.5**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,154nm,1.0s						
CHTO				MLR	MLR		
	comp=Z,9µm,20.0s						
H31M	**Peel River**	**46.52**	**34**	IAmb	IAmb	19 34 39.6	
	comp=Z,166nm,0.9s						
H31M	**Peel River**	**46.52**	**34**	P	**P**	**19 34 30.4**	**-0.3**
	baz=284,SNR=52						
CHAI	**Chaiyaphum**	**46.54**	**246**	P	**P**	**19 34 31.5**	**+0.1**
	comp=Z,59nm,1.0s						
SHLS	**Shalkode**	**46.60**	**293**	*e*P	**P**	**19 34 29.3**	**-2.5**
	comp=Z,176nm,1.3s						
SHLS				*e*S	**S**	**19 41 16.4**	**-3.7**
SHLS	**Shalkode**	**46.60**	**293**	*e*P	**P**	**19 34 29.2**	**-2.5**
SHLS				*e*S	**S**	**19 41 16.4**	**-3.7**
SHLS				pmax	pmax		
	comp=Z,176nm,1.3s						
P29M	**Windy Craggy**	**46.66**	**43**	IAMs_20	IAMs_20	19 57 02.7	
	comp=Z,6µm,18.0s					

ZHN pmax pmax
comp=Z,136nm,1.1s
SATY Saty 47.33 293 *e*P **P** **19 34 37.6 +0.1**
SATY *e*S **S** **19 41 30.9 +0.2**
SATY Saty 47.33 293 *e*P **P** **19 34 37.6 +0.1**
SATY *e*S **S** **19 41 30.8 +0.2**
PLBC Pleasant Camp 47.38 43 P **P** **19 34 38.5 +1.0**
baz=288,SNR=22
M31M Drury Creek, Y 47.47 39 IAmb IAmb 19 34 47.8
comp=Z,257nm,1.3s
M31M IAMs_20 IAMs_20 19 57 16.8
comp=Z,7μm,18.0s
M31M Drury Creek, Y 47.47 39 P **P** **19 34 39.0 +0.8**
baz=287,SNR=48
AZL Aizawl 47.61 262⇑*i*P **P** **19 34 39.3 -0.5**
AZL IAmb IAmb 19 34 43.3
AZL *i*x x 19 41 45.2
MHMT Maesarieng 47.64 252 P **P** **19 34 41.1 +1.1**
comp=Z,151nm,0.9s
WHY Whitehorse 47.72 41 P **P** **19 34 40.8 +0.6**
WHY IAmb IAmb 19 34 50.0
comp=Z,384nm,1.3s
WHY Whitehorse 47.72 41 P **P** **19 34 41.0 +0.9**
baz=288,SNR=41
KMSI Cibinong 47.81 210 P **P** **19 34 42.1 +0.8**
SKAG Skagway 47.88 43 IAmb IAmb 19 34 44.5
comp=Z,289nm,1.6s
SKAG Skagway 47.88 43 P **P** **19 34 42.2 +0.9**
baz=289,SNR=10
SKAG Skagway 47.88 43 P **P** **19 34 43.2 +1.9**
SKAG Skagway 47.88 43⇑P **P** **19 34 42.9 +1.6**
CHKK Chushkaly 47.91 295 *e*P **P** **19 34 41.8 0.0**
CHKK Chushkaly 47.91 295 *e*P **P** **19 34 41.8 0.0**
FARO Faro, Yukon 47.93 39 IAmb IAmb 19 34 51.1
comp=Z,248nm,1.4s
FARO IAMs_20 IAMs_20 19 56 06.9
comp=Z,4μm,18.0s
FARO Faro, Yukon 47.93 39 P **P** **19 34 42.4 +0.7**
baz=288,SNR=46
S31K Pelican 47.93 45 P **P** **19 34 42.5 +0.9**
baz=290,SNR=5.3
R31K City Hall, Gus 48.02 44 P **P** **19 34 43.4 +1.0**
baz=290
BRZS Berezniki 48.05 304 *e*P **P** **19 34 42.5 -0.3**
comp=Z,146nm,1.6s
BRZS Berezniki 48.05 304 *e*P **P** **19 34 42.5 -0.3**
BRZS pmax pmax
comp=Z,146nm,1.6s
A36M Sachs Harbour 48.11 25 P **P** **19 34 41.5 -1.3**
baz=286,SNR=44
NAYO Nakonayok 48.14 246 P **P** **19 34 44.2 +0.4**
MDOK Medeo 48.18 294 *e*P **P** **19 34 43.6 -0.5**
MDOK *e*S **S** **19 41 43.0 +0.3**
MDOK LR LR 19 57 09.1
comp=Z,6μm,12.6s
MDOK Medeo 48.18 294 *e*P **P** **19 34 43.5 -0.5**
MDOK *e*S **S** **19 41 42.9 +0.3**
MDOK MLR MLR
comp=Z,6μm,13.0s
BVAR Borovoye Array 48.21 308 P **P** **19 34 43.6 -0.3**
comp=Z,33nm,0.9s,baz=77,slow=6.4,SNR=114
BVAR PcP **PcP** **19 36 11.2 +0.3**
comp=Z,41nm,0.9s,baz=76,slow=6.1,SNR=8.2
BVAR LR LR 19 56 30.3
comp=Z,13μm,19.2s,baz=69,slow=38
comp=Z,33nm,0.9s
AAA Alma-Ata 48.24 294 *e*P **P** **19 34 44.4 -0.1**
comp=Z,211nm,1.6s
AAA LR LR 19 57 16.2
comp=Z,7μm,12.5s
AAA Alma-Ata 48.24 294 *e*P **P** **19 34 44.3 -0.1**
AAA pmax pmax
comp=Z,211nm,1.6s
AAA MLR MLR
comp=Z,7μm,13.0s
BRVK Borovoye 48.26 308 P **P** **19 34 42.9 -1.4**
BRVK Borovoye 48.26 308 P **P** **19 34 43.9 -0.4**
BRVK S **S** **19 41 40.6 -2.6**
BRVK Borovoye 48.26 308 *e*P **P** **19 34 43.6 -0.7**
BRVK Borovoye 48.26 308⇑P **P** **19 34 43.2 -1.1**
BRVK Borovoye 48.26 308*c i*P **P** **19 34 43.6 -0.7**
BRVK pmax pmax
comp=Z,107nm,1.3s
BRVK MLR MLR
comp=Z,13μm,15.0s
TNSS Tian-Shan 48.30 294 *e*P **P** **19 34 44.7 -0.7**
TNSS Tian-Shan 48.30 294 *e*P **P** **19 34 44.6 -0.7**
KUU Kurty 48.31 295 *e*P **P** **19 34 44.7 -0.2**
comp=Z,90nm,1.0s
KUU LR LR 19 57 14.1
comp=Z,10μm,12.9s
KUU Kurty 48.31 295 *e*P **P** **19 34 44.7 -0.2**
KUU pmax pmax
comp=Z,90nm,1.0s
KUU MLR MLR
comp=Z,10μm,13.0s
GTK Tadong 48.34 269 *i*P **P** **19 34 45.9 +0.4**
GTK *i*x x 19 41 41.0
N32M Quiet Lake 48.39 40 IAmb IAmb 19 34 54.5
comp=Z,322nm,1.4s
N32M IAMs_20 IAMs_20 19 51 43.0
comp=Z,5μm,21.0s
N32M Quiet Lake 48.39 40 P **P** **19 34 45.8 +0.5**
baz=289
UMPA Umpang Tak 48.40 250 P **P** **19 34 47.6 +1.7**
UTHA Uthaitani 48.47 248 P **P** **19 34 47.6 +1.2**
TOLI2 Tolitoli 48.54 214 IAmb IAmb 19 34 49.4
comp=Z,362nm,2.0s
TOLI2 Tolitoli 48.54 214 P **P** **19 34 47.1 +0.2**
KDJ Kajisay 48.56 293 IAmb IAmb 19 34 58.9
comp=Z,236nm,0.9s
P32M Atlin 48.62 42 IAmb IAmb 19 34 50.0
comp=Z,347nm,1.8s
P32M Atlin 48.62 42 P **P** **19 34 46.9 -0.2**
baz=290,SNR=13
MRSI Marisa 48.66 212 P **P** **19 34 47.6 -0.2**
comp=Z,448nm,1.5s,comp=Z,8μmcomp=Z,6μm
R32K Eaglecrest 48.68 44 P **P** **19 34 47.3 -0.2**
baz=290,SNR=6.3
SIT Sitka 48.70 46 IAmb IAmb 19 34 58.1
comp=Z,217nm,1.1s
SIT Sitka 48.70 46 P **P** **19 34 47.8 +0.2**
baz=291
SIT Sitka 48.70 46 P **P** **19 34 50.2 +2.5**
SIT Sitka 48.70 46 P **P** **19 34 47.4 -0.3**
MMPY Sheldon Lake, 48.73 38 IAmb IAmb 19 34 50.7
comp=Z,415nm,1.9s
MMPY IAMs_20 IAMs_20 19 57 49.9
comp=Z,5μm,20.0s
MMPY Sheldon Lake, 48.73 38 P **P** **19 34 48.8 +0.9**
baz=289,SNR=38
FAKI Fak Fak 48.74 198 P **P** **19 34 47.5 -0.9**
FAKI Fak Fak 48.74 198 P **P** **19 34 48.3 -0.1**
FAKI Fak Fak 48.74 198⇑P **P** **19 34 47.7 -0.6**
FAKI Fak Fak 48.74 198 P **P** **19 34 48.7 +0.3**
comp=Z,321nm,2.0s,comp=Z,6μmcomp=Z,8μm
JIS Juneau Island 48.74 44 P **P** **19 34 50.0 +2.0**
P33M Teslin, Yukon 48.83 41 IAmb IAmb 19 34 59.2
comp=Z,396nm,1.1s
P33M IAMs_20 IAMs_20 19 59 09.9
comp=Z,5μm,18.0s
P33M Teslin, Yukon 48.83 41 P **P** **19 34 49.7 +1.0**
baz=290,SNR=66
RABL Rabaul 48.83 171 IAmb IAmb 19 36 33.6
comp=Z,179nm,0.5s
S32K Kilisnoo 48.94 45 P **P** **19 34 50.6 +1.2**
baz=291,SNR=6.0
BRDH Bariadhala 49.03 262 LR LR 19 55 38.7
comp=Z,4μm,21.4s,baz=72,slow=36
ULHL Ulahol 49.13 293 P **P** **19 34 53.2 +1.8**
SNR=8.1
TKM2 Tokmak 2 49.24 294 P **P** **19 34 52.8 +0.5**
SNR=216
BTLS Baital 49.28 297 *e*P **P** **19 34 52.4 +0.1**
comp=Z,143nm,1.9s
BTLS Baital 49.28 297 *e*P **P** **19 34 52.3 +0.1**
BTLS pmax pmax
comp=Z,143nm,1.9s
C36M Paulatuk 49.29 28 P **P** **19 34 50.4 -1.6**
baz=289,SNR=18
Q32M Nakina River 49.53 42 IAmb IAmb 19 35 14.7
comp=Z,428nm,1.8s
Q32M Nakina River 49.53 42 P **P** **19 34 55.5 +1.2**
baz=292,SNR=13
SRDT SRDT 49.56 248 P **P** **19 34 56.3 +1.6**
SANI Sanana 49.59 206 P **P** **19 34 51.4 -3.5**
SANI Sanana 49.59 206 P **P** **19 34 53.9 -1.0**
SANI Sanana 49.59 206⇑P **P** **19 34 53.4 -1.5**
SANI Sanana 49.59 206 P **P** **19 34 53.4 -1.5**
comp=Z,242nm,1.4s,comp=Z,5μmcomp=Z,6μm
SGDS Sogindy 49.62 295 *e*P **P** **19 34 55.3 +0.2**
comp=Z,258nm,1.8s
SGDS Sogindy 49.62 295 *e*P **P** **19 34 55.2 +0.2**
SGDS pmax pmax
comp=Z,258nm,1.8s
TABU Tabubil 49.72 186 P **P** **19 34 57.6 +1.6**
LUWI Luwuk 49.75 211 IAmb IAmb 19 34 56.8
comp=Z,618nm,1.7s
LUWI Luwuk 49.75 211 P P 19 34 50.3 -5.9
LUWI Luwuk 49.75 211 P **P** **19 34 55.0 -1.1**
LUWI Luwuk 49.75 211⇑P **P** **19 34 53.7 -2.4**
LUWI Luwuk 49.75 211 P **P** **19 34 54.8 -1.3**
comp=Z,204nm,1.2s,comp=Z,4μmcomp=Z,5μm
CHMS Chumysh 49.75 295 P **P** **19 34 57.0 +1.0**
SNR=49
KBK Karagaybulak 49.78 294 P **P** **19 34 56.9 +0.5**
SNR=221
USP Ospenovka 49.79 295 P **P** **19 34 56.5 +0.2**
SNR=220
KEKH Kekaha 49.85 98 IAMs_20 IAMs_20 19 50 59.1
comp=Z,7μm,21.0s
FRU1 Bishkek 49.92 295 IAMs_20 IAMs_20 19 54 28.2
comp=Z,6μm,22.0s
MSAI Masohi 49.96 202 P **P** **19 34 59.9 +2.2**
comp=Z,168nm,1.2s,comp=Z,4μm
R33M Jennings River 50.00 42 IAmb IAmb 19 35 08.0
comp=Z,256nm,1.3s
R33M IAMs_20 IAMs_20 19 58 40.7
comp=Z,6μm,18.0s
R33M Jennings River 50.00 42 P **P** **19 34 58.7 +1.0**
baz=292,SNR=29
T33K Petersburg 50.00 45 P **P** **19 34 59.1 +1.5**
baz=293
APSI Ampana 50.05 212 P **P** **19 34 58.7 +0.3**
comp=Z,360nm,1.2s,comp=Z,4μm
AAK Ala-Archa 50.09 294 P **P** **19 34 58.5 -0.1**
AAK IAmb IAmb 19 35 07.8
comp=Z,644nm,1.6s
AAK Ala-Archa 50.09 294 *i*P **P** **19 34 59.3 +0.6**
SNR=124
AAK Ala-Archa 50.09 294 LR LR 19 56 27.1
comp=Z,11μm,18.0s,baz=70,slow=36
AAK Ala-Archa 50.09 294 P **P** **19 34 59.0 +0.3**
AAK P **P** **19 34 59.0 +0.3**
AAK S **S** **19 42 08.8 -0.7**
AAK S **S** **19 42 08.8 -0.7**
AAK Ala-Archa 50.09 294 *e*P **P** **19 34 58.6 -0.1**
AAK Ala-Archa 50.09 294⇑P **P** **19 34 58.7 -0.1**
AAK Ala-Archa 50.09 294*c i*P **P** **19 34 58.6 -0.1**
AAK pmax pmax
comp=Z,219nm,1.3s
AAK MLR MLR
comp=Z,11μm,15.0s
U33K Whale Pass 50.19 46 P **P** **19 35 00.4 +1.4**
baz=293
UCH Uchtor 50.27 294 P **P** **19 35 02.8 +2.4**
SNR=6.3
NLAI Namlea 50.38 204 P **P** **19 35 02.0 +1.1**
TGTN Hyland Airport 50.43 38 P **P** **19 35 01.9 +1.0**
baz=292,SNR=50
CRAG Craig 50.44 47 P **P** **19 35 02.3 +1.4**
baz=294
WRAK Wrangell Islan 50.46 46 IAmb IAmb 19 35 04.5
comp=Z,340nm,1.7s
WRAK Wrangell Islan 50.46 46 P **P** **19 35 02.5 +1.4**
baz=293,SNR=6.3
WRAK Wrangell Islan 50.46 46⇓P **P** **19 35 03.5 +2.4**
S34M Telegraph Cree 50.48 43 IAMs_20 IAMs_20 19 59 46.7
comp=Z,5μm,18.0s
S34M Telegraph Cree 50.48 43 P **P** **19 35 02.1 +0.9**
baz=293,SNR=18
AAI Ambon 50.49 203 P **P** **19 35 02.6 +0.9**
comp=Z,329nm,1.8s,comp=Z,6μm
EKS2 Erkin-Say 50.54 295 P **P** **19 35 03.0 +0.9**
SNR=83
KSH Kashi 50.61 290 P **P** **19 35 06.5 +3.8**
KSH sP pwP 19 35 14.4 +4.8
KSH PP PP 19 37 08.3 +10
KSH S **S** **19 42 24.0 +7.2**
KSH pmax pmax
comp=Z,290nm,2.2s
KSH pmax pmax
comp=Z,3μm,5.5s
KSH LR LR
comp=Z,20μm,17.9s
KSH LR LR
comp=Z,18μm,19.6s
KSH LR LR
comp=Z,33μm,18.6s
WTLY Watson Lake, Y 50.74 40 IAmb IAmb 19 35 12.8
comp=Z,421nm,1.4s
WTLY IAMs_20 IAMs_20 19 59 10.2
comp=Z,4μm,18.0s
WTLY Watson Lake, Y 50.74 40 P **P** **19 35 04.0 +0.8**
baz=293,SNR=9.0
DLBC Dease Lake 50.81 42 LR LR 19 58 35.3
comp=Z,2μm,18.2s,baz=306,slow=38
DLBC Dease Lake 50.81 42 P **P** **19 35 05.6 +1.8**
baz=293,SNR=35
BNDI Bandanaira 50.84 200 P **P** **19 35 05.2 +0.9**
BNDI Bandanaira 50.84 200⇑P **P** **19 35 04.1 -0.2**
BNDI Bandanaira 50.84 200 P **P** **19 35 05.0 +0.7**
AML Almayashu 50.85 294 P **P** **19 35 06.5 +1.7**
SNR=84
SBUM Sibu 51.26 225 P **P** **19 35 07.5 -0.1**
SBUM Sibu 51.26 225 P **P** **19 35 08.7 +1.1**
SBUM Sibu 51.26 225⇑P **P** **19 35 07.8 +0.2**
V35K Ketchikan 51.28 47 IAmb IAmb 19 35 10.2
comp=Z,537nm,2.0s
V35K Ketchikan 51.28 47 P **P** **19 35 08.6 +1.3**
baz=295,SNR=6.4
T35M Bob Quinn 51.30 44 P **P** **19 35 09.4 +2.0**
baz=294,SNR=28
KIP Kipapa 51.41 97 IAMs_20 IAMs_20 19 55 29.6
comp=Z,8μm,20.0s
KIP Kipapa 51.41 97 P **P** **19 35 11.0 +2.3**
KIP Kipapa 51.41 97 P **P** **19 35 10.6 +1.9**
KIP Kipapa 51.41 97*de*P **P** **19 35 10.8 +2.1**
KIP pmax pmax
comp=Z,195nm,2.5s
SMKI Samarinda 51.44 218 P **P** **19 35 12.3 +3.4**
comp=Z,217nm,1.1s,comp=Z,9μmcomp=Z,9μm
HON Honolulu 51.48 98 IAMs_20 IAMs_20 19 55 40.7
comp=Z,7μm,20.0s
DIB Dawson Inlet, 51.73 49 IAmb IAmb 19 35 20.9
comp=Z,262nm,1.1s
WRGLY Wrigley 51.81 35 P **P** **19 35 11.6 +0.5**
baz=295,SNR=8.6
U35K Hyder 51.85 45 IAmb IAmb 19 35 34.3
comp=Z,180nm,0.8s
U35K Hyder 51.85 45 P **P** **19 35 12.9 +1.4**
baz=295
SVE Sverdlovsk 51.87 316*de*P **P** **19 35 10.6 -1.0**
SVE *e*S **S** **19 42 33.6 +0.2**
SVE pmax pmax
comp=Z,177nm,1.7s
DZA Taraz 52.01 296 *e*P **P** **19 35 13.1 0.0**
comp=Z,139nm,1.2s
DZA Taraz 52.01 296 *e*P **P** **19 35 13.0 0.0**
DZA pmax pmax
comp=Z,139nm,1.2s
LIRD Liard River Hi 52.27 40 P **P** **19 35 15.7 +1.0**
baz=295,SNR=14
BKB Balikpapan 52.31 218 P **P** **19 35 16.4 +1.1**
BKB Balikpapan 52.31 218⇑P **P** **19 35 15.5 +0.2**
BKB Balikpapan 52.31 218 P **P** **19 35 16.6 +1.3**
comp=Z,450nm,2.0s,comp=Z,10μmcomp=Z,9μm
BOK Bokaro 52.42 267⇑*i*P **P** **19 35 16.6 +0.4**
KKAR Karatay Array 52.43 297 P **P** **19 35 15.5 -0.6**
KKAR Karatay Array 52.43 297 IAmb IAmb 19 35 17.9
comp=Z,120nm,0.9s
KKAR Karatay Array 52.43 297⇑P **P** **19 35 15.7 -0.4**
KKAR Karatay Array 52.43 297 P **P** **19 35 15.5 -0.6**
GRNB Grenville Isla 52.80 48 IAmb IAmb 19 35 28.7
comp=Z,207nm,0.9s
KHLH Kahului Airpor 52.88 97 IAMs_20 IAMs_20 19 56 01.4
comp=Z,6μm,20.0s
KOTAN Kotaneelee Air 52.89 39 P **P** **19 35 19.4 +0.2**
baz=296,SNR=20
BRLS Borolday 52.90 297 *e*P **P** **19 35 21.0 +1.4**
comp=Z,142nm,1.9s
BRLS Borolday 52.90 297 *e*P **P** **19 35 20.9 +1.4**
BRLS pmax pmax
comp=Z,142nm,1.9s
JOSI Joshimath 52.91 279 *e*P **P** **19 35 20.4 +0.3**
MTKI Muara Teweh, K 52.92 220 P **P** **19 35 20.7 +0.8**
comp=Z,302nm,2.1s,comp=Z,6μmcomp=Z,5μm
TOAD Toad River Com 52.92 41 P **P** **19 35 20.7 +1.2**
baz=296,SNR=51
KSM Kuching 53.07 226 P **P** **19 35 22.6 +1.6**
SURA Surathani 53.09 243 P **P** **19 35 23.2 +2.0**
SURA Surathani 53.09 243 P **P** **19 35 23.1 +1.9**
comp=Z,190nm,1.9s
HLK Haleakala 53.10 97 IAMs_20 IAMs_20 19 56 17.1
comp=Z,7μm,19.0s
ARTI Arti 53.18 316 P **P** **19 35 20.0 -1.4**
ARTI Arti 53.18 316 LR LR 20 00 18.3
comp=Z,13μm,19.1s,baz=56,slow=39
ARTI Arti 53.18 316⇑P **P** **19 35 19.6 -1.8**
ARTI Arti 53.18 316*c i*P **P** **19 35 20.8 -0.6**
ARTI 19 36 25.4
ARTI PPP PPP 19 38 28.0
ARTI S **S** **19 42 51.2 -0.1**
ARTI 19 45 03.8
ARTI SS **SS** **19 46 26.1 -4.1**
ARTI SSS SSS 19 48 13.9
ARTI pmax pmax
comp=Z,87nm,1.0s
ARTI MLR MLR
comp=Z,12μm,19.0s
KLP Kalpa 53.28 280 *e*P **P** **19 35 23.0 +0.1**
SRIT Nakonsritamara 53.54 242 P **P** **19 35 26.5 +2.0**
SRIT Nakonsritamara 53.54 242 P **P** **19 35 27.1 +2.6**
comp=Z,314nm,1.8s
SPSI Sidrap Palu 53.57 213 P **P** **19 35 25.4 +0.7**
comp=Z,57nm,1.0s,comp=Z,3μmcomp=Z,6μm
HOPEN Hopen 53.60 345 *e*P **P** **19 35 23.4 -0.8**
HOPEN IVmB_BB 19 35 33.4
comp=Z,4μm,2.6s
HOPEN *e*S **S** **19 42 58.2 +1.7**
HOPEN *e*SS **SKiKP** **19 46 43.2 +5.0**
HOPEN IVMs_BB IVMs_BB 20 02 05.8
comp=Z,3μm,11.9s
PMG Port Moresby 53.69 178 P **P** **19 35 25.9 +0.4**
PMG IAmb IAmb 19 35 27.9
comp=Z,520nm,1.9s
PMG Port Moresby 53.69 178 P **P** **19 35 26.7 +1.2**
PMG Port Moresby 53.69 178 P **P** **19 35 26.9 +1.4**
PMG Port Moresby 53.69 178⇑P **P** **19 35 25.5 0.0**
PMG Port Moresby 53.69 178*c i*P **P** **19 35 25.5 0.0**
PMG pmax pmax
comp=Z,237nm,1.7s
PMG MLR MLR
comp=Z,2μm,17.0s
BTK Batken 53.77 293 IAMs_20 IAMs_20 19 58 41.2
comp=Z,5μm,19.0s
NOR Nord 53.78 357⇑P **P** **19 35 22.8 -2.7**
NOR Nord 53.78 357⇑P **P** **19 35 22.8 -2.7**
NOR Nord 53.78 357 *i*P **P** **19 35 22.5 -2.9**
NOR IAmb IAmb 19 35 25.2
comp=Z,12nm,1.2s
SPA0 Spitsbergen Ar 53.83 349 *e*P **P** **19 35 26.2 +0.4**
SPA0 IVmB_BB 19 35 35.0
comp=Z,2μm,3.6s
SPA0 *e*S **S** **19 43 01.5 +1.8**
SPA0 IVMs_BB IVMs_BB 20 06 05.3
comp=Z,3μm,13.9s
SPITS Spitsbergen Ar 53.83 349 P **P** **19 35 25.9 0.0**
comp=Z,13nm,0.9s,baz=56,slow=16,SNR=4.3
SPITS PcP **PcP** **19 36 31.3 -0.1**
comp=Z,16nm,0.8s,baz=86,slow=5.9,SNR=9.1
SPITS LR LR 20 01 60.0
comp=Z,5μm,18.5s,baz=15,slow=40
BNSI Bone 53.84 212 P **P** **19 35 27.4 +0.8**
comp=Z,112nm,1.3s,comp=Z,4μmcomp=Z,6μm
KBS Kingsbay 53.85 350 IAMs_20 IAMs_20 20 01 09.8
comp=Z,6μm,19.0s
KBS Kingsbay 53.85 350 *e*P **P** **19 35 26.3 +0.3**
KBS IVmB_BB 19 35 54.6
comp=Z,2μm,2.9s
KBS IVMs_BB IVMs_BB 20 01 02.8
comp=Z,2μm,11.4s
SAUI Saumlaki 53.85 198 P **P** **19 35 28.6 +1.9**
SAUI Saumlaki 53.85 198 P **P** **19 35 28.6 +1.9**
BBSI Bau Bau 53.95 209 P **P** **19 35 29.4 +2.0**
comp=Z,94nm,1.2s,comp=Z,5μmcomp=Z,6μm
HPAH Hawaii Prepara 53.96 97 IAmb IAmb 19 35 39.0
comp=Z,479nm,1.6s
HPAH IAMs_20 IAMs_20 19 57 09.0
comp=Z,6μm,20.0s
HUH Hualalai 54.09 97 IAMs_20 IAMs_20 19 52 59.4
comp=Z,5μm,20.0s
DDI Dehra Dun 54.11 279⇑*i*P **P** **19 35 28.9 +0.3**
DDI *e*S **S** **19 43 03.9 -0.8**
TATA Tatamba Isabel 54.18 163 P **P** **19 35 31.0 +1.9**
LKN LUCKNOW 54.19 274 *e*P **P** **19 35 29.1 -0.1**
SRNI Srinagar 54.22 285 *e*P **P** **19 35 30.8 +1.5**
DHRM DHARAMSHALA 54.24 282⇑*i*P **P** **19 35 29.6 -0.2**
DHRM *e*S **S** **19 43 05.5 -1.4**
POHA Pohakuloa 54.26 97 IAMs_20 IAMs_20 19 52 40.9
comp=Z,7μm,22.0s
POHA Pohakuloa 54.26 97 P **P** **19 35 32.1 +2.1**
SMLA Simla 54.27 281⇑*i*P **P** **19 35 29.7 -0.1**
SMLA ⇓*i*S **S** **19 43 05.9 -0.9**
HMH Humu'ula Sheep 54.39 97 P **P** **19 35 32.5 +1.4**
RES Resolute Bay 54.53 17 LR LR 20 01 14.3
comp=Z,6μm,21.0s,baz=310,slow=39
RES Resolute Bay 54.53 17⇑P **P** **19 35 28.5 -2.5**
RES Resolute Bay 54.53 17 P **P** **19 35 29.7 -1.3**
KHU Kahuku 54.53 98 P **P** **19 35 32.3 +0.3**
KHU IAmb IAmb 19 35 43.6
comp=Z,365nm,1.2s
KHU IAMs_20 IAMs_20 19 53 22.2
comp=Z,6μm,21.0s
KHU Kahuku 54.53 98 P **P** **19 35 32.3 +0.3**
KHU pmax pmax
comp=Z,365nm,1.2s
KHU MLR MLR
comp=Z,6μm,21.0s
MLH Mauna Loa 54.53 97 IAmb IAmb 19 35 50.2
comp=Z,178nm,0.9s
MLH IAMs_20 IAMs_20 19 57 08.2
comp=Z,7μm,19.0s
KAPI Kappang 54.54 212 P **P** **19 35 31.5 -0.2**
KAPI IAmb IAmb 19 35 33.8
comp=Z,644nm,2.0s
KAPI Kappang 54.54 212 LR LR 19 59 09.8
comp=Z,1μm,19.4s,baz=335,slow=36
KAPI Kappang 54.54 212*c i*P **P** **19 35 31.3 -0.4**
KAPI pmax pmax
comp=Z,82nm,1.8s
KAPI MLR MLR
comp=Z,1μm,19.0s
BBB Bella Bella 54.56 49 IAmb IAmb 19 35 41.5
comp=Z,359nm,1.2s
BBB Bella Bella 54.56 49 LR LR 19 59 26.3
comp=Z,2μm,18.0s,baz=296,slow=37
BBB Bella Bella 54.56 49⇑P **P** **19 35 31.9 +0.4**
DGPR DIGLIPUR 54.56 252⇑*i*P **P** **19 35 32.4 +0.4**
DGPR IAmb IAmb 19 35 35.6
comp=Z,272nm,1.3s
DGPR *e*S **S** **19 43 11.0 +0.1**
UWE Uwekahuna 54.65 97 IAMs_20 IAMs_20 19 57 29.2
comp=Z,7μm,19.0s
HATHI Halema'uma'u T 54.67 97 IAmb IAmb 19 35 52.7
comp=Z,519nm,1.7s
HATHI IAMs_20 IAMs_20 19 57 17.8
comp=Z,7μm,19.0s
BKSI Bulukumba 54.68 212 P **P** **19 35 32.9 +0.2**
comp=Z,52nm,1.0s,comp=Z,5μm
ALEG Aligegeo Malai 54.73 162 P **P** **19 35 34.8 +1.7**
PUH Pauahi 54.73 97 IAmb IAmb 19 35 44.8
comp=Z,434nm,1.6s
FRKB FARRUKHABAD 54.74 275 *e*P **P** **19 35 32.6 -0.6**
STCH Steam Cracks 54.79 97 IAmb IAmb 19 35 45.0
comp=Z,286nm,1.4s
STCH IAMs_20 IAMs_20 19 57 26.0
comp=Z,8μm,22.0s
JOKA Jonika Flow 54.84 97 IAmb IAmb 19 35 36.9
comp=Z,394nm,1.6s
JOKA IAMs_20 IAMs_20 19 53 08.4
comp=Z,8μm,22.0s
PKDT Phuket 54.88 243 P **P** **19 35 36.5 +2.2**
comp=Z,257nm,1.6s
HNR Honiara 55.22 163 IAMs_20 IAMs_20 19 54 46.9
comp=Z,6μm,21.0s
HNR Honiara 55.22 163 P **P** **19 35 37.7 +1.1**

comp=Z,151nm,0.7s,baz=281,slow=5.2,SNR=1.3
HNR LR LR 19 56 24.2
comp=Z,3μm,20.9s,baz=338,slow=33
comp=Z,151nm,0.7s
BSSI Bau Bau, Buton 55.30 211 P **P 19 35 37.3 +0.1**
comp=Z,104nm,1.6s,comp=Z,4μmcomp=Z,6μm
HOLB Holberg 55.30 51 IAmb IAmb 19 35 46.2
comp=Z,294nm,1.0s
BNDA BANDA 55.36 273 *e*P **P 19 35 36.3 -1.3**
KULM Kulim 55.44 239 IAmb IAmb 19 35 47.4
comp=Z,209nm,0.9s
KULM IAMs_20 IAMs_20 19 57 25.0
comp=Z,5μm,21.0s
KULM Kulim 55.44 239 P **P 19 35 39.2 +0.9**
KULM Kulim 55.44 239 ⇑P **P 19 35 39.0 +0.7**
NIL Nilore 55.58 285 P **P 19 35 39.4 +0.2**
NIL Nilore 55.58 285 P **P 19 35 39.4 +0.2**
NIL pmax pmax
comp=Z,794nm,1.5s
NIL MLR MLR
comp=Z,10μm,19.0s
JMIU JAMIA UNIVERSI 55.67 278 *e*P **P 19 35 40.1 +0.2**
SIMJ Simiganj 55.70 293 P **P 19 35 39.4 -0.8**
SIMJ IAmb IAmb 19 35 41.8
comp=Z,226nm,1.0s
NPLP NPLP New Delhi 55.72 278 *e*P **P 19 35 40.3 +0.1**
NPLP *i* x x 19 35 47.3
YKA Yellowknife Ar 55.74 34 P **P 19 35 39.4 -0.5**
YKA Yellowknife Ar 55.74 34 P **P 19 35 39.9 0.0**
comp=Z,15nm,0.9s,baz=303,slow=6.9,SNR=19
YKA LR LR 20 02 48.9
comp=Z,2μm,18.5s,baz=300,slow=40
comp=Z,15nm,0.9s
YKA Yellowknife Ar 55.74 34 P **P 19 35 39.4 -0.5**
ABKAR Abkulak array 55.77 308 P **P 19 35 39.2 -1.1**
ABKAR Abkulak array 55.77 308 IAmb IAmb 19 35 48.6
comp=Z,708nm,1.9s
ABKAR Abkulak array 55.77 308 ⇑P **P 19 35 39.4 -0.9**
PBA Port Blair 55.78 251 IAMs_20 IAMs_20 20 00 23.2
comp=Z,5μm,19.0s
PBA Port Blair 55.78 251 P **P 19 35 40.6 -0.1**
SNR=8.7
PBA Port Blair 55.78 251 *e*P **P 19 35 40.7 -0.1**
PBA Port Blair 55.78 251 ⇑P **P 19 35 41.0 +0.2**
BJO1 Bjornoya 56.08 345 *e*P **P 19 35 42.6 +0.5**
BJO1 IVmB_BB 19 36 03.4
comp=Z,6μm,4.3s
BJO1 *e*S **S 19 43 32.1 +2.3**
BJO1 *e*SS **SS 19 47 19.3 +4.1**
BJO1 IVMs_BB IVMs_BB 20 00 07.4
comp=Z,6μm,3.8s
AKTO Aktyubinsk 56.24 310 LR LR 20 01 28.7
comp=Z,12μm,19.4s,baz=59,slow=38
MYKOM Kota Tinggi 56.34 233 P **P 19 35 46.4 +1.7**
MYKOM Kota Tinggi 56.34 233 ⇑P **P 19 35 45.4 +0.6**
KIRV Kirov 56.34 321 LR LR 20 01 13.3
comp=Z,9μm,20.5s,baz=58,slow=38
KIRV Kirov 56.34 321*c i*P **P 19 35 42.5 -1.7**
TPRI Tanjung Pinang 56.66 232 P **P 19 35 48.8 +1.7**
comp=Z,141nm,2.2s,comp=Z,4μmcomp=Z,5μm
LVZ Lovozero 56.67 335 IAMs_20 IAMs_20 20 03 49.0
comp=Z,5μm,18.0s
LVZ Lovozero 56.67 335 ⇑P **P 19 35 45.7 -0.8**
LVZ Lovozero 56.67 335⇓*e*P **P 19 35 45.1 -1.4**
LVZ pmax pmax
comp=Z,83nm,2.5s
BTDF Bukit Timah Da 56.73 233 P **P 19 35 48.9 +1.3**
VADS Vadso 56.77 339 *e*P **P 19 35 47.0 -0.1**
VADS IVmBBB 19 35 50.2
comp=Z,846nm,1.8s
VADS *e*S **S 19 43 39.3 +0.2**
VADS IVMs_BB IVMs_BB 20 05 04.7
comp=Z,3μm,16.5s
MMRI Maumere 57.00 208 P **P 19 35 49.4 0.0**
MMRI Maumere 57.00 208 P **P 19 35 49.4 0.0**
comp=Z,374nm,2.0s,comp=Z,10μmcomp=Z,7μm
CBB Campbell River 57.14 50 IAmb IAmb 19 35 52.4
comp=Z,400nm,1.9s
SRGN SRI GANGA NAGA57.27 281 *e*P **P 19 35 51.4 +0.1**
SOEI Soe 57.40 205 IAmb IAmb 19 36 16.6
comp=Z,367nm,1.2s
SOEI Soe 57.40 205 P **P 19 35 50.1 -2.3**
SOEI Soe 57.40 205 P **P 19 35 52.1 -0.2**
SOEI Soe 57.40 205 P **P 19 35 52.5 +0.2**
comp=Z,290nm,1.2s,comp=Z,5μmcomp=Z,6μm
KEV Kevo 57.62 339 P **P 19 35 52.6 -0.6**
KEV IAMs_20 IAMs_20 20 04 17.3
comp=Z,5μm,19.0s
KEV Kevo 57.62 339 P **P 19 35 52.6 -0.6**
KEV pmax pmax
comp=Z,165nm,1.7s
KEV MLR MLR
comp=Z,5μm,19.0s
LHMI Lhok Sumawe 57.79 242 IAMs_20 IAMs_20 20 01 34.2
comp=Z,5μm,19.0s
LHMI Lhok Sumawe 57.79 242 P **P 19 35 57.3 +2.2**
LHMI Lhok Sumawe 57.79 242 P **P 19 35 58.7 +3.6**
comp=Z,201nm,1.4s,comp=Z,8μm
HAMF Hammerfest 57.84 340 *e*P **P 19 35 55.2 +0.5**
HAMF *e*S **S 19 43 55.2 +2.1**
HAMF IVMs_BB IVMs_BB 20 04 34.5
comp=Z,3μm,4.2s
NEEM North Greenlan 57.86 4 *i*P **P 19 35 52.4 -2.7**
NEEM IAmb IAmb 19 35 54.3
comp=Z,19nm,1.1s
KBL Kabul 57.95 289 P **P 19 35 54.7 -1.6**
KBL Kabul 57.95 289 P **P 19 35 55.3 -1.0**
SNR=128
KBL S **S 19 43 54.6 -1.4**
KBL Kabul 57.95 289 P **P 19 35 54.7 -1.6**
KBL pmax pmax
comp=Z,162nm,1.2s
BATI Baumata 58.01 206 P **P 19 35 56.7 +0.2**
comp=Z,105nm,1.3s,comp=Z,5μmcomp=Z,6μm
ARA0 ARCESS Array S 58.16 339 *e*P **P 19 35 56.2 -0.7**
ARA0 IVmB_BB 19 36 04.4
comp=Z,2μm,5.8s
ARA0 *e*S **S 19 44 01.8 +4.4**
ARA0 IVMs_BB IVMs_BB 20 09 52.6
comp=Z,4μm,12.1s
ARCES ARCESS Array B 58.16 339 P **P 19 35 55.9 -1.1**
ARCES IAmb IAmb 19 36 04.3
comp=Z,390nm,1.9s
ARCES ARCESS Array B 58.16 339 P **P 19 35 55.9 -1.1**
comp=Z,21nm,1.1s,baz=50,slow=6.0,SNR=11
ARCES PcP **PcP 19 36 48.9 +0.6**
comp=Z,31nm,1.1s,baz=58,slow=7.6,SNR=7.1
ARCES LR LR 20 05 13.2
comp=Z,5μm,18.3s,baz=46,slow=40
comp=Z,21nm,1.1s
ARCES ARCESS Array B 58.16 339 P **P 19 35 55.9 -1.1**
ARCES pmax pmax
comp=Z,390nm,2.0s
KDU Kakadu 58.19 195 P **P 19 35 56.4 -1.2**
comp=Z,0.0nmcomp=Z,253nm,1.3s
KDU Kakadu 58.19 195 P **P 19 35 57.8 +0.1**
COEN Coen 58.24 183 IAmb IAmb 19 36 00.4
comp=Z,178nm,1.1s
COEN Coen 58.24 183 P **P 19 35 57.5 -0.6**
comp=Z,0.0nmcomp=Z,204nm,1.9s
COEN Coen 58.24 183 P **P 19 35 59.1 +1.1**
DRS Darwin Rock St 58.25 197 P **P 19 35 59.4 +1.3**
PPBI Pangkal Pinang 58.34 228 P **P 19 36 00.2 +1.4**
CMBY CAMPBELL BAY 58.39 246 *e*P **P 19 36 00.1 +0.8**
PSI Prapat 58.45 239 P **P 19 36 01.1 +1.3**
RPSI Rantau Prapat 58.53 239 IAMs_20 IAMs_20 20 03 05.0
comp=Z,6μm,18.0s
DAG Danmarks Havn 58.58 356 P **P 19 35 56.1 -3.7**
DAG Danmarks Havn 58.58 356 ⇓P **P 19 35 58.1 -1.6**
DAG Danmarks Havn 58.58 356 P **P 19 35 58.3 -1.5**
DAG Danmarks Havn 58.58 356 *i*P **P 19 35 57.4 -2.4**
DAG IAmb IAmb 19 35 59.8
comp=Z,25nm,1.2s
MTN Manton Dam 58.60 197 IAmb IAmb 19 36 02.2
comp=Z,322nm,0.9s
MTN Manton Dam 58.60 197 P **P 19 35 59.7 -0.9**
comp=Z,0.0nmcomp=Z,370nm,1.8s
MTN Manton Dam 58.60 197 P **P 19 36 00.3 -0.3**
MTN Manton Dam 58.60 197 ⇑P **P 19 35 59.9 -0.7**
LLLB Lillooet 58.71 48 IAmb IAmb 19 36 10.6
comp=Z,216nm,1.1s
PLAI Plampang 58.79 213 P **P 19 36 01.4 -0.5**
PLAI Plampang 58.79 213 P **P 19 36 01.2 -0.7**
BHPL Bhopal 58.82 273⇑*i*P **P 19 36 01.4 -0.9**
BHPL IAmb IAmb 19 36 04.8
comp=Z,605nm,1.4s
BHPL *i*PP **PP 19 38 12.7 +0.5**
BHPL *ex* x 19 44 00.3
BHPL *e*S **S 19 44 06.9 -0.4**
BKNR BIKANER 58.83 280 *e*P **P 19 36 01.5 -0.8**
MLSI Meulaboh, Aceh 58.88 242 P **P 19 36 02.8 +0.2**
comp=Z,247nm,1.2s,comp=Z,3μm
PGC Sidney 58.94 51 IAmb IAmb 19 36 04.9
comp=Z,264nm,1.6s
NGP Nagpur 58.98 270⇑*i*P **P 19 36 02.1 -1.3**
BASI Baing, Sumba 59.04 209 P **P 19 36 08.2 +4.5**
comp=Z,151nm,1.3s,comp=Z,4μm
KTK1 Kautokeino 59.11 339 *e*P **P 19 36 03.1 -0.4**
KTK1 IVmB_BB 19 36 09.6
comp=Z,2μm,2.7s
KTK1 *e*PP **PP 19 38 12.3 -1.3**
KTK1 *e*S **S 19 44 13.3 +3.6**
KTK1 IVMs_BB IVMs_BB 20 09 21.8
comp=Z,2μm,4.0s
SRBI Singaraja 59.15 216 P **P 19 36 05.4 +1.0**
comp=Z,290nm,2.3s,comp=Z,7μmcomp=Z,7μm
BKNI Bangkinang 59.15 235 P **P 19 36 02.5 -2.0**
BKNI Bangkinang 59.15 235 P **P 19 36 06.7 +2.2**
KLMR Klimovskoe 59.23 327*d i*P **P 19 36 03.8 -0.6**
KLMR *e* 19 36 51.3
KLMR 19 38 18.0
KLMR SS SS 19 48 12.2 +7.2
KLMR pmax pmax
comp=Z,407nm,2.0s
ABJI Asem Bagus 59.30 217 P **P 19 36 07.6 +2.1**
comp=Z,121nm,1.5s,comp=Z,6μmcomp=Z,6μm
NRDN NARMADA NAGAR59.33 273⇑*i*P **P 19 36 10.0 +4.2**
NLWA Neilton Lookou 59.40 52 IAmb IAmb 19 36 15.9
comp=Z,215nm,1.1s
NLWA Neilton Lookou 59.40 52⇑P **P 19 36 07.3 +1.4**
JETT Jettan, Norway 59.41 341 *e*P **P 19 36 05.3 -0.4**
HEF Hetta 59.43 339 *e*P **P 19 36 04.6 -1.2**
UWJI Ujung Watu 59.57 221 P **P 19 36 08.6 +1.2**
comp=Z,177nm,1.6s,comp=Z,3μm
WISH Wishkah 59.61 52 IAmb IAmb 19 36 10.7
comp=Z,444nm,1.6s
TRO Tromso 59.70 341 *e*P **P 19 36 07.0 -0.6**
TRO IVmB_BB 19 36 13.4
comp=Z,2μm,2.0s
TRO *e*S **S 19 44 17.6 +0.3**
TRO IVMs_BB IVMs_BB 20 05 57.7
comp=Z,3μm,15.5s
KIF Kilpisjarvi 59.72 340 *e*P **P 19 36 07.0 -0.7**
GNW Green Mountain 59.89 51 IAmb IAmb 19 36 12.1
comp=Z,253nm,1.6s
NGJI Ngawi 60.16 220 P **P 19 36 13.7 +2.3**
comp=Z,165nm,2.5s,comp=Z,6μm
SMRI Semarang 60.36 221 IAmb IAmb 19 36 14.9
comp=Z,321nm,1.2s
SMRI Semarang 60.36 221 P **P 19 36 13.7 +0.9**
SMRI Semarang 60.36 221 P **P 19 36 13.9 +1.1**
comp=Z,305nm,2.1s,comp=Z,7μmcomp=Z,7μm
SNSI Sinabang, Aceh 60.36 241 P **P 19 36 14.8 +1.9**
GSI Gunungsitoli 60.45 239 IAMs_20 IAMs_20 20 03 53.7
comp=Z,4μm,20.0s
GSI Gunungsitoli 60.45 239 P **P 19 36 14.6 +1.1**
GSI Gunungsitoli 60.45 239⇑P **P 19 36 13.5 0.0**
GSI Gunungsitoli 60.45 239 P **P 19 36 14.9 +1.4**
comp=Z,477nm,2.3s
PDSI Padang 60.49 235 P **P 19 36 14.5 +0.7**
comp=Z,73nm,1.2s
D05A Emmclaw 60.57 51 IAmb IAmb 19 36 24.2
comp=Z,226nm,1.1s
PWJI Pagerwojo 60.58 219 P **P 19 36 14.2 -0.1**
comp=Z,211nm,1.6s,comp=Z,4μm
BELG Belogornoye 60.62 316 LR LR 20 03 54.8
comp=Z,3μm,18.4s,baz=57,slow=38
BELG Belogornoye 60.62 316*c i*P **P 19 36 13.1 -1.1**
BELG pmax pmax
comp=Z,13nm,1.1s
BELG MLR MLR
comp=Z,2μm,17.0s
F04D Rainier, OR 60.63 53 IAmb IAmb 19 36 24.2
comp=Z,171nm,1.0s
JOF Joensuu 60.92 332 *e*P **P 19 36 15.3 -0.7**
LON Longmire 60.92 52 IAmb IAmb 19 36 19.1
comp=Z,322nm,1.9s
F04A Amboy 61.05 53 IAmb IAmb 19 36 26.9
comp=Z,241nm,1.0s
UGM Wanagama 61.07 221 P **P 19 36 17.7 0.0**
LTY Liberty 61.27 51 IAmb IAmb 19 36 21.1
comp=Z,412nm,1.7s
COR Corvallis 61.32 55 P **P 19 36 20.6 +1.6**
COR Corvallis 61.32 55⇑P **P 19 36 21.3 +2.2**
COR Corvallis 61.32 55 P **P 19 36 20.6 +1.6**
COR pmax pmax
comp=Z,974nm,1.6s
COR MLR MLR
comp=Z,2μm,18.0s
KPJI Karang Pucung 61.33 223 P **P 19 36 19.5 +0.1**
B08A Colville Reser 61.36 49 IAmb IAmb 19 36 28.7
comp=Z,182nm,1.0s
LEM Lembang 61.53 224 LR LR 20 03 55.7
comp=Z,1μm,20.6s,baz=9.5,slow=37
SISI Saibi 61.63 236 P **P 19 36 22.3 +0.9**
comp=Z,147nm,1.2s,comp=Z,5μm
HYB Hyderabad 61.76 267⇑*e*P **P 19 36 22.0 -0.4**
HYB *e*pP **pP 19 36 24.7 -1.8**
HYB *e* 19 36 28.6
HYB IVmB_BB 19 36 29.5
comp=Z,4μm,2.6s
HYB *e*PcP **PcP 19 37 03.1 -0.5**
HYB *e*PP **PP 19 38 39.1 +0.8**
HYB *e*ScP **ScP 19 41 04.8 +0.1**
HYB *e*S **S 19 44 46.0 +0.8**
HYB *e*ScS **SKKSac 19 46 13.5 -0.4**
HYB *e*SS **SS 19 48 49.1 +2.3**
HYB IVMs_BB IVMs_BB 20 08 28.2
comp=Z,2μm,10.6s
J01E Myrtle Point 61.78 56 IAmb IAmb 19 36 32.9
comp=Z,167nm,0.9s
LWLI Liwa 61.84 229 P **P 19 36 22.6 -0.4**
comp=Z,225nm,1.0s,comp=Z,3μmcomp=Z,5μm
KNRA Kununurra 61.86 199 P **P 19 36 22.4 -0.5**
comp=Z,0.0nmcomp=Z,206nm,1.7s
STEI Steigen 61.87 341 *e*P **P 19 36 21.7 -0.7**
STEI IVmB_BB 19 36 29.6
comp=Z,2μm,4.2s
STEI *e*S **S 19 44 49.2 +4.2**
STEI IVMs_BB IVMs_BB 20 06 19.7
comp=Z,3μm,7.0s
MXC Moxie City 61.88 51 IAmb IAmb 19 36 32.7
comp=Z,299nm,1.3s
KASI Kota Agung 62.03 228 P **P 19 36 23.2 -1.0**
comp=Z,74nm,1.2s
LOF Lofoten 62.10 342 *e*P **P 19 36 23.9 0.0**
LOF *e*S **S 19 44 50.2 +2.2**
KBO Bosley Butte 62.16 57 IAmb IAmb 19 36 35.2
comp=Z,243nm,1.1s
DBO Dodson Butte 62.21 56 IAmb IAmb 19 36 28.5
comp=Z,336nm,1.7s
PPSI Pulau Pagai 62.25 234 P **P 19 36 27.6 +2.0**
comp=Z,347nm,1.8s,comp=Z,6μm
FAUS Fauske 62.29 341 *e*P **P 19 36 24.5 -0.7**
FAUS *e*S **S 19 44 53.5 +3.1**
FAUS IAMs_20 IAMs_20 20 06 28.0
comp=Z,8μm,17.6s
I04A Tendick Farm, 62.30 55 IAmb IAmb 19 36 35.6
comp=Z,132nm,0.9s
MTSU Mount Surprise 62.36 181 P **P 19 36 27.2 +1.0**
comp=Z,58nm,1.0s
MTSU Mount Surprise 62.36 181 P **P 19 36 27.5 +1.3**
HAWA Hanford 62.41 51 IAmb IAmb 19 36 36.1
comp=Z,228nm,1.1s
HAWA Hanford 62.41 51⇑P **P 19 36 27.0 +0.6**
I05D Terrebonne, OR 62.60 54 IAmb IAmb 19 36 37.6
comp=Z,134nm,0.9s
NEW Newport 62.60 48 IAmb IAmb 19 36 37.6
comp=Z,191nm,0.9s
NEW Newport 62.60 48 LR LR 20 02 48.3
comp=Z,1μm,21.4s,baz=305,slow=35
NEW Newport 62.60 48⇑P **P 19 36 28.0 +0.3**
NEW Newport 62.60 48 P **P 19 36 28.1 +0.4**
E08A Dider Farm, El 62.61 51 IAmb IAmb 19 36 37.2
comp=Z,198nm,1.0s
HUMO Hull Mountain 62.68 56 IAmb IAmb 19 36 31.5
comp=Z,194nm,1.6s
HUMO Hull Mountain 62.68 56⇑P **P 19 36 29.6 +1.3**
KRMB Red Mountain 62.76 58 IAmb IAmb 19 36 32.1
comp=Z,317nm,1.6s
KRPM Rodgers 62.90 58 IAmb IAmb 19 36 33.2
comp=Z,460nm,1.7s
KRPM IAMs_20 IAMs_20 20 05 23.5
comp=Z,3μm,18.0s
JCC Jacoby Creek, 63.10 58 IAmb IAmb 19 36 34.3
comp=Z,418nm,1.6s
PINE Pine Mountain 63.16 54 IAmb IAmb 19 36 42.5
comp=Z,303nm,1.2s
SUMG Summit 63.17 1 IAmb IAmb 19 36 32.1
comp=Z,226nm,1.5s
SUMG IAMs_20 IAMs_20 20 05 28.1
comp=Z,5μm,19.0s
SUMG Summit 63.17 1⇑P **P 19 36 30.7 -0.8**
SUMG Summit 63.17 1 P **P 19 36 31.2 -0.3**
SUMG Summit 63.17 1 *i*P **P 19 36 31.0 -0.6**
SUMG IAmb IAmb 19 36 32.1
comp=Z,28nm,1.3s
MOS Moscow 63.21 323 *e*P **P 19 36 27.8 -3.7**
MOS *e* 19 38 49.9
MOS *e*PPP PPP 19 40 25.1
MOS *e*S **S 19 45 03.2 +1.0**
MOS *e*SS **SS 19 49 04.3 -3.3**
MOS pmax pmax
comp=Z,466nm,2.2s
MOS pmax pmax
comp=Z,2μm,3.2s
MOS MLR MLR
comp=Z,6μm,14.0s
KHMM Horse Mountain 63.25 58 IAmb IAmb 19 36 42.6
comp=Z,183nm,1.0s
KMPM Mount Pierce 63.28 59 IAmb IAmb 19 36 43.3
comp=Z,199nm,1.0s
J05D Fort Rock, OR 63.29 55 IAmb IAmb 19 36 42.7
comp=Z,203nm,1.1s
JMIC Jan Mayen 63.32 351 LR LR 20 07 02.2
comp=Z,1μm,18.2s,baz=32,slow=39
YBH Yreka Blue Hor 63.35 57 IAmb IAmb 19 36 43.1
comp=Z,117nm,0.9s
YBH Yreka Blue Hor 63.35 57 LR LR 20 01 30.0
comp=Z,1μm,19.8s,baz=312,slow=34
K04D Chiloquin, OR 63.38 56 IAmb IAmb 19 36 43.0
comp=Z,131nm,0.9s
G08A Pilot Rock 63.39 52 IAmb IAmb 19 36 35.8
comp=Z,353nm,1.7s
PUL Pulkovo 63.41 329⇑*e*P **P 19 36 32.8 0.0**
PUL pmax pmax
comp=Z,281nm,1.7s
MOR8 Moi Rana 63.46 340 *e*P **P 19 36 31.3 -1.8**
MOR8 *e*S **S 19 45 05.9 +0.7**
MOR8 IAMs_20 IAMs_20 20 03 48.5
comp=Z,6μm,24.0s
TV1H Townsville Har 63.48 179 P **P 19 36 34.5 +0.9**
MDRS Chennai 63.48 262⇑*i*P **P 19 36 34.6 +0.8**
MDRS *i* x x 19 38 53.8
VLAKA Lakatoro 63.50 157 P **P 19 36 35.2 +1.4**
KEF Keuruu 63.58 333 *e*P **P 19 36 32.7 -1.2**
VAF Ylistaro 63.63 335 *e*P **P 19 36 33.7 -0.4**
KMRM Mail Ridge 63.65 59 IAmb IAmb 19 36 45.2
comp=Z,118nm,0.9s
KMRM IAMs_20 IAMs_20 20 04 38.7
comp=Z,3μm,18.0s
STOK Stokkvaagen 63.67 341 *e*P **P 19 36 34.3 -0.1**
STOK *e*S **S 19 45 07.6 0.0**
STOK IVMs_BB IVMs_BB 20 07 14.7
comp=Z,5μm,14.0s
FINES FINESS Array B 63.71 332 P **P 19 36 33.5 -1.3**
comp=Z,23nm,0.6s,baz=45,slow=7.2,SNR=128
FINES PcP **PcP 19 37 09.2 -1.5**
comp=Z,22nm,0.6s,baz=46,slow=6.0,SNR=7.6
FINES PKPPKP 20 05 29.8
comp=Z,2.5nm,0.8s,baz=190,slow=7.1,SNR=2.4
FINES LR LR 20 05 45.0
comp=Z,7μm,20.1s,baz=50,slow=37
comp=Z,23nm,0.6s
AUAYR Ayr State High 63.80 178 P **P 19 36 36.2 +0.5**
I07A Izee 63.81 53 IAmb IAmb 19 36 38.7
comp=Z,261nm,1.7s
F10A Beach Ranch, E 63.94 50 IAmb IAmb 19 36 46.4
comp=Z,177nm,1.2s
KCPM Cahto Peak 64.05 59 IAmb IAmb 19 36 47.5
comp=Z,151nm,0.9s
KCPM IAMs_20 IAMs_20 20 09 48.0
comp=Z,3μm,18.0s
OBN Obninsk 64.08 323 LR LR 20 05 25.3
comp=Z,8μm,19.1s,baz=54,slow=37
OBN Obninsk 64.08 323 *e*P **P 19 36 36.7 -0.5**
OBN Obninsk 64.08 323*d i*P **P 19 36 36.7 -0.5**
OBN *i* 19 36 42.1
OBN *i* 19 37 11.7
OBN *i* 19 38 59.1
OBN *i* S S 19 45 03.9 -9.1
OBN *i* SS **SS 19 49 24.0 +3.0**
OBN *i* SSS SSS 19 52 18.2
OBN pmax pmax
comp=Z,189nm,1.7s
OBN MLR MLR
comp=Z,7μm,14.0s
O02D Mt. Diablo Mer 64.24 58 IAmb IAmb 19 36 41.9
comp=Z,378nm,1.6s
VRH Novokhopyorsk 64.25 317⇓*i*P **P 19 36 37.8 -0.7**
VRH pmax pmax
comp=Z,328nm,2.0s
CTA Charters Tower 64.29 179 LR LR 20 00 22.7
comp=Z,56nm,21.6s,baz=356,slow=32
CTA Charters Tower 64.29 179 P **P 19 36 39.4 +0.4**
CTA Charters Tower 64.29 179 P **P 19 36 39.7 +0.8**
CTAO Charters Tower 64.29 179 P **P 19 36 38.9 -0.1**
CTAO IAmb IAmb 19 36 40.7
comp=Z,321nm,1.7s
CTAO Charters Tower 64.29 179 P **P 19 36 39.8 +0.8**
CTAO Charters Tower 64.29 179⇑P **P 19 36 38.4 -0.6**
CTAO Charters Tower 64.29 179 P **P 19 36 38.9 -0.1**
CTAO pmax pmax
comp=Z,321nm,1.7s
POO Poona 64.40 271⇑*i*P **P 19 36 39.6 -0.4**
POO IAmb IAmb 19 36 48.6
comp=Z,149nm,0.9s
BMO Blue Mountains 64.58 51 IAmb IAmb 19 36 43.6
comp=Z,438nm,1.7s
BMO Blue Mountains 64.58 51⇑P **P 19 36 41.3 +0.4**
BMO Blue Mountains 64.58 51⇑P **P 19 36 41.3 +0.4**
LPSR Galich'ya Gora 64.67 320 *e*P **P 19 36 38.9 -2.3**
LPSR pmax pmax
comp=Z,130nm,1.2s
LPSR MLR MLR
comp=Z,7μm,15.0s
HOPS Hopland Field 64.79 59 IAmb IAmb 19 36 44.8
comp=Z,305nm,1.6s
HOPS IAMs_20 IAMs_20 20 02 07.5
comp=Z,3μm,19.0s
J08A Circle Bar Ran 64.85 53 IAmb IAmb 19 36 45.6
comp=Z,387nm,1.5s
FITZ Fitzroy Crossi 64.95 201 P **P 19 36 43.1 -0.1**
FITZ Fitzroy Crossi 64.95 201 P **P 19 36 42.8 -0.5**
comp=Z,4μm,2.0s
FITZ Fitzroy Crossi 64.95 201 PKP2ab **P'P'ab 20 05 34.5 +4.4**
comp=Z,18nm,1.2s,baz=218,slow=2.4,SNR=9.6
FITZ Fitzroy Crossi 64.95 201 P **P 19 36 44.0 +0.7**
WRAB Tennant Creek 64.97 192 P **P 19 36 42.2 -1.2**
WRAB Tennant Creek 64.97 192*c i*P **P 19 36 42.6 -0.8**
WRAB pmax pmax
comp=Z,368nm,1.3s
WRA Warramunga Arr 64.98 192 P **P 19 36 42.7 -0.8**
WRA Warramunga Arr 64.98 192 P **P 19 36 43.0 -0.5**
comp=Z,232nm,1.1s,baz=10,slow=6.8,SNR=156
WRA LR LR 20 03 15.6
comp=Z,2μm,22.0s,baz=358,slow=34
WRA PKPPKP P'P'df 20 05 29.9 +10
comp=Z,4.4nm,1.0s,baz=190,slow=1.8,SNR=13
WRA Warramunga Arr 64.98 192 P **P 19 36 42.7 -0.8**
WRA pmax pmax
comp=Z,101nm,1.5s
QIS Mount Isa 65.00 186 P **P 19 36 41.5 -2.0**
comp=Z,115nm,2.3s
QIS Mount Isa 65.00 186 P **P 19 36 43.4 -0.2**
VORR Voronezh 65.15 319 *e*P **P 19 36 41.3 -3.0**
VORR pmax pmax
comp=Z,110nm,1.1s
VORR MLR MLR
comp=Z,7μm,10.0s
PLID Pearl Lake 65.16 51 IAmb IAmb 19 36 54.1
comp=Z,219nm,1.0s
PLID IAMs_20 IAMs_20 20 08 43.8
comp=Z,3μm,19.0s
MEF Metsahovi 65.17 332 *e*P **P 19 36 43.6 -0.7**
MSO Missoula 65.19 48 IAmb IAmb 19 36 54.7

comp=Z,283nm,1.1s
MSO Missoula 65.19 48 ⇑P **P 19 36 45.1 +0.3**
ARBE Arbavere 65.20 331 *e*P **P 19 36 43.9 -0.6**
WVOR Wild Horse Val 65.32 54 IAmb IAmb 19 36 55.5
comp=Z,216nm,1.1s
WVOR Wild Horse Val 65.32 54 P **P 19 36 47.4 +1.6**
NSS Namsos 65.41 340 *e*P **P 19 36 45.9 +0.1**
NSS *e*S **S 19 45 29.8 +0.7**
NSS IVMs_BB IVMs_BB 20 09 38.4
comp=Z,4μm,17.1s
MCCM Marconi Confer 65.43 60 IAmb IAmb 19 36 48.4
comp=Z,221nm,1.4s
MCCM IAMs_20 IAMs_20 20 02 32.5
comp=Z,3μm,19.0s
RAF Rauma 65.43 334 *e*P **P 19 36 45.0 -1.0**
VSR Storozhevoye 65.47 318 *e*P **P 19 36 43.1 -3.3**
VSR pmax pmax
comp=Z,230nm,1.8s
VSR MLR MLR
comp=Z,11μm,12.0s
VORD Divnogorie 65.57 318 *e*P **P 19 36 45.2 -1.9**
VORD pmax pmax
comp=Z,100nm,0.4s
VORD MLR MLR
comp=Z,3μm,10.0s
VSU Vasula 65.65 330 ⇑P **P 19 36 46.7 -0.8**
VSU Vasula 65.65 330 *de*P **P 19 36 47.1 -0.3**
VSU pmax pmax
comp=Z,157nm,2.5s
VSU MLR MLR
comp=Z,7μm,22.0s
FFC Flin Flon 65.70 36 P **P 19 36 47.4 -0.5**
FFC Flin Flon 65.70 36 IAMs_20 IAMs_20 20 08 05.6
comp=Z,4μm,18.0s
FFC Flin Flon 65.70 36 P **P 19 36 47.4 -0.5**
FFC pmax pmax
comp=Z,516nm,1.4s
FFC MLR MLR
comp=Z,4μm,18.0s
FCC Fort Churchill 65.87 30 P **P 19 36 47.6 -1.3**
FCC Fort Churchill 65.87 30 P **P 19 36 47.6 -1.3**
FCC pmax pmax
comp=Z,486nm,1.5s
FCC MLR MLR
comp=Z,2μm,19.0s
AFDM Forest Hills D 66.10 58 IAmb IAmb 19 37 00.1
comp=Z,159nm,1.2s
GOA Goa 66.42 269 ⇑*i*P **P 19 36 52.7 -0.3**
MAK Makhachkala 66.45 308 *e*P **P 19 36 49.7 -3.1**
MAK *e* 19 39 17.3
MAK *e*PPP PPP 19 40 51.8
MAK *e*S **S 19 45 39.1 -3.4**
MAK pmax pmax
comp=Z,417nm,1.2s
MAK MLR MLR
comp=Z,7μm,14.0s
MTSE Matsula 66.50 331 *e*P **P 19 36 52.8 0.0**
MALK Mahakanadarawa 66.50 258 P **P 19 36 52.4 -1.2**
MALK Mahakanadarawa 66.50 258 ⇑P **P 19 36 53.1 -0.5**
PAHR Pah Rah Range 66.59 57 IAmb IAmb 19 37 03.5
comp=Z,187nm,1.0s
EGMT Eagleton 66.59 45 IAMs_20 IAMs_20 20 10 47.9
comp=Z,3μm,18.0s
EGMT Eagleton 66.59 45 ⇑P **P 19 36 54.1 +0.3**
EMB Emerald Bay 66.62 58 IAmb IAmb 19 37 07.0
comp=Z,205nm,1.0s
ICESG Greenland Ices 66.64 2 *i*P **P 19 36 53.6 -0.5**
ICESG IAmb IAmb 19 36 55.2
comp=Z,37nm,1.3s
DLMT Dillon 66.84 49 IAMs_20 IAMs_20 20 08 24.2
comp=Z,3μm,19.0s
PNTR Pine Nut 66.85 58 IAmb IAmb 19 37 06.1
comp=Z,136nm,0.8s
TBLU Trondheim 66.89 340 *e*P **P 19 36 54.1 -1.2**
KOUNC Koumac, New Ca 66.94 161 P **P 19 36 58.1 +2.0**
KOUNC IAmb IAmb 19 36 59.9
comp=Z,380nm,1.8s
KOUNC Koumac, New Ca 66.94 161 P **P 19 36 58.9 +2.8**
KOUNC Koumac, New Ca 66.94 161 ⇑P **P 19 36 57.5 +1.4**
HLID Hailey 67.01 51 IAmb IAmb 19 36 59.4
comp=Z,258nm,1.5s
HLID Hailey 67.01 51 ⇑P **P 19 36 57.1 +0.4**
CMB Columbia Colle 67.03 59 IAmb IAmb 19 37 06.8
comp=Z,163nm,0.9s
CMB Columbia Colle 67.03 59 P **P 19 36 58.4 +1.6**
FUTU Fugatoga 67.16 142 IAMs_20 IAMs_20 19 59 45.4
comp=Z,5μm,20.0s
SAO San Andreas Ge 67.18 60 IAmb IAmb 19 36 59.9
comp=Z,211nm,1.6s
BOZ Bozeman (W) 67.21 48 IAmb IAmb 19 37 07.5
comp=Z,198nm,0.8s
BOZ IAMs_20 IAMs_20 20 10 26.8
comp=Z,4μm,20.0s
BOZ Bozeman (W) 67.21 48 ⇑P **P 19 36 58.3 +0.4**
BOZ Bozeman (W) 67.21 48 ⇑P **P 19 36 58.3 +0.4**
AKT Akhty 67.26 306 *e*P **P 19 36 58.1 -0.1**
AKT *e* 19 37 25.8
AKT *e*S **S 19 45 50.5 -2.2**
AKT pmax pmax
comp=Z,1μm,1.6s
AKT pmax pmax
comp=Z,413nm,1.2s
AKT pmax pmax
comp=N,64nm,1.3s
AKT pmax pmax
comp=E,182nm,1.7s
AKT smax smax
comp=E,993nm,3.5s
AKT smax smax
comp=N,1μm,4.0s
AKT MLR MLR
comp=Z,14μm,22.0s
AKT MLR MLR
comp=E,7μm,15.0s
AKT MLR MLR
comp=N,7μm,15.0s
WAKR Walker 67.32 58 IAmb IAmb 19 37 09.6
comp=Z,135nm,1.0s
BMN Battle Mountai 67.41 55 IAmb IAmb 19 37 09.0
comp=Z,129nm,0.9s
BBGB Big Mountain B 67.55 60 IAmb IAmb 19 37 10.9
comp=Z,190nm,0.9s
GOF Gofitskoye 67.56 312 *c i*P **P 19 37 00.0 +0.1**
GOF *e*S **S 19 45 58.3 +2.5**
KVN Kaiserville 67.77 57 IAmb IAmb 19 37 11.8
comp=Z,212nm,1.0s
RYN Ryan 67.79 57 IAmb IAmb 19 37 11.8
comp=Z,118nm,1.0s
LIFNC LIFOU 67.90 158 P **P 19 37 05.7 +3.6**
YHL Hebgen Lake 67.94 48 IAmb IAmb 19 37 12.9
comp=Z,141nm,1.0s
YHL IAMs_20 IAMs_20 20 10 30.1
comp=Z,3μm,18.0s
YHB Horse Butte 68.00 48 IAmb IAmb 19 37 13.1
comp=Z,186nm,0.9s
DGTI Dogotuki 68.01 145 P **P 19 37 06.1 +3.2**
LHV Little Huntoon 68.04 58 IAMs_20 IAMs_20 20 08 40.6
comp=Z,3μm,20.0s
NVAR Mina Array Bea 68.05 57 P **P 19 37 03.5 +0.2**
NVAR Mina Array Bea 68.05 57 P **P 19 37 04.7 +1.3**
comp=Z,47nm,1.0s,baz=291,slow=5.4,SNR=221
NVAR PKPPKP 20 05 19.4
comp=Z,4.0nm,1.1s,baz=127,slow=2.7,SNR=8.2
comp=Z,47nm,1.0s
MNK Minsk 68.11 326 *i* P **P 19 37 02.0 -1.2**
comp=E,90nm,1.3s
MNK *i* P **P 19 37 02.0 -1.2**
comp=N,65nm,1.2s
MNK *i* P **P 19 37 02.0 -1.2**
comp=Z,94nm,1.0s,baz=43
MNK *i* PcP **PcP 19 37 27.8 -1.4**
MNK *i* PP **PP 19 39 32.0 -0.9**
MNK *i* PPP PPP 19 41 10.0
MNK *i* S **S 19 46 02.4 +0.3**
MNK *i* ScS **SKKSac 19 47 01.1 +0.1**
MNK *i* SS **SS 19 50 25.9 +2.2**
MNK *i* SSS SSS 19 53 41.5
MNK *i* LQ LQ 20 01 11.1
MNK *i* LR LR 20 06 17.0
MNK *i* LRM MLR 20 09 12.5
comp=E,5μm,15.3s
MNK *i* LRM MLR 20 09 24.9
comp=N,5μm,15.0s
MNK *i* LRM MLR 20 09 26.1
comp=Z,6μm,16.1s
MNK Minsk 68.11 326 *i* P **P 19 37 01.9 -1.2**
MNK *i* 19 37 27.7
MNK *i* 19 39 31.9
MNK *i* PPP PPP 19 41 10.0
MNK *i* S **S 19 46 02.4 +0.3**
MNK *i* 19 47 01.0
MNK *i* SS **SS 19 50 25.8 +2.2**
MNK pmax pmax
comp=Z,94nm,1.0s
MNK pmax pmax
comp=E,90nm,1.3s
MNK pmax pmax
comp=N,65nm,1.2s
MNK MLR MLR
comp=E,5μm,15.0s
MNK MLR MLR
comp=N,5μm,15.0s
MNK MLR MLR
comp=Z,6μm,16.0s
MOL Molde 68.13 341 *e*P **P 19 37 03.0 -0.1**
NV11 Mina Array Sit 68.14 57 IAmb IAmb 19 37 13.5
comp=Z,159nm,1.1s
OMMB Old Mammoth Mi 68.15 58 IAmb IAmb 19 37 06.9
comp=Z,210nm,1.6s
YMR Madison River 68.17 48 IAmb IAmb 19 37 13.9
comp=Z,267nm,1.2s
YMR IAMs_20 IAMs_20 20 11 10.4
comp=Z,3μm,20.0s
DOMB Dombas 68.21 340 *e*P **P 19 37 03.5 -0.3**
DOMB *e*S **S 19 46 09.0 +5.8**
DOMB IVMs_BB IVMs_BB 20 10 51.2
comp=Z,3μm,5.4s
NACGM Naroch 68.25 327 *e*P **P 19 37 03.1 -0.9**
YNM Yellowstone No 68.27 48 IAmb IAmb 19 37 15.5
comp=Z,193nm,1.2s
YNM IAMs_20 IAMs_20 20 10 10.1
comp=Z,4μm,18.0s
YNR Norris Junctio 68.29 48 IAmb IAmb 19 37 15.7
comp=Z,245nm,1.2s
YNR IAMs_20 IAMs_20 20 10 10.6
comp=Z,4μm,18.0s
NC405 NORSAR Array S 68.31 338 IAmb IAmb 19 37 12.7
comp=Z,321nm,1.6s
ELK Elko 68.36 54 IAmb IAmb 19 37 08.2
comp=Z,458nm,2.0s
ELK IAMs_20 IAMs_20 20 05 11.9
comp=Z,3μm,21.0s
ELK Elko 68.36 54 LR LR 20 05 43.9
comp=Z,2μm,19.5s,baz=312,slow=35
ELK Elko 68.36 54 ⇑P **P 19 37 05.0 -0.3**
ELK Elko 68.36 54 P **P 19 37 06.3 +1.0**
YFT Old Faithful 68.39 49 IAmb IAmb 19 37 17.7
comp=Z,234nm,1.0s
YNE Yellowstone No 68.46 48 IAMs_20 IAMs_20 20 10 31.9
comp=Z,4μm,19.0s
Q09A Carvers 68.46 56 IAmb IAmb 19 37 15.6
comp=Z,199nm,1.0s
Q09A IAMs_20 IAMs_20 20 05 24.6
comp=Z,3μm,21.0s
KVAR Kislovodsk Arr 68.47 311 LR LR 20 11 41.4
comp=Z,12μm,18.7s,baz=264,slow=40
GUDG Guduri 68.47 309 P **P 19 37 06.4 +0.5**
KIV Kislovodsk 68.47 311 P **P 19 37 05.4 -0.4**
KIV Kislovodsk 68.47 311 *i* P **P 19 37 06.3 +0.5**
SNR=168
KIV Kislovodsk 68.47 311 P **P 19 37 05.8 +0.1**
KIV P **P 19 37 05.8 +0.1**
KIV Kislovodsk 68.47 311 ⇑P **P 19 37 06.4 +0.5**
KIV Kislovodsk 68.47 311 *e*P **P 19 37 06.2 +0.5**
KIV Kislovodsk 68.47 311 *e*P **P 19 37 06.1 +0.3**
KIV *e* 19 39 36.2
KIV *e*PPP PPP 19 41 16.8
KIV *e*S **S 19 46 08.1 +1.1**
KIV *e*SS **SS 19 50 32.0 +2.0**
KIV pmax pmax
comp=Z,622nm,4.1s
KIV pmax pmax
comp=Z,421nm,1.1s
KIV Kislovodsk 68.47 311 P **P 19 37 06.2 +0.5**
comp=Z,469nm,1.4s,comp=Z,12μm
NB201 NORSAR Array S 68.48 338 IAmb IAmb 19 37 13.8
comp=Z,334nm,1.6s
NB2 NORSAR Subarra 68.51 338 P **P 19 37 04.5 -1.1**
comp=Z,1μm,5.0s,baz=32,slow=6.5
NB2 P'P' P'P'df 20 05 18.5 -10
comp=Z,208nm,2.5s,baz=192,slow=2.7
NB2 NORSAR Subarra 68.51 338 P **P 19 37 04.5 -1.1**
baz=32,slow=6.5
NB2 NORSAR Subarra 68.51 338 P **P 19 37 02.7 -2.9**
NB2 pmax pmax
comp=Z,412nm,1.8s
NOA NORSAR Array B 68.51 338 P **P 19 37 04.6 -1.0**
comp=Z,33nm,1.1s,baz=32,slow=5.7,SNR=30
NOA PKPPKP 20 05 17.9
comp=Z,14nm,1.3s,baz=205,slow=3.2,SNR=3.8
NOA LR LR 20 11 13.7
comp=Z,5μm,20.3s,baz=30,slow=40
comp=Z,33nm,1.1s
KBZ Khabaz 68.51 311 P **P 19 37 06.6 +0.8**
comp=Z,115nm,0.9s,baz=49,slow=4.4,SNR=125
KBZ LR LR 20 08 20.8
comp=Z,12μm,21.4s,baz=27,slow=37
comp=Z,115nm,0.9s
KBZ Khabaz 68.51 311 *e*P **P 19 37 06.1 +0.3**
KBZ Khabaz 68.51 311 *c i*P **P 19 37 06.1 +0.3**
KBZ pmax pmax
comp=Z,179nm,1.0s
KBZ MLR MLR
comp=Z,16μm,19.0s
VSVD Vaisvydziai 68.52 329 *e*P **P 19 37 05.7 +0.1**
LKWY Lake 68.54 48 IAmb IAmb 19 37 10.4
comp=Z,218nm,1.3s
YMP Mirror Lake Pl 68.56 48 IAmb IAmb 19 37 16.5
comp=Z,203nm,1.2s
YMP IAMs_20 IAMs_20 20 10 26.5
comp=Z,3μm,19.0s
H17A Grant Village 68.56 48 IAmb IAmb 19 37 18.3
comp=Z,278nm,1.0s
HFS Hagfors 68.57 336 P **P 19 37 04.8 -1.2**
comp=Z,13nm,0.5s,baz=52,slow=6.0,SNR=59
HFS LR LR 20 10 53.4
comp=Z,4μm,20.1s,baz=44,slow=39
comp=Z,13nm,0.5s
AKN Aaknes 68.60 341 *e*P **P 19 37 06.4 +0.3**
MSVF Nonsavu 68.62 147 P **P 19 37 08.6 +1.7**
comp=Z,30nm,1.1s,baz=271,slow=3.6,SNR=8.1
MSVF LR LR 20 00 49.1
comp=Z,6μm,21.9s,baz=350,slow=30
comp=Z,30nm,1.1s
MSVF Nonsavu 68.62 147 P **P 19 37 09.5 +2.7**
NBO00 NORSAR Array S 68.63 338 IAmb IAmb 19 37 14.7
comp=Z,223nm,1.6s
SHA1 Shidzhatmaz 68.63 311 *c i*P **P 19 37 07.2 +0.2**
NC602 NORSAR Array S 68.67 338 *e*P **P 19 37 06.2 -0.4**
NC602 IVmB_BB 19 37 10.6
comp=Z,2μm,4.3s
NC602 *e*S **S 19 46 07.9 -0.8**
NC602 IVMs_BB IVMs_BB 20 11 41.5
comp=Z,3μm,6.0s
NORES NORESS Array B 68.67 338 P **P 19 37 07.5 +0.9**
AS01 Alice Springs 68.70 192 P **P 19 37 07.6 +0.5**
AS31 Alice Springs 68.70 192 P **P 19 37 07.0 -0.2**
comp=Z,27nm,1.2s
FLWY Flagg Ranch 68.70 49 IAmb IAmb 19 37 17.9
comp=Z,230nm,1.2s
ASAR Alice Springs 68.70 192 P **P 19 37 07.2 +0.1**
comp=Z,46nm,0.9s,baz=24,slow=6.2,SNR=204
ASAR PKP2bc **P'P'ab 20 05 22.8 +7.6**
comp=Z,30nm,1.2s,baz=179,slow=2.9,SNR=43
ASAR LR LR 20 05 43.3
comp=Z,945nm,22.0s,baz=12,slow=35
comp=Z,46nm,0.9s
FRB Frobisher Bay 68.73 16 LR LR 20 10 02.9
comp=Z,4μm,20.2s,baz=333,slow=38
RLMT Red Lodge 68.77 47 IAMs_20 IAMs_20 20 10 38.1
comp=Z,3μm,18.0s
RLMT Red Lodge 68.77 47 ⇑P **P 19 37 08.3 +0.6**
FXWY Fox Creek 68.82 49 IAmb IAmb 19 37 18.3
comp=Z,140nm,0.9s
PABE Paberze 68.86 329 *e*P **P 19 37 08.1 +0.3**
MOOW Moose Ponds 68.90 49 IAmb IAmb 19 37 18.8
comp=Z,173nm,1.0s
NOUC Port Laguerre 68.92 160 P **P 19 37 10.6 +2.1**
DZM Mont Dzumac 68.93 159 *e*P **P 19 37 08.3 -0.4**
comp=Z,377nm,1.6s
DZM Mont Dzumac 68.93 159 *e*PP PP 19 39 33.3 -8.0
comp=Z,255nm,22.4s
DZM *e*S **S 19 46 08.6 -4.0**
comp=Z,2μm,24.2s
DZM *e*SS **SS 19 50 37.3 -1.4**
comp=Z,3μm,26.9s
DZM *e*LQ LQ 19 54 58.4
comp=Z,15μm,29.3s
DZM *e*LR LR 19 57 56.1
comp=Z,7μm,32.0s
DZM Mont Dzumac 68.93 159 P **P 19 37 09.9 +1.3**
DZM Mont Dzumac 68.93 159 LR LR 20 04 59.3
comp=Z,1μm,20.4s,baz=355,slow=34
DZM Mont Dzumac 68.93 159 P **P 19 37 11.1 +2.4**
DZM Mont Dzumac 68.93 159 ⇑P **P 19 37 10.8 +2.1**
DSP Deep Springs 68.93 58 IAmb IAmb 19 37 19.7
comp=Z,158nm,0.9s
TRD Trivandrum 68.95 261 ⇑*i*P **P 19 37 08.7 -0.3**
TRD IAmb IAmb 19 37 16.6
comp=Z,260nm,1.1s
DY2G Dye2 68.96 5 *i*P **P 19 37 06.2 -2.4**
DY2G IAmb IAmb 19 37 09.4
comp=Z,36nm,1.4s
TPAW Teton Pass 68.96 49 IAmb IAmb 19 37 19.9
comp=Z,228nm,1.0s
NGCH Negor - Chabah 68.97 285 P **P 19 37 10.3 +1.4**
DGMT Dagmar 69.03 42 IAMs_20 IAMs_20 20 10 38.6
comp=Z,3μm,18.0s
DGMT Dagmar 69.03 42 IAmb IAmb 19 37 18.6
comp=Z,260nm,1.0s
DGMT Dagmar 69.03 42 ⇑P **P 19 37 08.8 -0.3**
YATNC Mamie plateau, 69.03 159 P **P 19 37 12.7 +3.5**
LABN Labinsk 69.06 312 *e*P **P 19 37 09.6 +0.3**
LABN *e*PPP PPP 19 41 23.5
LABN *e*S **S 19 46 17.0 +3.2**
LABN pmax pmax
comp=Z,475nm,1.2s
LABN MLR MLR
comp=Z,11μm,15.0s
SNOW Snow King Moun 69.09 49 IAmb IAmb 19 37 20.1
comp=Z,141nm,0.9s
ONTNC Ouen Toro 69.16 159 P **P 19 37 12.9 +2.9**
PBUR Paburge 69.21 330 *e*P **P 19 37 10.5 +0.5**
LAO LASA Array 69.27 44 IAMs_20 IAMs_20 20 05 26.1
comp=Z,3μm,22.0s
LAO LASA Array 69.27 44 ⇑P **P 19 37 11.1 +0.4**
TRLG Trialeti 69.29 308 P **P 19 37 11.3 +0.3**
OUENC Ouen Island, N 69.36 159 P **P 19 37 13.3 +2.1**
AHID Auburn Hatcher 69.36 50 ⇑P **P 19 37 12.0 +0.5**
GMN Gold Mountain 69.41 58 IAmb IAmb 19 37 14.6
comp=Z,278nm,1.7s
BGU Big Grassy Mou 69.51 52 IAmb IAmb 19 37 16.2
comp=Z,210nm,1.6s
MBWA Marble Bar 69.54 206 P **P 19 37 12.0 -0.3**
MBWA IAmb IAmb 19 37 14.2
comp=Z,205nm,1.1s
MBWA Marble Bar 69.54 206 P **P 19 37 11.1 -1.3**
comp=Z,231nm,2.0s
MBWA Marble Bar 69.54 206 P **P 19 37 12.8 +0.4**
MBWA Marble Bar 69.54 206 ⇑P **P 19 37 12.1 -0.3**
GRAC Grapevine Rang 69.54 58 IAmb IAmb 19 37 22.9
comp=Z,297nm,1.1s
OSL Oslo 69.57 338 *e*P **P 19 37 12.1 0.0**
OSL *e*S **S 19 46 21.2 +2.1**
SKAR Skarslia 69.57 339 *e*P **P 19 37 12.7 +0.4**
SKAR IVmB_BB 19 37 28.6
comp=Z,4μm,5.5s
SKAR *e*S **S 19 46 21.6 +2.2**
SKAR IVMs_BB IVMs_BB 20 05 56.3
comp=Z,3μm,5.0s
HYA Hoyanger 69.67 340 *e*P **P 19 37 12.8 0.0**
Q12A Willow Creek R 69.72 55 IAmb IAmb 19 37 27.7
comp=Z,279nm,1.4s
EIDS Eidsvold 69.72 175 IAmb IAmb 19 37 16.4
comp=Z,244nm,1.6s
EIDS Eidsvold 69.72 175 P **P 19 37 13.9 +0.5**
comp=Z,0.0nmcomp=Z,94nm,2.3s
EIDS Eidsvold 69.72 175 P **P 19 37 14.9 +1.5**
R11B Troy Canyon, C 69.72 56 IAmb IAmb 19 37 16.2
comp=Z,291nm,1.6s
R11B Troy Canyon, C 69.72 56 P **P 19 37 14.3 +0.5**
baz=311
GNI Garni 69.85 307 P **P 19 37 15.1 +0.6**
GNI Garni 69.85 307 P **P 19 37 15.8 +1.4**
GNI Garni 69.85 307 LR LR 20 11 11.9
comp=Z,6μm,19.5s,baz=37,slow=39
GNI Garni 69.85 307 P **P 19 37 15.8 +1.4**
GNI Garni 69.85 307 ⇑P **P 19 37 15.5 +1.1**
GNI Garni 69.85 307 *c i*P **P 19 37 15.9 +1.4**
GNI pmax pmax
comp=Z,434nm,1.7s
GNI MLR MLR
comp=Z,5μm,17.0s
PSAC1 Pilbara Seismi 69.87 206 P **P 19 37 13.5 -0.9**
comp=Z,250nm,1.9s
HWUT Hardware Ranch 69.88 51 ⇑P **P 19 37 15.3 +0.6**
PSA00 Pilbara Seismi 69.89 206 P **P 19 37 14.1 -0.5**
PSA00 Pilbara Seismi 69.89 206 IAmb IAmb 19 37 16.4
comp=Z,182nm,1.0s
PSA00 Pilbara Seismi 69.89 206 P **P 19 37 13.8 -0.7**
comp=Z,237nm,1.9s
PSA00 Pilbara Seismi 69.89 206 P **P 19 37 15.7 +1.2**
SPR3 Spring Creek 3 70.03 55 IAmb IAmb 19 37 19.0
comp=Z,480nm,1.8s
S11A Rachel 70.09 57 IAmb IAmb 19 37 25.8
comp=Z,169nm,0.8s
KONO Kongsberg 70.11 338 *e*P **P 19 37 16.4 +0.9**
KONO IVMs_BB IVMs_BB 20 07 25.8
comp=Z,3μm,5.5s
KONO Kongsberg 70.11 338 ⇑*e*P **P 19 37 16.1 +0.6**
KONO pmax pmax
comp=Z,88nm,2.5s
KONO MLR MLR
comp=Z,5μm,20.0s
DUG Dugway, Tooele 70.12 53 IAmb IAmb 19 37 25.9
comp=Z,211nm,1.1s
DUG Dugway, Tooele 70.12 53 ⇑P **P 19 37 16.6 +0.5**
DUG Dugway, Tooele 70.12 53 P **P 19 37 16.8 +0.7**
STRU Stroemstad 70.20 337 *i*P **P 19 37 15.5 -0.5**
BW06 Boulder Array 70.20 49 ⇑P **P 19 37 16.6 0.0**
PD31 Pinedale Array 70.20 49 IAmb IAmb 19 37 25.8
comp=Z,140nm,0.8s
PDAR Pinedale Array 70.20 49 P **P 19 37 16.6 -0.1**
PDAR Pinedale Array 70.20 49 P **P 19 37 17.2 +0.5**
comp=Z,24nm,0.5s,baz=318,slow=2.0,SNR=203
PDAR PKP2bc P'P'ab 20 05 13.7 -10
comp=Z,8.6nm,1.3s,baz=126,slow=2.0,SNR=17
comp=Z,24nm,0.5s
VSLR Vesyoloye 70.23 312 *d i*P **P 19 37 17.6 +1.1**
VSLR pmax pmax
comp=Z,303nm,1.3s
VSLR MLR MLR
comp=Z,7μm,17.0s
TPNV Topopah Spring 70.25 57 IAMs_20 IAMs_20 20 05 53.8
comp=Z,2μm,19.0s
TPNV Topopah Spring 70.25 57 ⇑P **P 19 37 16.9 0.0**
TCUT Toone Canyon 70.30 51 IAMs_20 IAMs_20 20 13 37.9
comp=Z,2μm,18.0s
SUW Suwalki 70.30 328 *e*P **P 19 37 15.7 -1.1**
SUW *e*L L 20 08 16.9
comp=Z,10μm,23.6s
SUW Suwalki 70.30 328 *e*P **P 19 37 17.0 +0.2**
SOC Sochi 70.31 312 *e*P **P 19 37 16.0 -1.0**
SOC *e*PP **pP 19 37 19.7 -1.5**
SOC *e* 19 39 50.2
SOC *e*PPP PPP 19 41 32.0
SOC *e*S **S 19 46 28.6 +0.1**
SOC pmax pmax
comp=Z,210nm,1.1s
SOC MLR MLR
comp=Z,15μm,18.0s
AKASG Malin Array Be 70.34 323 P **P 19 37 15.5 -1.6**
AKASG Malin Array Be 70.34 323 P **P 19 37 16.1 -0.9**
comp=Z,92nm,0.9s,baz=40,slow=6.3,SNR=283
AKASG PKP2bc P'P'ab 20 05 11.0 -12
comp=Z,0.6nm,0.5s,baz=258,slow=2.9,SNR=14
AKASG LR LR 20 10 43.5
comp=Z,6μm,18.9s,baz=48,slow=38
comp=Z,92nm,0.9s
AKBB Malin Array Si 70.34 323 *c i*P **P 19 37 15.7 -1.4**
AKBB Malin Array Si 70.34 323 P **P 19 37 17.0 -0.1**
CCAC Calif City Air 70.35 60 IAmb IAmb 19 37 27.2
comp=Z,146nm,0.8s
KIEV Kiev 70.35 323 P **P 19 37 15.7 -1.4**
KIEV Kiev 70.35 323 *i*P **P 19 37 16.1 -1.0**
SNR=97
KIEV Kiev 70.35 323 ⇑P **P 19 37 15.9 -1.3**
KIEV Kiev 70.35 323 P **P 19 37 15.7 -1.4**

KIEV pmax pmax
comp=Z,1μm,1.9s
KIEV MLR MLR
comp=Z,6μm,19.0s
CTU Camp Tracy 70.39 52 IAmb IAmb 19 37 20.3
comp=Z,294nm,1.6s
GWY Greenwater Val 70.50 58 IAmb IAmb 19 37 20.8
comp=Z,376nm,1.4s
BER Bergen 70.56 340 *e*P **P** **19 37 18.6 +0.4**
BER *e*S **S** **19 46 33.0 +2.2**
BATM Batumi 70.59 310 P **P** **19 37 19.7 +0.9**
BORG Borgarnes 70.60 354 P **P** **19 37 18.3 -0.1**
BORG IAmb IAmb 19 37 27.1
comp=Z,406nm,1.7s
BORG Borgarnes 70.60 354 P **P** **19 37 18.3 -0.1**
BORG pmax pmax
comp=Z,406nm,1.7s
JLU Jordanelle 70.62 52 IAmb IAmb 19 37 21.9
comp=Z,432nm,1.6s
JLU IAMs_20 IAMs_20 20 09 57.4
comp=Z,3μm,20.0s
PSUT Pine Spring 70.62 55 IAmb IAmb 19 37 21.8
comp=Z,202nm,1.4s
SNCC San Nicolas Is 70.65 62 IAmb IAmb 19 37 21.7
comp=Z,457nm,1.5s
ODD1 Odda 70.66 340 *e*P **P** **19 37 18.7 -0.2**
ODD1 IVmB_BB 19 38 06.9
comp=Z,4μm,4.6s
ODD1 *e*S **S** **19 46 35.0 +2.9**
ODD1 IVMs_BB IVMs_BB 20 11 39.6
comp=Z,5μm,5.3s
PRN Pahroc Range 70.66 56 IAmb IAmb 19 37 22.3
comp=Z,401nm,1.8s
ANN Anapa 70.67 314 *e*P **P** **19 37 18.3 -0.8**
ANN Anapa 70.67 314 *c i*P **P** **19 37 18.3 -0.8**
ANN *i* *PP **pP** **19 37 21.8 -1.6**
ANN *e* 19 39 54.7
ANN *i* PPP PPP 19 41 36.4
ANN *i* S **S** **19 46 31.6 -1.0**
ANN *i* 19 47 20.3
ANN pmax pmax
comp=Z,280nm,1.5s
ANN MLR MLR
comp=Z,6μm,15.0s
BCA Borcka 70.74 309 ⇓P **P** **19 37 20.0 +0.3**
QLP Quilpie 70.77 181 P **P** **19 37 18.7 -1.1**
comp=Z,0.0nmcomp=Z,252nm,1.7s
QLP Quilpie 70.77 181 P **P** **19 37 20.9 +1.1**
MI28 Mi28,Pidlybu 70.84 324 P **P** **19 37 20.3 +0.2**
JASK Jask - Hormozg 70.88 288 P **P** **19 37 21.1 +0.3**
SNR=19
PASC Pasadena Art C 70.88 61 IAMs_20 IAMs_20 20 07 14.1
comp=Z,2μm,19.0s
PASC Pasadena Art C 70.88 61 IAmb IAmb 19 37 22.8
comp=Z,264nm,1.5s
MPU Maple Canyon 70.91 52 IAmb IAmb 19 37 30.7
comp=Z,150nm,0.9s
GSC Goldstone, Bar 70.99 59 IAmb IAmb 19 37 23.7
comp=Z,205nm,1.4s
WRKA Warakurna 71.03 197 P **P** **19 37 21.1 -0.4**
comp=Z,0.0nmcomp=Z,240nm,2.0s
WRKA Warakurna 71.03 197 P **P** **19 37 22.6 +1.2**
BSUT Blindstream Ca 71.05 52 IAmb IAmb 19 37 33.3
comp=Z,224nm,1.1s
BLEU Blekinge 71.07 333 *i* P **P** **19 37 22.4 +1.0**
BLS5 Blasjo 71.13 339 *e*P **P** **19 37 21.8 +0.1**
BLS5 *e*S **S** **19 46 39.9 +2.3**
BLS5 IVMs_BB IVMs_BB 20 10 16.3
comp=Z,4μm,6.1s
SHPR Sheep Range 71.20 57 IAmb IAmb 19 37 25.6
comp=Z,211nm,1.5s
RNPP9 Sopachiv 71.22 325 P **P** **19 37 21.9 -0.5**
RNPP2 Kostyukhnivka 71.28 325 P **P** **19 37 23.2 +0.4**
RNPP8 Varash 71.29 325 P **P** **19 37 23.0 +0.2**
ULM Lac du Bonnet 71.51 37 IAmb IAmb 19 37 25.3
comp=Z,353nm,1.8s
ULM Lac du Bonnet 71.51 37 P **P** **19 37 23.5 -0.7**
comp=Z,23nm,0.9s,baz=326,slow=5.5,SNR=26
ULM LR LR 20 11 44.5
comp=Z,4μm,18.2s,baz=324,slow=38
comp=Z,23nm,0.9s
DEL Delary 71.55 334 *i* P **P** **19 37 24.2 -0.1**
LUBAR Lubar, Ukraine 71.55 323 P **P** **19 37 23.8 -0.6**
ELS Elsinore Mount 71.70 61 IAmb IAmb 19 37 27.8
comp=Z,404nm,1.6s
ELS IAMs_20 IAMs_20 20 07 54.8
comp=Z,2μm,18.0s
SNART Snartemo 71.88 338 *i* P **P** **19 37 27.7 +1.5**
AUWSH Wavell State H 71.88 173 P **P** **19 37 28.8 +2.3**
V12A Nelson 71.90 58 IAmb IAmb 19 37 29.7
comp=Z,411nm,1.7s
Q16A Castle Valley 71.92 53 IAmb IAmb 19 37 29.8
comp=Z,433nm,1.5s
Q16A IAMs_20 IAMs_20 20 11 48.8
comp=Z,2μm,19.0s
SHME Shamm 71.93 289 *i* P **P** **19 37 26.9 -0.2**
SNR=9.6
SHME Shamm 71.93 289 P **P** **19 37 27.2 +0.1**
SNR=11
TW1H Toowoomba 1 Ha 71.94 174 P **P** **19 37 29.0 +2.1**
P18A Preston Nutter 71.96 52 IAmb IAmb 19 37 30.1
comp=Z,431nm,1.5s
P18A IAMs_20 IAMs_20 20 13 17.9
comp=Z,2μm,19.0s
LCMT Little Creek M 72.00 56 IAmb IAmb 19 37 37.5
comp=Z,163nm,1.1s
E28A Huff 72.05 42 IAmb IAmb 19 37 36.4
comp=Z,354nm,1.2s
E28A IAMs_20 IAMs_20 20 12 07.4
comp=Z,3μm,19.0s
INKA Innaminka 72.05 185 P **P** **19 37 29.0 +1.5**
WSAR Wadi Sarin 72.08 285 LR LR 20 14 42.5
comp=Z,4μm,18.1s,baz=54,slow=40
BJUU Bjuv 72.14 334 *i* P **P** **19 37 29.6 +1.7**
SRU San Rafael Swe 72.15 53 IAmb IAmb 19 37 38.9
comp=Z,198nm,0.9s
RSSD Black Hills 72.16 45 P **P** **19 37 28.5 0.0**
RSSD IAmb IAmb 19 37 37.3
comp=Z,269nm,1.3s
RSSD Black Hills 72.16 45 P **P** **19 37 28.5 0.0**
RSSD pmax pmax
comp=Z,269nm,1.3s
RSSD MLR MLR
comp=Z,2μm,19.0s
SIM Simferopol' 72.24 316 *e*P **P** **19 37 29.1 +0.5**
SIM *e* 19 40 09.9
SIM *e*S **S** **19 46 46.6 -4.1**
SIM pmax pmax
comp=Z,221nm,1.5s
SIM pmax pmax
comp=Z,242nm,15.3s
SIM smax smax
comp=E,328nm,13.0s
BIDO Bidbid 72.24 286 P **P** **19 37 29.9 +1.0**
SNR=23
KNB Kanab 72.25 55 IAmb IAmb 19 37 39.2
comp=Z,289nm,1.2s
JLN Jalan Bani Buh 72.25 284 P **P** **19 37 30.2 +1.2**
SNR=20
WBK Wadi Bani Khal 72.25 284 P **P** **19 37 30.7 +1.5**
SNR=17
PKCU Pink Cliffs 72.26 55 IAmb IAmb 19 37 32.6
comp=Z,531nm,1.8s
MDH Madha 72.32 288 *i* P **P** **19 37 28.7 -0.8**
SNR=10
MDH Madha 72.32 288 P **P** **19 37 28.8 -0.6**
SNR=12
PFO Pinyon Flats O 72.33 60 P **P** **19 37 29.3 -0.3**
PFO IAmb IAmb 19 37 31.7
comp=Z,281nm,1.6s
PFO Pinyon Flats O 72.33 60 LR LR 20 09 33.4
comp=Z,2μm,18.3s,baz=288,slow=36
PFO Pinyon Flats O 72.33 60 P **P** **19 37 29.3 -0.3**
PFO pmax pmax
comp=Z,281nm,1.6s
PFO MLR MLR
comp=Z,2μm,20.0s
BSD Bornholm Skovb 72.34 333 *e*P **P** **19 37 29.2 +0.2**
BSD Bornholm Skovb 72.34 333 *i* P **P** **19 37 29.3 +0.2**
MASF Masafi 72.37 288 P **P** **19 37 29.8 +0.1**
SNR=16
MSFE Esma-Masafi 72.37 288 *i* P **P** **19 37 29.7 -0.1**
SNR=11
GURO Guroymak-BITLI 72.48 307 IAmb IAmb 19 37 40.3
comp=Z,328nm,1.5s
GURO IAMs_20 IAMs_20 20 09 07.5
comp=Z,5μm,22.0s
OOD Oodnadatta 72.54 189 P **P** **19 37 31.8 +1.4**
SMDO Samad 72.60 285 P **P** **19 37 31.9 +0.7**
SMDO P **pP** **19 37 33.0 -2.5**
SNR=30
UOSS Minazif 72.62 288 P **P** **19 37 30.6 -0.6**
UOSS IAmb IAmb 19 37 32.7
comp=Z,163nm,1.1s
UOSS Minazif 72.62 288 IAMs_20 IAMs_20 20 09 59.2
comp=Z,5μm,21.0s
UOSS Minazif 72.62 288 *i* P **P** **19 37 30.7 -0.6**
SNR=30
UOSS Minazif 72.62 288 P **P** **19 37 30.8 -0.4**
TJX Tijuana 72.69 61 IAmb IAmb 19 37 41.8
comp=Z,279nm,1.0s
O20A White River Ci 72.73 50 IAmb IAmb 19 37 34.0
comp=Z,429nm,1.6s
HATD Hatta, Dubai 72.75 288 *i* P **P** **19 37 31.8 -0.2**
SNR=43
HATD Hatta, Dubai 72.75 288 P **P** **19 37 32.5 +0.5**
SNR=35
HOQ Hoqain 72.76 286 P **P** **19 37 31.8 -0.3**
SNR=40
GIRL Giralia 72.77 210 P **P** **19 37 32.1 +0.2**
comp=Z,0.0nmcomp=Z,460nm,1.6s
GIRL Giralia 72.77 210 P **P** **19 37 33.9 +2.0**
HMDM Hanimaadhoo 72.83 263 IAMs_20 IAMs_20 20 11 00.2
comp=Z,2μm,19.0s
HMDM Hanimaadhoo 72.83 263 P **P** **19 37 32.8 +0.3**
HMU Henry Mountain 72.83 54 IAmb IAmb 19 37 42.1
comp=Z,186nm,0.8s
ASHO Ashiyiah 72.89 288 *i* P **P** **19 37 32.5 -0.5**
SNR=46
ASHO Ashiyiah 72.89 288 P **P** **19 37 33.0 +0.1**
SNR=39
BEL Belsk 72.91 328 *e*P **P** **19 37 32.2 -0.2**
BEL *e*L L 20 09 45.5
comp=Z,11μm,21.9s
SOHO SOHO 72.93 287 *i* P **P** **19 37 32.5 -0.5**
SNR=20
SOHO SOHO 72.93 287 P **P** **19 37 33.2 +0.2**
TKX Tecate 72.93 61 IAmb IAmb 19 37 35.1
comp=Z,301nm,1.7s
NAZ Nazwa, Dubai 72.96 288 *i* P **P** **19 37 32.3 -1.0**
SNR=9.9
NAZ Nazwa, Dubai 72.96 288 P **P** **19 37 32.9 -0.4**
SNR=13
U15A North Rim 72.96 56 IAmb IAmb 19 37 36.4
comp=Z,398nm,1.4s
AGMN Agassiz Nation 72.98 38 IAmb IAmb 19 37 40.9
comp=Z,225nm,1.4s
AGMN IAMs_20 IAMs_20 20 13 33.9
comp=Z,2μm,20.0s
JMDO Jabal Madar 73.01 285 P **P** **19 37 34.0 +0.3**
SNR=23
GKP Gorka Klasztor 73.06 331 *e*P **P** **19 37 32.6 -0.7**
GKP *e*L L 20 10 32.2
comp=Z,7μm,22.4s
GKP Gorka Klasztor 73.06 331 *e*P **P** **19 37 33.6 +0.3**
GKP Gorka Klasztor 73.06 331 P **P** **19 37 33.6 +0.3**
CBX Cerro Bola 73.07 61 IAmb IAmb 19 37 36.2
comp=Z,358nm,1.6s
PURM Purcari 73.13 320 ⇑P **P** **19 37 34.0 +0.1**
KMPD K-Podol'skiy 73.13 323 P **P** **19 37 33.1 -0.8**
FAQ Al Faqa, Dubai 73.17 288 *i* P **P** **19 37 34.1 -0.4**
SNR=10
FAQ Al Faqa, Dubai 73.17 288 P **P** **19 37 34.5 0.0**
SNR=16
LVV L'vov 73.20 325 P **P** **19 37 34.7 +0.4**
LVV L'vov 73.20 325 P **P** **19 37 34.7 +0.4**
KIS Kishinev 73.26 320 ⇓P **P** **19 37 34.4 -0.3**
KIS Kishinev 73.26 320 P **P** **19 37 34.4 -0.3**
YUH Yuha Desert 73.31 61 IAmb IAmb 19 37 37.4
comp=Z,251nm,1.5s
MILM Milestii Mici 73.32 320 ⇓P **P** **19 37 35.1 0.0**
MILM Milestii Mici 73.32 320 P **P** **19 37 35.0 0.0**
BSY Bisya 73.39 286 P **P** **19 37 36.4 +0.5**
SNR=45
ASUD Al Ashush, Dub 73.42 288 *i* P **P** **19 37 36.0 0.0**
SNR=13
ASUD Al Ashush, Dub 73.42 288 P **P** **19 37 36.4 +0.4**
BLYC Blythe 73.43 59 IAmb IAmb 19 37 38.5
comp=Z,282nm,1.4s
N23A Red Feather La 73.45 49 P **P** **19 37 37.1 +0.8**
baz=315
ARQ Araqi 73.46 287 P **P** **19 37 36.8 +0.5**
SNR=39
ALNE Al Ain 73.51 288 *i* P **P** **19 37 36.5 -0.1**
SNR=36
ALNE Al Ain 73.51 288 P **P** **19 37 36.4 -0.2**
SNR=45
AULRC Lightning Ridg 73.62 178 P **P** **19 37 38.0 +1.2**
IAS Iasi 73.69 321 ⇓P **P** **19 37 37.0 -0.2**
IAS Iasi 73.69 321 P **P** **19 37 37.0 -0.2**
AJN Ajban 73.70 288 *i* P **P** **19 37 36.8 -0.8**
SNR=15
AJN Ajban 73.70 288 P **P** **19 37 37.5 -0.1**
SNR=10
ESJX Sierra Juarez 73.72 61 IAmb IAmb 19 37 40.3
comp=Z,296nm,1.4s
KWP Kalwaria Pacla 73.89 325 *e*P **P** **19 37 38.6 +0.3**
KWP *e*L L 20 10 28.9
comp=Z,8μm,23.0s
KWP Kalwaria Pacla 73.89 325 P **P** **19 37 40.0 +1.7**
MHTO MHTO 74.03 284 P **P** **19 37 40.2 +0.6**
SNR=44
WUAZ Wupatki 74.12 56 IAmb IAmb 19 37 43.0
comp=Z,307nm,1.4s
WUAZ IAMs_20 IAMs_20 20 08 56.5
comp=Z,3μm,20.0s
VTX Valle De La Tr 74.24 61 IAMs_20 IAMs_20 20 11 42.0
comp=Z,2μm,18.0s
NRS Narsarsuaq 74.29 6 P **P** **19 37 41.1 +0.7**
BIR Birlad 74.36 321 ⇑P **P** **19 37 42.6 +1.5**
BIR Birlad 74.36 321 P **P** **19 37 42.6 +1.5**
BUR08 Bucovina Ar. S 74.38 323 IAmb IAmb 19 37 51.2
comp=Z,530nm,1.6s
BURAR Bucovina Array 74.40 323 ⇑P **P** **19 37 41.5 0.0**
ISCO Idaho Springs 74.40 49 IAmb IAmb 19 37 44.6
comp=Z,466nm,1.6s
ISCO IAMs_20 IAMs_20 20 14 32.3
comp=Z,3μm,18.0s
ISCO Idaho Springs 74.40 49 ⇑P **P** **19 37 42.7 +0.8**
SUSD Miller 74.44 42 IAmb IAmb 19 37 52.0
comp=Z,278nm,0.9s
SUSD IAMs_20 IAMs_20 20 11 53.0
comp=Z,3μm,19.0s
BZK Bozkurt 74.44 314 ⇑P **P** **19 37 42.1 +0.4**
VLDR Vladesti 74.47 320 ⇑P **P** **19 37 41.8 +0.1**
BRIGG Briggsdale 74.54 48 IAmb IAmb 19 37 45.0
comp=Z,684nm,1.7s
OJC Ojcow 74.57 327 *e*P **P** **19 37 42.3 -0.1**
OJC *e*L L 20 10 22.1
comp=Z,7μm,25.6s
OJC Ojcow 74.57 327 P **P** **19 37 42.6 +0.3**
GHRR 74.61 321 ⇓P **P** **19 37 43.7 +1.1**
KOLS Kolonicke sedl 74.61 325 *e*P **P** **19 37 42.4 -0.2**
KOLS *e* 19 37 50.3
KOLS pmax pmax
comp=Z,146nm,1.1s
KOLS Kolonicke sedl 74.61 325 *e*P **P** **19 37 42.4 -0.2**
KOLS *e*PE 19 37 50.3
TESR Tescani 74.61 321 ⇓P **P** **19 37 42.7 +0.1**
MVCO Mesa Verde 74.62 53 IAmb IAmb 19 37 52.6
comp=Z,197nm,1.1s
TLCR 74.62 319 ⇓P **P** **19 37 43.1 +0.5**
TLCR 74.62 319 P **P** **19 37 43.1 +0.5**
F33A 5 Mile Ranch, 74.64 40 IAmb IAmb 19 37 51.2
comp=Z,248nm,1.2s
STHS Stebnicka Huta 74.64 326 *e*P **P** **19 37 42.0 -0.8**
STHS *e* 19 37 50.1
STHS pmax pmax
comp=Z,272nm,1.4s
STHS Stebnicka Huta 74.64 326 *e*P **P** **19 37 42.0 -0.8**
STHS *e*PE 19 37 50.1
TATR Tatarca 74.67 320 ⇑P **P** **19 37 43.3 +0.4**
BRIU Brid 74.77 324 P **P** **19 37 44.1 +0.6**
ARMA Armidale 74.77 175 IAmb IAmb 19 37 47.1
comp=Z,356nm,1.9s
ARMA Armidale 74.77 175 P **P** **19 37 42.0 -1.6**
comp=Z,0.0nmcomp=Z,70nm,1.8s
ARMA Armidale 74.77 175 P **P** **19 37 45.4 +1.8**
BSEG Bad Segeberg 74.79 335 *e*P **P** **19 37 43.4 -0.1**
comp=Z,307nm,1.6s,baz=31,slow=5.6
BSEG *e*PcP **pwP** **19 37 50.6 -0.3**
baz=31,slow=5.7
NEGRR Negrea 74.79 320 ⇓P **P** **19 37 44.0 +0.4**
SLCR Slobozia Conac 74.80 320 ⇑P **P** **19 37 44.4 +0.7**
COSR Cosmesti PH 74.81 320 ⇑P **P** **19 37 44.7 +0.9**
UMZA Um Al Zommool 74.81 287 P **P** **19 37 43.7 -0.4**
MUKU Mukachevo 74.82 325 P **P** **19 37 44.4 +0.7**
IZVR Izvoarele 74.84 320 ⇑P **P** **19 37 44.3 +0.4**
SCHL Schela 74.84 320 ⇓P **P** **19 37 43.5 -0.5**
UZHM Uzhgorod 74.84 325 P **P** **19 37 45.1 +1.2**
TUDR 74.84 320 ⇑P **P** **19 37 44.5 +0.6**
SCHLR Schela 74.86 320 ⇑P **P** **19 37 44.4 +0.4**
PANC Panciu 74.87 321 ⇓P **P** **19 37 45.3 +1.2**
JRN Qarnain Island 74.89 290 P **P** **19 37 43.4 -1.1**
RUE Ruedersdorf 74.90 332 *e*P **P** **19 37 44.5 +0.4**
RUE Ruedersdorf 74.90 332 *e*P **P** **19 37 44.3 +0.1**
comp=Z,565nm,1.4s,baz=31,slow=5.6
JURR Jurilovca 74.91 319 ⇓P **P** **19 37 44.7 +0.4**
LCRK Leigh Creek 74.92 187 P **P** **19 37 45.7 +1.4**
CFR Carcaliu 74.94 320 ⇑P **P** **19 37 44.3 -0.3**
CFR Carcaliu 74.94 320 P **P** **19 37 44.2 -0.3**
MZWR Madinat Zayed 74.98 289 P **P** **19 37 44.4 -0.7**
ODBI Odobesti 75.00 321 ⇑P **P** **19 37 46.3 +1.5**
BERU Beregovo 75.01 325 P **P** **19 37 45.8 +1.0**
NIE Niedzica 75.02 327 *e*P **P** **19 37 45.9 +1.0**
NIE *e*L L 20 10 36.2
comp=Z,5μm,25.3s
MEEK Meekatharra 75.02 205 P **P** **19 37 43.4 -1.7**
comp=Z,0.0nmcomp=Z,121nm,1.9s
MEEK Meekatharra 75.02 205 P **P** **19 37 45.5 +0.4**
DQM DQM 75.03 283 P **P** **19 37 45.6 +0.2**
VRI Vrincioaia 75.07 321 ⇑P **P** **19 37 45.6 +0.3**
VRI Vrincioaia 75.07 321 P **P** **19 37 45.5 +0.3**
BMR Baia Mare 75.09 324 ⇑P **P** **19 37 45.9 +0.5**
BMR Baia Mare 75.09 324 P **P** **19 37 45.8 +0.5**
PLOR Plostina 75.11 321 ⇑P **P** **19 37 45.9 +0.3**
PLOR Plostina 75.11 321 P **P** **19 37 45.9 +0.3**
EYMN Ely 75.13 36 IAmb IAmb 19 37 53.6
comp=Z,402nm,1.5s
ARCR ARCALIA 75.18 323 ⇑P **P** **19 37 47.0 +1.1**
S22A 4UR Ranch, Cre 75.19 51 IAmb IAmb 19 37 49.4
comp=Z,355nm,1.4s
S22A 4UR Ranch, Cre 75.19 51 P **P** **19 37 47.4 +0.9**
baz=315
MULG Mulgathing 75.19 190 P **P** **19 37 46.7 +0.8**
TURR Turia 75.24 321 ⇑P **P** **19 37 47.3 +1.0**
Q24A Divide 75.25 50 IAMs_20 IAMs_20 20 10 32.9
comp=Z,2μm,20.0s
Q24A Divide 75.25 50 P **P** **19 37 47.1 +0.2**
baz=316
GORT1 Trebel 75.28 333 *e*P **P** **19 37 46.4 +0.2**
comp=Z,778nm,1.6s,baz=31,slow=5.6
GORT1 *e*PcP **pwP** **19 37 54.3 +0.6**
baz=31,slow=5.7
RAC Raciborz 75.30 328 *e*P **P** **19 37 45.5 -1.0**
RAC *e*S **S** **19 47 24.0 -1.1**
RAC AMS AMS 20 11 06.3
comp=Z,10.0nm,22.9s
RAC Raciborz 75.30 328 *e*P **P** **19 37 45.5 -1.0**
RAC *e*S **S** **19 47 24.0 -1.1**
RAC MLR MLR
comp=Z,10μm,22.9s
OZUR 75.31 321 ⇑P **P** **19 37 47.5 +0.8**
BISRR Bisoca 75.32 321 ⇑P **P** **19 37 47.7 +0.9**
COVR Voineasa-Covas 75.32 321 ⇓P **P** **19 37 47.5 +0.8**
GRER 75.32 320 ⇓P **P** **19 37 48.9 +2.1**
KSP Ksiaz 75.38 330 *e*P **P** **19 37 46.7 -0.3**
KSP *e*L L 20 11 42.6
comp=Z,8μm,21.4s
KSP Ksiaz 75.38 330 P **P** **19 37 47.1 +0.1**
AUPHS Peel High Scho 75.40 175 P **P** **19 37 49.0 +1.9**
HARR Harsova 75.41 319 ⇑P **P** **19 37 47.2 0.0**
HARR Harsova 75.41 319 P **P** **19 37 47.2 0.0**
KBD Kabd 75.42 297 P **P** **19 37 47.7 +0.1**
K30B Basset 75.43 44 IAMs_20 IAMs_20 20 14 35.3
comp=Z,3μm,19.0s
TLBR Topalu 75.46 319 ⇑P **P** **19 37 48.1 +0.6**
OKC Ostrava-Krasne 75.51 328 *e*P **P** **19 37 48.5 +0.8**
OKC *e*S **S** **19 47 28.0 +0.5**
OKC AMS AMS 20 16 40.0
comp=Z,8μm,13.2s
OKC Ostrava-Krasne 75.51 328 *e*P **P** **19 37 48.5 +0.8**
OKC *e*S **S** **19 47 28.0 +0.5**
OKC MLR MLR
comp=Z,8μm,13.2s
GHWR Ruwais 75.53 289 P **P** **19 37 47.4 -0.8**
SHMA Al-Shehemyia 75.53 292 P **P** **19 37 47.9 -0.3**
TGMR Targu Mures 75.54 322 ⇑P **P** **19 37 50.3 +2.4**
LANS Liptovska Anna 75.56 327 *e*P **P** **19 37 48.8 +0.7**
LANS *e* 19 37 56.6
LANS pmax pmax
comp=Z,319nm,1.5s
LANS Liptovska Anna 75.56 327 *e*P **P** **19 37 48.8 +0.7**
LANS *e*PE 19 37 56.6
PIX Pinacate 75.58 60 IAmb IAmb 19 37 50.6
comp=Z,251nm,1.4s
DOPR Dopca 75.59 322 ⇑P **P** **19 37 49.5 +1.2**
NEHR Nehoiu 75.60 321 ⇓P **P** **19 37 49.0 +0.6**
OSTC Ostas 75.64 329 *e*P **P** **19 37 49.3 +0.8**
OSTC AMS AMS 20 17 10.0
comp=Z,7μm,12.6s
OSTC Ostas 75.64 329 *e*P **P** **19 37 49.3 +0.8**
OSTC MLR MLR
comp=Z,7μm,12.6s
X18A Snowflake 75.65 56 IAmb IAmb 19 37 51.8
comp=Z,361nm,1.7s
X18A IAMs_20 IAMs_20 20 09 52.0
comp=Z,2μm,19.0s
CHVC Chvalec 75.68 330 *e*P **P** **19 37 49.4 +0.7**
CHVC AMS AMS 20 16 00.0
comp=Z,6μm,16.2s
CHVC Chvalec 75.68 330 *e*P **P** **19 37 49.4 +0.7**
CHVC MLR MLR
comp=Z,6μm,16.2s
PGOR Pogoanele 75.68 320 ⇓P **P** **19 37 50.5 +1.8**
CMSA Cobar Meteorol 75.69 180 P **P** **19 37 48.8 0.0**
comp=Z,0.0nmcomp=Z,127nm,1.7s
CMSA Cobar Meteorol 75.69 180 P **P** **19 37 50.0 +1.3**
KECS Kecovo 75.69 326 *e*P **P** **19 37 49.9 +1.1**
KECS *e* 19 37 56.1
KECS pmax pmax
comp=Z,373nm,1.2s
KECS Kecovo 75.69 326 *e*P **P** **19 37 49.9 +1.1**
KECS *e*PE 19 37 56.1
MLR Muntele Rosu 75.71 321 LR LR 20 13 44.1
comp=Z,10μm,19.9s,baz=40,slow=38
MLR Muntele Rosu 75.71 321 ⇑P **P** **19 37 49.2 +0.1**
MLR Muntele Rosu 75.71 321 P **P** **19 37 49.2 +0.1**
KPL Plockton 75.72 344 *e*P **P** **19 37 47.2 -1.6**
MESR Meseseni 75.73 324 ⇓P **P** **19 37 50.0 +1.0**
SAKB Bahrain 75.73 292 P **P** **19 37 49.3 -0.1**
AMRR Amara 75.74 320 ⇑P **P** **19 37 49.8 +0.7**
AMRR Amara 75.74 320 P **P** **19 37 49.8 +0.7**
UPC Upice 75.76 330 *e*P **P** **19 37 50.0 +0.8**
UPC *e*pP **pwP** **19 37 56.1 -0.5**
UPC AMS AMS 20 15 50.0
comp=Z,7μm,15.9s
UPC Upice 75.76 330 *e*P **P** **19 37 50.0 +0.8**
UPC *e*PP **pwP** **19 37 56.1 -0.5**
UPC MLR MLR
comp=Z,7μm,15.9s
MZR Muzera 75.76 288 *i* P **P** **19 37 49.0 -0.6**
SNR=25
MZR Muzera 75.76 288 P **P** **19 37 49.3 -0.4**
SNR=20
CBBR Cluj-Babes-Bol 75.77 323 ⇑P **P** **19 37 50.5 +1.2**
DPC Dobruska-Polom 75.77 329 *e*P **P** **19 37 50.4 +1.1**
DPC *e*S **S** **19 47 31.8 +1.3**
DPC AMS AMS 20 16 40.0
comp=Z,7μm,12.5s
DPC Dobruska-Polom 75.77 329 *e*P **P** **19 37 50.4 +1.1**
DPC *e*S **S** **19 47 31.8 +1.3**
DPC MLR MLR
comp=Z,7μm,12.5s
MORC Moravsky Berou 75.79 328 *e*P **P** **19 37 49.4 0.0**
MORC *e*S **S** **19 47 31.6 +0.9**
MORC Moravsky Berou 75.79 328 ⇑P **P** **19 37 49.7 +0.3**
MORC Moravsky Berou 75.79 328 P **P** **19 37 49.7 +0.3**
CJR Cluj-Napoca 75.79 323 ⇑P **P** **19 37 50.1 +0.6**
CJR Cluj-Napoca 75.79 323 P **P** **19 37 50.1 +0.6**
KRLC Kraliky 75.83 329 *e*P **P** **19 37 50.5 +0.9**
KRLC *e*pP **pwP** **19 37 56.8 -0.3**
KRLC AMS AMS 20 17 00.0
comp=Z,7μm,12.3s

KRLC Kraliky 75.83 329 *e*P **P 19 37 50.5 +0.9**
KRLC *e**PP **pwP 19 37 56.8 -0.3**
KRLC MLR MLR
comp=Z,7μm,12.3s
FLTG Flechtingen 75.87 333 *e*P **P 19 37 49.1 -0.6**
comp=Z,354nm,1.4s,baz=31,slow=5.6
FLTG *e*PcP **pwP 19 37 56.7 -0.4**
baz=31,slow=5.7
MDB Medias 75.90 322 ⇑P **P 19 37 51.4 +1.4**
MDB Medias 75.90 322 P **P 19 37 51.4 +1.4**
ICOR Ion Corvin 75.90 319 ⇓P **P 19 37 50.9 +0.9**
SDCO Great Sand Dun 75.92 51 IAmb IAmb 19 37 53.1
comp=Z,230nm,1.5s
MAUC Maruska 76.02 328 *e*P **P 19 37 51.8 +1.1**
LEHL Lehliu 76.09 320 ⇓P **P 19 37 51.5 +0.4**
NRDL Niedersach Rie 76.09 334 *e*P **P 19 37 50.9 +0.1**
comp=Z,286nm,1.5s,baz=31,slow=5.6
NRDL *e*PcP **pwP 19 37 58.1 -0.2**
baz=31,slow=5.7
ECSD EROS Data Cent 76.09 41 IAMs_20 IAMs_20 20 17 11.6
comp=Z,3μm,18.0s
ECSD EROS Data Cent 76.09 41 IAmb IAmb 19 37 59.6
comp=Z,346nm,1.3s
DRGR 76.11 324 ⇑P **P 19 37 51.6 +0.2**
DRGR 76.11 324 P **P 19 37 51.5 +0.2**
STKA Stephens Creek 76.12 184 P **P 19 37 50.9 -0.3**
comp=Z,25nm,2.6s
STKA Stephens Creek 76.12 184 P **P 19 37 51.9 +0.6**
comp=Z,40nm,0.8s,baz=344,slow=7.4,SNR=70
STKA LR LR 20 11 38.8
comp=Z,860nm,21.6s,baz=4.7,slow=36
comp=Z,40nm,0.8s
STKA Stephens Creek 76.12 184 P **P 19 37 51.8 +0.6**
TRNA Turayna 76.12 291 P **P 19 37 52.1 +0.5**
CLL Collm 76.15 332 *i* P **P 19 37 50.5 -0.8**
CLL *i* 19 37 57.7
CLL *e*S **S 19 47 30.0 -4.4**
CLL pmax pmax
comp=Z,381nm,1.3s
CLL Collm 76.15 332 *e*P **P 19 37 50.9 -0.5**
comp=Z,348nm,1.3s,baz=31,slow=5.6
CLL Collm 76.15 332 *i* P **P 19 37 50.5 -0.8**
comp=Z,381nm,1.3s
CLL *e*Pmax 19 37 55.0
CLL *i* x x 19 37 57.7
comp=Z,2μm,2.1s
CLL *e*PP **PP 19 40 44.0 +2.4**
CLL *e*PPP PPP 19 42 35.0
CLL *e*PPPP 19 43 37.0
CLL *e*S **S 19 47 30.0 -4.4**
CLL *e*PS **PnS 19 48 06.0 -5.4**
CLL *e*SS **SS 19 52 30.0 +3.5**
CLL *e*SSS SSS 19 55 54.0
CLL AMS AMS 20 10 00.0
comp=N,5μm,20.5s
CLL AMS AMS 20 10 00.0
comp=E,13μm,19.6s
CLL AMS AMS 20 19 00.0
VOIR 76.15 321 ⇑P **P 19 37 52.1 +0.5**
VOIR 76.15 321 P **P 19 37 52.1 +0.5**
E38A The Farm, Brul 76.15 37 IAmb IAmb 19 37 59.4
comp=Z,320nm,1.2s
E38A IAMs_20 IAMs_20 20 15 20.9
comp=Z,3μm,18.0s
BRG Berggiesshubel 76.19 331 *i* P **P 19 37 51.8 +0.2**
BRG Amp 19 37 53.9
comp=Z,213nm,1.4s
BRG Berggiesshubel 76.19 331 P P 19 37 58.9 +7.3
BRG Amp 19 38 01.0
comp=Z,237nm,1.4s
BRG PP **PP 19 40 38.7 -3.2**
BRG Amp 19 40 47.6
comp=Z,42nm,1.4s
BRG Berggiesshubel 76.19 331 *i* P **P 19 37 51.8 +0.2**
BRG 19 37 58.9
BRG 19 40 38.7
BRG S **S 19 47 36.0 +1.1**
BRG SS **SS 19 52 28.0 +0.8**
BRG pmax pmax
comp=Z,213nm,1.4s
BRG pmax pmax
comp=Z,42nm,1.4s
BRG MLR MLR
comp=N,5μm,14.1s
BRG MLR MLR
comp=E,7μm,13.0s
BRG MLR MLR
comp=Z,11μm,13.3s
BRG Berggiesshubel 76.19 331 *e*P **P 19 37 51.2 -0.4**
comp=Z,213nm,1.4s,baz=31,slow=5.6
BRG *e*PcP **pwP 19 37 58.9 -0.1**
baz=31,slow=5.7
SLWR Sila 76.25 290 P **P 19 37 51.7 -0.6**
PVCC Panska Ves 76.26 330 *e*P **P 19 37 52.8 +0.8**
PVCC AMS AMS 20 18 30.0
comp=Z,7μm,14.9s
PVCC Panska Ves 76.26 330 *e*P **P 19 37 52.8 +0.8**
PVCC MLR MLR
comp=Z,7μm,14.9s
BR131 Keskin Array S 76.26 313 IAmb IAmb 19 38 01.5
comp=Z,474nm,1.9s
BRTR Keskin Array B 76.26 313 P **P 19 37 51.9 -0.5**
BRTR Keskin Array B 76.26 313 P **P 19 37 53.0 +0.6**
comp=Z,9.8nm,0.9s,baz=70,slow=3.1,SNR=61
BRTR LR LR 20 17 25.5
comp=Z,7μm,19.4s,baz=62,slow=40
comp=Z,9.8nm,0.9s
BRTR Keskin Array B 76.26 313 P **P 19 37 51.9 -0.5**
MTUR Matau 76.31 321 ⇑P **P 19 37 54.6 +2.0**
MTUR Matau 76.31 321 P **P 19 37 54.5 +2.0**
VYHS Vyhne 76.34 327 *e*P **P 19 37 52.7 +0.2**
VYHS *e* 19 38 00.1
VYHS *e*S **S 19 47 31.5 -5.2**
VYHS pmax pmax
comp=Z,522nm,1.5s
VYHS MLR MLR
comp=Z,8μm,26.1s
VYHS Vyhne 76.34 327 *e*P **P 19 37 52.7 +0.2**
VYHS *e*PE 19 38 00.1
VYHS *e*S **S 19 47 31.5 -5.2**
SMRA Abu-Samra 76.38 291 P **P 19 37 52.1 -1.0**
SNR=8.4
PSZ Piszkesteto 76.38 326 *e*P **P 19 37 53.3 +0.4**
PSZ Piszkesteto 76.38 326 ⇑P **P 19 37 53.5 +0.6**
PSZ Piszkesteto 76.38 326 P **P 19 37 53.4 +0.6**
ARR Arges 76.39 322 ⇑P **P 19 37 53.9 +1.0**
RICC Richard 76.41 331 *e*P **P 19 37 54.0 +1.2**
RICC AMS AMS 20 20 00.0
comp=Z,6μm,13.0s
AUDCS Dubbo College 76.43 177 P **P 19 37 54.7 +1.8**
JAVC Velka Javorina 76.49 328 *e*P **P 19 37 54.4 +1.0**
VRAC Vranov 76.53 329 *e*P **P 19 37 53.5 -0.1**
VRAC *e*S **S 19 47 38.4 -0.4**
VRAC Vranov 76.53 329 ⇑P **P 19 37 54.0 +0.4**
VRAC Vranov 76.53 329 P **P 19 37 54.0 +0.4**
CLZ Clausthal 76.56 333 *e*P **P 19 37 53.9 +0.2**
comp=Z,480nm,1.4s,baz=31,slow=5.6
CLZ *e*PcP **pwP 19 38 01.5 +0.3**
baz=31,slow=5.7
KSCO Kaye Shedlock' 76.57 48 IAmb IAmb 19 37 56.9
comp=Z,530nm,1.5s
HSKC Hora Svate Kat 76.59 331 *e*P **P 19 37 54.6 +0.7**
HSKC *e*pP **pwP 19 38 00.8 -0.5**
HSKC *e*S **S 19 47 38.7 -0.7**
HSKC AMS AMS 20 17 50.0
comp=Z,12μm,11.7s
ANTO Ankara 76.60 313 P **P 19 37 53.5 -0.7**
ANTO IAmb IAmb 19 38 03.6
comp=Z,498nm,1.6s
ANTO Ankara 76.60 313 P **P 19 37 54.8 +0.6**
ANTO Ankara 76.60 313 ⇑P **P 19 37 54.7 +0.5**
ANTO Ankara 76.60 313 P **P 19 37 53.5 -0.7**
BR231 Keskin MP Arra 76.62 313 IAmb IAmb 19 38 03.7
comp=Z,317nm,1.7s
NEUB Neuenburg 76.64 332 *e*P **P 19 37 53.8 -0.3**
comp=Z,401nm,1.3s,baz=31,slow=5.6
NEUB *e*PcP **pwP 19 38 01.6 0.0**
baz=31,slow=5.7
FORT Forrest 76.65 196 P **P 19 37 53.8 -0.4**
comp=Z,0.0nmcomp=Z,463nm,0.7s
FORT Forrest 76.65 196 P **P 19 37 55.3 +1.1**
LAWE Loch Awe, Argy 76.68 344 *e*P **P 19 37 53.5 -0.8**
SPMN Marine on St. 76.69 38 IAmb IAmb 19 38 02.6
comp=Z,208nm,1.3s
SPMN IAMs_20 IAMs_20 20 14 28.3
comp=Z,2μm,20.0s
GOPC GO Pecny, Ondr 76.69 330 *e*P **P 19 37 55.5 +1.0**
GOPC AMS AMS 20 18 20.0
comp=Z,7μm,17.6s
GOPC GO Pecny, Ondr 76.69 330 *e*P **P 19 37 55.5 +1.0**
GOPC MLR MLR
comp=Z,7μm,17.6s
TUC Tucson 76.70 58 P **P 19 37 54.8 -0.1**
TUC Tucson 76.70 58 P **P 19 37 54.8 -0.1**
TUC pmax pmax
comp=Z,171nm,1.4s
TUC MLR MLR
comp=Z,2μm,20.0s
LOT Lotru 76.71 322 ⇓P **P 19 37 54.8 0.0**
PRU Pruhonice 76.72 330 *e*P **P 19 37 55.3 +0.7**
PRU *e*pP **sP 19 38 00.8 +0.6**
PRU *e*S **S 19 47 36.9 -3.8**
PRU AMS AMS 20 18 20.0
comp=Z,6μm,16.7s
PRU Pruhonice 76.72 330 *e*P **P 19 37 55.3 +0.7**
PRU *e**PP **sP 19 38 00.8 +0.6**
PRU *e*S **S 19 47 36.9 -3.8**
PRU MLR MLR
comp=Z,6μm,16.7s
DEV Deva 76.74 323 ⇑P **P 19 37 55.2 +0.4**
DEV Deva 76.74 323 P **P 19 37 55.2 +0.4**
KRUC Moravsky 76.81 328 *e*P **P 19 37 55.0 -0.1**
KRUC *e*S **S 19 47 42.2 +0.4**
PRD Provadia 76.81 319 ⇑*i*P **P 19 37 55.1 -0.1**
SMOL Smolenice 76.86 328 *e*P **P 19 37 56.7 +1.2**
SMOL *e* 19 38 03.5
SMOL pmax pmax
comp=Z,198nm,1.4s
PGBU Glenifferbraes 76.92 343 *e*P **P 19 37 54.9 -0.7**
PGBU IAmb IAmb 19 38 03.4
comp=Z,2μm,2.4s
GTTG Gottingen 76.95 333 *e*P **P 19 37 55.8 -0.1**
comp=Z,352nm,1.4s,baz=31,slow=5.6
GTTG *e*PcP **pwP 19 38 03.4 +0.1**
baz=31,slow=5.7
TREC Trest 76.95 329 *e*P **P 19 37 56.6 +0.6**
TREC AMS AMS 20 17 20.0
comp=Z,6μm,14.1s
TREC Trest 76.95 329 *e*P **P 19 37 56.6 +0.6**
TREC MLR MLR
comp=Z,6μm,14.1s
T25A Trinidad 76.96 50 IAmb IAmb 19 37 58.7
comp=Z,412nm,1.5s
T25A IAMs_20 IAMs_20 20 15 57.4
comp=Z,2μm,19.0s
T25A Trinidad 76.96 50 P **P 19 37 56.8 +0.3**
baz=316
SIRR Siria 76.97 324 ⇑P **P 19 37 56.3 +0.2**
IBBN Ibbenburen 76.97 335 *e*P **P 19 37 55.5 -0.5**
comp=Z,433nm,1.5s,baz=31,slow=5.6
IBBN *e*PcP **pwP 19 38 03.5 +0.1**
baz=31,slow=5.7
MODS Modra-Piesok 77.04 328 *e*P **P 19 37 56.9 +0.4**
MODS *e* 19 38 04.3
MODS *e* 19 40 55.0
MODS *e*S **S 19 47 43.0 -1.4**
MODS pmax pmax
comp=Z,960nm,1.5s
MODS MLR MLR
comp=Z,20μm,24.1s
MODS Modra-Piesok 77.04 328 *e*P **P 19 37 56.9 +0.4**
MODS *e*PE 19 38 04.3
MODS *e*PP **PP 19 40 55.0 +5.8**
MODS *e*S **S 19 47 43.0 -1.4**
BUD Budapest 77.08 326 P **P 19 37 57.0 +0.3**
EKA Eskdalemuir Ar 77.08 342 P **P 19 37 56.5 0.0**
comp=Z,19nm,0.7s,baz=22,slow=5.1,SNR=45
comp=Z,19nm,0.7s
TANN Tannenbergstha 77.09 331 *e*P **P 19 37 56.7 0.0**
comp=Z,284nm,1.7s,baz=31,slow=5.6
TANN *e*PcP **pwP 19 38 04.2 0.0**
baz=31,slow=5.7
SRO Srobarova 77.09 327 *e*P **P 19 37 57.4 +0.7**
SRO *e* 19 38 05.7
SRO pmax pmax
comp=Z,485nm,1.4s
SRO Srobarova 77.09 327 *e*P **P 19 37 57.4 +0.7**
SRO *e*PE 19 38 05.7
BGNE Belgrade 77.10 44 IAmb IAmb 19 38 05.8
comp=Z,280nm,0.9s
BGNE IAMs_20 IAMs_20 20 15 27.5
comp=Z,3μm,19.0s
ESK Eskdalemuir 77.11 342 P **P 19 37 55.9 -0.8**
ESK Eskdalemuir 77.11 342 *e*P **P 19 37 56.4 -0.3**
ESK Eskdalemuir 77.11 342 P **P 19 37 55.9 -0.8**
ESK pmax pmax
comp=Z,64nm,1.0s
PLN Plauen 77.13 332 *e*P **P 19 37 56.8 -0.2**
comp=Z,296nm,1.5s,baz=31,slow=5.6
MOX Moxa 77.18 332 *e*P **P 19 37 56.9 -0.3**
comp=Z,290nm,1.4s,baz=31,slow=5.6
MOX *e*PcP **pwP 19 38 04.7 0.0**
baz=31,slow=5.7
MOX *e*L L 20 13 02.6
comp=Z,6μm,19.9s
SURR Surduc 77.18 323 ⇓P **P 19 37 58.5 +1.2**
GZR Gura Zlata 77.18 323 ⇓P **P 19 37 57.4 0.0**
GZR Gura Zlata 77.18 323 P **P 19 37 57.4 0.0**
SCHQ Schefferville 77.23 19 P **P 19 37 56.9 -0.6**
comp=Z,12nm,0.5s,baz=316,slow=9.5,SNR=26
SCHQ LR LR 20 14 55.1
comp=Z,5μm,20.5s,baz=337,slow=38
comp=Z,12nm,0.5s
NKC Novy Kostel 77.25 331 *e*P **P 19 37 57.9 +0.3**
NKC AMS AMS 20 18 30.0
comp=Z,8μm,12.0s
NKC Novy Kostel 77.25 331 *e*P **P 19 37 57.9 +0.3**
NKC MLR MLR
comp=Z,8μm,12.0s
EDMD Edmundbyers 77.28 342 *e*P **P 19 37 57.1 -0.5**
ZVC Zvikov 77.30 330 *e*P **P 19 37 58.8 +0.9**
ZVC *e*pP **pwP 19 38 04.5 -0.8**
ZVC *e*S **S 19 47 45.0 -2.1**
ZVC AMS AMS 20 19 10.0
comp=Z,8μm,14.1s
I37A Lemond, Waseca 77.36 39 IAMs_20 IAMs_20 20 15 59.2
comp=Z,4μm,19.0s
KAAM Kaadhehdhoo 77.37 258 P **P 19 37 58.7 -0.1**
KAAM Kaadhehdhoo 77.37 258 P **P 19 37 59.5 +0.7**
ANMO Albuquerque 77.39 53 P **P 19 37 59.0 +0.1**
ANMO IAmb IAmb 19 38 01.6
comp=Z,208nm,1.4s
ANMO Albuquerque 77.39 53 LR LR 20 12 20.3
comp=Z,946nm,18.6s,baz=134,slow=36
ANMO Albuquerque 77.39 53*c i*P **P 19 37 59.5 +0.6**
ANMO pmax pmax
comp=Z,99nm,1.7s
ANMO MLR MLR
comp=Z,819nm,18.0s
SZH Strazhitsa 77.40 319 ⇑*i*P **P 19 37 58.1 -0.5**
BBOO Buckleboo 77.46 188 IAmb IAmb 19 38 01.0
comp=Z,564nm,1.7s
BBOO Buckleboo 77.46 188 P **P 19 37 58.6 -0.2**
comp=Z,199nm,2.0s
BBOO Buckleboo 77.46 188 P **P 19 37 59.7 +1.0**
BZS Buzias 77.51 323 ⇑P **P 19 37 58.9 -0.3**
BZS Buzias 77.51 323 P **P 19 37 58.8 -0.3**
MGCD Mangrove Creek 77.52 175 P **P 19 37 58.9 -0.1**
comp=Z,43nm,1.2s
MGCD Mangrove Creek 77.52 175 P **P 19 38 01.0 +2.0**
WHYH Whyalla 77.54 187 P **P 19 38 00.7 +1.6**
L34A Svendsen Farm, 77.55 42 IAmb IAmb 19 38 08.1
comp=Z,161nm,0.8s
L34A IAMs_20 IAMs_20 20 15 59.2
comp=Z,3μm,18.0s
VLAD Vladila 77.56 321 ⇑P **P 19 37 59.7 +0.3**
UBBA Unterbreizbach 77.56 333 *e*P **P 19 37 58.9 -0.3**
comp=Z,459nm,1.8s,baz=31,slow=5.6
MANZ Manzenberg 77.57 331 *e*P **P 19 37 59.2 -0.3**
comp=Z,36nm,1.3s,baz=31,slow=5.6
MANZ *e*PcP **pwP 19 38 06.9 0.0**
baz=31,slow=5.7
COWI Conover 77.57 36 IAmb IAmb 19 38 00.6
comp=Z,412nm,1.7s
TIM Timisoara 77.58 324 ⇑P **P 19 38 00.3 +0.8**
TIM Timisoara 77.58 324 P **P 19 38 00.3 +0.8**
ISK Istanbul-Kandi 77.60 316 P **P 19 38 00.0 +0.3**
ELND Elena 77.71 319 ⇓P **P 19 38 00.6 +0.3**
ROTZ Rotzenmuhle 77.72 331 *e*P **P 19 38 00.4 +0.2**
comp=Z,84nm,1.5s,baz=31,slow=5.6
ROTZ *e*PcP **pwP 19 38 08.0 +0.3**
baz=31,slow=5.7
KASTN Kahler Asten 77.73 334 *e*P **P 19 38 00.0 -0.3**
comp=Z,268nm,1.4s,baz=31,slow=5.6
Y22D IRIS PASSCAL I 77.74 54 IAMs_20 IAMs_20 20 11 04.3
comp=Z,3μm,18.0s
Y22D IRIS PASSCAL I 77.74 54 P **P 19 38 01.9 +1.0**
baz=316
HERR Herculane 77.75 323 ⇑P **P 19 38 00.0 -0.4**
KESW Keswick, Cumbr 77.76 342 *e*P **P 19 38 00.1 -0.2**
KESW IAmb IAmb 19 38 08.3
comp=Z,2μm,2.4s
CKRC Cesky Krumlov 77.78 330 *e*P **P 19 38 00.9 +0.3**
CKRC *e*S **S 19 47 52.1 -0.3**
CKRC AMS AMS 20 18 50.0
comp=Z,6μm,16.5s
CKRC Cesky Krumlov 77.78 330 *e*P **P 19 38 00.9 +0.3**
CKRC *e*S **S 19 47 52.1 -0.3**
CKRC MLR MLR
comp=Z,6μm,16.5s
KHC Kasperske Hory 77.78 330 *e*P **P 19 38 01.3 +0.7**
KHC *e*pP **pwP 19 38 07.4 -0.7**
KHC *e*S **S 19 47 50.6 -1.8**
KHC AMS AMS 20 18 20.0
comp=Z,9μm,14.2s
KHC Kasperske Hory 77.78 330*c i*P **P 19 38 00.4 -0.2**
KHC pmax pmax
comp=Z,357nm,1.2s
KHC MLR MLR
comp=Z,10μm,18.0s
G40A Rib Lake 77.79 37 IAMs_20 IAMs_20 20 19 13.2
comp=Z,3μm,18.0s
HTT Hallett 77.82 186 P **P 19 38 00.6 -0.3**
comp=Z,160nm,1.7s
HTT Hallett 77.82 186 P **P 19 38 02.0 +1.2**
HTT Hallett 77.82 186 P **P 19 38 02.3 +1.5**
GAL1 Galloway 77.85 343 *e*P **P 19 37 59.5 -1.3**
BUG Bochum--Univer 77.88 335 *e*P **P 19 38 00.7 -0.4**
comp=Z,438nm,1.4s,baz=31,slow=5.6
SOP Sopron 77.88 328 P **P 19 38 01.4 +0.2**
BANR Banloc 77.90 324 ⇓P **P 19 38 01.8 +0.5**
CONA Conrad Observa 77.94 328 *e*pP **P 19 38 01.7 +0.1**
comp=Z,35nm,0.9s,SNR=76
RONA Rosalia, Austr 77.97 328 *e*pP **P 19 38 02.0 +0.3**
comp=Z,44nm,0.9s,SNR=100
GEC2 GERESS Array S 77.97 330 IAmb IAmb 19 38 10.5
comp=Z,575nm,1.8s
GEC2 GERESS Array S 77.97 330 *e*P **P 19 38 01.5 -0.3**
comp=Z,201nm,1.4s,baz=31,slow=5.6
GERES GERESS Array B 77.97 330 P **P 19 38 01.5 -0.3**
comp=Z,27nm,0.9s,baz=31,slow=5.7,SNR=40
GERES LR LR 20 15 38.7
comp=Z,7μm,18.2s,baz=34,slow=38
comp=Z,27nm,0.9s
PUNG Punghina 78.00 322 ⇑P **P 19 38 01.6 -0.2**
HPK Haverah Park 78.01 341 *e*P **P 19 38 01.8 +0.1**
BAIL Bailesti 78.02 321 ⇓P **P 19 38 02.6 +0.7**
WET Wettzell 78.02 331 *e*P **P 19 38 02.2 +0.2**
comp=Z,352nm,1.3s,baz=31,slow=5.6
WET *e*PcP **pwP 19 38 09.8 +0.5**
baz=31,slow=5.7
SYDH Sydney Hard Ro 78.04 176 P **P 19 38 04.6 +2.7**
MORW Morawa 78.08 206 IAmb IAmb 19 38 05.1
comp=Z,427nm,1.5s
MORW Morawa 78.08 206 P **P 19 38 01.9 -0.4**
comp=Z,0.0nmcomp=Z,177nm,2.1s
MORW Morawa 78.08 206 P **P 19 38 03.2 +0.9**
GRF Grafenberg Arr 78.12 332 *e*P **P 19 38 02.5 0.0**
comp=Z,499nm,1.3s,baz=31,slow=5.6
GRF *e*L L 20 13 41.2
comp=Z,4μm,20.5s
GRFO Grafenberg 78.12 332 P **P 19 38 02.1 -0.4**
GRFO Grafenberg 78.12 332 P **P 19 38 02.1 -0.4**
GRFO pmax pmax
comp=Z,1μm,1.8s
GRFO MLR MLR
comp=Z,5μm,21.0s
MDVR Moldovita 78.13 323 ⇓P **P 19 38 02.2 -0.5**
RIV Riverview 78.14 175 P **P 19 38 04.1 +1.7**
comp=Z,130nm,1.6s
IDGL Inch Island, C 78.21 345 P **P 19 38 02.4 -0.4**
CBKS Cedar Bluff 78.24 47 IAmb IAmb 19 38 04.3
comp=Z,242nm,1.4s
F42A Maple Grove Fa 78.26 35 IAMs_20 IAMs_20 20 18 41.7
comp=Z,3μm,19.0s
DOK Doka 78.28 285 P **P 19 38 03.6 -0.2**
SNR=25
DMTO DMTO 78.33 283 P **P 19 38 03.9 -0.1**
121A Cookes Peak, D 78.33 56 IAmb IAmb 19 38 07.2
comp=Z,370nm,1.4s
121A Cookes Peak, D 78.33 56 P **P 19 38 05.2 +1.0**
baz=316
MPEP Malo Peshtene 78.36 321 ⇑*i*P **P 19 38 04.1 +0.2**
RTBA Rita Blanca 78.39 50 IAmb IAmb 19 38 06.1
comp=Z,441nm,1.5s
YNG Young 78.48 178 P **P 19 38 04.1 -0.3**
comp=Z,391nm,1.9s
YNG Young 78.48 178 P **P 19 38 06.4 +2.0**
WIM Isle of Man 78.51 343 *e*P **P 19 38 04.1 -0.5**
LBWR Ladybower, Pea 78.54 341 *e*P **P 19 38 04.4 -0.3**
LBWR IAmb IAmb 19 38 12.6
comp=Z,2μm,2.2s
TNS Taunus Mts 78.58 334 *e*P **P 19 38 04.9 -0.2**
comp=Z,273nm,1.3s,baz=31,slow=5.6
TNS *e*PcP **pwP 19 38 12.6 +0.1**
baz=31,slow=5.7
KMBL Kambalda 78.59 201 P **P 19 38 03.8 -1.2**
comp=Z,151nm,2.3s
KMBL Kambalda 78.59 201 P **P 19 38 05.8 +0.8**
WACR West Acre 78.59 339 *e*P **P 19 38 04.3 -0.6**
WACR IAmb IAmb 19 38 12.9
comp=Z,2μm,2.1s
MOA Molln 78.61 329 *e*pP **P 19 38 05.0 -0.2**
comp=Z,9.6nm,0.7s,SNR=30
MOA *e*PKKP **PKKPbc 19 56 59.0 -0.2**
comp=Z,0.1nm,0.2s
BAND Balkesir-Ban 78.62 316 ⇑P **P 19 38 05.4 +0.1**
ARSA Arzberg 78.63 328 *e*pP **P 19 38 05.4 0.0**
comp=Z,22nm,1.3s,SNR=70
ARSA *e*PKKP **PKKPbc 19 56 59.3 +0.2**
comp=Z,0.5nm,0.4s
I40A Norwalk 78.70 38 IAMs_20 IAMs_20 20 18 27.5
comp=Z,3μm,20.0s
EDC Edincik 78.74 316 P **P 19 38 06.6 +0.6**
N35A Tabor 78.75 43 IAmb IAmb 19 38 07.7
comp=Z,356nm,1.3s
N35A IAMs_20 IAMs_20 20 19 01.0
comp=Z,3μm,18.0s
PGB Panagyurishte 78.82 320 ⇑*i*P **P 19 38 06.2 -0.3**
PLD Plovdiv 78.84 319 ⇑*i*P **P 19 38 06.6 0.0**
BEBN Eben Emael 78.93 335 *d*P **P 19 38 06.8 -0.1**
comp=Z,122nm,1.0s
HWQ Hawqa 78.96 307 *e*P **P 19 38 07.1 -0.4**
ILTH Belurgan, Co L 78.97 344 P **P 19 38 07.1 +0.1**
BIOA Bad Ischl, Aus 78.97 329 *e*pP **P 19 38 07.2 -0.1**
comp=Z,36nm,1.0s,SNR=84
KDZ Kurdzhali 78.97 319 ⇑*i*P **P 19 38 07.5 +0.2**
BTNL Ternell 78.98 335 *d*P **P 19 38 05.7 -1.5**
comp=Z,80nm,1.5s
RBK Rabkut 78.99 284 P **P 19 38 07.2 -0.6**
SNR=10
MEM Membach 78.99 335 *d*P **P 19 38 07.3 0.0**
comp=Z,91nm,1.2s
WHFO Wadi Hawf 79.00 284 P **P 19 38 07.2 -0.6**
SNR=16
KOGS Kog 79.02 327 *i* P **P 19 38 06.9 -0.6**
KOGS *e*PcP **pwP 19 38 14.2 -0.7**
BOVS Bovan 79.05 322 ⇑P **P 19 38 07.1 -0.6**
CWF Charnwood Fore 79.05 340 *e*P **P 19 38 06.9 -0.6**
CWF IAmb IAmb 19 38 15.5
comp=Z,1μm,2.0s
R32A Long Quarter, 79.06 46 IAMs_20 IAMs_20 20 17 54.6
comp=Z,2μm,19.0s
ELMS Elmsett, Ipswi 79.07 339 *e*P **P 19 38 07.2 -0.4**
ELMS IAmb IAmb 19 38 15.7
comp=Z,2μm,2.0s
BSTI Sart Tilman 79.15 335 *d*P **P 19 38 07.4 -0.7**
comp=Z,25nm,1.6s
VTS Vitosha 79.17 321 ⇑*i*P **P 19 38 08.3 -0.3**
PLNA Plana 79.19 320 ⇑*i*P **P 19 38 08.8 +0.1**
RZN Rozhen 79.20 319 ⇑*i*P **P 19 38 09.2 +0.4**
BHOU Houvegnez 79.22 335 *d*P **P 19 38 08.5 0.0**
comp=Z,72nm,1.8s
BHOU *d*PcP **sP 19 38 15.0 +0.9**
TEKS Tekeris 79.25 324 ⇑*i*P **P 19 38 07.8 -1.0**
WLF1 Llynfaes 79.25 342 *e*P **P 19 38 07.2 -1.4**

WLF1 IAmb IAmb 19 38 15.5
comp=Z,393nm,1.6s
E46A Sault Ste Mari 79.30 33 IAmb IAmb 19 38 09.8
comp=Z,466nm,1.7s
E46A IAMs_20 IAMs_20 20 13 36.8
comp=Z,2μm,19.0s
SOKA Soboth 79.30 328 *e*pP **P 19 38 08.7 -0.4**
comp=Z,227nm,1.4s,SNR=122
SOKA *i* PKKP **PKKPbc 19 56 59.2 +1.5**
comp=Z,1.1nm,0.7s
PERS Pernice 79.30 328 *i* P **P 19 38 08.8 -0.3**
PERS *e*S **S 19 48 08.8 0.0**
ISP Isparta 79.30 313 *e*P **P 19 38 09.7 +0.4**
ISP Isparta 79.30 313 ⇓*e*P **P 19 38 09.4 +0.1**
ISP pmax pmax
comp=Z,105nm,2.5s
UCC Uccle 79.31 336 *d*P **P 19 38 08.4 -0.6**
comp=Z,54nm,1.9s
FOEL Foel Wylfa 79.36 341 *e*P **P 19 38 08.7 -0.5**
FOEL IAmb IAmb 19 38 19.1
comp=Z,970nm,1.8s
BCLA Clavier 79.37 335 *d*P **P 19 38 08.8 -0.5**
comp=Z,57nm,1.4s
BCLA *d*PP **PP 19 41 06.9 -1.6**
BHL Bhannes 79.40 307 *e*P **P 19 38 09.3 -0.6**
FUR Furstenfeldbru 79.41 331 *e*P **P 19 38 10.0 +0.4**
comp=Z,524nm,1.4s,baz=31,slow=5.6
I42A Draeger Farm, 79.44 37 IAMs_20 IAMs_20 20 20 22.0
comp=Z,3μm,18.0s
H43A Windswept, Lux 79.46 36 IAmb IAmb 19 38 18.8
comp=Z,259nm,1.0s
H43A IAMs_20 IAMs_20 20 18 36.4
comp=Z,3μm,20.0s
BGES Gesves 79.47 336 *d*P **P 19 38 10.3 +0.4**
comp=Z,58nm,1.4s
AUMBR Murray Bridge 79.49 185 P **P 19 38 10.8 +0.9**
CAN Canberra 79.52 177 IAmb IAmb 19 38 13.2
comp=Z,292nm,1.6s
CAN Canberra 79.52 177 P **P 19 38 10.4 +0.3**
comp=Z,107nm,1.6s
CAN Canberra 79.52 177 P **P 19 38 12.2 +2.1**
CAN Canberra 79.52 177 P **P 19 38 12.5 +2.4**
CNB Canberra Magne 79.53 177 P **P 19 38 11.0 +0.8**
comp=Z,82nm,1.5s
CNB Canberra Magne 79.53 177 P **P 19 38 12.1 +1.9**
LESA Schwarzleotal 79.54 330 *i* pP **P 19 38 10.4 0.0**
comp=Z,264nm,1.4s
LESA *e*PKKP **PKKPbc 19 56 57.5 +0.3**
comp=Z,0.2nm,0.2s
KBA Koelnbreinsper 79.59 329 *i* pP **P 19 38 10.6 -0.2**
comp=Z,228nm,1.3s,SNR=105
STU Stuttgart 79.59 332 IAmb IAmb 19 38 20.1
comp=Z,410nm,1.5s
STU Stuttgart 79.59 332 *e*P **P 19 38 11.4 +0.8**
STU Stuttgart 79.59 332 P **P 19 38 10.7 +0.1**
STU Stuttgart 79.59 332 *e*P **P 19 38 10.6 0.0**
comp=Z,632nm,1.3s,baz=31,slow=5.6
STU *e*PcP **pwP 19 38 18.1 +0.1**
baz=31,slow=5.7
KSU1 Kansas State U 79.62 44 IAMs_20 IAMs_20 20 16 58.2
comp=Z,3μm,20.0s
OBKA Obir 79.62 328 *i* pP **P 19 38 10.5 -0.4**
comp=Z,115nm,1.7s,SNR=27
OBKA Obir 79.62 328 *e*P **P 19 38 10.3 -0.6**
RCHB Rochefort 79.63 335 *d*P **P 19 38 10.4 -0.3**
comp=Z,74nm,1.5s
RCHB *d*PP **PP 19 41 09.1 -1.5**
HLM1 Long Mynd 79.63 341 *e*P **P 19 38 10.6 -0.1**
HLM1 IAmb IAmb 19 38 18.9
comp=Z,1μm,2.0s
BMRD Maredsous 79.63 336 κP **P 19 38 10.7 0.0**
comp=Z,81nm,1.3s
JFWS Jewell Farm 79.64 38 IAMs_20 IAMs_20 20 14 58.4
comp=Z,3μm,19.0s
DSB Dublin 79.71 343 P **P 19 38 11.4 +0.3**
DSB Dublin 79.71 343 IAmb IAmb 19 38 19.5
comp=Z,361nm,1.9s
ABTO Aybut 79.72 284 P **P 19 38 11.2 -0.6**
SNR=33
WLF Walferdange 79.78 335 IAmb IAmb 19 38 20.4
comp=Z,692nm,1.8s
WLF Walferdange 79.78 335 P **P 19 38 10.7 -0.9**
WLF Walferdange 79.78 335 *e*P **P 19 38 11.7 +0.1**
comp=Z,735nm,2.1s,baz=31,slow=5.6
GIVF Givet 79.80 336 *e*P **P 19 38 10.8 -0.8**
GIVF pmax pmax
comp=Z,406nm,1.7s
KKB Krupnik 79.83 320 ⇑*i*P **P 19 38 11.8 -0.2**
BBLS Lazi&#263i 79.85 324 ⇑*i*P **P 19 38 12.1 -0.1**
MYKA Terra Mystica 79.86 329 *i* pP **P 19 38 11.7 -0.5**
comp=Z,149nm,1.6s,SNR=32
MYKA *e*PKKP **PKKPbc 19 56 59.6 +3.1**
comp=Z,2.6nm,0.4s
HAPS Han Pijesak,Bl 79.86 324 ⇑*i*P **P 19 38 12.2 -0.1**
DOU Dourbes 79.87 336 P **P 19 38 12.1 +0.1**
DOU Dourbes 79.87 336 *d*P **P 19 38 10.6 -1.5**
comp=Z,50nm,1.9s
L40A Anamosa 79.88 39 IAmb IAmb 19 38 13.1
comp=Z,312nm,1.5s
L40A IAMs_20 IAMs_20 20 17 17.9
comp=Z,3μm,19.0s
EZN Ezine 79.89 317 P **P 19 38 11.4 -0.9**
KLBR Kellerberrin 79.92 204 P **P 19 38 11.7 -0.7**
comp=Z,133nm,0.9s
KLBR Kellerberrin 79.92 204 P **P 19 38 12.7 +0.4**
CSS Mathiatis 79.92 310 IAmb IAmb 19 38 21.5
comp=Z,719nm,2.0s
ASF Jabal al Asfar 79.94 305 LR LR 20 19 39.6
comp=Z,4μm,18.6s,baz=332,slow=40
A051A Mrakovica 79.94 326 ⇑*i*P **P 19 38 11.7 -0.9**
PEHC Pehcevo 79.98 320 *i* P **P 19 38 13.1 +0.2**
WATA Walderalm 80.01 330 *e*pP **P 19 38 12.7 -0.3**
comp=Z,295nm,1.4s,SNR=81
BAIF Baives 80.01 336 *e*P **P 19 38 12.1 -0.7**
BAIF pmax pmax
comp=Z,245nm,1.6s
LJU Ljubljana 80.02 328 *e*P **P 19 38 12.2 -0.8**
LJU *e*pP **pP 19 38 15.6 -1.4**
LJU *e*PcP **PcP 19 38 19.5 -0.9**
BLY Banja Luka 80.05 326 ⇑*i*P **P 19 38 12.5 -0.6**
WTTA Wattenberg 80.05 330 *e*pP **P 19 38 13.0 -0.3**
comp=Z,155nm,1.4s,SNR=90
WTTA *e*PKKP **PKKPbc 19 56 56.3 +0.1**
comp=Z,1.8nm,0.5s
RUDO Rudo 80.07 324 ⇑*i*P **P 19 38 13.2 -0.1**
SJES Sjenica 80.10 323 ⇑*i*P **P 19 38 13.2 -0.3**
AMTX Amarillo 80.12 50 IAmb IAmb 19 38 16.1
comp=Z,393nm,1.5s
IGLA Glengowla, Co 80.13 345 P **P 19 38 11.7 -1.6**
MCH1 Michaelchurch 80.14 341 *e*P **P 19 38 12.8 -0.6**
MCH1 IAmb IAmb 19 38 21.7
comp=Z,1μm,1.9s
STRD Stroud 80.15 340 *e*P **P 19 38 13.6 +0.2**
STRD IAmb IAmb 19 38 22.6
comp=Z,2μm,1.6s
RETA Reutte 80.17 331 *i* pP **P 19 38 13.4 -0.5**
comp=Z,210nm,1.4s,SNR=48
MOTA Moosalm 80.17 331 *e*pP **P 19 38 13.5 -0.4**
comp=Z,337nm,1.4s
MOTA *e*PKKP **PKKPbc 19 56 56.3 +0.4**
comp=Z,0.9nm,0.4s
ABTA Abfaltersbach 80.18 329 *e*pP **P 19 38 13.3 -0.6**
comp=Z,91nm,1.5s,SNR=34
MSTX Muleshoe 80.19 52 IAMs_20 IAMs_20 20 18 05.8
comp=Z,3μm,18.0s
MMAI Mount Meron Ar 80.19 307 P **P 19 38 15.4 +1.2**
comp=Z,62nm,0.9s,baz=46,slow=7.1,SNR=56
MMAI LR LR 20 17 53.4
comp=Z,4μm,18.5s,baz=334,slow=39
comp=Z,62nm,0.9s
BOJS Bojanci 80.19 327 *e*S **S 19 48 17.1 -1.0**
UBR Ueberruh 80.23 331 *e*P **P 19 38 13.7 -0.4**
comp=Z,369nm,1.7s,baz=31,slow=5.6
MONM Monmouth 80.24 341 *e*P **P 19 38 13.7 -0.2**
MONM IAmb IAmb 19 38 23.1
comp=Z,1μm,1.7s
SQTA Sankt Quirin 80.24 330 *e*pP **P 19 38 14.2 -0.1**
comp=Z,271nm,1.5s,SNR=86
SQTA *e*PKKP **PKKPbc 19 56 56.8 +1.1**
comp=Z,0.6nm,0.2s
BFO Black Forest 80.26 333 P **P 19 38 13.1 -1.1**
BFO IAmb IAmb 19 38 22.7
comp=Z,664nm,1.8s
BFO IAMs_20 IAMs_20 20 16 37.1
comp=Z,4μm,20.0s
BFO Black Forest 80.26 333 P **P 19 38 13.1 -1.1**
BFO pmax pmax
comp=Z,664nm,1.8s
BFO MLR MLR
comp=Z,4μm,20.0s
BFO Black Forest 80.26 333 *e*P **P 19 38 13.9 -0.3**
comp=Z,309nm,1.4s,baz=31,slow=5.6
VLDQ Val d'Or 80.28 28 IAmb IAmb 19 38 22.3
comp=Z,461nm,1.1s
KAN12 Harper NE Stat 80.28 46 IAmb IAmb 19 38 23.4
comp=Z,225nm,1.0s
PLE Pljevlja 80.29 323 ⇑*i*P **P 19 38 14.2 -0.4**
NOKA Waynoka 80.29 48 IAmb IAmb 19 38 16.4
comp=Z,573nm,1.5s
SWN1 Swindon 80.30 340 *e*P **P 19 38 14.6 +0.3**
SWN1 IAmb IAmb 19 38 23.7
comp=Z,1μm,1.4s
CEY Cerknica 80.31 328 ⇑*i*P **P 19 38 13.6 -1.0**
KAN08 Anthony NE Sta 80.35 47 IAmb IAmb 19 38 23.8
comp=Z,274nm,1.1s
HMNX Herstmonceux 80.35 339 *e*P **P 19 38 14.6 0.0**
SABO M.te Sabotino 80.42 328 IAmb IAmb 19 38 23.8
comp=Z,779nm,1.9s
IVA Berane 80.45 323 ⇑*i*P **P 19 38 15.0 -0.4**
I45A Fountain 80.45 35 IAMs_20 IAMs_20 20 17 04.6
comp=Z,3μm,18.0s
GLMI Grayling 80.45 34 IAMs_20 IAMs_20 20 17 40.5
comp=Z,3μm,18.0s
OK038 West end E0370 80.51 47 IAmb IAmb 19 38 17.7
comp=Z,592nm,1.4s
OK038 IAMs_20 IAMs_20 20 19 20.1
comp=Z,3μm,18.0s
KAN01 Argonia South 80.51 46 IAmb IAmb 19 38 24.9
comp=Z,277nm,1.1s
CDF Champ du Feu 80.53 333 *e*P **P 19 38 15.0 -0.8**
CDF pmax pmax
comp=Z,339nm,1.5s
A050A Klekovaca 80.53 326 ⇑*i*P **P 19 38 15.3 -0.5**
KAN14 Manchester OK 80.56 47 IAmb IAmb 19 38 17.4
comp=Z,365nm,1.6s
RSBS Rosebush, Pemb 80.58 342 *e*P **P 19 38 15.0 -0.9**
FETA Feichten 80.58 331 *e*P **P 19 38 15.2 -0.9**
comp=Z,73nm,1.3s,SNR=41
FETA *i* PKKP **PKKPbc 19 56 56.3 +1.3**
comp=Z,0.6nm,0.4s
RAO Raoul Island 80.58 148 LR LR 20 07 02.4
comp=Z,4μm,21.6s,baz=338,slow=30
KAN17 Caldwell West 80.59 47 IAmb IAmb 19 38 17.7
comp=Z,556nm,1.5s
KAN09 Caldwell North 80.60 46 IAmb IAmb 19 38 17.7
comp=Z,481nm,1.5s
UPM Unac-Piva 80.60 324 *e*P **P 19 38 15.9 -0.5**
UPM Unac-Piva 80.60 324 ⇑*i*P **P 19 38 15.2 -1.2**
IWEX Carrickbyrne, 80.61 343 P **P 19 38 16.4 +0.4**
IWEX Carrickbyrne, 80.61 343 *e*P **P 19 38 15.9 0.0**
KOME Kolasin 80.63 323 ⇑*i*P **P 19 38 16.1 -0.3**
L42A Oliver, Polo 80.63 38 IAMs_20 IAMs_20 20 11 13.5
comp=Z,3μm,21.0s
SKDS Skadanscina 80.63 328 ⇑*i*P **P 19 38 14.9 -1.4**
DAVA Damuels 80.65 331 *e*pP **P 19 38 16.5 0.0**
comp=Z,208nm,1.4s,SNR=39
DAVA *e*PKKP **PKKPbc 19 56 56.7 +1.8**
comp=Z,3.0nm,0.6s
K43A Burlington 80.65 37 IAMs_20 IAMs_20 20 14 57.0
comp=Z,2μm,20.0s
P38A Dawn 80.72 42 IAmb IAmb 19 38 18.4
comp=Z,492nm,1.5s
P38A IAMs_20 IAMs_20 20 17 57.3
comp=Z,3μm,18.0s
RAYN Ar Rayn 80.73 294 P **P 19 38 16.4 -0.8**
RAYN IAmb IAmb 19 38 26.3
comp=Z,641nm,1.6s
RAYN Ar Rayn 80.73 294 *i* P **P 19 38 17.4 +0.2**
SNR=69
RAYN Ar Rayn 80.73 294 P **P 19 38 17.5 +0.2**
RAYN Ar Rayn 80.73 294 P **P 19 38 16.4 -0.8**
RAYN pmax pmax
comp=Z,641nm,1.7s
RAYN MLR MLR
comp=Z,6μm,20.0s
MUN Mundaring 80.74 205 P **P 19 38 16.4 -0.4**
comp=Z,0.0nmcomp=Z,116nm,1.5s
MUN Mundaring 80.74 205 P **P 19 38 18.4 +1.7**
SMWD Samnorwood 80.74 49 IAmb IAmb 19 38 27.8
comp=Z,238nm,0.9s
KAN13 South Haven SW 80.77 46 IAmb IAmb 19 38 18.6
comp=Z,534nm,1.7s
CROK Carrier 80.89 47 IAmb IAmb 19 38 19.6
comp=Z,542nm,1.4s
NKME Niksic 80.94 323 ⇑*i*P **P 19 38 17.1 -0.9**
ARPS Mount Arapiles 80.99 183 P **P 19 38 17.8 -0.1**
comp=Z,127nm,1.2s
ARPS Mount Arapiles 80.99 183 P **P 19 38 19.1 +1.2**
BRY Bratogost 81.00 324 *e*P **P 19 38 17.8 -0.7**
BRY Bratogost 81.00 324 ⇑*i*P **P 19 38 17.0 -1.4**
PDG Podgorica 81.08 323 ⇑*i*P **P 19 38 17.9 -0.8**
PDG Podgorica 81.08 323 ⇑P **P 19 38 18.4 -0.3**
PDG Podgorica 81.08 323 ⇑*i*P **P 19 38 18.1 -0.6**
CTI Castel Tesino 81.08 330 IAmb IAmb 19 38 27.2
comp=Z,385nm,1.7s
FUORN Ofenpass-Fuorn 81.09 331 IAmb IAmb 19 38 30.1
comp=Z,585nm,1.8s
BLOK Blackwell 81.09 46 IAmb IAmb 19 38 27.7
comp=Z,370nm,1.3s
N41A Harden Midland 81.13 40 IAMs_20 IAMs_20 20 18 35.8
comp=Z,3μm,18.0s
CEME Cevo 81.13 323 ⇑*i*P **P 19 38 18.1 -0.9**
HAU Haudompre 81.19 334 *e*P **P 19 38 18.3 -0.9**
HAU pmax pmax
comp=Z,364nm,1.9s
HINF Hinteralfeld 81.19 333 *e*P **P 19 38 18.2 -1.0**
HINF pmax pmax
comp=Z,284nm,1.8s
TREB Trebinje 81.23 324 *e*P **P 19 38 19.2 -0.3**
VHRN Van Horn 81.24 55 IAmb IAmb 19 38 22.4
comp=Z,255nm,1.4s
L44A Lake County Fo 81.26 37 IAMs_20 IAMs_20 20 18 38.1
comp=Z,3μm,18.0s
L44A Lake County Fo 81.26 37 P **P 19 38 19.0 -0.7**
baz=324
DRME Dracevica, Mon 81.31 323 ⇑*i*P **P 19 38 19.4 -0.5**
NWAO Narrogin (SRO) 81.32 204 P **P 19 38 20.0 +0.2**
NWAO IAmb IAmb 19 38 21.8
comp=Z,316nm,1.2s
NWAO Narrogin (SRO) 81.32 204 P **P 19 38 20.6 +0.8**
NWAO Narrogin (SRO) 81.32 204 P **P 19 38 20.0 +0.2**
NWAO pmax pmax
comp=Z,316nm,1.3s
T35A Sooner Cattle 81.34 46 IAmb IAmb 19 38 29.6
comp=Z,302nm,1.0s
T35A IAMs_20 IAMs_20 20 18 23.9
comp=Z,3μm,18.0s
BUM Brajici-Budva 81.34 323 ⇑*i*P **P 19 38 19.1 -1.1**
GHAJ Ghor Haditha 81.35 306 IAmb IAmb 19 38 29.8
comp=Z,252nm,1.1s
STON Ston 81.38 324 ⇑*i*P **P 19 38 18.7 -1.5**
HCY Herceg Novi 81.39 323 *e*P **P 19 38 19.6 -0.8**
HCY Herceg Novi 81.39 323 ⇑*i*P **P 19 38 19.1 -1.3**
OHR Ohrid 81.47 321 *i* P **P 19 38 21.7 +0.8**
OK051 E0350 and S346 81.49 46 IAmb IAmb 19 38 22.8
comp=Z,496nm,1.5s
OK051 IAMs_20 IAMs_20 20 13 55.8
comp=Z,2μm,21.0s
OK048 Pawnee Station 81.50 46 IAmb IAmb 19 38 29.9
comp=Z,285nm,1.2s
OK048 IAMs_20 IAMs_20 20 19 41.2
comp=Z,2μm,19.0s
LIT Litokhoron 81.50 320 P **P 19 38 21.0 0.0**
P40A Paris 81.51 41 IAmb IAmb 19 38 29.7
comp=Z,450nm,1.3s
P40A IAMs_20 IAMs_20 20 18 55.0
comp=Z,3μm,20.0s
TUE Stuetta 81.53 331 IAmb IAmb 19 38 30.0
comp=Z,534nm,1.8s
HQIL Hanson Quary C 81.59 37 IAMs_20 IAMs_20 20 18 15.9
comp=Z,2μm,19.0s
ODSA Odessa 81.67 53 IAmb IAmb 19 38 31.4
comp=Z,156nm,1.0s
J47A Sunmer 81.69 35 IAMs_20 IAMs_20 20 17 54.3
comp=Z,3μm,19.0s
TIR Tirane 81.69 322 ⇑P **P 19 38 21.7 -0.3**
TIR Tirane 81.69 322 P **P 19 38 21.6 -0.3**
VAL Valentia 81.70 345 P **P 19 38 20.9 -0.8**
BRAT Ballarat 81.70 181 P **P 19 38 23.6 +1.9**
OK029 Liberty Lake 81.70 47 IAMs_20 IAMs_20 20 20 15.7
comp=Z,2μm,18.0s
WMOK Wichita Mounta 81.81 49 IAMs_20 IAMs_20 20 13 37.5
comp=Z,2μm,21.0s
WMOK Wichita Mounta 81.81 49 IAmb IAmb 19 38 24.6
comp=Z,267nm,1.6s
M44A Midewin, Midew 81.84 38 IAmb IAmb 19 38 31.5
comp=Z,284nm,1.0s
M44A IAMs_20 IAMs_20 20 18 45.6
comp=Z,3μm,19.0s
SN07 Snyder 07 81.89 51 IAmb IAmb 19 38 25.2
comp=Z,405nm,1.9s
OK052 Battle Ridge R 81.89 47 IAMs_20 IAMs_20 20 19 52.7
comp=Z,3μm,19.0s
I49A Point Hope 81.90 33 IAMs_20 IAMs_20 20 18 17.8
comp=Z,3μm,19.0s
HDIL Hopedale 81.96 39 IAMs_20 IAMs_20 20 18 12.8
comp=Z,3μm,19.0s
SN05 Snyder 5 82.05 51 IAmb IAmb 19 38 25.9
comp=Z,275nm,1.8s
L46A Eue Claire 82.09 36 IAmb IAmb 19 38 32.9
comp=Z,248nm,1.0s
L46A IAMs_20 IAMs_20 20 18 04.9
comp=Z,3μm,18.0s
MNHN Monahans 82.13 53 IAmb IAmb 19 38 26.9
comp=Z,479nm,1.7s
APMT Aspermont 82.14 50 IAmb IAmb 19 38 26.2
comp=Z,342nm,1.4s
FNO Franklin 82.14 47 IAMs_20 IAMs_20 20 20 33.4
comp=Z,3μm,18.0s
DEOK Depew 82.17 47 IAmb IAmb 19 38 26.5
comp=Z,498nm,1.5s
RAR Rarotonga 82.18 130 LR LR 20 13 19.4
comp=Z,2μm,18.3s,baz=316,slow=34
AUHPC Hawkesdale P12 82.31 183 P **P 19 38 27.5 +2.7**
ALPN Alpine 82.33 55 IAmb IAmb 19 38 27.9
comp=Z,260nm,1.5s
S39A Bolivar 82.34 43 IAmb IAmb 19 38 33.9
comp=Z,184nm,1.0s
S39A IAMs_20 IAMs_20 20 21 21.2
comp=Z,2μm,18.0s
GEXS Deakin Univers 82.35 181 P **P 19 38 27.9 +2.9**
LDAQ Lac Daran 82.35 24 IAmb IAmb 19 38 33.4
comp=Z,618nm,1.9s
R40A Maddies Statio 82.38 42 IAmb IAmb 19 38 34.0
comp=Z,212nm,1.0s
R40A IAMs_20 IAMs_20 20 18 58.1
comp=Z,3μm,19.0s
AGG Agios Georgios 82.44 319 IAmb IAmb 19 38 33.5
comp=Z,498nm,2.0s
TUL3 Leonard 82.48 46 IAmb IAmb 19 38 28.1
comp=Z,447nm,1.5s
TUL3 IAMs_20 IAMs_20 20 19 07.2
comp=Z,2μm,18.0s
FLN La Foliniere 82.50 338 *e*P **P 19 38 25.2 -0.8**
FLN pmax pmax
comp=Z,307nm,1.6s
CABF La Chapelle 82.50 333 *e*P **P 19 38 25.6 -0.6**
CABF pmax pmax
comp=Z,199nm,1.6s
W35A Tecumseh 82.50 47 IAMs_20 IAMs_20 20 20 25.8
comp=Z,3μm,18.0s
LDF La Druitiere 82.55 338 *e*P **P 19 38 25.5 -0.8**
LDF pmax pmax
comp=Z,227nm,1.6s
SADO Sadowa 82.58 30 IAMs_20 IAMs_20 20 17 00.6
comp=Z,3μm,20.0s
SADO Sadowa 82.58 30 LR LR 20 17 12.7
comp=Z,2μm,20.7s,baz=336,slow=37
P43A Skaggs, Pawnee 82.59 40 IAmb IAmb 19 38 35.6
comp=Z,150nm,0.9s
P43A IAMs_20 IAMs_20 20 19 12.6
comp=Z,3μm,19.0s
LOR Lormes 82.61 335 *e*P **P 19 38 25.9 -0.8**
LOR pmax pmax
comp=Z,250nm,1.4s
SGCY Sterling City 82.63 52 IAmb IAmb 19 38 37.5
comp=Z,142nm,0.9s
RLO Rose Lookout 82.68 45 IAmb IAmb 19 38 35.9
comp=Z,126nm,0.9s
WTFS Witchita Falls 82.71 49 IAmb IAmb 19 38 29.1
comp=Z,402nm,1.5s
LPIG La Paz 82.78 63 LR LR 20 12 07.4
comp=Z,609nm,18.9s,baz=308,slow=33
KARP Karpathos 82.78 314 IAmb IAmb 19 38 29.2
comp=Z,397nm,1.7s
KARP Karpathos 82.78 314 *e*P **P 19 38 27.1 -0.7**
U38A Gravette 82.79 45 IAmb IAmb 19 38 29.2
comp=Z,377nm,1.6s
U38A IAMs_20 IAMs_20 20 19 05.2
comp=Z,3μm,20.0s
TRQ Mont Tremblant 82.89 27 IAMs_20 IAMs_20 20 22 39.6
comp=Z,3μm,18.0s
EIL Elat 82.90 305 LR LR 20 18 00.4
comp=Z,5μm,19.0s,baz=23,slow=38
SSF Saint Saulge 82.91 335 *e*P **P 19 38 27.5 -0.7**
SSF pmax pmax
comp=Z,97nm,1.2s
L48A N Adams 82.92 35 IAMs_20 IAMs_20 20 14 33.0
comp=Z,3μm,20.0s
ABTX Abilene, Hawle 82.93 51 IAmb IAmb 19 38 30.7
comp=Z,470nm,1.7s
GRR Gorron 82.94 338 *e*P **P 19 38 27.7 -0.6**
GRR pmax pmax
comp=Z,192nm,1.3s
AAM Ann Arbor 82.94 35 IAmb IAmb 19 38 37.1
comp=Z,286nm,1.3s
AAM IAMs_20 IAMs_20 20 18 44.5
comp=Z,3μm,20.0s
K50A Casco 82.96 34 IAmb IAmb 19 38 30.0
comp=Z,402nm,1.4s
K50A IAMs_20 IAMs_20 20 17 17.8
comp=Z,3μm,20.0s
RKGY Rocky Gully 82.97 204 P **P 19 38 30.1 +1.8**
comp=Z,162nm,1.1s
GUMA Gualdo di Mace 82.99 327 IAmb IAmb 19 38 55.2
comp=Z,373nm,1.4s
CCM Cathedral Cave 83.06 42 P **P 19 38 28.3 -0.9**
CCM IAmb IAmb 19 38 38.3
comp=Z,234nm,1.1s
CCM Cathedral Cave 83.06 42 IAMs_20 IAMs_20 20 19 45.0
comp=Z,3μm,21.0s
CCM Cathedral Cave 83.06 42 P **P 19 38 28.3 -0.9**
CCM pmax pmax
comp=Z,234nm,1.1s
CCM MLR MLR
comp=Z,3μm,21.0s
SFIN Lafayette 83.08 38 IAmb IAmb 19 38 37.5
comp=Z,283nm,1.4s
SFIN IAMs_20 IAMs_20 20 17 12.4
comp=Z,3μm,19.0s
TX31 Lajitas Ar. Si 83.08 55 IAmb IAmb 19 38 31.9
comp=Z,339nm,1.5s
TXAR Lajitas Array 83.08 55 P **P 19 38 29.4 -0.1**
TXAR Lajitas Array 83.08 55 P **P 19 38 30.1 +0.6**
comp=Z,33nm,1.0s,baz=299,slow=2.6,SNR=168
TXAR PKKPbc **PKKPbc 19 56 51.5 +2.5**
comp=Z,1.9nm,0.9s,baz=162,slow=6.2,SNR=12
TXAR LR LR 20 13 47.2
comp=Z,937nm,19.8s,baz=319,slow=34
comp=Z,33nm,1.0s
TXAR Lajitas Array 83.08 55 P **P 19 38 29.4 -0.1**
HHAR Hobbs 83.14 45 IAMs_20 IAMs_20 20 19 14.3
comp=Z,3μm,19.0s
VLC Villacollemand 83.17 329 P **P 19 38 28.7 -0.9**
SMF Signal de Mont 83.18 335 *e*P **P 19 38 29.0 -0.6**
SMF pmax pmax
comp=Z,570nm,1.6s
AVF Avril sur Loir 83.19 335 *e*P **P 19 38 29.1 -0.6**
AVF pmax pmax
comp=Z,404nm,1.5s
LOOK Love County 83.23 48 IAmb IAmb 19 38 32.0
comp=Z,242nm,1.2s
LPL La Plagne 83.26 332 *e*P **P 19 38 30.0 -0.3**
LPL pmax pmax
comp=Z,99nm,1.2s
LPG La Plagne 83.27 332 *e*P **P 19 38 30.2 -0.3**
LPG pmax pmax
comp=Z,75nm,1.3s
N47A Urbana 83.28 37 IAmb IAmb 19 38 38.9
comp=Z,299nm,1.1s
N47A IAMs_20 IAMs_20 20 20 17.4
comp=Z,3μm,18.0s
MGMO Mountain Grove 83.28 43 IAmb IAmb 19 38 31.5
comp=Z,387nm,1.5s
MGMO IAMs_20 IAMs_20 20 19 39.0
comp=Z,3μm,18.0s
SLBS Sierra La Lagu 83.31 63 P **P 19 38 30.8 +0.1**
SLBS Sierra La Lagu 83.31 63 IAMs_20 IAMs_20 20 13 19.5
comp=Z,2μm,19.0s

DELO	Deloro Mine	83.34	30	IAmb	IAmb	19 38 38.4		
	comp=Z,310nm,1.6s							
DELO				IAms_20	IAms_20	20 16 22.7		
	comp=Z,2μm,21.0s							
SCTE	Santa Cesarea	83.35	322	IAmb	IAmb	19 38 31.8		
	comp=Z,224nm,1.1s							
OZNA	Ozona	83.38	53	IAmb	IAmb	19 38 32.8		
	comp=Z,292nm,1.5s							
DGAR	Diego Garcia	83.40	253⇓	*e*P	P	19 38 29.4	-1.7	
DGAR				pmax	pmax			
	comp=Z,495nm,1.7s							
CAMP	Campotosto	83.41	327	IAmb	IAmb	19 38 41.9		
	comp=Z,424nm,1.5s							
Q44A	Meyer Farm, Va	83.42	40	IAmb	IAmb	19 38 40.1		
	comp=Z,243nm,1.0s							
FW03	Perrin-Whitt E	83.48	49	IAmb	IAmb	19 38 33.2		
	comp=Z,324nm,1.4s							
FVM	French Village	83.50	41	IAms_20	IAms_20	20 20 05.8		
	comp=Z,3μm,20.0s							
SGMF	Saint Gilles	83.50	339	*e*P	P	19 38 31.1	-0.1	
SGMF				pmax	pmax			
	comp=Z,584nm,1.6s							
PLPT	Palo Pinto	83.52	50	IAmb	IAmb	19 38 33.5		
	comp=Z,330nm,1.5s							
SAND	Sanderson	83.52	54	IAmb	IAmb	19 38 33.9		
	comp=Z,406nm,1.6s							
BGF	Bois d'Agland	83.56	335	*e*P	P	19 38 29.7	-1.9	
BGF				pmax	pmax			
	comp=Z,134nm,1.6s							
ROSF	Rostrenen	83.61	340	*e*P	P	19 38 32.9	+1.1	
ROSF				pmax	pmax			
	comp=Z,2μm,1.8s							
MATE	Matera	83.63	323	*e*P	P	19 38 30.5	-1.6	
HPIG		83.64	58	IAmb	IAmb	19 38 34.8		
	comp=Z,343nm,1.5s							
HPIG				IAms_20	IAms_20	20 18 24.9		
	comp=Z,2μm,19.0s							
INTR	Introdacqua	83.65	326	IAmb	IAmb	19 38 40.5		
	comp=Z,223nm,1.6s							
P46A	Rosedale	83.66	38	IAms_20	IAms_20	20 19 28.6		
	comp=Z,2μm,19.0s							
BNI	Bardonecchia	83.68	332	IAmb	IAmb	19 38 49.8		
	comp=Z,241nm,1.9s							
BNI	Bardonecchia	83.68	332	P	P	19 38 32.3	-0.1	
Z35A	Perchaven, San	83.70	49	IAmb	IAmb	19 38 41.6		
	comp=Z,222nm,1.0s							
Z35A				IAms_20	IAms_20	20 21 51.5		
	comp=Z,2μm,18.0s							
X37A	Clayton	83.72	47	IAmb	IAmb	19 38 34.6		
	comp=Z,317nm,1.6s							
X37A				IAms_20	IAms_20	20 19 52.0		
	comp=Z,3μm,18.0s							
WBO	Williamsburg	83.73	28	IAmb	IAmb	19 38 33.2		
	comp=Z,186nm,1.3s							
WBO				IAms_20	IAms_20	20 18 29.8		
	comp=Z,3μm,20.0s							
FW06	Azle	83.81	49	IAmb	IAmb	19 38 34.9		
	comp=Z,222nm,1.4s							
FW06				IAms_20	IAms_20	20 14 39.5		
	comp=Z,2μm,22.0s							
MNTQ	Montreal, Quebec	83.83	27	IAmb	IAmb	19 38 34.0		
	comp=Z,263nm,1.3s							
MNTQ				IAms_20	IAms_20	20 22 09.3		
	comp=Z,3μm,19.0s							
N49A	Columbus Grove	83.88	36	IAmb	IAmb	19 38 42.4		
	comp=Z,207nm,1.0s							
FW07	Weatherford	83.89	49	IAmb	IAmb	19 38 35.5		
	comp=Z,398nm,1.7s							
FW07				IAms_20	IAms_20	20 14 29.7		
	comp=Z,3μm,21.0s							
M50A	Fremont	83.94	35	IAmb	IAmb	19 38 42.6		
	comp=Z,112nm,0.9s							
M50A				IAms_20	IAms_20	20 19 57.0		
	comp=Z,3μm,20.0s							
QUIF	Quistinic	83.97	340	*e*P	P	19 38 33.2	-0.4	
QUIF				pmax	pmax			
	comp=Z,603nm,1.8s							
OLIL	Olney	83.97	39	IAmb	IAmb	19 38 43.2		
	comp=Z,265nm,1.1s							
OLIL				IAms_20	IAms_20	20 20 15.2		
	comp=Z,2μm,19.0s							
TCF	Toulx Ste Croi	83.99	335	*e*P	P	19 38 33.4	-0.4	
TCF				pmax	pmax			
	comp=Z,142nm,1.4s							
O48B	Farmland	84.02	37	IAmb	IAmb	19 38 42.8		
	comp=Z,224nm,1.1s							
O48B				IAms_20	IAms_20	20 18 42.2		
	comp=Z,2μm,20.0s							
O48B	Farmland	84.02	37	P	P	19 38 33.6	-0.5	
	baz=326							
ORIF	Oris-en-Rattie	84.07	333	*e*P	P	19 38 34.0	-0.3	
ORIF				pmax	pmax			
	comp=Z,59nm,0.9s							
PECO	Prince Edward	84.07	30	IAms_20	IAms_20	20 20 47.9		
	comp=Z,2μm,20.0s							
IDI	Anoyia	84.14	315	IAmb	IAmb	19 38 36.4		
	comp=Z,153nm,1.2s							
IDI	Anoyia	84.14	315	P	P	19 38 33.4	-1.4	
IDI	Anoyia	84.14	315	LR	LR	20 22 47.3		
	comp=Z,2μm,19.1s,baz=35,slow=40							
SSB	Saint Sauveur	84.18	334	IAmb	IAmb	19 38 43.6		
	comp=Z,330nm,1.7s							
S44A	Carbondale	84.28	41	IAms_20	IAms_20	20 19 57.5		
	comp=Z,3μm,18.0s							
SIUC	Southern Illin	84.29	41	IAms_20	IAms_20	20 19 57.5		
	comp=Z,3μm,18.0s							
LONY	Lake Ozonia	84.30	28	IAmb	IAmb	19 38 36.2		
	comp=Z,193nm,1.6s							
LONY				IAms_20	IAms_20	20 18 54.8		
	comp=Z,3μm,18.0s							
BLO	Bloomington	84.32	38	IAms_20	IAms_20	20 13 29.3		
	comp=Z,2μm,20.0s							
FCAR	Ozark Folk Cen	84.35	44	IAms_20	IAms_20	20 20 14.4		
	comp=Z,2μm,18.0s							
J55A	Hilton	84.36	30	IAms_20	IAms_20	20 22 32.7		
	comp=Z,2μm,19.0s							
MFF	Saint Martin d	84.38	337	*e*P	P	19 38 35.7	-0.1	
MFF				pmax	pmax			
	comp=Z,499nm,1.6s							
O49A	Covington	84.43	36	IAmb	IAmb	19 38 37.5		
	comp=Z,280nm,1.5s							
O49A				IAms_20	IAms_20	20 19 27.9		
	comp=Z,3μm,18.0s							
DRLN	Deer Lake	84.43	15	IAmb	IAmb	19 38 44.2		
	comp=Z,396nm,1.7s							
FRNY	Flat Rock	84.43	27	IAms_20	IAms_20	20 22 21.3		
	comp=Z,3μm,19.0s							
JCT	Junction City	84.46	52	IAms_20	IAms_20	20 14 00.0		
	comp=Z,2μm,20.0s							
PBMO	Poplar Bluff	84.47	42	IAms_20	IAms_20	20 20 28.3		
	comp=Z,2μm,21.0s							
VIVF	Saint-Julien-l	84.52	333	*e*P	P	19 38 36.2	-0.3	
VIVF				pmax	pmax			
	comp=Z,287nm,1.8s							
ERPA	Erie	84.54	32	IAmb	IAmb	19 38 45.9		
	comp=Z,232nm,1.1s							
P48A	Milroy	84.56	37	IAms_20	IAms_20	20 18 28.6		
	comp=Z,3μm,20.0s							
WHTX	Lake Whitney,	84.61	50	IAms_20	IAms_20	20 14 38.9		
	comp=Z,2μm,21.0s							
N51A	Ashland	84.62	34	IAmb	IAmb	19 38 46.0		
	comp=Z,212nm,1.0s							
N51A				IAms_20	IAms_20	20 20 18.0		
	comp=Z,3μm,19.0s							
MIAR	Mount Ida	84.68	45	IAmb	IAmb	19 38 39.5		
	comp=Z,308nm,1.4s							
MIAR				IAms_20	IAms_20	20 23 39.3		
	comp=Z,3μm,21.0s							
LCAR	Lake Charles	84.68	43	IAmb	IAmb	19 38 39.0		
	comp=Z,422nm,1.7s							
LCAR				IAms_20	IAms_20	20 20 30.1		
	comp=Z,3μm,18.0s							
WHAR	Wooly Hollow	84.74	44	IAms_20	IAms_20	20 18 15.8		
	comp=Z,2μm,21.0s							
USIN	University of	84.80	40	IAmb	IAmb	19 38 47.4		
	comp=Z,243nm,1.0s							
P49A	Miami Univ. Ec	84.81	37	IAms_20	IAms_20	20 20 36.8		
	comp=Z,3μm,18.0s							
P49A	Miami Univ. Ec	84.81	37	P	P	19 38 37.8	-0.2	
	baz=326							
TIP	Timpagrande	84.83	323	⇑P	P	19 38 38.0	-0.2	
PARMO	Parma	84.88	42	IAms_20	IAms_20	20 20 40.3		
	comp=Z,3μm,20.0s							
J57A	Williamstown	84.88	29	IAmb	IAmb	19 38 46.4		
	comp=Z,204nm,1.2s							
J57A				IAms_20	IAms_20	20 23 57.4		
	comp=Z,3μm,18.0s							
Z38A	Mt. Pleasant	84.95	47	IAms_20	IAms_20	20 20 43.7		
	comp=Z,3μm,18.0s							
ACSO	Alum Creek Sta	84.95	35	IAms_20	IAms_20	20 15 34.8		
	comp=Z,3μm,21.0s							
NCB	Newcomb	84.99	28	IAms_20	IAms_20	20 19 16.1		
	comp=Z,3μm,20.0s							
G62A	West of Eustis	85.04	25	IAmb	IAmb	19 38 40.9		
	comp=Z,377nm,1.7s							
TAOE	Nuku Hiva Isla	85.05	107	*e*P	P	19 38 40.5	+0.8	
	comp=Z,402nm,23.4s							
TAOE	Nuku Hiva Isla	85.05	107	*e*S	S	19 49 06.0	-2.7	
	comp=Z,870nm,26.0s							
TAOE				*e*SS	SS	19 54 47.2	+4.8	
	comp=Z,1μm,25.1s							
TAOE	Nuku Hiva Isla	85.05	107	*e*LR	LR	20 05 21.8		
	comp=Z,9μm,25.1s							
F64A	Sherman	85.09	23	IAmb	IAmb	19 38 47.6		
	comp=Z,261nm,1.6s							
RJF	Les Rejaudoux	85.09	336	*e*P	P	19 38 39.3	-0.1	
RJF				pmax	pmax			
	comp=Z,350nm,1.6s							
PVMO	Portageville	85.11	42	IAms_20	IAms_20	20 20 57.3		
	comp=Z,3μm,20.0s							
UALR	University of	85.12	45	IAmb	IAmb	19 38 41.6		
	comp=Z,507nm,1.9s							
UALR				IAms_20	IAms_20	20 20 04.9		
	comp=Z,3μm,20.0s							
VT1	Waterbury	85.15	27	IAmb	IAmb	19 38 48.9		
	comp=Z,256nm,1.4s							
WCI	Wyandotte Cave	85.20	39	P	P	19 38 39.7	-0.3	
WCI				IAmb	IAmb	19 38 49.4		
	comp=Z,206nm,0.9s							
WCI	Wyandotte Cave	85.20	39	IAms_20	IAms_20	20 19 43.3		
	comp=Z,3μm,19.0s							
WCI	Wyandotte Cave	85.20	39	P	P	19 38 39.7	-0.3	
WCI				pmax	pmax			
	comp=Z,206nm,1.0s							
WCI				MLR	MLR			
	comp=Z,3μm,19.0s							
HICK	Hickman	85.23	41	IAms_20	IAms_20	20 20 59.5		
	comp=Z,3μm,20.0s							
LMR	La Mourre	85.26	331	*e*P	P	19 38 39.5	-0.7	
LMR				pmax	pmax			
	comp=Z,255nm,1.4s							
CAF	Calviac	85.27	335	*e*P	P	19 38 40.6	+0.3	
CAF				pmax	pmax			
	comp=Z,380nm,1.6s							
PEBM	Pemiscott Bayo	85.27	42	IAms_20	IAms_20	20 20 43.4		
	comp=Z,3μm,20.0s							
K57A	Scipio Center	85.29	30	IAmb	IAmb	19 38 48.4		
	comp=Z,380nm,1.8s							
K57A				IAms_20	IAms_20	20 24 10.3		
	comp=Z,3μm,20.0s							
PPT	Papeete	85.31	120	P	P	19 38 42.2	+1.5	
	comp=Z,28nm,1.0s,baz=249,slow=16,SNR=2.9							
PPT				LR	LR	20 12 07.2		
	comp=Z,6μm,19.2s,baz=323,slow=32							
	comp=Z,28nm,1.0s							
GNAR	Gosnell	85.31	42	IAms_20	IAms_20	20 21 15.6		
	comp=Z,3μm,21.0s							
PPT2	Papeete2	85.33	120	*e*P	P	19 38 35.5	-5.4	
	comp=Z,332nm,24.5s							
PPT2	Papeete2	85.33	120	*e*PP	PP	19 41 53.3	-5.8	
	comp=Z,245nm,25.5s							
PPT2				*e*S	S	19 49 11.1	0.0	
	comp=Z,2μm,28.2s							
PPT2				*e*SS	SS	19 54 50.0	+3.6	
	comp=Z,2μm,26.2s							
PPT2				*e*LQ	LQ	20 01 57.0		
	comp=Z,2μm,26.5s							
PPT2				*e*LR	LR	20 05 33.7		
	comp=Z,26μm,31.8s							
PPT2				*e*LR	LR	20 05 35.2		
	comp=Z,13μm,30.0s							
PPTF	Pamatai, Papee	85.33	120	P	P	19 38 42.7	+1.8	
HBAR	Harrisburg	85.33	43	IAms_20	IAms_20	20 21 00.2		
	comp=Z,3μm,20.0s							
N53A	Lisbon	85.33	34	IAmb	IAmb	19 38 50.0		
	comp=Z,220nm,1.0s							
PKME	Peaks-Kenny Pk	85.36	24	IAmb	IAmb	19 38 49.3		
	comp=Z,281nm,1.7s							
GLAT	Glass	85.42	42	IAms_20	IAms_20	20 21 06.3		
	comp=Z,3μm,20.0s							
H62A	Milan	85.43	25	IAmb	IAmb	19 38 42.9		
	comp=Z,319nm,1.3s							
L56A	Greenwood	85.44	31	IAms_20	IAms_20	20 18 41.0		
	comp=Z,3μm,21.0s							
LNXT	Lenox	85.46	42	IAms_20	IAms_20	20 20 48.4		
	comp=Z,3μm,19.0s							
435B	Jarrell	85.47	50	IAmb	IAmb	19 38 43.4		
	comp=Z,224nm,1.6s							
435B				IAms_20	IAms_20	20 19 37.2		
	comp=Z,2μm,18.0s							
435B	Jarrell	85.47	50	P	P	19 38 42.0	+0.5	
	baz=320							
HNDO	Hondo	85.47	52	IAmb	IAmb	19 38 43.6		
	comp=Z,277nm,1.6s							
237A	Washetta, Mont	85.49	49	IAmb	IAmb	19 38 43.6		
	comp=Z,492nm,1.8s							
237A				IAms_20	IAms_20	20 22 37.8		
	comp=Z,3μm,19.0s							
LBNH	Lisbon	85.49	26	IAmb	IAmb	19 38 50.3		
	comp=Z,452nm,1.9s							
LBNH				IAms_20	IAms_20	20 18 45.2		
	comp=Z,3μm,22.0s							
O52A	Adamsville	85.52	35	IAmb	IAmb	19 38 50.7		
	comp=Z,209nm,1.0s							
O52A				IAms_20	IAms_20	20 21 05.5		
	comp=Z,3μm,20.0s							
UTMT	University of	85.56	41	IAms_20	IAms_20	20 21 16.9		
	comp=Z,3μm,19.0s							
WLAR	White Oak Lake	85.59	46	IAmb	IAmb	19 38 51.3		
	comp=Z,258nm,1.1s							
CORO	Coronation Par	85.60	179	P	P	19 38 43.8	+2.3	
R49A	Shelbyville	85.64	38	IAmb	IAmb	19 38 44.2		
	comp=Z,454nm,1.8s							
R49A				IAms_20	IAms_20	20 18 51.0		
	comp=Z,3μm,18.0s							
LFF	La Frestale	85.65	336	*e*P	P	19 38 42.4	+0.3	
LFF				pmax	pmax			
	comp=Z,512nm,1.5s							
HALT	Halls	85.69	42	IAms_20	IAms_20	20 21 15.3		
	comp=Z,3μm,20.0s							
ACCN	Adirondack Com	85.70	28	IAmb	IAmb	19 38 51.4		
	comp=Z,111nm,0.9s							
ACCN				IAms_20	IAms_20	20 23 24.7		
	comp=Z,3μm,18.0s							
Q51A	Peebles	85.82	36	IAms_20	IAms_20	20 22 39.1		
	comp=Z,2μm,20.0s							
T47A	Sharon Grove	85.85	40	IAmb	IAmb	19 38 52.8		
	comp=Z,272nm,0.9s							
HNH	Hanover	85.86	27	IAmb	IAmb	19 38 52.2		
	comp=Z,150nm,1.3s							
WVL	Waterville	85.89	25	IAmb	IAmb	19 38 45.0		
	comp=Z,394nm,1.8s							
G65A	Princeton	85.92	23	IAmb	IAmb	19 38 52.0		
	comp=Z,265nm,1.5s							
BINY	Binghamton	85.95	30	IAmb	IAmb	19 38 52.0		
	comp=Z,180nm,1.4s							
BINY				IAms_20	IAms_20	20 22 00.5		
	comp=Z,3μm,18.0s							
CEL	Celeste	85.97	323	IAmb	IAmb	19 38 52.6		
	comp=Z,403nm,1.8s							
I62A	Tamworth	86.01	26	IAmb	IAmb	19 38 52.9		
	comp=Z,238nm,1.5s							
R50A	Paris	86.02	37	IAmb	IAmb	19 38 53.5		
	comp=Z,119nm,0.9s							
R50A				IAms_20	IAms_20	20 19 22.9		
	comp=Z,3μm,18.0s							
MET	Memphis--Engin	86.03	43	IAms_20	IAms_20	20 18 00.7		
	comp=Z,2μm,19.0s							
Z41A	Richland Creek	86.09	46	IAms_20	IAms_20	20 21 34.3		
	comp=Z,2μm,20.0s							
CCAR	Cane Creek	86.09	45	IAms_20	IAms_20	20 21 05.3		
	comp=Z,2μm,21.0s							
TOZ	Tahuroa Road	86.19	157	IAms_20	IAms_20	20 13 42.5		
	comp=Z,3μm,20.0s							
WVT	Waverly	86.22	41	P	P	19 38 44.4	-0.7	
WVT				IAmb	IAmb	19 38 47.0		
	comp=Z,273nm,1.4s							
WVT	Waverly	86.22	41	IAms_20	IAms_20	20 21 16.4		
	comp=Z,3μm,18.0s							
WVT	Waverly	86.22	41	P	P	19 38 44.4	-0.7	
WVT				pmax	pmax			
	comp=Z,273nm,1.4s							
WVT				MLR	MLR			
	comp=Z,3μm,18.0s							
P53A	Whipple	86.24	35	IAmb	IAmb	19 38 46.8		
	comp=Z,328nm,1.4s							
P53A				IAms_20	IAms_20	20 16 36.5		
	comp=Z,4μm,22.0s							
TRY	Troy	86.28	28	IAmb	IAmb	19 38 53.8		
	comp=Z,248nm,1.5s							
TRY				IAms_20	IAms_20	20 23 44.1		
	comp=Z,3μm,18.0s							
L59A	Walton	86.29	29	IAmb	IAmb	19 38 54.4		
	comp=Z,174nm,0.9s							
L59A				IAms_20	IAms_20	20 22 26.4		
	comp=Z,3μm,18.0s							
M57A	Sunshine Farm,	86.29	31	IAmb	IAmb	19 38 54.6		
	comp=Z,139nm,1.0s							
M57A				IAms_20	IAms_20	20 19 07.6		
	comp=Z,3μm,20.0s							
NATX	Nacogdoches	86.29	48	IAms_20	IAms_20	20 19 22.0		
	comp=Z,2μm,20.0s							
833A	Chaparral WMA,	86.32	53	IAmb	IAmb	19 38 48.3		
	comp=Z,405nm,1.8s							
833A				IAms_20	IAms_20	20 21 19.1		
	comp=Z,2μm,20.0s							
833A	Chaparral WMA,	86.32	53	P	P	19 38 46.3	+0.5	
	baz=320							
Q52A	Bidwell	86.32	35	IAmb	IAmb	19 38 54.6		
	comp=Z,131nm,1.0s							
Q52A				IAms_20	IAms_20	20 16 14.7		
	comp=Z,3μm,22.0s							
EMMW	East Machias	86.40	23	IAmb	IAmb	19 38 54.4		
	comp=Z,266nm,1.5s							
MOO	Moorlands	86.58	179	P	P	19 38 49.3	+2.8	
MOO	Moorlands	86.58	179	P	P	19 38 48.9	+2.5	
KSPA	Keystone Colle	86.59	30	IAmb	IAmb	19 38 55.2		
	comp=Z,195nm,1.4s							
KSPA				IAms_20	IAms_20	20 21 55.5		
	comp=Z,2μm,20.0s							
SSPA	Standing Stone	86.62	32	P	P	19 38 47.0	0.0	
SSPA	Standing Stone	86.62	32	IAms_20	IAms_20	20 25 15.4		
	comp=Z,3μm,18.0s							
MTLF	Montolieu	86.65	334	*e*P	P	19 38 47.4	+0.2	
MTLF				pmax	pmax			
	comp=Z,464nm,1.7s							
K62A	Royalston	86.81	27	IAmb	IAmb	19 38 56.9		
	comp=Z,309nm,1.7s							
U49A	Red Boiling Sp	86.85	39	IAmb	IAmb	19 38 57.6		
	comp=Z,272nm,1.0s							
U49A				IAms_20	IAms_20	20 22 12.2		
	comp=Z,2μm,18.0s							
T50A	Nancy	86.85	38	IAmb	IAmb	19 38 57.6		
	comp=Z,302nm,1.2s							
T50A				IAms_20	IAms_20	20 23 20.8		
	comp=Z,3μm,18.0s							
L61B	Northampton	86.86	27	IAmb	IAmb	19 38 56.5		
	comp=Z,217nm,1.8s							
L61B	Northampton	86.86	27	P	P	19 38 47.8	-0.4	
	baz=334							
MXZ	Matakaoa Point	86.86	155	IAms_20	IAms_20	20 10 50.3		
	comp=Z,2μm,20.0s							
S51A	Beattyville	86.87	37	IAms_20	IAms_20	20 24 00.5		
	comp=Z,3μm,18.0s							
N58A	Sunbury	86.88	31	IAmb	IAmb	19 38 49.8		
	comp=Z,298nm,1.4s							
N58A				IAms_20	IAms_20	20 19 35.1		
	comp=Z,3μm,21.0s							
Q54A	Coxs Mills	86.89	35	IAmb	IAmb	19 38 58.0		
	comp=Z,238nm,1.0s							
Q54A				IAms_20	IAms_20	20 16 56.8		
	comp=Z,3μm,19.0s							
CLTN	Cedars of Leba	86.94	40	IAmb	IAmb	19 38 50.6		
	comp=Z,366nm,1.4s							
CLTN				IAms_20	IAms_20	20 21 29.5		
	comp=Z,3μm,18.0s							
V48A	Smith Brothers	87.01	40	IAmb	IAmb	19 38 58.3		
	comp=Z,201nm,1.1s							
PLAL	Pickwick Lake	87.04	42	IAms_20	IAms_20	20 22 03.2		
	comp=Z,3μm,20.0s							
TAU	Tasmania Unive	87.06	179	P	P	19 38 50.9	+2.2	
HKT	Hockley	87.07	50	P	P	19 38 49.7	+0.4	
HKT				IAmb	IAmb	19 38 51.7		
	comp=Z,299nm,1.8s							
HKT	Hockley	87.07	50	IAms_20	IAms_20	20 24 32.3		
	comp=Z,2μm,18.0s							
HKT	Hockley	87.07	50*c*	*i*P	P	19 38 49.5	+0.2	
HKT				pmax	pmax			
	comp=Z,57nm,1.5s							
URZ	Urewera	87.15	156	P	P	19 38 49.7	+0.4	
	comp=Z,10nm,0.8s,baz=14,slow=4.2,SNR=2.9							
URZ				LR	LR	20 12 43.6		
	comp=Z,1μm,20.4s,baz=54,slow=32							
	comp=Z,10nm,0.8s							
HRV	Adam Dziewonsk	87.17	27	P	P	19 38 49.7	0.0	
HRV				IAmb	IAmb	19 38 51.6		
	comp=Z,350nm,1.6s							
HRV	Adam Dziewonsk	87.17	27	P	P	19 38 49.7	0.0	
HRV				pmax	pmax			
	comp=Z,350nm,1.6s							
HRV				MLR	MLR			
	comp=Z,4μm,18.0s							
Y45A	Yeager Farm, C	87.24	43	IAms_20	IAms_20	20 21 59.5		
	comp=Z,2μm,18.0s							
143A	Socs Landing,	87.24	45	IAms_20	IAms_20	20 21 53.8		
	comp=Z,3μm,21.0s							
EJON	La Jonquera	87.25	333	P	P	19 38 49.7	-0.5	
VAE	Valguarnera	87.26	323	LR	LR	20 22 11.4		
	comp=Z,4μm,18.6s,baz=43,slow=39							
ODNJ	Ogdensburg	87.42	29	IAmb	IAmb	19 38 52.2		
	comp=Z,273nm,1.7s							
ODNJ				IAms_20	IAms_20	20 23 18.4		
	comp=Z,3μm,20.0s							
RTZ	Ruatahuna	87.44	156	IAms_20	IAms_20	20 17 16.5		
	comp=Z,3μm,18.0s							
TRNY	Table Rock, Ra	87.50	29	IAmb	IAmb	19 38 52.8		
	comp=Z,317nm,1.4s							
TRNY				IAms_20	IAms_20	20 21 39.4		
	comp=Z,3μm,19.0s							
P57A	Homestead Farm	87.57	32	IAmb	IAmb	19 38 53.4		
	comp=Z,349nm,1.5s							
LUPA	Lehigh Univers	87.58	30	IAms_20	IAms_20	20 25 18.6		
	comp=Z,2μm,21.0s							
UCCT	U. Connecticut	87.59	27	IAmb	IAmb	19 38 53.4		
	comp=Z,286nm,1.4s							
UCCT				IAms_20	IAms_20	20 24 04.9		
	comp=Z,3μm,18.0s							
CEST	Esterri de Car	87.62	335	IAmb	IAmb	19 39 02.2		
	comp=Z,635nm,1.6s							
CEST				IAms_20	IAms_20	20 18 57.1		
	comp=Z,4μm,19.0s							
HBVL	Hebbronville	87.69	54	IAmb	IAmb	19 38 55.6		
	comp=Z,274nm,1.5s							
S54A	Dingess, Beckl	87.70	35	IAmb	IAmb	19 38 54.1		
	comp=Z,282nm,1.4s							
MVL	Millersville	87.75	31	IAmb	IAmb	19 38 54.1		
	comp=Z,302nm,1.4s							
MVL				IAms_20	IAms_20	20 20 02.2

FPAL Fort Paine 88.55 40 IAmb IAmb 19 38 58.0
comp=Z,166nm,1.5s
FPAL IAMs_20 IAMs_20 20 22 20.2
comp=Z,2μm,18.0s
BLA Blacksburg 88.57 35 IAMs_20 IAMs_20 20 17 46.3
comp=Z,3μm,22.0s
U54A Nelsons Funny 88.58 36 IAmb IAmb 19 39 06.0
comp=Z,231nm,1.2s
U54A IAMs_20 IAMs_20 20 24 51.5
comp=Z,2μm,19.0s
WDD Wied Dalam 88.59 322 IAMs_20 IAMs_20 20 23 02.3
comp=Z,3μm,20.0s
P61A Hammonton 88.60 30 IAMs_20 IAMs_20 20 23 04.7
comp=Z,3μm,18.0s
ZAIG Zacatecas 88.60 59 IAMs_20 IAMs_20 20 15 29.0
comp=Z,2μm,20.0s
S57A Dark Hollow, R 88.70 34 IAMs_20 IAMs_20 20 24 29.5
comp=Z,3μm,19.0s
Y49A Blount Mountai 88.75 41 IAmb IAmb 19 38 58.8
comp=Z,202nm,1.3s
W52A Murphy 88.86 39 IAmb IAmb 19 38 59.8
comp=Z,415nm,1.8s
W52A IAMs_20 IAMs_20 20 24 12.1
comp=Z,3μm,19.0s
V53A Saluda 88.87 38 IAmb IAmb 19 39 06.8
comp=Z,225nm,1.4s
V53A IAMs_20 IAMs_20 20 20 51.3
comp=Z,3μm,20.0s
X51A Calhoun 88.88 40 IAmb IAmb 19 38 59.7
comp=Z,353nm,1.5s
X51A IAMs_20 IAMs_20 20 22 22.8
comp=Z,3μm,18.0s
CBN Corbin Frederi 88.93 33 IAmb IAmb 19 39 07.6
comp=Z,252nm,1.1s
CBN IAMs_20 IAMs_20 20 23 14.6
comp=Z,3μm,19.0s
R58B Mineral 88.94 33 IAmb IAmb 19 38 60.0
comp=Z,245nm,1.5s
MAHO Mahon 89.08 331 IAMs_20 IAMs_20 20 18 20.8
comp=Z,3μm,20.0s
LRAL Lakeview Retre 89.14 42 IAMs_20 IAMs_20 20 22 59.8
comp=Z,3μm,19.0s
BFZ Birch Farm 89.15 157 IAmb IAmb 19 39 01.7
comp=Z,350nm,1.6s
BFZ Birch Farm 89.15 157 P **P** **19 39 00.1 +1.4**
T57A Hurt 89.23 34 IAmb IAmb 19 39 01.3
comp=Z,225nm,1.3s
346A Big Creek Wild 89.27 45 IAmb IAmb 19 39 02.4
comp=Z,308nm,1.5s
346A IAMs_20 IAMs_20 20 23 33.6
comp=Z,2μm,18.0s
SNZO South Karori 89.32 159 P **P** **19 39 00.4 +0.9**
SNZO South Karori 89.32 159 P **P** **19 39 01.6 +2.1**
U56A King 89.33 36 IAmb IAmb 19 39 01.8
comp=Z,214nm,1.3s
U56A IAMs_20 IAMs_20 20 25 48.3
comp=Z,2μm,19.0s
BG3 Lake Jocassee 89.39 38 IAmb IAmb 19 39 10.1
comp=Z,228nm,1.1s
BG3 IAMs_20 IAMs_20 20 25 44.0
comp=Z,3μm,19.0s
V55A Taylorsville 89.40 36 IAmb IAmb 19 39 02.1
comp=Z,237nm,1.5s
BHW Baring Head 89.46 158 IAmb IAmb 19 39 02.8
comp=Z,256nm,1.3s
TBI Tubuai 89.76 124 *e*P **P** **19 38 57.6 -4.4**
comp=Z,1μm,26.2s
TBI Tubuai 89.76 124 *e*PP **PP** **19 42 31.3 -3.4**
comp=Z,1μm,37.8s
TBI *e*S **S** **19 49 47.6 -5.7**
comp=Z,10μm,31.2s
TBI *e*SS **SS** **19 55 46.8 -4.1**
comp=Z,3μm,24.2s
TBI *e*LQ LQ 20 03 45.2
comp=Z,8μm,27.2s
TBI *e*LR LR 20 07 32.5
comp=Z,40μm,29.2s
TBI *e*LR LR 20 07 36.4
comp=Z,8μm,26.5s
Y52A Lilburn 89.83 39 IAmb IAmb 19 39 11.5
comp=Z,193nm,1.4s
INZ Inchbonnie 89.86 161 IAmb IAmb 19 39 04.8
comp=Z,226nm,1.3s
T59A Double "B" Far 89.93 33 IAmb IAmb 19 39 04.8
comp=Z,285nm,1.5s
KMSC Kings Mountain 89.95 37 IAMs_20 IAMs_20 20 25 54.0
comp=Z,2μm,19.0s
PAULI Pauline 90.02 37 IAmb IAmb 19 39 04.9
comp=Z,170nm,1.2s
PAULI IAMs_20 IAMs_20 20 24 11.8
comp=Z,3μm,19.0s
LTZ Lake Taylor 90.10 161 IAmb IAmb 19 39 06.2
comp=Z,449nm,1.9s
HODGE Hodges 90.32 38 IAmb IAmb 19 39 06.7
comp=Z,242nm,1.4s
250A Grady 90.36 42 IAMs_20 IAMs_20 20 23 59.2
comp=Z,2μm,20.0s
GOGA Godfrey 90.47 39 IAMs_20 IAMs_20 20 24 22.0
comp=Z,3μm,19.0s
GOGA Godfrey 90.47 39 IAmb IAmb 19 39 07.5
comp=Z,268nm,1.6s
W57A Gilead 90.51 36 IAmb IAmb 19 39 14.9
comp=Z,182nm,1.1s
152A Waverly Hall 90.52 41 IAmb IAmb 19 39 07.2
comp=Z,199nm,1.6s
152A IAMs_20 IAMs_20 20 23 58.3
comp=Z,3μm,19.0s
JCZ Jackson Bay 90.57 164 P **P** **19 39 08.1 +2.7**
PBRG Braganca 90.58 340 *e*P **P** **19 39 03.4 -2.5**
PBRG A A 19 39 14.3
comp=Z,103nm,1.8s
BRAL Brewton 90.65 43 IAMs_20 IAMs_20 20 24 22.9
comp=Z,3μm,20.0s
RPZ Rata Peaks 90.71 162 P **P** **19 39 05.3 -0.6**
comp=Z,20nm,0.9s,baz=311,slow=7.1,SNR=2.9
RPZ LR LR 20 19 14.8
comp=Z,1μm,19.0s,baz=346,slow=35
comp=Z,20nm,0.9s
JSC Jenkinsville 90.72 37 IAmb IAmb 19 39 08.3
comp=Z,164nm,1.3s
BIRD Birdtown, Kers 90.75 36 IAmb IAmb 19 39 15.5
comp=Z,238nm,1.4s
PGAV Gavieira, Arco 90.80 341 *e*LR LR 20 12 27.2
PGAV A A 20 29 12.4
comp=Z,3μm,20.0s
KEST Kesra 90.86 326 IAmb IAmb 19 39 15.5
comp=Z,233nm,1.8s
KEST Kesra 90.86 326 P **P** **19 39 07.4 +0.1**
comp=Z,43nm,1.2s,baz=323,slow=2.5,SNR=10
KEST LR LR 20 23 21.3
comp=Z,7μm,18.4s,baz=26,slow=38
comp=Z,43nm,1.2s
ATD Arta Tunnel 90.99 287 LR LR 20 24 16.4
comp=Z,256nm,20.1s,baz=28,slow=38
ECHE Chera 91.05 335 P **P** **19 39 07.4 -0.7**
UCM Universidad Co 91.06 337 P **P** **19 39 06.8 -1.2**
W59A Clinton 91.14 35 IAmb IAmb 19 39 18.1
comp=Z,185nm,1.0s
W59A IAMs_20 IAMs_20 20 24 18.3
comp=Z,3μm,20.0s
MVO Moncorvo 91.26 340 *e*P **P** **19 39 08.3 -0.7**
MVO A A 19 39 11.5
comp=Z,60nm,1.7s
MVO Moncorvo 91.26 340 *e*LR LR 20 14 11.2
MVO A A 20 28 19.4
comp=Z,3μm,20.0s
X58A Rowland 91.30 36 IAmb IAmb 19 39 10.9
comp=Z,225nm,1.4s
X58A IAMs_20 IAMs_20 20 27 04.6
comp=Z,3μm,18.0s
154A Montrose 91.31 39 IAMs_20 IAMs_20 20 23 47.1
comp=Z,3μm,18.0s
Y57A Sumter 91.32 37 IAmb IAmb 19 39 11.0
comp=Z,146nm,1.3s
PVRL Vila Real 91.32 340 *e*P **P** **19 39 09.3 0.0**
PVRL A A 19 39 19.5
comp=Z,169nm,1.9s
352A Blakely 91.41 41 IAMs_20 IAMs_20 20 24 29.0
comp=Z,3μm,20.0s
MLZ Mavora Lakes 91.68 164 IAmb IAmb 19 39 21.2
comp=Z,105nm,1.3s
Y58A Scranton 91.72 36 IAMs_20 IAMs_20 20 26 52.8
comp=Z,3μm,20.0s
451A Vernon 91.73 42 IAMs_20 IAMs_20 20 24 43.6
comp=Z,2μm,19.0s
MOIG Morelia 91.76 60 IAMs_20 IAMs_20 20 14 23.8
comp=Z,2μm,20.0s
ESBB Sonseca Array 91.84 337 IAmb IAmb 19 39 20.9
comp=Z,237nm,1.6s
ESDC Sonseca Array 91.85 337 P **P** **19 39 10.9 -0.9**
ESDC IAmb IAmb 19 39 20.9
comp=Z,223nm,1.6s
ESDC Sonseca Array 91.85 337 P **P** **19 39 11.9 +0.1**
comp=Z,25nm,1.0s,baz=8.8,slow=3.6,SNR=71
ESDC LR LR 20 25 30.6
comp=Z,4μm,21.1s,baz=28,slow=39
comp=Z,25nm,1.0s
TEND Ethiopian Broa 92.05 289 *e*P **P** **19 39 14.1 +1.0**
PAB San Pablo 92.07 337 P **P** **19 39 12.3 -0.6**
PAB IAmb IAmb 19 39 21.0
comp=Z,323nm,2.0s
PAB San Pablo 92.07 337 P **P** **19 39 12.3 -0.6**
PAB pmax pmax
comp=Z,323nm,2.0s
PAB MLR MLR
comp=Z,4μm,19.0s
MTE Manteigas 92.11 340 *e*P **P** **19 39 13.0 0.0**
MTE A A 19 39 22.5
comp=Z,130nm,1.8s
MTE Manteigas 92.11 340 *e*LR LR 20 13 50.5
MTE A A 20 28 55.0
comp=Z,3μm,20.0s
Y60A Bolivia 92.24 35 IAMs_20 IAMs_20 20 28 24.5
comp=Z,2μm,18.0s
HARA HARA 92.29 285 *e*P **P** **19 39 18.5 +4.1**
257A Skidaway Islan 92.78 38 IAMs_20 IAMs_20 20 25 05.0
comp=Z,3μm,18.0s
CART Cartagena 92.90 334 IAMs_20 IAMs_20 20 28 29.8
comp=Z,3μm,19.0s
PMRV Marv??o 92.99 339 *e*LR LR 20 13 25.8
PMRV A A 20 27 37.4
comp=Z,3μm,20.0s
UNM Universidad Na 93.26 59 IAMs_20 IAMs_20 20 27 35.5
comp=Z,2μm,19.0s
456A Hilliard 93.39 40 IAMs_20 IAMs_20 20 25 20.3
comp=Z,3μm,19.0s
MSEY Mahe Island 93.40 267 IAMs_20 IAMs_20 20 22 29.6
comp=Z,2μm,22.0s
MSEY Mahe Island 93.40 267 P **P** **19 39 18.7 -0.6**
PESTR Estremoz 93.57 339 *e*P **P** **19 39 18.3 -1.4**
PESTR A A 19 39 28.0
comp=Z,46nm,1.7s
PBAR Barrancos 94.08 339 *e*P **P** **19 39 22.2 +0.2**
PBAR A A 19 39 31.4
comp=Z,57nm,1.7s
656A Willston 94.30 41 IAMs_20 IAMs_20 20 27 44.4
comp=Z,2μm,20.0s
PBEJ Beja 94.43 339 *e*P **P** **19 39 24.5 +0.8**
PBEJ A A 19 39 33.1
comp=Z,127nm,1.9s
ANKE Ethiopia-Afar 94.50 288 *e*P **P** **19 39 25.2 +0.5**
PVAQ Vaqueiros 94.98 339 *e*LR LR 20 16 05.9
PVAQ A A 20 26 29.1
comp=Z,4μm,20.0s
MORF Marmelete 95.31 340 *e*P **P** **19 39 27.7 0.0**
MORF A A 19 39 37.2
comp=Z,157nm,1.9s
WLRA Wolmera 95.56 288 *e*P **P** **19 39 29.6 0.0**
FURI Furi 95.72 288 LR LR 20 26 50.8
comp=Z,5μm,21.6s,baz=30,slow=38
GRD1 Great Renaissa 96.52 292 *e*P **P** **19 39 32.4 -1.2**
060A Indiantown 97.29 40 IAMs_20 IAMs_20 20 27 49.5
comp=Z,2μm,18.0s
CMIG Matias Romero 97.58 57 LR LR 20 22 39.7
comp=Z,834nm,19.9s,baz=317,slow=35
DILA Dilla 97.76 287 *e*P Pdif 19 39 41.2 +1.8
061Z Ochoppi 98.03 41 IAMs_20 IAMs_20 20 28 25.1
comp=Z,2μm,18.0s
MDT Midelt 98.42 335 LR LR 20 29 39.4
comp=Z,1μm,20.0s,baz=36,slow=39
RKT Rikitea 98.67 114 *e*P **P** **19 39 38.5 -4.4**
comp=Z,706nm,27.5s
RKT Rikitea 98.67 114 *e*PP **PP** **19 43 42.2 -2.1**
comp=Z,922nm,37.0s
RKT *e*S **S** **19 51 15.6 +3.8**
comp=Z,9μm,33.5s
RKT *e*SS **SS** **19 57 58.5 +0.3**
comp=Z,11μm,26.8s
RKT Rikitea 98.67 114 *e*LR LR 20 11 47.3
comp=Z,46μm,31.5s
AVE Averroes 98.78 337 IAMs_20 IAMs_20 20 31 26.2
comp=Z,2μm,20.0s
TEIG Tepich 98.91 50 IAMs_20 IAMs_20 20 31 14.4
comp=Z,2μm,21.0s
SOR Soroa 99.58 45 IAMs_20 IAMs_20 20 33 30.7
comp=Z,2μm,18.0s
CAMR Camarioca 100.17 43 IAMs_20 IAMs_20 20 30 28.1
comp=Z,3μm,20.0s
LODK Lodwar 101.94 287 P **Pdif** **19 39 58.7 +0.8**
SNR=8.8
ESQI Esquipulas 102.85 54 IAMs_20 IAMs_20 20 35 59.2
comp=Z,1μm,19.0s
MTO3 Montecristo 102.96 55 IAMs_20 IAMs_20 20 36 04.3
comp=Z,1μm,20.0s
SNET Serv Nac Est T 103.60 55 IAMs_20 IAMs_20 20 36 46.3
comp=Z,1μm,19.0s
TAM Tamanrasset 103.76 323 Pdif **Pdif** **19 40 05.2 -0.8**
TAM Tamanrasset 103.76 323 P **Pdif** **19 40 05.2 -0.8**
TAM MLR MLR
comp=Z,3μm,20.0s
KMBO Kilima Mbogo 103.89 282 P **Pdif** **19 40 07.3 +0.5**
KMBO Kilima Mbogo 103.89 282 Pdiff **Pdif** **19 40 07.7 +0.9**
comp=Z,4.5nm,1.0s,baz=37,slow=11,SNR=12
KIBK Kibwezi 104.19 281 P **Pdif** **19 40 05.5 -2.4**
KIBK PKP **PKiKP** **19 44 19.9 -4.9**
KIBK Kibwezi 104.19 281 P **Pdif** **19 40 08.4 +0.6**
SNR=10
CHIV Chivirico 105.18 41 IAMs_20 IAMs_20 20 30 48.5
comp=Z,2μm,20.0s
NMDO Nuevo Mundo 105.33 39 IAMs_20 IAMs_20 20 35 08.5
comp=Z,2μm,18.0s
MTDJ Mount Denham 106.15 43 IAMs_20 IAMs_20 20 31 34.5
comp=Z,2μm,20.0s
BOAB BOACO BROADBAND 106.66 53 IAMs_20 IAMs_20 20 36 00.9
comp=Z,2μm,21.0s
ABPO Ambohimpanom 109.03 262 IAMs_20 IAMs_20 20 29 46.7
comp=Z,2μm,20.0s
PCDR Punta Cana, DR 109.98 34 IAMs_20 IAMs_20 20 33 35.1
comp=Z,2μm,21.0s
MLPR Magueyes Islan 111.00 33 IAMs_20 IAMs_20 20 38 53.2
comp=Z,1μm,20.0s
CELP Cerrillos 111.09 33 IAMs_20 IAMs_20 20 39 07.5
comp=Z,1μm,20.0s
OBIP Obispado Ponce 111.11 33 IAMs_20 IAMs_20 20 39 08.0
comp=Z,2μm,20.0s
SJG San Juan 111.22 33 IAMs_20 IAMs_20 20 36 52.0
comp=Z,2μm,20.0s
VOI Vohitsoka 111.23 260 IAMs_20 IAMs_20 20 34 09.1
comp=Z,1μm,18.0s
BRU2 Volcan 111.31 52 IAMs_20 IAMs_20 20 37 38.3
comp=Z,1μm,19.0s
HUMP Col San Antoni 111.31 32 IAMs_20 IAMs_20 20 36 50.3
comp=Z,1μm,20.0s
IGPR InterUniversit 111.38 33 IAMs_20 IAMs_20 20 37 51.9
comp=Z,1μm,20.0s
FOMA Nahampoana Res 113.07 257 IAMs_20 IAMs_20 20 36 15.0
comp=Z,2μm,19.0s
ANWB Willy Bob 113.22 29 IAMs_20 IAMs_20 20 36 16.5
comp=Z,2μm,21.0s
TORD Torodi Ar. Bea 113.95 321 PKiKP **PKiKP** **19 44 41.7 -1.3**
comp=Z,2.3nm,0.6s,baz=18,slow=2.7,SNR=13
TORD PKKPbc **PKKPbc** **19 55 23.6 +0.7**
comp=Z,2.6nm,0.6s,baz=228,slow=1.7,SNR=16
TORD PKKPab **PKKPab** **19 55 32.1 -1.4**
comp=Z,5.2nm,0.9s,baz=224,slow=1.2,SNR=11
ABD La Joyeuse, An 114.43 29 IAMs_20 IAMs_20 20 38 25.6
comp=Z,2μm,20.0s
GDSD La Dsirade Is 114.73 28 IAMs_20 IAMs_20 20 39 14.4
comp=Z,2μm,20.0s
CBE Ff, Capester 114.77 29 IAMs_20 IAMs_20 20 36 21.5
comp=Z,2μm,20.0s
HATO Hato, Curacao 115.40 38 IAMs_20 IAMs_20 20 37 28.0
comp=Z,2μm,21.0s
FDF Fort de France 116.16 29 IAMs_20 IAMs_20 20 33 52.5
comp=Z,2μm,20.0s
ILAM Ilet Lapin Mar 116.22 29 IAMs_20 IAMs_20 20 36 52.0
comp=Z,2μm,22.0s
BIM Bigot 116.39 29 IAMs_20 IAMs_20 20 37 00.6
comp=Z,2μm,21.0s
MPOM Morne Pois Mar 116.53 29 IAMs_20 IAMs_20 20 38 19.2
comp=Z,2μm,21.0s
SDV Santo Domingo 117.53 41 **PKPdf** **19 44 49.6 -0.6**
SDV IAMs_20 IAMs_20 20 43 51.0
comp=Z,2μm,20.0s
GRGR Grenville 118.39 31 IAMs_20 IAMs_20 20 36 16.6
comp=Z,2μm,22.0s
ROSC El Rosal 119.17 47 PKP **PKiKP** **19 44 54.3 +0.7**
comp=Z,3.5nm,0.3s,baz=324,slow=12,SNR=9.4
OTAV Otavalo 120.69 54 *e*P **PKPdf** **19 44 56.5 -0.1**
DBIC Dimbokro 122.56 325 PKP **PKPdf** **19 44 59.1 -0.4**
comp=Z,30nm,1.1s,baz=18,slow=1.7,SNR=15
DBIC SKKP **SKKPdf** **19 58 54.8 -7.5**
comp=Z,4.6nm,1.1s,baz=158,slow=2.5,SNR=3.0
SBA Scott Base 122.78 175 **PKiKP** **19 44 58.6 +0.4**
SBA Scott Base 122.78 175 PKIKP **PKiKP** **19 44 58.6 +0.4**
KSANE Kasane 123.96 278 *i* P **PKiKP** **19 45 03.7 +1.2**
BROLN Tlhalogang 124.57 274 *i* P **PKiKP** **19 45 04.2 +0.6**
SOOWA Sowa 125.02 275 *i* P **PKiKP** **19 45 05.3 +0.8**
MREMI Moremi 125.43 272 *i* P **PKiKP** **19 45 05.8 +0.6**
LPHEP Lephephe 127.06 273 *i* P **PKiKP** **19 45 08.8 +0.2**
CKGRV CKGRV 127.31 276 *i* P **PKiKP** **19 45 09.8 +0.8**
MAW Mawson 127.67 209 PKP **PKiKP** **19 45 08.7 +0.5**
comp=Z,17nm,0.9s,baz=42,slow=1.0,SNR=17
BOAV Boa Vista 127.75 34 PKPdf **PKPdf** **19 45 09.5 0.0**
BOAV IAMs_20 IAMs_20 20 44 10.1
comp=Z,1μm,22.0s
BOAV Boa Vista 127.75 34 *e*P **PKiKP** **19 45 10.2 +0.1**
QNGWA Qangwa 127.92 280 *i* P **PKiKP** **19 45 10.4 0.0**
KDWAN Kaudwane 127.93 274 *i* P **PKiKP** **19 45 11.1 +0.9**
GRTLG Ghanzi 129.09 278 *i* P **PKiKP** **19 45 13.7 +1.0**
TBTG Tabatinga, AM 129.10 48 *e*P **PKiKP** **19 45 12.5 -0.3**
SKOMA Sekoma 129.15 273 *i* P **PKiKP** **19 45 12.9 +0.3**
TSUM Tsumeb 130.22 283 PKPdf **PKiKP** **19 45 14.8 -0.2**
CZSB Cruzeiro do Su 130.46 54 *e*P **PKPdf** **19 45 13.9 -0.7**
BOSA Boshof 130.66 268 PKPdf **PKiKP** **19 45 15.3 -0.2**
BOSA Boshof 130.66 268 PKIKP **PKiKP** **19 45 15.4 -0.2**
NNA Nana 131.29 62 PKPdf **PKPdf** **19 45 16.1 -0.1**
NNA Nana 131.29 62 IAMs_20 IAMs_20 20 30 08.0
comp=Z,1μm,22.0s
NNA Nana 131.29 62 PKIKP **PKPdf** **19 45 16.1 -0.1**
NNA MLR MLR
comp=Z,2μm,22.0s
MACA Manacapuru-AM 132.70 37 IAMs_20 IAMs_20 20 48 26.7
comp=Z,992nm,20.0s
QSPA South Pole Qui 134.25 180 IAMs_20 IAMs_20 20 41 15.3
comp=Z,1μm,20.0s
QSPA South Pole Qui 134.25 180 PKP **PKiKP** **19 45 21.4 -0.2**
comp=Z,31nm,1.1s,baz=2.3,slow=1.6,SNR=32
ETMB Extrema 135.79 48 *e*P **PKPdf** **19 45 24.4 -0.2**
ITTB Itaituba 135.79 32 *e*P **PKiKP** **19 45 25.7 -0.7**
SAML Samuel 136.62 44 IAMs_20 IAMs_20 20 53 25.3
comp=Z,1μm,20.0s
SAML Samuel 136.62 44 *e*P **PKiKP** **19 45 27.6 -0.4**
NPGB Novo Progresso 138.40 32 *e*P **PKiKP** **19 45 30.8 -0.8**
PRPB Parauapebas 139.46 24 *e*P **PKPdf** **19 45 32.3 +0.8**
ASCN Ascension 139.64 329 IAMs_20 IAMs_20 20 38 36.7
comp=Z,2μm,21.0s
NBCL Cascavel-CE 139.72 6 *e*P **PKiKP** **19 45 33.4 -1.0**
LPAZ La Paz 139.95 56 PKP **PKPdf** **19 45 31.8 -1.2**
comp=Z,2.9nm,0.6s,baz=351,slow=3.9,SNR=7.7
AP01 Chacalluta 140.19 61 IAMs_20 IAMs_20 20 35 11.7
comp=Z,2μm,22.0s
NBPB Pedra_Branca-C 140.91 8 *e*P **PKPdf** **19 45 35.4 +1.3**
RCBR Riachuelo 141.44 3 *e*P **PKPdf** **19 45 32.7 -2.4**
VILB Vilhena 141.53 43 *e*P **PKPdf** **19 45 35.9 +0.7**
PB11 IPOC Station P 141.66 61 IAMs_20 IAMs_20 20 44 59.6
comp=Z,2μm,22.0s
CLDB Colider 141.70 36 *e*P **PKPdf** **19 45 36.2 +0.7**
GO01 Chusmiza 141.88 61 IAMs_20 IAMs_20 20 34 18.4
comp=Z,2μm,22.0s
PDRB Porto dos Gac 141.97 37 *e*P **PKPdf** **19 45 35.3 -0.7**
PATCX Punta Patache 142.12 63 IAMs_20 IAMs_20 20 33 51.1
comp=Z,1μm,20.0s
PB08 IPOC Station P 142.26 61 IAMs_20 IAMs_20 20 41 27.4
comp=Z,2μm,22.0s
SMTB Santa Maria do 142.65 22 *e*P **PKPdf** **19 45 38.1 +0.9**
NBCA Caruaru-PE 143.82 3 *e*P PKPbc 19 45 37.7 +0.8
PTLB Pontes e Lacer 144.20 44 *e*P **PKPab** **19 45 37.6 +0.1**
LVC Limon Verde 144.21 64 PKPdf **PKPdf** **19 45 39.5 -0.6**
LVC Limon Verde 144.21 64 PKIKP **PKPdf** **19 45 39.5 -0.6**
LVC MLR MLR
comp=Z,3μm,20.0s
LVC Limon Verde 144.21 64 *e*P **PKPdf** **19 45 39.5 -0.6**
SNDB Serra Nova Dou 144.44 29 *e*P **PKPdf** **19 45 39.7 -0.6**
PB14 IPOC Station P 144.64 68 PKP **PKPab** **19 45 36.6 -2.8**
BBSD Serra de San D 144.91 47 *e*P **PKPab** **19 45 39.7 -0.5**
NBAN Anadia - AL 145.24 3 *e*P **PKPbc** **19 45 41.2 -0.1**
NVL N'lazarevskaya 145.44 205 *e*PKP2 **PKPdf** **19 45 37.6 -2.7**
NVL *e*SS SS 20 07 48.4 -3.6
GO02 Mina Guanaco 145.55 68 *i* P **PKPbc** **19 45 42.5 0.0**
SALV Santo Antonio 146.22 39 *e*P **PKPbc** **19 45 44.3 0.0**
NBLA Lagarto - SE 146.46 6 *e*P **PKPbc** **19 45 44.9 -0.2**
BELA Belgrano 2 146.53 180 IAMs_20 IAMs_20 21 01 11.5
comp=Z,902nm,20.0s
GO03 Copiapo 146.72 72 *i* P **PKPdf** **19 45 43.8 -0.1**
SDBA SAO DESIDERIO 146.74 19 *e*P **PKPbc** **19 45 45.5 -0.4**
LCO Las Campanas 147.29 74 **PKPdf** **19 45 46.1 +1.0**
LCO Las Campanas 147.29 74 PKP2 **PKPdf** **19 45 46.1 +1.0**
LCO MLR MLR
comp=Z,2μm,19.0s
TROLL Troll, Antarti 147.36 200 ⇑PKPdf **PKPbc** **19 45 44.9 -1.2**
comp=Z,334nm,0.3s
TROLL ⇓PKiKP **pPKPdf** **19 45 46.9 -1.1**
comp=Z,6μm,0.7s
TROLL ⇑PP **PP** **19 49 11.9 -0.6**
comp=Z,577nm,1.0s
ARAG Araguaiana, MT 147.68 33 *e*P **PKPbc** **19 45 47.2 -1.2**
SLA San Lorenzo 147.89 62 *i* P **PKPdf** **19 45 46.3 +0.2**
GO04 Tololo Observa 147.93 76 *i* P **PKPdf** **19 45 42.1 -4.0**
FSA Cafayete 148.56 65 *i* P **PKPdf** **19 45 47.9 +0.7**
VCA Vinchina 148.83 71 *i* P **PKPdf** **19 45 49.0 +1.5**
AROD Rodeo 148.85 75 *i* P **PKPdf** **19 45 49.0 +1.3**
SNAA Sanae 148.86 199 PKPdf **PKPdf** **19 45 45.6 -0.4**
SNAA IAMs_20 IAMs_20 20 53 01.8
comp=Z,956nm,20.0s
SNAA Sanae 148.86 199 ⇑PKPdf **PKPdf** **19 45 46.7 +0.6**
comp=Z,372nm,1.4s
SNAA ⇓PKiKP **PKPbc** **19 45 50.1 +0.1**
comp=Z,2μm,1.0s
SNAA ⇑PP **PP** **19 49 22.5 +1.4**
comp=Z,378nm,1.2s
SNAA Sanae 148.86 199 PKP **PKPdf** **19 45 45.4 -0.7**
comp=Z,90nm,1.0s,baz=109,slow=0.6,SNR=23
SNAA PKPbc **pPKPdf** **19 45 50.7 +0.4**
comp=Z,116nm,1.1s,baz=160,slow=2.0,SNR=62
SNAA Sanae 148.86 199 PKIKP **PKPdf** **19 45 45.7 -0.4**
SNAA MLR MLR
comp=Z,1μm,20.0s
BDFB Brasilia 148.96 26 **PKPdf** **19 45 49.0 +1.0**
BDFB Brasilia 148.96 26 PKP **PKPdf** **19 45 49.1 +1.1**
comp=Z,62nm,1.1s,baz=23,slow=2.4,SNR=19
BDFB PKPbc **pPKPdf** **19 45 52.4 +0.2**
comp=Z,62nm,1.1s,baz=326,slow=3.1,SNR=28
GDU01 Guandu, BA 148.98 10 *e*P **PKPdf** **19 45 48.9 +1.0**
ACDV Cuesta del Vie 149.09 74 *i* P **PKPbc** **19 45 50.6 -1.4**
ROC1 El Roble 149.38 81 *i* P **PKPdf** **19 45 46.0 -2.4**
ACCO Cerro Coronel 149.38 75 *i* P **PKPdf** **19 45 48.8 +0.3**
FDPY Filadelfia 149.40 52 *e*P **PKPdf** **19 45 48.3 -0.1**
JANB Januaria 149.43 19 *e*P **PKPdf** **19 45 49.6 +0.9**
AHML Horco Molle 149.44 65 *i* P **PKPdf** **19 45 48.8 +0.4**
DOCA Reserva Natura 149.58 75 *i* P **PKPdf** **19 45 50.1 +1.2**
VA03 San Esteban 149.59 80 *i* P **PKPdf** **19 45 49.2 +0.6**
BDQN Bodoquena, MS 149.62 45 *e*P **PKPdf** **19 45 50.4 +1.6**
PEL Peldehue 149.70 81 *i* P **PKPbc** **19 45 52.8 -0.5**
RTLS Leoncito 149.93 77 *i* P **PKPdf** **19 45 48.8 -0.5**
AUSP Uspallata 150.10 78 *i* P **PKPdf** **19 45 50.1 +0.5**
ACLC CERRO LA CRUZ 150.11 71 *i* P **PKPdf** **19 45 48.5 -1.0**
AQDB Aquidauana 150.17 43 *e*P **PKPdf** **19 45 51.3 +1.7**
MURT Porto Murtinho 150.18 48 *e*P **PKPdf** **19 45 51.0 +1.3**
ZON Zonda 150.21 76 *i* P **PKPdf** **19 45 49.0 -0.5**
RTLL Cerro Villicun 150.23 75 *i* P **PKPbc** **19 45 53.4 -1.2**
CYA Choya 150.25 68 *i* P **PKPdf** **19 45 50.2 +0.6**
VNA2 Neumayer--Watz 150.41 198 ⇑PKPdf **PKPdf** **19 45 49.5 +1.0**
comp=Z,18nm,0.9s,baz=211,slow=3.6
VNA2 ⇓PKiKP **sPKPdf** **19 45 54.2 0.0**
comp=Z,157nm,0.7s,baz=132,slow=1.6
VNA2 ⇑PP **PP** **19 49 30.4 +0.3**
comp=Z,21nm,1.3s,baz=65,slow=6.1
CMC01 Camacan, BA 150.60 10 *e*P **PKPdf** **19 45 51.3 +0.9**
VNA3 Neumayer Olymp 150.64 196 ⇑PKPdf **PKPdf** **19 45 49.6 +0.8**
comp=Z,12nm,1.0s
VNA3 ⇓PKiKP **sPKPdf** **19 45 54.5 0.0**
comp=Z,88nm,0.8s
VNA3 ⇑PP **PP** **19 49 32.3 +1.0**
comp=Z,28nm,1.0s
ASAL Salagasta 150.70 78 *i* P **PKPdf** **19 45 50.1 -0.1**
ARCO CERRO ARCO 150.77 78 *i* P **PKiKP** **19 45 56.5 -0.2**
VNA1 Neumayer--Stat 150.81 197 ⇑PKPdf **PKPdf** **19 45 49.4 +0.3**
comp=Z,34nm,1.2s

VNA1				⇓PKiKP	**PKiKP**	**19 45 56.0**	**+0.7**
	comp=Z,280nm,1.2s						
VNA1				⇑PP	**PP**	**19 49 34.1**	**+1.8**
	comp=Z,29nm,1.1s						
AAGR	**Agrelo**	**150.97**	**79**	*i* P	**PKPdf**	**19 45 50.9**	**+0.2**
IPMB	**Ipameri, GO**	**151.08**	**28**	*e*P	**PKPdf**	**19 45 52.4**	**+1.2**
RPRD	**Ribas do Rio P**	**151.12**	**40**	*e*P	**PKPdf**	**19 45 51.4**	**+0.3**
GUA01	**Guaratinga, BA**	**151.77**	**11**	*e*P	**PKPdf**	**19 45 53.7**	**+1.5**
PAPY	**Pozo Azul**	**151.79**	**52**	*e*P	**PKPdf**	**19 45 53.1**	**+1.1**
ITRB	**Iturama**	**151.87**	**34**	*e*P	**PKPdf**	**19 45 53.1**	**+0.8**
PMNB	**Patos De Minas**	**152.17**	**25**	*e*P	**PKPdf**	**19 45 53.1**	**+0.3**
AMBA	**Amambai (Brazi**	**152.58**	**45**	*e*P	**PKPdf**	**19 45 54.4**	**+1.1**
NAN01	**Guarapari, ES**	**152.96**	**12**	*e*P	**PKPdf**	**19 45 55.0**	**+1.0**
PLCA	**Paso Flores**	**153.20**	**95**	PKPdf	**PKPdf**	**19 45 53.9**	**+0.2**
PLCA	**Paso Flores**	**153.20**	**95**	PKP	**PKPdf**	**19 45 53.1**	**-0.7**
	comp=Z,17nm,1.2s,baz=25,slow=1.6,SNR=7.4						
PLCA				PKPbc	**PKPbc**	**19 46 00.8**	**-0.4**
	comp=Z,64nm,1.2s,baz=270,slow=3.1,SNR=21						
PLCA	**Paso Flores**	**153.20**	**95**	*e*P	**PKPdf**	**19 45 54.4**	**+0.7**
CPUP	**Villa Florida**	**154.04**	**53**	PKP	**PKPdf**	**19 45 55.4**	**+0.2**
	comp=Z,51nm,1.4s,baz=304,slow=1.9,SNR=19						
CPUP				PKPbc	**PKPbc**	**19 46 03.2**	**-0.1**
	comp=Z,11nm,1.1s,baz=339,slow=3.5,SNR=4.9						
PSAL	**Palomas, Salto**	**157.31**	**62**	*e*P	**PKPdf**	**19 46 01.6**	**+2.1**

JMA 04 19:26:53.1±0.1, 42°.1N±0°.3×139°.2E±0°.6, h10km, MV0.9/8, SW OFF HOKKAIDO, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.20**	**97**	*i* P	Pg	19 26 57.4	0.0
JOSM				*e*S	Sg	19 27 00.5	+0.3
JOMM	**Oshimamatsumae**	**0.83**	**134**	*e*P	Pg	19 27 08.8	-0.4
JOMM				*e*S	Sg	19 27 20.1	+0.1
JYM2	**Yakumo 2**	**0.86**	**89**	*e*P	Pg	19 27 09.7	-0.1

*NOU **04** 19:27:46.0, 14°.16S×166°.91E, h131km, MLv4.6/7, Vanuatu Islands*
*IDC **04** 19:27:52.9±13.0, 15°.08S×165°.53E, h0km, mb3.7/3, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=234.1km s-min=36.2km az=54.0*
ISC 04 19:27:50.3±2.1, 14°.6S±0°.2×166°.4E±0°.2, h35km, n8, σ1§54/9, mb3.5/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**1.80**	**145**	P	**Pn**	**19 28 20.0**	**+1.2**
DVP	**Devils Point**	**3.55**	**151**	P	**Pn**	**19 28 42.8**	**-0.1**
DZM	**Mont Dzumac**	**7.41**	**179**	Pn	**Pn**	**19 29 37.3**	**+1.2**
	0.8nm,0.3s,baz=325,slow=22,SNR=11						
DZM				Sn	**Sn**	**19 30 57.4**	**-1.6**
	0.5nm,0.3s,baz=319,slow=20,SNR=1.6						
	2.4nm,0.3s						
DZM	**Mont Dzumac**	**7.41**	**179**	P	**Pn**	**19 29 38.8**	**+2.7**
YATNC	**Mamie plateau,**	**7.42**	**176**	P	**Pn**	**19 29 36.9**	**+0.8**
STKA	**Stephens Creek**	**28.40**	**229**	P	**P**	**19 33 41.1**	**-0.5**
	1.4nm,0.6s,baz=56,slow=9.9,SNR=6.3						
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**31.00**	**256**	P	**P**	**19 34 04.5**	**-0.2**
	0.1nm,0.2s,baz=83,slow=8.4,SNR=11						
	0.1nm,0.2s						
ASAR	**Alice Springs**	**31.89**	**249**	P	**P**	**19 34 12.2**	**-0.4**
	0.4nm,0.5s,baz=80,slow=9.2,SNR=4.5						
	0.4nm,0.5s						

JMA 04 19:27:52.0±0.1, 36°.7N±0°.1×140°.6E±0°.4, h9km, MV0.3/7, NORTHERN IBARAKI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.12**	**186**	*e*P	Pg	19 27 54.9	+0.1
JHO				*e*S	Sg	19 27 56.7	0.0

JMA 04 19:29:20.2±0.1, 31°.1N±0°.4×130°.1E±0°.4, h6km, MV0.8/8, SATSUMA PENINSULA REGION, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.47**	**35**	*e*P	Pg	19 29 29.5	+0.2
JSU				*e*S	Sg	19 29 36.0	+0.6

ATH 04 19:37:00.6, 37°.02N×22°.01E, h8km±3km, ML2.5/4, 1C, Error ellipse: s-maj=3.8km s-min=1.1km az=258.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.17**	**338**	P	Pg	19 37 04.0	-0.3
ITM				S	Sg	19 37 06.8	+0.1
ITM				AML	AML	19 37 07.2	
	comp=E,3654μm,0.3s						
ITM				AML	AML	19 37 08.6	
	comp=N,2539μm,0.2s						
PYL	**PYLOS**	**0.25**	**240**	P	Pg	19 37 05.4	-0.2
PYL				S	Sg	19 37 09.3	+0.4
PYL				AML	AML	19 37 10.1	
	comp=N,3948μm,0.2s						
PYL				AML	AML	19 37 10.4	
	comp=E,4475μm,0.2s						
AMT	**Artemida-Makis**	**0.56**	**335**	P	Pg	19 37 11.4	-0.2
AMT				S	Sg	19 37 19.3	+0.3
AMT				AML	AML	19 37 21.3	
	comp=E,6706μm,0.3s						
AMT				AML	AML	19 37 22.1	
	comp=N,8220μm,0.3s						
VLI	**Veliai**	**0.80**	**112**	P	Pg	19 37 16.2	+0.1
VLI				S	Sg	19 37 26.8	+0.3
VLI				AML	AML	19 37 27.5	
	comp=N,397μm,0.2s						
VLI				AML	AML	19 37 29.6	
	comp=E,412μm,0.3s						
GUR	**Goura**	**0.95**	**16**	P	Pg	19 37 18.4	-0.6
DRO	**Drossia**	**0.96**	**346**	P	Pg	19 37 18.7	-0.4
DRO				S	Sg	19 37 31.7	+0.1
KLV	**Kalavryta, Ach**	**1.03**	**6**	P	Pg	19 37 19.5	-1.0
KLV				S	Sg	19 37 34.4	0.0
RLS	**Riolos of Patr**	**1.12**	**338**	P	Pg	19 37 21.6	-0.6
ULC	**Ulcinj**	**5.38**	**337**	⇑*i*P	Pn	19 38 20.0	+1.2

*IDC **04** 19:42:49.7±1.1, 44°.41N×145°.88E, h0km, mb3.4/6, mbtmp3.3/8, ML3.5/1, Error ellipse: s-maj=32.5km s-min=20.0km az=155.0*
*MOS **04** 19:42:51.3±1.5, 44°.53N×145°.66E, h21km, mb4.2/1, Error ellipse: s-maj=17.0km s-min=13.9km az=98.8*
*JMA **04** 19:42:51.9±0.2, 44°.6N±0°.6×145°.7E±0°.8, h18km±1km, MV4.1/39, NEAR KUNASHIRI ISLAND*
JMA Felt I J1 at NEAR KUNASHIRI ISLAND .
*SKHL **04** 19:42:52.1±0.3, 44°.60N×145°.60E, h23km±2km, mb4.7/3*
ISC 04 19:42:51.1±1.7, 44°.55N±0°.03×145°.70E±0°.03, h9km±12km, n26, σ0§94/40, mb3.4/6, 2C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.53**	**167**	*i* P	**Pb**	**19 43 02.5**	**-0.1**
YUK				AMB	AMB	19 43 03.7	
	480nm,0.2s						
YUK				*i* S	**Sb**	**19 43 10.0**	**-0.3**
YUK				A	A	19 43 10.5	
	9μm,0.4s						
YUK				A	A	19 43 10.5	
	7μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.53**	**167**	*c i*PN	**Pb**	**19 43 02.5**	**-0.1**
YUK				*i* S	**Sb**	**19 43 09.7**	**-0.6**
YUK				pmax	pmax		
	comp=E,715nm,0.1s						
YUK				pmax	pmax		
	comp=Z,7μm,0.1s						
YUK				pmax	pmax		
	comp=N,1μm,0.2s						
YUK				smax	smax		
	comp=N,8μm,0.2s						
YUK				smax	smax		
	comp=E,7μm,0.2s						
JRA	**Rausu**	**0.74**	**214**	*i* P	**Pb**	**19 43 05.9**	**-0.2**
JRA				S	**Sb**	**19 43 16.0**	**-0.3**
JNSB	**Nemuroshibetsu**	**0.92**	**213**	*i* P	**Pg**	**19 43 09.0**	**+0.2**
JNSB				S	**Sb**	**19 43 21.5**	**-0.1**
SHO	**Shikotan**	**1.06**	**130**	*i* P	**Pn**	**19 43 11.6**	**-0.5**
SHO				AMB	AMB	19 43 12.2	
	comp=E,580nm,0.5s						
SHO				*i* S	**Sn**	**19 43 26.3**	**-0.7**
SHO				A	A	19 43 27.4	
	comp=E,7μm,0.6s						
SHO				A	A	19 43 27.4	
	comp=E,3μm,0.6s						
SHO	**Shikotan**	**1.06**	**130**	⇑*i*PN	**Pn**	**19 43 11.6**	**-0.5**
SHO				*i* S	**Sn**	**19 43 26.5**	**-0.5**
SHO				pmax	pmax		
	comp=Z,231nm,0.2s						
SHO				pmax	pmax		
	comp=N,614nm,0.3s						
SHO				pmax	pmax		
	comp=E,519nm,0.3s						
SHO				smax	smax		
	comp=N,8μm,0.5s						
SHO				smax	smax		
	comp=E,2μm,0.4s						
NEM2	**Nemuro 2**	**1.19**	**178**	*i* P	**Pb**	**19 43 12.8**	**-0.9**
NEM2				S	**Sb**	**19 43 28.3**	**-0.9**
JNK	**Nakash**	**1.20**	**216**	P	**Pb**	**19 43 13.3**	**-0.6**
JNK				S	**Sb**	**19 43 28.8**	**-0.7**
JTKR	**Abashiri--Toko**	**1.41**	**246**	P	**Pn**	**19 43 16.4**	**-0.5**
JTKR				S	**Sn**	**19 43 34.4**	**-1.2**
JKHN	**Kushirohamanak**	**1.52**	**195**	*i* P	**Pn**	**19 43 18.1**	**-0.3**
JKHN				S	**Sn**	**19 43 37.7**	**-0.6**
KUR	**Kuril'sk**	**1.69**	**65**	*e*P	**Pb**	**19 43 21.5**	**-0.7**
KUR				AMB	AMB	19 43 27.9	
	comp=E,100nm,0.3s						
KUR				*e*S	**Sb**	**19 43 43.5**	**0.0**
KUR				A	A	19 43 55.0	
	comp=E,290nm,0.3s						
KUR				A	A	19 43 55.0	
	comp=E,150nm,0.3s						
KUR	**Kuril'sk**	**1.69**	**65**	*e*PN	**Pb**	**19 43 21.8**	**-0.4**
KUR				*e*S	**Sb**	**19 43 43.5**	**0.0**
KUR				pmax	pmax		
	comp=Z,95nm,0.4s						
KUR				smax	smax		
	comp=N,289nm,0.5s						
KUR				smax	smax		
	comp=E,148nm,0.5s						
JAK	**Akkeshi**	**1.72**	**205**	P	**Pn**	**19 43 20.6**	**-0.5**
JMP	**Maruseppu**	**1.77**	**253**	P	**Pn**	**19 43 22.2**	**+0.4**
JAR	**Ashorobuto**	**1.88**	**229**	P	**Pb**	**19 43 24.8**	**-0.7**
ASAJ	**Asahikawa**	**2.27**	**260**	Pn	**Pn**	**19 43 30.7**	**+2.1**
	comp=E,7.6nm,0.3s,baz=79,slow=10,SNR=12						
ASAJ				Sn	**Sb**	**19 44 00.6**	**+0.3**
	comp=E,16nm,0.3s,baz=35,slow=15,SNR=5.8						
	comp=E,12nm,0.3s						
YSS	**Yuzh-Sakhalins**	**3.16**	**320**	*e*P	**Pn**	**19 43 39.8**	**-1.2**
YSS				AMB	AMB	19 43 43.2	
	comp=E,10.0nm,0.3s						
YSS				*e*S	**Sn**	**19 44 15.7**	**-3.1**
YSS				A	A	19 44 21.6	
	comp=E,30nm,0.4s						
YSS				A	A	19 44 21.6	
	comp=E,40nm,0.4s						
YSS	**Yuzh-Sakhalins**	**3.16**	**320**	*e*PN	**Pn**	**19 43 39.8**	**-1.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MJAR	**Matsushiro Arr**	**9.82**	**218**	Pn	**Pn**	**19 45 12.9**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=31,slow=13,SNR=1.7						
SONM	**Songino Array**	**27.20**	**291**	P	**P**	**19 48 36.0**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=87,slow=9.7,SNR=3.8						
	comp=Z,0.3nm,0.7s						
SONM	**Songino Array**	**27.20**	**291**	P	**P**	**19 48 36.0**	**+0.9**
ILAR	**Eielson Array**	**41.46**	**37**	P	**P**	**19 50 37.8**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=277,slow=7.9,SNR=2.2						
	comp=Z,0.3nm,0.8s						
MKAR	**Makanchi Array**	**43.29**	**296**	P	**P**	**19 50 54.0**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=78,slow=8.5,SNR=3.1						
	comp=Z,0.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**46.77**	**252**	P	**P**	**19 51 22.0**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=46,slow=7.7,SNR=2.1						
	comp=Z,0.3nm,0.5s						
WRA	**Warramunga Arr**	**65.02**	**192**	P	**P**	**19 53 30.1**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=11,slow=6.8,SNR=5.1						
	comp=Z,0.7nm,0.8s						
PDAR	**Pinedale Array**	**70.18**	**49**	P	**P**	**19 54 05.1**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=259,slow=1.2,SNR=4.5						
	comp=Z,0.4nm,0.6s						

*NEIC **04** 19:46:07.9±1.8, 20°.3S±0°.2×176°.2W±0°.3, h550km±21km, mb4.1/14, Error ellipse: s-maj=40.0km s-min=26.3km az=49.0*
*IDC **04** 19:46:23.0±3.0, 20°.24S×178°.20W, h555km±35km, mb3.3/9, mbtmp4.2/10, Error ellipse: s-maj=45.1km s-min=13.7km az=155.0*
ISC 04 19:46:21.7±1.1, 20°.4S±0°.3×178°.1W±0°.2, h550km, n27, σ1§11/26, mb4.0/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.48**	**306**	P	**P**	**19 47 46.8**	**-0.6**
FUNA	**Funafuti**	**12.09**	**347**	P	P	19 48 50.9	-10
DZM	**Mont Dzumac**	**14.47**	**261**	P	**P**	**19 49 27.5**	**+1.6**
	2.9nm,0.6s,baz=280,slow=21,SNR=2.1						
EIDS	**Eidsvold**	**28.75**	**254**	P	**P**	**19 51 35.0**	**-0.4**
EIDS				IAmb	IAmb	19 51 39.8	
	comp=Z,4.2nm,1.0s						
CTAO	**Charters Tower**	**33.37**	**264**	P	**P**	**19 52 15.4**	**+0.4**
COEN	**Coen**	**37.45**	**274**	P	**P**	**19 52 50.4**	**+1.4**
STKA	**Stephens Creek**	**37.71**	**244**	P	**P**	**19 52 51.8**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=73,slow=13,SNR=3.0						
	comp=Z,1.2nm,0.6s						
BBOO	**Buckleboo**	**42.47**	**243**	P	**P**	**19 53 28.4**	**-0.6**
BBOO				IAmb	IAmb	19 53 46.0	
	comp=Z,4.3nm,1.0s						
AS31	**Alice Springs**	**44.41**	**257**	P	**P**	**19 53 44.1**	**-0.1**
ASAR	**Alice Springs**	**44.41**	**257**	P	**P**	**19 53 44.9**	**+0.6**
	comp=Z,8.1nm,0.8s,baz=90,slow=8.1,SNR=112						
ASAR				S	**S**	**19 59 39.9**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=94,slow=17,SNR=5.0						
	comp=Z,8.1nm,0.8s						
WB0	**Warramunga Arr**	**44.46**	**262**	P	**P**	**19 53 43.6**	**-1.0**
WB0				IAmb	IAmb	19 53 45.4	
	comp=Z,5.9nm,0.6s						
WB2	**Warramunga Arr**	**44.47**	**262**		**P**	**19 53 42.8**	**-1.9**
WB2				IAmb	IAmb	19 53 45.6	
	comp=Z,9.2nm,1.0s						
WRAB	**Tennant Creek**	**44.47**	**262**	P	**P**	**19 53 44.7**	**0.0**
WRAB				IAmb	IAmb	19 53 45.5	
	comp=Z,9.4nm,1.0s						
WRA	**Warramunga Arr**	**44.48**	**262**		**P**	**19 53 43.7**	**-1.1**
WRA	**Warramunga Arr**	**44.48**	**262**	P	**P**	**19 53 44.8**	**0.0**
	comp=Z,3.5nm,0.6s,baz=96,slow=8.3,SNR=32						
	comp=Z,3.5nm,0.6s						
MTN	**Manton Dam**	**49.03**	**271**	P	**P**	**19 54 17.7**	**-1.4**
MTN				IAmb	IAmb	19 54 29.7	
	comp=Z,10nm,1.1s						
FORT	**Forrest**	**49.21**	**247**	P	**P**	**19 54 18.2**	**-2.0**
PSA00	**Pilbara Seismi**	**57.56**	**257**	P	**P**	**19 55 18.2**	**-1.4**
PSA00				IAmb	IAmb	19 55 31.5	
	comp=Z,6.9nm,0.9s						
MBWA	**Marble Bar**	**57.74**	**257**	P	**P**	**19 55 19.5**	**-1.3**
MBWA				IAmb	IAmb	19 55 30.1	
	comp=Z,9.3nm,1.1s						
SBA	**Scott Base**	**57.95**	**184**	P	P	19 55 09.5	-12
MJAR	**Matsushiro Arr**	**70.06**	**324**	P	**P**	**19 56 38.6**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=153,slow=5.7,SNR=11						
	comp=Z,1.4nm,0.6s						
NVAR	**Mina Array Bea**	**81.05**	**43**	P	**P**	**19 57 40.6**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=228,slow=9.0,SNR=9.7						
	comp=Z,1.9nm,0.9s						
TXAR	**Lajitas Array**	**87.12**	**57**	P	**P**	**19 58 10.7**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=211,slow=6.7,SNR=7.8						
	comp=Z,1.2nm,0.7s						
ILAR	**Eielson Array**	**88.25**	**13**	P	**P**	**19 58 13.2**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=215,slow=5.2,SNR=11						
	comp=Z,0.5nm,0.4s						
PDAR	**Pinedale Array**	**88.99**	**43**	P	**P**	**19 58 18.4**	**0.0**
	comp=Z,1.0nm,0.6s,baz=208,slow=3.1,SNR=8.2						
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.96**	**290**	P	**P**	**19 58 25.1**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=130,slow=2.8,SNR=4.4						
	comp=Z,0.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**144.93**	**5**	PKP	**PKPdf**	**20 04 56.0**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=340,slow=1.7,SNR=4.7						

*IDC **04** 19:47:53.5±0.9, 44°.55N×145°.66E, h0km, mb3.5/7, mbtmp3.5/8, ML3.0/1, Error ellipse: s-maj=29.4km s-min=19.7km az=155.0*
*JMA **04** 19:47:55.0±0.2, 44°.6N±0°.8×14°.6E±°, h19km±1km, MV3.7/32, NEAR KUNASHIRI ISLAND*
*MOS **04** 19:47:54.3±1.1, 44°.63N×145°.57E, h22km, mb4.3/1, Error ellipse: s-maj=21.8km s-min=15.9km az=111.4*
*SKHL **04** 19:47:55.6±0.3, 44°.60N×145°.60E, h24km±1km, mb4.7/3*
ISC 04 19:47:54.2±1.4, 44°.64N±0°.04×145°.64E±0°.03, h8km±10km, n24, σ0§84/39, mb3.6/7, 2C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.62**	**165**	*i* P	**Pg**	**19 48 06.8**	**+0.6**
YUK				AMB	AMB	19 48 08.3	
	1μm,0.3s						
YUK				*i* S	**Sg**	**19 48 15.0**	**+0.7**
YUK				A	A	19 48 20.0	
	3μm,0.2s						
YUK				A	A	19 48 20.0	
	3μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.62**	**165**	*c i*PN	**Pg**	**19 48 06.8**	**+0.6**
YUK				*i* S	**Sg**	**19 48 14.7**	**+0.4**
YUK				pmax	pmax		
	comp=E,422nm,0.2s						
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				smax	smax		
	comp=N,3μm,0.2s						
YUK				smax	smax		
	comp=E,4μm,0.2s						
JRA	**Rausu**	**0.79**	**208**	P	**Pb**	**19 48 09.8**	**-0.4**
JRA				S	**Sb**	**19 48 20.7**	**-0.4**
JNSB	**Nemuroshibetsu**	**0.98**	**208**	P	**Pb**	**19 48 13.5**	**+0.2**
JNSB				*e*S	**Sb**	**19 48 26.7**	**+0.4**
SHO	**Shikotan**	**1.15**	**132**	*i* P	**Pg**	**19 48 15.5**	**-0.7**
SHO				AMB	AMB	19 48 16.1	
	comp=E,550nm,0.5s						
SHO				*i* S	**Sg**	**19 48 30.4**	**-0.7**
SHO				A	A	19 48 31.1	
	comp=E,6μm,0.6s						
SHO				A	A	19 48 31.1	
	comp=E,4μm,0.6s						
SHO	**Shikotan**	**1.15**	**132**	⇑*i*PN	**Pg**	**19 48 15.5**	**-0.7**
SHO				*i* S	**Sg**	**19 48 30.6**	**-0.5**
SHO				pmax	pmax		
	comp=Z,197nm,0.2s						
SHO				pmax	pmax		
	comp=N,655nm,0.3s						
SHO				smax	smax		
	comp=N,12μm,0.3s						
SHO				smax	smax		
	comp=E,6μm,0.3s						
JNK	**Nakash**	**1.24**	**213**	P	**Pb**	**19 48 17.4**	**-0.4**
JNK				S	**Sg**	**19 48 34.0**	**-0.2**
NEM2	**Nemuro 2**	**1.27**	**177**	P	**Pn**	**19 48 16.8**	**-1.5**
NEM2				S	**Sb**	**19 48 33.3**	**-1.6**
JTKR	**Abashiri--Toko**	**1.41**	**242**	P	**Pg**	**19 48 21.1**	**-0.1**
JTKR				S	**Sg**	**19 48 39.9**	**+0.3**
JKHN	**Kushirohamanak**	**1.59**	**193**	P	**Pn**	**19 48 22.3**	**-0.3**
KUR	**Kuril'sk**	**1.69**	**69**	*e*P	**Pn**	**19 48 23.8**	**-0.1**
KUR				AMB	AMB	19 48 29.3	
	comp=E,60nm,0.3s						
KUR				*e*S	**Sn**	**19 48 45.0**	**-0.8**
KUR				A	A	19 48 53.5	
	comp=E,220nm,0.3s						
KUR				A	A	19 48 53.5	
	comp=E,370nm,0.3s						
KUR	**Kuril'sk**	**1.69**	**69**	*e*PN	**Pn**	**19 48 24.6**	**+0.7**
KUR				*e*S	**Sn**	**19 48 45.0**	**-0.8**
KUR				pmax	pmax		
	comp=Z,58nm,0.4s						
KUR				smax	smax		
	comp=N,217nm,0.2s						
KUR				smax	smax		
	comp=E,74nm,0.4s						
JMP	**Maruseppu**	**1.75**	**250**	*e*P	**Pb**	**19 48 26.0**	**-0.6**
JMP				*e*S	**Sb**	**19 48 48.6**	**-0.2**
JAK	**Akkeshi**	**1.78**	**203**	*e*P	**Pn**	**19 48 24.9**	**-0.3**
ASAJ	**Asahikawa**	**2.24**	**258**	Pn	**Pn**	**19 48 32.4**	**+0.8**
	comp=E,2.8nm,0.3s,baz=80,slow=16,SNR=2.6						
ASAJ				Sn	**Sb**	**19 49 01.9**	**-1.0**
	comp=E,27nm,0.3s,baz=156,slow=20,SNR=11						
	comp=E,12nm,0.4s						
YSS	**Yuzh-Sakhalins**	**3.07**	**320**	*e*P	**Pn**	**19 48 42.8**	**-0.2**
YSS				AMB	AMB	19 48 47.8	
	comp=E,10.0nm,0.4s						
YSS				*e*S	**Sn**	**19 49 18.5**	**-1.4**
YSS				A	A	19 49 23.8	
	comp=E,40nm,0.6s						
YSS				A	A	19 49 23.8	
	comp=E,40nm,0.6s						
YSS	**Yuzh-Sakhalins**	**3.07**	**320**	*e*PN	**Pn**	**19 48 41.6**	**-1.4**
YSS				*e*S	**Sn**	**19 49 17.9**	**-2.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				smax	smax		
	comp=N,40nm,0.9s						
YSS				smax	smax		
	comp=E,60nm,0.8s						
SONM	**Songino Array**	**27.13**	**291**	P	**P**	**19 53 38.9**	**+1.2**
	comp=E,0.3nm,0.3s,baz=64,slow=9.8,SNR=2.8						
	comp=E,0.3nm,0.3s						
ILAR	**Eielson Array**	**41.42**	**37**	P	**P**	**19 55 41.3**	**+0.6**
	comp=E,0.4nm,0.7s,baz=263,slow=7.1,SNR=2.1						
	comp=E,0.4nm,0.7s						
MKAR	**Makanchi Array**	**43.22**	**296**	P	**P**	**19 55 55.6**	**+0.1**
	comp=E,0.2nm,0.6s,baz=78,slow=7.7,SNR=2.2						
	comp=E,0.2nm,0.6s						
WRA	**Warramunga Arr**	**65.09**	**192**	P	**P**	**19 58 35.1**	**0.0**
	comp=E,1.5nm,1.0s,baz=10,slow=6.8,SNR=6.0						
	comp=E,1.5nm,1.0s						
NVAR	**Mina Array Bea**	**68.02**	**57**	P	**P**	**19 58 54.7**	**+0.6**
	comp=E,0.4nm,0.7s,baz=291,slow=7.7,SNR=2.1						
	comp=E,0.4nm,0.7s						
ASAR	**Alice Springs**	**68.81**	**192**	P	**P**	**19 58 58.9**	**+0.1**
	comp=E,0.3nm,0.8s,baz=10,slow=5.7,SNR=4.2						
	comp=E,0.3nm,0.8s						
PDAR	**Pinedale Array**	**70.16**	**49**	P	**P**	**19 59 09.1**	**+1.7**
	comp=E,0.4nm,0.3s,baz=283,slow=1.9,SNR=4.2						
	comp=E,0.4nm,0.3s						

*IDC **04** 19:55:09.1±10.0, 56°.13S×27°.25W, h104km±92km, mb3.7/3, mbtmp4.1/4, ML4.3/1, Error ellipse: s-maj=46.7km s-min=26.7km az=56.0*
ISC 04 19:55:09.8±1.0, 56°.1S±0°.2×27°.3W±0°.3, h112km, n9, σ0§34/6, mb4.0/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**18.68**	**156**	P	**P**	**19 59 18.6**	**-0.2**
	1.0nm,0.3s,baz=294,slow=9.2,SNR=16						
	6.7nm,0.7s						
QSPA	**South Pole Qui**	**34.11**	**180**	P	**P**	**20 01 43.7**	**+0.2**
	1.1nm,0.5s,baz=169,slow=3.1,SNR=15						
	1.1nm,0.5s						
H10N1	**ASCENSION HYDR**	**49

JAY S **Sn** **19 59 56.9 +1.0**
KMPI Kaimana, Papua 5.17 267 P **Pn** **20 00 16.2 +1.6**
137nm,0.7s,0.7nm
FAKI Fak Fak 6.64 274 P **Pn** **20 00 35.6 +0.8**
BATI Baumata 16.54 245 P **P** **20 02 52.5 +2.2**
1.0nm,0.3s,baz=68,slow=5.4,SNR=5.1
14nm,0.8s
WRA Warramunga Arr 17.01 195 P **Pn** **20 02 52.8 -1.5**
0.2nm,0.3s,baz=17,slow=12,SNR=13
1.2nm,0.6s
ASAR Alice Springs 20.70 193 P **P** **20 03 36.0 +0.1**
1.6nm,0.7s,baz=17,slow=10.0,SNR=19
1.6nm,0.7s
MKAR Makanchi Array 70.45 323 P **P** **20 10 07.6 -1.4**
0.4nm,0.5s,baz=101,slow=7.6,SNR=5.4
0.4nm,0.5s
BVAR Borovoye Array 79.98 325 P **P** **20 11 02.0 -1.7**
0.8nm,0.5s,baz=92,slow=4.8,SNR=4.3
0.8nm,0.5s

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*IDC **04** 20:04:59.3±1.0, 44.°44N×145.°95E, h0km, mb3.7/11, mbtmp3.6/13, ML3.7/1, Error ellipse: s-maj=24.0km s-min=19.1km az=143.0*
*MOS **04** 20:05:02.4±1.3, 44.°48N×145.°74E, h28km, mb4.4/1, Error ellipse: s-maj=15.5km s-min=11.9km az=98.9*
*JMA **04** 20:05:03.3±0.2, 44.°5N±0.°7×145.°7E±0.°9, h21km±1km, MD3.9/40, MV4.0/40, NEAR KUNASHIRI ISLAND*
JMA Felt I J1 at NEAR KUNASHIRI ISLAND .
*SKHL **04** 20:05:04.1±0.2, 44.°50N×145.°70E, h34km±4km, mb5.2/2*
ISC 04 20:05:03.3±0.6, 44.°53N±0.°04×145.°77E±0.°03, h22km±4km, n44, σ1§77/50, mb3.7/12, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.50**	**173**	*i* P	**Pb**	**20 05 13.5**	**+0.1**
YUK				AMB	AMB	20 05 14.1	
	2μm,0.4s						
YUK				*i* S	**Sb**	**20 05 20.4**	**+0.2**
YUK				A	A	20 05 22.4	
	11μm,0.5s						
YUK				A	A	20 05 22.4	
	5μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.50**	**173**	*d i* PN	**Pb**	**20 05 13.4**	**+0.1**
YUK				*i* S	**Sb**	**20 05 20.3**	**+0.1**
YUK				pmax	pmax		
	comp=N,1μm,0.2s						
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				smax	smax		
	comp=N,11μm,0.3s						
YUK				smax	smax		
	comp=E,8μm,0.3s						
JRA	**Rausu**	**0.75**	**219**	*i* P	**Pb**	**20 05 17.4**	**-0.3**
JRA				S	**Sb**	**20 05 27.3**	**-0.2**
JRA	**Rausu**	**0.75**	**219**	A	A	20 05 17.4	
	comp=E,10.0nm,0.5s,comp=N,6.0nm,0.3s						
JNSB	**Nemuroshibetsu**	**0.93**	**217**	*i* P	**Pn**	**20 05 20.6**	**-0.5**
JNSB				S	**Sb**	**20 05 32.9**	**+0.2**
JNSB	**Nemuroshibetsu**	**0.93**	**217**	A	A	20 05 20.6	
	comp=E,8.0nm,0.5s,comp=N,5.0nm,1.3s						
SHO	**Shikotan**	**1.01**	**130**	*i* P	**Pb**	**20 05 22.2**	**+0.2**
SHO				AMB	AMB	20 05 23.2	
	comp=N,2μm,0.5s						
SHO				*e*S	**Sn**	**20 05 35.9**	**+0.3**
SHO				A	A	20 05 37.4	
	comp=N,6μm,0.5s						
SHO				A	A	20 05 37.4	
	comp=N,2μm,0.5s						
SHO	**Shikotan**	**1.01**	**130**	⇓*i* PN	**Pb**	**20 05 22.5**	**+0.5**
SHO				*e*S	**Sn**	**20 05 36.3**	**+0.7**
SHO				pmax	pmax		
	comp=N,824nm,0.4s						
SHO				pmax	pmax		
	comp=Z,2μm,0.4s						
SHO				pmax	pmax		
	comp=E,1μm,0.3s						
SHO				smax	smax		
	comp=N,6μm,0.4s						
SHO				smax	smax		
	comp=E,3μm,0.4s						
NEM2	**Nemuro 2**	**1.16**	**181**	⇓*i* P	**Pn**	**20 05 23.9**	**-0.4**
NEM2				⇓S	**Sn**	**20 05 39.1**	**-0.3**
JNK	**Nakash**	**1.21**	**219**	*i* P	**Pn**	**20 05 24.5**	**-0.4**
JNK				S	**Sn**	**20 05 40.0**	**-0.6**
JTKR	**Abashiri--Toko**	**1.45**	**248**	P	**Pn**	**20 05 27.9**	**-0.3**
JTKR				S	**Sn**	**20 05 46.5**	**0.0**
JKHN	**Kushirohamanak**	**1.51**	**197**	P	**Pn**	**20 05 29.3**	**+0.2**
JKHN				S	**Sn**	**20 05 48.9**	**+0.8**
KUR	**Kuril'sk**	**1.65**	**64**	*e*P	**Pn**	**20 05 31.1**	**+0.2**
KUR				AMB	AMB	20 05 37.6	
	comp=E,60nm,0.4s						
KUR				*e*S	**Sb**	**20 05 51.4**	**-1.8**
KUR				A	A	20 06 05.7	
	comp=E,210nm,0.8s						
KUR				A	A	20 06 05.7	
	comp=E,160nm,0.8s						
KUR	**Kuril'sk**	**1.65**	**64**	*e*PN	**Pn**	**20 05 31.1**	**+0.2**
KUR				*e*S	**Sb**	**20 05 54.0**	**+0.8**
KUR				pmax	pmax		
	comp=Z,60nm,0.4s						
KUR				smax	smax		
	comp=N,208nm,0.7s						
KUR				smax	smax		
	comp=E,163nm,0.8s						
JAK	**Akkeshi**	**1.72**	**207**	P	**Pn**	**20 05 31.7**	**-0.2**
JAK				*e*S	**Sn**	**20 05 53.9**	**+0.7**
JMP	**Maruseppu**	**1.81**	**254**	*i* P	**Pn**	**20 05 33.5**	**+0.3**
JMP				*e*S	**Sn**	**20 05 55.8**	**+0.3**
JMP	**Maruseppu**	**1.81**	**254**	A	A	20 05 33.5	
	comp=E,2.0nm,5.6s,comp=N,3.0nm,2.1s						
JAR	**Ashorobuto**	**1.90**	**230**	P	**Pn**	**20 05 35.1**	**+0.7**
JKA	**Kamikawa-asahi**	**2.31**	**261**	*e*P	**Pn**	**20 05 41.1**	**+1.0**
ASAJ	**Asahikawa**	**2.32**	**261**	Pn	**Pn**	**20 05 41.0**	**+0.9**
	comp=N,10nm,0.3s,baz=66,slow=22,SNR=47						
ASAJ				Sn	**Sb**	**20 06 11.7**	**-0.8**
	comp=N,21nm,0.3s,baz=254,slow=24,SNR=5.2						
	comp=N,41nm,0.4s						
YSS	**Yuzh-Sakhalins**	**3.22**	**320**	*e*P	**Pn**	**20 05 52.9**	**+0.4**
YSS				AMB	AMB	20 05 57.7	
	comp=N,20nm,0.3s						
YSS				*e*S	**Sn**	**20 06 29.5**	**-0.6**
YSS				A	A	20 06 34.4	
	comp=N,150nm,0.5s						
YSS				A	A	20 06 34.4	
	comp=N,190nm,0.5s						
YSS	**Yuzh-Sakhalins**	**3.22**	**320**	*e*PN	**Pn**	**20 05 52.9**	**+0.4**
YSS				*e*S	**Sn**	**20 06 30.2**	**+0.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				smax	smax		
	comp=N,90nm,0.7s						
YSS				smax	smax		
	comp=E,90nm,0.5s						
MJAR	**Matsushiro Arr**	**9.83**	**218**	Pn	**Pn**	**20 07 23.4**	**0.0**
	comp=E,0.3nm,0.4s,baz=36,slow=14,SNR=1.7						
USRK	**Ussuriysk Ar.**	**9.88**	**273**	Pn	Pn	20 07 29.2	+5.3
	comp=E,0.3nm,0.3s,baz=81,slow=13,SNR=6.2						
SONM	**Songino Array**	**27.26**	**291**	P	**P**	**20 10 46.6**	**+0.7**
	comp=E,0.9nm,0.6s,baz=87,slow=8.5,SNR=7.6						
	comp=E,0.9nm,0.6s						
H11N2	**WAKE ISLAND Hy 30.34**	**138**		T	T	20 42 11.0	
	baz=328,slow=76,SNR=34						
H11N1	**WAKE ISLAND Hy 30.35**	**138**		T	T	20 42 26.3	
	baz=328,slow=76,SNR=35						
H11N3	**WAKE ISLAND Hy 30.36**	**138**		T	T	20 42 16.6	
	baz=328,slow=76,SNR=34						
H11S1	**WAKE ISLAND Hy 31.30**	**139**		T	T	20 43 25.3	
	baz=330,slow=76,SNR=56						
H11S3	**WAKE ISLAND Hy 31.31**	**139**		T	T	20 43 27.8	
	baz=330,slow=76,SNR=35						
H11S2	**WAKE ISLAND Hy 31.32**	**139**		T	T	20 43 28.6	
	baz=330,slow=76,SNR=31						
ILAR	**Eielson Array**	**41.45**	**37**	P	**P**	**20 12 47.1**	**-0.9**
	comp=E,0.2nm,0.6s,baz=267,slow=7.8,SNR=1.9						
	comp=E,0.2nm,0.6s						
MKAR	**Makanchi Array**	**43.35**	**296**	P	**P**	**20 13 05.1**	**+1.5**
	comp=E,0.4nm,0.6s,baz=76,slow=6.8,SNR=5.4						
	comp=E,0.4nm,0.6s						
KURK	**Kurchatov**	**44.27**	**303**	*e*P	**P**	**20 13 12.3**	**+1.3**
KURK	**Kurchatov**	**44.27**	**303**	P	**P**	**20 13 12.3**	**+1.3**
KURBB	**Kurchatov Arra**	**44.36**	**303**	P	**P**	**20 13 12.3**	**+0.6**
	comp=E,0.4nm,0.7s,baz=69,slow=8.6,SNR=4.6						
	comp=E,0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**46.81**	**252**	P	**P**	**20 13 31.5**	**0.0**
	comp=E,0.6nm,0.3s,baz=47,slow=8.1,SNR=6.5						
	comp=E,0.6nm,0.3s						
FINES	**FINESS Array B**	**63.73**	**332**	P	**P**	**20 15 31.6**	**-1.1**
	comp=E,4.5nm,1.1s,baz=49,slow=7.0,SNR=4.2						
	comp=E,4.5nm,1.1s						
WRA	**Warramunga Arr**	**65.00**	**192**	P	**P**	**20 15 39.2**	**-2.4**
	comp=E,0.7nm,1.0s,baz=12,slow=5.9,SNR=3.5						
	comp=E,0.7nm,1.0s						
NVAR	**Mina Array Bea**	**68.00**	**57**	P	P	20 16 08.4	+7.4
	comp=E,0.6nm,0.7s,baz=311,slow=6.8,SNR=4.6						
ASAR	**Alice Springs**	**68.73**	**192**	P	**P**	**20 16 04.7**	**-0.5**
	comp=E,0.2nm,0.8s,baz=8.4,slow=6.3,SNR=1.8						
	comp=E,0.2nm,0.8s						
PDAR	**Pinedale Array**	**70.16**	**49**	P	**P**	**20 16 15.4**	**+1.0**
	comp=E,0.2nm,0.5s,baz=336,slow=2.0,SNR=3.6						
	comp=E,0.2nm,0.5s						
AKASG	**Malin Array Be**	**70.36**	**323**	P	**P**	**20 16 15.1**	**0.0**
	comp=E,0.6nm,0.6s,baz=41,slow=7.2,SNR=4.9						
	comp=E,0.6nm,0.6s						
EKA	**Eskdalemuir Ar**	**77.09**	**342**	P	**P**	**20 16 54.7**	**+0.2**
	comp=E,1.7nm,1.0s,baz=55,slow=4.4,SNR=1.5						
	comp=E,1.7nm,1.0s						

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*IDC **04** 20:10:48.8±0.8, 44.°51N×145.°72E, h0km, mb3.6/10, mbtmp3.5/12, ML3.6/1, Error ellipse: s-maj=25.0km s-min=17.1km az=149.0*
*JMA **04** 20:10:50.0±0.2, 44.°6N±0.°6×145.°7E±0.°9, h19km±1km, MV3.9/39, NEAR KUNASHIRI ISLAND*
*SKHL **04** 20:10:50.5±0.6, 44.°60N×145.°60E, h26km±1km, mb5.1/2*
*MOS **04** 20:10:50.6±0.8, 44.°49N×145.°70E, h26km, mb4.5/1, Error ellipse: s-maj=15.6km s-min=12.8km az=97.4*
ISC 04 20:10:48.7±1.6, 44.°56N±0.°04×145.°71E±0.°03, h3km±11km, n40, σ1§18/49, mb3.5/12, 4C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.54**	**168**	*i* P	**Pb**	**20 11 00.8**	**-0.1**
YUK				AMB	AMB	20 11 01.1	
	2μm,0.4s						
YUK				*i* S	**Sb**	**20 11 08.1**	**-0.8**
YUK				A	A	20 11 13.1	
	8μm,0.4s						
YUK				A	A	20 11 13.1	
	3μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.54**	**168**	⇑*i* PN	**Pb**	**20 11 00.7**	**-0.1**
YUK				*i* S	**Sb**	**20 11 07.9**	**-1.0**
YUK				pmax	pmax		
	comp=E,241nm,0.2s						
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				pmax	pmax		
	comp=N,393nm,0.3s						
YUK				smax	smax		
	comp=N,8μm,0.3s						
YUK				smax	smax		
	comp=E,5μm,0.3s						
JRA	**Rausu**	**0.75**	**214**	*i* P	**Pb**	**20 11 04.2**	**-0.2**
JRA				*e*S	**Sb**	**20 11 14.4**	**-0.7**
JNSB	**Nemuroshibetsu**	**0.93**	**213**	P	**Pg**	**20 11 07.3**	**+0.7**
JNSB				*e*S	**Sg**	**20 11 19.8**	**+1.1**
SHO	**Shikotan**	**1.06**	**130**	*i* P	**Pb**	**20 11 09.7**	**-0.1**
SHO				AMB	AMB	20 11 10.4	
	comp=E,710nm,0.4s						
SHO				*i* S	**Sb**	**20 11 24.1**	**0.0**
SHO				A	A	20 11 25.5	
	comp=E,7μm,0.6s						
SHO				A	A	20 11 25.5	
	comp=E,6μm,0.6s						
SHO	**Shikotan**	**1.06**	**130**	⇑*i* PN	**Pb**	**20 11 09.7**	**-0.1**
SHO				*i* S	**Sb**	**20 11 24.5**	**+0.4**
SHO				pmax	pmax		
	comp=E,596nm,0.4s						
SHO				pmax	pmax		
	comp=Z,806nm,0.4s						
SHO				pmax	pmax		
	comp=N,354nm,0.5s						
SHO				smax	smax		
	comp=N,9μm,0.5s						
SHO				smax	smax		
	comp=E,5μm,0.6s						
NEM2	**Nemuro 2**	**1.20**	**179**	*i* P	**Pg**	**20 11 11.0**	**-0.6**
NEM2				S	**Sg**	**20 11 26.8**	**-0.3**
JNK	**Nakash**	**1.21**	**216**	*i* P	**Pg**	**20 11 11.5**	**-0.3**
JNK				S	**Sg**	**20 11 27.0**	**-0.4**
JTKR	**Abashiri--Toko**	**1.42**	**246**	P	**Pn**	**20 11 14.5**	**-1.0**
JTKR				S	**Sb**	**20 11 32.8**	**-1.6**
JKHN	**Kushirohamanak**	**1.53**	**195**	*i* P	**Pn**	**20 11 16.3**	**-0.6**
JKHN				S	**Sn**	**20 11 36.7**	**-0.7**
KUR	**Kuril'sk**	**1.68**	**66**	*e*P	**Pn**	**20 11 18.5**	**-0.5**
KUR				AMB	AMB	20 11 23.2	
	comp=E,50nm,0.4s						
KUR				*e*S	**Sn**	**20 11 40.0**	**-1.1**
KUR				A	A	20 11 54.5	
	comp=E,290nm,0.4s						
KUR				A	A	20 11 54.5	
	comp=E,200nm,0.4s						
KUR	**Kuril'sk**	**1.68**	**66**	*e*PN	**Pn**	**20 11 18.5**	**-0.5**
KUR				*e*S	**Sn**	**20 11 39.9**	**-1.1**
KUR				pmax	pmax		
	comp=Z,50nm,0.4s						
KUR				smax	smax		
	comp=N,291nm,0.4s						
KUR				smax	smax		
	comp=E,196nm,0.3s						
JAK	**Akkeshi**	**1.73**	**205**	P	**Pn**	**20 11 18.9**	**-0.7**
JAK				*e*S	**Sn**	**20 11 41.6**	**-0.6**
JMP	**Maruseppu**	**1.77**	**253**	P	**Pn**	**20 11 20.3**	**0.0**
JMP				*e*S	**Sn**	**20 11 42.6**	**-0.8**
JAR	**Ashorobuto**	**1.88**	**229**	P	**Pb**	**20 11 23.3**	**-0.5**
ASAJ	**Asahikawa**	**2.27**	**260**	Pn	**Pn**	**20 11 28.0**	**+0.8**
	comp=E,9.5nm,0.3s,baz=101,slow=15,SNR=12						
ASAJ				Sn	**Sb**	**20 12 00.9**	**+1.9**
	comp=E,20nm,0.3s,baz=287,slow=31,SNR=6.9						
	comp=E,19nm,0.4s						
ASAJ	**Asahikawa**	**2.27**	**260**	PN	**Pn**	**20 11 28.0**	**+0.8**
YSS	**Yuzh-Sakhalins**	**3.16**	**320**	*e*P	**Pn**	**20 11 38.2**	**-1.2**
YSS				AMB	AMB	20 11 41.2	
	comp=E,10.0nm,0.4s						
YSS				*e*S	**Sn**	**20 12 13.6**	**-4.1**
YSS				A	A	20 12 17.3	
	comp=E,50nm,0.5s						
YSS				A	A	20 12 17.3	
	comp=E,50nm,0.5s						
YSS	**Yuzh-Sakhalins**	**3.16**	**320**	*e*PN	**Pn**	**20 11 39.9**	**+0.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MJAR	**Matsushiro Arr**	**9.83**	**218**	Pn	**Pn**	**20 13 11.6**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=36,slow=14,SNR=1.4						
SONM	**Songino Array**	**27.20**	**291**	P	**P**	**20 16 34.5**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=78,slow=9.2,SNR=3.1						
	comp=Z,0.4nm,0.6s						
H11N2	**WAKE ISLAND Hy 30.40**	**138**		T	T	20 47 58.0	
	baz=329,slow=75,SNR=43						
H11N1	**WAKE ISLAND Hy 30.41**	**138**		T	T	20 47 58.9	
	baz=329,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy 30.41**	**138**		T	T	20 48 05.4	
	baz=329,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy 31.36**	**139**		T	T	20 49 10.9	
	baz=330,slow=76,SNR=103						
H11S3	**WAKE ISLAND Hy 31.36**	**139**		T	T	20 48 58.7	
	baz=330,slow=76,SNR=60						
H11S2	**WAKE ISLAND Hy 31.37**	**139**		T	T	20 49 00.5	
	baz=330,slow=76,SNR=44						
ILAR	**Eielson Array**	**41.45**	**37**	P	**P**	**20 18 36.8**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=275,slow=8.2,SNR=6.5						
	comp=Z,0.6nm,0.9s						
MK31	**Makanchi Array**	**43.29**	**296**	⇓Pg	**P**	**20 18 47.2**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=164,slow=17,SNR=3.4						
MK31				⇑Lg	Lg	20 19 10.1	
	comp=Z,0.4nm,0.5s,baz=164,slow=27,SNR=8.6						
MKAR	**Makanchi Array**	**43.29**	**296**	P	**P**	**20 18 52.3**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=79,slow=7.2,SNR=4.8						
	comp=Z,0.7nm,0.8s						
MAKZ	**Makanchi**	**43.49**	**296**	⇑Pg	P	20 18 48.1	-5.1
	comp=Z,0.1nm,0.3s						
MAKZ				⇓Lg	Lg	20 19 12.3	
	comp=Z,0.8nm,0.6s						
KURK	**Kurchatov**	**44.22**	**303**	*e*P	**P**	**20 18 59.6**	**+0.7**
KURK	**Kurchatov**	**44.22**	**303**	P	**P**	**20 18 59.6**	**+0.7**
KURBB	**Kurchatov Arra**	**44.30**	**303**	P	**P**	**20 18 59.6**	**0.0**
	comp=Z,0.4nm,0.8s,baz=71,slow=8.6,SNR=4.5						
	comp=Z,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**46.77**	**252**	P	**P**	**20 19 20.4**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=46,slow=8.2,SNR=1.9						
	comp=Z,0.3nm,0.7s						
WRA	**Warramunga Arr**	**65.02**	**192**	P	**P**	**20 21 29.5**	**-0.7**
	comp=Z,1.6nm,1.0s,baz=9.4,slow=6.8,SNR=6.7						
	comp=Z,1.6nm,1.0s						
NVAR	**Mina Array Bea**	**68.02**	**57**	P	**P**	**20 21 50.5**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=306,slow=7.7,SNR=3.6						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**68.75**	**192**	P	**P**	**20 21 54.5**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=4.9,slow=6.9,SNR=5.7						
	comp=Z,0.5nm,0.6s						
PDAR	**Pinedale Array**	**70.17**	**49**	P	**P**	**20 22 03.9**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=320,slow=5.8,SNR=8.9						
	comp=Z,0.6nm,0.5s						
TXAR	**Lajitas Array**	**83.06**	**55**	P	**P**	**20 23 16.8**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=316,slow=5.0,SNR=1.8						
	comp=Z,0.2nm,0.6s						

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*IDC **04** 20:11:19.9±1.3, 6.°68S×155.°46E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=43.2km s-min=28.4km az=107.0*
ISC 04 20:11:25.3±1.2, 6.°7S±0.°2×155.°5E±0.°3, h35km, n11, σ1§08/10, mb3.5/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.37**	**235**	P	**P**	**20 16 39.4**	**-1.0**
WRA				PcP	**PcP**	**20 20 20.1**	**+0.6**
	0.2nm,0.8s,baz=72,slow=2.4,SNR=6.8						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**26.72**	**228**	P	**P**	**20 17 01.1**	**-0.7**
	0.2nm,0.7s,baz=62,slow=9.1,SNR=2.0						
ASAR				PcP	**PcP**	**20 20 25.5**	**+0.8**
	0.2nm,0.7s,baz=74,slow=1.7,SNR=2.1						
	0.2nm,0.7s						
H11S3	**WAKE ISLAND Hy 27.36**	**24**		T	T	20 45 37.1	
	baz=204,slow=74						
H11S2	**WAKE ISLAND Hy 27.36**	**24**		T	T	20 45 33.5	
	baz=204,slow=74						
H11S1	**WAKE ISLAND Hy 27.38**	**24**		T	T	20 45 38.4	
	baz=204						
CMAR	**Chiang Mai Arr**	**61.05**	**295**	P	**P**	**20 21 36.1**	**0.0**
	0.9nm,0.3s,baz=124,slow=5.1,SNR=14						
	0.9nm,0.3s						
SONM	**Songino Array**	**69.31**	**327**	P	**P**	**20 22 31.1**	**+1.7**
	0.2nm,0.4s,baz=123,slow=7.1,SNR=1.8						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**82.92**	**21**	P	**P**	**20 23 45.0**	**-1.2**
	0.3nm,0.7s,baz=243,slow=5.8,SNR=2.8						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**83.30**	**180**	P	**P**	**20 23 49.1**	**+0.7**
	0.9nm,0.7s,baz=49,slow=4.7,SNR=2.3						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**83.47**	**319**	P	**P**	**20 23 48.7**	**-0.8**
	0.2nm,0.7s,baz=126,slow=2.5,SNR=1.9						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**153.37**	**286**	PKPbc	**PKPbc**	**20 31 20.8**	**-0.2**
	0.3nm,0.7s,baz=353,slow=3.7,SNR=2.0						

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*IDC **04** 20:15:39.3±1.4, 33.°99N×28.°16E, h0km, mb3.8/4, mbtmp3.6/9, ML3.3/4, Error ellipse: s-maj=24.3km s-min=23.2km az=11.0*
*GII **04** 20:15:40.1±0.4, 33.°931N±0.°002×28.°289E±0.°001, h16km, Mws3.4, confirmed*
*ISK **04** 20:15:43.0, 33.°98N×28.°07E, h86km, ML3.0/23*
*ATH **04** 20:15:44.6, 34.°01N×28.°06E, h18km±5km, ML2.7/4, Error ellipse: s-maj=6.8km s-min=1.7km az=158.0*
*THE **04** 20:15:47.2, 34.°06N×28.°02E, h26km±20km, ML2.6/2, Error ellipse: s-maj=22.3km s-min=1.5km az=149.0*
*AFAD **04** 20:15:49.5±0.0, 34.°79N×28.°14E, h4km±1km, ML2.6*
ISC 04 20:15:44.6±0.9, 34.°07N±0.°06×28.°15E±0.°03, h35km, n130, σ1§72/109, mb3.7/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.68**	**331**	Pn	**Pn**	**20 16 12.8**	**+1.2**
KARP				Sn	**Sn**	**20 16 34.7**	**+2.8**
KARP	**Karpathos**	**1.68**	**331**	P	**Pn**	**20 16 13.3**	**+1.7**
KARP				S	**Sn**	**20 16 33.4**	**+1.5**
KARP	**Karpathos**	**1.68**	**331**	P	**Pn**	**20 16 13.2**	**+1.7**
KARP	**Karpathos**	**1.68**	**331**	P	**Pn**	**20 16 13.3**	**+1.7**
KARP				S	**Sn**	**20 16 33.4**	**+1.5**
KARP				AML	AML	20 16 38.4	
	comp=N,196μm,0.3s						
KARP				AML	AML	20 16 43.2	
	comp=E,207μm,0.4s						
ZKR	**Zakros**	**1.91**	**304**	Pn	**Pn**	**20 16 14.6**	**0.0**
ZKR				Sn	**Sn**	**20 16 38.6**	**+1.3**
ZKR	**Zakros**	**1.91**	**304**	P	**Pn**	**20 16 15.2**	**+0.6**
ZKR				S	**Sn**	**20 16 37.4**	**+0.1**
	comp=E,65nm,0.5s						
ZKR	**Zakros**	**1.91**	**304**	P	**Pn**	**20 16 15.1**	**+0.6**
ZKR				S	**Sn**	**20 16 37.4**	**+0.1**
ZKR				AML	AML	20 16 41.5	
	comp=E,184μm,0.4s						
ZKR				AML	AML	20 16 42.0	
	comp=N,80μm,0.5s						
ARG	**Arkhangelos**	**2.14**	**359**	P	**Pn**	**20 16 19.9**	**+2.1**
ARG				S	**Sn**	**20 16 45.2**	**+2.0**
ARG	**Arkhangelos**	**2.14**	**359**	P	**Pn**	**20 16 19.9**	**+2.1**
ARG				S	**Sn**	**20 16 45.2**	**+2.0**
AKAS	**Kas**	**2.46**	**29**	P	**Pn**	**20 16 23.9**	**+1.5**
AKAS				S	**Sn**	**20 16 50.6**	**-0.8**
AKAS				*i* AML	AML	20 16 55.0	
	comp=N,100nm,0.4s						
AKAS				*i* AML	AML	20 16 55.0	
	comp=N,63nm,0.3s						
AKAS	**Kas**	**2.46**	**29**	Pn	**Pn**	**20 16 24.2**	**+1.8**
AKAS				Sn	**Sn**	**20 16 54.4**	**+3.0**
YAZI	**Mula-Dat§a-**	**2.67**	**348**	P	**Pn**	**20 16 25.2**	**+0.2**
YAZI				S	**Sn**	**20 16 51.0**	**-5.1**
FETY	**Fethiye**	**2.67**	**16**	P	**Pn**	**20 16 28.2**	**+3.1**
FETY	**Fethiye**	**2.67**	**16**	Pn	**Pn**	**20 16 26.1**	**+1.0**
DAT	**Datca**	**2.69**	**350**	P	**Pn**	**20 16 26.3**	**+0.8**
DAT	**Datca**	**2.69**	**350**	Pn	**Pn**	**20 16 26.9**	**+1.4**
TURN	**Turunc**	**2.70**	**2**	P	**Pn**	**20 16 26.6**	**+1.1**
TURN				S	**Sn**	**20 16 57.0**	**+0.1**
TURN	**Turunc**	**2.70**	**2**	Pn	**Pn**	**20 16 27.2**	**+1.7**
DALY	**Dalyan (Mula)**	**2.77**	**8**	Pn	**Pn**	**20 16 28.1**	**+1.6**
SABU	**Mula-Dalaman**	**2.83**	**13**	P	**Pn**	**20 16 28.6**	**+1.3**
SABU				S	**Sn**	**20 16 58.0**	**-2.1**
AKUM	**Antalya-Kumluc**	**2.88**	**38**	P	**Pn**	**20 16 28.8**	**+0.8**
AKUM				S	**Sn**	**20 16 59.1**	**-2.2**
IDI	**An

GVD AML AML 20 17 16.5
comp=E,383µm,0.5s
TAVA DENIZLI_Tavas 3.44 10 P **Pn 20 16 37.9 +2.1**
TAVA S **Sn 20 17 13.0 -2.5**
APMY Acipayam-Deniz 3.52 15 Pn **Pn 20 16 38.5 +1.6**
AKMS Akamas 3.58 74 P **Pn 20 16 40.6 +2.9**
DNIZ Denizli-Tavas- 3.62 11 P **Pn 20 16 40.1 +1.8**
DNIZ *i* AML AML 20 17 30.0
comp=E,37nm,0.7s
APE Apeiranthos 3.68 325 P **Pn 20 16 39.8 +0.8**
APE Apeiranthos 3.68 325 P **Pn 20 16 38.9 0.0**
APE Apeiranthos 3.68 325 P **Pn 20 16 39.8 +0.8**
IMMV Iera Moni Meta 3.70 293 Pn **Pn 20 16 39.5 +0.2**
IMMV Iera Moni Meta 3.70 293 P **Pn 20 16 39.7 +0.4**
IMMV Iera Moni Meta 3.70 293 P **Pn 20 16 39.7 +0.4**
ESEN Aydn-Nazilli 3.72 2 P **Pn 20 16 41.0 +1.4**
ESEN S **Sn 20 17 21.1 -1.1**
SMG Samos 3.78 344 P **Pn 20 16 42.7 +2.3**
SMG Samos 3.78 344 P **Pn 20 16 42.7 +2.3**
BUCA Burdur, Bucak- 3.80 30 P **Pn 20 16 43.7 +3.1**
BUCA S **Sn 20 17 23.4 -0.7**
INCE Denizli-Bozkur 3.81 17 P **Pn 20 16 42.3 +1.5**
INCE S **Sn 20 17 21.1 -3.4**
INCE *i* AML AML 20 17 32.0
comp=E,14nm,0.7s
KNDR Palaiochora Ch 3.86 289 Pn **Pn 20 16 41.7 +0.3**
AYDB Zeytinkoy-Aydi 3.87 357 Pn **Pn 20 16 43.1 +1.3**
NAZL Nazilli-Aydin 3.89 2 Pn **Pn 20 16 42.8 +0.9**
RODP Rodopos 3.91 294 Pn **Pn 20 16 41.7 -0.4**
BCK Bucak 3.92 30 Pn **Pn 20 16 44.5 +2.1**
GAZI Gazipasa 4.04 56 Pn **Pn 20 16 45.6 +1.7**
IZMR zmir-demi 4.06 358 P **Pn 20 16 46.1 +1.9**
IZMR S Sn 20 17 23.6 -6.9
IZMR *i* AML AML 20 18 46.0
comp=E,10nm,3.4s
KIRA zmir-Kiraz 4.12 3 P **Pn 20 16 45.6 +0.5**
KIRA S **Sn 20 17 28.4 -3.7**
BASM Basmaki-Afyon 4.14 21 Pn **Pn 20 16 47.4 +2.1**
CSS Mathiatis 4.37 77 P **Pn 20 16 51.2 +2.7**
CSS S **Sn 20 17 36.0 -2.2**
CSS Mathiatis 4.37 77 P Pn 20 16 44.7 -3.7
CSS Mathiatis 4.37 77 S Sn 20 17 34.5 -3.6
PASA Karahalli, USA 4.40 14 P **Pn 20 16 50.9 +1.9**
PASA S **Sn 20 17 34.7 -4.4**
SEYD Seydisehir-KON 4.48 41 Pn **Pn 20 16 51.5 +1.4**
OFRI `Ofer 5.90 102 P Pn 20 17 05.4 -4.1
OFRI `Ofer 5.90 102 S Sn 20 18 10.2 -5.7
SLTI Sal'it 6.06 106 P Pn 20 17 11.0 -0.7
SLTI Sal'it 6.06 106 P Pn 20 17 06.9 -4.8
SLTI Sal'it 6.06 106 S Sn 20 18 15.3 -4.5
MMA0 Mount Meron ar 6.15 98 P **Pn 20 17 13.9 +0.9**
MMA0B Mount Meron ar 6.15 98 P Pn 20 17 08.7 -4.2
MMA0B Mount Meron ar 6.15 98 S Sn 20 18 17.3 -4.8
MMAI Mount Meron Ar 6.15 98 Pn Pn 20 17 11.2 -1.7
comp=E,1.0nm,0.3s,baz=280,slow=13,SNR=6.2
MMAI Sn **Sn 20 18 19.7 -2.4**
comp=E,3.0nm,0.3s,baz=271,slow=26,SNR=9.0
comp=E,0.7nm,0.3s
KZIT Kziot 6.15 119 P Pn 20 17 10.5 -2.4
KZIT Kziot 6.15 119 S Sn 20 18 16.2 -5.8
KZIT Kziot 6.15 119 P Pn 20 17 08.4 -4.5
MMA2 Mount Meron ar 6.15 98 P Pn 20 17 09.3 -3.7
MMA2 Mount Meron ar 6.15 98 S Sn 20 18 18.4 -3.7
AMAZ Amatzia 6.23 112 P **Pn 20 17 14.9 +0.8**
AMAZ S Sn 20 18 19.2 -4.9
AMAZ Amatzia 6.23 112 S Sn 20 18 18.8 -5.3
AMAZ Amatzia 6.23 112 P Pn 20 17 09.9 -4.2
SALP Salfit 6.24 107 P Pn 20 17 13.3 -0.9
SALP Salfit 6.24 107 P Pn 20 17 09.6 -4.6
MMLI Mount Malkishu 6.30 103 P Pn 20 17 10.8 -4.3
MMLI Mount Malkishu 6.30 103 S Sn 20 18 20.7 -5.2
GEM Giv'at Ha'Em 6.33 96 P **Pn 20 17 16.1 +0.8**
GEM Giv'at Ha'Em 6.33 96 P Pn 20 17 11.2 -4.1
GEM Giv'at Ha'Em 6.33 96 S Sn 20 18 21.8 -4.5
NATI Neve Ativ 6.38 95 P Pn 20 17 12.1 -4.0
NATI Neve Ativ 6.38 95 S Sn 20 18 23.8 -3.7
HMDT Nahal Hemdat 6.45 104 P Pn 20 17 16.3 -0.7
HMDT Nahal Hemdat 6.45 104 P Pn 20 17 11.8 -5.2
HMDT Nahal Hemdat 6.45 104 S Sn 20 18 25.4 -3.9
QRNJ Al-Qirein 6.46 103 P Pn 20 17 16.5 -0.6
YTIR Yattir 6.46 113 P Pn 20 17 16.3 -1.0
YTIR Yattir 6.46 113 S Sn 20 18 24.6 -5.2
YTIR Yattir 6.46 113 P Pn 20 17 13.1 -4.1
KSHT Keshet 6.49 98 P Pn 20 17 14.3 -3.4
KSHT Keshet 6.49 98 S Sn 20 18 26.3 -4.2
SHMJ Saham 6.51 100 P Pn 20 17 17.7 -0.1
DSI Dead Sea 6.58 110 P Pn 20 17 17.9 -0.9
DSI Dead Sea 6.58 110 P Pn 20 17 14.7 -4.1
DSI Dead Sea 6.58 110 S Sn 20 18 27.3 -5.3
MSBI Mazada 6.67 112 P Pn 20 17 18.8 -1.2
MSBI Mazada 6.67 112 P Pn 20 17 15.2 -4.8
MSBI Mazada 6.67 112 S Sn 20 18 29.7 -5.0
KRMI Paran Flat 6.83 123 P Pn 20 17 21.0 -1.3
GHAJ Ghor Haditha 6.83 112 P **Pn 20 17 22.4 +0.1**
GHAJ Ghor Haditha 6.83 112 P Pn 20 17 18.6 -3.7
PRNI Paran 6.89 121 P Pn 20 17 21.7 -1.4
PRNI Paran 6.89 121 P Pn 20 17 18.6 -4.5
PRNI Paran 6.89 121 S Sn 20 18 34.7 -5.6
HRFI Mount Harif 7.09 123 S Sn 20 18 39.6 -5.7
HRFI Mount Harif 7.09 123 P Pn 20 17 21.8 -4.1
BRTR Keskin Array B 7.15 36 Pn **Pn 20 17 28.9 +2.1**
comp=E,0.1nm,0.3s,baz=218,slow=13,SNR=1.7
BRTR Sn **Sn 20 18 47.0 +0.1**
comp=E,0.2nm,0.3s,baz=220,slow=24,SNR=6.5
comp=E,0.4nm,0.4s
MBRI Mt Berech 7.16 125 P Pn 20 17 22.2 -4.6
MBRI Mt Berech 7.16 125 S Sn 20 18 41.8 -5.1
EIL Elat 7.26 125 Pn Pn 20 17 26.2 -1.9
comp=E,0.8nm,0.3s,baz=332,slow=3.9,SNR=7.0
EIL Sn Sn 20 18 42.0 -7.4
comp=E,1.5nm,0.3s,baz=15,slow=16,SNR=6.7
comp=E,1.9nm,0.3s
EIL Elat 7.26 125 P Pn 20 17 26.7 -1.5
AKASG Malin Array Be 16.64 2 Pn **Pn 20 19 33.6 -1.3**
comp=E,0.4nm,0.3s,baz=200,slow=11,SNR=1.9
comp=E,0.6nm,0.7s
FINES FINESS Array B 27.42 358 P **P 20 21 27.1 +0.4**
comp=E,2.2nm,0.8s,baz=171,slow=7.9,SNR=6.5
comp=E,2.2nm,0.8s
FINES FINESS Array B 27.42 358 P **P 20 21 27.1 +0.4**
EKA Eskdalemuir Ar 30.36 324 P **P 20 21 52.6 -0.3**
comp=E,0.6nm,0.6s,baz=116,slow=10,SNR=2.4
comp=E,0.6nm,0.6s
TORD Torodi Ar. Bea 31.79 235 P **P 20 22 05.0 -0.8**
comp=E,0.2nm,0.3s,baz=36,slow=7.7,SNR=5.7
comp=E,0.2nm,0.3s
ARCES ARCESS Array B 35.55 358 P **P 20 22 38.8 +0.8**
comp=E,2.7nm,0.9s,baz=178,slow=7.8,SNR=7.0
comp=E,2.7nm,0.9s

*IDC **04** 20:19:14.9±1.3,2°.86S×130°.02E, h0km, mb3.9/5, mbtmp4.0/8, ML4.0/3, Error ellipse: s-maj=54.9km s-min=19.9km az=74.0*
*DJA **04** 20:19:21.2±1.4,3°.S±4°×13°0E±°, h34km±28km, M4.0/11, mb4.4/1, MLv3.8/11*
ISC 04 20:19:19.1±0.8,2°.91S±0°.06×129°.70E±0°.06, h25km, n18, σ1°96/22, mb3.8/5, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.88**	**240**	P	**Pn**	**20 19 36.7**	**+0.8**
BNDI	**Bandanaira**	**1.62**	**173**	P	**Pn**	**20 19 49.1**	**+3.1**
AAI	**Ambon**	**1.69**	**243**	P	**Pn**	**20 19 49.5**	**+2.5**
FAKI	**Fak Fak**	**2.55**	**90**	P	**Pn**	**20 19 59.8**	**+1.0**
SWI	**Sorong**	**2.56**	**38**	P	**Pn**	**20 19 59.8**	**+0.8**
SWI				S	**Sn**	**20 20 29.0**	**-0.4**
NLAI	**Namlea**	**2.61**	**263**	P	**Pn**	**20 20 01.7**	**+2.0**
SANI	**Sanana**	**3.80**	**283**	P	**Pn**	**20 20 15.6**	**-0.5**
KMPI	**Kaimana, Papua**	**4.07**	**101**	P	**Pn**	**20 20 21.7**	**+1.9**
TNTI	**Ternate**	**4.33**	**327**	P	**Pn**	**20 20 23.3**	**-0.1**
RKPI	**Ransiki, Papua**	**4.69**	**73**	P	**Pn**	**20 20 29.1**	**+0.8**
BATI	**Baumata**	**9.40**	**219**	Pn	**Pn**	**20 21 35.3**	**+2.1**
	1.3nm,0.3s,baz=22,slow=5.4,SNR=1.7						
	5.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**15.61**	**194**	Pn	**Pn**	**20 22 56.4**	**-1.2**
	0.2nm,0.3s,baz=19,slow=9.6,SNR=8.8						
	2.6nm,0.7s						
WRA	**Warramunga Arr**	**17.53**	**165**	P	**Pn**	**20 23 18.7**	**-3.2**
	0.9nm,0.3s,baz=350,slow=12,SNR=49						
WRA				S	**Sn**	**20 26 33.8**	**-2.6**
	0.3nm,0.5s,baz=354,slow=23,SNR=2.1						
	2.3nm,0.5s						
ASAR	**Alice Springs**	**21.03**	**169**	P	**P**	**20 24 01.0**	**-0.2**
	18nm,0.8s,baz=349,slow=11,SNR=106						
ASAR				S	**S**	**20 27 50.1**	**-4.3**
	0.4nm,0.8s,baz=350,slow=19,SNR=3.1						
ASAR				PcP	**PcP**	**20 28 08.2**	**+0.4**
	0.4nm,0.5s,baz=349,slow=1.6,SNR=6.1						
	18nm,0.8s						
CMAR	**Chiang Mai Arr**	**36.98**	**306**	P	**P**	**20 26 28.6**	**+1.7**
	0.8nm,0.9s,baz=139,slow=6.8,SNR=6.7						
	0.8nm,0.9s						
MKAR	**Makanchi Array**	**64.67**	**326**	P	**P**	**20 29 55.4**	**+0.4**
	0.3nm,0.4s,baz=115,slow=7.6,SNR=7.3						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**68.90**	**328**	P	**P**	**20 30 22.1**	**+0.4**
	6.0nm,0.4s,baz=127,slow=5.8,SNR=9.0						
	6.6nm,0.4s						
BVAR	**Borovoye Array**	**74.47**	**327**	P	**P**	**20 30 55.8**	**+0.6**
	6.6nm,0.6s,baz=114,slow=6.5,SNR=3.0						
	6.6nm,0.6s						

*IDC **04** 20:19:58.8±2.1, 14°.04N×51°.76E, h0km, mb3.7/6, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=53.4km s-min=29.1km az=165.0*
ISC 04 20:20:01.4±1.8, 14°.1N±0°.3×51°.8E±0°.2, h16km, n7, σ0°68/7, mb3.7/6, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**11.17**	**35**	Pn	**Pn**	**20 22 40.0**	**-0.6**
	0.2nm,0.3s,baz=158,slow=5.6,SNR=1.6						
WSAR				Sn	Sn	20 24 35.3	-10
	0.2nm,0.3s,baz=224,slow=5.3,SNR=1.8						
	5.3nm,1.1s						
MKAR	**Makanchi Array**	**41.40**	**32**	P	**P**	**20 27 47.9**	**+1.0**
	0.4nm,0.5s,baz=223,slow=6.5,SNR=5.3						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**42.40**	**25**	P	**P**	**20 27 54.9**	**-0.1**
	0.2nm,0.4s,baz=229,slow=8.5,SNR=2.3						
	0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**45.39**	**78**	P	**P**	**20 28 19.6**	**0.0**
	0.3nm,0.3s,baz=275,slow=9.3,SNR=5.4						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**47.47**	**26**	P	**P**	**20 28 35.1**	**-0.2**
	0.8nm,0.6s,baz=218,slow=7.0,SNR=3.9						
	0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**48.60**	**275**	P	**P**	**20 28 44.3**	**-0.4**
	0.5nm,0.8s,baz=73,slow=7.2,SNR=3.6						
	0.5nm,0.8s						
FINES	**FINESS Array B**	**50.77**	**344**	P	**P**	**20 29 01.1**	**+0.6**
	6.0nm,1.1s,baz=153,slow=9.4,SNR=3.8						
	6.0nm,1.1s						

WEL 04 20:22:15.4±0.3, 40°S±2°×17°7E±°, h15km±2km, M3.2/32, ML3.5/33, MLv3.2/32, Error ellipse: s-maj=3.6km s-min=2.2km az=106.1, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ	**Kahuranaki**	**0.11**	**18**	P	Pb	20 22 19.3	+0.1
KAHZ				S	Sb	20 22 22.8	+1.0
PXZ	**Pawanui**	**0.14**	**170**	P	Pb	20 22 19.9	+0.2
PXZ				S	Sb	20 22 24.1	+1.5
CKHZ	**Cape Kidnapper**	**0.30**	**39**	P	Pb	20 22 23.0	+0.4
CKHZ				S	Sb	20 22 29.4	+2.0
WPHZ	**Waipukurau**	**0.34**	**241**	P	Pb	20 22 23.0	-0.3
WPHZ				S	Sb	20 22 28.9	+0.3
PRHZ	**Porangahau**	**0.40**	**202**	P	Pb	20 22 24.6	+0.4
PRHZ				S	Sn	20 22 32.2	-1.9
KRHZ	**Kereru**	**0.44**	**305**	P	Pg	20 22 24.2	+0.1
KRHZ				S	Sb	20 22 30.7	-0.6
MCHZ	**McNeill Hill**	**0.46**	**347**	P	Pb	20 22 25.4	+0.1
MCHZ				S	Sb	20 22 33.7	+1.7
KWHZ	**Kaweka Forest**	**0.57**	**326**	P	Pg	20 22 26.7	+0.1
KWHZ				S	Sb	20 22 35.5	+0.4
ANWZ	**Angora Road**	**0.63**	**206**	P	Pb	20 22 28.6	+0.5
ANWZ				S	Sn	20 22 39.3	-0.3
ARHZ	**Aropaoanui**	**0.65**	**11**	P	Pn	20 22 29.3	-0.8
DVHZ	**Dannevirke**	**0.65**	**232**	P	Pb	20 22 28.4	-0.2
DVHZ				S	Sb	20 22 38.6	+1.1
TSZ	**Takapari Road**	**0.69**	**256**	P	Pg	20 22 28.6	-0.2
BKZ	**Black Stump Fm**	**0.78**	**340**	P	Pb	20 22 30.6	0.0
BKZ				S	Sb	20 22 41.8	+0.8
NMHZ	**Naumai**	**0.80**	**359**	P	Pn	20 22 31.8	-0.4
BFZ	**Birch Farm**	**0.90**	**210**	P	Pb	20 22 32.0	-0.9
PRWZ	**Pori Road**	**0.93**	**225**	P	Pb	20 22 33.0	-0.3
POWZ	**Post Office Ro**	**0.95**	**238**	P	Pb	20 22 33.4	-0.3
MOVZ	**Moawhango**	**0.97**	**300**	P	Pb	20 22 33.5	-0.5
MOVZ				S	Sb	20 22 46.1	-0.4
RAHZ	**Arahi**	**1.00**	**11**	P	Pb	20 22 34.4	0.0
MTHZ	**Maungataniwha**	**1.04**	**0**	P	Pb	20 22 34.8	-0.4
KNZ	**Kokohu**	**1.09**	**37**	P	Pb	20 22 34.3	-1.6
TUVZ	**Tukino**	**1.11**	**304**	P	Pb	20 22 36.4	+0.1
TUVZ				S	Sn	20 22 51.6	-0.1
MRHZ	**Matea Rd**	**1.11**	**343**	P	Pb	20 22 36.3	-0.1
MRHZ				S	Sg	20 22 51.4	+0.1
WNVZ	**Wahianoa**	**1.11**	**300**	P	Pb	20 22 36.4	0.0
WNVZ				S	Sg	20 22 51.2	-0.2
MHGZ	**Mahia Peninsul**	**1.11**	**49**	P	Pb	20 22 34.8	-1.6
CPWZ	**Castlepoint**	**1.12**	**205**	P	Pb	20 22 35.5	-1.0
TIWZ	**Tintock**	**1.14**	**219**	P	Pb	20 22 35.4	-1.4
WHVZ	**Whangaehu Hut**	**1.14**	**302**	P	Pb	20 22 36.9	0.0
ETVZ	**East Tongariro**	**1.15**	**311**	P	Pn	20 22 37.2	0.0
TRVZ	**Turoa**	**1.16**	**301**	P	Pb	20 22 37.2	-0.1
OTVZ	**Oturere**	**1.16**	**309**	P	Pn	20 22 37.4	+0.1
SNVZ	**South Ngauruho**	**1.16**	**307**	P	Pn	20 22 37.4	+0.1
MAVZ	**Matarangi**	**1.17**	**302**	P	Pb	20 22 37.3	-0.2
MTVZ	**Mangateitei**	**1.17**	**295**	P	Pb	20 22 37.5	+0.1
TMVZ	**Te Maari**	**1.17**	**311**	P	Pb	20 22 37.5	0.0
FWVZ	**Far West T-bar**	**1.18**	**303**	P	Pn	20 22 37.5	-0.1
SNGZ	**Shannon Statio**	**1.18**	**20**	P	Pn	20 22 37.0	-0.4
NGZ	**Ngauruhoe**	**1.19**	**307**	P	Pb	20 22 37.9	0.0
NNVZ	**North Ngauruho**	**1.21**	**309**	P	Pb	20 22 38.2	+0.1
COVZ	**Chateau Observ**	**1.22**	**304**	P	Pb	20 22 38.2	0.0
MRZ	**Mangatainoka R**	**1.23**	**231**	P	Pn	20 22 36.5	-1.6
WTVZ	**West Tongariro**	**1.24**	**309**	P	Pb	20 22 38.6	0.0
PRGZ	**Paritu Road**	**1.27**	**40**	P	Pn	20 22 36.8	-1.8
RTZ	**Ruatahuna**	**1.28**	**5**	P	Pn	20 22 38.2	-0.7
RATZ	**Rangitukua**	**1.32**	**321**	P	Pg	20 22 40.7	-0.1
TWVZ	**Taurewa**	**1.36**	**307**	P	Pb	20 22 40.5	-0.1
ALRZ	**Allen Road**	**1.39**	**344**	P	Pn	20 22 40.2	-0.1
TMWZ	**Te Maipa**	**1.41**	**210**	P	Pn	20 22 38.3	-2.3
MUGZ	**Murupara**	**1.42**	**358**	P	Pn	20 22 40.1	-0.6
HOWZ	**Holdsworth Sta**	**1.42**	**225**	P	Pn	20 22 38.6	-2.2
RAGZ	**Rawiri**	**1.47**	**18**	P	Pb	20 22 42.6	+0.1
OGWZ	**Otaki Gorge**	**1.57**	**234**	P	Pn	20 22 41.0	-1.8
MTW	**Mount Morrison**	**1.62**	**218**	P	Pn	20 22 40.7	-2.8
URZ	**Urewera**	**1.65**	**8**	P	Pn	20 22 42.7	-1.1
MWZ	**Matawai**	**1.65**	**19**	P	Pg	20 22 49.2	+2.1
TRWZ	**Traveller**	**1.73**	**210**	P	Pn	20 22 42.2	-2.9
KIW	**Kapiti Island**	**1.76**	**236**	P	Pn	20 22 44.1	-1.2
VRZ	**Vera Road**	**1.78**	**295**	P	Pb	20 22 48.0	+0.3
CAW	**Cannon Point**	**1.81**	**227**	P	Pn	20 22 44.2	-1.9
PAWZ	**Paruwai Farm**	**1.83**	**215**	P	Pn	20 22 43.7	-2.7
LREZ	**Lake Rotokare**	**1.93**	**282**	P	Pg	20 22 52.0	-0.4
MSWZ	**Moikau Station**	**1.94**	**218**	P	Pn	20 22 44.5	-3.4
RUGZ	**Raukumara Rang**	**2.04**	**19**	P	Pn	20 22 48.0	-1.4
PLWZ	**Palliser**	**2.06**	**215**	P	Pn	20 22 46.2	-3.3
BHW	**Baring Head**	**2.12**	**224**	P	Pn	20 22 47.2	-3.2
NEZ	**North Egmont**	**2.21**	**286**	P	Pb	20 22 55.8	+0.8
KHEZ	**Kahui Hut**	**2.26**	**285**	P	Pg	20 22 57.8	-1.0
TCW	**Tory Channel**	**2.35**	**235**	P	Pn	20 22 51.2	-2.2
DUWZ	**D'Urville Isla**	**2.40**	**247**	P	Pb	20 22 59.6	+1.2
RPZ	**Rata Peaks**	**5.76**	**227**	P	Pn	20 23 40.7	+0.3

*JMA **04** 20:24:30.8±0.2, 44°.5N±0°.8×14°6E±°, h19km±1km, MV3.3/39, NEAR KUNASHIRI ISLAND*
*SKHL **04** 20:24:31.4±0.1, 44°.20N×145°.40E, h41km±1km, mb4.7/2*
ISC 04 20:24:28.7±2.3, 44°.51N±0°.05×145°.72E±0°.04, h4km±16km, n12, σ0°63/23, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.48**	**167**	*i* P	**Pb**	**20 24 40.4**	**+0.6**
YUK				AMB	AMB	20 24 41.1	
	310nm,0.2s						
YUK				*e*S	**Sb**	**20 24 47.1**	**-0.1**
YUK				A	A	20 24 47.8	
	3µm,0.3s						
YUK				A	A	20 24 47.8	
	4µm,0.3s						
JRA	**Rausu**	**0.71**	**217**	*i* P	**Pb**	**20 24 44.2**	**+0.5**
JRA				S	**Sb**	**20 24 54.0**	**+0.2**
JNSB	**Nemuroshibetsu**	**0.89**	**215**	P	**Pb**	**20 24 47.3**	**+0.6**
JNSB				S	**Sb**	**20 24 59.6**	**+0.6**
SHO	**Shikotan**	**1.02**	**128**	*e*P	**Pn**	**20 24 49.7**	**-0.1**
SHO				AMB	AMB	20 24 50.4	
	350nm,0.5s						
SHO				*e*S	**Sb**	**20 25 03.5**	**+0.7**
SHO				A	A	20 25 04.9	
	3µm,0.6s						
SHO				A	A	20 25 04.9	
	4µm,0.6s						
NEM2	**Nemuro 2**	**1.14**	**179**	*i* P	**Pb**	**20 24 50.8**	**-0.2**
NEM2				S	**Sb**	**20 25 06.1**	**-0.1**
JNK	**Nakash**	**1.17**	**218**	P	**Pb**	**20 24 51.4**	**-0.1**
JNK				*e*S	**Sb**	**20 25 07.3**	**+0.3**
JTKR	**Abashiri--Toko**	**1.41**	**248**	P	**Pn**	**20 24 55.1**	**+0.1**
JTKR				S	**Sg**	**20 25 13.7**	**-0.1**
JKHN	**Kushirohamanak**	**1.48**	**196**	P	**Pn**	**20 24 56.2**	**+0.1**
JKHN				S	**Sn**	**20 25 15.8**	**-0.1**
JAK	**Akkeshi**	**1.68**	**206**	S	**Sg**	**20 25 22.1**	**-0.5**
JMP	**Maruseppu**	**1.77**	**254**	P	**Pn**	**20 25 00.7**	**+0.6**
JMP				*e*S	**Sn**	**20 25 22.8**	**-0.2**
JAR	**Ashorobuto**	**1.85**	**230**	P	**Pb**	**20 25 03.3**	**+0.1**
JAR				*e*S	**Sg**	**20 25 27.3**	**-0.9**
YSS	**Yuzh-Sakhalins**	**3.21**	**321**	*e*P	**Pn**	**20 25 20.7**	**+0.8**
YSS				AMB	AMB	20 25 21.3	
	10.0nm,0.5s						
YSS				*e*S	**Sn**	**20 25 56.7**	**-1.8**
YSS				A	A	20 25 59.5	
	40nm,0.6s						
YSS				A	A	20 25 59.5	
	30nm,0.6s						

*IDC **04** 20:36:21.5±0.7, 44°.56N×145°.65E, h0km, mb3.8/13, mbtmp3.7/18, ML3.3/4, MS3.9/1, Error ellipse: s-maj=19.8km s-min=14.5km az=148.0*
*SKHL **04** 20:36:23.6±0.5, 44°.50N×145°.60E, h23km±5km, mb4.9/4*
*JMA **04** 20:36:23.0±0.2, 44°.5N±0°.7×145°.7E±1°.0, h17km±1km, MD4.0/40, MV4.0/40, NEAR KUNASHIRI ISLAND*
*MOS **04** 20:36:23.0±1.0, 44°.54N×145°.64E, h24km, mb4.2/5, Error ellipse: s-maj=12.2km s-min=9.5km az=91.4*
ISC 04 20:36:23.1±1.4, 44°.53N±0°.04×145°.65E±0°.03, h11km±9km, n56, σ0°95/61, mb3.9/13, 3C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.51**	**162**	*e*P	**Pg**	**20 36 33.3**	**+0.2**
YUK				AMB	AMB	20 36 34.8	
	3µm,0.5s						
YUK				*e*S	**Sg**	**20 36 40.6**	**+0.8**
YUK				A	A	20 36 41.1	
	11µm,0.4s						
YUK				A	A	20 36 41.1	
	10µm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.51**	**162**	*c i* PN	**Pg**	**20 36 33.1**	**0.0**
JRA	**Rausu**	**0.70**	**213**	*i* P	**Pg**	**20 36 36.7**	**+0.2**
JRA				S	**Sb**	**20 36 46.8**	**-0.1**
JNSB	**Nemuroshibetsu**	**0.88**	**212**	P	**Pg**	**20 36 39.9**	**-0.1**
JNSB				S	**Sb**	**20 36 52.5**	**+0.3**
JNSB	**Nemuroshibetsu**	**0.88**	**212**	A	A	20 36 39.9	
	comp=E,8.0nm,1.6s,comp=N,10.0nm,2.9s						
SHO	**Shikotan**	**1.07**	**127**	*e*P	**Pb**	**20 36 42.4**	**-1.2**
SHO				AMB	AMB	20 36 43.1	
	comp=N,2µm,0.6s						
SHO				*e*S	**Sb**	**20 36 56.6**	**-1.1**
SHO				A	A	20 36 58.0	
	comp=N,13µm,0.7s						
SHO				A	A	20 36 58.0	
	comp=N,5µm,0.7s						
SHO	**Shikotan**	**1.07**	**127**	⇑ *i* PN	**Pb**	**20 36 42.5**	**-1.2**
SHO				*e*S	**Sb**	**20 36 56.8**	**-0.9**
SHO				pmax	pmax		
	comp=N,754nm,0.4s						
SHO				pmax	pmax		
	comp=E,1µm,0.4s						
SHO				pmax	pmax		
	comp=Z,2µm,0.4s						
SHO				smax	smax		
	comp=N,11µm,0.4s						
SHO				smax	smax		
	comp=E,6µm,0.4s						
JNK	**Nakash**	**1.15**	**216**	P	**Pb**	**20 36 44.0**	**-1.0**
JNK				*e*S	**Sn**	**20 37 00.3**	**-0.7**
JNK	**Nakash**	**1.15**	**216**	A	A	20 36 44.0	
	comp=E,6.0nm,2.1s,comp=N,5.0nm,1.1s						
NEM2	**Nemuro 2**	**1.16**	**177**	*i* P	**Pb**	**20 36 43.5**	**-1.6**
NEM2				S	**Sb**	**20 36 59.2**	**-1.0**
JTKR	**Abashiri--Toko**	**1.37**	**247**	P	**Pn**	**20 36 47.8**	**-0.3**
JTKR				*e*S	**Sb**	**20 37 05.5**	**-0.6**
JTKR	**Abashiri--Toko**	**1.37**	**247**	A	A	20 36 47.8	
	comp=E,3.0nm,1.1s,comp=N,6.0nm,0.9s						
JKHN	**Kushirohamanak**	**1.48**	**194**	*i* P	**Pn**	**20 36 48.9**	**-0.8**
JKHN				*e*S	**Sn**	**20 37 08.4**	**-0.7**
JAK	**Akkeshi**	**1.68**	**205**	P	**Pn**	**20 36 51.6**	**-0.7**
JAK				*e*S	**Sn**	**20 37 13.8**	**0.0**
JMP	**Maruseppu**	**1.72**	**253**	P	**Pn**	**20 36 53.1**	**0.0**
JMP				*e*S	**Sn**	**20 37 15.2**	**+0.1**
KUR	**Kuril'sk**	**1.73**	**65**	*e*P	**Pn**	**20 36 53.0**	**-0.1**
KUR				AMB	AMB	20 36 58.8	
	comp=N,160nm,0.3s						
KUR				*e*S	**Sn**	**20 37 15.7**	**+0.5**
KUR				A	A	20 37 25.6	
	comp=N,550nm,0.3s						
KUR				A	A	20 37 25.6	
	comp=N,130nm,0.3s						
KUR	**Kuril'sk**	**1.73**	**65**	*e*PN	**Pn**	**20 36 53.0**	**-0.1**
KUR				*e*S	**Sn**	**20 37 15.7**	**+0.

baz=330,slow=76,SNR=68
H11S2 WAKE ISLAND Hy 31.38 139 T T 21 14 44.4
baz=330,slow=76,SNR=69
ZALV Zalesovo Beam 39.67 306 PcP **PcP 20 46 00.7 -0.7**
comp=Z,0.4nm,0.5s,baz=58,slow=4.6,SNR=1.9
ILAR Eielson Array 41.51 37 P **P 20 44 09.7 -0.3**
comp=Z,1.8nm,1.1s,baz=269,slow=7.0,SNR=8.2
comp=Z,1.8nm,1.1s
MKAR Makanchi Array 43.27 296 P **P 20 44 25.1 +0.6**
comp=Z,0.4nm,0.6s,baz=82,slow=6.7,SNR=4.0
MKAR PcP **PcP 20 46 13.3 -0.1**
comp=Z,0.1nm,0.4s,baz=55,slow=4.2,SNR=1.5
comp=Z,0.4nm,0.6s
KURK Kurchatov 44.20 303 *eP* **P 20 44 31.9 0.0**
KURK Kurchatov 44.20 303 P **P 20 44 31.9 0.0**
KURBB Kurchatov Arra 44.28 303 P **P 20 44 31.9 -0.6**
comp=Z,0.4nm,0.5s,baz=73,slow=8.6,SNR=2.4
comp=Z,0.4nm,0.5s
CMAR Chiang Mai Arr 46.72 252 P **P 20 44 53.4 +1.1**
comp=Z,0.5nm,0.7s,baz=36,slow=6.7,SNR=8.1
comp=Z,0.5nm,0.7s
FINES FINESS Array B 63.69 332 P **P 20 46 53.0 -1.0**
comp=Z,2.1nm,0.8s,baz=49,slow=6.8,SNR=4.0
comp=Z,2.1nm,0.8s
FINES FINESS Array B 63.69 332 *i* P **P 20 46 53.4 -0.7**
FINES pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 64.98 192 P **P 20 47 02.3 -0.6**
comp=Z,3.4nm,1.0s,baz=11,slow=6.3,SNR=8.6
comp=Z,3.4nm,1.0s
NVAR Mina Array Bea 68.08 57 P **P 20 47 23.4 +0.4**
comp=Z,0.7nm,0.6s,baz=286,slow=6.9,SNR=5.5
comp=Z,0.7nm,0.6s
KBZ Khabaz 68.47 311 P **P 20 47 25.5 +0.4**
comp=Z,1.7nm,0.9s,baz=316,slow=18,SNR=2.9
comp=Z,1.7nm,0.9s
KBZ Khabaz 68.47 311 *eP* **P 20 47 26.4 +1.3**
KBZ Khabaz 68.47 311⇑ *eP* **P 20 47 26.4 +1.3**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 68.70 192 P **P 20 47 27.1 +0.4**
comp=Z,1.1nm,0.8s,baz=7.3,slow=6.7,SNR=9.7
comp=Z,1.1nm,0.8s
PDAR Pinedale Array 70.23 49 P **P 20 47 36.8 +0.4**
comp=Z,0.9nm,0.6s,baz=254,slow=1.4,SNR=13
comp=Z,0.9nm,0.6s
AKASG Malin Array Be 70.31 323 P **P 20 47 35.6 -0.7**
comp=Z,0.6nm,0.7s,baz=44,slow=6.3,SNR=2.5
comp=Z,0.6nm,0.7s
NRS Narsarsuaq 74.29 6 *i* P P 20 48 11.0 +11
TXAR Lajitas Array 83.11 55 P **P 20 48 49.5 +0.3**
comp=Z,0.3nm,0.6s,baz=299,slow=2.6,SNR=3.6
comp=Z,0.3nm,0.6s

JMA 04 20:37:09.2±0.0,36°.79N±0°.09×140°.6E±0°.2,h9km, MV0.8/30,NORTHERN IBARAKI PREF,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.18**	**190**	P	Pg	20 37 13.0	0.0
JHO				eS	Sg	20 37 15.8	+0.3
JFFD	**Fukushimafurud**	**0.31**	**353**	P	Pg	20 37 15.5	+0.2
JFFD				eS	Sg	20 37 19.6	+0.2
ONAJ	**Iwakimizuishiy**	**0.35**	**26**	eP	Pg	20 37 16.2	+0.1
ONAJ				eS	Sg	20 37 21.1	+0.4
JFK	**Kawauchi**	**0.62**	**20**	eP	Pg	20 37 20.9	-0.2
JFK				eS	Sg	20 37 28.7	-0.6
JAG	**Ashikaga**	**1.00**	**249**	eP	Pg	20 37 27.6	-0.7

*JMA **04** 20:37:17.5±0.2,23°.N±1°×122°.8E±0°.7,h52km,MV3.0/18, NEAR ISHIGAKIJIMA ISLAND*
*TAP **04** 20:37:19.4,23°.25N×122°.71E,h57km,ML3.7,D*
ISC 04 20:37:13.9±1.2,23°.16N±0°.02×122°.79E±0°.02,h19km±3km, n106,σ0s92/175,3C-9D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**1.05**	**336**	P	**Pg**	**20 37 35.9**	**+1.6**
EOS4				S	**Sg**	**20 37 48.2**	**+0.1**
EOS3	**EOS3**	**1.21**	**339**	P	**Pg**	**20 37 38.5**	**+1.3**
EOS3				*i* S	**Sg**	**20 37 52.9**	**-0.1**
ECBN	**Changbin**	**1.24**	**278**	S	**Sb**	**20 37 52.3**	**+0.1**
TEGC	**Jichi Village**	**1.27**	**296**	P	**Pg**	**20 37 38.6**	**+0.1**
TEGC				S	**Sn**	**20 37 53.8**	**+0.6**
CHKH	**Chenggong**	**1.28**	**272**	eS	**Sb**	**20 37 52.9**	**-0.5**
SHUL	**Shoufeng**	**1.29**	**299**	eP	**Pg**	**20 37 39.1**	**+0.3**
SHUL				eS	**Sn**	**20 37 54.3**	**+0.7**
HATJ	**Hateruma jima**	**1.29**	**46**	P	**Pg**	**20 37 40.0**	**+1.0**
HATJ				eS	**Sg**	**20 37 56.0**	**0.0**
HGSD	**Ruisui**	**1.30**	**285**	||P	**Pg**	**20 37 38.8**	**-0.2**
HGSD				eS	**Sn**	**20 37 53.2**	**-0.6**
JYNG	**Yonagunijimaku**	**1.30**	**6**	eP	**Pg**	**20 37 40.3**	**+1.3**
JYNG				eS	**Sg**	**20 37 56.5**	**+0.5**
LDUT	**Ludao**	**1.31**	**249**	eP	**Pg**	**20 37 39.4**	**+0.2**
LDUT				eS	**Sn**	**20 37 53.4**	**-0.6**
YOJ	**Yonaguni jima**	**1.32**	**9**	eS	**Sg**	**20 37 56.5**	**-0.1**
EGFH	**Guangfu**	**1.35**	**293**	eP	**Pg**	**20 37 39.9**	**-0.1**
EGFH				eS	**Sn**	**20 37 54.2**	**-0.9**
EOS2	**EOS2**	**1.36**	**338**	eP	**Pg**	**20 37 40.9**	**+0.8**
EOS2				eS	**Sg**	**20 37 57.1**	**-0.7**
EYUL	**Yuli**	**1.36**	**278**	eP	**Pg**	**20 37 40.3**	**+0.1**
EYUL				eS	**Sb**	**20 37 56.3**	**+0.5**
EHYH	**Wanrong**	**1.37**	**285**	eS	**Sb**	**20 37 56.5**	**+0.6**
FULB	**Fuli**	**1.37**	**272**	eP	**Pg**	**20 37 40.2**	**-0.2**
FULB				eS	**Sn**	**20 37 55.0**	**-0.8**
EDH	**Donghe**	**1.38**	**263**	eP	**Pg**	**20 37 40.4**	**-0.1**
EDH				eS	**Sn**	**20 37 55.4**	**-0.4**
YULB	**Yu-li**	**1.39**	**280**	P	**Pg**	**20 37 41.2**	**+0.4**
YULB	**Yu-li**	**1.39**	**280**	eP	**Pg**	**20 37 40.9**	**+0.1**
YULB				eS	**Sb**	**20 37 57.0**	**+0.4**
EHY	**Hungye**	**1.39**	**285**	eP	**Pg**	**20 37 40.6**	**-0.1**
EHY				eS	**Sb**	**20 37 56.9**	**+0.2**
WARBT	**Fenglin Townsh**	**1.40**	**294**	||*i* P	**Pg**	**20 37 40.4**	**-0.6**
WARBT				eS	**Sn**	**20 37 55.7**	**-0.8**
ESL	**Shilin**	**1.41**	**298**	eP	**Pg**	**20 37 40.3**	**-0.8**
TWD	**Chiawan**	**1.43**	**310**	P	**Pg**	**20 37 40.7**	**-0.8**
ETM	**Tongmen**	**1.44**	**304**	eP	**Pg**	**20 37 40.7**	**-0.9**
ECS	**Chishang**	**1.44**	**268**	S	**Sb**	**20 37 58.9**	**+0.7**
EHD	**Haiduan**	**1.46**	**270**	eP	**Pg**	**20 37 42.0**	**0.0**
IRIF	**Iriomote-Funau**	**1.46**	**36**	P	**Pg**	**20 37 42.3**	**+0.2**
IRIF				eS	**Sg**	**20 38 00.1**	**-1.0**
NACB	**Ninganchiao**	**1.49**	**313**	P	**Pb**	**20 37 41.5**	**+0.5**
NACB	**Ninganchiao**	**1.49**	**313**	||*i* P	**Pb**	**20 37 41.5**	**+0.5**
NACB				eS	**Sn**	**20 37 57.9**	**-0.7**
LXIB	**Xiulin Townshi**	**1.53**	**305**	||P	**Pb**	**20 37 42.2**	**+0.5**
LXIB				eS	**Sb**	**20 38 00.1**	**-0.6**
LONT	**Longtian**	**1.55**	**261**	eP	**Pg**	**20 37 44.1**	**+0.4**
JKRS	**Kuro-shima**	**1.55**	**46**	P	**Pg**	**20 37 43.9**	**0.0**
JKRS				S	**Sb**	**20 38 02.5**	**+1.2**
EWUT	**Wuta**	**1.58**	**324**	eP	**Pg**	**20 37 43.8**	**-0.6**
EWUT				eS	**Sb**	**20 38 01.8**	**-0.3**
ENA	**Nanau**	**1.59**	**323**	eP	**Pg**	**20 37 44.0**	**-0.5**
ENA				eS	**Sb**	**20 38 02.4**	**+0.1**
ETLH	**Xiulin Townshi**	**1.59**	**311**	eP	**Pb**	**20 37 43.3**	**+0.6**
ETLH				eS	**Sn**	**20 38 01.5**	**+0.3**
LAY	**Lan-yu**	**1.59**	**226**	eP	**Pb**	**20 37 43.4**	**+0.6**
LAY				eS	**Sn**	**20 38 02.2**	**+1.1**
LYUB	**Lan-yu**	**1.60**	**224**	P	**Pb**	**20 37 43.6**	**+0.8**
LYUB				eS	**Sn**	**20 38 01.0**	**-0.2**
TWGBT	**Beinan**	**1.61**	**258**	P	**Pg**	**20 37 44.6**	**-0.3**
TWGBT	**Beinan**	**1.61**	**258**	eP	**Pg**	**20 37 44.3**	**-0.6**
TWGBT				eS	**Sb**	**20 38 02.6**	**-0.3**
TWG	**Pinlang**	**1.61**	**258**	eP	**Pg**	**20 37 44.5**	**-0.5**
TWG				eS	**Sb**	**20 38 02.8**	**-0.3**
ELDTW	**Lidau**	**1.63**	**272**	eP	**Pb**	**20 37 43.9**	**+0.5**
ELDTW				eS	**Sn**	**20 38 01.7**	**-0.4**
OWD	**Renai**	**1.68**	**299**	eP	**Pb**	**20 37 45.0**	**+0.7**
OWD				eS	**Sn**	**20 38 03.5**	**+0.1**
TWC	**Suao**	**1.68**	**330**	eP	**Pg**	**20 37 45.5**	**-0.8**
TWC				eS	**Sn**	**20 38 03.6**	**+0.3**
WHF	**Hehuan Shan**	**1.71**	**306**	eP	**Pb**	**20 37 45.4**	**+0.5**
JIJ	**Ishigaki jima**	**1.73**	**46**	P	**Pb**	**20 37 45.8**	**+0.7**
JIJ				S	**Sb**	**20 38 05.7**	**-0.7**
WUSB	**Renai**	**1.74**	**299**	eP	**Pb**	**20 37 46.1**	**+0.7**
NDS	**Dongshan**	**1.77**	**327**	eP	**Pg**	**20 37 46.8**	**-1.2**
ECL	**Taimali**	**1.78**	**252**	||eP	**Pb**	**20 37 46.4**	**+0.5**
ECL				eS	**Sn**	**20 38 05.7**	**0.0**
FUSS	**Fushou**	**1.78**	**308**	||P	**Pb**	**20 37 46.7**	**+0.5**
FUSS				eS	**Sn**	**20 38 06.5**	**+0.4**
LATG	**Datong**	**1.79**	**320**	eP	**Pb**	**20 37 46.6**	**+0.4**
SSLB	**Suanglung**	**1.80**	**291**	P	**Pb**	**20 37 46.9**	**+0.7**
SSLB	**Suanglung**	**1.80**	**291**	||P	**Pb**	**20 37 46.8**	**+0.5**
SSLB				eS	**Sn**	**20 38 06.5**	**+0.3**
NNSB	**Datong**	**1.81**	**315**	P	**Pb**	**20 37 47.0**	**+0.5**
NNSB				eS	**Sb**	**20 38 07.5**	**-1.2**
NNS	**Nan Shan**	**1.82**	**315**	eP	**Pb**	**20 37 47.2**	**+0.5**
NNS				eS	**Sn**	**20 38 07.5**	**+0.6**
TWT	**Tachien**	**1.84**	**307**	eP	**Pb**	**20 37 47.8**	**+0.8**
TWT				eS	**Sb**	**20 38 08.7**	**-1.0**
TDCB	**Techi**	**1.85**	**307**	eP	**Pb**	**20 37 47.8**	**+0.6**
STYH	**Taoyuan**	**1.85**	**271**	eS	**Sb**	**20 38 09.6**	**-0.3**
ENTT	**Nioudou**	**1.85**	**323**	eP	**Pb**	**20 37 48.0**	**+0.8**
ALS	**Alishan**	**1.85**	**281**	||P	**Pg**	**20 37 48.7**	**-0.9**
ALS				eS	**Sb**	**20 38 10.1**	**-0.2**
WHYT	**Xinyi Township**	**1.85**	**287**	eP	**Pg**	**20 37 48.4**	**-1.2**
WHYT				eS	**Sb**	**20 38 09.5**	**-0.6**
TWE	**Neicheng**	**1.86**	**327**	||P	**Pb**	**20 37 48.2**	**+0.9**
TWE				eS	**Sb**	**20 38 09.2**	**-1.1**
SMLT	**Sun Moon Lake**	**1.88**	**293**	eP	**Pb**	**20 37 48.3**	**+0.7**
TYC	**Yuchr**	**1.92**	**293**	eP	**Pb**	**20 37 49.1**	**+0.8**
TAWH	**Dawu Township**	**1.93**	**246**	eP	**Pb**	**20 37 49.1**	**+0.6**
TAWH				eS	**Sb**	**20 38 12.4**	**+0.2**
FUSB	**Fushanzhiwuyua**	**1.94**	**326**	eP	**Pb**	**20 37 49.2**	**+0.6**
WCS	**Beigang Elemen**	**1.94**	**298**	eP	**Pb**	**20 37 49.4**	**+0.8**
EAST	**Anshuo**	**1.95**	**247**	⇑P	**Pb**	**20 37 49.1**	**+0.3**
SLGT	**Liugui**	**1.98**	**266**	eP	**Pb**	**20 37 50.6**	**+1.3**
SLGT				eS	**Sb**	**20 38 13.7**	**+0.2**
YHNB	**Yeheng**	**1.98**	**320**	||P	**Pb**	**20 37 49.8**	**+0.3**
YHNB				eS	**Sn**	**20 38 11.6**	**+0.7**
CHN5	**Tsauling**	**1.99**	**283**	eP	**Pg**	**20 37 51.1**	**-1.0**
CHN5				eS	**Sb**	**20 38 14.1**	**+0.2**
TPUB	**Ta-pu**	**1.99**	**275**	P	**Pg**	**20 37 51.9**	**-0.3**
TPUB	**Ta-pu**	**1.99**	**275**	eP	**Pg**	**20 37 51.1**	**-1.0**
TPUB				eS	**Sb**	**20 38 13.7**	**-0.2**
JISG	**Ishigakijimahi**	**1.99**	**44**	P	**Pb**	**20 37 49.2**	**-0.3**
JISG				S	**Sb**	**20 38 12.7**	**-1.3**
NWLT	**Wulai**	**2.00**	**324**	eP	**Pb**	**20 37 50.5**	**+0.9**
NWLT				eS	**Sb**	**20 38 12.7**	**-1.4**
NSK	**Sanguang**	**2.00**	**319**	⇑P	**Pb**	**20 37 50.1**	**+0.4**
NSK				eS	**Sn**	**20 38 11.5**	**+0.2**
WTP	**Ta-pu**	**2.00**	**273**	eP	**Pg**	**20 37 51.1**	**-1.3**
WTP				eS	**Sb**	**20 38 15.1**	**+0.8**
TIPB	**Shuangxi**	**2.01**	**334**	eP	**Pb**	**20 37 50.9**	**+1.0**
TIPB				eS	**Sn**	**20 38 12.7**	**+1.2**
WHP	**Taichung City**	**2.02**	**304**	eP	**Pb**	**20 37 51.1**	**+1.0**
WCKO	**Fanlu**	**2.03**	**278**	eP	**Pg**	**20 37 51.9**	**-0.9**
WCKO				eS	**Sb**	**20 38 15.7**	**+0.8**
CHN4	**Tsaushan**	**2.03**	**276**	eP	**Pg**	**20 37 51.9**	**-1.0**
SGST	**Jiashian**	**2.03**	**268**	eP	**Pb**	**20 37 51.4**	**+1.2**
MASBT	**Mashibuluo**	**2.06**	**255**	eP	**Pb**	**20 37 51.0**	**+0.3**
WNT	**Mingjian**	**2.06**	**291**	eP	**Pg**	**20 37 52.2**	**-1.3**
CHN1	**Nanshi**	**2.08**	**271**	eP	**Pg**	**20 37 53.4**	**-0.5**
CHN1				eS	**Sb**	**20 38 17.0**	**+0.6**
SXI1	**Grass Mountain**	**2.10**	**337**	eP	**Pb**	**20 37 50.6**	**-0.9**
SNST	**Tainan City**	**2.11**	**272**	eP	**Pg**	**20 37 53.5**	**-0.9**
SNST				eS	**Sb**	**20 38 18.2**	**+0.9**
WGK	**Gukeng**	**2.11**	**285**	eP	**Pb**	**20 37 52.3**	**+0.8**
TWK	**Hsinying**	**2.12**	**273**	eP	**Pb**	**20 37 53.2**	**+1.5**
TWK				eS	**Sb**	**20 38 18.7**	**+1.1**
NFF	**Wufeng Townshi**	**2.12**	**314**	eP	**Pb**	**20 37 52.1**	**+0.4**
NFF				eS	**Sb**	**20 38 16.0**	**-1.7**
TWA	**Mucha**	**2.12**	**329**	eP	**Pb**	**20 37 52.0**	**+0.2**
TWA				eS	**Sn**	**20 38 15.7**	**+1.5**
WDLH	**Douliu**	**2.13**	**285**	eP	**Pb**	**20 37 52.7**	**+0.8**
WDLH				eS	**Sb**	**20 38 17.6**	**-0.4**
SCZT	**Fangliau**	**2.15**	**249**	eP	**Pb**	**20 37 52.3**	**+0.1**
KSHI	**Guanxi Townshi**	**2.19**	**318**	eP	**Pb**	**20 37 53.9**	**+1.0**
KSHI				eS	**Sb**	**20 38 19.0**	**-0.6**
TWKBT	**Hengchun**	**2.19**	**237**	eP	**Pb**	**20 37 53.4**	**+0.5**
TWKBT				eS	**Sb**	**20 38 18.5**	**-1.1**
TWQ1	**Liyutan**	**2.19**	**303**	eP	**Pb**	**20 37 53.9**	**+0.9**
LIOB	**Emei**	**2.20**	**313**	eP	**Pb**	**20 37 54.1**	**+1.0**
LIOB				eS	**Sb**	**20 38 18.4**	**-1.5**
NSTT	**Nanjuang**	**2.20**	**312**	eP	**Pb**	**20 37 53.9**	**+0.8**
NSTT				eS	**Sb**	**20 38 18.2**	**-1.7**
HEN	**Hengchun**	**2.21**	**239**	eP	**Pb**	**20 37 53.9**	**+0.6**
HEN				eS	**Sb**	**20 38 19.1**	**-1.2**
YM01	**YM01**	**2.27**	**331**	eP	**Pb**	**20 37 54.6**	**+0.3**
YM01				eS	**Sn**	**20 38 18.5**	**+0.6**
JTJ	**Tarama**	**2.29**	**49**	P	**Pb**	**20 37 54.0**	**-0.7**
JTJ				S	**Sb**	**20 38 21.2**	**-1.4**
ZUZH	**Zhuzihu**	**2.30**	**331**	eP	**Pb**	**20 37 54.5**	**-0.2**
ZUZH				eS	**Sb**	**20 38 20.5**	**-2.3**
TWS1	**Kuangyinshan**	**2.31**	**327**	eS	**Sn**	**20 38 20.4**	**+1.7**
JIRB	**Irabujima**	**2.75**	**52**	P	**Pb**	**20 38 00.2**	**-2.1**
JIRB				eS	**Sn**	**20 38 31.5**	**+2.0**
JMJ2	**Miyako jima3**	**2.81**	**55**	P	**Pb**	**20 38 01.3**	**-2.2**
JMJ2				eS	**Sn**	**20 38 33.6**	**+2.5**
JIKM	**Ikemajima**	**2.86**	**51**	P	**Pb**	**20 38 01.8**	**-2.5**
JIKM				eS	**Sn**	**20 38 34.5**	**+2.2**
JOGS	**Gusukube**	**2.88**	**56**	P	**Pb**	**20 38 02.3**	**-2.3**
JOGS				eS	**Sn**	**20 38 35.5**	**+2.7**

*IDC **04** 20:41:54.8±4.5,55°.44N×164°.54W,h0km,mb3.8/5, mbtmp3.8/5,MS4.5/2,Error ellipse: s-maj=109.2km s-min=36.1km az=45.0*
*AEIC **04** 20:42:16.9±1.3,55°.33N±0°.08×163°.6W±0°.1,h195km±4km, Error ellipse: s-maj=14.2km s-min=6.5km az=145.0*
*NEIC **04** 20:42:16.3±1.4,55°.36N±0°.08×163°.6W±0°.1,h190km±6km, mb3.8/13,ML3.4(AEIC),Error ellipse: s-maj=12.8km s-min=7.2km az=147.0*
ISC 04 20:42:16.9±0.7,55°.39N±0°.08×163°.63W±0°.06, h184km±7km,n115,σ1s07/122,mb3.6/5,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.55**	**167**		**Pn**	**20 42 42.1**	**-0.2**
FALS					**Sn**	**20 43 01.3**	**-0.6**
FALS	**False Pass**	**0.55**	**167**	P	**Pn**	**20 42 42.2**	**-0.2**
ISNN	**Isanotski Nort**	**0.56**	**189**		**Pn**	**20 42 42.8**	**+0.3**
ISNN					**Sn**	**20 43 03.2**	**+1.1**
ISLZ	**Isanotski Laza**	**0.66**	**184**		**Pn**	**20 42 42.8**	**-0.2**
ISLZ					**Sn**	**20 43 03.4**	**+0.4**
PN7A	**Pavlof North-7**	**0.93**	**86**		**Pn**	**20 42 44.9**	**+0.3**
PN7A					**Sn**	**20 43 06.1**	**+0.1**
S12K	**Black Hills**	**0.94**	**70**		**Pn**	**20 42 44.8**	**+0.2**
S12K	**Black Hills**	**0.94**	**70**		**Sn**	**20 43 05.7**	**-0.3**
HAG	**Hague Volcano**	**0.99**	**93**		**Pn**	**20 42 45.3**	**+0.4**
PS4A	**Pavlof South-4**	**1.01**	**92**		**Pn**	**20 42 45.4**	**+0.3**
WEBT	**Westdahl Beart**	**1.03**	**220**		**Pn**	**20 42 45.4**	**+0.2**
WEBT					**Sn**	**20 43 07.6**	**+0.5**
PVV	**Pavlof Volcano**	**1.05**	**90**		**Pn**	**20 42 45.5**	**+0.2**
PS1A	**Pavlof South-1**	**1.08**	**87**		**Pn**	**20 42 45.7**	**+0.1**
PS1A					**Sn**	**20 43 08.3**	**+0.6**
WECS	**Westdahl Cape**	**1.08**	**218**		**Pn**	**20 42 45.9**	**+0.2**
AKSA	**Akutan Strait**	**1.73**	**225**		**Pn**	**20 42 51.4**	**0.0**
AKSA					**Sn**	**20 43 17.9**	**-0.3**
AHB	**Akutan Harbor**	**1.80**	**226**		**Pn**	**20 42 52.1**	**0.0**
AHB					**Sn**	**20 43 19.1**	**-0.3**
AKGG	**Akutan Green G**	**1.81**	**230**		**Pn**	**20 42 52.2**	**-0.1**
AKV	**Akutan Volcano**	**1.85**	**228**		**Pn**	**20 42 52.8**	**0.0**
LVA	**Lava Point**	**1.86**	**230**	Pn	**Pn**	**20 42 52.9**	**+0.2**
ZRO	**Akutan Zero**	**1.88**	**227**		**Pn**	**20 42 52.9**	**-0.1**
MTBL	**Makushin Table**	**2.27**	**233**		**Pn**	**20 42 57.1**	**-0.2**
UNV	**Unalaska Valle**	**2.28**	**228**		**Pn**	**20 42 56.9**	**-0.4**
UNV					**Sn**	**20 43 27.9**	**-0.7**
UNV	**Unalaska Valle**	**2.28**	**228**	P	**Pn**	**20 42 56.8**	**-0.4**
CHNA	**Chernabura Isl**	**2.38**	**102**	P	**Pn**	**20 42 57.1**	**-1.3**
CNBA	**Chernabura Isl**	**2.39**	**102**		**Pn**	**20 42 57.3**	**-1.2**
MREP	**Makushin Rep't**	**2.41**	**230**		**Pn**	**20 42 58.5**	**-0.3**
MGOD	**Makushin Gods**	**2.47**	**231**		**Pn**	**20 42 59.4**	**-0.1**
MAPS	**Pakushin South**	**2.49**	**232**		**Pn**	**20 42 59.4**	**-0.3**
CHGN	**Chignik**	**3.08**	**71**	Pn	**Pn**	**20 43 07.0**	**+0.4**
NIKH	**Nikolski High**	**3.91**	**234**		**Pn**	**20 43 16.3**	**-0.7**
NIKH	**Nikolski High**	**3.91**	**234**	P	**Pn**	**20 43 17.1**	**+0.2**
O14K	**Tigyukauivet M**	**4.08**	**17**	Pn	**Pn**	**20 43 19.1**	**+0.1**
CHIR	**Chirikof Islan**	**4.56**	**81**		**Pn**	**20 43 23.8**	**-1.4**
CHIR	**Chirikof Islan**	**4.56**	**81**	P	**Pn**	**20 43 24.0**	**-1.2**
PLK4	**Peulik 4**	**4.61**	**58**	Pn	**Pn**	**20 43 26.7**	**+0.8**
P16K	**Nushagak River**	**4.77**	**38**		**Pn**	**20 43 28.2**	**+0.4**
M13K	**Dall Lake**	**5.04**	**2**		**Pn**	**20 43 30.6**	**-0.7**
M11K	**Mekoryuk**	**5.20**	**346**		**Pn**	**20 43 33.8**	**+0.5**
P17K	**Kvichak River**	**5.46**	**43**		**Pn**	**20 43 36.6**	**-0.1**
O17K	**Koliganek Bris**	**5.63**	**36**		**Pn**	**20 43 38.9**	**0.0**
N16K	**Nishlik Lake**	**5.72**	**25**		**Pn**	**20 43 40.8**	**+0.6**
L14K	**Kuka Creek**	**5.99**	**4**		**Pn**	**20 43 42.8**	**-0.8**
OHAK	**Old Harbor**	**6.04**	**68**	P	**Pn**	**20 43 42.6**	**-1.7**
M16K	**Timber Creek**	**6.17**	**22**		**Pn**	**20 43 45.4**	**-0.6**
N17K	**Nushagak Hills**	**6.19**	**31**		**Pn**	**20 43 46.1**	**-0.2**
O18K	**Koktuh Hills**	**6.36**	**42**	Pn	**Pn**	**20 43 48.0**	**-0.6**
KDAK	**Kodiak Island**	**6.56**	**64**		**Pn**	**20 43 49.6**	**-1.5**
K13K	**Kusilvak Mount**	**6.59**	**356**		**Pn**	**20 43 51.2**	**-0.2**
L16K	**Owhat River**	**6.70**	**17**		**Pn**	**20 43 52.2**	**-0.8**
M17K	**Holitna River**	**6.85**	**26**		**Pn**	**20 43 54.4**	**-0.5**
SYI	**Shuyak Island**	**6.94**	**58**		**Pn**	**20 43 54.7**	**-1.3**
K15K	**Wolf Creek Mou**	**7.01**	**8**		**Pn**	**20 43 56.7**	**-0.3**
ATKA	**Atka Island**	**7.03**	**247**		**Pn**	**20 43 57.1**	**-0.1**
N19K	**Bonanza Creek**	**7.28**	**38**	Pn	**Pn**	**20 43 59.3**	**-1.3**
M18K	**Stony River**	**7.36**	**31**		**Pn**	**20 44 01.8**	**+0.2**
J14K	**Nanvaranak Lak**	**7.39**	**0**	Pn	**Pn**	**20 44 01.2**	**-0.6**
K17K	**Iditarod**	**7.84**	**18**	Pn	**Pn**	**20 44 07.4**	**-0.5**
CNPM	**China Poot**	**7.86**	**53**		**Pn**	**20 44 06.8**	**-1.4**
J16K	**Anvik River**	**8.07**	**10**		**Pn**	**20 44 10.4**	**-0.5**
BRLK	**Bradley Lake**	**8.13**	**52**		**Pn**	**20 44 10.2**	**-1.5**
L19K	**White Mountain**	**8.19**	**30**	Pn	**Pn**	**20 44 12.7**	**+0.2**
J17K	**VABM Dome**	**8.36**	**14**	Pn	**Pn**	**20 44 13.7**	**-1.0**
SPU	**Mount Spurr**	**8.41**	**42**	Pn	**Pn**	**20 44 13.4**	**-2.0**
M20K	**Styx River**	**8.50**	**36**	Pn	**Pn**	**20 44 18.5**	**+1.9**
ADK	**Adak**	**8.51**	**251**	P	**Pn**	**20 44 17.8**	**+1.0**
KIWB	**Kanaga Island**	**8.78**	**252**	Pn	**Pn**	**20 44 20.4**	**+0.1**
J18K	**Innoko River**	**8.83**	**21**	Pn	**Pn**	**20 44 19.8**	**-1.0**
RC01	**Rabbit Creek A**	**9.28**	**46**	Pn	**Pn**	**20 44 25.5**	**-1.2**
K20K	**Telida**	**9.35**	**27**	Pn	**Pn**	**20 44 27.0**	**-0.7**
J19K	**Poorman**	**9.53**	**22**	Pn	**Pn**	**20 44 30.0**	**+0.1**
PWL	**Port Wells**	**9.76**	**50**	Pn	**Pn**	**20 44 31.2**	**-1.9**
CAST	**Castle Rocks**	**9.96**	**31**	Pn	**Pn**	**20 44 35.7**	**+0.1**
KNK	**Knik Glacier**	**9.98**	**47**	Pn	**Pn**	**20 44 34.1**	**-1.8**
GHO	**Glory Hole Cre**	**9.98**	**44**	Pn	**Pn**	**20 44 34.0**	**-1.9**
J20K	**Nowinta River**	**10.02**	**25**	Pn	**Pn**	**20 44 34.4**	**-1.9**
G16K	**Koyuk River**	**10.06**	**3**	Pn	**Pn**	**20 44 36.7**	**-0.1**
HIN	**Hinchinbrook I**	**10.39**	**54**	Pn	**Pn**	**20 44 39.3**	**-1.9**
FID	**Port Fidalgo**	**10.54**	**52**	Pn	**Pn**	**20 44 40.9**	**-2.2**
SCM	**Sheep Creek Mo**	**10.66**	**46**	Pn	**Pn**	**20 44 43.5**	**-1.3**
EYAK	**Cordova Ski Ar**	**10.79**	**54**	P	**Pn**	**20 44 45.3**	**-1.1**
KLU	**Klutina**	**11.09**	**49**	Pn	**Pn**	**20 44 48.0**	**-2.4**
M24K	**Tolsona, Glenn**	**11.27**	**46**	Pn	**Pn**	**20 44 50.8**	**-1.8**
DHY	**Denali Highway**	**11.31**	**41**	Pn	**Pn**	**20 44 52.2**	**-1.0**
HMT	**Hamilton**	**11.42**	**56**	Pn	**Pn**	**20 44 54.0**	**-0.6**
N25K	**Chitina, Valde**	**11.71**	**50**	Pn	**Pn**	**20 44 57.6**	**-0.8**
GLB	**Gilahina Butte**	**12.00**	**52**	Pn	**Pn**	**20 45 01.2**	**-0.8**
CRQM	**Cirque**	**12.08**	**55**	Pn	**Pn**	**20 45 02.4**	**-0.7**
VRDI	**Verde Repeater**	**12.09**	**53**	Pn	**Pn**	**20 45 02.0**	**-1.2**
WAX	**Waxell Ridge**	**12.13**	**57**	Pn	**Pn**	**20 45 02.8**	**-0.8**
F20K	**Avaraart Lake**	**12.29**	**15**	Pn	**Pn**	**20 45 04.6**	**-1.0**
E19K	**Redstone River**	**12.48**	**11**

mb4.5/14, Error ellipse: s-maj=30.9km s-min=10.0km az=83.0

ISC 04 21:11:02.4±0.6, 52°33S±0°08×27°0E±0°1, h10km, n34, σ1§54/28, mb4.2/12, 4C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S2	**CROZET ISLANDS**	**17.01**	**81**	T	T	21 31 57.5	
	baz=243,slow=75,SNR=31						
H04S3	**CROZET ISLANDS**	**17.02**	**81**	T	T	21 32 02.5	
	baz=243,slow=75,SNR=30						
H04S1	**CROZET ISLANDS**	**17.03**	**81**	T	T	21 32 03.1	
	baz=243,slow=75,SNR=77						
GRHM	**Grahamstown, E**	**19.05**	**358**	P	**P**	**21 15 25.6**	**+0.9**
GRHM				IAmb	IAmb	21 15 30.8	
	comp=Z,51nm,1.1s						
SOE	**Somerset East**	**19.64**	**356**	P	**P**	**21 15 30.4**	**-0.7**
SUR	**Sutherland**	**20.44**	**345**	P	**P**	**21 15 38.1**	**-1.9**
SUR				IAmb	IAmb	21 15 44.0	
	comp=Z,40nm,1.1s						
SUR	**Sutherland**	**20.44**	**345**	P	Pn	21 15 42.2	+0.2
	comp=Z,17nm,0.8s,baz=141,slow=13,SNR=7.6						
	comp=Z,17nm,0.8s						
TROLL	**Troll, Antarti**	**22.47**	**200**	⇑P	**P**	**21 16 03.4**	**+1.9**
	comp=Z,57nm,0.6s						
MAW	**Mawson**	**23.10**	**145**	P	**P**	**21 16 05.7**	**-2.2**
	comp=Z,3.2nm,0.7s,baz=288,slow=12,SNR=5.2						
	comp=Z,3.2nm,0.7s						
SNAA	**Sanae**	**23.44**	**203**	P	**P**	**21 16 11.4**	**0.0**
SNAA	**Sanae**	**23.44**	**203**	⇑P	**P**	**21 16 13.7**	**+2.2**
SNAA	**Sanae**	**23.44**	**203**	P	**P**	**21 16 11.4**	**0.0**
	comp=Z,2.4nm,0.9s,baz=144,slow=8.3,SNR=3.9						
	comp=Z,2.4nm,0.9s						
BOSA	**Boshof**	**23.73**	**356**	P	**P**	**21 16 13.8**	**-0.9**
BOSA				IAmb	IAmb	21 16 18.4	
	comp=Z,13nm,1.2s						
BOSA	**Boshof**	**23.73**	**356**	P	**P**	**21 16 15.2**	**+0.6**
	comp=Z,8.5nm,1.0s,baz=176,slow=9.7,SNR=6.1						
	comp=Z,8.5nm,1.0s						
VNA2	**Neumayer--Watz**	**24.19**	**207**	⇑P	**P**	**21 16 20.8**	**+2.3**
	baz=18,slow=24						
VNA1	**Neumayer--Stat**	**24.29**	**208**	⇑P	**P**	**21 16 24.1**	**+4.7**
BELA	**Belgrano 2**	**33.55**	**200**	P	**P**	**21 17 40.0**	**-1.8**
TSUM	**Tsumeb**	**33.87**	**344**	P	**P**	**21 17 44.5**	**-0.7**
TSUM				IAmb	IAmb	21 17 48.0	
	comp=Z,7.7nm,1.1s						
ABPO	**Ambohimpanom**	**36.83**	**33**	P	**P**	**21 18 10.4**	**-0.3**
ABPO				IAmb	IAmb	21 18 11.0	
	comp=Z,10nm,1.4s						
QSPA	**South Pole Qui**	**37.89**	**180**	P	**P**	**21 18 18.9**	**-0.4**
QSPA				IAmb	IAmb	21 18 23.7	
	comp=Z,14nm,1.5s						
QSPA	**South Pole Qui**	**37.89**	**180**	P	**P**	**21 18 17.8**	**-1.5**
	comp=Z,0.9nm,0.2s,baz=101,slow=2.1,SNR=3.7						
	comp=Z,0.9nm,0.2s						
CASY	**Casey**	**41.41**	**143**	P	**P**	**21 18 49.5**	**+1.1**
CASY				IAmb	IAmb	21 18 52.9	
	comp=Z,22nm,1.3s						
SBA	**Scott Base**	**47.74**	**169**	P	**P**	**21 19 39.1**	**+0.3**
SBA				IAmb	IAmb	21 19 44.3	
	comp=Z,2.8nm,0.8s						
H10S2	**ASCENSION HYDR**	**54.88**	**307**	T	T	22 20 45.2	
	baz=148,slow=74,SNR=12						
H10S3	**ASCENSION HYDR**	**54.89**	**307**	T	T	22 20 54.3	
	baz=72,slow=74,SNR=9.9						
GO09	**Cerro Castillo**	**56.50**	**228**	P	**P**	**21 20 43.6**	**-0.6**
LL05	**Los Muermos**	**64.12**	**235**	P	**P**	**21 21 35.7**	**-0.8**
GO06	**Curarrehue**	**64.44**	**238**	P	**P**	**21 21 38.4**	**-0.4**
CPUP	**Villa Florida**	**66.24**	**257**	P	**P**	**21 21 51.1**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=189,slow=19,SNR=1.6						
	comp=Z,0.6nm,0.4s						
TORD	**Torodi Ar. Bea**	**68.78**	**333**	P	**P**	**21 22 07.5**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=192,slow=3.3,SNR=3.5						
	comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**81.29**	**117**	P	**P**	**21 23 20.1**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=220,slow=4.9,SNR=9.9						
	comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**84.52**	**116**	P	**P**	**21 23 36.5**	**+0.8**
	comp=Z,0.8nm,1.0s,baz=209,slow=4.2,SNR=4.8						
	comp=Z,0.8nm,1.0s						
PDAR	**Pinedale Array**	**149.56**	**269**	PKPab	**PKPab**	**21 30 57.1**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=128,slow=5.9,SNR=4.2						
NVAR	**Mina Array Bea**	**152.24**	**254**	PKPab	**PKPab**	**21 31 07.7**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=140,slow=4.4,SNR=2.3						

*NEIC **04** 21:11:10.5±0.7, 37°88N±0°01×112°52W±0°02, h17km±8km, Error ellipse: s-maj=1.9km s-min=1.5km az=65.0*

UUSS 04 21:11:10.9±0.9, 37°881N±0°008×112°54W±0°01, h7km±4km, ML2.6/11, ML2.7/119(NEIC), Error ellipse: s-maj=1.6km s-min=0.9km az=59.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTPU	**Mount Pierson**	**0.33**	**60**	Pg	Pg	21 11 16.6	-0.8
MTPU				Sg	Sg	21 11 22.1	+0.4
MTPU				IAML		21 11 23.4	
	comp=E,1μm,0.3s						
DWU	**Dry Willow Pea**	**0.42**	**302**		Pg	21 11 19.4	+0.2
PKCU	**Pink Cliffs**	**0.47**	**157**	Pg	Pg	21 11 19.9	-0.3
PKCU				Sg	Sg	21 11 27.4	+1.1
PKCU				IAML		21 11 32.0	
	comp=N,1μm,0.6s						
BTU	**Barney Top**	**0.54**	**103**		Pg	21 11 21.3	-0.2
MVU	**Marysvale**	**0.67**	**23**		Pg	21 11 23.6	-0.3
MVU				Sg	Sg	21 11 32.8	+0.1
NMUT	**North Mineral**	**0.68**	**339**		Pg	21 11 23.8	-0.2
MSU	**Marysvale**	**0.69**	**24**	Pg	Pg	21 11 24.0	-0.3
ZNPU	**Zion National**	**0.70**	**222**		Pg	21 11 24.2	-0.1
ARUT	**Antelope Range**	**0.72**	**263**		Pg	21 11 25.1	+0.4
EKU	**East Kanab**	**0.81**	**177**		Pg	21 11 25.8	-0.6
KNB	**Kanab**	**0.89**	**195**	Pg	Pg	21 11 27.2	-0.8
KNB				Sg	Sg	21 11 39.5	-0.1
IMU	**Iron Mountain**	**0.89**	**327**		Pg	21 11 28.2	+0.1
LCMT	**Little Creek M**	**1.03**	**213**		Pg	21 11 29.7	-1.0
LCMT				IAML		21 11 46.1	
	comp=N,145nm,0.1s						
LCMT				IAML		21 11 49.1	
	comp=E,211nm,0.2s						
MMU	**Miners Mountai**	**1.04**	**72**		Pg	21 11 29.9	-0.9
PSUT	**Pine Spring**	**1.22**	**303**		Pg	21 11 33.8	-0.5
PSUT				IAML		21 11 54.9	
	comp=E,266nm,0.8s						
ICU	**Indian Springs**	**1.32**	**237**		Pn	21 11 35.7	-0.1
HMU	**Henry Mountain**	**1.43**	**87**		Pn	21 11 36.7	-0.7
U15A	**North Rim**	**1.46**	**172**		Pn	21 11 37.1	-0.8
U15A				IAML		21 12 01.3	
	comp=E,99nm,0.4s						
U15A				IAML		21 12 02.9	
	comp=N,104nm,0.4s						
Q16A	**Castle Valley**	**1.49**	**46**		Pn	21 11 37.8	-0.5
FLU	**Fool Peak**	**1.52**	**11**		Pn	21 11 38.9	+0.3
SNO	**Snow College**	**1.63**	**29**		Pb	21 11 41.1	-0.3
TMUT	**Trail Mountain**	**1.76**	**36**		Pn	21 11 41.9	-0.1
TMUT				IAML		21 12 12.8	
	comp=N,65nm,0.8s						
SPR3	**Spring Creek 3**	**1.79**	**309**		Pn	21 11 42.0	-0.5
SPR3				IAML		21 12 08.5	
	comp=N,52nm,0.3s						
SPR3				IAML		21 12 12.3	
	comp=E,63nm,0.7s						
SRU	**San Rafael Swe**	**2.00**	**52**	Pn	Pn	21 11 46.0	+0.7
SRU				IAML		21 12 19.4	
	comp=N,38nm,0.9s						
SRU				IAML		21 12 19.8	
	comp=E,52nm,0.6s						
PRN	**Pahroc Range**	**2.05**	**257**	Pn	Pn	21 11 46.0	+0.2
NLU	**North Lily Min**	**2.10**	**10**	Pn	Pn	21 11 46.8	+0.1
Q12A	**Willow Creek R**	**2.14**	**304**		Pn	21 11 47.4	+0.3
Q12A				IAML		21 12 22.5	
	comp=E,81nm,0.8s						
Q12A				IAML		21 12 22.5	
	comp=N,93nm,0.6s						
MPU	**Maple Canyon**	**2.25**	**18**		Pn	21 11 48.6	0.0
DUG	**Dugway, Tooele**	**2.32**	**355**		Pn	21 11 49.0	-0.6
R11B	**Troy Canyon, C**	**2.44**	**282**	Pn	Pn	21 11 51.3	0.0
R11B				IAML		21 12 31.5	
	comp=N,32nm,0.5s						
R11B				IAML		21 12 36.7	
	comp=E,23nm,1.2s						
SHPR	**Sheep Range**	**2.50**	**237**		Pn	21 11 52.5	+0.4
P18A	**Preston Nutter**	**2.50**	**45**		Pn	21 11 51.8	-0.5
P18A				IAML		21 12 31.2	
	comp=E,29nm,0.9s						
P18A				IAML		21 12 41.8	
	comp=N,25nm,1.2s						
WUAZ	**Wupatki**	**2.54**	**158**	Pn	Pn	21 11 50.6	-2.0
S11A	**Rachel**	**2.55**	**266**	Pn	Pn	21 11 51.9	-0.8
V12A	**Nelson**	**2.84**	**221**	Pn	Pn	21 11 56.8	+0.1
V12A				IAML		21 12 41.9	
	comp=N,19nm,0.5s						
V12A				IAML		21 12 53.8	
	comp=E,14nm,0.8s						
JLU	**Jordanelle**	**2.85**	**17**	Pn	Pn	21 11 55.4	-1.5
CTU	**Camp Tracy**	**2.87**	**12**	Pn	Pn	21 11 56.1	-1.1
W13A	**Hualapai Mount**	**2.98**	**202**	Pn	Pn	21 11 58.0	-0.7
W13A				IAML		21 12 47.1	
	comp=N,16nm,0.6s						
W13A				IAML		21 12 48.2	
	comp=E,15nm,0.7s						
BSUT	**Blindstream Ca**	**2.99**	**27**	Pn	Pn	21 11 58.4	-0.6
BGU	**Big Grassy Mou**	**3.06**	**353**	Pn	Pn	21 11 59.6	-0.3
TPNV	**Topopah Spring**	**3.09**	**254**		Pn	21 11 59.6	-0.6
TPNV				IAML		21 12 41.0	
	comp=E,21nm,0.4s						
TPNV				IAML		21 12 57.4	
	comp=E,26nm,0.6s						
MVCO	**Mesa Verde**	**3.28**	**101**	Pn	Pn	21 12 02.8	-0.2
WCT	**Wildcat Mounta**	**3.43**	**253**	Pn	Pn	21 12 05.4	+0.6
WCT				IAML		21 13 14.8	
	comp=E,7.8nm,0.9s						
ELK	**Elko**	**3.54**	**325**	Pn	Pn	21 12 05.1	-1.3
X16A	**Lo Mia Camp, P**	**3.57**	**165**	Pn	Pn	21 12 06.3	-0.5
X16A				IAML		21 13 06.9	
	comp=E,14nm,0.5s						
X16A				IAML		21 13 12.3	
	comp=N,18nm,0.6s						
TPH	**Tonopah**	**3.70**	**274**	Pn	Pn	21 12 07.9	-0.7
GWY	**Greenwater Val**	**3.71**	**244**	Pn	Pn	21 12 09.0	+0.3
GWY				IAML		21 13 17.8	
	comp=N,9.2nm,0.8s						
GWY				IAML		21 13 28.3	
	comp=E,11nm,0.8s						
GMN	**Gold Mountain**	**3.79**	**263**	Pn	Pn	21 12 09.8	-0.1
GMN				IAML		21 13 17.7	
	comp=E,6.2nm,2.8s						
GMN				IAML		21 13 20.6	
	comp=N,12nm,0.8s						
HWUT	**Hardware Ranch**	**3.80**	**11**	Pn	Pn	21 12 08.2	-1.7
HWUT				IAML		21 12 38.6	
	comp=N,6.6nm,4.4s						
HWUT				IAML		21 13 18.7	
	comp=N,9.9nm,4.3s						
MZP	**Montezuma Peak**	**3.84**	**269**	Pn	Pn	21 12 10.9	+0.3
MZP				IAML		21 13 19.8	
	comp=N,5.7nm,1.0s						
GRAC	**Grapevine Rang**	**3.94**	**259**	Pn	Pn	21 12 12.2	+0.4
GRAC				IAML		21 14 41.3	
	comp=E,19nm,0.7s						
X18A	**Snowflake**	**3.95**	**147**		Pn	21 12 11.7	-0.3
Y14A	**Wickenburg**	**3.95**	**186**	Pn	Pn	21 12 12.0	0.0
Y14A				IAML		21 13 19.6	
	comp=N,14nm,0.7s						
Y14A				IAML		21 13 27.3	
	comp=E,14nm,1.2s						
O20A	**White River Ci**	**4.04**	**55**	Pn	Pn	21 12 10.9	-2.3
GSC	**Goldstone, Bar**	**4.29**	**234**	Pn	Pn	21 12 17.3	+0.7
GSC				IAML		21 13 30.0	
	comp=E,9.9nm,1.1s						
GSC				IAML		21 14 30.8	
	comp=N,9.0nm,3.6s						
DSP	**Deep Springs**	**4.34**	**265**	Pn	Pn	21 12 18.0	+0.8
DSP				IAML		21 13 05.9	
	comp=N,6.4nm,4.7s						
DSP				IAML		21 14 47.8	
	comp=E,6.7nm,4.7s						
NV11	**Mina Array Sit**	**4.46**	**279**	Pn	Pn	21 12 19.1	+0.2
NV11				IAML		21 13 48.2	
	comp=E,5.9nm,3.4s						
NV11				IAML		21 13 54.5	
	comp=N,5.2nm,3.0s						
KVN	**Kaiserville**	**4.51**	**287**	Pn	Pn	21 12 19.7	-0.1
KVN				IAML		21 13 36.1	
	comp=N,11nm,0.5s						
S22A	**4UR Ranch, Cre**	**4.53**	**90**	Pn	Pn	21 12 19.9	-0.1
S22A				IAML		21 13 37.1	
	comp=E,10nm,2.5s						
S22A				IAML		21 13 37.9	
	comp=N,12nm,0.9s						
NVAR	**Mina Array Bea**	**4.57**	**279**	Pn	Pn	21 12 21.6	+0.9
LHV	**Little Huntoon**	**4.72**	**276**	Pn	Pn	21 12 22.4	0.0
LHV				IAML		21 13 17.7	
	comp=E,11nm,3.9s						
RYN	**Ryan**	**4.77**	**281**	Pn	Pn	21 12 22.6	-0.6
RYN				IAML		21 13 50.4	
	comp=N,7.8nm,0.9s						
RYN				IAML		21 13 50.6	
	comp=E,7.7nm,0.5s						
ANMO	**Albuquerque**	**5.71**	**119**		Pn	21 12 34.0	-2.3
SNOW	**Snow King Moun**	**5.74**	**13**	Pn	Pn	21 12 37.0	+0.3

NEIC 04 21:31:39.3±1.7, 35°17N±0°01×111°54W±0°02, h5km±1km, ML3.1/89, Error ellipse: s-maj=2.9km s-min=2.7km az=244.0, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WUAZ	**Wupatki**	**0.37**	**22**	Pg	Pb	21 31 48.2	-0.3
WUAZ				Sg	Sb	21 31 53.8	-0.9
X16A	**Lo Mia Camp, P**	**0.76**	**174**		Pb	21 31 54.9	-0.2
X16A				Sg	Sb	21 32 05.2	-0.6
U15A	**North Rim**	**1.39**	**334**		Pg	21 32 06.4	+0.3
U15A				IAML		21 32 27.4	
	comp=N,278nm,0.6s						
U15A				IAML		21 32 28.1	
	comp=E,203nm,0.6s						
X18A	**Snowflake**	**1.46**	**116**		Pg	21 32 07.2	-0.1
Y14A	**Wickenburg**	**1.72**	**225**	Pg	Pg	21 32 12.1	-0.3
Y14A				IAML		21 32 38.0	
	comp=N,174nm,0.3s						
Y14A				IAML		21 32 39.7	
	comp=E,137nm,0.3s						
W13A	**Hualapai Mount**	**1.92**	**269**	Pn	Pn	21 32 13.0	+0.1
KNB	**Kanab**	**2.11**	**331**		Pn	21 32 16.2	+0.7
KNB				IAML		21 32 46.8	
	comp=N,191nm,0.6s						
KNB				IAML		21 32 47.4	
	comp=E,131nm,0.5s						
LCMT	**Little Creek M**	**2.30**	**324**		Pn	21 32 18.3	+0.3
LCMT				IAML		21 32 51.9	
	comp=N,97nm,0.2s						
LCMT				IAML		21 32 52.5	
	comp=E,160nm,0.3s						
PKCU	**Pink Cliffs**	**2.35**	**345**		Pn	21 32 20.1	+1.2
PKCU				IAML		21 32 59.9	
	comp=N,137nm,0.4s						
PKCU				IAML		21 33 07.9	
	comp=E,195nm,0.4s						
V12A	**Nelson**	**2.76**	**283**		Pn	21 32 24.5	+0.2
V12A				IAML		21 33 08.9	
	comp=N,48nm,0.6s						
V12A				IAML		21 33 09.9	
	comp=E,59nm,0.4s						
HMU	**Henry Mountain**	**2.83**	**13**		Pn	21 32 27.4	+1.9
BLYC	**Blythe**	**2.84**	**241**		Pn	21 32 25.0	-0.3
BLYC				IAML		21 33 14.4	
	comp=N,37nm,0.7s						
MTPU	**Mount Pierson**	**2.91**	**350**		Pn	21 32 28.7	+2.0
MTPU				IAML		21 33 11.8	
	comp=N,39nm,0.6s						
TUC	**Tucson**	**2.92**	**167**		Pn	21 32 26.5	0.0
MVCO	**Mesa Verde**	**3.19**	**50**		Pn	21 32 31.4	+1.0
SHPR	**Sheep Range**	**3.23**	**295**		Pn	21 32 31.0	+0.2
DUN6	**Lazy B Ranch**	**3.31**	**141**	Pn	Pn	21 32 32.8	+0.8
MVU	**Marysvale**	**3.37**	**351**	Pn	Pn	21 32 34.0	+1.2
MSU	**Marysvale**	**3.37**	**351**	Pn	Pn	21 32 33.9	+1.0
GLA	**Glamis**	**3.45**	**233**	Pn	Pn	21 32 34.8	+1.1
GLA				IAML		21 33 37.3	
	comp=E,57nm,0.6s						
GLA				IAML		21 33 37.8	
	comp=N,43nm,0.7s						
PRN	**Pahroc Range**	**3.61**	**309**	Pn	Pn	21 32 37.3	+1.3
PRN				IAML		21 33 38.9	
	comp=N,45nm,0.6s						
PRN				IAML		21 33 47.8	
	comp=E,38nm,0.8s						
Q16A	**Castle Valley**	**3.75**	**4**	Pn	Pn	21 32 38.4	+0.4
Q16A				IAML		21 33 42.4	
	comp=N,58nm,0.7s						
PSUT	**Pine Spring**	**3.83**	**332**	Pn	Pn	21 32 39.0	-0.2
PSUT				IAML		21 33 46.8	
	comp=N,19nm,0.9s						
PSUT				IAML		21 33 50.9	
	comp=E,22nm,0.7s						
SRU	**San Rafael Swe**	**4.01**	**11**	Pn	Pn	21 32 44.1	+2.4
121A	**Cookes Peak, D**	**4.09**	**129**	Pn	Pn	21 32 42.0	-0.6
TMUT	**Trail Mountain**	**4.13**	**4**	Pn	Pn	21 32 43.8	+0.5
ANMO	**Albuquerque**	**4.18**	**92**		Pn	21 32 45.6	+1.7
ANMO				IAML		21 33 49.5	
	comp=E,16nm,0.7s						
ANMO				IAML		21 33 50.2	
	comp=E,13nm,0.7s						
TPNV	**Topopah Spring**	**4.21**	**296**	Pn	Pn	21 32 44.4	+0.1
TPNV				IAML		21 33 55.9	
	comp=E,16nm,1.9s						
TPNV				IAML		21 34 00.7	
	comp=E,14nm,0.8s						
GWY	**Greenwater Val**	**4.29**	**285**	Pn	Pn	21 32 47.0	+1.5
GWY				IAML		21 33 55.7	
	comp=N,20nm,0.6s						
GWY				IAML		21 33 56.1	
	comp=E,31nm,0.8s						
GSC	**Goldstone, Bar**	**4.31**	**273**	Pn	Pn	21 32 46.5	+0.9
GSC				IAML		21 34 01.5	
	comp=N,16nm,0.8s						
GSC				IAML		21 34 02.8	
	comp=E,15nm,0.9s						
YUH	**Yuha Desert**	**4.43**	**237**	Pn	Pn	21 32 47.3	+0.1
R11B	**Troy Canyon, C**	**4.54**	**316**	Pn	Pn	21 32 49.5	+0.6
P18A	**Preston Nutter**	**4.57**	**13**		Pn	21 32 50.2	+0.9
S22A	**4UR Ranch, Cre**	**4.58**	**55**		Pn	21 32 51.1	+1.5
S22A				IAML		21 34 08.7	
	comp=N,22nm,0.6s						
S22A				IAML		21 34 12.2	
	comp=E,18nm,0.8s						
Q12A	**Willow Creek R**	**4.67**	**327**	Pn	Pn	21 32 51.8	+1.1
Q12A				IAML		21 34 14.0	
	comp=E,16nm,1.3s						
Q12A				IAML		21 35 08.9	
	comp=N,13nm,4.3s						
NLU	**North Lily Min**	**4.79**	**355**	Pn	Pn	21 32 51.9	-0.5
NLU				IAML		21 34 14.3	
	comp=E,8.4nm,0.7s						
GMN	**Gold Mountain**	**5.09**	**296**	Pn	Pn	21 32 57.1	+0.6
GMN				IAML		21 34 24.4	
	comp=N,7.6nm,0.7s						
JLU	**Jordanelle**	**5.42**	**1**	Pn	Pn	21 33 02.0	+1.0
SDCO	**Great Sand Dun**	**5.50**	**60**	Pn	Pn	21 33 04.0	+1.8
O20A	**White River Ci**	**5.60**	**27**	Pn	Pn	21 33 04.5	+1.0
RDMU	**Red Mountain**	**5.61**	**16**	Pn	Pn	21 33 02.7	-1.0

*JMA **04** 21:40:02.9±0.2, 24°N±1°×122°3E±0°3, h67km±2km, MV1.9/11, TAIWAN REGION*

*TAP **04** 21:40:03.2, 24°42N×122°22E, h72km, ML2.7, D*

ISC 04 21:40:02.6±1.3, 24°42N±0°04×122°32E±0°02, h72km±7km, n55, σ0§70/104, 1C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.08**	**271**	P	**Pn**	**21 40 13.4**	**+0.6**
EOS2				*eS*	**Sn**	**21 40 21.7**	**+1.3**
EOS3	**EOS3**	**0.13**	**181**	*eP*	**Pn**	**21 40 13.6**	**+0.7**
EOS3				*eS*	**Sn**	**21 40 21.6**	**+1.1**
EOS4	**EOS4**	**0.29**	**180**	*eP*	**Pn**	**21 40 13.7**	**+0.2**
EOS4				*eS*	**Sn**	**21 40 22.1**	**+0.6**
ESAO	**Su ao**	**0.46**	**290**	*eP*	**Pn**	**21 40 15.4**	**+0.2**
ESAO				*eS*	**Sn**	**21 40 23.9**	**-0.6**
TWC	**Suao**	**0.47**	**294**	*eP*	**Pn**	**21 40 15.0**	**-0.3**
TWC				*eS*	**Sn**	**21 40 23.6**	**-0.9**
EWUT	**Wuta**	**0.49**	**273**	*eP*	**Pn**	**21 40 15.4**	**-0.1**
EWUT				*eS*	**Sn**	**21 40 24.7**	**-0.3**
ENA	**Nanau**	**0.53**	**271**	*eP*	**Pn**	**21 40 15.9**	**+0.1**
ENA				*eS*	**Sn**	**21 40 25.2**	**-0.4**
EAHA	**Aohua**	**0.54**	**261**	*eS*	**Sn**	**21 40 26.1**	**+0.4**
EGS		**0.55**	**320**	*eS*	**Sn**	**21 40 24.5**	**-1.5**
JYNG	**Yonagunijimaku**	**0.57**	**87**	P	**Pn**	**21 40 16.5**	**+0.2**
JYNG				*eS*	**Sn**	**21 40 25.3**	**-1.0**
NDS	**Dongshan**	**0.59**	**291**	*eP*	**Pn**	**21 40 16.3**	**-0.2**
NDS				*eS*	**Sn**	**21 40 26.6**	**0.0**
YOJ	**Yonaguni jima**	**0.63**	**86**	*eP*	**Pn**	**21 40 17.0**	**+0.2**
YOJ				*eS*	**Sn**	**21 40 27.0**	**-0.4**
TWE	**Neicheng**	**0.67**	**297**	*eP*	**Pn**	**21 40 17.4**	**+0.1**
TWE				*eS*	**Sn**	**21 40 27.9**	**-0.1**
ETL	**Fush Village**	**0.69**	**248**	*eP*	**Pn**	**21 40 17.5**	**0.0**
ETL				*eS*	**Sn**	**21 40 27.9**	**-0.6**
NACB	**Ninganchiao**	**0.70**	**250**	*eP*	**Pn**	**21 40 17.3**	**-0.3**
NACB				*eS*	**Sn**	**21 40 27.9**	**-0.9**
TIPB	**Shuangxi**	**0.71**	**321**	*eP*	**Pn**	**21 40 17.4**	**-0.4**
TIPB				*eS*	**Sn**	**21 40 27.9**	**-1.2**
ENTT	**Nioudou**	**0.72**	**288⇓**	*eP*	**Pn**	**21 40 18.3**	**+0.5**
ENTT				*eS*	**Sn**	**21 40 29.4**	**+0.2**
LATG	**Datong**	**0.73**	**279**	*eP*	**Pn**	**21 40 18.4**	**+0.3**
LATG				*eS*	**Sn**	**21 40 29.5**	**0.0**
TWD	**Chiawan**	**0.74**	**243**	*eP*	**Pn**	**21 40 17.9**	**-0.2**
TWD				*eS*	**Sn**	**21 40 28.8**	**-0.7**
FUSB	**Fushanzhiwuyua**	**0.75**	**297**	⇓P	**Pn**	**21 40 18.5**	**+0.3**
FUSB				*eS*	**Sn**	**21 40 29.8**	**0.0**
SXI1	**Grass Mountain**	**0.79**	**329**	*eP*	**Pn**	**21 40 18.3**	**-0.4**
ETLH	**Xiulin Townshi**	**0.79**	**255**	*eP*	**Pn**	**21 40 18.7**	**0.0**
ETLH				*eS*	**Sn**	**21 40 30.2**	**-0.5**
NWLT	**Wulai**	**0.82**	**296**	*eP*	**Pn**	**21 40 19.4**	**+0.4**
NWLT				*eS*	**Sn**	**21 40 31.5**	**+0.2**
NNSB	**Datong**	**0.85**	**271**	*eP*	**Pn**	**21 40 19.6**	**+0.1**
NNSB				*eS*	**Sn**	**21 40 31.3**	**-0.8**
NNS	**Nan Shan**	**0.86**	**272**	*eP*	**Pn**	**21 40 19.8**	**+0.1**
NNS				*eS*	**Sn**	**21 40 31.6**	**-0.7**
TWA	**Mucha**	**0.87**	**310**	*eP*	**Pn**	**21 40 18.5**	**-1.1**
TWA				*eS*	**Sn**	**21 40 32.2**	**-0.1**
ETM	**Tongmen**	**0.88**	**239**	*eP*	**Pn**	**21 40 19.4**	**-0.2**
ETM				*eS*	**Sn**	**21 40 31.6**	**-0.8**
YHNB	**Yeheng**	**0.90**	**286⇑**	*eP*	**Pn**	**21 40

STYH			*e*S	**Sn**	**21 40 56.0**	**+0.5**
TPUB	**Ta-pu**	**1.91 235**	*e*P	**Pn**	**21 40 34.8**	**+1.7**
TPUB			*e*S	**Sn**	**21 40 57.9**	**+1.7**

DJA 04 22:12:39.0±0.4, 11°S±4°×11°9E±°, h10km, M4.2/12, mb4.3/7, mB4.8/2, MLv4.1/12, Mw(mB)4.1/2, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.75**	**20**	P	Pn	22 13 10.3	+0.9
WBSI				S	Sn	22 13 29.1	-2.7
BASI	**Baing, Sumba**	**2.06**	**59**	P	Pn	22 13 14.7	+1.0
PLAI	**Plampang**	**2.64**	**338**	P	Pn	22 13 21.9	+0.2
MMRI	**Maumere**	**4.31**	**53**	P	Pn	22 13 44.1	-0.5
DNP	**Denpasar**	**4.37**	**306**	P	Pn	22 13 45.4	-0.1
SRBI	**Singaraja**	**4.75**	**312**	P	Pn	22 13 51.1	+0.5
BATI	**Baumata**	**4.92**	**78**	P	Pn	22 13 53.3	+0.2
JAGI	**Jajag, Banyuwa**	**5.35**	**301**	P	Pn	22 13 58.0	-1.0
	33nm,1.5s,0.2nm						
BSSI	**Bau Bau, Buton**	**5.39**	**18**	P	Pn	22 13 59.3	-0.2
	49nm,0.5s,1μm0.2nm						
GMJI	**Gumukmas**	**6.05**	**299**	P	Pn	22 14 07.4	-1.2
	21nm,1.8s,0.2nm						
BKSI	**Bulukumba**	**6.08**	**13**	P	Pn	22 14 09.9	+0.9
	20nm,0.8s,622nm0.1nm						
PWJI	**Pagerwojo**	**7.61**	**295**	P	Pn	22 14 30.1	+0.1
	25nm,2.3s,0.2nm						
PCJI	**Pacitan**	**8.10**	**292**	P	Pn	22 14 36.9	+0.1
UGM	**Wanagama**	**8.81**	**292**	P	Pn	22 14 46.1	-0.4

*IDC **04** 22:16:56.5±1.0, 13°53N×145°68E, h0km, mb4.1/14, mbtmp4.1/14, Error ellipse: s-maj=35.5km s-min=16.8km az=91.0*
*NEIC **04** 22:17:07.1±2.0, 13°5N±0°1×145°56E±0°09, h73km±7km, mb4.4/50, Error ellipse: s-maj=15.7km s-min=11.4km az=202.0*

ISC 04 22:17:03.2±0.5, 13°48N±0°08×145°73E±0°07, h45km, n75, σ1§30/80, mb4.4/40, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.84**	**277**		**Pn**	**22 17 21.7**	**+3.0**
GUMO					**Sn**	**22 17 32.4**	**+2.4**
GUMO	**Guam**	**0.84**	**277**	Pn	**Pn**	**22 17 21.3**	**+2.6**
	2μm,0.3s,baz=85,slow=8.2,SNR=189						
GUMO				Sn	**Sn**	**22 17 32.0**	**+2.0**
	4μm,0.3s,baz=129,slow=7.6,SNR=19						
PATS	**Pohnpei**	**14.03**	**117**	Pn	**Pn**	**22 20 21.5**	**+2.0**
FAKI	**Fak Fak**	**21.08**	**220**	P	**P**	**22 21 41.4**	**-2.5**
FAKI				IAmb	IAmb	22 21 48.2	
	comp=Z,19nm,0.9s						
JGF	**Kuroka**	**23.28**	**343**	P	**P**	**22 22 07.5**	**+0.5**
JGF				IAmb	IAmb	22 22 07.9	
	comp=Z,25nm,1.1s						
MJAR	**Matsushiro Arr**	**23.93**	**345**	P	**P**	**22 22 11.8**	**-1.4**
	comp=Z,2.9nm,0.9s,baz=178,slow=12,SNR=7.7						
	comp=Z,2.9nm,0.9s						
MAJO	**Matsushiro**	**23.93**	**345**	P	**P**	**22 22 14.3**	**+1.1**
MJB9	**Matsu-Tunnel**	**23.94**	**345**	P	**P**	**22 22 14.0**	**+0.8**
MJB9				IAmb	IAmb	22 22 16.7	
	comp=Z,24nm,1.5s						
MYLDM	**Lahad Datu**	**28.08**	**255**	P	**P**	**22 22 50.9**	**0.0**
MYLDM				IAmb	IAmb	22 23 05.9	
	comp=Z,26nm,1.2s						
KSRS	**Korea Array**	**28.68**	**330**	P	**P**	**22 22 55.7**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=324,slow=33,SNR=4.1						
	comp=Z,0.5nm,0.5s						
JKA	**Kamikawa-asahi**	**30.65**	**356**	P	**P**	**22 23 12.4**	**-0.8**
USRK	**Ussuriysk Ar.**	**32.80**	**342**	P	**P**	**22 23 32.8**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=163,slow=11,SNR=5.1						
	comp=Z,2.3nm,0.7s						
WB0	**Warrarunga Arr**	**34.87**	**199**	P	**P**	**22 23 50.0**	**-0.4**
WB0				IAmb	IAmb	22 23 50.6	
	comp=Z,2.8nm,0.7s						
WR0	**Warrarunga Arr**	**35.01**	**199**	P	**P**	**22 23 51.5**	**-0.1**
WR0				IAmb	IAmb	22 24 22.7	
	comp=Z,4.1nm,1.1s						
WB2	**Warrarunga Arr**	**35.05**	**199**	P	**P**	**22 23 51.5**	**-0.5**
WB2				IAmb	IAmb	22 24 05.7	
	comp=Z,11nm,1.5s						
WRA	**Warrarunga Arr**	**35.05**	**199**	P	**P**	**22 23 52.1**	**+0.1**
WRA	**Warrarunga Arr**	**35.05**	**199**	P	**P**	**22 23 51.6**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=21,slow=9.8,SNR=32						
	comp=Z,2.2nm,0.7s						
AS31	**Alice Springs**	**38.69**	**197**	P	**P**	**22 24 23.7**	**+0.8**
ASAR	**Alice Springs**	**38.69**	**197**	P	**P**	**22 24 23.6**	**+0.7**
ASAR	**Alice Springs**	**38.69**	**197**	P	**P**	**22 24 23.1**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=29,slow=8.0,SNR=21						
	comp=Z,1.9nm,0.8s						
HIA	**Hailar**	**41.60**	**334**	P	**P**	**22 24 45.1**	**-1.6**
HIA				IAmb	IAmb	22 25 01.8	
	comp=Z,6.0nm,0.8s						
KULM	**Kulim**	**45.15**	**264**	P	**P**	**22 25 14.6**	**-1.2**
KULM				IAmb	IAmb	22 25 45.4	
	comp=Z,10nm,1.2s						
CMAR	**Chiang Mai Arr**	**45.16**	**283**	P	**P**	**22 25 14.7**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=89,slow=7.5,SNR=5.0						
CMAR				PcP	**PcP**	**22 26 56.4**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=92,slow=2.5,SNR=4.1						
	comp=Z,0.3nm,0.3s						
BBOO	**Buckleboo**	**46.95**	**191**	P	**P**	**22 25 29.7**	**+0.1**
FORT	**Forrest**	**47.17**	**201**	P	**P**	**22 25 30.7**	**-0.7**
SONM	**Songino Array**	**47.30**	**324**	P	**P**	**22 25 31.8**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=121,slow=8.3,SNR=5.3						
SONM				PcP	**PcP**	**22 27 03.5**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=160,slow=3.0,SNR=2.7						
	comp=Z,0.7nm,0.7s						
S12K	**Black Hills**	**58.10**	**32**	P	**P**	**22 26 51.0**	**-1.0**
BKZ	**Black Stump Fm**	**59.73**	**153**	P	**P**	**22 27 04.4**	**+0.9**
K13K	**Kusilvak Mount**	**59.85**	**25**	P	**P**	**22 27 05.3**	**+1.4**
N15K	**Kwethluk River**	**60.97**	**28**	P	**P**	**22 27 13.7**	**+2.1**
MK31	**Makanchi Array**	**62.15**	**316**	P	**P**	**22 27 18.9**	**-1.0**
MKAR	**Makanchi Array**	**62.15**	**316**	P	**P**	**22 27 19.2**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=101,slow=7.4,SNR=26						
MKAR				PcP	**PcP**	**22 27 57.1**	**-2.7**
	comp=Z,0.6nm,0.7s,baz=74,slow=6.4,SNR=4.3						
	comp=Z,1.2nm,0.4s						
MAKZ	**Makanchi**	**62.36**	**316**	P	**P**	**22 27 20.6**	**-0.7**
MAKZ				IAmb	IAmb	22 27 22.1	
	comp=Z,1.7nm,0.7s						
KURK	**Kurchatov**	**65.20**	**320**	P	**P**	**22 27 38.8**	**-1.1**
KURK				IAmb	IAmb	22 27 40.8	
	comp=Z,4.8nm,1.1s						
KURBB	**Kurchatov Arra**	**65.25**	**320**	P	**P**	**22 27 39.1**	**-1.1**
	comp=Z,3.4nm,0.6s,baz=102,slow=6.8,SNR=36						
	comp=Z,3.4nm,0.6s						
NRIK	**Noril'sk**	**66.51**	**341**	P	**P**	**22 27 48.4**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=98,slow=7.2,SNR=4.6						
	comp=Z,1.4nm,0.3s						
E23K	**Chandalar**	**68.21**	**21**	P	**P**	**22 27 59.8**	**+0.9**
E23K				IAmb	IAmb	22 28 01.8	
	comp=Z,5.5nm,0.8s						
ILAR	**Eielson Array**	**68.31**	**25**	P	**P**	**22 27 59.4**	**0.0**
	comp=Z,1.5nm,0.7s,baz=252,slow=5.8,SNR=19						
	comp=Z,1.5nm,0.7s						
J26L	**Joseph Creek**	**69.64**	**26**	P	**P**	**22 28 08.8**	**+1.0**
J26L				IAmb	IAmb	22 28 22.7	
	comp=Z,6.2nm,1.4s						
GRNC	**Granite Creek**	**69.80**	**30**	P	**P**	**22 28 10.7**	**+1.7**
BMAR	**Burnt Mountain**	**69.88**	**23**	P	**P**	**22 28 11.1**	**+1.9**
TABL	**Table Mountain**	**70.05**	**30**	P	**P**	**22 28 12.6**	**+2.0**
F26K	**Sheenjek River**	**70.10**	**22**	P	**P**	**22 28 12.2**	**+1.7**
BCAR	**Beaver Creek A**	**70.15**	**27**	P	**P**	**22 28 12.8**	**+1.9**
KKAR	**Karatay Array**	**70.15**	**311**	P	**P**	**22 28 11.3**	**0.0**
LOGN	**Logan Glacier**	**70.17**	**30**	P	**P**	**22 28 13.2**	**+2.0**
BVAR	**Borovoye Array**	**70.53**	**322**	P	**P**	**22 28 12.3**	**-1.1**
	comp=Z,2.6nm,0.5s,baz=101,slow=7.8,SNR=14						
	comp=Z,2.6nm,0.5s						
C27K	**Jago River**	**70.71**	**20**	P	**P**	**22 28 15.8**	**+1.6**
I28M	**Miner Creek**	**71.33**	**25**	P	**P**	**22 28 19.0**	**+0.9**
D27M	**Malcolm River**	**71.58**	**21**	P	**P**	**22 28 21.1**	**+1.6**
M29M	**Somme Creek**	**71.58**	**28**	P	**P**	**22 28 20.2**	**+0.5**
M29M				IAmb	IAmb	22 28 28.7	
	comp=Z,12nm,1.5s						
F28M	**Old Crow**	**71.69**	**23**	P	**P**	**22 28 22.3**	**+2.1**
F28M				IAmb	IAmb	22 28 23.2	
	comp=Z,3.7nm,0.9s						
L29M	**L29M**	**71.81**	**28**	P	**P**	**22 28 22.0**	**+1.1**
L29M				IAmb	IAmb	22 28 24.2	
	comp=Z,6.7nm,1.4s						
HYT	**Haines Junctio**	**71.88**	**30**	P	**P**	**22 28 22.2**	**+0.6**
HYT				IAmb	IAmb	22 28 41.5	
	comp=Z,8.2nm,1.3s						
E28M	**Babbage River**	**71.97**	**22**	P	**P**	**22 28 24.0**	**+2.1**
H29M	**Whitestone**	**72.07**	**24**	P	**P**	**22 28 22.8**	**+0.3**
K29M	**Barlow Dome**	**72.16**	**27**	P	**P**	**22 28 24.7**	**+1.6**
J30M	**Hart River**	**72.74**	**26**	P	**P**	**22 28 26.2**	**-0.5**
H31M	**Peel River**	**73.67**	**25**	P	**P**	**22 28 31.7**	**-0.3**
H31M				IAmb	IAmb	22 29 14.7	
	comp=Z,7.8nm,1.4s						
G31M	**Satah River**	**73.77**	**24**	P	**P**	**22 28 33.1**	**+0.7**
G31M				IAmb	IAmb	22 28 34.8	
	comp=Z,4.8nm,0.8s						
INK	**Inuvik**	**74.15**	**22**	P	**P**	**22 28 35.3**	**+0.7**
INK				IAmb	IAmb	22 29 13.4	
	comp=Z,6.2nm,1.4s						
ABKAR	**Akbulak array**	**77.18**	**318**	P	**P**	**22 28 51.3**	**-1.1**
ABKAR	**Akbulak array**	**77.18**	**318**	P	**P**	**22 28 51.1**	**-1.3**
C36M	**Paulatuk**	**77.56**	**21**	P	**P**	**22 28 54.6**	**+0.6**
C36M				IAmb	IAmb	22 29 14.3	
	comp=Z,9.2nm,1.4s						
B08A	**Colville Reser**	**83.30**	**42**	P	**P**	**22 29 25.7**	**+0.3**
B08A				IAmb	IAmb	22 29 50.3	
	comp=Z,5.3nm,1.1s						
RES	**Resolute Bay**	**84.46**	**13**	P	**P**	**22 29 32.2**	**+1.5**
RES				IAmb	IAmb	22 30 03.4	
	comp=Z,7.6nm,1.5s						
NEW	**Newport**	**84.75**	**42**	P	**P**	**22 29 34.3**	**+1.5**
NEW				IAmb	IAmb	22 30 03.1	
	comp=Z,3.5nm,1.0s						
PLID	**Pearl Lake**	**86.31**	**45**	P	**P**	**22 29 40.4**	**-0.5**
PLID				IAmb	IAmb	22 30 10.7	
	comp=Z,3.7nm,1.3s						
KEV	**Kevo**	**86.88**	**342**	P	**P**	**22 29 42.1**	**-0.7**
ARCES	**ARCESS Array B**	**87.44**	**342**	P	**P**	**22 29 44.8**	**-0.8**
ARCES	**ARCESS Array B**	**87.44**	**342**	P	**P**	**22 29 44.0**	**-1.6**
	comp=Z,3.8nm,0.8s,baz=64,slow=5.5,SNR=6.9						
	comp=Z,3.8nm,0.8s						
YUH	**Yuha Desert**	**89.70**	**57**	P	**P**	**22 29 56.0**	**-1.1**
YUH				IAmb	IAmb	22 30 32.4	
	comp=Z,2.0nm,1.1s						
FINES	**FINESS Array B**	**91.61**	**335**	P	**P**	**22 30 03.5**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=46,slow=5.5,SNR=9.3						
	comp=Z,1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**135.61**	**305**	PKP	**PKPdf**	**22 36 19.2**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=26,slow=2.9,SNR=7.4						
DBIC	**Dimbokro**	**144.59**	**303**	PKP	**PKPab**	**22 36 34.4**	**-0.1**
	comp=Z,4.9nm,0.5s,baz=35,slow=4.5,SNR=16						

IDC 04 22:20:40.7±1.8, 34°51N×91°28E, h0km, mb3.5/1, mbtmp3.4/3, ML3.8/1, MS3.5/1, Error ellipse: s-maj=196.9km s-min=32.3km az=59.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.39**	**155**	P	Pn	22 24 44.9	+0.1
	0.1nm,0.3s,baz=335,slow=12,SNR=9.8						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**18.59**	**334**	P	P	22 24 59.4	+0.1
	0.4nm,0.7s,baz=150,slow=11,SNR=2.7						
GUMO	**Guam**	**52.53**	**100**	LR	LR	22 52 57.8	
	comp=Z,45nm,20.0s,baz=86,slow=37						
WRA	**Warramunga Arr**	**67.89**	**136**	P	P	22 31 41.2	0.0
	0.3nm,0.5s,baz=327,slow=6.9,SNR=5.2						
	0.3nm,0.5s						
LPAZ	**La Paz**	**154.11**	**309**	PKP	PKPdf	22 40 34.7	-0.9
	1.1nm,0.4s,baz=72,slow=2.9,SNR=12						

*JMA **04** 22:38:30.8±0.2, 44°5N±0°8×14°6E±°, h22km±1km, MV3.3/30, NEAR KUNASHIRI ISLAND*
*SKHL **04** 22:38:32.0±0.2, 44°50N×145°70E, h22km±1km, mb4.3/2*

ISC 04 22:38:28.8±1.5, 44°50N±0°05×145°77E±0°04, h3km±14km, n13, σ0§59/24, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.47**	**172**	*e*P	**Pb**	**22 38 40.8**	**+1.2**
YUK				AMB	AMB	22 38 41.3	
	280nm,0.3s						
YUK				S	**Sb**	**22 38 47.2**	**+0.3**
YUK				A	A	22 38 47.8	
	4μm,0.4s						
YUK				A	A	22 38 47.8	
	4μm,0.4s						
JRA	**Rausu**	**0.73**	**220**	P	**Pb**	**22 38 44.5**	**+0.4**
JRA				S	**Sb**	**22 38 54.2**	**-0.2**
JNSB	**Nemuroshibetsu**	**0.91**	**218**	*e*P	**Pb**	**22 38 47.6**	**+0.4**
JNSB				S	**Sb**	**22 38 59.9**	**+0.3**
SHO	**Shikotan**	**0.98**	**129**	*e*P	**Pn**	**22 38 49.8**	**+0.3**
SHO				AMB	AMB	22 38 50.7	
	100nm,0.4s						
SHO				*e*S	**Sn**	**22 39 03.3**	**-0.6**
SHO				A	A	22 39 04.4	
	680nm,0.4s						
SHO				A	A	22 39 04.4	
	410nm,0.4s						
NEM2	**Nemuro 2**	**1.13**	**181**	P	**Pb**	**22 38 50.9**	**0.0**
NEM2				S	**Sb**	**22 39 06.0**	**0.0**
JNK	**Nakash**	**1.19**	**220**	P	**Pb**	**22 38 51.7**	**-0.2**
JNK				S	**Sg**	**22 39 07.3**	**+0.5**
JTKR	**Abashiri--Toko**	**1.44**	**249**	*e*P	**Pn**	**22 38 55.3**	**-0.5**
JTKR				*e*S	**Sn**	**22 39 14.2**	**-0.9**
JKHN	**Kushirohamanak**	**1.48**	**198**	P	**Pn**	**22 38 56.5**	**+0.2**
JKHN				S	**Sb**	**22 39 16.0**	**-0.1**
KUR	**Kuril'sk**	**1.66**	**63**	*e*P	**Pg**	**22 39 00.3**	**-0.4**
KUR				AMB	AMB	22 39 05.1	
	40nm,0.4s						
KUR				*e*S	**Sg**	**22 39 21.6**	**-0.6**
KUR				A	A	22 39 28.7	
	100nm,0.3s						
JAK	**Akkeshi**	**1.69**	**208**	*e*P	**Pn**	**22 38 59.1**	**-0.1**
JMP	**Maruseppu**	**1.80**	**255**	*e*P	**Pn**	**22 39 01.0**	**+0.2**
JMP				*e*S	**Sn**	**22 39 23.2**	**-0.9**
JAR	**Ashorobuto**	**1.88**	**231**	P	**Pb**	**22 39 03.8**	**0.0**
JAR				*e*S	**Sn**	**22 39 26.5**	**+0.5**
YSS	**Yuzh-Sakhalins**	**3.24**	**320**	*e*P	**Pn**	**22 39 21.8**	**+1.3**
YSS				AMB	AMB	22 39 22.1	
	30nm,0.6s						

*SJA **04** 22:38:40.7±0.6, 24°17S×67°15W, h201km±5km, ML3.6, MW3.5*
*GUC **04** 22:38:42.8±0.7, 24°15S×67°36W, h205km±16km, ML3.9*

ISC 04 22:38:39.6±2.0, 24°18S±0°05×67°19W±0°06, h215km±18km, n30, σ1§27/46, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.63**	**110**	*e*P	**Pn**	**22 39 16.0**	**+0.1**
FSA	**Cafayete**	**2.21**	**151**	*e*P	**Pn**	**22 39 22.2**	**+0.6**
LVC	**Limon Verde**	**2.22**	**314**	*e*P	**Pn**	**22 39 22.8**	**+0.8**
LVC				*e*S	**S**	**22 39 52.8**	**-1.8**
LVC				IAML		22 39 55.0	
	comp=Z,555nm,0.2s						
LVC	**Limon Verde**	**2.22**	**314**	*e*P	**Pn**	**22 39 23.0**	**+1.1**
LVC				*e*S	**S**	**22 39 53.9**	**-0.7**
PB15	**IPOC Station P**	**2.31**	**294**	⇑*i*P	**Pn**	**22 39 23.8**	**+1.2**
PB15				*e*S	**S**	**22 39 54.7**	**-1.1**
PB15	**IPOC Station P**	**2.31**	**294**	*e*P	**Pn**	**22 39 23.8**	**+1.2**
PB15				*e*S	**S**	**22 39 55.3**	**-0.5**
PB15				IAML		22 39 57.6	
	comp=Z,624nm,0.2s						
GO02	**Mina Guanaco**	**2.40**	**245**	⇑*i*P	**Pn**	**22 39 24.9**	**+1.3**
GO02				*i*S	**S**	**22 39 57.1**	**-0.6**
GO02				IAML		22 39 58.4	
	comp=N,684nm,0.2s						
GO02	**Mina Guanaco**	**2.40**	**245**	*e*P	**Pn**	**22 39 24.9**	**+1.3**
GO02				*e*S	**S**	**22 39 57.8**	**+0.1**
YJA	**Yavi**	**2.52**	**38**	*e*P	**Pn**	**22 39 26.2**	**+1.1**
YJA				*e*S	S	22 39 49.9	-10
PB06	**IPOC Station P**	**2.63**	**303**	⇑*i*P	**Pn**	**22 39 27.4**	**+1.2**
PB06				*e*S	**S**	**22 40 00.5**	**-1.6**
PB06				IAML		22 40 04.1	
	comp=E,212nm,0.2s						
PB06	**IPOC Station P**	**2.63**	**303**	*e*P	**Pn**	**22 39 27.3**	**+1.2**
PB06				*e*S	**S**	**22 40 00.9**	**-1.2**
PB06				IAML		22 40 02.1	
	comp=Z,108nm,0.2s						
PB14	**IPOC Station P**	**2.97**	**261**	*e*P	**Pn**	**22 39 31.0**	**+1.0**
PB14	**IPOC Station P**	**2.97**	**261**	*e*S	**S**	**22 40 08.0**	**-1.0**
PB14				IAML		22 40 15.0	
	comp=Z,84nm,0.2s						
PB09	**IPOC Station P**	**3.03**	**321**	*e*P	**Pn**	**22 39 32.3**	**+1.7**
PB09				*e*S	**S**	**22 40 09.4**	**-0.9**
PB09				IAML		22 40 12.2	
	comp=N,152nm,0.5s						
PB09	**IPOC Station P**	**3.03**	**321**	*e*P	**Pn**	**22 39 32.4**	**+1.7**
PB09				*e*S	**S**	**22 40 10.0**	**-0.3**
PB09				IAML		22 40 10.3	
	comp=Z,112nm,0.5s						
AHML	**Horco Molle**	**3.09**	**148**	*e*P	Pn	22 39 38.4	+7.3
PB04	**IPOC Station P**	**3.29**	**303**	*e*P	**Pn**	**22 39 34.6**	**+1.1**
PB04	**IPOC Station P**	**3.29**	**303**	*e*P	**Pn**	**22 39 34.6**	**+1.1**
PB04				*e*S	**S**	**22 40 14.7**	**-0.7**
PB04				IAML		22 40 16.6	
	comp=Z,139nm,0.2s						
AC01	**Pan de Azucar**	**3.66**	**237**	*e*P	**Pn**	**22 39 37.9**	**+0.1**
AC01				*e*S	**S**	**22 40 21.4**	**-1.9**
AC01				IAML		22 40 24.1	
	comp=Z,61nm,0.4s						
PB01	**IPOC Station P**	**3.77**	**325**	*e*P	**Pn**	**22 39 39.8**	**+0.5**
PB01	**IPOC Station P**	**3.77**	**325**	*e*P	**Pn**	**22 39 40.1**	**+0.8**
PB01				*e*S	**S**	**22 40 24.0**	**-2.0**
PB01				IAML		22 40 26.7	
	comp=Z,66nm,0.2s						
PATCX	**Punta Patache**	**4.32**	**320**	*e*P	**Pn**	**22 39 47.0**	**+1.0**
PATCX	**Punta Patache**	**4.32**	**320**	*e*P	**Pn**	**22 39 47.4**	**+1.4**
PATCX				*e*S	**S**	**22 40 35.9**	**-2.2**
PATCX				IAML		22 40 45.7	
	comp=Z,38nm,0.7s						
PB08	**IPOC Station P**	**4.41**	**335**	*e*P	**Pn**	**22 39 48.8**	**+1.4**
PB08	**IPOC Station P**	**4.41**	**335**	*e*P	**Pn**	**22 39 49.1**	**+1.6**
PB08				*e*S	**S**	**22 40 39.9**	**-0.7**
PB08				IAML		22 40 41.1	
	comp=Z,41nm,0.5s						
TA01	**Diego Aracena**	**4.54**	**322**	*e*P	**Pn**	**22 39 50.1**	**+1.5**
TA01				*e*S	**S**	**22 40 40.8**	**-2.0**
TA01				IAML		22 40 47.6	
	comp=Z,27nm,1.1s						
HMBC	**Humberstone**	**4.62**	**327**	*e*P	**Pn**	**22 39 49.3**	**-0.5**
GO01	**Chusmiza**	**4.86**	**337**	*e*P	**Pn**	**22 39 54.7**	**+1.6**
GO01				*e*S	**S**	**22 40 50.5**	**-0.4**
PB11	**IPOC Station P**	**4.96**	**332**	*e*P	**Pn**	**22 39 53.9**	**-0.1**
ACLC	**CERRO LA CRUZ**	**5.23**	**178**	*e*P	**Pn**	**22 39 59.2**	**+1.8**

*IDC **04** 22:46:13.8±1.5, 33°73S×178°22W, h0km, mb3.8/3, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=37.0km s-min=30.4km az=62.0*
*NEIC **04** 22:46:14.2±1.0, 33°9S±0°1×178°01W±0°09, h10km±1km, mb4.7/9, Error ellipse: s-maj=20.5km s-min=12.8km az=345.0*

ISC 04 22:46:14.1±0.9, 33°8S±0°1×178°1W±0°1, h10km, n26, σ1§17/27, mb4.6/10, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.76**	**217**	Pn	**Pn**	**22 47 25.8**	**-0.1**
URZ	**Urewera**	**5.91**	**220**	Pn	**Pn**	**22 47 41.3**	**-0.3**
	1.5nm,0.3s,baz=48,slow=16,SNR=14						
URZ				Sn	**Sn**	**22 48 49.8**	**+0.4**
	6.4nm,0.3s,baz=72,slow=20,SNR=12						
	4.1nm,0.3s						
RTZ	**Ruatahuna**	**6.24**	**219**	Pn	**Pn**	**22 47 45.5**	**-0.8**
BKZ	**Black Stump Fm**	**6.91**	**218**	Pn	**Pn**	**22 47 54.6**	**-0.8**
MRZ	**Mangatainoka R**	**8.50**	**215**	Pn	**Pn**	**22 48 16.8**	**-0.5**
MSWZ	**Moikau Station**	**9.25**	**213**	Pn	**Pn**	**22 48 26.3**	**-1.2**
CTZ	**Chatham Island**	**9.96**	**174**	Pn	**Pn**	**22 48 36.2**	**-1.0**
QRZ	**Quartz Range**	**10.25**	**224**	Pn	**Pn**	**22 48 39.6**	**-1.5**
PMG	**Port Moresby**	**40.13**	**299**	P	**P**	**22 53 50.1**	**-0.1**
PMG				IAmb	IAmb	22 53 59.1	
	comp=Z,20nm,1.1s						
ASAR	**Alice Springs**	**42.99**	**271**	P	**P**	**22 54 14.6**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=110,slow=7.5,SNR=6.2						
	comp=Z,0.3nm,0.4s						
WR0	**Warramunga Arr**	**44.11**	**276**	P	**P**	**22 54 21.6**	**-1.2**
WB2	**Warramunga Arr**	**44.27**	**276**	P	**P**	**22 54 24.0**	**-0.1**
WB2				IAmb	IAmb	22 54 33.3	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**44.28**	**276**	P	**P**	**22 54 24.2**	**0.0**
	comp=Z,0.4nm,0.3s,baz=116,slow=7.6,SNR=16						
	comp=Z,0.4nm,0.3s						
WB0	**Warramunga Arr**	**44.32**	**276**	P	**P**	**22 54 24.3**	**-0.2**
WB0				IAmb	IAmb	22 54 36.2	
	comp=Z,8.5nm,1.4s						
FORT	**Forrest**	**45.22**	**258**	P	**P**	**22 54 31.9**	**+0.4**
FORT				IAmb	IAmb	22 54 37.8	
	comp=Z,9.5nm,0.9s						
CASY	**Casey**	**52.12**	**209**	P	**P**	**22 55 22.4**	**-1.7**
CASY				IAmb	IAmb	22 55 28.8	
	comp=Z,28nm,1.5s						
QSPA	**South Pole Qui**	**56.30**	**180**	P	**P**	**22 55 57.2**	**+2.5**
QSPA	**South Pole Qui**	**56.30**	**180**	P	**P**	**22 55 57.3**	**+2.5**
	comp=Z,1.5nm,0.7s,baz=90,slow=6.1,SNR=11						
	comp=Z,1.5nm,0.7s						
MG03	**Isla Dawson**	**72.71**	**144**	P	**P**	**22 57 41.4**	**-0.7**
GO09	**Cerro Castillo**	**73.18**	**141**	P	**P**	**22 57 42.6**	**-2.3**
TROLL	**Troll, Antarti**	**74.46**	**180**	⇑P

KUR			A	A	23 02 24.5		
	350nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.51 272**	*eP*	**Pn**	**23 02 10.2**	**0.0**	
YUK			AMB	AMB	23 02 11.0		
	160nm,0.2s						
YUK			*eS*	**Sn**	**23 02 26.8**	**-2.1**	
YUK			A	A	23 02 30.2		
	1μm,0.3s						
YUK			A	A	23 02 30.2		
	840nm,0.3s						
NEM2	**Nemuro 2**	**1.72 249**	P	**Pn**	**23 02 13.2**	**+0.1**	
NEM2			S	**Sn**	**23 02 32.7**	**-1.5**	
JRA	**Rausu**	**2.04 269**	P	**Pn**	**23 02 18.8**	**+1.3**	
JRA			S	**Sn**	**23 02 42.5**	**+0.4**	
JNSB	**Nemuroshibetsu**	**2.14 265**	*eP*	**Pn**	**23 02 20.0**	**+1.1**	
JKHN	**Kushirohamanak**	**2.23 247**	*eP*	**Pn**	**23 02 20.7**	**+0.7**	
JKHN			*eS*	**Sn**	**23 02 45.1**	**-1.5**	
JNK	**Nakash**	**2.38 261**	P	**Pn**	**23 02 23.1**	**+0.9**	
JNK			*eS*	**Sn**	**23 02 49.6**	**-0.8**	
JAK	**Akkeshi**	**2.57 248**	P	**Pn**	**23 02 25.5**	**+0.7**	
JAK			*eS*	**Sn**	**23 02 53.6**	**-1.5**	
JTKR	**Abashiri--Toko**	**2.92 271**	P	**Pn**	**23 02 31.0**	**+1.4**	
JAR	**Ashorobuto**	**3.12 258**	P	**Pn**	**23 02 34.0**	**+1.7**	
JAR			S	**Sn**	**23 03 08.8**	**+0.2**	
JOB	**Onbets**	**3.19 251**	P	**Pn**	**23 02 34.5**	**+1.2**	
JOB			S	**Sn**	**23 03 10.1**	**-0.3**	
JMP	**Maruseppu**	**3.31 272**	P	**Pn**	**23 02 36.8**	**+1.7**	
JCH	**Churui**	**3.62 249**	*eP*	**Pn**	**23 02 40.8**	**+1.5**	
YSS	**Yuzh-Sakhalins**	**4.70 311**	*eP*	**Pn**	**23 02 55.5**	**+1.5**	
YSS			AMB	AMB	23 03 03.8		
	10.0nm,0.3s						
YSS			*eS*	**Sn**	**23 03 46.8**	**-0.7**	
YSS			A	A	23 03 49.2		
	30nm,0.4s						
YSS			A	A	23 03 49.2		
	30nm,0.4s						

*IDC **04** 23:08:56.9±1.2, 42°.36S×173°.10E, h0km, mb3.7/3, mbtmp3.7/4, ML3.3/1, Error ellipse: s-maj=31.7km s-min=29.5km az=100.0*
*NOU **04** 23:08:58.9, 42°.68S×173°.33E, h13km, MLv4.3/12, South Island, New Zealand*
*WEL **04** 23:08:59.5±0.3, 43°.S±3°.×17°.3E±°, h16km±3km, M4.0/20, ML4.2/19, MLv4.0/20, Error ellipse: s-maj=5.9km s-min=2.5km az=126.3, confirmed*
*WEL **04** 23:08:59.4, 42°.62S×173°.24E, h14km, ML4.0, Mw3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr=4.17; Mθθ=-4.93; Mϕϕ=0.76; Mrθ=-3.06; Mϕθ=-3.25; Mϕr=-4.73; Fault plane solution: M0=7.93000×10^14 NP1: ϕs=96.00000°, δ31.00000°, λ142.00000°. NP2: ϕs=220.00000°, δ71.00000°, λ64.00000°. Principal axes: T -8.3360, Plg56.0000°, Azm97.0000°; N 0.8030, Plg24.0000°, Azm228.0000°; P 7.5330, Plg22.0000°, Azm329.0000°; Stations used: LTZ INZ NNZ REVERSE FAULTING*
*NEIC **04** 23:09:00.0±1.4, 42°.62S±0°.03×173°.27E±0°.04, h26km±12km, ML3.8/55 Error ellipse: s-maj=4.3km s-min=3.2km az=131.0*

ISC 04 23:08:59.3±0.8, **42°.59S**±0°.02×**173°.23E**±0°.03, **h16**km±6km, **n151**, σ1$09/168, **mb3.6**/3, **South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTMC	**Te Mara Farm W**	**0.13**	**256**	P	**Pg**	**23 09 03.2**	**+0.1**
WTMC				S	**Sg**	**23 09 06.0**	**+0.4**
CECS	**Cheviot Emerge**	**0.23**	**171**	P	**Pb**	**23 09 06.4**	**+1.4**
CECS				S	**Sb**	**23 09 11.1**	**+2.2**
KHZ	**Kahutara**	**0.29**	**53**		**Pb**	**23 09 06.1**	**+0.2**
KHZ				Sg	**Sb**	**23 09 10.9**	**+0.4**
KHZ	**Kahutara**	**0.29**	**53**	P	**Pb**	**23 09 06.4**	**+0.4**
KHZ				S	**Sb**	**23 09 11.2**	**+0.6**
KHZ	**Kahutara**	**0.29**	**53**	P	**Pb**	**23 09 06.2**	**+0.2**
HSES	**Hanmer Springs**	**0.30**	**282**	P	**Pg**	**23 09 05.3**	**-0.4**
HSES				S	**Sg**	**23 09 09.3**	**-0.8**
WIGC	**Waiau Gorge**	**0.34**	**250**	P	**Pg**	**23 09 05.2**	**-1.1**
WIGC				S	**Sg**	**23 09 10.1**	**-1.0**
CULC	**Culverden Airl**	**0.36**	**241**	P	**Pg**	**23 09 06.1**	**-0.6**
CULC				S	**Sg**	**23 09 11.9**	**+0.2**
KIKS	**Kaikoura**	**0.37**	**64**	P	**Pb**	**23 09 08.6**	**+1.1**
KIKS				S	**Sn**	**23 09 15.5**	**-1.3**
GVZ	**Greta Valley S**	**0.41**	**200**		**Pb**	**23 09 09.2**	**+1.2**
GVZ				Sg	**Sb**	**23 09 15.9**	**+1.8**
GVZ	**Greta Valley S**	**0.41**	**200**	P	**Pb**	**23 09 09.3**	**+1.2**
GVZ				S	**Sb**	**23 09 16.2**	**+2.2**
SCAC	**Scargill**	**0.42**	**213**	P	**Pg**	**23 09 07.8**	**+0.1**
SCAC				S	**Sb**	**23 09 15.0**	**+0.7**
WAKC	**Waikari**	**0.54**	**226**	P	**Pb**	**23 09 10.8**	**+0.5**
AMCZ	**Amberley**	**0.72**	**216**		**Pn**	**23 09 14.8**	**-0.1**
AMCZ	**Amberley**	**0.72**	**216**	P	**Pn**	**23 09 14.9**	**+0.1**
LTZ	**Lake Taylor**	**0.73**	**254**		**Pg**	**23 09 13.5**	**-0.1**
LTZ				Sg	**Sg**	**23 09 22.7**	**-0.5**
LTZ				IAML		23 09 23.6	
	comp=E,2μm,0.6s						
LTZ				IAML		23 09 23.7	
	comp=N,3μm,0.3s						
LTZ	**Lake Taylor**	**0.73**	**254**	P	**Pg**	**23 09 13.6**	**0.0**
LTZ				S	**Sg**	**23 09 23.2**	**-0.1**
THZ	**Tophouse**	**0.86**	**344**		**Pb**	**23 09 15.1**	**-0.7**
THZ				IAML		23 09 32.4	
	comp=E,3μm,0.5s						
THZ				IAML		23 09 32.8	
	comp=N,3μm,0.7s						
THZ	**Tophouse**	**0.86**	**344**	P	**Pb**	**23 09 15.4**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.00**	**29**		**Pb**	**23 09 18.2**	**+0.1**
BSWZ				IAML		23 09 38.3	
	comp=E,3μm,0.7s						
BSWZ	**Blackbirch Sta**	**1.00**	**29**	P	**Pn**	**23 09 18.9**	**+0.3**
CMWZ	**Cape Campbell**	**1.11**	**42**		**Pg**	**23 09 21.0**	**+0.2**
OKCZ	**Okains Bay**	**1.14**	**186**	P	**Pn**	**23 09 20.6**	**0.0**
OXZ	**Oxford**	**1.14**	**229**		**Pn**	**23 09 20.1**	**-0.5**
OXZ				IAML		23 09 44.4	
	comp=E,3μm,0.7s						
OXZ				IAML		23 09 46.6	
	comp=N,2μm,0.7s						
OXZ	**Oxford**	**1.14**	**229**	P	**Pn**	**23 09 20.2**	**-0.3**
OXZ				S	**Sb**	**23 09 35.3**	**0.0**
MQZ	**McQueen's Vall**	**1.19**	**200**	Pn	**Pn**	**23 09 20.2**	**-1.0**
MQZ				IAML		23 09 37.3	
	comp=E,1μm,0.5s						
MQZ				IAML		23 09 37.6	
	comp=N,2μm,0.4s						
MQZ	**McQueen's Vall**	**1.19**	**200**	P	**Pn**	**23 09 20.3**	**-1.0**
MQZ				S	**Sb**	**23 09 35.9**	**-0.8**
MRNZ	**Matariki Terra**	**1.24**	**343**		**Pn**	**23 09 21.6**	**-0.2**
MRNZ	**Matariki Terra**	**1.24**	**343**	P	**Pn**	**23 09 22.0**	**+0.1**
MRNZ				S	**Sg**	**23 09 41.0**	**+1.7**
TUWZ	**Tuamarina**	**1.27**	**25**		**Pb**	**23 09 23.3**	**+0.5**
TUWZ				IAML		23 09 46.5	
	comp=N,2μm,0.4s						
TUWZ	**Tuamarina**	**1.27**	**25**	P	**Pg**	**23 09 23.7**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.30**	**190**	P	**Pn**	**23 09 22.6**	**-0.2**
INZ	**Inchbonnie**	**1.32**	**263**	Pn	**Pn**	**23 09 23.1**	**0.0**
INZ				IAML		23 09 43.8	
	comp=E,922nm,0.6s						
INZ				IAML		23 09 44.2	
	comp=N,1μm,0.6s						
DSZ	**Denniston Nort**	**1.35**	**308**		**Pn**	**23 09 24.0**	**+0.5**
DSZ				IAML		23 09 43.3	
	comp=E,2μm,0.8s						
NNZ	**Nelson**	**1.37**	**5**		**Pn**	**23 09 24.0**	**+0.3**
NNZ				IAML		23 09 45.9	
	comp=N,1μm,0.8s						
NNZ	**Nelson**	**1.37**	**5**	P	**Pn**	**23 09 24.3**	**+0.6**
RACZ	**Rakaia**	**1.39**	**215**	P	**Pn**	**23 09 23.5**	**-0.4**
MHCZ	**Mount Hutt**	**1.54**	**232**	P	**Pn**	**23 09 25.7**	**-0.4**
TKNZ	**Takaka Hill**	**1.57**	**353**		**Pn**	**23 09 27.0**	**+0.6**
TKNZ	**Takaka Hill**	**1.57**	**353**	P	**Pn**	**23 09 27.3**	**+0.9**
TCW	**Tory Channel**	**1.58**	**30**		**Pn**	**23 09 26.7**	**+0.1**
TCW				IAML		23 09 53.5	
	comp=N,868nm,0.5s						
TCW				IAML		23 09 57.1	
	comp=E,1μm,0.7s						
TCW	**Tory Channel**	**1.58**	**30**	P	**Pn**	**23 09 27.1**	**+0.5**
SNZO	**South Karori**	**1.69**	**41**		**Pn**	**23 09 28.2**	**+0.2**
SNZO				IAML		23 10 05.3	
	comp=E,720nm,0.8s						
SNZO				IAML		23 10 05.5	
	comp=E,831nm,0.8s						
SNZO	**South Karori**	**1.69**	**41**	P	**Pn**	**23 09 28.4**	**+0.4**

WACZ	**Wakanui South**	**1.69**	**216**	P	**Pn**	**23 09 27.8**	**-0.3**
BHW	**Baring Head**	**1.70**	**47**		**Pn**	**23 09 28.2**	**0.0**
BHW	**Baring Head**	**1.70**	**47**	P	**Pn**	**23 09 28.4**	**+0.2**
WEL	**Wellington**	**1.74**	**42**	P	**Pn**	**23 09 29.2**	**+0.5**
PLWZ	**Palliser**	**1.82**	**57**		**Pn**	**23 09 29.3**	**-0.6**
PLWZ	**Palliser**	**1.82**	**57**	P	**Pn**	**23 09 29.6**	**-0.3**
QRZ	**Quartz Range**	**1.84**	**343**		**Pn**	**23 09 30.8**	**+0.7**
QRZ	**Quartz Range**	**1.84**	**343**	P	**Pn**	**23 09 31.1**	**+1.0**
QRZ	**Quartz Range**	**1.84**	**343**	P	**Pn**	**23 09 31.4**	**+1.3**
DUWZ	**D'Urville Isla**	**1.86**	**16**	P	**Pb**	**23 09 31.9**	**-0.9**
WVZ	**Waitaha Valley**	**1.90**	**254**	P	**Pn**	**23 09 31.4**	**+0.5**
MSWZ	**Moikau Station**	**1.91**	**53**		**Pn**	**23 09 30.5**	**-0.6**
MSWZ	**Moikau Station**	**1.91**	**53**	P	**Pn**	**23 09 30.9**	**-0.2**
RPZ	**Rata Peaks**	**1.95**	**234**	Pn	**Pn**	**23 09 31.5**	**-0.2**
RPZ				IAML		23 09 55.1	
	comp=E,501nm,0.3s						
RPZ	**Rata Peaks**	**1.95**	**234**	Sn	**Sn**	**23 09 54.3**	**-1.5**
	comp=E,97nm,0.3s,baz=6.2,slow=22,SNR=4.6						
RPZ	**Rata Peaks**	**1.95**	**234**	P	**Pn**	**23 09 31.4**	**-0.2**
RPZ	**Rata Peaks**	**1.95**	**234**	P	**Pn**	**23 09 31.4**	**-0.2**
CAW	**Cannon Point**	**2.02**	**44**	P	**Pn**	**23 09 32.8**	**+0.2**
ARCZ	**Arundel**	**2.02**	**227**	P	**Pn**	**23 09 32.1**	**-0.5**
PAWZ	**Paruwai Farm**	**2.04**	**54**	P	**Pn**	**23 09 32.4**	**-0.5**
KIW	**Kapiti Island**	**2.14**	**37**	P	**Pn**	**23 09 34.8**	**+0.5**
TRWZ	**Traveller**	**2.19**	**58**	P	**Pn**	**23 09 34.2**	**-0.7**
MTW	**Mount Morrison**	**2.22**	**51**	P	**Pn**	**23 09 34.8**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**2.25**	**250**	P	**Pn**	**23 09 36.8**	**+1.0**
OGWZ	**Otaki Gorge**	**2.29**	**40**	P	**Pn**	**23 09 36.5**	**+0.1**
HOWZ	**Holdsworth Sta**	**2.41**	**46**	P	**Pn**	**23 09 36.6**	**-1.3**
TMZ	**Timaru**	**2.42**	**221**	P	**Pn**	**23 09 37.7**	**-0.4**
TMWZ	**Te Maipa**	**2.48**	**54**	P	**Pn**	**23 09 38.2**	**-0.7**
MRZ	**Mangatainoka R**	**2.61**	**43**	Pn	**Pn**	**23 09 40.0**	**-0.8**
MRZ				IAML		23 10 35.9	
	comp=E,271nm,0.9s						
MRZ				IAML		23 10 37.5	
	comp=N,354nm,0.9s						
MRZ	**Mangatainoka R**	**2.61**	**43**	P	**Pn**	**23 09 40.4**	**-0.4**
FOZ	**Fox Glacier**	**2.67**	**248**		**Pn**	**23 09 42.1**	**+0.6**
FOZ				IAML		23 10 36.0	
	comp=N,227nm,0.9s						
FOZ	**Fox Glacier**	**2.67**	**248**	P	**Pn**	**23 09 42.7**	**+1.1**
CPWZ	**Castlepoint**	**2.79**	**54**	P	**Pn**	**23 09 42.6**	**-0.5**
LBZ	**Lake Benmore**	**2.85**	**230**		**Pn**	**23 09 43.8**	**-0.3**
LBZ	**Lake Benmore**	**2.85**	**230**	P	**Pn**	**23 09 44.1**	**0.0**
PRWZ	**Pori Road**	**2.89**	**46**	P	**Pn**	**23 09 44.0**	**-0.6**
POWZ	**Post Office Ro**	**2.91**	**42**	P	**Pn**	**23 09 44.5**	**-0.4**
BFZ	**Birch Farm**	**2.96**	**51**		**Pn**	**23 09 44.4**	**-1.1**
BFZ	**Birch Farm**	**2.96**	**51**	P	**Pn**	**23 09 44.6**	**-0.9**
BFZ	**Birch Farm**	**2.96**	**51**	P	**Pn**	**23 09 44.7**	**-0.8**
ODZ	**Otahua Downs**	**3.09**	**216**	Pn	**Pn**	**23 09 46.5**	**-0.8**
ODZ				IAML		23 10 51.4	
	comp=E,163nm,1.0s						
ODZ	**Otahua Downs**	**3.09**	**216**	P	**Pn**	**23 09 46.6**	**-0.7**
ODZ	**Otahua Downs**	**3.09**	**216**	P	**Pn**	**23 09 46.6**	**-0.7**
DVHZ	**Dannevirke**	**3.18**	**45**	P	**Pn**	**23 09 47.2**	**-1.4**
ANWZ	**Angora Road**	**3.23**	**50**	P	**Pn**	**23 09 49.1**	**-0.2**
TSZ	**Takapari Road**	**3.26**	**40**	P	**Pn**	**23 09 49.0**	**-0.7**
PREZ	**Palmer Road**	**3.32**	**13**	P	**Pb**	**23 09 55.8**	**-2.0**
KHEZ	**Kahui Hut**	**3.34**	**11**	P	**Pn**	**23 09 53.7**	**+2.8**
KHEZ	**Kahui Hut**	**3.34**	**11**	P	**Pn**	**23 09 52.1**	**+1.2**
NBEZ	**Newall Road No**	**3.35**	**9**	P	**Pn**	**23 09 53.7**	**+2.8**
NEZ	**North Egmont**	**3.38**	**12**	P	**Pn**	**23 09 54.9**	**+3.5**
PKE	**Pukeiti**	**3.44**	**10**	P	**Pn**	**23 09 54.9**	**+2.7**
PRHZ	**Porangahau**	**3.46**	**49**	P	**Pn**	**23 09 51.6**	**-0.8**
JCZ	**Jackson Bay**	**3.56**	**244**	P	**Pn**	**23 09 54.2**	**+0.3**
JCZ	**Jackson Bay**	**3.56**	**244**	P	**Pn**	**23 09 54.5**	**+0.6**
VRZ	**Vera Road**	**3.65**	**19**	P	**Pn**	**23 09 57.3**	**+2.3**
MOVZ	**Moawhango**	**3.71**	**32**	P	**Pn**	**23 09 58.0**	**+2.1**
WNVZ	**Wahianoa**	**3.72**	**30**	P	**Pn**	**23 09 57.7**	**+1.5**
TRVZ	**Turoa**	**3.73**	**29**	P	**Pn**	**23 09 57.3**	**+1.0**
PXZ	**Pawanui**	**3.74**	**48**	P	**Pn**	**23 09 57.2**	**+0.9**
MAVZ	**Matarangi**	**3.76**	**29**	P	**Pn**	**23 10 00.5**	**+3.7**
KRHZ	**Kereru**	**3.78**	**40**	P	**Pn**	**23 09 55.7**	**-1.1**
WKZ	**Wanaka**	**3.79**	**232**		**Pn**	**23 09 55.9**	**-1.0**
WKZ				IAML		23 11 21.3	
	comp=N,198nm,2.9s						
WKZ				IAML		23 11 27.2	
	comp=E,151nm,3.4s						
WKZ	**Wanaka**	**3.79**	**232**	P	**Pn**	**23 09 56.1**	**-0.8**
HHSZ	**Highcliff Hill**	**3.80**	**209**	P	**Pn**	**23 09 56.7**	**-0.4**
EAZ	**Earnscleugh**	**3.87**	**226**	P	**Pn**	**23 09 57.6**	**-0.5**
OTVZ	**Oturere**	**3.89**	**29**	P	**Pn**	**23 09 57.7**	**-0.7**
WTVZ	**West Tongariro**	**3.90**	**28**	P	**Pn**	**23 10 03.0**	**+4.4**
KAHZ	**Kahuranaki**	**3.92**	**46**	P	**Pn**	**23 09 58.8**	**0.0**
TUZ	**Tuapeka**	**4.24**	**216**	P	**Pn**	**23 10 02.8**	**-0.3**
HIZ	**Hauiti**	**4.25**	**17**		**Pn**	**23 10 04.7**	**+1.3**
HIZ	**Hauiti**	**4.25**	**17**	P	**Pn**	**23 10 05.1**	**+1.8**
HIZ	**Hauiti**	**4.25**	**17**	P	**Pn**	**23 10 05.0**	**+1.6**
NMHZ	**Naumai**	**4.42**	**39**	P	**Pn**	**23 10 05.7**	**0.0**
MLZ	**Mavora Lakes**	**4.62**	**231**	Pn	**Pn**	**23 10 07.9**	**-0.5**
MLZ				IAML		23 11 10.0	
	comp=N,91nm,4.1s						
MLZ				IAML		23 12 18.4	
	comp=E,119nm,4.0s						
MLZ	**Mavora Lakes**	**4.62**	**231**	P	**Pn**	**23 10 07.5**	**-0.9**
MTHZ	**Maungataniwha**	**4.63**	**38**	P	**Pn**	**23 10 09.4**	**+0.8**
RAHZ	**Arahi**	**4.69**	**40**	P	**Pn**	**23 10 10.7**	**+1.3**
RTZ	**Ruatahuna**	**4.89**	**37**		**Pn**	**23 10 11.7**	**-0.5**
KNZ	**Kokohu**	**4.91**	**45**	P	**Pn**	**23 10 11.5**	**-0.7**
SYZ	**Scrubby Hill**	**4.91**	**215**	P	**Pn**	**23 10 12.1**	**-0.2**
SYZ	**Scrubby Hill**	**4.91**	**215**	P	**Pn**	**23 10 12.2**	**-0.1**
SNGZ	**Shannon Statio**	**4.92**	**41**	P	**Pn**	**23 10 12.8**	**+0.3**
MHGZ	**Mahia Peninsul**	**4.94**	**48**	P	**Pn**	**23 10 11.8**	**-0.9**
PRGZ	**Paritu Road**	**5.09**	**46**	P	**Pn**	**23 10 13.8**	**-1.1**
TOZ	**Tahuroa Road**	**5.15**	**21**		**Pn**	**23 10 15.8**	**+0.1**
TOZ				IAML		23 12 05.0	
	comp=N,58nm,4.0s						
TOZ				IAML		23 13 32.4	
	comp=E,53nm,4.1s						
TOZ	**Tahuroa Road**	**5.15**	**21**	P	**Pn**	**23 10 16.9**	**+1.2**
URZ	**Urewera**	**5.24**	**36**	Pn	**Pn**	**23 10 16.1**	**-0.8**
	comp=E,1.2nm,0.3s,baz=221,slow=23,SNR=2.1						
URZ				Sn	**Sn**	**23 11 15.5**	**-1.4**
	comp=E,4.1nm,0.3s,baz=192,slow=21,SNR=1.7						
	comp=E,5.3nm,0.3s						
URZ	**Urewera**	**5.24**	**36**	P	**Pn**	**23 10 16.1**	**-0.8**
URZ	**Urewera**	**5.24**	**36**	P	**Pn**	**23 10 17.3**	**+0.4**
AWAZ	**Awhitu Peninsu**	**5.62**	**12**	P	**Pn**	**23 10 23.9**	**+1.8**
APZ	**The Paps**	**5.65**	**220**	P	**Pn**	**23 10 22.3**	**-0.2**
MKAZ	**Moumakai**	**5.67**	**16**	P	**Pn**	**23 10 23.7**	**+0.9**
TWGZ	**Tauwhareparae**	**5.71**	**41**	P	**Pn**	**23 10 23.1**	**-0.3**
RUGZ	**Raukumara Rang**	**5.74**	**38**	P	**Pn**	**23 10 22.7**	**-1.1**
MBAZ	**Motutapu North**	**5.95**	**13**	P	**Pn**	**23 10 28.5**	**+1.8**
HAZ	**Te Kaha**	**5.95**	**37**	P	**Pn**	**23 10 25.6**	**-1.1**
WIAZ	**Waiheke Island**	**5.97**	**15**	P	**Pn**	**23 10 28.5**	**+1.6**
MXZ	**Matakaoa Point**	**6.35**	**39**	Pn	**Pn**	**23 10 32.4**	**+0.2**
CTZ	**Chatham Island**	**7.51**	**102**	Pn	**Pn**	**23 10 48.2**	**+0.1**
CTZ	**Chatham Island**	**7.51**	**102**	P	**Pn**	**23 10 47.2**	**-0.9**
CTZ	**Chatham Island**	**7.51**	**102**	P	**Pn**	**23 10 47.2**	**-0.9**
ASAR	**Alice Springs**	**37.54**	**288**	P	**P**	**23 16 12.1**	**-0.6**
	comp=E,0.7nm,0.6s,baz=127,slow=7.6,SNR=3.9						
	comp=E,0.7nm,0.6s						
WRA	**Warramunga Arr**	**39.70**	**292**	P	**P**	**23 16 29.7**	**-1.1**
	comp=E,0.2nm,0.6s,baz=132,slow=7.3,SNR=8.1						
	comp=E,0.2nm,0.6s						
QSPA	**South Pole Qui**	**47.54**	**180**	P	**P**	**23 17 36.3**	**+2.7**
	comp=E,1.7nm,0.7s,baz=55,slow=2.8,SNR=5.0						
	comp=E,1.7nm,0.7s						
BRTR	**Keskin Array B**	**149.64**	**278**	PKPbc	**PKPbc**	**23 28 46.0**	**-1.8**
	comp=E,0.4nm,0.6s,baz=123,slow=7.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**149.76**	**197**	PKPbc	**PKPbc**	**23 28 48.4**	**-0.2**
	comp=E,1.2nm,0.9s,baz=163,slow=1.5,SNR=7.7						

*IDC **04** 23:09:07.7±1.5, 8°.71N×127°.11E, h0km, mb3.7/7, mbtmp3.7/7, MS2.8/1, Error ellipse: s-maj=78.8km s-min=22.2km az=64.0*

ISC 04 23:09:09.7±1.1, **8°.52N**±0°.05×**126°.92E**±0°.08, **h10**km, **n16**, σ1$81/21, **mb3.7**/7, **2C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.64**	**239**	⇓*iP*	**Pg**	**23 09 21.8**	**-0.3**
BIPH				*i S*	**Sg**	**23 09 28.1**	**-2.4**
DAV	**Davao City (W)**	**1.95**	**223**	LR	LR	23 10 56.9	
	comp=Z,203nm,18.0s,baz=48,slow=49						
CGP	**Cagayan de Oro**	**2.20**	**269**	⇓*eP*	**Pn**	**23 09 48.2**	**+1.9**
CGP				*eS*	**Sn**	**23 10 13.9**	**+0.3**
KCP	**Kidapawan**	**2.35**	**231**	⇓*eP*	**Pn**	**23 09 49.0**	**+0.5**
KCP				*i S*	**Sn**	**23 10 18.7**	**+1.4**
CTBH	**Cotabato--PC H**	**2.94**	**244**	⇑*iP*	**Pn**	**23 10 00.3**	**+3.8**
TBP	**Tagbilaran**	**3.23**	**291**	*eP*	**Pn**	**23 10 02.9**	**+2.4**
PLP	**Palo**	**3.25**	**324**	⇑*eP*	**Pb**	**23 10 05.2**	**-2.4**
PLP				*eS*	**Sb**	**23 10 46.0**	**-1.2**
LLP	**Lapu-Lapu**	**3.42**	**302**	*eP*	**Pg**	**23 10 16.3**	**+1.0**
LLP				*eS*	**Sn**	**23 10 47.4**	**+3.7**
DCPH	**Dipolog City**	**3.52**	**271**	⇓*iP*	**Pn**	**23 10 05.0**	**+0.5**
DCPH				*i S*	**Sn**	**23 10 46.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**28.90**	**293**	P	**P**	**23 15 09.8**	**+0.8**
	0.7nm,0.3s,baz=94,slow=7.6,SNR=5.8						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**29.21**	**166**	P	**P**	**23 15 12.2**	**+0.4**
	0.4nm,0.8s,baz=343,slow=9.3,SNR=1.5						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**32.71**	**168**	P	**P**	**23 15 43.7**	**+1.1**
	0.2nm,0.3s,baz=339,slow=6.6,SNR=2.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**53.80**	**323**	P	**P**	**23 18 31.5**	**-1.1**
	0.2nm,0.5s,baz=114,slow=6.9,SNR=4.4						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**57.87**	**326**	P	**P**	**23 19 00.9**	**-0.8**
	0.5nm,0.6s,baz=123,slow=7.1,SNR=7.7						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**63.46**	**326**	P	**P**	**23 19 39.4**	**-0.5**
	0.4nm,0.6s,baz=129,slow=5.7,SNR=3.1						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**87.73**	**332**	P	**P**	**23 21 57.7**	**-1.0**
	3.5nm,1.1s,baz=66,slow=8.0,SNR=3.7						
	3.5nm,1.1s						

*IDC **04** 23:19:11.0±0.6, 33°.65N×135°.40E, h0km, mb4.2/19, mbtmp4.2/27, ML4.2/8, MS3.6/14, Error ellipse: s-maj=13.8km s-min=12.4km az=118.0*
*MOS **04** 23:19:14.3±0.8, 33°.62N×135°.32E, h36km, mb4.5/16, Error ellipse: s-maj=10.1km s-min=6.2km az=97.0*
*NIED **04** 23:19:16.9, 33°.73N×135°.28E, h45km, MW4.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr=0.07; Mθθ=4.75; Mϕϕ=4.82; Mrθ=1.69; Mϕθ=-3.59; Mϕr=2.42; Fault plane solution: M0=6.61000×10^15 NP1: ϕs=115.00000°, δ81.00000°, λ158.00000°. NP2: ϕs=209.00000°, δ68.00000°, λ9.00000°.*
*JMA **04** 23:19:16.9±0.1, 33°.7N±0°.2×135°.3E±0°.2, h45km, MD4.6/40, MW4.5/40, S PART OF KII CHANNEL .*
JMA Felt III J1 at S PART OF KII CHANNEL .
*NEIC **04** 23:19:17, 33°.60N×135°.29E, h39km*
*NEIC **04** 23:19:17.3±1.3, 33°.63N±0°.06×135°.27E±0°.05, h39km±4km, mb4.7/120, Mwr4.5/17, Error ellipse: s-maj=9.4km s-min=5.3km az=164.0, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr=0.22; Mθθ=4.77; Mϕϕ=4.54; Mrθ=1.99; Mϕθ=-3.26; Mϕr=2.67; Fault plane solution: M0=6.59000×10^15 NP1: ϕs=210.39000°, δ63.89000°, λ10.16000°. NP2: ϕs=115.89000°, δ80.89000°, λ153.53000°. Principal axes: T 7.0420, Plg25.0000°, Azm70.0000°; N -1.0212, Plg62.0000°, Azm278.0000°; P -6.0209, Plg11.0000°, Azm166.0000°;*

ISC 04 23:19:17.2±0.6, **33°.65N**±0°.04×**135°.32E**±0°.03, **h42**km±4km, **n472**, σ1$30/422, **mb4.6**/96, **MS3.7**/11, **7C-15D, Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.20**	**9**	⇓*iP*	**Pn**	**23 19 24.2**	**-0.5**
JWM				⇓S	**Sn**	**23 19 29.2**	**-0.6**
JWM	**Minabe**	**0.20**	**9**	A	A	23 19 24.2	
	comp=E,100nm,1.0s,comp=N,141nm,1.0s						
JTNC	**Tanabenakahech**	**0.29**	**56**	*i P*	**Pn**	**23 19 25.5**	**-0.1**
JTNC				S	**Sn**	**23 19 31.5**	**+0.1**
JTNC	**Tanabenakahech**	**0.29**	**56

JSG Sagara 2.59 66 Pn **Pn 23 19 56.5 0.0**
JSG Sagara 2.59 66 P **Pn 23 19 56.5 0.0**
JSG Sagara 2.59 66 A A 23 19 57.4
comp=E,12nm,1.6s,comp=N,10.0nm,2.7s
JHT Toyohira 2.61 294 A A 23 19 57.0
comp=E,6.0nm,0.6s,comp=N,5.0nm,3.5s
JNM Ikuma 2.64 315 A A 23 19 57.1
comp=E,8.0nm,1.5s,comp=N,8.0nm,3.6s
JNY Yasuok 2.70 50 A A 23 19 58.8
comp=E,5.0nm,0.8s,comp=N,7.0nm,1.7s
JISK Izumosakaura 2.75 313 A A 23 19 58.8
comp=E,7.0nm,1.5s,comp=N,8.0nm,1.1s
JKG Kaga 2.75 17 A A 23 19 58.9
comp=E,9.0nm,0.5s,comp=N,11nm,0.6s
SHZ3 Shizuoka 3 2.78 59 A A 23 19 59.9
comp=E,7.0nm,1.1s,comp=N,9.0nm,2.2s
JOI OKI 3.13 328 A A 23 20 04.1
comp=E,5.0nm,2.5s,comp=N,5.0nm,1.1s
JFNN Fujinakano 3.18 60 A A 23 20 05.8
comp=E,11nm,4.2s,comp=N,9.0nm,3.5s
JYN Shimob 3.24 54 A A 23 20 06.4
comp=E,7.0nm,1.7s,comp=N,6.0nm,3.8s
MAJO Matsushiro 3.73 39 Pn **Pn 23 20 12.0 -0.3**
MAJO Matsushiro 3.73 39 P **Pn 23 20 12.1 -0.2**
MAJO Matsushiro 3.73 39 P **Pn 23 20 12.0 -0.3**
MJAR Matsushiro Arr 3.73 39 Pn **Pn 23 20 11.3 -1.0**
comp=N,2.7nm,0.3s,baz=224,slow=14,SNR=67
MJAR Sn **Sn 23 20 55.2 +0.2**
comp=N,4.8nm,0.3s,baz=203,slow=12,SNR=5.8
MJAR Lg Lg 23 21 09.1
comp=N,4.6nm,0.3s,baz=225,slow=26,SNR=6.0
MJAR LR LR 23 21 55.2
comp=N,628nm,21.4s,baz=205,slow=44
comp=N,29nm,0.4s
MJB9 Matsu-Tunnel 3.73 39 Pn 23 20 13.2 +1.0
JNU Nakatsue 3.75 263 Pn **Pn 23 20 11.5 -1.0**
JNU Nakatsue 3.75 263 Pn **Pn 23 20 11.8 -0.7**
comp=N,98nm,0.3s,baz=25,slow=9.6,SNR=554
JNU Sn **Sn 23 20 53.8 -1.7**
comp=N,45nm,0.3s,baz=249,slow=12,SNR=6.5
comp=N,191nm,0.3s
JNU Nakatsue 3.75 263 P **Pn 23 20 12.0 -0.6**
JHJ Hachijo jima 2 3.77 97 Pn **Pn 23 20 12.1 -0.7**
comp=N,91nm,0.3s,baz=92,slow=23,SNR=52
JHJ Sn **Sn 23 20 54.4 -1.6**
comp=N,158nm,0.3s,baz=49,slow=18,SNR=8.8
JHJ LR LR 23 21 12.4
comp=N,79nm,20.9s,baz=266,slow=32
comp=N,381nm,0.5s
JHJ2 Mitsune 3.80 97 Pn **Pn 23 20 13.6 +0.5**
JHJ2 **Sn 23 20 55.1 -1.5**
JHJ2 Mitsune 3.80 97 P **Pn 23 20 13.7 +0.5**
JSD Sado 4.99 28 Pn 23 20 29.6 +0.1
JTU Tsushima 4.99 282 P **Pn 23 20 27.9 -1.6**
JMM Marumori 6.12 45 Pn 23 20 45.5 +0.4
TJN Taejon 7.07 295 Pn **Pn 23 20 56.8 -1.3**
TJN Taejon 7.07 295 *de*P **Pn 23 20 56.7 -1.3**
KSRS Korea Array 7.12 304 Pn **Pn 23 20 58.1 -0.7**
comp=N,1.6nm,0.3s,baz=125,slow=15,SNR=7.8
KSRS Sn **Sn 23 22 14.5 -3.8**
comp=N,5.1nm,0.3s,baz=123,slow=24,SNR=12
KSRS LR LR 23 23 51.0
comp=N,100nm,19.2s,baz=115,slow=39
comp=N,3.5nm,0.4s
JTM Tenmabayashi 8.47 31 Pn 23 21 20.6 +3.4
JOW Kunigami 9.12 224 Pn **Pn 23 21 26.9 +0.6**
JOW Kunigami 9.12 224 Pn **Pn 23 21 25.9 -0.4**
comp=N,23nm,0.3s,baz=98,slow=19,SNR=43
JOW Sn **Sn 23 23 02.6 -5.1**
comp=N,2.2nm,0.3s,baz=59,slow=22,SNR=1.6
comp=N,42nm,0.3s
PSTR Posyet 9.66 340⇑ *e*P **Pn 23 21 35.2 +1.7**
USRK Ussuriysk Ar. 10.85 347 Pn **Pn 23 21 48.6 -1.2**
comp=N,0.4nm,0.3s,baz=170,slow=15,SNR=2.5
USRK Sn **Sn 23 23 47.6 -2.1**
comp=N,0.2nm,0.3s,baz=119,slow=41,SNR=1.6
USRK LR LR 23 25 48.1
comp=N,226nm,18.1s,baz=185,slow=37
comp=N,0.8nm,0.3s
ASAJ Asahikawa 11.88 26 Pn **Pn 23 22 03.0 -0.9**
comp=N,1.4nm,0.3s,baz=187,slow=15,SNR=4.5
ASAJ LR LR 23 26 36.8
comp=N,261nm,19.1s,baz=225,slow=38
comp=N,7.3nm,0.5s
BNX BinXian 13.51 336 ⇓P P 23 22 29.5 -5.0
BNX pmax pmax
comp=Z,14nm,1.1s
NJ2 Nanjing 13.94 268 *e*P **Pn 23 22 32.0 0.0**
NJ2 pmax pmax
comp=Z,19nm,0.7s
YSS Yuzh-Sakhalins 14.44 21⇓ *e*P **Pn 23 22 38.8 +0.1**
TIA Tai'an 15.14 285 P **Pn 23 22 47.9 -0.3**
TIA pmax pmax
comp=Z,12nm,0.9s
KLR Kul'dur 15.79 351 Pn **Pn 23 22 56.3 -0.1**
comp=Z,0.4nm,0.3s,baz=160,slow=10,SNR=6.9
KLR LR LR 23 28 45.7
comp=Z,173nm,19.2s,baz=163,slow=36
comp=Z,1.5nm,0.5s
KLR Kul'dur 15.79 351⇑ *e*P **P 23 22 57.8 -1.9**
HNS HongShan 17.19 288 *e*P **Pn 23 23 12.5 -1.6**
HNS LR LR
comp=N,440nm,19.9s
HNS LR LR
comp=Z,190nm,20.1s
HEH HeiHe 17.58 343 *e*P **Pn 23 23 16.8 -2.1**
HEH pmax pmax
comp=Z,8.0nm,0.7s
LYN LuoYang 18.94 279 P **Pn 23 23 35.6 0.0**
LYN pmax pmax
comp=Z,15nm,1.0s
HHC Hu-ho-hao-te 20.19 298 *e*P Pn 23 23 50.7 +0.2
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,93nm,4.2s
BTO Baotou 21.29 296 *e*P **P 23 24 03.0 +2.8**
BTO pP **pP 23 24 12.0 +1.5**
BTO sP **sP 23 24 16.0 +0.3**
BTO PP **PnPn 23 24 28.1 +7.3**
BTO S Sn 23 27 57.9 -5.3
BTO sS **sS 23 28 10.0 -0.8**
BTO SS **SnSn 23 28 30.5 +12**
BTO pmax pmax
comp=Z,11nm,0.7s
BTO pmax pmax
comp=Z,260nm,7.1s
BTO LR LR
comp=N,960nm,19.0s
BTO LR LR
comp=E,560nm,15.6s
BTO LR LR
comp=Z,580nm,18.2s
XAN Xi'an 21.91 278 ⇑P **P 23 24 10.8 +3.9**
XAN pP sP 23 24 20.2 -2.2
XAN pmax pmax
comp=Z,5.0nm,0.8s
PETK Petropavlovsk- 25.17 33 LR LR 23 34 34.1
comp=Z,85nm,18.4s,baz=125,slow=37
ULN Ulaanbaatar 25.52 312 P **P 23 24 41.3 -0.5**
ULN Ulaanbaatar 25.52 312⇑ *i*P **P 23 24 41.7 -0.1**
ULN pmax pmax
comp=Z,7.0nm,1.0s
LZH Lanzhou 25.88 284 *e*P **P 23 24 50.7 +5.4**
LZH pP pP 23 24 58.3 +1.9
LZH S **S 23 29 19.0 +6.5**
LZH pmax pmax
comp=Z,17nm,1.0s
LZH LR LR
comp=N,280nm,13.6s
LZH LR LR
comp=E,190nm,12.9s
LZH LR LR
comp=Z,220nm,15.1s
SONM Songino Array 25.91 312 P **P 23 24 44.8 -0.5**
SONM Songino Array 25.91 312 P **P 23 24 44.6 -0.8**
comp=Z,3.2nm,0.7s,baz=135,slow=9.9,SNR=16
comp=Z,3.2nm,0.7s
SONM Songino Array 25.91 312 P **P 23 24 44.8 -0.5**
SONM pmax pmax
comp=Z,4.0nm,1.0s
DAV Davao City (W) 27.95 201 LR LR 23 35 43.9
comp=Z,70nm,20.4s,baz=0.5,slow=36
YAK Yakutsk 28.62 354 LR LR 23 36 36.7
comp=Z,182nm,18.7s,baz=146,slow=36
PZH PanZhiHua 29.82 265 P **P 23 25 21.6 +1.1**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,110nm,5.3s
H11N2 WAKE ISLAND Hy 31.29 108 T T 23 58 11.1
baz=303,slow=75,SNR=58
H11N1 WAKE ISLAND Hy 31.30 108 T T 23 58 10.5
baz=303,slow=75,SNR=43
H11N3 WAKE ISLAND Hy 31.31 108 T T 23 58 11.5
baz=303,slow=75,SNR=56
H11S3 WAKE ISLAND Hy 31.81 110 T T 23 58 47.4
baz=305,slow=75,SNR=7.4
H11S1 WAKE ISLAND Hy 31.81 110 T T 23 58 50.0
baz=305,slow=75,SNR=49
H11S2 WAKE ISLAND Hy 31.83 110 T T 23 58 51.8
baz=305,slow=75,SNR=56
CMAR Chiang Mai Arr 35.80 254 P **P 23 26 13.5 +0.9**
comp=Z,2.5nm,0.3s,baz=44,slow=8.0,SNR=2.0
CMAR LR LR 23 42 34.3
comp=Z,62nm,19.5s,baz=80,slow=39
comp=Z,2.5nm,0.3s
WMQ Urumqi 38.05 300 *e*P **P 23 26 33.8 +2.2**
WMQ pmax pmax
comp=Z,7.0nm,0.9s
TIXI Tiksi 38.22 357 LR LR 23 42 32.5
comp=Z,87nm,19.2s,baz=160,slow=37
TIXI Tiksi 38.22 357⇑ *e*P
TIXI pmax pmax
comp=Z,2.0nm,0.8s
BILL Bilibino 38.73 18⇓ *e*P **P 23 26 35.9 -1.0**
BILL pmax pmax
comp=Z,5.0nm,1.4s
ADK Adak 38.85 47 P **P 23 26 37.9 -0.2**
ADK IAmb IAmb 23 26 52.4
comp=Z,21nm,1.1s
ADK Adak 38.85 47 P **P 23 26 37.9 -0.2**
ADK pmax pmax
comp=Z,21nm,1.1s
ATKA Atka Island 40.41 47 P **P 23 26 48.3 -2.8**
ATKA IAmb IAmb 23 27 03.4
comp=Z,21nm,1.0s
ZALV Zalesovo Beam 40.67 316 P **P 23 26 54.7 +1.6**
comp=Z,0.6nm,0.3s,baz=57,slow=5.3,SNR=1.3
comp=Z,0.6nm,0.3s
MK31 Makanchi Array 41.80 305 P **P 23 27 02.4 -0.3**
MK31 Makanchi Array 41.80 305 P **P 23 27 02.4 -0.3**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 41.80 305 P **P 23 27 02.4 -0.2**
MKAR Makanchi Array 41.80 305 P **P 23 27 02.6 -0.1**
comp=Z,3.3nm,0.6s,baz=91,slow=10.0,SNR=38
MKAR LR LR 23 46 22.4
comp=Z,98nm,18.1s,baz=296,slow=39
comp=Z,3.3nm,0.6s
MAKZ Makanchi 42.02 305 P **P 23 27 04.2 -0.2**
MAKZ Makanchi 42.02 305 P **P 23 27 04.2 -0.2**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
SPIA Saint Paul Isl 43.38 40 P **P 23 27 15.3 +0.1**
baz=261
KURK Kurchatov 44.20 310 P **P 23 27 21.5 -0.4**
KURK IAmb IAmb 23 27 35.2
comp=Z,6.6nm,0.8s
KURK Kurchatov 44.20 310 *c i*P **P 23 27 21.3 -0.6**
KURK pmax pmax
comp=Z,6.0nm,1.0s
KURBB Kurchatov Arra 44.26 310 P **P 23 27 21.7 -0.7**
comp=Z,2.7nm,0.8s,baz=98,slow=7.8,SNR=26
comp=Z,2.7nm,0.8s
UNV Unalaska Valle 45.18 45 P **P 23 27 29.3 -0.3**
baz=268
TNA Tin City 46.23 29 P **P 23 27 37.9 +0.2**
baz=255
MTN Manton Dam 46.41 186 P **P 23 27 38.6 -1.1**
MTN IAmb IAmb 23 27 39.5
comp=Z,8.1nm,0.8s
K13K Kusilvak Mount 46.92 34 P **P 23 27 42.8 -0.4**
baz=262
ANM Nome 47.05 30 P **P 23 27 44.1 -0.1**
baz=258
J14K Nanvaranak Lak 47.54 33 P **P 23 27 47.6 -0.5**
baz=262
F15K North Star Dit 47.58 29 P **P 23 27 48.1 -0.3**
baz=258
G15K Niukluk 47.70 30 P **P 23 27 49.3 +0.1**
baz=259
L14K Kuka Creek 47.78 35 P **P 23 27 49.5 -0.4**
baz=264
C16K Lisburne Hills 47.91 26 P **P 23 27 50.4 -0.4**
baz=255
COEN Coen 47.93 170 P **P 23 27 50.8 -0.7**
COEN IAmb IAmb 23 27 55.3
comp=Z,5.1nm,0.9s
M14K Bethel 48.07 36 P **P 23 27 52.1 -0.1**
baz=265
L15K Ungalak Mounta 48.38 35 P **P 23 27 54.6 0.0**
baz=265
H16K Elim 48.40 31 P **P 23 27 54.8 +0.2**
baz=262
K15K Wolf Creek Mou 48.42 34 P **P 23 27 56.1 +1.2**
K15K Wolf Creek Mou 48.42 34 P **P 23 27 55.2 +0.4**
baz=264
D17K Noatak River 48.61 27 P **P 23 27 56.0 -0.2**
baz=258
M15K Kasigluk River 48.69 36 P **P 23 27 57.2 +0.2**
baz=266
J16K Anvik River 48.94 33 P **P 23 27 59.2 +0.4**
baz=264
N15K Kwethluk River 48.96 37 P **P 23 27 58.8 -0.3**
baz=267
E17K Hotham Inlet 48.96 28 P **P 23 27 59.9 +0.9**
baz=260
O15K Ungalikthiuk R 49.06 38 P **P 23 28 00.6 +0.8**
baz=268
F17K Baldwin Pennin 49.08 28 P **P 23 28 00.4 +0.6**
baz=261
G17K Kiwalik Mounta 49.18 30 P **P 23 28 00.7 0.0**
baz=262
S14K Fog Glacier 49.20 42 P **P 23 28 00.2 -0.9**
baz=271
CHNA Chernabura Isl 49.22 44 P **P 23 28 00.6 -0.5**
baz=272
BVAR Borovoye Array 49.23 314 P **P 23 28 01.0 -0.2**
comp=Z,1.6nm,0.6s,baz=101,slow=7.5,SNR=10
comp=Z,1.6nm,0.6s
BRVK Borovoye 49.29 314⇑ *e*P **P 23 28 01.7 0.0**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
L16K Owhat River 49.34 35 P **P 23 28 02.4 +0.5**
baz=267
H17K Granite Mounta 49.42 30 P **P 23 28 03.0 +0.5**
H17K IAmb IAmb 23 28 03.9
comp=Z,7.2nm,1.0s
H17K Granite Mounta 49.42 30 P **P 23 28 03.1 +0.6**
baz=263
KNRA Kununurra 49.45 188 P **P 23 28 02.9 -0.3**
C18K Utukok River 49.49 26 P **P 23 28 03.2 +0.1**
baz=259
E18K Tukpahlearik C 49.49 27 P **P 23 28 04.1 +1.1**
E18K IAmb IAmb 23 28 05.4
comp=Z,7.2nm,0.8s
E18K Tukpahlearik C 49.49 27 P **P 23 28 02.7 -0.3**
baz=261
M16K Timber Creek 49.55 36 P **P 23 28 04.0 +0.4**
M16K IAmb IAmb 23 28 16.0
comp=Z,5.4nm,1.1s
N16K Nishlik Lake 49.63 36 P **P 23 28 03.8 -0.4**
baz=268
J17K VABM Dome 49.64 33 P **P 23 28 05.5 +1.4**
J17K IAmb IAmb 23 28 06.2
comp=Z,8.6nm,1.0s
J17K VABM Dome 49.64 33 P **P 23 28 04.2 0.0**
baz=266
F18K Selawik 49.74 28 P **P 23 28 04.8 0.0**
baz=262
L17K Donlin 49.92 34 P **P 23 28 06.3 0.0**
baz=267
K17K Iditarod 49.95 33 P **P 23 28 07.6 +1.1**
K17K Iditarod 49.95 33 P **P 23 28 06.1 -0.5**
baz=267
O16K Kokwok River B 49.95 38 P **P 23 28 07.0 +0.4**
O16K IAmb IAmb 23 28 07.4
comp=Z,3.8nm,0.8s
O16K Kokwok River B 49.95 38 P **P 23 28 07.0 +0.4**
baz=270
G18K Tagagawik 50.05 29 P **P 23 28 06.4 -0.9**
baz=264
H18K Honhosa River 50.10 30 P **P 23 28 08.3 +0.6**
H18K IAmb IAmb 23 28 09.2
comp=Z,4.1nm,0.9s
H18K Honhosa River 50.10 30 P **P 23 28 08.0 +0.3**
baz=265
N17K Nushagak Hills 50.41 36 P **P 23 28 11.1 +1.0**
N17K IAmb IAmb 23 28 11.7
comp=Z,5.1nm,0.9s
N17K Nushagak Hills 50.41 36 P **P 23 28 09.9 -0.2**
baz=270
O17K Koliganek Bris 50.46 37 P **P 23 28 10.3 -0.1**
baz=270
F19K Shaleruckik Mo 50.51 28 P **P 23 28 10.4 -0.3**
baz=264
KKAR Karatay Array 50.54 301 P **P 23 28 11.6 +0.3**
KKAR Karatay Array 50.54 301 P **P 23 28 11.0 -0.4**
KKAR Karatay Array 50.54 301 P **P 23 28 11.6 +0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
D19K Kuna River 50.58 26 P **P 23 28 12.0 +0.7**
D19K Kuna River 50.58 26 P **P 23 28 08.7 -2.7**
baz=262
L18K Granite Mounta 50.67 34 P **P 23 28 12.9 +0.9**
L18K IAmb IAmb 23 28 14.1
comp=Z,6.1nm,0.9s
J18K Innoko River 50.70 33 P **P 23 28 12.3 +0.1**
E19K Redstone River 50.78 27 P **P 23 28 10.2 -2.6**
baz=264
R17L Mt. Peulik Vol 50.90 40 P **P 23 28 12.2 -1.7**
baz=273
PLK4 Peulik 4 50.90 40 P **P 23 28 15.6 +1.7**
PLK4 IAmb IAmb 23 28 24.4
comp=Z,12nm,1.0s
H19K Roundabout Mou 50.93 30 P **P 23 28 14.7 +0.8**
H19K IAmb IAmb 23 28 15.7
comp=Z,7.0nm,1.1s
H19K Roundabout Mou 50.93 30 P **P 23 28 12.4 -1.5**
baz=266
TTA Tatalina 51.00 33 P **P 23 28 15.4 +0.8**
TTA Tatalina 51.00 33 P **P 23 28 13.2 -1.4**
baz=269
TTA Tatalina 51.00 33 P **P 23 28 15.4 +0.8**
TTA pmax pmax
comp=Z,1.0nm,0.9s
N18K Kilae Creek 51.05 36 P **P 23 28 13.6 -1.4**
baz=271
M18K Stony River 51.08 35 P **P 23 28 13.2 -1.9**
baz=270
Q17K Contact Creek 51.12 39 P **P 23 28 15.5 -0.1**
baz=273
B20K Meade River 51.13 24 P **P 23 28 14.4 -0.9**
baz=262
D20K Etivluk River 51.15 26 P **P 23 28 14.9 -0.7**
baz=264
J19K Poorman 51.21 32 P **P 23 28 16.5 +0.5**
J19K Poorman 51.21 32 P **P 23 28 15.4 -0.6**
baz=268
E20K Nigu River 51.26 26 P **P 23 28 16.1 -0.4**
baz=264
F20K Avaraart Lake 51.33 28 P **P 23 28 16.2 -0.7**
baz=266
O18K Koktuh Hills 51.41 37 P **P 23 28 19.7 +2.1**
O18K IAmb IAmb 23 28 20.7
comp=Z,14nm,1.1s
L19K White Mountain 51.53 34 P **P 23 28 19.6 +1.0**
L19K White Mountain 51.53 34 P **P 23 28 17.7 -0.8**
baz=270
H20K Anotleneega Mo 51.58 30 P **P 23 28 17.3 -1.5**
baz=268
I20K Naaghedeneel 51.73 31 P **P 23 28 19.3 -0.6**
baz=269
C21K Knifeblade Rid 51.86 25 P **P 23 28 20.9 +0.1**
baz=265
J20K Nowinta River 51.86 32 P **P 23 28 21.9 +1.0**
J20K IAmb IAmb 23 28 22.8
comp=Z,4.7nm,0.8s
J20K Nowinta River 51.86 32 P **P 23 28 19.3 -1.7**
baz=269
K20K Telida 51.89 33 P **P 23 28 22.3 +1.1**
K20K IAmb IAmb 23 28 23.1
comp=Z,8.2nm,0.8s
K20K Telida 51.89 33 P **P 23 28 20.6 -0.5**
baz=270,SNR=6.7
R18K Karluk 51.93 40 P **P 23 28 21.6 +0.2**
baz=274
B21K Ikpikpuk River 51.96 25 P **P 23 28 21.5 0.0**
baz=265
A22K Sinclair Lake 51.98 23 P **P 23 28 20.9 -0.8**
baz=263
L20K Farewell, AK 51.99 34 P **P 23 28 21.5 -0.4**
baz=271
IMAR Indian Mountai 52.06 29 P **P 23 28 22.6 +0.2**
JOHN Johnston Islan 52.08 95 P **P 23 28 20.2 -3.0**
E21K Killik River 52.09 26 P **P 23 28 22.7 +0.1**
baz=266
SII Sitkinak Islan 52.16 41 P **P 23 28 24.3 +1.0**
G21K Allakaket 52.18 29 P **P 23 28 23.6 +0.3**
baz=268
F21K Alatna River 52.21 28 P **P 23 28 23.5 -0.1**
baz=268
FITZ Fitzroy Crossi 52.28 192 P **P 23 28 24.3 -0.2**
M20K Styx River 52.35 35 P **P 23 28 23.8 -0.9**
baz=272
P19K Oil Pt 52.42 37 P **P 23 28 26.3 +1.1**
B22K Teshekpuk Lake 52.43 24 P **P 23 28 23.9 -1.2**
baz=265
ILSW Iliamna Southw 52.44 37 P **P 23 28 29.0 +3.5**
ILSW IAmb IAmb 23 28 43.2
comp=Z,5.9nm,1.2s
H21K Melozitna Rive 52.45 30 P **P 23 28 25.6 +0.3**
H21K IAmb IAmb 23 28 26.4
comp=Z,5.7nm,1.1s
H21K Melozitna Rive 52.45 30 P **P 23 28 24.1 -1.2**
baz=270
OHAK Old Harbor 52.58 40 P **P 23 28 26.1 -0.3**
baz=276
D22K Ayikyak River 52.59 26 P **P 23 28 25.8 -0.5**
baz=267
CHUM Lake Minchumin 52.67 32 P **P 23 28 26.4 -0.5**
baz=271
O20K Slope Mountain 52.69 37 P **P 23 28 27.4 +0.1**
baz=274
F22K John River 52.73 27 P **P 23 28 26.2 -1.2**
baz=269
SIMJ Simiganj 52.73 296 P **P 23 28 28.4 +0.5**
PPLA Purkeypile 52.75 33 P **P 23 28 26.6 -1.1**
baz=272
CAST Castle Rocks 52.78 33 P **P 23 28 29.0 +1.2**
CAST Castle Rocks 52.78 33 P **P 23 28 27.4 -0.4**
baz=272
N20K Mount Spurr 52.83 35 P **P 23 28 27.2 -1.0**
baz=273
SPCR Spurr Chakacha 52.83 35 P **P 23 28 27.6 -0.6**
baz=273
KDAK Kodiak Island 52.91 40 P **P 23 28 28.6 -0.1**
KDAK IAmb IAmb 23 28 29.3
comp=Z,11nm,0.8s
KDAK Kodiak Island 52.91 40 P **P 23 28 28.1 -0.7**
baz=276
KDAK Kodiak Island 52.91 40 P **P 23 28 28.6 -0.1**
KDAK pmax pmax
comp=Z,11nm,0.8s
Q20K Shuyak Island 52.93 39 P **P 23 28 27.0 -1.9**
baz=275
G22K Bettles 52.98 28 P **P 23 28 27.8 -1.4**
baz=270
H22K Ishtalitna Cre 53.04 29 P **P 23 28 28.7 -0.9**
baz=271
SKT Skwentna 53.10 34 P **P 23 28 29.3 -0.8**
baz=273
WB0 Warramunga Arr 53.13 181 P **P 23 28 30.3 -0.4**
BPAW Bear Paw Mtn. 53.25 32 P **P 23 28 32.3 +1.1**
BPAW Bear Paw Mtn. 53.25 32 P **P 23 28 29.9 -1.3**
baz=272
WRAB Tennant Creek 53.29 181 P **P 23 28 31.8 -0.1**
WRAB Tennant Creek 53.29 181 *de*P **P 23 28 31.4 -0.6**
WRAB pmax pmax
comp=Z,14nm,0.9s
KTH Kantishna Hill 53.30 32 P **P 23 28 32.0 +0.4**
WRA Warramunga Arr 53.30 181 P **P 23 28 32.1 +0.1**
WRA Warramunga Arr 53.30 181 P **P 23 28 31.7 -0.3**
comp=Z,12nm,0.9s,baz=357,slow=7.8,SNR=67
comp=Z,12nm,0.9s
WRA Warramunga Arr 53.30 181 *i*P **P 23 28 31.7 -0.3**
WRA pmax pmax
comp=Z,13nm,0.9s

D23K	Nanushuk River baz=269	53.32	26	P	P	23 28 30.8	-0.9
MLY MLY	Manley comp=Z,4.7nm,0.8s	53.32	31	P IAmb	P IAmb	23 28 32.0 23 28 33.1	+0.2
MLY	Manley baz=272	53.32	31	P	P	23 28 30.5	-1.3
C23K	Itkillik River baz=268	53.36	25	P	P	23 28 30.7	-1.2
CNPM	China Poot	53.44	37	P	P	23 28 32.4	-0.3
COLD	Coldfoot baz=271	53.49	28	P	P	23 28 32.2	-0.8
SUA SUA	Susitna One comp=Z,7.1nm,0.8s	53.51	35	P IAmb	P IAmb	23 28 34.0 23 28 35.1	+0.7
SUA	Susitna One baz=274	53.51	35	P	P	23 28 32.9	-0.5
G23K	Bananza Creek baz=271	53.57	28	P	P	23 28 33.0	-0.6
TRF	Thorofare Moun baz=273	53.59	33	P	P	23 28 32.5	-1.4
BRSE	Bradley Lake S baz=276	53.67	37	P	P	23 28 33.5	-0.9
E23K	Chandalar baz=271	53.71	27	P	P	23 28 33.6	-1.0
TOLK	Toolik Lake Re baz=270	53.72	26	P	P	23 28 33.7	-0.9
H23K	Yukon River baz=272	53.79	30	P	P	23 28 33.8	-1.3
I23K I23K	Minto, Yukon-K comp=Z,2.8nm,0.6s	53.90	30	P IAmb	P IAmb	23 28 36.5 23 28 37.1	+0.6
I23K	Minto, Yukon-K baz=273	53.90	30	P	P	23 28 35.1	-0.8
BWN	Browne	53.91	32	P	P	23 28 37.5	+1.5
D24K	Happy Valley baz=270	53.99	25	P	P	23 28 35.9	-0.6
C24K	Franklin Bluff baz=270	54.03	25	P	P	23 28 36.2	-0.6
RC01	Rabbit Creek A baz=276	54.03	35	P	P	23 28 36.1	-0.8
NEA2	Nenana comp=Z,8.5nm,0.7s	54.05	31	IAmb	IAmb	23 28 38.6	
NEA2	Nenana baz=274,SNR=5.5	54.05	31	P	P	23 28 36.4	-0.7
E24K	Your Creek baz=272	54.13	27	P	P	23 28 36.8	-0.8
MCK	McKinley baz=274	54.17	32	P	P	23 28 37.1	-0.9
RND	Reindeer comp=Z,8.2nm,0.7s	54.24	33	IAmb	IAmb	23 28 39.1	
PMR	Palmer baz=276	54.27	35	P	P	23 28 37.9	-0.8
GHO GHO	Glory Hole Cre comp=Z,11nm,1.0s	54.35	35	P IAmb	P IAmb	23 28 39.7 23 28 40.2	+0.3
F24K	Squaw Lake baz=273	54.38	27	P	P	23 28 38.9	-0.6
SVE	Sverdlovsk	54.42	319	*e*P	P	23 28 43.0	+3.2
WAT1	Susitna Watana baz=275	54.42	33	P	P	23 28 38.4	-1.4
H24K	Noodor Dome comp=Z,3.9nm,0.7s	54.48	29	IAmb	IAmb	23 28 41.8	
H24K	Noodor Dome baz=274	54.48	29	P	P	23 28 39.5	-0.7
COLA	College baz=274	54.56	31	P	P	23 28 40.4	-0.3
COLA COLA	College comp=Z,4.0nm,0.9s	54.56	31⇓	*e*P pmax	P pmax	23 28 41.4	+0.7
G24K	Hadweenzic Riv baz=274	54.58	28	P	P	23 28 40.1	-0.8
CCB	Clear Creek Bu	54.59	31	P	P	23 28 41.7	+0.8
KNK KNK	Knik Glacier comp=Z,6.6nm,0.9s	54.61	35	P IAmb	P IAmb	23 28 41.4 23 28 42.0	+0.2
KNK	Knik Glacier baz=276	54.61	35	P	P	23 28 40.6	-0.6
SML SML	Sawmill comp=Z,6.4nm,0.8s	54.63	34	P IAmb	P IAmb	23 28 41.0 23 28 42.8	-0.4
SML	Sawmill baz=276	54.63	34	P	P	23 28 41.0	-0.4
SML SML	Sawmill comp=Z,6.0nm,0.8s	54.63	34	P pmax	P pmax	23 28 41.0	-0.4
POKR	Poker Plat Res baz=275,SNR=7.3	54.71	30	P	P	23 28 41.3	-0.6
PWL	Port Wells baz=277	54.74	36	P	P	23 28 41.8	-0.4
D25K	Kavik River baz=273	54.85	25	P	P	23 28 41.9	-1.0
M23K	Glacier View baz=277	54.92	34	P	P	23 28 42.9	-0.5
DHY	Denali Highway	54.93	33	P	P	23 28 44.4	+0.7
IL31	baz=273	54.98	31	IAmb	IAmb	23 28 44.8	
ILAR	Eielson Array comp=Z,1.9nm,0.6s,baz=262,slow=5.7,SNR=51 comp=Z,1.9nm,0.6s	54.98	31	P	P	23 28 43.1	-0.6
ILAR	Eielson Array	54.98	31	P	P	23 28 43.3	-0.5
HDA	Harding Lake comp=Z,10nm,1.2s	54.98	31	IAmb	IAmb	23 28 44.2	
HDA	Harding Lake baz=276	54.98	31	P	P	23 28 43.5	-0.4
SCM SCM	Sheep Creek Mo comp=Z,4.9nm,0.7s	55.10	34	P IAmb	P IAmb	23 28 44.6 23 28 45.5	-0.2
SCM	Sheep Creek Mo baz=277	55.10	34	P	P	23 28 44.7	-0.2
SCM SCM	Sheep Creek Mo comp=Z,5.0nm,0.7s	55.10	34	P pmax	P pmax	23 28 44.6	-0.2
G25K	Bearman Lake baz=275	55.12	28	P	P	23 28 43.7	-1.0
E25K E25K	Arctic Village comp=Z,7.1nm,1.1s	55.22	27	P IAmb	P IAmb	23 28 46.3 23 28 47.6	+0.7
E25K	Arctic Village baz=274	55.22	27	P	P	23 28 44.6	-1.0
F25K	Christian Rive baz=275	55.23	27	P	P	23 28 45.2	-0.5
H25L	Birch Creek baz=275	55.28	29	P	P	23 28 45.5	-0.4
C26K	Camden Bay baz=274	55.33	24	P	P	23 28 45.9	-0.4
GLI	Glacier Island	55.33	36	P	P	23 28 46.8	+0.4
GLI	Glacier Island baz=278	55.33	36	P	P	23 28 45.5	-0.9
PRP PRP	Porcupine Dome comp=Z,3.9nm,0.8s	55.47	30	P IAmb	P IAmb	23 28 47.3 23 28 48.9	-0.3
PRP	Porcupine Dome baz=276	55.47	30	P	P	23 28 46.1	-1.4
K24K	Donnelly Dome baz=277	55.56	32	P	P	23 28 46.9	-1.2
M24K M24K	Tolsona, Glenn comp=Z,9.6nm,1.1s	55.60	34	P IAmb	P IAmb	23 28 49.2 23 28 51.6	+0.8
M24K	Tolsona, Glenn baz=278	55.60	34	P	P	23 28 47.1	-1.3
J25K	Salcha River,	55.64	31	P	P	23 28 48.4	-0.2
J25K	Salcha River, baz=277	55.64	31	P	P	23 28 47.2	-1.4
FID FID	Port Fidalgo comp=Z,8.6nm,0.9s	55.65	36	P IAmb	P IAmb	23 28 48.0 23 28 51.5	-0.7
BMAR	Burnt Mountain	55.66	27	P	P	23 28 50.0	+1.3
HIN	Hinchinbrook I	55.69	36	P	P	23 28 48.9	-0.1
ARTI	Arti comp=Z,123nm,19.5s,baz=319,slow=40	55.72	319	LR	LR	23 56 05.4	
ARTI ARTI	Arti comp=Z,2.0nm,1.0s	55.72	319⇓	*e*P pmax	P pmax	23 28 48.9	-0.3
C27K	Jago River baz=275	55.77	25	P	P	23 28 48.5	-0.9
F26K	Sheenjek River baz=276	55.80	27	P	P	23 28 48.8	-0.9
PAX	Paxson baz=278	55.81	33	P	P	23 28 48.7	-1.2
KLU KLU	Klutina comp=Z,6.0nm,1.0s	55.81	35	P IAmb	P IAmb	23 28 50.0 23 28 51.6	+0.1
KLU	Klutina baz=278	55.81	35	P	P	23 28 49.3	-0.6
RIDG	Independent Ri baz=278	55.98	32	P	P	23 28 50.4	-0.7
G26K	Porcupine Rive baz=277	56.02	28	P	P	23 28 50.2	-0.9
ABKAR	Akbulak array	56.31	310	P	P	23 28 53.4	-0.2
SCRK SCRK	Sand Creek comp=Z,6.0nm,0.8s	56.32	32	P IAmb	P IAmb	23 28 53.4 23 28 54.2	-0.2
SCRK	Sand Creek baz=278,SNR=6.8	56.32	32	P	P	23 28 52.8	-0.8
N25K	Chitina, Valde	56.42	34	P	P	23 28 54.6	+0.4
N25K	Chitina, Valde baz=280	56.42	34	P	P	23 28 53.3	-1.0
J26L	Joseph Creek baz=278	56.43	31	P	P	23 28 53.6	-0.7
I26K	Coal Creek Min baz=278	56.48	30	P	P	23 28 54.7	+0.1
BMRM	Bremner River baz=280	56.52	35	P	P	23 28 54.9	-0.1
MENT MENT	Mentasta comp=Z,7.6nm,0.6s	56.60	33	IAmb	IAmb	23 28 57.2	
E27K	Coleen River baz=278	56.69	26	P	P	23 28 55.1	-1.0
L26K L26K	Log Cabin Wild comp=Z,6.7nm,0.8s	56.76	33	IAmb	IAmb	23 28 58.3	
L26K	Log Cabin Wild baz=280,SNR=6.1	56.76	33	P	P	23 28 55.7	-0.9
D27M	Malcolm River baz=278	56.78	25	P	P	23 28 56.0	-0.6
KAIM	Kayak Island baz=281	56.80	36	P	P	23 28 56.0	-0.9
G27K	Doyon Strip baz=279	56.87	28	P	P	23 28 56.6	-0.8
H27K	Steamboat Moun baz=279	57.01	29	P	P	23 28 56.9	-1.4
ASAR	Alice Springs	57.02	182	P	P	23 28 58.5	-0.3
ASAR	Alice Springs comp=Z,4.5nm,0.8s,baz=11,slow=14,SNR=40 comp=Z,4.5nm,0.8s	57.02	182	P	P	23 28 58.7	-0.1
M26K M26K	Nabesna, AK comp=Z,5.4nm,0.8s	57.02	33	IAmb	IAmb	23 28 59.7	
M26K	Nabesna, AK baz=280	57.02	33	P	P	23 28 57.0	-1.5
BERG BERG	Berg Lake comp=Z,15nm,1.1s	57.06	36	P IAmb	P IAmb	23 28 59.0 23 29 04.3	+0.2
I27K	Kandik River baz=279	57.07	29	P	P	23 28 58.0	-0.8
K27K	Chicken baz=280	57.15	31	P	P	23 28 58.7	-0.6
MCARA MCARA	McCarthy VSAT comp=Z,8.7nm,1.0s	57.20	35	P IAmb	P IAmb	23 28 59.9 23 29 11.3	+0.2
MCARA	McCarthy VSAT baz=281	57.20	35	P	P	23 28 59.3	-0.4
CRQM CRQM	Cirque comp=Z,7.2nm,1.0s	57.27	35	P IAmb	P IAmb	23 29 00.4 23 29 01.1	0.0
CRQE	Cirque baz=281	57.29	35	P	P	23 28 60.0	-0.5
E28M	Babbage River baz=279	57.38	26	P	P	23 28 59.8	-1.1
EGAK EGAK	Eagle comp=Z,3.2nm,0.7s	57.41	30	IAmb	IAmb	23 29 01.4	
EGAK	Eagle baz=280	57.41	30	P	P	23 28 60.0	-1.1
F28M	Old Crow baz=280	57.42	27	P	P	23 29 00.2	-1.0
L27K L27K	Beaver Creek, comp=Z,4.2nm,0.8s	57.43	32	IAmb	IAmb	23 29 02.6	
L27K	Beaver Creek, baz=281,SNR=6.4	57.43	32	P	P	23 29 00.8	-0.6
BCAR	Beaver Creek A	57.45	32	P	P	23 29 02.5	+1.0
WAX WAX	Waxell Ridge comp=Z,9.2nm,0.8s	57.47	36	P IAmb	P IAmb	23 29 03.0 23 29 03.9	+1.3
M27K M27K	Edge Creek, AK comp=Z,13nm,1.1s	57.55	33	P IAmb	P IAmb	23 29 03.2 23 29 03.9	+0.9
M27K	Edge Creek, AK baz=281	57.55	33	P	P	23 29 01.9	-0.4
ISLE	Juniper Island	57.68	35	P	P	23 29 03.6	+0.3
I28M	Miner Creek comp=Z,9.7nm,0.9s	57.79	29	IAmb	IAmb	23 29 05.8	
I28M	Miner Creek baz=281,SNR=8.3	57.79	29	P	P	23 29 03.4	-0.5
GRNC GRNC	Granite Creek comp=Z,12nm,1.1s	57.94	35	P IAmb	P IAmb	23 29 05.9 23 29 19.8	+0.7
BVCY	Beaver Creek baz=282	58.00	33	P	P	23 29 04.8	-0.6
E29M	Blow River baz=281	58.02	26	P	P	23 29 04.2	-1.1
YAH YAH	Yahtse comp=Z,6.0nm,0.7s	58.02	36	P IAmb	P IAmb	23 29 06.4 23 29 20.0	+0.6
G29M	Pine Creek baz=282	58.26	28	P	P	23 29 06.7	-0.4
H29M	Whitestone baz=282	58.27	28	P	P	23 29 08.1	+0.9
H29M	Whitestone baz=282	58.27	28	P	P	23 29 05.6	-1.5
DAWY	Dawson baz=282	58.30	31	P	P	23 29 05.3	-2.1
O28M	Mount Upton baz=284	58.68	35	P	P	23 29 09.1	-1.3
J29N	Klondike Camp baz=283	58.71	30	P	P	23 29 09.2	-1.1
YUK8	Steele Glacier baz=284	58.76	34	P	P	23 29 10.2	-0.7
EPYK	Eagle Plains baz=283,SNR=8.2	58.89	28	P	P	23 29 10.8	-0.7
G30M	tAoh Zraii Nji baz=283,SNR=7.6	58.94	27	P	P	23 29 11.7	-0.2
F30M	Barrier River baz=283,SNR=5.7	58.96	27	P	P	23 29 11.6	-0.4
L29M	L29M	59.07	32	P	P	23 29 14.2	+1.4
L29M	L29M baz=284,SNR=6.6	59.07	32	P	P	23 29 11.8	-1.0
M29M	Somme Creek comp=Z,7.2nm,0.8s	59.08	33	IAmb	IAmb	23 29 15.1	
M29M	Somme Creek baz=284,SNR=5.9	59.08	33	P	P	23 29 11.9	-1.1
K29M	Barlow Dome baz=284	59.15	31	P	P	23 29 12.3	-1.2
YUK4	Talbot Arm baz=285	59.27	34	P	P	23 29 13.9	-0.5
I30M	Mount Dempster baz=284,SNR=12	59.30	29	P	P	23 29 12.9	-1.6
PNL	Peninsula baz=285	59.33	36	P	P	23 29 14.3	-0.3
J30M	Hart River baz=285	59.48	30	P	P	23 29 15.1	-0.6
YUK6	Outpost Mounta baz=285	59.50	34	P	P	23 29 15.2	-0.8
O29M	Mount Kennedy	59.57	35	P	P	23 29 17.8	+1.4
O29M	Mount Kennedy baz=285	59.57	35	P	P	23 29 15.4	-1.0
INK INK	Inuvik comp=Z,4.2nm,0.8s	59.62	26	IAmb	IAmb	23 29 17.2	
INK	Inuvik baz=285	59.62	26	P	P	23 29 16.3	-0.1
G31M G31M	Satah River comp=Z,4.4nm,0.8s	59.70	27	P IAmb	P IAmb	23 29 16.9 23 29 17.6	-0.1
G31M	Satah River baz=285	59.70	27	P	P	23 29 16.8	-0.1
F31M	Tsiigehtchic	59.76	27	P	P	23 29 17.6	+0.2
F31M	Tsiigehtchic baz=285	59.76	27	P	P	23 29 17.3	-0.1
HYT	Haines Junctio	59.94	34	P	P	23 29 20.2	+1.3
HYT	Haines Junctio baz=286	59.94	34	P	P	23 29 17.4	-1.5
N30M	Aishikik Lake baz=286	59.96	34	P	P	23 29 18.1	-0.9
H31M	Peel River	59.97	28	P	P	23 29 19.3	+0.3
H31M	Peel River baz=286,SNR=7.9	59.97	28	P	P	23 29 17.7	-1.2
P29M	Windy Craggy	60.16	36	P	P	23 29 21.0	+0.7
P29M	Windy Craggy baz=286	60.16	36	P	P	23 29 20.0	-0.4
P30M	Million Dollar baz=287	60.39	35	P	P	23 29 21.4	-0.5
O30N	Mendenhall baz=287	60.62	34	P	P	23 29 23.0	-0.5
PLBC	Pleasant Camp baz=287	60.88	36	P	P	23 29 24.5	-0.7
M31M M31M	Drury Creek, Y comp=Z,5.1nm,0.8s	60.97	32	P IAmb	P IAmb	23 29 26.6 23 29 27.4	+0.7
M31M	Drury Creek, Y baz=288	60.97	32	P	P	23 29 25.6	-0.2
A36M	Sachs Harbour	61.21	20	P	P	23 29 27.4	+0.2
A36M	Sachs Harbour baz=290,SNR=11	61.21	20	P	P	23 29 27.6	+0.4
WHY WHY	Whitehorse comp=Z,5.2nm,0.8s	61.22	34	P IAmb	P IAmb	23 29 28.5 23 29 29.0	+0.9
WHY	Whitehorse baz=288	61.22	34	P	P	23 29 27.3	-0.3
FARO FARO	Faro, Yukon comp=Z,9.5nm,0.9s	61.43	32	IAmb	IAmb	23 29 30.6	
FARO	Faro, Yukon baz=288,SNR=5.5	61.43	32	P	P	23 29 28.6	-0.4
MMPY	Sheldon Lake,	62.22	31	P	P	23 29 35.1	+0.8
MMPY	Sheldon Lake, baz=290	62.22	31	P	P	23 29 33.9	-0.4
P33M	Teslin, Yukon baz=290	62.33	34	P	P	23 29 34.5	-0.6
C36M	Paulatuk	62.54	23	P	P	23 29 36.2	+0.1
C36M	Paulatuk baz=292,SNR=9.5	62.54	23	P	P	23 29 35.5	-0.6
SPB2	Spitsbergen Ar	62.84	348	P	P	23 29 39.0	+0.8
SPITS	Spitsbergen Ar comp=Z,8.3nm,0.9s,baz=346,slow=10,SNR=6.1 comp=Z,8.3nm,0.9s	62.84	348	P	P	23 29 36.8	-1.3
SPITS SPITS	Spitsbergen Ar comp=Z,26nm,1.1s	62.84	348	P pmax	P pmax	23 29 39.0	+0.9
Q32M	Nakina River	63.03	36	P	P	23 29 40.8	+0.9
R33M	Jennings River	63.50	35	P	P	23 29 44.8	+1.9
R33M	Jennings River baz=292	63.50	35	P	P	23 29 41.7	-1.2
U33K U33K	Whale Pass comp=Z,7.3nm,0.8s	63.63	39	P IAmb	P IAmb	23 29 43.9 23 29 56.7	+0.3
TGTN	Hyland Airport baz=293	63.93	32	P	P	23 29 44.7	-0.9
S34M	Telegraph Cree baz=292	63.97	36	P	P	23 29 45.8	-0.1
FORT	Forrest	64.45	187	P	P	23 29 49.4	+0.2
T35M	Bob Quinn baz=293	64.77	37	P	P	23 29 50.1	-1.1
STKA	Stephens Creek comp=Z,1.9nm,0.4s,baz=348,slow=8.6,SNR=5.0 comp=Z,1.9nm,0.4s	65.45	174	P	P	23 29 55.4	-0.3
KOTAN	Kotaneelee Air baz=297	66.39	32	P	P	23 30 00.8	-0.8
TOAD	Toad River Com baz=296	66.42	34	P	P	23 30 00.8	-1.0
AKT	Akhty	67.03	305	*e*P	P	23 30 05.3	-0.8
RES RES	Resolute Bay comp=Z,4.5nm,0.9s	67.05	13	P IAmb	P IAmb	23 30 05.5 23 30 16.9	0.0
RES RES	Resolute Bay comp=Z,4.0nm,1.0s	67.05	13	P pmax	P pmax	23 30 05.5	0.0
KBZ	Khabaz comp=Z,132nm,18.3s,baz=328,slow=37	69.24	309	LR	LR	00 01 48.9	
KIV KIV	Kislovodsk comp=Z,3.0nm,1.0s	69.28	310	*e*P pmax	P pmax	23 30 19.3	-0.8
FINES	FINESS Array B comp=Z,3.3nm,1.0s,baz=57,slow=5.8,SNR=2.0 comp=Z,3.3nm,1.0s	69.41	331	P	P	23 30 20.1	-0.4
NLWA	Neilton Lookou	72.64	44	P	P	23 30 41.3	+0.9
AKASG	Malin Array Be comp=Z,0.2nm,0.4s,baz=54,slow=5.8,SNR=4.5 comp=Z,0.2nm,0.4s	73.82	320	P	P	23 30 48.2	+1.0
SUMG	Summit	73.97	358	*i* P	P	23 31 00.0	+12
HFS	Hagfors comp=Z,2.7nm,1.0s,baz=64,slow=6.6,SNR=1.4 comp=Z,2.7nm,1.0s	75.01	334	P	P	23 30 54.9	+0.9
NOA	NORSAR Array B comp=Z,0.8nm,0.8s,baz=43,slow=6.0,SNR=1.8 comp=Z,0.8nm,0.8s	75.27	335	P	P	23 30 56.8	+1.3
BRTR	Keskin Array B comp=Z,0.4nm,0.8s,baz=93,slow=4.9,SNR=2.4 comp=Z,0.4nm,0.8s	77.24	309	P	P	23 31 06.7	-0.5
NVAR	Mina Array Bea comp=Z,0.7nm,0.6s,baz=312,slow=4.6,SNR=5.3 comp=Z,0.7nm,0.6s	80.99	50	P	P	23 31 28.1	+0.3
R11B	Troy Canyon, C baz=308	82.75	49	P	P	23 31 35.6	-1.5
PDAR	Pinedale Array comp=Z,0.4nm,0.7s,baz=0.0,slow=1.6,SNR=3.8 comp=Z,0.4nm,0.7s	83.55	42	P	P	23 31 39.9	-1.2
SADO	Sadowa comp=Z,55nm,19.2s,baz=298,slow=41	95.90	24	LR	LR	00 23 59.1	
TXAR	Lajitas Array comp=Z,0.3nm,0.5s,baz=270,slow=2.5,SNR=4.0 comp=Z,0.3nm,0.5s	96.11	49	P	P	23 32 39.1	-1.8

*IDC **04** 23:20:25.0±2.7, 8°.52N×126°.62E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=276.9km s-min=22.1km az=67.0*

ISC 04 23:20:25.5±1.0, **8°.56N**±0°.04×**126°.66E**±0°.07, **h10**km, **n14**, σ1°.99/19, **mb3.6/6, 5C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.47	218	⇑*i*P	Pn	23 20 37.9	-0.5
BIPH				*i* S	Sb	23 20 44.5	+1.5
CGP	Cagayan de Oro	1.94	267	⇓*e*P	Pg	23 21 04.1	+1.3
CGP				*e*S	Sg	23 21 30.7	+2.6
KCP	Kidapawan	2.19	225	⇑*e*P	Pg	23 21 05.7	-1.8
KCP				*e*S	Sn	23 21 24.2	-4.9
CTBH	Cotabato--PC H	2.73	241	⇑*i*P	Pb	23 21 14.6	0.0
TBP	Tagbilaran	2.98	292	*e*P	Pb	23 21 19.2	+0.4
PLP	Palo	3.08	328	⇑*e*P	Pg	23 21 22.4	-2.1
PLP				*e*S	Sb	23 21 58.9	+0.9
LLP	Lapu-Lapu	3.18	304	*e*P	Pg	23 21 36.5	+10
LLP				*e*S	Sg	23 22 05.5	-2.3
DCPH	Dipolog City	3.27	271	⇑*i*P	Pb	23 21 21.6	-2.0
DCPH				*i* S	Sb	23 22 05.2	+1.7
WRA	Warramunga Arr 0.2nm,0.5s,baz=346,slow=9.4,SNR=1.6 0.2nm,0.5s	29.31	165	P	P	23 26 29.2	+0.7
ASAR	Alice Springs 0.2nm,0.4s,baz=342,slow=7.3,SNR=5.5 0.2nm,0.4s	32.80	168	P	P	23 27 00.1	+0.9
MKAR	Makanchi Array 0.2nm,0.6s,baz=123,slow=9.1,SNR=4.2 0.2nm,0.6s	53.62	323	P	P	23 29 48.0	+0.9
KURBB	Kurchatov Arra 0.5nm,0.5s,baz=124,slow=7.7,SNR=5.7 0.5nm,0.5s	57.69	326	P	P	23 30 17.7	+1.4
BVAR	Borovoye Array 0.6nm,0.6s,baz=120,slow=8.5,SNR=2.5 0.6nm,0.6s	63.29	326	P	P	23 30 56.4	+1.9
FINES	FINESS Array B 3.2nm,1.0s,baz=73,slow=8.0,SNR=2.0 3.2nm,1.0s	87.57	332	P	P	23 33 13.6	-0.1

*IDC **04** 23:26:20.6±3.0, 8°.74N×127°.29E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=242.9km s-min=24.2km az=67.0*

ISC 04 23:26:24.9±1.4, **8°.22N**±0°.06×**126°.84E**±0°.09, **h10**km, **n9**, σ3°.22/12, **mb3.3/4, 3C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.47	266	⇑*i*P	Pg	23 26 34.1	0.0
BIPH				*i* S	Sg	23 26 41.0	+0.6
KCP	Kidapawan	2.11	235	⇑*e*P	Pb	23 27 04.6	+1.3
KCP				*i* S	Sn	23 27 21.0	-5.7
CGP	Cagayan de Oro	2.13	276	⇓*e*P	Pn	23 27 01.1	+0.5
CGP				*e*S	Sn	23 27 25.9	-1.3
PLP	Palo	3.45	328	⇑*e*P	Pn	23 27 18.0	-0.8
PLP				*e*S	Sn	23 27 53.0	-6.8
LLP	Lapu-Lapu	3.52	307	*e*P	Pb	23 27 30.4	+3.0
LLP				*e*S	Sn	23 28 01.4	0.0
WRA	Warramunga Arr 0.2nm,0.6s,baz=348,slow=10,SNR=1.9 0.2nm,0.6s	28.94	165	P	P	23 32 24.8	+0.2
ASAR	Alice Springs 0.3nm,0.6s,baz=342,slow=7.4,SNR=4.5 0.3nm,0.6s	32.43	168	P	P	23 32 56.7	+1.3
MKAR	Makanchi Array 0.1nm,0.3s,baz=114,slow=6.5,SNR=4.2 0.1nm,0.3s	53.99	323	P	P	23 35 45.6	-3.6
KURBB	Kurchatov Arra 0.2nm,0.4s,baz=120,slow=7.9,SNR=5.6 0.2nm,0.4s	58.07	326	P	P	23 36 14.2	-4.2

IDC 04 23:37:51.1±1.7, 0°.52N×126°.06E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=172.3km s-min=21.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase Id Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.90**	**159**	P	P	23 42 44.8	-1.3
	0.6nm,0.6s,baz=337,slow=12,SNR=11 0.6nm,0.6s						
ASAR	**Alice Springs**	**25.23**	**163**	P	P	23 43 19.8	+0.9
	0.4nm,0.4s,baz=345,slow=11,SNR=9.2 0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.82**	**327**	P	P	23 47 57.7	-0.6
	0.2nm,0.4s,baz=114,slow=7.9,SNR=5.3 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.08**	**329**	P	P	23 48 27.5	+0.5
	0.3nm,0.6s,baz=125,slow=6.6,SNR=4.5 0.3nm,0.6s						

*IDC **04** 23:45:34.8±1.4, 10°.60N×122°.33E, h0km, mb3.5/5, mbtmp3.5/5, MS3.6/1, Error ellipse: s-maj=62.0km s-min=22.2km az=61.0*

ISC 04 23:45:35.7±0.8, 10°.67N±0°.04×122°.33E±0°.05, h10km, n16, σ1§63/20, mb3.4/5, 4C-3D, Panay

Code	Station Name	Δ°	AZ°	Phase Id Op	ISC	Time h m s	Res ISC
JAP	**San Jose, Anti**	**0.39**	**282**	‖ *i*P	**Pn**	**23 45 46.8**	**-0.6**
RCP	**Roxas**	**0.98**	**25**	⇑ *e*P	**Pg**	**23 45 54.3**	**-0.2**
RCP				*e*S	**Sb**	**23 46 08.5**	**+0.7**
IBAJ	**Ibajay, Aklan**	**1.16**	**352**	⇑ *i*P	**Pb**	**23 45 58.0**	**+0.2**
IBAJ				*i* S	**Sg**	**23 46 14.1**	**+1.1**
SNPH	**Sibulan**	**1.59**	**146**	*e*P	**Pg**	**23 46 07.4**	**+1.2**
LLP	**Lapu-Lapu**	**1.65**	**102**	*e*P	**Pg**	**23 46 07.1**	**-0.3**
LLP				*e*S	**Sg**	**23 46 29.6**	**+0.8**
TBP	**Tagbilaran**	**1.79**	**123**	*e*P	**Pg**	**23 46 09.8**	**-0.3**
TBP				*i* S	**Sg**	**23 46 36.6**	**+3.2**
DCPH	**Dipolog City**	**2.30**	**154**	⇑ *i*P	**Pg**	**23 46 17.0**	**-2.9**
PLP	**Palo**	**2.65**	**79**	‖ *e*P	**Pb**	**23 46 21.3**	**-2.0**
GQP	**Guinayangan**	**3.22**	**2**	⇑ *e*P	**Pb**	**23 46 30.1**	**-3.0**
GQP				*i* S	**Sg**	**23 47 20.7**	**+1.4**
LQP	**Lukban**	**3.51**	**347**	‖ *e*P	**Pn**	**23 46 28.8**	**-1.8**
BATI	**Baumata**	**20.78**	**176**	LR	LR	00 00 46.4	
	comp=Z,158nm,18.4s,baz=20,slow=44						
CMAR	**Chiang Mai Arr**	**23.90**	**292**	P	**P**	**23 50 51.4**	**+1.4**
	1.1nm,0.6s,baz=110,slow=7.7,SNR=9.4 1.1nm,0.6s						
WRA	**Warramunga Arr**	**32.63**	**159**	P	**P**	**23 52 08.4**	**+0.5**
	0.3nm,0.8s,baz=331,slow=11,SNR=1.9 0.3nm,0.8s						
ASAR	**Alice Springs**	**35.95**	**162**	P	**P**	**23 52 36.3**	**-0.4**
	0.5nm,1.1s,baz=338,slow=6.5,SNR=2.1 0.5nm,1.1s						
SONM	**Songino Array**	**39.40**	**343**	P	**P**	**23 53 06.5**	**+0.7**
	0.9nm,0.5s,baz=161,slow=9.4,SNR=6.6 0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**53.58**	**327**	P	**P**	**23 54 57.8**	**+0.9**
	0.2nm,0.5s,baz=138,slow=7.2,SNR=2.6 0.2nm,0.5s						

*GCMT **04** 23:46:06.8±0.4, 10°.85N±0°.02×122°.32E±0°.03, h23km±2km, MW4.8/76, Moment Tensor Solution. s10,c10; s76,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.22±.14; $M_{\theta\theta}$1.16±.10; $M_{\phi\phi}$-1.38±.12; $M_{r\theta}$-0.26±.15; $M_{\theta\phi}$-1.02±.07; $M_{\phi r}$-0.86±.17; Best double couple: $M_0$1.80300×10^{16} NP1:ϕ_s333.00000°, δ77.00000°, λ-17.00000°; NP2: ϕ_s67.00000°, δ74.00000°, λ-166.00000°. Principal axes: T 1.5210, Plg2.0000°, Azm20.0000°; N 0.5660, Plg69.0000°, Azm116.0000°; P -2.0850, Plg21.0000°, Azm289.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **04** 23:46:09.9±0.3, 10°N±3°×12°2E±°, h10km, M4.8/27, mB5.3/12, mb4.8/27, MLv5.2/2, Mw(mB)4.7/12*

*NEIC **04** 23:46:10.8±1.7, 10°.89N±0°.07×122°.05E±0°.09, h32km±5km, mb4.7/77, Error ellipse: s-maj=12.3km s-min=10.3km az=75.0*

*IDC **04** 23:46:12.3±2.1, 10°.66N×122°.42E, h87km±20km, mb3.8/23, mbtmp4.1/25, MS4.0/10, Error ellipse: s-maj=20.5km s-min=9.8km az=72.0*

ISC 04 23:46:07.5±0.3, 10°.80N±0°.04×122°.21E±0°.05, h22km, n171, σ2§25/154, mb4.5/66, MS4.1/16, 7C-3D, Panay

Code	Station Name	Δ°	AZ°	Phase Id Op	ISC	Time h m s	Res ISC
RCP	**Roxas**	**0.92**	**35**	‖ *i*P	Pb	23 46 21.7	-3.1
RCP				*i* S	**Sb**	**23 46 35.6**	**-1.0**
SNPH	**Sibulan**	**1.77**	**145**	⇑ *i*P	**Pn**	**23 46 35.5**	**-1.4**
SNPH				*i* S	**Sb**	**23 47 00.7**	**-0.5**
LLP	**Lapu-Lapu**	**1.80**	**105**	‖ *e*P	**Pn**	**23 46 35.1**	**-2.1**
LLP				*e*S	**Sn**	**23 46 56.9**	**-2.5**
MMPH	**Masbate**	**2.08**	**42**	⇑ *e*P	**Pn**	**23 46 42.1**	**+1.0**
DCPH	**Dipolog City**	**2.48**	**153**	‖ *i*P	**Pn**	**23 46 44.0**	**-2.6**
DCPH				*i* S	**Sn**	**23 47 15.6**	**-0.6**
PLP	**Palo**	**2.75**	**82**	⇑ *e*P	**Pn**	**23 46 48.4**	**-1.9**
PLP				*e*S	**Sn**	**23 47 23.0**	**+0.1**
TGY	**Tagaytay City**	**3.51**	**339**	P	**Pb**	**23 47 07.6**	**-1.4**
TGY	**Tagaytay City**	**3.51**	**339**	⇑ *e*P	Pn	23 47 06.2	+5.4
CTBH	**Cotabato--PC H**	**4.09**	**150**	⇑ *e*P	**Pn**	**23 47 09.1**	**+0.3**
KCP	**Kidapawan**	**4.72**	**143**	⇑ *e*P	**Pn**	**23 47 20.5**	**+2.9**
DAV	**Davao City (W)**	**4.99**	**138**	Pn	Pn	23 47 27.0	+5.9
DAV	**Davao City (W)**	**4.99**	**138**	P	**Pn**	**23 47 21.2**	**+0.1**
	71nm,0.4s,baz=302,slow=19,SNR=1.1						
DAV				LR	LR	23 49 26.9	
	comp=Z,2μm,19.2s,baz=313,slow=41						
MYLDM	**Lahad Datu**	**6.68**	**214**	Pn	**Pn**	**23 47 45.8**	**+1.4**
KKM	**Kota Kinabalu**	**7.58**	**232**	Pn	**Pn**	**23 47 58.2**	**+1.4**
TOLI2	**Tolitoli**	**9.73**	**188**	Pn	**Pn**	**23 48 27.1**	**+0.8**
GTOI	**Gorontalo**	**10.13**	**175**	P	**Pn**	**23 48 28.0**	**-3.8**
	15nm,0.7s						
MRSI	**Marisa**	**10.26**	**181**	P	Pn	23 48 43.7	+10
TNTI	**Ternate**	**11.21**	**152**	Pn	**Pn**	**23 48 46.7**	**+0.1**
APSI	**Ampana**	**11.65**	**183**	P	**Pn**	**23 48 51.4**	**-1.2**
	73nm,1.2s,962nm						
LUWI	**Luwuk**	**11.78**	**177**		**Pn**	**23 48 57.1**	**+2.7**
LUWI	**Luwuk**	**11.78**	**177**	P	**Pn**	**23 48 54.2**	**-0.2**
YULB	**Yu-li**	**12.55**	**356**	Pn	**Pn**	**23 49 04.6**	**-0.3**
I39PW	**PALAU INFRASON**	**12.61**	**104**	I	I	00 55 50.0	
	baz=287,slow=312,SNR=1.4						
SBUM	**Sibu**	**12.93**	**231**	Pn	**Pn**	**23 49 12.7**	**+2.6**
SANI	**Sanana**	**13.31**	**163**	P	**Pn**	**23 49 11.8**	**-3.5**
	15nm,0.9s						
MTKI	**Muara Teweh, K**	**13.75**	**212**	P	Pn	23 49 07.4	-14
TTSI	**Tana Toraja**	**13.96**	**190**	P	Pn	23 49 13.2	-11
	23nm,1.2s,3μm						
QIZ	**Qiongzhong**	**14.47**	**306**	Pn	**Pn**	**23 49 29.7**	**-1.5**
QIZ	**Qiongzhong**	**14.47**	**306**	P	**Pn**	**23 49 32.0**	**+0.8**
QIZ				S	**Sn**	**23 52 12.7**	**+1.7**
QIZ				pmax	pmax		
	comp=Z,24nm,1.3s						
QIZ				pmax	pmax		
	comp=Z,210nm,6.9s						
QIZ				LR	LR		
	comp=N,220nm,16.1s						
QIZ				LR	LR		
	comp=E,620nm,17.4s						
QIZ				LR	LR		
	comp=Z,970nm,20.0s						
NLAI	**Namlea**	**14.78**	**160**	P	**P**	**23 49 42.9**	**+1.8**
	comp=Z,14nm,0.9s						
SPSI	**Sidrap Palu**	**14.87**	**190**	P	P	23 49 49.7	+7.6
KSM	**Kuching**	**15.02**	**233**	P	**P**	**23 49 42.9**	**-0.9**
BNSI	**Bone**	**15.25**	**188**	P	P	23 49 54.9	+8.6
KAPI	**Kappang**	**15.90**	**189**		**P**	**23 49 54.6**	**+1.0**
KAPI				IAmb	IAmb	23 50 12.9	
	comp=Z,42nm,1.1s						
KAPI	**Kappang**	**15.90**	**189**	P	**Pn**	**23 49 50.2**	**+0.1**
	comp=Z,6.7nm,0.8s,baz=43,slow=15,SNR=1.3						
UBPT	**Khong Chiam**	**16.90**	**287**	P	**Pn**	**23 50 01.8**	**-1.0**
FAKI	**Fak Fak**	**16.90**	**143**		**P**	**23 50 09.7**	**+4.9**
JOW	**Kunigami**	**16.94**	**19**	Pn	**Pn**	**23 50 03.7**	**+0.4**
MMRI	**Maumere**	**19.31**	**180**	P	**Pn**	**23 50 33.9**	**+1.5**
MMRI				IAmb	IAmb	23 50 38.3	
	comp=Z,45nm,1.0s						
MMRI	**Maumere**	**19.31**	**180**	P	**Pn**	**23 50 37.6**	**+5.2**
	comp=Z,41nm,1.0s,comp=Z,3μm						
PLAI	**Plampang**	**19.99**	**193**	P	**Pn**	**23 50 41.5**	**+1.0**
	comp=Z,84nm,1.2s,comp=Z,1μm						
MYKOM	**Kota Tinggi**	**20.31**	**245**	P	Pn	23 50 44.4	+0.1
MYKOM				IAmb	IAmb	23 50 48.7	
	comp=Z,28nm,1.1s						
SLVN	**Son La**	**20.44**	**303**	P	**P**	**23 50 44.5**	**+0.8**
SOEI	**Soe**	**20.52**	**174**	P	Pn	23 50 47.0	0.0
SOEI	**Soe**	**20.52**	**174**	P	Pn	23 51 00.9	+14
JAGI	**Jajag, Banyuwa**	**20.75**	**203**	P	Pn	23 50 50.7	+1.3
JAGI				IAmb	IAmb	23 50 59.2	
	comp=Z,55nm,1.1s						
JAGI	**Jajag, Banyuwa**	**20.75**	**203**	P	Pn	23 50 59.2	+10
BATI	**Baumata**	**20.92**	**176**	P	**P**	**23 50 47.9**	**-0.9**
	comp=Z,91nm,0.8s,baz=134,slow=1.6,SNR=9.6						
BATI	**Baumata**	**20.92**	**176**	P	**P**	**23 50 48.1**	**-0.7**
	comp=Z,95nm,0.9s						
NGJI	**Ngawi**	**20.98**	**211**	P	Pn	23 51 00.1	+8.0
NJ2	**Nanjing**	**21.37**	**352**	*e*P	**P**	**23 50 58.0**	**+4.5**
NJ2				pP	**sP**	**23 51 06.0**	**+3.2**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
PCJI	**Pacitan**	**21.83**	**211**	P	**P**	**23 50 56.7**	**-1.9**
	comp=Z,66nm,1.2s						
KULM	**Kulim**	**22.03**	**257**	P	**P**	**23 51 01.0**	**+0.2**
GENI	**Genyem**	**22.29**	**126**	P	**P**	**23 51 09.1**	**+5.6**
PHRA	**Phrae**	**22.58**	**292**	P	**P**	**23 51 06.5**	**-0.2**
JAY	**Jayapura**	**22.67**	**125**	P	**P**	**23 51 13.3**	**+5.6**
	comp=Z,36nm,1.2s,comp=Z,530nm						
ENH	**Enshi**	**22.70**	**330**	P	**P**	**23 51 07.3**	**-0.5**
LEM	**Lembang**	**22.75**	**220**	P	**P**	**23 51 08.8**	**+0.2**
	comp=Z,14nm,0.5s,baz=9.0,slow=19,SNR=2.3 comp=Z,14nm,0.5s						
BKNI	**Bangkinang**	**23.47**	**245**	P	**P**	**23 51 16.7**	**+0.9**
CM31	**Chiang Mai Arr**	**23.74**	**291**	P	**P**	**23 51 18.5**	**0.0**
CM31				IAmb	IAmb	23 51 20.2	
	comp=Z,37nm,1.1s						
CMAR	**Chiang Mai Arr**	**23.74**	**291**	P	**P**	**23 51 18.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**23.74**	**291**	P	**P**	**23 51 18.9**	**+0.4**
	comp=Z,12nm,1.0s,baz=109,slow=7.6,SNR=46						
CMAR				PcP	**PcP**	**23 54 58.0**	**-4.3**
	comp=Z,0.6nm,0.3s,baz=112,slow=1.0,SNR=1.7 comp=Z,12nm,1.0s						
CHTO	**Chiang Mai**	**23.84**	**292**	P	**P**	**23 51 19.5**	**+0.1**
CHTO				IAmb	IAmb	23 51 20.5	
	comp=Z,15nm,1.1s						
RPSI	**Rantau Prapat**	**24.46**	**252**	P	**P**	**23 51 25.0**	**-0.2**
PDSI	**Padang**	**24.56**	**243**	P	**P**	**23 51 27.9**	**+1.9**
	comp=Z,24nm,1.0s						
LYN	**LuoYang**	**25.26**	**341**	P	**P**	**23 51 33.5**	**+1.4**
LYN				PP	**PnPn**	**23 52 13.4**	**+6.4**
LYN				sS	sS	23 56 14.9	+7.3
LYN				SS	**SnSn**	**23 56 55.4**	**+6.9**
LYN				pmax	pmax		
	comp=Z,23nm,0.7s						
LYN				LR	LR		
	comp=N,700nm,18.2s						
LYN				LR	LR		
	comp=E,460nm,16.2s						
LYN				LR	LR		
	comp=Z,500nm,14.1s						
TIA	**Tai'an**	**25.71**	**350**	P	**P**	**23 51 33.0**	**-3.3**
TIA				PP	**PnPn**	**23 52 14.8**	**+1.6**
TIA				S	**S**	**23 55 56.5**	**-7.4**
TIA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
TIA				pmax	pmax		
	comp=Z,120nm,5.8s						
TIA				LR	LR		
	comp=N,260nm,14.8s						
TIA				LR	LR		
	comp=E,390nm,13.1s						
TIA				LR	LR		
	comp=Z,240nm,11.3s						
XAN	**Xi'an**	**26.13**	**334**	⇑P	**P**	**23 51 43.3**	**+3.1**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
XAN				LR	LR		
	comp=N,360nm,17.2s						
XAN				LR	LR		
	comp=E,570nm,15.1s						
XAN				LR	LR		
	comp=Z,390nm,15.8s						
KSRS	**Korea Array**	**27.03**	**10**	P	**P**	**23 51 47.4**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=192,slow=12,SNR=4.7 comp=Z,1.3nm,0.8s						
HNS	**HongShan**	**27.33**	**347**	*e*P	**P**	**23 51 51.1**	**+0.3**
HNS				LR	LR		
	comp=N,420nm,14.3s						
HNS				LR	LR		
	comp=E,300nm,13.5s						
HNS				LR	LR		
	comp=Z,340nm,12.7s						
FITZ	**Fitzroy Crossi**	**28.92**	**173**	P	P	23 52 00.7	-4.4
	comp=Z,3.2nm,0.9s,baz=2.7,slow=9.8,SNR=2.6 comp=Z,3.2nm,0.9s						
BJI	**Beijing**	**29.61**	**351**	P	**P**	**23 52 14.5**	**+3.4**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LZH	**Lanzhou**	**30.17**	**329**	*e*P	P	23 52 25.3	+8.9
LZH				sP	sP	23 52 37.8	+12
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
LZH				LR	LR		
	comp=N,360nm,13.7s						
LZH				LR	LR		
	comp=E,500nm,15.1s						
LZH				LR	LR		
	comp=Z,570nm,15.6s						
HHC	**Hu-ho-hao-te**	**31.37**	**344**	*e*P	**P**	**23 52 31.0**	**+4.2**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,91nm,4.0s						
HHC				LR	LR		
	comp=N,330nm,16.3s						
HHC				LR	LR		
	comp=E,200nm,13.5s						
HHC				LR	LR		
	comp=Z,440nm,15.7s						
SHL	**Shillong**	**32.23**	**301**	P	**P**	**23 52 34.0**	**-0.7**
WRA	**Warramunga Arr**	**32.80**	**159**	P	P	23 52 34.7	-4.8
	comp=Z,0.9nm,0.5s,baz=335,slow=10,SNR=10						
WRA				PcP	**PcP**	**23 55 20.9**	**-3.6**
	comp=Z,0.7nm,0.9s,baz=341,slow=3.0,SNR=3.0 comp=Z,0.9nm,0.5s						
MDJ	**Mudanjiang**	**34.29**	**9**	P	**P**	**23 52 56.8**	**+4.6**
MDJ				pmax	pmax		
	comp=Z,19nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,110nm,4.1s						
USRK	**Ussuriysk Ar.**	**34.34**	**13**	P	**P**	**23 52 51.9**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=201,slow=7.7,SNR=1.5 comp=Z,1.4nm,0.6s						
ASAR	**Alice Springs**	**36.12**	**162**	P	**P**	**23 53 09.5**	**+1.3**
ASAR	**Alice Springs**	**36.12**	**162**	P	**P**	**23 53 04.5**	**-3.7**
	comp=Z,0.9nm,0.6s,baz=340,slow=7.3,SNR=13						
ASAR				PcP	**PcP**	**23 55 30.1**	**-3.8**
	comp=Z,1.0nm,1.0s,baz=341,slow=3.2,SNR=2.1 comp=Z,0.9nm,0.6s						
ASAJ	**Asahikawa**	**37.58**	**24**	LR	LR	00 08 14.9	
	comp=Z,118nm,21.7s,baz=208,slow=35						
JKA	**Kamikawa-asahi**	**37.58**	**24**	P	**P**	**23 53 22.1**	**+1.7**
JKA				IAmb	IAmb	23 53 41.8	
	comp=Z,18nm,1.1s						
CTAO	**Charters Tower**	**38.76**	**142**	P	**P**	**23 53 35.0**	**+4.4**
ULN	**Ulaanbaatar**	**39.08**	**344**	P	**P**	**23 53 32.6**	**-0.6**
ULN				IAmb	IAmb	23 53 40.6	
	comp=Z,7.4nm,0.9s						
SONM	**Songino Array**	**39.24**	**343**	P	**P**	**23 53 34.1**	**-0.3**
SONM	**Songino Array**	**39.24**	**343**	P	**P**	**23 53 34.3**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=162,slow=10.0,SNR=16 comp=Z,3.4nm,0.6s						
HEH	**HeiHe**	**39.57**	**5**	*e*P	**P**	**23 53 37.0**	**0.0**
WMQ	**Urumqi**	**44.40**	**324**	*e*P	**P**	**23 54 18.9**	**+2.2**
WMQ				LR	LR		
	comp=N,520nm,15.3s						
WMQ				LR	LR		
	comp=E,490nm,11.5s						
WMQ				LR	LR		
	comp=Z,220nm,17.3s						
BBOO	**Buckleboo**	**45.34**	**164**	P	**P**	**23 54 26.6**	**+2.5**
BBOO				IAmb	IAmb	23 54 42.6	
	comp=Z,9.8nm,1.1s						
STKA	**Stephens Creek**	**46.32**	**157**	P	P	23 54 27.9	-4.0
	comp=Z,1.3nm,0.6s,baz=341,slow=18,SNR=3.1 comp=Z,1.3nm,0.6s						
MK31	**Makanchi Array**	**49.23**	**324**	P	**P**	**23 54 54.6**	**+0.2**
MKAR	**Makanchi Array**	**49.23**	**324**	P	**P**	**23 54 55.0**	**+0.6**
MKAR	**Makanchi Array**	**49.23**	**324**	P	**P**	**23 54 53.5**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=136,slow=9.5,SNR=5.0 comp=Z,0.7nm,0.7s						
KSH	**Kashi**	**49.93**	**313**	P	**P**	**23 55 02.6**	**+2.6**
KSH				pmax	pmax		
	comp=Z,3.0nm,1.8s						
NRN	**Naryn**	**50.65**	**315**	P	**P**	**23 55 06.0**	**+0.3**
PETK	**Petropavlovsk-**	**50.89**	**27**	P	**P**	**23 55 05.4**	**-1.5**
	comp=Z,5.9nm,1.0s,baz=213,slow=5.3,SNR=1.4						
PETK				PP	**PP**	**23 57 02.8**	**-0.4**
	comp=Z,20nm,1.1s,baz=244,slow=16,SNR=3.7 comp=Z,5.9nm,1.0s						
ZALV	**Zalesovo Beam**	**52.29**	**333**	P	**P**	**23 55 19.9**	**+2.6**
ZALV	**Zalesovo Beam**	**52.29**	**333**	P	**P**	**23 55 16.0**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=116,slow=9.8,SNR=1.5 comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**53.40**	**327**	P	**P**	**23 55 24.6**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=124,slow=8.3,SNR=8.5 comp=Z,0.5nm,0.6s						
KBL	**Kabul**	**53.75**	**305**	P	**P**	**23 55 28.0**	**-0.6**
KBL				IAmb	IAmb	23 55 38.7	
	comp=Z,7.2nm,0.7s						
GAR	**Garm**	**53.90**	**311**	P	**P**	**23 55 30.1**	**+0.6**
DZM	**Mont Dzumac**	**54.31**	**127**	*e*LR	LR	00 11 23.5	
	comp=Z,183nm,24.6s						
DZM	**Mont Dzumac**	**54.31**	**127**	P	P	23 55 27.3	-5.5
	comp=Z,4.0nm,1.0s,baz=271,slow=23,SNR=2.1 comp=Z,4.0nm,1.0s						
SIMJ	**Simiganj**	**54.78**	**310**	P	**P**	**23 55 35.7**	**-0.3**
SIMJ				IAmb	IAmb	23 55 55.4	
	comp=Z,3.1nm,0.8s						
KKAR	**Karatay Array**	**55.05**	**315**	P	**P**	**23 55 36.4**	**-1.3**
KKAR	**Karatay Array**	**55.05**	**315**	P	**P**	**23 55 36.8**	**-0.9**
BVAR	**Borovoye Array**	**58.98**	**326**	P	**P**	**23 56 03.5**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=124,slow=7.7,SNR=3.0 comp=Z,0.4nm,0.5s						
BRVK	**Borovoye**	**59.06**	**326**	P	**P**	**23 56 06.0**	**+0.1**
BRVK				IAmb	IAmb	23 56 25.4	
	comp=Z,3.9nm,0.9s						
HRA	**Herat**	**59.24**	**304**	P	**P**	**23 56 06.7**	**-1.1**
HRA				IAmb	IAmb	23 56 09.7	
	comp=Z,2.4nm,0.7s						
TIXI	**Tiksi**	**60.94**	**2**	P	**P**	**23 56 19.2**	**+0.8**
TIXI				IAmb	IAmb	23 56 37.6	
	comp=Z,6.9nm,1.1s						
NRIK	**Noril'sk**	**62.55**	**347**	P	**P**	**23 56 30.4**	**+1.1**
NRIK				IAmb	IAmb	23 56 43.7	
	comp=Z,3.7nm,1.0s						
NRIK	**Noril'sk**	**62.55**	**347**	P	**P**	**23 56 28.0**	**-1.4**
	comp=Z,2.1nm,0.9s,baz=120,slow=8.1,SNR=2.3 comp=Z,2.1nm,0.9s						
ABKAR	**Akbulak array**	**63.88**	**320**	P	**P**	**23 56 39.7**	**+1.2**
ABKAR	**Akbulak array**	**63.88**	**320**	P	**P**	**23 56 38.4**	**-0.1**
ABKAR				IAmb	IAmb	23 56 52.8	
	comp=Z,2.0nm,0.7s						
KBZ	**Khabaz**	**74.91**	**312**	LR	LR	00 35 04.5	
	comp=Z,72nm,18.4s,baz=352,slow=39						
K17K	**Iditarod**	**75.65**	**28**	P	**P**	**23 57 54.1**	**+3.3**
K17K				IAmb	IAmb	23 58 05.6	
	comp=Z,6.0nm,0.9s						
GURO	**Guroymak-BITLI**	**75.70**	**307**	P	**P**	**23 57 51.5**	**-0.2**
GURO				IAmb	IAmb	23 58 01.2	
	comp=Z,5.8nm,1.0s						
BPAW	**Bear Paw Mtn.**	**78.97**	**27**	P	**P**	**23 58 12.0**	**+2.6**
BPAW				IAmb	IAmb	23 58 21.7	
	comp=Z,13nm,1.1s						
G23K	**Bananza Creek**	**79.28**	**24**	P	**P**	**23 58 12.9**	**+1.9**
E23K	**Chandalar**	**79.38**	**22**	P	**P**	**23 58 13.2**	**+1.6**
E23K				IAmb	IAmb	23 58 22.9	
	comp=Z,8.5nm,1.0s						
H24K	**Noodor Dome**	**80.20**	**25**	P	**P**	**23 58 18.7**	**+2.6**
SML	**Sawmill**	**80.31**	**29**		**P**	**23 58 18.1**	**+1.3**
BNN	**Bunyan**	**80.50**	**308**	P	**P**	**23 58 17.5**	**-0.9**
ILAR	**Eielson Array**	**80.70**	**26**	P	**P**	**23 58 16.9**	**-1.9**
	comp=Z,0.2nm,0.8s,baz=262,slow=5.8,SNR=1.6 comp=Z,0.2nm,0.8s						
F25K	**Christian Rive**	**80.92**	**23**	P	**P**	**23 58 21.9**	**+2.0**
F25K				IAmb	IAmb	23 58 26.6	
	comp=Z,4.7nm,0.9s						
GLI	**Glacier Island**	**80.99**	**30**	P	**P**	**23 58 23.1**	**+2.7**
RIDG	**Independent Ri**	**81.70**	**27**	P	**P**	**23 58 24.4**	**+0.2**
FURI	**Furi**	**82.06**	**278**	LR	LR	00 33 38.4	
	comp=Z,47nm,19.6s,baz=44,slow=35						
BRTR	**Keskin Array B**	**82.10**	**309**	P	**P**	**23 58 25.3**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=321,slow=12,SNR=3.7 comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**82.30**	**339**	LR	LR	00 41 37.8	
	comp=Z,321nm,18.4s,baz=281,slow=40						
E27K	**Coleen River**	**82.35**	**22**	P	**P**	**23 58 29.5**	**+2.0**
E27K				IAmb	IAmb	23 58 33.9	
	comp=Z,5.4nm,0.9s						
EIL	**Elat**	**82.38**	**299**	LR	LR	00 41 01.1	
	comp=Z,67nm,18.2s,baz=63,slow=40						
D27M	**Malcolm River**	**82.40**	**21**	P	**P**	**23 58 28.6**	**+0.9**
D27M				IAmb	IAmb	23 58 33.7	
	comp=Z,6.7nm,1.1s						
G27K	**Doyon Strip**	**82.57**	**23**	P	**P**	**23 58 29.0**	**+0.4**
SPITS	**Spitsbergen Ar**	**82.71**	**348**	P	**P**	**23 58 26.2**	**-2.9**
	comp=Z,18nm,1.0s,baz=89,slow=12,SNR=2.3 comp=Z,18nm,1.0s						
K27K	**Chicken**	**82.87**	**26**	P	**P**	**23 58 32.2**	**+2.0**
K27K				IAmb	IAmb	23 58 36.3	
	comp=Z,5.8nm,1.1s						
E28M	**Babbage River**	**83.03**	**21**	P	**P**	**23 58 32.1**	**+1.1**
E28M				IAmb	IAmb	23 58 36.8	
	comp=Z,4.1nm,1.1s						
F28M	**Old Crow**	**83.10**	**22**	P	**P**	**23 58 31.6**	**+0.3**
F28M				IAmb	IAmb	23 58 38.0	
	comp=Z,7.0nm,0.8s						
BCAR	**Beaver Creek A**	**83.17**	**27**	P	**P**	**23 58 31.8**	**0.0**
FINES	**FINESS Array B**	**83.52**	**331**	P	**P**	**23 58 31.4**	**-2.1**
	comp=Z,2.5nm,0.9s,baz=90,slow=4.2,SNR=4.6 comp=Z,2.5nm,0.9s						

comp=Z,48nm,18.4s,baz=62,slow=36
RES Resolute Bay 91.65 9 LR LR 00 44 59.2
comp=Z,108nm,18.3s,baz=16,slow=38
TBI Tubuai 92.70 113 eLR LR 00 29 09.6
comp=Z,573nm,27.0s
YKA Yellowknife Ar 94.86 23 P P 23 59 23.0 -4.6
comp=Z,1.9nm,0.8s,baz=321,slow=4.8,SNR=4.0
comp=Z,1.9nm,0.8s
TORD Torodi Ar. Bea 116.35 291 PKP **PKPdf 00 04 47.1 -3.4**
comp=Z,0.2nm,0.7s,baz=94,slow=2.8,SNR=1.6
TXAR Lajitas Array 120.44 47 PKP **PKPdf 00 04 54.1 -4.0**
comp=Z,0.2nm,0.8s,baz=81,slow=1.6,SNR=3.6
PLCA Paso Flores 148.13 161 PKPbc **PKPdf 00 05 49.6 +0.8**
comp=Z,2.1nm,0.8s,baz=232,slow=15,SNR=1.9

*NEIC **04** 23:46:18.1±1.7, 18°.3S±0°.2×178°.17W±0°.09, h515km±7km, mb4.1/24, Error ellipse: s-maj=23.1km s-min=10.2km az=158.0*
*IDC **04** 23:46:19.1±2.5, 18°.25S×178°.34W, h528km±20km, mb3.3/5, mbtmp4.2/6, Error ellipse: s-maj=39.0km s-min=31.8km az=140.0*
ISC 04 23:46:16.3±0.7, 18°.3S±0°.1×178°.1W±0°.1, h500km, n35, σ1§37/37, mb4.0/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.74**	**278**	P	**P**	**23 47 35.3**	**+2.5**
MSVF	**Nonsavu**	**3.74**	**278**	P	**P**	**23 47 35.6**	**+2.8**
18nm,0.7s,baz=240,slow=21,SNR=9.7							
DZM	**Mont Dzumac**	**15.01**	**253**	P	**P**	**23 49 27.7**	**+1.0**
QRZ	**Quartz Range**	**23.84**	**198**	P	**P**	**23 50 51.6**	**+2.3**
RPZ	**Rata Peaks**	**26.92**	**198**	P	**P**	**23 51 17.3**	**+0.8**
EIDS	**Eidsvold**	**29.43**	**251**	P	**P**	**23 51 38.6**	**-0.2**
EIDS				IAmb	IAmb	23 51 41.0	
comp=Z,10.0nm,1.1s							
ARMA	**Armidale**	**30.02**	**241**	P	**P**	**23 51 44.7**	**+0.8**
CTAO	**Charters Tower**	**33.70**	**261**	P	**P**	**23 52 14.6**	**-0.9**
CTAO				IAmb	IAmb	23 52 27.5	
comp=Z,5.5nm,1.1s							
COEN	**Coen**	**37.43**	**271**	P	**P**	**23 52 46.4**	**-0.2**
COEN				IAmb	IAmb	23 53 02.4	
comp=Z,10nm,1.1s							
STKA	**Stephens Creek**	**38.72**	**242**	P	**P**	**23 52 57.8**	**+0.9**
STKA	**Stephens Creek**	**38.72**	**242**	P	**P**	**23 52 57.4**	**+0.5**
comp=Z,3.4nm,0.7s,baz=84,slow=10,SNR=5.4							
comp=Z,3.4nm,0.7s							
MCQ	**Macquarie Isla**	**40.18**	**201**	P	**P**	**23 53 06.0**	**-2.3**
BBOO	**Buckleboo**	**43.49**	**241**	P	**P**	**23 53 35.0**	**+0.1**
BBOO				IAmb	IAmb	23 53 54.9	
comp=Z,7.4nm,1.1s							
WR0	**Warramunga Arr**	**44.69**	**260**	P	**P**	**23 53 43.8**	**-0.6**
WB0	**Warramunga Arr**	**44.85**	**260**	P	**P**	**23 53 44.9**	**-0.8**
WB2	**Warramunga Arr**	**44.87**	**260**	P	**P**	**23 53 44.7**	**-1.0**
WB2				IAmb	IAmb	23 53 45.7	
comp=Z,5.3nm,1.1s							
WRAB	**Tennant Creek**	**44.87**	**260**	P	**P**	**23 53 44.4**	**-1.4**
WRAB				IAmb	IAmb	23 53 55.7	
comp=Z,6.2nm,0.6s							
WRA	**Warramunga Arr**	**44.88**	**260**	P	**P**	**23 53 44.3**	**-1.6**
comp=Z,0.9nm,0.3s,baz=98,slow=7.7,SNR=22							
WRA				PcP	**PcP**	**23 55 15.7**	**-1.4**
comp=Z,0.1nm,0.3s,baz=99,slow=3.5,SNR=1.5							
comp=Z,0.9nm,0.3s							
AS31	**Alice Springs**	**44.99**	**255**	P	**P**	**23 53 46.0**	**-0.7**
AS31				IAmb	IAmb	23 53 46.8	
comp=Z,3.1nm,0.6s							
ASAR	**Alice Springs**	**44.99**	**255**	P	**P**	**23 53 45.7**	**-1.0**
ASAR	**Alice Springs**	**44.99**	**255**	P	**P**	**23 53 45.2**	**-1.6**
comp=Z,11nm,0.6s,baz=90,slow=8.1,SNR=22							
ASAR				PcP	**PcP**	**23 55 16.6**	**-0.9**
comp=Z,0.5nm,0.4s,baz=95,slow=4.0,SNR=2.8							
comp=Z,11nm,0.6s							
FITZ	**Fitzroy Crossi**	**53.28**	**261**	P	**P**	**23 54 46.1**	**-2.1**
FITZ	**Fitzroy Crossi**	**53.28**	**261**	P	**P**	**23 54 47.1**	**-1.0**
comp=Z,1.9nm,0.7s,baz=101,slow=5.2,SNR=1.9							
comp=Z,1.9nm,0.7s							
PSA00	**Pilbara Seismi**	**58.12**	**256**	P	**P**	**23 55 20.5**	**-1.3**
PSA00				IAmb	IAmb	23 55 32.7	
comp=Z,9.9nm,1.1s							
QSPA	**South Pole Qui**	**71.73**	**180**	P	**P**	**23 56 47.7**	**+0.6**
comp=Z,0.5nm,0.6s,baz=221,slow=1.7,SNR=1.7							
comp=Z,0.5nm,0.6s							
O02D	**Mt. Diablo Mer**	**77.66**	**40**	P	**P**	**23 57 20.8**	**0.0**
PLK4	**Peulik 4**	**77.80**	**12**	P	**P**	**23 57 21.3**	**+0.1**
SLBS	**Sierra La Lagu**	**78.48**	**60**	P	**P**	**23 57 26.2**	**+0.6**
SLBS				IAmb	IAmb	23 57 41.0	
comp=Z,5.9nm,0.9s							
ACHA	**Angle Creek He**	**78.55**	**12**	P	**P**	**23 57 23.9**	**-1.2**
ACHA				IAmb	IAmb	23 57 25.2	
comp=Z,5.9nm,1.2s							
TPNV	**Topopah Spring**	**80.08**	**46**	P	**P**	**23 57 35.8**	**+1.8**
E19K	**Redstone River**	**86.91**	**8**	P	**P**	**23 58 05.7**	**-1.3**
E19K				IAmb	IAmb	23 58 08.8	
comp=Z,6.8nm,0.9s							
C23K	**Itkillik River**	**90.05**	**9**	P	**P**	**23 58 19.6**	**-2.0**
C23K				IAmb	IAmb	23 58 25.9	
comp=Z,3.8nm,0.8s							
C24K	**Franklin Bluff**	**90.25**	**10**	P	**P**	**23 58 23.2**	**+0.7**
BRTR	**Keskin Array B**	**145.31**	**315**	PKPbc	**PKPdf**	**00 04 56.2**	**-1.0**
comp=Z,1.2nm,0.6s,baz=59,slow=3.6,SNR=8.4							
MMAI	**Mount Meron Ar**	**146.64**	**303**	PKPbc	**PKPdf**	**00 05 01.0**	**+1.5**
comp=Z,2.1nm,0.5s,baz=48,slow=2.1,SNR=13							

*IDC **05** 00:03:59.0±1.1, 23°.95N×122°.23E, h0km, mb3.6/8, mbtmp3.6/9, ML3.6/1, MS3.2/1, Error ellipse: s-maj=68.0km s-min=19.3km az=67.0*
*ASIES **05** 00:04:03.8, 24°.05N×122°.67E, h32km, ML3.9, Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}5.40; $M_{\theta\theta}$-5.34; $M_{\phi\phi}$-0.06; $M_{r\theta}$5.35; $M_{\theta\phi}$-0.47; $M_{\phi r}$1.43; Fault plane solution: $M_0$7.72622×10^{21} NP1:ϕ_s77.88000°, δ67.98000°, λ84.73000°. NP2:ϕ_s271.69000°, δ22.61000°, λ102.79000°. Principal axes: T Plg66.6160°, Azm338.4610°; N Plg4.8820°, Azm79.8540°; P Plg22.8090°, Azm171.9130°;*
*JMA **05** 00:04:03.6±0.2, 24°N±1°×122°.6E±0°.5, h28km±3km, MD4.0/15, MV3.5/15, NW OFF ISHIGAKIJIMA IS*
*TAP **05** 00:04:03.8, 24°.05N×122°.67E, h32km, ML3.9, C*
*NIED **05** 00:04:03.6, 24°.01N×122°.64E, h28km, MW3.9, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}4.23; $M_{\theta\theta}$-5.42; $M_{\phi\phi}$1.19; $M_{r\theta}$6.61; $M_{\theta\phi}$-0.55; $M_{\phi r}$3.12; Fault plane solution: $M_0$8.82000×10^{14} NP1:ϕ_s67.00000°, δ74.00000°, λ77.00000°. NP2:ϕ_s288.00000°, δ20.00000°, λ128.00000°.*
ISC 05 00:04:03.2±1.0, 23°.98N±0°.02×122°.67E±0°.02, h32km±8km, n151, σ1§26/228, mb3.5/8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.35**	**293**	*i* P	**Pn**	**00 04 11.8**	**0.0**
EOS4				S	**Sn**	**00 04 17.5**	**0.0**
EOS3	**EOS3**	**0.44**	**313**	*i* P	**Pn**	**00 04 13.2**	**0.0**
EOS3				S	**Sn**	**00 04 20.9**	**+0.8**
JYNG	**Yonagunijimaku**	**0.53**	**29**	P	**Pb**	**00 04 14.1**	**-0.2**
JYNG				*e*S	**Sb**	**00 04 21.0**	**-0.8**
YOJ	**Yonaguni jima**	**0.57**	**33**	P	**Pn**	**00 04 14.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.57**	**33**	P	**Pn**	**00 04 14.7**	**-0.4**
YOJ				S	**Sn**	**00 04 22.4**	**-1.1**
YOJ	**Yonaguni jima**	**0.57**	**33**	A	A	00 04 14.7	
comp=E,7.0nm,3.3s,comp=N,9.0nm,3.7s							
YOJ	**Yonaguni jima**	**0.57**	**33**	*i* P	**Pn**	**00 04 14.7**	**-0.4**
YOJ				S	**Sb**	**00 04 22.3**	**-0.5**
EOS2	**EOS2**	**0.59**	**318**	P	**Pn**	**00 04 15.9**	**+0.6**
EOS2				*e*S	**Sn**	**00 04 24.8**	**+1.0**
EAHA	**Aohua**	**0.91**	**292**	*e*P	**Pn**	**00 04 20.2**	**+0.4**
EAHA				*e*S	**Sb**	**00 04 34.1**	**+1.6**
EWUT	**Wuta**	**0.93**	**300**	P	**Pb**	**00 04 20.6**	**-0.3**
EWUT				*e*S	**Sb**	**00 04 34.2**	**+1.3**
ENA	**Nanau**	**0.95**	**298**	P	**Pb**	**00 04 21.0**	**-0.3**
ENA				S	**Sb**	**00 04 34.7**	**+1.1**
ESAO	**Su ao**	**0.95**	**308**	P	**Pb**	**00 04 21.0**	**-0.3**
ESAO				S	**Sb**	**00 04 34.0**	**+0.4**
ETL	**Fush Village**	**0.97**	**281**	*e*P	**Pn**	**00 04 21.3**	**+0.6**
ETL				*e*S	**Sb**	**00 04 34.5**	**+0.4**
HWA	**Hwalien**	**0.97**	**270**	*e*P	**Pn**	**00 04 20.6**	**0.0**
HWA				*e*S	**Sb**	**00 04 34.5**	**+0.4**
TWC	**Suao**	**0.97**	**310**	*i* P	**Pb**	**00 04 21.2**	**-0.3**
TWC				S	**Sb**	**00 04 33.3**	**-0.8**
TWD	**Chiawan**	**0.98**	**276**	*e*P	**Pn**	**00 04 20.8**	**-0.1**
TEYL	**Yanliau Villag**	**0.98**	**264**	*e*P	**Pn**	**00 04 21.8**	**+0.9**
TEYL				*e*S	**Sb**	**00 04 35.9**	**+1.5**
NACB	**Ninganchiao**	**1.00**	**281**	P	**Pn**	**00 04 21.3**	**+0.2**
NACB	**Ninganchiao**	**1.00**	**281**	P	**Pn**	**00 04 21.2**	**+0.1**
NACB				*e*S	**Sn**	**00 04 33.0**	**-1.1**
SHUL	**Shoufeng**	**1.03**	**259**	*e*P	**Pn**	**00 04 21.5**	**0.0**
SHUL				*e*S	**Sn**	**00 04 35.6**	**+0.8**
IRIF	**Iriomote-Funau**	**1.03**	**70**	P	**Pb**	**00 04 22.5**	**0.0**
IRIF				S	**Sb**	**00 04 36.8**	**+1.0**
IRIF	**Iriomote-Funau**	**1.03**	**70**	A	A	00 04 22.5	
comp=E,7.0nm,2.1s,comp=N,12nm,2.4s							
HATJ	**Hateruma jima**	**1.04**	**86**	P	**Pb**	**00 04 22.8**	**+0.1**
HATJ				*e*S	**Sb**	**00 04 36.7**	**+0.6**
TEGC	**Jichi Village**	**1.07**	**255**	*e*P	**Pn**	**00 04 22.1**	**+0.1**
TEGC				*e*S	**Sn**	**00 04 37.3**	**+1.6**
ETM	**Tongmen**	**1.07**	**269**	P	**Pn**	**00 04 22.0**	**-0.1**
ETM				*e*S	**Sn**	**00 04 35.9**	**0.0**
NDS	**Dongshan**	**1.08**	**307**	*e*P	**Pb**	**00 04 23.9**	**+0.5**
NDS				*e*S	**Sb**	**00 04 37.6**	**+0.4**
EGS		**1.09**	**322**	*e*P	**Pb**	**00 04 23.0**	**-0.5**
ETLH	**Xiulin Townshi**	**1.10**	**282**	P	**Pn**	**00 04 22.9**	**+0.3**
ETLH				S	**Sn**	**00 04 37.0**	**+0.2**
ESL	**Shilin**	**1.14**	**262**	*e*P	**Pn**	**00 04 22.7**	**-0.3**
ESL				S	**Sn**	**00 04 37.2**	**-0.4**
ILA	**Ilan**	**1.14**	**313**	*e*P	**Pb**	**00 04 25.3**	**+0.9**
LXIB	**Xiulin Townshi**	**1.15**	**272**	P	**Pn**	**00 04 23.3**	**0.0**
LXIB				S	**Sn**	**00 04 38.2**	**+0.2**
EGFH	**Guangfu**	**1.18**	**255**	*e*P	**Pn**	**00 04 23.9**	**+0.4**
EGFH				S	**Sn**	**00 04 38.8**	**+0.3**
LATG	**Datong**	**1.18**	**298**	*e*P	**Pn**	**00 04 24.4**	**+0.7**
LATG				*e*S	**Sb**	**00 04 40.6**	**+0.6**
TWB1	**Santiao Chiao**	**1.19**	**329**	P	**Pb**	**00 04 24.2**	**-1.1**
TWB1				*e*S	**Sb**	**00 04 39.3**	**-1.1**
ENTT	**Nioudou**	**1.20**	**303**	P	**Pb**	**00 04 25.0**	**-0.4**
WARBT	**Fenglin Townsh**	**1.20**	**258**	P	**Pn**	**00 04 23.4**	**-0.5**
WARBT				S	**Sn**	**00 04 38.5**	**-0.6**
HGSD	**Ruisui**	**1.24**	**247**	*e*P	**Pn**	**00 04 24.0**	**-0.4**
TIPB	**Shuangxi**	**1.25**	**322**	*e*P	**Pb**	**00 04 25.7**	**-0.6**
FUSB	**Fushanzhiwuyua**	**1.25**	**308**	P	**Pb**	**00 04 25.9**	**-0.4**
FUSB				*e*S	**Sb**	**00 04 44.3**	**+2.1**
JKRS	**Kuro-shima**	**1.25**	**78**	P	**Pb**	**00 04 26.0**	**-0.3**
JKRS				S	**Sb**	**00 04 42.8**	**+0.7**
JKRS	**Kuro-shima**	**1.25**	**78**	A	A	00 04 26.0	
comp=E,5.0nm,0.9s,comp=N,8.0nm,2.2s							
NNSB	**Datong**	**1.25**	**291**	*i* P	**Pn**	**00 04 25.3**	**+0.6**
NNSB				S	**Sb**	**00 04 41.8**	**-0.5**
NNS	**Nan Shan**	**1.27**	**291**	P	**Pn**	**00 04 25.7**	**+0.9**
WHF	**Hehuan Shan**	**1.29**	**277**	P	**Pn**	**00 04 26.0**	**+0.5**
WHF				S	**Sn**	**00 04 41.9**	**0.0**
ECBN	**Changbin**	**1.30**	**239**	*e*S	**Sn**	**00 04 40.7**	**-0.8**
EHYH	**Wanrong**	**1.30**	**248**	*e*P	**Pn**	**00 04 25.5**	**+0.2**
EHYH				*e*S	**Sn**	**00 04 42.3**	**+0.6**
EHY	**Hungye**	**1.32**	**249**	P	**Pn**	**00 04 25.6**	**+0.1**
EHY				S	**Sn**	**00 04 42.5**	**+0.5**
SXI1	**Grass Mountain**	**1.32**	**327**	P	**Pn**	**00 04 26.2**	**+0.6**
NWLT	**Wulai**	**1.32**	**307**	*e*P	**Pb**	**00 04 27.4**	**-0.1**
FUSS	**Fushou**	**1.33**	**282**	P	**Pn**	**00 04 26.8**	**+1.0**
FUSS				*e*S	**Sb**	**00 04 43.9**	**-0.6**
NWF	**Wu-fen Shan**	**1.35**	**324**	*e*P	**Pb**	**00 04 27.3**	**-0.7**
WFSB	**Wu-fen Shan**	**1.35**	**324**	*e*P	**Pb**	**00 04 26.7**	**-1.2**
YHNB	**Yeheng**	**1.36**	**300**	P	**Pn**	**00 04 27.2**	**+1.1**
YHNB	**Yeheng**	**1.36**	**300**	P	**Pn**	**00 04 27.3**	**+1.1**
OWD	**Renai**	**1.36**	**269**	*e*P	**Pn**	**00 04 26.8**	**+0.6**
OWD				*e*S	**Sn**	**00 04 43.2**	**-0.1**
NSK	**Sanguang**	**1.38**	**300**	P	**Pn**	**00 04 27.5**	**+1.1**
YULB	**Yu-li**	**1.39**	**245**	P	**Pn**	**00 04 26.7**	**+0.3**
YULB	**Yu-li**	**1.39**	**245**	P	**Pn**	**00 04 26.7**	**+0.3**
YULB				*e*S	**Sn**	**00 04 43.8**	**+0.1**
EYUL	**Yuli**	**1.39**	**243**	*e*P	**Pn**	**00 04 26.6**	**+0.1**
EYUL				*e*S	**Sn**	**00 04 44.8**	**+1.1**
TWT	**Tachien**	**1.39**	**281**	*e*P	**Pn**	**00 04 27.7**	**+1.1**
TWA	**Mucha**	**1.40**	**315**	*e*P	**Pn**	**00 04 27.4**	**+0.8**
TWA				*e*S	**Sb**	**00 04 44.9**	**-1.4**
JIJ	**Ishigaki jima**	**1.40**	**74**	P	**Pn**	**00 04 27.2**	**+0.6**
JIJ				*e*S	**Sn**	**00 04 44.1**	**+0.1**
TDCB	**Techi**	**1.40**	**281**	*e*P	**Pn**	**00 04 27.7**	**+0.9**
CHKH	**Chenggong**	**1.41**	**236**	*e*P	**Pn**	**00 04 26.0**	**-0.6**
CHKH				*e*S	**Sn**	**00 04 42.5**	**-1.7**
WUSB	**Renai**	**1.42**	**271**	P	**Pn**	**00 04 27.6**	**+0.7**
WUSB				*e*S	**Sn**	**00 04 45.7**	**+1.1**
TATO	**Taipei**	**1.46**	**313**	P	**Pb**	**00 04 29.5**	**-0.3**
TATO	**Taipei**	**1.46**	**313**	P	**Pb**	**00 04 29.1**	**-0.6**
FULB	**Fuli**	**1.48**	**238**	*e*P	**Pn**	**00 04 27.4**	**-0.3**
FULB				*e*S	**Sn**	**00 04 45.6**	**-0.4**
YM01	**YM01**	**1.53**	**319**	*e*P	**Pb**	**00 04 29.8**	**-1.2**
YM08	**YM08**	**1.55**	**321**	*e*P	**Pb**	**00 04 29.9**	**-1.4**
NFF	**Wufeng Townshi**	**1.55**	**295**	*e*P	**Pb**	**00 04 30.5**	**-0.9**
ZUZH	**Zhuzihu**	**1.56**	**319**	*e*P	**Pn**	**00 04 29.9**	**+1.1**
KSHI	**Guanxi Townshi**	**1.57**	**300**	*e*P	**Pb**	**00 04 30.7**	**-1.0**
SSLB	**Suanglung**	**1.58**	**263**	P	**Pn**	**00 04 30.6**	**+1.5**
SSLB	**Suanglung**	**1.58**	**263**	*e*P	**Pn**	**00 04 30.0**	**+0.9**
SSLB				*e*S	**Sn**	**00 04 49.8**	**+1.3**
ANP	**Anpu**	**1.59**	**319**	*e*P	**Pb**	**00 04 31.7**	**-0.3**
TWS1	**Kuangyinshan**	**1.59**	**315**	*e*P	**Pn**	**00 04 29.5**	**+0.3**
ECS	**Chishang**	**1.59**	**237**	*e*P	**Pn**	**00 04 30.6**	**+1.3**
ECS				*e*S	**Sn**	**00 04 49.6**	**+0.7**
WHP	**Taichung City**	**1.60**	**281**	*e*P	**Pb**	**00 04 31.9**	**-0.3**
WHP				*e*S	**Sb**	**00 04 51.4**	**-0.6**
EDH	**Donghe**	**1.60**	**231**	*e*P	**Pn**	**00 04 28.9**	**-0.5**
EDH				*e*S	**Sn**	**00 04 47.7**	**-1.3**
WCS	**Beigang Elemen**	**1.61**	**273**	*e*P	**Pn**	**00 04 30.6**	**+1.2**
TWY	**Chenhua**	**1.61**	**323**	*e*P	**Pb**	**00 04 31.1**	**-1.2**
JISG	**Ishigakijimahi**	**1.62**	**68**	P	**Pn**	**00 04 30.4**	**+0.9**
JISG				S	**Sn**	**00 04 50.1**	**+0.8**
NTST	**Danshui**	**1.62**	**317**	*e*P	**Pb**	**00 04 31.5**	**-0.9**
SMLT	**Sun Moon Lake**	**1.62**	**267**	*e*P	**Pn**	**00 04 30.9**	**+1.2**
SMLT				*e*S	**Sn**	**00 04 50.0**	**+0.5**
LIOB	**Emei**	**1.64**	**294**	*e*P	**Pb**	**00 04 32.0**	**-0.9**
NSTT	**Nanjuang**	**1.65**	**293**	*e*P	**Pb**	**00 04 32.0**	**-1.0**
NSTT				*e*S	**Sb**	**00 04 53.1**	**-0.3**
TYC	**Yuchr**	**1.66**	**268**	*e*P	**Pn**	**00 04 31.1**	**+1.0**
NCUH	**Zhongli**	**1.67**	**306**	*e*P	**Pb**	**00 04 33.6**	**+0.2**
WHYT	**Xinyi Township**	**1.69**	**261**	*e*P	**Pn**	**00 04 31.5**	**+1.0**
LDUT	**Ludao**	**1.71**	**220**	*e*P	**Pn**	**00 04 29.9**	**-0.9**
LDUT				*e*S	**Sn**	**00 04 49.9**	**-1.6**
ELDTW	**Lidau**	**1.71**	**243**	*e*P	**Pn**	**00 04 30.7**	**-0.3**
PCYT	**Pengchaiyu**	**1.73**	**342**	*e*P	**Pn**	**00 04 31.7**	**+0.6**
TWQ1	**Liyutan**	**1.77**	**282**	*e*P	**Pb**	**00 04 34.0**	**-1.1**
TWQ1				*e*S	**Sb**	**00 04 57.1**	**+0.2**
ALS	**Alishan**	**1.77**	**255**	*e*P	**Pn**	**00 04 33.1**	**+1.1**
LONT	**Longtian**	**1.77**	**233**	*e*P	**Pn**	**00 04 31.4**	**-0.3**
LONT				*e*S	**Sn**	**00 04 53.6**	**+0.4**
WJS	**Zhushan**	**1.78**	**265**	*e*P	**Pb**	**00 04 35.0**	**-0.3**
WJS				*e*S	**Sb**	**00 04 58.5**	**+1.2**
NSY	**Sanyi**	**1.79**	**284**	*e*P	**Pb**	**00 04 34.6**	**-0.9**
WNT	**Mingjian**	**1.82**	**267**	*e*P	**Pn**	**00 04 34.6**	**+2.3**
WNT				*e*S	**Sb**	**00 04 57.8**	**-0.4**
TWGBT	**Beinan**	**1.86**	**232**	P	**Pn**	**00 04 34.3**	**+1.3**
TWGBT	**Beinan**	**1.86**	**232**	*e*P	**Pn**	**00 04 32.8**	**-0.2**
TWGBT				*e*S	**Sn**	**00 04 54.8**	**-0.7**
TWG	**Pinlang**	**1.87**	**232**	*e*P	**Pn**	**00 04 32.7**	**-0.4**
TWG				*e*S	**Sn**	**00 04 54.8**	**-0.8**
STYH	**Taoyuan**	**1.91**	**245**	*e*P	**Pn**	**00 04 36.1**	**+2.5**
WCHH	**Zhanghua**	**1.93**	**273**	*e*P	**Pb**	**00 04 36.4**	**-1.4**
WCHH				*e*S	**Sb**	**00 05 00.8**	**-0.7**
WGK	**Gukeng**	**1.95**	**262**	*e*P	**Pb**	**00 04 38.4**	**+0.3**
WGK				*e*S	**Sb**	**00 05 02.0**	**0.0**
WCKO	**Fanlu**	**1.97**	**254**	*e*P	**Pn**	**00 04 37.1**	**+2.7**
WCKO				*e*S	**Sb**	**00 05 01.8**	**-0.7**
JTJ	**Tarama**	**1.97**	**70**	P	**Pn**	**00 04 35.5**	**+1.1**
JTJ				S	**Sn**	**00 04 59.7**	**+1.7**
WDLH	**Douliu**	**1.97**	**262**	*e*P	**Pn**	**00 04 36.0**	**+1.6**
WDLH				*e*S	**Sb**	**00 05 01.8**	**-0.9**
TPUB	**Ta-pu**	**1.99**	**250**	P	**Pn**	**00 04 37.1**	**+2.4**
TPUB	**Ta-pu**	**1.99**	**250**	P	**Pn**	**00 04 36.8**	**+2.1**
TPUB				S	**Sn**	**00 05 01.6**	**+3.1**
CHN4	**Tsaushan**	**2.00**	**252**	*e*P	**Pn**	**00 04 37.8**	**+2.9**
CHN4				*e*S	**Sb**	**00 05 02.5**	**-1.0**
WTP	**Ta-pu**	**2.02**	**249**	*e*P	**Pn**	**00 04 37.9**	**+2.7**
WTP				*e*S	**Sn**	**00 05 02.8**	**+3.4**
ECL	**Taimali**	**2.09**	**229**	*e*P	**Pn**	**00 04 35.7**	**-0.4**
SLGT	**Liugui**	**2.10**	**242**	*e*P	**Pn**	**00 04 38.8**	**+2.6**
WTK	**Tuku**	**2.11**	**262**	*e*P	**Pn**	**00 04 38.5**	**+2.2**
WTK				*e*S	**Sb**	**00 05 05.4**	**-1.2**
CHY	**Chiayi**	**2.11**	**257**	*e*P	**Pn**	**00 04 39.1**	**+2.7**
CHY				*e*S	**Sb**	**00 05 05.2**	**-1.4**
SGST	**Jiashian**	**2.11**	**245**	*e*P	**Pn**	**00 04 38.4**	**+2.0**
SGST				*e*S	**Sn**	**00 05 04.8**	**+3.2**
CHN1	**Nanshi**	**2.12**	**248**	*e*P	**Pn**	**00 04 38.9**	**+2.4**
CHN1				*e*S	**Sb**	**00 05 05.7**	**-1.1**
TWK	**Hsinying**	**2.12**	**251**	*e*P	**Pn**	**00 04 38.8**	**+2.2**
TWK				*e*S	**Sn**	**00 05 05.2**	**+3.3**
SNST	**Tainan City**	**2.13**	**250**	*e*P	**Pn**	**00 04 39.8**	**+3.2**
SNST				*e*S	**Sn**	**00 05 05.2**	**+3.2**
LAY	**Lan-yu**	**2.19**	**208**	*e*P	**Pn**	**00 04 36.5**	**-1.0**
LYUB	**Lan-yu**	**2.21**	**207**	*e*P	**Pn**	**00 04 36.1**	**-1.6**
TSMG	**Majia**	**2.25**	**236**	*e*P	**Pn**	**00 04 40.7**	**+2.4**
ICHU	**Yijhu**	**2.27**	**255**	*e*P	**Pn**	**00 04 40.7**	**+2.1**
SCST	**Císhan**	**2.27**	**242**	*e*P	**Pn**	**00 04 41.5**	**+2.9**
SCST				*e*S	**Sb**	**00 05 11.0**	**-0.4**
TAW	**Tawu**	**2.30**	**226**	*e*P	**Pn**	**00 04 39.3**	**+0.4**
EAST	**Anshuo**	**2.31**	**227**	*e*P	**Pn**	**00 04 39.3**	**+0.1**
TAWH	**Dawu Township**	**2.31**	**225**	*e*P	**Pn**	**00 04 38.9**	**-0.2**
TAWH				*e*S	**Sn**	**00 05 05.9**	**-0.7**
MASBT	**Mashibuluo**	**2.31**	**234**	*e*P	**Pn**	**00 04 40.3**	**+1.2**
SCZT	**Fangliau**	**2.47**	**230**	*e*P	**Pn**	**00 04 44.1**	**+2.8**
SCZT				*e*S	**Sn**	**00 05 12.3**	**+1.8**
TSCK	**Chigu Township**	**2.51**	**251**	P	**Pn**	**00 04 44.5**	**+2.7**
TSCK				*e*S	**Sn**	**00 05 14.0**	**+2.6**
HEN	**Hengchun**	**2.65**	**222**	*e*P	**Pn**	**00 04 46.6**	**+2.8**
HEN				*e*S	**Sn**	**00 05 16.2**	**+1.3**
TWKBT	**Hengchun**	**2.66**	**220**	*e*P	**Pn**	**00 04 44.4**	**+0.5**
TWKBT				*e*S	**Sn**	**00 05 16.3**	**+1.3**
TWK1	**Hengchun**	**2.66**	**221**	*e*P	**Pn**	**00 04 44.8**	**+0.9**
TWK1				*e*S	**Sn**	**00 05 16.1**	**+1.0**
WDGT	**Dungji**	**2.85**	**256**	*e*P	**Pn**	**00 04 48.4**	**+1.8**
WDGT				*e*S	**Sn**	**00 05 20.7**	**+0.9**
PNG	**Penghu**	**2.88**	**262**	*e*P	**Pn**	**00 04 48.2**	**+1.3**
VCHM	**Qimei**	**3.07**	**256**	*e*P	**Pn**	**00 04 51.3**	**+1.8**
VWUC	**VWUC**	**3.10**	**290**	*e*P	**Pn**	**00 04 50.0**	**+0.1**
PTMZ	**Houxiangcun**	**3.40**	**289**	*e*P	**Pn**	**00 04 54.0**	**-0.1**
XPSS	**Dashiqiu**	**3.69**	**323**	*e*P	**Pn**	**00 04 58.1**	**0.0**
KNM	**Kinmen**	**3.89**	**277**	*e*P	**Pn**	**00 05 03.2**	**+2.4**
KSRS	**Korea Array**	**14.16**	**17**	Pn	**Pn**	**00 07 24.7**	**+3.1**
comp=N,0.3nm,0.3s,baz=197,slow=12,SNR=2.5							
comp=N,4.4nm,0.8s							
DAV	**Davao City (W)**	**17.05**	**170**	LR	LR	00 13 27.6	
comp=N,78nm,20.8s,baz=341,slow=33							
SONM	**Songino Array**	**27.09**	**336**	P	**P**	**00 09 42.3**	**-0.9**
comp=N,1.2nm,0.9s,baz=151,slow=9.7,SNR=6.0							
comp=N,1.2nm,0.9s							
MKAR	**Makanchi Array**	**39.43**	**316**	P	**P**	**00 11 28.7**	**-1.6**
comp=N,0.7nm,0.7s,baz=103,slow=10,SNR=3.6							
MKAR				PcP	**PcP**

DDIM	Aydin, Didim	1.59	311	P	Pb	00 31 30.2	+0.2
DDIM				S	Sn	00 31 50.0	+0.9
ANTB	Antalya	1.61	72	Pn	Pg	00 31 30.7	-0.7
BRDR	BURDUR-Merkez	1.65	39	P	Pg	00 31 31.7	-0.6
BRDR				S	Sg	00 31 55.0	+1.3
AYDB	Zeytinkoy-Aydi	1.67	336	Pn	Pb	00 31 31.3	-0.1
BUCA	Burdur, Bucak-	1.71	57	P	Pg	00 31 33.3	-0.1
GCAM	G?zelcaml?	1.76	317	P	Pn	00 31 31.9	+1.0
GCAM				S	Sn	00 31 53.0	-0.3
KIRA	zmir-Kiraz	1.80	351	P	Pn	00 31 32.8	+1.3
KIRA				S	Sn	00 31 54.6	+0.3
BCK	Bucak	1.81	54	Pn	Pb	00 31 33.7	0.0
BASM	Basmaki-Afyon	1.82	34	Pn	Pb	00 31 33.3	-0.7
IZMR	zmir-demi	1.83	340	P	Pn	00 31 33.3	+1.4
IZMR				S	Sn	00 31 55.8	+0.9
ISP	Isparta	1.99	45	Pn	Pb	00 31 36.5	-0.4
SMG	Samos	2.00	311	P	Pn	00 31 33.8	-0.4
SMG				S	Sn	00 31 58.6	-0.6
	comp=E,638nm,0.5s						
SMG	Samos	2.00	311	P	Pn	00 31 34.9	+0.7
SMG				S	Sn	00 31 57.6	-1.6
SMG				AML	AML	00 32 09.6	
	comp=E,1312μm,0.4s						
SMG				AML	AML	00 32 10.8	
	comp=N,1242μm,0.6s						
PASA	Karahalli, USA	2.01	17	P	Pn	00 31 35.7	+1.1
PASA				S	Sn	00 31 57.7	-2.0
MANT	Manisa	2.07	356	P	Pn	00 31 36.7	+1.2
KULA	Kula-Manisa	2.09	358	P	Pn	00 31 35.9	+0.3
KULA				S	Sn	00 32 01.1	-0.6
KZIL	AFYON_Kizioren	2.15	31	P	Pn	00 31 37.5	+1.1
KZIL				S	Sb	00 32 05.5	-0.7
DGB	zmir	2.21	318	P	Pn	00 31 37.4	+0.3
DGB				S	Sn	00 32 06.2	+1.9
USAK	Uak-Merkez	2.30	5	P	Pn	00 31 39.3	+0.9
AFYN	Afyon-Dinar-K	2.32	37	P	Pn	00 31 40.7	+2.0
BLCB	Balcova	2.39	326	P	Pn	00 31 40.2	+0.6
BNAZ	Uak-Banaz	2.43	21	P	Pb	00 31 43.7	-0.7
ZKR	Zakros	2.44	238	P	Pn	00 31 42.1	+1.9
ZKR				S	Sn	00 32 10.0	0.0
ZKR				AML	AML	00 32 21.1	
	comp=N,396μm,0.9s						
ZKR				AML	AML	00 32 34.9	
	comp=E,473μm,1.0s						
ZEYE	Izmir, Urla-Ze	2.55	316	P	Pn	00 31 43.2	+1.4
ZEYE				S	Sn	00 32 12.1	-0.7
AKHS	Akhisar	2.56	343	P	Pn	00 31 42.8	+0.8
THR8	Santorini-Mono	2.64	271	P	Pn	00 31 44.7	+1.7
APE	Apeiranthos	2.66	285	P	Pn	00 31 44.2	+0.8
THR6	Thira Island,	2.70	270	P	Pn	00 31 45.5	+1.6
CHOS	Chios island	2.91	313	P	Pn	00 31 48.3	+1.5
IDI	Anoyia	3.33	251	Pn	Pn	00 31 53.6	+1.0
	comp=E,21nm,0.5s,baz=61,slow=17,SNR=29						
IDI				Sn	Sn	00 32 32.9	+0.8
	comp=E,4.7nm,0.3s,baz=200,slow=15,SNR=5.6						
IDI	Anoyia	3.33	251	P	Pn	00 31 53.8	+1.2
IDI				S	Sn	00 32 31.7	-0.5
IDI				AML	AML	00 32 40.5	
	comp=N,212μm,0.7s						
IDI				AML	AML	00 32 44.3	
	comp=E,158μm,0.9s						
CSS	Mathiatis	4.00	110	P	Pn	00 32 02.5	+0.7
BRTR	Keskin Array B	5.08	48	Pn	Pn	00 32 19.2	+2.5
	comp=E,0.6nm,0.3s,baz=224,slow=16,SNR=25						
BRTR				Sn	Sn	00 33 18.8	+3.5
	comp=E,0.6nm,0.3s,baz=226,slow=22,SNR=7.8						
	comp=E,5.4nm,0.7s						
HNTI	Hanita	6.25	120	P	Pn	00 32 33.1	+0.4
MMA0	Mount Meron ar	6.45	120	P	Pn	00 32 35.0	-0.5
MMAI	Mount Meron Ar	6.45	120	Pn	Pn	00 32 34.6	-0.9
	comp=E,2.3nm,0.3s,baz=307,slow=12,SNR=19						
MMAI				Sn	Sn	00 33 46.2	-2.8
	comp=E,1.3nm,0.3s,baz=304,slow=29,SNR=1.5						
	comp=E,2.1nm,0.4s						
GEM	Giv'at Ha'Em	6.53	117	P	Pn	00 32 36.5	0.0
SHMJ	Saham	6.86	120	P	Pn	00 32 41.6	+0.5
SALP	Salfit	6.88	127	P	Pn	00 32 41.7	+0.4
QRNJ	Al-Qirein	6.96	124	P	Pn	00 32 43.6	+1.2
HMDT	Nahal Hemdat	6.98	125	P	Pn	00 32 43.0	+0.3
KZIT	Kziot	7.24	138	P	Pn	00 32 45.9	-0.4
YTIR	Yattir	7.31	132	P	Pn	00 32 46.6	-0.7
DSI	Dead Sea	7.33	129	P	Pn	00 32 47.4	-0.1
MSBI	Mazada	7.49	131	P	Pn	00 32 49.1	-0.6
LISJ	El Lisan	7.62	131	P	Pn	00 32 52.4	+1.0
GHAJ	Ghor Haditha	7.63	130	P	Pn	00 32 52.3	+0.7
ASF	Jabal al Asfar	7.96	120	Pn	Pn	00 32 55.2	-1.0
	comp=E,0.2nm,0.3s,baz=36,slow=19,SNR=1.7						
	comp=E,2.2nm,0.7s						
PRNI	Paran	8.00	137	P	Pn	00 32 55.7	-1.0
KRMI	Paran Flat	8.03	140	P	Pn	00 32 56.4	-0.8
HRFI	Mount Harif	8.26	139	P	Pn	00 32 59.8	-0.5
MBRI	Mt Berech	8.39	140	P	Pn	00 33 02.0	-0.1
EIL	Elat	8.51	141	Pn	Pn	00 33 02.8	-0.9
	comp=E,0.6nm,0.3s,baz=345,slow=3.3,SNR=9.9						
EIL				Sn	Sn	00 34 35.0	-4.7
	comp=E,1.4nm,0.3s,baz=342,slow=17,SNR=6.6						
	comp=E,1.4nm,0.3s						
MLR	Muntele Rosu	9.31	348	Pn	Pn	00 33 19.2	+4.5
	comp=E,0.2nm,0.3s,baz=236,slow=15,SNR=9.1						
	comp=E,3.2nm,0.7s						
FINES	FINESS Array B	25.10	357	P	P	00 36 26.0	+1.1
	comp=E,1.6nm,0.6s,baz=159,slow=12,SNR=9.5						
	comp=E,1.6nm,0.6s						
ESDC	Sonseca Array	25.89	287	P	P	00 36 31.8	-0.6
	comp=E,0.3nm,0.5s,baz=68,slow=9.4,SNR=1.6						
	comp=E,0.3nm,0.5s						
TORD	Torodi Ar. Bea	33.55	233	P	P	00 37 39.0	-1.5
	comp=E,0.6nm,0.8s,baz=28,slow=10,SNR=5.1						
	comp=E,0.6nm,0.8s						
KURBB	Kurchatov Arra	38.05	52	P	P	00 38 18.6	-0.2
	comp=E,1.3nm,0.2s,baz=272,slow=9.1,SNR=3.0						
	comp=E,1.3nm,0.2s						
MKAR	Makanchi Array	40.64	58	P	P	00 38 40.8	+0.3
	comp=E,0.6nm,0.7s,baz=268,slow=9.7,SNR=5.4						
	comp=E,0.6nm,0.7s						

*JMA **05** 00:40:20.8±0.3,24°.2N±0°.6×121°.8E±0°.7,h3km±4km, MV3.0/11,TAIWAN REGION*
*TAP **05** 00:40:20.2,24°.16N×121°.78E,h10km,ML3.8,C*
*ASIES **05** 00:40:20.2,24°.16N×121°.78E,h10km,ML3.8,Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}=0.04; $M_{\theta\theta}$=0.49; $M_{\phi\phi}$0.53; $M_{r\theta}$1.45; $M_{\theta\phi}$0.04; $M_{r\phi}$0.83; Fault plane solution: $M_0$1.75203×10^{21} NP1:ϕ_s57.41000°, δ89.16000°,λ73.96000°. NP2:ϕ_s324.48000°,δ16.07000°, λ176.95000°. Principal axes: T Plg43.6210°, Azm311.7450°; N Plg16.0470°, Azm57.6540°; P Plg41.9950°, Azm162.6600°;*
ISC 05 00:40:20.5±0.8,24°.16N±0°.01×121°.78E±0°.02,h11km±5km, n136,σ0^{s}75/235,17C-19D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	Fush Village	0.14	269	⇓P	Pg	00 40 23.8	-0.1
ETL				i S	Sg	00 40 26.5	+0.2
EHP	Heping Village	0.15	346	P	Pg	00 40 24.0	-0.1
EHP				S	Sg	00 40 26.7	+0.3
NACB	Ninganchiao	0.17	274	P	Pg	00 40 24.2	-0.1
NACB	Ninganchiao	0.17	274	⇓iP	Pg	00 40 24.1	-0.1
NACB				S	Sg	00 40 26.8	-0.1
EAHA	Aohua	0.17	347	⇓iP	Pg	00 40 24.2	-0.1
EAHA				i S	Sg	00 40 27.2	+0.3
TWD	Chiawan	0.19	244	⇑iP	Pg	00 40 24.6	0.0
TWD				S	Sg	00 40 27.8	+0.4
HWA	Hwalien	0.24	221	eP	Pb	00 40 26.8	-0.2
ENA	Nanau	0.27	352	⇓iP	Pg	00 40 25.9	-0.1
ENA				i S	Sg	00 40 29.9	+0.2
ETLH	Xiulin Townshi	0.28	279	⇑iP	Pg	00 40 26.1	-0.1
ETLH				eS	Sg	00 40 30.4	+0.4
EWUT	Wuta	0.28	360	⇓iP	Pg	00 40 26.3	0.0
EWUT				i S	Sg	00 40 30.7	+0.5
ETM	Tongmen	0.33	233	⇑eP	Pg	00 40 27.2	0.0
ETM				S	Sb	00 40 33.1	-0.6
LXIB	Xiulin Townshi	0.36	247	⇑iP	Pg	00 40 27.6	-0.2
LXIB				S	Sg	00 40 33.4	+0.7
ESAO	Su ao	0.41	8	⇓P	Pg	00 40 28.7	-0.1
ESAO				S	Sg	00 40 34.9	+0.6
SHUL	Shoufeng	0.42	208	⇓eP	Pb	00 40 30.0	-0.1
LATG	Datong	0.44	328	⇓iP	Pg	00 40 29.1	-0.1
LATG				S	Sg	00 40 34.3	-0.8
NNSB	Datong	0.45	306	⇓iP	Pg	00 40 29.5	+0.1
NNSB				eS	Sg	00 40 35.5	+0.2
TWC	Suao	0.45	8	⇓iP	Pg	00 40 29.3	0.0
TWC				eS	Sg	00 40 35.9	+0.6
NNS	Nan Shan	0.46	307	⇓iP	Pg	00 40 29.7	0.0
NNS				S	Sg	00 40 36.0	+0.1
ESL	Shilin	0.47	222	⇑P	Pg	00 40 29.8	0.0
WHF	Hehuan Shan	0.47	268	⇑P	Pg	00 40 29.8	0.0
WHF				S	Sg	00 40 36.5	+0.3
NDS	Dongshan	0.47	353	⇓iP	Pg	00 40 29.9	+0.1
NDS				i S	Sg	00 40 36.7	+0.6
EOS2	EOS2	0.48	58	eP	Pb	00 40 31.7	+0.7
FUSS	Fushou	0.50	280	⇑P	Pb	00 40 30.6	-0.9
FUSS				eS	Sb	00 40 37.6	-1.2
TEGC	Jichi Village	0.50	206	eP	Pb	00 40 31.0	-0.4
TEGC				eS	Sb	00 40 38.7	0.0
EOS3	EOS3	0.51	76	eP	Pn	00 40 32.3	-1.3
ENTT	Nioudou	0.51	338	⇓iP	Pg	00 40 30.7	+0.1
ENTT				S	Sb	00 40 38.1	-1.0
TWT	Tachien	0.56	279	⇑iP	Pb	00 40 32.1	-0.4
TWT				eS	Sb	00 40 39.6	-1.0
TWE	Neicheng	0.56	350	⇓iP	Pg	00 40 31.7	+0.1
TWE				S	Sg	00 40 39.5	+0.4
WARBT	Fenglin Townsh	0.57	219	⇑iP	Pg	00 40 31.6	0.0
WARBT				eS	Sb	00 40 40.4	-0.3
TDCB	Techi	0.57	279	⇑iP	Pb	00 40 32.1	-0.6
TDCB				S	Sg	00 40 39.1	-0.3
EGFH	Guangfu	0.59	213	eP	Pb	00 40 32.6	-0.3
EGFH				eS	Sb	00 40 42.5	+1.2
OWD	Renai	0.59	250	eP	Pg	00 40 32.0	0.0
OWD				eS	Sg	00 40 40.1	+0.2
ILA	Ilan	0.60	357	P	Pb	00 40 32.6	-0.5
ILA				i S	Sb	00 40 41.4	-0.2
FUSB	Fushanzhiwuyua	0.62	344	⇓iP	Pb	00 40 32.8	-0.7
FUSB				S	Sg	00 40 40.8	0.0
YHNB	Yeheng	0.62	324	P	Pb	00 40 33.1	-0.5
YHNB	Yeheng	0.62	324	⇓iP	Pb	00 40 33.1	-0.5
YHNB				eS	Sg	00 40 40.2	-0.7
WUSB	Renai	0.63	254	⇑iP	Pb	00 40 33.0	-0.7
WUSB				eS	Sb	00 40 42.0	-0.5
NSK	Sanguang	0.64	323	⇓iP	Pb	00 40 33.2	-0.6
NSK				i S	Sb	00 40 41.8	-1.0
NWLT	Wulai	0.66	338	⇓iP	Pb	00 40 33.7	-0.5
NWLT				S	Sg	00 40 42.2	0.0
EGS		0.69	12	eP	Pb	00 40 34.1	-0.5
EGS				eS	Sb	00 40 44.7	+0.5
HGSD	Ruisui	0.74	206	eP	Pb	00 40 35.4	-0.1
NFF	Wufeng Townshi	0.76	308	i P	Pb	00 40 35.6	-0.4
NFF				i S	Sb	00 40 46.1	-0.3
WHP	Taichung City	0.77	279	⇑iP	Pb	00 40 35.9	-0.2
WHP				i S	Sb	00 40 46.6	+0.1
EHYH	Wanrong	0.78	211	eP	Pg	00 40 35.1	-0.4
EHYH				eS	Sb	00 40 47.2	+0.5
EHY	Hungye	0.78	213	eP	Pg	00 40 34.9	-0.7
EHY				eS	Sb	00 40 46.6	0.0
WCS	Beigang Elemen	0.80	263	⇑eP	Pb	00 40 36.4	-0.1
WCS				eS	Sg	00 40 46.1	-0.4
TIPB	Shuangxi	0.81	3	i P	Pb	00 40 36.3	-0.4
TIPB				S	Sg	00 40 46.8	0.0
KSHI	Guanxi Townshi	0.82	318	eP	Pn	00 40 37.4	-0.7
KSHI				eS	Sb	00 40 48.0	0.0
NHDH	Xindian Distri	0.83	344	eP	Pb	00 40 37.0	0.0
TWA	Mucha	0.83	348	⇑P	Pg	00 40 36.1	-0.6
TWA				eS	Sg	00 40 46.9	-0.7
SSLB	Suanglung	0.84	244	P	Pb	00 40 36.8	-0.5
SSLB	Suanglung	0.84	244	⇑iP	Pb	00 40 36.7	-0.5
SSLB				eS	Sg	00 40 47.1	-0.7
LIOB	Emei	0.85	305	eP	Pn	00 40 37.7	-0.8
LIOB				eS	Sb	00 40 48.8	+0.1
NSTT	Nanjuang	0.85	303	eP	Pb	00 40 37.4	0.0
NSTT				eS	Sb	00 40 48.1	-0.7
SMLT	Sun Moon Lake	0.85	251	⇑eP	Pb	00 40 37.1	-0.3
SMLT				eS	Sg	00 40 47.9	-0.2
TATO	Taipei	0.85	342	P	Pb	00 40 37.4	0.0
TWB1	Santiao Chiao	0.86	13	eP	Pg	00 40 37.0	-0.2
TWB1				eS	Sb	00 40 49.3	+0.1
TYC	Yuchr	0.88	253	P	Pb	00 40 37.5	-0.4
TYC				eS	Sg	00 40 48.1	-1.0
YULB	Yu-li	0.89	210	P	Pb	00 40 37.8	-0.2
YULB	Yu-li	0.89	210	eP	Pg	00 40 36.9	-0.7
YULB				eS	Sb	00 40 50.5	+0.7
ECBN	Changbin	0.90	200	eP	Pb	00 40 37.8	-0.3
ECBN				eS	Sn	00 40 51.6	-0.4
NWF	Wu-fen Shan	0.90	0	P	Pb	00 40 38.4	0.0
NWF				eS	Sb	00 40 50.2	-0.2
WFSB	Wu-fen Shan	0.90	0	eP	Pb	00 40 38.2	-0.1
WFSB				S	Sb	00 40 50.1	-0.2
TAP	Taipei	0.91	344	eP	Pn	00 40 38.9	-0.4
TAP				eS	Sb	00 40 50.7	+0.3
EYUL	Yuli	0.92	208	eP	Pn	00 40 39.0	-0.4
EYUL				eS	Sn	00 41 51.8	-0.7
SXI1	Grass Mountain	0.93	5	P	Pb	00 40 38.7	-0.1
SXI1				eS	Sb	00 41 51.6	+0.4
TWQ1	Liyutan	0.94	282	eP	Pn	00 40 39.4	-0.3
TWQ1				eS	Sn	00 52.2	-0.9
SBCB	Hsinchu	0.96	311	eP	Pn	00 40 40.3	+0.3
SBCB				eS	Sn	00 52.9	-0.7
NSY	Sanyi	0.96	285	eP	Pn	00 40 40.4	+0.3
NSY				eS	Sb	00 52.4	+0.4
WHYT	Xinyi Township	0.97	241	eP	Pn	00 40 39.5	-0.6
WHYT				eS	Sb	00 52.6	+0.4
NCUH	Zhongli	0.97	326	eP	Pn	00 40 40.4	+0.2
NCUH				eS	Sn	00 55.0	+1.1
HSN	Hsinchu	0.97	311	eP	Pn	00 40 40.0	-0.2
HSN				eS	Sb	00 52.3	-0.1
NMLH	Miaoli	0.98	293	eP	Pn	00 40 40.2	+0.2
NMLH				eS	Sn	00 54.1	0.0
TWS1	Kuangyinshan	0.99	341	eP	Pb	00 40 39.7	-0.1
TWS1				eS	Sb	00 53.2	+0.4
YM01	YM01	1.00	349	eP	Pn	00 40 40.2	-0.4
YM01				eS	Sn	00 54.3	-0.4
ZUZH	Zhuzihu	1.02	348	eP	Pn	00 40 40.7	-0.2
ZUZH				eS	Sg	00 52.7	-0.7
WJS	Zhushan	1.02	251	eP	Pn	00 40 40.9	+0.1
CHKH	Chenggong	1.03	200	eP	Pg	00 40 39.8	-0.5
CHKH				eS	Sn	00 54.4	-0.9
YM08	YM08	1.03	350	eP	Pb	00 40 40.5	0.0
YM08				S	Sn	00 55.2	-0.4
WNT	Mingjian	1.04	254	eP	Pn	00 40 42.0	+0.9
WNT				eS	Sn	00 55.3	-0.4
NTST	Danshui	1.04	343	eP	Pn	00 40 40.9	-0.2
ANP	Anpu	1.05	347	eP	Pg	00 40 40.3	-0.4
WDJ	Dajia District	1.06	280	eP	Pn	00 40 40.3	+1.0
WDJ				eS	Sn	00 56.9	+0.9
FULB	Fuli	1.06	205	eP	Pb	00 40 40.9	-0.1
FULB				S	Sn	00 56.1	0.0
JYNG	Yonagunijimaku	1.10	75	eP	Pn	00 43.0	+1.0
JYNG				S	Sn	00 57.4	+0.3
ALS	Alishan	1.10	234	⇓P	Pb	00 41.8	-0.1
ALS				eS	Sb	00 56.7	+0.3
WCHH	Zhanghua	1.12	266	P	Pn	00 43.7	+1.5
WCHH				eS	Sn	00 58.8	+1.2
TWY	Chenhua	1.12	352	eP	Pn	00 42.8	+0.6
CHN5	Tsauling	1.16	241	⇑iP	Pn	00 43.5	+0.7
YOJ	Yonaguni jima	1.16	75	P	Pg	00 44.1	+1.2
YOJ	Yonaguni jima	1.16	75	P	Pg	00 42.7	-0.2
YOJ	Yonaguni jima	1.16	75	eP	Pb	00 42.5	-0.2
YOJ				eS	Sn	00 59.5	+0.8
ELDTW	Lidau	1.20	216	eP	Pb	00 42.5	-0.8
ELDTW				eS	Sb	00 58.0	-0.8
WGK	Gukeng	1.21	247	eP	Pg	00 43.9	+0.1
WGK				i S	Sn	00 41 01.8	+2.0
WDLH	Douliu	1.23	248	P	Pg	00 44.1	-0.1
WDLH				eS	Sn	00 41 03.0	+2.7
EDH	Donghe	1.26	200	eP	Pn	00 43.3	-0.8
EDH				eS	Sn	00 41 03.0	+1.8
WCKO	Fanlu	1.29	236	P	Pg	00 46.3	+0.8
WCKO				eS	Sg	00 41 04.5	+2.3
STYH	Taoyuan	1.35	223	eP	Pb	00 45.7	-0.2
STYH				eS	Sg	00 41 04.2	+0.1
CHN4	Tsaushan	1.35	234	eP	Pg	00 46.7	+0.1
CHN4				eS	Sg	00 41 06.3	+2.2
WTK	Tuku	1.36	250	eP	Pg	00 46.7	0.0
WTK				eS	Sg	00 41 05.5	+1.3
TPUB	Ta-pu	1.36	231	P	Pg	00 46.5	-0.2
TPUB	Ta-pu	1.36	231	eP	Pb	00 46.0	0.0
TPUB				eS	Sn	00 41 03.4	-0.2
LONT	Longtian	1.39	206	eP	Pn	00 45.9	0.0
WTP	Ta-pu	1.41	230	eP	Pg	00 46.9	-0.6
CHY	Chiayi	1.41	242	eP	Pg	00 47.2	-0.3
CHY				eS	Sg	00 41 07.4	+1.5
TWK	Hsinying	1.48	233	eP	Pg	00 40 48.5	-0.6
TWK				eS	Sg	00 41 10.0	+1.7
PCYT	Pengchaiyu	1.48	10	eP	Pn	00 40 46.6	-0.6
TWGBT	Beinan	1.48	206	P	Pn	00 40 47.2	0.0
TWGBT	Beinan	1.48	206	eP	Pn	00 40 45.4	-1.8
SNST	Tainan City	1.50	232	eP	Pn	00 40 47.5	0.0
SNST				eS	Sg	00 41 09.1	+0.1
CHN1	Nanshi	1.50	230	eP	Pg	00 40 48.9	-0.5
CHN1				eS	Sg	00 41 09.8	+0.8
LDUT	Ludao	1.51	191	eP	Pn	00 40 47.7	+0.2
LDUT				eS	Sn	00 41 05.7	-1.5
SGST	Jiashian	1.54	226	eP	Pb	00 40 48.2	-0.8
SGST				S	Sg	00 41 10.9	+0.8
SLGT	Liugui	1.56	222	eP	Pb	00 40 49.1	-0.4
SLGT				eS	Sg	00 41 11.2	+0.4
ICHU	Yijhu	1.59	240	eP	Pg	00 40 50.4	-0.6
ICHU				eS	Sg	00 41 13.2	+1.5
CHN8	Yiju	1.65	241	eP	Pg	00 40 51.3	-0.9
CHN8				eS	Sg	00 41 13.8	+0.2
ECL	Taimali	1.73	206	eP	Pn	00 40 50.6	0.0
SCST	Cishan	1.73	223	eP	Pg	00 40 52.9	-0.9
TSMG	Majia	1.79	216	eP	Pb	00 40 52.3	-1.0
IRIF	Iriomote-Funau	1.79	84	P	Pb	00 40 53.3	-0.1
TSCK	Chigu Township	1.85	237	eP	Pb	00 40 53.3	-1.1
TSCK				S	Sg	00 41 19.1	-1.1
MASBT	Mashibuluo	1.87	215	eP	Pb	00 40 54.3	-0.4
MASBT				eS	Sg	00 41 19.4	-1.3
EAST	Anshuo	1.97	206	eP	Pn	00 40 54.4	+0.5
EAST				eS	Sn	00 41 18.8	+0.2
TAWH	Dawu Township	1.99	205	eP	Pb	00 40 55.4	-1.5
SCZT	Fangliau	2.08	211	eP	Pb	00 40 57.4	-0.9
SCZT				eS	Sb	00 41 25.4	+1.2
PNG	Penghu	2.12	254	eP	Pn	00 40 56.9	+1.0
PNG				eS	Sb	00 41 24.2	-1.1
PHUB	P'eng-hu	2.12	253	eP	Pn	00 40 56.6	+0.6
LAY	Lan-yu	2.12	186	eP	Pn	00 40 54.0	-2.0
WDGT	Dungji	2.14	246	eP	Pn	00 40 56.8	+0.6
WDGT				eS	Sb	00 41 25.1	-0.9
JIJ	Ishigaki jima	2.17	84	P	Pn	00 40 56.5	-0.1
JIJ				S	Sn	00 41 23.0	-0.5
VWUC	VWUC	2.28	292	eP	Pn	00 40 57.7	-0.4
VCHM	Qimei	2.35	247	eP	Pn	00 41 00.7	+1.5
PTMZ	Houxiangcun	2.57	290	eP	Pn	00 41 02.0	-0.2
KNMB	Chin-men Tao	3.11	276	eP	Pn	00 41 08.9	-0.6
MHZQ	Yeshan	3.15	308	eP	Pn	00 41 10.3	+0.1
ZPLA	Ao Xicun	3.69	267	eP	Pn	00 41 20.8	+3.3
ZPLA				i S	Sn	00 42 03.7	+2.6

*JMA **05** 00:40:47.7±0.2,44°.6N±0°.8×14°.6E±°,h18km±1km, MV3.3/36,NEAR KUNASHIRI ISLAND*
*SKHL **05** 00:40:47.8±0.2,44°.50N×145°.40E,h35km±2km,mb4.4/3*
ISC 05 00:40:47.6±1.5,44°.54N±0°.05×145°.72E±0°.04,h16km±11km, n12,σ0^{s}48/22,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	0.52	168	i P	Pb	00 40 58.2	-0.1
YUK				AMB	AMB	00 40 58.5	
	270nm,0.3s						
YUK				i S	Sb	00 41 05.9	+0.4
YUK				A	A	00 41 07.8	
	990nm,0.2s						
YUK				A	A	00 41 07.8	
	2μm,0.2s						
JRA	Rausu	0.74	216	P	Pg	00 41 01.8	-0.2
JRA				S	Sb	00 41 12.2	+0.3
JNSB	Nemuroshibetsu	0.92	214	P	Pb	00 41 05.1	-0.1
JNSB				eS	Sg	00 41 17.4	-0.1
SHO	Shikotan	1.04	130	i P	Pb	00 41 07.3	0.0
SHO				AMB	AMB	00 41 07.6	
	310nm,0.3s						
SHO				i S	Sg	00 41 21.9	+0.5
SHO				A	A	00 41 22.4	
	2μm,0.4s						
SHO				A	A	00 41 22.4	
	790nm,0.4s						
NEM2	Nemuro 2	1.17	179	P	Pn	00 41 08.5	-0.8
NEM2				S	Sb	00 41 24.2	-0.3
JNK	Nakash	1.20	217	P	Pb	00 41 09.8	-0.1
JNK				S	Sn	00 41 25.5	-0.1
JTKR	Abashiri--Toko	1.42	247	P	Pn	00 41 12.2	-0.6
JTKR				S	Sn	00 41 30.7	-0.4
JKHN	Kushirohamanak	1.51	196	S	Sb	00 41 34.1	-0.1
KUR	Kuril'sk	1.68	65	eP	Pb	00 41 17.5	-0.6
KUR				AMB	AMB	00 41 21.2	
	40nm,0.3s						
KUR				eS	Sb	00 41 40.0	+1.0
KUR				A	A	00 41

comp=N,2469μm,0.6s
VSK1 VASILIKIADES 0.95 359 P Pg 00 53 39.0 -0.6
VSK1 S Sb 00 53 53.1 +0.6
comp=N,6μm,0.2s
FSK Fiskardo 1.00 359 P Pg 00 53 39.8 -0.8
FSK S Sg 00 53 53.8 +0.2
comp=N,4μm,0.3s
FSK Fiskardo 1.00 359 P Pg 00 53 39.7 -0.8
DRO Drossia 1.02 61 P Pb 00 53 40.7 -0.5
DRO Drossia 1.02 61 P Pb 00 53 40.7 -0.5
PYL PYLOS 1.08 121 P Pn 00 53 42.6 0.0
PYL S Sn 00 53 59.6 +1.9
comp=N,2μm,0.5s
PYL PYLOS 1.08 121 P Pn 00 53 42.5 -0.1
ITM Ithomi 1.11 104 P Pn 00 53 42.8 -0.2
ITM Ithomi 1.11 104 P Pn 00 53 42.7 -0.2
ITM AML AML 00 54 03.1
comp=N,2771μm,0.7s
ITM AML AML 00 54 06.3
comp=E,2156μm,0.9s
EVGI Lefkada island 1.16 3 P Pb 00 53 42.5 -1.0
EVGI S Sn 00 53 59.8 +0.2
EVGI Lefkada island 1.16 3 P Pb 00 53 42.5 -1.0
EVGI S Sg 00 53 59.3 +0.5
DRAG Dragano-Lefkad 1.22 360 P Pn 00 53 43.5 -1.0
DRAG S Sn 00 54 02.5 +1.4
DRAG Dragano-Lefkad 1.22 360 P Pn 00 53 43.5 -1.0
DRAG S Sb 00 54 00.3 -0.2
NYDR Nydri-Lefkada 1.25 4 P Pn 00 53 44.0 -1.0
NYDR S Sg 00 54 03.1 +1.3
comp=E,1μm,0.4s
UPR University Cam 1.26 49 P Pg 00 53 45.0 -0.5
LKD2 Lefkada island 1.33 3 P Pg 00 53 47.0 +0.1
LKD2 S Sg 00 54 06.7 +2.5
comp=E,2μm,0.6s
TSLK Tsoukalades, L 1.36 2 P Pn 00 53 46.2 -0.3
EFP Efpalio 1.42 47 P Pn 00 53 47.1 -0.2
GUR Goura 1.48 71 P Pb 00 53 48.4 -0.6
KALE Kalithea 1.54 53 P Pb 00 53 49.2 -0.9
KALE Kalithea 1.54 53 P Pb 00 53 49.1 -0.9
KALE AML AML 00 54 19.7
comp=N,1399μm,0.4s
KALE AML AML 00 54 24.2
comp=E,1983μm,0.7s
ANX Ano Chora 1.55 43 P Pb 00 53 49.4 -0.8
ANX Ano Chora 1.55 43 P Pn 00 53 49.2 +0.1
OHR Ohrid 3.65 3 *i* Pn **Pn 00 54 20.5 +2.5**
OHR *i* Sn **Sn 00 55 04.0 +2.9**
IDI Anoyia 4.10 121 Pn **Pn 00 54 26.7 +2.6**
comp=E,0.4nm,0.3s,baz=357,slow=16,SNR=1.6
IDI Sn **Sn 00 55 13.4 +1.2**
comp=E,3.6nm,0.3s,baz=326,slow=23,SNR=16
comp=E,6.8nm,0.9s
PEHC Pehcevo 4.67 22 *i* Pn **Pn 00 54 32.5 +0.5**
VAE Valguarnera 4.91 272 Pn **Pn 00 54 37.3 +2.0**
comp=E,0.5nm,0.3s,baz=117,slow=6.8,SNR=1.5
VAE Sn **Sn 00 55 30.4 -1.7**
comp=E,1.2nm,0.3s,baz=240,slow=20,SNR=1.3
comp=E,4.5nm,0.6s
MLR Muntele Rosu 8.97 25 Pn **Pn 00 55 33.2 +2.1**
comp=E,0.1nm,0.3s,baz=232,slow=19,SNR=1.3
KEST Kesra 9.20 263 LR LR 01 00 29.9
comp=E,77nm,18.4s,baz=357,slow=46
ESDC Sonseca Array 19.31 284 P **P 00 57 46.9 +0.4**
comp=E,0.7nm,0.9s,baz=83,slow=10,SNR=1.8
HFS Hagfors 23.11 351 P **P 00 58 25.8 -1.4**
comp=E,1.3nm,0.6s,baz=171,slow=11,SNR=9.2
comp=E,1.3nm,0.6s
FINES FINESS Array B 24.25 6 P **P 00 58 35.8 -2.4**
comp=E,3.6nm,1.1s,baz=210,slow=8.0,SNR=6.0
comp=E,3.6nm,1.1s
TORD Torodi Ar. Bea 29.51 220 P **P 00 59 27.4 +1.5**
comp=E,0.5nm,0.8s,baz=22,slow=8.1,SNR=3.5
comp=E,0.5nm,0.8s
KURBB Kurchatov Arra 42.62 53 P **P 01 01 16.3 -1.3**
comp=E,0.3nm,0.5s,baz=276,slow=8.3,SNR=2.7
comp=E,0.3nm,0.5s
MKAR Makanchi Array 45.64 58 P **P 01 01 41.0 -0.9**
comp=E,0.3nm,0.5s,baz=269,slow=6.3,SNR=2.7
comp=E,0.3nm,0.5s

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*NEIC **05** 00:53:57±0.8, 35°.24N±0°.01×97°.75W±0°.01, h6km±4km, mb_Lg3.1/104, ML3.2/42, ML3.3, Error ellipse: s-maj=1.7km s-min=1.2km az=171.0*
NEIC 05 00:53:56.8±0.8, 35°.229N±0°.009×97°.73W±0°.01, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.8km az=158.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.27**	**84**	Pg	Pg	00 54 02.7	+0.6
FNO				Sg	Sg	00 54 05.5	-0.2
OKCSW	**OKLAHOMA CITY**	**0.30**	**54**	Pg	Pg	00 54 03.1	+0.5
OKCSW				Sg	Sg	00 54 07.2	+0.6
OKCSW				IAML		00 54 11.2	
comp=N,2μm,0.4s							
OKCSW				IAML		00 54 13.8	
comp=E,4μm,0.9s							
OK004	**Okla Sci Mus**	**0.36**	**35**		Pn	00 54 10.0	+1.3
ADOK	**Arcadia Dam**	**0.52**	**35**	Pg	Pg	00 54 07.2	+0.4
ADOK				Sg	Sb	00 54 14.8	-1.3
OK029	**Liberty Lake**	**0.61**	**22**		Pg	00 54 08.9	+0.4
OK029				Sg	Sb	00 54 17.7	-1.2
OK029				IAML		00 54 17.9	
comp=E,1μm,0.5s							
X34A	**Smith Ranch, M**	**0.63**	**188**	Pg	Pb	00 54 10.0	-0.3
X34A				Sg	Sg	00 54 17.6	+0.5
X34A				IAML		00 54 20.3	
comp=N,1μm,0.4s							
X34A				IAML		00 54 20.4	
comp=E,803nm,0.5s							
W35A	**Tecumseh**	**0.71**	**96**	Pg	Pg	00 54 10.7	+0.3
W35A				Sg	Sg	00 54 20.5	+0.9
W35A				IAML		00 54 23.9	
comp=N,614nm,0.4s							
CSTR	**Hydro, Custer**	**0.89**	**298**		Pg	00 54 14.1	+0.4
WMOK	**Wichita Mounta**	**0.99**	**241**	Pg	Pg	00 54 15.2	-0.6
OK031	**S. Brethren Rd**	**1.03**	**45**	Pg	Pg	00 54 16.2	-0.2
OK031				IAML		00 54 35.5	
comp=N,1μm,0.2s							
OK052	**Battle Ridge R**	**1.07**	**44**	Pg	Pg	00 54 17.0	-0.4
OK052					Sg	00 54 31.7	+0.3
DEOK	**Depew**	**1.18**	**58**	Pg	Pg	00 54 18.5	-0.9
DEOK					Sg	00 54 34.9	+0.2
DEOK				IAML		00 54 38.2	
comp=N,628nm,0.5s							
DEOK				IAML		00 54 41.0	
comp=E,659nm,0.5s							
QUOK	**Quay**	**1.26**	**41**		Pg	00 54 20.2	-0.7
QUOK					Sg	00 54 37.2	0.0
CROK	**Carrier**	**1.29**	**351**		Pn	00 54 21.0	-0.5
CROK					Sb	00 54 38.5	+0.1
CROK				IAML		00 54 48.1	
comp=E,706nm,0.2s							
LOOK	**Love County**	**1.31**	**160**		Pn	00 54 21.8	0.0
LOOK					Sn	00 54 40.7	+1.0
LOOK				IAML		00 54 44.2	
comp=N,552nm,0.2s							
LOOK				IAML		00 54 46.9	
comp=E,405nm,0.2s							
OK048	**Pawnee Station**	**1.35**	**28**		Pn	00 54 21.6	-0.7
OK048				IAML		00 54 43.5	
comp=E,533nm,0.2s							
OK051	**E0350 and S346**	**1.47**	**29**		Pn	00 54 23.6	-0.3
OK038	**West end E0370**	**1.49**	**327**		Pn	00 54 24.2	0.0
OK038					Sg	00 54 45.5	+0.7
WTFS	**Witchita Falls**	**1.58**	**203**		Pn	00 54 25.3	-0.2
BLOK	**Blackwell**	**1.58**	**15**		Pn	00 54 26.0	+0.4
ELIS	**Ellis County**	**1.61**	**302**		Pb	00 54 26.9	-0.1
GC02	**Grant County #**	**1.62**	**356**		Pn	00 54 26.3	+0.2
NOKA	**Waynoka**	**1.71**	**326**		Pn	00 54 27.7	+0.5
NOKA					Sg	00 54 51.2	-0.4
TUL3	**Leonard**	**1.72**	**66**		Pn	00 54 27.3	-0.1
TUL3					Sb	00 54 51.5	+0.6
TUL3				IAmb_Lg		00 54 52.7	
comp=Z,122nm,1.0s							
KAN14	**Manchester OK**	**1.73**	**354**		Pn	00 54 27.7	+0.1
KAN13	**South Haven SW**	**1.79**	**7**		Pn	00 54 28.9	+0.5
KAN17	**Caldwell West**	**1.81**	**359**		Pn	00 54 29.3	+0.6
KAN09	**Caldwell North**	**1.91**	**3**		Pn	00 54 31.0	+1.0
KAN01	**Argonia South**	**1.92**	**359**	IAmb_Lg		00 55 00.6	
comp=Z,82nm,0.7s							
Z35A	**Perchaven, San**	**1.93**	**168**	Pn	Pn	00 54 31.2	+0.9
T35A	**Sooner Cattle**	**1.95**	**30**		Pn	00 54 31.5	+0.9
KAN08	**Anthony NE Sta**	**2.00**	**355**		Pb	00 54 32.6	-1.1
X37A	**Clayton**	**2.04**	**108**		Pn	00 54 32.5	+0.7
KS21	**Milan North St**	**2.06**	**2**		Pn	00 54 33.2	+1.2
SMWD	**Samnorwood**	**2.06**	**267**		Pn	00 54 33.1	+0.9
SMWD				IAmb_Lg		00 55 02.1	
comp=Z,80nm,0.8s							
KAN12	**Harper NE Stat**	**2.08**	**354**	Pn	Pn	00 54 33.1	+0.8
KAN12				IAmb_Lg		00 55 08.5	
comp=Z,73nm,1.0s							
FW03	**Perrin-Whitt E**	**2.20**	**187**		Pn	00 54 35.5	+1.5
FW03				IAmb_Lg		00 55 09.5	
comp=Z,124nm,0.8s							
FW06	**Azle**	**2.25**	**176**		Pn	00 54 35.8	+1.1
RLO	**Rose Lookout**	**2.40**	**66**		Pn	00 54 37.0	+0.3
PLPT	**Palo Pinto**	**2.46**	**192**		Pn	00 54 38.5	+1.0
FW07	**Weatherford**	**2.52**	**181**	IAmb_Lg		00 55 18.1	
comp=Z,49nm,0.7s							
TREL	**Terrell**	**2.84**	**151**	IAmb_Lg		00 55 33.3	
comp=Z,66nm,1.0s							
ABTX	**Abilene, Hawle**	**3.04**	**212**	IAmb_Lg		00 55 36.4	
comp=Z,65nm,1.3s							
DKNS	**Dickens State**	**3.06**	**240**	IAmb_Lg		00 55 38.7	
comp=Z,45nm,0.8s							
AMTX	**Amarillo**	**3.26**	**265**	IAmb_Lg		00 55 38.0	
comp=Z,36nm,0.8s							
SN07	**Snyder 07**	**3.38**	**232**	IAmb_Lg		00 55 50.8	
comp=Z,39nm,0.8s							
MIAR	**Mount Ida**	**3.48**	**100**	IAmb_Lg		00 55 57.2	
comp=Z,52nm,0.7s							
SN05	**Snyder 5**	**3.51**	**229**	IAmb_Lg		00 55 53.2	
comp=Z,36nm,0.8s							
237A	**Washetta, Mont**	**3.60**	**153**	IAmb_Lg		00 55 59.5	
comp=Z,40nm,1.0s							
CBKS	**Cedar Bluff**	**3.92**	**336**	IAmb_Lg		00 56 11.1	
comp=Z,36nm,0.8s							
BRDY	**Brady**	**4.07**	**195**	IAmb_Lg		00 56 11.6	
comp=Z,45nm,0.7s							
WLAR	**White Oak Lake**	**4.12**	**111**	IAmb_Lg		00 56 19.0	
comp=Z,37nm,0.7s							
RTBA	**Rita Blanca**	**4.24**	**288**	IAmb_Lg		00 56 22.8	
comp=Z,27nm,0.7s							
S39A	**Bolivar**	**4.32**	**54**	IAmb_Lg		00 56 17.6	
comp=Z,38nm,0.8s							
435B	**Jarrell**	**4.43**	**178**	IAmb_Lg		00 56 24.6	
comp=Z,42nm,0.9s							
UALR	**University of**	**4.45**	**94**	IAmb_Lg		00 56 22.9	
comp=Z,46nm,1.1s							
WHAR	**Wooly Hollow**	**4.46**	**88**	IAmb_Lg		00 56 23.4	
comp=Z,33nm,0.8s							
Z41A	**Richland Creek**	**4.53**	**114**	IAmb_Lg		00 56 32.7	
comp=Z,29nm,0.7s							
MGMO	**Mountain Grove**	**4.82**	**65**	IAmb_Lg		00 56 33.6	
comp=Z,41nm,0.8s							
CCAR	**Cane Creek**	**5.09**	**103**	IAmb_Lg		00 56 52.6	
comp=Z,40nm,0.9s							
OZNA	**Ozona**	**5.15**	**215**	IAmb_Lg		00 56 48.6	
comp=Z,36nm,0.9s							
R40A	**Maddies Statio**	**5.35**	**54**	IAmb_Lg		00 56 48.8	
comp=Z,27nm,0.7s							
KSCO	**Kaye Shedlock'**	**5.44**	**315**	IAmb_Lg		00 57 01.4	
comp=Z,28nm,0.8s							
MNHN	**Monahans**	**5.72**	**229**	IAmb_Lg		00 57 02.9	
comp=Z,32nm,1.0s							
T25A	**Trinidad**	**5.73**	**291**	IAmb_Lg		00 57 14.2	
comp=Z,27nm,0.8s							
143A	**Socs Landing,**	**5.83**	**114**	IAmb_Lg		00 57 16.3	
comp=Z,22nm,0.8s							
HNDO	**Hondo**	**5.83**	**193**	IAmb_Lg		00 57 13.3	
comp=Z,24nm,0.8s							
CCM	**Cathedral Cave**	**5.93**	**60**	IAmb_Lg		00 57 20.7	
comp=Z,27nm,0.8s							
DRIO	**Del Rio**	**6.28**	**204**	IAmb_Lg		00 57 16.4	
comp=Z,21nm,0.9s							
735A	**Kenedy**	**6.36**	**181**	IAmb_Lg		00 57 31.9	
comp=Z,20nm,1.0s							
SAND	**Sanderson**	**6.43**	**216**	IAmb_Lg		00 57 32.8	
comp=Z,20nm,0.7s							
FVM	**French Village**	**6.49**	**63**	IAmb_Lg		00 57 29.6	
comp=Z,26nm,0.9s							
SDCO	**Great Sand Dun**	**6.74**	**294**	IAmb_Lg		00 57 34.9	
comp=Z,18nm,1.1s							
ALPN	**Alpine**	**6.94**	**227**	IAmb_Lg		00 57 55.3	
comp=Z,21nm,0.9s							
Q24A	**Divide**	**7.00**	**304**	IAmb_Lg		00 57 40.9	
comp=Z,28nm,0.8s							
SIUC	**Southern Illin**	**7.29**	**68**	IAmb_Lg		00 57 53.5	
comp=Z,28nm,0.8s							
VHRN	**Van Horn**	**7.53**	**236**	IAmb_Lg		00 58 05.3	
comp=Z,22nm,1.2s							
K30B	**Basset**	**7.58**	**349**	IAmb_Lg		00 58 11.0	
comp=Z,28nm,0.8s							
Y22D	**IRIS PASSCAL I**	**7.66**	**264**	IAmb_Lg		00 58 15.9	
comp=Z,30nm,0.8s							
ECSD	**EROS Data Cent**	**8.54**	**5**	IAmb_Lg		00 58 40.7	
comp=Z,12nm,1.1s							
I37A	**Lemond, Waseca**	**9.39**	**20**	IAmb_Lg		00 59 00.1	
comp=Z,23nm,0.9s							

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*IDC **05** 01:08:42.7±1.5, 12°.04N×86°.68W, h0km, mb3.6/4, mbtmp3.5/5, ML2.6/1, MS2.3/1, Error ellipse: s-maj=72.6km s-min=18.9km az=47.0*
*CATAC **05** 01:08:44.8±0.7, 11°.41N×87°.29W, h30km±7km, ML3.6*
*UCR **05** 01:08:47.2±1.2, 11°.62N×86°.97W, h16km±264km, MW4.1*
ISC 05 01:08:45.0±2.2, 11°.43N±0°.05×87°.28W±0°.04, h28km±16km, n34, σ0°61/53, mb3.5/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAPS	**Ciudad Sandino**	**1.13**	**49**	*i* P	**Pn**	**01 09 04.6**	**-0.4**
SAPS				*i* S	**Sb**	**01 09 20.2**	**+0.1**
SAPS				IAML		01 09 28.1	
comp=Z,1μm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.16**	**34**	*i* P	**Pn**	**01 09 04.9**	**-0.5**
LEVN				*i* S	**Sn**	**01 09 20.8**	**+0.4**
LEVN				IAML		01 09 44.5	
comp=Z,970nm,1.0s							
UNAN	**Cigeo UNAN**	**1.20**	**55**	*i* P	**Pn**	**01 09 05.8**	**-0.1**
UNAN				*i* S	**Sn**	**01 09 21.5**	**+0.2**
UNAN				IAML		01 09 47.0	
comp=Z,4μm,1.0s							
CNGA	**AI SSO del Vol**	**1.20**	**28**	*i* P	**Pn**	**01 09 05.7**	**-0.3**
CNGA				*i* S	**Sb**	**01 09 22.3**	**0.0**
CNGA				IAML		01 09 25.3	
comp=Z,920nm,1.0s							
APQ2	**Apoyeque**	**1.20**	**50**	*i* P	**Pn**	**01 09 05.4**	**-0.6**
APQ2				IAML		01 09 27.9	
comp=Z,880nm,1.0s							
SABN	**Sabanita**	**1.21**	**64**	*i* P	**Pn**	**01 09 05.9**	**-0.2**
SABN				IAML		01 09 41.9	
comp=Z,3μm,1.0s							
TISN	**Laguna Tiscapa**	**1.22**	**54**	*i* P	**Pn**	**01 09 05.9**	**-0.3**
TISN				IAML		01 09 19.8	
comp=Z,67nm,1.0s							
MAS3	**AI N del Volca**	**1.23**	**61**	*i* P	**Pn**	**01 09 06.2**	**-0.2**
MAS3				IAML		01 09 13.4	
comp=Z,1μm,1.0s							
MAS3				*i* S	**Sb**	**01 09 23.3**	**+0.2**
NANN	**Nandasmo**	**1.24**	**66**	*i* P	**Pn**	**01 09 06.3**	**-0.2**
NANN				*i* S	**Sn**	**01 09 22.5**	**+0.1**
NANN				IAML		01 09 43.3	
comp=Z,13μm,1.0s							
MOM2	**El Cardon**	**1.27**	**38**	*i* P	**Pn**	**01 09 07.3**	**+0.4**
MOM2				IAML		01 09 16.4	
comp=Z,760nm,1.0s							
MOM2				*i* S	**Sb**	**01 09 24.1**	**-0.1**
ILCN	**San Idelfonso**	**1.27**	**26**	*i* P	**Pn**	**01 09 06.5**	**-0.5**
ILCN				IAML		01 09 15.4	
comp=Z,680nm,1.0s							
ILCN				*i* S	**Sn**	**01 09 23.7**	**+0.5**
CSGN	**Cosiguina Volc**	**1.56**	**350**	*i* P	**Pn**	**01 09 10.3**	**-0.8**
CSGN				*i* S	**Sn**	**01 09 30.7**	**+0.2**
CSGN				IAML		01 09 34.4	
comp=Z,230nm,1.0s							
JAPN	**AI SSO del Vol**	**1.57**	**86**	*i* P	**Pn**	**01 09 11.1**	**+0.1**
JAPN				*i* S	**Sn**	**01 09 30.5**	**0.0**
JAPN				IAML		01 09 44.7	
comp=Z,410nm,1.0s							
CONN	**Concepcion**	**1.62**	**85**	*i* P	**Pn**	**01 09 11.1**	**-0.7**
CONN				*i* S	**Sn**	**01 09 32.8**	**+1.0**
CONN				IAML		01 09 40.5	
comp=Z,3μm,1.0s							
LCRUZ	**La Cruz**	**1.65**	**102**	*e*P	**Pn**	**01 09 12.5**	**+0.4**
CARN	**Rivas**	**1.74**	**98**	*i* P	**Pn**	**01 09 13.1**	**-0.2**
CARN				*i* S	**Sn**	**01 09 34.7**	**+0.1**
CARN				IAML		01 09 57.8	
comp=Z,870nm,1.0s							
LIMN	**Finca el Limon**	**1.85**	**29**	*i* P	**Pn**	**01 09 15.1**	**+0.1**
LIMN				IAML		01 09 29.8	
comp=Z,450nm,1.0s							
BOAB	**BOACO BROADBAN**	**1.87**	**57**	*i* P	**Pn**	**01 09 14.6**	**-0.6**
BOAB				IAML		01 09 31.5	
comp=Z,200nm,1.0s							
BOAB				*i* S	**Sn**	**01 09 37.9**	**-0.1**
CNCH	**Conchagua**	**1.92**	**344**	*i* P	**Pn**	**01 09 15.3**	**-0.6**
CNCH				*i* S	**Sn**	**01 09 39.8**	**+0.6**
CNCH				IAML		01 09 54.1	
comp=Z,550nm,1.0s							
VRLE	**La Escondida,**	**1.98**	**109**	*e*P	**Pn**	**01 09 16.6**	**-0.2**
ACON	**Acoyapa**	**2.13**	**75**	*i* P	**Pn**	**01 09 19.2**	**+0.5**
ACON				*i* S	**Sn**	**01 09 44.6**	**+0.4**
ACON				IAML		01 10 00.7	
comp=Z,140nm,1.0s							
ACON	**Acoyapa**	**2.13**	**75**	*e*P	**Pn**	**01 09 17.5**	**-1.3**
CUI	**Cuipilapa**	**2.21**	**110**	*e*P	**Pn**	**01 09 19.8**	**-0.1**
CUI				*e*S	**Sn**	**01 09 46.3**	**-0.1**
RCPN	**Sur Rio San Ju**	**2.38**	**29**	*i* P	**Pn**	**01 09 23.4**	**+1.0**
RCVN	**Varillal2**	**2.39**	**26**	*i* P	**Pn**	**01 09 23.0**	**+0.5**
RCVN				IAML		01 09 41.3	
comp=Z,2μm,1.0s							
JTS	**Las Juntas de**	**2.55**	**116**	Pn	**Pn**	**01 09 25.4**	**+0.9**
comp=Z,1.4nm,0.3s,baz=315,slow=18,SNR=12							
JTS				Sn	**Sn**	**01 09 53.5**	**-1.1**
comp=Z,16nm,0.3s,baz=254,slow=20,SNR=6.0							
JTS				LR	LR	01 10 28.5	
comp=Z,55nm,19.3s,baz=288,slow=44							
comp=Z,8.3nm,0.3s							
JTS	**Las Juntas de**	**2.55**	**116**	*e*P	**Pn**	**01 09 25.3**	**+0.8**
SCLA	**Alcaldia de Sa**	**2.67**	**328**	*i* P	**Pn**	**01 09 26.3**	**+0.1**
SCLA				IAML		01 09 46.9	
comp=Z,79nm,1.0s							
SCLA				*i* S	**Sn**	**01 09 58.8**	**+1.1**
NUBE	**Las Nubes**	**3.47**	**315**	*i* P	**Pn**	**01 09 37.1**	**-0.2**
NUBE				*i* S	**Sn**	**01 10 16.9**	**-0.7**
NUBE				IAML		01 10 21.2	
comp=Z,110nm,1.0s							
TXAR	**Lajitas Array**	**23.47**	**322**	P	**P**	**01 13 52.7**	**+0.1**
comp=Z,0.5nm,0.5s,baz=140,slow=8.9,SNR=12							
comp=Z,0.5nm,0.5s							
PDAR	**Pinedale Array**	**36.75**	**332**	P	**P**	**01 15 50.4**	**0.0**
comp=Z,0.3nm,0.5s,baz=130,slow=9.8,SNR=4.8							
comp=Z,0.3nm,0.5s							
BDFB	**Brasilia**	**47.26**	**124**	P	**P**	**01 17 15.9**	**-0.4**
comp=Z,0.9nm,0.4s,baz=326,slow=9.0,SNR=3.4							
comp=Z,0.9nm,0.4s							
TORD	**Torodi Ar. Bea**	**86.47**	**77**	P	**P**	**01 21 24.8**	**-1.1**
comp=Z,0.4nm,0.8s,baz=291,slow=4.0,SNR=2.5							
comp=Z,0.4nm,0.8s							
WRA	**Warramunga Arr**	**139.14**	**253**	PKP	**PKiKP**	**01 28 14.3**	**+1.9**
comp=Z,0.2nm,0.6s,baz=99,slow=2.3,SNR=1.9							

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*THE **05** 01:09:06.8, 38°.24N×20°.43E, h13km, ML3.6/13, Error ellipse: s-maj=0.9km s-min=0.4km az=260.0*
*BEO **05** 01:09:07.0±0.7, 38°.34N×20°.11E, h0km, ML3.0/8*
*ATH **05** 01:09:07.3, 38°.25N×20°.43E, h9km±1km, ML3.3/23, Manual Solution by A.Andreou This location: 2020/07/03 16:09:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
ISC 05 01:09:06.6±0.8, 38°.24N±0°.02×20°.41E±0°.03, h14km±4km, n69, σ0°97/102, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMLN	**Damoulianata-K**	**0.03**	**262**	P	**Pg**	**01 09 09.3**	**+0.1**
DMLN				S	**Sg**	**01 09 11.2**	**+0.2**
82μm,0.3s							
DMLN	**Damoulianata-K**	**0.03**	**262**	P	**Pg**	**01 09 09.4**	**+0.1**
DMLN				S	**Sg**	**01 09 11.0**	**0.0**
LXR1	**Lixouri, Cepha**	**0.05**	**153**	P	**Pg**	**01 09 09.3**	**0.0**
LXR1				S	**Sg**	**01 09 11.2**	**+0.2**
214μm,0.2s							
LXRA	**Lixouri, Kepha**	**0.05**	**154**	P	**Pg**	**01 09 09.3**	**0.0**
LXRA				S	**Sg**	**01 09 10.8**	**-0.2**
VLS	**Valsamata**	**0.15**	**115**	P	**Pg**	**01 09 10.0**	**-0.5**
VLS				S	**Sg**	**01 09 12.5**	**-0.7**
41μm,0.2s							
VLS	**Valsamata**	**0.15**	**115**	P	**Pg**	**01 09 10.1**	**-0.5**
VLS				S	**Sg**	**01 09 12.5**	**-0.7**
SMHA	**Samh**	**0.19**	**87**	P	**Pg**	**01 09 10.1**	**-0.9**
SMHA				S	**Sg**	**01 09 13.1**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.19**	**133**	P	**Pg**	**01 09 10.7**	**-0.2**
PSDA				S	**Sg**	**01 09 13.7**	**-0.2**
46μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.19**	**133**	P	**Pg**	**01 09 10.8**	**-0.2**
PSDA				S	**Sg**	**01 09 13.9**	**0.0**
VSK1	**VASILIKIADES**	**0.20**	**36**	P	**Pg**	**01 09 11.1**	**-0.2**
VSK1				S	**Sg**	**01 09 14.3**	**-0.2**
49μm,0.3s							
FSK	**Fiskardo**	**0.25**	**29**	P	**Pg**	**01 09 11.7**	**-0.3**
FSK				S	**Sg**	**01 09 15.8**	**+0.2**
37μm,0.2s							
FSK	**Fiskardo**	**0.25**	**29**	P	**Pg**	**01 09 11.7**	**-0.3**
FSK				S	**Sg**	**01 09 15.5**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.33**	**120**	P	**Pg**	**01 09 13.0**	**-0.4**
RTZL				S	**Sg**	**01 09 18.3**	**+0.3**
17μm,0.5s							
EVGI	**Lefkada island**	**0.42**	**27**	P	**Pg**	**01 09 14.8**	**-0.3**
EVGI				S	**Sg**	**01 09 21.2**	**+0.3**
23μm,0.1s							
EVGI	**Lefkada island**	**0.42**	**27**	P	**Pg**	**01 09 14.9**	**-0.3**
EVGI				S	**Sg**	**01 09 21.3**	**+0.4**
DRAG	**Dragano-Lefkad**	**0.46**	**16**	P	**Pg**	**01 09 15.3**	**-0.5**
DRAG				S	**Sb**	**01 09 22.8**	**-0.4**
60nm,0.3s							
DRAG	**Dragano-Lefkad**	**0.46**	**16**	P	**Pg**	**01 09 15.7**	**-0.1**
DRAG				S	**Sg**	**01 09 22.4**	**+0.4**
NYDR	**Nydri-Lefkada**	**0.52**	**26**	P	**Pg**	**01 09 16.3**	**-0.6**
NYDR				S	**Sg**	**01 09 24.0**	**+0.1**
3μm,0.2s							
NYDR	**Nydri-Lefkada**	**0.52**	**26**	P	**Pg**	**01 09 16.4**	**-0.5**
NYDR				S	**Sg**	**01 09 24.1**	**+0.1**
LKD2	**Lefkada island**	**0.58**	**19**	P	**Pg**	**01 09 18.4**	**+0.4**
LKD2				S	**Sg**	**01 09 26.2**	**+0.5**
AST1	**Astakos**	**0.61**	**61**	P	**Pg**	**01 09 18.0**	**-0.6**
AST1				S	**Sb**	**01 09 27.4**	**-0.1**
3μm,0.2s							
TSLK	**Tsoukalades, L**	**0.61**	**18**	P	**Pg**	**01 09 18.2**	**-0.4**
TSLK	**T

TIR eSn **Sn** **01 10 32.2 -0.5**
SRS Serrai 3.78 40 ePn **Pn** **01 10 08.9 +4.5**
PEHC Pehcevo 4.01 28 i Pn **Pn** **01 10 09.3 +1.6**
PDG Podgorica 4.28 348 ePn **Pn** **01 10 11.4 +0.2**
PDG eSn **Sn** **01 10 59.2 -1.7**
BARS Barje 4.69 13 ePn **Pn** **01 10 17.3 +0.3**
TREB Trebinje 4.74 341 ePn **Pn** **01 10 16.6 -1.0**
VTS Vitosha 4.87 25 ePn **Pn** **01 10 21.0 +1.4**
VTS eSn **Sn** **01 11 15.7 -0.1**
SELS Selova 5.00 6 ePn **Pn** **01 10 21.0 -0.2**
SELS eSn **Sn** **01 11 17.4 -1.4**
SJES Sjenica 5.03 356 ePn **Pn** **01 10 22.4 +0.8**
SJES eSn **Sn** **01 11 19.4 -0.1**
STON Ston 5.06 337 ePn **Pn** **01 10 21.2 -0.8**
IVAS Ivanjica 5.33 358 ePn **Pn** **01 10 25.1 -0.7**
GRUS Gruza 5.64 2 ePn **Pn** **01 10 29.1 -1.0**
BBLS Lazi&#263i 5.67 353 ePn **Pn** **01 10 29.2 -1.3**
DIVS Divibare 5.86 357 ePn **Pn** **01 10 32.5 -0.6**
HAPS Han Pijesak,Bl 5.94 350 ePn **Pn** **01 10 33.8 -0.4**
TRUS Trudelj 5.97 360 ePn **Pn** **01 10 33.8 -0.8**
TEKS Tekeris 6.34 354 ePn **Pn** **01 10 38.4 -1.2**
BLY Banja Luka 6.94 341 ePn **Pn** **01 10 47.8 0.0**

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*MDD **05** 01:09:39.0±1.4, 35°.01N×3°.72W, h24km±6km, mb_Lg2.4/4, Error ellipse: s-maj=8.1km s-min=6.3km az=91.0*
*CNRM **05** 01:09:38.8, 35°.01N×3°.68W, h18km, ML2.0*
*SFS **05** 01:09:41.1, 35°.00N×3°.56W, h24km, ML2.1/7, ML2.6/7, MLv1.9/7*
ISC 05 01:09:38.8±0.9,**35°.02N**±0°.03×**3°.67W**±0°.03,**h22**km±6km,
n25,σ1§**00**/35,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.30**	**312**	P	**Pb**	**01 09 45.6**	**0.0**
PALE	**Palemas**	**0.30**	**312**	S	**Sb**	**01 09 50.2**	**-0.1**
AKLM	**AKL**	**0.53**	**197**	P	**Pb**	**01 09 48.0**	**-1.6**
AKLM	**AKL**	**0.53**	**197**	S	**Sb**	**01 09 55.7**	**-1.2**
GOG	**Mont Gurugu**	**0.59**	**70**	P	**Pb**	**01 09 50.1**	**-0.4**
GOG	**Mont Gurugu**	**0.59**	**70**	S	**Sb**	**01 09 59.7**	**+1.2**
EMEL	**Melilla**	**0.65**	**64**	Pg	**Pb**	**01 09 51.0**	**-0.5**
EMEL				Sg	**Sn**	**01 10 02.1**	**-0.1**
EMEL				*i* Vmb_Lg		01 10 05.0	
EMLI	**Melilla**	**0.65**	**64**	Pg	**Pb**	**01 09 51.3**	**-0.2**
EMLI				Sg	**Sb**	**01 10 01.1**	**+0.9**
WMELI	**Melilla**	**0.66**	**63**	Pg	**Pb**	**01 09 51.5**	**-0.2**
WMELI				Sg	**Sb**	**01 10 00.9**	**+0.5**
CHAS	**Isla Isabel II**	**1.03**	**80**	Pn	**Pn**	**01 09 57.6**	**-0.3**
CHAS				Sg	**Sb**	**01 10 10.4**	**-0.7**
TAF	**Taforalt**	**1.05**	**101**	P	**Pn**	**01 09 58.6**	**+0.2**
TAF	**Taforalt**	**1.05**	**101**	S	**Sn**	**01 10 12.8**	**+0.4**
EALB	**Alboran**	**1.06**	**29**	Pn	**Pb**	**01 09 59.6**	**+1.2**
EALB				Sn	**Sb**	**01 10 11.8**	**0.0**
EALB	**Alboran**	**1.06**	**29**	Pg	**Pn**	**01 09 58.2**	**-0.1**
EALB				Sg	**Sn**	**01 10 12.8**	**+0.4**
EALB				*i* Vmb_Lg		01 10 16.0	
JBK	**JBK**	**1.14**	**127**	P	**Pn**	**01 09 59.3**	**-0.3**
JBK	**JBK**	**1.14**	**127**	S	**Sn**	**01 10 14.9**	**+0.3**
LCRM	**LCR**	**1.65**	**217**	P	**Pb**	**01 10 08.7**	**+0.1**
LCRM	**LCR**	**1.65**	**217**	S	**Sb**	**01 10 31.8**	**+2.7**
ELGU	**Los Guajares,**	**1.85**	**1**	Pn	**Pn**	**01 10 09.8**	**+0.6**
ELGU				Sn	**Sn**	**01 10 32.3**	**+0.3**
ELGU	**Los Guajares,**	**1.85**	**1**	Pn	**Pn**	**01 10 08.4**	**-0.9**
ELGU				Sn	**Sn**	**01 10 29.5**	**-2.5**
ELGU				*i* Vmb_Lg		01 10 37.9	
IFR	**Ifrane**	**1.92**	**219**	Sn	**Sn**	**01 10 35.0**	**+1.0**
IFR				Pn	**Pb**	**01 10 11.9**	**-1.4**
EBER	**Berja**	**1.98**	**18**	Pn	**Pn**	**01 10 12.2**	**+1.0**
EBER	**Berja**	**1.98**	**18**	Pn	**Pn**	**01 10 10.5**	**-0.7**
EBER				Sn	**Sn**	**01 10 34.2**	**-1.3**
EBER				*i* Vmb_Lg		01 10 48.8	
MD31	**MD31**	**2.33**	**203**	P	**Pn**	**01 10 16.9**	**+1.0**
MD31	**MD31**	**2.33**	**203**	S	**Sn**	**01 10 44.4**	**+0.5**

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*IDC **05** 01:09:35.8±1.3, 7°.07S×129°.14E, h0km, mb4.1/5, mbtmp4.1/10, ML4.0/5, Error ellipse: s-maj=38.9km s-min=22.2km az=89.0*
ISC 05 01:09:39.5±0.8,**7°.00S**±0°.08×**128°.83E**±0°.09,**h10**km,**n20**,
σ1§**52**/20,**mb4.2**/7,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRS	**Darwin Rock St**	**5.77**	**159**	P	**Pn**	**01 11 06.8**	**+1.5**
BATI	**Baumata**	**6.02**	**238**	Pn	**Pn**	**01 11 09.8**	**+1.1**
	8.5nm,0.3s,baz=63,slow=1.4,SNR=5.7						
BATI				Sn	**Sn**	**01 12 17.8**	**-0.1**
	4.8nm,0.3s,baz=97,slow=19,SNR=1.9						
	26nm,0.4s						
MTN	**Manton Dam**	**6.24**	**159**	P	**Pn**	**01 11 12.7**	**+1.0**
KAPI	**Kappang**	**9.24**	**282**	Pn	**Pn**	**01 11 55.5**	**+2.5**
	1.0nm,0.3s,baz=172,slow=17,SNR=3.7						
	3.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.46**	**195**	Pn	**Pn**	**01 12 21.1**	**-2.3**
	0.9nm,0.3s,baz=27,slow=11,SNR=17						
FITZ				Sn	Sn	01 14 21.0	-11
	0.7nm,0.3s,baz=105,slow=18,SNR=5.6						
	2.0nm,0.4s						
WRA	**Warramunga Arr**	**13.94**	**158**	Pn	Pn	01 12 51.2	-6.0
	0.8nm,0.3s,baz=339,slow=13,SNR=18						
WRA				Sn	Sn	01 15 19.1	-13
	1.3nm,0.3s,baz=326,slow=24,SNR=17						
	1.1nm,0.3s						
COEN	**Coen**	**15.70**	**117**	P	**P**	**01 13 25.2**	**+0.1**
ASAR	**Alice Springs**	**17.28**	**164**	P	**Pn**	**01 13 37.6**	**-3.4**
	0.5nm,0.3s,baz=341,slow=10,SNR=8.6						
	1.4nm,0.4s						
AS01	**Alice Springs**	**17.29**	**164**	P	**Pn**	**01 13 39.8**	**-1.4**
WRKA	**Warakurna**	**17.95**	**182**	P	**Pn**	**01 13 48.4**	**-1.0**
MEEK	**Meekatharra**	**21.82**	**205**	P	**P**	**01 14 33.3**	**+1.2**
FORT	**Forrest**	**23.67**	**182**	P	**P**	**01 14 52.4**	**+1.1**
	16nm,1.2s						
MULG	**Mulgathing**	**23.68**	**169**	P	**P**	**01 14 50.8**	**-0.6**
	11nm,1.9s						
LCRK	**Leigh Creek**	**24.94**	**160**	P	**P**	**01 15 02.9**	**-0.2**
BBOO	**Buckleboo**	**26.55**	**166**	P	**P**	**01 15 18.7**	**+1.0**
USRK	**Ussuriysk Ar.**	**51.04**	**3**	P	**P**	**01 18 41.2**	**-0.6**
	1.7nm,0.7s,baz=168,slow=7.4,SNR=3.0						
	1.7nm,0.7s						
SONM	**Songino Array**	**58.08**	**342**	P	**P**	**01 19 32.7**	**-0.4**
	0.4nm,0.7s,baz=170,slow=8.8,SNR=3.1						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**67.59**	**327**	P	**P**	**01 20 35.6**	**-0.8**
	1.1nm,0.6s,baz=125,slow=8.6,SNR=10						
	1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**71.07**	**334**	P	**P**	**01 20 56.2**	**-1.6**
	1.0nm,0.6s,baz=149,slow=6.7,SNR=3.7						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**71.90**	**329**	P	**P**	**01 21 01.8**	**-1.1**
	2.7nm,0.2s,baz=132,slow=5.1,SNR=7.5						
	2.7nm,0.2s						

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*SJA **05** 01:26:21.2±0.7, 22°.25S×67°.55W, h201km±6km, ML4.5, MW4.2*
*NEIC **05** 01:26:22.1±2.2, 22°.31S±0°.06×67°.42W±0°.09, h171km±7km, mb4.6/27, Error ellipse: s-maj=12.8km s-min=8.6km az=93.0*
*IDC **05** 01:26:22.4±0.8, 22°.20S×67°.33W, h163km±8km, mb3.8/8, mbtmp4.4/13, Error ellipse: s-maj=14.3km s-min=11.3km az=109.0*
*VAO **05** 01:26:22.7±0.3, 22°.15S×67°.39W, h172km±3km, mb4.5*
*SCB **05** 01:26:22.9±1.3, 22°.28S×67°.43W, h172km±12km, ML4.8/3, MW4.0, Error ellipse: s-maj=6.1km s-min=3.1km az=0.0*
*GUC **05** 01:26:23.9±0.5, 22°.24S×67°.65W, h190km±3km, ML4.6*
ISC 05 01:26:22.3±0.6,**22°.23S**±0°.03×**67°.46W**±0°.04,**h173**km±5km,
n210,σ1§**44**/246,**mb4.4**/16,**17C-1D**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.98**	**222**	Pn	**Pn**	**01 26 50.8**	**+1.3**
AF01				Sn	**Sn**	**01 27 09.6**	**-0.9**
AF01	**San Pedro de A**	**0.98**	**222**	⇑*i*P	**Pn**	**01 26 51.4**	**+1.9**
AF01				*i* S	**Sn**	**01 27 12.5**	**+2.0**
AF01	**San Pedro de A**	**0.98**	**222**	Pg	**Pn**	**01 26 51.2**	**+1.7**
LVC	**Limon Verde**	**1.39**	**254**	Pn	**Pn**	**01 26 54.3**	**+1.3**
LVC				Sn	**Sn**	**01 27 17.4**	**+0.6**
LVC	**Limon Verde**	**1.39**	**254**	P	**Pn**	**01 26 54.2**	**+1.1**
	344nm,0.3s,baz=74,slow=4.4,SNR=1063						
LVC				S	**Sn**	**01 27 17.2**	**+0.4**
	385nm,0.4s,baz=305,slow=19,SNR=7.6						
LVC	**Limon Verde**	**1.39**	**254**	⇑*i*P	**Pn**	**01 26 54.3**	**+1.3**
LVC				*i* S	**Sn**	**01 27 17.3**	**+0.6**
LVC				IAML		01 27 19.0	
	4μm,0.5s						
LVC	**Limon Verde**	**1.39**	**254**	*e*P	**Pn**	**01 26 54.2**	**+1.1**
LVC				*e*S	**Sn**	**01 27 19.0**	**+2.2**
LVC	**Limon Verde**	**1.39**	**254**	*e*P	**Pn**	**01 26 54.4**	**+1.3**
LVC				*e*S	**Sn**	**01 27 17.6**	**+0.8**
PB09	**IPOC Station P**	**1.71**	**284**	Pn	**Pn**	**01 26 57.3**	**+1.4**
YJA	**Yavi**	**1.81**	**89**	*e*P	**Pn**	**01 26 58.9**	**+1.6**
YJA				*e*S	**Sn**	**01 27 25.5**	**+1.3**
MOCB	**Mochara**	**1.95**	**61**	Pg	**Pn**	**01 27 00.2**	**+1.3**
MOCB				Sg	**Sn**	**01 27 27.9**	**+0.8**
MOCB				IAML		01 27 29.3	
	4μm,0.4s						
PB06	**IPOC Station P**	**2.01**	**256**		**Pn**	**01 26 59.2**	**+0.1**
PB06	**IPOC Station P**	**2.01**	**256**	⇑*i*P	**Pn**	**01 26 59.8**	**+0.7**
PB06				*i* S	**Sn**	**01 27 27.6**	**-0.1**
PB06				IAML		01 27 30.1	
	comp=E,2μm,0.2s						
PB06	**IPOC Station P**	**2.01**	**256**	*e*P	**Pn**	**01 26 59.3**	**+0.1**
PB06				*e*S	**Sn**	**01 27 29.2**	**+1.5**
PB06				IAML		01 27 32.5	
	comp=Z,960nm,0.5s						
PB15	**IPOC Station P**	**2.10**	**242**		**Pn**	**01 27 01.1**	**+0.9**
PB15	**IPOC Station P**	**2.10**	**242**	⇑*i*P	**Pn**	**01 27 01.1**	**+0.9**
PB15				*i* S	**Sn**	**01 27 29.9**	**+0.4**
PB15	**IPOC Station P**	**2.10**	**242**	*e*P	**Pn**	**01 27 00.6**	**+0.4**
PB15				*e*S	**Sn**	**01 27 30.1**	**+0.6**
PB15	**IPOC Station P**	**2.10**	**242**	Pg	**Pn**	**01 27 01.2**	**+1.0**
PB15				Sg	**Sn**	**01 27 29.9**	**+0.4**
PB15				IAML		01 27 32.0	
	comp=Z,15μm,0.3s						
PB01	**IPOC Station P**	**2.22**	**302**		**Pn**	**01 27 02.2**	**+0.8**
PB01	**IPOC Station P**	**2.22**	**302**	⇑*i*P	**Pn**	**01 27 02.4**	**+0.9**
PB01				*i* S	**Sn**	**01 27 31.9**	**+0.1**
PB01				IAML		01 27 33.7	
	comp=E,5μm,0.3s						
PB01	**IPOC Station P**	**2.22**	**302**	*e*P	**Pn**	**01 27 02.4**	**+0.9**
PB01				*e*S	**Sn**	**01 27 32.4**	**+0.6**
PB01				IAML		01 27 33.8	
	comp=Z,2μm,0.2s						
PB04	**IPOC Station P**	**2.49**	**267**		**Pn**	**01 27 05.0**	**+0.3**
PB04	**IPOC Station P**	**2.49**	**267**	⇑*i*P	**Pn**	**01 27 05.2**	**+0.5**
PB04				*i* S	**Sn**	**01 27 36.4**	**-1.2**
PB04				IAML		01 27 39.0	
	comp=N,2μm,0.3s						
PB04	**IPOC Station P**	**2.49**	**267**	*e*P	**Pn**	**01 27 05.3**	**+0.6**
PB04				*e*S	**Sn**	**01 27 36.8**	**-0.7**
PB04				IAML		01 27 38.8	
	comp=Z,2μm,0.3s						
PB08	**IPOC Station P**	**2.61**	**322**		**Pn**	**01 27 07.9**	**+1.6**
PB08	**IPOC Station P**	**2.61**	**322**	⇑*i*P	**Pn**	**01 27 08.2**	**+1.9**
PB08				*e*S	**Sn**	**01 27 41.8**	**+1.4**
PB08				IAML		01 27 44.8	
	comp=E,954nm,0.4s						
PB08	**IPOC Station P**	**2.61**	**322**	*e*P	**Pn**	**01 27 07.6**	**+1.3**
PB08				*e*S	**Sn**	**01 27 42.6**	**+2.2**
PB08				IAML		01 27 46.0	
	comp=Z,702nm,0.7s						
PB08	**IPOC Station P**	**2.61**	**322**	Pg	**Pn**	**01 27 08.8**	**+2.5**
PB08				Sg	**Sn**	**01 27 42.0**	**+1.6**
PB08				IAML		01 27 43.8	
	comp=Z,950nm,0.3s						
AOVT	**TarijaAcel**	**2.65**	**75**	Pg	**Pn**	**01 27 08.0**	**+1.4**
PX03	**IPOC Station P**	**2.72**	**311**	*e*P	**Pn**	**01 27 07.3**	**0.0**
PX03				*e*S	**Sn**	**01 27 41.5**	**-0.8**
PATCX	**Punta Patache**	**2.87**	**299**		**Pn**	**01 27 09.3**	**+0.2**
PATCX	**Punta Patache**	**2.87**	**299**	⇑*i*P	**Pn**	**01 27 09.3**	**+0.2**
PATCX				*i* S	**Sn**	**01 27 44.4**	**-1.1**
PATCX	**Punta Patache**	**2.87**	**299**	*e*P	**Pn**	**01 27 09.5**	**+0.4**
PATCX				*e*S	**Sn**	**01 27 44.7**	**-0.8**
PATCX				IAML		01 27 47.7	
	comp=Z,2μm,0.8s						
HMBC	**Humberstone**	**2.98**	**310**		**Pn**	**01 27 10.5**	**0.0**
HMBC	**Humberstone**	**2.98**	**310**	⇑*i*P	**Pn**	**01 27 10.5**	**0.0**
HMBC				*e*S	**Sn**	**01 27 46.2**	**-1.8**
HMBC	**Humberstone**	**2.98**	**310**	*e*P	**Pn**	**01 27 09.9**	**-0.6**
HMBC				*e*S	**Sn**	**01 27 47.1**	**-0.9**
HMBC				IAML		01 27 47.9	
	comp=Z,2μm,0.4s						
GO01	**Chusmiza**	**3.02**	**327**		**Pn**	**01 27 12.8**	**+1.5**
GO01	**Chusmiza**	**3.02**	**327**	⇑*i*P	**Pn**	**01 27 12.8**	**+1.5**
GO01				*e*S	**Sn**	**01 27 50.6**	**+1.2**
GO01				IAML		01 27 55.0	
	comp=N,3μm,0.1s						
GO01	**Chusmiza**	**3.02**	**327**	*e*P	**Pn**	**01 27 12.3**	**+0.9**
GO01				*e*S	**Sn**	**01 27 51.4**	**+2.0**
GO01	**Chusmiza**	**3.02**	**327**	Pg	**Pn**	**01 27 13.1**	**+1.8**
TA01	**Diego Aracena**	**3.02**	**303**	Pn	**Pn**	**01 27 10.8**	**-0.1**
TA01	**Diego Aracena**	**3.02**	**303**	⇑*i*P	**Pn**	**01 27 10.8**	**-0.1**
TA01	**Diego Aracena**	**3.02**	**303**	*e*P	**Pn**	**01 27 10.2**	**-0.7**
TA01				*e*S	**Sn**	**01 27 47.9**	**-0.9**
TA01				IAML		01 27 50.9	
	comp=Z,963nm,0.4s						
SLA	**San Lorenzo**	**3.07**	**144**	*e*P	**Pn**	**01 27 13.1**	**+1.5**
SLA				*e*S	**Sn**	**01 27 51.0**	**+1.0**
TA02	**Huaiquique**	**3.16**	**308**		**Pn**	**01 27 12.3**	**-0.3**
TA02	**Huaiquique**	**3.16**	**308**	*e*P	Pn	01 27 02.0	-11
TA02				IAML		01 27 51.0	
	comp=Z,926nm,0.3s						
PB11	**IPOC Station P**	**3.20**	**320**		**Pn**	**01 27 13.3**	**+0.1**
PB11	**IPOC Station P**	**3.20**	**320**	⇑*i*P	**Pn**	**01 27 13.4**	**+0.1**
PB11	**IPOC Station P**	**3.20**	**320**	*e*P	**Pn**	**01 27 12.9**	**-0.4**
PB11				*e*S	**Sn**	**01 27 52.4**	**-0.4**
PB11				IAML		01 27 56.7	
	comp=Z,1μm,0.2s						
GO02	**Mina Guanaco**	**3.52**	**213**	Pn	**Pn**	**01 27 17.7**	**+0.4**
GO02	**Mina Guanaco**	**3.52**	**213**	⇓*i*P	**Pn**	**01 27 17.9**	**+0.5**
GO02	**Mina Guanaco**	**3.52**	**213**	*e*P	**Pn**	**01 27 17.2**	**-0.1**
GO02				*e*S	**Sn**	**01 27 59.8**	**-0.5**
PB14	**IPOC Station P**	**3.61**	**228**	Pn	**Pn**	**01 27 17.8**	**-0.7**
PB14	**IPOC Station P**	**3.61**	**228**	*e*P	**Pn**	**01 27 18.7**	**+0.2**
PB14				*e*S	**Sn**	**01 28 00.6**	**-1.8**
PB14				IAML		01 28 01.9	
	comp=Z,490nm,0.3s						
SOEO	**Opoqueri**	**3.67**	**354**	Pg	**Pn**	**01 27 22.1**	**+2.7**
FSA	**Cafayete**	**4.10**	**161**	*e*P	**Pn**	**01 27 26.2**	**+1.6**
SOTI	**Planta Incahua**	**4.28**	**57**	Pg	**Pn**	**01 27 27.9**	**+0.9**
SOET	**ToroToro**	**4.37**	**21**	Pg	**Pn**	**01 27 29.7**	**+1.3**
AOEA	**Aiquile**	**4.54**	**28**	Pg	**Pn**	**01 27 31.2**	**+0.8**
AOEA	**Aiquile**	**4.54**	**28**	Pg	**Pn**	**01 27 31.4**	**+1.0**
AP01	**Chacalluta**	**4.69**	**324**	Pn	**Pn**	**01 27 31.9**	**-0.2**
AP01	**Chacalluta**	**4.69**	**324**	*e*P	**Pn**	**01 27 33.2**	**+1.0**
AP01				IAML		01 28 32.3	
	comp=Z,491nm,0.6s						
AC01	**Pan de Azucar**	**4.84**	**216**	Pn	**Pn**	**01 27 32.7**	**-1.3**
AC01	**Pan de Azucar**	**4.84**	**216**	*e*P	**Pn**	**01 27 32.9**	**-1.1**
AC01				*e*S	**Sn**	**01 28 27.0**	**-3.4**
AC01				IAML		01 28 30.9	
	comp=Z,117nm,0.7s						
AHML	**Horco Molle**	**4.94**	**157**	*e*P	**Pn**	**01 27 36.7**	**+1.4**
AHML				*e*S	**Sn**	**01 28 34.5**	**+1.9**
PB18	**Visviri**	**4.99**	**337**	Pn	**Pn**	**01 27 37.5**	**+1.0**
BBOD	**La Paz, Gloria**	**5.66**	**349**	Pg	**Pn**	**01 27 47.5**	**+2.2**
AC06	**Mina Casimiro**	**5.75**	**207**	Pn	**Pn**	**01 27 43.7**	**-2.1**
GO03	**Copiapo**	**5.91**	**205**	Pn	**Pn**	**01 27 45.4**	**-2.7**
LPAZ	**La Paz**	**5.94**	**354**	Pn	**Pn**	**01 27 49.9**	**+0.8**
LPAZ	**La Paz**	**5.94**	**354**	P	**Pn**	**01 27 50.8**	**+1.8**
	comp=Z,24nm,0.3s,baz=153,slow=6.3,SNR=274						
LPAZ				S	**Sn**	**01 28 56.1**	**-1.0**
	comp=Z,11nm,0.6s,baz=2.8,slow=19,SNR=1.4						
LPAZ	**La Paz**	**5.94**	**354**	Pg	**Pn**	**01 27 51.0**	**+1.9**
LPAZ	**La Paz**	**5.94**	**354**	*e*P	**Pn**	**01 27 50.8**	**+1.8**
AC04	**Llanos de Chal**	**6.79**	**208**	Pn	**Pn**	**01 27 56.1**	**-3.5**
FDPY	**Filadelfia**	**6.96**	**92**	*e*P	**Pn**	**01 28 00.9**	**-1.0**
AC05	**El Transito**	**7.05**	**201**	Pn	**Pn**	**01 28 00.1**	**-3.1**
LCO	**Las Campanas**	**7.36**	**203**	Pn	**Pn**	**01 28 04.6**	**-2.8**
CO01	**Juntas del Tor**	**8.07**	**196**		**Pn**	**01 28 15.2**	**-1.6**
BBSD	**Serra de San D**	**8.17**	**53**	*e*P	**Pn**	**01 28 15.8**	**-2.1**
CO05	**La Serena**	**8.38**	**203**	Pn	**Pn**	**01 28 17.9**	**-2.6**
GO04	**Tololo Observa**	**8.46**	**200**	Pn	**Pn**	**01 28 18.0**	**-3.9**
SIV	**San Ignacio**	**8.65**	**45**	P	**Pn**	**01 28 21.9**	**-2.5**
	comp=Z,45nm,0.4s,baz=229,slow=10,SNR=272						
SIV				S	**Sn**	**01 29 53.5**	**-7.6**
	comp=Z,30nm,0.5s,baz=308,slow=22,SNR=14						
PAPY	**Pozo Azul**	**8.70**	**104**	*e*P	**Pn**	**01 28 25.7**	**+0.9**
CO03	**El Pedregal**	**9.05**	**198**		**Pn**	**01 28 26.8**	**-2.8**
MURT	**Porto Murtinho**	**9.16**	**88**	*e*P	**Pn**	**01 28 28.9**	**-2.0**
CO06	**Fray Jorge**	**9.21**	**203**	Pn	**Pn**	**01 28 28.0**	**-3.4**
ZON	**Zonda**	**9.35**	**186**	Pn	**Pn**	**01 28 31.3**	**-2.1**
CPUP	**Villa Florida**	**10.11**	**116**	Pn	**Pn**	**01 28 42.4**	**-0.9**
CPUP	**Villa Florida**	**10.11**	**116**	P	**Pn**	**01 28 42.2**	**-1.1**
	comp=Z,4.5nm,0.8s,baz=298,slow=11,SNR=10						
CPUP	**Villa Florida**	**10.11**	**116**	*e*P	**Pn**	**01 28 42.4**	**-0.9**
BDQN	**Bodoquena, MS**	**10.14**	**82**	*e*P	**Pn**	**01 28 41.4**	**-2.4**
PTLB	**Pontes e Lacer**	**10.37**	**51**	Pn	**Pn**	**01 28 45.9**	**-0.9**
PTLB	**Pontes e Lacer**	**10.37**	**51**	*e*P	**Pn**	**01 28 45.7**	**-1.1**
SJPY	**San Joaquin**	**10.77**	**107**	*e*P	**Pn**	**01 28 52.1**	**0.0**
VA03	**San Esteban**	**10.85**	**194**		**Pn**	**01 28 51.7**	**-1.3**
AQDB	**Aquidauana**	**11.10**	**83**	Pn	**Pn**	**01 28 57.3**	**+1.0**
AQDB	**Aquidauana**	**11.10**	**83**	*e*P	**Pn**	**01 28 57.4**	**+1.0**
MT08	**Bocatoma Ro**	**11.40**	**191**		**Pn**	**01 28 58.0**	**-2.4**
MT02	**Curacav**	**11.46**	**196**		**Pn**	**01 28 56.9**	**-4.0**
VILB	**Vilhena**	**11.53**	**38**	Pn	**Pn**	**01 29 01.4**	**-0.5**
VILB	**Vilhena**	**11.53**	**38**	*e*P	**Pn**	**01 29 01.5**	**-0.5**
MT03	**Universidad Ad**	**11.54**	**193**	Pn	**Pn**	**01 29 01.6**	**-0.5**
AMBA	**Amambai (Brazi**	**11.54**	**96**	*e*P	**Pn**	**01 29 01.8**	**-0.3**
LMEL	**Las Melosas**	**11.83**	**191**		**Pn**	**01 29 04.2**	**-1.6**
MT09	**Talagante**	**11.92**	**194**	Pn	**Pn**	**01 29 04.4**	**-2.5**
BO04	**La Punta**	**12.04**	**193**	Pn	**Pn**	**01 29 05.3**	**-3.1**
MT01	**Popeta**	**12.07**	**195**	Pn	**Pn**	**01 29 06.4**	**-2.3**
ITQB	**Itaqui**	**12.24**	**129**	*e*P	**Pn**	**01 29 11.3**	**+0.4**
ETMB	**Extrema**	**12.40**	**6**	Pn	**Pn**	**01 29 11.5**	**-1.6**
ETMB	**Extrema**	**12.40**	**6**	*e*P	**Pn**	**01 29 11.6**	**-1.6**
PSAL	**Palomas, Salto**	**12.46**	**137**	*e*P	**P**	**01 29 15.9**	**-2.8**
BO01	**Tunca**	**12.53**	**194**	Pn	**Pn**	**01 29 12.4**	**-2.3**
SALV	**Santo Antonio**	**12.78**	**63**	*e*P	**Pn**	**01 29 15.9**	**-2.1**
BO02	**Sierra Bellavi**	**12.86**	**192**	Pn	**Pn**	**01 29 16.7**	**-2.1**
RPRD	**Ribas do Rio P**	**12.94**	**85**	*e*P	**Pn**	**01 29 20.7**	**+0.7**
SAML	**Samuel**	**13.83**	**18**	Pn	**Pn**	**01 29 30.2**	**-1.0**
SAML	**Samuel**	**13.83**	**18**	*e*P	**Pn**	**01 29 29.8**	**-1.3**
ML02	**Panimavida**	**13.92**	**193**	Pn	**Pn**	**01 29 30.3**	**-1.9**
PTGB	**Pitanga**	**14.35**	**103**	*e*P	**P**	**01 29 39.3**	**-0.4**
PDRB	**Porto dos Gac**	**14.71**	**46**	*e*P	**Pn**	**01 29 41.3**	**-1.0**
BI02	**San Fabin de**	**14.76**	**192**	Pn	**Pn**	**01 29 41.2**	**-1.5**
ITAB	**Concordia**	**14.79**	**113**	P	**P**	**01 29 44.5**	**-0.1**
ITAB	**Concordia**	**14.79**	**113**	*e*P	**P**	**01 29 45.1**	**+0.5**
CPSB	**Cacapava Do Su**	**14.97**	**126**	*e*P	**Pn**	**01 29 45.3**	**0.0**
LDASE	**Londrina, Braz**	**15.12**	**98**	*e*P	**Pn**	**01 29 47.1**	**-0.1**
PLTB	**Pedras Altas**	**15.57**	**131**		**Pn**	**01 29 51.3**	**-1.3**
PLTB	**Pedras Altas**	**15.57**	**131**	*e*P	**Pn**	**01 29 50.4**	**-2.3**
CLDB	**Colider**	**15.88**	**47**	*e*P	**Pn**	**01 29 56.1**	**-0.4**
ARAG	**Araguaiana, MT**	**16.15**	**69**	*e*P	**Pn**	**01 29 59.9**	**0.0**
ITRB	**Iturama**	**16.17**	**84**	*e*P	**Pn**	**01 29 60.0**	**-0.1**
TRQA	**Tornquist**	**16.47**	**165**		**P**	**01 30 02.4**	**-0.6**
CNLB	**Canela**	**16.53**	**119**	*e*P	**P**	**01 30 03.6**	**-0.3**
FRTB	**Fartura**	**16.55**	**97**	*e*P	**Pn**	**01 30 05.2**	**+0.6**
MAJ01	**Sao Joao Batis**	**17.52**	**111**	*e*P	**P**	**01 30 14.5**	**-0.2**
GO06	**Curarrehue**	**17.64**	**190**	P	**P**	**01 30 14.2**	**-1.8**
GO06				IAmb	IAmb	01 30 18.8	
	comp=Z,28nm,0.8s						
BB19B	**Bebedouro**	**17.64**	**90**	*e*P	**Pn**	**01 30 16.7**	**-1.0**
TER01	**Tubaro-SC**	**17.71**	**115**	*e*P	**Pn**	**01 30 17.4**	**-1.0**
RCLB	**Rio

comp=Z,2.3nm,0.9s,baz=231,slow=4.7,SNR=5.3
comp=Z,2.3nm,0.9s
ASAR Alice Springs 129.87 206 PKP **PKiKP 01 45 12.6 -0.1**
comp=Z,0.5nm,0.5s,baz=140,slow=2.3,SNR=7.7
WR0 Warramunga Arr 132.88 209 PKPdf **PKPdf 01 45 18.2 +0.6**
WB2 Warramunga Arr 132.98 209 PKPdf **PKiKP 01 45 18.8 -0.2**
WRA Warramunga Arr 132.99 209 PKP **PKPdf 01 45 18.5 +0.7**
comp=Z,0.7nm,0.5s,baz=161,slow=1.7,SNR=16
MKAR Makanchi Array 145.41 38 **PKPab 01 45 40.7 +0.5**
MKAR Makanchi Array 145.41 38 PKPbc **PKPab 01 45 40.9 +0.7**
comp=Z,0.4nm,0.5s,baz=343,slow=2.6,SNR=5.5
KLR Kul'dur 149.05 335 PKPbc **PKiKP 01 45 50.6 -0.3**
comp=Z,0.8nm,0.4s,baz=0.0,slow=3.0,SNR=2.1
PZH PanZhiHua 169.28 64 PKP **PKPdf 01 46 07.7 -1.8**

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*IDC **05** 01:35:46.4±5.8, 36.°84N×19.°99E, $h0^{km}$, mb3.5/4, mbtmp3.4/5, ML3.7/1, Error ellipse: s-maj=99.2km s-min=51.2km az=29.0*
*THE **05** 01:35:58.4, 37.°46N×20.°58E, $h0^{km}\pm2^{km}$, ML3.4/10, Error ellipse: s-maj=3.1km s-min=0.7km az=229.0*
*ATH **05** 01:35:58.2, 37.°43N×20.°54E, $h7^{km}\pm1^{km}$, ML3.2/13, Error ellipse: s-maj=2.2km s-min=0.8km az=46.0*
ISC 05 01:35:56.3±1.6, 37.°37N±0.°05×20.°54E±0.°05, h15km±8km, n51, σ1°29/72, mb3.4/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.36**	**37**	P	**Pg**	**01 36 03.8**	**0.0**
KRI1				S	**Sg**	**01 36 08.2**	**-0.7**
	20μm,0.3s						
LTHK	**Lithakia**	**0.41**	**35**	P	**Pg**	**01 36 04.4**	**-0.2**
LTHK				S	**Sg**	**01 36 09.6**	**-0.7**
	16μm,0.4s						
LTHK	**Lithakia**	**0.41**	**35**	P	**Pg**	**01 36 04.6**	**0.0**
LTHK				S	**Sg**	**01 36 09.8**	**-0.5**
LTHK				AML	AML	01 36 10.2	
	comp=N,37625μm,0.4s						
LTHK				AML	AML	01 36 10.3	
	comp=E,24515μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.73**	**15**	P	**Pg**	**01 36 10.4**	**-0.1**
RTZL				S	**Sg**	**01 36 19.8**	**-0.3**
	comp=E,3μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.74**	**3**	P	**Pg**	**01 36 10.2**	**-0.6**
PSDA				S	**Sg**	**01 36 20.8**	**+0.2**
	comp=E,3μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.74**	**3**	P	**Pb**	**01 36 11.5**	**+0.6**
PSDA				S	**Sg**	**01 36 20.6**	**+0.1**
VLS	**Valsamata**	**0.80**	**3**	P	**Pg**	**01 36 11.3**	**-0.7**
VLS				S	**Sg**	**01 36 22.2**	**-0.4**
	comp=E,2μm,0.5s						
VLS	**Valsamata**	**0.80**	**3**	P	**Pg**	**01 36 11.5**	**-0.5**
VLS				S	**Sg**	**01 36 22.5**	**-0.1**
VLS				AML	AML	01 36 22.9	
	comp=N,4322μm,0.4s						
VLS				AML	AML	01 36 28.4	
	comp=E,2471μm,0.7s						
LXRA	**Lixouri, Kepha**	**0.83**	**354**	P	**Pg**	**01 36 12.7**	**+0.3**
LXRA				S	**Sg**	**01 36 23.3**	**-0.1**
DMLN	**Damoulianata-K**	**0.88**	**351**	P	**Pb**	**01 36 14.4**	**+1.2**
DMLN				S	**Sb**	**01 36 25.7**	**+1.0**
	comp=E,4μm,0.5s						
DMLN	**Damoulianata-K**	**0.88**	**351**	P	**Pb**	**01 36 14.0**	**+0.8**
DMLN				S	**Sg**	**01 36 25.0**	**+0.2**
SMHA	**Samh**	**0.88**	**6**	P	**Pg**	**01 36 13.7**	**+0.2**
SMHA				S	**Sg**	**01 36 24.5**	**-0.5**
AMT	**Artemida-Makis**	**0.94**	**80**	P	**Pn**	**01 36 15.4**	**+0.4**
AMT				S	**Sn**	**01 36 28.5**	**+0.3**
AMT				AML	AML	01 36 36.2	
	comp=E,8277μm,0.3s						
AMT				AML	AML	01 36 37.4	
	comp=N,7827μm,0.4s						
RLS	**Riolos of Patr**	**1.00**	**47**	P	**Pg**	**01 36 15.6**	**-0.1**
RLS	**Riolos of Patr**	**1.00**	**47**	P	**Pb**	**01 36 15.9**	**+0.5**
RLS				S	**Sb**	**01 36 29.4**	**+1.0**
RLS				AML	AML	01 36 31.5	
	comp=N,2679μm,0.3s						
RLS				AML	AML	01 36 33.2	
	comp=E,2110μm,0.6s						
VSK1	**VASILIKIADES**	**1.03**	**1**	P	**Pb**	**01 36 16.6**	**+0.7**
VSK1				S	**Sb**	**01 36 30.0**	**+0.7**
	comp=E,3μm,0.5s						
PYL	**PYLOS**	**1.07**	**116**	P	**Pn**	**01 36 17.9**	**+1.2**
PYL				S	**Sn**	**01 36 35.3**	**+4.0**
	comp=E,445nm,0.4s						
PYL	**PYLOS**	**1.07**	**116**	P	**Pn**	**01 36 18.7**	**+1.9**
PYL				S	**Sn**	**01 36 34.0**	**+2.7**
PYL				AML	AML	01 36 36.5	
	comp=E,987μm,0.4s						
PYL				AML	AML	01 36 36.5	
	comp=N,784μm,0.4s						
FSK	**Fiskardo**	**1.08**	**1**	P	**Pg**	**01 36 17.4**	**+0.1**
FSK				S	**Sb**	**01 36 31.5**	**+0.8**
	comp=N,2μm,0.7s						
FSK	**Fiskardo**	**1.08**	**1**	P	**Pn**	**01 36 17.9**	**+1.0**
FSK				S	**Sb**	**01 36 31.7**	**+1.0**
FSK				AML	AML	01 36 35.5	
	comp=N,4317μm,0.7s						
FSK				AML	AML	01 36 37.9	
	comp=E,3012μm,0.8s						
DRO	**Drossia**	**1.09**	**58**	P	**Pn**	**01 36 18.1**	**+1.0**
DRO				S	**Sn**	**01 36 32.7**	**+0.7**
DRO				AML	AML	01 36 36.5	
	comp=E,4342μm,0.4s						
DRO				AML	AML	01 36 39.8	
	comp=N,3550μm,0.3s						
ITM	**Ithomi**	**1.12**	**99**	P	**Pn**	**01 36 19.3**	**+1.8**
ITM	**Ithomi**	**1.12**	**99**	P	**Pn**	**01 36 19.3**	**+1.8**
ITM				AML	AML	01 36 39.0	
	comp=E,1091μm,0.7s						
ITM				AML	AML	01 36 41.6	
	comp=N,981μm,0.4s						
EVGI	**Lefkada island**	**1.25**	**4**	P	**Pn**	**01 36 20.2**	**+1.0**
EVGI	**Lefkada island**	**1.25**	**4**	P	**Pn**	**01 36 20.3**	**+1.0**
DRAG	**Dragano-Lefkad**	**1.31**	**1**	P	**Pn**	**01 36 21.1**	**+1.1**
UPR	**University Cam**	**1.34**	**47**	P	**Pb**	**01 36 21.5**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.34**	**5**	P	**Pg**	**01 36 22.4**	**+0.2**
NYDR				S	**Sg**	**01 36 40.2**	**+0.5**
	comp=N,692nm,0.6s						
NYDR	**Nydri-Lefkada**	**1.34**	**5**	P	**Pb**	**01 36 21.9**	**+0.7**
LKD2	**Lefkada island**	**1.42**	**4**	P	**Pg**	**01 36 23.6**	**0.0**
LKD2	**Lefkada island**	**1.42**	**4**	P	**Pn**	**01 36 22.7**	**+1.2**
LKD2				AML	AML	01 36 51.4	
	comp=N,1234μm,0.8s						
LKD2				AML	AML	01 36 51.6	
	comp=E,1580μm,0.4s						
KLV	**Kalavryta, Ach**	**1.44**	**62**	P	**Pg**	**01 36 24.3**	**+0.2**
KLV	**Kalavryta, Ach**	**1.44**	**62**	P	**Pg**	**01 36 23.6**	**-0.5**
KLV				AML	AML	01 36 54.6	
	comp=E,494μm,0.6s						
KLV				AML	AML	01 36 55.5	
	comp=N,640μm,0.5s						
TSLK	**Tsoukalades, L**	**1.45**	**4**	P	**Pb**	**01 36 23.5**	**+0.5**
TSLK	**Tsoukalades, L**	**1.45**	**4**	P	**Pn**	**01 36 23.2**	**+1.2**
EFP	**Efpalio**	**1.51**	**45**	P	**Pb**	**01 36 24.5**	**+0.6**
EFP				AML	AML	01 36 50.2	
	comp=E,1133μm,0.5s						
EFP				AML	AML	01 36 51.7	
	comp=N,827μm,0.4s						
GUR	**Goura**	**1.54**	**68**	P	**Pb**	**01 36 24.5**	**0.0**
GUR	**Goura**	**1.54**	**68**	P	**Pb**	**01 36 25.1**	**+0.6**
GUR				AML	AML	01 36 57.8	
	comp=N,1435μm,0.5s						
GUR				AML	AML	01 36 59.8	
	comp=E,1347μm,0.5s						
ANX	**Ano Chora**	**1.64**	**41**	P	**Pb**	**01 36 26.5**	**+0.3**
ANX	**Ano Chora**	**1.64**	**41**	P	**Pb**	**01 36 26.3**	**+0.1**
ANX				AML	AML	01 36 56.0	
	comp=E,1458μm,0.5s						
ANX				AML	AML	01 36 57.9	
	comp=N,1571μm,0.5s						
DLFA	**Delphi**	**1.90**	**54**	P	**Pn**	**01 36 29.9**	**+1.7**
VLI	**Veliai**	**2.03**	**108**	P	**Pb**	**01 36 32.2**	**-0.6**
ATH	**Athens Observa**	**2.59**	**76**	P	**Pn**	**01 36 40.0**	**+2.4**
DION	**Dionisos Attik**	**2.78**	**74**	P	**Pn**	**01 36 42.5**	**+2.2**
OHR	**Ohrid**	**3.74**	**3**	*i* Pn	**Pb**	**01 37 05.4**	**+3.3**
PEHC	**Pehcevo**	**4.76**	**22**	*i* Pn	**Pn**	**01 37 08.4**	**+0.8**
AKASG	**Malin Array Be**	**14.70**	**22**	Pn	**Pn**	**01 39 23.0**	**-0.6**
	comp=N,0.3nm,0.3s,baz=207,slow=14,SNR=1.8						
	comp=N,0.4nm,0.6s						
HFS	**Hagfors**	**23.20**	**351**	P	**P**	**01 40 59.0**	**-3.2**
	comp=N,0.9nm,0.6s,baz=165,slow=11,SNR=4.7						
	comp=N,0.9nm,0.6s						
FINES	**FINESS Array B**	**24.34**	**6**	P	**P**	**01 41 11.2**	**-2.1**
	comp=N,1.6nm,0.8s,baz=172,slow=11,SNR=5.1						
	comp=N,1.6nm,0.8s						
NOA	**NORSAR Array B**	**24.41**	**349**	P	**P**	**01 41 10.6**	**-3.3**
	comp=N,0.6nm,0.9s,baz=163,slow=9.0,SNR=3.6						
	comp=N,0.6nm,0.9s						
MKAR	**Makanchi Array**	**45.71**	**58**	P	**P**	**01 44 14.1**	**-2.5**
	comp=N,0.2nm,0.5s,baz=280,slow=7.3,SNR=2.2						
	comp=N,0.2nm,0.5s						

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*IDC **05** 01:52:10.1±5.4, 16.°99S×173.°71W, $h176^{km}\pm44^{km}$, mb3.6/7, mbtmp4.1/8, MS3.4/3, Error ellipse: s-maj=84.8km s-min=18.2km az=146.0*
ISC 05 01:52:06.8±1.4, 17.°2S±0.°5×173.°5W±0.°2, h150km, n10, σ0°79/8, mb3.7/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.10**	**265**	P	**Pn**	**01 54 02.3**	**+0.7**
	29nm,0.7s,baz=86,slow=12,SNR=14						
PPT	**Papeete**	**22.81**	**94**	LR	LR	02 04 28.0	
	comp=Z,27nm,19.1s,baz=328,slow=32						
STKA	**Stephens Creek**	**43.08**	**242**	P	**P**	**01 59 51.9**	**-0.2**
	2.8nm,0.5s,baz=65,slow=9.6,SNR=6.9						
	2.8nm,0.5s						
WRA	**Warramunga Arr**	**49.38**	**258**	P	**P**	**02 00 40.5**	**-1.0**
	0.8nm,0.4s,baz=97,slow=7.1,SNR=35						
WRA				LR	LR	02 19 33.3	
	comp=Z,74nm,18.8s,baz=262,slow=33						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**49.49**	**253**	P	**P**	**02 00 42.4**	**+0.1**
	9.1nm,0.6s,baz=87,slow=8.8,SNR=126						
	9.1nm,0.6s						
NVAR	**Mina Array Bea**	**75.74**	**42**	P	**P**	**02 03 36.8**	**+0.5**
	1.3nm,0.8s,baz=225,slow=8.6,SNR=5.5						
	1.3nm,0.8s						
BBB	**Bella Bella**	**79.55**	**26**	LR	LR	02 32 03.8	
	comp=Z,48nm,18.9s,baz=326,slow=30						
TXAR	**Lajitas Array**	**81.69**	**56**	P	**P**	**02 04 09.1**	**+0.2**
	1.0nm,1.1s,baz=235,slow=4.4,SNR=4.5						
	1.0nm,1.1s						
PDAR	**Pinedale Array**	**83.68**	**42**	P	**P**	**02 04 19.7**	**+0.7**
	0.9nm,0.9s,baz=177,slow=3.0,SNR=6.5						
	0.9nm,0.9s						
ILAR	**Eielson Array**	**84.25**	**11**	P	**P**	**02 04 20.1**	**-0.9**
	0.3nm,0.6s,baz=237,slow=6.3,SNR=8.8						
	0.3nm,0.6s						

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*IDC **05** 02:14:12.5±3.2, 20.°26S×179.°05W, $h630^{km}\pm26^{km}$, mb3.0/6, mbtmp3.9/7, Error ellipse: s-maj=93.6km s-min=17.7km az=152.0*
ISC 05 02:14:14.4±1.4, 19.°8S±0.°5×179.°4W±0.°2, h650km, n13, σ0°87/13, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.20**	**310**	P	**P**	**02 15 38.5**	**-0.5**
	3.0nm,0.4s,baz=105,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**43.43**	**262**	P	**P**	**02 21 23.7**	**+0.8**
	0.7nm,0.3s,baz=97,slow=7.3,SNR=31						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**43.43**	**256**	P	**P**	**02 21 23.6**	**+0.7**
	1.9nm,0.5s,baz=96,slow=7.4,SNR=29						
ASAR				PcP	**PcP**	**02 22 56.1**	**+0.2**
	0.6nm,0.6s,baz=104,slow=3.9,SNR=5.7						
	1.9nm,0.5s						
NVAR	**Mina Array Bea**	**81.41**	**44**	P	**P**	**02 25 26.7**	**+0.8**
	0.4nm,0.5s,baz=218,slow=8.4,SNR=4.1						
	0.4nm,0.5s						
TXAR	**Lajitas Array**	**87.77**	**58**	P	**P**	**02 25 57.0**	**+0.2**
	0.7nm,0.8s,baz=222,slow=4.5,SNR=7.3						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**87.93**	**13**	P	**P**	**02 25 57.5**	**+1.0**
	0.3nm,0.4s,baz=216,slow=4.9,SNR=8.3						
	0.3nm,0.4s						
PDAR	**Pinedale Array**	**89.34**	**44**	P	**P**	**02 26 04.0**	**+0.1**
	0.5nm,0.6s,baz=207,slow=2.6,SNR=6.4						
	0.5nm,0.6s						
ARCES	**ARCESS Array B**	**128.00**	**349**	PKP	**PKPdf**	**02 32 06.4**	**-1.2**
	4.5nm,0.9s,baz=63,slow=2.2,SNR=2.3						
FINES	**FINESS Array B**	**134.74**	**343**	PKP	**PKiKP**	**02 32 21.4**	**-0.6**
	4.2nm,1.0s,baz=9.0,slow=3.3,SNR=2.9						
HFS	**Hagfors**	**138.65**	**350**	PKhKP	PKPpre	02 32 21.3	
	1.5nm,0.7s,baz=64,slow=3.4,SNR=9.2						
AKASG	**Malin Array Be**	**141.78**	**331**	PKP	**PKPdf**	**02 32 32.0**	**-1.6**
	1.0nm,0.3s,baz=44,slow=4.4,SNR=14						
BRTR	**Keskin Array B**	**145.42**	**312**	PKPbc	**PKPab**	**02 32 43.9**	**0.0**
	0.5nm,0.6s,baz=137,slow=4.7,SNR=4.9						
MMAI	**Mount Meron Ar**	**146.35**	**300**	PKPbc	**PKiKP**	**02 32 46.5**	**-0.3**
	1.0nm,0.4s,baz=64,slow=7.0,SNR=5.6						

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*IDC **05** 02:37:02.6±1.7, 37.°70N×20.°21E, $h0^{km}$, mb3.4/4, mbtmp3.3/5, ML3.2/1, Error ellipse: s-maj=56.3km s-min=26.1km az=117.0*
*ATH **05** 02:37:04.2, 37.°40N×20.°57E, $h9^{km}\pm1^{km}$, ML3.4/19, Manual Solution by F.Xalaris This location: 2020/09/02 09:48:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **05** 02:37:04.6, 37.°42N×20.°59E, $h0^{km}\pm2^{km}$, ML3.5/6, Error ellipse: s-maj=3.2km s-min=0.7km az=240.0*
ISC 05 02:37:04.8±1.3, 37.°44N±0.°04×20.°61E±0.°04, h15km±7km, n55, σ0°91/77, mb3.2/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.28**	**36**	P	**Pb**	**02 37 11.0**	**-0.6**
KRI1				S	**Sb**	**02 37 15.2**	**-0.9**
	26μm,0.3s						
KRI1	**kERI**	**0.28**	**36**	P	**Pg**	**02 37 10.8**	**0.0**
KRI1				S	**Sb**	**02 37 15.3**	**-0.8**
LTHK	**Lithakia**	**0.33**	**34**	P	**Pg**	**02 37 11.7**	**+0.1**
LTHK				S	**Sg**	**02 37 16.3**	**+0.1**
	21μm,0.2s						
LTHK	**Lithakia**	**0.33**	**34**	P	**Pg**	**02 37 11.7**	**+0.1**
LTHK				S	**Sg**	**02 37 16.5**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.65**	**11**	P	**Pg**	**02 37 17.2**	**-0.3**
RTZL				S	**Sb**	**02 37 26.9**	**+0.1**
	6μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.68**	**358**	P	**Pg**	**02 37 17.9**	**-0.1**
PSDA				S	**Sb**	**02 37 28.6**	**+1.1**
	5μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.68**	**358**	P	**Pg**	**02 37 17.9**	**-0.1**
LCHA	**Lechaina**	**0.72**	**46**	P	**Pb**	**02 37 19.1**	**0.0**
VLS	**Valsamata**	**0.74**	**359**	P	**Pg**	**02 37 19.1**	**-0.1**
VLS				S	**Sb**	**02 37 29.9**	**+0.5**
ARG2	**Argostoli**	**0.75**	**353**	P	**Pg**	**02 37 19.3**	**0.0**
LXRA	**Lixouri, Kepha**	**0.78**	**350**	P	**Pg**	**02 37 19.9**	**0.0**
SMHA	**Samh**	**0.81**	**2**	P	**Pb**	**02 37 21.2**	**+0.6**
DMLN	**Damoulianata-K**	**0.82**	**347**	P	**Pg**	**02 37 20.4**	**-0.3**
ZARO	**Zacharo**	**0.83**	**86**	P	**Pg**	**02 37 20.9**	**0.0**
AMT	**Artemida-Makis**	**0.88**	**83**	P	**Pg**	**02 37 21.8**	**0.0**
AMT				S	**Sb**	**02 37 34.6**	**+1.2**
RLS	**Riolos of Patr**	**0.92**	**47**	P	**Pg**	**02 37 22.3**	**-0.3**
RLS				S	**Sn**	**02 37 36.1**	**-0.1**
	1μm,0.4s						
RLS	**Riolos of Patr**	**0.92**	**47**	P	**Pg**	**02 37 22.4**	**-0.3**
RLS				S	**Sb**	**02 37 36.0**	**+1.4**
VSK1	**VASILIKIADES**	**0.97**	**358**	P	**Pg**	**02 37 22.9**	**-0.7**
DRO	**Drossia**	**1.02**	**59**	P	**Pg**	**02 37 23.9**	**-0.5**
DRO	**Drossia**	**1.02**	**59**	P	**Pg**	**02 37 24.2**	**-0.2**
DRO				S	**Sb**	**02 37 38.6**	**+1.3**
FSK	**Fiskardo**	**1.02**	**358**	P	**Pg**	**02 37 23.8**	**-0.7**
FSK	**Fiskardo**	**1.02**	**358**	P	**Pg**	**02 37 24.2**	**-0.3**
FSK				S	**Sb**	**02 37 38.9**	**+1.4**
PYL	**PYLOS**	**1.05**	**120**	P	**Pg**	**02 37 24.4**	**-0.7**
PYL				S	**Sn**	**02 37 40.5**	**+1.0**
	1μm,0.5s						
PYL	**PYLOS**	**1.05**	**120**	P	**Pg**	**02 37 24.8**	**-0.3**
PYL				S	**Sb**	**02 37 39.8**	**+1.4**
ITM	**Ithomi**	**1.08**	**103**	P	**Pg**	**02 37 25.2**	**-0.5**
ITM	**Ithomi**	**1.08**	**103**	P	**Pg**	**02 37 25.4**	**-0.3**
ITM				S	**Sb**	**02 37 40.6**	**+1.4**
EVGI	**Lefkada island**	**1.18**	**2**	P	**Pg**	**02 37 26.7**	**-0.9**
EVGI	**Lefkada island**	**1.18**	**2**	P	**Pn**	**02 37 27.7**	**+0.9**
DRAG	**Dragano-Lefkad**	**1.25**	**359**	P	**Pb**	**02 37 27.7**	**-0.3**
DRAG	**Dragano-Lefkad**	**1.25**	**359**	P	**Pb**	**02 37 28.3**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.28**	**3**	P	**Pg**	**02 37 29.1**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.28**	**3**	P	**Pb**	**02 37 29.0**	**+0.4**
LKD2	**Lefkada island**	**1.35**	**2**	P	**Pg**	**02 37 30.8**	**0.0**
LKD2	**Lefkada island**	**1.35**	**2**	P	**Pn**	**02 37 29.9**	**+0.8**
LKD2				S	**Sn**	**02 37 48.6**	**+1.7**
KLV	**Kalavryta, Ach**	**1.36**	**63**	P	**Pn**	**02 37 30.2**	**+0.8**
KLV				S	**Sg**	**02 37 49.0**	**+0.2**
TSLK	**Tsoukalades, L**	**1.39**	**2**	P	**Pb**	**02 37 30.7**	**+0.3**
EFP	**Efpalio**	**1.43**	**46**	P	**Pn**	**02 37 30.9**	**+0.8**
EFP	**Efpalio**	**1.43**	**46**	P	**Pn**	**02 37 31.0**	**+0.8**
EFP				S	**Sg**	**02 37 49.8**	**-0.9**
GUR	**Goura**	**1.46**	**70**	P	**Pn**	**02 37 31.4**	**+0.6**
GUR	**Goura**	**1.46**	**70**	P	**Pn**	**02 37 31.4**	**+0.6**
GUR				S	**Sg**	**02 37 51.2**	**-0.8**
KALE	**Kalithea**	**1.54**	**51**	P	**Pn**	**02 37 33.0**	**+1.1**
KALE				S	**Sb**	**02 37 52.8**	**+0.3**
ANX	**Ano Chora**	**1.55**	**42**	P	**Pb**	**02 37 33.5**	**+0.2**
ANX	**Ano Chora**	**1.55**	**42**	P	**Pn**	**02 37 33.1**	**+1.1**
ANX				S	**Sn**	**02 37 53.0**	**+1.0**
EVR	**Evrytania**	**1.75**	**32**	P	**Pb**	**02 37 36.8**	**0.0**
EVR				S	**Sn**	**02 37 58.3**	**+1.3**
AXAR	**Agios Charalam**	**2.09**	**50**	P	**Pn**	**02 37 40.9**	**+1.6**
IGT	**Igoumenitsa**	**2.10**	**354**	P	**Pn**	**02 37 40.8**	**+1.3**
JAN	**Janina**	**2.23**	**5**	P	**Pn**	**02 37 42.8**	**+1.6**
KEK	**Kerkira**	**2.36**	**345**	P	**Pn**	**02 37 44.5**	**+1.5**
THL	**Klokotos Trika**	**2.40**	**27**	P	**Pn**	**02 37 44.9**	**+1.4**
AKASG	**Malin Array Be**	**14.62**	**22**	Pn	**Pn**	**02 40 29.5**	**-1.5**
	0.1nm,0.3s,baz=212,slow=8.9,SNR=1.3						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**24.27**	**6**	P	**P**	**02 42 18.2**	**-3.0**
	4.4nm,1.1s,baz=172,slow=11,SNR=1.7						
	4.4nm,1.1s						
NOA	**NORSAR Array B**	**24.36**	**349**	P	**P**	**02 42 19.8**	**-2.2**
	0.6nm,0.9s,baz=166,slow=11,SNR=1.3						
	0.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**29.50**	**220**	P	**P**	**02 43 08.7**	**+0.1**
	0.5nm,1.0s,baz=38,slow=9.9,SNR=2.7						
	0.5nm,1.0s						
MKAR	**Makanchi Array**	**45.63**	**58**	P	**P**	**02 45 25.1**	**+0.5**
	0.1nm,0.4s,baz=282,slow=8.1,SNR=2.0						
	0.1nm,0.4s						

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*IDC **05** 02:44:35.8±0.7, 37.°23N×20.°73E, $h0^{km}$, mb4.1/19, mbtmp4.1/31, ML3.9/11, MS3.8/29, Error ellipse: s-maj=13.8km s-min=11.1km az=178.0*
*MOS **05** 02:44:36.8±1.1, 37.°26N×20.°57E, $h12^{km}$, mb4.8/16, Error ellipse: s-maj=5.7km s-min=2.8km az=78.2*
*TIR **05** 02:44:37.5, 37.°25N×20.°64E, $h60^{km}\pm31^{km}$, Md4.5, Ml4.7*
*ATH **05** 02:44:38.0, 37.°16N×20.°63E, $h12^{km}\pm1^{km}$, ML4.4/10, Error ellipse: s-maj=3.1km s-min=1.1km az=56.0*
*NAO **05** 02:44:38.5, 37.°23N×20.°66E, $h10^{km}$, mb4.5*
*NEIC **05** 02:44:39.8, 37.°31N×20.°57E, $h10^{km}$*
*NEIC **05** 02:44:39.4±1.8, 37.°41N±0.°05×20.°64E±0.°07, $h10^{km}\pm1^{km}$, mb4.6/44, Mwr4.6/15, Error ellipse: s-maj=10.0km s-min=7.0km az=118.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.41; $M_{\theta\theta}$-5.84; $M_{\phi\phi}$3.44; $M_{r\theta}$0.87; $M_{\theta\phi}$5.59; $M_{\phi r}$-3.57; Fault plane solution: $M_0$8.40000×10^{15} NP1:ϕ_s252.85000°, δ60.08000°, λ13.64000°. NP2:ϕ_s155.95000°, δ78.21000°, λ149.37000°. Principal axes: T 7.7084, Plg30.0000°, Azm110.0000°; N 1.2519, Plg57.0000°, Azm317.0000°; P -8.9604, Plg12.0000°, Azm207.0000°;*
*MED_RC **05** 02:44:39.0±0.2, 37.°13N×20.°65E, $h13^{km}\pm1^{km}$, MW4.5/32, Moment Tensor Solution.Mantle waves: s32,c57; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.36±.47; $M_{\theta\theta}$-4.01±.30; $M_{\phi\phi}$5.37±.39; $M_{r\theta}$0.52±.69; $M_{\theta\phi}$5.62±.32; $M_{\phi r}$2.16±.67; Best double couple: $M_0$7.58000×10^{15} NP1:ϕ_s340.00000°, δ85.00000°, λ167.00000°. NP2:ϕ_s71.00000°, δ78.00000°, λ5.00000°. Principal axes: T 8.4800, Plg12.0000°, Azm295.0000°; N -1.8000, Plg76.0000°, Azm138.0000°; P -6.6800, Plg5.0000°, Azm26.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*THE **05** 02:44:39.2, 37.°21N×20.°65E, $h10^{km}\pm31^{km}$, ML4.4/11 Error ellipse: s-maj=31.6km s-min=0.7km az=0.0*
*BEO **05** 02:44:40.0±0.7, 37.°41N×20.°48E, $h0^{km}$, ML4.1/10*
*PDG **05** 02:44:42.7±0.8, 37.°27N×20.°64E, $h10^{km}\pm7^{km}$, ML4.5/13, Error ellipse: s-maj=1.8km s-min=3.3km az=0.0*
*AFAD **05** 02:44:42.0±0.0, 37.°40N×20.°90E, $h13^{km}\pm8^{km}$, MW4.4*
*MCSM **05** 02:44:44.9±1.0, 38.°N±9.°×2.°1E±.°, $h19^{km}$, mB4.3, mb4.6, MLv4.5, Mw(mB)3.4*
ISC 05 02:44:38.9±1.0, 37.°21N±0.°03×20.°67E±0.°03, h17km±6km, n567, σ1°82/632, mb4.5/52, MS3.8/26, 53C-21D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.46**	**15**	P	**Pg**	**02 44 47.9**	**-0.4**
KRI1				S	**Sb**	**02 44 55.1**	**-0.1**
	112μm,0.4s						
LTHK	**Lithakia**	**0.51**	**15**	P	**Pg**	**02 44 48.7**	**-0.5**
LTHK				S	**Sb**	**02 44 56.7**	**+0.1**
	97μm,0.4s						
LTHK	**Lithakia**	**0.51**	**15**	P	**Pg**	**02 44 48.7**	**-0.5**
LTHK				S	**Sb**	**02 44 56.9**	**+0.3**
LTHK				AML	AML	02 44 57.5	
LTHK				AML	AML	02 44 57.7

VSK1	VASILIKIADES	1.20	356	P		Pn	02 45 00.6 -0.3
VSK1				S		Sg	02 45 18.9 +1.2
FSK	Fiskardo	1.25	356	P		Pn	02 45 01.5 0.0
FSK	Fiskardo	1.25	356	P		Pn	02 45 01.6 0.0
FSK				AML		AML	02 45 22.6
	comp=N,34004µm,0.2s						
FSK				AML		AML	02 45 24.0
	comp=E,38340µm,0.4s						
AST1	Astakos	1.37	14	P		Pb	02 45 03.7 -0.3
UPR	University Cam	1.39	39	P		Pb	02 45 04.3 -0.1
UPR	University Cam	1.39	39	P		Pb	02 45 04.4 +0.1
EVGI	Lefkada island	1.41	360	P		Pb	02 45 04.4 -0.3
EVGI	Lefkada island	1.41	360	P		Pn	02 45 03.9 +0.2
KLV	Kalavryta, Ach	1.44	54	P		Pb	02 45 05.0 -0.2
KLV	Kalavryta, Ach	1.44	54	P		Pb	02 45 05.0 -0.2
KLV				AML		AML	02 45 40.6
	comp=E,7192µm,1.1s						
KLV				AML		AML	02 45 44.2
	comp=N,7396µm,0.8s						
DRAG	Dragano-Lefkad	1.47	357	P		Pn	02 45 05.1 +0.5
DRAG	Dragano-Lefkad	1.47	357	P		Pn	02 45 04.9 +0.3
NYDR	Nydri-Lefkada	1.50	1	P		Pn	02 45 05.2 +0.2
NYDR				S		Sb	02 45 25.6 +0.7
	comp=N,6µm,0.7s						
NYDR	Nydri-Lefkada	1.50	1	P		Pn	02 45 05.4 +0.4
GUR	Goura	1.51	61	P		Pb	02 45 06.1 -0.4
GUR	Goura	1.51	61	P		Pn	02 45 05.6 +0.3
ALIK	Aliki, Aigiali	1.55	47	P		Pb	02 45 07.2 +0.1
EFP	Efpalio	1.56	39	P		Pb	02 45 06.5 -0.8
LKD2	Lefkada island	1.57	360	P		Pb	02 45 07.2 -0.4
LKD2				AMP			
	comp=N,48nm,0.8s,baz=0.0						
LKD2	Lefkada island	1.57	360	P		Pb	02 45 07.9 +0.3
TSLK	Tsoukalades, L	1.61	360	P		Pb	02 45 07.5 -0.6
TSLK				S		Sg	02 45 29.5 -1.3
TSLK	Tsoukalades, L	1.61	360	P		Pn	02 45 07.1 +0.6
KALE	Kalithea	1.65	44	P		Pb	02 45 08.5 -0.5
ANX	Ano Chora	1.69	35	P		Pb	02 45 09.1 -0.6
VLI	Veliai	1.88	105	P		Pb	02 45 12.5 -0.3
LOUT	Loutraki	1.99	66	P		Pb	02 45 13.7 -0.9
MAKR	Makrakomi, Fth	2.13	32	P		Pb	02 45 16.6 -0.5
AXAR	Agios Charalam	2.21	45	P		Pb	02 45 17.4 -1.0
AGG	Agios Georgios	2.23	35	P		Pb	02 45 17.5 -1.3
AGG				S		Sn	02 45 40.8 -1.4
AGG	Agios Georgios	2.23	35	Pn		Pn	02 45 15.6 +0.5
AGG	Agios Georgios	2.23	35	P		Pb	02 45 18.1 -0.7
AGG	Agios Georgios	2.23	35	P		Pn	02 45 15.6 +0.5
VILL	Villia	2.30	65	P		Pn	02 45 17.2 +1.1
IGT	Igoumenitsa	2.33	354	P		Pb	02 45 18.9 -1.6
IGT				AMP			
	comp=E,9.8nm,1.9s,baz=354						
IGT	Igoumenitsa	2.33	354	P		Pn	02 45 17.6 +1.1
IGT	Igoumenitsa	2.33	354	P		Pn	02 45 17.6 +1.1
JAN	Janina	2.44	3	P		Pb	02 45 20.7 -1.7
JAN	Janina	2.44	3	P		Pb	02 45 20.7 -1.7
ANKY	Antikythira Is	2.51	122	P		Pb	02 45 20.8 +1.9
ATH	Athens Observa	2.54	72	P		Pn	02 45 20.4 +1.2
VLY	Voula,Athens	2.56	75	P		Pn	02 45 20.3 +0.7
THL	Klokotos Trika	2.57	24	P		Pn	02 45 21.8 +2.0
ATHU	Athens Univers	2.58	72	P		Pn	02 45 20.9 +1.0
KEK	Kerkira	2.59	345	Pn		Pn	02 45 18.3 -1.7
KEK	Kerkira	2.59	345	P		Pn	02 45 21.8 +1.8
PTL	Penteli	2.67	71	P		Pn	02 45 21.9 +0.8
SRN	Sarande	2.71	349	P		Pn	02 45 22.4 +0.7
SRN				AMP			
	comp=E,7.8nm,1.3s,baz=350						
DION	Dionisos Attik	2.73	71	P		Pn	02 45 23.1 +1.2
TYRN	Tyrnavos	2.78	26	P		Pn	02 45 24.1 +1.5
NEO	Neokhori	2.90	43	P		Pn	02 45 25.8 +1.5
LSK	Leskovik	2.93	359	P		Pn	02 45 24.5 -0.3
LSK				AMP			
	comp=E,19nm,1.1s,baz=0.0						
LSK	Leskovik	2.93	359	P		Pn	02 45 26.4 +1.6
PENT	Pentalofos	3.00	7	P		Pn	02 45 28.5 +2.8
KYMI	Kymi, Euboea I	3.06	61	P		Pn	02 45 27.6 +1.1
AOS	Alonnisos	3.19	51	P		Pn	02 45 29.1 +0.8
KZN	Kozani	3.21	15	P		Pn	02 45 28.5 -0.1
KZN	Kozani	3.21	15	P		Pn	02 45 28.5 -0.1
NEST	Nestorio	3.21	5	P		Pn	02 45 31.7 +3.1
LIT	Litokhoron	3.21	26	P		Pn	02 45 29.3 +0.6
LIT				S		Sn	02 45 58.9 -7.7
LIT	Litokhoron	3.21	26	Pn		Pn	02 45 29.2 +0.6
LIT	Litokhoron	3.21	26	P		Pn	02 45 29.6 +1.0
LIT	Litokhoron	3.21	26	P		Pn	02 45 29.2 +0.6
SCTE	Santa Cesarea	3.33	330	P		Pn	02 45 31.1 +0.8
SCTE				AMP			
	comp=N,2.0nm,0.8s,baz=330						
SCTE	Santa Cesarea	3.33	330			Pn	02 45 28.1 -2.1
VLO	Vlora	3.38	345	P		Pn	02 45 31.3 +0.5
VLO				S		Sn	02 46 12.2 +1.7
VLO				AMP			
	comp=N,9.2nm,0.8s,baz=345						
KBN	Korca	3.41	1	P		Pn	02 45 32.2 +0.9
KBN				S		Sn	02 46 11.8 +0.4
KBN				AMP			
	comp=N,5.1nm,1.3s,baz=1.0						
FNA	Florina	3.61	9	P		Pn	02 45 34.6 +0.5
FNA				S		Sn	02 46 11.4 -4.9
FNA	Florina	3.61	9	P		Pn	02 45 36.1 +2.0
FNA				AMP			
	comp=E,1.0nm,1.4s,baz=9.0						
FNA	Florina	3.61	9			Pn	02 45 32.6 -1.5
FNA	Florina	3.61	9	P		Pn	02 45 35.3 +1.3
FNA	Florina	3.61	9	*e*Pn		Pn	02 45 35.7 +1.7
FNA				*e*Sn		Sn	02 46 15.2 -1.1
FNA	Florina	3.61	9	P		Pn	02 45 32.6 -1.5
TIP	Timpagrande	3.65	304	Pn		Pn	02 45 34.0 -0.7
TIP	Timpagrande	3.65	304	⇑P		Pn	02 45 35.5 +0.8
TIP				⇑S		Sn	02 46 16.5 -0.9
TIP	Timpagrande	3.65	304	P		Pn	02 45 36.6 +1.9
THE	Thessaloniki	3.85	27	P		Pn	02 45 37.3 -0.1
THE				S		Sn	02 46 23.4 +1.2
THE	Thessaloniki	3.85	27	P		Pn	02 45 38.4 +1.0
THE	Thessaloniki	3.85	27	P		Pn	02 45 38.4 +1.0
APE	Apeiranthos	3.89	91	P		Pn	02 45 37.8 -0.1
APE				S		Sn	02 46 21.6 -1.5
APE	Apeiranthos	3.89	91	*e*P		Pn	02 45 37.8 -0.1
APE	Apeiranthos	3.89	91	⇑P		Pn	02 45 40.8 +2.9
APE	Apeiranthos	3.89	91	P		Pn	02 45 40.8 +2.9
OHR	Ohrid	3.89	1	*e*Pn		Pn	02 45 39.6 +1.6
OHR	Ohrid	3.89	1	*i* Pn		Pn	02 45 40.6 +2.7
OHR	Ohrid	3.89	1	P		Pn	02 45 40.4 +2.4
IDI	Anoyia	3.91	118	Pn		Pn	02 45 42.2 +4.0
IDI	Anoyia	3.91	118	Pn		Pn	02 45 36.4 -1.9
	comp=E,0.3nm,0.3s,baz=143,slow=20,SNR=1.6						
IDI				Sn		Sn	02 46 23.2 -0.7
	comp=E,6.8nm,0.3s,baz=293,slow=22,SNR=5.6						
CEL	Celeste	3.93	287			Pn	02 45 38.7 +0.2
SOH	Sokhos	4.17	29	P		Pn	02 45 43.4 +1.7
SOH	Sokhos	4.17	29	P		Pn	02 45 43.4 +1.7
TIR	Tirane	4.17	352	S		Sn	02 46 34.4 +4.2
TIR				AMP			
	comp=E,2.4nm,1.2s,baz=352						
TIR	Tirane	4.17	352	Pn		Pn	02 45 39.4 -2.4
TIR	Tirane	4.17	352	*e*Pn		Pn	02 45 42.8 +1.0
TIR	Tirane	4.17	352	⇑P		Pn	02 45 42.5 +0.6
TIR				⇑S		Sn	02 46 29.0 -1.2
TIR	Tirane	4.17	352	P		Pn	02 45 42.4 +0.6
TIR	Tirane	4.17	352	P		Pn	02 45 43.3 +1.5
KNT	Kendrikon	4.30	23	P		Pn	02 45 45.1 +1.5
KNT	Kendrikon	4.30	23	P		Pn	02 45 45.1 +1.5
SRS	Serrai	4.51	29	P		Pn	02 45 47.3 +0.9
SRS	Serrai	4.51	29	*e*Pn		Pn	02 45 47.8 +1.4
SRS	Serrai	4.51	29	P		Pn	02 45 47.3 +0.9
NOCI	Noci	4.54	323	P		Pn	02 45 47.4 +0.5
MATE	Matera	4.62	319	*e*P		Pn	02 45 50.8 +2.9
MATE	Matera	4.62	319	⇑P		Pn	02 45 47.9 0.0
MATE				⇑S		Sn	02 46 39.2 -1.8
CUC	Castrocucco	4.71	308			Pn	02 45 49.7 +0.5
ZEYE	Izmir, Urla-Ze	4.74	76	P		Pn	02 45 47.7 -1.8
ZEYE				S		Sb	02 46 52.8 -5.3
PUK	Puka	4.86	353	P		Pn	02 45 52.8 +1.5
PUK				AMP			
	comp=E,1.8nm,1.2s,baz=354						
PUK	Puka	4.86	353			Pn	02 45 50.0 -1.3
KOCA	Canakkale, Ayv	4.87	60	P		Pn	02 45 52.6 +1.3
KOCA				S		Sb	02 47 00.1 -1.9
ULC	Ulcinj	4.87	347	P		Pn	02 45 51.4 +0.1
ULC	Ulcinj	4.87	347	⇓*i*Pn		Pn	02 45 51.5 +0.1
ULC				*i* Sn		Sn	02 46 43.4 -3.9
PEHC	Pehcevo	4.87	20	*i* Pn		Pn	02 45 52.1 +0.6
MMB	Musomishta	4.94	28	*i* P		Pn	02 45 53.9 +1.5
VAE	Valguarnera	4.99	275	Pn		Pn	02 45 54.5 +1.4
	comp=E,105nm,0.7s,baz=172,slow=1.1,SNR=41						
VAE				Sn		Sn	02 46 53.0 +2.6
	comp=E,8.7nm,0.3s,baz=321,slow=13,SNR=1.9						
VAE				LR		LR	02 47 32.6
	comp=E,1000nm,18.7s,baz=212,slow=35						
KKB	Krupnik	5.00	22	*i* P		Pn	02 45 54.4 +1.3
DGB	zmir	5.00	78	P		Pn	02 45 51.0 -2.1
DGB				S		Sn	02 46 58.1 +7.6
RAFF	Raffo Rosso	5.04	272	Pn		Pn	02 45 53.1 -0.5
DRME	Dracevica, Mon	5.10	347	⇑*i*Pn		Pn	02 45 54.9 +0.4
DRME				*i* Sn		Sn	02 46 49.0 -3.9
WDD	Wied Dalam	5.14	256	Pn		Pn	02 45 56.2 +1.2
EZN	Ezine	5.14	58	P		Pn	02 45 50.7 -4.4
EZN				S		Sn	02 46 52.5 -1.5
BCI	Bajram Curri	5.17	355	P		Pn	02 45 57.1 +1.6
BCI				AMP			
	comp=E,2.8nm,1.0s,baz=356						
AYVA	Ayvalik	5.18	64	P		Pn	02 45 56.3 +0.7
AYVA				S		Sb	02 47 08.9 -1.9
BLCB	Balcova	5.18	75	P		Pn	02 45 56.3 +0.7
BLCB				S		Sn	02 47 01.0 +6.1
MRVN	Minervino Murg	5.18	319	P		Pn	02 45 56.7 +1.0
DDIM	Aydin, Didim	5.24	85	P		Pb	02 46 06.4 -3.6
GCAM	G?zelcaml?	5.24	83	P		Pn	02 45 57.2 +0.8
DKL	Dikili	5.25	67	P		Pn	02 45 55.0 -1.6
BAYC	CANAKKALE_Bayr	5.26	60	P		Pn	02 45 56.9 +0.3
BUM	Brajici-Budva	5.26	345	P		Pn	02 45 58.5 +1.8
BUM	Brajici-Budva	5.26	345	⇓*i*Pn		Pn	02 45 56.9 +0.1
BUM				*i* Sn		Sn	02 46 53.1 -3.9
BODT	Bodrum	5.31	90	P		Pn	02 46 00.5 +3.2
PDG	Podgorica	5.32	349			Pn	02 45 57.0 -0.5
PDG	Podgorica	5.32	349	*e*Pn		Pn	02 45 57.3 -0.2
PDG				*e*Sn		Sn	02 46 56.0 -2.4
PDG	Podgorica	5.32	349	*e*Pn		Pn	02 45 57.1 -0.5
PDG	Podgorica	5.32	349	⇑P		Pn	02 45 57.9 +0.4
PDG				⇓S		Sn	02 46 56.8 -1.7
PDG	Podgorica	5.32	349	⇑*i*Pn		Pn	02 45 57.6 +0.1
PDG				*i* Sn		Sn	02 46 55.2 -3.2
ZEDA	zmir-Bergama	5.35	69	P		Pn	02 46 01.9 +4.0
PVY	Plav	5.40	354	P		Pn	02 46 00.6 +1.8
PVY	Plav	5.40	354	⇓*i*Pn		Pn	02 46 00.6 +1.8
PVY				*i* Sn		Sn	02 46 56.7 -3.9
BOSS	Bosilegrad	5.46	14	*e*Pn		Pn	02 46 00.1 +0.7
YAZI	Mula-Dat§a-	5.46	94	P		Pn	02 45 59.9 +0.5
YAZI				S		Sb	02 47 15.2 -3.8
RZN	Rozhen	5.47	34	*i* P		Pn	02 46 01.2 +1.4
HCY	Herceg Novi	5.49	343	P		Pn	02 45 59.6 -0.3
HCY	Herceg Novi	5.49	343	*e*Pn		Pn	02 45 59.2 -0.6
HCY	Herceg Novi	5.49	343	⇓*i*Pn		Pn	02 45 59.3 -0.5
HCY				*i* Sn		Sn	02 46 58.4 -4.2
CEME	Cevo	5.49	346	⇑*i*Pn		Pn	02 45 59.8 -0.2
CEME				*i* Sn		Sn	02 46 58.4 -4.4
KARP	Karpathos	5.49	106			Pn	02 46 02.8 +2.8
KARP	Karpathos	5.49	106	*e*P		Pn	02 46 03.0 +3.0
KARP	Karpathos	5.49	106	P		Pn	02 46 05.0 +5.0
ALN	Alexandroupoli	5.57	47	P		Pn	02 46 02.1 +1.2
ALN	Alexandroupoli	5.57	47			Pn	02 46 02.3 +1.4
ALN	Alexandroupoli	5.57	47	P		Pn	02 46 02.3 +1.4
BARS	Barje	5.67	9	*e*Pn		Pn	02 46 02.3 0.0
PLNA	Plana	5.67	21	P		Pn	02 46 04.0 +1.6
IVA	Berane	5.68	354	⇓*i*Pn		Pn	02 46 02.3 -0.3
IVA				*i* Sn		Sn	02 47 03.4 -4.1
KOME	Kolasin	5.70	351	⇑*i*Pn		Pn	02 46 02.5 -0.3
KOME				*i* Sn		Sn	02 47 03.3 -4.6
NKME	Niksic	5.70	347	*e*Pn		Pn	02 46 03.4 +0.6
NKME				*i* Sn		Sn	02 47 03.3 -4.5
VTS	Vitosha	5.75	19	*i* P		Pn	02 46 04.2 +0.7
VTS	Vitosha	5.75	19	*e*Pn		Pn	02 46 04.1 +0.6
TREB	Trebinje	5.78	343	*e*Pn		Pn	02 46 03.0 -0.8
TREB				*e*Sn		Sn	02 47 05.1 -4.6
TREB	Trebinje	5.78	343	*e*Pn		Pn	02 46 01.9 -1.9
PLD	Plovdiv	5.84	31	*e*Pn		Pn	02 46 05.9 +1.2
PLD	Plovdiv	5.84	31	P		Pn	02 46 07.1 +2.4
PLD				pmax		pmax	
	comp=Z,153nm,0.9s						
BRY	Bratogost	5.91	345	*e*Pn		Pn	02 46 06.0 +0.2
BRY	Bratogost	5.91	345	⇓*i*Pn		Pn	02 46 05.8 0.0
BRY				*i* Sn		Sn	02 47 09.1 -4.1
STEP	BALIKESIR_Sava	5.95	67	P		Pn	02 46 11.4 +5.2
STEP				S		Sb	02 47 38.5 +5.5
SELS	Selova	6.01	3	*e*Pn		Pn	02 46 06.9 -0.1
SELS				*e*Sn		Sn	02 47 13.0 -2.4
SJES	Sjenica	6.06	355	*e*Pn		Pn	02 46 08.3 +0.5
SJES				*e*Sn		Sn	02 47 13.1 -3.8
SJES	Sjenica	6.06	355	*e*Pn		Pn	02 46 07.6 -0.2
ARG	Arkhangelos	6.07	97	P		Pn	02 46 11.2 +3.4
ARG				pmax		pmax	
	comp=Z,108nm,1.0s						
KRBG	Karabiga-Canak	6.07	56	P		Pn	02 46 09.1 +1.3
STON	Ston	6.09	339	*e*Pn		Pn	02 46 07.1 -1.0
STON				*e*Sn		Sn	02 47 13.1 -4.3
STON	Ston	6.09	339	*e*Pn		Pn	02 46 07.1 -1.0
ESEN	Aydn-Nazilli	6.13	82	P		Pn	02 46 09.7 +1.1
UPM	Unac-Piva	6.13	348	*e*Pn		Pn	02 46 09.7 +0.8
UPM	Unac-Piva	6.13	348	⇓*i*Pn		Pn	02 46 09.6 +0.7
UPM				*i* Sn		Sn	02 47 13.6 -5.1
PLE	Pljevlja	6.19	351	⇑*i*Pn		Pn	02 46 09.8 +0.3
PLE				*i* Sn		Sn	02 47 15.6 -4.3
KIRA	zmir-Kiraz	6.21	79	P		Pn	02 46 09.7 -0.1
BKES	Balkesir-Mer	6.22	64	P		Pn	02 46 15.0 +5.0
BKES				S		Sb	02 47 42.5 +1.5
ZAPS	Zavoj	6.24	13	*e*Pn		Pn	02 46 11.0 +0.9
IVAS	Ivanjica	6.37	357	*e*Pn		Pn	02 46 10.2 -1.8
BOVS	Bovan	6.46	7	*e*Pn		Pn	02 46 12.1 -1.1
BOVS	Bovan	6.46	7	⇑P		Pn	02 46 12.6 -0.6
RUDO	Rudo	6.47	352	*e*Pn		Pn	02 46 13.4 0.0
MPEP	Malo Peshtene	6.57	20	P		Pn	02 46 15.7 +1.0
GRUS	Gruza	6.67	0	*e*Pn		Pn	02 46 15.3 -0.7
ZAGS	Zajecar	6.70	10	*e*Pn		Pn	02 46 15.9 -0.5
BBLS	Lazi&#263i	6.71	352	*e*Pn		Pn	02 46 15.7 -1.0
BBLS	Lazi&#263i	6.71	352	*e*Pn		Pn	02 46 15.9 -0.8
VALD	Valchedram	6.80	17	P		Pn	02 46 19.0 +1.1
DIVS	Divibare	6.90	356	*e*Pn		Pn	02 46 18.4 -0.9
DIVS				*e*Sn		Sn	02 47 31.8 -5.5
ELND	Elena	6.96	33	⇓P		Pn	02 46 21.7 +1.6
HAPS	Han Pijesak,Bl	6.99	350	*e*Pn		Pn	02 46 20.0 -0.5
HAPS	Han Pijesak,Bl	6.99	350	*e*Pn		Pn	02 46 20.2 -0.3
TRUS	Trudelj	7.01	358	*e*Pn		Pn	02 46 19.4 -1.3
INTR	Introdacqua	7.09	315			Pn	02 46 22.4 +0.6
KUBS	Kucevo	7.23	6	*e*Pn		Pn	02 46 21.7 -2.1
VLAD	Vladila	7.35	22	⇑P		Pn	02 46 26.6 +1.3
TEKS	Tekeris	7.38	354	*e*Pn		Pn	02 46 23.7 -2.1
TEKS	Tekeris	7.38	354	*e*Pn		Pn	02 46 23.2 -2.6
ELL	Elmali	7.41	91	Pn		Pn	02 46 29.8 +3.5
ELL	Elmali	7.41	91	P		Pn	02 46 29.8 +3.5
YLV	Yalova	7.57	61	P		Pn	02 46 33.3 +4.9
	comp=Z,38nm,1.0s,comp=Z,0.1nm						
CAMP	Campotosto	7.71	316			Pn	02 46 29.6 -0.8
HERR	Herculane	7.77	9	⇑P		Pn	02 46 31.1 -0.1
ISP	Isparta	7.85	83			Pn	02 46 34.8 +2.4
ISP	Isparta	7.85	83	P		Pn	02 46 34.8 +2.4
A050A	Klekovaca	7.91	338	*e*Pn		Pn	02 46 33.3 +0.2
FRGS	Fruska Gora	7.96	356	*e*Pn		Pn	02 46 31.7 -2.1
FRGS	Fruska Gora	7.96	356	*e*Pn		Pn	02 46 31.7 -2.1
BLY	Banja Luka	7.97	342	*e*Pn		Pn	02 46 34.1 +0.1
BLY	Banja Luka	7.97	342	*e*Pn		Pn	02 46 34.0 +0.1
NRCA	Norcia	8.07	316			Pn	02 46 34.2 -1.1
A051A	Mrakovica	8.29	341	*e*Pn		Pn	02 46 36.5 -1.9
PRIJ	Prijedor	8.31	340	*e*Pn		Pn	02 46 37.6 -0.9
GZR	Gura Zlata	8.32	10	⇑P		Pn	02 46 38.9 0.0
GZR	Gura Zlata	8.32	10	P		Pn	02 46 38.8 0.0
BZS	Buzias	8.43	5	*e*Pn		Pn	02 46 38.6 -1.5
BZS	Buzias	8.43	5	⇑P		Pn	02 46 40.8 +0.6
BZS	Buzias	8.43	5	P		Pn	02 46 40.7 +0.6
LOT	Lotru	8.55	15	⇑P		Pn	02 46 42.2 +0.2
ARR	Arges	8.67	19	⇑P		Pn	02 46 44.1 +0.5
ICOR	Ion Corvin	8.77	36	⇑P		Pn	02 46 46.4 +1.6
DEV	Deva	8.82	10	P		Pn	02 46 48.9 +3.3
VOIR		8.85	20	⇑P		Pn	02 46 47.4 +1.4
VOIR		8.85	20	P		Pn	02 46 47.4 +1.4
VOIR		8.85	20	P		Pn	02 46 47.5 +1.4
	comp=Z,29nm,0.8s						
ISR	Istrita	9.05	27	⇑P		Pn	02 46 50.9 +2.1
ISR	Istrita	9.05	27	P		Pn	02 46 50.8 +2.1
SIRR	Siria	9.08	4	⇓P		Pn	02 46 49.7 +0.6
MORH	Mrgy, Hungar	9.12	351	⇑P		Pn	02 46 49.7 0.0
MORH	Mrgy, Hungar	9.12	351	P		Pn	02 46 50.2 +0.6
	comp=Z,9.6nm,1.2s						
MLR	Muntele Rosu	9.17	24	Pn		Pn	02 46 51.7 +1.2
MLR	Muntele Rosu	9.17	24	Pn		Pn	02 46 50.4 -0.1
	comp=Z,0.2nm,0.3s,baz=153,slow=15,SNR=12						
	comp=Z,6.6nm,0.8s						
MLR	Muntele Rosu	9.17	24	⇓P		Pn	02 46 52.3 +1.8
MLR	Muntele Rosu	9.17	24	P		Pn	02 46 52.2 +1.8
MLR	Muntele Rosu	9.17	24	P		Pn	02 46 52.5 +2.1
	comp=Z,39nm,1.2s						
TLBR	Topalu	9.21	35	⇑P		Pn	02 46 52.2 +1.4
NEHR	Nehoiu	9.23	25	⇑P		Pn	02 46 53.0 +1.8
KEST	Kesra	9.24	264	Pn		Pn	02 46 52.8 +1.4
KEST	Kesra	9.24	264	Pn		Pn	02 46 52.0 +0.5
	comp=Z,0.4nm,0.3s,baz=137,slow=2.8,SNR=11						
KEST				Sn		Sn	02 48 34.9 -0.1
	comp=Z,0.2nm,0.3s,baz=105,slow=20,SNR=1.0						
KEST				LR		LR	02 51 21.2
	comp=Z,236nm,20.4s,baz=51,slow=44						
	comp=Z,18nm,0.8s						
HARR	Harsova	9.27	34	⇑P		Pn	02 46 52.2 +0.6
HARR	Harsova	9.27	34	P		Pn	02 46 52.2 +0.6
DOPR	Dopca	9.43	20	⇑P		Pn	02 46 55.8 +1.9
BISRR	Bisoca	9.48	27	⇑P		Pn	02 46 56.3 +1.7
COVR	Voineasa-Covas	9.57	24	⇑P		Pn	02 46 57.5 +1.7
MARR	Marisel-Cluj	9.63	10	⇑P		Pn	02 46 57.9 +1.2
OZUR		9.66	22	⇑P		Pn	02 46 58.3 +1.2
DRGR		9.69	8	*e*Pn		Pn	02 46 57.3 -0.2
DRGR		9.69	8	⇑P		Pn	02 46 57.9 +0.4
DRGR		9.69	8	P		Pn	02 46 57.9 +0.4
TURR	Turia	9.69	23	⇑P		Pn	02 46 58.9 +1.4
SKDS	Skadanscina	9.71	331	*e*Pn		Pn	02 46 57.4 -0.3
CEY	Cerknica	9.72	333	*e*Pn		Pn	02 46 57.9 0.0
PLOR	Plostina	9.72	26	⇑P		Pn	02 46 59.7 +1.8
PLOR	Plostina	9.72	26	P		Pn	02 46 59.7 +1.8
PLOR5	Plostina Array	9.72	26	P		Pn	02 47 00.8 +2.9
	comp=Z,37nm,1.0s						
PLOR3	Plostina Array	9.72	26	P		Pn	02 46 59.9 +1.9
	comp=Z,40nm,0.9s						
CJR	Cluj-Napoca	9.74	12	⇑P		Pn	02 46 58.9 +0.7
CJR	Cluj-Napoca	9.74	12	P		Pn	02 46 58.8 +0.7
CFR	Carcaliu	9.74	33	⇑P		Pn	02 46 58.5 +0.4
CFR	Carcaliu	9.74	33	P		Pn	02 46 58.5 +0.4
VRI	Vrincioaia	9.76	26	⇑P		Pn	02 47 00.1 +1.6
VRI	Vrincioaia	9.76	26	P		Pn	02 47 00.0 +1.6
VRI	Vrincioaia	9.76	26	P		Pn	02 47 00.4 +1.9
	comp=Z,25nm,0.9s,comp=Z,259nm						
ARCR	ARCALIA	10.23	14	⇑P		Pn	02 47 05.5 +0.6
TESR	Tescani	10.30	24	⇑P		Pn	02 47 07.8 +1.9
SOKA	Soboth	10.34	338	*e*Pn		Pn	02 47 06.7 +0.2
	comp=Z,3.9nm,0.6s,SNR=9.0						
SOKA				*e*Sn		Sn	02 48 59.4 -2.6
	comp=Z,4.9nm,0.7s						
OBKA	Obir	10.35	336	*i* Pn		Pn	02 47 10.2 +3.7
	comp=Z,1.1nm,0.2s						
OBKA				*i* Sn		Sn	02 48 57.9 -4.1
	comp=Z,17nm,0.8s						
OBKA	Obir	10.35	336	*e*Pn		Pn	02 47 07.4 +0.9
BR

GEC2 GERESS Array S 12.69 339 Pn **Pn 02 47 37.2 -1.3**
GEC2 GERESS Array S 12.69 339 P **Pn 02 47 36.7 -1.8**
GERES GERESS Array B 12.69 339 Pn **Pn 02 47 37.5 -1.0**
comp=Z,0.5nm,0.3s,baz=218,slow=26,SNR=4.1
GERES Sn **Sn 02 49 54.0 -5.4**
comp=Z,0.1nm,0.3s,baz=246,slow=19,SNR=1.1
GERES LR LR 02 53 13.5
comp=Z,280nm,20.1s,baz=139,slow=41
comp=Z,1.0nm,0.6s
MORC Moravsky Berou 12.76 351 Pn **Pn 02 47 38.8 -0.7**
MORC Moravsky Berou 12.76 351 *e*PN **Pn 02 47 40.1 +0.6**
MORC Moravsky Berou 12.76 351 P **Pn 02 47 38.8 -0.7**
MMA0 Mount Meron ar 12.77 105 P **Pn 02 47 39.4 -0.3**
MMAI Mount Meron Ar 12.77 105 Pn **Pn 02 47 37.4 -2.3**
comp=Z,1.5nm,0.3s,baz=302,slow=12,SNR=9.2
MMAI Sn **Sn 02 49 53.9 -7.6**
comp=Z,0.7nm,0.3s,baz=340,slow=42,SNR=2.4
MMAI LR LR 02 53 39.8
comp=Z,178nm,18.4s,baz=232,slow=43
comp=Z,1.3nm,0.4s
DAVA Damuels 12.84 325 *i* Pn P 02 47 46.1 -5.4
comp=Z,2.2nm,0.6s
DAVA *i* Sn **Sn 02 49 59.2 -4.0**
comp=Z,4.6nm,0.7s
GEM Giv'at Ha'Em 12.89 104 P **Pn 02 47 39.7 -1.6**
KHC Kasperske Hory 12.98 339 **Pn 02 47 41.9 -0.6**
KHC Kasperske Hory 12.98 339 *e*PN **Pn 02 47 42.7 +0.2**
KHC AMS AMS 02 53 10.0
comp=Z,1μm,8.0s
KHC Kasperske Hory 12.98 339 *e*P **Pn 02 47 42.7 +0.2**
KHC MLR MLR
comp=Z,1μm,8.0s
KZIT Kziot 13.00 115 P **Pn 02 47 40.8 -2.0**
ZVC Zvikov 13.09 341 AMS AMS 02 54 10.0
comp=Z,900nm,12.4s
SHMJ Saham 13.16 105 P **Pn 02 47 45.3 +0.3**
WET Wettzell 13.20 337 P **Pn 02 47 48.8 +3.3**
WET pmax pmax
comp=Z,6.0nm,1.4s
DSI Dead Sea 13.38 111 P **Pn 02 47 47.6 -0.4**
MSBI Mazada 13.49 112 P **Pn 02 47 48.0 -1.5**
PRU Pruhonice 13.51 343 P **Pn 02 47 50.7 +1.0**
PRU pmax pmax
comp=Z,6.0nm,1.1s
LISJ El Lisan 13.62 112 P **Pn 02 47 50.3 -0.9**
GHAJ Ghor Haditha 13.65 111 **Pn 02 47 53.0 +1.4**
GHAJ Ghor Haditha 13.65 111 P **Pn 02 47 52.0 +0.3**
UPC Upice 13.70 347 AMS AMS 02 53 10.0
comp=Z,1μm,9.9s
PRNI Paran 13.74 116 P **Pn 02 47 52.3 -0.6**
HRFI Mount Harif 13.94 117 P **Pn 02 47 55.2 -0.4**
MBRI Mt Berech 13.99 118 P **Pn 02 47 55.2 -1.2**
ARPR Arapgir-MALATY 14.03 77 Pn **Pn 02 47 58.4 +1.4**
EIL Elat 14.09 118 Pn **Pn 02 47 55.5 -2.2**
comp=Z,0.6nm,0.3s,baz=342,slow=13,SNR=8.6
EIL Sn Sn 02 50 23.5 -10
comp=Z,0.4nm,0.3s,baz=335,slow=19,SNR=1.6
comp=Z,10nm,0.9s
AQBJ Aqaba 14.12 118 P **Pn 02 47 57.1 -1.1**
GRFO Grafenberg 14.22 334 Pn **Pn 02 47 59.8 +0.4**
GRFO Grafenberg 14.22 334 P **Pn 02 47 59.8 +0.4**
GRA1 Grafenberg Arr 14.22 334 Pn **Pn 02 47 59.5 +0.1**
GRF Grafenberg Arr 14.22 334 P **Pn 02 47 59.5 +0.1**
ASF Jabal al Asfar 14.26 106 Pn **Pn 02 47 58.1 -2.1**
comp=Z,0.3nm,0.3s,baz=15,slow=0.2,SNR=1.4
comp=Z,1.1nm,0.4s
BFO Black Forest 14.32 325 Pn **Pn 02 47 58.6 -2.1**
BFO Black Forest 14.32 325 P **Pn 02 47 58.6 -2.1**
BRG Berggiesshubel 14.48 343 *e*P P 02 48 14.5 +5.0
BRG Amp 02 48 18.9
comp=Z,3.1nm,0.9s
MI28 Mi28,Pidlybu 14.60 18 P **P 02 48 08.1 -2.7**
RNPP9 Sopachiv 14.67 13 P **Pn 02 48 07.4 +1.9**
RNPP9 pP **P 02 48 12.0 +0.3**
ECH Echery 14.79 322 Pn **Pn 02 48 05.8 -1.4**
ECH Echery 14.79 322 P **Pn 02 48 05.8 -1.4**
KIEV Kiev 14.80 22 **Pn 02 48 06.7 -0.5**
KIEV Kiev 14.80 22 ⇑P **Pn 02 48 07.9 +0.7**
KIEV Kiev 14.80 22 P **Pn 02 48 07.9 +0.7**
AKASG Malin Array Be 14.81 22 Pn **Pn 02 48 07.1 -0.3**
AKASG Malin Array Be 14.81 22 Pn **Pn 02 48 06.4 -1.0**
comp=Z,0.6nm,0.3s,baz=212,slow=12,SNR=9.5
AKASG LR LR 02 54 53.3
comp=Z,470nm,20.1s,baz=215,slow=42
comp=Z,1.5nm,0.7s
AKASG Malin Array Be 14.81 22 *e*P **Pn 02 48 07.7 +0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 14.81 22 **Pn 02 48 06.9 -0.4**
AKBB Malin Array Si 14.81 22⇑*e*P **Pn 02 48 07.5 +0.1**
MOX Moxa 14.91 337 P **P 02 48 14.4 0.0**
MOX pmax pmax
comp=Z,14nm,1.2s
CLL Collm 15.11 341 Pn **Pn 02 48 09.9 -1.5**
CLL Collm 15.11 341 P **Pn 02 48 09.9 -1.5**
CLL Collm 15.11 341 *i* PP **P 02 48 18.6 +2.1**
comp=Z,22nm,1.5s
CLL *i* sPP 02 48 20.8
comp=Z,29nm,1.4s
CLL *e*(SS) 02 51 18.0
SMF Signal de Mont 15.65 312 *e*P **P 02 48 22.4 -0.2**
SMF pmax pmax
comp=Z,24nm,1.5s
SOC Sochi 15.83 60 *e*P **Pn 02 48 19.9 -0.9**
SOC *e* 02 51 16.7
SOC MLR MLR
comp=Z,177nm,15.0s
CEST Esterri de Car 15.83 296 Pn **Pn 02 48 20.6 -0.5**
CEST IAmb IAmb 02 48 35.4
comp=Z,20nm,1.1s
LOR Lormes 15.97 314 *e*P **P 02 48 29.7 +3.6**
LOR pmax pmax
comp=Z,21nm,1.4s
SSF Saint Saulge 16.06 313 *e*P **P 02 48 27.9 +0.8**
SSF pmax pmax
comp=Z,39nm,1.8s
BGF Bois d'Agland 16.20 311 *e*P **P 02 48 30.2 +1.5**
BGF pmax pmax
comp=Z,33nm,1.3s
WLF Walferdange 16.27 324 Pn **Pn 02 48 24.8 -1.7**
WLF IAmb IAmb 02 48 37.4
comp=Z,31nm,1.1s
WLF Walferdange 16.27 324 P **Pn 02 48 24.8 -1.7**
WLF pmax pmax
comp=Z,31nm,1.1s
WLF Walferdange 16.27 324 *d*P **P 02 48 32.9 +3.5**
comp=Z,14nm,1.1s
TCF Toulx Ste Croi 16.46 309 *e*P **P 02 48 32.6 +1.0**
TCF pmax pmax
comp=Z,176nm,2.8s
LFF La Frestale 16.87 303 *e*P **P 02 48 38.9 +2.8**
LFF pmax pmax
comp=Z,209nm,2.4s
SUW Suwalki 16.89 5 *e*P **Pn 02 48 33.2 -1.1**
SUW Suwalki 16.89 5 Pn **Pn 02 48 33.4 -0.9**
SUW Suwalki 16.89 5 *e*P **Pn 02 48 34.1 -0.2**
SUW Suwalki 16.89 5 P **Pn 02 48 33.4 -0.9**
SUW pmax pmax
comp=Z,98nm,0.9s
GURO Guroymak-BITLI 16.92 79 Pn **P 02 48 36.3 -0.6**
MEM Membach 17.01 327 *d*P **P 02 48 41.6 +4.0**
comp=Z,8.8nm,1.1s
GIVF Givet 17.20 324 *e*P **P 02 48 43.3 +3.6**
GIVF pmax pmax
comp=Z,98nm,1.9s
DOU Dourbes 17.30 323 *d*P **P 02 48 44.1 +3.2**
comp=Z,7.2nm,1.3s
BAIF Baives 17.47 323 *e*P **P 02 48 47.5 +4.8**
BAIF pmax pmax
comp=Z,110nm,2.3s
SJPF Ste Jean 17.72 296 *e*P **P 02 48 48.7 +3.1**
SJPF pmax pmax
comp=Z,35nm,1.3s
KARS Kars 17.76 72 **P 02 48 47.3 +1.2**
KARS Kars 17.76 72 P **P 02 48 47.3 +1.2**
KARS pmax pmax
comp=Z,136nm,1.2s
UCC Uccle 17.89 325 P **P 02 48 47.6 +0.3**
UCC Uccle 17.89 325 P **P 02 48 47.6 +0.3**
UCC pmax pmax
comp=Z,3.0nm,1.0s
SHA1 Shidzhatmaz 17.93 62⇓*e*P **P 02 48 50.0 +1.9**
MNK Minsk 17.99 14 *i* P **Pn 02 48 46.5 -1.4**
comp=E,9.0nm,0.6s
MNK *i* P **Pn 02 48 46.5 -1.4**
comp=N,2.0nm,0.5s
MNK *i* P **Pn 02 48 46.5 -1.4**
comp=Z,5.0nm,0.6s,baz=200
MNK *i* PP **PnPn 02 48 59.5 +0.6**
MNK *i* S **Sn 02 52 06.7 -1.3**
MNK *i* SS **SnSn 02 52 29.4 +7.7**
MNK *i* LQ LQ 02 54 36.5
MNK *i* LR LR 02 55 33.2
MNK *i* LRM MLR 02 56 33.9
comp=Z,187nm,12.2s
MNK *i* LRM MLR 02 56 35.1
comp=E,159nm,13.9s
MNK *i* LRM MLR 02 56 44.3
comp=N,208nm,13.1s
MNK Minsk 17.99 14 *i* P **Pn 02 48 46.5 -1.4**
MNK *i* S **Sn 02 52 06.7 -1.3**
MNK pmax pmax
comp=E,9.0nm,0.6s
MNK pmax pmax
comp=N,2.0nm,0.5s
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK MLR MLR
comp=Z,187nm,12.0s
MNK MLR MLR
comp=E,159nm,14.0s
MNK MLR MLR
comp=N,208nm,13.0s
KIV Kislovodsk 18.00 61 **Pn 02 48 48.0 -0.3**
KIV IAmb IAmb 02 49 05.5
comp=Z,40nm,1.4s
KIV Kislovodsk 18.00 61 *e*P **P 02 48 49.1 +0.4**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,64nm,14.0s
KVAR Kislovodsk Arr 18.01 61 P **Pn 02 48 48.2 -0.2**
baz=274,slow=19
comp=Z,2.0nm,0.9s
KBZ Khabaz 18.09 62 P **P 02 48 49.9 +0.3**
comp=Z,0.4nm,0.3s,baz=212,slow=0.9,SNR=8.5
comp=Z,3.0nm,1.0s
KBZ Khabaz 18.09 62⇓*e*P **P 02 48 50.0 +0.4**
NACGM Naroch 18.18 11 *i* P **P 02 48 55.9 +5.4**
comp=Z,38nm,0.9s
BSEG Bad Segeberg 18.19 340 P **Pn 02 48 50.4 0.0**
BSEG pmax pmax
comp=Z,25nm,1.4s
BSD Bornholm Skovb 18.33 349 *i* P **P 02 48 52.8 +0.7**
BSD IAmb IAmb 02 48 54.6
comp=Z,19nm,0.5s
PABE Paberze 18.43 6 **P 02 48 52.7 -0.6**
PABE Paberze 18.43 6 *e*P **P 02 48 52.3 -0.9**
PBUR Paburge 18.84 2 *e*P **P 02 48 56.5 -1.2**
GNI Garni 19.01 74 P **Pn 02 49 01.1 +0.4**
GNI IAmb IAmb 02 49 34.1
comp=Z,35nm,1.2s
GNI Garni 19.01 74 P **P 02 48 59.7 -0.2**
comp=Z,0.7nm,0.3s,baz=204,slow=20,SNR=3.2
GNI LR LR 02 56 19.8
comp=Z,195nm,18.9s,baz=288,slow=37
comp=Z,3.7nm,0.5s
GNI Garni 19.01 74⇑*e*P **Pn 02 49 02.1 +1.5**
GNI pmax pmax
comp=Z,13nm,1.0s
LUNU Lund 19.07 347 *i* P **Pn 02 49 06.7 +5.7**
VORD Divnogorie 19.11 38 *e*P **P 02 49 01.0 +0.3**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 19.20 37 *e*P **P 02 49 01.3 -0.4**
VSR pmax pmax
comp=Z,9.0nm,0.9s
BLEU Blekinge 19.38 352 *i* P **P 02 49 02.6 -0.9**
TAM Tamanrasset 19.42 226 P **Pn 02 49 06.3 +0.6**
TAM Tamanrasset 19.42 226 P **Pn 02 49 06.3 +0.6**
TAM pmax pmax
comp=Z,11nm,1.1s
ESDC Sonseca Array 19.44 285 P **Pn 02 49 05.2 -0.5**
comp=Z,0.1nm,0.3s,baz=77,slow=11,SNR=15
comp=Z,2.0nm,0.8s
VORR Voronezh 19.52 36 *e*P **Pn 02 49 07.8 +1.3**
VORR pmax pmax
comp=Z,55nm,0.5s
SSRD Sdr. Stenderup 19.75 341 *i* P Pn 02 49 17.6 +8.3
SSRD IAmb IAmb 02 49 21.8
comp=Z,40nm,0.8s
DEL Delary 19.80 349 *i* P **P 02 49 08.7 +0.5**
LPSR Galich'ya Gora 20.01 34 *e*P **P 02 49 10.6 +0.1**
LPSR pmax pmax
comp=Z,30nm,0.8s
SLIT Slitere, Latvi 20.45 2 *e*P **P 02 49 16.4 +1.1**
VRH Novokhopyorsk 20.47 40 *e*P **P 02 49 16.2 +0.6**
VRH pmax pmax
comp=Z,21nm,0.6s
FABU Falkenberg 20.50 348 *i* P **P 02 49 16.1 +0.4**
MUD Monsted U'grnd 20.74 342 *i* P Pn 02 49 20.2 -0.6
MUD IAmb IAmb 02 49 35.0
comp=Z,49nm,1.4s
OBN Obninsk 20.93 26 P **P 02 49 19.5 -1.0**
OBN IAmb IAmb 02 49 22.7
comp=Z,39nm,1.0s
OBN Obninsk 20.93 26 P **P 02 49 19.4 -1.0**
comp=Z,16nm,0.4s,baz=53,slow=23,SNR=7.6
OBN LR LR 02 59 13.9
comp=Z,224nm,20.5s,baz=173,slow=42
comp=Z,16nm,0.4s
OBN Obninsk 20.93 26*c* *i* P **P 02 49 19.6 -0.9**
OBN *i* 02 49 37.1
OBN *e*S **S 02 53 12.8 -0.1**
OBN *e*SS **SnSn 02 53 35.6 +1.9**
OBN pmax pmax
comp=Z,58nm,1.4s
OBN MLR MLR
comp=Z,428nm,15.0s
BORU Boraas 21.09 348 *i* P **P 02 49 22.8 +0.6**
MDT Midelt 21.14 266 P **P 02 49 22.3 -0.8**
comp=Z,6.2nm,0.8s,baz=93,slow=11,SNR=12
MDT LR LR 02 58 49.7
comp=Z,85nm,21.1s,baz=62,slow=40
comp=Z,6.2nm,0.8s
MTSE Matsula 21.61 4 *e*P **P 02 49 29.1 +1.3**
VSU Vasula 21.63 9⇑*e*P **P 02 49 27.9 -0.1**
VSU pmax pmax
comp=Z,55nm,1.7s
TJOU Tjoern 21.67 347 *i* P **P 02 49 30.5 +2.1**
MOS Moscow 21.79 26 *e*P **P 02 49 27.1 -2.6**
MOS *e*S **S 02 53 27.7 -2.2**
MOS pmax pmax
comp=Z,59nm,1.2s
STRU Stroemstad 22.69 347 *i* P **P 02 49 35.6 -3.7**
HFS Hagfors 23.37 351 P **P 02 49 45.3 -1.0**
comp=Z,7.7nm,0.7s,baz=160,slow=9.5,SNR=15
HFS LR LR 02 59 19.2
comp=Z,288nm,20.5s,baz=118,slow=38
comp=Z,7.7nm,0.7s
BELG Belogornoye 24.22 43 LR LR 02 59 38.9
comp=Z,221nm,18.1s,baz=260,slow=37
BELG Belogornoye 24.22 43*c* *i* P **P 02 49 55.2 +0.7**
BELG pmax pmax
comp=Z,5.0nm,1.0s
NC602 NORSAR Array S 24.25 349 P **P 02 49 55.1 +0.4**
NC602 IAmb IAmb 02 50 11.2
comp=Z,24nm,1.2s
NORES NORESS Array B 24.25 349 P **P 02 49 57.2 +2.5**
EKA Eskdalemuir Ar 24.29 326 P **P 02 49 54.8 -0.3**
comp=Z,6.3nm,0.7s,baz=126,slow=8.7,SNR=14
comp=Z,6.3nm,0.7s
ESK Eskdalemuir 24.30 326 P **P 02 49 54.5 -0.7**
ESK IAmb IAmb 02 50 36.9
comp=Z,24nm,1.1s
ESK Eskdalemuir 24.30 326 P **P 02 49 54.5 -0.7**
ESK pmax pmax
comp=Z,25nm,1.1s
NAO01 NORSAR Array S 24.45 348 P **P 02 49 56.3 -0.3**
FINES FINESS Array B 24.49 6 P **P 02 49 56.0 -0.9**
comp=Z,3.8nm,0.7s,baz=177,slow=10,SNR=12
comp=Z,3.8nm,0.7s
FINES FINESS Array B 24.49 6 *i* P **P 02 49 56.7 -0.2**
FINES pmax pmax
comp=Z,4.0nm,0.7s
FIA1 FINESS Array S 24.49 6 P **P 02 49 56.2 -0.7**
NC405 NORSAR Array S 24.58 350 P **P 02 49 56.4 -1.3**
NC405 IAmb IAmb 02 50 03.6
comp=Z,33nm,1.3s
NB2 NORSAR Subarra 24.59 349 P **P 02 49 57.2 -0.6**
comp=Z,11nm,1.2s,baz=162,slow=9.3
NOA NORSAR Array B 24.59 349 P **P 02 49 56.8 -1.0**
comp=Z,3.3nm,0.7s,baz=158,slow=8.9,SNR=18
NOA LR LR 03 00 30.2
comp=Z,223nm,18.7s,baz=10.0,slow=39
comp=Z,3.3nm,0.7s
NOA NORSAR Array B 24.59 349 *e*P **P 02 49 57.6 -0.2**
NOA pmax pmax
comp=Z,5.0nm,0.7s
NBO00 NORSAR Array S 24.64 348 P **P 02 49 58.0 -0.3**
NC204 NORSAR Array S 24.88 349 P **P 02 50 00.8 +0.3**
KLMR Klimovskoe 26.49 21 *e*P **P 02 50 16.0 +1.0**
KLMR pmax pmax
comp=Z,46nm,1.8s
KIRV Kirov 28.40 32 LR LR 03 03 06.8
comp=Z,150nm,19.2s,baz=244,slow=39
TORD Torodi Ar. Bea 29.36 220 P **P 02 50 40.8 -0.3**
comp=Z,1.5nm,0.5s,baz=33,slow=9.2,SNR=35
TORD LR LR 03 03 53.3
comp=Z,129nm,19.2s,baz=9.5,slow=39
comp=Z,1.5nm,0.5s
AKTO Aktyubinsk 29.68 52 LR LR 03 05 50.3
comp=Z,164nm,18.9s,baz=280,slow=43
ABKAR Akbulak array 30.70 54 P **P 02 50 52.5 -0.1**
ARTI Arti 31.60 40 P **P 02 50 59.4 -1.1**
ARTI IAmb IAmb 02 51 05.6
comp=Z,15nm,1.2s
ARTI Arti 31.60 40 LR LR 03 06 14.9
comp=Z,240nm,19.5s,baz=270,slow=41
ARTI Arti 31.60 40*c* *i* P **P 02 50 59.6 -0.9**
ARTI S **S 02 56 10.4 +2.0**
ARTI pmax pmax
comp=Z,10.0nm,1.0s
ARCES ARCESS Array B 32.49 3 P **P 02 51 07.5 -0.7**
comp=Z,3.1nm,0.8s,baz=188,slow=11,SNR=8.3
comp=Z,3.1nm,0.8s
ARCES ARCESS Array B 32.49 3 *e*P **P 02 51 08.6 +0.5**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
FURI Furi 32.57 145 LR LR 03 04 45.6
comp=Z,101nm,21.6s,baz=336,slow=37
SVE Sverdlovsk 32.92 41 *e*P **P 02 51 11.8 -0.3**
SVE pmax pmax
comp=Z,19nm,1.0s
HRA Herat 33.65 82 P **P 02 51 19.2 +0.3**
HRA IAmb IAmb 02 51 24.4
comp=Z,3.2nm,0.7s
BRVK Borovoye 37.59 49 P **P 02 51 53.3 +1.0**
BRVK IAmb IAmb 02 52 12.1
comp=Z,7.9nm,1.3s
BRVK Borovoye 37.59 49⇓*e*P **P 02 51 52.6 +0.3**
BRVK pmax pmax
comp=Z,3.0nm,1.1s
BVAR Borovoye Array 37.65 49 P **P 02 51 52.1 -0.7**
comp=Z,1.1nm,0.5s,baz=263,slow=6.7,SNR=6.3
BVAR LR LR 03 09 58.9
comp=Z,176nm,18.2s,baz=267,slow=40
comp=Z,1.1nm,0.5s
SIMJ Simiganj 37.80 73 P **P 02 51 54.7 +0.3**
SIMJ IAmb IAmb 02 51 60.0
comp=Z,5.7nm,0.8s
KKAR Karatay Array 38.08 65 P **P 02 51 56.5 -0.1**
KKAR IAmb IAmb 02 52 02.9
comp=Z,7.2nm,1.3s
KKAR Karatay Array 38.08 65 P **P 02 51 56.8 +0.2**
DBIC Dimbokro 38.27 224 LR LR 03 08 54.6
comp=Z,112nm,18.8s,baz=32,slow=38
GAR Garm 38.72 72 P **P 02 52 03.1 +1.0**
GAR IAmb IAmb 02 52 31.5
comp=Z,13nm,0.8s
MBAR Mbarara 38.77 164 LR LR 03 09 05.7
comp=Z,138nm,19.7s,baz=346,slow=38
DRK Karamyk 39.73 71 P **P 02 52 11.4 +0.6**
DRK IAmb IAmb 02 52 17.6
comp=Z,8.1nm,0.6s
DRK Karamyk 39.73 71 P **P 02 52 11.4 +0.6**
DRK pmax pmax
comp=Z,8.0nm,0.6s
BBTS Babate 39.92 246 LR LR 03 10 23.1
comp=Z,96nm,18.9s,baz=295,slow=39
ARSB Arslanbob 40.20 67 P **P 02 52 14.5 0.0**
ARSB Arslanbob 40.20 67 P **P 02 52 14.5 0.0**
ARSB pmax pmax
comp=Z,2.0nm,1.0s
AAK Ala-Archa 41.05 65 P **P 02 52 21.4 -0.1**
AAK Ala-Archa 41.05 65 P **P 02 52 21.4 -0.1**
AAK pmax pmax
comp=Z,3.0nm,0.8s
SPITS Spitsbergen Ar 41.11 359 P **P 02 52 21.7 +0.3**
comp=Z,6.8nm,0.8s,baz=177,slow=12,SNR=1.5
SPITS LR LR 03 10 09.4
comp=Z,252nm,21.7s,baz=138,slow=37
comp=Z,6.8nm,0.8s
KMBO Kilima Mbogo 41.13 154 P **P 02 52 22.6 +0.1**
comp=Z,0.4nm,0.4s,baz=270,slow=11,SNR=1.3
KMBO LR LR 03 12 30.8
comp=Z,94nm,18.2s,baz=79,slow=41
comp=Z,0.4nm,0.4s
KMBO Kilima Mbogo 41.13 154⇓*e*P **P 02 52 23.5 +1.0**
KBS Kingsbay 41.98 357 P **P 02 52 28.3 -0.2**
KBS Kingsbay 41.98 357 P **P 02 52 28.3 -0.2**
KBS pmax pmax
comp=Z,32nm,1.1s
BOOM Boomskoye usch 42.12 65 P **P 02 52 31.1 +0.8**
BOOM IAmb IAmb 02 52 51.8
comp=Z,27nm,1.2s
BOOM Boomskoye usch 42.12 65 P **P 02 52 31.1 +0.8**
BOOM pmax pmax
comp=Z,27nm,1.2s
NRN Naryn 42.40 67 P **P 02 52 32.4 -0.4**
NRN Naryn 42.40 67 P **P 02 52 32.4 -0.4**
NRN pmax pmax
comp=Z,4.0nm,0.9s
NIL Nilore 42.54 78 P **P 02 52 34.0 +0.3**
NIL IAmb IAmb 02 52 50.7
comp=Z,12nm,1.1s
NIL Nilore 42.54 78 P **P 02 52 34.0 +0.3**
NIL pmax pmax
comp=Z,12nm,1.2s
KURBB Kurchatov Arra 42.71 53 P **P 02 52 33.9 -0.9**
comp=Z,2.5nm,0.5s,baz=281,slow=8.7,SNR=19
KURBB LR LR 03 13 18.2
comp=Z,119nm,20.1s,baz=181,slow=40
comp=Z,2.5nm,0.5s
KURK Kurchatov 42.76 53 P **P 02 52 35.1 -0.1**
KURK IAmb IAmb 02 52 41.0
comp=Z,10nm,1.4s
KURK Kurchatov 42.76 53⇓*e*P **P 02 52 36.4 +1.2**
KURK pmax pmax
comp=Z,8.0nm,1.3s
MK31 Makanchi Array 45.71 58 P **P 02 52 58.6 -0.3**
MK31 Makanchi Array 45.71 58⇑*e*P **P 02 52 57.9 -1.0**
MKAR Makanchi Array 45.71 58 P **P 02 52 57.7 -1.2**
comp=Z,1.4nm,0.5s,baz=277,slow=7.3,SNR=17
comp=Z,1.4nm,0.5s
MKAR Makanchi Array 45.71 58 *e*P **P 02 52 58.1 -0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
ZAA0 Zalesovo Array 46.25 47 P **P 02 53 02.4 -0.6**
ZAA0 IAmb IAmb 02 53 18.1
comp=Z,6.7nm,1.1s
ZALV Zalesovo Beam 46.25 47 P **P 02 53 01.5 -1.5**
comp=Z,2.1nm,0.4s,baz=270,slow=8.3,SNR=7.9
comp=Z,2.1nm,0.4s
ZALV Zalesovo Beam 46.25 47 *e*P **P 02 53 02.8 -0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
NRS Narsarsuaq 46.88 323 P **P 02 53 06.2 -1.6**
NRS Narsarsuaq 46.88 323 P **P 02 53 06.2 -1.6**
NRS pmax pmax
comp=Z,37nm,0.8s
NRIK Noril'sk 47.60 26 P **P 02 53 12.9 -0.5**
NRIK IAmb IAmb 02 53 51.0
comp=Z,5.8nm,1.1s
NRIK Noril'sk 47.60 26 LR LR 03 17 32.3
comp=Z,174nm,18.5s,baz=306,slow=42
NRIK Noril'sk 47.60 26 P **P 02 53 12.9 -0.5**
NRIK pmax pmax
comp=Z,6.0nm,1.1s
SFJD Kangerlussuaq 49.13 331 LR LR 03 16 58.2
comp=Z,133nm,18.9s,baz=50,slow=40
WMQ Urumqi 50.13 60 *e*P **P 02 53 36.3 +3.1**
WMQ LR LR
comp=N,1μm,17.7s
WMQ LR LR
comp=E,990nm,16.3s
WMQ LR LR

comp=Z,570nm,22.1s
EUNU Eureka 56.48 349 P P 02 54 20.1 +0.7
EUNU IAmb IAmb 02 54 49.8
comp=Z,9.2nm,1.4s
FRB Frobisher Bay 57.03 328 LR LR 03 21 30.3
comp=Z,115nm,18.4s,baz=81,slow=39
SCHQ Schefferville 59.25 318 LR LR 03 19 52.7
comp=Z,88nm,18.4s,baz=332,slow=36
TIXI Tiksi 60.51 20⇑ *e*P **P 02 54 48.1 +0.6**
TIXI pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 60.98 50 P P 02 54 50.7 -0.5
comp=Z,0.7nm,0.4s,baz=288,slow=10.0,SNR=2.7
comp=Z,0.7nm,0.4s
SONM Songino Array 60.98 50 *e*P **P 02 54 54.8 +3.6**
SONM pmax pmax
comp=Z,1.0nm,0.6s
LZH Lanzhou 64.53 63 *e*P P 02 55 23.2 +8.1
LZH sP pwP 02 55 31.4 +8.2
LZH Lanzhou 64.53 63 SS SS 03 08 09.2 +5.4
LZH pmax pmax
comp=Z,14nm,1.1s
LZH LR LR
comp=N,1μm,17.9s
LZH LR LR
comp=E,1μm,16.0s
LZH LR LR
comp=Z,1μm,18.6s
YAK Yakutsk 65.89 29⇑ *e*P **P 02 55 23.8 +0.5**
YAK pmax pmax
comp=Z,14nm,0.6s
HHC Hu-ho-hao-te 67.48 55 *e*P **P 02 55 34.9 +0.9**
HHC S **SKSac 03 05 28.6 -2.5**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,77nm,5.9s
HHC LR LR
comp=N,900nm,15.3s
HHC LR LR
comp=E,440nm,16.0s
HHC LR LR
comp=Z,1μm,15.3s
PZH PanZhiHua 67.77 73 P P 02 55 39.1 +3.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.1s
XAN Xi'an 69.16 63 ⇓P P 02 55 45.7 +1.2
XAN pP sP 02 55 50.0 -1.1
XAN pmax pmax
comp=Z,8.0nm,1.1s
CMAR Chiang Mai Arr 69.91 82 P P 02 55 48.9 -0.4
comp=Z,1.1nm,0.3s,baz=291,slow=6.4,SNR=6.6
comp=Z,1.1nm,0.3s
CMAR Chiang Mai Arr 69.91 82 *e*P **P 02 55 49.9 +0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
HEH HeiHe 71.69 40 *e*P **P 02 56 00.1 +0.5**
HEH pmax pmax
comp=Z,8.0nm,0.7s
KLR Kul'dur 74.54 39⇑ *e*P **P 02 56 16.9 +0.4**
KLR pmax pmax
comp=Z,10.0nm,1.7s
NJ2 Nanjing 77.20 60 *e*P **P 02 56 32.4 +0.4**
NJ2 pmax pmax
comp=Z,3.0nm,0.6s
ILAR Eielson Array 77.88 355 P P 02 56 34.0 -1.2
comp=Z,0.2nm,0.6s,baz=355,slow=5.4,SNR=2.1
comp=Z,0.2nm,0.6s
KSRS Korea Array 79.85 51 P P 02 56 45.5 -1.0
comp=Z,1.6nm,0.6s,baz=343,slow=3.8,SNR=2.6
comp=Z,1.6nm,0.6s
KSRS Korea Array 79.85 51 *e*P **P 02 56 49.5 +3.0**
KSRS pmax pmax
comp=Z,2.0nm,0.9s
BDFB Brasilia 83.21 245 LR LR 03 35 01.2
comp=Z,168nm,18.8s,baz=347,slow=36
TXAR Lajitas Array 95.72 314 P P 02 58 05.0 +0.8
comp=Z,0.2nm,0.7s,baz=51,slow=7.1,SNR=2.1
comp=Z,0.2nm,0.7s
CPUP Villa Florida 96.70 242 LR LR 03 43 42.9
comp=Z,103nm,18.2s,baz=59,slow=37

IDC ***05*** *02:54:03.2±0.5, 10°.62N×122°.33E, h0km, mb4.4/26, mbtmp4.4/29, ML4.9/2, MS4.2/53, Error ellipse: s-maj=21.1km s-min=11.2km az=72.0*
BJI ***05*** *02:54:04.8, 10°.70N×122°.44E, h11km, mb4.8/44, mB5.1/19, Ms4.7/41, Ms7 4.5/39*
GCMT ***05*** *02:54:08.6±0.2, 10°.77N±0°.01×122°.31E±0°.01, h16km±1km, MW5.1/119, Moment Tensor Solution. s43,c51; s119,c190; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}0.60±.11; $M_{\theta\theta}$0.82±.08; $M_{\phi\phi}$-1.42±.10; $M_{r\theta}$-3.12±.38; $M_{\theta\phi}$-3.36±.07; $M_{\phi r}$-1.42±.27; Best double couple: M_0=4.86900×10^16^ NP1:ϕ_s=256.00000°, δ87.00000°, λ135.00000°. NP2:ϕ_s=349.00000°, δ45.00000°, λ4.00000°. Principal axes: T 4.3340, Plg32.0000°, Azm203.0000°; N 1.0730, Plg45.0000°, Azm73.0000°; P -5.4040, Plg28.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***05*** *02:54:09.5±1.2, 11°N±6°×12°3E±°, h33km±10km, M5.1/35, mb5.1/35, mB5.5/24, MLv5.5/3, Mw(mB)5.0/24, MwMwp4.9/2, Mwp5.2/2*
NEIC ***05*** *02:54:12.6±1.8, 10°.70N±0°.06×122°.25E±0°.07, h56km±6km, mb4.9/133, Error ellipse: s-maj=10.2km s-min=8.6km az=67.0*
ISC 05 02:54:08.1±0.4, 10°.64N±0°.04×122°.37E±0°.06, h25km±2km, h25km:pP-P, n302, σ1§43/247, mb4.9/120, MS4.3/65, 11C-4D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.72**	**338**	Pn	**Pn**	**02 55 03.2**	**-0.9**
	747nm,0.7s,baz=180,slow=0.0						
DAV	**Davao City (W)**	**4.76**	**138**	Pn	Pn	02 55 24.4	+6.1
DAV	**Davao City (W)**	**4.76**	**138**	Pn	**Pn**	**02 55 17.4**	**-0.8**
	96nm,0.3s,baz=266,slow=17,SNR=1.5						
DAV				LR	LR	02 57 28.6	
	comp=Z,6μm,20.4s,baz=320,slow=43						
	265nm,0.4s						
DAV	**Davao City (W)**	**4.76**	**138**	P	**Pb**	**02 55 28.0**	**-2.8**
MYLDM	**Lahad Datu**	**6.64**	**216**	Pn	**Pn**	**02 55 47.1**	**+3.0**
KKM	**Kota Kinabalu**	**7.61**	**234**	Pn	**Pn**	**02 55 57.5**	**-0.1**
TOLI2	**Tolitoli**	**9.60**	**190**	Pn	**Pn**	**02 56 25.4**	**+0.6**
KMSI	**Cibinong**	**10.12**	**171**	P	**Pn**	**02 56 35.5**	**+3.5**
TNTI	**Ternate**	**10.99**	**153**	Pn	**Pn**	**02 56 48.0**	**+4.1**
TNTI	**Ternate**	**10.99**	**153**	P	**Pn**	**02 56 47.4**	**+3.5**
	50nm,1.3s						
APSI	**Ampana**	**11.49**	**184**	P	Pn	02 56 56.0	+5.2
LUWI	**Luwuk**	**11.61**	**178**	Pn	Pn	02 56 57.5	+5.1
LUWI	**Luwuk**	**11.61**	**178**	P	Pn	02 57 00.5	+8.1
I39PW	**PALAU INFRASON**	**12.41**	**103**	I	I	04 05 40.0	
	baz=287,slow=310,SNR=2.0						
TPUB	**Ta-pu**	**12.70**	**353**	Pn	**Pn**	**02 57 10.7**	**+3.4**
YULB	**Yu-li**	**12.73**	**356**		**Pn**	**02 57 11.9**	**+4.3**
SBUM	**Sibu**	**12.95**	**232**	Pn	**Pn**	**02 57 12.2**	**+1.6**
SANI	**Sanana**	**13.11**	**164**	P	**Pn**	**02 57 14.0**	**+1.1**
SSLB	**Suanglung**	**13.15**	**354**		**Pn**	**02 57 14.8**	**+1.4**
TTSI	**Tana Toraja**	**13.83**	**191**	P	**P**	**02 57 27.4**	**-3.4**
	72nm,1.1s						
YHNB	**Yeheng**	**13.99**	**356**		**Pn**	**02 57 26.4**	**+1.5**
SWI	**Sorong**	**14.45**	**142**	P	**Pn**	**02 57 32.4**	**+1.2**
	24nm,0.6s						
NLAI	**Namlea**	**14.57**	**161**	P	**Pn**	**02 57 34.6**	**+1.8**
QIZ	**Qiongzhong**	**14.70**	**306**	Pn	**Pn**	**02 57 34.2**	**-0.4**
QIZ	**Qiongzhong**	**14.70**	**306**	P	**Pn**	**02 57 34.5**	**0.0**
QIZ				pmax	pmax		
	comp=Z,76nm,0.8s						
QIZ				pmax	pmax		
	comp=Z,310nm,7.1s						
QIZ				LR	LR		
	comp=N,1μm,10.4s						
QIZ				LR	LR		
	comp=E,1μm,11.2s						
QIZ				LR	LR		
	comp=Z,2μm,13.6s						
SPSI	**Sidrap Palu**	**14.73**	**190**	P	**P**	**02 57 38.8**	**-2.1**
	46nm,1.3s,2μm						
STKI	**Sintang**	**15.09**	**227**	P	P	02 58 00.7	+16
BNSI	**Bone**	**15.11**	**189**	P	**P**	**02 57 45.4**	**+0.3**
	128nm,1.3s,2μm						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**15.77**	**190**	Pn	**Pn**	**02 57 50.6**	**+1.9**
KAPI				IAmb	IAmb	02 57 57.4	
	comp=Z,166nm,1.9s						
KAPI	**Kappang**	**15.77**	**190**	Pn	**Pn**	**02 57 46.9**	**-1.7**
	comp=Z,2.3nm,0.3s,baz=19,slow=12,SNR=1.3						
	comp=Z,5.4nm,0.3s						
BKSI	**Bulukumba**	**16.01**	**188**	P	**P**	**02 57 56.9**	**+1.8**
	comp=Z,39nm,0.9s,comp=Z,679nm						
FAKI	**Fak Fak**	**16.68**	**143**	Pn	**P**	**02 58 02.9**	**+0.4**
FAKI	**Fak Fak**	**16.68**	**143**	P	**P**	**02 58 02.1**	**-0.4**
	comp=Z,45nm,1.0s,comp=Z,2μm						
BNDI	**Bandanaira**	**16.83**	**153**	P	**Pn**	**02 58 02.7**	**+0.5**
	comp=Z,144nm,1.5s						
RKPI	**Ransiki, Papua**	**16.84**	**135**	P	**P**	**02 58 06.6**	**+2.2**
	comp=Z,141nm,1.5s						
JOW	**Kunigami**	**17.05**	**18**	LR	LR	03 03 34.4	
	comp=Z,884nm,21.9s,baz=62,slow=33						
GULI	**GuiLin**	**18.49**	**324**	P	**Pn**	**02 58 22.8**	**+0.1**
GULI				pmax	pmax		
	comp=Z,20nm,1.0s						
GULI				LR	LR		
	comp=Z,900nm,15.4s						
GULI				LR	LR		
	comp=Z,900nm,15.1s						
GULI				LR	LR		
	comp=Z,1μm,14.5s						
MMRI	**Maumere**	**19.15**	**180**	P	**Pn**	**02 58 32.3**	**+1.6**
MMRI	**Maumere**	**19.15**	**180**	P	**Pn**	**02 58 32.7**	**+2.0**
	comp=Z,217nm,1.3s						
KMMI	**Kalianget**	**19.46**	**206**	P	**Pn**	**02 58 36.6**	**+2.1**
	comp=Z,84nm,1.1s						
CNSH	**ChangSha**	**19.57**	**334**	P	**P**	**02 58 34.8**	**+0.5**
CNSH				S	**Sn**	**03 02 15.2**	**+0.3**
CNSH				LR	LR		
	comp=Z,950nm,19.0s						
CNSH				LR	LR		
	comp=Z,880nm,18.4s						
CNSH				LR	LR		
	comp=Z,650nm,20.1s						
PLAI	**Plampang**	**19.87**	**193**	P	**Pn**	**02 58 41.7**	**+2.4**
PLAI	**Plampang**	**19.87**	**193**	P	**Pn**	**02 58 41.1**	**+1.8**
	comp=Z,166nm,0.8s,comp=Z,2μm						
SRBI	**Singaraja**	**19.92**	**201**	P	**Pn**	**02 58 40.7**	**+0.8**
	comp=Z,159nm,1.4s,comp=Z,3μm						
ABJI	**Asem Bagus**	**20.02**	**204**	P	Pn	02 58 42.1	+1.0
	comp=Z,100nm,1.0s						
GRJI	**Gresik**	**20.02**	**210**	P	Pn	02 58 42.3	+1.1
	comp=Z,182nm,1.4s,comp=Z,2μm						
SOEI	**Soe**	**20.35**	**175**		Pn	02 58 44.4	-0.7
SOEI	**Soe**	**20.35**	**175**	P	Pn	02 58 45.6	+0.5
	comp=Z,169nm,0.9s,comp=Z,3μm						
WBSI	**Waikabubak, Su**	**20.36**	**188**	P	**P**	**02 58 43.5**	**+0.5**
	comp=Z,41nm,0.9s						
SLVN	**Son La**	**20.67**	**303**	P	**P**	**02 58 46.6**	**+0.2**
SLVN				IAmb	IAmb	02 58 49.1	
	comp=Z,58nm,1.2s						
JAGI	**Jajag, Banyuwa**	**20.67**	**204**	P	**P**	**02 58 46.3**	**0.0**
JAGI				IAmb	IAmb	02 59 00.4	
	comp=Z,74nm,0.9s						
JAGI	**Jajag, Banyuwa**	**20.67**	**204**	P	Pn	02 58 48.5	-0.2
	comp=Z,110nm,1.1s,comp=Z,2μm						
BATI	**Baumata**	**20.75**	**176**	P	**P**	**02 58 48.2**	**+1.0**
	comp=Z,403nm,0.9s,baz=191,slow=1.5,SNR=49						
BATI				S	**S**	**03 02 38.8**	**+1.0**
	comp=Z,16nm,0.3s,baz=12,slow=20,SNR=1.1						
BATI	**Baumata**	**20.75**	**176**	P	Pn	02 58 49.0	-0.7
NGJI	**Ngawi**	**20.93**	**212**	P	Pn	02 58 54.9	+3.2
	comp=Z,134nm,1.1s						
WHN	**Wuhan**	**21.16**	**341**	P	**P**	**02 58 51.8**	**+0.2**
WHN				LR	LR		
	comp=Z,710nm,17.2s						
WHN				LR	LR		
	comp=Z,970nm,16.4s						
WHN				LR	LR		
	comp=Z,2μm,17.3s						
GENI	**Genyem**	**22.06**	**126**	P	**P**	**02 59 02.7**	**+1.4**
	comp=Z,217nm,1.8s						
KULM	**Kulim**	**22.15**	**258**	P	**P**	**02 59 02.6**	**+0.3**
GUMO	**Guam**	**22.19**	**80**	LR	LR	03 05 52.3	
	comp=Z,358nm,20.9s,baz=258,slow=32						
JAY	**Jayapura**	**22.45**	**125**	P	**P**	**02 59 05.2**	**-0.3**
	comp=Z,65nm,1.6s,comp=Z,1μm						
LEM	**Lembang**	**22.73**	**221**	P	**P**	**02 59 11.5**	**+2.8**
PHRA	**Phrae**	**22.79**	**293**	P	**P**	**02 59 08.1**	**-1.0**
ENH	**Enshi**	**22.92**	**330**	P	**P**	**02 59 08.9**	**-1.5**
KMI	**Kunming**	**23.54**	**310**	⇓P	**P**	**02 59 17.5**	**+0.6**
KMI				S	**S**	**03 03 28.1**	**-1.7**
KMI				pmax	pmax		
	comp=Z,65nm,1.5s						
KMI				pmax	pmax		
	comp=Z,320nm,4.0s						
KMI				LR	LR		
	comp=Z,580nm,13.8s						
KMI				LR	LR		
	comp=Z,840nm,15.6s						
KMI				LR	LR		
	comp=Z,930nm,16.3s						
BKNI	**Bangkinang**	**23.55**	**246**	P	**P**	**02 59 18.1**	**+1.2**
BKNI				IAmb	IAmb	02 59 20.1	
	comp=Z,65nm,0.9s						
JNU	**Nakatsue**	**23.71**	**18**	P	**P**	**02 59 20.0**	**+1.8**
JNU	**Nakatsue**	**23.71**	**18**	LR	LR	03 07 34.7	
	comp=Z,509nm,21.8s,baz=215,slow=34						
CM31	**Chiang Mai Arr**	**23.95**	**292**	P	**P**	**02 59 20.6**	**0.0**
CM31				IAmb	IAmb	02 59 21.9	
	comp=Z,38nm,1.0s						
CMAR	**Chiang Mai Arr**	**23.95**	**292**	P	**P**	**02 59 19.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**23.95**	**292**	P	**P**	**02 59 20.6**	**0.0**
	comp=Z,17nm,0.9s,baz=109,slow=7.5,SNR=66						
CMAR				LR	LR	03 09 14.0	
	comp=Z,366nm,18.1s,baz=115,slow=38						
	comp=Z,17nm,0.9s						
CHTO	**Chiang Mai**	**24.05**	**292**	P	**P**	**02 59 20.7**	**-0.9**
RPSI	**Rantau Prapat**	**24.57**	**253**	P	**P**	**02 59 25.1**	**-1.2**
MTN	**Manton Dam**	**24.90**	**159**	P	**P**	**02 59 30.4**	**+1.2**
MTN	**Manton Dam**	**24.90**	**159**	P	**P**	**02 59 28.5**	**-0.8**
	comp=Z,20nm,0.8s						
PZH	**PanZhiHua**	**25.06**	**312**	P	**P**	**02 59 30.7**	**-0.2**
PZH				pmax	pmax		
	comp=Z,60nm,1.0s						
PZH				pmax	pmax		
	comp=Z,220nm,7.8s						
PZH				LR	LR		
	comp=Z,850nm,17.9s						
PZH				LR	LR		
	comp=Z,610nm,17.9s						
PZH				LR	LR		
	comp=Z,1μm,16.7s						
KDU	**Kakadu**	**25.25**	**156**	P	**P**	**02 59 30.7**	**-1.7**
	comp=Z,23nm,0.6s						
KDU	**Kakadu**	**25.25**	**156**	P	**P**	**02 59 31.1**	**-1.3**
LYN	**LuoYang**	**25.46**	**341**	P	**P**	**02 59 33.6**	**-0.6**
LYN				PP	**PnPn**	**03 00 11.6**	**+1.5**
LYN				S	**S**	**03 04 00.9**	**+0.9**
LYN				sS	pS	03 04 09.8	+1.5
LYN				SS	**SnSn**	**03 04 56.4**	**+2.7**
LYN				pmax	pmax		
	comp=Z,39nm,1.0s						
LYN				pmax	pmax		
	comp=Z,230nm,5.2s						
LYN				LR	LR		
	comp=Z,2μm,16.5s						
LYN				LR	LR		
	comp=Z,930nm,15.8s						
LYN				LR	LR		
	comp=Z,2μm,16.5s						
TIA	**Tai'an**	**25.90**	**350**	P	**P**	**02 59 33.8**	**-4.4**
TIA				S	**S**	**03 04 11.3**	**+4.4**
TIA				pmax	pmax		
	comp=Z,7.0nm,0.4s						
TIA				pmax	pmax		
	comp=Z,150nm,4.8s						
TIA				LR	LR		
	comp=Z,670nm,18.0s						
TIA				LR	LR		
	comp=Z,1μm,18.6s						
TIA				LR	LR		
	comp=Z,990nm,18.4s						
GSI	**Gunungsitoli**	**26.32**	**251**	P	**P**	**02 59 41.5**	**-0.7**
GSI				IAmb	IAmb	02 59 52.3	
	comp=Z,52nm,1.3s						
XAN	**Xi'an**	**26.35**	**334**	⇑P	**P**	**02 59 40.8**	**-1.5**
XAN				pP	pP	02 59 45.2	-4.7
XAN				sP	sP	02 59 47.8	-4.9
XAN				S	**S**	**03 04 14.8**	**+0.7**
XAN				pmax	pmax		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,14nm,2.2s						
XAN				LR	LR		
	comp=Z,1μm,16.5s						
XAN				LR	LR		
	comp=Z,650nm,15.1s						
XAN				LR	LR		
	comp=Z,1μm,19.2s						
CD2	**Chengdu**	**26.56**	**322**	P	**P**	**02 59 44.5**	**+0.2**
CD2				S	**S**	**03 04 22.2**	**+4.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,1μm,15.3s						
CD2				LR	LR		
	comp=Z,910nm,15.7s						
CD2				LR	LR		
	comp=Z,1μm,16.3s						
KNRA	**Kununurra**	**26.90**	**166**	P	**P**	**02 59 47.4**	**0.0**
KNRA				IAmb	IAmb	02 59 53.4	
	comp=Z,23nm,0.7s						
KNRA	**Kununurra**	**26.90**	**166**	P	**P**	**02 59 48.2**	**+0.9**
	comp=Z,36nm,0.9s						
KSAR	**Wonju Array Be**	**27.15**	**10**	P	**P**	**02 59 49.6**	**+0.2**
KSRS	**Korea Array**	**27.16**	**10**	P	**P**	**02 59 49.1**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=185,slow=10,SNR=11						
KSRS				LR	LR	03 11 20.3	
	comp=Z,270nm,19.0s,baz=195,slow=38						
	comp=Z,3.1nm,0.8s						
KS19	**Wonju Array Si**	**27.20**	**10**	P	**P**	**02 59 49.5**	**-0.5**
JHJ	**Hachijo jima 2**	**27.51**	**33**	LR	LR	03 09 19.8	
	comp=Z,453nm,21.1s,baz=276,slow=33						
HNS	**HongShan**	**27.52**	**347**	⇓P	**P**	**02 59 52.1**	**-0.7**
HNS				pmax	pmax		
	comp=Z,11nm,1.0s						
HNS				LR	LR		
	comp=Z,600nm,21.5s						
HNS				LR	LR		
	comp=Z,1μm,19.4s						
HNS				LR	LR		
	comp=Z,1μm,16.1s						
INU	**Inuyama**	**27.98**	**26**	P	**P**	**02 59 54.8**	**-2.1**
FITZ	**Fitzroy Crossi**	**28.73**	**174**	P	**P**	**03 00 03.5**	**-0.2**
MJAR	**Matsushiro Arr**	**29.50**	**27**	P	**P**	**03 00 07.8**	**-2.7**
	comp=Z,3.1nm,1.0s,baz=195,slow=8.9,SNR=3.4						
MJAR				LR	LR	03 11 31.6	
	comp=Z,302nm,19.0s,baz=222,slow=36						
	comp=Z,3.1nm,1.0s						
BJT	**Baijiatuau**	**29.77**	**350**	P	**P**	**03 00 12.2**	**-0.6**
BRDH	**Bariadhala**	**31.70**	**296**	LR	LR	03 15 12.9	
	comp=Z,708nm,19.3s,baz=136,slow=40						
MBWA	**Marble Bar**	**31.70**	**185**	P	**P**	**03 00 30.0**	**0.0**
MBWA				IAmb	IAmb	03 00 31.2	
	comp=Z,16nm,0.8s						
MBWA	**Marble Bar**	**31.70**	**185**	P	**P**	**03 00 29.7**	**-0.3**
	comp=Z,26nm,0.9s						
MBWA	**Marble Bar**	**31.70**	**185**	P	**P**	**03 00 30.2**	**+0.2**
BTO	**Baotou**	**31.78**	**342**	*e*P	**P**	**03 00 34.2**	**+3.5**
BTO				pP	**pP**	**03 00 38.7**	**+0.4**
BTO				sP	**sP**	**03 00 41.4**	**+0.3**
BTO				PP	**PP**	**03 01 40.4**	**-2.3**
BTO				S	**S**	**03 05 44.0**	**+4.5**
BTO				sS	**sS**	**03 05 51.6**	**-0.5**
BTO				pmax	pmax		
	comp=Z,11nm,0.5s						
BTO				pmax	pmax		
	comp=Z,280nm,7.9s						
BTO				LR	LR		
	comp=Z,2μm,17.5s						
BTO				LR	LR		
	comp=Z,1μm,15.7s						
BTO				LR	LR		
	comp=Z,2μm,17.9s						
PSAD1	**Pilbara Seismi**	**31.99**	**184**	P	**P**	**03 00 32.7**	**+0.2**
	comp=Z,42nm,1.0s						
PSAC1	**Pilbara Seismi**	**32.07**	**184**	P	**P**	**03 00 32.8**	**-0.4**
	comp=Z,42nm,1.0s						
PSA00	**Pilbara Seismi**	**32.10**	**184**	P	**P**	**03 00 33.7**	**+0.2**
PSA00				IAmb	IAmb	03 00 34.9	
	comp=Z,30nm,0.9s						
PSA00	**Pilbara Seismi**	**32.10**	**184**	P	**P**	**03 00 34.2**	**+0.6**
	comp=Z,36nm,1.5s						
SHL	**Shillong**	**32.45**	**301**	P	**P**	**03 00 35.8**	**-1.0**
WB0	**Warramunga Arr**	**32.45**	**159**	P	**P**	**03 00 37.3**	**+0.7**
WB0				IAmb	IAmb	03 00 43.2	
	comp=Z,28nm,1.8s						
WRAB	**Tennant Creek**	**32.59**	**159**	P	**P**	**03 00 37.6**	**-0.2**
WRAB				IAmb	IAmb	03 01 38.4	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**32.59**	**159**	P	**P**	**03 00 36.1**	**-1.8**
	comp=Z,5.6nm,0.6s,baz=341,slow=9.3,SNR=36						
WRA				PcP	**PcP**	**03 03 23.1**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=337,slow=3.3,SNR=7.0						
WRA				LR	LR	03 14 40.1	
	comp=Z,344nm,21.1s,baz=344,slow=38						
	comp=Z,5.6nm,0.6s						
WB2	**Warramunga Arr**	**32.60**	**159**	P	**P**	**03 00 36.5**	**-1.4**
WB2				IAmb	IAmb	03 00 39.1	
	comp=Z,9.4nm,0.7s						
WB2	**Warramunga Arr**	**32.60**	**159**	P	**P**	**03 00 36.7**	**-1.2**
WR0	**Warramunga Arr**	**32.68**	**158**	P	**P**	**03 00 37.4**	**-1.2**
XLT	**XiLinHaoTe**	**33.59**	**352**	*e*P	**P**	**03 00 47.0**	**+0.6**
XLT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
XLT				pmax	pmax		
	comp=Z,110nm,3.8s						
XLT				LR	LR		
	comp=Z,590nm,21.0s						
XLT				LR	LR		
	comp=Z,480nm,21.7s						
GIRL	**Giralia**	**34.02**	**194**	P	**P**	**03 00 52.8**	**+2.6**
USA0B	**Ussuriysk Arra**	**34.46**	**12**	P	**P**	**03 00 54.8**	**+0.9**
USA0B				IAmb	IAmb	03 01 06.9	
	comp=Z,13nm,0.9s						
USRK	**Ussuriysk Ar.**	**34.46**	**12**	P	**P**	**03 00 54.4**	**+0.5**
USRK	**Ussuriysk Ar.**	**34.46**	**12**	P	**P**	**03 00 53.6**	**-0.3**
	comp=Z,5.6nm,0.5s,baz=195,slow=7.5,SNR=23						
USRK				LR	LR	03 15 48.8	
	comp=Z,310nm,19.4s,baz=195,slow=38						
	comp=Z,5.6nm,0.5s						
LSA	**Lhasa**	**34.73**	**308**	P	**P**	**03 00 56.2**	**-0.8**
LSA				IAmb	IAmb	03 01 23.0	
	comp=Z,16nm,1.1s						
GTA	**Gaotai**	**34.99**	**329**	*e*P	**P**	**03 01 00.7**	**+2.0**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA				LR	LR		
	comp=Z,480nm,18.5s						
GTA				LR	LR		
	comp=Z,650nm,17.4s						
GTA				LR	LR		
	comp=Z,1μm,17.5s						
BNX	**BinXian**	**35.24**	**6**	⇓P	**P**	**03 01 00.2**	**-0.4**
BNX				pmax	pmax		
	comp=Z,16nm,1.2s						
QIS	**Mount Isa**	**35.33**	**151**	P	**P**	**03 01 00.6**	**-1.1**
	comp=Z,9.7nm,3.0s						
PATS	**Pohnpei**	**35.71**	**93**	P	**P**	**03 01 05.7**	**+0.6**
AS31	**Alice Springs**	**35.91**	**162**	P	**P**	**03 01 07.0**	**+0.4**
AS31	**Alice Springs**	**35.91**	**162**	P	**P**	**03 01 06.0**	**-0.7**
	comp=Z,2.6nm,0.7s						
ASAR	**Alice Springs**	**35.91**	**162**	PKPdf	**PcP**	**03 03 33.2**	**-0.3**
ASAR	**Alice Springs**	**35.91**	**162**	P	**P**	**03 01 05.8**	**-0.8**
ASAR	**Alice Springs**	**35.91**	**162**	P	**P**	**03 01 05.3**	**-1.3**
	comp=Z,3.0nm,0.6s,baz=343,slow=7.3,SNR=35						
ASAR				PcP	**PcP**	**03 03 32.9**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=348,slow=3.0,SNR=5.1						
ASAR				LR	LR	03 18 37.4	
	comp=Z,234nm,18.9s,baz=332,slow=41						
	comp=Z,3.0nm,0.6s						
ASAR	**Alice Springs**	**35.91**	**162**	PKIKP	**PcP**	**03 03 33.2**	**-0.3**
AS01	**Alice Springs**	**35.92**	**162**	P	**P**	**03 01 07.0**	**+0.3**
WRKA	**Warakurna**	**35.93**	**171**	P	**P**	**03 01 07.2**	**+0.4**
	comp=Z,30nm,1.0s						
MEEK	**Meekatharra**	**37.23**	**186**	P	**P**	**03 01 17.7**	**-0.1**
	comp=Z,68nm,0.9s						
CTA	**Charters Tower**	**38.54**	**142**	LR	LR	03 19 34.6	
	comp=Z,13nm,21.2s,baz=304,slow=40						
KLR	**Kul'dur**	**39.26**	**10**	LR	LR	03 19 03.0	
	comp=Z,281nm,19.1s,baz=204,slow=38						
ULN	**Ulaanbaatar**	**39.28**	**344**	P	**P**	**03 01 34.5**	**-0.6**
ULN				IAmb	IAmb	03 01 36.6	
	comp=Z,14nm,0.7s				

SONM Songino Array 39.44 343 P P 03 01 35.7 -0.6
comp=Z,12nm,0.7s,baz=161,slow=9.5,SNR=54
SONM LR LR 03 19 48.0
comp=Z,630nm,18.6s,baz=154,slow=39
comp=Z,12nm,0.7s
MORW Morawa 39.94 189 P P 03 01 41.4 +0.8
MORW Morawa 39.94 189 P P 03 01 41.5 +0.9
comp=Z,34nm,1.1s
MORW Morawa 39.94 189 P P 03 01 41.6 +1.1
FORT Forrest 41.54 173 P P 03 01 53.8 +0.1
FORT Forrest 41.54 173 P P 03 01 53.9 +0.2
comp=Z,65nm,1.1s
KMBL Kambalda 41.77 181 P P 03 01 55.9 +0.4
comp=Z,67nm,0.9s
MULG Mulgathing 42.21 165 P P 03 01 59.5 +0.3
KLBR Kellerberrin 42.22 186 P P 03 02 00.0 +0.8
comp=Z,102nm,0.7s
KLBR Kellerberrin 42.22 186 P P 03 02 00.0 +0.8
HNR Honiara 42.37 117 LR LR 03 18 06.3
comp=Z,148nm,22.0s,baz=278,slow=34
QLP Quilpie 42.66 151 P P 03 02 02.2 -0.7
comp=Z,25nm,1.3s
MUN Mundaring 42.78 188 P P 03 02 04.0 +0.2
comp=Z,27nm,1.2s
NWAO Narrogin (SRO) 43.60 186 P P 03 02 11.5 +1.1
NWAO Narrogin (SRO) 43.60 186 LR LR 03 21 57.1
comp=Z,94nm,18.4s,baz=28,slow=38
NWAO Narrogin (SRO) 43.60 186 P P 03 02 11.9 +1.5
NWAO Narrogin (SRO) 43.60 186 P P 03 02 11.8 +1.4
BBOO Buckleboo 45.14 164 P P 03 02 22.6 -0.1
BBOO IAmb IAmb 03 02 31.3
comp=Z,34nm,1.2s
BBOO Buckleboo 45.14 164 P P 03 02 22.6 -0.1
comp=Z,29nm,1.3s
EIDS Eidsvold 45.43 142 P P 03 02 24.2 -0.9
comp=Z,13nm,1.0s
STKA Stephens Creek 46.11 157 P P 03 02 30.1 -0.3
STKA Stephens Creek 46.11 157 P P 03 02 30.4 -0.1
comp=Z,1.6nm,1.1s
STKA Stephens Creek 46.11 157 P P 03 02 29.4 -1.0
comp=Z,3.9nm,0.7s,baz=326,slow=8.1,SNR=11
STKA LR LR 03 24 47.1
comp=Z,224nm,19.6s,baz=351,slow=40
comp=Z,3.9nm,0.7s
HTT Hallett 46.57 161 P P 03 02 34.8 +0.7
comp=Z,16nm,1.0s
CMSA Cobar Meteorol 47.52 153 P P 03 02 41.7 +0.2
comp=Z,8.7nm,0.9s
MK31 Makanchi Array 49.45 324 P P 03 02 55.6 -0.7
MKAR Makanchi Array 49.45 324 P P 03 02 55.6 -0.7
MKAR Makanchi Array 49.45 324 P P 03 02 55.1 -1.2
comp=Z,2.5nm,0.8s,baz=130,slow=8.2,SNR=18
MKAR LR LR 03 25 16.5
comp=Z,432nm,20.3s,baz=101,slow=38
comp=Z,2.5nm,0.8s
ARMA Armidale 49.58 146 P P 03 02 57.0 -0.5
MAKZ Makanchi 49.64 324 P P 03 02 58.0 +0.3
MAKZ IAmb IAmb 03 03 08.5
comp=Z,13nm,1.5s
MAKZ Makanchi 49.64 324 P P 03 02 57.5 -0.2
MAKZ pP **sP** **03 03 08.1 -0.3**
KSH Kashi 50.16 313 P P 03 03 09.0 +7.1
KSH pmax pmax
comp=Z,7.0nm,1.2s
NIL Nilore 50.37 305 P P 03 03 02.7 -0.8
NIL Nilore 50.37 305 P P 03 03 03.6 +0.2
ARPS Mount Arapiles 50.59 160 P P 03 03 04.5 -0.4
comp=Z,20nm,1.2s
NRN Naryn 50.88 315 P P 03 03 06.9 -0.6
PETK Petropavlovsk- 50.96 27 P P 03 03 07.2 -0.3
comp=Z,9.3nm,0.7s,baz=217,slow=5.2,SNR=14
PETK LR LR 03 23 50.6
comp=Z,164nm,21.3s,baz=209,slow=35
comp=Z,9.3nm,0.7s
CNB Canberra Magne 52.35 152 P P 03 03 17.8 -0.4
comp=Z,13nm,1.7s
AAK Ala-Archa 52.39 316 P P 03 03 18.9 +0.3
AAK Ala-Archa 52.39 316 LR LR 03 27 30.4
comp=Z,446nm,21.1s,baz=105,slow=38
AAK Ala-Archa 52.39 316 P P 03 03 19.4 +0.8
AAK pP **sP** **03 03 30.2 +0.9**
ZALV Zalesovo Beam 52.51 333 P P 03 03 17.4 -1.7
ZALV Zalesovo Beam 52.51 333 P P 03 03 17.9 -1.1
comp=Z,1.2nm,0.4s,baz=116,slow=6.8,SNR=6.4
ZALV LR LR 03 26 56.9
comp=Z,260nm,18.6s,baz=82,slow=38
comp=Z,1.2nm,0.4s
ARSB Arslanbob 52.94 314 P P 03 03 22.8 0.0
DRK Karamyk 53.17 312 P P 03 03 24.2 -0.4
MA2 Magadan 53.28 18 LR LR 03 26 46.0
comp=Z,181nm,21.1s,baz=256,slow=37
KURBB Kurchatov Arra 53.63 327 P P 03 03 26.2 -1.1
comp=Z,2.8nm,0.2s,baz=125,slow=8.2,SNR=18
comp=Z,2.8nm,0.2s
KURK Kurchatov 53.63 327 P P 03 03 26.7 -0.7
KURK IAmb IAmb 03 03 41.9
comp=Z,16nm,1.1s
KURK Kurchatov 53.63 327 P P 03 03 26.5 -0.8
KURK pP **sP** **03 03 37.9 -0.2**
KBL Kabul 53.97 305 P P 03 03 30.1 -0.4
BTK Batken 54.08 312 IAmb IAmb 03 03 57.8
comp=Z,10nm,0.8s
DZM Mont Dzumac 54.09 127 *e*LR LR 03 19 12.1
comp=Z,341nm,27.3s
DZM Mont Dzumac 54.09 127 LR LR 03 27 42.5
comp=Z,114nm,19.3s,baz=306,slow=37
GAR Garm 54.13 311 P P 03 03 30.9 -0.6
SIMJ Simiganj 55.01 310 P P 03 03 37.7 -0.1
SIMJ IAmb IAmb 03 03 55.5
comp=Z,11nm,0.9s
SIMJ Simiganj 55.01 310 P P 03 03 37.4 -0.5
SIMJ pP **sP** **03 03 48.5 -0.1**
KKAR Karatay Array 55.28 316 P P 03 03 38.8 -0.8
KKAR Karatay Array 55.28 316 P P 03 03 39.3 -0.3
SHEM Shemya Is, Ala 58.95 34 LR LR 03 28 24.5
comp=Z,70nm,19.8s,baz=38,slow=35
BVAR Borovoye Array 59.21 326 P P 03 04 05.5 -1.6
comp=Z,1.4nm,0.6s,baz=120,slow=9.9,SNR=5.9
BVAR LR LR 03 31 23.5
comp=Z,326nm,18.3s,baz=106,slow=38
comp=Z,1.4nm,0.6s
BRVK Borovoye 59.28 326 P P 03 04 07.7 +0.1
BRVK IAmb IAmb 03 04 19.4
comp=Z,16nm,1.3s
HRA Herat 59.47 304 P P 03 04 08.7 -0.9
HRA IAmb IAmb 03 04 19.8
comp=Z,9.3nm,1.1s
TIXI Tiksi 61.10 2 P P 03 04 20.9 +1.2
TIXI IAmb IAmb 03 04 22.6
comp=Z,15nm,0.9s
TIXI Tiksi 61.10 2 LR LR 03 33 43.0
comp=Z,372nm,18.7s,baz=220,slow=39
TIXI Tiksi 61.10 2 P P 03 04 20.8 +1.1
TIXI pP **sP** **03 04 31.9 +1.4**
MSVF Nonsavu 61.79 117 LR LR 03 27 30.0
comp=Z,109nm,21.6s,baz=128,slow=32
NRIK Noril'sk 62.75 347 P P 03 04 31.0 +0.2
NRIK IAmb IAmb 03 04 51.1
comp=Z,16nm,1.0s
NRIK Noril'sk 62.75 347 P P 03 04 30.5 -0.4
comp=Z,5.2nm,0.6s,baz=165,slow=5.9,SNR=6.7
NRIK LR LR 03 33 45.3
comp=Z,302nm,19.8s,baz=152,slow=38
comp=Z,5.2nm,0.6s
ABKAR Akbulak array 64.11 320 P P 03 04 39.2 -1.0
ABKAR Akbulak array 64.11 320 P P 03 04 38.8 -1.4
ABKAR IAmb IAmb 03 04 55.1
comp=Z,5.9nm,0.9s
AKTO Aktyubinsk 65.60 321 LR LR 03 35 22.5
comp=Z,665nm,20.3s,baz=91,slow=38
ARTI Arti 66.91 327 LR LR 03 36 17.5
comp=Z,268nm,18.0s,baz=84,slow=38
URZ Urewera 70.51 137 LR LR 03 37 23.3
comp=Z,208nm,18.6s,baz=32,slow=37
KIRV Kirov 72.11 328 LR LR 03 40 10.0
comp=Z,257nm,18.1s,baz=99,slow=38
BELG Belogornoye 72.34 322 LR LR 03 39 14.3
comp=Z,146nm,18.1s,baz=68,slow=38
GNI Garni 73.78 309 LR LR 03 42 52.6
comp=Z,128nm,19.4s,baz=57,slow=40
RAYN Ar Rayn 73.87 291 P P 03 05 40.2 -1.3
RAYN IAmb IAmb 03 05 48.0
comp=Z,19nm,1.2s
KBZ Khabaz 75.14 312 P P 03 05 47.5 -0.9
comp=Z,1.7nm,0.8s,baz=336,slow=10.0,SNR=2.5
KBZ LR LR 03 42 09.0
comp=Z,117nm,20.8s,baz=54,slow=38
comp=Z,1.7nm,0.8s
KIV Kislovodsk 75.28 313 P P **03 05 48.7 -0.7**
KIV IAmb IAmb 03 06 17.7
comp=Z,11nm,0.8s
KIV Kislovodsk 75.28 313 P P **03 05 49.3 -0.1**
comp=Z,13nm,0.9s
GURO Guroymak-BITLI 75.92 307 P P 03 05 53.0 -0.2
GURO IAmb IAmb 03 06 05.1
comp=Z,19nm,1.1s
D19K Kuna River 76.32 22 P P 03 05 55.6 +0.9
D19K IAmb IAmb 03 05 57.8
comp=Z,27nm,1.2s
E19K Redstone River 76.56 23 P P 03 05 57.0 +0.9
E19K IAmb IAmb 03 06 19.6
comp=Z,30nm,1.4s
H19K Roundabout Mou 76.73 25 P P 03 05 58.1 +1.1
CASY Casey 77.20 185 P P 03 05 59.5 0.0
CASY IAmb IAmb 03 06 01.4
comp=Z,12nm,0.7s
IMAR Indian Mountai 77.86 25 P P 03 06 03.7 +0.3
G21K Allakaket 77.97 24 IAmb IAmb 03 06 26.8
comp=Z,18nm,1.2s
H21K Melozitna Rive 78.25 25 IAmb IAmb 03 06 17.4
comp=Z,17nm,1.4s
CAST Castle Rocks 78.57 27 P P 03 06 08.5 +1.1
CAST IAmb IAmb 03 06 16.2
comp=Z,10.0nm,0.9s
I21K Tanana 78.59 25 IAmb IAmb 03 06 42.3
comp=Z,35nm,1.6s
OBN Obninsk 78.96 324 LR LR 03 43 08.7
comp=Z,402nm,19.0s,baz=13,slow=37
BPAW Bear Paw Mtn. 79.05 27 IAmb IAmb 03 06 21.2
comp=Z,33nm,1.4s
MLY Manley 79.12 26 P P 03 06 11.7 +1.3
MLY IAmb IAmb 03 06 30.1
comp=Z,17nm,1.3s
G23K Bananza Creek 79.36 24 IAmb IAmb 03 06 23.1
comp=Z,14nm,1.2s
TOLK Toolik Lake Re 79.46 22 IAmb IAmb 03 06 52.3
comp=Z,18nm,1.4s
E23K Chandalar 79.47 22 IAmb IAmb 03 06 36.1
comp=Z,45nm,1.6s
E24K Your Creek 79.89 22 IAmb IAmb 03 06 44.3
comp=Z,22nm,1.6s
RND Reindeer 80.03 27 IAmb IAmb 03 06 59.7
comp=Z,21nm,1.4s
G24K Hadweenzic Riv 80.38 24 IAmb IAmb 03 06 28.2
comp=Z,17nm,1.2s
ILAR Eielson Array 80.78 26 P P 03 06 19.7 +0.4
comp=Z,0.8nm,0.8s,baz=256,slow=5.0,SNR=16
comp=Z,0.8nm,0.8s
F25K Christian Rive 81.01 23 IAmb IAmb 03 06 35.5
comp=Z,18nm,1.5s
BMAR Burnt Mountain 81.43 23 P P 03 06 23.9 +1.1
F26K Sheenjek River 81.56 23 IAmb IAmb 03 06 38.7
comp=Z,15nm,1.4s
MMAI Mount Meron Ar 81.77 302 P P 03 06 24.6 -0.8
comp=Z,0.6nm,0.5s,baz=78,slow=6.6,SNR=2.0
MMAI LR LR 03 48 16.0
comp=Z,103nm,18.9s,baz=26,slow=40
comp=Z,0.6nm,0.5s
KIRS Kirsehir-Merke 82.19 308 ⇑P **P 03 06 26.6 -0.9**
FURI Furi 82.25 278 LR LR 03 41 30.6
comp=Z,223nm,19.5s,baz=66,slow=35
I26K Coal Creek Min 82.29 25 IAmb IAmb 03 06 39.5
comp=Z,12nm,1.2s
BRTR Keskin Array B 82.33 309 P P 03 06 27.1 -1.2
comp=Z,1.6nm,0.9s,baz=110,slow=4.8,SNR=9.3
BRTR LR LR 03 47 20.7
comp=Z,90nm,21.8s,baz=87,slow=39
comp=Z,1.6nm,0.9s
E27K Coleen River 82.44 22 IAmb IAmb 03 06 39.8
comp=Z,10nm,0.9s
D27M Malcolm River 82.49 21 IAmb IAmb 03 07 08.7
comp=Z,17nm,1.2s
ARCES ARCESS Array B 82.51 339 P P 03 06 26.3 -2.1
comp=Z,9.9nm,1.1s,baz=74,slow=4.3,SNR=4.8
comp=Z,9.9nm,1.1s
GLB Gilahina Butte 82.57 29 IAmb IAmb 03 06 35.4
comp=Z,21nm,1.4s
EIL Elat 82.59 299 LR LR 03 49 11.1
comp=Z,105nm,18.3s,baz=56,slow=40
RAR Rarotonga 82.71 113 LR LR 03 42 46.4
comp=Z,128nm,18.2s,baz=290,slow=35
SPB2 Spitsbergen Ar 82.90 348 P P 03 06 30.3 +0.1
SPITS Spitsbergen Ar 82.90 348 P P 03 06 28.7 -1.6
comp=Z,8.0nm,0.6s,baz=55,slow=6.4,SNR=5.5
SPITS LR LR 03 48 24.2
comp=Z,395nm,18.3s,baz=125,slow=39
comp=Z,8.0nm,0.6s
K27K Chicken 82.95 26 IAmb IAmb 03 06 42.1
comp=Z,38nm,1.8s
F28M Old Crow 83.19 22 IAmb IAmb 03 06 53.1
comp=Z,13nm,0.9s
FINES FINESS Array B 83.74 331 P P 03 06 33.5 -1.3
comp=Z,1.3nm,0.5s,baz=79,slow=5.2,SNR=13
FINES LR LR 03 46 44.1
comp=Z,387nm,18.3s,baz=54,slow=38
comp=Z,1.3nm,0.5s
CTGM Chitina Glacie 83.83 29 IAmb IAmb 03 06 49.5
comp=Z,19nm,0.9s
AKASG Malin Array Be 83.84 320 P P 03 06 33.3 -2.3
comp=Z,0.7nm,0.6s,baz=68,slow=4.4,SNR=4.7
AKASG LR LR 03 45 34.2
comp=Z,168nm,18.9s,baz=44,slow=37
comp=Z,0.7nm,0.6s
AKBB Malin Array Si 83.84 320 P P 03 06 36.4 +0.8
MNK Minsk 84.02 324 *i* P **P 03 06 37.9 +1.4**
comp=E,11nm,0.9s
MNK *i* P **P 03 06 37.9 +1.4**
comp=N,9.0nm,0.8s
MNK *i* P **P 03 06 37.9 +1.4**
comp=Z,6.0nm,0.8s,baz=80
MNK *i* PcP **PcP** **03 06 41.5 +1.2**
MNK *i* PP **PP** **03 09 45.9 -4.3**
MNK *i* PPP PPP 03 11 29.1
MNK *i* S **S** **03 17 01.0 +1.8**
MNK *i* SS **SS** **03 22 30.9 +3.6**
MNK *i* SSS SSS 03 25 41.3
MNK *i* LQ LQ 03 37 26.2
MNK *i* LR LR 03 42 50.8
MNK *i* LRM MLR 03 44 52.7
comp=E,433nm,18.6s
MNK *i* LRM MLR 03 46 14.8
comp=N,424nm,18.0s
MNK *i* LRM MLR 03 46 48.3
comp=Z,301nm,15.2s
G29M Pine Creek 84.04 23 P P 03 06 36.2 -0.1
G29M IAmb IAmb 03 06 50.8
comp=Z,19nm,0.9s
DAWY Dawson 84.10 26 IAmb IAmb 03 06 51.2
comp=Z,12nm,1.3s
G30M tAoh Zrali Nji 84.71 23 IAmb IAmb 03 06 53.5
comp=Z,22nm,1.1s
L29M L29M 84.86 27 IAmb IAmb 03 06 53.6
comp=Z,15nm,1.0s
K29M Barlow Dome 84.96 26 IAmb IAmb 03 07 11.8
comp=Z,10nm,1.1s
I30M Mount Dempster 85.10 25 IAmb IAmb 03 07 01.0
comp=Z,22nm,1.4s
J30M Hart River 85.28 25 IAmb IAmb 03 06 54.7
comp=Z,32nm,1.9s
INK Inuvik 85.34 21 LR LR 03 49 12.5
comp=Z,63nm,19.7s,baz=258,slow=39
KMBO Kilima Mbogo 85.41 268 P P 03 06 43.5 -1.1
KMBO IAmb IAmb 03 06 52.0
comp=Z,12nm,1.4s
KMBO Kilima Mbogo 85.41 268 P P 03 06 44.3 -0.3
comp=Z,1.8nm,0.8s,baz=40,slow=9.6,SNR=5.3
KMBO LR LR 03 45 08.4
comp=Z,123nm,18.1s,baz=92,slow=36
comp=Z,1.8nm,0.8s
G31M Satah River 85.47 23 IAmb IAmb 03 06 57.1
comp=Z,12nm,0.9s
CFR Carcaliu 85.51 315 ⇑P **P 03 06 45.3 +1.2**
H31M Peel River 85.76 24 IAmb IAmb 03 06 56.2
comp=Z,17nm,1.1s
TESR Tescani 86.28 316 ⇓P **P 03 06 46.8 -1.1**
VRI Vrincioaia 86.35 316 ⇑P **P 03 06 49.0 +0.6**
PLOR Plostina 86.41 316 ⇑P **P 03 06 47.7 -1.0**
BISRR Bisoca 86.42 316 ⇑P **P 03 06 47.3 -1.5**
A36M Sachs Harbour 86.69 17 IAmb IAmb 03 07 09.9
comp=Z,12nm,0.8s
TURR Turia 86.80 316 ⇑P **P 03 06 50.7 +0.1**
MLR Muntele Rosu 86.96 316 IAmb IAmb 03 06 55.4
comp=Z,11nm,1.2s
MLR Muntele Rosu 86.96 316 ⇑P **P 03 06 50.5 -1.0**
BURAR Bucovina Array 87.00 318 P **P 03 06 51.1 -0.5**
BURAR Bucovina Array 87.00 318 ⇑P **P 03 06 51.1 -0.5**
BUR08 Bucovina Ar. S 87.01 318 IAmb IAmb 03 06 53.8
comp=Z,7.9nm,1.1s
FARO Faro, Yukon 87.22 27 IAmb IAmb 03 07 13.1
comp=Z,10.0nm,1.0s
MARR Marisel-Cluj 88.61 317 ⇑P **P 03 06 57.9 -1.5**
MAW Mawson 88.75 199 P P 03 06 58.9 -0.3
comp=Z,1.3nm,0.6s,baz=59,slow=5.9,SNR=1.9
comp=Z,1.3nm,0.6s
DRGR 88.86 317 ⇑P **P 03 06 58.3 -2.1**
HFS Hagfors 89.93 332 P P 03 07 03.4 -1.6
comp=Z,1.7nm,0.7s,baz=67,slow=7.3,SNR=1.7
HFS LR LR 03 49 23.5
comp=Z,406nm,18.7s,baz=19,slow=37
comp=Z,1.7nm,0.7s
DLBC Dease Lake 90.02 30 LR LR 03 50 36.4
comp=Z,28nm,19.2s,baz=306,slow=38
NOA NORSAR Array B 90.71 333 P P 03 07 07.4 -1.4
comp=Z,0.4nm,0.7s,baz=64,slow=5.5,SNR=1.3
NOA LR LR 03 53 11.5
comp=Z,220nm,18.4s,baz=75,slow=39
comp=Z,0.4nm,0.7s
PPT Papeete 91.33 108 LR LR 03 42 39.9
comp=Z,40nm,19.3s,baz=314,slow=32
PPT2 Papeete2 91.33 108 *e*LR LR 03 36 26.2
comp=Z,113nm,25.5s
MBAR Mbarara 91.71 270 LR LR 03 44 30.9
comp=Z,115nm,21.8s,baz=79,slow=33
RES Resolute Bay 91.78 9 LR LR 03 53 57.6
comp=Z,85nm,18.1s,baz=10.0,slow=39
TBI Tubuai 92.49 113 *e*LR LR 03 37 04.4
comp=Z,830nm,23.5s
BBB Bella Bella 93.31 36 LR LR 03 51 44.1
comp=Z,66nm,18.4s,baz=336,slow=37
CLL Collm 93.55 324 *e*PP PP 03 11 05.0 -1.3
CLL AMS AMS 03 51 00.0
comp=Z,300nm,19.6s
TAOE Nuku Hiva Isla 98.89 97 *e*LR LR 03 39 54.8
comp=Z,230nm,24.6s
TORD Torodi Ar. Bea 116.56 291 PKP **PKPdf** **03 12 49.2 -1.8**
comp=Z,0.5nm,0.7s,baz=46,slow=2.2,SNR=3.9
HTMS Hat Mesa 118.63 44 PKPdf **PKPdf** **03 12 53.5 -1.3**
TXAR Lajitas Array 120.43 47 PKP **PKPdf** **03 12 57.0 -1.3**
comp=Z,0.2nm,0.6s,baz=209,slow=0.9,SNR=2.8
S39A Bolivar 121.45 33 PKPdf **PKPdf** **03 12 58.4 -1.5**
NCB Newcomb 123.60 14 PKPdf **PKPdf** **03 13 01.0 -2.9**
PLCA Paso Flores 147.92 161 PKPbc **PKPdf** **03 13 50.1 +1.4**
comp=Z,3.4nm,0.8s,baz=214,slow=2.7,SNR=8.8
LPAZ La Paz 168.35 120 PKP **PKPdf** **03 14 12.8 -1.7**
comp=Z,0.7nm,0.8s,baz=211,slow=5.9,SNR=1.9

IDC ***05*** *02:55:10.3±1.2, 19°.93S×70°.88W, h0km, mb3.7/4, mbtmp3.9/6, ML1.7/1, MS3.3/7, Error ellipse: s-maj=27.7km s-min=26.1km az=83.0*
NEIC ***05*** *02:55:11.9±2.0, 20°.11S±0°.04×70°.93W±0°.04, h10km±1km, mb4.4/14, Error ellipse: s-maj=6.7km s-min=5.7km az=247.0*
GUC ***05*** *02:55:13.9±0.9, 20°.06S×70°.96W, h18km±14km, ML4.3*
VAO ***05*** *02:55:18.5±0.8, 20°.01S×70°.68W, h54km±5km, mb4.2*
ISC 05 02:55:12.7±2.0, 20°.10S±0°.04×70°.96W±0°.06, h18km±9km, n99, σt=12/111, mb4.5/7, MS3.4/4, 4C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.80**	**103**	Pn	**Pb**	**02 55 27.5**	**-0.5**
TA02					**Sb**	**02 55 38.3**	**-0.1**
TA02	**Huaiquique**	**0.80**	**103**	⇓*i*P	**Pb**	**02 55 27.6**	**-0.3**
TA02				*e*S	**Sb**	**02 55 38.3**	**-0.1**
TA01	**Diego Aracena**	**0.86**	**123**		**Pb**	**02 55 29.1**	**0.0**
TA01				Sn	**Sb**	**02 55 40.1**	**-0.3**
TA01	**Diego Aracena**	**0.86**	**123**	⇓*i*P	**Pb**	**02 55 29.2**	**0.0**
TA01				*e*S	**Sb**	**02 55 40.7**	**+0.3**
TA01				IAML		02 55 42.6	
comp=N,18μm,0.5s							
HMBC	**Humberstone**	**1.02**	**100**	Pn	**Pb**	**02 55 31.3**	**-0.6**
HMBC				Sn	**Sb**	**02 55 44.9**	**-0.2**
HMBC	**Humberstone**	**1.02**	**100**	⇓*i*P	**Pb**	**02 55 31.1**	**-0.7**
HMBC				*e*S	**Sb**	**02 55 45.1**	**0.0**
HMBC				IAML		02 55 52.5	
comp=E,12μm,0.6s							
PATCX	**Punta Patache**	**1.04**	**134**		**Pb**	**02 55 32.3**	**+0.1**
PATCX				Sn	**Sb**	**02 55 44.9**	**-0.7**
PATCX	**Punta Patache**	**1.04**	**134**	⇑*i*P	**Pb**	**02 55 32.3**	**+0.1**
PATCX				*e*S	**Sb**	**02 55 46.3**	**+0.7**
PB11	**IPOC Station P**	**1.27**	**75**	Pn	**Pn**	**02 55 34.7**	**-0.9**
PB11				Sn	**Sb**	**02 55 49.5**	**-2.7**
PB11	**IPOC Station P**	**1.27**	**75**	⇓*i*P	**Pn**	**02 55 35.0**	**-0.7**
PB11				*e*S	**Sb**	**02 55 52.0**	**-0.2**
PB11				IAML		02 55 58.1	
comp=N,7μm,0.3s							
PX03	**IPOC Station P**	**1.28**	**104**	*e*P	**Pn**	**02 55 35.1**	**-0.7**
PX03				*e*S	**Sn**	**02 55 52.4**	**-0.2**
PX03				IAML		02 55 54.4	
comp=N,6μm,0.1s							
PB01	**IPOC Station P**	**1.67**	**125**	Pn	**Pn**	**02 55 41.4**	**+0.3**
PB01	**IPOC Station P**	**1.67**	**125**	⇑*i*P	**Pn**	**02 55 41.5**	**+0.4**
PB01				*e*S	**Sn**	**02 56 03.2**	**+1.2**
PB08	**IPOC Station P**	**1.70**	**92**	Pn	**Pn**	**02 55 42.2**	**+0.5**
PB08	**IPOC Station P**	**1.70**	**92**	⇑*i*P	**Pn**	**02 55 41.8**	**+0.1**
PB08				*e*S	**Sn**	**02 56 04.5**	**+1.3**
PB08				IAML		02 56 06.5	
comp=E,3μm,0.8s							
GO01	**Chusmiza**	**1.71**	**76**	Pn	**Pn**	**02 55 42.3**	**+0.3**
GO01	**Chusmiza**	**1.71**	**76**	*i* P	**Pn**	**02 55 42.1**	**+0.1**
GO01				*e*S	**Sn**	**02 56 04.8**	**+1.0**
GO01				IAML		02 56 06.0	
comp=N,10μm,0.2s							
AP01	**Chacalluta**	**1.81**	**19**	Pn	**Pn**	**02 55 43.4**	**+0.4**
AP01	**Chacalluta**	**1.81**	**19**	*e*P	**Pn**	**02 55 43.4**	**+0.4**
AP01				*e*S	**Sb**	**02 56 07.7**	**-0.1**
AP01				IAML		02 56 10.4	
comp=N,9μm,0.3s							
PB04	**IPOC Station P**	**2.35**	**161**	Pn	**Pn**	**02 55 50.6**	**0.0**
PB04	**IPOC Station P**	**2.35**	**161**	*e*P	**Pn**	**02 55 50.5**	**0.0**
PB18	**Visviri**	**2.86**	**30**	Pn	**Pn**	**02 55 59.5**	**+1.6**
PB18	**Visviri**	**2.86**	**30**	⇑*e*P	**Pn**	**02 56 01.1**	**+3.2**
PB18				*e*S	**Sb**	**02 56 40.9**	**+2.5**
PB06	**IPOC Station P**	**2.90**	**154**		**Pn**	**02 55 58.0**	**-0.1**
LVC	**Limon Verde**	**3.15**	**143**	Pn	**Pn**	**02 56 03.3**	**+1.7**
LVC	**Limon Verde**	**3.15**	**143**	Pn	**Pn**	**02 56 03.5**	**+1.8**
comp=N,34nm,0.6s,baz=326,slow=8.2,SNR=34							
LVC				Sn	**Sn**	**02 56 40.1**	**+1.2**
comp=N,32nm,0.3s,baz=52,slow=19,SNR=8.0							
LVC				LR	LR	02 56 45.8	
comp=N,117nm,19.3s,baz=316,slow=30							
LVC	**Limon Verde**	**3.15**	**143**	*e*P	**Pn**	**02 56 03.1**	**+1.5**
PB15	**IPOC Station P**	**3.39**	**156**		**Pn**	**02 56 04.7**	**-0.2**
PB14	**IPOC Station P**	**4.54**	**174**	Pn	**Pn**	**02 56 20.0**	**-0.7**
LPAZ	**La Paz**	**4.65**	**36**	Pn	**Pn**	**02 56 23.6**	**+1.1**
LPAZ	**La Paz**	**4.65**	**36**	Pn	**Pn**	**02 56 21.7**	**-0.9**
baz=212,slow=7.7,SNR=2.3							
LPAZ				LR	LR	02 57 37.8	
comp=N,78nm,18.9s,baz=245,slow=33							
LPAZ	**La Paz**	**4.65**	**36**	*e*P	**Pn**	**02 56 23.2**	**+0.7**
GO02	**Mina Guanaco**	**5.20**	**166**	Pn	**Pn**	**02 56 29.7**	**-0.1**
AC01	**Pan de Azucar**	**6.03**	**177**	Pn	**Pn**	**02 56 40.5**	**-0.5**
AC06	**Mina Casimiro**	**7.25**	**176**	Pn	**Pn**	**02 56 58.1**	**+0.4**
GO03	**Copiapo**	**7.49**	**175**	Pn	**Pn**	**02 57 02.0**	**+0.9**
LCO	**Las Campanas**	**8.88**	**179**	Pn	**Pn**	**02 57 21.6**	**+1.3**
NNA	**Nana**	**9.85**	**324**	Pn	**Pn**	**02 57 33.8**	**+0.3**
BBSD	**Serra de San D**	**10.23**	**75**	*e*P	**Pn**	**02 57 39.1**	**+0.5**
SIV	**San Ignacio**	**10.25**	**68**	Pn	**Pn**	**02 57 36.9**	**-2.1**
comp=N,5.0nm,0.4s,baz=260,slow=9.4,SNR=32							
SIV				Sn	**Sn**	**02 59 34.4**	**+0.8**
baz=294,slow=5.4,SNR=1.9							
SIV				LR	LR	03 02 08.3	
comp=N,295nm,18.2s,baz=273,slow=41							
CO03	**El Pedregal**	**10.70**	**179**	Pn	**Pn**	**02 57 44.2**	**-0.9**
ETMB	**Extrema**	**11.20**	**25**	Pn	**Pn**	**02 57 52.5**	**+0.5**
ETMB	**Extrema**	**11.20**	**25**	*e*P	**Pn**	**02 57 53.6**	**+1.6**
PTLB	**Pontes e Lacer**	**12.17**	**70**	Pn	**Pn**	**02 58 04.1**	**-1.2**
PTLB	**Pontes e Lacer**	**12.17**	**70**	*e*P	**Pn**	**02 58 05.2**	**-0.1**
CZSB	**Cruzeiro do Su**	**12.41**	**352**	*e*P	**Pn**	**02 58 11.9**	**+3.4**
PAPY	**Pozo Azul**	**12.45**	**111**	*e*P	**Pn**	**02 58 09.4**	**+0.4**
VILB	**Vilhena**	**12.52**	**57**	Pn	**Pn**	**02 58 10.2**	**+0.1**
VILB	**Vilhena**	**12.52**	**57**	*e*P	**Pn**	**02 58 10.5**	**+0.5**
MURT	**Porto Murtinho**	**12.57**	**99**	*e*P	**Pn**	**02 58 12.0**	**+1.3**
SAML	**Samuel**	**13.39**	**35**	Pn	**Pn**	**02 58 21.8**	**-0.1**
SAML	**Samuel**	**13.39**	**35**	*e*P	**Pn**	**02 58 23.8**	**+1.9**

CPUP	Villa Florida	13.98	119	*e*P		Pn		02 58 31.4	+1.5
H03N1	Juan Fernandez	15.06	206	T		T		03 14 32.3	
	baz=30,slow=74								
H03N2	Juan Fernandez	15.07	207	T		T		03 14 28.4	
	baz=30,slow=74								
H03N3	Juan Fernandez	15.08	206	T		T		03 14 27.5	
	baz=30								
SALV	Santo Antonio	15.11	76	*e*P		Pn		02 58 45.0	-0.3
PDRB	Porto dos Gac	16.07	60	*e*P		Pn		02 58 57.6	-0.3
CLDB	Colider	17.24	60	*e*P		Pn		02 59 11.8	-0.8
ITAB	Concordia	18.64	116	P		P		02 59 27.6	-1.8
ITAB	Concordia	18.64	116	*e*P		P		02 59 30.5	+1.0
LDASE	Londrina, Braz	18.72	104	*e*P		P		02 59 30.6	+0.2
ARAG	Araguaiana, MT	18.73	80	*e*P		P		02 59 28.8	-1.8
CPSB	Cacapava Do Su	18.86	126	*e*P		P		02 59 33.5	+1.7
GO06	Curarrehue	19.43	181	P		P		02 59 36.8	-1.3
TRQA	Tornquist	19.52	158	P		P		02 59 38.6	-0.5
TRQA				IAmb		IAmb		02 59 42.3	
	comp=Z,19nm,1.4s								
MACA	Manacapuru-AM	19.59	32	P		P		02 59 38.9	-1.1
MACA				IAmb		IAmb		02 59 55.3	
	comp=Z,9.5nm,0.7s								
MACA	Manacapuru-AM	19.59	32	*e*P		P		02 59 40.4	+0.4
NPGB	Novo Progresso	19.93	52	*e*P		P		02 59 43.6	-0.2
FRTB	Fartura	20.14	103	*e*P		P		02 59 45.5	-0.5
SNDB	Serra Nova Dou	20.54	70	*e*P		P		02 59 48.0	-2.4
PLCA	Paso Flores	20.57	179	P		P		02 59 49.5	-1.1
PLCA				IAmb		IAmb		03 00 24.0	
	comp=Z,16nm,1.5s								
PLCA	Paso Flores	20.57	179	P		P		02 59 52.9	+2.3
	comp=Z,1.9nm,0.7s,baz=352,slow=12,SNR=3.1								
	comp=Z,1.9nm,0.7s								
ITTB	Itaituba	21.55	45	*e*P		P		02 59 58.2	-3.0
BDFB	Brasilia	22.28	82	P		P		03 00 08.4	-0.8
BDFB	Brasilia	22.28	82	P		P		03 00 07.5	-1.6
	comp=Z,0.7nm,0.4s,baz=253,slow=6.5,SNR=3.5								
BDFB				LR		LR		03 10 32.1	
	comp=Z,172nm,18.0s,baz=325,slow=42								
	comp=Z,0.7nm,0.4s								
BOAV	Boa Vista	24.59	26	P		P		03 00 31.8	-0.1
BOAV				IAmb		IAmb		03 00 32.7	
	comp=Z,8.2nm,0.8s								
BOAV	Boa Vista	24.59	26	*e*P		P		03 00 32.0	+0.1
PRPB	Parauapebas	24.76	59	*e*P		P		03 00 32.6	-0.9
SMTB	Santa Maria do	25.20	67	*e*P		P		03 00 36.8	-0.7
JANB	Januaria	25.88	83	*e*P		P		03 00 43.5	-0.2
CAM01	Campos-RJ	27.40	99	*e*P		P		03 00 57.1	-0.2
SDV	Santo Domingo	28.80	1	LR		LR		03 13 46.8	
	comp=Z,60nm,19.1s,baz=64,slow=39								
BAUV	El Baul	29.00	6	P		P		03 01 10.2	-1.4
BAUV				IAmb		IAmb		03 01 26.2	
	comp=Z,10nm,1.0s								
ABR01	Abrolhos, BA	30.55	91	*e*P		P		03 01 25.2	-0.1
PCRV	Puerto La Cruz	30.72	12	LR		LR		03 14 46.1	
	comp=Z,163nm,18.6s,slow=38								
NBLA	Lagarto - SE	33.16	79	*e*P		P		03 01 47.9	-0.5
RPN	Rapa Nui	35.75	251	LR		LR		03 11 38.7	
	comp=Z,26nm,20.9s,baz=106,slow=28								
RCBR	Riachuelo	36.88	72	P		P		03 02 20.1	-0.5
RCBR				IAmb		IAmb		03 02 46.5	
	comp=Z,19nm,1.5s								
CELP	Cerrillos	38.18	7	P		P		03 02 31.1	-0.2
WHTX	Lake Whitney,	57.68	333	P		P		03 05 02.0	-0.2
TXAR	Lajitas Array	58.40	326	P		P		03 05 06.3	-1.0
	comp=Z,0.4nm,0.9s,baz=110,slow=5.1,SNR=2.7								
	comp=Z,0.4nm,0.9s								
N51A	Ashland	61.62	350	P		P		03 05 29.2	0.0
YHB	Horse Butte	74.25	331	P		P		03 06 48.1	-0.7
YHB				IAmb		IAmb		03 07 06.7	
	comp=Z,11nm,1.3s								
TORD	Torodi Ar. Bea	78.71	71	P		P		03 07 13.4	-1.0
	comp=Z,3.4nm,0.8s,baz=264,slow=5.1,SNR=19								
	comp=Z,3.4nm,0.8s								
MKAR	Makanchi Array	145.57	33	PKPbc		PKPdf		03 14 50.9	+1.0
	comp=Z,2.5nm,0.7s,baz=327,slow=4.0,SNR=19								
KSH	Kashi	145.66	48	PKPbc		PKPdf		03 14 51.5	+1.1
SONM	Songino Array	152.25	4	PKPbc		PKPbc		03 15 08.0	+0.6
	comp=Z,1.4nm,0.8s,baz=347,slow=2.3,SNR=5.2								
PZH	PanZhiHua	170.75	45	PKP		PKPdf		03 15 18.5	-2.0

*JMA **05** 03:25:22.9±0.2, 44°.5N±0°.7×145°.7E±0°.9, h22km±1km, MV3.5/33, NEAR KUNASHIRI ISLAND*
*MOS **05** 03:25:22.1±1.8, 44°.40N×145°.51E, h28km, mb4.0/1, Error ellipse: s-maj=23.7km s-min=16.0km az=112.0*
*SKHL **05** 03:25:23.2±0.2, 44°.50N×145°.70E, h26km±3km, mb4.8/2*
ISC 05 03:25:23.5±1.2, 44°.48N±0°.04×145°.70E±0°.04, h17km±9km, n19, σ1°.26/30, 3C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	0.46	166	*i* P		Pg	03 25 32.8	+0.1
YUK				AMB		AMB	03 25 33.4	
	790nm,0.4s							
YUK				*i* S		Sb	03 25 39.9	+0.3
YUK				A		A	03 25 42.5	
	4μm,0.3s							
YUK				A		A	03 25 42.5	
	4μm,0.3s							
YUK	Yuzh-Kuril'sk	0.46	166	*d* iPN		Pg	03 25 32.8	+0.1
YUK				*i* S		Sb	03 25 39.7	+0.1
YUK				pmax		pmax		
	comp=Z,2μm,0.2s							
YUK				smax		smax		
	comp=E,4μm,0.1s							
YUK				smax		smax		
	comp=N,4μm,0.2s							
JRA	Rausu	0.68	218	P		Pg	03 25 36.7	-0.2
JRA				*e*S		Sg	03 25 46.5	+0.5
JNSB	Nemuroshibetsu	0.86	216	*e*P		Pg	03 25 39.8	-0.5
JNSB				*e*S		Sg	03 25 52.1	+0.4
SHO	Shikotan	1.01	126	*i* P		Pg	03 25 41.8	-1.3
SHO				AMB		AMB	03 25 42.1	
	comp=N,470nm,0.4s							
SHO				*i* S		Sb	03 25 55.9	+0.3
SHO				A		A	03 25 56.9	
	comp=N,2μm,0.5s							
SHO				A		A	03 25 56.9	
	comp=N,3μm,0.5s							
SHO	Shikotan	1.01	126	⇓*i* iPN		Pg	03 25 41.8	-1.3
SHO				*i* S		Sb	03 25 56.0	+0.3
SHO				pmax		pmax		
	comp=Z,466nm,0.3s							
SHO				smax		smax		
	comp=N,2μm,0.2s							
SHO				smax		smax		
	comp=E,5μm,0.5s							
NEM2	Nemuro 2	1.11	178	*e*P		Pb	03 25 43.1	-1.2
NEM2				*e*S		Sb	03 25 58.2	-0.3
JNK	Nakash	1.14	219	*e*P		Pb	03 25 44.0	-0.8
JNK				*e*S		Sb	03 25 59.0	-0.2
JTKR	Abashiri--Toko	1.39	249	*e*P		Pn	03 25 47.2	-0.8
JTKR				*e*S		Sn	03 26 05.2	-0.7
JKHN	Kushirohamanak	1.45	196	*e*P		Pn	03 25 48.6	-0.3
JKHN				*e*S		Sn	03 26 08.0	+0.5
JAK	Akkeshi	1.65	207	*e*P		Pn	03 25 51.2	-0.4
KUR	Kuril'sk	1.71	63	PN		Pg	03 25 56.7	+0.3
JMP	Maruseppu	1.75	255	*e*P		Pn	03 25 52.7	-0.3
JMP				*e*S		Sn	03 26 14.9	0.0
ERM	Erimo	3.09	218	⇑*e*PN		Pn	03 26 11.0	-0.4
YSS	Yuzh-Sakhalins	3.22	321	*e*S		Sn	03 26 47.0	-4.2
YSS				A		A	03 26 50.9	
	comp=E,40nm,0.6s							
YSS	Yuzh-Sakhalins	3.22	321	*i* PN		Pn	03 26 16.4	+3.1
KLR	Kul'dur	10.67	301	⇑*e*PN		Pn	03 27 55.8	+0.4
KLR				pmax		pmax		
	comp=Z,2.0nm,1.1s							
BILL	Biiibino	25.96	18	*e*P		P	03 30 56.2	+1.5
BILL	Biiibino	25.96	18	⇑*e*P		P	03 30 56.2	+1.5
BILL				pmax		pmax		
	comp=Z,13nm,1.8s							

*SJA **05** 03:28:00.7±0.6, 32°.99S×72°.33W, h8km±4km, ML3.0, MW3.1*
*GUC **05** 03:28:07.3±0.8, 32°.83S×72°.04W, h23km±7km, ML3.1*
ISC 05 03:28:07.6±2.3, 33°.03S±0°.04×72°.02W±0°.09, h12km±10km, n25, σ1°.30/49, 2C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	Torpederas	0.32	89	*e*P		Pb	03 28 14.9	-0.2
VA01				*e*S		Sb	03 28 20.9	+0.7
VA05	Santo Domingo	0.71	151	*e*P		Pn	03 28 23.1	-0.4
VA05				*i* S		Sn	03 28 35.6	+1.2
VA05				IAML			03 28 36.8	
	comp=E,992nm,0.3s							
MT02	Curacav	0.78	107	⇓*i* P		Pn	03 28 22.9	-1.5
MT02				*i* S		Sg	03 28 34.4	+1.5
ROCH	El Roble	0.85	86	⇓*i* P		Pb	03 28 23.1	-1.4
ROCH				*i* S		Sb	03 28 35.0	-0.9
ROCH				IAML			03 28 36.7	
	comp=N,620nm,0.3s							
PEL	Peldehue	1.13	96	⇓*i* P		Pn	03 28 28.0	-1.2
PEL				*i* S		Sg	03 28 44.6	+0.5
PEL				IAML			03 28 49.7	
	comp=N,803nm,0.3s							
MT05	Renca	1.14	109	⇓*i* P		Pg	03 28 29.1	-0.4
MT05				*i* S		Sg	03 28 44.9	+0.6
MT05				IAML			03 28 52.6	
	comp=E,821nm,0.3s							
MT09	Talagante	1.14	131	*e*P		Pg	03 28 29.8	+0.2
MT09				*e*S		Sg	03 28 47.2	+2.7
MT09				IAML			03 28 48.4	
	comp=E,691nm,0.3s							
VA03	San Esteban	1.27	78	⇓*i* P		Pn	03 28 28.7	-2.5
VA03				*e*S		Sb	03 28 46.0	-1.8
VA03				IAML			03 28 50.6	
	comp=N,936nm,0.4s							
VA03	San Esteban	1.27	78	*i* P		Pn	03 28 28.9	-2.3
VA03				*i* S		Sg	03 28 51.1	+2.6
VA03				IAML			03 28 51.4	
	comp=Z,400nm,0.5s							
MT10	Hacienda Santa	1.27	101	*e*P		Pb	03 28 30.7	-0.9
MT10				*e*S		Sn	03 28 48.2	-0.1
MT10				IAML			03 28 54.2	
	comp=E,1μm,0.5s							
MT14	Cerro Calı̣n	1.30	107	*e*P		Pb	03 28 30.9	-1.1
MT14				*i* S		Sg	03 28 50.9	+1.3
MT14				IAML			03 28 59.9	
	comp=N,623nm,0.5s							
MT16	CCHEN	1.32	108	⇓*i* P		Pb	03 28 32.0	-0.4
MT16				*i* S		Sb	03 28 49.9	+0.6
MT16				IAML			03 28 52.6	
	comp=E,250nm,0.5s							
MT03	Universidad Ad	1.35	110	⇑*i* P		Pg	03 28 32.8	-0.7
MT03				*e*S		Sg	03 28 52.2	+1.1
MT03				IAML			03 28 57.5	
	comp=N,708nm,0.3s							
MT15	Las Vizcachas	1.39	115	*e*P		Pg	03 28 33.5	-0.9
MT15				*e*S		Sb	03 28 51.8	+0.5
MT15				IAML			03 28 58.9	
	comp=E,608nm,0.2s							
MT12	Pirque	1.42	120	*e*P		Pg	03 28 34.0	-0.9
MT12				*i* S		Sg	03 28 54.0	+0.7
MT12				IAML			03 29 00.9	
	comp=N,847nm,0.4s							
MT04	Ro Olivares	1.62	104	*e*P		Pb	03 28 36.4	-1.3
MT04				*i* S		Sb	03 28 58.5	+0.3
MT04				IAML			03 29 05.2	
	comp=N,237nm,0.4s							
MT08	Bocatoma Ro	1.73	104	⇑*i* P		Pb	03 28 38.3	-1.1
MT08				*i* S		Sb	03 29 01.2	0.0
MT08				IAML			03 29 10.7	
	comp=N,199nm,0.4s							
AUSP	Uspallata	2.37	71	*i* P		Pn	03 28 46.3	-0.2
AUSP				*i* S		Sb	03 29 19.8	+0.2
ARCO	CERRO ARCO	2.60	87	*i* P		Pn	03 28 49.6	-0.1
ARCO				IAML			03 29 36.4	
	comp=Z,40nm,0.7s							
RTLS	Leoncito	2.61	63	*i* P		Pn	03 28 49.9	0.0
RTLS				*i* S		Sb	03 29 25.7	-1.0
RTLS				IAML			03 29 34.8	
	comp=Z,135nm,0.6s							
AAGR	Agrelo	2.68	92	*i* P		Pn	03 28 50.8	0.0
AAGR				*i* S		Sb	03 29 28.0	-0.6
AAGR				IAML			03 29 38.4	
	comp=Z,42nm,0.3s							
ASAL	Salagasta	2.72	82	*i* P		Pn	03 28 50.9	-0.3
ASAL				*i* S		Sb	03 29 28.2	-1.4
ASAL				IAML			03 29 36.0	
	comp=Z,25nm,1.3s							
ACCO	Cerro Coronel	3.50	47	*i* P		Pn	03 29 01.7	-0.5
ACCO				*i* S		Sn	03 29 46.8	+3.1
AROD	Rodeo	3.59	38	*i* P		Pn	03 29 02.6	-0.8
AROD				*i* S		Sn	03 29 48.1	+2.2
ACDV	Cuesta del Vie	3.78	42	*i* P		Pn	03 29 05.0	-0.8
ACDV				*i* S		Sn	03 29 52.2	+2.0
ACDV				IAML			03 30 07.3	
	comp=Z,20nm,0.5s							

*IDC **05** 03:34:33.1±1.4, 13°.91S×167°.04E, h0km, mb4.1/4, mbtmp4.3/6, ML4.7/2, MS3.4/2, Error ellipse: s-maj=40.0km s-min=26.8km az=127.0*
*NEIC **05** 03:34:49.3±1.9, 14°.6S±0°.1×167°.4E±0°.1, h144km±10km, mb4.4/16, Error ellipse: s-maj=21.5km s-min=17.0km az=130.0*
*NOU **05** 03:34:51.4, 14°.71S×167°.37E, h132km, mb3.8/15, Vanuatu Islands*
ISC 05 03:34:49.7±0.8, 14°.70S±0°.08×167°.4E±0°.1, h150km, n48, σ1°.24/47, mb4.2/13, 4C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	1.40	179	P		Pn	03 35 18.9	+0.7
DVP	Devils Point	3.10	166	P		Pn	03 35 38.6	+0.2
LUES	Luesalemba Tem	4.26	340	P		Pn	03 35 54.2	+0.7
LIFNC	LIFOU	6.04	181	P		Pn	03 36 17.4	+0.4
	0.4nm,0.9s							
KOUNC	Koumac, New Ca	6.52	206	Pn		Pn	03 36 24.1	+0.7
KOUNC				Sn		Sn	03 37 36.4	-0.5
MARNC	Mare, Loyalty	6.77	175	P		Pn	03 36 27.8	+1.1
	1.1nm,0.5s							
HURO	Huro Makira	6.81	308	P		Pn	03 36 28.0	+0.7
	142nm,0.4s							
YATNC	Mamie plateau,	7.33	184	P		Pn	03 36 35.8	+1.6
	23nm,0.8s							
DZM	Mont Dzumac	7.38	187	Pn		Pn	03 36 34.4	-0.6
DZM	Mont Dzumac	7.38	187	Pn		Pn	03 36 32.7	-2.3
	3.3nm,0.3s,baz=16,slow=16,SNR=44							
DZM				Sn		Sn	03 37 55.5	-2.2
	0.9nm,0.3s,baz=119,slow=23,SNR=1.5							
	6.3nm,0.3s							
DZM	Mont Dzumac	7.38	187	P		Pn	03 36 36.3	+1.3
	26nm,1.0s							
NOUC	Port Laguerre	7.43	188	P		Pn	03 36 36.5	+1.0
	16nm,1.5s							
ONTNC	Ouen Toro	7.62	187			Pn	03 36 39.1	+1.1
ONTNC	Ouen Toro	7.62	187	P		Pn	03 36 39.6	+1.6
OUENC	Ouen Island, N	7.69	184	P		Pn	03 36 41.2	+2.2
	0.1nm,0.9s							
PINNC	Pines Island,	7.87	180	Pn		Pn	03 36 42.6	+1.2
HNR	Honiara	8.96	305	Pn		Pn	03 36 34.0	-22
	28nm,0.3s,baz=189,slow=14,SNR=1.8							
	91nm,0.4s							
TATA	Tatamba Isabel	9.72	309	P		Pn	03 37 09.4	+3.3
	54nm,0.7s							
EIDS	Eidsvold	18.61	233	Pn		Pn	03 38 57.5	-0.2
EIDS				IAmb		IAmb	03 38 58.8	
	comp=Z,12nm,0.7s							
CTAO	Charters Tower	20.86	252	P		P	03 39 20.2	+0.3
COEN	Coen	23.47	269	P		P	03 39 46.7	+0.7
COEN				IAmb		IAmb	03 40 26.0	
	comp=Z,15nm,1.4s							
TUWZ	Tuamarina	27.23	169	P		P	03 40 19.7	+0.1
RPZ	Rata Peaks	29.09	175	P		P	03 40 37.1	+1.0
STKA	Stephens Creek	29.09	230	P		P	03 40 38.0	+1.7
STKA	Stephens Creek	29.09	230	P		P	03 40 38.3	+2.0
	comp=Z,2.2nm,0.5s,baz=41,slow=8.9,SNR=7.1							
	comp=Z,2.2nm,0.5s							
LBZ	Lake Benmore	29.68	176	P		P	03 40 41.7	+0.4
WR0	Warramunga Arr	31.75	256	P		P	03 40 58.6	-1.3
WB0	Warramunga Arr	31.88	256	P		P	03 40 59.6	-1.4
WB0				IAmb		IAmb	03 41 01.5	
	comp=Z,3.1nm,0.8s							
WB2	Warramunga Arr	31.93	256	P		P	03 41 00.0	-1.4
WB2				IAmb		IAmb	03 41 01.3	
	comp=Z,5.4nm,1.2s							
WRA	Warramunga Arr	31.94	256	P		P	03 40 59.9	-1.7
	comp=Z,0.8nm,0.3s,baz=86,slow=9.0,SNR=27							
WRA				LR		LR	03 52 51.8	
	comp=Z,54nm,18.6s,baz=236,slow=34							
	comp=Z,0.8nm,0.3s							
AS31	Alice Springs	32.78	249	P		P	03 41 08.0	-1.0
ASAR	Alice Springs	32.79	249			P	03 41 08.2	-0.8
ASAR	Alice Springs	32.79	249	P		P	03 41 08.1	-0.9
	comp=Z,1.9nm,0.4s,baz=76,slow=9.2,SNR=50							
	comp=Z,1.9nm,0.4s							
BBOO	Buckleboo	33.68	232	P		P	03 41 18.1	+1.5
BBOO				IAmb		IAmb	03 41 54.4	
	comp=Z,18nm,1.4s							
KNRA	Kununurra	37.25	263	P		P	03 41 46.0	-1.2
KNRA				IAmb		IAmb	03 41 49.2	
	comp=Z,11nm,1.1s							
FITZ	Fitzroy Crossi	40.13	259	P		P	03 42 10.8	-0.4
MBWA	Marble Bar	45.66	255	P		P	03 42 55.4	-0.2
MBWA				IAmb		IAmb	03 43 05.7	
	comp=Z,32nm,1.5s							
CASY	Casey	63.59	202	P		P	03 45 04.6	+0.4
QSPA	South Pole Qui	75.33	180	P		P	03 46 16.6	+0.3
QSPA				IAmb		IAmb	03 46 17.7	
	comp=Z,4.9nm,0.9s							
YAK	Yakutsk	82.04	343	LR		LR	04 22 02.4	
	comp=Z,24nm,18.5s,baz=344,slow=35							
ILAR	Eielson Array	86.47	18	P		P	03 47 15.4	+0.3
	comp=Z,0.5nm,0.8s,baz=239,slow=5.1,SNR=3.3							
	comp=Z,0.5nm,0.8s							
TROLL	Troll, Antarti	92.90	185	⇑P		P	03 47 45.0	-0.4
	comp=Z,148nm,0.5s							
SNAA	Sanae	93.58	183	⇑P		P	03 47 46.9	-1.6
	comp=Z,34nm,0.6s							
VNA3	Neumayer Olymp	94.24	181	⇑P		P	03 47 50.7	-0.8
	comp=Z,1.7nm,0.3s							
VNA2	Neumayer--Watz	94.51	182	⇑P		P	03 47 51.8	-0.8
	comp=Z,3.6nm,0.5s,baz=182,slow=4.7							
ARCES	ARCESS Array B	120.25	345	PKP		PKiKP	03 53 22.6	+0.1
	comp=Z,6.0nm,1.1s,baz=62,slow=1.8,SNR=15							
FINES	FINESS Array B	125.74	338	PKP		PKiKP	03 53 34.5	+1.0
	comp=Z,3.1nm,1.0s,baz=85,slow=2.9,SNR=1.6							
CMLA	Cha da Macela	154.33	24	PKPdf		PKPdf	03 54 21.0	-3.2

*IDC **05** 03:42:08.6±6.4, 22°.38S×178°.94E, h624km±57km, mb2.9/3, mbtmp3.9/5, Error ellipse: s-maj=184.1km s-min=23.3km az=156.0*
ISC 05 03:42:06.8±1.6, 22°.7S±0°.3×179°.2E±0°.2, h612km, n7, σ0°.91/7, mb3.5/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.07	348	P		P	03 43 41.1	-0.1
	9.5nm,0.9s,baz=143,slow=20,SNR=2.3							
DZM	Mont Dzumac	11.77	271	P		P	03 44 43.8	+0.3
	5.7nm,0.7s,baz=106,slow=18,SNR=5.2							
ASAR	Alice Springs	41.47	260	P		P	03 49 01.8	-0.5
	0.3nm,0.3s,baz=91,slow=8.7,SNR=7.9							
	0.3nm,0.3s							
WRA	Warramunga Arr	41.71	265	P		P	03 49 04.3	+0.1
	1.3nm,0.5s,baz=97,slow=8.2,SNR=30							
	1.3nm,0.5s							
TXAR	Lajitas Array	90.48	58	P		P	03 54 05.2	+0.3
	0.4nm,0.7s,baz=220,slow=6.9,SNR=6.0							
	0.4nm,0.7s							
HFS	Hagfors	141.24	348	PKP		PKPdf	04 00 27.0	-1.3
	1.4nm,0.4s,baz=51,slow=4.6,SNR=14							
AKASG	Malin Array Be	143.56	328	PKP		PKPdf	04 00 33.8	+1.0
	0.2nm,0.4s,baz=44,slow=3.4,SNR=4.9							

*MOS **05** 03:45:59.2±2.2, 44°.50N×145°.56E, h29km, mb4.3/1, Error ellipse: s-maj=15.5km s-min=11.8km az=90.2*
*SKHL **05** 03:46:00.9±0.5, 44°.50N×145°.60E, h25km±4km, mb5.1/2*
*NIED **05** 03:46:01.0, 44°.49N×145°.67E, h22km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.08; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-2.20; $M_{r\theta}$-2.14; $M_{\phi\theta}$-0.42; $M_{\phi r}$-2.00; Fault plane solution: $M_0$3.64000×10^{14} NP1: ϕ_s217.00000°, δ73.00000°, λ108.00000°. NP2: ϕ_s350.00000°, δ24.00000°, λ45.00000°.*
*JMA **05** 03:46:01.0±0.2, 44°.5N±0°.6×145°.7E±0°.8, h22km±1km, MV3.8/31, NEAR KUNASHIRI ISLAND*
*IDC **05** 03:46:05.5±3.0, 44°.47N×145°.39E, h61km±30km, mb3.2/7, mbtmp3.4/9, ML2.9/2, MS2.9/1, Error ellipse: s-maj=27.2km s-min=21.8km az=162.0*
ISC 05 03:46:00.6±1.7, 44°.47N±0°.03×145°.59E±0°.03, h20km±7km, n32, σ1°.06/45, mb3.6/8, 4C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	0.48	156	*i* P		Pb	03 46 10.4	0.0
YUK				AMB		AMB	03 46 10.6	
	2μm,0.4s							
YUK				*i* S		Sb	03 46 17.2	+0.2
YUK				A		A	03 46 17.7	
	4μm,0.3s							
YUK				A		A	03 46 17.7	
	8μm,0.3s							
YUK	Yuzh-Kuril'sk	0.48	156	*c* iPN		Pb	03 46 10.4	0.0
YUK				*i* S		Sg	03 46 17.1	+0.2
YUK				pmax		pmax		
	comp=Z,4μm,0.1s							
YUK				smax		smax		
	comp=N,4μm,0.2s							
YUK				smax		smax		
	comp=E,9μm,0.3s							
JRA	Rausu	0.63	212	P		Pn	03 46 13.9	-0.5
JRA				*e*S		Sn	03 46 23.1	-0.8
JNSB	Nemuroshibetsu	0.81	211	P		Pn	03 46 16.8	-0.1
JNSB				*e*S		Sn	03 46 28.9	+0.5
SHO	Shikotan	1.08	123	*i* P		Pn	03 46 19.6	-1.0
SHO				AMB		AMB	03 46 20.1	
	comp=E,500nm,0.3s							
SHO				*i* S		Sb	03 46 33.9	-0.3
SHO				A		A	03 46 35.0	
	comp=E,6μm,0.7s							
SHO				A		A	03 46 35.0	
	comp=E,7μm,0.7s							
SHO	Shikotan	1.08	123	⇑*i* iPN		Pn	03 46 19.7	-0.9
SHO				*i* S		Sb	03 46 34.4	+0.2
SHO				pmax		pmax		
	comp=Z,458nm,0.2s							
SHO				smax		smax		
	comp=N,5μm,0.4s							
SHO				sm

comp=N,80nm,0.4s
YSS smax smax
comp=E,60nm,0.3s
MJAR Matsushiro Arr 9.71 218 P **Pn 03 48 19.5 +0.3**
baz=29,slow=12,SNR=1.6
comp=E,0.3nm,0.3s
KLR Kul'dur 10.60 302 LR LR 03 52 08.7
comp=E,56nm,18.2s,baz=292,slow=35
BILL Bilibino 26.00 18 *eP* **P 03 51 35.7 +3.9**
BILL pmax pmax
comp=Z,6.0nm,1.3s
SONM Songino Array 27.16 291 P **P 03 51 41.5 -1.1**
comp=Z,0.1nm,0.3s,baz=82,slow=10,SNR=1.3
comp=Z,0.1nm,0.3s
ILAR Eielson Array 41.58 37 P **P 03 53 46.4 -0.2**
comp=Z,0.6nm,0.8s,baz=258,slow=6.4,SNR=6.8
comp=Z,0.6nm,0.8s
MKAR Makanchi Array 43.26 296 P **P 03 53 58.7 -1.9**
comp=Z,0.1nm,0.4s,baz=73,slow=10,SNR=3.1
comp=Z,0.1nm,0.4s
KURK Kurchatov 44.19 303 *eP* **P 03 54 07.9 -0.1**
KURK Kurchatov 44.19 303 P **P 03 54 07.9 -0.1**
KURBB Kurchatov Arra 44.28 303 P **P 03 54 07.9 -0.7**
comp=Z,0.1nm,0.3s,baz=71,slow=8.6,SNR=2.5
comp=Z,0.1nm,0.3s
WRA Warramunga Arr 64.92 192 P **P 03 56 38.4 -0.3**
comp=Z,0.9nm,0.9s,baz=11,slow=6.6,SNR=6.0
comp=Z,0.9nm,0.9s
WRA Warramunga Arr 64.92 192 *i* P **P 03 56 38.0 -0.7**
NVAR Mina Array Bea 68.14 57 P **P 03 56 59.9 +0.4**
comp=Z,0.4nm,0.6s,baz=301,slow=7.0,SNR=2.3
comp=Z,0.4nm,0.6s
PDAR Pinedale Array 70.30 49 P **P 03 57 14.3 +1.5**
comp=Z,0.6nm,0.5s,baz=318,slow=0.5,SNR=11
comp=Z,0.6nm,0.5s

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*IDC **05** 03:49:12.9±1.5, 5°.88N×126°.23E, h93km±13km, mb3.5/9, mbtmp3.8/9, Error ellipse: s-maj=67.7km s-min=14.2km az=69.0*

ISC 05 03:49:13.6±0.8, 5°.9N±0°.2×126°.2E±0°.4, h100km, n10, σ0°54/12, mb3.8/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.32**	**334**	P	**Pn**	**03 49 37.6**	**-0.2**
	168nm,0.3s,baz=196,slow=2.4,SNR=1.7						
DAV				S	**Sn**	**03 49 55.0**	**-1.0**
	285nm,0.3s,baz=259,slow=18,SNR=6.9						
WRA	**Warramunga Arr**	**26.89**	**163**	P	**P**	**03 54 44.8**	**-0.5**
	0.5nm,0.8s,baz=334,slow=11,SNR=9.2						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**30.32**	**166**	P	**P**	**03 55 16.1**	**+0.3**
	0.4nm,0.5s,baz=344,slow=7.0,SNR=6.5						
ASAR				PcP	**PcP**	**03 58 13.8**	**-0.1**
	0.4nm,0.7s,baz=1.0,slow=3.3,SNR=2.9						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**40.32**	**160**	P	**P**	**03 56 40.7**	**-0.6**
	0.9nm,0.5s,baz=324,slow=12,SNR=3.1						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**55.49**	**325**	P	**P**	**03 58 38.5**	**+0.3**
	0.4nm,0.4s,baz=119,slow=7.7,SNR=5.3						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**59.64**	**327**	P	**P**	**03 59 07.2**	**+0.1**
	0.5nm,0.5s,baz=128,slow=6.6,SNR=5.1						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**65.23**	**327**	P	**P**	**03 59 44.5**	**+0.1**
	0.5nm,0.5s,baz=146,slow=6.1,SNR=2.4						
	0.5nm,0.5s						
NRIK	**Noril'sk**	**68.23**	**346**	P	**P**	**04 00 03.9**	**+0.8**
	1.5nm,0.5s,baz=120,slow=8.1,SNR=2.3						
	1.5nm,0.5s						
ILAR	**Eielson Array**	**83.42**	**26**	P	**P**	**04 01 29.4**	**-0.2**
	0.1nm,0.5s,baz=266,slow=5.5,SNR=4.7						
	0.1nm,0.5s						
ARCES	**ARCESS Array B**	**88.25**	**340**	P	**P**	**04 01 53.8**	**+0.4**
	3.7nm,0.9s,baz=75,slow=4.8,SNR=4.3						
	3.7nm,0.9s						

IDC 05 03:57:43.9±2.3, 6°.70S×129°.78E, h0km, mb3.9/1, mbtmp3.9/4, ML4.0/3, MS3.3/2, Error ellipse: s-maj=103.8km s-min=27.6km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.02**	**199**	Pn	Pn	04 00 37.4	+0.7
	1.1nm,0.3s,baz=30,slow=13,SNR=53						
FITZ				Sn	Sn	04 02 36.2	-15
	0.3nm,0.3s,baz=11,slow=12,SNR=1.9						
	2.0nm,0.3s						
WRA	**Warramunga Arr**	**13.88**	**162**	Pn	Pn	04 01 00.9	-1.2
	0.6nm,0.3s,baz=333,slow=13,SNR=39						
WRA				Sn	Sn	04 03 23.2	-14
	0.3nm,0.3s,baz=340,slow=19,SNR=3.7						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**17.33**	**167**	P	Pn	04 01 47.6	+0.3
	0.4nm,0.3s,baz=345,slow=11,SNR=18						
ASAR				S	Sn	04 04 48.0	-13
	0.2nm,0.3s,baz=345,slow=25,SNR=2.4						
	0.7nm,0.4s						
PMG	**Port Moresby**	**17.42**	**100**	LR	LR	04 09 42.1	
	comp=Z,52nm,20.3s,baz=154,slow=41						
MSVF	**Nonsavu**	**48.30**	**108**	LR	LR	04 25 23.1	
	comp=Z,69nm,19.2s,baz=118,slow=34						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	04 08 44.2	0.0
	0.5nm,0.4s,baz=116,slow=8.1,SNR=7.7						
	0.5nm,0.4s						

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*CATAC **05** 03:58:52.5±0.6, 13°.67N×91°.33W, h1km±3km, ML3.4*
*SNET **05** 03:58:55.7±0.9, 13°.87N×91°.28W, h32km±182km, ML3.3*
*GCG **05** 03:59:01.3±0.6, 14°.30N×91°.28W, h35km±5km, MD3.6*

ISC 05 03:58:52.7±2.1, 13°.68N±0°.08×91°.39W±0°.06, h23km±15km, n45, σ1°29/79, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.65**	**345**	*i* P	**Pn**	**03 59 08.7**	**+2.1**
ESSG	**Sabana Grande**	**0.89**	**38**	*i* P	**Pb**	**03 59 09.0**	**-0.5**
ESSG				*i* S	**Sn**	**03 59 21.2**	**-0.9**
ESSG				IAML		03 59 23.7	
	comp=Z,920nm,1.0s						
RTAL	**Retalhuleu**	**0.89**	**341**	*e*P	**Pn**	**03 59 10.0**	**0.0**
RTAL				*e*S	**Sn**	**03 59 21.2**	**-1.0**
RTAL	**Retalhuleu**	**0.89**	**341**	*i* P	**Pn**	**03 59 10.2**	**+0.2**
RTAL				IAML		03 59 21.0	
	comp=Z,610nm,1.0s						
RTAL				*i* S	**Sn**	**03 59 21.7**	**-0.5**
FUG	**Fuego 3**	**0.93**	**35**	*i* P	**Pb**	**03 59 11.8**	**+1.5**
PCG	**Pacaya**	**1.04**	**47**	*i* P	**Pb**	**03 59 13.5**	**+1.3**
STG3	**Santiaguito 3,**	**1.04**	**350**	*i* P	**Pb**	**03 59 12.7**	**+0.5**
STG3				*i* S	**Sn**	**03 59 21.0**	**-5.2**
SOKI	**Kika Raxquin**	**1.14**	**359**	*i* P	**Pb**	**03 59 13.9**	**-0.1**
SOKI				IAML		03 59 28.7	
	comp=Z,650nm,1.0s						
SOKI				*i* S	**Sb**	**03 59 28.8**	**+0.3**
GUMI	**Mixco**	**1.21**	**38**	*i* P	**Pb**	**03 59 15.6**	**+0.5**
GUMI				IAML		03 59 16.1	
	comp=Z,1μm,1.0s						
GUMI				*i* S	**Sb**	**03 59 30.6**	**+0.2**
GCG4	**OSOP**	**1.23**	**42**	*i* P	**Pb**	**03 59 15.0**	**-0.4**
GCG4				IAML		03 59 23.0	
	comp=Z,1μm,1.0s						
GCG4				*i* S	**Sb**	**03 59 31.6**	**+0.7**
NBG	**Las Nubes**	**1.36**	**48**	*i* P	**Pb**	**03 59 18.9**	**+1.3**
NBG				*i* S	**Sb**	**03 59 34.5**	**-0.2**
NUBE	**Las Nubes**	**1.58**	**82**	*e*P	**Pn**	**03 59 19.5**	**0.0**
NUBE				*e*S	**Sn**	**03 59 38.6**	**-0.7**
NUBE	**Las Nubes**	**1.58**	**82**	*i* P	**Pn**	**03 59 19.5**	**0.0**
NUBE				IAML		03 59 21.8	
	comp=Z,280nm,1.0s						
NUBE				*i* S	**Sb**	**03 59 40.4**	**-0.6**
LOAL	**Lomas de Alarc**	**1.59**	**78**	*e*P	**Pn**	**03 59 20.4**	**+0.7**
LOAL				*e*S	**Sn**	**03 59 38.5**	**-1.1**
LOAL	**Lomas de Alarc**	**1.59**	**78**	*i* P	**Pn**	**03 59 21.0**	**+1.4**
LOAL				*i* S	**Sb**	**03 59 41.0**	**-0.3**
LOAL				IAML		04 00 33.9	
	comp=Z,2μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.60**	**77**	*e*P	**Pn**	**03 59 20.4**	**+0.7**
SLOZ				*e*S	**Sb**	**03 59 39.4**	**-1.9**
QUIS	**Sacapulas**	**1.63**	**10**	*i* P	**Pb**	**03 59 22.2**	**0.0**
QUIS				*i* S	**Sb**	**03 59 43.7**	**+1.3**
QUIS				IAML		03 59 46.1	
	comp=Z,380nm,1.0s						
HUEH	**Huehuetenango**	**1.63**	**356**	*i* P	**Pb**	**03 59 22.1**	**-0.3**
HUEH				*i* S	**Sb**	**03 59 44.1**	**+1.4**
HUEH				IAML		03 59 47.8	
	comp=Z,420nm,1.0s						
RTR	**El Retiro**	**1.71**	**82**	*e*P	**Pn**	**03 59 22.4**	**+1.1**
RTR				*e*S	**Sn**	**03 59 42.5**	**0.0**
CEVE	**Cerro Verde**	**1.72**	**85**	*e*P	**Pn**	**03 59 22.3**	**+0.7**
CEVE				*e*S	**Sb**	**03 59 43.8**	**-1.4**
CEVE				IAML		03 59 52.5	
	comp=Z,624nm,0.3s						
CEVE	**Cerro Verde**	**1.72**	**85**	*i* P	**Pn**	**03 59 22.0**	**+0.4**
CEVE				*i* S	**Sb**	**03 59 44.2**	**-0.9**
CEVE				IAML		03 59 48.7	
	comp=Z,680nm,1.0s						
SBLS	**San Blas**	**1.72**	**84**	*e*P	**Pn**	**03 59 22.3**	**+0.7**
SBLS				*e*S	**Sb**	**03 59 43.8**	**-1.4**
SNJE	**San Jose**	**1.74**	**84**	*e*P	**Pn**	**03 59 22.3**	**+0.5**
JUAM	**Asuncion Mita**	**1.76**	**68**	*i* P	**Pn**	**03 59 23.2**	**+1.3**
JUAM				*i* S	**Sb**	**03 59 45.3**	**-0.8**
JUAM				IAML		04 00 35.1	
	comp=Z,230nm,1.0s						
UNIC	**Universidad Ca**	**1.81**	**80**	*e*P	**Pn**	**03 59 23.3**	**+0.7**
UNIC				*e*S	**Sn**	**03 59 45.3**	**+0.3**
UNIC	**Universidad Ca**	**1.81**	**80**	*i* P	**Pn**	**03 59 23.9**	**+1.2**
UNIC				IAML		03 59 24.5	
	comp=Z,180nm,1.0s						
UNIC				*i* S	**Sb**	**03 59 46.7**	**-0.9**
JAYA	**Jayaque - finc**	**1.89**	**90**	*e*P	**Pn**	**03 59 24.3**	**+0.5**
JAYA				*e*S	**Sn**	**03 59 46.8**	**-0.1**
JAYA				IAML		03 59 50.8	
	comp=Z,328nm,0.3s						
JAYA	**Jayaque - finc**	**1.89**	**90**	*i* P	**Pn**	**03 59 24.4**	**+0.7**
JAYA				*i* S	**Sn**	**03 59 48.3**	**+1.4**
JAYA				IAML		03 59 50.6	
	comp=Z,750nm,1.0s						
CEDA	**San Andres**	**1.94**	**86**	*i* P	**Pn**	**03 59 26.0**	**+1.6**
CEDA				IAML		03 59 28.5	
	comp=Z,760nm,1.0s						
CEDA				*i* S	**Sb**	**03 59 50.6**	**-0.7**
PMON	**Piamonte**	**2.02**	**89**	*e*P	**Pn**	**03 59 26.4**	**+0.9**
PMON				*e*S	**Sn**	**03 59 50.2**	**+0.1**
PMON	**Piamonte**	**2.02**	**89**	*i* P	**Pn**	**03 59 27.2**	**+1.7**
PMON				*i* S	**Sb**	**03 59 52.2**	**-1.3**
PMON				IAML		03 59 57.1	
	comp=Z,440nm,1.0s						
LALI	**Alcalda de L**	**2.02**	**95**	*e*P	**Pn**	**03 59 26.8**	**+1.3**
AVCB	**Coban**	**2.02**	**28**	IAML		03 59 24.3	
	comp=Z,6μm,1.0s						
AVCB				*i* P	**Pb**	**03 59 27.1**	**-1.8**
AVCB				*i* S	**Sb**	**03 59 53.7**	**0.0**
UEES	**Universidad Ev**	**2.09**	**89**	*e*P	**Pn**	**03 59 27.8**	**+1.3**
UEES				IAML		04 00 02.2	
	comp=Z,190nm,0.4s						
MTO3	**Montecristo**	**2.09**	**70**	*e*P	**Pn**	**03 59 27.6**	**+1.0**
MTO3	**Montecristo**	**2.09**	**70**	*i* P	**Pn**	**03 59 27.5**	**+0.8**
MTO3				IAML		03 59 29.8	
	comp=Z,100nm,1.0s						
MTO3				*i* S	**Sb**	**03 59 54.1**	**-1.8**
ESQI	**Esquipulas**	**2.17**	**66**	*i* P	**Pn**	**03 59 28.7**	**+1.1**
ESQI				IAML		03 59 49.1	
	comp=Z,84nm,1.0s						
ESQI				*i* S	**Sb**	**03 59 56.2**	**-1.8**
UDBS	**Universidad Do**	**2.17**	**89**	*e*P	**Pn**	**03 59 28.8**	**+1.2**
UDBS				IAML		04 00 02.2	
	comp=Z,156nm,0.3s						
LFRS	**El Faro**	**2.26**	**91**	*e*P	**Pn**	**03 59 30.4**	**+1.5**
PAVA	**Las Pavas**	**2.38**	**89**	*e*P	**Pn**	**03 59 32.0**	**+1.4**
PAVA				*e*S	**Sn**	**03 59 59.5**	**+0.3**
TECO	**Alcaldia de Te**	**2.54**	**93**	*e*P	**Pn**	**03 59 33.7**	**+1.1**
TECO	**Alcaldia de Te**	**2.54**	**93**	*i* P	**Pn**	**03 59 34.4**	**+1.8**
TECO				*i* S	**Sb**	**04 00 05.9**	**-2.6**
TECO				IAML		04 00 12.2	
	comp=Z,51nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.58**	**89**	*e*P	**Pn**	**03 59 34.8**	**+1.6**
SCLA	**Alcaldia de Sa**	**2.58**	**89**	*i* P	**Pn**	**03 59 35.1**	**+1.8**
SCLA				*i* S	**Sb**	**04 00 06.9**	**-3.0**
SCLA				IAML		04 00 23.9	
	comp=Z,32nm,1.0s						
LCND	**La Caada**	**3.42**	**96**	*e*P	**Pn**	**03 59 45.7**	**+1.0**
LCND				*e*S	**Sn**	**04 00 25.4**	**+0.7**

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*FUNV **05** 04:04:53.8, 10°.52N×62°.53W, h19km, MW3.9*
*TRN **05** 04:04:53.1, 10°.57N×62°.53W, h104km, MD3.7, Paria peninsula.*

ISC 05 04:04:52.2±1.5, 10°.59N±0°.04×62°.59W±0°.05, h119km±16km, n31, σ1°72/59, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMG	**Mucurapo Girls**	**1.04**	**86**	*e*P	**Pn**	**04 05 14.4**	**-0.2**
PSKH	**Kent House, Po**	**1.05**	**85**	*e*P	**Pn**	**04 05 14.4**	**-0.3**
PSKH				*e*S	**Sn**	**04 05 28.3**	**-3.5**
TPP	**Pointe-a-Pierr**	**1.16**	**104**	*e*P	**Pn**	**04 05 19.6**	**+3.8**
TPP				*e*S	**Sn**	**04 05 36.2**	**+2.6**
TRN	**Trinidad (W)**	**1.17**	**87**	*e*P	**Pn**	**04 05 15.9**	**0.0**
TRN				*e*S	**Sn**	**04 05 30.4**	**-3.5**
TBH	**Brigand Hill**	**1.50**	**94**	*e*P	**Pn**	**04 05 21.1**	**+1.4**
TBH				*e*S	**Sn**	**04 05 40.2**	**-0.3**
CUMV	**Cumana_UDO**	**1.58**	**264**	*e*P	**Pn**	**04 05 22.8**	**+2.2**
CUMV				*e*S	**Sn**	**04 05 42.3**	**+0.1**
GRFF	**Grenada Fort F**	**1.67**	**30**	*e*P	**Pn**	**04 05 21.7**	**0.0**
GRFF				*e*S	**Sn**	**04 05 42.0**	**-2.1**
GRGR	**Grenville**	**1.79**	**31**	*e*P	**Pn**	**04 05 22.9**	**-0.1**
GRGR				*e*S	**Sn**	**04 05 44.6**	**-1.9**
GRW	**Mount Saint Ca**	**1.81**	**30**	*e*P	**Pn**	**04 05 23.7**	**+0.3**
GRW				*e*S	**Sn**	**04 05 46.3**	**-0.8**
GRHS	**Sauteurs**	**1.87**	**30**	*e*P	**Pn**	**04 05 24.3**	**+0.3**
GRHS				*e*S	**Sn**	**04 05 46.4**	**-2.0**
GRSS	**Sisters**	**1.95**	**29**	*e*P	**Pn**	**04 05 25.5**	**+0.5**
GRSS				*e*S	**Sn**	**04 05 49.2**	**-0.9**
PCRV	**Puerto La Cruz**	**2.05**	**259**	*e*P	**Pn**	**04 05 28.0**	**+1.6**
PCRV				*e*S	**Sn**	**04 05 52.0**	**-0.5**
PCRV	**Puerto La Cruz**	**2.05**	**259**	*e*P	**Pn**	**04 05 28.1**	**+1.7**
PCRV				*e*S	**Sn**	**04 05 52.8**	**+0.3**
TOSP	**Speyside**	**2.14**	**71**	*e*P	**Pn**	**04 05 26.9**	**-0.4**
TOSP				*e*S	**Sn**	**04 05 52.0**	**-2.3**
GCMP	**Grenada, Carri**	**2.20**	**31**	*e*P	**Pn**	**04 05 28.3**	**+0.1**
GCMP				*e*S	**Sn**	**04 05 54.2**	**-1.5**
SVOC	**Richmond Hill,**	**2.88**	**28**	*e*P	**Pn**	**04 05 37.3**	**+0.4**
SVOC				*e*S	**Sn**	**04 06 12.3**	**+1.0**
SVT	**Saint Vincent**	**2.88**	**27**	*e*P	**Pn**	**04 05 36.8**	**-0.2**
SVT				*e*S	**Sn**	**04 06 11.1**	**-0.4**
SVB	**Belmont**	**2.97**	**26**	*e*P	**Pn**	**04 05 39.6**	**+1.5**
SVB				*e*S	**Sn**	**04 06 12.7**	**-0.8**
SLAC	**Saint Lucia, A**	**3.68**	**27**	*e*P	**Pn**	**04 05 47.4**	**-0.1**
SLAC				*e*S	**Sn**	**04 06 29.2**	**-1.1**
SLBI	**Saint Lucia, B**	**3.76**	**25**	*e*P	**Pn**	**04 05 48.7**	**+0.1**
SLBI				*e*S	**Sn**	**04 06 30.4**	**-1.8**
BIM	**Bigot**	**4.17**	**21**	*e*P	**Pn**	**04 05 54.3**	**+0.2**
BIM				*e*S	**Sn**	**04 06 40.1**	**-2.1**
TACV	**Tcata**	**4.39**	**264**	*e*P	**Pn**	**04 05 58.5**	**+1.5**
TACV				*e*S	**Sn**	**04 06 47.2**	**-0.1**
LUEV	**Luepa**	**4.85**	**167**	*e*P	**Pn**	**04 06 03.5**	**+0.1**
LUEV				*e*S	**Sn**	**04 06 54.0**	**-4.6**
CACV	**CAICARA DEL OR**	**4.92**	**233**	*e*P	Pn	04 06 00.3	-3.9
CACV				*e*S	Sn	04 06 48.6	-12
BENV	**Beln**	**4.97**	**263**	*e*P	**Pn**	**04 06 06.6**	**+1.8**
BENV				*e*S	**Sn**	**04 07 00.6**	**-0.7**
BAUV	**El Baul**	**5.62**	**254**	*e*P	**Pn**	**04 06 14.2**	**+0.7**
BAUV				*e*S	**Sn**	**04 07 14.7**	**-2.1**
BAUV	**El Baul**	**5.62**	**254**	*e*P	**Pn**	**04 06 14.7**	**+1.1**
BAUV				*e*S	**Sn**	**04 07 14.8**	**-2.1**
MAPV	**Macapo**	**5.82**	**263**	*e*P	**Pn**	**04 06 17.3**	**+1.0**
MAPV				*e*S	**Sn**	**04 07 21.4**	**-0.6**
ANBD	**Bethesda, Anti**	**6.47**	**7**	*e*P	**Pn**	**04 06 28.0**	**+3.0**
ANBD				*e*S	**Sn**	**04 07 36.8**	**-0.6**
TEPV	**Terepaima**	**6.53**	**265**	*e*P	**Pn**	**04 06 26.5**	**+0.7**
TEPV				*e*S	**Sn**	**04 07 36.8**	**-2.2**
SOCV	**Socops**	**8.47**	**255**	*e*P	**Pn**	**04 06 52.6**	**+0.5**
SOCV				*e*S	**Sn**	**04 08 22.2**	**-3.9**

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*IDC **05** 04:09:39.1±0.8, 19°.70N×121°.39E, h0km, mb3.9/11, mbtmp3.9/14, ML4.0/3, MS2.8/4, Error ellipse: s-maj=24.3km s-min=16.6km az=78.0*
*NEIC **05** 04:09:41.1±1.3, 19°.75N±0°.09×121°.3E±0°.1, h10km±1km, mb4.2/16, Error ellipse: s-maj=17.4km s-min=14.9km az=271.0*
*NIED **05** 04:09:46.2, 20°.00N×121°.54E, h121km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 1015Nm; Mrr1.26; Mθθ0.85; Mφφ-2.11; Mrθ-0.20; Mθφ-0.13; Mφr0.08; Fault plane solution: M0 1.73000×1015 NP1: φs342.00000°, δ50.00000°, λ60.00000°. NP2: φs204.00000°, δ48.00000°, λ121.00000°.*
*JMA **05** 04:09:46.2±0.8, 20°N×3°×12°2E±°, h121km, MV3.9/12, PHILIPPINE ISL REGION*

ISC 05 04:09:44.0±0.6, 19°.78N±0°.06×121°.43E±0°.08, h35km, n62, σ1°28/57, mb4.1/18, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWGBT	**Beinan**	**3.04**	**354**	P	**Pn**	**04 10 29.2**	**-0.5**
TWG	**Pinlang**	**3.04**	**354**	Pn	**Pn**	**04 10 27.6**	**-2.1**
TPUB	**Ta-pu**	**3.58**	**348**	Pn	**Pn**	**04 10 35.7**	**-1.5**
TPUB	**Ta-pu**	**3.58**	**348**	P	**Pn**	**04 10 36.4**	**-0.7**
YULB	**Yu-li**	**3.60**	**358**	Pn	**Pn**	**04 10 37.6**	**+0.3**
YULB	**Yu-li**	**3.60**	**358**	P	**Pn**	**04 10 38.7**	**+1.4**
SSLB	**Suanglung**	**4.01**	**354**	Pn	**Pn**	**04 10 42.7**	**-0.4**
SSLB	**Suanglung**	**4.01**	**354**	P	**Pn**	**04 10 43.2**	**+0.1**
NACB	**Ninganchiao**	**4.38**	**2**	Pn	**Pn**	**04 10 47.5**	**-0.5**
HATJ	**Hateruma jima**	**4.79**	**27**	*e*P	**Pn**	**04 10 54.1**	**+0.4**
HATJ				*e*S	**Sn**	**04 11 46.2**	**-1.9**
YHNB	**Yeheng**	**4.87**	**359**	Pn	**Pn**	**04 10 54.5**	**-0.3**
YHNB	**Yeheng**	**4.87**	**359**	P	**Pn**	**04 10 56.3**	**+1.5**
YOJ	**Yonaguni jima**	**4.88**	**17**	Pn	**Pn**	**04 10 56.0**	**+1.0**
YOJ	**Yonaguni jima**	**4.88**	**17**	*e*P	**Pn**	**04 10 56.0**	**+1.0**
IRIF	**Iriomote-Funau**	**5.01**	**25**	*e*P	**Pn**	**04 10 57.3**	**+0.6**
JKRS	**Kuro-shima**	**5.04**	**28**	*e*P	**Pn**	**04 10 57.8**	**+0.6**
JKRS				*e*S	**Sn**	**04 11 52.5**	**-1.6**
JIJ	**Ishigaki jima**	**5.21**	**28**	*e*P	**Pn**	**04 10 59.6**	**+0.1**
JIJ				*e*S	**Sn**	**04 11 55.5**	**-2.9**
KNMB	**Chin-men Tao**	**5.45**	**329**	Pn	**Pn**	**04 11 00.7**	**-2.0**
JISG	**Ishigakijimahi**	**5.48**	**29**	*e*S	**Sn**	**04 12 02.5**	**-2.5**
JTJ	**Tarama**	**5.71**	**31**	*e*S	**Sn**	**04 12 08.5**	**-2.2**
JOW	**Kunigami**	**9.42**	**41**	Pn	**Pn**	**04 11 57.4**	**0.0**
JOW	**Kunigami**	**9.42**	**41**	Pn	**Pn**	**04 11 55.7**	**-1.6**
	4.7nm,0.3s,baz=210,slow=14,SNR=10						
	12nm,0.4s						
DAV	**Davao City (W)**	**13.26**	**162**	LR	LR	04 18 49.0	
	comp=Z,44nm,18.9s,baz=336,slow=42						
JNU	**Nakatsue**	**15.74**	**31**	Pn	**P**	**04 13 25.1**	**-1.7**
	0.3nm,0.3s,baz=283,slow=7.8,SNR=3.6						
	1.2nm,0.3s						
KSRS	**Korea Array**	**18.50**	**16**	P	**Pn**	**04 13 57.7**	**+0.2**
	0.5nm,0.3s,baz=203,slow=12,SNR=8.6						
KSRS				LR	LR	04 21 01.0	
	comp=Z,24nm,20.3s,baz=345,slow=37						
	2.5nm,0.5s						
TOLI2	**Tolitoli**	**18.57**	**182**	P	**P**	**04 13 57.8**	**-0.2**
SBUM	**Sibu**	**19.43**	**209**	P	**P**	**04 14 07.3**	**-0.3**
SBUM				IAmb	IAmb	04 14 14.9	
	comp=Z,6.7nm,1.2s						
CHTO	**Chiang Mai**	**21.24**	**271**	P	**P**	**04 14 27.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**21.29**	**270**	P	**P**	**04 14 26.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**21.29**	**270**	P	**P**	**04 14 28.1**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=74,slow=8.8,SNR=8.6						
CMAR				LR	LR	04 23 52.2	
	comp=Z,24nm,18.4s,baz=75,slow=40						
	comp=Z,0.9nm,0.3s						
BKB	**Balikpapan**	**21.38**	**193**	P	**P**	**04 14 26.0**	**-2.7**
MJAR	**Matsushiro Arr**	**22.25**	**38**	P	**P**	**04 14 40.2**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=230,slow=11,SNR=1.4						
	comp=Z,0.8nm,0.3s						
GUMO	**Guam**	**23.27**	**102**	LR	LR	04 22 32.0	
	comp=Z,17nm,19.6s,baz=76,slow=33						
SONM	**Songino Array**	**30.53**	**340**	P	**P**	**04 15 55.3**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=161,slow=9.2,SNR=3.0						
	comp=Z,0.6nm,0.5s						
PSA00	**Pilbara Seismi**	**41.13**	**182**	P	**P**	**04 17 24.5**	**-0.4**
WB0	**Warramunga Arr**	**41.31**	**161**	P	**P**	**04 17 25.2**	**-1.2**
WB0				IAmb	IAmb	04 17 35.3	
	comp=Z,7.8nm,1.2s						
WRA	**Warramunga Arr**	**41.45**	**161**	P	**P**	**04 17 26.1**	**-1.6**
WRA	**Warramunga Arr**	**41.45**	**161**	P	**P**	**04 17 26.4**	**-1.2**
	comp=Z,2.4nm,0.6s,baz=343,slow=8.8,SNR=33						
	comp=Z,2.4nm,0.6s						
MK31	**Makanchi Array**	**41.73**	**319**	P	**P**	**04 17 30.4**	**+0.7**
MKAR	**Makanchi Array**	**41.73**	**319**	P	**P**	**04 17 29.2**	**-0.5**
MKAR	**Makanchi Array**	**41.73**	**319**	P	**P**	**04 17 30.4**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=111,slow=8.8,SNR=5.5						
	comp=Z,0.5nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**42.68**	**84**	T	T	05 03 01.0	
	baz=279,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**42.69**	**82**	T	T	05 03 23.8	
	baz=278,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**42.69**	**82**	T	T	05 03 20.8	
	baz=278,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**42.69**	**84**	T	T	05 03 20.9	
	baz=279,slow=75,SNR=14						
H11S2	**WAKE ISL

0.4nm,0.4s
STKA Stephens Creek 28.13 202 LR LR 04 47 53.8
comp=Z,70nm,18.3s,baz=25,slow=36
FITZ Fitzroy Crossi 29.86 244 P **P** **04 37 23.4 -1.3**
1.7nm,0.8s,baz=29,slow=9.8,SNR=2.6
FITZ LR LR 04 50 21.7
comp=Z,231nm,18.2s,baz=101,slow=38
1.7nm,0.8s
BATI Baumata 29.96 260 LR LR 04 52 10.3
comp=Z,97nm,18.1s,baz=181,slow=42
DAV Davao City (W) 30.84 294 LR LR 04 49 28.4
comp=Z,102nm,18.1s,baz=182,slow=35
KAPI Kappang 33.73 270 LR LR 04 52 53.0
comp=Z,52nm,20.3s,baz=68,slow=38
NWAO Narrogin (SRO) 43.18 227 LR LR 04 58 00.9
comp=Z,277nm,18.0s,baz=157,slow=37
LEM Lembang 45.72 266 LR LR 05 01 28.6
comp=Z,197nm,21.7s,baz=138,slow=40
RAR Rarotonga 47.56 113 LR LR 04 56 49.9
comp=Z,51nm,20.0s,baz=228,slow=32
KSRS Korea Array 49.41 333 P **P** **04 40 06.7 -0.1**
1.6nm,0.7s,baz=154,slow=5.5,SNR=5.2
1.6nm,0.7s
PPT Papeete 56.59 107 LR LR 05 03 26.3
comp=Z,70nm,18.0s,baz=351,slow=34
SONM Songino Array 67.75 328 P **P** **04 42 15.7 +1.1**
0.8nm,0.5s,baz=146,slow=4.3,SNR=4.8
0.8nm,0.5s
MKAR Makanchi Array 81.74 319 P **P** **04 43 37.0 +1.4**
0.7nm,0.6s,baz=94,slow=7.1,SNR=7.4
0.7nm,0.6s
ZALV Zalesovo Beam 82.58 326 P **P** **04 43 40.1 +0.4**
2.8nm,0.7s,baz=97,slow=6.3,SNR=7.5
2.8nm,0.7s
ILAR Eielson Array 82.93 22 P **P** **04 43 40.0 -1.3**
0.4nm,0.8s,baz=248,slow=4.8,SNR=5.8
0.4nm,0.8s
QSPA South Pole Qui 84.00 180 P **P** **04 43 47.3 +0.3**
4.3nm,0.8s,baz=35,slow=0.4,SNR=17
4.3nm,0.8s
KURBB Kurchatov Arra 85.22 322 P **P** **04 43 53.7 +0.4**
1.8nm,0.7s,baz=109,slow=3.6,SNR=18
1.8nm,0.7s
DLBC Dease Lake 87.95 31 LR LR 05 23 54.9
comp=Z,54nm,18.1s,baz=245,slow=36
YBH Yreka Blue Hor 89.21 48 LR LR 05 17 21.8
comp=Z,80nm,19.9s,baz=305,slow=31
BVAR Borovoye Array 90.67 323 P **P** **04 44 19.0 -0.4**
3.7nm,0.8s,baz=104,slow=6.3,SNR=14
3.7nm,0.8s
PDAR Pinedale Array 99.02 48 LR LR 05 26 22.3
comp=Z,43nm,18.2s,baz=342,slow=33
BDFB Brasilia 149.66 135 PKPbc **PKPbc** **04 51 07.2 -0.4**
1.2nm,0.5s,baz=254,slow=15,SNR=5.1
TORD Torodi Ar. Bea 151.44 287 PKPbc **PKPbc** **04 51 11.3 -0.4**
1.7nm,0.7s,baz=64,slow=2.2,SNR=12

*IDC **05** 04:36:30.5±1.0, 17°.46S×69°.02W, h163km±6km, mb3.6/6, mbtmp4.2/8, Error ellipse: s-maj=20.0km s-min=10.5km az=102.0*
*SCB **05** 04:36:30.9±1.3, 17°.43S×69°.24W, h157km±15km, ML3.7/2, MW3.4, Error ellipse: s-maj=7.2km s-min=5.1km az=2.0*
*VAO **05** 04:36:30.8±0.8, 17°.36S×69°.11W, h168km±4km, mb4.1*
*NEIC **05** 04:36:30.2±2.2, 17°.39S±0°.09×69°.3W±0°.1, h167km±10km, mb4.2/7, Error ellipse: s-maj=18.3km s-min=9.3km az=126.0*
ISC 05 04:36:29.6±0.7,**17°38S**±0°.05×**69°21W**±0°.06,**h166**km±7km, **n74**,σ1º**62**/82,**mb4.1**/7,**1C-1D**,**Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.33**	**230**	P	**Pn**	**04 36 54.4**	**+1.6**
PB18	**Visviri**	**0.33**	**230**	*i*P	**Pn**	**04 36 54.4**	**+1.6**
PB18				*i* S	**Sn**	**04 37 13.0**	**+2.4**
PB18				IAML		04 37 13.8	
comp=E,170nm,0.5s							
BBOD	**La Paz, Gloria**	**0.94**	**39**	Pg	**Pn**	**04 36 57.5**	**+1.3**
SOEJ	**Jacaque**	**1.06**	**68**	Pg	**Pn**	**04 36 58.7**	**+1.7**
AP01	**Chacalluta**	**1.46**	**227**	Pn	**Pn**	**04 36 59.5**	**-0.6**
AP01	**Chacalluta**	**1.46**	**227**	*e*P	**Pn**	**04 37 00.1**	**+0.1**
AP01				*i* S	**Sn**	**04 37 22.5**	**-0.9**
LPAZ	**La Paz**	**1.50**	**44**	Pn	**Pn**	**04 37 02.0**	**+0.8**
LPAZ	**La Paz**	**1.50**	**44**	P	**Pn**	**04 37 02.4**	**+1.3**
comp=E,116nm,0.4s,baz=229,slow=7.4,SNR=902							
LPAZ				S	**Sn**	**04 37 24.8**	**-0.6**
comp=E,105nm,0.5s,baz=48,slow=19,SNR=18							
LPAZ	**La Paz**	**1.50**	**44**	Pg	**Pn**	**04 37 02.5**	**+1.3**
LPAZ	**La Paz**	**1.50**	**44**	*e*P	**Pn**	**04 37 02.5**	**+1.3**
LPAZ				*e*S	**Sn**	**04 37 24.8**	**-0.6**
SOEO	**Opoqueri**	**1.73**	**133**	Pg	**Pn**	**04 37 05.3**	**+2.0**
GO01	**Chusmiza**	**2.28**	**180**	Pn	**Pn**	**04 37 10.5**	**+1.0**
GO01	**Chusmiza**	**2.28**	**180**	*i*P	**Pn**	**04 37 10.9**	**+1.4**
GO01				*e*S	**Sn**	**04 37 41.0**	**+0.7**
GO01	**Chusmiza**	**2.28**	**180**	Pg	**Pn**	**04 37 10.7**	**+1.3**
PB11	**IPOC Station P**	**2.41**	**190**	Pn	**Pn**	**04 37 10.9**	**+0.3**
PB11	**IPOC Station P**	**2.41**	**190**	*e*P	**Pn**	**04 37 11.0**	**+0.4**
PB11				*i* S	**Sn**	**04 37 41.3**	**-1.1**
PB11	**IPOC Station P**	**2.41**	**190**	Pg	**Pn**	**04 37 11.2**	**+0.6**
PB11				Sg	**Sn**	**04 37 41.7**	**-0.7**
PB11				IAML		04 37 43.4	
comp=E,380nm,0.2s							
PB08	**IPOC Station P**	**2.75**	**179**	Pn	**Pn**	**04 37 16.4**	**+1.4**
PB08	**IPOC Station P**	**2.75**	**179**	*e*P	**Pn**	**04 37 16.1**	**+1.2**
PB08				*i* S	**Sn**	**04 37 50.3**	**+0.1**
PB08				IAML		04 37 57.1	
comp=E,169nm,0.2s							
PB08	**IPOC Station P**	**2.75**	**179**	Pg	**Pn**	**04 37 16.0**	**+1.0**
TA02	**Huaiquique**	**3.00**	**197**	Pn	**Pn**	**04 37 17.7**	**0.0**
TA01	**Diego Aracena**	**3.30**	**196**	Pn	**Pn**	**04 37 21.4**	**+0.1**
SOET	**ToroToro**	**3.33**	**103**	Pg	**Pn**	**04 37 23.6**	**+1.5**
SOET				Sg	**Sn**	**04 38 02.7**	**-0.1**
SOET				IAML		04 38 04.3	
comp=E,84nm,0.7s							
PATCX	**Punta Patache**	**3.54**	**194**	Pn	**Pn**	**04 37 24.4**	**0.0**
PB01	**IPOC Station P**	**3.65**	**184**	Pg	**Pn**	**04 37 26.5**	**+0.5**
AOEA	**Aiquile**	**3.88**	**102**	Pg	**Pn**	**04 37 30.8**	**+1.8**
AOEA	**Aiquile**	**3.88**	**102**	Pg	**Pn**	**04 37 30.9**	**+1.9**
PB09	**IPOC Station P**	**4.39**	**180**	Pn	**Pn**	**04 37 36.8**	**+1.2**
PB04	**IPOC Station P**	**5.01**	**190**	Pn	**Pn**	**04 37 42.4**	**-1.2**
MOCB	**Mochara**	**5.12**	**139**	Pg	**Pn**	**04 37 47.3**	**+1.9**
LVC	**Limon Verde**	**5.21**	**177**	P	**Pn**	**04 37 47.6**	**+1.1**
comp=E,17nm,0.3s,baz=346,slow=6.7,SNR=99							
LVC				S	**Sn**	**04 38 43.9**	**-2.8**
comp=E,26nm,0.5s,baz=86,slow=19,SNR=11							
LVC	**Limon Verde**	**5.21**	**177**	*e*P	**Pn**	**04 37 47.2**	**+0.8**
PB06	**IPOC Station P**	**5.31**	**184**	Pn	**Pn**	**04 37 47.0**	**-0.5**
PB15	**IPOC Station P**	**5.80**	**182**	Pn	**Pn**	**04 37 53.6**	**-0.5**
PB15	**IPOC Station P**	**5.80**	**182**	Pg	**Pn**	**04 37 54.1**	**0.0**
PB14	**IPOC Station P**	**7.30**	**189**	Pn	**Pn**	**04 38 11.3**	**-2.6**
GO02	**Mina Guanaco**	**7.75**	**183**	Pn	**Pn**	**04 38 18.5**	**-1.5**
SIV	**San Ignacio**	**7.92**	**81**	P	**Pn**	**04 38 20.4**	**-1.7**
comp=E,39nm,0.3s,baz=269,slow=8.0,SNR=258							
SIV				S	**Sn**	**04 39 45.9**	**-4.9**
comp=E,1.9nm,0.4s,baz=322,slow=19,SNR=0.8							
ETMB	**Extrema**	**8.06**	**22**	Pn	**Pn**	**04 38 22.7**	**-1.2**
ETMB	**Extrema**	**8.06**	**22**	*e*P	**Pn**	**04 38 23.1**	**-0.8**
AC01	**Pan de Azucar**	**8.82**	**188**	Pn	**Pn**	**04 38 31.1**	**-2.8**
NNA	**Nana**	**9.12**	**305**	P	**Pn**	**04 38 35.8**	**-2.1**
comp=E,3.4nm,0.3s,baz=111,slow=14,SNR=2.2							
NNA				S	Sn	04 40 11.4	-8.1
comp=E,3.4nm,0.4s,baz=188,slow=13,SNR=1.9							
VILB	**Vilhena**	**9.75**	**64**	Pn	**Pn**	**04 38 44.3**	**-1.9**
VILB	**Vilhena**	**9.75**	**64**	*e*P	**Pn**	**04 38 45.7**	**-0.6**
PTLB	**Pontes e Lacer**	**9.86**	**80**	Pn	**Pn**	**04 38 44.9**	**-2.8**
PTLB	**Pontes e Lacer**	**9.86**	**80**	*e*P	**Pn**	**04 38 45.9**	**-1.7**
AC06	**Mina Casimiro**	**9.99**	**186**	Pn	**Pn**	**04 38 45.6**	**-3.6**
GO03	**Copiapo**	**10.21**	**185**	Pn	**Pn**	**04 38 50.4**	**-1.8**
AC05	**El Transito**	**11.45**	**185**	Pn	**Pn**	**04 39 05.6**	**-2.8**
LCO	**Las Campanas**	**11.66**	**186**	Pn	**Pn**	**04 39 08.2**	**-3.1**
MURT	**Porto Murtinho**	**11.74**	**113**	*e*P	**Pn**	**04 39 12.2**	**+0.1**
BDQN	**Bodoquena, MS**	**12.18**	**106**	*e*P	**Pn**	**04 39 18.2**	**+0.3**
CO01	**Juntas del Tor**	**12.57**	**184**		**Pn**	**04 39 21.6**	**-1.4**
GO04	**Tololo Observa**	**12.82**	**186**	Pn	**Pn**	**04 39 23.2**	**-3.0**
CO03	**El Pedregal**	**13.47**	**185**	Pn	**Pn**	**04 39 31.0**	**-3.3**
MT01	**Popeta**	**16.52**	**186**	P	**Pn**	**04 40 12.0**	**+0.2**
MT01				IAmb	IAmb	04 40 18.2	
comp=Z,17nm,1.1s							
NPGB	**Novo Progresso**	**16.98**	**54**	*e*P	**Pn**	**04 40 17.7**	**+0.1**
SNDB	**Serra Nova Dou**	**18.14**	**75**	*e*P	**Pn**	**04 40 30.2**	**-1.2**
ITTB	**Itaituba**	**18.48**	**47**	*e*P	**P**	**04 40 33.2**	**0.0**
BDFB	**Brasilia**	**20.40**	**88**	P	**P**	**04 40 54.2**	**+0.2**
BDFB				IAmb	IAmb	04 41 21.3	
comp=Z,14nm,1.4s							
BDFB	**Brasilia**	**20.40**	**88**	P	**P**	**04 40 54.3**	**+0.2**
comp=Z,2.7nm,0.4s,baz=271,slow=9.2,SNR=10							
comp=Z,2.7nm,0.4s							
BOAV	**Boa Vista**	**21.44**	**24**	P	**P**	**04 41 05.8**	**+0.9**
TRQA	**Tornquist**	**21.56**	**164**	P	**P**	**04 41 06.9**	**+0.9**
TRQA				IAmb	IAmb	04 41 49.2	
comp=Z,16nm,1.4s							
VAO	**Valinhos**	**21.61**	**109**	P	**P**	**04 41 06.7**	**-0.1**
PLCA	**Paso Flores**	**23.30**	**183**	P	**P**	**04 41 22.6**	**-0.2**
PLCA				IAmb	IAmb	04 41 49.0	
comp=Z,5.8nm,1.1s							
PLCA	**Paso Flores**	**23.30**	**183**	P	**P**	**04 41 23.9**	**+1.2**
comp=Z,1.8nm,0.8s,baz=329,slow=12,SNR=5.1							
comp=Z,1.8nm,0.8s							
SDV	**Santo Domingo**	**26.14**	**357**	P	**P**	**04 41 51.2**	**+2.5**
comp=Z,3.4nm,0.3s,baz=8.0,slow=14,SNR=1.5							
comp=Z,3.4nm,0.3s							
TXAR	**Lajitas Array**	**57.12**	**324**	P	**P**	**04 45 59.9**	**+0.8**
comp=Z,0.2nm,0.7s,baz=127,slow=11,SNR=2.3							
comp=Z,0.2nm,0.7s							
DBIC	**Dimbokro**	**67.90**	**75**	P	**P**	**04 47 10.8**	**0.0**
comp=Z,2.2nm,0.4s,baz=251,slow=6.2,SNR=8.3							
comp=Z,2.2nm,0.4s							
QSPA	**South Pole Qui**	**72.79**	**180**	P	**P**	**04 47 42.5**	**+2.7**
QSPA				IAmb	IAmb	04 47 45.4	
comp=Z,4.0nm,1.4s							
TORD	**Torodi Ar. Bea**	**76.28**	**71**	P	**P**	**04 48 01.1**	**+0.4**
comp=Z,2.4nm,0.6s,baz=262,slow=5.0,SNR=34							
comp=Z,2.4nm,0.6s							
WR0	**Warramunga Arr**	**136.17**	**213**	PKPpre	PKPpre	04 55 19.0	
WB2	**Warramunga Arr**	**136.28**	**213**	PKPpre	PKPpre	04 55 17.7	
WRAB	**Tennant Creek**	**136.29**	**213**	PKPpre	PKPpre	04 55 17.4	

*IDC **05** 04:37:58.6±8.8, 7°.81S×157°.31E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=290.1km s-min=35.6km az=117.0*
ISC 05 04:38:05.7±11.0,**8°S**±1°×**15°7E**±°,**h35**km,**n6**,σ0º**76**/6, **mb3.9**/6,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.07**	**239**	P	**P**	**04 43 26.9**	**-0.2**
0.4nm,0.8s,baz=67,slow=8.1,SNR=1.9							
0.4nm,0.8s							
ASAR	**Alice Springs**	**27.23**	**232**	P	**P**	**04 43 46.8**	**+0.2**
0.7nm,0.9s,baz=62,slow=8.5,SNR=2.7							
0.7nm,0.9s							
MKAR	**Makanchi Array**	**85.18**	**318**	P	**P**	**04 50 39.6**	**+1.0**
0.5nm,0.8s,baz=116,slow=3.4,SNR=3.6							
0.5nm,0.8s							
ZALV	**Zalesovo Beam**	**85.81**	**326**	P	**P**	**04 50 41.0**	**-0.4**
0.6nm,0.3s,baz=104,slow=6.1,SNR=2.2							
0.6nm,0.3s							
KURBB	**Kurchatov Arra**	**88.58**	**321**	P	**P**	**04 50 54.4**	**-0.6**
0.3nm,0.3s,baz=110,slow=4.0,SNR=4.1							
0.3nm,0.3s							
BVAR	**Borovoye Array**	**93.98**	**323**	P	**P**	**04 51 20.3**	**+0.3**
0.6nm,0.6s,baz=90,slow=1.5,SNR=3.7							
0.6nm,0.6s							

*TEH **05** 04:46:14.8, 27°.30N×52°.60E, h11km±17km, ML3.8*
*NEIC **05** 04:46:15.8±2.2, 27°.24N±0°.02×52°.57E±0°.09, h10km±1km, mb4.0/11, Error ellipse: s-maj=13.7km s-min=4.1km az=85.0*
*MOS **05** 04:46:17.7±0.7, 27°.13N×52°.57E, h11km, mb4.3/2, Error ellipse: s-maj=12.2km s-min=8.1km az=96.2*
*IDC **05** 04:46:18.9±3.1, 27°.21N×52°.63E, h48km±39km, mb3.7/13, mbtmp3.9/15, ML3.3/2, Error ellipse: s-maj=25.1km s-min=17.4km az=11.0*
ISC 05 04:46:14.8±0.6,**27°23N**±0°.07×**52°57E**±0°.04,**h10**km,**n80**, σ1º**08**/82,**mb4.0**/20,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.54**	**78**	Pg	**Pg**	**04 46 24.4**	**-0.9**
QIR1	**Qir**	**1.31**	**18**	Pg	**Pn**	**04 46 38.7**	**-0.6**
JHRM	**Jahrom**	**1.55**	**35**	Pg	**Pb**	**04 46 43.6**	**-0.2**
JHRM				Sg	**Sb**	**04 47 04.1**	**+0.6**
DSBU	**Dashti - Bushe**	**1.62**	**314**	Pg	**Pb**	**04 46 45.2**	**+0.3**
LAR1	**LAR**	**1.66**	**74**	Pg	**Pb**	**04 46 46.1**	**+0.6**
AHBU	**AHRAM**	**1.98**	**326**	Pn	**Pn**	**04 46 49.3**	**+0.8**
SHI	**Shiraz**	**2.41**	**359**	P	**Pb**	**04 46 57.2**	**-1.2**
KLNJ	**Kolanjah**	**3.87**	**347**	Pn	**Pn**	**04 47 15.4**	**+0.8**
UOSS	**Minazif**	**3.98**	**124**	Pn	**Pn**	**04 47 17.0**	**+1.1**
UOSS	**Minazif**	**3.98**	**124**	Pn	**Pn**	**04 47 17.8**	**+1.9**
IMEH	**Mehriz**	**4.51**	**23**	Pn	**Pn**	**04 47 25.1**	**+1.6**
IRAM	**Ramesheh**	**4.57**	**358**	Pn	**Pn**	**04 47 25.3**	**+1.1**
TVBK	**TV Kerman**	**4.59**	**52**	Pn	**Pn**	**04 47 26.3**	**+1.6**
KHGB	**Koh Gabri**	**4.64**	**47**	Pn	**Pn**	**04 47 26.2**	**+1.0**
ISAD	**Sadrabad**	**4.77**	**11**	Pn	**Pn**	**04 47 28.1**	**+1.0**
IBAF	**Bafgh**	**5.07**	**30**	Pn	**Pn**	**04 47 32.1**	**+1.0**
ZRDN	**Zarand Kerman**	**5.09**	**42**	Pn	**Pn**	**04 47 32.5**	**+1.1**
CHMN	**Cheshme madani**	**5.09**	**58**	Pn	**Pn**	**04 47 33.3**	**+1.7**
ICHK	**Chekchek**	**5.25**	**17**	Pn	**Pn**	**04 47 34.0**	**+0.4**
KBAM	**BAM**	**5.53**	**69**	Pn	**Pn**	**04 47 38.4**	**+1.2**
HOQ	**Hoqain**	**5.61**	**129**	Pn	**Pn**	**04 47 40.9**	**+2.5**
IPIR	**Pirpir**	**5.63**	**345**	Pn	**Pn**	**04 47 40.0**	**+1.2**
IZEF	**Zefreh**	**5.65**	**358**	Pn	**Pn**	**04 47 40.1**	**+0.9**
IKLH	**Kolahrood**	**6.13**	**352**	Pn	**Pn**	**04 47 46.0**	**+0.2**
KRSH	**Karshahi**	**6.73**	**357**	Pn	**Pn**	**04 47 54.6**	**+0.7**
WSAR	**Wadi Sarin**	**6.77**	**125**	P	**Pn**	**04 47 54.9**	**+0.5**
0.6nm,0.3s,baz=307,slow=12,SNR=6.2							
WSAR				S	**Sn**	**04 49 10.7**	**-0.8**
6.5nm,1.0s,baz=331,slow=23,SNR=1.5							
5.6nm,0.7s							
TPRV	**Parvadeh(Tabas**	**6.79**	**31**	Pn	**Pn**	**04 47 56.2**	**+1.5**
ISFB	**Sefidab**	**7.11**	**358**	Pn	**Pn**	**04 47 59.5**	**+0.5**
BMDN	**Meydan**	**7.19**	**334**	Pn	**Pn**	**04 48 01.3**	**+1.0**
RAYN	**Ar Rayn**	**7.38**	**242**	Pn	**Pn**	**04 48 04.2**	**+1.5**
RAYN	**Ar Rayn**	**7.38**	**242**	P	**Pn**	**04 48 04.2**	**+1.5**
TKDS	**Koohdasht(Taba**	**7.48**	**31**	Pn	**Pn**	**04 48 05.5**	**+1.4**
TNSJ	**Nastanj**	**7.56**	**26**	Pn	**Pn**	**04 48 06.3**	**+1.0**
HSAM	**Samen**	**7.75**	**335**	Pn	**Pn**	**04 48 08.6**	**+0.5**
ILBA	**Ilam Banvizeh**	**8.42**	**321**	Pn	**Pn**	**04 48 17.5**	**+0.6**
GURO	**Guroymak-BITLI**	**14.34**	**325**	P	**P**	**04 49 46.5**	**+1.4**
KARS	**Kars**	**15.50**	**332**	Pn	**Pn**	**04 49 54.6**	**+1.0**
KARS	**Kars**	**15.50**	**332**	P	**Pn**	**04 49 54.6**	**+1.0**
KARS				pmax	pmax		
comp=Z,43nm,0.7s							
KBL	**Kabul**	**15.90**	**59**	Pn	**Pn**	**04 49 59.4**	**+0.5**
KBL	**Kabul**	**15.90**	**59**	P	**Pn**	**04 49 59.4**	**+0.5**
KBL				pmax	pmax		
comp=Z,3.0nm,0.7s							
SIMJ	**Simiganj**	**17.86**	**46**		**P**	**04 50 26.1**	**+1.8**
KBZ	**Khabaz**	**18.23**	**337**	P	**P**	**04 50 29.2**	**+1.1**
comp=Z,0.1nm,0.3s,baz=130,slow=7.9,SNR=5.1							
comp=Z,3.7nm,0.9s							
KIV	**Kislovodsk**	**18.50**	**337**	P	**Pn**	**04 50 33.3**	**+1.9**
KIV				IAmb	IAmb	04 51 03.4	
comp=Z,9.8nm,0.5s							
KIV	**Kislovodsk**	**18.50**	**337**	*e*P	**Pn**	**04 50 33.1**	**+1.8**
KIV				pmax	pmax		
comp=Z,10.0nm,1.1s							
GAR	**Garm**	**18.90**	**47**	P	**P**	**04 50 35.5**	**-0.3**
GAR				IAmb	IAmb	04 50 37.4	
comp=Z,12nm,0.8s							
NIL	**Nilore**	**18.93**	**65**	P	**P**	**04 50 36.4**	**+0.4**
NIL				IAmb	IAmb	04 50 38.0	
comp=Z,9.6nm,0.9s							
NIL	**Nilore**	**18.93**	**65**	P	**P**	**04 50 36.4**	**+0.4**
NIL				pmax	pmax		
comp=Z,10.0nm,1.0s							
BR131	**Keskin Array S**	**20.07**	**313**	P	**P**	**04 50 48.8**	**+0.3**
BR131				IAmb	IAmb	04 50 55.4	
comp=Z,4.8nm,0.9s							
BR131	**Keskin Array S**	**20.07**	**313**	P	**P**	**04 50 48.8**	**+0.3**
BR131				pmax	pmax		
comp=Z,5.0nm,0.9s							
BRTR	**Keskin Array B**	**20.07**	**313**	P	**P**	**04 50 49.9**	**+1.4**
BRTR	**Keskin Array B**	**20.07**	**313**	P	**P**	**04 50 49.4**	**+0.9**
comp=Z,1.1nm,0.6s,baz=147,slow=13,SNR=8.5							
comp=Z,1.1nm,0.6s							
BRTR	**Keskin Array B**	**20.07**	**313**	P	**P**	**04 50 49.9**	**+1.4**
KKAR	**Karatay Array**	**21.52**	**38**	P	**P**	**04 51 04.9**	**+0.9**
ABKAR	**Akbulak array**	**22.72**	**13**	P	**P**	**04 51 18.2**	**+1.4**
ABKAR				IAmb	IAmb	04 51 58.4	
comp=Z,2.1nm,0.8s							
VRH	**Novokhopyorsk**	**25.32**	**344**	*e*P	**P**	**04 51 40.3**	**-1.2**
VSR	**Storozhevoye**	**26.03**	**341**	*e*P	**P**	**04 51 46.1**	**-1.9**
VSR				pmax	pmax		
comp=Z,6.0nm,0.5s							
VORR	**Voronezh**	**26.42**	**341**	*e*P	**P**	**04 51 50.0**	**-1.5**
BVAR	**Borovoye Array**	**28.98**	**22**	P	**P**	**04 52 14.1**	**-0.4**
comp=Z,1.4nm,0.7s,baz=219,slow=3.8,SNR=5.7							
comp=Z,1.4nm,0.7s							
AKASG	**Malin Array Be**	**29.41**	**329**	P	**P**	**04 52 18.0**	**-0.3**
comp=Z,0.9nm,0.5s,baz=119,slow=6.8,SNR=8.1							
comp=Z,0.9nm,0.5s							
AKASG	**Malin Array Be**	**29.41**	**329**	P	**P**	**04 52 18.0**	**-0.3**
MKAR	**Makanchi Array**	**30.46**	**42**	P	**P**	**04 52 26.5**	**-1.2**
comp=Z,0.3nm,0.6s,baz=241,slow=8.1,SNR=2.5							
comp=Z,0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**30.59**	**33**	P	**P**	**04 52 28.1**	**-0.6**
comp=Z,0.6nm,0.7s,baz=236,slow=8.8,SNR=4.8							
comp=Z,0.6nm,0.7s							
KURK	**Kurchatov**	**30.70**	**33**	P	**P**	**04 52 28.1**	**-1.6**
ZALV	**Zalesovo Beam**	**35.68**	**33**	P	**P**	**04 53 12.1**	**-1.0**
comp=Z,1.0nm,0.3s,baz=251,slow=8.4,SNR=4.1							
comp=Z,1.0nm,0.3s							
WTTA	**Wattenberg**	**37.69**	**313**	*i*P	**P**	**04 53 30.5**	**0.0**
comp=Z,3.3nm,0.6s							
WATA	**Walderalm**	**37.75**	**313**	*i*P	**P**	**04 53 30.6**	**-0.4**
comp=Z,1.9nm,0.4s							
SQTA	**Sankt Quirin**	**37.95**	**313**	*i*P	**P**	**04 53 32.6**	**-0.1**
comp=Z,1.2nm,0.4s							
MOTA	**Moosalm**	**38.06**	**313**	*i*P	**P**	**04 53 33.5**	**-0.1**
comp=Z,1.7nm,0.4s							
FETA	**Feichten**	**38.21**	**312**	*i*P	**P**	**04 53 35.2**	**+0.2**
comp=Z,1.2nm,0.4s							
FINES	**FINESS Array B**	**38.55**	**340**	P	**P**	**04 53 36.6**	**-0.8**
comp=Z,4.0nm,0.8s,baz=137,slow=9.2,SNR=14							
comp=Z,4.0nm,0.8s							
DAVA	**Damuels**	**38.84**	**313**	*i*P	**P**	**04 53 39.8**	**-0.4**
comp=Z,4.4nm,0.5s							
HFS	**Hagfors**	**42.19**	**332**	P	**P**	**04 54 07.2**	**-0.3**
comp=Z,3.9nm,0.5s,baz=120,slow=8.9,SNR=25							
comp=Z,3.9nm,0.5s							
CMAR	**Chiang Mai Arr**	**43.41**	**91**	P	**P**	**04 54 17.1**	**-0.9**
comp=Z,0.9nm,0.3s,baz=295,slow=11,SNR=1.8							
comp=Z,0.9nm,0.3s							
NB2	**NORSAR Subarra**	**43.71**	**332**	P	**P**	**04 54 19.1**	**-0.8**
comp=Z,1.9nm,0.6s,baz=121,slow=8.6							
NOA	**NORSAR Array B**	**43.71**	**332**	P	**P**	**04 54 19.2**	**-0.8**
comp=Z,1.2nm,0.5s,baz=121,slow=8.1,SNR=6.3							
comp=Z,1.2nm,0.5s							
ESDC	**Sonseca Array**	**48.06**	**300**	P	**P**	**04 54 52.3**	**-2.3**
comp=Z,0.9nm,0.9s,baz=54,slow=7.7,SNR=4.7							
comp=Z,0.9nm,0.9s							
EKA	**Eskdalemuir Ar**	**48.70**	**321**	P	**P**	**04 54 58.6**	**-0.6**
comp=Z,0.5nm,0.5s,baz=102,slow=7.6,SNR=3.5							
comp=Z,0.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**49.45**	**264**	P	**P**	**04 55 05.4**	**0.0**
comp=Z,1.4nm,0.7s,baz=52,slow=7.8,SNR=10							
comp=Z,1.4nm,0.7s							
A36M	**Sachs Harbour**	**81.04**	**359**	P	**P**	**04 58 29.6**	**+0.1**
BMAR	**Burnt Mountain**	**84.76**	**7**	P	**P**	**04 58 50.1**	**+1.2**

*THE **05** 05:24:56.0, 37°.62N×20°.48E, h0km±3km, ML2.8/10, Error ellipse: s-maj=4.4km s-min=0.6km az=221.0*
*ATH **05** 05:24:56.4, 37°.62N×20°.51E, h15km±1km, ML2.8/2, Error ellipse: s-maj=2.9km s-min=1.1km az=37.0*
ISC 05 05:24:55.2±1.7,**37°57N**±0°.05×**20°47E**±0°.06,**h10**km±10km, **n22**,σ0º**61**/41,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.29**	**72**	P	**Pg**	**05 25 01.5**	**+0.4**
KRI1				S	**Sg**	**05 25 05.6**	**+0.5**
4μm,0.4s							
LTHK	**Lithakia**	**0.33**	**65**	P	**Pg**	**05 25 01.7**	**0.0**
LTHK				S	**Sg**	**05 25 05.7**	**-0.3**
5μm,0.3s							
LTHK	**Lithakia**	**0.33**	**65**	P	**Pg**	**05 25 01.9**	**+0.2**
LTHK				S	**Sg**	**05 25 05.9**	**-0.1**
LTHK				AML	AML	05 25 06.0	
comp=E,5044μm,0.2s							
LTHK				AML	AML	05 25 06.1	
comp=N,14430μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.55**	**10**	P

comp=Z,15nm,0.8s
WRA Warramunga Arr 19.56 222 P P 05 48 46.1 -0.4
WRA Warramunga Arr 19.56 222 P P 05 48 47.2 +0.7
comp=Z,8.9nm,0.6s,baz=50,slow=11,SNR=142
WRA S **S 05 52 16.3 -2.2**
comp=Z,6.5nm,1.0s,baz=42,slow=20,SNR=12
KNRA Kununurra 21.45 241 P P 05 49 08.0 +1.3
KNRA IAmb IAmb 05 49 10.5
comp=Z,7.5nm,0.6s
AS31 Alice Springs 22.58 216 P P 05 49 19.3 +1.3
AS31 IAmb IAmb 05 49 27.8
comp=Z,4.1nm,0.4s
ASAR Alice Springs 22.58 216 P P 05 49 19.2 +1.3
comp=Z,6.1nm,0.7s,baz=51,slow=8.5,SNR=94
ASAR S **S 05 53 13.2 +0.2**
comp=Z,1.4nm,0.8s,baz=28,slow=18,SNR=5.0
comp=Z,6.1nm,0.7s
INKA Innaminka 23.12 197 P P 05 49 24.4 +1.6
ARMA Armidale 24.94 173 P P 05 49 40.6 +1.1
ARMA IAmb IAmb 05 50 06.3
comp=Z,12nm,1.4s
FITZ Fitzroy Crossi 25.20 238 P P 05 49 42.2 +0.4
FITZ Fitzroy Crossi 25.20 238 P P 05 49 42.3 +0.4
LCRK Leigh Creek 26.43 199 P P 05 49 53.5 +0.8
MULG Mulgathing 27.90 207 P P 05 50 06.3 +0.4
BBOO Buckleboo 29.32 201 P P 05 50 18.9 +0.4
BBOO IAmb IAmb 05 50 40.4
comp=Z,13nm,1.2s
BBOO Buckleboo 29.32 201 P P 05 50 19.3 +0.8
CAN Canberra 29.62 178 P P 05 50 22.2 +1.1
FORT Forrest 31.35 214 P P 05 50 36.2 -0.1
FORT Forrest 31.35 214 P P 05 50 37.2 +0.9
MBWA Marble Bar 31.54 238 P P 05 50 39.0 +0.8
PSA00 Pilbara Seismi 31.62 237 P P 05 50 39.9 +1.1
TOO Toolangi 31.94 184 P P 05 50 42.9 +1.5
NWAO Narrogin (SRO) 39.56 223 P P 05 51 47.1 +0.7
MJAR Matsushiro Arr 42.90 348 P P 05 52 09.6 -4.0
comp=Z,2.1nm,0.9s,baz=167,slow=11,SNR=1.9
KSRS Korea Array 46.75 338 P P 05 52 44.0 +0.2
comp=Z,1.7nm,0.7s,baz=152,slow=8.5,SNR=6.3
comp=Z,1.7nm,0.7s
PETK Petropavlovsk- 59.02 7 P P 05 54 13.9 +0.3
PETK Petropavlovsk- 59.02 7 P P 05 54 13.1 -0.5
comp=Z,5.1nm,1.0s,baz=178,slow=9.4,SNR=1.2
comp=Z,5.1nm,1.0s
SONM Songino Array 64.56 330 P P 05 54 51.3 +0.4
comp=Z,1.5nm,0.8s,baz=146,slow=6.0,SNR=7.0
comp=Z,1.5nm,0.8s
CASY Casey 65.95 196 P P 05 54 59.9 +0.6
MK31 Makanchi Array 77.85 320 P P 05 56 10.6 0.0
MKAR Makanchi Array 77.85 320 P P 05 56 10.9 +0.3
MKAR Makanchi Array 77.85 320 P P 05 56 10.1 -0.5
comp=Z,1.5nm,0.7s,baz=105,slow=6.7,SNR=12
comp=Z,1.5nm,0.7s
ZAA0 Zalesovo Array 79.22 327 P P 05 56 17.4 -0.5
ZALV Zalesovo Beam 79.22 327 P P 05 56 17.3 -0.6
ZALV Zalesovo Beam 79.22 327 P P 05 56 16.4 -1.5
comp=Z,2.1nm,0.6s,baz=106,slow=5.3,SNR=5.9
comp=Z,2.1nm,0.6s
H18K Honhosa River 80.66 20 P P 05 56 24.5 -0.9
H18K IAmb IAmb 05 56 31.6
comp=Z,16nm,1.4s
KURBB Kurchatov Arra 81.53 323 P P 05 56 29.4 -0.9
comp=Z,0.8nm,0.7s,baz=116,slow=4.7,SNR=9.4
comp=Z,0.8nm,0.7s
I21K Tanana 82.94 22 P P 05 56 35.8 -1.5
MAW Mawson 83.05 203 P P 05 56 37.3 -0.6
comp=Z,2.4nm,0.7s,baz=127,slow=5.1,SNR=3.7
comp=Z,2.4nm,0.7s
RND Reindeer 83.30 24 P P 05 56 39.1 -0.2
RND IAmb IAmb 05 57 08.8
comp=Z,6.1nm,1.3s
QSPA South Pole Qui 84.39 180 P P 05 56 45.1 +0.2
QSPA IAmb IAmb 05 56 45.4
comp=Z,4.7nm,0.8s
QSPA South Pole Qui 84.39 180 P P 05 56 44.9 0.0
comp=Z,6.0nm,0.8s,baz=348,slow=1.7,SNR=33
comp=Z,6.0nm,0.8s
D22K Ayikyak River 84.57 18 P P 05 56 45.4 -0.2
D22K IAmb IAmb 05 57 16.5
comp=Z,9.8nm,1.2s
ILAR Eielson Array 84.67 23 P P 05 56 45.0 -1.2
comp=Z,1.2nm,0.9s,baz=253,slow=5.6,SNR=8.9
comp=Z,1.2nm,0.9s
H24K Noodor Dome 84.76 22 P P 05 56 46.9 +0.3
KKAR Karatay Array 84.76 314 P P 05 56 46.8 -0.2
NRIK Noril'sk 85.20 342 P P 05 56 49.6 +1.0
NRIK IAmb IAmb 05 56 50.1
comp=Z,3.9nm,0.7s
NRIK Noril'sk 85.20 342 P P 05 56 48.2 -0.4
comp=Z,3.1nm,0.6s,baz=129,slow=6.0,SNR=5.1
comp=Z,3.1nm,0.6s
J25K Salcha River, 85.20 23 P P 05 56 48.7 -0.1
D23K Nanushuk River 85.25 19 P P 05 56 48.4 -0.5
D23K IAmb IAmb 05 57 09.0
comp=Z,14nm,1.5s
BVAR Borovoye Array 87.06 324 P P 05 56 57.1 -1.0
comp=Z,2.9nm,0.7s,baz=101,slow=6.2,SNR=9.6
comp=Z,2.9nm,0.7s
NVAR Mina Array Bea 96.27 52 P P 05 57 42.6 +1.2
comp=Z,0.2nm,0.6s,baz=252,slow=7.5,SNR=1.9
comp=Z,0.2nm,0.6s
TORD Torodi Ar. Bea 146.01 285 PKPbc PKPdf 06 03 49.7 -1.9
comp=Z,1.8nm,0.8s,baz=70,slow=1.3,SNR=14
BDFB Brasilia 153.58 143 PKPbc PKiKP 06 04 11.9 +0.4
comp=Z,1.5nm,0.5s,baz=156,slow=18,SNR=4.6

THE 05 05:49:30.4, 37°.62N×20°.47E, h0km±2km, ML3.2/12, Error ellipse: s-maj=2.8km s-min=0.6km az=233.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.28**	**81**	P	Pg	05 49 36.1	+0.3
KRI1				S	Sg	05 49 40.5	+1.1
9μm,0.5s							
LTHK	**Lithakia**	**0.31**	**72**	P	Pg	05 49 36.4	+0.1
LTHK				S	Sg	05 49 40.7	+0.4
PSDA	**Pessada-Kefalo**	**0.51**	**11**	P	Pg	05 49 40.4	+0.3
PSDA				S	Sg	05 49 47.7	+1.0
2μm,0.3s							
RTZL	**Ratzakli, Kefa**	**0.52**	**28**	P	Pg	05 49 40.3	0.0
RTZL				S	Sg	05 49 47.6	+0.5
5μm,0.4s							
VLS	**Valsamata**	**0.57**	**10**	P	Pg	05 49 41.3	0.0
VLS				S	Sg	05 49 49.8	+1.1
2μm,0.4s							
DMLN	**Damoulianata-K**	**0.62**	**353**	P	Pg	05 49 42.5	+0.1
DMLN				S	Sg	05 49 51.8	+1.3
3μm,0.4s							
VSK1	**VASILIKIADES**	**0.80**	**5**	P	Pg	05 49 45.5	-0.1
VSK1				S	Sg	05 49 57.1	+1.1
2μm,0.3s							
FSK	**Fiskardo**	**0.84**	**5**	P	Pg	05 49 46.3	-0.3
FSK				S	Sg	05 49 58.2	+0.6
1μm,0.6s							
EVGI	**Lefkada island**	**1.01**	**8**	P	Pg	05 49 49.2	-0.6
EVGI				S	Sb	05 50 04.9	+0.2
1μm,0.3s							
DRO	**Drossia**	**1.04**	**71**	P	Pg	05 49 49.9	-0.4
DRO				S	Sb	05 50 05.0	-0.5
1μm,0.4s							
DRAG	**Dragano-Lefkad**	**1.07**	**5**	P	Pg	05 49 50.1	-0.8
DRAG				S	Sb	05 50 05.8	-0.5
NYDR	**Nydri-Lefkada**	**1.11**	**9**	P	Pg	05 49 50.7	-1.0
NYDR				S	Sb	05 50 08.3	+0.8
462nm,0.4s							
LKD2	**Lefkada island**	**1.18**	**7**	P	Pb	05 49 53.6	-0.1
TSLK	**Tsoukalades, L**	**1.22**	**7**	P	Pg	05 49 52.7	-1.0
PYL	**PYLOS**	**1.25**	**125**	P	Pg	05 49 54.0	-0.3
PYL				S	Sn	05 50 12.5	-0.1
495nm,0.5s							
KLV	**Kalavryta, Ach**	**1.40**	**72**	P	Pg	05 49 55.8	-1.4
ALIK	**Aliki, Aigiali**	**1.45**	**63**	P	Pn	05 49 56.9	-1.0
ANX	**Ano Chora**	**1.50**	**49**	P	Pn	05 49 57.7	-1.0
ANX				S	Sn	05 50 20.0	+0.9
712nm,0.5s							
GUR	**Goura**	**1.52**	**77**	P	Pn	05 49 57.6	-1.3
KALE	**Kalithea**	**1.53**	**59**	P	Pn	05 49 57.7	-1.4

IDC 05 05:50:15.5±12.0, 39°.54N×21°.71E, h0km, mb3.5/6, mbtmp3.6/6, MS3.1/1, Error ellipse: s-maj=227.0km s-min=37.5km az=36.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBZ	**Khabaz**	**16.38**	**68**	LR	LR	06 02 43.3	
comp=Z,58nm,19.2s,baz=334,slow=46							
HFS	**Hagfors**	**21.22**	**349**	P	P	05 55 00.7	-2.0
1.3nm,0.6s,baz=152,slow=9.4,SNR=5.0							
1.3nm,0.6s							
FINES	**FINESS Array B**	**22.10**	**6**	P	P	05 55 12.7	+0.6
4.4nm,1.0s,baz=166,slow=12,SNR=5.2							
4.4nm,1.0s							
NOA	**NORSAR Array B**	**22.49**	**347**	P	P	05 55 17.6	+1.3
0.9nm,0.9s,baz=158,slow=11,SNR=1.8							
0.9nm,0.9s							
ARCES	**ARCESS Array B**	**30.13**	**3**	P	P	05 56 26.7	+0.1
2.6nm,0.8s,baz=185,slow=8.6,SNR=1.2							
2.6nm,0.8s							
KURBB	**Kurchatov Arra**	**40.68**	**55**	P	P	05 57 57.2	-0.2
0.3nm,0.6s,baz=283,slow=9.1,SNR=2.3							
0.3nm,0.6s							
MKAR	**Makanchi Array**	**43.81**	**60**	P	P	05 58 22.9	-0.1
0.3nm,0.7s,baz=278,slow=7.8,SNR=1.5							
0.3nm,0.7s							

IDC 05 06:04:10.8±1.9, 6°.68S×129°.85E, h0km, mb3.7/2, mbtmp3.6/5, ML3.9/3, Error ellipse: s-maj=89.0km s-min=26.2km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.07**	**200**	Pn	Pn	06 07 05.2	+1.0
0.8nm,0.3s,baz=27,slow=16,SNR=17							
FITZ				Sn	Sn	06 09 05.7	-14
1.1nm,0.3s,baz=4.6,slow=19,SNR=4.1							
1.8nm,0.2s							
WRA	**Warramunga Arr**	**13.89**	**162**	Pn	Pn	06 07 28.7	-0.4
0.5nm,0.3s,baz=343,slow=12,SNR=24							
WRA				Sn	Sn	06 09 50.8	-13
0.9nm,0.3s,baz=336,slow=22,SNR=11							
0.5nm,0.4s							
ASAR	**Alice Springs**	**17.33**	**167**	P	Pn	06 08 13.8	-0.6
0.2nm,0.3s,baz=339,slow=9.0,SNR=14							
ASAR				S	Sn	06 11 12.8	-15
0.3nm,0.4s,baz=318,slow=16,SNR=4.9							
0.3nm,0.6s							
MKAR	**Makanchi Array**	**67.88**	**327**	P	P	06 15 11.5	+0.3
0.3nm,0.4s,baz=115,slow=7.6,SNR=5.7							
0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**72.16**	**329**	P	P	06 15 36.9	-0.4
0.2nm,0.2s,baz=110,slow=5.0,SNR=1.1							
0.2nm,0.2s							

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*AZER **05** 06:05:51.6, 38°.69N×48°.63E, h14km, ml3.6, Mw3.7*
*TEH **05** 06:05:51.8, 38°.63N×48°.63E, h24km±20km, ML3.4*
ISC 05 06:05:52.5±0.9, 38°.66N±0°.03×48°.64E±0°.03, h25km±6km, n57, σ1°.44/91, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKRN	**Lenkeran, Azer**	**0.12**	**66**	Pg	**Pb**	**06 05 56.4**	**-0.9**
LKRN	**Lenkeran, Azer**	**0.12**	**66**	P	**Pb**	**06 05 56.5**	**-0.9**
LKRN				S	**Sb**	**06 05 60.0**	**-0.6**
ASTR	**Astara**	**0.16**	**130**	Pg	**Pb**	**06 05 57.1**	**-0.5**
ASTR	**Astara**	**0.16**	**130**	P	**Pb**	**06 05 57.1**	**-0.5**
ASTR				S	**Sb**	**06 06 00.8**	**-0.3**
LRK	**Lerik**	**0.23**	**266**	Pg	**Pb**	**06 05 58.7**	**0.0**
LRK	**Lerik**	**0.23**	**266**	P	**Pb**	**06 05 58.8**	**0.0**
LRK				S	**Sb**	**06 06 03.9**	**+0.9**
GAS1	**Astara - Iran**	**0.32**	**150**	Pg	**Pb**	**06 05 59.2**	**-0.6**
YRD	**Yardimli**	**0.40**	**310**	Pg	**Pb**	**06 06 00.7**	**-0.5**
YRD	**Yardimli**	**0.40**	**310**	P	**Pb**	**06 06 00.7**	**-0.5**
YRD				S	**Sb**	**06 06 07.3**	**+0.1**
GRMI	**Germi**	**0.60**	**284**	Pg	**Pb**	**06 06 04.1**	**-0.3**
GLBA	**Cilalabad**	**0.61**	**342**	Pg	**Pb**	**06 06 03.7**	**-0.9**
GLBA	**Cilalabad**	**0.61**	**342**	P	**Pb**	**06 06 03.8**	**-0.7**
GLBA				S	**Sn**	**06 06 13.3**	**-1.3**
ISRB	**Sarab**	**1.13**	**223**	Pg	**Pn**	**06 06 12.9**	**0.0**
CSN1	**Caspian**	**1.15**	**162**	Pg	**Pn**	**06 06 12.3**	**-0.7**
SAAT	**Saatly**	**1.21**	**352**	Pg	**Pb**	**06 06 14.0**	**-0.7**
SAAT	**Saatly**	**1.21**	**352**	P	**Pb**	**06 06 14.6**	**-0.1**
SAAT				S	**Sb**	**06 06 32.1**	**+2.2**
IHRS	**Heris**	**1.30**	**255**	Pg	**Pb**	**06 06 15.8**	**-0.6**
QRD	**Qoradiz**	**1.30**	**308**	Pg	**Pn**	**06 06 15.3**	**+0.2**
QRD	**Qoradiz**	**1.30**	**308**	P	**Pn**	**06 06 15.3**	**+0.2**
QRD				S	**Sb**	**06 06 32.9**	**+0.4**
ALIB	**&Aumlli-Bayram**	**1.33**	**12**	Pg	**Pb**	**06 06 17.7**	**+1.0**
ALIB	**&Aumlli-Bayram**	**1.33**	**12**	P	**Pb**	**06 06 17.1**	**+0.4**
ALIB				S	**Sb**	**06 06 33.2**	**-0.1**
BLQ	**Beylaqan**	**1.35**	**322**	Pn	**Pn**	**06 06 15.7**	**-0.1**
BLQ				Sn	**Sb**	**06 06 34.1**	**+0.2**
IHSH	**Hashtrud**	**1.73**	**219**	Pg	**Pb**	**06 06 22.6**	**-1.3**
KDMR	**Kurdemir**	**1.75**	**349**	Pn	**Pn**	**06 06 21.6**	**+0.4**
KDMR				Sn	**Sb**	**06 06 45.5**	**+0.1**
ZRD	**Zardab**	**1.78**	**336**	Pn	**Pn**	**06 06 23.0**	**-1.3**
ZRD				Sn	**Sb**	**06 06 47.4**	**+1.2**
AGDM	**Agdam**	**1.87**	**321**	Pg	**Pn**	**06 06 23.8**	**+0.9**
AGDM				Sn	**Sb**	**06 06 48.3**	**-0.6**
GBS	**Qobustan**	**1.89**	**7**	Pg	**Pb**	**06 06 27.3**	**+1.0**
GBS				Sn	**Sb**	**06 06 50.0**	**+0.5**
GOBA	**Gobu**	**1.93**	**26**	Sn	**Sb**	**06 06 52.4**	**+1.6**
BRDA	**Brd**	**1.96**	**325**	Pn	**Pb**	**06 06 25.8**	**-1.6**
BRDA				Sn	**Sb**	**06 06 52.2**	**+0.8**
ITBZ	**Tabriz**	**2.00**	**258**	Pn	**Pn**	**06 06 26.1**	**+1.2**
ORD	**Ordubad**	**2.08**	**278**	Pn	**Pb**	**06 06 27.6**	**-2.0**
ORD				Sn	**Sb**	**06 06 55.6**	**+0.5**
IML	**Ismayilli**	**2.16**	**351**	Pn	**Pb**	**06 06 29.6**	**-1.3**
IML				Sn	**Sb**	**06 06 55.6**	**-1.6**
NDR	**Nardaran**	**2.18**	**28**	Pg	**Pb**	**06 06 33.0**	**+1.7**
NDR				Sn	**Sb**	**06 06 56.8**	**-1.1**
ATGJ	**Altiaghaj**	**2.21**	**6**	Pn	**Pb**	**06 06 30.0**	**-1.9**
ATGJ				Sn	**Sb**	**06 06 57.9**	**-0.9**
IMRD	**Marand**	**2.30**	**272**	Pn	**Pb**	**06 06 31.2**	**-2.2**
QBL	**Gabala**	**2.36**	**345**	Pn	**Pn**	**06 06 30.2**	**+0.5**
QBL				Sn	**Sb**	**06 07 00.2**	**-3.0**
ISHB	**Shabestar**	**2.40**	**262**	Pn	**Pn**	**06 06 31.6**	**+1.2**
SIZA	**Siyzn**	**2.42**	**5**	Pg	**Pb**	**06 06 35.3**	**-0.1**
SIZA				Sn	**Sb**	**06 07 01.8**	**-3.0**
MNGR	**Mingechevir, A**	**2.42**	**331**	Pn	**Pn**	**06 06 31.6**	**+1.1**
MNGR				Sn	**Sb**	**06 07 02.7**	**-2.1**
NAX	**Nakhchivan**	**2.50**	**283**	Pn	**Pb**	**06 06 35.1**	**-1.7**
NAX				Sn	**Sb**	**06 07 06.5**	**-0.7**
SBZ	**Shahbuz**	**2.51**	**288**	Pg	**Pb**	**06 06 34.9**	**-2.1**
SBZ				Sg	**Sb**	**06 07 08.8**	**+1.4**
XNQ	**Khinaliq**	**2.54**	**352**	Pn	**Pn**	**06 06 32.2**	**-0.1**
XNQ				Sn	**Sb**	**06 07 05.4**	**-2.9**
GANJ	**Ganja**	**2.67**	**319**	Pn	**Pn**	**06 06 34.4**	**+0.4**
GANJ				Sn	**Sb**	**06 07 10.1**	**-1.8**
SEKA	**Sheki**	**2.77**	**337**	Pn	**Pn**	**06 06 35.9**	**+0.5**
SEKA				Sn	**Sn**	**06 07 09.8**	**+1.7**
QSAR	**Qusar**	**2.87**	**354**	Pn	**Pn**	**06 06 37.0**	**+0.3**
QSAR				Sn	**Sb**	**06 07 13.7**	**-3.9**
GDB	**GEDABAY**	**3.03**	**314**	Pn	**Pn**	**06 06 39.9**	**+0.9**
GDB				Sn	**Sn**	**06 07 17.6**	**+3.0**
QABG	**Abgarm-Qazvin**	**3.04**	**165**	Pn	**Pn**	**06 06 39.1**	**-0.1**
VSHL	**Vashlovani**	**3.09**	**327**	P	**Pn**	**06 06 41.4**	**+1.7**
VSHL				S	**Sb**	**06 07 19.8**	**-4.2**
HYR	**Heyderabad**	**3.12**	**291**	Pg	**Pb**	**06 06 45.4**	**-2.0**
HYR				Sg	**Sb**	**06 07 28.1**	**+3.0**
MAKU	**Maku**	**3.16**	**284**	Pn	**Pn**	**06 06 42.9**	**+2.1**
ZKTA	**Zakatala**	**3.35**	**333**	Pn	**Pn**	**06 06 44.4**	**+1.1**
ZKTA				Sn	**Sn**	**06 07 24.3**	**+2.0**
QZX	**Qazax, Azerbai**	**3.47**	**315**	Pg	**Pb**	**06 06 53.5**	**+0.3**
QZX				Sn	**Sn**	**06 07 26.0**	**+0.7**
LGD	**Lagodekhi**	**3.66**	**331**	P	**Pn**	**06 06 48.5**	**+1.0**
IPRN	**Peran**	**3.81**	**128**	Pn	**Pn**	**06 06 50.8**	**+1.1**
IFIR	**Firoozkooh**	**4.46**	**131**	Pn	**Pn**	**06 07 00.0**	**+1.2**
CHRG	**Chargali**	**4.63**	**324**	P	**Pn**	**06 07 01.6**	**+0.7**
CHRG				S	**Sn**	**06 07 52.9**	**-1.1**
MTEO	**Meteo**	**5.08**	**323**	P	**Pn**	**06 07 08.9**	**+1.5**
MTEO				S	**Sn**	**06 08 04.8**	**-0.8**

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*IDC **05** 06:07:32.7±12.0, 4°.33N×125°.58E, h226km±118km, mb3.1/6, mbtmp3.7/6, MS2.9/2, Error ellipse: s-maj=200.8km s-min=21.4km az=63.0*
ISC 05 06:07:24.4±1.4, 4°.7N±0°.6×126°.6E±°, h150km, n8, σ1°.09/7, mb3.5/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.57**	**214**	LR	LR	06 14 52.9	
comp=Z,34nm,20.0s,baz=206,slow=40							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**22.12**	**5**	LR	LR	06 21 48.6	
comp=Z,49nm,19.5s,baz=154,slow=38							
WRA	**Warramunga Arr**	**25.75**	**162**	P	**P**	**06 12 40.9**	**-0.4**
0.5nm,0.8s,baz=340,slow=10,SNR=2.8							
0.5nm,0.8s							
ASAR	**Alice Springs**	**29.16**	**165**	P	**P**	**06 13 11.8**	**0.0**
0.6nm,0.6s,baz=346,slow=8.5,SNR=5.1							
ASAR				PcP	**PcP**	**06 16 14.0**	**-1.7**
0.4nm,0.7s,baz=340,slow=2.5,SNR=2.6							
0.6nm,0.6s							
STKA	**Stephens Creek**	**39.21**	**159**	P	**P**	**06 14 38.9**	**+0.8**
1.1nm,0.5s,baz=349,slow=12,SNR=3.5							
1.1nm,0.5s							
MKAR	**Makanchi Array**	**56.46**	**325**	P	**P**	**06 16 50.4**	**-0.3**
0.2nm,0.4s,baz=111,slow=7.2,SNR=4.2							
0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**60.65**	**327**	P	**P**	**06 17 20.4**	**+1.0**
0.2nm,0.3s,baz=134,slow=6.5,SNR=2.3							
0.2nm,0.3s							
ARCES	**ARCESS Array B**	**89.37**	**340**	P	**P**	**06 20 03.6**	**0.0**
1.2nm,0.7s,baz=87,slow=6.4,SNR=1.1							
1.2nm,0.7s							

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*JMA **05** 06:32:49.2±0.3, 34°N±2°×137°7E±°, h345km±3km, MV2.9/35, ENSYUNADA*
*IDC **05** 06:32:49.8±1.4, 34°.21N×137°.11E, h312km±30km, mb2.6/2, mbtmp3.3/4, Error ellipse: s-maj=52.4km s-min=26.0km az=44.0*
ISC 05 06:32:50.2±1.0, 34°.47N±0°.08×137°.35E±0°.06, h334km±8km, n21, σ0°.88/30, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.24**	**314**	P	**Pn**	**06 33 33.0**	**+0.9**
JAA				*e*S	**S**	**06 34 06.0**	**+0.4**
TTO5	**TONANKAI O.B.S**	**0.37**	**125**	*e*P	**Pn**	**06 33 33.1**	**+0.9**
JIE	**Ise**	**0.54**	**262**	P	**Pn**	**06 33 33.3**	**+0.6**
TTO1	**TONANKAI O.B.S**	**0.97**	**209**	P	**Pn**	**06 33 34.6**	**+0.8**
JYTA	**Yamagatataniai**	**1.23**	**336**	P	**Pn**	**06 33 35.8**	**+0.6**
JYTA				*e*S	**S**	**06 34 10.6**	**-0.5**
JYN	**Shimob**	**1.42**	**43**	*e*P	**Pn**	**06 33 37.0**	**+0.7**
JWY	**Kouya**	**1.48**	**261**	P	**Pn**	**06 33 37.0**	**+0.4**
JTNC	**Tanabenakahech**	**1.58**	**246**	P	**Pn**	**06 33 37.5**	**+0.2**
JOD2	**Odawara 2**	**1.64**	**60**	*e*P	**Pn**	**06 33 38.1**	**+0.7**
JWT	**Wachi**	**1.80**	**297**	P	**Pn**	**06 33 38.9**	**+0.4**
JWT				*e*S	**S**	**06 34 15.8**	**-1.4**
JRY	**Ryogami san**	**2.00**	**39**	P	**Pn**	**06 33 40.9**	**+1.0**
MJAR	**Matsushiro Arr**	**2.18**	**18**	P	**Pn**	**06 33 41.8**	**+0.5**
8.8nm,0.4s,baz=192,slow=8.6,SNR=22							
MJAR				S	**S**	**06 34 23.1**	**+0.8**
2.2nm,0.7s,baz=214,slow=17,SNR=1.8							
MAT	**Matsushiro**	**2.19**	**18**	P	**Pn**	**06 33 41.9**	**+0.6**
MAT				*e*S	**S**	**06 34 21.4**	**-0.9**
JHJ2	**Mitsune**	**2.46**	**123**	*e*P	**Pn**	**06 33 43.7**	**+0.1**
JHJ2				*e*S	**S**	**06 34 26.3**	**-0.1**
JAI	**Aioi**	**2.50**	**255**	*e*P	**Pn**	**06 33 43.6**	**-0.3**
JAG	**Ashikaga**	**2.60**	**41**	*e*P	**Pn**	**06 33 44.0**	**-0.7**
JAG				*e*S	**S**	**06 34 26.1**	**-2.3**
BSO1	**Boso 1**	**3.00**	**85**	*e*P	**Pn**	**06 33 47.2**	**-0.5**
BSO1				*e*S	**S**	**06 34 32.5**	**-1.4**
JHS	**Saijyo**	**3.53**	**280**	*e*P	**Pn**	**06 33 53.7**	**+0.3**
JHS				*e*S	**S**	**06 34 43.2**	**-1.0**
KSRS	**Korea Array**	**8.20**	**294**	P	**Pn**	**06 34 46.6**	**+0.2**
1.2nm,0.5s,baz=106,slow=12,SNR=4.5							
MKAR	**Makanchi Array**	**42.74**	**304**	P	**P**	**06 40 16.5**	**+0.9**
0.3nm,0.6s,baz=91,slow=8.6,SNR=3.2							
0.3nm,0.6s							
WRA	**Warramunga Arr**	**54.19**	**183**	P	**P**	**06 41 41.7**	**-0.6**
0.1nm,0.3s,baz=0.3,slow=7.6,SNR=6.7							
0.1nm,0.3s							

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*BGR **05** 06:46:04.5, 36°.82N×21°.88E, h33km, mb4.4*
*TIR **05** 06:46:11.6, 37°.62N×20°.00E, h60km±31km, Md4.6, Ml4.8*
*MOS **05** 06:46:12.2±1.3, 37°.76N×20°.45E, h12km, mb4.8/21, Error ellipse: s-maj=6.2km s-min=2.9km az=81.9*
*IDC **05** 06:46:12.1±0.6, 37°.80N×20°.50E, h0km, mb4.2/20, mbtmp4.2/33, ML3.9/11, MS4.0/55, Error ellipse: s-maj=12.9km s-min=11.0km az=137.0*
*BEO **05** 06:46:12.0±2.1, 37°.33N×20°.22E, h47km±4km, ML4.5/12*
*ATH **05** 06:46:12.7, 37°.63N×20°.49E, h8km, ML4.5/15, Error ellipse: s-maj=1.6km s-min=0.8km az=41.0*
*GCMT **05** 06:46:13.9±0.4, 37°.58N±0°.02×20°.53E±0°.02, h19km±1km, MW4.8/82, Moment Tensor Solution. s9,c10; s82,c108; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.17±.09; $M_{\theta\theta}$1.80±.08; $M_{\phi\phi}$-1.63±.07; $M_{r\theta}$0.04±.16; $M_{\theta\phi}$0.48±.07; $M_{\phi r}$0.40±.18; Best double couple: $M_0$1.83000×10^{16} NP1:ϕ_s218.00000°, δ82.00000°, λ-168.00000°. NP2: ϕ_s126.00000°, δ79.00000°, λ-8.00000°. Principal axes: T 1.8710, Plg3.0000°, Azm352.0000°; N -0.0840, Plg76.0000°, Azm251.0000°; P -1.7890, Plg13.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **05** 06:46:13.9, 37°.72N×20°.45E, h10km*
*THE **05** 06:46:13.9, 37°.67N×20°.53E, h10km±31km, ML4.5/22, Error ellipse: s-maj=31.6km s-min=0.6km az=0.0*
*MED_RC **05** 06:46:13.0±0.3, 37°.61N×20°.57E, h19km±1km, MW4.8/40, Moment Tensor Solution.Mantle waves: s40,c65; Duration: 1s1 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.26±.10; $M_{\theta\theta}$1.71±.08; $M_{\phi\phi}$-1.46±.06; $M_{r\theta}$-0.12±.10; $M_{\theta\phi}$0.74±.06; $M_{\phi r}$-0.16±.10; Best double couple: $M_0$1.76000×10^{16} NP1:ϕ_s33.00000°, δ89.00000°, λ-173.00000°. NP2:ϕ_s303.00000°, δ83.00000°, λ-1.00000°. Principal axes: T 1.8800, Plg4.0000°, Azm167.0000°; N -0.2600, Plg83.0000°, Azm41.0000°; P -1.6300, Plg5.0000°, Azm258.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*NEIC **05** 06:46:13.9±1.9, 37°.74N±0°.04×20°.48E

LXRA	**Lixouri, Kepha**	**0.54**	**354**	P	**Pg**	06 46 24.0	-0.1
LXRA				S	**Sg**	06 46 31.6	+0.3
LXR1	**Lixouri, Cepha**	**0.55**	**354**	P	**Pg**	06 46 24.2	+0.1
LXR1				S	**Sb**	06 46 32.4	-0.1
	219µm,0.5s						
DMLN	**Damoulianata-K**	**0.59**	**349**	P	**Pg**	06 46 24.6	-0.4
DMLN				S	**Sb**	06 46 34.0	+0.2
	93µm,0.7s						
DMLN	**Damoulianata-K**	**0.59**	**349**	P	**Pg**	06 46 24.7	-0.3
VSK1	**VASILIKIADES**	**0.75**	**3**	P	**Pg**	06 46 27.1	-0.9
VSK1				S	**Sb**	06 46 39.1	+0.6
	71µm,0.4s						
FSK	**Fiskardo**	**0.80**	**3**	P	**Pg**	06 46 27.8	-1.2
FSK				S	**Sb**	06 46 40.5	+0.6
	45µm,0.5s						
FSK	**Fiskardo**	**0.80**	**3**	P	**Pg**	06 46 27.9	-1.0
FSK				S	**Sb**	06 46 39.8	-0.1
FSK				AML	AML	06 46 41.2	
	comp=N,89220µm,0.6s						
FSK				AML	AML	06 46 43.6	
	comp=E,82272µm,0.4s						
RLS	**Riolos of Patr**	**0.86**	**62**	P	**Pg**	06 46 28.7	-1.3
RLS				S	**Sg**	06 46 41.0	-0.2
	comp=E,41µm,0.5s						
RLS	**Riolos of Patr**	**0.86**	**62**	P	**Pg**	06 46 29.1	-0.9
RLS				S	**Sb**	06 46 41.7	+0.3
RLS				AML	AML	06 46 43.2	
RLS				AML	AML	06 46 43.9	
	comp=E,60885µm,0.3s						
AMT	**Artemida-Makis**	**0.96**	**97**	P	**Pb**	06 46 30.8	-1.1
AMT				S	**Sg**	06 46 44.6	0.0
AMT				AML	AML	06 46 51.5	
AMT				AML	AML	06 46 51.6	
EVGI	**Lefkada island**	**0.97**	**7**	P	**Pb**	06 46 31.1	-0.9
EVGI				S	**Sg**	06 46 45.4	+0.6
	comp=E,41µm,0.4s						
EVGI	**Lefkada island**	**0.97**	**7**	P	**Pb**	06 46 31.2	-0.8
DRO	**Drossia**	**0.99**	**72**	P	**Pb**	06 46 31.3	-1.2
DRO				S	**Sn**	06 46 46.6	-0.3
	comp=E,32µm,0.6s						
DRO	**Drossia**	**0.99**	**72**	P	**Pb**	06 46 31.4	-1.0
DRO				S	**Sn**	06 46 46.3	-0.6
DRO				AML	AML	06 46 55.5	
	comp=E,74928µm,0.4s						
DRO				AML	AML	06 47 00.0	
	comp=N,72981µm,0.5s						
DRAG	**Dragano-Lefkad**	**1.02**	**3**	P	**Pb**	06 46 32.0	-1.0
DRAG				S	**Sn**	06 46 47.5	-0.2
DRAG	**Dragano-Lefkad**	**1.02**	**3**	P	**Pb**	06 46 32.1	-0.9
NYDR	**Nydri-Lefkada**	**1.06**	**8**	P	**Pb**	06 46 32.6	-1.0
NYDR				S	**Sn**	06 46 48.8	+0.2
	comp=N,22µm,0.6s						
NYDR	**Nydri-Lefkada**	**1.06**	**8**	P	**Pb**	06 46 32.8	-0.9
LKD2	**Lefkada island**	**1.14**	**6**	P	**Pg**	06 46 35.3	0.0
LKD2				AMP			
	comp=N,84nm,0.5s,baz=23						
LKD2	**Lefkada island**	**1.14**	**6**	P	**Pn**	06 46 35.0	0.0
LKD2				S	**Sn**	06 46 51.4	+1.0
	comp=N,27µm,0.5s						
LKD2	**Lefkada island**	**1.14**	**6**	P	**Pn**	06 46 35.1	0.0
LKD2				S	**Sg**	06 46 50.0	-0.1
LKD2				AML	AML	06 46 59.1	
	comp=N,51525µm,0.6s						
LKD2				AML	AML	06 47 00.1	
	comp=E,55440µm,0.4s						
TSLK	**Tsoukalades, L**	**1.17**	**6**	P	**Pn**	06 46 34.7	-0.7
TSLK				S	**Sn**	06 46 52.0	+0.8
	comp=E,23µm,0.6s						
TSLK	**Tsoukalades, L**	**1.17**	**6**	P	**Pn**	06 46 34.4	-1.1
UPR	**University Cam**	**1.19**	**58**	P	**Pb**	06 46 35.8	+0.1
UPR				S	**Sg**	06 46 51.9	+0.2
ITM	**Ithomi**	**1.22**	**113**	P	**Pn**	06 46 35.4	-0.8
ITM				S	**Sg**	06 46 54.2	+1.3
	comp=E,11µm,0.6s						
ITM	**Ithomi**	**1.22**	**113**	P	**Pn**	06 46 35.3	-0.9
ITM				S	**Sb**	06 46 51.9	-0.1
ITM				AML	AML	06 47 01.8	
	comp=E,18087µm,0.7s						
ITM				AML	AML	06 47 03.6	
	comp=N,23334µm,0.7s						
PYL	**PYLOS**	**1.24**	**127**	P	**Pn**	06 46 35.7	-0.7
PYL				S	**Sg**	06 46 54.1	+0.6
	comp=N,13µm,0.6s						
PYL	**PYLOS**	**1.24**	**127**	P	**Pn**	06 46 35.4	-1.0
PYL				S	**Sb**	06 46 52.0	-0.5
PYL				AML	AML	06 46 58.1	
	comp=E,32427µm,0.7s						
PYL				AML	AML	06 47 00.7	
	comp=N,18652µm,0.5s						
EFP	**Efpalio**	**1.34**	**55**	P	**Pn**	06 46 37.5	-0.3
EFP				S	**Sg**	06 46 56.3	-0.4
	comp=N,16µm,0.6s						
EFP	**Efpalio**	**1.34**	**55**	P	**Pn**	06 46 37.3	-0.4
EFP				S	**Sb**	06 46 54.9	-0.5
EFP				AML	AML	06 47 01.3	
	comp=E,23580µm,0.3s						
EFP				AML	AML	06 47 06.8	
	comp=N,36663µm,0.6s						
KLV	**Kalavryta, Ach**	**1.35**	**73**	P	**Pn**	06 46 37.4	-0.6
KLV				S	**Sg**	06 46 56.6	-0.5
	comp=N,8µm,1.2s						
KLV	**Kalavryta, Ach**	**1.35**	**73**	P	**Pn**	06 46 37.1	-0.9
KLV				S	**Sn**	06 46 55.2	-0.7
KLV				AML	AML	06 47 08.4	
	comp=E,16033µm,0.9s						
KLV				AML	AML	06 47 10.7	
	comp=N,16308µm,1.0s						
ALIK	**Aliki, Aigiali**	**1.40**	**64**	P	**Pn**	06 46 38.4	-0.2
ANX	**Ano Chora**	**1.45**	**50**	P	**Pn**	06 46 39.5	+0.1
ANX				S	**Sn**	06 46 58.5	+0.2
	comp=N,45µm,0.6s						
ANX	**Ano Chora**	**1.45**	**50**	P	**Pn**	06 46 39.0	-0.4
ANX				S	**Sn**	06 46 57.6	-0.8
ANX				AML	AML	06 47 06.6	
ANX				AML	AML	06 47 12.4	
	comp=E,59497µm,0.6s						
GUR	**Goura**	**1.48**	**79**	P	**Pn**	06 46 39.0	-0.8
GUR				S	**Sb**	06 46 59.9	+0.4
	comp=E,12µm,0.6s						
GUR	**Goura**	**1.48**	**79**	P	**Pn**	06 46 39.6	-0.2
GUR				S	**Sn**	06 46 58.8	-0.1
GUR				AML	AML	06 47 13.4	
	comp=E,21970µm,0.5s						
GUR				AML	AML	06 47 14.9	
	comp=N,32000µm,0.7s						
KALE	**Kalithea**	**1.48**	**60**	P	**Pn**	06 46 39.5	-0.3
KALE	**Kalithea**	**1.48**	**60**	P	**Pn**	06 46 39.4	-0.4
KALE				S	**Sn**	06 46 58.3	-0.7
KALE				AML	AML	06 47 05.7	
	comp=N,24440µm,0.8s						
KALE				AML	AML	06 47 08.4	
	comp=E,20100µm,0.6s						
EVR	**Evrytania**	**1.62**	**39**	P	**Pb**	06 46 43.2	0.0
EVR				S	**Sb**	06 47 03.9	+0.4
	comp=E,9µm,0.6s						
MAKR	**Makrakomi, Fth**	**1.86**	**43**	P	**Pb**	06 46 47.1	-0.1
IGT	**Igoumenitsa**	**1.88**	**356**	P	**Pn**	06 46 44.8	-0.4
IGT				AMP			
	comp=E,19nm,0.4s,baz=7.0						
IGT	**Igoumenitsa**	**1.88**	**356**	P	**Pn**	06 46 46.1	+0.9
IGT	**Igoumenitsa**	**1.88**	**356**	P	**Pn**	06 46 46.1	+0.9
IGT	**Igoumenitsa**	**1.88**	**356**	P	**Pn**	06 46 45.6	+0.4
IGT				S	**Sn**	06 47 08.3	-0.4
IGT				AML	AML	06 47 21.9	
	comp=E,11334µm,0.6s						
IGT				AML	AML	06 47 23.2	
	comp=N,10380µm,0.5s						
AGG	**Agios Georgios**	**1.98**	**46**		**Pn**	06 46 47.4	+0.8
AGG	**Agios Georgios**	**1.98**	**46**	P	**Pb**	06 46 48.3	-0.9
AGG	**Agios Georgios**	**1.98**	**46**	P	**Pn**	06 46 47.4	+0.8
LOUT	**Loutraki**	**1.98**	**80**	P	**Pb**	06 46 48.3	-0.9
JAN	**Janina**	**2.01**	**8**	P	**Pn**	06 46 48.4	+1.3
JAN	**Janina**	**2.01**	**8**	P	**Pn**	06 46 48.4	+1.3
AXAR	**Agios Charalam**	**2.02**	**56**	P	**Pb**	06 46 48.6	-1.4
KEK	**Kerkira**	**2.13**	**345**		**Pn**	06 46 48.2	-0.4
KEK	**Kerkira**	**2.13**	**345**	P	**Pn**	06 46 49.3	+0.7
KEK	**Kerkira**	**2.13**	**345**	P	**Pn**	06 46 48.9	+0.3
VLI	**Veliai**	**2.15**	**115**	P	**Pn**	06 46 49.4	+0.5
VLI	**Veliai**	**2.15**	**115**	P	**Pb**	06 46 50.9	-1.3
THL	**Klokotos Trika**	**2.24**	**31**	P	**Pb**	06 46 52.4	-1.3
VIL2	**Platees**	**2.25**	**75**	P	**Pn**	06 46 50.4	+0.1
SRN	**Sarande**	**2.25**	**350**	P	**Pn**	06 46 51.1	+0.7
SRN				AMP			
	comp=N,7.2nm,0.8s,baz=0.0						
SRN	**Sarande**	**2.25**	**350**	P	**Pn**	06 46 51.0	+0.7
VILL	**Villia**	**2.27**	**76**	P	**Pn**	06 46 51.7	+1.1
TYRN	**Tyrnavos**	**2.45**	**33**	P	**Pb**	06 46 55.3	-2.0
LSK	**Leskovik**	**2.49**	**2**	P	**Pn**	06 46 54.0	+0.3
LSK				AMP			
	comp=E,20nm,0.9s,baz=10.0						
LSK	**Leskovik**	**2.49**	**2**	P	**Pn**	06 46 55.0	+1.3
ATH	**Athens Observa**	**2.56**	**82**	P	**Pb**	06 46 57.4	-1.7
PENT	**Pentalofos**	**2.58**	**11**	P	**Pb**	06 46 57.4	-2.2
VLY	**Voula,Athens**	**2.61**	**85**	P	**Pn**	06 46 56.5	+1.3
ATHU	**Athens Univers**	**2.61**	**82**	P	**Pn**	06 46 56.6	+1.4
PTL	**Penteli**	**2.68**	**81**	P	**Pn**	06 46 57.9	+1.6
NEO	**Neokhori**	**2.69**	**51**	P	**Pn**	06 46 57.6	+1.2
DION	**Dionisos Attik**	**2.74**	**80**	P	**Pb**	06 46 59.8	-2.5
NEST	**Nestorio**	**2.79**	**8**	P	**Pb**	06 47 01.2	-1.8
KZN	**Kozani**	**2.82**	**20**	P	**Pn**	06 46 59.5	+1.3
KZN	**Kozani**	**2.82**	**20**	P	**Pn**	06 46 59.5	+1.3
ANKY	**Antikythira Is**	**2.87**	**128**	P	**Pn**	06 47 00.4	+1.7
LIT	**Litokhoron**	**2.89**	**32**	Pn	**Pn**	06 46 59.9	+0.8
LIT	**Litokhoron**	**2.89**	**32**	P	**Pn**	06 47 00.5	+1.4
LIT	**Litokhoron**	**2.89**	**32**	P	**Pn**	06 46 59.9	+0.8
SCTE	**Santa Cesarea**	**2.89**	**327**	P	**Pn**	06 46 57.8	-1.3
SCTE				AMP			
	comp=N,4.5nm,0.7s,baz=335						
SCTE	**Santa Cesarea**	**2.89**	**327**		**Pn**	06 46 59.5	+0.4
VLO	**Vlora**	**2.92**	**345**	P	**Pn**	06 46 58.4	-1.0
KBN	**Korca**	**2.97**	**4**	P	**Pn**	06 47 01.2	+1.0
KBN				S	**Sn**	06 47 37.6	+1.9
KBN				AMP			
	comp=E,6.9nm,0.6s,baz=11						
KYMI	**Kymi, Euboea I**	**2.99**	**70**	P	**Pn**	06 47 02.2	+1.7
AOS	**Alonnisos**	**3.05**	**59**	P	**Pn**	06 47 01.9	+0.7
FNA	**Florina**	**3.19**	**12**	P	**Pn**	06 47 05.6	+2.3
FNA				AMP			
	comp=E,1.8nm,0.9s,baz=18						
FNA	**Florina**	**3.19**	**12**		**Pn**	06 47 04.8	+1.6
FNA	**Florina**	**3.19**	**12**	P	**Pn**	06 47 04.9	+1.6
FNA	**Florina**	**3.19**	**12**	*e*Pn	**Pn**	06 47 05.3	+2.0
FNA				*e*Sn	**Sn**	06 47 43.2	+2.0
FNA	**Florina**	**3.19**	**12**	P	**Pn**	06 47 04.9	+1.6
TIP	**Timpagrande**	**3.31**	**298**	Pn	**Pn**	06 47 06.3	+1.3
TIP	**Timpagrande**	**3.31**	**298**	⇑P	**Pn**	06 47 04.3	-0.6
TIP	**Timpagrande**	**3.31**	**298**	P	**Pn**	06 47 01.7	-3.3
OHR	**Ohrid**	**3.46**	**4**	*e*Pn	**Pn**	06 47 08.0	+1.1
OHR	**Ohrid**	**3.46**	**4**	*i* Pn	**Pn**	06 47 09.5	+2.5
OHR	**Ohrid**	**3.46**	**4**	P	**Pn**	06 47 09.4	+2.5
THE	**Thessaloniki**	**3.53**	**32**	P	**Pn**	06 47 10.7	+2.9
THE				S	**Sb**	06 47 57.3	-1.1
THE				AMP			
	comp=E,2.8nm,2.4s,baz=36						
HORT	**Hortiatis**	**3.56**	**34**	P	**Pn**	06 47 09.4	+1.0
CEL	**Celeste**	**3.70**	**281**		**Pn**	06 47 10.7	+0.5
CEL	**Celeste**	**3.70**	**281**	P	**Pn**	06 47 08.6	-1.6
TIR	**Tirane**	**3.72**	**352**	AMP			
	comp=E,3.2nm,1.0s,baz=359						
TIR	**Tirane**	**3.72**	**352**	Pn	**Pn**	06 47 11.6	+1.1
TIR	**Tirane**	**3.72**	**352**	*e*Pn	**Pn**	06 47 11.2	+0.7
TIR	**Tirane**	**3.72**	**352**	⇑P	**Pn**	06 47 10.3	-0.1
TIR	**Tirane**	**3.72**	**352**	P	**Pn**	06 47 11.6	+1.1
TIR	**Tirane**	**3.72**	**352**	P	**Pn**	06 47 10.7	+0.2
SOH	**Sokhos**	**3.85**	**34**	P	**Pn**	06 47 14.2	+1.8
SOH	**Sokhos**	**3.85**	**34**	P	**Pn**	06 47 14.2	+1.8
KNT	**Kendrikon**	**3.96**	**27**	P	**Pn**	06 47 15.4	+1.6
KNT	**Kendrikon**	**3.96**	**27**	P	**Pn**	06 47 15.4	+1.6
APE	**Apeiranthos**	**4.04**	**97**	*e*P	**Pb**	06 47 21.0	-3.5
APE	**Apeiranthos**	**4.04**	**97**	⇑P	**Pb**	06 47 19.9	-4.6
APE	**Apeiranthos**	**4.04**	**97**	P	**Pb**	06 47 19.8	-4.6
KOKK	**Kokkinochori,**	**4.16**	**40**	P	**Pn**	06 47 16.9	+0.4
SRS	**Serrai**	**4.20**	**34**	P	**Pn**	06 47 18.5	+1.4
SRS	**Serrai**	**4.20**	**34**	*e*Pn	**Pn**	06 47 18.4	+1.4
SRS				*e*Sn	**Sn**	06 48 06.4	+0.4
SRS	**Serrai**	**4.20**	**34**	P	**Pn**	06 47 18.5	+1.4
MATE	**Matera**	**4.20**	**316**	⇑P	**Pn**	06 47 17.0	-0.1
IDI	**Anoyia**	**4.25**	**123**	Pn	**Pn**	06 47 18.0	+0.2
IDI	**Anoyia**	**4.25**	**123**	Pn	**Pn**	06 47 19.3	+1.5
	comp=E,4.2nm,0.2s,baz=297,slow=11,SNR=13						
IDI				Sn	**Sn**	06 48 08.3	+1.0
	comp=E,40nm,0.3s,baz=276,slow=19,SNR=12						
CUC	**Castrocucco**	**4.34**	**304**	Pn	**Pn**	06 47 18.7	-0.4
PUK	**Puka**	**4.41**	**354**	P	**Pn**	06 47 20.8	+0.8
PUK				AMP			
	comp=E,3.0nm,0.9s,baz=359						
PUK	**Puka**	**4.41**	**354**		**Pn**	06 47 20.6	+0.6
ULC	**Ulcinj**	**4.41**	**348**	P	**Pn**	06 47 20.0	0.0
ULC	**Ulcinj**	**4.41**	**348**	⇓*i*Pn	**Pn**	06 47 19.9	-0.1
ULC				*i* Sn	**Sn**	06 48 09.2	-2.0
NVR	**Nevrokopi**	**4.51**	**34**	P	**Pn**	06 47 23.6	+2.3
PEHC	**Pehcevo**	**4.51**	**23**	*i* Pn	**Pn**	06 47 22.3	+0.9
MMB	**Musomishta**	**4.62**	**32**	P	**Pn**	06 47 24.8	+1.9
DRME	**Dracevica, Mon**	**4.64**	**348**	⇓*i*Pn	**Pn**	06 47 23.5	+0.4
DRME				*i* Sn	**Sn**	06 48 14.9	-1.8
KKB	**Krupnik**	**4.64**	**25**	P	**Pn**	06 47 25.0	+1.9
BCI	**Bajram Curri**	**4.71**	**356**	P	**Pn**	06 47 25.8	+1.6
BCI				AMP			
	comp=N,6.1nm,0.7s,baz=0.0						
KARB	**zmir-Karabur**	**4.76**	**76**	P	**Pn**	06 47 28.3	+3.6
ZEYE	**Izmir, Urla-Ze**	**4.77**	**81**	P	**Pn**	06 47 29.2	+4.3
KOCA	**Canakkale, Ayv**	**4.78**	**66**	P	**Pn**	06 47 27.4	+2.3
KOCA				S	**Sn**	06 48 26.2	+6.0
BUM	**Brajici-Budva**	**4.80**	**346**	P	**Pn**	06 47 25.3	-0.1
BUM	**Brajici-Budva**	**4.80**	**346**	⇓*i*Pn	**Pn**	06 47 25.1	-0.3
BUM				*i* Sn	**Sn**	06 48 18.5	-2.4
VAE	**Valguarnera**	**4.85**	**270**	Pn	**Pn**	06 47 28.0	+1.9
	comp=N,19nm,0.6s,baz=180,slow=18,SNR=3.6						
VAE				Sn	**Sn**	06 48 21.2	-0.8
	comp=N,15nm,0.3s,baz=169,slow=5.5,SNR=8.8						
BOZC	**Bozcaada**	**4.85**	**62**	P	**Pn**	06 47 30.6	+4.6
PDG	**Podgorica**	**4.86**	**349**	Pn	**Pn**	06 47 25.2	-1.0
PDG	**Podgorica**	**4.86**	**349**	*e*Pn	**Pn**	06 47 25.3	-0.9
PDG				*e*Sn	**Sn**	06 48 20.9	-1.4
PDG	**Podgorica**	**4.86**	**349**	*e*Pn	**Pn**	06 47 25.8	-0.4
PDG	**Podgorica**	**4.86**	**349**	⇓P	**Pn**	06 47 25.5	-0.7
PDG	**Podgorica**	**4.86**	**349**	⇑*i*Pn	**Pn**	06 47 25.9	-0.3
PDG				*i* Sn	**Sn**	06 48 20.0	-2.3
GOAD	**anakkale-G¶**	**4.90**	**58**	P	**Pn**	06 47 29.4	+2.7
RAFF	**Raffo Rosso**	**4.91**	**267**	Pn	**Pn**	06 47 26.6	-0.2
PVY	**Plav**	**4.95**	**355**	P	**Pn**	06 47 30.4	+2.9
PVY	**Plav**	**4.95**	**355**	⇓*i*Pn	**Pn**	06 47 29.5	+2.0
PVY				*i* Sn	**Sn**	06 48 22.4	-2.2
HCY	**Herceg Novi**	**5.03**	**343**	P	**Pn**	06 47 27.5	-1.0
HCY	**Herceg Novi**	**5.03**	**343**	*e*Pn	**Pn**	06 47 26.5	-2.0
HCY	**Herceg Novi**	**5.03**	**343**	⇑*i*Pn	**Pn**	06 47 27.1	-1.4
HCY				*i* Sn	**Sn**	06 48 23.9	-2.5
CEME	**Cevo**	**5.03**	**346**	⇓*i*Pn	**Pn**	06 47 28.6	0.0
CEME				*i* Sn	**Sn**	06 48 24.3	-2.3
EZN	**Ezine**	**5.04**	**63**	P	**Pn**	06 47 31.8	+3.3
	comp=N,81nm,1.0s,comp=N,2µmcomp=N,0.4nm						
DGB	**zmir**	**5.06**	**84**	P	**Pn**	06 47 31.1	+2.2
BOSS	**Bosilegrad**	**5.06**	**17**	*e*Pn	**Pn**	06 47 29.8	+0.8
WDD	**Wied Dalam**	**5.14**	**251**	Pn	**Pn**	06 47 30.9	+0.9
BAYC	**CANAKKALE_Bayr**	**5.16**	**64**	P	**Pn**	06 47 33.2	+2.9
CNKL	**anakkale-Mer**	**5.18**	**61**	P	**Pn**	06 47 34.9	+4.4
RZN	**Rozhen**	**5.18**	**38**	P	**Pn**	06 47 32.1	+1.3
BEY	**Berane**	**5.23**	**355**	P	**Pn**	06 47 32.9	+1.6
IVA	**Berane**	**5.23**	**355**	⇑*i*Pn	**Pn**	06 47 32.2	+0.9
IVA				*i* Sn	**Sn**	06 48 30.9	-0.6
NKME	**Niksic**	**5.24**	**347**	⇓*i*Pn	**Pn**	06 47 31.3	-0.1
NKME				*i* Sn	**Sn**	06 48 31.5	-0.2
KOME	**Kolasin**	**5.24**	**352**	⇑*i*Pn	**Pn**	06 47 32.0	+0.5
KOME				*i* Sn	**Sn**	06 48 29.0	-2.8
BARS	**Barje**	**5.25**	**11**	*e*Pn	**Pn**	06 47 31.8	+0.3
PLNA	**Plana**	**5.31**	**24**	P	**Pn**	06 47 34.2	+1.8
TREB	**Trebinje**	**5.32**	**343**	*e*Pn	**Pn**	06 47 30.9	-1.5
TREB				*e*Sn	**Sn**	06 48 29.7	-3.8
TREB	**Trebinje**	**5.32**	**343**	*e*Pn	**Pn**	06 47 30.5	-1.9
ALN	**Alexandroupoli**	**5.38**	**51**	Pn	**Pn**	06 47 33.7	+0.5
ALN	**Alexandroupoli**	**5.38**	**51**	P	**Pn**	06 47 33.7	+0.5
VTS	**Vitosha**	**5.38**	**22**	P	**Pn**	06 47 35.3	+1.9
VTS	**Vitosha**	**5.38**	**22**	*e*Pn	**Pn**	06 47 34.7	+1.3
VTS				*e*Sn	**Sn**	06 48 35.2	0.0
BRY	**Bratogost**	**5.45**	**345**	*e*Pn	**Pn**	06 47 32.8	-1.6
BRY	**Bratogost**	**5.45**	**345**	⇓*i*Pn	**Pn**	06 47 33.7	-0.7
BRY				*i* Sn	**Sn**	06 48 33.9	-3.1
BUHA	**Balikesir, Bur**	**5.46**	**68**	P	**Pn**	06 47 38.6	+4.1
SELS	**Selova**	**5.58**	**5**	*e*Pn	**Pn**	06 47 36.2	+0.2
SELS				*e*Sn	**Sn**	06 48 38.8	-1.1
SJES	**Sjenica**	**5.61**	**356**	*e*Pn	**Pn**	06 47 36.9	+0.3
SJES				*e*Sn	**Sn**	06 48 39.6	-1.3
SJES	**Sjenica**	**5.61**	**356**	*e*Pn	**Pn**	06 47 36.7	+0.1
YAZI	**Mula-Dat§a-**	**5.63**	**98**	P	Pn	06 47 42.0	+5.2
STON	**Ston**	**5.63**	**338**	*e*Pn	**Pn**	06 47 35.7	-1.0
STON				*e*Sn	**Sn**	06 48 37.9	-3.3
STON	**Ston**	**5.63**	**338**	*e*Pn	**Pn**	06 47 35.6	-1.1
UPM	**Unac-Piva**	**5.67**	**348**	P	**Pn**	06 47 37.8	+0.3
UPM	**Unac-Piva**	**5.67**	**348**	*e*Pn	**Pn**	06 47 36.4	-1.1
UPM	**Unac-Piva**	**5.67**	**348**	⇑*i*Pn	**Pn**	06 47 37.7	+0.2
UPM				*i* Sn	**Sn**	06 48 39.4	-3.1
PLE	**Pljevlja**	**5.73**	**352**	⇓*i*Pn	**Pn**	06 47 39.2	+1.0
PLE				*i* Sn	**Sn**	06 48 40.9	-2.9
KARP	**Karpathos**	**5.75**	**109**		**Pn**	06 47 40.7	+2.3
KARP	**Karpathos**	**5.75**	**109**	*e*P	Pn	06 47 46.0	+7.5
KARP	**Karpathos**	**5.75**	**109**	P	**Pn**	06 47 38.1	-0.3
KARP	**Karpathos**	**5.75**	**109**	P	**Pn**	06 47 41.6	+3.2
	comp=N,125nm,0.7s,comp=N,2µmcomp=N,0.8nm						
ZAPS	**Zavoj**	**5.84**	**15**	*e*Pn	**Pn**	06 47 40.8	+1.2
STEP	**BALIKESIR_Sava**	**5.91**	**71**	P	Pb	06 47 48.8	-7.4
IVAS	**Ivanjica**	**5.92**	**357**	*e*Pn	**Pn**	06 47 39.7	-1.0
IVAS				*e*Sn	**Sn**	06 48 46.7	-1.7
RUDO	**Rudo**	**6.02**	**352**	*e*Pn	**Pn**	06 47 41.3	-0.7
BOVS	**Bovan**	**6.04**	**8**	*e*Pn	**Pn**	06 47 42.0	-0.3
BOVS	**Bovan**	**6.04**	**8**	⇑P	**Pn**	06 47 41.8	-0.6
BKES	**Balkesir-Mer**	**6.16**	**68**	P	Pn	06 47 49.4	+5.4
MPEP	**Malo Peshtene**	**6.20**	**22**	P	**Pn**	06 47 46.6	+2.0
GRUS	**Gruza**	**6.23**	**1**	*e*Pn	**Pn**	06 47 44.4	-0.5
TURN	**Turunc**	**6.24**	**96**	P	Pn	06 47 53.1	+8.1
TURN				S	**Sn**	06 49 03.4	+7.3
BBLS	**Lazi&#263i**	**6.26**	**353**	*e*Pn	**Pn**	06 47 45.0	-0.4
BBLS	**Lazi&#263i**	**6.26**	**353**	*e*Pn	**Pn**	06 47 44.1	-1.3
ZAGS	**Zajecar**	**6.29**	**11**	*e*Pn	**Pn**	06 47 45.5	-0.2
DIVS	**Divibare**	**6.45**	**357**	*e*Pn	**Pn**	06 47 46.6	-1.4
DURS	**Dursunbey**	**6.53**	**70**	P	**Pn**	06 47 52.8	+3.6
HAPS	**Han Pijesak,BI**	**6.53**	**350**	*e*Pn	**Pn**	06 47 48.8	-0.4
HAPS	**Han Pijesak,BI**	**6.53**	**350**	*e*Pn	**Pn**	06 47 48.2	-1.0
TRUS	**Trudelj**	**6.56**	**359**	*e*Pn	**Pn**	06 47 48.6	-0.9
ELND	**Elena**	**6.67**	**36**	⇑P	**Pn**	06 47 51.8	+0.8
TAVA	**DENIZLI_Tavas**	**6.68**	**89**	P	Pn	06 47 58.6	+7.4
INTR	**Introdacqua**	**6.69**	**313**	Pn	**Pn**	06 47 49.7	-1.6
USAK	**Uak-Merkez**	**6.78**	**78**	P	**Pn**	06 47 55.8	+3.2
SABU	**Mula-Dalaman**	**6.80**	**94**	P	Pn	06 48 00.1	+7.3
SABU				S	**Sn**	06 49 15.5	+5.5
TEKS	**Tekeris**	**6.92**	**354**	*e*Pn	**Pn**	06 47 53.1	-1.4
TEKS	**Tekeris**	**6.92**	**354**	*e*Pn	**Pn**	06 47 52.7	-1.8
CAEL	**Denizli, Camel**	**7.03**	**92**	P	**Pb**	06 48 13.9	-1.5
CAEL				S	**Sb**	06 49 31.3	-8.1
PASA	**Karahalli, USA**	**7.12**	**82**	P	Pn	06 48 03.2	+5.9
GDZ	**Gediz**	**7.19**	**76**	P	**Pn**	06 48 02.8	+4.4
KNIK	**Mula-Seydike**	**7.27**	**94**	P	Pn	06 48 05.2	+5.7
KNI

BRTR Keskin Array B 10.47 75 Pn **Pn 06 48 43.5 +0.3**
BRTR Keskin Array B 10.47 75 Pn **Pn 06 48 46.5 +3.3**
comp=N,0.1nm,0.3s,baz=331,slow=5.6,SNR=5.1
BRTR LR LR 06 53 00.9
comp=N,698nm,21.1s,baz=270,slow=39
comp=N,2.3nm,0.9s
RONA Rosalia, Austr 10.50 344 *e*Pn **Pn 06 48 43.5 -0.1**
comp=N,0.6nm,0.2s
BURAR Bucovina Array 10.53 18 Pn **Pn 06 48 44.8 +0.7**
BURAR Bucovina Array 10.53 18 ⇑P **Pn 06 48 44.6 +0.6**
BURAR Bucovina Array 10.53 18 P **Pn 06 48 44.6 +0.6**
BUR08 Bucovina Ar. S 10.56 18 Pn **Pn 06 48 42.6 -1.7**
CTI Castel Tesino 10.67 325 Pn 06 48 44.4 -1.5
CTI Castel Tesino 10.67 325 P **Pn 06 48 44.4 -1.5**
CSS Mathiatis 10.69 101 Pn **Pn 06 48 47.6 +1.4**
KBA Koelnbreinsper 10.80 333 *i* Pn **Pn 06 48 48.3 +0.6**
comp=N,5.6nm,0.4s
KBA *e*Sn **Sn 06 50 42.1 -6.3**
comp=N,33nm,0.6s
KBA Koelnbreinsper 10.80 333 P **Pn 06 48 47.9 +0.2**
KBA pmax pmax
comp=Z,28nm,0.8s
CONA Conrad Observa 10.81 343 *i* Pn **Pn 06 48 48.7 +0.8**
comp=Z,0.4nm,0.2s
ABTA Abfaltersbach 10.84 329 *e*Pn **Pn 06 48 48.4 +0.1**
comp=Z,3.2nm,0.2s
ABTA *e*Sn **Sn 06 50 46.0 -3.4**
comp=Z,79nm,0.9s
VYHS Vyhne 10.90 354 *e*P **Pn 06 48 48.8 -0.2**
VYHS Vyhne 10.90 354 *e*PN **Pn 06 48 48.8 -0.2**
MUKU Mukachevo 10.91 8 P **Pn 06 48 49.6 +0.6**
NSLU Nyzhne Selyshc 10.92 14 P **Pn 06 48 47.9 -1.4**
MODS Modra-Piesok 10.97 349 *e*P Pn 06 48 57.9 +8.0
MODS Modra-Piesok 10.97 349 *e*PN Pn 06 48 57.9 +8.0
MOA Molln 11.17 338 *i* Pn **Pn 06 48 52.3 -0.4**
comp=Z,4.4nm,0.4s,SNR=15
MOA *i* Sn **Sn 06 50 52.4 -4.9**
comp=Z,6.7nm,0.4s
MOA Molln 11.17 338 *e*Pn **Pn 06 48 51.3 -1.3**
BIOA Bad Ischl, Aus 11.22 335 *i* Pn **Pn 06 48 53.7 +0.2**
comp=Z,15nm,0.6s,SNR=6.6
BIOA *e*Sn **Sn 06 50 54.1 -4.6**
comp=Z,8.6nm,0.5s
LESA Schwarzleotal 11.34 332 *i* Pn **Pn 06 48 55.6 +0.6**
comp=Z,17nm,0.5s
LESA *e*Sn **Sn 06 50 57.0 -4.4**
comp=Z,38nm,0.6s
KOLS Kolonicke sedl 11.34 6 *e*P Pn 06 49 01.6 +6.6
KOLS Kolonicke sedl 11.34 6 *e*PN Pn 06 49 01.6 +6.6
JAVC Velka Javorina 11.38 350 *e*PN **Pn 06 48 56.5 +0.8**
WTTA Wattenberg 11.61 329 *i* Pn **Pn 06 49 00.6 +1.7**
comp=Z,2.6nm,0.4s
WTTA *i* Sn **Sn 06 51 03.2 -5.2**
comp=Z,68nm,0.9s
WTTA Wattenberg 11.61 329 P **Pn 06 49 01.0 +2.1**
WTTA pmax pmax
comp=Z,23nm,1.3s
WATA Walderalm 11.70 329 *i* Pn **Pn 06 49 01.3 +1.3**
comp=Z,7.7nm,0.7s
WATA *i* Sn **Sn 06 51 06.2 -4.2**
comp=Z,24nm,0.6s
FUORN Ofenpass-Fuorn 11.74 323 Pn 06 48 58.3 -2.4
NIE Niedzica 11.76 359 P **Pn 06 49 02.6 +1.9**
NIE pmax pmax
comp=Z,7.0nm,1.1s
SQTA Sankt Quirin 11.76 327 *e*Pn **Pn 06 49 01.9 +1.0**
comp=Z,1.7nm,0.5s
SQTA *e*Sn **Sn 06 51 10.1 -1.9**
comp=Z,16nm,0.6s
KRUC Moravsky 11.78 347 *e*PN **Pn 06 49 00.0 -1.0**
FETA Feichten 11.82 325 *i* Pn **Pn 06 49 05.1 +3.4**
comp=Z,1.2nm,0.4s
FETA *i* Sn **Sn 06 51 10.7 -2.7**
comp=Z,8.5nm,0.7s
MOTA Moosalm 11.90 327 *i* Pn **Pn 06 49 04.5 +1.6**
comp=Z,5.7nm,0.7s
MOTA *i* Sn **Sn 06 51 13.6 -1.9**
comp=Z,49nm,0.9s
VRAC Vranov 11.98 348 *e*PN **Pn 06 49 03.2 -0.6**
CKRC Cesky Krumlov 12.03 340 *e*PN **Pn 06 49 03.6 -0.9**
CKRC AMS AMS 06 54 30.0
comp=Z,2μm,9.9s
CKRC Cesky Krumlov 12.03 340 *e*P **Pn 06 49 03.6 -0.9**
CKRC MLR MLR
comp=Z,2μm,9.9s
TUE Stuetta 12.09 320 Pn 06 49 05.9 +0.5
RETA Reutte 12.16 327 *i* Sn **Sn 06 51 21.7 +0.1**
comp=Z,0.9nm,0.1s
GEC2 GERESS Array S 12.23 338 Pn 06 49 06.2 -1.0
GEC2 GERESS Array S 12.23 338 P **Pn 06 49 06.6 -0.6**
GEC2 pmax pmax
comp=Z,12nm,1.0s
GERES GERESS Array B 12.23 338 Pn **Pn 06 49 05.0 -2.2**
comp=Z,1.3nm,0.3s,baz=152,slow=14,SNR=9.0
GERES Sn **Sn 06 51 16.4 -6.9**
comp=Z,1.0nm,0.3s,baz=168,slow=20,SNR=5.3
GERES LR LR 06 54 27.5
comp=Z,913nm,18.2s,baz=165,slow=41
comp=Z,2.4nm,0.4s
GERES GERESS Array B 12.23 338 P **Pn 06 49 05.0 -2.2**
DAVA Damuels 12.40 324 *e*Pn **Pn 06 49 10.3 +0.6**
comp=Z,0.6nm,0.1s
DAVA *i* Sn **Sn 06 51 22.4 -5.4**
comp=Z,21nm,0.5s
KHC Kasperske Hory 12.52 339 Pn 06 49 09.2 -1.9
KHC Kasperske Hory 12.52 339 *e*PN **Pn 06 49 10.2 -0.9**
KHC *e*SN **Sn 06 51 23.0 -7.4**
KHC AMS AMS 06 54 10.0
comp=Z,1μm,16.0s
KHC Kasperske Hory 12.52 339 *e*P **Pn 06 49 10.2 -0.9**
KHC *e* 06 51 23.0
KHC MLR MLR
comp=Z,1μm,16.0s
KHC Kasperske Hory 12.52 339 P **Pn 06 49 10.2 -0.9**
comp=Z,22nm,1.4s
BNI Bardonecchia 12.74 310 Pn **Pn 06 49 10.2 -4.1**
BNI Bardonecchia 12.74 310 P **Pn 06 49 10.2 -4.1**
WET Wettzell 12.74 337 P **Pn 06 49 13.7 -0.5**
WET pmax pmax
comp=Z,12nm,0.8s
GOPC GO Pecny, Ondr 12.93 343 AMS AMS 06 55 10.0
comp=Z,1μm,12.4s
MMAI Mount Meron Ar 13.01 106 Pn **Pn 06 49 20.6 +2.6**
comp=Z,1.2nm,0.3s,baz=301,slow=26,SNR=1.7
MMAI Sn **Sn 06 51 34.5 -8.0**
comp=Z,1.9nm,0.3s,baz=327,slow=28,SNR=2.1
comp=Z,1.2nm,0.4s
DPC Dobruska-Polom 13.04 348 AMS AMS 06 55 30.0
comp=Z,2μm,13.6s
PRU Pruhonice 13.05 343 AMS AMS 06 55 10.0
comp=Z,2μm,11.7s
SENIN Lac Senin/Sane 13.11 316 Pn 06 49 17.3 -2.0
UPC Upice 13.24 347 AMS AMS 06 55 30.0
comp=Z,2μm,14.0s
CHVC Chvalec 13.31 348 AMS AMS 06 55 40.0
comp=Z,2μm,14.2s
DSI Dead Sea 13.66 112 P **Pn 06 49 26.1 -0.7**
RICC Richard 13.67 342 AMS AMS 06 55 40.0
comp=Z,2μm,11.4s
MANZ Manzenberg 13.72 337 *e*P **P 06 49 39.0 +2.8**
comp=Z,4.1nm,0.9s,baz=145,slow=11
GRFO Grafenberg 13.76 334 Pn **Pn 06 49 27.3 -0.8**
GRFO Grafenberg 13.76 334 P **Pn 06 49 27.3 -0.8**
GRA1 Grafenberg Arr 13.77 334 Pn **Pn 06 49 29.4 +1.4**
GRF Grafenberg Arr 13.77 334 P **Pn 06 49 29.5 +1.4**
GRF Grafenberg Arr 13.77 334 *e*P **P 06 49 39.7 +3.0**
comp=Z,54nm,1.0s,baz=145,slow=11
HSKC Hora Svate Kat 13.90 341 AMS AMS 06 55 30.0
comp=Z,2μm,8.8s
LISJ El Lisan 13.91 113 P **Pn 06 49 29.1 -1.0**
KRMI Paran Flat 13.99 118 P **Pn 06 49 29.8 -1.5**
TANN Tannenbergstha 13.99 338 *e*P **P 06 49 41.9 +2.6**
comp=Z,13nm,0.9s,baz=145,slow=11
HSUJ Al Zarqa 14.01 109 P **Pn 06 49 30.3 -1.3**
BRG Berggiesshubel 14.02 343 *e*P **Pn 06 49 30.5 -1.1**
BRG Amp 06 49 34.5
comp=Z,4.2nm,0.9s
BRG Berggiesshubel 14.02 343 P P 06 49 51.2 +12
BRG Amp 06 49 51.6
comp=Z,5.4nm,0.8s
BRG Berggiesshubel 14.02 343 *e*P **Pn 06 49 30.4 -1.1**
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG MLR MLR
comp=Z,1μm,12.0s
BRG MLR MLR
comp=N,760nm,12.3s
BRG MLR MLR
comp=E,1μm,10.5s
PRNI Paran 14.05 117 P **Pn 06 49 30.9 -1.2**
ARPR Arapgir-MALATY 14.06 79 Pn **Pn 06 49 33.7 +1.3**
PLN Plauen 14.15 338 *e*P **P 06 49 43.6 +2.8**
comp=E,15nm,0.9s,baz=145,slow=11
RNPP8 Varash 14.19 14 P **Pn 06 49 34.6 +0.7**
HRFI Mount Harif 14.26 118 P **Pn 06 49 33.3 -1.6**
RNPP9 Sopachiv 14.27 14 P **Pn 06 49 35.6 +0.6**
MBRI Mt Berech 14.31 119 P **Pn 06 49 33.4 -2.4**
AK13 Malin Array Si 14.32 23 P **Pn 06 49 35.9 +0.3**
ECH Echery 14.36 321 Pn **Pn 06 49 36.2 -0.1**
ECH Echery 14.36 321 P **Pn 06 49 36.2 -0.1**
AK05 Malin Array Si 14.37 23 P **Pn 06 49 36.6 +0.3**
EIL Elat 14.41 119 Pn **Pn 06 49 37.3 +0.2**
comp=E,0.5nm,0.3s,baz=327,slow=7.3,SNR=3.0
EIL Sn Sn 06 51 58.5 -18
comp=E,0.5nm,0.3s,baz=344,slow=16,SNR=1.4
comp=E,4.6nm,0.6s
EIL Elat 14.41 119 P **Pn 06 49 36.0 -1.1**
KIEV Kiev 14.44 23 Pn 06 49 36.3 -0.9
KIEV Kiev 14.44 23 P **Pn 06 49 36.3 -0.9**
KIEV Kiev 14.44 23 P **Pn 06 49 37.4 +0.2**
comp=E,54nm,0.9s
AKASG Malin Array Be 14.45 23 Pn **Pn 06 49 36.5 -0.9**
AKASG Malin Array Be 14.45 23 Pn **Pn 06 49 36.1 -1.3**
comp=E,0.3nm,0.3s,baz=214,slow=12,SNR=14
AKASG LR LR 06 56 00.4
comp=E,946nm,18.2s,baz=202,slow=41
comp=E,2.2nm,0.7s
AKASG Malin Array Be 14.45 23 P **Pn 06 49 36.5 -0.9**
AKBB Malin Array Si 14.45 23 Pn 06 49 36.3 -1.1
AKBB Malin Array Si 14.45 23 *ce*P **Pn 06 49 35.6 -1.8**
AKBB Malin Array Si 14.45 23 P **Pn 06 49 37.4 0.0**
ASF Jabal al Asfar 14.51 107 Pn **Pn 06 49 39.5 +1.0**
comp=E,0.3nm,0.3s,baz=209,slow=0.0,SNR=7.8
comp=E,1.0nm,0.3s
ASF Jabal al Asfar 14.51 107 P **Pn 06 49 37.5 -1.0**
CLL Collm 14.65 341 Pn **Pn 06 49 39.5 -0.6**
CLL Collm 14.65 341 P **Pn 06 49 39.6 -0.6**
CLL Collm 14.65 341 *e*P **P 06 49 49.0 +2.6**
comp=E,32nm,1.2s,baz=145,slow=11
CLL Collm 14.65 341 *i* PP **P 06 49 48.5 +2.1**
comp=Z,33nm,1.2s
CLL *i* sPP 06 49 51.2
CLL *ex* x 06 50 15.0
CLL AMS AMS 06 55 00.0
comp=Z,700nm,19.1s
NEUB Neuenburg 14.90 338 *e*P **P 06 49 52.3 +3.1**
comp=Z,112nm,1.2s,baz=145,slow=11
TNS Taunus Mts 15.25 329 P **P 06 49 52.2 -1.0**
TNS pmax pmax
comp=Z,24nm,1.2s
TNS Taunus Mts 15.25 329 *e*P **P 06 49 56.1 +3.0**
comp=Z,41nm,1.3s,baz=145,slow=11
SOC Sochi 15.73 62 *e*P **Pn 06 49 50.9 -3.6**
SOC *e* 06 52 44.9
SOC MLR MLR
comp=Z,71nm,11.0s
GTTG Gottingen 15.76 335 *e*P **P 06 50 01.6 +2.9**
comp=Z,21nm,0.8s,baz=145,slow=11
WLF Walferdange 15.84 324 Pn **Pn 06 49 55.3 -0.6**
WLF Walferdange 15.84 324 P **Pn 06 49 55.3 -0.6**
WLF pmax pmax
comp=Z,31nm,0.9s
WLF Walferdange 15.84 324 *e*P **P 06 50 03.2 +3.6**
comp=Z,67nm,1.0s,baz=145,slow=11
WLF Walferdange 15.84 324 *d*P **P 06 50 00.9 +1.2**
comp=Z,35nm,1.1s
CLZ Clausthal 15.88 336 *e*P **P 06 50 03.1 +2.9**
comp=Z,34nm,1.1s,baz=145,slow=11
KASTN Kahler Asten 16.03 331 *e*P **P 06 50 04.7 +2.8**
comp=Z,21nm,1.2s,baz=145,slow=11
FLTG Flechtingen 16.05 339 *e*P **P 06 50 03.7 +1.8**
comp=Z,26nm,1.2s,baz=145,slow=11
SUW Suwalki 16.46 6 *e*P **Pn 06 50 04.0 +0.1**
SUW Suwalki 16.46 6 Pn 06 50 03.9 +0.1
SUW IAmb IAmb 06 50 08.7
comp=Z,121nm,1.0s
SUW Suwalki 16.46 6 *e*P **Pn 06 50 04.1 +0.3**
SUW Suwalki 16.46 6 P **Pn 06 50 03.9 +0.1**
SUW pmax pmax
comp=Z,121nm,1.0s
MEM Membach 16.57 326 P **P 06 50 07.2 -0.6**
MEM pmax pmax
comp=Z,27nm,1.3s
MEM Membach 16.57 326 *d*P **P 06 50 06.6 -1.2**
comp=Z,16nm,1.0s
MEM *dx* x 06 50 11.2
GORT1 Trebel 16.62 340 *e*P **P 06 50 10.5 +2.3**
comp=Z,115nm,1.9s,baz=145,slow=11
DOU Dourbes 16.87 323 *d*P **P 06 50 13.4 +2.3**
comp=Z,12nm,1.3s
MNK Minsk 17.59 14 *i* P **Pn 06 50 15.0 -3.0**
comp=E,11nm,0.5s
MNK *i* P **Pn 06 50 15.0 -3.0**
comp=N,4.0nm,0.6s
MNK *i* P **Pn 06 50 15.0 -3.0**
comp=Z,12nm,0.6s,baz=200
MNK *i* PP **PnPn 06 50 28.9 +0.5**
MNK *i* S **Sn 06 53 29.7 -3.8**
MNK *i* SS **SnSn 06 53 46.5 -0.6**
MNK *i* LQ LQ 06 55 25.1
MNK *i* LR LR 06 56 44.1
MNK *i* LRM MLR 06 57 32.3
comp=N,906nm,16.7s
MNK *i* LRM MLR 06 58 05.2
comp=Z,189nm,10.2s
MNK *i* LRM MLR 06 59 25.9
comp=E,317nm,13.9s
MNK Minsk 17.59 14 *i* P **Pn 06 50 15.0 -3.0**
MNK *i* S **Sn 06 53 29.7 -3.8**
MNK pmax pmax
comp=E,11nm,0.5s
MNK pmax pmax
comp=N,4.0nm,0.6s
MNK pmax pmax
comp=Z,12nm,0.6s
MNK MLR MLR
comp=N,906nm,17.0s
MNK MLR MLR
comp=Z,189nm,10.0s
MNK MLR MLR
comp=E,317nm,14.0s
BSEG Bad Segeberg 17.73 340 P **Pn 06 50 18.9 -0.8**
KARS Kars 17.75 73 P 06 50 21.1 +0.1
KARS IAmb IAmb 06 50 22.2
comp=Z,111nm,1.3s
KARS Kars 17.75 73 P **P 06 50 21.1 +0.1**
KARS pmax pmax
comp=Z,111nm,1.3s
NACGM Naroch 17.77 12 ⇑*i* P **Pn 06 50 20.1 -0.2**
comp=Z,38nm,1.0s,baz=197
KIV Kislovodsk 17.90 62 *e*P **P 06 50 22.9 +0.2**
KIV *e*S **Sn 06 53 44.2 +2.7**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,123nm,14.0s
KBZ Khabaz 18.00 63 P **P 06 50 23.7 +0.1**
comp=Z,0.1nm,0.3s,baz=216,slow=21,SNR=2.1
KBZ LR LR 06 58 50.6
comp=Z,314nm,18.4s,baz=270,slow=42
comp=Z,1.3nm,0.7s
KBZ Khabaz 18.00 63 *ce*P **P 06 50 24.2 +0.6**
PABE Paberze 18.01 6 P **Pn 06 50 22.2 -0.9**
PABE Paberze 18.01 6 *e*P **Pn 06 50 22.6 -0.6**
VORD Divnogorie 18.84 39 *e*P **Pn 06 50 33.1 -0.2**
VORD pmax pmax
comp=Z,10.0nm,1.0s
BLEU Blekinge 18.92 352 *i* P **P 06 50 33.0 -0.6**
VSR Storozhevoye 18.93 38 *e*P **P 06 50 32.5 -1.3**
VSR pmax pmax
comp=Z,6.0nm,1.0s
GNI Garni 19.01 75 P **P 06 50 34.9 0.0**
GNI Garni 19.01 75 P **Pn 06 50 36.1 +0.4**
comp=Z,0.9nm,0.3s,baz=313,slow=18,SNR=1.4
comp=Z,4.7nm,0.5s
GNI Garni 19.01 75 *ce*P **Pn 06 50 36.0 +0.4**
GNI pmax pmax
comp=Z,47nm,2.5s
BJUU Bjuv 19.10 347 *i* P **Pn 06 50 39.3 +2.9**
ESDC Sonseca Array 19.20 284 P **Pn 06 50 38.5 +0.6**
comp=Z,0.1nm,0.3s,baz=77,slow=11,SNR=13
comp=Z,4.4nm,0.9s
VORR Voronezh 19.24 37 *e*P **Pn 06 50 42.9 +4.8**
VORR pmax pmax
comp=Z,10.0nm,0.9s
DEL Delary 19.34 349 *i* P **Pn 06 50 40.0 +0.7**
LPSR Galich'ya Gora 19.71 35 *e*P **P 06 50 41.5 -0.8**
LPSR pmax pmax
comp=Z,30nm,0.8s
FABU Falkenberg 20.04 347 *i* P **P 06 50 46.1 +0.4**
VRH Novokhopyorsk 20.22 41 *e*P **P 06 50 46.0 -1.9**
VRH pmax pmax
comp=Z,20nm,1.0s
MUD Monsted U'grnd 20.28 342 P Pn 06 50 49.8 -0.6
MUD pmax pmax
comp=Z,56nm,1.7s
ONAU Onsala 20.55 347 *i* P **P 06 50 50.7 -0.7**
OBN Obninsk 20.59 27 P **P 06 50 51.0 -0.8**
comp=Z,11nm,0.4s,baz=131,slow=18,SNR=1.6
OBN LR LR 06 58 51.1
comp=Z,511nm,21.3s,baz=204,slow=37
comp=Z,11nm,0.4s
OBN Obninsk 20.59 27 ⇓*e*P **P 06 50 51.1 -0.7**
OBN *e* 06 51 09.6
OBN pmax pmax
comp=Z,46nm,1.7s
OBN MLR MLR
comp=Z,491nm,16.0s
BORU Boraas 20.63 348 *i* P **P 06 50 52.2 0.0**
MDT Midelt 21.05 264 P **P 06 50 58.8 +1.6**
comp=Z,3.5nm,0.8s,baz=79,slow=9.0,SNR=5.5
MDT LR LR 06 59 51.6
comp=Z,98nm,19.9s,baz=79,slow=39
comp=Z,3.5nm,0.8s
MTSE Matsula 21.18 5 *e*P **P 06 50 58.5 +0.3**
TJOU Tjoern 21.20 347 *i* P **P 06 50 58.1 -0.3**
MAK Makhachkala 21.21 67 *e*P **P 06 50 55.5 -3.2**
MAK *e*S **S 06 54 52.6 -1.5**
MAK pmax pmax
comp=Z,468nm,2.1s
MAK MLR MLR
comp=Z,307nm,15.0s
VSU Vasula 21.21 9 *ce*P **P 06 50 58.2 -0.3**
VSU pmax pmax
comp=Z,176nm,1.3s
MOS Moscow 21.45 27 *e*P **P 06 50 59.8 -1.3**
MOS *e*S **S 06 54 54.1 -4.5**
MOS pmax pmax
comp=Z,38nm,0.9s
ARBE Arbavere 22.08 7 *e*P **P 06 51 08.2 +0.4**
STRU Stroemstad 22.23 347 *i* P **P 06 51 08.4 -1.0**
HFS Hagfors 22.91 351 P **P 06 51 16.2 -0.5**
comp=Z,24nm,0.9s,baz=163,slow=11,SNR=27
HFS LR LR 07 02 47.6
comp=Z,518nm,21.0s,baz=170,slow=44
comp=Z,24nm,0.9s
RAF Rauma 23.40 2 *e*P **P 06 51 20.8 -0.8**
NC602 NORSAR Array S 23.79 349 P **P 06 51 24.6 -0.8**
NC602 IAmb IAmb 06 51 34.3
comp=Z,30nm,1.1s
NORES NORESS Array B 23.79 349 P **P 06 51 25.3 -0.1**
EKA Eskdalemuir Ar 23.85 325 P **P 06 51 26.7 +0.6**
comp=Z,4.7nm,0.6s,baz=134,slow=6.4,SNR=20
comp=Z,4.7nm,0.6s
BELG Belogornoye 23.98 43 LR LR 07 02 32.0
comp=Z,230nm,21.1s,baz=252,slow=41
BELG Belogornoye 23.98 43 *i* P **P 06 51 26.4 -0.9**
BELG pmax pmax
comp=Z,8.0nm,1.1s
NAO01 NORSAR Array S 23.99 348 P **P 06 51 27.0 -0.4**
NAO01 IAmb IAmb 06 51 28.4
comp=Z,34nm,1.1s
FINES FINESS Array B 24.06 7 P **P 06 51 26.6 -1.4**
comp=Z,7.2nm,0.5s,baz=168,slow=9.5,SNR=33
FINES LR LR 07 01 59.1
comp=Z,988nm,18.4s,baz=192,slow=40
comp=Z,7.2nm,0.5s
FINES FINESS Array B 24.06 7 *i* P **P 06 51 27.1 -0.9**
FINES pmax pmax
comp=Z,7.0nm,0.5s
FIA1 FINESS Array S 24.07 7 P **P 06 51 26.8 -1.2**
FIA1 IAmb IAmb 06 51 28.9
comp=Z,47nm,0.9s
NC405 NORSAR Array S 24.12 350 P **P 06 51 28.5 -0.1**
NC405 IAmb IAmb 06 51 35.8
comp=Z,78nm,1.7s
NB201 NORSAR Array S 24.12 349 P **P 06 51 28.5 -0.2**
NB201 IAmb IAmb 06 51 37.1
comp=Z,48nm,1.1s
NB2 NORSAR Subarra 24.13 349 P **P 06 51 28.4 -0.3**
comp=Z,50nm,1.4s,baz=160,slow=11
NOA NORSAR Array B 24.13 349 P **P 06 51 28.4 -0.3**
comp=Z,5.8nm,1.0s,baz=162,slow=10,SNR=11
NOA LR LR 07 03 17.3
comp=Z,244nm,20.8s,baz=165,slow=43
comp=Z,5.8nm,1.0s
NBO00 NORSAR Array S 24.18 348 P 06 51 29.0 -0.2
NC303 NORSAR Array S 24.28 349 P **P 06 51 29.4 -0.7**
NC303 IAmb IAmb 06 51 31.9
comp=Z,61nm,1.2s
NC204 NORSAR Array S 24.42 349 P **P 06 51 31.3 -0.1**
NC204 IAmb IAmb 06 51 33.2
comp=Z,37nm,1.0s
KEF Keuruu 24.68 5 *e*P **P 06 51 34.1 +0.4**
VAF Ylistaro 25.45 2 *e*P **P 06 51 41.2 +0.6**
RAYN Ar Rayn 25.62 116 P **P 06 51 44.6 +2.0**
RAYN Ar Rayn 25.62 116 P **P 06 51 44.6 +2.0**
RAYN pmax pmax
comp=Z,8.0nm,1.1s
KLMR Klimovskoe 26.13 21 *e*P **P 06 51 45.0 -1.8**
KLMR pmax pmax
comp=Z,35nm,1.5s
KLMR MLR MLR
comp=Z,678nm,8.0s
JOF Joensuu 26.14 11 *e*P **P 06 51 47.3 +0.4**
KIRV Kirov 28.10 33 LR LR 07 03 52.8
comp=Z,452nm,18.4s,baz=234,slow=38
KIRV Kirov 28.10 33 *i* P **P 06 52 05.0 +0.5**
AKTO Aktyubinsk 29.50 52 LR LR 07 05 16.1
comp=Z,301nm,18.8s,baz=282,slow=39
TORD Torodi Ar. Bea 29.62 219 P **P 06 52 19.3 +0.9**
comp=Z,2.0nm,0.7s,baz=29,slow=9.7,SNR=12
comp=Z,2.0nm,0.7s
ABKAR Akbulak array 30.55 55 P **P 06 52 26.7 +0.4**
ARTI Arti 31.35 41 P **P 06 52 32.6 -0.7**
ARTI Arti 31.35 41 *c i* P **P 06 52 32.0 -1.3**
ARTI 06 55 21.4
ARTI S **S 06 57 39.8 -0.1**
ARTI pmax pmax
comp=Z,25nm,3.6s
ARCES ARCESS Array B 32.05 3 P **P 06 52 37.8 -1.6**
comp=Z,3.8nm,0.7s,baz=188,slow=11,SNR=12
ARCES LR LR 07 06 48.8
comp=Z,520nm,19.6s,baz=202,slow=39
comp=Z,3.8nm,0.7s
ARCES ARCESS Array B 32.05 3 P **P 06 52 37.9 -1.5**
ARCES pmax pmax
comp=Z,53nm,1.6s
SVE Sverdlovsk 32.67 41 *e*P **P 06 52 46.5 +1.6**
SVE pmax pmax
comp=Z,14nm,0.9s
SVE MLR MLR
comp=Z,802nm,10.0s
UOSS Minazif 32.83 102 P **P 06 52 47.9 +1.2**
UOSS IAmb IAmb 06 53 35.9
comp=Z,28nm,1.6s
FURI Furi 33.01 146 LR LR 07 07 02.9
comp=Z,224nm,20.8s,baz=334,slow=38
BORG Borgarnes 36.56 331 LR LR 07 09 43.5
comp=Z,168nm,18.0s,baz=125,slow=39
BRVK Borovoye 37.40 49 P **P 06 53 25.1 -0.7**
BRVK Borovoye 37.40 49 *ce*P **P 06 53 24.6 -1.1**
BRVK pmax pmax
comp=Z,6.0nm,1.3s
BVAR Borovoye Array 37.46 49 P **P 06 53 25.6 -0.6**
comp=Z,0.8nm,0.6s,baz=294,slow=4.6,SNR=3.0
BVAR LR LR 07 08 53.7
comp=Z,145nm,18.7s,baz=271,slow=36
comp=Z,0.8nm,0.6s
SIMJ Simiganj 37.79 73 P **P 06 53 29.6 +0.2**
KKAR Karatay Array 38.02 66 P **P 06 53 31.8 +0.7**
KKAR IAmb IAmb 06 53 55.3
comp=Z,2.1nm,0.7s
KKAR Karatay Array 38.02 66 P **P 06 53 32.3 +1.2**
DBIC Dimbokro 38.51 223 P **P 06 53 35.9 +0.4**
DBIC Dimbokro 38.51 223 P **P 06 53 37.5 +2.0**
comp=Z,4.5nm,0.9s,baz=11,slow=9.1,SNR=2.7
DBIC LR LR 07 09 45.1

comp=Z,152nm,21.9s,baz=23,slow=37
comp=Z,4.5nm,0.9s
GAR Garm 38.70 72 P **P 06 53 37.5 +0.4**
BTK Batken 38.83 70 P **P 06 53 39.7 +1.6**
BTK Batken 38.83 70 P **P 06 53 39.7 +1.6**
BTK pmax pmax
comp=Z,10.0nm,1.4s
MBAR Mbarara 39.23 164 LR LR 07 12 51.8
comp=Z,170nm,18.1s,baz=349,slow=41
BBTS Babate 39.99 245 LR LR 07 12 12.5
comp=Z,327nm,20.1s,baz=307,slow=39
SPITS Spitsbergen Ar 40.67 359 P **P 06 53 52.4 -0.4**
comp=Z,21nm,1.0s,baz=158,slow=13,SNR=2.4
SPITS LR LR 07 13 10.7
comp=Z,442nm,18.4s,baz=138,slow=40
comp=Z,21nm,1.0s
AAK Ala-Archa 40.98 66 LR LR 07 14 25.3
comp=Z,183nm,18.4s,baz=278,slow=41
AAK Ala-Archa 40.98 66 *ceP* **P 06 53 55.8 -0.2**
AAK pmax pmax
comp=Z,5.0nm,1.7s
KMBO Kilima Mbogo 41.58 154 LR LR 07 12 57.9
comp=Z,128nm,18.3s,baz=91,slow=38
KMBO Kilima Mbogo 41.58 154 *i* P **P 06 54 01.3 0.0**
BOOM Boomskoye usch 42.05 65 P **P 06 54 05.4 +0.6**
BOOM IAmb IAmb 06 54 20.4
comp=Z,28nm,1.4s
BOOM Boomskoye usch 42.05 65 P **P 06 54 05.4 +0.6**
BOOM pmax pmax
comp=Z,28nm,1.4s
KURBB Kurchatov Arra 42.55 53 P **P 06 54 07.8 -0.7**
comp=Z,1.2nm,0.4s,baz=281,slow=8.7,SNR=9.7
comp=Z,1.2nm,0.4s
KURK Kurchatov 42.59 53 P **P 06 54 09.6 +0.7**
KURK Kurchatov 42.59 53 *ceP* **P 06 54 08.2 -0.7**
KURK pmax pmax
comp=Z,3.0nm,1.3s
MK31 Makanchi Array 45.58 58 P **P 06 54 33.6 +0.6**
MK31 Makanchi Array 45.58 58 *i* P **P 06 54 33.5 +0.6**
MKAR Makanchi Array 45.58 58 P **P 06 54 32.9 -0.1**
comp=Z,1.4nm,0.5s,baz=285,slow=7.8,SNR=20
MKAR LR LR 07 17 35.5
comp=Z,100nm,18.9s,baz=290,slow=41
comp=Z,1.4nm,0.5s
MKAR Makanchi Array 45.58 58 *i* P **P 06 54 34.0 +1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
ZAA0 Zalesovo Array 46.05 48 P **P 06 54 36.4 0.0**
ZAA0 IAmb IAmb 06 54 54.9
comp=Z,7.1nm,0.5s
ZALV Zalesovo Beam 46.05 48 P **P 06 54 35.9 -0.6**
comp=Z,2.4nm,0.4s,baz=282,slow=7.4,SNR=7.9
ZALV LR LR 07 13 44.2
comp=Z,112nm,21.2s,baz=192,slow=36
comp=Z,2.4nm,0.4s
NRIK Noril'sk 47.26 26 LR LR 07 16 17.1
comp=Z,275nm,18.8s,baz=270,slow=38
SFJD Kangerlussuaq 48.68 330 LR LR 07 16 25.6
comp=Z,179nm,18.5s,baz=86,slow=37
WMQ Urumqi 50.02 61 *e*P **P 06 55 10.5 +3.0**
WMQ LR LR
comp=Z,130nm,23.8s
EUNU Eureka 56.02 348 P **P 06 55 50.4 -0.8**
FRB Frobisher Bay 56.59 328 LR LR 07 22 23.5
comp=Z,122nm,18.1s,baz=94,slow=38
TSUM Tsumeb 56.62 183 LR LR 07 23 13.5
comp=Z,297nm,18.2s,baz=340,slow=39
SCHQ Schefferville 58.84 318 P **P 06 56 10.1 -1.2**
SCHQ Schefferville 58.84 318 P **P 06 56 09.8 -1.6**
comp=Z,2.0nm,0.5s,baz=108,slow=6.4,SNR=1.3
SCHQ LR LR 07 21 22.3
comp=Z,144nm,18.1s,baz=308,slow=36
comp=Z,2.0nm,0.5s
TIXI Tiksi 60.14 20 LR LR 07 26 30.2
comp=Z,472nm,18.3s,baz=338,slow=40
TIXI Tiksi 60.14 20 *i* P **P 06 56 20.6 +0.6**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
RES Resolute Bay 60.27 344 P **P 06 56 22.3 +1.5**
RES IAmb IAmb 06 56 25.6
comp=Z,7.6nm,1.3s
RES Resolute Bay 60.27 344 LR LR 07 22 47.5
comp=Z,103nm,19.5s,baz=13,slow=36
RES Resolute Bay 60.27 344 P **P 06 56 22.3 +1.5**
RES pmax pmax
comp=Z,8.0nm,1.3s
SONM Songino Array 60.80 50 P **P 06 56 25.7 +0.7**
comp=Z,1.2nm,0.7s,baz=297,slow=9.8,SNR=4.9
SONM LR LR 07 25 09.9
comp=Z,145nm,18.8s,baz=302,slow=38
comp=Z,1.2nm,0.7s
ULN Ulaanbaatar 61.18 50 *i* P **P 06 56 27.1 -0.6**
ULN pmax pmax
comp=Z,4.0nm,1.2s
YAK Yakutsk 65.57 29 LR LR 07 27 41.4
comp=Z,156nm,19.2s,baz=304,slow=38
BOSA Boshof 66.07 175 P **P 06 57 02.8 +2.8**
BOSA Boshof 66.07 175 P **P 06 57 02.3 +2.3**
comp=Z,2.4nm,0.8s,baz=11,slow=5.2,SNR=1.9
BOSA LR LR 07 27 41.4
comp=Z,171nm,19.1s,baz=5.0,slow=38
comp=Z,2.4nm,0.8s
BOSA Boshof 66.07 175 P **P 06 57 02.8 +2.8**
BOSA pmax pmax
comp=Z,62nm,2.0s
HHC Hu-ho-hao-te 67.34 55 *e*P **P 06 57 08.8 +0.6**
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,96nm,4.7s
HHC LR LR
comp=N,150nm,13.8s
HHC LR LR
comp=E,190nm,14.5s
HHC LR LR
comp=Z,170nm,14.5s
PZH PanZhiHua 67.76 73 P **P 06 57 13.1 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.5s
M63A Gales Ferry 68.03 306 P **P 06 57 12.6 +0.3**
A36M Sachs Harbour 68.03 349 P **P 06 57 12.7 +0.8**
A36M IAmb IAmb 06 57 26.8
comp=Z,4.8nm,0.8s
SUR Sutherland 69.68 180 LR LR 07 28 46.0
comp=Z,133nm,18.6s,baz=356,slow=37
BINY Binghamton 70.10 308 P **P 06 57 23.6 -1.7**
K57A Scipio Center 70.14 309 P **P 06 57 24.6 -0.8**
C36M Paulatuk 70.16 347 P **P 06 57 25.4 +0.4**
C36M IAmb IAmb 06 59 51.0
comp=Z,27nm,1.9s
BILL Bilibino 71.52 13 *i* P **P 06 57 33.7 +0.3**
BILL pmax pmax
comp=Z,16nm,2.2s
SSPA Standing Stone 72.15 308 P **P 06 57 37.3 -0.4**
D27M Malcolm River 72.53 353 P **P 06 57 41.3 +1.7**
D27M IAmb IAmb 06 58 34.5
comp=Z,22nm,1.9s
INK Inuvik 72.57 350 P **P 06 57 40.4 +0.7**
INK IAmb IAmb 07 00 19.2
comp=Z,27nm,2.0s
INK Inuvik 72.57 350 LR LR 07 32 10.1
comp=Z,54nm,18.0s,baz=238,slow=38
INK Inuvik 72.57 350 P **P 06 57 40.4 +0.7**
INK pmax pmax
comp=Z,27nm,2.0s
B20K Meade River 72.63 359 P **P 06 57 41.5 +1.6**
E29M Blow River 73.04 352 P **P 06 57 43.5 +1.0**
E29M IAmb IAmb 06 57 44.6
comp=Z,10nm,1.2s
F31M Tsiigehtchic 73.41 350 P **P 06 57 45.5 +0.9**
MDP Montagnes des 73.57 264 LR LR 07 28 11.0
comp=Z,49nm,20.3s,baz=21,slow=34
E27K Coleen River 73.62 353 P **P 06 57 46.5 +0.5**
E27K IAmb IAmb 06 57 50.9
comp=Z,23nm,1.9s
TOLK Toolik Lake Re 73.76 356 P **P 06 57 48.6 +1.8**
TOLK IAmb IAmb 07 00 09.6
comp=Z,28nm,1.9s
YKA Yellowknife Ar 73.88 340 P **P 06 57 48.3 +0.8**
comp=Z,1.2nm,0.7s,baz=335,slow=3.7,SNR=2.1
YKA LR LR 07 31 45.3
comp=Z,121nm,18.7s,baz=270,slow=37
comp=Z,1.2nm,0.7s
F28M Old Crow 74.00 352 P **P 06 57 49.6 +1.4**
F28M IAmb IAmb 07 00 16.9
comp=Z,14nm,1.7s
KLR Kul'dur 74.28 39 LR LR 07 34 05.6
comp=Z,106nm,19.1s,baz=329,slow=39
KLR Kul'dur 74.28 39 *i* P **P 06 57 49.2 -0.9**
KLR pmax pmax
comp=Z,9.0nm,1.6s
BMAR Burnt Mountain 74.62 354 P **P 06 57 54.0 +2.1**
MA2 Magadan 74.77 24 LR LR 07 35 13.7
comp=Z,120nm,19.8s,baz=318,slow=39
F24K Squaw Lake 74.78 355 P **P 06 57 53.7 +1.0**
EPYK Eagle Plains 74.82 351 P **P 06 57 53.8 +0.8**
H31M Peel River 75.04 350 P **P 06 57 55.4 +1.1**
H31M IAmb IAmb 06 59 17.0
comp=Z,23nm,1.7s
I45A Fountain 75.14 314 P **P 06 57 55.9 +0.7**
H29M Whitestone 75.17 351 P **P 06 57 55.7 +0.7**
G24K Hadweenzic Riv 75.56 355 P **P 06 57 58.1 +0.9**
I30M Mount Dempster 75.87 350 P **P 06 58 00.4 +1.2**
I30M IAmb IAmb 06 58 08.0
comp=Z,22nm,1.9s
I29M Ogilvie Camp, 75.99 351 P **P 06 58 00.7 +1.0**
I29M IAmb IAmb 06 58 07.9
comp=Z,26nm,2.0s
I28M Miner Creek 76.10 352 P **P 06 58 01.5 +1.1**
I28M IAmb IAmb 06 58 03.8
comp=Z,20nm,1.9s
J30M Hart River 76.48 350 P **P 06 58 04.1 +1.4**
IMAR Indian Mountai 76.59 358 P **P 06 58 04.0 +0.9**
H21K Melozitna River 76.88 357 P **P 06 58 07.3 +2.5**
H21K IAmb IAmb 06 58 32.8
comp=Z,22nm,1.7s
NJ2 Nanjing 77.08 60 *e*P **P 06 58 06.0 -0.4**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
K29M Barlow Dome 77.34 350 P **P 06 58 08.7 +1.2**
K29M IAmb IAmb 06 59 50.0
comp=Z,24nm,2.0s
DAWY Dawson 77.37 351 P **P 06 58 08.1 +0.5**
DAWY IAmb IAmb 06 59 47.2
comp=Z,15nm,1.7s
J26L Joseph Creek 77.40 353 P **P 06 58 09.5 +1.7**
J26L IAmb IAmb 06 59 17.4
comp=Z,26nm,2.0s
IL31 77.42 355 P **P 06 58 09.9 +2.2**
IL31 IAmb IAmb 06 58 28.8
comp=Z,30nm,2.0s
ILAR Eielson Array 77.42 355 P **P 06 58 08.7 +1.0**
comp=Z,0.3nm,0.6s,baz=14,slow=1.9,SNR=12
ILAR LR LR 07 34 29.6
comp=Z,83nm,19.2s,baz=7.0,slow=38
comp=Z,0.3nm,0.6s
ILAR Eielson Array 77.42 355 P **P 06 58 09.4 +1.6**
USRK Ussuriysk Ar. 77.66 43 LR LR 07 34 49.0
comp=Z,127nm,20.3s,baz=318,slow=38
USRK Ussuriysk Ar. 77.66 43 P **P 06 58 11.2 +1.7**
HDA Harding Lake 77.79 354 P **P 06 58 10.1 +0.3**
HDA IAmb IAmb 06 58 28.7
comp=Z,28nm,2.0s
BPAW Bear Paw Mtn. 78.36 356 P **P 06 58 13.3 +0.3**
BPAW IAmb IAmb 06 59 56.8
comp=Z,15nm,1.6s
GRTK Grand Turk 78.43 288 P **P 06 58 13.2 -0.9**
M31M Drury Creek, Y 78.44 348 P **P 06 58 14.2 +0.7**
M31M IAmb IAmb 06 58 15.5
comp=Z,32nm,1.9s
BCAR Beaver Creek A 78.62 352 P **P 06 58 16.5 +1.9**
J19K Poorman 78.64 358 P **P 06 58 16.5 +2.0**
KSRS Korea Array 79.67 51 P **P 06 58 21.7 +1.1**
comp=Z,0.9nm,0.4s,baz=339,slow=4.8,SNR=3.8
comp=Z,0.9nm,0.4s
DLBC Dease Lake 81.14 345 LR LR 07 37 32.5
comp=Z,71nm,18.3s,baz=34,slow=38
PETK Petropavlovsk- 82.28 24 LR LR 07 39 39.9
comp=Z,123nm,19.1s,baz=42,slow=39
ASAJ Asahikawa 83.20 38 LR LR 07 38 37.9
comp=Z,127nm,19.4s,baz=346,slow=38
BDFB Brasilia 83.28 245 LR LR 07 37 52.2
comp=Z,94nm,18.2s,baz=345,slow=37
JNU Nakatsue 84.31 52 LR LR 07 39 59.4
comp=Z,148nm,19.3s,baz=329,slow=38
KDAK Kodiak Island 84.74 356 LR LR 07 39 56.3
comp=Z,62nm,18.6s,baz=17,slow=38
MJAR Matsushiro Arr 86.36 46 LR LR 07 39 46.7
comp=Z,96nm,18.3s,baz=318,slow=37
ROSC El Rosal 90.89 277 LR LR 07 37 33.3
comp=Z,114nm,19.6s,baz=270,slow=34
ANMO Albuquerque 92.59 319 LR LR 07 41 22.6
comp=Z,86nm,18.4s,baz=214,slow=36
SIV San Ignacio 93.14 252 LR LR 07 40 11.1
comp=Z,91nm,21.5s,baz=82,slow=35
CPUP Villa Florida 96.80 242 LR LR 07 43 41.8
comp=Z,146nm,20.6s,baz=46,slow=36
LPAZ La Paz 98.71 256 LR LR 07 44 55.0
comp=Z,42nm,20.0s,baz=18,slow=36
WRA Warramunga Arr 120.53 93 PKP **PKPdf 07 05 04.7 -0.4**
comp=Z,0.3nm,1.0s,baz=317,slow=2.7,SNR=2.6
ASAR Alice Springs 122.12 96 PKP **PKiKP 07 05 10.0 +1.8**
comp=Z,0.1nm,0.3s,baz=340,slow=1.9,SNR=2.3
ASAR Alice Springs 122.12 96 PKIKP **PKiKP 07 05 10.0 +1.8**
QSPA South Pole Qui 127.51 180 PKP **PKPdf 07 05 16.6 -0.5**
comp=Z,1.2nm,1.1s,baz=245,slow=11,SNR=1.8

UPA 05 06:46:37.8±1.4, 8°.63N×82°.80W, h13km±2km, ML3.8, MW4.0, 4C-6D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLIR3	**Monte Lirio, C**	**0.17**	**351**	⇓*i*P	Pb	06 46 42.8	-0.1
MLIR3				*e*S	Sb	06 46 45.7	-0.5
BRU2	**Volcan**	**0.20**	**32**	⇓*i*P	Pb	06 46 43.1	-0.3
BRU2				AMP		06 46 43.3	
	comp=Z,14μm,0.2s						
BRU2				*i* S	Sb	06 46 47.7	+0.5
LESP3	**La Esperanza,**	**0.22**	**178**	*e*P	Pg	06 46 42.5	0.0
LESP3				AMP		06 46 42.9	
	comp=Z,9μm,0.1s						
LESP3				*e*S	Sb	06 46 47.0	-0.6
BCO2	**Palmira**	**0.28**	**71**	⇓*e*P	Pb	06 46 44.5	-0.4
BCO2				AMP		06 46 46.6	
	comp=Z,21μm,0.1s						
BCO2				*i* S	Sb	06 46 50.0	+0.4
PTAR3	**Potrerillos Ar**	**0.31**	**77**	⇑*e*P	Pb	06 46 44.9	-0.3
PTAR3				AMP		06 46 45.6	
	comp=Z,8μm,0.1s						
PTAR3				*e*S	Sb	06 46 50.6	+0.4
LNBQ3	**Los Naranjos,**	**0.39**	**65**	⇓*i*P	Pg	06 46 45.7	0.0
LNBQ3				*e*S	Sg	06 46 51.5	+0.6
DVD	**David**	**0.39**	**119**	⇑*e*P	Pg	06 46 45.8	+0.1
DVD				AMP		06 46 46.1	
	comp=Z,9μm,0.1s						
DVD				*e*S	Sb	06 46 52.3	-0.3
PTPM	**Petroterminale**	**0.43**	**191**	⇓*e*P	Pg	06 46 45.8	-0.5
PTPM				AMP		06 46 46.3	
	comp=Z,8μm,0.2s						
PTPM				*e*S	Sb	06 46 53.8	+0.2
PEDE3	**Pedregal, Chir**	**0.44**	**123**	⇑*i*P	Pg	06 46 46.4	-0.2
PEDE3				*e*S	Sb	06 46 54.4	+0.3
LOMA3	**Las Lomas, Chi**	**0.45**	**116**	⇑*i*P	Pg	06 46 46.6	-0.1
LOMA3				*e*S	Sb	06 46 53.5	-0.7
CHGR2	**Aguacate**	**0.72**	**64**	*e*P	Pg	06 46 50.8	-1.0
CHGR2				AMP		06 46 50.9	
	comp=Z,11μm,0.1s						
CHGR2				*e*S	Sg	06 47 00.8	-0.4
CNI2	**El Empalme, Bo**	**0.86**	**22**	⇓*i*P	Pg	06 46 53.0	-1.4
CNI2				AMP		06 46 53.4	
	comp=Z,2μm,0.1s						
CNI2				*e*S	Sg	06 47 05.1	-0.5
GMAL	**Guarumal, Vera**	**1.77**	**119**	*e*P	Pn	06 47 06.8	-1.3
GMAL				*e*S	Sn	06 47 28.7	-1.9
CACAO	**El Cacao, Vera**	**2.30**	**123**	*e*P	Pn	06 47 15.7	+0.2
CACAO				*e*S	Sn	06 47 43.6	-0.1
CHIT3	**Chitre**	**2.45**	**106**	*e*P	Pn	06 47 17.7	+0.2
CHIT3				*e*S	Sn	06 47 47.5	+0.2
ZANG	**Zanguenga, Cho**	**2.92**	**83**	*e*P	Pn	06 47 22.6	-1.3
ZANG				*e*S	Sn	06 47 56.6	-2.3
BCIP	**Isla Barro Col**	**2.97**	**79**	*e*P	Pn	06 47 24.3	-0.4
BCIP				*e*S	Sn	06 48 00.4	+0.1

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*IDC **05** 06:55:18.3±1.4, 37°.85N×20°.45E, h0km, mb3.7/8, mbtmp3.7/10, ML3.7/1, Error ellipse: s-maj=30.1km s-min=22.9km az=99.0*
*ATH **05** 06:55:19.6, 37°.66N×20°.51E, h8km±1km, ML3.6/13, Error ellipse: s-maj=1.8km s-min=0.8km az=39.0*
*THE **05** 06:55:19.9, 37°.66N×20°.55E, h10km±31km, ML3.6/12, Error ellipse: s-maj=31.6km s-min=1.0km az=0.0*
ISC 05 06:55:19.3±1.1, 37°.65N±0°.03×20°.52E±0°.03, h13km±6km, n73, d0°80/119, mb3.7/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.24**	**87**	P	**Pg**	**06 55 24.1**	**-0.2**
KRI1				S	**Sg**	**06 55 27.9**	**+0.2**
	25μm,0.5s						
LTHK	**Lithakia**	**0.26**	**77**	P	**Pg**	**06 55 24.4**	**-0.3**
LTHK				S	**Sg**	**06 55 28.2**	**-0.2**
	28μm,0.2s						
LTHK	**Lithakia**	**0.26**	**77**	P	**Pg**	**06 55 24.4**	**-0.3**
LTHK				S	**Sg**	**06 55 28.2**	**-0.2**
LTHK				AML	AML	06 55 30.1	
	comp=E,59465μm,0.2s						
LTHK				AML	AML	06 55 30.2	
	comp=N,52262μm,0.2s						
LTHK	**Lithakia**	**0.26**	**77**	P	**Pg**	**06 55 24.5**	**-0.3**
LTHK				S	**Sg**	**06 55 28.2**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.47**	**6**	P	**Pg**	**06 55 28.4**	**0.0**
PSDA				S	**Sb**	**06 55 35.7**	**-0.5**
	comp=N,10μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.47**	**6**	P	**Pg**	**06 55 28.5**	**0.0**
PSDA	**Pessada-Kefalo**	**0.47**	**6**	P	**Pg**	**06 55 28.5**	**0.0**
PSDA				S	**Sb**	**06 55 35.8**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.47**	**25**	P	**Pg**	**06 55 28.6**	**0.0**
RTZL				S	**Sg**	**06 55 35.5**	**+0.7**
	comp=N,23μm,0.2s						
VLS	**Valsamata**	**0.53**	**6**	P	**Pg**	**06 55 29.3**	**-0.4**
VLS				S	**Sg**	**06 55 37.4**	**+0.7**
	comp=N,7μm,0.3s						
VLS	**Valsamata**	**0.53**	**6**	P	**Pg**	**06 55 29.5**	**-0.1**
VLS				S	**Sg**	**06 55 37.2**	**+0.5**
VLS				AML	AML	06 55 38.1	
	comp=E,17533μm,0.3s						
VLS				AML	AML	06 55 43.3	
	comp=N,11250μm,0.5s						
VLS	**Valsamata**	**0.53**	**6**	P	**Pg**	**06 55 29.6**	**-0.1**
VLS				S	**Sb**	**06 55 37.8**	**-0.2**
LXRA	**Lixouri, Kepha**	**0.55**	**353**	P	**Pg**	**06 55 30.6**	**+0.5**
LXRA				S	**Sg**	**06 55 37.4**	**-0.1**
DMLN	**Damoulianata-K**	**0.60**	**349**	P	**Pg**	**06 55 31.1**	**+0.1**
DMLN				S	**Sb**	**06 55 40.5**	**+0.4**
	comp=N,17μm,0.5s						
DMLN	**Damoulianata-K**	**0.60**	**349**	P	**Pg**	**06 55 31.1**	**+0.1**
DMLN	**Damoulianata-K**	**0.60**	**349**	P	**Pg**	**06 55 30.1**	**-0.8**
DMLN				S	**Sb**	**06 55 41.1**	**+1.0**
VSK1	**VASILIKIADES**	**0.76**	**3**	P	**Pg**	**06 55 33.5**	**-0.5**
VSK1				S	**Sb**	**06 55 45.2**	**+0.5**
	comp=N,7μm,0.3s						
FSK	**Fiskardo**	**0.81**	**2**	P	**Pg**	**06 55 34.3**	**-0.7**
FSK				S	**Sb**	**06 55 46.6**	**+0.5**
	comp=N,5μm,0.3s						
FSK	**Fiskardo**	**0.81**	**2**	P	**Pg**	**06 55 34.4**	**-0.5**
FSK				S	**Sg**	**06 55 45.7**	**+0.2**
FSK				AML	AML	06 55 47.9	
	comp=N,9396μm,0.4s						
FSK				AML	AML	06 55 48.6	
	comp=E,11280μm,0.2s						
FSK	**Fiskardo**	**0.81**	**2**	P	**Pg**	**06 55 34.2**	**-0.7**
FSK				S	**Sb**	**06 55 46.7**	**+0.5**
RLS	**Riolos of Patr**	**0.85**	**61**	P	**Pg**	**06 55 35.3**	**-0.5**
RLS				S	**Sg**	**06 55 46.9**	**-0.1**
	comp=E,6μm,0.4s						
RLS	**Riolos of Patr**	**0.85**	**61**	P	**Pg**	**06 55 35.2**	**-0.5**
RLS				S	**Sb**	**06 55 47.6**	**+0.2**
RLS				AML	AML	06 55 48.8	
	comp=E,12316μm,0.5s						
RLS				AML	AML	06 55 49.0	
	comp=N,11843μm,0.4s						
RLS	**Riolos of Patr**	**0.85**	**61**	P	**Pg**	**06 55 35.4**	**-0.4**
RLS				S	**Sb**	**06 55 48.0**	**+0.6**
AMT	**Artemida-Makis**	**0.95**	**97**	P	**Pg**	**06 55 37.4**	**-0.3**
AMT				S	**Sg**	**06 55 50.5**	**+0.3**
AMT				AML	AML	06 55 54.6	
	comp=E,18025μm,0.2s						
AMT				AML	AML	06 55 58.3	
	comp=N,12660μm,0.4s						
AMT	**Artemida-Makis**	**0.95**	**97**	P	**Pg**	**06 55 37.3**	**-0.3**
AMT				S	**Sg**	**06 55 49.1**	**-1.0**
EVGI	**Lefkada island**	**0.97**	**6**	P	**Pg**	**06 55 37.4**	**-0.7**
EVGI				S	**Sb**	**06 55 51.9**	**+1.0**
	comp=N,5μm,0.4s						
EVGI	**Lefkada island**	**0.97**	**6**	P	**Pg**	**06 55 37.5**	**-0.6**
EVGI	**Lefkada island**	**0.97**	**6**	P	**Pg**	**06 55 37.4**	**-0.7**
EVGI				S	**Sn**	**06 55 52.5**	**0.0**
DRO	**Drossia**	**0.99**	**72**	P	**Pg**	**06 55 37.9**	**-0.5**
DRO				S	**Sg**	**06 55 50.7**	**-0.6**
	comp=N,4μm,0.6s						
DRO	**Drossia**	**0.99**	**72**	P	**Pg**	**06 55 38.1**	**-0.3**
DRO				S	**Sg**	**06 55 51.5**	**+0.1**
DRO				AML	AML	06 55 54.6	
	comp=E,8782μm,0.6s						
DRO				AML	AML	06 55 56.2	
	comp=N,8908μm,0.3s						
DRO	**Drossia**	**0.99**	**72**	P	**Pg**	**06 55 38.0**	**-0.3**
DRO				S	**Sb**	**06 55 52.3**	**+0.9**
DRAG	**Dragano-Lefkad**	**1.03**	**2**	P	**Pg**	**06 55 38.0**	**-1.2**
DRAG	**Dragano-Lefkad**	**1.03**	**2**	P	**Pg**	**06 55 38.4**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.03**	**2**	P	**Pg**	**06 55 38.1**	**-1.2**
DRAG				S	**Sn**	**06 55 55.1**	**+1.2**
NYDR	**Nydri-Lefkada**	**1.07**	**8**	P	**Pg**	**06 55 39.0**	**-1.0**
NYDR	**Nydri-Lefkada**	**1.07**	**8**	P	**Pg**	**06 55 38.9**	**-1.0**
NYDR				S	**Sn**	**06 55 55.3**	**+0.5**
LKD2	**Lefkada island**	**1.14**	**5**	P	**Pg**	**06 55 41.0**	**-0.3**
LKD2				S	**Sb**	**06 55 56.1**	**+0.4**
LKD2				AML	AML	06 56 07.4	
	comp=E,4920μm,0.4s						
LKD2				AML	AML	06 56 09.7	
	comp=N,5178μm,0.7s						
LKD2	**Lefkada island**	**1.14**	**5**	P	**Pg**	**06 55 40.9**	**-0.3**
LKD2				S	**Sn**	**06 55 57.0**	**+0.3**
TSLK	**Tsoukalades, L**	**1.18**	**5**	P	**Pb**	**06 55 40.8**	**-0.7**
TSLK	**Tsoukalades, L**	**1.18**	**5**	P	**Pb**	**06 55 41.2**	**-0.3**
TSLK				S	**Sn**	**06 55 58.1**	**+0.7**
UPR	**University Cam**	**1.19**	**57**	P	**Pb**	**06 55 42.1**	**+0.4**
ITM	**Ithomi**	**1.22**	**112**	P	**Pb**	**06 55 42.0**	**-0.2**
ITM				S	**Sb**	**06 55 58.2**	**+0.4**
ITM				AML	AML	06 56 07.2	
	comp=N,3059μm,0.4s						
ITM				AML	AML	06 56 07.4	
	comp=E,2028μm,0.5s						
ITM	**Ithomi**	**1.22**	**112**	P	**Pb**	**06 55 42.6**	**+0.4**
PYL	**PYLOS**	**1.23**	**127**	P	**Pn**	**06 55 42.5**	**+0.2**
PYL				S	**Sb**	**06 55 58.9**	**+0.6**
PYL				AML	AML	06 56 02.3	
	comp=E,5032μm,0.6s						
PYL				AML	AML	06 56 05.0	
	comp=N,2769μm,0.5s						
PYL	**PYLOS**	**1.23**	**127**	P	**Pn**	**06 55 41.9**	**-0.4**
PYL				S	**Sb**	**06 55 58.3**	**0.0**
EFP	**Efpalio**	**1.34**	**54**	P	**Pn**	**06 55 43.8**	**0.0**
EFP				S	**Sb**	**06 56 01.5**	**+0.1**
EFP				AML	AML	06 56 07.2	
	comp=E,2670μm,0.3s						
EFP				AML	AML	06 56 10.2	
	comp=N,4299μm,0.7s						
KLV	**Kalavryta, Ach**	**1.35**	**73**	P	**Pn**	**06 55 44.3**	**+0.3**
KLV				S	**Sb**	**06 56 01.8**	**+0.1**
KLV				AML	AML	06 56 09.2	
	comp=N,1680μm,0.7s						
KLV				AML	AML	06 56 14.3	
	comp=E,1618μm,0.9s						
KLV	**Kalavryta, Ach**	**1.35**	**73**	P	**Pn**	**06 55 44.3**	**+0.3**
KLV				S	**Sb**	**06 56 01.5**	**-0.3**
ANX	**Ano Chora**	**1.45**	**49**	P	**Pn**	**06 55 45.1**	**-0.3**
ANX	**Ano Chora**	**1.45**	**49**	P	**Pn**	**06 55 45.5**	**+0.1**
GUR	**Goura**	**1.47**	**78**	P	**Pn**	**06 55 46.4**	**+0.7**
GUR	**Goura**	**1.47**	**78**	P	**Pn**	**06 55 45.8**	**+0.2**
GUR				S	**Sn**	**06 56 04.5**	**-0.4**
GUR				AML	AML	06 56 19.2	
	comp=E,2292μm,0.5s						
GUR				AML	AML	06 56 19.4	
	comp=N,4402μm,0.5s						
GUR	**Goura**	**1.47**	**78**	P	**Pn**	**06 55 46.7**	**+1.0**
KALE	**Kalithea**	**1.48**	**59**	P	**Pn**	**06 55 46.0**	**+0.3**
KALE				S	**Sb**	**06 56 06.4**	**+0.9**
	comp=N,1μm,0.6s						
KALE	**Kalithea**	**1.48**	**59**	P	**Pn**	**06 55 45.8**	**+0.1**
KALE				S	**Sn**	**06 56 04.1**	**-0.9**
KALE				AML	AML	06 56 14.3	

comp=E,2535μm,0.8s
KALE AML AML 06 56 15.4
comp=N,2853μm,0.4s
KALE Kalithea 1.48 59 P **Pn 06 55 46.1 +0.4**
KALE S **Sn 06 56 05.0 0.0**
EVR Evrytania 1.62 38 P **Pn 06 55 48.6 +0.9**
EVR S **Sn 06 56 09.2 +0.6**
DLFA Delphi 1.77 61 P **Pn 06 55 50.0 +0.4**
MAKR Makrakomi, Fth 1.86 43 P **Pn 06 55 52.4 +1.4**
MAKR S **Sn 06 56 15.6 +1.2**
LOUT Loutraki 1.97 79 P **Pn 06 55 53.4 +0.9**
AGG Agios Georgios 1.98 46 P **Pb 06 55 55.4 +0.2**
VIL2 Platees 2.25 75 P **Pn 06 55 56.7 +0.5**
VIL2 S **Sn 06 56 24.8 +1.0**
DION Dionisos Attik 2.74 80 P **Pn 06 56 02.5 -0.4**
IDI Anoyia 4.24 122 Pn **Pn 06 56 28.2 +4.5**
comp=N,6.6nm,1.0s,baz=289,slow=15,SNR=1.9
IDI Sn **Sn 06 57 12.9 -0.2**
comp=N,4.4nm,0.3s,baz=304,slow=18,SNR=8.3
VAE Valguarnera 4.85 270 Sn **Sn 06 57 27.7 -0.6**
comp=N,3.7nm,0.3s,baz=183,slow=22,SNR=2.1
MLR Muntele Rosu 8.82 26 Pn **Pn 06 57 28.6 +1.9**
comp=N,0.2nm,0.3s,baz=173,slow=8.9,SNR=3.9
comp=N,3.3nm,0.7s
HFS Hagfors 22.92 351 P **P 07 00 22.0 -0.8**
comp=N,3.2nm,0.7s,baz=161,slow=9.4,SNR=6.7
comp=N,3.2nm,0.7s
FINES FINESS Array B 24.07 7 P **P 07 00 33.7 -0.4**
comp=N,1.0nm,0.6s,baz=171,slow=11,SNR=7.4
comp=N,1.0nm,0.6s
NOA NORSAR Array B 24.13 349 P **P 07 00 33.5 -1.3**
comp=N,0.5nm,0.6s,baz=154,slow=11,SNR=1.9
comp=N,0.5nm,0.6s
TORD Torodi Ar. Bea 29.62 219 P **P 07 01 26.9 +2.5**
comp=N,0.2nm,0.5s,baz=28,slow=10,SNR=2.1
comp=N,0.2nm,0.5s
ARCES ARCESS Array B 32.06 3 P **P 07 01 43.3 -2.2**
comp=N,3.6nm,1.1s,baz=191,slow=9.2,SNR=1.8
comp=N,3.6nm,1.1s
KURBB Kurchatov Arra 42.55 53 P **P 07 03 14.4 -0.1**
comp=N,0.5nm,0.2s,baz=276,slow=8.6,SNR=2.2
comp=N,0.5nm,0.2s
MKAR Makanchi Array 45.58 58 P **P 07 03 38.1 -0.8**
comp=N,0.2nm,0.4s,baz=280,slow=8.1,SNR=2.1
comp=N,0.2nm,0.4s
ZALV Zalesovo Beam 46.05 48 P **P 07 03 41.5 -0.9**
comp=N,0.6nm,0.3s,baz=258,slow=6.8,SNR=2.3
comp=N,0.6nm,0.3s

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*ECX **05** 07:06:31.6±0.4,27.°99N×112.°08W,h4km±5km,ML3.6*
*MEX **05** 07:06:32.2±0.3,27.°94N×112.°11W,h4km±7km,MD4.2*
*IDC **05** 07:06:40.1±4.4,28.°27N×111.°47W,h0km,mbtmp2.8/3,*
ML3.0/3,Error ellipse: s-maj=64.7km s-min=16.9km
az=24.0
ISC 05 07:06:28.4±1.2,28.°02N±0.°04×112.°11W±0.°03,
h11km±11km,n17,σ0s92/26,6C-1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFQB	**San Francisqui**	**0.76**	**300**	⇑*iP*	**Pn**	**07 06 45.7**	**+0.5**
SFQB				*eS*	**Sn**	**07 06 56.6**	**-0.1**
BKIRB	**Bahia Kino**	**0.84**	**7**	*eP*	**Pn**	**07 06 47.0**	**+0.9**
BKIRB				*eS*	**Sn**	**07 06 58.5**	**0.0**
GUYB	**Guaymas**	**1.10**	**96**	*eP*	**Pn**	**07 06 50.5**	**+0.7**
GUYB				*eS*	**Sn**	**07 07 04.8**	**-0.2**
GUYB	**Guaymas**	**1.10**	**96**	*eP*	**Pn**	**07 06 50.5**	**+0.7**
GUYB				*eS*	**Sn**	**07 07 04.8**	**-0.2**
GUYB				IAML		07 07 07.4	
	comp=E,2μm,0.8s						
GUYB				⇑*e*		07 07 07.4	
GUYB				⇓*e*		07 07 12.8	
GUYB				IAML		07 07 12.8	
	comp=N,2μm,0.8s						
HSIG		**1.43**	**46**	*eP*	**Pg**	**07 06 56.1**	**+0.2**
HSIG				*eS*	**Sg**	**07 07 14.8**	**+0.5**
HSIG		**1.43**	**46**	*eP*	**Pg**	**07 06 55.7**	**-0.1**
HSIG				*eS*	**Sg**	**07 07 14.8**	**+0.5**
BAHB	**Baha de los**	**1.57**	**306**	*eP*	**Pb**	**07 06 56.9**	**-0.6**
BAHB				*eS*	**Sb**	**07 07 17.8**	**+0.3**
BAHB	**Baha de los**	**1.57**	**306**	⇑*eP*	**Pb**	**07 06 56.8**	**-0.6**
BAHB				*eS*	**Sg**	**07 07 18.9**	**-0.2**
NE74	**Guerrero Negro**	**1.68**	**270**	*eP*	**Pg**	**07 07 00.3**	**-0.3**
NE74				*eS*	**Sg**	**07 07 24.2**	**+1.7**
NE74				⇑*e*		07 07 41.1	
NE74				IAML		07 07 41.1	
	comp=E,274nm,0.9s						
NE77	**Loreto B.C.S**	**2.11**	**161**	⇑*eP*	**Pb**	**07 07 06.0**	**-0.7**
LAPR	**La Primavera**	**2.48**	**356**	*eP*	**Pb**	**07 07 11.8**	**-1.2**
LAPR				*eS*	**Sb**	**07 07 42.0**	**-1.5**
LAPR	**La Primavera**	**2.48**	**356**	*eP*	**Pb**	**07 07 11.8**	**-1.2**
LAPR				*eS*	**Sb**	**07 07 43.9**	**+0.4**
LAPR				IAML		07 08 14.3	
	comp=N,286nm,1.2s						
LAPR				⇑*e*		07 08 26.5	
LAPR				IAML		07 08 26.5	
	comp=E,314nm,1.2s						
UAGRB	**Rancho Ultima**	**2.57**	**162**	*eP*	**Pb**	**07 07 12.5**	**-2.0**
CSIG	**Choix**	**3.53**	**109**	*eP*	**Pn**	**07 07 24.7**	**+1.4**
CSIG				*eS*	**Sn**	**07 08 05.7**	**+0.6**
TXAR	**Lajitas Array**	**7.53**	**78**	Pn	Pn	07 08 23.6	+5.2
	comp=E,0.2nm,0.3s,baz=252,slow=13,SNR=20						
TXAR				Lg	Lg	07 10 19.7	
	comp=E,0.1nm,0.3s,baz=254,slow=20,SNR=3.5						
	comp=E,0.3nm,0.3s						
NVAR	**Mina Array Bea**	**11.60**	**335**	Pn	Pn	07 09 30.1	+16
	baz=154,slow=11,SNR=1.5						
	comp=E,0.1nm,0.5s						
PDAR	**Pinedale Array**	**14.86**	**7**	Pn	P	07 10 10.8	+6.3
	baz=182,slow=13,SNR=2.3						
	comp=E,0.2nm,0.5s						

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*SJA **05** 07:13:28.7±0.6,24.°23S×67.°03W,h214km±4km,ML3.5,*
MW3.5
*IDC **05** 07:13:29.5±4.5,24.°11S×66.°99W,h172km±42km,mb3.0/2,*
mbtmp3.6/4,Error ellipse: s-maj=39.7km s-min=29.9km
az=49.0
*GUC **05** 07:13:31.3±0.5,24.°26S×67.°24W,h207km±9km,ML3.6*
ISC 05 07:13:30.1±0.8,24.°20S±0.°04×67.°06W±0.°04,h195km±8km,
n41,σ1s72/66,7C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.51**	**110**	⇓*iP*	**Pn**	**07 14 03.8**	**+0.1**
SLA	**San Lorenzo**	**1.51**	**110**	*eP*	**Pn**	**07 14 04.1**	**+0.4**
SLA				*eS*	**S**	**07 14 29.9**	**+0.3**
AF01	**San Pedro de A**	**1.61**	**320**	⇑*iP*	**Pn**	**07 14 06.0**	**+1.3**
AF01				IAML		07 14 35.6	
	comp=E,167nm,0.5s						
AF01	**San Pedro de A**	**1.61**	**320**	*eP*	**Pn**	**07 14 05.7**	**+1.0**
AF01				IAML		07 14 41.9	
	comp=Z,77nm,0.8s						
FSA	**Cafayete**	**2.14**	**153**	*eP*	**Pn**	**07 14 10.0**	**+0.1**
LVC	**Limon Verde**	**2.32**	**313**	⇑*eP*	**Pn**	**07 14 12.9**	**+0.9**
LVC				IAML		07 14 46.4	
	comp=Z,319nm,0.4s						
LVC	**Limon Verde**	**2.32**	**313**	*eP*	**Pn**	**07 14 13.0**	**+0.9**
LVC				*eS*	**S**	**07 14 45.4**	**+0.8**
PB15	**IPOC Station P**	**2.42**	**294**	⇑*iP*	**Pn**	**07 14 14.0**	**+1.0**
PB15				*eS*	**S**	**07 14 45.9**	**-0.4**
PB15	**IPOC Station P**	**2.42**	**294**	*eP*	**Pn**	**07 14 14.1**	**+1.0**
PB15				*eS*	**S**	**07 14 47.2**	**+0.9**
PB15				IAML		07 14 51.2	
	comp=Z,533nm,0.2s						
YJA	**Yavi**	**2.47**	**36**	*eP*	**Pn**	**07 14 14.7**	**+0.9**
YJA				*eS*	**S**	**07 14 42.8**	**-4.9**
GO02	**Mina Guanaco**	**2.49**	**247**	⇑*iP*	**Pn**	**07 14 14.6**	**+0.7**
GO02				*eS*	**S**	**07 14 48.2**	**+0.2**
GO02	**Mina Guanaco**	**2.49**	**247**	*eP*	**Pn**	**07 14 14.2**	**+0.3**
GO02				*eS*	**S**	**07 14 48.4**	**+0.4**
PB06	**IPOC Station P**	**2.74**	**302**	⇑*iP*	**Pn**	**07 14 17.5**	**+0.8**
PB06				*eS*	**S**	**07 14 52.5**	**-0.3**
PB06				IAML		07 14 55.4	
	comp=N,203nm,0.1s						
PB06	**IPOC Station P**	**2.74**	**302**	*eP*	**Pn**	**07 14 17.2**	**+0.6**
PB06				*eS*	**S**	**07 14 53.2**	**+0.3**
PB06				IAML		07 14 57.5	
	comp=Z,71nm,0.1s						
AHML	**Horco Molle**	**3.01**	**149**	*eP*	**Pn**	**07 14 19.5**	**-0.2**
AHML				*eS*	**S**	**07 14 57.1**	**-1.4**
PB14	**IPOC Station P**	**3.07**	**261**	*eP*	**Pn**	**07 14 20.9**	**+0.2**
PB14				*eS*	**S**	**07 14 58.5**	**-1.7**
PB14				IAML		07 15 01.5	
	comp=E,72nm,0.3s						
PB14	**IPOC Station P**	**3.07**	**261**	*eP*	**Pn**	**07 14 20.9**	**+0.2**
PB14				*eS*	**S**	**07 14 59.3**	**-0.8**
PB14				IAML		07 15 04.2	
	comp=Z,84nm,0.4s						
PB04	**IPOC Station P**	**3.39**	**303**	⇑*eP*	**Pn**	**07 14 24.8**	**+0.4**
PB04				*eS*	**S**	**07 15 06.5**	**-0.3**
PB04	**IPOC Station P**	**3.39**	**303**	*eP*	**Pn**	**07 14 24.8**	**+0.4**
PB04				*eS*	**S**	**07 15 06.4**	**-0.3**
PB04				IAML		07 15 10.2	
	comp=Z,136nm,0.3s						
AC01	**Pan de Azucar**	**3.75**	**238**	*eP*	**Pn**	**07 14 28.1**	**-0.5**
AC01				*eS*	**S**	**07 15 12.0**	**-2.3**
AC01	**Pan de Azucar**	**3.75**	**238**	*eP*	**Pn**	**07 14 27.9**	**-0.5**
AC01				IAML		07 15 16.2	
	comp=Z,36nm,0.2s						
PB01	**IPOC Station P**	**3.86**	**324**	⇑*iP*	**Pn**	**07 14 29.8**	**-0.2**
PB01				*eS*	**S**	**07 15 15.4**	**-1.6**
PB01	**IPOC Station P**	**3.86**	**324**	*eP*	**Pn**	**07 14 29.9**	**-0.2**
PB01				*eS*	**S**	**07 15 16.0**	**-1.0**
PB01				IAML		07 15 19.4	
	comp=Z,54nm,0.2s						
CYA	**Choya**	**4.38**	**165**	*eP*	**Pn**	**07 14 37.2**	**+0.8**
PATCX	**Punta Patache**	**4.41**	**319**	*eP*	**Pn**	**07 14 37.1**	**+0.1**
PATCX	**Punta Patache**	**4.41**	**319**	*eP*	**Pn**	**07 14 36.4**	**-0.6**
PATCX				*eS*	**S**	**07 15 28.2**	**-1.3**
PATCX				IAML		07 15 35.7	
	comp=Z,33nm,1.0s						
GO03	**Copiapo**	**4.43**	**219**	*eP*	**Pn**	**07 14 36.5**	**-0.6**
GO03				*eS*	**S**	**07 15 28.4**	**-1.4**
PB08	**IPOC Station P**	**4.48**	**334**	*eP*	**Pn**	**07 14 38.9**	**+0.7**
PB08				*eS*	**S**	**07 15 30.0**	**-1.5**
PB08	**IPOC Station P**	**4.48**	**334**	*eP*	**Pn**	**07 14 38.8**	**+0.7**
PB08				*eS*	**S**	**07 15 30.6**	**-0.9**
PB08				IAML		07 15 31.9	
	comp=Z,33nm,0.3s						
TA01	**Diego Aracena**	**4.62**	**321**	*eP*	Pn	07 14 24.9	-15
TA01				*eS*	**S**	**07 15 31.5**	**-2.7**
TA01				IAML		07 15 43.5	
	comp=Z,24nm,1.1s						
HMBC	**Humberstone**	**4.70**	**326**	*eP*	Pn	07 14 23.2	-17
HMBC				*eS*	**S**	**07 15 34.5**	**-1.7**
HMBC				IAML		07 15 40.3	
	comp=Z,55nm,0.3s						
GO01	**Chusmiza**	**4.92**	**336**	*eP*	**Pn**	**07 14 44.2**	**+0.3**
GO01				*eS*	**S**	**07 15 41.8**	**-0.1**
PB11	**IPOC Station P**	**5.03**	**331**	*eS*	**S**	**07 15 40.5**	**-3.4**
PB11				IAML		07 15 43.5	
	comp=Z,36nm,0.3s						
ACLC	**CERRO LA CRUZ**	**5.21**	**179**	*eP*	**Pn**	**07 14 47.6**	**+0.4**
AC04	**Llanos de Chal**	**5.38**	**221**	*eP*	**Pn**	**07 14 48.1**	**-1.1**
AC04				*eS*	**S**	**07 15 43.4**	**-8.2**
AC04				IAML		07 15 56.1	
	comp=Z,22nm,0.8s						
AC05	**El Transito**	**5.44**	**211**	*eP*	**Pn**	**07 14 49.8**	**-0.3**
AC05				*eS*	**S**	**07 15 49.4**	**-3.9**
AC05				IAML		07 15 53.4	
	comp=Z,17nm,0.7s						
LPAZ	**La Paz**	**7.93**	**353**	P	**Pn**	**07 15 22.5**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=178,slow=8.8,SNR=9.8						
LPAZ				S	**S**	**07 16 49.9**	**-3.0**
	comp=Z,1.4nm,0.8s,baz=208,slow=14,SNR=1.8						
BDFB	**Brasilia**	**19.81**	**68**	P	**P**	**07 17 45.5**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=236,slow=12,SNR=4.1						
TXAR	**Lajitas Array**	**63.80**	**325**	P	**P**	**07 23 42.7**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=144,slow=7.8,SNR=2.4						
	comp=Z,0.2nm,0.7s						
QSPA	**South Pole Qui**	**66.01**	**180**	P	**P**	**07 23 57.7**	**+2.3**
	comp=Z,1.0nm,1.0s,baz=127,slow=5.1,SNR=1.8						
	comp=Z,1.0nm,1.0s						
MKAR	**Makanchi Array**	**146.71**	**40**	PKPbc	**PKiKP**	**07 32 50.6**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=303,slow=4.4,SNR=5.0						

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*CNRM **05** 07:20:12.6,36.°02N×9.°72W,h42km,ML3.6*
*SFS **05** 07:20:13.4,36.°01N×9.°72W,h26km,mb4.1/4,ML3.8/16,*
ML3.7/16,MLv3.7/16
*MDD **05** 07:20:13.7±0.5,35.°99N×9.°75W,h40km,mb_Lg3.7/31,*
Error ellipse: s-maj=4.2km s-min=2.7km az=80.0
*INMG **05** 07:20:15.3±1.2,36.°07N×9.°67W,h24km±20km,ML2.9,*
Error ellipse: s-maj=15.3km s-min=3.1km az=49.0
*IGIL **05** 07:20:15.5,36.°12N×9.°61W,h18km,ML2.9*
ISC 05 07:20:13.4±1.4,36.°07N±0.°04×9.°61W±0.°06,h35km,n97,
σ1s59/160,8C,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.23**	**31**	⇑*eP*	**Pn**	**07 20 35.5**	**+1.4**
PFVI				*eS*	**Sn**	**07 20 50.3**	**+0.8**
PFVI				A	A	07 20 51.5	
	166nm,0.1s						
PFVI	**Vila Bisbo**	**1.23**	**31**	P	**Pn**	**07 20 35.5**	**+1.4**
PFVI				S	**Sn**	**07 20 49.9**	**+0.4**
PFVI	**Vila Bisbo**	**1.23**	**31**	P	**Pn**	**07 20 35.5**	**+1.4**
MORF	**Marmelete**	**1.45**	**32**	⇑*iP*	**Pn**	**07 20 38.7**	**+1.5**
MORF				*eS*	**Sn**	**07 20 55.8**	**+0.8**
MORF				A	A	07 20 57.0	
	139nm,0.1s						
MORF	**Marmelete**	**1.45**	**32**	*eP*	**Pn**	**07 20 38.7**	**+1.5**
MORF				*eS*	**Sn**	**07 20 55.5**	**+0.5**
MORF				IAML		07 20 58.0	
	comp=E,205nm,0.2s						
PTEO	**Sao Teotonio**	**1.63**	**26**	*eP*	**Pn**	**07 20 41.2**	**+1.6**
PTEO				*eS*	**Sn**	**07 21 00.3**	**+0.9**
PTEO				A	A	07 21 02.1	
	comp=E,80nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.79**	**49**	*eS*	**Sn**	**07 21 05.6**	**+2.4**
PVAQ	**Vaqueiros**	**2.02**	**48**	⇑*iP*	**Pn**	**07 20 46.6**	**+1.7**
PVAQ				*eS*	**Sn**	**07 21 10.1**	**+1.1**
PVAQ				A	A	07 21 13.3	
	comp=E,57nm,0.1s						
PVAQ	**Vaqueiros**	**2.02**	**48**	P	**Pn**	**07 20 46.6**	**+1.7**
PVAQ				S	**Sn**	**07 21 09.2**	**+0.2**
PVAQ	**Vaqueiros**	**2.02**	**48**	P	**Pn**	**07 20 46.2**	**+1.3**
PVAQ	**Vaqueiros**	**2.02**	**48**	S	**Sn**	**07 21 11.2**	**+2.2**
MESJ	**Messejana**	**2.09**	**32**	⇑*eP*	**Pn**	**07 20 47.5**	**+1.6**
MESJ				*eS*	**Sn**	**07 21 11.7**	**+1.1**
MESJ				A	A	07 21 20.9	
	comp=E,32nm,0.2s						
MESJ	**Messejana**	**2.09**	**32**	*eP*	**Pn**	**07 20 47.5**	**+1.6**
MESJ				*eS*	**Sn**	**07 21 10.9**	**+0.3**
MESJ				IAML		07 21 13.1	
	comp=N,46nm,0.2s						
EGRO	**El Granado**	**2.25**	**49**	P	**Pn**	**07 20 49.7**	**+1.7**
EGRO				S	**Sn**	**07 21 15.5**	**+1.0**
EGRO	**El Granado**	**2.25**	**49**	⇑P	**Pn**	**07 20 49.7**	**+1.7**
EGRO				S	**Sn**	**07 21 15.9**	**+1.4**
EGRO				*i* Vmb_Lg		07 21 17.9	
PBEJ	**Beja**	**2.40**	**35**	*eP*	**Pn**	**07 20 51.7**	**+1.6**
PBEJ				*eS*	**Sn**	**07 21 19.1**	**+0.8**
PBEJ				A	A	07 21 20.8	
	comp=N,26nm,0.2s						
ARNO	**Arenosillo**	**2.53**	**65**	P	**Pn**	**07 20 53.1**	**+1.1**
LIS	**Lisbon**	**2.67**	**8**	*eS*	**Sn**	**07 21 25.0**	**+0.1**
PMAFR	**Mafra**	**2.89**	**5**	*eP*	**Pn**	**07 20 57.8**	**+0.9**
PMAFR				*eS*	**Sn**	**07 21 29.8**	**-0.6**
PMAFR				A	A	07 21 32.8	
	comp=N,50nm,0.2s						
EMIN	**Mina Concepcio**	**2.90**	**53**	P	**Pn**	**07 20 58.4**	**+1.4**
EMIN				S	**Sn**	**07 21 30.9**	**+0.2**
EMIN	**Mina Concepcio**	**2.90**	**53**	⇑P	**Pn**	**07 20 58.4**	**+1.4**
EMIN				S	**Sn**	**07 21 30.9**	**+0.2**
EMIN				*i* Vmb_Lg		07 21 33.5	
PBAR	**Barrancos**	**2.94**	**44**	*eP*	**Pn**	**07 20 58.9**	**+1.3**
PBAR				*eS*	**Sn**	**07 21 32.1**	**+0.5**
PBAR				A	A	07 21 34.5	
	comp=N,18nm,0.2s						
PBAR	**Barrancos**	**2.94**	**44**	P	**Pn**	**07 20 58.9**	**+1.3**
PBAR				S	**Sn**	**07 21 33.1**	**+1.5**
ESPR	**Espera**	**3.13**	**74**	P	**Pn**	**07 21 01.7**	**+1.5**
ESPR				S	**Sn**	**07 21 37.8**	**+1.5**
ESPR	**Espera**	**3.13**	**74**	⇑P	**Pn**	**07 21 01.7**	**+1.5**
ESPR				S	**Sn**	**07 21 37.0**	**+0.7**
ESPR				*i* Vmb_Lg		07 21 40.4	
PMTG	**Montargil**	**3.19**	**20**	⇑*eP*	**Pn**	**07 21 02.2**	**+1.2**
PMTG				*eS*	**Sn**	**07 21 37.6**	**-0.2**
PMTG				A	A	07 21 38.4	
	comp=N,44nm,0.6s						
PESTR	**Estremoz**	**3.22**	**29**	*eP*	**Pn**	**07 21 02.8**	**+1.3**
PESTR				*eS*	**Sn**	**07 21 38.8**	**+0.2**
PESTR				A	A	07 21 40.0	
	comp=N,13nm,0.3s						
PESTR	**Estremoz**	**3.22**	**29**	P	**Pn**	**07 21 02.5**	**+1.0**
PESTR				S	**Sn**	**07 21 39.1**	**+0.5**
PESTR	**Estremoz**	**3.22**	**29**	P	**Pn**	**07 21 03.1**	**+1.6**
PESTR	**Estremoz**	**3.22**	**29**	S	**Sn**	**07 21 40.3**	**+1.7**
AVE	**Averroes**	**3.31**	**146**	P	**Pn**	**07 21 02.3**	**-0.4**
AVE				S	**Sn**	**07 21 38.8**	**-2.0**
AVE	**Averroes**	**3.31**	**146**	P	**Pn**	**07 21 02.7**	**0.0**
AVE	**Averroes**	**3.31**	**146**	S	**Sn**	**07 21 41.5**	**+0.7**
EJIF	**Jimena Fronter**	**3.37**	**82**	P	**Pn**	**07 21 05.5**	**+2.0**
EJIF				S	**Sn**	**07 21 42.0**	**-0.3**
EBAD	**Badajoz**	**3.38**	**37**	P	**Pn**	**07 21 04.4**	**+0.7**
EBAD				S	**Sn**	**07 21 43.4**	**+0.8**
EBAD	**Badajoz**	**3.38**	**37**	P	**Pn**	**07 21 04.7**	**+1.0**
EBAD				S	**Sn**	**07 21 42.8**	**+0.2**
EBAD				*i* Vmb_Lg		07 21 46.4	
CEU	**Ceuta**	**3.44**	**92**	P	**Pn**	**07 21 06.3**	**+1.8**
SMIR	**Smir Dam**	**3.46**	**95**	P	**Pn**	**07 21 05.5**	**+0.8**
SMIR	**Smir Dam**	**3.46**	**95**	S	**Sn**	**07 21 46.3**	**+1.9**
PSBE	**So Bento**	**3.50**	**10**	*eP*	**Pn**	**07 21 06.4**	**+1.1**
PSBE				*eS*	**Sn**	**07 21 44.5**	**-0.9**
PSBE				A	A	07 21 48.9	
	comp=N,19nm,0.2s						
ZHG	**ZHG**	**3.58**	**136**	P	**Pn**	**07 21 07.0**	**+0.4**
ZHG	**ZHG**	**3.58**	**136**	S	**Sn**	**07 21 48.0**	**+0.3**
PMRV	**Marv??o**	**3.78**	**27**	*eP*	**Pn**	**07 21 10.5**	**+1.3**
PMRV				*eS*	**Sn**	**07 21 52.0**	**-0.5**
PMRV				A	A	07 21 53.9	
	comp=N,44nm,0.5s						
SRHM	**Skhour des Reh**	**3.86**	**158**	P	**Pn**	**07 21 10.2**	**-0.2**
ECAB	**El Cabril**	**3.90**	**58**	P	**Pn**	**07 21 12.1**	**+1.3**
ECAB				S	**Sn**	**07 21 53.9**	**-1.5**
ECAB	**El Cabril**	**3.90**	**58**	P	**Pn**	**07 21 12.2**	**+1.3**
ECAB				S	**Sn**	**07 21 54.0**	**-1.5**
ECAB				*i* Vmb_Lg		07 21 57.9	
PCAS	**Casmilo, Conde**	**4.07**	**12**	*eP*	**Pn**	**07 21 14.5**	**+1.4**
PCAS				*eS*	**Sn**	**07 21 58.7**	**-0.8**
PCAS				A	A	07 22 03.1	
	comp=N,11nm,0.5s						
PCBR	**Castelo Branco**	**4.12**	**24**	*eP*	**Pn**	**07 21 15.4**	**+1.6**
PCBR				*eS*	**Sn**	**07 21 59.9**	**-0.9**
PCBR				A	A	07 22 01.7	
	comp=N,18nm,0.5s						
EAH	**EAH**	**4.41**	**180**	P	**Pn**	**07 21 17.3**	**-0.5**
EAH	**EAH**	**4.41**	**180**	S	**Sn**	**07 22 07.2**	**-0.9**
IFR	**Ifrane**	**4.49**	**123**	P	**Pn**	**07 21 18.6**	**-0.4**
IFR				S	**Sn**	**07 22 06.1**	**-4.0**
EADA	**Adamuz**	**4.53**	**61**	S	**Sn**	**07 22 09.9**	**-1.1**
EADA				P	**Pn**	**07 21 21.2**	**+1.6**
EADA	**Adamuz**	**4.53**	**61**	P	**Pn**	**07 21 21.1**	**+1.6**
EADA				S	**Sn**	**07 22 10.3**	**-0.7**
EADA				*i* Vmb_Lg		07 22 13.4	
MTE	**Manteigas**	**4.62**	**20**	*eP*	**Pn**	**07 21 22.0**	**+1.3**
MTE				*eS*	**Sn**	**07 22 11.9**	**-1.2**
MTE				A	A	07 22 16.3	
	comp=N,15nm,0.3s						
PALE	**Palemas**	**4.70**	**99**	P	**Pn**	**07 21 21.8**	**0.0**
PVIS	**Viseu**	**4.83**	**16**	*eP*	**Pn**	**07 21 24.4**	**+0.8**
PVIS				*eS*	**Sn**	**07 22 17.2**	**-1.1**
CZD	**Col de Zad**	**4.84**	**127**	P	**Pn**	**07 21 23.6**	**-0.4**
CZD	**Col de Zad**	**4.84**	**127**	S	**Sn**	**07 22 19.4**	**+0.5**
EPLA	**Plasencia**	**4.86**	**34**	P	**Pn**	**07 21 25.2**	**+1.1**
EPLA				S	**Sn**	**07 22 17.8**	**-1.3**
EPLA				*i* Vmb_Lg		07 22 20.9	
ELGU	**Los Guajares,**	**4.89**	**79**	P	**Pn**	**07 21 25.5**	**+1.1**
ELGU				S	**Sn**	**07 22 19.7**	**-0.1**
ELGU	**Los Guajares,**	**4.89**	**79**	P	**Pn**	**07 21 26.3**	**+1.9**
ELGU				S	**Sn**	**07 22 19.4**	**-0.5**
ELGU				*i* Vmb_Lg		07 22 29.0	
AKLM	**AKL**	**4.95**	**107**	P	**Pn**	**07 21 24.0**	**-1.4**
EQUE	**Quentar**	**5.09**	**75**	P	**Pn**	**07 21 28.7**	**+1.4**
EQUE				S	**Sn**	**07 22 23.1**	**-1.8**
MD31	**MD31**	**5.13**	**127**	P	**Pn**	**07 21 27.3**	**-0.4**
MD31	**MD31**	**5.13**	**127**	S	**Sn**	**07 22 26.9**	**+1.2**
PVRL	**Vila Real**	**5.40**	**15**	*eP*	**Pn**	**07 21 32.8**	**+1.3**
PVRL				*eS*	**Sn**	**07 22 29.5**	**-2.9**
PVRL				A	A	07 22 34.1	
	comp=N,24nm,0.1s						
PAB	**San Pablo**	**5.42**	**49**	P	**Pn**	**07 21 33.0**	**+1.2**
PAB				S	**Sn**	**07 22 30.0**	**-2.9**
PAB				*i* Vmb_Lg		07 22 34.1	
GOG	**Mont Gurugu**	**5.45**	**97**	P	**Pn**	**07 21 32.1**	**-0.1**
MVO	**Moncorvo**	**5.47**	**21**	*eP*	**Pn**	**07 21 33.6**	**+1.2**
MVO				*eS*	**Sn**	**07 22 32.4**	**-1.8**
MVO				A	A	07 22 35.4	
	comp=N,10nm,0.4s						
EBER	**Berja**	**5.48**	**79**	S	**Sn**	**07 22 32.8**	**-1.7**
POLO	**Lamas de Olo**	**5.48**	**14**	*eP*	**Pn**	**07 21 33.1**	**+0.5**
POLO				*eS*	**Sn**	**07 22 31.9**	**-2.5**
POLO				A	A	07 22 35.3	
	comp=N,4.5nm,0.5s						
TIO	**Tiouine**	**5.50**	**158**	P	**Pn**	**07 21 31.6**	**-1.2**
TIO				S	**Sn**	**07 22 32.1**	**-2.8**
TIO	**Tiouine**	**5.50**	**158**	P	**Pn**	**07 21 31.9**	**-1.0**
TIO	**Tiouine**	**5.50**	**158**	S	**Sn**	**07 22 35.3**	**+0.4**
OUZM	**OUZ**	**5.67**	**154**	P	**P

mb4.5/112, Error ellipse: s-maj=11.8km s-min=7.3km az=224.0

ISC 05 07:27:17.2±1.4, **12°41**N±0°.04×**89°02**W±0°.03, **h11**km±8km, **n242**,σ1§**12**/264, **mb4.5**/50, **MS3.9**/19, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.11**	**345**	*eP*	**Pb**	**07 27 38.2**	**-0.3**
LALI				*eS*	**Sb**	**07 27 52.9**	**0.0**
TECO	**Alcaldia de Te**	**1.14**	**12**	*eP*	**Pb**	**07 27 39.1**	**0.0**
TECO	**Alcaldia de Te**	**1.14**	**12**	*i* P	**Pb**	**07 27 38.9**	**-0.2**
TECO				*i* S	**Sg**	**07 27 54.1**	**-0.1**
TECO				IAML		07 28 01.3	
	comp=Z,990nm,1.0s						
PANCS	**Alcalda de**	**1.20**	**353**	*i* P	**Pg**	**07 27 40.4**	**0.0**
PANCS				*i* S	**Sb**	**07 27 55.5**	**-0.2**
PANCS				IAML		07 28 17.3	
	comp=Z,3μm,1.0s						
LFRS	**El Faro**	**1.21**	**358**	*eP*	**Pn**	**07 27 39.8**	**-0.3**
LCY	**Lacayo**	**1.23**	**35**	*eP*	**Pg**	**07 27 40.9**	**-0.1**
UESV	**Universidad de**	**1.24**	**11**	*i* P	**Pg**	**07 27 41.2**	**+0.1**
UESV				*i* S	**Sb**	**07 27 56.7**	**0.0**
UESV				IAML		07 28 15.2	
	comp=Z,2μm,1.0s						
RANC	**El Ranchito**	**1.24**	**35**	*i* P	**Pb**	**07 27 40.8**	**0.0**
RANC				*i* S	**Sb**	**07 27 56.8**	**-0.1**
RANC				IAML		07 28 04.8	
	comp=Z,2μm,1.0s						
BLLM	**Bellamira**	**1.28**	**37**	*eP*	**Pb**	**07 27 41.6**	**+0.2**
SNET	**Serv Nac Est T**	**1.28**	**351**		**Pn**	**07 27 41.1**	**0.0**
SNET	**Serv Nac Est T**	**1.28**	**351**	*i* P	**Pn**	**07 27 41.2**	**0.0**
SNET				*i* S	**Sg**	**07 27 58.7**	**0.0**
SNET				IAML		07 28 13.0	
	comp=Z,2μm,1.0s						
PQSS	**Presa 15 de Se**	**1.29**	**20**	*i* P	**Pb**	**07 27 41.6**	**+0.1**
PQSS				*i* S	**Sg**	**07 27 58.9**	**+0.1**
PQSS				IAML		07 28 06.9	
	comp=Z,2μm,1.0s						
UTEC	**Universidad Te**	**1.29**	**352**	*i* P	**Pg**	**07 27 42.0**	**-0.1**
UTEC				*i* S	**Sb**	**07 27 58.3**	**0.0**
UTEC				IAML		07 28 27.8	
	comp=Z,2μm,1.0s						
PAVA	**Las Pavas**	**1.30**	**4**	*eP*	**Pn**	**07 27 41.4**	**0.0**
PAVA	**Las Pavas**	**1.30**	**4**	*i* P	**Pg**	**07 27 42.0**	**-0.2**
PAVA				*i* S	**Sb**	**07 27 58.1**	**-0.3**
PAVA				IAML		07 28 05.9	
	comp=Z,3μm,1.0s						
IGN	**Direccin Gen**	**1.30**	**354**	*eP*	**Pb**	**07 27 41.7**	**-0.1**
UDBS	**Universidad Do**	**1.30**	**354**	*i* P	**Pb**	**07 27 41.8**	**0.0**
UDBS				*i* S	**Sg**	**07 28 00.0**	**+0.7**
UDBS				IAML		07 28 11.3	
	comp=Z,2μm,1.0s						
JAYA	**Jayaque - finc**	**1.30**	**341**	*eP*	**Pn**	**07 27 41.3**	**-0.2**
JAYA				*eS*	**Sb**	**07 27 58.4**	**-0.3**
JAYA	**Jayaque - finc**	**1.30**	**341**	*i* P	**Pn**	**07 27 41.5**	**0.0**
JAYA				*i* S	**Sg**	**07 28 00.0**	**+0.7**
JAYA				IAML		07 28 04.9	
	comp=Z,4μm,1.0s						
UEES	**Universidad Ev**	**1.31**	**351**	*i* P	**Pb**	**07 27 42.2**	**+0.2**
UEES				*i* S	**Sb**	**07 27 58.9**	**0.0**
UEES				IAML		07 28 05.2	
	comp=Z,950nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.31**	**13**	*i* P	**Pg**	**07 27 42.5**	**0.0**
SCLA				*i* S	**Sb**	**07 27 58.1**	**-0.8**
SCLA				IAML		07 28 27.6	
	comp=Z,990nm,1.0s						
PMON	**Piamonte**	**1.32**	**348**	*i* P	**Pb**	**07 27 42.3**	**+0.1**
PMON				*i* S	**Sb**	**07 27 58.6**	**-0.6**
PMON				IAML		07 28 09.1	
	comp=Z,2μm,1.0s						
LFU	**La Fuente**	**1.33**	**356**	*eP*	**Pn**	**07 27 42.1**	**+0.2**
BOQS	**Boqueron**	**1.34**	**349**	*eP*	**Pb**	**07 27 42.6**	**+0.1**
CNRM	**Centro Naciona**	**1.34**	**38**	*eP*	**Pb**	**07 27 42.7**	**+0.3**
CNRM	**Centro Naciona**	**1.34**	**38**	*i* P	**Pb**	**07 27 42.6**	**+0.1**
CNRM				*i* S	**Sg**	**07 28 00.3**	**-0.3**
CNRM				IAML		07 28 09.9	
	comp=Z,12μm,1.0s						
LCND	**La Caada**	**1.42**	**51**	*eP*	**Pn**	**07 27 43.1**	**+0.1**
LCND				*eS*	**Sb**	**07 28 02.1**	**+0.2**
LCND	**La Caada**	**1.42**	**51**	*i* P	**Pb**	**07 27 43.6**	**-0.1**
LCND				*i* S	**Sb**	**07 28 01.8**	**-0.1**
LCND				IAML		07 28 08.9	
	comp=Z,1μm,1.0s						
CEDA	**San Andres**	**1.43**	**345**	*eP*	**Pn**	**07 27 42.9**	**-0.2**
QUEZ	**Alcaldia de Qu**	**1.44**	**350**	*i* P	**Pb**	**07 27 43.9**	**-0.1**
QUEZ				*i* S	**Sn**	**07 28 01.5**	**-0.6**
QUEZ				IAML		07 28 21.7	
	comp=Z,6μm,1.0s						
CNCH	**Conchagua**	**1.44**	**53**	*eS*	**Sg**	**07 28 04.6**	**+0.8**
CNCH	**Conchagua**	**1.44**	**53**	*i* P	**Pb**	**07 27 44.0**	**-0.2**
CNCH				*i* S	**Sn**	**07 28 01.5**	**-0.9**
CNCH				IAML		07 28 21.3	
	comp=Z,3μm,1.0s						
CEVE	**Cerro Verde**	**1.52**	**337**	*eP*	**Pn**	**07 27 45.1**	**+0.4**
CEVE				*eS*	**Sg**	**07 28 06.0**	**-0.4**
CEVE	**Cerro Verde**	**1.52**	**337**	*i* P	**Pb**	**07 27 45.6**	**-0.1**
CEVE				*i* S	**Sb**	**07 28 05.4**	**+0.3**
CEVE				IAML		07 28 20.9	
	comp=Z,2μm,1.0s						
CSGN	**Cosiguina Volc**	**1.54**	**68**	*i* P	**Pb**	**07 27 45.8**	**0.0**
CSGN				*i* S	**Sb**	**07 28 05.7**	**+0.4**
CSGN				IAML		07 28 21.0	
	comp=Z,300nm,1.0s						
UNIC	**Universidad Ca**	**1.64**	**342**	*i* P	**Pb**	**07 27 47.1**	**-0.5**
UNIC				IAML		07 28 21.8	
	comp=Z,570nm,1.0s						
NUBE	**Las Nubes**	**1.66**	**334**	*eP*	**Pn**	**07 27 46.2**	**-0.2**
NUBE				*eS*	**Sn**	**07 28 07.4**	**-0.3**
NUBE	**Las Nubes**	**1.66**	**334**	*i* P	**Pn**	**07 27 46.7**	**+0.3**
NUBE				*i* S	**Sn**	**07 28 07.7**	**0.0**
NUBE				IAML		07 28 14.1	
	comp=Z,2μm,1.0s						
LOAL	**Lomas de Alarc**	**1.74**	**335**	*eP*	**Pn**	**07 27 48.2**	**+0.7**
LLGN	**La Laguna**	**1.74**	**3**	*eP*	**Pn**	**07 27 47.5**	**0.0**
LLGN	**La Laguna**	**1.74**	**3**	*i* P	**Pb**	**07 27 49.0**	**-0.3**
LLGN				*i* S	**Sn**	**07 28 09.0**	**-0.8**
LLGN				IAML		07 28 16.2	
	comp=Z,690nm,1.0s						
CRIN	**San Cristobal**	**1.95**	**81**		**Pn**	**07 27 51.1**	**+0.9**
CRIN	**San Cristobal**	**1.95**	**81**	*i* P	**Pn**	**07 27 51.2**	**+0.9**
CRIN				*i* S	**Sn**	**07 28 15.3**	**+0.5**
CRIN				IAML		07 28 34.9	
	comp=Z,3μm,1.0s						
MTO3	**Montecristo**	**2.00**	**351**		**Pn**	**07 27 52.2**	**+1.0**
MTO3	**Montecristo**	**2.00**	**351**	*eP*	**Pn**	**07 27 52.4**	**+1.2**
MTO3	**Montecristo**	**2.00**	**351**	*i* P	**Pb**	**07 27 53.0**	**-0.8**
MTO3				*i* S	**Sn**	**07 28 15.5**	**-0.9**
MTO3				IAML		07 28 23.6	
	comp=Z,680nm,1.0s						
JUAM	**Asuncion Mita**	**2.02**	**341**	*i* P	**Pn**	**07 27 52.5**	**+1.1**
JUAM				*i* S	**Sn**	**07 28 15.5**	**-1.2**
JUAM				IAML		07 28 27.0	
	comp=Z,1μm,1.0s						
ESQI	**Esquipulas**	**2.16**	**352**		**Pn**	**07 27 53.6**	**+0.3**
ESQI	**Esquipulas**	**2.16**	**352**	*i* P	**Pn**	**07 27 54.4**	**+1.2**
ESQI				*i* S	**Sn**	**07 28 19.2**	**-0.9**
ESQI				IAML		07 28 39.1	
	comp=Z,1μm,1.0s						
PLRN	**Geotermica Pol**	**2.21**	**85**	*i* P	**Pn**	**07 27 53.7**	**-0.1**
PLRN				*i* S	**Sn**	**07 28 20.8**	**-0.4**
CNGA	**AI SSO del Vol**	**2.27**	**88**	*i* P	**Pn**	**07 27 56.1**	**+1.4**
CNGA				*i* S	**Sn**	**07 28 23.4**	**+0.7**
CNGA				IAML		07 28 31.1	
	comp=Z,610nm,1.0s						
ILCN	**San Idelfonso**	**2.27**	**86**	*i* P	**Pn**	**07 27 55.2**	**+0.5**
ILCN				*i* S	**Sn**	**07 28 23.7**	**+0.9**
ILCN				IAML		07 28 29.2	
	comp=Z,250nm,1.0s						
MACN	**El Madrono**	**2.29**	**88**	*i* P	**Pn**	**07 27 56.1**	**+1.0**
MACN				*i* S	**Sn**	**07 28 22.5**	**-0.8**
MACN				IAML		07 28 32.7	
	comp=Z,410nm,1.0s						
LEVN	**Ruinas Leon Vi**	**2.35**	**90**	*i* P	**Pb**	**07 27 58.2**	**-1.4**
LEVN				*i* S	**Sb**	**07 28 27.6**	**-1.1**
LEVN				IAML		07 28 40.8	
	comp=Z,880nm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.36**	**46**	Pn	**Pn**	**07 27 57.3**	**+1.2**
TGUH	**Tegucigalpa,Un**	**2.36**	**46**	*i* P	**Pn**	**07 27 57.5**	**+1.4**
TGUH				*i* S	**Sn**	**07 28 26.0**	**+0.9**
TGUH				IAML		07 28 38.1	
	comp=Z,890nm,1.0s						
MOM2	**El Cardon**	**2.48**	**89**	*i* P	**Pn**	**07 27 59.4**	**+1.8**
MOM2				*i* S	**Sn**	**07 28 28.7**	**+0.9**
MOM2				IAML		07 28 30.2	
	comp=Z,350nm,1.0s						
BRAN	**Las Pilas**	**2.63**	**83**	*i* P	**Pn**	**07 28 01.2**	**+1.6**
BRAN				IAML		07 28 16.2	
	comp=Z,2μm,1.0s						
BRAN				*i* S	**Sn**	**07 28 32.1**	**+0.6**
APQ2	**Apoyeque**	**2.65**	**94**	*i* P	**Pn**	**07 28 01.5**	**+1.7**
APQ2				*i* S	**Sn**	**07 28 33.1**	**+1.2**
APQ2				IAML		07 28 43.4	
	comp=Z,640nm,1.0s						
LIMN	**Finca el Limon**	**2.67**	**76**	*i* P	**Pn**	**07 28 01.0**	**+0.7**
LIMN				IAML		07 28 48.3	
	comp=Z,370nm,1.0s						
CRUN	**El Crucero**	**2.70**	**99**	*i* P	**Pb**	**07 28 03.5**	**-2.1**
TISN	**Laguna Tiscapa**	**2.71**	**95**	*i* P	**Pn**	**07 28 02.2**	**+1.5**
TISN				IAML		07 28 41.9	
	comp=Z,42nm,1.0s						
TISN	**Laguna Tiscapa**	**2.71**	**95**	*i* P	**Pn**	**07 28 01.9**	**+1.2**
TISN				IAML		07 28 41.9	
	comp=Z,42nm,1.0s						
UNAN	**Cigeo UNAN**	**2.71**	**96**	*i* P	**Pn**	**07 28 02.3**	**+1.6**
UNAN				*i* S	**Sn**	**07 28 33.7**	**+0.2**
UNAN				IAML		07 28 45.8	
	comp=Z,4μm,1.0s						
R4DEC	**Barrio San Lui**	**2.72**	**95**	*i* P	**Pn**	**07 28 01.9**	**+1.0**
R4DEC				*i* S	**Sn**	**07 28 34.9**	**+1.0**
R4DEC				IAML		07 28 44.9	
	comp=Z,440nm,1.0s						
MGAN	**Managua**	**2.73**	**95**		**Pn**	**07 28 01.4**	**+0.4**
MGAN	**Managua**	**2.73**	**95**	*i* P	**Pn**	**07 28 02.4**	**+1.5**
MGAN				*i* S	**Sn**	**07 28 34.0**	**+0.1**
MGAN				IAML		07 28 44.9	
	comp=Z,450nm,1.0s						
MGAN	**Managua**	**2.73**	**95**	*i* P	**Pn**	**07 28 02.5**	**+1.5**
MGAN				*i* S	**Sn**	**07 28 34.2**	**+0.3**
MGAN				IAML		07 28 44.9	
	comp=Z,450nm,1.0s						
R0529	**La Mascota**	**2.74**	**96**	*i* P	**Pn**	**07 28 03.1**	**+2.0**
R0529				IAML		07 28 40.6	
	comp=Z,600nm,1.0s						
WILN	**Americas 2**	**2.78**	**95**	*i* P	**Pn**	**07 28 01.9**	**+0.2**
WILN				*i* S	**Sn**	**07 28 35.6**	**+0.3**
WILN				IAML		07 28 41.1	
	comp=Z,330nm,1.0s						
WILN	**Americas 2**	**2.78**	**95**	*i* P	**Pn**	**07 28 03.0**	**+1.3**
WILN				*i* S	**Sn**	**07 28 35.4**	**+0.1**
WILN				IAML		07 28 41.1	
	comp=Z,330nm,1.0s						
MAS3	**AI N del Volca**	**2.81**	**98**	*i* P	**Pn**	**07 28 02.5**	**+0.4**
MAS3				*i* S	**Sn**	**07 28 36.0**	**0.0**
MAS3				IAML		07 28 43.7	
	comp=Z,550nm,1.0s						
MAS3	**AI N del Volca**	**2.81**	**98**	*i* P	**Pn**	**07 28 03.4**	**+1.3**
MAS3				*i* S	**Sn**	**07 28 35.4**	**-0.6**
MAS3				IAML		07 28 43.7	
	comp=Z,550nm,1.0s						
NANN	**Nandasmo**	**2.88**	**99**	*i* P	**Pn**	**07 28 03.4**	**+0.4**
NANN				*i* S	**Sn**	**07 28 37.5**	**-0.2**
NANN				IAML		07 28 47.1	
	comp=Z,7μm,1.0s						
NANN	**Nandasmo**	**2.88**	**99**	*i* P	**Pn**	**07 28 05.4**	**+2.4**
NANN				*i* S	**Sn**	**07 28 38.3**	**+0.6**
NANN				IAML		07 28 47.1	
	comp=Z,7μm,1.0s						
RCVN	**Varillal2**	**2.99**	**67**	*i* P	**Pn**	**07 28 06.1**	**+1.3**
RCVN				*i* S	**Sn**	**07 28 42.7**	**+2.0**
RCVN				IAML		07 28 46.7	
	comp=Z,4μm,1.0s						
RCVN	**Varillal2**	**2.99**	**67**	*i* P	**Pn**	**07 28 06.1**	**+1.3**
RCVN				*i* S	**Sn**	**07 28 40.9**	**+0.2**
RCVN				IAML		07 28 46.7	
	comp=Z,4μm,1.0s						
RCPN	**Sur Rio San Ju**	**3.06**	**68**	*i* P	**Pn**	**07 28 07.3**	**+1.6**
BOAB	**BOACO BROADBAN**	**3.28**	**89**	Pn	**Pn**	**07 28 08.3**	**-0.3**
BOAB	**BOACO BROADBAN**	**3.28**	**89**	*i* P	**Pn**	**07 28 09.9**	**+1.3**
BOAB				*i* S	**Sn**	**07 28 48.0**	**+0.4**
BOAB				IAML		07 29 21.2	
	comp=Z,140nm,1.0s						
IZABA	**Izabal, Puerto**	**3.33**	**7**	*i* P	**Pb**	**07 28 15.1**	**-1.2**
RTAL	**Retalhuleu**	**3.34**	**309**	Pn	**Pn**	**07 28 10.5**	**+1.1**
CONN	**Concepcion**	**3.43**	**104**	*i* P	**Pn**	**07 28 08.7**	**-1.9**
CONN				*i* S	**Sn**	**07 28 48.1**	**-3.2**
CONN				IAML		07 28 58.2	
	comp=Z,4μm,1.0s						
QUIS	**Sacapulas**	**3.50**	**325**	*i* P	Pn	07 28 06.8	-4.9
HUEH	**Huehuetenango**	**3.76**	**320**		**Pn**	**07 28 16.9**	**+1.5**
ACON	**Acoyapa**	**3.79**	**96**		**Pn**	**07 28 15.2**	**-0.3**
JTS	**Las Juntas de**	**4.51**	**117**	Pn	**Pn**	**07 28 26.3**	**+0.7**
JTS	**Las Juntas de**	**4.51**	**117**	Pn	**Pn**	**07 28 27.5**	**+1.9**
	comp=Z,7.1nm,0.3s,baz=309,slow=19,SNR=28						
JTS				Sn	**Sn**	**07 29 14.2**	**-3.9**
	comp=Z,1.9nm,0.3s,baz=297,slow=19,SNR=1.4						
	comp=Z,14nm,0.3s						
PETF	**Flores**	**4.55**	**350**	Pn	**Pn**	**07 28 25.9**	**-0.2**
ESPN	**Las Esperanzas**	**4.62**	**92**	Pn	**Pn**	**07 28 26.4**	**-0.6**
SOCE	**Pocosol**	**4.77**	**115**	Pn	**Pn**	**07 28 28.8**	**-0.3**
CCIG	**Comitan**	**4.89**	**322**	Pn	**Pn**	**07 28 31.6**	**+0.7**
ZARE	**Zarcero**	**5.05**	**116**	*eP*	**Pn**	**07 28 36.4**	**+3.2**
SANTA	**Santa Ana**	**5.35**	**117**	*eP*	**Pn**	**07 28 40.5**	**+3.3**
HDC	**Heredia**	**5.38**	**116**		**Pn**	**07 28 38.3**	**+0.7**
ACOS	**Acosta**	**5.43**	**118**	*eP*	**Pn**	**07 28 42.5**	**+4.2**
LUJA	**Lujan**	**5.45**	**116**	*eP*	Pn	07 28 43.8	+5.2
AMPA	**Desamparados**	**5.47**	**117**	*eP*	Pn	07 28 44.7	+5.8
ABE2	**San Pablo**	**5.57**	**118**	*eP*	**Pn**	**07 28 44.2**	**+3.9**
RAZU	**San Marcos de**	**5.62**	**119**	*eP*	**Pn**	**07 28 44.3**	**+3.4**
LLNJ	**Naranjito**	**5.65**	**121**	*eP*	**Pn**	**07 28 44.3**	**+3.2**
REPA	**Paraso**	**5.67**	**116**	*eP*	**Pn**	**07 28 45.9**	**+4.2**
PCAYA	**Pacayas**	**5.68**	**115**	*eP*	Pn	07 28 47.8	+5.9
VINA	**Juan Vinas**	**5.75**	**115**	*eP*	Pn	07 28 48.0	+5.3
ZELE	**Perez Zeledon**	**6.03**	**120**	*eP*	**Pn**	**07 28 49.7**	**+3.2**
EDBA	**Buenos Aires**	**6.50**	**119**	*eP*	**Pn**	**07 28 55.3**	**+2.3**
BRU2	**Volcan**	**7.19**	**119**	Pn	**Pn**	**07 29 03.2**	**+0.8**
CMIG	**Matias Romero**	**7.33**	**310**	Pn	**Pn**	**07 29 05.9**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=148,slow=9.5,SNR=10						
CMIG				Sn	**Sn**	**07 30 26.4**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=94,slow=21,SNR=1.4						
	comp=Z,1.9nm,0.3s						
TEIG	**Tepich**	**7.80**	**5**	Pn	**Pn**	**07 29 11.5**	**+0.7**
TEIG	**Tepich**	**7.80**	**5**	Pn	**Pn**	**07 29 10.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=166,slow=15,SNR=1.7						
TLIG	**Tlapa**	**10.55**	**300**		**Pn**	**07 29 50.1**	**+1.6**
ROSC	**El Rosal**	**16.36**	**116**	Pn	**Pn**	**07 31 06.5**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=216,slow=20,SNR=1.5						
	comp=Z,2.3nm,0.4s						
ZAIG	**Zacatecas**	**16.50**	**310**	Pn	**Pn**	**07 31 09.2**	**0.0**
HBVL	**Hebbronville**	**17.16**	**330**		**Pn**	**07 31 17.0**	**0.0**
KVTX	**Kingsville**	**17.20**	**332**	Pn	**Pn**	**07 31 17.6**	**0.0**
COHC	**Cochancay**	**17.68**	**146**	Pn	**Pn**	**07 31 22.9**	**-0.7**
SDDR	**Presa de Saban**	**18.27**	**67**	Pn	**Pn**	**07 31 28.3**	**-2.7**
SDV	**Santo Domingo**	**18.41**	**99**	LR	LR	07 39 23.3	
	comp=Z,143nm,21.0s,baz=294,slow=41						
HKT	**Hockley**	**18.56**	**341**	P	**P**	**07 31 33.5**	**-0.6**
352A	**Blakely**	**19.35**	**11**	P	**P**	**07 31 41.9**	**-0.9**
352A				IAmb	IAmb	07 31 46.9	
	comp=Z,29nm,0.9s						
HNDO	**Hondo**	**19.52**	**332**	P	**P**	**07 31 45.0**	**+0.3**
HNDO				IAmb	IAmb	07 31 46.3	
	comp=Z,15nm,0.6s						
HATO	**Hato, Curacao**	**19.61**	**89**	P	**P**	**07 31 44.9**	**-0.9**
250A	**Grady**	**19.64**	**7**	P	**P**	**07 31 45.7**	**-0.3**
250A				IAmb	IAmb	07 32 20.8	
	comp=Z,30nm,1.4s						
435B	**Jarrell**	**19.92**	**338**	P	**P**	**07 31 49.5**	**+0.5**
NATX	**Nacogdoches**	**19.95**	**346**	P	**P**	**07 31 49.0**	**-0.3**
NATX				IAmb	IAmb	07 31 56.8	
	comp=Z,14nm,0.6s						
DRIO	**Del Rio**	**20.07**	**329**	P	Pn	07 31 51.8	-0.7
146A	**Union**	**20.13**	**360**	P	**P**	**07 31 51.7**	**+0.4**
146A				IAmb	IAmb	07 32 14.7	
	comp=Z,41nm,1.5s						
JCT	**Junction City**	**20.56**	**333**	P	**P**	**07 31 56.7**	**+0.6**
JCT				IAmb	IAmb	07 31 57.5	
	comp=Z,13nm,0.7s						
Z47A	**Carrollton**	**20.71**	**2**	P	**P**	**07 31 57.4**	**-0.2**
Z47A				IAmb	IAmb	07 32 02.2	
	comp=Z,16nm,0.7s						
BAUV	**El Baul**	**20.90**	**97**	P	**P**	**07 31 58.5**	**-1.4**
BRDY	**Brady**	**20.92**	**335**	P	**P**	**07 32 00.3**	**+0.4**
WHTX	**Lake Whitney,**	**20.98**	**340**	P	**P**	**07 32 00.6**	**+0.1**
WHTX				IAmb	IAmb	07 32 08.9	
	comp=Z,20nm,0.8s						
SAND	**Sanderson**	**21.27**	**327**	P	**P**	**07 32 03.3**	**-0.5**
HPIG		**21.28**	**315**	P	**P**	**07 32 05.2**	**+1.2**
FW13	**Cleburne**	**21.30**	**340**	P	**P**	**07 32 04.1**	**+0.1**
FW13				IAmb	IAmb	07 32 05.5	
	comp=Z,16nm,0.8s						
Z38A	**Mt. Pleasant**	**21.46**	**346**	P	**P**	**07 32 04.5**	**-1.1**
Z38A				IAmb	IAmb	07 32 10.4	
	comp=Z,18nm,0.8s						
Y49A	**Blount Mountai**	**21.48**	**6**	P	**P**	**07 32 06.1**	**+0.1**
WLAR	**White Oak Lake**	**21.51**	**351**	P	**P**	**07 32 05.9**	**-0.3**
WLAR				IAmb	IAmb	07 32 22.8	
	comp=Z,41nm,1.3s						
OZNA	**Ozona**	**21.55**	**331**	P	**P**	**07 32 06.3**	**-0.5**
OZNA				IAmb	IAmb	07 32 09.7	
	comp=Z,13nm,0.8s						
CCAR	**Cane Creek**	**21.55**	**354**	P	**P**	**07 32 06.5**	**-0.2**
CCAR				IAmb	IAmb	07 32 11.6	
	comp=Z,23nm,0.8s						
TXAR	**Lajitas Array**	**21.66**	**323**	P	**P**	**07 32 09.7**	**+1.7**
	comp=Z,7.9nm,0.6s,baz=145,slow=11,SNR=145						
TXAR				PcP	**PcP**	**07 36 11.1**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=123,slow=6.7,SNR=1.9						
	comp=Z,7.9nm,0.6s						
TX31	**Lajitas Ar. Si**	**21.66**	**323**	P	**P**	**07 32 09.8**	**+1.8**
TX31				IAmb	IAmb	07 32 11.1	
	comp=Z,9.5nm,0.7s						
FW07	**Weatherford**	**21.74**	**340**	P	**P**	**07 32 09.1**	**+0.4**
FW07				IAmb	IAmb	07 32 09.7	
	comp=Z,16nm,0.6s						
X48A	**Hartselle**	**22.02**	**4**	P	**P**	**07 32 11.4**	**-0.2**
PLPT	**Palo Pinto**	**22.02**	**339**	P	**P**	**07 32 11.6**	**-0.1**
PLPT				IAmb	IAmb	07 32 12.3	
	comp=Z,15nm,0.7s						
ATAH	**Atahualpa**	**22.11**	**151**	LR	LR	07 39 54.6	
	comp=Z,158nm,19.4s,baz=348,slow=34						
FPAL	**Fort Paine**	**22.25**	**7**	P	**P**	**07 32 14.2**	**0.0**
ABTX	**Abilene, Hawle**	**22.35**	**336**	P	**P**	**07 32 14.7**	**-0.6**
MIAR	**Mount Ida**	**22.42**	**350**	P	**P**	**07 32 15.9**	**0.0**
ALPN	**Alpine**	**22.42**	**325**	P	**P**	**07 32 17.6**	**+1.3**
UALR	**University of**	**22.47**	**353**	P	**P**	**07 32 17.2**	**+0.7**
UALR				IAmb	IAmb	07 32 21.6	
	comp=Z,28nm,1.4s						
PLAL	**Pickwick Lake**	**22.49**	**2**	P	**P**	**07 32 16.1**	**-0.6**
MNHN	**Monahans**	**22.70**	**328**	P	**P**	**07 32 19.2**	**+0.1**
LOOK	**Love County**	**22.73**	**342**	P	**P**	**07 32 19.4**	**0.0**
X37A	**Clayton**	**22.82**	**346**		**P**	**07 32 20.8**	**+0.6**
X37A				IAmb	IAmb	07 32 28.9	
	comp=Z,15nm,1.1s						
GCPR	**Guaynabo City**	**22.87**	**72**	P	**P**	**07 32 19.2**	**-1.8**
PDPR	**Patillas Dam,**	**22.87**	**73**	P	**P**	**07 32 20.4**	**-0.6**
SWET	**Sewanee**	**22.88**	**7**	P	**P**	**07 32 21.6**	**+0.7**
Y57A	**Sumter**	**22.90**	**19**	P	**P**	**07 32 21.0**	**0.0**
Y57A				IAmb	IAmb	07 32 45.8	
	comp=Z,14nm,0.7s						
WHAR	**Wooly Hollow**	**22.97**	**353**	P	**P**	**07 32 22.0**	**+0.2**
WHAR				IAmb	IAmb	07 32 23.7	
	comp=Z,12nm,0.8s						
SN05	**Snyder 5**	**23.09**	**334**	P	**P**	**07 32 23.3**	**+0.2**
HBAR	**Harrisburg**	**23.09**	**357**	P	**P**	**07 32 21.9**	**-1.1**
BG3	**Lake Jocassee**	**23.15**	**13**	P	**P**	**07 32 22.3**	**-1.4**
BG3				IAmb	IAmb	07 32 26.1	
	comp=Z,18nm,1.4s						
APMT	**Aspermont**	**23.16**	**336**	P	**P**	**07 32 23.0**	**-0.8**
ODSA	**Odessa**	**23.22**	**330**	P	**P**	**07 32 23.9**	**-0.7**
ODSA				IAmb	IAmb	07 32 26.4	
	comp=Z,22nm,1.4s						
SN07	**Snyder 07**	**23.27**	**334**	P	**P**	**07 32 25.3**	**+0.3**
SN07				IAmb	IAmb	07 32 36.0	
	comp=Z,9.1nm,0.6s						
V48A	**Smith Brothers**	**23.31**	**5**	P	**P**	**07 32 25.2**	**-0.1**
BIRD	**Birdtown, Kers**	**23.46**	**18**	P	**P**	**07 32 26.9**	**+0.2**
BIRD				IAmb	IAmb	07 32 38.9	
	comp=Z,30nm,1.4s						
X34A	**Smith Ranch, M**	**23.50**	**342**		**P**	**07 32 28.4**	**+1.3**
X34A				IAmb	IAmb	07 32 30.7	
	comp=Z,17nm,0.7s						
POST	**Post**	**23.52**	**333**	P	**P**	**07 32 26.8**	**-0.7**
POST				IAmb	IAmb	07 32 29.0	
	comp=Z,14n

baz=348
H03N1 Juan Fernandez 46.60 168 T T 08 25 51.8
baz=348
H03N3 Juan Fernandez 46.62 168 T T 08 25 49.8
baz=348
BDFB Brasilia 49.23 123 LR LR 07 58 28.0
comp=Z,148nm,21.2s,baz=316,slow=38
BBB Bella Bella 50.57 330 LR LR 08 01 18.8
comp=Z,82nm,21.2s,baz=128,slow=41
FRB Frobisher Bay 53.25 11 LR LR 08 00 27.8
comp=Z,153nm,18.1s,baz=170,slow=38
YKA Yellowknife Ar 53.26 346 LR LR 08 00 59.1
comp=Z,105nm,19.1s,baz=192,slow=38
LL01 San Ignacio de 56.62 165 P **P** **07 37 01.7 +1.6**
R32K Eaglecrest 57.10 333 P **P** **07 37 04.4 +0.9**
MMPY Sheldon Lake, 58.42 339 P **P** **07 37 12.8 +0.1**
MMPY IAmb IAmb 07 37 31.1
comp=Z,4.5nm,1.3s
RES Resolute Bay 62.35 358 LR LR 08 04 20.4
comp=Z,111nm,18.8s,baz=32,slow=36
INK Inuvik 62.79 343 P **P** **07 37 42.1 -0.2**
INK Inuvik 62.79 343 LR LR 08 09 30.9
comp=Z,88nm,18.3s,baz=275,slow=41
K27K Chicken 63.24 337 P **P** **07 37 45.6 +0.2**
K27K IAmb IAmb 07 38 10.6
comp=Z,7.3nm,1.4s
G29M Pine Creek 63.32 341 P **P** **07 37 45.6 -0.4**
G29M IAmb IAmb 07 37 58.3
comp=Z,7.3nm,1.4s
E29M Blow River 64.13 342 P **P** **07 37 50.9 -0.3**
E29M IAmb IAmb 07 38 10.3
comp=Z,5.3nm,1.4s
F28M Old Crow 64.31 341 P **P** **07 37 52.5 0.0**
F28M IAmb IAmb 07 38 04.7
comp=Z,4.4nm,1.1s
E28M Babbage River 64.75 342 P **P** **07 37 56.1 +0.7**
E28M IAmb IAmb 07 38 24.8
comp=Z,4.1nm,1.4s
J25K Salcha River, 64.78 337 P **P** **07 37 56.0 +0.3**
J25K IAmb IAmb 07 38 25.3
comp=Z,4.3nm,1.4s
ILAR Eielson Array 65.44 336 P **P** **07 37 58.1 -1.8**
comp=Z,0.7nm,1.0s,baz=152,slow=4.0,SNR=3.0
ILAR LR LR 08 09 24.0
comp=Z,60nm,19.1s,baz=38,slow=39
comp=Z,0.7nm,1.0s
D27M Malcolm River 65.53 342 P **P** **07 38 00.6 +0.1**
BMAR Burnt Mountain 65.78 340 P **P** **07 38 01.9 -0.2**
I20K Naaghedeneel 68.48 335 P **P** **07 38 20.9 +1.7**
F21K Alatna River 68.86 338 P **P** **07 38 22.0 +0.4**
F21K IAmb IAmb 07 38 54.9
comp=Z,6.9nm,1.4s
ESDC Sonseca Array 78.42 52 LR LR 08 10 35.4
comp=Z,73nm,18.4s,baz=300,slow=34
NOA NORSAR Array B 84.14 29 LR LR 08 14 30.7
comp=Z,36nm,20.0s,baz=355,slow=34
ARCES ARCESS Array B 86.72 19 LR LR 08 18 02.9
comp=Z,221nm,18.4s,baz=300,slow=36
NRIK Norilʼsk 98.42 1 LR LR 08 26 25.5
comp=Z,94nm,19.9s,baz=315,slow=36
YAK Yakutsk 99.85 343 LR LR 08 30 43.3
comp=Z,36nm,21.4s,baz=5.0,slow=38
WRA Warramunga Arr 137.78 254 PKhKP PKPpre 07 46 43.2
comp=Z,0.2nm,0.6s,baz=96,slow=0.8,SNR=1.8
ASAR Alice Springs 137.83 248 PKP **PKiKP** **07 46 46.0 +1.4**
comp=Z,0.3nm,0.7s,baz=144,slow=3.4,SNR=2.6
GYA Guiyang 138.46 339 PKP **PKPdf** **07 46 42.4 -1.5**
PZH PanZhiHua 139.93 345 PKP **PKPdf** **07 46 45.4 -1.2**
CMAR Chiang Mai Arr 148.34 345 PKPbc **PKPbc** **07 47 04.4 -0.2**
comp=Z,1.7nm,0.5s,baz=345,slow=3.5,SNR=9.8

IDC 05 07:27:21.4±5.3, 3°.42S×139°.72E, h0km, mb3.3/2,
mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=204.1km
s-min=33.7km az=88.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.25**	**197**	P	P	07 31 25.5	0.0
	0.1nm,0.3s,baz=18,slow=12,SNR=9.4						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**20.90**	**195**	P	P	07 32 04.6	-1.0
	0.5nm,0.7s,baz=26,slow=8.8,SNR=6.6						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**70.96**	**322**	P	P	07 38 41.1	+0.2
	0.3nm,0.6s,baz=133,slow=8.1,SNR=2.9						
	0.3nm,0.6s						

*CATAC **05** 07:35:38.4±0.6, 12°.36N×89°.07W, h19km±6km, ML3.5*
*SNET **05** 07:35:41.7±0.9, 12°.62N×89°.01W, h29km±4km, ML3.3*
ISC 05 07:35:38.7±1.9, 12°.41N±0°.08×89°.08W±0°.05, h22km±13km,
n55, σ0°81/85, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.09**	**348**	*eP*	**Pn**	**07 35 58.2**	**-0.6**
LALI				*eS*	**Sb**	**07 36 11.4**	**-1.4**
TECO	**Alcaldia de Te**	**1.16**	**15**	*eP*	**Pn**	**07 35 58.8**	**-0.8**
TECO				*eS*	**Sb**	**07 36 12.6**	**-2.1**
TECO	**Alcaldia de Te**	**1.16**	**15**	*i P*	**Pn**	**07 35 59.6**	**0.0**
TECO				*i S*	**Sn**	**07 36 15.9**	**+1.1**
TECO				IAML		07 36 28.3	
comp=Z,300nm,1.0s							
LFRS	**El Faro**	**1.20**	**1**	*eP*	**Pn**	**07 36 00.1**	**-0.3**
TECA	**Tecapa**	**1.22**	**28**	*eP*	**Pn**	**07 36 00.2**	**-0.4**
UESV	**Universidad de**	**1.25**	**13**	*eP*	**Pn**	**07 36 00.5**	**-0.4**
UESV	**Universidad de**	**1.25**	**13**	*i P*	**Pn**	**07 36 00.8**	**-0.1**
UESV				*i S*	**Sb**	**07 36 18.9**	**+1.5**
UESV				IAML		07 36 27.6	
comp=Z,580nm,1.0s							
LCY	**Lacayo**	**1.27**	**37**	*eP*	**Pn**	**07 36 00.4**	**-0.8**
SNET	**Serv Nac Est T**	**1.27**	**354**	*eP*	**Pn**	**07 36 00.8**	**-0.6**
SNET				*eS*	**Sn**	**07 36 16.0**	**-1.8**
SNET				IAML		07 36 25.7	
comp=Z,612nm,0.3s							
SNET	**Serv Nac Est T**	**1.27**	**354**	*i P*	**Pn**	**07 36 00.9**	**-0.4**
SNET				*i S*	**Sb**	**07 36 18.6**	**+0.5**
SNET				IAML		07 36 25.4	
comp=Z,2μm,1.0s							
JAYA	**Jayaque - finc**	**1.28**	**344**	*eP*	**Pn**	**07 36 01.4**	**-0.1**
JAYA				*eS*	**Sn**	**07 36 16.7**	**-1.5**
JAYA				IAML		07 36 24.2	
comp=Z,691nm,0.4s							
JAYA	**Jayaque - finc**	**1.28**	**344**	*i P*	**Pn**	**07 36 01.5**	**-0.1**
JAYA				*i S*	**Sb**	**07 36 19.4**	**+0.9**
JAYA				IAML		07 36 24.5	
comp=Z,2μm,1.0s							
UTEC	**Universidad Te**	**1.28**	**355**	*eP*	**Pn**	**07 36 01.1**	**-0.3**
UDBS	**Universidad Do**	**1.30**	**357**	*i P*	**Pb**	**07 36 02.5**	**0.0**
UDBS				*i S*	**Sb**	**07 36 20.1**	**+1.3**
UDBS				IAML		07 36 26.7	
comp=Z,690nm,1.0s							
PAVA	**Las Pavas**	**1.30**	**6**	*eP*	**Pn**	**07 36 01.4**	**-0.3**
PAVA				IAML		07 36 26.2	
comp=Z,604nm,0.3s							
PAVA	**Las Pavas**	**1.30**	**6**	*i P*	**Pn**	**07 36 01.7**	**0.0**
PAVA				*i S*	**Sb**	**07 36 19.6**	**+0.7**
PAVA				IAML		07 36 25.9	
comp=Z,1μm,1.0s							
UEES	**Universidad Ev**	**1.30**	**353**	*eP*	**Pn**	**07 36 01.5**	**-0.3**
UEES	**Universidad Ev**	**1.30**	**353**	*i P*	**Pn**	**07 36 01.7**	**0.0**
UEES				*i S*	**Sb**	**07 36 20.1**	**+1.1**
UEES				IAML		07 36 24.6	
comp=Z,520nm,1.0s							
PQSS	**Presa 15 de Se**	**1.31**	**23**	*eP*	**Pn**	**07 36 01.5**	**-0.2**
PQSS				IAML		07 36 22.2	
comp=Z,248nm,0.2s							
PQSS	**Presa 15 de Se**	**1.31**	**23**	*i P*	**Pb**	**07 36 02.1**	**-0.6**
PQSS				*i S*	**Sb**	**07 36 20.7**	**+1.7**
PQSS				IAML		07 36 22.0	
comp=Z,520nm,1.0s							
PMON	**Piamonte**	**1.31**	**350**	*eP*	**Pn**	**07 36 01.8**	**0.0**
PMON	**Piamonte**	**1.31**	**350**	*i P*	**Pn**	**07 36 01.9**	**+0.1**
PMON				*i S*	**Sb**	**07 36 21.4**	**+2.2**
PMON				IAML		07 36 23.6	
comp=Z,980nm,1.0s							
BLLM	**Bellamira**	**1.31**	**39**	*eP*	**Pn**	**07 36 01.7**	**-0.2**
BOQS	**Boqueron**	**1.33**	**352**	*eP*	**Pn**	**07 36 02.5**	**+0.3**
LFU	**La Fuente**	**1.33**	**359**	*eP*	**Pn**	**07 36 02.1**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.33**	**15**	*eP*	**Pn**	**07 36 01.9**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.33**	**15**	*i P*	**Pn**	**07 36 02.2**	**+0.2**
SCLA				*i S*	**Sb**	**07 36 20.6**	**+1.0**
SCLA				IAML		07 36 24.0	
comp=Z,330nm,1.0s							
PIC2	**El Picacho**	**1.33**	**353**	*eP*	**Pn**	**07 36 02.4**	**+0.2**
CNRM	**Centro Naciona**	**1.38**	**40**	*eP*	**Pn**	**07 36 02.5**	**-0.2**
CEDA	**San Andres**	**1.41**	**348**	*i P*	**Pn**	**07 36 03.7**	**+0.5**
CEDA				IAML		07 36 20.3	
comp=Z,2μm,1.0s							
CEDA				*i S*	**Sb**	**07 36 23.7**	**+1.6**
LCND	**La Caada**	**1.47**	**52**	*eP*	**Pn**	**07 36 03.4**	**-0.4**
LCND				IAML		07 36 31.2	
comp=Z,559nm,0.3s							
LCND	**La Caada**	**1.47**	**52**	*i P*	**Pn**	**07 36 04.0**	**+0.1**
LCND				*i S*	**Sb**	**07 36 24.5**	**+0.9**
LCND				IAML		07 36 30.9	
comp=Z,590nm,1.0s							
CNCH	**Conchagua**	**1.49**	**55**	*eP*	**Pn**	**07 36 03.8**	**-0.5**
CNCH				IAML		07 36 33.0	
comp=Z,1μm,0.5s							
CNCH	**Conchagua**	**1.49**	**55**	*i P*	**Pn**	**07 36 03.9**	**-0.5**
CNCH				*i S*	**Sb**	**07 36 24.4**	**0.0**
CNCH				IAML		07 36 35.7	
comp=Z,1μm,1.0s							
CEVE	**Cerro Verde**	**1.50**	**340**	*eP*	**Pn**	**07 36 05.2**	**+0.7**
CEVE				IAML		07 36 38.2	
comp=Z,1μm,0.5s							
CEVE	**Cerro Verde**	**1.50**	**340**	*i P*	**Pn**	**07 36 05.6**	**+1.0**
CEVE				*i S*	**Sb**	**07 36 25.4**	**+0.6**
CEVE				IAML		07 36 37.9	
comp=Z,930nm,1.0s							
SNJE	**San Jose**	**1.53**	**341**	*eP*	**Pn**	**07 36 05.4**	**+0.4**
RTR	**El Retiro**	**1.57**	**340**	*eP*	**Pn**	**07 36 06.2**	**+0.7**
CSGN	**Cosiguina Volc**	**1.59**	**69**	*i P*	**Pn**	**07 36 05.8**	**+0.2**
CSGN				*i S*	**Sb**	**07 36 27.1**	**-0.1**
CSGN				IAML		07 36 32.5	
comp=Z,96nm,1.0s							
CAHU	**Cacacuatique**	**1.60**	**32**	*eP*	**Pn**	**07 36 06.2**	**+0.4**
UNIC	**Universidad Ca**	**1.62**	**344**	*eP*	**Pn**	**07 36 06.6**	**+0.5**
UNIC	**Universidad Ca**	**1.62**	**344**	*i P*	**Pn**	**07 36 07.1**	**+1.0**
UNIC				*i S*	**Sb**	**07 36 28.2**	**0.0**
UNIC				IAML		07 36 33.4	
comp=Z,290nm,1.0s							
NUBE	**Las Nubes**	**1.63**	**335**	*eP*	**Pn**	**07 36 06.3**	**+0.1**
NUBE				*eS*	**Sn**	**07 36 25.1**	**-1.5**
NUBE	**Las Nubes**	**1.63**	**335**	*i P*	**Pn**	**07 36 06.7**	**+0.5**
NUBE				*i S*	**Sb**	**07 36 28.2**	**-0.2**
NUBE				IAML		07 36 33.1	
comp=Z,570nm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.74**	**337**	*eP*	**Pn**	**07 36 08.7**	**+1.0**
LLGN	**La Laguna**	**1.75**	**4**	*i P*	**Pb**	**07 36 09.2**	**-1.0**
LLGN				*i S*	**Sb**	**07 36 31.6**	**-0.1**
LLGN				IAML		07 36 38.2	
comp=Z,370nm,1.0s							
MTO3	**Montecristo**	**1.99**	**352**	*eP*	**Pn**	**07 36 12.2**	**+0.9**
MTO3	**Montecristo**	**1.99**	**352**	*i P*	**Pn**	**07 36 12.4**	**+1.1**
MTO3				*i S*	**Sb**	**07 36 37.7**	**-1.3**
MTO3				IAML		07 36 45.4	
comp=Z,220nm,1.0s							
CRIN	**San Cristobal**	**2.01**	**82**	*i P*	**Pn**	**07 36 11.3**	**-0.1**
CRIN				*i S*	**Sn**	**07 36 36.2**	**+0.4**
CRIN				IAML		07 36 49.8	
comp=Z,720nm,1.0s							
ESQI	**Esquipulas**	**2.15**	**353**	*i P*	**Pn**	**07 36 14.6**	**+1.2**
ESQI				*i S*	**Sn**	**07 36 40.7**	**+1.3**
ESQI				IAML		07 37 05.5	
comp=Z,400nm,1.0s							
ILCN	**San Idelfonso**	**2.33**	**86**	*i P*	**Pn**	**07 36 15.8**	**0.0**
ILCN				*i S*	**Sn**	**07 36 43.6**	**-0.2**
ILCN				IAML		07 36 46.6	
comp=Z,56nm,1.0s							
MACN	**El Madrono**	**2.35**	**88**	*i P*	**Pn**	**07 36 16.2**	**+0.1**
MACN				*i S*	**Sn**	**07 36 45.1**	**+0.7**
MACN				IAML		07 36 55.3	
comp=Z,110nm,1.0s							
TGUH	**Tegucigalpa,Un**	**2.41**	**47**	*i P*	**Pn**	**07 36 17.5**	**+0.6**
TGUH				IAML		07 36 38.4	
comp=Z,180nm,1.0s							
TGUH				*i S*	**Sn**	**07 36 46.6**	**+0.8**
LIMN	**Finca el Limon**	**2.73**	**76**	*i P*	**Pn**	**07 36 20.8**	**-0.5**
LIMN				IAML		07 37 11.5	
comp=Z,70nm,1.0s							
BOAB	**BOACO BROADBAN**	**3.34**	**89**	*i P*	**Pn**	**07 36 29.9**	**+0.3**
BOAB				*i S*	**Sn**	**07 37 08.7**	**+0.1**
BOAB				IAML		07 37 21.3	
comp=Z,30nm,1.0s							

*IDC **05** 07:44:01.1±1.6, 37°.59N×20°.59E, h0km, mb3.6/5,*
mbtmp3.6/5, MS3.1/2, Error ellipse: s-maj=50.2km
s-min=28.1km az=121.0
*ATH **05** 07:44:02.6, 37°.56N×20°.32E, h12km±2km, ML3.2/4, Error*
ellipse: s-maj=4.0km s-min=1.4km az=24.0
*THE **05** 07:44:03.3, 37°.59N×20°.39E, h0km±2km, ML3.2/7, Error*
ellipse: s-maj=3.2km s-min=0.8km az=231.0
ISC 05 07:44:03.4±1.6, 37°.61N±0°.05×20°.40E±0°.05, h17km±9km,
n32, σ0°72/41, mb3.6/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.34**	**81**	P	**Pg**	**07 44 10.2**	**-0.3**
KRI1				S	**Sb**	**07 44 15.4**	**-0.6**
12μm,0.6s							
LTHK	**Lithakia**	**0.36**	**74**	P	**Pg**	**07 44 10.4**	**-0.6**
LTHK				S	**Sb**	**07 44 15.8**	**-0.9**
9μm,0.4s							
LTHK	**Lithakia**	**0.36**	**74**	P	**Pb**	**07 44 11.0**	**-0.4**
LTHK				AML	AML	07 44 16.5	
comp=E,23356μm,0.4s							
LTHK				S	**Sb**	**07 44 16.7**	**0.0**
LTHK				AML	AML	07 44 17.1	
comp=N,9840μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.53**	**16**	P	**Pg**	**07 44 13.9**	**-0.1**
PSDA				S	**Sb**	**07 44 21.9**	**+0.4**
comp=N,3μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.53**	**16**	P	**Pg**	**07 44 13.7**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.55**	**32**	P	**Pb**	**07 44 14.4**	**-0.2**
RTZL				S	**Sb**	**07 44 22.6**	**+0.3**
comp=N,3μm,0.7s							
VLS	**Valsamata**	**0.59**	**15**	P	**Pg**	**07 44 14.9**	**-0.3**
VLS				S	**Sb**	**07 44 23.9**	**+0.5**
comp=N,2μm,0.5s							
VLS	**Valsamata**	**0.59**	**15**	P	**Pg**	**07 44 14.9**	**-0.3**
VLS				S	**Sb**	**07 44 23.8**	**+0.5**
VLS				AML	AML	07 44 28.8	
comp=E,2345μm,0.2s							
VLS				AML	AML	07 44 30.6	
comp=N,3458μm,0.4s							
DMLN	**Damoulianata-K**	**0.63**	**358**	P	**Pg**	**07 44 15.9**	**0.0**
DMLN				S	**Sb**	**07 44 25.8**	**+1.3**
comp=N,5μm,0.6s							
DMLN	**Damoulianata-K**	**0.63**	**358**	P	**Pg**	**07 44 15.5**	**-0.4**
RLS	**Riolos of Patr**	**0.96**	**62**	P	**Pg**	**07 44 21.3**	**-0.7**
RLS	**Riolos of Patr**	**0.96**	**62**	P	**Pg**	**07 44 21.1**	**-0.9**
RLS				AML	AML	07 44 37.9	
comp=N,1207μm,0.6s							
RLS				AML	AML	07 44 40.2	
comp=E,1763μm,0.9s							
EVGI	**Lefkada island**	**1.03**	**11**	P	**Pg**	**07 44 22.8**	**-0.7**
AMT	**Artemida-Makis**	**1.04**	**94**	P	**Pb**	**07 44 23.3**	**+0.3**
AMT				S	**Sn**	**07 44 37.8**	**+0.3**
AMT				AML	AML	07 44 43.0	
comp=E,3791μm,0.3s							
AMT				AML	AML	07 44 43.7	
comp=N,3866μm,0.3s							
DRAG	**Dragano-Lefkad**	**1.08**	**7**	P	**Pb**	**07 44 23.5**	**-0.2**
DRO	**Drossia**	**1.09**	**71**	P	**Pn**	**07 44 24.2**	**+0.2**
DRO	**Drossia**	**1.09**	**71**	P	**Pb**	**07 44 23.9**	**0.0**
NYDR	**Nydri-Lefkada**	**1.13**	**12**	P	**Pb**	**07 44 24.2**	**-0.3**
PYL	**PYLOS**	**1.29**	**123**	P	**Pn**	**07 44 26.3**	**-0.3**
ITM	**Ithomi**	**1.29**	**109**	P	**Pg**	**07 44 27.6**	**-0.7**
ITM	**Ithomi**	**1.29**	**109**	P	**Pn**	**07 44 26.4**	**-0.3**
EFP	**Efpalio**	**1.44**	**55**	P	**Pb**	**07 44 30.0**	**+0.2**
KLV	**Kalavryta, Ach**	**1.45**	**72**	P	**Pb**	**07 44 30.3**	**+0.3**
KLV				S	**Sg**	**07 44 51.9**	**+1.5**
comp=N,298nm,0.9s							
ANX	**Ano Chora**	**1.55**	**50**	P	**Pb**	**07 44 32.0**	**+0.2**
OHR	**Ohrid**	**3.51**	**5**	*i* Pn	**Pb**	**07 45 03.0**	**-2.2**
OHR	**Ohrid**	**3.51**	**5**	*i* Pn	**Pg**	**07 45 09.5**	**-1.3**
KEST	**Kesra**	**9.08**	**261**	LR	LR	07 50 23.3	
comp=N,80nm,19.4s,baz=24,slow=42							
HFS	**Hagfors**	**22.95**	**351**	P	**P**	**07 49 07.4**	**+0.8**
comp=N,2.2nm,0.8s,baz=166,slow=13,SNR=2.0							
comp=N,2.2nm,0.8s							
FINES	**FINESS Array B**	**24.12**	**7**	P	**P**	**07 49 17.9**	**-0.1**
comp=N,0.9nm,0.5s,baz=182,slow=11,SNR=5.4							
comp=N,0.9nm,0.5s							
TORD	**Torodi Ar. Bea**	**29.53**	**219**	P	**P**	**07 50 08.0**	**+1.0**
comp=N,0.4nm,0.6s,baz=19,slow=9.8,SNR=3.2							
TORD				LR	LR	08 04 14.5	
comp=N,53nm,19.4s,baz=324,slow=41							
comp=N,0.4nm,0.6s							
MKAR	**Makanchi Array**	**45.68**	**58**	P	**P**	**07 52 22.2**	**-0.9**
comp=N,0.3nm,0.6s,baz=268,slow=7.7,SNR=2.6							
comp=N,0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**46.15**	**48**	P	**P**	**07 52 26.5**	**-0.1**
comp=N,0.7nm,0.5s,baz=262,slow=3.9,SNR=1.7							
comp=N,0.7nm,0.5s							

UPA 05 08:01:39.7±0.5, 8°.10N×82°.67W, h10km±3km, MD3.6,
Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.23**	**296**	*eP*	Pg	08 01 44.6	+0.1
PTPM				*eS*	Sg	08 01 48.6	+0.9
LOMA3	**Las Lomas, Chi**	**0.42**	**40**	*eP*	Pg	08 01 47.8	-0.3
BCO2	**Palmira**	**0.63**	**13**	*i P*	Pb	08 01 52.8	-0.1
BCO2				*eS*	Sb	08 02 02.4	+0.6
CHGR2	**Aguacate**	**0.98**	**32**	*eP*	Pg	08 01 58.0	-0.5
CHGR2				*eS*	Sb	08 02 11.9	+0.1
CNI2	**El Empalme, Bo**	**1.33**	**8**	*eP*	Pn	08 02 02.8	-1.6
CNI2				*eS*	Sb	08 02 21.4	-0.4

*IDC **05** 08:08:02.0±0.8, 24°.22N×124°.96E, h0km, mb3.8/13,*
mbtmp3.8/16, ML3.3/2, MS2.7/2, Error ellipse:
s-maj=25.1km s-min=17.7km az=72.0
*NIED **05** 08:08:06.3, 24°.28N×125°.24E, h42km, MW4.1, Moment*
Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm;
M_{rr}0.43; $M_{\theta\theta}$-0.89; $M_{\phi\phi}$0.46; $M_{r\theta}$1.31; $M_{\theta\phi}$-0.71; $M_{\phi r}$0.66;
Fault plane solution: $M_0$1.68000×10^{15} NP1:ϕ_s60.00000°,
δ76.00000°, λ84.00000°. NP2:ϕ_s265.00000°, δ16.00000°,
λ114.00000°.
*JMA **05** 08:08:06.3±0.2, 24°N±1°×125°.2E±0°.7, h42km±4km,*
MV3.9/11, NEAR MIYAKOJIMA ISLAND
JMA Felt I J1 at NEAR MIYAKOJIMA ISLAND .
ISC 05 08:08:07.3±1.3, 24°.31N±0°.07×125°.16E±0°.04, h33km±8km,
n40, σ1°34/45, mb3.8/13, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.45**	**19**	P	**Pb**	**08 08 16.6**	**-0.6**
JMJ2				*eS*	**Sb**	**08 08 24.2**	**+0.2**
JOGS	**Gusukube**	**0.50**	**26**	P	**Pb**	**08 08 17.2**	**-0.7**
JOGS				*eS*	**Sb**	**08 08 25.2**	**+0.1**
JIRB	**Irabujima**	**0.51**	**1**	P	**Pb**	**08 08 17.6**	**-0.5**
JIRB				*eS*	**Sn**	**08 08 26.1**	**+0.2**
JMJ	**Miyako jima 2**	**0.51**	**13**	P	**Pb**	**08 08 16.7**	**-1.5**
JTJ	**Tarama**	**0.53**	**308**	P	**Pb**	**08 08 18.4**	**0.0**
JTJ				*eS*	**Sn**	**08 08 27.4**	**+1.0**
JIKM	**Ikemajima**	**0.61**	**7**	P	**Pn**	**08 08 19.0**	**-0.6**
JIKM				*eS*	**Sn**	**08 08 28.9**	**+0.5**
JISG	**Ishigakijimahi**	**0.82**	**290**	P	**Pn**	**08 08 22.4**	**-0.1**
JISG				*eS*	**Sb**	**08 08 35.2**	**+1.2**
JIJ	**Ishigaki jima**	**0.93**	**273**	P	**Pn**	**08 08 24.5**	**+0.5**
JIJ				*eS*	**Sb**	**08 08 38.0**	**+0.9**
JKRS	**Kuro-shima**	**1.05**	**266**	P	**Pb**	**08 08 26.8**	**-0.3**
JKRS				*eS*	**Sb**	**08 08 41.1**	**+0.4**
HATJ	**Hateruma jima**	**1.27**	**259**	P	**Pn**	**08 08 29.1**	**+0.4**
IRIF	**Iriomote-Funau**	**1.31**	**271**	P	**Pn**	**08 08 30.0**	**+0.8**
YOJ	**Yonaguni jima**	**1.97**	**275**	P	**Pn**	**08 08 38.7**	**+0.4**
NACB	**Ninganchiao**	**3.26**	**268**	P	**Pn**	**08 08 56.1**	**0.0**
YHNB	**Yeheng**	**3.47**	**277**	P	**Pn**	**08 09 00.7**	**+1.7**
YULB	**Yu-li**	**3.66**	**256**	P	**Pn**	**08 09 00.3**	**-1.3**
JOW	**Kunigami**	**3.77**	**48**	Pn	**Pn**	**08 09 01.9**	**-1.1**
	4.1nm,0.3s,baz=147,slow=17,SNR=9.0						
JOW				Sn	**Sn**	**08 09 51.6**	**+5.3**
	9.2nm,0.3s,baz=224,slow=12,SNR=1.7						
	14nm,0.4s						
JOW	**Kunigami**	**3.77**	**48**	P	**Pn**	**08 09 03.9**	**+0.8**
SSLB	**Suanglung**	**3.88**	**263**	P	**Pn**	**08 09 04.7**	**0.0**
TWGBT	**Beinan**	**4.03**	**249**	P	**Pn**	**08 09 05.0**	**-1.7**
TPUB	**Ta-pu**	**4.27**	**257**	P	**Pn**	**08 09 11.1**	**+1.1**
JMZ	**Minamidaito 2**	**5.70**	**73**	P	**Pn**	**08 09 32.5**	**+2.9**
KSRS	**Korea Array**	**13.31**	**10**	Pn	**Pn**	**08 11 14.3**	**+0.4**
	0.2nm,0.3s,baz=181,slow=15,SNR=2.0						
KSRS				LR	LR	08 16 39.9	
comp=Z,29nm,18.7s,baz=190,slow=39							
0.7nm,0.5s							
MJAR	**Matsushiro Arr**	**16.57**	**40**	Pn	**P**	**08 11 59.3**	**-0.1**
	2.0nm,0.8s,baz=227,slow=11,SNR=3.3						
CMAR	**Chiang Mai Arr**	**25.08**	**262**	LR	LR	08 23 55.0	
comp=Z,18nm,18.8s,baz=125,slow=38							
SONM	**Songino Array**	**27.80**	**332**	P	**P**	**08 13 54.5**	**+1.0**
	0.3nm,0.3s,baz=57,slow=10,SNR=2.3						
	0.3nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**38.99**	**90**	T	T	08 56 53.2	
	baz=286						
H11S1	**WAKE ISLAND Hy**	**38.99**	**90**	T	T	08 56 56.9	
	baz=286						
H11S2	**WAKE ISLAND Hy**	**39.00**	**90**	T	T	08 56 55.2	
	baz=286						
MKAR	**Makanchi Array**	**40.81**	**314**	P	**P**	**08 15 45.5**	**-0.1**
	0.8nm,0.4s,baz=104,slow=9.5,SNR=14						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**42.16**	**325**	P	**P**	**08 15 55.0**	**-1.5**
	0.8nm,0.4s,baz=121,slow=7.9,SNR=2.7						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**44.38**	**319**	P	**P**	**08 16 12.9**	**-1.6**
	0.6nm,0.4s,baz=109,slow=8.1,SNR=0.9						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**44.89**	**168**	P	**P**	**08 16 17.8**	**-1.0**
	0.7nm,0.6s,baz=348,slow=8.8,SNR=9.0						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**48.44**	**169**	P	**P**	**08 16 46.1**	**-0.5**
	0.3nm,0.4s,baz=354,slow=7.7,SNR=8.1						
	0.3nm,0.4s

NCBS	**Nelson Council**	**0.81**	**22**	S	**Sn**	**08 18 16.4**	**-1.0**
NLMS	**Nelson Nelmac**	**0.81**	**22**	S	**Sn**	**08 18 17.2**	**-0.4**
KEKS	**Kekerengu Vall**	**0.83**	**86**	P	**Pn**	**08 18 07.2**	**+0.7**
KEKS				S	**Sn**	**08 18 20.0**	**+2.0**
DSZ	**Denniston Nort**	**0.84**	**289**	P	**Pn**	**08 18 06.3**	**-0.4**
LTZ	**Lake Taylor**	**0.88**	**210**	P	**Pn**	**08 18 07.5**	**+0.3**
LTZ				S	**Sn**	**08 18 19.9**	**+0.5**
NNZ	**Nelson**	**0.89**	**25**	P	**Pn**	**08 18 06.9**	**-0.3**
NNZ				S	**Sn**	**08 18 19.2**	**-0.1**
MOTS	**Motueka DOC wo**	**0.90**	**6**	P	**Pn**	**08 18 07.0**	**-0.3**
MOTS				S	**Sn**	**08 18 19.9**	**+0.3**
SCAC	**Scargill**	**0.92**	**178**	P	**Pn**	**08 18 06.5**	**-1.1**
SCAC				S	**Sn**	**08 18 19.4**	**-0.6**
WAKC	**Waikari**	**0.95**	**188**	P	**Pn**	**08 18 08.2**	**+0.1**
WAKC				S	**Sn**	**08 18 21.4**	**+0.6**
GVZ	**Greta Valley S**	**0.95**	**173**	P	**Pn**	**08 18 08.2**	**+0.1**
GVZ				S	**Sn**	**08 18 21.1**	**+0.2**
KASC	**Karamea School**	**0.96**	**323**	P	**Pn**	**08 18 07.6**	**-0.5**
SEDS	**Seddon Fire St**	**0.96**	**69**	P	**Pn**	**08 18 09.2**	**+1.0**
SEDS				S	**Sn**	**08 18 23.8**	**+2.8**
BWRS	**Waikakaho Road**	**0.96**	**53**	P	**Pn**	**08 18 08.0**	**-0.1**
TKNZ	**Takaka Hill**	**0.99**	**4**	P	**Pn**	**08 18 08.5**	**-0.1**
TKNZ				S	**Sn**	**08 18 21.5**	**-0.1**
TUWZ	**Tuamarina**	**0.99**	**54**	P	**Pn**	**08 18 09.1**	**+0.5**
CMWZ	**Cape Campbell**	**1.04**	**75**	P	**Pn**	**08 18 10.8**	**+1.7**
AMCZ	**Amberley**	**1.17**	**188**	P	**Pn**	**08 18 10.7**	**-0.2**
QRZ	**Quartz Range**	**1.22**	**348**	P	**Pn**	**08 18 11.1**	**-0.5**
QRZ				S	**Sn**	**08 18 25.7**	**-1.5**
INZ	**Inchbonnie**	**1.27**	**236**	P	**Pn**	**08 18 12.6**	**+0.3**
TCW	**Tory Channel**	**1.33**	**53**	P	**Pn**	**08 18 12.7**	**-0.3**
OXZ	**Oxford**	**1.44**	**205**	P	**Pn**	**08 18 13.7**	**-0.9**
DUWZ	**D'Urville Isla**	**1.45**	**33**	P	**Pn**	**08 18 15.1**	**+0.4**
SNZO	**South Karori**	**1.54**	**63**	P	**Pn**	**08 18 15.9**	**0.0**
WEL	**Wellington**	**1.60**	**63**	P	**Pn**	**08 18 16.7**	**0.0**
BHW	**Baring Head**	**1.61**	**68**	P	**Pn**	**08 18 15.7**	**-1.2**
MQZ	**McQueen's Vall**	**1.69**	**185**	P	**Pn**	**08 18 16.5**	**-1.4**
OKCZ	**Okains Bay**	**1.71**	**176**	P	**Pn**	**08 18 17.4**	**-0.8**
RACZ	**Rakaia**	**1.79**	**197**	P	**Pn**	**08 18 18.1**	**-1.2**
MHCZ	**Mount Hutt**	**1.79**	**212**	P	**Pn**	**08 18 18.7**	**-0.6**
PLWZ	**Palliser**	**1.83**	**77**	P	**Pn**	**08 18 18.3**	**-1.7**
AKCZ	**Akaroa Harbour**	**1.85**	**179**	P	**Pn**	**08 18 19.0**	**-1.2**
MSWZ	**Moikau Station**	**1.88**	**72**	P	**Pn**	**08 18 18.7**	**-1.8**
CAW	**Cannon Point**	**1.88**	**62**	P	**Pn**	**08 18 19.3**	**-1.2**
WVZ	**Waitaha Valley**	**1.90**	**236**	P	**Pn**	**08 18 21.2**	**+0.4**
KIW	**Kapiti Island**	**1.92**	**54**	P	**Pn**	**08 18 20.4**	**-0.6**
WACZ	**Wakanui South**	**2.07**	**201**	P	**Pn**	**08 18 21.9**	**-1.1**
OGWZ	**Otaki Gorge**	**2.10**	**56**	P	**Pn**	**08 18 22.4**	**-1.1**
MTW	**Mount Morrison**	**2.15**	**67**	P	**Pn**	**08 18 21.1**	**-3.0**
RPZ	**Rata Peaks**	**2.16**	**218**	P	**Pn**	**08 18 25.1**	**+0.8**
RPZ	**Rata Peaks**	**2.16**	**218**	P	**Pn**	**08 18 24.8**	**+0.5**
TRWZ	**Traveller**	**2.22**	**75**	P	**Pn**	**08 18 23.6**	**-1.2**
HOWZ	**Holdsworth Sta**	**2.28**	**61**	P	**Pn**	**08 18 24.9**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**2.28**	**235**	P	**Pn**	**08 18 27.2**	**+1.3**
ARCZ	**Arundel**	**2.29**	**212**	P	**Pn**	**08 18 25.8**	**-0.4**
TMWZ	**Te Maipa**	**2.44**	**69**	P	**Pn**	**08 18 26.6**	**-1.5**
MRZ	**Mangatainoka R**	**2.45**	**57**	P	**Pn**	**08 18 26.5**	**-1.7**
FOZ	**Fox Glacier**	**2.71**	**235**	P	**Pn**	**08 18 32.0**	**+0.1**
TMZ	**Timaru**	**2.73**	**209**	P	**Pn**	**08 18 30.9**	**-1.2**
PRWZ	**Pori Road**	**2.75**	**59**	P	**Pn**	**08 18 30.5**	**-2.0**
WAZ	**Wanganui**	**2.77**	**36**	P	**Pn**	**08 18 34.1**	**+1.4**
LREZ	**Lake Rotokare**	**2.81**	**25**	P	**Pn**	**08 18 34.7**	**+1.6**
PREZ	**Palmer Road**	**2.85**	**20**	P	**Pn**	**08 18 34.6**	**+0.8**
NBEZ	**Newall Road No**	**2.85**	**16**	P	**Pn**	**08 18 34.8**	**+1.1**
KHEZ	**Kahui Hut**	**2.86**	**18**	P	**Pn**	**08 18 34.7**	**+0.8**
KHEZ	**Kahui Hut**	**2.86**	**18**	P	**Pn**	**08 18 34.3**	**+0.4**
BFZ	**Birch Farm**	**2.87**	**63**	P	**Pn**	**08 18 32.2**	**-1.7**
BFZ	**Birch Farm**	**2.87**	**63**	P	**Pn**	**08 18 32.3**	**-1.7**
NEZ	**North Egmont**	**2.90**	**19**	P	**Pn**	**08 18 35.3**	**+0.8**
PKE	**Pukeiti**	**2.95**	**17**	P	**Pn**	**08 18 36.2**	**+1.1**
DREZ	**Durham Road**	**3.00**	**20**	P	**Pn**	**08 18 36.6**	**+0.7**
DVHZ	**Dannevirke**	**3.02**	**56**	P	**Pn**	**08 18 36.0**	**-0.1**
TSZ	**Takapari Road**	**3.05**	**51**	P	**Pn**	**08 18 34.7**	**-1.8**
VRZ	**Vera Road**	**3.23**	**27**	P	**Pn**	**08 18 40.6**	**+1.6**
MTVZ	**Mangateitei**	**3.29**	**38**	P	**Pn**	**08 18 41.9**	**+2.1**
TRVZ	**Turoa**	**3.39**	**38**	P	**Pn**	**08 18 42.7**	**+1.3**
WNVZ	**Wahianoa**	**3.39**	**38**	P	**Pn**	**08 18 41.9**	**+0.5**
MOVZ	**Moawhango**	**3.41**	**41**	P	**Pn**	**08 18 42.2**	**+0.8**
MAVZ	**Matarangi**	**3.42**	**38**	P	Pn	08 18 47.3	+5.4
WHVZ	**Whangaehu Hut**	**3.43**	**38**	P	**Pn**	**08 18 42.6**	**+0.7**
ODZ	**Otahua Downs**	**3.43**	**207**	P	**Pn**	**08 18 40.7**	**-0.9**
ODZ	**Otahua Downs**	**3.43**	**207**	P	**Pn**	**08 18 40.4**	**-1.3**
FWVZ	**Far West T-bar**	**3.43**	**37**	P	**Pn**	**08 18 43.8**	**+1.8**
TUVZ	**Tukino**	**3.47**	**38**	P	**Pn**	**08 18 42.3**	**0.0**
COVZ	**Chateau Observ**	**3.47**	**37**	P	Pn	08 18 46.8	+4.4
NGZ	**Ngauruhoe**	**3.52**	**37**	P	**Pn**	**08 18 44.8**	**+1.8**
TWVZ	**Taurewa**	**3.53**	**34**	P	**Pn**	**08 18 44.4**	**+1.1**
OTVZ	**Oturere**	**3.56**	**38**	P	**Pn**	**08 18 45.4**	**+1.8**
NNVZ	**North Ngauruho**	**3.56**	**37**	P	**Pn**	**08 18 45.3**	**+1.7**
WTVZ	**West Tongariro**	**3.56**	**36**	P	**Pn**	**08 18 45.2**	**+1.6**
ETVZ	**East Tongariro**	**3.60**	**38**	P	**Pn**	**08 18 45.0**	**+0.8**
TMVZ	**Te Maari**	**3.61**	**38**	P	**Pn**	**08 18 45.6**	**+1.3**
NTVZ	**North Tongarir**	**3.62**	**37**	P	**Pn**	**08 18 44.6**	**+0.3**
JCZ	**Jackson Bay**	**3.63**	**234**	P	**Pn**	**08 18 44.7**	**+0.1**
JCZ	**Jackson Bay**	**3.63**	**234**	P	**Pn**	**08 18 44.4**	**-0.1**
KWHZ	**Kaweka Forest**	**3.74**	**47**	P	**Pn**	**08 18 47.3**	**+1.3**
HIZ	**Hauiti**	**3.82**	**24**	P	**Pn**	**08 18 47.3**	**+0.3**
HIZ	**Hauiti**	**3.82**	**24**	P	**Pn**	**08 18 47.4**	**+0.4**
MCHZ	**McNeill Hill**	**3.88**	**50**	P	Pn	08 18 52.2	+4.3
BKZ	**Black Stump Fm**	**3.96**	**45**	P	**Pn**	**08 18 48.2**	**-0.9**
BKZ	**Black Stump Fm**	**3.96**	**45**	P	**Pn**	**08 18 49.2**	**+0.1**
TLZ	**Tolley Road**	**4.21**	**30**	P	**Pn**	**08 18 53.7**	**+1.2**
MUGZ	**Murupara**	**4.63**	**41**	P	**Pn**	**08 18 56.6**	**-1.5**
TOZ	**Tahuroa Road**	**4.74**	**26**	P	**Pn**	**08 19 59.8**	**+0.3**
MWZ	**Matawai**	**5.12**	**46**	P	**Pn**	**08 19 03.2**	**-1.7**
MKAZ	**Moumakai**	**5.22**	**21**	P	**Pn**	**08 19 06.4**	**+0.2**
WIAZ	**Waiheke Island**	**5.50**	**19**	P	**Pn**	**08 19 10.7**	**+0.5**
KUZ	**Kuaotunu**	**5.71**	**24**	P	**Pn**	**08 19 12.6**	**-0.3**
KUZ	**Kuaotunu**	**5.71**	**24**	P	**Pn**	**08 19 12.3**	**-0.6**
WCZ	**Waipu Caves**	**6.18**	**11**	P	**Pn**	**08 19 19.6**	**+0.3**
OUZ	**Omahuta**	**6.81**	**5**	P	**Pn**	**08 19 28.6**	**+0.6**
OUZ	**Omahuta**	**6.81**	**5**	P	**Pn**	**08 19 28.9**	**+0.9**

BEO ***05*** *08:31:07.9±3.0, 36°.88N±20°.38E, h75km±1km, ML4.3/11*
IDC ***05*** *08:31:10.5±0.6, 37°.57N±20°.79E, h0km, mb4.0/20, mbtmp4.0/32, ML3.8/10, MS3.7/27, Error ellipse: s-maj=14.5km s-min=11.7km az=170.0*
THE ***05*** *08:31:12.1, 37°.53N±20°.69E, h0km±2km, ML4.5/19, Error ellipse: s-maj=2.8km s-min=0.6km az=221.0*
ATH ***05*** *08:31:12.1, 37°.53N±20°.68E, h10km±1km, ML4.3/16, Error ellipse: s-maj=1.6km s-min=0.8km az=43.0*
MOS ***05*** *08:31:12.2±1.5, 37°.61N±20°.69E, h16km, mb4.6/10, Error ellipse: s-maj=7.1km s-min=3.4km az=80.5*
NEIC ***05*** *08:31:13.2±1.6, 37°.54N±0°.06±20°.70E±0°.06, h10km±1km, mb4.6/66, Error ellipse: s-maj=10.4km s-min=7.8km az=162.0*
MCSM ***05*** *08:31:13.6±0.8, 38°.N±8°.×2°.1E±°, h10km, mB4.8, mb4.5, MLv4.5, Mw(mB)4.1*
MED_RC ***05*** *08:31:13.0±0.4, 37°.52N±20°.68E, h10km, MW4.3/20, Moment Tensor Solution. Mantle waves: s20, c32; Duration: 1±0 Moment tensor: Scale 10^15 Nm; Mrr=0.29±.23; Mθθ=3.93±.19; Mφφ=-3.65±.17; Mrθ=-1.72±.64; Mθφ=0.64±.22; Mrφ=0.38±.55; Best double couple: Mo=4.18000×10^15 NP1:φs=311.00000°, δ=83.00000°, λ=21.00000°. NP2:φs=218.00000°, δ=70.00000°, λ=173.00000°. Principal axes: T 4.5700, Plg=19.0000°, Azm=176.0000°; N -0.7900, Plg=68.0000°, Azm=328.0000°; P -3.7900, Plg=9.0000°, Azm=83.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
TIR ***05*** *08:31:15.8, 37°.93N±19°.74E, h12km±7km, Ml=4.2*
PDG ***05*** *08:31:16.2±1.4, 37°.51N±20°.63E, h10km±8km, ML4.5/13, Error ellipse: s-maj=2.7km s-min=2.9km az=0.0*
NAO ***05*** *08:31:35.2, 39°.93N±21°.29E, h10km, mb3.9*
ISC 05 08:31:12.6±0.8,**37°.56N**±0°.03-**20°.70E**±0°.02,**h13**km±5**km**, n447**,σ1±74/513,**mb4.5**/57,**MS3.8**/19,**35C-15D**,**Ionian Sea**

Code	Station Name	Δ°	ΔZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.14**	**44**	P	**Pg**	**08 31 15.8**	**-0.3**
KRI1				S	**Sg**	**08 31 18.3**	**-0.2**
	1266μm,0.5s						
LTHK	**Lithakia**	**0.18**	**38**	P	**Pg**	**08 31 16.6**	**-0.2**
LTHK				S	**Sg**	**08 31 19.2**	**-0.4**
	723μm,0.5s						
LTHK	**Lithakia**	**0.18**	**38**	P	**Pg**	**08 31 16.5**	**-0.3**
LTHK				S	**Sg**	**08 31 19.3**	**-0.3**
LTHK				AML	AML	08 31 19.5	
LTHK				AML	AML	08 31 19.9	
RTZL	**Ratzakli, Kefa**	**0.52**	**7**	P	**Pg**	**08 31 22.8**	**+0.1**
RTZL				S	**Sg**	**08 31 30.3**	**+0.7**
	155μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.56**	**351**	P	**Pg**	**08 31 23.6**	**+0.1**
PSDA				S	**Sb**	**08 31 32.0**	**-0.1**
	109μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.56**	**351**	P	**Pg**	**08 31 23.5**	**0.0**
VLS	**Valsamata**	**0.62**	**352**	P	**Pg**	**08 31 24.5**	**-0.2**
VLS				S	**Sb**	**08 31 33.6**	**-0.4**
	48μm,0.3s						
VLS	**Valsamata**	**0.62**	**352**	P	**Pg**	**08 31 24.3**	**-0.4**
VLS				S	**Sg**	**08 31 33.4**	**+0.5**
VLS	**Valsamata**	**0.62**	**352**	P	**Pg**	**08 31 24.3**	**-0.4**
VLS				S	**Sb**	**08 31 33.8**	**-0.1**
VLS				AML	AML	08 31 35.2	
	comp=E,90609μm,0.3s						
VLS				AML	AML	08 31 35.5	
LXR1	**Lixouri, Cepha**	**0.67**	**342**	P	**Pb**	**08 31 26.2**	**+0.1**
LXR1				S	**Sb**	**08 31 36.5**	**+1.2**
	comp=E,190μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.67**	**342**	P	**Pg**	**08 31 25.9**	**+0.3**
LXRA				S	**Sb**	**08 31 35.5**	**+0.2**
SMHA	**Samh**	**0.69**	**357**	P	**Pg**	**08 31 25.3**	**-0.7**
SMHA				S	**Sg**	**08 31 35.3**	**+0.3**
DMLN	**Damoulianata-K**	**0.72**	**339**	P	**Pg**	**08 31 26.4**	**-0.2**
DMLN				S	**Sb**	**08 31 38.0**	**+1.1**
	comp=E,59μm,0.5s						
DMLN	**Damoulianata-K**	**0.72**	**339**	P	**Pg**	**08 31 26.4**	**-0.2**
RLS	**Riolos of Patr**	**0.79**	**51**	P	**Pg**	**08 31 27.4**	**-0.4**
RLS				S	**Sb**	**08 31 38.6**	**-0.1**
	comp=E,20μm,0.4s						
RLS	**Riolos of Patr**	**0.79**	**51**	P	**Pg**	**08 31 27.4**	**-0.4**
RLS				S	**Sb**	**08 31 38.5**	**-0.1**
RLS				AML	AML	08 31 41.2	
	comp=E,48807μm,0.3s						
RLS				AML	AML	08 31 43.7	
	comp=N,40273μm,0.5s						
AMT	**Artemida-Makis**	**0.81**	**92**	P	**Pg**	**08 31 27.7**	**-0.5**
AMT				S	**Sg**	**08 31 38.7**	**-0.1**
AMT				AML	AML	08 31 43.3	
AMT				AML	AML	08 31 48.3	
	comp=N,99095μm,0.3s						
VSK1	**VASILIKIADES**	**0.85**	**353**	P	**Pg**	**08 31 28.3**	**-0.8**
VSK1				S	**Sb**	**08 31 41.8**	**+1.2**
	comp=N,53μm,0.5s						
DRO	**Drossia**	**0.89**	**64**	P	**Pg**	**08 31 29.4**	**-0.5**
DRO				S	**Sn**	**08 31 43.3**	**-0.5**
	comp=N,21μm,0.4s						
DRO	**Drossia**	**0.89**	**64**	P	**Pg**	**08 31 29.4**	**-0.5**
DRO				S	**Sb**	**08 31 42.4**	**+0.6**
DRO				AML	AML	08 31 49.3	
	comp=N,45456μm,0.6s						
DRO				AML	AML	08 31 53.3	
	comp=E,48562μm,0.5s						
FSK	**Fiskardo**	**0.90**	**353**	P	**Pg**	**08 31 29.0**	**-1.0**
FSK				S	**Sn**	**08 31 43.7**	**-0.2**
	comp=E,35μm,0.8s						
FSK	**Fiskardo**	**0.90**	**353**	P	**Pg**	**08 31 29.1**	**-0.9**
FSK				S	**Sb**	**08 31 42.5**	**+0.5**
FSK				AML	AML	08 31 49.0	
	comp=N,59879μm,0.5s						
FSK				AML	AML	08 31 50.6	
	comp=E,60230μm,0.6s						
AST1	**Astakos**	**1.02**	**18**	P	**Pb**	**08 31 31.5**	**-0.7**
AST1				S	**Sn**	**08 31 47.6**	**+0.7**
	comp=E,15μm,0.5s						
ITM	**Ithomi**	**1.05**	**111**	P	**Pb**	**08 31 32.1**	**-0.6**
ITM				S	**Sg**	**08 31 47.0**	**+0.4**
	comp=E,11μm,0.6s						
ITM	**Ithomi**	**1.05**	**111**	P	**Pb**	**08 31 31.9**	**-0.8**
ITM				S	**Sb**	**08 31 45.9**	**-0.5**
ITM				AML	AML	08 31 57.8	
	comp=N,22287μm,0.5s						
ITM				AML	AML	08 31 59.9	
	comp=E,20221μm,0.8s						
EVGI	**Lefkada island**	**1.06**	**358**	P	**Pb**	**08 31 31.8**	**-1.0**
EVGI				S	**Sn**	**08 31 48.0**	**+0.2**
	comp=E,14μm,0.2s						
EVGI	**Lefkada island**	**1.06**	**358**	P	**Pb**	**08 31 31.8**	**-1.0**
EVGI				S	**Sn**	**08 31 47.4**	**-0.3**
PYL	**PYLOS**	**1.07**	**128**	P	**Pb**	**08 31 32.0**	**-0.9**
PYL	**PYLOS**	**1.07**	**128**	P	**Pb**	**08 31 32.1**	**-0.9**
DRAG	**Dragano-Lefkad**	**1.12**	**355**	P	**Pb**	**08 31 32.9**	**-1.0**
DRAG				S	**Sn**	**08 31 51.3**	**+1.9**
DRAG	**Dragano-Lefkad**	**1.12**	**355**	P	**Pb**	**08 31 32.7**	**-1.2**
UPR	**University Cam**	**1.12**	**50**	P	**Pb**	**08 31 33.9**	**0.0**
UPR				S	**Sn**	**08 31 51.2**	**+1.8**
NYDR	**Nydri-Lefkada**	**1.15**	**0**	P	**Pb**	**08 31 33.2**	**-1.1**
NYDR				S	**Sn**	**08 31 52.3**	**+2.3**
	comp=E,16μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.15**	**0**	P	**Pb**	**08 31 33.4**	**-0.9**
LKD2	**Lefkada island**	**1.22**	**359**	P	**Pn**	**08 31 35.5**	**0.0**
LKD2				S	**Sb**	**08 31 51.6**	**+0.2**
LKD2				AML	AML	08 32 00.4	
	comp=E,45785μm,0.5s						
LKD2				AML	AML	08 32 00.9	
	comp=N,34931μm,0.6s						
KLV	**Kalavryta, Ach**	**1.25**	**67**	P	**Pn**	**08 31 35.5**	**-0.4**
KLV				S	**Sg**	**08 31 55.3**	**+2.4**
	comp=N,5μm,0.6s						
KLV	**Kalavryta, Ach**	**1.25**	**67**	P	**Pn**	**08 31 35.3**	**-0.6**
KLV				S	**Sb**	**08 31 51.6**	**-0.5**
KLV				AML	AML	08 32 00.1	
	comp=N,10927μm,0.7s						
KLV				AML	AML	08 32 02.8	
	comp=E,10572μm,0.6s						
TSLK	**Tsoukalades, L**	**1.26**	**359**	P	**Pn**	**08 31 35.6**	**-0.4**
TSLK				S	**Sg**	**08 31 56.5**	**+3.3**
	comp=E,25μm,0.6s						
TSLK	**Tsoukalades, L**	**1.26**	**359**	P	**Pn**	**08 31 35.5**	**-0.5**
EFP	**Efpalio**	**1.29**	**48**	P	**Pn**	**08 31 36.0**	**-0.3**
EFP				S	**Sg**	**08 31 55.5**	**+1.4**
	comp=E,8μm,0.7s						
EFP	**Efpalio**	**1.29**	**48**	P	**Pn**	**08 31 35.8**	**-0.5**
EFP				S	**Sb**	**08 31 53.2**	**0.0**
EFP				AML	AML	08 32 00.6	
	comp=E,14864μm,1.0s						
EFP				AML	AML	08 32 01.8	
	comp=N,14807μm,0.7s						
ALIK	**Aliki, Aigiali**	**1.32**	**58**	P	**Pn**	**08 31 36.9**	**+0.2**
GUR	**Goura**	**1.36**	**74**	P	**Pn**	**08 31 37.0**	**-0.4**
GUR				S	**Sg**	**08 31 57.5**	**+1.1**
	comp=N,9μm,0.7s						
GUR	**Goura**	**1.36**	**74**	P	**Pn**	**08 31 36.9**	**-0.5**
GUR				S	**Sb**	**08 31 54.5**	**-0.8**
GUR				AML	AML	08 32 05.6	
	comp=N,18794μm,0.5s						
GUR				AML	AML	08 32 07.6	
	comp=E,17438μm,0.9s						
KALE	**Kalithea**	**1.41**	**54**	P	**Pn**	**08 31 37.8**	**-0.3**
KALE	**Kalithea**	**1.41**	**54**	P	**Pn**	**08 31 37.4**	**-0.7**
KALE				S	**Sn**	**08 31 55.9**	**-0.6**
KALE				AML	AML	08 32 07.1	
	comp=E,14142μm,0.6s						
KALE				AML	AML	08 32 09.3	
	comp=N,19224μm,0.5s						
ANX	**Ano Chora**	**1.41**	**43**	P	**Pn**	**08 31 38.0**	**-0.2**
ANX	**Ano Chora**	**1.41**	**43**	P	**Pn**	**08 31 37.9**	**-0.2**
ANX				S	**Sn**	**08 31 56.4**	**-0.3**
ANX				AML	AML	08 32 08.6	
	comp=E,30310μm,1.3s						
ANX				AML	AML	08 32 10.8	
	comp=N,27915μm,0.6s						
EVR	**Evrytania**	**1.61**	**33**	P	**Pb**	**08 31 42.8**	**+0.5**
EVR	**Evrytania**	**1.61**	**33**	P	**Pn**	**08 31 40.9**	**0.0**
EVR				S	**Sn**	**08 32 01.0**	**-0.6**
EVR				AML	AML	08 32 15.1	
	comp=E,10050μm,0.8s						
EVR				AML	AML	08 32 18.4	
	comp=N,12097μm,0.9s						
MAKR	**Makrakomi, Fth**	**1.84**	**38**	P	**Pb**	**08 31 46.5**	**+0.4**
LOUT	**Loutraki**	**1.85**	**76**	P	**Pb**	**08 31 46.4**	**0.0**
AGG	**Agios Georgios**	**1.94**	**41**	P	**Pb**	**08 31 47.0**	**-0.9**
AGG	**Agios Georgios**	**1.94**	**41**	P	**Pb**	**08 31 47.2**	**-0.7**
AGG	**Agios Georgios**	**1.94**	**41**	P	**Pb**	**08 31 47.0**	**-0.9**
AXAR	**Agios Charalam**	**1.96**	**52**	P	**Pb**	**08 31 48.7**	**+0.5**
VLI	**Veliai**	**1.98**	**115**	P	**Pb**	**08 31 47.9**	**-0.6**
IGT	**Igoumenitsa**	**1.99**	**352**	P	**Pn**	**08 31 47.2**	**+1.2**
IGT	**Igoumenitsa**	**1.99**	**352**	P	**Pn**	**08 31 47.1**	**+1.1**
IGT	**Igoumenitsa**	**1.99**	**352**	P	**Pn**	**08 31 46.6**	**+0.6**
IGT				S	**Sn**	**08 32 09.9**	**-0.9**
IGT				AML	AML	08 32 27.3	
	comp=E,10500μm,0.5s						
IGT				AML	AML	08 32 28.8	
	comp=N,7459μm,0.8s						
JAN	**Janina**	**2.09**	**3**	P	**Pb**	**08 31 50.6**	**+0.1**
VILL	**Villia**	**2.16**	**73**	P	**Pb**	**08 31 50.2**	**-1.3**
THL	**Klokotos Trika**	**2.25**	**27**	P	**Pb**	**08 31 52.1**	**-1.0**
KEK	**Kerkira**	**2.26**	**342**	Pn	**Pn**	**08 31 51.0**	**+1.3**
KEK	**Kerkira**	**2.26**	**342**	P	**Pn**	**08 31 50.5**	**+0.8**
KEK	**Kerkira**	**2.26**	**342**	P	**Pn**	**08 31 49.4**	**-0.3**
KEK				S	**Sn**	**08 32 16.6**	**-0.9**
KEK				AML	AML	08 32 40.9	
	comp=E,6773μm,0.5s						
KEK				AML	AML	08 32 43.4	
	comp=N,4860μm,0.8s						
SRN	**Sarande**	**2.38**	**347**	P	**Pn**	**08 31 52.6**	**+1.4**
SRN				S	**Sn**	**08 32 20.8**	**+0.5**
SRN				AMP			
	comp=E,5.8nm,0.8s,baz=5.0						
SRN	**Sarande**	**2.38**	**347**	P	**Pn**	**08 31 52.2**	**+0.9**
ATH	**Athens Observa**	**2.43**	**79**	P	**Pb**	**08 31 57.2**	**+1.0**
TYRN	**Tyrnavos**	**2.46**	**29**	P	**Pn**	**08 31 54.6**	**+2.2**
VLY	**Voula,Athens**	**2.47**	**82**	P	**Pn**	**08 31 53.9**	**+1.2**
ATHU	**Athens Univers**	**2.48**	**80**	P	**Pn**	**08 31 54.6**	**+1.9**
PTL	**Penteli**	**2.56**	**78**	P	**Pn**	**08 31 55.5**	**+1.7**
LSK	**Leskovik**	**2.58**	**358**	P	**Pb**	**08 31 57.3**	**-1.6**
LSK				S	**Sb**	**08 32 28.6**	**-1.9**
LSK				AMP			
	comp=N,15nm,0.8s,baz=16						
LSK	**Leskovik**	**2.58**	**358**	P	**Pb**	**08 31 56.7**	**-2.2**
DION	**Dionisos Attik**	**2.62**	**78**	P	**Pb**	**08 31 56.3**	**+1.7**
NEO	**Neokhori**	**2.64**	**48**	P	**Pb**	**08 31 57.8**	**-2.0**
NEST	**Nestorio**	**2.86**	**5**	P	**Pb**	**08 32 03.2**	**-0.4**
KZN	**Kozani**	**2.87**	**17**	P	**Pn**	**08 31 59.9**	**+1.8**
KZN	**Kozani**	**2.87**	**17**	P	**Pn**	**08 31 59.2**	**+1.1**
KYMI	**Kymi, Euboea I**	**2.89**	**67**	P	**Pn**	**08 32 00.8**	**+2.4**
LIT	**Litokhoron**	**2.90**	**28**		**Pn**	**08 32 00.4**	**+1.9**
LIT	**Litokhoron**	**2.90**	**28**	P	**Pn**	**08 32 01.2**	**+2.7**
LIT	**Litokhoron**	**2.90**	**28**	P	**Pn**	**08 32 00.4**	**+1.9**
AOS	**Alonnisos**	**2.97**	**56**	P	**Pn**	**08 32 01.3**	**+1.8**
SCTE	**Santa Cesarea**	**3.05**	**326**	P	**Pn**	**08 32 01.0**	**+0.5**
SCTE	**Santa Cesarea**	**3.05**	**326**		**Pn**	**08 32 01.2**	**+0.6**
FNA	**Florina**	**3.26**	**9**		**Pn**	**08 32 05.9**	**+2.4**
FNA	**Florina**	**3.26**	**9**	P	**Pn**	**08 32 05.5**	**+2.1**
FNA	**Florina**	**3.26**	**9**	*e*Pn	**Pn**	**08 32 05.6**	**+2.1**
FNA				*e*Sn	**Sn**	**08 32 43.6**	**+1.4**
FNA	**Florina**	**3.26**	**9**	P	**Pn**	**08 32 05.9**	**+2.4**
TIP	**Timpagrande**	**3.49**	**299**		**Pn**	**08 32 06.6**	**0.0**
TIP	**Timpagrande**	**3.49**	**299**	⇑P	**Pn**	**08 32 07.5**	**+0.8**
TIP	**Timpagrande**	**3.49**	**299**	P	**Pn**	**08 32 06.7**	**0.0**
TIP				S	**Sn**	**08 32 49.2**	**+1.3**
THE	**Thessaloniki**	**3.54**	**29**	P	**Pn**	**08 32 09.3**	**+2.1**
OHR	**Ohrid**	**3.54**	**1**	*e*Pn	**Pn**	**08 32 09.0**	**+1.6**
OHR				*e*Sn	**Sn**	**08 32 51.5**	**+2.3**
OHR	**Ohrid**	**3.54**	**1**	*i* Pn	**Pn**	**08 32 10.5**	**+3.1**
OHR				*i* Sn	**Sb**	**08 32 54.3**	**-3.9**
OHR	**Ohrid**	**3.54**	**1**	P	**Pn**	**08 32 11.2**	**+3.8**
TIR	**Tirane**	**3.83**	**351**	P	**Pn**	**08 32 13.8**	**+2.5**
TIR				S	**Sn**	**08 32

PLE *i* Sn **Sn** **08 33 43.2 -2.8**
PAOL Paolisi 5.88 308 Pn **Pn** **08 32 38.6 -0.9**
ZAPS Zavoj 5.89 14 *e*Pn **Pn** **08 32 40.9 +1.2**
IVAS Ivanjica 6.02 356 *e*Pn **Pn** **08 32 41.4 0.0**
BOVS Bovan 6.11 7 *e*Pn **Pn** **08 32 42.6 0.0**
BOVS Bovan 6.11 7 ⇑P **Pn** **08 32 40.9 -1.7**
RUDO Rudo 6.13 351 *e*Pn **Pn** **08 32 43.7 +0.8**
MPEP Malo Peshtene 6.23 21 P **Pn** **08 32 46.4 +2.1**
GRUS Gruza 6.32 0 *e*Pn **Pn** **08 32 45.6 +0.1**
ZAGS Zajecar 6.35 10 *e*Pn **Pn** **08 32 46.9 +1.0**
BBLS Lazi&#263i 6.37 352 *e*Pn **Pn** **08 32 46.5 +0.2**
BBLS Lazi&#263i 6.37 352 *e*Pn **Pn** **08 32 44.6 -1.7**
VALD Valchedram 6.46 18 P Pb 08 32 56.4 -8.5
DIVS Divibare 6.55 356 *e*Pn **Pn** **08 32 48.5 -0.2**
HAPS Han Pijesak,BI 6.65 349 *e*Pn **Pn** **08 32 51.2 +1.1**
HAPS Han Pijesak,BI 6.65 349 *e*Pn **Pn** **08 32 49.8 -0.3**
ELND Elena 6.66 35 ⇑P **Pn** **08 32 49.8 -0.4**
INTR Introdacqua 6.86 312 **Pn** **08 32 52.8 -0.2**
KUBS Kucevo 6.88 6 *e*Pn **Pn** **08 32 53.0 -0.2**
TEKS Tekeris 7.03 353 *e*Pn **Pn** **08 32 54.1 -1.2**
TEKS Tekeris 7.03 353 *e*Pn **Pn** **08 32 53.7 -1.6**
YLV Yalova 7.39 63 P **Pn** **08 33 03.1 +2.9**
comp=E,24nm,0.9s,comp=E,0.1nm
CAMP Campotosto 7.47 314 **Pn** **08 33 02.0 +0.6**
A050A Klekovaca 7.59 337 *e*Pn **Pn** **08 33 02.6 -0.4**
FRGS Fruska Gora 7.62 355 *e*Pn **Pn** **08 32 59.0 -4.3**
BLY Banja Luka 7.65 341 *e*Pn **Pn** **08 33 03.3 -0.4**
NRCA Norcia 7.83 315 **Pn** **08 33 07.4 +1.1**
GUMA Gualdo di Mace 7.86 317 Pn **Pn** **08 33 06.7 0.0**
A051A Mrakovica 7.97 340 *e*Pn **Pn** **08 33 05.9 -2.3**
GZR Gura Zlata 7.98 11 ⇑P **Pn** **08 33 06.6 -1.7**
GZR Gura Zlata 7.98 11 ⇑P **Pn** **08 33 06.6 -1.7**
BZS Buzias 8.08 5 ⇑P **Pn** **08 33 07.7 -1.9**
BZS Buzias 8.08 5 ⇑P **Pn** **08 33 07.7 -1.9**
LOT Lotru 8.21 15 ⇑P **Pn** **08 33 09.9 -1.6**
SURR Surduc 8.25 7 ⇑P **Pn** **08 33 10.4 -1.6**
ARR Arges 8.34 20 ⇑P **Pn** **08 33 11.7 -1.5**
VOIR 8.52 21 ⇑P **Pn** **08 33 14.2 -1.5**
VOIR 8.52 21 ⇑P **Pn** **08 33 14.2 -1.5**
VOIR 8.52 21 P **Pn** **08 33 17.3 +1.6**
comp=E,20nm,0.9s
MDUB Mudurnu 8.68 67 Pn **Pn** **08 33 20.4 +2.5**
SIRR Siria 8.73 4 ⇑P **Pn** **08 33 16.4 -2.2**
ISR Istrita 8.73 28 ⇑P **Pn** **08 33 17.1 -1.5**
ISR Istrita 8.73 28 ⇑P **Pn** **08 33 17.1 -1.5**
ISR Istrita 8.73 28 P **Pn** **08 33 20.8 +2.2**
comp=E,54nm,0.9s
MORH Mrgy, Hungar 8.78 351 P **Pn** **08 33 20.0 +0.8**
comp=E,6.3nm,0.9s
MLR Muntele Rosu 8.84 25 Pn **Pn** **08 33 22.0 +1.8**
MLR Muntele Rosu 8.84 25 Pn **Pn** **08 33 21.4 +1.2**
comp=E,0.2nm,0.3s,baz=224,slow=9.6,SNR=3.3
MLR LR LR 08 37 43.1
comp=E,522nm,19.1s,baz=204,slow=45
comp=E,5.5nm,0.8s
MLR Muntele Rosu 8.84 25 ⇓P **Pn** **08 33 18.4 -1.8**
MLR Muntele Rosu 8.84 25 P **Pn** **08 33 22.0 +1.8**
MLR Muntele Rosu 8.84 25 P **Pn** **08 33 22.2 +2.0**
comp=E,33nm,1.1s
PTJ Puntijarka 9.05 339 P **Pn** **08 33 27.8 +4.8**
VSL Villasalto 9.08 286 Pn **Pn** **08 33 23.7 +0.4**
BISRR Bisoca 9.16 28 ⇑P **Pn** **08 33 23.3 -1.2**
BISRR Bisoca 9.16 28 P **Pn** **08 33 26.5 +2.0**
comp=E,84nm,0.8s,comp=E,7μm
COVR Voineasa-Covas 9.24 25 ⇑P **Pn** **08 33 24.5 -1.0**
KEST Kesra 9.30 262 **Pn** **08 33 26.5 0.0**
KEST Kesra 9.30 262 Pn **Pn** **08 33 27.2 +0.7**
comp=E,0.7nm,0.3s,baz=101,slow=4.5,SNR=7.2
KEST Sn **Sn** **08 35 09.1 -1.9**
comp=E,0.2nm,0.3s,baz=98,slow=20,SNR=1.7
KEST LR LR 08 38 15.0
comp=E,175nm,19.8s,baz=29,slow=45
comp=E,8.0nm,0.7s
OZUR 9.33 22 ⇑P **Pn** **08 33 25.0 -1.8**
DRGR 9.34 9 ⇓P **Pn** **08 33 25.5 -1.5**
DRGR 9.34 9 ⇓P **Pn** **08 33 25.5 -1.5**
BEHE Becsehely 9.36 343 Pn **Pn** **08 33 28.4 +1.1**
TURR Turia 9.37 23 ⇑P **Pn** **08 33 25.2 -2.1**
PLOR Plostina 9.40 26 ⇑P **Pn** **08 33 26.0 -1.8**
PLOR Plostina 9.40 26 ⇑P **Pn** **08 33 26.0 -1.8**
PLOR5 Plostina Array 9.40 26 P **Pn** **08 33 29.8 +2.1**
comp=E,21nm,0.8s
PLOR3 Plostina Array 9.40 26 P **Pn** **08 33 30.2 +2.4**
comp=E,22nm,0.9s
CEY Cerknica 9.42 332 *e*Pn **Pn** **08 33 27.0 -1.0**
CFR Carcaliu 9.44 34 ⇓P **Pn** **08 33 27.1 -1.1**
CFR Carcaliu 9.44 34 ⇓P **Pn** **08 33 27.1 -1.1**
VRI Vrincioaia 9.44 27 ⇑P **Pn** **08 33 26.8 -1.5**
VRI Vrincioaia 9.44 27 ⇑P **Pn** **08 33 26.8 -1.5**
VRI Vrincioaia 9.44 27 P **Pn** **08 33 30.4 +2.1**
comp=E,11nm,1.1s,comp=E,195nm
TUDR 9.57 31 ⇓P **Pn** **08 33 29.0 -1.1**
MPLH Magyarpolny 9.88 347 P **Pn** **08 33 35.4 +1.1**
comp=E,37nm,1.2s
SABO M.te Sabotino 9.94 330 Pn **Pn** **08 33 35.5 +0.4**
ZCCA Zocca 9.99 316 Pn **Pn** **08 33 36.0 +0.1**
SOKA Soboth 10.03 337 *i* Pn **Pn** **08 33 36.0 -0.4**
comp=E,2.0nm,0.3s
SOKA *i* Sn **Sn** **08 35 21.7 -7.1**
comp=E,11nm,0.6s
OBKA Obir 10.04 335 *e*Pn **Pn** **08 33 37.0 +0.5**
comp=E,5.9nm,0.6s
OBKA *i* Sn **Sn** **08 35 28.3 -0.8**
comp=E,97nm,0.9s
OBKA Obir 10.04 335 *e*Pn **Pn** **08 33 32.6 -3.9**
TEOL Teolo 10.32 322 Pn **Pn** **08 33 39.6 -0.7**
PRED Cave del Predi 10.33 331 **Pn** **08 33 40.8 +0.2**
BR104 Keskin Array S 10.35 74 P **Pn** **08 33 43.3 +2.4**
comp=E,6.4nm,1.0s,comp=E,55nm
BR131 Keskin Array S 10.35 74 Pn **Pn** **08 33 43.0 +2.1**
BR131 Keskin Array S 10.35 74 P **Pn** **08 33 43.0 +2.1**
BRTR Keskin Array B 10.35 74 Pn **Pn** **08 33 43.7 +2.8**
comp=E,0.1nm,0.3s,baz=247,slow=13,SNR=3.6
BRTR LR LR 08 37 37.4
comp=E,200nm,20.1s,baz=267,slow=38
comp=E,0.8nm,0.6s
PSZ Piszkesteto 10.37 357 Pn **Pn** **08 33 42.1 +1.1**
PSZ Piszkesteto 10.37 357 P **Pn** **08 33 42.1 +1.1**
ARSA Arzberg 10.40 340 *e*Pn Pn 08 33 55.4 +14
comp=E,6.9nm,0.5s
MYKA Terra Mystica 10.46 332 *e*Pn **Pn** **08 33 45.8 +3.5**
comp=E,2.6nm,0.5s
MYKA *i* Sn **Sn** **08 35 35.6 -3.8**
comp=E,2.9nm,0.4s
BURAR Bucovina Array 10.58 17 Pn **Pn** **08 33 45.1 +1.1**
BURAR Bucovina Array 10.58 17 ⇑P **Pn** **08 33 41.5 -2.5**
BURAR Bucovina Array 10.58 17 ⇑P **Pn** **08 33 41.5 -2.5**
BUR08 Bucovina Ar. S 10.61 17 Pn **Pn** **08 33 44.9 +0.5**
RONA Rosalia, Austr 10.63 344 *e*Pn **Pn** **08 33 44.7 0.0**
comp=E,0.7nm,0.2s
CTI Castel Tesino 10.83 324 **Pn** **08 33 47.8 +0.4**
CTI Castel Tesino 10.83 324 P **Pn** **08 33 47.8 +0.4**
KBA Koelnbreinsper 10.95 333 *i* Pn **Pn** **08 33 48.6 -0.5**
comp=E,1.3nm,0.3s
KBA *e*Sn **Sn** **08 35 46.5 -5.0**
comp=E,8.0nm,0.6s
ABTA Abfaltersbach 11.00 329 *e*Pn Pn 08 34 02.1 +12
comp=E,3.3nm,0.3s
ABTA *i* Sn **Sn** **08 35 48.1 -4.5**
comp=E,10nm,0.5s
VYHS Vyhne 11.01 354 *e*P **Pn** **08 33 50.5 +0.7**
VYHS Vyhne 11.01 354 *e*PN **Pn** **08 33 50.5 +0.7**
VYHS *e*SN **Sn** **08 35 44.1 -8.6**
MODS Modra-Piesok 11.09 348 *e*P **Pn** **08 33 51.1 +0.2**
MODS *e* 08 35 48.1
MODS Modra-Piesok 11.09 348 *e*PN **Pn** **08 33 51.1 +0.2**
MODS *e*SN **Sn** **08 35 48.1 -6.6**
MOA Molln 11.31 337 *i* Pn **Pn** **08 33 55.3 +1.4**
comp=E,3.4nm,0.4s
MOA *e*Sn **Sn** **08 35 54.5 -5.6**
comp=E,8.8nm,0.8s
BIOA Bad Ischl, Aus 11.37 335 *i* Pn **Pn** **08 33 58.2 +3.4**
comp=E,5.6nm,0.4s
KOLS Kolonicke sedl 11.42 5 *e*P **Pn** **08 33 55.2 -0.2**
KOLS Kolonicke sedl 11.42 5 *e*PN **Pn** **08 33 55.2 -0.2**
LESA Schwarzleotal 11.49 332 *e*Pn **Pn** **08 33 57.3 +0.9**
comp=E,3.6nm,0.4s
LESA *e*Sn **Sn** **08 36 02.0 -2.5**
comp=E,16nm,0.4s
WTTA Wattenberg 11.77 328 *i* Pn **Pn** **08 34 03.3 +3.0**
comp=E,1.2nm,0.2s
WTTA *e*Sn **Sn** **08 36 07.8 -3.9**
comp=E,17nm,0.6s
WATA Walderalm 11.85 328 *e*Pn **Pn** **08 34 02.4 +1.0**
comp=E,3.2nm,0.3s
WATA *e*Sn **Sn** **08 36 10.5 -3.1**
comp=E,11nm,0.4s
FUORN Ofenpass-Fuorn 11.90 323 Pn **Pn** **08 34 02.3 +0.1**
SQTA Sankt Quirin 11.92 327 *e*Pn Pn 08 34 08.2 +5.9
comp=E,1.8nm,0.3s
SQTA *e*Sn **Sn** **08 36 14.1 -1.1**
comp=E,2.9nm,0.2s
FETA Feichten 11.98 325 *e*Pn **Pn** **08 34 06.7 +3.5**
comp=E,1.0nm,0.3s
FETA *e*Sn **Sn** **08 36 14.4 -2.3**
comp=E,8.4nm,0.9s
MOTA Moosalm 12.06 327 *i* Pn Pn 08 34 10.3 +6.0
comp=E,1.3nm,0.3s
MOTA *i* Sn **Sn** **08 36 15.2 -3.5**
comp=E,1.3nm,0.2s
TUE Stuetta 12.25 320 Pn **Pn** **08 34 07.0 +0.1**
RETA Reutte 12.32 327 *e*Sn **Sn** **08 36 23.3 -1.6**
comp=E,1.1nm,0.1s
GEC2 GERESS Array S 12.37 338 Pn **Pn** **08 34 08.7 +0.3**
GERES GERESS Array B 12.37 338 Pn **Pn** **08 34 10.5 +2.0**
comp=E,0.3nm,0.3s,baz=153,slow=15,SNR=7.2
GERES Sn **Sn** **08 36 18.7 -7.5**
comp=E,1.5nm,0.3s,baz=173,slow=34,SNR=7.0
comp=E,2.2nm,0.6s
MORC Moravsky Berou 12.42 350 Pn **Pn** **08 34 09.4 +0.4**
MORC Moravsky Berou 12.42 350 P **Pn** **08 34 09.4 +0.4**
DAVA Damuels 12.57 324 *e*Sn **Sn** **08 36 25.9 -5.1**
comp=E,11nm,0.4s
KHC Kasperske Hory 12.66 338 Pn **Pn** **08 34 12.7 +0.4**
KHC Kasperske Hory 12.66 338 *e*PN **Pn** **08 34 14.5 +2.1**
KHC Kasperske Hory 12.66 338 *e*P **Pn** **08 34 14.5 +2.1**
MMAI Mount Meron Ar 12.84 106 Pn **Pn** **08 34 13.1 -1.9**
comp=E,0.4nm,0.3s,baz=320,slow=7.6,SNR=1.6
MMAI Sn **Sn** **08 36 33.1 -4.7**
comp=E,1.7nm,0.3s,baz=264,slow=14,SNR=1.4
comp=E,0.6nm,0.2s
SENIN Lac Senin/Sane 13.28 316 Pn **Pn** **08 34 22.4 +1.4**
MBRI Mt Berech 14.14 119 P **Pn** **08 34 29.8 -2.9**
RNPP5 Staryi Chortor 14.15 13 P **Pn** **08 34 34.4 +1.8**
EIL Elat 14.24 119 Pn **Pn** **08 34 32.0 -2.0**
comp=E,0.9nm,0.3s,baz=325,slow=5.0,SNR=7.9
EIL Sn Sn 08 36 57.8 -14
comp=E,0.9nm,0.3s,baz=20,slow=23,SNR=2.6
EIL LR LR 08 42 18.5
comp=E,83nm,18.4s,baz=254,slow=47
comp=E,3.6nm,0.5s
RNPP1 Kostyukhnivka 14.25 13 P **Pn** **08 34 35.3 +1.4**
AQBJ Aqaba 14.27 119 P **Pn** **08 34 32.6 -1.8**
AK07 Malin Array Si 14.34 22 P **Pn** **08 34 37.6 +2.4**
ASF Jabal al Asfar 14.34 107 P **Pn** **08 34 32.6 -2.9**
SSB Saint Sauveur 14.35 308 Pn **Pn** **08 34 36.8 +1.4**
SSB Saint Sauveur 14.35 308 P **Pn** **08 34 36.8 +1.4**
AK05 Malin Array Si 14.40 22 P **Pn** **08 34 38.2 +2.2**
AK09 Malin Array Si 14.42 22 P **Pn** **08 34 38.5 +2.2**
KIEV Kiev 14.47 22 Pn **Pn** **08 34 38.2 +1.3**
KIEV Kiev 14.47 22 P **Pn** **08 34 38.2 +1.3**
KIEV Kiev 14.47 22 P **Pn** **08 34 39.3 +2.4**
AKASG Malin Array Be 14.48 22 Pn **Pn** **08 34 38.9 +1.8**
AKASG Malin Array Be 14.48 22 Pn **Pn** **08 34 35.4 -1.7**
comp=E,1.0nm,0.3s,baz=213,slow=12,SNR=4.2
AKASG LR LR 08 41 20.7
comp=E,326nm,18.3s,baz=201,slow=42
comp=E,0.4nm,0.4s
AKASG Malin Array Be 14.48 22 P **Pn** **08 34 38.9 +1.8**
AKBB Malin Array Si 14.48 22 Pn **Pn** **08 34 38.0 +0.9**
AKBB Malin Array Si 14.48 22 P **Pn** **08 34 38.0 +0.9**
AKBB Malin Array Si 14.48 22 P **Pn** **08 34 39.3 +2.2**
ECH Echery 14.53 321 Pn **Pn** **08 34 37.9 0.0**
ECH Echery 14.53 321 P **Pn** **08 34 37.9 0.0**
CLL Collm 14.79 341 Pn **Pn** **08 34 40.6 -0.7**
CLL Collm 14.79 341 *e*P **P** **08 34 45.0 -2.3**
CLL Collm 14.79 341 *e*Px Px 08 34 45.0
CLL *e*PP **PnPn** **08 34 50.0 +0.7**
CLL *es*PP 08 34 55.0
comp=Z,31nm,1.7s
CLL *i* x x 08 35 13.1
TNS Taunus Mts 15.40 329 P **P** **08 34 54.4 +0.2**
TNS pmax pmax
comp=Z,18nm,0.8s
CEST Esterri de Car 15.70 295 Pn **Pn** **08 34 54.5 +0.9**
CEST IAmb IAmb 08 35 01.4
comp=Z,13nm,0.9s
WLF Walferdange 16.00 324 P **P** **08 35 04.6 +3.8**
WLF Walferdange 16.00 324 *d*P **P** **08 35 04.6 +3.8**
comp=Z,17nm,0.9s
SUW Suwalki 16.54 5 **Pn** **08 35 04.5 +0.3**
SUW Suwalki 16.54 5 P **Pn** **08 35 04.5 +0.3**
SUW pmax pmax
comp=Z,87nm,0.9s
KVAR Kislovodsk Arr 17.82 62 P **Pn** **08 35 20.5 +0.1**
baz=272,slow=22
comp=Z,1.6nm,0.4s
NACGM Naroch 17.84 12 *e*P **P** **08 35 23.9 +2.9**
comp=Z,37nm,0.9s,baz=196
KBZ Khabaz 17.91 63 P **P** **08 35 21.7 -0.2**
comp=Z,0.1nm,0.3s,baz=164,slow=7.4,SNR=1.5
comp=Z,0.6nm,0.5s
PABE Paberze 18.08 6 **Pn** **08 35 23.1 -0.2**
PABE IAmb IAmb 08 35 28.6
comp=Z,54nm,0.8s
GNI Garni 18.89 75 P **Pn** **08 35 34.6 +1.0**
GNI IAmb IAmb 08 36 11.4
comp=Z,35nm,1.5s
GNI Garni 18.89 75 LR LR 08 44 15.2
comp=Z,209nm,18.0s,baz=280,slow=42
GNI Garni 18.89 75 P **Pn** **08 35 34.6 +1.0**
GNI pmax pmax
comp=Z,35nm,1.5s
ESBB Sonseca Array 19.37 284 P **Pn** **08 35 38.8 -0.4**
ESDC Sonseca Array 19.37 284 P **P** **08 35 38.2 +0.1**
comp=Z,0.1nm,0.3s,baz=80,slow=11,SNR=27
ESDC LR LR 08 42 48.8
comp=Z,132nm,18.1s,baz=102,slow=36
comp=Z,10nm,1.0s
PAB San Pablo 19.67 284 P **P** **08 35 42.0 +0.6**
PAB IAmb IAmb 08 36 18.4
comp=Z,28nm,1.5s
PAB San Pablo 19.67 284 P **P** **08 35 42.0 +0.6**
PAB pmax pmax
comp=Z,28nm,1.5s
LPSR Galich'ya Gora 19.71 34 *e*P **Pn** **08 35 43.1 +0.1**
LPSR pmax pmax
comp=Z,20nm,0.8s
VRH Novokhopyorsk 20.20 41 *e*P Pn 08 35 49.2 +0.4
VRH pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 20.61 27 LR LR 08 43 51.7
comp=Z,246nm,18.6s,baz=156,slow=37
MDT Midelt 21.19 265 P **P** **08 35 59.3 +1.4**
comp=Z,8.7nm,0.8s,baz=88,slow=12,SNR=8.3
MDT LR LR 08 44 16.9
comp=Z,122nm,18.0s,baz=41,slow=37
comp=Z,8.7nm,0.8s
MOS Moscow 21.47 27 *e*P P 08 36 11.2 +11
PESTR Estremoz 22.23 282 P **P** **08 36 09.1 +0.1**
PESTR IAmb IAmb 08 36 27.1
comp=Z,42nm,1.3s
HFS Hagfors 23.03 351 P **P** **08 36 16.2 -1.0**
comp=Z,3.5nm,0.5s,baz=167,slow=11,SNR=21
comp=Z,3.5nm,0.5s
NC602 NORSAR Array S 23.91 349 P **P** **08 36 27.1 +1.2**
NC602 IAmb IAmb 08 36 36.8
comp=Z,17nm,1.1s
NORES NORESS Array B 23.91 349 P **P** **08 36 28.0 +2.1**
NORES pmax pmax
comp=Z,1.0nm,0.2s
EKA Eskdalemuir Ar 24.01 325 P **P** **08 36 26.9 0.0**
comp=Z,3.9nm,0.5s,baz=128,slow=8.6,SNR=18
comp=Z,3.9nm,0.5s
ESK Eskdalemuir 24.02 325 P **P** **08 36 28.5 +1.5**
ESK IAmb IAmb 08 36 52.7
comp=Z,26nm,1.1s
ESK Eskdalemuir 24.02 325 P **P** **08 36 28.5 +1.5**
ESK pmax pmax
comp=Z,26nm,1.2s
NAO01 NORSAR Array S 24.11 348 P **P** **08 36 29.5 +1.7**
NAO01 IAmb IAmb 08 37 10.4
comp=Z,29nm,1.3s
FINES FINESS Array B 24.14 6 P **P** **08 36 27.3 -0.8**
comp=Z,1.1nm,0.4s,baz=181,slow=11,SNR=9.5
FINES LR LR 08 46 50.7
comp=Z,357nm,20.9s,baz=178,slow=39
comp=Z,1.1nm,0.4s
FINES FINESS Array B 24.14 6 P **P** **08 36 28.3 +0.2**
FIA1 FINESS Array S 24.14 6 P **P** **08 36 28.4 +0.3**
NC405 NORSAR Array S 24.24 349 P **P** **08 36 31.2 +2.2**
NC405 IAmb IAmb 08 36 35.3
comp=Z,18nm,0.9s
NB201 NORSAR Array S 24.24 349 P **P** **08 36 31.1 +2.0**
NB2 NORSAR Subarra 24.25 349 P **P** **08 36 29.2 +0.1**
comp=Z,4.2nm,0.8s,baz=159,slow=11
NOA NORSAR Array B 24.25 349 P **P** **08 36 28.3 -0.8**
comp=Z,0.8nm,0.6s,baz=158,slow=8.7,SNR=2.9
NOA LR LR 08 47 37.3
comp=Z,117nm,18.2s,baz=355,slow=41
comp=Z,0.8nm,0.6s
NBO00 NORSAR Array S 24.31 348 P **P** **08 36 29.5 -0.1**
NBO00 IAmb IAmb 08 36 37.1
comp=Z,21nm,1.1s
NC303 NORSAR Array S 24.40 349 P **P** **08 36 32.3 +1.8**
RAYN Ar Rayn 25.44 116 P **P** **08 36 39.7 -0.6**
RAYN IAmb IAmb 08 36 45.2
comp=Z,10nm,1.1s
RAYN Ar Rayn 25.44 116 P **P** **08 36 39.7 -0.6**
RAYN pmax pmax
comp=Z,10.0nm,1.2s
KLMR Klimovskoe 26.16 21 *e*P **P** **08 36 43.4 -3.0**
KLMR pmax pmax
comp=Z,21nm,1.2s
KIRV Kirov 28.10 32 LR LR 08 48 23.6
comp=Z,265nm,18.4s,baz=245,slow=37
TORD Torodi Ar. Bea 29.64 220 P **P** **08 37 18.4 +0.5**
comp=Z,1.6nm,0.8s,baz=25,slow=10,SNR=9.0
comp=Z,1.6nm,0.8s
ABKAR Akbulak array 30.48 55 P **P** **08 37 25.9 +0.8**
ARTI Arti 31.32 41 P **P** **08 37 32.0 -0.4**
ARTI IAmb IAmb 08 37 39.9
comp=Z,11nm,1.3s
ARTI Arti 31.32 41 P **P** **08 37 32.0 -0.4**
ARTI pmax pmax
comp=Z,11nm,1.3s
ARCES ARCESS Array B 32.14 3 P **P** **08 37 38.9 -0.6**
comp=Z,1.9nm,0.8s,baz=207,slow=5.2,SNR=1.9
ARCES LR LR 08 51 47.7
comp=Z,228nm,20.2s,baz=278,slow=38
comp=Z,1.9nm,0.8s
ARCES ARCESS Array B 32.14 3 P **P** **08 37 41.1 +1.7**
ARCES pmax pmax
comp=Z,31nm,1.5s
MACI Morro de la Ar 32.41 264 P **P** **08 37 42.8 +0.2**
UOSS Minazif 32.66 102 P **P** **08 37 44.4 -0.2**
UOSS IAmb IAmb 08 37 47.0
comp=Z,7.2nm,0.7s
LODK Lodwar 36.54 155 P **P** **08 38 19.6 +1.4**
BRVK Borovoye 37.35 49 P **P** **08 38 26.0 +1.4**
BRVK Borovoye 37.35 49 P **P** **08 38 26.0 +1.4**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 37.41 49 P **P** **08 38 24.6 -0.6**
comp=Z,1.8nm,0.7s,baz=261,slow=5.6,SNR=8.4
comp=Z,1.8nm,0.7s
SIMJ Simiganj 37.68 73 P **P** **08 38 28.6 +0.8**
KKAR Karatay Array 37.92 66 P **P** **08 38 29.6 0.0**
KKAR Karatay Array 37.92 66 P **P** **08 38 29.6 0.0**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
DBIC Dimbokro 38.54 223 P **P** **08 38 35.3 +0.3**
DBIC IAmb IAmb 08 38 39.8
comp=Z,22nm,1.5s
DBIC Dimbokro 38.54 223 P **P** **08 38 35.2 +0.3**
comp=Z,6.4nm,1.1s,baz=0.4,slow=7.3,SNR=2.8
comp=Z,6.4nm,1.1s
DBIC Dimbokro 38.54 223 P **P** **08 38 35.3 +0.3**
DBIC pmax pmax
comp=Z,23nm,1.5s
GAR Garm 38.59 72 P **P** **08 38 35.9 +0.4**
GAR IAmb IAmb 08 38 52.5
comp=Z,7.8nm,0.8s
BTK Batken 38.72 70 P **P** **08 38 37.8 +1.3**
BTK Batken 38.72 70 P **P** **08 38 37.8 +1.3**
BTK pmax pmax
comp=Z,6.0nm,1.2s
MBAR Mbarara 39.09 164 LR LR 08 56 43.1
comp=Z,105nm,18.1s,baz=340,slow=39
KMBO Kilima Mbogo 41.44 154 LR LR 08 57 52.2
comp=Z,62nm,18.5s,baz=89,slow=39
KURBB Kurchatov Arra 42.49 53 P **P** **08 39 05.5 -1.8**
comp=Z,0.7nm,0.4s,baz=277,slow=8.6,SNR=3.2
comp=Z,0.7nm,0.4s
KURK Kurchatov 42.53 53 P **P** **08 39 05.5 -2.2**
MK31 Makanchi Array 45.51 58 P **P** **08 39 30.9 -0.8**
MK31 Makanchi Array 45.51 58 P **P** **08 39 30.9 -0.8**
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 45.51 58 P **P** **08 39 30.7 -1.1**
comp=Z,0.9nm,0.5s,baz=274,slow=7.6,SNR=9.2
comp=Z,0.9nm,0.5s
MKAR Makanchi Array 45.51 58 P **P** **08 39 31.0 -0.7**
ZAA0 Zalesovo Array 46.00 48 P **P** **08 39 35.8 +0.4**
ZAA0 IAmb IAmb 08 39 49.3
comp=Z,5.7nm,0.7s
ZALV Zalesovo Beam 46.00 48 P **P** **08 39 33.9 -1.6**
comp=Z,2.1nm,0.5s,baz=282,slow=8.2,SNR=7.2
comp=Z,2.1nm,0.5s
ZALV Zalesovo Beam 46.00 48 P **P** **08 39 34.5 -0.9**
WMQ Urumqi 49.94 61 *e*P P 08 40 11.3 +5.1
WMQ pmax pmax
comp=Z,20nm,0.9s
DRLN Deer Lake 55.59 309 P **P** **08 40 48.5 +0.7**
SCHQ Schefferville 59.01 318 P **P** **08 41 10.3 -1.5**
comp=Z,6.0nm,1.0s,baz=90,slow=16,SNR=2.1
comp=Z,6.0nm,1.0s
SONM Songino Array 60.74 50 P **P** **08 41 24.7 +0.7**
comp=Z,0.7nm,0.7s,baz=280,slow=8.6,SNR=2.3
comp=Z,0.7nm,0.7s
BATG Bathurst New B 61.63 309 P **P** **08 41 31.1 +1.2**
LBTB Lobatse 62.42 175 LR LR 09 10 34.0
comp=Z,60nm,19.2s,baz=354,slow=38
YAK Yakutsk 65.58 29 LR LR 09 13 41.4
comp=Z,58nm,18.8s,baz=313,slow=39
BOSA Boshof 65.97 176 LR LR 09 15 38.8
comp=Z,53nm,18.9s,baz=16,slow=40
HHC Hu-ho-hao-te 67.27 55 *e*P **P** **08 42 08.0 +0.9**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,120nm,6.1s
PZH PanZhiHua 67.65 73 P **P** **08 42 11.1 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,6.1s
LONY Lake Ozonia 68.11 310 P **P** **08 42 12.3 +0.1**
A36M Sachs Harbour 68.15 349 P **P** **08 42 13.1 +1.2**
SUR Sutherland 69.58 180 LR LR 09 16 32.7
comp=Z,54nm,20.4s,baz=114,slow=39
CMAR Chiang Mai Arr 69.84 82 P **P** **08 42 22.3 -1.0**
comp=Z,1.9nm,0.3s,baz=303,slow=7.4,SNR=6.6
comp=Z,1.9nm,0.3s
INK Inuvik 72.69 350 P **P** **08 42 40.6 +0.9**
INK IAmb IAmb 08 43 16.1
comp=Z,6.6nm,1.4s
INK Inuvik 72.69 350 P **P** **08 42 40.6 +0.9**
INK pmax pmax
comp=Z,7.0nm,1.5s
C23K Itkillik River 72.72 357 P **P** **08 42 42.1 +2.3**
C23K IAmb IAmb 08 43 12.6
comp=Z,9.0nm,1.2s
E28M Babbage River 73.12 353 P **P** **08 42 44.2 +1.9**
E28M IAmb IAmb 08 42 49.6
comp=Z,5.8nm,1.4s
E29M Blow River 73.15 352 P **P** **08 42 43.9 +1.5**
E29M IAmb IAmb 08 42 49.4
comp=Z,5.8nm,1.0s
F31M Tsiigehtchic 73.53 350 P **P** **08 42 46.0 +1.3**
F31M IAmb IAmb 08 42 51.1
comp=Z,6.8nm,1.1s
D23K Nanushuk River 73.59 357 P **P** **08 42 47.2 +2.2**
C19K Lookout Ridge 73.65 0 P **P** **08 42 47.5 +2.1**
E27K Coleen River 73.73 353 P **P** **08 42 47.7 +1.8**
E27K IAmb IAmb 08 42 58.8
comp=Z,5.4nm,1.2s
TOLK Toolik Lake Re 73.86 356 P **P** **08 42 48.3 +1.6**
TOLK IAmb IAmb 08 43 20.4
comp=Z,5.9nm,1.4s
YKA Yellowknife Ar 74.01 340 LR LR 09 16 50.8
comp=Z,49nm,18.4s,baz=324,slow=37
D19K Kuna River 74.26 360 P **P** **08 42 50.0 +1.0**
G30M tAoh Zraii Nji 74.30 351 P **P** **08 42 49.2 -0.1**
E22K Anaktuvuk Pass 74.47 357 P **P** **08 42 51.1 +0.9**
E22K IAmb IAmb 08 42 56.9

comp=Z,6.3nm,1.2s
F25K Christian Rive 74.65 355 P P 08 42 51.1 -0.3
MA2 Magadan 74.80 24 LR LR 09 21 49.0
comp=Z,43nm,18.6s,baz=310,slow=41
EPYK Eagle Plains 74.94 351 P P 08 42 54.2 +1.2
EPYK IAmb IAmb 08 43 25.9
comp=Z,11nm,1.5s
H31M Peel River 75.16 350 P P 08 42 54.8 +0.6
H29M Whitestone 75.29 351 P P 08 42 55.7 +0.8
H29M IAmb IAmb 08 43 18.4
comp=Z,12nm,1.4s
E19K Redstone River 75.29 359 P P 08 42 55.9 +1.0
I30M Mount Dempster 75.99 350 P P 08 43 00.6 +1.4
I30M IAmb IAmb 08 43 11.5
comp=Z,8.1nm,1.4s
I29M Ogilvie Camp, 76.11 351 P P 08 43 00.9 +1.2
I29M IAmb IAmb 08 43 12.0
comp=Z,9.0nm,1.4s
I28M Miner Creek 76.21 352 P P 08 43 02.1 +1.7
J30M Hart River 76.60 350 P P 08 43 04.0 +1.3
J30M IAmb IAmb 08 43 45.1
comp=Z,6.4nm,1.3s
I26K Coal Creek Min 76.69 353 P P 08 43 04.6 +1.7
IMAR Indian Mountai 76.69 358 P P 08 43 04.0 +1.0
SJG San Juan 76.75 283 LR LR 09 10 01.5
comp=Z,33nm,20.1s,baz=313,slow=30
NJ2 Nanjing 77.01 60 *e*P **P 08 43 05.2 -0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
DAWY Dawson 77.48 351 P P 08 43 08.7 +1.2
DAWY IAmb IAmb 08 43 20.0
comp=Z,5.8nm,1.5s
COLA College 77.50 355 P P 08 43 09.6 +2.1
COLA College 77.50 355 P P 08 43 09.6 +2.1
COLA pmax pmax
comp=Z,8.0nm,0.4s
ILAR Eielson Array 77.53 355 P P 08 43 09.3 +1.6
comp=Z,0.2nm,0.6s,baz=103,slow=11,SNR=2.1
ILAR LR LR 09 21 18.4
comp=Z,40nm,18.1s,baz=242,slow=39
comp=Z,0.2nm,0.6s
J25K Salcha River, 77.57 354 P P 08 43 09.9 +1.9
MMPY Sheldon Lake, 77.64 347 P P 08 43 10.1 +1.7
MMPY IAmb IAmb 08 43 26.0
comp=Z,4.1nm,1.1s
KSRS Korea Array 79.61 51 P P 08 43 19.2 -0.4
comp=Z,1.3nm,0.8s,baz=316,slow=3.4,SNR=1.6
comp=Z,1.3nm,0.8s
MJAR Matsushiro Arr 86.32 46 P P 08 43 55.3 +0.9
comp=Z,0.7nm,0.5s,baz=299,slow=3.0,SNR=2.0
MJAR LR LR 09 25 56.2
comp=Z,41nm,19.5s,baz=306,slow=38
comp=Z,0.7nm,0.5s
NEW Newport 86.66 333 P P 08 43 55.8 -0.2
comp=Z,1.6nm,0.7s,baz=357,slow=4.5,SNR=3.3
comp=Z,1.6nm,0.7s
PDAR Pinedale Array 88.13 326 P P 08 44 05.0 +1.6
comp=Z,0.3nm,0.6s,baz=57,slow=3.3,SNR=1.7
comp=Z,0.3nm,0.6s
CPUP Villa Florida 96.88 242 LR LR 09 28 52.9
comp=Z,57nm,19.0s,baz=37,slow=36
LPAZ La Paz 98.83 256 LR LR 09 29 15.6
comp=Z,32nm,20.1s,baz=88,slow=35
WRA Warramunga Arr 120.37 93 PKP PKPdf 08 50 03.5 -0.6
comp=Z,0.4nm,0.9s,baz=316,slow=1.7,SNR=1.4
ASAR Alice Springs 121.97 97 PKP PKPdf 08 50 05.8 -1.3
comp=Z,0.6nm,1.1s,baz=318,slow=1.6,SNR=2.0

IDC ***05*** *08:39:34.4±1.5, 33.°71S×178.°10W, h0km, mb3.7/3, mbtmp3.7/4, ML3.3/1, MS3.6/2, Error ellipse: s-maj=37.8km s-min=31.9km az=70.0*

ISC 05 08:39:39.5±1.4, 33.°8S±0.°2×178.°1W±0.°2, h35km, n8, σ1°17/9, mb3.6/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.94**	**220**	**Pn**	**Pn**	**08 41 03.8**	**-1.1**
	0.8nm,0.3s,baz=4.3,slow=2.5,SNR=11						
URZ				Sn	**Sn**	**08 42 12.3**	**+0.5**
	2.3nm,0.3s,baz=72,slow=20,SNR=11						
	3.9nm,0.8s						
HNR	**Honiara**	**31.57**	**315**	LR	LR	08 57 29.7	
	comp=Z,52nm,18.8s,baz=120,slow=34						
ASAR	**Alice Springs**	**42.99**	**271**	P	**P**	**08 47 35.7**	**+0.1**
	0.7nm,0.8s,baz=109,slow=6.9,SNR=6.6						
ASAR				PcP	**PcP**	**08 49 25.3**	**-0.3**
	0.2nm,0.6s,baz=116,slow=3.7,SNR=2.1						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**44.28**	**276**	P	**P**	**08 47 45.6**	**-0.4**
	0.4nm,0.4s,baz=116,slow=8.2,SNR=18						
WRA				PcP	**PP**	**08 49 30.8**	**+1.2**
	0.2nm,0.6s,baz=142,slow=2.0,SNR=2.1						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**56.34**	**180**	P	**P**	**08 49 18.3**	**+1.6**
	1.5nm,1.0s,baz=49,slow=5.7,SNR=5.4						
	1.5nm,1.0s						
TGY	**Tagaytay City**	**75.07**	**299**	LR	LR	09 21 05.0	
	comp=Z,82nm,21.5s,baz=45,slow=33						
FINES	**FINESS Array B**	**148.28**	**338**	PKPbc	**PKPbc**	**08 59 21.0**	**-0.1**
	2.4nm,0.9s,baz=129,slow=13,SNR=2.2						
TORD	**Torodi Ar. Bea**	**159.46**	**179**	PKPab	**PKPab**	**09 00 11.1**	**-1.5**
	0.5nm,0.8s,baz=191,slow=2.1,SNR=2.1						

IDC ***05*** *08:44:05.2±25.0, 36.°70N×20.°28E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=488.4km s-min=47.7km az=34.0*

THE ***05*** *08:44:12.3, 37.°16N×20.°58E, h2km±1km, Error ellipse: s-maj=2.9km s-min=0.8km az=50.0*

ATH ***05*** *08:44:13.3, 37.°18N×20.°60E, h11km±1km, ML3.4/20, Error ellipse: s-maj=2.4km s-min=1.2km az=54.0*

ISC 05 08:44:13.3±1.3, 37.°19N±0.°06×20.°62E±0.°07, h21km±4km, n42, σ0°85/60, mb3.4/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.55**	**19**	P	**Pb**	**08 44 23.4**	**-0.9**
LTHK				AML	AML	08 44 31.6	
	comp=E,15212μm,0.4s						
LTHK				S	**Sb**	**08 44 31.7**	**-0.1**
LTHK				AML	AML	08 44 32.1	
	comp=N,41234μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.93**	**359**	P	**Pb**	**08 44 30.5**	**-0.1**
PSDA				S	**Sn**	**08 44 43.8**	**+0.2**
AMT	**Artemida-Makis**	**0.94**	**68**	P	**Pb**	**08 44 30.5**	**-0.3**
AMT				S	**Sn**	**08 44 44.8**	**+0.8**
AMT				AML	AML	08 44 51.8	
	comp=E,13930μm,0.3s						
AMT				AML	AML	08 44 53.6	
	comp=N,10476μm,0.5s						
PYL	**PYLOS**	**0.95**	**108**	P	**Pb**	**08 44 30.5**	**-0.5**
PYL				S	**Sn**	**08 44 44.5**	**+0.3**
PYL	**PYLOS**	**0.95**	**108**	P	**Pb**	**08 44 30.9**	**-0.1**
PYL				S	**Sn**	**08 44 44.8**	**+0.6**
PYL				AML	AML	08 44 48.5	
	comp=E,3616μm,0.3s						
PYL				AML	AML	08 44 50.5	
	comp=N,2213μm,0.4s						
VLS	**Valsamata**	**0.99**	**359**	P	**Pb**	**08 44 31.5**	**-0.2**
VLS				S	**Sn**	**08 44 46.3**	**+1.0**
VLS	**Valsamata**	**0.99**	**359**	P	**Pb**	**08 44 31.5**	**-0.2**
VLS				S	**Sn**	**08 44 46.4**	**+1.2**
VLS				AML	AML	08 44 47.6	
	comp=E,3828μm,0.3s						
VLS				AML	AML	08 44 49.3	
	comp=N,4875μm,0.3s						
LXRA	**Lixouri, Kepha**	**1.02**	**352**	P	**Pb**	**08 44 32.1**	**-0.2**
LXRA				S	**Sn**	**08 44 47.4**	**+1.4**
LXRA				AML	AML	08 44 55.0	
	comp=N,7038μm,0.4s						
LXRA				AML	AML	08 44 55.4	
	comp=E,8208μm,0.5s						
ITM	**Ithomi**	**1.05**	**90**	P	**Pb**	**08 44 32.4**	**-0.3**
ITM				S	**Sn**	**08 44 48.3**	**+1.6**
ITM	**Ithomi**	**1.05**	**90**	P	**Pb**	**08 44 32.1**	**-0.6**
ITM				S	**Sn**	**08 44 47.6**	**+0.9**
ITM				AML	AML	08 44 50.1	
	comp=N,3464μm,0.4s						
ITM				AML	AML	08 44 53.7	
	comp=E,1990μm,0.4s						
RLS	**Riolos of Patr**	**1.10**	**38**	P	**Pn**	**08 44 32.9**	**-0.5**
RLS	**Riolos of Patr**	**1.10**	**38**	P	**Pn**	**08 44 32.9**	**-0.5**
RLS				S	**Sn**	**08 44 48.4**	**+0.4**
RLS				AML	AML	08 44 52.6	
	comp=N,1436μm,0.7s						
RLS				AML	AML	08 44 54.4	
	comp=E,1051μm,0.5s						
DRO	**Drossia**	**1.16**	**48**	P	**Pn**	**08 44 34.0**	**-0.3**
DRO				S	**Sn**	**08 44 50.8**	**+1.4**
DRO				AML	AML	08 45 00.3	
	comp=N,3451μm,0.4s						
DRO				AML	AML	08 45 01.9	
	comp=E,4270μm,0.4s						
FSK	**Fiskardo**	**1.27**	**358**	P	**Pn**	**08 44 36.4**	**+0.6**
FSK				S	**Sb**	**08 44 53.0**	**+0.6**
FSK				AML	AML	08 44 57.1	
	comp=N,3111μm,0.3s						
FSK				AML	AML	08 44 58.5	
	comp=E,4363μm,0.2s						
EVGI	**Lefkada island**	**1.43**	**1**	P	**Pn**	**08 44 39.0**	**+1.0**
UPR	**University Cam**	**1.44**	**40**	P	**Pn**	**08 44 38.0**	**0.0**
KLV	**Kalavryta, Ach**	**1.49**	**54**	P	**Pn**	**08 44 39.5**	**+0.7**
KLV	**Kalavryta, Ach**	**1.49**	**54**	P	**Pn**	**08 44 39.7**	**+0.9**
KLV				AML	AML	08 45 11.9	
	comp=N,570μm,0.5s						
KLV				AML	AML	08 45 13.1	
	comp=E,439μm,0.4s						
GUR	**Goura**	**1.56**	**61**	P	**Pn**	**08 44 40.4**	**+0.5**
GUR	**Goura**	**1.56**	**61**	P	**Pn**	**08 44 40.4**	**+0.5**
GUR				AML	AML	08 45 13.1	
	comp=N,1560μm,0.5s						
GUR				AML	AML	08 45 19.4	
	comp=E,1547μm,0.5s						
LKD2	**Lefkada island**	**1.60**	**1**	P	**Pn**	**08 44 40.4**	**0.0**
LKD2				S	**Sn**	**08 44 59.5**	**-0.9**
LKD2				AML	AML	08 45 11.3	
	comp=N,1382μm,0.3s						
LKD2				AML	AML	08 45 14.5	
	comp=E,1646μm,0.4s						
EFP	**Efpalio**	**1.61**	**39**	P	**Pb**	**08 44 41.7**	**-0.5**
EFP	**Efpalio**	**1.61**	**39**	P	**Pn**	**08 44 41.3**	**+0.9**
EFP				S	**Sb**	**08 45 01.9**	**-0.1**
EFP				AML	AML	08 45 11.0	
	comp=N,734μm,0.5s						
EFP				AML	AML	08 45 16.0	
	comp=E,657μm,0.7s						
TSLK	**Tsoukalades, L**	**1.64**	**1**	P	**Pb**	**08 44 42.3**	**-0.4**
TSLK				S	**Sn**	**08 45 02.0**	**+0.8**
TSLK				AML	AML	08 45 08.9	
	comp=E,1250μm,0.6s						
TSLK				AML	AML	08 45 13.3	
	comp=N,1595μm,0.6s						
KALE	**Kalithea**	**1.71**	**45**	P	**Pb**	**08 44 43.4**	**-0.5**
KALE	**Kalithea**	**1.71**	**45**	P	**Pb**	**08 44 43.6**	**-0.3**
KALE				S	**Sn**	**08 45 02.5**	**-0.5**
KALE				AML	AML	08 45 15.0	
	comp=N,898μm,0.4s						
KALE				AML	AML	08 45 19.8	
	comp=E,1011μm,0.6s						
ANX	**Ano Chora**	**1.74**	**36**	P	**Pb**	**08 44 44.1**	**-0.6**
ANX				AML	AML	08 45 15.9	
	comp=E,1377μm,0.6s						
ANX				AML	AML	08 45 16.7	
	comp=N,1157μm,0.6s						
VLI	**Veliai**	**1.92**	**103**	P	**Pb**	**08 44 46.5**	**-1.0**
EVR	**Evrytania**	**1.97**	**28**	P	**Pn**	**08 44 46.7**	**+1.3**
EVR				S	**Sn**	**08 45 09.7**	**+0.1**
EVR				AML	AML	08 45 21.8	
	comp=E,679μm,0.6s						
EVR				AML	AML	08 45 25.4	
	comp=N,544μm,0.6s						
LOUT	**Loutraki**	**2.04**	**66**	P	**Pn**	**08 44 47.6**	**+1.2**
MAKR	**Makrakomi, Fth**	**2.18**	**33**	P	**Pb**	**08 44 50.7**	**-1.3**
MAKR				AML	AML	08 45 29.4	
	comp=E,871μm,0.5s						
MAKR				AML	AML	08 45 37.9	
	comp=N,1007μm,0.8s						
AXAR	**Agios Charalam**	**2.26**	**45**	P	**Pn**	**08 44 51.0**	**+1.7**
VIL2	**Platees**	**2.34**	**63**	P	**Pn**	**08 44 51.7**	**+1.2**
VLY	**Voula,Athens**	**2.61**	**74**	P	**Pn**	**08 44 55.1**	**+0.9**
VLY	**Voula,Athens**	**2.61**	**74**	P	**Pn**	**08 44 55.2**	**+0.9**
DION	**Dionisos Attik**	**2.78**	**70**	P	**Pn**	**08 44 57.8**	**+1.2**
TYRN	**Tyrnavos**	**2.82**	**26**	P	**Pn**	**08 44 59.2**	**+2.1**
HFS	**Hagfors**	**23.39**	**351**	P	**P**	**08 49 19.5**	**-0.8**
	comp=N,0.5nm,0.5s,baz=162,slow=10.0,SNR=1.3						
	comp=N,0.5nm,0.5s						
FINES	**FINESS Array B**	**24.52**	**6**	P	**P**	**08 49 31.0**	**+0.1**
	comp=N,0.8nm,0.4s,baz=186,slow=16,SNR=3.8						
	comp=N,0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**42.76**	**53**	P	**P**	**08 52 08.4**	**-0.5**
	comp=N,0.4nm,0.5s,baz=276,slow=8.5,SNR=4.3						
	comp=N,0.4nm,0.5s						
MKAR	**Makanchi Array**	**45.76**	**58**	P	**P**	**08 52 31.9**	**-1.1**
	comp=N,0.2nm,0.4s,baz=292,slow=6.4,SNR=2.8						
	comp=N,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**46.30**	**47**	P	**P**	**08 52 36.4**	**-0.7**
	comp=N,0.6nm,0.3s,baz=280,slow=9.7,SNR=2.0						
	comp=N,0.6nm,0.3s						

RSNC 05 08:48:31.7±0.0, 2.°N±2.°×8.°0W±.°, h20km±2km, M3.5, mb4.2, mB4.7, ML3.7, Mw(mB)4.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMC	**Tumaco**	**0.82**	**80**	P	Pb	08 48 46.0	-1.2
TUMC				S	Sb	08 48 57.2	-0.6
PAC1	**Pacto, Paraso**	**1.59**	**152**	P	Pn	08 48 57.5	-1.3
PAC1				S	Sn	08 49 17.9	-1.0
CUSE	**Cuicocha Este**	**1.77**	**140**	P	Pn	08 49 01.0	-0.7
CUSE				S	Sn	08 49 23.2	-0.6
OTAV	**Otavalo**	**1.79**	**143**	P	Pn	08 49 01.0	-1.0
OTAV				S	Sn	08 49 23.5	-0.9
CMBC	**Cumbal**	**1.86**	**113**	P	Pn	08 49 01.9	-0.9
GR1C	**Gorgona, Isla**	**1.89**	**46**	P	Pn	08 48 59.8	-3.1
GR1C				S	Sb	08 49 32.9	+4.1
TULM	**Tulcn-Chalpat**	**1.99**	**119**	P	Pn	08 49 04.8	+0.1
TULM				S	Sn	08 49 29.9	+0.7
GCUF	**Volcan Galeras**	**2.23**	**102**	P	Pn	08 49 07.1	-0.9
GCUF				S	Sn	08 49 34.7	-0.5
BBAC	**Balboa, Cauca**	**2.31**	**82**	P	Pn	08 49 06.5	-2.3
BBAC				S	Sn	08 49 36.6	-0.1
BONI	**La Bonita**	**2.34**	**121**	P	Pn	08 49 09.5	+0.2
BONI				S	Sb	08 49 40.3	-1.7
CRUC	**La Cruz**	**2.58**	**92**	P	Pn	08 49 12.2	-0.5
CRUC				S	Sn	08 49 46.0	+2.3
MALC	**Bahia Malaga**	**3.19**	**43**	P	Pn	08 49 19.1	-1.7
MALC				S	Sn	08 49 58.9	+0.7
JAMC	**Jamundi, Valle**	**3.24**	**62**	P	Pn	08 49 18.4	-3.2
JAMC				S	Sn	08 49 58.4	-1.3
YOTC	**Yotoco, Valle**	**3.92**	**54**	P	Pn	08 49 27.3	-3.6
YOTC				S	Sb	08 50 22.1	-5.2
GARC	**Garzon, Huila**	**4.07**	**83**	P	Pn	08 49 32.3	-0.8
ORTC	**Ortega, Tolima**	**4.82**	**63**	P	Pn	08 49 43.5	+0.3
PTLC	**Puerto Leguiza**	**4.96**	**108**	P	Pn	08 49 48.0	+2.8
ANIL	**Santa Ana**	**4.98**	**56**	P	Pn	08 49 44.4	-1.2
PRAC	**Prado**	**5.06**	**66**	P	Pn	08 49 46.9	+0.4
	23nm,0.4s						
URMC	**La Uribe, Meta**	**5.38**	**73**	P	Pn	08 49 50.7	-0.2
	17nm,0.8s						
CBOC	**Ciudad Bolivar**	**5.44**	**40**	P	Pn	08 49 53.2	+1.3
GUY2C	**Guyana, Caldas**	**5.45**	**50**	P	Pn	08 49 50.8	-1.4
	13nm,0.6s						
MACC	**Macarena, Meta**	**5.70**	**85**	P	Pn	08 49 55.1	-0.2
	26nm,0.7s						
CVER	**Cruz Verde, Cu**	**6.14**	**62**	P	Pn	08 50 04.5	+2.8
VILC	**Villavicencio,**	**6.31**	**67**	P	Pn	08 50 08.7	+4.9
CHIC	**Chingaza**	**6.49**	**63**	P	Pn	08 50 07.2	+0.7
	25nm,0.6s,601nm						
SPBC	**San Pablo de B**	**6.72**	**54**	P	Pn	08 50 13.3	+3.8
PTBC	**PUERTO BERRIO,**	**6.99**	**46**	P	Pn	08 50 15.6	+2.5
PTBC				S	Sn	08 51 36.0	+3.9
ZARC	**Zaragoza, Cauc**	**7.42**	**39**	P	Pn	08 50 19.5	+0.6
	9.0nm,0.6s						
RUSC	**La Rusia**	**7.67**	**57**	P	Pn	08 50 23.1	+0.2
PAMC	**Pamplona, Colo**	**8.83**	**50**	P	Pn	08 50 41.2	+2.5

IDC ***05*** *08:49:37.1±1.8, 3.°14N×128.°21E, h0km, mb3.7/5, mbtmp3.8/5, Error ellipse: s-maj=110.7km s-min=19.6km az=71.0*

DJA ***05*** *08:49:40.9±1.9, 3.°N±5.°×12.°9E±.°, h11km±14km, M4.1/7, mb4.4/4, MLv3.9/7*

ISC 05 08:49:37.9±1.4, 3.°4N±0.°1×128.°8E±0.°1, h10km, n10, σ1°55/10, mb3.7/5, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.94**	**209**	P	**Pn**	**08 50 24.6**	**-0.1**
SANI	**Sanana**	**6.07**	**207**	P	**Pn**	**08 51 08.1**	**+0.4**
	13nm,0.5s,0.1nm						
RKPI	**Ransiki, Papua**	**7.26**	**132**	P	**Pn**	**08 51 26.3**	**+2.2**
	37nm,0.5s						
LUWI	**Luwuk**	**7.43**	**234**	P	**Pn**	**08 51 28.0**	**+1.6**
MPSI	**Mapaga**	**9.37**	**251**	P	**Pn**	**08 51 54.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**21.56**	**188**	P	**P**	**08 54 25.0**	**-2.6**
	1.7nm,0.5s,baz=17,slow=11,SNR=2.6						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**23.81**	**167**	P	**P**	**08 54 50.1**	**-1.0**
	1.4nm,0.8s,baz=345,slow=10,SNR=8.4						
	1.4nm,0.8s						
ASAR	**Alice Springs**	**27.34**	**170**	P	**P**	**08 55 23.4**	**+0.1**
	0.2nm,0.6s,baz=350,slow=11,SNR=4.8						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**59.02**	**324**	P	**P**	**08 59 38.1**	**+0.1**
	0.9nm,0.4s,baz=111,slow=8.4,SNR=14						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**63.14**	**327**	P	**P**	**09 00 05.8**	**-0.1**
	0.8nm,0.4s,baz=128,slow=6.0,SNR=7.9						
	0.8nm,0.4s						

SSNC 05 08:59:13.7±3.0, 17.°90N×83.°33W, h10km, mb4.3, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOR	**Soroa**	**4.88**	**3**	*i* P	Pn	09 00 26.9	-0.3
SOR				*i* S	Sn	09 01 18.0	-5.7
CAMR	**Camarioca**	**5.45**	**19**	*i* P	Pn	09 00 35.2	+0.2
CAMR				*i* S	Sn	09 01 38.1	+0.2
MTDJ	**Mount Denham**	**5.52**	**86**	*i* P	Pn	09 00 34.5	-1.6
MTDJ				*i* S	Sn	09 01 41.1	+1.4
LMGC	**Las Mercedes**	**6.36**	**69**	*i* P	Pn	09 00 49.1	+1.6
MARVS	**Santiago de Cu**	**7.33**	**72**	*i* P	Pn	09 01 00.8	-0.1
RCC	**Rio Carpintero**	**7.51**	**73**	*i* P	Pn	09 01 02.5	-0.9
PINC	**Pinares de May**	**7.57**	**69**	*i* P	Pn	09 01 06.1	+1.9
GTBY	**Guantanamo Bay**	**8.03**	**74**	*i* P	Pn	09 01 07.5	-3.0
061Z	**Ochoppi**	**8.24**	**15**	*i* P	Pn	09 01 14.1	+0.8
061Z				*i* S	Sn	09 02 47.5	+1.0
MASC	**Masc**	**8.89**	**74**	*i* P	Pn	09 01 23.2	+0.9

NIED ***05*** *09:12:30.9, 33.°71N×135.°20E, h42km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.38; $M_{\theta\theta}$=0.16; $M_{\phi\phi}$=0.22; $M_{r\theta}$=-0.65; $M_{\theta\phi}$=-2.27; $M_{\phi r}$=-1.25; Fault plane solution: M_0=2.68000×10^{14} NP1: ϕ_s=357.00000°, δ=77.00000°, λ=-28.00000°. NP2: ϕ_s=94.00000°, δ=62.00000°, λ=-165.00000°.*

JMA 05 09:12:30.9±0.1, 33.°7N±0.°2×135.°2E±0.°2, h42km, MV3.6/39, 4D, S PART OF KII CHANNEL, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.19**	**43**	*i* P	Pn	09 12 38.3	-0.1
JWM				S	Sn	09 12 43.1	-0.5
JTNC	**Tanabenakahech**	**0.36**	**72**	*i* P	Pn	09 12 40.1	0.0
JTNC				*i* S	Sn	09 12 46.3	-0.2
JWY	**Kouya**	**0.61**	**33**	*i* P	Pn	09 12 43.2	-0.1
JWY				S	Sn	09 12 51.7	-0.3
JAI	**Aioi**	**0.63**	**278**	⇓*i* P	Pn	09 12 43.4	0.0
JAI				⇓*i* S	Sn	09 12 51.9	-0.4
JAWN	**Awajishima-nag**	**0.81**	**343**	*i* P	Pn	09 12 46.1	+0.2
JAWN				S	Sn	09 12 56.9	+0.1
JHE	**Heguri**	**1.03**	**23**	*i* P	Pn	09 12 48.9	+0.1
JHE				S	Sn	09 13 02.2	+0.1
JKN2	**Miekihoku**	**1.04**	**59**	*i* P	Pn	09 12 48.8	-0.3
JKN2				S	Sn	09 13 02.1	-0.3
JMN	**Monobe**	**1.10**	**271**	*i* P	Pn	09 12 49.6	-0.2
JMN				S	Sn	09 13 03.0	-0.9
JJS	**Sakaide**	**1.24**	**303**	⇓*i* P	Pn	09 12 51.7	-0.1
JJS				⇓S	Sn	09 13 06.5	-0.9
JKS	**Kasai**	**1.30**	**347**	P	Pn	09 12 52.8	+0.2
JKS				S	Sn	09 13 08.7	-0.2

IDC ***05*** *09:18:43.4±1.2, 37.°68N×20.°78E, h0km, mb3.6/7, mbtmp3.6/11, ML3.6/2, MS3.4/4, Error ellipse: s-maj=22.2km s-min=20.4km az=125.0*

ATH ***05*** *09:18:43.6, 37.°42N×20.°49E, h10km±1km, ML3.6/13, Manual Solution by F.Xalaris This location: 2020/09/02 09:52:53 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

THE ***05*** *09:18:45.4, 37.°50N×20.°53E, h10km±31km, ML3.4/11, Error ellipse: s-maj=31.6km s-min=1.0km az=0.0*

ISC 05 09:18:44.5±1.3, 37.°51N±0.°03×20.°57E±0.°04, h13km±9km, n74, σ0°97/92, mb3.7/7, MS3.8/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.25**	**53**	P	**Pb**	**09 18 50.4**	**-0.5**
KRI1				S	**Sb**	**09 18 54.9**	**-0.2**
	22μm,0.4s						
KRI1	**kERI**	**0.25**	**53**	P	**Pb**	**09 18 50.7**	**-0.1**
LTHK	**Lithakia**	**0.29**	**47**	P	**Pb**	**09 18 51.2**	**-0.4**
LTHK				S	**Sb**	**09 18 56.3**	**0.0**
	11μm,0.4s						
LTHK	**Lithakia**	**0.29**	**47**	P	**Pb**	**09 18 51.1**	**-0.4**
LTHK				S	**Sb**	**09 18 56.2**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.58**	**16**	P	**Pb**	**09 18 56.5**	**-0.1**
RTZL				S	**Sb**	**09 19 06.4**	**+1.6**
	4μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.60**	**1**	P	**Pb**	**09 18 56.8**	**-0.1**
PSDA				S	**Sb**	**09 19 06.3**	**+1.0**
	4μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.60**	**1**	P	**Pb**	**09 18 57.0**	**+0.1**
VLS	**Valsamata**	**0.66**	**1**	P	**Pb**	**09 18 57.6**	**-0.4**
VLS				S	**Sb**	**09 19 08.3**	**+1.1**
	2μm,0.5s						
VLS	**Valsamata**	**0.66**	**1**	P	**Pb**	**09 18 57.8**	**-0.2**
VLS				S	**Sn**	**09 19 08.7**	**-1.4**
ARG2	**Argostoli**	**0.67**	**354**	P	**Pb**	**09 18 58.3**	**+0.3**
LXRA	**Lixouri, Kepha**	**0.69**	**351**	P	**Pb**	**09 18 58.7**	**+0.2**
LXRA				S	**Sn**	**09 19 09.4**	**-1.3**
SMHA	**Samh**	**0.74**	**5**	P	**Pb**	**09 18 59.8**	**-0.9**
SMHA				S	**Sn**	**09 19 11.0**	**-0.8**
DMLN	**Damoulianata-K**	**0.74**	**348**	P	**Pb**	**09 18 59.3**	**0.0**
DMLN				S	**Sn**	**09 19 10.8**	**-1.1**
	5μm,0.5s						
DMLN	**Damoulianata-K**	**0.74**	**348**	P	**Pn**	**09 18 59.6**	**-1.2**
RLS	**Riolos of Patr**	**0.89**	**52**	P	**Pb**	**09 19 01.9**	**0.0**
RLS				S	**Sn**	**09 19 16.1**	**+0.5**
	2μm,0.6s						
RLS	**Riolos of Patr**	**0.89**	**52**	P	**Pb**	**09 19 02.1**	**+0.2**
RLS				S	**Sn**	**09 19 15.6**	**-0.1**
VSK1	**VASILIKIADES**	**0.89**	**360**	P	**Pb**	**09 19 01.9**	**0.0**
AMT

KLV	**Kalavryta, Ach**	**1.36**	**67**	P	**Pg**	**09 19 10.7**	**+0.1**
KLV				S	**Sg**	**09 19 29.0**	**+0.7**
EFP	**Efpalio**	**1.40**	**49**	P	**Pg**	**09 19 10.9**	**-0.4**
EFP	**Efpalio**	**1.40**	**49**	P	**Pg**	**09 19 10.8**	**-0.4**
ALIK	**Aliki, Aigiali**	**1.43**	**58**	P	**Pg**	**09 19 12.8**	**+0.8**
GUR	**Goura**	**1.47**	**73**	P	**Pg**	**09 19 12.1**	**-0.6**
GUR	**Goura**	**1.47**	**73**	P	**Pn**	**09 19 11.1**	**+0.3**
GUR				S	**Sb**	**09 19 31.0**	**+0.6**
ANX	**Ano Chora**	**1.52**	**44**	P	**Pg**	**09 19 13.3**	**-0.3**
ANX	**Ano Chora**	**1.52**	**44**	P	**Pb**	**09 19 12.6**	**0.0**
KALE	**Kalithea**	**1.52**	**54**	P	**Pb**	**09 19 12.7**	**+0.1**
KALE	**Kalithea**	**1.52**	**54**	P	**Pb**	**09 19 12.5**	**-0.1**
EVR	**Evrytania**	**1.71**	**34**	P	**Pg**	**09 19 18.4**	**+1.1**
MAKR	**Makrakomi, Fth**	**1.94**	**39**	P	**Pg**	**09 19 21.1**	**-0.6**
LOUT	**Loutraki**	**1.96**	**75**	P	**Pb**	**09 19 19.3**	**-0.8**
IGT	**Igoumenitsa**	**2.02**	**355**	P	**Pg**	**09 19 23.3**	**0.0**
AGG	**Agios Georgios**	**2.05**	**42**	P	**Pb**	**09 19 22.1**	**+0.5**
VLI	**Veliai**	**2.05**	**112**	P	**Pb**	**09 19 20.1**	**-1.5**
AXAR	**Agios Charalam**	**2.07**	**52**	P	**Pb**	**09 19 22.4**	**+0.5**
VILL	**Villia**	**2.27**	**72**	P	**Pn**	**09 19 23.3**	**+1.6**
KEK	**Kerkira**	**2.28**	**345**	P	**Pn**	**09 19 23.1**	**+1.3**
THL	**Klokotos Trika**	**2.34**	**28**	P	**Pb**	**09 19 25.7**	**-0.9**
TYRN	**Tyrnavos**	**2.55**	**30**	P	**Pb**	**09 19 28.1**	**-2.1**
OHR	**Ohrid**	**3.60**	**3**	*i* Pn	**Pb**	**09 19 48.6**	**+0.6**
IDI	**Anoyia**	**4.13**	**121**	Pn	**Pn**	**09 19 48.4**	**+1.0**
	6.4nm,1.0s,baz=353,slow=17,SNR=1.4						
IDI				Sn	**Sn**	**09 20 37.3**	**+1.7**
	1.8nm,0.3s,baz=298,slow=23,SNR=2.2						
PEHC	**Pehcevo**	**4.62**	**22**	*i* Pn	**Pn**	**09 19 56.5**	**+2.3**
VAE	**Valgurnera**	**4.90**	**271**	Pn	Pn	09 20 02.2	+4.3
	5.4nm,0.3s,baz=15,slow=12,SNR=1.6						
MLR	**Muntele Rosu**	**8.93**	**25**	Pn	**Pn**	**09 20 51.6**	**-1.7**
	0.2nm,0.3s,baz=320,slow=23,SNR=2.2						
	1.1nm,0.5s						
AKASG	**Malin Array Be**	**14.56**	**22**	Pn	**Pn**	**09 22 07.8**	**-2.3**
	0.2nm,0.3s,baz=210,slow=10,SNR=1.4						
	0.2nm,0.4s						
GNI	**Garni**	**19.00**	**75**	LR	LR	09 30 12.2	
	comp=Z,31nm,20.9s,baz=306,slow=37						
HFS	**Hagfors**	**23.06**	**351**	P	**P**	**09 23 48.9**	**-0.6**
	1.2nm,0.5s,baz=143,slow=10,SNR=6.7						
	1.2nm,0.5s						
EKA	**Eskdalemuir Ar**	**24.00**	**326**	P	**P**	**09 23 59.3**	**+0.6**
	1.3nm,0.8s,baz=137,slow=7.4,SNR=1.7						
	1.3nm,0.8s						
FINES	**FINESS Array B**	**24.20**	**6**	P	**P**	**09 23 59.8**	**-0.8**
	1.1nm,0.5s,baz=184,slow=11,SNR=8.2						
	1.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**29.54**	**220**	P	**P**	**09 24 51.3**	**+2.3**
	0.4nm,0.8s,baz=31,slow=9.2,SNR=2.6						
	0.4nm,0.8s						
AKTO	**Aktyubinsk**	**29.55**	**52**	LR	LR	09 38 54.8	
	comp=Z,75nm,18.4s,baz=194,slow=41						
KURBB	**Kurchatov Arra**	**42.59**	**53**	P	**P**	**09 26 38.6**	**-1.6**
	0.4nm,0.5s,baz=281,slow=8.8,SNR=4.2						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**45.62**	**58**	P	**P**	**09 27 03.3**	**-1.2**
	0.5nm,0.6s,baz=273,slow=6.8,SNR=4.3						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**46.11**	**48**	P	**P**	**09 27 06.7**	**-1.5**
	0.8nm,0.4s,baz=282,slow=7.2,SNR=1.9						
	0.8nm,0.4s						
NRIK	**Noril'sk**	**47.37**	**26**	LR	LR	09 48 15.9	
	comp=Z,99nm,18.6s,baz=326,slow=38						
RES	**Resolute Bay**	**60.42**	**344**	LR	LR	09 54 48.3	
	comp=Z,58nm,18.6s,baz=9.0,slow=36						

*JMA **05** 09:44:48.3±0.2, 44°.5N±0°.7×145°.8E±1°.0, h20km±1km, MV3.3/36, NEAR KUNASHIRI ISLAND*
*SKHL **05** 09:44:49.2±0.2, 44°.50N×145°.70E, h21km±1km, mb4.6/2*
ISC 05 09:44:47.4±3.4, 44°.52N±0°.05×145°.78E±0°.04, h12km±26km, n12, σ0°.45/22, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.48**	**173**	*e*P	**Pb**	**09 44 58.2**	**+0.4**
YUK				AMB	AMB	09 44 58.4	
	380nm,0.4s						
YUK				S	**Sb**	**09 45 04.9**	**+0.1**
YUK				A	A	09 45 07.5	
	2μm,0.2s						
YUK				A	A	09 45 07.5	
	660nm,0.2s						
JRA	**Rausu**	**0.75**	**220**	*i* P	**Pb**	**09 45 02.1**	**-0.1**
JRA				S	**Sb**	**09 45 12.0**	**-0.4**
JNSB	**Nemuroshibetsu**	**0.93**	**217**	P	**Pb**	**09 45 05.3**	**-0.1**
JNSB				S	**Sb**	**09 45 17.6**	**0.0**
SHO	**Shikotan**	**0.99**	**130**	*e*P	**Pn**	**09 45 07.2**	**+0.2**
SHO				AMB	AMB	09 45 07.3	
	350nm,0.4s						
SHO				*e*S	**Sn**	**09 45 20.9**	**0.0**
SHO				A	A	09 45 22.1	
	2μm,0.4s						
SHO				A	A	09 45 22.1	
	860nm,0.4s						
NEM2	**Nemuro 2**	**1.15**	**181**	*i* P	**Pn**	**09 45 08.5**	**-0.7**
NEM2				S	**Sb**	**09 45 23.9**	**-0.1**
JNK	**Nakash**	**1.21**	**220**	P	**Pn**	**09 45 09.6**	**-0.4**
JNK				S	**Sb**	**09 45 24.8**	**-0.8**
JTKR	**Abashiri--Toko**	**1.45**	**249**	P	**Pn**	**09 45 13.7**	**+0.3**
JTKR				S	**Sn**	**09 45 32.3**	**0.0**
JKHN	**Kushirohamanak**	**1.50**	**198**	P	**Pn**	**09 45 14.3**	**+0.2**
JKHN				S	**Sn**	**09 45 33.8**	**+0.3**
KUR	**Kuril'sk**	**1.65**	**63**	*e*P	**Pb**	**09 45 17.3**	**-0.3**
KUR				*e*S	**Sb**	**09 45 38.3**	**+0.1**
KUR				A	A	09 45 46.2	
	70nm,0.5s						
KUR				A	A	09 45 46.2	
	40nm,0.5s						
JAK	**Akkeshi**	**1.71**	**208**	*e*P	**Pn**	**09 45 16.8**	**-0.1**
JMP	**Maruseppu**	**1.81**	**255**	P	**Pn**	**09 45 18.6**	**+0.2**
JMP				S	**Sn**	**09 45 41.0**	**-0.3**
JAR	**Ashorobuto**	**1.90**	**231**	P	**Pn**	**09 45 20.7**	**+1.2**

STR 05 09:46:57.1±1.0, 43°N±4°×°±°, h5km, MLv1.9/9, Error ellipse: s-maj=0.0km s-min=0.0km az=54.8, preliminary, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STV	**Sant Anna di V**	**1.00**	**16**	Sg	Sg	09 47 29.4	+0.1
STV	**Sant Anna di V**	**1.00**	**16**	Pg	Pg	09 47 15.5	-0.8
ENR	**Entracque**	**1.00**	**20**	Pn	Pn	09 47 17.8	-0.1
JAUF	**Jausiers**	**1.16**	**353**	Pg	Pg	09 47 18.4	-0.9
JAUF				Sg	Sb	09 47 34.7	-0.3
JAUF	**Jausiers**	**1.16**	**353**	Pg	Pg	09 47 18.4	-0.9
JAUF				Sg	Sb	09 47 35.3	+0.2
RORO	**Rocca Rossa**	**1.16**	**44**	Sg	Sb	09 47 34.8	-0.2
SURF	**Saint Ours**	**1.20**	**355**	Pg	Pg	09 47 19.7	-0.5
SURF				Sg	Sb	09 47 36.8	+0.3
SURF	**Saint Ours**	**1.20**	**355**	Pg	Pg	09 47 20.2	0.0
SURF				Sg	Sb	09 47 36.8	+0.4
PZZ	**Stroppo**	**1.23**	**5**	Pg	Pg	09 47 20.6	-0.1
PZZ				Sg	Sg	09 47 36.3	-0.4
CREF	**Crivoux**	**1.29**	**349**	Pg	Pg	09 47 21.7	-0.1
CANO	**Canova, Maglio**	**1.31**	**45**	Sg	Sg	09 47 38.9	-0.4
CANO	**Canova, Maglio**	**1.31**	**45**	Pg	Pb	09 47 22.3	0.0
PGF	**Pioggiola**	**1.67**	**115**	Pg	Pb	09 47 28.2	-0.2
PGF	**Pioggiola**	**1.67**	**115**	Sn	Sg	09 47 50.7	-0.1
PGF				Sg	Sb	09 47 51.3	+1.5
PCP	**Piancastagn**	**1.71**	**42**	Pg	Pg	09 47 30.3	+0.5

STR 05 09:47:31.0±1.8, 46°N±4°×°±1°.0, h0km, MLv1.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=87.6, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VERF	**Verneugheol**	**0.19**	**40**	Pg	Pg	09 47 33.9	-0.8
VERF				Sg	Sg	09 47 37.2	-0.1
FRNF	**Fournols**	**0.28**	**140**	Pg	Pg	09 47 35.9	-0.4
FRNF				Sg	Sg	09 47 39.8	-0.1
AGO	**Saint Agoulin**	**0.73**	**52**	Pg	Pg	09 47 45.1	+0.1
AGO				Sg	Sb	09 47 57.2	0.0
LBL	**Lubilhac**	**0.76**	**119**	Pg	Pg	09 47 45.9	+0.4
LBL				Sg	Sb	09 47 58.7	+0.7
COLF	**Collangettes**	**0.98**	**94**	Pg	Pg	09 47 49.3	-0.4
COLF				Sg	Sg	09 48 02.8	+0.3

IDC 05 09:51:21.2±999.0, 54°.35N×2°.92E, h0km, Error ellipse: s-maj=447.1km s-min=163.4km az=112.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.68**	**125**	I	I	10 42 30.0	
	0.1nm,0.6s,baz=314,slow=323,SNR=0.9						
I43RU	**DUBNA INFRASONI**	**9.43**	**69**	I	I	11 44 10.0	
	baz=278,slow=322,SNR=2.9						
I31KZ	**AKTYUBINSK INF**	**33.15**	**74**	I	I	13 16 10.0	
	baz=297,slow=321,SNR=1.0						

VIE 05 09:55:59.6±0.1, 48°.81N×16°.14E, h0km, mb1.4/3, ml1.9/4, Error ellipse: s-maj=1.8km s-min=0.8km az=97.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRUC	**Moravsky**	**0.30**	**34**	*e*PG	Pg	09 56 05.3	-0.1
KRUC				*e*SG	Sg	09 56 09.3	0.0
VRAC	**Vranov**	**0.58**	**31**	*e*PG	Pg	09 56 10.4	-0.3
VRAC				*e*SG	Sg	09 56 18.2	0.0
CONA	**Conrad Observa**	**0.90**	**192**	*e*Pg	Pg	09 56 17.2	+0.3
	1.7nm,0.2s						
CONA				*i* Sg	Sb	09 56 29.9	-0.8
	1.7nm,0.2s						
JAVC	**Velka Javorina**	**1.01**	**87**	*e*PG	Pn	09 56 20.8	-0.3
RONA	**Rosalia, Austr**	**1.12**	**175**	*i* Pg	Pg	09 56 21.0	0.0
	1.0nm,0.1s						
RONA				*i* Sg	Sb	09 56 36.4	-0.5
	2.9nm,0.2s						
MORC	**Moravsky Berou**	**1.33**	**43**	*e*PG	Pg	09 56 24.5	-0.6
MOA	**Molln**	**1.58**	**233**	*e*Pn	Pn	09 56 28.9	+0.1
	0.9nm,0.1s						
MOA				*e*Sn	Sg	09 56 50.6	+0.4
	3.5nm,0.3s						

KRSZO 05 09:56:26.2±1.2, 48°.50N×17°.49E, h0km, M1.7/4, Error ellipse: s-maj=8.2km s-min=4.5km az=139.0, Suspected Explosion. locality : Trstin Slovakia description : suspected quarry blast, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A334A	**Sterusy**	**0.16**	**51**	Pg	Pg	09 56 30.3	+1.0
MODS	**Modra-Piesok**	**0.19**	**227**	Pg	Pg	09 56 30.4	+0.6
MODS				Lg	Lg	09 56 34.6	
MODS	**Modra-Piesok**	**0.19**	**227**	*e*PG	Pg	09 56 30.8	+1.0
MODS				*e*SG	Sg	09 56 34.5	+2.2
JAVC	**Velka Javorina**	**0.38**	**19**	Pg	Pg	09 56 33.9	+0.4
JAVC				Lg	Lg	09 56 40.5	
A335A	**Lovce**	**0.57**	**95**	Lg	Lg	09 56 46.0	
KRUC	**Moravsky**	**0.91**	**308**	Pn	Pb	09 56 45.0	0.0
KRUC				Lg	Lg	09 56 56.9	
CONA	**Conrad Observa**	**1.23**	**243**	Pg	Pn	09 56 50.7	-0.1
CONA				Sn	Sn	09 57 08.3	+0.2

IDC 05 10:01:50.8±999.0, 54°.06N×2°.61E, h0km, Error ellipse: s-maj=484.2km s-min=180.8km az=106.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.67**	**122**	I	I	10 52 20.0	
	0.1nm,0.5s,baz=312,slow=320,SNR=0.7						
I43RU	**DUBNA INFRASONI**	**9.71**	**68**	I	I	11 59 09.7	
	baz=279,slow=322,SNR=3.1						
I31KZ	**AKTYUBINSK INF**	**33.41**	**73**	I	I	13 27 30.0	
	baz=297,slow=320,SNR=0.5						

*IDC **05** 10:12:19.8±1.8, 5°.54S×130°.85E, h0km, mb4.0/2, mbtmp4.2/6, ML4.1/4, Error ellipse: s-maj=60.8km s-min=24.8km az=84.0*
*NEIC **05** 10:12:37.3±2.1, 6°.21S±0°.09×130°.02E±0°.09, h128km±19km, mb4.2/3, Error ellipse: s-maj=14.7km s-min=11.8km az=225.0*
*DJA **05** 10:12:38.2±0.4, 6°.S±3°.×13°.0E±°, h181km±7km, M4.4/15, mb4.2/6, mB5.2/5, MLv4.4/15, Mw(mB)4.6/5*
ISC 05 10:12:37.2±0.8, 6°.32S±0°.05×130°.16E±0°.07, h150km, n30, σ2°.22/36, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.80**	**352**	P	**Pn**	**10 13 12.2**	**+2.1**
BNDI				S	**Sn**	**10 13 38.1**	**+2.7**
SAUI	**Saumlaki**	**2.00**	**146**	Pn	**Pn**	**10 13 13.4**	**+1.0**
SAUI					**Sn**	**10 13 40.6**	**+1.1**
SAUI	**Saumlaki**	**2.00**	**146**	P	**Pn**	**10 13 16.4**	**+4.0**
MSAI	**Masohi**	**3.20**	**337**	P	**Pn**	**10 13 29.4**	**+2.3**
MSAI				S	**Sn**	**10 14 03.6**	**-2.2**
AAI	**Ambon**	**3.27**	**323**	P	**Pn**	**10 13 30.1**	**+2.1**
FAKI	**Fak Fak**	**3.97**	**32**		**Pn**	**10 13 35.7**	**-1.4**
FAKI	**Fak Fak**	**3.97**	**32**	P	**Pn**	**10 13 35.2**	**-1.9**
NLAI	**Namlea**	**4.32**	**315**	P	**Pn**	**10 13 44.6**	**+2.9**
SWI	**Sorong**	**5.53**	**11**	P	**Pn**	**10 13 55.6**	**-2.1**
	45nm,0.6s,3μm0.9nm						
SANI	**Sanana**	**5.94**	**315**	P	**Pn**	**10 14 04.7**	**+1.5**
	21nm,0.6s,0.1nm						
RKPI	**Ransiki, Papua**	**6.23**	**40**	P	**Pn**	**10 14 05.2**	**-1.9**
MTN	**Manton Dam**	**6.56**	**172**		**Pn**	**10 14 14.1**	**+2.8**
SOEI	**Soe**	**6.76**	**239**	P	**Pn**	**10 14 18.8**	**+4.6**
BATI	**Baumata**	**7.50**	**239**	Pn	**Pn**	**10 14 24.8**	**+0.8**
	5.1nm,0.3s,baz=267,slow=6.1,SNR=1.6						
BATI				Sn	**Sn**	**10 15 44.0**	**-3.9**
	13nm,0.3s,baz=76,slow=15,SNR=2.4						
	31nm,0.5s						
KNRA	**Kununurra**	**9.40**	**188**		**Pn**	**10 14 51.2**	**+1.9**
FITZ	**Fitzroy Crossi**	**12.51**	**200**		**Pn**	**10 15 31.9**	**+1.7**
FITZ	**Fitzroy Crossi**	**12.51**	**200**	Pn	**Pn**	**10 15 30.2**	**+0.1**
	1.0nm,0.3s,baz=29,slow=8.9,SNR=28						
FITZ				Sn	**Sn**	**10 17 45.2**	**-3.4**
	0.7nm,0.3s,baz=171,slow=21,SNR=6.4						
	4.3nm,0.4s						
WB0	**Warramunga Arr**	**13.99**	**163**	Pn	**Pn**	**10 15 49.3**	**+0.2**
WRAB	**Tennant Creek**	**14.13**	**164**	Pn	**Pn**	**10 15 50.3**	**-0.6**
WRA	**Warramunga Arr**	**14.14**	**164**	Pn	**Pn**	**10 15 51.9**	**+0.9**
WRA	**Warramunga Arr**	**14.14**	**164**	Pn	**Pn**	**10 15 49.6**	**-1.4**
	0.5nm,0.3s,baz=350,slow=13,SNR=34						
WRA				Sn	Sn	10 18 18.4	-9.4
	1.0nm,0.3s,baz=344,slow=22,SNR=9.2						
	0.9nm,0.6s						
WB2	**Warramunga Arr**	**14.14**	**164**	Pn	**Pn**	**10 15 52.0**	**+1.0**
WR0	**Warramunga Arr**	**14.21**	**163**	Pn	**Pn**	**10 15 52.8**	**+0.8**
COEN	**Coen**	**14.88**	**122**	Pn	**P**	**10 16 03.0**	**+0.7**
COEN				IAmb	IAmb	10 16 34.3	
	comp=Z,24nm,1.5s						
AS31	**Alice Springs**	**17.62**	**169**	P	**Pn**	**10 16 35.4**	**+1.7**
AS31				IAmb	IAmb	10 16 38.3	
	comp=Z,2.9nm,0.6s						
ASAR	**Alice Springs**	**17.62**	**169**	P	**Pn**	**10 16 35.4**	**+1.7**
ASAR	**Alice Springs**	**17.62**	**169**	P	**Pn**	**10 16 35.3**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=350,slow=10.0,SNR=106						
ASAR				S	**S**	**10 19 44.5**	**-3.6**
	comp=Z,1.7nm,0.7s,baz=354,slow=28,SNR=7.7						
	comp=Z,5.2nm,0.6s						
PSA00	**Pilbara Seismi**	**18.15**	**212**	P	**P**	**10 16 40.1**	**+1.8**
PSA00				IAmb	IAmb	10 16 57.7	
	comp=Z,15nm,1.1s						
MKAR	**Makanchi Array**	**67.75**	**327**	P	**P**	**10 23 18.1**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=120,slow=6.7,SNR=16						
	comp=Z,1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**72.02**	**328**	P	**P**	**10 23 43.1**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=134,slow=5.3,SNR=1.7						
	comp=Z,0.3nm,0.3s						

IDC 05 10:21:46.6±4.8, 21°.72S×179°.97W, h600km±35km, mb3.2/4, mbtmp4.2/5, Error ellipse: s-maj=103.7km s-min=54.6km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.38**	**335**	P	P	10 23 14.9	0.0
	12nm,0.3s,baz=180,slow=5.9,SNR=24						
STKA	**Stephens Creek**	**35.60**	**245**	P	P	10 27 55.0	-0.5
	3.0nm,0.5s,baz=93,slow=9.3,SNR=9.3						
	3.0nm,0.5s						
ASAR	**Alice Springs**	**42.46**	**258**	P	P	10 28 50.5	-0.2
	4.3nm,0.8s,baz=93,slow=7.7,SNR=40						
ASAR				PcP	PcP	10 30 28.6	-0.8
	0.3nm,0.6s,baz=86,slow=3.8,SNR=1.7						
	4.3nm,0.8s						
WRA	**Warramunga Arr**	**42.62**	**264**	P	P	10 28 51.5	-0.4
	1.0nm,0.3s,baz=96,slow=7.3,SNR=74						
FITZ	**Fitzroy Crossi**	**51.05**	**264**	P	P	10 29 56.0	+0.8
	2.6nm,0.8s,baz=90,slow=8.1,SNR=8.4						
	2.6nm,0.8s						

*IDC **05** 10:36:39.7±0.8, 16°.12N×94°.88W, h0km, mb4.1/12, mbtmp4.2/15, ML4.1/3, MS3.8/35, Error ellipse: s-maj=24.4km s-min=11.9km az=62.0*
*MEX **05** 10:36:43.2±0.8, 15°.89N×95°.19W, h13km±7km, MD4.7*
*GCMT **05** 10:36:43.3±0.4, 16°.11N±0°.04×95°.12W±0°.02, h20km±1km, MW4.8/63, Moment Tensor Solution. s20,c25; s63,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~1.68±.17; Mθθ~0.19±.10; Mφφ 1.86±.11; Mrθ 0.42±.26; Mrφ 0.47±.07; Mθφ~0.60±.16; Best double couple: Mo1.97500×10^16 NP1:φs355.00000°, δ55.00000°, λ~112.00000°. NP2: φs210.00000°, δ40.00000°, λ~62.00000°. Principal axes: T 2.0300, Plg8.0000°, Azm100.0000°; N -0.1180, Plg18.0000°, Azm8.0000°; P -1.9200, Plg71.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **05** 10:36:44.3±2.4, 16°.08N±0°.05×95°.16W±0°.03, h27km±6km, mb4.4/116, Md4.7/131(MEX) Error ellipse: s-maj=6.7km s-min=4.8km az=189.0*
*CATAC **05** 10:36:46.0±0.6, 16°.04N×95°.03W, h35km±9km, MB5.2, mb5.1, ML5.2*
ISC 05 10:36:40.5±0.4, 15°.96N±0°.03×95°.19W±0°.02, h10km, n298, σ1°.84/332, mb4.4/36, MS3.8/33, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.91**	**258**	*e*P	**Pg**	**10 36 57.2**	**-0.9**
HUIG				*e*S	**Sg**	**10 37 09.1**	**-0.9**
CMIG	**Matias Romero**	**1.16**	**14**		**Sb**	**10 37 14.9**	**-2.8**
CMIG	**Matias Romero**	**1.16**	**14**	Pn	**Pb**	**10 37 00.3**	**-2.3**
	594nm,0.3s,baz=194,slow=14,SNR=6640						
CMIG				Sn	**Sb**	**10 37 15.0**	**-2.8**
	1μm,0.3s,baz=114,slow=24,SNR=16						
CMIG	**Matias Romero**	**1.16**	**14**	*e*P	**Pb**	**10 37 00.7**	**-2.0**
CMIG				*e*S	**Sb**	**10 37 14.9**	**-2.8**
CARR	**Arriaga**	**1.25**	**77**	*e*P	**Pn**	**10 37 01.7**	**-2.4**
CARR				*e*S	**Sb**	**10 37 16.7**	**-3.8**
UXUV	**UXUV**	**1.68**	**36**	*e*P	**Pb**	**10 37 09.5**	**-2.0**
UXUV				*e*S	**Sb**	**10 37 31.7**	**-1.0**
NEUV	**Arroyo Zacate**	**1.84**	**341**	*e*P	**Pn**	**10 37 10.7**	**-1.5**
NEUV				*e*S	**Sn**	**10 37 33.5**	**-2.0**
OXBJ	**Oaxaca**	**1.84**	**307**		**Pn**	**10 37 12.5**	**+0.1**
OXBJ					**Sn**	**10 37 35.1**	**-0.7**
OXBJ	**Oaxaca**	**1.84**	**307**	*e*P	**Pn**	**10 37 12.5**	**+0.1**
OXBJ				*e*S	**Sn**	**10 37 35.1**	**-0.7**
OXIG	**Oaxaca**	**1.85**	**307**		**Pn**	**10 37 12.2**	**-0.3**
OXIG					**Sn**	**10 37 34.2**	**-1.9**
VHO	**Vista Hermosa**	**1.85**	**307**	*e*P	**Pn**	**10 37 12.2**	**-0.3**
VHO				*e*S	**Sn**	**10 37 34.2**	**-1.9**
PEIG	**Puerto Escondi**	**1.89**	**271**		**Pn**	**10 37 11.3**	**-1.6**
PEIG					**Sn**	**10 37 34.4**	**-2.4**
PEIG	**Puerto Escondi**	**1.89**	**271**	*e*P	**Pn**	**10 37 11.3**	**-1.6**
PEIG				*e*S	**Sn**	**10 37 34.4**	**-2.4**
PCIG		**1.91**	**97**		**Sn**	**10 37 34.8**	**-2.4**
PCIG		**1.91**	**97**	*e*P	**Pn**	**10 37 11.5**	**-1.6**
PCIG				*e*S	**Sn**	**10 37 34.8**	**-2.4**
TGIG		**2.14**	**67**		**Pn**	**10 37 15.9**	**-0.4**
TGIG					**Sn**	**10 37 42.3**	**-0.7**
TGIG		**2.14**	**67**	*e*P	**Pn**	**10 37 15.9**	**-0.4**
TGIG				*e*S	**Sn**	**10 37 42.3**	**-0.7**
TGBT	**Tuxtla Gutierr**	**2.17**	**68**		**Pb**	**10 37 16.8**	**-3.1**
TGBT					**Sn**	**10 37 43.3**	**-0.3**
TGBT	**Tuxtla Gutierr**	**2.17**	**68**	*e*P	**Pb**	**10 37 16.8**	**-3.1**
TGBT				*e*S	**Sn**	**10 37 43.3**	**-0.3**
TUIG	**Tuzandepetl**	**2.18**	**19**	*e*P	**Pn**	**10 37 17.0**	**0.0**
TUIG				*e*S	**Sb**	**10 37 44.5**	**-2.8**
YOIG	**Yosondua**	**2.43**	**292**		**Pn**	**10 37 21.5**	**+0.8**
YOIG					**Sn**	**10 37 49.1**	**-1.5**
YOIG	**Yosondua**	**2.43**	**292**	*e*P	**Pn**	**10 37 21.5**	**+0.8**
YOIG				*e*S	**Sn**	**10 37 49.1**	**-1.5**
PMUV	**Sontecomapan**	**2.57**	**1**	*e*P	**Pn**	**10 37 20.3**	**-2.0**
PMUV				*e*S	**Sn**	**10 37 49.9**	**-3.7**
TOIG	**Toxpalan**	**2.78**	**320**		**Pb**	**10 37 27.4**	**-3.1**
TOIG					**Sn**	**10 38 00.3**	**+1.4**
TOIG	**Toxpalan**	**2.78**	**320**	*e*P	**Pb**	**10 37 27.4**	**-3.1**
TOIG				*e*S	**Sn**	**10 38 00.3**	**+1.4**
TXIG	**Tlaxiaco**	**2.79**	**298**		**Pb**	**10 37 27.6**	**-3.0**
TXIG					**Sn**	**10 37 58.7**	**-0.7**
TXIG	**Tlaxiaco**	**2.79**	**298**	*e*P	**Pb**	**10 37 27.6**	**-3.0**
TXIG				*e*S	**Sn**	**10 37 58.7**	**-0.7**
PNIG	**Pinotepa**	**2.86**	**279**		**Pn**	**10 37 25.2**	**-1.1**
PNIG					**Sn**	**10 37 59.4**	**-1.4**
PNIG	**Pinotepa**	**2.86**	**279**	*e*P	**Pn**	**10 37 25.2**	**-1.1**
PNIG				*e*S	**Sn**	**10 37 59.4**	**-1.4**
VHSA	**Villahermosa**	**2.94**	**47**	*e*P	**Pn**	**10 37 28.4**	**+1.0**
VHSA				*e*S	**Sn**	**10 38 03.3**	**+0.6**
CCIG	**Comitan**	**2.95**	**83**		**Pn**	**10 37 27.8**	**+0.2**
CCIG	**Comitan**	**2.95**	**83**	*e*P	**Pn**

ESSG Sabana Grande 4.49 110 *i* P **Pn 10 37 50.1 +1.4**
ESSG *i* S **Sn 10 38 40.6 -0.5**
ESSG IAML 10 39 19.4
comp=Z,1μm,1.0s
PBXN Popocatepetl 4.49 313 *eP* **Pn 10 37 47.7 -1.4**
PBXN *eP* **Pn 10 37 51.2 +2.1**
PBXN *eS* **Sn 10 38 40.8 -0.9**
PBXN *eS* **Sn 10 38 42.8 +1.1**
PPM Popocatepetl 4.51 314 *eP* Pb 10 37 55.0 -5.1
PPM *eS* **Sn 10 38 44.1 +1.9**
PPIG Popocatepetl 4.51 314 Sn 10 38 44.1 +1.9
GUMI Mixco 4.61 106 *i* P **Pn 10 37 50.9 +0.4**
GUMI *i* S **Sn 10 38 43.6 -0.6**
GUMI IAML 10 39 30.7
comp=Z,2μm,1.0s
AVCB Coban 4.63 95 IAML 10 37 47.3
comp=Z,4μm,1.0s
AVCB *i* P **Pn 10 37 52.0 +1.3**
AVCB *i* S **Sn 10 38 43.5 -1.1**
MEIG Mezcala 4.67 295 Pn 10 37 52.1 +0.9
MEIG **Sn 10 38 46.0 +0.4**
MEIG Mezcala 4.67 295 *eP* **Pn 10 37 52.1 +0.9**
MEIG *eS* **Sn 10 38 46.0 +0.4**
GCG4 OSOP 4.69 106 *i* P **Pn 10 37 52.6 +1.0**
GCG4 IAML 10 38 07.3
comp=Z,2μm,1.0s
GCG4 *i* S **Sn 10 38 45.0 -1.3**
YAIG Yautepec 4.70 308 Pn 10 37 53.6 +1.9
YAIG **Sn 10 38 46.5 +0.2**
YAIG Yautepec 4.70 308 *eP* **Pn 10 37 53.6 +1.9**
YAIG *eS* **Sn 10 38 46.5 +0.2**
CXUV Coxquihui 4.77 332 *eP* **Pn 10 37 54.0 +1.4**
CXUV *eS* **Sn 10 38 50.8 +2.8**
PLIG Platanillo 4.78 301 Pn 10 37 55.5 +2.7
PLIG **Sn 10 38 50.7 +2.3**
PLIG Platanillo 4.78 301 *eP* **Pn 10 37 55.5 +2.7**
PLIG *eS* **Sn 10 38 50.7 +2.3**
SCIG Sabancuy 4.85 51 *eP* **Pn 10 37 52.4 -1.2**
SCIG *eS* **Sn 10 38 45.6 -4.1**
MPVM San Francisco 4.87 312 *eP* Pb 10 38 00.3 -5.8
THVM De Xico 4.91 313 *eP* Pn 10 37 59.5 +4.8
TXVM Universitario 4.96 315 *eP* **Pn 10 37 58.2 +2.9**
TLVM San Miguel Top 4.97 311 *eP* Pn 10 37 59.9 +4.3
XCVM Xochimilco 4.98 312 *eP* **Pn 10 37 58.4 +2.8**
CAIG El Cayaco 4.99 283 Pn 10 37 54.6 -1.0
CAIG **Sn 10 38 53.9 +0.5**
CAIG El Cayaco 4.99 283 *eP* **Pn 10 37 54.6 -1.0**
CAIG *eS* **Sn 10 38 53.9 +0.5**
CNCY Coyoacan 5.06 312 *eP* **Pn 10 37 58.6 +1.9**
COVM Coyoacan 5.07 312 *eP* **Pn 10 37 57.3 +0.4**
UNM Universidad Na 5.07 312 *eP* **Pn 10 38 00.3 +3.5**
UNM *eS* **Sn 10 38 56.2 +0.6**
MAVM Malinalco, Edo 5.08 307 *eP* Pn 10 37 49.8 -7.1
PBVM Pinon 5.08 314 *eP* Pn 10 38 02.1 +5.4
BJVM Benito Juarez 5.09 312 *eP* **Pn 10 37 59.4 +2.2**
MHVM Bosque de Chap 5.14 312 *eP* Pb 10 38 03.8 -7.0
CJVM Cuajimalpa 5.17 311 *eP* **Pn 10 37 59.6 +1.4**
PETF Flores 5.19 79 Pn 10 37 58.3 0.0
PETF Flores 5.19 79 *eP* **Pn 10 37 57.7 -0.6**
PETF *eS* **Sn 10 38 54.8 -3.5**
PETF Flores 5.19 79 *i* P **Pn 10 37 58.9 +0.6**
PETF IVmB_BB 10 38 00.8
comp=Z,8μm,1.0s
PETF IAmb IAmb 10 38 01.2
comp=Z,870nm,0.7s
PETF *i* S **Sn 10 38 57.0 -1.3**
PETF IAML 10 39 02.4
comp=Z,950nm,1.0s
INVM La Marquesa 5.19 310 *eP* **Pn 10 38 00.1 +1.4**
APVM Azcapotzalco 5.20 313 Pn 10 38 00.7 +2.1
APVM Azcapotzalco 5.20 313 *eP* **Pn 10 38 00.7 +2.1**
ARIG Puente Sto Nin 5.45 296 Pn 10 38 02.6 +0.7
ARIG **Sn 10 39 03.5 -1.2**
ARIG Puente Sto Nin 5.45 296 *eP* **Pn 10 38 02.6 +0.7**
ARIG *eS* **Sn 10 39 03.5 -1.2**
JUAM Asuncion Mita 5.53 106 *i* P **Pn 10 38 04.0 +0.9**
JUAM IAmb IAmb 10 38 25.4
comp=Z,410nm,0.8s
JUAM *i* S **Sn 10 39 06.3 -0.5**
JUAM IAML 10 40 27.3
comp=Z,520nm,1.0s
NUBE Las Nubes 5.61 111 *i* P **Pn 10 38 05.1 +0.9**
NUBE IVmB_BB 10 38 17.0
comp=Z,3μm,1.0s
NUBE IAmb IAmb 10 38 17.4
comp=Z,390nm,0.7s
NUBE *i* S **Sn 10 39 08.1 -0.8**
NUBE IAML 10 39 49.7
comp=Z,570nm,1.0s
DEIG Demacu 5.66 320 *eP* **Pn 10 38 07.9 +2.9**
DEIG *eS* **Sn 10 39 13.0 +2.9**
DHIG Demacu 5.66 320 Pn 10 38 07.9 +3.0
CEVE Cerro Verde 5.78 111 *i* P **Pn 10 38 08.6 +2.0**
CEVE IAmb IAmb 10 38 19.4
comp=Z,350nm,0.6s
CEVE IVmB_BB 10 38 23.4
comp=Z,4μm,1.0s
CEVE *i* S **Sn 10 39 13.4 +0.2**
CEVE IAML 10 39 36.8
comp=Z,710nm,1.0s
ESQI Esquipulas 5.81 103 Pn 10 38 09.4 +2.5
ESQI Esquipulas 5.81 103 *i* P **Pn 10 38 07.8 +0.9**
ESQI IAmb IAmb 10 38 24.4
comp=Z,390nm,0.8s
ESQI *i* S **Sn 10 39 12.8 -0.9**
MTO3 Montecristo 5.83 105 Pn 10 38 08.2 +0.8
MTO3 Montecristo 5.83 105 *i* P **Pn 10 38 07.6 +0.2**
MTO3 IAmb IAmb 10 38 35.8
comp=Z,150nm,0.9s
MTO3 IVmB_BB 10 38 47.7
comp=Z,2μm,1.0s
MTO3 *i* S **Sn 10 39 14.0 -0.5**
MTO3 IAML 10 40 13.0
comp=Z,290nm,1.0s
ACIG Acambay 5.99 312 Pn 10 38 08.4 -1.1
ACIG Acambay 5.99 312 *eP* **Pn 10 38 08.4 -1.1**
JAYA Jayaque - finc 6.00 112 *i* P **Pn 10 38 11.5 +1.9**
JAYA IAmb IAmb 10 38 26.0
comp=Z,360nm,0.8s
JAYA IVmB_BB 10 38 29.6
comp=Z,5μm,1.0s
JAYA *i* S **Sn 10 39 17.9 -0.7**
JAYA IAML 10 39 24.0
comp=Z,690nm,1.0s
PMON Piamonte 6.10 111 *i* P **Pn 10 38 12.7 +1.8**
PMON IAML 10 38 23.9
comp=Z,450nm,1.0s
PMON IAmb IAmb 10 38 24.0
comp=Z,320nm,0.6s
PMON IVmB_BB 10 38 34.5
comp=Z,4μm,1.0s
PMON *i* S **Sn 10 39 20.8 -0.1**
SNET Serv Nac Est T 6.19 111 Pn 10 38 13.5 +1.4
ZIIG Zihuatanejo 6.23 286 Pn 10 38 13.3 +0.7
ZIIG Zihuatanejo 6.23 286 *eP* **Pn 10 38 13.3 +0.7**
ZIIG *eS* **Sn 10 39 19.7 -4.3**
CTUV Llano Grande 6.25 332 *eP* Pb 10 38 22.9 -6.6
CTUV *eS* **Sn 10 39 27.5 +3.1**
IZABA Izabal, Puerto 6.36 91 *eP* **Pn 10 38 14.0 -0.3**
IZABA Izabal, Puerto 6.36 91 *i* P **Pn 10 38 15.4 +1.1**
IZABA IAmb IAmb 10 38 20.6
comp=Z,1.2nm,0.6s
IZABA IVmB_BB 10 38 21.8
comp=Z,120nm,1.0s
IZABA *i* S **Sn 10 39 25.7 -1.3**
IZABA IAML 10 40 23.7
comp=Z,5.2nm,1.0s
SCLA Alcaldia de Sa 6.64 109 *i* P **Pn 10 38 19.7 +1.5**
SCLA IVmB_BB 10 38 40.1
comp=Z,930nm,1.0s
SCLA IAmb IAmb 10 38 40.6
comp=Z,110nm,0.8s
SCLA *i* S **Sn 10 39 33.4 -0.6**
SCLA IAML 10 40 15.5
comp=Z,170nm,1.0s
TECO Alcaldia de Te 6.65 110 *i* P **Pn 10 38 20.3 +1.9**
TECO IVmB_BB 10 38 33.0
comp=Z,1μm,1.0s
TECO IAmb IAmb 10 38 33.3
comp=Z,75nm,0.8s
TECO *i* S **Sn 10 39 33.9 -0.4**
TECO IAML 10 40 01.6
comp=Z,130nm,1.0s

MOIG Morelia 6.81 304 Pn 10 38 21.9 +1.1
MOIG Morelia 6.81 304 *eP* **Pn 10 38 22.9 +2.1**
MOIG *eS* **Sn 10 39 42.4 +3.9**
MOIG Morelia 6.81 304 *i* P **Pn 10 38 24.3 +3.5**
MOIG IAmb IAmb 10 38 53.5
comp=Z,140nm,0.7s
MOIG IVmB_BB 10 39 00.3
comp=Z,2μm,1.0s
MOIG *i* S **Sn 10 39 43.6 +5.1**
MOIG IAML 10 40 26.8
comp=Z,1μm,1.0s
MYIG Merida 7.17 45 *eP* **Pn 10 38 26.0 +0.5**
MYIG *eS* **Sn 10 39 43.6 -3.3**
RPIG Rio Verde 7.44 323 Pn 10 38 29.8 +0.5
RPIG Rio Verde 7.44 323 *eP* **Pn 10 38 29.8 +0.5**
RPIG *eS* **Sn 10 39 56.6 +2.8**
TEIG Tepich 7.82 56 Pn **Pn 10 38 33.5 -0.9**
TEIG Tepich 7.82 56 Pn **Pn 10 38 32.3 -2.1**
comp=Z,14nm,0.3s,baz=54,slow=3.1,SNR=104
TEIG Sn **Sn 10 39 55.9 -7.1**
comp=Z,37nm,0.3s,baz=54,slow=21,SNR=10
TEIG LR LR 10 41 31.1
comp=Z,409nm,21.6s,baz=243,slow=39
comp=Z,49nm,0.3s
TGUH Tegucigalpa,Un 7.88 103 Pn **Pn 10 38 37.5 +2.2**
GTIG Gomez Farias 8.00 333 Pn 10 38 39.0 +2.1
GTIG **Sn 10 40 08.3 +0.7**
GTIG Gomez Farias 8.00 333 *eP* **Pn 10 38 39.0 +2.1**
GTIG *eS* **Sn 10 40 08.3 +0.7**
MMIG Aquila 8.14 288 Pn 10 38 39.6 +0.8
MMIG **Sn 10 40 12.3 +1.4**
MMIG Aquila 8.14 288 *eP* **Pn 10 38 39.6 +0.8**
MMIG *eS* **Sn 10 40 12.3 +1.4**
CRIN San Cristobal 8.52 111 Pn 10 38 46.1 +2.0
CRIN San Cristobal 8.52 111 *eP* **Pn 10 38 40.9 -3.3**
COIG Colima 8.72 293 *eP* **Pn 10 38 48.9 +2.0**
EZ5V 8.75 295 Pn 10 38 50.8 +3.3
EZ5V 8.75 295 *eP* **Pn 10 38 50.8 +3.3**
MNGA Volcan de Coli 8.76 295 *eP* **Pn 10 38 50.8 +3.2**
INCO Volcan de Coli 8.77 295 *eP* **Pn 10 38 50.8 +2.9**
SOMAC Volcano de Col 8.79 295 *eP* **Pn 10 38 51.3 +3.1**
CEGR Campo Tres 8.94 294 *eP* **Pn 10 38 52.2 +2.2**
ZAIG Zacatecas 9.71 315 Pn **Pn 10 38 58.8 -1.8**
ZAIG Zacatecas 9.71 315 *eP* **Pn 10 39 01.6 +0.9**
ZAIG *eS* **Sn 10 40 54.9 +4.8**
ZAIG Zacatecas 9.71 315 *i* P **Pn 10 39 03.7 +3.0**
ZAIG IAmb IAmb 10 39 23.9
comp=Z,16nm,1.3s
LNIG Linares 9.75 336 *eP* **Pn 10 38 59.6 -1.3**
LNIG *eS* **Sn 10 40 51.6 +1.0**
BOAB BOACO BROADBAN 10.87 110 Pn **Pn 10 39 02.4 -0.2**
LCRUZ La Cruz 10.48 116 *eP* **Pn 10 39 14.2 +3.2**
ACON Acoyapa 10.50 111 Pn **Pn 10 39 12.3 +1.1**
ELI1 Hacienda Flor 10.76 118 *eP* **Pn 10 39 17.6 +2.8**
CUI Cuipilapa 11.09 117 *eP* **Pn 10 39 21.2 +1.9**
JTS Las Juntas de 11.45 118 Pn **Pn 10 39 26.5 +2.3**
JTS Las Juntas de 11.45 118 Pn **Pn 10 39 24.0 -0.3**
comp=Z,0.8nm,0.3s,baz=314,slow=17,SNR=4.7
JTS Sn **Sn 10 41 27.8 -4.5**
comp=Z,0.2nm,0.3s,baz=194,slow=20,SNR=1.8
comp=Z,4.2nm,0.3s
JTS Las Juntas de 11.45 118 *eP* **Pn 10 39 25.9 +1.6**
ABE2 San Pablo 12.51 118 *eP* **Pn 10 39 39.9 +0.9**
833A Chaparral WMA, 12.90 343 Pn 10 39 41.7 -2.4
HNDO Hondo 14.02 345 Pn 10 39 58.4 -0.9
BRU2 Volcan 14.13 119 Pn 10 40 02.7 +1.7
HPIG 14.63 320 Pn **Pn 10 40 05.7 -2.2**
HPIG 14.63 320 *i* P **P 10 40 11.5 -2.8**
HPIG IAmb IAmb 10 40 27.5
comp=Z,8.4nm,1.0s
435B Jarrell 14.91 352 Pn **Pn 10 40 11.4 -0.1**
JCT Junction City 15.06 344 Pn 10 40 13.8 +0.3
TXAR Lajitas Array 15.43 331 Pn **P 10 40 19.9 -3.2**
comp=Z,0.1nm,0.3s,baz=150,slow=10,SNR=12
TXAR LR LR 10 46 20.6
comp=Z,92nm,20.2s,baz=139,slow=38
comp=Z,2.6nm,1.1s
BRDY Brady 15.65 348 Pn **Pn 10 40 21.3 +0.1**
BRDY IAmb IAmb 10 40 45.4
comp=Z,19nm,0.8s
NATX Nacogdoches 15.73 2 Pn **Pn 10 40 22.5 +0.2**
NATX IAmb IAmb 10 40 32.9
comp=Z,24nm,0.8s
OZNA Ozona 15.85 341 Pn **P 10 40 25.4 -2.3**
ALPN Alpine 16.30 333 IAmb IAmb 10 40 39.7
comp=Z,33nm,1.4s
FW13 Cleburne 16.44 353 P **P 10 40 34.9 +0.7**
FW16 Waxahatchie 16.52 355 IAmb IAmb 10 40 46.2
comp=Z,42nm,0.8s
FW07 Weatherford 16.83 352 P **P 10 40 38.1 -0.4**
PLPT Palo Pinto 17.01 351 P **P 10 40 41.0 +0.4**
PLPT IAmb IAmb 10 41 05.4
comp=Z,21nm,0.8s
FW06 Azle 17.07 353 P **P 10 40 41.3 +0.1**
ABTX Abilene, Hawle 17.07 347 P **P 10 40 40.1 -1.1**
ABTX IAmb IAmb 10 40 45.2
comp=Z,78nm,1.4s
FW03 Perrin-Whitt E 17.20 352 IAmb IAmb 10 40 45.0
comp=Z,26nm,0.7s
Z38A Mt. Pleasant 17.22 1 IAmb IAmb 10 40 45.5
comp=Z,48nm,0.9s
SN05 Snyder 5 17.62 344 IAmb IAmb 10 41 02.6
comp=Z,24nm,0.8s
WLAR White Oak Lake 17.75 6 IAmb IAmb 10 40 59.2
comp=Z,56nm,1.3s
APMT Aspermont 17.85 346 IAmb IAmb 10 40 56.1
comp=Z,20nm,0.8s
WTFS Witchita Falls 17.97 351 P 10 40 49.7 -1.4
WTFS IAmb IAmb 10 41 13.9
comp=Z,23nm,0.6s
LOOK Love County 18.04 355 IAmb IAmb 10 41 09.6
comp=Z,38nm,0.8s
DKNS Dickens 18.37 345 IAmb IAmb 10 41 04.6
comp=Z,20nm,0.7s
X37A Clayton 18.55 360 IAmb IAmb 10 41 03.9
comp=Z,28nm,0.8s
MIAR Mount Ida 18.56 4 P **Pn 10 40 57.1 -0.6**
MIAR IAmb IAmb 10 41 10.2
comp=Z,22nm,1.1s
UALR University of 18.91 7 P **Pn 10 41 01.2 -0.7**
UALR IAmb IAmb 10 41 03.1
comp=Z,20nm,0.7s
W35A Tecumseh 19.17 356 IAmb IAmb 10 41 06.7
comp=Z,32nm,0.8s
MSTX Muleshoe 19.19 340 IAmb IAmb 10 41 12.9
comp=Z,21nm,0.9s
HSIG 19.49 315 *i* P **Pn 10 41 11.2 +2.1**
HSIG IAmb IAmb 10 41 16.7
comp=Z,20nm,3.0s
AMTX Amarillo 19.72 344 IAmb IAmb 10 41 29.6
comp=Z,17nm,0.8s
TUL3 Leonard 19.87 359 IAmb IAmb 10 41 29.8
comp=Z,40nm,1.2s
FCAR Ozark Folk Cen 20.03 7 IAmb IAmb 10 41 14.8
comp=Z,17nm,0.7s
121A Cookes Peak, D 20.07 328 IAmb IAmb 10 41 25.5
comp=Z,13nm,0.9s
RLO Rose Lookout 20.12 0 IAmb IAmb 10 41 46.4
comp=Z,20nm,1.1s
HHAR Hobbs 20.27 3 IAmb IAmb 10 41 23.6
comp=Z,14nm,0.9s
U38A Gravette 20.41 2 P 10 41 16.9 -0.9
U38A IAmb IAmb 10 41 25.7
comp=Z,16nm,0.9s
PBMO Poplar Bluff 21.16 11 IAmb IAmb 10 41 44.7
comp=Z,13nm,0.9s
MGMO Mountain Grove 21.27 6 IAmb IAmb 10 41 31.7
comp=Z,27nm,1.4s
ANMO Albuquerque 21.44 334 P **P 10 41 28.6 -0.5**
ANMO Albuquerque 21.44 334 P **P 10 41 30.0 +0.8**
comp=Z,1.0nm,0.6s,baz=121,slow=15,SNR=3.3
comp=Z,1.0nm,0.6s
TUC Tucson 21.58 322 P **P 10 41 30.4 -0.1**
TUC IAmb IAmb 10 41 42.2
comp=Z,14nm,1.1s
S39A Bolivar 21.71 4 IAmb IAmb 10 41 33.4
comp=Z,14nm,0.8s
TKL Tuckaleechee C 22.11 25 LR LR 10 52 39.4
comp=Z,127nm,18.2s,baz=207,slow=44
U49A Red Boiling Sp 22.11 20 IAmb IAmb 10 41 52.5
comp=Z,13nm,1.1s
T47A Sharon Grove 22.14 17 IAmb IAmb 10 42 10.4
comp=Z,10nm,0.7s
CCM Cathedral Cave 22.28 8 P **P 10 41 36.5 -1.5**
CCM IAmb IAmb 10 41 49.6

comp=Z,12nm,1.1s
R40A Maddies Statio 22.39 6 IAmb IAmb 10 41 47.5
comp=Z,32nm,1.5s
T25A Trinidad 22.62 341 IAmb IAmb 10 42 02.8
comp=Z,15nm,1.1s
OTAV Otavalo 22.73 132 P **P 10 41 44.8 +1.3**
OTAV IAmb IAmb 10 42 08.4
comp=Z,14nm,1.3s
OTAV Otavalo 22.73 132 *eP* **P 10 41 46.8 +3.3**
X18A Snowflake 22.76 327 IAmb IAmb 10 42 14.2
comp=Z,11nm,1.0s
ROSC El Rosal 23.28 116 P **P 10 41 50.4 +1.3**
ROSC El Rosal 23.28 116 P **P 10 41 48.8 -0.3**
comp=Z,4.7nm,0.4s,baz=304,slow=18,SNR=8.0
ROSC LR LR 10 50 41.2
comp=Z,151nm,18.0s,baz=283,slow=36
comp=Z,4.7nm,0.4s
P40A Paris 23.64 6 P **P 10 41 49.9 -2.1**
P40A IAmb IAmb 10 41 57.4
comp=Z,11nm,0.8s
P43A Skaggs, Pawnee 24.10 11 IAmb IAmb 10 42 03.7
comp=Z,14nm,0.8s
COHC Cochancay 24.15 138 P **P 10 41 59.1 +2.1**
MVCO Mesa Verde 24.23 333 IAmb IAmb 10 42 22.9
comp=Z,8.9nm,0.9s
WUAZ Wupatki 24.26 326 P **P 10 41 57.3 -0.8**
WUAZ IAmb IAmb 10 42 26.9
comp=Z,12nm,1.0s
SDV Santo Domingo 24.97 103 LR LR 10 52 53.6
comp=Z,185nm,20.3s,baz=283,slow=39
W13A Hualapai Mount 25.37 322 P **P 10 42 07.0 -1.2**
CBX Cerro Bola 25.40 314 P **P 10 42 08.5 +0.1**
CBX IAmb IAmb 10 42 19.1
comp=Z,9.7nm,1.0s
HMU Henry Mountain 25.84 331 IAmb IAmb 10 42 47.2
comp=Z,15nm,1.3s
PFO Pinyon Flats O 26.02 316 P **P 10 42 14.6 +0.5**
PFO Pinyon Flats O 26.02 316 LR LR 10 53 20.2
comp=Z,248nm,18.3s,baz=143,slow=38
SJG San Juan 27.83 81 LR LR 10 54 10.3
comp=Z,166nm,20.6s,baz=266,slow=38
ATAH Atahualpa 28.34 143 LR LR 10 52 35.6
comp=Z,96nm,18.4s,baz=320,slow=34
PDAR Pinedale Array 29.41 338 P **P 10 42 46.6 +2.1**
comp=Z,0.6nm,0.7s,baz=138,slow=8.4,SNR=6.1
comp=Z,0.6nm,0.7s
HVU Hansel Valley 29.86 333 IAmb IAmb 10 42 54.8
comp=Z,5.8nm,1.1s
NV11 Mina Array Sit 30.14 322 IAmb IAmb 10 42 59.2
comp=Z,9.0nm,1.0s
ELK Elko 30.20 329 LR LR 10 54 49.0
comp=Z,120nm,19.7s,baz=177,slow=36
NVAR Mina Array Bea 30.23 322 P **P 10 42 53.8 +2.0**
comp=Z,4.9nm,0.8s,baz=135,slow=8.9,SNR=20
NVAR LR LR 10 54 22.1
comp=Z,294nm,18.0s,baz=138,slow=35
comp=Z,4.9nm,0.8s
PCRV Puerto La Cruz 30.29 97 LR LR 10 57 36.1
comp=Z,131nm,18.1s,slow=42
TPAW Teton Pass 30.55 337 IAmb IAmb 10 43 15.2
comp=Z,8.4nm,1.1s
SADO Sadowa 31.75 22 LR LR 10 56 34.0
comp=Z,52nm,21.0s,baz=260,slow=38
CZSB Cruzeiro do Su 32.40 135 *eP* **P 10 43 13.8 +3.0**
J08A Circle Bar Ran 33.76 329 IAmb IAmb 10 43 40.1
comp=Z,6.7nm,1.0s
ULM Lac du Bonnet 34.20 359 LR LR 10 59 17.8
comp=Z,80nm,18.0s,baz=186,slow=40
YBH Yreka Blue Hor 34.94 323 LR LR 10 58 21.8
comp=Z,184nm,20.2s,baz=150,slow=37
TEFE Tefe 35.88 120 *eP* **P 10 43 42.1 +1.0**
ETMB Extrema 38.45 130 P **P 10 44 03.4 +0.5**
ETMB IAmb IAmb 10 44 08.1
comp=Z,12nm,1.0s
ETMB Extrema 38.45 130 *eP* **P 10 44 04.4 +1.5**
MACA Manacapuru-AM 39.05 116 *eP* **P 10 44 08.0 +0.1**
SAML Samuel 40.21 126 P **P 10 44 16.6 -1.0**
SAML IAmb IAmb 10 44 21.4
comp=Z,7.0nm,0.9s
SAML Samuel 40.21 126 *eP* **P 10 44 17.3 -0.3**
LPAZ La Paz 41.71 139 P **P 10 44 31.4 +0.9**
LPAZ La Paz 41.71 139 P **P 10 44 30.1 -0.5**
comp=Z,2.2nm,0.9s,baz=334,slow=7.5,SNR=7.6
LPAZ LR LR 11 01 06.0
comp=Z,95nm,18.8s,baz=300,slow=35
comp=Z,2.2nm,0.9s
LPAZ La Paz 41.71 139 *eP* **P 10 44 31.6 +1.0**
MDP Montagnes des 43.11 100 LR LR 11 03 24.7
comp=Z,96nm,21.6s,baz=267,slow=38
GO01 Chusmiza 43.67 143 P **P 10 44 48.1 +1.8**
GO01 IAmb IAmb 10 44 49.5
comp=Z,7.7nm,1.1s
ITTB Itaituba 43.95 114 *eP* **P 10 44 48.0 -0.2**
SCHQ Schefferville 44.54 23 LR LR 11 04 45.8
comp=Z,116nm,18.8s,baz=282,slow=38
VILB Vilhena 44.97 128 *eP* **P 10 44 58.0 +1.7**
NPGB Novo Progresso 45.58 117 *eP* **P 10 45 00.3 -0.8**
LVC Limon Verde 46.17 145 *eP* **P 10 45 08.2 +2.1**
SIV San Ignacio 46.28 132 LR LR 11 03 23.2
comp=Z,98nm,19.2s,baz=316,slow=35
PDRB Porto dos Gac 46.89 123 *eP* **P 10 45 11.8 +0.3**
CLDB Colider 47.23 122 *eP* **P 10 45 13.7 -0.5**
PTLB Pontes e Lacer 47.34 129 *eP* **P 10 45 15.6 +0.6**
BBSD Serra de San D 47.40 133 *eP* **P 10 45 15.1 -0.3**
PRPB Parauapebas 50.01 113 *eP* **P 10 45 36.0 +0.5**
SALV Santo Antonio 50.22 127 *eP* **P 10 45 38.4 +1.3**
SNDB Serra Nova Dou 51.54 120 *eP* **P 10 45 47.4 +0.4**
BDQN Bodoquena, MS 52.29 133 *eP* **P 10 45 52.2 -0.4**
ARAG Araguaiana, MT 53.14 124 *eP* **P 10 45 58.9 -0.1**
SMTB Santa Maria do 53.19 114 *eP* **P 10 45 59.3 0.0**
AMBA Amambai (Brazi 55.14 134 *eP* **P 10 46 14.1 +0.6**
SJPY San Joaquin 55.76 136 *eP* **P 10 46 18.1 +0.2**
CPUP Villa Florida 55.87 138 P **P 10 46 17.9 -0.8**
comp=Z,3.5nm,1.1s,baz=326,slow=7.3,SNR=3.9
CPUP LR LR 11 09 11.3
comp=Z,80nm,19.7s,baz=326,slow=35
comp=Z,3.5nm,1.1s
CPUP Villa Florida 55.87 138 *eP* **P 10 46 18.9 +0.3**
BDFB Brasilia 56.17 122 P **P 10 46 20.8 -0.2**
comp=Z,3.4nm,0.6s,baz=291,slow=8.6,SNR=5.3
BDFB LR LR 11 12 33.2
comp=Z,108nm,18.1s,baz=326,slow=38
comp=Z,3.4nm,0.6s
SDBA SAO DESIDERIO 57.17 117 *eP* **P 10 46 27.5 -0.7**
IPMB Ipameri, GO 57.26 124 *eP* **P 10 46 30.4 +1.7**
INK Inuvik 57.71 344 P **P 10 46 29.9 -1.2**
SFJD Kangerlussuaq 58.62 19 LR LR 11 12 56.9
comp=Z,67nm,20.5s,baz=178,slow=37
ITQB Itaqui 58.67 141 *eP* **P 10 46 39.2 +0.9**
JANB Januaria 58.95 119 *eP* **P 10 46 40.1 -0.5**
F28M Old Crow 59.04 342 P **P 10 46 40.7 +0.2**
PSAL Palomas, Salto 59.09 142 *eP* **P 10 46 41.7 +0.4**
KDAK Kodiak Island 59.44 328 LR LR 11 10 15.7
comp=Z,76nm,21.4s,baz=137,slow=34
ILAR Eielson Array 59.84 337 P **P 10 46 45.9 -0.1**
comp=Z,1.5nm,1.0s,baz=138,slow=4.5,SNR=10
ILAR LR LR 11 15 40.0
comp=Z,132nm,18.4s,baz=116,slow=39
comp=Z,1.5nm,1.0s
PLCA Paso Flores 60.87 159 P **P 10 46 54.5 +1.2**
comp=Z,2.1nm,0.7s,baz=345,slow=12,SNR=3.5
PLCA LR LR 11 08 30.1
comp=Z,73nm,18.2s,baz=340,slow=31
comp=Z,2.1nm,0.7s
DIAM Diamantina, MG 61.09 122 *eP* **P 10 46 55.1 -0.3**
TRQA Tornquist 62.12 151 *eP* **P 10 47 02.1 +0.3**
PPT Papeete 63.11 240 LR LR 11 08 22.8
comp=Z,77nm,19.7s,baz=4.0,slow=30
BORG Borgarnes 68.80 26 LR LR 11 16 25.1
comp=Z,90nm,20.8s,baz=297,slow=35
EKA Eskdalemuir Ar 78.18 36 P **P 10 48 37.8 -2.3**
comp=Z,3.6nm,0.8s,baz=263,slow=5.7,SNR=3.3
comp=Z,3.6nm,0.8s
ESDC Sonseca Array 80.91 51 P **P 10 48 54.8 -0.6**
comp=Z,1.4nm,0.9s,baz=292,slow=6.3,SNR=3.2
ESDC LR LR 11 21 08.4
comp=Z,114nm,21.0s,baz=322,slow=33
comp=Z,1.4nm,0.9s
MDT Midelt 82.00 58 LR LR 11 17 58.8
comp=Z,49nm,21.0s,baz=348,slow=30
NB2 NORSAR Subarra 83.88 28 P **P 10 49 13.4 +2.9**
comp=Z,15nm,1.2s,baz=292,slow=5.1
NOA NORSAR Array B 83.88 28 P **P 10 49 09.2 -1.2**
comp=Z,1.0nm,0.8s,baz=295,slow=5.3,SNR=2.6
NOA LR LR 11 25 48.6
comp=Z,62nm,20.6s,baz=285,slow=35
comp=Z,1.0nm,0.8s

DBIC	**Dimbokro**	**88.51**	**84**	LR	LR	11 27 09.2	
	comp=Z,34nm,20.0s,baz=348,slow=34						
FINES	**FINESS Array B**	**90.01**	**24**	LR	LR	11 30 36.9	
	comp=Z,90nm,18.2s,baz=355,slow=36						
GERES	**GERESS Array B**	**90.03**	**39**	LR	LR	11 29 56.5	
	comp=Z,68nm,19.5s,baz=301,slow=36						
NRIK	**Noril'sk**	**94.90**	**359**	LR	LR	11 39 08.8	
	comp=Z,49nm,18.4s,baz=330,slow=40						
AKASG	**Malin Array Be**	**97.74**	**32**	LR	LR	11 35 55.8	
	comp=Z,74nm,18.1s,baz=345,slow=36						
OBN	**Obninsk**	**98.30**	**26**	LR	LR	11 35 38.3	
	comp=Z,58nm,18.4s,baz=343,slow=36						
HHC	**Hu-ho-hao-te**	**118.27**	**337**	*e*P	**PKiKP**	**10 55 30.8**	**+2.1**
WRA	**Warramunga Arr**	**132.85**	**257**	PKP	**PKiKP**	**10 55 57.7**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=88,slow=1.5,SNR=3.8						
ASAR	**Alice Springs**	**133.37**	**252**	PKP	**PKiKP**	**10 55 59.0**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=86,slow=1.1,SNR=4.2						
PZH	**PanZhiHua**	**134.69**	**338**	PKP	**PKiKP**	**10 56 00.6**	**-1.2**

*TRN **05** 10:55:57.2, 10°.81N×62°.82W, h91km, MD3.2, North of the Paria peninsula.*
*FUNV **05** 10:55:57.4, 10°.53N×62°.80W, h16km, MW3.8*
ISC 05 10:55:54.1±1.6,**10°.70N**±0°.06×**62°.78W**±0°.04,
h131km±**17**km,**n13**,σ1°**89**/23,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**1.22**	**91**	*e*P	**Pn**	**10 56 21.3**	**+2.1**
PSMG				*e*S	**Sn**	**10 56 37.7**	**-0.6**
PSKH	**Kent House, Po**	**1.23**	**91**	*e*P	**Pn**	**10 56 21.0**	**+1.7**
PSKH				*e*S	**Sn**	**10 56 37.8**	**-0.7**
TRN	**Trinidad (W)**	**1.35**	**92**	*e*P	**Pn**	**10 56 22.1**	**+1.6**
TRN				*e*S	**Sn**	**10 56 39.6**	**-1.1**
GRFF	**Grenada Fort F**	**1.69**	**37**	*e*S	**Sn**	**10 56 44.8**	**-2.7**
GRGR	**Grenville**	**1.80**	**37**	*e*P	**Pn**	**10 56 25.7**	**0.0**
GRGR				*e*S	**Sn**	**10 56 47.2**	**-2.8**
PCRV	**Puerto La Cruz**	**1.90**	**254**	*e*P	**Pn**	**10 56 28.4**	**+1.5**
PCRV				*e*S	**Sn**	**10 56 49.8**	**-2.2**
PCRV	**Puerto La Cruz**	**1.90**	**254**	*e*P	**Pn**	**10 56 28.4**	**+1.5**
PCRV				*e*S	**Sn**	**10 56 50.9**	**-1.2**
GCMP	**Grenada, Carri**	**2.22**	**36**	*e*P	**Pn**	**10 56 32.3**	**+1.6**
GCMP				*e*S	**Sn**	**10 56 57.9**	**-1.0**
TOSP	**Speyside**	**2.28**	**75**	*e*P	**Pn**	**10 56 32.8**	**+1.3**
TOSP				*e*S	**Sn**	**10 57 00.2**	**-0.1**
BENV	**Beln**	**4.80**	**262**	*e*P	**Pn**	**10 57 06.6**	**+2.0**
BENV				*e*S	**Sn**	**10 57 59.1**	**-0.3**
CACV	**CAICARA DEL OR**	**4.85**	**230**	*e*P	Pn	10 57 01.2	-4.0
CACV				*e*S	Sn	10 57 49.2	-11
LUEV	**Luepa**	**4.99**	**165**	*e*P	**Pn**	**10 57 08.3**	**+1.0**
LUEV				*e*S	**Sn**	**10 58 00.9**	**-3.4**
BAUV	**El Baul**	**5.47**	**252**	*e*P	**Pn**	**10 57 15.1**	**+1.6**
BAUV				*e*S	**Sn**	**10 58 13.1**	**-2.5**

*IDC **05** 10:57:59.4±20.0, 23°.27S×179°.20W, h378km±179km, mb3.6/4, mbtmp4.4/4, Error ellipse: s-maj=106.6km s-min=24.4km az=54.0*
*NOU **05** 10:58:13.8, 24°.03S×179°.71E, h451km, mb4.0/10, South of Fiji Islands*
ISC 05 10:58:13.8±0.8,**23°.8S**±0°.1×**179°.9E**±0°.2,**h500**km,**n18**,
σ1°**79**/19,**mb4.0/4**,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**5.71**	**13**	P	**P**	**10 59 46.7**	**-0.8**
MSVF	**Nonsavu**	**6.31**	**344**	P	**P**	**10 59 53.6**	**+0.2**
NIUE	**Niue**	**10.62**	**65**	P	**P**	**11 00 40.7**	**+2.9**
URZ	**Urewera**	**14.56**	**189**	P	**P**	**11 01 18.0**	**-1.2**
BKZ	**Black Stump Fm**	**15.54**	**190**	P	**P**	**11 01 28.9**	**-0.6**
BFZ	**Birch Farm**	**17.07**	**189**	P	**P**	**11 01 43.5**	**-1.7**
QRZ	**Quartz Range**	**18.02**	**198**	P	**P**	**11 01 54.8**	**+0.6**
KHZ	**Kahutara**	**19.26**	**194**	P	**P**	**11 02 05.4**	**0.0**
RPZ	**Rata Peaks**	**21.11**	**198**	P	**P**	**11 02 23.8**	**+1.5**
JCZ	**Jackson Bay**	**22.14**	**202**	P	**P**	**11 02 31.3**	**-0.4**
ASAR	**Alice Springs**	**41.93**	**261**	P	**P**	**11 05 22.2**	**+2.0**
	3.2nm,0.7s,baz=96,slow=7.2,SNR=45						
	3.2nm,0.7s						
WRA	**Warramunga Arr**	**42.29**	**266**	P	**P**	**11 05 24.6**	**+1.5**
	3.3nm,0.4s,baz=96,slow=8.4,SNR=85						
WRA				PcP	**PcP**	**11 07 06.1**	**+0.5**
	0.5nm,0.7s,baz=91,slow=3.6,SNR=3.4						
	3.3nm,0.4s						
QSPA	**South Pole Qui**	**66.24**	**180**	P	**P**	**11 08 12.1**	**+0.5**
	3.3nm,0.7s,baz=42,slow=2.0,SNR=32						
	3.3nm,0.7s						
MAW	**Mawson**	**77.76**	**200**	P	**P**	**11 09 18.6**	**+0.3**
	1.6nm,0.7s,baz=115,slow=9.7,SNR=6.7						
	1.6nm,0.7s						
HFS	**Hagfors**	**142.47**	**349**	PKP	**PKPdf**	**11 16 44.0**	**-4.8**
	1.9nm,1.0s,baz=82,slow=3.2,SNR=7.9						
AKASG	**Malin Array Be**	**144.86**	**327**	PKP	**PKPdf**	**11 16 51.5**	**-1.7**
	0.6nm,0.4s,baz=47,slow=4.3,SNR=6.2						
MMAI	**Mount Meron Ar**	**147.57**	**294**	PKPbc	**PKPbc**	**11 17 03.0**	**+1.1**
	1.3nm,0.3s,baz=65,slow=8.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**169.22**	**190**	PKPab	**PKPab**	**11 18 38.7**	**-0.7**
	0.3nm,0.6s,baz=127,slow=2.8,SNR=3.7						

*IDC **05** 11:15:26.4±1.6, 28°.67S×62°.19E, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=51.3km s-min=28.8km az=100.0*
ISC 05 11:15:28.0±1.6,**28°.7S**±0°.2×**62°.2E**±0°.4,**h10**km,**n9**,σ0°**05**/6,
mb4.1/6,**Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**19.29**	**202**	T	T	11 39 51.9	
	baz=30,slow=74,SNR=33						
H04N1	**CROZET ISLANDS**	**19.30**	**202**	T	T	11 39 51.3	
	baz=30,slow=74,SNR=29						
H04N3	**CROZET ISLANDS**	**19.31**	**202**	T	T	11 39 44.5	
	baz=30,slow=74,SNR=32						
CMAR	**Chiang Mai Arr**	**58.78**	**42**	P	**P**	**11 25 26.6**	**-0.1**
	1.0nm,0.7s,baz=233,slow=7.3,SNR=5.9						
	1.0nm,0.7s						
QSPA	**South Pole Qui**	**61.49**	**180**	P	**P**	**11 25 44.8**	**0.0**
	2.5nm,0.9s,baz=268,slow=2.1,SNR=12						
	2.5nm,0.9s						
ASAR	**Alice Springs**	**63.68**	**104**	P	**P**	**11 26 00.1**	**0.0**
	1.1nm,0.8s,baz=243,slow=6.3,SNR=12						
	1.1nm,0.8s						
WRA	**Warramunga Arr**	**65.46**	**100**	P	**P**	**11 26 11.7**	**0.0**
	1.2nm,0.9s,baz=248,slow=6.2,SNR=4.9						
	1.2nm,0.9s						
ZALV	**Zalesovo Beam**	**84.57**	**13**	P	**P**	**11 28 01.1**	**0.0**
	1.0nm,0.4s,baz=200,slow=3.8,SNR=3.7						
	1.0nm,0.4s						
SONM	**Songino Array**	**85.88**	**28**	P	**P**	**11 28 08.0**	**0.0**
	0.7nm,0.8s,baz=203,slow=5.8,SNR=3.0						
	0.7nm,0.8s						

*THE **05** 11:50:41.6, 37°.62N×20°.48E, h0km±2km, ML3.6/14, Error ellipse: s-maj=3.0km s-min=0.7km az=235.0*
*ATH **05** 11:50:42.0, 37°.63N×20°.51E, h11km±2km, ML3.6/7, Error ellipse: s-maj=3.2km s-min=1.0km az=43.0*
*TIR **05** 11:50:46.7, 37°.84N×20°.85E, h15km±1km, Ml3.6*
ISC 05 11:50:41.8±1.5,**37°.63N**±0°.05×**20°.50E**±0°.05,**h9**km±8km,
n43,σ0°**83**/73,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.25**	**83**	P	**Pg**	**11 50 47.0**	**+0.1**
KRI1				S	**Sg**	**11 50 50.7**	**+0.4**
	21μm,0.5s						
LTHK	**Lithakia**	**0.28**	**74**	P	**Pg**	**11 50 47.1**	**-0.2**
LTHK				S	**Sg**	**11 50 50.9**	**-0.2**
	19μm,0.4s						
LTHK	**Lithakia**	**0.28**	**74**	P	**Pg**	**11 50 47.3**	**0.0**
LTHK				S	**Sg**	**11 50 51.5**	**+0.4**
LTHK				AML	AML	11 50 55.2	
	comp=N,31468μm,0.3s						
LTHK				AML	AML	11 50 57.4	
	comp=E,40690μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.48**	**8**	P	**Pg**	**11 50 51.2**	**-0.1**
PSDA				S	**Sg**	**11 50 58.5**	**+0.9**
	comp=E,10μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.48**	**8**	P	**Pg**	**11 50 51.3**	**+0.1**
PSDA				S	**Sg**	**11 50 58.6**	**+0.9**
RTZL	**Ratzakli, Kefa**	**0.49**	**26**	P	**Pg**	**11 50 51.4**	**0.0**
RTZL				S	**Sb**	**11 50 59.3**	**-0.7**
VLS	**Valsamata**	**0.55**	**7**	P	**Pg**	**11 50 52.3**	**-0.1**
VLS				S	**Sg**	**11 51 00.6**	**+0.9**
	comp=E,7μm,0.4s						
VLS	**Valsamata**	**0.55**	**7**	P	**Pg**	**11 50 52.4**	**-0.1**
VLS				S	**Sg**	**11 51 00.7**	**+1.1**
VLS				AML	AML	11 51 01.7	
	comp=E,14326μm,0.3s						
VLS				AML	AML	11 51 04.6	
	comp=N,12121μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.57**	**355**	P	**Pg**	**11 50 53.1**	**+0.3**
LXRA				S	**Sg**	**11 51 00.9**	**+0.5**
DMLN	**Damoulianata-K**	**0.61**	**351**	P	**Pg**	**11 50 53.7**	**0.0**
DMLN				S	**Sb**	**11 51 03.8**	**+0.3**
	comp=N,13μm,0.6s						
DMLN	**Damoulianata-K**	**0.61**	**351**	P	**Pg**	**11 50 53.5**	**-0.2**
DMLN				S	**Sg**	**11 51 02.7**	**+1.0**
SMHA	**Samh**	**0.63**	**11**	P	**Pg**	**11 50 53.5**	**-0.4**
SMHA				S	**Sg**	**11 51 02.5**	**+0.3**
SMHA				AML	AML	11 51 08.9	
	comp=E,25323μm,0.5s						
SMHA				AML	AML	11 51 09.3	
	comp=N,27301μm,0.3s						
VSK1	**VASILIKIADES**	**0.78**	**4**	P	**Pg**	**11 50 56.4**	**-0.4**
VSK1				S	**Sb**	**11 51 08.0**	**-0.2**
	comp=N,6μm,0.4s						
FSK	**Fiskardo**	**0.83**	**3**	P	**Pg**	**11 50 57.4**	**-0.3**
FSK				S	**Sb**	**11 51 10.1**	**+0.5**
	comp=N,4μm,0.5s						
FSK	**Fiskardo**	**0.83**	**3**	P	**Pg**	**11 50 57.1**	**-0.7**
FSK				S	**Sg**	**11 51 09.1**	**+0.6**
FSK				AML	AML	11 51 11.6	
	comp=E,5400μm,0.2s						
FSK				AML	AML	11 51 13.1	
	comp=N,6631μm,0.5s						
RLS	**Riolos of Patr**	**0.88**	**61**	P	**Pg**	**11 50 58.2**	**-0.4**
RLS				S	**Sb**	**11 51 11.2**	**+0.2**
	comp=N,4μm,0.5s						
RLS	**Riolos of Patr**	**0.88**	**61**	P	**Pg**	**11 50 57.9**	**-0.8**
RLS				S	**Sb**	**11 51 10.7**	**-0.2**
RLS				AML	AML	11 51 12.7	
	comp=E,7634μm,0.6s						
RLS				AML	AML	11 51 13.0	
	comp=N,6377μm,0.4s						
AMT	**Artemida-Makis**	**0.96**	**96**	P	**Pg**	**11 51 00.5**	**+0.1**
AMT				S	**Sg**	**11 51 12.6**	**-0.3**
AMT				AML	AML	11 51 23.9	
	comp=E,9757μm,0.7s						
AMT				AML	AML	11 51 25.8	
	comp=N,13429μm,0.5s						
EVGI	**Lefkada island**	**0.99**	**7**	P	**Pg**	**11 51 00.2**	**-0.7**
EVGI				S	**Sn**	**11 51 15.7**	**-0.4**
	comp=N,4μm,0.3s						
EVGI	**Lefkada island**	**0.99**	**7**	P	**Pg**	**11 50 59.9**	**-1.0**
DRO	**Drossia**	**1.01**	**71**	P	**Pg**	**11 51 01.3**	**+0.1**
DRO				S	**Sg**	**11 51 13.7**	**-0.7**
DRO				AML	AML	11 51 22.9	
	comp=E,7112μm,0.5s						
DRO				AML	AML	11 51 24.2	
	comp=N,6772μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.05**	**3**	P	**Pb**	**11 51 01.1**	**-1.1**
DRAG				S	**Sn**	**11 51 17.7**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.05**	**3**	P	**Pb**	**11 51 00.9**	**-1.3**
NYDR	**Nydri-Lefkada**	**1.09**	**8**	P	**Pb**	**11 51 01.8**	**-1.0**
NYDR				S	**Sg**	**11 51 17.8**	**+0.9**
	comp=N,2μm,0.7s						
LKD2	**Lefkada island**	**1.16**	**6**	P	**Pg**	**11 51 05.4**	**+1.3**
LKD2				S	**Sg**	**11 51 19.8**	**+0.6**
LKD2				AMP			
	comp=E,7.4nm,0.5s,baz=352						
LKD2	**Lefkada island**	**1.16**	**6**	P	**Pg**	**11 51 04.6**	**+0.5**
LKD2	**Lefkada island**	**1.16**	**6**	P	**Pn**	**11 51 04.3**	**+0.1**
TSLK	**Tsoukalades, L**	**1.20**	**6**	P	**Pn**	**11 51 04.2**	**-0.5**
ITM	**Ithomi**	**1.22**	**111**	P	**Pn**	**11 51 03.9**	**-1.2**
PYL	**PYLOS**	**1.23**	**126**	P	**Pn**	**11 51 04.8**	**-0.4**
PYL				S	**Sn**	**11 51 24.2**	**+2.2**
	comp=E,1μm,0.7s						
PYL	**PYLOS**	**1.23**	**126**	P	**Pn**	**11 51 04.9**	**-0.4**
EFP	**Efpalio**	**1.36**	**54**	P	**Pn**	**11 51 06.9**	**-0.1**
EFP				S	**Sg**	**11 51 28.1**	**+2.4**
	comp=E,1μm,0.6s						
EFP	**Efpalio**	**1.36**	**54**	P	**Pn**	**11 51 06.0**	**-1.0**
KLV	**Kalavryta, Ach**	**1.37**	**72**	P	**Pb**	**11 51 07.5**	**-0.1**
KLV				S	**Sg**	**11 51 28.4**	**+2.5**
	comp=E,815nm,0.8s						
ANX	**Ano Chora**	**1.48**	**49**	P	**Pb**	**11 51 09.1**	**-0.4**
ANX				S	**Sg**	**11 51 30.1**	**+0.8**
	comp=E,3μm,0.5s						
ANX	**Ano Chora**	**1.48**	**49**	P	**Pn**	**11 51 08.3**	**-0.3**
KALE	**Kalithea**	**1.50**	**59**	P	**Pn**	**11 51 08.8**	**-0.2**
IGT	**Igoumenitsa**	**1.90**	**356**	P	**Pg**	**11 51 18.9**	**+0.6**
IGT				S	**Sg**	**11 51 43.5**	**+0.5**
IGT				AMP			
	comp=E,2.1nm,0.7s,baz=347						
SRN	**Sarande**	**2.28**	**350**	P	**Pg**	**11 51 25.8**	**+0.3**
SRN				S	**Sg**	**11 51 55.4**	**+0.4**
SRN				AMP			
	comp=E,0.5nm,0.8s,baz=343						
LSK	**Leskovik**	**2.52**	**2**	P	**Pb**	**11 51 28.2**	**+1.0**
LSK				S	**Sb**	**11 51 58.8**	**+0.5**
LSK				AMP			
	comp=E,1.9nm,0.9s,baz=356						
NEST	**Nestorio**	**2.81**	**9**	P	**Pb**	**11 51 32.3**	**+0.1**
FNA	**Florina**	**3.22**	**12**	P	**Pb**	**11 51 37.2**	**-1.9**
FNA				AMP			
	comp=E,0.1nm,0.5s,baz=7.0						
OHR	**Ohrid**	**3.48**	**4**	*i* Pn	**Pb**	**11 51 42.0**	**-1.7**

*IDC **05** 11:51:11.8±0.9, 13°.07N×120°.29E, h51km±6km, mb3.9/13, mbtmp4.1/13, MS3.0/2, Error ellipse: s-maj=15.6km s-min=9.2km az=129.0*
ISC 05 11:51:09.3±1.0,**13°.0N**±0°.1×**120°.4E**±0°.1,**h27**km,**n18**,
σ1°**56**/21,**mb4.3**/13,**Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.21**	**27**	P	**Pb**	**11 51 32.1**	**+0.6**
TGY				S	**Sb**	**11 51 48.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**21.32**	**287**	P	**P**	**11 55 55.3**	**+1.0**
	5.2nm,0.8s,baz=98,slow=8.5,SNR=44						
CMAR				pP	**pwP**	**11 56 07.3**	**+2.3**
	1.6nm,0.7s,baz=101,slow=8.8,SNR=3.1						
	5.2nm,0.8s						
JNU	**Nakatsue**	**22.19**	**24**	LR	LR	12 06 07.8	
	comp=Z,42nm,18.6s,baz=317,slow=40						
KSRS	**Korea Array**	**25.25**	**14**	LR	LR	12 08 48.0	
	comp=Z,30nm,18.0s,baz=195,slow=42						
WRA	**Warramunga Arr**	**35.52**	**157**	P	**P**	**11 58 04.5**	**+0.3**
	0.5nm,0.4s,baz=330,slow=10,SNR=14						
	0.5nm,0.4s						
SONM	**Songino Array**	**36.62**	**344**	P	**P**	**11 58 12.6**	**-0.9**
	4.3nm,0.8s,baz=162,slow=10.0,SNR=18						
	4.3nm,0.8s						
ASAR	**Alice Springs**	**38.79**	**160**	P	**P**	**11 58 33.1**	**+1.2**
	0.5nm,0.4s,baz=339,slow=7.1,SNR=37						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**46.39**	**324**	P	**P**	**11 59 33.5**	**0.0**
	0.7nm,0.7s,baz=122,slow=8.1,SNR=6.3						
MKAR				pP	**pwP**	**11 59 44.5**	**+0.3**
	1.6nm,0.7s,baz=129,slow=8.3,SNR=7.2						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**49.52**	**333**	P	**P**	**11 59 56.8**	**-0.6**
	1.4nm,0.3s,baz=116,slow=6.0,SNR=5.3						
	1.4nm,0.3s						
KURBB	**Kurchatov Arra**	**50.58**	**327**	P	**P**	**12 00 05.2**	**-0.4**
	0.9nm,0.4s,baz=130,slow=7.6,SNR=12						
KURBB				pP	**pwP**	**12 00 18.4**	**+2.1**
	3.3nm,0.9s,baz=134,slow=7.3,SNR=9.5						
	0.9nm,0.4s						
BVAR	**Borovoye Array**	**56.16**	**326**	P	**P**	**12 00 46.1**	**-0.5**
	0.4nm,0.3s,baz=112,slow=11,SNR=2.7						
BVAR				pP	**pwP**	**12 00 59.2**	**+1.8**
	1.5nm,0.6s,baz=120,slow=9.6,SNR=6.1						
	0.4nm,0.3s						
NRIK	**Noril'sk**	**60.00**	**347**	P	**P**	**12 01 11.7**	**-1.5**
	5.4nm,0.8s,baz=138,slow=6.2,SNR=6.7						
	5.4nm,0.8s						
ARCES	**ARCESS Array B**	**79.60**	**339**	P	**P**	**12 03 12.5**	**-1.3**
	2.5nm,0.6s,baz=72,slow=6.3,SNR=15						
	2.5nm,0.6s						
FINES	**FINESS Array B**	**80.72**	**331**	P	**P**	**12 03 18.9**	**-1.0**
	2.8nm,0.9s,baz=47,slow=6.1,SNR=5.1						
	2.8nm,0.9s						
HFS	**Hagfors**	**86.92**	**331**	P	**P**	**12 03 49.2**	**-2.5**
	3.2nm,0.9s,baz=84,slow=5.9,SNR=4.9						
	3.2nm,0.9s						
NB2	**NORSAR Subarra**	**87.72**	**333**	P	**P**	**12 03 53.6**	**-1.9**
	comp=Z,4.0nm,0.9s,baz=68,slow=4.6						
NB2	**NORSAR Subarra**	**87.72**	**333**	P	**P**	**12 03 53.6**	**-1.9**
	baz=68,slow=4.6						
NOA	**NORSAR Array B**	**87.72**	**333**	P	**P**	**12 03 53.0**	**-2.6**
	comp=Z,1.6nm,0.7s,baz=67,slow=4.7,SNR=4.9						
	comp=Z,1.6nm,0.7s						

*AEIC **05** 11:52:38.7±2.5, 68°.46N±0°.02×147°.13W±0°.04, h16km±6km, ML3.3, ML3.5/128(NEIC), Error ellipse: s-maj=2.7km s-min=2.2km az=183.0*
*NEIC **05** 11:52:39.7±1.5, 68°.479N±0°.010×147°.11W±0°.03, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=13.0*
ISC 05 11:52:39.1±1.2,**68°.48N**±0°.02×**147°.10W**±0°.02,**h3**km±13km,
n191,σ0°**70**/197,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E24K	**Your Creek**	**0.66**	**232**	Pg	**Pg**	**11 52 51.1**	**-0.6**
E24K				Sg	**Sg**	**11 53 00.1**	**-0.1**
E24K	**Your Creek**	**0.66**	**232**	P	**Pg**	**11 52 51.1**	**-0.6**
	baz=52						
E24K				S	**Sg**	**11 53 00.6**	**+0.5**
	baz=52						
E25K	**Arctic Village**	**0.68**	**122**	Pg	**Pg**	**11 52 52.0**	**0.0**
E25K				Sg	**Sb**	**11 53 02.8**	**-0.5**
E25K	**Arctic Village**	**0.68**	**122**	P	**Pg**	**11 52 52.0**	**0.0**
	baz=301						
E25K				S	**Sg**	**11 53 01.9**	**+1.2**
	baz=301						
D25K	**Kavik River**	**0.89**	**17**		**Pg**	**11 52 55.3**	**-0.7**
D25K					**Sg**	**11 53 06.6**	**-0.9**
D25K	**Kavik River**	**0.89**	**17**	IAML		11 53 09.3	
	comp=N,1μm,0.5s						
D25K	**Kavik River**	**0.89**	**17**	P	**Pg**	**11 52 55.3**	**-0.7**
	baz=198						
D24K	**Happy Valley**	**0.92**	**318**		**Pg**	**11 52 56.4**	**-0.3**
D24K				IAML		11 53 16.4	
	comp=E,1μm,0.3s						
TOLK	**Toolik Lake Re**	**0.92**	**281**		**Pg**	**11 52 56.8**	**+0.1**
TOLK					**Sg**	**11 53 09.2**	**+0.5**
TOLK				IAML		11 53 16.1	
	comp=E,1μm,0.5s						
TOLK	**Toolik Lake Re**	**0.92**	**281**	P	**Pg**	**11 52 56.5**	**-0.2**
	baz=100						
TOLK				S	**Sg**	**11 53 09.7**	**+1.0**
	baz=100						
TOLK				S	**Sg**	**11 53 09.7**	**+1.0**
	baz=100						
F24K	**Squaw Lake**	**1.01**	**197**		**Pg**	**11 52 57.6**	**-0.8**
F24K					**Sg**	**11 53 10.9**	**-0.6**
F24K	**Squaw Lake**	**1.01**	**197**	P	**Pg**	**11 52 57.6**	**-0.8**
	baz=16						
F24K				S	**Sg**	**11 53 10.9**	**-0.6**
	baz=16						
E23K	**Chandalar**	**1.03**	**247**		**Pg**	**11 52 58.1**	**-0.7**
E23K	**Chandalar**	**1.03**	**247**	P	**Pg**	**11 52 58.1**	**-0.7**
	baz=65						
F25K	**Christian Rive**	**1.05**	**148**		**Pg**	**11 52 59.0**	**-0.2**
F25K	**Christian Rive**	**1.05**	**148**	P	**Pg**	**11 52 59.0**	**-0.2**
	baz=328						
F26K	**Sheenjek River**	**1.36**	**124**		**Pb**	**11 53 05.2**	**0.0**
F26K					**Sg**	**11 53 23.7**	**+1.0**
F26K	**Sheenjek River**	**1.36**	**124**	IAML		11 53 29.4	
	comp=N,629nm,0.9s						
F26K				IAML		11 53 30.0	
	comp=E,707nm,0.7s						
F26K	**Sheenjek River**	**1.36**	**124**	P	**Pb**	**11 53 05.2**	**0.0**
	baz=306						
F26K				S	**Sg**	**11 53 23.7**	**+1.0**
	baz=306						
C24K	**Franklin Bluff**	**1.37**	**336**		**Pn**	**11 53 04.7**	**-0.4**
C24K	**Franklin Bluff**	**1.37**	**336**	IAML		11 53 25.8	
	comp=N,658nm,1.1s						
C24K				IAML		11 53 26.6	
	comp=E,748nm,0.7s						
C24K	**Franklin Bluff**	**1.37**	**336**	P	**Pn**	**11 53 04.7**	**-0.4**
	baz=155						
D23K	**Nanushuk River**	**1.39**	**292**		**Pb**	**11 53 05.7**	**-0.1**
D23K					**Sg**	**11 53 25.5**	**+1.7**
D23K	**Nanushuk River**	**1.39**	**292**	IAML		11 53 27.8	
	comp=E,988nm,0.8s						
D23K				IAML		11 53 30.1	
	comp=N,716nm,0.7s						
D23K	**Nanushuk River**	**1.39**	**292**	P	**Pb**	**11 53 05.7**	**-0.1**
	baz=110						
D23K				S	**Sg**	**11 53 25.5**	**+1.7**
	baz=110						
BMAR	**Burnt Mountain**	**1.42**	**137**		**Pb**	**11 53 06.2**	**-0.1**
C26K	**Camden Bay**	**1.64**	**27**		**Pb**	**11 53 09.9**	**0.0**
C26K	**Camden Bay**	**1.64**	**27**	IAML		11 53 40.2	
	comp=E,510nm,0.8s						
C26K	**Camden Bay**	**1.64**	**27**	P	**Pb**	**11 53 09.9**	**0.0**
	baz=209						
C27K	**Jago River**	**1.68**	**45**		**Pn**	**11 53 09.6**	**+0.3**
C27K	**Jago River**	**1.68**	**45**	IAML		11 53 34.1	
	comp=E,408nm,0.8s						
C27K				IAML		11 53 34.7	
	comp=N,362nm,0.7s						
C27K	**Jago River**	**1.68**	**45**	P	**Pn**	**11 53 09.6**	**+0.3**
	baz=228						
COLD	**Coldfoot**	**1.72**	**224**		**Pn**	**11 53 09.7**	**-0.2**
COLD					**Sb**	**11 53 33.0**	**-0.3**
COLD	**Coldfoot**	**1.72**	**224**	P	**Pn**	**11 53 09.7**	**-0.2**
	baz=42						
COLD				S	**Sb**	**11 53 33.1**	**-0.3**
	baz=42						
G25K	**Bearman Lake**	**1.77**	**167**		**Pn**	**11 53 10.3**	**-0.3**
G25K	**Bearman Lake**	**1.77**	**167**	P	**Pn**	**11 53 10.3**	**-0.3**
	baz=347						
**E22K

B21K			IAML			11 54 30.3	
	comp=E,127nm,1.6s						
PRP	**Porcupine Dome**	**3.04 168**		**Pn**		**11 53 28.0**	**-0.2**
PRP	**Porcupine Dome**	**3.04 168**	P	**Pn**		**11 53 28.2**	**0.0**
	baz=349						
H22K	**Ishtalitna Cre**	**3.09 215**		**Pn**		**11 53 28.6**	**-0.1**
H22K	**Ishtalitna Cre**	**3.09 215**	P	**Pn**		**11 53 28.6**	**-0.1**
	baz=31						
H27K	**Steamboat Moun**	**3.12 134**		**Pn**		**11 53 29.4**	**+0.2**
H27K	**Steamboat Moun**	**3.12 134**	P	**Pn**		**11 53 29.4**	**+0.2**
	baz=318						
G21K	**Allakaket**	**3.16 234**	Pn	**Pn**		**11 53 29.1**	**-0.6**
G21K			IAML			11 54 31.0	
	comp=N,132nm,0.8s						
G21K			IAML			11 54 32.6	
	comp=E,174nm,1.0s						
G21K	**Allakaket**	**3.16 234**	P	**Pn**		**11 53 29.0**	**-0.6**
	baz=49						
POKR	**Poker Plat Res**	**3.38 182**		**Pn**		**11 53 32.6**	**-0.2**
POKR	**Poker Plat Res**	**3.38 182**	IAML			11 54 31.7	
	comp=E,129nm,0.9s						
POKR			IAML			11 54 34.4	
	comp=N,74nm,0.7s						
POKR	**Poker Plat Res**	**3.38 182**	P	**Pn**		**11 53 32.6**	**-0.2**
	baz=1.9						
E29M	**Blow River**	**3.40 87**	Pn	**Pn**		**11 53 33.2**	**+0.2**
E29M			IAML			11 54 16.8	
	comp=N,110nm,0.6s						
I23K	**Minto, Yukon-K**	**3.46 196**		**Pn**		**11 53 34.5**	**+0.6**
I23K	**Minto, Yukon-K**	**3.46 196**	P	**Pn**		**11 53 34.3**	**+0.4**
	baz=14						
I26K	**Coal Creek Min**	**3.55 152**		**Pn**		**11 53 35.0**	**0.0**
I26K			IAML			11 54 45.2	
	comp=E,88nm,0.8s						
I26K			IAML			11 54 47.5	
	comp=N,128nm,1.2s						
F20K	**Avaraart Lake**	**3.58 250**		**Pn**		**11 53 37.6**	**+2.2**
F20K			IAML			11 54 43.0	
	comp=N,87nm,0.8s						
F20K			IAML			11 54 43.6	
	comp=E,78nm,0.8s						
I27K	**Kandik River**	**3.60 141**	P	**Pn**		**11 53 36.1**	**+0.3**
	baz=326						
IMAR	**Indian Mountai**	**3.60 229**		**Pn**		**11 53 36.0**	**+0.2**
H21K	**Melozitna Rive**	**3.61 221**		**Pn**		**11 53 35.5**	**-0.4**
H21K	**Melozitna Rive**	**3.61 221**	IAML			11 54 45.1	
	comp=E,71nm,0.9s						
H21K			IAML			11 54 46.4	
	comp=N,65nm,1.1s						
H21K	**Melozitna Rive**	**3.61 221**	P	**Pn**		**11 53 35.5**	**-0.4**
	baz=36						
COLA	**College**	**3.63 185**		**Pn**		**11 53 35.9**	**-0.3**
IL31		**3.73 179**		**Pn**		**11 53 37.3**	**-0.1**
ILAR	**Eielson Array**	**3.73 179**		**Pn**		**11 53 37.6**	**+0.1**
MLY	**Manley**	**3.75 204**		**Pn**		**11 53 38.2**	**+0.3**
G29M	**Pine Creek**	**3.80 110**		**Pn**		**11 53 39.1**	**+0.6**
CCB	**Clear Creek Bu**	**3.86 185**		**Pn**		**11 53 38.9**	**-0.4**
B20K	**Meade River**	**3.90 298**		**Pn**		**11 53 39.9**	**+0.2**
B20K	**Meade River**	**3.90 298**	IAML			11 54 55.1	
	comp=N,98nm,2.8s						
B20K	**Meade River**	**3.90 298**	P	**Pn**		**11 53 39.9**	**+0.2**
	baz=109						
J25K	**Salcha River,**	**3.95 169**	Pn	**Pn**		**11 53 41.0**	**+0.4**
J25K			IAML			11 54 52.8	
	comp=N,54nm,0.8s						
J25K			IAML			11 54 53.9	
	comp=E,69nm,1.1s						
J25K	**Salcha River,**	**3.95 169**	P	**Pn**		**11 53 40.9**	**+0.3**
	baz=350						
NEA2	**Nenana**	**3.98 192**		**Pn**		**11 53 41.6**	**+0.6**
WRH	**Wood River Hil**	**4.05 186**		**Pn**		**11 53 41.7**	**-0.2**
WRH	**Wood River Hil**	**4.05 186**	IAML			11 54 49.7	
	comp=E,76nm,1.0s						
WRH			IAML			11 54 51.0	
	comp=N,53nm,0.7s						
D19K	**Kuna River**	**4.06 275**	Pn	**Pn**		**11 53 42.9**	**+0.9**
D19K			IAML			11 54 56.3	
	comp=E,80nm,1.0s						
H29M	**Whitestone**	**4.07 120**		**Pn**		**11 53 42.5**	**+0.3**
H29M	**Whitestone**	**4.07 120**	IAML			11 54 58.9	
	comp=N,81nm,1.6s						
H29M	**Whitestone**	**4.07 120**	P	**Pn**		**11 53 42.5**	**+0.3**
	baz=308						
HDA	**Harding Lake**	**4.09 179**	Pn	**Pn**		**11 53 42.6**	**+0.1**
HDA			IAML			11 54 49.2	
	comp=E,62nm,1.2s						
HDA	**Harding Lake**	**4.09 179**	P	**Pn**		**11 53 42.6**	**+0.1**
	baz=359						
I28M	**Miner Creek**	**4.15 134**	Pn	**Pn**		**11 53 43.9**	**+0.5**
I28M			IAML			11 54 55.4	
	comp=N,48nm,0.7s						
I28M			IAML			11 55 03.1	
	comp=E,42nm,1.3s						
I28M	**Miner Creek**	**4.15 134**	P	**Pn**		**11 53 43.8**	**+0.5**
	baz=320						
J26L	**Joseph Creek**	**4.24 159**	Pn	**Pn**		**11 53 44.9**	**+0.2**
J26L			IAML			11 54 56.9	
	comp=N,38nm,0.6s						
J26L			IAML			11 55 06.3	
	comp=E,58nm,1.0s						
J26L	**Joseph Creek**	**4.24 159**	P	**Pn**		**11 53 44.8**	**+0.2**
	baz=342						
H20K	**Anotleneega Mo**	**4.28 229**	P	**Pn**		**11 53 44.7**	**-0.4**
	baz=42						
G30M	**tAoh Zraii Nji**	**4.41 105**		**Pn**		**11 53 46.8**	**-0.1**
G30M	**tAoh Zraii Nji**	**4.41 105**	IAML			11 55 20.5	
	comp=E,39nm,2.0s						
G30M	**tAoh Zraii Nji**	**4.41 105**	P	**Pn**		**11 53 46.8**	**-0.1**
	baz=295						
EGAK	**Eagle**	**4.41 145**		**Pn**		**11 53 47.3**	**+0.4**
EGAK			IAML			11 55 10.2	
	comp=E,35nm,1.3s						
EGAK			IAML			11 55 14.9	
	comp=E,56nm,1.2s						
EGAK	**Eagle**	**4.41 145**	P	**Pn**		**11 53 47.2**	**+0.4**
	baz=330						
EPYK	**Eagle Plains**	**4.53 113**		**Pn**		**11 53 48.8**	**+0.2**
C19K	**Lookout Ridge**	**4.58 284**		**Pn**		**11 53 49.3**	**+0.1**
C19K	**Lookout Ridge**	**4.58 284**	P	**Pn**		**11 53 49.3**	**+0.1**
	baz=92						
I29M	**Ogilvie Camp,**	**4.67 128**		**Pn**		**11 53 50.3**	**-0.1**
I29M			IAML			11 55 15.8	
	comp=N,33nm,0.9s						
I29M			IAML			11 55 17.4	
	comp=E,45nm,1.4s						
BPAW	**Bear Paw Mtn.**	**4.67 201**		**Pn**		**11 53 50.8**	**+0.3**
BPAW			IAML			11 55 13.1	
	comp=N,40nm,0.9s						
BPAW			IAML			11 55 16.2	
	comp=E,37nm,1.0s						
SCRK	**Sand Creek**	**4.70 163**		**Pn**		**11 53 51.5**	**+0.6**
SCRK	**Sand Creek**	**4.70 163**	P	**Pn**		**11 53 51.5**	**+0.6**
	baz=346						
H19K	**Roundabout Mou**	**4.71 235**		**Pn**		**11 53 51.2**	**+0.2**
H19K			IAML			11 55 17.1	
	comp=E,50nm,0.9s						
K24K	**Donnelly Dome**	**4.73 173**		**Pn**		**11 53 51.3**	**+0.1**
K24K	**Donnelly Dome**	**4.73 173**	P	**Pn**		**11 53 51.3**	**+0.1**
	baz=354						
MCK	**McKinley**	**4.83 190**		**Pn**		**11 53 53.0**	**+0.4**
MCK	**McKinley**	**4.83 190**	P	**Pn**		**11 53 53.0**	**+0.4**
	baz=8.0						
RIDG	**Independent Ri**	**4.85 168**		**Pn**		**11 53 53.5**	**+0.5**
K27K	**Chicken**	**4.91 153**		**Pn**		**11 53 53.6**	**-0.1**
K27K			IAML			11 55 15.0	
	comp=E,28nm,0.8s						
DOT	**Dot Lake**	**5.01 164**		**Pn**		**11 53 55.4**	**+0.3**
INK	**Inuvik**	**5.02 86**		**Pn**		**11 53 55.1**	**-0.1**
INK	**Inuvik**	**5.02 86**	P	**Pn**		**11 53 55.1**	**-0.1**
	baz=278						
F31M	**Tsiigehtchic**	**5.14 95**		**Pn**		**11 53 56.9**	**+0.1**
F31M	**Tsiigehtchic**	**5.14 95**	IAML			11 55 28.7	
	comp=E,22nm,2.3s						
F31M			IAML			11 55 54.9	
	comp=N,22nm,3.4s						
F31M	**Tsiigehtchic**	**5.14 95**	P	**Pn**		**11 53 56.9**	**+0.1**
	baz=288						
RND	**Reindeer**	**5.15 189**		**Pn**		**11 53 57.7**	**+0.6**
RND			IAML			11 55 31.6	
	comp=E,26nm,2.1s						
RND			IAML			11 55 42.7	
	comp=N,21nm,2.6s						
J20K	**Nowinta River**	**5.17 217**		**Pn**		**11 53 57.7**	**+0.4**
J20K			IAML			11 55 33.4	
	comp=N,39nm,0.8s						
C18K	**Utukok River**	**5.17 278**		**Pn**		**11 53 57.2**	**-0.1**
	baz=86						
KTH	**Kantishna Hill**	**5.19 199**		**Pn**		**11 53 57.9**	**+0.3**
KTH			IAML			11 55 38.2	
	comp=E,37nm,1.7s						
KTH			IAML			11 55 49.9	
	comp=N,34nm,1.0s						
A19K	**Wainwright**	**5.24 296**		**Pn**		**11 53 57.9**	**-0.2**
A19K	**Wainwright**	**5.24 296**	P	**Pn**		**11 53 57.9**	**-0.2**
	baz=103						
I30M	**Mount Dempster**	**5.34 123**		**Pn**		**11 53 59.5**	**-0.3**
I30M	**Mount Dempster**	**5.34 123**	IAML			11 55 41.9	
	comp=E,25nm,1.3s						
I30M			IAML			11 55 46.2	
	comp=N,17nm,1.4s						
I30M	**Mount Dempster**	**5.34 123**	P	**Pn**		**11 53 59.5**	**-0.3**
	baz=312						
J29N	**Klondike Camp**	**5.38 134**		**Pn**		**11 54 01.5**	**+1.2**
DAWY	**Dawson**	**5.41 141**	Pn	**Pn**		**11 54 01.3**	**+0.6**
DAWY	**Dawson**	**5.41 141**	P	**Pn**		**11 54 01.3**	**+0.6**
	baz=328						
DHY	**Denali Highway**	**5.43 181**		**Pn**		**11 54 01.9**	**+0.9**
DHY	**Denali Highway**	**5.43 181**	P	**Pn**		**11 54 01.9**	**+0.9**
	baz=0.9						
CAST	**Castle Rocks**	**5.47 204**	Pn	**Pn**		**11 54 02.0**	**+0.5**
H18K	**Honhosa River**	**5.56 238**		**Pn**		**11 54 02.1**	**-0.5**
PAX	**Paxson**	**5.58 172**	P	**Pn**		**11 54 03.8**	**+0.9**
	baz=354						
H31M	**Peel River**	**5.65 112**		**Pn**		**11 54 03.5**	**-0.4**
J19K	**Poorman**	**5.67 221**		**Pn**		**11 54 03.6**	**-0.5**
L26K	**Log Cabin Wild**	**5.69 162**		**Pn**		**11 54 04.7**	**+0.2**
L26K	**Log Cabin Wild**	**5.69 162**	P	**Pn**		**11 54 04.7**	**+0.2**
	baz=346						
MENT	**Mentasta**	**5.74 164**		**Pn**		**11 54 05.7**	**+0.6**
E17K	**Hotham Inlet**	**5.76 263**		**Pn**		**11 54 06.2**	**+0.8**
E17K	**Hotham Inlet**	**5.76 263**	P	**Pn**		**11 54 06.2**	**+0.8**
	baz=69						
J30M	**Hart River**	**5.82 127**		**Pn**		**11 54 07.0**	**+0.7**
L27K	**Beaver Creek,**	**5.86 156**		**Pn**		**11 54 07.0**	**+0.3**
L27K	**Beaver Creek,**	**5.86 156**	P	**Pn**		**11 54 07.0**	**+0.3**
	baz=340						
BCAR	**Beaver Creek A**	**5.86 156**	Pn	**Pn**		**11 54 07.8**	**+1.0**
K29M	**Barlow Dome**	**6.06 136**		**Pn**		**11 54 10.1**	**+0.5**
K29M	**Barlow Dome**	**6.06 136**	P	**Pn**		**11 54 10.1**	**+0.5**
	baz=324						
H17K	**Granite Mounta**	**6.20 241**	Pn	**Pn**		**11 54 11.9**	**+0.6**
M26K	**Nabesna, AK**	**6.34 162**		**Pn**		**11 54 13.4**	**0.0**
M26K	**Nabesna, AK**	**6.34 162**	P	**Pn**		**11 54 13.4**	**0.0**
	baz=346						
J18K	**Innoko River**	**6.38 222**		**Pn**		**11 54 13.6**	**-0.3**
M24K	**Tolsona, Glenn**	**6.41 176**	Pn	**Pn**		**11 54 15.6**	**+1.2**
M27K	**Edge Creek, AK**	**6.52 158**		**Pn**		**11 54 15.8**	**-0.1**
L29M	**L29M**	**6.53 141**		**Pn**		**11 54 16.1**	**+0.2**
L29M	**L29M**	**6.53 141**	P	**Pn**		**11 54 16.2**	**+0.2**
	baz=329						
SCM	**Sheep Creek Mo**	**6.68 181**	Pn	**Pn**		**11 54 19.6**	**+1.6**
SML	**Sawmill**	**6.72 185**	Pn	**Pn**		**11 54 19.1**	**+0.5**
C16K	**Lisburne Hills**	**6.74 277**	Pn	**Pn**		**11 54 19.2**	**+0.4**
PMR	**Palmer**	**6.97 188**	Pn	**Pn**		**11 54 23.8**	**+1.9**
M29M	**Somme Creek**	**7.04 145**	Pn	**Pn**		**11 54 23.9**	**+0.8**
M29M	**Somme Creek**	**7.04 145**	P	**Pn**		**11 54 23.8**	**+0.8**
	baz=333						
J17K	**VABM Dome**	**7.06 229**	Pn	**Pn**		**11 54 22.4**	**-0.8**
M20K	**Styx River**	**7.09 204**	Pn	**Pn**		**11 54 25.8**	**+2.1**
L19K	**White Mountain**	**7.10 211**	Pn	**Pn**		**11 54 24.1**	**+0.3**
KNK	**Knik Glacier**	**7.12 185**	Pn	**Pn**		**11 54 27.7**	**+3.6**
YUK3	**Moose Creek**	**7.29 154**	P	**Pn**		**11 54 27.1**	**+0.6**
	baz=340						
K17K	**Iditarod**	**7.41 224**	Pn	**Pn**		**11 54 28.5**	**+0.6**
L18K	**Granite Mounta**	**7.45 217**	Pn	**Pn**		**11 54 28.5**	**0.0**
J16K	**Anvik River**	**7.59 233**	Pn	**Pn**		**11 54 30.5**	**0.0**
CTGM	**Chitina Glacie**	**7.94 159**	Pn	**Pn**		**11 54 36.8**	**+1.4**
LOGN	**Logan Glacier**	**8.12 158**	Pn	**Pn**		**11 54 38.8**	**+1.0**
A36M	**Sachs Harbour**	**8.17 55**		**Pn**		**11 54 37.4**	**-0.9**
C36M	**Paulatuk**	**8.33 73**	Pn	**Pn**		**11 54 39.4**	**-1.2**
M17K	**Holitna River**	**8.34 217**	Pn	**Pn**		**11 54 40.3**	**-0.4**
TABL	**Table Mountain**	**8.47 160**	Pn	**Pn**		**11 54 45.2**	**+2.5**
N31M	**Braeburn, Yuko**	**8.49 140**	Pn	**Pn**		**11 54 43.2**	**+0.4**
L16K	**Owhat River**	**8.55 223**	Pn	**Pn**		**11 54 44.9**	**+1.3**
HYT	**Haines Junctio**	**8.70 147**	Pn	**Pn**		**11 54 46.4**	**+0.5**
N17K	**Nushagak Hills**	**9.08 213**	Pn	**Pn**		**11 54 52.9**	**+2.1**

IDC 05 12:17:47.9±2.9, 27°.75N×142°.16E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=232.5km s-min=24.6km az=112.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.01**	**190**	P	P	12 26 29.3	+0.4
	0.3nm,0.3s,baz=7.0,slow=8.6,SNR=29						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**51.73**	**190**	P	P	12 26 56.6	-0.6
	0.3nm,0.6s,baz=3.6,slow=6.2,SNR=15						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**57.15**	**29**	P	P	12 27 36.2	+0.1
	0.1nm,0.6s,baz=252,slow=5.5,SNR=4.8						
	0.1nm,0.6s						
NVAR	**Mina Array Bea**	**80.13**	**52**	P	P	12 30 00.1	-0.3
	0.4nm,0.7s,baz=312,slow=5.4,SNR=3.5						
	0.4nm,0.7s						

RSNC 05 12:21:04.3±0.0, 2°N±3°×8°0W±°, h20km±3km, M2.9, mB6.0, ML2.6, Mw(mB)5.6, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMC	**Tumaco**	**0.83**	**80**	P	Pb	12 21 19.2	-0.9
TUMC				S	Sb	12 21 30.7	-0.3
PAC1	**Pacto, Paraso**	**1.60**	**152**	P	Pn	12 21 31.0	-0.6
PAC1				S	Sn	12 21 50.6	-1.1
CUSE	**Cuicocha Este**	**1.79**	**140**	P	Pn	12 21 33.2	-1.2
CUSE				S	Sn	12 21 56.4	-0.4
OTAV	**Otavalo**	**1.81**	**142**	P	Pn	12 21 34.3	-0.4
OTAV				S	Sn	12 21 56.9	-0.4
GR1C	**Gorgona, Isla**	**1.91**	**46**	P	Pn	12 21 33.1	-2.6
GCUF	**Volcan Galeras**	**2.25**	**102**	P	Pn	12 21 40.6	-0.3
GCUF				S	Sn	12 22 07.3	-1.0
BBAC	**Balboa, Cauca**	**2.33**	**82**	P	Pn	12 21 39.8	-1.9
BBAC				S	Sn	12 22 10.3	+0.5
MALC	**Bahia Malaga**	**3.20**	**44**	P	Pn	12 21 51.8	-1.8
MALC				S	Sn	12 22 31.3	+0.1
ORTC	**Ortega, Tolima**	**4.83**	**63**	P	Pn	12 22 17.7	+1.6
CMAN1	**Manizales, Cal**	**5.24**	**50**	P	Pn	12 22 18.1	-3.8
MACC	**Macarena, Meta**	**5.72**	**85**	P	Pn	12 22 22.8	-5.4

TIR ***05*** *12:21:49.4, 37°.31N×19°.96E, h0km±5km, Ml4.2*
IDC ***05*** *12:21:52.6±0.7, 37°.48N×20°.88E, h0km, mb3.9/13, mbtmp3.8/21, ML3.8/6, MS3.1/2, Error ellipse: s-maj=16.3km s-min=13.2km az=151.0*
BEO ***05*** *12:21:54.7±0.7, 37°.40N×20°.71E, h0km, ML3.9/8*
THE ***05*** *12:21:54.8, 37°.41N×20°.77E, h10km±31km, ML4.0/10, Error ellipse: s-maj=31.6km s-min=0.7km az=0.0*
ATH ***05*** *12:21:54.4, 37°.38N×20°.74E, h8km±1km, ML4.0/18, Error ellipse: s-maj=2.2km s-min=0.9km az=42.0*
NEIC ***05*** *12:21:55.5±2.2, 37°.32N±0°.06×20°.83E±0°.07, h10km±1km, mb4.5/16, Error ellipse: s-maj=11.0km s-min=10.0km az=182.0*
MCSM ***05*** *12:21:55.2±1.1, 37°N±10°×2°1E±°, h10km, mB5.0, mb4.5, MLv4.0, Mw(mB)4.4*
PDG ***05*** *12:21:59.0±1.1, 37°.41N×20°.84E, h10km±7km, ML4.1/12, Error ellipse: s-maj=2.2km s-min=2.2km az=0.0*
NAO ***05*** *12:22:20.5, 40°.03N×20°.79E, h10km, mb3.9*

ISC 05 12:21:55.4±1.0, 37°.42N±0°.03×20°.80E±0°.03, h14km±6km, n170, σ1§44/217, mb4.2/21, 4C-7D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.24**	**4**	P	**Pg**	**12 22 00.4**	**-0.3**
KRI1				S	**Sg**	**12 22 04.1**	**-0.1**
	64μm,0.5s						
LTHK	**Lithakia**	**0.29**	**6**	P	**Pg**	**12 22 01.2**	**-0.3**
LTHK				S	**Sg**	**12 22 05.6**	**0.0**
	43μm,0.5s						
LTHK	**Lithakia**	**0.29**	**6**	P	**Pg**	**12 22 00.5**	**-1.0**
LTHK				S	**Sg**	**12 22 05.6**	**0.0**
LTHK				AML	AML	12 22 05.9	
LTHK				AML	AML	12 22 10.4	
	comp=E,60631μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.66**	**358**	P	**Pg**	**12 22 07.5**	**-0.7**
RTZL				S	**Sb**	**12 22 18.0**	**+0.4**
	comp=E,14μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.71**	**346**	P	**Pg**	**12 22 08.7**	**-0.6**
PSDA				S	**Sb**	**12 22 19.9**	**+0.6**
	comp=E,18μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.71**	**346**	P	**Pg**	**12 22 08.6**	**-0.7**
PSDA				S	**Sb**	**12 22 19.7**	**+0.4**
AMT	**Artemida-Makis**	**0.73**	**81**	P	**Pg**	**12 22 09.6**	**-0.1**
AMT				S	**Sb**	**12 22 19.9**	**0.0**
AMT				AML	AML	12 22 22.9	
	comp=E,95028μm,0.3s						
AMT				AML	AML	12 22 27.2	
	comp=N,63453μm,0.3s						
VLS	**Valsamata**	**0.78**	**348**	P	**Pg**	**12 22 09.5**	**-0.9**
VLS				S	**Sb**	**12 22 21.4**	**+0.3**
	comp=N,11μm,0.5s						
VLS	**Valsamata**	**0.78**	**348**	P	**Pg**	**12 22 09.5**	**-0.9**
VLS				S	**Sg**	**12 22 20.7**	**0.0**
VLS				AML	AML	12 22 22.4	
	comp=N,27313μm,0.4s						
VLS				AML	AML	12 22 25.6	
	comp=E,17664μm,0.6s						
LXRA	**Lixouri, Kepha**	**0.83**	**340**	P	**Pg**	**12 22 10.9**	**-0.5**
LXRA				S	**Sg**	**12 22 22.7**	**+0.3**
RLS	**Riolos of Patr**	**0.83**	**40**	P	**Pg**	**12 22 10.1**	**-1.4**
RLS				S	**Sb**	**12 22 22.9**	**+0.3**
	comp=E,4μm,0.4s						
RLS	**Riolos of Patr**	**0.83**	**40**	P	**Pg**	**12 22 10.3**	**-1.2**
RLS				S	**Sb**	**12 22 23.6**	**+1.0**
RLS				AML	AML	12 22 33.9	
	comp=N,9164μm,0.4s						
RLS				AML	AML	12 22 36.2	
	comp=E,8715μm,0.4s						
SMHA	**Samh**	**0.84**	**352**	P	**Pg**	**12 22 10.1**	**-1.5**
DMLN	**Damoulianata-K**	**0.89**	**338**	P	**Pb**	**12 22 11.6**	**-0.9**
DMLN				S	**Sb**	**12 22 24.8**	**+0.6**
	comp=E,18μm,0.6s						
DMLN	**Damoulianata-K**	**0.89**	**338**	P	**Pb**	**12 22 11.9**	**-0.7**
DRO	**Drossia**	**0.90**	**53**	P	**Pb**	**12 22 11.8**	**-1.0**
DRO				S	**Sg**	**12 22 25.4**	**+0.8**
	comp=E,13μm,0.4s						
DRO	**Drossia**	**0.90**	**53**	P	**Pb**	**12 22 12.0**	**-0.8**
DRO				S	**Sn**	**12 22 25.9**	**-0.6**
DRO				AML	AML	12 22 32.6	
	comp=E,28908μm,0.5s						
DRO				AML	AML	12 22 40.8	
	comp=N,26676μm,0.5s						
PYL	**PYLOS**	**0.92**	**124**	P	**Pb**	**12 22 12.2**	**-0.9**
PYL				S	**Sn**	**12 22 26.8**	**0.0**
	comp=N,6μm,0.5s						
PYL	**PYLOS**	**0.92**	**124**	P	**Pb**	**12 22 12.1**	**-1.0**
PYL				S	**Sb**	**12 22 24.3**	**-0.8**
PYL				AML	AML	12 22 28.4	
	comp=E,13391μm,0.6s						
PYL				AML	AML	12 22 33.3	
	comp=N,10769μm,0.4s						
ITM	**Ithomi**	**0.93**	**104**	P	**Pb**	**12 22 12.7**	**-0.6**
ITM				S	**Sn**	**12 22 27.3**	**+0.1**
	comp=N,5μm,0.5s						
ITM	**Ithomi**	**0.93**	**104**	P	**Pb**	**12 22 12.7**	**-0.6**
ITM				S	**Sb**	**12 22 25.2**	**-0.3**
ITM				AML	AML	12 22 32.1	
	comp=N,8421μm,0.5s						
ITM				AML	AML	12 22 32.5	
	comp=E,10264μm,0.6s						
VSK1	**VASILIKIADES**	**1.01**	**350**	P	**Pb**	**12 22 13.2**	**-1.4**
FSK	**Fiskardo**	**1.06**	**350**	P	**Pb**	**12 22 13.8**	**-1.6**
FSK	**Fiskardo**	**1.06**	**350**	P	**Pb**	**12 22 13.9**	**-1.5**
FSK				AML	AML	12 22 34.8	
	comp=N,19027μm,0.7s						
FSK				AML	AML	12 22 40.4	
	comp=E,14447μm,0.6s						
UPR	**University Cam**	**1.17**	**42**	P	**Pn**	**12 22 17.3**	**0.0**
EVGI	**Lefkada island**	**1.21**	**355**	P	**Pn**	**12 22 16.3**	**-1.5**
EVGI	**Lefkada island**	**1.21**	**355**	P	**Pn**	**12 22 16.5**	**-1.3**
KLV	**Kalavryta, Ach**	**1.24**	**59**	P	**Pn**	**12 22 17.6**	**-0.8**
KLV				S	**Sn**	**12 22 35.1**	**+0.2**
KLV				AML	AML	12 22 41.8	
	comp=E,3920μm,0.4s						
KLV				AML	AML	12 22 49.9	
	comp=N,4432μm,0.8s						
DRAG	**Dragano-Lefkad**	**1.28**	**352**	P	**Pn**	**12 22 17.4**	**-1.4**
DRAG	**Dragano-Lefkad**	**1.28**	**352**	P	**Pn**	**12 22 17.5**	**-1.3**
NYDR	**Nydri-Lefkada**	**1.30**	**357**	P	**Pn**	**12 22 17.3**	**-1.7**
GUR	**Goura**	**1.33**	**67**	P	**Pn**	**12 22 18.2**	**-1.4**
GUR				AML	AML	12 22 44.3	
	comp=E,8841μm,0.7s						
GUR				AML	AML	12 22 52.5	
	comp=N,10482μm,0.6s						
EFP	**Efpalio**	**1.34**	**41**	P	**Pn**	**12 22 18.5**	**-1.1**
EFP				AML	AML	12 22 43.9	
	comp=E,5147μm,0.5s						
EFP				AML	AML	12 22 47.9	
	comp=N,5611μm,0.5s						
LKD2	**Lefkada island**	**1.37**	**355**	P	**Pn**	**12 22 20.3**	**+0.1**
LKD2				S	**Sg**	**12 22 43.6**	**+4.0**
LKD2				AMP			
	comp=E,15nm,0.4s,baz=20						
LKD2	**Lefkada island**	**1.37**	**355**	P	**Pn**	**12 22 20.5**	**+0.3**
LKD2				AML	AML	12 22 48.5	
	comp=N,9585μm,0.3s						
LKD2				AML	AML	12 22 49.7	
	comp=E,9134μm,0.4s						
TSLK	**Tsoukalades, L**	**1.41**	**356**	P	**Pn**	**12 22 19.1**	**-1.6**
TSLK				AML	AML	12 22 48.3	
	comp=E,8598μm,0.4s						
TSLK				AML	AML	12 22 52.8	
	comp=N,10577μm,0.4s						
KALE	**Kalithea**	**1.44**	**47**	P	**Pn**	**12 22 20.8**	**-0.3**
KALE				AML	AML	12 22 49.2	
	comp=E,5874μm,0.5s						
KALE				AML	AML	12 22 53.0	
	comp=N,8517μm,0.5s						
ANX	**Ano Chora**	**1.47**	**37**	P	**Pn**	**12 22 21.4**	**-0.1**
ANX				AML	AML	12

IDI	Anoyia	3.93	122		Pn	12 22 54.6	-0.7
IDI	Anoyia	3.93	122	Pn	Pn	12 22 54.5	-0.9
	comp=E,5.0nm,0.5s,baz=224,slow=7.1,SNR=13						
IDI				Sn	Sn	12 23 42.6	+1.3
	comp=E,9.4nm,0.3s,baz=193,slow=5.1,SNR=6.8						
CEL	Celeste	3.97	284		Pn	12 22 57.2	+1.3
CEL	Celeste	3.97	284	P	Pn	12 22 57.3	+1.4
TIR	Tirane	3.99	350	P	Pn	12 22 57.9	+1.8
TIR	Tirane	3.99	350		Pn	12 22 58.0	+1.9
TIR	Tirane	3.99	350	ePn	Pn	12 22 58.4	+2.3
TIR	Tirane	3.99	350	P	Pn	12 22 57.9	+1.9
SRS	Serrai	4.28	30	ePn	Pn	12 23 01.4	+1.3
NOCI	Noci	4.44	320	P	Pn	12 23 03.7	+1.4
PEHC	Pehcevo	4.65	20	*i* Pn	Pn	12 23 06.3	+1.1
CUC	Castrocucco	4.67	305		Pn	12 23 08.7	+3.2
PUK	Puka	4.67	352		Pn	12 23 06.5	+0.9
ULC	Ulcinj	4.70	346⇑	*i*Pn	Pn	12 23 06.2	+0.4
ULC				*i* Sn	Sn	12 23 59.2	-0.9
DRME	Dracevica, Mon	4.92	346⇓	*i*Pn	Pn	12 23 09.1	+0.2
DRME				*i* Sn	Sn	12 24 04.0	-1.6
EZN	Ezine	4.95	59	P	Pn	12 23 09.7	+0.4
VAE	Valguarnera	5.08	273	Pn	Pn	12 23 11.7	+0.6
	comp=E,15nm,0.3s,baz=79,slow=5.9,SNR=4.1						
VAE				Sn	Sn	12 24 08.6	-1.0
	comp=E,10nm,0.3s,baz=357,slow=21,SNR=2.3						
BUM	Brajici-Budva	5.09	344⇓	*i*Pn	Pn	12 23 11.5	+0.2
BUM				*i* Sn	Sn	12 24 08.2	-1.7
RAFF	Raffo Rosso	5.13	270	Pn	Pn	12 23 13.9	+2.1
PDG	Podgorica	5.14	347	Pn	Pn	12 23 15.6	+3.7
PDG	Podgorica	5.14	347⇓	*i*Pn	Pn	12 23 12.0	+0.1
PDG				*i* Sn	Sn	12 24 07.8	-3.3
BOSS	Bosilegrad	5.24	14	ePn	Pn	12 23 14.2	+1.0
WDD	Wied Dalam	5.29	255	Pn	Pn	12 23 14.8	+0.9
CEME	Cevo	5.32	345⇓	*i*Pn	Pn	12 23 14.0	-0.4
CEME				*i* Sn	Sn	12 24 13.4	-2.2
HCY	Herceg Novi	5.33	341⇑	*i*Pn	Pn	12 23 15.0	+0.6
HCY				*i* Sn	Sn	12 24 14.0	-1.6
BARS	Barje	5.45	8	ePn	Pn	12 23 16.6	+0.5
BARS				eSn	Sn	12 24 18.4	-0.2
KARP	Karpathos	5.46	108	Pn	Pn	12 23 16.8	+0.5
IVA	Berane	5.49	353⇓	*i*Pn	Pn	12 23 17.6	+0.8
IVA				*i* Sn	Sn	12 24 17.6	-2.2
KOME	Kolasin	5.51	350⇓	*i*Pn	Pn	12 23 18.2	+1.1
KOME				*i* Sn	Sn	12 24 18.3	-2.1
VTS	Vitosha	5.52	19	ePn	Pn	12 23 18.6	+1.3
NKME	Niksic	5.53	346⇓	*i*Pn	Pn	12 23 18.0	+0.8
NKME				*i* Sn	Sn	12 24 18.2	-2.4
BRY	Bratogost	5.74	343	ePn	Pn	12 23 21.0	+0.7
BRY				eSn	Sn	12 24 23.6	-2.5
SELS	Selova	5.80	2	ePn	Pn	12 23 20.9	-0.1
SJES	Sjenica	5.87	354	ePn	Pn	12 23 22.6	+0.6
SJES				eSn	Sn	12 24 29.7	+0.5
STON	Ston	5.94	337	ePn	Pn	12 23 21.6	-1.2
UPM	Unac-Piva	5.96	347⇑	*i*Pn	Pn	12 23 23.9	+0.6
UPM				*i* Sn	Sn	12 24 28.7	-2.7
PLE	Pljevlja	6.00	350⇑	*i*Pn	Pn	12 23 24.6	+0.8
PLE				*i* Sn	Sn	12 24 29.7	-2.7
ZAPS	Zavoj	6.01	13	ePn	Pn	12 23 25.1	+1.2
PAOL	Paolisi	6.03	309	Pn	Pn	12 23 26.5	+2.3
IVAS	Ivanjica	6.17	356	ePn	Pn	12 23 26.2	+0.1
IVAS				eSn	Sn	12 24 34.7	-1.8
BOVS	Bovan	6.25	6	ePn	Pn	12 23 26.4	-0.7
GRUS	Gruza	6.46	359	ePn	Pn	12 23 29.7	-0.4
GRUS				eSn	Sn	12 24 42.9	-0.7
ZAGS	Zajecar	6.48	9	ePn	Pn	12 23 30.1	-0.2
BBLS	Lazi&#263i	6.53	351	ePn	Pn	12 23 32.1	+1.1
BBLS				eSn	Sn	12 24 44.8	-0.5
DIVS	Divibare	6.70	355	ePn	Pn	12 23 32.8	-0.6
DIVS				eSn	Sn	12 24 47.5	-2.1
INTR	Introdacqua	7.02	313	Pn	Pn	12 23 40.1	+2.3
TEKS	Tekeris	7.19	353	ePn	Pn	12 23 39.2	-0.8
CAMP	Campotosto	7.63	314	Pn	Pn	12 23 49.6	+3.4
NRCA	Norcia	7.99	315		Pn	12 23 53.4	+2.3
GZR	Gura Zlata	8.11	10	ePn	Pn	12 23 52.8	+0.1
FDMO	Fiordimonte	8.14	316		Pn	12 23 54.5	+1.5
VOIR		8.62	20	P	Pn	12 24 01.0	+1.2
	comp=E,11nm,0.8s						
MLR	Muntele Rosu	8.94	24	Pn	Pn	12 24 07.0	+2.9
MLR	Muntele Rosu	8.94	24	Pn	Pn	12 24 03.2	-1.0
	comp=E,0.3nm,0.3s,baz=208,slow=15,SNR=1.6						
MLR				LR	LR	12 27 50.3	
	comp=E,68nm,18.8s,baz=295,slow=40						
	comp=E,1.3nm,0.5s						
MLR	Muntele Rosu	8.94	24	P	Pn	12 24 05.3	+1.1
	comp=E,12nm,1.0s						
BISRR	Bisoca	9.25	27	P	Pn	12 24 09.5	+1.1
	comp=E,33nm,0.9s						
KEST	Kesra	9.36	263	Pn	Pn	12 24 10.7	+0.7
	comp=E,0.3nm,0.3s,baz=122,slow=13,SNR=3.9						
	comp=E,4.8nm,0.8s						
PLOR5	Plostina Array	9.49	26	P	Pn	12 24 12.8	+1.1
	comp=E,11nm,1.4s						
PLOR3	Plostina Array	9.49	26	P	Pn	12 24 12.8	+1.1
	comp=E,20nm,1.1s						
VRI	Vrincioaia	9.53	26	P	Pn	12 24 13.4	+1.2
	comp=E,7.9nm,0.7s,comp=E,717nm						
MPLH	Magyarpolny	10.04	347	P	Pn	12 24 20.7	+1.6
	comp=E,28nm,1.1s						
SABO	M.te Sabotino	10.10	330	Pn	Pn	12 24 21.6	+1.6
SOKA	Soboth	10.19	337	*i* Pn	Pn	12 24 22.0	+0.7
	comp=E,4.5nm,0.6s						
SOKA				*i* Sn	Sn	12 26 08.4	-6.9
	comp=E,1.5nm,0.3s						
OBKA	Obir	10.20	335	*i* Pn	Pn	12 24 22.4	+1.0
	comp=E,2.8nm,0.4s						
OBKA				*i* Sn	Sn	12 26 12.6	-3.0
	comp=E,12nm,0.7s						
BRTR	Keskin Array B	10.32	73	Pn	Pn	12 24 21.6	-1.4
	comp=E,0.1nm,0.3s,baz=268,slow=14,SNR=1.4						
	comp=E,0.2nm,0.3s						
PRED	Cave del Predi	10.50	331	Pn	Pn	12 24 27.1	+1.7
NSLU	Nyzhne Selyshc	11.10	13	P	Pn	12 24 32.5	-1.1
TUE	Stuetta	12.42	320	Pn	Pn	12 24 53.6	+1.8
EIL	Elat	14.10	119	Pn	Pn	12 25 13.1	-1.6
	comp=E,0.5nm,0.3s,baz=325,slow=17,SNR=3.0						
EIL				Sn	Sn	12 27 37.0	-14
	comp=E,0.4nm,0.3s,baz=70,slow=21,SNR=2.0						
	comp=E,3.5nm,0.6s						
RNPP1	Kostyukhnivka	14.37	13	P	Pn	12 25 19.1	+0.9
AK07	Malin Array Si	14.44	22	P	Pn	12 25 20.1	+0.9
AK09	Malin Array Si	14.52	22	P	Pn	12 25 21.2	+0.9
AKASG	Malin Array Be	14.58	22	Pn	Pn	12 25 20.1	-1.0
	comp=E,0.6nm,0.3s,baz=214,slow=11,SNR=2.8						
AKASG				LR	LR	12 31 55.5	
	comp=E,103nm,20.1s,baz=336,slow=42						
	comp=E,0.6nm,0.4s						
AKBB	Malin Array Si	14.58	22	P	Pn	12 25 22.5	+1.4
AK21	Malin Array Si	14.60	21	P	Pn	12 25 22.5	+1.2
CLL	Collm	14.95	341	*i* sP	P	12 25 33.6	+1.9
CLL				ePP	PnPn	12 25 38.0	+3.9
NACGM	Naroch	17.96	11	eP	Pn	12 26 03.0	-1.5
	comp=Z,14nm,0.8s,baz=196						
ESDC	Sonseca Array	19.48	284	P	P	12 26 21.5	-0.4
	comp=Z,0.1nm,0.3s,baz=96,slow=13,SNR=2.5						
	comp=Z,1.2nm,0.9s						
MDT	Midelt	21.26	265	P	P	12 26 40.6	-0.7
	comp=Z,3.0nm,0.7s,baz=84,slow=12,SNR=3.8						
	comp=Z,3.0nm,0.7s						
HFS	Hagfors	23.18	351	P	P	12 26 59.5	-1.9
	comp=Z,1.3nm,0.3s,baz=153,slow=10.0,SNR=14						
	comp=Z,1.3nm,0.3s						
NC602	NORSAR Array S	24.06	349	P	P	12 27 11.9	+2.0
NC602				IAmb	IAmb	12 27 21.3	
	comp=Z,16nm,1.2s						
EKA	Eskdalemuir Ar	24.18	325	P	P	12 27 10.2	-0.8
	comp=Z,0.9nm,0.5s,baz=121,slow=11,SNR=2.8						
	comp=Z,0.9nm,0.5s						
FINES	FINESS Array B	24.28	6	P	P	12 27 10.2	-1.7
	comp=Z,1.5nm,0.5s,baz=171,slow=10,SNR=12						
	comp=Z,1.5nm,0.5s						
FIA1	FINESS Array S	24.28	6	P	P	12 27 11.1	-0.8
NC405	NORSAR Array S	24.40	349	P	P	12 27 15.6	+2.6
NC405				IAmb	IAmb	12 27 21.0	
	comp=Z,9.7nm,0.8s						
NB201	NORSAR Array S	24.40	349	P	P	12 27 15.2	+2.1
NB2	NORSAR Subarra	24.41	349	P	P	12 27 12.6	-0.5
	comp=Z,7.0nm,1.1s,baz=160,slow=11						
NOA	NORSAR Array B	24.41	349	P	P	12 27 12.1	-1.1
	comp=Z,1.1nm,0.7s,baz=160,slow=9.3,SNR=3.0						
	comp=Z,1.1nm,0.7s						
TORD	Torodi Ar. Bea	29.58	220	P	P	12 27 59.9	-0.1
	comp=Z,1.1nm,0.5s,baz=31,slow=9.2,SNR=10						
	comp=Z,1.1nm,0.5s						
ABKAR	Akbulak array	30.50	55	P	P	12 28 08.1	+0.3
ABKAR				IAmb	IAmb	12 28 51.4	
	comp=Z,1.2nm,0.8s						
ARCES	ARCESS Array B	32.28	3	P	P	12 28 23.0	-0.2
	comp=Z,2.6nm,0.9s,baz=198,slow=11,SNR=1.6						
	comp=Z,2.6nm,0.9s						
BVAR	Borovoye Array	37.45	49	P	P	12 29 07.8	-0.2
	comp=Z,0.6nm,0.5s,baz=248,slow=4.8,SNR=3.8						
	comp=Z,0.6nm,0.5s						
DBIC	Dimbokro	38.49	224	P	P	12 29 17.1	-0.1
DBIC				IAmb	IAmb	12 29 35.1	
	comp=Z,18nm,1.4s						
DBIC	Dimbokro	38.49	224	P	P	12 29 18.1	+0.9
	comp=Z,4.3nm,0.9s,baz=23,slow=12,SNR=2.6						
	comp=Z,4.3nm,0.9s						
KURBB	Kurchatov Arra	42.51	53	P	P	12 29 48.3	-1.8
	comp=Z,0.5nm,0.4s,baz=278,slow=8.7,SNR=5.6						
	comp=Z,0.5nm,0.4s						
MK31	Makanchi Array	45.52	58	P	P	12 30 14.3	-0.1
MKAR	Makanchi Array	45.52	58	P	P	12 30 12.7	-1.6
	comp=Z,1.0nm,0.5s,baz=268,slow=8.1,SNR=11						
	comp=Z,1.0nm,0.5s						
ZALV	Zalesovo Beam	46.04	48	P	P	12 30 17.4	-0.9
	comp=Z,1.3nm,0.3s,baz=285,slow=8.5,SNR=3.2						
	comp=Z,1.3nm,0.3s						
HHC	Hu-ho-hao-te	67.29	55	eP	P	12 32 49.9	+0.2
HHC				pmax	pmax		
	comp=Z,19nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,6.4s						
PZH	PanZhiHua	67.62	73	P	P	12 32 52.6	+0.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,90nm,4.8s						
CMAR	Chiang Mai Arr	69.78	82	P	P	12 33 03.9	-1.6
	comp=Z,0.7nm,0.5s,baz=305,slow=7.8,SNR=7.0						
	comp=Z,0.7nm,0.5s						
F31M	Tsiigehtchic	73.69	350	P	P	12 33 28.9	+0.7
E22K	Anaktuvuk Pass	74.62	357	P	P	12 33 34.7	+1.0
E22K				IAmb	IAmb	12 34 01.2	
	comp=Z,6.9nm,1.5s						
H29M	Whitestone	75.44	351	P	P	12 33 39.7	+1.3
H29M				IAmb	IAmb	12 33 40.4	
	comp=Z,7.3nm,1.4s						
I30M	Mount Dempster	76.15	350	P	P	12 33 43.0	+0.4
NJ2	Nanjing	77.01	60	eP	P	12 33 47.4	-0.5
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
M29M	Somme Creek	79.08	350	P	P	12 33 59.6	+0.6
M29M				IAmb	IAmb	12 34 02.4	
	comp=Z,6.4nm,1.4s						
WRA	Warramunga Arr	120.29	93	PKP	PKPdf	12 40 45.4	-1.1
	comp=Z,0.4nm,0.8s,baz=319,slow=2.1,SNR=2.1						
ASAR	Alice Springs	121.87	97	PKP	PKPdf	12 40 48.9	-0.6
	comp=Z,1.9nm,1.2s,baz=305,slow=1.5,SNR=7.5						

*SJA **05** 12:22:31.6±0.5, 24°.30S×67°.22W, h196km±4km, ML3.3, MW3.6*
*GUC **05** 12:22:33.4±0.6, 24°.30S×67°.37W, h195km±10km, ML4.0*
ISC 05 12:22:30.3±1.8, 24°.30S±0°.04×67°.22W±0°.04, h208km±16km, n27, σ1§50/46, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.62	105	eP	Pn	12 23 06.8	+0.8
SLA				eS	S	12 23 32.5	-0.9
SLA				IAML		12 23 32.8	
	comp=Z,69nm,0.8s						
FSA	Cafayete	2.13	148	eP	Pn	12 23 12.1	+1.1
LVC	Limon Verde	2.29	317	eP	Pn	12 23 13.9	+1.0
LVC				eS	S	12 23 44.5	-1.0
LVC				IAML		12 23 48.2	
	comp=Z,767nm,0.5s						
LVC	Limon Verde	2.29	317	eP	Pn	12 23 14.2	+1.3
LVC				eS	S	12 23 45.1	-0.4
LVC				IAML		12 23 46.3	
	comp=Z,57nm,0.5s						
GO02	Mina Guanaco	2.32	248⇑	*i* P	Pn	12 23 14.1	+1.1
GO02				eS	S	12 23 45.4	-0.5
GO02				IAML		12 23 46.4	
	comp=E,276nm,0.3s						
GO02	Mina Guanaco	2.32	248	eP	Pn	12 23 14.2	+1.1
GO02				eS	S	12 23 45.8	-0.2
PB15	IPOC Station P	2.33	297⇑	*i* P	Pn	12 23 14.3	+1.2
PB15				eS	S	12 23 44.9	-1.1
PB15	IPOC Station P	2.33	297	eP	Pn	12 23 14.4	+1.2
YJA	Yavi	2.63	37	eP	Pn	12 23 17.6	+0.9
YJA	Yavi	2.63	37	eP	Pn	12 23 18.5	+1.8
YJA				eS	S	12 23 47.0	-5.4
PB06	IPOC Station P	2.68	306⇑	*i* P	Pn	12 23 18.2	+1.3
PB06				eS	S	12 23 51.4	-1.3
PB06				IAML		12 23 54.5	
	comp=E,416nm,0.1s						
PB06	IPOC Station P	2.68	306	eP	Pn	12 23 18.0	+1.1
PB06				IAML		12 23 54.6	
	comp=Z,170nm,0.1s						
PB14	IPOC Station P	2.92	263	eP	Pn	12 23 20.5	+0.8
PB14	IPOC Station P	2.92	263	eP	Pn	12 23 20.6	+0.8
PB14				eS	S	12 23 57.8	0.0
PB14				IAML		12 24 01.5	
	comp=Z,48nm,0.1s						
AHML	Horco Molle	3.01	146	eP	Pn	12 23 22.1	+1.7
AHML				eS	S	12 23 59.0	-0.4
PB04	IPOC Station P	3.33	305	eP	Pn	12 23 25.6	+1.2
PB04				eS	S	12 24 04.5	-1.8
PB04				IAML		12 24 08.0	
	comp=E,203nm,0.2s						
PB04	IPOC Station P	3.33	305	eP	Pn	12 23 25.7	+1.2
PB04				eS	S	12 24 04.5	-1.8
AC01	Pan de Azucar	3.57	238	eP	Pn	12 23 27.4	+0.3
AC01				eS	S	12 24 08.8	-2.5
AC01	Pan de Azucar	3.57	238	eP	Pn	12 23 27.5	+0.3
AC01				eS	S	12 24 09.7	-1.6
AC01				IAML		12 24 12.0	
	comp=Z,28nm,0.7s						
GO03	Copiapo	4.25	219	eP	Pn	12 23 35.9	+0.4
GO03	Copiapo	4.25	219	eP	Pn	12 23 36.2	+0.6
GO03				eS	S	12 24 25.6	-1.0
PATCX	Punta Patache	4.39	321	eP	Pn	12 23 38.1	+0.7
PATCX				IAML		12 24 36.2	
	comp=Z,28nm,0.4s						
TA01	Diego Aracena	4.61	323	eP	Pn	12 23 40.3	+0.2
TA01				eS	S	12 24 35.1	+0.4
TA01				IAML		12 24 58.6	
	comp=Z,18nm,0.8s						
GO01	Chusmiza	4.96	338	eP	Pn	12 23 45.8	+0.9
GO01				eS	S	12 24 45.0	+1.6
ACLC	CERRO LA CRUZ	5.11	177	eP	Pn	12 23 49.3	+2.8
AC04	Llanos de Chal	5.20	221	eP	Pn	12 23 47.4	0.0
AC04				eS	S	12 24 46.4	-1.8
AC04				IAML		12 25 01.1	
	comp=Z,24nm,1.4s						
AC05	El Transito	5.28	210	eP	Pn	12 23 50.2	+1.6
AC05				eS	S	12 24 49.0	-1.1
AC05				IAML		12 24 52.6	
	comp=Z,11nm,1.9s						

*IDC **05** 12:29:10.6±8.2, 11°.28N×125°.64E, h64km±77km, mb3.5/11, mbtmp3.8/11, MS2.7/1, Error ellipse: s-maj=37.6km s-min=14.3km az=68.0*
ISC 05 12:29:09.3±0.8, 11°.3N±0°.1×125°.7E±0°.3, h53km, n17, σ0§70/13, mb3.8/11, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	26.15	4	P	P	12 34 39.8	+1.2
	1.4nm,0.8s,baz=186,slow=7.9,SNR=3.4						
KSRS				LR	LR	12 44 56.5	
	comp=Z,17nm,20.4s,baz=345,slow=36						
	1.4nm,0.8s						
CMAR	Chiang Mai Arr	26.77	289	P	P	12 34 44.8	+0.3
	1.1nm,0.7s,baz=101,slow=6.4,SNR=8.4						
	1.1nm,0.7s						
WRA	Warramunga Arr	32.17	165	P	P	12 35 31.2	-1.1
	0.3nm,0.7s,baz=345,slow=9.4,SNR=3.0						
WRA				PcP	PcP	12 38 20.7	+0.3
	0.3nm,0.6s,baz=341,slow=2.9,SNR=1.8						
	0.3nm,0.7s						
ASAR	Alice Springs	35.64	167	P	P	12 36 03.1	+0.7
	0.3nm,0.5s,baz=349,slow=7.2,SNR=14						
ASAR				PcP	PcP	12 38 30.4	+0.2
	0.2nm,0.7s,baz=340,slow=3.1,SNR=2.2						
	0.3nm,0.5s						
SONM	Songino Array	39.88	340	P	P	12 36 38.1	0.0
	1.1nm,0.7s,baz=160,slow=9.2,SNR=5.1						
	1.1nm,0.7s						
H11S3	WAKE ISLAND Hy 40.23	75		T	T	13 19 41.1	
	baz=264,slow=75,SNR=14						
H11S1	WAKE ISLAND Hy 40.24	75		T	T	13 19 41.9	
	baz=264,slow=75,SNR=15						
H11S2	WAKE ISLAND Hy 40.24	75		T	T	13 19 40.3	
	baz=264,slow=75,SNR=19						
H11N1	WAKE ISLAND Hy 40.52	73		T	T	13 20 01.6	
	baz=265,slow=75,SNR=82						
H11N2	WAKE ISLAND Hy 40.53	73		T	T	13 20 02.1	
	baz=265,slow=75,SNR=82						
H11N3	WAKE ISLAND Hy 40.54	73		T	T	13 20 02.9	
	baz=265,slow=75,SNR=94						
STKA	Stephens Creek	45.53	161	P	P	12 37 24.2	+0.3
	1.4nm,0.6s,baz=332,slow=9.7,SNR=3.6						
	1.4nm,0.6s						
MKAR	Makanchi Array	50.88	323	P	P	12 38 05.0	0.0
	0.7nm,0.4s,baz=119,slow=7.7,SNR=9.1						
	0.7nm,0.4s						
ZALV	Zalesovo Beam	53.47	331	P	P	12 38 23.0	-1.1
	0.7nm,0.3s,baz=116,slow=6.8,SNR=5.1						
	0.7nm,0.3s						
KURBB	Kurchatov Arra	54.92	325	P	P	12 38 34.5	-0.1
	0.5nm,0.2s,baz=124,slow=7.3,SNR=8.3						
	0.5nm,0.2s						
ILAR	Eielson Array	78.81	26	P	P	12 41 06.1	-0.2
	0.5nm,0.8s,baz=246,slow=6.6,SNR=4.9						
	0.5nm,0.8s						
ARCES	ARCESS Array B	83.06	340	P	P	12 41 28.5	-0.4
	3.0nm,1.0s,baz=60,slow=7.2,SNR=5.2						
	3.0nm,1.0s						

*IDC **05** 12:37:42.6±3.1, 16°.83N×100°.18W, h0km, mb3.7/3, mbtmp3.4/6, ML3.1/3, MS3.2/4, Error ellipse: s-maj=57.3km s-min=20.0km az=18.0*
*MEX **05** 12:37:42.9±0.5, 16°.60N×100°.42W, h2km±7km, MD4.4*
ISC 05 12:37:39.2±2.2, 16°.54N±0°.04×100°.48W±0°.02, h1km±15km, n74, σ2§30/135, mb3.6/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.54	22	eP	Pb	12 37 51.5	0.0
CAIG				eS	Sb	12 37 58.6	-1.2
ACP2	Acapulco	0.66	60	eP	Pb	12 37 54.0	+0.5
ACP2				eS	Sb	12 38 02.9	-0.3
ATYC	Atoyac	0.67	4	eP	Pb	12 37 53.5	-0.2
ATYC				eS	Sb	12 38 02.2	-1.3
DAIG	Los Arroyos	0.92	59	eP	Pb	12 37 58.0	-0.1
DAIG				eS	Sg	12 38 09.1	+0.1
PET2	Petatlan	1.24	323	*i* S	Sb	12 38 13.7	-6.3
CRIG	Cruz Grande	1.30	81	eP	Pn	12 38 02.8	-1.8
CRIG				eS	Sb	12 38 18.5	-3.4
ZIIG	Zihuatanejo	1.42	318	eP	Pn	12 38 05.0	-1.1
ZIIG				*i* S	Sn	12 38 23.7	-1.7
MEIG	Mezcala	1.60	31	eP	Pn	12 38 08.0	-0.8
MEIG				eS	Sn	12 38 27.8	-2.4
ARIG	Puente Sto Nin	1.73	4	eP	Pn	12 38 09.9	-0.7
ARIG				eS	Sn	12 38 30.5	-2.8
MGIG	Malinaltepec	1.89	68	eP	Pn	12 38 12.5	-0.1
MGIG				eS	Sn	12 38 35.5	-2.0
PLIG	Platanillo	2.06	27	eP	Pn	12 38 15.0	-0.1
PLIG				eS	Sn	12 38 39.0	-2.5
TLIG	Tlapa	2.09	61	eP	Pn	12 38 15.7	+0.2
TLIG				eS	Sn	12 38 39.6	-2.6
HMTT	Tlapaneco	2.22	55	eP	Pn	12 38 16.2	-1.1
HMTT				*i* S	Sb	12 38 48.0	-0.2
PNIG	Pinotepa	2.26	93	eP	Pn	12 38 17.9	+0.1
PNIG				eS	Sn	12 38 42.2	-4.1
TEJU	Tejupilco	2.37	7	eP	Pn	12 38 18.9	-0.4
TEJU				*i* S	Sn	12 38 46.5	-2.7
MAVM	Malinalco, Edo	2.58	21	eP	Pn	12 38 07.3	-15
MAVM				*i* S	Sn	12 38 40.6	-14
FTIG	Fresnillo de T	2.62	58	eP	Pn	12 38 22.8	0.0
FTIG				eS	Sn	12 38 53.2	-2.1
YAIG	Yautepec	2.67	30	eP	Pn	12 38 23.4	-0.1
YAIG				eS	Sn	12 38 52.7	-3.9
TXIG	Tlaxiaco	2.69	74	eP	Pn	12 38 24.5	+0.6
TXIG				eS	Sn	12 38 56.3	-1.0
YOIG	Yosondua	2.83	83	eP	Pn	12 38 26.7	+0.8
YOIG				*i* S	Sn	12 38 57.5	-3.2
HLIG	Huajuapan de L	2.86	63	eP	Pn	12 38 26.6	+0.4
HLIG				eS	Sn	12 39 00.1	-1.3
INVM	La Marquesa	2.92	21	eP	Pn	12 38 28.8	+1.6
INVM				*i* S	Sn	12 39 02.6	-0.6
TLVM	San Miguel Top	2.94	25	eP	Pn	12 38 27.1	-0.2
TLVM				*i* S	Sn	12 38 58.7	-4.8
MPVM	San Francisco	2.99	28	eP	Pb	12 38 34.6	+1.2
MPVM				eS	Sb	12 39 11.0	+0.4
XCVM	Xochimilco	2.99	25	eP	Pn	12 38 30.4	+2.3
XCVM				eS	Sb	12 39 07.0	-3.7
PBXN	Popocatepetl	3.00	35	eP	Pn	12 38 15.3	-13
PBXN				eP	Pb	12 38 27.2	-6.7
PBXN				eS	Sn	12 38 56.9	-8.5
PBXN				eS	Sb	12 39 04.1	-7.2
CNCY	Coyoac

CTUV Llano Grande 5.30 22 *eP* **Pn 12 38 59.9 +0.4**
CTUV *eS* **Sn 12 40 01.8 +0.5**
RPIG Rio Verde 5.33 5 *eP* **Pn 12 39 01.2 +1.1**
RPIG *eS* **Sn 12 40 04.3 +1.9**
CMIG Matias Romero 5.38 83 Pn **Pn 12 39 01.2 +0.5**
0.4nm,0.3s,baz=279,slow=6.9,SNR=2.8
CMIG Sn **Sn 12 39 58.0 -5.4**
1.1nm,0.3s,baz=110,slow=22,SNR=8.9
CMIG Lg Lg 12 40 24.2
1.2nm,0.3s,baz=298,slow=6.3,SNR=9.1
CMIG LR LR 12 41 09.7
comp=Z,86nm,18.6s,baz=284,slow=41
1.0nm,0.3s
CMIG Matias Romero 5.38 83 *eP* **Pn 12 39 00.6 -0.2**
CMIG *i* S **Sn 12 40 03.3 -0.1**
PMUV Sontecomapan 5.48 68 *eP* **Pn 12 39 04.3 +2.1**
PMUV *eS* **Sn 12 40 06.2 +0.2**
AAIG Aguscalientes 5.69 342 *eP* **Pn 12 39 08.2 +3.1**
AAIG *eS* **Sn 12 40 12.3 +1.1**
ANIG Ahuacatlan 5.90 320 *i* P **Pn 12 39 10.8 +2.9**
ANIG *i* S **Sn 12 40 16.6 +0.4**
UXUV UXUV 6.11 82 *eP* **Pn 12 39 12.3 +1.6**
UXUV *i* S **Sn 12 40 18.2 -3.1**
ZAIG Zacatecas 6.50 343 *eP* **Pn 12 39 19.2 +2.9**
ZAIG *i* S **Sn 12 40 30.5 -0.8**
GTIG Gomez Farias 6.61 11 *eP* **Pn 12 39 21.2 +3.7**
GTIG *eS* **Sn 12 40 34.0 +0.4**
TXAR Lajitas Array 13.06 348 Pn **Pn 12 40 48.3 +2.2**
baz=182,slow=8.7,SNR=1.5
TXAR Lg Lg 12 44 29.6
baz=174,slow=29,SNR=2.8
0.1nm,0.6s
ANMO Albuquerque 19.09 345 P **Pn 12 42 05.4 +1.1**
0.1nm,0.3s,baz=320,slow=15,SNR=4.1
ANMO LR LR 12 49 58.7
comp=Z,98nm,18.8s,baz=290,slow=39
0.5nm,0.6s
NVAR Mina Array Bea 26.84 328 P **P 12 43 24.6 +3.0**
1.0nm,0.8s,baz=147,slow=12,SNR=8.8
1.0nm,0.8s
PDAR Pinedale Array 27.27 345 P **P 12 43 26.9 +1.6**
1.3nm,0.8s,baz=149,slow=9.5,SNR=10
PDAR LR LR 12 56 04.1
comp=Z,42nm,19.9s,baz=331,slow=41
1.3nm,0.8s
ELK Elko 27.29 335 LR LR 12 55 57.8
comp=Z,94nm,18.3s,baz=310,slow=40
ILAR Eielson Array 57.38 338 P **P 12 47 30.9 +1.9**
0.4nm,0.9s,baz=156,slow=4.6,SNR=4.5
0.4nm,0.9s

*IDC **05** 12:45:26.4±0.9, 15°.31N×59°.71W, h0km, mb3.9/7, mbtmp4.0/9, ML3.5/2, MS3.3/9, Error ellipse: s-maj=20.4km s-min=17.8km az=170.0*
*TRN **05** 12:45:29.7, 15°.14N×59°.78W, h31km, MD4.1, Far East of Dominica.*
*NEIC **05** 12:45:29.5±1.5, 15°.02N±0°.07×59°.72W±0°.06, h24km±6km, mb4.4/10, Error ellipse: s-maj=9.5km s-min=8.2km az=169.0*
ISC 05 12:45:28.1±1.7,**15°.15N**±0°.03×**59°.76W**±0°.05,**h14**km±10km,
n71,σ1$**68**/91,**mb4.2**/11,**MS3.3**/4,**Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	**Ilet Lapin Mar**	**1.14 251**			**Pg**	**12 45 50.1**	**0.0**
ILAM				Sn	**Sb**	**12 46 04.3**	**0.0**
ILAM	**Ilet Lapin Mar**	**1.14 251**		*eP*	**Pn**	**12 45 49.9**	**+0.3**
ILAM				*eS*	**Sg**	**12 46 05.2**	**+0.1**
H05S1	**Guadeloupe/Mar**	**1.27 236**		Pn	**Pg**	**12 45 52.3**	**-0.2**
H05S1				Sn	**Sb**	**12 46 06.6**	**-1.3**
MPOM	**Morne Pois Mar**	**1.27 237**			**Pn**	**12 45 51.4**	**0.0**
MPOM				Sn	**Sb**	**12 46 06.4**	**-1.8**
FDF	**Fort de France**	**1.41 253**			**Pn**	**12 45 53.6**	**+0.3**
BIM	**Bigot**	**1.42 244**			**Pn**	**12 45 53.6**	**+0.1**
BIM				Sn	**Sn**	**12 46 10.8**	**-1.2**
BIM	**Bigot**	**1.42 244**		*eP*	**Pn**	**12 45 53.9**	**+0.5**
BIM				*eS*	**Sn**	**12 46 11.9**	**-0.1**
SLBI	**Saint Lucia, B**	**1.63 227**		*eP*	**Pb**	**12 45 57.0**	**-0.8**
SLBI				*eS*	**Sb**	**12 46 18.0**	**-0.2**
SLAC	**Saint Lucia, A**	**1.66 222**		*eP*	**Pn**	**12 45 57.0**	**+0.2**
SLAC				*eS*	**Sn**	**12 46 18.1**	**+0.1**
H05N1	**Guadeloupe/Mar**	**1.71 313**		Pn	**Pn**	**12 45 57.4**	**0.0**
H05N1				Sn	**Sn**	**12 46 13.0**	**-6.0**
GDSD	**La Dsirade Is**	**1.71 313**			**Pn**	**12 45 57.7**	**+0.2**
MCLT	**Moule a Chique**	**1.83 219**		*eP*	**Pb**	**12 46 00.3**	**-1.1**
MCLT				*eS*	**Sn**	**12 46 21.8**	**-0.4**
TDBA	**Terre de Bas,**	**1.94 291**			**Pb**	**12 46 02.6**	**-0.7**
TBG	**Guadaloupe-3**	**1.95 291**		*eP*	**Pn**	**12 46 01.9**	**+1.2**
TBG				*eS*	**Sn**	**12 46 26.0**	**+1.0**
CBE	**Ff, Capester**	**2.00 297**			**Pb**	**12 46 03.1**	**-1.2**
BBGH	**Gun Hill**	**2.00 174**		*eP*	**Pb**	**12 46 03.3**	**-1.0**
ABD	**La Joyeuse, An**	**2.12 309**		Pn	**Pn**	**12 46 03.7**	**+0.6**
GDHS	**Morne Mazeau,**	**2.23 300**			**Pn**	**12 46 06.6**	**+1.9**
SSV	**Crater Summit**	**2.29 218**		*eP*	**Pn**	**12 46 05.8**	**+0.3**
SVV	**Soufriere Volc**	**2.31 218**		*eP*	**Pn**	**12 46 07.0**	**+1.3**
SVB	**Belmont**	**2.36 218**		*eP*	**Pn**	**12 46 08.0**	**+1.5**
SVB				*eS*	**Sn**	**12 46 35.8**	**+0.6**
SVT	**Saint Vincent**	**2.44 216**		*eP*	**Pn**	**12 46 08.2**	**+0.7**
SVT				*eS*	**Sn**	**12 46 36.0**	**-1.1**
SVOC	**Richmond Hill,**	**2.44 216**		*eP*	**Pn**	**12 46 08.7**	**+1.2**
SVOC				*eS*	**Sn**	**12 46 36.7**	**-0.4**
ANBD	**Bethesda, Anti**	**2.70 315**		*eP*	**Pn**	**12 46 12.7**	**+1.6**
ANBD				*eS*	**Sn**	**12 46 44.4**	**+0.9**
MBWH		**2.83 304**		*eP*	**Pn**	**12 46 14.5**	**+1.7**
MBWH				*eS*	**Sn**	**12 46 46.6**	**-0.1**
MBFL	**Flemmings, Mon**	**2.85 304**		*eP*	**Pn**	**12 46 14.4**	**+1.3**
GCMP	**Grenada, Carri**	**3.10 212**		*eP*	**Pn**	**12 46 18.9**	**+2.2**
GCMP				*eS*	**Sn**	**12 46 54.0**	**+0.5**
ANWB	**Willy Bob**	**3.17 322**		Pn	**Pn**	**12 46 17.8**	**+0.2**
ANWB	**Willy Bob**	**3.17 322**		*eP*	**Pn**	**12 46 18.3**	**+0.7**
ANWB				*eS*	**Sn**	**12 46 53.3**	**-1.8**
ANWB	**Willy Bob**	**3.17 322**		*e*	**Pn**	**12 46 17.5**	**0.0**
ANWB	**Willy Bob**	**3.17 322**		*e*	**Sn**	**12 46 53.0**	**-2.2**
ANWB				*eS*	**Sn**	**12 46 53.3**	**-1.8**
GRSS	**Sisters**	**3.36 213**		*eP*	**Pn**	**12 46 21.9**	**+1.8**
GRHS	**Sauteurs**	**3.44 212**		*eP*	**Pn**	**12 46 23.3**	**+2.1**
GRW	**Mount Saint Ca**	**3.50 212**		*eP*	**Pn**	**12 46 23.3**	**+1.1**
GRW				*eS*	**Sn**	**12 47 06.4**	**+3.0**
GRGR	**Grenville**	**3.52 212**		*eP*	**Pn**	**12 46 24.3**	**+1.9**
GRGR				*eS*	**Sn**	**12 47 05.7**	**+1.9**
SKI	**Saint Kitts**	**3.59 308**		*eP*	**Pn**	**12 46 25.8**	**+2.5**
SKI				*eS*	**Sn**	**12 47 06.6**	**+1.0**
TOSP	**Speyside**	**3.90 191**		*eP*	**Pn**	**12 46 29.8**	**+2.2**
TOSP				*eS*	**Sn**	**12 47 13.0**	**-0.3**
TRN	**Trinidad (W)**	**4.75 200**		*eP*	**Pn**	**12 46 41.1**	**+1.8**
TRN				*eS*	**Sn**	**12 47 32.6**	**-1.7**
SJG	**San Juan**	**6.80 297**		LR	LR	12 49 56.4	
comp=Z,213nm,20.4s,baz=102,slow=40
PCRV Puerto La Cruz 6.86 224 Pn **Pn 12 47 10.2 +1.8**
1.4nm,0.3s,baz=60,slow=15,SNR=2.5
PCRV Sn **Sn 12 48 30.1 +3.8**
0.8nm,0.3s,baz=202,slow=19,SNR=1.6
PCRV LR LR 12 50 20.7
comp=Z,181nm,18.7s,slow=42
9.3nm,0.6s
PCRV Puerto La Cruz 6.86 224 *eP* **Pn 12 47 11.3 +3.0**
AOPR Arecibo Observ 7.42 296 **Pn 12 47 17.5 +1.6**
AOPR Arecibo Observ 7.42 296 *eP* **Pn 12 47 17.9 +1.9**
MLPR Magueyes Islan 7.53 293 Pn **Pn 12 47 18.6 +1.2**
BAUV El Baul 10.18 234 Pn **Pn 12 47 55.8 +1.9**
BAUV El Baul 10.18 234 *eP* **Pn 12 47 56.1 +2.2**
BAUV *eS* **Sn 12 49 43.0 -4.9**
SDDR Presa de Saban 11.66 291 Pn **Pn 12 48 16.8 +2.5**
MDP Montagnes des 12.19 144 LR LR 12 53 00.8
comp=Z,64nm,19.9s,baz=84,slow=37
SDV Santo Domingo 12.32 241 LR LR 12 53 40.2
comp=Z,110nm,20.1s,baz=32,slow=40
BOAV Boa Vista 12.70 183 **Pn 12 48 25.1 -3.2**
ROSC El Rosal 17.61 236 P **P 12 49 35.0 +0.4**
ROSC IAmb IAmb 12 49 45.3
comp=Z,16nm,0.6s
ROSC El Rosal 17.61 236 P **P 12 49 36.5 +1.9**
comp=Z,2.7nm,0.3s,baz=42,slow=17,SNR=4.8
ROSC LR LR 12 56 50.1
comp=Z,119nm,19.8s,baz=14,slow=39
comp=Z,6.8nm,0.3s
OTAV Otavalo 23.68 233 P **P 12 50 37.9 -2.1**
CRIN San Cristobal 26.60 268 P **P 12 51 03.2 -3.0**
TKL Tuckaleechee C 29.65 318 LR LR 13 02 42.1
comp=Z,66nm,21.2s,baz=128,slow=35
LPAZ La Paz 32.31 195 P **P 12 52 00.2 +2.7**
comp=Z,0.9nm,0.6s,baz=6.8,slow=12,SNR=4.1
comp=Z,0.9nm,0.6s
TXAR Lajitas Array 42.77 297 P **P 12 53 24.9 -0.5**
comp=Z,0.5nm,0.6s,baz=109,slow=8.6,SNR=6.1
comp=Z,0.5nm,0.6s
VHRN Van Horn 44.15 299 P **P 12 53 36.5 -0.2**
VHRN IAmb IAmb 12 53 37.6
comp=Z,4.2nm,0.7s
ANMO Albuquerque 46.20 304 LR LR 13 17 38.3
comp=Z,34nm,18.2s,baz=228,slow=42
PD31 Pinedale Array 50.60 313 P **P 12 54 25.9 -1.0**
PD31 IAmb IAmb 12 54 28.4
comp=Z,3.0nm,0.8s
PDAR Pinedale Array 50.60 313 P **P 12 54 27.2 +0.4**
comp=Z,2.2nm,0.7s,baz=115,slow=10.0,SNR=23
comp=Z,2.2nm,0.7s
AHID Auburn Hatcher 51.69 313 P **P 12 54 34.6 -0.4**
AHID IAmb IAmb 12 54 36.0
comp=Z,4.8nm,1.0s
YHL Hebgen Lake 52.35 315 P **P 12 54 41.4 +1.4**
YHL IAmb IAmb 12 54 42.9
comp=Z,8.9nm,1.2s
BGU Big Grassy Mou 52.62 310 P **P 12 54 42.4 +0.5**
BGU IAmb IAmb 12 54 43.3
comp=Z,3.4nm,0.9s
PSUT Pine Spring 52.75 307 P **P 12 54 43.8 +0.8**
DBIC Dimbokro 54.44 93 P **P 12 54 56.2 +0.8**
comp=Z,4.5nm,0.7s,baz=277,slow=7.0,SNR=4.7
comp=Z,4.5nm,0.7s
NVAR Mina Array Bea 56.18 306 P **P 12 55 08.0 0.0**
comp=Z,0.7nm,0.7s,baz=116,slow=6.1,SNR=5.6
NVAR LR LR 13 23 50.8
comp=Z,24nm,18.1s,baz=56,slow=41
comp=Z,0.7nm,0.7s
TORD Torodi Ar. Bea 59.45 84 P **P 12 55 30.6 -0.4**
comp=Z,2.0nm,0.9s,baz=299,slow=6.4,SNR=9.2
comp=Z,2.0nm,0.9s
ILAR Eielson Array 75.20 334 P **P 12 57 09.7 -0.3**
comp=Z,0.5nm,0.7s,baz=87,slow=5.7,SNR=5.7
comp=Z,0.5nm,0.7s
KDAK Kodiak Island 78.83 327 LR LR 13 33 39.4
comp=Z,31nm,20.2s,baz=97,slow=37
PZH PanZhiHua 134.86 24 PKP **PKPdf 13 04 46.2 -1.3**

*ASRS **05** 12:48:07.6±0.3, 51°.N±2°.×9°.3E±°., h8km, MLh4.1/9, Error ellipse: s-maj=3.9km s-min=2.5km az=168.7, confirmed*
*MOS **05** 12:48:10.3±1.0, 50°.97N×93°.02E, h10km, mb3.8/1, Error ellipse: s-maj=11.2km s-min=8.0km az=104.7*
*NNC **05** 12:48:10.3±4.9, 50°.79N×93°.28E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=48.7km s-min=24.3km az=91.0*
*IDC **05** 12:48:13.6±2.5, 51°.07N×92°.58E, h0km, mb3.8/4, mbtmp3.7/9, ML2.8/5, MS3.4/2, Error ellipse: s-maj=29.2km s-min=19.7km az=106.0*
ISC 05 12:48:09.7±0.7,**51°.12N**±0°.04×**93°.35E**±0°.02,**h10**km,**n44,**
σ1$**69**/62,**mb3.8**/4,**2C-8D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZLR	**Kyzyl**	**0.90**	**49**	⇓Pg	**Pg**	**12 48 26.3**	**-0.9**
KZLR				Sg	**Sb**	**12 48 38.9**	**-0.7**
KZLR	**Kyzyl**	**0.90**	**49**	PG	**Pg**	**12 48 26.2**	**-0.9**
ARDR	**Aradan**	**1.46**	**2**	⇓Pg	**Pn**	**12 48 35.7**	**-0.5**
ARDR				Sg	**Sb**	**12 48 55.2**	**-0.5**
ARDR	**Aradan**	**1.46**	**2**	PN	**Pn**	**12 48 35.7**	**-0.5**
ARDR						12 48 55.4	
TEL	**Teeli**	**1.99**	**268**	⇓Pg	**Pb**	**12 48 45.4**	**-0.7**
TEL				Sg	**Sb**	**12 49 11.1**	**+0.2**
TEL	**Teeli**	**1.99**	**268**	PN	**Pb**	**12 48 45.5**	**-0.5**
TEL						12 49 10.1	
CERR	**Cheremushki**	**2.11**	**326**	Pg	**Pb**	**12 48 47.5**	**-0.5**
CERR				Sg	**Sb**	**12 49 13.7**	**-0.5**
CERR	**Cheremushki**	**2.11**	**326**	PN	**Pb**	**12 48 47.5**	**-0.5**
CERR						12 49 14.3	
DJO	**Djoy, Khakassi**	**2.12**	**322**	Pg	**Pb**	**12 48 47.8**	**-0.5**
DJO				Sg	**Sb**	**12 49 14.3**	**-0.3**
DJO	**Djoy, Khakassi**	**2.12**	**322**	PN	**Pb**	**12 48 47.7**	**-0.5**
DJO						12 49 14.0	
TDJR	**Todzha**	**2.13**	**52**	Pg	**Pg**	**12 48 49.3**	**-1.3**
TDJR				Sg	**Sg**	**12 49 18.3**	**+0.1**
KNGR	**Kungurtug, Tuv**	**2.69**	**100**	Pn	**Pb**	**12 48 55.4**	**-2.6**
KNGR				Sg	**Sg**	**12 49 35.8**	**-0.3**
VEH	**Verkhnyaya Baz**	**2.83**	**320**	Pn	**Pn**	**12 48 55.7**	**+0.6**
VEH				Pg	**Pb**	**12 49 00.6**	**+0.2**
VEH				Sg	**Sb**	**12 49 37.6**	**+2.4**
VEH	**Verkhnyaya Baz**	**2.83**	**320**	PN	**Pn**	**12 48 56.8**	**+1.7**
ABNR	**Abakan**	**2.86**	**337**	*i* PN	**Pb**	**12 48 58.8**	**-1.9**
ABNR				*i* S	**Sb**	**12 49 34.7**	**-1.0**
CUR	**Chagan-Uzun**	**3.35**	**254**	Pn	**Pn**	**12 49 02.0**	**-0.2**
CUR				Pg	**Pb**	**12 49 08.9**	**-0.3**
CUR				Sg	**Sg**	**12 49 55.6**	**-1.6**
CUR	**Chagan-Uzun**	**3.35**	**254**	PN	**Pn**	**12 49 02.3**	**+0.1**
CUR						12 49 50.1	
ULGR	**Ulagan, Altay**	**3.45**	**264**	Pn	**Pn**	**12 49 02.1**	**-1.5**
ULGR				Pg	**Pb**	**12 49 11.6**	**+0.6**
ULGR				Sg	**Sb**	**12 49 55.2**	**+2.3**
ULGR	**Ulagan, Altay**	**3.45**	**264**	PN	**Pn**	**12 49 02.5**	**-1.1**
YALR	**Yailyu, Altay**	**3.65**	**282**	Pg	**Pb**	**12 49 15.0**	**+0.8**
YALR				Sg	**Sb**	**12 49 59.8**	**+1.2**
LUZB	**Luzhba, Kemero**	**3.73**	**315**	Pn	**Pn**	**12 49 08.5**	**+1.2**
LUZB				Pg	**Pb**	**12 49 15.1**	**-0.4**
LUZB				Sg	**Sg**	**12 50 05.3**	**-4.0**
SHRR	**Shira**	**3.89**	**331**	*i* PN	**Pb**	**12 49 17.5**	**-0.9**
SHRR				*i* S	**Sb**	**12 50 08.2**	**+2.7**
ORL	**Orlik**	**4.25**	**68**	*i* PN	**Pb**	**12 49 23.3**	**-1.2**
ORL				*i* S	**Sb**	**12 50 19.3**	**+3.4**
KRAR	**Krasnoyarsk**	**4.91**	**357**	*i* PN	**Pn**	**12 49 23.7**	**+0.3**
ZAA0	**Zalesovo Array**	**5.92**	**302**	⇑Pn	**Pn**	**12 49 41.2**	**+3.7**
0.3nm,0.5s
ZAA0 ⇓Pg **Pg 12 50 02.5 -0.6**
0.8nm,0.6s
ZAA0 ⇑Lg Lg 12 51 19.7
6.0nm,0.9s
ZALV Zalesovo Beam 5.92 302 Pn **Pn 12 49 37.9 +0.5**
0.3nm,0.3s,baz=110,slow=12,SNR=2.5
ZALV Sn **Sn 12 50 41.3 -4.0**
1.1nm,0.3s,baz=115,slow=19,SNR=4.0
ZALV Lg Lg 12 51 07.5
3.0nm,0.3s,baz=122,slow=27,SNR=9.1
1.6nm,0.3s
ZALV Zalesovo Beam 5.92 302 *e*PN Pn 12 49 42.4 +5.0
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZAK Zakamensk 6.35 93 *e*PN **Pb 12 50 00.6 +0.4**
ZAK *e* 12 51 23.6
ZAK pmax pmax
comp=Z,13nm,0.6s
ZAK smax smax
comp=N,227nm,0.9s
MK31 Makanchi Array 8.47 244 ⇓Pn **Pn 12 50 11.4 -1.0**
comp=N,2.8nm,0.6s,baz=74,slow=13,SNR=23
MK31 ⇓Pg Pg 12 50 44.9 -6.8
comp=N,4.6nm,0.7s,baz=60,slow=16,SNR=4.0
MK31 ⇓Lg Lg 12 52 32.0
comp=N,29nm,1.1s,baz=63,slow=31,SNR=3.8
MK31 Makanchi Array 8.47 244 P **Pn 12 50 11.4 -1.0**
MKAR Makanchi Array 8.47 244 Pn **Pn 12 50 11.6 -0.8**
comp=N,0.8nm,0.3s,baz=51,slow=14,SNR=27
MKAR Lg Lg 12 52 31.9
comp=N,0.6nm,0.3s,baz=51,slow=32,SNR=2.8
MKAR LR LR 12 53 46.1
comp=N,96nm,20.3s,baz=344,slow=42
comp=N,1.1nm,0.4s
MAKZ Makanchi 8.64 244 Pn **Pn 12 50 12.8 -1.9**
comp=N,5.9nm,0.8s
MAKZ ⇓Lg Lg 12 52 39.8
comp=N,26nm,1.3s
MAKZ Makanchi 8.64 244 P **Pn 12 50 12.8 -1.9**
SONM Songino Array 9.11 106 Lg Lg 12 52 53.3
comp=N,1.4nm,0.3s,baz=288,slow=29,SNR=7.5
KURK Kurchatov 9.32 273 P **Pn 12 50 23.2 -0.8**
KURBB Kurchatov Arra 9.39 273 Pn **Pn 12 50 23.2 -1.7**
comp=N,0.1nm,0.3s,baz=83,slow=16,SNR=1.6
KURBB Lg Lg 12 52 59.5
comp=N,0.3nm,0.3s,baz=86,slow=32,SNR=8.5
comp=N,1.7nm,0.2s
BVAR Borovoye Array 14.24 287 Pn **Pn 12 51 28.5 -2.7**
baz=85,slow=20,SNR=2.5
comp=N,0.3nm,0.4s
BRVK Borovoye 14.30 287 P **P 12 51 42.1 +2.8**
AAK Ala-Archa 15.40 244 Pn **Pn 12 51 45.8 -1.3**
comp=N,0.2nm,0.3s,baz=30,slow=8.1,SNR=1.6
comp=N,1.3nm,0.5s
ARTI Arti 21.17 298 P **P 12 52 54.2 -0.7**
comp=N,2.1nm,0.7s,baz=112,slow=19,SNR=1.8
comp=N,2.1nm,0.7s
AKTO Aktyubinsk 22.23 282 P **P 12 53 06.0 -0.2**
comp=N,1.0nm,0.5s,baz=85,slow=11,SNR=2.4
comp=N,1.0nm,0.5s
ARCES ARCESS Array B 35.86 326 P **P 12 55 13.4 +4.2**
comp=N,3.4nm,0.9s,baz=71,slow=8.7,SNR=2.0
comp=N,3.4nm,0.9s
FINES FINESS Array B 37.07 313 P **P 12 55 22.6 +3.1**
comp=N,1.8nm,0.8s,baz=78,slow=8.7,SNR=1.9
comp=N,1.8nm,0.8s
FURI Furi 61.36 247 LR LR 13 27 26.5
comp=N,75nm,18.1s,baz=350,slow=39

*IDC **05** 13:03:22.0±0.9, 37°.26N×20°.74E, h0km, mb3.8/12, mbtmp3.7/21, ML3.6/6, MS3.5/15, Error ellipse: s-maj=18.2km s-min=14.0km az=167.0*
*THE **05** 13:03:23.3, 37°.18N×20°.54E, h0km±3km, ML3.8/13, Error ellipse: s-maj=4.1km s-min=0.8km az=232.0*
*NAO **05** 13:03:23.0, 37°.23N×20°.66E, h10km, mb3.6*
*ATH **05** 13:03:24.0, 37°.18N×20°.61E, h7km±1km, ML3.8/18, Error ellipse: s-maj=2.6km s-min=1.0km az=51.0*
*NEIC **05** 13:03:24.3±2.4, 37°.22N±0°.08×20°.53E±0°.06, h10km±2km, mb4.5/4, Error ellipse: s-maj=13.2km s-min=7.5km az=196.0*
*BEO **05** 13:03:26.7±0.7, 37°.39N×20°.63E, h5km±1km, ML3.8/7*
*PDG **05** 13:03:27.5±1.1, 37°.09N×20°.59E, h9km±5km, ML4.0/11, Error ellipse: s-maj=3.4km s-min=2.8km az=90.0*
*TIR **05** 13:03:27.3, 37°.57N×21°.12E, h17km±1km, Ml4.0*
ISC 05 13:03:23.6±1.3,**37°.22N**±0°.03×**20°.59E**±0°.03,**h10**km±8km,
n148,σ1$**36**/189,**mb3.8**/12,**MS3.6**/11,**4C-6D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.48**	**22**	P	**Pb**	**13 03 33.7**	**-0.4**
KRI1				S	**Sb**	**13 03 41.8**	**+0.6**
26μm,0.4s
LTHK Lithakia 0.53 21 P **Pg 13 03 34.2 +0.3**
LTHK S **Sb 13 03 42.5 -0.1**
30μm,0.2s
LTHK Lithakia 0.53 21 P **Pg 13 03 33.9 +0.1**
LTHK S **Sb 13 03 42.7 +0.1**
LTHK AML AML 13 03 43.3
comp=N,76640μm,0.3s
LTHK AML AML 13 03 44.2
comp=E,39783μm,0.3s
RTZL Ratzakli, Kefa 0.87 9 P **Pg 13 03 40.1 -0.2**
RTZL S **Sb 13 03 53.3 +0.9**
comp=E,10μm,0.8s
PSDA Pessada-Kefalo 0.90 360 P **Pg 13 03 40.9 +0.1**
PSDA S **Sn 13 03 54.8 -0.4**
comp=E,9μm,0.6s
PSDA Pessada-Kefalo 0.90 360 P **Pg 13 03 41.0 +0.1**
PSDA S **Sn 13 03 54.6 -0.6**
VLS Valsamata 0.96 360 P **Pb 13 03 42.3 0.0**
VLS S **Sn 13 03 56.8 0.0**
comp=E,5μm,0.7s
VLS Valsamata 0.96 360 P **Pb 13 03 42.3 0.0**
VLS S **Sn 13 03 56.1 -0.7**
VLS AML AML 13 04 03.0
comp=E,10897μm,0.5s
VLS AML AML 13 04 04.9
comp=N,8339μm,1.0s
PYL PYLOS 0.97 109 P **Pg 13 03 41.4 -0.8**
PYL S **Sn 13 03 58.1 +1.0**
comp=N,2μm,0.7s
PYL PYLOS 0.97 109 P **Pg 13 03 41.5 -0.8**
PYL S **Sb 13 03 56.0 +0.6**
PYL AML AML 13 03 58.9
comp=E,5293μm,0.7s
PYL AML AML 13 04 03.0
comp=N,4360μm,0.6s
LXRA Lixouri, Kepha 0.99 353 P **Pb 13 03 42.8 0.0**
SMHA Samh 1.03 2 P **Pn 13 03 44.7 +0.6**
SMHA S **Sn 13 03 59.1 +0.5**
DMLN Damoulianata-K 1.03 350 P **Pb 13 03 43.7 +0.1**
DMLN S **Sn 13 03 59.4 +0.7**
comp=N,17μm,0.8s
DMLN Damoulianata-K 1.03 350 P **Pg 13 03 43.5 0.0**
ITM Ithomi 1.07 92 P **Pg 13 03 43.5 -0.5**
ITM S **Sn 13 04 00.3 +0.9**
comp=N,3μm,0.6s
ITM Ithomi 1.07 92 P **Pg 13 03 43.5 -0.5**
ITM S **Sb 13 03 58.0 -0.1**
ITM AML AML 13 04 04.2
comp=E,6749μm,0.4s
ITM AML AML 13 04 10.0
comp=N,7035μm,0.8s
RLS Riolos of Patr 1.09 39 P **Pb 13 03 44.3 -0.2**
RLS S **Sn 13 04 00.6 +0.6**
comp=N,2μm,0.8s
RLS Riolos of Patr 1.09 39 P **Pb 13 03 44.3 -0.2**
RLS AML AML 13 04 08.1
comp=E,4872μm,0.8s
RLS AML AML 13 04 10.2
comp=N,4762μm,0.8s
DRO Drossia 1.15 50 P **Pb 13 03 45.1 -0.5**
DRO Drossia 1.15 50 P **Pb 13 03 45.0 -0.5**
DRO S **Sn 13 04 01.5 -0.1**
DRO AML AML 13 04 07.4
comp=N,12020μm,0.8s
DRO AML AML 13 04 11.4
comp=E,11546μm,0.6s
VSK1 VASILIKIADES 1.19 359 P **Pb 13 03 46.2 0.0**
VSK1 S **Sn 13 04 03.6 +1.1**
comp=E,7μm,0.8s
FSK Fiskardo 1.24 359 P **Pn 13 03 46.6 -0.3**
FSK S **Sn 13 04 05.8 +2.1**
comp=E,6μm,0.9s
FSK Fiskardo 1.24 359 P **Pn 13 03 46.8 -0.1**
FSK S **Sn 13 04 05.0 +1.2**
FSK AML AML 13 04 14.4
comp=N,6412μm,0.7s
FSK AML AML 13 04 16.7
comp=E,13241μm,0.7s
EVGI Lefkada island 1.40 2 P **Pb 13 03 49.6 -0.3**
DRAG Dragano-Lefkad 1.47 359 P **Pb 13 03 50.7 -0.2**
KLV Kalavryta, Ach 1.49 56 P **Pb 13 03 51.2 -0.1**
KLV S **Sg 13 04 12.5 +1.1**
comp=E,1μm,0.9s
KLV Kalavryta, Ach 1.49 56 P **Pb 13 03 51.0 -0.3**
KLV AML AML 13 04 31.9
comp=N,1993μm,0.8s
KLV AML AML 13 04 32.4
comp=E,3626μm,1.0s
NYDR Nydri-Lefkada 1.50 3 P **Pb 13 03 51.2 -0.2**
GUR Goura 1.56 62 P **Pb 13 03 52.5 -0.2**
GUR S **Sg 13 04 15.3 +1.4**
comp=E,3μm,0.7s
GUR Goura 1.56 62 P **Pn 13 03 51.9 +0.4**
GUR AML AML 13 04 22.4
comp=N,5742μm,0.7s
GUR AML AML 13 04 23.7
comp=E,4413μm,0.7s
LKD2 Lefkada island 1.57 2 P **Pn 13 03 52.0 +0.4**
LKD2 S **Sn 13 04 09.5 -2.4**
LKD2 AMP
comp=E,8.9nm,1.0s,baz=344
LKD2 Lefkada island 1.57 2 P **Pg 13 03 53.5 -0.2**
EFP Efpalio 1.59 40 P **Pb 13 03 53.0 -0.1**
EFP AML AML 13 04 30.9
comp=E,2848μm,0.9s
EFP AML AML 13 04 35.0
comp=N,2960μm,0.7s
TSLK Tsoukalades, L 1.61 2 P **Pb 13 03 53.5 +0.2**
TSLK AML AML 13 04 26.3
comp=N,5930μm,0.7s
TSLK AML AML 13 04 29.3
comp=E,8685μm,1.0s
KALE Kalithea 1.70 46 P **Pb 13 03 54.1 -0.8**
KALE AML AML 13 04 26.6
comp=N,2675μm,0.7s
KALE AML AML 13 04 28.2
comp=E,2820μm,0.5s
ANX Ano Chora 1.73 37 P **Pn 13 03 54.3 +0.5**
ANX AML AML 13 04 29.1
comp=N,4496μm,0.7s
ANX AML AML 13 04 33.2
comp=E,4148μm,0.5s
VLI Velíai 1.94 104 P **Pn 13 03 57.3 +0.8**
VLI AML AML 13 04 40.3
comp=E,1986μm,1.2s
VLI AML AML 13 04 43.9

comp=N,1938μm,1.3s
LOUT Loutraki 2.04 67 P **Pn 13 03 59.0 +1.0**
MAKR Makrakomi, Fth 2.17 34 P **Pn 13 04 01.1 +1.4**
MAKR AML AML 13 04 45.6
comp=N,3691μm,0.9s
MAKR AML AML 13 04 50.1
comp=E,4568μm,1.2s
AXAR Agios Charalam 2.25 46 P **Pn 13 04 02.2 +1.4**
AXAR AML AML 13 04 52.0
comp=E,3112μm,1.1s
AXAR AML AML 13 04 54.1
comp=N,4324μm,1.2s
AGG Agios Georgios 2.27 37 **Pb 13 04 03.0 -1.5**
IGT Igoumenitsa 2.32 355 P **Pb 13 04 04.7 -0.8**
IGT S **Sb 13 04 33.1 -1.1**
IGT AMP
comp=N,2.1nm,0.9s,baz=343
IGT Igoumenitsa 2.32 355 *e*Pn **Pb 13 04 04.3 -1.2**
IGT Igoumenitsa 2.32 355 P **Pb 13 04 03.9 -1.6**
IGT AML AML 13 04 55.5
comp=E,1113μm,0.8s
IGT AML AML 13 05 02.9
comp=N,1138μm,1.1s
VIL2 Platees 2.34 64 P **Pn 13 04 02.4 +0.2**
VIL2 AML AML 13 04 53.7
comp=N,1304μm,0.8s
VIL2 AML AML 13 04 56.5
comp=E,2444μm,0.7s
ANKY Antikythira Is 2.56 121 P **Pn 13 04 05.2 +0.1**
KEK Kerkira 2.57 346 Pn **Pn 13 04 06.8 +1.6**
KEK Kerkira 2.57 346 P **Pn 13 04 06.4 +1.2**
THL Klokotos Trika 2.60 25 P **Pn 13 04 07.1 +1.5**
VLY Voula,Athens 2.62 75 P **Pn 13 04 06.0 0.0**
ATHU Athens Univers 2.64 73 P **Pn 13 04 06.6 +0.4**
SRN Sarande 2.70 350 P **Pb 13 04 10.3 -1.6**
SRN S **Sb 13 04 44.1 -1.0**
SRN AMP
comp=E,2.2nm,1.2s,baz=340
PTL Penteli 2.73 71 P **Pn 13 04 07.9 +0.5**
DION Dionisos Attik 2.79 71 P **Pn 13 04 08.5 +0.3**
TYRN Tyrnavos 2.80 27 P **Pn 13 04 09.6 +1.1**
LSK Leskovik 2.93 0 P **Pn 13 04 12.1 +1.9**
LSK S **Sn 13 04 47.4 +1.9**
LSK AMP
comp=E,3.7nm,1.0s,baz=352
NEO Neokhori 2.94 44 P **Pn 13 04 11.6 +1.2**
KYMI Kymi, Euboea I 3.11 62 P **Pn 13 04 13.1 +0.4**
AOS2 Alonissos-2 3.21 52 P **Pn 13 04 14.4 +0.5**
NEST Nestorio 3.21 6 P **Pn 13 04 16.9 +2.7**
NEST Nestorio 3.21 6 P **Pn 13 04 15.4 +1.3**
KZN Kozani 3.22 16 P **Pn 13 04 14.4 +0.2**
LIT Litokhoron 3.24 27 **Pn 13 04 15.4 +0.9**
SCTE Santa Cesarea 3.30 330 Pn **Pn 13 04 15.4 +0.1**
TIP Timpagrande 3.60 304 **Pn 13 04 19.7 +0.2**
FNA Florina 3.61 9 P **Pn 13 04 21.4 +1.8**
FNA S **Sn 13 05 02.0 -0.4**
FNA AMP
comp=E,0.5nm,0.8s,baz=3.0
FNA Florina 3.61 9 **Pn 13 04 20.3 +0.7**
FNA Florina 3.61 9 *e*Pn **Pn 13 04 21.3 +1.7**
FNA *e*Sn **Sn 13 05 01.7 -0.7**
FNA Florina 3.61 9 P **Pn 13 04 21.1 +1.4**
CEL Celeste 3.87 287 **Pn 13 04 23.4 +0.3**
THE Thessaloniki 3.88 28 P **Pn 13 04 24.1 +0.9**
OHR Ohrid 3.89 2 *e*Pn **Pn 13 04 26.0 +2.6**
OHR *e*Sn **Sn 13 05 08.9 -0.3**
OHR Ohrid 3.89 2 *i* Pn **Pn 13 04 26.1 +2.6**
HORT Hortiatis 3.90 29 P **Pn 13 04 24.3 +0.7**
IDI Anoyia 3.97 118 Pn **Pn 13 04 25.8 +1.2**
IDI Anoyia 3.97 118 Pn **Pn 13 04 25.1 +0.6**
comp=E,7.1nm,0.8s,baz=292,slow=19,SNR=1.9
IDI Sn **Sn 13 05 11.2 0.0**
comp=E,4.9nm,0.3s,baz=319,slow=22,SNR=6.7
OUR Ouranopolis 4.09 39 P **Pn 13 04 26.9 +0.9**
SRS Serrai 4.54 30 *e*Pn **Pn 13 04 33.7 +1.4**
SRS *e*Sn **Sn 13 05 23.6 -1.5**
CUC Castrocucco 4.66 308 **Pn 13 04 33.7 -0.3**
PUK Puka 4.85 354 **Pn 13 04 36.4 -0.3**
ULC Ulcinj 4.85 348 ⇑ *i*Pn **Pn 13 04 36.6 0.0**
ULC *i* Sn **Sn 13 05 33.2 +0.3**
PEHC Pehcevo 4.89 21 *i* Pn **Pn 13 04 38.8 +1.6**
VAE Valguarnera 4.93 275 Pn **Pn 13 04 40.0 +2.2**
comp=E,20nm,0.5s,baz=75,slow=0.1,SNR=5.5
VAE Sn **Sn 13 05 33.5 -1.4**
comp=E,14nm,0.3s,baz=97,slow=12,SNR=5.3
RAFF Raffo Rosso 4.97 272 **Pn 13 04 37.9 -0.3**
WDD Wied Dalam 5.08 256 Pn **Pn 13 04 41.0 +1.4**
DRME Dracevica, Mon 5.08 348 ⇑ *i*Pn **Pn 13 04 40.7 +1.0**
DRME *i* Sn **Sn 13 05 38.7 +0.2**
BUM Brajici-Budva 5.24 346 ⇓ *i*Pn **Pn 13 04 42.6 +0.6**
BUM *i* Sn **Sn 13 05 42.6 0.0**
PDG Podgorica 5.31 349 Pn **Pn 13 04 44.0 +1.2**
PDG Podgorica 5.31 349 ⇓ *i*Pn **Pn 13 04 45.5 +2.7**
PDG *i* Sn **Sn 13 05 44.0 0.0**
HCY Herceg Novi 5.47 343 *e*Pn **Pn 13 04 45.3 +0.2**
HCY *i* Sn **Sn 13 05 45.8 -2.2**
BOSS Bosilegrad 5.47 15 *e*Pn **Pn 13 04 46.0 +0.9**
CEME Cevo 5.48 347 ⇓ *i*Pn **Pn 13 04 44.6 -0.6**
CEME *i* Sn **Sn 13 05 45.8 -2.5**
KARP Karpathos 5.55 105 Pn **Pn 13 04 48.1 +1.8**
KARP Karpathos 5.55 105 P **Pn 13 04 47.6 +1.3**
BARS Barje 5.67 9 *e*Pn **Pn 13 04 48.1 +0.2**
BARS *e*Sn **Sn 13 05 50.1 -2.9**
IVA Berane 5.67 355 ⇑ *i*Pn **Pn 13 04 50.4 +2.4**
IVA *e*Sn **Sn 13 05 52.3 -0.9**
KOME Kolasin 5.69 352 ⇓ *i*Pn **Pn 13 04 50.4 +2.2**
KOME *i* Sn **Sn 13 05 52.8 -0.7**
BRY Bratogost 5.89 345 ⇓ *i*Pn **Pn 13 04 49.9 -1.1**
BRY *i* Sn **Sn 13 05 54.8 -3.8**
SELS Selova 6.01 4 *e*Pn **Pn 13 04 52.8 +0.3**
SELS *e*Sn **Sn 13 05 58.0 -3.4**
PAOL Paolisi 6.04 311 Pn **Pn 13 04 53.9 +1.0**
SJES Sjenica 6.06 356 *e*Pn **Pn 13 04 54.4 +1.2**
SJES *e*Sn **Sn 13 06 00.6 -2.0**
UPM Unac-Piva 6.12 348 ⇓ *i*Pn **Pn 13 04 56.0 +1.9**
UPM *i* Sn **Sn 13 06 03.2 -1.0**
PLE Pljevlja 6.18 352 ⇑ *i*Pn **Pn 13 04 56.0 +1.1**
PLE *i* Sn **Sn 13 06 05.0 -0.6**
ZAPS Zavoj 6.25 14 *e*Pn **Pn 13 04 56.8 +1.0**
IVAS Ivanjica 6.36 357 *e*Pn **Pn 13 04 57.2 -0.2**
IVAS *e*Sn **Sn 13 06 07.1 -3.0**
BOVS Bovan 6.47 7 *e*Pn **Pn 13 04 58.1 -0.7**
GRUS Gruza 6.67 1 *e*Pn **Pn 13 05 01.2 -0.3**
GRUS *e*Sn **Sn 13 06 14.0 -3.5**
BBLS Lazi&#263i 6.70 353 *e*Pn **Pn 13 05 02.5 +0.4**
BBLS *e*Sn **Sn 13 06 15.6 -2.9**
DIVS Divibare 6.89 356 *e*Pn **Pn 13 05 05.6 +1.0**
DIVS *e*Sn **Sn 13 06 17.7 -5.4**
INTR Introdacqua 7.04 315 Pn **Pn 13 05 07.4 +0.7**
TEKS Tekeris 7.37 354 *e*Pn **Pn 13 05 11.1 -0.1**
NRCA Norcia 8.02 317 Pn **Pn 13 05 21.0 +0.8**
VSL Villasalto 9.10 288 Pn **Pn 13 05 35.7 +0.8**
KEST Kesra 9.18 264 Pn **Pn 13 05 37.5 +1.4**
comp=E,0.2nm,0.3s,baz=82,slow=15,SNR=1.5
comp=E,1.1nm,0.4s
MLR Muntele Rosu 9.19 24 Pn **Pn 13 05 36.6 +0.3**
comp=E,0.2nm,0.3s,baz=195,slow=12,SNR=2.2
MLR LR LR 13 10 07.6
comp=E,345nm,18.0s,baz=206,slow=44
comp=E,2.7nm,0.7s
BRTR Keskin Array B 10.53 72 Pn **Pn 13 05 53.7 -0.9**
comp=E,0.1nm,0.3s,baz=260,slow=16,SNR=1.8
comp=E,0.3nm,0.5s
VRAC Vranov 12.43 348 LR LR 13 12 03.0
comp=E,144nm,21.9s,baz=168,slow=42
TUE Stuetta 12.47 321 Pn **Pn 13 06 22.7 +1.5**
LISJ El Lisan 13.68 111 P **Pn 13 06 37.7 +0.2**
EIL Elat 14.14 118 Pn **Pn 13 06 43.2 -0.7**
comp=E,6.7nm,0.9s,baz=10,slow=14,SNR=1.7
EIL Sn Sn 13 09 11.7 -9.3
comp=E,0.3nm,0.3s,baz=321,slow=17,SNR=1.6
AQBJ Aqaba 14.18 118 P **Pn 13 06 45.4 +1.0**
AKASG Malin Array Be 14.83 22 Pn **Pn 13 06 51.8 -1.3**
comp=E,0.3nm,0.3s,baz=216,slow=11,SNR=1.8
AKASG LR LR 13 13 39.5
comp=E,86nm,18.9s,baz=220,slow=42
comp=E,0.1nm,0.3s
CLL Collm 15.09 341 *e*PP **P 13 07 05.0 +3.1**
CLL *e*(sPP) 13 07 12.0
CLL *e*x x 13 07 22.0
CLL *e*SS **S 13 10 07.0 +5.9**
KBZ Khabaz 18.15 62 P **Pn 13 07 34.3 -1.2**
comp=E,0.1nm,0.3s,baz=285,slow=16,SNR=1.7
comp=E,0.4nm,0.3s
GNI Garni 19.07 74 LR LR 13 15 14.4
comp=E,93nm,18.9s,baz=291,slow=38
ESDC Sonseca Array 19.38 285 P **P 13 07 49.6 +0.2**
comp=E,0.1nm,0.3s,baz=87,slow=12,SNR=2.2
comp=E,0.9nm,0.9s
PAB San Pablo 19.68 284 P **P 13 07 51.6 -1.2**
PAB IAmb IAmb 13 08 18.0
comp=Z,35nm,1.5s
MDT Midelt 21.08 265 P **P 13 08 09.8 +1.7**
comp=Z,2.5nm,0.7s,baz=99,slow=8.5,SNR=2.3
comp=Z,2.5nm,0.7s
HFS Hagfors 23.36 351 P **P 13 08 31.8 0.0**
comp=Z,2.0nm,0.5s,baz=162,slow=12,SNR=9.8
comp=Z,2.0nm,0.5s
EKA Eskdalemuir Ar 24.25 326 P **P 13 08 40.3 -0.1**
comp=Z,0.4nm,0.4s,baz=135,slow=7.1,SNR=2.6
comp=Z,0.4nm,0.4s
BELG Belogornoye 24.26 43 LR LR 13 17 58.5
comp=Z,96nm,19.7s,baz=318,slow=36
FINES FINESS Array B 24.50 6 P **P 13 08 42.5 -0.1**
comp=Z,1.1nm,0.5s,baz=150,slow=8.1,SNR=5.4
FINES LR LR 13 19 34.4
comp=Z,178nm,21.0s,baz=212,slow=40
comp=Z,1.1nm,0.5s
NB2 NORSAR Subarra 24.57 349 P **P 13 08 43.3 -0.1**
comp=Z,0.6nm,0.5s,baz=162,slow=9.3
NOA NORSAR Array B 24.57 349 P **P 13 08 42.9 -0.5**
comp=Z,0.6nm,0.5s,baz=158,slow=9.1,SNR=4.7
NOA LR LR 13 19 16.0
comp=Z,69nm,21.4s,baz=10.0,slow=39
comp=Z,0.6nm,0.5s
KIRV Kirov 28.43 32 LR LR 13 21 34.3
comp=Z,164nm,18.6s,baz=336,slow=39
TORD Torodi Ar. Bea 29.32 220 P **P 13 09 27.3 +0.9**
comp=Z,0.6nm,0.5s,baz=31,slow=9.9,SNR=8.6
TORD LR LR 13 23 11.3
comp=Z,76nm,18.1s,baz=328,slow=40
comp=Z,0.6nm,0.5s
AKTO Aktyubinsk 29.72 52 LR LR 13 25 34.7
comp=Z,64nm,18.1s,baz=12,slow=45
ARCES ARCESS Array B 32.49 3 P **P 13 09 54.3 +0.4**
comp=Z,4.1nm,1.0s,baz=190,slow=10,SNR=2.0
comp=Z,4.1nm,1.0s
BVAR Borovoye Array 37.70 49 P **P 13 10 38.0 -0.9**
comp=Z,0.6nm,0.6s,baz=251,slow=13,SNR=2.4
comp=Z,0.6nm,0.6s
AAK Ala-Archa 41.10 65 LR LR 13 31 06.4
comp=Z,72nm,18.5s,baz=320,slow=41
KURBB Kurchatov Arra 42.76 53 P **P 13 11 18.7 -2.2**
comp=Z,0.7nm,0.2s,baz=281,slow=8.6,SNR=1.5
comp=Z,0.7nm,0.2s
MK31 Makanchi Array 45.76 58 P **P 13 11 42.8 -2.2**
MKAR Makanchi Array 45.76 58 P **P 13 11 43.8 -1.3**
comp=Z,0.4nm,0.3s,baz=276,slow=7.8,SNR=9.2
comp=Z,0.4nm,0.3s
ZALV Zalesovo Beam 46.29 47 P **P 13 11 47.6 -1.5**
comp=Z,0.7nm,0.3s,baz=274,slow=7.0,SNR=2.0
ZALV LR LR 13 32 33.5
comp=Z,62nm,18.9s,baz=79,slow=38
comp=Z,0.7nm,0.3s
YAK Yakutsk 65.92 29 LR LR 13 44 06.3
comp=Z,65nm,20.0s,baz=302,slow=37
CMAR Chiang Mai Arr 69.97 82 P **P 13 14 34.5 -1.0**
comp=Z,0.4nm,0.3s,baz=306,slow=8.3,SNR=5.3
comp=Z,0.4nm,0.3s
KLR Kul'dur 74.58 39 LR LR 13 49 52.3
comp=Z,51nm,19.4s,baz=332,slow=38
PETK Petropavlovsk- 82.65 24 LR LR 13 55 23.2
comp=Z,49nm,18.1s,baz=143,slow=38

BUL ***05*** *13:07:50.7±1.0, 25°.85S×29°.65E, h10km, MD3.3*
BGSI ***05*** *13:07:50.0±1.3, 24°.41S×27°.93E, h452km±44km, ML2.8*
ISC 05 13:07:49.6±1.5, 25°.79S±0°.06×29°.49E±0°.07, h10km, n17, σ1§53/25, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.85**	**38**	*i* P	**Pn**	**13 08 35.3**	**+0.1**
MOPA				*i* S	**Sn**	**13 09 08.1**	**-1.6**
MOPA	**Mopani**	**2.85**	**38**	*i* P	**Pn**	**13 08 35.3**	**+0.1**
MOPA				*i* S	**Sn**	**13 09 08.1**	**-1.6**
MUSN	**Musina, Limpop**	**3.50**	**6**	*i* P	**Pn**	**13 08 46.1**	**+1.9**
MUSN				*i* S	**Sn**	**13 09 26.5**	**+0.8**
MUSN	**Musina, Limpop**	**3.50**	**6**	*i* P	**Pn**	**13 08 46.1**	**+1.9**
MUSN				*i* S	**Sn**	**13 09 26.5**	**+0.8**
MREMI	**Moremi**	**3.70**	**329**	*i* P	**Pn**	**13 08 50.1**	**+3.1**
MREMI				IAML		13 09 58.5	
LPHEP	**Lephephe**	**4.09**	**305**	*i* P	**Pn**	**13 08 51.1**	**-1.2**
LPHEP				*i* S	**Sn**	**13 09 38.0**	**-2.3**
LPHEP				IAML		13 09 59.1	
BOSA	**Boshof**	**4.70**	**232**	*i* P	**Pn**	**13 09 02.1**	**+1.3**
BOSA				*i* S	**Sn**	**13 09 55.0**	**-0.5**
BOSA	**Boshof**	**4.70**	**232**	*i* P	**Pn**	**13 09 02.1**	**+1.3**
BOSA				*i* S	**Sn**	**13 09 55.0**	**-0.5**
BROLN	**Tlhalogang**	**5.07**	**337**	*i* P	Pn	13 09 01.2	-4.5
BROLN				*i* S	Sn	13 09 52.4	-12
BROLN				IAML		13 10 32.3	
MATP	**Matopo**	**5.41**	**350**	*i* P	**Pn**	**13 09 12.2**	**+1.6**
MATP				*i* S	**Sn**	**13 10 11.6**	**-1.5**
MATP	**Matopo**	**5.41**	**350**	*i* P	**Pn**	**13 09 12.2**	**+1.6**
MATP				*i* S	**Sn**	**13 10 11.6**	**-1.5**
BLWY	**Bulawayo**	**5.68**	**352**	*i* P	**Pn**	**13 09 14.8**	**+0.6**
BLWY				*i* S	**Sn**	**13 10 17.8**	**-1.8**
BLWY	**Bulawayo**	**5.68**	**352**	*i* P	**Pn**	**13 09 14.8**	**+0.6**
BLWY				*i* S	**Sn**	**13 10 17.8**	**-1.8**
CHIPN	**CHIPINGE**	**6.25**	**28**	*i* P	**Pn**	**13 09 22.6**	**+0.6**
CHIPN	**CHIPINGE**	**6.25**	**28**	*i* P	**Pn**	**13 09 22.6**	**+0.6**
KRI	**Karoi**	**8.91**	**1**	*i* P	Pn	13 09 51.9	-6.8
KRI				*i* S	Sn	13 11 20.2	-19
KRI	**Karoi**	**8.91**	**1**	*i* P	Pn	13 09 51.9	-6.8
KRI				*i* S	Sn	13 11 20.2	-19

IDC ***05*** *13:13:06.6±1.0, 37°.33N×20°.51E, h0km, mb3.7/12, mbtmp3.6/17, ML3.9/4, MS3.3/7, Error ellipse: s-maj=21.0km s-min=17.2km az=158.0*
THE ***05*** *13:13:07.1, 37°.12N×20°.53E, h7km±1km, ML3.9/12, Error ellipse: s-maj=1.8km s-min=0.8km az=52.0*
ATH ***05*** *13:13:07.7, 37°.11N×20°.51E, h8km±1km, ML3.8/18, Error ellipse: s-maj=2.6km s-min=1.1km az=49.0*
NEIC ***05*** *13:13:09.7±0.7, 37°.24N±0°.08×20°.53E±0°.08, h10km±2km, mb4.2/2, Error ellipse: s-maj=13.7km s-min=10.5km az=191.0*
ISC 05 13:13:07.6±1.4, 37°.15N±0°.04×20°.55E±0°.04, h10km±8km, n84, σ1§14/103, mb3.7/12, MS3.4/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.56**	**22**	P	**Pg**	**13 13 18.5**	**+0.1**
KRI1				S	**Sg**	**13 13 26.5**	**+0.7**
20μm,0.6s							
LTHK	**Lithakia**	**0.61**	**22**	P	**Pg**	**13 13 19.0**	**-0.4**
LTHK				S	**Sg**	**13 13 27.6**	**+0.2**
21μm,0.5s							
LTHK	**Lithakia**	**0.61**	**22**	P	**Pg**	**13 13 19.2**	**-0.1**
LTHK				S	**Sg**	**13 13 28.0**	**+0.6**
LTHK				AML	AML	13 13 28.4	
comp=N,47098μm,0.5s							
LTHK				AML	AML	13 13 28.7	
comp=E,35572μm,0.6s							
RTZL	**Ratzakli, Kefa**	**0.95**	**11**	P	**Pg**	**13 13 25.1**	**-0.7**
RTZL				S	**Sb**	**13 13 40.2**	**+1.5**
comp=E,6μm,0.8s							
PSDA	**Pessada-Kefalo**	**0.97**	**2**	P	**Pg**	**13 13 25.6**	**-0.6**
PSDA				S	**Sb**	**13 13 40.7**	**+1.4**
comp=E,6μm,0.8s							
PSDA	**Pessada-Kefalo**	**0.97**	**2**	P	**Pg**	**13 13 25.8**	**-0.4**
PSDA				S	**Sg**	**13 13 39.9**	**+1.1**
PYL	**PYLOS**	**0.99**	**104**	P	**Pg**	**13 13 26.1**	**-0.5**
PYL				S	**Sb**	**13 13 40.5**	**+0.7**
comp=E,5μm,0.5s							
PYL	**PYLOS**	**0.99**	**104**	P	**Pg**	**13 13 26.4**	**-0.2**
PYL				S	**Sb**	**13 13 40.9**	**+1.1**
PYL				AML	AML	13 13 47.8	
comp=N,9101μm,0.6s							
PYL				AML	AML	13 13 49.2	
comp=E,9605μm,0.5s							
VLS	**Valsamata**	**1.03**	**2**	P	**Pg**	**13 13 26.2**	**-1.2**
VLS				S	**Sb**	**13 13 42.3**	**+1.1**
comp=E,2μm,0.9s							
VLS	**Valsamata**	**1.03**	**2**	P	**Pg**	**13 13 26.9**	**-0.5**
VLS				S	**Sb**	**13 13 42.2**	**+1.1**
VLS				AML	AML	13 13 46.4	
comp=E,2797μm,0.3s							
VLS				AML	AML	13 13 57.9	
comp=N,4987μm,0.8s							
DMLN	**Damoulianata-K**	**1.10**	**353**	P	**Pg**	**13 13 28.1**	**-0.6**
DMLN				S	**Sb**	**13 13 45.0**	**+1.8**
comp=N,5μm,0.9s							
DMLN	**Damoulianata-K**	**1.10**	**353**	P	**Pg**	**13 13 28.3**	**-0.4**
ITM	**Ithomi**	**1.10**	**88**	P	**Pg**	**13 13 27.9**	**-0.8**
ITM				S	**Sb**	**13 13 44.5**	**+1.3**
comp=N,5μm,0.6s							
ITM	**Ithomi**	**1.10**	**88**	P	**Pg**	**13 13 28.0**	**-0.8**
ITM				S	**Sg**	**13 13 43.9**	**+0.8**
ITM				AML	AML	13 13 47.6	
comp=N,10044μm,0.4s							
ITM				AML	AML	13 13 54.3	
comp=E,9593μm,0.9s							
SMHA	**Samh**	**1.11**	**4**	P	**Pg**	**13 13 27.9**	**-0.9**
RLS	**Riolos of Patr**	**1.17**	**38**	P	**Pg**	**13 13 28.7**	**-1.3**
RLS				S	**Sg**	**13 13 46.4**	**+1.2**
comp=E,2μm,0.7s							
RLS	**Riolos of Patr**	**1.17**	**38**	P	**Pg**	**13 13 29.0**	**-1.0**
RLS				S	**Sg**	**13 13 45.9**	**+0.8**
RLS				AML	AML	13 13 52.3	
comp=E,5446μm,0.8s							
RLS				AML	AML	13 13 53.9	
comp=N,3577μm,0.5s							
DRO	**Drossia**	**1.23**	**49**	P	**Pg**	**13 13 29.9**	**-1.2**
DRO				S	**Sg**	**13 13 47.9**	**+0.8**
comp=N,6μm,0.5s							
DRO	**Drossia**	**1.23**	**49**	P	**Pg**	**13 13 30.1**	**-1.0**
DRO				S	**Sg**	**13 13 47.7**	**+0.7**
DRO				AML	AML	13 13 54.2	
comp=N,10786μm,0.6s							
DRO				AML	AML	13 13 55.1	
comp=E,14448μm,0.5s							
VSK1	**VASILIKIADES**	**1.26**	**1**	P	**Pg**	**13 13 30.6**	**-1.2**
VSK1				S	**Sn**	**13 13 50.1**	**+1.7**
comp=E,3μm,1.0s							
FSK	**Fiskardo**	**1.31**	**0**	P	**Pn**	**13 13 31.3**	**-0.7**
FSK				S	**Sg**	**13 13 50.1**	**+0.3**
comp=E,3μm,1.0s							
FSK	**Fiskardo**	**1.31**	**0**	P	**Pn**	**13 13 31.9**	**0.0**
FSK				S	**Sg**	**13 13 50.4**	**+0.6**
FSK				AML	AML	13 13 59.6	
comp=N,4187μm,1.0s							
FSK				AML	AML	13 13 59.7	
comp=E,7147μm,1.0s							
EVGI	**Lefkada island**	**1.48**	**3**	P	**Pn**	**13 13 34.5**	**+0.3**
DRAG	**Dragano-Lefkad**	**1.54**	**1**	P	**Pn**	**13 13 35.2**	**+0.1**
KLV	**Kalavryta, Ach**	**1.56**	**54**	P	**Pn**	**13 13 35.7**	**+0.2**
KLV				S	**Sn**	**13 13 56.2**	**+0.5**
KLV				AML	AML	13 14 09.3	
comp=E,2408μm,0.9s							
KLV				AML	AML	13 14 20.9	
comp=N,2037μm,0.8s							
NYDR	**Nydri-Lefkada**	**1.57**	**4**	P	**Pn**	**13 13 36.7**	**+1.1**
GUR	**Goura**	**1.63**	**60**	P	**Pn**	**13 13 37.3**	**+0.9**
GUR				S	**Sn**	**13 13 56.3**	**-1.3**
GUR				AML	AML	13 14 07.1	
comp=E,5572μm,0.5s							
GUR				AML	AML	13 14 07.3	
comp=N,5847μm,0.5s							
LKD2	**Lefkada island**	**1.64**	**3**	P	**Pn**	**13 13 37.2**	**+0.6**
LKD2				AML	AML	13 14 13.2	
comp=E,3919μm,0.7s							
LKD2				AML	AML	13 14 19.1	
comp=N,3785μm,0.7s							
EFP	**Efpalio**	**1.67**	**40**	P	**Pn**	**13 13 37.7**	**+0.8**
EFP				AML	AML	13 14 31.0	
comp=E,2230μm,1.0s							
EFP				AML	AML	13 14 31.8	
comp=N,2395μm,1.0s							
TSLK	**Tsoukalades, L**	**1.68**	**3**	P	**Pn**	**13 13 38.1**	**+1.1**
TSLK				AML	AML	13 14 13.8	
comp=E,4552μm,0.9s							
TSLK				AML	AML	13 14 19.4	
comp=N,3804μm,0.8s							
KALE	**Kalithea**	**1.77**	**45**	P	**Pn**	**13 13 39.6**	**+1.2**
KALE				AML	AML	13 14 17.5	
comp=N,2982μm,0.5s							
KALE				AML	AML	13 14 20.8	
comp=E,3196μm,0.8s							
ANX	**Ano Chora**	**1.81**	**36**	P	**Pn**	**13 13 40.2**	**+1.3**
ANX				AML	AML	13 14 21.0	
comp=N,4269μm,0.6s							
ANX				AML	AML	13 14 22.3	
comp=E,4294μm,0.6s							
VLI	**Veliai**	**1.96**	**102**	P	**Pn**	**13 13 40.8**	**0.0**
VLI				AML	AML	13 14 26.0	
comp=N,2538μm,0.8s							
VLI				AML	AML	13 14 30.5	
comp=E,2580μm,1.2s							
LOUT	**Loutraki**	**2.10**	**66**	P	**Pn**	**13 13 43.0**	**+0.1**
MAKR	**Makrakomi, Fth**	**2.25**	**33**	P	**Pn**	**13 13 45.9**	**+1.1**
MAKR				AML	AML	13 14 30.7	
comp=E,3460μm,0.8s							
MAKR				AML	AML	13 14 41.2	
comp=N,3575μm,1.1s							
AXAR	**Agios Charalam**	**2.32**	**45**	P	**Pn**	**13 13 46.9**	**+0.9**
AXAR				AML	AML	13 14 36.6	
comp=E,3270μm,0.6s							
AXAR				AML	AML	13 14 41.3	
comp=N,4681μm,0.9s							
AGG	**Agios Georgios**	**2.34**	**36**		**Pn**	**13 13 48.1**	**+1.9**
IGT	**Igoumenitsa**	**2.39**	**356**	P	**Pn**	**13 13 48.3**	**+1.5**
VIL2	**Platees**	**2.41**	**63**	P	**Pn**	**13 13 47.7**	**+0.7**
VIL2				AML	AML	13 14 35.7	
comp=E,2564μm,0.8s							
VIL2				AML	AML	13 14 35.8	
comp=N,1529μm,1.4s							
KEK	**Kerkira**	**2.63**	**347**	Pn	**Pn**	**13 13 51.5**	**+1.3**
KEK	**Kerkira**	**2.63**	**347**	P	**Pn**	**13 13 50.7**	**+0.6**
VLY	**Voula,Athens**	**2.68**	**74**	P	**Pn**	**13 13 50.8**	**+0.1**
THL	**Klokotos Trika**	**2.68**	**25**	P	**Pn**	**13 13 52.2**	**+1.5**
DION	**Dionisos Attik**	**2.84**	**70**	P	**Pn**	**13 13 54.4**	**+1.3**
TYRN	**Tyrnavos**	**2.88**	**27**	P	**Pn**	**13 13 55.0**	**+1.5**
KYMI	**Kymi, Euboea I**	**3.18**	**61**	P	**Pn**	**13 13 57.9**	**+0.2**
AOS2	**Alonissos-2**	**3.28**	**51**	P	**Pn**	**13 13 59.9**	**+0.9**
NEST	**Nestorio**	**3.29**	**7**	P	**Pn**	**13 14 00.8**	**+1.5**
LIT	**Litokhoron**	**3.32**	**27**		**Pn**	**13 14 00.4**	**+0.8**
TIP	**Timpagrande**	**3.61**	**305**	Pn	**Pn**	**13 14 05.0**	**+1.3**
FNA	**Florina**	**3.69**	**10**		**Pn**	**13 14 05.7**	**+1.0**
CEL	**Celeste**	**3.86**	**288**		**Pn**	**13 14 08.3**	**+1.3**
OHR	**Ohrid**	**3.97**	**3**	*i* Pn	**Pn**	**13 14 10.6**	**+2.1**
IDI	**Anoyia**	**3.97**	**117**	Pn	**Pn**	**13 14 11.5**	**+2.9**
comp=N,7.3nm,0.9s,baz=312,slow=17,SNR=8.2							
IDI				Sn	**Sn**	**13 14 56.6**	**+1.4**
comp=N,7.5nm,0.3s,baz=344,slow=20,SNR=8.0							
HORT	**Hortiatis**	**3.98**	**29**	P	**Pn**	**13 14 09.2**	**+0.4**
OUR	**Ouranopolis**	**4.17**	**39**	P	**Pn**	**13 14 12.0**	**+0.9**
CUC	**Castrocucco**	**4.67**	**309**		**Pn**	**13 14 20.1**	**+1.8**
PUK	**Puka**	**4.92**	**354**		**Pn**	**13 14 22.2**	**+0.6**
RAFF	**Raffo Rosso**	**4.94**	**273**		**Pn**	**13 14 23.4**	**+1.6**
PEHC	**Pehcevo**	**4.97**	**21**	*i* Pn	**Pn**	**13 14 24.2**	**+1.8**
KARP	**Karpathos**	**5.57**	**105**	Pn	**Pn**	**13 14 33.2**	**+2.7**
PAOL	**Paolisi**	**6.06**	**312**	Pn	**Pn**	**13 14 38.3**	**+1.0**
INTR	**Introdacqua**	**7.07**	**315**	Pn	**Pn**	**13 14 52.2**	**+1.1**
MLR	**Muntele Rosu**	**9.27**	**24**	Pn	**Pn**	**13 15 20.9**	**-0.5**
comp=N,0.3nm,0.3s,baz=214,slow=15,SNR=1.8							
MLR				LR	LR	13 19 44.6	
comp=N,307nm,20.4s,baz=220,slow=44							
comp=N,1.4nm,0.4s							
VRAC	**Vranov**	**12.49**	**348**	LR	LR	13 21 14.5	
comp=N,101nm,18.9s,baz=168,slow=40							
MMAI

comp=N,2.1nm,0.6s
EKA Eskdalemuir Ar 24.29 326 P P 13 18 24.5 -0.4
comp=N,3.0nm,0.8s,baz=116,slow=9.4,SNR=6.5
comp=N,3.0nm,0.8s
FINES FINESS Array B 24.57 6 P P 13 18 26.1 -1.2
comp=N,2.2nm,0.9s,baz=190,slow=9.7,SNR=3.8
comp=N,2.2nm,0.9s
NOA NORSAR Array B 24.63 349 P P 13 18 27.4 -0.6
comp=N,0.6nm,0.6s,baz=159,slow=9.7,SNR=2.5
NOA LR LR 13 28 36.0
comp=N,42nm,19.5s,baz=15,slow=38
comp=N,0.6nm,0.6s
TORD Torodi Ar. Bea 29.25 220 P P 13 19 11.3 +1.5
comp=N,0.5nm,0.6s,baz=28,slow=9.0,SNR=2.8
comp=N,0.5nm,0.6s
AKTO Aktyubinsk 29.79 52 LR LR 13 33 57.4
comp=N,83nm,19.3s,baz=350,slow=42
BVAR Borovoye Array 37.77 49 P P 13 20 23.3 -0.4
comp=N,0.3nm,0.5s,baz=268,slow=7.2,SNR=1.3
comp=N,0.3nm,0.5s
MBAR Mbarara 38.73 164 LR LR 13 37 42.1
comp=N,66nm,18.4s,baz=23,slow=38
KURBB Kurchatov Arra 42.83 53 P P 13 21 05.0 -0.5
comp=N,0.6nm,0.3s,baz=282,slow=8.5,SNR=1.8
comp=N,0.6nm,0.3s
MKAR Makanchi Array 45.83 58 P P 13 21 28.6 -1.0
comp=N,0.4nm,0.6s,baz=297,slow=6.3,SNR=2.8
comp=N,0.4nm,0.6s
ZALV Zalesovo Beam 46.37 47 P P 13 21 33.7 0.0
comp=N,0.7nm,0.3s,baz=280,slow=8.6,SNR=2.5
comp=N,0.7nm,0.3s
CMAR Chiang Mai Arr 70.01 82 P P 13 24 19.7 -0.1
comp=N,0.3nm,0.5s,baz=298,slow=7.7,SNR=2.2
comp=N,0.3nm,0.5s
PDAR Pinedale Array 88.41 326 P P 13 25 59.1 -1.1
comp=N,0.1nm,0.3s,baz=17,slow=6.6,SNR=1.3
comp=N,0.1nm,0.3s
ASAR Alice Springs 122.03 97 PKP PKiKP 13 32 05.1 +2.3
comp=N,0.2nm,0.8s,baz=331,slow=3.6,SNR=1.4

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*BEO **05** 13:15:55.4±4.9, 36.°96N×20.°35E, h0km, ML3.6/2*
*IDC **05** 13:15:57.0±1.1, 37.°19N×20.°63E, h0km, mb4.0/11, mbtmp3.8/17, ML3.7/3, Error ellipse: s-maj=20.8km s-min=16.0km az=168.0*
*NAO **05** 13:15:58.8, 37.°24N×20.°55E, h10km, mb4.3*
*THE **05** 13:15:58.9, 37.°20N×20.°53E, h0km±4km, ML3.7/7, Error ellipse: s-maj=5.2km s-min=1.0km az=230.0*
*NEIC **05** 13:15:59.7±1.8, 37.°30N±0.°06×20.°54E±0.°04, h10km±1km, mb4.6/13, Error ellipse: s-maj=11.5km s-min=3.2km az=160.0*
*ATH **05** 13:16:00.1, 37.°22N×20.°60E, h5km±1km, ML3.5/7, Error ellipse: s-maj=2.5km s-min=1.1km az=52.0*
ISC 05 13:15:59.3±1.3, 37.°20N±0.°04×20.°57E±0.°03, h13km±8km, n90, σ1$01/107, mb4.1/16, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.50**	**23**	P	**Pg**	**13 16 08.8**	**-0.3**
KRI1				S	**Sb**	**13 16 16.8**	**-0.3**
12μm,0.5s							
LTHK	**Lithakia**	**0.55**	**22**	P	**Pg**	**13 16 09.6**	**-0.4**
LTHK				S	**Sg**	**13 16 17.9**	**+0.6**
17μm,0.3s							
LTHK	**Lithakia**	**0.55**	**22**	P	**Pg**	**13 16 09.9**	**-0.2**
LTHK				S	**Sg**	**13 16 17.8**	**+0.4**
LTHK				AML	AML	13 16 18.7	
comp=N,51787μm,0.3s							
LTHK				AML	AML	13 16 19.3	
comp=E,14283μm,0.3s							
RTZL	**Ratzakli, Kefa**	**0.89**	**10**	P	**Pg**	**13 16 15.4**	**-1.0**
RTZL				S	**Sg**	**13 16 28.2**	**+0.2**
comp=E,4μm,0.6s							
PSDA	**Pessada-Kefalo**	**0.91**	**1**	P	**Pb**	**13 16 17.1**	**+0.2**
VLS	**Valsamata**	**0.97**	**1**	P	**Pg**	**13 16 16.7**	**-1.4**
VLS				S	**Sb**	**13 16 31.6**	**+0.8**
comp=E,2μm,0.6s							
VLS	**Valsamata**	**0.97**	**1**	P	**Pg**	**13 16 17.7**	**-0.4**
VLS				S	**Sb**	**13 16 31.3**	**+0.4**
VLS				AML	AML	13 16 39.5	
comp=E,2995μm,0.4s							
VLS				AML	AML	13 16 39.8	
comp=N,2659μm,0.5s							
PYL	**PYLOS**	**0.98**	**108**	P	**Pg**	**13 16 17.6**	**-0.7**
PYL				S	**Sn**	**13 16 33.1**	**+0.4**
comp=N,4μm,0.4s							
PYL	**PYLOS**	**0.98**	**108**	P	**Pb**	**13 16 18.2**	**-0.1**
PYL				S	**Sb**	**13 16 31.2**	**0.0**
PYL				AML	AML	13 16 35.6	
comp=N,9230μm,0.4s							
PYL				AML	AML	13 16 42.8	
comp=E,7342μm,0.5s							
LXRA	**Lixouri, Kepha**	**1.00**	**354**	P	**Pb**	**13 16 18.7**	**+0.2**
DMLN	**Damoulianata-K**	**1.04**	**351**	P	**Pg**	**13 16 19.2**	**-0.3**
DMLN				S	**Sb**	**13 16 34.1**	**+1.2**
comp=E,4μm,0.6s							
DMLN	**Damoulianata-K**	**1.04**	**351**	P	**Pb**	**13 16 19.9**	**+0.6**
SMHA	**Samh**	**1.05**	**3**	P	**Pg**	**13 16 19.2**	**-0.3**
ITM	**Ithomi**	**1.08**	**91**	P	**Pn**	**13 16 20.3**	**+0.1**
ITM				S	**Sn**	**13 16 35.4**	**+0.3**
comp=E,2μm,0.6s							
ITM	**Ithomi**	**1.08**	**91**	P	**Pb**	**13 16 20.0**	**+0.1**
ITM				S	**Sb**	**13 16 34.4**	**+0.4**
ITM				AML	AML	13 16 42.0	
comp=N,4862μm,0.7s							
ITM				AML	AML	13 16 44.7	
comp=E,4458μm,0.7s							
RLS	**Riolos of Patr**	**1.11**	**39**	P	**Pg**	**13 16 19.8**	**-0.9**
RLS	**Riolos of Patr**	**1.11**	**39**	P	**Pg**	**13 16 20.0**	**-0.7**
RLS				S	**Sg**	**13 16 34.5**	**-0.6**
RLS				AML	AML	13 16 43.7	
comp=E,2129μm,0.9s							
RLS				AML	AML	13 16 46.3	
comp=N,3248μm,0.6s							
DRO	**Drossia**	**1.17**	**50**	P	**Pg**	**13 16 20.8**	**-1.0**
DRO	**Drossia**	**1.17**	**50**	P	**Pg**	**13 16 20.9**	**-1.0**
DRO				S	**Sb**	**13 16 37.8**	**+1.2**
DRO				AML	AML	13 16 49.9	
comp=N,5460μm,0.5s							
DRO				AML	AML	13 16 53.6	
comp=E,6299μm,0.5s							
FSK	**Fiskardo**	**1.25**	**360**	P	**Pg**	**13 16 21.6**	**-1.8**
FSK	**Fiskardo**	**1.25**	**360**	P	**Pg**	**13 16 23.0**	**-0.4**
FSK				S	**Sg**	**13 16 39.6**	**-0.2**
FSK				AML	AML	13 16 48.8	
comp=N,3611μm,0.6s							
FSK				AML	AML	13 16 49.6	
comp=E,2840μm,0.8s							
EVGI	**Lefkada island**	**1.42**	**3**	P	**Pn**	**13 16 25.1**	**+0.3**
EVGI	**Lefkada island**	**1.42**	**3**	P	**Pn**	**13 16 25.2**	**+0.3**
DRAG	**Dragano-Lefkad**	**1.48**	**0**	P	**Pn**	**13 16 26.3**	**+0.6**
KLV	**Kalavryta, Ach**	**1.51**	**56**	P	**Pn**	**13 16 26.4**	**+0.2**
GUR	**Goura**	**1.58**	**62**	P	**Pn**	**13 16 28.0**	**+0.8**
LKD2	**Lefkada island**	**1.58**	**2**	P	**Pn**	**13 16 28.1**	**+0.9**
EFP	**Efpalio**	**1.61**	**40**	P	**Pg**	**13 16 29.6**	**-0.7**
EFP	**Efpalio**	**1.61**	**40**	P	**Pn**	**13 16 28.3**	**+0.8**
KALE	**Kalithea**	**1.72**	**46**	P	**Pn**	**13 16 30.2**	**+1.2**
ANX	**Ano Chora**	**1.75**	**37**	P	**Pn**	**13 16 30.5**	**+1.0**
AGG	**Agios Georgios**	**2.28**	**37**	Pn	**Pb**	**13 16 39.0**	**-1.4**
IGT	**Igoumenitsa**	**2.33**	**355**	*e*Pn	**Pb**	**13 16 40.3**	**-1.0**
KEK	**Kerkira**	**2.58**	**347**	Pn	**Pn**	**13 16 39.4**	**-1.4**
LIT	**Litokhoron**	**3.26**	**27**	Pn	**Pn**	**13 16 50.6**	**+0.4**
TIP	**Timpagrande**	**3.59**	**304**	Pn	**Pn**	**13 16 55.4**	**+0.6**
FNA	**Florina**	**3.63**	**10**	Pn	**Pn**	**13 16 56.0**	**+0.7**
FNA	**Florina**	**3.63**	**10**	*e*Pn	**Pn**	**13 16 56.5**	**+1.2**
CEL	**Celeste**	**3.86**	**287**	Pn	**Pn**	**13 16 59.8**	**+1.4**
OHR	**Ohrid**	**3.91**	**2**	*e*Pn	**Pn**	**13 17 01.4**	**+2.3**
IDI	**Anoyia**	**3.98**	**117**	Pn	**Pn**	**13 17 02.3**	**+2.2**
IDI	**Anoyia**	**3.98**	**117**	Pn	**Pn**	**13 17 00.1**	**0.0**
comp=E,7.9nm,0.8s,baz=257,slow=21,SNR=1.0							
IDI				Sn	**Sn**	**13 17 45.6**	**-1.1**
comp=E,2.3nm,0.3s,baz=291,slow=18,SNR=1.8							
SRS	**Serrai**	**4.56**	**30**	*e*Pn	**Pn**	**13 17 09.1**	**+1.1**
PUK	**Puka**	**4.86**	**354**	Pn	**Pn**	**13 17 11.0**	**-1.3**
VAE	**Valguarnera**	**4.92**	**275**	Pn	**Pn**	**13 17 14.6**	**+1.6**
comp=E,19nm,0.5s,baz=272,slow=19,SNR=2.4							
VAE				Sn	**Sn**	**13 18 11.5**	**+1.7**
comp=E,6.3nm,0.3s,baz=216,slow=19,SNR=2.0							
RAFF	**Raffo Rosso**	**4.96**	**272**	Pn	**Pn**	**13 17 14.1**	**+0.6**
WDD	**Wied Dalam**	**5.06**	**256**	Pn	**Pn**	**13 17 16.2**	**+1.3**
BOSS	**Bosilegrad**	**5.49**	**15**	*e*Pn	**Pn**	**13 17 21.5**	**+0.7**
KARP	**Karpathos**	**5.57**	**105**	Pn	**Pn**	**13 17 24.3**	**+2.4**
ALN	**Alexandroupoli**	**5.63**	**47**	Pn	**Pn**	**13 17 23.3**	**+0.5**
BARS	**Barje**	**5.69**	**9**	*e*Pn	**Pn**	**13 17 23.6**	**+0.1**
VTS	**Vitosha**	**5.78**	**20**	*e*Pn	**Pn**	**13 17 25.6**	**+0.7**
SELS	**Selova**	**6.02**	**4**	*e*Pn	**Pn**	**13 17 27.6**	**-0.6**
STON	**Ston**	**6.08**	**340**	*e*Pn	**Pn**	**13 17 27.7**	**-1.1**
ZAPS	**Zavoj**	**6.26**	**14**	*e*Pn	**Pn**	**13 17 32.3**	**+0.8**
IVAS	**Ivanjica**	**6.37**	**357**	*e*Pn	**Pn**	**13 17 32.5**	**-0.5**
BOVS	**Bovan**	**6.48**	**7**	*e*Pn	**Pn**	**13 17 33.3**	**-1.1**
GRUS	**Gruza**	**6.68**	**1**	*e*Pn	**Pn**	**13 17 36.7**	**-0.4**
HAPS	**Han Pijesak,BI**	**6.99**	**350**	*e*Pn	**Pn**	**13 17 42.1**	**+0.7**
TRUS	**Trudelj**	**7.01**	**359**	*e*Pn	**Pn**	**13 17 41.3**	**-0.4**
KEST	**Kesra**	**9.16**	**264**	Pn	**Pn**	**13 18 11.9**	**+0.5**
KEST	**Kesra**	**9.16**	**264**	Pn	**Pn**	**13 18 12.3**	**+0.9**
comp=E,0.5nm,0.3s,baz=79,slow=16,SNR=2.6							
KEST				Sn	**Sn**	**13 19 51.2**	**-3.2**
comp=E,0.1nm,0.3s,baz=80,slow=20,SNR=2.6							
comp=E,2.4nm,0.4s							
MLR	**Muntele Rosu**	**9.21**	**24**	Pn	**Pn**	**13 18 13.7**	**+1.7**
comp=E,0.4nm,0.3s,baz=310,slow=23,SNR=1.5							
comp=E,1.3nm,0.5s							
BRTR	**Keskin Array B**	**10.55**	**72**	Pn	**Pn**	**13 18 33.1**	**+2.7**
comp=E,0.1nm,0.3s,baz=263,slow=10.0,SNR=2.0							
comp=E,0.4nm,0.4s							
KIEV	**Kiev**	**14.84**	**22**	P	**P**	**13 19 33.8**	**-0.7**
AKASG	**Malin Array Be**	**14.85**	**22**	Pn	**Pn**	**13 19 29.0**	**+0.2**
comp=E,0.2nm,0.3s,baz=213,slow=10,SNR=1.6							
AKBB	**Malin Array Si**	**14.85**	**22**	P	**P**	**13 19 33.8**	**-0.9**
KBZ	**Khabaz**	**18.17**	**62**	P	**P**	**13 20 14.0**	**+2.6**
comp=E,0.9nm,0.5s,baz=249,slow=8.6,SNR=2.1							
HFS	**Hagfors**	**23.37**	**351**	P	**P**	**13 21 06.6**	**-0.8**
comp=E,4.4nm,0.7s,baz=163,slow=10,SNR=8.7							
comp=E,4.4nm,0.7s							
EKA	**Eskdalemuir Ar**	**24.25**	**326**	P	**P**	**13 21 16.2**	**+0.4**
comp=E,2.8nm,0.8s,baz=123,slow=8.4,SNR=4.3							
comp=E,2.8nm,0.8s							
BELG	**Belogornoye**	**24.28**	**43**	P	**P**	**13 21 15.4**	**-0.8**
comp=E,9.2nm,0.5s,baz=323,slow=1.6,SNR=7.1							
comp=E,9.2nm,0.5s							
FINES	**FINESS Array B**	**24.51**	**6**	P	**P**	**13 21 17.6**	**-0.5**
comp=E,1.5nm,0.7s,baz=174,slow=7.1,SNR=5.2							
comp=E,1.5nm,0.7s							
NB201	**NORSAR Array S**	**24.58**	**349**	P	**P**	**13 21 18.3**	**-0.6**
NB2	**NORSAR Subarra**	**24.58**	**349**	P	**P**	**13 21 18.7**	**-0.2**
comp=Z,7.7nm,1.2s,baz=162,slow=9.3							
NOA	**NORSAR Array B**	**24.58**	**349**	P	**P**	**13 21 18.4**	**-0.4**
comp=Z,1.2nm,0.6s,baz=159,slow=8.8,SNR=6.8							
comp=Z,1.2nm,0.6s							
NBO00	**NORSAR Array S**	**24.64**	**349**	P	**P**	**13 21 19.1**	**-0.3**
NBO00				IAmb	IAmb	13 21 19.9	
comp=Z,13nm,0.9s							
NC303	**NORSAR Array S**	**24.73**	**349**	P	**P**	**13 21 19.9**	**-0.3**
NC303				IAmb	IAmb	13 21 55.3	
comp=Z,28nm,1.5s							
TORD	**Torodi Ar. Bea**	**29.31**	**220**	P	**P**	**13 22 01.5**	**-0.2**
comp=Z,0.5nm,0.5s,baz=31,slow=10.0,SNR=4.0							
comp=Z,0.5nm,0.5s							
ARCES	**ARCESS Array B**	**32.50**	**3**	P	**P**	**13 22 29.3**	**-0.1**
comp=Z,2.8nm,0.9s,baz=184,slow=10,SNR=1.7							
comp=Z,2.8nm,0.9s							
BVAR	**Borovoye Array**	**37.72**	**49**	P	**P**	**13 23 13.6**	**-0.9**
comp=Z,0.8nm,0.6s,baz=266,slow=6.8,SNR=3.6							
comp=Z,0.8nm,0.6s							
KURBB	**Kurchatov Arra**	**42.78**	**53**	P	**P**	**13 23 55.4**	**-1.1**
comp=Z,1.0nm,0.2s,baz=282,slow=8.6,SNR=5.8							
comp=Z,1.0nm,0.2s							
MKAR	**Makanchi Array**	**45.78**	**58**	P	**P**	**13 24 19.5**	**-1.1**
comp=Z,0.4nm,0.4s,baz=277,slow=7.1,SNR=6.0							
comp=Z,0.4nm,0.4s							
ZALV	**Zalesovo Beam**	**46.31**	**47**	P	**P**	**13 24 23.2**	**-1.4**
comp=Z,0.6nm,0.4s,baz=274,slow=7.1,SNR=2.0							
comp=Z,0.6nm,0.4s							
A36M	**Sachs Harbour**	**68.49**	**349**	P	**P**	**13 27 00.6**	**-0.2**
SOE	**Somerset East**	**69.71**	**176**	P	**P**	**13 27 09.3**	**+0.5**
B21K	**Ikpikpuk River**	**73.43**	**358**	P	**P**	**13 27 29.9**	**-0.9**
E29M	**Blow River**	**73.50**	**352**	P	**P**	**13 27 32.2**	**+1.0**
F31M	**Tsiigehtchic**	**73.87**	**350**	P	**P**	**13 27 33.6**	**+0.2**
F31M				IAmb	IAmb	13 28 07.1	
comp=Z,9.3nm,1.5s							
H29M	**Whitestone**	**75.63**	**351**	P	**P**	**13 27 43.9**	**+0.3**
H29M				IAmb	IAmb	13 28 20.3	
comp=Z,7.3nm,1.4s							
J30M	**Hart River**	**76.94**	**350**	P	**P**	**13 27 52.2**	**+0.9**
J30M				IAmb	IAmb	13 27 58.4	
comp=Z,7.0nm,1.4s							

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*JMA **05** 13:16:02.3±0.2, 44.°6N±0.°6×145.°7E±0.°9, h21km±1km, MD4.0/35, MV4.1/35, NEAR KUNASHIRI ISLAND*
JMA Felt I J1 at NEAR KUNASHIRI ISLAND .
*NIED **05** 13:16:02.3, 44.°59N×145.°69E, h21km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.39; $M_{\theta\theta}$-0.75; $M_{\phi\phi}$-0.64; $M_{r\theta}$0.27; $M_{\theta\phi}$-0.65; $M_{\phi r}$0.18; Fault plane solution: $M_0$1.41000×10^{15} NP1:ϕ_s49.00000°, δ52.00000°, λ92.00000°. NP2:ϕ_s225.00000°, δ38.00000°, λ87.00000°.*
*SKHL **05** 13:16:03.9±0.6, 44.°50N×145.°60E, h36km±4km, mb5.6/2*
*NEIC **05** 13:16:03.3±1.3, 44.°48N±0.°07×145.°6E±0.°1, h13km±5km, mb4.5/35, Error ellipse: s-maj=12.3km s-min=9.7km az=116.0*
*MOS **05** 13:16:03.4±1.0, 44.°54N×145.°62E, h28km, mb4.5/14, Error ellipse: s-maj=8.7km s-min=6.6km az=105.4*
MOS Felt (II) at Goryachiy Plyazh, Lagunnoye, Malokuril'skoye, Mendeleyevo, Yuzhno-Kuril'sk.
*IDC **05** 13:16:06.9±2.1, 44.°56N×145.°60E, h42km±19km, mb3.8/16, mbtmp4.0/23, ML3.1/6, MS3.1/8, Error ellipse: s-maj=17.1km s-min=13.5km az=138.0*
ISC 05 13:16:03.4±0.6, 44.°50N±0.°03×145.°64E±0.°03, h15km±3km, n152, σ1$40/160, mb4.4/52, MS3.8/5, 5C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.49**	**161**	*i* P	**Pb**	**13 16 13.4**	**-0.3**
YUK				AMB	AMB	13 16 13.9	
4μm,0.3s							
YUK				*i* S	**Sb**	**13 16 20.7**	**0.0**
YUK				A	A	13 16 23.3	
16μm,0.2s							
YUK				A	A	13 16 23.3	
14μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**0.49**	**161**	*d i* PN	**Pb**	**13 16 13.4**	**-0.3**
YUK				*i* S	**Sb**	**13 16 20.5**	**-0.2**
YUK				pmax	pmax		
comp=N,459nm,0.1s							
YUK				pmax	pmax		
comp=E,2μm,0.1s							
YUK				pmax	pmax		
comp=Z,8μm,0.1s							
YUK				smax	smax		
comp=E,8μm,0.1s							
YUK				smax	smax		
comp=N,15μm,0.2s							
JRA	**Rausu**	**0.67**	**214**	*i* P	**Pb**	**13 16 16.7**	**-0.2**
JRA				S	**Sn**	**13 16 26.6**	**-2.0**
JRA	**Rausu**	**0.67**	**214**	A	A	13 16 16.7	
comp=E,8.0nm,1.5s,comp=N,7.0nm,0.7s							
JNSB	**Nemuroshibetsu**	**0.86**	**213**	P	**Pn**	**13 16 19.8**	**-1.1**
JNSB				S	**Sn**	**13 16 32.3**	**-0.8**
JNSB	**Nemuroshibetsu**	**0.86**	**213**	A	A	13 16 19.8	
comp=E,14nm,1.2s,comp=N,11nm,2.3s							
SHO	**Shikotan**	**1.06**	**126**	*i* P	**Pg**	**13 16 22.5**	**-1.5**
SHO				AMB	AMB	13 16 23.0	
comp=N,2μm,0.4s							
SHO				*i* S	**Sg**	**13 16 36.7**	**-1.1**
SHO				A	A	13 16 38.1	
comp=N,25μm,0.7s							
SHO				A	A	13 16 38.1	
comp=N,47μm,0.7s							
SHO	**Shikotan**	**1.06**	**126**	⇓*i* PN	**Pg**	**13 16 22.4**	**-1.5**
SHO				*i* S	**Sg**	**13 16 36.8**	**-1.1**
SHO				pmax	pmax		
comp=Z,2μm,0.4s							
SHO				pmax	pmax		
comp=N,913nm,0.3s							
SHO				smax	smax		
comp=N,31μm,0.4s							
SHO				smax	smax		
comp=E,49μm,0.4s							
JNK	**Nakash**	**1.13**	**216**	*i* P	**Pn**	**13 16 23.9**	**-0.8**
JNK				S	**Sn**	**13 16 39.7**	**-0.1**
NEM2	**Nemuro 2**	**1.14**	**176**	⇓*i* P	**Pg**	**13 16 23.6**	**-1.8**
NEM2				⇓S	**Sg**	**13 16 39.2**	**-0.9**
NEM2	**Nemuro 2**	**1.14**	**176**	A	A	13 16 23.6	
comp=E,7.0nm,0.7s,comp=N,9.0nm,5.6s							
JTKR	**Abashiri--Toko**	**1.35**	**248**	P	**Pn**	**13 16 26.6**	**-1.1**
JTKR				*e*S	**Sn**	**13 16 43.9**	**-1.4**
JTKR	**Abashiri--Toko**	**1.35**	**248**	A	A	13 16 26.6	
comp=E,2.0nm,3.0s,comp=N,3.0nm,1.0s							
JKHN	**Kushirohamanak**	**1.46**	**194**	P	**Pn**	**13 16 28.7**	**-0.4**
JKHN				*e*S	**Sg**	**13 16 48.4**	**-2.0**
JKHN	**Kushirohamanak**	**1.46**	**194**	A	A	13 16 28.7	
comp=E,8.0nm,1.6s,comp=N,7.0nm,1.8s							
JAK	**Akkeshi**	**1.65**	**205**	P	**Pn**	**13 16 31.4**	**-0.4**
JAK				*e*S	**Sb**	**13 16 53.1**	**-0.9**
JAK	**Akkeshi**	**1.65**	**205**	A	A	13 16 31.4	
comp=E,4.0nm,0.9s,comp=N,8.0nm,1.4s							
JMP	**Maruseppu**	**1.71**	**254**	P	**Pn**	**13 16 32.1**	**-0.6**
KUR	**Kuril'sk**	**1.75**	**64**	*e*P	**Pn**	**13 16 31.8**	**-1.3**
KUR				AMB	AMB	13 16 34.9	
comp=N,170nm,0.3s							
KUR				*e*S	**Sn**	**13 16 53.5**	**-1.5**
KUR				A	A	13 16 55.5	
comp=N,590nm,0.2s							
KUR				A	A	13 16 55.5	
comp=N,320nm,0.2s							
KUR	**Kuril'sk**	**1.75**	**64**	*e*PN	**Pn**	**13 16 31.8**	**-1.3**
KUR				*e*S	**Sn**	**13 16 53.5**	**-1.5**
KUR				pmax	pmax		
comp=Z,165nm,0.7s							
KUR				smax	smax		
comp=N,586nm,0.2s							
KUR				smax	smax		
comp=E,316nm,0.2s							
JAR	**Ashorobuto**	**1.81**	**229**	P	**Pb**	**13 16 34.0**	**-2.2**
JAR	**Ashorobuto**	**1.81**	**229**	A	A	13 16 34.0	
comp=E,2.0nm,2.0s,comp=N,3.0nm,1.5s							
JKA	**Kamikawa-asahi**	**2.22**	**261**		**Pn**	**13 16 39.6**	**0.0**
JKA	**Kamikawa-asahi**	**2.22**	**261**	*e*P	**Pn**	**13 16 39.9**	**+0.3**
ASAJ	**Asahikawa**	**2.22**	**261**	P	**Pn**	**13 16 39.9**	**+0.3**
comp=N,2.8nm,0.3s,baz=122,slow=7.2,SNR=36							
ASAJ				S	**Sg**	**13 17 11.1**	**-3.6**
comp=N,149nm,0.7s,baz=101,slow=33,SNR=6.6							
comp=N,30nm,0.8s							
ERM	**Erimo**	**3.08**	**217**	Pn	**Pn**	**13 16 51.4**	**0.0**
ERM	**Erimo**	**3.08**	**217**	*i* PN	**Pn**	**13 16 53.3**	**+1.9**
YSS	**Yuzh-Sakhalins**	**3.18**	**322**		**Pn**	**13 16 51.3**	**-1.5**
YSS	**Yuzh-Sakhalins**	**3.18**	**322**	*e*P	**Pn**	**13 16 52.1**	**-0.7**
YSS				AMB	AMB	13 16 59.3	
comp=N,70nm,0.7s							
YSS				*e*S	**Sn**	**13 17 27.6**	**-2.8**
YSS				A	A	13 17 29.1	
comp=N,270nm,0.5s							
YSS				A	A	13 17 29.1	
comp=N,190nm,0.5s							
YSS	**Yuzh-Sakhalins**	**3.18**	**322**	*e*PN	**Pn**	**13 16 52.1**	**-0.7**
YSS				*e*S	**Sn**	**13 17 27.6**	**-2.8**
YSS				pmax	pmax		
comp=Z,70nm,0.7s							
YSS				smax	smax		
comp=N,190nm,0.5s							
YSS				smax	smax		
comp=N,270nm,0.6s							
JTM	**Tenmabayashi**	**5.01**	**224**		**Pn**	**13 17 17.1**	**-0.9**
TYV	**Tymovskoe**	**6.68**	**344**	*e*P	**Pn**	**13 17 41.4**	**+0.5**
TYV				AMB	AMB	13 17 45.4	
comp=N,10.0nm,0.5s							
TYV				*e*S	**Sn**	**13 18 54.9**	**-1.7**
TYV				A	A	13 18 59.6	
comp=N,10.0nm,0.5s							
TYV				A	A	13 18 59.6	
comp=N,10.0nm,0.5s							
TYV	**Tymovskoe**	**6.68**	**344**	*e*PN	**Pn**	**13 17 41.4**	**+0.5**
TYV				pmax	pmax		
comp=Z,12nm,1.3s							
TYV				pmax	pmax		
comp=Z,300nm,5.4s							
MJAR	**Matsushiro Arr**	**9.75**	**218**	P	**Pn**	**13 18 23.9**	**+0.9**
comp=Z,1.6nm,0.9s,baz=22,slow=13,SNR=2.6							
USRK	**Ussuriysk Ar.**	**9.79**	**273**	Pn	**Pn**	**13 18 22.3**	**-1.2**
USRK	**Ussuriysk Ar.**	**9.79**	**273**	P	**Pn**	**13 18 24.0**	**+0.5**
comp=Z,0.2nm,0.3s,baz=85,slow=16,SNR=3.1							
USRK				LR	LR	13 21 56.5	
comp=Z,61nm,18.7s,baz=197,slow=36							
comp=Z,3.0nm,0.7s							
USA0B	**Ussuriysk Arra**	**9.79**	**273**	*i* PN	**Pn**	**13 18 23.5**	**0.0**
KLR	**Kul'dur**	**10.62**	**301**	P	**Pn**	**13 18 36.3**	**+1.4**
comp=Z,0.1nm,0.3s,baz=110,slow=18,SNR=2.2							
KLR				LR	LR	13 22 28.1	
comp=Z,126nm,19.9s,baz=132,slow=36							
comp=Z,0.5nm,0.4s							
PETK	**Petropavlovsk-**	**11.71**	**38**	Pn	**Pn**	**13 18 51.0**	**+1.3**
PETK	**Petropavlovsk-**	**11.71**	**38**	P	**Pn**	**13 18 51.7**	**+1.9**
comp=Z,0.2nm,0.3s,baz=206,slow=7.8,SNR=4.3							
comp=Z,4.5nm,0.9s							
BNX	**BinXian**	**12.94**	**282**	⇑P	**Pn**	**13 19 10.1**	**+3.4**
BNX				pmax	pmax		
comp=Z,6.0nm,2.0s							
KSRS	**Korea Array**	**15.10**	**248**	P	**P**	**13 19 38.7**	**-2.6**
comp=Z,0.3nm,0.3s,baz=58,slow=14,SNR=2.1							
KSRS				LR	LR	13 24 30.5	
comp=Z,16nm,18.1s,baz=75,slow=33							
comp=Z,0.6nm,0.7s							
ZEA	**Zeya**	**15.14**	**314**	*e*P	**P**	**13 19 44.5**	**+2.9**
ZEA				pmax	pmax		
comp=E,10.0nm,0.9s							
ZEA				pmax	pmax		
comp=N,20nm,0.6s							
ZEA				pmax	pmax		
comp=Z,30nm,0.7s							
MA2	**Magadan**	**15.42**

comp=Z,39nm,18.9s,baz=310,slow=36
comp=Z,3.3nm,0.9s
SONM Songino Array 27.18 291 P **P 13 21 46.7 +0.4**
SONM pmax pmax
comp=Z,3.0nm,1.0s
LVA Lava Point 32.35 55 P **P 13 22 32.5 +0.6**
N15K Kwethluk River 35.52 44 P **P 13 22 59.7 +0.3**
L16K Owhat River 35.88 42 P **P 13 23 02.2 -0.2**
L16K IAmb IAmb 13 23 20.3
comp=Z,6.9nm,1.2s
M16K Timber Creek 36.10 43 P **P 13 23 04.6 +0.3**
M16K IAmb IAmb 13 23 43.1
comp=Z,15nm,1.5s
L18K Granite Mounta 37.21 41 P **P 13 23 14.0 +0.3**
L18K IAmb IAmb 13 23 41.7
comp=Z,12nm,1.4s
NRIK Noril'sk 38.07 331 *i* P **P 13 23 21.9 +1.0**
NRIK pmax pmax
comp=Z,12nm,3.0s
IMAR Indian Mountai 38.64 35 P **P 13 23 24.0 -1.7**
Q19K Cape Douglas, 38.85 46 P **P 13 23 27.7 +0.1**
CAST Castle Rocks 39.32 39 P **P 13 23 31.6 +0.1**
PZH PanZhiHua 39.46 258 P **P 13 23 36.4 +3.2**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.2s
ZALV Zalesovo Beam 39.68 306 PcP **PcP 13 25 41.1 +0.1**
comp=Z,1.0nm,0.5s,baz=64,slow=3.4,SNR=4.1
H23K Yukon River 40.37 35 P **P 13 23 39.5 -0.6**
NEA2 Nenana 40.61 37 P **P 13 23 41.7 -0.4**
NEA2 IAmb IAmb 13 23 45.1
comp=Z,12nm,1.4s
WMQ Urumqi 40.81 290 *eP* **P 13 23 45.3 +1.1**
WMQ LR LR
comp=Z,97nm,24.1s
COLA College 41.11 37 *i* P **P 13 23 44.3 -1.9**
COLA pmax pmax
comp=Z,8.0nm,1.0s
SML Sawmill 41.17 41 P **P 13 23 46.9 0.0**
SML Sawmill 41.17 41 P **P 13 23 46.9 0.0**
SML pmax pmax
comp=Z,31nm,1.5s
ILAR Eielson Array 41.53 37 P **P 13 23 48.7 -1.0**
ILAR Eielson Array 41.53 37 P **P 13 23 49.0 -0.7**
comp=Z,1.9nm,0.9s,baz=271,slow=7.1,SNR=17
comp=Z,1.9nm,0.9s
ILAR Eielson Array 41.53 37 P **P 13 23 49.0 -0.7**
PRP Porcupine Dome 42.04 35 P **P 13 23 53.4 -0.7**
PRP IAmb IAmb 13 23 55.8
comp=Z,8.0nm,1.4s
BMAR Burnt Mountain 42.28 33 P **P 13 23 55.2 -0.7**
MK31 Makanchi Array 43.28 296 P **P 13 24 04.1 -0.1**
MK31 Makanchi Array 43.28 296 P **P 13 24 04.1 -0.1**
MK31 pmax pmax
comp=Z,6.0nm,1.5s
MKAR Makanchi Array 43.28 296 P **P 13 24 04.0 -0.2**
MKAR Makanchi Array 43.28 296 P **P 13 24 04.2 0.0**
comp=Z,1.1nm,0.6s,baz=78,slow=9.2,SNR=7.7
comp=Z,1.1nm,0.6s
MAKZ Makanchi 43.47 297 P **P 13 24 05.4 -0.4**
MAKZ IAmb IAmb 13 24 46.0
comp=Z,6.3nm,1.3s
MAKZ Makanchi 43.47 297 P **P 13 24 05.4 -0.4**
MAKZ pmax pmax
comp=Z,6.0nm,1.3s
VRDI Verde Repeater 43.57 42 P **P 13 24 06.7 +0.2**
VRDI IAmb IAmb 13 24 10.2
comp=Z,6.3nm,1.2s
BCAR Beaver Creek A 43.99 39 P **P 13 24 10.1 +0.3**
KURK Kurchatov 44.21 303 *eP* **P 13 24 09.8 -1.8**
KURK Kurchatov 44.21 303 P **P 13 24 09.8 -1.8**
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURBB Kurchatov Arra 44.29 303 P **P 13 24 11.6 -0.6**
comp=Z,0.9nm,0.2s,baz=72,slow=8.4,SNR=1.9
KURBB PcP **PcP 13 25 55.9 -0.4**
comp=Z,0.4nm,0.3s,baz=76,slow=3.8,SNR=4.1
comp=Z,0.9nm,0.2s
L29M L29M 45.61 38 P **P 13 24 23.2 +0.6**
L29M IAmb IAmb 13 24 24.3
comp=Z,6.3nm,0.8s
I30M Mount Dempster 45.88 35 P **P 13 24 24.2 -0.6**
I30M IAmb IAmb 13 24 25.1
comp=Z,3.3nm,0.8s
CMAR Chiang Mai Arr 46.71 252 P **P 13 24 32.2 +0.5**
comp=Z,0.9nm,0.7s,baz=37,slow=7.5,SNR=7.5
comp=Z,0.9nm,0.7s
CMAR Chiang Mai Arr 46.71 252 *i* P **P 13 24 32.7 +0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
WUS Wushi 47.60 291 P **P 13 24 37.7 -0.9**
BVAR Borovoye Array 48.19 308 P **P 13 24 42.6 -0.3**
comp=Z,0.3nm,0.4s,baz=68,slow=8.0,SNR=1.7
BVAR PcP **PcP 13 26 10.3 +0.3**
comp=Z,1.0nm,0.7s,baz=48,slow=4.4,SNR=4.5
comp=Z,0.3nm,0.4s
BRVK Borovoye 48.23 308 *eP* **P 13 24 42.5 -0.7**
BRVK Borovoye 48.23 308 *i* P **P 13 24 42.5 -0.7**
BRVK pmax pmax
comp=Z,13nm,3.6s
AAK Ala-Archa 50.05 294 *eP* **P 13 24 56.7 -0.8**
AAK Ala-Archa 50.05 294 *eP* **P 13 24 56.7 -0.8**
AAK pmax pmax
comp=Z,5.0nm,1.5s
KSH Kashi 50.58 290 P **P 13 25 04.5 +3.0**
KSH pmax pmax
comp=Z,2.0nm,1.2s
ARSB Arslanbob 51.67 294 P **P 13 25 09.9 +0.2**
ARSB IAmb IAmb 13 25 11.6
comp=Z,3.0nm,0.8s
ARSB Arslanbob 51.67 294 P **P 13 25 09.9 +0.2**
ARSB pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 52.40 297 P **P 13 25 14.1 -0.8**
KKAR Karatay Array 52.40 297 P **P 13 25 14.1 -0.8**
ABKAR Akbulak array 55.75 308 P **P 13 25 38.3 -0.9**
ABKAR IAmb IAmb 13 25 39.9
comp=Z,5.9nm,1.4s
ARCES ARCESS Array B 58.16 339 LR LR 13 53 55.8
comp=Z,121nm,18.0s,baz=32,slow=39
FINES FINESS Array B 63.71 332 P **P 13 26 31.8 -2.0**
comp=Z,3.0nm,0.7s,baz=46,slow=8.2,SNR=6.9
comp=Z,3.0nm,0.7s
FINES FINESS Array B 63.71 332 *i* P **P 13 26 32.4 -1.4**
FINES pmax pmax
comp=Z,3.0nm,0.7s
WR0 Warramunga Arr 64.94 192 P **P 13 26 41.7 -0.6**
WRA Warramunga Arr 64.95 192 P **P 13 26 42.2 -0.1**
WRA Warramunga Arr 64.95 192 P **P 13 26 42.4 0.0**
comp=Z,4.0nm,1.0s,baz=12,slow=7.0,SNR=16
comp=Z,4.0nm,1.0s
BOZ Bozeman (W) 67.25 48 P **P 13 26 57.6 +0.5**
BOZ IAmb IAmb 13 26 58.4
comp=Z,3.2nm,0.7s
BOZ Bozeman (W) 67.25 48 P **P 13 26 57.7 +0.5**
BOZ pmax pmax
comp=Z,3.0nm,0.7s
KVN Kaiserville 67.82 57 P **P 13 27 01.5 +0.5**
KVN IAmb IAmb 13 27 01.9
comp=Z,3.1nm,0.8s
KVN Kaiserville 67.82 57 P **P 13 27 01.5 +0.5**
KVN pmax pmax
comp=Z,3.0nm,0.8s
LHV Little Huntoon 68.09 58 P **P 13 27 03.4 +1.0**
NVAR Mina Array Bea 68.09 57 P **P 13 27 02.4 -0.4**
comp=Z,1.4nm,0.7s,baz=292,slow=6.3,SNR=14
comp=Z,1.4nm,0.7s
KIV Kislovodsk 68.45 311 *eP* **P 13 27 05.0 +0.3**
KIV Kislovodsk 68.45 311 *eP* **P 13 27 05.0 +0.3**
KIV pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 68.49 311 P **P 13 27 04.8 +0.1**
comp=Z,3.9nm,0.8s,baz=26,slow=3.0,SNR=6.9
comp=Z,3.9nm,0.8s
NOA NORSAR Array B 68.51 338 P **P 13 27 03.0 -1.6**
comp=Z,1.1nm,0.8s,baz=31,slow=6.2,SNR=3.2
comp=Z,1.1nm,0.8s
ASAR Alice Springs 68.68 192 P **P 13 27 06.5 +0.4**
comp=Z,1.2nm,0.9s,baz=8.3,slow=6.3,SNR=6.7
comp=Z,1.2nm,0.9s
MOOW Moose Ponds 68.95 49 IAmb IAmb 13 27 09.9
comp=Z,2.6nm,0.7s
DUG Dugway, Tooele 70.17 53 IAmb IAmb 13 27 16.5
comp=Z,3.0nm,0.8s
PD31 Pinedale Array 70.25 49 IAmb IAmb 13 27 16.8
comp=Z,3.0nm,0.7s
PDAR Pinedale Array 70.25 49 P **P 13 27 16.1 0.0**
comp=Z,1.8nm,0.6s,baz=275,slow=1.5,SNR=25
comp=Z,1.8nm,0.6s
AKASG Malin Array Be 70.33 323 P **P 13 27 14.7 -1.4**
comp=Z,0.8nm,0.4s,baz=41,slow=6.8,SNR=9.0
comp=Z,0.8nm,0.4s
AKBB Malin Array Si 70.33 323 *cePP* **P 13 27 15.5 -0.5**
AKBB pmax pmax
comp=Z,5.0nm,1.0s
BORG Borgarnes 70.61 354 P **P 13 27 17.1 -0.4**
comp=Z,25nm,1.1s,baz=342,slow=6.4,SNR=2.4
SRU San Rafael Swe 72.20 53 IAmb IAmb 13 27 29.0
comp=Z,5.0nm,1.0s
HMU Henry Mountain 72.88 54 IAmb IAmb 13 27 33.2
comp=Z,4.7nm,0.7s
KOLS Kolonicke sedl 74.60 325 *eP* **P 13 27 42.8 +1.2**
KOLS Kolonicke sedl 74.60 325 *eP* **P 13 27 42.8 +1.2**
X16A Lo Mia Camp, P 74.89 57 IAmb IAmb 13 27 45.5
comp=Z,2.7nm,0.9s
LANS Liptovska Anna 75.55 327 *eP* **P 13 27 48.6 +1.5**
LANS Liptovska Anna 75.55 327 *eP* **P 13 27 48.6 +1.5**
CLL Collm 76.14 332 *eP* **P 13 27 50.0 -0.4**
CLL Collm 76.14 332 *eP* **P 13 27 50.0 -0.4**
VYHS Vyhne 76.33 327 *eP* **P 13 27 52.5 +1.0**
VYHS Vyhne 76.33 327 *eP* **P 13 27 52.5 +1.0**
MODS Modra-Piesok 77.03 328 *eP* **P 13 27 55.7 +0.2**
MODS Modra-Piesok 77.03 328 *eP* **P 13 27 55.7 +0.2**
EKA Eskdalemuir Ar 77.09 342 P **P 13 27 54.2 -1.5**
comp=Z,1.4nm,0.8s,baz=36,slow=6.3,SNR=4.3
comp=Z,1.4nm,0.8s
KHC Kasperske Hory 77.77 330 *cePP* **P 13 27 58.9 -0.8**
KHC pmax pmax
comp=Z,11nm,1.7s
TXAR Lajitas Array 83.13 55 P **P 13 28 28.9 +0.1**
comp=Z,0.7nm,0.6s,baz=272,slow=3.6,SNR=5.0
comp=Z,0.7nm,0.6s
TXAR Lajitas Array 83.13 55 P **P 13 28 29.0 +0.1**
QSPA South Pole Qui 134.23 180 PKP **PKPdf 13 35 17.6 -1.7**
comp=Z,0.9nm,0.9s,baz=270,slow=0.6,SNR=5.2

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*UPA **05** 13:24:55.5±23.0, 7°.94N×80°.52W, h10km±999km, MD3.7*
*UCR **05** 13:25:21.7±1.1, 7°.86N×82°.83W, h0km±9km, MW3.7*
ISC 05 13:25:18.6±3.4, 7°.8N±0°.2×82°.69W±0°.09, h10km±12km, n7, σ0s65/13, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DVD	**David**	**0.71**	**19**	*eP*		**Pg**	**13 25 32.4**	**0.0**
DVD				*eS*		**Sn**	**13 25 45.1**	**-0.6**
JIME	**Puerto Jimenez**	**1.00**	**321**	*eP*		**Pn**	**13 25 39.3**	**+0.6**
JIME				*eS*		**Sg**	**13 25 50.7**	**-0.1**
BRU2	**Volcan**	**1.03**	**360**	*eP*		**Pn**	**13 25 39.6**	**+0.4**
BRU2				*eS*		**Sn**	**13 25 54.4**	**+0.7**
BRU2	**Volcan**	**1.03**	**360**	*eP*		**Pn**	**13 25 39.6**	**+0.4**
EDPN	**Palmar Norte**	**1.42**	**327**	*eP*		**Pb**	**13 25 44.9**	**-0.2**
EDPN				*eS*		**Sn**	**13 26 01.8**	**-1.3**
EDBA	**Buenos Aires**	**1.51**	**337**	*eP*		**Pb**	**13 25 46.6**	**-0.2**
EDBA				*eS*		**Sn**	**13 26 05.6**	**+0.1**
CNI2	**El Empalme, Bo**	**1.67**	**7**	*eP*		**Pn**	**13 25 47.3**	**-0.5**
CNI2				*eS*		**Sb**	**13 26 10.9**	**+0.4**

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*NNC **05** 13:38:34.0±1.7, 39°.98N×74°.62E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=12.7km s-min=8.0km az=163.0
*KRNET **05** 13:38:33.2±0.1, 39°.81N×74°.69E, h22km, mb2.8*
ISC 05 13:38:33.6±1.7, 39°.83N±0°.07×74°.67E±0°.04, h5km±13km, n31, σ0s94/49, 22C-19D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.91**	**282**	*eP*	⇑	**Pg**	**13 38 50.5**	**-0.6**
SFK				*eS*	⇑	**Sg**	**13 39 03.1**	**+0.1**
OHH	**Osh**	**1.60**	**296**	*eP*	⇑	**Pn**	**13 39 02.7**	**+0.1**
OHH				*eS*	⇑	**Sb**	**13 39 24.3**	**+0.1**
NRN	**Naryn**	**1.89**	**32**	*iP*	⇓	**Pn**	**13 39 06.5**	**-0.4**
NRN				*iS*	⇓	**Sn**	**13 39 31.0**	**-0.4**
ARSB	**Arslanbob**	**1.96**	**320**	*eP*	⇓	**Pn**	**13 39 08.3**	**+0.6**
ARSB				*eS*	⇓	**Sb**	**13 39 33.8**	**-1.0**
ARLS	**Aral**	**2.04**	**353**	*iP*	⇑	**Pn**	**13 39 09.3**	**+0.5**
ARLS				*iS*	⇑	**Sn**	**13 39 35.1**	**+0.3**
DRK	**Karamyk**	**2.24**	**262**	*eP*	⇑	**Pn**	**13 39 11.6**	**-0.1**
DRK				*eS*	⇑	**Sn**	**13 39 39.9**	**+0.1**
UCH	**Uchtor**	**2.39**	**357**	*iP*	⇑	**Pn**	**13 39 14.6**	**+0.7**
UCH				*iS*	⇑	**Sn**	**13 39 43.9**	**0.0**
AML	**Almayashu**	**2.41**	**343**	*iP*	⇑	**Pn**	**13 39 15.0**	**+0.9**
AML				*iS*	⇑	**Sn**	**13 39 44.6**	**+0.4**
ULHL	**Ulahol**	**2.69**	**26**	*iP*	⇑	**Pn**	**13 39 18.0**	**+0.2**
ULHL				*iS*	⇑	**Sn**	**13 39 50.5**	**-0.3**
BOOM	**Boomskoye usch**	**2.82**	**20**	*eP*	⇓	**Pn**	**13 39 19.9**	**+0.3**
BOOM				*eS*	⇓	**Sn**	**13 39 53.4**	**-0.7**
KBK	**Karagaybulak**	**2.83**	**4**	*eP*	⇓	**Pn**	**13 39 20.0**	**+0.3**
KBK				*iS*	⇓	**Sn**	**13 39 54.2**	**0.0**
ARK	**Arkit**	**2.84**	**315**	*eP*	⇓	**Pn**	**13 39 20.2**	**+0.5**
ARK				*eS*	⇓	**Sn**	**13 39 54.4**	**0.0**
EKS2	**Erkin-Say**	**2.90**	**347**	*iP*	⇓	**Pn**	**13 39 21.6**	**+1.0**
EKS2				*iS*	⇓	**Sn**	**13 39 56.2**	**+0.2**
BTK	**Batken**	**2.96**	**276**	*eP*	⇓	**Pn**	**13 39 22.0**	**+0.6**
BTK				*eS*	⇓	**Sn**	**13 39 57.4**	**-0.1**
KDJ	**Kajisay**	**2.98**	**39**	*eP*	⇓	**Pn**	**13 39 22.0**	**+0.2**
KDJ				*iS*	⇓	**Sn**	**13 39 57.4**	**-0.6**
TARG	**Taragay, Kyrgy**	**3.04**	**51**	*iP*	⇑	**Pn**	**13 39 22.6**	**-0.2**
TARG				*iS*	⇑	**Sn**	**13 39 58.6**	**-1.3**
MRKS	**Merke**	**3.10**	**340**	Pg		**Pb**	**13 39 28.8**	**-0.6**
MRKS	9.5nm,0.3s			Lg		Lg	13 40 07.4	
MNAS	**Manas**	**3.11**	**329**	*iP*	⇑	**Pn**	**13 39 24.7**	**+1.2**
MNAS				*iS*	⇑	**Sn**	**13 40 01.6**	**+0.4**
CHMS	**Chumysh**	**3.16**	**1**	Pg	⇑	**Pb**	**13 39 29.1**	**-1.2**
CHMS	3.4nm,0.4s			Lg	⇑	Lg	13 40 10.6	
TKM2	**Tokmak 2**	**3.16**	**13**	Pg	⇑	**Pb**	**13 39 29.8**	**-0.7**
TKM2	3.0nm,0.3s			Lg	⇓	Lg	13 40 10.0	
KST	**Kastek**	**3.35**	**17**	Pg		**Pb**	**13 39 33.8**	**+0.2**
KST	4.9nm,0.3s			Lg		Lg	13 40 15.8	
MTBS	**Maitube**	**3.55**	**21**	Pg		**Pb**	**13 39 39.1**	**+2.1**
MTBS	3.9nm,0.2s			Lg		Lg	13 40 24.8	
TNSS	**Tian-Shan**	**3.63**	**27**	Pg		**Pb**	**13 39 38.6**	**0.0**
TNSS	6.3nm,0.4s			Lg		Lg	13 40 24.2	
MDOK	**Medeo**	**3.78**	**28**	Pg		**Pb**	**13 39 40.2**	**-0.7**
MDOK	5.0nm,0.6s			Pg		Pg	13 39 41.4	-4.6
MDOK	4.8nm,0.5s			Lg		Lg	13 40 29.4	
MDOK	8.4nm,0.5s			Lg		Lg	13 40 29.4	
KRBS	**Karabastau**	**3.93**	**11**	Pg		**Pb**	**13 39 44.0**	**+0.6**
KRBS	9.7nm,0.3s			Lg		Lg	13 40 34.1	
KTBS	**Karatobe**	**4.16**	**21**	Pg		**Pb**	**13 39 48.4**	**+1.1**
KTBS	3.2nm,0.3s			Lg		Lg	13 40 41.3	
SATY	**Saty**	**4.28**	**40**	Pg		**Pb**	**13 39 50.4**	**+1.0**
SATY	0.9nm,0.2s			Lg		Lg	13 40 44.6	
KK31	**Karatay Array**	**4.52**	**318**	Pn	⇓	**Pn**	**13 39 39.3**	**-3.4**
KK31	0.4nm,0.3s,baz=194,slow=17,SNR=3.6			Pg	⇓	**Pb**	**13 39 54.8**	**+1.4**
KK31	0.4nm,0.3s,baz=141,slow=16,SNR=4.4			Lg	⇑	Lg	13 40 54.1	
KPKS	**Kokpek**	**4.71**	**38**	Pg		**Pb**	**13 39 58.5**	**+1.7**
KPKS	0.8nm,0.1s			Lg		Lg	13 40 58.1	
PDGK	**Podgornoye**	**5.03**	**44**	Pg		**Pb**	**13 40 03.5**	**+1.3**
PDGK	0.8nm,0.5s			Lg		Lg	13 41 07.0	
BTLS	**Baital**	**5.22**	**355**	Pg		**Pb**	**13 40 07.0**	**+1.5**
BTLS	0.4nm,0.1s			Lg		Lg	13 41 13.4	
	3.6nm,0.7s							

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*SJA **05** 13:50:47.2±0.7, 20°.28S×69°.15W, h100km±4km, ML3.8, MW3.7*
*GUC **05** 13:50:48.9±0.7, 20°.23S×69°.16W, h95km±3km, ML3.8*
ISC 05 13:50:48.6±1.5, 20°.29S±0°.04×69°.14W±0°.05, h94km±10km, n27, σ1s35/44, 3C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.15**	**355**	*i* P		**Pn**	**13 51 02.4**	**-0.1**
PB08				*eS*		**Sn**	**13 51 13.0**	**+0.3**
PB08				IAML			13 51 14.8	
	comp=E,6μm,0.2s							
PB08	**IPOC Station P**	**0.15**	**355**	*eP*		**Pn**	**13 51 02.1**	**-0.4**
PB08				*eS*		**Sn**	**13 51 13.2**	**+0.4**
PB08				IAML			13 51 14.7	
	comp=Z,3μm,0.2s							
GO01	**Chusmiza**	**0.62**	**355**	*eP*		**Pn**	**13 51 05.2**	**-0.3**
GO01				*i* S		**Sn**	**13 51 17.8**	**-0.1**
GO01	**Chusmiza**	**0.62**	**355**	*eP*		**Pn**	**13 51 05.1**	**-0.4**
GO01				*eS*		**Sn**	**13 51 18.8**	**+0.9**
HMBC	**Humberstone**	**0.70**	**271**	*iP*	⇑	**Pn**	**13 51 05.0**	**-0.7**
HMBC				*eS*		**Sn**	**13 51 18.3**	**-0.2**
HMBC				IAML			13 51 19.8	
	comp=E,2μm,0.4s							
HMBC	**Humberstone**	**0.70**	**271**	*eP*		**Pn**	**13 51 04.8**	**-0.9**
HMBC				*eS*		**Sn**	**13 51 19.3**	**+0.8**
HMBC				IAML			13 51 20.6	
	comp=Z,2μm,0.2s							
PB11	**IPOC Station P**	**0.72**	**317**	*eP*		**Pn**	**13 51 05.4**	**-0.5**
PB11				*i* S		**Sn**	**13 51 19.1**	**+0.3**
PB11				IAML			13 51 19.8	
	comp=E,10μm,0.2s							
PB11	**IPOC Station P**	**0.72**	**317**	*eP*		**Pn**	**13 51 05.3**	**-0.6**
PB11				*eS*		**Sn**	**13 51 19.2**	**+0.4**
PB11				IAML			13 51 19.6	
	comp=Z,3μm,0.2s							
PB01	**IPOC Station P**	**0.81**	**203**	*eP*		**Pn**	**13 51 06.7**	**-0.1**
PB01				*eS*		**Sn**	**13 51 20.9**	**+0.6**
PB01				IAML			13 51 22.1	
	comp=E,6μm,0.2s							
PB01	**IPOC Station P**	**0.81**	**203**	*eP*		**Pn**	**13 51 06.6**	**-0.1**
PB01				*eS*		**Sn**	**13 51 21.1**	**+0.8**
PB01				IAML			13 51 23.2	
	comp=Z,2μm,0.1s							
TA02	**Huaiquique**	**0.93**	**271**	*eP*		**Pn**	**13 51 07.4**	**-0.5**
TA02				*eS*		**Sn**	**13 51 21.6**	**-0.7**
TA02				IAML			13 51 24.4	
	comp=E,9μm,0.1s							
TA02	**Huaiquique**	**0.93**	**271**	*eP*		**Pn**	**13 51 07.4**	**-0.5**
TA02				IAML			13 51 23.8	
	comp=Z,2μm,0.3s							
TA01	**Diego Aracena**	**1.01**	**254**	*iP*	⇑	**Pn**	**13 51 08.0**	**-0.7**
TA01				*i* S		**Sn**	**13 51 23.7**	**-0.2**
TA01	**Diego Aracena**	**1.01**	**254**	*eP*		**Pn**	**13 51 07.3**	**-1.5**
PATCX	**Punta Patache**	**1.08**	**241**	*iP*	⇑	**Pn**	**13 51 09.2**	**-0.4**
PATCX				*i* S		**Sn**	**13 51 25.7**	**+0.2**
PATCX				IAML			13 51 29.1	
	comp=N,2μm,0.2s							
PATCX	**Punta Patache**	**1.08**	**241**	*eP*		**Pn**	**13 51 09.3**	**-0.4**
PATCX				*eS*		**Sn**	**13 51 28.3**	**+2.8**
PATCX				IAML			13 51 29.7	
	comp=Z,767nm,0.3s							
PX02	**IPOC Station P**	**1.66**	**323**	*eP*		**Pn**	**13 51 15.3**	**-1.4**
PB04	**IPOC Station P**	**2.24**	**205**	*eP*		**Pn**	**13 51 24.6**	**+0.3**
PB04	**IPOC Station P**	**2.24**	**205**	*eP*		**Pn**	**13 51 24.6**	**+0.3**
PB04				*eS*		**Sn**	**13 51 50.6**	**-0.9**
PB04				IAML			13 52 01.9	
	comp=Z,290nm,0.4s							
LVC	**Limon Verde**	**2.32**	**175**	*eP*		**Pn**	**13 51 26.8**	**+1.3**
LVC				*eS*		**Sn**	**13 51 56.2**	**+2.5**
LVC	**Limon Verde**	**2.32**	**175**	*eP*		**Pn**	**13 51 26.5**	**+1.0**
PB06	**IPOC Station P**	**2.44**	**189**	*eP*		**Pn**	**13 51 27.4**	**+0.5**
PB06				IAML			13 52 05.1	
	comp=N,353nm,0.5s							
PB06	**IPOC Station P**	**2.44**	**189**	*eP*		**Pn**	**13 51 27.4**	**+0.5**
PB06				*eS*		**Sn**	**13 51 51.4**	**-4.8**
PB06				IAML			13 52 02.3	
	comp=Z,228nm,0.2s							
PB15	**IPOC Station P**	**2.92**	**186**	*eP*		**Pn**	**13 51 34.5**	**+1.1**
PB15	**IPOC Station P**	**2.92**	**186**	*eP*		**Pn**	**13 51 35.2**	**+1.8**
PB15				IAML			13 52 20.2	
	comp=Z,454nm,0.1s							
YJA	**Yavi**	**3.87**	**120**	*eP*		**Pn**	**13 51 43.0**	**-3.3**
LPAZ	**La Paz**	**4.10**	**14**	*eP*		**Pn**	**13 51 51.8**	**+2.1**

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*KRNET **05** 14:04:33.0±0.1, 40°.10N×77°.67E, mb2.4*
*SOME **05** 14:04:36.4, 40°.35N×77°.52E, h0km*
*NNC **05** 14:04:36.0±2.7, 40°.25N×77°.38E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=19.4km s-min=17.6km az=63.0
ISC 05 14:04:33.1±3.2, 40°.2N±0°.1×77°.57E±0°.05, h11km±16km, n28, σ0s85/45, 11C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.55**	**7**	*iP*	⇑	**Pg**	**14 05 02.8**	**0.0**
TARG				*iS*	⇑	**Sg**	**14 05 24.6**	**+1.7**
NRN	**Naryn**	**1.72**	**317**	*iP*	⇓	**Pg**	**14 05 06.2**	**+0.1**
NRN				*iS*	⇓	**Sg**	**14 05 30.5**	**+2.1**
KDJ	**Kajisay**	**1.96**	**352**	*iP*	⇑	**Pb**	**14 05 09.3**	**+0.4**
KDJ				*iS*	⇑	**Sb**	**14 05 35.5**	**+2.1**
ULHL	**Ulahol**	**2.28**	**334**	*iP*	⇓	**Pb**	**14 05 14.8**	**+0.4**
ULHL				*iS*	⇓	**Sb**	**14 05 44.2**	**+1.5**
PRZ	**Przheval'sk**	**2.38**	**15**	*eP*	⇑	**Pb**	**14 05 14.9**	**-1.1**
PRZ				*eS*	⇑	**Sb**	**14 05 44.8**	**-0.6**
BOOM	**Boomskoye usch**	**2.60**	**332**	*eP*	⇑	**Pb**	**14 05 18.5**	**-1.3**
BOOM				*eS*	⇑	**Sb**	**14 05 51.6**	**-0.3**
TNSS	**Tian-Shan**	**2.88**	**351**	Pg		**Pg**	**14 05 28.3**	**0.0**
TNSS	7.6nm,0.4s			Lg		Lg	14 06 05.7	
TNSS	**Tian-Shan**	**2.88**	**351**	*eP*		**Pg**	**14 05 28.3**	**0.0**
TNSS	7.6nm,0.4s			*eS*		**Sg**	**14 06 05.7**	**+0.1**
SATY	**Saty**	**2.94**	**12**	Pg		**Pg**	**14 05 29.5**	**+0.2**
SATY	7.3nm,0.6s			Lg		Lg	14 06 07.8	
SATY	**Saty**	**2.94**	**12**	*eP*		**Pg**	**14 05 29.5**	**+0.2**
SATY	4.0nm,0.3s			*eS*		**Sg**	**14 06 07.8**	**+0.4**
MDOK	**Medeo**	**3.00**	**353**	Pg		**Pg**	**14 05 29.7**	**-0.7**
MDOK	3.3nm,0.4s			Lg		Lg	14 06 08.1	
MDOK	**Medeo**	**3.00**	**353**	*eP*		**Pg**	**14 05 29.7**	**-0.7**
MDOK	3.3nm,0.4s			*eS*		**Sg**	**14 06 08.1**	**-1.2**
KNDC	**Almaty**	**3.06**	**352**	Pg	⇑	**Pb**	**14 05 27.8**	**+0.3**
KNDC	12nm,0.4s			Lg	⇑	Lg	14 06 10.6	
MTBS	**Maitube**	**3.06**	**344**	Pg		**Pg**	**14 05 31.4**	**-0.2**
MTBS	2.7nm,0.2s			Lg		Lg	14 06 11.0	
MTBS	**Maitube**	**3.06**	**344**	*eP*		**Pg**	**14 05 31.4**	**-0.2**
MTBS	2.7nm,0.2s			*eS*		**Sg**	**14 06 10.9**	**-0.3**
KST	**Kastek**	**3.09**	**338**	Pg		**Pg**	**14 05 32.4**	**+0.1**
KST	1.1nm,0.2s			Lg		Lg	14 06 12.8	
KST	**Kastek**	**3.09**	**338**	*eP*		**Pg**	**14 05 32.4**	**+0.1**
KST	1.1nm,0.2s			*eS*		**Sg**	**14 06 12.8**	**+0.4**
TKM2	**Tokmak 2**	**3.10**	**332**	Pg	⇓	**Pb**	**14 05 27.8**	**-0.6**
TKM2	6.0nm,1.1s			Lg	⇑	Lg	14 06 10.6	
UZB	**Uzynbulak**	**3.15**	**20**	Pg		**Pg**	**14 05 33.8**	**+0.4**
UZB	2.1nm,0.1s			Lg		Lg	14 06 14.8	

3.6nm,0.6s
UZB Uzynbulak 3.15 20 *e*P **Pg 14 05 33.6 +0.2**
2.1nm,0.1s
UZB *e*S **Sg 14 06 14.8 +0.6**
3.6nm,0.6s
KURS Kuram 3.33 8 *e*P **Pg 14 05 36.6 -0.1**
1.2nm,0.3s
KURS *e*S **Sg 14 06 19.8 0.0**
6.9nm,1.1s
KPKS Kokpek 3.38 14 *e*P **Pg 14 05 37.4 -0.4**
1.3nm,0.2s
KPKS *e*S **Sg 14 06 21.3 -0.2**
4.6nm,0.6s
KTBS Karatobe 3.58 350 Pg **Pg 14 05 41.1 -0.6**
0.6nm,0.1s
KTBS Lg Lg 14 06 27.6
3.8nm,0.4s
KTBS Karatobe 3.58 350 *e*P **Pg 14 05 41.1 -0.6**
0.6nm,0.1s
KTBS *e*S **Sg 14 06 27.6 -0.4**
3.8nm,0.4s
CHKK Chushkaly 3.69 353 Pg **Pg 14 05 42.9 -0.8**
2.2nm,0.1s
CHKK Lg Lg 14 06 30.6
9.5nm,0.4s
CHKK Chushkaly 3.69 353 *e*P **Pg 14 05 42.9 -0.8**
2.2nm,0.1s
CHKK *e*S **Sg 14 06 30.6 -0.8**
9.5nm,0.4s
KRBS Karabastau 3.78 339 Pg **Pg 14 05 44.1 -1.3**
1.0nm,0.3s
KRBS Lg Lg 14 06 33.0
8.2nm,0.7s
KRBS Karabastau 3.78 339 *e*P **Pg 14 05 44.1 -1.3**
1.0nm,0.3s
KRBS *e*S **Sg 14 06 33.0 -1.3**
8.2nm,0.7s

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*SDD **05** 14:05:33.8±1.8, 18°.20N×71°.38W, h18km±9km, MD2.8, ML1.9, MW3.0*
*OSPL **05** 14:05:34.0±1.6, 18°.18N×71°.34W, h28km±10km, ML1.8*
ISC 05 14:05:33.6±1.0, 18°.19N±0°.03×71°.35W±0°.03, h18km±2km, n13, σ1°.01/26, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PODR	**Polo**	**0.07**	**109**	*e*Pg	**Pg**	**14 05 37.0**	**-0.3**
PODR				*e*Sg	**Sg**	**14 05 39.9**	**+0.1**
PODR				IAML		14 05 41.3	
comp=N,390nm,0.1s							
PODR	**Polo**	**0.07**	**109**	*i* P	**Pg**	**14 05 36.9**	**-0.4**
PODR				*e*S	**Sg**	**14 05 39.4**	**-0.4**
PODR				IAML		14 05 41.9	
comp=Z,231nm,0.2s							
LODU1	**El Espartillar**	**0.20**	**324**	*i* P	**Pg**	**14 05 39.0**	**+0.4**
LODU1				*e*S	**Sg**	**14 05 43.4**	**+1.4**
LODU1				IAML		14 05 43.6	
comp=Z,284nm,0.4s							
LOBA2	**Hotel Casa Bon**	**0.27**	**114**	*e*Pg	**Pg**	**14 05 39.8**	**+0.1**
LOBA2				*e*Sg	**Sg**	**14 05 44.9**	**+1.2**
NEDR	**Neiba UASD**	**0.30**	**348**	*e*Pg	**Pg**	**14 05 39.2**	**-1.0**
NEDR				*e*Sg	**Sg**	**14 05 44.2**	**-0.4**
NEDR				IAML		14 05 48.2	
comp=N,91nm,0.7s							
LOVI	**El Cajuil, Ovi**	**0.39**	**182**	*i* P	**Pg**	**14 05 41.3**	**-0.4**
LOVI				*e*S	**Sb**	**14 05 48.0**	**+0.3**
LOVI				IAML		14 05 50.7	
comp=Z,101nm,1.2s							
LOBH	**Bahia de las A**	**0.42**	**220**	*i* P	**Pg**	**14 05 41.6**	**-0.7**
LOBH				*e*S	**Sb**	**14 05 48.9**	**+0.3**
LOBH				IAML		14 05 49.9	
comp=Z,64nm,0.6s							
LONE3	**El Aguacate, B**	**0.42**	**346**	*i* P	**Pb**	**14 05 43.0**	**+0.3**
LONE3				*e*S	**Sb**	**14 05 50.1**	**+1.2**
LONE3				IAML		14 05 52.0	
comp=Z,66nm,0.4s							
JIDR	**Jimani**	**0.56**	**302**	*e*Pg	**Pb**	**14 05 44.2**	**-0.6**
JIDR				*e*Sg	**Sb**	**14 05 51.3**	**-1.1**
JIDR				IAML		14 05 57.5	
comp=N,73nm,0.6s							
SDDR	**Presa de Saban**	**0.79**	**4**	*e*Pg	**Pb**	**14 05 48.1**	**-0.7**
SDDR				*e*Sg	**Sb**	**14 05 57.6**	**-1.6**
SDDR				IAML		14 06 07.8	
comp=N,15nm,0.6s							
ABDR	**Alto Bandera**	**0.93**	**48**	*e*Pg	**Pb**	**14 05 51.1**	**-0.2**
ABDR				*e*Sg	**Sb**	**14 06 02.6**	**-0.7**
ABDR				IAML		14 06 29.6	
comp=N,30nm,1.4s							
BANI	**BANI**	**0.96**	**78**	*e*Pg	**Pb**	**14 05 49.5**	**-2.4**
BANI				*e*Sg	**Sb**	**14 06 04.4**	**+0.1**
BANI				IAML		14 06 24.0	
comp=N,68nm,1.9s							
HATOM	**Hato Mayor del**	**1.96**	**72**	*e*Pg	**Pn**	**14 06 07.3**	**+1.3**
HATOM				*e*Sg	**Sb**	**14 06 34.4**	**+1.5**
HATOM				IAML		14 07 12.6	
comp=N,26nm,3.0s							

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*JMA **05** 14:07:43.0±0.2, 28°.6N±0°.8×12°.9E±°, h135km±2km, MV3.8/24, NEAR TOKARA ISLANDS*
*NEIC **05** 14:07:42.8±0.9, 28°.62N±0°.07×128°.7E±0°.1, h136km±8km, mb4.4/37, Error ellipse: s-maj=14.0km s-min=9.5km az=108.0*
*IDC **05** 14:07:42.5±0.7, 28°.55N×128°.73E, h146km±9km, mb3.5/8, mbtmp3.8/11, Error ellipse: s-maj=22.8km s-min=10.0km az=106.0*
ISC 05 14:07:42.7±0.6, 28°.61N±0°.05×128°.61E±0°.07, h142km±6km, n83, σ0°.83/104, mb4.3/28, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.62**	**126**	*i* P	**Pn**	**14 08 03.9**	**+0.2**
JAMN				S	**Sn**	**14 08 19.5**	**-0.2**
JTAJ	**Takarajima**	**0.76**	**44**	*i* P	**Pn**	**14 08 04.9**	**+0.2**
JTAJ				*e*S	**Sn**	**14 08 20.9**	**-0.5**
JTK	**Tokunoshima**	**0.87**	**160**	*i* P	**Pn**	**14 08 06.1**	**+0.5**
JTK				S	**Sn**	**14 08 23.0**	**0.0**
JAM	**Amami Oshima**	**0.90**	**102**	*i* P	**Pn**	**14 08 06.0**	**+0.2**
JAM				S	**Sn**	**14 08 22.5**	**-0.8**
JZK	**Kikaishima**	**1.24**	**103**	*i* P	**Pn**	**14 08 10.4**	**+1.5**
JZK				*e*S	**Sn**	**14 08 30.1**	**+1.2**
JOKE	**Okinoerabujima**	**1.24**	**181**	*i* P	**Pn**	**14 08 09.4**	**+0.4**
JOKE				S	**Sn**	**14 08 28.8**	**-0.2**
JYRO	**Yoronjima**	**1.58**	**185**	*i* P	**Pn**	**14 08 12.7**	**+0.2**
JYRO				S	**Sn**	**14 08 34.7**	**-0.6**
JNN	**Nakanoshima**	**1.66**	**42**	*i* P	**Pn**	**14 08 13.4**	**0.0**
JNN				*e*S	**Sn**	**14 08 36.9**	**0.0**
JIH	**Iheya**	**1.66**	**200**	P	**Pn**	**14 08 13.9**	**+0.4**
JOW	**Kunigami**	**1.79**	**190**	Pn	**Pn**	**14 08 15.0**	**+0.1**
JOW				Sn	**Sn**	**14 08 38.2**	**-1.4**
JOW	**Kunigami**	**1.79**	**190**	P	**Pn**	**14 08 15.1**	**+0.2**
48nm,0.3s,baz=106,slow=24,SNR=163							
JOW				S	**Sn**	**14 08 39.0**	**-0.5**
baz=130,slow=19							
JOW	**Kunigami**	**1.79**	**190**	*i* P	**Pn**	**14 08 15.1**	**+0.2**
JOW				*e*S	**Sn**	**14 08 38.8**	**-0.8**
JNTH	**Nagotoyohara**	**2.14**	**194**	P	**Pn**	**14 08 19.4**	**+0.3**
JNTH				*e*S	**Sn**	**14 08 46.2**	**-0.7**
JKC	**Kuchinoerabu**	**2.31**	**36**	P	**Pn**	**14 08 21.0**	**-0.1**
JKC				*e*S	**Sn**	**14 08 49.7**	**-0.8**
JYAK	**Yakushimahirau**	**2.32**	**45**	P	**Pn**	**14 08 20.4**	**-0.7**
JYAK				*e*S	**Sn**	**14 08 49.2**	**-1.6**
JAGN	**Aguni-jima**	**2.34**	**211**	P	**Pn**	**14 08 21.6**	**+0.1**
JAGN				*e*S	**Sn**	**14 08 50.7**	**-0.6**
JJT3	**Tamagusuku3**	**2.56**	**197**	*e*P	**Pn**	**14 08 25.0**	**+0.8**
JJT3				*e*S	**Sn**	**14 08 56.0**	**-0.1**
JMTN	**Minamitane**	**2.68**	**48**	P	**Pn**	**14 08 24.8**	**-0.8**
JMTN				*e*S	**Sn**	**14 08 56.6**	**-2.2**
JKE	**Kume jima 2**	**2.79**	**216**	P	**Pn**	**14 08 26.9**	**-0.1**
JMZ	**Minamidaito 2**	**3.62**	**139**	Pn	**Pn**	**14 08 37.9**	**+0.1**
JNU	**Nakatsue**	**4.91**	**23**		**Pn**	**14 08 55.8**	**+1.1**
JNU	**Nakatsue**	**4.91**	**23**	P	**Pn**	**14 08 56.3**	**+1.6**
32nm,0.9s,baz=314,slow=4.0,SNR=22							
JNU				S	**Sn**	**14 09 50.3**	**-0.6**
16nm,0.8s,baz=14,slow=21,SNR=2.1							
YOJ	**Yonaguni jima**	**6.49**	**232**	Pn	**Pn**	**14 09 16.2**	**+0.3**
JMN	**Monobe**	**6.82**	**40**	Pn	**Pn**	**14 09 19.5**	**-0.7**
YHNB	**Yeheng**	**7.56**	**240**	Pn	**Pn**	**14 09 30.6**	**+0.3**
NACB	**Ninganchiao**	**7.68**	**237**	Pn	**Pn**	**14 09 29.6**	**-2.3**
SSLB	**Suanglung**	**8.38**	**237**	Pn	**Pn**	**14 09 39.7**	**-1.5**
KSRS	**Korea Array**	**8.84**	**356**	P	**Pn**	**14 09 48.7**	**+1.4**
0.7nm,0.6s,baz=182,slow=14,SNR=2.4							
TPUB	**Ta-pu**	**8.91**	**235**	Pn	**Pn**	**14 09 45.3**	**-3.1**
JHJ2	**Mitsune**	**10.63**	**62**	Pn	**Pn**	**14 10 11.8**	**+0.7**
MJAR	**Matsushiro Arr**	**11.32**	**43**	P	**Pn**	**14 10 21.2**	**+1.0**
0.4nm,0.4s,baz=245,slow=14,SNR=2.7							
GTA	**Gaotai**	**26.09**	**302**	*e*P	**P**	**14 13 02.7**	**-0.6**
GTA				pmax	pmax		
comp=Z,6.0nm,0.5s							
PEA0B	**Petropavlovsk-**	**32.52**	**33**	P	**P**	**14 13 59.5**	**-0.3**
PETK	**Petropavlovsk-**	**32.52**	**33**	P	**P**	**14 13 59.4**	**-0.4**
KULM	**Kulim**	**35.21**	**234**	P	**P**	**14 14 24.5**	**+1.0**
GSI	**Gunungsitoli**	**40.18**	**233**	P	**P**	**14 15 05.9**	**+0.6**
GSI				IAmb	IAmb	14 15 46.8	
comp=Z,12nm,1.1s							
MK31	**Makanchi Array**	**40.24**	**310**	P	**P**	**14 15 06.1**	**+0.7**
MKAR	**Makanchi Array**	**40.24**	**310**	P	**P**	**14 15 05.8**	**+0.3**
MKAR	**Makanchi Array**	**40.24**	**310**	P	**P**	**14 15 06.1**	**+0.6**
comp=Z,1.5nm,0.6s,baz=93,slow=9.7,SNR=13							
MKAR				PcP	**PcP**	**14 17 05.7**	**-0.8**
comp=Z,0.3nm,0.7s,baz=61,slow=3.0,SNR=1.9							
comp=Z,1.5nm,0.6s							
MAKZ	**Makanchi**	**40.46**	**310**	P	**P**	**14 15 07.4**	**+0.2**
ZALV	**Zalesovo Beam**	**40.59**	**321**	P	**P**	**14 15 08.5**	**+0.3**
comp=Z,1.0nm,0.4s,baz=131,slow=10,SNR=3.7							
comp=Z,1.0nm,0.4s							
TARG	**Taragay, Kyrgy**	**42.96**	**302**	P	**P**	**14 15 29.5**	**+1.3**
TARG				IAmb	IAmb	14 15 30.5	
comp=Z,3.6nm,0.6s							
KURK	**Kurchatov**	**43.36**	**315**	P	**P**	**14 15 31.0**	**+0.3**
KURBB	**Kurchatov Arra**	**43.40**	**315**	P	**P**	**14 15 31.3**	**+0.3**
comp=Z,1.6nm,0.6s,baz=101,slow=9.1,SNR=18							
KURBB				PcP	**PP**	**14 17 15.3**	**+0.7**
comp=Z,0.3nm,0.6s,baz=108,slow=3.0,SNR=2.6							
comp=Z,1.6nm,0.6s							
KDJ	**Kajisay**	**43.44**	**302**	P	**P**	**14 15 32.6**	**+0.9**
KDJ				IAmb	IAmb	14 15 34.6	
comp=Z,6.8nm,1.0s							
KNRA	**Kununurra**	**44.02**	**180**	P	**P**	**14 15 36.8**	**+0.5**
NRN	**Naryn**	**44.32**	**301**	P	**P**	**14 15 40.1**	**+1.2**
NRN				IAmb	IAmb	14 15 40.7	
comp=Z,3.8nm,0.4s							
FITZ	**Fitzroy Crossi**	**46.52**	**184**	P	**P**	**14 15 56.7**	**+0.8**
KKAR	**Karatay Array**	**48.34**	**304**	P	**P**	**14 16 10.9**	**+0.9**
WB0	**Warramunga Arr**	**48.41**	**173**	P	**P**	**14 16 10.7**	**+0.1**
WB0				IAmb	IAmb	14 16 15.4	
comp=Z,6.2nm,1.4s							
WRA	**Warramunga Arr**	**48.58**	**173**	P	**P**	**14 16 11.8**	**-0.1**
comp=Z,0.4nm,0.8s,baz=350,slow=8.1,SNR=5.3							
comp=Z,0.4nm,0.8s							
WR0	**Warramunga Arr**	**48.62**	**173**	P	**P**	**14 16 12.6**	**+0.4**
WR0				IAmb	IAmb	14 16 25.6	
comp=Z,9.2nm,1.5s							
BVAR	**Borovoye Array**	**48.75**	**317**	P	**P**	**14 16 13.6**	**+0.7**
comp=Z,1.8nm,0.4s,baz=94,slow=8.9,SNR=11							
BVAR				PcP	**PcP**	**14 17 35.2**	**-0.4**
comp=Z,1.8nm,0.6s,baz=102,slow=4.3,SNR=8.2							
comp=Z,1.8nm,0.4s							
BRVK	**Borovoye**	**48.82**	**317**	P	**P**	**14 16 13.7**	**+0.3**
ABKAR	**Abkulak array**	**55.29**	**312**	P	**P**	**14 17 01.7**	**+0.4**
N15K	**Kwethluk River**	**56.40**	**35**	P	**P**	**14 17 09.3**	**+0.3**
L18K	**Granite Mounta**	**58.03**	**32**	P	**P**	**14 17 20.9**	**+0.5**
L18K				IAmb	IAmb	14 17 41.4	
comp=Z,8.4nm,1.4s							
J19K	**Poorman**	**58.48**	**30**	P	**P**	**14 17 23.9**	**+0.4**
L19K	**White Mountain**	**58.89**	**32**	P	**P**	**14 17 27.0**	**+0.5**
K20K	**Telida**	**59.19**	**31**	P	**P**	**14 17 29.2**	**+0.7**
K20K				IAmb	IAmb	14 17 59.9	
comp=Z,4.7nm,1.4s							
M20K	**Styx River**	**59.72**	**32**	P	**P**	**14 17 33.0**	**+0.8**
M20K				IAmb	IAmb	14 18 14.7	
comp=Z,3.2nm,1.1s							
CAST	**Castle Rocks**	**60.08**	**31**	P	**P**	**14 17 34.9**	**+0.3**
CAST				IAmb	IAmb	14 17 39.2	
comp=Z,3.4nm,1.1s							
E24K	**Your Creek**	**61.17**	**25**	P	**P**	**14 17 42.2**	**+0.3**
F24K	**Squaw Lake**	**61.45**	**26**	P	**P**	**14 17 44.4**	**+0.6**
F24K				IAmb	IAmb	14 17 53.5	
comp=Z,5.7nm,1.4s							
RND	**Reindeer**	**61.53**	**31**	P	**P**	**14 17 43.8**	**-0.6**
RND				IAmb	IAmb	14 17 44.9	
comp=Z,6.0nm,1.0s							
G24K	**Hadweenzic Riv**	**61.70**	**27**	P	**P**	**14 17 45.7**	**+0.2**
G24K				IAmb	IAmb	14 17 47.6	
comp=Z,9.6nm,1.4s							
ILAR	**Eielson Array**	**62.20**	**29**	P	**P**	**14 17 47.7**	**-1.0**
ILAR	**Eielson Array**	**62.20**	**29**	P	**P**	**14 17 47.5**	**-1.3**
comp=Z,0.4nm,0.7s,baz=287,slow=10,SNR=6.2							
comp=Z,0.4nm,0.7s							
F25K	**Christian Rive**	**62.30**	**26**	P	**P**	**14 17 49.9**	**+0.4**
F25K				IAmb	IAmb	14 17 51.1	
comp=Z,3.3nm,1.1s							
FYU	**Fort Yukon**	**62.61**	**27**	P	**P**	**14 17 52.3**	**+0.9**
C27K	**Jago River**	**62.70**	**23**	P	**P**	**14 17 52.7**	**+0.6**
D27M	**Malcolm River**	**63.73**	**23**	P	**P**	**14 17 59.3**	**+0.5**
D27M				IAmb	IAmb	14 18 02.1	
comp=Z,6.6nm,1.5s							
GLB	**Gilahina Butte**	**64.18**	**32**	P	**P**	**14 18 02.1**	**+0.2**
GLB				IAmb	IAmb	14 18 32.9	
comp=Z,7.3nm,1.3s							
M26K	**Nabesna, AK**	**64.35**	**31**	P	**P**	**14 18 03.2**	**+0.2**
VRDI	**Verde Repeater**	**64.40**	**32**	P	**P**	**14 18 03.2**	**-0.3**
L27K	**Beaver Creek,**	**64.72**	**30**	P	**P**	**14 18 05.9**	**+0.5**
L27K				IAmb	IAmb	14 18 08.9	
comp=Z,3.7nm,0.6s							
BCAR	**Beaver Creek A**	**64.74**	**30**	P	**P**	**14 18 06.0**	**+0.5**
L29M	**L29M**	**66.33**	**30**	P	**P**	**14 18 16.6**	**+0.9**
L29M				IAmb	IAmb	14 18 33.5	
comp=Z,9.0nm,1.5s							
A36M	**Sachs Harbour**	**67.88**	**19**	P	**P**	**14 18 24.7**	**-0.6**
A36M				IAmb	IAmb	14 18 59.0	
comp=Z,8.0nm,1.4s							
C36M	**Paulatuk**	**69.36**	**21**	P	**P**	**14 18 34.4**	**-0.2**
FINES	**FINESS Array B**	**70.97**	**330**	P	**P**	**14 18 43.5**	**-1.0**
comp=Z,2.0nm,0.9s,baz=38,slow=3.4,SNR=3.9							
comp=Z,2.0nm,0.9s							
BURAR	**Bucovina Array**	**77.70**	**318**	P	**P**	**14 19 24.1**	**+0.3**
EKA	**Eskdalemuir Ar**	**86.78**	**335**	P	**P**	**14 20 09.1**	**-1.6**
comp=Z,0.3nm,0.3s,baz=60,slow=3.9,SNR=5.0							
comp=Z,0.3nm,0.3s							

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*NOU **05** 14:16:39.0, 35°.67S×178°.33E, h297km, MLv3.8/7, Off E. Coast of N. Island, N.Z.*
*WEL **05** 14:16:55.2±0.9, 37°.3S±8°.×17°.8E±°, h198km±9km, M3.1/14, ML3.4/16, MLv3.1/14, Error ellipse: s-maj=11.3km s-min=10.0km az=153.6, confirmed*
ISC 05 14:16:49.9±3.3, 36°.4S±0°.1×177°.9E±0°.1, h223km±16km, n54, σ1°.75/74, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.23**	**164**	P	**Pn**	**14 17 25.0**	**+1.4**
MXZ				S	**S**	**14 17 48.8**	**-1.2**
MXZ	**Matakaoa Point**	**1.23**	**164**	P	**Pn**	**14 17 24.9**	**+1.4**
HAZ	**Te Kaha**	**1.37**	**183**	P	**Pn**	**14 17 26.0**	**+1.4**
HAZ				S	**S**	**14 17 48.9**	**-3.0**
RUGZ	**Raukumara Rang**	**1.59**	**186**	P	**Pn**	**14 17 27.6**	**+1.1**
PUZ	**Puketiti**	**1.71**	**170**	P	**Pn**	**14 17 29.2**	**+1.7**
PUZ				S	**S**	**14 17 54.9**	**-2.1**
KUZ	**Kuaotunu**	**1.77**	**258**	P	**Pn**	**14 17 27.8**	**-0.2**
KUZ	**Kuaotunu**	**1.77**	**258**	P	**Pn**	**14 17 27.9**	**-0.2**
TWGZ	**Tauwhareparae**	**1.79**	**177**	P	**Pn**	**14 17 30.5**	**+2.3**
TWGZ				S	**S**	**14 17 58.0**	**-0.3**
OPRZ	**Ohinepanea**	**1.80**	**215**	P	**Pn**	**14 17 29.9**	**+1.7**
OPRZ				S	**S**	**14 17 59.0**	**+0.7**
MARZ	**Manawahe**	**1.86**	**211**	P	**Pn**	**14 17 31.2**	**+2.3**
MARZ				S	**S**	**14 17 58.7**	**-0.7**
MWZ	**Matawai**	**1.97**	**188**	P	**Pn**	**14 17 31.3**	**+1.5**
URZ	**Urewera**	**1.97**	**198**	P	**Pn**	**14 17 30.7**	**+0.9**
URZ				S	**S**	**14 18 00.8**	**-0.3**
URZ	**Urewera**	**1.97**	**198**	P	**Pn**	**14 17 32.0**	**+2.2**
TKGZ	**Te Karaka**	**2.05**	**181**	P	**Pn**	**14 17 31.9**	**+1.2**
TKGZ				S	**S**	**14 17 59.9**	**-2.7**
CNGZ	**Carnagh Statio**	**2.11**	**173**	P	**Pn**	**14 17 33.9**	**+2.7**
CNGZ				S	**S**	**14 18 02.0**	**-1.6**
RAGZ	**Rawiri**	**2.14**	**190**	P	**Pn**	**14 17 33.8**	**+2.2**
RAGZ				S	**S**	**14 18 03.9**	**-0.3**
MUGZ	**Murupara**	**2.27**	**202**	P	**Pn**	**14 17 34.3**	**+1.4**
MUGZ				S	**S**	**14 18 04.4**	**-2.0**
MKAZ	**Moumakai**	**2.30**	**251**	P	**Pn**	**14 17 33.5**	**+0.4**
RIGZ	**Rimuhau**	**2.32**	**182**	P	**Pn**	**14 17 35.1**	**+1.7**
RIGZ				S	**S**	**14 18 06.3**	**-1.1**
RTZ	**Ruatahuna**	**2.34**	**197**	P	**Pn**	**14 17 34.8**	**+1.2**
RTZ				S	**S**	**14 18 07.1**	**-0.7**
SNGZ	**Shannon Statio**	**2.43**	**190**	P	**Pn**	**14 17 36.4**	**+1.8**
SNGZ				S	**S**	**14 18 09.0**	**-0.5**
MTHZ	**Maungataniwha**	**2.60**	**198**	P	**Pn**	**14 17 38.0**	**+1.6**
MTHZ				S	**S**	**14 18 10.5**	**-2.2**
RAHZ	**Arahi**	**2.61**	**194**	P	**Pn**	**14 17 37.9**	**+1.5**
RAHZ				S	**S**	**14 18 11.8**	**-1.0**
KNZ	**Kokohu**	**2.64**	**183**	P	**Pn**	**14 17 38.3**	**+1.6**
KNZ				S	**S**	**14 18 10.9**	**-2.5**
MRHZ	**Matea Rd**	**2.71**	**205**	P	**Pn**	**14 17 39.1**	**+1.6**
WHHZ	**Waihua**	**2.74**	**191**	P	**Pn**	**14 17 39.7**	**+1.9**
WHHZ				S	**S**	**14 18 13.5**	**-1.8**
WATZ	**Wairara**	**2.88**	**216**	P	**Pn**	**14 17 42.8**	**+3.4**
BKZ	**Black Stump Fm**	**2.99**	**201**	P	**Pn**	**14 17 41.3**	**+0.7**
BKZ				S	**S**	**14 18 19.0**	**-1.4**
BKZ	**Black Stump Fm**	**2.99**	**201**	P	**Pn**	**14 17 42.4**	**+1.8**
MCHZ	**McNeill Hill**	**3.20**	**197**	P	**Pn**	**14 17 44.9**	**+1.9**
MCHZ				S	**S**	**14 18 23.1**	**-1.5**
HIZ	**Hauiti**	**3.21**	**228**	P	**Pn**	**14 17 45.2**	**+2.0**
HIZ	**Hauiti**	**3.21**	**228**	P	**Pn**	**14 17 45.4**	**+2.3**
NTVZ	**North Tongarir**	**3.22**	**212**	P	**Pn**	**14 17 46.0**	**+2.6**
TMVZ	**Te Maari**	**3.23**	**212**	P	**Pn**	**14 17 45.8**	**+2.4**
ETVZ	**East Tongariro**	**3.24**	**211**	P	**Pn**	**14 17 46.0**	**+2.3**
KWHZ	**Kaweka Forest**	**3.25**	**200**	P	**Pn**	**14 17 45.2**	**+1.6**
NNVZ	**North Ngauruho**	**3.28**	**212**	P	**Pn**	**14 17 47.0**	**+2.9**
OTVZ	**Oturere**	**3.28**	**212**	P	**Pn**	**14 17 45.9**	**+1.8**
SNVZ	**South Ngauruho**	**3.31**	**212**	P	**Pn**	**14 17 46.4**	**+1.9**
NGZ	**Ngauruhoe**	**3.32**	**212**	P	**Pn**	**14 17 47.7**	**+3.1**
TUVZ	**Tukino**	**3.38**	**211**	P	**Pn**	**14 17 47.2**	**+2.0**
FWVZ	**Far West T-bar**	**3.41**	**212**	P	**Pn**	**14 17 47.6**	**+1.9**
TRVZ	**Turoa**	**3.44**	**212**	P	**Pn**	**14 17 48.5**	**+2.4**
WNVZ	**Wahianoa**	**3.45**	**211**	P	**Pn**	**14 17 47.9**	**+1.8**
MOVZ	**Moawhango**	**3.46**	**208**	P	**Pn**	**14 17 46.6**	**+0.6**
KRHZ	**Kereru**	**3.47**	**200**	P	**Pn**	**14 17 47.1**	**+1.0**
KAHZ	**Kahuranaki**	**3.50**	**193**	P	**Pn**	**14 17 48.0**	**+1.5**
PXZ	**Pawanui**	**3.73**	**192**	P	**Pn**	**14 17 49.9**	**+0.7**
WPHZ	**Waipukurau**	**3.85**	**197**	P	**Pn**	**14 17 51.4**	**+0.8**
TSZ	**Takapari Road**	**3.97**	**202**	P	**Pn**	**14 17 52.3**	**+0.2**
PRHZ	**Porangahau**	**4.00**	**194**	P	**Pn**	**14 17 53.3**	**+0.9**
BFZ	**Birch Farm**	**4.48**	**196**	P	**Pn**	**14 17 58.3**	**-0.1**
BFZ	**Birch Farm**	**4.48**	**196**	P	**Pn**	**14 17 58.5**	**+0.2**
KHZ	**Kahutara**	**6.90**	**208**	P	**Pn**	**14 18 28.8**	**0.0**

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*BER **05** 14:23:08.9±2.2, 81°.58N×3°.56W, h10km, mb(Pn)3.1, Confirmed Earthquake*
*KOLA **05** 14:23:09.6, 82°.04N×0°.88W, h0km, ML2.0, Error ellipse: s-maj=87.3km s-min=28.1km az=50.0, Arctic Ocean*
*DNK **05** 14:23:10.0±0.9, 81°.70N×3°.12W, h36km±45km, ML1.9*
ISC 05 14:22:58.4±1.7, 81°.6N±0°.2×1°.50W±0°.08, h10km, n12, σ1°.74/18, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.23**	**277**	*e*P	**Pb**	**14 23 40.0**	**+1.4**
NOR				*e*S	**Sn**	**14 24 01.8**	**-0.8**
NOR				IAML		14 24 11.2	
comp=Z,11nm,0.7s							
NOR	**Nord**	**2.23**	**277**	*i* P	**Pb**	**14 23 40.0**	**+1.4**
NOR				*i* S	**Sn**	**14 24 01.8**	**-0.8**
NOR				IAML		14 24 11.2	
comp=Z,11nm,0.7s							
KBS	**Kingsbay**	**3.52**	**133**	P	**Pg**	**14 24 05.1**	**-0.6**
KBS				S	**Sb**	**14 24 44.6**	**+1.2**
KBS	**Kingsbay**	**3.52**	**133**	*e*P	**Pg**	**14 24 05.0**	**-0.8**
KBS				*e*S	**Sb**	**14 24 44.5**	**+1.2**
KBS				IAML		14 24 48.2	
comp=Z,3.2nm,0.8s							
KBS	**Kingsbay**	**3.52**	**133**	*i* P	**Pg**	**14 24 04.5**	**-1.2**
KBS				*i* S	**Sb**	**14 24 44.1**	**+0.7**
BRBB	**Barentsburg B**	**4.47**	**134**	P	**Pb**	**14 24 19.2**	**+2.4**
BRBB	**Barentsburg B**	**4.47**	**134**	*e*P	**Pb**	**14 24 19.2**	**+2.4**
SPA0	**Spitsbergen Ar**	**4.64**	**129**	*e*P	**Pb**	**14 24 20.9**	**+1.2**
SPA0				*e*S	**Sb**	**14 25 12.1**	**-3.5**
SPA0				IAML		14 25 19.8	
comp=Z,4.8nm,0.8s							
SPITS	**Spitsbergen Ar**	**4.64**	**129**	P	**Pb**	**14 24 20.9**	**+1.2**
SPITS				S	**Sb**	**14 25 12.8**	**-2.7**
HSPB	**Hornsund (broa**	**5.58**	**137**	S	**Sb**	**14 25 42.3**	**-0.1**
DAG	**Danmarks Havn**	**5.80**	**222**	*e*S	**Sn**	**14 25 29.7**	**-0.9**
NEEM	**North Greenlan**	**9.59**	**271**	*e*S	Sn	14 26 54.3	-10

IDC 05 14:27:57.8±999.0, 47°.92N×8°.87W, h0km, Error ellipse: s-maj=1689.0km s-min=283.2km az=71.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**15.03**	**78**	I	I	15 59 10.0	
baz=275,slow=302,SNR=0.6							
I43RU	**DUBNA INFRASON

comp=E,454nm,0.2s
ADOK Arcadia Dam 1.17 165 Pg 14 30 49.8 -0.3
CSTR Hydro, Custer 1.38 214 Pn 14 30 53.4 -0.2
ELIS Ellis County 1.54 243 Pn 14 30 56.3 +0.4
TUL3 Leonard 1.79 119 IAmb_Lg 14 31 29.5
comp=Z,44nm,0.9s
WMOK Wichita Mounta 2.22 203 Pn Pn 14 31 05.6 +0.4
RLO Rose Lookout 2.27 105 Pn Pn 14 31 06.4 +0.5
SMWD Samnorwood 2.64 231 Pn 14 31 11.3 +0.3
SMWD IAmb_Lg 14 31 54.5
comp=Z,24nm,1.0s
LOOK Love County 2.83 171 Pn Pn 14 31 14.2 +0.7
X37A Clayton 2.92 138 Pn Pn 14 31 15.6 +0.8
X37A IAmb_Lg 14 32 05.1
comp=Z,27nm,0.9s
HHAR Hobbs 3.10 98 Pn 14 31 18.1 +0.8
S39A Bolivar 3.63 74 Pn Pn 14 31 25.1 +0.4
AMTX Amarillo 3.73 241 IAmb_Lg 14 32 30.1
comp=Z,16nm,0.8s
MIAR Mount Ida 4.06 122 IAmb_Lg 14 32 42.4
comp=Z,19nm,0.8s
Z38A Mt. Pleasant 4.18 147 IAmb_Lg 14 32 50.9
comp=Z,21nm,0.9s
P38A Dawn 4.35 48 Pn Pn 14 31 35.1 +0.5
KSCO Kaye Shedlock' 4.46 301 IAmb_Lg 14 32 51.4
comp=Z,17nm,0.8s
R40A Maddies Statio 4.59 69 Pn Pn 14 31 37.9 +0.1
FCAR Ozark Folk Cen 4.62 100 IAmb_Lg 14 32 53.4
comp=Z,18nm,0.7s
BGNE Belgrade 4.62 356 Pn Pn 14 31 38.6 +0.3
BGNE IAmb_Lg 14 33 06.0
comp=Z,19nm,0.8s
POST Post 4.83 221 IAmb_Lg 14 33 10.0
comp=Z,11nm,1.0s
P40A Paris 5.25 57 IAmb_Lg 14 33 23.9
comp=Z,11nm,0.7s
LCAR Lake Charles 5.35 96 IAmb_Lg 14 33 20.0
comp=Z,10nm,0.8s
T25A Trinidad 5.36 276 IAmb_Lg 14 33 26.7
comp=Z,12nm,0.8s
PBMO Poplar Bluff 5.86 88 IAmb_Lg 14 33 38.9
comp=Z,13nm,0.9s
SAND Sanderson 7.74 210 IAmb_Lg 14 34 54.3
comp=Z,5.8nm,1.0s
PLAL Pickwick Lake 8.04 100 IAmb_Lg 14 34 43.8
comp=Z,7.4nm,1.0s

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*BJI **05** 14:39:11.2,28.˚93N×130.˚94E,h32km,mb4.4/49,mB4.6/22, Ms4.5/39,Ms7 4.4/38*
*MOS **05** 14:39:13.4±1.0,29.˚27N×130.˚55E,h28km,mb4.8/28,Error ellipse: s-maj=9.6km s-min=6.1km az=97.0*
*NEIC **05** 14:39:15.0±1.1,29.˚29N±0.˚04×130.˚55E±0.˚09,h20km±3km, mb4.8/102,Error ellipse: s-maj=11.6km s-min=5.5km az=110.0*
*NIED **05** 14:39:15.9,29.˚26N×130.˚61E,h58km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 1015Nm; Mrr3.70; Mθθ-1.25; Mφφ-2.44; Mrθ3.06; Mφθ-5.83; Mφr2.74; Fault plane solution: M0 7.09000×10 15 NP1 φs 58.00000°, δ65.00000°, λ111.00000°. NP2 φs 196.00000°, δ32.00000°, λ52.00000°.*
*JMA **05** 14:39:15.9±0.1,29.˚3N±0.˚3×130.˚6E±0.˚6,h58km±2km, MD4.3/31,MV4.2/31,NEAR AMAMI-OSHIMA ISLAND*
JMA Felt I J1 at NEAR AMAMI-OSHIMA ISLAND.
*IDC **05** 14:39:17.1±2.3,29.˚30N×130.˚54E,h37km±19km,mb4.0/22, mbtmp4.2/30,ML3.6/8,MS2.8/1,Error ellipse: s-maj=15.5km s-min=11.2km az=85.0*

ISC 05 14:39:17.3±0.8,29.˚21N±0.˚04×130.˚69E±0.˚04,h44km±7km, n409,σ§14/383,mb4.7/85,MS4.5/9,14C-4D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.95**	**312**	P	**Pn**	**14 39 32.3**	**-2.0**
JNN				*e*S	**Sn**	**14 39 44.5**	**-2.1**
JNN	**Nakanoshima**	**0.95**	**312**	A	A	14 39 32.3	
comp=E,117nm,1.1s,comp=N,118nm,1.0s							
JYAK	**Yakushimahirau**	**1.03**	**351**	P	**Pn**	**14 39 33.7**	**-1.8**
JYAK				*e*S	**Sn**	**14 39 46.8**	**-1.9**
JYAK	**Yakushimahirau**	**1.03**	**351**	A	A	14 39 33.7	
comp=E,17nm,1.1s,comp=N,21nm,1.1s							
JZK	**Kikaishima**	**1.09**	**215**	P	**Pn**	**14 39 35.5**	**-0.7**
JZK	**Kikaishima**	**1.09**	**215**	A	A	14 39 35.5	
comp=E,71nm,4.7s,comp=N,46nm,1.9s							
JMTN	**Minamitane**	**1.20**	**9**	P	**Pn**	**14 39 36.2**	**-1.5**
JMTN				*e*S	**Sn**	**14 39 51.0**	**-1.7**
JMTN	**Minamitane**	**1.20**	**9**	A	A	14 39 36.2	
comp=E,25nm,3.1s,comp=N,18nm,2.6s							
JAM	**Amami Oshima**	**1.24**	**230**	P	**Pn**	**14 39 37.0**	**-1.2**
JAM				*e*S	**Sn**	**14 39 52.3**	**-1.5**
JAM	**Amami Oshima**	**1.24**	**230**	A	A	14 39 37.0	
comp=E,12nm,3.2s,comp=N,9.0nm,2.7s							
JTAJ	**Takarajima**	**1.30**	**268**	P	**Pn**	**14 39 37.6**	**-1.4**
JTAJ	**Takarajima**	**1.30**	**268**	A	A	14 39 37.6	
comp=E,20nm,3.0s,comp=N,14nm,3.2s							
JKC	**Kuchinoerabu**	**1.32**	**341**	P	**Pn**	**14 39 37.6**	**-1.7**
JKC				*e*S	**Sn**	**14 39 53.4**	**-2.3**
JKC	**Kuchinoerabu**	**1.32**	**341**	A	A	14 39 37.6	
comp=E,11nm,5.4s,comp=N,11nm,3.6s							
JTN	**Tanegashima 3**	**1.46**	**10**	P	**Pn**	**14 39 39.9**	**-1.4**
JTN	**Tanegashima 3**	**1.46**	**10**	A	A	14 39 39.9	
comp=E,8.0nm,3.3s,comp=N,10.0nm,1.5s							
JAMN	**Amaminishikomi**	**1.64**	**234**	P	**Pn**	**14 39 42.6**	**-1.1**
JAMN	**Amaminishikomi**	**1.64**	**234**	A	A	14 39 42.6	
comp=E,7.0nm,3.7s,comp=N,8.0nm,3.6s							
JTSR	**Tashiro 2**	**1.96**	**6**	P	**Pn**	**14 39 47.3**	**-0.8**
JTSR				*e*S	**Sn**	**14 40 10.2**	**-1.3**
JTSR	**Tashiro 2**	**1.96**	**6**	A	A	14 39 47.3	
comp=E,8.0nm,1.1s,comp=N,5.0nm,2.1s							
JTK	**Tokunoshima**	**2.09**	**228**	P	**Pn**	**14 39 48.9**	**-0.9**
JTK	**Tokunoshima**	**2.09**	**228**	A	A	14 39 48.9	
comp=E,4.0nm,1.8s,comp=N,4.0nm,2.1s							
JSU	**Suzuyama**	**2.29**	**355**	P	**Pn**	**14 39 51.0**	**-1.7**
JNAR	**Kushima--Naru**	**2.36**	**12**	P	**Pn**	**14 39 52.8**	**-0.8**
JNAR				*e*S	**Sn**	**14 40 20.4**	**-1.0**
JNAR	**Kushima--Naru**	**2.36**	**12**	A	A	14 39 52.8	
comp=E,6.0nm,3.4s,comp=N,6.0nm,1.9s							
JNKG	**Nichinankitago**	**2.51**	**14**	P	**Pn**	**14 39 55.2**	**-0.4**
JNKG	**Nichinankitago**	**2.51**	**14**	A	A	14 39 55.2	
comp=E,5.0nm,2.8s,comp=N,6.0nm,2.9s							
JOW	**Kunigami**	**3.19**	**223**	Pn	**Pn**	**14 40 03.4**	**-1.6**
JOW	**Kunigami**	**3.19**	**223**	Pn	**Pn**	**14 40 03.9**	**-1.1**
comp=N,11nm,0.3s,baz=108,slow=25,SNR=34							
JOW				Sn	**Sn**	**14 40 41.0**	**-0.8**
comp=N,31nm,0.3s,baz=39,slow=25,SNR=3.6							
JOW				LR	LR	14 40 45.8	
comp=N,176nm,21.2s,baz=53,slow=28							
comp=N,23nm,0.3s							
JIH	**Iheya**	**3.24**	**229**	A	A	14 40 05.2	
comp=E,4.0nm,3.4s,comp=N,2.0nm,2.2s							
JMZ	**Minamidaito 2**	**3.41**	**172**	Pn	**Pn**	**14 40 07.1**	**-1.0**
JNU	**Nakatsue**	**3.90**	**2**	Pn	**Pn**	**14 40 12.7**	**-2.1**
JNU	**Nakatsue**	**3.90**	**2**	Pn	**Pn**	**14 40 13.9**	**-0.9**
comp=N,7.5nm,0.3s,baz=304,slow=0.5,SNR=70							
JNU				Sn	**Sn**	**14 40 58.5**	**-0.9**
comp=N,13nm,0.3s,baz=334,slow=10,SNR=3.7							
comp=N,34nm,0.5s							
JNU	**Nakatsue**	**3.90**	**2**	P	**Pn**	**14 40 14.5**	**-0.3**
JJT3	**Tamagusuku3**	**4.00**	**221**	A	A	14 40 16.1	
comp=E,7.0nm,6.8s,comp=N,6.0nm,7.1s							
JMN	**Monobe**	**5.26**	**30**	Pn	**Pn**	**14 40 32.4**	**-1.1**
JMN	**Monobe**	**5.26**	**30**	P	**Pn**	**14 40 32.7**	**-0.8**
YOJ	**Yonaguni jima**	**8.33**	**237**	Pn	**Pn**	**14 41 14.3**	**-1.3**
YOJ	**Yonaguni jima**	**8.33**	**237**	P	**Pn**	**14 41 14.3**	**-1.3**
JSG	**Sagara**	**8.38**	**48**	Pn	**Pn**	**14 41 15.8**	**-0.4**
JGF	**Kuroka**	**8.51**	**40**		**Pn**	**14 41 17.4**	**-0.6**
JGF	**Kuroka**	**8.51**	**40**	P	**Pn**	**14 41 17.8**	**-0.2**
KSRS	**Korea Array**	**8.54**	**345**	Pn	**Pn**	**14 41 17.1**	**-1.3**
comp=N,0.4nm,0.3s,baz=164,slow=14,SNR=8.7							
comp=N,2.7nm,0.7s							
JHJ	**Hachijo jima 2**	**8.71**	**61**	Pn	**Pn**	**14 41 21.8**	**+1.1**
comp=N,14nm,0.3s,baz=87,slow=18,SNR=7.9							
comp=N,56nm,0.5s							
JHJ2	**Mitsune**	**8.73**	**61**	Pn	**Pn**	**14 41 22.1**	**+1.0**
JHJ2	**Mitsune**	**8.73**	**61**	P	**Pn**	**14 41 22.7**	**+1.7**
MAJO	**Matsushiro**	**9.66**	**39**	Pn	**Pn**	**14 41 33.0**	**-0.7**
MAJO	**Matsushiro**	**9.66**	**39**	P	**Pn**	**14 41 34.2**	**+0.4**
MAJO	**Matsushiro**	**9.66**	**39**	*i* P	**Pn**	**14 41 32.4**	**-1.4**
MJAR	**Matsushiro Arr**	**9.66**	**39**	Pn	**Pn**	**14 41 34.3**	**+0.5**
comp=N,0.2nm,0.3s,baz=244,slow=14,SNR=11							
comp=N,1.1nm,0.4s							
MJB9	**Matsu-Tunnel**	**9.66**	**39**		**Pn**	**14 41 33.5**	**-0.3**
NJ2	**Nanjing**	**10.58**	**288**	*e*P	**Pn**	**14 41 46.6**	**+0.3**
NJ2				pmax	pmax		
comp=N,6.0nm,0.5s							
NJ2				LR	LR		
comp=N,380nm,10.4s							
NJ2				LR	LR		
comp=N,1μm,18.0s							
NJ2				LR	LR		
comp=N,2μm,15.2s							
DL2	**Dalian**	**12.24**	**325**	P	**Pn**	**14 42 11.4**	**+2.5**
DL2				S	**Sn**	**14 44 30.3**	**+6.4**
DL2				pmax	pmax		
comp=N,51nm,1.5s							
DL2				pmax	pmax		
comp=N,380nm,6.4s							
DL2				LR	LR		
comp=N,1μm,13.1s							
DL2				LR	LR		
comp=N,1μm,14.8s							
DL2				LR	LR		
comp=N,2μm,14.2s							
SNY	**Shenyang**	**13.85**	**337**	⇑P	**Pn**	**14 42 30.5**	**-0.4**
SNY				pmax	pmax		
comp=N,6.0nm,1.8s							
SNY				pmax	pmax		
comp=N,120nm,3.7s							
SNY				LR	LR		
comp=N,730nm,15.5s							
SNY				LR	LR		
comp=N,360nm,12.0s							
SNY				LR	LR		
comp=N,1μm,12.7s							
USRK	**Ussuriysk Ar.**	**14.99**	**4**	Pn	**Pn**	**14 42 45.3**	**-1.0**
comp=N,0.2nm,0.3s,baz=186,slow=12,SNR=1.2							
comp=N,0.8nm,0.7s							
CN2	**Changchun**	**15.15**	**345**	⇓P	**P**	**14 42 53.5**	**+0.8**
CN2				*e*S	**Sn**	**14 45 40.2**	**+5.3**
CN2				pmax	pmax		
comp=N,20nm,0.7s							
CN2				pmax	pmax		
comp=N,100nm,3.0s							
CN2				LR	LR		
comp=N,600nm,11.0s							
CN2				LR	LR		
comp=N,300nm,11.0s							
CN2				LR	LR		
comp=N,500nm,12.0s							
HNS	**HongShan**	**15.64**	**306**	⇑P	**P**	**14 42 57.5**	**-0.7**
HNS				pmax	pmax		
comp=N,14nm,0.7s							
HNS				LR	LR		
comp=N,990nm,14.3s							
HNS				LR	LR		
comp=N,870nm,13.9s							
HNS				LR	LR		
comp=N,1μm,14.7s							
LYN	**LuoYang**	**16.36**	**294**	P	**P**	**14 43 05.5**	**-0.7**
LYN				pmax	pmax		
comp=N,21nm,0.9s							
LYN				pmax	pmax		
comp=N,180nm,6.2s							
LYN				LR	LR		
comp=N,930nm,13.1s							
LYN				LR	LR		
comp=N,2μm,15.5s							
LYN				LR	LR		
comp=N,2μm,16.1s							
BNX	**BinXian**	**16.70**	**352**	⇑P	**P**	**14 43 09.2**	**-0.7**
BNX				pmax	pmax		
comp=N,5.0nm,1.2s							
ASAJ	**Asahikawa**	**17.65**	**29**	P	**P**	**14 43 20.8**	**+0.4**
comp=N,0.3nm,0.3s,baz=232,slow=17,SNR=1.5							
comp=N,5.8nm,0.9s							
ENH	**Enshi**	**18.44**	**279**		**P**	**14 43 28.1**	**-1.1**
XLT	**XiLinHaoTe**	**18.73**	**325**	*e*P	**Pn**	**14 43 34.1**	**+0.9**
XLT				pP	pP	14 43 38.6	-4.2
XLT				pmax	pmax		
comp=N,11nm,0.6s							
XLT				pmax	pmax		
comp=N,81nm,4.0s							
XLT				LR	LR		
comp=N,100nm,16.4s							
XLT				LR	LR		
comp=N,980nm,16.5s							
XLT				LR	LR		
comp=N,870nm,18.5s							
XAN	**Xi'an**	**19.14**	**290**	⇓P	**P**	**14 43 36.5**	**-0.4**
XAN				pmax	pmax		
comp=N,13nm,0.8s							
HHC	**Hu-ho-hao-te**	**19.45**	**312**	*e*P	**P**	**14 43 40.2**	**-0.1**
HHC				S	**S**	**14 47 16.1**	**-1.7**
HHC				pmax	pmax		
comp=N,22nm,0.6s							
HHC				pmax	pmax		
comp=N,99nm,4.0s							
HHC				LR	LR		
comp=N,460nm,10.3s							
HHC				LR	LR		
comp=N,710nm,12.2s							
HHC				LR	LR		
comp=N,1μm,11.8s							
KLR	**Kul'dur**	**20.01**	**2**	P	**P**	**14 43 44.7**	**-1.5**
comp=N,0.7nm,0.3s,baz=182,slow=9.5,SNR=8.8							
comp=N,4.8nm,0.6s							
KLR	**Kul'dur**	**20.01**	**2**	*ce*P	**P**	**14 43 43.0**	**-3.2**
KLR				pmax	pmax		
comp=Z,10.0nm,1.3s							
YSS	**Yuzh-Sakhalins**	**20.06**	**25**	Pn	Pn	14 43 48.0	-0.8
YSS	**Yuzh-Sakhalins**	**20.06**	**25**	*e*P	Pn	14 43 47.8	-0.9
YSS				pmax	pmax		
comp=Z,20nm,1.0s							
BTO	**Baotou**	**20.36**	**309**	*e*P	Pn	14 43 55.5	+3.0
BTO				PP	**PnPn**	**14 44 16.6**	**+8.3**
BTO				pmax	pmax		
comp=Z,19nm,0.4s							
BTO				pmax	pmax		
comp=Z,290nm,7.9s							
BTO				LR	LR		
comp=Z,2μm,15.3s							
BTO				LR	LR		
comp=Z,1μm,15.5s							
BTO				LR	LR		
comp=Z,2μm,15.2s							
HEH	**HeiHe**	**21.16**	**354**	*e*P	**P**	**14 43 56.3**	**-2.3**
HEH				pmax	pmax		
comp=Z,3.0nm,0.8s							
GYA	**Guiyang**	**21.41**	**268**	⇓P	**P**	**14 44 03.6**	**+1.9**
GYA				S	**S**	**14 47 56.6**	**-0.5**
GYA				pmax	pmax		
comp=Z,14nm,0.8s							
GYA				pmax	pmax		
comp=Z,69nm,4.0s							
GYA				LR	LR		
comp=Z,680nm,13.6s							
GYA				LR	LR		
comp=Z,970nm,13.6s							
GYA				LR	LR		
comp=Z,1μm,16.5s							
QIZ	**Qiongzhong**	**21.52**	**247**	P	**P**	**14 44 01.3**	**-1.5**
QIZ				S	**S**	**14 48 00.2**	**+1.1**
QIZ				LR	LR		
comp=Z,430nm,16.1s							
QIZ				LR	LR		
comp=Z,250nm,20.2s							
QIZ				LR	LR		
comp=Z,610nm,18.5s							
CD2	**Chengdu**	**23.35**	**281**	P	**P**	**14 44 20.7**	**-1.2**
CD2				pmax	pmax		
comp=Z,20nm,0.6s							
LZH	**Lanzhou**	**23.57**	**294**	*e*P	**P**	**14 44 24.4**	**+0.3**
LZH				sP	pP	14 44 33.6	-1.5
LZH				S	**S**	**14 48 37.0**	**+1.6**
LZH				pmax	pmax		
comp=Z,28nm,1.0s							
LZH				LR	LR		
comp=Z,210nm,15.3s							
LZH				LR	LR		
comp=Z,1μm,14.1s							
LZH				LR	LR		
comp=Z,1μm,16.8s							
ZEA	**Zeya**	**24.64**	**355**	*e*P	**P**	**14 44 31.4**	**-2.1**
ZEA				pmax	pmax		
comp=Z,10.0nm,0.6s							
KMI	**Kunming**	**25.17**	**267**	⇑P	**P**	**14 44 39.7**	**+0.8**
KMI				S	**S**	**14 49 00.7**	**-0.6**
KMI				pmax	pmax		
comp=Z,16nm,1.0s							
KMI				LR	LR		
comp=Z,380nm,13.7s							
KMI				LR	LR		
comp=Z,800nm,13.7s							
KMI				LR	LR		
comp=Z,1μm,14.4s							
PZH	**PanZhiHua**	**25.71**	**271**	P	**P**	**14 44 44.9**	**+1.2**
PZH				S	**S**	**14 49 11.1**	**+1.5**
PZH				pmax	pmax		
comp=Z,10.0nm,1.0s							
PZH				pmax	pmax		
comp=Z,120nm,4.9s							
PZH				LR	LR		
comp=Z,310nm,17.7s							
PZH				LR	LR		
comp=Z,370nm,16.7s							
PZH				LR	LR		
comp=Z,530nm,16.7s							
ULN	**Ulaanbaatar**	**26.07**	**322**	*ce*P	**P**	**14 44 44.7**	**-2.1**
ULN				pmax	pmax		
comp=Z,11nm,1.7s							
SONM	**Songino Array**	**26.41**	**321**	P	**P**	**14 44 48.5**	**-1.3**
comp=Z,3.3nm,0.6s,baz=136,slow=9.5,SNR=15							
comp=Z,3.3nm,0.6s							
GTA	**Gaotai**	**27.34**	**300**	*e*P	**P**	**14 45 02.4**	**+4.1**
GTA				pmax	pmax		
comp=Z,7.0nm,1.1s							
GTA				LR	LR		
comp=Z,310nm,15.6s							
GTA				LR	LR		
comp=Z,690nm,16.0s							
GTA				LR	LR		
comp=Z,760nm,16.7s							
CMAR	**Chiang Mai Arr**	**30.86**	**257**	P	**P**	**14 45 29.6**	**0.0**
comp=Z,0.3nm,0.4s,baz=51,slow=4.9,SNR=4.8							
CMAR				PcP	**PcP**	**14 48 27.4**	**+1.6**
comp=Z,0.5nm,0.6s,baz=31,slow=0.4,SNR=5.5							
CMAR				ScS	ScS	14 56 09.1	+7.1
comp=Z,1.6nm,0.5s,baz=34,slow=1.4,SNR=10							
comp=Z,0.3nm,0.4s							
FAKI	**Fak Fak**	**31.98**	**177**	P	**P**	**14 45 40.5**	**+1.1**
YAK	**Yakutsk**	**32.83**	**359**	*i* P	**P**	**14 45 46.7**	**+0.3**
YAK				pmax	pmax		
comp=Z,34nm,3.1s							
SHL	**Shillong**	**34.54**	**273**	P	**P**	**14 46 00.1**	**-1.8**
SHL				IAmb	IAmb	14 46 01.7	
comp=Z,13nm,1.0s							
SHL	**Shillong**	**34.54**	**273**	P	**P**	**14 46 00.1**	**-1.8**
SHL				pmax	pmax		
comp=Z,13nm,1.0s							
WMQ	**Urumqi**	**37.07**	**305**	*e*P	**P**	**14 46 24.2**	**+0.9**
WMQ				LR	LR		
comp=Z,1μm,14.3s							
WMQ				LR	LR		
comp=Z,1μm,15.9s							
WMQ				LR	LR		
comp=Z,890nm,20.1s							
MKAR	**Makanchi Array**	**41.27**	**309**	P	**P**	**14 46 58.0**	**-0.3**
comp=Z,0.9nm,0.4s,baz=90,slow=11,SNR=24							
comp=Z,0.9nm,0.4s							
MKAR	**Makanchi Array**	**41.27**	**309**	P	**P**	**14 46 58.0**	**-0.3**
ZALV	**Zalesovo Beam**	**41.28**	**320**	P	**P**	**14 46 56.8**	**-1.4**
comp=Z,1.0nm,0.4s,baz=110,slow=8.4,SNR=4.4							
ZALV				PcP	**PcP**	**14 48 56.0**	**-0.1**
comp=Z,0.9nm,0.4s,baz=99,slow=4.8,SNR=2.1							
comp=Z,1.0nm,0.4s							
ZALV	**Zalesovo Beam**	**41.28**	**320**	*i* P	**P**	**14 46 56.7**	**-1.5**
ZALV				pmax	pmax		
comp=Z,1.0nm,0.4s							
TIXI	**Tiksi**	**42.50**	**359**	P	**P**	**14 47 07.8**	**0.0**
TIXI	**Tiksi**	**42.50**	**359**	*ce*P	**P**	**14 47 06.8**	**-1.0**
TIXI				pmax	pmax		
comp=Z,10.0nm,2.5s							
BILL	**Bilibino**	**44.17**	**18**	P	**P**	**14 47 21.5**	**+0.1**
BILL				IAmb	IAmb	14 47 22.9	
comp=Z,16nm,1.3s							
BILL	**Bilibino**	**44.17**	**18**	*ce*P	**P**	**14 47 20.0**	**-1.4**
BILL				pmax	pmax		
comp=Z,5.0nm,1.3s							
KURK	**Kurchatov**	**44.24**	**314**	P	**P**	**14 47 21.1**	**-1.0**
KURK				IAmb	IAmb	14 47 22.9	
comp=Z,8.0nm,0.6s							
KURK	**Kurchatov**	**44.24**	**314**	*ce*P	**P**	**14 47 21.4**	**-0.8**
KURK				pmax	pmax		
comp=Z,12nm,1.0s							
KURBB	**Kurchatov Arra**	**44.28**	**314**	P	**P**	**14 47 22.1**	**-0.5**
comp=Z,4.4nm,0.4s,baz=98,slow=8.4,SNR=16							
comp=Z,4.4nm,0.4s							
AAK	**Ala-Archa**	**46.64**	**303**	*i* P	**P**	**14 47 40.1**	**-1.4**
AAK				pmax	pmax		
comp=Z,7.0nm,3.0s							
NRIK	**Noril'sk**	**47.13**	**341**	P	**P**	**14 47 42.8**	**-2.0**
NRIK				IAmb	IAmb	14 47 44.8	
comp=Z,6.1nm,0.8s							
NRIK	**Noril'sk**	**47.13**	**341**	P	**P**	**14 47 43.5**	**-1.2**
comp=Z,5.5nm,0.6s,baz=116,slow=9.7,SNR=12							
comp=Z,5.5nm,0.6s							
NRIK	**Noril'sk**	**47.13**	**341**	*ce*P	**P**	**14 47 43.4**	**-1.3**
NRIK				pmax	pmax		
comp=Z,6.0nm,0.8s							
NIL	**Nilore**	**48.68**	**291**	P	**P**	**14 47 56.5**	**-0.8**
NIL	**Nilore**	**48.68**	**291**	P	**P**	**14 47 56.5**	**-0.8**
NIL				pmax	pmax		
comp=Z,11nm,0.8s							
WRAB	**Tennant Creek**	**48.99**	**175**	*e*P	**P**	**14 47 59.0**	**-0.6**
WRAB				pmax	pmax		
comp=Z,5.0nm,0.9s							
WRA	**Warramunga Arr**	**48.99**	**175**	P	**P**	**14 48 00.2**	**+0.5**
comp=Z,4.7nm,1.0s,baz=353,slow=8.5,SNR=29							
WRA				PcP	**PcP**	**14 49 24.5**	**+1.3**
comp=Z,1.1nm,0.9s,baz=353,slow=4.0,SNR=2.7							
comp=Z,4.7nm,1.0s							
WB2	**Warramunga Arr**	**48.99**	**175**	P	**P**	**14 48 00.2**	**+0.5**
WR0	**Warramunga Arr**	**49.03**	**175**	P	**P**	**14 48 00.5**	**+0.5**
SPIA	**Saint Paul Isl**	**49.31**	**38**	P	**P**	**14 48 01.5**	**-0.2**
baz=262							
KKAR	**Karatay Array**	**49.53**	**303**	P	**P**	**14 48 03.4**	**-0.3**
KKAR	**Karatay Array**	**49.53**	**303**	IAmb	IAmb	14 48 05.8	
comp=Z,3.7nm,0.9s							
KKAR	**Karatay Array**	**49.53**	**303**	P	**P**	**14 48 03.4**	**-0.3**
BVAR	**Borovoye Array**	**49.56**	**316**	P	**P**	**14 48 03.0**	**-0.7**
comp=Z,8.6nm,0.5s,baz=93,slow=9.6,SNR=52							
BVAR				PcP	**PcP**	**14 49 24.5**	**-0.4**
comp=Z,1.6nm,0.6s,baz=93,slow=2.7,SNR=2.3							
comp=Z,8.6nm,0.5s							
BRVK	**Borovoye**	**49.63**	**316**	P	**P**	**14 48 03.2**	**-1.0**
BRVK	**Borovoye**	**49.63**	**316**	*ce*P	**P**	**14 48 03.8**	**-0.4**
BRVK				pmax	pmax		
comp=Z,17nm,1.0s							
NIKH	**Nikolski High**	**49.66**	**44**	P	**P**	**14 48 04.7**	**+0.3**
baz=266							
UNV	**Unalaska Valle**	**51.11**	**43**	P	**P**	**14 48 15.4**	**0.0**
baz=268							
TNA	**Tin City**	**52.00**	**28**	P	**P**	**14 48 21.6**	**-0.3**
baz=257							
AS31	**Alice Springs**	**52.66**	**176**	P	**P**	**14 48 27.9**	**+0.6**
ASAR	**Alice Springs**	**52.66**	**176**	P	**P**	**14 48 28.3**	**+1.0**
comp=Z,2.0nm,0.8s,baz=1.7,slow=6.9,SNR=68							
ASAR				PcP	**PcP**	**14 49 38.2**	**+1.5**
comp=Z,1.3nm,0.9s,baz=1.9,slow=4.4,SNR=4.3							
comp=Z,2.0nm,0.8s							
L14K	**Kuka Creek**	**53.66**	**33**	P	**P**	**14 48 33.3**	**-0.8**
baz=265							
N14K	**Kuskokwak Cree**	**54.05**	**35**	P	**P**	**14 48 37.2**	**+0.2**
baz=267							
O14K	**Tigyukauivet M**	**54.23**	**36**	P	**P**	**14 48 38.2**	**-0.2**
baz=268							
G16K	**Koyuk River**	**54.25**	**28**	P	**P**	**14 48 38.9**	**+0.5**
baz=263							
M15K	**Kasigluk River**	**54.59**	**34**	P	**P**	**14 48 41.4**	**+0.5**
baz=267							
I17K	**Unalakleet**	**54.80**	**30**	P	**P**	**14 48 43.0**	**+0.6**
baz=265							
F17K	**Baldwin Pennin**	**54.84**	**27**	P	**P**	**14 48 42.8**	**+0.2**
baz=263							
N15K	**Kwethluk River**	**54.86**	**35**	P	**P**	**14 48 42.

H17K	Granite Mounta	55.23	29	P	P	14 48 45.9	+0.3
	baz=265						
SVE	Sverdlovsk	55.28	321	*e*P	P	14 48 46.0	0.0
SVE				pmax	pmax		
	comp=Z,13nm,1.0s						
M16K	Timber Creek	55.44	34	P	P	14 48 47.1	0.0
	baz=269						
A19K	Wainwright	55.47	23	P	P	14 48 46.8	-0.3
	baz=260						
J17K	VABM Dome	55.48	31	P	P	14 48 48.0	+0.6
	baz=267						
F18K	Selawik	55.49	27	P	P	14 48 47.9	+0.5
	baz=264						
N16K	Nishlik Lake	55.53	35	P	P	14 48 48.7	+0.9
	baz=269						
CHGN	Chignik	55.77	40	P	P	14 48 50.5	+1.1
	baz=272						
L17K	Donlin	55.79	32	P	P	14 48 50.4	+0.8
	baz=269						
K17K	Iditarod	55.81	32	P	P	14 48 50.2	+0.5
	baz=268						
G18K	Tagagawik	55.83	28	P	P	14 48 49.8	0.0
	baz=266						
O16K	Kokwok River B	55.86	36	P	P	14 48 50.7	+0.6
	baz=270						
H18K	Honhosa River	55.90	29	P	P	14 48 50.4	+0.1
	baz=266						
P16K	Nushagak River	55.92	36	P	P	14 48 51.0	+0.5
	baz=271						
R16K	Pilot Point	56.18	38	P	P	14 48 52.8	+0.4
	baz=272						
M17K	Holitna River	56.19	33	P	P	14 48 52.9	+0.4
	baz=270						
ABKAR	Akbulak array	56.24	312	P	P	14 48 52.0	-1.0
ABKAR	Akbulak array	56.24	312	IAmb	IAmb	14 48 54.4	
	comp=Z,12nm,0.8s						
F19K	Shaleruckik Mo	56.26	27	P	P	14 48 52.9	0.0
	baz=266						
D19K	Kuna River	56.27	25	P	P	14 48 53.4	+0.4
	baz=264						
N17K	Nushagak Hills	56.31	34	P	P	14 48 54.0	+0.7
	baz=271						
O17K	Koliganek Bris	56.37	35	P	P	14 48 54.0	+0.3
	baz=271						
G19K	Purcell Mounta	56.49	28	P	P	14 48 55.2	+0.7
	baz=267						
E19K	Redstone River	56.52	26	P	P	14 48 55.9	+1.2
	baz=266						
ARTI	Arti	56.54	321	P	P	14 48 54.2	-0.9
ARTI				IAmb	IAmb	14 48 55.8	
	comp=Z,8.2nm,0.6s						
ARTI	Arti	56.54	321	*d i*P	P	14 48 52.9	-2.2
ARTI				S	S	14 56 44.5	+1.2
ARTI				SS	SS	15 00 31.3	+0.6
ARTI				pmax	pmax		
	comp=Z,29nm,2.5s						
ARTI				MLR	MLR		
	comp=Z,380nm,13.0s						
L18K	Granite Mounta	56.55	32	P	P	14 48 55.2	+0.2
	baz=270						
J18K	Innoko River	56.55	31	P	P	14 48 54.5	-0.5
	baz=269						
Q16K	King Salmon	56.62	37	P	P	14 48 56.3	+0.7
	baz=272						
P17K	Kvichak River	56.72	36	P	P	14 48 56.6	+0.4
	baz=272						
H19K	Roundabout Mou	56.72	28	P	P	14 48 56.4	+0.2
	baz=268,SNR=5.6						
D20K	Etivluk River	56.84	25	P	P	14 48 56.8	-0.2
	baz=266						
TTA	Tatalina	56.86	32	P	P	14 48 57.4	+0.1
	baz=270						
E20K	Nigu River	56.97	25	P	P	14 48 58.6	+0.6
	baz=266						
J19K	Poorman	57.04	30	P	P	14 48 59.3	+0.8
	baz=270						
Q17K	Contact Creek	57.05	37	P	P	14 48 59.5	+0.8
	baz=273						
F20K	Avaraart Lake	57.08	27	P	P	14 48 59.3	+0.7
	baz=268						
A21K	Barrow	57.08	21	P	P	14 48 59.2	+0.6
	baz=264						
O18K	Koktuh Hills	57.32	35	P	P	14 49 01.2	+0.6
	baz=273						
P18K	Big Mountain,	57.33	36	P	P	14 49 01.1	+0.5
	baz=273						
H20K	Anotleneega Mo	57.37	28	P	P	14 49 02.1	+1.2
	baz=269						
L19K	White Mountain	57.41	32	P	P	14 49 02.8	+1.6
	baz=272						
Q18K	Katmai Hardscr	57.48	37	P	P	14 49 03.6	+1.7
	baz=274						
C21K	Knifeblade Rid	57.53	24	P	P	14 49 03.1	+1.2
	baz=267						
B21K	Ikpikpuk River	57.62	24	P	P	14 49 03.3	+0.9
	baz=267						
M19K	Big River Lodg	57.63	33	P	P	14 49 03.1	+0.4
	baz=272						
N19K	Bonanza Creek	57.63	34	P	P	14 49 03.5	+0.7
	baz=273						
J20K	Nowinta River	57.69	30	P	P	14 49 04.1	+1.1
J20K				IAmb	IAmb	14 49 05.6	
	comp=Z,10nm,0.9s						
J20K	Nowinta River	57.69	30	P	P	14 49 03.6	+0.5
	baz=271,SNR=7.3						
K20K	Telida	57.74	31	IAmb	IAmb	14 49 06.1	
	comp=Z,13nm,1.1s						
K20K	Telida	57.74	31	P	P	14 49 03.7	+0.3
	baz=272						
L20K	Farewell, AK	57.85	32	P	P	14 49 03.8	-0.4
	baz=272						
G21K	Allakaket	57.94	27	P	P	14 49 04.7	-0.1
	baz=270						
F21K	Alatna River	57.96	26	P	P	14 49 05.4	+0.5
	baz=270						
B22K	Teshekpuk Lake	58.06	23	P	P	14 49 05.8	+0.3
	baz=268						
SII	Sitkinak Islan	58.09	39	P	P	14 49 06.8	+0.8
	baz=276						
Q19K	Cape Douglas,	58.17	36	P	P	14 49 05.8	-0.7
	baz=275						
M20K	Styx River	58.23	33	P	P	14 49 06.8	-0.1
	baz=273						
H21K	Melozitna Rive	58.24	28	P	P	14 49 07.7	+0.8
	baz=271,SNR=5.3						
D22K	Ayikyak River	58.28	24	P	P	14 49 07.4	+0.2
	baz=269						
F22K	John River	58.46	26	P	P	14 49 08.9	+0.5
	baz=271						
E22K	Anaktuvuk Pass	58.60	25	P	P	14 49 10.7	+1.3
	baz=271,SNR=5.7						
O20K	Slope Mountain	58.60	35	P	P	14 49 09.8	+0.2
	baz=275						
PPLA	Purkeypile	58.61	32	P	P	14 49 10.3	+0.6
	baz=274						
CAST	Castle Rocks	58.63	31	P	P	14 49 10.6	+1.0
CAST	Castle Rocks	58.63	31	P	P	14 49 10.8	+1.2
	baz=273						
SPCR	Spurr Chakacha	58.71	34	P	P	14 49 11.1	+0.8
	baz=274						
N20K	Mount Spurr	58.72	34	P	P	14 49 11.1	+0.8
	baz=274						
G22K	Bettles	58.73	27	P	P	14 49 10.6	+0.3
	baz=272						
SPU	Mount Spurr	58.79	34	IAmb	IAmb	14 49 12.9	
	comp=Z,9.8nm,1.2s						
H22K	Ishtalitna Cre	58.82	28	P	P	14 49 11.5	+0.6
	baz=272,SNR=8.3						
KDAK	Kodiak Island	58.84	38	P	P	14 49 11.6	+0.5
	baz=276						
SKT	Skwentna	58.98	33	P	P	14 49 12.6	+0.5
	baz=275						
D23K	Nanushuk River	59.00	24	P	P	14 49 12.6	+0.5
	baz=271						
C23K	Itkillik River	59.02	23	P	P	14 49 12.6	+0.4
	baz=271						
BPAW	Bear Paw Mtn.	59.08	30	P	P	14 49 13.0	+0.3
	baz=274						
MLY	Manley	59.13	29	P	P	14 49 13.7	+0.5
MLY				IAmb	IAmb	14 49 15.6	
	comp=Z,9.1nm,1.1s						
MLY	Manley	59.13	29	P	P	14 49 13.7	+0.5
	baz=273,SNR=5.2						
G23K	Bananza Creek	59.33	27	IAmb	IAmb	14 49 17.4	
	comp=Z,12nm,1.2s						
G23K	Bananza Creek	59.33	27	P	P	14 49 15.0	+0.6
	baz=273						
SUA	Susitna One	59.40	33	P	P	14 49 15.6	+0.5
	baz=276						
TOLK	Toolik Lake Re	59.41	25	P	P	14 49 15.6	+0.5
	baz=272						
E23K	Chandalar	59.42	25	P	P	14 49 15.9	+0.7
	baz=273						
TRF	Thorofare Moun	59.43	31	P	P	14 49 16.3	+0.9
	baz=275						
BRSE	Bradley Lake S	59.58	35	P	P	14 49 17.5	+1.2
	baz=277						
H23K	Yukon River	59.58	28	P	P	14 49 17.6	+1.4
	baz=274						
D24K	Happy Valley	59.66	24	P	P	14 49 17.8	+1.1
	baz=273,SNR=5.7						
M22K	Willow	59.66	33	P	P	14 49 17.7	+0.9
	baz=276						
C24K	Franklin Bluff	59.68	23	P	P	14 49 17.6	+0.8
	baz=272						
E24K	Your Creek	59.84	25	IAmb	IAmb	14 49 20.6	
	comp=Z,7.5nm,0.9s						
E24K	Your Creek	59.84	25	P	P	14 49 19.0	+1.0
	baz=274						
NEA2	Nenana	59.87	29	P	P	14 49 19.0	+0.8
	baz=275,SNR=9.0						
RC01	Rabbit Creek A	59.92	34	P	P	14 49 19.4	+0.8
	baz=277						
O22K	Cooper Landing	60.00	34	P	P	14 49 20.0	+0.9
	baz=277						
MCK	McKinley	60.01	30	P	P	14 49 19.5	+0.4
	baz=276						
RND	Reindeer	60.08	31	P	P	14 49 19.8	+0.1
RND	Reindeer	60.08	31	P	P	14 49 19.8	+0.1
RND				pmax	pmax		
	comp=Z,10.0nm,0.7s						
F24K	Squaw Lake	60.11	26	IAmb	IAmb	14 49 22.6	
	comp=Z,7.8nm,1.1s						
F24K	Squaw Lake	60.11	26	P	P	14 49 20.8	+1.0
	baz=275						
PMR	Palmer	60.15	33	P	P	14 49 21.1	+1.0
	baz=277						
SEW	Seward	60.18	35	P	P	14 49 21.3	+1.0
	baz=277						
H24K	Noodor Dome	60.26	28	IAmb	IAmb	14 49 23.8	
	comp=Z,12nm,1.2s						
H24K	Noodor Dome	60.26	28	P	P	14 49 21.8	+0.9
	baz=276,SNR=5.4						
WAT1	Susitna Watana	60.28	31	P	P	14 49 21.5	+0.5
	baz=277						
G24K	Hadweenzic Riv	60.34	27	P	P	14 49 21.2	-0.2
	baz=275						
KNK	Knik Glacier	60.49	33	P	P	14 49 23.1	+0.5
	baz=278						
SML	Sawmill	60.50	33	P	P	14 49 23.1	+0.4
	baz=277						
POKR	Poker Plat Res	60.52	29	P	P	14 49 23.5	+0.9
	baz=276						
D25K	Kavik River	60.52	24	P	P	14 49 22.5	-0.2
	baz=275						
PWL	Port Wells	60.63	34	P	P	14 49 23.9	+0.4
	baz=278						
WAT6	Susitna Watana	60.68	32	P	P	14 49 24.6	+0.6
	baz=278						
DHY	Denali Highway	60.78	31	P	P	14 49 25.1	+0.5
	baz=278						
ILAR	Eielson Array	60.79	29	P	P	14 49 24.1	-0.4
ILAR	Eielson Array	60.79	29	P	P	14 49 24.4	0.0
	comp=Z,1.2nm,0.7s,baz=273,slow=5.7,SNR=14						
	comp=Z,1.2nm,0.7s						
M23K	Glacier View	60.79	33	P	P	14 49 25.6	+1.1
	baz=278						
HDA	Harding Lake	60.80	30	P	P	14 49 24.7	+0.1
HDA	Harding Lake	60.80	30	P	P	14 49 25.0	+0.4
	baz=277						
E25K	Arctic Village	60.93	25	P	P	14 49 26.0	+0.5
	baz=276						
F25K	Christian Rive	60.96	26	IAmb	IAmb	14 49 28.6	
	comp=Z,6.7nm,0.9s						
F25K	Christian Rive	60.96	26	P	P	14 49 26.6	+1.0
	baz=276						
SCM	Sheep Creek Mo	60.97	33	P	P	14 49 26.6	+0.7
	baz=278						
C26K	Camden Bay	60.98	23	P	P	14 49 26.3	+0.6
	baz=276						
KIRV	Kirov	61.11	324	*ce*P	P	14 49 27.3	+0.6
P23K	Montague Islan	61.21	35	P	P	14 49 26.9	-0.5
	baz=279						
GLI	Glacier Island	61.22	34	P	P	14 49 27.6	+0.2
	baz=279						
PRP	Porcupine Dome	61.26	28	P	P	14 49 28.0	+0.1
PRP				IAmb	IAmb	14 49 30.3	
	comp=Z,6.4nm,1.0s						
PRP	Porcupine Dome	61.26	28	P	P	14 49 28.7	+0.9
	baz=278,SNR=5.2						
K24K	Donnelly Dome	61.39	30	P	P	14 49 29.2	+0.6
	baz=278						
C27K	Jago River	61.43	23	IAmb	IAmb	14 49 31.2	
	comp=Z,7.9nm,0.9s						
C27K	Jago River	61.43	23	P	P	14 49 29.3	+0.6
	baz=277						
J25K	Salcha River,	61.45	29	P	P	14 49 29.9	+0.9
	baz=278						
M24K	Tolsona, Glenn	61.47	32	P	P	14 49 29.6	+0.4
	baz=279						
F26K	Sheenjek River	61.52	26	IAmb	IAmb	14 49 32.0	
	comp=Z,7.8nm,0.8s						
F26K	Sheenjek River	61.52	26	P	P	14 49 30.4	+1.0
	baz=278						
STKA	Stephens Creek	61.63	169	P	P	14 49 31.2	+0.8
	comp=Z,2.4nm,0.6s,baz=352,slow=5.1,SNR=6.7						
	comp=Z,2.4nm,0.6s						
PAX	Paxson	61.66	31	P	P	14 49 31.5	+1.1
	baz=279						
KLU	Klutina	61.69	33	P	P	14 49 31.3	+0.6
	baz=280						
G26K	Porcupine Rive	61.76	26	P	P	14 49 32.0	+1.1
	baz=279						
RIDG	Independent Ri	61.81	30	P	P	14 49 32.2	+0.8
	baz=279						
Q23K	Middleton Isla	61.83	35	P	P	14 49 33.2	+1.6
	baz=280						
HARP	HAARP	61.89	32	P	P	14 49 32.2	+0.2
	baz=280						
EYAK	Cordova Ski Ar	61.93	34	P	P	14 49 32.7	+0.5
	baz=280						
SCRK	Sand Creek	62.15	30	P	P	14 49 34.1	+0.3
	baz=280,SNR=6.6						
J26L	Joseph Creek	62.24	29	IAmb	IAmb	14 49 35.4	
	comp=Z,6.1nm,0.9s						
J26L	Joseph Creek	62.24	29	P	P	14 49 34.2	-0.2
	baz=280,SNR=6.4						
I26K	Coal Creek Min	62.27	28	P	P	14 49 35.1	+0.7
	baz=280						
N25K	Chitina, Valde	62.29	33	P	P	14 49 35.1	+0.4
	baz=281						
E27K	Coleen River	62.40	25	P	P	14 49 35.8	+0.5
	baz=280						
BMRM	Bremner River	62.41	33	P	P	14 49 36.5	+1.0
	baz=281						
D27M	Malcolm River	62.44	24	P	P	14 49 35.7	0.0
	baz=280						
L26K	Log Cabin Wild	62.60	31	P	P	14 49 37.4	+0.7
	baz=281						
G27K	Doyon Strip	62.61	26	IAmb	IAmb	14 50 37.7	
	comp=Z,21nm,2.0s						
G27K	Doyon Strip	62.61	26	P	P	14 49 37.1	+0.3
	baz=280						
KAIM	Kayak Island	62.70	34	P	P	14 49 37.8	+0.4
	baz=282						
H27K	Steamboat Moun	62.77	27	P	P	14 49 38.7	+0.9
	baz=281						
I27K	Kandik River	62.85	28	P	P	14 49 39.4	+1.0
	baz=281,SNR=9.7						
M26K	Nabesna, AK	62.88	31	P	P	14 49 38.7	+0.1
	baz=282,SNR=9.0						
K27K	Chicken	62.97	30	P	P	14 49 38.0	-1.1
	baz=282						
E28M	Babbage River	63.07	24	P	P	14 49 40.3	+0.5
	baz=282						
MCARA	McCarthy VSAT	63.08	33	P	P	14 49 40.4	+0.5
	baz=282						
F28M	Old Crow	63.14	25	IAmb	IAmb	14 49 42.9	
	comp=Z,10nm,1.1s						
F28M	Old Crow	63.14	25	P	P	14 49 41.4	+1.1
	baz=282,SNR=5.5						
CRQE	Cirque	63.17	33	P	P	14 49 41.3	+0.6
	baz=282						
D28M	Stokes Point	63.21	23	P	P	14 49 41.2	+0.6
	baz=282						
EGAK	Eagle	63.21	29	P	P	14 49 41.0	+0.4
	baz=282						
L27K	Beaver Creek,	63.27	31	IAmb	IAmb	14 49 43.7	
	comp=Z,7.9nm,1.1s						
L27K	Beaver Creek,	63.27	31	P	P	14 49 40.6	-0.6
	baz=282,SNR=5.4						
BELG	Belogornoye	63.36	317	*i*P	P	14 49 41.5	-0.3
BELG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
M27K	Edge Creek, AK	63.40	31	P	P	14 49 42.4	+0.2
	baz=283						
I28M	Miner Creek	63.57	28	IAmb	IAmb	14 49 45.9	
	comp=Z,9.1nm,1.0s						
I28M	Miner Creek	63.57	28	P	P	14 49 44.0	+0.8
	baz=283,SNR=7.0						
E29M	Blow River	63.70	24	P	P	14 49 44.6	+0.7
	baz=283						
CTG	Chitna Glacier	63.96	33	P	P	14 49 46.5	+0.5
	baz=284						
G29M	Pine Creek	64.00	26	P	P	14 49 44.7	-1.2
	baz=284						
H29M	Whitestone	64.02	27	P	P	14 49 44.9	-1.2
	baz=284						
DAWY	Dawson	64.11	29	P	P	14 49 47.1	+0.4
	baz=284						
YUK3	Moose Creek	64.18	32	P	P	14 49 48.2	+0.8
	baz=284						
J29N	Klondike Camp	64.52	29	IAmb	IAmb	14 50 06.5	
	comp=Z,9.8nm,1.0s						
J29N	Klondike Camp	64.52	29	P	P	14 49 49.9	+0.5
	baz=285						
O28M	Mount Upton	64.56	33	P	P	14 49 49.4	-0.6
	baz=285						
YUK8	Steele Glacier	64.63	32	P	P	14 49 51.0	+0.6
	baz=285						
EPYK	Eagle Plains	64.63	26	P	P	14 49 50.9	+0.8
	baz=285,SNR=5.5						
F30M	Barrier River	64.67	25	P	P	14 49 50.2	0.0
	baz=285						
G30M	tAoh Zraii Nji	64.67	26	P	P	14 49 51.1	+0.8
	baz=285						
PINM	Pinnacle	64.70	34	P	P	14 49 51.6	+1.0
	baz=285						
L29M	L29M	64.90	30	P	P	14 49 53.1	+1.2
	baz=285						
M29M	Somme Creek	64.92	31	P	P	14 49 53.4	+1.2
	baz=285						
K29M	Barlow Dome	64.97	29	IAmb	IAmb	14 49 54.8	
	comp=Z,8.3nm,1.1s						
K29M	Barlow Dome	64.97	29	P	P	14 49 53.6	+1.2
	baz=286,SNR=5.5						
I30M	Mount Dempster	65.07	28	P	P	14 49 54.2	+1.1
	baz=286,SNR=6.5						
YUK4	Talbot Arm	65.13	32	P	P	14 49 54.5	+0.9
	baz=286						
PNL	Peninsula	65.23	34	P	P	14 49 54.9	+0.9
	baz=286						
J30M	Hart River	65.27	28	P	P	14 49 55.2	+0.9
	baz=286						
INK	Inuvik	65.29	24	P	P	14 49 55.3	+1.1
	baz=287						
YUK6	Outpost Mounta	65.38	32	P	P	14 49 56.1	+0.9
	baz=286						
O29M	Mount Kennedy	65.45	33	P	P	14 49 56.4	+0.8
	baz=286						
F31M	Tsiigehtchic	65.47	25	P	P	14 49 56.0	+0.7
	baz=287						
M30M	Minto, Yukon	65.63	31	P	P	14 49 57.5	+0.8
	baz=287						
H31M	Peel River	65.72	27	P	P	14 49 57.4	+0.3
	baz=287						
HYT	Haines Junctio	65.81	32	P	P	14 49 59.0	+1.1
	baz=287,SNR=6.0						
N30M	Aishikik Lake	65.82	32	P	P	14 49 58.5	+0.6
	baz=287						
P29M	Windy Craggy	66.05	34	P	P	14 49 59.6	+0.3
	baz=287						
P30M	Million Dollar	66.28	33	P	P	14 50 01.7	+0.8
	baz=288						
N31M	Braeburn, Yuko	66.41	32	P	P	14 50 02.5	+0.9
	baz=288						
O30N	Mendenhall	66.49	32	P	P	14 50 03.1	+1.0
	baz=288						
A36M	Sachs Harbour	66.71	19	IAmb	IAmb	14 50 05.2	
	comp=Z,8.1nm,0.8s						
A36M	Sachs Harbour	66.71	19	P	P	14 50 04.2	+0.9
	baz=293,SNR=6.9						
PLBC	Pleasant Camp	66.77	34	P	P	14 50 04.1	+0.3
	baz=288						
M31M	Drury Creek, Y	66.81	31	P	P	14 50 04.7	+0.5
	baz=289						
WHY	Whitehorse	67.09	32	P	P	14 50 06.5	+0.4
	baz=289						
VRH	Novokhopyorsk	67.21	317	*e*P	P	14 50 04.0	-2.8
VRH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FARO	Faro, Yukon	67.27	30	P	P	14 50 07.8	+0.7
	baz=290,SNR=5.8						
SKAG	Skagway	67.27	34	P	P	14 50 07.6	+0.6
	baz=289						
S31K	Pelican	67.31	35	P	P	14 50 08.8	+1.5
	baz=289						
ARCES	ARCESS Array B	68.04	339	P	P	14 50 11.1	-0.7
	comp=Z,2.3nm,0.9s,baz=64,slow=8.1,SNR=1.2						
	comp=Z,2.3nm,0.9s						
R32K	Eaglecrest	68.06	35	P	P	14 50 13.2	+1.1
	baz=290						
C36M	Paulatuk	68.14	22	P	P	14 50 13.2	+0.9
	baz=295,SNR=8.5						
P33M	Teslin, Yukon	68.20	32	P	P	14 50 14.3	+1.2
	baz=291						
S32K	Killisnoo	68.31	35	P	P	14 50 14.4	+0.7
	baz=290						
LPSR	Galich'ya Gora	68.38	319	*e*P	P	14 50 11.6	-2.6
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VSR	Storozhevoye	68.72	318	*e*P	P	14 50 13.5	-2.8
VSR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OBN	Obninsk	68.82	322	*e*P	P	14 50 17.8	+1.0
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
Q32M	Nakina River	68.92	33	P	P	14 50 18.0	+0.3
	baz=292						
KBZ	Khabaz	68.97	309	P	P	14 50 18.6	+0.6
	comp=Z,9.2nm,0.9s,baz=122,slow=3.4,SNR=17						
	comp=Z,9.2nm,0.9s						
KBZ	Khabaz	68.97	309	*ce*P	P	14 50 17.7	-0.3
KBZ				pmax	pmax		
	comp=Z,12nm,1.0s						
KIV	Kislovodsk	69.03	309	*e*P	P	14 50 17.3	-1.2
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SHA1	Shidzhatmaz	69.13	309	*ce*P	P	14 50 17.4	-1.9
R33M	Jennings River	69.38	33	P	P	14 50 21.5	+1.1
	baz=293						
U33K	Whale Pass	69.55	36	P	P	14 50 22.3	+1.0
	baz=292						
CRAG	Craig	69.79	37	P	P	14 50 22.6	-0.2
	baz=292						
WRAK	Wrangell Islan	69.83	36	P	P	14 50 23.4	+0.3
	baz=293						
LABN	Labinsk	70.10	311	*e*P	P	14 50 18.1	-6.9
WTLY	Watson Lake, Y	70.10	32	IAmb	IAmb	14 50 26.8	
	comp=Z,11nm,1.1s						
WTLY	Watson Lake, Y	70.10	32	P	P	14 50 25.6	+0.8
	baz=294						
DLBC	Dease Lake	70.20	33	P	P	14 50 26.4	+0.9
	baz=294						
T35M	Bob Quinn	70.68	35	P	P	14 50 28.9	+0.6
	baz=294						
FINES	FINESS Array B	71.35	331	P	P	14 50 31.0	-1.3
	comp=Z,1.5nm,0.5s,baz=64,slow=6.1,SNR=13						
	comp=Z,1.5nm,0.5s						
FINES	FINESS Array B	71.35	331	*i*P	P	14 50 31.5	-0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GURO	Guroymak-BITLI	71.49	304	IAmb	IAmb	14 50 36.6	
	comp=Z,6.6nm,0.7s						
LIRD	Liard River Hi	71.64	32	P	P	14 50 34.2	+0.2
	baz=296,SNR=5.5						
RES	Resolute Bay	72.21	12	IAmb	IAmb	14 50 49.0	
	comp=Z,6.8nm,0.8s						
TOAD	Toad River Com	72.29	32	P	P	14 50 38.7	+0.7
	baz=297						
AKASG	Malin Array Be	74.68	320	P	P	14 50 51.6	-0.5
	comp=Z,2.9nm,0.4s,baz=60,slow=6.3,SNR=12						
	comp=Z,2.9nm,0.4s						
BR131	Keskin Array S	76.92	308	P	P	14 51 05.7	+0.4

BR131	**Keskin Array S**	**76.92**	**308**	P	**P**	**14 51 05.7**	**+0.4**
BR131				pmax	pmax		
comp=Z,5.0nm,1.1s							
BRTR	**Keskin Array B**	**76.92**	**308**	P	**P**	**14 51 05.2**	**-0.1**
BRTR	**Keskin Array B**	**76.92**	**308**	P	**P**	**14 51 04.8**	**-0.6**
comp=Z,2.2nm,0.8s,baz=108,slow=4.2,SNR=8.1							
comp=Z,2.2nm,0.8s							
BRTR	**Keskin Array B**	**76.92**	**308**	*i* P	**P**	**14 51 05.5**	**+0.1**
BRTR				pmax	pmax		
comp=Z,2.0nm,0.7s							
HFS	**Hagfors**	**77.19**	**333**	P	**P**	**14 51 04.9**	**-1.4**
comp=Z,0.7nm,0.5s,baz=81,slow=9.5,SNR=4.7							
comp=Z,0.7nm,0.5s							
NB2	**NORSAR Subarra**	**77.59**	**334**	P	**P**	**14 51 08.1**	**-0.5**
comp=Z,2.5nm,0.9s,baz=50,slow=5.9							
NOA	**NORSAR Array B**	**77.59**	**334**	P	**P**	**14 51 08.1**	**-0.5**
comp=Z,1.3nm,0.7s,baz=50,slow=5.7,SNR=2.7							
comp=Z,1.3nm,0.7s							
BUR08	**Bucovina Ar. S**	**78.47**	**318**	P	**P**	**14 51 13.7**	**-0.1**
BUR08				IAmb	IAmb	14 53 31.5	
comp=Z,21nm,2.0s							
CLL	**Collm**	**82.93**	**326**	*e*P	**P**	**14 51 38.0**	**+0.6**
CLL				pmax	pmax		
comp=Z,7.0nm,1.3s							
CLL	**Collm**	**82.93**	**326**	*e*P	**P**	**14 51 38.0**	**+0.6**
BMO	**Blue Mountains**	**83.78**	**42**	IAmb	IAmb	14 51 45.0	
comp=Z,6.8nm,1.2s							
J08A	**Circle Bar Ran**	**83.95**	**43**	IAmb	IAmb	14 51 45.6	
comp=Z,8.0nm,1.0s							
PAHR	**Pah Rah Range**	**85.46**	**47**	IAmb	IAmb	14 51 52.8	
comp=Z,8.4nm,1.1s							
CMB	**Columbia Colle**	**85.75**	**49**	P	**P**	**14 51 52.8**	**+0.7**
CMB	**Columbia Colle**	**85.75**	**49**	P	**P**	**14 51 52.8**	**+0.7**
CMB				pmax	pmax		
comp=Z,15nm,1.7s							
YERR	**Yerington**	**85.96**	**47**	IAmb	IAmb	14 51 55.5	
comp=Z,9.8nm,1.3s							
KVN	**Kaiserville**	**86.65**	**47**	P	**P**	**14 51 57.7**	**+1.0**
KVN				IAmb	IAmb	14 51 58.9	
comp=Z,7.2nm,1.0s							
KVN	**Kaiserville**	**86.65**	**47**	P	**P**	**14 51 57.7**	**+1.0**
KVN				pmax	pmax		
comp=Z,7.0nm,1.0s							
NVAR	**Mina Array Bea**	**86.88**	**47**	P	**P**	**14 51 57.0**	**-0.9**
NVAR	**Mina Array Bea**	**86.88**	**47**	P	**P**	**14 51 59.4**	**+1.6**
comp=Z,1.7nm,0.7s,baz=295,slow=5.5,SNR=16							
comp=Z,1.7nm,0.7s							
EKA	**Eskdalemuir Ar**	**86.99**	**336**	P	**P**	**14 51 57.4**	**-0.3**
comp=Z,0.4nm,0.4s,baz=46,slow=4.1,SNR=1.8							
comp=Z,0.4nm,0.4s							
YHL	**Hebgen Lake**	**87.24**	**39**	IAmb	IAmb	14 52 03.5	
comp=Z,7.0nm,1.2s							
ELK	**Elko**	**87.44**	**44**	P	**P**	**14 52 01.4**	**+0.9**
comp=Z,1.1nm,0.6s,baz=81,slow=1.3,SNR=5.2							
comp=Z,1.1nm,0.6s							
RLMT	**Red Lodge**	**88.11**	**38**	IAmb	IAmb	14 52 06.1	
comp=Z,7.8nm,1.3s							
R11B	**Troy Canyon, C**	**88.66**	**46**	P	**P**	**14 52 06.9**	**+0.6**
baz=307							
PDAR	**Pinedale Array**	**89.48**	**40**	P	**P**	**14 52 11.2**	**+1.1**
comp=Z,0.9nm,0.8s,baz=348,slow=1.5,SNR=9.1							
comp=Z,0.9nm,0.8s							
KNB	**Kanab**	**91.21**	**46**	IAmb	IAmb	14 52 21.2	
comp=Z,5.0nm,1.0s							
U15A	**North Rim**	**91.91**	**46**	IAmb	IAmb	14 53 41.2	
comp=Z,8.7nm,1.7s							
N23A	**Red Feather La**	**92.74**	**39**	P	**P**	**14 52 25.0**	**-0.4**
baz=313							
Y14A	**Wickenburg**	**93.00**	**48**	IAmb	IAmb	14 52 28.8	
comp=Z,3.3nm,0.9s							
X16A	**Lo Mia Camp, P**	**93.71**	**47**	IAmb	IAmb	14 52 32.7	
comp=Z,4.3nm,1.1s							
QSPA	**South Pole Qui**	**118.98**	**180**	PKP	**PKiKP**	**14 58 00.5**	**+0.1**
comp=Z,0.8nm,0.8s,baz=245,slow=1.0,SNR=7.9							
SIV	**San Ignacio**	**162.96**	**42**	PKP	**PKPdf**	**14 59 15.5**	**+0.1**
comp=Z,1.5nm,0.8s,baz=30,slow=3.9,SNR=4.9							

*JMA **05** 14:43:25.9±0.2, 44.°5N±0.°7×145.°8E±1.°0, h20km±1km, MV3.1/30, NEAR KUNASHIRI ISLAND*
*SKHL **05** 14:43:26.6±0.0, 44.°50N×145.°70E, h12km±2km, mb4.6/2*
ISC 05 14:43:25.9±1.4, **44.°53N**±0.°06×**145.°75E**±0.°04, **h23**km±14km, **n19**, σ**0.°54**/21, **2C, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.50**	**171**	*i* P	**Pb**	**14 43 35.9**	**-0.1**
YUK				AMB	AMB	14 43 37.2	
280nm,0.2s							
YUK				*e*S	**Sb**	**14 43 42.9**	**0.0**
YUK				A	A	14 43 45.9	
2μm,0.2s							
YUK				A	A	14 43 45.9	
870nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**0.50**	**171**	*c i* P	**Pb**	**14 43 36.0**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**0.50**	**171**	pmax	pmax		
comp=E,146nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**0.50**	**171**	pmax	pmax		
comp=Z,720nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**0.50**	**171**	pmax	pmax		
comp=N,171nm,0.2s							
JRA	**Rausu**	**0.74**	**217**	P	**Pb**	**14 43 39.8**	**-0.4**
JRA				*e*S	**Sb**	**14 43 49.8**	**-0.1**
JNSB	**Nemuroshibetsu**	**0.93**	**216**	P	**Pb**	**14 43 43.2**	**-0.1**
JNSB				*e*S	**Sb**	**14 43 55.3**	**+0.3**
SHO	**Shikotan**	**1.02**	**130**	*i* P	**Pb**	**14 43 45.2**	**+0.4**
SHO				AMB	AMB	14 43 45.5	
comp=N,280nm,0.4s							
SHO				*e*S	**Sn**	**14 43 59.2**	**+0.9**
SHO				A	A	14 43 59.9	
comp=N,2μm,0.4s							
SHO				A	A	14 43 59.9	
comp=N,2μm,0.4s							
SHO	**Shikotan**	**1.02**	**130**	⇑*i* P	**Pb**	**14 43 45.2**	**+0.4**
SHO	**Shikotan**	**1.02**	**130**	pmax	pmax		
comp=Z,231nm,0.4s							
SHO	**Shikotan**	**1.02**	**130**	pmax	pmax		
comp=E,184nm,0.3s							
SHO	**Shikotan**	**1.02**	**130**	pmax	pmax		
comp=N,113nm,0.5s							
NEM2	**Nemuro 2**	**1.17**	**180**	P	**Pn**	**14 43 46.4**	**-0.3**
NEM2				*e*S	**Sn**	**14 44 01.3**	**-0.5**
JNK	**Nakash**	**1.20**	**219**	P	**Pn**	**14 43 47.3**	**+0.1**
JNK				*e*S	**Sn**	**14 44 02.7**	**-0.1**
JTKR	**Abashiri--Toko**	**1.44**	**248**	*e*P	**Pn**	**14 43 50.8**	**+0.4**
JTKR				*e*S	**Sn**	**14 44 09.1**	**+0.5**
JKHN	**Kushirohamanak**	**1.51**	**197**	*e*S	**Sb**	**14 44 11.7**	**-0.1**
KUR	**Kuril'sk**	**1.66**	**64**	*e*P	**Pn**	**14 43 52.6**	**-0.9**
KUR				*e*S	**Sb**	**14 44 17.2**	**+1.0**
KUR				A	A	14 44 22.6	
comp=N,70nm,0.5s							
KUR				A	A	14 44 22.6	
comp=N,40nm,0.5s							
KUR	**Kuril'sk**	**1.66**	**64**	S	**Sb**	**14 44 16.2**	**0.0**
KUR	**Kuril'sk**	**1.66**	**64**	P	**Pn**	**14 43 52.6**	**-0.9**

*BJI **05** 14:46:49.1, 28.°92N×130.°97E, h10km, mb4.8/79, mB5.1/40, Ms5.0/82, Ms7 5.0/78*
*MOS **05** 14:46:56.4±1.0, 29.°31N×130.°51E, h31km, mb5.2/52, MS5.1/11, Error ellipse: s-maj=7.9km s-min=4.2km az=119.6*
*NIED **05** 14:46:57.5, 29.°27N×130.°61E, h62km, MW5.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}2.37; $M_{\theta\theta}$-0.87; $M_{\phi\phi}$-1.50; $M_{r\theta}$0.90; $M_{\theta\phi}$-3.13; $M_{\phi r}$2.47; Fault plane solution: $M_0$4.41000×10^{16} NP1:ϕ_s19.00000°, δ68.00000°, λ61.00000°. NP2:ϕ_s254.00000°, δ35.00000°, λ140.00000°.*
*JMA **05** 14:46:57.5±0.1, 29.°3N±0.°3×130.°6E±0.°7, h62km±2km, MD4.9/34, MW5.2/34, NEAR AMAMI-OSHIMA ISLAND*
JMA Felt III J1 at NEAR AMAMI-OSHIMA ISLAND.
*NEIC **05** 14:46:58.7±1.8, 29.°24N±0.°06×130.°53E±0.°06, h36km±5km, mb5.2/210, Mww5.0/18, Error ellipse: s-maj=9.3km s-min=6.1km az=145.0*
*GCMT **05** 14:46:58.7±0.2, 29.°19N±0.°01×130.°71E±0.°02, h29km, MW5.1/96, Moment Tensor Solution. s70,c92; s96,c163; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.04±.15; $M_{\theta\theta}$-0.78±.10; $M_{\phi\phi}$-3.26±.10; $M_{r\theta}$1.59±.16; $M_{\theta\phi}$-1.73±.06; $M_{\phi r}$2.84±.15; Best double couple: $M_0$5.23000×10^{16} NP1:ϕ_s206.00000°, δ26.00000°, λ88.00000°. Principal axes: T 5.1770, Plg71.0000°, Azm301.0000°; N 0.1060, Plg1.0000°, Azm208.0000°; P -5.2840, Plg19.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **05** 14:46:59.3±1.9, 29.°35N×130.°45E, h41km±17km, mb4.4/27, mbtmp4.7/32, ML4.1/5, MS4.5/71 Error ellipse: s-maj=14.0km s-min=11.2km az=77.0*
ISC 05 14:46:58.6±0.3, **29.°26N**±0.°03×**130.°55E**±0.°03, **h39**km±2km, **h41**km:**pP-P**, **n855**, σ**1**^{s}**49**/727, **mb5.1**/214, **MS4.7**/103, **40C-23D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.82**	**315**	*i* P	**Pn**	**14 47 14.0**	**+0.3**
JNN				*e*S	**Sn**	**14 47 26.4**	**+1.7**
JNN	**Nakanoshima**	**0.82**	**315**	A	A	14 47 14.0	
comp=E,402nm,1.7s,comp=N,330nm,1.4s							
JYAK	**Yakushimahirau**	**0.97**	**358**	*i* P	**Pn**	**14 47 15.2**	**-0.5**
JYAK				*e*S	**Sn**	**14 47 29.1**	**+0.8**
JYAK	**Yakushimahirau**	**0.97**	**358**	A	A	14 47 15.2	
comp=E,57nm,1.6s,comp=N,62nm,2.5s							
JZK	**Kikaishima**	**1.07**	**208**	P	**Pn**	**14 47 17.4**	**+0.3**
JZK	**Kikaishima**	**1.07**	**208**	A	A	14 47 17.4	
comp=E,159nm,2.2s,comp=N,138nm,2.7s							
JMTN	**Minamitane**	**1.17**	**15**	*i* P	**Pn**	**14 47 17.8**	**-0.7**
JMTN				*e*S	**Sn**	**14 47 33.6**	**+0.3**
JMTN	**Minamitane**	**1.17**	**15**	A	A	14 47 17.8	
comp=E,129nm,2.4s,comp=N,122nm,1.6s							
JTAJ	**Takarajima**	**1.18**	**265**	*e*P	**Pn**	**14 47 19.4**	**+0.8**
JTAJ	**Takarajima**	**1.18**	**265**	A	A	14 47 19.4	
comp=E,76nm,5.1s,comp=N,55nm,2.7s							
JAM	**Amami Oshima**	**1.18**	**224**	P	**Pn**	**14 47 18.5**	**-0.1**
JAM				*e*S	**Sn**	**14 47 33.5**	**0.0**
JAM	**Amami Oshima**	**1.18**	**224**	A	A	14 47 18.5	
comp=E,52nm,3.5s,comp=N,31nm,2.5s							
JKC	**Kuchinoerabu**	**1.23**	**346**	P	**Pn**	**14 47 19.0**	**-0.3**
JKC				*e*S	**Sn**	**14 47 35.6**	**+0.8**
JKC	**Kuchinoerabu**	**1.23**	**346**	A	A	14 47 19.0	
comp=E,40nm,2.1s,comp=N,52nm,4.0s							
JTN	**Tanegashima 3**	**1.44**	**15**	*i* P	**Pn**	**14 47 21.6**	**-0.6**
JTN				*e*S	**Sn**	**14 47 40.0**	**+0.2**
JTN	**Tanegashima 3**	**1.44**	**15**	A	A	14 47 21.6	
comp=E,49nm,1.6s,comp=N,32nm,1.7s							
JAMN	**Amaminishikomi**	**1.57**	**230**	P	**Pn**	**14 47 24.8**	**+0.8**
JAMN				*e*S	**Sn**	**14 47 45.4**	**+2.2**
JAMN	**Amaminishikomi**	**1.57**	**230**	A	A	14 47 24.8	
comp=E,20nm,3.0s,comp=N,18nm,2.7s							
JTSR	**Tashiro 2**	**1.93**	**10**	A	A	14 47 28.4	
comp=E,49nm,2.1s,comp=N,25nm,2.9s							
JTK	**Tokunoshima**	**2.03**	**224**	*e*P	**Pn**	**14 47 30.6**	**+0.3**
JTK				*e*S	**Sn**	**14 47 55.9**	**+1.4**
JTK	**Tokunoshima**	**2.03**	**224**	A	A	14 47 30.6	
comp=E,20nm,1.7s,comp=N,17nm,2.3s							
JSU	**Suzuyama**	**2.24**	**358**	P	**Pn**	**14 47 32.7**	**-0.5**
JSU	**Suzuyama**	**2.24**	**358**	A	A	14 47 32.7	
comp=E,18nm,4.8s,comp=N,12nm,2.5s							
JNAR	**Kushima--Naru**	**2.34**	**15**	*e*P	**Pn**	**14 47 34.9**	**+0.3**
JNAR				*e*S	**Sn**	**14 48 02.5**	**+0.4**
JNAR	**Kushima--Naru**	**2.34**	**15**	A	A	14 47 34.9	
comp=E,25nm,3.8s,comp=N,35nm,3.1s							
JNKG	**Nichinankitago**	**2.50**	**16**	P	**Pn**	**14 47 36.5**	**-0.1**
JNKG				*e*S	**Sn**	**14 48 05.7**	**-0.2**
JNKG	**Nichinankitago**	**2.50**	**16**	A	A	14 47 36.5	
comp=E,33nm,2.7s,comp=N,31nm,2.4s							
JSJ	**Shimokoshiki**	**2.51**	**344**	A	A	14 47 37.1	
comp=E,16nm,4.2s,comp=N,12nm,2.4s							
JOKE	**Okinoerabujima**	**2.57**	**223**	A	A	14 47 38.3	
comp=E,28nm,5.0s,comp=N,13nm,1.9s							
JTZ	**Takazaki**	**2.67**	**10**	A	A	14 47 38.9	
comp=E,15nm,1.8s,comp=N,17nm,4.1s							
JZO	**Okuchi**	**2.87**	**1**	A	A	14 47 41.8	
comp=E,9.0nm,2.7s,comp=N,10.0nm,8.1s							
JYRO	**Yonojima**	**2.90**	**220**	A	A	14 47 42.9	
comp=E,12nm,2.8s,comp=N,11nm,3.2s							
JTSN	**Tsuno**	**3.08**	**15**	A	A	14 47 44.7	
comp=E,17nm,2.8s,comp=N,11nm,3.0s							
JOW	**Kunigami**	**3.15**	**220**	Pn	**Pn**	**14 47 45.8**	**+0.1**
JOW	**Kunigami**	**3.15**	**220**	P	**Pn**	**14 47 46.1**	**+0.4**
comp=N,46nm,0.3s,baz=94,slow=18,SNR=72							
JOW				S	**Sn**	**14 48 17.5**	**-4.4**
comp=N,424nm,0.5s,baz=50,slow=22,SNR=7.0							
JOW				LR	LR	14 49 20.3	
comp=N,11μm,19.0s,baz=48,slow=45							
comp=N,81nm,0.3s							
JOW	**Kunigami**	**3.15**	**220**	P	**Pn**	**14 47 46.1**	**+0.4**
JOW	**Kunigami**	**3.15**	**220**	A	A	14 47 46.3	
comp=E,10.0nm,4.5s,comp=N,7.0nm,3.6s							
JIH	**Iheya**	**3.18**	**226**	A	A	14 47 46.9	
comp=E,9.0nm,3.1s,comp=N,8.0nm,2.3s							
JHD	**Hondo**	**3.21**	**354**	A	A	14 47 46.7	
comp=E,15nm,2.6s,comp=N,10.0nm,3.0s							
JIU3	**Izumi3**	**3.28**	**4**	A	A	14 47 47.6	
comp=E,8.0nm,10.7s,comp=N,5.0nm,3.9s							
JHHC	**Hyugahichiya**	**3.31**	**16**	A	A	14 47 47.7	
comp=E,9.0nm,7.8s,comp=N,8.0nm,6.1s							
NGSJ	**Nagasakinomoza**	**3.42**	**349**	A	A	14 47 49.7	
comp=E,9.0nm,4.1s,comp=N,6.0nm,3.0s							
JKIT	**Kitakata**	**3.44**	**13**	A	A	14 47 49.7	
comp=E,8.0nm,3.0s,comp=N,7.0nm,3.8s							
JMZ	**Minamidaito 2**	**3.48**	**170**	Pn	**Pn**	**14 47 48.2**	**-2.0**
JMZ	**Minamidaito 2**	**3.48**	**170**	P	**Pn**	**14 47 49.1**	**-1.2**
JMZ	**Minamidaito 2**	**3.48**	**170**	A	A	14 47 50.5	
comp=E,6.0nm,3.2s,comp=N,5.0nm,10.8s							
JNTH	**Nagotoyohara**	**3.53**	**220**	A	A	14 47 51.7	
comp=E,9.0nm,3.7s,comp=N,5.0nm,6.7s							
JTA	**Tamana**	**3.69**	**360**	A	A	14 47 53.4	
comp=E,5.0nm,3.8s,comp=N,5.0nm,3.6s							
JSKE	**Saikikamae**	**3.71**	**18**	A	A	14 47 53.4	
comp=E,7.0nm,2.7s,comp=N,6.0nm,3.2s							
JUR	**Ureshino**	**3.85**	**353**	A	A	14 47 55.7	
comp=E,5.0nm,4.4s,comp=N,7.0nm,4.8s							
JNU	**Nakatsue**	**3.86**	**4**	**Pn**	**14 47 55.6**	**+0.2**	
JNU	**Nakatsue**	**3.86**	**4**	P	**Pn**	**14 47 55.9**	**+0.5**
comp=N,30nm,0.3s,baz=196,slow=11,SNR=199							
JNU				S	**Sn**	**14 48 34.0**	**-5.5**
comp=N,222nm,0.7s,baz=33,slow=8.9,SNR=3.9							
JNU				LR	LR	14 49 13.5	
comp=N,2μm,20.1s,baz=166,slow=36							
comp=N,91nm,0.4s							
JNU	**Nakatsue**	**3.86**	**4**	P	**Pn**	**14 47 56.0**	**+0.5**
JUS	**Usuki**	**3.93**	**15**	A	A	14 47 56.5	
comp=E,8.0nm,2.5s,comp=N,7.0nm,2.3s							
JAGN	**Aguni-jima**	**3.95**	**228**	A	A	14 47 57.7	
comp=E,8.0nm,3.7s,comp=N,10.0nm,4.0s							
JJT3	**Tamagusuku3**	**3.96**	**219**	A	A	14 47 57.7	
comp=E,39nm,2.7s,comp=N,25nm,2.0s							
JBEP	**Beppuamama**	**4.13**	**10**	A	A	14 47 59.3	
comp=E,11nm,2.7s,comp=N,9.0nm,2.2s							
UWA2	**Uwa jima 2**	**4.32**	**24**	A	A	14 48 01.9	
comp=E,4.0nm,4.6s,comp=N,4.0nm,2.4s							
JKI	**Kunimi**	**4.44**	**11**	A	A	14 48 03.8	
comp=E,6.0nm,4.2s,comp=N,5.0nm,3.1s							
JNA	**Nagahama**	**4.59**	**21**	A	A	14 48 05.7	
comp=E,4.0nm,3.9s,comp=N,6.0nm,3.5s							
JET	**Tanbara**	**4.98**	**25**	A	A	14 48 11.1	
comp=E,5.0nm,7.1s,comp=N,5.0nm,6.4s							
JMN	**Monobe**	**5.28**	**32**	**Pn**	**14 48 14.0**	**-1.0**	
JMN	**Monobe**	**5.28**	**32**	P	**Pn**	**14 48 14.6**	**-0.4**
JMN	**Monobe**	**5.28**	**32**	A	A	14 48 15.2	
comp=E,2.0nm,2.7s,comp=N,4.0nm,4.2s							
JMJ	**Miyako jima 2**	**6.45**	**228**	P	**Pn**	**14 48 31.2**	**+0.2**
JWT	**Wachi**	**7.27**	**33**	P	**Pn**	**14 48 43.7**	**+1.4**
TJN	**Taejon**	**7.58**	**340**	Pn	**Pn**	**14 48 47.8**	**+1.3**
TJN	**Taejon**	**7.58**	**340**	P	**Pn**	**14 48 47.8**	**+1.3**
SSE	**Sheshan**	**8.30**	**285**	P	**Pn**	**14 48 59.2**	**+2.7**
SSE				pmax	pmax		
comp=N,33nm,0.7s							
SSE				pmax	pmax		
comp=N,280nm,5.3s							
SSE				LR	LR		
comp=N,950nm,14.2s							
SSE				LR	LR		
comp=N,3μm,13.6s							
JSG	**Sagara**	**8.44**	**48**	Pn	**Pn**	**14 48 59.0**	**+0.7**
JSG	**Sagara**	**8.44**	**48**	P	**Pn**	**14 48 59.3**	**+1.0**
KSRS	**Korea Array**	**8.46**	**346**	P	**Pn**	**14 49 01.0**	**+2.5**
comp=N,9.5nm,0.8s,baz=159,slow=14,SNR=20							
KSRS				LR	LR	14 52 32.1	
comp=N,3μm,20.1s,baz=165,slow=40							
KS19	**Wonju Array Si**	**8.52**	**345**	**Pn**	**14 48 58.9**	**-0.5**	
JGF	**Kuroka**	**8.55**	**41**	Pn	**Pn**	**14 48 59.4**	**-0.5**
JGF	**Kuroka**	**8.55**	**41**	P	**Pn**	**14 49 00.2**	**+0.4**
JHJ	**Hachijo jima 2**	**8.80**	**62**	P	**Pn**	**14 49 04.7**	**+1.5**
comp=N,51nm,0.3s,baz=80,slow=20,SNR=27							
JHJ				S	Sn	14 50 26.7	-14
comp=N,38nm,0.4s,baz=107,slow=22,SNR=1.1							
JHJ				LR	LR	14 52 07.2	
comp=N,2μm,19.9s,baz=278,slow=35							
comp=N,79nm,0.3s							
JHJ2	**Mitsune**	**8.82**	**62**	P	**Pn**	**14 49 03.8**	**+0.3**
YHNB	**Yeheng**	**9.37**	**243**		**Pn**	**14 49 11.8**	**+0.6**
YHNB	**Yeheng**	**9.37**	**243**	P	**Pn**	**14 49 12.0**	**+0.8**
NACB	**Ninganchiao**	**9.47**	**240**	P	**Pn**	**14 49 11.8**	**-0.7**
MAJO	**Matsushiro**	**9.70**	**40**	Pn	**Pn**	**14 49 15.8**	**+0.2**
MAJO	**Matsushiro**	**9.70**	**40**	P	**Pn**	**14 49 16.3**	**+0.7**
MAJO	**Matsushiro**	**9.70**	**40**	*i* P	**Pn**	**14 49 16.0**	**+0.4**
MJAR	**Matsushiro Arr**	**9.70**	**40**	P	**Pn**	**14 49 16.6**	**+1.0**
comp=N,0.5nm,0.3s,baz=247,slow=14,SNR=16							
comp=N,2.8nm,0.3s							
MJB9	**Matsu-Tunnel**	**9.70**	**40**		**Pn**	**14 49 17.1**	**+1.4**
YULB	**Yu-li**	**10.15**	**237**		Pn	14 49 17.2	-4.6
YULB	**Yu-li**	**10.15**	**237**	P	**Pn**	**14 49 21.4**	**-0.4**
SSLB	**Suanglung**	**10.17**	**240**	Pn	**Pn**	**14 49 19.7**	**-2.5**
SSLB	**Suanglung**	**10.17**	**240**	P	**Pn**	**14 49 21.9**	**-0.2**
NJ2	**Nanjing**	**10.45**	**288**	⇑P	**Pn**	**14 49 28.8**	**+3.0**
NJ2				pmax	pmax		
comp=N,82nm,0.7s							
NJ2				LR	LR		
comp=N,3μm,18.0s							
NJ2				LR	LR		
comp=N,4μm,18.5s							
NJ2				LR	LR		
comp=N,6μm,15.2s							
JCJ	**Chichijima**	**10.49**	**99**	P	**Pn**	**14 49 25.6**	**-0.9**
TPUB	**Ta-pu**	**10.69**	**239**		**Pn**	**14 49 27.3**	**-2.0**
TPUB	**Ta-pu**	**10.69**	**239**	P	**Pn**	**14 49 27.4**	**-1.9**
JSD	**Sado**	**10.85**	**34**	P	**Pn**	**14 49 32.0**	**+0.6**
JMM	**Marumori**	**12.10**	**42**	Pn	**Pn**	**14 49 48.4**	**0.0**
JMM	**Marumori**	**12.10**	**42**	P	**Pn**	**14 49 50.3**	**+1.9**
DL2	**Dalian**	**12.12**	**325**	P	**Pn**	**14 49 52.5**	**+3.8**
DL2				S	**Sn**	**14 52 10.8**	**+8.3**
DL2				pmax	pmax		
comp=N,71nm,1.3s							
DL2				pmax	pmax		
comp=N,620nm,4.3s							
DL2				LR	LR		
comp=N,7μm,13.3s							
DL2				LR	LR		
comp=N,6μm,13.3s							
DL2				LR	LR		
comp=N,10μm,13.7s							
TIA	**Tai'an**	**13.25**	**305**	P	**Pn**	**14 50 06.8**	**+2.7**
TIA				pmax	pmax		
comp=N,14nm,1.0s							
TIA				pmax	pmax		
comp=N,640nm,5.0s							
TIA				LR	LR		
comp=N,5μm,12.9s							
TIA				LR	LR		
comp=N,8μm,14.0s							
TIA				LR	LR		
comp=N,12μm,14.1s							
SNY	**Shenyang**	**13.75**	**338**	⇑P	**Pn**	**14 50 15.1**	**+4.2**
SNY				S	**Sn**	**14 52 43.3**	**+1.0**
SNY				pmax	pmax		
comp=N,7.0nm,0.9s							
SNY				pmax	pmax		
comp=N,490nm,5.3s							
SNY				LR	LR		
comp=N,4μm,13.7s							
SNY				LR	LR		
comp=N,2μm,14.3s							
SNY				LR	LR		
comp=N,6μm,11.8s							
WHN	**Wuhan**	**14.11**	**279**	P	**Pn**	**14 50 19.6**	**+3.8**
WHN				S	**Sn**	**14 52 54.3**	**+3.2**
WHN				LR	LR		
comp=N,3μm,9.5s							
WHN				LR	LR		
comp=N,3μm,13.6s							
WHN				LR	LR		
comp=N,4μm,13.4s							
USA0B	**Ussuriysk Arra**	**14.95**	**4**	P	**P**	**14 50 33.0**	**+0.9**
USA0B	**Ussuriysk Arra**	**14.95**	**4**	P	**P**	**14 50 33.0**	**+0.9**
USRK	**Ussuriysk Ar.**	**14.95**	**4**	P	**P**	**14 50 32.3**	**+0.2**
USRK	**Ussuriysk Ar.**	**14.95**	**4**	P	**P**	**14 50 32.7**	**+0.6**
comp=N,6.6nm,0.5s,baz=179,slow=9.6,SNR=29							
USRK	**Ussuriysk Ar.**	**14.95**	**4**	P	**P**	**14 50 32.3**	**+0.2**
CN2	**Changchun**	**15.07**	**346**	⇓P	**P**	**14 50 34.8**	**+1.4**
CN2				*e*sP	pP	14 50 41.8	-1.2
CN2				*e*S	**Sn**	**14 53 22.8**	**+8.4**
CN2				pmax	pmax		
comp=N,80nm,0.8s							
CN2				pmax	pmax		
comp=N,400nm,5.0s							
CN2				LR	LR		
comp=N,2μm,11.0s							
CN2				LR	LR		
comp=N,2μm,11.0s							
CN2				LR	LR		
comp=N,3μm,11.0s							
MDJ	**Mudanjiang**	**15.34**	**357**	P	**Pn**	**14 50 29.0**	**-3.3**
MDJ				S	**Sn**	**14 53 28.2**	**+7.2**
MDJ				PcP	**PcP**	**14 55 30.5**	**-4.6**
MDJ

ASAJ pmax pmax
comp=Z,26nm,0.9s
JKA Kamikawa-asahi 17.67 30 Pn 14 51 01.6 +0.1
ENH Enshi 18.31 278 P 14 51 09.1 -0.4
ENH Enshi 18.31 278 P Pn 14 51 12.3 +2.6
GULI GuiLin 18.37 262 P Pn 14 51 12.5 +2.2
GULI S **Sn 14 54 31.0 -3.5**
GULI pmax pmax
comp=Z,20nm,1.1s
GULI LR LR
comp=Z,2μm,14.4s
GULI LR LR
comp=Z,2μm,15.4s
GULI LR LR
comp=Z,3μm,15.5s
XLT XiLinHaoTe 18.62 326 *e*P **Pn 14 51 14.8 +1.4**
XLT sP pP 14 51 22.5 0.0
XLT pmax pmax
comp=Z,46nm,0.7s
XLT pmax pmax
comp=Z,410nm,6.4s
XLT LR LR
comp=Z,3μm,14.6s
XLT LR LR
comp=Z,5μm,15.1s
XAN Xi'an 19.01 290 ⇑P **P 14 51 17.1 0.0**
XAN pP Pn 14 51 20.7 +2.7
XAN sP pP 14 51 23.3 -3.4
XAN pmax pmax
comp=Z,79nm,0.6s
XAN pmax pmax
comp=Z,900nm,5.0s
XAN LR LR
comp=Z,2μm,12.4s
XAN LR LR
comp=Z,4μm,11.5s
XAN LR LR
comp=Z,5μm,11.8s
HHC Hu-ho-hao-te 19.32 312 *e*P **Pn 14 51 22.3 +0.5**
HHC sP sP 14 51 33.7 -1.4
HHC S **S 14 54 57.1 -0.1**
HHC pmax pmax
comp=Z,30nm,0.6s
HHC pmax pmax
comp=Z,550nm,4.8s
HHC LR LR
comp=Z,2μm,13.0s
HHC LR LR
comp=Z,3μm,13.0s
HHC LR LR
comp=Z,5μm,14.8s
KLR Kul'dur 19.96 2 LR LR 14 59 39.8
comp=Z,1μm,19.2s,baz=178,slow=38
KLR Kul'dur 19.96 2*ce*P **P 14 51 27.1 -0.2**
KLR pmax pmax
comp=Z,30nm,1.3s
YSS Yuzh-Sakhalins 20.06 25 P 14 51 29.1 +0.7
YSS lAmb lAmb 14 51 42.4
comp=Z,98nm,1.2s
YSS Yuzh-Sakhalins 20.06 25 *e*P Pn 14 51 30.4 0.0
YSS *e*S **S 14 55 10.8 -0.8**
YSS pmax pmax
comp=Z,60nm,1.2s
YSS pmax pmax
comp=Z,400nm,7.6s
YSS smax smax
comp=N,1μm,5.6s
YSS MLR MLR
comp=E,1μm,16.0s
BTO Baotou 20.23 309 *e*P Pn 14 51 33.1 +0.6
BTO pP pP 14 51 37.0 -3.1
BTO sP sP 14 51 40.4 -4.6
BTO PP **PnPn 14 51 54.3 +6.5**
BTO S Sn 14 55 26.8 +7.5
BTO SS SnSn 14 55 54.9 +21
BTO pmax pmax
comp=E,14nm,1.0s
BTO pmax pmax
comp=E,830nm,6.7s
BTO LR LR
comp=E,6μm,16.8s
BTO LR LR
comp=E,6μm,14.0s
BTO LR LR
comp=E,9μm,14.7s
GUMO Guam 20.48 137 P Pn 14 51 35.4 -0.2
comp=E,76nm,0.8s,baz=341,slow=16,SNR=2.6
GUMO LR LR 14 58 11.9
comp=E,750nm,18.9s,baz=324,slow=33
comp=E,76nm,0.8s
HEH HeiHe 21.10 354 *e*P **P 14 51 37.9 -1.7**
HEH pP pP 14 51 40.7 -8.5
HEH S **S 14 55 25.7 -6.4**
HEH pmax pmax
comp=E,22nm,0.7s
HEH pmax pmax
comp=E,200nm,4.1s
HEH LR LR
comp=E,790nm,16.1s
HEH LR LR
comp=E,2μm,15.1s
HEH LR LR
comp=E,2μm,17.7s
GYA Guiyang 21.29 268 ⇑P **P 14 51 43.8 +1.8**
GYA S **S 14 55 33.7 -2.9**
GYA pmax pmax
comp=E,35nm,1.1s
GYA pmax pmax
comp=E,270nm,4.4s
GYA LR LR
comp=E,2μm,15.8s
GYA LR LR
comp=E,1μm,21.2s
GYA LR LR
comp=E,3μm,21.0s
QIZ Qiongzhong 21.43 246 P **P 14 51 45.2 +1.8**
QIZ pmax pmax
comp=E,29nm,0.9s
QIZ LR LR
comp=E,2μm,18.9s
QIZ LR LR
comp=E,1μm,15.1s
QIZ LR LR
comp=E,2μm,18.2s
GRNR Gornyy 21.93 10 ⇓*i*P **P 14 51 51.8 +3.2**
GRNR pmax pmax
comp=N,20nm,1.0s
GRNR pmax pmax
comp=Z,20nm,0.8s
GRNR MLR MLR
comp=N,860nm,14.0s
GRNR MLR MLR
comp=Z,1μm,15.0s
DAV Davao City (W) 22.57 193 LR LR 15 00 33.4
comp=Z,396nm,20.4s,baz=24,slow=36
CD2 Chengdu 23.22 281 P **P 14 52 01.9 -0.4**
CD2 S **S 14 56 16.5 +4.9**
CD2 pmax pmax
comp=Z,100nm,0.4s
CD2 LR LR
comp=Z,3μm,12.2s
CD2 LR LR
comp=Z,4μm,13.9s
CD2 LR LR
comp=Z,4μm,13.5s
TYV Tymovskoe 23.42 20 *e*P **P 14 52 06.1 +2.1**
TYV pmax pmax
comp=Z,300nm,4.2s
TYV pmax pmax
comp=Z,35nm,1.1s
LZH Lanzhou 23.44 294 ⇓P **P 14 52 05.4 +0.8**
LZH pP pP 14 52 12.5 -2.2
LZH sP sP 14 52 15.5 -3.9
LZH sS sS 14 56 30.7 -0.9
LZH pmax pmax
comp=Z,39nm,1.0s
LZH pmax pmax
comp=Z,410nm,4.6s
LZH LR LR
comp=Z,1μm,15.3s
LZH LR LR
comp=Z,5μm,15.1s
LZH LR LR
comp=Z,6μm,15.5s
ZEA Zeya 24.57 355 *e*P **P 14 52 13.3 -1.4**
ZEA *e*S **S 14 56 25.2 -7.6**
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA smax smax
comp=E,100nm,11.9s
ZEA smax smax
comp=N,400nm,13.6s
ZEA MLR MLR
comp=E,300nm,7.0s
ZEA MLR MLR
comp=N,400nm,10.0s
ZEA MLR MLR
comp=Z,500nm,16.0s
KMI Kunming 25.05 267 ⇓P **P 14 52 20.2 +0.6**
KMI pmax pmax
comp=Z,71nm,0.7s
KMI LR LR
comp=Z,2μm,13.8s
KMI LR LR
comp=Z,3μm,13.4s
KMI LR LR
comp=Z,4μm,13.7s
SLVN Son La 25.31 258 P **P 14 52 20.7 -1.1**
PZH PanZhiHua 25.58 271 P **P 14 52 24.6 +0.3**
PZH S **S 14 56 44.6 -5.1**
PZH pmax pmax
comp=Z,40nm,0.8s
PZH pmax pmax
comp=Z,160nm,7.4s
PZH LR LR
comp=Z,1μm,21.1s
PZH LR LR
comp=Z,1μm,20.1s
PZH LR LR
comp=Z,2μm,19.0s
ULN Ulaanbaatar 25.95 322 P **P 14 52 27.0 -0.5**
ULN Ulaanbaatar 25.95 322*ce*P **P 14 52 27.9 +0.4**
ULN pmax pmax
comp=Z,19nm,1.0s
SONM Songino Array 26.29 322 P **P 14 52 29.8 -0.7**
SONM Songino Array 26.29 322 P **P 14 52 29.8 -0.7**
comp=Z,9.3nm,0.8s,baz=140,slow=9.9,SNR=31
SONM LR LR 15 03 57.4
comp=Z,2μm,19.7s,baz=124,slow=39
comp=Z,9.3nm,0.8s
SONM Songino Array 26.29 322 P **P 14 52 29.8 -0.7**
SONM pmax pmax
comp=Z,14nm,0.9s
GTA Gaotai 27.20 300 *e*P **P 14 52 39.0 +0.2**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA LR LR
comp=Z,1μm,16.7s
GTA LR LR
comp=Z,3μm,15.3s
GTA LR LR
comp=Z,4μm,15.3s
TNCH TengChong 28.76 269 ⇓P **P 14 52 53.3 +0.4**
TNCH pP pP 14 52 59.9 -3.5
TNCH S **S 14 57 39.8 -0.2**
TNCH pmax pmax
comp=Z,26nm,0.8s
TNCH pmax pmax
comp=Z,120nm,4.3s
TNCH LR LR
comp=Z,930nm,12.5s
TNCH LR LR
comp=Z,2μm,16.5s
TNCH LR LR
comp=Z,4μm,16.1s
ZAK Zakamensk 29.44 323 *e*P **P 14 52 57.6 -1.0**
ZAK pmax pmax
comp=Z,7.0nm,1.7s
TOLI2 Tolitoli 29.50 200 P **P 14 53 00.9 +1.6**
IRK Irkutsk 30.09 327 *e*P **P 14 53 04.1 0.0**
IRK pmax pmax
comp=Z,47nm,2.4s
CHTO Chiang Mai 30.59 257 P **P 14 53 09.5 +0.5**
CHTO Chiang Mai 30.59 257 P **P 14 53 09.5 +0.5**
CHTO pmax pmax
comp=Z,12nm,0.6s
GOMU GeErMu 30.72 292 P **P 14 53 10.8 +0.4**
GOMU pP pP 14 53 15.4 -5.7
GOMU sP sP 14 53 20.4 -5.2
GOMU pmax pmax
comp=Z,28nm,1.0s
GOMU LR LR
comp=Z,1μm,14.9s
GOMU LR LR
comp=Z,2μm,16.2s
GOMU LR LR
comp=Z,3μm,15.2s
CMAR Chiang Mai Arr 30.75 257 P **P 14 53 10.4 0.0**
comp=Z,2.4nm,0.6s,baz=49,slow=5.9,SNR=17
CMAR LR LR 15 06 31.0
comp=Z,1μm,21.4s,baz=60,slow=38
comp=Z,2.4nm,0.6s
CMAR Chiang Mai Arr 30.75 257 *i*P **P 14 53 11.1 +0.8**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
PETK Petropavlovsk- 31.05 32 P **P 14 53 12.9 +0.3**
comp=Z,3.9nm,0.8s,baz=266,slow=4.3,SNR=2.7
PETK LR LR 15 08 06.1
comp=Z,423nm,18.6s,baz=223,slow=41
comp=Z,3.9nm,0.8s
FAKI Fak Fak 32.04 177 P **P 14 53 22.1 +0.4**
FAKI lAmb lAmb 14 53 24.3
comp=Z,35nm,0.9s
FAKI Fak Fak 32.04 177 P **P 14 53 22.7 +1.0**
FAKI Fak Fak 32.04 177 P **P 14 53 22.1 +0.4**
comp=Z,49nm,1.0s,comp=Z,488nm
YAK Yakutsk 32.78 359 P **P 14 53 26.1 -1.5**
YAK lAmb lAmb 14 53 28.8
comp=Z,36nm,1.4s
YAK Yakutsk 32.78 359 LR LR 15 07 20.5
comp=Z,596nm,18.1s,baz=176,slow=37
YAK Yakutsk 32.78 359 *e*P **P 14 53 28.3 +0.7**
YAK *e* 14 54 39.3
YAK *e* 14 56 11.8
YAK *e*S **S 14 58 45.2 +3.5**
YAK *e*SSS SSS 15 01 10.6
YAK *e* 15 03 56.4
YAK pmax pmax
comp=Z,18nm,1.3s
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=Z,62nm,2.7s
YAK pmax pmax
comp=N,128nm,3.2s
YAK pmax pmax
comp=E,122nm,3.3s
YAK smax smax
comp=E,125nm,3.3s
YAK smax smax
comp=N,130nm,2.8s
YAK MLR MLR
comp=Z,1μm,15.0s
YAK MLR MLR
comp=N,708nm,14.0s
YAK MLR MLR
comp=E,597nm,17.0s
YAK Yakutsk 32.78 359 P **P 14 53 26.1 -1.5**
MA2 Magadan 33.29 19 LR LR 15 08 24.7
comp=E,764nm,18.9s,baz=210,slow=39
LSA Lhasa 34.18 281 P **P 14 53 41.1 +0.2**
LSA lAmb lAmb 14 53 43.4
comp=Z,24nm,0.9s
LSA Lhasa 34.18 281 P **P 14 53 41.9 +1.1**
LSA Lhasa 34.18 281 P **P 14 53 40.1 -0.8**
LSA S S 14 59 14.1 +8.9
LSA pmax pmax
comp=Z,28nm,0.8s
LSA LR LR
comp=Z,630nm,20.8s
LSA LR LR
comp=Z,2μm,16.5s
LSA Lhasa 34.18 281 P **P 14 53 41.1 +0.2**
LSA pmax pmax
comp=Z,24nm,0.9s
LSA Lhasa 34.18 281 P **P 14 53 42.0 +1.1**
LSA pP **pP 14 53 53.3 +1.8**
BRDH Bariadhala 35.47 269 LR LR 15 11 16.6
comp=Z,1μm,18.1s,baz=116,slow=41
SRIT Nakonsritamara 35.58 241 lAmb lAmb 14 53 57.6
comp=Z,29nm,0.7s
KAPI Kappang 35.62 199 LR LR 15 09 06.3
comp=Z,202nm,20.3s,baz=16,slow=37
SEY Seymchan 36.53 17*ce*P **P 14 54 00.1 0.0**
SEY pmax pmax
comp=Z,7.0nm,0.8s
WMQ Urumqi 36.94 305 *e*P **P 14 54 05.7 +1.7**
WMQ LR LR
comp=Z,1μm,18.1s
WMQ LR LR
comp=Z,1μm,20.3s
WMQ LR LR
comp=Z,970nm,24.3s
KULM Kulim 36.98 236 P **P 14 54 04.9 +0.4**
KULM lAmb lAmb 14 54 19.6
comp=Z,56nm,1.7s
KULM Kulim 36.98 236 P **P 14 54 06.2 +1.8**
SOEI Soe 39.26 190 P **P 14 54 22.6 -1.1**
SOEI lAmb lAmb 14 54 52.8
comp=Z,31nm,0.9s
SOEI Soe 39.26 190 P **P 14 54 24.0 +0.3**
comp=Z,41nm,1.0s
ZSN Zaisan 39.51 310 *e*P **P 14 54 25.2 -0.2**
ZSN Zaisan 39.51 310 *e*P **P 14 54 25.2 -0.2**
SHEM Shemya Is, Ala 39.54 41 LR LR 15 11 30.6
comp=Z,150nm,20.9s,baz=294,slow=37
BATI Baumata 39.80 191 LR LR 15 12 31.5
comp=Z,117nm,18.7s,baz=38,slow=38
MK31 Makanchi Array 41.14 309 P **P 14 54 38.1 -0.9**
MK31 Makanchi Array 41.14 309 P **P 14 54 38.1 -0.9**
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 41.14 309 P **P 14 54 38.8 -0.2**
MKAR Makanchi Array 41.14 309 P **P 14 54 39.1 +0.1**
comp=Z,7.7nm,0.6s,baz=95,slow=10.0,SNR=9.1
MKAR PcP **PcP 14 56 36.6 -1.1**
comp=Z,2.9nm,0.7s,baz=82,slow=4.4,SNR=4.1
MKAR LR LR 15 12 05.7
comp=Z,555nm,19.9s,baz=94,slow=37
comp=Z,7.7nm,0.6s
MKAR Makanchi Array 41.14 309 *i*P **P 14 54 39.4 +0.4**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
ZAA0 Zalesovo Array 41.16 320 P **P 14 54 38.4 -0.6**
ZALV Zalesovo Beam 41.16 320 P **P 14 54 38.4 -0.6**
ZALV Zalesovo Beam 41.16 320 P **P 14 54 38.9 -0.1**
comp=Z,7.2nm,0.4s,baz=105,slow=7.8,SNR=28
ZALV PcP **PcP 14 56 37.2 -0.4**
comp=Z,4.9nm,0.7s,baz=103,slow=4.7,SNR=6.1
ZALV LR LR 15 13 45.7
comp=Z,2μm,18.8s,baz=128,slow=39
comp=Z,7.2nm,0.4s
MAKZ Makanchi 41.36 309 P **P 14 54 41.0 +0.3**
MAKZ Makanchi 41.36 309 P **P 14 54 41.4 +0.7**
MAKZ Makanchi 41.36 309 P **P 14 54 41.1 +0.3**
MAKZ PcP **PcP 14 56 38.9 +0.5**
PMG Port Moresby 41.65 155 LR LR 15 08 57.7
comp=Z,342nm,20.7s,baz=318,slow=32
UGM Wanagama 41.69 211 P **P 14 54 44.4 +0.7**
KDU Kakadu 41.74 177 P P 14 54 53.8 +10
MTN Manton Dam 41.86 179 P **P 14 54 44.7 -0.3**
MTN lAmb lAmb 14 54 47.3
comp=Z,45nm,0.9s
MTN Manton Dam 41.86 179 P **P 14 54 44.9 -0.1**
comp=Z,58nm,1.1s
MTN Manton Dam 41.86 179 P **P 14 54 45.2 +0.2**
GSI Gunungsitoli 41.94 234 P **P 14 54 45.7 -0.1**
GSI Gunungsitoli 41.94 234 P **P 14 54 45.7 -0.1**
comp=Z,33nm,1.0s
LEM Lembang 42.12 215 LR LR 15 14 25.4
comp=Z,260nm,20.1s,baz=358,slow=39
TIXI Tiksi 42.45 359 P **P 14 54 48.2 -1.0**
TIXI Tiksi 42.45 359 LR LR 15 13 48.5
comp=Z,746nm,19.4s,baz=184,slow=38
TIXI Tiksi 42.45 359*ce*P **P 14 54 47.3 -1.9**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
TIXI Tiksi 42.45 359 P **P 14 54 49.0 -0.2**
TIXI sP **sP 14 55 05.8 +1.0**
SHLS Shalkode 42.85 303 *e*P **P 14 54 50.2 -3.0**
SHLS Shalkode 42.85 303 *e*P **P 14 54 50.1 -3.0**
SEM Semipalatinsk 43.04 314 *e*P **P 14 54 54.0 -0.7**
comp=Z,20nm,0.9s
SEM Semipalatinsk 43.04 314 *e*P **P 14 54 53.9 -0.7**
SEM pmax pmax
comp=Z,20nm,0.9s
UZB Uzynbulak 43.17 303 *e*P **P 14 54 55.1 -0.7**
UZB Uzynbulak 43.17 303 *e*P **P 14 54 55.0 -0.7**
KPKS Kokpek 43.43 304 *e*P **P 14 54 57.3 -0.5**
KPKS Kokpek 43.43 304 *e*P **P 14 54 57.2 -0.5**
ZHN Zhinishke 43.60 303 *e*P **P 14 54 58.8 -0.4**
ZHN Zhinishke 43.60 303 *e*P **P 14 54 58.8 -0.4**
SATY Saty 43.62 303 *e*P **P 14 54 58.9 -0.4**
SATY Saty 43.62 303 *e*P **P 14 54 58.9 -0.4**
TDK Taldyqorghan 43.68 306 *e*P **P 14 54 59.1 -0.5**
comp=Z,20nm,0.8s
TDK Taldyqorghan 43.68 306 *e*P **P 14 54 59.1 -0.5**
TDK pmax pmax
comp=Z,20nm,0.8s
ARXS Arharly 44.06 305 *e*P **P 14 55 02.1 -0.7**
KURK Kurchatov 44.11 314 P **P 14 55 02.7 -0.2**
KURK Kurchatov 44.11 314*ce*P **P 14 55 03.1 +0.1**
KURK pmax pmax
comp=Z,64nm,0.8s
KURK Kurchatov 44.11 314 P **P 14 55 03.4 +0.4**
KURBB Kurchatov Arra 44.16 314 P **P 14 55 02.6 -0.7**
comp=Z,54nm,0.7s,baz=102,slow=8.9,SNR=136
KURBB PcP **PcP 14 56 47.8 +0.1**
comp=Z,1.0nm,0.3s,baz=124,slow=4.6,SNR=2.8
KURBB LR LR 15 15 06.7
comp=Z,2μm,20.6s,baz=137,slow=38
comp=Z,54nm,0.7s
BILL Bilibino 44.16 18 P **P 14 55 03.8 +0.7**
BILL lAmb lAmb 14 55 14.9
comp=Z,86nm,1.8s
BILL Bilibino 44.16 18*ce*P **P 14 55 02.7 -0.4**
BILL pmax pmax
comp=Z,14nm,0.8s
BILL Bilibino 44.16 18 P **P 14 55 03.7 +0.6**
BILL pP **pwP 14 55 14.8 -1.1**
BILL sP **sP 14 55 20.1 +1.8**
MDOK Medeo 44.62 303 *e*P **P 14 55 07.2 -0.2**
MDOK Medeo 44.62 303 *e*P **P 14 55 07.1 -0.2**
CHKK Chushkaly 44.66 304 *e*P **P 14 55 06.7 -0.9**
CHKK Chushkaly 44.66 304 *e*P **P 14 55 06.6 -0.9**
COEN Coen 44.66 162 P **P 14 55 06.5 -1.2**
TNSS Tian-Shan 44.69 303 *e*P **P 14 55 07.7 -0.6**
TNSS Tian-Shan 44.69 303 *e*P **P 14 55 07.6 -0.6**
KNRA Kununurra 44.71 182 P **P 14 55 08.7 +0.8**
KNRA Kununurra 44.71 182 P **P 14 55 09.7 +1.7**
comp=Z,34nm,1.9s
AAA Alma-Ata 44.72 303 *e*P **P 14 55 07.5 -0.6**
comp=Z,13nm,0.5s
AAA Alma-Ata 44.72 303 *e*P **P 14 55 07.4 -0.6**
AAA pmax pmax
comp=Z,13nm,0.5s
KUU Kurty 45.13 304 *e*P **P 14 55 10.9 -0.3**
comp=Z,10nm,1.0s
KUU Kurty 45.13 304 *e*P **P 14 55 10.9 -0.3**
KUU pmax pmax
comp=Z,10.0nm,1.0s
KSH Kashi 45.57 298 P P 14 55 19.2 +4.3
KSH pmax pmax
comp=Z,11nm,0.8s
KSH LR LR
comp=Z,670nm,15.1s
KSH LR LR
comp=Z,1μm,15.1s
KSH LR LR
comp=Z,2μm,16.2s
SGDS Sogindy 46.38 304 *e*P **P 14 55 21.1 -0.1**
SGDS Sogindy 46.38 304 *e*P **P 14 55 21.0 -0.1**
AAK Ala-Archa 46.51 302 P **P 14 55 22.4 +0.1**
AAK Ala-Archa 46.51 302 *i*P **P 14 55 22.8 +0.4**
SNR=10.0
AAK Ala-Archa 46.51 302 LR LR 15 16 41.3
comp=Z,952nm,18.7s,baz=96,slow=38
AAK Ala-Archa 46.51 302*ce*P **P 14 55 22.3 +0.1**
AAK pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 46.51 302 P **P 14 55 22.7 +0.4**
BTLS Baital 46.77 306 *e*P **P 14 55 23.6 -0.5**
comp=Z,5.5nm,0.7s
BTLS Baital 46.77 306 *e*P **P 14 55 23.6 -0.5**
BTLS pmax pmax
comp=Z,5.0nm,0.7s
NRIK Noril'sk 47.04 341 P **P 14 55 24.8 -1.0**

NRIK	Noril'sk	47.04	341	P	P	14 55 24.9 -1.0
	comp=Z,31nm,0.7s,baz=118,slow=8.9,SNR=50					
NRIK				LR	LR	15 18 20.4
	comp=Z,667nm,18.1s,baz=135,slow=40					
	comp=Z,31nm,0.7s					
NRIK	Noril'sk	47.04	341⇑	*e*P	P	14 55 24.9 -1.0
NRIK				pmax	pmax	
	comp=Z,27nm,0.6s					
HNR	Honiara	47.79	139	LR	LR	15 15 52.7
	comp=Z,262nm,18.1s,baz=7.0,slow=36					
BRZS	Berezniki	47.82	312	*e*P	P	14 55 31.8 -0.4
	comp=Z,14nm,0.9s					
BRZS	Berezniki	47.82	312	*e*P	P	14 55 31.8 -0.4
BRZS				pmax	pmax	
	comp=Z,14nm,0.9s					
ARK	Arkit	48.43	301	P	P	14 55 38.7 +1.5
ARK				pmax	pmax	
	comp=Z,17nm,0.9s					
NIL	Nilore	48.54	291	P	P	14 55 37.8 -0.3
NIL	Nilore	48.54	291	P	P	14 55 37.8 -0.3
NIL				pmax	pmax	
	comp=Z,85nm,0.7s					
NIL	Nilore	48.54	291	P	P	14 55 38.8 +0.7
DZA	Taraz	48.82	303	*e*P	P	14 55 39.4 -0.6
DZA	Taraz	48.82	303	*e*P	P	14 55 39.4 -0.6
HYB	Hyderabad	48.83	268	*e*P	P	14 55 40.5 +0.1
WB0	Warramunga Arr	48.88	175	P	P	14 55 40.6 -0.1
WB0				IAmb	IAmb	14 55 55.8
	comp=Z,53nm,1.6s					
MTSU	Mount Surprise	48.96	163	P	P	14 55 39.4 -1.9
WRAB	Tennant Creek	49.05	175	*i* P	P	14 55 41.4 -0.5
WRAB				pmax	pmax	
	comp=Z,7.0nm,1.1s					
WRA	Warramunga Arr	49.05	175	P	P	14 55 41.6 -0.3
WRA	Warramunga Arr	49.05	175	P	P	14 55 42.8 +0.8
	comp=Z,5.4nm,0.9s,baz=354,slow=8.6,SNR=39					
WRA				LR	LR	15 15 03.3
	comp=Z,152nm,21.6s,baz=354,slow=34					
	comp=Z,5.4nm,0.9s					
WB2	Warramunga Arr	49.06	175	IAmb	IAmb	14 55 58.9
	comp=Z,17nm,0.8s					
WR0	Warramunga Arr	49.09	175	IAmb	IAmb	14 55 59.3
	comp=Z,18nm,0.8s					
SPIA	Saint Paul Isl	49.35	38	P	P	14 55 43.6 -0.2
	baz=262					
KKAR	Karatay Array	49.40	303	P	P	14 55 44.5 +0.1
KKAR	Karatay Array	49.40	303	IAmb	IAmb	14 55 46.9
	comp=Z,20nm,0.8s					
KKAR	Karatay Array	49.40	303	P	P	14 55 44.6 +0.1
BVAR	Borovoye Array	49.44	316	P	P	14 55 44.6 0.0
	comp=Z,42nm,0.7s,baz=95,slow=8.6,SNR=214					
BVAR				PcP	PcP	14 57 06.9 +0.5
	comp=Z,9.1nm,0.7s,baz=97,slow=3.2,SNR=5.1					
BVAR				LR	LR	15 17 59.1
	comp=Z,587nm,19.9s,baz=95,slow=38					
	comp=Z,42nm,0.7s					
BRVK	Borovoye	49.51	316	P	P	14 55 44.4 -0.7
BRVK	Borovoye	49.51	316	*ce*P	P	14 55 43.8 -1.3
BRVK				pmax	pmax	
	comp=Z,65nm,0.8s					
BRVK	Borovoye	49.51	316	P	P	14 55 45.0 -0.1
P08K	Saint George I	49.65	39	P	P	14 55 46.1 0.0
	baz=263					
NIKH	Nikolski High	49.70	44	P	P	14 55 46.5 -0.1
	baz=266					
BRLS	Borolday	49.90	303	*e*P	P	14 55 49.2 +0.8
BRLS	Borolday	49.90	303	*e*P	P	14 55 49.1 +0.8
QIS	Mount Isa	50.30	169	P	P	14 55 51.7 +0.3
	comp=Z,8.7nm,0.8s					
CTA	Charters Tower	51.35	161	LR	LR	15 16 34.3
	comp=Z,20nm,19.8s,baz=346,slow=34					
KBL	Kabul	51.78	293	P	P	14 56 03.2 +0.4
KBL				IAmb	IAmb	14 56 05.5
	comp=Z,20nm,0.8s					
KBL	Kabul	51.78	293	P	P	14 56 03.2 +0.4
KBL				pmax	pmax	
	comp=Z,20nm,0.8s					
M11K	Mekoryuk	51.87	34	P	P	14 56 02.7 0.0
	baz=263					
TNA	Tin City	52.01	28	P	P	14 56 03.8 0.0
	baz=257					
F14K	Arctic Creek	52.64	28	P	P	14 56 08.9 +0.5
	baz=259					
AS31	Alice Springs	52.72	176	P	P	14 56 10.5 +1.0
	comp=Z,3.5nm,0.6s					
ASAR	Alice Springs	52.72	176	P	P	14 56 09.0 -0.5
ASAR	Alice Springs	52.72	176	P	P	14 56 10.3 +0.8
	comp=Z,2.5nm,0.9s,baz=10,slow=13,SNR=55					
ASAR				LR	LR	15 17 49.1
	comp=Z,188nm,20.6s,baz=26,slow=35					
	comp=Z,2.5nm,0.9s					
AS01	Alice Springs	52.73	176	P	P	14 56 10.4 +0.9
G15K	Niukluk	53.51	29	P	P	14 56 15.7 +0.9
	baz=261					
WRKA	Warakurna	54.03	183	P	P	14 56 19.7 +0.5
	comp=Z,23nm,1.3s					
WRKA	Warakurna	54.03	183	P	P	14 56 20.0 +0.9
N14K	Kuskokwak Cree	54.08	35	P	P	14 56 18.9 -0.2
	baz=267					
H16K	Elim	54.22	29	P	P	14 56 19.8 -0.2
	baz=263					
K15K	Wolf Creek Mou	54.31	32	P	P	14 56 20.7 0.0
	baz=266					
RDOG	Red Dog Mine	54.45	25	P	P	14 56 21.9 +0.3
	baz=260					
E17K	Hotham Inlet	54.71	26	P	P	14 56 24.4 +0.8
	baz=262					
J16K	Anvik River	54.81	31	P	P	14 56 24.0 -0.3
	baz=266					
I17K	Unalakleet	54.82	30	P	P	14 56 23.5 -0.8
	baz=265					
F17K	Baldwin Pennin	54.85	27	P	P	14 56 25.3 +0.7
	baz=263					
N15K	Kwethluk River	54.89	35	P	P	14 56 25.3 +0.3
	baz=268					
G17K	Kiwalik Mounta	54.99	28	P	P	14 56 25.2 -0.4
	baz=264					
O15K	Ungalikthiuk R	55.01	36	P	P	14 56 25.5 -0.3
	baz=269					
SVE	Sverdlovsk	55.16	321	*e*P	P	14 56 27.3 +0.3
SVE				pmax	pmax	
	comp=Z,55nm,0.8s					
SVE				MLR	MLR	
	comp=Z,4μm,16.0s					
C18K	Utukok River	55.18	24	P	P	14 56 27.6 +0.6
	baz=261					
CHNA	Chernabura Isl	55.20	41	P	P	14 56 27.4 +0.1
	baz=272					
E18K	Tukpahlearik C	55.23	26	P	P	14 56 27.4 +0.1
	baz=263					
L16K	Owhat River	55.24	33	P	P	14 56 27.6 +0.1
	baz=268					
H17K	Granite Mounta	55.24	29	P	P	14 56 27.7 +0.3
	baz=265					
A19K	Wainwright	55.47	23	P	P	14 56 28.9 -0.1
	baz=260					
M16K	Timber Creek	55.47	34	P	P	14 56 29.9 +0.8
	baz=269					
J17K	VABM Dome	55.50	31	IAmb	IAmb	14 56 50.0
	comp=Z,31nm,1.1s					
J17K	VABM Dome	55.50	31	P	P	14 56 30.4 +1.1
	baz=267					
F18K	Selawik	55.51	27	P	P	14 56 29.9 +0.6
	baz=264					
N16K	Nishlik Lake	55.55	35	P	P	14 56 30.2 +0.4
	baz=269					
CHGN	Chignik	55.80	40	P	P	14 56 31.8 +0.3
	baz=272					
L17K	Donlin	55.81	33	P	P	14 56 32.4 +0.8
	baz=269					
C19K	Lookout Ridge	55.82	24	P	P	14 56 32.1 +0.5
	baz=263					
K17K	Iditarod	55.83	32	P	P	14 56 32.3 +0.6
	baz=268					
G18K	Tagagawik	55.84	28	P	P	14 56 32.4 +0.6
	baz=266					
O16K	Kokwok River B	55.89	36	P	P	14 56 32.9 +0.8
	baz=270					
H18K	Honhosa River	55.91	29	P	P	14 56 33.1 +0.8
	baz=266					
P16K	Nushagak River	55.95	36	P	P	14 56 33.1 +0.5
	baz=271					
ABKAR	Akbulak array	56.12	312	P	P	14 56 33.6 -0.3
ABKAR	Akbulak array	56.12	312	IAmb	IAmb	14 56 35.9
	comp=Z,69nm,0.8s					
M17K	Holitna River	56.21	33	IAmb	IAmb	14 56 49.1
	comp=Z,23nm,1.0s					
M17K	Holitna River	56.21	33	P	P	14 56 35.2 +0.8
	baz=270					
F19K	Shaleruckik Mo	56.27	27	P	P	14 56 35.3 +0.6
	baz=266					
D19K	Kuna River	56.28	25	P	P	14 56 35.5 +0.6
	baz=264					
N17K	Nushagak Hills	56.34	34	P	P	14 56 35.2 -0.2
	baz=271					
O17K	Koliganek Bris	56.40	35	P	P	14 56 35.6 -0.1
	baz=271					
ARTI	Arti	56.42	321	P	P	14 56 34.7 -1.4
ARTI	Arti	56.42	321	LR	LR	15 23 12.3
	comp=Z,969nm,21.5s,baz=84,slow=39					
ARTI	Arti	56.42	321	*c i* P	P	14 56 35.4 -0.6
ARTI						14 57 29.7
ARTI				S	S	15 04 26.7 +2.7
ARTI				SS	SS	15 08 06.3 -4.7
ARTI				pmax	pmax	
	comp=Z,32nm,0.6s					
ARTI				MLR	MLR	
	comp=Z,2μm,16.0s					
ARTI	Arti	56.42	321	P	P	14 56 35.5 -0.6
G19K	Purcell Mounta	56.50	28	IAmb	IAmb	14 56 49.5
	comp=Z,74nm,1.9s					
G19K	Purcell Mounta	56.50	28	P	P	14 56 36.8 +0.4
	baz=267					
E19K	Redstone River	56.52	26	IAmb	IAmb	14 56 54.5
	comp=Z,19nm,1.0s					
E19K	Redstone River	56.52	26	P	P	14 56 36.2 -0.4
	baz=266					
GCSA	Galena City Sc	56.53	29	P	P	14 56 37.7 +1.1
	baz=268					
J18K	Innoko River	56.57	31	P	P	14 56 37.7 +0.8
	baz=269					
L18K	Granite Mounta	56.57	32	IAmb	IAmb	14 56 54.2
	comp=Z,24nm,1.2s					
L18K	Granite Mounta	56.57	32	P	P	14 56 37.8 +0.8
	baz=270					
Q16K	King Salmon	56.66	37	P	P	14 56 38.0 +0.4
	baz=272					
H19K	Roundabout Mou	56.73	28	IAmb	IAmb	14 56 51.0
	comp=Z,33nm,1.1s					
H19K	Roundabout Mou	56.73	28	P	P	14 56 38.8 +0.8
	baz=268,SNR=6.0					
P17K	Kvichak River	56.75	36	P	P	14 56 38.9 +0.6
	baz=272					
B20K	Meade River	56.77	23	P	P	14 56 38.4 +0.2
	baz=264					
D20K	Etivluk River	56.85	25	P	P	14 56 39.4 +0.5
	baz=266					
R17L	Mt. Peulik Vol	56.86	38	P	P	14 56 39.6 +0.4
	baz=273					
TTA	Tatalina	56.88	32	P	P	14 56 39.7 +0.5
	baz=270					
OOD	Oodnadatta	56.95	175	P	P	14 56 41.4 +1.4
E20K	Nigu River	56.97	25	P	P	14 56 40.9 +1.1
	baz=266					
N18K	Kilae Creek	56.97	34	P	P	14 56 40.4 +0.5
	baz=272					
M18K	Stony River	56.99	33	P	P	14 56 40.4 +0.4
	baz=271					
J19K	Poorman	57.06	30	P	P	14 56 41.7 +1.3
J19K				IAmb	IAmb	14 56 53.8
	comp=Z,45nm,1.4s					
J19K	Poorman	57.06	30	P	P	14 56 41.0 +0.6
	baz=270,SNR=8.8					
Q17K	Contact Creek	57.08	37	P	P	14 56 41.2 +0.4
	baz=273					
F20K	Avaraart Lake	57.09	27	P	P	14 56 41.6 +1.0
	baz=268					
AKTO	Aktyubinsk	57.20	313	LR	LR	15 23 21.1
	comp=Z,3μm,18.2s,baz=56,slow=38					
HRA	Herat	57.28	294	IAmb	IAmb	14 56 45.3
	comp=Z,22nm,0.7s					
O18K	Koktuh Hills	57.35	35	P	P	14 56 42.8 +0.2
	baz=273					
P18K	Big Mountain,	57.36	36	P	P	14 56 43.1 +0.4
	baz=273					
H20K	Anotleneega Mo	57.39	29	P	P	14 56 43.6 +0.8
	baz=269					
CHIR	Chirikof Islan	57.40	40	P	P	14 56 43.5 +0.6
	baz=275					
L19K	White Mountain	57.43	32	P	P	14 56 43.5 +0.4
	baz=272					
Q18K	Katmai Hardscr	57.52	37	P	P	14 56 43.9 0.0
	baz=274					
C21K	Knifeblade Rid	57.53	24	P	P	14 56 44.6 +0.9
	baz=267					
A22K	Sinclair Lake	57.58	22	P	P	14 56 44.5 +0.5
	baz=266					
B21K	Ikpikpuk River	57.62	24	P	P	14 56 44.9 +0.6
	baz=267					
M19K	Big River Lodg	57.66	33	P	P	14 56 45.3 +0.6
	baz=272					
N19K	Bonanza Creek	57.66	34	P	P	14 56 44.9 0.0
	baz=273					
J20K	Nowinta River	57.71	30	IAmb	IAmb	14 56 58.9
	comp=Z,46nm,1.3s					
J20K	Nowinta River	57.71	30	P	P	14 56 46.1 +1.2
	baz=271,SNR=8.4					
K20K	Telida	57.76	31	IAmb	IAmb	14 56 59.4
	comp=Z,25nm,1.1s					
K20K	Telida	57.76	31	P	P	14 56 45.8 +0.4
	baz=272					
L20K	Farewell, AK	57.87	32	P	P	14 56 46.6 +0.4
	baz=272					
R18K	Karluk	57.89	38	P	P	14 56 46.8 +0.5
	baz=275					
G21K	Allakaket	57.95	27	P	P	14 56 47.4 +0.7
	baz=270					
F21K	Alatna River	57.97	26	IAmb	IAmb	14 58 12.9
	comp=Z,36nm,1.9s					
F21K	Alatna River	57.97	26	P	P	14 56 47.4 +0.6
	baz=270					
B22K	Teshekpuk Lake	58.06	23	P	P	14 56 48.1 +0.7
	baz=268					
H21K	Melozitna Rive	58.25	28	IAmb	IAmb	14 57 03.2
	comp=Z,20nm,1.1s					
H21K	Melozitna Rive	58.25	28	P	P	14 56 49.8 +1.0
	baz=271,SNR=5.5					
M20K	Styx River	58.25	33	P	P	14 56 49.3 +0.3
	baz=273					
D22K	Ayikyak River	58.28	25	P	P	14 56 49.6 +0.6
	baz=269					
P19K	Oil Pt	58.36	35	P	P	14 56 50.2 +0.5
	baz=275					
F22K	John River	58.47	26	P	P	14 56 50.2 -0.1
	baz=271					
OHAK	Old Harbor	58.55	38	P	P	14 56 50.9 -0.1
	baz=276					
OHAK	Old Harbor	58.55	38	P	P	14 56 51.3 +0.3
E22K	Anaktuvuk Pass	58.60	25	IAmb	IAmb	14 57 09.3
	comp=Z,26nm,1.1s					
E22K	Anaktuvuk Pass	58.60	25	P	P	14 56 51.7 +0.5
	baz=271,SNR=7.8					
I21K	Tanana	58.61	29	P	P	14 56 51.1 -0.1
	baz=272					
O20K	Slope Mountain	58.63	35	P	P	14 56 51.9 +0.3
	baz=275					
PPLA	Purkeypile	58.63	32	P	P	14 56 52.2 +0.6
	baz=273					
CAST	Castle Rocks	58.65	31	IAmb	IAmb	14 57 08.7
	comp=Z,24nm,1.2s					
CAST	Castle Rocks	58.65	31	P	P	14 56 53.0 +1.4
	baz=273,SNR=6.1					
N20K	Mount Spurr	58.74	34	P	P	14 56 53.4 +1.1
	baz=274					
G22K	Bettles	58.74	27	P	P	14 56 53.0 +0.9
	baz=272,SNR=6.1					
SPU	Mount Spurr	58.82	34	IAmb	IAmb	14 57 09.5
	comp=Z,25nm,1.3s					
H22K	Ishtalitna Cre	58.83	28	P	P	14 56 54.2 +1.4
	baz=272,SNR=12					
KDAK	Kodiak Island	58.87	38	P	P	14 56 54.1 +1.0
	baz=276					
KDAK	Kodiak Island	58.87	38	P	P	14 56 53.8 +0.6
KDAK				pP	pP	14 57 05.1 +0.9
SKT	Skwentna	59.00	33	IAmb	IAmb	14 57 07.0
	comp=Z,14nm,1.1s					
SKT	Skwentna	59.00	33	P	P	14 56 54.9 +0.8
	baz=275					
D23K	Nanushuk River	59.01	24	P	P	14 56 54.9 +0.9
	baz=271					
C23K	Itkillik River	59.02	23	P	P	14 56 55.6 +1.6
	baz=271					
BPAW	Bear Paw Mtn.	59.09	30	IAmb	IAmb	14 57 08.4
	comp=Z,27nm,1.3s					
BPAW	Bear Paw Mtn.	59.09	30	P	P	14 56 55.7 +1.0
	baz=274					
MLY	Manley	59.14	29	P	P	14 56 55.9 +0.9
MLY	Manley	59.14	29	P	P	14 56 56.2 +1.2
	baz=273,SNR=7.0					
HOM	Homer	59.16	35	P	P	14 56 55.1 -0.1
	baz=276					
MULG	Mulgathing	59.31	176	P	P	14 56 57.7 +1.3
G23K	Bananza Creek	59.34	27	IAmb	IAmb	14 57 09.2
	comp=Z,16nm,1.1s					
G23K	Bananza Creek	59.34	27	P	P	14 56 57.5 +1.1
	baz=273					
SUA	Susitna One	59.42	33	IAmb	IAmb	14 57 12.1
	comp=Z,25nm,0.8s					
SUA	Susitna One	59.42	33	P	P	14 56 57.6 +0.5
	baz=276,SNR=9.4					
TOLK	Toolik Lake Re	59.42	25	P	P	14 56 57.4 +0.5
	baz=272					
E23K	Chandalar	59.43	25	P	P	14 56 57.8 +0.7
	baz=273					
TRF	Thorofare Moun	59.45	31	P	P	14 56 58.0 +0.7
	baz=275					
CUT	Chulitna	59.55	32	P	P	14 56 58.5 +0.7
	baz=275					
H23K	Yukon River	59.59	28	P	P	14 56 59.2 +1.1
	baz=274					
BRSE	Bradley Lake S	59.60	35	P	P	14 56 59.1 +0.8
	baz=277					
D24K	Happy Valley	59.67	24	IAmb	IAmb	14 57 13.3
	comp=Z,20nm,0.8s					
D24K	Happy Valley	59.67	24	P	P	14 56 59.3 +0.8
	baz=273,SNR=5.7					
C24K	Franklin Bluff	59.69	23	P	P	14 56 59.5 +0.9
	baz=272					
E24K	Your Creek	59.85	25	P	P	14 57 00.8 +0.9
	baz=274,SNR=6.4					
NEA2	Nenana	59.89	29	P	P	14 57 01.4 +1.2
	baz=275,SNR=9.7					
RC01	Rabbit Creek A	59.95	34	P	P	14 57 01.5 +1.0
	baz=277					
O22K	Cooper Landing	60.02	34	P	P	14 57 02.1 +1.0
	baz=277					
MCK	McKinley	60.03	30	P	P	14 57 02.1 +1.0
	baz=276					
F24K	Squaw Lake	60.12	26	IAmb	IAmb	14 57 05.2
	comp=Z,9.4nm,0.8s					
F24K	Squaw Lake	60.12	26	P	P	14 57 03.2 +1.4
	baz=274,SNR=8.0					
PMR	Palmer	60.18	33	P	P	14 57 01.9 -0.2
PMR				IAmb	IAmb	14 57 14.8
	comp=Z,18nm,1.1s					
PMR	Palmer	60.18	33	P	P	14 57 03.4 +1.3
	baz=277					
PMR	Palmer	60.18	33	P	P	14 57 01.9 -0.2
PMR				pmax	pmax	
	comp=Z,18nm,1.1s					
SEW	Seward	60.20	35	P	P	14 57 03.3 +1.0
	baz=277					
GHO	Glory Hole Cre	60.25	33	IAmb	IAmb	14 57 16.7
	comp=Z,14nm,0.8s					
H24K	Noodor Dome	60.27	28	P	P	14 57 03.5 +0.7
	baz=276					
WAT1	Susitna Watana	60.30	31	P	P	14 57 03.9 +0.9
	baz=277					
WRH	Wood River Hil	60.32	30	IAmb	IAmb	14 57 17.2
	comp=Z,14nm,1.1s					
G24K	Hadweenzic Riv	60.35	27	IAmb	IAmb	14 57 19.8
	comp=Z,22nm,1.2s					
G24K	Hadweenzic Riv	60.35	27	P	P	14 57 04.8 +1.5
	baz=275					
COLA	College	60.38	29	P	P	14 57 04.5 +1.0
	baz=276					
COLA	College	60.38	29	*i* P	P	14 57 04.4 +1.0
COLA				pmax	pmax	
	comp=Z,28nm,2.0s					
KNK	Knik Glacier	60.52	33	IAmb	IAmb	14 57 18.0
	comp=Z,20nm,0.8s					
KNK	Knik Glacier	60.52	33	P	P	14 57 05.5 +0.9
	baz=278					
SML	Sawmill	60.53	33	P	P	14 57 05.1 +0.5
SML	Sawmill	60.53	33	P	P	14 57 05.0 +0.4
	baz=277					
SML	Sawmill	60.53	33	P	P	14 57 05.1 +0.5
SML				pmax	pmax	
	comp=Z,79nm,1.8s					
D25K	Kavik River	60.53	24	P	P	14 57 04.9 +0.4
	baz=275					
POKR	Poker Plat Res	60.53	29	P	P	14 57 05.5 +1.0
	baz=276,SNR=6.6					
PWL	Port Wells	60.65	34	P	P	14 57 06.4 +0.9
	baz=278					
WAT6	Susitna Watana	60.70	32	P	P	14 57 06.7 +0.8
	baz=278,SNR=5.6					
DHY	Denali Highway	60.80	31	IAmb	IAmb	14 57 19.5
	comp=Z,21nm,1.4s					
DHY	Denali Highway	60.80	31	P	P	14 57 07.2 +0.7
	baz=278					
IL31		60.80	29	IAmb	IAmb	14 57 22.7
	comp=Z,53nm,1.9s					
ILAR	Eielson Array	60.80	29	P	P	14 57 05.7 -0.7
ILAR	Eielson Array	60.80	29	P	P	14 57 06.5 +0.1
	comp=Z,2.1nm,0.7s,baz=263,slow=5.1,SNR=33					
ILAR				LR	LR	15 25 59.3
	comp=Z,149nm,18.2s,baz=267,slow=38					
	comp=Z,2.1nm,0.7s					
M23K	Glacier View	60.81	33	P	P	14 57 07.2 +0.7
	baz=278					
HDA	Harding Lake	60.82	30	P	P	14 57 07.3 +0.8
	baz=277,SNR=6.4					
G25K	Bearman Lake	60.89	27	P	P	14 57 08.4 +1.5
	baz=277					
E25K	Arctic Village	60.94	25	P	P	14 57 07.6 +0.3
	baz=276					
F25K	Christian Rive	60.97	26	IAmb	IAmb	14 57 22.6
	comp=Z,13nm,0.9s					
F25K	Christian Rive	60.97	26	P	P	14 57 08.4 +0.8
	baz=276					
C26K	Camden Bay	60.98	23	P	P	14 57 08.1 +0.7
	baz=276					
SCM	Sheep Creek Mo	60.99	33	P	P	14 57 08.7 +0.9
	baz=278					
KIRV	Kirov	61.00	324	LR	LR	15 26 16.6
	comp=Z,607nm,18.1s,baz=75,slow=39					
KIRV	Kirov	61.00	324	*ce*P	P	14 57 06.2 -1.5
P23K	Montague Islan	61.24	35	P	P	14 57 10.1 +0.7
	baz=279					
GLI	Glacier Island	61.25	34	P	P	14 57 10.5 +1.0
	baz=279					
PRP	Porcupine Dome	61.28	28	P	P	14 57 10.1 +0.3
PRP	Porcupine Dome	61.28	28	P	P	14 57 10.7 +0.9
	baz=278,SNR=8.4					
BMAR	Burnt Mountain	61.40	26	P	P	14 57 11.7 +1.3
K24K	Donnelly Dome	61.41	30	P	P	14 57 11.8 +1.2
	baz=278					
C27K	Jago River	61.43	23	IAmb	IAmb	14 57 25.1
	comp=Z,11nm,0.8s					
C27K	Jago River	61.43	23	P	P	14 57 11.2 +0.6
	baz=277					
J25K	Salcha River,	61.47	29	IAmb	IAmb	14 57 24.9
	comp=Z,28nm,1.9s					
J25K	Salcha River,	61.47	29	P	P	14 57 11.9 +0.9
	baz=278					
M24K	Tolsona, Glenn	61.49	32	P	P	14 57 12.0 +0.9
	baz=279					
F26K	Sheenjek River	61.52	26	IAmb	IAmb	14 57 26.4
	comp=Z,17nm,0.9s					
F26K	Sheenjek River	61.52	26	P	P	14 57 12.0 +0.8
	baz=278					
DZM	Mont Dzumac	61.65	142	*e*LR	LR	15 15 27.5
	comp=Z,294nm,23.4s					
DZM	Mont Dzumac	61.65	142	LR	LR	15 19 53.6
	comp=Z,171nm,20.4s,baz=344,slow=32					
DZM	Mont Dzumac	61.65	142	P	P	14 57 15.3 +2.6
PAX	Paxson	61.68	31	P	P	14 57 13.3 +0.8
	baz=279					
STKA	Stephens Creek	61.70	169	P	P	14 57 13.3 +0.6
	comp=Z,2.4nm,0.6s,baz=350,slow=7.0,SNR=8.3					
STKA				LR	LR	15 24 02.0
	comp=Z,191nm,20.7s,baz=346,slow=36					
	comp=Z,2.4nm,0.6s					
KLU	Klutina	61.71	33	IAmb	IAmb	14 57 27.8
	comp=Z,14nm,1.0s					
KLU	Klutina	61.71	33	P	P	14 57 12.9 +0.3
	baz=280					
G26K	Porcupine Rive	61.77	26	P	P	14 57 13.6 +0.7
	baz=278					
HARP	HAARP	61.91	32	P	P	14 57 14.3 +0.4
	baz=280					
EYAK	Cordova Ski Ar	61.96	34	P	P	14 57 14.7 +0.5

baz=280
EYAK Cordova Ski Ar 61.96 34 P **P 14 57 15.8 +1.6**
CMSA Cobar Meteorol 62.16 165 P **P 14 57 16.4 +0.6**
comp=Z,11nm,1.2s
CMSA Cobar Meteorol 62.16 165 P **P 14 57 17.7 +1.9**
SCRK Sand Creek 62.17 30 P **P 14 57 16.6 +0.9**
baz=280,SNR=10
J26L Joseph Creek 62.26 29 IAmb IAmb 14 57 29.4
comp=Z,12nm,0.8s
J26L Joseph Creek 62.26 29 P **P 14 57 17.0 +0.7**
baz=280,SNR=8.3
I26K Coal Creek Min 62.29 28 P **P 14 57 16.6 +0.2**
baz=280
N25K Chitina, Valde 62.31 33 P **P 14 57 16.5 -0.2**
baz=281
E27K Coleen River 62.40 25 IAmb IAmb 14 57 31.8
comp=Z,9.5nm,0.8s
E27K Coleen River 62.40 25 P **P 14 57 17.4 +0.3**
baz=280,SNR=7.0
BMRM Bremner River 62.43 33 P **P 14 57 18.1 +0.6**
baz=281
D27M Malcolm River 62.45 24 IAmb IAmb 14 57 30.4
comp=Z,41nm,1.8s
D27M Malcolm River 62.45 24 P **P 14 57 18.3 +0.8**
baz=280,SNR=7.0
L26K Log Cabin Wild 62.62 31 IAmb IAmb 14 57 32.4
comp=Z,48nm,1.6s
L26K Log Cabin Wild 62.62 31 P **P 14 57 18.9 +0.2**
baz=281
G27K Doyon Strip 62.62 26 IAmb IAmb 14 57 58.3
comp=Z,22nm,1.7s
G27K Doyon Strip 62.62 26 P **P 14 57 19.6 +1.0**
baz=280
GLB Gilahina Butte 62.72 33 IAmb IAmb 14 57 32.2
comp=Z,51nm,1.6s
H27K Steamboat Moun 62.78 27 P **P 14 57 21.5 +1.7**
baz=281,SNR=8.4
I27K Kandik River 62.87 28 P **P 14 57 20.8 +0.5**
baz=281,SNR=14
M26K Nabesna, AK 62.90 31 IAmb IAmb 14 57 34.7
comp=Z,22nm,0.9s
M26K Nabesna, AK 62.90 31 P **P 14 57 21.3 +0.7**
baz=282,SNR=9.1
VRDI Verde Repeater 62.93 33 IAmb IAmb 14 57 34.3
comp=Z,17nm,1.0s
K27K Chicken 62.98 30 P **P 14 57 21.8 +0.7**
baz=282
E28M Babbage River 63.07 24 IAmb IAmb 14 57 35.7
comp=Z,16nm,1.2s
E28M Babbage River 63.07 24 P **P 14 57 22.4 +0.8**
baz=282
MCARA McCarthy VSAT 63.10 33 IAmb IAmb 14 57 39.3
comp=Z,24nm,1.1s
MCARA McCarthy VSAT 63.10 33 P **P 14 57 23.4 +1.5**
baz=282
NWAO Narrogin (SRO) 63.13 193 P P 14 57 17.8 -4.5
NWAO Narrogin (SRO) 63.13 193 LR LR 15 27 01.6
comp=Z,113nm,19.8s,baz=295,slow=38
F28M Old Crow 63.15 25 IAmb IAmb 14 57 40.2
comp=Z,40nm,1.5s
F28M Old Crow 63.15 25 P **P 14 57 23.3 +1.2**
baz=282,SNR=5.0
CRQM Cirque 63.18 33 IAmb IAmb 14 57 35.9
comp=Z,31nm,1.0s
CRQE Cirque 63.20 33 P **P 14 57 23.1 +0.4**
baz=282
D28M Stokes Point 63.21 23 P **P 14 57 23.8 +1.4**
baz=282
EGAK Eagle 63.22 29 IAmb IAmb 14 57 44.6
comp=Z,45nm,2.0s
EGAK Eagle 63.22 29 P **P 14 57 23.2 +0.6**
baz=282
BELG Belogornoye 63.24 317 LR LR 15 26 49.7
comp=Z,838nm,18.6s,baz=64,slow=38
BELG Belogornoye 63.24 317 *i* P **P 14 57 22.4 -0.5**
BELG pmax pmax
comp=Z,7.0nm,0.9s
L27K Beaver Creek, 63.29 31 IAmb IAmb 14 57 37.1
comp=Z,24nm,1.3s
L27K Beaver Creek, 63.29 31 P **P 14 57 23.6 +0.4**
baz=282
BCAR Beaver Creek A 63.31 31 P **P 14 57 24.3 +1.0**
TGL Tana Glacier 63.33 33 IAmb IAmb 14 57 37.1
comp=Z,12nm,0.8s
M27K Edge Creek, AK 63.42 31 P **P 14 57 24.2 +0.1**
baz=282
I28M Miner Creek 63.58 28 P **P 14 57 26.1 +1.0**
baz=283,SNR=9.4
E29M Blow River 63.71 24 P **P 14 57 26.5 +0.8**
baz=283
MESA MESA 63.88 34 P **P 14 57 27.7 +0.4**
baz=284
CTG Chitna Glacier 63.99 33 P **P 14 57 29.2 +1.3**
baz=284
G29M Pine Creek 64.00 26 IAmb IAmb 14 57 41.0
comp=Z,23nm,1.1s
G29M Pine Creek 64.00 26 P **P 14 57 28.0 +0.3**
baz=284
H29M Whitestone 64.03 27 IAmb IAmb 14 58 05.0
comp=Z,43nm,1.6s
H29M Whitestone 64.03 27 P **P 14 57 28.6 +0.6**
baz=284
DAWY Dawson 64.13 29 IAmb IAmb 14 57 44.4
comp=Z,19nm,1.5s
DAWY Dawson 64.13 29 P **P 14 57 30.1 +1.5**
baz=284
YUK3 Moose Creek 64.21 32 P **P 14 57 29.7 +0.3**
baz=284
J29N Klondike Camp 64.53 29 P **P 14 57 32.7 +1.4**
baz=285,SNR=8.6
O28M Mount Upton 64.58 33 P **P 14 57 32.3 +0.3**
baz=285
EPYK Eagle Plains 64.64 26 P **P 14 57 33.6 +1.6**
baz=285,SNR=11
YUK8 Steele Glacier 64.65 32 P **P 14 57 33.2 +0.8**
baz=285
F30M Barrier River 64.67 25 P **P 14 57 33.7 +1.6**
baz=285
G30M tAoh Zraii Nji 64.67 26 P **P 14 57 33.4 +1.2**
baz=285
PINM Pinnacle 64.72 34 P **P 14 57 33.4 +0.8**
baz=285
L29M L29M 64.92 30 P **P 14 57 35.1 +1.3**
baz=285,SNR=8.3
SHME Shamm 64.93 287 P **P 14 57 35.2 +0.7**
M29M Somme Creek 64.94 31 IAmb IAmb 14 57 48.4
comp=Z,44nm,1.7s
M29M Somme Creek 64.94 31 P **P 14 57 35.3 +1.2**
baz=285
K29M Barlow Dome 64.98 29 IAmb IAmb 14 57 50.7
comp=Z,16nm,1.1s
K29M Barlow Dome 64.98 29 P **P 14 57 35.3 +1.0**
baz=286,SNR=5.9
I30M Mount Dempster 65.09 28 P **P 14 57 35.5 +0.6**
baz=286,SNR=7.5
YUK4 Talbot Arm 65.16 32 P **P 14 57 36.4 +0.8**
baz=286
J30M Hart River 65.28 28 P **P 14 57 36.4 +0.1**
baz=286
INK Inuvik 65.30 24 IAmb IAmb 14 57 38.4
comp=Z,7.2nm,0.5s
INK Inuvik 65.30 24 LR LR 15 28 52.2
comp=Z,228nm,20.3s,baz=272,slow=38
INK Inuvik 65.30 24 P **P 14 57 36.7 +0.6**
baz=287,SNR=11
INK Inuvik 65.30 24 P **P 14 57 37.4 +1.3**
INK pmax pmax
comp=Z,9.0nm,0.5s
SOHO SOHO 65.32 285 *i* P **P 14 57 37.8 +0.8**
SNR=9.6
HATD Hatta, Dubai 65.39 286 P **P 14 57 39.3 +1.8**
KLMR Klimovskoe 65.39 327 *e*P **P 14 57 33.5 -3.3**
KLMR pmax pmax
comp=Z,23nm,1.2s
YUK6 Outpost Mounta 65.40 32 P **P 14 57 37.3 +0.1**
baz=286
YNG Young 65.43 164 P **P 14 57 38.5 +1.1**
comp=Z,54nm,2.4s
MSVF Nonsawu 65.46 129 LR LR 15 25 22.6
comp=Z,110nm,18.0s,baz=196,slow=35
F31M Tsiigehtchic 65.47 25 P **P 14 57 38.3 +1.1**
baz=287
O29M Mount Kennedy 65.48 33 P **P 14 57 38.1 +0.5**
baz=286
ASHO Ashiyiah 65.51 286 *i* P **P 14 57 39.0 +0.7**
SNR=7.0
H31M Peel River 65.73 27 IAmb IAmb 14 57 51.3
comp=Z,17nm,1.1s
H31M Peel River 65.73 27 P **P 14 57 40.5 +1.5**
baz=287,SNR=5.6
HYT Haines Junctio 65.83 32 P **P 14 57 40.3 +0.4**
baz=287
N30M Aishikik Lake 65.84 32 P **P 14 57 40.4 +0.6**
baz=287
FAQ Al Faqa, Dubai 65.88 286 P **P 14 57 42.5 +1.9**
MAK Makhachkala 65.92 307 *e*P **P 14 57 37.7 -2.9**
MAK *e* 15 00 02.6
MAK *e*PPP PPP 15 01 37.4
MAK *e*S **S 15 06 23.1 -2.0**
MAK *e*SS **SS 15 10 42.0 +1.9**
MAK MLR MLR
comp=Z,855nm,15.0s
ALNE Al Ain 66.01 285 *i* P **P 14 57 42.5 +1.0**
SNR=6.5
P29M Windy Craggy 66.07 34 P **P 14 57 42.1 +0.8**
baz=287
AKT Akhty 66.23 305 *e*P **P 14 57 43.4 +0.6**
AKT *e* 14 58 13.7
AKT pmax pmax
comp=Z,65nm,0.8s
AKT pmax pmax
comp=Z,802nm,18.0s
SPITS Spitsbergen Ar 66.29 348 P **P 14 57 40.4 -2.0**
comp=Z,4.7nm,0.7s,baz=90,slow=10,SNR=1.1
SPITS LR LR 15 29 58.3
comp=Z,552nm,18.5s,baz=7.0,slow=39
comp=Z,4.7nm,0.7s
P30M Million Dollar 66.30 33 P **P 14 57 43.1 +0.3**
baz=288
N31M Braeburn, Yuko 66.43 31 P **P 14 57 43.3 -0.3**
baz=288
AJN Ajban 66.46 286 P **P 14 57 45.8 +1.5**
O30N Mendenhall 66.51 32 P **P 14 57 45.1 +0.9**
baz=288
A36M Sachs Harbour 66.70 19 IAmb IAmb 14 57 57.3
comp=Z,26nm,1.1s
A36M Sachs Harbour 66.70 19 P **P 14 57 45.8 +0.7**
baz=293,SNR=15
PLBC Pleasant Camp 66.79 34 P **P 14 57 46.1 +0.2**
baz=288
M31M Drury Creek, Y 66.83 31 P **P 14 57 47.9 +1.8**
baz=289
VRH Novokhopyorsk 67.09 317 *e*P **P 14 57 47.3 -0.6**
VRH pmax pmax
comp=Z,30nm,0.8s
WHY Whitehorse 67.11 32 P **P 14 57 49.2 +1.2**
baz=289
FARO Faro, Yukon 67.28 30 IAmb IAmb 14 58 03.4
comp=Z,13nm,0.9s
FARO Faro, Yukon 67.28 30 P **P 14 57 50.1 +1.1**
baz=290,SNR=7.1
SKAG Skagway 67.29 34 P **P 14 57 49.8 +0.8**
baz=289
MOS Moscow 67.92 322 *e*P **P 14 57 49.8 -3.2**
MOS MLR MLR
comp=N,800nm,18.0s
MOS MLR MLR
comp=Z,2μm,18.0s
MOS MLR MLR
comp=E,2μm,17.0s
ARCES ARCESS Array B 67.94 339 P **P 14 57 51.2 -1.8**
comp=E,2.8nm,0.7s,baz=34,slow=5.9,SNR=9.2
ARCES LR LR 15 32 54.4
comp=E,1μm,18.8s,baz=56,slow=41
comp=E,2.8nm,0.7s
C36M Paulatuk 68.13 22 P **P 14 57 54.8 +0.7**
baz=295,SNR=19
P33M Teslin, Yukon 68.23 32 P **P 14 57 55.8 +0.7**
baz=291
LPSR Galich'ya Gora 68.26 319 *e*P P 14 57 50.9 -4.4
LPSR pmax pmax
comp=Z,30nm,1.0s
S32K Killisnoo 68.34 35 P **P 14 57 56.6 +1.0**
baz=290
VORR Voronezh 68.42 318 *e*P **P 14 57 55.5 -0.8**
VORR pmax pmax
comp=Z,50nm,0.4s
VSR Storozhevoye 68.60 318 *e*P **P 14 57 54.3 -3.1**
VSR pmax pmax
comp=Z,20nm,0.9s
OBN Obninsk 68.70 322 LR LR 15 30 53.3
comp=Z,1μm,19.8s,baz=32,slow=38
OBN Obninsk 68.70 322⇓*e*P **P 14 57 57.5 -0.4**
OBN *e* 15 00 29.2
OBN *e*S **S 15 07 01.3 +3.2**
OBN pmax pmax
comp=Z,34nm,1.8s
OBN MLR MLR
comp=Z,1μm,19.0s
GNI Garni 68.82 305 P **P 14 57 59.2 0.0**
GNI IAmb IAmb 14 58 02.3
comp=Z,28nm,0.8s
GNI Garni 68.82 305 P **P 14 58 00.9 +1.7**
GNI Garni 68.82 305*ce*P **P 14 57 59.9 +0.7**
GNI pmax pmax
comp=Z,23nm,0.7s
GNI Garni 68.82 305 P **P 14 57 59.5 +0.3**
comp=Z,42nm,1.0s
GNI Garni 68.82 305 P **P 14 58 01.2 +2.0**
KBZ Khabaz 68.84 309 P **P 14 57 58.9 -0.2**
comp=Z,33nm,0.8s,baz=74,slow=4.3,SNR=58
KBZ LR LR 15 34 06.8
comp=Z,519nm,18.3s,baz=79,slow=41
KBZ Khabaz 68.84 309*ce*P **P 14 57 59.2 +0.2**
KBZ pmax pmax
comp=Z,38nm,0.9s
KVAR Kislovodsk Arr 68.90 309 LR LR 15 32 30.6
comp=Z,318nm,18.1s,baz=226,slow=40
KIV Kislovodsk 68.90 309 *i* P **P 14 58 01.0 +1.5**
SNR=5.7
KIV Kislovodsk 68.90 309⇑P **P 14 57 59.9 +0.4**
KIV Kislovodsk 68.90 309 *e*P **P 14 57 59.7 +0.1**
KIV pmax pmax
comp=Z,55nm,1.1s
KIV Kislovodsk 68.90 309 P **P 14 57 59.9 +0.4**
comp=Z,54nm,1.1s,comp=Z,503nm
KIV pP **pP 14 58 07.6 -3.4**
comp=Z,54nm,1.1s,comp=Z,503nm
KIV Kislovodsk 68.90 309 P **P 14 57 60.0 +0.4**
Q32M Nakina River 68.94 33 P **P 14 58 01.0 +1.4**
baz=292
SHA1 Shidzhatmaz 69.00 309*ce*P **P 14 58 01.1 +0.8**
R33M Jennings River 69.40 33 P **P 14 58 03.4 +1.0**
baz=293
WTLY Watson Lake, Y 70.12 32 IAmb IAmb 14 58 19.9
comp=Z,26nm,1.4s
WTLY Watson Lake, Y 70.12 32 P **P 14 58 08.8 +2.0**
baz=294,SNR=5.2
DLBC Dease Lake 70.22 33 LR LR 15 33 08.9
comp=Z,118nm,18.1s,baz=297,slow=40
V35K Ketchikan 70.67 37 P **P 14 58 12.2 +2.2**
baz=294
T35M Bob Quinn 70.70 35 P **P 14 58 11.9 +1.5**
baz=294
SOC Sochi 71.04 310 *e*P **P 14 58 10.6 -2.0**
SOC *e* 15 00 47.2
SOC *e*PPP PPP 15 02 31.5
SOC *e*S **S 15 07 25.6 -0.4**
SOC *e*SS **SS 15 11 58.4 -0.7**
FINES FINESS Array B 71.24 331 P **P 14 58 12.0 -1.4**
FINES FINESS Array B 71.24 331 P **P 14 58 12.9 -0.5**
comp=Z,6.3nm,0.5s,baz=59,slow=5.4,SNR=48
FINES LR LR 15 32 49.0
comp=Z,752nm,21.0s,baz=60,slow=39
comp=Z,6.3nm,0.5s
LIRD Liard River Hi 71.66 32 P **P 14 58 17.3 +1.3**
baz=296
ANN Anapa 72.08 312 *e*P **P 14 58 19.2 +0.4**
ANN pmax pmax
comp=Z,67nm,0.9s
ANN MLR MLR
comp=Z,1μm,20.0s
RES Resolute Bay 72.19 11 IAmb IAmb 14 58 21.1
comp=Z,28nm,1.1s
RES Resolute Bay 72.19 11 LR LR 15 33 15.6
comp=Z,238nm,18.8s,baz=347,slow=38
RES Resolute Bay 72.19 11 P **P 14 58 20.3 +1.4**
RES pmax pmax
comp=Z,33nm,0.9s
VSU Vasula 72.30 328*ce*P **P 14 58 19.6 -0.2**
VSU pmax pmax
comp=Z,27nm,0.8s
TOAD Toad River Com 72.31 32 P **P 14 58 21.3 +1.3**
baz=297
MNK Minsk 73.54 324 *i* P **P 14 58 27.5 +0.2**
comp=E,15nm,0.9s
MNK *i* P **P 14 58 27.5 +0.2**
comp=N,18nm,0.8s
MNK *i* P **P 14 58 27.5 +0.2**
comp=Z,11nm,0.7s,baz=62
MNK *i* PcP **sP 14 58 42.9 -0.4**
MNK *i* PP PP 15 00 47.1 -24
MNK *i* PPP PPP 15 02 57.0
MNK *i* S **S 15 07 56.5 +2.3**
MNK *i* SS SS 15 12 01.7 -35
MNK *i* SSS SSS 15 15 39.9
MNK *i* LQ LQ 15 27 17.1
MNK *i* LR LR 15 31 23.8
MNK *i* LRM MLR 15 34 01.9
comp=Z,1μm,16.0s
MNK *i* LRM MLR 15 34 04.3
comp=N,811nm,15.7s
MNK *i* LRM MLR 15 34 04.5
comp=E,519nm,16.0s
MNK Minsk 73.54 324 *i* P **P 14 58 27.5 +0.2**
MNK *i* 14 58 42.9
MNK *i* PPP PPP 15 02 56.9
MNK *i* S **S 15 07 56.5 +2.3**
MNK pmax pmax
comp=Z,11nm,0.7s
MNK pmax pmax
comp=N,18nm,0.8s
MNK pmax pmax
comp=E,15nm,0.9s
MNK MLR MLR
comp=Z,1μm,16.0s
MNK MLR MLR
comp=N,811nm,16.0s
MNK MLR MLR
comp=E,519nm,16.0s
BBB Bella Bella 73.89 39 LR LR 15 28 28.0
comp=E,74nm,22.0s,baz=322,slow=34
NACGM Naroch 73.92 324 *e*P **P 14 58 30.4 +0.9**
comp=Z,14nm,0.9s,baz=62
SIM Simferopol' 74.16 313 *e*P **P 14 58 30.7 -0.4**
SIM pmax pmax
comp=Z,19nm,0.8s
AK03 Malin Array Si 74.55 320 P **P 14 58 33.0 -0.2**
AKASG Malin Array Be 74.56 320 P **P 14 58 33.0 -0.3**
AKASG Malin Array Be 74.56 320 P **P 14 58 32.8 -0.5**
comp=Z,10nm,0.5s,baz=60,slow=6.1,SNR=53
AKASG LR LR 15 32 50.6
comp=Z,665nm,20.9s,baz=62,slow=37
comp=Z,10nm,0.5s
AKASG Malin Array Be 74.56 320 *i* P **P 14 58 32.7 -0.6**
AKASG pmax pmax
comp=Z,10.0nm,0.5s
AKBB Malin Array Si 74.56 320 IAmb IAmb 14 58 34.2
comp=Z,20nm,0.6s
AKBB Malin Array Si 74.56 320*ce*P **P 14 58 30.1 -3.2**
AKBB pmax pmax
comp=Z,15nm,0.6s
AK01 Malin Array Si 74.57 320 P **P 14 58 32.8 -0.5**
KIEV Kiev 74.57 320 P **P 14 58 33.2 -0.1**
KIEV IAmb IAmb 14 58 34.2
comp=Z,18nm,0.6s
KIEV Kiev 74.57 320 *i* P **P 14 58 33.2 -0.1**
SNR=20
KIEV Kiev 74.57 320⇓P **P 14 58 33.7 +0.3**
KIEV Kiev 74.57 320 P **P 14 58 33.6 +0.3**
KIEV Kiev 74.57 320 P **P 14 58 33.0 -0.3**
comp=Z,108nm,0.8s
RAYN Ar Rayn 74.79 289 P **P 14 58 34.2 -1.0**
RAYN IAmb IAmb 14 58 36.8
comp=Z,24nm,1.0s
RAYN Ar Rayn 74.79 289 *i* P **P 14 58 35.8 +0.6**
SNR=16
RAYN Ar Rayn 74.79 289 P **P 14 58 36.4 +1.2**
YKA Yellowknife Ar 74.92 26 P **P 14 58 35.6 +0.5**
comp=Z,2.0nm,0.8s,baz=67,slow=16,SNR=4.7
YKA LR LR 15 33 54.3
comp=Z,126nm,18.3s,baz=294,slow=38
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 74.92 26 *i* P **P 14 58 38.4 +3.3**
YKA pmax pmax
comp=Z,1.0nm,0.5s
PABE Paberze 75.04 326 IAmb IAmb 14 58 37.8
comp=Z,20nm,0.8s
MI28 Mi28,Pidlybu 75.33 320 P **P 14 58 37.2 -0.5**
comp=Z,238nm,0.8s
GAZ Gaziantep 75.40 305 IAmb IAmb 14 58 42.3
comp=Z,19nm,0.8s
LUBAR Lubar, Ukraine 75.76 319 P **P 14 58 39.9 -0.3**
JMIC Jan Mayen 75.93 347 LR LR 15 34 12.2
comp=Z,189nm,18.7s,baz=63,slow=37
RNPP9 Sopachiv 76.07 321 P **P 14 58 41.8 -0.2**
RNPP5 Staryi Chortor 76.17 321 P **P 14 58 42.5 0.0**
RAO Raoul Island 76.20 135 LR LR 15 26 57.4
comp=Z,144nm,19.4s,baz=306,slow=31
BR131 Keskin Array S 76.79 308 IAmb IAmb 14 58 49.4
comp=Z,25nm,0.7s
BR131 Keskin Array S 76.79 308 *i* P **P 14 58 46.5 0.0**
BRTR Keskin Array B 76.79 308 P **P 14 58 46.9 +0.4**
comp=Z,18nm,0.7s,baz=104,slow=4.9,SNR=79
comp=Z,18nm,0.7s
BR104 Keskin Array S 76.80 308 P **P 14 58 46.3 -0.2**
comp=Z,25nm,0.8s,comp=Z,194nm
BR106 Keskin Array S 76.80 308 P **P 14 58 46.5 0.0**
comp=Z,24nm,0.8s,comp=Z,185nm
BR105 Keskin Array S 76.81 308 P **P 14 58 46.5 -0.1**
comp=Z,25nm,0.7s,comp=Z,181nm
HORU Horodok 76.86 319 P **P 14 58 45.9 -0.6**
HORU Horodok 76.86 319 P **P 14 58 46.5 0.0**
KIRS Kirsehir-Merke 76.86 308⇓P **P 14 58 47.7 +0.9**
HFS Hagfors 77.08 333 P **P 14 58 47.3 -0.2**
comp=Z,2.7nm,0.4s,baz=78,slow=4.5,SNR=18
HFS LR LR 15 36 26.8
comp=Z,568nm,19.7s,baz=38,slow=39
comp=Z,2.7nm,0.4s
KMPD K-Podol'skiy 77.16 319 P **P 14 58 48.1 -0.1**
NC405 NORSAR Array S 77.26 334 P **P 14 58 47.6 -0.9**
NC405 IAmb IAmb 14 59 24.9
comp=Z,30nm,1.3s
ANTO Ankara 77.30 309⇑P **P 14 58 49.9 +0.6**
ANTO Ankara 77.30 309 P **P 14 58 49.9 +0.6**
ANTO Ankara 77.30 309 P **P 14 58 49.0 -0.3**
TLCR 77.40 315⇑P **P 14 58 50.1 +0.6**
TLCR 77.40 315 P **P 14 58 50.1 +0.6**
NB2 NORSAR Subarra 77.50 334 P **P 14 58 49.3 -0.6**
comp=Z,4.9nm,0.7s,baz=51,slow=5.9
NB2 NORSAR Subarra 77.50 334 P **P 14 58 49.0 -0.9**
NOA NORSAR Array B 77.50 334 P **P 14 58 49.5 -0.4**
comp=Z,3.1nm,0.6s,baz=50,slow=5.6,SNR=18
NOA PP **PP 15 01 42.4 -1.9**
comp=Z,1.2nm,0.7s,baz=48,slow=8.7,SNR=3.5
NOA LR LR 15 38 44.8
comp=Z,465nm,18.9s,baz=40,slow=40
comp=Z,3.1nm,0.6s
NC204 NORSAR Array S 77.52 335 P **P 14 58 49.2 -0.8**
NC204 IAmb IAmb 14 58 50.5
comp=Z,40nm,1.4s
NORES NORESS Array B 77.56 334 P **P 14 58 51.7 +1.5**
SCTR Scanteiesti 77.67 316⇑P **P 14 58 52.4 +1.3**
CFR Carcaliu 77.82 315⇑P **P 14 58 52.3 +0.3**
CFR Carcaliu 77.82 315 P **P 14 58 52.2 +0.3**
TESR Tescani 78.07 317⇑P **P 14 58 54.0 +0.7**
PANC Panciu 78.08 316⇑P **P 14 58 54.6 +1.2**
TLBR Topalu 78.19 315⇓P **P 14 58 54.2 +0.2**
ONER Baraj Valea Uz 78.31 317⇓P **P 14 58 56.0 +1.3**
MORS Morshin 78.33 320 P **P 14 58 54.0 -0.7**
VRI Vrincioaia 78.34 316⇑P **P 14 58 55.8 +1.0**
VRI Vrincioaia 78.34 316 P **P 14 58 56.4 +1.5**
BURAR Bucovina Array 78.36 318 P **P 14 58 55.1 +0.1**
BURAR IAmb IAmb 14 58 57.9
comp=Z,17nm,0.7s
BURAR Bucovina Array 78.36 318⇓P **P 14 58 56.2 +1.1**
BURAR Bucovina Array 78.36 318 P **P 14 58 56.1 +1.1**
PLOR Plostina 78.40 316⇑P **P 14 58 56.1 +0.9**
PLOR Plostina 78.40 316 P **P 14 58 56.1 +0.9**
BISRR Bisoca 78.51 316⇑P **P 14 58 56.3 +0.5**
MMAI Mount Meron Ar 78.58 301 P **P 14 58 57.4 +0.9**
comp=Z,5.3nm,0.6s,baz=64,slow=7.5,SNR=7.5
MMAI LR LR 15 37 38.0
comp=Z,184nm,20.0s,baz=358,slow=39
comp=Z,5.3nm,0.6s
TURR Turia 78.68 317⇑P **P 14 58 57.1 +0.3**
KWP Kalwaria Pacla 78.73 321 *e*P **P 14 58 57.1 +0.2**
KWP Kalwaria Pacla 78.73 321 IAmb IAmb 14 59 00.1
comp=Z,31nm,0.8s
KWP Kalwaria Pacla 78.73 321 P **P 14 58 57.9 +1.0**

KWP pmax pmax
comp=Z,51nm,0.9s
OZUR 78.79 317 ⇓P **P 14 58 58.6 +1.3**
NEHR Nehoiu 78.82 316 ⇓P **P 14 58 59.0 +1.5**
MLR Muntele Rosu 79.00 316 LR LR 15 36 58.0
comp=Z,835nm,19.5s,baz=52,slow=38
MLR Muntele Rosu 79.00 316 ⇑P **P 14 58 59.2 +0.5**
MLR Muntele Rosu 79.00 316 P **P 14 58 59.1 +0.5**
DOPR Dopca 79.10 317 ⇓P **P 14 59 00.1 +1.0**
KOLS Kolonicke sedl 79.34 320 *e*P **P 14 59 01.4 +1.1**
KOLS pmax pmax
comp=Z,15nm,0.6s
KOLS Kolonicke sedl 79.34 320 *e*P **P 14 59 01.4 +1.1**
VOIR 79.57 316 ⇓P **P 14 59 02.4 +0.7**
VOIR 79.57 316 P **P 14 59 02.4 +0.7**
STHS Stebnicka Huta 79.65 321 *e*P **P 14 59 02.2 +0.2**
STHS pmax pmax
comp=Z,7.0nm,0.8s
STHS Stebnicka Huta 79.65 321 *e*P **P 14 59 02.2 +0.2**
ARR Arges 79.86 316 ⇑P **P 14 59 04.7 +1.4**
OJC Ojcow 79.99 322 *e*P **P 14 59 04.4 +0.7**
OJC Ojcow 79.99 322 IAmb IAmb 14 59 06.9
comp=Z,26nm,0.7s
OJC Ojcow 79.99 322 P **P 14 59 04.9 +1.2**
OJC pmax pmax
comp=Z,37nm,0.7s
URZ Urewera 80.04 145 LR LR 15 30 47.3
comp=Z,164nm,18.1s,baz=32,slow=33
MARR Marisel-Cluj 80.07 318 ⇑P **P 14 59 05.5 +1.1**
NIE Niedzica 80.16 322 *e*P **P 14 59 06.5 +1.7**
NIE Niedzica 80.16 322 P **P 14 59 06.6 +1.8**
DRGR 80.24 318 ⇓P **P 14 59 05.8 +0.5**
DRGR 80.24 318 P **P 14 59 05.8 +0.5**
LOT Lotru 80.34 317 ⇓P **P 14 59 07.5 +1.7**
ELND Elena 80.36 314 ⇓P **P 14 59 06.7 +0.8**
EIL Elat 80.48 299 LR LR 15 39 08.8
comp=Z,198nm,21.9s,baz=70,slow=39
GZR Gura Zlata 80.96 317 ⇑P **P 14 59 09.5 +0.4**
SIRR Siria 81.14 318 ⇑P **P 14 59 10.3 +0.3**
SURR Surduc 81.15 318 ⇓P **P 14 59 11.4 +1.3**
PSZ Piszkesteto 81.22 320 ⇓P **P 14 59 11.3 +0.7**
PSZ Piszkesteto 81.22 320 P **P 14 59 11.2 +0.7**
MORC Moravsky Berou 81.44 323 *e*P **P 14 59 12.4 +0.8**
MORC Moravsky Berou 81.44 323 ⇑P **P 14 59 12.9 +1.3**
MORC Moravsky Berou 81.44 323 P **P 14 59 12.8 +1.3**
KSP Ksiaz 81.46 324 P **P 14 59 12.0 +0.4**
KSP pmax pmax
comp=Z,11nm,0.9s
VYHS Vyhne 81.48 321 *e*P **P 14 59 13.5 +1.7**
VYHS pmax pmax
comp=Z,9.0nm,0.9s
VYHS Vyhne 81.48 321 *e*P **P 14 59 13.5 +1.7**
KRLC Kraliky 81.66 323 *e*P **P 14 59 13.5 +0.8**
KRLC AMS AMS 15 38 40.0
comp=Z,900nm,17.8s
KRLC Kraliky 81.66 323 *e*P **P 14 59 13.5 +0.8**
KRLC MLR MLR
comp=Z,900nm,17.8s
OSTC Ostas 81.67 324 AMS AMS 15 38 50.0
comp=Z,1μm,14.9s
CHVC Chvalec 81.73 324 AMS AMS 15 38 50.0
comp=Z,1μm,18.6s
DPC Dobruska-Polom 81.73 324 *e*P **P 14 59 14.8 +1.7**
DPC AMS AMS 15 38 50.0
comp=Z,2μm,15.3s
DPC Dobruska-Polom 81.73 324 *e*P **P 14 59 14.8 +1.7**
DPC MLR MLR
comp=Z,2μm,15.3s
UPC Upice 81.80 324 AMS AMS 15 39 00.0
comp=Z,2μm,15.1s
JAVC Velka Javorina 81.90 322 *e*P **P 14 59 16.3 +2.2**
MDVR Moldovita 81.92 317 ⇓P **P 14 59 15.2 +1.0**
VRAC Vranov 82.21 323 LR LR 15 39 38.8
comp=Z,901nm,18.9s,baz=59,slow=38
VRAC Vranov 82.21 323 *e*P **P 14 59 16.8 +1.2**
VRAC Vranov 82.21 323 ⇑P **P 14 59 17.0 +1.4**
VRAC Vranov 82.21 323 P **P 14 59 17.0 +1.4**
PINE Pine Mountain 82.27 44 P **P 14 59 17.2 +0.9**
PINE IAmb IAmb 14 59 33.1
comp=Z,35nm,1.7s
MODS Modra-Piesok 82.40 322 *e*P **P 14 59 18.4 +1.8**
MODS pmax pmax
comp=Z,43nm,1.3s
MODS Modra-Piesok 82.40 322 *e*P **P 14 59 18.4 +1.8**
KRUC Moravsky 82.46 323 *e*P **P 14 59 17.8 +0.9**
KRUC Moravsky 82.46 323 P **P 14 59 18.2 +1.3**
KRUC pmax pmax
comp=Z,8.0nm,0.9s
PVCC Panska Ves 82.52 325 AMS AMS 15 40 30.0
comp=Z,2μm,29.9s
RICC Richard 82.75 325 AMS AMS 15 40 30.0
comp=Z,2μm,16.5s
GOPC GO Pecny, Ondr 82.79 324 AMS AMS 15 39 30.0
comp=Z,2μm,13.8s
CLL Collm 82.82 326 *i* P **P 14 59 17.6 -1.1**
CLL *i* 14 59 26.7
CLL pmax pmax
comp=Z,37nm,1.6s
CLL MLR MLR
comp=Z,1μm,19.2s
CLL Collm 82.82 326 *i* P **P 14 59 17.6 -1.1**
comp=Z,37nm,1.6s
CLL *i* x x 14 59 26.7
CLL *i* x x 14 59 37.5
CLL *e*PP **PP 15 02 29.0 +0.4**
CLL *e*S **S 15 09 36.0 +2.0**
CLL *e*SS **SS 15 15 06.0 +10**
CLL AMS AMS 15 39 00.0
comp=Z,1μm,19.2s
CLL AMS AMS 15 40 00.0
comp=N,1μm,18.4s
CLL AMS AMS 15 40 00.0
comp=E,700nm,20.4s
PRU Pruhonice 82.87 324 AMS AMS 15 39 20.0
comp=E,2μm,19.2s
PRU Pruhonice 82.87 324 P **P 14 59 20.2 +1.2**
PRU pmax pmax
comp=Z,9.0nm,1.7s
MORH Mrgy, Hungar 82.90 320 ⇓P **P 14 59 20.4 +1.3**
HSKC Hora Svate Kat 83.05 325 AMS AMS 15 40 30.0
comp=Z,1μm,14.9s
RONA Rosalia, Austr 83.33 322 *e*PcP **P 14 59 23.3 +1.8**
comp=Z,9.4nm,1.2s
ZVC Zvikov 83.38 324 *e*P **P 14 59 23.0 +1.3**
CONA Conrad Observa 83.42 322 *e*P **P 14 59 23.3 +1.3**
comp=Z,18nm,0.8s
CKRC Cesky Krumlov 83.70 323 *e*P **P 14 59 26.3 +2.9**
CKRC AMS AMS 15 40 20.0
comp=Z,1μm,20.0s
CKRC Cesky Krumlov 83.70 323 *e*P **P 14 59 26.3 +2.9**
CKRC MLR MLR
comp=Z,1μm,20.0s
BORG Borgarnes 83.76 348 LR LR 15 40 35.1
comp=Z,119nm,18.0s,baz=25,slow=38
NKC Novy Kostel 83.77 325 AMS AMS 15 41 00.0
comp=Z,2μm,14.6s
RAR Rarotonga 83.79 118 LR LR 15 28 08.9
comp=Z,98nm,21.0s,baz=290,slow=29
BMO Blue Mountains 83.83 42 IAmb IAmb 14 59 37.2
comp=Z,29nm,1.9s
KHC Kasperske Hory 83.89 324 IAmb IAmb 15 01 47.2
comp=Z,12nm,0.9s
KHC Kasperske Hory 83.89 324 *e*P **P 14 59 26.2 +1.9**
KHC AMS AMS 15 40 00.0
comp=Z,1μm,18.2s
KHC Kasperske Hory 83.89 324 *e*P **P 14 59 26.2 +1.9**
KHC MLR MLR
comp=Z,1μm,18.2s
GERES GERESS Array B 84.00 324 P **P 14 59 25.9 +0.9**
comp=Z,1.1nm,0.4s,baz=28,slow=6.7,SNR=2.4
GERES LR LR 15 40 53.4
comp=Z,968nm,18.7s,baz=52,slow=39
comp=Z,1.1nm,0.4s
LIT Litokhoron 84.01 313 IAmb IAmb 14 59 28.2
comp=Z,12nm,0.8s
ARSA Arzberg 84.02 322 *e*P **P 14 59 25.8 +0.8**
comp=Z,8.8nm,0.7s
SFJD Kangerlussuaq 84.04 0 LR LR 15 36 56.8
comp=Z,216nm,22.0s,baz=350,slow=36
MOA Molln 84.33 323 *e*P **P 14 59 27.5 +0.9**
comp=Z,14nm,1.0s
SOKA Soboth 84.63 321 *e*P **P 14 59 28.4 +0.2**
comp=Z,22nm,1.1s
PDG Podgorica 84.72 316 ⇓P **P 14 59 29.7 +1.2**
GRF Grafenberg Arr 84.73 325 *e*P **P 14 59 29.3 +0.8**
comp=Z,16nm,1.1s,baz=50,slow=4.6
BIOA Bad Ischl, Aus 84.76 323 *e*P **P 14 59 29.5 +0.8**
comp=Z,5.4nm,0.5s
OBKA Obir 85.00 321 *e*PcP **P 14 59 31.3 +1.3**
comp=Z,7.0nm,1.0s
KBA Koelnbreinsper 85.29 322 *e*PcP **P 14 59 32.9 +1.3**
comp=Z,7.3nm,0.6s
MYKA Terra Mystica 85.42 322 *e*PcP **P 14 59 33.0 +0.9**
comp=Z,4.3nm,0.5s
LESA Schwarzleotal 85.43 323 *e*PcP **P 14 59 33.3 +1.1**
comp=Z,6.4nm,0.6s
PAHR Pah Rah Range 85.52 47 IAmb IAmb 14 59 47.9
comp=Z,9.0nm,0.9s
PNTR Pine Nut 85.73 47 IAmb IAmb 14 59 37.6
comp=Z,7.2nm,0.7s
CMB Columbia Colle 85.81 48 P **P 14 59 34.5 +0.2**
CMB Columbia Colle 85.81 48 P **P 14 59 34.5 +0.2**
CMB pmax pmax
comp=Z,5.0nm,0.8s
ABTA Abfaltersbach 85.95 323 *e*P **P 14 59 34.9 +0.1**
comp=Z,6.6nm,0.7s
FRB Frobisher Bay 86.08 8 LR LR 15 41 30.8
comp=Z,343nm,18.9s,baz=338,slow=38
DLMT Dillon 86.18 39 IAmb IAmb 14 59 49.8
comp=Z,14nm,0.9s
FETA Feichten 86.71 324 *e*P **P 14 59 37.6 -1.0**
comp=Z,2.9nm,1.0s
EKA Eskdalemuir Ar 86.90 336 P **P 14 59 38.4 -0.7**
comp=Z,1.6nm,0.5s,baz=47,slow=4.6,SNR=8.7
comp=Z,1.6nm,0.5s
NVAR Mina Array Bea 86.94 47 P **P 14 59 40.2 +0.2**
NVAR Mina Array Bea 86.94 47 P **P 14 59 41.7 +1.7**
comp=Z,1.9nm,0.7s,baz=305,slow=5.4,SNR=19
comp=Z,1.9nm,0.7s
DAVA Damuels 86.97 324 *e*PcP **P 14 59 40.4 +0.5**
comp=Z,7.3nm,0.7s
FUORN Ofenpass-Fuorn 87.21 323 IAmb IAmb 14 59 47.1
comp=Z,8.5nm,0.8s
YHL Hebgen Lake 87.28 39 IAmb IAmb 14 59 55.8
comp=Z,16nm,1.2s
FLWY Flagg Ranch 88.04 39 IAmb IAmb 15 00 01.2
comp=Z,9.3nm,0.9s
RLMT Red Lodge 88.14 38 IAmb IAmb 15 00 10.2
comp=Z,25nm,1.7s
HWUT Hardware Ranch 89.13 42 IAmb IAmb 15 00 04.5
comp=Z,8.7nm,1.1s
PDAR Pinedale Array 89.52 40 P **P 14 59 52.6 +0.4**
PDAR Pinedale Array 89.52 40 P **P 14 59 53.3 +1.1**
comp=Z,0.9nm,0.7s,baz=324,slow=3.3,SNR=12
comp=Z,0.9nm,0.7s
PPT Papeete 89.97 110 LR LR 15 32 33.2
comp=Z,68nm,20.4s,baz=312,slow=30
PPT2 Papeete2 89.98 110 *e*S **S 15 10 51.8 +7.1**
PPT2 comp=Z,107nm,25.2s *e*SS **SS 15 16 46.8 +2.9**
comp=Z,107nm,25.0s
PPT2 Papeete2 89.98 110 *e*LR LR 15 28 29.9
comp=Z,157nm,24.2s
VAE Valguarnera 90.66 314 LR LR 15 45 08.2
comp=Z,359nm,20.8s,baz=20,slow=38
ULM Lac du Bonnet 90.79 28 P **P 14 59 58.5 +0.9**
comp=Z,2.8nm,0.8s,baz=345,slow=5.4,SNR=2.0
ULM LR LR 15 43 49.1
comp=Z,165nm,18.2s,baz=344,slow=38
comp=Z,2.8nm,0.8s
PFO Pinyon Flats O 90.97 50 LR LR 15 36 27.0
comp=Z,124nm,19.1s,baz=264,slow=33
MTPU Mount Pierson 91.01 45 IAmb IAmb 15 01 01.0
comp=Z,24nm,1.9s
P18A Preston Nutter 91.17 42 IAmb IAmb 15 00 14.9
comp=Z,11nm,0.9s
KNB Kanab 91.26 46 IAmb IAmb 15 00 13.9
comp=Z,11nm,1.4s
SRU San Rafael Swe 91.34 43 IAmb IAmb 15 00 57.2
comp=Z,21nm,1.7s
HMU Henry Mountain 91.96 44 IAmb IAmb 15 00 20.9
comp=Z,5.7nm,0.8s
TBI Tubuai 92.99 115 *e*S **S 15 11 08.2 -3.4**
comp=Z,358nm,26.8s
TBI Tubuai 92.99 115 *e*LR LR 15 29 53.9
comp=Z,516nm,24.0s
WUAZ Wupatki 93.11 46 IAmb IAmb 15 00 23.0
comp=Z,7.3nm,1.1s
KMBO Kilima Mbogo 93.42 271 LR LR 15 45 15.7
comp=Z,133nm,18.2s,baz=90,slow=38
TAOE Nuku Hiva Isla 93.67 98 *e*LR LR 15 30 21.3
comp=Z,246nm,25.0s
KEST Kesra 94.91 316 LR LR 15 46 45.1
comp=Z,404nm,20.3s,baz=26,slow=38
SCHQ Schefferville 94.92 10 LR LR 15 47 00.0
comp=Z,378nm,19.5s,baz=321,slow=38
MBAR Mbarara 98.85 274 *i* P **P 15 00 32.2 -3.1**
MBAR pmax pmax
comp=Z,6.0nm,2.0s
ESDC Sonseca Array 99.41 326 LR LR 15 51 03.1
comp=Z,450nm,18.4s,baz=18,slow=39
RKT Rikitea 104.64 108 *e*SS SS 15 20 07.5 -2.9
comp=Z,547nm,29.0s
RKT Rikitea 104.64 108 *e*LR LR 15 35 21.8
comp=Z,637nm,31.0s
TORD Torodi Ar. Bea 115.09 303 PKP **PKPdf 15 05 35.9 -0.4**
comp=Z,0.9nm,0.7s,baz=3.3,slow=2.2,SNR=5.5
QSPA South Pole Qui 119.03 180 PKP **PKiKP 15 05 42.9 +0.6**
comp=Z,1.3nm,0.7s,baz=262,slow=1.1,SNR=18
DBIC Dimbokro 124.19 303 PKP **PKPdf 15 05 54.0 +0.2**
comp=Z,2.2nm,0.6s,baz=23,slow=4.1,SNR=4.1
DBIC Dimbokro 124.19 303 PKIKP **PKPdf 15 05 54.0 +0.2**
LPAZ La Paz 158.52 57 PKPab **PKPab 15 07 27.9 -0.3**
comp=Z,0.7nm,0.3s,baz=353,slow=5.7,SNR=4.1
SIV San Ignacio 163.00 41 PKP **PKPdf 15 06 58.4 +1.0**
comp=Z,1.8nm,1.0s,baz=275,slow=0.2,SNR=5.4

*JMA **05** 14:54:09.7±0.3,29°.2N±0°.4×130°.7E±0°.8,h23km±4km, MV3.2/19,NEAR AMAMI-OSHIMA ISLAND*
*IDC **05** 14:54:10.7±2.2,28°.50N×129°.00E,h0km,mb3.8/5, mbtmp3.7/6,ML2.7/1,Error ellipse: s-maj=95.6km s-min=25.8km az=69.0*
ISC 05 14:54:09.8±1.0,29°.23N±0°.04×130°.69E±0°.08,h22km±5km, n17,σ0°67/23,mb3.7/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.94**	**311**	*i* P	**Pb**	**14 54 26.9**	**-0.5**
JNN				S	**Sn**	**14 54 40.3**	**-0.1**
JYAK	**Yakushimahirau**	**1.02**	**351**	P	**Pn**	**14 54 28.3**	**-0.4**
JYAK				*e*S	**Sn**	**14 54 42.4**	**0.0**
JZK	**Kikaishima**	**1.11**	**215**	*e*P	**Pb**	**14 54 30.1**	**-0.2**
JMTN	**Minamitane**	**1.18**	**9**	P	**Pn**	**14 54 31.1**	**0.0**
JMTN				*e*S	**Sb**	**14 54 46.4**	**+0.1**
JAM	**Amami Oshima**	**1.26**	**230**	P	**Pn**	**14 54 32.0**	**0.0**
JAM				*e*S	**Sb**	**14 54 48.8**	**+0.3**
JKC	**Kuchinoerabu**	**1.30**	**341**	P	**Pb**	**14 54 33.5**	**-0.1**
JKC				*e*S	**Sb**	**14 54 50.6**	**+0.7**
JTAJ	**Takarajima**	**1.30**	**267**	P	**Pn**	**14 54 32.9**	**+0.2**
JTN	**Tanegashima 3**	**1.44**	**10**	P	**Pn**	**14 54 34.8**	**+0.1**
JTN				*e*S	**Sb**	**14 54 53.4**	**-0.5**
JAMN	**Amaminishikomi**	**1.66**	**234**	*e*P	**Pn**	**14 54 37.5**	**-0.1**
JTSR	**Tashiro 2**	**1.94**	**6**	P	**Pn**	**14 54 41.9**	**+0.4**
JTSR				S	**Sn**	**14 55 06.0**	**+0.8**
JTK	**Tokunoshima**	**2.10**	**227**	*e*P	**Pn**	**14 54 44.2**	**+0.4**
KSRS	**Korea Array**	**8.52**	**345**	Pn	Pn	14 56 22.0	+10
	0.1nm,0.3s,baz=171,slow=14,SNR=1.6						
	0.6nm,0.6s						
SONM	**Songino Array**	**26.40**	**321**	P	**P**	**14 59 46.8**	**+2.0**
	0.8nm,0.6s,baz=140,slow=9.1,SNR=3.7						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**41.26**	**309**	P	**P**	**15 01 53.2**	**-0.2**
	0.3nm,0.7s,baz=90,slow=9.5,SNR=1.7						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**44.27**	**314**	P	**P**	**15 02 17.1**	**-0.5**
	1.2nm,0.2s,baz=103,slow=9.0,SNR=4.4						
	1.2nm,0.2s						
WRA	**Warramunga Arr**	**49.01**	**175**	P	**P**	**15 02 54.9**	**-0.2**
	0.7nm,0.8s,baz=353,slow=8.1,SNR=5.0						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**49.55**	**316**	P	**P**	**15 02 57.7**	**-1.3**
	0.5nm,0.3s,baz=97,slow=9.5,SNR=5.5						
	0.5nm,0.3s						

JMA 05 14:55:41.1±0.3,27°N±2°×12°6E±°,h158km,MV3.8/22,NW OFF OKINAWAJIMA IS,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.90**	**112**	P	Pn	14 56 06.3	+0.5
JKE				*e*S	Sn	14 56 24.8	+0.2
JAGN	**Aguni-jima**	**1.24**	**93**	P	Pn	14 56 08.9	+0.3
JAGN				S	Sn	14 56 28.9	-1.0
JJT3	**Tamagusuku3**	**1.80**	**106**	*e*P	Pn	14 56 15.1	+0.6
JJT3				*e*S	Sn	14 56 40.5	+0.3
JIKM	**Ikemajima**	**1.82**	**198**	*e*S	Sn	14 56 40.2	-0.3
JIH	**Iheya**	**1.92**	**78**	*e*P	Pn	14 56 16.1	+0.3
JIH				*e*S	Sn	14 56 41.8	-0.7
JIRB	**Irabujima**	**1.93**	**199**	P	Pn	14 56 16.4	+0.5
JOGS	**Gusukube**	**1.94**	**192**	*e*S	Sn	14 56 42.9	0.0
JNTH	**Nagotoyohara**	**1.94**	**94**	P	Pn	14 56 16.5	+0.5
JNTH				*e*S	Sn	14 56 40.8	-2.1
JMJ2	**Miyako jima3**	**1.97**	**194**	*e*S	Sn	14 56 43.7	+0.1
JOW	**Kunigami**	**2.17**	**85**	P	Pn	14 56 18.9	+0.2
JYRO	**Yoronjima**	**2.34**	**81**	P	Pn	14 56 20.8	+0.1
JISG	**Ishigakijimahi**	**2.50**	**214**	*e*P	Pn	14 56 22.7	+0.2
JISG				S	Sn	14 56 52.6	-1.9
JOKE	**Okinoerabujima**	**2.52**	**73**	P	Pn	14 56 22.7	-0.1
JOKE				*e*S	Sn	14 56 53.2	-1.9
JIJ	**Ishigaki jima**	**2.77**	**214**	P	Pn	14 56 25.4	-0.4
JKRS	**Kuro-shima**	**2.94**	**215**	P	Pn	14 56 27.5	-0.5
JTK	**Tokunoshima**	**2.97**	**67**	P	Pn	14 56 28.0	-0.4
JTK				S	Sn	14 57 02.7	-2.4
JAMN	**Amaminishikomi**	**3.34**	**61**	P	Pn	14 56 32.3	-0.7
JAMN				S	Sn	14 57 11.8	-1.6
JAM	**Amami Oshima**	**3.75**	**62**	*e*P	Pn	14 56 37.4	-1.0
JAM				*e*S	Sn	14 57 19.0	-3.9

*NEIC **05** 14:57:06.8±1.5,20°.79S±0°.10×170°.0E±0°.1,h124km±6km, mb4.7/55,Error ellipse: s-maj=15.2km s-min=13.0km az=223.0*
*IDC **05** 14:57:08.0±1.3,20°.69S×169°.84E,h142km±10km, mb4.0/14,mbtmp4.4/17,MS3.1/2,Error ellipse: s-maj=16.1km s-min=10.2km az=159.0*
*NOU **05** 14:57:08.5,20°.69S×169°.76E,h127km,mb4.7/44, Vanuatu Islands*
ISC 05 14:57:06.1±0.4,20°.69S±0°.06×169°.92E±0°.06,h122km, n154,σ1°39/140,mb4.7/48,5C-3D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.93**	**246**	P	**Pn**	**14 57 39.5**	**+0.7**
LIFNC	**LIFOU**	**2.51**	**268**	P	**Pn**	**14 57 46.4**	**+0.3**
PINNC	**Pines Island,**	**2.99**	**230**		**Pn**	**14 57 52.9**	**+0.5**
PINNC	**Pines Island,**	**2.99**	**230**	P	**Pn**	**14 57 53.2**	**+0.9**
YATNC	**Mamie plateau,**	**3.13**	**244**	P	**Pn**	**14 57 54.7**	**+0.5**
OUENC	**Ouen Island, N**	**3.34**	**238**	P	**Pn**	**14 57 58.4**	**+1.5**
DVP	**Devils Point**	**3.38**	**331**	P	**Pn**	**14 57 59.1**	**+1.7**
DZM	**Mont Dzumac**	**3.52**	**246**		**Pn**	**14 58 00.3**	**+0.9**
DZM	**Mont Dzumac**	**3.52**	**246**	P	**Pn**	**14 58 00.4**	**+1.1**
	97nm,0.5s,baz=92,slow=9.3,SNR=644						
DZM				S	**Sn**	**14 58 42.5**	**+1.9**
	456nm,0.5s,baz=297,slow=19,SNR=16						
DZM				LR	LR	14 58 57.5	
	comp=Z,258nm,19.8s,baz=352,slow=32						
DZM	**Mont Dzumac**	**3.52**	**246**	P	**Pn**	**14 58 00.5**	**+1.1**
ONTNC	**Ouen Toro**	**3.61**	**243**		**Pn**	**14 58 01.2**	**+0.8**
ONTNC	**Ouen Toro**	**3.61**	**243**	P	**Pn**	**14 58 01.5**	**+1.1**
NOUC	**Port Laguerre**	**3.65**	**247**	P	**Pn**	**14 58 02.1**	**+1.1**
VLAKA	**Lakatoro**	**5.14**	**332**	P	**Pn**	**14 58 22.0**	**+1.0**
KOUNC	**Koumac, New Ca**	**5.28**	**271**		**Pn**	**14 58 24.7**	**+1.8**
KOUNC	**Koumac, New Ca**	**5.28**	**271**	P	**Pn**	**14 58 23.2**	**+0.4**
MSVF	**Nonsavu**	**8.22**	**70**	P	**Pn**	**14 59 05.4**	**+2.7**
	9.6nm,0.7s,baz=176,slow=20,SNR=4.1						
MSVF				LR	LR	15 01 14.1	
	comp=Z,121nm,19.3s,baz=196,slow=30						
NFK	**Norfolk Island**	**8.51**	**192**	P	**Pn**	**14 59 08.3**	**+1.9**
EIDS	**Eidsvold**	**17.95**	**251**	Pn	**Pn**	**15 01 08.9**	**+1.0**
EIDS	**Eidsvold**	**17.95**	**251**	P	**Pn**	**15 01 07.9**	**-0.1**
LIRZ	**Lichensteins R**	**18.14**	**163**	P	**Pn**	**15 01 15.5**	**+5.4**
MXZ	**Matakaoa Point**	**18.32**	**158**	P	**Pn**	**15 01 13.8**	**+1.5**
HAZ	**Te Kaha**	**18.32**	**160**	P	**Pn**	**15 01 13.8**	**+1.5**
URZ	**Urewera**	**18.58**	**162**	P	**Pn**	**15 01 15.3**	**0.0**
	12nm,0.7s,baz=24,slow=2.9,SNR=8.6						
URZ	**Urewera**	**18.58**	**162**	P	**Pn**	**15 01 16.3**	**+1.0**
URZ	**Urewera**	**18.58**	**162**	P	**Pn**	**15 01 16.5**	**+1.2**
PUZ	**Puketiti**	**18.77**	**159**	P	**Pn**	**15 01 17.2**	**-0.3**
TWGZ	**Tauwhareparae**	**18.77**	**160**	P	**Pn**	**15 01 17.9**	**+0.3**
MWZ	**Matawai**	**18.77**	**161**	P	**Pn**	**15 01 18.1**	**+0.5**
RTZ	**Ruatahuna**	**18.88**	**163**	Pn	**Pn**	**15 01 18.6**	**-0.2**
RTZ				IAmb	IAmb	15 01 20.2	
	comp=Z,25nm,0.8s						
RTZ	**Ruatahuna**	**18.88**	**163**	P	**Pn**	**15 01 19.5**	**+0.6**
TKGZ	**Te Karaka**	**18.97**	**161**	P	**P**	**15 01 17.5**	**-0.4**
TMVZ	**Te Maari**	**19.03**	**166**	P	**Pn**	**15 01 27.6**	**+7.0**
MTHZ	**Maungataniwha**	**19.06**	**163**	P	**Pn**	**15 01 21.3**	**+0.3**
OTVZ	**Oturere**	**19.06**	**166**	P	**Pn**	**15 01 26.4**	**+5.3**
ARMA	**Armidale**	**19.11**	**236**	Pn	**Pn**	**15 01 22.0**	**+0.2**
ARMA	**Armidale**	**19.11**	**236**	P	**Pn**	**15 01 21.1**	**-0.7**
SNGZ	**Shannon Statio**	**19.13**	**162**	P	**Pn**	**15 01 21.8**	**0.0**
RAHZ	**Arahi**	**19.18**	**163**	P	**Pn**	**15 01 22.4**	**-0.1**
RIGZ	**Rimuhau**	**19.19**	**161**	P	**Pn**	**15 01 21.8**	**-0.6**
BKZ	**Black Stump Fm**	**19.26**	**164**	Pn	**Pn**	**15 01 22.6**	**-0.8**
BKZ	**Black Stump Fm**	**19.26**	**164**	P	**Pn**	**15 01 22.9**	**-0.5**
BKZ	**Black Stump Fm**	**19.26**	**164**	P	**Pn**	**15 01 23.1**	**-0.3**
KRHZ	**Kereru**	**19.68**	**165**	P	**Pn**	**15 01 30.1**	**+1.8**
TSZ	**Takapari Road**	**19.98**	**166**	P	**Pn**	**15 01 31.7**	**-0.1**
PXZ	**Pawanui**	**20.17**	**164**	P	**P**	**15 01 31.9**	**+1.1**
DVHZ	**Dannevirke**	**20.26**	**166**	P	Pn	15 01 34.6	-0.4
BFZ	**Birch Farm**	**20.64**	**166**	P	Pn	15 01 38.8	-0.6
TV1H	**Townsville Har**	**21.78**	**270**	P	**P**	**15 01 48.6**	**+0.3**
CTAO	**Charters Tower**	**22.19**	**267**	P	**P**	**15 01 52.9**	**+0.3**
CNB	**Canberra Magne**	**23.21**	**227**	P	**P**	**15 02 03.3**	**+0.9**
CAN	**Canberra**	**23.46**	**227**	P	**P**	**15 02 04.7**	**0.0**
CAN				IAmb	IAmb	15 02 07.3	
	comp=Z,27nm,0.8s						
CAN	**Canberra**	**23.46**	**227**	P	**P**	**15 02 05.1**	**+0.4**
QLP	**Quilpie**	**24.23**	**251**	P	**P**	**15 02 12.8**	**+1.1**
CMSA	**Cobar Meteorol**	**24.24**	**239**	P	**P**	**15 02 12.1**	**+0.4**
MTSU	**Mount Surprise**	**24.27**	**272**	P	**P**	**15 02 13.2**	**+1.0**
COEN	**Coen**	**26.37**	**280**	P	**P**	**15 02 32.5**	**+1.3**
STKA	**Stephens Creek**	**27.65**	**240**	P	**P**	**15 02 42.7**	**+0.2**
STKA	**Stephens Creek**	**27.65**	**240**	P	**P**	**15 02 42.6**	**+0.2**
	comp=Z,5.2nm,0.6s,baz=94,slow=11,SNR=15						
STKA				PcP	**PcP**	**15 05 56.1**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=270,slow=3.0,SNR=2.6						
	comp=Z,5.2nm,0.6s						
STKA	**Stephens Creek**	**27.65**	**240**	P	**P**	**15 02 42.8**	**+0.2**
QIS	**Mount Isa**	**28.36**	**265**	P	**P**	**15 02 49.9**	**+1.0**
LCRK	**Leigh Creek**	**30.12**	**245**	P	**P**	**15 03 04.4**	**+0.1**
HTT	**Hallett**	**30.26**	**239**	P	**P**	**15 03 06.3**	**+0.7**
OOD	**Oodnadatta**	**31.93**	**250**	P	**P**	**15 03 21.3**	**+1.0**
BBOO	**Buckleboo**	**32.42**	**241**	P	**P**	**15 03 24.7**	**+0.2**
WR0	**Warramunga Arr**	**33.15**	**265**	P	**P**	**15 03 29.3**	**-1.8**
WB2	**Warramunga Arr**	**33.33**	**265**	P	**P**	**15 03 30.8**	**-1.8**
WB2				IAmb	IAmb	15 03 32.0	
	comp=Z,12nm,1.2s						
WRAB	**Tennant Creek**	**33.33**	**265**	P	**P**	**15 03 31.0**	**-1.6**
WRAB				IAmb	IAmb	15 03 31.9	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**33.34**	**265**	P	**P**	**15 03 31.3**	**-1.4**
	comp=Z,4.5nm,0.6s,baz=94,slow=8.3,SNR=125						
WRA				PcP	**PcP**	**15 06 10.4**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=92,slow=3.0,SNR=5.4						
WRA				S	**S**	**15 08 42.1**	**-2.6**
	comp=Z,0.8nm,0.9s,baz=103,slow=14,SNR=5.0						
	comp=Z,4.5nm,0.6s						
AS31	**Alice Springs**	**33.43**	**258**	P	**P**	**15 03 32.6**	**-0.9**
AS31				IAmb	IAmb	15 03 33.4	
	comp=Z,6.9nm,0.5s						
ASAR	**Alice Springs**	**33.43**	**258**	P	**P**	**15 03 32.6**	**-0.8**
	comp=Z,9.9nm,0.5s,baz=81,slow=8.9,SNR=6.9						
ASAR				PcP	**PcP**	**15 06 10.9**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=90,slow=3

mb4.7/31, Error ellipse: s-maj=11.5km s-min=5.1km az=151.0
*IDC **05** 15:21:26.4±2.4, 0.38N×125.38E, h85km±21km, mb4.1/23, mbtmp4.4/26, MS3.4/10, Error ellipse: s-maj=17.4km s-min=8.3km az=78.0*
ISC 05 15:21:25.2±0.3, 0.36N±0.05×125.47E±0.05, h73km, n137, σ1.15/137, mb4.6/50, 3D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.50**	**278**	P	**Pn**	**15 21 48.7**	**-1.6**
KMSI				S	**Sn**	**15 22 07.0**	**-2.2**
TNTI	**Ternate**	**1.94**	**78**	Pn	**Pn**	**15 21 55.7**	**-0.4**
TNTI	**Ternate**	**1.94**	**78**	P	**Pn**	**15 21 55.8**	**-0.3**
TNTI	**Ternate**	**1.94**	**78**	P	**Pn**	**15 21 55.7**	**-0.4**
LBMI	**Labuha**	**2.26**	**116**	P	**Pn**	**15 22 00.2**	**-0.3**
SANI	**Sanana**	**2.45**	**168**	P	**Pn**	**15 22 01.3**	**-1.7**
SANI	**Sanana**	**2.45**	**168**	P	**Pn**	**15 22 01.3**	**-1.7**
SANI				S	**Sn**	**15 22 28.0**	**-4.0**
LUWI	**Luwuk**	**3.04**	**243**	Pn	**Pn**	**15 22 10.9**	**-0.1**
LUWI	**Luwuk**	**3.04**	**243**	P	**Pn**	**15 22 12.6**	**+1.7**
LUWI	**Luwuk**	**3.04**	**243**	P	**Pn**	**15 22 11.4**	**+0.5**
MRSI	**Marisa**	**3.53**	**272**	P	**Pn**	**15 22 16.2**	**-1.4**
NLAI	**Namlea**	**3.93**	**156**	P	**Pn**	**15 22 22.5**	**-0.7**
APSI	**Ampana**	**4.02**	**252**	P	**Pn**	**15 22 25.2**	**+0.8**
TOLI2	**Tolitoli**	**4.75**	**279**	Pn	**Pn**	**15 22 33.1**	**-1.1**
TOLI2	**Tolitoli**	**4.75**	**279**	P	**Pn**	**15 22 34.5**	**+0.2**
AAI	**Ambon**	**4.86**	**146**	P	**Pn**	**15 22 36.3**	**+0.5**
MSAI	**Masohi**	**5.05**	**137**	P	**Pn**	**15 22 39.4**	**+0.9**
MPSI	**Mapaga**	**5.57**	**270**	P	**Pn**	**15 22 45.0**	**-0.5**
	106nm,1.2s,0.3nm						
SWI	**Sorong**	**5.92**	**102**	P	**Pn**	**15 22 50.1**	**-0.2**
	56nm,0.6s,948nm0.3nm						
BBSI	**Bau Bau**	**6.49**	**206**	P	**Pn**	**15 22 57.2**	**-1.0**
	58nm,1.0s,1μm0.3nm						
BNDI	**Bandanaira**	**6.57**	**138**	P	**Pn**	**15 22 58.9**	**-0.3**
BNDI	**Bandanaira**	**6.57**	**138**	P	**Pn**	**15 22 59.0**	**-0.3**
TTSI	**Tana Toraja**	**6.58**	**239**	P	**Pn**	**15 22 59.9**	**+0.5**
	182nm,0.8s,2μm0.5nm						
DAV	**Davao City (W)**	**6.66**	**1**	LR	LR	15 25 49.7	
	comp=Z,361nm,18.9s,baz=146,slow=40						
SPSI	**Sidrap Palu**	**7.14**	**233**	P	**Pn**	**15 23 07.4**	**+0.4**
	65nm,0.5s,862nm0.3nm						
BNSI	**Bone**	**7.15**	**228**	P	**Pn**	**15 23 07.6**	**+0.5**
	85nm,0.8s,678nm0.2nm						
FAKI	**Fak Fak**	**7.52**	**116**	Pn	**Pn**	**15 23 11.3**	**-1.0**
FAKI	**Fak Fak**	**7.52**	**116**	P	**Pn**	**15 23 11.5**	**-0.7**
FAKI	**Fak Fak**	**7.52**	**116**	P	**Pn**	**15 23 11.5**	**-0.7**
	39nm,0.6s,0.2nm						
BKSI	**Bulukumba**	**7.77**	**223**	P	**Pn**	**15 23 16.5**	**+0.8**
KAPI	**Kappang**	**7.82**	**227**	Pn	**Pn**	**15 23 16.5**	**+0.2**
KAPI	**Kappang**	**7.82**	**227**	P	**Pn**	**15 23 17.0**	**+0.7**
	11nm,0.4s,baz=359,slow=11,SNR=8.2						
KAPI				S	**Sn**	**15 24 42.4**	**-0.9**
	6.1nm,0.4s,baz=68,slow=22,SNR=1.3						
KAPI				LR	LR	15 26 49.4	
	comp=Z,289nm,21.4s,baz=34,slow=42						
BSSI	**Bau Bau, Buton**	**8.15**	**217**	P	**Pn**	**15 23 20.8**	**-0.1**
	39nm,0.7s						
MYLDM	**Lahad Datu**	**8.44**	**305**	Pn	**Pn**	**15 23 23.7**	**-1.1**
MYLDM	**Lahad Datu**	**8.44**	**305**	P	**Pn**	**15 23 27.0**	**+2.2**
RKPI	**Ransiki, Papua**	**8.90**	**102**	P	**Pn**	**15 23 32.2**	**+1.0**
	52nm,1.1s,858nm						
SOEI	**Soe**	**10.12**	**187**	Pn	**Pn**	**15 23 49.8**	**+1.9**
SOEI	**Soe**	**10.12**	**187**	P	**Pn**	**15 23 50.1**	**+2.2**
	47nm,0.8s						
KKM	**Kota Kinabalu**	**10.82**	**302**	Pn	**Pn**	**15 23 56.9**	**-0.6**
KKM	**Kota Kinabalu**	**10.82**	**302**	P	**Pn**	**15 24 00.3**	**+2.9**
SBUM	**Sibu**	**13.40**	**279**		**Pn**	**15 24 32.2**	**-0.2**
DRS	**Darwin Rock St**	**13.81**	**157**	P	**Pn**	**15 24 37.6**	**-0.1**
	129nm,0.6s						
MTN	**Manton Dam**	**14.27**	**157**		**Pn**	**15 24 43.3**	**-0.5**
KDU	**Kakadu**	**14.71**	**152**	P	**Pn**	**15 24 47.7**	**-1.8**
PWJI	**Pagerwojo**	**15.97**	**238**	P	**Pn**	**15 25 06.0**	**+0.5**
	60nm,0.7s						
KNRA	**Kununurra**	**16.27**	**169**		**Pn**	**15 25 09.8**	**+0.6**
PCJI	**Pacitan**	**16.59**	**239**	P	**P**	**15 25 14.8**	**+0.2**
	80nm,1.2s						
TABU	**Tabubil**	**16.70**	**110**	P	**Pn**	**15 25 14.6**	**-0.1**
TPI	**Tanjungpandan**	**18.08**	**260**	P	**Pn**	**15 25 31.8**	**+0.2**
KPJI	**Karang Pucung**	**18.18**	**245**	P	**P**	**15 25 32.9**	**+0.7**
	30nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.35**	**179**	P	**P**	**15 25 34.7**	**+0.8**
	3.5nm,1.0s,baz=13,slow=11,SNR=8.3						
LEM	**Lembang**	**19.19**	**248**	P	**P**	**15 25 42.3**	**-1.2**
	23nm,0.6s,baz=124,slow=17,SNR=5.1						
BBJI	**Bungbulang**	**19.40**	**246**	P	**P**	**15 25 45.8**	**+0.2**
WB0	**Warramunga Arr**	**21.84**	**157**	P	**P**	**15 26 10.8**	**-0.9**
WB0				IAmb	IAmb	15 26 14.7	
	comp=Z,22nm,0.6s						
WRAB	**Tennant Creek**	**21.97**	**157**	P	**P**	**15 26 12.9**	**-0.3**
WRAB				IAmb	IAmb	15 26 23.5	
	comp=Z,22nm,0.8s						
WRA	**Warramunga Arr**	**21.97**	**157**	P	**P**	**15 26 12.7**	**-0.6**
	comp=Z,14nm,0.6s,baz=338,slow=10,SNR=154						
WRA				S	**S**	**15 30 09.4**	**-2.4**
	comp=Z,0.5nm,0.7s,baz=120,slow=26,SNR=1.9						
	comp=Z,14nm,0.6s						
WB2	**Warramunga Arr**	**21.98**	**157**	P	**P**	**15 26 13.0**	**-0.3**
WB2				IAmb	IAmb	15 26 16.1	
	comp=Z,25nm,0.7s						
WR0	**Warramunga Arr**	**22.07**	**157**	P	**P**	**15 26 13.7**	**-0.6**
COEN	**Coen**	**22.58**	**130**	P	**P**	**15 26 20.0**	**+0.2**
COEN				IAmb	IAmb	15 26 28.4	
	comp=Z,17nm,0.8s						
COEN	**Coen**	**22.58**	**130**	P	**P**	**15 26 20.1**	**+0.2**
PMG	**Port Moresby**	**23.68**	**115**	LR	LR	15 38 30.5	
	comp=Z,71nm,20.8s,baz=286,slow=43						
QIS	**Mount Isa**	**24.98**	**147**	P	**P**	**15 26 43.1**	**+0.9**
AS31	**Alice Springs**	**25.25**	**162**	P	**P**	**15 26 45.7**	**+1.0**
ASAR	**Alice Springs**	**25.25**	**162**	P	**P**	**15 26 46.0**	**+1.3**
	comp=Z,14nm,0.7s,baz=345,slow=11,SNR=117						
ASAR				PcP	**PcP**	**15 30 17.8**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=351,slow=2.2,SNR=8.2						
ASAR				S	**S**	**15 31 05.5**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=355,slow=19,SNR=2.1						
	comp=Z,14nm,0.7s						
KULM	**Kulim**	**25.26**	**282**	P	**P**	**15 26 45.7**	**+0.9**
	comp=Z,13nm,1.1s						
AS01	**Alice Springs**	**25.27**	**162**	P	**P**	**15 26 45.8**	**+1.0**
	comp=Z,29nm,0.8s						
WRKA	**Warakurna**	**25.40**	**174**	P	**P**	**15 26 47.2**	**+1.2**
RABL	**Rabaul**	**27.05**	**100**	P	**P**	**15 27 00.8**	**-0.3**
SURA	**Surathani**	**27.17**	**290**	P	**P**	**15 27 05.3**	**+3.3**
OOD	**Oodnadatta**	**29.67**	**161**	P	**P**	**15 27 25.5**	**+1.4**
PHRA	**Phrae**	**30.64**	**307**	P	**P**	**15 27 32.5**	**-0.4**
MULG	**Mulgathing**	**31.55**	**166**	P	**P**	**15 27 41.6**	**+0.9**
INKA	**Innaminka**	**31.56**	**154**	P	**P**	**15 27 42.4**	**+1.6**
GYA	**Guiyang**	**31.64**	**327**	⇓P	**P**	**15 27 43.1**	**+1.4**
GYA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CMAR	**Chiang Mai Arr**	**31.65**	**306**	P	**P**	**15 27 40.0**	**-1.8**
CMAR	**Chiang Mai Arr**	**31.65**	**306**	P	**P**	**15 27 41.8**	**0.0**
	comp=Z,1.2nm,0.6s,baz=132,slow=7.4,SNR=17						
CMAR				PcP	**PcP**	**15 30 32.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=191,slow=1.8,SNR=4.9						
CMAR				LR	LR	15 42 47.8	
	comp=Z,21nm,18.6s,baz=115,slow=41						
	comp=Z,1.2nm,0.6s						
CHTO	**Chiang Mai**	**31.84**	**307**	P	**P**	**15 27 42.5**	**-0.9**
NJ2	**Nanjing**	**32.13**	**349**	*e*P	**P**	**15 27 46.9**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
PZH	**PanZhiHua**	**34.60**	**321**	P	**P**	**15 28 08.8**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,5.7s						
STKA	**Stephens Creek**	**35.52**	**156**	P	**P**	**15 28 16.6**	**+1.4**
	comp=Z,6.2nm,0.8s,baz=329,slow=7.9,SNR=20						
	comp=Z,6.2nm,0.8s						
STKA	**Stephens Creek**	**35.52**	**156**	P	**P**	**15 28 16.4**	**+1.2**
JGF	**Kuroka**	**36.77**	**16**	P	**P**	**15 28 27.0**	**+1.2**
	comp=Z,12nm,1.2s						
XAN	**Xi'an**	**36.92**	**337**	⇓P	**P**	**15 28 27.4**	**+0.3**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KSRS	**Korea Array**	**36.98**	**3**	P	**P**	**15 28 28.2**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=188,slow=9.8,SNR=11						
KSRS				LR	LR	15 45 16.2	
	comp=Z,16nm,18.7s,baz=180,slow=39						
	comp=Z,2.0nm,0.7s						
CMSA	**Cobar Meteorol**	**37.07**	**151**	P	**P**	**15 28 30.1**	**+1.7**
MJAR	**Matsushiro Arr**	**37.89**	**17**	P	**P**	**15 28 34.6**	**-0.7**
	comp=Z,3.4nm,0.6s,baz=193,slow=9.4,SNR=7.9						
	comp=Z,3.4nm,0.6s						
MAJO	**Matsushiro**	**37.89**	**17**	P	**P**	**15 28 36.9**	**+1.6**
	comp=Z,10nm,0.8s						
GC1S	**Gold Coast 1 S**	**39.08**	**139**	P	**P**	**15 28 46.4**	**+1.1**
JMM	**Marumori**	**39.90**	**19**	P	**P**	**15 28 52.1**	**0.0**
JMM	**Marumori**	**39.90**	**19**	P	**P**	**15 28 53.1**	**+1.1**
LZH	**Lanzhou**	**40.83**	**333**	*e*P	**P**	**15 29 01.4**	**+1.4**
LZH				pP	pP	15 29 17.7	+0.6
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
SHL	**Shillong**	**40.96**	**310**	P	**P**	**15 29 00.3**	**-1.0**
SHL				IAmb	IAmb	15 29 01.9	
	comp=Z,10nm,0.7s						
HHC	**Hu-ho-hao-te**	**42.23**	**344**	*e*P	**P**	**15 29 12.3**	**+1.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,200nm,5.0s						
USRK	**Ussuriysk Ar.**	**44.03**	**7**	P	**P**	**15 29 26.2**	**+0.6**
	comp=Z,2.8nm,0.5s,baz=176,slow=7.4,SNR=12						
	comp=Z,2.8nm,0.5s						
XLT	**XiLinHaoTe**	**44.15**	**350**	*e*P	**P**	**15 29 25.1**	**-1.6**
XLT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
XLT				pmax	pmax		
	comp=Z,120nm,6.3s						
BNX	**BinXian**	**45.22**	**2**	⇓P	**P**	**15 29 34.8**	**-0.2**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.5s						
GTA	**Gaotai**	**45.39**	**332**	*e*P	**P**	**15 29 35.8**	**-0.9**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ASAJ	**Asahikawa**	**46.16**	**17**	LR	LR	15 53 35.8	
	comp=Z,12nm,18.8s,baz=0.0,slow=42						
HEH	**HeiHe**	**49.73**	**2**	*e*P	**P**	**15 30 09.7**	**-0.2**
HEH				pmax	pmax		
	comp=Z,11nm,0.6s						
SONM	**Songino Array**	**50.10**	**343**	P	**P**	**15 30 12.3**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=159,slow=9.1,SNR=7.2						
SONM				LR	LR	15 54 37.7	
	comp=Z,38nm,18.7s,baz=76,slow=40						
	comp=Z,1.4nm,0.7s						
WMQ	**Urumqi**	**54.80**	**327**	*e*P	**P**	**15 30 48.3**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,21nm,1.1s						
PETK	**Petropavlovsk-**	**59.00**	**22**	P	**P**	**15 31 17.4**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=157,slow=3.7,SNR=12						
	comp=Z,2.7nm,0.6s						
KSH	**Kashi**	**59.58**	**317**	P	**P**	**15 31 22.9**	**+1.3**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MK31	**Makanchi Array**	**59.63**	**327**	P	**P**	**15 31 20.1**	**-1.6**
MK31				IAmb	IAmb	15 31 23.3	
	comp=Z,12nm,1.3s						
MKAR	**Makanchi Array**	**59.63**	**327**	P	**P**	**15 31 20.1**	**-1.6**
MKAR	**Makanchi Array**	**59.63**	**327**	P	**P**	**15 31 20.5**	**-1.2**
	comp=Z,5.3nm,0.6s,baz=124,slow=7.9,SNR=26						
MKAR				PcP	**PcP**	**15 32 07.8**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=117,slow=4.4,SNR=3.8						
MKAR				LR	LR	15 57 47.4	
	comp=Z,70nm,21.5s,baz=287,slow=37						
	comp=Z,5.3nm,0.6s						
MAKZ	**Makanchi**	**59.81**	**327**	P	**P**	**15 31 21.6**	**-1.3**
MAKZ				IAmb	IAmb	15 31 25.2	
	comp=Z,8.3nm,0.9s						
YAK	**Yakutsk**	**61.59**	**2**	P	**P**	**15 31 34.8**	**+0.2**
KBL	**Kabul**	**62.61**	**309**	P	**P**	**15 31 42.0**	**-0.4**
ZALV	**Zalesovo Beam**	**63.03**	**334**	P	**P**	**15 31 42.3**	**-2.2**
	comp=Z,2.7nm,0.6s,baz=139,slow=6.1,SNR=12						
	comp=Z,2.7nm,0.6s						
GAR	**Garm**	**63.31**	**314**	P	**P**	**15 31 45.9**	**-0.9**
KURBB	**Kurchatov Arra**	**63.91**	**329**	P	**P**	**15 31 48.9**	**-1.4**
	comp=Z,2.7nm,0.3s,baz=128,slow=6.3,SNR=26						
	comp=Z,2.7nm,0.3s						
KURK	**Kurchatov**	**63.92**	**329**	P	**P**	**15 31 48.9**	**-1.4**
BVAR	**Borovoye Array**	**69.46**	**328**	P	**P**	**15 32 24.2**	**-1.5**
	comp=Z,2.7nm,0.6s,baz=143,slow=10,SNR=11						
	comp=Z,2.7nm,0.6s						
BRVK	**Borovoye**	**69.54**	**328**	P	**P**	**15 32 24.8**	**-1.3**
BRVK				IAmb	IAmb	15 32 27.7	
	comp=Z,5.7nm,0.9s						
TIXI	**Tiksi**	**71.21**	**1**	P	**P**	**15 32 34.9**	**-1.0**
TIXI				IAmb	IAmb	15 32 41.8	
	comp=Z,9.8nm,1.4s						
NRIK	**Noril'sk**	**73.39**	**347**	IAmb	IAmb	15 32 50.1	
	comp=Z,10nm,1.0s						
NRIK	**Noril'sk**	**73.39**	**347**	P	**P**	**15 32 48.2**	**-0.7**
	comp=Z,5.2nm,0.6s,baz=127,slow=6.5,SNR=11						
	comp=Z,5.2nm,0.6s						
ABKAR	**Akbulak array**	**73.97**	**322**	P	**P**	**15 32 51.1**	**-1.6**
ABKAR	**Akbulak array**	**73.97**	**322**	IAmb	IAmb	15 32 54.3	
	comp=Z,4.0nm,0.8s						
ARTI	**Arti**	**77.19**	**328**	P	**P**	**15 33 09.9**	**-1.1**
RAYN	**Ar Rayn**	**80.65**	**294**	P	**P**	**15 33 30.9**	**+0.2**
BELG	**Belogornoye**	**82.30**	**323**	LR	LR	16 11 00.5	
	comp=Z,53nm,21.4s,baz=320,slow=36						
KBZ	**Khabaz**	**84.37**	**314**	P	**P**	**15 33 49.9**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=121,slow=7.7,SNR=4.6						
	comp=Z,1.4nm,0.7s						
GURO	**Guroymak-BITLI**	**84.63**	**309**	IAmb	IAmb	15 33 53.5	
	comp=Z,7.4nm,0.9s						
KDAK	**Kodiak Island**	**85.39**	**32**	P	**P**	**15 33 55.4**	**+1.0**
	comp=Z,7.2nm,0.7s,baz=254,slow=8.4,SNR=4.6						
	comp=Z,7.2nm,0.7s						
KIBK	**Kibwezi**	**87.44**	**268**	P	**P**	**15 34 05.6**	**0.0**
KIBK				IAmb	IAmb	15 34 07.8	
	comp=Z,5.4nm,0.9s						
KMBO	**Kilima Mbogo**	**88.22**	**269**	P	**P**	**15 34 09.8**	**+0.3**
KMBO				IAmb	IAmb	15 34 11.9	
	comp=Z,8.1nm,1.1s						
KMBO	**Kilima Mbogo**	**88.22**	**269**	P	**P**	**15 34 10.8**	**+1.3**
	comp=Z,3.7nm,0.7s,baz=74,slow=8.1,SNR=11						
	comp=Z,3.7nm,0.7s						
ILAR	**Eielson Array**	**88.66**	**25**	P	**P**	**15 34 09.2**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=250,slow=4.7,SNR=9.9						
	comp=Z,0.5nm,0.6s						
MMAI	**Mount Meron Ar**	**89.86**	**303**	P	**P**	**15 34 17.0**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=78,slow=9.0,SNR=2.6						
	comp=Z,1.5nm,0.6s						
QSPA	**South Pole Qui**	**90.29**	**180**	P	**P**	**15 34 19.2**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=285,slow=1.7,SNR=9.7						
	comp=Z,1.3nm,0.7s						
BRTR	**Keskin Array B**	**91.18**	**310**	P	**P**	**15 34 21.4**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=97,slow=4.1,SNR=4.9						
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**93.15**	**340**	P	**P**	**15 34 29.9**	**-1.0**
	comp=Z,3.3nm,0.8s,baz=64,slow=4.2,SNR=4.0						
	comp=Z,3.3nm,0.8s						
FINES	**FINESS Array B**	**94.18**	**332**	P	**P**	**15 34 35.2**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=100,slow=2.3,SNR=3.9						
	comp=Z,2.7nm,0.9s						
IDI	**Anoyia**	**98.43**	**306**	LR	LR	16 26 57.6	
	comp=Z,64nm,19.8s,baz=306,slow=40						
TORD	**Torodi Ar. Bea**	**122.69**	**286**	PKP	**PKPdf**	**15 40 13.8**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=42,slow=1.8,SNR=6.3						

*SOF **05** 15:22:09.7, 41.68N±0.01×23.77E±0.01, h18km±2km, MD2.6/10*
*BEO **05** 15:22:10.3±0.3, 41.65N×23.77E, h13km±3km, ML2.2/7*
ISC 05 15:22:09.9±0.9, 41.68N±0.04×23.78E±0.02, h11km±8km, n19, σ0.62/38, 2C-1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMB	**Musomishta**	**0.13**	**190**	⇑P*g*	**Pg**	**15 22 13.2**	**+0.1**
MMB				Sg	**Sg**	**15 22 15.4**	**0.0**
KKB	**Krupnik**	**0.51**	**289**	⇓P*g*	**Pg**	**15 22 20.2**	**+0.3**
KKB				Sg	**Sg**	**15 22 26.7**	**0.0**
SRS	**Serrai**	**0.58**	**194**	*e*P*g*	**Pg**	**15 22 21.2**	**+0.1**
SRS				*e*Sg	**Sg**	**15 22 28.9**	**+0.2**
PEHC	**Pehcevo**	**0.67**	**279**	*i*P*g*	**Pb**	**15 22 23.5**	**0.0**
PEHC				*i*Sg	**Sb**	**15 22 32.3**	**-0.5**
RZN	**Rozhen**	**0.72**	**88**	*i*P*g*	**Pg**	**15 22 23.9**	**+0.1**
RZN				Sg	**Sg**	**15 22 33.4**	**+0.2**
PLNA	**Plana**	**0.84**	**342**	⇑*i*P*g*	**Pb**	**15 22 26.0**	**-0.6**
PLNA				Sg	**Sb**	**15 22 37.2**	**-0.7**
PLD	**Plovdiv**	**0.86**	**57**	P*g*	**Pn**	**15 22 27.7**	**-0.2**
PLD				Sg	**Sb**	**15 22 37.7**	**-0.6**
PLD	**Plovdiv**	**0.86**	**57**	*e*P*g*	**Pb**	**15 22 25.8**	**-1.0**
PLD				*e*Sg	**Sb**	**15 22 37.2**	**-1.1**
PGB	**Panagyurishte**	**0.89**	**19**	P*g*	**Pb**	**15 22 26.6**	**-0.7**
PGB				Sg	**Sb**	**15 22 38.8**	**-0.3**
VTS	**Vitosha**	**1.02**	**337**	*i*P*g*	**Pb**	**15 22 29.0**	**-0.7**
VTS				Sg	**Sb**	**15 22 43.1**	**-0.1**
VTS	**Vitosha**	**1.02**	**337**	*e*P*g*	**Pb**	**15 22 28.8**	**-0.9**

*DJA **05** 15:21:24.8±0.2, 0°N±2°×12°5E±°, h54km±4km, M4.6/27, mB5.0/13, mb4.8/27, MLv4.8/24, Mw(mB)4.4/13*
*NEIC **05** 15:21:25.1±2.1, 0.44N±0.07×125.47E±0.05, h69km±8km,*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS				*e*Sg	**Sb**	**15 22 43.0**	**-0.1**
KDZ	**Kurdzhali**	**1.17**	**92**	P	**Pg**	**15 22 32.9**	**+0.6**
KDZ				Sg	**Sg**	**15 22 48.5**	**+1.0**
BOSS	**Bosilegrad**	**1.27**	**311**	*e*Pg	**Pg**	**15 22 34.2**	**0.0**
BOSS				*e*Sn	**Sg**	**15 22 51.3**	**+0.6**
DIM	**Dimitrovgrad**	**1.39**	**74**	P	**Pg**	**15 22 37.2**	**+0.6**
DIM				S	**Sg**	**15 22 55.6**	**+1.0**
MPEP	**Malo Peshtene**	**1.68**	**359**	P	**Pn**	**15 22 39.7**	**+0.5**
MPEP				Sg	**Sg**	**15 23 04.1**	**+0.3**
ZAPS	**Zavoj**	**1.81**	**332**	*e*Pn	**Pb**	**15 22 42.4**	**-0.6**
ZAPS				*e*Sn	**Sb**	**15 23 04.5**	**-1.1**
BARS	**Barje**	**1.85**	**309**	*e*Pn	**Pn**	**15 22 41.7**	**+0.2**
BARS				*e*Sn	**Sb**	**15 23 06.1**	**-0.7**
BOVS	**Bovan**	**2.48**	**323**	*e*Pn	**Pn**	**15 22 50.0**	**-0.2**
BOVS				*e*Sn	**Sn**	**15 23 21.4**	**+0.9**
SELS	**Selova**	**2.50**	**309**	*e*Pn	**Pn**	**15 22 51.2**	**+0.7**
SELS				*e*Sn	**Sn**	**15 23 21.5**	**+0.5**

NEIC ***05*** *15:35:31.5±0.9, 39°.62N±0°.02×119°.05W±0°.01, h3km±3km, Error ellipse: s-maj=3.5km s-min=0.4km az=201.0*

REN 05 15:35:31.9±1.0, 39°.57N±0°.02×119°.07W±0°.02, h4km±2km, ML2.3/11, ML2.1/34(NEIC), Error ellipse: s-maj=3.4km s-min=1.7km az=209.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAHR	**Pah Rah Range**	**0.28**	**300**		Pg	15 35 37.8	+0.5
PAHR					Sg	15 35 42.2	+1.3
PAHR	**Pah Rah Range**	**0.28**	**300**	IAML		15 35 42.5	
PAHR	comp=E,541nm,0.4s			IAML		15 35 42.6	
	comp=N,335nm,0.4s						
YERR	**Yerington**	**0.60**	**193**		Pg	15 35 43.9	+0.6
YERR					Sb	15 35 52.7	-1.2
YERR	**Yerington**	**0.60**	**193**	IAML		15 35 53.2	
	comp=N,177nm,0.4s						
PNTR	**Pine Nut**	**0.63**	**221**		Pg	15 35 44.4	+0.4
PNTR					Sb	15 35 53.8	-1.1
PNTR	**Pine Nut**	**0.63**	**221**	IAML		15 36 01.4	
	comp=N,74nm,0.9s						
PEAR	**Peavine Mounta**	**0.69**	**273**		Pg	15 35 45.5	+0.4
PEAR					Sb	15 35 55.4	-1.1
MPK	**Martis Peak**	**0.79**	**250**		Pg	15 35 47.5	+0.5
MPK					Sb	15 35 58.7	-0.8
MPK	**Martis Peak**	**0.79**	**250**	IAML		15 36 04.4	
	comp=E,91nm,0.8s						
MPK				IAML		15 36 09.0	
	comp=N,84nm,0.7s						
KVN	**Kaiserville**	**0.92**	**124**		Pg	15 35 49.5	+0.1
KVN					Sb	15 36 02.8	-0.3
KVN	**Kaiserville**	**0.92**	**124**	IAML		15 36 05.5	
	comp=E,106nm,0.3s						
DONR	**Donner Summit**	**0.99**	**258**		Pg	15 35 51.1	+0.2
DONR					Sb	15 36 04.8	-0.6
EMB	**Emerald Bay**	**0.99**	**234**		Pg	15 35 51.0	0.0
EMB	**Emerald Bay**	**0.99**	**234**	IAML		15 36 10.2	
	comp=N,38nm,0.6s						
EMB				IAML		15 36 11.0	
	comp=E,36nm,0.9s						
RYN	**Ryan**	**1.03**	**155**		Pg	15 35 51.7	0.0
RYN	**Ryan**	**1.03**	**155**	IAML		15 36 09.2	
	comp=E,85nm,0.5s						
WAKR	**Walker**	**1.10**	**195**		Pg	15 35 53.1	+0.1
WAKR	**Walker**	**1.10**	**195**	IAML		15 36 11.7	
	comp=N,70nm,0.6s						
WAKR				IAML		15 36 14.3	
	comp=E,53nm,0.8s						
NV09	**Mina Array Sit**	**1.27**	**153**		Pg	15 35 56.1	-0.2
NVAR	**Mina Array Bea**	**1.29**	**152**		Pg	15 35 56.4	-0.2
NV08	**Mina Array Sit**	**1.30**	**153**		Pg	15 35 56.8	-0.1
NV11	**Mina Array Sit**	**1.34**	**147**		Pn	15 35 57.2	-0.4
NV11	**Mina Array Sit**	**1.34**	**147**	IAML		15 36 19.9	
	comp=E,29nm,0.6s						
NV11				IAML		15 36 28.8	
	comp=N,21nm,0.8s						
LHV	**Little Huntoon**	**1.39**	**161**		Pb	15 35 58.4	0.0
AFDM	**Forest Hills D**	**1.60**	**248**		Pn	15 36 01.2	+0.1
Q09A	**Carvers**	**1.64**	**116**		Pn	15 36 02.1	+0.3
BMN	**Battle Mountai**	**1.66**	**58**		Pn	15 36 00.8	-1.2
CMB	**Columbia Colle**	**1.84**	**214**		Pb	15 36 05.4	-0.8
CMB	**Columbia Colle**	**1.84**	**214**		Pb	15 36 05.8	-0.4
CMB				IAML		15 36 31.6	
	comp=E,13nm,0.6s						
CMB				IAML		15 36 32.0	
	comp=N,14nm,0.8s						
BENR	**Benton**	**1.89**	**168**		Pb	15 36 07.2	0.0
ELK	**Elko**	**3.17**	**67**		Pn	15 36 22.5	-0.3
TPNV	**Topopah Spring**	**3.43**	**139**	Pn	Pn	15 36 25.3	-1.1

IDC ***05*** *15:58:51.1±1.1, 3°.19N×129°.12E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=63.9km s-min=19.6km az=76.0*

DJA ***05*** *15:59:17.2±0.7, 3°N±5°×12°8E±°, h223km±5km, M3.7/7, mb3.9/2, mB4.3/1, MLv3.7/7, Mw(mB)3.4/1*

ISC 05 15:59:13.0±1.1, 2°.9N±0°.1×128°.9E±0°.2, h200km, n9, σ1§18/10, mb3.3/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.59**	**217**	P	**Pn**	**15 59 59.7**	**+1.8**
TNTI				S	**Sn**	**16 00 33.1**	**+0.1**
KMSI	**Cibinong**	**5.44**	**246**	P	**Pn**	**16 00 32.5**	**-0.5**
SANI	**Sanana**	**5.69**	**211**	P	**Pn**	**16 00 34.9**	**-1.3**
	20nm,0.6s,544nm0.1nm						
FITZ	**Fitzroy Crossi**	**21.07**	**189**	P	**P**	**16 03 41.2**	**-0.6**
	0.9nm,0.5s,baz=3.2,slow=12,SNR=1.2						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**23.27**	**167**	P	**P**	**16 04 03.8**	**+0.9**
	0.3nm,0.5s,baz=343,slow=10.0,SNR=11						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**26.80**	**170**	P	**P**	**16 04 35.2**	**+0.5**
	0.3nm,0.5s,baz=354,slow=8.0,SNR=20						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**59.53**	**325**	P	**P**	**16 08 56.3**	**+0.9**
	0.4nm,0.5s,baz=123,slow=8.2,SNR=5.1						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**63.67**	**327**	P	**P**	**16 09 23.5**	**+0.7**
	0.7nm,0.6s,baz=127,slow=5.9,SNR=4.9						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**84.95**	**25**	P	**P**	**16 11 24.0**	**-1.3**
	0.3nm,0.8s,baz=282,slow=4.5,SNR=2.3						
	0.3nm,0.8s						

IDC 05 16:03:39.2±3.6, 10°.81S×117°.99E, h0km, mb3.7/1, mbtmp3.3/4, ML2.4/3, Error ellipse: s-maj=258.0km s-min=28.3km az=48.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.36**	**135**	Pn	Pn	16 06 07.3	-1.9
	baz=333,slow=14,SNR=1.1						
FITZ				Sn	Sn	16 07 49.5	-17
	0.2nm,0.3s,baz=251,slow=4.3,SNR=2.3						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**18.18**	**122**	P	Pn	16 07 53.3	0.0
	baz=295,slow=13,SNR=1.5						
WRA				S	Sn	16 11 00.2	-17
	0.2nm,0.7s,baz=222,slow=41,SNR=2.0						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**19.84**	**132**	P	Pn	16 08 13.1	-0.2
	baz=312,slow=12,SNR=2.1						
ASAR				S	S	16 11 39.0	-17
	0.4nm,1.0s,baz=299,slow=23,SNR=2.6						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**65.62**	**334**	P	P	16 14 25.0	-0.1
	0.6nm,0.8s,baz=142,slow=7.3,SNR=3.1						
	0.6nm,0.8s						

ATH ***05*** *16:10:47.1, 37°.36N×20°.74E, h7km±2km, ML3.4/8, Error ellipse: s-maj=2.5km s-min=0.8km az=43.0*

THE ***05*** *16:10:47.2, 37°.37N×20°.77E, h10km±1km, ML3.6/13, Error ellipse: s-maj=1.7km s-min=0.6km az=57.0*

ISC 05 16:10:47.2±1.5, 37°.37N±0°.05×20°.76E±0°.05, h11km±9km, n31, σ0§65/54, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.30**	**10**	P	**Pg**	**16 10 53.4**	**+0.1**
KRI1				S	**Sg**	**16 10 57.8**	**+0.5**
	34μm,0.5s						
LTHK	**Lithakia**	**0.35**	**11**	P	**Pg**	**16 10 54.1**	**0.0**
LTHK				S	**Sg**	**16 10 59.1**	**+0.3**
	27μm,0.4s						
LTHK	**Lithakia**	**0.35**	**11**	P	**Pg**	**16 10 54.2**	**0.0**
LTHK				S	**Sg**	**16 10 59.1**	**+0.3**
LTHK				AML	AML	16 10 59.5	
	comp=E,43055μm,0.5s						
LTHK				AML	AML	16 10 59.7	
	comp=N,59464μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.71**	**1**	P	**Pg**	**16 11 00.2**	**-0.7**
RTZL				S	**Sb**	**16 11 10.9**	**-0.3**
	comp=N,7μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.76**	**350**	P	**Pg**	**16 11 01.2**	**-0.6**
PSDA				S	**Sb**	**16 11 12.8**	**+0.1**
	comp=N,12μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.76**	**350**	P	**Pg**	**16 11 01.4**	**-0.5**
PSDA				S	**Sg**	**16 11 12.0**	**+0.2**
AMT	**Artemida-Makis**	**0.78**	**77**	P	**Pg**	**16 11 02.1**	**-0.1**
AMT				S	**Sg**	**16 11 12.8**	**+0.4**
AMT				AML	AML	16 11 18.2	
	comp=E,16123μm,0.4s						
AMT				AML	AML	16 11 19.4	
	comp=N,18270μm,0.5s						
VLS	**Valsamata**	**0.82**	**351**	P	**Pg**	**16 11 02.1**	**-0.9**
VLS				S	**Sb**	**16 11 14.3**	**-0.2**
	comp=N,3μm,0.4s						
VLS	**Valsamata**	**0.82**	**351**	P	**Pg**	**16 11 02.4**	**-0.7**
VLS				S	**Sg**	**16 11 14.0**	**+0.3**
VLS				AML	AML	16 11 17.3	
	comp=N,7573μm,0.2s						
VLS				AML	AML	16 11 19.7	
	comp=E,6179μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.87**	**343**	P	**Pg**	**16 11 04.0**	**0.0**
LXRA				S	**Sg**	**16 11 15.6**	**+0.3**
SMHA	**Samh**	**0.89**	**355**	P	**Pg**	**16 11 03.2**	**-1.1**
RLS	**Riolos of Patr**	**0.89**	**39**	P	**Pg**	**16 11 03.5**	**-0.9**
RLS				S	**Sg**	**16 11 16.0**	**0.0**
	comp=E,2μm,0.5s						
RLS	**Riolos of Patr**	**0.89**	**39**	P	**Pg**	**16 11 03.7**	**-0.7**
RLS				S	**Sg**	**16 11 16.4**	**+0.4**
RLS				AML	AML	16 11 22.6	
	comp=E,2711μm,0.4s						
RLS				AML	AML	16 11 22.7	
	comp=N,3297μm,0.4s						
PYL	**PYLOS**	**0.92**	**121**	P	**Pg**	**16 11 03.9**	**-1.0**
PYL				S	**Sb**	**16 11 18.3**	**+1.0**
	comp=N,980nm,0.6s						
PYL	**PYLOS**	**0.92**	**121**	P	**Pg**	**16 11 04.2**	**-0.7**
PYL				S	**Sb**	**16 11 17.6**	**+0.3**
PYL				AML	AML	16 11 19.1	
	comp=E,1993μm,0.6s						
PYL				AML	AML	16 11 21.3	
	comp=N,1917μm,0.6s						
DMLN	**Damoulianata-K**	**0.92**	**341**	P	**Pg**	**16 11 04.7**	**-0.2**
DMLN				S	**Sb**	**16 11 18.5**	**+1.1**
	comp=N,6μm,0.4s						
DMLN	**Damoulianata-K**	**0.92**	**341**	P	**Pg**	**16 11 04.8**	**-0.1**
ITM	**Ithomi**	**0.95**	**101**	P	**Pg**	**16 11 05.0**	**-0.6**
ITM				S	**Sb**	**16 11 19.5**	**+1.2**
	comp=N,978nm,0.4s						
ITM	**Ithomi**	**0.95**	**101**	P	**Pg**	**16 11 05.2**	**-0.4**
ITM				S	**Sb**	**16 11 18.6**	**+0.2**
ITM				AML	AML	16 11 24.6	
	comp=E,1771μm,0.4s						
ITM				AML	AML	16 11 25.6	
	comp=N,1847μm,0.4s						
DRO	**Drossia**	**0.96**	**52**	P	**Pg**	**16 11 04.7**	**-0.9**
DRO				S	**Sb**	**16 11 18.5**	**+0.1**
	comp=N,4μm,0.5s						
DRO	**Drossia**	**0.96**	**52**	P	**Pg**	**16 11 04.8**	**-0.8**
DRO				S	**Sb**	**16 11 18.6**	**+0.1**
DRO				AML	AML	16 11 22.4	
	comp=N,6605μm,0.4s						
DRO				AML	AML	16 11 26.2	
	comp=E,8085μm,0.5s						
VSK1	**VASILIKIADES**	**1.05**	**352**	P	**Pg**	**16 11 06.1**	**-1.3**
VSK1				S	**Sb**	**16 11 22.2**	**+1.0**
	comp=E,3μm,0.6s						
FSK	**Fiskardo**	**1.10**	**352**	P	**Pg**	**16 11 06.9**	**-1.5**
FSK				S	**Sn**	**16 11 24.4**	**+0.7**
	comp=E,2μm,0.5s						
FSK	**Fiskardo**	**1.10**	**352**	P	**Pg**	**16 11 07.6**	**-0.7**
FSK				S	**Sb**	**16 11 23.3**	**+0.7**
FSK				AML	AML	16 11 26.6	
	comp=E,4165μm,0.4s						
FSK				AML	AML	16 11 27.2	
	comp=N,4212μm,0.5s						
EVGI	**Lefkada island**	**1.25**	**356**	P	**Pn**	**16 11 10.0**	**-0.6**
EVGI				S	**Sg**	**16 11 27.8**	**+0.2**
	comp=N,1μm,0.3s						
EVGI	**Lefkada island**	**1.25**	**356**	P	**Pn**	**16 11 10.0**	**-0.6**
KLV	**Kalavryta, Ach**	**1.30**	**58**	P	**Pn**	**16 11 10.7**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.32**	**354**	P	**Pn**	**16 11 11.0**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.34**	**358**	P	**Pn**	**16 11 12.0**	**+0.2**
GUR	**Goura**	**1.38**	**65**	P	**Pn**	**16 11 12.5**	**+0.1**
KALE	**Kalithea**	**1.50**	**47**	P	**Pn**	**16 11 14.2**	**+0.1**

BEO ***05*** *16:19:50.6±2.7, 36°.69N×20°.25E, h84km±8km, ML3.7/11*

IDC ***05*** *16:19:54.4±0.8, 37°.41N×20°.73E, h0km, mb3.9/14, mbtmp3.9/21, ML4.0/6, MS3.5/2, Error ellipse: s-maj=16.3km s-min=14.0km az=159.0*

NEIC ***05*** *16:19:55.2±1.2, 37°.19N±0°.07×20°.68E±0°.03, h10km±1km, mb4.6/14, Error ellipse: s-maj=11.4km s-min=4.0km az=186.0*

THE ***05*** *16:19:57.1, 37°.42N×20°.56E, h1km±2km, ML4.1/10, Error ellipse: s-maj=2.5km s-min=0.6km az=227.0*

ATH ***05*** *16:19:57.4, 37°.41N×20°.55E, h8km±1km, ML3.8/21, Error ellipse: s-maj=1.9km s-min=0.8km az=53.0*

NAO ***05*** *16:19:59.5, 38°.04N×22°.80E, h10km, mb3.9*

MCSM ***05*** *16:20:00.3±1.1, 38°.N±11°×2°.1E±°, h10km, mB4.5, mb4.0, MLv3.9, Mw(mB)3.6*

ISC 05 16:19:57.6±1.0, 37°.42N±0°.03×20°.54E±0°.03, h23km±8km, n185, σ1§65/218, mb4.1/17, 4C-5D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.33**	**42**	P	**Pb**	**16 20 03.9**	**-1.0**
KRI1				S	**Sb**	**16 20 08.6**	**-1.3**
	116μm,0.4s						
LTHK	**Lithakia**	**0.37**	**39**	P	**Pb**	**16 20 04.6**	**-1.0**
LTHK				S	**Sb**	**16 20 09.4**	**-1.7**
	57μm,0.5s						
LTHK	**Lithakia**	**0.37**	**39**	P	**Pb**	**16 20 04.7**	**-0.9**
LTHK				S	**Sb**	**16 20 09.6**	**-1.5**
LTHK				AML	AML	16 20 10.3	
	comp=E,62543μm,0.3s						
LTHK				AML	AML	16 20 10.5	
RTZL	**Ratzakli, Kefa**	**0.68**	**16**	P	**Pb**	**16 20 09.9**	**-0.9**
RTZL				S	**Sb**	**16 20 19.5**	**-0.3**
	comp=E,18μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.69**	**3**	P	**Pb**	**16 20 10.8**	**-0.2**
PSDA				S	**Sb**	**16 20 20.2**	**0.0**
	comp=E,16μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.69**	**3**	P	**Pb**	**16 20 10.5**	**-0.6**
PSDA				S	**Sb**	**16 20 20.3**	**+0.2**
VLS	**Valsamata**	**0.76**	**3**	P	**Pb**	**16 20 11.4**	**-0.7**
VLS				S	**Sb**	**16 20 22.6**	**+0.6**
	comp=E,7μm,0.2s						
VLS	**Valsamata**	**0.76**	**3**	P	**Pb**	**16 20 11.5**	**-0.7**
VLS				S	**Sb**	**16 20 22.8**	**+0.7**
VLS				AML	AML	16 20 27.3	
	comp=E,15978μm,0.2s						
VLS				AML	AML	16 20 30.0	
	comp=N,17719μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.78**	**354**	P	**Pn**	**16 20 12.5**	**-0.7**
DMLN	**Damoulianata-K**	**0.83**	**351**	P	**Pn**	**16 20 12.8**	**-1.1**
DMLN				S	**Sn**	**16 20 25.4**	**0.0**
	comp=N,27μm,0.5s						
DMLN	**Damoulianata-K**	**0.83**	**351**	P	**Pn**	**16 20 12.7**	**-1.1**
DMLN				S	**Sb**	**16 20 23.6**	**-0.4**
SMHA	**Samh**	**0.83**	**6**	P	**Pn**	**16 20 12.5**	**-1.4**
AMT	**Artemida-Makis**	**0.94**	**83**	P	**Pn**	**16 20 14.7**	**-0.6**
AMT				AML	AML	16 20 34.8	
	comp=E,42147μm,0.4s						
AMT				AML	AML	16 20 38.8	
	comp=N,40583μm,0.5s						
RLS	**Riolos of Patr**	**0.97**	**49**	P	**Pn**	**16 20 14.8**	**-1.0**
RLS				S	**Sn**	**16 20 28.7**	**-0.2**
	comp=N,3μm,0.5s						
RLS	**Riolos of Patr**	**0.97**	**49**	P	**Pn**	**16 20 15.1**	**-0.7**
RLS				S	**Sn**	**16 20 27.9**	**-0.9**
RLS				AML	AML	16 20 42.0	
	comp=E,7378μm,0.7s						
RLS				AML	AML	16 20 42.0	
	comp=N,6220μm,0.5s						
VSK1	**VASILIKIADES**	**0.99**	**1**	P	**Pn**	**16 20 15.6**	**-0.5**
VSK1				S	**Sb**	**16 20 30.2**	**+1.5**
	comp=N,8μm,0.5s						
FSK	**Fiskardo**	**1.04**	**1**	P	**Pn**	**16 20 16.1**	**-0.6**
FSK				S	**Sb**	**16 20 31.9**	**+1.8**
	comp=N,5μm,0.4s						
FSK	**Fiskardo**	**1.04**	**1**	P	**Pn**	**16 20 16.4**	**-0.3**
FSK				S	**Sb**	**16 20 31.8**	**+1.7**
FSK				AML	AML	16 20 40.2	
	comp=N,7909μm,0.6s						
FSK				AML	AML	16 20 40.8	
	comp=E,13182μm,0.5s						
DRO	**Drossia**	**1.07**	**60**	P	**Pn**	**16 20 16.8**	**-0.4**
DRO	**Drossia**	**1.07**	**60**	P	**Pn**	**16 20 16.8**	**-0.4**
DRO				AML	AML	16 20 42.5	
	comp=N,18012μm,0.4s						
DRO				AML	AML	16 20 44.3	
	comp=E,15658μm,0.7s						
PYL	**PYLOS**	**1.09**	**118**	S	**Sb**	**16 20 33.0**	**+1.3**
PYL	**PYLOS**	**1.09**	**118**	P	**Pn**	**16 20 17.2**	**-0.2**
PYL				S	**Sb**	**16 20 33.2**	**+1.5**
PYL				AML	AML	16 20 35.5	
	comp=N,7049μm,0.2s						
PYL				AML	AML	16 20 35.8	
	comp=E,6591μm,0.3s						
ITM	**Ithomi**	**1.13**	**102**	P	**Pn**	**16 20 17.4**	**-0.6**
ITM	**Ithomi**	**1.13**	**102**	P	**Pn**	**16 20 17.8**	**-0.2**
ITM				AML	AML	16 20 36.3	
	comp=N,4293μm,0.6s						
ITM				AML	AML	16 20 38.9	
	comp=E,3986μm,0.5s						
EVGI	**Lefkada island**	**1.20**	**4**	P	**Pn**	**16 20 19.3**	**+0.3**
EVGI				S	**Sb**	**16 20 37.0**	**+2.2**
	comp=E,5μm,0.2s						
EVGI	**Lefkada island**	**1.20**	**4**	P	**Pn**	**16 20 19.2**	**+0.3**
DRAG	**Dragano-Lefkad**	**1.26**	**1**	P	**Pn**	**16 20 20.2**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.26**	**1**	P	**Pn**	**16 20 20.3**	**+0.5**
DRAG				S	**Sb**	**16 20 37.8**	**+1.2**
NYDR	**Nydri-Lefkada**	**1.30**	**5**	P	**Pn**	**16 20 21.2**	**+0.9**
NYDR	**Nydri-Lefkada**	**1.30**	**5**	P	**Pn**	**16 20 20.8**	**+0.5**
UPR	**University Cam**	**1.31**	**48**	P	**Pb**	**16 20 21.9**	**+0.4**
UPR	**University Cam**	**1.31**	**48**	P	**Pb**	**16 20 21.6**	**+0.1**
LKD2	**Lefkada island**	**1.37**	**4**	P	**Pb**	**16 20 23.0**	**+0.4**
LKD2	**Lefkada island**	**1.37**	**4**	P	**Pb**	**16 20 23.2**	**+0.6**
LKD2				S	**Sb**	**16 20 41.2**	**+1.5**
LKD2				AML	AML	16 20 48.4	
	comp=E,7466μm,0.3s						
LKD2				AML	AML	16 20 49.2	
	comp=N,7677μm,0.5s						
TSLK	**Tsoukalades, L**	**1.41**	**4**	P	**Pb**	**16 20 23.2**	**0.0**
TSLK	**Tsoukalades, L**	**1.41**	**4**	P	**Pn**	**16 20 22.1**	**+0.3**
TSLK				AML	AML	16 20 48.2	
	comp=N,8769μm,0.4s						
TSLK				AML	AML	16 20 49.0	
	comp=E,7380μm,0.4s						
KLV	**Kalavryta, Ach**	**1.42**	**64**	P	**Pn**	**16 20 22.9**	**+0.9**
KLV	**Kalavryta, Ach**	**1.42**	**64**	P	**Pn**	**16 20 23.3**	**+1.2**
KLV				AML	AML	16 20 55.1	
	comp=N,1851μm,0.6s						
KLV				AML	AML	16 20 57.5	
	comp=E,1790μm,0.7s						
EFP	**Efpalio**	**1.48**	**47**	P	**Pb**	**16 20 24.2**	**-0.1**
EFP	**Efpalio**	**1.48**	**47**	P	**Pb**	**16 20 24.2**	**-0.1**
EFP				AML	AML	16 20 52.4	
	comp=E,3326μm,0.5s						
EFP				AML	AML	16 20 52.6	
	comp=N,3628μm,0.6s						
ALIK	**Aliki, Aigiali**	**1.50**	**56**	P	**Pb**	**16 20 24.7**	**0.0**
GUR	**Goura**	**1.52**	**70**	P	**Pn**	**16 20 24.1**	**+0.7**
GUR	**Goura**	**1.52**	**70**	P	**Pn**	**16 20 24.3**	**+0.8**
GUR				AML	AML	16 20 55.1	
	comp=N,4174μm,0.5s						
GUR				AML	AML	16 20 59.5	
	comp=E,4932μm,0.4s						
KALE	**Kalithea**	**1.59**	**52**	P	**Pn**	**16 20 25.9**	**+1.4**
KALE				AML	AML	16 21 00.7	
	comp=N,4202μm,0.6s						
KALE				AML	AML	16 21 00.9	
	comp=E,4627μm,0.7s						
ANX	**Ano Chora**	**1.60**	**43**	P	**Pn**	**16 20 25.5**	**+1.0**
ANX				AML	AML	16 20 59.5	
	comp=N,6068μm,0.6s						
ANX				AML	AML	16 21 01.8	
	comp=E,6161μm,0.4s						
EVR	**Evrytania**	**1.80**	**33**	P	**Pb**	**16 20 29.5**	**-0.4**
EVR				AML	AML	16 21 01.5	
	comp=N,2971μm,0.6s						
EVR				AML	AML	16 21 04.3	
	comp=E,2240μm,0.5s						
DLFA	**Delphi**	**1.87**	**55**	P	**Pn**	**16 20 30.2**	**+1.9**
DLFA				AML	AML	16 21 02.0	
	comp=N,1748μm,0.5s						
DLFA				AML	AML	16 21 09.0	
	comp=E,1519μm,0.9s						
LOUT	**Loutraki**	**2.01**	**73**	P	**Pn**	**16 20 31.4**	**+1.3**
MAKR	**Makrakomi, Fth**	**2.02**	**38**	P	**Pn**	**16 20 31.9**	**+1.6**
MAKR				AML	AML	16 21 09.3	
	comp=N,5293μm,0.7s						
MAKR				AML	AML	16 21 13.1	
	comp=E,4412μm,0.8s						
VLI	**Veliai**	**2.04**	**109**	P	**Pb**	**16 20 33.0**	**-1.0**
IGT	**Igoumenitsa**	**2.12**	**356**	P	**Pn**	**16 20 32.8**	**+1.2**
AGG	**Agios Georgios**	**2.13**	**41**		**Pn**	**16 20 34.1**	**+2.3**
AXAR	**Agios Charalam**	**2.14**	**51**	P	**Pn**	**16 20 34.3**	**+2.3**
AXAR				AML	AML	16 21 11.6	
	comp=E,3200μm,0.5s						
AXAR				AML	AML	16 21 23.6	
	comp=N,3126μm,0.8s						
VIL2	**Platees**	**2.30**	**69**	P	**Pn**	**16 20 35.3**	**+1.2**
KEK	**Kerkira**	**2.36**	**346**	Pn	**Pn**	**16 20 37.0**	**+2.0**
KEK	**Kerkira**	**2.36**	**346**	P	**Pn**	**16 20 35.2**	**+0.3**
KEK				AML	AML	16 21 22.7	
	comp=N,1220μm,0.4s						
KEK				AML	AML	16 21 23.1	
	comp=E,1323μm,0.6s						
THL	**Klokotos Trika**	**2.43**	**28**	P	**Pn**	**16 20 38.5**	**+2.6**
VLY	**Voula,Athens**	**2.62**	**80**	P	**Pn**	**16 20 39.0**	**+0.6**
ATHU	**Athens Univers**	**2.63**	**77**	P	**Pn**	**16 20 38.7**	**0.0**
TYRN	**Tyrnavos**	**2.64**	**30**	P	**Pn**	**16 20 40.7**	**+1.9**
PTL	**Penteli**	**2.71**	**76**	P	**Pn**	**16 20 40.4**

SRS	**Serrai**	**4.39**	**32**	P		**Pn**	**16 21 04.3 +1.5**
CUC	**Castrocucco**	**4.50**	**306**			**Pn**	**16 21 06.3 +2.0**
CUC	**Castrocucco**	**4.50**	**306**	P		**Pn**	**16 21 05.6 +1.2**
PUK	**Puka**	**4.64**	**354**			**Pn**	**16 21 07.3 +0.9**
PEHC	**Pehcevo**	**4.72**	**22**	*i* Pn		**Pn**	**16 21 08.8 +1.4**
VAE	**Valguarnera**	**4.88**	**273**	Pn		Pn	16 21 15.2 +5.6
	comp=N,7.7nm,0.3s,baz=62,slow=7.6,SNR=7.0						
VAE				Sn		**Sn**	**16 22 05.8 +0.4**
	comp=N,4.3nm,0.3s,baz=345,slow=9.1,SNR=1.5						
RAFF	**Raffo Rosso**	**4.93**	**270**			**Pn**	**16 21 10.7 +0.4**
WDD	**Wied Dalam**	**5.09**	**254**			**Pn**	**16 21 12.4 0.0**
PDG	**Podgorica**	**5.10**	**349**	*e*Pn		**Pn**	**16 21 12.0 -0.5**
PDG				*e*Sn		**Sn**	**16 22 09.9 -0.8**
BOSS	**Bosilegrad**	**5.28**	**16**	*e*Pn		**Pn**	**16 21 15.8 +0.7**
BARS	**Barje**	**5.48**	**10**	*e*Pn		**Pn**	**16 21 18.3 +0.5**
ALN	**Alexandroupoli**	**5.51**	**49**	Pn		**Pn**	**16 21 18.8 +0.6**
TREB	**Trebinje**	**5.55**	**343**	*e*Pn		**Pn**	**16 21 16.7 -2.1**
TREB				*e*Sn		**Sn**	**16 22 18.0 -3.8**
VTS	**Vitosha**	**5.59**	**21**	*e*Pn		**Pn**	**16 21 20.4 +1.0**
VTS				*e*Sn		**Sn**	**16 22 20.8 -2.1**
SELS	**Selova**	**5.81**	**4**	*e*Pn		**Pn**	**16 21 22.5 +0.2**
SELS				*e*Sn		**Sn**	**16 22 26.1 -2.1**
SJES	**Sjenica**	**5.85**	**356**	*e*Pn		**Pn**	**16 21 23.5 +0.5**
SJES				*e*Sn		**Sn**	**16 22 28.4 -1.0**
STON	**Ston**	**5.86**	**339**	*e*Pn		**Pn**	**16 21 22.0 -1.0**
PAOL	**Paolisi**	**5.87**	**310**	Pn		**Pn**	**16 21 25.8 +2.5**
ZAPS	**Zavoj**	**6.06**	**15**	*e*Pn		**Pn**	**16 21 26.6 +0.8**
IVAS	**Ivanjica**	**6.16**	**357**	*e*Pn		**Pn**	**16 21 27.0 -0.1**
BOVS	**Bovan**	**6.27**	**8**	*e*Pn		**Pn**	**16 21 27.8 -0.8**
BLKB	**Belogradchik**	**6.41**	**14**	⇓P		**Pn**	**16 21 32.0 +1.5**
GRUS	**Gruza**	**6.46**	**1**	*e*Pn		**Pn**	**16 21 30.4 -0.9**
BBLS	**Lazi&#263i**	**6.50**	**353**	*e*Pn		**Pn**	**16 21 31.4 -0.4**
DIVS	**Divibare**	**6.68**	**357**	*e*Pn		**Pn**	**16 21 32.9 -1.5**
DIVS				*e*Sn		**Sn**	**16 22 46.8 -3.0**
HAPS	**Han Pijesak,BI**	**6.77**	**350**	*e*Pn		**Pn**	**16 21 35.1 -0.5**
TRUS	**Trudelj**	**6.80**	**359**	*e*Pn		**Pn**	**16 21 35.0 -0.9**
ELND	**Elena**	**6.85**	**35**	⇓P		**Pn**	**16 21 38.3 +1.7**
INTR	**Introdacqua**	**6.87**	**314**	Pn		**Pn**	**16 21 39.9 +3.0**
NRCA	**Norcia**	**7.85**	**316**	Pn		**Pn**	**16 21 53.8 +3.5**
GUMA	**Gualdo di Mace**	**7.88**	**318**	Pn		**Pn**	**16 21 53.3 +2.5**
VOIR		**8.69**	**21**	⇓P		**Pn**	**16 22 03.4 +1.4**
VOIR		**8.69**	**21**	P		**Pn**	**16 22 03.8 +1.8**
	comp=N,7.6nm,0.9s						
SIRR	**Siria**	**8.88**	**5**	⇑P		**Pn**	**16 22 06.2 +1.8**
ISR	**Istrita**	**8.92**	**29**	P		**Pn**	**16 22 06.8 +1.8**
	comp=N,18nm,1.1s						
MLR	**Muntele Rosu**	**9.02**	**25**	Pn		**Pn**	**16 22 08.5 +2.0**
MLR	**Muntele Rosu**	**9.02**	**25**	Pn		**Pn**	**16 22 10.5 +4.0**
	comp=N,0.6nm,0.3s,baz=192,slow=9.1,SNR=6.8						
MLR	**Muntele Rosu**	**9.02**	**25**	⇓P		**Pn**	**16 22 08.1 +1.6**
MLR	**Muntele Rosu**	**9.02**	**25**	P		**Pn**	**16 22 08.7 +2.2**
	comp=N,13nm,1.1s						
KEST	**Kesra**	**9.16**	**263**	Pn		**Pn**	**16 22 10.1 +1.6**
KEST	**Kesra**	**9.16**	**263**	Pn		**Pn**	**16 22 11.6 +3.1**
	comp=N,0.5nm,0.3s,baz=89,slow=10,SNR=5.2						
KEST				Sn		**Sn**	**16 23 50.4 -0.5**
	comp=N,0.1nm,0.3s,baz=295,slow=19,SNR=1.3						
	comp=N,3.1nm,0.6s						
DOPR	**Dopca**	**9.28**	**21**	⇓P		**Pn**	**16 22 11.8 +1.9**
PLOR	**Plostina**	**9.58**	**27**	⇑P		**Pn**	**16 22 16.3 +2.2**
PLOR5	**Plostina Array**	**9.58**	**27**	P		**Pn**	**16 22 16.5 +2.4**
	comp=N,14nm,1.2s						
PLOR3	**Plostina Array**	**9.58**	**27**	P		**Pn**	**16 22 16.3 +2.2**
	comp=N,18nm,1.1s						
VRI	**Vrincioaia**	**9.62**	**27**	P		**Pn**	**16 22 16.9 +2.3**
	comp=N,11nm,0.8s,comp=N,186nm						
SOKA	**Soboth**	**10.11**	**338**	*i* Pn		**Pn**	**16 22 22.1 +0.7**
	comp=N,1.7nm,0.2s						
SOKA				*i* Sn		**Sn**	**16 24 07.8 -6.3**
	comp=N,0.8nm,0.3s						
OBKA	**Obir**	**10.12**	**336**	*i* Pn		**Pn**	**16 22 24.1 +2.7**
	comp=N,1.6nm,0.3s						
OBKA				*i* Sn		**Sn**	**16 24 10.9 -3.2**
	comp=N,4.6nm,0.4s						
PRED	**Cave del Predi**	**10.40**	**332**	Pn		**Pn**	**16 22 28.4 +3.1**
BR105	**Keskin Array S**	**10.49**	**73**	P		**Pn**	**16 22 28.4 +1.7**
BRTR	**Keskin Array B**	**10.51**	**73**	Pn		**Pn**	**16 22 27.8 +0.8**
	comp=N,0.1nm,0.3s,baz=252,slow=13,SNR=2.1						
LESA	**Schwarzleotal**	**11.56**	**332**	*i* Pn		**Pn**	**16 22 43.3 +2.2**
	comp=N,1.5nm,0.3s						
LESA				*i* Sn		**Sn**	**16 24 44.3 -5.1**
	comp=N,3.5nm,0.7s						
WTTA	**Wattenberg**	**11.83**	**329**	*i* Pn		**Pn**	**16 22 48.8 +3.9**
	comp=N,1.5nm,0.4s						
WTTA				*i* Sn		**Sn**	**16 24 50.0 -6.3**
	comp=N,4.1nm,0.6s						
NDNU	**Novodnistrovsk**	**12.23**	**22**	P		**Pn**	**16 22 52.7 +2.5**
GERES	**GERESS Array B**	**12.46**	**339**	Pn		**Pn**	**16 22 56.0 +2.6**
	comp=N,0.5nm,0.3s,baz=125,slow=3.7,SNR=4.6						
	comp=N,2.5nm,0.7s						
MMAI	**Mount Meron Ar**	**12.92**	**105**	Pn		**Pn**	**16 22 59.2 -0.7**
	comp=N,0.7nm,0.3s,baz=304,slow=14,SNR=1.9						
MMAI				Sn		Sn	16 25 10.4 -12
	comp=N,0.8nm,0.3s,baz=318,slow=34,SNR=2.2						
	comp=N,0.4nm,0.3s						
EIL	**Elat**	**14.28**	**119**	Pn		**Pn**	**16 23 16.4 -1.9**
	comp=N,0.3nm,0.3s,baz=55,slow=22,SNR=1.0						
EIL				Sn		Sn	16 25 43.7 -12
	comp=N,0.7nm,0.3s,baz=72,slow=7.3,SNR=2.0						
	comp=N,1.0nm,0.3s						
AK14	**Malin Array Si**	**14.56**	**22**	P		**Pn**	**16 23 23.0 +1.0**
AKASG	**Malin Array Be**	**14.65**	**22**	Pn		**Pn**	**16 23 24.7 +1.4**
AKASG	**Malin Array Be**	**14.65**	**22**	Pn		**Pn**	**16 23 22.8 -0.5**
	comp=N,0.6nm,0.3s,baz=209,slow=12,SNR=2.0						
AKASG				LR		LR	16 30 27.3
	comp=N,122nm,18.6s,baz=19,slow=43						
	comp=N,0.2nm,0.3s						
AKBB	**Malin Array Si**	**14.65**	**22**	Pn		**Pn**	**16 23 25.2 +1.8**
AKBB	**Malin Array Si**	**14.65**	**22**	P		**Pn**	**16 23 25.1 +1.8**
AK04	**Malin Array Si**	**14.66**	**22**	P		**Pn**	**16 23 24.8 +1.4**
SUW	**Suwalki**	**16.69**	**5**	P		**P**	**16 23 53.1 +1.1**
SUW				IAmb		IAmb	16 24 02.3
	comp=Z,22nm,0.9s						
PABE	**Paberze**	**18.24**	**6**	P		**Pn**	**16 24 08.1 -0.9**
PABE				IAmb		IAmb	16 24 17.4
	comp=Z,34nm,0.9s						
GNI	**Garni**	**19.05**	**74**	P		**P**	**16 24 14.8 -3.5**
ESDC	**Sonseca Array**	**19.29**	**284**	P		**Pn**	**16 24 22.7 +0.8**
	comp=Z,0.1nm,0.3s,baz=82,slow=11,SNR=4.4						
	comp=Z,1.9nm,1.0s						
MDT	**Midelt**	**21.05**	**265**	P		**P**	**16 24 41.9 +1.8**
	comp=Z,3.2nm,0.7s,baz=78,slow=11,SNR=4.2						
	comp=Z,3.2nm,0.7s						
HFS	**Hagfors**	**23.15**	**351**	P		**P**	**16 25 02.7 +0.7**
	comp=Z,3.3nm,0.6s,baz=163,slow=12,SNR=11						
	comp=Z,3.3nm,0.6s						
NC602	**NORSAR Array S**	**24.02**	**349**	P		**P**	**16 25 11.8 +1.3**
EKA	**Eskdalemuir Ar**	**24.06**	**326**	P		**P**	**16 25 12.4 +1.6**
	comp=Z,2.8nm,0.8s,baz=117,slow=8.5,SNR=4.7						
	comp=Z,2.8nm,0.8s						
BELG	**Belogornoye**	**24.14**	**43**	P		**P**	**16 25 10.5 -1.1**
	comp=Z,17nm,0.6s,baz=340,slow=2.7,SNR=5.2						
	comp=Z,17nm,0.6s						
FINES	**FINESS Array B**	**24.30**	**6**	P		**P**	**16 25 12.8 -0.2**
	comp=Z,2.2nm,0.7s,baz=174,slow=11,SNR=15						
	comp=Z,2.2nm,0.7s						
FIA1	**FINESS Array S**	**24.30**	**6**	P		**P**	**16 25 12.2 -0.7**
NB201	**NORSAR Array S**	**24.36**	**349**	P		**P**	**16 25 15.1 +1.4**
NB201				IAmb		IAmb	16 25 32.9
	comp=Z,20nm,1.2s						
NB2	**NORSAR Subarra**	**24.36**	**349**	P		**P**	**16 25 14.4 +0.8**
	comp=Z,3.4nm,0.8s,baz=157,slow=10						
NOA	**NORSAR Array B**	**24.36**	**349**	P		**P**	**16 25 13.8 +0.2**
	comp=Z,0.4nm,0.5s,baz=152,slow=10,SNR=1.6						
	comp=Z,0.4nm,0.5s						
NBO00	**NORSAR Array S**	**24.42**	**348**	P		**P**	**16 25 15.2 +1.1**
NC303	**NORSAR Array S**	**24.52**	**349**	P		**P**	**16 25 16.2 +1.2**
NC303				IAmb		IAmb	16 25 47.1
	comp=Z,32nm,1.4s						
NC204	**NORSAR Array S**	**24.66**	**349**	P		**P**	**16 25 17.8 +1.4**
NC204				IAmb		IAmb	16 25 46.3
	comp=Z,19nm,1.4s						
TORD	**Torodi Ar. Bea**	**29.45**	**220**	P		**P**	**16 26 00.7 +0.9**
	comp=Z,0.6nm,0.4s,baz=29,slow=10,SNR=5.0						
	comp=Z,0.6nm,0.4s						
ARCES	**ARCESS Array B**	**32.29**	**3**	P		**P**	**16 26 23.9 -0.3**
	comp=Z,2.4nm,0.9s,baz=189,slow=10,SNR=6.7						
	comp=Z,2.4nm,0.9s						
BVAR	**Borovoye Array**	**37.60**	**49**	P		**P**	**16 27 09.9 -0.3**
	comp=Z,0.6nm,0.6s,baz=282,slow=6.8,SNR=2.8						
	comp=Z,0.6nm,0.6s						
DBIC	**Dimbokro**	**38.35**	**223**	P		**P**	**16 27 17.8 +0.9**
	comp=Z,2.1nm,0.6s,baz=0.5,slow=8.6,SNR=1.5						
	comp=Z,2.1nm,0.6s						
KURBB	**Kurchatov Arra**	**42.67**	**53**	P		**P**	**16 27 51.1 -1.1**
	comp=Z,0.6nm,0.4s,baz=283,slow=8.6,SNR=4.3						
	comp=Z,0.6nm,0.4s						
MK31	**Makanchi Array**	**45.69**	**58**	P		**P**	**16 28 15.6 -0.9**
MKAR	**Makanchi Array**	**45.69**	**58**	P		**P**	**16 28 15.8 -0.8**
	comp=Z,1.3nm,0.5s,baz=271,slow=7.8,SNR=16						
	comp=Z,1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.19**	**48**	P		**P**	**16 28 19.8 -0.6**
	comp=Z,1.6nm,0.5s,baz=285,slow=5.8,SNR=4.7						
	comp=Z,1.6nm,0.5s						
YAK	**Yakutsk**	**65.76**	**29**	P		**P**	**16 30 40.3 +0.1**
CMAR	**Chiang Mai Arr**	**69.98**	**82**	P		**P**	**16 31 07.3 -0.2**
	comp=Z,0.4nm,0.6s,baz=298,slow=7.7,SNR=2.9						
	comp=Z,0.4nm,0.6s						
YBH	**Yreka Blue Hor**	**94.37**	**333**	LR		LR	17 19 19.7
	comp=Z,25nm,20.3s,baz=14,slow=38						
WRA	**Warramunga Arr**	**120.49**	**93**	PKP		**PKPdf**	**16 38 46.9 -0.6**
	comp=Z,0.3nm,0.8s,baz=316,slow=2.2,SNR=1.3						
ASAR	**Alice Springs**	**122.07**	**97**	PKP		**PKPdf**	**16 38 50.0 -0.5**
	comp=Z,0.2nm,0.9s,baz=318,slow=2.5,SNR=1.7						

*ATH **05** 16:40:21.9, 37.°42N×20.°72E, h10km±1km, ML3.5/10, Error ellipse: s-maj=2.2km s-min=0.7km az=50.0*
*THE **05** 16:40:22.1, 37.°44N×20.°75E, h8km±1km, ML3.5/11, Error ellipse: s-maj=1.5km s-min=0.6km az=54.0*

ISC 05 16:40:22.2±1.3, 37.°45N±0.°05×20.°76E±0.°05, h15km±7km, n34, σ0°51/59, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.21**	**12**	P	**Pg**	**16 40 27.3**	**+0.2**
KRI1				S	**Sg**	**16 40 29.7**	**-0.7**
	50μm,0.2s						
LTHK	**Lithakia**	**0.26**	**13**	P	**Pg**	**16 40 28.0**	**+0.1**
LTHK				S	**Sg**	**16 40 31.8**	**+0.1**
	43μm,0.2s						
LTHK	**Lithakia**	**0.26**	**13**	P	**Pg**	**16 40 28.1**	**+0.2**
LTHK				S	**Sg**	**16 40 31.8**	**+0.1**
LTHK				AML	AML	16 40 32.6	
LTHK				AML	AML	16 40 33.1	
	comp=E,37908μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.62**	**1**	P	**Pg**	**16 40 34.0**	**-0.4**
RTZL				S	**Sg**	**16 40 42.7**	**0.0**
	comp=E,7μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.67**	**348**	P	**Pg**	**16 40 35.0**	**-0.4**
PSDA				S	**Sb**	**16 40 45.6**	**+0.8**
	comp=E,8μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.67**	**348**	P	**Pg**	**16 40 35.1**	**-0.4**
PSDA				S	**Sb**	**16 40 45.3**	**+0.5**
VLS	**Valsamata**	**0.73**	**349**	P	**Pg**	**16 40 35.8**	**-0.8**
VLS				S	**Sb**	**16 40 46.9**	**+0.3**
	comp=E,4μm,0.1s						
VLS	**Valsamata**	**0.73**	**349**	P	**Pg**	**16 40 36.1**	**-0.5**
VLS				S	**Sb**	**16 40 46.9**	**+0.3**
VLS				AML	AML	16 40 48.5	
	comp=E,8261μm,0.1s						
VLS				AML	AML	16 40 49.1	
	comp=N,8329μm,0.2s						
AMT	**Artemida-Makis**	**0.76**	**84**	P	**Pg**	**16 40 36.6**	**-0.3**
AMT				S	**Sb**	**16 40 48.1**	**+0.9**
AMT				AML	AML	16 40 54.7	
	comp=E,19591μm,0.3s						
AMT				AML	AML	16 40 54.8	
	comp=N,14367μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.79**	**341**	P	**Pg**	**16 40 37.7**	**+0.2**
LXRA				S	**Sb**	**16 40 48.4**	**+0.3**
LXRA				AML	AML	16 40 52.3	
	comp=E,9379μm,0.2s						
LXRA				AML	AML	16 40 52.6	
	comp=N,12547μm,0.2s						
SMHA	**Samh**	**0.80**	**353**	P	**Pb**	**16 40 37.3**	**-0.6**
SMHA				S	**Sb**	**16 40 49.3**	**+0.9**
SMHA				AML	AML	16 40 50.1	
	comp=E,15344μm,0.2s						
SMHA				AML	AML	16 40 51.1	
	comp=N,16311μm,0.3s						
RLS	**Riolos of Patr**	**0.82**	**43**	P	**Pb**	**16 40 38.1**	**0.0**
RLS				S	**Sn**	**16 40 50.1**	**-1.0**
RLS				AML	AML	16 40 55.0	
	comp=N,2020μm,0.5s						
RLS				AML	AML	16 40 55.1	
	comp=E,2290μm,0.5s						
DMLN	**Damoulianata-K**	**0.84**	**339**	P	**Pg**	**16 40 38.5**	**-0.1**
DMLN				S	**Sg**	**16 40 50.1**	**+0.4**
DRO	**Drossia**	**0.90**	**56**	P	**Pb**	**16 40 38.9**	**-0.6**
DRO				S	**Sn**	**16 40 52.9**	**-0.2**
	comp=E,2μm,0.4s						
DRO	**Drossia**	**0.90**	**56**	P	**Pb**	**16 40 38.9**	**-0.6**
DRO				S	**Sn**	**16 40 53.0**	**-0.2**
DRO				AML	AML	16 40 55.7	
	comp=E,4748μm,0.5s						
DRO				AML	AML	16 40 59.5	
	comp=N,4433μm,0.6s						
PYL	**PYLOS**	**0.96**	**125**	P	**Pb**	**16 40 40.3**	**-0.2**
PYL				S	**Sn**	**16 40 54.7**	**+0.2**
	comp=N,795nm,0.5s						
PYL	**PYLOS**	**0.96**	**125**	P	**Pb**	**16 40 40.3**	**-0.2**
PYL				S	**Sg**	**16 40 53.8**	**+0.4**
PYL				AML	AML	16 40 56.7	
	comp=N,1426μm,0.5s						
PYL				AML	AML	16 40 56.8	
	comp=E,1323μm,0.6s						
ITM	**Ithomi**	**0.97**	**106**	P	**Pb**	**16 40 40.2**	**-0.4**
ITM				S	**Sn**	**16 40 54.6**	**-0.1**
	comp=E,915nm,0.5s						
ITM	**Ithomi**	**0.97**	**106**	P	**Pb**	**16 40 40.7**	**+0.1**
ITM				S	**Sn**	**16 40 54.5**	**-0.2**
ITM				AML	AML	16 40 59.9	
	comp=N,1577μm,0.3s						
ITM				AML	AML	16 41 04.4	
	comp=E,2111μm,0.5s						
VSK1	**VASILIKIADES**	**0.97**	**351**	P	**Pb**	**16 40 39.9**	**-0.8**
VSK1				S	**Sn**	**16 40 54.6**	**-0.1**
	comp=E,2μm,0.3s						
FSK	**Fiskardo**	**1.02**	**351**	P	**Pb**	**16 40 41.0**	**-0.5**
FSK				S	**Sn**	**16 40 56.5**	**+0.6**
FSK				AML	AML	16 40 58.4	
	comp=E,5457μm,0.2s						
FSK				AML	AML	16 40 59.5	
	comp=N,2895μm,0.2s						
EVGI	**Lefkada island**	**1.17**	**356**	P	**Pn**	**16 40 43.5**	**-0.5**
EVGI				S	**Sg**	**16 41 01.4**	**+1.4**
	comp=N,1μm,0.1s						
EVGI	**Lefkada island**	**1.17**	**356**	P	**Pn**	**16 40 43.7**	**-0.3**
EVGI				S	**Sg**	**16 41 00.5**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.24**	**353**	P	**Pn**	**16 40 44.3**	**-0.7**
DRAG				S	**Sg**	**16 41 03.3**	**+1.1**
	comp=N,15nm,0.5s						
KLV	**Kalavryta, Ach**	**1.25**	**61**	P	**Pn**	**16 40 44.9**	**-0.3**
KLV				S	**Sg**	**16 41 03.1**	**+0.6**
KLV	**Kalavryta, Ach**	**1.25**	**61**	P	**Pn**	**16 40 44.9**	**-0.3**
EFP	**Efpalio**	**1.33**	**43**	P	**Pn**	**16 40 46.3**	**+0.2**
LKD2	**Lefkada island**	**1.34**	**356**	P	**Pb**	**16 40 47.0**	**0.0**
ALIK	**Aliki, Aigiali**	**1.34**	**53**	P	**Pn**	**16 40 45.4**	**-0.9**
GUR	**Goura**	**1.34**	**68**	P	**Pn**	**16 40 46.1**	**-0.4**
GUR	**Goura**	**1.34**	**68**	P	**Pn**	**16 40 46.4**	**-0.1**
TSLK	**Tsoukalades, L**	**1.37**	**356**	P	**Pn**	**16 40 47.0**	**+0.2**
KALE	**Kalithea**	**1.44**	**49**	P	**Pn**	**16 40 48.0**	**+0.3**
ANX	**Ano Chora**	**1.46**	**38**	P	**Pn**	**16 40 48.3**	**+0.2**

*CRAAG **05** 16:51:57.4, 36.°39N×2.°16E, Ml3.7, Algerie 04km N Ben-Allal*
*LDG **05** 16:51:58.8±0.5, 36.°40N×2.°21E, h10km, Ml3.2/3, Error ellipse: s-maj=9.1km s-min=4.6km az=151.0*
*MDD **05** 16:52:00.0±1.1, 36.°44N×2.°20E, h27km±23km, Mb4.4/11, M_mb3.9/11, Error ellipse: s-maj=21.3km s-min=5.3km az=138.0*

ISC 05 16:51:56.4±1.1, 36.°43N±0.°05×2.°24E±0.°04, h20km, n27, σ1°71/44, 10C, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARB	**Arib**	**0.23**	**236**	P	**Pb**	**16 52 02.0**	**0.0**
EDDR	**Deurdeur**	**0.43**	**183**	P	**Pb**	**16 52 06.3**	**+1.0**
ACHR	**Chrea**	**0.52**	**91**	P	**Pb**	**16 52 08.8**	**0.0**
EBNH	**Beni Haoua**	**0.56**	**279**	P	**Pb**	**16 52 07.7**	**-0.2**
EBNR	**Beni Rached**	**0.59**	**256**	P	**Pb**	**16 52 08.8**	**+0.7**
ADOR	**Douera**	**0.59**	**67**	P	**Pn**	**16 52 11.1**	**+1.2**
EANR	**'Ain N'Sour**	**1.04**	**243**	P	**Pn**	**16 52 16.9**	**+1.0**
EIBI	**Ibiza**	**2.69**	**345**	Pn	**Pn**	**16 52 40.1**	**+1.6**
EIBI				Sn	**Sn**	**16 53 08.7**	**-1.7**
EIBI	**Ibiza**	**2.69**	**345**	P	**Pn**	**16 52 40.7**	**+2.2**
EIBI				⇑*i*Vmb_V		16 52 43.5	
	1μm,SNR=2.3						
EIBI				S	**Sn**	**16 53 08.9**	**-1.5**
CART	**Cartagena**	**2.84**	**295**	Pn	**Pn**	**16 52 41.6**	**+1.0**
CART				Sn	**Sn**	**16 53 11.3**	**-2.9**
EBEN2	**Beniarda presa**	**2.96**	**320**	P	**Pn**	**16 52 43.4**	**+1.1**
EBEN2				⇑*i*Vmb_V		16 52 46.7	
	721nm,SNR=1.3						
EBEN2				S	**Sn**	**16 53 15.7**	**-1.5**
EMUR	**La Murta**	**3.12**	**298**	Pn	**Pn**	**16 52 44.8**	**+0.3**
EMUR	**La Murta**	**3.12**	**298**	P	**Pn**	**16 52 45.4**	**+0.9**
EMUR				S	**Sn**	**16 53 20.6**	**-0.6**
AFON	**Font Roja**	**3.14**	**316**	P	**Pn**	**16 52 46.2**	**+1.4**
AFON				S	**Sn**	**16 53 18.7**	**-3.1**
ETOS	**Mallorca**	**3.36**	**8**	Pn	**Pn**	**16 52 49.5**	**+1.7**
ETOS				Sn	**Sn**	**16 53 24.7**	**-2.5**
ETOS	**Mallorca**	**3.36**	**8**	P	**Pn**	**16 52 49.2**	**+1.4**
ETOS				⇑*i*Vmb_V		16 52 51.1	
	509nm,SNR=0.8						
ETOS				S	**Sn**	**16 53 26.1**	**-1.1**
EVIV	**Cofrentes, Val**	**3.88**	**318**	P	**Pn**	**16 52 57.0**	**+2.0**
EVIV				⇑*i*Vmb_V		16 53 00.7	
	403nm,SNR=1.7						
EVIV				S	**Sn**	**16 53 38.6**	**-1.5**
EBER	**Berja**	**4.15**	**278**	Pn	**Pn**	**16 52 59.7**	**+0.9**
EBER	**Berja**	**4.15**	**278**	P	**Pn**	**16 53 00.2**	**+1.4**
EBER				⇑*i*Vmb_V		16 53 04.7	
	372nm,SNR=1.6						
EBER				S	**Sn**	**16 53 45.4**	**-1.4**
EMOS	**Mosqueruela**	**4.47**	**332**	P	**Pn**	**16 53 05.5**	**+2.4**
EMOS				⇑*i*Vmb_V		16 53 09.0	
	409nm,SNR=1.2						
EMOS				S	**Sn**	**16 53 53.0**	**-1.6**
ELGU	**Los Guajares,**	**4.74**	**277**	Pn	**Pn**	**16 53 07.5**	**+0.7**
ELGU				Sn	**Sn**	**16 54 00.2**	**-1.0**
ELGU	**Los Guajares,**	**4.74**	**277**	P	**Pn**	**16 53 07.6**	**+0.8**
ELGU				⇑*i*Vmb_V		16 53 10.1	
	282nm,SNR=1.1						
ELGU				S	**Sn**	**16 53 58.9**	**-2.3**
ERTA	**Horta de San J**	**4.76**	**342**	P	**Pn**	**16 53 09.7**	**+2.7**
ERTA				⇑*i*Vmb_V		16 53 11.5	
	277nm,SNR=1.0						
ERTA				S	**Sn**	**16 53 59.3**	**-2.3**
E0901	**Celadas (Teruel**	**4.83**	**328**	P	**Pn**	**16 53 09.9**	**+1.9**
E0901				⇑*i*Vmb_V		16 53 13.6	
	269nm,SNR=1.4						
E0901				S	**Sn**	**16 54 01.8**	**-1.6**
EPOB	**Poblet**	**5.00**	**350**	P	**Pn**	**16 53 12.4**	**+2.0**
EPOB				⇑*i*Vmb_V		16 53 15.9	
	250nm,SNR=0.8						
EPOB				S	**Sn**	**16 54 05.5**	**-2.1**
LMR	**La Mourre**	**7.63**	**24**	*e*Pn	**Pn**	**16 53 47.7**	**+1.3**
LMR				*e*Sn	**Sn**	**16 55 10.2**	**-2.1**
	3.0nm,0.4s						
PGF	**Pioggiola**	**8.04**	**38**	*e*Sn	**Sn**	**16 55 20.0**	**-2.4**
	1.4nm,0.3s						

*IDC **05** 16:52:48.2±1.6, 31.°57S×178.°49W, h0km, mb3.7/3, mbtmp3.8/5, ML3.9/2, Error ellipse: s-maj=40.5km s-min=22.8km az=108.0*

ISC 05 16:52:54.1±1.2, 31.°6S±0.°1×178.°5W±0.°3, h61km, n12, σ2°70/8, mb3.6/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.42**	**12**	Pn	**Pn**	**16 53 28.8**	**-2.5**
	30nm,0.3s,baz=83,slow=22,SNR=2.1						
RAO				Sn	**Sn**	**16 53 59.8**	**0.0**
	32nm,0.3s,baz=44,slow=20,SNR=1.8						
	85nm,0.4s						
URZ	**Urewera**	**7.53**	**207**	Pn	**Pn**	**16 54 39.2**	**-1.9**
	1.5nm,0.3s,baz=302,slow=21,SNR=12						
URZ				Sn	**Sn**	**16 56 02.3**	**-2.8**
	2.0nm,0.3s,baz=254,slow=22,SNR=8.7						
	3.1nm,0.3s						
ASAR	**Alice Springs**	**42.63**	**268**	P	**P**	**17 00 46.6**	**+1.9**
	0.4nm,0.5s,baz=107,slow=7.5,SNR=18						
	0.4nm,0.5s					

RLS Riolos of Patr 0.96 61 P **Pg** **17 44 17.4 -0.6**
RLS S **Sg** **17 44 30.8 +0.3**
AMT Artemida-Makis 1.04 93 P **Pg** **17 44 18.9 -0.6**
AMT S **Sg** **17 44 33.1 -0.1**
EVGI Lefkada island 1.04 11 P **Pg** **17 44 19.0 -0.6**
EVGI S **Sn** **17 44 34.4 -0.9**
4µm,0.4s
EVGI Lefkada island 1.04 11 P **Pg** **17 44 19.4 -0.2**
EVGI S **Sn** **17 44 34.5 -0.8**
DRAG Dragano-Lefkad 1.09 7 P **Pg** **17 44 20.1 -0.5**
DRAG S **Sn** **17 44 36.0 -0.6**
60nm,0.6s
DRAG Dragano-Lefkad 1.09 7 P **Pg** **17 44 20.2 -0.3**
DRAG S **Sn** **17 44 36.2 -0.4**
DRO Drossia 1.10 71 P **Pg** **17 44 19.7 -0.9**
DRO Drossia 1.10 71 P **Pg** **17 44 19.4 -1.2**
DRO S **Sb** **17 44 35.7 +0.4**
MSL1 Messolongi 1.12 46 P **Pg** **17 44 21.0 -0.1**
MSL1 S **Sn** **17 44 36.8 -0.4**
NYDR Nydri-Lefkada 1.14 12 P **Pg** **17 44 20.6 -0.8**
NYDR S **Sn** **17 44 37.0 -0.7**
2µm,0.8s
NYDR Nydri-Lefkada 1.14 12 P **Pg** **17 44 20.7 -0.7**
NYDR S **Sn** **17 44 37.2 -0.5**
PDO Prodromos 1.18 32 P **Pb** **17 44 21.9 -0.2**
PDO S **Sn** **17 44 37.9 -0.7**
LKD2 Lefkada island 1.21 10 P **Pn** **17 44 23.5 +0.7**
LKD2 S **Sn** **17 44 39.8 +0.4**
3µm,0.9s
LKD2 Lefkada island 1.21 10 P **Pb** **17 44 23.0 +0.3**
PYL1 Pylos 1.24 123 P **Pg** **17 44 24.3 +1.0**
PYL1 S **Sb** **17 44 39.1 -0.2**
TSLK Tsoukalades, L 1.24 9 P **Pb** **17 44 22.7 -0.6**
TSLK S **Sn** **17 44 40.3 0.0**
4µm,1.0s
TSLK Tsoukalades, L 1.24 9 P **Pb** **17 44 22.7 -0.6**
PATC Patra C 1.27 58 P **Pn** **17 44 23.3 -0.3**
PYL PYLOS 1.28 123 P **Pn** **17 44 23.7 -0.1**
PYL S **Sg** **17 44 41.8 +1.1**
2µm,0.5s
PYL PYLOS 1.28 123 P **Pn** **17 44 23.7 -0.1**
PYL S **Sb** **17 44 39.9 -0.7**
ITM Ithomi 1.29 108 P **Pn** **17 44 24.0 +0.1**
ITM Ithomi 1.29 108 P **Pn** **17 44 23.0 -0.9**
ITM S **Sb** **17 44 39.5 -1.2**
UPR University Cam 1.29 58 P **Pn** **17 44 23.9 -0.1**
MTHA Methoni 1.30 126 P **Pn** **17 44 24.4 +0.4**
MTHA S **Sb** **17 44 40.1 -1.0**
PVO Paravola 1.35 41 P **Pn** **17 44 24.7 0.0**
PVO S **Sg** **17 44 42.8 -0.2**
VVK Vomvokou 1.39 53 P **Pn** **17 44 24.7 -0.6**
VVK S **Sn** **17 44 43.7 -0.2**
EFP Efpalio 1.45 55 P **Pn** **17 44 25.2 -0.9**
EFP Efpalio 1.45 55 P **Pn** **17 44 25.4 -0.7**
KLV Kalavryta, Ach 1.46 72 P **Pn** **17 44 25.5 -0.8**
KLV Kalavryta, Ach 1.46 72 P **Pn** **17 44 25.4 -0.8**
SERG Sergoula 1.54 58 P **Pn** **17 44 27.0 -0.4**
ANX Ano Chora 1.56 50 P **Pn** **17 44 27.1 -0.6**
ANX S **Sn** **17 44 47.3 -0.9**
GUR Goura 1.58 77 P **Pn** **17 44 27.5 -0.5**
KALE Kalithea 1.59 59 P **Pn** **17 44 27.6 -0.4**
EVR Evrytania 1.72 40 P **Pn** **17 44 30.3 +0.4**
IGT Igoumenitsa 1.93 359 P **Pn** **17 44 33.5 +0.7**
LOUT Loutraki 2.08 78 P **Pn** **17 44 34.4 -0.4**
AGG Agios Georgios 2.08 46 **Pb** **17 44 37.0 -0.6**
AXAR Agios Charalam 2.13 56 P **Pn** **17 44 36.5 +1.1**
KEK Kerkira 2.17 348 Pn **Pn** **17 44 36.2 +0.3**
KEK Kerkira 2.17 348 P **Pn** **17 44 36.5 +0.6**
VLI Veliai 2.21 113 P **Pn** **17 44 37.4 +0.8**
THL Klokotos Trika 2.34 32 P **Pn** **17 44 39.6 +1.3**
VIL2 Platees 2.35 74 P **Pn** **17 44 38.6 0.0**
TYRN Tyrnavos 2.55 34 P **Pn** **17 44 42.7 +1.4**
VLY Voula,Athens 2.71 84 P **Pn** **17 44 44.0 +0.7**
NEO Neokhori 2.80 52 P **Pn** **17 44 45.0 +0.3**
DION Dionisos Attik 2.84 79 P **Pn** **17 44 46.4 +1.1**
NEST Nestorio 2.86 10 P **Pn** **17 44 47.1 +1.5**
SCTE Santa Cesarea 2.90 329 Pn **Pn** **17 44 45.0 -0.9**
LIT Litokhoron 2.99 33 **Pn** **17 44 48.7 +1.4**
KYMI Kymi, Euboea I 3.10 69 P **Pn** **17 44 49.1 +0.4**
AOS2 Alonissos-2 3.12 59 P **Pn** **17 44 49.8 +0.8**
TIP Timpagrande 3.27 300 Pn **Pn** **17 44 48.2 -2.9**
FNA Florina 3.27 13 Pn **Pn** **17 44 50.6 -0.6**
OHR Ohrid 3.52 5 *i* Pn **Pn** **17 44 57.8 +3.1**
CEL Celeste 3.62 282 **Pn** **17 44 53.9 -2.2**
TIR Tirane 3.77 354 Pn **Pn** **17 44 58.1 +0.2**
IDI Anoyia 4.29 121 Pn Pn 17 45 11.1 +5.8
IDI Anoyia 4.29 121 Pn **Pb** **17 45 11.7 -3.6**
3.6nm,0.4s,baz=50,slow=4.4,SNR=1.7
IDI Sn **Sn** **17 45 56.9 +1.3**
5.0nm,0.3s,baz=282,slow=20,SNR=10
CUC Castrocucco 4.31 305 Pn **Pn** **17 45 04.1 -1.3**
PUK Puka 4.46 355 Pn **Pn** **17 45 08.8 +1.3**
VAE Valguarnera 4.76 270 Sn **Sn** **17 46 07.9 +0.8**
1.5nm,0.3s,baz=74,slow=10,SNR=3.7
RAFF Raffo Rosso 4.82 267 Pn **Pn** **17 45 14.2 +1.7**
PDG Podgorica 4.91 350 Pn **Pn** **17 45 13.1 -0.5**
ALN Alexandroupoli 5.49 51 Pn **Pn** **17 45 23.2 +1.7**
KARP Karpathos 5.81 109 Pn **Pn** **17 45 30.0 +3.9**
NRCA Norcia 7.64 315 Pn **Pn** **17 45 51.5 +0.3**
FDMO Fiordimonte 7.79 317 Pn **Pn** **17 45 53.3 +0.1**
MLR Muntele Rosu 8.91 26 **Pn** **17 46 08.6 -0.2**
MLR Muntele Rosu 8.91 26 Pn **Pn** **17 46 11.9 +3.2**
0.4nm,0.3s,baz=188,slow=7.1,SNR=4.7
MLR LR LR 17 50 02.9
comp=Z,88nm,21.5s,baz=204,slow=41
5.1nm,0.9s
SABO M.te Sabotino 9.79 331 Pn **Pn** **17 46 17.1 -3.6**
OBKA Obir 9.91 336 *i* Pn **Pn** **17 46 23.0 +0.7**
1.3nm,0.3s
OBKA *e*Sn **Sn** **17 48 09.8 -3.9**
9.9nm,0.7s
SOKA Soboth 9.91 338 *i* Pn **Pn** **17 46 22.5 +0.2**
2.1nm,0.5s
SOKA *e*Sn **Sn** **17 48 06.6 -7.2**
1.1nm,0.5s
BRTR Keskin Array B 10.57 74 Pn Pn 17 46 36.5 +5.0
0.5nm,0.7s,baz=260,slow=15,SNR=2.5
ABTA Abfaltersbach 10.85 330 *e*Sn **Sn** **17 48 30.9 -5.9**
3.8nm,0.6s
LESA Schwarzleotal 11.35 332 *i* Pn **Pn** **17 46 43.9 +1.9**
2.8nm,0.4s
LESA *i* Sn **Sn** **17 48 46.8 -2.2**
10nm,0.7s
TUE Stuetta 12.08 321 Pn **Pn** **17 46 50.6 -1.5**
GERES GERESS Array B 12.25 339 LR LR 17 52 05.2
comp=Z,100nm,20.2s,baz=130,slow=40
AKASG Malin Array Be 14.54 23 Pn **Pn** **17 47 24.7 -0.7**
0.4nm,0.3s,baz=213,slow=12,SNR=2.4
AKASG LR LR 17 53 23.3
comp=Z,124nm,18.8s,baz=212,slow=39
0.1nm,0.2s
PABE Paberze 18.08 7 P **Pn** **17 48 09.1 -1.8**
PABE IAmb IAmb 17 48 11.6
comp=Z,54nm,1.5s
GNI Garni 19.11 75 LR LR 17 56 19.1
comp=Z,46nm,19.6s,baz=294,slow=38
ESDC Sonseca Array 19.13 284 Pn **Pn** **17 48 24.8 +0.8**
comp=Z,0.1nm,0.3s,baz=88,slow=13,SNR=3.2
comp=Z,0.4nm,0.8s
HFS Hagfors 22.96 351 P **P** **17 49 04.4 +0.2**
comp=Z,2.8nm,0.6s,baz=150,slow=9.9,SNR=9.4
HFS LR LR 17 59 16.4
comp=Z,120nm,20.3s,baz=1.5,slow=40
comp=Z,2.8nm,0.6s
EKA Eskdalemuir Ar 23.85 326 P **P** **17 49 11.5 -1.5**
comp=Z,0.3nm,0.4s,baz=128,slow=9.1,SNR=1.3
comp=Z,0.3nm,0.4s
FINES FINESS Array B 24.14 7 P **P** **17 49 15.5 -0.2**
comp=Z,1.9nm,0.4s,baz=170,slow=9.9,SNR=20
FINES LR LR 17 59 56.7
comp=Z,151nm,20.7s,baz=57,slow=40
comp=Z,1.9nm,0.4s
NB2 NORSAR Subarra 24.17 349 P **P** **17 49 16.9 +0.8**
comp=Z,3.2nm,0.8s,baz=158,slow=10
NOA NORSAR Array B 24.17 349 P **P** **17 49 16.1 0.0**
comp=Z,0.5nm,0.5s,baz=172,slow=10,SNR=3.1
NOA LR LR 18 00 55.5
comp=Z,31nm,20.7s,baz=40,slow=42
comp=Z,0.5nm,0.5s
KIRV Kirov 28.20 33 LR LR 18 01 18.4
comp=Z,85nm,20.9s,baz=13,slow=37
TORD Torodi Ar. Bea 29.52 219 P **P** **17 50 07.0 +2.5**
comp=Z,0.4nm,0.6s,baz=28,slow=9.8,SNR=3.1
comp=Z,0.4nm,0.6s

BRVK Borovoye 37.51 49 P **P** **17 51 15.1 +1.4**
BVAR Borovoye Array 37.57 49 P **P** **17 51 16.9 +2.7**
comp=Z,0.9nm,0.5s,baz=256,slow=4.4,SNR=6.2
comp=Z,0.9nm,0.5s
BTK Batken 38.93 70 P **P** **17 51 27.8 +1.8**
MBAR Mbarara 39.19 163 LR LR 18 08 25.9
comp=Z,35nm,19.1s,baz=358,slow=37
AAK Ala-Archa 41.09 65 P **P** **17 51 44.5 +0.6**
AAK IAmb IAmb 17 51 53.9
comp=Z,5.1nm,1.4s
KURBB Kurchatov Arra 42.66 53 P **P** **17 51 57.5 +1.1**
comp=Z,0.7nm,0.5s,baz=278,slow=8.7,SNR=7.9
comp=Z,0.7nm,0.5s
MK31 Makanchi Array 45.69 58 P **P** **17 52 21.6 +0.8**
MK31 IAmb IAmb 17 52 52.6
comp=Z,3.9nm,1.2s
MKAR Makanchi Array 45.69 58 P **P** **17 52 22.1 +1.2**
comp=Z,0.4nm,0.4s,baz=276,slow=6.9,SNR=9.4
comp=Z,0.4nm,0.4s
ZAA0 Zalesovo Array 46.15 48 P **P** **17 52 24.8 +0.4**
ZAA0 IAmb IAmb 17 52 27.2
comp=Z,3.4nm,1.1s
ZALV Zalesovo Beam 46.15 48 P **P** **17 52 26.0 +1.6**
comp=Z,1.3nm,0.3s,baz=283,slow=8.7,SNR=6.7
comp=Z,1.3nm,0.3s
TSUM Tsumeb 56.55 183 LR LR 18 18 12.0
comp=Z,50nm,18.1s,baz=261,slow=36
SONM Songino Array 60.90 50 P **P** **17 54 13.9 +1.0**
comp=Z,0.3nm,0.6s,baz=270,slow=7.2,SNR=1.8
comp=Z,0.3nm,0.6s
M63A Gales Ferry 67.99 306 P **P** **17 54 58.2 -0.9**
ACCN Adirondack Com 67.99 308 P **P** **17 54 56.4 -2.8**
CHTO Chiang Mai 69.87 81 P **P** **17 55 12.4 +1.1**
CHTO IAmb IAmb 17 55 14.7
comp=Z,4.0nm,1.1s
CMAR Chiang Mai Arr 70.07 82 P **P** **17 55 15.6 +3.1**
comp=Z,1.2nm,0.9s,baz=297,slow=7.3,SNR=9.5
comp=Z,1.2nm,0.9s

*TRN **05** 17:56:55.7, 10°.62N×62°.31W, h3km, MD3.4, Paria peninsula.*
*FUNV **05** 17:56:58.3, 10°.52N×62°.57W, h5km, MW3.3*
ISC 05 17:56:53.4±1.8, **10°.51N**±0°.08×**62°.46W**±0.05, **h8**km±16km, **n16**, σ1§89/26, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**1.01**	**101**	*eP*	**Pg**	**17 57 14.0**	**+1.2**
TRN	**Trinidad (W)**	**1.04**	**82**	*eP*	**Pg**	**17 57 12.1**	**-1.4**
TRN				*eS*	**Sg**	**17 57 25.6**	**-1.4**
TBH	**Brigand Hill**	**1.36**	**91**	*eP*	**Pn**	**17 57 21.1**	**+2.2**
TBH	**Brigand Hill**	**1.36**	**91**	*e*	**Pn**	**17 57 19.3**	**+0.4**
GRFF	**Grenada Fort F**	**1.69**	**25**	*eP*	**Pn**	**17 57 23.3**	**0.0**
GRFF				*eS*	**Sn**	**17 57 44.9**	**-0.2**
GRGR	**Grenville**	**1.80**	**26**	*eP*	**Pn**	**17 57 25.4**	**+0.7**
GRGR				*eS*	**Sn**	**17 57 47.9**	**+0.1**
GRW	**Mount Saint Ca**	**1.82**	**25**	*eP*	**Pn**	**17 57 27.0**	**+1.9**
GRW				*eS*	**Sn**	**17 57 48.6**	**+0.2**
GRSS	**Sisters**	**1.96**	**25**	*eP*	**Pn**	**17 57 28.5**	**+1.5**
GRSS				*eS*	**Sn**	**17 57 52.4**	**+0.6**
TOSP	**Speyside**	**2.04**	**67**	*eP*	**Pn**	**17 57 28.8**	**+0.6**
PCRV	**Puerto La Cruz**	**2.17**	**261**	*eP*	**Pn**	**17 57 32.0**	**+2.0**
PCRV				*eS*	**Sn**	**17 57 58.2**	**+1.1**
GCMP	**Grenada, Carri**	**2.21**	**27**	*eP*	**Pn**	**17 57 30.6**	**+0.2**
GCMP				*eS*	**Sn**	**17 57 57.4**	**-0.6**
TACV	**Tcata**	**4.51**	**266**	*eP*	**Pn**	**17 58 04.4**	**+2.2**
TACV				*eS*	**Sn**	**17 58 52.2**	**-2.8**
CACV	**CAICARA DEL OR**	**4.98**	**234**	*eP*	Pn	17 58 05.7	-2.9
CACV				*eS*	Sn	17 58 56.1	-10
BENV	**Beln**	**5.09**	**264**	*eP*	**Pn**	**17 58 13.2**	**+3.0**
BENV				*eS*	**Sn**	**17 59 07.5**	**-1.8**
BAUV	**El Baul**	**5.72**	**255**	*eP*	**Pn**	**17 58 19.8**	**+1.1**
BAUV				*eS*	**Sn**	**17 59 21.0**	**-3.7**
MAPV	**Macapo**	**5.95**	**264**	*eP*	**Pn**	**17 58 23.8**	**+1.9**
MAPV				*eS*	**Sn**	**17 59 26.9**	**-3.4**

*GII **05** 18:07:54.2±0.3, 37°.165N±0°.002×28°.758E±0°.001, h14km, Mws3.8, confirmed*
*IDC **05** 18:07:55.3±1.4, 37°.05N×28°.84E, h0km, mb3.5/4, mbtmp3.7/6, ML4.2/2, MS2.5/1, Error ellipse: s-maj=29.6km s-min=20.9km az=144.0*
*ISK **05** 18:07:57.7, 37°.17N×28°.79E, h8km, ML3.7/31*
*AFAD **05** 18:07:57.3±0.0, 37°.11N×28°.74E, h7km,2km, MW3.8*
*ATH **05** 18:07:57.1, 37°.22N×28°.88E, h7km,3km, ML3.7/17, Manual Solution by G.Panopoulou This location: 2020/08/17 15:39:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **05** 18:07:58.6, 37°.16N×28°.78E, h7km,1km, ML3.7/3, Error ellipse: s-maj=1.9km s-min=0.9km az=243.0*
ISC 05 18:07:58.0±0.9, **37°.15N**±0°.02×**28°.81E**±0°.01, **h16**km±6km, **n190**, σ1§34/233, **mb3.5**/4, **12C-6D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZT	**Denizli-Tavas-**	**0.21**	**52**	P	**Pb**	**18 08 03.3**	**-0.3**
DNZT				S	**Sb**	**18 08 07.0**	**-0.4**
TAVA	**DENIZLI_Tavas**	**0.33**	**14**	P	**Pg**	**18 08 04.8**	**-0.2**
TAVA				S	**Sb**	**18 08 10.3**	**-0.3**
SABU	**Mula-Dalaman**	**0.34**	**159**	P	**Pg**	**18 08 04.8**	**-0.4**
SABU				S	**Sg**	**18 08 09.5**	**-0.6**
DALY	**Dalyan (Mula)**	**0.35**	**201**	Pg	**Pg**	**18 08 05.0**	**-0.3**
DALY				Sg	**Sb**	**18 08 11.3**	**+0.1**
CAEL	**Denizli, Camel**	**0.41**	**93**	P	**Pg**	**18 08 06.0**	**-0.3**
CAEL				S	**Sb**	**18 08 14.1**	**+1.2**
MULA	**Mugla, Merkez-**	**0.41**	**286**	P	**Pg**	**18 08 06.1**	**-0.2**
MULA				S	**Sb**	**18 08 12.9**	**0.0**
YER	**Yerkesik**	**0.42**	**269**	Pg	**Pg**	**18 08 06.4**	**-0.2**
YER				Sg	**Sb**	**18 08 13.2**	**-0.1**
YER	**Yerkesik**	**0.42**	**269**	P	**Pg**	**18 08 06.2**	**-0.4**
YER				S	**Sg**	**18 08 12.9**	**+0.5**
CAME	**Cameli-Denizli**	**0.44**	**117**	Pg	**Pg**	**18 08 06.8**	**-0.1**
APMY	**Acipayam-Deniz**	**0.51**	**50**	Pg	**Pg**	**18 08 07.9**	**-0.3**
APMY				Sg	**Sb**	**18 08 15.4**	**-0.4**
DNIZ	**Denizli-Tavas-**	**0.51**	**21**	P	**Pg**	**18 08 08.0**	**-0.2**
DNIZ				S	**Sb**	**18 08 17.0**	**+1.1**
FETY	**Fethiye**	**0.55**	**157**	P	**Pn**	**18 08 10.6**	**-0.6**
FETY				S	**Sn**	**18 08 19.2**	**-1.0**
FETY	**Fethiye**	**0.55**	**157**	Pg	**Pg**	**18 08 08.2**	**-0.8**
FETY				Sg	**Sb**	**18 08 17.8**	**+0.8**
TURN	**Turunc**	**0.59**	**231**	P	**Pg**	**18 08 08.4**	**-1.1**
TURN				S	**Sg**	**18 08 15.7**	**-1.7**
TURN	**Turunc**	**0.59**	**231**	Pg	**Pg**	**18 08 08.6**	**-1.0**
TURN				Sg	**Sb**	**18 08 18.0**	**+0.1**
MRSB	**Marmaris-Mugla**	**0.65**	**229**	Pg	**Pg**	**18 08 11.1**	**+0.3**
KNIK	**Mula-Seydike**	**0.68**	**116**	P	**Pg**	**18 08 11.0**	**-0.4**
KNIK				S	**Sb**	**18 08 21.4**	**+0.7**
ESEN	**Aydn-Nazilli**	**0.75**	**331**	P	**Pg**	**18 08 12.1**	**-0.5**
ESEN				S	**Sg**	**18 08 22.2**	**-0.3**
IZZE	**Mula-Seydike**	**0.78**	**155**	P	**Pg**	**18 08 12.2**	**-1.0**
IZZE				S	**Sb**	**18 08 23.9**	**+0.3**
INCE	**Denizli-Bozkur**	**0.83**	**47**	P	**Pg**	**18 08 13.7**	**-0.5**
INCE				S	**Sb**	**18 08 25.9**	**+0.9**
RDI1	**Rhodes Town Ha**	**0.84**	**214**	P	**Pb**	**18 08 14.8**	**+0.7**
RDI1				S	**Sn**	**18 08 28.0**	**+0.9**
RODB	**Rodos**	**0.84**	**214**	P	**Pb**	**18 08 15.0**	**+0.7**
RODB				S	**Sn**	**18 08 27.4**	**+0.2**
NAZL	**Nazilli-Aydin**	**0.92**	**333**	Pg	**Pb**	**18 08 14.9**	**-0.6**
NAZL				Sg	**Sb**	**18 08 27.8**	**+0.3**
ELL	**Elmali**	**0.96**	**114**	Pg	**Pn**	**18 08 17.3**	**+0.3**
ELL				Sg	**Sn**	**18 08 31.2**	**+0.8**
DAT	**Datca**	**1.07**	**248**	Pg	**Pb**	**18 08 18.4**	**+0.2**
DAT				Sg	**Sn**	**18 08 33.5**	**+0.4**
DAT	**Datca**	**1.07**	**248**	P	**Pb**	**18 08 17.9**	**-0.3**
DAT				S	**Sb**	**18 08 32.7**	**+0.6**
ARG	**Arkhangelos**	**1.08**	**211**	P	**Pb**	**18 08 17.7**	**-0.6**
ARG				S	**Sn**	**18 08 34.1**	**+1.0**
	4µm,0.5s						
ARG	**Arkhangelos**	**1.08**	**211**	P	**Pb**	**18 08 17.5**	**-0.8**
ARG				S	**Sn**	**18 08 35.2**	**+2.1**
AYDB	**Zeytinkoy-Aydi**	**1.08**	**318**	Pg	**Pb**	**18 08 18.4**	**-0.1**
AYDB				Sg	**Sn**	**18 08 33.7**	**+0.3**
KIRA	**zmir-Kiraz**	**1.10**	**343**	P	**Pb**	**18 08 18.6**	**-0.1**
KIRA				S	**Sn**	**18 08 34.0**	**+0.2**
AKAS	**Kas**	**1.11**	**145**	P	**Pg**	**18 08 19.8**	**+0.2**
AKAS				S	**Sn**	**18 08 38.4**	**+4.3**
AKAS	**Kas**	**1.11**	**145**	Pn	**Pg**	**18 08 19.9**	**+0.4**
BRDR	**BURDUR-Merkez**	**1.14**	**61**	P	**Pg**	**18 08 19.8**	**-0.2**

BRDR S **Sn** **18 08 35.9 +1.3**
KSL Kastellorizon 1.17 148 P **Pb** **18 08 20.1 +0.3**
KSL S **Sg** **18 08 36.5 +0.6**
IZMR zmir-demi 1.20 326 P **Pn** **18 08 20.2 0.0**
IZMR S **Sb** **18 08 36.0 +0.3**
BODT Bodrum 1.20 266 Pn **Pn** **18 08 20.6 +0.4**
BODT Bodrum 1.20 266 P **Pn** **18 08 20.6 +0.4**
BODT S **Sb** **18 08 36.1 +0.4**
YKAV Yalikavak-Bodr 1.23 269 Pn **Pg** **18 08 21.5 -0.1**
KORT Korkueli 1.24 96 P **Pg** **18 08 21.9 0.0**
KORT S **Sg** **18 08 40.6 +2.6**
KORT Korkueli 1.24 96 Pn **Pg** **18 08 22.2 +0.3**
BASM Basmaki-Afyon 1.25 52 Pn **Pb** **18 08 21.5 +0.2**
DEMR Demre-Antalya 1.26 136 Pn **Pg** **18 08 22.5 +0.1**
KHL Karahalli 1.30 25 Pn **Pb** **18 08 22.4 +0.2**
PASA Karahalli, USA 1.31 24 P **Pn** **18 08 22.2 +0.4**
PASA S **Sn** **18 08 39.3 +0.3**
RGE1 Gennadi, Rhode 1.32 213 P **Pn** **18 08 22.0 +0.2**
RGE1 S **Sg** **18 08 42.0 +1.3**
KULA Kula-Manisa 1.37 355 Pn **Pn** **18 08 22.9 +0.3**
KULA Kula-Manisa 1.37 355 P **Pn** **18 08 22.5 -0.1**
KULA S **Sn** **18 08 40.1 -0.3**
GCAM G?zelcaml? 1.37 294 Pn **Pb** **18 08 23.5 +0.2**
BCK Bucak 1.45 77 Pn **Pg** **18 08 25.3 -0.6**
NISR Nisiros 1.45 249 P **Pb** **18 08 25.0 +0.4**
ANTB Antalya 1.49 99 Pn **Pb** **18 08 25.7 +0.4**
KEMT Kemer-ANTALYA 1.50 111 Pn **Pg** **18 08 26.4 -0.4**
ISP Isparta 1.52 63 Pn **Pb** **18 08 25.9 +0.1**
ISP Isparta 1.52 63 P **Pn** **18 08 21.3 -3.3**
ISP Isparta 1.52 63 S **Sn** **18 08 41.5 -2.6**
SMG Samos 1.67 290 P **Pn** **18 08 26.5 -0.1**
SMG S **Sn** **18 08 48.4 +0.7**
1µm,0.5s
SMG Samos 1.67 290 P **Pn** **18 08 26.5 -0.1**
SMG S **Sn** **18 08 48.4 +0.7**
GOMA Golmarmara-Man 1.71 336 Pn **Pb** **18 08 28.4 -0.7**
GMLD Gumuldur 1.77 302 Pn **Pb** **18 08 29.7 -0.3**
GORD Gordes-Manisa 1.83 344 Pn **Pn** **18 08 29.9 +1.0**
BLCB Balcova 1.87 312 Pn **Pn** **18 08 30.3 +1.0**
BLCB Balcova 1.87 312 P **Pn** **18 08 29.1 -0.2**
BLCB S **Sn** **18 08 51.9 -0.7**
AKS Akhisar 1.90 336 Pn **Pn** **18 08 31.0 +1.2**
SHAP Saphane-Kutahy 1.90 10 Pn **Pb** **18 08 31.4 -1.0**
SIMA Simav-Kutahya 1.94 4 Pn **Pn** **18 08 31.4 +1.0**
GEDZ Gedz 1.95 14 Pn **Pb** **18 08 32.2 -1.0**
KARP Karpathos 2.08 220 Pn **Pb** **18 08 34.3 -1.1**
KARP Karpathos 2.08 220 P **Pn** **18 08 32.7 +0.5**
KARP S **Sn** **18 08 57.6 -0.2**
2µm,0.5s
KARP Karpathos 2.08 220 P **Pb** **18 08 35.1 -0.3**
KARP Karpathos 2.08 220 P **Pb** **18 08 34.2 -1.1**
KARP S **Sb** **18 09 00.8 -0.2**
SOMA Soma-Manisa 2.25 334 Pn **Pn** **18 08 35.6 +1.1**
FOCM Foa 2.27 314 Pn **Pn** **18 08 35.9 +1.1**
DKL Dikili 2.44 323 Pn **Pn** **18 08 38.1 +0.9**
CHOS Chios island 2.51 300 Pn **Pn** **18 08 39.6 +1.4**
CHOS Chios island 2.51 300 P **Pn** **18 08 38.7 +0.5**
CHOS Chios island 2.51 300 P **Pn** **18 08 38.7 +0.5**
APE Apeiranthos 2.62 269 Pn **Pn** **18 08 41.4 +1.6**
APE Apeiranthos 2.62 269 P **Pn** **18 08 35.5 -4.2**
APE Apeiranthos 2.62 269 P **Pn** **18 08 40.5 +0.8**
SNT5 Nea Kammeni, S 2.84 256 P **Pn** **18 08 44.5 +1.8**
THR6 Thira Island, 2.85 255 P **Pn** **18 08 44.7 +1.9**
PRK Paraskevi 2.90 317 P **Pn** **18 08 42.6 -0.9**
PRK Paraskevi 2.90 317 P **Pn** **18 08 43.4 -0.1**
ZKR Zakros 2.92 227 P **Pn** **18 08 45.7 +1.9**
SIGR SIGRI 3.11 312 P **Pn** **18 08 47.0 +0.6**
SIGR SIGRI 3.11 312 P **Pn** **18 08 47.4 +1.0**
BAND Balkesir-Ban 3.25 350 ⇑P **Pn** **18 08 49.0 +0.7**
AKMS Akamas 3.56 126 P **Pn** **18 08 52.7 +0.1**
ALFC Alefka 3.65 122 P **Pn** **18 08 54.1 +0.2**
IDI Anoyia 3.67 241 P **Pn** **18 08 56.0 +1.8**
NATA Nata 3.86 127 P **Pn** **18 08 57.3 +0.7**
PRNS Prines Rethymn 3.91 244 P **Pn** **18 09 00.7 +3.4**
TROD Troodos 3.95 123 P **Pn** **18 08 58.8 +0.7**
LIA Limnos Island 3.96 315 P **Pn** **18 08 59.0 +1.0**
LIA Limnos Island 3.96 315 P **Pn** **18 08 59.0 +1.0**
DION Dionisos Attik 3.98 285 P **Pn** **18 08 59.3 +0.9**
VLY Voula,Athens 4.05 282 P **Pn** **18 09 00.1 +0.8**
ANTO Ankara 4.14 48 ⇑P **Pn** **18 09 02.8 +2.2**
SMTH Samothraki Isl 4.19 323 P **Pn** **18 09 01.3 0.0**
IMMV Iera Moni Meta 4.25 248 P **Pn** **18 09 03.8 +1.8**
CSS Mathiatis 4.26 119 P **Pn** **18 09 02.9 +0.7**
CSS Mathiatis 4.26 119 P **Pn** **18 08 59.5 -2.7**
CSS Mathiatis 4.26 119 S **Sn** **18 09 50.3 -1.3**
ASGA Asgata 4.30 122 P **Pn** **18 09 03.6 +0.9**
ALN Alexandroupoli 4.32 331 P **Pn** **18 09 02.8 -0.2**
RODP Rodopos 4.38 250 P **Pn** **18 09 05.3 +1.5**
MVOU Mavrovouni 4.44 117 P **Pn** **18 09 04.3 -0.4**
GVD Gavdhos 4.47 240 P **Pn** **18 09 06.6 +1.5**
KIRS Kirsehir-Merke 4.49 62 ⇓P **Pn** **18 09 07.8 +2.4**
BRTR Keskin Array B 4.58 54 Pn **Pn** **18 09 08.8 +2.0**
5.4nm,0.3s,baz=240,slow=17,SNR=178
BRTR Sn **Sn** **18 10 01.3 +1.6**
3.2nm,0.3s,baz=234,slow=26,SNR=11
19nm,0.5s
THAS Thassos island 4.71 319 P **Pn** **18 09 08.7 +0.4**
RDO Rodhopi 4.74 329 P **Pn** **18 09 09.2 +0.5**
CIDE Kastamonu/Cide 5.71 33 ⇑P **Pn** **18 09 22.5 +0.5**
ELND Elena 6.20 340 ⇓P **Pn** **18 09 29.8 +0.9**
MMC7 Mount Meron ar 6.78 125 P **Pn** **18 09 36.8 -0.1**
MMB3 Mount Meron ar 6.79 125 P **Pn** **18 09 37.1 +0.1**
OFRI `Ofer 6.79 130 P **Pn** **18 09 37.7 +0.7**
OFRI `Ofer 6.79 130 S **Sn** **18 10 52.1 -1.8**
OFRI `Ofer 6.79 130 P **Pn** **18 09 34.6 -2.4**
MMA0B Mount Meron ar 6.79 125 S **Sn** **18 10 52.9 -1.3**
MMA0B Mount Meron ar 6.79 125 P **Pn** **18 09 34.1 -3.0**
MMAI Mount Meron Ar 6.79 125 Pn **Pn** **18 09 36.8 -0.3**
11nm,0.3s,baz=313,slow=12,SNR=36
MMAI Sn **Sn** **18 10 51.7 -2.4**
2.7nm,0.3s,baz=310,slow=26,SNR=1.7
10nm,0.4s
GEM Giv'at Ha'Em 6.85 123 P **Pn** **18 09 38.5 +0.8**
GEM Giv'at Ha'Em 6.85 123 S **Sn** **18 10 53.1 -2.2**
GEM Giv'at Ha'Em 6.85 123 P **Pn** **18 09 35.1 -2.7**
NATI Neve Ativ 6.87 122 P **Pn** **18 09 37.9 -0.1**
NATI Neve Ativ 6.87 122 S **Sn** **18 10 53.9 -1.8**
NATI Neve Ativ 6.87 122 P **Pn** **18 09 36.1 -1.9**
ICOR Ion Corvin 7.01 354 ⇑P **Pn** **18 09 40.8 +1.0**
KSHT Keshet 7.08 124 S **Sn** **18 10 59.4 -1.9**
KSHT Keshet 7.08 124 P **Pn** **18 09 38.3 -2.7**
SLTI Sal'it 7.09 132 P **Pn** **18 09 41.2 +0.1**
MMLI Mount Malkishu 7.18 129 P **Pn** **18 09 42.9 +0.5**
MMLI Mount Malkishu 7.18 129 S **Sn** **18 11 01.9 -1.8**
MMLI Mount Malkishu 7.18 129 P **Pn** **18 09 39.6 -2.8**
SHMJ Saham 7.21 126 P **Pn** **18 09 42.9 +0.1**
SALP Salfit 7.30 132 P **Pn** **18 09 44.5 +0.5**
SALP Salfit 7.30 132 S **Sn** **18 11 04.4 -2.1**
SALP Salfit 7.30 132 P **Pn** **18 09 41.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	8.79	142	P	Pn	18 10 05.1	+0.7
HRFI	Mount Harif	8.79	142	S	Sn	18 11 41.7	-1.4
HRFI	Mount Harif	8.79	142	P	Pn	18 10 02.1	-2.3
PLOR	Plostina	8.85	350	⇑P	Pn	18 10 06.6	+1.4
VRI	Vrincioaia	8.85	350	⇑P	Pn	18 10 06.1	+0.8
COVR	Voineasa-Covas	8.91	348	⇓P	Pn	18 10 07.1	+1.1
MBRI	Mt Berech	8.93	143	P	Pn	18 10 07.0	+0.6
MBRI	Mt Berech	8.93	143	P	Pn	18 10 04.4	-2.0
MBRI	Mt Berech	8.93	143	S	Sn	18 11 44.4	-2.2
AQBJ	Aqaba	9.05	143	P	Pn	18 10 09.1	+1.2
EIL	Elat	9.05	144	LR	LR	18 15 40.9	
	comp=Z,28nm,18.2s,baz=85,slow=52						
EIL	Elat	9.05	144	P	Pn	18 10 08.6	+0.6
EIL	Elat	9.05	144	P	Pn	18 10 05.4	-2.6
EIL	Elat	9.05	144	S	Sn	18 11 47.7	-1.8
TURR	Turia	9.14	348	⇓P	Pn	18 10 10.1	+0.9
ONER	Baraj Valea Uz	9.36	350	⇑P	Pn	18 10 14.0	+1.9
FINES	FINESS Array B	24.38	357	P	P	18 13 16.3	+1.1
	1.2nm,0.7s,baz=163,slow=10,SNR=1.6 1.2nm,0.7s						
TORD	Torodi Ar. Bea	34.03	232	P	P	18 14 40.4	-1.0
	0.8nm,0.6s,baz=24,slow=9.6,SNR=5.8 0.8nm,0.6s						
KURBB	Kurchatov Arra	37.57	53	P	P	18 15 11.8	+0.4
	0.4nm,0.5s,baz=276,slow=8.6,SNR=4.8 0.4nm,0.5s						
MKAR	Makanchi Array	40.22	59	P	P	18 15 33.0	-0.7
	0.2nm,0.6s,baz=275,slow=6.7,SNR=1.0 0.2nm,0.6s						

*SJA **05** 18:15:20.0,22°.42S×67°.56W,h185km,ML3.0*
*SCB **05** 18:15:21.2±1.4,22°.31S×67°.48W,h164km±17km,ML3.1/3, MW2.8,Error ellipse: s-maj=8.7km s-min=5.4km az=0.0*
ISC 05 18:15:21.0±1.4,22°.35S±0°.06×67°.50W±0°.05,h167km,n16,σ0§98/19,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.33	259	*i* P	Pn	18 15 51.5	+0.8
YJA	Yavi	1.85	85	*i* P	Pn	18 15 56.4	+0.5
PB06	IPOC Station P	1.95	259	*i* P	Pn	18 15 58.2	+1.5
PB15	IPOC Station P	2.01	245	Pg	Pn	18 15 58.7	+1.2
MOCB	Mochara	2.05	58	Pg	Pn	18 15 58.4	+0.2
MOCB				Sg	Sn	18 16 26.3	-0.6
MOCB				IAML		18 16 27.7	
	64nm,0.4s						
PB01	IPOC Station P	2.26	305	Pg	Pn	18 16 01.0	+0.7
PB01				Sg	Sn	18 16 31.5	+0.8
PB01				IAML		18 16 33.4	
	67nm,0.3s						
PATCX	Punta Patache	2.90	301	*i* P	Pn	18 16 07.8	-0.1
SLA	San Lorenzo	2.98	143	*i* P	Pn	18 16 09.6	+0.6
TA01	Diego Aracena	3.07	305	*i* P	Pn	18 16 08.9	-1.0
GO01	Chusmiza	3.11	329	*i* P	Pn	18 16 11.3	+0.4
GO01	Chusmiza	3.11	329	Pg	Pn	18 16 11.3	+0.4
PB11	IPOC Station P	3.27	322	Pg	Pn	18 16 12.3	-0.3
PB11				Sg	Sn	18 16 51.3	-1.5
PB11				IAML		18 16 53.6	
	41nm,0.2s						
GO02	Mina Guanaco	3.39	214	*i* P	Pn	18 16 13.8	-0.4
SOEO	Opoqueri	3.79	354	Pg	Pn	18 16 20.5	+1.0
AC01	Pan de Azucar	4.72	216	*i* P	Pn	18 16 29.0	-2.0
LPAZ	La Paz	6.06	354	Pg	Pn	18 16 49.3	0.0

*BJI **05** 18:35:45.8,3°.67S×119°.75E,h10km,mb4.8/79,mB5.3/57, Ms4.8/90,Ms7 4.6/88*
*MOS **05** 18:35:51.2±1.2,2°.84S×119°.59E,h10km,mb5.2/55,Error ellipse: s-maj=10.5km s-min=4.9km az=117.9*
*IDC **05** 18:35:52.3±0.4,2°.87S×119°.41E,h0km,mb4.6/26, mbtmp4.6/28,ML4.4/2,MS4.5/61,Error ellipse: s-maj=20.5km s-min=10.0km az=73.0*
*NEIC **05** 18:35:53.6±1.4,2°.92S±0°.05×119°.48E±0°.06,h10km±1km, mb5.4/94,Mww5.1/37,Error ellipse: s-maj=9.8km s-min=8.3km az=67.0*
*NEIC **05** 18:35:53.6,2°.90S×119°.57E,h12km,Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.07; $M_{\theta\theta}$5.14; $M_{\phi\phi}$-4.07; $M_{r\theta}$3.25; $M_{\theta\phi}$3.82; $M_{\phi r}$0.69; Fault plane solution: $M_0$6.63000×10^{16} NP1: ϕ_s116.07000°,δ80.90000°,λ19.99000°. NP2:ϕ_s22.78000°, δ70.27000°,λ170.33000°. Principal axes: T 7.7527, Plg21.0000°, Azm341.0000°; N -2.2422, Plg68.0000°, Azm140.0000°; P -5.5105, Plg7.0000°, Azm248.0000°;*
*NEIC **05** 18:35:53.6,2°.90S×119°.47E,h12km*
*DJA **05** 18:35:54.4±0.1,3°S±1°×11°.9E±°,h10km,M5.2/89, mb5.2/89,mB5.7/62,MLv5.5/30,Mw5.1/127,Mw(mB)5.2/62, MwMwp4.9/31,Mwp5.2/31*
*GCMT **05** 18:35:55.6±0.1,2°.83S±0°.01×119°.48E±0°.01,h12km, MW5.2/141,Moment Tensor Solution. s83,c123; s141,c255; Duration: 1§0 Moment tensor: Scale 10^{16} Nm; M_{rr}-1.07±.10; $M_{\theta\theta}$5.41±.09; $M_{\phi\phi}$-4.34±.10; $M_{r\theta}$4.81±.25; $M_{\theta\phi}$3.91±.08; $M_{\phi r}$3.23±.26; Best double couple: $M_0$8.07900×10^{16} NP1:ϕ_s30.00000°,δ89.00000°, λ141.00000°. NP2:ϕ_s121.00000°,δ51.00000°,λ2.00000°. Principal axes: T 9.7340, Plg28.0000°, Azm338.0000°; N -3.3100, Plg51.0000°, Azm208.0000°; P -6.4240, Plg26.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 18:35:54.4±0.5,2°.88S±0°.03×119°.51E±0°.04,h13km±2km, n526,σ1§94/522,mb5.1/150,MS4.6/90,10C-5D,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.35	119	P	Pg	18 36 00.3	-1.2
TTSI				S	Sg	18 36 05.8	-0.4
SPSI	Sidrap Palu	1.11	167	P	Pb	18 36 12.9	-2.6
SPSI				S	Sg	18 36 30.3	0.0
BNSI	Bone	1.63	159	P	Pn	18 36 22.6	-0.2
KAPI	Kappang	2.14	174	Pn	Pn	18 36 28.9	-1.0
KAPI	Kappang	2.14	174	Pn	Pn	18 36 30.1	+0.2
	382nm,0.3s,baz=336,slow=11,SNR=364						
KAPI				Sn	Sb	18 36 59.7	+0.2
	1μm,0.3s,baz=205,slow=18,SNR=6.7						
KAPI				LR	LR	18 37 33.3	
	comp=Z,28μm,18.9s,baz=258,slow=47 2μm,0.4s						
KAPI	Kappang	2.14	174	P	Pn	18 36 29.4	-0.4
BKSI	Bulukumba	2.50	166	P	Pn	18 36 34.8	-0.1
APSI	Ampana	2.89	48	P	Pn	18 36 40.9	+0.7
BKB	Balikpapan	3.07	301	Pn	Pn	18 36 42.7	0.0
BKB	Balikpapan	3.07	301	P	Pn	18 36 43.3	+0.6
BKB	Balikpapan	3.07	301	P	Pn	18 36 42.5	-0.2
MPSI	Mapaga	3.21	7	P	Pn	18 36 44.3	-0.4
SMKI	Samarinda	3.34	316	P	Pn	18 36 45.7	-0.7
BSSI	Bau Bau, Buton	3.39	163	P	Pn	18 36 46.7	-0.4
LUWI	Luwuk	3.73	61	Pn	Pn	18 36 52.0	+0.2
LUWI	Luwuk	3.73	61	P	Pn	18 36 53.1	+1.3
LUWI	Luwuk	3.73	61	P	Pn	18 36 52.2	+0.4
BBSI	Bau Bau	4.00	130	P	Pn	18 36 57.1	+1.6
MRSI	Marisa	4.12	36	P	Pn	18 36 57.6	+0.4
TOLI2	Tolitoli	4.16	18	Pn	Pn	18 36 59.0	+1.4
TOLI2	Tolitoli	4.16	18	P	Pn	18 37 00.2	+2.5
MTKI	Muara Teweh, K	5.00	293	P	Pn	18 37 07.5	-1.7
KMSI	Cibinong	5.63	53	P	Pn	18 37 19.5	+1.6
PLAI	Plampang	6.16	196	P	Pn	18 37 25.4	+0.2
PLAI	Plampang	6.16	196	P	Pn	18 37 24.3	-0.9
	148nm,0.6s,3μm1.4nm						
MMRI	Maumere	6.33	155	Pn	Pn	18 37 26.5	-1.1
MMRI	Maumere	6.33	155	P	Pn	18 37 29.3	+1.7
MMRI	Maumere	6.33	155	P	Pn	18 37 27.8	+0.2
	225nm,1.2s,3μm8μm						
SANI	Sanana	6.52	83	P	Pn	18 37 30.1	-0.1
SANI	Sanana	6.52	83	P	Pn	18 37 29.1	-1.1
	130nm,1.3s,4μm1.0nm						
SRBI	Singaraja	6.71	219	P	Pn	18 37 31.1	-1.7
WBSI	Waikabubak, Su	6.72	181	P	Pn	18 37 32.2	-0.8
KMMI	Kalianget	6.91	233	P	Pn	18 37 35.3	-0.2
	169nm,0.8s,9μm5μm3.2nm						
ABJI	Asem Bagus	7.18	227	P	Pn	18 37 39.5	+0.3
	94nm,0.9s,4μm1.5nm						
BASI	Baing, Sumba	7.37	172	P	Pn	18 37 43.1	+1.3
	901nm,1.7s,10μm8μm						
NLAI	Namlea	7.58	93	P	Pn	18 37 48.6	+3.8
	183nm,1.2s,4μm						
JAGI	Jajag, Banyuwa	7.70	224	Pn	Pn	18 37 44.0	-2.5
JAGI	Jajag, Banyuwa	7.70	224	P	Pn	18 37 46.2	-0.2
JAGI	Jajag, Banyuwa	7.70	224	P	Pn	18 37 44.9	-1.5
	128nm,0.8s,0.6nm						
MYLDM	Lahad Datu	8.07	353	Pn	Pn	18 37 50.0	-1.4
MYLDM	Lahad Datu	8.07	353	P	Pn	18 37 53.6	+2.2
GRJI	Gresik	8.07	240	P	Pn	18 37 51.0	-0.5
	191nm,1.2s,4μm4μm						
GMJI	Gumukmas	8.07	228	P	Pn	18 37 50.2	-1.3
LBMI	Labuha	8.29	75	P	Pn	18 37 56.5	+2.1
SOEI	Soe	8.31	146	Pn	Pn	18 37 53.9	-0.9
SOEI	Soe	8.31	146	P	Pn	18 37 57.8	+3.0
SOEI	Soe	8.31	146	P	Pn	18 37 58.6	+3.8
	307nm,0.9s,6μm7μm						
BATI	Baumata	8.37	151	Pn	Pn	18 38 00.0	+4.5
	5.0nm,0.3s,baz=303,slow=1.7,SNR=13						
BATI				LR	LR	18 41 36.7	
	comp=Z,11μm,20.1s,baz=356,slow=41						
BATI	Baumata	8.37	151	P	Pn	18 37 57.0	+1.4
	133nm,1.3s,3μm5μm						
STKI	Sintang	8.55	290	P	Pn	18 37 56.4	-1.6
	148nm,1.2s,3μm						
TNTI	Ternate	8.65	65	Pn	Pn	18 37 58.4	-1.0
TNTI	Ternate	8.65	65	P	Pn	18 38 02.8	+3.4
TNTI	Ternate	8.65	65	P	Pn	18 38 01.1	+1.7
	123nm,0.7s						
AAI	Ambon	8.70	96	P	Pn	18 38 04.7	+4.5
	438nm,1.3s,4μm						
SBUM	Sibu	9.01	306	Pn	Pn	18 38 00.9	-3.4
SBUM	Sibu	9.01	306	P	Pn	18 38 04.1	-0.2
NGJI	Ngawi	9.18	241	P	Pn	18 38 06.5	-0.1
	123nm,1.1s						
PWJI	Pagerwojo	9.22	236	P	Pn	18 38 05.9	-1.3
	60nm,0.9s						
MSAI	Masohi	9.41	93	P	Pn	18 38 13.0	+3.1
	81nm,0.8s,2μm						
KKM	Kota Kinabalu	9.45	340	Pn	Pn	18 38 10.4	-0.1
KKM	Kota Kinabalu	9.45	340	P	Pn	18 38 12.0	+1.5
PCJI	Pacitan	9.84	237	P	Pn	18 38 16.2	+0.5
	203nm,1.4s						
SMRI	Semarang	9.94	245	Pn	Pn	18 38 15.5	-1.7
SMRI	Semarang	9.94	245	P	Pn	18 38 19.9	+2.7
SMRI	Semarang	9.94	245	P	Pn	18 38 18.6	+1.4
	182nm,1.1s						
UGM	Wanagama	10.25	240	P	Pn	18 38 22.8	+1.4
	229nm,1.3s,4μm						
BNDI	Bandanaira	10.50	99	P	Pn	18 38 28.3	+3.5
BNDI	Bandanaira	10.50	99	P	Pn	18 38 27.4	+2.6
KPJI	Karang Pucung	11.43	247	P	Pn	18 38 37.9	+0.4
SWI	Sorong	11.91	81	P	Pn	18 38 46.6	+2.5
	59nm,0.8s						
LEM	Lembang	12.48	251	Pn	Pn	18 38 53.0	+0.9
	2.3nm,0.3s,baz=306,slow=24,SNR=4.2						
LEM				LR	LR	18 44 06.6	
	comp=Z,10μm,18.4s,baz=40,slow=40						
LEM	Lembang	12.48	251	P	Pn	18 38 52.8	+0.7
	81nm,1.7s,2μm						
BBJI	Bungbulang	12.66	248	P	Pn	18 38 57.1	+2.6
FAKI	Fak Fak	12.72	91		Pn	18 38 51.2	-4.0
FAKI	Fak Fak	12.72	91	P	Pn	18 38 59.5	+4.3
FAKI	Fak Fak	12.72	91	P	Pn	18 38 55.8	+0.6
	59nm,1.0s,1μm2μm						
SAUI	Saumlaki	12.78	114	Pn	Pn	18 38 54.5	-1.5
SAUI	Saumlaki	12.78	114	P	Pn	18 38 59.1	+3.1
CNJI	Cibinong	13.10	250	P	Pn	18 39 01.2	+0.9
	131nm,1.3s,2μm						
PPBI	Pangkal Pinang	13.38	273	P	Pn	18 39 03.9	-0.4
	72nm,1.2s,7μm						
SKJI	Sukabumi	13.54	252	P	Pn	18 39 05.7	-0.7
	338nm,1.7s,6μm4μm						
RKPI	Ransiki, Papua	14.71	85	P	Pn	18 39 25.0	+2.5
	176nm,1.4s,2μm2μm						
DRS	Darwin Rock St	14.74	131	P	Pn	18 39 24.8	+2.0
MTN	Manton Dam	15.17	131	Pn	Pn	18 39 26.2	-2.5
MTN				IAmb	IAmb	18 39 33.5	
	comp=Z,153nm,1.5s						
MTN	Manton Dam	15.17	131	P	Pn	18 39 27.7	-0.9
MTN	Manton Dam	15.17	131	P	Pn	18 39 30.8	+2.2
KASI	Kota Agung	15.21	260	P	Pn	18 39 29.2	+0.1
TPRI	Tanjung Pinang	15.45	284	P	Pn	18 39 31.0	-1.3
	comp=Z,137nm,1.5s						
KNRA	Kununurra	15.64	145	Pn	Pn	18 39 32.6	-2.2
KNRA	Kununurra	15.64	145	P	Pn	18 39 33.9	-0.9
	comp=Z,66nm,1.5s						
KDU	Kakadu	16.11	128	P	Pn	18 39 39.8	-1.0
KDU	Kakadu	16.11	128	P	P	18 39 43.2	-0.9
FITZ	Fitzroy Crossi	16.28	159	Pn	Pn	18 39 43.5	+0.6
	comp=Z,0.5nm,0.3s,baz=2.7,slow=8.7,SNR=15						
FITZ				LR	LR	18 46 59.1	
	comp=Z,3μm,18.7s,baz=332,slow=41 comp=Z,23nm,1.0s						
BTDF	Bukit Timah Da	16.29	285	P	P	18 39 45.4	-0.7
MYKOM	Kota Tinggi	16.33	286	P	Pn	18 39 43.0	-0.6
MYKOM				IAmb	IAmb	18 39 50.9	
	comp=Z,320nm,1.5s						
MYKOM	Kota Tinggi	16.33	286	P	P	18 39 45.8	-0.8
MBWA	Marble Bar	18.17	179	P	Pn	18 40 05.6	-1.1
MBWA				IAmb	IAmb	18 40 14.3	
	comp=Z,335nm,1.9s						
MBWA	Marble Bar	18.17	179	P	P	18 40 06.9	0.0
	comp=Z,53nm,1.3s						
MBWA	Marble Bar	18.17	179	P	P	18 40 10.6	+3.7
PSAD1	Pilbara Seismi	18.47	179	P	Pn	18 40 12.1	+1.8
	comp=Z,55nm,1.1s						
PSAC1	Pilbara Seismi	18.55	179	P	Pn	18 40 11.3	0.0
	comp=Z,67nm,0.9s						
PSAB2	Pilbara Seismi	18.57	179	P	Pn	18 40 12.0	+0.4
	comp=Z,58nm,1.7s						
PSA00	Pilbara Seismi	18.59	179	P	P	18 40 08.2	-3.3
PSA00	Pilbara Seismi	18.59	179	P	Pn	18 40 11.9	+0.2
	comp=Z,53nm,2.2s						
PSA00	Pilbara Seismi	18.59	179	P	Pn	18 40 15.6	+3.9
BKNI	Bangkinang	18.74	279	P	P	18 40 12.0	-1.2
BKNI				IAmb	IAmb	18 40 20.1	
	comp=Z,488nm,1.2s						
BKNI	Bangkinang	18.74	279	P	Pn	18 40 15.5	+1.9
BKNI	Bangkinang	18.74	279	P	Pn	18 40 13.8	+0.2
	comp=Z,207nm,1.3s,comp=Z,5μm						
PDSI	Padang	19.14	275	P	P	18 40 16.8	-0.9
	comp=Z,98nm,1.1s,comp=Z,5μm						
PPSI	Pulau Pagai	19.48	270	P	P	18 40 21.0	-0.4
	comp=Z,305nm,1.5s,comp=Z,6μm						
SISI	Saibi	20.47	274	P	P	18 40 31.0	-1.1
	comp=Z,465nm,1.5s,comp=Z,6μm						
KULM	Kulim	20.52	293	P	P	18 40 31.5	-1.1
KULM				IAmb	IAmb	18 40 38.0	
	comp=Z,110nm,1.0s						
KULM	Kulim	20.52	293	P	Pn	18 40 34.2	-0.6
GENI	Genyem	20.63	90	P	Pn	18 40 37.5	+1.3
GENI	Genyem	20.63	90	P	Pn	18 40 37.4	+1.2
	comp=Z,166nm,1.6s,comp=Z,4μm						
JAY	Jayapura	21.17	90	P	P	18 40 41.2	+1.4
RPSI	Rantau Prapat	21.31	285	P	P	18 40 40.4	-0.8
RPSI				IAmb	IAmb	18 40 47.3	
	comp=Z,235nm,0.9s						
PSI	Prapat	21.34	285	P	P	18 40 42.9	+1.2
PSI	Prapat	21.34	285	P	P	18 40 40.4	-1.3
PSI				pmax	pmax		
	comp=Z,235nm,0.9s						
PBSI	Pulau Batu	21.41	277	P	P	18 40 42.4	+0.1
TABU	Tabubil	21.78	97	P	P	18 40 50.4	+4.0
WB0	Warramunga Arr	22.20	140	P	P	18 40 48.0	-2.8
WRA	Warramunga Arr	22.30	141	P	P	18 40 50.3	-1.6
WRA	Warramunga Arr	22.30	141	P	P	18 40 50.6	-1.2
	comp=Z,80nm,1.1s,baz=319,slow=11,SNR=72						
WRA				PcP	PcP	18 44 48.1	+0.3
	comp=Z,2.9nm,1.1s,baz=317,slow=2.4,SNR=3.5						
WRA				LR	LR	18 49 45.6	
	comp=Z,2μm,21.9s,baz=322,slow=37 comp=Z,80nm,1.1s						
WRA	Warramunga Arr	22.30	141	*i* P	P	18 40 50.0	-1.8
WRA				pmax	pmax		
	comp=Z,78nm,1.1s						
WRAB	Tennant Creek	22.30	141	P	P	18 40 50.0	-1.9
WRAB				IAmb	IAmb	18 40 55.4	
	comp=Z,198nm,1.4s						
WRAB	Tennant Creek	22.30	141	*i* P	P	18 40 49.9	-1.9
WRAB				pmax	pmax		
	comp=Z,90nm,1.9s						
WB2	Warramunga Arr	22.31	141	P	P	18 40 49.1	-2.8
WB2				IAmb	IAmb	18 40 55.4	
	comp=Z,193nm,1.4s						
WB2	Warramunga Arr	22.31	141	P	P	18 40 53.9	+2.0
GSI	Gunungsitoli	22.32	280	P	P	18 40 52.2	+0.1
GSI	Gunungsitoli	22.32	280	P	P	18 40 51.4	-0.7
	comp=Z,278nm,1.4s,comp=Z,4μm						
SRIT	Nakonsritamara	22.89	300	P	P	18 40 55.7	-2.4
SRIT				IAmb	IAmb	18 41 03.1	
	comp=Z,201nm,1.3s						
SRIT	Nakonsritamara	22.89	300	P	P	18 40 59.7	+1.5
SURA	Surathani	23.15	301	P	P	18 41 01.1	+0.3
WRKA	Warakurna	23.60	160	P	P	18 41 05.4	+0.1
	comp=Z,100nm,1.9s						
WRKA	Warakurna	23.60	160	P	P	18 41 05.8	+0.5
MEEK	Meekatharra	23.64	182	P	P	18 41 04.5	-1.1
MEEK	Meekatharra	23.64	182	P	P	18 41 05.2	-0.4
QIZ	Qiongzhong	23.76	337	P	P	18 41 06.2	-0.6
QIZ				S	S	18 45 22.6	+0.6
QIZ				pmax	pmax		
	comp=Z,37nm,1.5s						
QIZ				pmax	pmax		
	comp=Z,630nm,4.7s						
QIZ				LR	LR		
	comp=Z,990nm,16.8s						
QIZ				LR	LR		
	comp=Z,910nm,18.5s						
QIZ				LR	LR		
	comp=Z,1μm,21.9s						
QIZ	Qiongzhong	23.76	337	P	P	18 41 08.4	+1.6
SNSI	Sinabang, Aceh	23.77	283	P	P	18 41 05.2	-1.7
	comp=Z,273nm,1.3s						
LHMI	Lhok Sumawe	23.94	290	P	P	18 41 06.6	-1.9
LHMI	Lhok Sumawe	23.94	290	P	P	18 41 09.0	+0.4
LHMI	Lhok Sumawe	23.94	290	P	P	18 41 08.8	+0.2
MLSI	Meulaboh, Aceh	24.16	287	P	P	18 41 09.4	-1.3
	comp=Z,310nm,1.3s,comp=Z,3μmcomp=Z,1μm						
AS31	Alice Springs	24.92	147	P	P	18 41 17.8	+0.3
	comp=Z,0.0nmcomp=Z,18nm,1.0s						
ASAR	Alice Springs	24.92	147	P	P	18 41 16.1	-1.4
	comp=Z,14nm,0.3s,baz=332,slow=9.7,SNR=28						
ASAR				PcP	PcP	18 44 52.5	-0.7
	comp=Z,3.1nm,0.7s,baz=339,slow=1.9,SNR=6.2 comp=Z,14nm,0.3s						
AS01	Alice Springs	24.94	147	P	P	18 41 17.8	+0.1
TWGBT	Beinan	25.58	3	P	P	18 41 25.5	+2.0
COEN	Coen	25.83	117	P	P	18 41 25.9	0.0
COEN				IAmb	IAmb	18 41 33.9	
	comp=Z,107nm,1.6s						
COEN	Coen	25.83	117	P	P	18 41 28.0	+2.1
	comp=Z,40nm,1.4s						
COEN	Coen	25.83	117	P	P	18 41 28.9	+3.0
YULB	Yu-li	26.17	4	P	P	18 41 26.9	-1.8
YULB	Yu-li	26.17	4	P	P	18 41 30.3	+1.5
MORW	Morawa	26.26	187	P	P	18 41 30.7	+1.2
	comp=Z,35nm,1.5s						
QIS	Mount Isa	26.32	133	P	P	18 41 28.9	-1.3
QIS	Mount Isa	26.32	133	P	P	18 41 29.7	-0.5
SRDT	SRDT	26.48	311	P	P	18 41 34.0	+2.3
SSLB	Suanglung	26.54	3	P	P	18 41 33.9	+1.7
YHNB	Yeheng	27.44	4	P	P	18 41 42.0	+1.7
QZH	Quanzhou	27.67	358	*eP*	P	18 41 44.1	+1.9
QZH				S	S	18 46 27.2	+3.1
QZH				LR	LR		
	comp=Z,710nm,18.2s						
QZH				LR	LR		
	comp=Z,690nm,15.5s						
QZH				LR	LR		
	comp=Z,1μm,19.2s						
MANU	Manus Island	27.84	89	P	P	18 41 42.9	-1.1
PMG	Port Moresby	28.23	105	P	P	18 41 45.8	-1.6
PMG	Port Moresby	28.23	105	LR	LR	18 56 09.3	
	comp=Z,805nm,19.9s,baz=282,slow=43						
PMG	Port Moresby	28.23	105	P	P	18 41 50.6	+3.2
PMG	Port Moresby	28.23	105	P	P	18 41 50.3	+2.9
PMG	Port Moresby	28.23	105	*ceP*	P	18 41 43.6	-3.8
PMG				pmax	pmax		
	comp=Z,84nm,2.5s						
KMBL	Kambalda	28.43	176	P	P	18 41 48.5	-0.5
	comp=Z,101nm,1.2s						
KMBL	Kambalda	28.43	176	P	P	18 41 49.0	0.0
SLVN	Son La	28.50	328	P	P	18 41 47.0	-2.8
SLVN	Son La	28.50	328	P	P	18 41 51.4	+1.5
KLBR	Kellerberrin	28.61	183	P	P	18 41 50.0	-0.7
	comp=Z,43nm,1.2s						
MTSU	Mount Surprise	28.65	124	P	P	18 41 51.3	+0.1
	comp=Z,7.0nm,0.9s						
MTSU	Mount Surprise	28.65	124	P	P	18 41 51.8	+0.6
FORT	Forrest	28.91	165	P	P	18 41 52.1	-1.1
FORT				IAmb	IAmb	18 41 59.1	
	comp=Z,41nm,0.8s						
FORT	Forrest	28.91	165	P	P	18 41 54.6	+1.3
	comp=Z,50nm,0.7s						
OOD	Oodnadatta	29.20	150	P	P	18 41 58.3	+2.4
CMAR	Chiang Mai Arr	29.32	317	P	P	18 41 55.6	-1.5
CMAR	Chiang Mai Arr	29.32	317	P	P	18 41 57.4	+0.3
	comp=Z,6.3nm,0.8s,baz=148,slow=5.5,SNR=56						
CMAR				PcP	PcP	18 45 03.6	-0.1
	comp=Z,0.7nm,0.7s,baz=177,slow=1.8,SNR=2.5						
CMAR				LR	LR	18 56 23.5	
	comp=Z,1μm,18.2s,baz=125,slow=42 comp=Z,6.3nm,0.8s						
CMAR	Chiang Mai Arr	29.32	317	*i* P	P	18 41 57.5	+0.4
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GULI	GuiLin	29.37	343	P	P	18 42 00.5	+3.1
GULI				S	S	18 46 55.6	+4.6
GULI				pmax	pmax		
	comp=Z,10.0nm,2.6s						
GULI				LR	LR		
	comp=Z,800nm,20.8s						
GULI				LR	LR		
	comp=Z,700nm,21.7s						
GULI				LR	LR		
	comp=Z,1μm,23.9s						
CHTO	Chi

comp=Z,490nm,3.8s
KMI LR LR
comp=Z,690nm,19.8s
KMI LR LR
comp=Z,1μm,21.0s
KMI LR LR
comp=Z,880nm,21.7s
RABL Rabaul 32.61 93 IAmb IAmb 18 42 31.1
comp=Z,46nm,1.2s
LCRK Leigh Creek 32.64 149 P **P** **18 42 29.2 +3.0**
QLP Quilpie 33.43 137 P **P** **18 42 33.9 +0.7**
comp=Z,84nm,1.5s
QLP Quilpie 33.43 137 P **P** **18 42 34.3 +1.1**
BBOO Buckleboo 33.58 154 IAmb IAmb 18 42 37.4
comp=Z,29nm,1.0s
BBOO Buckleboo 33.58 154 P **P** **18 42 34.2 -0.2**
comp=Z,31nm,1.9s
WHN Wuhan 33.60 352 P **P** **18 42 36.4 +1.9**
WHN PP **PnPn** **18 43 46.7 +0.4**
WHN S **S** **18 47 59.4 +2.6**
WHN LR LR
comp=Z,710nm,14.1s
WHN LR LR
comp=Z,520nm,14.9s
WHN LR LR
comp=Z,1μm,20.4s
PZH PanZhiHua 33.88 331 P **P** **18 42 39.8 +2.5**
PZH S **S** **18 48 02.2 +0.5**
PZH pmax pmax
comp=Z,40nm,1.3s
PZH pmax pmax
comp=Z,340nm,3.8s
PZH LR LR
comp=Z,620nm,15.6s
PZH LR LR
comp=Z,790nm,14.5s
PZH LR LR
comp=Z,810nm,14.6s
ENH Enshi 34.33 345 P **P** **18 42 41.4 +0.4**
ENH Enshi 34.33 345 P **P** **18 42 41.6 +0.6**
TNCH TengChong 34.42 325 P **P** **18 42 42.4 +0.4**
TNCH pP pP 18 42 44.7 -1.9
TNCH PP **PP** **18 44 03.4 +3.3**
TNCH PcP **PcP** **18 45 17.2 -0.5**
TNCH S **S** **18 48 10.2 +0.1**
TNCH pmax pmax
comp=Z,78nm,1.3s
TNCH pmax pmax
comp=Z,440nm,3.5s
TNCH LR LR
comp=Z,750nm,14.1s
TNCH LR LR
comp=Z,750nm,13.4s
TNCH LR LR
comp=Z,2μm,20.7s
NJ2 Nanjing 34.74 359 *e*P **P** **18 42 46.4 +1.9**
NJ2 S **S** **18 48 17.9 +3.4**
NJ2 pmax pmax
comp=Z,21nm,0.8s
NJ2 LR LR
comp=Z,340nm,16.1s
NJ2 LR LR
comp=Z,440nm,16.1s
NJ2 LR LR
comp=Z,690nm,17.1s
HTT Hallett 35.41 151 P **P** **18 42 50.8 +0.5**
comp=Z,31nm,0.9s
HTT Hallett 35.41 151 P **P** **18 42 50.8 +0.5**
STKA Stephens Creek 35.55 147 P **P** **18 42 53.8 +2.3**
comp=Z,5.5nm,1.3s
STKA Stephens Creek 35.55 147 P **P** **18 42 53.4 +1.9**
comp=Z,12nm,0.9s,baz=308,slow=9.0,SNR=12
STKA LR LR 18 58 58.5
comp=Z,1μm,19.4s,baz=315,slow=39
comp=Z,12nm,0.9s
STKA Stephens Creek 35.55 147 P **P** **18 42 54.9 +3.4**
STKA Stephens Creek 35.55 147 *i* P **P** **18 42 49.5 -2.0**
CD2 Chengdu 36.80 337 P **P** **18 43 02.3 0.0**
CD2 PP **PnPn** **18 44 25.6 -0.6**
CD2 S **S** **18 48 48.6 +2.3**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,300nm,5.0s
CD2 LR LR
comp=Z,940nm,17.2s
CD2 LR LR
comp=Z,1μm,18.0s
CD2 LR LR
comp=Z,1μm,15.9s
BRDH Bariadhala 37.22 314 LR LR 19 01 28.8
comp=Z,1μm,19.6s,baz=141,slow=41
JNU Nakatsue 37.38 16 P **P** **18 43 08.0 +0.8**
comp=Z,11nm,1.1s,baz=198,slow=16,SNR=3.0
JNU LR LR 18 58 01.9
comp=Z,590nm,21.8s,baz=189,slow=36
comp=Z,11nm,1.1s
CMSA Cobar Meteorol 37.70 142 P **P** **18 43 10.2 +0.4**
comp=Z,27nm,2.3s
CMSA Cobar Meteorol 37.70 142 P **P** **18 43 12.7 +2.9**
LYN LuoYang 37.81 350 P **P** **18 43 12.2 +1.5**
LYN PP **PnPn** **18 44 39.7 +1.3**
LYN S **S** **18 49 04.8 +3.3**
LYN sS ScP 18 49 21.0 +6.2
LYN pmax pmax
comp=Z,27nm,1.3s
LYN pmax pmax
comp=Z,350nm,4.1s
LYN LR LR
comp=Z,810nm,21.3s
LYN LR LR
comp=Z,820nm,17.9s
LYN LR LR
comp=Z,1μm,18.6s
XAN Xi'an 38.05 346 ⇓P **P** **18 43 13.6 +0.8**
XAN pP sP 18 43 24.2 +5.2
XAN PP **PnPn** **18 44 42.8 +1.5**
XAN S **S** **18 49 07.2 +2.0**
XAN pmax pmax
comp=Z,21nm,1.6s
XAN pmax pmax
comp=Z,290nm,5.3s
XAN LR LR
comp=Z,610nm,16.5s
XAN LR LR
comp=Z,1μm,16.8s
XAN LR LR
comp=Z,930nm,14.3s
SHL Shillong 38.94 318 IAmb IAmb 18 43 24.5
comp=Z,59nm,0.9s
TIA Tai'an 38.95 357 P **P** **18 43 20.2 -0.1**
TIA PcP **PcP** **18 45 28.6 -2.2**
TIA S **S** **18 49 20.6 +2.0**
TIA pmax pmax
comp=Z,11nm,0.6s
TIA LR LR
comp=Z,430nm,13.8s
TIA LR LR
comp=Z,530nm,19.4s
TIA LR LR
comp=Z,680nm,25.0s
ARPS Mount Arapiles 39.51 151 P **P** **18 43 25.2 +0.3**
comp=Z,46nm,0.9s
ARPS Mount Arapiles 39.51 151 P **P** **18 43 25.9 +1.0**
HNS HongShan 40.32 354 ⇓P **P** **18 43 32.4 +0.8**
HNS S **S** **18 49 37.6 -1.5**
HNS pmax pmax
comp=Z,23nm,1.4s
HNS pmax pmax
comp=Z,250nm,4.0s
HNS LR LR
comp=Z,520nm,16.7s
HNS LR LR
comp=Z,690nm,19.1s
HNS LR LR
comp=Z,830nm,18.8s
JHJ Hachijo jima 2 40.61 27 LR LR 18 59 04.3
comp=Z,222nm,22.0s,baz=241,slow=34
HNR Honiara 40.70 101 LR LR 19 03 57.8
comp=Z,194nm,19.5s,baz=268,slow=41
KSAR Wonju Array Be 40.86 10 P **P** **18 43 35.5 -0.6**
KSAR Wonju Array Be 40.86 10 P **P** **18 43 35.6 -0.6**
KSRS Korea Array 40.88 10 P **P** **18 43 36.1 -0.2**
comp=Z,1.2nm,0.7s,baz=188,slow=9.6,SNR=7.1
KSRS LR LR 18 59 55.1
comp=Z,492nm,21.4s,baz=190,slow=35
comp=Z,1.2nm,0.7s
ARMA Armidale 40.90 135 P **P** **18 43 34.6 -2.1**
ARMA IAmb IAmb 18 43 43.0
comp=Z,157nm,1.9s
ARMA Armidale 40.90 135 P **P** **18 43 39.2 +2.4**
comp=Z,39nm,2.3s
ARMA Armidale 40.90 135 P **P** **18 43 40.1 +3.3**
YNG Young 41.24 143 P **P** **18 43 40.1 +0.7**
comp=Z,158nm,1.1s
YNG Young 41.24 143 P **P** **18 43 40.4 +1.0**
LZH Lanzhou 41.44 341 ⇑P **P** **18 43 41.3 +0.2**
LZH sP sP 18 43 49.0 +1.7
LZH S **S** **18 49 57.9 +1.7**
LZH SS **SnSn** **18 53 05.9 -4.0**
LZH pmax pmax
comp=Z,34nm,1.2s
LZH pmax pmax
comp=Z,410nm,5.3s
LZH LR LR
comp=Z,780nm,16.5s
LZH LR LR
comp=Z,300nm,16.0s
LZH LR LR
comp=Z,1μm,21.1s
DL2 Dalian 41.62 2 P **P** **18 43 40.8 -1.6**
DL2 S **S** **18 49 56.6 -1.9**
DL2 SS **SS** **18 53 06.4 +2.5**
DL2 pmax pmax
comp=Z,65nm,1.3s
DL2 pmax pmax
comp=Z,300nm,6.1s
DL2 LR LR
comp=Z,510nm,13.7s
DL2 LR LR
comp=Z,560nm,13.2s
DL2 LR LR
comp=Z,840nm,17.1s
TOO Toolangi 41.95 149 P **P** **18 43 49.6 +4.4**
TOO Toolangi 41.95 149 P **P** **18 43 49.7 +4.4**
TOO pmax pmax
comp=Z,37nm,1.9s
MGCD Mangrove Creek 42.24 139 P **P** **18 43 49.7 +2.2**
comp=Z,16nm,1.4s
LSA Lhasa 42.26 322 IAmb IAmb 18 43 53.1
comp=Z,46nm,0.9s
LSA Lhasa 42.26 322 P **P** **18 43 47.9 -0.4**
LSA S **S** **18 50 03.7 -5.5**
LSA pmax pmax
comp=Z,12nm,0.6s
LSA LR LR
comp=Z,610nm,20.1s
LSA LR LR
comp=Z,630nm,19.4s
CAN Canberra 42.30 143 P **P** **18 43 46.8 -1.3**
CAN IAmb IAmb 18 43 53.5
comp=Z,100nm,1.6s
CAN Canberra 42.30 143 P **P** **18 43 49.9 +1.8**
comp=Z,30nm,1.4s
CAN Canberra 42.30 143 P **P** **18 43 51.8 +3.7**
CAN Canberra 42.30 143 P **P** **18 43 46.8 -1.3**
CAN pmax pmax
comp=Z,100nm,1.6s
CNB Canberra Magne 42.51 143 P **P** **18 43 51.9 +2.0**
comp=Z,26nm,1.4s
CNB Canberra Magne 42.51 143 P **P** **18 43 53.2 +3.3**
BJT Baijiatuau 42.80 356 IAmb IAmb 18 43 56.5
comp=Z,60nm,1.1s
BJT Baijiatuau 42.80 356 P **P** **18 43 53.0 +1.1**
BJT Baijiatuau 42.80 356 P **P** **18 43 52.0 +0.1**
BJI Beijing 42.82 356 P **P** **18 43 50.6 -1.5**
BJI pP **pP** **18 43 55.5 -1.2**
BJI sP **sP** **18 43 57.5 -0.8**
BJI PP **PP** **18 45 31.8 +0.2**
BJI S **S** **18 50 15.8 -0.3**
BJI pmax pmax
comp=Z,10.0nm,1.2s
BJI pmax pmax
comp=Z,130nm,4.0s
BJI LR LR
comp=Z,230nm,15.8s
BJI LR LR
comp=Z,290nm,19.7s
BJI LR LR
comp=Z,260nm,20.5s
MAJO Matsushiro 42.92 22 P P 18 43 60.0 +7.0
MAJO Matsushiro 42.92 22 P P 18 44 00.0 +7.0
MAJO pmax pmax
comp=Z,59nm,1.9s
MJAR Matsushiro Arr 42.92 22 P **P** **18 43 53.4 +0.3**
comp=Z,1.1nm,0.6s,baz=192,slow=9.2,SNR=1.8
MJAR LR LR 19 00 18.1
comp=Z,436nm,21.8s,baz=211,slow=34
comp=Z,1.1nm,0.6s
HHC Hu-ho-hao-te 44.12 351 *e*P **P** **18 44 03.8 +1.0**
HHC sP sP 18 44 12.1 +3.1
HHC S **S** **18 50 37.2 +1.8**
HHC SS **SS** **18 53 48.8 -4.4**
HHC ScS **ScS** **18 54 01.8 +0.2**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,190nm,4.3s
HHC LR LR
comp=Z,530nm,16.8s
HHC LR LR
comp=Z,390nm,17.6s
HHC LR LR
comp=Z,790nm,18.3s
BTO Baotou 44.14 350 *e*P **P** **18 44 04.7 +1.8**
BTO PP **PcP** **18 45 50.0 +2.1**
BTO S **S** **18 50 36.2 +0.6**
BTO sS sS 18 50 56.0 +13
BTO SS **SS** **18 53 50.2 -3.4**
BTO pmax pmax
comp=Z,47nm,1.7s
BTO pmax pmax
comp=Z,500nm,4.1s
BTO LR LR
comp=Z,810nm,15.4s
BTO LR LR
comp=Z,1μm,20.0s
BTO LR LR
comp=Z,940nm,22.9s
HYB Hyderabad 45.15 298 *e*P **P** **18 44 10.4 -0.9**
HYB IVmB_BB 18 44 15.0
comp=Z,2μm,2.0s
GOMU GeErMu 45.20 332 P **P** **18 44 13.7 +1.9**
GOMU pP sP 18 44 19.2 +1.2
GOMU S **S** **18 50 56.7 +4.9**
GOMU pmax pmax
comp=Z,14nm,1.1s
GOMU LR LR
comp=Z,460nm,17.5s
GOMU LR LR
comp=Z,1μm,20.1s
GOMU LR LR
comp=Z,1μm,21.2s
GTA Gaotai 45.82 339 P **P** **18 44 16.5 +0.2**
GTA S **S** **18 51 01.3 +1.2**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,320nm,6.9s
GTA LR LR
comp=Z,410nm,22.9s
GTA LR LR
comp=Z,520nm,23.3s
GTA LR LR
comp=Z,500nm,21.8s
KAAM Kaadhehdhoo 46.62 273 P **P** **18 44 22.5 -0.4**
XLT XiLinHaoTe 46.67 357 *e*P **P** **18 44 23.0 +0.1**
XLT pP sP 18 44 29.0 -0.1
XLT S **S** **18 51 10.7 -1.4**
XLT pmax pmax
comp=Z,17nm,0.9s
XLT pmax pmax
comp=Z,230nm,4.6s
XLT LR LR
comp=Z,360nm,19.6s
XLT LR LR
comp=Z,360nm,19.3s
CN2 Changchun 46.77 6 *e*P **P** **18 44 26.2 +2.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
MDJ Mudanjiang 48.13 10 P **P** **18 44 33.2 -1.0**
MDJ IAmb IAmb 18 44 42.1
comp=Z,79nm,1.3s
MDJ Mudanjiang 48.13 10 P **P** **18 44 32.0 -2.2**
MDJ S **S** **18 51 30.4 -2.4**
MDJ ScS **ScS** **18 54 25.1 -2.1**
MDJ SS **SS** **18 55 01.9 -0.3**
MDJ pmax pmax
comp=Z,4.0nm,1.0s
MDJ LR LR
comp=Z,440nm,23.0s
MDJ LR LR
comp=Z,390nm,20.6s
MDJ LR LR
comp=Z,760nm,22.0s
MDJ Mudanjiang 48.13 10 P **P** **18 44 34.0 -0.2**
USA0B Ussuriysk Arra 48.18 12 *i* P P 18 44 29.5 -5.0
USRK Ussuriysk Ar. 48.18 12 P **P** **18 44 34.2 -0.4**
comp=Z,4.6nm,0.8s,baz=193,slow=5.9,SNR=4.6
USRK LR LR 19 04 10.8
comp=Z,381nm,22.0s,baz=195,slow=35
comp=Z,4.6nm,0.8s
BNX BinXian 48.91 7 ⇓P **P** **18 44 41.3 +1.2**
BNX S **S** **18 51 43.1 -0.6**
BNX pmax pmax
comp=Z,8.0nm,0.9s
BNX pmax pmax
comp=Z,150nm,4.6s
BNX LR LR
comp=Z,190nm,13.3s
BNX LR LR
comp=Z,300nm,16.3s
BNX LR LR
comp=Z,410nm,25.3s
DZM Mont Dzumac 49.36 117 *e*LQ LQ 18 56 39.7
comp=Z,2μm,31.8s
DZM *e*LR LR 18 58 47.9
comp=Z,1μm,23.6s
DZM Mont Dzumac 49.36 117 LR LR 19 05 36.0
comp=Z,607nm,21.9s,baz=295,slow=36
YATNC Mamie plateau, 49.76 117 P **P** **18 44 49.4 +2.3**
ASAJ Asahikawa 51.16 21 P **P** **18 44 58.5 +1.2**
comp=Z,12nm,1.1s,baz=247,slow=15,SNR=2.2
ASAJ LR LR 19 06 49.4
comp=Z,248nm,20.9s,baz=218,slow=36
comp=Z,12nm,1.1s
ULN Ulaanbaatar 51.70 349 P **P** **18 45 00.6 -0.8**
ULN IAmb IAmb 18 45 06.6
comp=Z,63nm,0.9s
ULN Ulaanbaatar 51.70 349 *ce*P **P** **18 44 58.7 -2.7**
ULN pmax pmax
comp=Z,103nm,1.7s
SONM Songino Array 51.79 349 P **P** **18 45 00.9 -1.2**
SONM IAmb IAmb 18 45 07.2
comp=Z,35nm,0.9s
SONM Songino Array 51.79 349 P **P** **18 45 01.9 -0.2**
comp=Z,24nm,0.7s,baz=169,slow=8.3,SNR=94
comp=Z,24nm,0.7s
KLR Kul'dur 52.97 10 P **P** **18 45 10.7 0.0**
comp=Z,2.4nm,0.7s,baz=222,slow=5.6,SNR=5.7
KLR LR LR 19 10 28.3
comp=Z,191nm,18.0s,baz=194,slow=39
comp=Z,2.4nm,0.7s
KLR Kul'dur 52.97 10 *i* P **P** **18 45 08.0 -2.7**
KLR pmax pmax
comp=Z,37nm,1.9s
HEH HeiHe 53.36 6 *e*P **P** **18 45 12.2 -1.3**
HEH S **S** **18 52 41.1 -3.9**
HEH pmax pmax
comp=Z,43nm,1.2s
HEH pmax pmax
comp=Z,300nm,4.9s
HEH LR LR
comp=Z,270nm,19.2s
HEH LR LR
comp=Z,330nm,19.0s
HEH LR LR
comp=Z,520nm,18.8s
WMQ Urumqi 54.56 332 *e*P **P** **18 45 24.3 +1.8**
WMQ S **S** **18 53 05.0 +3.3**
WMQ pmax pmax
comp=Z,39nm,0.7s
WMQ pmax pmax
comp=Z,460nm,3.8s
WMQ LR LR
comp=Z,580nm,15.5s
WMQ LR LR
comp=Z,640nm,21.1s
WMQ LR LR
comp=Z,360nm,22.3s
ZAK Zakamensk 54.86 347 *e*P **P** **18 45 23.8 -0.8**
ZAK pmax pmax
comp=Z,14nm,1.7s
CIT Chita 54.92 356 *e*P **P** **18 45 21.0 -4.0**
CIT *e* 18 46 22.7
CIT *e* 18 47 22.2
CIT pmax pmax
comp=Z,36nm,2.7s
IRK Irkutsk 56.41 349 *e*P **P** **18 45 36.3 +0.7**
IRK pmax pmax
comp=Z,58nm,1.7s
MOY Mondy 56.58 346 *e*P **P** **18 45 37.4 +0.5**
MOY pmax pmax
comp=Z,69nm,1.9s
NIL Nilore 56.74 314 P **P** **18 45 36.4 -1.9**
NIL Nilore 56.74 314 P **P** **18 45 36.4 -1.9**
NIL pmax pmax
comp=Z,290nm,1.9s
ZEA Zeya 56.78 5 *e*P **P** **18 45 39.7 +1.5**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,1.2s
ZEA MLR MLR
comp=Z,300nm,16.0s
KSH Kashi 58.10 321 P **P** **18 45 47.9 0.0**
KSH sP sP 18 45 55.8 +1.5
KSH S **S** **18 53 51.0 +2.0**
KSH pmax pmax
comp=Z,71nm,1.0s
KSH LR LR
comp=Z,470nm,17.9s
KSH LR LR
comp=Z,480nm,20.3s
KSH LR LR
comp=Z,790nm,23.4s
SHLS Shalkode 58.30 326 *e*P **P** **18 45 47.3 -2.0**
comp=Z,22nm,0.9s
SHLS Shalkode 58.30 326 *e*P **P** **18 45 47.3 -2.0**
SHLS pmax pmax
comp=Z,22nm,0.9s
UZB Uzynbulak 58.54 326 *e*P **P** **18 45 50.4 -0.6**
comp=Z,20nm,1.6s
UZB Uzynbulak 58.54 326 *e*P **P** **18 45 50.4 -0.6**
UZB pmax pmax
comp=Z,20nm,1.6s
ZSN Zaisan 58.60 333 *e*P **P** **18 45 50.6 -0.5**
comp=Z,12nm,1.0s
ZSN Zaisan 58.60 333 *e*P **P** **18 45 50.6 -0.5**
ZSN pmax pmax
comp=Z,12nm,1.0s
SATY Saty 58.83 326 *e*P **P** **18 45 52.4 -0.6**
comp=Z,16nm,1.2s
SATY Saty 58.83 326 *e*P **P** **18 45 52.3 -0.6**
SATY pmax pmax
comp=Z,16nm,1.2s
ZHN Zhinishke 58.88 326 *e*P **P** **18 45 52.7 -0.6**
comp=Z,12nm,0.9s
ZHN Zhinishke 58.88 326 *e*P **P** **18 45 52.7 -0.6**
ZHN pmax pmax
comp=Z,12nm,0.9s
KPKS Kokpek 58.93 326 *e*P **P** **18 45 53.1 -0.5**
comp=Z,18nm,1.0s
KPKS Kokpek 58.93 326 *e*P **P** **18 45 53.1 -0.5**
KPKS pmax pmax
comp=Z,18nm,1.0s
MSVF Nonsavu 59.21 109 P **P** **18 45 57.1 +1.1**
comp=Z,6.8nm,0.7s,baz=258,slow=9.7,SNR=4.7
comp=Z,6.8nm,0.7s
NRN Naryn 59.22 323 IAmb IAmb 18 45 60.0
comp=Z,38nm,1.1s
MK31 Makanchi Array 59.32 331 IAmb IAmb 18 46 01.5
comp=Z,62nm,1.2s
MK31 Makanchi Array 59.32 331 *ce*P **P** **18 45 55.1 -1.1**
MKAR Makanchi Array 59.32 331 P **P** **18 45 55.1 -1.1**
MKAR Makanchi Array 59.32 331 P **P** **18 45 55.8 -0.4**
comp=Z,17nm,0.7s,baz=134,slow=7.6,SNR=54
MKAR LR LR 19 15 56.7
comp=Z,324nm,18.4s,baz=128,slow=41

comp=Z,17nm,0.7s
MKAR Makanchi Array 59.32 331 *i* P **P 18 45 56.2 0.0**
MKAR pmax pmax
comp=Z,17nm,0.7s
MAKZ Makanchi 59.48 331 P **P 18 45 56.8 -0.5**
MAKZ IAmb IAmb 18 46 02.5
comp=Z,59nm,1.3s
MAKZ Makanchi 59.48 331 P **P 18 45 56.8 -0.5**
MAKZ pmax pmax
comp=Z,59nm,1.3s
TNSS Tian-Shan 59.64 325 *e*P **P 18 45 58.0 -0.9**
TNSS Tian-Shan 59.64 325 *e*P **P 18 45 58.0 -0.9**
MDOK Medeo 59.66 325 *e*P **P 18 45 58.4 -0.4**
MDOK Medeo 59.66 325 *e*P **P 18 45 58.3 -0.4**
AAA Alma-Ata 59.77 325 *e*P **P 18 45 59.2 -0.2**
comp=Z,23nm,1.4s
AAA Alma-Ata 59.77 325 *e*P **P 18 45 59.2 -0.2**
AAA pmax pmax
comp=Z,23nm,1.4s
ARXS Arharly 59.89 326 *e*P **P 18 45 59.8 -0.4**
BOOM Boomskoye usch 59.89 324 P **P 18 45 58.8 -1.6**
BOOM Boomskoye usch 59.89 324 P **P 18 45 58.8 -1.6**
BOOM pmax pmax
comp=Z,156nm,1.7s
TDK Taldyqorghan 60.08 327 *e*P **P 18 46 01.0 -0.5**
TDK Taldyqorghan 60.08 327 *e*P **P 18 46 00.9 -0.5**
CHKK Chushkaly 60.13 326 *e*P **P 18 46 01.6 -0.3**
CHKK Chushkaly 60.13 326 *e*P **P 18 46 01.5 -0.3**
KBL Kabul 60.22 313 P **P 18 46 01.8 -1.1**
KBL Kabul 60.22 313 P **P 18 46 01.8 -1.1**
KBL pmax pmax
comp=Z,79nm,1.1s
TKM2 Tokmak 2 60.35 324 P **P 18 46 03.7 +0.1**
SNR=9.7
KUU Kurty 60.52 325 *e*P **P 18 46 04.0 -0.5**
KUU Kurty 60.52 325 *e*P **P 18 46 04.0 -0.5**
KBK Karagaybulak 60.58 324 P **P 18 46 05.5 +0.5**
SNR=34
DRK Karamyk 60.76 319 P **P 18 46 05.8 -0.7**
DRK Karamyk 60.76 319 P **P 18 46 05.8 -0.7**
DRK pmax pmax
comp=Z,126nm,1.4s
AAK Ala-Archa 60.84 323 P **P 18 46 07.0 +0.2**
SNR=34
AAK Ala-Archa 60.84 323 P **P 18 46 06.7 -0.1**
AAK IAmb IAmb 18 46 10.9
comp=Z,40nm,1.0s
AAK Ala-Archa 60.84 323 LR LR 19 17 11.3
comp=Z,419nm,20.3s,baz=135,slow=41
AAK Ala-Archa 60.84 323 *ce*P **P 18 46 06.3 -0.5**
AAK pmax pmax
comp=Z,78nm,1.7s
RPZ Rata Peaks 61.00 140 P **P 18 46 08.1 +0.3**
RPZ Rata Peaks 61.00 140 LR LR 19 13 02.3
comp=Z,548nm,20.6s,baz=310,slow=36
AML Almayashu 61.02 322 P **P 18 46 10.2 +1.8**
SNR=34
USP Ospenovka 61.20 324 P **P 18 46 10.6 +1.5**
SNR=22
SGDS Sogindy 61.24 324 *e*P **P 18 46 09.2 -0.2**
comp=Z,11nm,1.2s
SGDS Sogindy 61.24 324 *e*P **P 18 46 09.2 -0.2**
SGDS pmax pmax
comp=Z,11nm,1.2s
EKS2 Erkin-Say 61.28 323 P **P 18 46 12.5 +2.7**
SNR=8.0
BTK Batken 61.70 319 P **P 18 46 13.3 +0.6**
SIMJ Simiganj 62.20 317 P **P 18 46 14.5 -1.7**
BTLS Baital 62.52 325 *e*P **P 18 46 17.7 -0.3**
comp=Z,9.1nm,1.2s
BTLS Baital 62.52 325 *e*P **P 18 46 17.6 -0.3**
BTLS pmax pmax
comp=Z,9.0nm,1.2s
SEM Semipalatinsk 62.84 333 *e*P **P 18 46 19.6 -0.7**
comp=Z,13nm,1.2s
SEM Semipalatinsk 62.84 333 *e*P **P 18 46 19.5 -0.7**
SEM pmax pmax
comp=Z,13nm,1.2s
DZA Taraz 62.90 322 *e*P **P 18 46 20.2 -0.3**
comp=Z,11nm,1.5s
DZA Taraz 62.90 322 *e*P **P 18 46 20.2 -0.3**
DZA pmax pmax
comp=Z,11nm,1.5s
BKZ Black Stump Fm 62.97 133 P **P 18 46 20.6 -0.6**
URZ Urewera 63.12 132 LR LR 19 13 15.0
comp=Z,594nm,22.0s,baz=27,slow=36
RTZ Ruatahuna 63.14 132 P **P 18 46 21.1 -1.3**
KKAR Karatay Array 63.52 322 P **P 18 46 23.6 -1.0**
KKAR Karatay Array 63.52 322 IAmb IAmb 18 46 29.0
comp=Z,50nm,1.7s
KKAR Karatay Array 63.52 322 P **P 18 46 23.6 -1.0**
ZAA0 Zalesovo Array 63.56 338 IAmb IAmb 18 46 29.9
comp=Z,88nm,1.8s
ZALV Zalesovo Beam 63.56 338 P **P 18 46 23.6 -1.1**
ZALV Zalesovo Beam 63.56 338 P **P 18 46 22.8 -1.8**
comp=Z,7.3nm,0.7s,baz=144,slow=5.7,SNR=21
ZALV LR LR 19 15 24.4
comp=Z,239nm,20.8s,baz=110,slow=37
comp=Z,7.3nm,0.7s
ZALV Zalesovo Beam 63.56 338 *i* P **P 18 46 23.6 -1.1**
ZALV pmax pmax
comp=Z,8.0nm,0.7s
CASY Casey 63.60 184 P **P 18 46 23.8 -0.9**
CASY IAmb IAmb 18 46 28.4
comp=Z,50nm,1.4s
KURBB Kurchatov Arra 63.78 332 P **P 18 46 25.1 -1.1**
comp=Z,13nm,0.9s,baz=140,slow=6.0,SNR=50
KURBB LR LR 19 18 40.4
comp=Z,318nm,18.4s,baz=178,slow=40
comp=Z,13nm,0.9s
KURK Kurchatov 63.80 332 P **P 18 46 24.9 -1.4**
KURK Kurchatov 63.80 332 *ce*P **P 18 46 25.2 -1.1**
KURK pmax pmax
comp=Z,88nm,1.7s
BRLS Borolday 63.90 321 *e*P **P 18 46 26.7 -0.5**
comp=Z,10nm,1.2s
BRLS Borolday 63.90 321 *e*P **P 18 46 26.6 -0.5**
BRLS pmax pmax
comp=Z,10.0nm,1.2s
PETK Petropavlovsk- 64.31 24 P **P 18 46 30.1 +0.5**
PETK Petropavlovsk- 64.31 24 P **P 18 46 30.4 +0.8**
comp=Z,1.8nm,0.8s,baz=222,slow=1.9,SNR=1.3
comp=Z,1.8nm,0.8s
RAO Raoul Island 64.77 121 LR LR 19 14 49.9
comp=Z,464nm,20.3s,baz=318,slow=36
YAK Yakutsk 65.20 5 P **P 18 46 33.4 -1.8**
YAK Yakutsk 65.20 5 LR LR 19 20 22.4
comp=Z,165nm,18.2s,baz=192,slow=41
YAK Yakutsk 65.20 5 *e*P **P 18 46 32.2 -3.0**
YAK *e**PP **pP 18 46 37.3 -2.5**
YAK *e*S **S 18 55 14.7 -3.1**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.6s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK smax smax
comp=N,75nm,2.2s
YAK smax smax
comp=E,128nm,3.5s
YAK MLR MLR
comp=E,119nm,18.0s
YAK MLR MLR
comp=N,201nm,24.0s
BRZS Berezniki 66.23 329 *e*P **P 18 46 41.6 -0.6**
comp=N,10nm,1.1s
BRZS Berezniki 66.23 329 *e*P **P 18 46 41.6 -0.6**
BRZS pmax pmax
comp=Z,10.0nm,1.1s
MA2 Magadan 66.94 17 LR LR 19 17 28.8
comp=Z,136nm,20.2s,baz=206,slow=37
BVAR Borovoye Array 69.20 331 P **P 18 46 59.9 -0.9**
comp=Z,7.6nm,0.9s,baz=126,slow=7.7,SNR=18
BVAR LR LR 19 21 48.0
comp=Z,422nm,18.5s,baz=125,slow=40
comp=Z,7.6nm,0.9s
BRVK Borovoye 69.27 331 P **P 18 46 59.9 -1.4**
BRVK IAmb IAmb 18 47 13.8
comp=Z,20nm,1.1s
BRVK Borovoye 69.27 331 *ce*P **P 18 47 00.8 -0.5**
BRVK pmax pmax
comp=Z,28nm,1.7s
SEY Seymchan 70.16 15 *i* P **P 18 47 03.3 -3.2**
SEY pmax pmax
comp=Z,42nm,1.7s

SHEM Shemya Is, Ala 71.80 31 LR LR 19 16 56.5
comp=Z,106nm,19.8s,baz=126,slow=34
VOI Vohitsoka 72.90 248 P P 18 47 31.2 +7.1
VOI IAmb IAmb 18 47 32.7
comp=Z,33nm,1.2s
ABKAR Akbulak array 72.92 324 P **P 18 47 21.9 -1.5**
ABKAR Akbulak array 72.92 324 IAmb IAmb 18 47 27.7
comp=Z,17nm,1.0s
AKTO Aktyubinsk 74.55 324 LR LR 19 23 20.7
comp=Z,401nm,21.9s,baz=119,slow=38
TIXI Tiksi 74.64 3 P **P 18 47 29.3 -3.8**
TIXI IAmb IAmb 18 47 35.7
comp=Z,26nm,1.0s
TIXI Tiksi 74.64 3 LR LR 19 27 12.7
comp=Z,342nm,18.2s,baz=198,slow=41
TIXI Tiksi 74.64 3 *ce*P **P 18 47 30.5 -2.6**
TIXI pmax pmax
comp=Z,31nm,1.0s
MAW Mawson 75.14 199 P **P 18 47 35.7 -0.3**
MAW Mawson 75.14 199 P **P 18 47 35.9 -0.1**
comp=Z,26nm,1.0s,baz=52,slow=7.0,SNR=31
MAW LR LR 19 20 17.8
comp=Z,212nm,18.2s,baz=57,slow=36
comp=Z,26nm,1.0s
NRIK Noril'sk 75.28 349 P **P 18 47 36.1 -0.7**
comp=Z,8.6nm,1.0s,baz=136,slow=3.9,SNR=8.8
comp=Z,8.6nm,1.0s
NRIK Noril'sk 75.28 349 P **P 18 47 33.2 -3.6**
NRIK pmax pmax
comp=Z,25nm,1.4s
SVE Sverdlovsk 75.99 331 *e*P **P 18 47 39.1 -2.0**
SVE pmax pmax
comp=Z,30nm,1.9s
RAYN Ar Rayn 76.54 295 P **P 18 47 43.4 -1.7**
RAYN IAmb IAmb 18 47 49.3
comp=Z,63nm,1.9s
RAYN Ar Rayn 76.54 295 P **P 18 47 43.4 -1.7**
RAYN pmax pmax
comp=Z,63nm,1.9s
ARTI Arti 76.89 330 P **P 18 47 45.2 -1.1**
ARTI Arti 76.89 330 LR LR 19 25 36.6
comp=Z,193nm,19.2s,baz=126,slow=39
ARTI Arti 76.89 330 *d i* P **P 18 47 44.9 -1.4**
ARTI 18 50 33.1
ARTI S **S 18 57 36.5 +2.7**
ARTI SS **SS 19 02 30.2 -0.3**
ARTI pmax pmax
comp=Z,21nm,1.4s
ATD Arta Tunnel 77.53 282 LR LR 19 19 25.5
comp=Z,9.4nm,20.0s,baz=77,slow=34
BILL Bilibino 77.81 16 *i* P **P 18 47 49.4 -1.8**
BILL pmax pmax
comp=Z,20nm,1.8s
AKT Akhty 78.36 313 *e*P **P 18 47 54.2 -0.8**
AKT *e* 18 48 03.4
AKT pmax pmax
comp=Z,44nm,2.0s
MAK Makhachkala 78.89 315 *e*P **P 18 47 53.5 -4.2**
MAK *e* 18 50 53.8
MAK *e*S **S 18 57 51.3 -4.6**
MAK *e*SSS SSS 19 06 25.0
MAK pmax pmax
comp=Z,187nm,1.2s
SBA Scott Base 78.91 171 P **P 18 47 57.3 +0.2**
SBA Scott Base 78.91 171 P **P 18 47 57.3 +0.2**
SBA pmax pmax
comp=Z,14nm,1.2s
GNI Garni 80.27 311 LR LR 19 31 14.5
comp=Z,74nm,19.1s,baz=106,slow=41
GNI Garni 80.27 311 *i* P **P 18 48 05.7 +0.2**
GNI pmax pmax
comp=Z,22nm,1.7s
RAR Rarotonga 80.31 111 LR LR 19 22 19.7
comp=Z,58nm,19.9s,baz=268,slow=35
BELG Belogornoye 81.32 324 LR LR 19 29 28.0
comp=Z,299nm,19.1s,baz=112,slow=40
BELG Belogornoye 81.32 324 *i* P **P 18 48 09.4 -1.2**
BELG pmax pmax
comp=Z,3.0nm,1.0s
FURI Furi 81.40 279 LR LR 19 22 35.4
comp=Z,371nm,19.7s,baz=108,slow=34
GURO Guroymak-BITLI 82.02 309 IAmb IAmb 18 48 20.6
comp=Z,29nm,1.5s
KIRV Kirov 82.20 330 LR LR 19 30 04.4
comp=Z,318nm,19.4s,baz=115,slow=40
KIRV Kirov 82.20 330 *i* P **P 18 48 13.8 -1.3**
KMBO Kilima Mbogo 82.22 269 P **P 18 48 14.2 -2.3**
KMBO Kilima Mbogo 82.22 269 P **P 18 48 16.1 -0.4**
comp=Z,1.0nm,0.5s,baz=100,slow=9.4,SNR=6.4
KMBO LR LR 19 23 13.6
comp=Z,379nm,19.1s,baz=92,slow=35
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 82.22 269 *i* P **P 18 48 18.3 +1.8**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KBZ Khabaz 82.34 315 P **P 18 48 17.4 +1.2**
comp=Z,3.3nm,1.0s,baz=175,slow=4.9,SNR=4.3
KBZ LR LR 19 32 04.2
comp=Z,125nm,19.3s,baz=98,slow=41
comp=Z,3.3nm,1.0s
KBZ Khabaz 82.34 315 *i* P **P 18 48 17.4 +1.2**
KBZ pmax pmax
comp=Z,12nm,1.5s
KIV Kislovodsk 82.54 315 *e*P **P 18 48 18.3 +0.9**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,139nm,19.0s
SOC Sochi 84.59 314 *e*P P 18 48 22.7 -5.1
SOC *e* 18 51 38.5
SOC *e*PPP PPP 18 53 34.7
SOC *e*S **SKSac 18 58 45.4 -6.4**
SOC *e*SS **SS 19 04 31.5 +5.5**
VRH Novokhopyorsk 84.60 322 *e*P **P 18 48 24.0 -3.6**
VRH pmax pmax
comp=Z,10.0nm,1.0s
GAZ Gaziantep 85.59 307 P **P 18 48 30.6 -2.4**
GAZ IAmb IAmb 18 48 35.9
comp=Z,27nm,1.6s
VORD Divnogorie 86.06 321 *e*P **P 18 48 34.9 0.0**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 86.18 322 *e*P **P 18 48 34.1 -1.4**
VSR pmax pmax
comp=Z,9.0nm,1.0s
VORR Voronezh 86.23 322 *e*P **P 18 48 35.9 +0.1**
VORR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 86.55 323 *e*P **P 18 48 37.7 +0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MMAI Mount Meron Ar 86.61 303 P **P 18 48 37.5 -0.7**
comp=Z,2.2nm,0.7s,baz=64,slow=3.4,SNR=3.0
MMAI LR LR 19 30 42.9
comp=Z,199nm,21.4s,baz=51,slow=38
comp=Z,2.2nm,0.7s
QSPA South Pole Qui 87.08 180 P **P 18 48 39.3 -0.6**
QSPA IAmb IAmb 18 48 45.5
comp=Z,25nm,1.3s
QSPA South Pole Qui 87.08 180 P **P 18 48 40.0 +0.2**
comp=Z,3.0nm,0.7s,baz=321,slow=1.5,SNR=17
QSPA LR LR 19 28 38.2
comp=Z,309nm,18.2s,baz=340,slow=36
comp=Z,3.0nm,0.7s
KLMR Klimovskoe 87.62 331 *e*P **P 18 48 42.6 +0.3**
KLMR pmax pmax
comp=Z,18nm,1.4s
MOS Moscow 87.79 326 *e*P **P 18 48 42.3 -0.9**
OBN Obninsk 88.30 325 LR LR 19 33 58.6
comp=Z,305nm,19.3s,baz=145,slow=40
BR131 Keskin Array S 88.64 310 P **P 18 48 48.3 +0.4**
BRTR Keskin Array B 88.64 310 P **P 18 48 47.2 -0.7**
BRTR Keskin Array B 88.64 310 P **P 18 48 47.5 -0.4**
comp=Z,3.3nm,1.1s,baz=98,slow=2.5,SNR=9.2
BRTR PP **PP 18 52 20.9 +4.4**
comp=Z,1.8nm,1.0s,baz=92,slow=6.4,SNR=3.8
comp=Z,3.3nm,1.1s
BRTR Keskin Array B 88.64 310 *i* P **P 18 48 48.4 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BR105 Keskin Array S 88.66 310 P **P 18 48 48.3 +0.3**
comp=Z,4.3nm,0.9s
BR105 pP **sP 18 48 56.7 +2.2**
comp=Z,4.3nm,0.9s
BR106 Keskin Array S 88.66 310 P **P 18 48 48.2 +0.2**
MBAR Mbarara 88.75 269 P **P 18 48 48.3 -0.7**

MBAR IAmb IAmb 18 48 51.3
comp=Z,39nm,1.9s
MBAR Mbarara 88.75 269 LR LR 19 26 22.5
comp=Z,453nm,19.4s,baz=92,slow=34
MBAR Mbarara 88.75 269 *i* P **P 18 48 49.1 +0.1**
MBAR pmax pmax
comp=Z,19nm,1.9s
TBI Tubuai 89.82 113 *e*LQ LQ 19 13 35.6
comp=Z,2μm,33.8s
TBI *e*LR LR 19 17 30.9
comp=Z,1μm,25.8s
MATP Matopo 89.96 250 LR LR 19 24 57.8
comp=Z,244nm,19.6s,baz=62,slow=33
PPT2 Papeete2 90.01 108 *e*S **S 18 59 42.6 -5.5**
comp=Z,81nm,24.0s
PPT2 Papeete2 90.01 108 *e*LQ LQ 19 13 42.6
comp=Z,399nm,31.0s
PPT2 *e*LR LR 19 17 37.0
comp=Z,351nm,30.2s
PPT2 *e*LR LR 19 17 38.6
comp=Z,229nm,31.5s
PPT Papeete 90.01 107 LR LR 19 25 55.4
comp=Z,93nm,18.1s,baz=220,slow=33
APA Apatity 91.15 337 || *i* P P 18 48 50.1 -8.7
APA *i* 18 52 32.0
APA pmax pmax
comp=Z,9.0nm,1.0s
KDAK Kodiak Island 91.29 32 LR LR 19 25 01.7
comp=Z,155nm,21.6s,baz=285,slow=32
LBTB Lobatse 92.35 245 LR LR 19 26 21.7
comp=Z,317nm,18.4s,baz=87,slow=33
BOSA Boshof 92.38 241 LR LR 19 24 48.8
comp=Z,681nm,21.4s,baz=106,slow=32
AKASG Malin Array Be 92.39 320 P **P 18 49 05.1 +0.3**
comp=Z,0.9nm,0.7s,baz=82,slow=3.8,SNR=5.8
AKASG LR LR 19 38 34.3
comp=Z,224nm,19.4s,baz=86,slow=41
comp=Z,0.9nm,0.7s
NVL N'lazarevskaya 93.07 198 *e*P P 18 49 18.6 +11
NVL pmax pmax
comp=Z,7.0nm,0.7s
NVL MLR MLR
comp=Z,458nm,20.0s
ILAR Eielson Array 94.12 25 P **P 18 49 11.3 -1.3**
comp=Z,0.3nm,0.6s,baz=258,slow=5.7,SNR=2.8
comp=Z,0.3nm,0.6s
FINES FINESS Array B 94.16 331 LR LR 19 37 14.4
comp=Z,261nm,18.1s,baz=78,slow=39
MLR Muntele Rosu 94.54 315 LR LR 19 43 10.4
comp=Z,223nm,18.1s,baz=60,slow=43
IDI Anoyia 95.42 305 LR LR 19 40 58.4
comp=Z,120nm,18.1s,baz=104,slow=41
SPITS Spitsbergen Ar 95.49 348 LR LR 19 37 07.0
comp=Z,261nm,20.9s,baz=42,slow=38
J26L Joseph Creek 95.57 26 P **P 18 49 18.5 -0.8**
I26K Coal Creek Min 95.67 25 P **P 18 49 19.2 -0.5**
I26K IAmb IAmb 18 49 25.0
comp=Z,36nm,1.8s
SUR Sutherland 95.81 237 LR LR 19 28 55.8
comp=Z,210nm,19.0s,baz=105,slow=33
G27K Doyon Strip 96.11 23 IAmb IAmb 18 49 28.8
comp=Z,21nm,1.7s
L27K Beaver Creek, 96.48 27 IAmb IAmb 18 49 45.9
comp=Z,20nm,1.8s
E28M Babbage River 96.66 21 IAmb IAmb 18 49 30.7
comp=Z,7.6nm,1.1s
I28M Miner Creek 96.99 24 IAmb IAmb 18 49 37.6
comp=Z,24nm,1.7s
SNAA Sanae 97.00 196 LR LR 19 29 28.7
comp=Z,365nm,21.1s,baz=189,slow=33
INK Inuvik 98.89 21 LR LR 19 36 07.8
comp=Z,61nm,21.4s,baz=283,slow=36
VYHS Vyhne 99.22 319 *e*PP **PP 18 53 45.6 +6.8**
TAOE Nuku Hiva Isla 99.76 99 *e*LR LR 19 22 01.3
comp=Z,233nm,24.8s
MORC Moravsky Berou 99.92 320 *e*PP **PP 18 53 44.3 +0.3**
JAVC Velka Javorina 99.95 319 *e*PP **PP 18 53 46.0 +1.7**
MODS Modra-Piesok 100.27 319 *e*PP **PP 18 53 51.8 +5.1**
VRAC Vranov 100.59 320 *e*PP **PP 18 53 48.9 -0.2**
KRUC Moravsky 100.76 319 *e*PP **PP 18 53 47.5 -2.8**
RONA Rosalia, Austr 101.01 318 *e*PP **PP 18 53 54.1 +1.7**
comp=Z,11nm,1.6s
CONA Conrad Observa 101.27 318 *e*PP **PP 18 53 57.1 +2.7**
comp=Z,30nm,1.8s
ARSA Arzberg 101.59 318 *i* PP **PP 18 53 59.2 +2.4**
comp=Z,11nm,1.6s
SOKA Soboth 102.01 317 *e*PP **PP 18 54 01.9 +1.9**
comp=Z,9.3nm,1.4s
OBKA Obir 102.37 317 *e*PP **PP 18 54 04.4 +1.7**
comp=Z,13nm,1.9s
CLL Collm 102.53 322 *e*P **Pdif 18 49 51.0 +0.3**
CLL Collm 102.53 322 *e*Pdif **Pdif 18 49 51.0 +0.3**
CLL *e*PP **PP 18 54 06.0 +2.4**
CLL *e*SKSac **SKSac 19 00 30.0 -0.3**
CLL *e*PPS PPS 19 03 54.0
CLL *e*SS SS 19 08 30.0 -12
BIOA Bad Ischl, Aus 102.79 318 *e*PP **PP 18 54 03.3 -2.4**
comp=Z,5.2nm,1.2s
RKT Rikitea 103.09 114 *e*LR LR 19 23 37.8
comp=Z,906nm,25.2s
LESA Schwarzleotal 103.47 318 *i* PKiKP **PKiKP 18 54 13.2 -0.7**
comp=Z,12nm,1.6s
ABTA Abfaltersbach 103.71 317 *e*PKiKP **PKiKP 18 54 13.1 -1.3**
comp=Z,6.0nm,1.0s
WTTA Wattenberg 104.20 318 *ep*PKiKP **PKiKP 18 54 20.6 +5.2**
comp=Z,16nm,1.6s
WATA Walderalm 104.23 318 *ep*PKiKP **PKiKP 18 54 19.2 +3.8**
comp=Z,3.7nm,0.7s
SQTA Sankt Quirin 104.50 318 *ep*PKiKP **PKiKP 18 54 20.5 +4.7**
comp=Z,12nm,1.7s
RETA Reutte 104.74 318 *i* PP **PP 18 54 21.9 +1.6**
comp=Z,7.0nm,1.2s
FETA Feichten 104.86 318 *i* PKiKP **PKiKP 18 54 15.5 -1.1**
comp=Z,4.7nm,1.2s
NVAR Mina Array Bea 116.66 48 PKP **PKiKP 18 54 39.6 +0.3**
comp=Z,0.8nm,0.8s,baz=306,slow=1.7,SNR=1.6
HLID Hailey 117.50 41 PKPdf **PKiKP 18 54 48.4 +7.7**
TORD Torodi Ar. Bea 117.73 283 PKP **PKPdf 18 54 39.4 -2.2**
comp=Z,1.7nm,0.6s,baz=53,slow=1.9,SNR=9.7
PRN Pahroc Range 119.42 48 pPKPdf 18 54 52.9 +3.5
V12A Nelson 120.16 50 PKPdf **PKiKP 18 54 51.9 +6.0**
PDAR Pinedale Array 121.03 40 PKP **PKiKP 18 54 48.7 +1.0**
comp=Z,0.6nm,0.7s,baz=230,slow=1.2,SNR=4.9
PDAR PKKPab **PKKPab 19 04 51.4 -0.2**
comp=Z,0.6nm,0.8s,baz=140,slow=7.7,SNR=4.7
O20A White River Ci 123.15 43 PKPdf **PKiKP 18 54 56.2 +4.4**
RSSD Black Hills 123.77 37 PKPdf **PKiKP 18 54 58.2 +5.2**
RSSD Black Hills 123.77 37 PKiKP **PKiKP 18 54 58.2 +5.2**
ECSD EROS Data Cent 128.25 33 PKPdf **PKiKP 18 55 06.8 +5.1**
KAN14 Manchester OK 131.66 41 **PKPdf 18 55 05.3 -2.4**
OK051 E0350 and S346 132.66 40 **PKPdf 18 55 07.3 -2.3**
S39A Bolivar 134.11 37 PKPdf **PKiKP 18 55 15.1 +1.4**
MIAR Mount Ida 135.96 40 PKPdf **PKiKP 18 55 22.2 +4.7**
MIAR Mount Ida 135.96 40 PKiKP **PKiKP 18 55 22.2 +4.7**
ZON Zonda 144.89 168 PKPdf **PKPdf 18 55 33.5 +1.3**
ZON Zonda 144.89 168 PKiKP **PKPdf 18 55 33.5 +1.3**
CO03 El Pedregal 145.09 165 **PKPbc 18 55 31.3 -0.7**
LCO Las Campanas 146.81 164 **PKPab 18 55 38.4 -0.3**
LCO Las Campanas 146.81 164 PKP2 **PKPab 18 55 38.4 -0.3**
AC05 El Transito 147.10 164 **PKPbc 18 55 37.9 -0.3**
ITQB Itaqui 147.43 186 **PKPab 18 55 39.8 -0.9**
GO03 Copiapo 148.28 163 **PKPbc 18 55 41.8 +0.5**
GO02 Mina Guanaco 150.76 163 **PKPbc 18 55 47.8 -0.1**
CPUP Villa Florida 150.81 186 **PKPbc 18 55 47.1 -0.4**
CPUP Villa Florida 150.81 186 PKPbc **PKiKP 18 55 48.6 +0.5**
comp=Z,6.9nm,0.7s,baz=149,slow=2.5,SNR=18
CPUP Villa Florida 150.81 186 PKiKP **PKPbc 18 55 47.1 -0.4**
PB14 IPOC Station P 151.01 161 **PKiKP 18 55 49.6 +0.5**
VAO Valinhos 151.09 206 PKPdf **PKPdf 18 55 42.1 -0.5**
PB11 IPOC Station P 155.77 159 PKPab **PKPab 18 56 15.4 -0.2**
LPAZ La Paz 159.51 159 PKP **PKPdf 18 55 55.1 +0.4**
comp=Z,0.7nm,0.5s,baz=225,slow=5.7,SNR=4.4
LPAZ PKPab **PKPab 18 56 32.0 -0.5**
comp=Z,6.9nm,1.1s,baz=181,slow=5.7,SNR=7.0
SAML Samuel 167.95 167 PKPab **PKPab 18 57 11.5 +2.8**
SAML Samuel 167.95 167 PKP2 **PKPab 18 57 11.5 +2.8**

DJA 05 18:48:11.8±0.3, 3°S±2°×11°9E±°, h10km, M3.9/14, mb4.1/3, MLv3.8/14, Sulawesi

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.38**	**111**	P	Pg	18 48 19.2	-0.2
TTSI				S	Sb	18 48 25.6	-1.1
SPSI	**Sidrap Palu**	**1.09**	**164**	P	Pb	18 48 31.0	-1.8

BNSI	**Bone**	**1.61**	**156**	P	Pn	18 48 40.9	+0.5
BKSI	**Bulukumba**	**2.48**	**165**	P	Pn	18 48 53.1	+0.7
BKSI				S	Sn	18 49 23.4	+0.6
APSI	**Ampana**	**2.95**	**48**	P	Pn	18 48 58.7	-0.1
MPSI	**Mapaga**	**3.25**	**8**	P	Pn	18 49 02.8	-0.2
BSSI	**Bau Bau, Buton**	**3.37**	**162**	P	Pn	18 49 05.9	+1.3
LUWI	**Luwuk**	**3.79**	**61**	P	Pn	18 49 09.6	-0.8
MRSI	**Marisa**	**4.18**	**36**	P	Pn	18 49 17.3	+1.6
PLAI	**Plampang**	**6.11**	**196**	P	Pn	18 49 41.9	-0.4
	18nm,1.4s						
WBSI	**Waikabubak, Su**	**6.69**	**181**	P	Pn	18 49 50.4	+0.2

*NEIC **05** 18:56:29.2±0.9, 17°.8S±0°.2×177°.83W±0°.09, h600km±9km, mb4.5/29, Error ellipse: s-maj=27.3km s-min=11.6km az=169.0*
*IDC **05** 18:56:31.5±1.1, 18°.14S×178°.06W, h609km±11km, mb3.3/10, mbtmp4.3/12, Error ellipse: s-maj=25.4km s-min=13.5km az=156.0*
ISC 05 18:56:29.2±0.5, 18°.0S±0°.1×177°.91W±0°.07, h590km, n49, σ1°38/53, mb4.5/26, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.66**	**357**	P	**P**	**18 57 51.5**	**-0.3**
MSVF	**Nonsavu**	**3.85**	**273**	P	**P**	**18 57 54.5**	**+1.4**
MSVF	**Nonsavu**	**3.85**	**273**	P	**P**	**18 57 54.8**	**+1.7**
	111nm,0.7s,baz=125,slow=6.1,SNR=63						
MSVF				S	**S**	**18 59 05.3**	**+4.0**
	17nm,1.0s,baz=325,slow=23,SNR=7.5						
AFI	**Afiamalu**	**7.16**	**56**	P	**P**	**18 58 19.9**	**-0.5**
AFI				S	**S**	**18 59 46.7**	**-4.7**
NIUE	**Niue**	**7.65**	**99**	P	**P**	**18 58 24.6**	**-0.4**
PINNC	**Pines Island,**	**14.49**	**249**	P	**P**	**18 59 32.8**	**-0.1**
DZM	**Mont Dzumac**	**15.25**	**252**	P	**P**	**18 59 39.4**	**-0.8**
DZM				IAmb	IAmb	18 59 42.8	
	comp=Z,19nm,1.1s						
DZM	**Mont Dzumac**	**15.25**	**252**	P	**P**	**18 59 39.6**	**-0.6**
	comp=Z,6.4nm,0.5s,baz=166,slow=15,SNR=12						
KOUNC	**Koumac, New Ca**	**17.00**	**258**	P	**P**	**18 59 57.1**	**+0.9**
KHZ	**Kahutara**	**25.42**	**195**	P	**P**	**19 01 08.9**	**-2.6**
EIDS	**Eidsvold**	**29.69**	**250**	P	**P**	**19 01 47.9**	**-1.0**
EIDS				IAmb	IAmb	19 01 49.3	
	comp=Z,8.9nm,0.7s						
ARMA	**Armidale**	**30.31**	**240**	P	**P**	**19 01 54.7**	**+0.3**
ARMA				IAmb	IAmb	19 01 55.4	
	comp=Z,6.6nm,0.7s						
CTAO	**Charters Tower**	**33.90**	**261**	P	**P**	**19 02 24.1**	**-0.6**
CTAO				IAmb	IAmb	19 02 25.5	
	comp=Z,11nm,0.7s						
CAN	**Canberra**	**34.04**	**233**	P	**P**	**19 02 25.9**	**+0.2**
CAN				IAmb	IAmb	19 02 26.9	
	comp=Z,9.7nm,0.7s						
PMG	**Port Moresby**	**34.94**	**279**	P	**P**	**19 02 32.8**	**-0.6**
TOO	**Toolangi**	**37.49**	**231**	P	**P**	**19 02 54.6**	**+0.5**
COEN	**Coen**	**37.58**	**270**	P	**P**	**19 02 56.0**	**+0.9**
STKA	**Stephens Creek**	**39.01**	**241**	P	**P**	**19 03 07.0**	**+0.5**
STKA	**Stephens Creek**	**39.01**	**241**	P	**P**	**19 03 06.7**	**+0.2**
	comp=Z,9.2nm,0.5s,baz=91,slow=11,SNR=23						
	comp=Z,9.2nm,0.5s						
BBOO	**Buckleboo**	**43.78**	**241**	P	**P**	**19 03 44.1**	**0.0**
WR0	**Warramunga Arr**	**44.89**	**260**	P	**P**	**19 03 52.2**	**-0.5**
WB0	**Warramunga Arr**	**45.05**	**260**	P	**P**	**19 03 52.9**	**-1.1**
WB0				IAmb	IAmb	19 03 54.0	
	comp=Z,12nm,0.6s						
WB2	**Warramunga Arr**	**45.07**	**260**	P	**P**	**19 03 53.1**	**-1.0**
WB2				IAmb	IAmb	19 03 54.3	
	comp=Z,13nm,0.6s						
WRAB	**Tennant Creek**	**45.07**	**260**	P	**P**	**19 03 53.4**	**-0.7**
WRAB				IAmb	IAmb	19 03 54.2	
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**45.08**	**260**	P	**P**	**19 03 53.1**	**-1.1**
WRA	**Warramunga Arr**	**45.08**	**260**	P	**P**	**19 03 53.5**	**-0.6**
	comp=Z,9.5nm,0.6s,baz=94,slow=7.2,SNR=237						
	comp=Z,9.5nm,0.6s						
AS31	**Alice Springs**	**45.22**	**254**	P	**P**	**19 03 54.9**	**-0.4**
AS31				IAmb	IAmb	19 03 56.2	
	comp=Z,10nm,0.5s						
ASAR	**Alice Springs**	**45.23**	**254**	P	**P**	**19 03 55.0**	**-0.2**
	comp=Z,28nm,0.6s,baz=87,slow=8.7,SNR=473						
ASAR				PcP	**PcP**	**19 05 22.5**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=100,slow=4.2,SNR=2.0						
ASAR				S	**S**	**19 09 50.8**	**-2.7**
	comp=Z,1.2nm,0.8s,baz=91,slow=16,SNR=10.0						
	comp=Z,28nm,0.6s						
MTN	**Manton Dam**	**49.27**	**268**	P	**P**	**19 04 25.0**	**-0.5**
MTN				IAmb	IAmb	19 04 26.0	
	comp=Z,11nm,0.8s						
FORT	**Forrest**	**50.40**	**245**	P	**P**	**19 04 32.4**	**-1.2**
KNRA	**Kununurra**	**50.95**	**264**	P	**P**	**19 04 36.7**	**-1.1**
KNRA				IAmb	IAmb	19 04 50.4	
	comp=Z,24nm,1.4s						
FAKI	**Fak Fak**	**51.05**	**281**	P	**P**	**19 04 37.1**	**-1.5**
FITZ	**Fitzroy Crossi**	**53.48**	**261**	P	**P**	**19 04 54.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**53.48**	**261**	P	**P**	**19 04 55.7**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=96,slow=10,SNR=12						
	comp=Z,1.8nm,0.6s						
SOEI	**Soe**	**56.54**	**270**	P	**P**	**19 05 18.3**	**+1.0**
SOEI				IAmb	IAmb	19 05 19.6	
	comp=Z,18nm,0.7s						
PSA00	**Pilbara Seismi**	**58.35**	**255**	P	**P**	**19 05 28.5**	**-0.8**
PSA00				IAmb	IAmb	19 05 29.3	
	comp=Z,16nm,1.0s						
MBWA	**Marble Bar**	**58.51**	**256**	P	**P**	**19 05 29.6**	**-0.9**
MBWA				IAmb	IAmb	19 05 41.9	
	comp=Z,41nm,1.4s						
MMRI	**Maumere**	**58.77**	**271**	P	**P**	**19 05 31.9**	**-0.4**
MMRI				IAmb	IAmb	19 05 57.6	
	comp=Z,21nm,0.9s						
SBA	**Scott Base**	**60.38**	**184**	P	**P**	**19 05 43.8**	**+2.0**
JAGI	**Jajag, Banyuwa**	**66.51**	**268**	P	**P**	**19 06 20.8**	**-1.3**
QSPA	**South Pole Qui**	**72.07**	**180**	P	**P**	**19 06 55.0**	**+0.5**
QSPA	**South Pole Qui**	**72.07**	**180**	P	**P**	**19 06 54.0**	**-0.4**
	comp=Z,3.1nm,0.5s,baz=41,slow=0.3,SNR=17						
	comp=Z,3.1nm,0.5s						
NVAR	**Mina Array Bea**	**79.15**	**44**	P	**P**	**19 07 36.2**	**+2.1**
	comp=Z,0.7nm,0.8s,baz=224,slow=8.6,SNR=4.2						
	comp=Z,0.7nm,0.8s						
TXAR	**Lajitas Array**	**85.64**	**57**	P	**P**	**19 08 09.3**	**+2.6**
	comp=Z,1.3nm,0.7s,baz=224,slow=3.5,SNR=5.5						
	comp=Z,1.3nm,0.7s						
ILAR	**Eielson Array**	**85.85**	**13**	P	**P**	**19 08 07.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=183,slow=9.0,SNR=4.1						
	comp=Z,0.1nm,0.3s						
PDAR	**Pinedale Array**	**87.08**	**43**	P	**P**	**19 08 14.9**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=253,slow=5.6,SNR=3.5						
	comp=Z,0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.35**	**290**	P	**P**	**19 08 25.0**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=115,slow=3.1,SNR=4.4						
	comp=Z,0.4nm,0.8s						
VNA3	**Neumayer Olymp**	**90.64**	**176**	⇑P	**P**	**19 08 29.4**	**+0.1**
	comp=Z,3.4nm,0.7s						
VNA2	**Neumayer--Watz**	**91.08**	**177**	⇑P	**P**	**19 08 31.9**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=174,slow=4.0						

*ATH **05** 18:58:14.7, 37°.55N×20°.19E, h6km±1km, ML3.4/14, Manual Solution by A.Papageorgiou This location: 2020/07/20 08:47:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*IDC **05** 18:58:24.9±19.0, 38°.60N×20°.99E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=356.3km s-min=48.6km az=40.0*
ISC 05 18:58:16.0±1.8, 37°.59N±0°.05×20°.29E±0°.08, h8km±9km, n27, σ0°79/46, mb3.6/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.45**	**75**	P	**Pg**	**18 58 24.7**	**-0.1**
LTHK				S	**Sg**	**18 58 31.9**	**+1.1**
PSDA	**Pessada-Kefalo**	**0.57**	**24**	P	**Pg**	**18 58 27.1**	**0.0**
PSDA				S	**Sb**	**18 58 35.4**	**-1.2**
LXRA	**Lixouri, Kepha**	**0.62**	**11**	P	**Pg**	**18 58 27.9**	**-0.2**
LXRA				S	**Sg**	**18 58 36.5**	**+0.4**
VLS	**Valsamata**	**0.63**	**22**	P	**Pg**	**18 58 28.2**	**0.0**
VLS				S	**Sb**	**18 58 37.0**	**-1.4**
DMLN	**Damoulianata-K**	**0.65**	**6**	P	**Pg**	**18 58 28.5**	**-0.1**
DMLN				S	**Sg**	**18 58 37.7**	**+0.6**
SMHA	**Samh**	**0.72**	**23**	P	**Pg**	**18 58 29.3**	**-0.6**
SMHA				S	**Sb**	**18 58 40.1**	**-0.7**
FSK	**Fiskardo**	**0.89**	**14**	P	**Pg**	**18 58 32.8**	**-0.4**
FSK				S	**Sb**	**18 58 45.0**	**-0.8**
RLS	**Riolos of Patr**	**1.04**	**63**	P	**Pn**	**18 58 35.7**	**-1.3**
RLS				S	**Sn**	**18 58 51.1**	**-0.7**
EVGI	**Lefkada island**	**1.07**	**16**	P	**Pg**	**18 58 36.0**	**-0.6**
EVGI				S	**Sn**	**18 58 50.9**	**-1.5**
DRAG	**Dragano-Lefkad**	**1.11**	**12**	P	**Pg**	**18 58 36.8**	**-0.6**
DRAG				S	**Sn**	**18 58 52.3**	**-1.3**
AMT	**Artemida-Makis**	**1.13**	**93**	P	**Pb**	**18 58 37.9**	**0.0**
AMT				S	**Sn**	**18 58 54.0**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.17**	**16**	P	**Pg**	**18 58 37.5**	**-0.9**
NYDR				S	**Sn**	**18 58 53.6**	**-1.2**
DRO	**Drossia**	**1.18**	**72**	P	**Pn**	**18 58 38.7**	**-0.2**
DRO				S	**Sn**	**18 58 55.2**	**-0.1**
LKD2	**Lefkada island**	**1.23**	**14**	P	**Pb**	**18 58 39.5**	**-0.1**
LKD2				S	**Sn**	**18 58 56.0**	**-0.4**
TSLK	**Tsoukalades, L**	**1.27**	**13**	P	**Pg**	**18 58 39.6**	**-0.7**
TSLK				S	**Sn**	**18 58 57.2**	**0.0**
PYL	**PYLOS**	**1.35**	**120**	P	**Pg**	**18 58 40.5**	**-1.5**
PYL				S	**Sg**	**18 58 59.8**	**+0.2**
ITM	**Ithomi**	**1.37**	**107**	P	**Pg**	**18 58 41.3**	**-1.0**
ITM				S	**Sn**	**18 58 59.6**	**-0.2**
EFP	**Efpalio**	**1.53**	**56**	P	**Pn**	**18 58 44.1**	**+0.5**
KLV	**Kalavryta, Ach**	**1.54**	**72**	P	**Pn**	**18 58 44.1**	**+0.2**
KLV				S	**Sn**	**18 59 04.3**	**+0.2**
ANX	**Ano Chora**	**1.63**	**52**	P	**Pn**	**18 58 45.3**	**+0.1**
GUR	**Goura**	**1.66**	**77**	P	**Pn**	**18 58 45.8**	**+0.2**
GUR				S	**Sn**	**18 59 07.0**	**-0.2**
KALE	**Kalithea**	**1.67**	**61**	P	**Pn**	**18 58 45.8**	**+0.2**
OHR	**Ohrid**	**3.54**	**6**	*i* Pn	**Pb**	**18 59 19.0**	**+0.1**
HFS	**Hagfors**	**22.95**	**352**	P	**P**	**19 03 20.9**	**+0.3**
	1.3nm,0.8s,baz=159,slow=12,SNR=1.6						
	1.3nm,0.8s						
FINES	**FINESS Array B**	**24.15**	**7**	P	**P**	**19 03 31.8**	**-0.5**
	1.6nm,0.8s,baz=194,slow=10.0,SNR=1.5						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**45.77**	**58**	P	**P**	**19 06 39.8**	**+1.8**
	0.3nm,0.4s,baz=275,slow=7.1,SNR=2.3						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**46.22**	**48**	P	**P**	**19 06 42.9**	**+1.6**
	0.8nm,0.5s,baz=261,slow=6.9,SNR=3.7						
	0.8nm,0.5s						

*NOU **05** 19:17:55.4, 40°.69S×174°.16E, h55km, ML3.5/9, Cook Strait, New Zealand*
*WEL **05** 19:17:56.2±0.3, 41°.5±3°.×17°.4E±°, h49km±7km, M3.1/32, ML3.3/33, MLv3.1/32, Error ellipse: s-maj=3.5km s-min=2.9km az=168.5, confirmed*
ISC 05 19:17:54.5±1.3, 40.69S±0°.03×174°.14E±0°.03, h81km±8km, n103, σ1°07/117, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.20**	**236**	P	**Pn**	**19 19 05.8**	**-0.5**
DUWZ				S	**Sn**	**19 18 13.9**	**-1.3**
TCW	**Tory Channel**	**0.53**	**168**	P	**Pn**	**19 18 09.0**	**+0.4**
TCW				S	**Sn**	**19 18 18.6**	**-0.3**
KIW	**Kapiti Island**	**0.61**	**106**	P	**Pn**	**19 18 09.5**	**+0.2**
KIW				S	**Sn**	**19 18 19.7**	**-0.6**
TUWZ	**Tuamarina**	**0.75**	**191**	P	**Pn**	**19 18 11.6**	**+0.9**
TUWZ				S	**Sn**	**19 18 23.4**	**+0.6**
SNZO	**South Karori**	**0.75**	**145**	P	**Pn**	**19 18 11.0**	**+0.3**
WEL	**Wellington**	**0.76**	**141**	P	**Pn**	**19 18 12.7**	**+1.9**
NNZ	**Nelson**	**0.78**	**227**	P	**Pn**	**19 18 11.2**	**+0.2**
NNZ				S	**Sn**	**19 18 23.4**	**+0.2**
OGWZ	**Otaki Gorge**	**0.80**	**99**	P	**Pn**	**19 18 11.6**	**+0.4**
OGWZ				S	**Sn**	**19 18 23.4**	**-0.3**
CAW	**Cannon Point**	**0.82**	**121**	P	**Pn**	**19 18 11.9**	**+0.5**
CAW				S	**Sn**	**19 18 24.4**	**+0.3**
BHW	**Baring Head**	**0.91**	**142**	P	**Pn**	**19 18 13.4**	**+0.9**
TKNZ	**Takaka Hill**	**0.95**	**249**	P	**Pn**	**19 18 13.2**	**+0.2**
TKNZ				S	**Sn**	**19 18 26.8**	**-0.1**
BSWZ	**Blackbirch Sta**	**1.04**	**191**	P	**Pn**	**19 18 15.4**	**+1.3**
BSWZ				S	**Sn**	**19 18 30.2**	**+1.5**
CMWZ	**Cape Campbell**	**1.06**	**177**	P	**Pn**	**19 18 16.1**	**+1.8**
HOWZ	**Holdsworth Sta**	**1.07**	**101**	P	**Pn**	**19 18 14.4**	**0.0**
MRZ	**Mangatainoka R**	**1.10**	**89**	P	**Pn**	**19 18 14.7**	**0.0**
MRZ				S	**Sn**	**19 18 29.4**	**-0.6**
MSWZ	**Moikau Station**	**1.11**	**131**	P	**Pn**	**19 18 16.2**	**+1.3**
MTW	**Mount Morrison**	**1.13**	**115**	P	**Pn**	**19 18 15.4**	**+0.2**
MTW				S	**Sn**	**19 18 29.9**	**-0.8**
PAWZ	**Paruwai Farm**	**1.19**	**126**	P	**Pn**	**19 18 16.8**	**+0.8**
PAWZ				S	**Sn**	**19 18 31.1**	**-1.0**
PLWZ	**Palliser**	**1.22**	**136**	P	**Pn**	**19 18 16.5**	**+0.2**
PLWZ				S	**Sn**	**19 18 31.7**	**-0.9**
QRZ	**Quartz Range**	**1.23**	**263**	P	**Pn**	**19 18 16.1**	**-0.3**
QRZ				S	**Sn**	**19 18 31.8**	**-1.0**
QRZ	**Quartz Range**	**1.23**	**263**	P	**Pn**	**19 18 16.0**	**-0.3**
LREZ	**Lake Rotokare**	**1.25**	**10**	P	**Pn**	**19 18 16.5**	**-0.1**
MRNZ	**Matariki Terra**	**1.26**	**235**	P	**Pn**	**19 18 17.8**	**+1.1**
MRNZ				S	**Sn**	**19 18 34.8**	**+1.3**
POWZ	**Post Office Ro**	**1.28**	**77**	P	**Pn**	**19 18 16.9**	**-0.1**
PREZ	**Palmer Road**	**1.35**	**1**	P	**Pn**	**19 18 18.1**	**+0.1**
TRWZ	**Traveller**	**1.37**	**121**	P	**Pn**	**19 18 19.2**	**+1.1**
TMWZ	**Te Maipa**	**1.39**	**108**	P	**Pn**	**19 18 19.0**	**+0.6**
KHEZ	**Kahui Hut**	**1.40**	**356**	P	**Pn**	**19 18 18.9**	**+0.3**
KHEZ	**Kahui Hut**	**1.40**	**356**	P	**Pn**	**19 18 18.7**	**+0.1**
PRWZ	**Pori Road**	**1.40**	**85**	P	**Pn**	**19 18 18.7**	**+0.1**
THZ	**Tophouse**	**1.42**	**221**	P	**Pn**	**19 18 19.9**	**+1.1**
NEZ	**North Egmont**	**1.42**	**359**	P	**Pn**	**19 18 19.0**	**+0.1**
NBEZ	**Newall Road No**	**1.44**	**352**	P	**Pn**	**19 18 19.5**	**+0.5**
PKE	**Pukeiti**	**1.50**	**356**	P	**Pn**	**19 18 20.3**	**+0.4**
DREZ	**Durham Road**	**1.50**	**2**	P	**Pn**	**19 18 20.4**	**+0.5**
TSZ	**Takapari Road**	**1.53**	**66**	P	**Pn**	**19 18 20.4**	**+0.2**
DVHZ	**Dannevirke**	**1.60**	**76**	P	**Pn**	**19 18 21.7**	**+0.6**
BFZ	**Birch Farm**	**1.60**	**90**	P	**Pn**	**19 18 20.8**	**-0.4**
BFZ	**Birch Farm**	**1.60**	**90**	P	**Pn**	**19 18 20.6**	**-0.6**
VRZ	**Vera Road**	**1.64**	**17**	P	**Pn**	**19 18 22.4**	**+0.8**
MTVZ	**Mangateitei**	**1.66**	**39**	P	**Pn**	**19 18 23.1**	**+1.1**
TRVZ	**Turoa**	**1.77**	**38**	P	**Pn**	**19 18 24.7**	**+1.2**
WNVZ	**Wahianoa**	**1.77**	**40**	P	**Pn**	**19 18 24.3**	**+0.9**
KHZ	**Kahutara**	**1.78**	**194**	P	**Pn**	**19 18 24.6**	**+1.2**
KHZ	**Kahutara**	**1.78**	**194**	P	**Pn**	**19 18 24.3**	**+0.9**
MOVZ	**Moawhango**	**1.79**	**45**	P	**Pn**	**19 18 23.7**	**+0.1**
MAVZ	**Matarangi**	**1.80**	**38**	P	**Pn**	**19 18 25.3**	**+1.3**
WHVZ	**Whangaehu Hut**	**1.80**	**39**	P	**Pn**	**19 18 25.0**	**+1.1**
FWVZ	**Far West T-bar**	**1.80**	**38**	P	**Pn**	**19 18 25.0**	**+1.0**
TUVZ	**Tukino**	**1.84**	**40**	P	**Pn**	**19 18 25.7**	**+1.3**
COVZ	**Chateau Observ**	**1.84**	**36**	P	**Pn**	**19 18 25.1**	**+0.7**
NGZ	**Ngauruhoe**	**1.89**	**37**	P	**Pn**	**19 18 26.5**	**+1.5**
SNVZ	**South Ngauruho**	**1.90**	**38**	P	**Pn**	**19 18 26.3**	**+1.1**
TWVZ	**Taurewa**	**1.91**	**32**	P	**Pn**	**19 18 25.9**	**+0.7**
OTVZ	**Oturere**	**1.93**	**38**	P	**Pn**	**19 18 26.7**	**+1.1**
NNVZ	**North Ngauruho**	**1.93**	**37**	P	**Pn**	**19 18 26.9**	**+1.2**
WTVZ	**West Tongariro**	**1.93**	**36**	P	**Pn**	**19 18 26.6**	**+1.0**
PRHZ	**Porangahau**	**1.95**	**78**	P	**Pn**	**19 18 25.6**	**-0.1**
ETVZ	**East Tongariro**	**1.97**	**38**	P	**Pn**	**19 18 27.8**	**+1.7**
KRVZ	**Karewarewa**	**1.97**	**36**	P	**Pn**	**19 18 27.3**	**+1.1**
NTVZ	**North Tongarir**	**1.98**	**37**	P	**Pn**	**19 18 27.8**	**+1.5**
TMVZ	**Te Maari**	**1.98**	**38**	P	**Pn**	**19 18 27.9**	**+1.6**
KRHZ	**Kereru**	**2.01**	**59**	P	**Pn**	**19 18 25.9**	**-0.6**
KATZ	**Kakaramea**	**2.10**	**35**	P	**Pn**	**19 18 29.7**	**+2.0**
KWHZ	**Kaweka Forest**	**2.17**	**55**	P	**Pn**	**19 18 28.4**	**-0.3**
KAHZ	**Kahuranaki**	**2.28**	**68**	P	**Pn**	**19 18 29.6**	**-0.6**
BKZ	**Black Stump Fm**	**2.37**	**51**	P	**Pn**	**19 18 31.0**	**-0.4**
BKZ	**Black Stump Fm**	**2.37**	**51**	P	**Pn**	**19 18 30.3**	**-1.1**
GVZ	**Greta Valley S**	**2.42**	**200**	P	**Pn**	**19 18 32.3**	**+0.4**
LTZ	**Lake Taylor**	**2.51**	**213**	P	**Pn**	**19 18 33.8**	**+0.5**
TLZ	**Tolley Road**	**2.60**	**25**	P	**Pn**	**19 18 35.7**	**+1.3**
NMHZ	**Naumai**	**2.60**	**53**	P	**Pn**	**19 18 33.8**	**-0.7**
AMCZ	**Amberley**	**2.72**	**204**	P	**Pn**	**19 18 36.1**	**+0.2**
MTHZ	**Maungataniwha**	**2.78**	**49**	P	**Pn**	**19 18 35.7**	**-1.2**
PRRZ	**Plateau Road**	**2.80**	**39**	P	**Pn**	**19 18 44.3**	**+7.2**
RAHZ	**Arahi**	**2.88**	**53**	P	**Pn**	**19 18 42.4**	**+4.1**
MUGZ	**Murupara**	**3.01**	**43**	P	**Pn**	**19 18 39.0**	**-0.9**
RTZ	**Ruatahuna**	**3.02**	**48**	P	**Pn**	**19 18 44.4**	**+4.2**
OXZ	**Oxford**	**3.06**	**210**	P	**Pn**	**19 18 39.7**	**-0.9**
OKCZ	**Okains Bay**	**3.13**	**194**	P	**Pn**	**19 18 41.2**	**-0.4**
TOZ	**Tahuroa Road**	**3.14**	**20**	P	**Pn**	**19 18 42.3**	**+0.5**
MQZ	**McQueen's Vall**	**3.21**	**200**	P	**Pn**	**19 18 41.2**	**-1.3**
MHGZ	**Mahia Peninsul**	**3.28**	**63**	P	**Pn**	**19 18 41.9**	**-1.8**
AKCZ	**Akaroa Harbour**	**3.30**	**196**	P	**Pn**	**19 18 43.1**	**-0.9**
URZ	**Urewera**	**3.35**	**44**	P	**Pn**	**19 18 47.0**	**+2.5**
URZ	**Urewera**	**3.35**	**44**	P	**Pn**	**19 18 46.4**	**+1.9**
MHCZ	**Mount Hutt**	**3.42**	**213**	P	**Pn**	**19 18 44.6**	**-0.9**
WVZ	**Waitaha Valley**	**3.48**	**226**	P	**Pn**	**19 18 46.6**	**+0.4**
AWAZ	**Awhitu Peninsu**	**3.65**	**6**	P	**Pn**	**19 18 49.0**	**+0.5**
WACZ	**Wakanui South**	**3.67**	**207**	P	**Pn**	**19 18 47.6**	**-1.2**
MKAZ	**Moumakai**	**3.67**	**13**	P	**Pn**	**19 18 49.2**	**+0.3**
RPZ	**Rata Peaks**	**3.79**	**216**	P	**Pn**	**19 18 49.7**	**-0.8**
RPZ	**Rata Peaks**	**3.79**	**216**	P	**Pn**	**19 18 52.0**	**+1.5**
GCSZ	**Gaunt Creek Bo**	**3.86**	**226**	P	**Pn**	**19 18 51.8**	**+0.3**
RUGZ	**Raukumara Rang**	**3.87**	**46**	P	**Pn**	**19 18 51.1**	**-0.7**
ARCZ	**Arundel**	**3.92**	**213**	P	**Pn**	**19 18 51.5**	**-0.9**
MBAZ	**Motutapu North**	**3.96**	**9**	P	**Pn**	**19 18 53.5**	**+0.6**
WIAZ	**Waiheke Island**	**3.97**	**12**	P	**Pn**	**19 18 53.4**	**+0.4**
FOZ	**Fox Glacier**	**4.29**	**227**	P	**Pn**	**19 18 56.8**	**-0.4**
TMZ	**Timaru**	**4.35**	**211**	P	**Pn**	**19 18 57.0**	**-1.1**
ODZ	**Otahua Downs**	**5.05**	**209**	P	**Pn**	**19 19 06.4**	**-1.2**
ODZ	**Otahua Downs**	**5.05**	**209**	P	**Pn**	**19 19 07.9**	**+0.3**
JCZ	**Jackson Bay**	**5.21**	**228**	P	**Pn**	**19 19 09.1**	**-0.8**

*IDC **05** 19:25:27.9±2.5, 12°.51N×123°.52E, h0km, mb3.7/6, mbtmp3.7/6, MS2.9/3, Error ellipse: s-maj=277.3km s-min=21.1km az=65.0*
ISC 05 19:25:28.2±3.2, 12°.9N±1°.0×12°.4E±°, h10km, n9, σ0°51/6, mb4.0/6, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**5.91**	**169**	LR	LR	19 28 45.8	
	comp=Z,66nm,21.6s,baz=14,slow=34						
KAPI	**Kappang**	**18.40**	**195**	LR	LR	19 35 34.6	
	comp=Z,70nm,20.8s,baz=272,slow=34						
CMAR	**Chiang Mai Arr**	**25.12**	**286**	LR	LR	19 40 21.3	
	comp=Z,25nm,18.0s,baz=65,slow=37						
WRA	**Warramunga Arr**	**34.08**	**163**	P	**P**	**19 32 13.2**	**+0.2**
	0.5nm,0.8s,baz=340,slow=9.6,SNR=3.5						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**37.52**	**166**	P	**P**	**19 32 42.3**	**-0.2**
	0.2nm,0.6s,baz=338,slow=6.3,SNR=1.9						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**48.84**	**322**	P	**P**	**19 34 13.7**	**-0.2**
	1.4nm,0.9s,baz=125,slow=9.5,SNR=5.9						
	1.4nm,0.9s						
ZALV	**Zalesovo Beam**	**51.45**	**331**	P	**P**	**19 34 33.1**	**-0.4**
	0.9nm,0.6s,baz=123,slow=7.3,SNR=5.1						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**52.88**	**325**	P	**P**	**19 34 44.2**	**0.0**
	1.3nm,0.7s,baz=124,slow=7.7,SNR=8.0						
	1.3nm,0.7s						
BVAR	**Borovoye Array**	**58.47**	**325**	P	**P**	**19 35 25.1**	**+0.7**
	1.5nm,1.0s,baz=96,slow=4.3,SNR=4.4						
	1.5nm,1.0s						

*MCSM **05** 19:27:50.1±1.5, 53°.N±14°.×2°.8E±°, h10km±9km, MLv3.2*
ISC 05 19:27:45.6±1.1, 52°.88N±0°.04×27°.49E±0°.09, h10km, n18, σ0°62/24, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNK	**Minsk**	**1.64**	**8**	*i* P	**Pb**	**19 28 15.5**	**-0.4**
	comp=E,6.0nm,0.7s						
MNK				*i* P	**Pb**	**19 28 15.5**	**-0.4**
	comp=N,6.0nm,0.6s,baz=183						
MNK				*i* P	**Pb**	**19 28 15.5**	**-0.4**
	comp=Z,3.0nm,0.7s						
MNK				*i* S	**Sn**	**19 28 35.7**

EVGI				S		Sb	19 31 49.3	+1.0
	comp=N,2μm,0.4s							
EVGI	Lefkada island	1.15	8	P		Pg	19 31 32.4	-1.1
EVGI				S		Sb	19 31 49.3	+1.0
PYL	PYLOS	1.18	119	P		Pg	19 31 33.5	-0.5
PYL				S		Sn	19 31 51.4	+1.5
	comp=N,695nm,0.5s							
PYL	PYLOS	1.18	119	P		Pg	19 31 33.5	-0.5
PYL				S		Sg	19 31 49.7	+0.3
PYL				AML		AML	19 31 55.9	
	comp=E,1997μm,0.5s							
PYL				AML		AML	19 32 00.1	
	comp=N,812μm,0.3s							
DRAG	Dragano-Lefkad	1.21	4	P		Pg	19 31 33.5	-1.1
DRAG				S		Sb	19 31 50.6	+0.7
	comp=N,12nm,0.3s							
DRAG	Dragano-Lefkad	1.21	4	P		Pg	19 31 33.5	-1.1
DRAG				S		Sb	19 31 50.6	+0.7
ITM	Ithomi	1.21	104	P		Pg	19 31 34.2	-0.4
ITM	Ithomi	1.21	104	P		Pg	19 31 34.2	-0.4
ITM				AML		AML	19 31 55.3	
	comp=E,1819μm,0.6s							
ITM				AML		AML	19 32 00.5	
	comp=N,1495μm,0.5s							
NYDR	Nydri-Lefkada	1.25	9	P		Pg	19 31 34.2	-1.2
NYDR				S		Sb	19 31 52.4	+1.4
	comp=N,1μm,0.8s							
NYDR	Nydri-Lefkada	1.25	9	P		Pg	19 31 34.2	-1.2
LKD2	Lefkada island	1.32	7	P		Pg	19 31 36.2	-0.5
LKD2	Lefkada island	1.32	7	P		Pg	19 31 36.2	-0.5
LKD2				AML		AML	19 31 59.6	
	comp=E,2972μm,0.9s							
LKD2				AML		AML	19 32 02.1	
	comp=N,3720μm,0.7s							
TSLK	Tsoukalades, L	1.35	6	P		Pg	19 31 36.9	-0.5
TSLK				S		Sn	19 31 56.4	+2.2
	comp=N,1μm,1.1s							
TSLK	Tsoukalades, L	1.35	6	P		Pg	19 31 36.9	-0.5
TSLK				AML		AML	19 32 00.9	
	comp=E,3375μm,0.9s							
TSLK				AML		AML	19 32 04.6	
	comp=N,2561μm,0.8s							
KLV	Kalavryta, Ach	1.45	67	P		Pn	19 31 37.3	-0.4
KLV	Kalavryta, Ach	1.45	67	P		Pn	19 31 37.3	-0.4
KLV				AML		AML	19 32 08.4	
	comp=N,1303μm,0.8s							
KLV				AML		AML	19 32 16.0	
	comp=E,1322μm,1.3s							
EFP	Efpalio	1.48	50	P		Pn	19 31 38.7	+0.6
EFP	Efpalio	1.48	50	P		Pn	19 31 38.7	+0.6
EFP				AML		AML	19 32 05.2	
	comp=E,2253μm,0.6s							
EFP				AML		AML	19 32 10.2	
	comp=N,2743μm,0.9s							
GUR	Goura	1.56	72	P		Pn	19 31 39.8	+0.6
GUR	Goura	1.56	72	P		Pn	19 31 39.8	+0.6
GUR				AML		AML	19 32 12.4	
	comp=E,1923μm,0.6s							
GUR				AML		AML	19 32 13.3	
	comp=N,2592μm,0.8s							
ANX	Ano Chora	1.60	46	P		Pn	19 31 39.6	-0.2
ANX	Ano Chora	1.60	46	P		Pn	19 31 39.6	-0.2
ANX				AML		AML	19 32 08.5	
	comp=N,7059μm,0.7s							
ANX				AML		AML	19 32 11.6	
	comp=E,5917μm,0.5s							
KALE	Kalithea	1.61	55	P		Pn	19 31 39.1	-0.8
KALE	Kalithea	1.61	55	P		Pn	19 31 39.1	-0.8
KALE				AML		AML	19 32 12.4	
	comp=E,2455μm,0.6s							
KALE				AML		AML	19 32 13.1	
	comp=N,2135μm,0.5s							
MAKR	Makrakomi, Fth	2.02	40	P		Pn	19 31 46.8	+1.3
MAKR	Makrakomi, Fth	2.02	40	P		Pn	19 31 46.8	+1.3
MAKR				AML		AML	19 32 21.3	
	comp=N,2721μm,0.8s							
MAKR				AML		AML	19 32 23.3	
	comp=E,4595μm,0.8s							
IGT	Igoumenitsa	2.05	357	P		Pn	19 31 46.8	+0.9
IGT	Igoumenitsa	2.05	357	P		Pn	19 31 46.8	+0.9
IGT				AML		AML	19 32 25.0	
	comp=E,770μm,0.9s							
IGT				AML		AML	19 32 29.1	
	comp=N,491μm,0.7s							
VLI	Veliai	2.12	110	P		Pn	19 31 47.7	+0.9
VLI	Veliai	2.12	110	P		Pn	19 31 47.7	+0.9
KEK	Kerkira	2.29	347	P		Pn	19 31 49.8	+0.6
KEK	Kerkira	2.29	347	P		Pn	19 31 49.7	+0.6
VIL2	Platees	2.34	71	P		Pn	19 31 51.3	+1.5
VIL2				AML		AML	19 32 42.4	
	comp=N,836μm,1.1s							
VIL2				AML		AML	19 32 48.0	
	comp=E,1236μm,0.8s							
VILL	Villia	2.36	72	P		Pn	19 31 51.3	+1.1
THL	Klokotos Trika	2.41	30	P		Pn	19 31 51.9	+1.0
THL				AML		AML	19 32 39.6	
	comp=E,421μm,1.1s							
THL				AML		AML	19 32 44.2	
	comp=N,501μm,0.7s							
TYRN	Tyrnavos	2.63	31	P		Pn	19 31 55.0	+1.2
DION	Dionisos Attik	2.82	77	P		Pn	19 31 57.3	+0.9
OHR	Ohrid	3.64	4	*i* Pn		Pn	19 32 11.5	+3.8
IDI	Anoyia	4.19	120	Pn		Pn	19 32 14.8	-0.6
	comp=N,0.7nm,0.3s,baz=273,slow=14,SNR=1.7							
IDI				Sn		Sn	19 33 04.6	+0.3
	comp=N,2.2nm,0.3s,baz=330,slow=20,SNR=8.6							
	comp=N,5.4nm,0.8s							
PEHC	Pehcevo	4.69	23	*i* Pn		Pn	19 32 23.5	+1.3
VAE	Valguarnera	4.81	272	Pn		Pn	19 32 22.2	-1.7
	comp=N,0.5nm,0.3s,baz=0.0,slow=2.0,SNR=2.0							
VAE				Sn		Sn	19 33 23.2	+3.6
	comp=N,1.9nm,0.3s,baz=90,slow=19,SNR=2.8							
	comp=N,6.1nm,0.8s							
MLR	Muntele Rosu	9.00	25	Pn		Pn	19 33 20.5	-0.9
	comp=N,2.2nm,0.8s,baz=216,slow=4.8,SNR=5.6							
HFS	Hagfors	23.08	351	P		P	19 36 15.5	-1.3
	comp=N,2.3nm,0.6s,baz=160,slow=10,SNR=9.7							
	comp=N,2.3nm,0.6s							
EKA	Eskdalemuir Ar	23.97	326	P		P	19 36 24.6	-1.1
	comp=N,1.0nm,0.6s,baz=122,slow=9.0,SNR=3.7							
	comp=N,1.0nm,0.6s							
FINES	FINESS Array B	24.25	7	P		P	19 36 26.4	-1.8
	comp=N,1.1nm,0.5s,baz=168,slow=9.8,SNR=9.4							
	comp=N,1.1nm,0.5s							
TORD	Torodi Ar. Bea	29.46	220	P		P	19 37 16.8	+1.4
	comp=N,0.2nm,0.6s,baz=34,slow=8.6,SNR=2.5							
	comp=N,0.2nm,0.6s							
KURBB	Kurchatov Arra	42.69	53	P		P	19 39 06.9	-1.1
	comp=N,0.2nm,0.3s,baz=277,slow=8.4,SNR=2.1							
	comp=N,0.2nm,0.3s							
MKAR	Makanchi Array	45.71	58	P		P	19 39 31.0	-1.4
	comp=N,0.5nm,0.6s,baz=271,slow=6.1,SNR=2.5							
	comp=N,0.5nm,0.6s							
ZALV	Zalesovo Beam	46.20	48	P		P	19 39 34.9	-1.1
	comp=N,0.5nm,0.3s,baz=280,slow=8.9,SNR=2.2							
	comp=N,0.5nm,0.3s							
SONM	Songino Array	60.94	50	P		P	19 41 22.0	-2.5
	comp=N,0.2nm,0.6s,baz=292,slow=7.6,SNR=2.2							
	comp=N,0.2nm,0.6s							
CMAR	Chiang Mai Arr	70.03	82	P		P	19 42 25.1	+1.5
	comp=N,0.5nm,0.9s,baz=286,slow=3.4,SNR=1.7							
	comp=N,0.5nm,0.9s							

CATAC **05** *19:39:34.2±0.4, 12°.87N×90°.52W, h10km, ML4.3*
IDC **05** *19:39:35.8±1.3, 13°.89N×89°.69W, h0km, mb3.8/8, mbtmp3.8/10, ML3.7/2, MS3.2/4, Error ellipse: s-maj=38.9km s-min=18.7km az=36.0*
NEIC **05** *19:39:35.2±2.5, 13°.04N±0°.07×90°.42W±0°.06, h10km±1km, mb4.5/52, Error ellipse: s-maj=13.5km s-min=9.4km az=209.0*
SNET **05** *19:39:36.0±1.0, 12°.95N×90°.48W, h13km±12km, ML4.3*
GCG **05** *19:39:52.1±0.5, 14°.38N×90°.76W, h69km±10km, MD4.3*
ISC 05 19:39:38.9±1.2,**13°.01N**±0°.06×**90°.42W**±0°.04,**h51**km±10km,
n144,σ1$973/159,**mb4.4**/30,**3C, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	Alcaldia de Sa	0.92	26	*i* P		Pn	19 39 54.0	-1.6
FAME				*i* S		Sn	19 40 08.9	+1.1
FAME				IAML			19 40 34.1	
	comp=Z,2.3nm,1.0s							
NUBE	Las Nubes	1.08	35	*e* P		Pn	19 39 56.4	-1.6
NUBE				*e* S		Sn	19 40 12.8	+0.8
NUBE	Las Nubes	1.08	35	*i* P		Pn	19 39 56.6	-1.4
NUBE				*i* S		Sn	19 40 13.3	+1.3
NUBE				IAML			19 40 19.1	
	comp=Z,4μm,1.0s							
CEVE	Cerro Verde	1.12	44	*e* P		Pn	19 39 57.5	-1.1
CEVE				IAML			19 40 16.9	
	comp=Z,21μm,0.3s							
CEVE	Cerro Verde	1.12	44	*i* P		Pn	19 39 57.3	-1.3
CEVE				*i* S		Sn	19 40 14.9	+1.8
CEVE				IAML			19 40 16.7	
	comp=Z,16μm,1.0s							
SBLS	San Blas	1.13	43⇑	*i* P		Pn	19 39 57.6	-1.1
JAYA	Jayaque - finc	1.14	56	*e* P		Pn	19 39 57.1	-1.7
JAYA	Jayaque - finc	1.14	56	*i* P		Pn	19 39 57.1	-1.7
JAYA				*i* S		Sn	19 40 14.9	+1.4
JAYA				IAML			19 40 17.4	
	comp=Z,8μm,1.0s							
RTR	El Retiro	1.16	41	*e* P		Pn	19 39 58.1	-1.0
LOAL	Lomas de Alarc	1.16	32	*e* P		Pn	19 39 58.0	-0.9
LOAL	Lomas de Alarc	1.16	32	*i* P		Pn	19 39 58.0	-0.9
LOAL				IAML			19 40 22.1	
	comp=Z,11μm,1.0s							
SNJE	San Jose	1.16	43	*e* P		Pn	19 39 57.9	-1.2
LALI	Alcalda de L	1.17	66	*e* P		Pn	19 39 57.3	-1.7
LALI	Alcalda de L	1.17	66	*i* P		Pn	19 39 57.2	-1.8
LALI				*i* S		Sn	19 40 14.9	+1.0
LALI				IAML			19 40 27.2	
	comp=Z,960nm,1.0s							
SLOZ	Alcaldia de Sa	1.18	32⇑	*e* P		Pn	19 39 58.3	-0.9
CEDA	San Andres	1.27	52	*e* P		Pn	19 39 58.5	-1.9
CEDA				IAML			19 40 27.4	
	comp=Z,5μm,0.5s							
CEDA	San Andres	1.27	52	*i* S		Sn	19 40 18.7	+2.3
PMON	Piamonte	1.28	57	*e* P		Pn	19 39 59.2	-1.4
PMON	Piamonte	1.28	57	*i* P		Pn	19 39 59.6	-1.0
PMON				*i* S		Sn	19 40 18.9	+2.1
PMON				IAML			19 40 26.4	
	comp=Z,5μm,1.0s							
BOQS	Boqueron	1.32	57	*e* P		Pn	19 40 00.3	-1.0
SNET	Serv Nac Est T	1.34	60			Pn	19 39 59.5	-1.8
SNET	Serv Nac Est T	1.34	60	*i* P		Pn	19 40 00.5	-0.9
SNET				*i* S		Sn	19 40 21.1	+3.0
SNET				IAML			19 40 28.8	
	comp=Z,5μm,1.0s							
UEES	Universidad Ev	1.35	59	*i* P		Pn	19 40 00.5	-1.0
UEES				*i* S		Sn	19 40 20.9	+2.6
UEES				IAML			19 40 41.3	
	comp=Z,2μm,1.0s							
LOMA	Loma Larga	1.37	63	*e* P		Pn	19 40 00.5	-1.4
LOMA				IAML			19 40 25.1	
	comp=Z,2μm,0.4s							
LOMA	Loma Larga	1.37	63	*i* P		Pn	19 40 00.4	-1.4
LOMA				IAML			19 40 27.1	
	comp=Z,2μm,1.0s							
PCG	Pacaya	1.38	353	*i* P		Pn	19 40 01.8	-0.4
QUEZ	Alcaldia de Qu	1.39	54	*i* P		Pn	19 40 01.4	-0.6
QUEZ				*i* S		Sn	19 40 22.1	+2.9
QUEZ				IAML			19 40 34.3	
	comp=Z,11μm,1.0s							
IGN	Direccin Gen	1.40	60	*i* P		Pn	19 40 01.7	-0.5
IGN				*i* S		Sn	19 40 22.4	+2.7
IGN				IAML			19 40 38.7	
	comp=Z,8μm,1.0s							
UDBS	Universidad Do	1.42	60	*i* P		Pn	19 40 02.8	+0.4
UDBS				IAML			19 40 26.8	
	comp=Z,3μm,1.0s							
ESSG	Sabana Grande	1.42	344	*i* P		Pn	19 39 59.9	-2.6
ESSG				*i* S		Sn	19 40 20.5	+0.4
ESSG				IAML			19 40 30.3	
	comp=Z,3μm,1.0s							
LFRS	El Faro	1.46	65	*e* P		Pn	19 40 01.5	-1.5
FUG	Fuego 3	1.48	344	*i* P		Pn	19 40 02.6	-0.9
JUAM	Asuncion Mita	1.49	28	*i* P		Pn	19 40 03.1	-0.3
JUAM				*i* S		Sn	19 40 24.8	+3.1
JUAM				IAML			19 40 31.1	
	comp=Z,3μm,1.0s							
NBG	Las Nubes	1.57	3	*i* P		Pn	19 40 05.6	+0.9
PAVA	Las Pavas	1.60	64	*e* P		Pn	19 40 04.7	-0.3
PAVA	Las Pavas	1.60	64	*i* P		Pn	19 40 04.7	-0.3
PAVA				*i* S		Sn	19 40 29.9	+5.2
PAVA				IAML			19 40 39.1	
	comp=Z,3μm,1.0s							
TECO	Alcaldia de Te	1.68	72	*i* P		Pn	19 40 04.2	-1.8
TECO				IAML			19 40 34.1	
	comp=Z,710nm,1.0s							
SULM	Suchitepequez,	1.70	319	*i* P		Pn	19 40 07.8	+1.6
UESV	Universidad de	1.71	68	*i* P		Pn	19 40 05.0	-1.3
UESV				IAML			19 40 44.9	
	comp=Z,2μm,1.0s							
MTO3	Montecristo	1.72	37			Pn	19 40 06.2	-0.5
MTO3	Montecristo	1.72	37⇑	*e* P		Pn	19 40 06.4	-0.3
MTO3	Montecristo	1.72	37	*i* P		Pn	19 40 06.1	-0.6
MTO3				IAML			19 40 21.5	
	comp=Z,2μm,1.0s							
SCLA	Alcaldia de Sa	1.79	67	*e* P		Pn	19 40 06.7	-0.7
SCLA	Alcaldia de Sa	1.79	67	*i* P		Pn	19 40 06.7	-0.7
SCLA				IAML			19 41 05.2	
	comp=Z,840nm,1.0s							
LLGN	La Laguna	1.84	51	*i* P		Pn	19 40 08.2	0.0
LLGN				IAML			19 40 45.9	
	comp=Z,1μm,1.0s							
ESQI	Esquipulas	1.86	34			Pn	19 40 08.1	-0.5
ESQI	Esquipulas	1.86	34	*e* P		Pn	19 40 08.7	+0.1
ESQI	Esquipulas	1.86	34	*i* P		Pn	19 40 09.0	+0.5
ESQI				IAML			19 41 00.9	
	comp=Z,4μm,1.0s							
PQSS	Presa 15 de Se	1.91	71	*i* P		Pn	19 40 07.8	-1.3
PQSS				IAML			19 40 48.7	
	comp=Z,820nm,1.0s							
TECA	Tecapa	1.93	75	*e* P		Pn	19 40 07.8	-1.7
RTAL	Retalhuleu	1.95	321			Pn	19 40 08.0	-1.6
STG3	Santiaguito 3,	2.02	327	*i* P		Pn	19 40 09.4	-1.4
SOKI	Kika Raxquin	2.04	332	*i* P		Pn	19 40 10.4	-0.8
SOKI				*i* S		Sn	19 40 35.7	+0.1
SOKI				IAML			19 40 47.6	
	comp=Z,2μm,1.0s							
RANC	El Ranchito	2.12	78	*i* P		Pn	19 40 11.2	-0.9
RANC				*i* S		Sn	19 40 41.0	+3.7
RANC				IAML			19 40 52.1	
	comp=Z,830nm,1.0s							
BLLM	Bellamira	2.17	78	*e* P		Pn	19 40 12.2	-0.5
MRL	Marmol	2.18	19	*i* P		Pn	19 40 14.5	+1.5
QUIS	Sacapulas	2.36	344	*i* P		Pn	19 40 16.1	+0.8
QUIS				IAML			19 40 22.2	
	comp=Z,2μm,1.0s							
QUIS				*i* S		Sn	19 40 46.9	+3.7
LCND	La Caada	2.48	83	*e* P		Pn	19 40 15.9	-1.1
LCND	La Caada	2.48	83	*i* P		Pn	19 40 15.9	-1.1
LCND				IAML			19 40 59.8	
	comp=Z,600nm,1.0s							
HUEH	Huehuetenango	2.52	336			Pn	19 40 17.2	-0.5
HUEH	Huehuetenango	2.52	336	*i* P		Pn	19 40 18.4	+0.7
HUEH				*i* S		Sn	19 40 50.9	+3.6
HUEH				IAML			19 41 13.7	
	comp=Z,2μm,1.0s							
CNCH	Conchagua	2.54	84	*e* P		Pn	19 40 16.4	-1.3
CNCH	Conchagua	2.54	84	*i* P		Pn	19 40 16.7	-1.0
CNCH				IAML			19 41 01.7	
	comp=Z,1μm,1.0s							
INTHN	La Esperanza I	2.60	60	*i* P		Pn	19 40 19.7	+1.0
AMPH	Amapala	2.71	84	*i* P		Pn	19 40 19.1	-0.9
AMPH				*i* S		Sn	19 40 55.2	+3.7
CSGN	Cosiguina Volc	2.79	90	*i* P		Pn	19 40 19.7	-1.5
CSGN				IAML			19 41 08.7	
	comp=Z,120nm,1.0s							
TGUH	Tegucigalpa,Un	3.23	71	Pn		Pn	19 40 25.4	-1.9
TGUH	Tegucigalpa,Un	3.23	71	*i* P		Pn	19 40 26.3	-1.1
TGUH				*i* S		Sn	19 41 09.9	+5.2
TGUH				IAML			19 41 57.2	
	comp=Z,400nm,1.0s							
CCIG	Comitan	3.65	333			Pn	19 40 32.5	-0.6
PETF	Flores	3.92	8			Pn	19 40 34.8	-1.9
MGAN	Managua	4.17	101	Pn		Pn	19 40 37.9	-2.1
BOAB	BOACO BROADBAN	4.67	96	Pn		Pn	19 40 44.7	-2.3
ACON	Acoyapa	5.23	101			Pn	19 40 53.2	-1.4
CMIG	Matias Romero	5.92	314	Pn		Pn	19 41 04.5	+0.5
	comp=Z,1.0nm,0.3s,baz=122,slow=9.3,SNR=14							
CMIG				Sn		Sn	19 42 15.5	+4.9
	comp=Z,1.3nm,0.3s,baz=65,slow=17,SNR=2.0							
	comp=Z,8.8nm,0.8s							
JTS	Las Juntas de	6.00	116	Pn		Pn	19 41 04.5	-0.7
JTS	Las Juntas de	6.00	116	Pn		Pn	19 41 05.3	+0.1
	comp=Z,4.3nm,0.3s,baz=271,slow=16,SNR=8.1							
JTS				Sn		Sn	19 42 12.9	+0.2
	comp=Z,1.4nm,0.3s,baz=293,slow=22,SNR=1.5							
JTS				LR		LR	19 42 44.6	
	comp=Z,46nm,20.2s,baz=301,slow=32							
	comp=Z,5.8nm,0.3s							
ESPN	Las Esperanzas	6.03	97	Pn		Pn	19 41 03.9	-1.7
SOCE	Pocosol	6.26	114	Pn		Pn	19 41 07.5	-1.2
LCR2	La Lucha 2	7.08	117	Pn		Pn	19 41 19.6	-0.6
TEIG	Tepich	7.46	16	Pn		Pn	19 41 24.5	-0.7
TEIG	Tepich	7.46	16	Pn		Pn	19 41 26.2	+0.9
	comp=Z,2.6nm,0.3s,baz=243,slow=6.8,SNR=11							
TEIG				Sn		Sn	19 42 33.9	-15
	baz=119,slow=17							
BRU2	Volcan	8.67	118			Pn	19 41 42.5	+0.5
TLIG	Tlapa	9.07	301	Pn		Pn	19 41 46.3	-1.1
ZAIG	Zacatecas	15.08	312	P		P	19 43 14.6	+1.0
DRIO	Del Rio	18.88	331			Pn	19 43 55.9	-0.2
COHC	Cochancay	18.96	143	P		Pn	19 43 57.1	-0.1
352A	Blakely	19.06	15	P		P	19 43 57.1	0.0
VBMS	Vicksburg	19.12	360	P		P	19 43 56.6	-1.1
456A	Hilliard	19.26	22	P		P	19 43 56.8	-2.5
SDV	Santo Domingo	19.85	100	LR		LR	19 53 00.2	
	comp=Z,77nm,18.6s,baz=315,slow=42							
HPIG		19.90	316	P		Pn	19 44 07.8	-0.7
SAND	Sanderson	20.04	329	P		P	19 44 07.8	-0.1
TX31	Lajitas Ar. Si	20.37	325	P		Pn	19 44 12.8	-1.2
TXAR	Lajitas Array	20.37	325	P		P	19 44 12.2	+0.7
	comp=Z,1.3nm,0.6s,baz=153,slow=12,SNR=6.3							
	comp=Z,1.3nm,0.6s							
PLPT	Palo Pinto	20.99	341	P		P	19 44 17.5	-0.6
PLPT				IAmb		IAmb	19 44 35.2	
	comp=Z,18nm,1.0s							
ALPN	Alpine	21.16	327	P		P	19 44 20.6	+0.5
ALPN				IAmb		IAmb	19 44 38.0	
	comp=Z,16nm,0.9s							
X48A	Hartselle	21.56	8	P		P	19 44 24.6	+0.4
LPIG	La Paz	21.81	303	P		P	19 44 32.9	+6.0
	comp=Z,43nm,0.3s,baz=68,slow=3.3,SNR=4.2							
SN05	Snyder 5	21.97	336	IAmb		IAmb	19 44 42.4	
	comp=Z,23nm,0.8s							
APMT	Aspermont	22.07	338	P		P	19 44 30.8	+1.1
VHRN	Van Horn	22.22	325	P		P	19 44 32.7	+1.2
VHRN				IAmb		IAmb	19 44 48.4	
	comp=Z,16nm,1.0s							
SWET	Sewanee	22.48	10	P		P	19 44 34.2	+0.1
SWET				IAmb		IAmb	19 44 49.6	
	comp=Z,24nm,1.3s							
W35A	Tecumseh	22.80	346	P		P	19 44 36.3	-1.2
W35A				IAmb		IAmb	19 44 46.4	
	comp=Z,10nm,0.7s							
CPCT	Cooper Cave	22.97	12	P		P	19 44 38.2	-0.9
CPCT				IAmb		IAmb	19 44 57.0	
	comp=Z,15nm,1.2s							
LCAR	Lake Charles	22.97	358	P		P	19 44 38.9	-0.2
MNTX	Cornudas Mount	23.13	326	P		P	19 44 41.1	+0.3
MNTX				IAmb		IAmb	19 44 57.4	
	comp=Z,14nm,1.1s							
TKL	Tuckaleechee C	23.33	14	LR		LR	19 53 37.1	
	comp=Z,145nm,18.7s,baz=8.0,slow=38							
SMWD	Samnorwood	23.72	340	P		P	19 44 45.1	-1.3
SMWD				IAmb		IAmb	19 45 02.9	
	comp=Z,9.6nm,0.9s							
QUOK	Quay	23.75	347	P		P	19 44 45.2	-1.4
QUOK				IAmb		IAmb	19 45 06.5	
	comp=Z,14nm,0.9s							
U49A	Red Boiling Sp	23.77	9	P		P	19 44 46.4	-0.4
U49A				IAmb		IAmb	19 45 07.7	
	comp=Z,15nm,1.3s							
AMTX	Amarillo	24.05	337	P		P	19 44 47.1	-2.4
AMTX				IAmb		IAmb	19 45 03.8	
	comp=Z,11nm,1.3s							
T47A	Sharon Grove	24.06	7	P		P	19 44 49.2	-0.3
S39A	Bolivar	24.71	354	P		P	19 44 55.5	+0.1
CCM	Cathedral Cave	24.95	358	P		P	19 44 58.2	+0.7
CCM				IAmb		IAmb	19 45 10.8	
	comp=Z,13nm,1.4s							
121A	Cookes Peak, D	25.11	324	P		P	19 45 00.7	+1.4
WCI	Wyandotte Cave	25.38	8	P		P	19 45 01.2	-0.3
WUAZ	Wupatki	29.32	323	P		P	19 45 36.8	-0.2
WUAZ				IAmb		IAmb	19 45 53.6	
	comp=Z,9.8nm,1.1s							
V12A	Nelson	31.56	320	P		P	19 45 58.6	+1.9
V12A				IAmb		IAmb	19 46 14.5	
	comp=Z,7.8nm,1.2s							
SPR3	Spring Creek 3	33.44	325	P		P	19 46 14.6	+1.2
SPR3				IAmb		IAmb	19 46 31.3	
	comp=Z,8.4nm,1.3s							
GRAC	Grapevine Rang	33.94	319	P		P	19 46 17.5	0.0
GRAC				IAmb		IAmb	19 46 35.7	
	comp=Z,8.1nm,1.1s							
PDAR	Pinedale Array	33.96	334	P		P	19 46 16.0	-1.8
	comp=Z,0.1nm,0.3s,baz=61,slow=7.5,SNR=2.4							
	comp=Z,0.1nm,0.3s							
NV11	Mina Array Sit	35.31	321	P		P	19 46 32.8	+3.3
NV11				IAmb		IAmb	19 46 46.8	
	comp=Z,6.8nm,1.1s							
NVAR	Mina Array Bea	35.40	321	P		P	19 46 32.7	+2.4
	comp=Z,1.5nm,0.6s,baz=128,slow=8.2,SNR=11							
	comp=Z,1.5nm,0.6s							
LHV	Little Huntoon	35.42	320	P		P	19 46 31.1	+1.0
LHV				IAmb		IAmb	19 46 42.6	
	comp=Z,6.5nm,0.9s							
M

CHTO	Chiang Mai	3.43	104		Pn	19 49 29.4	+0.1
CM31	Chiang Mai Arr	3.54	110	Pn	Pn	19 49 31.9	+1.1
CMAR	Chiang Mai Arr	3.54	110		Pn	19 49 32.8	+2.0
CMAR	Chiang Mai Arr	3.54	110	Pn	Pn	19 49 31.9	+1.1
	1.7nm,0.3s,baz=288,slow=13,SNR=9.7						
CMAR				Pg	Pb	19 49 39.9	+1.1
	3.8nm,0.3s,baz=292,slow=17,SNR=23						
CMAR				Lg	Lg	19 50 27.1	
	10nm,0.3s,baz=275,slow=14,SNR=9.2						
	2.4nm,0.3s						
PAYA	Payao	4.20	94	Pg	Pg	19 49 55.2	-1.9
PAYA				Pn	Pn	19 49 40.9	+1.1
PHRA	Phrae	4.69	104		Pn	19 49 46.6	0.0
PHRA	Phrae	4.69	104	Pg	Pg	19 50 03.4	-3.1
PHRA				Pn	Pn	19 49 46.9	+0.3
AZL	Aizawl	4.76	328	eP	Pn	19 49 50.0	+2.3
AZL				eS	Sn	19 50 46.2	+3.8
AZL				IAML		19 50 54.6	
	comp=E,124nm,0.2s						
AZL				IAML		19 50 59.2	
	comp=N,124nm,0.6s						
IMP	Imphal	5.29	345	eP	Pn	19 49 55.8	+0.9
TNCH	TengChong	6.02	28	Pn	Pn	19 50 03.8	-1.3
TNCH				Pg	Pb	19 50 22.8	+1.6
TNCH				Sg	Sb	19 51 36.4	+3.3
TNCH				smax	smax		
	comp=N,220nm,0.9s						
TNCH				smax	smax		
	comp=N,180nm,0.9s						
TNCH				LR	LR		
	comp=N,240nm,4.4s						
TNCH				LR	LR		
	comp=N,210nm,4.4s						
TNCH				LR	LR		
	comp=N,150nm,6.5s						
KOHI	KOHIMA	6.11	349	eP	Pn	19 50 08.0	+1.7
KOHI				eS	Sn	19 51 16.6	+0.7
KOHI				IAML		19 51 24.6	
	comp=N,118nm,0.8s						
KOHI				IAML		19 51 28.6	
	comp=E,116nm,0.8s						
SHL	Shillong	6.70	331	Pn	Pn	19 50 13.1	-1.2
SHL	Shillong	6.70	331	eP	Pn	19 50 14.4	+0.1
SHL				eS	Sn	19 51 26.5	-3.7
SHL				IAML		19 51 31.7	
	comp=N,139nm,0.2s						
SHL				IAML		19 51 33.7	
	comp=E,178nm,0.2s						
ZIRO	ZIRO	7.92	350	eP	Pn	19 50 29.9	-1.3
ZIRO				eS	Sn	19 52 00.5	0.0
ZIRO				IAML		19 52 12.8	
	comp=N,127nm,0.6s						
ZIRO				IAML		19 52 14.5	
	comp=E,120nm,0.5s						
SLVN	Son La	8.10	77	Pn	Pn	19 50 32.8	-0.7
TAWA	Tawang	8.51	338	IAML		19 53 17.4	
	comp=N,120nm,0.3s						
TAWA				IAML		19 53 17.7	
	comp=E,113nm,0.1s						
PZH	PanZhiHua	8.92	39	P	Pn	19 50 45.5	+0.7
PZH				pmax	pmax		
	comp=E,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=E,100nm,5.1s						
GTK	Tadong	9.84	322	eP	Pn	19 50 56.4	-1.0
GTK				eS	Sn	19 52 48.6	+1.2
LSA	Lhasa	10.69	339	Pn	Pn	19 51 11.5	+2.2
NIL	Nilore	24.14	310	P	P	19 53 50.4	-1.4
NIL				IAmb	IAmb	19 53 52.8	
	comp=Z,11nm,0.6s						
WMQ	Urumqi	24.91	347	eP	P	19 53 58.6	-0.1
HHC	Hu-ho-hao-te	25.18	30	eP	P	19 54 01.1	-0.1
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,5.6s						
WUS	Wushi	25.50	331	P	P	19 54 02.7	-1.5
KSH	Kashi	25.90	324	P	P	19 54 09.3	+1.5
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MKAR	Makanchi Array	29.09	341	P	P	19 54 35.4	-0.8
	comp=Z,1.4nm,0.6s,baz=141,slow=11,SNR=11						
	comp=Z,1.4nm,0.6s						
SONM	Songino Array	29.44	15	P	P	19 54 39.0	-0.4
	comp=Z,0.5nm,0.8s,baz=212,slow=5.3,SNR=4.0						
	comp=Z,0.5nm,0.8s						
KURBB	Kurchatov Arra	33.64	340	P	P	19 55 15.1	-1.0
	comp=Z,3.6nm,0.6s,baz=151,slow=8.3,SNR=24						
	comp=Z,3.6nm,0.6s						
KURK	Kurchatov	33.69	341	P	P	19 55 15.3	-1.3
KURK				IAmb	IAmb	19 55 16.3	
	comp=Z,4.2nm,0.7s						
ZAA0	Zalesovo Array	35.15	349	P	P	19 55 26.9	-2.2
ZALV	Zalesovo Beam	35.15	349	P	P	19 55 28.4	-0.7
	comp=Z,2.1nm,0.3s,baz=169,slow=7.9,SNR=8.5						
	comp=Z,2.1nm,0.3s						
BVAR	Borovoye Array	38.49	336	P	P	19 55 56.6	-1.1
	comp=Z,0.6nm,0.5s,baz=133,slow=11,SNR=7.7						
	comp=Z,0.6nm,0.5s						
AKTO	Aktyubinsk	42.59	325	P	P	19 56 31.3	-0.3
	comp=Z,0.9nm,0.4s,baz=136,slow=3.5,SNR=3.6						
	comp=Z,0.9nm,0.4s						
ARTI	Arti	45.84	332	P	P	19 56 56.3	-1.2
	comp=Z,1.0nm,0.3s,baz=131,slow=20,SNR=3.6						
	comp=Z,1.0nm,0.3s						
WRA	Warramunga Arr	54.82	134	P	P	19 58 08.6	+2.6
	comp=Z,0.8nm,0.9s,baz=327,slow=7.5,SNR=5.1						
	comp=Z,0.8nm,0.9s						
ASAR	Alice Springs	57.14	137	P	P	19 58 24.9	+2.4
	comp=Z,0.5nm,0.7s,baz=319,slow=7.7,SNR=8.1						
	comp=Z,0.5nm,0.7s						
AKASG	Malin Array Be	59.98	318	P	P	19 58 40.8	-1.2
	comp=Z,0.2nm,0.3s,baz=80,slow=7.0,SNR=1.9						
	comp=Z,0.2nm,0.3s						
HFS	Hagfors	69.03	328	P	P	19 59 40.2	-0.8
	comp=Z,2.3nm,0.5s,baz=92,slow=5.0,SNR=12						
	comp=Z,2.3nm,0.5s						
NB2	NORSAR Subarra	70.19	329	P	P	19 59 47.0	-1.2
	comp=Z,1.4nm,0.6s,baz=90,slow=5.9						
NOA	NORSAR Array B	70.19	329	P	P	19 59 47.3	-0.9
	comp=Z,0.9nm,0.6s,baz=86,slow=6.0,SNR=5.1						
	comp=Z,0.9nm,0.6s						
EKA	Eskdalemuir Ar	78.78	325	P	P	20 00 38.6	+0.4
	comp=Z,0.4nm,0.3s,baz=78,slow=5.2,SNR=4.6						
	comp=Z,0.4nm,0.3s						
ESDC	Sonseca Array	84.58	310	P	P	20 01 09.6	+0.3
	comp=Z,0.4nm,0.7s,baz=53,slow=5.7,SNR=1.6						
	comp=Z,0.4nm,0.7s						
TORD	Torodi Ar. Bea	89.09	284	P	P	20 01 32.1	+0.5
	comp=Z,1.0nm,0.9s,baz=58,slow=5.5,SNR=5.1						
	comp=Z,1.0nm,0.9s						

*IDC **05** 19:54:21.1±1.1,49.°62S×164.°75E,h0^{km},mb4.0/8, mbtmp4.0/8,MS4.2/24,Error ellipse: s-maj=46.5km s-min=20.5km az=67.0*

*NEIC **05** 19:54:26.2±1.3,49.°64S±0.°09×163.°8E±0.°2,h10^{km}±1^{km}, mb4.5/11,Error ellipse: s-maj=20.5km s-min=13.6km az=108.0*

*GCMT **05** 19:54:31.2±0.2,49.°79S±0.°01×163.°33E±0.°02,h22^{km}±1^{km}, MW5.1/113,Moment Tensor Solution. s58,c72; s113,c167; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.19±.18; $M_{\theta\theta}$5.80±.17; $M_{\phi\phi}$-4.62±.13; $M_{r\theta}$-0.06±.25; $M_{r\phi}$-0.78±.14; $M_{\theta\phi}$0.38±.26; Best double couple: $M_0$5.28900×10^{16} NP1:ϕ_s139.00000°,δ86.00000°, λ-5.00000°. NP2:ϕ_s229.00000°,δ85.00000°, λ-176.00000°. Principal axes: T 5.8600, Plg1.0000°, Azm184.0000°; N -1.1520, Plg84.0000°, Azm281.0000°; P -4.7180, Plg6.0000°, Azm94.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 19:54:25.1±0.4,49.°68S±0.°06×163.°93E±0.°05,h15^{km},n142, σ2.°02/126,mb4.4/18,MS4.2/23,4C,Auckland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	The Paps	3.93	45	P	Pn	19 55 26.5	+1.6
APZ				S	Sn	19 56 10.3	-0.5
PYZ	Puysegur Point	3.97	29		Pn	19 55 25.5	+0.1
PYZ	Puysegur Point	3.97	29	P	Pn	19 55 25.9	+0.4
PYZ				S	Sn	19 56 12.6	+0.8
PYZ	Puysegur Point	3.97	29	P	Pn	19 55 27.0	+1.5
RRKS	Rarakau	4.26	35	P	Pn	19 55 31.3	+1.9
WHZ	Wether Hill Ro	4.66	37		Pn	19 55 36.6	+1.7
WHZ	Wether Hill Ro	4.66	37	P	Pn	19 55 36.7	+1.7
SYZ	Scrubby Hill	4.70	50	P	Pn	19 55 37.5	+2.2
SYZ				S	Sn	19 56 27.5	-2.0
SYZ	Scrubby Hill	4.70	50	P	Pn	19 55 37.6	+2.2
DCZ	Deep Cove	4.75	29	Pn	Pn	19 55 36.7	+0.6
MLZ	Mavora Lakes	5.16	35	Pn	Pn	19 55 43.5	+1.7
MLZ	Mavora Lakes	5.16	35	P	Pn	19 55 44.4	+2.5
MLZ				S	Sn	19 56 42.2	+1.0
TUZ	Tuapeka	5.35	48	P	Pn	19 55 46.5	+2.2
TUZ				S	Sn	19 56 45.4	-0.2
MSZ	Milford Sound	5.70	30	P	Pn	19 55 53.3	+4.2
MCQ	Macquarie Isla	5.72	211		Pn	19 55 46.9	-2.5
MCQ	Macquarie Isla	5.72	211	P	Pn	19 55 47.8	-1.6
EAZ	Earnscleugh	5.75	41	P	Pn	19 55 51.3	+1.4
HHSZ	Highcliff Hill	5.88	52	P	Pn	19 55 54.3	+2.6
HHSZ				S	Sn	19 56 57.3	-1.5
WKZ	Wanaka	5.96	37	Pn	Pn	19 55 55.1	+2.3
WKZ	Wanaka	5.96	37	P	Pn	19 55 55.6	+2.8
ODZ	Otahua Downs	6.50	47	Pn	Pn	19 56 00.8	+0.6
ODZ	Otahua Downs	6.50	47	P	Pn	19 56 01.1	+0.9
ODZ	Otahua Downs	6.50	47	P	Pn	19 56 01.1	+0.9
JCZ	Jackson Bay	6.52	32	P	Pn	19 56 03.6	+3.1
JCZ	Jackson Bay	6.52	32	P	Pn	19 56 04.0	+3.5
LBZ	Lake Benmore	6.80	41	Pn	Pn	19 56 04.2	-0.1
LBZ	Lake Benmore	6.80	41	P	Pn	19 56 04.1	-0.3
TMZ	Timaru	7.17	45	P	Pn	19 56 10.6	+1.2
FOZ	Fox Glacier	7.36	36		Pn	19 56 13.4	+1.4
FOZ	Fox Glacier	7.36	36	P	Pn	19 56 14.5	+2.5
ARCZ	Arundel	7.58	44	P	Pn	19 56 16.3	+1.2
RPZ	Rata Peaks	7.71	42	Pn	Pn	19 56 15.9	-1.0
RPZ	Rata Peaks	7.71	42	Pn	Pn	19 56 15.6	-1.3
	2.8nm,0.3s,baz=183,slow=3.2,SNR=11						
RPZ				Sn	Sn	19 57 41.5	-2.5
	3.6nm,0.3s,baz=306,slow=20,SNR=1.9						
RPZ	Rata Peaks	7.71	42	P	Pn	19 56 16.1	-0.8
GCSZ	Gaunt Creek Bo	7.74	37	P	Pn	19 56 20.3	+3.1
MHCZ	Mount Hutt	8.09	43	P	Pn	19 56 25.9	+3.9
WVZ	Waitaha Valley	8.11	38	P	Pn	19 56 25.0	+2.8
MQZ	McQueen's Vall	8.46	48	Pn	Pn	19 56 27.8	+0.8
MQZ	McQueen's Vall	8.46	48	P	Pn	19 56 27.9	+0.8
OXZ	Oxford	8.46	44	Pn	Pn	19 56 28.4	+1.3
AKCZ	Akaroa Harbour	8.46	50	P	Pn	19 56 29.6	+2.5
INZ	Inchbonnie	8.69	40	Pn	Pn	19 56 31.0	+0.8
LTZ	Lake Taylor	8.99	43	Pn	Pn	19 56 35.9	+1.5
GVZ	Greta Valley S	9.20	47	Pn	Pn	19 56 39.4	+2.2
KHZ	Kahutara	9.86	46	Pn	Pn	19 56 46.8	+0.5
KHZ	Kahutara	9.86	46	P	Pn	19 56 50.9	+4.7
THZ	Tophouse	10.10	42		Pn	19 56 51.0	+1.5
MRNZ	Matariki Terra	10.33	40	Pn	Pn	19 56 54.4	+1.7
MRNZ	Matariki Terra	10.33	40	P	Pn	19 56 54.7	+2.0
BSWZ	Blackbirch Sta	10.57	45	Pn	Pn	19 56 59.0	+3.1
TKNZ	Takaka Hill	10.72	40	Pn	Pn	19 56 59.2	+1.2
QRZ	Quartz Range	10.72	38	Pn	Pn	19 56 58.5	+0.4
QRZ	Quartz Range	10.72	38	P	Pn	19 56 59.1	+1.0
QRZ	Quartz Range	10.72	38	P	Pn	19 56 58.8	+0.7
NNZ	Nelson	10.75	42	Pn	Pn	19 56 59.8	+1.4
MRZ	Mangatainoka R	12.19	47	Pn	Pn	19 57 20.4	+2.3
BFZ	Birch Farm	12.49	49		Pn	19 57 23.7	+1.5
TAU	Tasmania Unive	13.32	294		Pn	19 57 33.6	+0.1
TAU	Tasmania Unive	13.32	294	P	Pn	19 57 33.2	-0.3
OTVZ	Oturere	13.43	43	P	P	19 57 40.4	-4.2
URZ	Urewera	14.82	45	Pn	Pn	19 57 53.8	-0.2
	0.2nm,0.3s,baz=221,slow=24,SNR=2.2						
URZ				LR	LR	20 04 14.6	
	comp=Z,5μm,18.7s,baz=314,slow=41						
CNB	Canberra Magne	17.88	318	P	Pn	19 58 32.7	-0.6
TOO	Toolangi	17.96	305	P	P	19 58 36.6	+1.9
TOO				IAmb	IAmb	19 58 47.7	
	comp=Z,7.4nm,0.8s						
BRAT	Ballarat	18.82	303	P	P	19 58 43.2	-0.9
YNG	Young	19.16	318	P	P	19 58 48.0	+0.1
ARPS	Mount Arapiles	20.54	301	P	P	19 59 00.1	-2.8
CMSA	Cobar Meteorol	22.70	316	P	P	19 59 25.5	-0.7
STKA	Stephens Creek	24.39	308	P	P	19 59 42.1	-0.6
STKA	Stephens Creek	24.39	308	P	P	19 59 45.7	+3.0
	comp=Z,2.8nm,0.9s,baz=132,slow=12,SNR=3.1						
STKA				LR	LR	20 07 34.0	
	comp=Z,507nm,19.1s,baz=161,slow=32						
	comp=Z,2.8nm,0.9s						
STKA	Stephens Creek	24.39	308	P	P	19 59 39.3	-3.4
HTT	Hallett	24.61	302	P	P	19 59 40.8	-4.0
RAO	Raoul Island	24.63	41	LR	LR	20 08 28.5	
	comp=Z,743nm,21.8s,baz=238,slow=35						
DZM	Mont Dzumac	27.62	5	eS	S	20 04 52.7	-0.5
	comp=Z,295nm,26.2s						
DZM				eLR	LR	20 07 08.5	
	comp=Z,775nm,21.4s						
DZM	Mont Dzumac	27.62	5	LR	LR	20 09 20.3	
	comp=Z,620nm,20.5s,baz=105,slow=33						
CASY	Casey	31.57	218	P	P	20 00 48.1	+1.6
CASY				IAmb	IAmb	20 00 58.4	
	comp=Z,6.5nm,0.9s						
CTA	Charters Tower	32.72	328	LR	LR	20 12 53.9	
	comp=Z,41nm,18.4s,baz=152,slow=34						
MSVF	Nonsavu	33.84	25	LR	LR	20 14 09.7	
	comp=Z,633nm,18.0s,baz=168,slow=35						
AS31	Alice Springs	35.00	307	P	P	20 01 18.3	+1.4
AS31				IAmb	IAmb	20 01 28.4	
	comp=Z,3.1nm,0.7s						
ASAR	Alice Springs	35.00	307	P	P	20 01 17.5	+0.6
ASAR	Alice Springs	35.00	307	P	P	20 01 18.4	+1.5
	comp=Z,1.8nm,0.6s,baz=141,slow=7.6,SNR=39						
ASAR				LR	LR	20 15 00.3	
	comp=Z,535nm,18.1s,baz=155,slow=35						
	comp=Z,1.8nm,0.6s						
WR0	Warramunga Arr	37.78	311	P	P	20 01 40.8	+0.2
WR0				IAmb	IAmb	20 01 51.6	
	comp=Z,12nm,1.0s						
WB2	Warramunga Arr	37.89	311	P	P	20 01 42.1	+0.6
WB2				IAmb	IAmb	20 01 52.5	
	comp=Z,14nm,0.9s						
WRA	Warramunga Arr	37.89	311		P	20 01 42.7	+1.1
WRA	Warramunga Arr	37.89	311	P	P	20 01 42.4	+0.8
	comp=Z,1.4nm,0.7s,baz=140,slow=7.7,SNR=12						
WRA				LR	LR	20 16 58.3	
	comp=Z,407nm,18.1s,baz=158,slow=36						
	comp=Z,1.4nm,0.7s						
WRAB	Tennant Creek	37.89	311	P	P	20 01 41.4	-0.3
WRAB				IAmb	IAmb	20 01 52.5	
	comp=Z,10nm,0.9s						
WB0	Warramunga Arr	38.01	311	P	P	20 01 44.2	+1.6
WB0				IAmb	IAmb	20 02 06.6	
	comp=Z,8.2nm,1.1s						
NWAO	Narrogin (SRO)	38.19	278	LR	LR	20 13 36.8	
	comp=Z,358nm,19.0s,baz=65,slow=30						
H01W1	Cape Leeuwin H	38.94	273	T	T	20 43 00.6	
	baz=128,slow=75,SNR=718						
H01W2	Cape Leeuwin H	38.95	273	T	T	20 43 01.8	
	baz=128,slow=75,SNR=813						
H01W3	Cape Leeuwin H	38.96	273	T	T	20 43 02.4	
	baz=128,slow=75,SNR=820						
HNR	Honiara	40.26	354	LR	LR	20 15 51.4	
	comp=Z,258nm,19.7s,baz=176,slow=32						
QSPA	South Pole Qui	40.44	180	P	P	20 02 05.5	+2.9
QSPA	South Pole Qui	40.44	180	P	P	20 02 00.7	-1.9
	comp=Z,0.9nm,0.2s,baz=35,slow=1.2,SNR=2.2						
QSPA				LR	LR	20 16 03.1	
	comp=Z,157nm,19.7s,baz=14,slow=32						
	comp=Z,0.9nm,0.2s						
PMG	Port Moresby	42.51	335	LR	LR	20 16 46.5	
	comp=Z,446nm,20.0s,baz=155,slow=32						
FITZ	Fitzroy Crossi	43.97	302	P	P	20 02 33.4	+1.7
	comp=Z,2.5nm,0.7s,baz=160,slow=15,SNR=2.8						
FITZ				LR	LR	20 19 39.9	
	comp=Z,345nm,20.2s,baz=146,slow=34						
	comp=Z,2.5nm,0.7s						
TBI	Tubuai	44.78	71	eS	S	20 09 19.2	+4.5
	comp=Z,710nm,28.2s						
TBI				eSS	SS	20 12 39.9	+4.4
	comp=Z,5μm,33.5s						
TBI				eLR	LR	20 15 07.8	
	comp=Z,1μm,23.2s						
PPT2	Papeete2	49.09	66	eP	P	20 03 09.6	-2.3
	comp=Z,42nm,23.2s						
PPT2				eS	S	20 10 13.9	-2.5
	comp=Z,160nm,32.2s						
PPT2				eSS	SS	20 13 48.1	+0.7
	comp=Z,358nm,25.0s						
PPT2				eLR	LR	20 17 09.4	
	comp=Z,375nm,23.8s						
PPT2				eLR	LR	20 17 11.7	
	comp=Z,323nm,24.2s						
PPT	Papeete	49.10	66	LR	LR	20 20 51.5	
	comp=Z,237nm,19.6s,baz=198,slow=33						
MAW	Mawson	49.12	210	P	P	20 03 11.5	+0.1
	comp=Z,0.7nm,0.6s,baz=251,slow=1.4,SNR=1.9						
MAW				LR	LR	20 22 15.4	
	comp=Z,277nm,18.6s,baz=110,slow=34						
	comp=Z,0.7nm,0.6s						
BATI	Baumata	51.56	306	LR	LR	20 24 43.8	
	comp=Z,360nm,19.0s,baz=184,slow=35						
RKT	Rikitea	54.13	84	eP	P	20 03 51.4	+1.9
	comp=Z,2μm,36.2s						
RKT				eS	S	20 11 21.6	-4.1
	comp=Z,841nm,29.2s						
RKT				eSS	SS	20 15 08.1	+1.0
	comp=Z,349nm,25.0s						
RKT				eLR	LR	20 19 28.1	
	comp=Z,2μm,31.2s						
KAPI	Kappang	57.99	305	LR	LR	20 29 03.2	
	comp=Z,108nm,19.9s,baz=148,slow=36						
SNAA	Sanae	58.59	185	P	P	20 04 22.2	+1.5
SNAA	Sanae	58.59	185	⇑P	P	20 04 22.3	+1.6
	comp=Z,173nm,0.9s						
SNAA	Sanae	58.59	185	P	P	20 04 20.9	+0.1
	comp=Z,2.0nm,0.8s,baz=167,slow=4.2,SNR=4.3						
SNAA				LR	LR	20 29 45.1	
	comp=Z,149nm,19.2s,baz=191,slow=36						
	comp=Z,2.0nm,0.8s						
VNA3	Neumayer Olymp	59.30	182	⇑P	P	20 04 27.9	+2.3
	comp=Z,7.3nm,0.8s						
VNA2	Neumayer--Watz	59.54	183	⇑P	P	20 04 29.1	+1.8
	comp=Z,6.8nm,0.9s,baz=174,slow=8.3						
VNA1	Neumayer--Stat	59.85	183	⇑P	P	20 04 30.9	+1.5
	comp=Z,23nm,0.9s						
PMSA	Palmer Station	59.96	158	LR	LR	20 25 51.6	
	comp=Z,144nm,19.1s,baz=210,slow=32						
TAOE	Nuku Hiva Isla	61.58	69	eLR	LR	20 22 55.1	
	comp=Z,288nm,23.8s						
GUMO	Guam	65.20	340	LR	LR	20 29 48.7	
	comp=Z,49nm,19.2s,baz=44,slow=33						
H04S2	CROZET ISLANDS	67.31	224	T	T	21 19 14.3	
	baz=139,slow=75,SNR=68						
H04S1	CROZET ISLANDS	67.31	224	T	T	21 19 15.6	
	baz=139,slow=75,SNR=91						
H04S3	CROZET ISLANDS	67.33	224	T	T	21 19 17.3	
	baz=139,slow=75,SNR=73						
H03S2	Juan Fernandez	79.94	131	T	T	21 35 02.9	
	baz=213,slow=74,SNR=5.1						
H03S1	Juan Fernandez	79.94	131	T	T	21 35 05.0	
	baz=213,slow=74,SNR=6.7						
H03S3	Juan Fernandez	79.95	131	T	T	21 35 19.1	
	baz=213,slow=74,SNR=6.2						
JOW	Kunigami	82.52	328	LR	LR	20 40 31.7	
	comp=Z,106nm,21.7s,baz=114,slow=34						
H08S2	Diego Garcia H	85.16	264	T	T	21 40 26.9	
	baz=140,slow=76,SNR=1379						
H08S1	Diego Carcia H	85.18	264	T	T	21 40 34.0	
	baz=140,slow=76,SNR=1116						
H08S3	Diego Garcia H	85.18	264	T	T	21 40 32.6	
	baz=140,slow=76,SNR=1658						
CMAR	Chiang Mai Arr	88.77	301	P	P	20 07 20.2	+2.0
	comp=Z,0.2nm,0.4s,baz=158,slow=3.2,SNR=0.7						
	comp=Z,0.2nm,0.4s						
PZH	PanZhiHua	93.78	307	P	P	20 07 45.3	+3.9
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
BOSA	Boshof	93.82	216	LR	LR	20 43 51.5	
	comp=Z,90nm,18.3s,baz=174,slow=32						
BRDH	Bariadhala	96.25	298	LR	LR	20 52 43.1	
	comp=Z,56nm,21.0s,baz=176,slow=36						
LBTB	Lobatse	96.92	217	LR	LR	20 43 55.1	
	comp=Z,89nm,21.8s,baz=156,slow=31						
HHC	Hu-ho-hao-te	101.22	322	eP	Pdif	20 08 17.6	+3.0
ILAR	Eielson Array	120.33	22	PKP	PKPdf	20 13 13.0	-1.2
	comp=Z,0.2nm,0.9s,baz=225,slow=3.4,SNR=2.0						
KURBB	Kurchatov Arra	123.57	310	PKP	PKPdf	20 13 20.3	-0.7
	comp=Z,0.1nm,0.2s,baz=128,slow=1.5,SNR=2.5						
TORD	Torodi Ar. Bea	140.75	208	PKP	PKPdf	20 13 51.6	-2.8
	comp=Z,0.7nm,0.8s,baz=280,slow=0.5,SNR=4.0						
BRTR	Keskin Array B	143.90	273	PKP	PKPab	20 13 56.5	-0.2
	comp=Z,0.1nm,0.3s,baz=48,slow=2.1,SNR=1.4						
KARP	Karpathos	145.69	262	PKPdf	PKPdf	20 14 02.4	-0.1
TAM	Tamanrasset	148.24	220		PKPdf	20 14 05.6	-1.8
SPITS	Spitsbergen Ar	148.98	348	PKPbc	PKPdf	20 14 08.4	+1.7
	comp=Z,4.5nm,0.8s,baz=116,slow=9.8,SNR=1.0						
SPITS				PKPab	sPKPdf	20 14 13.3	+0.2
	comp=Z,15nm,1.0s,baz=72,slow=11,SNR=4.6						
AK05	Malin Array Si	151.32	289		PKPdf	20 14 11.7	+0.6
AKASG	Malin Array Be	151.33	290	PKPbc	PKPbc	20 14 15.9	-1.2
	comp=Z,0.1nm,0.3s,baz=111,slow=3.2,SNR=1.3						
AKASG				PKPab	sPKPbc	20 14 22.6	-0.5
	comp=Z,2.4nm,0.8s,baz=80,slow=2.4,SNR=6.8						
AKBB	Malin Array Si	151.33	290	PKPbc	PKiKP	20 14 21.1	+3.5
KIEV	Kiev	151.33	290		PKPab	20 14 22.6	-2.8
LIT	Litokhoron	151.33	265	PKPbc	PKiKP	20 14 19.0	+1.0
MLR	Muntele Rosu	151.63	278		PKPab	20 14 24.3	-2.7
ARCES	ARCESS Array B	151.96	330	PKPab	PKPab	20 14 26.8	-0.7
	comp=Z,4.7nm,1.0s,baz=80,slow=1.4,SNR=2.1						
FINES	FINESS Array B	153.92	313	PKPab	PKPab	20 14 33.8	-2.1
	comp=Z,2.3nm,0.8s,baz=76,slow=8.0

CNCH	**Conchagua**	**1.70**	**60**	*e*P		**Pn**	**19 57 22.9**	**0.0**
CNCH	**Conchagua**	**1.70**	**60**	*i* P		**Pn**	**19 57 22.4**	**-0.6**
CNCH				IAML			19 57 57.2	
comp=Z,570nm,1.0s								
CSGN	**Cosiguina Volc**	**1.83**	**72**	*i* P		**Pn**	**19 57 25.0**	**+0.3**
CSGN				IAML			19 57 50.3	
comp=Z,51nm,1.0s								
AMPH	**Amapala**	**1.86**	**62**	*i* P		**Pn**	**19 57 24.6**	**-0.3**
AMPH				*i* S		**Sb**	**19 57 49.1**	**-1.3**
MTO3	**Montecristo**	**1.97**	**360**	*i* P		**Pn**	**19 57 27.0**	**+0.3**
MTO3				*i* S		**Sn**	**19 57 52.5**	**+1.2**
MTO3				IAML			19 58 00.0	
comp=Z,330nm,1.0s								
ESQI	**Esquipulas**	**2.13**	**0**	*i* P		**Pn**	**19 57 29.6**	**+0.8**
ESQI				IAML			19 58 07.7	
comp=Z,730nm,1.0s								
INTHN	**La Esperanza I**	**2.24**	**33**	*i* P		**Pn**	**19 57 31.7**	**+1.3**
CRIN	**San Cristobal**	**2.26**	**83**	*i* P		**Pn**	**19 57 30.8**	**+0.3**
CRIN				*i* S		**Sb**	**19 58 02.0**	**0.0**
CRIN				IAML			19 58 14.4	
comp=Z,440nm,1.0s								
TGUH	**Tegucigalpa,Un**	**2.59**	**51**	*i* P		**Pn**	**19 57 36.5**	**+1.3**
TGUH				IAML			19 58 13.8	
comp=Z,180nm,1.0s								
YUSH	**Yuscaran**	**2.88**	**58**	*i* P		**Pn**	**19 57 39.8**	**+0.7**
LIMN	**Finca el Limon**	**2.98**	**77**	*i* P		**Pn**	**19 57 40.3**	**-0.2**
LIMN				IAML			19 58 41.7	
comp=Z,68nm,1.0s								

*JMA **05** 19:58:18.3±0.2, 44°.6N±0°.7×14°.6E±°, h14km±1km, MV2.9/30, NEAR KUNASHIRI ISLAND*
*SKHL **05** 19:58:19.7±0.0, 44°.60N×145°.50E, h28km±2km, mb4.4/2*
ISC 05 19:58:17.0±1.3, 44°.67N±0°.06×145°.68E±0°.04, h12km±12km, n11, σ0ˢ38/19, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.65**	**168**	*i* P		**Pb**	**19 58 30.8**	**+0.5**
YUK				AMB		AMB	19 58 31.8	
130nm,0.2s								
YUK				*e*S		**Sb**	**19 58 39.1**	**-0.2**
YUK				A		A	19 58 44.7	
650nm,0.2s								
YUK				A		A	19 58 44.7	
710nm,0.2s								
JRA	**Rausu**	**0.84**	**209**	P		**Pn**	**19 58 34.2**	**-0.4**
JRA				*e*S		**Sb**	**19 58 45.2**	**+0.6**
JNSB	**Nemuroshibetsu**	**1.02**	**209**	P		**Pn**	**19 58 37.5**	**+0.4**
JNSB				S		**Sn**	**19 58 51.1**	**-0.2**
SHO	**Shikotan**	**1.15**	**134**	*e*P		**Pg**	**19 58 39.3**	**+0.1**
SHO				AMB		AMB	19 58 41.2	
80nm,0.2s								
SHO				*i* S		**Sg**	**19 58 54.0**	**-0.2**
SHO				A		A	19 58 55.8	
1μm,0.6s								
SHO				A		A	19 58 55.8	
750nm,0.6s								
JNK	**Nakash**	**1.29**	**213**	P		**Pg**	**19 58 41.9**	**+0.1**
NEM2	**Nemuro 2**	**1.31**	**178**	P		**Pn**	**19 58 41.1**	**+0.1**
NEM2				*e*S		**Sb**	**19 58 58.1**	**-0.1**
JTKR	**Abashiri--Toko**	**1.45**	**242**	P		**Pg**	**19 58 44.6**	**-0.3**
JTKR				S		**Sg**	**19 59 04.2**	**+0.4**
JKHN	**Kushirohamanak**	**1.63**	**193**	P		**Pb**	**19 58 46.6**	**-0.4**
KUR	**Kuril'sk**	**1.65**	**69**	*e*P		**Pg**	**19 58 49.0**	**+0.3**
KUR				*e*S		**Sg**	**19 59 09.5**	**-0.6**
KUR				A		A	19 59 11.0	
20nm,0.5s								
KUR				A		A	19 59 11.0	
40nm,0.5s								
JMP	**Maruseppu**	**1.79**	**249**	P		**Pb**	**19 58 49.9**	**+0.1**
JAK	**Akkeshi**	**1.82**	**203**	*e*P		**Pb**	**19 58 49.9**	**-0.4**
JAK				*e*S		**Sb**	**19 59 13.2**	**+0.2**

*IDC **05** 20:02:00.1±2.0, 33°.51S×177°.80W, h0km, mb4.6/2, mbtmp4.6/7, ML4.3/4, MS3.9/9, Error ellipse: s-maj=47.1km s-min=25.7km az=117.0*
*WEL **05** 20:02:05.7±0.7, 34°.S±6°.×17°.7W±°, h33km, M4.5/27, mB5.0/18, ML5.3/30, MLv5.1/27, Mw(mB)4.2/18, Error ellipse: s-maj=9.7km s-min=5.7km az=129.7, confirmed*
*NOU **05** 20:02:28.2, 35°.79S×178°.49W, h0km, MLv4.5/9, East of North Island, N.Z.*
ISC 05 20:01:57.3±1.1, 33°.75S±0°.06×177°.0W±0°.1, h35km, n90, σ2ˢ38/102, MS4.1/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.56**	**349**	Pn		**Pn**	**20 03 04.7**	**+0.8**
69nm,0.3s,baz=173,slow=23,SNR=7.7								
RAO				Sn		**Sn**	**20 03 53.6**	**-2.0**
465nm,0.3s,baz=32,slow=23,SNR=12								
182nm,0.2s								
MXZ	**Matakaoa Point**	**5.42**	**244**	P		**Pn**	**20 03 17.6**	**+2.0**
MXZ				S		**Sn**	**20 04 13.7**	**-3.0**
MXZ	**Matakaoa Point**	**5.42**	**244**	P		**Pn**	**20 03 18.9**	**+3.3**
PKGZ	**Pakihiroa**	**5.76**	**223**	P		**Pn**	**20 03 24.1**	**+3.8**
PUZ	**Puketiti**	**5.80**	**221**	P		**Pn**	**20 03 22.8**	**+1.9**
PUZ				S		**Sn**	**20 04 25.5**	**-0.8**
HAZ	**Te Kaha**	**5.86**	**225**	P		**Pn**	**20 03 24.8**	**+3.2**
HAZ				S		**Sn**	**20 04 30.0**	**+2.6**
TWGZ	**Tauwhareparae**	**6.03**	**221**	P		**Pn**	**20 03 28.0**	**+3.9**
TWGZ				S		**Sn**	**20 04 32.0**	**+0.1**
RUGZ	**Raukumara Rang**	**6.06**	**225**	P		**Pn**	**20 03 27.7**	**+3.2**
RUGZ				S		**Sn**	**20 04 32.5**	**-0.1**
CNGZ	**Carnagh Statio**	**6.13**	**218**	P		**Pn**	**20 03 28.3**	**+2.9**
TKGZ	**Te Karaka**	**6.29**	**220**	P		**Pn**	**20 03 28.1**	**+0.5**
TKGZ				S		**Sn**	**20 04 35.9**	**-2.3**
MWZ	**Matawai**	**6.39**	**223**	P		**Pn**	**20 03 31.8**	**+2.8**
MWZ				S		**Sn**	**20 04 39.7**	**-1.1**
URZ	**Urewera**	**6.59**	**225**	Pn		**Pn**	**20 03 33.8**	**+2.2**
2.3nm,0.3s,baz=50,slow=7.9,SNR=23								
URZ				Sn		**Sn**	**20 04 44.0**	**-1.4**
40nm,0.3s,baz=37,slow=20,SNR=22								
10.0nm,0.5s								
URZ	**Urewera**	**6.59**	**225**	P		**Pn**	**20 03 34.5**	**+2.9**
URZ				S		**Sn**	**20 04 43.1**	**-2.3**
URZ	**Urewera**	**6.59**	**225**	P		**Pn**	**20 03 34.5**	**+2.9**
PRGZ	**Paritu Road**	**6.63**	**217**	P		**Pn**	**20 03 35.3**	**+3.0**
MHGZ	**Mahia Peninsul**	**6.80**	**216**	P		**Pn**	**20 03 37.3**	**+2.8**
MHGZ				S		**Sn**	**20 04 49.6**	**-1.1**
KNZ	**Kokohu**	**6.81**	**218**	P		**Pn**	**20 03 37.3**	**+2.6**
KNZ				S		**Sn**	**20 04 49.6**	**-1.5**
SNGZ	**Shannon Statio**	**6.81**	**221**	P		**Pn**	**20 03 37.8**	**+3.0**
SNGZ				S		**Sn**	**20 04 50.5**	**-0.6**
RTZ	**Ruatahuna**	**6.90**	**224**	P		**Pn**	**20 03 38.6**	**+2.5**
RTZ				S		**Sn**	**20 04 53.5**	**+0.2**
MUGZ	**Murupara**	**6.93**	**225**	P		**Pn**	**20 03 38.4**	**+2.1**
MUGZ				S		**Sn**	**20 04 50.9**	**-3.1**
RAHZ	**Arahi**	**7.05**	**221**	P		Pn	20 03 43.6	+5.6
RAHZ				S		**Sn**	**20 04 56.4**	**-0.5**
MTHZ	**Maungataniwha**	**7.14**	**223**	P		**Pn**	**20 03 42.2**	**+2.9**
MTHZ				S		**Sn**	**20 04 58.6**	**-0.6**
MKAZ	**Moumakai**	**7.25**	**240**	P		**Pn**	**20 03 43.7**	**+2.9**
TOZ	**Tahuroa Road**	**7.31**	**235**	P		**Pn**	**20 03 43.7**	**+2.2**
NMHZ	**Naumai**	**7.33**	**222**	P		**Pn**	**20 03 44.9**	**+3.0**
NMHZ				S		**Sn**	**20 05 02.9**	**-1.0**
ARHZ	**Aropaoanui**	**7.35**	**220**	P		**Pn**	**20 03 45.3**	**+3.2**
ARHZ				S		**Sn**	**20 05 03.9**	**-0.3**
WCZ	**Waipu Caves**	**7.48**	**251**	P		**Pn**	**20 03 47.7**	**+3.8**
BKZ	**Black Stump Fm**	**7.55**	**222**	P		**Pn**	**20 03 47.1**	**+2.1**
BKZ				S		**Sn**	**20 05 07.2**	**-2.2**
BKZ	**Black Stump Fm**	**7.55**	**222**	P		**Pn**	**20 03 47.7**	**+2.7**
KAHZ	**Kahuranaki**	**7.80**	**218**	P		**Pn**	**20 03 50.2**	**+1.8**
KAHZ				S		**Sn**	**20 05 13.7**	**-1.7**
OUZ	**Omahuta**	**7.94**	**257**	P		**Pn**	**20 03 53.6**	**+3.4**
KRHZ	**Kereru**	**7.96**	**220**	P		**Pn**	**20 03 52.6**	**+2.2**
KRHZ				S		**Sn**	**20 05 17.0**	**-2.3**
TMVZ	**Te Maari**	**7.98**	**226**	P		**Pn**	**20 03 53.3**	**+2.4**
TMVZ				S		**Sn**	**20 05 15.7**	**-4.2**
NTVZ	**North Tongarir**	**7.98**	**226**	P		**Pn**	**20 03 54.1**	**+3.2**
ETVZ	**East Tongariro**	**7.99**	**226**	P		**Pn**	**20 03 53.9**	**+2.9**
OTVZ	**Oturere**	**8.03**	**226**	P		**Pn**	**20 03 55.2**	**+3.5**
NNVZ	**North Ngauruho**	**8.04**	**226**	P		**Pn**	**20 03 55.5**	**+3.7**
SNVZ	**South Ngauruho**	**8.06**	**226**	P		**Pn**	**20 03 54.0**	**+2.0**
NGZ	**Ngauruhoe**	**8.08**	**226**	P		**Pn**	**20 03 54.4**	**+2.1**
TUVZ	**Tukino**	**8.11**	**225**	P		**Pn**	**20 03 56.1**	**+3.4**
MOVZ	**Moawhango**	**8.14**	**224**	P		**Pn**	**20 03 55.3**	**+2.3**
WNVZ	**Wahianoa**	**8.18**	**225**	P		**Pn**	**20 03 57.7**	**+4.1**
PRHZ	**Porangahau**	**8.28**	**216**	P		**Pn**	**20 03 56.3**	**+1.4**
TSZ	**Takapari Road**	**8.47**	**220**	P		**Pn**	**20 03 59.7**	**+2.2**
BFZ	**Birch Farm**	**8.79**	**216**	P		**Pn**	**20 04 02.8**	**+1.0**
MRZ	**Mangatainoka R**	**9.11**	**219**	P		**Pn**	**20 04 06.7**	**+0.5**
HOWZ	**Holdsworth Sta**	**9.32**	**218**	P		**Pn**	**20 04 10.4**	**+1.3**
OGWZ	**Otaki Gorge**	**9.44**	**219**	P		**Pn**	**20 04 11.3**	**+0.6**
MTW	**Mount Morrison**	**9.52**	**217**	P		**Pn**	**20 04 12.0**	**+0.2**
CTZ	**Chatham Island**	**9.97**	**179**	P		**Pn**	**20 04 20.8**	**+2.7**
CTZ				S		**Sn**	**20 06 09.4**	**+0.7**
DUWZ	**D'Urville Isla**	**10.11**	**223**	P		**Pn**	**20 04 23.2**	**+3.1**
TCW	**Tory Channel**	**10.19**	**221**	P		**Pn**	**20 04 21.6**	**+0.5**
TUWZ	**Tuamarina**	**10.53**	**221**	P		**Pn**	**20 04 27.7**	**+2.1**
NNZ	**Nelson**	**10.70**	**223**	P		**Pn**	**20 04 31.3**	**+3.3**
QRZ	**Quartz Range**	**10.95**	**227**	P		**Pn**	**20 04 34.4**	**+2.9**
MRNZ	**Matariki Terra**	**11.17**	**224**	P		**Pn**	**20 04 35.6**	**+1.1**
THZ	**Tophouse**	**11.32**	**222**	P		**Pn**	**20 04 39.8**	**+3.2**
KHZ	**Kahutara**	**11.44**	**218**	P		**Pn**	**20 04 40.5**	**+2.4**
KHZ	**Kahutara**	**11.44**	**218**	P		**Pn**	**20 04 40.6**	**+2.5**
GVZ	**Greta Valley S**	**12.09**	**218**	P		**Pn**	**20 04 48.8**	**+1.7**
LTZ	**Lake Taylor**	**12.36**	**220**	P		**Pn**	**20 04 52.5**	**+1.7**
MQZ	**McQueen's Vall**	**12.82**	**216**	P		**Pn**	**20 04 57.9**	**+0.9**
OXZ	**Oxford**	**12.86**	**219**	P		**Pn**	**20 04 59.1**	**+1.6**
RPZ	**Rata Peaks**	**13.65**	**220**	Pn		**Pn**	**20 05 09.8**	**+1.5**
7.1nm,0.3s,baz=53,slow=2.7,SNR=28								
RPZ				Sn		Sn	20 07 25.3	-13
2.3nm,0.3s,baz=323,slow=20,SNR=9.1								
16nm,0.4s								
RPZ	**Rata Peaks**	**13.65**	**220**	P		**Pn**	**20 05 10.5**	**+2.2**
RPZ	**Rata Peaks**	**13.65**	**220**	P		**Pn**	**20 05 10.5**	**+2.2**
ARCZ	**Arundel**	**13.74**	**219**	P		**Pn**	**20 05 11.7**	**+2.1**
TMZ	**Timaru**	**14.13**	**218**	P		**Pn**	**20 05 15.0**	**+0.1**
LBZ	**Lake Benmore**	**14.56**	**219**	P		**Pn**	**20 05 22.1**	**+1.4**
ODZ	**Otahua Downs**	**14.78**	**217**	P		**P**	**20 05 26.1**	**-3.1**
JCZ	**Jackson Bay**	**15.13**	**223**	P		**Pn**	**20 05 28.9**	**+0.5**
JCZ	**Jackson Bay**	**15.13**	**223**	P		**P**	**20 05 31.2**	**-2.0**
MSVF	**Nonsavu**	**16.57**	**343**	Pn		**P**	**20 05 49.4**	**+0.1**
5.4nm,0.4s,baz=159,slow=14,SNR=5.4								
DZM	**Mont Dzumac**	**18.70**	**304**	P		**P**	**20 06 10.8**	**-2.0**
0.2nm,0.3s,baz=94,slow=13,SNR=1.5								
5.7nm,0.9s								
ASAR	**Alice Springs**	**43.91**	**270**	P		**P**	**20 10 02.8**	**+2.0**
4.2nm,0.8s,baz=109,slow=7.5,SNR=31								
ASAR				LR		LR	20 26 03.6	
comp=Z,116nm,20.6s,baz=135,slow=33								
4.2nm,0.8s								
WRA	**Warramunga Arr**	**45.19**	**275**	P		**P**	**20 10 13.6**	**+2.5**
7.2nm,0.5s,baz=115,slow=8.1,SNR=28								
7.2nm,0.5s								
QSPA	**South Pole Qui**	**56.37**	**180**	LR		LR	20 33 02.8	
comp=Z,54nm,19.4s,baz=32,slow=33								
JHJ	**Hachijo jima 2**	**77.97**	**324**	LR		LR	20 41 40.4	
comp=Z,60nm,20.6s,baz=102,slow=31								
LPIG	**La Paz**	**85.57**	**57**	LR		LR	20 45 44.0	
comp=Z,132nm,19.8s,baz=206,slow=30								
PETK	**Petropavlovsk-**	**89.27**	**345**	LR		LR	20 49 01.5	
comp=Z,131nm,21.6s,baz=145,slow=32								
USRK	**Ussuriysk Ar.**	**90.43**	**326**	LR		LR	20 52 16.0	
comp=Z,61nm,18.7s,baz=9.3,slow=34								
CMIG	**Matias Romero**	**92.96**	**72**	LR		LR	20 48 34.6	
comp=Z,60nm,20.5s,baz=192,slow=30								
ANMO	**Albuquerque**	**94.98**	**51**	LR		LR	20 54 06.6	
comp=Z,64nm,18.3s,baz=16,slow=33								
MA2	**Magadan**	**96.75**	**344**	LR		LR	20 53 33.8	
comp=Z,69nm,21.6s,baz=177,slow=32								
H10N3	**ASCENSION HYDR**	**35.41**	**155**	T		T	22 52 16.7	
baz=203,slow=75,SNR=4.7								
H10N1	**ASCENSION HYDR**	**35.41**	**155**	T		T	22 52 15.3	
baz=203,slow=75,SNR=4.8								
H10N2	**ASCENSION HYDR**	**35.43**	**155**	T		T	22 52 19.9	
baz=203,slow=75,SNR=5.9								
FINES	**FINESS Array B**	**148.59**	**339**	PKPbc		**PKPab**	**20 21 46.7**	**+3.4**
2.8nm,0.8s,baz=36,slow=3.5,SNR=9.2								
NB2	**NORSAR Subarra**	**152.19**	**351**	PKP		**PKPab**	**20 21 56.7**	**-1.6**
comp=Z,1.3nm,0.8s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**152.19**	**351**	PKPbc		**PKPab**	**20 21 55.8**	**-2.4**
comp=Z,0.3nm,0.8s,baz=14,slow=4.1,SNR=1.5								

*IDC **05** 20:03:20.8±10.0, 34°.30S×178°.20E, h529km±99km, mb3.6/5, mbtmp4.5/5, Error ellipse: s-maj=76.5km s-min=19.1km az=60.0*
ISC 05 20:03:16.8±1.4, 34°.35±0°.2×178°.5E±0°.3, h500km, n14, σ1ˢ99/16, mb4.3/8, 4C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**40.17**	**273**	P		**P**	**20 10 09.2**	**-0.1**
6.6nm,0.8s,baz=111,slow=7.4,SNR=20								
ASAR				PcP		**PcP**	**20 12 01.2**	**-0.2**
1.2nm,0.6s,baz=130,slow=3.9,SNR=4.7								
6.6nm,0.8s								
WRA	**Warramunga Arr**	**41.53**	**279**	P		**P**	**20 10 19.6**	**-0.5**
6.2nm,0.6s,baz=119,slow=7.4,SNR=5.6								
WRA				PcP		**PcP**	**20 12 05.0**	**-1.0**
0.3nm,0.3s,baz=99,slow=4.0,SNR=2.0								
6.2nm,0.6s								
QSPA	**South Pole Qui**	**55.79**	**180**	P		**P**	**20 12 06.3**	**+0.6**
3.1nm,0.6s,baz=36,slow=2.4,SNR=5.9								
3.1nm,0.6s								
MAW	**Mawson**	**67.59**	**202**	P		**P**	**20 13 24.1**	**+1.5**
5.4nm,0.6s,baz=127,slow=6.7,SNR=17								
5.4nm,0.6s								
SNAA	**Sanae**	**74.29**	**180**	⇑P		**P**	**20 13 59.2**	**-3.0**
comp=Z,7.9nm,0.3s								
SNAA	**Sanae**	**74.29**	**180**	P		**P**	**20 14 03.7**	**+1.6**
comp=Z,0.8nm,0.4s,baz=202,slow=16,SNR=1.7								
comp=Z,0.8nm,0.4s								
VNA3	**Neumayer Olymp**	**74.57**	**177**	⇑P		**P**	**20 14 00.2**	**-3.4**
comp=Z,7.9nm,0.6s								
VNA2	**Neumayer--Watz**	**74.96**	**178**	⇑P		**P**	**20 14 03.2**	**-2.6**
comp=Z,5.9nm,0.6s,baz=174,slow=5.6								
VNA1	**Neumayer--Stat**	**75.21**	**178**	⇑P		**P**	**20 14 04.8**	**-2.4**
comp=Z,8.6nm,0.7s								
MMAI	**Mount Meron Ar**	**149.38**	**278**	PKPbc		**PKPbc**	**20 22 08.0**	**-1.2**
comp=Z,0.9nm,0.5s,baz=65,slow=3.8,SNR=1.6								
BRTR	**Keskin Array B**	**151.57**	**291**	PKPbc		**PKPbc**	**20 22 12.7**	**-1.4**
comp=Z,0.3nm,0.6s,baz=73,slow=2.8,SNR=1.8								
HFS	**Hagfors**	**152.34**	**344**	PKPbc		**PKiKP**	**20 22 16.9**	**+1.8**
comp=Z,0.5nm,0.3s,baz=45,slow=4.3,SNR=4.4								
TORD	**Torodi Ar. Bea**	**158.72**	**189**	PKPab		**PKPab**	**20 22 58.5**	**+2.5**
comp=Z,0.7nm,0.5s,baz=160,slow=4.5,SNR=7.5								
GERES	**GERESS Array B**	**161.63**	**327**	PKPab		**PKPab**	**20 23 09.0**	**+0.8**
comp=Z,1.9nm,0.7s,baz=38,slow=5.4,SNR=3.7								

*IDC **05** 20:04:22.1±8.3, 6°.32S×130°.38E, h116km±85km, mb3.4/3, mbtmp3.8/7, ML3.9/4, Error ellipse: s-maj=66.6km s-min=29.0km az=39.0*
*DJA **05** 20:04:26.0±0.4, 6°.S±2°.×13°.0E±°, h129km±10km, M4.1/13, mb4.0/7, mB4.9/3, MLv4.1/13, Mw(mB)4.2/3*
ISC 05 20:04:24.7±0.8, 6°.42S±0°.05×130°.33E±0°.07, h150km, n25, σ1ˢ92/29, mb3.4/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.83**	**148**	P		**Pn**	**20 05 01.5**	**+3.7**
SAUI	**Saumlaki**	**1.83**	**148**	P		**Pn**	**20 05 01.1**	**+3.3**
SAUI				S		**Sn**	**20 05 21.2**	**-2.1**
BNDI	**Bandanaira**	**1.93**	**347**	P		**Pn**	**20 05 02.0**	**+3.0**
BNDI	**Bandanaira**	**1.93**	**347**	P		**Pn**	**20 05 01.0**	**+2.0**
MSAI	**Masohi**	**3.36**	**335**	P		**Pn**	**20 05 17.4**	**+0.8**
MSAI				S		**Sn**	**20 05 55.3**	**-1.6**
FAKI	**Fak Fak**	**3.96**	**29**	P		**Pn**	**20 05 24.0**	**-0.5**
FAKI	**Fak Fak**	**3.96**	**29**	P		**Pn**	**20 05 24.2**	**-0.3**
NLAI	**Namlea**	**4.51**	**314**	P		**Pn**	**20 05 33.8**	**+2.1**
SWI	**Sorong**	**5.59**	**10**	P		**Pn**	**20 05 45.2**	**-0.8**
8.5nm,0.7s,1μm0.4nm								
DRS	**Darwin Rock St**	**6.00**	**175**	P		**Pn**	**20 05 54.0**	**+2.6**
SANI	**Sanana**	**6.13**	**315**	P		**Pn**	**20 05 54.8**	**+1.6**
10nm,1.0s,0.0nm								
RKPI	**Ransiki, Papua**	**6.20**	**38**	P		**Pn**	**20 05 55.0**	**+0.9**
MTN	**Manton Dam**	**6.43**	**173**	P		**Pn**	**20 05 59.1**	**+1.9**
KDU	**Kakadu**	**6.58**	**161**	P		**Pn**	**20 05 59.9**	**+0.8**
SOEI	**Soe**	**6.86**	**241**	P		**Pn**	**20 06 05.3**	**+2.3**
12nm,1.3s								
SOEI	**Soe**	**6.86**	**241**	P		**Pn**	**20 06 04.1**	**+1.1**
BATI	**Baumata**	**7.60**	**240**	P		**Pn**	**20 06 13.3**	**+0.5**
4.5nm,0.3s,baz=90,slow=6.6,SNR=6.2								
BATI				S		**Sn**	**20 07 36.1**	**-1.6**
20nm,0.5s,baz=90,slow=17,SNR=7.8								
12nm,0.4s								
BATI	**Baumata**	**7.60**	**240**	P		**Pn**	**20 06 13.6**	**+0.8**
19nm,0.7s,0.1nm								
LUWI	**Luwuk**	**9.24**	**305**	P		**Pn**	**20 06 36.4**	**+1.7**
FITZ	**Fitzroy Crossi**	**12.48**	**201**	P		**Pn**	**20 07 16.0**	**-1.3**
0.7nm,0.3s,baz=30,slow=9.9,SNR=12								
FITZ				S		Sn	20 09 26.3	-9.0
3.8nm,0.3s,baz=116,slow=21,SNR=7.7								
1.4nm,0.3s								
WRA	**Warramunga Arr**	**14.00**	**164**	P		**Pn**	**20 07 35.4**	**-1.3**
0.5nm,0.3s,baz=355,slow=13,SNR=15								
WRA				S		Sn	20 10 02.2	-10
1.8nm,0.4s,baz=336,slow=22,SNR=9.8								
0.8nm,0.5s								
ASAR	**Alice Springs**	**17.49**	**169**	P		**Pn**	**20 08 21.1**	**+1.5**
0.2nm,0.3s,baz=343,slow=9.9,SNR=9.1								
ASAR				S		**S**	**20 11 29.5**	**-3.5**
0.8nm,0.7s,baz=355,slow=27,SNR=3.4								
0.3nm,0.3s								
SONM	**Songino Array**	**58.00**	**341**	P		**P**	**20 14 02.2**	**+0.4**
0.2nm,0.5s,baz=132,slow=6.4,SNR=2.3								
0.2nm,0.5s								
MKAR	**Makanchi Array**	**67.92**	**327**	P		**P**	**20 15 08.3**	**+1.0**
1.0nm,0.3s,baz=114,slow=8.1,SNR=24								
1.0nm,0.3s								
KURBB	**Kurchatov Arra**	**72.19**	**328**	P		**P**	**20 15 33.7**	**+0.6**
0.4nm,0.5s,baz=129,slow=5.4,SNR=4.8								
0.4nm,0.5s								

*MOS **05** 20:08:27.4±1.1, 48°.20N×156°.56E, h16km, mb3.8/1, Error ellipse: s-maj=33.3km s-min=7.3km az=74.6*
*IDC **05** 20:08:27.4±1.4, 48°.21N×154°.46E, h0km, mb3.7/6, mbtmp3.7/7, ML2.6/1, MS2.8/1, Error ellipse: s-maj=42.8km s-min=22.3km az=93.0*
*KRSC **05** 20:08:30.1±1.6, 48°.14N×156°.39E, h15km±14km, Ml4.2*
*SKHL **05** 20:08:32.5±0.3, 48°.20N×155°.10E, h66km±3km, mb4.3/4*
ISC 05 20:08:31.1±1.3, 48°.1N±0°.1×155°.1E±0°.2, h35km, n41, σ1ˢ60/40, mb3.7/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.69**	**13**	*e*P		**Pn**	**20 09 12.1**	**+0.3**
SKR				*e*S		**Sn**	**20 09 44.0**	**+0.9**
SKR	**Severo-Kuril's**	**2.69**	**13**	*e*P		**Pn**	**20 09 11.8**	**0.0**
SKR				AMB		AMB	20 09 14.5	
60nm,0.4s								
SKR				*e*S		**Sn**	**20 09 41.0**	**-2.1**
SKR				A		A	20 09 47.9	
150nm,0.3s								
SKR				A		A	20 09 47.9	
110nm,0.3s								
SKR	**Severo-Kuril's**	**2.69**	**13**	*e*PN		**Pn**	**20 09 11.2**	**-0.6**
SKR				pmax		pmax		
comp=Z,113nm,0.9s								
SKR				MLR		MLR		
comp=Z,500nm,14.0s								
PAU	**Pauzhetka**	**3.57**	**17**	*e*P		**Pn**	**20 09 25.4**	**+1.6**
PAU				*e*S		**Sn**	**20 10 05.9**	**+1.1**
PAU	**Pauzhetka**	**3.57**	**17**	*e*P		**Pn**	**20 09 25.4**	**+1.6**
PAU				AMB		AMB	20 09 26.9	
comp=Z,30nm,0.4s								
PAU				*e*S		**Sn**	**20 10 05.2**	**+0.5**
PAU				A		A	20 10 10.9	
comp=Z,110nm,0.4s								
PAU				A		A	20 10 10.9	
comp=Z,110nm,0.4s								
PAU	**Pauzhetka**	**3.57**	**17**	PN		**Pn**	**20 09 25.4**	**+1.6**
PAU				S		**Sn**	**20 10 05.8**	**+1.1**
KDTR	**Khodutka, Kamc**	**4.19**	**26**	*e*P		**Pn**	**20 09 32.0**	**-0.5**
KDTR				*e*S		**Sn**	**20 10 17.8**	**-2.3**
KDTR	**Khodutka, Kamc**	**4.19**	**26**	*e*P		**Pn**	**20 09 32.2**	**-0.3**
KDTR				AMB		AMB	20 09 36.9	
comp=Z,20nm,0.5s								

NCBC Barkley Canyon 2.26 109 Sn Sn 20 26 38.8 -1.7
NCRB Newcastle Ridg 2.45 60 Pn Pn 20 26 16.2 +0.7
NCSB Newcastle Ridg 2.45 60 Pn Pn 20 26 16.3 +0.8
NCSB Sn Sn 20 26 47.5 +1.8
B012 Ucluelet 2.54 95 Pn Pn 20 26 15.0 -1.5
B012 Sn Sn 20 26 44.2 -3.2
OZB Mount Ozzard 2.56 94 Pn Pn 20 26 15.4 -1.5
OZB Mount Ozzard 2.56 94 Pn Pn 20 26 15.3 -1.7
OZB Sn Sn 20 26 45.8 -2.4
CBB Campbell River 2.73 71 Pn Pn 20 26 19.1 -0.2
CBB Campbell River 2.73 71 Pn Pn 20 26 19.7 +0.5
BFSB Bamfield 2.82 96 Pn Pn 20 26 18.7 -1.6
BFSB Sn Sn 20 26 52.0 -2.4
B928 Bamfield 2.82 96 Pn Pn 20 26 19.0 -1.4
B928 Sn Sn 20 26 52.0 -2.3
B927 Port Alberni 2.99 88 Pn Pn 20 26 21.8 -1.0
BBB Bella Bella 3.08 15 Pn Pn 20 26 24.4 +0.5
BBB Bella Bella 3.08 15 Pn Pn 20 26 20.6 -3.3
9.1nm,0.3s,baz=229,slow=7.6,SNR=84
BBB Sn Sn 20 26 58.3 -2.4
19nm,0.3s,baz=244,slow=15,SNR=3.1
BBB LR LR 20 27 21.6
comp=Z,304nm,20.4s,baz=201,slow=36
37nm,0.5s
BBB Bella Bella 3.08 15 Pn Pn 20 26 24.0 +0.1
BBB Sn Sn 20 26 58.6 -2.0
PFB Port Renfrew 3.32 99 Pn Pn 20 26 26.1 -1.2
PFB Sn Sn 20 27 04.5 -2.3
C03A Quillayute Air 3.44 110 Pn Pn 20 26 27.7 -1.2
B926 Mesachie Lake 3.47 95 Pn Pn 20 26 28.9 -0.5
B926 Sn Sn 20 27 09.9 -0.6
CLRS Cowichan Lake 3.47 95 Pn Pn 20 26 29.4 -0.1
CLRS Cowichan Lake 3.47 95 Pn Pn 20 26 28.4 -1.0
NLLB Nanaimo Lost L 3.53 88 Pn Pn 20 26 30.5 +0.3
NLLB Sn Sn 20 27 13.6 +1.6
SHB Sechelt 3.61 82 Pn Pn 20 26 31.7 +0.3
SHB Sn Sn 20 27 15.9 +1.8
OBC Olympics--Boni 3.71 107 Pn Pn 20 26 32.1 -0.6
SYMB Survey Mountai 3.74 98 Pn Pn 20 26 32.0 -1.1
GOBB Galiano Island 3.86 92 Pn Pn 20 26 34.8 0.0
BUTB Butedale 3.89 8 Pn Pn 20 26 34.9 -0.4
BUTB Sn Sn 20 27 19.6 -1.4
B009 North Saanich 3.95 96 Pn Pn 20 26 36.0 +0.1
PGC Sidney 3.95 96 Pn Pn 20 26 35.7 -0.2
PGC Sidney 3.95 96 Pn Pn 20 26 35.5 -0.3
B011 North Saanich 3.95 96 Pn Pn 20 26 36.0 +0.1
BIB Bowen Island 3.97 85 Pn Pn 20 26 36.6 +0.3
OSD Olympics--Snow 4.02 108 Pn Pn 20 26 36.1 -1.0
MGMB Mountain Meage 4.10 68 Pn Pn 20 26 41.5 +3.4
NLWA Neilton Lookou 4.10 114 Pn Pn 20 26 37.7 -0.4
SNB Saturna Island 4.11 94 Pn Pn 20 26 38.0 -0.1
GRIB Gribbell Islan 4.13 2 Pn Pn 20 26 37.6 -0.8
WSLR Whistler 4.29 75 Pn Pn 20 26 42.6 +1.9
MCW Mount Constitu 4.34 95 Pn Pn 20 26 42.2 +0.8
HWKB Hawksbury Isla 4.39 2 Pn Pn 20 26 41.7 -0.3
HWKB Sn Sn 20 27 31.1 -2.1
DIB Dawson Inlet, 4.44 335 Pn Pn 20 26 41.3 -1.3
HNBB Haney 4.46 87 Pn Pn 20 26 43.6 +0.7
GRNB Grenville Isla 4.65 356 Pn Pn 20 26 45.6 +0.1
GRNB Grenville Isla 4.65 356 Pn Pn 20 26 44.7 -0.9
GRNB Sn Sn 20 27 38.4 -1.1
GNW Green Mountain 4.67 108 Pn Pn 20 26 46.9 +1.1
MBW Mount Baker 4.94 92 Pn Pn 20 26 50.5 +0.8
UBRB Upper Baezaeko 4.96 40 Pn Pn 20 26 53.0 +3.0
LLLB Lillooet 5.04 71 Pn Pn 20 26 52.3 +1.4
LLLB Lillooet 5.04 71 Pn Pn 20 26 52.1 +1.2
RUBB Prince Rupert 5.14 354 Pn Pn 20 26 52.9 +0.6
HOPB Hope 5.21 85 Pn Pn 20 26 54.2 +1.0
RPW Rockport 5.25 95 Pn Pn 20 26 54.6 +0.8
GPW Glacier Peak 5.57 98 Pn Pn 20 26 59.3 +0.9
FMW Mount Fremont 5.65 111 Pn Pn 20 27 00.1 +0.7
LON Longmire 5.65 113 Pn 20 26 59.3 0.0
LON Longmire 5.65 113 Pn Pn 20 27 00.4 +1.1
F04A Amboy 5.74 122 Pn Pn 20 26 59.7 -0.9
FSJB Fort St James 6.12 29 Pn Pn 20 27 08.1 +2.3
LTY Liberty 6.14 105 Pn 20 27 06.3 +0.2
LTY Liberty 6.14 105 Pn Pn 20 27 07.4 +1.3
COR Corvallis 6.23 136 Pn 20 27 09.0 +1.8
V35K Ketchikan 6.27 348 Pn Pn 20 27 07.2 -0.6
V35K Ketchikan 6.27 348 P Pn 20 27 09.9 +2.1
baz=169
HOOD Mount Hood Mea 6.54 124 Pn 20 27 13.5 +1.8
BUCK Buck Mountain 6.67 136 Pn Pn 20 27 15.6 +2.1
B08A Colville Reser 6.69 94 Pn Pn 20 27 14.4 +0.7
B08A Colville Reser 6.69 94 Pn Pn 20 27 14.7 +1.0
H04A Detroit Lake 6.69 130 Pn Pn 20 27 15.3 +1.6
U35K Hyder 6.72 357 Pn Pn 20 27 14.5 +0.6
G05A Wamic 6.78 123 Pn Pn 20 27 16.1 +1.2
E07A Sunnyside 6.93 109 Pn Pn 20 27 16.6 -0.4
I04A Tendick Farm, 7.25 136 Pn 20 27 23.2 +1.9
D08A Wollman Farm, 7.32 103 Pn Pn 20 27 22.8 +0.6
I05D Terrebonne, OR 7.36 129 Pn Pn 20 27 24.3 +1.4
WRAK Wrangell Islan 7.43 347 P Pn 20 27 25.3 +1.6
baz=167
DBO Dodson Butte 7.44 143 Pn 20 27 26.0 +2.1
E08A Dider Farm, El 7.46 108 Pn Pn 20 27 23.7 -0.4
T35M Bob Quinn 7.79 356 Pn Pn 20 27 30.5 +1.7
T35M Bob Quinn 7.79 356 Pn Pn 20 27 30.3 +1.6
T35M Bob Quinn 7.79 356 P Pn 20 27 31.0 +2.2
baz=178
J04A Umpqua Nationa 7.82 137 Pn Pn 20 27 31.5 +2.2
G08A Pilot Rock 8.10 115 Pn Pn 20 27 36.0 +2.9
BMTB Bullhead Mount 8.13 30 P Pn 20 27 37.3 +3.9
NEW Newport 8.16 92 Pn Pn 20 27 33.7 -0.1
NEW Newport 8.16 92 Pn Pn 20 27 34.6 +0.8
1.5nm,0.3s,baz=286,slow=11,SNR=8.1
NEW LR LR 20 30 47.5
comp=Z,884nm,19.1s,baz=274,slow=38
5.2nm,0.4s
NBC4 NorthernBC 4 8.38 36 P Pn 20 27 40.1 +3.4
K04D Chiloquin, OR 8.46 138 Pn Pn 20 27 39.9 +1.8
BDMTA Bald Mountain 8.54 45 P Pn 20 27 42.4 +3.4
KRMB Red Mountain 8.60 151 Pn Pn 20 27 42.1 +2.2
S34M Telegraph Cree 8.77 354 P Pn 20 27 44.9 +2.8
baz=174
F10A Beach Ranch, E 8.83 107 Pn Pn 20 27 44.4 +1.4
YBH Yreka Blue Hor 8.83 146 Pn Pn 20 27 45.4 +2.3
0.7nm,0.3s,baz=337,slow=14,SNR=16
YBH LR LR 20 30 46.0
comp=Z,529nm,19.5s,baz=330,slow=35
42nm,0.9s
NBC5 NorthernBC 5 9.23 23 P Pn 20 27 51.6 +3.2
DLBC Dease Lake 9.24 358 Pn Pn 20 27 48.7 0.0
baz=203,slow=11
DLBC LR LR 20 31 21.3
comp=Z,722nm,20.7s,baz=184,slow=38
KHMM Horse Mountain 9.25 152 Pn Pn 20 27 51.0 +2.2
BMO Blue Mountains 9.32 113 Pn Pn 20 27 50.5 +0.7
J08A Circle Bar Ran 9.55 124 Pn Pn 20 27 57.4 +4.5
R32K Eaglecrest 9.57 343 P Pn 20 27 55.8 +2.8
baz=161
SWHSA Sweathouse Loo 9.62 49 P Pn 20 27 59.6 +5.8
BSMT Bassoo Peak 9.78 93 P Pn 20 27 57.1 +1.0
TOAD Toad River Com 9.95 13 P Pn 20 28 01.5 +3.3
baz=197
PLID Pearl Lake 10.00 109 Pn Pn 20 28 01.4 +2.1
HATC Hat Creek Radi 10.09 143 Pn Pn 20 28 02.3 +1.9
WVOR Wild Horse Val 10.10 128 Pn Pn 20 28 02.4 +1.9
JTMT Jette 10.13 93 P Pn 20 28 01.8 +0.9
O02D Mt. Diablo Mer 10.18 150 Pn Pn 20 28 03.1 +1.5
R33M Jennings River 10.24 355 Pn Pn 20 28 03.5 +1.1
R33M Jennings River 10.24 355 P Pn 20 28 05.2 +2.9
R33M Jennings River 10.24 355 P Pn 20 28 05.0 +2.7
baz=176
NBC6 NorthernBC 6 10.50 24 P Pn 20 28 07.8 +2.0
MSO Missoula 10.61 97 Pn Pn 20 28 08.1 +0.6
P32M Atlin 10.69 348 P Pn 20 28 11.5 +3.1
baz=166
WTLY Watson Lake, Y 10.92 2 P Pn 20 28 14.1 +2.5
baz=183
MFID Camas Ranch 11.02 117 Pn Pn 20 28 11.3 -1.7
PLBC Pleasant Camp 11.03 341 P Pn 20 28 15.8 +2.8
baz=157
ORV Oroville 11.18 147 Pn Pn 20 28 16.3 +1.1
P33M Teslin, Yukon 11.19 351 P Pn 20 28 18.7 +3.4
baz=170
KOTAN Kotaneelee Air 11.35 14 P Pn 20 28 20.5 +3.1
baz=199
P29M Windy Craggy 11.50 338 P Pn 20 28 23.2 +3.8
baz=153
LYMT Lyon Mountain 11.65 95 P Pn 20 28 23.4 +1.7
P30M Million Dollar 11.76 341 P Pn 20 28 25.6 +2.5
baz=157
PAHR Pah Rah Range 11.88 139 Pn Pn 20 28 28.0 +3.1
WHY Whitehorse 11.89 347 Pn Pn 20 28 27.4 +2.6
WHY Whitehorse 11.89 347 P Pn 20 28 27.9 +3.1
WHY Whitehorse 11.89 347 P Pn 20 28 27.9 +3.1
baz=164,SNR=12
AFDM Forest Hills D 11.90 146 Pn Pn 20 28 27.3 +2.2
MPK Martis Peak 11.96 143 Pn Pn 20 28 29.1 +3.0
PNL Peninsula 11.97 335 P Pn 20 28 28.7 +2.9
baz=148
N32M Quiet Lake 12.14 351 P Pn 20 28 30.9 +2.7
baz=170
O30N Mendenhall 12.19 344 P Pn 20 28 33.1 +4.1
O30N Mendenhall 12.19 344 P Pn 20 28 32.3 +3.4
baz=160,SNR=12
EMB Emerald Bay 12.21 144 Pn Pn 20 28 27.8 -1.7
O29M Mount Kennedy 12.29 338 P Pn 20 28 32.8 +2.4
baz=152
BMN Battle Mountai 12.30 131 Pn Pn 20 28 29.6 -1.0
PNTR Pine Nut 12.31 142 Pn Pn 20 28 33.1 +2.3
TGTN Hyland Airport 12.35 2 P Pn 20 28 33.6 +2.5
baz=185
HYT Haines Junctio 12.52 341 P Pn 20 28 35.7 +2.3
baz=156
YERR Yerington 12.55 141 Pn Pn 20 28 35.9 +1.9
BOZ Bozeman (W) 12.55 100 Pn Pn 20 28 35.7 +1.7
PINM Pinnacle 12.56 334 P Pn 20 28 36.3 +2.2
baz=147
YUK6 Outpost Mounta 12.81 340 P Pn 20 28 39.4 +1.9
baz=154
N31M Braeburn, Yuko 12.81 346 Pn Pn 20 28 40.9 +3.6
N31M Braeburn, Yuko 12.81 346 P Pn 20 28 40.6 +3.2
N31M Braeburn, Yuko 12.81 346 P Pn 20 28 39.9 +2.5
baz=162,SNR=12
YUK5 Granite Creek 12.87 341 P Pn 20 28 41.8 +3.6
CMB Columbia Colle 12.93 147 Pn Pn 20 28 38.9 -0.1
KVN Kaiserville 12.98 137 Pn Pn 20 28 42.4 +2.5
N30M Aishikik Lake 13.01 343 Pn Pn 20 28 43.1 +2.9
N30M Aishikik Lake 13.01 343 P Pn 20 28 43.4 +3.3
N30M Aishikik Lake 13.01 343 P Pn 20 28 42.4 +2.2
baz=158,SNR=7.8
RKAV Rock Avalanche 13.05 333 P Pn 20 28 43.0 +2.3
ELK Elko 13.10 125 LR LR 20 33 36.3
comp=Z,110nm,20.7s,baz=333,slow=36
TABL Table Mountain 13.10 334 Pn Pn 20 28 43.4 +1.9
O28M Mount Upton 13.11 336 P Pn 20 28 43.7 +2.0
baz=149
RYN Ryan 13.15 140 Pn Pn 20 28 43.1 +0.9
YHL Hebgen Lake 13.15 103 Pn Pn 20 28 43.3 +1.0
FARO Faro, Yukon 13.23 352 Pn Pn 20 28 39.7 -3.4
FARO Faro, Yukon 13.23 352 P Pn 20 28 45.4 +2.3
baz=170
YUK4 Talbot Arm 13.23 340 P Pn 20 28 45.9 +2.6
baz=154
M31M Drury Creek, Y 13.31 350 P Pn 20 28 46.6 +2.4
baz=167
YMR Madison River 13.37 103 Pn Pn 20 28 45.5 +0.3
LOGN Logan Glacier 13.38 335 Pn Pn 20 28 46.3 +1.1
LOGN Logan Glacier 13.38 335 P Pn 20 28 46.3 +1.1
YHH Holmes Hill 13.39 102 Pn Pn 20 28 48.1 +2.5
NVAR Mina Array Bea 13.41 139 Pn Pn 20 28 48.4 +2.6
NVAR Mina Array Bea 13.41 139 Pn Pn 20 28 46.5 +0.7
1.1nm,0.7s,baz=313,slow=12,SNR=5.0
NVAR LR LR 20 33 43.9
comp=Z,294nm,20.7s,baz=334,slow=36
YUK8 Steele Glacier 13.44 338 P Pn 20 28 48.2 +2.1
baz=151
NV11 Mina Array Sit 13.47 139 Pn Pn 20 28 47.9 +1.4
MMPY Sheldon Lake, 13.47 356 Pn Pn 20 28 50.9 +4.5
MMPY Sheldon Lake, 13.47 356 P Pn 20 28 50.7 +4.3
MMPY Sheldon Lake, 13.47 356 P Pn 20 28 48.7 +2.3
baz=176,SNR=10
LHV Little Huntoon 13.47 140 Pn Pn 20 28 47.8 +1.3
YNR Norris Junctio 13.53 102 Pn Pn 20 28 44.9 -2.6
CTGM Chitina Glacie 13.58 335 P Pn 20 28 49.9 +1.9
CTG Chitna Glacier 13.59 334 P Pn 20 28 49.6 +1.6
baz=146,SNR=5.8
FLWY Flagg Ranch 13.81 105 Pn Pn 20 28 53.1 +1.9
CRQE Cirque 13.94 331 P Pn 20 28 53.9 +1.0
baz=141
M30M Minto, Yukon 14.00 346 P Pn 20 28 55.8 +2.2
M30M Minto, Yukon 14.00 346 P Pn 20 28 56.2 +2.6
baz=161
YUK3 Moose Creek 14.03 338 P Pn 20 28 54.1 -0.1
YUK3 Moose Creek 14.03 338 P Pn 20 28 55.7 +1.5
baz=150,SNR=7.1
TPH Tonopah 14.17 137 Pn Pn 20 28 58.6 +2.3
M29M Somme Creek 14.18 343 P Pn 20 28 59.1 +3.0
M29M Somme Creek 14.18 343 P Pn 20 28 57.9 +1.8
baz=156,SNR=17
RLMT Red Lodge 14.27 99 Pn Pn 20 28 59.0 +1.5
MCARA McCarthy VSAT 14.41 333 Pn Pn 20 28 59.1 -0.1
MCARA McCarthy VSAT 14.41 333 P Pn 20 29 00.2 +1.0
baz=143
BMRM Bremner River 14.60 329 P Pn 20 29 02.3 +0.6
baz=138
R11B Troy Canyon, C 14.71 132 Pn Pn 20 29 01.8 -1.9
R11B Troy Canyon, C 14.71 132 P Pn 20 29 05.9 +2.3
baz=321
L29M L29M 14.73 344 Pn Pn 20 29 04.8 +1.3
L29M L29M 14.73 344 P Pn 20 29 05.8 +2.2
L29M L29M 14.73 344 P Pn 20 29 05.4 +1.9
baz=158,SNR=16
GMN Gold Mountain 14.80 139 Pn Pn 20 29 05.2 +0.3
DUG Dugway, Tooele 14.81 121 Pn Pn 20 29 06.6 +1.8
SPR3 Spring Creek 3 14.84 128 Pn Pn 20 29 07.5 +2.0
M27K Edge Creek, AK 14.88 337 Pn Pn 20 29 04.3 -1.4
M27K Edge Creek, AK 14.88 337 P Pn 20 29 06.8 +1.0
baz=148
GRAC Grapevine Rang 15.01 140 Pn Pn 20 29 07.5 0.0
GRAC IAmb IAmb 20 29 32.5
comp=Z,20nm,1.1s
N25K Chitina, Valde 15.07 331 Pn Pn 20 29 07.2 -1.0
N25K IAmb IAmb 20 29 10.1
comp=Z,16nm,1.1s
N25K Chitina, Valde 15.07 331 P Pn 20 29 09.1 +0.9
baz=140
PD31 Pinedale Array 15.19 108 Pn Pn 20 29 10.7 +0.7
PD31 IAmb IAmb 20 29 22.0
comp=Z,15nm,1.1s
PDAR Pinedale Array 15.19 108 Pn Pn 20 29 10.7 +0.7
PDAR Pinedale Array 15.19 108 Pn Pn 20 29 12.8 +2.8
comp=Z,0.1nm,0.3s,baz=317,slow=11,SNR=15
PDAR LR LR 20 35 15.6
comp=Z,165nm,18.7s,baz=284,slow=38
comp=Z,2.1nm,0.8s
M26K Nabesna, AK 15.22 335 Pn Pn 20 29 09.2 -0.9
M26K IAmb IAmb 20 29 25.4
comp=Z,14nm,1.3s
M26K Nabesna, AK 15.22 335 P Pn 20 29 12.6 +2.5
baz=145
K29M Barlow Dome 15.31 346 Pn Pn 20 29 12.4 +1.1
K29M Barlow Dome 15.31 346 P Pn 20 29 13.9 +2.6
K29M Barlow Dome 15.31 346 P Pn 20 29 13.3 +1.9
baz=161,SNR=7.9
KLU Klutina 15.42 329 P Pn 20 29 13.9 +1.1
baz=137
PSUT Pine Spring 15.44 128 IAmb IAmb 20 29 24.7
comp=Z,13nm,1.1s
BCAR Beaver Creek A 15.46 338 Pn Pn 20 29 13.8 +0.5
L27K Beaver Creek, 15.47 338 Pn Pn 20 29 13.1 -0.3
L27K IAmb IAmb 20 29 20.8
comp=Z,18nm,1.1s
L27K Beaver Creek, 15.47 338 P Pn 20 29 13.9 +0.5
L27K Beaver Creek, 15.47 338 P Pn 20 29 14.3 +0.9
baz=149,SNR=11
WCT Wildcat Mounta 15.50 138 IAmb IAmb 20 29 25.1
comp=Z,13nm,1.0s
TPNV Topopah Spring 15.54 137 IAmb IAmb 20 29 40.5
comp=Z,14nm,1.1s
YKA Yellowknife Ar 15.61 26 Pn Pn 20 29 12.8 -2.4
comp=Z,0.7nm,0.3s,baz=222,slow=19,SNR=13
YKA LR LR 20 34 21.8
comp=Z,165nm,18.5s,baz=72,slow=34
LAO LASA Array 15.70 90 Pn Pn 20 29 13.9 -2.6
PRN Pahroc Range 15.72 133 IAmb IAmb 20 29 41.2
comp=Z,19nm,1.0s
ISA Isabella, Lake 15.73 145 Pn Pn 20 29 18.8 +1.7
ISA IAmb IAmb 20 29 27.9
comp=Z,20nm,1.1s
L26K Log Cabin Wild 15.82 336 Pn Pn 20 29 15.8 -2.2
L26K Log Cabin Wild 15.82 336 P Pn 20 29 18.7 +0.8
baz=146
DAWY Dawson 15.84 344 Pn Pn 20 29 19.0 +0.8
DAWY IAmb IAmb 20 29 30.1
comp=Z,25nm,1.4s
DAWY Dawson 15.84 344 P Pn 20 29 20.0 +1.8
DAWY Dawson 15.84 344 P Pn 20 29 19.1 +1.0
baz=156,SNR=8.1
J30M Hart River 15.84 349 Pn Pn 20 29 18.6 +0.4
J30M IAmb IAmb 20 29 36.0
comp=Z,21nm,1.4s
J30M Hart River 15.84 349 P P 20 29 22.6 +0.5
J30M Hart River 15.84 349 P Pn 20 29 19.8 +1.6
baz=164,SNR=5.8
PWL Port Wells 15.86 324 P Pn 20 29 19.1 +0.7
baz=130
M24K Tolsona, Glenn 15.94 330 P Pn 20 29 20.1 +0.5
baz=138
J29N Klondike Camp 15.99 346 Pn Pn 20 29 19.2 -1.0
J29N IAmb IAmb 20 29 32.7
comp=Z,23nm,1.4s
J29N Klondike Camp 15.99 346 P Pn 20 29 21.8 +1.6
baz=160
GWY Greenwater Val 16.00 140 Pn Pn 20 29 21.3 +0.8
BCW Bitter Crk WRg 16.05 149 IAmb IAmb 20 29 31.1
comp=Z,33nm,1.2s
SCM Sheep Creek Mo 16.14 328 P Pn 20 29 22.8 +0.8
baz=135
KDAK Kodiak Island 16.18 311 LR LR 20 33 49.5
comp=Z,298nm,21.5s,baz=134,slow=31
KDAK Kodiak Island 16.18 311 P Pn 20 29 24.1 +1.5
baz=113
BRSE Bradley Lake S 16.20 319 P Pn 20 29 23.5 +0.7
baz=122
M23K Glacier View 16.25 328 P Pn 20 29 26.0 +2.6
baz=134
KNK Knik Glacier 16.26 326 IAmb IAmb 20 29 36.1
comp=Z,32nm,1.2s
KNK Knik Glacier 16.26 326 P Pn 20 29 25.0 +1.4
baz=131
OHAK Old Harbor 16.34 308 P Pn 20 29 26.7 +2.2
baz=110
MSU Marysvale 16.34 124 Pn Pn 20 29 24.6 -0.3
K27K Chicken 16.35 340 P Pn 20 29 26.7 +1.9
baz=150
CCAC Calif City Air 16.36 145 Pn Pn 20 29 24.9 -0.1
CCAC IAmb IAmb 20 29 52.9
comp=Z,18nm,1.1s
PAX Paxson 16.37 333 P Pn 20 29 25.8 +0.7
baz=141
SHPR Sheep Range 16.40 136 Pn Pn 20 29 26.5 +0.9
I30M Mount Dempster 16.47 350 Pn Pn 20 29 24.9 -1.5
I30M Mount Dempster 16.47 350 P P 20 29 30.3 +1.3
I30M Mount Dempster 16.47 350 P Pn 20 29 28.1 +1.8
baz=165
SML Sawmill 16.47 327 Pn Pn 20 29 26.1 -0.2
SML IAmb IAmb 20 29 45.2
comp=Z,38nm,1.4s
SML Sawmill 16.47 327 P Pn 20 29 28.0 +1.7
baz=133
RC01 Rabbit Creek A 16.54 324 P Pn 20 29 29.7 +2.5
baz=128
DGMT Dagmar 16.57 83 Pn Pn 20 29 27.8 +0.1
DGMT IAmb IAmb 20 29 35.3
comp=Z,37nm,1.0s
Q16A Castle Valley 16.61 121 Pn Pn 20 29 25.6 -2.7
Q16A IAmb IAmb 20 29 44.8
comp=Z,23nm,1.2s
PMR Palmer 16.62 326 Pn Pn 20 29 26.6 -1.5
PMR Palmer 16.62 326 P Pn 20 29 30.7 +2.6
baz=131
P18A Preston Nutter 16.65 118 Pn Pn 20 29 26.1 -2.9
P18A IAmb IAmb 20 29 43.2
comp=Z,20nm,1.2s
GHO Glory Hole Cre 16.66 326 IAmb IAmb 20 29 45.4
comp=Z,28nm,1.3s
GSC Goldstone, Bar 16.70 142 Pn Pn 20 29 28.7 -0.7
SCRK Sand Creek 16.77 337 Pn Pn 20 29 28.6 -1.5
SCRK Sand Creek 16.77 337 P Pn 20 29 30.8 +0.7
baz=146,SNR=6.4
WAT6 Susitna Watana 16.80 330 P Pn 20 29 31.9 +1.4
baz=136
RIDG Independent Ri 16.80 336 P Pn 20 29 32.1 +1.7
baz=144
EGAK Eagle 16.82 342 Pn Pn 20 29 29.9 -0.7
EGAK Eagle 16.82 342 P Pn 20 29 32.9 +2.3
baz=154,SNR=6.7
H31M Peel River 16.83 353 P P 20 29 33.8 +0.8
baz=170
SRU San Rafael Swe 16.84 120 Pn Pn 20 29 30.9 -0.4
I29M Ogilvie Camp, 16.86 347 Pn Pn 20 29 31.1 -0.1
I29M Ogilvie Camp, 16.86 347 P Pn 20 29 32.6 +1.5
baz=161
LCMT Little Creek M 16.91 130 Pn Pn 20 29 31.4 -0.8
CAPN Captain Cook N 16.92 321 P Pn 20 29 34.4 +2.4
baz=125
DHY Denali Highway 17.03 331 Pn Pn 20 29 31.1 -2.3
DHY Denali Highway 17.03 331 P Pn 20 29 34.5 +1.1
baz=138
R18K Karluk 17.05 309 P Pn 20 29 35.3 +1.8
baz=110
M22K Willow 17.09 325 P Pn 20 29 35.9 +1.8
baz=129
J26L Joseph Creek 17.10 339 Pn Pn 20 29 34.6 +0.3
J26L IAmb IAmb 20 29 40.0
comp=Z,19nm,1.1s
J26L Joseph Creek 17.10 339 P Pn 20 29 35.0 +0.7
baz=148,SNR=13
K24K Donnelly Dome 17.11 335 P Pn 20 29 35.7 +1.5
baz=142
Q19K Cape Douglas, 17.14 314 P Pn 20 29 36.8 +2.0
baz=115
SUA Susitna One 17.16 324 IAmb IAmb 20 29 38.9
comp=Z,16nm,0.9s
SUA Susitna One 17.16 324 P Pn 20 29 36.9 +1.9
baz=127
K22A Casper 17.16 104 Pn Pn 20 29 36.2 +0.9
K22A IAmb IAmb 20 29 41.3
comp=Z,31nm,1.2s
V12A Nelson 17.18 136 Pn Pn 20 29 34.2 -1.3
O20K Slope Mountain 17.19 318 P Pn 20 29 37.1 +1.7
baz=120
I28M Miner Creek 17.20 345 P P 20 29 38.5 +1.4
I28M Miner Creek 17.20 345 P Pn 20 29 37.7 +2.2
baz=157,SNR=11
O20A White River Ci 17.51 113 P 20 29 41.0 +0.2
SPU Mount Spurr 17.52 322 Pn Pn 20 29 36.3 -3.2
HMU Henry Mountain 17.54 123 Pn Pn 20 29 39.9 -0.2
N20K Mount Spurr 17.59 322 P Pn 20 29 42.3 +1.9
baz=124
EPYK Eagle Plains 17.61 350 P Pn 20 29 42.1 +1.5
EPYK IAmb IAmb 20 29 44.5
comp=Z,28nm,1.4s
EPYK Eagle Plains 17.61 350 P Pn 20 29 42.5 +1.9
baz=165,SNR=5.8
J25K Salcha River, 17.64 337 Pn 20 29 42.5 +1.5
J25K Salcha River, 17.64 337 P Pn 20 29 42.7 +1.7
J25K Salcha River, 17.64 337 P Pn 20 29 42.2 +1.3
baz=145,SNR=11
I27K Kandik River 17.64 343 P P 20 29 43.0 +1.0
I27K Kandik River 17.64 343 P Pn 20 29 42.6 +1.7
baz=154,SNR=8.4
H29M Whitestone 17.68 348 Pn 20 29 42.8 +1.4
H29M Whitestone 17.68 348 P P 20 29 43.4 +1.1
H29M Whitestone 17.68 348 P Pn 20 29 43.2 +1.9
baz=161
FFC Flin Flon 17.69 61 Pn Pn 20 29 39.8 -1.8
FFC Flin Flon 17.69 61 P Pn 20 29 41.1 -0.5
I26K Coal Creek Min 17.69 341 P Pn 20 29 43.3 +1.7
I26K Coal Creek Min 17.69 341 P P 20 29 44.8 +2.4
baz=150
Q18K Katmai Hardscr 17.69 312 P P 20 29 43.8 +1.1
baz=112
RND Reindeer 17.74 330 IAmb IAmb 20 29 47.6
comp=Z,25nm,1.4s
SKT Skwentna 17.76 324 P Pn 20 29 43.9 +1.4
baz=127
U15A North Rim 17.85 129 Pn Pn 20 29 43.6 -0.4
HDA Harding Lake 17.90 335 P Pn 20 29 45.7 +1.5
baz=141
ELS Elsinore Mount 17.92 146 Pn Pn 20 29 42.0 -2.6
ELS IAmb IAmb 20 29 49.3
comp=Z,17nm,1.1s
MCK McKinley 17.99 331 Pn Pn 20 29 44.2 -1.1
MCK IAmb IAmb 20 29 48.2
comp=Z,23nm,1.2s
MCK McKinley 17.99 331 P Pn 20 29 47.0 +1.7
baz=136,SNR=6.4
RSSD Black Hills 18.08 97 Pn Pn 20 29 45.1 -1.6
RSSD IAmb IAmb 20 29 53.4

comp=Z,15nm,0.9s
W13A Hualapai Mount 18.14 135 Pn 20 29 48.2 +0.7
PV23 Carpenter Ridg 18.15 119 P 20 29 48.9 +0.9
PV23 IAmb IAmb 20 29 55.8
comp=Z,22nm,0.7s
G30M tAoh Zraii Nji 18.15 351 Pn **Pn 20 29 45.0 -2.3**
G30M tAoh Zraii Nji 18.15 351 P **Pn 20 29 48.6 +1.4**
G30M tAoh Zraii Nji 18.15 351 P **Pn 20 29 48.7 +1.4**
baz=166
IL31 18.16 336 Pn 20 29 46.7 -0.6
ILAR Eielson Array 18.16 336 Pn **Pn 20 29 45.6 -1.8**
ILAR Eielson Array 18.16 336 P **Pn 20 29 44.4 -3.0**
comp=Z,0.1nm,0.3s,baz=146,slow=11,SNR=29
ILAR LR LR 20 35 39.3
comp=Z,244nm,21.8s,baz=153,slow=34
comp=Z,2.1nm,0.8s
H27K Steamboat Moun 18.19 344 P **Pn 20 29 49.2 +1.5**
H27K Steamboat Moun 18.19 344 P **P 20 29 49.3 +1.4**
baz=155
PV10 Paradox Valley 18.19 119 Pn 20 29 48.8 +0.7
PV14 Lion Creek, Pa 18.20 119 Pn **Pn 20 29 46.7 -1.5**
PV22 Blue Mesa, Par 18.23 118 Pn **Pn 20 29 47.0 -1.5**
TRF Thorofare Moun 18.24 329 P **Pn 20 29 49.5 +1.0**
baz=133
PV04 Paradox Valley 18.25 119 P 20 29 49.7 +0.7
PV04 IAmb IAmb 20 30 03.1
comp=Z,22nm,0.9s
PV20 West Nyswonger 18.25 119 P 20 29 50.8 +1.8
O18K Koktuh Hills 18.25 315 P **Pn 20 29 50.1 +1.5**
baz=115
PV19 Morning Glory 18.27 119 Pn 20 29 48.6 -0.4
PV19 IAmb IAmb 20 30 02.1
comp=Z,34nm,1.1s
WRH Wood River Hil 18.27 334 Pn 20 29 48.4 -0.3
WRH IAmb IAmb 20 29 51.2
comp=Z,16nm,1.0s
G29M Pine Creek 18.29 349 Pn 20 29 48.4 -0.5
G29M IAmb IAmb 20 29 53.6
comp=Z,32nm,1.1s
G29M Pine Creek 18.29 349 P **P 20 29 50.5 +1.5**
G29M Pine Creek 18.29 349 P **Pn 20 29 50.2 +1.3**
baz=163
PV17 East Wray Mesa 18.30 119 Pn 20 29 49.8 +0.3
PV16 Nyswonger Mesa 18.30 119 Pn 20 29 48.6 -0.8
PFO Pinyon Flats O 18.32 144 P **Pn 20 29 48.5 -1.0**
PFO Pinyon Flats O 18.32 144 P **Pn 20 29 49.5 0.0**
comp=Z,0.1nm,0.3s,baz=327,slow=8.4,SNR=7.0
PFO LR LR 20 36 50.8
comp=Z,164nm,19.0s,baz=350,slow=37
comp=Z,6.4nm,0.9s
CCB Clear Creek Bu 18.32 334 Pn 20 29 50.0 +0.8
M20K Styx River 18.33 323 P **Pn 20 29 50.1 +0.6**
baz=124
PV11 David Mesa, Pa 18.34 119 P 20 29 51.0 +1.0
PV18 Skein Mesa, Pa 18.35 119 Pn **Pn 20 29 48.8 -1.3**
N19K Bonanza Creek 18.35 319 Pn **Pn 20 29 47.5 -2.3**
N19K IAmb IAmb 20 29 50.0
comp=Z,18nm,1.0s
N19K Bonanza Creek 18.35 319 P **Pn 20 29 49.9 +0.1**
baz=119,SNR=5.8
PV05 Paradox Valley 18.36 120 P **Pn 20 29 48.4 -1.8**
PV05 IAmb IAmb 20 29 59.1
comp=Z,12nm,0.8s
PV12 Saucer Basin, 18.36 119 Pn 20 29 49.3 -0.9
PV12 IAmb IAmb 20 29 56.6
comp=Z,23nm,0.9s
PV07 Paradox Valley 18.37 118 P **Pn 20 29 50.9 +0.6**
PV03 Paradox Valley 18.38 119 P **Pn 20 29 50.3 -0.1**
PV03 IAmb IAmb 20 30 09.2
comp=Z,25nm,1.1s
F31M Tsiigehtchic 18.41 355 P 20 29 51.6 +1.3
F31M Tsiigehtchic 18.41 355 P **Pn 20 29 51.8 +1.5**
F31M Tsiigehtchic 18.41 355 P **P 20 29 50.9 +0.7**
baz=172,SNR=13
PRP Porcupine Dome 18.41 338 P 20 29 49.4 -1.1
PRP IAmb IAmb 20 30 05.0
comp=Z,17nm,1.2s
PRP Porcupine Dome 18.41 338 P **P 20 29 51.7 +1.2**
baz=146,SNR=8.9
PV13 Radium Mtn., P 18.46 119 P **P 20 29 50.0 -1.3**
PV13 IAmb IAmb 20 30 04.9
comp=Z,25nm,1.0s
BWN Browne 18.47 332 P 20 29 50.7 -0.3
BWN IAmb IAmb 20 29 52.9
comp=Z,35nm,1.0s
N23A Red Feather La 18.47 108 P **P 20 29 50.4 -1.1**
N23A Red Feather La 18.47 108 P **Pn 20 29 54.1 +2.6**
baz=304
PV02 Paradox Valley 18.48 119 P **Pn 20 29 53.7 +2.0**
PV02 IAmb IAmb 20 30 04.0
comp=Z,32nm,1.0s
COLA College 18.51 335 P **P 20 29 50.2 -1.2**
COLA College 18.51 335 P **P 20 29 52.8 +1.4**
baz=140
KTH Kantishna Hill 18.52 329 P **P 20 29 50.4 -1.3**
KTH IAmb IAmb 20 29 55.4
comp=Z,17nm,1.0s
PV15 Paradox Valley 18.53 118 P **P 20 29 50.8 -1.4**
PPLA Purkeypile 18.56 326 P **P 20 29 52.3 +0.2**
baz=128
POKR Poker Plat Res 18.58 336 P **P 20 29 52.5 +0.2**
POKR IAmb IAmb 20 29 55.4
comp=Z,20nm,1.1s
POKR Poker Plat Res 18.58 336 P **P 20 29 52.3 +0.1**
baz=142
P17K Kvichak River 18.58 313 P **P 20 29 52.9 +0.6**
baz=112
PV01 Paradox Valley 18.62 119 P **P 20 29 53.7 +0.6**
PV01 IAmb IAmb 20 30 12.8
comp=Z,24nm,1.2s
NEA2 Nenana 18.65 333 P **P 20 29 50.6 -2.4**
NEA2 Nenana 18.65 333 P **P 20 29 52.4 -0.6**
baz=138,SNR=7.9
F30M Barrier River 18.73 352 P **P 20 29 54.7 +0.8**
F30M Barrier River 18.73 352 P **P 20 29 54.6 +0.8**
baz=168
G27K Doyon Strip 18.73 345 P **P 20 29 52.9 -1.0**
G27K IAmb IAmb 20 30 01.1
comp=Z,21nm,1.4s
G27K Doyon Strip 18.73 345 P **P 20 29 55.2 +1.3**
G27K Doyon Strip 18.73 345 P **P 20 29 55.2 +1.3**
baz=155,SNR=11
CAST Castle Rocks 18.84 327 P **P 20 29 53.9 -1.2**
CAST Castle Rocks 18.84 327 P **P 20 29 54.5 -0.6**
baz=130
M19K Big River Lodg 18.85 322 P **P 20 29 54.5 -0.8**
M19K IAmb IAmb 20 29 57.4
comp=Z,19nm,0.9s
M19K Big River Lodg 18.85 322 P **P 20 29 55.0 -0.2**
baz=122,SNR=9.4
BPAW Bear Paw Mtn. 18.91 330 P **P 20 29 54.6 -1.3**
BPAW Bear Paw Mtn. 18.91 330 P **P 20 29 57.0 +1.2**
baz=133
N18K Kilae Creek 18.91 317 P **P 20 29 54.0 -1.9**
N18K IAmb IAmb 20 29 57.3
comp=Z,23nm,1.1s
N18K Kilae Creek 18.91 317 P **P 20 29 56.5 +0.6**
baz=117
L20K Farewell, AK 18.95 324 P **P 20 29 55.6 -0.8**
baz=124,SNR=7.8
BLYC Blythe 18.99 139 P **P 20 29 56.8 -0.1**
WUAZ Wupatki 19.02 129 P **P 20 29 57.2 -0.3**
WUAZ IAmb IAmb 20 30 17.1
comp=Z,16nm,1.2s
H25L Birch Creek 19.10 340 P **P 20 29 57.8 -0.1**
baz=146
O17K Koliganek Bris 19.10 314 P **P 20 29 58.0 +0.1**
baz=112
I23K Minto, Yukon-K 19.14 334 P **P 20 29 59.0 +0.7**
I23K IAmb IAmb 20 30 02.0
comp=Z,30nm,1.1s
I23K Minto, Yukon-K 19.14 334 P **P 20 29 59.6 +1.2**
baz=138,SNR=12
L19K White Mountain 19.18 322 P **P 20 29 56.1 -2.7**
L19K IAmb IAmb 20 30 01.6
comp=Z,27nm,1.2s
L19K White Mountain 19.18 322 P **P 20 29 59.9 +1.0**
baz=122,SNR=7.1
F28M Old Crow 19.20 348 P **P 20 29 58.4 -0.6**
F28M Old Crow 19.20 348 P **P 20 30 00.1 +1.2**
F28M Old Crow 19.20 348 P **P 20 29 59.6 +0.6**
baz=160
CHUM Lake Minchumin 19.21 328 P **P 20 30 00.5 +1.4**
baz=130,SNR=7.5
FYU Fort Yukon 19.22 341 P **P 20 29 59.4 +0.3**

M18K Stony River 19.25 320 P **P 20 30 00.0 +0.5**
baz=119
G26K Porcupine Rive 19.25 343 P **P 20 30 00.9 +1.4**
G26K Porcupine Rive 19.25 343 P **P 20 30 01.4 +1.9**
baz=151
H24K Noodor Dome 19.26 337 P **P 20 30 00.8 +1.1**
baz=142,SNR=15
INK Inuvik 19.26 355 P **P 20 29 56.7 -2.8**
comp=Z,0.1nm,0.3s,baz=196,slow=18,SNR=1.7
INK LR LR 20 37 34.5
comp=Z,281nm,19.1s,baz=216,slow=38
comp=Z,0.6nm,0.7s
INK Inuvik 19.26 355 P **P 20 30 01.1 +1.6**
INK Inuvik 19.26 355 P **P 20 30 01.1 +1.6**
baz=173,SNR=14
MVCO Mesa Verde 19.30 121 IAmb IAmb 20 30 49.5
comp=Z,30nm,1.1s
N17K Nushagak Hills 19.43 316 IAmb IAmb 20 30 10.1
comp=Z,24nm,1.2s
N17K Nushagak Hills 19.43 316 P **P 20 30 03.3 +1.7**
baz=114
MLY Manley 19.47 332 IAmb IAmb 20 30 06.9
comp=Z,28nm,1.3s
MLY Manley 19.47 332 P **P 20 30 03.9 +1.9**
baz=135,SNR=7.0
O16K Kokwok River B 19.51 313 IAmb IAmb 20 30 06.8
comp=Z,18nm,1.1s
O16K Kokwok River B 19.51 313 P **Pn 20 30 05.1 +1.4**
baz=111
K20K Telida 19.52 326 IAmb IAmb 20 30 06.3
comp=Z,18nm,1.0s
K20K Telida 19.52 326 P **Pn 20 30 04.8 +1.0**
baz=126,SNR=6.4
G25K Bearman Lake 19.57 340 P **P 20 30 04.6 +1.5**
G25K Bearman Lake 19.57 340 P **P 20 30 04.1 +1.0**
baz=147
E29M Blow River 19.69 351 IAmb IAmb 20 30 09.3
comp=Z,33nm,1.3s
E29M Blow River 19.69 351 P **P 20 30 06.0 +1.7**
E29M Blow River 19.69 351 P **P 20 30 05.7 +1.4**
baz=164
H23K Yukon River 19.69 335 IAmb IAmb 20 30 17.8
comp=Z,20nm,1.2s
H23K Yukon River 19.69 335 P **P 20 30 06.4 +1.9**
baz=139
BMAR Burnt Mountain 19.82 343 P **P 20 30 06.2 +0.4**
G24K Hadweenzic Riv 19.84 339 IAmb IAmb 20 30 10.4
comp=Z,15nm,1.2s
G24K Hadweenzic Riv 19.84 339 P **P 20 30 07.4 +1.4**
baz=144
S22A 4UR Ranch, Cre 19.90 117 P **Pn 20 30 11.0 +2.2**
baz=312
M17K Holitna River 19.90 318 IAmb IAmb 20 30 09.8
comp=Z,39nm,1.5s
M17K Holitna River 19.90 318 P **P 20 30 07.2 +0.6**
baz=116
ESJX Sierra Juarez 19.94 145 IAmb IAmb 20 30 14.2
comp=Z,14nm,1.3s
L18K Granite Mounta 19.95 321 IAmb IAmb 20 30 10.9
comp=Z,20nm,1.1s
L18K Granite Mounta 19.95 321 P **P 20 30 08.9 +1.7**
baz=119
I21K Tanana 19.95 332 P **P 20 30 09.5 +2.3**
baz=134
F26K Sheenjek River 19.97 343 IAmb IAmb 20 30 12.8
comp=Z,14nm,1.0s
F26K Sheenjek River 19.97 343 P **P 20 30 09.3 +1.8**
baz=152
E27K Coleen River 19.98 347 IAmb IAmb 20 30 17.3
comp=Z,15nm,1.3s
E27K Coleen River 19.98 347 P **P 20 30 09.5 +2.0**
baz=157
TTA Tatalina 20.03 323 P **P 20 30 10.2 +2.0**
baz=122,SNR=7.8
J20K Nowinta River 20.03 328 IAmb IAmb 20 30 11.7
comp=Z,24nm,1.1s
J20K Nowinta River 20.03 328 P Pn 20 30 10.8 +0.9
baz=128,SNR=10
E28M Babbage River 20.08 349 IAmb IAmb 20 30 15.2
comp=Z,13nm,0.9s
E28M Babbage River 20.08 349 P **P 20 30 10.0 +1.4**
E28M Babbage River 20.08 349 P **P 20 30 10.1 +1.4**
baz=161,SNR=13
Q24A Divide 20.11 112 P Pn 20 30 12.9 +1.6
baz=308
N16K Nishlik Lake 20.14 315 P **P 20 30 11.3 +2.0**
baz=112
F25K Christian Rive 20.17 342 IAmb IAmb 20 30 21.1
comp=Z,29nm,1.4s
F25K Christian Rive 20.17 342 P **P 20 30 10.8 +1.2**
F25K Christian Rive 20.17 342 P Pn 20 30 12.3 +0.8
baz=149
H22K Ishtalitna Cre 20.26 334 P **P 20 30 11.6 +1.0**
baz=136,SNR=5.7
C36M Paulatuk 20.36 5 P **P 20 30 10.3 -1.2**
C36M IAmb IAmb 20 30 21.1
comp=Z,10nm,1.1s
C36M Paulatuk 20.36 5 P Pn 20 30 14.5 +1.0
baz=191
M16K Timber Creek 20.42 316 IAmb IAmb 20 30 20.5
comp=Z,28nm,1.1s
M16K Timber Creek 20.42 316 P **P 20 30 14.3 +1.9**
baz=113
J19K Poonan 20.45 326 P **P 20 30 14.8 +2.1**
baz=125,SNR=10
G23K Bananza Creek 20.49 336 IAmb IAmb 20 30 26.0
comp=Z,15nm,1.1s
G23K Bananza Creek 20.49 336 P **P 20 30 13.8 +0.7**
baz=140
I20K Naaghedeneel 20.52 329 P **P 20 30 15.7 +2.3**
baz=129
X18A Snowflake 20.52 128 IAmb IAmb 20 30 24.5
comp=Z,17nm,1.1s
H21K Melozitna Rive 20.53 332 IAmb IAmb 20 30 17.9
comp=Z,11nm,0.8s
H21K Melozitna Rive 20.53 332 P **P 20 30 13.8 +0.3**
baz=133,SNR=6.7
J18K Innoko River 20.58 324 P **P 20 30 14.6 +0.6**
baz=122
L17K Donlin 20.58 320 P **P 20 30 12.9 -1.2**
baz=117
F24K Squaw Lake 20.59 340 IAmb IAmb 20 30 24.6
comp=Z,20nm,1.1s
F24K Squaw Lake 20.59 340 P **P 20 30 15.7 +1.5**
baz=145
E25K Arctic Village 20.61 343 P **P 20 30 15.9 +1.5**
baz=150
N15K Kwethluk River 20.66 314 P **P 20 30 16.9 +2.0**
baz=109
D28M Stokes Point 20.68 351 P **P 20 30 17.2 +2.1**
baz=163
S12K Black Hills 20.80 301 P **P 20 30 18.4 +1.9**
baz=96
K17K Iditarod 20.84 321 P **P 20 30 17.9 +1.0**
baz=118
D27M Malcolm River 20.87 348 P Pn 20 30 19.9 +0.3
baz=159
L16K Owhat River 20.92 318 P 20 30 16.6 -1.1
L16K Owhat River 20.92 318 P **P 20 30 19.1 +1.4**
baz=114
COLD Coldfoot 20.92 337 P **P 20 30 15.6 -2.1**
COLD IAmb IAmb 20 30 23.9
comp=Z,29nm,1.4s
COLD Coldfoot 20.92 337 P **P 20 30 19.2 +1.5**
COLD Coldfoot 20.92 337 P **P 20 30 20.2 +2.5**
baz=140
IMAR Indian Mountai 21.04 332 P **P 20 30 17.3 -1.7**
G22K Bettles 21.04 336 P **P 20 30 20.1 +1.2**
baz=138
H20K Anotleneega Mo 21.08 330 P **P 20 30 20.4 +0.9**
baz=129
M15K Kasigluk River 21.10 315 P **P 20 30 21.2 +1.5**
baz=110
E24K Your Creek 21.18 340 P **P 20 30 21.9 +1.3**
baz=144
G21K Allakaket 21.32 333 IAmb IAmb 20 30 27.9
comp=Z,14nm,0.9s
G21K Allakaket 21.32 333 P **P 20 30 23.4 +1.4**
baz=134
E23K Chandalar 21.43 339 IAmb IAmb 20 30 37.5
comp=Z,15nm,1.1s
E23K Chandalar 21.43 339 P **P 20 30 25.3 +2.1**
baz=143,SNR=6.5
I17K VABM Dome 21.47 322 P **P 20 30 25.7 +2.1**
baz=118
ULM Lac du Bonnet 21.58 74 P **P 20 30 25.6 +0.7**
ULM Lac du Bonnet 21.58 74 P **P 20 30 25.5 +0.6**
comp=Z,35nm,0.8s,baz=284,slow=11,SNR=42

ULM LR LR 20 39 03.2
comp=Z,369nm,20.2s,baz=283,slow=37
comp=Z,35nm,0.8s
ULM Lac du Bonnet 21.58 74 P **P 20 30 25.9 +1.0**
C27K Jago River 21.61 346 IAmb IAmb 20 30 42.0
comp=Z,15nm,1.1s
C27K Jago River 21.61 346 P **P 20 30 27.0 +1.9**
C27K Jago River 21.61 346 P **P 20 30 27.0 +1.9**
baz=155,SNR=6.3
H19K Roundabout Mou 21.62 329 IAmb IAmb 20 30 30.2
comp=Z,16nm,0.9s
H19K Roundabout Mou 21.62 329 P **P 20 30 26.7 +1.4**
baz=127
T25A Trinidad 21.73 114 IAmb IAmb 20 30 41.4
comp=Z,20nm,1.2s
T25A Trinidad 21.73 114 P **P 20 30 30.4 +3.4**
baz=311
D25K Kavik River 21.79 344 P **P 20 30 28.4 +1.3**
baz=150
L15K Ungalak Mounta 21.80 317 P **P 20 30 29.7 +2.6**
baz=111
F21K Alatna River 21.80 335 IAmb IAmb 20 30 45.9
comp=Z,9.8nm,1.0s
F21K Alatna River 21.80 335 P **P 20 30 28.3 +1.1**
baz=135
TOLK Toolik Lake Re 21.88 340 P **P 20 30 29.6 +1.6**
baz=144
E22K Anaktuvuk Pass 22.02 338 P **P 20 30 30.6 +1.1**
baz=139
K15K Wolf Creek Mou 22.04 318 P **P 20 30 31.1 +1.4**
baz=113
J16K Anvik River 22.04 321 P **P 20 30 31.3 +1.6**
baz=116
C26K Camden Bay 22.06 346 P **P 20 30 32.2 +2.3**
C26K Camden Bay 22.06 346 P **P 20 30 30.3 +0.4**
baz=153
H18K Honhosa River 22.08 327 P **P 20 30 31.5 +1.3**
baz=123
ANMO Albuquerque 22.08 122 P **P 20 30 28.8 -1.8**
ANMO IAmb IAmb 20 30 38.9
comp=Z,7.7nm,0.9s
D24K Happy Valley 22.13 342 P **P 20 30 31.2 +0.6**
baz=146
G19K Purcell Mounta 22.20 330 P **P 20 30 32.1 +0.7**
baz=127
L14K Kuka Creek 22.23 316 P **P 20 30 33.0 +1.2**
baz=109
D23K Nanushuk River 22.38 340 P **P 20 30 34.7 +1.3**
baz=142
C24K Franklin Bluff 22.57 343 P **P 20 30 36.1 +0.7**
baz=146
A36M Sachs Harbour 22.92 3 P **P 20 30 40.5 +1.5**
baz=188,SNR=6.2
E19K Redstone River 23.05 333 P **P 20 30 41.9 +1.5**
baz=130
EPLO Experimental L 23.05 75 P **P 20 30 41.9 +1.3**
C23K Itkillik River 23.06 341 P **P 20 30 41.4 +1.0**
baz=144
ECSD EROS Data Cent 23.10 91 IAmb IAmb 20 30 59.4
comp=Z,14nm,1.1s
121A Cookes Peak, D 23.20 128 IAmb IAmb 20 31 01.2
comp=Z,15nm,1.1s
121A Cookes Peak, D 23.20 128 P **P 20 30 45.4 +2.9**
baz=321,SNR=6.4
D19K Kuna River 23.96 334 P **P 20 30 50.6 +1.1**
baz=130
SOLO Sioux Lookout 24.02 74 P **P 20 30 51.0 +0.9**
B22K Teshekpuk Lake 24.06 340 P **P 20 30 51.1 +0.8**
baz=140
E18K Tukpahlearik C 24.08 331 P **P 20 30 51.4 +0.9**
baz=124
G15K Niukluk 24.12 324 P **P 20 30 51.4 +0.5**
baz=115
ATKO Atikokan Iron 24.61 76 P **P 20 30 56.9 +1.4**
PKLO Pickle Lake 24.80 70 P **P 20 30 58.2 +1.0**
EYMN Ely 24.92 78 P **P 20 31 00.5 +2.1**
VHRN Van Horn 26.04 126 IAmb IAmb 20 31 15.6
comp=Z,7.9nm,1.0s
SN07 Snyder 07 26.61 117 IAmb IAmb 20 31 19.0
comp=Z,9.4nm,1.1s
WMOK Wichita Mounta 26.73 111 P **P 20 31 15.1 +0.2**
WMOK IAmb IAmb 20 31 24.6
comp=Z,4.9nm,0.9s
TXAR Lajitas Array 27.89 126 P **P 20 31 25.7 +0.3**
comp=Z,1.2nm,0.8s,baz=318,slow=7.4,SNR=5.2
comp=Z,1.2nm,0.8s
FCAR Ozark Folk Cen 30.18 102 IAmb IAmb 20 31 50.6
comp=Z,6.6nm,0.9s
SADO Sadowa 34.03 78 LR LR 20 46 45.9
comp=Z,285nm,19.6s,baz=250,slow=37
FRB Frobisher Bay 35.07 43 LR LR 20 47 09.2
comp=Z,216nm,18.7s,baz=283,slow=37
TKL Tuckaleechee C 35.73 95 LR LR 20 47 52.3
comp=Z,104nm,20.2s,baz=298,slow=37
SCHQ Schefferville 37.74 57 LR LR 20 47 46.7
comp=Z,131nm,19.3s,baz=298,slow=35
SFJD Kangerlussuaq 41.88 35 LR LR 20 50 49.8
comp=Z,179nm,18.2s,baz=295,slow=36
YAK Yakutsk 52.61 324 LR LR 20 57 22.2
comp=Z,119nm,20.0s,baz=72,slow=36
JMIC Jan Mayen 52.91 21 LR LR 20 59 45.5
comp=Z,121nm,19.5s,baz=30,slow=39
H11N2 WAKE ISLAND Hy 58.21 264 T T 21 38 12.3
baz=43,slow=75,SNR=60
H11N3 WAKE ISLAND Hy 58.21 264 T T 21 38 10.9
baz=43,slow=75,SNR=47
H11N1 WAKE ISLAND Hy 58.23 264 T T 21 38 13.4
baz=43,slow=75,SNR=36
H11S1 WAKE ISLAND Hy 59.22 263 T T 21 39 30.6
baz=41,slow=74,SNR=5.1
H11S2 WAKE ISLAND Hy 59.23 263 T T 21 39 28.8
baz=41,slow=74,SNR=7.3
H11S3 WAKE ISLAND Hy 59.24 263 T T 21 39 19.5
baz=41
ZALV Zalesovo Beam 73.23 340 P P 20 37 01.6 -4.5
comp=Z,0.5nm,0.3s,baz=64,slow=3.4,SNR=2.3
comp=Z,0.5nm,0.3s
HHC Hu-ho-hao-te 75.50 317 *e*P **P 20 37 18.4 -1.4**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,100nm,4.6s
BVAR Borovoye Array 76.76 348 P **P 20 37 24.0 -2.6**
comp=Z,0.5nm,0.7s,baz=97,slow=3.3,SNR=2.2
comp=Z,0.5nm,0.7s
KURBB Kurchatov Arra 77.70 342 P **P 20 37 29.1 -2.8**
comp=Z,0.7nm,0.7s,baz=20,slow=5.3,SNR=5.5
comp=Z,0.7nm,0.7s
BELG Belogornoye 78.73 2 LR LR 21 16 42.9
comp=Z,58nm,20.5s,baz=32,slow=39
NJ2 Nanjing 78.92 307 *e*P **P 20 37 41.6 +2.7**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
ESDC Sonseca Array 79.23 40 P **P 20 37 39.4 -1.2**
comp=Z,0.7nm,0.9s,baz=3.2,slow=1.9,SNR=1.9
comp=Z,0.7nm,0.9s
MKAR Makanchi Array 80.49 339 P **P 20 37 44.6 -2.7**
comp=Z,1.0nm,0.8s,baz=22,slow=4.5,SNR=5.0
MKAR LR LR 21 15 53.3
comp=Z,51nm,19.3s,baz=1.5,slow=38
comp=Z,1.0nm,0.8s
AKTO Aktyubinsk 80.52 355 LR LR 21 16 29.2
comp=Z,63nm,18.8s,baz=46,slow=38
HNR Honiara 84.77 249 LR LR 21 09 49.6
comp=Z,60nm,19.1s,baz=142,slow=31
PZH PanZhiHua 91.93 316 P **P 20 38 44.1 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.1s

*NAO **05** 20:31:57.7, 33.°16N×46.°85E, h33km, mb4.1*
*DSN **05** 20:31:57.4±1.5, 35.°70N×45.°20E, h187km±11km, mb4.9, Error ellipse: s-maj=43.8km s-min=5.3km az=332.0*
*IDC **05** 20:32:06.6±0.9, 34.°57N×46.°23E, h0km, mb4.0/19, mbtmp4.1/30, ML3.9/9, MS3.4/12, Error ellipse: s-maj=17.1km s-min=13.0km az=177.0*
*MOS **05** 20:32:07.7±1.4, 34.°72N×46.°27E, h13km, mb4.4/13, Error ellipse: s-maj=7.3km s-min=3.9km az=113.8*
*TEH **05** 20:32:07.6, 34.°62N×46.°29E, h8km±17km, ML4.4*
*ISN **05** 20:32:08.1±1.0, 34.°61N×46.°30E, h17km±6km, ML4.2*
*NEIC **05** 20:32:09.5±1.9, 34.°69N±0.°05×46.°16E±0.°08, h10km±1km, mb4.2/28, Error ellipse: s-maj=12.3km s-min=7.0km az=232.0*

AFAD **05** *20:32:10.1±0.0,34°.54N×46°.09E,h6km×3km,MW4.3*
ISC 05 20:32:07.7±0.3,34°.52N±0°.03×46°.26E±0°.03,h10km,n369,
σ_2**S09**/414,**mb4.2**/49,**MS3.3**/8,**31C-19D,Western Iran**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.21**	**29**	Pg	**Pg**	**20 32 10.9**	**-1.3**
IGHG	**Ghaleghazi**	**0.31**	**126**	Pg	**Pb**	**20 32 15.8**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.50**	**216**	Pg	**Pn**	**20 32 19.3**	**-1.6**
KGS1	**Ghasr-e-Shirin**	**0.56**	**269**	Pg	**Pb**	**20 32 19.1**	**-0.4**
KCHF	**Cheshme Sefid,**	**0.69**	**110**	Pg	**Pg**	**20 32 21.6**	**+0.7**
ILIN	**Lien**	**0.70**	**55**	Pg	**Pg**	**20 32 20.1**	**-1.3**
ILBA	**Ilam Banvizeh**	**0.89**	**183**	Pg	**Pn**	**20 32 26.6**	**+0.3**
SNQR	**Sonqor, Kerman**	**1.18**	**73**	Pg	**Pn**	**20 32 29.3**	**-1.1**
IBZA	**Bozab**	**1.32**	**91**	Pg	**Pn**	**20 32 32.5**	**+0.1**
IBDR	**Badra**	**1.43**	**191**	*e*Pg	**Pg**	**20 32 36.0**	**+0.9**
IBDR				*e*Sg	**Sg**	**20 32 56.0**	**+2.4**
IBDR				AML	AML	20 33 11.7	
	comp=N,3μm,0.8s						
IBDR				AML	AML	20 33 13.0	
	comp=E,3μm,0.7s						
SDS1	**Sardasht. Az.**	**1.75**	**339**	Pg	**Pn**	**20 32 38.1**	**-0.1**
HSAM	**Samen**	**1.96**	**98**	Pn	**Pn**	**20 32 43.5**	**+2.3**
BHD	**Baghdad**	**2.00**	**232**	*e*Pn	**Pb**	**20 32 44.0**	**-0.1**
BHD				*e*Sn	**Sg**	**20 33 10.5**	**-1.4**
BHD				AML	AML	20 33 27.1	
	comp=E,2μm,0.4s						
BMDN	**Meydan**	**2.29**	**111**	Pn	**Pn**	**20 32 48.3**	**+2.6**
MAHB	**Mahabad**	**2.29**	**349**	Pn	**Pn**	**20 32 46.7**	**+1.0**
RAFI	**Al-Rafai**	**2.79**	**183**	*e*Pn	**Pb**	**20 32 55.0**	**-2.5**
RAFI				*e*Sn	**Sb**	**20 33 30.5**	**-1.2**
IHSH	**Hashtrud**	**2.90**	**16**	Pn	**Pn**	**20 32 54.9**	**+0.6**
QABG	**Abgarm-Qazvin**	**2.97**	**65**	Pn	**Pn**	**20 32 57.0**	**+1.9**
IAZR	**Azarshahr**	**3.17**	**355**	Pn	**Pn**	**20 32 58.9**	**+1.1**
YOVA	**Hakkari_Yksek**	**3.46**	**333**	P	**Pn**	**20 33 03.3**	**+1.6**
YOVA				S	**Sn**	**20 33 42.2**	**-0.7**
CUKT	**Cukurca**	**3.48**	**322**	P	**Pn**	**20 33 03.0**	**+1.0**
CUKT				S	**Sn**	**20 33 41.5**	**-1.8**
CUKT	**Cukurca**	**3.48**	**322**	P	**Pn**	**20 33 03.5**	**+1.5**
ISRB	**Sarab**	**3.49**	**19**	Pn	**Pn**	**20 33 04.0**	**+1.8**
HAKT	**HAKKARI**	**3.68**	**326**	P	**Pn**	**20 33 05.2**	**+0.3**
HAKT				S	**Sn**	**20 33 49.3**	**+0.9**
ITBZ	**Tabriz**	**3.71**	**359**	Pn	**Pn**	**20 33 05.5**	**+0.3**
IGZV	**Ghazvin**	**3.73**	**59**	Pn	**Pn**	**20 33 07.3**	**+1.8**
ISHB	**Shabestar**	**3.80**	**352**	Pn	**Pn**	**20 33 07.0**	**+0.5**
IHRS	**Heris**	**3.85**	**9**	Pn	**Pn**	**20 33 08.2**	**+1.1**
IQOM	**Qom**	**3.97**	**84**	Pn	**Pn**	**20 33 11.4**	**+2.5**
IMRD	**Marand**	**4.21**	**354**	Pn	**Pn**	**20 33 13.7**	**+1.5**
IPIR	**Pirpir**	**4.27**	**114**	Pn	**Pn**	**20 33 15.8**	**+2.8**
SIRN	**Sirnak**	**4.31**	**315**	P	**Pn**	**20 33 13.5**	**+0.1**
SIRN				S	**Sn**	**20 34 00.7**	**-3.1**
QAMS	**Qamsar**	**4.33**	**99**	Pn	**Pn**	**20 33 16.9**	**+3.1**
JHBN	**Jahan bin**	**4.33**	**121**	Pn	**Pn**	**20 33 16.5**	**+2.7**
GAS1	**Astara - Iran**	**4.39**	**28**	Pn	**Pn**	**20 33 15.2**	**+0.9**
GRMI	**Germi**	**4.48**	**17**	Pn	**Pn**	**20 33 16.9**	**+1.2**
IVRN	**Varamin**	**4.52**	**82**	Pn	**Pn**	**20 33 18.9**	**+2.6**
OZAP	**Van, Ozalp-Mer**	**4.52**	**337**	P	**Pn**	**20 33 18.9**	**+2.5**
ZNGN	**Zangian**	**4.53**	**121**	Pn	**Pn**	**20 33 19.2**	**+2.6**
PERV	**Siirt/Pervari-**	**4.56**	**320**	P	**Pn**	**20 33 18.9**	**+2.0**
IKLH	**Kolahrood**	**4.58**	**104**	Pn	**Pn**	**20 33 20.0**	**+2.8**
GEVA	**Gevas**	**4.59**	**327**	P	**Pn**	**20 33 17.5**	**+0.2**
GEVA				S	**Sn**	**20 34 08.6**	**-2.1**
GEVA	**Gevas**	**4.59**	**327**	Pn	**Pn**	**20 33 17.8**	**+0.5**
TVAN	**Van**	**4.62**	**331**	P	**Pn**	**20 33 21.0**	**+3.3**
AKDM	**Akdamar-Van**	**4.64**	**326**	P	**Pn**	**20 33 19.8**	**+1.9**
VANB	**Van**	**4.68**	**331**	P	**Pn**	**20 33 21.4**	**+2.9**
IDMV	**Damavand**	**4.85**	**76**	Pn	**Pn**	**20 33 22.9**	**+1.9**
MIDY	**Mardin/Midyat-**	**4.89**	**308**	P	**Pn**	**20 33 21.4**	**+0.1**
MIDY				S	**Sn**	**20 34 17.2**	**-0.8**
KRSH	**Karshahi**	**4.89**	**95**	Pn	**Pn**	**20 33 24.3**	**+2.8**
IBRJ	**Brojen**	**4.93**	**120**	Pn	**Pn**	**20 33 24.1**	**+2.1**
ISFB	**Sefidab**	**4.94**	**90**	Pn	**Pn**	**20 33 24.2**	**+2.1**
VMUR	**Van-Muradiye**	**4.96**	**335**	P	**Pn**	**20 33 24.0**	**+1.6**
MAKU	**Maku**	**4.99**	**346**	Pn	**Pn**	**20 33 24.6**	**+1.7**
BLIS	**Bitlis-Merkez**	**5.13**	**321**	P	**Pn**	**20 33 25.1**	**+0.4**
ADCV	**BITLIS_Adilcev**	**5.14**	**327**	P	**Pn**	**20 33 26.0**	**+1.1**
MARD	**Mardin**	**5.25**	**304**	P	**Pn**	**20 33 27.1**	**+0.8**
MARD				S	**Sn**	**20 34 24.3**	**-2.8**
MARD	**Mardin**	**5.25**	**304**	Pn	**Pn**	**20 33 26.4**	**0.0**
BTMN	**Batman**	**5.26**	**311**	P	**Pn**	**20 33 27.0**	**+0.6**
BTMN				S	**Sn**	**20 34 25.6**	**-1.5**
IGAR	**Gharneh**	**5.27**	**112**	Pn	**Pn**	**20 33 29.1**	**+2.4**
GURO	**Guroymak-BITLI**	**5.28**	**321**	P	**Pn**	**20 33 27.6**	**+0.9**
GURO	**Guroymak-BITLI**	**5.28**	**321**	Pn	**Pn**	**20 33 27.2**	**+0.6**
IZEF	**Zefreh**	**5.31**	**106**	Pn	**Pn**	**20 33 29.9**	**+2.7**
IFIR	**Firoozkooh**	**5.44**	**76**	Pn	**Pn**	**20 33 30.9**	**+1.8**
MLAZ	**Malazgirt-MUS**	**5.50**	**328**	*e*P	**Pn**	**20 33 32.5**	**+2.8**
MAZI	**Mazidag**	**5.56**	**304**	P	**Pn**	**20 33 30.1**	**-0.4**
ILAS	**Lasjerd**	**5.57**	**79**	Pn	**Pn**	**20 33 32.7**	**+1.9**
AGRB	**Hanur-Agry**	**5.69**	**334**	*e*P	**Pn**	**20 33 34.5**	**+2.1**
KLNJ	**Kolanjah**	**5.69**	**126**	Pn	**Pn**	**20 33 34.5**	**+1.9**
TASB	**TASBURUN-IGDIR**	**5.69**	**344**	*e*P	Pb	20 33 42.1	-5.0
GNI	**Garni**	**5.75**	**348**	*e*P	**Pn**	**20 33 36.2**	**+2.9**
GNI	**Garni**	**5.75**	**348**	Pn	**Pn**	**20 33 33.1**	**-0.2**
GNI	**Garni**	**5.75**	**348**	Pn	**Pn**	**20 33 36.8**	**+3.5**
	comp=E,1.2nm,0.3s,baz=264,slow=2.5,SNR=7.3						
GNI				Sn	**Sn**	**20 34 40.7**	**+1.2**
	comp=E,0.8nm,0.3s,baz=60,slow=20,SNR=1.1						
GNI				Lg	Lg	20 35 01.3	
	baz=104,slow=21						
	comp=E,8.1nm,0.8s						
GNI	**Garni**	**5.75**	**348**	P	**Pn**	**20 33 33.1**	**-0.2**
GNI	**Garni**	**5.75**	**348**	P	**Pn**	**20 33 33.9**	**+0.6**
	comp=E,107nm,0.8s,comp=E,809nmcomp=E,0.5nm						
IRAM	**Ramesheh**	**5.80**	**116**	Pn	**Pn**	**20 33 36.2**	**+2.3**
DYBB	**Diyarbakir**	**6.02**	**306**	*e*P	**Pn**	**20 33 37.4**	**+0.5**
VRTB	**Varto-Mus**	**6.03**	**322**	P	**Pn**	**20 33 37.4**	**+0.4**
VRTB	**Varto-Mus**	**6.03**	**322**	*e*P	**Pn**	**20 33 38.3**	**+1.2**
SLHN	**Bingol, Solhan**	**6.11**	**318**	P	**Pn**	**20 33 39.0**	**+0.8**
HANI	**Diyarbakir_Han**	**6.12**	**311**	P	**Pn**	**20 33 38.1**	**-0.2**
BNGB	**Bingl**	**6.33**	**317**	*e*P	**Pn**	**20 33 41.9**	**+0.8**
ANAR	**Anarak**	**6.35**	**100**	Pn	**Pn**	**20 33 44.1**	**+2.6**
KARG	**Karliova-Bingo**	**6.35**	**320**	*e*P	**Pn**	**20 33 43.0**	**+1.5**
KOPR	**Koprukoy-ERZUR**	**6.50**	**329**	*e*P	**Pn**	**20 33 47.1**	**+3.6**
KARS	**Kars**	**6.61**	**338**	Pn	**Pn**	**20 33 45.3**	**+0.3**
KARS	**Kars**	**6.61**	**338**	P	**Pn**	**20 33 45.3**	**+0.3**
KAZ2	**Kazeron-Fars-I**	**6.70**	**135**	Pn	**Pn**	**20 33 49.3**	**+3.1**
URFA	**Urfa**	**6.70**	**298**	*e*P	**Pn**	**20 33 46.8**	**+0.6**
YEDI	**Yedisu-Bingol**	**6.71**	**319**	*e*P	**Pn**	**20 33 47.3**	**+0.8**
SVRC	**Sivrice-ELAZID**	**6.80**	**307**	*e*P	**Pn**	**20 33 47.4**	**-0.3**
PTK	**Pertek**	**7.04**	**310**	*e*P	**Pn**	**20 33 50.7**	**-0.2**
AKT	**Akhty**	**7.05**	**9**	*e*P	**Pn**	**20 33 50.8**	**-0.2**
AKT				*e*S	**Sn**	**20 35 10.7**	**-0.6**
AKT				pmax	pmax		
	comp=Z,35nm,1.4s						
AHBU	**AHRAM**	**7.08**	**141**	Pn	**Pn**	**20 33 54.3**	**+3.0**
KOPT	**Kop Dagi**	**7.16**	**322**	Pn	**Pn**	**20 33 51.8**	**-0.9**
ICHK	**Chekchek**	**7.18**	**106**	Pn	**Pn**	**20 33 55.2**	**+2.3**
DSBU	**Dashti - Bushe**	**7.47**	**144**	Pn	**Pn**	**20 33 59.6**	**+2.9**
GAZ	**Gaziantep**	**7.81**	**292**	Pn	**Pn**	**20 34 00.8**	**-0.7**
ASF	**Jabal al Asfar**	**8.18**	**256**	Pn	**Pn**	**20 34 08.1**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=241,slow=0.2,SNR=11						
	comp=Z,5.2nm,0.5s						
MAK	**Makhachkala**	**8.49**	**6**	*e*P	Pn	20 34 04.4	-6.2
MAK				*e*S	Sn	20 35 36.9	-10
MAK				pmax	pmax		
	comp=Z,141nm,1.0s						
MAK				MLR	MLR		
	comp=Z,199nm,13.0s						
TNSJ	**Nastanj**	**8.58**	**91**	Pn	**Pn**	**20 34 14.9**	**+2.8**
TPRV	**Parvadeh(Tabas**	**8.80**	**97**	Pn	**Pn**	**20 34 18.0**	**+2.9**
SHMJ	**Saham**	**8.94**	**261**	P	**Pn**	**20 34 18.3**	**+1.5**
TKDS	**Koohdasht(Taba**	**9.05**	**93**	Pn	**Pn**	**20 34 21.4**	**+2.8**
MMAI	**Mount Meron Ar**	**9.17**	**264**	Pn	**Pn**	**20 34 21.2**	**+1.2**
	comp=Z,1.5nm,0.3s,baz=77,slow=17,SNR=8.3						
MMAI				Sn	**Sn**	**20 36 07.0**	**+3.7**
	comp=Z,0.6nm,0.3s,baz=68,slow=23,SNR=1.4						
MMAI				LR	LR	20 38 39.2	
	comp=Z,140nm,19.2s,baz=14,slow=43						
	comp=Z,3.3nm,0.6s						
SAKB	**Bahrain**	**9.27**	**155**	P	**Pn**	**20 34 23.2**	**+1.8**
SAKB				S	**Sn**	**20 36 04.0**	**-1.9**
BNN	**Bunyan**	**9.42**	**300**	Pn	**Pn**	**20 34 21.1**	**-2.4**
GHAJ	**Ghor Haditha**	**9.54**	**253**	Pn	**Pn**	**20 34 26.2**	**+1.1**
GHAJ	**Ghor Haditha**	**9.54**	**253**	P	**Pn**	**20 34 26.1**	**+1.0**
KBZ	**Khabaz**	**9.56**	**345**	Pn	**Pn**	**20 34 28.4**	**+3.1**
	comp=Z,2.5nm,0.7s,baz=158,slow=9.3,SNR=5.8						
KBZ				LR	LR	20 38 45.5	
	comp=Z,90nm,19.0s,baz=40,slow=42						
KBZ	**Khabaz**	**9.56**	**345**	*i* P	**Pn**	**20 34 23.7**	**-1.7**
SHA1	**Shidzhatmaz**	**9.63**	**344**	*i* P	**Pn**	**20 34 26.3**	**-0.1**
KIV	**Kislovodsk**	**9.83**	**345**	*e*P	**Pn**	**20 34 26.6**	**-2.5**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KRM1	**Kerman Provinc**	**10.12**	**110**	Pn	**Pn**	**20 34 35.9**	**+2.7**
SMRA	**Abu-Samra**	**10.51**	**157**	P	**Pn**	**20 34 40.0**	**+1.6**
SMRA				S	**Sn**	**20 36 33.7**	**-2.5**
TRNA	**Turayna**	**10.65**	**155**	P	**Pn**	**20 34 42.6**	**+2.3**
	SNR=8.9						
TRNA				S	**Sn**	**20 36 36.3**	**-3.4**
EIL	**Elat**	**10.74**	**246**	Pn	**Pn**	**20 34 43.4**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=26,slow=10,SNR=2.7						
EIL				Lg	Lg	20 37 42.6	
	comp=Z,0.7nm,0.3s,baz=72,slow=13,SNR=3.1						
	comp=Z,3.4nm,0.7s						
RAYN	**Ar Rayn**	**10.97**	**184**	Pn	**Pn**	**20 34 44.5**	**-0.3**
RAYN	**Ar Rayn**	**10.97**	**184**	*i* P	**Pn**	**20 34 44.7**	**-0.1**
	SNR=19						
RAYN	**Ar Rayn**	**10.97**	**184**	P	**Pn**	**20 34 44.5**	**-0.3**
JRN	**Qarnain Island**	**11.12**	**147**	P	**Pn**	**20 34 47.6**	**+0.9**
BR104	**Keskin Array S**	**11.33**	**301**	P	**Pn**	**20 34 49.8**	**+0.1**
	comp=Z,8.8nm,0.9s,comp=Z,62nm						
BR131	**Keskin Array S**	**11.34**	**301**	Pn	**Pn**	**20 34 52.5**	**+2.6**
BR131	**Keskin Array S**	**11.34**	**301**	P	**Pn**	**20 34 52.5**	**+2.6**
BRTR	**Keskin Array B**	**11.34**	**301**	Pn	**Pn**	**20 34 53.1**	**+3.2**
BRTR	**Keskin Array B**	**11.34**	**301**	Pn	**Pn**	**20 34 52.4**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=122,slow=12,SNR=31						
	comp=Z,6.6nm,0.8s						
BR106	**Keskin Array S**	**11.36**	**301**	P	**Pn**	**20 34 49.7**	**-0.4**
	comp=Z,9.2nm,1.0s,comp=Z,62nm						
SLWR	**Sila**	**11.43**	**154**	P	**Pn**	**20 34 52.4**	**+1.4**
SLWR				S	**Sn**	**20 36 55.4**	**-3.4**
GHWR	**Ruwais**	**11.99**	**150**	P	**Pn**	**20 34 58.1**	**-0.6**
GHWR				S	**Sn**	**20 37 09.3**	**-3.2**
ANTO	**Ankara**	**11.99**	**300**	Pn	Pn	20 35 03.8	+5.1
ANTO	**Ankara**	**11.99**	**300**	P	Pn	20 35 03.8	+5.1
SHME	**Shamm**	**11.99**	**132**	P	**Pn**	**20 34 59.4**	**+0.7**
SHME				P	**Pn**	**20 34 59.4**	**+0.7**
SHME				S	**Sn**	**20 37 08.3**	**-4.3**
SHME				S	**Sn**	**20 37 08.3**	**-4.3**
BANOM	**Banah**	**12.18**	**132**	P	**Pn**	**20 35 01.8**	**+0.4**
BANOM				S	**Sn**	**20 37 13.1**	**-4.2**
AJN	**Ajban**	**12.48**	**140**	*i* P	**Pn**	**20 35 08.1**	**+2.7**
	SNR=12						
AJN	**Ajban**	**12.48**	**140**	P	**Pn**	**20 35 06.6**	**+1.2**
	SNR=12						
AJN				P	**Pn**	**20 35 06.6**	**+1.2**
	SNR=12						
AJN				S	**Sn**	**20 37 21.8**	**-2.7**
AJN				S	**Sn**	**20 37 21.8**	**-2.7**
MASF	**Masafi**	**12.51**	**134**	P	**Pn**	**20 35 06.3**	**+0.5**
	SNR=11						
NAZ	**Nazwa, Dubai**	**12.51**	**137**	*i* P	**Pn**	**20 35 08.0**	**+2.1**
	SNR=26						
NAZ	**Nazwa, Dubai**	**12.51**	**137**	P	**Pn**	**20 35 07.2**	**+1.4**
	SNR=26						
NAZ				S	**Sn**	**20 37 22.4**	**-2.9**
MSFE	**Esma-Masafi**	**12.52**	**134**	*i* P	**Pn**	**20 35 07.3**	**+1.4**
	SNR=15						
ASUD	**Al Ashush, Dub**	**12.62**	**139**	*i* P	**Pn**	**20 35 09.0**	**+1.8**
	SNR=23						
ASUD	**Al Ashush, Dub**	**12.62**	**139**	P	**Pn**	**20 35 08.8**	**+1.6**
	SNR=23						
ASUD				S	**Sn**	**20 37 23.8**	**-4.0**
MDH	**Madha**	**12.64**	**134**	*i* P	**Pn**	**20 35 09.0**	**+1.3**
	SNR=7.5						
MDH	**Madha**	**12.64**	**134**	P	**Pn**	**20 35 08.5**	**+0.8**
	SNR=7.5						
MDH				P	**Pn**	**20 35 08.5**	**+0.8**
	SNR=7.5						
MDH				S	**Sn**	**20 37 23.7**	**-4.8**
MDH				S	**Sn**	**20 37 23.7**	**-4.8**
FAQ	**Al Faqa, Dubai**	**12.66**	**138**	P	**Pn**	**20 35 08.6**	**+0.7**
FAQ				P	**Pn**	**20 35 08.6**	**+0.7**
FAQ				S	**Sn**	**20 37 24.3**	**-4.7**
FAQ				S	**Sn**	**20 37 24.3**	**-4.7**
UOSS	**Minazif**	**12.86**	**135**	Pn	**Pn**	**20 35 10.3**	**-0.2**
UOSS	**Minazif**	**12.86**	**135**	*i* P	**Pn**	**20 35 12.7**	**+2.2**
	SNR=10.0						
UOSS	**Minazif**	**12.86**	**135**	P	**Pn**	**20 35 11.3**	**+0.7**
UOSS				P	**Pn**	**20 35 11.3**	**+0.7**
UOSS				S	**Sn**	**20 37 26.7**	**-7.1**
UOSS				S	**Sn**	**20 37 26.7**	**-7.1**
HATD	**Hatta, Dubai**	**12.91**	**136**	*i* P	**Pn**	**20 35 12.1**	**+0.9**
	SNR=20						
HATD	**Hatta, Dubai**	**12.91**	**136**	P	**Pn**	**20 35 11.9**	**+0.7**
	SNR=20						
HATD				S	**Sn**	**20 37 28.2**	**-6.8**
ASHO	**Ashiyiah**	**12.97**	**136**	*i* P	**Pn**	**20 35 13.1**	**+0.9**
	SNR=48						
ASHO	**Ashiyiah**	**12.97**	**136**	P	**Pn**	**20 35 13.0**	**+0.9**
	SNR=48						
ASHO				S	**Sn**	**20 37 31.4**	**-5.2**
MZR	**Muzera**	**13.09**	**149**	*i* P	**Pn**	**20 35 15.2**	**+1.4**
	SNR=19						
MZR	**Muzera**	**13.09**	**149**	P	**Pn**	**20 35 14.9**	**+1.1**
	SNR=19						
MZR				S	**Sn**	**20 37 35.0**	**-4.5**
JASK	**Jask - Hormozg**	**13.22**	**128**	P	**Pn**	**20 35 15.3**	**-0.1**
JASK				S	**Sn**	**20 37 36.2**	**-6.4**
ALNE	**Al Ain**	**13.30**	**139**	*i* P	**Pn**	**20 35 17.6**	**+1.0**
	SNR=32						
ALNE	**Al Ain**	**13.30**	**139**	P	**Pn**	**20 35 17.6**	**+1.0**
	SNR=32						
ALNE				S	**Sn**	**20 37 38.2**	**-6.3**
SOHO	**SOHO**	**13.67**	**136**	*i* P	**Pn**	**20 35 22.0**	**+0.3**
	SNR=18						
SOHO	**SOHO**	**13.67**	**136**	P	**Pn**	**20 35 21.9**	**+0.3**
SOHO				S	**Sn**	**20 37 46.1**	**-7.6**
UMZA	**Um Al Zommool**	**14.11**	**144**	P	**Pn**	**20 35 28.0**	**+0.4**
ARQ	**Araqi**	**14.30**	**138**	P	**Pn**	**20 35 30.4**	**+0.2**
	SNR=23						
ARQ				P	**Pn**	**20 35 30.4**	**+0.2**
	SNR=23						
ARQ				S	**Sn**	**20 38 05.7**	**-3.2**
ARQ				S	**Sn**	**20 38 05.7**	**-3.2**
HOQ	**Hoqain**	**14.55**	**136**	P	**Pn**	**20 35 33.5**	**-0.1**
	SNR=6.1						
HOQ				P	**Pn**	**20 35 33.5**	**-0.1**
	SNR=6.1						
HOQ				S	**Sn**	**20 38 08.9**	**-6.1**
HOQ				S	**Sn**	**20 38 08.9**	**-6.1**
BIDO	**Bidbid**	**15.07**	**133**	P	**Pn**	**20 35 40.1**	**-0.7**
BSY	**Bisya**	**15.14**	**138**	P	**Pn**	**20 35 41.3**	**-0.4**
	SNR=14						
SMDO	**Samad**	**15.38**	**135**	P	**Pn**	**20 35 44.0**	**-0.9**
	SNR=8.6						
SMDO				S	**Sn**	**20 38 28.0**	**-7.4**
WSAR	**Wadi Sarin**	**15.59**	**133**	Pn	**Pn**	**20 35 46.7**	**-0.9**
	comp=Z,2.2nm,0.3s,baz=313,slow=9.6,SNR=34						
WSAR				Sn	**Sn**	**20 38 32.8**	**-7.6**
	comp=Z,0.8nm,0.3s,baz=80,slow=18,SNR=3.6						
	comp=Z,9.7nm,0.6s						
NGCH	**Negor - Chabah**	**15.78**	**121**	P	**Pn**	**20 35 48.3**	**-1.7**
JMDO	**Jabal Madar**	**15.95**	**136**	P	**Pn**	**20 35 51.1**	**-1.1**
	SNR=10						
JMDO				P	**Pn**	**20 35 51.1**	**-1.1**
	SNR=10						
WBK	**Wadi Bani Khal**	**16.27**	**133**	P	**Pn**	**20 35 55.6**	**-0.7**
JURR	**Jurilovca**	**16.82**	**313**	⇓P	**P**	**20 36 06.4**	**+1.1**
JLN	**Jalan Bani Buh**	**16.88**	**133**	P	**Pn**	**20 36 04.3**	**+0.2**
MHTO	**MHTO**	**16.98**	**140**	P	**Pn**	**20 36 05.0**	**-0.3**
	SNR=7.7						
MHTO				P	**Pn**	**20 36 05.0**	**-0.3**
	SNR=7.7						
VRH	**Novokhopyorsk**	**17.00**	**350**	*e*P	**Pn**	**20 36 01.9**	**-3.5**
VRH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TLCR		**17.08**	**314**	⇓P	**Pn**	**20 36 07.1**	**+0.6**
TLCR		**17.08**	**314**	P	**Pn**	**20 36 07.1**	**+0.6**
VORD	**Divnogorie**	**17.21**	**345**	*e*P	**Pn**	**20 36 08.3**	**+0.3**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PURM	**Purcari**	**17.26**	**319**	⇓P	**P**	**20 36 10.1**	**-0.1**
PURM	**Purcari**	**17.26**	**319**	P	**Pn**	**20 36 08.8**	**+0.1**
	comp=Z,47nm,0.6s						
DOK	**Doka**	**17.31**	**154**	P	**Pn**	**20 36 08.7**	**-0.9**
	SNR=16						
DOK				S	**Sn**	**20 39 17.4**	**-4.8**
	SNR=14						
HARR	**Harsova**	**17.37**	**311**	⇑P	**P**	**20 36 12.7**	**+1.4**
HARR	**Harsova**	**17.37**	**311**	⇑P	**P**	**20 36 12.7**	**+1.4**
VSR	**Storozhevoye**	**17.47**	**345**	*e*P	**Pn**	**20 36 09.2**	**-2.1**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CFR	**Carcaliu**	**17.49**	**313**	⇑P	**Pn**	**20 36 12.2**	**+0.7**
CFR	**Carcaliu**	**17.49**	**313**	P	**Pn**	**20 36 12.2**	**+0.7**
IDI	**Anoyia**	**17.55**	**279**	P	**Pn**	**20 36 11.9**	**-0.6**
	comp=Z,10nm,0.7s,baz=144,slow=9.1,SNR=2.5						
DQM	**DQM**	**17.63**	**143**	P	**Pn**	**20 36 12.6**	**-0.9**
WHFO	**Wadi Hawf**	**17.84**	**156**	P	**Pn**	**20 36 15.0**	**-1.1**
	SNR=15						
WHFO				S	**Sn**	**20 39 30.5**	**-4.5**
	SNR=9.4						
ABKAR	**Akbulak array**	**17.86**	**30**	Pn	**Pn**	**20 36 15.5**	**-0.7**
VORR	**Voronezh**	**17.89**	**346**	*e*P	**Pn**	**20 36 16.8**	**+0.3**
VORR				pmax	pmax		
	comp=Z,20nm,0.4s						
BELG	**Belogornoye**	**17.90**	**3**	Pn	**Pn**	**20 36 15.3**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=211,slow=1.2,SNR=4.4						
BELG				LR	LR	20 45 06.1	
	comp=Z,55nm,19.1s,baz=137,slow=44						
	comp=Z,8.2nm,0.6s						
BELG	**Belogornoye**	**17.90**	**3**	*i* P	**Pn**	**20 36 14.9**	**-1.6**
ELND	**Elena**	**17.96**	**304**	⇑P	**P**	**20 36 19.8**	**+1.9**
MILM	**Milestii Mici**	**18.07**	**319**	⇑P	**Pn**	**20 36 18.9**	**+0.1**
MILM	**Milestii Mici**	**18.07**	**319**	P	**Pn**	**20 36 18.9**	**+0.1**
AKTO	**Aktyubinsk**	**18.08**	**25**	Pn	**Pn**	**20 36 18.6**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=197,slow=9.3,SNR=8.7						
AKTO				LR	LR	20 46 08.4	
	comp=Z,72nm,19.2s,baz=192,slow=47						
	comp=Z,1.4nm,0.5s						
ABTO	**Aybut**	**18.21**	**158**	P	**Pn**	**20 36 19.5**	**-1.2**
	SNR=18						
RBK	**Rabkut**	**18.37**	**155**	P	**Pn**	**20 36 22.6**	**-0.1**
DMTO	**DMTO**	**18.44**	**153**	P	**Pn**	**20 36 24.2**	**+0.7**
	SNR=23						
VRI	**Vrincioaia**	**18.69**	**313**	⇓P	**Pn**	**20 36 26.4**	**0.0**
VRI	**Vrincioaia**	**18.69**	**313**	P	**Pn**	**20 36 26.4**	**0.0**
PLOR	**Plostina**	**18.73**	**313**	⇑P	**Pn**	**20 36 28.0**	**+1.1**
PLOR	**Plostina**	**18.73**	**313**	⇑P	**Pn**	**20 36 28.0**	**+1.1**
NEHR	**Nehoiu**	**18.74**	**312**	⇓P	**Pn**	**20 36 29.1**	**+2.2**
LPSR	**Galich'ya Gora**	**18.83**	**346**	*e*P	**P**	**20 36 24.4**	**-3.0**
LPSR				pmax	pmax		
	comp=Z,20nm,0.6s						
MLR	**Muntele Rosu**	**18.98**	**311**		**P**	**20 36 27.6**	**-1.8**
MLR				IAmb	IAmb	20 36 47.4	
	comp=Z,11nm,1.0s						
MLR	**Muntele Rosu**	**18.98**	**311**	P	**P**	**20 36 28.2**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=135,slow=4.3,SNR=2.0						
	comp=Z,1.8nm,0.9s						
MLR	**Muntele Rosu**	**18.98**	**311**	⇑P	**Pn**	**20 36 31.4**	**+1.3**
MLR	**Muntele Rosu**	**18.98**	**

ARTI IAmb IAmb 20 37 27.8
comp=Z,9.0nm,0.9s
ARTI Arti 23.40 17 *d iP* **P 20 37 15.8 -0.7**
ARTI S **S 20 41 28.5 -0.9**
ARTI pmax pmax
comp=Z,6.0nm,1.6s
STHS Stebnicka Huta 23.68 317 *eP* **P 20 37 17.3 -2.1**
STHS pmax pmax
comp=Z,5.0nm,1.1s
STHS Stebnicka Huta 23.68 317 *eP* **P 20 37 17.3 -2.1**
KECS Kecovo 23.68 314 P **P 20 37 25.1 +5.7**
KECS Kecovo 23.68 314 *e* **P 20 37 25.0 +5.7**
PSZ Piszkesteto 23.79 312 P **P 20 37 19.8 -0.7**
PSZ IAmb IAmb 20 37 54.4
comp=Z,10nm,1.3s
PSZ Piszkesteto 23.79 312 ⇑P **P 20 37 19.6 -1.0**
PSZ Piszkesteto 23.79 312 P **P 20 37 19.8 -0.7**
PSZ pmax pmax
comp=Z,10.0nm,1.3s
MORH Mrgy, Hungar 23.95 308 ⇓P **P 20 37 22.6 +0.7**
KIRV Kirov 24.17 4 LR LR 20 48 45.8
comp=Z,100nm,19.1s,baz=201,slow=41
KIRV Kirov 24.17 4 *i P* **P 20 37 20.7 -3.1**
KSH Kashi 24.18 69 P **P 20 37 25.3 +0.9**
KSH pmax pmax
comp=Z,3.0nm,0.7s
NIE Niedzica 24.22 316 P **P 20 37 24.6 +0.1**
NIE pmax pmax
comp=Z,3.0nm,1.4s
NRN Naryn 24.36 65 P **P 20 37 27.6 +1.4**
NRN Naryn 24.36 65 P **P 20 37 27.6 +1.4**
NRN pmax pmax
comp=Z,3.0nm,1.0s
SVE Sverdlovsk 24.37 19 *eP* **P 20 37 21.6 -4.1**
LANS Liptovska Anna 24.58 315 P **P 20 37 31.1 +3.3**
LANS Liptovska Anna 24.58 315 *e* **P 20 37 31.1 +3.3**
VYHS Vyhne 24.68 313 *eP* **P 20 37 30.2 +1.6**
VYHS Vyhne 24.68 313 *eP* **P 20 37 30.2 +1.6**
OJC Ojcow 24.89 317 P **P 20 37 29.2 -1.3**
OJC Ojcow 24.89 317 P **P 20 37 29.2 -1.3**
OJC pmax pmax
comp=Z,21nm,1.1s
OJC Ojcow 24.89 317 P **P 20 37 30.8 +0.3**
comp=Z,21nm,1.0s
MPLH Magyarpolny 24.98 309 P **P 20 37 31.7 +0.3**
comp=Z,34nm,1.3s
BRVK Borovoye 25.18 35 P **P 20 37 33.0 -0.2**
BRVK IAmb IAmb 20 37 37.4
comp=Z,5.2nm,1.1s
BRVK Borovoye 25.18 35 *ceP* **P 20 37 33.9 +0.8**
BRVK pmax pmax
comp=Z,7.0nm,1.3s
BVAR Borovoye Array 25.21 35 P **P 20 37 34.3 +0.9**
comp=Z,2.0nm,0.7s,baz=230,slow=9.1,SNR=10
comp=Z,2.0nm,0.7s
SUW Suwalki 25.36 327 P **P 20 37 33.3 -1.3**
SUW Suwalki 25.36 327 P **P 20 37 33.3 -1.3**
SUW pmax pmax
comp=Z,58nm,1.3s
JAVC Velka Javorina 25.53 313 *eP* **P 20 37 38.0 +1.6**
MODS Modra-Piesok 25.58 312 *eP* **P 20 37 39.3 +2.4**
MODS pmax pmax
comp=Z,24nm,1.3s
MODS Modra-Piesok 25.58 312 *eP* **P 20 37 39.2 +2.4**
MAUC Maruska 25.64 314 *eP* **P 20 37 38.5 +1.1**
OKC Ostrava-Krasne 25.66 315 P **P 20 37 42.8 +5.4**
RONA Rosalia, Austr 25.96 310 *i P* **P 20 37 41.5 +1.2**
comp=Z,3.5nm,0.6s
MORC Moravsky Berou 25.98 315 P **P 20 37 40.3 -0.2**
MORC IAmb IAmb 20 37 44.8
comp=Z,5.7nm,0.9s
MORC Moravsky Berou 25.98 315 *eP* **P 20 37 42.4 +1.9**
MORC Moravsky Berou 25.98 315 P **P 20 37 40.3 -0.2**
MORC pmax pmax
comp=Z,6.0nm,0.9s
CONA Conrad Observa 26.31 310 *i P* **P 20 37 45.4 +1.9**
comp=Z,2.5nm,0.6s
ARSA Arzberg 26.31 308 *i P* **P 20 37 44.7 +1.3**
comp=Z,1.2nm,0.4s
VRAC Vranov 26.36 313 LR LR 20 48 30.4
comp=Z,80nm,18.3s,baz=350,slow=37
VRAC Vranov 26.36 313 *eP* **P 20 37 44.8 +1.0**
VRAC Vranov 26.36 313 ⇓P **P 20 37 42.9 -0.9**
VRAC Vranov 26.36 313 ⇓P **P 20 37 42.9 -0.9**
KRUC Moravsky 26.38 313 *eP* **P 20 37 44.2 +0.1**
KSP Ksiaz 27.16 316 P **P 20 37 55.1 +4.0**
CKRC Cesky Krumlov 27.58 311 *eP* **P 20 37 58.8 +3.9**
CKRC Cesky Krumlov 27.58 311 *eP* **P 20 37 58.8 +3.9**
BIOA Bad Ischl, Aus 27.66 308 *i P* **P 20 37 55.4 -0.2**
comp=Z,0.8nm,0.2s
KBA Koelnbreinsper 27.69 307 *i P* **P 20 37 56.1 0.0**
comp=Z,1.5nm,0.5s
KBA Koelnbreinsper 27.69 307 P **P 20 37 56.0 0.0**
KHC Kasperske Hory 28.14 311 *eP* **P 20 37 58.6 -1.3**
KHC Kasperske Hory 28.14 311 *eP* **P 20 37 58.9 -1.0**
KHC pmax pmax
comp=Z,28nm,2.0s
LESA Schwarzleotal 28.22 307 *i P* **P 20 38 00.7 +0.1**
comp=Z,1.3nm,0.4s
KURBB Kurchatov Arra 28.41 46 P **P 20 38 03.6 +1.4**
comp=Z,0.8nm,0.7s,baz=251,slow=8.7,SNR=5.7
comp=Z,0.8nm,0.7s
KURK Kurchatov 28.50 45 P **P 20 38 03.6 +0.6**
SQTA Sankt Quirin 29.14 306 *i P* **P 20 38 08.7 -0.2**
comp=Z,2.6nm,0.4s
MOTA Moosalm 29.23 307 *i P* **P 20 38 09.4 -0.4**
comp=Z,2.0nm,0.3s
FETA Feichten 29.41 306 *i P* **P 20 38 11.5 +0.1**
comp=Z,0.6nm,0.3s
RETA Reutte 29.49 307 *i P* **P 20 38 12.4 +0.4**
comp=Z,1.1nm,0.4s
MKAR Makanchi Array 29.70 55 P **P 20 38 14.5 +0.8**
comp=Z,0.5nm,0.6s,baz=246,slow=9.7,SNR=2.3
comp=Z,0.5nm,0.6s
FINES FINESS Array B 29.88 341 P **P 20 38 14.0 -1.1**
comp=Z,0.7nm,0.3s,baz=149,slow=10.0,SNR=8.4
comp=Z,0.7nm,0.3s
FINES FINESS Array B 29.88 341 *i P* **P 20 38 15.8 +0.7**
FINES pmax pmax
comp=Z,1.0nm,0.3s
DAVA Damuels 30.04 306 *i P* **P 20 38 16.2 -0.7**
comp=Z,2.7nm,0.4s
WMQ Urumqi 33.14 61 *eP* **P 20 38 48.2 +4.0**
ZALV Zalesovo Beam 33.21 42 P **P 20 38 43.4 -1.1**
comp=Z,0.6nm,0.3s,baz=232,slow=7.1,SNR=2.5
comp=Z,0.6nm,0.3s
HFS Hagfors 33.22 331 P **P 20 38 43.6 -0.9**
comp=Z,2.3nm,0.6s,baz=130,slow=7.5,SNR=12
comp=Z,2.3nm,0.6s
NB2 NORSAR Subarra 34.74 331 P **P 20 38 56.6 -1.2**
comp=Z,3.2nm,1.1s,baz=124,slow=8.6
NB2 NORSAR Subarra 34.74 331 P **P 20 38 58.0 +0.2**
NOA NORSAR Array B 34.74 331 P **P 20 38 56.2 -1.6**
comp=Z,0.7nm,0.7s,baz=125,slow=8.7,SNR=4.3
NOA LR LR 20 56 25.8
comp=Z,27nm,18.6s,baz=345,slow=42
comp=Z,0.7nm,0.7s
ARCES ARCESS Array B 36.91 348 P **P 20 39 15.4 -0.8**
comp=Z,4.4nm,1.0s,baz=150,slow=9.3,SNR=5.1
comp=Z,4.4nm,1.0s
EKA Eskdalemuir Ar 39.66 317 P **P 20 39 38.7 -0.8**
comp=Z,2.2nm,0.6s,baz=106,slow=8.9,SNR=12
comp=Z,2.2nm,0.6s
EKA Eskdalemuir Ar 39.66 317 P **P 20 39 39.5 -0.1**
ESDC Sonseca Array 39.97 293 P **P 20 39 42.7 +0.2**
comp=Z,1.4nm,0.8s,baz=78,slow=7.8,SNR=4.9
comp=Z,1.4nm,0.8s
NRIK Noril'sk 41.62 21 P **P 20 39 56.3 +0.7**
comp=Z,0.6nm,0.3s,baz=174,slow=13,SNR=1.5
comp=Z,0.6nm,0.3s
TORD Torodi Ar. Bea 45.53 253 P **P 20 40 28.2 +0.5**
comp=Z,0.7nm,0.6s,baz=38,slow=9.7,SNR=5.5
comp=Z,0.7nm,0.6s
SPITS Spitsbergen Ar 45.61 352 P **P 20 40 28.3 +0.7**
comp=Z,12nm,0.9s,baz=184,slow=9.2,SNR=1.8
comp=Z,12nm,0.9s
PZH PanZhiHua 47.96 84 P **P 20 40 49.4 +2.6**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,4.7s
CMAR Chiang Mai Arr 49.26 95 P **P 20 40 56.4 -0.3**
comp=Z,2.0nm,0.8s,baz=294,slow=8.6,SNR=15
CMAR LR LR 21 05 14.4
comp=Z,19nm,19.7s,baz=180,slow=40
comp=Z,2.0nm,0.8s

XAN Xi'an 51.01 72 ⇑P **P 20 41 13.3 +3.4**
XAN pmax pmax
comp=Z,8.0nm,0.9s
DBIC Dimbokro 54.55 252 LR LR 21 08 05.5
comp=Z,90nm,18.9s,baz=194,slow=40
TIXI Tiksi 55.34 22 *i P* **P 20 41 40.4 -0.8**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
BBTS Babate 59.52 267 LR LR 21 13 18.4
comp=Z,137nm,18.5s,baz=348,slow=42
KSRS Korea Array 64.09 61 P **P 20 42 43.3 +1.3**
comp=Z,0.7nm,0.4s,baz=286,slow=6.2,SNR=2.6
comp=Z,0.7nm,0.4s
ASAJ Asahikawa 70.99 49 LR LR 21 20 02.5
comp=Z,33nm,18.6s,baz=40,slow=40
SCHQ Schefferville 74.18 326 P **P 20 43 45.1 +0.8**
comp=Z,2.9nm,0.6s,baz=329,slow=8.3,SNR=4.7
comp=Z,2.9nm,0.6s
ILAR Eielson Array 80.50 6 P **P 20 44 19.5 -0.1**
comp=Z,0.3nm,0.7s,baz=354,slow=4.5,SNR=3.3
comp=Z,0.3nm,0.7s

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*IDC **05** 20:39:39.4±0.7,27°.31N×140°.48E,h424km±20km,mb3.1/6, mbtmp3.9/6,Error ellipse: s-maj=66.1km s-min=15.1km az=77.0*
ISC 05 20:39:39.7±1.0,27°.4N±0°.2×141°.2E±0°.3,h450km,n7, σ1$00/8,mb3.5/6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.93**	**110**	P	**P**	**20 40 35.6**	**-0.2**
JCJ				S	**S**	**20 41 20.3**	**-0.8**
WRA	**Warramunga Arr**	**47.54**	**189**	P	**P**	**20 47 33.0**	**-0.1**
	0.2nm,0.4s,baz=4.5,slow=7.5,SNR=13						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**51.27**	**189**	P	**P**	**20 48 01.3**	**+0.6**
	0.1nm,0.4s,baz=359,slow=4.8,SNR=4.8						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**52.19**	**314**	P	**P**	**20 48 05.9**	**-1.2**
	1.5nm,0.5s,baz=91,slow=8.1,SNR=15						
	1.5nm,0.5s						
BVAR	**Borovoye Array**	**57.22**	**317**	P	**P**	**20 48 42.0**	**-0.5**
	2.6nm,0.4s,baz=87,slow=7.1,SNR=29						
	2.6nm,0.4s						
FINES	**FINESS Array B**	**77.28**	**334**	P	**P**	**20 50 47.2**	**+1.0**
	0.8nm,0.4s,baz=54,slow=5.6,SNR=15						
	0.8nm,0.4s						
NOA	**NORSAR Array B**	**82.99**	**338**	P	**P**	**20 51 17.4**	**+1.1**
	0.6nm,0.7s,baz=43,slow=5.3,SNR=1.9						
	0.6nm,0.7s						

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*IDC **05** 20:53:19.4±1.4,37°.63N×20°.27E,h0km,mb3.5/6, mbtmp3.5/6,MS3.0/1,Error ellipse: s-maj=45.7km s-min=25.8km az=127.0*
*ATH **05** 20:53:19.8,37°.40N×20°.75E,h12km±1km,ML3.4/5,Error ellipse: s-maj=3.1km s-min=1.1km az=44.0*
*THE **05** 20:53:20.1,37°.42N×20°.78E,h11km,ML3.2/12,Error ellipse: s-maj=1.4km s-min=0.5km az=51.0*
ISC 05 20:53:20.2±1.3,37°.43N±0°.04×20°.78E±0°.04,h9km±8km, n42,σ1$03/62,mb3.4/6,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.23**	**8**	P	**Pg**	**20 53 25.3**	**+0.3**
KRI1				S	**Sg**	**20 53 28.9**	**+0.7**
	10μm,0.5s						
LTHK	**Lithakia**	**0.28**	**10**	P	**Pg**	**20 53 26.3**	**+0.4**
LTHK				S	**Sb**	**20 53 31.2**	**-1.1**
	8μm,0.4s						
LTHK	**Lithakia**	**0.28**	**10**	P	**Pg**	**20 53 26.3**	**+0.4**
LTHK				S	**Sb**	**20 53 31.2**	**-1.1**
LTHK				AML	AML	20 53 32.2	
	comp=N,18787μm,0.6s						
LTHK				AML	AML	20 53 33.6	
	comp=E,10553μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.64**	**360**	P	**Pg**	**20 53 32.4**	**-0.3**
RTZL				S	**Sb**	**20 53 42.5**	**-0.2**
	comp=E,2μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.70**	**347**	P	**Pg**	**20 53 33.4**	**-0.3**
PSDA				S	**Sb**	**20 53 43.6**	**-0.7**
	comp=E,3μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.70**	**347**	P	**Pg**	**20 53 33.4**	**-0.3**
PSDA				S	**Sb**	**20 53 43.6**	**-0.7**
AMT	**Artemida-Makis**	**0.75**	**82**	P	**Pg**	**20 53 34.3**	**-0.3**
AMT				S	**Sb**	**20 53 46.0**	**+0.2**
AMT				AML	AML	20 53 53.7	
	comp=N,12698μm,0.3s						
AMT				AML	AML	20 53 54.3	
	comp=E,12855μm,0.5s						
VLS	**Valsamata**	**0.76**	**349**	P	**Pg**	**20 53 34.4**	**-0.5**
VLS				S	**Sb**	**20 53 46.4**	**+0.3**
	comp=E,1μm,0.4s						
VLS	**Valsamata**	**0.76**	**349**	P	**Pg**	**20 53 34.4**	**-0.5**
VLS				S	**Sb**	**20 53 46.4**	**+0.3**
VLS				AML	AML	20 53 48.3	
	comp=E,2650μm,0.5s						
VLS				AML	AML	20 53 51.7	
	comp=N,2863μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.81**	**341**	P	**Pb**	**20 53 36.0**	**-0.5**
LXRA				S	**Sg**	**20 53 45.7**	**-0.8**
SMHA	**Samh**	**0.83**	**353**	P	**Pg**	**20 53 35.0**	**-1.1**
SMHA				S	**Sg**	**20 53 47.1**	**+0.3**
RLS	**Riolos of Patr**	**0.83**	**41**	P	**Pg**	**20 53 35.3**	**-0.9**
RLS				S	**Sg**	**20 53 47.8**	**+0.8**
	comp=N,650nm,0.6s						
RLS	**Riolos of Patr**	**0.83**	**41**	P	**Pg**	**20 53 35.3**	**-0.9**
DMLN	**Damoulianata-K**	**0.87**	**339**	P	**Pb**	**20 53 37.2**	**-0.3**
DMLN				S	**Sb**	**20 53 48.7**	**-0.5**
	comp=N,3μm,0.6s						
DMLN	**Damoulianata-K**	**0.87**	**339**	P	**Pb**	**20 53 37.2**	**-0.3**
DMLN				S	**Sb**	**20 53 48.7**	**-0.5**
DRO	**Drossia**	**0.91**	**55**	P	**Pg**	**20 53 36.6**	**-1.0**
DRO				S	**Sb**	**20 53 50.2**	**-0.1**
	comp=N,2μm,0.6s						
DRO	**Drossia**	**0.91**	**55**	P	**Pg**	**20 53 36.7**	**-1.0**
PYL	**PYLOS**	**0.94**	**124**	P	**Pg**	**20 53 37.4**	**-0.9**
PYL				S	**Sb**	**20 53 51.1**	**-0.1**
	comp=N,5μm,0.5s						
PYL	**PYLOS**	**0.94**	**124**	P	**Pg**	**20 53 37.4**	**-0.9**
PYL				S	**Sb**	**20 53 51.1**	**-0.1**
PYL				AML	AML	20 53 53.0	
	comp=E,13556μm,0.5s						
PYL				AML	AML	20 53 54.8	
	comp=N,4871μm,0.6s						
ITM	**Ithomi**	**0.95**	**105**	P	**Pg**	**20 53 38.2**	**-0.3**
ITM				S	**Sb**	**20 53 52.0**	**+0.4**
	comp=N,3μm,0.8s						
ITM	**Ithomi**	**0.95**	**105**	P	**Pg**	**20 53 38.2**	**-0.3**
ITM				S	**Sb**	**20 53 52.0**	**+0.4**
ITM				AML	AML	20 53 55.0	
	comp=E,5764μm,0.7s						
ITM				AML	AML	20 53 57.6	
	comp=N,5045μm,0.9s						
VSK1	**VASILIKIADES**	**0.99**	**350**	P	**Pg**	**20 53 38.7**	**-0.6**
VSK1				S	**Sn**	**20 53 53.6**	**-0.9**
	comp=N,1μm,0.6s						
FSK	**Fiskardo**	**1.04**	**351**	P	**Pb**	**20 53 39.5**	**-0.9**
FSK				S	**Sn**	**20 53 55.5**	**-0.1**
	comp=N,992nm,0.6s						
FSK	**Fiskardo**	**1.04**	**351**	P	**Pb**	**20 53 39.5**	**-0.9**
EVGI	**Lefkada island**	**1.19**	**355**	P	**Pn**	**20 53 41.8**	**-1.3**
EVGI	**Lefkada island**	**1.19**	**355**	P	**Pn**	**20 53 41.8**	**-1.3**
KLV	**Kalavryta, Ach**	**1.25**	**60**	P	**Pn**	**20 53 42.5**	**-1.4**
KLV	**Kalavryta, Ach**	**1.25**	**60**	P	**Pn**	**20 53 42.5**	**-1.4**
EFP	**Efpalio**	**1.34**	**42**	P	**Pn**	**20 53 44.5**	**-0.5**
EFP	**Efpalio**	**1.34**	**42**	P	**Pn**	**20 53 44.5**	**-0.5**
GUR	**Goura**	**1.34**	**67**	P	**Pn**	**20 53 43.7**	**-1.5**
GUR	**Goura**	**1.34**	**67**	P	**Pn**	**20 53 43.7**	**-1.5**
ANX	**Ano Chora**	**1.47**	**38**	P	**Pn**	**20 53 46.6**	**-0.4**
OHR	**Ohrid**	**3.68**	**0**	*i* Pn	**Pn**	**20 54 19.3**	**+2.1**
PEHC	**Pehcevo**	**4.64**	**20**	*i* Pn	**Pn**	**20 54 32.5**	**+1.9**
MLR	**Muntele Rosu**	**8.94**	**24**	LR	LR	20 59 51.4	
	comp=N,101nm,20.7s,baz=240,slow=44						
HFS	**Hagfors**	**23.17**	**351**	P	**P**	**20 58 24.6**	**-2.2**
	comp=N,1.0nm,0.7s,baz=180,slow=19,SNR=1.4						
	comp=N,1.0nm,0.7s						
FINES	**FINESS Array B**	**24.27**	**6**	P	**P**	**20 58 36.6**	**-0.8**
	comp=N,2.6nm,0.9s,baz=186,slow=6.9,SNR=3.3						
	comp=N,2.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**29.58**	**220**	P	**P**	**20 59 25.3**	**-0.3**
	comp=N,0.3nm,0.5s,baz=28,slow=9.8,SNR=4.7						
	comp=N,0.3nm,0.5s						
BVAR	**Borovoye Array**	**37.45**	**49**	P	**P**	**21 00 36.3**	**+2.6**
	comp=N,0.2nm,0.5s,baz=262,slow=8.0,SNR=2.0						
	comp=N,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**42.51**	**53**	P	**P**	**21 01 18.9**	**+3.2**
	comp=N,0.2nm,0.3s,baz=283,slow=8.5,SNR=1.8						
	comp=N,0.2nm,0.3s						
MKAR	**Makanchi Array**	**45.52**	**58**	P	**P**	**21 01 41.1**	**+1.1**
	comp=N,0.5nm,0.7s,baz=285,slow=6.6,SNR=5.0						
	comp=N,0.5nm,0.7s						

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*IDC **05** 21:05:09.6±0.6,38°.39S×93°.67W,h0km,mb4.5/10, mbtmp4.5/11,ML3.8/1,MS4.2/40,Error ellipse: s-maj=21.6km s-min=17.9km az=82.0*
*NEIC **05** 21:05:11.3±1.1,38°.33S±0°.09×93°.6W±0°.1,h10km±1km, mb4.8/142,Error ellipse: s-maj=20.5km s-min=13.2km az=242.0*
*GCMT **05** 21:05:13.4±0.2,38°.34S±0°.01×93°.59W±0°.02,h15km, MW5.0/120,Moment Tensor Solution. s49,c59; s120,c168; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.35±.11; $M_{\theta\theta}$-0.59±.10; $M_{\phi\phi}$1.94±.10; $M_{r\theta}$-2.42±.37; $M_{\theta\phi}$-3.54±.07; $M_{\phi r}$-0.34±.32; Best double couple: M_0=4.63300×10^{16} NP1:ϕ_s105.00000°,δ75.00000°, λ-146.00000°. NP2:ϕ_s5.00000°,δ57.00000°,λ-18.00000°. Principal axes: T 4.6640, Plg12.0000°, Azm232.0000°; N -0.0640, Plg53.0000°, Azm126.0000°; P -4.6030, Plg35.0000°, Azm330.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 21:05:11.2±0.4,38°.33S±0°.07×93°.68W±0°.07,h13km,n251, σ0$96/209,mb4.8/65,MS4.2/40,4C-1D,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.74**	**74**	T	T	21 21 09.7	
	baz=244,slow=74,SNR=928						
H03S1	**Juan Fernandez**	**12.76**	**74**	T	T	21 21 09.8	
	baz=244,slow=74,SNR=1194						
H03S3	**Juan Fernandez**	**12.76**	**74**	T	T	21 21 09.6	
	baz=244,slow=74,SNR=1331						
H03N2	**Juan Fernandez**	**12.91**	**72**	Pn	**Pn**	**21 08 11.0**	**-3.1**
	baz=282,slow=75						
H03N2				T	T	21 21 14.8	
	baz=242						
H03N3	**Juan Fernandez**	**12.91**	**72**	Pn	**Pn**	**21 08 10.9**	**-3.2**
	baz=282,slow=75						
H03N3				T	T	21 21 15.6	
	baz=242						
H03N1	**Juan Fernandez**	**12.93**	**72**	Pn	**Pn**	**21 08 10.8**	**-3.4**
	baz=282,slow=75						
H03N1				T	T	21 21 15.8	
	baz=242						
LL06	**Loncomilla**	**15.79**	**111**	P	**P**	**21 08 58.9**	**+2.0**
LL04	**Puerto Octay**	**16.59**	**106**	Pn	**Pn**	**21 09 02.9**	**-0.5**
LL04				IAmb	IAmb	21 09 09.5	
	comp=Z,102nm,1.7s						
LL03	**Petrohue**	**16.60**	**106**		**P**	**21 09 06.8**	**+0.8**
LL03				IAmb	IAmb	21 09 11.0	
	comp=Z,98nm,0.9s						
LL01	**San Ignacio de**	**16.70**	**111**	P	**P**	**21 09 08.4**	**+1.4**
LL01				IAmb	IAmb	21 09 11.6	
	comp=Z,65nm,1.2s						
LR05	**Currie**	**16.89**	**103**	P	**P**	**21 09 09.5**	**+0.3**
AY02	**Valle Explorad**	**17.15**	**125**	P	**P**	**21 09 12.9**	**+0.9**
AY02				IAmb	IAmb	21 09 17.5	
	comp=Z,63nm,0.9s						
LL02	**Futaleuf**	**17.22**	**113**	P	**Pn**	**21 09 11.9**	**+0.6**
RPN	**Rapa Nui**	**17.24**	**306**	LR	LR	21 13 52.4	
	comp=Z,1μm,18.9s,baz=137,slow=30						
GO06	**Curarrehue**	**17.32**	**101**		**P**	**21 09 13.8**	**-0.2**
COYC	**Coyhaique**	**17.59**	**121**	Pn	**Pn**	**21 09 14.8**	**-1.1**
GO05	**Hualane**	**17.75**	**86**		**Pn**	**21 09 17.6**	**-0.4**
GO05				IAmb	IAmb	21 09 20.5	
	comp=Z,74nm,1.3s						
AY03	**Cochrane**	**17.82**	**127**		**P**	**21 09 19.5**	**+0.1**
BI02	**San Fabin de**	**17.85**	**92**		**Pn**	**21 09 18.5**	**-0.8**
ML02	**Panimavida**	**17.95**	**89**		**P**	**21 09 21.4**	**+0.5**
PLCA	**Paso Flores**	**18.00**	**105**		**P**	**21 09 21.9**	**+0.4**
PLCA	**Paso Flores**	**18.00**	**105**	P	**P**	**21 09 22.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=272,slow=11,SNR=6.2						
	comp=Z,12nm,1.2s						
PLCA	**Paso Flores**	**18.00**	**105**	*eP*	**P**	**21 09 23.2**	**+1.7**
GO08	**Villa O'Higgin**	**18.34**	**130**		**Pn**	**21 09 24.7**	**-0.4**
GO08				IAmb	IAmb	21 09 35.1	
	comp=Z,101nm,2.0s						
VA05	**Santo Domingo**	**18.44**	**82**	P	**P**	**21 09 24.4**	**-2.0**
VA05				IAmb	IAmb	21 09 27.9	
	comp=Z,127nm,1.6s						
BO01	**Tunca**	**18.61**	**85**	P	**P**	**21 09 27.0**	**-1.2**
MT01	**Popeta**	**18.65**	**83**	P	**P**	**21 09 28.7**	**0.0**
MT09	**Talagante**	**18.89**	**83**	P	**P**	**21 09 31.3**	**-0.1**
MT09				IAmb	IAmb	21 09 35.0	
	comp=Z,51nm,1.1s						
BO04	**La Punta**	**19.11**	**84**	P	**P**	**21 09 33.1**	**-0.6**
BO04				IAmb	IAmb	21 09 37.2	
	comp=Z,83nm,1.5s						
MT05	**Renca**	**19.22**	**82**		**P**	**21 09 35.1**	**+0.1**
MT03	**Universidad Ad**	**19.36**	**83**	P	**P**	**21 09 36.2**	**-0.4**
MT03				IAmb	IAmb	21 09 39.6	
	comp=Z,107nm,1.6s						
MT16	**CCHEN**	**19.37**	**82**	P	**P**	**21 09 36.8**	**+0.1**
MT16				IAmb	IAmb	21 09 49.5	
	comp=Z,147nm,1.5s						
LMEL	**Las Melosas**	**19.48**	**84**	P	**P**	**21 09 37.3**	**-0.6**
VA03	**San Esteban**	**19.60**	**81**	P	**P**	**21 09 38.3**	**-0.9**
MT08	**Bocatoma Ro**	**19.76**	**83**	P	**P**	**21 09 40.4**	**-0.7**
GO09	**Cerro Castillo**	**19.83**	**138**		**P**	**21 09 41.8**	**+0.3**
CO03	**El Pedregal**	**20.32**	**75**	P	**P**	**21 09 46.8**	**-0.2**
CO03				IAmb	IAmb	21 09 51.0	
	comp=Z,73nm,1.5s						
GO04	**Tololo Observa**	**20.55**	**74**	P	**P**	**21 09 49.7**	**0.0**
GO04				IAmb	IAmb	21 09 53.7	
	comp=Z,68nm,1.1s						
CO01	**Juntas del Tor**	**21.18**	**74**	P	**P**	**21 09 56.1**	**-0.4**
LCO	**Las Campanas**	**21.22**	**71**	P	**P**	**21 09 56.4**	**-0.6**
LCO				IAmb	IAmb	21 10 01.3	
	comp=Z,61nm,1.1s						
ZON	**Zonda**	**21.55**	**79**	P	**P**	**21 09 59.9**	**-0.4**
ZON				IAmb	IAmb	21 10 05.2	
	comp=Z,87nm,1.5s						
AC05	**El Transito**	**21.63**	**71**	P	**P**	**21 10 00.9**	**-0.3**
AC05				IAmb	IAmb	21 10 12.6	
	comp=Z,45nm,1.1s						
MG03	**Isla Dawson**	**22.21**	**142**	P	**P**	**21 10 08.2**	**+1.1**
GO03	**Copiapo**	**22.34**	**68**	P	**P**	**21 10 08.3**	**-0.4**
GO03				IAmb	IAmb	21 10 14.6	
	comp=Z,56nm,1.4s						
AC06	**Mina Casimiro**	**22.38**	**68**	P	**P**	**21 10 09.1**	**-0.1**
AC06				IAmb	IAmb	21 10 14.4	
	comp=Z,50nm,1.2s						
AC01	**Pan de Azucar**	**22.92**	**65**	P	**P**	**21 10 15.2**	**+0.3**
PB14	**IPOC Station P**	**24.01**	**62**	P	**P**	**21 10 26.0**	**0.0**
PB14				IAmb	IAmb	21 10 29.9	
	comp=Z,44nm,1.0s						
GO02	**Mina Guanaco**	**24.24**	**64**	P	**P**	**21 10 27.8**	**-0.5**
GO02				IAmb	IAmb	21 10 38.4	
	comp=Z,61nm,1.4s						
TRQA	**Tornquist**	**24.86**	**99**	P	**P**	**21 10 34.4**	**+1.0**
TRQA				IAmb	IAmb	21 10 37.1	
	comp=Z,38nm,1.3s						
PB15	**IPOC Station P**	**25.58**	**61**	P	**P**	**21 10 40.9**	**+0.6**
PB04	**IPOC Station P**	**25.71**	**58**	P	**P**	**21 10 41.9**	**+0.5**
PB06	**IPOC Station P**	**25.85**	**60**	P	**P**	**21 10 41.5**	**-1.1**
PB06				IAmb	IAmb	21 10 49.0	
	comp=Z,50nm,1.2s						
LVC	**Limon Verde**	**26.36**	**61**	P	**P**	**21 10 47.8**	**+0.3**
LVC				IAmb	IAmb	21 10 52.0	
	comp=Z,43nm,1.1s						
LVC	**Limon Verde**	**26.36**	**61**	LR	LR	21 18 33.5	
	comp=Z,970nm,20.5s,baz=221,slow=30						
LVC	**Limon Ver

LPAZ La Paz 31.39 53 P **P 21 11 32.9 +0.3**
LPAZ IAmb IAmb 21 11 37.9
comp=Z,18nm,1.1s
LPAZ La Paz 31.39 53 P **P 21 11 33.0 +0.4**
comp=Z,15nm,1.0s,baz=209,slow=9.9,SNR=15
LPAZ LR LR 21 21 22.8
comp=Z,316nm,18.5s,baz=234,slow=31
comp=Z,15nm,1.0s
LPAZ La Paz 31.39 53 *e*P **P 21 11 33.5 +1.0**
PMSA Palmer Station 31.68 156 LR LR 21 20 47.0
comp=Z,481nm,20.8s,baz=303,slow=30
ITQB Itaqui 31.74 85 P **P 21 11 33.9 -0.9**
ITQB Itaqui 31.74 85 *e*P **P 21 11 36.8 +1.9**
CPUP Villa Florida 32.76 79 P **P 21 11 43.5 -0.3**
CPUP IAmb IAmb 21 11 45.6
comp=Z,10nm,1.2s
CPUP Villa Florida 32.76 79 P **P 21 11 43.0 -0.8**
comp=Z,6.8nm,1.0s,baz=250,slow=7.7,SNR=7.7
CPUP LR LR 21 23 46.7
comp=Z,396nm,18.2s,baz=247,slow=34
comp=Z,6.8nm,1.0s
PLTB Pedras Altas 33.26 91 *e*P **P 21 11 49.6 +1.4**
ATAH Atahualpa 33.99 28 LR LR 21 22 46.9
comp=Z,780nm,18.2s,baz=214,slow=31
SJPY San Joaquin 34.39 78 *e*P **P 21 11 58.4 +0.3**
MURT Porto Murtinho 35.11 72 *e*P **P 21 12 03.5 -0.9**
BBSD Serra de San D 35.77 63 *e*P **P 21 12 09.6 -0.4**
CZSB Cruzeiro do Su 35.87 37 P **P 21 12 10.9 0.0**
CZSB IAmb IAmb 21 12 15.5
comp=Z,24nm,1.1s
SIV San Ignacio 36.26 61 LR LR 21 25 12.9
comp=Z,362nm,20.8s,baz=204,slow=33
ITAB Concordia 36.37 85 P **P 21 12 15.2 +0.2**
ITAB Concordia 36.37 85 *e*P **P 21 12 15.8 +0.7**
AMBA Amambai (Brazi 36.37 76 *e*P **P 21 12 15.1 -0.1**
BDQN Bodoquena, MS 36.48 71 *e*P **P 21 12 16.5 +0.4**
AQDB Aquidauana 37.25 72 P **P 21 12 22.5 -0.1**
AQDB IAmb IAmb 21 12 24.7
comp=Z,14nm,1.0s
AQDB Aquidauana 37.25 72 *e*P **P 21 12 23.6 +1.0**
ETMB Extrema 37.59 48 P **P 21 12 25.4 -0.1**
ETMB Extrema 37.59 48 *e*P **P 21 12 26.9 +1.3**
PTGB Pitanga 37.67 81 *e*P **P 21 12 27.5 +1.3**
PTLB Pontes e Lacer 37.98 63 P **P 21 12 28.5 -0.3**
PTLB IAmb IAmb 21 12 31.4
comp=Z,15nm,1.1s
PTLB Pontes e Lacer 37.98 63 *e*P **P 21 12 30.2 +1.4**
COHC Cochancay 38.05 24 P **P 21 12 30.2 +0.8**
RKT Rikitea 38.27 281 *e*LR LR 21 22 50.6
comp=Z,2μm,32.8s
VILB Vilhena 39.00 59 P **P 21 12 37.6 +0.1**
VILB IAmb IAmb 21 12 39.9
comp=Z,23nm,1.0s
VILB Vilhena 39.00 59 *e*P **P 21 12 38.8 +1.3**
SAML Samuel 40.09 51 P **P 21 12 46.4 -0.1**
SAML Samuel 40.09 51 *e*P **P 21 12 48.0 +1.5**
SALV Santo Antonio 40.12 67 *e*P **P 21 12 48.4 +1.6**
TBTG Tabatinga, AM 40.30 38 *e*P **P 21 12 49.5 +1.3**
OTAV Otavalo 40.86 24 P **P 21 12 53.7 +0.4**
OTAV Otavalo 40.86 24 *e*P **P 21 12 54.7 +1.4**
ITRB Iturama 41.74 76 *e*P **P 21 13 02.5 +2.3**
PDRB Porto dos Gac 42.32 61 *e*P **P 21 13 04.2 -0.7**
ARAG Araguaiana, MT 43.09 70 *e*P **P 21 13 12.2 +1.1**
CLDB Colider 43.49 61 *e*P **P 21 13 13.7 -0.7**
TEFE Tefe 43.62 45 *e*P **P 21 13 17.6 +2.3**
SNDB Serra Nova Dou 45.91 67 *e*P **P 21 13 34.2 +0.5**
BDFB Brasilia 45.97 73 P **P 21 13 34.9 +0.6**
comp=Z,3.6nm,0.8s,baz=247,slow=8.4,SNR=4.5
BDFB LR LR 21 31 18.0
comp=Z,351nm,21.9s,baz=192,slow=34
comp=Z,3.6nm,0.8s
MACA Manacapuru-AM 46.17 49 P **P 21 13 35.6 -0.1**
MACA Manacapuru-AM 46.17 49 *e*P **P 21 13 37.4 +1.7**
BELA Belgrano 2 46.44 166 P **P 21 13 37.1 0.0**
BELA IAmb IAmb 21 13 39.3
comp=Z,35nm,2.0s
NPGB Novo Progresso 46.55 58 *e*P **P 21 13 38.3 -0.4**
ROSC El Rosal 46.55 27 P **P 21 13 39.8 +0.7**
ROSC IAmb IAmb 21 13 45.7
comp=Z,26nm,1.4s
ROSC El Rosal 46.55 27 P **P 21 13 40.0 +0.9**
comp=Z,7.5nm,0.7s,baz=252,slow=20,SNR=1.1
ROSC LR LR 21 30 59.8
comp=Z,400nm,18.6s,baz=212,slow=33
comp=Z,7.5nm,0.7s
RUSC La Rusia 47.98 28 P **P 21 13 49.7 -0.6**
RUSC IAmb IAmb 21 13 54.7
comp=Z,14nm,1.2s
ITTB Itaituba 48.30 55 *e*P **P 21 13 52.5 +0.1**
JTS Las Juntas de 49.05 11 LR LR 21 29 21.2
comp=Z,488nm,20.9s,baz=205,slow=30
TBI Tubuai 49.47 271 *e*LR LR 21 28 06.2
comp=Z,2μm,28.5s
SMTB Santa Maria do 50.69 67 *e*P **P 21 14 12.4 +1.9**
BOAV Boa Vista 50.78 45 P **P 21 14 11.2 -0.1**
BOAV IAmb IAmb 21 14 13.2
comp=Z,9.5nm,1.0s
BOAV Boa Vista 50.78 45 *e*P **P 21 14 12.0 +0.8**
PRPB Parauapebas 50.97 62 *e*P **P 21 14 14.1 +1.4**
TAOE Nuku Hiva Isla 50.97 293 *e*LR LR 21 28 41.7
comp=Z,175nm,29.0s
SDV Santo Domingo 51.66 30 P **P 21 14 17.8 -0.1**
SDV IAmb IAmb 21 14 34.1
comp=Z,7.3nm,0.5s
SDV Santo Domingo 51.66 30 LR LR 21 34 31.3
comp=Z,917nm,19.1s,baz=182,slow=34
SDV Santo Domingo 51.66 30 *e*P **P 21 14 19.1 +1.1**
QSPA South Pole Qui 51.90 180 P **P 21 14 19.5 +0.3**
QSPA South Pole Qui 51.90 180 P **P 21 14 19.8 +0.6**
comp=Z,3.4nm,0.6s,baz=120,slow=4.0,SNR=12
comp=Z,3.4nm,0.6s
VNA3 Neumayer Olymp 52.34 156 ⇑P **P 21 14 22.2 -0.1**
comp=Z,6.3nm,0.8s
MTO3 Montecristo 52.60 5 P **P 21 14 24.8 -0.1**
MTO3 IAmb IAmb 21 14 26.4
comp=Z,17nm,1.4s
RTAL Retalhuleu 52.60 2 P **P 21 14 24.6 -0.1**
PPT2 Papeete2 52.69 277 *e*S **S 21 21 50.0 -3.2**
PPT2 *e*LR LR 21 29 34.5
comp=Z,82nm,24.8s
PPT2 *e*LR LR 21 29 36.2
comp=Z,244nm,23.5s
PPT2 *e*LR LR 21 29 36.2
comp=Z,174nm,23.8s
PPT Papeete 52.70 277 LR LR 21 30 36.5
comp=Z,152nm,19.9s,baz=178,slow=29
BAUV El Baul 52.76 32 P **P 21 14 25.3 -0.6**
BAUV IAmb IAmb 21 14 27.6
comp=Z,20nm,0.9s
VNA1 Neumayer--Stat 52.90 155 ⇑P **P 21 14 24.5 -1.9**
comp=Z,13nm,1.0s
VNA2 Neumayer--Watz 53.13 156 ⇑P **P 21 14 27.5 -0.6**
comp=Z,5.8nm,0.7s,baz=247,slow=7.6
SNAA Sanae 54.40 157 P **P 21 14 37.9 +0.5**
SNAA Sanae 54.40 157 ⇑P **P 21 14 36.7 -0.7**
comp=Z,98nm,1.1s
SNAA Sanae 54.40 157 P **P 21 14 37.1 -0.3**
comp=Z,2.6nm,0.7s,baz=228,slow=5.6,SNR=5.6
SNAA LR LR 21 33 48.0
comp=Z,150nm,20.4s,baz=191,slow=32
comp=Z,2.6nm,0.7s
SBA Scott Base 54.84 195 P **P 21 14 41.1 +0.7**
SBA IAmb IAmb 21 14 43.1
comp=Z,15nm,1.1s
CMIG Matias Romero 55.13 359 LR LR 21 32 29.6
comp=Z,208nm,21.7s,baz=189,slow=30
PCRV Puerto La Cruz 55.35 36 LR LR 21 35 56.4
comp=Z,349nm,20.7s,slow=33
MDP Montagnes des 57.56 51 LR LR 21 37 33.1
comp=Z,276nm,19.6s,baz=220,slow=34
TEIG Tepich 58.46 6 LR LR 21 35 05.4
comp=Z,204nm,21.9s,baz=216,slow=31
RAR Rarotonga 58.70 267 LR LR 21 33 15.2
comp=Z,156nm,20.2s,baz=108,slow=29
ZAIG Zacatecas 61.34 351 P **P 21 15 27.6 +0.7**
ZAIG IAmb IAmb 21 15 29.8
comp=Z,20nm,1.6s
RCBR Riachuelo 61.34 74 LR LR 21 41 26.2
comp=Z,121nm,18.0s,baz=236,slow=36
ELIB Princess Elisa 61.62 162 *d*P **P 21 15 26.4 -1.6**
comp=Z,8.5nm,0.7s
SJG San Juan 61.80 30 LR LR 21 40 49.9
comp=Z,89nm,18.8s,baz=231,slow=35
LPIG La Paz 64.03 343 LR LR 21 36 55.5
comp=Z,88nm,19.5s,baz=195,slow=30
HPIG 65.88 348 P **P 21 15 56.5 -0.2**
HPIG IAmb IAmb 21 15 58.7
comp=Z,6.7nm,0.7s
833A Chaparral WMA, 66.52 355 P **P 21 16 01.9 +1.4**
URZ Urewera 67.08 239 LR LR 21 37 52.9
comp=Z,472nm,21.1s,baz=210,slow=29
TX31 Lajitas Ar. Si 67.95 351 P **P 21 16 10.6 +0.9**
TXAR Lajitas Array 67.95 351 P **P 21 16 10.6 +0.9**
comp=Z,2.4nm,0.8s,baz=168,slow=6.0,SNR=4.8
comp=Z,2.4nm,0.8s
RAO Raoul Island 68.33 249 LR LR 21 38 17.7
comp=Z,233nm,20.9s,baz=168,slow=29
JCT Junction City 68.69 354 P **P 21 16 14.1 -0.2**
ALPN Alpine 68.98 351 P **P 21 16 16.4 +0.3**
VHRN Van Horn 69.56 350 P **P 21 16 19.5 -0.3**
VHRN IAmb IAmb 21 16 21.0
comp=Z,14nm,1.6s
NATX Nacogdoches 69.73 359 P **P 21 16 20.5 -0.1**
MNHN Monahans 69.83 352 P **P 21 16 20.9 -0.3**
352A Blakely 69.92 8 P **P 21 16 21.8 0.0**
PECS Pecos 69.99 351 P **P 21 16 22.6 +0.3**
PECS IAmb IAmb 21 18 53.9
comp=Z,5.7nm,0.8s
Z41A Richland Creek 71.22 1 P **P 21 16 31.1 +1.4**
Z47A Carrollton 71.35 5 P **P 21 16 30.9 +0.4**
TUC Tucson 72.06 345 P **P 21 16 35.5 +0.6**
MIAR Mount Ida 72.50 0 P **P 21 16 37.1 -0.2**
MAW Mawson 72.91 171 P **P 21 16 39.1 -0.3**
comp=Z,6.4nm,1.0s,baz=180,slow=7.4,SNR=10
MAW LR LR 21 47 05.6
comp=Z,118nm,19.1s,baz=208,slow=34
comp=Z,6.4nm,1.0s
WHAR Wooly Hollow 73.26 1 P **P 21 16 41.6 -0.2**
ANMO Albuquerque 73.86 349 LR LR 21 44 17.9
comp=Z,155nm,18.3s,baz=330,slow=32
X18A Snowflake 74.05 346 P **P 21 16 48.0 +1.3**
X18A IAmb IAmb 21 16 49.3
comp=Z,11nm,1.3s
Y14A Wickenburg 74.11 343 P **P 21 16 47.4 +0.5**
Y14A IAmb IAmb 21 18 19.7
comp=Z,4.9nm,0.5s
TKL Tuckaleechee C 74.18 8 LR LR 21 46 22.1
comp=Z,76nm,18.7s,baz=154,slow=33
X16A Lo Mia Camp, P 74.23 345 P **P 21 16 48.0 +0.2**
BLYC Blythe 74.28 342 P **P 21 16 48.4 +0.6**
BLYC IAmb IAmb 21 16 50.4
comp=Z,6.4nm,0.8s
OK051 E0350 and S346 74.52 357 P **P 21 16 47.8 -1.4**
OK038 West end E0370 74.58 356 P **P 21 16 49.9 +0.3**
PFO Pinyon Flats O 74.64 340 LR LR 21 41 53.1
comp=Z,109nm,21.0s,baz=161,slow=30
PBMO Poplar Bluff 74.79 3 P **P 21 16 50.0 -0.7**
PBMO IAmb IAmb 21 16 57.5
comp=Z,19nm,1.1s
KAN12 Harper NE Stat 75.36 356 P **P 21 16 54.0 -0.1**
SIUC Southern Illin 75.78 4 P **P 21 16 56.1 -0.3**
V12A Nelson 76.25 342 P **P 21 17 00.2 +0.9**
GSC Goldstone, Bar 76.33 341 P **P 21 17 00.3 +0.5**
GSC IAmb IAmb 21 17 02.2
comp=Z,8.8nm,1.3s
U15A North Rim 76.35 345 P **P 21 17 00.1 +0.1**
U15A IAmb IAmb 21 17 09.1
comp=Z,9.6nm,1.4s
KNB Kanab 77.03 344 P **P 21 17 04.2 +0.5**
KNB IAmb IAmb 21 17 06.3
comp=Z,20nm,1.6s
SHPR Sheep Range 77.06 342 P **P 21 17 04.6 +0.6**
ISA Isabella, Lake 77.12 339 P **P 21 17 04.2 0.0**
ISA IAmb IAmb 21 17 06.7
comp=Z,29nm,1.8s
HMU Henry Mountain 77.50 346 P **P 21 17 07.6 +1.1**
HMU IAmb IAmb 21 17 08.5
comp=Z,13nm,1.2s
WCT Wildcat Mounta 77.69 341 P **P 21 17 08.0 +0.6**
PV23 Carpenter Ridg 77.70 348 P **P 21 17 07.8 +0.2**
PV23 IAmb IAmb 21 17 09.6
comp=Z,14nm,1.1s
TPNV Topopah Spring 77.75 342 P **P 21 17 08.9 +1.2**
PRN Pahroc Range 77.90 343 P **P 21 17 09.1 +0.5**
PRN IAmb IAmb 21 17 11.5
comp=Z,9.5nm,1.1s
GMN Gold Mountain 78.34 341 P **P 21 17 11.8 +0.7**
GMN IAmb IAmb 21 17 13.6
comp=Z,12nm,1.5s
Q16A Castle Valley 78.53 346 P **P 21 17 12.9 +0.8**
Q16A IAmb IAmb 21 17 30.0
comp=Z,14nm,1.4s
SFIN Lafayette 78.56 5 P **P 21 17 12.2 +0.3**
DSP Deep Springs 78.59 340 P **P 21 17 12.7 +0.6**
SRU San Rafael Swe 78.60 347 P **P 21 17 13.1 +0.6**
SRU IAmb IAmb 21 17 14.9
comp=Z,17nm,1.7s
PSUT Pine Spring 78.71 344 P **P 21 17 14.3 +1.1**
MZP Montezuma Peak 78.75 341 P **P 21 17 14.3 +0.9**
TMUT Trail Mountain 78.91 346 P **P 21 17 14.0 -0.4**
TMUT IAmb IAmb 21 19 55.0
comp=Z,6.1nm,0.8s
R11B Troy Canyon, C 78.92 343 P **P 21 17 15.4 +1.1**
TPH Tonopah 79.06 341 P **P 21 17 15.6 +0.5**
LHV Little Huntoon 79.56 340 P **P 21 17 18.5 +1.1**
LHV IAmb IAmb 21 17 20.6
comp=Z,9.3nm,0.9s
NV11 Mina Array Sit 79.64 341 P **P 21 17 18.6 +0.5**
NVAR Mina Array Bea 79.67 341 P **P 21 17 19.8 +1.4**
comp=Z,4.6nm,0.7s,baz=172,slow=5.9,SNR=26
comp=Z,4.6nm,0.7s
RYN Ryan 79.92 340 P **P 21 17 20.0 +0.3**
DUG Dugway, Tooele 80.09 345 P **P 21 17 20.6 +0.1**
KVN Kaiserville 80.20 341 P **P 21 17 21.3 0.0**
YERR Yerington 80.44 340 P **P 21 17 23.8 +1.3**
YERR IAmb IAmb 21 17 40.1
comp=Z,9.5nm,1.2s
ELK Elko 81.13 344 P **P 21 17 27.3 +1.1**
PD31 Pinedale Array 82.00 348 P **P 21 17 30.5 -0.2**
PD31 IAmb IAmb 21 17 32.3
comp=Z,6.0nm,0.8s
PDAR Pinedale Array 82.00 348 P **P 21 17 31.1 +0.3**
comp=Z,4.2nm,0.7s,baz=162,slow=6.3,SNR=24
comp=Z,4.2nm,0.7s
TPAW Teton Pass 82.93 347 P **P 21 17 35.9 +0.2**
TPAW IAmb IAmb 21 17 37.5
comp=Z,6.4nm,0.8s
FXWY Fox Creek 83.09 347 P **P 21 17 36.9 +0.5**
HLID Hailey 83.65 345 P **P 21 17 40.3 +1.1**
HLID IAmb IAmb 21 17 56.7
comp=Z,7.8nm,1.2s
SADO Sadowa 83.75 10 LR LR 21 50 16.2
comp=Z,231nm,20.1s,baz=242,slow=32
DZM Mont Dzumac 83.94 247 *e*LR LR 21 44 01.1
comp=Z,544nm,28.6s
DZM Mont Dzumac 83.94 247 LR LR 21 46 11.6
comp=Z,162nm,21.9s,baz=50,slow=29
YBH Yreka Blue Hor 83.96 339 LR LR 21 47 09.0
comp=Z,82nm,18.3s,baz=169,slow=30
YHH Holmes Hill 84.17 348 P **P 21 17 42.4 +0.3**
J08A Circle Bar Ran 84.36 342 P **P 21 17 43.8 +1.0**
J05D Fort Rock, OR 84.99 340 P **P 21 17 46.7 +0.6**
J05D IAmb IAmb 21 17 48.5
comp=Z,8.3nm,0.9s
I07A Izee 85.29 342 P **P 21 17 48.3 +0.8**
I07A IAmb IAmb 21 17 50.2
comp=Z,10nm,1.1s
PINE Pine Mountain 85.39 341 P **P 21 17 48.6 +0.6**
PINE IAmb IAmb 21 17 50.6
comp=Z,7.4nm,0.9s
G08A Pilot Rock 86.30 342 P **P 21 17 53.4 +1.0**
G08A IAmb IAmb 21 18 10.6
comp=Z,6.2nm,1.1s
SUR Sutherland 86.95 130 LR LR 21 53 50.8
comp=Z,51nm,18.3s,baz=224,slow=34
NEW Newport 88.70 345 LR LR 21 51 17.1
comp=Z,82nm,18.2s,baz=76,slow=31
BBTS Babate 89.20 71 LR LR 21 56 50.7
comp=Z,90nm,18.0s,baz=133,slow=35
BOSA Boshof 92.31 130 LR LR 21 52 59.3
comp=Z,87nm,20.3s,baz=194,slow=31
DBIC Dimbokro 93.16 84 LR LR 21 57 20.8
comp=Z,80nm,19.1s,baz=239,slow=34
STKA Stephens Creek 93.25 224 LR LR 21 53 28.4
comp=Z,202nm,18.4s,baz=197,slow=31
TSUM Tsumeb 93.88 118 LR LR 21 56 29.5
comp=Z,55nm,18.3s,baz=226,slow=33
LBTB Lobatse 95.12 127 LR LR 21 53 08.3
comp=Z,43nm,21.9s,baz=238,slow=30
HNR Honiara 96.79 252 LR LR 21 52 18.6
comp=Z,77nm,21.6s,baz=150,slow=29
CTA Charters Tower 99.18 235 LR LR 21 55 08.1
comp=Z,10nm,21.3s,baz=119,slow=30
TIXI Tiksi 140.29 340 PKPdf **PKPdf 21 24 38.9 +0.4**
YAK Yakutsk 144.51 326 PKP PKPbc 21 24 45.5 +0.6
comp=Z,26nm,0.7s,baz=34,slow=1.1,SNR=4.9
USRK Ussuriysk Ar. 145.53 295 PKPdf **PKPdf 21 24 47.2 -1.4**
USRK Ussuriysk Ar. 145.53 295 PKPbc **PKPdf 21 24 48.0 -0.6**
comp=Z,7.5nm,0.9s,baz=111,slow=2.5,SNR=8.3
KLR Kul'dur 145.91 304 PKPbc **PKPdf 21 24 49.1 0.0**
comp=Z,0.8nm,0.7s,baz=114,slow=8.0,SNR=3.8
KBZ Khabaz 147.09 67 PKPbc **PKPab 21 24 55.2 +0.2**
comp=Z,1.8nm,0.8s,baz=212,slow=10.0,SNR=4.2
MDJ Mudanjiang 147.28 295 PKPdf **PKPdf 21 24 52.6 +1.1**
MDJ Mudanjiang 147.28 295 P **PKPbc 21 24 52.9 -1.0**
MDJ pmax pmax
comp=Z,15nm,0.9s
KSRS Korea Array 147.35 282 PKPbc **PKPbc 21 24 54.9 +0.5**
comp=Z,2.2nm,1.0s,baz=112,slow=3.2,SNR=6.0
KSAR Wonju Array Be 147.38 282 PKPbc **PKPbc 21 24 54.2 -0.3**
NRIK Noril'sk 148.92 359 PKPbc **PKPbc 21 24 58.0 +0.5**
comp=Z,3.1nm,0.7s,baz=6.6,slow=2.8,SNR=6.2
NJ2 Nanjing 152.78 267 *e*P **PKPdf 21 25 00.1 -0.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
CMAR Chiang Mai Arr 157.35 213 PKPdf **PKPdf 21 25 05.9 -1.4**
CMAR Chiang Mai Arr 157.35 213 PKP **PKPdf 21 25 06.8 -0.5**
comp=Z,0.9nm,0.9s,baz=140,slow=1.4,SNR=5.7
ABKAR Akbulak array 158.16 51 PKPdf **PKPdf 21 25 08.1 +0.7**
HHC Hu-ho-hao-te 160.40 285 *e*P **PKPdf 21 25 07.3 -3.1**
BVAR Borovoye Array 161.62 32 PKP **PKPdf 21 25 11.5 +0.3**
comp=Z,0.4nm,0.7s,baz=315,slow=0.9,SNR=2.2
BVAR PKPab **PKPab 21 25 57.3 +1.1**
comp=Z,1.5nm,0.8s,baz=321,slow=3.8,SNR=5.8
PZH PanZhiHua 162.47 232 PKP **PKPdf 21 25 12.5 -0.5**
SONM Songino Array 162.57 309 PKPab **PKPab 21 26 01.4 +0.7**
comp=Z,1.3nm,1.0s,baz=69,slow=4.6,SNR=7.2
KURBB Kurchatov Arra 166.52 22 PKP **PKPdf 21 25 15.7 0.0**
comp=Z,0.3nm,0.3s,baz=333,slow=0.5,SNR=2.3

NEIC ***05*** *21:09:41.6±0.8, 43°.76N±0°.06×105°.4W±0°.1, h0km±1km, ML3.4/56, Error ellipse: s-maj=13.2km s-min=9.8km az=66.0*
IDC ***05*** *21:09:42.8±1.7, 43°.92N×105°.59W, h0km, mb3.8/2, mbtmp3.8/4, ML3.8/2, MS2.8/1, Error ellipse: s-maj=54.6km s-min=9.2km az=148.0*
ISC 05 21:09:41.8±0.9, 43°.74N±0°.06×105°.33W±0°.06, h0km, n48, σ1§28/46, Wyoming

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**67**		**Pg**	**21 10 01.5**	**+0.3**
K22A	**Casper**	**1.40**	**219**		**Pg**	**21 10 07.8**	**-0.8**
K22A				IAML		21 10 33.2	
comp=E,521nm,0.3s							
K22A				IAML		21 10 33.5	
comp=N,451nm,0.3s							
N23A	**Red Feather La**	**2.88**	**189**	Pn	**Pn**	**21 10 30.9**	**+1.7**
N23A				IAML		21 11 20.3	
comp=N,108nm,0.8s							
N23A				IAML		21 11 23.7	
comp=E,102nm,0.9s							
LAO	**LASA Array**	**3.02**	**348**	Pn	**Pn**	**21 10 31.4**	**+0.5**
RLMT	**Red Lodge**	**3.14**	**297**	Pn	**Pn**	**21 10 32.0**	**-0.8**
RLMT				IAML		21 11 27.3	
comp=E,74nm,1.0s							
RLMT				IAML		21 11 30.3	
comp=E,79nm,0.7s							
PD31	**Pinedale Array**	**3.24**	**254**	Pn	**Pn**	**21 10 34.9**	**+0.8**
PDAR	**Pinedale Array**	**3.24**	**254**	Pn	**Pn**	**21 10 35.5**	**+1.3**
PDAR	**Pinedale Array**	**3.24**	**254**	Pn	**Pn**	**21 10 36.1**	**+2.0**
comp=E,7.6nm,0.3s,baz=68,slow=16,SNR=20							
PDAR				Lg	Lg	21 11 21.0	
comp=E,10.0nm,0.3s,baz=68,slow=36,SNR=2.2							
comp=E,6.3nm,0.4s							
BRIGG	**Briggsdale**	**3.24**	**166**	Pn	**Pn**	**21 10 33.2**	**-0.8**
YNE	**Yellowstone No**	**3.59**	**292**	Pn	**Pn**	**21 10 39.4**	**+0.4**
YNE				IAML		21 11 40.3	
comp=N,60nm,0.4s							
YNE				IAML		21 11 49.6	
comp=E,63nm,0.7s							
YMP	**Mirror Lake Pl**	**3.61**	**288**	Pn	**Pn**	**21 10 40.4**	**+1.1**
YMP				IAML		21 11 42.4	
comp=N,99nm,0.9s							
OGNE	**Ogallala**	**3.71**	**138**	Pn	**Pn**	**21 10 42.2**	**+1.8**
LOHW	**Long Hollow**	**3.83**	**270**	Pn	**Pn**	**21 10 43.8**	**+1.5**
H17A	**Grant Village**	**3.84**	**282**	Pn	**Pn**	**21 10 42.9**	**+0.5**
H17A				IAML		21 11 51.4	
comp=N,49nm,1.3s							
FLWY	**Flagg Ranch**	**3.90**	**277**	Pn	**Pn**	**21 10 44.8**	**+1.6**
FLWY				IAML		21 11 55.2	
comp=N,57nm,2.2s							
MOOW	**Moose Ponds**	**3.93**	**272**	Pn	**Pn**	**21 10 46.0**	**+2.5**
ISCO	**Idaho Springs**	**3.94**	**183**	Pn	**Pn**	**21 10 44.0**	**+0.2**
ISCO				IAML		21 11 56.9	
comp=N,31nm,0.7s							
ISCO				IAML		21 12 01.5	
comp=N,30nm,0.8s							
SNOW	**Snow King Moun**	**3.95**	**268**	Pn	**Pn**	**21 10 45.3**	**+1.4**
SNOW				IAML		21 11 53.8	
comp=N,52nm,1.4s							
SNOW				IAML		21 12 05.8	
comp=N,61nm,1.7s							
TPAW	**Teton Pass**	**4.09**	**268**	Pn	**Pn**	**21 10 47.6**	**+1.7**
TPAW				IAML		21 12 17.9	
comp=N,54nm,1.1s							
TPAW				IAML		21 12 26.4	
comp=N,28nm,1.2s							
YHH	**Holmes Hill**	**4.11**	**287**	Pn	**Pn**	**21 10 47.2**	**+1.1**
FXWY	**Fox Creek**	**4.13**	**271**	Pn	**Pn**	**21 10 47.7**	**+1.2**
O20A	**White River Ci**	**4.21**	**212**	Pn	**Pn**	**21 10 47.4**	**0.0**
O20A				IAML		21 12 02.7	
comp=E,51nm,1.2s							
K30B	**Basset**	**4.31**	**102**	Pn	**Pn**	**21 10 51.4**	**+2.8**
AHID	**Auburn Hatcher**	**4.33**	**259**	Pn	**Pn**	**21 10 48.5**	**-0.6**
AHID				IAML		21 12 06.7	
comp=E,52nm,1.3s							
AHID				IAML		21 12 21.4	
comp=E,49nm,0.9s							
E28A	**Huff**	**4.33**	**48**	Pn	**Pn**	**21 10 49.9**	**+0.9**
Q24A	**Divide**	**4.77**	**178**	Pn	**Pn**	**21 10 56.5**	**+1.3**
DGMT	**Dagmar**	**4.80**	**9**	Pn	**Pn**	**21 10 56.5**	**+1.1**
HWUT	**Hardware Ranch**	**5.07**	**247**	Pn	**Pn**	**21 11 00.4**	**+1.2**
EGMT	**Eagleton**	**5.29**	**326**	Pn	**Pn**	**21 11 03.4**	**+1.3**
P18A	**Preston Nutter**	**5.51**	**224**	Pn	**Pn**	**21 11 07.0**	**+1.5**
SPUT	**South Promonto**	**5.80**	**248**	Pn	**Pn**	**21 11 11.3**	**+2.1**
HVU	**Hansel Valley**	**5.82**	**253**	Pn	**Pn**	**21 11 08.5**	**-1.0**
LYMT	**Lyon Mountain**	**5.88**	**306**	Pn	**Pn**	**21 11 10.3**	**0.0**
SRU	**San Rafael Swe**	**6.05**	**222**	Pn	**Pn**	**21 11 14.3**	**+1.6**
TMUT	**Trail Mountain**	**6.26**	**227**	Pn	**Pn**	**21 11 17.1**	**+1.5**
NLU	**North Lily Min**	**6.30**	**235**	Pn	**Pn**	**21 11 17.8**	**+1.6**
ECSD	**EROS Data Cent**	**6.31**	**87**	Pn	**Pn**	**21 11 16.7**	**+0.5**
BGU	**Big Grassy Mou**	**6.36**	**246**	Pn	**Pn**	**21 11 16.7**	**-0.3**
DUG	**Dugway, Tooele**	**6.61**	**240**	Pn	**Pn**	**21 11 19.9**	**-0.4**
HMU	**Henry Mountain**	**7.10**	**217**	Pn	**Pn**	**21 11 28.1**	**+0.9**
MSU	**Marysvale**	**7.35**	**227**	Pn	**Pn**	**21 11 31.9**	**+1.4**
RTBA	**Rita Blanca**	**7.56**	**164**	Pn	**Pn**	**21 11 33.9**	**+0.5**
PSUT	**Pine Spring**	**8.27**	**234**	Pn	**Pn**	**21 11 44.2**	**+1.0**
ANMO	**Albuquerque**	**8.82**	**186**	LR	LR	21 15 49.4	
comp=E,61nm,18.8s,baz=184,slow=41							
I10CA	**LAC DU BONNET**	**9.06**	**41**	I	I	22 00 25.0	
comp=E,0.1nm,1.8s,baz=223,slow=315,SNR=5.5							
ULM	**Lac du Bonnet**	**9.17**	**41**	Pn	**Pn**	**21 11 54.5**	**-0.8**
comp=E,2.3nm,0.3s,baz=232,slow=11,SNR=13							
ULM				Lg	Lg	21 14 24.2	
comp=E,0.3nm,0.3s,baz=129,slow=21,SNR=2.2							
comp=E,4.5nm,0.3s							
BVAR	**Borovoye Array**	**83.54**	**3**	P	**P**	**21 22 10.6**	**-0.8**
comp=E,0.4nm,0.6s,baz=2.3,slow=3.6,SNR=2.3							
comp=E,0.4nm,0.6s							
MKAR	**Makanchi Array**	**89.60**	**355**	P	**P**	**21 22 41.1**	**-0.1**
comp=E,0.6nm,0.7s,baz=4.5,slow=4.0,SNR=2.2							
comp=E,0.6nm,0.7s							

IDC ***05*** *21:14:29.7±1.8, 48°.12N×155°.20E, h0km, mb3.8/13, mbtmp3.8/14, ML2.6/1, MS3.7/4, Error ellipse: s-maj=43.7km s-min=22.0km az=117.0*
KRSC ***05*** *21:14:33.3±1.9, 48°.24N×156°.53E, h6km±5km, Ml4.5*
SKHL ***05*** *21:14:33.6±0.2, 48°.00N×155°.50E, h54km±3km, mb4.4/6*
MOS ***05*** *21:14:34.3±1.0, 48°.15N×156°.23E, h12km, mb4.3/3, Error ellipse: s-maj=15.0km s-min=5.6km az=76.0*
NEIC ***05*** *21:14:38.5±0.9, 48°.5N±0°.2×154°.6E±0°.2, h36km±10km,*

mb4.4/11, Error ellipse: s-maj=28.8km s-min=7.4km az=139.0

ISC 05 21:14:33.7±0.8, 48°.07N±0°.09×155°.3E±0°.1, h27km, n91, σ1§34/89, mb4.0/21, MS3.8/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.67**	**11**	*e*P	**Pn**	**21 15 14.5**	**-0.4**
SKR	**Severo-Kuril's**	**2.67**	**11**	*e*P	**Pn**	**21 15 14.4**	**-0.4**
SKR				AMB	AMB	21 15 19.4	
	80nm,0.4s						
SKR				*e*S	**Sn**	**21 15 44.9**	**-1.4**
SKR				A	A	21 15 53.8	
	200nm,0.5s						
SKR				A	A	21 15 53.8	
	150nm,0.5s						
SKR	**Severo-Kuril's**	**2.67**	**11**	*e*PN	**Pn**	**21 15 16.8**	**+1.9**
SKR				*e*S	**Sn**	**21 15 44.7**	**-1.6**
SKR				pmax	pmax		
	comp=Z,148nm,0.4s						
SKR				smax	smax		
	comp=E,605nm,0.6s						
SKR				smax	smax		
	comp=N,826nm,0.9s						
PAU	**Pauzhetka**	**3.54**	**15**	*e*P	**Pn**	**21 15 27.2**	**+0.4**
PAU				*e*S	**Sn**	**21 16 07.5**	**-0.2**
PAU	**Pauzhetka**	**3.54**	**15**	*e*P	**Pn**	**21 15 27.2**	**+0.4**
PAU				AMB	AMB	21 15 32.4	
	comp=N,30nm,0.3s						
PAU				*e*S	**Sn**	**21 16 07.5**	**-0.2**
PAU				A	A	21 16 10.7	
	comp=N,130nm,0.4s						
PAU				A	A	21 16 10.7	
	comp=N,210nm,0.4s						
PAU	**Pauzhetka**	**3.54**	**15**	PN	**Pn**	**21 15 27.2**	**+0.4**
PAU				S	**Sn**	**21 16 07.5**	**-0.2**
KDTR	**Khodutka, Kamc**	**4.15**	**24**	*e*P	**Pn**	**21 15 34.2**	**-1.0**
KDTR				*e*S	**Sn**	**21 16 18.6**	**-4.2**
KDTR	**Khodutka, Kamc**	**4.15**	**24**	*e*P	**Pn**	**21 15 34.2**	**-1.0**
KDTR				AMB	AMB	21 15 38.7	
	comp=N,10.0nm,0.3s						
KDTR				*e*S	**Sn**	**21 16 19.5**	**-3.2**
KDTR				A	A	21 16 22.4	
	comp=N,100nm,0.3s						
KDTR				A	A	21 16 22.4	
	comp=N,60nm,0.3s						
KDTR	**Khodutka, Kamc**	**4.15**	**24**	PN	**Pn**	**21 15 34.1**	**-1.0**
MTVR	**Mutnovka**	**4.79**	**22**	*e*P	**Pn**	**21 15 44.3**	**+0.1**
MTVR	**Mutnovka**	**4.79**	**22**	PN	**Pn**	**21 15 44.2**	**+0.1**
GRL	**Gorelyy**	**4.83**	**20**	*e*P	**Pn**	**21 15 45.5**	**+0.9**
GRL	**Gorelyy**	**4.83**	**20**	PN	**Pn**	**21 15 45.5**	**+0.9**
RUS	**Russkaya**	**4.83**	**24**	*e*P	**Pn**	**21 15 43.5**	**-1.0**
RUS	**Russkaya**	**4.83**	**24**	PN	**Pn**	**21 15 43.5**	**-1.0**
KRMR	**Karymshinskiy**	**5.10**	**20**	*e*P	**Pn**	**21 15 49.1**	**+0.9**
KRMR	**Karymshinskiy**	**5.10**	**20**	PN	**Pn**	**21 15 49.1**	**+0.9**
PEA0B	**Petropavlovsk-**	**5.27**	**16**	Pn	**Pn**	**21 15 50.9**	**+0.3**
PEA0B	**Petropavlovsk-**	**5.27**	**16**	PN	**Pn**	**21 15 51.4**	**+0.8**
PETK	**Petropavlovsk-**	**5.27**	**16**	Pn	**Pn**	**21 15 50.7**	**+0.1**
PETK	**Petropavlovsk-**	**5.27**	**16**	Pn	**Pn**	**21 15 50.3**	**-0.3**
	comp=N,1.1nm,0.3s,baz=172,slow=13,SNR=28						
PETK				Sn	**Sn**	**21 16 50.5**	**0.0**
	baz=213,slow=24						
	comp=N,3.5nm,0.5s						
PETK	**Petropavlovsk-**	**5.27**	**16**	PN	**Pn**	**21 15 50.7**	**+0.1**
AVH	**Avacha**	**5.64**	**21**	*e*P	**Pn**	**21 15 56.5**	**+0.7**
AVH	**Avacha**	**5.64**	**21**	*e*P	**Pn**	**21 15 56.5**	**+0.7**
AVH	**Avacha**	**5.64**	**21**	PN	**Pn**	**21 15 56.5**	**+0.7**
SMAR	**Somma**	**5.65**	**22**	*e*P	**Pn**	**21 15 57.7**	**+1.6**
SMAR	**Somma**	**5.65**	**22**	PN	**Pn**	**21 15 57.7**	**+1.6**
KRER	**Koryakskii**	**5.68**	**21**	*e*P	**Pn**	**21 15 58.2**	**+1.8**
KRER	**Koryakskii**	**5.68**	**21**	PN	**Pn**	**21 15 58.2**	**+1.8**
SDLR	**Sedlovina**	**5.69**	**22**	*e*P	**Pn**	**21 15 56.9**	**+0.4**
SDLR	**Sedlovina**	**5.69**	**22**	PN	**Pn**	**21 15 56.9**	**+0.4**
KRX	**Arik**	**5.71**	**21**	*e*P	**Pn**	**21 15 58.2**	**+1.4**
KRX	**Arik**	**5.71**	**21**	PN	**Pn**	**21 15 58.1**	**+1.4**
KUR	**Kuril'sk**	**5.86**	**244**	*e*P	**Pn**	**21 16 00.1**	**+1.4**
KUR				AMB	AMB	21 16 01.4	
	comp=N,110nm,0.7s						
KUR	**Kuril'sk**	**5.86**	**244**	*e*PN	**Pn**	**21 16 00.1**	**+1.4**
KUR				pmax	pmax		
	comp=Z,106nm,0.7s						
GNL	**Ganaly**	**5.88**	**15**	*e*P	**Pn**	**21 16 01.3**	**+2.3**
GNL	**Ganaly**	**5.88**	**15**	PN	**Pn**	**21 16 01.3**	**+2.3**
YSS	**Yuzh-Sakhalins**	**8.57**	**267**	*e*P	**Pn**	**21 16 37.3**	**+1.4**
YSS				AMB	AMB	21 16 41.4	
	comp=Z,10.0nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.57**	**267**	*e*PN	**Pn**	**21 16 37.3**	**+1.4**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JKA	**Kamikawa-asahi**	**9.67**	**251**	Pn	**Pn**	**21 16 50.8**	**-0.2**
JKA	**Kamikawa-asahi**	**9.67**	**251**	*e*P	**Pn**	**21 16 50.8**	**-0.2**
ASAJ	**Asahikawa**	**9.68**	**251**	Pn	**Pn**	**21 16 53.8**	**+2.8**
	comp=Z,0.8nm,0.3s,baz=69,slow=11,SNR=7.8						
ASAJ	**Asahikawa**	**9.68**	**251**	PN	**Pn**	**21 16 50.8**	**-0.2**
ERM	**Erimo**	**10.51**	**239**	Pn	**Pn**	**21 17 00.3**	**-2.2**
ERM	**Erimo**	**10.51**	**239**	PN	**Pn**	**21 17 00.3**	**-2.2**
KLR	**Kul'dur**	**15.61**	**283**	LR	LR	21 23 46.3	
	comp=Z,43nm,19.7s,baz=14,slow=36						
KSRS	**Korea Array**	**22.62**	**252**	P	**P**	**21 19 32.7**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=46,slow=10.0,SNR=2.2						
	comp=Z,1.0nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.79**	**158**	T	T	21 52 43.4	
	baz=344,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**29.80**	**158**	T	T	21 52 19.0	
	baz=344,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**29.80**	**158**	T	T	21 52 36.1	
	baz=344,slow=76,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**30.91**	**159**	T	T	21 53 54.3	
	baz=345,slow=76,SNR=102						
H11S3	**WAKE ISLAND Hy**	**30.92**	**159**	T	T	21 53 54.1	
	baz=345,slow=76,SNR=102						
H11S2	**WAKE ISLAND Hy**	**30.93**	**159**	T	T	21 53 52.0	
	baz=345,slow=76,SNR=73						
B20K	**Meade River**	**31.55**	**29**	P	**P**	**21 20 54.7**	**+1.5**
B21K	**Ikpikpuk River**	**32.27**	**30**	P	**P**	**21 21 01.5**	**+1.9**
B21K				IAmb	IAmb	21 21 39.8	
	comp=Z,21nm,1.4s						
SONM	**Songino Array**	**32.32**	**288**	P	**P**	**21 20 59.0**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=27,slow=13,SNR=2.9						
	comp=Z,0.5nm,0.9s						
SONM	**Songino Array**	**32.32**	**288**	P	**P**	**21 20 59.0**	**-1.4**
E22K	**Anaktuvuk Pass**	**32.93**	**33**	P	**P**	**21 21 06.8**	**+1.4**
E22K				IAmb	IAmb	21 21 44.2	
	comp=Z,5.3nm,1.2s						
D24K	**Happy Valley**	**34.18**	**32**	P	**P**	**21 21 17.7**	**+1.4**
D24K				IAmb	IAmb	21 22 01.5	
	comp=Z,7.8nm,1.4s						
E29M	**Blow River**	**38.11**	**33**	P	**P**	**21 21 52.4**	**+2.6**
MK31	**Makanchi Array**	**47.66**	**297**	P	**P**	**21 23 06.0**	**-1.5**
MK31				IAmb	IAmb	21 23 06.4	
	comp=Z,8.2nm,1.4s						
MK31	**Makanchi Array**	**47.66**	**297**	P	**P**	**21 23 06.0**	**-1.5**
MK31				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MKAR	**Makanchi Array**	**47.66**	**297**	P	**P**	**21 23 05.6**	**-1.9**
MKAR	**Makanchi Array**	**47.66**	**297**	P	**P**	**21 23 06.3**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=69,slow=6.6,SNR=7.6						
	comp=Z,0.9nm,0.6s						
KURK	**Kurchatov**	**47.88**	**303**	P	**P**	**21 23 07.5**	**-1.5**
KURK				IAmb	IAmb	21 23 09.0	
	comp=Z,2.4nm,0.7s						
KURK	**Kurchatov**	**47.88**	**303**	*e*P	**P**	**21 23 07.5**	**-1.5**
KURK	**Kurchatov**	**47.88**	**303**	P	**P**	**21 23 07.5**	**-1.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**47.97**	**303**	P	**P**	**21 23 08.7**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=66,slow=8.2,SNR=9.6						
	comp=Z,2.1nm,0.7s						
BVAR	**Borovoye Array**	**51.17**	**309**	P	**P**	**21 23 33.1**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=52,slow=8.1,SNR=8.6						
	comp=Z,0.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**54.12**	**257**	P	**P**	**21 23 56.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=29,slow=7.6,SNR=4.4						
	comp=Z,0.3nm,0.3s						
ABKAR	**Akbulak array**	**58.72**	**310**	P	**P**	**21 24 28.2**	**-0.5**
ABKAR				IAmb	IAmb	21 25 11.0	
	comp=Z,5.8nm,1.4s						
FINES	**FINESS Array B**	**63.47**	**335**	P	**P**	**21 24 59.5**	**-1.2**
FINES	**FINESS Array B**	**63.47**	**335**	P	**P**	**21 25 00.1**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=34,slow=7.9,SNR=11						
	comp=Z,0.7nm,0.4s						
ULM	**Lac du Bonnet**	**64.54**	**42**	LR	LR	21 55 20.5	
	comp=Z,60nm,19.8s,baz=172,slow=38						
NB201	**NORSAR Array S**	**67.42**	**342**	P	**P**	**21 25 26.5**	**+0.2**
NOA	**NORSAR Array B**	**67.45**	**342**	P	**P**	**21 25 26.6**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=29,slow=6.7,SNR=3.8						
	comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**67.73**	**340**	P	**P**	**21 25 28.4**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=32,slow=6.5,SNR=3.2						
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**70.26**	**201**	P	**P**	**21 25 44.0**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=16,slow=6.3,SNR=2.3						
	comp=Z,0.3nm,0.8s						
WRA	**Warramunga Arr**	**70.26**	**201**	P	**P**	**21 25 44.0**	**-0.3**
AKASG	**Malin Array Be**	**71.27**	**327**	P	**P**	**21 25 49.9**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=35,slow=6.0,SNR=3.3						
	comp=Z,0.5nm,0.4s						
BUR08	**Bucovina Ar. S**	**75.27**	**328**	P	**P**	**21 26 14.0**	**-0.1**
BUR08				IAmb	IAmb	21 26 39.4	
	comp=Z,4.9nm,1.3s						
BURAR	**Bucovina Array**	**75.29**	**328**	P	**P**	**21 26 13.9**	**-0.2**
BURAR	**Bucovina Array**	**75.29**	**328**	P	**P**	**21 26 13.9**	**-0.2**
BURAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CLL	**Collm**	**75.86**	**337**	*e*P	**P**	**21 26 17.0**	**-0.2**
BRTR	**Keskin Array B**	**78.43**	**318**	P	**P**	**21 26 32.4**	**+0.4**
BRTR	**Keskin Array B**	**78.43**	**318**	P	**P**	**21 26 32.7**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=44,slow=5.3,SNR=4.8						
	comp=Z,1.1nm,0.9s						
MMAI	**Mount Meron Ar**	**83.04**	**313**	P	**P**	**21 26 56.5**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=37,slow=5.3,SNR=4.4						
	comp=Z,0.6nm,0.4s						
ESDC	**Sonseca Array**	**90.72**	**344**	LR	LR	22 12 54.6	
	comp=Z,36nm,18.4s,baz=251,slow=39						
KEST	**Kesra**	**91.20**	**333**	LR	LR	22 13 12.5	
	comp=Z,196nm,20.0s,baz=343,slow=39						
GO08	**Villa O'Higgin**	**148.54**	**109**	PKPbc	**PKPab**	**21 34 21.5**	**+0.7**
PMSA	**Palmer Station**	**153.17**	**143**	PKPbc	**PKiKP**	**21 34 31.0**	**+3.3**

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*IDC **05** 21:20:22.6±0.9, 35°.34S×54°.03E, h0km, mb4.0/5, mbtmp4.0/6, ML3.4/1, MS3.9/6, Error ellipse: s-maj=31.5km s-min=24.7km az=45.0*

ISC 05 21:20:25.1±0.9, 35°.3S±0°.2×54°.0E±0°.2, h17km, n18, σ0§61/7, mb4.2/5, MS4.1/5, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**10.98**	**188**	T	T	21 34 31.2	
	baz=11,slow=75,SNR=68						
H04N2	**CROZET ISLANDS**	**10.98**	**188**	T	T	21 34 28.8	
	baz=11,slow=75,SNR=81						
H04N3	**CROZET ISLANDS**	**11.00**	**188**	T	T	21 34 28.4	
	baz=11,slow=75,SNR=70						
OPO	**Ambohidratompo**	**17.73**	**338**	P	**P**	**21 24 31.8**	**-0.3**
	baz=151,slow=17,SNR=1.4						
OPO				LR	LR	21 29 39.3	
	comp=Z,112nm,19.3s,baz=1.0,slow=31						
	0.9nm,0.5s						
H08S1	**Diego Carcia H**	**32.32**	**36**	T	T	22 00 44.8	
	baz=208,slow=76,SNR=28						
H08S2	**Diego Garcia H**	**32.33**	**36**	T	T	22 00 44.3	
	baz=208,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**32.34**	**36**	T	T	22 00 40.8	
	baz=208,slow=76,SNR=39						
SNAA	**Sanae**	**46.59**	**201**	P	**P**	**21 28 51.6**	**-0.1**
	2.4nm,0.8s,baz=165,slow=5.6,SNR=4.6						
	2.4nm,0.8s						
H01W2	**Cape Leeuwin H**	**48.50**	**108**	T	T	22 21 19.6	
	baz=250,slow=76						
H01W3	**Cape Leeuwin H**	**48.51**	**108**	T	T	22 21 18.8	
	baz=250						
H01W1	**Cape Leeuwin H**	**48.52**	**108**	T	T	22 21 18.7	
	baz=250,slow=76,SNR=3.6						
QSPA	**South Pole Qui**	**54.88**	**180**	P	**P**	**21 29 54.3**	**-0.2**
	2.2nm,0.9s,baz=249,slow=4.3,SNR=5.6						
	2.2nm,0.9s						
ASAR	**Alice Springs**	**68.82**	**105**	P	**P**	**21 31 29.1**	**+0.3**
	0.6nm,0.6s,baz=226,slow=6.4,SNR=10						
ASAR				LR	LR	21 57 29.5	
	comp=Z,248nm,21.8s,baz=156,slow=32						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**69.08**	**304**	P	**P**	**21 31 31.0**	**+0.6**
	1.3nm,0.8s,baz=121,slow=5.4,SNR=9.6						
TORD				LR	LR	22 02 43.9	
	comp=Z,107nm,18.3s,baz=314,slow=37						
	1.3nm,0.8s						
WRA	**Warramunga Arr**	**71.07**	**101**	P	**P**	**21 31 42.9**	**+0.3**
	1.3nm,0.7s,baz=234,slow=5.4,SNR=16						
WRA				LR	LR	21 59 07.4	
	comp=Z,122nm,20.8s,baz=162,slow=33						
	1.3nm,0.7s						
JNU	**Nakatsue**	**99.02**	**56**	LR	LR	22 14 39.7	
	comp=Z,37nm,20.4s,baz=61,slow=33						
FINES	**FINESS Array B**	**99.05**	**347**	LR	LR	22 20 40.6	
	comp=Z,51nm,18.3s,baz=290,slow=36						
ILAR	**Eielson Array**	**147.91**	**17**	PKPbc	**PKPbc**	**21 40 07.5**	**-0.9**
	0.5nm,0.7s,baz=330,slow=2.5,SNR=4.4						

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*IDC **05** 21:35:22.2±0.8, 8°.43N×123°.99E, h0km, mb3.8/7, mbtmp3.9/8, ML4.3/1, MS2.9/5, Error ellipse: s-maj=55.0km s-min=15.5km az=58.0*

ISC 05 21:35:27.1±1.0, 8°.4N±0°.2×123°.9E±0°.2, h35km, n13, σ1§47/10, mb3.7/7, MS2.9/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.16**	**128**	**Pn**	**Pn**	**21 36 00.4**	**-0.1**
	107nm,0.3s,baz=286,slow=7.8,SNR=12						
DAV				Sn	**Sn**	**21 36 27.8**	**+1.7**
	338nm,0.3s,baz=270,slow=20,SNR=12						
DAV				LR	LR	21 36 32.9	
	comp=Z,105nm,21.9s,baz=336,slow=34						
	407nm,0.5s						
JNU	**Nakatsue**	**25.44**	**14**	LR	LR	21 51 04.5	
	comp=Z,23nm,19.8s,baz=284,slow=37						
KSRS	**Korea Array**	**29.16**	**7**	LR	LR	21 52 57.0	
	comp=Z,11nm,19.0s,baz=175,slow=36						
WRA	**Warramunga Arr**	**30.00**	**160**	P	**P**	**21 41 31.0**	**-1.6**
	0.5nm,0.7s,baz=342,slow=9.2,SNR=5.3						
	0.5nm,0.7s						
MJAR	**Matsushiro Arr**	**30.91**	**23**	LR	LR	21 52 25.9	
	comp=Z,33nm,19.8s,baz=186,slow=33						
ASAR	**Alice Springs**	**33.35**	**163**	P	**P**	**21 42 02.0**	**0.0**
	0.4nm,0.5s,baz=341,slow=7.0,SNR=10						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**52.12**	**325**	P	**P**	**21 44 35.5**	**+1.6**
	0.7nm,0.8s,baz=123,slow=7.8,SNR=2.7						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**55.16**	**333**	P	**P**	**21 44 55.9**	**0.0**
	1.0nm,0.5s,baz=129,slow=7.3,SNR=6.0						
	1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**56.29**	**327**	P	**P**	**21 45 05.7**	**+1.6**
	1.8nm,0.2s,baz=128,slow=6.5,SNR=6.8						
	1.8nm,0.2s						
BVAR	**Borovoye Array**	**61.87**	**327**	P	**P**	**21 45 44.2**	**+1.4**
	1.7nm,0.8s,baz=116,slow=7.0,SNR=7.8						
	1.7nm,0.8s						
KBZ	**Khabaz**	**77.72**	**313**	LR	LR	22 25 09.8	
	comp=Z,44nm,19.9s,baz=310,slow=38						
ILAR	**Eielson Array**	**82.14**	**26**	P	**P**	**21 47 42.4**	**-1.7**
	0.3nm,0.9s,baz=242,slow=6.1,SNR=2.5						
	0.3nm,0.9s						
PLCA	**Paso Flores**	**145.34**	**161**	PKPbc	**PKPdf**	**21 55 01.8**	**+0.1**
	5.4nm,0.9s,baz=225,slow=2.9,SNR=6.7						

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*IDC **05** 21:37:59.9±2.7, 18°.00S×178°.18W, h565km±16km, mb3.2/7, mbtmp4.1/8, Error ellipse: s-maj=60.1km s-min=21.5km az=135.0*

*NEIC **05** 21:38:01.6±1.3, 17°.6S±0°.2×178°.5W±0°.1, h567km±9km, mb4.3/13, Error ellipse: s-maj=29.3km s-min=9.9km az=153.0*

ISC 05 21:37:58.3±0.8, 17°.7S±0°.2×178°.1W±0°.2, h550km, n40, σ1§25/45, mb4.2/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.69**	**269**	P	**P**	**21 39 19.7**	**+1.7**
MSVF	**Nonsavu**	**3.69**	**269**	P	**P**	**21 39 20.0**	**+2.0**
	55nm,0.7s,baz=121,slow=8.2,SNR=33						
MSVF				S	**S**	**21 40 26.5**	**+3.6**
	1.6nm,0.2s,baz=343,slow=17,SNR=0.7						
KOUNC	**Koumac, New Ca**	**16.90**	**258**	P	**P**	**21 41 26.3**	**+0.2**
MSWZ	**Moikau Station**	**24.30**	**192**	P	**P**	**21 42 35.1**	**+2.4**
THZ	**Tophouse**	**25.18**	**196**	P	**P**	**21 42 42.2**	**+1.7**
ARMA	**Armidale**	**30.30**	**240**	P	**P**	**21 43 25.8**	**+0.3**
ARMA				IAmb	IAmb	21 43 30.9	
	comp=Z,8.0nm,1.1s						
STKA	**Stephens Creek**	**38.99**	**241**	P	**P**	**21 44 36.2**	**-1.7**
STKA	**Stephens Creek**	**38.99**	**241**	P	**P**	**21 44 35.9**	**-2.0**
	comp=Z,2.6nm,0.7s,baz=96,slow=13,SNR=4.1						
	comp=Z,2.6nm,0.7s						
QIS	**Mount Isa**	**40.00**	**259**	P	**P**	**21 44 45.0**	**-1.1**
BBOO	**Buckleboo**	**43.77**	**241**	P	**P**	**21 45 14.1**	**-1.5**
BBOO				IAmb	IAmb	21 45 46.1	
	comp=Z,32nm,1.5s						
WR0	**Warramunga Arr**	**44.78**	**259**	P	**P**	**21 45 22.5**	**-1.2**
WRA	**Warramunga Arr**	**44.97**	**259**	P	**P**	**21 45 23.6**	**-1.5**
WRA	**Warramunga Arr**	**44.97**	**259**	P	**P**	**21 45 23.9**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=97,slow=6.8,SNR=21						
WRA				PcP	**PcP**	**21 46 54.0**	**-0.6**
	comp=Z,0.5nm,1.0s,baz=91,slow=3.5,SNR=4.9						
	comp=Z,0.9nm,0.5s						
AS31	**Alice Springs**	**45.14**	**254**	P	**P**	**21 45 25.3**	**-1.1**
AS31				IAmb	IAmb	21 45 26.4	
	comp=Z,3.3nm,0.5s						
AS31				PcP	**PcP**	**21 46 54.8**	**-0.4**
ASAR	**Alice Springs**	**45.14**	**254**	P	**P**	**21 45 24.8**	**-1.6**
ASAR				PcP	**PcP**	**21 46 54.2**	**-0.9**
ASAR	**Alice Springs**	**45.14**	**254**	P	**P**	**21 45 25.5**	**-0.9**
	comp=Z,8.6nm,0.5s,baz=88,slow=8.7,SNR=100						
ASAR				PcP	**PcP**	**21 46 54.6**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=105,slow=3.8,SNR=7.4						
	comp=Z,8.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.37**	**260**	P	**P**	**21 46 26.6**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=156,slow=9.3,SNR=1.6						
	comp=Z,1.2nm,0.7s						
MBWA	**Marble Bar**	**58.42**	**256**	P	**P**	**21 47 00.6**	**-1.4**
MBWA				IAmb	IAmb	21 47 15.1	
	comp=Z,24nm,1.2s						
MJAR	**Matsushiro Arr**	**67.94**	**323**	P	**P**	**21 48 02.9**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=152,slow=6.7,SNR=4.4						
	comp=Z,1.1nm,0.6s						
TPUB	**Ta-pu**	**72.42**	**302**	P	**P**	**21 48 28.6**	**-0.9**
L18K	**Granite Mounta**	**81.45**	**10**	P	**P**	**21 49 19.4**	**+1.6**
L18K				IAmb	IAmb	21 49 19.7	
	comp=Z,12nm,1.4s						
K20K	**Telida**	**82.96**	**11**	P	**P**	**21 49 26.4**	**+1.0**
K20K				IAmb	IAmb	21 49 32.7	
	comp=Z,13nm,1.4s						
J20K	**Nowinta River**	**83.71**	**10**	P	**P**	**21 49 30.2**	**+1.2**
J20K				IAmb	IAmb	21 50 10.9	
	comp=Z,9.3nm,1.5s						
ILAR	**Eielson Array**	**85.63**	**13**	P	**P**	**21 49 38.3**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=221,slow=5.2,SNR=5.1						
	comp=Z,0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**89.11**	**290**	P	**P**	**21 49 57.0**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=108,slow=2.6,SNR=6.7						
	comp=Z,0.8nm,0.7s						
BRVK	**Borovoye**	**116.96**	**321**	PKPdf	**PKPdf**	**21 55 40.2**	**-0.4**
SPITS	**Spitsbergen Ar**	**119.10**	**357**	PKP	**PKiKP**	**21 55 44.3**	**+0.1**
	comp=Z,12nm,0.9s,baz=64,slow=3.4,SNR=1.7						
ARCES	**ARCESS Array B**	**126.19**	**350**	PKP	**PKPdf**	**21 55 57.8**	**-0.1**
	comp=Z,4.4nm,0.9s,baz=30,slow=7.5,SNR=1.7						
KWP	**Kalwaria Pacla**	**144.02**	**337**	PKPbc	**PKPdf**	**21 56 31.1**	**-0.4**
BUR08	**Bucovina Ar. S**	**144.58**	**333**	PKPbc	**PKPab**	**21 56 33.5**	**+0.1**
BURAR	**Bucovina Array**	**144.59**	**332**	PKPbc	**PKPab**	**21 56 33.3**	**0.0**
BRTR	**Keskin Array B**	**144.87**	**315**		**PKPdf**	**21 56 33.2**	**-0.2**
BRTR	**Keskin Array B**	**144.87**	**315**	PKPbc	**PKPab**	**21 56 34.1**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=66,slow=4.0,SNR=11						
CLL	**Collm**	**145.35**	**348**	*e*PKPbc	**PKPdf**	**21 56 34.0**	**+0.4**
MLR	**Muntele Rosu**	**145.83**	**329**	PKPbc	**PKPdf**	**21 56 35.3**	**+0.5**
MMAI	**Mount Meron Ar**	**146.30**	**303**	PKPbc	**PKPab**	**21 56 39.0**	**-1.6**
	comp=Z,4.2nm,0.5s,baz=70,slow=7.2,SNR=17						
CSS	**Mathiatis**	**147.21**	**308**	PKPbc	**PKPbc**	**21 56 39.7**	**-0.8**
GERES	**GERESS Array B**	**147.51**	**345**	PKPbc	**PKPbc**	**21 56 41.5**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=45,slow=2.9,SNR=2.4						
FUORN	**Ofenpass-Fuorn**	**150.36**	**348**	PKPbc	**PKPbc**	**21 56 48.3**	**+0.2**
FNA	**Florina**	**151.55**	**328**	PKPbc	**PKPbc**	**21 56 49.7**	**-1.1**

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*IDC **05** 21:39:10.3±1.3, 2°.81S×119°.60E, h0km, mb3.5/4, mbtmp3.6/5, ML3.7/1, MS3.5/7, Error ellipse: s-maj=64.3km s-min=19.1km az=72.0*

*DJA **05** 21:39:11.7±0.3, 3°.S±2°.×11°.9E±°, h10km, M3.9/13, MLv3.9/13*

**ISC 05 21:39:10.1±2.5, 2°.89S±0°.04×119°.4E±0°.1, h3km±16km, n21, σ1§10/20, mb3.5/4,

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GAR	**Garm**	**0.28**	**273**	⇓*iP*	**Pg**	**21 52 25.5**	**+0.1**
GAR				⇓*iS*	**Sg**	**21 52 29.5**	**+0.4**
DRK	**Karamyk**	**1.00**	**60**	⇓*iP*	**Pg**	**21 52 38.5**	**-0.8**
DRK				⇓*iS*	**Sg**	**21 52 52.2**	**-0.1**
BTK	**Batken**	**1.08**	**6**	⇑*iP*	**Pg**	**21 52 39.9**	**-0.8**
BTK				⇑*iS*	**Sg**	**21 52 54.9**	**+0.3**
OHH	**Osh**	**2.24**	**46**	⇓*iP*	**Pn**	**21 52 59.2**	**+1.0**
OHH				⇓*iS*	**Sn**	**21 53 28.3**	**+1.9**
TRKS	**Terek-Say**	**2.57**	**8**	⇑*iP*	**Pn**	**21 53 03.2**	**+0.4**
TRKS				⇑*iS*	**Sn**	**21 53 35.1**	**+0.4**
ARK	**Arkit**	**2.98**	**19**	⇑*iP*	**Pn**	**21 53 09.9**	**+1.5**
ARK				⇑*iS*	**Sn**	**21 53 46.4**	**+1.7**
MNAS	**Manas**	**3.76**	**21**	⇓*iP*	**Pn**	**21 53 20.6**	**+1.4**
MNAS				⇓*iS*	**Sn**	**21 54 05.4**	**+1.2**
AML	**Almayashu** SNR=77	**3.89**	**35**	P	**Pn**	**21 53 24.7**	**+3.5**
AML	**Almayashu**	**3.89**	**35**	⇑*iP*	**Pn**	**21 53 22.5**	**+1.3**
AML				⇑*iS*	**Sn**	**21 54 08.7**	**+1.0**
KK31	**Karatay Array** 6.8nm,0.4s,baz=175,slow=12,SNR=88	**4.12**	**358**	⇓Pn	**Pn**	**21 53 26.8**	**+2.9**
KK31	6.5nm,0.3s,baz=171,slow=12,SNR=7.4			⇑Pg	**Pg**	**21 53 39.3**	**+0.4**
KK31	4.2nm,0.2s,baz=200,slow=27,SNR=4.6			⇓Sn	**Sn**	**21 54 17.4**	**+4.7**
KK31	26nm,0.5s,baz=180,slow=29,SNR=7.2			⇓Lg	Lg	21 54 30.6	
KKAR	**Karatay Array**	**4.12**	**358**	⇓*iP*	**Pn**	**21 53 25.5**	**+1.6**
KKAR				⇓*iS*	**Sn**	**21 54 13.6**	**+0.9**
EKS2	**Erkin-Say** SNR=16	**4.36**	**32**	P	**Pn**	**21 53 31.8**	**+4.4**
EKS2	**Erkin-Say**	**4.36**	**32**	⇑*iP*	**Pn**	**21 53 28.8**	**+1.4**
EKS2				⇑*iS*	**Sn**	**21 54 19.5**	**+0.6**
UCH	**Uchtor** SNR=11	**4.36**	**41**	P	Pn	21 53 33.0	+5.3
AAK	**Ala-Archa** 9.9nm,0.3s,baz=213,slow=5.8,SNR=143	**4.66**	**37**	Pn	**Pn**	**21 53 35.9**	**+4.3**
AAK	1.5nm,0.3s,baz=319,slow=22,SNR=6.1 23nm,0.4s			Sn	**Sb**	**21 54 34.3**	**-4.9**
KBK	**Karagaybulak** SNR=29	**4.89**	**40**	P	Pn	21 53 39.7	+4.9
CHMS	**Chumysh** SNR=24	**5.06**	**36**	P	**Pn**	**21 53 40.8**	**+3.9**
CHMS	**Chumysh** 22nm,0.8s	**5.06**	**36**	⇑Pn	**Pn**	**21 53 40.7**	**+3.9**
CHMS	29nm,0.9s			⇓Sn	**Sn**	**21 54 42.7**	**+6.8**
CHMS	17nm,0.8s			⇑Lg	Lg	21 55 08.0	
CHMS	**Chumysh**	**5.06**	**36**	⇑*eP*	**Pn**	**21 53 38.4**	**+1.5**
CHMS				⇑*iS*	**Sn**	**21 54 35.9**	**0.0**
USP	**Ospenovka** SNR=23	**5.16**	**33**	P	**Pn**	**21 53 41.9**	**+3.6**
ULHL	**Ulahol** SNR=6.4	**5.34**	**51**	P	Pn	21 53 46.8	+5.8
TKM2	**Tokmak 2** SNR=18	**5.42**	**42**	P	Pn	21 53 47.5	+5.5
TKM2	**Tokmak 2** 11nm,0.3s	**5.42**	**42**	⇓Pn	**Pn**	**21 53 45.1**	**+3.1**
TKM2	16nm,0.7s			⇓Sn	**Sn**	**21 54 53.5**	**+8.5**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=230,slow=12,SNR=5.5 1.4nm,0.7s	**11.54**	**44**	Pn	**Pn**	**21 55 06.3**	**+0.5**
AB31	**Akbulak array** 0.9nm,0.4s,baz=165,slow=9.2,SNR=64	**12.82**	**327**	Pn	**Pn**	**21 55 22.2**	**-1.0**
AB31	2.5nm,0.5s,baz=150,slow=22,SNR=9.5			⇓Sn	**Sn**	**21 57 44.8**	**-1.7**
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=211,slow=13,SNR=1.0 2.0nm,0.2s	**12.89**	**23**	Pn	**Pn**	**21 55 24.1**	**-0.1**
BVAR	**Borovoye Array** baz=163,slow=13,SNR=3.3 0.4nm,0.5s	**14.04**	**359**	Pn	**Pn**	**21 55 39.6**	**-0.2**
AKTO	**Aktyubinsk** 4.1nm,1.1s	**14.54**	**326**	⇑Pn	**Pn**	**21 55 47.7**	**+1.0**
AKTO	4.0nm,0.8s			⇑Sn	**Sn**	**21 58 29.2**	**+0.8**
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=96,slow=4.6,SNR=4.2	**14.54**	**326**	Pn	**Pn**	**21 55 47.1**	**+0.4**
AKTO	0.5nm,0.3s,baz=118,slow=23,SNR=6.4 1.2nm,0.4s			Sn	**Sn**	**21 58 24.2**	**-4.1**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=224,slow=12,SNR=8.0 1.1nm,0.4s	**17.80**	**28**	P	**Pn**	**21 56 28.1**	**-0.6**
KBZ	**Khabaz** 1.2nm,0.8s,baz=255,slow=16,SNR=1.7 1.2nm,0.8s	**21.33**	**292**	P	**P**	**21 57 08.7**	**+0.5**
SONM	**Songino Array** 0.3nm,0.8s,baz=279,slow=11,SNR=2.1 0.3nm,0.8s	**27.21**	**59**	P	**P**	**21 58 03.8**	**-1.4**
FINES	**FINESS Array B** 2.9nm,1.0s,baz=116,slow=13,SNR=2.0 2.9nm,1.0s	**35.30**	**324**	P	**P**	**21 59 15.3**	**-0.8**
HFS	**Hagfors** 1.9nm,0.6s,baz=90,slow=8.5,SNR=8.5 1.9nm,0.6s	**40.98**	**320**	P	**P**	**22 00 03.5**	**-0.4**
NOA	**NORSAR Array B** 0.7nm,0.8s,baz=91,slow=9.5,SNR=2.2 0.7nm,0.8s	**42.26**	**321**	P	**P**	**22 00 14.1**	**-0.4**
ASAJ	**Asahikawa** comp=Z,74nm,18.0s,baz=130,slow=40	**52.49**	**60**	LR	LR	22 26 53.7	
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=325,slow=4.7,SNR=4.5 0.3nm,0.7s	**83.52**	**122**	P	**P**	**22 04 48.0**	**-1.6**

*SJA **05** 21:54:58.0,20.°27S×69.°12W, h84km, ML3.8*
*GUC **05** 21:54:58.3±0.6,20.°25S×69.°04W, h100km±4km, ML3.8*
ISC 05 21:54:57.8±1.8,**20.°26S**±0.°05×**69.°12W**±0.°08,
h103km±11km,**n23**,σ0**°73**/31,**3C-2D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.12**	**343**	⇓*iP*	**Pn**	**21 55 12.6**	**-0.1**
PB08				*i* S	**Sn**	**21 55 23.9**	**+0.2**
PB08	comp=E,10μm,0.3s			IAML		21 55 25.3	
PB08	**IPOC Station P**	**0.12**	**343**	*i* P	**Pn**	**21 55 11.9**	**-0.9**
PX03	**IPOC Station P**	**0.51**	**253**	*e*P	**Pn**	**21 55 13.3**	**-0.8**
PX03				*i* S	**Sn**	**21 55 26.4**	**+0.1**
GO01	**Chusmiza**	**0.59**	**353**	⇓*iP*	**Pn**	**21 55 15.1**	**-0.1**
GO01				*i* S	**Sn**	**21 55 28.7**	**+0.5**
GO01	comp=E,10μm,0.2s			IAML		21 55 29.5	
GO01	**Chusmiza**	**0.59**	**353**	*i* P	**Pn**	**21 55 14.4**	**-0.9**
PB11	**IPOC Station P**	**0.71**	**314**	⇑*iP*	**Pn**	**21 55 15.8**	**0.0**
PB11				*i* S	**Sn**	**21 55 29.9**	**+0.6**
PB11	comp=N,8μm,0.2s			IAML		21 55 30.3	
PB11	**IPOC Station P**	**0.71**	**314**	*i* P	**Pn**	**21 55 15.1**	**-0.7**
PB01	**IPOC Station P**	**0.86**	**204**	⇑*iP*	**Pn**	**21 55 17.2**	**+0.1**
PB01				*i* S	**Sn**	**21 55 32.6**	**+0.9**
PB01	comp=N,4μm,0.2s			IAML		21 55 33.8	
PB01	**IPOC Station P**	**0.86**	**204**	*i* P	**Pn**	**21 55 16.6**	**-0.6**
TA02	**Huaiquique**	**0.95**	**269**	*e*P	**Pn**	**21 55 18.3**	**+0.3**
TA02				*i* S	**Sn**	**21 55 34.0**	**+0.8**
TA02	comp=E,7μm,0.2s			IAML		21 55 35.8	
TA02	**Huaiquique**	**0.95**	**269**	*i* P	**Pn**	**21 55 17.6**	**-0.4**
TA01	**Diego Aracena**	**1.04**	**253**	⇑*iP*	**Pn**	**21 55 18.9**	**-0.1**
TA01				*i* S	**Sn**	**21 55 35.8**	**+0.9**
TA01	comp=E,719nm,0.3s			IAML		21 55 40.6	
TA01	**Diego Aracena**	**1.04**	**253**	*i* P	**Pn**	**21 55 18.2**	**-0.8**
AP01	**Chacalluta**	**2.20**	**328**	*e*P	**Pn**	**21 55 32.2**	**-0.9**
AP01				IAML		21 56 07.1	
AP01	comp=E,727nm,0.1s						
AP01	**Chacalluta**	**2.20**	**328**	*i* P	**Pn**	**21 55 33.8**	**+0.7**
PB04	**IPOC Station P**	**2.28**	**205**	*e*P	**Pn**	**21 55 34.4**	**+0.1**
PB04				*i* S	**Sn**	**21 56 00.7**	**-1.6**
PB04	comp=E,330nm,0.2s			IAML		21 56 08.8	
PB04	**IPOC Station P**	**2.28**	**205**	*i* P	**Pn**	**21 55 34.3**	**-0.1**
LVC	**Limon Verde**	**2.35**	**175**	*e*P	**Pn**	**21 55 36.2**	**+0.7**
LVC				*i* S	**Sn**	**21 56 05.2**	**+1.0**
LVC	comp=E,1μm,0.5s			IAML		21 56 06.4	
LVC	**Limon Verde**	**2.35**	**175**	*i* P	**Pn**	**21 55 35.7**	**+0.2**
PB06	**IPOC Station P**	**2.48**	**190**	IAML		21 56 07.8	
PB06	comp=N,2μm,0.1s **IPOC Station P**	**2.48**	**190**	*i* P	**Pn**	**21 55 36.7**	**-0.2**
PB15	**IPOC Station P**	**2.96**	**186**	*i* P	**Pn**	**21 55 43.6**	**+0.3**
GO02	**Mina Guanaco**	**4.90**	**185**	*i* P	**Pn**	**21 56 08.1**	**-1.4**

*GII **05** 21:59:48.6±0.3,33.°640N±0.°003×35.°017E±0.°001, h12km,Mws1.9,confirmed*
*JSO **05** 21:59:49,33.°59N×35.°05E,h1km,ML2.3/15*
*GRAL **05** 21:59:49.2±0.2,33.°69N×35.°04E,h29km±2km, MD2.6*
ISC 05 21:59:47.2±1.6,**33.°70N**±0.°05×**34.°97E**±0.°07,**h12**km,**n38**,
σ0**°48**/40,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DQRL	**Deir Qamar**	**0.50**	**89**	*e*P	**Pg**	**21 59 58.0**	**+1.0**
DQRL				*e*S	**Sg**	**22 00 04.6**	**+0.9**
BHL	**Bhannes**	**0.60**	**70**	*e*P	**Pg**	**21 59 59.8**	**+0.7**
QRWL	**Qaraoun**	**0.61**	**104**	*e*P	**Pg**	**21 59 59.7**	**+0.6**
HNTI	**Hanita**	**0.64**	**165**	P	**Pg**	**21 59 59.9**	**+0.3**
HNTI	**Hanita**	**0.64**	**165**	P	**Pg**	**22 00 00.3**	**+0.7**
SHBL	**Chebaa**	**0.73**	**118**	*e*P	**Pg**	**22 00 01.7**	**+0.3**
RCY	**Rachaya**	**0.75**	**105**	*e*P	**Pg**	**22 00 01.9**	**+0.2**
GEM	**Giv'at Ha'Em**	**0.75**	**130**	P	**Pg**	**22 00 02.1**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.75**	**130**	S	**Sb**	**22 00 12.3**	**-0.2**
GEM	**Giv'at Ha'Em**	**0.75**	**130**	P	**Pg**	**22 00 02.2**	**+0.4**
MMC1	**Mount Meron ar**	**0.76**	**151**	P	**Pg**	**22 00 02.2**	**+0.3**
MMC7	**Mount Meron ar**	**0.76**	**152**	P	**Pg**	**22 00 02.3**	**+0.4**
MMA0B	**Mount Meron ar**	**0.77**	**152**	S	**Sb**	**22 00 12.6**	**-0.4**
MMA0B	**Mount Meron ar**	**0.77**	**152**	P	**Pg**	**22 00 02.3**	**+0.2**
NATI	**Neve Ativ**	**0.77**	**124**	P	**Pg**	**22 00 02.3**	**+0.2**
NATI	**Neve Ativ**	**0.77**	**124**	S	**Sb**	**22 00 12.3**	**-0.7**
NATI	**Neve Ativ**	**0.77**	**124**	P	**Pg**	**22 00 02.3**	**+0.2**
MMB1	**Mount Meron ar**	**0.77**	**152**	P	**Pg**	**22 00 02.4**	**+0.2**
ZAHL	**Zahle**	**0.78**	**78**	*e*P	**Pg**	**22 00 02.3**	**0.0**
ZAHL				*e*S	**Sg**	**22 00 12.1**	**-0.4**
HWQ	**Hawqa**	**0.99**	**54**	*e*P	**Pg**	**22 00 05.9**	**-0.5**
KSHT	**Keshet**	**1.00**	**135**	S	**Sb**	**22 00 19.4**	**-0.3**
KSHT	**Keshet**	**1.00**	**135**	P	**Pg**	**22 00 06.5**	**0.0**
OFRI	**`Ofer**	**1.07**	**179**	P	**Pb**	**22 00 07.5**	**-0.2**
OFRI	**`Ofer**	**1.07**	**179**	P	**Pb**	**22 00 07.5**	**-0.2**
OFRI	**`Ofer**	**1.07**	**179**	S	**Sg**	**22 00 21.6**	**-0.3**
MMLI	**Mount Malkishu**	**1.31**	**163**	P	**Pn**	**22 00 10.9**	**-0.5**
MMLI	**Mount Malkishu**	**1.31**	**163**	P	**Pn**	**22 00 10.8**	**-0.5**
MMLI	**Mount Malkishu**	**1.31**	**163**	S	**Sb**	**22 00 28.1**	**-0.5**
QRNJ	**Al-Qirein**	**1.45**	**159**	P	**Pn**	**22 00 13.5**	**+0.3**
SLTI	**Sal'it**	**1.45**	**178**	P	**Pn**	**22 00 13.8**	**+0.5**
SLTI	**Sal'it**	**1.45**	**178**	P	**Pn**	**22 00 13.6**	**+0.3**
HMDT	**Nahal Hemdat**	**1.51**	**162**	P	**Pn**	**22 00 14.6**	**+0.4**
HMDT	**Nahal Hemdat**	**1.51**	**162**	P	**Pn**	**22 00 14.5**	**+0.4**
HMDT	**Nahal Hemdat**	**1.51**	**162**	S	**Sn**	**22 00 33.4**	**-0.4**
SALP	**Salfit**	**1.63**	**174**	P	**Pn**	**22 00 16.1**	**+0.2**
UJAP	**Al Uja**	**1.79**	**167**	P	**Pn**	**22 00 18.4**	**+0.5**
DSI	**Dead Sea**	**2.15**	**171**	P	**Pn**	**22 00 23.5**	**+0.6**
AMAZ	**Amatzia**	**2.16**	**181**	P	**Pn**	**22 00 24.0**	**+0.9**

*TRN **05** 22:00:14.3,11.°01N×62.°19W, h103km, MD2.9, North of the Paria peninsula.*
*FUNV **05** 22:00:15.2,11.°03N×62.°14W, h106km, MW3.4*
ISC 05 22:00:12.5±1.8,**10.°99N**±0.°05×**62.°19W**±0.°06,
h119km±19km,**n12**,σ1°**42**/22,**Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.84**	**114**	*e*P	**Pn**	**22 00 33.8**	**+0.9**
TRN				*e*S	**Sn**	**22 00 47.4**	**-0.9**
GRFF	**Grenada Fort F**	**1.14**	**23**	*e*P	**Pn**	**22 00 35.2**	**-0.6**
GRFF				*e*S	**Sn**	**22 00 52.9**	**-0.6**
GRGR	**Grenville**	**1.25**	**25**	*e*P	**Pn**	**22 00 37.6**	**+0.6**
GRGR				*e*S	**Sn**	**22 00 54.0**	**-1.6**
GRW	**Mount Saint Ca**	**1.27**	**24**	*e*P	**Pn**	**22 00 38.3**	**+1.0**
GRW				*e*S	**Sn**	**22 00 55.3**	**-0.9**
GRHS	**Sauteurs**	**1.34**	**24**	*e*P	**Pn**	**22 00 38.6**	**+0.7**
GRHS				*e*S	**Sn**	**22 00 56.6**	**-0.6**
GRSS	**Sisters**	**1.42**	**23**	*e*P	**Pn**	**22 00 39.9**	**+1.1**
GRSS				*e*S	**Sn**	**22 00 58.7**	**-0.1**
TOSP	**Speyside**	**1.65**	**79**	*e*P	**Pn**	**22 00 43.1**	**+1.5**
TOSP				*e*S	**Sn**	**22 01 03.2**	**-0.5**
GCMP	**Grenada, Carri**	**1.66**	**27**	*e*P	**Pn**	**22 00 42.3**	**+0.6**
GCMP				*e*S	**Sn**	**22 01 03.0**	**-0.1**
PCRV	**Puerto La Cruz**	**2.54**	**252**	*e*P	**Pn**	**22 00 55.1**	**+2.4**
PCRV				*e*S	**Sn**	**22 01 23.5**	**-0.3**
LUEV	**Luepa**	**5.17**	**172**	*e*P	**Pn**	**22 01 29.0**	**+1.2**
LUEV				*e*S	**Sn**	**22 02 23.9**	**-2.6**
CACV	**CAICARA DEL OR**	**5.48**	**232**	*e*P	Pn	22 01 28.3	-3.6
CACV				*e*S	Sn	22 02 22.9	-11
BAUV	**El Baul**	**6.12**	**251**	*e*P	**Pn**	**22 01 41.3**	**+0.8**
BAUV				*e*S	**Sn**	**22 02 46.3**	**-2.9**

*IDC **05** 22:18:41.0±0.9,37.°65N×142.°07E, h0km, mb3.9/10, mbtmp3.9/13, ML3.5/3, MS3.0/2, Error ellipse: s-maj=24.3km s-min=16.7km az=85.0*
*JMA **05** 22:18:43.7±0.1,37.°7N±0.°3×142.°0E±0.°7, h32km±2km, MD4.1/39, MV4.0/39, SE OFF MIYAGI PREF*
*NIED **05** 22:18:43.7,37.°67N×142.°02E, h32km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-2.39; $M_{\theta\theta}$1.21; $M_{\phi\phi}$1.18; $M_{r\theta}$2.12; $M_{\theta\phi}$-1.51; $M_{r\phi}$-2.44; Fault plane solution: $M_0$4.12000×10^{14} NP1: ϕ_s318.00000°,δ71.00000°,λ-87.00000°. NP2: ϕ_s130.00000°,δ19.00000°,λ-98.00000°.*
*NEIC **05** 22:18:46.8±2.2,37.°71N±0.°06×141.°88E±0.°07, h35km±1km, mb4.3/5 Error ellipse: s-maj=11.7km s-min=7.0km az=145.0*
ISC 05 22:18:42.2±1.9,**37.°65N**±0.°04×**142.°06E**±0.°06,**h10**km±10km,
n58,σ1°**08**/62,**mb4.0**/13,**8D**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.81**	**325**	*i* P	**Pg**	**22 18 58.2**	**+0.4**
JIKH				S	**Sg**	**22 19 08.0**	**-0.3**
JMST	**Minamisoumatoc**	**0.93**	**275**	⇓*iP*	**Pb**	**22 19 00.1**	**-0.4**
JMST				⇓S	**Sb**	**22 19 11.6**	**-1.2**
JIO	**Ouri**	**0.98**	**325**	P	**Pb**	**22 19 00.8**	**-0.4**
JIO				S	**Sb**	**22 19 12.8**	**-1.4**
JFK	**Kawauchi**	**0.98**	**254**	⇓*iP*	**Pb**	**22 19 01.0**	**-0.4**
JFK				⇓S	**Sb**	**22 19 13.5**	**-0.9**
JMM	**Marumori**	**1.02**	**283**		**Pb**	**22 19 01.7**	**-0.4**
JMM					**Sb**	**22 19 13.8**	**-1.7**
JMM	**Marumori**	**1.02**	**283**	⇓*iP*	**Pb**	**22 19 01.6**	**-0.4**
JMM				⇓S	**Sb**	**22 19 14.2**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.14**	**242**	P	**Pb**	**22 19 03.1**	**-1.0**
ONAJ				S	**Sb**	**22 19 17.9**	**-1.1**
JOU	**Okura**	**1.31**	**303**	⇓P	**Pn**	**22 19 06.4**	**-0.3**
JOU				⇓S	**Sb**	**22 19 22.8**	**-1.1**
JOU	**Okura** comp=E,4.0nm,1.7s,comp=N,4.0nm,1.1s	**1.31**	**303**	A	A	22 19 06.4	
JOTO	**OTAMA OYAMA**	**1.37**	**267**	P	**Pn**	**22 19 07.5**	**+0.1**
JOTO				*e*S	**Sn**	**22 19 24.9**	**-0.8**
JMK	**Ichinoseki**	**1.46**	**333**	*e*P	**Pn**	**22 19 08.0**	**-0.6**
JMK				S	**Sn**	**22 19 25.5**	**-2.3**
JYAR	**Yonezawaarcadi** comp=E,9.0nm,0.9s,comp=N,9.0nm,1.1s	**1.54**	**280**	A	A	22 19 09.3	
JYS	**Shirataka**	**1.67**	**291**	P	**Pn**	**22 19 11.8**	**+0.2**
JSB	**Shiboa** comp=E,5.0nm,1.0s,comp=N,3.0nm,0.7s	**1.83**	**249**	A	A	22 19 13.8	
JYK	**Kaneyama**	**1.84**	**314**	*e*P	**Pn**	**22 19 13.9**	**0.0**
JFY	**Yanaizu**	**1.89**	**263**	*i* P	**Pn**	**22 19 15.2**	**+0.7**
JFY				S	**Sn**	**22 19 38.4**	**0.0**
JOM	**Ohasama**	**1.92**	**342**	P	**Pn**	**22 19 14.7**	**-0.3**
JRG	**Rokugo**	**2.07**	**328**	P	**Pn**	**22 19 17.6**	**+0.6**
JYA	**Atsumi**	**2.07**	**298**	P	**Pn**	**22 19 17.7**	**+0.6**
JSD	**Sado**	**3.03**	**278**		**Pn**	**22 19 30.1**	**-0.1**
JTM	**Tenmabayashi**	**3.23**	**347**	Pn	**Pn**	**22 19 32.8**	**-0.1**
MJAR	**Matsushiro Arr** comp=N,0.9nm,0.3s,baz=86,slow=16,SNR=22	**3.27**	**251**	Pn	**Pn**	**22 19 34.8**	**+1.2**
MJAR	comp=N,0.8nm,0.3s,baz=81,slow=18,SNR=5.1			Sn	**Sn**	**22 20 14.1**	**+1.6**
MJAR	comp=N,190nm,18.2s,baz=7.0,slow=42 comp=N,4.9nm,0.4s			LR	LR	22 20 59.0	
MAJO	**Matsushiro**	**3.27**	**251**	Pn	**Pn**	**22 19 34.2**	**+0.7**
MJB9	**Matsu-Tunnel**	**3.27**	**251**	Pn	**Pn**	**22 19 34.2**	**+0.6**
JGF	**Kuroka**	**4.30**	**243**	Pn	**Pn**	**22 19 49.4**	**+1.7**
ERM	**Erimo**	**4.44**	**11**	Pn	**Pn**	**22 19 49.5**	**-0.1**
JHJ2	**Mitsune**	**4.88**	**203**	Pn	**Pn**	**22 19 55.8**	**+0.1**
JHJ	**Hachijo jima 2** comp=N,24nm,0.3s,baz=79,slow=16,SNR=8.9	**4.89**	**203**	Pn	**Pn**	**22 19 55.9**	**+0.1**
JHJ	comp=N,19nm,0.3s,baz=69,slow=23,SNR=1.9 comp=N,74nm,0.4s			Sn	**Sn**	**22 20 48.9**	**-3.5**
ASAJ	**Asahikawa** comp=N,1.0nm,0.3s,baz=197,slow=13,SNR=1.7 comp=N,4.5nm,0.4s	**6.47**	**3**	Pn	**Pn**	**22 20 18.4**	**+0.8**
JKA	**Kamikawa-asahi**	**6.47**	**3**	Pn	**Pn**	**22 20 18.2**	**+0.6**
USRK	**Ussuriysk Ar.** comp=N,0.1nm,0.3s,baz=132,slow=13,SNR=3.0	**10.04**	**314**	Pn	**Pn**	**22 21 09.6**	**+3.2**
JNU	**Nakatsue** comp=N,91nm,18.1s,baz=40,slow=41	**10.18**	**247**	LR	LR	22 25 36.6	
SONM	**Songino Array**	**27.87**	**303**		**P**	**22 24 33.3**	**+1.1**
SONM	**Songino Array** comp=N,0.9nm,0.6s,baz=100,slow=8.7,SNR=7.8 comp=N,0.9nm,0.6s	**27.87**	**303**	P	**P**	**22 24 32.9**	**+0.7**
H11N2	**WAKE ISLAND Hy** baz=315,slow=75,SNR=226	**28.04**	**123**	T	T	22 53 49.5	
H11N1	**WAKE ISLAND Hy** baz=315,slow=75,SNR=174	**28.04**	**123**	T	T	22 53 50.1	
H11N3	**WAKE ISLAND Hy** baz=315,slow=75,SNR=152	**28.05**	**123**	T	T	22 53 50.9	
H11S1	**WAKE ISLAND Hy** baz=316,slow=76,SNR=144	**28.78**	**125**	T	T	22 54 57.7	
H11S3	**WAKE ISLAND Hy** baz=316,slow=76,SNR=113	**28.78**	**125**	T	T	22 54 58.3	
H11S2	**WAKE ISLAND Hy** baz=316,slow=76,SNR=74	**28.79**	**125**	T	T	22 54 46.8	
ZALV	**Zalesovo Beam** comp=N,0.9nm,0.6s,baz=100,slow=7.7,SNR=6.1 comp=N,0.9nm,0.6s	**41.88**	**312**	P	**P**	**22 26 32.4**	**0.0**
MKAR	**Makanchi Array** comp=N,0.6nm,0.6s,baz=80,slow=8.2,SNR=4.4 comp=N,0.6nm,0.6s	**44.23**	**302**	P	**P**	**22 26 51.5**	**-0.1**
KURBB	**Kurchatov Arra** comp=N,3.1nm,0.8s,baz=84,slow=8.2,SNR=8.5 comp=N,3.1nm,0.8s	**46.03**	**308**	P	**P**	**22 27 05.7**	**-0.1**
ILAR	**Eielson Array** comp=N,0.3nm,0.6s,baz=275,slow=5.3,SNR=1.7 comp=N,0.3nm,0.6s	**48.70**	**33**	P	**P**	**22 27 26.6**	**+0.2**
BOOM	**Boomskoye usch**	**49.68**	**297**	P	**P**	**22 27 35.2**	**+0.7**
BVAR	**Borovoye Array** comp=N,0.5nm,0.5s,baz=68,slow=6.5,SNR=4.8 comp=N,0.5nm,0.5s	**50.54**	**312**	P	**P**	**22 27 40.8**	**+0.2**
ARTI	**Arti**	**56.35**	**318**	P	**P**	**22 28 23.5**	**+0.3**
ARTI	comp=Z,3.9nm,1.0s			IAmb	IAmb	22 28 31.4	
WB0	**Warramunga Arr**	**57.56**	**189**	P	**P**	**22 28 31.8**	**-0.3**
WB0	comp=Z,4.2nm,0.8s			IAmb	IAmb	22 28 33.0	
WRA	**Warramunga Arr** comp=Z,2.8nm,0.7s,baz=4.9,slow=7.1,SNR=21 comp=Z,2.8nm,0.7s	**57.74**	**189**	P	**P**	**22 28 33.0**	**-0.4**
ABKAR	**Akbulak array**	**57.94**	**310**	P	**P**	**22 28 34.8**	**+0.3**
ABKAR	comp=Z,1.3nm,0.8s			IAmb	IAmb	22 28 35.4	
ASAR	**Alice Springs**	**61.47**	**189**	P	**P**	**22 28 59.0**	**-0.1**
ASAR	**Alice Springs** comp=Z,1.9nm,0.7s,baz=13,slow=6.6,SNR=18 comp=Z,1.9nm,0.7s	**61.47**	**189**	P	**P**	**22 28 59.7**	**+0.7**
YKAB2	**New Yellowknif**	**63.05**	**31**	P	**P**	**22 29 09.8**	**+0.6**
HFS	**Hagfors** comp=Z,1.0nm,0.7s,baz=7.5,slow=12,SNR=1.5 comp=Z,1.0nm,0.7s	**73.74**	**336**	P	**P**	**22 30 16.5**	**+0.4**
AKASG	**Malin Array Be** comp=Z,0.5nm,0.5s,baz=46,slow=6.5,SNR=6.2 comp=Z,0.5nm,0.5s	**74.12**	**322**	P	**P**	**22 30 18.7**	**+0.1**
LUNU	**Lund**	**77.28**	**333**	*e*P	**P**	**22 30 34.2**	**-2.3**
LUNU				*i* P	**P**	**22 30 39.0**	**+2.5**
LPAZ	**La Paz**	**145.94**	**60**	PKPbc	**PKPdf**	**22 38 22.4**	**-0.2**
LPAZ	**La Paz** comp=Z,0.9nm,0.5s,baz=305,slow=1.5,SNR=2.5	**145.94**	**60**	PKPbc	**PKPab**	**22 38 23.7**	**0.0**

*VAO **05** 22:44:57.8±0.7,5.°13N×75.°60W, h133km±6km, mb4.2*
*NEIC **05** 22:45:00.7±2.3,5.°02N±0.°04×75.°43W±0.°08, h134km±6km, mb4.4/18, Error ellipse: s-maj=12.2km s-min=5.8km az=99.0*
*RSNC **05** 22:45:00.0±0.0,5.°04N×75.°48W, h120km±1km, M4.0, ML3.7, Mw4.1*
*IDC **05** 22:45:01.1±1.0,4.°95N×75.°34W, h142km±7km, mb3.5/9, mbtmp4.0/11, MS2.8/1, Error ellipse: s-maj=19.9km s-min=17.3km az=86.0*
ISC 05 22:44:58.8±0.5,**5.°04N**±0.°03×**75.°52W**±0.°03,**h127**km±4km,
n107,σ1°**24**/155,**mb4.0**/15,**Colombia**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CMAN1	**Manizales, Cal**	**0.04**	**352**	P	**Pn**	**22 45 16.9**	**+0.4**
CMAN1				S	**Sn**	**22 45 29.4**	**-0.4**
NIZA	**Niza - Manizal**	**0.05**	**66**	P	**Pn**	**22 45 16.0**	**-0.5**
NIZA				S	**Sn**	**22 45 29.0**	**-0.7**
RECRC	**Villamaria, Ca**	**0.18**	**114**	P	**Pn**	**22 45 16.9**	**-0.1**
RECRC				S	**Sn**	**22 45 30.

PAMC				S	Sn	22 46 35.6	-0.9
CRUC	**La Cruz**	3.73	203	P	Pn	22 45 56.6	+1.3
CRUC				S	Sn	22 46 38.7	-0.3
OCAC	**Ocana**	3.86	34	P	Pn	22 45 57.0	+0.2
OCAC				S	Sn	22 46 39.5	-2.3
TAMC	**Tame, Arauca**	3.96	69	P	Pn	22 45 58.4	+0.3
TAMC				S	Sn	22 46 42.3	-1.7
GCUF	**Volcan Galeras**	4.20	206	P	Pn	22 46 02.0	+0.3
GCUF				S	Sn	22 46 48.6	-1.8
TUMC	**Tumaco**	4.52	225	P	Pn	22 46 06.0	+0.5
OTAV	**Otavalo**	5.59	212	Pn	Pn	22 46 20.1	-0.2
OTAV	**Otavalo**	5.59	212	*e*P	Pn	22 46 20.2	-0.2
OTAV				*e*S	Sn	22 47 22.4	-1.3
BCIP	**Isla Barro Col**	5.93	314	Pn	Pn	22 46 24.2	-0.2
SDV	**Santo Domingo**	6.18	51	P	Pn	22 46 28.1	+0.2
	47nm,0.4s,baz=223,slow=9.0,SNR=16						
SDV				S	Sn	22 47 34.5	-2.9
	97nm,0.3s,baz=14,slow=18,SNR=13						
SDV	**Santo Domingo**	6.18	51	*e*P	Pn	22 46 28.4	+0.5
SDV				*e*S	Sn	22 47 35.8	-1.6
COHC	**Cochancay**	8.33	207	Pn	Pn	22 46 57.8	+1.0
BAUV	**El Baul**	8.38	62	Pn	Pn	22 46 54.5	-2.9
HATO	**Hato, Curacao**	9.61	42	Pn	Pn	22 47 12.5	-1.6
LCR2	**La Lucha 2**	9.62	300	Pn	Pn	22 47 18.5	+4.1
ESPN	**Las Esperanzas**	11.22	310	Pn	Pn	22 47 36.2	+0.6
PCRV	**Puerto La Cruz**	11.93	64	P	Pn	22 47 43.4	-1.7
	14nm,0.9s,baz=211,slow=6.9,SNR=6.7						
PCRV				S	Sn	22 49 53.2	-3.4
	7.3nm,0.5s,baz=38,slow=22,SNR=6.0						
PCRV				LR	LR	22 53 18.2	
	comp=Z,52nm,20.5s,slow=42						
ATAH	**Atahualpa**	12.43	193	P	Pn	22 47 52.6	+0.8
	5.1nm,0.8s,baz=39,slow=12,SNR=3.0						
TEFE	**Tefe**	13.79	128	*e*P	Pn	22 48 09.7	+0.5
SDDR	**Presa de Saban**	14.46	16	P	P	22 48 22.3	+1.4
BOAV	**Boa Vista**	15.19	99	Pn	Pn	22 48 23.9	-3.0
BOAV				IAmb	IAmb	22 48 30.6	
	comp=Z,37nm,1.3s						
BOAV	**Boa Vista**	15.19	99	*e*P	Pn	22 48 25.8	-1.1
CELP	**Cerrillos**	15.63	33	Pn	Pn	22 48 30.6	-1.6
CELP				IAmb	IAmb	22 49 12.2	
	comp=Z,43nm,1.4s						
AGPR	**Aguadilla, PR**	15.67	31	Pn	Pn	22 48 31.4	-1.4
MACA	**Manacapuru-AM**	16.91	118	P	Pn	22 48 48.5	+0.4
MACA				IAmb	IAmb	22 48 49.0	
	comp=Z,8.7nm,0.7s						
MACA	**Manacapuru-AM**	16.91	118	*e*P	Pn	22 48 48.2	+0.2
ETMB	**Extrema**	17.43	148	*e*P	Pn	22 48 54.9	+0.7
SAML	**Samuel**	18.55	138	P	P	22 49 05.8	-0.1
SAML	**Samuel**	18.55	138	*e*P	P	22 49 05.9	-0.1
ITTB	**Itaituba**	21.86	115	*e*P	P	22 49 40.1	-1.5
LPAZ	**La Paz**	22.41	161	P	P	22 49 48.3	+0.5
LPAZ	**La Paz**	22.41	161	P	P	22 49 47.2	-0.6
	comp=Z,0.9nm,0.3s,baz=334,slow=12,SNR=4.1						
	comp=Z,0.9nm,0.3s						
NPGB	**Novo Progresso**	23.43	121	*e*P	P	22 49 57.1	+0.2
PB11	**IPOC Station P**	25.31	167	P	P	22 50 12.9	-1.0
PB11				IAmb	IAmb	22 50 28.6	
	comp=Z,14nm,1.1s						
PB08	**IPOC Station P**	25.79	166	P	P	22 50 17.4	-1.2
PB01	**IPOC Station P**	26.59	167	P	P	22 50 25.4	0.0
PB01				IAmb	IAmb	22 50 25.9	
	comp=Z,3.7nm,0.8s						
PRPB	**Parauapebas**	27.97	113	*e*P	P	22 50 36.9	-1.0
SNDB	**Serra Nova Dou**	29.43	125	*e*P	P	22 50 50.4	-0.3
GO02	**Mina Guanaco**	30.57	169	P	P	22 51 01.2	+0.3
GO02				IAmb	IAmb	22 51 32.4	
	comp=Z,13nm,1.2s						
SMTB	**Santa Maria do**	31.08	116	*e*P	P	22 51 04.9	-0.5
ARAG	**Araguaiana, MT**	31.24	132	*e*P	P	22 51 05.9	-0.7
BDFB	**Brasilia**	34.12	128	P	P	22 51 31.0	-0.8
	comp=Z,1.6nm,0.4s,baz=180,slow=14,SNR=3.8						
	comp=Z,1.6nm,0.4s						
SDBA	**SAO DESIDERIO**	35.02	120	*e*P	P	22 51 38.7	-1.0
JANB	**Januaria**	36.81	123	*e*P	P	22 51 54.4	-0.5
LDASE	**Londrina, Braz**	36.96	141	*e*P	P	22 51 54.5	-1.6
NCB	**Newcomb**	38.79	1	P	P	22 52 13.2	+2.1
MT09	**Talagante**	38.84	174	P	P	22 52 12.1	+0.4
DIAM	**Diamantina, MG**	39.04	127	*e*P	P	22 52 13.3	-0.4
NBAN	**Anadia - AL**	41.74	110	*e*P	P	22 52 33.1	-2.8
MVCO	**Mesa Verde**	43.97	321	P	P	22 52 53.9	+0.1
MVCO				IAmb	IAmb	22 52 53.9	
	comp=Z,2.0nm,0.6s						
TRQA	**Tornquist**	44.68	165	P	P	22 52 58.7	-0.4
TRQA				IAmb	IAmb	22 53 01.5	
	comp=Z,11nm,1.4s						
EYMN	**Ely**	44.89	345	P	P	22 53 01.1	+0.5
EYMN				IAmb	IAmb	22 53 01.2	
	comp=Z,12nm,1.1s						
PLCA	**Paso Flores**	45.77	175	P	P	22 53 08.2	+0.4
	comp=Z,2.4nm,0.9s,baz=301,slow=5.1,SNR=3.2						
	comp=Z,2.4nm,0.9s						
PDAR	**Pinedale Array**	48.17	326	P	P	22 53 28.2	+1.5
	comp=Z,0.3nm,0.5s,baz=120,slow=8.4,SNR=4.2						
	comp=Z,0.3nm,0.5s						
NVAR	**Mina Array Bea**	51.08	317	P	P	22 53 51.0	+2.2
	comp=Z,0.8nm,0.7s,baz=126,slow=7.5,SNR=4.5						
	comp=Z,0.8nm,0.7s						
DBIC	**Dimbokro**	70.26	85	P	P	22 55 58.0	-0.9
DBIC	**Dimbokro**	70.26	85	P	P	22 55 58.3	-0.7
	comp=Z,2.1nm,0.6s,baz=271,slow=7.4,SNR=4.0						
	comp=Z,2.1nm,0.6s						
ESDC	**Sonseca Array**	72.62	50	P	P	22 56 13.9	+1.2
	comp=Z,0.5nm,0.6s,baz=266,slow=5.9,SNR=5.0						
	comp=Z,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	76.44	78	P	P	22 56 34.3	-0.9
	comp=Z,1.2nm,0.5s,baz=270,slow=5.3,SNR=28						
	comp=Z,1.2nm,0.5s						
NOA	**NORSAR Array B**	84.04	29	P	P	22 57 16.4	+1.3
	comp=Z,0.5nm,0.7s,baz=271,slow=6.3,SNR=1.9						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	146.14	234	PKPbc	**PKPbc**	23 04 24.6	-0.5
ASAR	**Alice Springs**	146.14	234	PKPbc	**PKPbc**	23 04 24.8	-0.3
	comp=Z,2.9nm,0.7s,baz=117,slow=3.6,SNR=18						
ASAR				pPKPbc	**pPKPdf**	23 04 59.5	+0.7
	comp=Z,1.4nm,0.8s,baz=127,slow=3.2,SNR=4.0						
WR0	**Warramunga Arr**	147.21	240	PKPbc	**PKPbc**	23 04 27.7	-0.5
WB2	**Warramunga Arr**	147.38	240	PKPbc	**PKPbc**	23 04 28.5	-0.2
WRA	**Warramunga Arr**	147.39	240	PKP	**PKPdf**	23 04 25.7	-0.4
	comp=Z,1.0nm,0.6s,baz=104,slow=3.1,SNR=13						
WRA				PKPbc	**PKPbc**	23 04 28.6	-0.1
	comp=Z,1.0nm,0.6s,baz=109,slow=2.2,SNR=6.4						
WRA				pPKPbc	**pPKPdf**	23 05 02.4	+1.5
	comp=Z,0.8nm,0.6s,baz=110,slow=2.6,SNR=4.0						
WB0	**Warramunga Arr**	147.41	241	PKPbc	**PKPbc**	23 04 28.3	-0.5
MTN	**Manton Dam**	152.57	252	PKPbc	**PKiKP**	23 04 41.8	+0.2

*PRU **06** 00:32:24.7, 45°.32N×18°.53E, $h1^{km}$*
*BEO **06** 00:32:25.9±0.3, 45°.30N×18°.57E, $h16^{km}\pm2^{km}$, ML2.7/22*
*RHSSO **06** 00:32:25.5±0.2, 45°.28N×18°.48E, $h8^{km}\pm1^{km}$, ML2.9/20*
ISC 06 00:32:25.0±1.0, 45°.28N±0°.02×18°.50E±0°.02, $h10^{km}\pm9^{km}$, n87, σ1°.00/155, 16C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOB	**Doboj**	0.62	208	*e*Pg	**Pg**	00 32 36.1	-0.9
DOB				*e*Sg	**Sg**	00 32 45.7	+0.6
A052A	**Srbac**	0.72	256	*e*Pg	**Pg**	00 32 38.1	-0.9
A052A				*e*Sg	**Sg**	00 32 48.2	-0.2
FRGS	**Fruska Gora**	0.93	97	*e*Pg	**Pg**	00 32 42.8	-0.2
FRGS				*e*Sg	**Sg**	00 32 55.3	+0.2
FRGS	**Fruska Gora**	0.93	97	*e*Pg	**Pg**	00 32 42.6	-0.4
FRGS				*e*Sg	**Sb**	00 32 55.6	-0.2
MORH	**Mrgy, Hungar**	0.94	6	*e*Pg	**Pg**	00 32 42.5	-0.6
MORH				*e*Sg	**Sg**	00 32 55.9	+0.5
MORH	**Mrgy, Hungar**	0.94	6	⇓P	**Pg**	00 32 42.7	-0.4
MORH				⇑S	**Sb**	00 32 56.3	+0.4
TEKS	**Tekeris**	1.03	135	*e*Pg	**Pg**	00 32 44.8	-0.1
TEKS				*e*Sg	**Sg**	00 32 58.3	0.0
TEKS	**Tekeris**	1.03	135	*e*Pg	**Pg**	00 32 44.7	-0.1
TEKS				*e*Sg	**Sg**	00 32 58.4	+0.1
BLY	**Banja Luka**	1.08	241	*e*Pg	**Pg**	00 32 44.7	-1.0
BLY				*e*Sg	**Sb**	00 33 00.3	+0.4
BLY	**Banja Luka**	1.08	241	⇑*i*Pg	**Pg**	00 32 44.6	-1.1
BLY				*e*Sg	**Sg**	00 32 59.5	-0.2
A051A	**Mrakovica**	1.16	257	*e*Pg	**Pb**	00 32 46.5	-0.8
A051A				*e*Sg	**Sb**	00 33 01.7	-0.7
HAPS	**Han Pijesak,BI**	1.24	165	*e*Pg	**Pn**	00 32 48.1	-0.4
HAPS				*e*Sg	**Sb**	00 33 04.3	-0.3
HAPS	**Han Pijesak,BI**	1.24	165	⇑*i*Pg	**Pn**	00 32 48.3	-0.2
HAPS				*e*Sg	**Sg**	00 33 04.7	-0.1
MOSL	**Moslavina**	1.27	286	*e*Pg	**Pn**	00 32 48.6	-0.4
MOSL				Sg	**Sb**	00 33 05.8	+0.1
PRIJ	**Prijedor**	1.30	257	⇑*i*Pg	**Pn**	00 32 49.4	+0.1
PRIJ				*e*Sg	**Sg**	00 33 07.2	+0.3
AVAS	**Avala Beograd**	1.54	112	*e*Pg	**Pn**	00 32 53.2	+0.6
AVAS				*e*Sg	**Sb**	00 33 13.8	+0.5
BBLS	**Lazi&#263i**	1.55	155	*e*Pg	**Pn**	00 32 53.1	+0.2
BBLS				*e*Sg	**Sg**	00 33 15.0	0.0
BBLS	**Lazi&#263i**	1.55	155	⇑*i*Pn	**Pn**	00 32 52.7	-0.2
BBLS				*e*Sn	**Sb**	00 33 13.9	+0.2
DIVS	**Divibare**	1.59	138	*e*Pg	**Pb**	00 32 55.0	+0.4
DIVS				*e*Sg	**Sg**	00 33 15.5	-0.6
A050A	**Klekovaca**	1.61	241	*e*Pn	**Pn**	00 32 54.4	+0.7
A050A				*e*Sn	**Sb**	00 33 15.3	-0.1
KALN	**Kalnik**	1.67	301	*e*Pn	**Pn**	00 32 53.9	-0.5
BEHE	**Becsehely**	1.69	315	*e*Pn	**Pn**	00 32 54.5	-0.2
BEHE				*e*Sn	**Sn**	00 33 17.2	+0.7
TRUS	**Trudelj**	1.72	127	*e*Pg	**Pb**	00 32 57.1	+0.4
TRUS				*e*Sg	**Sg**	00 33 19.5	-0.8
RUDO	**Rudo**	1.77	159	*e*Pn	**Pn**	00 32 56.3	+0.5
RUDO				*e*Sn	**Sb**	00 33 19.2	-0.8
KALIN	**Kalinovik**	1.78	181	⇑*i*Pn	**Pn**	00 32 55.7	-0.3
KALIN				*e*Sn	**Sn**	00 33 19.1	+0.4
BANR	**Banloc**	1.86	86	⇓P	**Pn**	00 32 57.7	+0.7
BANR				⇑S	**Sg**	00 33 25.5	+0.7
PTJ	**Puntijarka**	1.89	290	*e*Pn	**Pn**	00 32 56.8	-0.7
LOBO	**Lobor**	1.92	298	*e*Pn	**Pn**	00 32 57.1	-0.6
KIJV	**Kijevo**	1.97	230	*e*Pn	**Pn**	00 32 59.1	+0.6
VRSS	**Vrsac**	2.00	94	*e*Pn	**Pn**	00 32 57.5	-1.4
VRSS				*e*Sn	**Sn**	00 33 23.3	-0.8
RICI	**Ricice**	2.04	209	*e*Pn	**Pn**	00 33 00.7	+1.3
IVAS	**Ivanjica**	2.07	145	*e*Pn	**Pn**	00 32 59.3	-0.7
IVAS				*e*Sn	**Sn**	00 33 25.8	-0.1
UPM	**Unac-Piva**	2.10	172	*e*Pn	**Pn**	00 33 00.5	+0.1
UPM				*e*Sn	**Sn**	00 33 27.1	+0.4
GRUS	**Gruza**	2.11	131	*e*Pn	**Pn**	00 33 00.3	-0.1
GRUS				*e*Sn	**Sn**	00 33 24.7	-1.9
KLINJ	**Klinje**	2.11	178	*e*Pn	**Pn**	00 33 01.5	+1.0
KLINJ				*e*Sn	**Sn**	00 33 27.7	+0.8
OZLJ	**Ozalj**	2.16	280	*e*Pn	**Pn**	00 33 01.5	+0.4
BZS	**Buzias**	2.22	80	*e*Pn	**Pn**	00 33 02.2	+0.3
BZS				*e*Sn	**Sn**	00 33 27.5	-1.9
BZS	**Buzias**	2.22	80	⇓P	**Pn**	00 33 02.8	+0.9
BZS				⇑S	**Sb**	00 33 34.1	+1.4
SJES	**Sjenica**	2.28	152	*e*Pn	**Pn**	00 33 03.0	+0.1
SJES				*e*Sn	**Sn**	00 33 30.7	-0.3
SJES	**Sjenica**	2.28	152	⇑*i*Pn	**Pn**	00 33 03.0	+0.1
SJES				*e*Sn	**Sn**	00 33 31.8	+0.8
BRY	**Bratogost**	2.38	179	*e*Pn	**Pn**	00 33 04.2	-0.1
BRY				*e*Sn	**Sn**	00 33 33.6	0.0
KUBS	**Kucevo**	2.42	110	*e*Pn	**Pn**	00 33 04.5	-0.2
KUBS				*e*Sn	**Sn**	00 33 32.1	-2.2
SIRR	**Siria**	2.42	65	⇓P	**Pn**	00 33 05.2	+0.5
MORI	**Morici**	2.45	236	⇓*e*Pn	**Pn**	00 33 06.4	+1.3
STON	**Ston**	2.48	194	*e*Pn	**Pn**	00 33 06.3	+0.9
STON				*e*Sn	**Sn**	00 33 37.3	+1.6
STON	**Ston**	2.48	194	*e*Pn	**Pn**	00 33 06.8	+1.3
STON	**Ston**	2.48	194	*e*Pn	**Pn**	00 33 06.1	+0.7
STON				*e*Sn	**Sn**	00 33 36.0	+0.3
SRO	**Srobarova**	2.54	357	*e*PN	**Pn**	00 33 07.8	+1.5
SRO				*e*SG	**Sg**	00 33 50.8	+4.3
TREB	**Trebinje**	2.56	183	*e*Pn	**Pn**	00 33 07.3	+0.6
TREB				*e*Sn	**Sn**	00 33 38.8	+0.8
TREB	**Trebinje**	2.56	183	*e*Pn	**Pn**	00 33 08.1	+1.4
TREB				*e*Sn	**Sn**	00 33 38.8	+0.8
SURR	**Surduc**	2.59	78	⇑P	**Pn**	00 33 07.6	+0.6
ZIRJ	**Zirje**	2.61	233	*e*Pn	**Pn**	00 33 08.8	+1.5
DBRK	**Dubrovnik**	2.62	186	*e*Pn	**Pn**	00 33 08.8	+1.3
LSTV	**Lastovo**	2.77	205	*e*Pn	**Pn**	00 33 11.2	+1.8
SELS	**Selova**	2.79	137	*e*Pn	**Pn**	00 33 09.8	0.0
SOKA	**Soboth**	2.79	301	*e*Pn	**Pn**	00 33 09.5	-0.4
	1.1nm,0.2s,SNR=7.3						
SOKA				*i* Sn	**Sn**	00 33 43.4	-0.4
	4.0nm,0.3s						
HERR	**Herculane**	2.80	97	⇑P	**Pn**	00 33 10.6	+0.7
PSZ	**Piszkesteto**	2.81	19	⇑P	**Pn**	00 33 09.0	-1.1
PSZ				⇓S	**Sn**	00 33 46.2	+2.1
BOVS	**Bovan**	2.82	125	*e*Pn	**Pn**	00 33 09.7	-0.5
BOVS				*e*Sn	**Sn**	00 33 42.1	-2.2
HCY	**Herceg Novi**	2.83	180	*e*Pn	**Pn**	00 33 11.6	+1.2
HCY				*e*Sn	**Sn**	00 33 45.4	+0.8
ARSA	**Arzberg**	2.86	315	*e*Pn	**Pn**	00 33 10.6	-0.1
	3.7nm,0.3s,SNR=9.7						
ARSA				*e*Sn	**Sn**	00 33 43.6	-1.6
	2.8nm,0.2s						
ARSA	**Arzberg**	2.86	315	⇑*i*Pn	**Pn**	00 33 10.7	0.0
ARSA				*e*Sn	**Sn**	00 33 45.4	+0.2
RONA	**Rosalia, Austr**	2.86	329	*e*Pn	**Pn**	00 33 11.0	+0.2
	2.2nm,0.1s,SNR=9.0						
RONA				*e*Sn	**Sn**	00 33 45.0	-0.4
	1.5nm,0.2s						
PDG	**Podgorica**	2.90	169	*e*Pn	**Pn**	00 33 12.0	+0.7
PDG				*e*Sn	**Sn**	00 33 47.5	+1.3
PDG	**Podgorica**	2.90	169	*e*Pn	**Pn**	00 33 12.4	+1.1
PDG				*e*Sn	**Sn**	00 33 46.7	+0.5
PDG	**Podgorica**	2.90	169	⇑P	**Pn**	00 33 10.0	-1.2
PDG				⇓S	**Sn**	00 33 47.3	+1.1
GZR	**Gura Zlata**	3.02	86	⇑P	**Pn**	00 33 13.8	+0.9
OBKA	**Obir**	3.02	295	*i* Pn	**Pn**	00 33 12.9	-0.2
	1.6nm,0.2s						
OBKA				*e*Sn	**Sn**	00 33 50.5	+1.1
	5.4nm,0.6s						
OBKA				*e*Sg	**Sg**	00 34 02.8	+0.7
	8.1nm,0.4s						
OBKA	**Obir**	3.02	295	*e*Pn	**Pn**	00 33 13.4	+0.3
OBKA				*e*Sn	**Sn**	00 33 49.6	+0.2
ZAGS	**Zajecar**	3.04	118	*e*Pn	**Pn**	00 33 12.9	-0.4
ZAGS				*e*Sn	**Sn**	00 33 48.3	-1.5
MODS	**Modra-Piesok**	3.21	345	*e*PN	**Pn**	00 33 16.0	+0.5
MODS				*e*PG	**Pg**	00 33 24.9	-1.6
CONA	**Conrad Observa**	3.21	326	*i* Pn	**Pn**	00 33 15.7	0.0
	2.4nm,0.2s,SNR=11						
CONA				*i* Sn	**Sn**	00 33 53.8	-0.3
	2.9nm,0.3s						
VYHS	**Vyhne**	3.22	4	*e*Pn	**Pn**	00 33 16.3	+0.5
VYHS				*e*PG	**Pg**	00 33 27.8	+1.0
VYHS				*e*SG	**Sg**	00 34 09.4	+0.9
DRGR		3.30	61	*e*Pn	**Pn**	00 33 16.0	-0.8
DRGR				*e*Sn	**Sn**	00 33 53.6	-2.5
DRGR		3.30	61	⇑P	**Pn**	00 33 17.6	+0.7
BARS	**Barje**	3.43	135	*e*Pn	**Pn**	00 33 18.9	+0.3
BARS				*e*Sn	**Sn**	00 33 58.8	-0.5
MARR	**Marisel-Cluj**	3.51	65	⇓P	**Pn**	00 33 20.7	+1.0
ZAPS	**Zavoj**	3.58	123	*e*Pn	**Pn**	00 33 20.8	+0.1
ZAPS				*e*Sn	**Sn**	00 34 01.1	-2.0
MOA	**Molln**	3.89	313	*i* Pn	**Pn**	00 33 25.8	+0.8
	1.2nm,0.2s,SNR=5.6						
MOA				*i* Sn	**Sn**	00 34 09.9	-0.8
	3.3nm,0.3s						
MOA	**Molln**	3.89	313	*e*Pn	**Pn**	00 33 25.4	+0.5
BOSS	**Bosilegrad**	4.00	133	*e*Pn	**Pn**	00 33 26.5	+0.1
KRUC	**Moravsky**	4.05	340	*e*Pn	**Pn**	00 33 25.0	-2.1
KRUC				*e*SN	**Sn**	00 34 12.6	-1.9
BIOA	**Bad Ischl, Aus**	4.14	307	*i* Pn	**Pn**	00 33 28.9	+0.6
	2.0nm,0.3s						
BIOA				*i* Sn	**Sn**	00 34 15.7	-1.1
	2.8nm,0.2s						
VRAC	**Vranov**	4.23	343	*e*PN	**Pn**	00 33 26.9	-2.7
VRAC				*e*SN	**Sn**	00 34 17.0	-2.1
VTS	**Vitosha**	4.33	126	*e*Pn	**Pn**	00 33 31.2	+0.1
KOLS	**Kolonicke sedl**	4.47	34	*e*PG	**Pg**	00 33 52.0	+1.4
KOLS				*e*SN	**Sn**	00 34 24.1	-0.8
KHC	**Kasperske Hory**	5.11	321	*e*PN	**Pn**	00 33 42.2	+0.5
KHC				*e*SN	**Sn**	00 34 39.1	-1.6

*ATH **06** 00:45:17.3, 37°.48N×20°.43E, $h9^{km}\pm1^{km}$, ML3.3/2, Error ellipse: s-maj=2.6km s-min=1.1km az=49.0*
*THE **06** 00:45:17.8, 37°.48N×20°.51E, $h0^{km}\pm2^{km}$, ML3.5/12, Error ellipse: s-maj=2.8km s-min=0.9km az=217.0*
*IDC **06** 00:45:18.1±1.3, 37°.73N×20°.62E, $h0^{km}$, mb3.4/8, mbtmp3.4/11, ML3.6/2, Error ellipse: s-maj=24.0km s-min=22.7km az=97.0*
ISC 06 00:45:19.3±1.3, 37°.55N±0°.04×20°.54E±0°.04, $h15^{km}\pm7^{km}$, n44, σ1°.23/69, mb3.3/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	0.24	63	P	**Pg**	00 45 24.2	-0.5
KRI1				S	**Sb**	00 45 28.2	-1.3
	11μm,0.5s						
LTHK	**Lithakia**	0.28	56	P	**Pg**	00 45 24.8	-0.6
LTHK				S	**Sb**	00 45 29.8	-0.7
	10μm,0.4s						
LTHK	**Lithakia**	0.28	56	P	**Pg**	00 45 24.7	-0.6
LTHK				S	**Sb**	00 45 29.7	-0.9
LTHK				AML	AML	00 45 30.9	
	comp=N,17500μm,0.3s						
LTHK				AML	AML	00 45 32.2	
	comp=E,15111μm,0.3s						
RTZL	**Ratzakli, Kefa**	0.55	19	P	**Pg**	00 45 29.7	-0.6
RTZL				S	**Sb**	00 45 38.6	+0.2
	comp=E,5μm,0.5s						
PSDA	**Pessada-Kefalo**	0.56	3	P	**Pg**	00 45 29.8	-0.6
PSDA				S	**Sb**	00 45 39.2	+0.6
	comp=E,4μm,0.6s						
PSDA	**Pessada-Kefalo**	0.56	3	P	**Pg**	00 45 29.6	-0.8
PSDA				S	**Sg**	00 45 37.5	-0.4
VLS	**Valsamata**	0.62	3	P	**Pg**	00 45 31.0	-0.6
VLS				S	**Sb**	00 45 41.4	+0.9
	comp=E,3μm,0.4s						
VLS	**Valsamata**	0.62	3	P	**Pg**	00 45 30.8	-0.8
VLS				S	**Sb**	00 45 40.9	+0.4
VLS				AML	AML	00 45 45.1	
	comp=E,5206μm,0.5s						
VLS				AML	AML	00 45 48.7	
	comp=N,4833μm,0.4s						
LXRA	**Lixouri, Kepha**	0.65	353	P	**Pg**	00 45 31.4	-0.7
LXRA				S	**Sb**	00 45 41.3	+0.1
DMLN	**Damoulianata-K**	0.70	349	P	**Pb**	00 45 33.0	-0.2
DMLN				S	**Sb**	00 45 43.1	+0.5
	comp=N,5μm,0.5s						
DMLN	**Damoulianata-K**	0.70	349	P	**Pg**	00 45 30.6	-2.4
DMLN				S	**Sg**	00 45 41.4	-0.9
SMHA	**Samh**	0.70	7	P	**Pg**	00 45 31.8	-1.3
SMHA				S	**Sb**	00 45 42.7	+0.1
VSK1	**VASILIKIADES**	0.85	1	P	**Pb**	00 45 34.8	-1.1
RLS	**Riolos of Patr**	0.89	55	P	**Pg**	00 45 35.8	-0.8
RLS				S	**Sn**	00 45 49.9	+0.1
	comp=N,2μm,0.6s						
RLS	**Riolos of Patr**	0.89	55	P	**Pb**	00 45 35.7	-0.7
RLS				S	**Sn**	00 45 49.2	-0.6
FSK	**Fiskardo**	0.91	1	P	**Pb**	00 45 35.8	-0.9
FSK				S	**Sn**	00 45 50.5	+0.3
	comp=N,2μm,1.1s						
FSK	**Fiskardo**	0.91	1	P	**Pb**	00 45 35.4	-1.3
FSK				S	**Sn**	00 45 49.7	-0.5
AMT	**Artemida-Makis**	0.93	91	P	**Pb**	00 45 35.9	-1.2
AMT				S	**Sn**	00 45 51.2	+0.3
DRO	**Drossia**	1.01	66

0.4nm,0.3s,baz=130,slow=16,SNR=5.7
2.0nm,0.7s
SONM Songino Array 27.41 302 P **P 01 00 08.6 +0.3**
0.3nm,0.7s,baz=97,slow=7.4,SNR=2.1
0.3nm,0.7s
H11N2 WAKE ISLAND Hy 28.50 123 T T 01 30 32.2
baz=316,slow=76,SNR=37
H11N1 WAKE ISLAND Hy 28.51 123 T T 01 30 32.9
baz=316,slow=76,SNR=35
H11N3 WAKE ISLAND Hy 28.52 123 T T 01 30 33.6
baz=316,slow=76,SNR=33
H11S1 WAKE ISLAND Hy 29.25 125 T T 01 31 26.8
baz=317,slow=76,SNR=68
H11S3 WAKE ISLAND Hy 29.26 125 T T 01 31 28.2
baz=317,slow=76,SNR=77
H11S2 WAKE ISLAND Hy 29.27 125 T T 01 31 30.9
baz=317,slow=76,SNR=46
ZALV Zalesovo Beam 41.37 311 P **P 01 02 07.8 -0.6**
0.8nm,0.4s,baz=91,slow=8.3,SNR=5.1
0.8nm,0.4s
MKAR Makanchi Array 43.77 301 P **P 01 02 27.8 -0.3**
0.4nm,0.6s,baz=84,slow=8.8,SNR=5.3
0.4nm,0.6s
KURBB Kurchatov Arra 45.54 307 P **P 01 02 41.8 -0.2**
0.8nm,0.4s,baz=80,slow=8.2,SNR=10
0.8nm,0.4s
BVAR Borovoye Array 50.02 312 P **P 01 03 16.4 -0.3**
0.5nm,0.5s,baz=64,slow=10,SNR=3.1
0.5nm,0.5s
WRA Warramunga Arr 58.25 188 P **P 01 04 16.8 -0.1**
0.2nm,0.4s,baz=5.4,slow=6.8,SNR=6.5
0.2nm,0.4s

*THE **06** 00:59:15.7, 37°.63N×20°.51E, h10km±1km, ML3.1/10, Error ellipse: s-maj=2.1km s-min=0.7km az=48.0*
*ATH **06** 00:59:15.7, 37°.62N×20°.51E, h8km±1km, ML2.9/12, Error ellipse: s-maj=2.0km s-min=0.7km az=41.0*
ISC 06 00:59:15.8±1.5, 37°.64N±0°.05×20°.52E±0°.05, h13km±7km, n39, σ0s59/67, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res ISC
KRI1	**kERI**	**0.24**	**83**	P		**Pg**	**00 59 21.0**	**+0.1**
KRI1				S		**Sg**	**00 59 24.6**	**+0.3**
9μm,0.3s								
LTHK	**Lithakia**	**0.26**	**74**	P		**Pg**	**00 59 21.1**	**-0.2**
LTHK				S		**Sg**	**00 59 24.8**	**-0.2**
5μm,0.3s								
LTHK	**Lithakia**	**0.26**	**74**	P		**Pg**	**00 59 21.1**	**-0.2**
LTHK				S		**Sg**	**00 59 24.6**	**-0.4**
LTHK				AML		AML	00 59 25.2	
comp=E,8256μm,0.4s								
LTHK				AML		AML	00 59 25.4	
comp=N,11322μm,0.3s								
PSDA	**Pessada-Kefalo**	**0.48**	**6**	P		**Pg**	**00 59 25.2**	**-0.1**
PSDA				S		**Sg**	**00 59 32.6**	**+0.9**
comp=N,3μm,0.3s								
PSDA	**Pessada-Kefalo**	**0.48**	**6**	P		**Pg**	**00 59 25.1**	**-0.1**
PSDA				S		**Sg**	**00 59 31.9**	**+0.2**
RTZL	**Ratzakli, Kefa**	**0.48**	**24**	P		**Pg**	**00 59 25.2**	**-0.1**
RTZL				S		**Sg**	**00 59 32.1**	**+0.3**
comp=N,4μm,0.4s								
VLS	**Valsamata**	**0.54**	**6**	P		**Pg**	**00 59 26.1**	**-0.3**
VLS				S		**Sg**	**00 59 34.5**	**+0.8**
comp=N,3μm,0.4s								
VLS	**Valsamata**	**0.54**	**6**	P		**Pg**	**00 59 26.1**	**-0.3**
VLS				S		**Sg**	**00 59 33.9**	**+0.2**
VLS				AML		AML	00 59 34.7	
comp=E,8308μm,0.3s								
VLS				AML		AML	00 59 40.9	
comp=N,3606μm,0.4s								
LXRA	**Lixouri, Kepha**	**0.57**	**353**	P		**Pg**	**00 59 27.1**	**+0.2**
LXRA				S		**Sb**	**00 59 35.3**	**-0.2**
LXRA				AML		AML	00 59 39.5	
comp=E,7325μm,0.3s								
LXRA				AML		AML	00 59 42.1	
comp=N,7705μm,0.7s								
DMLN	**Damoulianata-K**	**0.61**	**349**	P		**Pg**	**00 59 27.6**	**-0.2**
DMLN				S		**Sb**	**00 59 37.2**	**+0.3**
comp=N,3μm,0.4s								
DMLN	**Damoulianata-K**	**0.61**	**349**	P		**Pg**	**00 59 27.6**	**-0.2**
DMLN				S		**Sg**	**00 59 36.4**	**+0.4**
SMHA	**Samh**	**0.62**	**9**	P		**Pg**	**00 59 27.0**	**-1.0**
SMHA				S		**Sg**	**00 59 36.5**	**+0.3**
SMHA				AML		AML	00 59 37.5	
comp=E,11672μm,0.2s								
SMHA				AML		AML	00 59 39.1	
comp=N,10838μm,0.4s								
VSK1	**VASILIKIADES**	**0.77**	**3**	P		**Pg**	**00 59 30.2**	**-0.6**
VSK1				S		**Sb**	**00 59 41.9**	**+0.4**
comp=N,2μm,0.2s								
FSK	**Fiskardo**	**0.82**	**2**	P		**Pg**	**00 59 30.9**	**-0.8**
FSK				S		**Sg**	**00 59 43.0**	**+0.5**
comp=N,885nm,0.2s								
FSK	**Fiskardo**	**0.82**	**2**	P		**Pg**	**00 59 31.1**	**-0.7**
FSK				S		**Sg**	**00 59 42.5**	**0.0**
FSK				AML		AML	00 59 45.0	
comp=N,1537μm,0.2s								
FSK				AML		AML	00 59 46.0	
comp=E,1858μm,0.2s								
RLS	**Riolos of Patr**	**0.86**	**60**	P		**Pg**	**00 59 32.0**	**-0.4**
RLS				S		**Sb**	**00 59 44.6**	**+0.6**
comp=E,412nm,0.5s								
RLS	**Riolos of Patr**	**0.86**	**60**	P		**Pg**	**00 59 31.9**	**-0.6**
RLS				S		**Sg**	**00 59 43.9**	**+0.2**
RLS				AML		AML	00 59 46.2	
comp=N,1008μm,0.3s								
RLS				AML		AML	00 59 48.3	
comp=E,641μm,0.6s								
AMT	**Artemida-Makis**	**0.95**	**96**	P		**Pg**	**00 59 33.8**	**-0.3**
AMT				S		**Sb**	**00 59 47.1**	**+0.5**
AMT				AML		AML	00 59 56.5	
comp=E,3944μm,0.4s								
AMT				AML		AML	00 59 59.0	
comp=N,3419μm,0.4s								
EVGI	**Lefkada island**	**0.99**	**6**	P		**Pg**	**00 59 33.9**	**-1.0**
EVGI				S		**Sb**	**00 59 49.0**	**+1.3**
comp=N,885nm,0.3s								
EVGI	**Lefkada island**	**0.99**	**6**	P		**Pg**	**00 59 33.8**	**-1.1**
EVGI				S		**Sg**	**00 59 48.1**	**+0.3**
DRO	**Drossia**	**1.00**	**71**	P		**Pg**	**00 59 34.2**	**-0.8**
DRO	**Drossia**	**1.00**	**71**	P		**Pg**	**00 59 34.1**	**-0.8**
DRO				S		**Sb**	**00 59 48.7**	**+0.8**
DRO				AML		AML	00 59 54.3	
comp=E,1369μm,0.7s								
DRO				AML		AML	00 59 56.3	
comp=N,690μm,0.3s								
DRAG	**Dragano-Lefkad**	**1.05**	**2**	P		**Pg**	**00 59 34.8**	**-1.2**
DRAG	**Dragano-Lefkad**	**1.05**	**2**	P		**Pg**	**00 59 34.8**	**-1.2**
DRAG				S		**Sb**	**00 59 50.5**	**+1.1**
NYDR	**Nydri-Lefkada**	**1.09**	**7**	P		**Pg**	**00 59 35.5**	**-1.2**
NYDR	**Nydri-Lefkada**	**1.09**	**7**	P		**Pg**	**00 59 35.7**	**-1.0**
NYDR				S		**Sg**	**00 59 50.8**	**-0.1**
LKD2	**Lefkada island**	**1.16**	**5**	P		**Pb**	**00 59 38.1**	**+0.4**
LKD2				S		**Sb**	**00 59 53.3**	**+0.7**
LKD2				AML		AML	01 00 02.8	
comp=E,1028μm,0.5s								
LKD2				AML		AML	01 00 04.0	
comp=N,728μm,0.4s								
TSLK	**Tsoukalades, L**	**1.19**	**5**	P		**Pb**	**00 59 37.6**	**-0.6**
TSLK	**Tsoukalades, L**	**1.19**	**5**	P		**Pb**	**00 59 37.6**	**-0.6**
TSLK				S		**Sb**	**00 59 53.9**	**+0.4**
UPR	**University Cam**	**1.19**	**57**	P		**Pb**	**00 59 37.9**	**-0.3**
ITM	**Ithomi**	**1.21**	**112**	P		**Pb**	**00 59 38.6**	**+0.1**
ITM				S		**Sb**	**00 59 53.9**	**-0.2**
ITM				AML		AML	01 00 05.3	
comp=N,511μm,0.8s								
ITM				AML		AML	01 00 08.2	
comp=E,472μm,1.1s								
PYL	**PYLOS**	**1.22**	**127**	P		**Pn**	**00 59 38.6**	**0.0**
PYL				S		**Sb**	**00 59 54.9**	**+0.4**
PYL				AML		AML	00 59 59.2	
comp=E,442μm,0.5s								
PYL				AML		AML	01 00 01.4	
comp=N,318μm,0.7s								
EFP	**Efpalio**	**1.35**	**54**	P		**Pn**	**00 59 40.2**	**0.0**
KLV	**Kalavryta, Ach**	**1.35**	**72**	P		**Pn**	**00 59 40.4**	**0.0**
KLV	**Kalavryta, Ach**	**1.35**	**72**	P		**Pn**	**00 59 40.5**	**0.0**
ANX	**Ano Chora**	**1.46**	**49**	P		**Pn**	**00 59 42.2**	**+0.3**
ANX	**Ano Chora**	**1.46**	**49**	P		**Pn**	**00 59 42.2**	**+0.3**
GUR	**Goura**	**1.48**	**78**	P		**Pn**	**00 59 42.0**	**-0.1**
GUR				S		**Sn**	**01 00 01.6**	**+0.3**
GUR				AML		AML	01 00 16.4	
comp=N,706μm,0.6s								
GUR				AML		AML	01 00 18.4	
comp=E,368μm,0.4s								
KALE	**Kalithea**	**1.49**	**59**	P		**Pn**	**00 59 41.7**	**-0.5**

*IDC **06** 01:00:12.9±0.9, 8°.23S×116°.93E, h0km, mb3.9/9, mbtmp4.0/11, ML4.0/2, MS3.1/4, Error ellipse: s-maj=33.6km s-min=11.0km az=51.0*
*NEIC **06** 01:00:13.3±1.9, 8°.41S±0°.09×116°.47E±0°.06, h10km±1km, mb4.5/15, Error ellipse: s-maj=15.4km s-min=10.2km az=2.0*
*DJA **06** 01:00:14.0±0.2, 8°.5S±4°×11°.7E±°, h10km, M4.6/19, mb4.6/7, mB4.9/1, MLv4.5/19, Mw(mB)4.2/1*
ISC 06 01:00:13.6±0.4, 8°.52S±0°.05×116°.57E±0°.04, h10km, n67, σ1s79/74, mb4.4/19, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res ISC
PLAI	**Plampang**	**1.23**	**105**	P		**Pb**	**01 00 37.2**	**+0.2**
PLAI				S		**Sn**	**01 00 54.0**	**+0.3**
DNP	**Denpasar**	**1.35**	**263**	P		**Pg**	**01 00 40.0**	**+0.3**
SRBI	**Singaraja**	**1.41**	**288**	P		**Pn**	**01 00 38.4**	**-1.0**
SRBI				S		**Sn**	**01 00 57.1**	**-0.9**
JAGI	**Jajag, Banyuwa**	**2.39**	**271**	Pn		**Pn**	**01 00 52.4**	**-0.6**
JAGI	**Jajag, Banyuwa**	**2.39**	**271**	P		**Pn**	**01 00 52.3**	**-0.6**
ABJI	**Asem Bagus**	**2.42**	**287**	P		**Pn**	**01 00 53.9**	**+0.6**
KMMI	**Kalianget**	**2.96**	**299**	P		**Pn**	**01 01 01.0**	**+0.3**
WBSI	**Waikabubak, Su**	**3.00**	**112**	P		**Pn**	**01 01 02.6**	**+1.3**
BLJI	**Banyuglugur**	**3.04**	**284**	P		**Pn**	**01 01 03.1**	**+1.2**
GMJI	**Gumukmas**	**3.10**	**274**	P		**Pn**	**01 01 03.1**	**+0.4**
BSSI	**Bau Bau, Buton**	**4.55**	**59**	P		**Pn**	**01 01 21.6**	**-1.0**
KAPI	**Kappang**	**4.70**	**42**	Pn		**Pn**	**01 01 23.2**	**-1.5**
KAPI	**Kappang**	**4.70**	**42**	Pn		Pn	01 01 17.2	-7.4
8.4nm,0.3s,baz=146,slow=15,SNR=1.9								
KAPI				Sn		**Sn**	**01 02 13.2**	**-6.0**
15nm,0.3s,baz=229,slow=20,SNR=6.1								
KAPI				LR		LR	01 02 40.2	
comp=Z,53nm,21.7s,baz=192,slow=35								
21nm,0.3s								
PWJI	**Pagerwojo**	**4.74**	**276**	P		**Pn**	**01 01 25.3**	**+0.1**
BKSI	**Bulukumba**	**4.74**	**48**	P		**Pn**	**01 01 24.0**	**-1.3**
PCJI	**Pacitan**	**5.35**	**273**	P		**Pn**	**01 01 33.4**	**-0.1**
171nm,1.2s,0.6nm								
BNSI	**Bone**	**5.39**	**41**	P		**Pn**	**01 01 32.9**	**-1.3**
69nm,1.2s,1μm0.4nm								
MMRI	**Maumere**	**5.61**	**92**	Pn		**Pn**	**01 01 37.9**	**+0.7**
UGM	**Wanagama**	**6.02**	**275**	Pn		**Pn**	**01 01 40.9**	**-1.9**
UGM	**Wanagama**	**6.02**	**275**	P		**Pn**	**01 01 43.3**	**+0.5**
BATI	**Baumata**	**7.20**	**104**	Pn		**Pn**	**01 02 01.1**	**+2.1**
6.1nm,0.3s,baz=281,slow=17,SNR=2.6								
BATI				Sn		**Sn**	**01 03 22.8**	**+1.8**
3.6nm,0.3s,baz=9.0,slow=19,SNR=1.1								
KPJI	**Karang Pucung**	**7.66**	**278**	P		**Pn**	**01 02 05.8**	**+0.5**
24nm,0.7s								
SOEI	**Soe**	**7.70**	**100**	Pn		**Pn**	**01 02 06.2**	**+0.2**
SOEI	**Soe**	**7.70**	**100**	P		**Pn**	**01 02 07.5**	**+1.5**
52nm,0.8s,0.2nm								
MBWA	**Marble Bar**	**12.94**	**167**	Pn		**Pn**	**01 03 16.1**	**-1.5**
FITZ	**Fitzroy Crossi**	**12.98**	**138**	Pn		**Pn**	**01 03 18.2**	**-0.1**
0.6nm,0.3s,baz=340,slow=14,SNR=11								
FITZ				Sn		**Sn**	**01 05 36.8**	**-6.1**
0.5nm,0.3s,baz=10,slow=19,SNR=3.4								
FITZ				LR		LR	01 08 08.1	
comp=Z,92nm,20.4s,baz=334,slow=37								
3.4nm,0.6s								
PSA00	**Pilbara Seismi**	**13.36**	**167**	Pn		**Pn**	**01 03 22.4**	**-1.0**
KNRA	**Kununurra**	**13.88**	**122**	Pn		**Pn**	**01 03 30.5**	**-0.1**
GIRL	**Giralia**	**14.22**	**189**	Pn		**Pn**	**01 03 35.2**	**0.0**
DAV	**Davao City (W)**	**17.90**	**30**	LR		LR	01 12 48.5	
comp=Z,74nm,18.5s,baz=332,slow=43								
WB0	**Warramunga Arr**	**20.56**	**125**	P		**P**	**01 04 53.0**	**+0.3**
WB0				IAmb		IAmb	01 04 57.6	
comp=Z,9.1nm,0.8s								
WRA	**Warramunga Arr**	**20.61**	**125**	P		**P**	**01 04 53.3**	**0.0**
WRA	**Warramunga Arr**	**20.61**	**125**	P		**P**	**01 04 53.2**	**0.0**
comp=Z,4.6nm,0.5s,baz=301,slow=12,SNR=45								
WRA				S		**S**	**01 08 42.1**	**-1.6**
comp=Z,0.3nm,0.5s,baz=306,slow=20,SNR=2.3								
comp=Z,4.6nm,0.5s								
WRAB	**Tennant Creek**	**20.61**	**125**	P		**P**	**01 04 53.8**	**+0.5**
WRAB				IAmb		IAmb	01 04 58.4	
comp=Z,8.8nm,0.8s								
WB2	**Warramunga Arr**	**20.62**	**125**	P		**P**	**01 04 53.7**	**+0.3**
WB2				IAmb		IAmb	01 04 57.9	
comp=Z,8.6nm,0.8s								
WR0	**Warramunga Arr**	**20.78**	**125**	P		**P**	**01 04 55.6**	**+0.5**
WR0				IAmb		IAmb	01 04 58.2	
comp=Z,13nm,0.6s								
AS31	**Alice Springs**	**22.42**	**134**	P		**P**	**01 05 12.2**	**-0.5**
ASAR	**Alice Springs**	**22.42**	**134**	P		**P**	**01 05 12.4**	**-0.3**
ASAR	**Alice Springs**	**22.42**	**134**	P		**P**	**01 05 13.2**	**+0.5**
comp=Z,9.0nm,1.0s,baz=319,slow=9.1,SNR=27								
ASAR				S		**S**	**01 09 22.4**	**+3.3**
comp=Z,1.1nm,0.9s,baz=307,slow=22,SNR=2.4								
comp=Z,9.0nm,1.0s								
NWAO	**Narrogin (SRO)**	**24.30**	**179**	LR		LR	01 14 49.2	
comp=Z,116nm,19.0s,baz=53,slow=36								
FORT	**Forrest**	**24.61**	**156**	P		**P**	**01 05 35.1**	**+0.8**
FORT				IAmb		IAmb	01 05 57.3	
comp=Z,36nm,1.1s								
COEN	**Coen**	**26.64**	**104**	P		**P**	**01 05 52.6**	**-0.2**
COEN				IAmb		IAmb	01 06 03.2	
comp=Z,27nm,1.4s								
BBOO	**Buckleboo**	**30.17**	**146**	P		**P**	**01 06 23.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**31.95**	**327**	P		**P**	**01 06 39.6**	**-0.3**
comp=Z,1.1nm,0.3s,baz=152,slow=7.2,SNR=5.3								
comp=Z,1.1nm,0.3s								
STKA	**Stephens Creek**	**32.88**	**138**	P		**P**	**01 06 48.8**	**+0.8**
STKA	**Stephens Creek**	**32.88**	**138**	P		**P**	**01 06 48.5**	**+0.6**
comp=Z,2.7nm,0.7s,baz=316,slow=12,SNR=4.2								
comp=Z,2.7nm,0.7s								
PZH	**PanZhiHua**	**37.67**	**338**	P		**P**	**01 07 30.9**	**+1.5**
PZH				pmax		pmax		
comp=Z,10.0nm,1.1s								
PZH				pmax		pmax		
comp=Z,100nm,5.6s								
NJ2	**Nanjing**	**40.40**	**3**	*e*P		**P**	**01 07 53.6**	**+1.6**
NJ2				pP		**sP**	**01 07 56.3**	**-0.7**
NJ2				pmax		pmax		
comp=Z,5.0nm,0.5s								
LZH	**Lanzhou**	**45.95**	**346**	*e*P		**P**	**01 08 35.3**	**-1.8**
LZH				sP		sP	01 08 41.6	-0.5
LZH				pmax		pmax		
comp=Z,18nm,1.1s								
BTO	**Baotou**	**49.25**	**353**	*e*P		**P**	**01 09 06.8**	**+4.2**
BTO				pP		**sP**	**01 09 11.5**	**+3.9**
BTO				sP		pP	01 09 13.9	+7.7
BTO				PP		**PP**	**01 11 01.7**	**+5.1**
BTO				pmax		pmax		
comp=Z,23nm,0.7s								
BTO				pmax		pmax		
comp=Z,300nm,5.7s								
HHC	**Hu-ho-hao-te**	**49.34**	**355**	*e*P		**P**	**01 09 05.8**	**+2.6**
HHC				pmax		pmax		
comp=Z,22nm,0.6s								
HHC				pmax		pmax		
comp=Z,120nm,4.9s								
USRK	**Ussuriysk Ar.**	**54.30**	**14**	P		**P**	**01 09 39.6**	**-0.5**
USRK	**Ussuriysk Ar.**	**54.30**	**14**	P		**P**	**01 09 39.2**	**-0.8**
comp=Z,1.6nm,0.5s,baz=183,slow=6.1,SNR=3.1								
comp=Z,1.6nm,0.5s								
SONM	**Songino Array**	**56.82**	**352**	P		**P**	**01 09 58.1**	**-0.2**
comp=Z,0.6nm,0.6s,baz=178,slow=8.7,SNR=5.2								
comp=Z,0.6nm,0.6s								
WMQ	**Urumqi**	**58.30**	**336**	*e*P		**P**	**01 10 07.8**	**-1.0**
WMQ				pmax		pmax		
comp=Z,14nm,0.9s								
WMQ				LR		LR		
comp=N,400nm,13.3s								
WMQ				LR		LR		
comp=E,420nm,16.7s								
WMQ				LR		LR		
comp=Z,160nm,16.7s								
MKAR	**Makanchi Array**	**62.96**	**334**	P		**P**	**01 10 39.1**	**-1.3**
MKAR	**Makanchi Array**	**62.96**	**334**	P		**P**	**01 10 40.1**	**-0.3**
comp=Z,1.2nm,0.9s,baz=147,slow=5.0,SNR=2.7								
comp=Z,1.2nm,0.9s								
KURBB	**Kurchatov Arra**	**67.49**	**335**	P		**P**	**01 11 09.9**	**+0.1**
comp=Z,0.3nm,0.8s,baz=140,slow=5.5,SNR=1.7								
comp=Z,0.3nm,0.8s								
ZALV	**Zalesovo Beam**	**67.76**	**340**	P		**P**	**01 11 10.8**	**-0.6**
ZALV	**Zalesovo Beam**	**67.76**	**340**	P		**P**	**01 11 10.6**	**-0.7**
comp=Z,0.4nm,0.3s,baz=143,slow=5.0,SNR=2.4								
comp=Z,0.4nm,0.3s								
ABPO	**Ambohimpanom**	**67.80**	**253**	P		**P**	**01 11 10.9**	**-1.7**
ABPO				IAmb		IAmb	01 11 34.8	
comp=Z,12nm,1.4s								
ABKAR	**Akbulak array**	**75.80**	**326**	P		**P**	**01 11 56.8**	**-3.0**
ABKAR	**Akbulak array**	**75.80**	**326**	P		**P**	**01 11 56.4**	**-3.4**
ABKAR				IAmb		IAmb	01 11 57.6	
comp=Z,3.6nm,1.4s								
BOSA	**Boshof**	**87.13**	**242**	P		**P**	**01 13 00.0**	**-0.5**
SNAA	**Sanae**	**90.81**	**196**	P		**P**	**01 13 17.3**	**+0.4**
SNAA				IAmb		IAmb	01 13 35.7	
comp=Z,1.9nm,0.9s								
M19K	**Big River Lodg**	**96.99**	**28**	P		**P**	**01 13 44.9**	**-0.5**
TORD	**Torodi Ar. Bea**	**116.01**	**280**	PKP		**PKiKP**	**01 18 59.5**	**+1.6**
comp=Z,0.6nm,0.5s,baz=68,slow=2.0,SNR=6.2								

*IDC **06** 01:04:52.8±2.5, 60°.67N×168°.09E, h0km, mb3.6/6, mbtmp3.8/7, ML4.4/1, MS2.8/3, Error ellipse: s-maj=87.5km s-min=21.4km az=11.0*
*KRSC **06** 01:04:52.0±1.3, 61°.38N×169°.08E, h20km±9km, Ml4.2*
ISC 06 01:04:57.7±0.9, 61°.45N±0°.08×168°.42E±0°.09, h14km, n13, σ1s01/12, mb3.7/5, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res ISC
KMSK	**Kamenskaya**	**1.46**	**315**	*e*P		**Pn**	**01 05 22.5**	**-1.0**
TILK	**Tilichiki**	**1.50**	**229**	*e*P		**Pn**	**01 05 23.1**	**-1.1**
TILK				*e*S		**Sn**	**01 05 44.0**	**+0.6**
OSSR	**Ossora**	**3.46**	**233**	*e*P		**Pn**	**01 05 50.4**	**-0.6**
KBTR	**Krutoberegovo**	**6.01**	**211**	*e*P		**Pn**	**01 06 25.9**	**-0.1**
PETK	**Petropavlovsk-**	**10.17**	**219**	LR		LR	01 11 05.3	
comp=Z,24nm,18.0s,baz=30,slow=39								
YAK	**Yakutsk**	**18.17**	**289**	LR		LR	01 16 03.2	
comp=Z,52nm,19.3s,baz=336,slow=37								
TIXI	**Tiksi**	**18.34**	**320**	P		**Pn**	**01 09 13.2**	**+2.1**
1.1nm,0.3s,baz=107,slow=9.3,SNR=3.2								
TIXI				LR		LR	01 17 42.7	
comp=Z,29nm,19.4s,baz=10,slow=41								
3.5nm,0.3s								
ILAR	**Eielson Array**	**20.15**	**61**	P		**Pn**	**01 09 33.0**	**0.0**
3.3nm,0.7s,baz=271,slow=9.3,SNR=23								
3.3nm,0.7s								
KURBB	**Kurchatov Arra**	**47.41**	**300**	P		**P**	**01 13 30.3**	**-0.8**
0.6nm,0.6s,baz=44,slow=8.0,SNR=3.7								
0.6nm,0.6s								
BVAR	**Borovoye Array**	**48.82**	**307**	P		**P**	**01 13 41.8**	**-0.1**
1.5nm,0.8s,baz=60,slow=8.5,SNR=6.1								
1.5nm,0.8s								
NVAR	**Mina Array Bea**	**49.35**	**82**	P		**P**	**01 13 45.6**	**-0.8**
0.5nm,0.8s,baz=310,slow=7.0,SNR=2.3								
0.5nm,0.8s								
PDAR	**Pinedale Array**	**50.02**	**72**	P		**P**	**01 13 52.2**	**+0.7**
0.6nm,0.7s,baz=311,slow=5.8,SNR=5.7								
0.6nm,0.7s								
TXAR	**Lajitas Array**	**63.72**	**77**	P		**P**	**01 15 28.7**	**+0.1**
0.4nm,0.8s,baz=316,slow=5.0,SNR=3.8								
0.4nm,0.8s								

*ISK **06** 01:17:13.1, 42°.92N×43°.68E, h14km±1km, ML5.1/26*
*BJI **06** 01:17:16.5, 42°.57N×43°.05E, h23km, mb4.8/53, mB5.1/19, Ms4.5/26, Ms7 4.2/27*
*DRS **06** 01:17:16.3, 42°.75N×43°.22E, h15km*
*TIF **06** 01:17:17.3, 42°.50N×43°.60E, h5km±1km*
*IDC **06** 01:17:17.2±0.4, 42°.46N×43°.51E, h0km, mb4.5/27, mbtmp4.6/34, ML4.3/6, MS3.6/46, Error ellipse: s-maj=7.7km s-min=6.2km az=71.0*
*NORS **06** 01:17:17.9, 42°.46N×43°.50E, h2km, MPVA5.3*
*MOS **06** 01:17:18.5, 42°.48N×43°.51E, h6km, MPVA5.6*
*MCSM **06** 01:17:19.6±0.4, 43°.N±3°×4°.4E±°, h10km±2km, mB5.0, mb4.9, MLv5.3, Mw(mB)4.3*
*AFAD **06** 01:17:19.3±0.0, 42°.44N×43°.47E, h18km, MW4.6*
*NEIC **06** 01:17:19.8±1.2, 42°.53N±0°.04×43°.60E±0°.08, h10km±1km, mb5.0/237, Error ellipse: s-maj=10.0km s-min=6.5km az=64.0*
*NNC **06** 01:17:21.9±1.8, 42°.92N×44°.04E, h0km, mb5.1, Error ellipse: s-maj=33.3km s-min=16.5km az=114.0*
*GII **06** 01:17:22.9±0.9, 42°.46N×43°.61E, h10km, confirmed*
*NAO **06** 01:17:34.0, 43°.08N×41°.58E, h33km, mb4.7*
ISC 06 01:17:19.7±0.4, 42°.49N±0°.01×43°.60E±0°.01, h14km±2km, h14km:pP-P, n1245, σ1s30/1367, mb5.0/224, MS3.8/49, 33C-38D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res ISC
ALIG	**Mtskhetisjvari**	**0.39**	**174**	P		**Pg**	**01 17 25.6**	**-2.0**
ALIG				S		**Sg**	**01 17 32.1**	**-0.8**
ALIG	**Mtskhetisjvari**	**0.39**	**174**	PG		**Pg**	**01 17 25.6**	**-2.0**
ALIG				S		**Sg**	**01 17 32.1**	**-0.8**
DIGR	**Digorskoe uzhe**	**0.41**	**358**	*e*Pg		**Pg**	**01 17 26.4**	**-1.5**
DIGR				*e*Sg		**Sg**	**01 17 32.5**	**-1.1**
DIGR	**Digorskoe uzhe**	**0.41**	**358**	*e*PG		**Pg**	**01 17 26.5**	**-1.5**
DIGR				*e*S		**Sg**	**01 17 32.5**	**-1.1**
TKB	**Tkibuli**	**0.47**	**253**	P		**Pg**	**01 17 27.6**	**-1.4**
TKB				S		**Sg**	**01 17 35.2**	**-0.1**
TKB	**Tkibuli**	**0.47**	**253**	PG		**Pg**	**01 17 27.6**	**-1.4**
TKB				S		**Sg**	**01 17 35.2**	**-0.1**
LACR	**Lac**	**0.62**	**57**	*e*Pg		**Pg**	**01 17 30.0**	**-1.8**
LACR				*e*Sg		**Sg**	**01 17 38.9**	**-1.2**
LACR	**Lac**	**0.62**	**57**	*e*PG		**Pg**	**01 17 30.3**	**-1.5**
LACR				*e*S		**Sg**	**01 17 39.1**	**-0.9**
GUDG	**Gudauri**	**0.65**	**92**	P		**Pg**	**01 17 30.7**	**-1.9**
GUDG				S		**Sg**	**

GHRG Ghorjomi 1.20 231 P **Pn** **01 17 40.5 -1.9**
GHRG S **Sb** **01 17 57.9 +0.1**
BTNK Botanikuri 1.21 132 PG **Pn** **01 17 40.8 -1.4**
BTNK S **Sn** **01 17 58.6 +0.3**
KBTC Kuba-Taba 1.33 354 *e*Pg **Pb** **01 17 43.9 -0.6**
KBTC *e*Sg **Sb** **01 18 00.8 -0.6**
KBTC Kuba-Taba 1.33 354 *e*PG **Pg** **01 17 44.5 -0.9**
KBTC *e*S **Sg** **01 18 04.8 +2.1**
KBZ Khabaz 1.34 338 Pn **Pn** **01 17 43.5 -0.5**
comp=Z,356nm,0.3s,baz=175,slow=9.7,SNR=1722
KBZ Lg Lg 01 18 00.6
comp=Z,305nm,0.3s,baz=233,slow=15,SNR=6.1
KBZ Khabaz 1.34 338 *e*Pg **Pn** **01 17 43.2 -0.8**
KBZ *e*Sg **Sg** **01 18 02.1 -0.8**
KBZ Khabaz 1.34 338 *ce*PG **Pn** **01 17 42.9 -1.1**
PRTR Priterechnaya 1.35 21 *e*Pg **Pg** **01 17 44.9 -0.9**
PRTR *e*Sg **Sg** **01 18 05.2 +1.8**
PRTR Priterechnaya 1.35 21 *e*PG **Pg** **01 17 45.3 -0.5**
PRTR pmax pmax
comp=Z,4μm,0.8s
SHA1 Shidzhatmaz 1.42 331 *e*Pg **Pn** **01 17 44.9 -0.5**
SHA1 *e*Sg **Sb** **01 18 04.0 -0.3**
SHA1 Shidzhatmaz 1.42 331 *ce*PG **Pn** **01 17 44.7 -0.7**
TRKR Terskaya 1.48 34 *e*Pg **Pb** **01 17 46.8 -0.3**
TRKR *i* Sg **Sg** **01 18 07.7 +0.1**
TRKR Terskaya 1.48 34 *e*PG **Pb** **01 17 46.8 -0.3**
TRKR *i* S **Sg** **01 18 07.7 +0.1**
AHAN Ardahan-Merkez 1.51 209 P **Pn** **01 18 05.5 -0.1**
AHAN S **Sn** **01 18 06.3 +0.2**
KIV0 Kislovodsk Arr 1.60 336 *e*Pg **Pn** **01 17 48.0 +0.3**
KIV0 *e*Sg **Sn** **01 18 08.2 -0.2**
KVAR Kislovodsk Arr 1.60 336 Pn **Pb** **01 17 48.7 -0.5**
baz=252,slow=19
KVAR Lg Lg 01 18 09.4
baz=183,slow=19
KIV Kislovodsk 1.61 336 Pn **Pn** **01 17 47.5 -0.2**
KIV Sn **Sb** **01 18 08.5 -0.9**
KIV Kislovodsk 1.61 336 *e*P **Pb** **01 17 48.1 -1.2**
SNR=1964
KIV Kislovodsk 1.61 336 P **Pb** **01 17 48.4 -0.8**
KIV Kislovodsk 1.61 336 *e*Pg **Pb** **01 17 48.0 -1.2**
KIV *e*Sg **Sb** **01 18 09.4 0.0**
KIV Kislovodsk 1.61 336 *e*PG **Pn** **01 17 48.0 +0.2**
KIV *e*S **Sn** **01 18 08.2 -0.2**
KIV Kislovodsk 1.61 336 P **Pb** **01 17 48.4 -0.8**
PYA1 Pyatigorsk 1.61 347 *e*Pg **Pn** **01 17 48.0 +0.2**
PYA1 *e*Sg **Sb** **01 18 08.5 -1.0**
PYA1 Pyatigorsk 1.61 347⇓ *e*PG **Pn** **01 17 48.0 +0.2**
PYA1 *e*S **Sb** **01 18 08.5 -1.0**
BEYR Belyy Ugol+ 1.62 340 *i* Pg **Pn** **01 17 48.2 +0.3**
BEYR *e*Sg **Sb** **01 18 09.7 -0.1**
BEYR Belyy Ugol+ 1.62 340⇓ *i* PG **Pn** **01 17 48.2 +0.3**
BEYR *e*S **Sb** **01 18 09.7 -0.1**
DOMR Dombai 1.66 300 *e*Pg **Pb** **01 17 49.1 -1.0**
DOMR *e*Sg **Sg** **01 18 12.8 -0.3**
DOMR Dombai 1.66 300 *i* PG **Pb** **01 17 49.2 -1.0**
BATM Batumi 1.67 239 Pn **Pn** **01 17 47.3 -1.3**
BATM Sn **Sb** **01 18 11.7 +0.6**
BATM Batumi 1.67 239 P **Pn** **01 17 47.9 -0.7**
BATM S **Sb** **01 18 11.8 +0.6**
BATM Batumi 1.67 239 PG **Pn** **01 17 47.9 -0.7**
BATM S **Sb** **01 18 11.8 +0.6**
EAK Akyaka 1.80 180 P **Pn** **01 17 50.6 0.0**
EAK S **Sn** **01 18 12.6 -0.7**
BCA Borcka 1.81 235 Pn **Pn** **01 17 49.2 -1.2**
BCA Sn **Sb** **01 18 15.4 +0.3**
GOLE Ardahan-G¶le 1.82 205 P **Pn** **01 17 51.5 +0.7**
GOLE S **Sb** **01 18 16.2 +0.6**
DBOC Borcka 1.84 232 P **Pn** **01 17 50.7 -0.2**
DBOC S **Sb** **01 18 15.6 -0.5**
DAGI Agillar 1.89 222 P **Pn** **01 17 52.5 +0.8**
DAGI S **Sn** **01 18 15.7 +0.3**
KARS Kars 1.90 192 Pn **Pn** **01 17 52.2 +0.3**
KARS Sn **Sg** **01 18 20.9 0.0**
KARS Kars 1.90 192 Pn **Pn** **01 17 52.9 +1.0**
KARS Kars 1.90 192 PN **Pn** **01 17 52.9 +1.0**
DVE Vedeno 1.92 75 *e*Pg **Pb** **01 17 54.0 -0.6**
DVE *e*Sg **Sg** **01 18 20.8 -0.8**
DVE Vedeno 1.92 75 *e*PN **Pb** **01 17 53.9 -0.6**
DVE pmax pmax
comp=Z,6μm,0.7s
BTLR Botlikh 1.95 84 *i* Pg **Pb** **01 17 54.2 -0.8**
comp=Z,2μm,0.5s
BTLR *e*Sg **Sg** **01 18 21.4 -0.9**
comp=Z,6μm,0.5s
BTLR Botlikh 1.95 84 *i* PN **Pb** **01 17 54.2 -0.8**
BTLR pmax pmax
comp=Z,2μm,0.5s
HOPA Hopa-Artvin 1.95 236 Pn **Pn** **01 17 51.4 -0.9**
BOZK Kars-Merkez-Bo 1.96 194 P **Pn** **01 17 53.6 +0.9**
BOZK S **Sb** **01 18 19.1 -0.5**
ARXR Arkhyz 2.01 303 *e*Pg **Pb** **01 17 55.5 -0.7**
ARXR *e*Sg **Sb** **01 18 20.5 -0.6**
ARXR Arkhyz 2.01 303 PN **Pb** **01 17 55.8 -0.4**
DBAD Bademkaya 2.05 225 P **Pn** **01 17 55.1 +1.2**
DBAD S **Sn** **01 18 20.6 +1.4**
LGD Lagodekhi 2.07 108 P **Pn** **01 17 54.9 +0.8**
LGD S **Sg** **01 18 26.0 -0.4**
LGD Lagodekhi 2.07 108 PN **Pn** **01 17 54.9 +0.8**
LGD S **Sg** **01 18 26.0 -0.4**
DIGO Kars 2.08 185 P **Pn** **01 17 55.2 +0.7**
DIGO S **Sb** **01 18 23.2 -0.1**
DDEM Demirkent 2.11 221 P **Pn** **01 17 55.3 +0.6**
DDEM S **Sb** **01 18 24.2 +0.3**
SENK Senkaya-Erzuru 2.14 206 Pn **Pn** **01 17 55.6 +0.3**
SENK Sn **Sb** **01 18 26.3 +1.3**
XNZR Khunzakh 2.30 88 *e*Pn **Pb** **01 18 00.0 -1.1**
comp=Z,1μm,0.5s
XNZR *e*Sn **Sg** **01 18 31.9 -1.8**
comp=Z,3μm,0.6s
DLMR Dylym 2.31 74 *e*Pn **Pb** **01 17 59.6 -1.5**
comp=Z,3μm,0.4s
DLMR *e*Sn **Sb** **01 18 30.6 +1.2**
comp=Z,21μm,0.5s
DLMR Dylym 2.31 74 *e*PN **Pb** **01 17 59.6 -1.5**
DLMR *e*S **Sb** **01 18 30.6 +1.2**
DLMR pmax pmax
comp=Z,3μm,0.4s
HNZR Khunzah 2.31 87 *e*PN **Pb** **01 18 00.0 -1.2**
HNZR *e*S **Sb** **01 18 31.8 +2.2**
HNZR pmax pmax
comp=Z,1μm,0.5s
ALER Alexandrovskoy 2.32 348 *e*Pn **Pb** **01 17 59.1 -2.3**
ALER *e*Sn **Sb** **01 18 27.4 -2.6**
ALER Alexandrovskoy 2.32 348 *e*PN **Pb** **01 17 59.1 -2.3**
ALER *e*S **Sb** **01 18 27.4 -2.6**
UNCR Uncukul 2.37 84 *e*Pn **Pb** **01 18 00.7 -1.6**
comp=Z,3μm,0.5s
UNCR *e*Sn **Sb** **01 18 32.7 +1.4**
comp=Z,8μm,0.5s
UNCR Uncukul 2.37 84 *e*PN **Pb** **01 18 01.0 -1.2**
UNCR *e*S **Sb** **01 18 31.1 -0.2**
NVNR Nevinnomyssk 2.43 331 *e*Pn **Pb** **01 18 02.5 -0.7**
NVNR *e*Sn **Sg** **01 18 36.0 -1.8**
NVNR Nevinnomyssk 2.43 331 *e*PN **Pb** **01 18 02.5 -0.7**
NVNR *e*S **Sg** **01 18 36.0 -1.8**
DBC Dubki 2.44 76 *e*PN **Pn** **01 18 00.8 +1.6**
DBC *e*S **Sb** **01 18 33.3 0.0**
DBC pmax pmax
comp=Z,940nm,0.7s
VSHL Vashlovani 2.44 120 P **Pn** **01 18 00.8 +1.6**
VSHL S **Sg** **01 18 36.8 -1.5**
GRYR Gornoye 2.44 312 *i* Pn **Pn** **01 18 00.8 +1.6**
GRYR *e*Sn **Sn** **01 18 28.8 -0.2**
KRNR Karanay 2.46 81 *e*Pn **Pb** **01 18 01.9 -2.0**
comp=Z,600nm,0.5s
KRNR *e*Sn **Sb** **01 18 35.3 +1.1**
comp=Z,2μm,0.9s
KRNR Karanay 2.46 81 *e*PN **Pb** **01 18 01.8 -2.0**
KRNR *e*S **Sb** **01 18 35.2 +1.1**
KRNR pmax pmax
comp=Z,600nm,0.5s
GNBR Gunib 2.49 91 *e*Pn **Pb** **01 18 03.0 -1.3**
comp=Z,2μm,0.5s
GNBR *e*Sn **Sb** **01 18 37.1 +2.2**
comp=Z,5μm,0.6s
GNBR Gunib 2.49 91 *e*PN **Pb** **01 18 03.0 -1.3**
GNBR *e*S **Sb** **01 18 37.1 +2.2**
GNBR pmax pmax
comp=Z,2μm,0.5s
GNI Garni 2.49 159 Pn **Pn** **01 18 00.5 +0.5**
GNI Garni 2.49 159 Pn **Pn** **01 18 00.9 +0.9**
GNI Garni 2.49 159 P **Pn** **01 18 01.2 +1.1**
GNI Garni 2.49 159 Pn **Pn** **01 18 01.2 +1.1**
comp=Z,200nm,0.3s,baz=286,slow=3.8,SNR=426
GNI Lg Lg 01 18 37.1
comp=Z,761nm,0.3s,baz=0.0,slow=20,SNR=6.6
comp=Z,2μm,0.5s
GNI Garni 2.49 159 P **Pn** **01 18 01.9 +1.9**
GNI Garni 2.49 159 *e*Pn **Pn** **01 18 01.2 +1.1**
GNI *e*Sn **Sb** **01 18 33.8 -1.2**
GNI Garni 2.49 159 P **Pn** **01 18 01.2 +1.1**
ARKR Arakani 2.51 86 *e*Pn **Pb** **01 18 02.8 -1.9**
ARKR *e*Sn **Sb** **01 18 35.5 +0.1**
ARKR Arakani 2.51 86 *e*PN **Pb** **01 18 02.8 -1.9**
ARKR *e*S **Sb** **01 18 35.5 +0.1**
CHOM Cayeli-Rize 2.54 238 Pn **Pn** **01 17 59.3 -1.2**
TASB TASBURUN-IGDIR 2.55 169 Pn **Pn** **01 18 00.5 -0.2**
GOF Gofitskoye 2.60 351 *e*Pn **Pn** **01 18 02.5 +1.2**
GOF *e*Sn **Sb** **01 18 38.6 +0.8**
GOF Gofitskoye 2.60 351 *e*PN **Pn** **01 18 02.5 +1.2**
GOF *e*S **Sb** **01 18 38.6 +0.8**
BUJR Buynaksk 2.61 81 *e*Pn **Pb** **01 18 04.4 -1.9**
comp=Z,2μm,0.5s
BUJR *e*Sn **Sb** **01 18 39.5 +1.2**
comp=Z,11μm,0.7s
BUJR Buynaksk 2.61 81 *e*PN **Pb** **01 18 04.9 -1.4**
BUJR *e*S **Sn** **01 18 34.7 +1.7**
IGDI IGDIR 2.65 172 P **Pn** **01 18 02.4 +0.4**
IGDI S **Sb** **01 18 37.3 -2.0**
RPOR Krasnaya Polya 2.72 297 *e*Pn **Pn** **01 18 04.0 +0.9**
RPOR *e*Sn **Sb** **01 18 38.4 -3.0**
RPOR Krasnaya Polya 2.72 297 *e*PN **Pn** **01 18 04.0 +0.9**
RPOR *e*S **Sb** **01 18 38.4 -3.0**
GANJ Ganja 2.75 131 PN **Pn** **01 18 04.3 +0.8**
EATA Eleskirt 2.76 198 P **Pn** **01 18 05.2 +1.4**
EATA S **Sg** **01 18 47.1 -1.2**
HOMI Horasan 2.76 208 P **Pn** **01 18 04.5 +0.8**
HOMI S **Sb** **01 18 42.9 +0.3**
VSLR Vesyoloye 2.79 292 *e*Pn **Pn** **01 18 04.3 +0.3**
VSLR *e*Sn **Sn** **01 18 38.1 +0.7**
VSLR Vesyoloye 2.79 292 *e*PN **Pn** **01 18 04.3 +0.3**
VSLR *e*S **Sn** **01 18 38.1 +0.7**
KOPR Koprukoy-ERZUR 2.82 208 Pn **Pn** **01 18 04.8 +0.2**
MAK Makhachkala 2.92 79⇑ *i*PN **Pb** **01 18 09.1 -2.4**
MAK *e* 01 18 15.2
MAK *e*S **Sb** **01 18 44.6 -2.4**
MAK *e* 01 19 00.5
MAK pmax pmax
comp=Z,2μm,0.4s
MAK smax smax
comp=N,6μm,0.7s
MAK smax smax
comp=N,5μm,0.6s
MAK MLR MLR
comp=Z,10μm,2.0s
AKDA Akdag 2.92 216 P **Pn** **01 18 08.1 +2.2**
AKDA S **Sb** **01 18 50.2 +2.9**
DYDN Diyadin 2.95 179 P **Pn** **01 18 08.4 +2.1**
KANR Karaman 2.95 75 *e*Pn **Pb** **01 18 09.0 -3.0**
KANR *e*Sn **Sb** **01 18 45.2 -2.6**
KANR Karaman 2.95 75 *e*PN **Pb** **01 18 09.0 -3.0**
KANR *e*S **Sb** **01 18 45.2 -2.6**
AGRB Hanur-Agry 2.95 189 Pn **Pn** **01 18 06.6 +0.3**
SEKA Sheki 2.98 114 PN **Pn** **01 18 07.8 +1.2**
LABN Labinsk 3.00 317 *e*PN **Pn** **01 18 09.1 +2.3**
LABN *e*S **Sb** **01 18 48.8 -0.5**
LABN pmax pmax
comp=Z,749nm,0.8s
LABN MLR MLR
comp=Z,4μm,8.0s
SGKR Sergokala 3.00 89 *e*Pn **Pb** **01 18 10.2 -2.9**
comp=Z,745nm,0.6s
SGKR *e*Sn **Sb** **01 18 49.7 +0.2**
comp=Z,2μm,0.6s
SGKR Sergokala 3.00 89 *e*PN **Pb** **01 18 10.1 -2.9**
SGKR *e*S **Sb** **01 18 49.7 +0.2**
SGKR pmax pmax
comp=Z,745nm,0.6s
URKR Urkarakh 3.01 95 *e*Pn **Pn** **01 18 10.0 +2.8**
comp=Z,704nm,0.5s
URKR *e*Sn **Sb** **01 18 49.5 -0.3**
comp=Z,762nm,0.6s
URKR Urkarakh 3.01 95 *e*PN **Pn** **01 18 09.9 +2.8**
URKR *e*S **Sb** **01 18 49.5 -0.3**
URKR pmax pmax
comp=Z,704nm,0.5s
SOC Sochi 3.05 292 *e*Pn **Pn** **01 18 08.3 +0.8**
SOC *e*Sn **Sn** **01 18 42.6 -1.1**
SOC Sochi 3.05 292 *e*PN **Pn** **01 18 05.4 -2.1**
SOC *e* 01 18 12.8
SOC *e*PPP PPP 01 18 16.4
SOC *e* 01 18 43.4
SOC pmax pmax
comp=Z,53nm,0.6s
SOC smax smax
comp=N,510nm,0.6s
SOC MLR MLR
comp=Z,895nm,9.0s
MNGR Mingechevir, A 3.13 122 PN **Pn** **01 18 10.1 +1.5**
EMRE Erzurum,Aziziy 3.15 220 P **Pn** **01 18 10.8 +1.7**
DORK Agr/Tutak/Do 3.16 192 P **Pn** **01 18 10.9 +1.7**
EJDE Erzurum, Palan 3.17 214 P **Pn** **01 18 11.0 +1.5**
KTUT Trabzon 3.24 244 Pn **Pn** **01 18 07.6 -2.5**
KTUT Trabzon 3.24 244⇑ P **Pn** **01 18 07.9 -2.2**
AKT Akhty 3.24 107 *e*Pn **Pn** **01 18 11.9 +1.7**
AKT *e*Sn **Sn** **01 18 50.2 +1.5**
AKT Akhty 3.24 107 *e*PN **Pn** **01 18 12.2 +1.9**
AKT *e* 01 18 20.2
AKT *e* 01 18 51.1
AKT *e* 01 19 00.5
AKT *e* 01 19 07.8
AKT pmax pmax
comp=Z,472nm,0.6s
AKT pmax pmax
comp=Z,712nm,0.6s
AKT smax smax
comp=N,1μm,0.5s
AKT smax smax
comp=E,2μm,0.6s
MACK Trabzon 3.26 243 P **Pn** **01 18 09.1 -1.3**
ETEKE Tekederesi - E 3.27 215 P **Pn** **01 18 12.2 +1.4**
BAYT Aydıntepe-Bayb 3.34 232 Pn **Pn** **01 18 11.3 -0.3**
MRNR Maryino 3.34 297 *e*Pn **Pn** **01 18 12.6 +1.1**
MRNR *e*Sn **Sn** **01 18 54.1 +3.2**
MRNR Maryino 3.34 297 *e*PN **Pn** **01 18 12.6 +1.1**
MRNR *e*S **Sn** **01 18 54.2 +3.2**
KOPT Kop Dagi 3.40 224 P **Pn** **01 18 14.3 +1.7**
MLAZ Malazgirt-MUS 3.44 194 Pn **Pn** **01 18 13.9 +0.9**
KSMR Kasumkent 3.49 103 *e*Pn **Pn** **01 18 16.6 +3.0**
KSMR *e*Sn **Sn** **01 18 56.2 +1.4**
KSMR Kasumkent 3.49 103 *e*PN **Pn** **01 18 16.6 +3.0**
KSMR *e*S **Sn** **01 18 56.2 +1.4**
GOYR Goytkh 3.54 301 *e*Pn **Pn** **01 18 15.5 +1.2**
GOYR *e*Sn **Sn** **01 18 55.7 -0.2**
GOYR Goytkh 3.54 301 *e*PN **Pn** **01 18 15.5 +1.2**
GOYR *e*S **Sn** **01 18 55.7 -0.2**
DRN Derbent 3.54 96 *e*Pn **Pn** **01 18 17.9 +3.6**
comp=E,526nm,0.9s
DRN *e*Sn **Sb** **01 19 03.3 -1.7**
comp=E,1μm,0.5s
DRN Derbent 3.54 96 *e*PN **Pn** **01 18 17.8 +3.6**
DRN *e*S **Sb** **01 19 03.3 -1.7**
DRN pmax pmax
comp=Z,526nm,0.9s
NAX Nakhchivan 3.61 156 PN **Pn** **01 18 16.3 +1.0**
GUMT Gumushane 3.70 238 Pn **Pn** **01 18 15.9 -0.7**
VRTB Varto-Mus 3.70 207 Pn **Pn** **01 18 17.8 +1.2**
KARO Karliova-Bingo 3.72 212 Pn **Pn** **01 18 17.5 +0.6**
YEDI Yedisu-Bingol 3.83 218 Pn **Pn** **01 18 18.9 +0.5**
VANB Van 3.90 182 Pn **Pn** **01 18 22.1 +2.8**
ESPY Espiye-Giresun 3.97 248 Pn **Pn** **01 18 17.8 -2.4**
GURO Guroymak-BITLI 4.11 197 Pn **Pn** **01 18 23.3 +1.0**
GURO Guroymak-BITLI 4.11 197 Pn **Pn** **01 18 22.2 0.0**
ERZN Erzincan 4.12 227 Pn **Pn** **01 18 22.9 +0.5**
BNGB Bingl 4.14 213 Pn **Pn** **01 18 22.5 -0.1**
AKDM Akdamar-Van 4.18 187 Pn **Pn** **01 18 25.0 +1.7**
EZC Erzincan 4.21 231 PN **Pn** **01 18 22.5 -1.2**
BINT Bingol 4.32 214 PN **Pn** **01 18 23.4 -1.7**
PTK Pertek 4.81 223 Pn **Pn** **01 18 32.6 +0.7**
ANN Anapa 5.03 299 *e*PN **Pn** **01 18 36.2 +1.5**
ANN *e*S **Sn** **01 19 35.7 +3.1**
ANN pmax pmax
comp=Z,100nm,0.7s
ANN MLR MLR
comp=Z,938nm,10.0s
RSDY Resadiye-TOKAT 5.16 248 Pn **Pn** **01 18 35.8 -0.7**
SVRC Sivrice-ELAZID 5.25 220 Pn **Pn** **01 18 38.5 +0.5**
LKRN Lenkeran, Azer 5.46 132 P **Pn** **01 18 42.7 +2.1**
DIKM Dikmen 6.26 265⇑ P **Pn** **01 18 50.1 -1.6**
DIKM Dikmen 6.26 265 P **Pn** **01 18 51.3 -0.4**
comp=Z,1μm,0.8s,comp=Z,9μm,comp=Z,3.7nm
SUDU Sudak 6.68 294 *e*P **Pn** **01 18 57.5 +0.2**
BNN Bunyan 6.92 241 **Pn** **01 19 02.5 +1.6**
BZK Bozkurt 7.14 269 Pn **Pn** **01 19 04.7 +1.0**
BZK Bozkurt 7.14 269⇑ P **Pn** **01 19 02.0 -1.7**
BZK Bozkurt 7.14 269 P **Pn** **01 19 04.7 +1.0**
comp=Z,550nm,0.8s,comp=Z,4μm,comp=Z,1.5nm
YAL Yalta 7.15 289 *e*P **Pn** **01 19 03.5 -0.3**
YAL *e*S **Sn** **01 20 25.2 +0.4**
GAZ Gaziantep 7.24 225 Pn **Pn** **01 19 06.8 +1.7**
SIM Simferopol' 7.29 293 *e*P **Pn** **01 19 06.5 +0.7**
SIM *e*S **Sn** **01 20 30.3 +1.9**
SEV Sevastopol' 7.50 289 *e*P **Pn** **01 19 07.1 -1.5**
SEV *e*S **Sn** **01 20 31.9 -1.6**
BR131 Keskin Array S 8.01 253 Pn **Pn** **01 19 16.1 +0.3**
BR131 Keskin Array S 8.01 253 *i* P **Pn** **01 19 15.9 +0.1**
BRTR Keskin Array B 8.01 253 Pn **Pn** **01 19 16.9 +1.0**
comp=Z,4.9nm,0.3s,baz=40,slow=10,SNR=162
comp=Z,19nm,0.7s
BRTR Keskin Array B 8.01 253 *i* P **Pn** **01 19 16.8 +1.0**
BRTR pmax pmax
comp=Z,16nm,0.4s
BR106 Keskin Array S 8.02 253 P **Pn** **01 19 16.6 +0.7**
comp=Z,38nm,0.9s,comp=Z,325nm
BR105 Keskin Array S 8.03 253 P **Pn** **01 19 16.5 +0.5**
comp=Z,52nm,0.9s,comp=Z,387nm
KIRS Kirsehir-Merke 8.07 249⇓ P **Pn** **01 19 13.6 -3.0**
ANTO Ankara 8.56 256 **Pn** **01 19 22.9 -0.3**
ANTO Ankara 8.56 256 P **Pn** **01 19 23.9 +0.7**
ANTO P **Pn** **01 19 23.9 +0.7**
ANTO Ankara 8.56 256 P **Pn** **01 19 22.9 -0.3**
ANTO Ankara 8.56 256 P **Pn** **01 19 23.2 0.0**
comp=Z,31nm,0.8s
BR231 Keskin MP Arra 8.58 256 **Pn** **01 19 23.2 -0.3**
VRH Novokhopyorsk 8.81 352 *e*P **Pn** **01 19 25.7 -0.8**
VRH pmax pmax
comp=Z,94nm,0.9s
VORD Divnogorie 8.98 342 *e*P **Pn** **01 19 28.6 -0.2**
VORD pmax pmax
comp=Z,60nm,1.0s
VSR Storozhevoye 9.24 342 *e*P **Pn** **01 19 31.0 -1.4**
VSR pmax pmax
comp=Z,60nm,0.9s
MDUB Mudurnu 9.52 262 **Pn** **01 19 36.7 +0.3**
VORR Voronezh 9.66 343 *e*P **Pn** **01 19 38.5 +0.4**
VORR pmax pmax
comp=Z,45nm,0.7s
BELG Belogornoye 10.27 14 Pn **Pn** **01 19 45.4 -1.1**
comp=Z,5.4nm,0.3s,baz=128,slow=19,SNR=31
BELG Sn **Sn** **01 21 40.7 -0.7**
comp=Z,2.2nm,0.3s,baz=217,slow=19,SNR=1.9
BELG LR LR 01 24 19.9
comp=Z,138nm,19.8s,baz=207,slow=41
comp=Z,92nm,0.9s
BELG Belogornoye 10.27 14 *i* P **Pn** **01 19 45.0 -1.6**
LPSR Galich'ya Gora 10.59 344 *e*P **Pn** **01 19 52.4 +1.5**
LPSR pmax pmax
comp=Z,70nm,0.8s
CSS Mathiatis 10.98 230 Pn **Pn** **01 19 57.1 +0.6**
CSS Mathiatis 10.98 230 P **Pn** **01 19 58.4 +2.0**
TLCR 11.01 289⇑ P **Pn** **01 19 55.4 -1.4**
TLCR 11.01 289 P **Pn** **01 19 55.3 -1.4**
ISP Isparta 11.04 249 **Pn** **01 19 57.4 +0.2**
ISP Isparta 11.04 249 *ce*P **Pn** **01 20 00.9 +3.7**
ISP pmax pmax
comp=Z,41nm,1.3s
NATI Neve Ativ 11.11 217 P **Pn** **01 20 00.7 +2.7**
NATI Neve Ativ 11.11 217 P **Pn** **01 20 02.5 +4.5**
GEM Giv'at Ha'Em 11.18 217 P **Pn** **01 20 02.3 +3.2**
GEM Giv'at Ha'Em 11.18 217 P **Pn** **01 20 03.1 +4.0**
KSHT Keshet 11.31 215 P Pn 01 20 06.1 +5.1
MILM Milestii Mici 11.41 298⇑ P **Pn** **01 20 01.2 -1.0**
MILM Milestii Mici 11.41 298 P **Pn** **01 20 01.2 -1.0**
MMC2 Mount Meron ar 11.45 217 P **Pn** **01 20 06.0 +3.2**
MMAI Mount Meron Ar 11.46 217 Pn Pn 01 20 08.4 +5.4
comp=Z,0.4nm,0.3s,baz=49,slow=14,SNR=6.8
MMAI LR LR 01 24 27.4
comp=Z,150nm,18.7s,baz=330,slow=38
TLBR Topalu 11.48 286⇑ P **Pn** **01 20 00.8 -2.3**
CFR Carcaliu 11.49 289⇑ P **Pn** **01 20 01.9 -1.4**
CFR Carcaliu 11.49 289 P **Pn** **01 20 01.8 -1.4**
SHMJ Saham 11.55 215 P **Pn** **01 20 06.5 +2.3**
ASF Jabal al Asfar 11.59 209 Pn **Pn** **01 20 05.4 +0.5**
comp=Z,0.2nm,0.3s,baz=215,slow=0.3,SNR=5.6
comp=Z,4.0nm,0.8s
ASF Jabal al Asfar 11.59 209 P **Pn** **01 20 07.7 +2.9**
ICOR Ion Corvin 11.63 283⇓ P **Pn** **01 20 03.3 -1.9**
VLDR Vladesti 11.64 292⇓ P **Pn** **01 20 04.3 -0.9**
SCTR Scanteiesti 11.66 291⇑ P **Pn** **01 20 04.8 -0.9**
NEGRR Negrea 11.72 290⇓ P **Pn** **01 20 05.6 -0.8**
BLGI Bet Lehem HaGe 11.79 217 P **Pn** **01 20 11.1 +3.6**
TUDR 11.88 291⇓ P **Pn** **01 20 07.8 -0.8**
PRD Provadia 11.91 279 P **Pn** **01 20 06.3 -2.7**
HSUJ Al Zarqa 11.92 212 P **Pn** **01 20 13.1 +3.8**
MMLI Mount Malkishu 11.95 216 P **Pn** **01 20 11.9 +2.3**
QRNJ Al-Qirein 11.97 215 P **Pn** **01 20 13.4 +3.6**
NEF NEVSHA 12.00 279 P **Pn** **01 20 06.7 -3.6**
ELL Elmali 12.01 246 **Pn** **01 20 11.2 +0.7**
ELL Elmali 12.01 246 P **Pn** **01 20 11.2 +0.7**
HMDT Nahal Hemdat 12.06 215 P **Pn** **01 20 15.0 +3.8**
HMDT Nahal Hemdat 12.06 215 P **Pn** **01 20 15.0 +3.8**
SLTI Sal'it 12.28 216 P **Pn** **01 20 17.6 +3.4**
ODBI Odobesti 12.33 291⇓ P **Pn** **01 20 13.7 -1.1**
ODBI Odobesti 12.33 291 P **Pn** **01 20 15.0 +0.3**
comp=Z,40nm,0.8s,comp=Z,374nm
UJAP Al Uja 12.35 214 P **Pn** **01 20 18.2 +3.2**
SALP Salfit 12.36 215 P **Pn** **01 20 18.3 +3.0**
SPBR Spulber 12.54 291⇑ P **Pn** **01 20 16.1 -1.5**
VRI Vrincioaia 12.57 291⇑ P **Pn** **01 20 17.1 -0.9**
VRI Vrincioaia 12.57 291 P **Pn** **01 20 17.1 -0.9**
VRI Vrincioaia 12.57 291 P **Pn** **01 20 17.4 -0.7**
comp=Z,33nm,1.1s,comp=Z,286nm
ISR Istrita 12.60 288⇑ P **Pn** **01 20 17.0 -1.5**
ISR Istrita 12.60 288 P **Pn** **01 20 16.9 -1.5**
JMB Yambol 12.60 276 P **Pn** **01 20 16.2 -2.3**
PLOR5 Plostina Array 12.61 291 P **Pn** **01 20 19.5 +0.9**
comp=Z,52nm,1.0s
PLOR Plostina 12.62 291⇑ P **Pn** **01 20 17.5 -1.3**
PLOR Plostina 12.62 291 P **Pn** **01 20 17.5 -1.3**
PLOR3 Plostina Array 12.62 291 P **Pn** **01 20 19.1 +0.3**
comp=Z,36nm,1.1s
AKTO Aktyubinsk 12.71 46⇓ Pn **Pn** **01 20 16.9 -3.1**
comp=Z,32nm,0.6s
AKTO ⇓Sn **Sn** **01 22 33.9 -7.2**
comp=Z,63nm,1.1s
AKTO Aktyubinsk 12.71 46 Pn **Pn** **01 20 17.6 -2.3**
comp=Z,8.6nm,0.3s,baz=239,slow=11,SNR=96
AKTO Sn **Sn** **01 22 34.9 -6.2**
comp=Z,0.8nm,0.3s,baz=75,slow=20,SNR=2.0
AKTO LR LR 01 26 37.4
comp=Z,77nm,18.1s,baz=98,slow=44
comp=Z,74nm,0.6s
DSI Dead Sea 12.72 214 P **Pn** **01 20 22.9 +2.8**
DSI Dead Sea 12.72 214 P **Pn** **01 20 23.2 +3.1**
TESR Tescani 12.75 294⇓ P **Pn** **01 20 19.9 -0.6**
TESR Tescani 12.75 294 P **Pn** **01 20 20.3 -0.2**
comp=Z,46nm,1.4s
NEHR Nehoiu 12.81 289⇓ P **Pn** **01 20 19.9 -1.5**
AKASG Malin Array Be 12.83 315 **Pn** **01 20 20.3 -1.3**
AKASG Malin Array Be 12.83 315 Pn **Pn** **01 20 20.4 -1.2**
comp=Z,1.6nm,0.3s,baz=123,slow=12,SNR=11
AKASG Sn Sn 01 22 35.1 -9.0
comp=Z,0.4nm,0.3s,baz=124,slow=28,SNR=1.8
AKASG Malin Array Be 12.83 315 *i* P **Pn** **01 20 21.2 -0.4**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKBB Malin Array Si 12.83 315 Pn **Pn** **01 20 20.8 -0.7**
AKBB Malin Array Si 12.83 315 *ce*P **Pn** **01 20 21.0 -0.6**
KIEV Kiev 12.84 315 **Pn** **01 20 20.8 -0.8**
KIEV Kiev 12.84 315 P **Pn** **01 20 20.8 -0.8**
KIEV Kiev 12.84 315 P **Pn** **01 20 20.8 -0.8**
comp=Z,107nm,0.8s
GHAJ Ghor Haditha 12.88 212 **Pn** **01 20 21.9 -0.4**
GHAJ Ghor Haditha 12.88 212 P **Pn** **01 20 25.0 +2.8**
GHAJ Ghor Haditha 12.88 212 P **Pn** **01 20 25.4 +3.2**
ONER Baraj Valea Uz 12.88 293⇑ P **Pn** **01 20 21.3 -1.1**

COVR Voineasa-Covas 12.93 291 ⇓P **Pn 01 20 21.7 -1.3**
AMAZ Amatzia 12.94 215 P **Pn 01 20 27.9 +4.7**
SGRR Singureni 12.94 284 ⇓P **Pn 01 20 20.8 -2.3**
SZH Strazhitsa 12.95 279 P **Pn 01 20 18.6 -4.7**
LISJ El Lisan 12.96 213 P **Pn 01 20 27.2 +3.8**
YTIR Yattir 13.01 214 P **Pn 01 20 26.3 +2.2**
MLR Muntele Rosu 13.06 289 Pn **Pn 01 20 24.0 -0.9**
comp=Z,11nm,0.7s
MLR Sn **Sn 01 22 46.5 -3.4**
comp=Z,0.6nm,0.3s,baz=176,slow=19,SNR=1.9
MLR LR LR 01 27 07.2
comp=Z,274nm,20.1s,baz=76,slow=45
MLR Muntele Rosu 13.06 289 ⇓P **Pn 01 20 23.7 -1.1**
MLR Muntele Rosu 13.06 289 P **Pn 01 20 23.8 -1.1**
comp=Z,54nm,1.0s
TURR Turia 13.09 292 ⇑P **Pn 01 20 24.3 -0.9**
AB31 Akbulak array 13.23 54 Pn **Pn 01 20 25.3 -1.7**
comp=Z,24nm,0.5s,baz=243,slow=9.2,SNR=617
AB31 ⇓Sn **Sn 01 22 49.0 -4.9**
comp=Z,48nm,0.8s,baz=238,slow=21,SNR=5.8
AB31 Akbulak array 13.23 54 P **Pn 01 20 25.3 -1.7**
AB31 S **Sn 01 22 49.0 -4.9**
ABKAR Akbulak array 13.23 54 Pn 01 20 25.5 -1.5
ABKAR Akbulak array 13.23 54 Pn 01 20 25.2 -1.8
OBN Obninsk 13.44 342 Pn 01 20 29.8 0.0
OBN Obninsk 13.44 342 Pn **Pn 01 20 28.0 -1.9**
comp=Z,1.5nm,0.3s,baz=165,slow=18,SNR=4.5
OBN Sn **Sn 01 22 50.3 -8.6**
comp=Z,4.3nm,0.3s,baz=192,slow=20,SNR=1.7
OBN LR LR 01 25 19.2
comp=Z,213nm,19.1s,baz=176,slow=36
comp=Z,13nm,0.7s
OBN Obninsk 13.44 342 *d* P **Pn 01 20 28.2 -1.7**
OBN *e*S **Sn 01 23 04.8 +5.9**
OBN pmax pmax
comp=Z,26nm,1.3s
OBN MLR MLR
comp=Z,608nm,10.0s
OBN Obninsk 13.44 342 P **Pn 01 20 28.5 -1.4**
comp=Z,46nm,0.8s
DOPR Dopca 13.51 291 ⇑P **Pn 01 20 30.4 -0.4**
VOIR 13.68 289 ⇓P **Pn 01 20 32.1 -1.1**
VOIR 13.68 289 P **Pn 01 20 32.1 -1.1**
MI28 Mi28,Pidlybu 13.79 313 P **Pn 01 20 33.3 -1.3**
comp=Z,240nm,0.9s
MOS Moscow 13.81 346 *e*P **Pn 01 20 32.6 -2.3**
MOS *e*S **Sn 01 23 09.2 +1.2**
MOS pmax pmax
comp=Z,48nm,0.8s
MOS MLR MLR
comp=N,400nm,11.0s
MOS MLR MLR
comp=Z,600nm,11.0s
PRNI Paran 13.94 212 P **Pn 01 20 38.3 +1.5**
BURAR Bucovina Array 13.96 298 Pn 01 20 35.1 -1.9
BURAR Bucovina Array 13.96 298 ⇑P **Pn 01 20 37.1 0.0**
BURAR Bucovina Array 13.96 298 P **Pn 01 20 37.0 0.0**
ARR Arges 13.96 288 ⇑P **Pn 01 20 35.4 -1.7**
BUR08 Bucovina Ar. S 13.98 298 Pn 01 20 34.2 -3.1
HRFI Mount Harif 14.21 212 P **Pn 01 20 42.2 +1.7**
KARP Karpathos 14.53 247 P 01 20 51.9 +0.5
EIL Elat 14.57 211 Pn **Pn 01 20 46.4 +1.0**
comp=Z,0.1nm,0.3s,baz=344,slow=8.3,SNR=7.3
EIL LR LR 01 26 38.0
comp=Z,93nm,19.2s,baz=19,slow=39
EIL Elat 14.57 211 P **Pn 01 20 47.9 +2.5**
MPEP Malo Peshtene 14.58 280 P **Pn 01 20 41.7 -3.8**
MMB Musomishta 14.79 273 P **P 01 20 54.5 +0.2**
PLNA Plana 14.89 277 P **Pn 01 20 48.9 -0.9**
VTS Vitosha 15.01 277 P **Pn 01 20 50.1 -1.4**
MARR Marisel-Cluj 15.17 293 ⇑P **Pn 01 20 52.9 -0.7**
KKB Krupnik 15.19 274 P **P 01 20 58.2 -0.6**
GZR Gura Zlata 15.27 288 ⇓P **Pn 01 20 53.7 -1.1**
TRAN Tran 15.41 278 P Pn 01 20 48.9 -7.8
DRGR 15.46 293 ⇑P **Pn 01 20 56.9 -0.5**
DRGR 15.46 293 P **Pn 01 20 56.9 -0.5**
HERR Herculane 15.51 286 ⇓P **Pn 01 20 56.2 -1.6**
SURR Surduc 15.75 289 ⇓P **Pn 01 21 00.1 -0.9**
MNK Minsk 15.86 325 *i* P **Pn 01 21 03.4 +1.1**
comp=E,38nm,1.2s
MNK *i* P **Pn 01 21 03.4 +1.1**
comp=N,62nm,1.1s
MNK *i* P **Pn 01 21 03.4 +1.1**
comp=Z,54nm,1.0s,baz=132
MNK *i* PP **PnPn 01 21 10.4 -0.4**
MNK *i* PPP PPP 01 21 19.1
MNK *i* S **Sn 01 24 00.4 +2.6**
MNK *i* SS **S 01 24 14.1 +2.1**
MNK *i* LR LR 01 27 04.4
MNK *i* LRM MLR 01 27 54.9
comp=Z,403nm,13.9s
MNK *i* LRM MLR 01 27 59.0
comp=E,620nm,17.0s
MNK *i* LRM MLR 01 27 59.0
comp=N,617nm,16.3s
MNK Minsk 15.86 325 *i* P **Pn 01 21 03.3 +1.1**
MNK *i* S **Sn 01 24 00.3 +2.6**
MNK pmax pmax
comp=Z,54nm,1.0s
MNK pmax pmax
comp=E,38nm,1.2s
MNK pmax pmax
comp=N,62nm,1.1s
MNK MLR MLR
comp=Z,403nm,14.0s
MNK MLR MLR
comp=N,617nm,16.0s
MNK MLR MLR
comp=E,620nm,17.0s
LIT Litokhoron 16.04 269 Pn **Pn 01 21 03.9 -0.9**
LIT Litokhoron 16.04 269 P **Pn 01 21 03.9 -0.9**
LIT pmax pmax
comp=Z,17nm,1.3s
BZS Buzias 16.10 289 ⇓P **Pn 01 21 03.9 -1.6**
BZS Buzias 16.10 289 P **Pn 01 21 03.9 -1.6**
SIRR Siria 16.12 291 ⇑P **Pn 01 21 05.2 -0.6**
KWP Kalwaria Pacla 16.13 303 *e*P **P 01 21 10.0 +0.9**
KWP Kalwaria Pacla 16.13 303 P **Pn 01 21 06.8 +0.9**
KWP lAmb lAmb 01 21 11.9
comp=Z,206nm,1.7s
KWP Kalwaria Pacla 16.13 303 P **Pn 01 21 06.8 +0.9**
KWP pmax pmax
comp=Z,206nm,1.7s
KWP Kalwaria Pacla 16.13 303 P **Pn 01 21 06.0 +0.1**
comp=Z,68nm,1.2s
KOLS Kolonicke sedl 16.20 301 *e*P **Pn 01 21 04.7 -2.1**
KOLS Kolonicke sedl 16.20 301 *e*PN **Pn 01 21 04.7 -2.1**
KOLS Kolonicke sedl 16.20 301 *e*P **P 01 21 11.0 +1.1**
IDI Anoyia 16.23 250 Pn **Pn 01 21 07.2 -0.1**
IDI Anoyia 16.23 250 Pn **P 01 21 08.9 -1.4**
comp=Z,1.9nm,0.3s,baz=42,slow=11,SNR=14
AGG Agios Georgios 16.48 265 P 01 21 11.9 -1.2
AGG Agios Georgios 16.48 265 P **P 01 21 11.9 -1.2**
AGG pmax pmax
comp=Z,22nm,0.9s
KIRV Kirov 16.52 11 Pn **Pn 01 21 07.8 -3.0**
comp=Z,3.7nm,0.3s,baz=199,slow=14,SNR=24
KIRV Sn Sn 01 24 01.9 -12
comp=Z,0.2nm,0.3s,baz=207,slow=16,SNR=2.2
KIRV LR LR 01 27 30.4
comp=Z,102nm,19.8s,baz=208,slow=37
KIRV Kirov 16.52 11 *ce*P **Pn 01 21 08.0 -2.8**
NACGM Naroch 16.60 324 *e*P **P 01 21 14.6 +0.3**
HRA Herat 16.68 113 Pn **Pn 01 21 14.2 +1.0**
FNA Florina 16.70 272 Pn **Pn 01 21 13.7 +0.5**
FNA Florina 16.70 272 P **Pn 01 21 13.7 +0.5**
FNA pmax pmax
comp=Z,20nm,1.2s
ARTI Arti 16.85 29 Pn **Pn 01 21 11.3 -3.7**
ARTI lAmb lAmb 01 21 18.0
comp=Z,187nm,1.5s
ARTI Arti 16.85 29 Pn **Pn 01 21 11.0 -4.1**
comp=Z,3.8nm,0.3s,baz=224,slow=6.9,SNR=33
ARTI LR LR 01 29 50.9
comp=Z,270nm,18.3s,baz=249,slow=45
ARTI Arti 16.85 29 *c i*P **Pn 01 21 10.9 -4.1**
ARTI S **Sn 01 24 16.6 -5.3**
ARTI pmax pmax
comp=Z,104nm,1.4s
STHS Stebnicka Huta 16.98 302 *e*P **P 01 21 18.6 0.0**
STHS Stebnicka Huta 16.98 302 *e*P **P 01 21 18.6 0.0**
OHR Ohrid 17.05 273 *i* P **P 01 21 20.9 +1.4**
OHR Ohrid 17.05 273 P **P 01 21 23.0 +3.6**
SAKB Bahrain 17.43 159 P **Pn 01 21 22.5 +0.1**

PSZ Piszkesteto 17.53 296 P 01 21 24.1 -0.6
PSZ Piszkesteto 17.53 296 P **P 01 21 24.1 -0.6**
PSZ pmax pmax
comp=Z,25nm,1.1s
PUK Puka 17.54 277 P 01 21 24.7 -0.2
NIE Niedzica 17.58 301 *e*P **P 01 21 25.3 +0.1**
NIE Niedzica 17.58 301 P **P 01 21 24.7 -0.5**
NIE pmax pmax
comp=Z,17nm,1.1s
NIE Niedzica 17.58 301 P **Pn 01 21 23.0 -1.2**
comp=Z,17nm,1.1s
TIR Tirane 17.69 274 P 01 21 25.9 -0.5
TIR Tirane 17.69 274 P **P 01 21 25.9 -0.5**
TIR pmax pmax
comp=Z,23nm,0.8s
SUW Suwalki 17.75 318 *e*P **Pn 01 21 25.0 -1.2**
SUW Suwalki 17.75 318 P 01 21 26.6 -0.4
SUW Suwalki 17.75 318 P **P 01 21 26.6 -0.4**
SUW pmax pmax
comp=Z,216nm,1.1s
IGT Igoumenitsa 17.79 268 P **P 01 21 29.8 +2.2**
IGT pmax pmax
comp=Z,26nm,0.9s
PDG Podgorica 17.95 278 Pn **Pn 01 21 27.6 -1.2**
PDG Podgorica 17.95 278 ⇑P **Pn 01 21 27.1 -1.7**
SVE Sverdlovsk 18.02 31 *ce*P **Pn 01 21 25.9 -3.6**
SVE pmax pmax
comp=Z,231nm,0.9s
SVE MLR MLR
comp=Z,518nm,13.0s
BEL Belsk 18.04 309 *e*P **P 01 21 31.4 +1.1**
LANS Liptovska Anna 18.04 300 *e*P **P 01 21 30.7 +0.4**
LANS Liptovska Anna 18.04 300 *e*P **P 01 21 30.7 +0.4**
BUD Budapest 18.05 294 P **P 01 21 30.3 -0.1**
BUD pmax pmax
comp=Z,10.0nm,1.4s
OJC Ojcow 18.10 303 *e*P **Pn 01 21 29.9 -0.6**
OJC Ojcow 18.10 303 P 01 21 30.9 0.0
OJC Ojcow 18.10 303 P **P 01 21 30.9 0.0**
OJC pmax pmax
comp=Z,39nm,1.3s
KEK Kerkira 18.14 269 P 01 21 32.3 +0.9
MORH Mrgy, Hungar 18.20 290 ⇑P **P 01 21 31.7 -0.3**
MORH Mrgy, Hungar 18.20 290 P **P 01 21 32.7 +0.7**
comp=Z,21nm,1.2s
PABE Paberze 18.23 322 Pn **Pn 01 21 29.9 -2.1**
VYHS Vyhne 18.33 298 *e*P **P 01 21 35.7 +2.3**
VYHS Vyhne 18.33 298 *e*P **P 01 21 35.7 +2.3**
KLMR Klimovskoe 18.56 354 *d i*P **P 01 21 34.4 -1.4**
KLMR pmax pmax
comp=Z,199nm,1.5s
SMRA Abu-Samra 18.68 159 P **Pn 01 21 38.8 +1.1**
TRNA Turayna 18.80 158 P **Pn 01 21 40.5 +1.3**
RAYN Ar Rayn 18.98 175 P **Pn 01 21 42.0 +0.5**
RAYN Ar Rayn 18.98 175 *i* P **Pn 01 21 41.2 -0.3**
SNR=31
RAYN Ar Rayn 18.98 175 P **Pn 01 21 41.5 -0.1**
RAYN Ar Rayn 18.98 175 P **Pn 01 21 42.0 +0.5**
RAYN pmax pmax
comp=Z,26nm,0.9s
MPLH Magyarpolny 19.02 293 P **Pn 01 21 42.2 +0.4**
comp=Z,61nm,1.1s
OKC Ostrava-Krasne 19.04 301 *e*P **Pn 01 21 43.3 +1.4**
OKC Ostrava-Krasne 19.04 301 *e*P **Pn 01 21 43.3 +1.4**
JRN Qarnain Island 19.10 154 P **Pn 01 21 43.5 +0.7**
PUL Pulkovo 19.14 339 *ce*P **Pn 01 21 43.6 +0.5**
PUL pmax pmax
comp=Z,80nm,0.5s
JAVC Velka Javorina 19.15 298 *e*P **Pn 01 21 43.7 +0.3**
VSU Vasula 19.16 332 *i* P **Pn 01 21 43.3 -0.1**
VSU pmax pmax
comp=Z,37nm,0.9s
BRLS Borolday 19.25 79 *e*P **P 01 21 41.9 -1.7**
comp=Z,31nm,0.7s
BRLS Borolday 19.25 79 *e*P **P 01 21 41.9 -1.7**
BRLS pmax pmax
comp=Z,31nm,0.7s
MODS Modra-Piesok 19.33 297 *e*P **Pn 01 21 46.7 +1.1**
MODS Modra-Piesok 19.33 297 *e*P **Pn 01 21 46.7 +1.1**
SHME Shamm 19.37 144 P Pn 01 21 46.3 +0.2
SHME Shamm 19.37 144 P Pn 01 21 46.8 +0.8
MORC Moravsky Berou 19.41 301 P Pn 01 21 46.5 0.0
MORC Moravsky Berou 19.41 301 *e*P **P 01 21 45.3 0.0**
MORC Moravsky Berou 19.41 301 P **Pn 01 21 46.5 0.0**
MORC pmax pmax
comp=Z,29nm,1.2s
SLWR Sila 19.56 157 P **P 01 21 47.5 +0.5**
SIMJ Simiganj 19.65 93 P **Pn 01 21 50.0 +0.4**
KK31 Karatay Array 19.73 79 Pn **P 01 21 49.0 +0.1**
comp=Z,131nm,1.0s,baz=292,slow=10,SNR=478
KK31 Karatay Array 19.73 79 P **P 01 21 49.0 +0.1**
KKAR Karatay Array 19.73 79 P **Pn 01 21 49.6 -0.7**
KKAR lAmb lAmb 01 21 54.0
comp=Z,62nm,0.9s
KKAR Karatay Array 19.73 79 P **Pn 01 21 49.7 -0.7**
RONA Rosalia, Austr 19.91 295 *e*Pn **Pn 01 21 52.6 +0.1**
comp=Z,18nm,1.6s
VRAC Vranov 19.92 299 P **Pn 01 21 53.1 +0.5**
comp=Z,3.1nm,0.7s,baz=102,slow=12,SNR=8.1
VRAC LR LR 01 31 17.7
comp=Z,183nm,18.2s,baz=80,slow=42
VRAC Vranov 19.92 299 *e*P **Pn 01 21 53.5 +0.9**
VRAC Vranov 19.92 299 P **Pn 01 21 55.9 +3.3**
VRAC pmax pmax
comp=Z,11nm,1.1s
KRLC Kraliky 19.95 302 P **Pn 01 21 51.9 -1.0**
KRLC pmax pmax
comp=Z,14nm,0.9s
MASF Masafi 19.97 145 P **Pn 01 21 52.9 -0.3**
SNR=15
MSFE Esma-Masafi 19.98 145 *i* P **P 01 21 51.2 -0.5**
SNR=15
KRUC Moravsky 20.01 299 *e*P **Pn 01 21 53.2 -0.4**
KRUC Moravsky 20.01 299 P **Pn 01 21 53.2 -0.4**
KRUC pmax pmax
comp=Z,19nm,1.1s
GHWR Ruwais 20.02 154 P Pn 01 21 53.6 -0.2
ZAG Zagreb 20.05 289 P Pn 01 21 53.9 -0.1
ZAG pmax pmax
comp=Z,83nm,1.0s
MDH Madha 20.09 145 *i* P **P 01 21 53.1 +0.3**
SNR=10.0
MDH Madha 20.09 145 P Pn 01 21 55.2 +0.5
SNR=15
NAZ Nazwa, Dubai 20.10 146 *i* P **P 01 21 53.6 +0.7**
SNR=7.6
NAZ Nazwa, Dubai 20.10 146 P **P 01 21 53.8 +0.9**
SNR=7.9
ARBE Arbavere 20.16 333 *e*P Pn 01 21 55.4 +0.2
AJN Ajban 20.21 149 P Pn 01 21 55.7 -0.4
CONA Conrad Observa 20.22 295 *i* Pn Pn 01 21 56.1 -0.1
comp=Z,35nm,1.3s,SNR=10
FAQ Al Faqa, Dubai 20.29 147 P P 01 21 54.8 -0.2
FAQ Al Faqa, Dubai 20.29 147 P **P 01 21 56.0 +1.0**
SNR=6.4
ASUD Al Ashush, Dub 20.29 148 P Pn 01 21 56.2 -0.8
ASUD Al Ashush, Dub 20.29 148 P Pn 01 21 56.8 -0.2
DPC Dobruska-Polom 20.30 302 *e*P **P 01 21 55.5 +0.5**
DPC Dobruska-Polom 20.30 302 *e*P **P 01 21 55.5 +0.5**
DPC Dobruska-Polom 20.30 302 P **P 01 21 55.1 +0.1**
comp=Z,23nm,1.1s
DPC pP **pP 01 21 58.9 -0.5**
comp=Z,23nm,1.1s
GCIS Gornji Cirnik 20.30 289 *e*P **P 01 21 55.4 +0.4**
JASK Jask - Hormozg 20.31 140 P **P 01 21 55.1 -0.1**
DZA Taraz 20.36 79 *e*P **P 01 21 55.4 -0.4**
comp=Z,24nm,0.8s
DZA Taraz 20.36 79 *e*P **P 01 21 55.3 -0.4**
DZA pmax pmax
comp=Z,24nm,0.8s
UOSS Minazif 20.36 145 P **P 01 21 55.1 -0.7**
UOSS lAmb lAmb 01 22 00.0
comp=Z,115nm,1.1s
UOSS Minazif 20.36 145 *i* P **P 01 21 56.3 +0.5**
SNR=12
UOSS Minazif 20.36 145 P **P 01 21 55.8 0.0**
MTSE Matsula 20.40 330 *e*P **P 01 21 56.5 +0.7**
ARSA Arzberg 20.40 293 *e*Pn Pn 01 21 58.0 -0.2
comp=Z,26nm,1.3s
KSP Ksiaz 20.42 304 *e*P Pn 01 21 57.1 -1.3
KSP Ksiaz 20.42 304 P Pn 01 21 58.2 -0.2
KSP pmax pmax
comp=Z,27nm,1.9s
KSP Ksiaz 20.42 304 P **P 01 21 56.9 +0.6**

comp=Z,27nm,1.9s
HATD Hatta, Dubai 20.44 146 *i* P **P 01 21 56.7 +0.1**
SNR=21
HATD Hatta, Dubai 20.44 146 P **P 01 21 57.1 +0.4**
SNR=35
GAR Garm 20.51 91 P 01 21 57.7 +0.2
UPC Upice 20.52 302 *e*P Pn 01 22 00.0 +0.4
UPC Upice 20.52 302 P Pn 01 21 59.9 +0.3
UPC pmax pmax
comp=Z,32nm,1.4s
ASHO Ashiyiah 20.53 146 *i* P **P 01 21 57.6 -0.1**
SNR=51
ASHO Ashiyiah 20.53 146 P **P 01 21 57.7 0.0**
SNR=28
MZWR Madinat Zayed 20.54 152 P Pn 01 22 00.9 +1.0
TIP Timpagrande 20.54 270 P **P 01 21 57.8 0.0**
TIP Timpagrande 20.54 270 ⇓P **P 01 21 57.3 -0.5**
TIP Timpagrande 20.54 270 P **P 01 21 57.7 -0.1**
comp=Z,29nm,1.1s
BTK Batken 20.57 88 P **P 01 21 59.0 +0.9**
BTK Batken 20.57 88 P **P 01 21 59.0 +0.9**
BTK pmax pmax
comp=Z,34nm,0.9s
TREC Trest 20.64 299 P Pn 01 22 01.9 +0.9
TREC pmax pmax
comp=Z,15nm,1.6s
BRVK Borovoye 20.70 50 ⇓Pn **P 01 21 58.3 -1.0**
comp=Z,98nm,0.8s
BRVK Borovoye 20.70 50 P **P 01 21 59.4 +0.2**
BRVK Borovoye 20.70 50 P **P 01 21 60.0 +0.7**
BRVK Borovoye 20.70 50 *i* P **P 01 21 58.6 -0.6**
BRVK pmax pmax
comp=Z,109nm,1.0s
SOKA Soboth 20.72 291 *i* P **P 01 22 00.1 +0.5**
comp=Z,26nm,1.1s,SNR=12
BVA0 Borovoye Array 20.75 50 Pn **P 01 21 60.0 +0.2**
comp=Z,45nm,0.7s,baz=250,slow=7.6,SNR=224
BVA0 Borovoye Array 20.75 50 P **P 01 22 00.0 +0.2**
BVAR Borovoye Array 20.75 50 P **P 01 21 59.8 0.0**
comp=Z,62nm,0.8s,baz=247,slow=7.2,SNR=157
BVAR S **S 01 25 44.3 -6.6**
comp=Z,7.6nm,0.7s,baz=251,slow=23,SNR=4.1
BVAR LR LR 01 32 41.5
comp=Z,48nm,19.4s,baz=249,slow=44
comp=Z,62nm,0.8s
VISS Visnje 20.85 289 *e*P **P 01 22 01.7 +0.7**
ALNE Al Ain 20.97 147 *i* P **P 01 22 02.8 +0.4**
SNR=16
ALNE Al Ain 20.97 147 P **P 01 22 03.3 +1.0**
SNR=17
CUC Castrocucco 21.00 273 P **P 01 22 03.1 +0.4**
CUC lAmb lAmb 01 22 07.2
comp=Z,105nm,1.2s
OBKA Obir 21.05 291 *i* P **P 01 22 03.3 +0.1**
comp=Z,31nm,1.4s,SNR=5.8
MZR Muzera 21.11 154 *i* P **P 01 22 04.1 +0.2**
SNR=8.5
MZR Muzera 21.11 154 P **P 01 22 04.4 +0.5**
SNR=8.5
SOHO SOHO 21.22 146 *i* P **P 01 22 06.1 +1.1**
SNR=34
SOHO SOHO 21.22 146 P **P 01 22 06.7 +1.7**
SOHO P **P 01 22 06.7 +1.7**
CRNS Crni Vrh 21.25 290 *e*P **P 01 22 06.1 +0.8**
MEF Metsahovi 21.27 333 *e*P **P 01 22 06.0 +0.6**
MOA Molln 21.29 295 *e*P **P 01 22 07.0 +1.3**
comp=Z,14nm,1.4s
CKRC Cesky Krumlov 21.34 297 *e*P **P 01 22 07.3 +1.0**
CKRC Cesky Krumlov 21.34 297 *e*P **P 01 22 07.3 +1.0**
PRU Pruhonice 21.35 301 *e*P **P 01 22 08.1 +1.8**
PRU Pruhonice 21.35 301 *e*P **P 01 22 08.1 +1.8**
BRZS Berezniki 21.37 59 *e*P **P 01 22 05.9 -0.7**
BRZS Berezniki 21.37 59 *e*P **P 01 22 05.8 -0.7**
KBL Kabul 21.38 103 P **P 01 22 10.6 +3.7**
SNR=23
KBL Kabul 21.38 103 P **P 01 22 10.7 +3.7**
KBL pmax pmax
comp=Z,45nm,1.1s
PVCC Panska Ves 21.43 302 P **P 01 22 07.9 +0.7**
PVCC pmax pmax
comp=Z,29nm,1.1s
CEL Celeste 21.48 268 P **P 01 22 08.2 +0.3**
CEL lAmb lAmb 01 22 12.0
comp=Z,70nm,1.2s
CEL Celeste 21.48 268 P **P 01 22 07.9 0.0**
comp=Z,50nm,1.2s
ZVC Zvikov 21.49 299 *e*P **P 01 22 09.0 +1.1**
MYKA Terra Mystica 21.67 291 *e*P **P 01 22 10.5 +0.6**
comp=Z,17nm,1.1s
JOF Joensuu 21.70 345 *e*P **P 01 22 10.1 +0.2**
FIA1 FINESS Array S 21.70 337 P **P 01 22 09.8 -0.1**
FIA1 lAmb lAmb 01 22 17.6
comp=Z,77nm,0.8s
FINES FINESS Array B 21.70 337 P **P 01 22 11.4 +1.5**
comp=Z,9.0nm,0.5s,baz=141,slow=12,SNR=28
FINES LR LR 01 30 19.2
comp=Z,121nm,21.9s,baz=135,slow=36
comp=Z,9.0nm,0.5s
FINES FINESS Array B 21.70 337 P **P 01 22 10.2 +0.3**
BIOA Bad Ischl, Aus 21.70 294 *e*P **P 01 22 10.0 -0.2**
comp=Z,13nm,1.3s
SABO M.te Sabotino 21.71 290 P **P 01 22 10.7 +0.4**
SABO lAmb lAmb 01 22 16.4
comp=Z,48nm,0.9s
PRED Cave del Predi 21.73 291 P **P 01 22 11.3 +0.8**
GEC2 GERESS Array S 21.75 297 P **P 01 22 11.4 +0.7**
GERES GERESS Array B 21.75 297 P **P 01 22 11.6 +0.9**
comp=Z,13nm,0.7s,baz=104,slow=10,SNR=16
comp=Z,13nm,0.7s
ARSB Arslanbob 21.86 83 P **P 01 22 12.7 +0.7**
ARSB Arslanbob 21.86 83 P **P 01 22 12.7 +0.7**
ARSB pmax pmax
comp=Z,37nm,1.0s
KHC Kasperske Hory 21.86 298 P **P 01 22 12.1 +0.3**
KHC Kasperske Hory 21.86 298 *e*P **P 01 22 12.2 +0.4**
KHC Kasperske Hory 21.86 298 *ce*P **P 01 22 13.1 +1.3**
KHC pmax pmax
comp=Z,74nm,2.5s
KHC Kasperske Hory 21.86 298 P **P 01 22 11.5 -0.3**
comp=Z,22nm,1.1s
KBA Koelnbreinsper 21.88 292 *i* P **P 01 22 13.1 +0.8**
comp=Z,37nm,0.9s,SNR=14
KBA Koelnbreinsper 21.88 292 P **P 01 22 13.4 +1.1**
KBA pmax pmax
comp=Z,44nm,0.8s
BRG Berggiesshubel 21.89 303 *e*P **P 01 22 12.8 +0.7**
BRG Amp 01 22 14.0
comp=Z,14nm,1.2s
BRG Berggiesshubel 21.89 303 P **P 01 22 16.9 +4.8**
BRG Amp 01 22 18.4
comp=Z,32nm,1.3s
BRG Berggiesshubel 21.89 303 P P 01 22 23.4 +11
BRG Amp 01 22 23.8
comp=Z,13nm,1.1s
BRG Berggiesshubel 21.89 303 *e*P **P 01 22 12.7 +0.7**
BRG 01 22 16.8
BRG pmax pmax
comp=Z,14nm,1.2s
BRG MLR MLR
comp=Z,342nm,11.0s
ARQ Araqi 21.92 147 P **P 01 22 14.4 +1.7**
SNR=21
INTR Introdacqua 21.94 279 P **P 01 22 12.6 -0.2**
INTR lAmb lAmb 01 22 22.8
comp=Z,142nm,1.5s
HOQ Hoqain 22.03 145 P **P 01 22 15.0 +1.1**
SNR=14
BTLS Baital 22.08 73 *e*P **P 01 22 13.8 -0.4**
comp=Z,19nm,0.8s
BTLS Baital 22.08 73 *e*P **P 01 22 13.8 -0.4**
BTLS pmax pmax
comp=Z,19nm,0.8s
HSKC Hora Svate Kat 22.16 302 *e*P **P 01 22 15.1 +0.1**
EKS2 Erkin-Say 22.17 79 P **P 01 22 16.4 +1.0**
SNR=32
AML Almayashu 22.21 81 P **P 01 22 20.0 +3.9**
SNR=18
LESA Schwarzleotal 22.34 293 *e*P **P 01 22 17.4 +0.3**
comp=Z,54nm,0.9s
FDMO Fiordimonte 22.35 282 P **P 01 22 17.9 +0.8**
NRCA Norcia 22.36 281 P **P 01 22 17.6 +0.2**
NGCH Negor - Chabah 22.37 134 P **P 01 22 18.2 +0.7**
SNR=14
ABTA Abfaltersbach 22.45 292 *i* P **P 01 22 18.4 +0.1**
comp=Z,22nm,0.9s,SNR=8.7
BSD Bornholm Skovb 22.54 314 P **P 01 22 20.2 +1.3**

BSD pmax pmax
comp=Z,60nm,1.3s
BSD Bornholm Skovb 22.54 314 *i* P **P 01 22 19.5 +0.6**
BSD IAmb IAmb 01 22 23.1
comp=Z,75nm,1.1s
CLL Collm 22.55 304 P **P 01 22 19.9 +0.7**
CLL IAmb IAmb 01 22 25.7
comp=Z,49nm,1.1s
CLL Collm 22.55 304 *i* P **P 01 22 18.6 -0.6**
CLL *i* 01 22 22.1
CLL *i* 01 22 24.8
CLL *e*S **S 01 26 26.0 +0.2**
CLL pmax pmax
comp=Z,47nm,1.2s
CLL Collm 22.55 304 *i* P **P 01 22 18.6 -0.6**
comp=Z,47nm,1.2s
CLL *i* pP **pP 01 22 22.1 -1.5**
CLL *i* sP **sP 01 22 24.8 -0.9**
comp=Z,48nm,1.1s
CLL *i* x x 01 22 37.1
CLL *e*S **S 01 26 26.0 +0.2**
CLL AMS AMS 01 30 00.0
comp=N,200nm,18.7s
CLL AMS AMS 01 30 00.0
comp=E,200nm,18.5s
CLL Collm 22.55 304 P **P 01 22 19.1 -0.1**
comp=E,41nm,1.1s
BLEU Blekinge 22.56 317 *i* P **P 01 22 18.4 -0.8**
USP Ospenovka 22.60 77 P **P 01 22 19.5 -0.4**
SNR=25
KEF Keuruu 22.62 337 *e*P **P 01 22 20.7 +0.9**
SGDS Sogindy 22.67 77 *e*P **P 01 22 19.7 -0.9**
SGDS Sogindy 22.67 77 *e*P **P 01 22 19.6 -0.9**
AAK Ala-Archa 22.70 79 P **P 01 22 21.9 +0.9**
AAK Ala-Archa 22.70 79 *i* P **P 01 22 21.5 +0.5**
SNR=47
AAK Ala-Archa 22.70 79 LR LR 01 32 37.7
comp=E,121nm,21.9s,baz=290,slow=40
AAK Ala-Archa 22.70 79 P **P 01 22 22.5 +1.5**
AAK Ala-Archa 22.70 79 *i* P **P 01 22 20.9 -0.1**
AAK pmax pmax
comp=Z,76nm,1.1s
NKC Novy Kostel 22.72 301 P **P 01 22 21.8 +0.8**
NKC pmax pmax
comp=Z,21nm,1.0s
BSY Bisya 22.73 146 P **P 01 22 22.0 +0.8**
SNR=13
BSY P **P 01 22 22.0 +0.8**
SNR=13
RAF Rauma 22.76 332 *e*P **P 01 22 21.7 +0.5**
FRU1 Bishkek 22.77 79 P **P 01 22 21.9 +0.3**
FRU1 Bishkek 22.77 79 P **P 01 22 22.0 +0.3**
FRU1 pmax pmax
comp=Z,171nm,1.2s
CESX Cesi 22.79 281 P **P 01 22 17.7 -4.2**
SMDO Samad 22.81 144 P **P 01 22 23.0 +0.7**
SNR=22
SMDO P **P 01 22 23.0 +0.7**
SNR=22
CHMS Chumysh 22.82 78 P **P 01 22 23.2 +1.0**
SNR=11
VAE Valguarnera 22.86 267 P **P 01 22 22.9 +0.3**
comp=Z,12nm,1.0s,baz=152,slow=3.3,SNR=4.2
comp=Z,12nm,1.0s
KBK Karagaybulak 23.02 79 P **P 01 22 25.1 +0.7**
SNR=56
WTTA Wattenberg 23.05 293 *i* P **P 01 22 24.1 -0.6**
comp=Z,99nm,1.1s,SNR=32
WTTA Wattenberg 23.05 293 P **P 01 22 24.3 -0.4**
WTTA pmax pmax
comp=Z,95nm,1.3s
CTI Castel Tesino 23.07 290 P **P 01 22 24.9 +0.1**
CTI Castel Tesino 23.07 290 P **P 01 22 24.9 +0.1**
CTI pmax pmax
comp=Z,15nm,0.9s
WATA Walderalm 23.09 293 *i* P **P 01 22 25.2 +0.2**
comp=Z,87nm,1.2s,SNR=20
TEOL Teolo 23.09 288 P **P 01 22 24.9 0.0**
MOX Moxa 23.30 302 P **P 01 22 30.2 +3.2**
MOX pmax pmax
comp=Z,13nm,1.1s
SQTA Sankt Quirin 23.34 293 *i* P **P 01 22 26.9 -0.7**
comp=Z,44nm,0.9s,SNR=25
MOTA Moosalm 23.41 293 *e*P **P 01 22 27.4 -0.9**
comp=Z,78nm,1.6s
JMDO Jabal Madar 23.44 144 P **P 01 22 29.1 +0.5**
SNR=8.9
TKM2 Tokmak 2 23.45 78 P **P 01 22 28.8 0.0**
SNR=62
TKM2 Tokmak 2 23.45 78 ⇓P **P 01 22 29.3 +0.5**
comp=Z,68nm,1.1s
TKM2 Tokmak 2 23.45 78 P **P 01 22 29.3 +0.5**
LUNU Lund 23.50 314 *i* P **P 01 22 28.0 -0.9**
DEL Delary 23.61 317 *i* P **P 01 22 30.0 +0.1**
WBK Wadi Bani Khal 23.61 142 P **P 01 22 31.1 +0.8**
SNR=6.7
WBK P **P 01 22 31.1 +0.8**
SNR=6.7
RETA Reutte 23.64 294 *i* P **P 01 22 30.2 -0.3**
comp=Z,21nm,0.8s,SNR=15
FETA Feichten 23.67 292 *e*P **P 01 22 30.2 -0.7**
comp=Z,45nm,1.1s,SNR=22
ZCCA Zocca 23.68 286 P **P 01 22 30.8 0.0**
BOOM Boomskoye usch 23.78 79 P **P 01 22 33.7 +1.8**
BOOM IAmb IAmb 01 22 40.0
comp=Z,70nm,1.4s
BOOM Boomskoye usch 23.78 79 P **P 01 22 33.7 +1.8**
BOOM pmax pmax
comp=Z,71nm,1.4s
KUU Kurty 23.83 75 *e*P **P 01 22 31.7 -0.6**
comp=Z,43nm,0.9s
KUU Kurty 23.83 75 *e*P **P 01 22 31.6 -0.6**
KUU pmax pmax
comp=Z,43nm,0.9s
BJUU Bjuv 23.89 315 *i* P **P 01 22 32.3 -0.3**
VAF Ylistaro 23.95 336 *e*P **P 01 22 33.6 +0.5**
FUORN Ofenpass-Fuorn 24.00 291 P **P 01 22 33.7 -0.4**
FUORN IAmb IAmb 01 22 38.9
comp=Z,60nm,1.4s
NRN Naryn 24.04 81 P **P 01 22 35.3 +0.6**
NRN IAmb IAmb 01 22 42.6
comp=Z,47nm,1.2s
NRN Naryn 24.04 81 P **P 01 22 35.3 +0.6**
NRN pmax pmax
comp=Z,47nm,1.2s
PRMA PARMA 24.11 287 P **P 01 22 35.7 +0.9**
JLN Jalan Bani Buh 24.21 142 P **P 01 22 35.6 -0.3**
SNR=8.6
DAVA Damuels 24.24 293 *i* P **P 01 22 35.6 -0.7**
comp=Z,35nm,0.8s,SNR=13
CHKK Chushkaly 24.30 75 *e*P **P 01 22 36.5 -0.2**
CHKK Chushkaly 24.30 75 *e*P **P 01 22 36.4 -0.2**
AAA Alma-Ata 24.35 77 *e*P **P 01 22 36.6 -0.6**
AAA Alma-Ata 24.35 77 *e*P **P 01 22 36.6 -0.6**
FABU Falkenberg 24.40 317 *i* P **P 01 22 36.9 -0.5**
MDOK Medeo 24.45 77 ⇑P **P 01 22 38.6 +0.4**
comp=Z,50nm,1.2s
MDOK Medeo 24.45 77 *e*P **P 01 22 37.6 -0.7**
MDOK Medeo 24.45 77 P **P 01 22 38.6 +0.4**
KSH Kashi 24.53 86 P **P 01 22 38.8 -0.1**
KSH S **S 01 27 01.5 +2.4**
KSH pmax pmax
comp=Z,44nm,1.5s
KSH pmax pmax
comp=Z,260nm,3.6s
MHTO MHTO 24.61 146 P **P 01 22 39.3 -0.3**
SNR=10
MHTO P **P 01 22 39.3 -0.3**
SNR=10
BORU Boraas 24.63 319 *i* P **P 01 22 39.8 +0.3**
TUE Stuetta 24.64 291 P **P 01 22 39.6 -0.3**
TUE Stuetta 24.64 291 P **P 01 22 39.7 -0.3**
comp=Z,123nm,1.0s
STU Stuttgart 24.71 297 P **P 01 22 39.8 -0.5**
STU Stuttgart 24.71 297 P **P 01 22 39.8 -0.5**
STU pmax pmax
comp=Z,60nm,1.0s
KDJ Kajisay 24.75 79 P **P 01 22 41.2 +0.3**
KDJ IAmb IAmb 01 22 46.7
comp=Z,43nm,1.1s
KDJ Kajisay 24.75 79 P **P 01 22 41.2 +0.3**
KDJ pmax pmax
comp=Z,43nm,1.1s
OUL Oulu 24.75 342 P **P 01 22 41.6 +1.1**
OUL pmax pmax
comp=Z,38nm,1.8s
ARXS Arharly 24.85 74 *e*P **P 01 22 42.9 +1.2**
NIL Nilore 24.86 101 P **P 01 22 42.8 +1.0**
NIL IAmb IAmb 01 22 48.9
comp=Z,32nm,0.8s
NIL Nilore 24.86 101 P **P 01 22 44.1 +2.3**
NIL Nilore 24.86 101 P **P 01 22 42.8 +1.0**
NIL pmax pmax
comp=Z,32nm,0.8s
ONAU Onsala 24.96 318 *i* P **P 01 22 42.5 +0.2**
TDK Taldyqorghan 25.16 72 *e*P **P 01 22 43.7 -0.7**
comp=Z,31nm,0.8s
TDK Taldyqorghan 25.16 72 *e*P **P 01 22 43.7 -0.7**
TDK pmax pmax
comp=Z,31nm,0.8s
KURBB Kurchatov Arra 25.17 59 ⇓P **P 01 22 44.9 +0.5**
comp=Z,71nm,1.6s
KURBB Kurchatov Arra 25.17 59 P **P 01 22 45.0 +0.5**
comp=Z,16nm,0.8s,baz=271,slow=9.9,SNR=46
comp=Z,16nm,0.8s
SLE Schleitheim 25.18 294 P **P 01 22 44.3 -0.2**
SLE pmax pmax
comp=Z,40nm,1.1s
KURK Kurchatov 25.23 59 P **P 01 22 45.0 +0.1**
KURK IAmb IAmb 01 22 53.3
comp=Z,51nm,1.2s
KURK Kurchatov 25.23 59 P **P 01 22 45.7 +0.7**
KURK Kurchatov 25.23 59 *i* P **P 01 22 44.7 -0.3**
KURK pmax pmax
comp=Z,43nm,1.1s
BFO Black Forest 25.28 296 P **P 01 22 44.6 -0.9**
BFO Black Forest 25.28 296 P **P 01 22 44.6 -0.9**
BFO pmax pmax
comp=Z,24nm,1.2s
TARG Taragay, Kyrgy 25.29 80 P **P 01 22 46.4 +0.3**
TARG Taragay, Kyrgy 25.29 80 P **P 01 22 46.4 +0.3**
TARG pmax pmax
comp=Z,14nm,0.8s
TJOU Tjoern 25.36 319 *i* P **P 01 22 45.6 -0.4**
HFS Hagfors 25.37 324 P **P 01 22 46.6 +0.5**
comp=Z,14nm,0.6s,baz=133,slow=10,SNR=26
HFS LR LR 01 33 52.6
comp=Z,219nm,20.6s,baz=104,slow=39
comp=Z,14nm,0.6s
PGF Pioggiola 25.40 282 *e*P **P 01 22 48.8 +2.1**
PGF pmax pmax
comp=Z,44nm,1.2s
DOK Doka 25.42 156 P **P 01 22 46.5 -0.5**
SNR=5.3
SSRD Sdr. Stenderup 25.51 312 *i* P **P 01 22 47.0 -0.4**
SSRD IAmb IAmb 01 22 54.4
comp=Z,62nm,0.7s
PRZ Przheval'sk 25.56 78 P **P 01 22 49.2 +0.9**
PRZ Przheval'sk 25.56 78 P **P 01 22 49.2 +0.9**
PRZ pmax pmax
comp=Z,94nm,1.1s
KPKS Kokpek 25.58 76 *e*P **P 01 22 47.8 -0.5**
KPKS Kokpek 25.58 76 *e*P **P 01 22 47.8 -0.5**
OVD Ostervraa, Den 25.79 317 *i* P **P 01 22 49.9 0.0**
OVD IAmb IAmb 01 22 54.8
comp=Z,121nm,1.2s
UZB Uzynbulak 25.88 76 *e*P **P 01 22 50.5 -0.7**
UZB Uzynbulak 25.88 76 *e*P **P 01 22 50.4 -0.7**
VSL Villasalto 25.90 275 P **P 01 22 51.4 +0.3**
VSL IAmb IAmb 01 22 57.8
comp=Z,30nm,0.9s
LVZ Lovozero 25.91 352 P **P 01 22 52.0 +1.0**
LVZ Lovozero 25.91 352 *i* P **P 01 22 53.7 +2.7**
LVZ pmax pmax
comp=Z,47nm,0.9s
WHFO Wadi Hawf 25.98 157 P **P 01 22 51.4 -0.7**
SNR=7.1
STRU Stroemstad 25.98 321 *i* P **P 01 22 49.8 -1.9**
MUD Monsted U'grnd 26.04 314 *i* P **P 01 22 52.3 +0.1**
MUD IAmb IAmb 01 22 54.1
comp=Z,57nm,1.4s
SENIN Lac Senin/Sane 26.06 291 P **P 01 22 52.2 -0.6**
ECH Echery 26.06 295 P **P 01 22 52.0 -0.6**
ECH IAmb IAmb 01 22 57.3
comp=Z,57nm,1.8s
ECH Echery 26.06 295 P **P 01 22 52.0 -0.6**
ECH pmax pmax
comp=Z,57nm,1.8s
PDGK Podgornoye 26.18 76 ⇓P **P 01 22 54.0 +0.2**
comp=Z,47nm,1.8s
PDGK Podgornoye 26.18 76 P **P 01 22 54.3 +0.5**
SHLS Shalkode 26.19 76 *e*P **P 01 22 56.0 +2.1**
comp=Z,13nm,0.9s
SHLS Shalkode 26.19 76 *e*P **P 01 22 56.0 +2.1**
SHLS pmax pmax
comp=Z,13nm,0.9s
GOET G??ttrup 26.20 316 *i* P **P 01 22 54.7 +1.1**
GOET IAmb IAmb 01 23 00.1
comp=Z,137nm,1.3s
SEM Semipalatinsk 26.25 60 *e*P **P 01 22 53.7 -0.8**
SEM Semipalatinsk 26.25 60 *e*P **P 01 22 53.6 -0.8**
HINF Hinteralfeld 26.28 294 *e*P **P 01 22 53.5 -1.1**
HINF pmax pmax
comp=Z,53nm,2.1s
ABTO Aybut 26.39 159 P **P 01 22 55.2 -0.5**
SNR=5.3
WUS Wushi 26.45 81 P **P 01 22 57.3 +1.0**
RBK Rabkut 26.50 157 P **P 01 22 56.3 -0.4**
SNR=9.0
DMTO DMTO 26.52 155 P **P 01 22 56.7 -0.2**
LPG La Plagne 26.53 289 *e*P **P 01 22 56.7 -0.4**
LPG pmax pmax
comp=Z,59nm,1.6s
LPL La Plagne 26.54 289 *e*P **P 01 22 56.8 -0.3**
LPL pmax pmax
comp=Z,18nm,0.9s
NC602 NORSAR Array S 26.60 324 P **P 01 22 58.0 +0.8**
NC602 IAmb IAmb 01 23 23.1
comp=Z,53nm,1.7s
NORES NORESS Array B 26.60 324 P **P 01 23 00.6 +3.4**
HAU Haudompre 26.61 295 *e*P **P 01 22 56.5 -1.1**
HAU pmax pmax
comp=Z,10.0nm,0.8s
BNI Bardonecchia 26.64 288 P **P 01 22 58.2 +0.3**
BNI IAmb IAmb 01 23 11.8
comp=Z,42nm,1.2s
BNI Bardonecchia 26.64 288 P **P 01 22 58.2 +0.3**
BNI pmax pmax
comp=Z,42nm,1.3s
NC405 NORSAR Array S 26.71 325 P **P 01 22 58.4 +0.2**
NC405 IAmb IAmb 01 23 18.6
comp=Z,52nm,1.2s
WLF Walferdange 26.73 299 P **P 01 22 58.6 +0.1**
WLF IAmb IAmb 01 23 03.3
comp=Z,47nm,1.5s
WLF Walferdange 26.73 299 P **P 01 22 58.6 +0.1**
WLF pmax pmax
comp=Z,47nm,1.5s
WLF Walferdange 26.73 299 *d*P **P 01 23 02.7 +4.2**
MEM Membach 26.86 301 P **P 01 23 02.2 +2.5**
MEM pmax pmax
comp=Z,26nm,1.2s
MEM Membach 26.86 301 *d*P **P 01 23 01.7 +2.1**
comp=Z,14nm,1.1s
CABF La Chapelle 26.87 292 *e*P **P 01 22 59.4 -0.6**
CABF pmax pmax
comp=Z,25nm,1.0s
NB2 NORSAR Subarra 26.88 325 P **P 01 22 59.1 -0.8**
comp=Z,22nm,1.1s,baz=121,slow=9.3
NB2 NORSAR Subarra 26.88 325 P **P 01 23 00.3 +0.4**
NOA NORSAR Array B 26.88 325 P **P 01 23 00.2 +0.3**
comp=Z,3.9nm,0.9s,baz=121,slow=9.5,SNR=14
NOA LR LR 01 33 51.0
comp=Z,106nm,19.9s,baz=120,slow=37
comp=Z,3.9nm,0.9s
NC303 NORSAR Array S 26.91 325 P **P 01 23 00.4 +0.3**
NC303 IAmb IAmb 01 23 24.1
comp=Z,51nm,1.1s
HOMB Homborsund 26.98 318 *i* P **P 01 22 59.0 -1.6**
NBO00 NORSAR Array S 27.07 325 P **P 01 23 02.0 +0.5**
NBO00 IAmb IAmb 01 23 09.2
comp=Z,31nm,1.2s
NC204 NORSAR Array S 27.19 325 P **P 01 23 03.8 +1.1**
NC204 IAmb IAmb 01 23 23.5
comp=Z,61nm,1.6s
KEST Kesra 27.29 267 P **P 01 23 03.6 -0.2**
KEST IAmb IAmb 01 23 08.6
comp=Z,30nm,1.1s
KEST Kesra 27.29 267 P **P 01 23 04.1 +0.3**
comp=Z,21nm,1.0s,baz=346,slow=1.7,SNR=12
comp=Z,21nm,1.0s
MAKZ Makanchi 27.45 68 ⇓P **P 01 23 05.0 -0.1**
comp=Z,44nm,1.5s
MAKZ Makanchi 27.45 68 P **P 01 23 05.5 +0.4**
MAKZ IAmb IAmb 01 23 12.8
comp=Z,29nm,1.1s
MAKZ Makanchi 27.45 68 P **P 01 23 05.5 +0.4**
MAKZ pmax pmax
comp=Z,29nm,1.1s
MK31 Makanchi Array 27.67 68 P **P 01 23 07.6 +0.6**
comp=Z,5.9nm,0.5s,baz=276,slow=6.7,SNR=68
MK31 Makanchi Array 27.67 68 P **P 01 23 08.0 +0.9**
MK31 IAmb IAmb 01 23 13.3
comp=Z,40nm,1.6s
MK31 Makanchi Array 27.67 68 *i* P **P 01 23 07.2 +0.1**
MKAR Makanchi Array 27.67 68 P **P 01 23 07.6 +0.6**
comp=Z,4.9nm,0.4s,baz=270,slow=8.4,SNR=56
comp=Z,4.9nm,0.4s
MKAR Makanchi Array 27.67 68 *i* P **P 01 23 07.5 +0.4**
MKAR pmax pmax
comp=Z,5.0nm,0.4s
DOU Dourbes 27.74 299 *d*P **P 01 23 10.6 +2.9**
SSB Saint Sauveur 28.10 289 P **P 01 23 10.8 -0.1**
SSB IAmb IAmb 01 23 15.3
comp=Z,34nm,1.3s
SSB Saint Sauveur 28.10 289 P **P 01 23 10.8 -0.1**
SSB pmax pmax
comp=Z,34nm,1.3s
LOR Lormes 28.34 293 *e*P **P 01 23 11.8 -1.2**
LOR pmax pmax
comp=Z,24nm,1.5s
SMF Signal de Mont 28.41 292 *e*P **P 01 23 12.9 -0.8**
SMF pmax pmax
comp=Z,93nm,2.4s
ARCES ARCESS Array B 28.68 347 P **P 01 23 17.3 +1.5**
comp=Z,2.2nm,0.7s,baz=148,slow=9.5,SNR=9.3
ARCES LR LR 01 35 12.2
comp=Z,141nm,19.0s,baz=138,slow=38
comp=Z,2.2nm,0.7s
AVF Avril sur Loir 28.73 293 *e*P **P 01 23 15.9 -0.6**
AVF pmax pmax
comp=Z,14nm,0.9s
ZAA0 Zalesovo Array 29.34 53 P **P 01 23 20.9 -0.9**
ZALV Zalesovo Beam 29.34 53 P **P 01 23 21.3 -0.6**
comp=Z,2.9nm,0.5s,baz=270,slow=9.9,SNR=20
ZALV LR LR 01 35 12.0
comp=Z,44nm,19.6s,baz=356,slow=36
comp=Z,2.9nm,0.5s
ZALV Zalesovo Beam 29.34 53 *i* P **P 01 23 22.5 +0.7**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZSN Zaisan 29.36 66 *e*P **P 01 23 21.4 -0.7**
comp=Z,9.1nm,0.9s
ZSN Zaisan 29.36 66 *e*P **P 01 23 21.4 -0.7**
ZSN pmax pmax
comp=Z,9.0nm,0.9s
TCF Toulx Ste Croi 29.57 292 *e*P **P 01 23 23.9 -0.1**
TCF pmax pmax
comp=Z,34nm,1.6s
LFF La Frestale 30.81 289 *e*P **P 01 23 34.7 -0.2**
LFF pmax pmax
comp=Z,273nm,2.7s
LDF La Druitiere 30.89 297 *e*P **P 01 23 36.6 +1.1**
LDF pmax pmax
comp=Z,63nm,1.7s
FLN La Foliniere 31.11 297 *e*P **P 01 23 38.8 +1.3**
FLN pmax pmax
comp=Z,43nm,1.6s
MFF Saint Martin d 31.14 293 *e*P **P 01 23 36.5 -1.3**
MFF pmax pmax
comp=Z,132nm,2.3s
GRR Gorron 31.39 296 *e*P **P 01 23 39.2 -0.8**
GRR pmax pmax
comp=Z,198nm,2.5s
WMQ Urumqi 31.91 72 *e*P **P 01 23 46.4 +1.7**
WMQ pP sP 01 23 50.7 -0.8
WMQ sP pP 01 23 56.0 +6.2
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ LR LR
comp=Z,410nm,13.7s
WMQ LR LR
comp=Z,410nm,13.7s
WMQ LR LR
comp=Z,160nm,15.9s
EKA Eskdalemuir Ar 32.66 310 P **P 01 23 50.9 -0.1**
comp=Z,4.9nm,0.8s,baz=98,slow=8.9,SNR=7.2
EKA PcP **PcP 01 26 36.5 -0.1**
comp=Z,1.4nm,0.6s,baz=85,slow=2.8,SNR=4.4
comp=Z,4.9nm,0.8s
QUIF Quistinic 32.99 296 *e*P **P 01 23 58.0 +4.0**
QUIF pmax pmax
comp=Z,124nm,1.8s
FURI Furi 33.74 189 LR LR 01 38 11.2
comp=Z,212nm,18.2s,baz=7.5,slow=37
NRIK Noril'sk 35.10 25 P **P 01 24 12.7 +0.7**
NRIK IAmb IAmb 01 24 18.2
comp=Z,21nm,1.0s
NRIK Noril'sk 35.10 25 P **P 01 24 13.2 +1.2**
comp=Z,16nm,0.9s,baz=227,slow=5.3,SNR=9.6
NRIK LR LR 01 41 23.6
comp=Z,186nm,18.5s,baz=234,slow=41
comp=Z,16nm,0.9s
ESDC Sonseca Array 35.59 282 P **P 01 24 16.2 -0.6**
comp=Z,5.7nm,1.0s,baz=57,slow=7.5,SNR=13
comp=Z,5.7nm,1.0s
PAB San Pablo 35.92 282 P **P 01 24 19.4 -0.2**
PAB IAmb IAmb 01 24 22.5
comp=Z,35nm,1.4s
PAB San Pablo 35.92 282 P **P 01 24 19.4 -0.2**
PAB pmax pmax
comp=Z,35nm,1.5s
TAM Tamanrasset 37.20 250 P **P 01 24 30.6 -0.1**
TAM Tamanrasset 37.20 250 P **P 01 24 30.6 -0.1**
SPITS Spitsbergen Ar 37.42 351 P **P 01 24 32.8 +1.0**
comp=Z,25nm,1.1s,baz=131,slow=12,SNR=7.6
comp=Z,25nm,1.1s
JMIC Jan Mayen 38.30 335 LR LR 01 39 00.7
comp=Z,75nm,19.9s,baz=130,slow=34
HYB Hyderabad 38.83 119 *e*P **P 01 24 44.5 +0.1**
HYB IVmB_BB 01 24 46.7
comp=Z,242nm,1.5s
LODK Lodwar 39.59 193 P **P 01 24 51.3 +0.6**
LODK Lodwar 39.59 193 P **P 01 24 49.8 -1.0**
GOMU GeErMu 39.60 82 P **P 01 24 52.2 +1.1**
GOMU PcP **PcP 01 26 59.4 +1.3**
GOMU S **S 01 30 54.7 +0.9**
GOMU pmax pmax
comp=Z,18nm,1.0s
GOMU pmax pmax
comp=Z,200nm,4.5s
GOMU LR LR
comp=Z,210nm,17.4s
GOMU LR LR
comp=Z,270nm,14.3s
GOMU LR LR
comp=Z,270nm,15.0s
ZAK Zakamensk 40.88 58 *e*P **P 01 25 01.9 +0.7**
ZAK *e* 01 27 03.5
ZAK pmax pmax
comp=Z,8.0nm,1.3s
GTA Gaotai 41.91 75 *e*P **P 01 25 10.8 +1.0**
GTA pP pP 01 25 14.2 -0.8
GTA PP **PnPn 01 26 49.9 -1.8**
GTA pmax pmax
comp=Z,7.0nm,1.2s
GTA LR LR
comp=Z,150nm,15.3s
GTA LR LR
comp=Z,140nm,15.6s
GTA LR LR
comp=Z,160nm,14.9s
BORG Borgarnes 42.06 325 LR LR 01 42 26.8
comp=Z,90nm,18.3s,baz=84,slow=36
SHL Shillong 42.83 97 P **P 01 25 16.7 -0.8**
SHL Shillong 42.83 97 P **P 01 25 16.7 -0.8**
SHL pmax pmax
comp=Z,99nm,1.7s
SONM Songino Array 43.52 60 P **P 01 25 22.9 +0.1**
comp=Z,3.1nm,0.8s,baz=282,slow=8.9,SNR=14
SONM LR LR 01 45 55.9
comp=Z,128nm,19.9s,baz=288,slow=39
comp=Z,3.1nm,0.8s
KMBO Kilima Mbogo 43.80 189 P **P 01 25 25.1 -0.3**
KMBO Kilima Mbogo 43.80 189 P **P 01 25 25.6 +0.3**
comp=Z,3.4nm,0.9s,baz=30,slow=10,SNR=8.1
comp=Z,3.4nm,0.9s

KMBO Kilima Mbogo 43.80 189 *i* P **P 01 25 26.8 +1.4**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 43.93 60 P **P 01 25 26.6 +0.5**
ULN IAmb IAmb 01 25 32.4
comp=Z,21nm,1.1s
ULN Ulaanbaatar 43.93 60 P **P 01 25 27.4 +1.3**
ULN Ulaanbaatar 43.93 60 P **P 01 25 26.6 +0.5**
ULN pmax pmax
comp=Z,21nm,1.1s
NOR Nord 43.98 349 *i* P **P 01 25 27.8 +2.0**
NOR IAmb IAmb 01 25 44.8
comp=Z,11nm,1.3s
MBAR Mbarara 44.44 199 P **P 01 25 29.8 -0.6**
MBAR Mbarara 44.44 199 P **P 01 25 30.4 -0.1**
MBAR Mbarara 44.44 199 P **P 01 25 29.8 -0.6**
MBAR pmax pmax
comp=Z,7.0nm,0.9s
KIBK Kibwezi 44.91 188 P **P 01 25 34.6 +0.6**
LZH Lanzhou 46.21 77 *e*P **P 01 25 45.7 +1.3**
LZH pP pP 01 25 49.8 +0.1
LZH pmax pmax
comp=Z,31nm,1.1s
LZH LR LR
comp=Z,290nm,14.1s
LZH LR LR
comp=Z,230nm,13.7s
LZH LR LR
comp=Z,200nm,11.7s
TORD Torodi Ar. Bea 46.50 244 P **P 01 25 45.5 -1.1**
comp=Z,33nm,0.8s,baz=33,slow=9.0,SNR=176
comp=Z,33nm,0.8s
SUMG Summit 47.73 336 *i* P **P 01 25 57.6 +1.5**
SUMG IAmb IAmb 01 26 06.6
comp=Z,35nm,1.5s
BTO Baotou 48.58 69 *e*P **P 01 26 03.1 +0.4**
BTO pP **pP 01 26 07.6 -0.1**
BTO sP **sP 01 26 10.0 +0.4**
BTO PP **PP 01 27 54.6 -0.8**
BTO S **S 01 33 04.8 +0.8**
BTO SS **SS 01 36 26.8 -6.9**
BTO pmax pmax
comp=Z,25nm,1.8s
BTO pmax pmax
comp=Z,310nm,4.8s
BTO LR LR
comp=Z,510nm,20.6s
BTO LR LR
comp=Z,390nm,17.1s
BTO LR LR
comp=Z,220nm,17.0s
ICESG Greenland Ices 48.75 332 *i* P **P 01 26 03.4 -0.5**
ICESG IAmb IAmb 01 26 11.0
comp=Z,24nm,1.0s
TIXI Tiksi 48.88 25 P **P 01 26 05.3 +0.9**
TIXI Tiksi 48.88 25 LR LR 01 49 25.3
comp=Z,40nm,18.5s,baz=14,slow=39
TIXI Tiksi 48.88 25 P **P 01 26 05.3 +0.9**
TIXI pmax pmax
comp=Z,33nm,1.4s
HHC Hu-ho-hao-te 49.53 68 *e*P **P 01 26 10.4 +0.4**
HHC sP sP 01 26 18.7 +1.7
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.4s
HHC LR LR
comp=Z,300nm,15.3s
HHC LR LR
comp=Z,210nm,16.0s
HHC LR LR
comp=Z,160nm,16.0s
PZH PanZhiHua 49.57 89 P **P 01 26 12.8 +2.3**
PZH pmax pmax
comp=Z,20nm,1.3s
PZH pmax pmax
comp=Z,100nm,5.5s
NEEM North Greenlan 49.94 343 *i* P **P 01 26 12.3 -0.5**
NEEM IAmb IAmb 01 26 18.3
comp=Z,22nm,1.1s
XAN Xi'an 50.85 77 P **P 01 26 21.1 +1.1**
XAN sP sP 01 26 27.6 +0.7
XAN pmax pmax
comp=Z,30nm,1.3s
XAN LR LR
comp=Z,200nm,12.5s
XAN LR LR
comp=Z,330nm,10.7s
XAN LR LR
comp=Z,240nm,11.3s
KMI Kunming 51.09 90 ⇓P **P 01 26 22.9 +0.7**
KMI pmax pmax
comp=Z,19nm,0.8s
XLT XiLinHaoTe 51.25 62 *e*P P 01 26 13.8 -9.1
XLT pP pP 01 26 17.6 -10
XLT sP sP 01 26 23.5 -6.4
XLT pmax pmax
comp=Z,10.0nm,1.1s
XLT LR LR
comp=N,25nm,11.6s
XLT LR LR
comp=E,170nm,19.0s
XLT LR LR
comp=Z,79nm,10.9s
YAK Yakutsk 51.88 37 LR LR 01 52 47.9
comp=Z,121nm,18.7s,baz=297,slow=41
YAK Yakutsk 51.88 37 *e*P **P 01 26 30.6 +3.4**
YAK *e**PP **sP 01 26 36.4 +2.2**
YAK *e* 01 28 27.6
YAK *e*S **S 01 33 53.8 +4.8**
YAK *e**SS **sS 01 34 00.3 +2.6**
YAK *e* 01 36 19.8
YAK pmax pmax
comp=Z,28nm,1.5s
YAK pmax pmax
comp=N,16nm,1.0s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=Z,56nm,2.1s
YAK pmax pmax
comp=N,31nm,2.0s
YAK pmax pmax
comp=E,44nm,2.0s
YAK smax smax
comp=E,38nm,3.0s
YAK smax smax
comp=N,42nm,2.0s
CHTO Chiang Mai 52.11 99 P **P 01 26 29.3 -0.3**
CHTO IAmb IAmb 01 26 33.6
comp=Z,25nm,1.2s
CHTO Chiang Mai 52.11 99 P **P 01 26 29.3 -0.3**
CHTO pmax pmax
comp=Z,25nm,1.2s
CMAR Chiang Mai Arr 52.34 99 P **P 01 26 31.6 +0.4**
comp=Z,7.6nm,0.8s,baz=300,slow=8.4,SNR=30
CMAR LR LR 01 51 57.9
comp=Z,20nm,21.2s,baz=10.0,slow=40
comp=Z,7.6nm,0.8s
CMAR Chiang Mai Arr 52.34 99 *i* P **P 01 26 31.6 +0.4**
CMAR pmax pmax
comp=Z,9.0nm,0.8s
ENH Enshi 53.20 80 P **P 01 26 38.2 +0.6**
GYA Guiyang 53.23 86 P **P 01 26 39.5 +1.6**
GYA pmax pmax
comp=Z,11nm,0.6s
GYA LR LR
comp=Z,310nm,15.3s
PHRA Phrae 53.25 98 P **P 01 26 38.1 +0.2**
HNS HongShan 53.29 70 *e*P **P 01 26 38.8 +0.7**
HNS LR LR
comp=Z,230nm,14.3s
HNS LR LR
comp=Z,130nm,10.4s
HNS LR LR
comp=Z,150nm,17.3s
SFJD Kangerlussuaq 53.31 331 LR LR 01 49 06.6
comp=Z,99nm,20.0s,baz=142,slow=36
ZEA Zeya 53.85 47 *e*P P 01 26 47.7 +5.8
SLVN Son La 54.20 93 P **P 01 26 45.6 +0.7**
EUNU Eureka 54.54 351 P **P 01 26 48.0 +1.3**
HEH HeiHe 55.45 51 *e*P **P 01 26 53.6 +0.1**
HEH pmax pmax
comp=Z,14nm,0.9s
DBIC Dimbokro 55.60 244 P **P 01 26 54.2 -0.9**
comp=Z,8.6nm,0.9s,baz=26,slow=7.2,SNR=8.3
comp=Z,8.6nm,0.9s
BBTS Babate 58.28 261 LR LR 01 55 58.2
comp=Z,32nm,18.3s,baz=324,slow=40
KLR Kul'dur 58.41 50 LR LR 01 53 50.7
comp=Z,53nm,19.7s,baz=301,slow=38
KLR Kul'dur 58.41 50 *e*P **P 01 27 13.5 -1.1**
KLR pmax pmax
comp=Z,9.0nm,1.4s
NJ2 Nanjing 58.98 73 *e*P **P 01 27 17.8 -1.0**
NJ2 pP **pP 01 27 23.2 -0.7**
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
NJ2 pmax pmax
comp=Z,150nm,3.6s
RES Resolute Bay 59.89 348 LR LR 01 54 45.9
comp=Z,29nm,18.4s,baz=16,slow=38
ABPO Ambohimpanom 61.29 176 P **P 01 27 35.4 +0.6**
ABPO IAmb IAmb 01 27 36.1
comp=Z,16nm,1.1s
ABPO Ambohimpanom 61.29 176 P **P 01 27 35.4 +0.6**
ABPO pmax pmax
comp=Z,16nm,1.1s
BILL Bilibino 61.74 21 P **P 01 27 37.9 +0.7**
MA2 Magadan 62.08 33 LR LR 01 59 34.1
comp=Z,205nm,18.1s,baz=300,slow=41
KSAR Wonju Array Be 62.22 64 P **P 01 27 39.8 -1.0**
KSRS Korea Array 62.24 63 P **P 01 27 40.8 -0.2**
comp=Z,4.1nm,0.8s,baz=295,slow=7.2,SNR=9.1
KSRS LR LR 01 55 37.6
comp=Z,66nm,19.0s,baz=310,slow=37
comp=Z,4.1nm,0.8s
PSI Prapat 63.07 113 P **P 01 27 45.8 -1.1**
PSI pmax pmax
comp=Z,23nm,1.2s
RPSI Rantau Prapat 63.14 113 P **P 01 27 45.8 -1.5**
GSI Gunungsitoli 63.25 115 P **P 01 27 46.6 -1.4**
SOOWA Sowa 64.76 198 *i* P **P 01 27 58.5 +0.8**
BROLN Tlhalogang 65.03 197 *i* P **P 01 27 59.8 +0.2**
QNGWA Qangwa 65.09 203 *i* P **P 01 28 00.4 +0.5**
A36M Sachs Harbour 65.55 356 P **P 01 28 03.1 +0.9**
A36M IAmb IAmb 01 28 08.0
comp=Z,10nm,0.8s
A36M Sachs Harbour 65.55 356 P **P 01 28 01.4 -0.8**
baz=9.0,SNR=9.0
TSUM Tsumeb 65.91 207 LR LR 02 00 47.2
comp=Z,54nm,18.2s,baz=159,slow=40
A22K Sinclair Lake 66.03 7 P **P 01 28 04.3 -0.9**
baz=345
CKGRV CKGRV 66.16 200 *i* P **P 01 28 07.4 +0.6**
A19K Wainwright 66.19 9 P **P 01 28 06.1 -0.1**
baz=340
MREMI Moremi 66.43 196 *i* P **P 01 28 08.9 +0.5**
JNU Nakatsue 66.71 66 LR LR 02 01 06.5
comp=Z,56nm,20.5s,baz=338,slow=39
B20K Meade River 66.79 8 P **P 01 28 08.9 -1.3**
baz=343
B22K Teshekpuk Lake 66.80 6 P **P 01 28 09.0 -1.2**
baz=346
GRTLG Ghanzi 66.81 203 *i* P **P 01 28 11.6 +0.6**
B18K Kokolik River 66.89 10 P **P 01 28 10.5 -0.3**
baz=340
C19K Lookout Ridge 67.40 9 P **P 01 28 13.0 -1.2**
baz=342
B21K Ikpikpuk River 67.40 7 P **P 01 28 13.3 -0.7**
baz=346
C16K Lisburne Hills 67.44 11 P **P 01 28 14.1 -0.2**
baz=337
ASAJ Asahikawa 67.45 50 LR LR 02 00 41.8
comp=Z,71nm,18.3s,baz=245,slow=39
C23K Itkillik River 67.50 5 P **P 01 28 14.5 -0.2**
baz=349
LPHEP Lephephe 67.54 198 *i* P **P 01 28 16.1 +0.5**
C17K DeLong Mountai 67.55 10 P **P 01 28 14.5 -0.6**
baz=339
C18K Utukok River 67.64 10 P **P 01 28 16.5 +0.8**
C18K Utukok River 67.64 10 P **P 01 28 15.4 -0.3**
baz=340
C26K Camden Bay 67.73 3 P **P 01 28 16.1 -0.1**
baz=353
C24K Franklin Bluff 67.74 5 P **P 01 28 17.2 +1.0**
C24K Franklin Bluff 67.74 5 P **P 01 28 16.3 +0.2**
baz=350
KDWAN Kaudwane 67.83 199 *i* P **P 01 28 17.6 +0.2**
C21K Knifeblade Rid 67.84 7 P **P 01 28 17.0 +0.1**
baz=345
KGCAE Kacgae 67.95 201 *i* P **P 01 28 19.0 +0.8**
RDOG Red Dog Mine 67.98 10 P **P 01 28 17.9 +0.1**
baz=339
C27K Jago River 68.07 3 P **P 01 28 19.0 +0.7**
C27K IAmb IAmb 01 28 24.7
comp=Z,13nm,0.9s
C27K Jago River 68.07 3 P **P 01 28 18.2 -0.1**
baz=354
D20K Etivluk River 68.09 8 P **P 01 28 17.8 -0.7**
baz=344
C36M Paulatuk 68.11 355 P **P 01 28 18.4 -0.1**
C36M IAmb IAmb 01 28 20.2
comp=Z,26nm,1.6s
C36M Paulatuk 68.11 355 P **P 01 28 18.3 -0.1**
baz=9.8,SNR=6.6
D19K Kuna River 68.15 8 P **P 01 28 20.1 +1.2**
D19K Kuna River 68.15 8 P **P 01 28 18.0 -0.8**
baz=343
D25K Kavik River 68.26 4 P **P 01 28 20.1 +0.6**
D25K Kavik River 68.26 4 P **P 01 28 19.1 -0.5**
baz=352
D22K Ayikyak River 68.29 6 P **P 01 28 19.0 -0.7**
baz=347
D24K Happy Valley 68.29 5 P **P 01 28 20.4 +0.7**
D24K Happy Valley 68.29 5 P **P 01 28 19.7 0.0**
baz=350
D17K Noatak River 68.30 11 P **P 01 28 19.3 -0.4**
baz=339
D23K Nanushuk River 68.36 5 P **P 01 28 20.9 +0.8**
D23K Nanushuk River 68.36 5 P **P 01 28 19.8 -0.3**
baz=349
D28M Stokes Point 68.48 1 P **P 01 28 20.9 +0.1**
baz=358
D27M Malcolm River 68.53 2 P **P 01 28 22.0 +0.7**
D27M IAmb IAmb 01 28 35.5
comp=Z,15nm,1.3s
D27M Malcolm River 68.53 2 P **P 01 28 21.8 +0.5**
baz=356
E20K Nigu River 68.58 8 P **P 01 28 21.3 -0.3**
baz=344
E21K Killik River 68.61 7 P **P 01 28 21.5 -0.3**
baz=346
TOLK Toolik Lake Re 68.75 5 P **P 01 28 23.0 +0.4**
TOLK IAmb IAmb 01 28 28.8
comp=Z,13nm,0.9s
TOLK Toolik Lake Re 68.75 5 P **P 01 28 22.5 -0.2**
baz=350
E18K Tukpahlearik C 68.88 10 P **P 01 28 24.0 +0.6**
E18K IAmb IAmb 01 28 30.3
comp=Z,17nm,1.1s
E18K Tukpahlearik C 68.88 10 P **P 01 28 23.1 -0.3**
baz=341
E17K Hotham Inlet 69.05 10 P **P 01 28 23.4 -1.0**
baz=340
E22K Anaktuvuk Pass 69.09 6 P **P 01 28 25.2 +0.5**
E22K Anaktuvuk Pass 69.09 6 P **P 01 28 23.8 -1.0**
baz=348
SKOMA Sekoma 69.10 199 ⇓*i*P **P 01 28 25.8 +0.5**
LBTB Lobatse 69.19 197 P **P 01 28 26.5 +0.6**
LBTB Lobatse 69.19 197 LR LR 01 59 28.1
comp=Z,50nm,19.1s,baz=27,slow=37
LBTB Lobatse 69.19 197 P **P 01 28 26.5 +0.6**
LBTB pmax pmax
comp=Z,19nm,1.0s
E28M Babbage River 69.20 1 P **P 01 28 26.2 +0.8**
E28M IAmb IAmb 01 28 30.9
comp=Z,11nm,1.2s
E28M Babbage River 69.20 1 P **P 01 28 24.8 -0.6**
baz=358
PETK Petropavlovsk- 69.22 36 LR LR 02 03 55.0
comp=Z,69nm,18.1s,baz=60,slow=40
E19K Redstone River 69.24 8 P **P 01 28 25.9 +0.3**
E19K Redstone River 69.24 8 P **P 01 28 24.9 -0.7**
baz=344
E23K Chandalar 69.33 5 P **P 01 28 27.4 +1.1**
E23K IAmb IAmb 01 28 32.2
comp=Z,9.2nm,0.9s
E23K Chandalar 69.33 5 P **P 01 28 26.0 -0.2**
baz=350
E24K Your Creek 69.38 5 P **P 01 28 27.2 +0.6**
E24K IAmb IAmb 01 28 32.1
comp=Z,24nm,1.6s
E24K Your Creek 69.38 5 P **P 01 28 25.5 -1.1**
baz=350
LKGWB Lokgwabe 69.42 202 *i* P **P 01 28 27.2 -0.1**
E29M Blow River 69.44 1 P **P 01 28 27.6 +0.8**
E29M Blow River 69.44 1 P **P 01 28 25.8 -1.0**
baz=359
MJAR Matsushiro Arr 69.45 59 P **P 01 28 26.9 -0.5**
comp=Z,1.2nm,0.6s,baz=310,slow=7.7,SNR=4.8
MJAR LR LR 02 00 14.4
comp=Z,71nm,19.4s,baz=321,slow=37
comp=Z,1.2nm,0.6s
E25K Arctic Village 69.50 4 P **P 01 28 28.1 +0.8**
E25K IAmb IAmb 01 28 33.1
comp=Z,10nm,0.9s
E25K Arctic Village 69.50 4 P **P 01 28 26.7 -0.5**
baz=353
INK Inuvik 69.50 359 P **P 01 28 27.4 +0.2**
INK IAmb IAmb 01 28 33.4
comp=Z,12nm,1.2s
INK Inuvik 69.50 359 LR LR 02 02 14.2
comp=Z,54nm,19.9s,baz=238,slow=39
INK Inuvik 69.50 359 P **P 01 28 26.3 -0.9**
baz=2.3
INK Inuvik 69.50 359 P **P 01 28 27.4 +0.2**
INK pmax pmax
comp=Z,12nm,1.3s
TNA Tin City 69.53 13 P **P 01 28 26.9 -0.5**
baz=336
E27K Coleen River 69.58 2 P **P 01 28 28.4 +0.7**
E27K IAmb IAmb 01 28 33.9
comp=Z,15nm,1.1s
E27K Coleen River 69.58 2 P **P 01 28 27.2 -0.5**
baz=356
F22K John River 69.67 6 P **P 01 28 28.0 -0.4**
baz=348
F17K Baldwin Pennin 69.73 10 P **P 01 28 27.7 -0.9**
baz=341
F18K Selawik 69.78 10 P **P 01 28 28.9 -0.1**
baz=342
F19K Shaleruckik Mo 69.78 9 P **P 01 28 29.1 +0.2**
F19K IAmb IAmb 01 28 34.0
comp=Z,24nm,1.4s
F19K Shaleruckik Mo 69.78 9 P **P 01 28 28.4 -0.5**
baz=343
F20K Avaraart Lake 69.80 8 P **P 01 28 28.7 -0.3**
baz=345
F21K Alatna River 69.84 7 P **P 01 28 30.0 +0.6**
F21K IAmb IAmb 01 28 35.3
comp=Z,13nm,1.1s
F21K Alatna River 69.84 7 P **P 01 28 29.1 -0.3**
baz=347
F14K Arctic Creek 69.88 13 P **P 01 28 28.9 -0.7**
baz=337
F15K North Star Dit 69.93 12 P **P 01 28 30.0 +0.1**
baz=338
F24K Squaw Lake 69.97 5 P **P 01 28 31.4 +1.2**
F24K IAmb IAmb 01 28 36.4
comp=Z,12nm,1.1s
F24K Squaw Lake 69.97 5 P **P 01 28 29.7 -0.5**
baz=351
F26K Sheenjek River 69.98 3 P **P 01 28 31.0 +0.8**
F26K Sheenjek River 69.98 3 P **P 01 28 29.5 -0.7**
baz=354
F25K Christian Rive 70.02 4 P **P 01 28 31.2 +0.7**
F25K Christian Rive 70.02 4 P **P 01 28 29.5 -1.0**
baz=353
COLD Coldfoot 70.11 6 P **P 01 28 30.0 -0.9**
baz=349
F28M Old Crow 70.19 1 P **P 01 28 32.4 +0.8**
F28M Old Crow 70.19 1 P **P 01 28 30.9 -0.6**
baz=357
F30M Barrier River 70.22 360 P **P 01 28 31.2 -0.5**
baz=0.5
BMAR Burnt Mountain 70.23 3 P **P 01 28 33.1 +1.3**
G22K Bettles 70.31 6 P **P 01 28 32.1 -0.1**
baz=348
F31M Tsiigehtchic 70.38 359 P **P 01 28 32.6 0.0**
F31M IAmb IAmb 01 28 36.3
comp=Z,9.4nm,0.6s
F31M Tsiigehtchic 70.38 359 P **P 01 28 32.2 -0.4**
baz=2.1,SNR=11
GAMB Gambell 70.44 16 P **P 01 28 32.6 -0.4**
baz=333
G19K Purcell Mounta 70.53 9 P **P 01 28 34.0 +0.5**
G19K IAmb IAmb 01 28 39.2
comp=Z,22nm,1.1s
G19K Purcell Mounta 70.53 9 P **P 01 28 32.8 -0.7**
baz=344
G21K Allakaket 70.53 7 P **P 01 28 34.5 +0.9**
G21K IAmb IAmb 01 28 39.6
comp=Z,26nm,1.4s
G21K Allakaket 70.53 7 P **P 01 28 32.5 -1.0**
baz=347
G16K Koyuk River 70.57 11 P **P 01 28 33.4 -0.3**
baz=340
G18K Tagagawik 70.58 9 P **P 01 28 34.2 +0.3**
G18K IAmb IAmb 01 28 39.2
comp=Z,15nm,1.1s
G18K Tagagawik 70.58 9 P **P 01 28 33.4 -0.5**
baz=343
G23K Bananza Creek 70.63 6 P **P 01 28 32.9 -1.3**
baz=349
G15K Niukluk 70.69 12 P **P 01 28 34.4 -0.1**
baz=339
G17K Kiwalik Mounta 70.70 10 P **P 01 28 33.4 -1.3**
baz=341
G26K Porcupine Rive 70.74 3 P **P 01 28 34.2 -0.7**
baz=354
G24K Hadweenzic Riv 70.81 5 P **P 01 28 35.9 +0.6**
G24K IAmb IAmb 01 28 41.6
comp=Z,20nm,1.2s
G24K Hadweenzic Riv 70.81 5 P **P 01 28 34.7 -0.6**
baz=351
G25K Bearman Lake 70.82 4 P **P 01 28 34.3 -1.0**
baz=352
G30M tAoh Zraii Nji 70.86 360 P **P 01 28 35.3 -0.3**
G30M tAoh Zraii Nji 70.86 360 P **P 01 28 34.8 -0.9**
baz=0.1
ANM Nome 70.88 13 P **P 01 28 35.2 -0.5**
baz=338
G31M Satah River 70.90 359 P **P 01 28 35.6 -0.2**
G31M IAmb IAmb 01 28 40.9
comp=Z,19nm,1.1s
G31M Satah River 70.90 359 P **P 01 28 34.0 -1.8**
baz=1.7
G29M Pine Creek 70.92 1 P **P 01 28 34.9 -1.0**
G29M Pine Creek 70.92 1 P **P 01 28 35.0 -1.0**
baz=359
G27K Doyon Strip 70.96 2 P **P 01 28 37.1 +0.9**
G27K IAmb IAmb 01 28 42.8
comp=Z,15nm,1.1s
G27K Doyon Strip 70.96 2 P **P 01 28 34.7 -1.5**
baz=356,SNR=15
IMAR Indian Mountai 71.03 7 P **P 01 28 36.7 +0.1**
H19K Roundabout Mou 71.19 9 P **P 01 28 36.9 -0.7**
baz=344
H16K Elim 71.30 11 P **P 01 28 37.9 -0.3**
baz=340
H22K Ishtalitna Cre 71.33 6 P **P 01 28 37.9 -0.5**
baz=348
H18K Honhosa River 71.33 10 P **P 01 28 38.2 -0.3**
baz=343
H25L Birch Creek 71.33 4 P **P 01 28 38.3 -0.1**
baz=353
H17K Granite Mounta 71.34 10 P **P 01 28 37.7 -0.8**
baz=342
H20K Anotleneega Mo 71.39 8 P **P 01 28 38.7 -0.2**
baz=346
H21K Melozitna Rive 71.44 7 P **P 01 28 39.7 +0.6**
H21K IAmb IAmb 01 28 45.9
comp=Z,17nm,1.3s
H21K Melozitna Rive 71.44 7 P **P 01 28 38.6 -0.5**
baz=347
EPYK Eagle Plains 71.47 0 P **P 01 28 39.5 +0.1**
EPYK IAmb IAmb 01 28 45.1
comp=Z,19nm,1.4s
EPYK Eagle Plains 71.47 0 P **P 01 28 38.8 -0.5**
baz=360
H23K Yukon River 71.54 6 P **P 01 28 40.3 +0.6**
H23K Yukon River 71.54 6 P **P 01 28 39.4 -0.3**
baz=350
H27K Steamboat Moun 71.54 2 P **P 01 28 39.4 -0.3**
baz=356
H29M Whitestone 71.61 1 P **P 01 28 40.5 +0.4**
H29M IAmb IAmb 01 28 46.5
comp=Z,18nm,1.4s

H29M	Whitestone	71.61	1	P	P	01 28 40.1	0.0
	baz=358						
H24K	Noodor Dome	71.64	5	P	P	01 28 41.5	+1.2
H24K	Noodor Dome	71.64	5	P	P	01 28 40.2	-0.2
	baz=351						
I21K	Tanana	71.98	7	P	P	01 28 43.5	+1.2
I21K				IAmb	IAmb	01 28 48.5	
	comp=Z,9.3nm,0.9s						
I21K	Tanana	71.98	7	P	P	01 28 41.9	-0.5
	baz=348						
H31M	Peel River	72.03	359	P	P	01 28 43.3	+0.6
H31M				IAmb	IAmb	01 28 47.1	
	comp=Z,25nm,1.4s						
H31M	Peel River	72.03	359	P	P	01 28 42.3	-0.4
	baz=1.6						
PRP	Porcupine Dome	72.09	4	P	P	01 28 43.1	-0.1
	baz=353						
I20K	Naaghedeneel	72.11	8	P	P	01 28 42.7	-0.4
	baz=346						
I27K	Kandik River	72.17	2	P	P	01 28 43.2	-0.3
	baz=356						
I23K	Minto, Yukon-K	72.22	6	P	P	01 28 43.7	-0.1
I23K	Minto, Yukon-K	72.22	6	P	P	01 28 44.3	+0.6
	baz=350						
MLY	Manley	72.23	6	P	P	01 28 44.9	+1.0
MLY				IAmb	IAmb	01 28 50.0	
	comp=Z,13nm,1.2s						
MLY	Manley	72.23	6	P	P	01 28 43.6	-0.3
	baz=349						
I17K	Unalakleet	72.23	11	P	P	01 28 43.8	0.0
	baz=341						
I28M	Miner Creek	72.36	2	P	P	01 28 44.4	-0.4
I28M				IAmb	IAmb	01 28 55.8	
	comp=Z,10nm,0.9s						
I28M	Miner Creek	72.36	2	P	P	01 28 43.5	-1.3
	baz=357						
POKR	Poker Plat Res	72.38	5	P	P	01 28 44.8	0.0
POKR				IAmb	IAmb	01 28 51.0	
	comp=Z,16nm,1.1s						
POKR	Poker Plat Res	72.38	5	P	P	01 28 43.6	-1.2
	baz=352						
COLA	College	72.60	5	P	P	01 28 45.8	-0.2
	baz=351						
I30M	Mount Dempster	72.62	360	P	P	01 28 46.7	+0.4
I30M				IAmb	IAmb	01 28 49.9	
	comp=Z,10nm,0.8s						
I30M	Mount Dempster	72.62	360	P	P	01 28 46.0	-0.4
	baz=0.0,SNR=14						
BOSA	Boshof	72.75	197	P	P	01 28 47.7	+0.3
BOSA	Boshof	72.75	197	P	P	01 28 46.9	-0.5
	comp=Z,19nm,1.0s,baz=15,slow=5.6,SNR=11						
BOSA				LR	LR	02 01 55.2	
	comp=Z,66nm,18.3s,baz=24,slow=37						
	comp=Z,19nm,1.0s						
BOSA	Boshof	72.75	197	P	P	01 28 47.7	+0.3
BOSA				pmax	pmax		
	comp=Z,34nm,1.2s						
J20K	Nowinta River	72.75	8	P	P	01 28 47.8	+0.9
J20K	Nowinta River	72.75	8	P	P	01 28 46.4	-0.6
	baz=346						
ILAR	Eielson Array	72.76	5	P	P	01 28 47.0	-0.1
	comp=Z,0.8nm,0.8s,baz=315,slow=1.6,SNR=4.7						
ILAR				LR	LR	02 05 25.8	
	comp=Z,51nm,18.1s,baz=6.0,slow=40						
	comp=Z,0.8nm,0.8s						
ILAR	Eielson Array	72.76	5	P	P	01 28 47.0	-0.1
J19K	Poorman	72.77	9	P	P	01 28 48.0	+0.9
J19K				IAmb	IAmb	01 28 51.5	
	comp=Z,37nm,1.8s						
J19K	Poorman	72.77	9	P	P	01 28 46.6	-0.5
	baz=345						
NEA2	Nenana	72.79	6	P	P	01 28 46.8	-0.4
	baz=350						
J16K	Anvik River	72.82	11	P	P	01 28 47.5	+0.1
	baz=342						
CCB	Clear Creek Bu	72.83	5	P	P	01 28 47.7	+0.3
CCB				IAmb	IAmb	01 28 52.7	
	comp=Z,20nm,1.5s						
J14K	Nanvaranak Lak	72.87	13	P	P	01 28 47.2	-0.4
	baz=339						
J17K	VABM Dome	72.92	10	P	P	01 28 47.5	-0.5
	baz=343						
WRH	Wood River Hil	72.98	5	P	P	01 28 48.1	-0.3
WRH				IAmb	IAmb	01 28 53.7	
	comp=Z,18nm,1.5s						
J25K	Salcha River,	73.00	4	P	P	01 28 47.6	-0.9
J25K	Salcha River,	73.00	4	P	P	01 28 48.3	-0.2
	baz=353						
EGAK	Eagle	73.01	2	P	P	01 28 49.3	+0.8
EGAK				IAmb	IAmb	01 29 07.3	
	comp=Z,14nm,1.2s						
EGAK	Eagle	73.01	2	P	P	01 28 48.3	-0.1
	baz=356						
HDA	Harding Lake	73.12	5	P	P	01 28 49.0	-0.1
HDA	Harding Lake	73.12	5	P	P	01 28 48.8	-0.4
	baz=352,SNR=6.2						
BPAW	Bear Paw Mtn.	73.13	7	P	P	01 28 49.0	-0.2
BPAW				IAmb	IAmb	01 28 55.3	
	comp=Z,16nm,1.4s						
BPAW	Bear Paw Mtn.	73.13	7	P	P	01 28 49.1	-0.2
	baz=349						
J18K	Innoko River	73.16	9	P	P	01 28 48.8	-0.6
J18K				IAmb	IAmb	01 28 51.1	
	comp=Z,16nm,1.4s						
J18K	Innoko River	73.16	9	P	P	01 28 48.3	-1.1
	baz=344						
J26L	Joseph Creek	73.20	3	P	P	01 28 50.0	+0.3
J26L	Joseph Creek	73.20	3	P	P	01 28 49.1	-0.6
	baz=354,SNR=5.8						
CHUM	Lake Minchumin	73.22	7	P	P	01 28 49.4	-0.4
	baz=348						
J30M	Hart River	73.27	360	P	P	01 28 51.0	+0.8
J30M				IAmb	IAmb	01 28 51.9	
	comp=Z,26nm,1.5s						
J30M	Hart River	73.27	360	P	P	01 28 50.0	-0.2
	baz=0.1						
J29N	Klondike Camp	73.39	1	P	P	01 28 50.2	-0.6
	baz=359						
K13K	Kusilvak Mount	73.45	14	P	P	01 28 50.8	-0.4
	baz=339						
K20K	Telida	73.56	8	P	P	01 28 52.3	+0.5
K20K	Telida	73.56	8	P	P	01 28 50.7	-1.1
	baz=346						
K15K	Wolf Creek Mou	73.62	12	P	P	01 28 50.9	-1.3
	baz=341						
MCK	McKinley	73.65	6	P	P	01 28 52.2	-0.2
	baz=350						
KTH	Kantishna Hill	73.67	7	P	P	01 28 52.5	0.0
K17K	Iditarod	73.68	10	P	P	01 28 52.2	-0.3
	baz=343						
CAST	Castle Rocks	73.70	7	P	P	01 28 52.9	+0.3
CAST				IAmb	IAmb	01 28 58.0	
	comp=Z,18nm,1.0s						
CAST	Castle Rocks	73.70	7	P	P	01 28 51.9	-0.8
	baz=348,SNR=13						
SCRK	Sand Creek	73.70	3	P	P	01 28 53.5	+0.7
SCRK				IAmb	IAmb	01 29 02.5	
	comp=Z,20nm,1.5s						
SCRK	Sand Creek	73.70	3	P	P	01 28 52.2	-0.5
	baz=354						
K27K	Chicken	73.73	3	P	P	01 28 53.1	+0.3
K27K	Chicken	73.73	3	P	P	01 28 52.2	-0.5
	baz=356						
TTA	Tatalina	73.76	9	P	P	01 28 52.2	-0.8
	baz=345						
DAWY	Dawson	73.76	1	P	P	01 28 53.4	+0.4
DAWY	Dawson	73.76	1	P	P	01 28 52.0	-1.0
	baz=358,SNR=7.9						
K24K	Donnelly Dome	73.79	4	P	P	01 28 52.1	-1.0
	baz=353,SNR=10						
TRF	Thorofare Moun	73.83	6	P	P	01 28 52.6	-0.9
	baz=349						
RIDG	Independent Ri	73.90	4	P	P	01 28 53.2	-0.7
	baz=354						
YKA	Yellowknife Ar	73.91	350	P	P	01 28 52.5	-1.3
	comp=Z,4.7nm,1.0s,baz=9.5,slow=6.4,SNR=6.0						
	comp=Z,4.7nm,1.0s						
YKA	Yellowknife Ar	73.91	350	*i* P	P	01 28 54.5	+0.7
YKA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
RND	Reindeer	73.98	6	P	P	01 28 53.4	-0.9
RND				IAmb	IAmb	01 29 01.8	
	comp=Z,23nm,1.5s						
RND	Reindeer	73.98	6	P	P	01 28 53.4	-0.9
RND				pmax	pmax		
	comp=Z,23nm,1.5s						
K29M	Barlow Dome	74.01	1	P	P	01 28 55.4	+0.9
K29M	Barlow Dome	74.01	1	P	P	01 28 53.4	-1.1
	baz=359						
WRGLY	Wrigley	74.12	354	P	P	01 28 56.4	+1.4
WRGLY	Wrigley	74.12	354	P	P	01 28 53.9	-1.1
	baz=9.9						
PPLA	Purkeypile	74.20	7	P	P	01 28 55.1	-0.6
	baz=348						
L15K	Ungalak Mounta	74.21	12	P	P	01 28 54.3	-1.3
	baz=341						
L17K	Donlin	74.24	10	P	P	01 28 54.2	-1.5
	baz=343						
MAYO	Mayo, Yukon	74.26	360	P	P	01 28 56.4	+0.5
MAYO	Mayo, Yukon	74.26	360	P	P	01 28 55.4	-0.5
	baz=0.4						
L14K	Kuka Creek	74.34	13	P	P	01 28 55.4	-0.9
	baz=340						
L18K	Granite Mounta	74.36	10	P	P	01 28 55.2	-1.3
	baz=345						
DHY	Denali Highway	74.42	5	P	P	01 28 58.0	+1.1
DHY	Denali Highway	74.42	5	P	P	01 28 56.2	-0.8
	baz=352						
L20K	Farewell, AK	74.44	8	P	P	01 28 56.3	-0.7
	baz=347						
L16K	Owhat River	74.48	11	P	P	01 28 57.0	-0.1
	baz=342						
WAT1	Susitna Watana	74.58	6	P	P	01 28 57.6	-0.2
	baz=351						
L19K	White Mountain	74.62	9	P	P	01 28 58.9	+0.8
L19K	White Mountain	74.62	9	P	P	01 28 57.3	-0.8
	baz=346						
PAX	Paxson	74.64	4	P	P	01 28 58.2	+0.1
	baz=353						
L26K	Log Cabin Wild	74.68	3	P	P	01 28 57.8	-0.5
	baz=355						
L27K	Beaver Creek,	74.70	3	P	P	01 28 58.9	+0.4
L27K	Beaver Creek,	74.70	3	P	P	01 28 58.2	-0.3
	baz=356						
L29M	L29M	74.74	1	P	P	01 28 57.2	-1.5
	baz=359						
MENT	Mentasta	74.75	3	P	P	01 28 59.1	+0.3
CUT	Chulitna	74.86	7	P	P	01 28 58.3	-1.0
	baz=349						
WAT6	Susitna Watana	74.88	5	P	P	01 28 59.1	-0.6
	baz=351						
M19K	Big River Lodg	74.94	9	P	P	01 29 00.5	+0.6
M19K				IAmb	IAmb	01 29 04.7	
	comp=Z,35nm,1.8s						
M19K	Big River Lodg	74.94	9	P	P	01 28 58.9	-1.0
	baz=346						
M14K	Bethel	75.02	13	P	P	01 28 59.8	-0.4
	baz=341						
M17K	Holitna River	75.06	10	P	P	01 29 01.7	+1.1
M17K				IAmb	IAmb	01 29 06.8	
	comp=Z,18nm,1.1s						
M17K	Holitna River	75.06	10	P	P	01 28 59.2	-1.3
	baz=344						
M20K	Styx River	75.10	8	P	P	01 29 00.7	-0.1
M20K				IAmb	IAmb	01 29 10.2	
	comp=Z,45nm,1.9s						
M20K	Styx River	75.10	8	P	P	01 28 59.7	-1.2
	baz=347						
M13K	Dall Lake	75.10	13	P	P	01 28 59.8	-0.9
	baz=340						
MMPY	Sheldon Lake,	75.16	358	P	P	01 29 00.1	-1.0
	baz=3.9						
SKT	Skwentna	75.16	7	P	P	01 29 00.5	-0.6
SKT				IAmb	IAmb	01 29 04.7	
	comp=Z,24nm,1.5s						
SKT	Skwentna	75.16	7	P	P	01 29 00.3	-0.9
	baz=348						
M18K	Stony River	75.18	9	P	P	01 29 00.9	-0.3
	baz=345						
M16K	Timber Creek	75.21	11	P	P	01 29 02.5	+1.1
M16K	Timber Creek	75.21	11	P	P	01 29 01.3	-0.2
	baz=343						
HARP	HAARP	75.22	4	P	P	01 29 00.7	-0.8
	baz=353						
M15K	Kasigluk River	75.27	12	P	P	01 29 01.4	-0.4
	baz=342						
M30M	Minto, Yukon	75.28	0	P	P	01 29 01.4	-0.4
	baz=360						
M26K	Nabesna, AK	75.32	3	P	P	01 29 03.0	+0.9
M26K	Nabesna, AK	75.32	3	P	P	01 29 01.1	-1.0
	baz=355						
BVCY	Beaver Creek	75.38	2	P	P	01 29 02.0	-0.4
	baz=357						
M29M	Somme Creek	75.40	1	P	P	01 29 03.6	+0.9
M29M				IAmb	IAmb	01 29 04.8	
	comp=Z,25nm,1.8s						
M29M	Somme Creek	75.40	1	P	P	01 29 01.5	-1.1
	baz=358						
M27K	Edge Creek, AK	75.41	3	P	P	01 29 03.2	+0.5
M27K				IAmb	IAmb	01 29 09.7	
	comp=Z,36nm,1.8s						
M27K	Edge Creek, AK	75.41	3	P	P	01 29 01.7	-1.0
	baz=356						
M24K	Tolsona, Glenn	75.45	5	P	P	01 29 04.0	+1.1
M24K	Tolsona, Glenn	75.45	5	P	P	01 29 01.5	-1.4
	baz=353						
M22K	Willow	75.51	7	P	P	01 29 02.3	-0.8
	baz=350						
FARO	Faro, Yukon	75.60	359	P	P	01 29 03.1	-0.6
	baz=2.3						
SML	Sawmill	75.61	6	P	P	01 29 03.0	-0.7
SML				IAmb	IAmb	01 29 08.5	
	comp=Z,15nm,1.0s						
SML	Sawmill	75.61	6	P	P	01 29 03.4	-0.3
	baz=351						
M31M	Drury Creek, Y	75.64	359	P	P	01 29 03.3	-0.7
	baz=1.5						
SCM	Sheep Creek Mo	75.65	5	P	P	01 29 04.3	+0.3
SCM	Sheep Creek Mo	75.65	5	P	P	01 29 03.7	-0.4
	baz=352						
SCM	Sheep Creek Mo	75.65	5	P	P	01 29 04.4	+0.3
SCM				pmax	pmax		
	comp=Z,106nm,1.9s						
M23K	Glacier View	75.66	6	P	P	01 29 03.5	-0.5
	baz=351						
SUA	Susitna One	75.75	7	P	P	01 29 03.9	-0.8
	baz=349						
PMR	Palmer	75.76	6	P	P	01 29 03.9	-0.6
	baz=350						
N16K	Nishlik Lake	75.77	11	P	P	01 29 04.0	-0.6
	baz=343						
N14K	Kuskokwak Cree	75.84	13	P	P	01 29 04.8	-0.2
	baz=341						
N15K	Kwethluk River	75.86	12	P	P	01 29 04.8	-0.4
	baz=342						
N20K	Mount Spurr	75.86	8	P	P	01 29 04.5	-0.7
	baz=348						
SPCR	Spurr Chakacha	75.86	8	P	P	01 29 04.8	-0.5
	baz=348						
N17K	Nushagak Hills	75.94	10	P	P	01 29 04.3	-1.3
	baz=344						
N18K	Kilae Creek	75.96	10	P	P	01 29 07.0	+1.2
N18K				IAmb	IAmb	01 29 11.3	
	comp=Z,21nm,1.4s						
N18K	Kilae Creek	75.96	10	P	P	01 29 04.8	-0.9
	baz=345						
KNK	Knik Glacier	75.99	6	P	P	01 29 06.6	+0.7
KNK				IAmb	IAmb	01 29 09.5	
	comp=Z,14nm,0.9s						
KNK	Knik Glacier	75.99	6	P	P	01 29 05.6	-0.3
	baz=351						
N19K	Bonanza Creek	76.00	9	P	P	01 29 06.9	+0.9
N19K	Bonanza Creek	76.00	9	P	P	01 29 05.0	-1.1
	baz=346,SNR=7.6						
YUK3	Moose Creek	76.03	2	P	P	01 29 05.4	-1.0
	baz=357						
N25K	Chitina, Valde	76.04	4	P	P	01 29 05.3	-1.0
	baz=354						
KLU	Klutina	76.08	5	P	P	01 29 07.3	+0.8
KLU	Klutina	76.08	5	P	P	01 29 05.9	-0.6
	baz=353						
TGTN	Hyland Airport	76.12	356	P	P	01 29 05.9	-0.8
	baz=6.2						
RC01	Rabbit Creek A	76.20	7	P	P	01 29 06.8	-0.3
	baz=350						
MCARA	McCarthy VSAT	76.34	3	P	P	01 29 07.6	-0.3
	baz=355						
N31M	Braeburn, Yuko	76.37	360	P	P	01 29 07.8	-0.3
	baz=0.5						
N30M	Aishikik Lake	76.40	0	P	P	01 29 07.9	-0.4
	baz=360						
YUK4	Talbot Arm	76.50	1	P	P	01 29 07.9	-1.2
	baz=358						
YUK8	Steele Glacier	76.54	2	P	P	01 29 08.7	-0.6
	baz=357						
PWL	Port Wells	76.54	6	P	P	01 29 08.2	-0.9
	baz=351						
O14K	Tigyukauivet M	76.55	13	P	P	01 29 08.4	-0.7
	baz=341						
N32M	Quiet Lake	76.68	358	P	P	01 29 09.4	-0.5
	baz=2.5						
O17K	Koliganek Bris	76.68	11	P	P	01 29 09.4	-0.4
	baz=344						
BMRM	Bremner River	76.68	4	P	P	01 29 09.0	-0.8
	baz=354						
SPIA	Saint Paul Isl	76.71	18	P	P	01 29 09.4	-0.6
	baz=335						
O16K	Kokwok River B	76.71	11	P	P	01 29 09.4	-0.6
	baz=344						
O22K	Cooper Landing	76.81	7	P	P	01 29 09.7	-0.8
	baz=350						
CTG	Chitna Glacier	76.82	2	P	P	01 29 10.3	-0.5
	baz=356						
O18K	Koktuh Hills	76.84	10	P	P	01 29 11.9	+1.1
O18K	Koktuh Hills	76.84	10	P	P	01 29 10.7	-0.1
	baz=346						
YUK6	Outpost Mounta	76.91	1	P	P	01 29 10.9	-0.5
	baz=358						
O20K	Slope Mountain	76.92	8	P	P	01 29 11.1	-0.1
	baz=348						
CRQM	Cirque	76.96	3	P	P	01 29 11.9	+0.2
CRQE	Cirque	76.97	3	P	P	01 29 11.0	-0.6
	baz=355						
HYT	Haines Junctio	77.03	1	P	P	01 29 13.1	+1.2
HYT	Haines Junctio	77.03	1	P	P	01 29 11.1	-0.9
	baz=359						
O28M	Mount Upton	77.05	2	P	P	01 29 11.5	-0.8
	baz=357						
O30N	Mendenhall	77.09	360	P	P	01 29 12.3	+0.1
	baz=0.2						
WHY	Whitehorse	77.20	359	P	P	01 29 12.9	0.0
	baz=1.1						
SEW	Seward	77.20	7	P	P	01 29 11.4	-1.3
	baz=350						
KOTAN	Kotaneelee Air	77.23	354	P	P	01 29 12.8	-0.2
	baz=9.3						
P16K	Nushagak River	77.27	11	P	P	01 29 12.5	-0.6
	baz=344						
P19K	Oil Pt	77.27	9	P	P	01 29 12.5	-0.7
	baz=347						
P18K	Big Mountain,	77.29	10	P	P	01 29 12.9	-0.4
	baz=346						
P17K	Kvichak River	77.33	10	P	P	01 29 12.6	-0.8
	baz=345						
SUR	Sutherland	77.39	200	LR	LR	02 04 18.9	
	comp=Z,83nm,18.6s,baz=36,slow=36						
BRSE	Bradley Lake S	77.44	7	P	P	01 29 14.0	-0.1
	baz=349						
P23K	Montague Islan	77.47	6	P	P	01 29 14.3	+0.1
	baz=352						
O29M	Mount Kennedy	77.55	1	P	P	01 29 14.4	-0.5
	baz=358						
WTLY	Watson Lake, Y	77.56	356	P	P	01 29 14.4	-0.4
	baz=5.7						
MESA	MESA	77.59	3	P	P	01 29 14.3	-0.9
	baz=356						
P33M	Teslin, Yukon	77.61	358	P	P	01 29 15.2	+0.1
	baz=2.7						
PINM	Pinnacle	77.72	2	P	P	01 29 15.6	-0.2
	baz=357						
KAIM	Kayak Island	77.73	4	P	P	01 29 15.6	0.0
	baz=354						
P30M	Million Dollar	77.74	0	P	P	01 29 15.5	-0.4
	baz=360						
L61B	Northampton	77.86	317	P	P	01 29 16.8	0.0
	baz=43						
Q18K	Katmai Hardscr	78.04	10	P	P	01 29 17.4	-0.2
	baz=346						
Q23K	Middleton Isla	78.11	5	P	P	01 29 17.3	-0.5
	baz=352						
PNL	Peninsula	78.17	2	P	P	01 29 18.1	-0.1
	baz=358						
P29M	Windy Craggy	78.23	1	P	P	01 29 18.4	-0.1
	baz=359						
P32M	Atlin	78.25	359	P	P	01 29 18.6	-0.1
	baz=2.0						
Q17K	Contact Creek	78.30	10	P	P	01 29 19.1	0.0
	baz=345						
R33M	Jennings River	78.38	357	P	P	01 29 18.5	-0.9
	baz=4.1						
Q20K	Shuyak Island	78.39	8	P	P	01 29 18.6	-0.7
	baz=348						
SKAG	Skagway	78.41	359	P	P	01 29 19.5	+0.1
	baz=0.8						
PLBC	Pleasant Camp	78.41	360	P	P	01 29 19.1	-0.4
	baz=0.0						
TOAD	Toad River Com	78.59	354	P	P	01 29 20.7	+0.1
	baz=8.4						
R16K	Pilot Point	78.74	11	P	P	01 29 21.5	+0.2
	baz=344						
R17L	Mt. Peulik Vol	78.85	11	P	P	01 29 21.4	-0.5
	baz=345						
Q32M	Nakina River	78.85	358	P	P	01 29 21.6	-0.5
	baz=3.1						
R18K	Karluk	79.17	10	P	P	01 29 23.4	-0.2
	baz=346						
KDAK	Kodiak Island	79.18	9	LR	LR	02 07 06.7	
	comp=Z,30nm,18.0s,baz=43,slow=38						
KDAK	Kodiak Island	79.18	9	P	P	01 29 23.5	-0.1
	baz=348						
DLBC	Dease Lake	79.29	357	P	P	01 29 24.1	-0.4
	baz=4.8						
R32K	Eaglecrest	79.58	359	P	P	01 29 25.6	-0.3
	baz=1.4						
OHAK	Old Harbor	79.64	9	P	P	01 29 26.0	-0.2
	baz=347						
S14K	Fog Glacier	79.66	13	P	P	01 29 26.1	-0.4
	baz=343						
S12K	Black Hills	79.78	14	P	P	01 29 26.8	-0.3
	baz=341						
CHGN	Chignik	79.83	12	P	P	01 29 27.2	0.0
	baz=344						
S34M	Telegraph Cree	79.86	357	P	P	01 29 27.3	-0.2
	baz=3.9						
S31K	Pelican	79.91	360	P	P	01 29 27.5	-0.1
	baz=0.1						
S32K	Killisnoo	80.39	359	P	P	01 29 29.9	-0.4
	baz=1.4						
UNV	Unalaska Valle	80.62	18	P	P	01 29 31.2	-0.4
	baz=338						
ULM	Lac du Bonnet	81.08	335	P	P	01 29 34.0	-0.1
	comp=Z,4.1nm,0.7s,baz=52,slow=4.0,SNR=5.7						
	comp=Z,4.1nm,0.7s						
CRAG	Craig	82.37	358	P	P	01 29 40.4	-0.4
	baz=2.4						
V35K	Ketchikan	82.47	357	P	P	01 29 40.8	-0.5
	baz=3.6						
KAPI	Kappang	83.23	103	P	P	01 29 45.0	-0.9
KAPI	Kappang	83.23	103	P	P	01 29 45.0	-0.9
KAPI				pmax	pmax		
	comp=Z,18nm,1.1s						
G40A	Rib Lake	83.39	329	P	P	01 29 46.8	+0.4
G40A				IAmb	IAmb	01 29 52.0	
	comp=Z,12nm,0.9s						
P53A	Whipple	84.37	320	P	P	01 29 52.1	+0.6
F33A	5 Mile Ranch,	85.08	333	P	P	01 29 54.9	0.0
O49A	Covington	85.17	323	P	P	01 29 55.2	-0.2
JFWS	Jewell Farm	85.40	328	P	P	01 29 56.9	+0.3
JFWS				IAmb	IAmb	01 30 01.7	
	comp=Z,10nm,0.8s						
JFWS	Jewell Farm	85.40	328	P	P	01 29 56.9	+0.3
JFWS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
Q48B	Farmland	85.47	323	P	P	01 29 57.8	+0.8
Q48B	Farmland	85.47	323	P	P	01 29 56.6	-0.4
	baz=35						
I37A	Lemond, Waseca	85.66	330	P	P	01 29 58.1	+0.3
SANI	Sanana	85.76	97	P	P	01 30 04.0	+5.3
LLLB	Lillooet	86.42	351	P	P	01 30 02.3	+0.8
LLLB				IAmb	IAmb	01 30 07.9	
	comp=Z,19nm,1.1s						
EGMT	Eagleton	86.84	342	P	P	01 30 03.5	-0.2
EGMT				IAmb	IAmb	01 30 07.7	
	comp=Z,16nm,1.2s						
ECSD	EROS Data Cent	87.04	332	P	P	01 30 04.5	-0.1
NEW	Newport	88.04	347	P	P	01 30 09.6	+0.2
NEW	Newport	88.04	347	LR	LR	02 10 01.6	
	comp=Z,52nm,18.6s,baz=24,slow=36						
NEW	Newport	88.04	347	P	P	01 30 09.6	+0.2
NEW				pmax	pmax		
	comp=Z,17nm,1.0s						

LYMT	**Lyon Mountain**	**88.39 344**	P	**P**	**01 30 11.7**	**+0.4**
OVMT	**Ovando**	**88.44 344**	P	**P**	**01 30 11.6**	**+0.1**
TKL	**Tuckaleechee C**	**88.57 320**	LR	LR	02 09 26.3	
comp=Z,34nm,18.3s,baz=68,slow=35						
MSO	**Missoula**	**88.86 345**	P	**P**	**01 30 13.7**	**+0.3**
MSO			IAmb	IAmb	01 30 14.7	
comp=Z,10nm,1.4s						
RSSD	**Black Hills**	**89.03 337**	P	**P**	**01 30 14.3**	**0.0**
RSSD			IAmb	IAmb	01 30 21.1	
comp=Z,20nm,1.6s						
RSSD	**Black Hills**	**89.03 337**	P	**P**	**01 30 14.4**	**0.0**
RSSD			pmax	pmax		
comp=Z,20nm,1.6s						
BPMT	**Black Pine Rid**	**89.13 344**	P	**P**	**01 30 14.7**	**-0.2**
RLMT	**Red Lodge**	**89.47 341**	P	**P**	**01 30 16.4**	**0.0**
P38A	**Dawn**	**89.49 328**	P	**P**	**01 30 16.2**	**-0.2**
P38A			IAmb	IAmb	01 30 21.5	
comp=Z,8.4nm,1.1s						
D08A	**Wollman Farm,**	**89.50 348**	P	**P**	**01 30 16.1**	**-0.1**
D08A			IAmb	IAmb	01 30 25.1	
comp=Z,13nm,1.4s						
BOZ	**Bozeman (W)**	**89.56 343**	P	**P**	**01 30 17.0**	**+0.2**
BOZ			IAmb	IAmb	01 30 21.8	
comp=Z,11nm,1.3s						
BOZ	**Bozeman (W)**	**89.56 343**	P	**P**	**01 30 17.0**	**+0.2**
BOZ			pmax	pmax		
comp=Z,11nm,1.3s						
YNE	**Yellowstone No**	**89.75 342**	P	**P**	**01 30 18.1**	**+0.3**
YNE			IAmb	IAmb	01 30 22.5	
comp=Z,19nm,1.3s						
R40A	**Maddies Statio**	**90.14 327**	P	**P**	**01 30 19.4**	**0.0**
R40A			IAmb	IAmb	01 30 25.1	
comp=Z,11nm,1.1s						
YHH	**Holmes Hill**	**90.15 342**	P	**P**	**01 30 19.7**	**0.0**
YHL	**Hebgen Lake**	**90.17 342**	P	**P**	**01 30 19.4**	**-0.4**
YHL			IAmb	IAmb	01 30 25.4	
comp=Z,17nm,1.4s						
YFT	**Old Faithful**	**90.47 342**	P	**P**	**01 30 21.2**	**0.0**
YFT			IAmb	IAmb	01 30 28.1	
comp=Z,11nm,1.0s						
FLWY	**Flagg Ranch**	**90.78 342**	P	**P**	**01 30 22.7**	**+0.1**
FLWY			IAmb	IAmb	01 30 28.3	
comp=Z,16nm,1.2s						
K22A	**Casper**	**91.08 338**	P	**P**	**01 30 24.0**	**+0.1**
K22A			IAmb	IAmb	01 30 28.1	
comp=Z,13nm,1.0s						
MOOW	**Moose Ponds**	**91.11 342**	P	**P**	**01 30 24.1**	**0.0**
MOOW			IAmb	IAmb	01 30 29.4	
comp=Z,7.6nm,1.2s						
LOHW	**Long Hollow**	**91.21 342**	P	**P**	**01 30 25.3**	**+0.7**
LOHW			IAmb	IAmb	01 30 29.8	
comp=Z,6.6nm,1.1s						
FXWY	**Fox Creek**	**91.28 342**	P	**P**	**01 30 24.6**	**-0.4**
FXWY			IAmb	IAmb	01 30 30.9	
comp=Z,11nm,1.4s						
SJG	**San Juan**	**91.70 296**	LR	LR	02 09 53.2	
comp=Z,16nm,18.3s,baz=147,slow=34						
PDAR	**Pinedale Array**	**91.75 341**	P	**P**	**01 30 26.6**	**-0.5**
comp=Z,0.6nm,0.8s,baz=18,slow=5.2,SNR=5.3						
PDAR			LR	LR	02 11 43.4	
comp=Z,19nm,19.5s,baz=14,slow=36						
comp=Z,0.6nm,0.8s						
MFID	**Camas Ranch**	**92.50 345**	P	**P**	**01 30 30.3**	**-0.1**
MFID			IAmb	IAmb	01 30 34.9	
comp=Z,8.3nm,1.2s						
N23A	**Red Feather La**	**92.55 337**	P	**P**	**01 30 31.5**	**+0.6**
N23A			IAmb	IAmb	01 30 35.9	
comp=Z,11nm,1.2s						
N23A	**Red Feather La**	**92.55 337**	P	**P**	**01 30 30.2**	**-0.7**
baz=22						
U38A	**Gravette**	**92.58 327**	P	**P**	**01 30 28.6**	**-2.2**
U38A			IAmb	IAmb	01 30 35.5	
comp=Z,9.7nm,0.9s						
RDMU	**Red Mountain**	**93.83 340**	P	**P**	**01 30 36.9**	**+0.2**
RDMU			IAmb	IAmb	01 30 41.5	
comp=Z,9.7nm,1.2s						
Q24A	**Divide**	**94.10 336**	P	**P**	**01 30 37.9**	**-0.3**
Q24A			IAmb	IAmb	01 30 44.0	
comp=Z,14nm,1.5s						
Q24A	**Divide**	**94.10 336**	P	**P**	**01 30 37.4**	**-0.7**
baz=22						
ELK	**Elko**	**94.96 344**	P	**P**	**01 30 42.7**	**+0.8**
ELK	**Elko**	**94.96 344**	P	**P**	**01 30 42.7**	**+0.8**
ELK			pmax	pmax		
comp=Z,3.0nm,1.0s						
DUG	**Dugway, Tooele**	**94.97 342**	P	**P**	**01 30 42.8**	**+1.0**
DUG			IAmb	IAmb	01 30 47.3	
comp=Z,7.5nm,1.4s						
DUG	**Dugway, Tooele**	**94.97 342**	P	**P**	**01 30 42.8**	**+1.0**
DUG			pmax	pmax		
comp=Z,8.0nm,1.4s						
TMUT	**Trail Mountain**	**95.44 341**	P	**P**	**01 30 44.2**	**0.0**
SRU	**San Rafael Swe**	**95.44 340**	P	**P**	**01 30 44.0**	**-0.1**
SRU	**San Rafael Swe**	**95.44 340**	P	**P**	**01 30 44.0**	**-0.1**
SRU			pmax	pmax		
comp=Z,30nm,1.9s						
T25A	**Trinidad**	**95.55 335**	P	**P**	**01 30 44.5**	**-0.1**
baz=23						
S22A	**4UR Ranch, Cre**	**95.72 337**	P	**P**	**01 30 45.0**	**-0.6**
baz=21						
WMOK	**Wichita Mounta**	**95.78 330**	P	**P**	**01 30 46.0**	**+0.5**
WMOK	**Wichita Mounta**	**95.78 330**	P	**P**	**01 30 46.0**	**+0.5**
WMOK			pmax	pmax		
comp=Z,16nm,1.7s						
Q16A	**Castle Valley**	**95.79 340**	P	**P**	**01 30 45.2**	**-0.5**
Q16A			IAmb	IAmb	01 30 50.7	
comp=Z,7.1nm,1.0s						
MSU	**Marysvale**	**96.42 341**	P	**P**	**01 30 49.1**	**+0.5**
MSU	**Marysvale**	**96.42 341**	P	**P**	**01 30 49.1**	**+0.5**
MVU	**Marysvale**	**96.44 341**	P	**P**	**01 30 48.1**	**-0.7**
HMU	**Henry Mountain**	**96.61 340**	P	**P**	**01 30 48.7**	**-0.8**
HMU			IAmb	IAmb	01 30 54.1	
comp=Z,7.0nm,1.0s						
MTPU	**Mount Pierson**	**96.87 341**	P	**P**	**01 30 50.9**	**+0.1**
R11B	**Troy Canyon, C**	**97.34 344**	P	**P**	**01 30 52.3**	**-0.4**
R11B			IAmb	IAmb	01 30 58.0	
comp=Z,6.8nm,1.7s						
R11B	**Troy Canyon, C**	**97.34 344**	P	**P**	**01 30 52.3**	**-0.4**
baz=15						
LCMT	**Little Creek M**	**98.10 341**	P	**P**	**01 30 54.7**	**-1.4**
LCMT			IAmb	IAmb	01 31 01.3	
comp=Z,5.5nm,1.2s						
ANMO	**Albuquerque**	**98.20 336**	LR	LR	02 15 47.7	
comp=Z,47nm,18.1s,baz=200,slow=36						
121A	**Cookes Peak, D**	**100.85 336**	P	**Pdif**	**01 31 07.9**	**-0.6**
baz=21						
NVL	**N'lazarevskaya**	**115.25 191**	P	**Pdif**	**01 32 10.0**	**-1.1**
NVL			pmax	pmax		
comp=Z,10.0nm,0.8s						
LVC	**Limon Verde**	**121.26 267**	*e*P	**PKiKP**	**01 36 13.6**	**+0.6**
PB15	**IPOC Station P**	**122.03 267**		**PKiKP**	**01 36 14.1**	**-0.2**
QSPA	**South Pole Qui**	**132.31 180**	PKP	**PKPdf**	**01 36 30.4**	**-1.8**
comp=Z,0.8nm,0.3s,baz=281,slow=4.7,SNR=4.8						
PLWZ	**Palliser**	**144.47 105**		PKPbc	01 36 53.6	-0.2

*THE **06** 01:26:56.9, 37°.42N×20°.64E, h4km, ML3.5/11, Error ellipse: s-maj=1.4km s-min=0.6km az=60.0*
*ATH **06** 01:26:56.8, 37°.41N×20°.64E, h10km±1km, ML3.4/2, Error ellipse: s-maj=3.1km s-min=1.2km az=55.0*
ISC 06 01:26:56.0±1.7, 37°.40N±0°.05×20°.63E±0°.06, h9km±9km, n36, σ0^{s}76/57, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.30**	**30**	P	**Pg**	**01 27 02.8**	**+0.7**
KRI1				S	**Sg**	**01 27 06.6**	**+0.4**
13μm,0.3s							
LTHK	**Lithakia**	**0.35**	**28**	P	**Pg**	**01 27 03.6**	**+0.6**
LTHK				S	**Sg**	**01 27 08.2**	**+0.5**
12μm,0.4s							
LTHK	**Lithakia**	**0.35**	**28**	P	**Pg**	**01 27 03.4**	**+0.4**
LTHK				S	**Sg**	**01 27 08.3**	**+0.7**
LTHK				AML	AML	01 27 09.1	
comp=N,31127μm,0.4s							
LTHK				AML	AML	01 27 12.6	
comp=E,13044μm,0.3s							
RTZL	**Ratzakli, Kefa**	**0.69**	**10**	P	**Pg**	**01 27 09.3**	**0.0**
RTZL				S	**Sg**	**01 27 18.7**	**+0.4**
comp=E,6μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.72**	**357**	P	**Pg**	**01 27 10.2**	**+0.4**
PSDA				S	**Sg**	**01 27 19.5**	**+0.3**
comp=E,6μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.72**	**357**	P	**Pg**	**01 27 10.3**	**+0.4**
PSDA				S	**Sg**	**01 27 19.8**	**+0.6**
VLS	**Valsamata**	**0.78**	**358**	P	**Pg**	**01 27 11.1**	**+0.1**
VLS				S	**Sg**	**01 27 22.1**	**+0.9**
comp=E,3μm,0.3s							
VLS	**Valsamata**	**0.78**	**358**	P	**Pg**	**01 27 11.1**	**+0.1**
VLS				S	**Sg**	**01 27 21.3**	**+0.1**
VLS				AML	AML	01 27 23.8	
comp=E,5879μm,0.3s							
VLS				AML	AML	01 27 24.2	
comp=N,5226μm,0.2s							
LXRA	**Lixouri, Kepha**	**0.81**	**349**	P	**Pg**	**01 27 12.2**	**+0.5**
LXRA				S	**Sb**	**01 27 23.9**	**+0.5**
SMHA	**Samh**	**0.85**	**1**	P	**Pg**	**01 27 11.9**	**-0.6**
SMHA				S	**Sg**	**01 27 24.1**	**+0.6**
DMLN	**Damoulianata-K**	**0.86**	**347**	P	**Pg**	**01 27 12.9**	**+0.3**
DMLN				S	**Sb**	**01 27 25.6**	**+0.8**
comp=N,7μm,0.6s							
DMLN	**Damoulianata-K**	**0.86**	**347**	P	**Pg**	**01 27 13.1**	**+0.4**
DMLN				S	**Sb**	**01 27 25.1**	**+0.2**
AMT	**Artemida-Makis**	**0.87**	**81**	P	**Pg**	**01 27 13.0**	**+0.2**
RLS	**Riolos of Patr**	**0.94**	**45**	P	**Pg**	**01 27 13.7**	**-0.3**
RLS	**Riolos of Patr**	**0.94**	**45**	P	**Pg**	**01 27 13.6**	**-0.4**
VSK1	**VASILIKIADES**	**1.01**	**357**	P	**Pg**	**01 27 15.2**	**-0.2**
VSK1				S	**Sb**	**01 27 30.3**	**+1.2**
comp=N,3μm,0.6s							
DRO	**Drossia**	**1.02**	**57**	P	**Pg**	**01 27 15.6**	**-0.1**
DRO	**Drossia**	**1.02**	**57**	P	**Pg**	**01 27 15.3**	**-0.4**
PYL	**PYLOS**	**1.02**	**119**	P	**Pg**	**01 27 15.9**	**+0.3**
PYL	**PYLOS**	**1.02**	**119**	P	**Pg**	**01 27 15.7**	**+0.1**
PYL				S	**Sn**	**01 27 31.5**	**+0.6**
ITM	**Ithomi**	**1.06**	**101**	P	**Pg**	**01 27 16.7**	**+0.4**
FSK	**Fiskardo**	**1.06**	**357**	P	**Pg**	**01 27 16.0**	**-0.4**
FSK				S	**Sb**	**01 27 31.5**	**+1.0**
comp=N,3μm,0.6s							
FSK	**Fiskardo**	**1.06**	**357**	P	**Pg**	**01 27 15.9**	**-0.5**
FSK				S	**Sb**	**01 27 31.3**	**+0.8**
EVGI	**Lefkada island**	**1.22**	**1**	P	**Pg**	**01 27 18.9**	**-0.5**
EVGI				S	**Sn**	**01 27 36.6**	**+0.7**
comp=N,2μm,0.4s							
EVGI	**Lefkada island**	**1.22**	**1**	P	**Pg**	**01 27 19.0**	**-0.5**
EVGI				S	**Sg**	**01 27 35.2**	**-0.1**
DRAG	**Dragano-Lefkad**	**1.28**	**358**	P	**Pn**	**01 27 20.2**	**+0.1**
DRAG				S	**Sn**	**01 27 39.1**	**+1.6**
comp=N,25nm,0.5s							
DRAG	**Dragano-Lefkad**	**1.28**	**358**	P	**Pn**	**01 27 20.2**	**+0.1**
DRAG				S	**Sb**	**01 27 35.6**	**-1.4**
NYDR	**Nydri-Lefkada**	**1.31**	**2**	P	**Pn**	**01 27 20.3**	**-0.2**
NYDR				S	**Sn**	**01 27 39.4**	**+1.3**
comp=N,985nm,0.4s							
KLV	**Kalavryta, Ach**	**1.37**	**61**	P	**Pn**	**01 27 21.8**	**+0.5**
LKD2	**Lefkada island**	**1.39**	**1**	P	**Pn**	**01 27 22.5**	**+0.9**
TSLK	**Tsoukalades, L**	**1.43**	**1**	P	**Pn**	**01 27 22.4**	**+0.4**
EFP	**Efpalio**	**1.44**	**44**	P	**Pn**	**01 27 22.6**	**+0.3**
GUR	**Goura**	**1.46**	**68**	P	**Pn**	**01 27 22.9**	**+0.2**
ANX	**Ano Chora**	**1.57**	**40**	P	**Pn**	**01 27 24.5**	**+0.4**
IGT	**Igoumenitsa**	**2.14**	**354**	P	**Pn**	**01 27 33.2**	**+1.3**
OHR	**Ohrid**	**3.71**	**2**	*i* Pn	**Pb**	**01 27 58.6**	**-3.1**

*IPEC **06** 01:47:22.2±0.1, 50°.14N×19°.11E, h1km, ML1.6/4, Error ellipse: s-maj=2.6km s-min=0.7km az=164.0*
PRU 06 01:47:22.6, 50°.26N×19°.08E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.46**	**95**	*e*Pg	Pg	01 47 30.6	-0.8
OJC				*i* Sg	Sg	01 47 37.0	-0.4
MORC	**Moravsky Berou**	**1.10**	**245**	*e*Pg	Pg	01 47 43.2	-0.5
baz=70							
MORC				*e*Sg	Sg	01 47 56.1	-1.9
9.7nm,0.4s,baz=70							
LANS	**Liptovska Anna**	**1.14**	**167**	*e*PG	Pg	01 47 41.0	-3.4
LANS				*e*SG	Sg	01 47 54.6	-4.5
LANS				*e*LG	Lg	01 47 59.3	
NIE	**Niedzica**	**1.16**	**136**	*e*Pg	Pg	01 47 42.2	-2.5
NIE				*e*Sg	Sg	01 47 57.1	-2.6
KRLC	**Kraliky**	**1.49**	**264**	*e*SG	Sg	01 48 09.3	-1.1
comp=Z,4.5nm,0.6s							
STHS	**Stebnicka Huta**	**1.64**	**120**	*e*PN	Pn	01 47 50.8	-1.8
STHS				*e*SN	Sn	01 48 13.3	-1.1
STHS				*e*LG	Lg	01 48 15.5	
DPC	**Dobruska-Polom**	**1.77**	**274**	*e*PG	Pn	01 47 54.8	+0.3
DPC				*e*SG	Sb	01 48 18.5	-0.2
comp=Z,4.3nm,0.6s							
VYHS	**Vyhne**	**1.77**	**185**	*e*PN	Pn	01 47 51.2	-3.4
VYHS				*e*SN	Sn	01 48 13.3	-4.5
VRAC	**Vranov**	**1.87**	**240**	*e*Pn	Pn	01 47 55.1	-0.8
baz=62							
VRAC				*e*Sg	Sn	01 48 19.6	-0.6
3.3nm,0.5s,baz=62							
KRUC	**Moravsky**	**2.12**	**237**	*e*Pn	Pn	01 47 57.8	-1.4
baz=58							
KRUC				*e*Sg	Sn	01 48 26.6	+0.4
4.4nm,0.6s,baz=58							
KHC	**Kasperske Hory**	**3.75**	**255**	*e*SG	Sg	01 49 21.6	-1.3

*PRE **06** 01:49:53.5±0.7, 23°.28S×24°.99E, h5km, ML2.3*
*BGSI **06** 01:49:55.3±1.4, 23°.30S×25°.02E, h1km±5km, ML2.5*
*BUL **06** 01:49:59.6±3.5, 23°.36S×24°.80E, h30km±47km, MD2.9*
ISC 06 01:49:52.6±1.5, 23°.28S±0°.03×24°.98E±0°.03, h1km±12km, n34, σ1^{s}64/53, 1C, Botswana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDWAN	**Kaudwane**	**0.31**	**251**	*i* P	**Pb**	**01 50 01.4**	**+0.4**
KDWAN				*i* S	**Sb**	**01 50 05.9**	**-0.8**
KDWAN				IAML		01 50 06.5	
comp=N,2μm,0.1s							
LPHEP	**Lephephe**	**0.81**	**96**	*i* P	**Pb**	**01 50 09.2**	**-0.4**
LPHEP				*i* S	**Sg**	**01 50 18.7**	**0.0**
LPHEP				IAML		01 50 20.2	
comp=N,80nm,0.6s							
SKOMA	**Sekoma**	**1.56**	**218**	*i* P	**Pb**	**01 50 22.4**	**0.0**
SKOMA				*i* S	**Sb**	**01 50 41.8**	**-1.0**
SKOMA				IAML		01 50 49.8	
comp=E,69nm,0.0s							
LBTB	**Lobatse**	**1.82**	**162**	*e*P	**Pb**	**01 50 26.5**	**-0.3**
LBTB				*e*S	**Sb**	**01 50 49.8**	**-0.3**
LBTB				IAML		01 50 51.4	
comp=Z,44nm,0.2s							
LBTB	**Lobatse**	**1.82**	**162**	*i* P	**Pg**	**01 50 28.4**	**+0.9**
LBTB				*i* S	**Sg**	**01 50 50.2**	**-0.9**
LBTB	**Lobatse**	**1.82**	**162**	*i* P	**Pg**	**01 50 28.4**	**+0.9**
LBTB				*i* S	**Sg**	**01 50 50.2**	**-0.9**
MTLB	**Matlabas, Limp**	**1.98**	**106**	*e*P	**Pb**	**01 50 28.7**	**-0.8**
MTLB				*e*S	**Sb**	**01 50 53.6**	**-1.1**
MTLB				IAML		01 50 59.9	
comp=Z,65nm,0.2s							
CKGRV	**CKGRV**	**2.18**	**329**	*i* P	**Pn**	**01 50 30.9**	**+0.8**
CKGRV				*i* S	**Sn**	**01 50 57.2**	**-0.6**
CKGRV				IAML		01 51 09.2	
comp=N,40nm,0.7s							
MREMI	**Moremi**	**2.38**	**73**	*i* P	**Pn**	**01 50 34.0**	**+1.1**
MREMI				*i* S	**Sn**	**01 51 01.7**	**-1.1**
MREMI				IAML		01 51 09.9	
comp=E,86nm,0.3s							
KGCAE	**Kacgae**	**2.59**	**279**	*i* P	**Pn**	**01 50 37.7**	**+1.9**
KGCAE				*i* S	**Sn**	**01 51 08.3**	**+0.2**
KGCAE				IAML		01 51 27.9	
comp=N,32nm,1.7s							
LEPH	**Lephalale, Lim**	**2.65**	**103**	*e*P	**Pn**	**01 50 37.9**	**+1.3**
LEPH				*e*S	**Sn**	**01 51 10.4**	**+1.0**
LEPH				IAML		01 51 18.3	
comp=Z,12nm,0.3s							
SOOWA	**Sowa**	**2.94**	**23**	*i* P	**Pn**	**01 50 41.6**	**+1.1**
SOOWA				*i* S	**Sn**	**01 51 15.5**	**-1.1**
SOOWA				IAML		01 51 32.6	
comp=E,34nm,0.7s							
CRAIL	**Swartwater, Li**	**3.04**	**82**	*e*P	**Pn**	**01 50 42.8**	**+0.8**
CRAIL				*e*S	**Sn**	**01 51 18.6**	**-0.5**
CRAIL				IAML		01 51 29.2	
comp=Z,543nm,0.2s							
BROLN	**Tlhalogang**	**3.07**	**46**	*i* P	**Pn**	**01 50 43.8**	**+1.3**
BROLN				*i* S	**Sn**	**01 51 18.2**	**-1.7**
BROLN				IAML		01 51 22.3	
comp=N,12nm,2.5s							
LKGWB	**Lokgwabe**	**3.55**	**256**	*i* P	Pn	01 50 42.4	-6.6
HRAO	**HartRAO**	**3.58**	**137**	*e*P	**Pn**	**01 50 50.3**	**+0.8**
HRAO				*e*S	**Sn**	**01 51 32.4**	**-0.1**
HRAO				IAML		01 51 55.9	
comp=Z,4.4nm,0.2s							
SWZ	**Schweizer**	**3.90**	**175**	*e*P	**Pn**	**01 50 55.1**	**+1.2**
SWZ				*e*S	**Sn**	**01 51 40.0**	**-0.4**
SWZ				IAML		01 51 55.7	
comp=Z,9.6nm,0.4s							
GRTLG	**Ghanzi**	**3.98**	**298**	*i* P	**Pn**	**01 50 55.4**	**+0.5**
MATP	**Matopo**	**4.33**	**50**	*i* P	**Pb**	**01 51 06.2**	**-3.4**
MATP				*i* S	**Sn**	**01 51 52.1**	**+1.2**
MATP	**Matopo**	**4.33**	**50**	*i* P	**Pb**	**01 51 06.2**	**-3.4**
MATP				*i* S	**Sn**	**01 51 52.1**	**+1.2**
BLWY	**Bulawayo**	**4.60**	**48**	*i* P	Pb	01 51 09.0	-5.2
BLWY				*i* S	**Sn**	**01 51 59.7**	**+2.0**
BLWY	**Bulawayo**	**4.60**	**48**	*i* P	Pb	01 51 09.0	-5.2
BLWY				*i* S	**Sn**	**01 51 59.7**	**+2.0**
MUSN	**Musina, Limpop**	**4.61**	**79**	*e*P	**Pn**	**01 51 04.7**	**+1.2**
MUSN				*e*S	**Sn**	**01 51 56.4**	**-1.3**
MUSN				IAML		01 52 29.2	
comp=Z,2.6nm,0.4s							
MUSN	**Musina, Limpop**	**4.61**	**79**	*i* P	Pn	01 51 08.2	+4.7
MUSN				*i* S	**Sn**	**01 51 57.3**	**-0.5**
MUSN	**Musina, Limpop**	**4.61**	**79**	*i* P	Pn	01 51 08.2	+4.7
MUSN				*i* S	**Sn**	**01 51 57.3**	**-0.5**
BOSA	**Boshof**	**5.32**	**177**	*e*P	**Pn**	**01 51 14.2**	**+0.8**
BOSA				*e*S	**Sn**	**01 52 13.5**	**-1.8**
BOSA				IAML		01 52 46.6	
comp=Z,3.2nm,0.6s							
BOSA	**Boshof**	**5.32**	**177**	*i* P	**Pn**	**01 51 14.8**	**+1.5**
BOSA				*i* S	**Sn**	**01 52 11.9**	**-3.5**
BOSA	**Boshof**	**5.32**	**177**	*i* P	**Pn**	**01 51 14.8**	**+1.5**
BOSA				*i* S	**Sn**	**01 52 11.9**	**-3.5**
MOPA	**Mopani**	**5.90**	**94**	*i* P	Pb	01 51 28.7	-7.6
MOPA				*i* S	**Sn**	**01 52 33.1**	**+3.6**
MOPA	**Mopani**	**5.90**	**94**	*i* P	Pb	01 51 28.7	-7.6
MOPA				*i* S	**Sn**	**01 52 33.1**	**+3.6**
CHIPN	**CHIPINGE**	**7.74**	**68**	*i* P	Pn	01 51 54.6	+7.9
CHIPN	**CHIPINGE**	**7.74**	**68**	*i* P	Pn	01 51 54.6	+7.9
KRI	**Karoi**	**7.75**	**35**	*i* P	**Pn**	**01 51 48.8**	**+2.0**
KRI	**Karoi**	**7.75**	**35**	*i* P	**Pn**	**01 51 48.8**	**+2.0**

*CATAC **06** 02:00:42.8±0.8, 12°.21N×88°.09W, h17km±6km, ML3.5*
*SNET **06** 02:00:44.7±1.7, 12°.32N×88°.10W, h16km±13km, ML3.0*
ISC 06 02:00:45.0±1.8, 12°.31N±0°.07×88°.02W±0°.04, h25km±15km, n24, σ1^{s}50/43, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.81**	**34**	*i* P	**Pn**	**02 01 01.4**	**+0.5**
CSGN				*i* S	**Sn**	**02 01 13.0**	**+0.9**
CSGN				IAML		02 01 16.1	
comp=Z,250nm,1.0s							
CNCH	**Conchagua**	**0.98**	**11**	*i* P	**Pn**	**02 01 02.5**	**-0.8**
CNCH				*e*S	**Sn**	**02 01 17.2**	**+0.6**
CNCH				IAML		02 01 23.0	
comp=Z,2μm,0.6s							
CNCH	**Conchagua**	**0.98**	**11**	*i* P	**Pn**	**02 01 02.7**	**-0.7**
CNCH				*i* S	**Sn**	**02 01 17.6**	**+1.1**
CNCH				IAML		02 01 22.5	
comp=Z,2μm,1.0s							
LCND	**La Caada**	**1.01**	**7**	*e*P	**Pn**	**02 01 02.7**	**-0.9**
LCND				IAML		02 01 22.9	
comp=Z,448nm,0.6s							
LCND	**La Caada**	**1.01**	**7**	*i* P	**Pn**	**02 01 03.3**	**-0.3**
LCND				*i* S	**Sn**	**02 01 18.4**	**+1.4**
LCND				IAML		02 01 22.0	
comp=Z,540nm,1.0s							
CRIN	**San Cristobal**	**1.03**	**67**	*i* P	**Pn**	**02 01 03.6**	**-0.3**
CRIN				*i* S	**Sn**	**02 01 19.8**	**+2.2**
CRIN				IAML		02 01 24.7	
comp=Z,3μm,1.0s							
AMPH	**Amapala**	**1.04**	**20**	*i* P	**Pb**	**02 01 05.4**	**+1.1**
AMPH				*i* S	**Sn**	**02 01 19.4**	**+1.7**
PACN	**Al O del Volca**	**1.22**	**81**	*i* P	**Pn**	**02 01 04.5**	**-2.0**
PACN				*i* S	**Sn**	**02 01 22.6**	**+0.4**
PACN				IAML		02 01 31.1	
comp=Z,650nm,1.0s							
TECA	**Tecapa**	**1.27**	**339**	*i* P	**Pn**	**02 01 07.3**	**-0.1**
TECA				*e*S	**Sn**	**02 01 23.9**	**+0.2**
CNGA	**Al SSO del Vol**	**1.31**	**82**	*i* P	**Pn**	**02 01 06.8**	**-0.9**
CNGA				*i* S	**Sb**	**02 01 25.3**	**0.0**
CNGA				IAML		02 01 29.9	
comp=Z,490nm,1.0s							
COPN	**Copaltepe**	**1.41**	**95**	*i* P	**Pn**	**02 01 08.0**	**-1.1**
COPN				IAML		02 01 30.8	
comp=Z,520nm,1.0s							
SCLA	**Alcaldia de Sa**	**1.55**	**334**	*e*P	**Pn**	**02 01 10.3**	**-0.8**
SCLA				*e*S	**Sn**	**02 01 31.0**	**+0.6**
SCLA				IAML		02 01 37.9	
comp=Z,82nm,0.4s							
SCLA	**Alcaldia de Sa**	**1.55**	**334**	*i* P	**Pn**	**02 01 10.4**	**-0.7**
SCLA				*i* S	**Sb**	**02 01 31.3**	**-1.0**
SCLA				IAML		02 01 37.4	
comp=Z,220nm,1.0s							
SAPS	**Ciudad Sandino**	**1.59**	**95**	*i* P	**Pn**	**02 01 10.9**	**-0.7**
SAPS				*i* S	**Sn**	**02 01 31.8**	**+0.5**
SAPS				IAML		02 01 34.3	
comp=Z,890nm,1.0s							
PAVA	**Las Pavas**	**1.66**	**328**	*e*P	**Pn**	**02 01 12.9**	**+0.2**
PAVA				*e*S	**Sb**	**02 01 34.7**	**-0.8**
PAVA				IAML		02 01 39.1	
comp=Z,118nm,0.5s							
LOMA	**Loma Larga**	**1.74**	**320**	*e*P	**Pn**	**02 01 14.6**	**+0.8**
LIMN	**Finca el Limon**	**1.79**	**65**	*i* P	**Pn**	**02 01 14.0**	**-0.4**
LIMN				IAML		02 01 40.1	
comp=Z,220nm,1.0s							
NANN	**Nandasmo**	**1.90**	**101**	*i* P	**Pn**	**02

moment-rate function

DJA **06** *02:09:52.6±0.4,4˙N±2˙×12˙5E±˚,h35km±3km,M5.1/84, mb5.3/84,mB5.6/41,MLv5.5/17,Mw5.0/113,Mw(mB)5.1/41, MwMwp4.8/6,Mwp5.2/6*

ISC 06 02:09:50.7±0.6,3˙47N±0˙03×125˙34E±0˙04,h28km±3km, n883,σ1°54/912,mb5.2/166,MS4.1/73,43C-30D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.64**	**8⇑**	*e*P	**Pn**	**02 10 31.3**	**-0.3**
DDMP				*e*S	**Sn**	**02 11 04.3**	**+1.5**
SKMP	**Bagumbayan, Su**	**3.13**	**345⇓**	*e*P	**Pn**	**02 10 37.6**	**-0.7**
SKMP				*e*S	**Sn**	**02 11 12.1**	**-2.7**
KMSI	**Cibinong**	**3.18**	**205**	P	**Pn**	**02 10 40.2**	**+1.2**
TNTI	**Ternate**	**3.36**	**143**	Pn	**Pn**	**02 10 41.2**	**-0.2**
TNTI				Sn	**Sn**	**02 11 20.9**	**+0.5**
TNTI	**Ternate**	**3.36**	**143**	P	**Pn**	**02 10 43.6**	**+2.2**
TNTI	**Ternate**	**3.36**	**143**	P	**Pn**	**02 10 43.2**	**+1.8**
KCP	**Kidapawan**	**3.53**	**356⇑**	*i*P	**Pn**	**02 10 45.4**	**+1.6**
KCP				*i*S	**Sn**	**02 11 25.7**	**+1.1**
MATI	**Mati**	**3.57**	**15⇓**	*e*P	**Pn**	**02 10 43.9**	**-0.5**
MATI				*e*S	**Sn**	**02 11 27.4**	**+1.7**
DAV	**Davao City (W)**	**3.58**	**4**	Pn	**Pn**	**02 10 45.6**	**+1.0**
DAV	**Davao City (W)**	**3.58**	**4**	Pn	**Pn**	**02 10 40.7**	**-3.9**
	114nm,0.3s,baz=190,slow=19,SNR=2.5						
DAV				Sn	**Sn**	**02 11 24.0**	**-2.0**
	120nm,0.3s,baz=258,slow=17,SNR=4.7						
DAV				Lg	Lg	02 11 35.7	
	202nm,0.3s,baz=108,slow=20,SNR=6.0						
DAV				LR	LR	02 11 37.5	
	comp=Z,2μm,18.2s,baz=96,slow=32						
	281nm,0.4s						
DAV	**Davao City (W)**	**3.58**	**4**	P	**Pn**	**02 10 45.7**	**+1.2**
DAV	**Davao City (W)**	**3.58**	**4**	P	**Pb**	**02 10 52.0**	**-1.5**
DMPH	**Davao City--Mi**	**3.59**	**3⇓**	*i*P	**Pn**	**02 10 47.0**	**+2.3**
DMPH				*i*S	**Sn**	**02 11 22.0**	**-4.2**
PICP	**Pikit**	**3.63**	**349⇓**	*e*P	**Pn**	**02 10 44.3**	**-0.8**
PICP				*e*S	**Sn**	**02 11 30.9**	**+3.9**
CTBH	**Cotabato--PC H**	**3.88**	**344⇓**	*i*P	**Pn**	**02 10 49.1**	**+0.4**
CTBH				*i*S	**Sn**	**02 11 32.5**	**-0.9**
LCVP	**Laak**	**4.34**	**6⇑**	*e*P	**Pn**	**02 10 55.8**	**+0.9**
LCVP				*e*S	**Sn**	**02 11 45.6**	**+1.0**
BUKP	**Musuan**	**4.39**	**356⇓**	*e*P	**Pn**	**02 10 57.1**	**+1.5**
BUKP				*e*S	**Sn**	**02 11 49.5**	**+3.6**
CDOP	**Cateel, Davao**	**4.42**	**14⇓**	*e*P	**Pn**	**02 10 56.4**	**+0.3**
CDOP				*e*S	**Sn**	**02 11 48.6**	**+2.0**
LBMI	**Labuha**	**4.61**	**152**	P	**Pn**	**02 10 59.8**	**+1.1**
MARW	**Marawi**	**4.63**	**347⇑**	*e*P	**Pn**	**02 11 00.6**	**+1.5**
ZCP	**Zamboanga City**	**4.74**	**317⇓**	*e*P	**Pn**	**02 10 59.8**	**-0.6**
ZCP				*e*S	**Sn**	**02 11 50.4**	**-4.0**
PAGZ	**Pagadian**	**4.77**	**336⇓**	*e*P	**Pn**	**02 10 59.9**	**-0.9**
PAGZ				*e*S	**Sn**	**02 11 54.5**	**-0.7**
BLNP	**Bacolod Lanao**	**4.83**	**344⇑**	*e*P	**Pn**	**02 11 02.5**	**+0.7**
BLNP				*e*S	**Sn**	**02 11 59.3**	**+2.5**
TASP	**Talacogon, Agu**	**4.97**	**5⇑**	*e*P	**Pn**	**02 11 05.8**	**+2.2**
TASP				*e*S	**Sb**	**02 12 10.8**	**-5.7**
CGP	**Cagayan de Oro**	**5.00**	**353⇓**	*e*P	Pn	02 11 09.2	+5.3
CGP				*e*S	**Sn**	**02 12 03.7**	**+2.9**
TOLI2	**Tolitoli**	**5.12**	**243**	Pn	**Pn**	**02 11 05.4**	**-0.3**
LUWI	**Luwuk**	**5.17**	**210**	Pn	**Pn**	**02 11 07.4**	**+1.2**
LUWI	**Luwuk**	**5.17**	**210**	P	Pn	02 11 11.6	+5.3
LUWI	**Luwuk**	**5.17**	**210**	P	**Pn**	**02 11 09.1**	**+2.8**
DCPH	**Dipolog City**	**5.45**	**339⇑**	*e*P	**Pn**	**02 11 12.0**	**+1.8**
BUTP	**Butuan**	**5.47**	**3⇓**	*e*P	**Pn**	**02 11 11.6**	**+1.1**
BUTP				*e*S	**Sn**	**02 12 14.7**	**+2.2**
SANI	**Sanana**	**5.52**	**173**	P	**Pn**	**02 11 12.5**	**+1.4**
SANI	**Sanana**	**5.52**	**173**	P	**Pn**	**02 11 12.1**	**+1.0**
TSSP	**Tandag City**	**5.60**	**9⇓**	*e*P	**Pn**	**02 11 12.7**	**+0.4**
TSSP				*e*S	**Sn**	**02 12 18.6**	**+2.8**
APSI	**Ampana**	**5.71**	**220**	P	**Pn**	**02 11 17.3**	**+3.6**
BTTP	**Bongao, Tawi-T**	**5.77**	**286⇓**	*e*P	**Pn**	**02 11 13.4**	**-1.2**
BTTP				*e*S	**Sn**	**02 12 16.1**	**-3.9**
LSIP	**Lazi, Siquijor**	**5.88**	**343⇓**	*e*P	**Pn**	**02 11 19.1**	**+3.1**
LSIP				*e*S	**Sn**	**02 12 26.9**	**+4.3**
SNPH	**Sibulan**	**6.20**	**340**	*e*P	**Pb**	**02 11 34.4**	**-3.6**
GHBP	**Garcia Hernand**	**6.21**	**351⇑**	*e*P	**Pn**	**02 11 24.0**	**+3.4**
GHBP				*e*S	**Sn**	**02 12 33.8**	**+3.1**
SCPH	**Surigao**	**6.27**	**1⇑**	*e*P	**Pn**	**02 11 25.7**	**+4.2**
TBP	**Tagbilaran**	**6.35**	**347⇓**	*e*P	Pn	02 11 28.6	+5.9
DACP	**Dalaguete, Ceb**	**6.52**	**344⇓**	*e*P	Pn	02 11 31.6	+6.8
DACP				*e*S	**Sb**	**02 13 04.5**	**+3.6**
MSLP	**Maasin**	**6.64**	**356⇑**	*e*P	Pn	02 11 32.5	+6.0
MSLP				*e*S	**Sn**	**02 12 46.1**	**+4.7**
TABP	**Talibon, Bohol**	**6.66**	**351⇑**	*e*P	**Pn**	**02 11 27.2**	**+0.5**
TABP				*e*S	**Sn**	**02 12 42.6**	**+0.9**
CNOP	**Candoni, Negro**	**6.86**	**337⇑**	*e*P	**Pn**	**02 11 30.1**	**+0.5**
LDIP	**Loreto**	**6.89**	**2⇑**	*e*P	**Pn**	**02 11 31.7**	**+1.8**
LDIP				*e*S	**Sn**	**02 12 50.7**	**+3.3**
NLAI	**Namlea**	**6.89**	**165**	P	**Pn**	**02 11 30.7**	**+0.7**
	194nm,0.9s,2μm1.0nm						
LLP	**Lapu-Lapu**	**6.94**	**349**	*e*P	**Pn**	**02 11 33.1**	**+2.4**
LLP				*e*S	Sn	02 12 58.6	+10
GNOP	**Guihulngan Cit**	**7.03**	**343⇑**	*e*P	**Pn**	**02 11 33.4**	**+1.4**
MYLDM	**Lahad Datu**	**7.03**	**284**	Pn	**Pn**	**02 11 34.5**	**+2.5**
MYLDM	**Lahad Datu**	**7.03**	**284**	P	**Pn**	**02 11 35.2**	**+3.2**
SFCP	**San Francisco,**	**7.19**	**352⇑**	*e*P	**Pn**	**02 11 38.7**	**+4.6**
SFCP				*e*S	**Sn**	**02 12 58.0**	**+3.2**
SWI	**Sorong**	**7.31**	**126**	P	**Pn**	**02 11 37.0**	**+1.2**
	200nm,0.9s,7μm0.8nm						
OCLP	**Ormoc**	**7.57**	**355⇓**	*e*P	Pn	02 11 45.4	+6.0
GUIM	**Jordan**	**7.62**	**339⇓**	*e*P	**Pn**	**02 11 43.0**	**+3.0**
PLP	**Palo**	**7.66**	**357⇑**	*e*P	**Pn**	**02 11 41.2**	**+0.7**
AAI	**Ambon**	**7.66**	**158**	P	**Pn**	**02 11 41.8**	**+1.3**
MSAI	**Masohi**	**7.66**	**152**	P	**Pn**	**02 11 43.2**	**+2.6**
	167nm,0.5s,2μm0.7nm						
CADP	**Cadiz City**	**7.68**	**345⇓**	*e*P	Pb	02 11 52.6	-11
MECP	**Medelin, Cebu**	**7.76**	**350⇓**	*e*P	**Pn**	**02 11 43.0**	**+1.0**
BESP	**Borongan**	**8.08**	**1⇑**	*e*P	**Pn**	**02 11 47.7**	**+1.4**
BESP				*e*S	**Sn**	**02 13 21.8**	**+4.9**
RCP	**Roxas**	**8.44**	**342⇑**	*e*P	Pn	02 11 59.0	+7.7
CUYO	**Cuyo Island**	**8.50**	**330⇑**	*e*P	**Pn**	**02 11 52.5**	**+0.4**
TTSI	**Tana Toraja**	**8.51**	**221**	P	**Pn**	**02 11 54.5**	**+2.3**
	212nm,0.8s,9μm						
CNP	**Cataman**	**9.01**	**356⇑**	*e*P	**Pn**	**02 12 02.9**	**+3.9**
SMKI	**Samarinda**	**9.01**	**245**	P	**Pn**	**02 12 02.5**	**+3.3**
BATP	**Bataraza**	**9.18**	**306⇓**	*e*P	**Pn**	**02 12 01.6**	**+0.2**
SPSI	**Sidrap Palu**	**9.25**	**217**	P	**Pn**	**02 12 05.4**	**+3.0**
	80nm,0.9s,2μm						
BBSI	**Bau Bau**	**9.32**	**197**	P	**Pn**	**02 12 07.9**	**+4.6**
	106nm,0.7s,2μm						
FAKI	**Fak Fak**	**9.38**	**133**	Pn	**Pn**	**02 12 05.1**	**+1.0**
FAKI	**Fak Fak**	**9.38**	**133**	P	**Pn**	**02 12 05.9**	**+1.8**
FAKI	**Fak Fak**	**9.38**	**133**	P	**Pn**	**02 12 05.7**	**+1.6**
	288nm,1.0s,3μm						
BNSI	**Bone**	**9.41**	**214**	P	**Pn**	**02 12 07.7**	**+3.1**
	73nm,0.8s						
KKM	**Kota Kinabalu**	**9.45**	**286**	Pn	**Pn**	**02 12 07.6**	**+2.4**
KKM	**Kota Kinabalu**	**9.45**	**286**	P	**Pn**	**02 12 08.0**	**+2.8**
BKB	**Balikpapan**	**9.66**	**241**	Pn	**Pn**	**02 12 09.4**	**+1.3**
BKB	**Balikpapan**	**9.66**	**241**	P	**Pn**	**02 12 10.3**	**+2.2**
BKB	**Balikpapan**	**9.66**	**241**	P	**Pn**	**02 12 09.8**	**+1.7**
	302nm,0.8s,3μm						
ENPP	**El Nido**	**9.67**	**323⇑**	*e*P	**Pn**	**02 12 08.0**	**-0.2**
SJMP	**San Jose**	**9.86**	**335⇓**	*e*P	**Pn**	**02 12 11.9**	**+1.1**
BUSP	**Coron**	**9.89**	**329⇑**	*e*P	**Pn**	**02 12 11.5**	**+0.3**
KAPI	**Kappang**	**10.11**	**214**	Pn	**Pn**	**02 12 16.4**	**+2.1**
KAPI	**Kappang**	**10.11**	**214**	Pn	**Pn**	**02 12 14.2**	**0.0**
	1.4nm,0.3s,baz=34,slow=9.8,SNR=7.1						
KAPI				Sn	**Sn**	**02 14 07.1**	**+0.3**
	0.8nm,0.3s,baz=18,slow=22,SNR=0.8						
KAPI				LR	LR	02 16 38.5	
	comp=Z,571nm,19.2s,baz=45,slow=41						
	8.5nm,0.6s						
KAPI	**Kappang**	**10.11**	**214**	*i*P	**Pn**	**02 12 15.0**	**+0.8**
RKPI	**Ransiki, Papua**	**10.12**	**119**	P	**Pn**	**02 12 14.8**	**+0.5**
PVCP	**Virac**	**10.13**	**353⇓**	*e*P	**Pn**	**02 12 13.3**	**-1.2**
BKSI	**Bulukumba**	**10.17**	**211**	P	**Pn**	**02 12 18.1**	**+3.1**
BSSI	**Bau Bau, Buton**	**10.71**	**207**	P	**Pn**	**02 12 24.7**	**+2.3**
	108nm,0.7s,1μm						
GQP	**Guinayangan**	**10.76**	**345⇑**	*e*P	**Pn**	**02 12 26.9**	**+3.9**
LQP	**Lukban**	**11.22**	**341⇓**	*e*P	Pn	02 12 23.0	-6.6
MTKI	**Muara Teweh, K**	**11.32**	**247**	P	**Pn**	**02 12 33.4**	**+2.5**
LUBP	**Lubang**	**11.38**	**334⇓**	*e*P	Pn	02 12 38.2	+6.7
RTBP	**Dona Remedios**	**12.18**	**340⇑**	*e*P	**Pn**	**02 12 43.7**	**+1.1**
MMRI	**Maumere**	**12.42**	**194**	Pn	**Pn**	**02 12 46.0**	**+0.2**
CAAP	**Casiguran, Aur**	**13.07**	**346⇑**	*e*P	**Pn**	**02 12 56.2**	**+1.5**
SBUM	**Sibu**	**13.15**	**266**	Pn	**Pn**	**02 12 57.3**	**+1.5**
SBUM	**Sibu**	**13.15**	**266**	P	**Pn**	**02 12 59.2**	**+3.4**
SOEI	**Soe**	**13.18**	**185**	Pn	**Pn**	**02 12 57.9**	**+1.6**
SOEI	**Soe**	**13.18**	**185**	P	**Pn**	**02 13 00.7**	**+4.4**
SOEI	**Soe**	**13.18**	**185**	P	**Pn**	**02 12 58.8**	**+2.5**
	106nm,0.8s						
SMPP	**San Manuel, Pa**	**13.41**	**340⇑**	*e*P	**Pn**	**02 13 03.2**	**+3.9**
BATI	**Baumata**	**13.69**	**187**	Pn	**Pn**	**02 13 03.3**	**+0.1**
	5.1nm,0.3s,baz=312,slow=2.6,SNR=2.2						
	14nm,0.4s						
BATI	**Baumata**	**13.69**	**187**	P	**Pn**	**02 13 06.4**	**+3.2**
	144nm,0.7s,1μm						
SAMP	**Sagada Mountai**	**14.21**	**342⇑**	*e*P	**P**	**02 13 14.0**	**-3.4**
STKI	**Sintang**	**14.27**	**257**	P	**Pn**	**02 13 13.4**	**+2.3**
	111nm,1.0s						
WBSI	**Waikabubak, Su**	**14.31**	**204**	P	**Pn**	**02 13 14.8**	**+3.1**
	66nm,0.8s						
PLAI	**Plampang**	**14.36**	**212**	P	**P**	**02 13 16.0**	**-3.0**
PLAI	**Plampang**	**14.36**	**212**	P	**P**	**02 13 17.6**	**-1.4**
	172nm,0.9s,1μm						
ABRA	**Dolores**	**14.81**	**342⇑**	*e*P	**Pn**	**02 13 19.1**	**+0.7**
SRBI	**Singaraja**	**15.29**	**221**	P	**P**	**02 13 29.4**	**0.0**
	172nm,1.1s						
GENI	**Genyem**	**15.99**	**112**	P	**Pn**	**02 13 35.0**	**+1.0**
GENI	**Genyem**	**15.99**	**112**	P	**Pn**	**02 13 34.3**	**+0.3**
	247nm,0.8s						
JAGI	**Jajag, Banyuwa**	**16.29**	**223**		**P**	**02 13 39.8**	**-0.7**
JAGI	**Jajag, Banyuwa**	**16.29**	**223**	P	**P**	**02 13 41.3**	**+0.8**
JAGI	**Jajag, Banyuwa**	**16.29**	**223**	P	**P**	**02 13 40.8**	**+0.3**
	114nm,0.8s						
JAY	**Jayapura**	**16.46**	**111**	P	**Pn**	**02 13 38.6**	**-1.4**
	69nm,0.8s						
GMJI	**Gumukmas**	**16.64**	**225**	P	**P**	**02 13 45.2**	**+0.8**
	86nm,1.1s						
DRS	**Darwin Rock St**	**16.73**	**161**	P	**Pn**	**02 13 43.7**	**+0.4**
TBJI	**Tambak Boyo**	**16.91**	**233**	P	**P**	**02 13 49.1**	**+1.7**
	244nm,1.1s						
MTN	**Manton Dam**	**17.20**	**161**	P	**Pn**	**02 13 47.9**	**-1.2**
NGJI	**Ngawi**	**17.55**	**232**	P	**P**	**02 13 58.6**	**+4.2**
	196nm,1.0s						
PWJI	**Pagerwojo**	**17.68**	**230**	P	**P**	**02 13 59.0**	**+3.0**
	155nm,1.8s,3μm						
TABU	**Tabubil**	**18.08**	**119**	P	**P**	**02 14 00.5**	**+0.1**
SMRI	**Semarang**	**18.18**	**235**	P	**Pn**	**02 14 00.9**	**-0.4**
SMRI				IAmb	IAmb	02 14 19.9	
	comp=Z,147nm,0.9s						
SMRI	**Semarang**	**18.18**	**235**	P	**P**	**02 14 05.8**	**+4.4**
SMRI	**Semarang**	**18.18**	**235**	P	**P**	**02 14 03.7**	**+2.3**
	comp=Z,198nm,0.9s						
PCJI	**Pacitan**	**18.27**	**231**	P	**Pn**	**02 14 06.1**	**+3.6**
	comp=Z,114nm,1.3s						
TPI	**Tanjungpandan**	**18.73**	**251**	P	**Pn**	**02 14 09.9**	**+1.8**
	comp=Z,106nm,0.9s,comp=Z,2μmcomp=Z,2μm						
YOGI	**Yogyakarta**	**18.74**	**233**	P	**Pn**	**02 14 10.8**	**+2.7**
KNRA	**Kununurra**	**19.32**	**170**	P	**P**	**02 14 13.8**	**-0.1**
KNRA				IAmb	IAmb	02 14 21.9	
	comp=Z,113nm,0.8s						
KPJI	**Karang Pucung**	**19.58**	**237**	P	**Pn**	**02 14 21.2**	**+2.9**
	comp=Z,224nm,1.6s,comp=Z,3μm						
TWGBT	**Beinan**	**19.67**	**348**	P	**Pn**	**02 14 18.9**	**-0.4**
TWG	**Pinlang**	**19.68**	**348**	P	**P**	**02 14 18.3**	**+0.5**
PPBI	**Pangkal Pinang**	**20.00**	**254**	P	**Pn**	**02 14 24.4**	**+1.2**
	comp=Z,140nm,1.0s						
YULB	**Yu-li**	**20.19**	**349**	P	**P**	**02 14 23.5**	**+0.1**
YULB	**Yu-li**	**20.19**	**349**	P	**P**	**02 14 22.7**	**-0.7**
TPUB	**Ta-pu**	**20.24**	**347**	P	**P**	**02 14 21.8**	**-2.2**
TPUB				IAmb	IAmb	02 14 39.4	
	comp=Z,209nm,1.7s						
TPUB	**Ta-pu**	**20.24**	**347**	P	**P**	**02 14 24.4**	**+0.5**
LEM	**Lembang**	**20.44**	**240**	P	Pn	02 14 29.6	+1.1
	comp=Z,88nm,0.8s,baz=113,slow=8.0,SNR=8.0						
LEM				LR	LR	02 24 14.7	
	comp=Z,900nm,18.6s,baz=62,slow=43						
LEM	**Lembang**	**20.44**	**240**	P	Pn	02 14 30.4	+1.8
	comp=Z,145nm,1.1s						
SSLB	**Suanglung**	**20.64**	**349**	P	**P**	**02 14 28.7**	**+0.4**
SSLB	**Suanglung**	**20.64**	**349**	P	**P**	**02 14 29.2**	**+0.9**
BBJI	**Bungbulang**	**20.73**	**238**	P	Pn	02 14 32.4	+0.5
TPRI	**Tanjung Pinang**	**20.95**	**264**	P	Pn	02 14 33.6	-0.8
YOJ	**Yonaguni jima**	**20.99**	**354**	P	**P**	**02 14 32.4**	**+0.4**
YOJ	**Yonaguni jima**	**20.99**	**354**	P	**P**	**02 14 32.4**	**+0.4**
YOJ				pmax	pmax		
	comp=Z,99nm,1.3s						
CNJI	**Cibinong**	**21.10**	**239**	P	**P**	**02 14 39.3**	**+6.0**
	comp=Z,159nm,1.5s,comp=Z,2μm						
YHNB	**Yeheng**	**21.42**	**350**	P	**P**	**02 14 35.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**21.43**	**179**	P	**P**	**02 14 36.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**21.43**	**179**	P	**P**	**02 14 36.6**	**-0.2**
	comp=Z,33nm,0.7s,baz=11,slow=9.2,SNR=40						
FITZ				S	**S**	**02 18 30.6**	**-2.8**
	comp=Z,6.7nm,0.8s,baz=342,slow=20,SNR=1.7						
	comp=Z,33nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.43**	**179**	P	**P**	**02 14 36.9**	**+0.1**
PMBI	**Palembang**	**21.52**	**253**	P	**P**	**02 14 42.1**	**+4.2**
MYKOM	**Kota Tinggi**	**21.54**	**266**	P	**P**	**02 14 42.3**	**+4.3**
QIZ	**Qiongzhong**	**21.65**	**317**	P	**P**	**02 14 40.7**	**+1.5**
QIZ				S	**S**	**02 18 41.3**	**+3.5**
QIZ				pmax	pmax		
	comp=Z,15nm,0.6s						
QIZ				pmax	pmax		
	comp=Z,130nm,2.6s						
QIZ				LR	LR		
	comp=Z,230nm,11.8s						
QIZ				LR	LR		
	comp=Z,380nm,11.7s						
QIZ				LR	LR		
	comp=Z,450nm,10.0s						
QIZ	**Qiongzhong**	**21.65**	**317**	P	**P**	**02 14 42.6**	**+3.4**
BTDF	**Bukit Timah Da**	**21.65**	**265**	P	**P**	**02 14 42.3**	**+3.0**
GUMO	**Guam**	**21.75**	**61**	P	**P**	**02 14 40.4**	**+0.2**
	comp=Z,69nm,0.7s,baz=171,slow=11,SNR=2.5						
GUMO				LR	LR	02 21 33.0	
	comp=Z,486nm,21.2s,baz=235,slow=32						
	comp=Z,69nm,0.7s						
UBPT	**Khong Chiam**	**22.82**	**302**	P	**P**	**02 14 52.2**	**+0.4**
LWLI	**Liwa**	**22.87**	**248**	P	**P**	**02 14 55.4**	**+2.9**
	comp=Z,260nm,1.3s						
JMZ	**Minamidaito 2**	**22.93**	**14**	P	**P**	**02 14 52.5**	**-0.3**
JOW	**Kunigami**	**23.40**	**7**	P	**P**	**02 14 57.0**	**-0.5**
JOW	**Kunigami**	**23.40**	**7**	LR	LR	02 24 50.6	
	comp=Z,440nm,19.8s,baz=117,slow=39						
JOW	**Kunigami**	**23.40**	**7**	P	**P**	**02 14 56.4**	**-1.1**
MNAI	**Manna**	**23.68**	**251**	P	**P**	**02 15 02.1**	**+1.7**
BKNI	**Bangkinang**	**24.49**	**263**	P	**P**	**02 15 11.3**	**+3.3**
BKNI	**Bangkinang**	**24.49**	**263**	P	**P**	**02 15 11.2**	**+3.3**
	comp=Z,249nm,0.9s						
KULM	**Kulim**	**24.69**	**275**	P	**P**	**02 15 11.2**	**+1.5**
KULM				IAmb	IAmb	02 15 19.4	
	comp=Z,98nm,0.9s						
KULM	**Kulim**	**24.69**	**275**	P	**P**	**02 15 12.3**	**+2.6**
WB0	**Warramunga Arr**	**24.74**	**159**	P	**P**	**02 15 09.6**	**-0.5**
COEN	**Coen**	**24.75**	**135**	P	**P**	**02 15 09.7**	**-0.5**
COEN				IAmb	IAmb	02 15 20.9	
	comp=Z,72nm,1.3s						
COEN	**Coen**	**24.75**	**135**	P	**P**	**02 15 10.3**	**+0.1**
WRAB	**Tennant Creek**	**24.88**	**160**	P	**P**	**02 15 11.1**	**-0.3**
WRAB	**Tennant Creek**	**24.88**	**160**	*i*P	**P**	**02 15 10.8**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,106nm,0.8s						
WRA	**Warramunga Arr**	**24.89**	**160**	P	**P**	**02 15 10.6**	**-0.8**
WRA	**Warramunga Arr**	**24.89**	**160**	P	**P**	**02 15 11.2**	**-0.3**
	comp=Z,73nm,0.9s,baz=339,slow=10,SNR=213						
WRA				PcP	**PcP**	**02 18 45.8**	**-1.2**
	comp=Z,4.3nm,0.9s,baz=317,slow=2.3,SNR=3.2						
WRA				S	**S**	**02 19 38.7**	**+5.6**
	comp=Z,18nm,1.1s,baz=337,slow=17,SNR=12						
WRA				ScP	**ScP**	**02 22 24.0**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=342,slow=2.7,SNR=2.4						
	comp=Z,73nm,0.9s						
WB2	**Warramunga Arr**	**24.89**	**160**	P	**P**	**02 15 10.9**	**-0.6**
WR0	**Warramunga Arr**	**24.97**	**159**	P	**P**	**02 15 11.9**	**-0.3**
MBWA	**Marble Bar**	**25.09**	**192**	P	**P**	**02 15 13.4**	**+0.2**
MBWA	**Marble Bar**	**25.09**	**192**	P	**P**	**02 15 14.1**	**+0.9**
PMG	**Port Moresby**	**25.22**	**121**	P	**P**	**02 15 14.2**	**-0.3**
PMG				IAmb	IAmb	02 15 24.1	
	comp=Z,38nm,0.8s						
PMG	**Port Moresby**	**25.22**	**121**	LR	LR	02 27 32.3	
	comp=Z,318nm,18.6s,baz=292,slow=42						
PMG	**Port Moresby**	**25.22**	**121**	P	**P**	**02 15 14.5**	**0.0**
PMG	**Port Moresby**	**25.22**	**121**	*ce*P	**P**	**02 15 14.2**	**-0.3**
PMG				pmax	pmax		
	comp=Z,56nm,1.3s						
PSA00	**Pilbara Seismi**	**25.46**	**192**	P	**P**	**02 15 16.7**	**+0.1**
PSA00				IAmb	IAmb	02 15 23.1	
	comp=Z,69nm,0.7s						
PSA00	**Pilbara Seismi**	**25.46**	**192**	P	**P**	**02 15 15.8**	**-0.8**
PSA00				IAmb	IAmb	02 15 23.1	
	comp=Z,38nm,0.9s						
PSA00	**Pilbara Seismi**	**25.46**	**192**	P	**P**	**02 15 17.5**	**+0.9**
NAYO	**Nakonayok**	**26.03**	**296**	P	**P**	**02 15 24.7**	**+2.8**
SRIT	**Nakonsritamara**	**26.09**	**282**	P	**P**	**02 15 23.7**	**+1.2**
SRIT				IAmb	IAmb	02 15 31.6	
	comp=Z,113nm,1.3s						
SRIT	**Nakonsritamara**	**26.09**	**282**	P	**P**	**02 15 25.4**	**+3.0**
SURA	**Surathani**	**26.17**	**284**	P	**P**	**02 15 26.7**	**+3.6**
PSI	**Prapat**	**26.39**	**269**	P	**P**	**02 15 28.0**	**+2.7**
PSI	**Prapat**	**26.39**	**269**	P	**P**	**02 15 24.9**	**-0.4**
PSI				pmax	pmax		
	comp=Z,63nm,1.0s						
RPSI	**Rantau Prapat**	**26.39**	**269**	P	**P**	**02 15 24.9**	**-0.2**
RPSI				IAmb	IAmb	02 15 41.3	
	comp=Z,63nm,1.0s						
SISI	**Saibi**	**26.67**	**260**	P	**P**	**02 15 29.7**	**+2.0**
	comp=Z,94nm,0.8s						
CNSH	**ChangSha**	**27.28**	**336**	P	**P**	**02 15 36.3**	**+3.4**
CNSH				S	**S**	**02 20 15.0**	**+4.3**
CNSH				LR	LR		
	comp=Z,420nm,18.2s						
CNSH				LR	LR		
	comp=Z,510nm,16.5s						
CNSH				LR	LR		
	comp=Z,450nm,19.0s						
SLVN	**Son La**	**27.38**	**312**	P	**P**	**02 15 34.8**	**+0.7**
SLVN				IAmb	IAmb	02 15 43.3	
	comp=Z,57nm,1.4s						
SLVN	**Son La**	**27.38**	**312**	P	**P**	**02 15 36.3**	**+2.2**
QIS	**Mount Isa**	**27.68**	**150**	P	**P**	**02 15 36.8**	**+0.2**
SSE	**Sheshan**	**27.76**	**352**	P	**P**	**02 15 35.7**	**-1.5**
SSE				S	**S**	**02 20 21.4**	**+3.2**
SSE				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SSE				pmax	pmax		
	comp=Z,68nm,3.1s						
SSE				LR	LR		
	comp=Z,140nm,21.8s						
SSE				LR	LR		
	comp=Z,120nm,21.0s						
GSI	**Gunungsitoli**	**27.83**	**266**	P	**P**	**02 15 38.6**	**+0.6**
GSI				IAmb	IAmb	02 15 45.4	
	comp=Z,70nm,0.8s						
GSI	**Gunungsitoli**	**27.83**	**266**	P	**P**	**02 15 39.6**	**+1.5**
GSI	**Gunungsitoli**	**27.83**	**266**	P	**P**	**02 15 39.1**	**+1.0**
	comp=Z,104nm,0.8s						
RABL	**Rabaul**	**27.86**	**106**	P	**P**	**02 15 38.4**	**+0.1**
SRDT	**SRDT**	**28.03**	**294**	P	**P**	**02 15 42.7**	**+2.8**
AS31	**Alice Springs**	**28.23**	**163**	P	**P**	**02 15 40.9**	**-0.7**
ASAR	**Alice Springs**	**28.23**	**163**	P	**P**	**02 15 41.1**	**-0.5**
ASAR	**Alice Springs**	**28.23**	**163**	P	**P**	**02 15 41.5**	**0.0**
	comp=Z,17nm,0.7s,baz=342,slow=7.5,SNR=134						
ASAR				PcP	**PcP**	**02

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XAN                                   LR    LR
      comp=Z,380nm,18.6s
XAN                                   LR    LR
      comp=Z,680nm,17.3s
CD2   Chengdu          34.06 326      P     P     02 16 33.8 +0.9
CD2                                   S     S     02 21 54.2 -2.8
CD2                                   pmax  pmax
      comp=Z,30nm,0.5s
CD2                                   LR    LR
      comp=Z,710nm,17.9s
CD2                                   LR    LR
      comp=Z,600nm,18.0s
FORT  Forrest          34.15 176      P     P     02 16 34.2 +0.6
INKA  Innaminka        34.40 155      P     P     02 16 36.5 +0.8
MULG  Mulgathing       34.58 167      P     P     02 16 37.8 +0.5
KMBL  Kambalda         34.80 185      P     P     02 16 39.4 +0.2
MJAR  Matsushiro Arr   34.98  18      P     P     02 16 38.4 -2.4
      comp=Z,16nm,0.9s,baz=196,slow=8.3,SNR=24
MJAR                                  LR    LR    02 32 34.6
      comp=Z,178nm,18.2s,baz=211,slow=39
      comp=Z,16nm,0.9s
MAJO  Matsushiro       34.98  18      P     P     02 16 39.1 -1.6
MAJO                                  IAmb  IAmb  02 16 47.4
      comp=Z,30nm,0.9s
MAJO  Matsushiro       34.98  18      P     P     02 16 38.7 -2.1
MAJO  Matsushiro       34.98  18 i    P     P     02 16 38.3 -2.5
MAJO                                  pmax  pmax
      comp=Z,29nm,1.0s
QLP   Quilpie          35.02 150      P     P     02 16 41.3 +0.2
HNS   HongShan         35.15 345 ⇑    P     P     02 16 45.6 +3.5
HNS                                   PP    PP    02 18 05.6 +3.4
HNS                                   PcP   PcP   02 19 13.3 +0.1
HNS                                   eS    S     02 22 21.2 +7.7
HNS                                   pmax  pmax
      comp=Z,11nm,0.7s
HNS                                   LR    LR
      comp=Z,160nm,14.3s
HNS                                   LR    LR
      comp=Z,450nm,17.5s
HNS                                   LR    LR
      comp=Z,320nm,16.7s
KLBR  Kellerberrin     35.61 191      P     P     02 16 47.2 +1.0
LCRK  Leigh Creek      35.90 161      P     P     02 16 49.5 +0.8
TATA  Tatamba Isabel   36.33 109      P     P     02 16 52.6  0.0
JSD   Sado             36.38  17      P     P     02 16 50.8 -1.9
JSD   Sado             36.38  17      P     P     02 16 50.7 -1.9
HNR   Honiara          36.79 111      LR    LR    02 31 36.9
      comp=Z,152nm,21.7s,baz=306,slow=36
NWAO  Narrogin (SRO)   37.00 191      LR    LR    02 36 24.0
      comp=Z,76nm,18.3s,baz=64,slow=43
JMM   Marumori         37.04  20      P     P     02 16 57.8 -0.5
JMM   Marumori         37.04  20      P     P     02 16 58.0 -0.3
ALEG  Aligegeo Malai   37.28 109      P     P     02 17 00.3 -0.4
BJT   Baijiatuau       37.32 348      P     P     02 17 02.3 +1.6
BJI   Beijing          37.34 348      P     P     02 17 02.6 +1.8
BJI                                   PcP   PcP   02 19 20.1 +0.4
BJI                                   pmax  pmax
      comp=Z,6.0nm,0.9s
BBOO  Buckleboo        37.48 165      P     P     02 17 01.4 -0.8
BBOO                                  IAmb  IAmb  02 17 08.9
      comp=Z,50nm,0.7s
BBOO  Buckleboo        37.48 165      P     P     02 17 02.4 +0.3
BRDH  Bariadhala       37.81 303      LR    LR    02 35 26.2
      comp=Z,312nm,18.4s,baz=166,slow=41
EIDS  Eidsvold         38.02 140      P     P     02 17 06.6 -0.2
EIDS                                  IAmb  IAmb  02 17 07.6
      comp=Z,88nm,1.1s
EIDS  Eidsvold         38.02 140      P     P     02 17 06.7 -0.1
LZH   Lanzhou          38.05 331 eP   P     P     02 17 08.1 +1.0
LZH                                   pP    pP    02 17 14.1  -0.3
LZH                                   S     S     02 22 58.6 +0.5
LZH                                   pmax  pmax
      comp=Z,35nm,1.2s
LZH                                   LR    LR
      comp=Z,640nm,19.2s
LZH                                   LR    LR
      comp=Z,560nm,16.5s
LZH                                   LR    LR
      comp=Z,410nm,17.2s
WHYH  Whyalla          38.11 163      P     P     02 17 08.1 +0.7
STKA  Stephens Creek   38.40 157      P     P     02 17 10.4 +0.5
STKA  Stephens Creek   38.40 157      P     P     02 17 10.1 +0.2
      comp=Z,63nm,0.8s,baz=332,slow=8.3,SNR=83
      comp=Z,63nm,0.8s
STKA  Stephens Creek   38.40 157      P     P     02 17 10.1 +0.2
STKA  Stephens Creek   38.40 157      P     P     02 17 10.4 +0.5
STKA                                  pmax  pmax
      comp=Z,18nm,0.9s
HTT   Hallett          38.88 162      P     P     02 17 14.9 +0.9
SHL   Shillong         38.93 308      P     P     02 17 15.7 +1.0
SHL                                   IAmb  IAmb  02 17 27.9
      comp=Z,60nm,0.6s
SHL   Shillong         38.93 308      P     P     02 17 15.7 +1.0
SHL                                   pmax  pmax
      comp=Z,60nm,0.6s
HHC   Hu-ho-hao-te     39.23 343 eP   P     P     02 17 19.0 +2.1
HHC                                   S     S     02 23 16.2 +0.4
HHC                                   sS    sS    02 23 27.7  -0.3
HHC                                   SS    SS    02 26 06.3 -3.3
HHC                                   pmax  pmax
      comp=Z,13nm,0.6s
HHC                                   pmax  pmax
      comp=Z,84nm,4.2s
HHC                                   LR    LR
      comp=Z,130nm,16.0s
HHC                                   LR    LR
      comp=Z,150nm,16.0s
HHC                                   LR    LR
      comp=Z,230nm,16.8s
MSHR  Mys Shultsa      39.29   7 ceP   P     02 17 14.9 -2.3
MSHR                                  pmax  pmax
      comp=Z,32nm,0.8s
JTM   Tenmabayashi     39.76  19      P     P     02 17 20.8 -0.4
JTM                                   IAmb  IAmb  02 17 22.4
      comp=Z,101nm,1.4s
JTM   Tenmabayashi     39.76  19      P     P     02 17 21.1 -0.1
CMSA  Cobar Meteorol   39.84 152      P     P     02 17 22.7 +0.8
VLA   Vladivostok      39.91   7 i    P     P     02 17 20.6 -1.7
VLA                                   pmax  pmax
      comp=Z,54nm,1.2s
TW1H  Toowoomba 1 Ha   40.12 142      P     P     02 17 25.1 +0.7
USA0B Ussuriysk Arra   40.98   7      P     P     02 17 30.8 -0.4
USA0B Ussuriysk Arra   40.98   7 c iP P     P     02 17 30.3 -0.9
USRK  Ussuriysk Ar.    40.98   7      P     P     02 17 30.4 -0.8
USRK  Ussuriysk Ar.    40.98   7      P     P     02 17 30.7 -0.6
      comp=Z,19nm,0.8s,baz=190,slow=8.2,SNR=25
      comp=Z,19nm,0.8s
MDJ   Mudanjiang       41.15   5      P     P     02 17 31.6 -1.0
MDJ                                   pP    pP    02 17 34.0  -6.8
MDJ                                   PcS   PcS   02 23 18.4 -4.2
MDJ                                   S     S     02 23 49.0 +4.9
MDJ                                   sS    pS    02 23 54.8 +1.3
MDJ                                   pmax  pmax
      comp=Z,25nm,1.0s
MDJ                                   LR    LR
      comp=Z,140nm,15.3s
MDJ                                   LR    LR
      comp=Z,190nm,16.4s
MDJ                                   LR    LR
      comp=Z,210nm,23.1s
MDJ   Mudanjiang       41.15   5      P     P     02 17 32.3 -0.3
ERM   Erimo            41.56  20 i    P     P     02 17 35.0 -1.0
ERM                                   pmax  pmax
      comp=Z,70nm,1.7s
LSA   Lhasa            41.58 313      P     P     02 17 37.2 +0.2
AUDCS Dubbo College    41.83 150      P     P     02 17 39.4 +1.1
ARMA  Armidale         42.03 145      P     P     02 17 40.3 +0.1
ARMA                                  IAmb  IAmb  02 17 42.4
      comp=Z,72nm,0.9s
ARMA  Armidale         42.03 145      P     P     02 17 41.2 +1.1
AUPHS Peel High Scho   42.13 147      P     P     02 17 41.9 +1.1
BNX   BinXian          42.14   2 ⇓    P     P     02 17 39.0 -1.7
BNX                                   S     S     02 24 01.4 +2.7
BNX                                   pmax  pmax
      comp=Z,12nm,1.6s
BNX                                   pmax  pmax
      comp=Z,74nm,6.5s
BNX                                   LR    LR
      comp=Z,220nm,16.2s
BNX                                   LR    LR
      comp=Z,230nm,15.7s
BNX                                   LR    LR
      comp=Z,310nm,20.1s
TEY   Ternei           42.56  12⇑ eP   P     02 17 43.9 -0.2
TEY                                   pmax  pmax
      comp=N,60nm,0.7s
TEY                                   pmax  pmax
      comp=Z,110nm,0.7s
GTA   Gaotai           42.62 330 eP   P     02 17 44.9  0.0
GTA                                   sP    sP    02 17 54.1  -1.1
GTA                                   S     S     02 24 07.1 +0.7
GTA                                   pmax  pmax
      comp=Z,6.0nm,1.2s
GTA                                   LR    LR
      comp=Z,330nm,17.8s
GTA                                   LR    LR
      comp=Z,320nm,16.4s
GTA                                   LR    LR
      comp=Z,380nm,16.7s
LUES  Luesalemba Tem   42.75 110      P     P     02 17 47.1 +0.9
ARPS  Mount Arapiles   42.89 160      P     P     02 17 48.0 +1.1
GOMU  GeErMu           43.05 323      P     P     02 17 50.3 +1.6
GOMU                                  sP    pP    02 17 54.6  -1.5
GOMU                                  S     S     02 24 15.5 +2.3
GOMU                                  pmax  pmax
      comp=Z,8.0nm,1.3s
GOMU                                  pmax  pmax
      comp=Z,190nm,4.5s
GOMU                                  LR    LR
      comp=Z,890nm,19.1s
GOMU                                  LR    LR
      comp=Z,580nm,19.5s
GOMU                                  LR    LR
      comp=Z,900nm,21.9s
ASAJ  Asahikawa        43.26  18      LR    LR    02 34 37.2
      comp=Z,179nm,21.5s,baz=184,slow=34
ASAJ  Asahikawa        43.26  18      P     P     02 17 49.8  0.0
ASAJ                                  pmax  pmax
      comp=Z,55nm,0.8s
JKA   Kamikawa-asahi   43.26  18      P     P     02 17 49.8 +0.1
JKA                                   IAmb  IAmb  02 17 50.7
      comp=Z,56nm,0.8s
AUMAG Moama Anglican   43.35 157      P     P     02 17 52.3 +1.7
YNG   Young            43.39 152      P     P     02 17 52.5 +1.5
BRAT  Ballarat         44.32 159      P     P     02 17 59.8 +1.5
CAN   Canberra         44.51 152      P     P     02 18 01.5 +1.4
CAN   Canberra         44.51 152      P     P     02 18 01.4 +1.4
CAN   Canberra         44.51 152      P     P     02 18 01.5 +1.4
CAN                                   pmax  pmax
      comp=Z,71nm,0.9s
CNB   Canberra Magne   44.68 152      P     P     02 18 02.9 +1.5
TOO   Toolangi         44.92 157      P     P     02 18 03.0  -0.3
TOO                                   IAmb  IAmb  02 18 06.3
      comp=Z,32nm,1.2s
TOO   Toolangi         44.92 157      P     P     02 18 03.0  -0.3
TOO                                   pmax  pmax
      comp=Z,32nm,1.2s
YSS   Yuzh-Sakhalins   45.87  17      P     P     02 18 10.2  -0.4
YSS                                   IAmb  IAmb  02 18 11.6
      comp=Z,59nm,1.2s
YSS   Yuzh-Sakhalins   45.87  17      P     P     02 18 10.1  -0.6
YSS   Yuzh-Sakhalins   45.87  17 eP   P     02 18 10.0  -0.6
YSS                                   pmax  pmax
      comp=Z,40nm,1.1s
HIA   Hailar           45.88 355 i    P     P     02 18 08.7  -2.0
HIA                                   pmax  pmax
      comp=Z,16nm,1.3s
KLR   Kul'dur          45.92   6      LR    LR    02 39 28.3
      comp=Z,121nm,18.9s,baz=196,slow=39
KLR   Kul'dur          45.92   6 ceP  P     02 18 10.0  -1.0
KLR                                   pmax  pmax
      comp=Z,33nm,1.7s
HEH   HeiHe            46.65   2 eP   P     02 18 15.2  -1.5
HEH                                   pmax  pmax
      comp=Z,45nm,0.6s
HEH                                   pmax  pmax
      comp=Z,200nm,5.4s
HEH                                   LR    LR
      comp=Z,240nm,18.4s
HEH                                   LR    LR
      comp=Z,230nm,18.3s
HEH                                   LR    LR
      comp=Z,380nm,19.6s
ULN   Ulaanbaatar      46.95 343      P     P     02 18 18.1  -1.2
ULN   Ulaanbaatar      46.95 343 ceP  P     02 18 18.5  -0.8
ULN                                   pmax  pmax
      comp=Z,5.0nm,1.0s
SONM  Songino Array    47.12 343      P     P     02 18 18.5  -2.0
SONM  Songino Array    47.12 343      P     P     02 18 18.7  -1.9
      comp=Z,1.7nm,0.8s,baz=156,slow=6.1,SNR=6.4
SONM                                  PcP   PcP   02 19 51.4  -0.7
      comp=Z,9.8nm,0.9s,baz=160,slow=5.1,SNR=8.9
SONM                                  ScP   ScP   02 23 42.8  -1.5
      comp=Z,0.3nm,0.3s,baz=180,slow=2.7,SNR=4.0
SONM                                  LR    LR    02 40 35.3
      comp=Z,151nm,19.0s,baz=153,slow=39
      comp=Z,1.7nm,0.8s
DZM   Mont Dzumac      47.52 124 eP   P     02 18 22.8  -1.3
      comp=Z,94nm,1.4s
DZM   Mont Dzumac      47.52 124      P     P     02 18 23.2  -0.8
DZM                                   IAmb  IAmb  02 18 36.8
      comp=Z,26nm,0.9s
DZM   Mont Dzumac      47.52 124      P     P     02 18 24.9 +0.8
YATNC Mamie plateau,   47.89 124      P     P     02 18 28.0 +1.2
HYB   Hyderabad        47.91 290 eP   P     P     02 18 28.8 +1.8
HYB                                   IVmB_BB     02 18 34.7
      comp=Z,499nm,1.4s
GRNR  Gornyy           48.05   9 ⇑ iP P     P     02 18 27.2  -0.4
GRNR                                  pmax  pmax
      comp=Z,20nm,0.9s
GRNR                                  MLR   MLR
      comp=N,280nm,13.0s
GRNR                                  MLR   MLR
      comp=Z,180nm,13.0s
PINNC Pines Island,    48.59 124      P     P     02 18 32.3 +0.1
GLAD  Gladstone        48.85 157      P     P     02 18 35.6 +1.8
TYV   Tymovskoe        49.43  14 eP   P     02 18 48.1  +10
TYV                                   pmax  pmax
      comp=Z,18nm,1.1s
TYV                                   pmax  pmax
      comp=Z,300nm,3.5s
ZEA   Zeya             50.13   1 eP   P     02 18 42.0  -1.5
ZEA                                   pmax  pmax
      comp=Z,10.0nm,1.0s
ZEA                                   MLR   MLR
      comp=N,200nm,16.0s
ZEA                                   MLR   MLR
      comp=Z,200nm,12.0s
TAU   Tasmania Unive   50.26 159      P     P     02 18 45.1 +0.5
TAU   Tasmania Unive   50.26 159      P     P     02 18 45.1 +0.5
TAU                                   pmax  pmax
      comp=Z,176nm,1.8s
WMQ   Urumqi           52.16 326 eP   P     P     02 18 59.7 +0.7
WMQ                                   pP    pP    02 19 04.4  -2.1
WMQ                                   pmax  pmax
      comp=Z,16nm,1.1s
WMQ                                   LR    LR
      comp=Z,420nm,18.1s
WMQ                                   LR    LR
      comp=Z,380nm,24.3s
WMQ                                   LR    LR
      comp=Z,180nm,19.9s
BOD   Bodaibo          54.93 353 eP   P     02 19 16.9  -2.1
BOD                                   pmax  pmax
      comp=Z,14nm,1.9s
FUNA  Funafuti         55.00 103      P     P     02 19 21.5 +1.3
ZSN   Zaisan           55.98 328 eP   P     02 19 25.2  -1.6
      comp=Z,12nm,1.1s
ZSN   Zaisan           55.98 328 eP   P     02 19 25.1  -1.6
ZSN                                   pmax  pmax
      comp=Z,12nm,1.1s
MSVF  Nonsavu          56.07 114      P     P     02 19 28.9 +1.0
MSVF  Nonsavu          56.07 114 i    P     P     02 19 28.4 +0.5
MSVF                                  pmax  pmax
      comp=Z,66nm,1.0s
PEA0B Petropavlovsk-   56.20  23 eP   P     02 19 27.1  -1.1
PETK  Petropavlovsk-   56.20  23      P     P     02 19 27.6  -0.6
PETK  Petropavlovsk-   56.20  23      P     P     02 19 28.1  -0.1
      comp=Z,12nm,0.7s,baz=195,slow=6.1,SNR=14
PETK                                  LR    LR    02 43 09.4
      comp=Z,56nm,20.4s,baz=215,slow=36
      comp=Z,12nm,0.7s
SHLS  Shalkode         56.67 321 eP   P     02 19 28.3  -3.7
SHLS  Shalkode         56.67 321 eP   P     02 19 28.2  -3.7
UZB   Uzynbulak        56.94 321 eP   P     02 19 32.0  -1.9
UZB   Uzynbulak        56.94 321 eP   P     02 19 31.9  -1.9
MK31  Makanchi Array   56.99 326      P     P     02 19 33.6  -0.3
MK31  Makanchi Array   56.99 326 i    P     P     02 19 32.9  -1.1
MKAR  Makanchi Array   56.99 326      P     P     02 19 33.3  -0.7
MKAR  Makanchi Array   56.99 326      P     P     02 19 33.8  -0.2
      comp=Z,3.3nm,0.4s,baz=121,slow=7.9,SNR=45
MKAR                                  ScP   ScP   02 24 24.3  -2.6
      comp=Z,2.2nm,0.8s,baz=103,slow=5.9,SNR=4.3
MKAR                                  LR    LR    02 44 06.6
      comp=Z,209nm,21.8s,baz=116,slow=36
      comp=Z,3.3nm,0.4s
MKAR  Makanchi Array   56.99 326 i    P     P     02 19 33.5  -0.5
MKAR                                  pmax  pmax
      comp=Z,3.0nm,0.4s
NIL   Nilore           56.99 308      P     P     02 19 34.0  -0.3
DGTI  Dogotuki         57.23 112      P     P     02 19 36.9 +0.8
KSH   Kashi            57.26 316      P     P     02 19 37.6 +1.5
KSH                                   sP    pP    02 19 44.5 +0.8
KSH                                   pmax  pmax
      comp=Z,6.0nm,0.7s
SATY  Saty             57.29 320 eP   P     02 19 34.3  -2.0
SATY  Saty             57.29 320 eP   P     02 19 34.2  -2.0
KPKS  Kokpek           57.32 321 eP   P     02 19 34.5  -2.0
KPKS  Kokpek           57.32 321 eP   P     02 19 34.4  -2.0
KDJ   Kajisay          57.63 319      P     P     02 19 39.5 +0.7
MDOK  Medeo            58.21 320 eP   P     02 19 41.0  -1.7
MDOK  Medeo            58.21 320 eP   P     02 19 41.0  -1.7
TNSS  Tian-Shan        58.21 320 eP   P     02 19 40.8  -2.3
TNSS  Tian-Shan        58.21 320 eP   P     02 19 40.8  -2.3
TDK   Taldyqorghan     58.27 322 eP   P     02 19 41.4  -1.7
      comp=Z,12nm,1.0s
TDK   Taldyqorghan     58.27 322 eP   P     02 19 41.3  -1.7
TDK                                   pmax  pmax
      comp=Z,12nm,1.0s
YAK   Yakutsk          58.52   2      P     P     02 19 43.6  -0.7
YAK   Yakutsk          58.52   2      LR    LR    02 47 45.6
      comp=Z,124nm,19.1s,baz=175,slow=39
YAK   Yakutsk          58.52   2 eP   P     02 19 42.9  -1.4
YAK                                   e*PP  pwP   02 19 54.4  -0.2
YAK                                   e     e     02 20 32.7
YAK                                   e     e     02 21 52.6
YAK                                   eS    S     02 27 44.3  -1.7
YAK                                   e*SS  sS    02 28 05.2 +5.3
YAK                                   e     e     02 29 29.2
YAK                                   eSS   SS    02 31 41.8 +3.0
YAK                                   pmax  pmax
      comp=Z,102nm,0.9s
YAK                                   pmax  pmax
      comp=N,25nm,1.0s
YAK                                   pmax  pmax
      comp=E,13nm,1.3s
YAK                                   pmax  pmax
      comp=Z,93nm,3.8s
YAK                                   pmax  pmax
      comp=N,74nm,2.6s
YAK                                   pmax  pmax
      comp=E,77nm,2.8s
YAK                                   smax  smax
      comp=E,75nm,3.5s
YAK                                   smax  smax
      comp=N,40nm,2.0s
BOOM  Boomskoye usch   58.61 319      P     P     02 19 46.0 +0.4
KUU   Kurty            59.01 320 eP   P     02 19 46.5  -1.7
      comp=N,12nm,1.1s
KUU   Kurty            59.01 320 eP   P     02 19 46.5  -1.7
KUU                                   pmax  pmax
      comp=Z,12nm,1.1s
MA2   Magadan          59.30  15      LR    LR    02 44 18.3
      comp=Z,53nm,21.0s,baz=208,slow=35
MA2   Magadan          59.30  15      P     P     02 19 50.2 +0.4
MA2   Magadan          59.30  15 ceP  P     02 19 50.6 +0.8
MA2                                   pmax  pmax
      comp=Z,109nm,2.5s
AAK   Ala-Archa        59.63 318      LR    LR    02 49 28.4
      comp=Z,184nm,19.3s,baz=104,slow=40
AAK   Ala-Archa        59.63 318 ceP  P     02 19 51.2  -1.5
AAK                                   pmax  pmax
      comp=Z,12nm,1.7s
SGDS  Sogindy          59.90 319 eP   P     02 19 52.5  -2.0
SGDS  Sogindy          59.90 319 eP   P     02 19 52.4  -2.0
ARSB  Arslanbob        60.09 317      P     P     02 19 55.8  0.0
ARSB  Arslanbob        60.09 317      P     P     02 19 55.8  0.0
ARSB                                  pmax  pmax
      comp=Z,15nm,1.7s
ZAA0  Zalesovo Array   60.20 334      P     P     02 19 54.5  -1.6
ZALV  Zalesovo Beam    60.20 334      P     P     02 19 54.4  -1.7
ZALV  Zalesovo Beam    60.20 334      P     P     02 19 53.9  -2.2
      comp=Z,7.1nm,0.8s,baz=112,slow=6.6,SNR=22
ZALV                                  LR    LR    02 47 03.8
      comp=Z,152nm,20.9s,baz=134,slow=37
      comp=Z,7.1nm,0.8s
ZALV  Zalesovo Beam    60.20 334      P     P     02 19 54.4  -1.7
KBL   Kabul            60.59 308      P     P     02 19 59.1  -0.3
KBL                                   IAmb  IAmb  02 20 06.6
      comp=Z,31nm,1.6s
KBL   Kabul            60.59 308      P     P     02 19 59.1  -0.3
KBL                                   pmax  pmax
      comp=Z,31nm,1.6s
BTLS  Baital           60.99 321 eP   P     02 20 00.1  -1.7
BTLS  Baital           60.99 321 eP   P     02 20 00.0  -1.7
GAR   Garm             61.09 313      P     P     02 20 02.4  -0.3
BTK   Batken           61.11 314      P     P     02 20 02.4  -0.3
BTK                                   IAmb  IAmb  02 20 10.2
      comp=Z,25nm,1.2s
BTK   Batken           61.11 314      P     P     02 20 02.4  -0.3
BTK                                   pmax  pmax
      comp=Z,25nm,1.3s
KURBB Kurchatov Arra   61.22 328      P     P     02 20 01.9  -1.3
      comp=Z,11nm,0.8s,baz=126,slow=6.3,SNR=63
      comp=Z,11nm,0.8s
KURK  Kurchatov        61.22 328      P     P     02 20 01.8  -1.4
KURK                                  IAmb  IAmb  02 20 02.9
      comp=Z,17nm,0.8s
KURK  Kurchatov        61.22 328 ceP  P     02 20 02.3  -0.9
KURK                                  pmax  pmax
      comp=Z,29nm,1.3s
JCZ   Jackson Bay      61.27 146      P     P     02 20 05.2 +1.5
QRZ   Quartz Range     61.60 141      P     P     02 20 06.5 +0.6
DZA   Taraz            61.85 318 eP   P     P     02 20 05.8  -1.8
      comp=Z,7.9nm,0.8s
DZA   Taraz            61.85 318 eP   P     P     02 20 05.8  -1.8
DZA                                   pmax  pmax
      comp=Z,8.0nm,0.8s
SIMJ  Simiganj         61.93 312      P     P     02 20 07.8  -0.5
TOZ   Tahuroa Road     61.94 136      P     P     02 20 07.9  -0.3
TOZ                                   IAmb  IAmb  02 20 10.5
      comp=Z,34nm,1.0s
MRNZ  Matariki Terra   62.06 141      P     P     02 20 09.2 +0.3
LBZ   Lake Benmore     62.25 145      P     P     02 20 10.2  0.0
THZ   Tophouse         62.35 141      P     P     02 20 11.1 +0.1
THZ   Tophouse         62.35 141      P     P     02 20 11.6 +0.7
RPZ   Rata Peaks       62.35 144      P     P     02 20 11.5 +0.6
KKAR  Karatay Array    62.48 318      P     P     02 20 11.2  -0.6
KKAR  Karatay Array    62.48 318      P     P     02 20 11.7  -0.1
KKAR                                  IAmb  IAmb  02 20 20.6
      comp=Z,4.8nm,0.8s
KKAR  Karatay Array    62.48 318      P     P     02 20 11.7  -0.1
KKAR                                  pmax  pmax
      comp=Z,5.0nm,0.9s
LTZ   Lake Taylor      62.53 143      P     P     02 20 10.6  -1.6
LTZ                                   IAmb  IAmb  02 20 13.6
      comp=Z,37nm,1.0s
SEY   Seymchan         62.60  14 ceP  P     02 20 11.1  -1.1
SEY                                   pmax  pmax
      comp=Z,32nm,1.0s
WTVZ  West Tongariro   62.69 138      P     P     02 20 15.1 +1.7
NNVZ  North Ngauruho   62.71 138      P     P     02 20 15.1 +1.5
WCDS  Wanganui Civil   62.74 139      P     P     02 20 15.2 +1.7
OTVZ  Oturere          62.76 138      P     P     02 20 15.3 +1.4
ETVZ  East Tongariro   62.78 138      P     P     02 20 15.5 +1.5
CHM   Chimkent         62.80 316 eP   P     P     02 20 12.6  -1.5
CHM   Chimkent         62.80 316 eP   P     P     02 20 12.5  -1.5
BRLS  Borolday         62.91 317 eP   P     P     02 20 13.2  -1.6
BRLS  Borolday         62.91 317 eP   P     P     02 20 13.1  -1.6
BSWZ  Blackbirch Sta   62.93 141      P     P     02 20 14.6  -0.2
KHZ   Kahutara         63.11 142      P     P     02 20 15.9  0.0
URZ   Urewera          63.30 136      LR    LR    02 49 16.2
      comp=Z,201nm,18.2s,baz=32,slow=37
BKZ   Black Stump Fm   63.32 137      P     P     02 20 17.5  -0.1
BKZ   Black Stump Fm   63.32 137      P     P     02 20 18.1 +0.6
BKZ   Black Stump Fm   63.32 137      P     P     02 20 17.4  -0.1
RTZ   Ruatahuna        63.39 137      P     P     02 20 18.1 +0.1
SHEM  Shemya Is, Ala   63.39  31      LR    LR    02 41 51.2
      comp=Z,98nm,21.5s,baz=291,slow=30
MRZ   Mangatainoka R   63.47 139      P     P     02 20 17.5  -0.9
MRZ                                   IAmb  IAmb  02 20 18.6
      comp=Z,31nm,0.9s
BRZS  Berezniki        64.11 325 eP   P     02 20 20.8  -1.7
BRZS  Berezniki        64.11 325 eP   P     02 20 20.7  -1.7
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BVAR Borovoye Array 66.79 327 P **P** **02 20 38.1 -1.7**
comp=Z,8.4nm,0.9s,baz=124,slow=7.7,SNR=25
BVAR LR LR 02 51 31.0
comp=Z,114nm,18.7s,baz=118,slow=38
comp=Z,8.4nm,0.9s
BRVK Borovoye 66.86 327 P **P** **02 20 40.3 +0.1**
BRVK Borovoye 66.86 327 *ce*P **P** **02 20 40.1 -0.1**
BRVK pmax pmax
comp=Z,15nm,1.3s
WSAR Wadi Sarin 67.26 294 LR LR 02 53 01.6
comp=Z,42nm,19.8s,baz=94,slow=39
TIXI Tiksi 68.12 1 P **P** **02 20 46.6 -1.2**
TIXI IAmb IAmb 02 20 51.3
comp=Z,22nm,1.0s
TIXI Tiksi 68.12 1 LR LR 02 50 54.1
comp=Z,215nm,21.7s,baz=194,slow=36
TIXI Tiksi 68.12 1 *ce*P **P** **02 20 46.1 -1.7**
TIXI pmax pmax
comp=Z,26nm,1.0s
BILL Bilibino 70.16 15 *ce*P **P** **02 21 00.2 -0.3**
BILL pmax pmax
comp=Z,20nm,2.5s
NRIK Noril'sk 70.36 347 P **P** **02 21 00.0 -1.7**
NRIK IAmb IAmb 02 21 02.0
comp=Z,12nm,0.8s
NRIK Noril'sk 70.36 347 P **P** **02 20 60.0 -1.7**
comp=Z,13nm,0.8s,baz=120,slow=5.1,SNR=15
NRIK LR LR 02 54 13.6
comp=Z,213nm,19.5s,baz=156,slow=38
comp=Z,13nm,0.8s
NRIK Noril'sk 70.36 347 *i* P **P** **02 20 59.5 -2.2**
NRIK pmax pmax
comp=Z,14nm,0.8s
CASY Casey 70.40 186 P **P** **02 21 02.7 +0.8**
CASY IAmb IAmb 02 21 03.4
comp=Z,16nm,0.9s
ABKAR Akbulak array 71.48 321 P **P** **02 21 07.2 -1.7**
ABKAR Akbulak array 71.48 321 P **P** **02 21 07.2 -1.7**
ABKAR IAmb IAmb 02 21 15.2
comp=Z,26nm,1.6s
NIKH Nikolski High 72.82 35 P **P** **02 21 16.3 -0.6**
baz=252
AKTO Aktyubinsk 73.01 322 LR LR 02 56 16.1
comp=Z,197nm,19.9s,baz=106,slow=38
SPIA Saint Paul Isl 73.43 31 P **P** **02 21 20.0 -0.3**
baz=250
SVE Sverdlovsk 73.46 329 *e*P **P** **02 21 21.0 +0.4**
P08K Saint George I 73.59 32 P **P** **02 21 21.2 -0.1**
baz=251
UNV Unalaska Valle 74.42 35 P **P** **02 21 25.9 -0.3**
baz=254
ARTI Arti 74.50 328 P **P** **02 21 23.9 -2.7**
ARTI Arti 74.50 328 LR LR 02 56 24.7
comp=Z,117nm,20.5s,baz=88,slow=38
ARTI Arti 74.50 328 *d i* P **P** **02 21 24.6 -2.0**
ARTI S **S** **02 31 00.0 +0.1**
ARTI SS **SS** **02 35 43.5 -3.3**
ARTI pmax pmax
comp=Z,29nm,4.0s
GAMB Gambell 75.20 24 P **P** **02 21 30.9 +0.4**
baz=247
FALS False Pass 76.43 34 P **P** **02 21 36.9 -0.8**
M11K Mekoryuk 76.45 28 P **P** **02 21 37.7 0.0**
baz=253
TNA Tin City 77.37 23 P **P** **02 21 43.3 +0.5**
baz=250
S12K Black Hills 77.38 34 P **P** **02 21 43.3 +0.2**
baz=257
K13K Kusilvak Mount 77.62 27 P **P** **02 21 44.7 +0.4**
baz=254
M13K Dall Lake 77.82 29 P **P** **02 21 45.8 +0.4**
baz=255
F14K Arctic Creek 77.97 23 P **P** **02 21 46.4 +0.3**
baz=251
ANM Nome 78.07 24 P **P** **02 21 46.9 +0.2**
baz=252
J14K Nanvaranak Lak 78.33 26 P **P** **02 21 48.5 +0.3**
baz=255
L14K Kuka Creek 78.37 28 P **P** **02 21 49.0 +0.6**
L14K IAmb IAmb 02 21 50.0
comp=Z,37nm,1.0s
L14K Kuka Creek 78.37 28 P **P** **02 21 48.8 +0.3**
baz=256
N14K Kuskokwak Cree 78.51 29 P **P** **02 21 49.5 +0.2**
baz=257
M14K Bethel 78.57 29 P **P** **02 21 49.9 +0.4**
M14K Bethel 78.57 29 P **P** **02 21 49.8 +0.2**
baz=256
O14K Tigyukauivet M 78.57 30 P **P** **02 21 49.6 0.0**
baz=257
CHNA Chernabura Isl 78.59 35 P **P** **02 21 49.7 0.0**
baz=260
F15K North Star Dit 78.70 23 P **P** **02 21 50.5 +0.3**
baz=253
G15K Niukluk 78.74 24 P **P** **02 21 50.7 +0.2**
baz=254
MAK Makhachkala 78.75 313 *e*P P 02 21 44.3 -6.6
MAK *e* 02 24 42.1
MAK *e*S S 02 31 37.1 -10
MAK *e*SSS SSS 02 40 13.6
MAK MLR MLR
comp=Z,155nm,19.0s
S14K Fog Glacier 78.87 33 P **P** **02 21 51.4 -0.1**
baz=259
L15K Ungalak Mounta 79.01 28 P **P** **02 21 52.2 +0.3**
baz=257
K15K Wolf Creek Mou 79.13 27 P **P** **02 21 53.2 +0.6**
baz=256
M15K Kasigluk River 79.17 29 P **P** **02 21 53.4 +0.6**
baz=258
C16K Lisburne Hills 79.22 21 P **P** **02 21 53.3 +0.3**
baz=252
O15K Ungalikthiuk R 79.28 30 P **P** **02 21 53.5 0.0**
baz=259
N15K Kwethluk River 79.34 29 P **P** **02 21 54.2 +0.4**
N15K IAmb IAmb 02 22 03.0
comp=Z,95nm,1.6s
N15K Kwethluk River 79.34 29 P **P** **02 21 54.1 +0.2**
baz=258
H16K Elim 79.39 25 P **P** **02 21 54.3 +0.3**
baz=255
CHGN Chignik 79.50 33 P **P** **02 21 53.7 -1.0**
CHGN IAmb IAmb 02 22 04.4
comp=Z,45nm,1.0s
CHGN Chignik 79.50 33 P **P** **02 21 55.2 +0.4**
baz=260
G16K Koyuk River 79.53 24 P **P** **02 21 55.3 +0.5**
baz=255
KIRV Kirov 79.73 329 LR LR 02 59 49.1
comp=Z,188nm,20.6s,baz=94,slow=38
BELG Belogornoye 79.77 323 LR LR 02 59 30.3
comp=Z,40nm,19.9s,baz=81,slow=38
BELG Belogornoye 79.77 323 *i* P **P** **02 21 54.4 -1.9**
BELG pmax pmax
comp=Z,3.0nm,0.9s
J16K Anvik River 79.77 26 P **P** **02 21 56.8 +0.6**
baz=257
D17K Noatak River 79.86 22 P **P** **02 21 57.1 +0.5**
baz=254
I17K Unalakleet 79.87 26 P **P** **02 21 57.2 +0.7**
baz=257
L16K Owhat River 79.95 28 P **P** **02 21 57.5 +0.4**
L16K IAmb IAmb 02 22 07.2
comp=Z,20nm,0.8s
L16K Owhat River 79.95 28 P **P** **02 21 57.9 +0.8**
baz=258
RDOG Red Dog Mine 80.03 21 P **P** **02 21 58.3 +0.9**
baz=254
C17K DeLong Mountai 80.04 21 P **P** **02 21 58.2 +0.7**
baz=254
N16K Nishlik Lake 80.05 29 P **P** **02 21 58.1 +0.4**
baz=259
M16K Timber Creek 80.06 29 P **P** **02 21 58.2 +0.4**
M16K IAmb IAmb 02 22 06.3
comp=Z,24nm,0.8s
M16K Timber Creek 80.06 29 P **P** **02 21 58.2 +0.4**
baz=259
R16K Pilot Point 80.16 32 P **P** **02 21 58.7 +0.4**
baz=261
E17K Hotham Inlet 80.17 22 P **P** **02 21 58.7 +0.5**
baz=255
P16K Nushagak River 80.18 31 P **P** **02 21 58.9 +0.5**
baz=260
O16K Kokwok River B 80.23 30 P **P** **02 21 59.1 +0.5**
O16K IAmb IAmb 02 22 07.0
comp=Z,20nm,0.9s
O16K Kokwok River B 80.23 30 P **P** **02 21 59.1 +0.5**
baz=260
F17K Baldwin Pennin 80.23 23 P **P** **02 21 59.4 +0.9**
baz=256
G17K Kiwalik Mounta 80.25 24 P **P** **02 21 59.3 +0.6**
baz=257
H17K Granite Mounta 80.43 25 P **P** **02 21 59.9 +0.2**
H17K Granite Mounta 80.43 25 P **P** **02 22 00.1 +0.5**
baz=258
J17K VABM Dome 80.47 26 P **P** **02 22 00.4 +0.5**
J17K IAmb IAmb 02 22 08.7
comp=Z,16nm,0.7s
J17K VABM Dome 80.47 26 P **P** **02 22 00.7 +0.8**
baz=258
L17K Donlin 80.58 28 P **P** **02 22 01.2 +0.7**
baz=259
GNI Garni 80.59 310 LR LR 03 02 11.6
comp=Z,41nm,21.1s,baz=78,slow=39
K17K Iditarod 80.69 27 P **P** **02 22 01.6 +0.6**
K17K Iditarod 80.69 27 P **P** **02 22 01.7 +0.6**
baz=259
E18K Tukpahlearik C 80.72 22 P **P** **02 22 01.8 +0.7**
baz=256
O17K Koliganek Bris 80.76 30 P **P** **02 22 01.8 +0.3**
baz=261
B18K Kokolik River 80.76 20 P **P** **02 22 01.9 +0.5**
baz=255
C18K Utukok River 80.79 21 P **P** **02 22 01.6 0.0**
baz=256
Q16K King Salmon 80.81 31 P **P** **02 22 02.3 +0.6**
baz=262
R17L Mt. Peulik Vol 80.82 32 P **P** **02 22 01.5 -0.3**
baz=262
PLK4 Peulik 4 80.82 32 P **P** **02 22 01.2 -0.8**
PLK4 IAmb IAmb 02 22 09.3
comp=Z,27nm,0.8s
N17K Nushagak Hills 80.83 29 P **P** **02 22 02.5 +0.6**
N17K IAmb IAmb 02 22 11.6
comp=Z,68nm,1.7s
N17K Nushagak Hills 80.83 29 P **P** **02 22 02.2 +0.3**
baz=261
M17K Holitna River 80.85 28 P **P** **02 22 02.6 +0.6**
M17K IAmb IAmb 02 22 13.5
comp=Z,19nm,0.9s
M17K Holitna River 80.85 28 P **P** **02 22 02.6 +0.6**
baz=260
F18K Selawik 80.89 23 P **P** **02 22 02.4 +0.3**
baz=258
CHIR Chirikof Islan 80.98 34 P **P** **02 22 02.9 +0.1**
baz=263
P17K Kvichak River 81.00 31 P **P** **02 22 02.8 +0.1**
baz=262
H18K Honhosa River 81.12 25 P **P** **02 22 03.6 +0.3**
H18K IAmb IAmb 02 22 11.6
comp=Z,17nm,0.8s
H18K Honhosa River 81.12 25 P **P** **02 22 03.2 -0.1**
baz=259
G18K Tagagawik 81.14 24 P **P** **02 22 02.8 -0.7**
baz=258
Q17K Contact Creek 81.15 32 P **P** **02 22 02.6 -1.2**
baz=262,SNR=7.3
A19K Wainwright 81.22 19 P **P** **02 22 03.6 -0.2**
baz=256
L18K Granite Mounta 81.34 28 P **P** **02 22 05.2 +0.6**
L18K IAmb IAmb 02 22 06.3
comp=Z,21nm,0.9s
L18K Granite Mounta 81.34 28 P **P** **02 22 04.7 +0.1**
baz=261,SNR=7.1
C19K Lookout Ridge 81.47 21 P **P** **02 22 05.6 +0.5**
baz=257
N18K Kilae Creek 81.49 29 P **P** **02 22 05.9 +0.5**
N18K IAmb IAmb 02 22 15.0
comp=Z,79nm,1.9s
N18K Kilae Creek 81.49 29 P **P** **02 22 05.6 +0.2**
baz=262
J18K Innoko River 81.53 26 P **P** **02 22 05.6 +0.1**
J18K IAmb IAmb 02 22 14.7
comp=Z,90nm,1.9s
J18K Innoko River 81.53 26 P **P** **02 22 05.8 +0.2**
baz=261,SNR=7.7
M18K Stony River 81.63 28 P **P** **02 22 06.8 +0.7**
baz=262,SNR=7.2
P18K Big Mountain, 81.64 31 P **P** **02 22 06.6 +0.4**
baz=263
Q18K Katmai Hardscr 81.66 31 P **P** **02 22 06.2 -0.3**
baz=263
GCSA Galena City Sc 81.67 25 P **P** **02 22 06.4 +0.3**
baz=260
F19K Shaleruckik Mo 81.67 23 P **P** **02 22 06.7 +0.5**
baz=259
O18K Koktuh Hills 81.71 30 P **P** **02 22 07.2 +0.6**
O18K IAmb IAmb 02 22 15.1
comp=Z,18nm,0.7s
O18K Koktuh Hills 81.71 30 P **P** **02 22 06.6 0.0**
baz=262
TTA Tatalina 81.76 27 P **P** **02 22 07.2 +0.4**
TTA Tatalina 81.76 27 P **P** **02 22 07.3 +0.4**
baz=261,SNR=6.8
TTA Tatalina 81.76 27 P **P** **02 22 07.0 +0.1**
TTA Tatalina 81.76 27 P **P** **02 22 07.2 +0.4**
TTA pmax pmax
comp=Z,16nm,1.0s
G19K Purcell Mounta 81.82 24 P **P** **02 22 07.5 +0.5**
baz=260,SNR=12
R18K Karluk 81.83 32 P **P** **02 22 07.4 +0.3**
baz=264
D19K Kuna River 81.86 21 P **P** **02 22 07.3 0.0**
baz=259
SII Sitkinak Islan 81.86 33 P **P** **02 22 07.4 -0.1**
baz=264
H19K Roundabout Mou 81.97 24 P **P** **02 22 08.4 +0.6**
H19K IAmb IAmb 02 22 10.4
comp=Z,30nm,0.8s
H19K Roundabout Mou 81.97 24 P **P** **02 22 08.4 +0.6**
baz=261,SNR=13
E19K Redstone River 82.00 22 P **P** **02 22 08.4 +0.4**
baz=260
J19K Poorman 82.09 26 P **P** **02 22 09.0 +0.6**
J19K IAmb IAmb 02 22 10.1
comp=Z,42nm,1.3s
J19K Poorman 82.09 26 P **P** **02 22 09.0 +0.6**
baz=262,SNR=12
KBZ Khabaz 82.15 313 LR LR 03 02 59.9
comp=Z,68nm,18.6s,baz=78,slow=39
KBZ Khabaz 82.15 313 *i* P **P** **02 22 06.2 -3.0**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
L19K White Mountain 82.18 28 P **P** **02 22 09.5 +0.4**
L19K White Mountain 82.18 28 P **P** **02 22 09.6 +0.6**
baz=262,SNR=13
N19K Bonanza Creek 82.19 29 P **P** **02 22 09.4 +0.2**
N19K Bonanza Creek 82.19 29 P **P** **02 22 09.7 +0.5**
baz=263,SNR=12
KIV Kislovodsk 82.32 314 *e*P **P** **02 22 09.0 -1.2**
KIV pmax pmax
comp=Z,6.0nm,1.0s
M19K Big River Lodg 82.36 28 P **P** **02 22 10.4 +0.5**
baz=263
Q19K Cape Douglas, 82.40 31 P **P** **02 22 10.0 -0.3**
baz=264
OHAK Old Harbor 82.42 33 P **P** **02 22 10.4 +0.1**
OHAK IAmb IAmb 02 22 11.2
comp=Z,25nm,1.0s
OHAK Old Harbor 82.42 33 P **P** **02 22 10.3 0.0**
baz=265
OHAK Old Harbor 82.42 33 P **P** **02 22 10.3 0.0**
D20K Etivluk River 82.44 21 P **P** **02 22 10.6 +0.3**
baz=260,SNR=6.4
B20K Meade River 82.49 20 P **P** **02 22 10.8 +0.4**
baz=259
F20K Avaraart Lake 82.50 23 P **P** **02 22 10.6 +0.1**
baz=261
E20K Nigu River 82.52 22 P **P** **02 22 10.7 0.0**
baz=260
H20K Anotleneega Mo 82.61 24 P **P** **02 22 11.6 +0.3**
baz=262,SNR=12
GURO Guroymak-BITLI 82.62 308 P **P** **02 22 12.5 +0.5**
GURO IAmb IAmb 02 22 18.7
comp=Z,20nm,1.3s
L20K Farewell, AK 82.67 28 P **P** **02 22 11.9 +0.3**
baz=263,SNR=14
P19K Oil Pt 82.68 30 P **P** **02 22 12.0 +0.3**
baz=264
K20K Telida 82.69 27 P **P** **02 22 12.2 +0.6**
baz=263,SNR=13
I20K Naaghedeneel 82.69 25 P **P** **02 22 12.5 +1.0**
baz=262,SNR=6.3
J20K Nowinta River 82.75 26 P **P** **02 22 12.3 +0.4**
J20K IAmb IAmb 02 22 21.7
comp=Z,38nm,1.0s
J20K Nowinta River 82.75 26 P **P** **02 22 12.7 +0.7**
baz=263,SNR=14
KDAK Kodiak Island 82.85 32 P **P** **02 22 13.0 +0.5**
KDAK Kodiak Island 82.85 32 LR LR 02 53 00.6
comp=Z,125nm,21.7s,baz=261,slow=31
KDAK Kodiak Island 82.85 32 P **P** **02 22 12.5 0.0**
baz=265
KDAK Kodiak Island 82.85 32 P **P** **02 22 13.0 +0.5**
KDAK pmax pmax
comp=Z,27nm,0.7s
A21K Barrow 82.90 19 P **P** **02 22 13.1 +0.5**
baz=260
M20K Styx River 82.96 28 P **P** **02 22 13.7 +0.5**
baz=264
Q20K Shuyak Island 83.02 32 P **P** **02 22 13.6 +0.2**
baz=265
O20K Slope Mountain 83.03 30 P **P** **02 22 13.6 +0.1**
baz=265
MAW Mawson 83.03 200 P **P** **02 22 13.4 +0.2**
comp=Z,4.0nm,0.8s,baz=54,slow=7.6,SNR=9.1
MAW LR LR 02 53 36.5
comp=Z,64nm,20.8s,baz=19,slow=32
comp=Z,4.0nm,0.8s
C21K Knifeblade Rid 83.17 21 P **P** **02 22 14.6 +0.6**
baz=262
B21K Ikpikpuk River 83.30 20 P **P** **02 22 15.3 +0.7**
baz=262
G21K Allakaket 83.30 23 P **P** **02 22 15.1 +0.3**
baz=263
VRH Novokhopyorsk 83.31 321 *e*P **P** **02 22 12.2 -2.9**
VRH pmax pmax
comp=Z,13nm,1.1s
N20K Mount Spurr 83.33 29 P **P** **02 22 14.3 -0.8**
baz=265,SNR=13
SPCR Spurr Chakacha 83.33 29 P **P** **02 22 14.4 -0.7**
baz=265,SNR=9.4
E21K Killik River 83.36 22 P **P** **02 22 15.1 0.0**
baz=262
A22K Sinclair Lake 83.38 19 P **P** **02 22 15.1 +0.1**
baz=261
F21K Alatna River 83.40 23 P **P** **02 22 15.6 +0.3**
baz=263
HOM Homer 83.49 30 P **P** **02 22 15.8 0.0**
baz=266
PPLA Purkeypile 83.49 27 P **P** **02 22 16.0 +0.1**
baz=265,SNR=6.5
H21K Melozitna Rive 83.49 24 P **P** **02 22 16.4 +0.6**
H21K Melozitna Rive 83.49 24 P **P** **02 22 16.2 +0.5**
baz=264,SNR=14
CHUM Lake Minchumin 83.52 26 P **P** **02 22 16.3 +0.4**
baz=265,SNR=11
CAST Castle Rocks 83.58 27 P **P** **02 22 16.6 +0.3**
CAST IAmb IAmb 02 22 23.4
comp=Z,15nm,0.8s
CAST Castle Rocks 83.58 27 P **P** **02 22 16.1 -0.2**
baz=265,SNR=14
CNPM China Poot 83.68 31 P **P** **02 22 16.4 -0.4**
SKT Skwentna 83.72 28 P **P** **02 22 16.0 -1.0**
SKT Skwentna 83.72 28 P **P** **02 22 15.8 -1.2**
baz=266,SNR=14
I21K Tanana 83.79 25 P **P** **02 22 17.9 +0.7**
baz=265
B22K Teshekpuk Lake 83.80 20 P **P** **02 22 17.5 +0.4**
baz=263
CAPN Captain Cook N 83.81 29 P **P** **02 22 17.6 +0.2**
baz=266
D22K Ayikyak River 83.88 21 P **P** **02 22 18.3 +0.6**
baz=264
F22K John River 83.93 23 P **P** **02 22 18.7 +0.7**
baz=264
BRSE Bradley Lake S 83.95 30 P **P** **02 22 17.5 -0.7**
baz=266,SNR=10
SUA Susitna One 84.05 29 P **P** **02 22 17.9 -0.9**
baz=266,SNR=14
H22K Ishtalitna Cre 84.10 24 P **P** **02 22 19.6 +0.7**
baz=265,SNR=16
KTH Kantishna Hill 84.11 27 P **P** **02 22 18.9 -0.2**
KTH IAmb IAmb 02 22 27.6
comp=Z,24nm,1.2s
BPAW Bear Paw Mtn. 84.13 26 P **P** **02 22 19.0 -0.1**
BPAW IAmb IAmb 02 22 27.2
comp=Z,25nm,1.0s
BPAW Bear Paw Mtn. 84.13 26 P **P** **02 22 19.0 -0.1**
baz=266,SNR=15
E22K Anaktuvuk Pass 84.13 22 P **P** **02 22 19.2 +0.2**
baz=265
G22K Bettles 84.14 23 P **P** **02 22 19.1 +0.1**
baz=265
SBA Scott Base 84.27 172 P **P** **02 22 20.5 +1.1**
SBA Scott Base 84.27 172 P **P** **02 22 20.5 +1.1**
SBA pmax pmax
comp=Z,6.0nm,0.8s
MLY Manley 84.30 25 P **P** **02 22 20.3 +0.3**
MLY IAmb IAmb 02 22 28.3
comp=Z,25nm,0.8s
MLY Manley 84.30 25 P **P** **02 22 19.6 -0.4**
baz=266,SNR=21
CUT Chulitna 84.34 28 P **P** **02 22 19.2 -0.8**
baz=267
M22K Willow 84.37 28 P **P** **02 22 19.4 -0.8**
baz=267,SNR=6.0
TRF Thorofare Moun 84.39 27 P **P** **02 22 19.7 -0.9**
baz=266,SNR=7.1
SOC Sochi 84.46 313 *e*P **P** **02 22 18.1 -3.0**
SOC *e* 02 25 32.6
SOC *e*PPP PPP 02 27 27.2
SOC *e*S **SKSac** **02 32 40.8 -2.5**
SOC *e*SS **SS** **02 38 13.1 -3.5**
SOC *e*SSS SSS 02 41 41.2
SOC MLR MLR
comp=Z,85nm,17.0s
O22K Cooper Landing 84.50 30 P **P** **02 22 20.4 -0.5**
baz=267,SNR=8.2
RC01 Rabbit Creek A 84.52 29 P **P** **02 22 20.7 -0.4**
RC01 Rabbit Creek A 84.52 29 P **P** **02 22 20.3 -0.8**
baz=267,SNR=8.4
D23K Nanushuk River 84.61 21 P **P** **02 22 22.2 +0.8**
baz=266
SEW Seward 84.62 30 P **P** **02 22 20.9 -0.6**
baz=268,SNR=7.6
COLD Coldfoot 84.67 23 P **P** **02 22 22.2 +0.5**
baz=266,SNR=19
C23K Itkillik River 84.70 20 P **P** **02 22 22.2 +0.5**
baz=266,SNR=9.9
G23K Bananza Creek 84.70 23 P **P** **02 22 22.6 +0.7**
baz=266
PMR Palmer 84.83 29 P **P** **02 22 22.1 -0.5**
PMR IAmb IAmb 02 22 30.6
comp=Z,34nm,1.2s
PMR Palmer 84.83 29 P **P** **02 22 21.8 -0.8**
baz=268,SNR=5.4
PMR Palmer 84.83 29 P **P** **02 22 22.1 -0.5**
PMR Palmer 84.83 29 P **P** **02 22 22.1 -0.5**
PMR pmax pmax
comp=Z,34nm,1.2s
H23K Yukon River 84.85 24 P **P** **02 22 22.9 +0.2**
baz=267
I23K Minto, Yukon-K 84.89 25 P **P** **02 22 22.9 +0.1**
baz=267,SNR=13
VORR Voronezh 84.90 321 *e*P **P** **02 22 21.3 -1.8**
VORR pmax pmax
comp=Z,20nm,0.4s
VSR Storozhevoye 84.92 321 *e*P **P** **02 22 19.4 -3.9**
VSR pmax pmax
comp=Z,8.0nm,1.0s
GHO Glory Hole Cre 84.94 28 P **P** **02 22 23.1 -0.2**
GHO IAmb IAmb 02 22 40.3
comp=Z,44nm,1.4s
E23K Chandalar 84.94 22 P **P** **02 22 23.6 +0.4**
baz=267
KLMR Klimovskoe 84.95 331 *e*P **P** **02 22 19.7 -3.5**
KLMR pmax pmax
comp=Z,9.0nm,0.8s
NEA2 Nenana 84.99 26 P **P** **02 22 23.7 +0.3**
baz=267,SNR=12
TOLK Toolik Lake Re 84.99 21 P **P** **02 22 23.4 +0.1**
TOLK IAmb IAmb 02 22 32.9
comp=Z,47nm,1.4s
TOLK Toolik Lake Re 84.99 21 P **P** **02 22 23.2 -0.1**
baz=267,SNR=8.8
MCK McKinley 85.01 26 P **P** **02 22 22.7 -0.9**
baz=268,SNR=6.6
LPSR Galich'ya Gora 85.08 322 *e*P **P** **02 22 21.9 -2.2**
LPSR pmax pmax
comp=Z,10.0nm,1.0s

KNK	Knik Glacier	85.15	29	P	P	02 22 24.0	-0.2	
	baz=268,SNR=8.1							
WAT1	Susitna Watana	85.15	27	P	P	02 22 23.5	-0.7	
	baz=268							
PWL	Port Wells	85.19	29	P	P	02 22 24.2	-0.3	
	baz=268,SNR=13							
SML	Sawmill	85.22	28	P	P	02 22 24.3	-0.4	
SML				IAmb	IAmb	02 22 32.4		
	comp=Z,25nm,0.8s							
SML	Sawmill	85.22	28	P	P	02 22 24.3	-0.4	
	baz=268,SNR=8.5							
D24K	Happy Valley	85.29	21	P	P	02 22 25.4	+0.7	
	baz=267							
C24K	Franklin Bluff	85.36	20	P	P	02 22 25.9	+0.8	
	baz=267							
E24K	Your Creek	85.37	22	P	P	02 22 25.6	+0.3	
	baz=268							
M23K	Glacier View	85.51	28	P	P	02 22 25.6	-0.4	
	baz=269,SNR=6.1							
WAT6	Susitna Watana	85.52	28	P	P	02 22 25.6	-0.7	
	baz=269,SNR=6.3							
COLA	College	85.52	25	*i* P	P	02 22 26.8	+0.8	
COLA				pmax	pmax			
	comp=Z,24nm,2.1s							
CCB	Clear Creek Bu	85.53	26	P	P	02 22 24.5	-1.6	
CCB				IAmb	IAmb	02 22 34.5		
	comp=Z,35nm,1.6s							
H24K	Noodor Dome	85.53	24	P	P	02 22 26.2	+0.1	
H24K				IAmb	IAmb	02 22 36.5		
	comp=Z,66nm,1.9s							
H24K	Noodor Dome	85.53	24	P	P	02 22 26.5	+0.3	
	baz=268,SNR=7.0							
F24K	Squaw Lake	85.58	23	P	P	02 22 27.0	+0.7	
	baz=268							
P23K	Montague Islan	85.64	30	P	P	02 22 27.1	+0.4	
	baz=269							
DHY	Denali Highway	85.69	27	P	P	02 22 26.6	-0.5	
	baz=269							
SCM	Sheep Creek Mo	85.70	28	P	P	02 22 27.5	+0.5	
	baz=269							
POKR	Poker Plat Res	85.70	25	P	P	02 22 27.4	+0.5	
	baz=269							
G24K	Hadweenzic Riv	85.72	23	P	P	02 22 26.7	-0.3	
	baz=269							
GLI	Glacier Island	85.80	29	P	P	02 22 26.8	-0.7	
	baz=270							
MOS	Moscow	85.87	325	*e*P	P	02 22 25.9	-2.0	
MOS				MLR	MLR			
	comp=Z,400nm,22.0s							
HDA	Harding Lake	85.90	26	P	P	02 22 26.3	-1.6	
	baz=269,SNR=6.0							
ILAR	Eielson Array	85.93	25	P	P	02 22 26.0	-2.1	
	comp=Z,1.9nm,0.6s,baz=247,slow=4.7,SNR=34							
ILAR				PKKPbc	PKKPbc	02 40 28.7	-2.6	
	comp=Z,0.7nm,0.8s,baz=42,slow=2.1,SNR=5.5							
ILAR				LR	LR	02 59 00.8		
	comp=Z,45nm,20.3s,baz=246,slow=34							
	comp=Z,1.9nm,0.6s							
Q23K	Middleton Isla	86.17	31	P	P	02 22 29.0	-0.3	
	baz=270							
FURI	Furi	86.18	279	LR	LR	02 59 02.9		
	comp=Z,114nm,21.2s,baz=53,slow=34							
M24K	Tolsona, Glenn	86.25	28	P	P	02 22 29.8	+0.1	
	baz=270							
G25K	Bearman Lake	86.26	23	P	P	02 22 30.0	+0.3	
	baz=270,SNR=5.5							
PPT	Papeete	86.35	108	LR	LR	02 56 18.8		
	comp=Z,30nm,20.0s,baz=297,slow=32							
PPT2	Papeete2	86.35	108	*e*P	P	02 22 30.4	-0.8	
	comp=Z,40nm,23.0s							
PPT2	Papeete2	86.35	108	*e*S	S	02 33 06.0	+0.3	
	comp=Z,69nm,25.5s							
PPT2	Papeete2	86.35	108	*e*LR	LR	02 49 44.4		
PPT2								
	comp=Z,145nm,33.0s							
PPT2				*e*LR	LR	02 49 44.6		
	comp=Z,212nm,35.5s							
KLU	Klutina	86.37	29	P	P	02 22 30.8	+0.4	
	baz=270							
H25L	Birch Creek	86.38	24	P	P	02 22 30.5	+0.3	
	baz=270							
K24K	Donnelly Dome	86.41	26	P	P	02 22 30.3	-0.2	
	baz=270							
F25K	Christian Rive	86.44	23	P	P	02 22 30.9	+0.3	
	baz=270,SNR=9.2							
E25K	Arctic Village	86.46	22	P	P	02 22 31.1	+0.4	
	baz=270,SNR=8.9							
EYAK	Cordova Ski Ar	86.46	30	P	P	02 22 31.3	+0.6	
	baz=271							
EYAK	Cordova Ski Ar	86.46	30	P	P	02 22 30.9	+0.2	
OBN	Obninsk	86.48	325‖	*e*P	P	02 22 27.8	-3.1	
OBN				*PP	PcP	02 22 32.0	-1.3	
OBN				*i* *SP	pP	02 22 34.3	-4.5	
OBN				S	SKSac	02 32 57.0	+1.5	
OBN				SSS	SSS	02 42 17.0		
OBN				pmax	pmax			
	comp=Z,14nm,0.9s							
OBN				MLR	MLR			
	comp=Z,113nm,15.0s							
PRP	Porcupine Dome	86.51	25	P	P	02 22 31.3	+0.3	
	baz=271							
PAX	Paxson	86.56	27	P	P	02 22 31.0	-0.3	
	baz=271							
J25K	Salcha River,	86.58	26	P	P	02 22 29.6	-1.8	
J25K	Salcha River,	86.58	26	P	P	02 22 29.4	-1.9	
	baz=271,SNR=6.8							
C26K	Camden Bay	86.68	20	P	P	02 22 32.2	+0.6	
	baz=271							
HARP	HAARP	86.72	28	P	P	02 22 31.9	-0.1	
	baz=271							
RIDG	Independent Ri	86.83	26	P	P	02 22 32.3	-0.3	
	baz=271							
BMAR	Burnt Mountain	86.85	23	P	P	02 22 32.9	+0.3	
TBI	Tubuai	86.95	113	*e*S	S	02 33 12.3	+1.1	
	comp=Z,319nm,32.2s							
TBI	Tubuai	86.95	113	*e*LR	LR	02 50 06.8		
	comp=Z,768nm,32.8s							
N25K	Chitina, Valde	87.00	29	P	P	02 22 33.9	+0.4	
	baz=272							
F26K	Sheenjek River	87.01	22	P	P	02 22 33.6	+0.2	
	baz=272							
BMRM	Bremner River	87.02	29	P	P	02 22 33.8	+0.3	
	baz=272							
C27K	Jago River	87.10	21	P	P	02 22 34.0	+0.2	
	baz=272,SNR=12							
KAIM	Kayak Island	87.14	30	P	P	02 22 34.0	-0.1	
	baz=272							
G26K	Porcupine Rive	87.17	23	P	P	02 22 34.2	+0.1	
	baz=272							
SCRK	Sand Creek	87.20	26	P	P	02 22 33.9	-0.5	
SCRK	Sand Creek	87.20	26	P	P	02 22 34.0	-0.5	
	baz=272							
MENT	Mentasta	87.36	27	P	P	02 22 34.6	-0.6	
J26L	Joseph Creek	87.37	26	P	P	02 22 34.1	-1.1	
J26L	Joseph Creek	87.37	26	P	P	02 22 34.3	-0.9	
	baz=272,SNR=9.2							
GLB	Gilahina Butte	87.38	29	P	P	02 22 34.7	-0.6	
KIBK	Kibwezi	87.44	268	P	P	02 22 36.7	0.0	
BGLC	Bering Glacier	87.70	30	P	P	02 22 37.1	+0.3	
	baz=273							
M26K	Nabesna, AK	87.72	28	P	P	02 22 37.0	+0.1	
	baz=273							
MCARA	McCarthy VSAT	87.77	29	P	P	02 22 37.7	+0.6	
	baz=273							
CRQE	Cirque	87.77	29	P	P	02 22 37.0	-0.2	
	baz=273							
E27K	Coleen River	87.95	22	P	P	02 22 37.9	0.0	
	baz=274							
G27K	Doyon Strip	88.02	23	P	P	02 22 38.2	0.0	
	baz=274,SNR=8.6							
K27K	Chicken	88.04	26	P	P	02 22 38.6	+0.2	
	baz=274							
MMAI	Mount Meron Ar	88.08	303	P	P	02 22 37.5	-1.8	
	comp=Z,1.2nm,0.7s,baz=90,slow=10,SNR=1.7							
MMAI				LR	LR	03 09 37.6		
	comp=Z,82nm,18.2s,baz=29,slow=41							
	comp=Z,1.2nm,0.7s							
D27M	Malcolm River	88.09	21	P	P	02 22 38.6	+0.1	
	baz=275							
H27K	Steamboat Moun	88.12	24	P	P	02 22 38.8	+0.1	
	baz=274,SNR=5.6							
I27K	Kandik River	88.13	25	P	P	02 22 38.7	-0.1	
	baz=274,SNR=12							
KMBO	Kilima Mbogo	88.16	269	P	P	02 22 38.8	-1.5	
	comp=Z,1.1nm,0.4s,baz=58,slow=11,SNR=5.1							
KMBO				LR	LR	03 02 39.6		
	comp=Z,46nm,18.5s,baz=96,slow=36							
	comp=Z,1.1nm,0.4s							
L27K	Beaver Creek,	88.22	27	P	P	02 22 39.1	-0.1	
L27K	Beaver Creek,	88.22	27	P	P	02 22 39.1	-0.1	
	baz=274,SNR=6.7							
M27K	Edge Creek, AK	88.25	28	P	P	02 22 39.3	-0.3	
	baz=274							
MESA	MESA	88.37	30	P	P	02 22 39.6	-0.6	
	baz=274							
CTG	Chitna Glacier	88.61	29	P	P	02 22 41.5	+0.2	
	baz=274,SNR=6.9							
EIL	Elat	88.64	299	LR	LR	03 08 19.4		
	comp=Z,55nm,18.4s,baz=82,slow=40							
F28M	Old Crow	88.65	22	P	P	02 22 40.7	-0.5	
F28M				IAmb	IAmb	02 22 49.5		
	comp=Z,12nm,0.8s							
F28M	Old Crow	88.65	22	P	P	02 22 40.6	-0.5	
	baz=276,SNR=17							
E28M	Babbage River	88.67	21	P	P	02 22 40.9	-0.3	
	baz=276							
I28M	Miner Creek	88.84	25	P	P	02 22 41.8	-0.4	
I28M				IAmb	IAmb	02 22 50.2		
	comp=Z,10nm,0.8s							
I28M	Miner Creek	88.84	25	P	P	02 22 42.0	-0.2	
	baz=276,SNR=9.6							
D28M	Stokes Point	88.88	21	P	P	02 22 41.9	-0.2	
	baz=277							
YUK3	Moose Creek	88.96	28	P	P	02 22 42.5	-0.5	
	baz=275							
BRTR	Keskin Array B	89.12	310	P	P	02 22 42.2	-1.9	
	comp=Z,1.2nm,0.9s,baz=115,slow=5.2,SNR=5.6							
	comp=Z,1.2nm,0.9s							
BRTR	Keskin Array B	89.12	310	*i* P	P	02 22 41.9	-2.2	
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
O28M	Mount Upton	89.19	29	P	P	02 22 43.5	-0.6	
	baz=276							
DAWY	Dawson	89.21	26	P	P	02 22 43.5	-0.5	
DAWY	Dawson	89.21	26	P	P	02 22 43.4	-0.5	
	baz=276,SNR=5.6							
PINM	Pinnacle	89.22	30	P	P	02 22 43.2	-0.8	
	baz=276							
E29M	Blow River	89.30	22	P	P	02 22 43.6	-0.6	
	baz=278							
YUK8	Steele Glacier	89.34	29	P	P	02 22 44.4	-0.5	
	baz=276							
H29M	Whitestone	89.39	24	P	P	02 22 44.0	-0.7	
H29M	Whitestone	89.39	24	P	P	02 22 44.0	-0.7	
	baz=277							
G29M	Pine Creek	89.44	23	P	P	02 22 44.3	-0.6	
	baz=277							
I29M	Ogilvie Camp,	89.53	25	P	P	02 22 45.4	+0.1	
	baz=277							
PNL	Peninsula	89.69	30	P	P	02 22 46.3	+0.1	
	baz=276							
M29M	Somme Creek	89.82	28	P	P	02 22 47.0	+0.1	
M29M				IAmb	IAmb	02 22 55.8		
	comp=Z,22nm,1.4s							
M29M	Somme Creek	89.82	28	P	P	02 22 47.0	+0.1	
	baz=277,SNR=6.9							
YUK4	Talbot Arm	89.87	29	P	P	02 22 47.2	-0.1	
	baz=277							
L29M	L29M	89.89	27	P	P	02 22 47.2	+0.2	
L29M				IAmb	IAmb	02 22 56.2		
	comp=Z,26nm,1.2s							
L29M	L29M	89.89	27	P	P	02 22 47.4	+0.3	
	baz=277,SNR=7.8							
O29M	Mount Kennedy	90.03	30	P	P	02 22 47.6	-0.4	
	baz=277							
EPYK	Eagle Plains	90.03	24	P	P	02 22 46.9	-0.8	
	baz=279							
YUK6	Outpost Mounta	90.06	29	P	P	02 22 47.4	-0.7	
	baz=277							
K29M	Barlow Dome	90.06	26	P	P	02 22 47.7	-0.3	
K29M				IAmb	IAmb	02 22 59.3		
	comp=Z,25nm,1.9s							
K29M	Barlow Dome	90.06	26	P	P	02 22 47.3	-0.7	
	baz=278							
G30M	tAoh Zraii Nji	90.13	23	P	P	02 22 47.1	-1.1	
	baz=279							
F30M	Barrier River	90.20	22	P	P	02 22 47.8	-0.6	
	baz=280							
ARCES	ARCESS Array B	90.21	340	P	P	02 22 46.9	-1.5	
	comp=Z,6.3nm,0.8s,baz=74,slow=4.2,SNR=8.0							
ARCES				LR	LR	03 06 50.9		
	comp=Z,38nm,21.6s,baz=80,slow=38							
	comp=Z,6.3nm,0.8s							
I30M	Mount Dempster	90.35	25	P	P	02 22 48.5	-0.8	
	baz=279							
SPITS	Spitsbergen Ar	90.47	349	P	P	02 22 47.2	-2.3	
	comp=Z,7.8nm,0.7s,baz=88,slow=9.3,SNR=5.6							
	comp=Z,7.8nm,0.7s							
J30M	Hart River	90.47	25	P	P	02 22 49.8	-0.1	
	baz=279							
HYT	Haines Junctio	90.49	29	P	P	02 22 50.0	-0.1	
HYT				IAmb	IAmb	02 22 50.7		
	comp=Z,11nm,0.7s							
HYT	Haines Junctio	90.49	29	P	P	02 22 49.9	-0.2	
	baz=278,SNR=7.4							
P29M	Windy Craggy	90.53	30	P	P	02 22 49.9	-0.3	
	baz=278							
M30M	Minto, Yukon	90.57	27	P	P	02 22 50.5	+0.2	
	baz=278							
N30M	Aishikik Lake	90.60	28	P	P	02 22 50.6	+0.1	
	baz=278							
P30M	Million Dollar	90.85	30	P	P	02 22 51.4	-0.3	
	baz=278							
G31M	Satah River	90.90	23	P	P	02 22 50.3	-1.3	
	baz=281							
INK	Inuvik	90.91	21	P	P	02 22 50.5	-1.1	
INK	Inuvik	90.91	21	P	P	02 22 50.5	-1.1	
	baz=282							
INK	Inuvik	90.91	21	P	P	02 22 50.5	-1.1	
INK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
F31M	Tsiigehtchic	91.00	22	P	P	02 22 50.9	-1.2	
F31M	Tsiigehtchic	91.00	22	P	P	02 22 50.7	-1.4	
	baz=281							
H31M	Peel River	91.08	24	P	P	02 22 52.0	-0.5	
	baz=281							
O30N	Mendenhall	91.18	29	P	P	02 22 52.5	-0.7	
	baz=279							
N31M	Braeburn, Yuko	91.21	28	P	P	02 22 52.9	-0.4	
	baz=279							
AK10	Malin Array Si	91.22	321	P	P	02 22 54.4	+1.0	
AKASG	Malin Array Be	91.22	321	P	P	02 22 50.3	-3.1	
	comp=Z,0.6nm,0.5s,baz=74,slow=4.2,SNR=4.3							
AKASG				LR	LR	03 09 29.6		
	comp=Z,40nm,18.2s,baz=64,slow=39							
	comp=Z,0.6nm,0.5s							
AKASG	Malin Array Be	91.22	321	*i* P	P	02 22 53.4	-0.1	
AKBB	Malin Array Si	91.22	321	P	P	02 22 54.4	+0.9	
AKBB	Malin Array Si	91.22	321	P	P	02 22 54.4	+0.9	
KIEV	Kiev	91.23	321	P	P	02 22 54.4	+0.9	
KIEV	Kiev	91.23	321	P	P	02 22 54.4	+0.9	
	comp=Z,24nm,1.6s							
PLBC	Pleasant Camp	91.25	30	P	P	02 22 53.4	0.0	
	baz=279							
FINES	FINESS Array B	91.41	332	P	P	02 22 51.5	-2.6	
	comp=Z,2.6nm,0.7s,baz=83,slow=6.0,SNR=11							
FINES				PKiKP	PKiKP	02 27 45.0	-0.9	
	comp=Z,1.4nm,0.7s,baz=158,slow=2.1,SNR=3.4							
	comp=Z,2.6nm,0.7s							
FINES	FINESS Array B	91.41	332	*i* P	P	02 22 52.9	-1.2	
FINES				pmax	pmax			
	comp=Z,3.0nm,0.6s							
S31K	Pelican	91.55	32	P	P	02 22 55.0	+0.2	
	baz=279							
M31M	Drury Creek, Y	91.74	27	P	P	02 22 54.9	-0.8	
	baz=281							
SKAG	Skagway	91.77	30	P	P	02 22 55.4	-0.4	
	baz=280							
WHY	Whitehorse	91.78	29	P	P	02 22 56.0	0.0	
WHY				IAmb	IAmb	02 22 56.9		
	comp=Z,13nm,0.8s							
WHY	Whitehorse	91.78	29	P	P	02 22 56.2	+0.2	
	baz=280,SNR=5.1							
NACGM	Naroch	92.11	325	*e*P	P	02 22 53.2	-4.2	
	comp=Z,10.0nm,0.9s,baz=81							
SIT	Sitka	92.18	33	P	P	02 22 58.1	+0.3	
	baz=280							
FARO	Faro, Yukon	92.21	27	P	P	02 22 58.0	+0.1	
	baz=282							
R32K	Eaglecrest	92.40	31	P	P	02 22 58.7	-0.1	
	baz=280							
S32K	Killisnoo	92.51	32	P	P	02 22 59.2	-0.1	
	baz=280							
N32M	Quiet Lake	92.55	28	P	P	02 22 59.6	+0.1	
	baz=282							
P32M	Atlin	92.56	30	P	P	02 22 58.4	-1.1	
	baz=281							
A36M	Sachs Harbour	92.64	17	P	P	02 22 59.0	-0.6	
	baz=290							
P33M	Teslin, Yukon	92.88	29	P	P	02 23 00.6	-0.5	
	baz=282							
GHRR		93.03	316	P	P	02 23 02.8	+0.9	
MMPY	Sheldon Lake,	93.07	27	P	P	02 23 01.8	-0.1	
MMPY				IAmb	IAmb	02 23 09.5		
	comp=Z,25nm,1.6s							
MMPY	Sheldon Lake,	93.07	27	P	P	02 23 02.2	+0.3	
	baz=283							
QSPA	South Pole Qui	93.38	180	P	P	02 23 02.0	-1.2	
	comp=Z,5.4nm,0.7s,baz=332,slow=2.0,SNR=20							
	comp=Z,5.4nm,0.7s							
Q32M	Nakina River	93.41	30	P	P	02 23 04.3	+0.6	
	baz=282							
U33K	Whale Pass	93.56	33	P	P	02 23 04.9	+0.8	
	baz=282							
CRAG	Craig	93.68	34	P	P	02 23 05.4	+0.7	
	baz=281							
C36M	Paulatuk	93.92	19	P	P	02 23 06.1	+0.6	
	baz=290							
R33M	Jennings River	93.97	30	P	P	02 23 06.4	+0.2	
R33M				IAmb	IAmb	02 23 07.4		
	comp=Z,7.6nm,0.8s							
R33M	Jennings River	93.97	30	P	P	02 23 06.5	+0.2	
	baz=284							
MLR	Muntele Rosu	94.13	316	LR	LR	03 12 05.2		
	comp=Z,65nm,18.5s,baz=56,slow=40							
S34M	Telegraph Cree	94.23	31	P	P	02 23 08.0	+0.8	
	baz=283							
V35K	Ketchikan	94.55	34	P	P	02 23 09.0	+0.3	
	baz=283							
MBAR	Mbarara	94.63	270	LR	LR	03 09 00.1		
	comp=Z,52nm,18.4s,baz=54,slow=38							
DLBC	Dease Lake	94.67	31	LR	LR	03 00 42.9		
	comp=Z,149nm,20.6s,baz=290,slow=32							
DLBC	Dease Lake	94.67	31	P	P	02 23 09.3	0.0	
	baz=284							
WTLY	Watson Lake, Y	94.85	29	P	P	02 23 10.5	+0.4	
	baz=286							
T35M	Bob Quinn	94.91	32	P	P	02 23 10.7	+0.3	
	baz=284							
TAOE	Nuku Hiva Isla	94.97	99	*e*LR	LR	02 53 51.5		
	comp=Z,124nm,23.5s							
KOLS	Kolonicke sedl	95.95	320	*e*P	P	02 23 16.7	+1.4	
KOLS	Kolonicke sedl	95.95	320	*e*PDIFF	P	02 23 16.7	+1.4	
STHS	Stebnicka Huta	96.51	320	*e*P	P	02 23 19.4	+1.6	
STHS	Stebnicka Huta	96.51	320	*e*PDIFF	P	02 23 19.4	+1.6	
TOAD	Toad River Com	96.96	30	P	P	02 23 19.5	-0.2	
	baz=288							
ELIB	Princess Elisa	97.00	198	*d*P	P	02 23 20.6	+0.9	
	comp=Z,5.6nm,0.8s							
KOTAN	Kotaneelee Air	97.11	28	P	Pdif	02 23 20.8	+0.4	
	baz=290							
BBB	Bella Bella	97.33	37	LR	LR	02 59 01.3		
	comp=Z,40nm,20.6s,baz=266,slow=30							
HFS	Hagfors	97.60	332	P	P	02 23 19.4	-3.1	
	comp=Z,0.7nm,0.4s,baz=128,slow=6.0,SNR=6.2							
	comp=Z,0.7nm,0.4s							
LANS	Liptovska Anna	97.70	320	*e*P	Pdif	02 23 24.0	+0.7	
LANS	Liptovska Anna	97.70	320	*e*PDIFF	Pdif	02 23 24.0	+0.7	
NB2	NORSAR Subarra	98.40	333	P	P	02 23 23.9	-2.2	
	comp=Z,5.7nm,1.1s,baz=65,slow=4.6							
NOA	NORSAR Array B	98.40	333	P	P	02 23 23.5	-2.7	
	comp=Z,3.1nm,1.0s,baz=67,slow=4.6,SNR=5.7							
NOA				LR	LR	03 11 37.2		
	comp=Z,147nm,21.6s,baz=25,slow=38							
	comp=Z,3.1nm,1.0s							
VRAC	Vranov	99.47	321	LR	LR	03 14 03.7		
	comp=Z,70nm,18.1s,baz=28,slow=39							
YKA	Yellowknife Ar	100.30	24	P	Pdif	02 23 33.3	-1.2	
	comp=Z,0.9nm,0.6s,baz=313,slow=7.3,SNR=3.5							
NVAR	Mina Array Bea	108.11	48	Pdiff	Pdif	02 24 10.1	0.0	
	comp=Z,0.2nm,0.6s,baz=255,slow=34,SNR=2.4							
NVAR				PKiKP	PKiKP	02 28 17.8	+0.9	
	comp=Z,0.5nm,0.7s,baz=234,slow=2.7,SNR=7.7							
NVAR				PP	PP	02 28 41.9	+2.4	
	comp=Z,1.2nm,0.8s,baz=269,slow=8.2,SNR=6.8							
KEST	Kesra	108.73	309	PKiKP	PKiKP	02 28 18.1	+0.2	
	comp=Z,4.1nm,1.0s,baz=103,slow=19,SNR=2.1							
R11B	Troy Canyon, C	110.13	47	P	PKiKP	02 28 21.0	+0.4	
	baz=292							
PDAR	Pinedale Array	112.46	41	PKiKP	PKiKP	02 28 24.6	-0.4	
	comp=Z,0.7nm,0.5s,baz=155,slow=2.3,SNR=6.7							
PDAR				PKKPab	PKKPab	02 39 22.6	-1.2	
	comp=Z,0.6nm,0.8s,baz=101,slow=5.9,SNR=3.6							
N23A	Red Feather La	115.72	41	P	PKPdf	02 28 31.6	+0.3	
	baz=300							
ULM	Lac du Bonnet	115.84	28	PKP	PKiKP	02 28 29.8	-1.1	
	comp=Z,2.2nm,0.6s,baz=269,slow=5.4,SNR=3.6							
S22A	4UR Ranch, Cre	116.66	44	P	PKPdf	02 28 33.2	0.0	
	baz=298							
Q24A	Divide	117.22	43	P	PKPdf	02 28 34.3	0.0	
	baz=300							
ANMO	Albuquerque	118.22	47	PKPdf	PKiKP	02 28 36.9	+0.6	
ANMO	Albuquerque	118.22	47	PKiKP	PKiKP	02 28 36.9	+0.6	
Y22D	IRIS PASSCAL I	118.27	48	P	PKPdf	02 28 36.2	-0.1	
	baz=296							
121A	Cookes Peak, D	118.28	50	P	PKPdf	02 28 36.2	-0.2	
	baz=295							
T25A	Trinidad	118.63	44	P	PKPdf	02 28 36.8	-0.1	
	baz=300,SNR=5.9							
ECSD	EROS Data Cent	119.78	34	PKPdf	PKPdf	02 28 37.6	-1.1	
MDT	Midelt	120.49	311	PKP	PKPdf	02 28 40.1	-0.4	
	comp=Z,1.6nm,0.7s,baz=170,slow=19,SNR=2.4							
SCHQ	Schefferville	121.03	8	PKP	PKPdf	02 28 40.6	-0.2	
	comp=Z,3.1nm,0.6s,baz=252,slow=1.1,SNR=7.0							
VHRN	Van Horn	121.18	51	PKPdf	PKPdf	02 28 41.6	-0.4	
TORD	Torodi Ar. Bea	121.68	288	PKP	PKPdf	02 28 42.2	-0.9	
	comp=Z,2.3nm,0.7s,baz=52,slow=2.0,SNR=9.8							
TORD				PKKPbc	PKKPbc	02 38 41.7	-0.3	
	comp=Z,1.0nm,0.7s,baz=297,slow=3.4,SNR=7.0							
ALPN	Alpine	122.41	51	PKPdf	PKPdf	02 28 44.2	-0.1	
DKNS	Dickens	122.84	46	PKPdf	PKPdf	02 28 44.9	-0.1	
TXAR	Lajitas Array	122.85	52	PKP	PKiKP	02 28 45.3	0.0	
	comp=Z,2.6nm,0.7s,baz=221,slow=0.7,SNR=40							
SGCY	Sterling City	123.58	48	PKPdf	PKPdf	02 28 45.4	-1.0	
APMT	Aspermont	123.59	46	PKPdf	PKPdf	02 28 46.1	-0.3	
L44A	Lake County Fo	125.47	30	P	PKPdf	02 28 49.2	-0.4	
	baz=318							
833A	Chaparral WMA,

EOS2			S		Sn	02 20 26.3	-1.4
EWUT	**Wuta**	**0.88 294**	P		**Pb**	**02 20 23.5**	**-0.4**
EWUT			S		**Sg**	**02 20 36.1**	**+0.1**
ESAO	**Su ao**	**0.89 304**	P		**Pb**	**02 20 23.8**	**-0.3**
ESAO			S		**Sb**	**02 20 35.6**	**0.0**
ENA	**Nanau**	**0.91 292**	P		**Pb**	**02 20 23.8**	**-0.6**
ENA			S		**Sb**	**02 20 36.2**	**+0.1**
TWC	**Suao**	**0.91 306**	P		**Pb**	**02 20 23.7**	**-0.6**
TWC			*eS*		**Sb**	**02 20 35.0**	**-1.1**
ETL	**Fush Village**	**0.95 275**	*eP*		**Pg**	**02 20 26.5**	**+0.8**
ETL			S		**Sn**	**02 20 39.6**	**+0.9**
TWD	**Chiawan**	**0.97 270**	*eP*		**Pb**	**02 20 25.5**	**0.0**
TWD			*i S*		**Sg**	**02 20 38.9**	**0.0**
NACB	**Ninganchiao**	**0.98 276**	P		**Pb**	**02 20 25.7**	**+0.1**
NACB			S		**Sg**	**02 20 39.5**	**+0.4**
IRIF	**Iriomote-Funau**	**1.01 75**	P		**Pb**	**02 20 25.9**	**-0.2**
IRIF			*eS*		**Sb**	**02 20 39.1**	**+0.1**
NDS	**Dongshan**	**1.02 303**	*eP*		**Pb**	**02 20 26.3**	**0.0**
NDS			*eS*		**Sn**	**02 20 39.7**	**-0.7**
SHUL	**Shoufeng**	**1.04 254**	*eP*		**Pb**	**02 20 25.9**	**-0.8**
HATJ	**Hateruma jima**	**1.05 91**	P		**Pb**	**02 20 26.5**	**-0.3**
HATJ			*eS*		**Sb**	**02 20 40.8**	**+0.7**
ETLH	**Xiulin Townshi**	**1.08 277**	*eP*		**Pb**	**02 20 27.2**	**-0.2**
ETLH			*eS*		**Sn**	**02 20 42.4**	**+0.3**
TWE	**Neicheng**	**1.10 305**	*eP*		**Pb**	**02 20 27.7**	**0.0**
TWE			*eS*		**Sn**	**02 20 42.5**	**0.0**
LATG	**Datong**	**1.13 294**	P		**Pn**	**02 20 28.0**	**-0.1**
LATG			S		**Sn**	**02 20 43.3**	**+0.1**
ENTT	**Nioudou**	**1.14 299**	P		**Pn**	**02 20 28.3**	**+0.1**
ENTT			*eS*		**Sb**	**02 20 42.5**	**-0.4**
LXIB	**Xiulin Townshi**	**1.14 267**	*eP*		**Pn**	**02 20 27.8**	**-0.5**
TIPB	**Shuangxi**	**1.17 320**	*eP*		**Pg**	**02 20 29.6**	**-0.2**
TIPB			*eS*		**Sn**	**02 20 43.9**	**-0.1**
FUSB	**Fushanzhiwuyua**	**1.19 305**	P		**Pb**	**02 20 29.5**	**+0.4**
FUSB			*eS*		**Sn**	**02 20 44.6**	**0.0**
NNSB	**Datong**	**1.22 287**	P		**Pb**	**02 20 29.8**	**+0.1**
NNSB			*eS*		**Sg**	**02 20 46.9**	**+0.2**
WARBT	**Fenglin Townsh**	**1.22 253**	*eP*		**Pn**	**02 20 27.9**	**-1.4**
WARBT			*eS*		**Sb**	**02 20 44.1**	**-1.1**
NNS	**Nan Shan**	**1.23 287**	*eP*		**Pb**	**02 20 30.1**	**+0.2**
SXI1	**Grass Mountain**	**1.23 325**	*eP*		**Pb**	**02 20 29.7**	**-0.3**
JKRS	**Kuro-shima**	**1.24 83**	P		**Pb**	**02 20 30.2**	**+0.1**
NWLT	**Wulai**	**1.26 303**	P		**Pb**	**02 20 30.7**	**+0.3**
NWLT			*eS*		**Sn**	**02 20 46.8**	**+0.4**
HGSD	**Ruisui**	**1.27 243**	*eP*		**Pn**	**02 20 28.8**	**-1.3**
WHF	**Hehuan Shan**	**1.27 273**	P		**Pn**	**02 20 30.4**	**-0.1**
WHF			*eS*		**Sb**	**02 20 46.7**	**-0.4**
FUSS	**Fushou**	**1.30 278**	P		**Pb**	**02 20 31.4**	**+0.2**
FUSS			*eS*		**Sg**	**02 20 49.4**	**-0.1**
YHNB	**Yeheng**	**1.31 297**	*i P*		**Pb**	**02 20 31.8**	**+0.5**
YHNB			S		**Sg**	**02 20 48.6**	**-1.0**
NSK	**Sanguang**	**1.32 297**	P		**Pb**	**02 20 32.0**	**+0.5**
NSK			S		**Sb**	**02 20 49.0**	**+0.8**
TWA	**Mucha**	**1.33 313**	*eP*		**Pb**	**02 20 31.5**	**0.0**
EHY	**Hungye**	**1.35 245**	*eP*		**Pn**	**02 20 30.3**	**-0.9**
EHY			*eS*		**Sn**	**02 20 48.0**	**-0.6**
JIJ	**Ishigaki jima**	**1.38 78**	P		**Pn**	**02 20 31.7**	**+0.1**
WUSB	**Renai**	**1.41 267**	P		**Pn**	**02 20 32.2**	**+0.2**
WUSB			*eS*		**Sn**	**02 20 50.6**	**+0.3**
YULB	**Yu-li**	**1.43 241**	P		**Pn**	**02 20 31.5**	**-0.6**
YULB			S		**Sn**	**02 20 49.5**	**-0.9**
EYUL	**Yuli**	**1.43 239**	*eP*		**Pn**	**02 20 31.5**	**-0.7**
YM01	**YM01**	**1.45 317**	*eP*		**Pg**	**02 20 34.6**	**-0.5**
CHKH	**Chenggong**	**1.46 233**	*eP*		**Pn**	**02 20 31.1**	**-1.4**
ZUZH	**Zhuzihu**	**1.48 317**	*eP*		**Pb**	**02 20 34.3**	**+0.2**
NFF	**Wufeng Townshi**	**1.51 292**	*eP*		**Pb**	**02 20 34.4**	**-0.3**
NFF			*eS*		**Sg**	**02 20 56.2**	**+0.2**
ANP	**Anpu**	**1.51 317**	*eP*		**Pb**	**02 20 35.0**	**+0.3**
TWS1	**Kuangyinshan**	**1.52 312**	*eP*		**Pb**	**02 20 35.1**	**+0.3**
FULB	**Fuli**	**1.53 235**	*eP*		**Pn**	**02 20 32.2**	**-1.4**
WHP	**Taichung City**	**1.58 277**	*eP*		**Pg**	**02 20 37.1**	**-0.5**
JISG	**Ishigakijimahi**	**1.59 71**	P		**Pn**	**02 20 34.4**	**0.0**
SSLB	**Suanglung**	**1.59 260**	*eP*		**Pn**	**02 20 35.3**	**+0.9**
SSLB			*eS*		**Sb**	**02 20 56.2**	**+0.4**
WCS	**Beigang Elemen**	**1.60 269**	*eP*		**Pn**	**02 20 35.4**	**+0.9**
LIOB	**Emei**	**1.60 291**	*eP*		**Pb**	**02 20 36.8**	**+0.6**
SMLT	**Sun Moon Lake**	**1.62 263**	*eP*		**Pn**	**02 20 35.4**	**+0.5**
EDH	**Donghe**	**1.66 229**	*eP*		**Pn**	**02 20 33.9**	**-1.5**
WHYT	**Xinyi Township**	**1.70 257**	*eP*		**Pn**	**02 20 37.0**	**+1.1**
LDUT	**Ludao**	**1.78 218**	*eP*		**Pn**	**02 20 35.5**	**-1.5**
ALS	**Alishan**	**1.79 252**	*eP*		**Pn**	**02 20 37.6**	**+0.2**
ALS			*eS*		**Sn**	**02 21 00.7**	**+0.8**
WCKO	**Fanlu**	**1.99 252**	*eS*		**Sb**	**02 21 07.4**	**+0.1**
TPUB	**Ta-pu**	**2.02 248**	*eP*		**Pn**	**02 20 41.7**	**+1.4**
TPUB			S		**Sb**	**02 21 07.5**	**-0.6**
SLGT	**Liugui**	**2.14 240**	*eP*		**Pn**	**02 20 43.0**	**+1.0**
SLGT			*eS*		**Sn**	**02 21 10.4**	**+2.3**
CHN1	**Nanshi**	**2.15 246**	*eP*		**Pb**	**02 20 44.9**	**-0.6**
CHN1			*eS*		**Sb**	**02 21 12.0**	**+0.1**
SGST	**Jiashian**	**2.15 243**	*eP*		**Pn**	**02 20 43.3**	**+1.2**
SGST			*eS*		**Sb**	**02 21 12.0**	**+0.1**
TWK	**Hsinying**	**2.15 248**	*eP*		**Pn**	**02 20 43.8**	**+1.7**
TWK			*eS*		**Sb**	**02 21 11.4**	**-0.6**
SNST	**Tainan City**	**2.16 247**	*eS*		**Sb**	**02 21 11.7**	**-0.5**
LAY	**Lan-yu**	**2.28 207**	*eP*		**Pn**	**02 20 45.5**	**+1.7**
MASBT	**Mashibuluo**	**2.37 232**	P		**Pn**	**02 20 47.5**	**+2.4**

*NEIC **06** 02:24:08.4±1.7,5°.9S±0°.1×147°.3E±0°.1, h90km±9km, mb4.3/15, Error ellipse: s-maj=22.5km s-min=10.7km az=123.0*
*IDC **06** 02:24:09.8±3.0,6°.15S×147°.50E, h105km±23km, mb3.7/2, mbtmp4.3/5, MS3.9/2, Error ellipse: s-maj=39.8km s-min=14.5km az=128.0*

ISC 06 02:24:06.4±0.6,5°.92S±0°.08×147°.34E±0°.10, h77km, n28, σ0s95/30, mb4.4/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.47 183**			**Pn**	**02 24 58.6**	**+0.5**
PMG	**Port Moresby**	**3.47 183**		P	**Pn**	**02 24 58.9**	**+0.7**
	8.5nm,0.3s,baz=61,slow=13,SNR=2.0						
PMG				S	**Sn**	**02 25 37.4**	**-0.6**
	50nm,0.5s,baz=330,slow=13,SNR=7.7						
RABL	**Rabaul**	**5.10 71**			**Pn**	**02 25 22.4**	**+1.9**
COEN	**Coen**	**8.98 207**		Pn	**Pn**	**02 26 14.5**	**+1.1**
HNR	**Honiara**	**12.97 106**		P	**Pn**	**02 27 07.0**	**-0.8**
	170nm,0.6s,baz=170,slow=8.7,SNR=2.3						
WB0	**Warramunga Arr**	**18.65 221**		Pn	**Pn**	**02 28 19.9**	**+0.4**
WR0	**Warramunga Arr**	**18.70 221**			**Pn**	**02 28 19.5**	**-0.5**
WR0				IAmb	IAmb	02 28 39.1	
	comp=Z,9.0nm,1.3s						
WB2	**Warramunga Arr**	**18.81 221**			**Pn**	**02 28 20.8**	**-0.5**
WB2				IAmb	IAmb	02 28 33.0	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**18.82 221**			**Pn**	**02 28 21.1**	**-0.3**
WRA	**Warramunga Arr**	**18.82 221**		P	**P**	**02 28 20.5**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=44,slow=12,SNR=29						
WRA				S	**S**	**02 31 49.5**	**-0.5**
	comp=Z,2.5nm,1.0s,baz=43,slow=20,SNR=5.8						
WRA				PcP	**PcP**	**02 32 44.5**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=10,slow=1.4,SNR=5.4						
EIDS	**Eidsvold**	**19.67 170**			**Pn**	**02 28 30.7**	**-0.7**
EIDS				IAmb	IAmb	02 28 31.2	
	comp=Z,15nm,1.4s						
AS31	**Alice Springs**	**21.87 215**		P	**P**	**02 28 54.5**	**+1.4**
ASAR	**Alice Springs**	**21.88 215**		P	**P**	**02 28 53.9**	**+0.7**
ASAR	**Alice Springs**	**21.88 215**		P	**P**	**02 28 54.5**	**+1.4**
	comp=Z,1.8nm,0.6s,baz=47,slow=8.7,SNR=24						
ASAR				S	**S**	**02 32 48.6**	**-2.1**
	comp=Z,2.0nm,0.9s,baz=31,slow=22,SNR=9.0						
	comp=Z,1.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.39 238**		P	**P**	**02 29 18.5**	**+0.8**
ARMA	**Armidale**	**24.70 171**		P	**P**	**02 29 21.9**	**+1.3**
ARMA				IAmb	IAmb	02 29 45.4	
	comp=Z,6.3nm,0.9s						
BBOO	**Buckleboo**	**28.75 200**		P	**P**	**02 29 57.6**	**+0.8**
BBOO				IAmb	IAmb	02 30 31.9	
	comp=Z,36nm,1.5s						
MSVF	**Nonsavu**	**32.21 114**		LR	LR	02 41 43.6	
	comp=Z,263nm,21.4s,baz=124,slow=33						
RAO	**Raoul Island**	**40.17 129**		LR	LR	02 44 13.4	
	comp=Z,157nm,18.6s,baz=118,slow=30						
ERM	**Erimo**	**47.86 356**		P	**P**	**02 32 36.1**	**-0.4**
YAK	**Yakutsk**	**69.11 351**		P	**P**	**02 35 04.3**	**+0.3**
QSPA	**South Pole Qui**	**84.05 180**		P	**P**	**02 36 28.0**	**-0.5**
QSPA				IAmb	IAmb	02 36 28.4	
	comp=Z,3.4nm,0.8s						
QSPA	**South Pole Qui**	**84.05 180**		P	**P**	**02 36 27.6**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=344,slow=3.2,SNR=6.8						
	comp=Z,1.2nm,0.3s						

D23K	**Nanushuk River**	**85.80 19**		P	**P**	**02 36 37.1**	**0.0**
D23K				IAmb	IAmb	02 37 01.4	
	comp=Z,2.9nm,1.2s						
M27K	**Edge Creek, AK**	**86.44 26**		P	**P**	**02 36 40.6**	**+0.2**
M27K				IAmb	IAmb	02 37 12.9	
	comp=Z,6.0nm,1.4s						
P29M	**Windy Craggy**	**87.52 29**		P	**P**	**02 36 45.4**	**-0.3**
P29M				IAmb	IAmb	02 36 48.1	
	comp=Z,17nm,1.4s						
TORD	**Torodi Ar. Bea**	**145.40 285**		PKPbc	**PKPdf**	**02 43 35.2**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=67,slow=3.4,SNR=5.9						
BDFB	**Brasilia**	**153.73 145**		PKPbc	**PKPbc**	**02 43 57.0**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=162,slow=6.4,SNR=3.5						

ISC 06 02:58:32.9±1.0,25°.42N±0°.05×109°.81W±0°.04, h10km, n6, σ0s73/10, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.72**	**75**	*eP*	**Pg**	**02 58 46.4**	**-0.4**
TSIG				*eS*	**Sg**	**02 58 56.1**	**-0.1**
TSIG				IAML		02 59 03.7	
	comp=N,223nm,0.4s						
EVAR0	**San Evaristo**	**0.96**	**239⇑**	*eP*	**Pg**	**02 58 50.3**	**-1.1**
EVAR0				*eS*	**Sg**	**02 59 04.2**	**+0.3**
EVAR0				IAML		02 59 13.7	
	comp=N,120nm,0.5s						
EVAR0				*e*		02 59 13.7	
UAGRB	**Rancho Ultima**	**1.32**	**277**	*eP*	**Pb**	**02 58 57.9**	**+0.2**
UAGRB				*eS*	**Sg**	**02 59 15.4**	**+0.1**
LPIG	**La Paz**	**1.38**	**199**	*eP*	**Pb**	**02 58 58.6**	**-0.2**
NE80	**Navojoa**	**1.58**	**19⇑**	*eP*	**Pg**	**02 59 03.4**	**+0.2**
NE80				*eS*	**Sg**	**02 59 22.6**	**-1.2**
SLBS	**Sierra La Lagu**	**1.73**	**184**	*eP*	**Pn**	**02 59 03.9**	**+0.8**

*IDC **06** 03:01:27.8±0.8,43°.33S×9°.03E, h0km, mb4.0/6, mbtmp4.1/8, ML3.9/2, MS3.6/18, Error ellipse: s-maj=37.7km s-min=19.1km az=95.0*
*NEIC **06** 03:01:30.3±2.2,43°.31S±0°.05×8°.6E±0°.1, h10km±1km, mb4.6/19, Error ellipse: s-maj=18.6km s-min=6.3km az=71.0*

ISC 06 03:01:29.4±0.5,43°.30S±0°.09×8°.8E±0°.1, h10km, n65, σ1s14/41, mb4.4/16, MS3.7/16, 7C, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**14.44**	**45**	Pn	**Pn**	**03 04 50.6**	**-3.4**
	0.3nm,0.3s,baz=214,slow=18,SNR=1.6						
SUR				Sn	Sn	03 07 21.6	-13
	2.4nm,0.3s,baz=244,slow=20,SNR=2.4						
SUR				LR	LR	03 09 27.1	
	comp=Z,155nm,19.2s,baz=184,slow=33						
	9.2nm,0.9s						
GRHM	**Grahamstown, E**	**17.02**	**60**	Pn	**Pn**	**03 05 27.6**	**+0.1**
GRHM				IAmb	IAmb	03 05 33.3	
	comp=Z,39nm,1.1s						
BOSA	**Boshof**	**19.76**	**48**		**P**	**03 05 59.8**	**+0.2**
BOSA				IAmb	IAmb	03 06 06.0	
	comp=Z,31nm,1.4s						
BOSA	**Boshof**	**19.76**	**48**	P	**P**	**03 05 57.4**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=226,slow=12,SNR=10						
BOSA				S	S	03 09 29.9	-12
	comp=Z,3.2nm,0.6s,baz=70,slow=7.7,SNR=2.6						
BOSA				LR	LR	03 12 43.4	
	comp=Z,142nm,19.2s,baz=202,slow=34						
	comp=Z,2.2nm,0.5s						
SKOMA	**Sekoma**	**22.50**	**38**	*i P*	**P**	**03 06 29.4**	**+0.3**
LBTB	**Lobatse**	**22.86**	**42**	P	**P**	**03 06 32.7**	**-0.3**
LBTB				IAmb	IAmb	03 06 35.0	
	comp=Z,9.5nm,0.8s						
LBTB	**Lobatse**	**22.86**	**42**	LR	LR	03 14 36.5	
	comp=Z,170nm,18.5s,baz=194,slow=35						
KDWAN	**Kaudwane**	**23.81**	**39**	*i P*	**P**	**03 06 43.1**	**+0.6**
GRTLG	**Ghanzi**	**24.21**	**29**	*i P*	**P**	**03 06 46.2**	**-0.1**
LPHEP	**Lephephe**	**24.38**	**41**	*i P*	**P**	**03 06 48.2**	**+0.4**
TSUM	**Tsumeb**	**25.14**	**20**	LR	LR	03 15 27.7	
	comp=Z,112nm,18.8s,baz=153,slow=34						
MREMI	**Moremi**	**25.82**	**43**	*i P*	**P**	**03 07 03.0**	**+2.0**
BROLN	**Tlhalogang**	**27.02**	**41**	*i P*	**P**	**03 07 12.3**	**+0.6**
VNA2	**Neumayer--Watz**	**28.85**	**191⇑**	P	**P**	**03 07 27.1**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=21,slow=11						
TROLL	**Troll, Antarti**	**28.95**	**184⇑**	P	**P**	**03 07 28.5**	**-0.1**
	comp=Z,288nm,0.7s						
TROLL	**Troll, Antarti**	**28.95**	**184⇑**	P		03 07 37.9	+9.3
	comp=Z,270nm,0.6s						
SNAA	**Sanae**	**29.02**	**188**	P	**P**	**03 07 28.8**	**-0.3**
SNAA	**Sanae**	**29.02**	**188⇑**	P	**P**	**03 07 28.8**	**-0.3**
	comp=Z,74nm,1.1s						
SNAA	**Sanae**	**29.02**	**188⇑**	P		03 07 39.0	+10
SNAA	**Sanae**	**29.02**	**188**	P	**P**	**03 07 28.8**	**-0.3**
	comp=Z,2.7nm,0.9s,baz=275,slow=14,SNR=5.7						
SNAA				LR	LR	03 16 58.9	
	comp=Z,118nm,18.5s,baz=13,slow=32						
	comp=Z,2.7nm,0.9s						
VNA3	**Neumayer Olymp**	**29.47**	**192⇑**	P	**P**	**03 07 32.6**	**-0.5**
	comp=Z,2.8nm,0.6s						
VNA3	**Neumayer Olymp**	**29.47**	**192⇑**	P	P	03 07 45.6	+13
H04S3	**CROZET ISLANDS**	**30.37**	**112**	T	T	03 40 03.1	
	baz=263,slow=76,SNR=13						
H04S2	**CROZET ISLANDS**	**30.37**	**112**	T	T	03 39 59.3	
	baz=263,slow=76,SNR=26						
H04S1	**CROZET ISLANDS**	**30.38**	**112**	T	T	03 39 59.3	
	baz=263,slow=76,SNR=35						
FOMA	**Nahampoana Res**	**36.13**	**72**	P	**P**	**03 08 33.9**	**+2.3**
MAW	**Mawson**	**37.32**	**149**	P	**P**	**03 08 40.5**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=284,slow=12,SNR=2.0						
MAW				LR	LR	03 20 14.1	
	comp=Z,87nm,21.7s,baz=287,slow=30						
	comp=Z,0.6nm,0.5s						
VOI	**Vohitsoka**	**38.03**	**68**	P	**P**	**03 08 50.1**	**+2.2**
VOI				IAmb	IAmb	03 09 05.8	
	comp=Z,24nm,1.4s						
BELA	**Belgrano 2**	**38.74**	**193**	P	**P**	**03 08 53.2**	**0.0**
H10S2	**ASCENSION HYDR**	**39.86**	**322**	T	T	03 51 22.5	
	baz=68,slow=74,SNR=229						
H10S3	**ASCENSION HYDR**	**39.88**	**322**	T	T	03 51 19.1	
	baz=152,slow=74,SNR=178						
ABPO	**Ambohimpanom**	**40.33**	**65**	P	**P**	**03 09 09.6**	**+2.3**
ABPO				IAmb	IAmb	03 09 10.8	
	comp=Z,7.0nm,0.8s						
QSPA	**South Pole Qui**	**46.95**	**180**	P	**P**	**03 10 00.1**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=272,slow=5.3,SNR=4.6						
QSPA				LR	LR	03 27 41.7	
	comp=Z,89nm,21.9s,baz=234,slow=34						
	comp=Z,0.8nm,0.3s						
KMBO	**Kilima Mbogo**	**49.08**	**39**	P	**P**	**03 10 17.0**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=233,slow=20,SNR=2.2						
KMBO				LR	LR	03 30 16.9	
	comp=Z,86nm,19.7s,baz=238,slow=35						
	comp=Z,1.1nm,0.5s						
DBIC	**Dimbokro**	**51.25**	**343**	P	**P**	**03 10 33.5**	**+0.2**
DBIC				IAmb	IAmb	03 11 00.3	
	comp=Z,20nm,1.5s						
DBIC	**Dimbokro**	**51.25**	**343**	LR	LR	03 27 34.9	
	comp=Z,74nm,20.4s,baz=20,slow=30						
TORD	**Torodi Ar. Bea**	**56.54**	**352**	P	**P**	**03 11 12.2**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=189,slow=7.3,SNR=11						
TORD				LR	LR	03 34 07.9	
	comp=Z,25nm,18.0s,baz=144,slow=35						
	comp=Z,1.8nm,0.7s						
PLCA	**Paso Flores**	**56.85**	**243**	LR	LR	03 34 03.8	
	comp=Z,27nm,18.8s,baz=172,slow=34						
LL04	**Puerto Octay**	**57.96**	**242**	P	**P**	**03 11 22.2**	**+0.3**
LL04				IAmb	IAmb	03 11 38.5	
	comp=Z,18nm,1.4s						
FURI	**Furi**	**58.64**	**35**	LR	LR	03 37 08.1	
	comp=Z,49nm,18.2s,baz=164,slow=37						
MT02	**Curacav**	**61.31**	**250**	P	**P**	**03 11 45.1**	**+0.1**
H08S1	**Diego Garcia H**	**65.73**	**77**	T	T	04 24 12.3	
	baz=225,slow=75,SNR=30						
H08S2	**Diego Garcia H**	**65.74**	**77**	T	T	04 24 13.5	
	baz=225,slow=75,SNR=10.0						
H08S3	**Diego Garcia H**	**65.75**	**77**	T	T	04 24 11.8	
	baz=225,slow=75,SNR=24						
PB08	**IPOC Station P**	**67.83**	**263**	P	**P**	**03 12 26.4**	**-2.0**
PB08				IAmb	IAmb	03 13 10.9	
	comp=Z,8.2nm,0.9s						
PATCX	**Punta Patache**	**68.13**	**262**	P	**P**	**03 12 30.1**	**+0.3**
GO01	**Chusmiza**	**68.16**	**263**	P	**P**	**03 12 30.4**	**-0.1**
GO01				IAmb	IAmb	03 12 31.4	
	comp=Z,4.9nm,0.8s						
PB11	**IPOC Station P**	**68.44**	**263**	P	**P**	**03 12 31.7**	**-0.2**
LPAZ	**La Paz**	**69.56**	**267**	P	**P**	**03 12 38.5**	**-0.9**
SAML	**Samuel**	**70.80**	**276**	P	**P**	**03 12 45.8**	**-0.5**

EIL	**Elat**	**76.48**	**23**	LR	LR	03 47 00.9	
	comp=Z,47nm,18.1s,baz=210,slow=36						
H01W2	**Cape Leeuwin H**	**76.69**	**125**	T	T	04 38 32.5	
	baz=220						
H01W3	**Cape Leeuwin H**	**76.70**	**125**	T	T	04 38 30.8	
	baz=220						
H01W1	**Cape Leeuwin H**	**76.70**	**125**	T	T	04 38 33.7	
	baz=220						
MDT	**Midelt**	**76.73**	**348**	LR	LR	03 45 13.1	
	comp=Z,48nm,18.6s,baz=6.5,slow=34						
BOAV	**Boa Vista**	**76.74**	**286**	P	**P**	**03 13 21.6**	**+0.5**
BOAV				IAmb	IAmb	03 13 28.6	
	comp=Z,4.5nm,1.2s						
MMAI	**Mount Meron Ar**	**79.75**	**22**	LR	LR	03 48 33.5	
	comp=Z,38nm,19.5s,baz=149,slow=35						
ESDC	**Sonseca Array**	**83.39**	**350**	P	**P**	**03 13 57.4**	**+1.0**
	comp=Z,1.0nm,1.0s,baz=186,slow=6.4,SNR=4.2						
	comp=Z,1.0nm,1.0s						
PCRV	**Puerto La Cruz**	**85.11**	**289**	LR	LR	03 48 21.3	
	comp=Z,50nm,19.9s,slow=33						
GNI	**Garni**	**89.19**	**27**	LR	LR	03 55 21.6	
	comp=Z,26nm,18.4s,baz=334,slow=36						
KBZ	**Khabaz**	**91.86**	**24**	LR	LR	03 57 27.2	
	comp=Z,37nm,18.2s,baz=348,slow=37						
SONM	**Songino Array**	**124.76**	**54**	PKP	**PKPdf**	**03 20 28.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=173,slow=2.8,SNR=2.4						
TXAR	**Lajitas Array**	**125.20**	**279**	PKP	**PKPdf**	**03 20 28.3**	**-1.9**
	comp=Z,0.8nm,1.1s,baz=152,slow=4.1,SNR=3.8						
PDAR	**Pinedale Array**	**135.85**	**291**	PKP	**PKPdf**	**03 20 50.1**	**0.0**
	comp=Z,0.3nm,0.7s,baz=130,slow=1.4,SNR=2.6						
ILAR	**Eielson Array**	**154.49**	**336**	PKPbc	**PKPbc**	**03 21 29.2**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=2.7,slow=3.0,SNR=5.8						
ILAR				PKPab	**PKPab**	**03 21 44.5**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=19,slow=3.1,SNR=10						

*ATH **06** 03:04:08.9, 37°.63N×20°.49E, h12km±1km, ML2.9/5, Error ellipse: s-maj=2.3km s-min=0.9km az=45.0*
*THE **06** 03:04:08.5, 37°.60N×20°.49E, h10km, ML3.0/12, Error ellipse: s-maj=1.4km s-min=0.6km az=43.0*

ISC 06 03:04:07.5±1.8,37°.59N±0°.05×20°.44E±0°.07, h10km±10km, n28, σ0s43/56, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.31**	**77**	P	**Pg**	**03 04 14.2**	**+0.5**
KRI1				S	**Sg**	**03 04 18.0**	**+0.1**
	7μm,0.5s						
LTHK	**Lithakia**	**0.34**	**70**	P	**Pg**	**03 04 14.5**	**+0.2**
LTHK				S	**Sg**	**03 04 18.4**	**-0.4**
	9μm,0.3s						
LTHK	**Lithakia**	**0.34**	**70**	P	**Pg**	**03 04 14.6**	**+0.3**
LTHK				S	**Sg**	**03 04 18.0**	**-0.8**
LTHK				AML	AML	03 04 19.3	
	comp=N,20656μm,0.4s						
LTHK				AML	AML	03 04 19.5	
	comp=E,12722μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.53**	**13**	P	**Pb**	**03 04 18.4**	**-0.5**
PSDA				S	**Sg**	**03 04 25.7**	**+0.7**
	comp=E,2μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.53**	**13**	P	**Pb**	**03 04 18.4**	**-0.5**
PSDA				S	**Sg**	**03 04 25.2**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.55**	**29**	P	**Pg**	**03 04 18.6**	**+0.3**
RTZL				S	**Sg**	**03 04 26.0**	**+0.5**
	comp=E,2μm,0.3s						
VLS	**Valsamata**	**0.60**	**12**	P	**Pb**	**03 04 19.4**	**-0.6**
VLS				S	**Sb**	**03 04 27.9**	**-0.6**
	comp=E,2μm,0.2s						
VLS	**Valsamata**	**0.60**	**12**	P	**Pb**	**03 04 19.4**	**-0.6**
VLS				S	**Sg**	**03 04 26.6**	**-0.4**
VLS				AML	AML	03 04 28.5	
	comp=N,2856μm,0.2s						
VLS				AML	AML	03 04 29.1	
	comp=E,3372μm

MORN IAML 03 09 11.5
comp=Z,43nm,1.0s
SAPS Ciudad Sandino 1.40 19 *i* P **Pn 03 09 00.3 -0.1**
SAPS *i* S **Sb 03 09 16.5 -2.5**
SAPS IAML 03 09 30.9
comp=Z,350nm,1.0s
CONN Concepcion 1.43 60 *i* P **Pn 03 08 59.7 -1.1**
CONN IAML 03 09 27.5
comp=Z,2μm,1.0s
MGAN Managua 1.44 25 *e*P **Pn 03 09 00.3 -0.6**
MGAN *e*S **Sb 03 09 19.3 -0.8**
VRLE La Escondida, 1.49 92 *e*P **Pn 03 09 00.6 -1.2**
LEVN Ruinas Leon Vi 1.57 9 *i* P **Pn 03 09 02.5 -0.3**
LEVN *i* S **Sn 03 09 23.5 -0.1**
LEVN IAML 03 09 26.7
comp=Z,270nm,1.0s
PACN Al O del Volca 1.65 3 *i* P **Pn 03 09 03.5 -0.4**
PACN *i* S **Sn 03 09 24.0 -1.6**
PACN IAML 03 10 24.9
comp=Z,300nm,1.0s
CNGA Al SSO del Vol 1.65 6 *i* P **Pn 03 09 04.1 +0.2**
CNGA *i* S **Sn 03 09 21.7 -4.0**
CNGA IAML 03 09 30.4
comp=Z,220nm,1.0s
CUI Cuipilapa 1.70 96 *e*P **Pn 03 09 03.6 -0.9**
JTS Las Juntas de 1.97 106 *e*P **Pn 03 09 07.4 -0.9**
BOAB BOACO BROADBAN .99 37 *i* P **Pn 03 09 08.1 -0.4**
BOAB IAML 03 09 43.8
comp=Z,88nm,1.0s
ACON Acoyapa 2.01 56 *i* P **Pb 03 09 13.7 +2.5**
ACON Acoyapa 2.01 56 *e*P **Pn 03 09 07.5 -1.4**
LIMN Finca el Limon 2.26 13 *i* P **Pn 03 09 13.7 +1.3**
CNCH Conchagua 2.59 339 *i* P **Pn 03 09 17.6 +0.7**
LCND La Caada 2.64 338 *i* P **Pn 03 09 18.4 +0.9**
RCPN Sur Rio San Ju 2.78 16 *i* P **Pn 03 09 20.3 +0.8**
LCR2 La Lucha 2 3.03 111 *i* P **Pn 03 09 23.9 +0.8**

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*IDC **06** 03:18:38.1±0.7, 2.″89S×119.″42E, h0km, mb4.1/9, mbtmp4.1/11, ML3.6/2, MS3.3/15, Error ellipse: s-maj=51.3km s-min=13.1km az=68.0*
*NEIC **06** 03:18:40.0±1.3, 2.″94S±0.″04×119.″43E±0.″06, h10km±1km, mb4.5/31, Error ellipse: s-maj=11.3km s-min=4.5km az=56.0*
*DJA **06** 03:18:40.1±0.3, 3.°S±2.°×11.°9E±.°, h10km, M4.5/12, mb4.3/2, MLv4.5/12*
ISC 06 03:18:39.3±1.6, 2.″94S±0.″04×119.″46E±0.″07, h7km±10km, n76, σ1.°18/73, mb4.5/28, MS3.3/11, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.38**	**107**	P	**Pg**	**03 18 46.5**	**-0.2**
SPSI	**Sidrap Palu**	**1.07**	**163**	P	**Pb**	**03 18 58.9**	**-1.3**
SPSI				S	**Sg**	**03 19 14.5**	**+0.8**
BNSI	**Bone**	**1.59**	**156**	P	**Pn**	**03 19 08.8**	**+0.8**
BNSI				S	**Sb**	**03 19 31.4**	**+1.9**
KAPI	**Kappang**	**2.08**	**172**	Pn	**Pn**	**03 19 15.1**	**+0.3**
KAPI				Sn	**Sn**	**03 19 41.8**	**+0.8**
KAPI	**Kappang**	**2.08**	**172**	Pn	**Pn**	**03 19 15.1**	**+0.3**
KAPI	57nm,0.3s,baz=344,slow=12,SNR=96 90nm,0.3s,baz=58,slow=19,SNR=15			Sn	**Sb**	**03 19 44.8**	**+1.2**
KAPI	comp=Z,193nm,18.4s,baz=305,slow=34 239nm,0.3s			LR	LR	03 19 50.8	
BKSI	**Bulukumba**	**2.46**	**164**	P	**Pn**	**03 19 20.9**	**+1.0**
BKSI				S	**Sn**	**03 19 52.2**	**+1.9**
APSI	**Ampana**	**2.97**	**47**	P	**Pn**	**03 19 27.0**	**0.0**
BKB	**Balikpapan**	**3.05**	**303**	Pn	**Pn**	**03 19 29.3**	**+1.2**
BKB	**Balikpapan**	**3.05**	**303**	P	**Pn**	**03 19 29.5**	**+1.4**
MPSI	**Mapaga**	**3.28**	**8**	P	**Pn**	**03 19 31.3**	**+0.1**
BSSI	**Bau Bau, Buton**	**3.35**	**162**	P	**Pn**	**03 19 33.1**	**+1.0**
LUWI	**Luwuk**	**3.81**	**60**		**Pn**	**03 19 38.8**	**+0.3**
LUWI	**Luwuk**	**3.81**	**60**	P	**Pn**	**03 19 38.7**	**+0.3**
TOLI2	**Tolitoli**	**4.23**	**18**		**Pn**	**03 19 46.3**	**+2.0**
PLAI	**Plampang**	**6.09**	**196**	P	**Pn**	**03 20 10.9**	**+1.1**
MMRI	**Maumere**	**6.30**	**154**	Pn	**Pn**	**03 20 12.9**	**+0.2**
SRBI	**Singaraja**	**6.63**	**219**	P	**Pn**	**03 20 18.9**	**+1.6**
MYLDM	**Lahad Datu**	**8.12**	**353**		**Pn**	**03 20 38.1**	**+0.4**
BATI	**Baumata**	**8.34**	**150**	LR	LR	03 24 11.8	
TNTI	**Ternate**	**8.72**	**65**	Pn	**Pn**	**03 20 47.0**	**+1.0**
SBUM	**Sibu**	**9.00**	**306**	Pn	**Pn**	**03 20 50.4**	**+0.5**
DAV	**Davao City (W)**	**11.67**	**32**	LR	LR	03 26 22.9	
FITZ	**Fitzroy Crossi**	**16.24**	**159**	Pn	**Pn**	**03 22 27.4**	**-0.8**
FITZ	comp=Z,65nm,21.7s,baz=200,slow=40 0.1nm,0.3s,baz=0.0,slow=10,SNR=1.2 comp=Z,112nm,18.6s,baz=322,slow=41 1.8nm,1.0s			LR	LR	03 29 52.5	
MBWA	**Marble Bar**	**18.11**	**179**	Pn	**Pn**	**03 22 49.1**	**-2.5**
RPSI	**Rantau Prapat**	**21.27**	**285**	P	**P**	**03 23 27.3**	**+0.7**
RPSI	comp=Z,17nm,0.9s			IAmb	IAmb	03 23 31.3	
WB0	**Warramunga Arr**	**22.20**	**140**	P	**P**	**03 23 35.5**	**-1.0**
WB0	comp=Z,15nm,1.1s			IAmb	IAmb	03 23 38.3	
WRA	**Warramunga Arr**	**22.29**	**140**	P	**P**	**03 23 36.1**	**-1.4**
WRA	**Warramunga Arr**	**22.29**	**140**	P	**P**	**03 23 36.3**	**-1.2**
WRA	comp=Z,8.7nm,1.0s,baz=316,slow=12,SNR=27			PcP	**PcP**	**03 27 35.3**	**+1.7**
WRA	comp=Z,0.3nm,0.9s,baz=330,slow=1.8,SNR=1.7			LR	LR	03 33 54.2	
WRAB	**Tennant Creek**	**22.29**	**140**	P	**P**	**03 23 35.8**	**-1.7**
WRAB	comp=Z,102nm,18.4s,baz=334,slow=41 comp=Z,8.7nm,1.0s			IAmb	IAmb	03 23 39.3	
WB2	**Warramunga Arr**	**22.30**	**140**	P	**P**	**03 23 37.1**	**-0.4**
WB2	comp=Z,13nm,1.1s			IAmb	IAmb	03 23 39.4	
WR0	**Warramunga Arr**	**22.43**	**140**	P	**P**	**03 23 38.5**	**-0.5**
WR0	comp=Z,13nm,1.1s			IAmb	IAmb	03 23 40.9	
AS31	**Alice Springs**	**24.90**	**147**	P	**P**	**03 24 03.3**	**+0.2**
ASAR	**Alice Springs**	**24.90**	**147**	P	**P**	**03 24 04.5**	**+1.3**
ASAR	**Alice Springs**	**24.90**	**147**	P	**P**	**03 24 03.2**	**+0.1**
ASAR	comp=Z,20nm,1.1s comp=Z,3.5nm,0.8s,baz=331,slow=11,SNR=35			PcP	**PcP**	**03 27 40.0**	**+0.9**
ASAR	comp=Z,0.7nm,0.6s,baz=337,slow=2.1,SNR=7.4			LR	LR	03 34 15.8	
COEN	**Coen**	**25.86**	**116**	P	**P**	**03 24 10.9**	**-0.9**
COEN	comp=Z,106nm,20.3s,baz=305,slow=38 comp=Z,3.5nm,0.8s			IAmb	IAmb	03 24 28.1	
CMAR	**Chiang Mai Arr**	**29.33**	**317**	LR	LR	03 37 46.0	
CHTO	**Chiang Mai**	**29.58**	**318**	P	**P**	**03 24 43.5**	**-1.6**
NWAO	**Narrogin (SRO)**	**29.91**	**184**	P	**P**	**03 24 46.5**	**-1.5**
JOW	**Kunigami**	**30.80**	**16**	LR	LR	03 36 11.0	
CTA	**Charters Tower**	**31.21**	**125**	LR	LR	03 38 22.8	
PZH	**PanZhiHua**	**33.91**	**331**	P	**P**	**03 25 26.5**	**+3.2**
PZH	comp=Z,4.4nm,18.2s,baz=291,slow=38 comp=Z,10.0nm,0.8s			pmax	pmax		
PZH	comp=Z,110nm,6.1s			pmax	pmax		
STKA	**Stephens Creek**	**35.53**	**147**	P	**P**	**03 25 38.2**	**+1.0**
STKA	comp=Z,1.4nm,0.5s,baz=332,slow=15,SNR=3.8 comp=Z,128nm,19.7s,baz=18,slow=37 comp=Z,1.4nm,0.5s			LR	LR	03 40 27.7	
JNU	**Nakatsue**	**37.45**	**16**	LR	LR	03 41 05.6	
HHC	**Hu-ho-hao-te**	**44.17**	**351**	*e*P	**P**	**03 26 52.0**	**+3.0**
HHC	comp=Z,28nm,20.1s,baz=198,slow=36 comp=Z,12nm,0.5s			pmax	pmax		
HHC	comp=Z,64nm,4.2s			pmax	pmax		
GTA	**Gaotai**	**45.85**	**339**	*e*P	**P**	**03 27 02.9**	**+0.5**
GTA	comp=Z,4.0nm,1.2s			pmax	pmax		
DZM	**Mont Dzumac**	**49.39**	**117**	LR	LR	03 50 42.6	
ULN	**Ulaanbaatar**	**51.74**	**349**	P	**P**	**03 27 47.3**	**-0.3**
ULN	comp=Z,190nm,18.4s,baz=300,slow=39 comp=Z,9.0nm,1.1s			IAmb	IAmb	03 27 48.9	
SONM	**Songino Array**	**51.84**	**349**	P	**P**	**03 27 48.0**	**-0.3**
SONM	comp=Z,3.3nm,0.9s			IAmb	IAmb	03 27 48.4	
SONM	**Songino Array**	**51.84**	**349**	P	**P**	**03 27 47.6**	**-0.7**
	comp=Z,3.8nm,0.9s,baz=171,slow=8.2,SNR=14 comp=Z,3.8nm,0.9s						
KLR	**Kul'dur**	**53.04**	**10**	LR	LR	03 50 23.2	
NIL	**Nilore**	**56.74**	**314**	P	**P**	**03 28 23.4**	**-0.7**
NIL	comp=Z,38nm,19.8s,baz=346,slow=36 comp=Z,5.6nm,0.5s			IAmb	IAmb	03 28 46.8	
WUS	**Wushi**	**57.19**	**325**	P	**P**	**03 28 26.9**	**-0.4**
WUS	comp=Z,6.0nm,1.0s			IAmb	IAmb	03 28 29.9	
KSH	**Kashi**	**58.11**	**321**	P	**P**	**03 28 35.6**	**+1.7**
KSH	comp=Z,7.0nm,1.1s			pmax	pmax		
MK31	**Makanchi Array**	**59.35**	**331**	P	**P**	**03 28 41.4**	**-0.9**
MK31	comp=Z,4.5nm,1.0s			IAmb	IAmb	03 28 44.3	
MKAR	**Makanchi Array**	**59.35**	**331**	P	**P**	**03 28 42.4**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=138,slow=7.3,SNR=14 comp=Z,3.2nm,0.7s						
MAKZ	**Makanchi**	**59.51**	**331**	P	**P**	**03 28 42.7**	**-0.6**
BOOM	**Boomskoye usch**	**59.91**	**324**	P	**P**	**03 28 46.1**	**-0.2**
KBL	**Kabul**	**60.22**	**313**	P	**P**	**03 28 47.8**	**-0.9**
KBL	comp=Z,3.8nm,0.8s			IAmb	IAmb	03 28 58.5	
MCQ	**Macquarie Isla**	**60.60**	**155**	P	**P**	**03 28 49.5**	**-1.1**
AAK	**Ala-Archa**	**60.85**	**323**	P	**P**	**03 28 52.1**	**-0.7**
AAK	comp=Z,3.2nm,0.9s			IAmb	IAmb	03 28 56.4	
AAK	**Ala-Archa**	**60.85**	**323**	LR	LR	03 59 08.2	
ARSB	**Arslanbob**	**61.02**	**321**	P	**P**	**03 28 52.8**	**-1.2**
GAR	**Garm**	**61.50**	**318**	P	**P**	**03 28 56.0**	**-1.2**
GAR	comp=Z,33nm,18.4s,baz=15,slow=40 comp=Z,8.7nm,1.2s			IAmb	IAmb	03 29 18.8	
KKAR	**Karatay Array**	**63.53**	**322**	P	**P**	**03 29 10.7**	**+0.1**
KKAR	**Karatay Array**	**63.53**	**322**	P	**P**	**03 29 09.5**	**-1.0**
KKAR	comp=Z,2.7nm,1.4s			IAmb	IAmb	03 29 24.6	
CASY	**Casey**	**63.53**	**184**	P	**P**	**03 29 11.2**	**+1.1**
ZALV	**Zalesovo Beam**	**63.60**	**338**	P	**P**	**03 29 10.4**	**-0.3**
ZALV	**Zalesovo Beam**	**63.60**	**338**	P	**P**	**03 29 09.9**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=145,slow=5.3,SNR=3.7 comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**63.81**	**332**	P	**P**	**03 29 11.1**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=141,slow=6.8,SNR=6.9 comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**63.83**	**332**	P	**P**	**03 29 10.4**	**-2.0**
KURK	comp=Z,3.5nm,1.0s			IAmb	IAmb	03 29 33.4	
BVAR	**Borovoye Array**	**69.23**	**331**	P	**P**	**03 29 45.7**	**-1.1**
	comp=Z,1.4nm,0.9s,baz=111,slow=7.9,SNR=4.5 comp=Z,1.4nm,0.9s						
ABKAR	**Akbulak array**	**72.93**	**324**	P	**P**	**03 30 08.8**	**-0.5**
ABKAR	**Akbulak array**	**72.93**	**324**	P	**P**	**03 30 08.9**	**-0.5**
ABKAR	comp=Z,3.3nm,1.4s			IAmb	IAmb	03 30 38.0	
MAW	**Mawson**	**75.06**	**199**	P	**P**	**03 30 21.1**	**-0.4**
	comp=Z,3.6nm,1.0s,baz=44,slow=11,SNR=7.4 comp=Z,3.6nm,1.0s						
BELG	**Belogornoye**	**81.34**	**324**	LR	LR	04 10 40.3	
QSPA	**South Pole Qui**	**87.02**	**180**	P	**P**	**03 31 24.2**	**-1.2**
QSPA	comp=Z,37nm,18.0s,baz=325,slow=38 comp=Z,6.9nm,1.4s			IAmb	IAmb	03 31 27.0	

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*IDC **06** 03:42:09.4±0.9, 44.°53N×145.°58E, h0km, mb3.7/10, mbtmp3.7/12, ML3.3/1, Error ellipse: s-maj=27.6km s-min=16.8km az=160.0*
*NIED **06** 03:42:11.2, 44.°51N×145.°74E, h20km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.78; $M_{\theta\theta}$=1.03; $M_{\phi\phi}$=-3.76; $M_{r\theta}$=0.94; $M_{\theta\phi}$=-1.41; $M_{\phi r}$=1.20; Fault plane solution: M_0=4.82000×10^{14} NP1: ϕ_s=207.00000°, δ=54.00000°, λ=95.00000°. NP2: ϕ_s=19.00000°, δ=36.00000°, λ=83.00000°.*
*JMA **06** 03:42:11.2±0.2, 44.°5N±0.°7×145.°7E±0.°9, h20km±1km, MV3.9/35, NEAR KUNASHIRI ISLAND .*
JMA Felt I J1 at NEAR KUNASHIRI ISLAND .
*MOS **06** 03:42:12.0±2.1, 44.°46N×145.°66E, h32km, mb4.0/1, Error ellipse: s-maj=15.2km s-min=11.9km az=90.9*
*SKHL **06** 03:42:12.2±0.3, 44.°50N×145.°70E, h34km±4km, mb5.0/2*
ISC 06 03:42:11.1±1.2, 44.°50N±0.°04×145.°68E±0.°03, h14km±8km, n32, σ0.°92/48, mb3.8/10, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.48**	**164**	*i* P	**Pg**	**03 42 21.2**	**+0.6**
YUK	2μm,0.4s			AMB	AMB	03 42 22.4	
YUK				*i* S	**Sg**	**03 42 27.7**	**+0.7**
YUK	14μm,0.5s			A	A	03 42 28.3	
YUK	12μm,0.5s			A	A	03 42 28.3	
YUK	**Yuzh-Kuril'sk**	**0.48**	**164**	*d* iPN	**Pg**	**03 42 21.1**	**+0.5**
YUK				*i* S	**Sg**	**03 42 27.7**	**+0.7**
YUK	comp=N,356nm,0.1s			pmax	pmax		
YUK	comp=E,705nm,0.1s			pmax	pmax		
YUK	comp=Z,2μm,0.1s			pmax	pmax		
YUK	comp=N,10μm,0.5s			smax	smax		
YUK	comp=E,15μm,0.4s			smax	smax		
JRA	**Rausu**	**0.69**	**216**	P	**Pg**	**03 42 24.9**	**+0.3**
JRA				S	**Sg**	**03 42 34.2**	**+0.6**
JNSB	**Nemuroshibetsu**	**0.87**	**214**	P	**Pg**	**03 42 27.7**	**-0.3**
JNSB				S	**Sg**	**03 42 40.1**	**+0.6**
SHO	**Shikotan**	**1.04**	**127**	*e*P	**Pb**	**03 42 30.3**	**-0.5**
SHO	comp=E,320nm,0.3s			AMB	AMB	03 42 31.6	
SHO				*i* S	**Sb**	**03 42 43.9**	**-0.4**
SHO	comp=E,8μm,0.5s			A	A	03 42 45.5	
SHO	comp=E,12μm,0.5s			A	A	03 42 45.5	
SHO	**Shikotan**	**1.04**	**127**	*e*PN	**Pb**	**03 42 30.4**	**-0.4**
SHO				*i* S	**Sb**	**03 42 44.5**	**+0.2**
SHO	comp=N,248nm,0.2s			pmax	pmax		
SHO	comp=E,336nm,0.2s			pmax	pmax		
SHO	comp=Z,566nm,0.2s			pmax	pmax		
SHO	comp=N,11μm,0.4s			smax	smax		
SHO	comp=E,13μm,0.4s			smax	smax		
NEM2	**Nemuro 2**	**1.13**	**178**	*i* P	**Pb**	**03 42 31.4**	**-1.0**
NEM2				S	**Sb**	**03 42 46.5**	**-0.5**
JNK	**Nakash**	**1.15**	**218**	P	**Pn**	**03 42 31.9**	**-0.8**
JNK				S	**Sb**	**03 42 46.8**	**-0.6**
JTKR	**Abashiri--Toko**	**1.38**	**248**	P	**Pn**	**03 42 35.7**	**-0.2**
JTKR				S	**Sn**	**03 42 53.7**	**-0.3**
JKHN	**Kushirohamanak**	**1.46**	**195**	P	**Pn**	**03 42 36.9**	**-0.2**
JKHN				S	**Sn**	**03 42 56.6**	**+0.5**
JAK	**Akkeshi**	**1.66**	**206**	P	**Pn**	**03 42 39.2**	**-0.6**
KUR	**Kuril'sk**	**1.72**	**64**	*e*P	**Pn**	**03 42 39.8**	**-0.8**
KUR	comp=E,120nm,0.4s			AMB	AMB	03 42 46.9	
KUR				*e*S	**Sn**	**03 43 01.3**	**-1.0**
KUR	comp=E,550nm,0.5s			A	A	03 43 15.1	
KUR	comp=E,280nm,0.5s			A	A	03 43 15.1	
KUR	**Kuril'sk**	**1.72**	**64**	*e*PN	**Pb**	**03 42 41.0**	**-1.5**
KUR				*e*S	**Sg**	**03 43 05.9**	**-0.5**
KUR	comp=Z,105nm,0.7s			pmax	pmax		
KUR	comp=E,241nm,0.6s			smax	smax		
KUR	comp=N,140nm,0.5s			smax	smax		
JMP	**Maruseppu**	**1.74**	**254**	P	**Pn**	**03 42 41.4**	**+0.4**
JMP				*e*S	**Sn**	**03 43 03.7**	**+0.7**
JKA	**Kamikawa-asahi**	**2.25**	**261**	*e*P	**Pn**	**03 42 48.6**	**+0.7**
ASAJ	**Asahikawa**	**2.25**	**261**	Pn	**Pn**	**03 42 48.6**	**+0.7**
ASAJ	comp=N,6.4nm,0.3s,baz=82,slow=13,SNR=14			Sn	**Sn**	**03 43 16.2**	**+0.7**
	comp=N,15nm,0.3s,baz=278,slow=32,SNR=4.3 comp=N,18nm,0.4s						
ERM	**Erimo**	**3.09**	**218**	*i* PN	**Pb**	**03 43 03.4**	**-2.5**
YSS	**Yuzh-Sakhalins**	**3.20**	**321**	*e*P	**Pn**	**03 43 01.8**	**+0.8**
YSS				AMB	AMB	03 43 03.7	
YSS	comp=N,20nm,0.8s			*e*S	**Sn**	**03 43 38.0**	**-0.9**
YSS				A	A	03 43 40.3	
YSS	comp=N,80nm,0.8s			A	A	03 43 40.3	
YSS	**Yuzh-Sakhalins**	**3.20**	**321**	*e*PN	**Pn**	**03 43 01.8**	**+0.8**
YSS				*e*S	**Sn**	**03 43 38.0**	**-0.9**
YSS	comp=Z,20nm,0.8s			pmax	pmax		
YSS	comp=N,80nm,0.8s			smax	smax		
YSS	comp=E,90nm,0.9s			smax	smax		
MJAR	**Matsushiro Arr**	**9.77**	**218**	Pn	**Pn**	**03 44 29.5**	**-1.7**
	comp=E,1.0nm,0.7s,baz=19,slow=13,SNR=1.2						
SONM	**Songino Array**	**27.21**	**291**	P	**P**	**03 47 55.7**	**+1.2**
	comp=E,0.5nm,0.8s,baz=99,slow=8.9,SNR=2.2 comp=E,0.5nm,0.8s						
ILAR	**Eielson Array**	**41.51**	**37**	P	**P**	**03 49 57.4**	**-0.2**
	comp=E,0.6nm,0.7s,baz=277,slow=7.2,SNR=5.9 comp=E,0.6nm,0.7s						
MKAR	**Makanchi Array**	**43.30**	**296**	P	**P**	**03 50 10.3**	**-2.1**
	comp=E,0.7nm,0.9s,baz=103,slow=6.4,SNR=1.9 comp=E,0.7nm,0.9s						
KURK	**Kurchatov**	**44.24**	**303**	*e*P	**P**	**03 50 19.4**	**-0.3**
KURK	**Kurchatov**	**44.24**	**303**	P	**P**	**03 50 19.4**	**-0.3**
KURBB	**Kurchatov Arra**	**44.32**	**303**	P	**P**	**03 50 19.4**	**-1.0**
	comp=E,0.5nm,0.2s,baz=71,slow=10,SNR=2.1 comp=E,0.5nm,0.2s						
FINES	**FINESS Array B**	**63.73**	**332**	P	**P**	**03 52 41.3**	**-0.5**
	comp=E,0.9nm,0.8s,baz=24,slow=11,SNR=3.8 comp=E,0.9nm,0.8s						
WRA	**Warramunga Arr**	**64.96**	**192**	P	**P**	**03 52 50.5**	**+0.2**
	comp=E,0.8nm,0.8s,baz=12,slow=6.6,SNR=5.0 comp=E,0.8nm,0.8s						
NVAR	**Mina Array Bea**	**68.07**	**57**	P	**P**	**03 53 11.7**	**+1.2**
	comp=E,0.6nm,0.7s,baz=298,slow=6.7,SNR=4.7 comp=E,0.6nm,0.7s						
PDAR	**Pinedale Array**	**70.23**	**49**	P	**P**	**03 53 25.0**	**+1.2**
	comp=E,0.7nm,0.5s,baz=267,slow=1.8,SNR=9.3 comp=E,0.7nm,0.5s						
AKASG	**Malin Array Be**	**70.35**	**323**	P	**P**	**03 53 24.5**	**+0.4**
	comp=E,0.2nm,0.2s,baz=40,slow=7.3,SNR=2.5 comp=E,0.2nm,0.2s						
TXAR	**Lajitas Array**	**83.10**	**55**	P	**P**	**03 54 38.1**	**+1.5**
	comp=E,0.5nm,0.8s,baz=251,slow=2.8,SNR=4.4 comp=E,0.5nm,0.8s						

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*NEIC **06** 03:55:00.9±1.5, 17.°3S±0.°2×178.°6W±0.°1, h530km±7km, mb4.5/29, Error ellipse: s-maj=23.8km s-min=17.1km az=144.0*
*IDC **06** 03:55:01.1±1.7, 17.°44S×178.°59W, h541km±18km, mb3.2/10, mbtmp4.1/12, Error ellipse: s-maj=22.1km s-min=16.3km az=122.0*
ISC 06 03:55:01.3±0.5, 17.°43S±0.°09×178.°58W±0.°09, h547km, n69, σ0.°76/70, mb4.4/26, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.14**	**8**	P	**P**	**03 56 15.7**	**-1.4**
MSVF	**Nonsavu**	**3.23**	**264**	P	**P**	**03 56 17.5**	**-0.1**
MSVF	**Nonsavu**	**3.23**	**264**	P	**P**	**03 56 17.9**	**+0.2**
	44nm,0.8s,baz=138,slow=7.7,SNR=17						
NIUE	**Niue**	**8.38**	**103**	P	**P**	**03 57 02.0**	**-0.7**
RAO	**Raoul Island**	**11.78**	**177**	P	**P**	**03 57 38.0**	**+0.5**
DZM	**Mont Dzumac**	**14.84**	**249**	P	**P**	**03 58 07.0**	**-2.3**
DZM	**Mont Dzumac**	**14.84**	**249**	P	**P**	**03 58 07.8**	**-1.4**
	2.5nm,0.6s,baz=81,slow=19,SNR=1.9						
KOUNC	**Koumac, New Ca**	**16.50**	**256**	P	**P**	**03 58 24.9**	**-0.8**
URZ	**Urewera**	**21.09**	**189**	P	**P**	**03 59 05.3**	**-1.9**
	3.1nm,0.5s,baz=348,slow=1.7,SNR=2.8 3.1nm,0.5s						
CTAO	**Charters Tower**	**33.37**	**260**	P	**P**	**04 00 54.5**	**-0.3**
COEN	**Coen**	**36.95**	**270**	P	**P**	**04 01 25.3**	**+0.7**
COEN	comp=Z,10nm,0.6s			IAmb	IAmb	04 01 26.1	
TOO	**Toolangi**	**37.35**	**230**	P	**P**	**04 01 28.5**	**+0.9**
STKA	**Stephens Creek**	**38.72**	**241**	P	**P**	**04 01 39.7**	**+0.8**
STKA	**Stephens Creek**	**38.72**	**241**	P	**P**	**04 01 39.7**	**+0.8**
	comp=Z,5.2nm,0.5s,baz=92,slow=11,SNR=18 comp=Z,5.2nm,0.5s						
BBOO	**Buckleboo**	**43.50**	**241**	P	**P**	**04 02 17.1**	**+0.3**
BBOO	comp=Z,18nm,0.9s			IAmb	IAmb	04 02 17.9	
WR0	**Warramunga Arr**	**44.37**	**259**	P	**P**	**04 02 22.9**	**-0.8**
WB0	**Warramunga Arr**	**44.53**	**259**	P	**P**	**04 02 24.4**	**-0.5**
WB0	comp=Z,9.5nm,1.1s			IAmb	IAmb	04 02 25.1	
WB2	**Warramunga Arr**	**44.55**	**259**	P	**P**	**04 02 24.6**	**-0.5**
WB2	comp=Z,5.5nm,0.7s			IAmb	IAmb	04 02 25.4	
WRA	**Warramunga Arr**	**44.56**	**259**	P	**P**	**04 02 24.4**	**-0.7**
WRA	**Warramunga Arr**	**44.56**	**259**	P	**P**	**04 02 24.1**	**-1.0**
	comp=Z,4.3nm,0.7s,baz=96,slow=8.5,SNR=76						
WRA	comp=Z,0.8nm,0.6s,baz=90,slow=3.5,SNR=5.0 comp=Z,4.3nm,0.7s			PcP	**PcP**	**04 03 55.9**	**-0.5**
AS31	**Alice Springs**	**44.77**	**254**	P	**P**	**04 02 26.9**	**+0.1**
AS31	comp=Z,10nm,0.6s			IAmb	IAmb	04 02 27.4	
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**04 02 26.9**	**+0.2**
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**04 02 26.8**	**+0.1**
	comp=Z,37nm,0.7s,baz=88,slow=8.0,SNR=372						
ASAR				PcP	**PcP**	**04 03 57.3**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=101,slow=3.9,SNR=4.3						
MTN	**Manton Dam**	**48.66**	**268**	P	**P**	**04 02 56.3**	**+0.2**
MTN	comp=Z,11nm,0.8s			IAmb	IAmb	04 02 56.6	
FORT	**Forrest**	**50.07**	**244**	P	**P**	**04 03 06.3**	**0.0**
KNRA	**Kununurra**	**50.38**	**264**	P	**P**	**04 03 08.9**	**+0.2**
KNRA	comp=Z,15nm,0.7s			IAmb	IAmb	04 03 09.6	
FITZ	**Fitzroy Crossi**	**52.95**	**260**	P	**P**	**04 03 27.8**	**+0.5**
SOEI	**Soe**	**55.91**	**270**	P	**P**	**04 03 48.7**	**+0.4**
SOEI	comp=Z,26nm,0.7s			IAmb	IAmb	04 03 51.1	
PSA00	**Pilbara Seismi**	**57.88**	**255**	P	**P**	**04 04 01.5**	**0.0**
PSA00	comp=Z,8.6nm,0.6s			IAmb	IAmb	04 04 02.3	
MBWA	**Marble Bar**	**58.04**	**256**	P	**P**	**04 04 02.7**	**+0.1**
MBWA	comp=Z,18nm,1.0s			IAmb	IAmb	04 04 03.3	
MORW	**Morawa**	**60.53**	**246**	P	**P**	**04 04 19.3**	**+0.2**
MORW	comp=Z,34nm,1.4s			IAmb	IAmb	04 04 44.4	
GIRL	**Giralia**	**62.88**	**253**	P	**P**	**04 04 36.1**	**+1.6**
JAGI	**Jajag, Banyuwa**	**65.89**	**268**	P	**P**	**04 04 53.3**	**-0.5**
MJAR	**Matsushiro Arr**	**67.43**	**323**	P	**P**	**04 05 01.5**	**-1.3**
	comp=Z,1.8nm,0.4s,baz=159,slow=6.4,SNR=4.1 comp=Z,1.8nm,0.4s						
KKM	**Kota Kinabalu**	**68.47**	**284**	P	**P**	**04 05 08.6**	**-1.2**
KKM	comp=Z,28nm,1.3s			IAmb	IAmb	04 05 17.1	
ATKA	**Atka Island**	**69.45**	**3**	P	**P**	**04 05 14.7**	**+0.1**
UGM	**Wanagama**	**69.50**	**268**	P	**P**	**04 05 16.5**	**+0.6**
QSPA	**South Pole Qui**	**72.62**	**180**	P	**P**	**04 05 34.3**	**+1.1**
	comp=Z,1.6nm,0.5s,baz=45,slow=1.5,SNR=7.5 comp=Z,1.6nm,0.5s						
PETK	**Petropavlovsk-**	**73.18**	**345**	P	**P**	**04 05 37.4**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=154,slow=11,SNR=

F31M IAmb IAmb 04 07 13.2
comp=Z,6.1nm,1.4s
INK Inuvik 91.47 15 P P 04 07 09.6 +0.7
KWP Kalwaria Pacla 143.57 337 PKPbc 04 13 33.4 +0.7
LODK Lodwar 143.93 251 PKPdf **PKPdf 04 13 36.6 +0.9**
BUR08 Bucovina Ar. S 144.11 332 PKPdf 04 13 36.0 +1.0
BRTR Keskin Array B 144.34 315 PKPab **PKPab 04 13 36.5 +0.5**
BRTR Keskin Array B 144.34 315 PKP **PKPab 04 13 36.3 +0.3**
comp=Z,1.0nm,0.4s,baz=90,slow=2.4,SNR=9.2
CLL Collm 144.97 347 *i* PKPbc **PKPab 04 13 38.0 +0.2**
MMAI Mount Meron Ar 145.75 303 PKPbc **PKPab 04 13 41.4 -0.3**
comp=Z,2.0nm,0.5s,baz=70,slow=7.2,SNR=5.6
CONA Conrad Observa 147.37 342 *e*PKP **PKPbc 04 13 44.7 +0.9**
comp=Z,1.5nm,0.5s
RONA Rosalia, Austr 147.44 341 *i* PKP **PKPbc 04 13 43.8 -0.2**
comp=Z,1.4nm,0.5s
ARSA Arzberg 148.08 342 *i* PKP **PKiKP 04 13 46.4 -0.5**
comp=Z,1.2nm,0.4s
LESA Schwarzleotal 148.69 345 *i* PKP **PKPbc 04 13 47.4 +0.2**
comp=Z,1.5nm,0.4s
SOKA Soboth 148.74 342 *i* PKP **PKPbc 04 13 47.6 +0.2**
comp=Z,0.7nm,0.3s
KBA Koelnbreinsper 148.84 344 *i* PKP **PKPbc 04 13 48.2 +0.5**
comp=Z,1.5nm,0.5s
WTTA Wattenberg 149.08 346 *i* PKiKP **PKiKP 04 13 49.2 0.0**
comp=Z,2.6nm,0.5s
MOTA Moosalm 149.12 347 *i* PKP **PKiKP 04 13 49.0 -0.2**
comp=Z,0.7nm,0.3s
MYKA Terra Mystica 149.18 343 *i* PKP **PKPbc 04 13 48.2 -0.2**
comp=Z,1.5nm,0.4s
SQTA Sankt Quirin 149.22 347 *i* PKiKP **PKiKP 04 13 49.4 0.0**
comp=Z,3.2nm,0.6s
ABTA Abfaltersbach 149.36 345 *i* PKP **PKPbc 04 13 49.2 +0.3**
comp=Z,3.2nm,0.6s
FETA Feichten 149.51 347 *i* PKiKP **PKiKP 04 13 50.1 +0.1**
comp=Z,0.5nm,0.4s
FUORN Ofenpass-Fuorn 149.99 348 PKiKP 04 13 51.3 +0.1

NEIC 06 03:57:52.5±1.1, 31°.17N±0°.01×103°.29W±0°.01, h3km±4km, mb_Lg2.2/13, ML2.2/20, Error ellipse: s-maj=2.3km s-min=1.3km az=149.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNHN	**Monahans**	**0.48**	**69**		Pg	03 58 02.3	+0.5
MNHN				Sg	Sg	03 58 09.6	+1.4
MNHN				IAML		03 58 15.0	
	113nm,0.5s						
MNHN				IAML		03 58 17.8	
	145nm,0.7s						
PECS	**Pecos**	**0.53**	**293**	Pg	Pg	03 58 02.9	0.0
PECS				Sg	Sb	03 58 11.2	-1.5
PECS				IAML		03 58 15.0	
	206nm,0.4s						
PECS				IAML		03 58 17.9	
	125nm,0.3s						
ALPN	**Alpine**	**0.84**	**201**	Pg	Pg	03 58 08.7	0.0
ODSA	**Odessa**	**1.14**	**33**	Pg	Pg	03 58 14.0	-0.4
ODSA				IAML		03 58 31.4	
	41nm,0.4s						
VHRN	**Van Horn**	**1.50**	**256**		Pn	03 58 20.1	-0.4
VHRN				IAML		03 58 44.5	
	40nm,0.4s						
VHRN				IAML		03 58 45.1	
	32nm,0.6s						
SAND	**Sanderson**	**1.57**	**140**		Pb	03 58 22.4	+0.1
SAND				IAML		03 58 49.3	
	38nm,0.4s						
TX31	**Lajitas Ar. Si**	**1.85**	**190**		Pb	03 58 26.4	-0.7
TXAR	**Lajitas Array**	**1.85**	**190**	Pn	Pb	03 58 26.5	-0.6
OZNA	**Ozona**	**1.87**	**97**	Pn	Pb	03 58 27.2	-0.2
SGCY	**Sterling City**	**1.99**	**67**	Pn	Pb	03 58 28.3	-1.1
POST	**Post**	**2.43**	**38**	Pn	Pn	03 58 32.8	-0.4
POST				IAmb_Lg		03 59 14.9	
	comp=Z,7.0nm,0.8s						
SN05	**Snyder 5**	**2.66**	**49**	IAmb_Lg		03 59 20.0	
	comp=Z,8.6nm,0.8s						
SN07	**Snyder 07**	**2.80**	**46**	Pn	Pn	03 58 36.3	-1.9
MSTX	**Muleshoe**	**2.83**	**9**	IAmb_Lg		03 59 24.9	
	comp=Z,5.4nm,0.9s						
DRIO	**Del Rio**	**2.89**	**126**	IAmb_Lg		03 59 23.9	
	comp=Z,12nm,0.8s						
JCT	**Junction City**	**3.08**	**102**	Pn	Pn	03 58 41.6	-0.5
ABTX	**Abilene, Hawle**	**3.43**	**64**	Pn	Pn	03 58 46.8	0.0
ABTX				IAmb_Lg		03 59 49.8	
	comp=Z,6.4nm,0.8s						
APMT	**Aspermont**	**3.44**	**50**	Pn	Pn	03 58 47.2	+0.2
BRDY	**Brady**	**3.68**	**87**	Pn	Pn	03 58 51.4	+1.1
HNDO	**Hondo**	**3.83**	**114**	IAmb_Lg		04 00 04.7	
	comp=Z,7.9nm,0.8s						
WMOK	**Wichita Mounta**	**5.20**	**46**	IAmb_Lg		04 00 51.4	
	comp=Z,3.0nm,0.8s						

*NEIC **06** 03:59:32.4±2.0, 17°.7S±0°.1×178°.5W±0°.1, h564km±7km, mb4.4/34, Error ellipse: s-maj=21.6km s-min=15.9km az=121.0*
*IDC **06** 03:59:33.9±0.9, 17°.71S×178°.75W, h590km±9km, mb3.3/13, mbtmp4.3/15, Error ellipse: s-maj=15.6km s-min=11.9km az=142.0*
ISC 06 03:59:34.6±0.4, 17°.65S±0°.08×178°.72W±0°.09, h600km, n105, σ0°.96/110, mb4.3/31, 5C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.08**	**268**	P	**P**	**04 00 51.6**	**-2.7**
MSVF	**Nonsavu**	**3.08**	**268**	P	**P**	**04 00 51.9**	**-2.4**
	216nm,0.7s,baz=98,slow=3.3,SNR=103						
MSVF				S	**S**	**04 01 58.3**	**-1.0**
	8.4nm,0.9s,baz=60,slow=21,SNR=0.7						
FUTU	**Fugatoga**	**3.38**	**10**	P	**P**	**04 00 52.5**	**-3.6**
PINNC	**Pines Island,**	**13.90**	**247**	P	**P**	**04 02 32.3**	**-0.2**
DZM	**Mont Dzumac**	**14.63**	**250**	P	**P**	**04 02 38.4**	**-1.1**
DZM	**Mont Dzumac**	**14.63**	**250**	P	**P**	**04 02 37.4**	**-2.1**
	12nm,0.7s,baz=308,slow=13,SNR=8.3						
KOUNC	**Koumac, New Ca**	**16.32**	**257**	P	**P**	**04 02 56.1**	**+1.2**
KOUNC				IAmb	IAmb	04 03 35.0	
	comp=Z,19nm,1.0s						
URZ	**Urewera**	**20.85**	**189**	P	**P**	**04 03 33.5**	**-2.2**
	comp=Z,6.0nm,0.5s,baz=339,slow=3.3,SNR=6.3						
	comp=Z,6.0nm,0.5s						
BKZ	**Black Stump Fm**	**21.84**	**190**	P	**P**	**04 03 42.0**	**-2.7**
BKZ				IAmb	IAmb	04 03 43.5	
	comp=Z,20nm,1.4s						
FOZ	**Fox Glacier**	**27.57**	**198**	P	**P**	**04 04 34.1**	**-0.9**
WKZ	**Wanaka**	**28.98**	**198**	P	**P**	**04 04 45.8**	**-1.5**
MLZ	**Mavora Lakes**	**29.74**	**199**	P	**P**	**04 04 54.1**	**+0.2**
MLZ				IAmb	IAmb	04 05 10.7	
	comp=Z,38nm,1.5s						
CTAO	**Charters Tower**	**33.20**	**260**	P	**P**	**04 05 24.4**	**+0.8**
CTAO				IAmb	IAmb	04 05 37.3	
	comp=Z,9.4nm,1.2s						
COEN	**Coen**	**36.81**	**270**	P	**P**	**04 05 54.0**	**+0.4**
COEN				IAmb	IAmb	04 05 56.4	
	comp=Z,18nm,1.5s						
TOO	**Toolangi**	**37.10**	**230**	P	**P**	**04 05 56.9**	**+1.2**
TOO				IAmb	IAmb	04 05 58.5	
	comp=Z,11nm,1.5s						
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**04 06 07.0**	**0.0**
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**04 06 05.5**	**-1.6**
	comp=Z,1.9nm,0.5s,baz=63,slow=14,SNR=4.3						
	comp=Z,1.9nm,0.5s						
MCQ	**Macquarie Isla**	**40.60**	**200**	P	**P**	**04 06 23.9**	**+0.5**
BBOO	**Buckleboo**	**43.27**	**241**	P	**P**	**04 06 45.5**	**+0.7**
BBOO				IAmb	IAmb	04 06 46.1	
	comp=Z,14nm,0.9s						
WR0	**Warramunga Arr**	**44.20**	**259**	P	**P**	**04 06 52.6**	**+0.5**
WB0	**Warramunga Arr**	**44.36**	**260**	P	**P**	**04 06 53.2**	**-0.2**
WB2	**Warramunga Arr**	**44.38**	**259**	P	**P**	**04 06 53.1**	**-0.4**
WRA	**Warramunga Arr**	**44.39**	**259**	P	**P**	**04 06 53.1**	**-0.4**
WRA	**Warramunga Arr**	**44.39**	**259**	P	**P**	**04 06 53.0**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=96,slow=7.1,SNR=22						
WRA				PcP	**PcP**	**04 08 23.7**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=89,slow=3.6,SNR=7.7						
WRA				S	**S**	**04 12 47.2**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=96,slow=11,SNR=2.2						
	comp=Z,0.7nm,0.3s						
AS31	**Alice Springs**	**44.58**	**254**	P	**P**	**04 06 55.2**	**+0.2**
ASAR	**Alice Springs**	**44.58**	**254**	P	**P**	**04 06 55.2**	**+0.2**
ASAR	**Alice Springs**	**44.58**	**254**	P	**P**	**04 06 55.0**	**-0.1**
	comp=Z,4.9nm,0.3s,baz=88,slow=8.0,SNR=54						
ASAR				PcP	**PcP**	**04 08 25.3**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=97,slow=4.5,SNR=10.0						
ASAR				S	**S**	**04 12 47.8**	**-0.7**
	comp=Z,1.3nm,1.0s,baz=87,slow=15,SNR=6.2						
	comp=Z,4.9nm,0.3s						
FORT	**Forrest**	**49.85**	**244**	P	**P**	**04 07 34.4**	**+0.1**
FORT				IAmb	IAmb	04 07 35.8	
	comp=Z,36nm,1.1s						
KNRA	**Kununurra**	**50.22**	**264**	P	**P**	**04 07 38.0**	**+0.9**
KNRA				IAmb	IAmb	04 08 21.0	
	comp=Z,13nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.78**	**260**	P	**P**	**04 07 56.7**	**+1.2**
PSA00	**Pilbara Seismi**	**57.69**	**255**	P	**P**	**04 08 29.7**	**+0.2**
PSA00				IAmb	IAmb	04 09 09.6	
	comp=Z,18nm,1.2s						
MBWA	**Marble Bar**	**57.85**	**256**	P	**P**	**04 08 30.8**	**+0.2**
MBWA				IAmb	IAmb	04 08 43.0	
	comp=Z,18nm,1.2s						
MORW	**Morawa**	**60.32**	**246**	P	**P**	**04 08 47.3**	**+0.3**
MORW				IAmb	IAmb	04 09 25.1	
	comp=Z,32nm,1.3s						
SBA	**Scott Base**	**60.65**	**183**	P	**P**	**04 08 47.6**	**-0.6**
MJAR	**Matsushiro Arr**	**67.53**	**323**	P	**P**	**04 09 31.4**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=142,slow=6.2,SNR=4.0						
	comp=Z,1.6nm,0.6s						
UGM	**Wanagama**	**69.36**	**268**	P	**P**	**04 09 44.7**	**+0.8**
QSPA	**South Pole Qui**	**72.40**	**180**	P	**P**	**04 10 02.1**	**+1.3**
QSPA				IAmb	IAmb	04 10 02.3	
	comp=Z,6.4nm,0.7s						
QSPA	**South Pole Qui**	**72.40**	**180**	P	**P**	**04 10 01.4**	**+0.6**
	comp=Z,8.8nm,0.9s,baz=21,slow=3.2,SNR=20						
	comp=Z,8.8nm,0.9s						
PEA0B	**Petropavlovsk-**	**73.36**	**345**	P	**P**	**04 10 07.4**	**+1.2**
PETK	**Petropavlovsk-**	**73.36**	**345**	P	**P**	**04 10 07.3**	**+1.0**
PETK	**Petropavlovsk-**	**73.36**	**345**	P	**P**	**04 10 06.5**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=113,slow=11,SNR=2.3						
	comp=Z,2.5nm,0.7s						
PLK4	**Peulik 4**	**77.28**	**12**	P	**P**	**04 10 28.3**	**+0.3**
PLK4				IAmb	IAmb	04 10 29.0	
	comp=Z,10nm,1.0s						
MNAI	**Manna**	**77.58**	**269**	P	**P**	**04 10 32.6**	**+2.1**
P18K	**Big Mountain,**	**79.13**	**12**	P	**P**	**04 10 37.6**	**-0.2**
P18K				IAmb	IAmb	04 11 09.4	
	comp=Z,9.7nm,1.3s						
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**04 10 40.2**	**0.0**
	comp=Z,0.4nm,0.6s,baz=225,slow=7.3,SNR=3.5						
	comp=Z,0.4nm,0.6s						
NV11	**Mina Array Sit**	**79.54**	**44**	P	**P**	**04 10 41.3**	**+0.7**
BELA	**Belgrano 2**	**82.45**	**173**	P	**P**	**04 10 55.0**	**+0.3**
BELA				IAmb	IAmb	04 10 55.6	
	comp=Z,8.2nm,0.8s						
N25K	**Chitina, Valde**	**83.53**	**16**	P	**P**	**04 11 00.4**	**+0.2**
N25K				IAmb	IAmb	04 11 30.9	
	comp=Z,10nm,1.4s						
M24K	**Tolsona, Glenn**	**83.57**	**15**	P	**P**	**04 11 00.4**	**0.0**
MAW	**Mawson**	**84.00**	**200**	P	**P**	**04 11 03.2**	**+0.8**
	comp=Z,3.9nm,0.7s,baz=163,slow=10,SNR=14						
	comp=Z,3.9nm,0.7s						
TMUT	**Trail Mountain**	**84.67**	**46**	P	**P**	**04 11 06.5**	**-0.1**
TMUT				IAmb	IAmb	04 11 06.7	
	comp=Z,15nm,0.6s						
ILAR	**Eielson Array**	**85.71**	**13**	P	**P**	**04 11 10.1**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=220,slow=5.3,SNR=17						
	comp=Z,0.4nm,0.3s						
TXAR	**Lajitas Array**	**86.11**	**58**	P	**P**	**04 11 15.1**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=224,slow=5.2,SNR=5.8						
	comp=Z,0.4nm,0.7s						
PDAR	**Pinedale Array**	**87.37**	**44**	P	**P**	**04 11 19.9**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=211,slow=4.3,SNR=5.2						
	comp=Z,0.3nm,0.5s						
TROLL	**Troll, Antarti**	**90.56**	**180**	⇑P	**P**	**04 11 33.6**	**+0.1**
	comp=Z,170nm,0.5s						
SNAA	**Sanae**	**90.86**	**179**	⇑P	**P**	**04 11 34.3**	**-0.4**
	comp=Z,42nm,0.5s						
SNAA	**Sanae**	**90.86**	**179**	P	**P**	**04 11 33.9**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=162,slow=19,SNR=5.9						
	comp=Z,1.8nm,0.6s						
VNA3	**Neumayer Olymp**	**91.01**	**176**	⇑P	**P**	**04 11 35.9**	**+0.4**
	comp=Z,10nm,0.7s						
VNA2	**Neumayer--Watz**	**91.45**	**177**	⇑P	**P**	**04 11 37.9**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=178,slow=2.4						
VNA1	**Neumayer--Stat**	**91.68**	**177**	⇑P	**P**	**04 11 39.1**	**+0.7**
	comp=Z,6.4nm,1.0s						
MKAR	**Makanchi Array**	**108.75**	**314**	PKiKP	**PKiKP**	**04 16 55.8**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=253,slow=1.5,SNR=5.2						
KURBB	**Kurchatov Arra**	**111.50**	**318**	PKiKP	**PKiKP**	**04 16 59.3**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=85,slow=1.9,SNR=5.5						
BVAR	**Borovoye Array**	**116.46**	**321**	PKP	**PKPdf**	**04 17 10.9**	**0.0**
	comp=Z,1.2nm,0.4s,baz=97,slow=3.2,SNR=6.6						
ARCES	**ARCESS Array B**	**126.01**	**350**	PKP	**PKPdf**	**04 17 28.9**	**+0.1**
	comp=Z,2.8nm,1.0s,baz=62,slow=1.7,SNR=6.5						
FINES	**FINESS Array B**	**132.86**	**344**	PKP	**PKPdf**	**04 17 40.0**	**-2.0**
	comp=Z,3.0nm,1.0s,baz=7.6,slow=4.2,SNR=3.7						
HFS	**Hagfors**	**136.64**	**351**	PKhKP	PKPpre	04 17 41.6	
	comp=Z,1.9nm,0.7s,baz=85,slow=3.5,SNR=4.7						
AKASG	**Malin Array Be**	**140.20**	**332**	PKP	**PKiKP**	**04 17 58.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=35,slow=3.3,SNR=2.5						
BNN	**Bunyan**	**143.27**	**312**		**PKPdf**	**04 18 01.6**	**-0.3**
BUR08	**Bucovina Ar. S**	**144.24**	**332**		**PKPab**	**04 18 04.3**	**+0.7**
BR131	**Keskin Array S**	**144.40**	**315**		**PKPdf**	**04 18 04.1**	**+0.3**
BRTR	**Keskin Array B**	**144.40**	**315**		**PKPdf**	**04 18 04.2**	**+0.3**
BRTR	**Keskin Array B**	**144.40**	**315**	PKP	**PKPab**	**04 18 04.9**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=124,slow=3.2,SNR=16						
OSTC	**Ostas**	**145.06**	**343**	*e*PKP	**PKPab**	**04 18 07.3**	**+0.7**
CLL	**Collm**	**145.15**	**347**	PKPdf	**PKPdf**	**04 18 05.1**	**+0.6**
CLL	**Collm**	**145.15**	**347**	*i* PKPbc	**PKPab**	**04 18 06.3**	**-0.5**
	comp=Z,9.0nm,0.7s						
DPC	**Dobruska-Polom**	**145.22**	**343**	*e*PKP	**PKPab**	**04 18 07.5**	**+0.3**
MAUC	**Maruska**	**145.65**	**341**	*e*PKP	**PKPbc**	**04 18 08.1**	**+0.9**
MMAI	**Mount Meron Ar**	**145.76**	**303**	PKPbc	**PKPab**	**04 18 09.7**	**-0.3**
	comp=Z,3.2nm,0.5s,baz=60,slow=7.1,SNR=8.9						
PRU	**Pruhonice**	**146.02**	**345**	*e*PKP	**PKPbc**	**04 18 09.3**	**+1.1**
NKC	**Novy Kostel**	**146.28**	**347**	*e*PKP	**PKiKP**	**04 18 10.4**	**-0.7**
KRUC	**Moravsky**	**146.36**	**342**	*e*PKP	**PKPbc**	**04 18 09.8**	**+0.7**
KHC	**Kasperske Hory**	**147.06**	**345**		**PKPbc**	**04 18 11.9**	**+0.9**
KHC	**Kasperske Hory**	**147.06**	**345**	*e*PKP	**PKiKP**	**04 18 12.3**	**-0.5**
CKRC	**Cesky Krumlov**	**147.16**	**344**	*e*PKP	**PKiKP**	**04 18 12.4**	**-0.6**
GEC2	**GERESS Array S**	**147.29**	**345**		**PKiKP**	**04 18 12.8**	**-0.6**
GERES	**GERESS Array B**	**147.29**	**345**	PKPbc	**PKPbc**	**04 18 12.5**	**+0.8**
CONA	**Conrad Observa**	**147.53**	**342**	*i* PKP	**PKiKP**	**04 18 13.7**	**-0.2**
	comp=Z,4.5nm,0.6s						
RONA	**Rosalia, Austr**	**147.60**	**341**	*e*PKP	**PKiKP**	**04 18 13.8**	**-0.2**
	comp=Z,2.9nm,0.6s						
ARSA	**Arzberg**	**148.24**	**341**	*i* PKP	**PKPbc**	**04 18 14.6**	**+0.5**
	comp=Z,2.0nm,0.9s						
BIOA	**Bad Ischl, Aus**	**148.37**	**344**	*i* PKP	**PKPbc**	**04 18 14.9**	**+0.5**
	comp=Z,1.3nm,0.6s						
LESA	**Schwarzleotal**	**148.87**	**345**	*i* PKP	**PKiKP**	**04 18 16.6**	**-0.1**
	comp=Z,2.5nm,0.4s						
SOKA	**Soboth**	**148.90**	**342**	*i* PKP	**PKPbc**	**04 18 16.1**	**+0.3**
	comp=Z,1.4nm,0.5s						
KBA	**Koelnbreinsper**	**149.02**	**344**	*i* PKP	**PKPbc**	**04 18 16.3**	**+0.1**
	comp=Z,3.1nm,0.4s						
WATA	**Walderalm**	**149.21**	**346**	*i* PKP	**PKiKP**	**04 18 17.2**	**-0.2**
	comp=Z,3.8nm,0.5s						
RETA	**Reutte**	**149.24**	**347**	*i* PKP	**PKiKP**	**04 18 17.3**	**-0.1**
	comp=Z,1.7nm,0.4s						
WTTA	**Wattenberg**	**149.26**	**346**	*i* PKP	**PKiKP**	**04 18 17.6**	**+0.1**
	comp=Z,5.7nm,0.4s						
MOTA	**Moosalm**	**149.31**	**347**	*i* PKP	**PKiKP**	**04 18 17.5**	**-0.2**
	comp=Z,1.1nm,0.4s						
MYKA	**Terra Mystica**	**149.35**	**343**	*i* PKP	**PKPbc**	**04 18 16.9**	**+0.1**
	comp=Z,2.9nm,0.4s						
SQTA	**Sankt Quirin**	**149.40**	**347**	*i* PKP	**PKiKP**	**04 18 17.9**	**+0.1**
	comp=Z,3.7nm,0.5s						
ABTA	**Abfaltersbach**	**149.54**	**345**	*i* PKP	**PKPbc**	**04 18 17.6**	**+0.3**
	comp=Z,3.3nm,0.5s						
DAVA	**Damuels**	**149.61**	**348**	*i* PKP	**PKPbc**	**04 18 17.7**	**+0.1**
	comp=Z,7.9nm,1.1s						
FETA	**Feichten**	**149.69**	**347**	*i* PKP	**PKiKP**	**04 18 18.7**	**+0.2**
	comp=Z,2.6nm,0.7s						
FNA	**Florina**	**151.18**	**327**		**PKPbc**	**04 18 21.3**	**0.0**
CEST	**Esterri de Car**	**155.13**	**0**		**PKPab**	**04 18 50.0**	**+1.2**
TORD	**Torodi Ar. Bea**	**175.50**	**185**	PKP	**PKPdf**	**04 18 36.4**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=212,slow=1.4,SNR=3.9						
TORD				PKPab	**PKPab**	**04 20 19.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=182,slow=2.5,SNR=2.0						

*ATH **06** 04:10:05.1, 37°.17N×20°.63E, h12km±2km, ML3.3/2, Error ellipse: s-maj=2.6km s-min=1.3km az=42.0*
*THE **06** 04:10:05.0, 37°.18N×20°.62E, h0km±1km, ML3.5/10, Error ellipse: s-maj=2.3km s-min=0.6km az=229.0*
ISC 06 04:10:05.4±1.8, 37°.19N±0°.06×20°.66E±0°.06, h7km±10km, n34, σ0°.63/53, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.48**	**15**	P	**Pg**	**04 10 15.1**	**+0.3**
KRI1				S	**Sg**	**04 10 22.1**	**+0.9**
	8μm,0.6s						
LTHK	**Lithakia**	**0.54**	**15**	P	**Pg**	**04 10 15.7**	**-0.1**
LTHK				S	**Sg**	**04 10 23.9**	**+1.2**
	8μm,0.5s						
LTHK	**Lithakia**	**0.54**	**15**	P	**Pg**	**04 10 15.7**	**-0.1**
LTHK				S	**Sg**	**04 10 22.9**	**+0.2**
LTHK				AML	AML	04 10 24.3	
	comp=N,12874μm,0.3s						
LTHK				AML	AML	04 10 24.6	
	comp=E,12028μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.89**	**5**	P	**Pg**	**04 10 21.8**	**-0.6**
RTZL				S	**Sb**	**04 10 35.0**	**-0.1**
	comp=E,3μm,0.2s						
AMT	**Artemida-Makis**	**0.90**	**67**	P	**Pg**	**04 10 22.9**	**+0.3**
AMT				S	**Sb**	**04 10 35.6**	**0.0**
PYL	**PYLOS**	**0.91**	**109**	P	**Pg**	**04 10 22.7**	**-0.2**
PYL				S	**Sb**	**04 10 36.8**	**+1.0**
	comp=E,1μm,0.5s						
PYL	**PYLOS**	**0.91**	**109**	P	**Pg**	**04 10 22.6**	**-0.3**
PYL				S	**Sb**	**04 10 35.7**	**-0.1**
PYL				AML	AML	04 10 39.8	
	comp=N,1726μm,0.4s						
PYL				AML	AML	04 10 39.9	
	comp=E,2523μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.92**	**356**	P	**Pg**	**04 10 22.4**	**-0.7**
PSDA				S	**Sb**	**04 10 36.6**	**+0.4**
	comp=E,3μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.92**	**356**	P	**Pg**	**04 10 22.6**	**-0.6**
PSDA				S	**Sb**	**04 10 36.2**	**0.0**
VLS	**Valsamata**	**0.98**	**357**	P	**Pg**	**04 10 23.8**	**-0.5**
VLS				S	**Sb**	**04 10 38.3**	**+0.3**
	comp=E,2μm,0.3s						
VLS	**Valsamata**	**0.98**	**357**	P	**Pg**	**04 10 23.6**	**-0.7**
VLS				S	**Sb**	**04 10 37.8**	**-0.2**
ITM	**Ithomi**	**1.01**	**90**	P	**Pg**	**04 10 24.4**	**-0.4**
ITM	**Ithomi**	**1.01**	**90**	P	**Pg**	**04 10 24.3**	**-0.5**
LXRA	**Lixouri, Kepha**	**1.02**	**350**	P	**Pg**	**04 10 24.9**	**-0.1**
LXRA				S	**Sb**	**04 10 38.9**	**-0.1**
DMLN	**Damoulianata-K**	**1.07**	**348**	P	**Pg**	**04 10 25.6**	**-0.4**
DMLN				S	**Sn**	**04 10 41.3**	**-0.6**
	comp=E,3μm,0.5s						
DMLN	**Damoulianata-K**	**1.07**	**348**	P	**Pg**	**04 10 25.6**	**-0.4**
DMLN				S	**Sb**	**04 10 40.7**	**+0.3**
RLS	**Riolos of Patr**	**1.07**	**36**	P	**Pg**	**04 10 25.3**	**-0.7**
RLS	**Riolos of Patr**	**1.07**	**36**	P	**Pg**	**04 10 24.9**	**-1.1**
RLS				S	**Sg**	**04 10 39.5**	**-0.5**
DRO	**Drossia**	**1.13**	**47**	P	**Pg**	**04 10 26.2**	**-0.8**
DRO	**Drossia**	**1.13**	**47**	P	**Pg**	**04 10 26.2**	**-0.8**
DRO				S	**Sg**	**04 10 41.2**	**-0.4**
VSK1	**VASILIKIADES**	**1.22**	**356**	P	**Pb**	**04 10 27.7**	**-1.1**
VSK1				S	**Sn**	**04 10 46.2**	**+0.6**
	comp=E,2μm,0.5s						
FSK	**Fiskardo**	**1.27**	**356**	P	**Pn**	**04 10 28.5**	**-1.0**
FSK				S	**Sn**	**04 10 47.6**	**+0.8**
	comp=E,2μm,0.2s						
EVGI	**Lefkada island**	**1.43**	**360**	P	**Pn**	**04 10 31.1**	**-0.6**
EVGI				S	**Sg**	**04 10 52.8**	**+1.5**
	comp=E,975nm,0.2s						
KLV	**Kalavryta, Ach**	**1.46**	**54**	P	**Pn**	**04 10 32.1**	**0.0**
KLV	**Kalavryta, Ach**	**1.46**	**54**	P	**Pn**	**04 10 31.7**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.49**	**357**	P	**Pn**	**04 10 32.8**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.52**	**1**	P	**Pn**	**04 10 33.0**	**0.0**
GUR	**Goura**	**1.53**	**60**	P	**Pn**	**04 10 33.2**	**0.0**
ALIK	**Aliki, Aigiali**	**1.57**	**47**	P	**Pb**	**04 10 34.6**	**-0.1**
EFP	**Efpalio**	**1.58**	**38**	P	**Pn**	**04 10 33.8**	**0.0**
TSLK	**Tsoukalades, L**	**1.63**	**360**	P	**Pn**	**04 10 34.9**	**+0.4**
KALE	**Kalithea**	**1.67**	**44**	P	**Pn**	**04 10 35.6**	**+0.4**
ANX	**Ano Chora**	**1.72**	**35**	P	**Pn**	**04 10 36.5**	**+0.7**
OHR	**Ohrid**	**3.92**	**1**	*i* Pn	**Pn**	**04 11 07.3**	**+1.3**

*DSN **06** 04:14:37.6±1.4, 28°.81N×57°.22E, h10km, ML3.6/7, Error ellipse: s-maj=17.3km s-min=10.6km az=74.0*
*MOS **06** 04:

SMDO				S	Sn	04 17 02.8	-0.6
TKDS	Koohdasht(Taba	5.30	360	Pn	Pn	04 16 05.5	+3.0
AFRZ	Afriz	5.36	17	Pn	Pn	04 16 06.6	+3.3
IRAM	Ramesheh	5.41	311	Pn	Pn	04 16 07.6	+3.5
KLNJ	Kolanjah	5.53	301	Pn	Pn	04 16 09.7	+3.8
BSY	Bisya	5.53	179	P	Pn	04 16 07.8	+2.1
	SNR=9.3						
BSY				S	Sn	04 17 12.0	+2.6
TNSJ	Nastanj	5.66	356	Pn	Pn	04 16 11.4	+3.9
ANAR	Anarak	5.69	330	Pn	Pn	04 16 12.0	+4.1
WBK	Wadi Bani Khal	5.90	163	P	Pn	04 16 11.1	+0.3
	SNR=14						
WBK				S	Sn	04 17 17.2	-1.3
JMDO	Jabal Madar	5.97	171	P	Pn	04 16 13.3	+1.7
	SNR=8.1						
SHMA	Al-Shehemyia	6.02	248	P	Pn	04 16 14.7	+2.4
	SNR=14						
SHMA				S	Sn	04 17 19.6	-1.7
IBRJ	Brojen	6.23	307	Pn	Pn	04 16 19.8	+4.2
TRNA	Turayna	6.39	238	P	Pn	04 16 18.0	+0.6
	SNR=8.7						
TRNA				S	Sn	04 17 28.0	-2.4
	SNR=26						
JLN	Jalan Bani Buh	6.46	161	P	Pn	04 16 18.9	+0.5
	SNR=9.9						
JLN				S	Sn	04 17 29.1	-3.1
SMRA	Abu-Samra	6.67	239	P	Pn	04 16 23.1	+1.9
	SNR=14						
SMRA				S	Sn	04 17 35.2	-2.2
MHTO	MHTO	7.32	174	P	Pn	04 16 30.8	+0.6
MHTO				S	Sn	04 17 51.8	-1.5
HRA	Herat	7.47	34		Pn	04 16 33.2	+0.7
DOK	Doka	10.03	197	P	Pn	04 17 08.2	+0.9
DMTO	DMTO	10.73	191	P	Pn	04 17 15.9	-1.0
WHFO	Wadi Hawf	10.79	197	P	Pn	04 17 16.7	-1.2
	SNR=5.5						
ABTO	Aybut	11.46	199	P	Pn	04 17 26.2	-0.8
RAYN	Ar Rayn	11.50	248	Pn	Pn	04 17 25.1	-2.5
RAYN	Ar Rayn	11.50	248	P	Pn	04 17 25.2	-2.4
RAYN	Ar Rayn	11.50	248	P	Pn	04 17 25.5	-2.0
RAYN	Ar Rayn	11.50	248	P	Pn	04 17 25.1	-2.5
SIMJ	Simiganj	14.30	41	Pn	Pn	04 18 07.6	+1.8
GAR	Garm	15.29	42		Pn	04 18 22.9	+3.7
GAR				IAmb	IAmb	04 18 25.6	
	comp=Z,7.1nm,0.6s						
GURO	Guroymak-BITLI	16.21	313	P	Pn	04 18 33.3	+2.0
KKAR	Karatay Array	18.30	33	P	Pn	04 18 58.5	+1.4
MMAI	Mount Meron Ar	19.27	289	P	P	04 19 08.2	+0.1
	comp=Z,1.2nm,0.3s,baz=84,slow=15,SNR=1.7						
	comp=Z,0.9nm,0.4s						
KIV	Kislovodsk	19.46	327	eP	P	04 19 07.5	-2.5
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
EIL	Elat	19.46	279	P	P	04 19 08.3	-1.8
	comp=Z,4.2nm,1.0s,baz=62,slow=17,SNR=1.7						
AAK	Ala-Archa	20.05	40	P	P	04 19 16.9	+0.3
AAK	Ala-Archa	20.05	40	LR	LR	04 29 10.8	
	comp=Z,37nm,18.3s,baz=330,slow=43						
AAK	Ala-Archa	20.05	40	i P	P	04 19 17.6	+0.9
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NRN	Naryn	20.22	45	P	P	04 19 19.2	+0.5
NRN	Naryn	20.22	45	P	P	04 19 19.2	+0.5
NRN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BNN	Bunyan	20.58	306	P	P	04 19 22.7	+0.3
BNN				IAmb	IAmb	04 19 25.3	
	comp=Z,19nm,0.7s						
BOOM	Boomskoye usch	20.80	42	P	P	04 19 26.9	+2.1
BOOM	Boomskoye usch	20.80	42	P	P	04 19 26.9	+2.1
BOOM				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ABKAR	Akbulak array	21.04	5	P	P	04 19 28.4	+1.3
ABKAR				IAmb	IAmb	04 19 29.0	
	comp=Z,6.1nm,0.7s						
TARG	Taragay, Kyrgy	21.52	46	P	P	04 19 35.0	+2.3
TARG	Taragay, Kyrgy	21.52	46	P	P	04 19 35.0	+2.3
TARG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRTR	Keskin Array B	22.50	307	P	P	04 19 42.4	-0.7
	comp=Z,3.8nm,0.9s,baz=124,slow=11,SNR=16						
	comp=Z,3.8nm,0.9s						
BRTR	Keskin Array B	22.50	307	ceP	P	04 19 44.5	+1.4
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BR131	Keskin Array S	22.50	307	P	P	04 19 42.7	-0.4
BR131	Keskin Array S	22.50	307	eP	P	04 19 43.8	+0.7
BELG	Belogornoye	25.09	346	i P	P	04 20 07.6	-0.2
BELG				pmax	pmax		
	comp=Z,12nm,4.0s						
FURI	Furi	25.98	226	LR	LR	04 32 26.6	
	comp=Z,47nm,21.4s,baz=52,slow=41						
BVAR	Borovoye Array	26.58	18	P	P	04 20 21.2	-0.1
	comp=Z,1.8nm,0.5s,baz=198,slow=8.7,SNR=11						
	comp=Z,1.8nm,0.5s						
MK31	Makanchi Array	26.99	40	P	P	04 20 25.7	+0.6
MK31	Makanchi Array	26.99	40	P	P	04 20 25.7	+0.6
MK31				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MKAR	Makanchi Array	26.99	40	P	P	04 20 25.0	-0.1
	comp=Z,0.6nm,0.5s,baz=223,slow=9.1,SNR=5.7						
	comp=Z,0.6nm,0.5s						
MKAR	Makanchi Array	26.99	40	ceP	P	04 20 26.0	+0.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	Kurchatov Arra	27.56	30	P	P	04 20 29.9	-0.2
	comp=Z,0.5nm,0.7s,baz=233,slow=8.1,SNR=4.9						
	comp=Z,0.5nm,0.7s						
KURK	Kurchatov	27.66	30	P	P	04 20 30.0	-1.1
WMQ	Urumqi	28.95	49	eP	P	04 20 46.0	+3.3
AKASG	Malin Array Be	30.74	324	P	P	04 20 57.4	-1.0
	comp=Z,0.9nm,0.4s,baz=132,slow=8.3,SNR=9.9						
	comp=Z,0.9nm,0.4s						
AKBB	Malin Array Si	30.74	324	P	P	04 20 57.7	-0.7
AKBB				IAmb	IAmb	04 20 58.2	
	comp=Z,4.2nm,0.7s						
AKBB	Malin Array Si	30.74	324	i P	P	04 20 56.4	-2.0
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIEV	Kiev	30.75	324	P	P	04 20 57.7	-0.7
KIEV				IAmb	IAmb	04 20 58.1	
	comp=Z,3.8nm,0.7s						
KIEV	Kiev	30.75	324	P	P	04 20 57.7	-0.7
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIRV	Kirov	30.75	352	LR	LR	04 35 30.6	
	comp=Z,49nm,18.2s,baz=309,slow=40						
LIT	Litokhoron	30.79	302	P	P	04 20 58.4	-0.6
LIT				IAmb	IAmb	04 21 24.2	
	comp=Z,11nm,1.1s						
LIT	Litokhoron	30.79	302	P	P	04 20 58.4	-0.6
LIT				pmax	pmax		
	comp=Z,11nm,1.1s						
BURAR	Bucovina Array	31.39	317	P	P	04 21 04.1	-0.2
BURAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BUR08	Bucovina Ar. S	31.41	317	P	P	04 21 04.2	-0.3
BUR08				IAmb	IAmb	04 21 42.8	
	comp=Z,5.4nm,1.2s						
ZAA0	Zalesovo Array	32.65	31	P	P	04 21 15.4	+0.3
ZAA0				IAmb	IAmb	04 21 25.5	
	comp=Z,7.4nm,1.4s						
ZALV	Zalesovo Beam	32.65	31	P	P	04 21 14.4	-0.8
	comp=Z,2.2nm,0.3s,baz=238,slow=11,SNR=8.4						
	comp=Z,2.2nm,0.3s						
ZALV	Zalesovo Beam	32.65	31	P	P	04 21 15.3	+0.2
PUK	Puka	33.12	304	P	P	04 21 19.5	0.0
PUK				IAmb	IAmb	04 21 43.7	
	comp=Z,10nm,1.3s						
KOLS	Kolonicke sedl	33.73	317	eP	P	04 21 25.6	+0.9
KOLS				pmax	pmax		
	comp=Z,14nm,0.7s						
KOLS	Kolonicke sedl	33.73	317	eP	P	04 21 25.6	+0.9
KWP	Kalwaria Pacla	33.77	319	P	P	04 21 25.0	-0.1
KWP	Kalwaria Pacla	33.77	319	P	P	04 21 25.0	-0.1
OJC	Ojcow	35.73	318	P	P	04 21 41.8	-0.1
OJC	Ojcow	35.73	318	P	P	04 21 41.8	-0.1
OJC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
RONA	Rosalia, Austr	37.03	313	i P	P	04 21 52.6	-0.5
	comp=Z,2.8nm,0.5s						
MOA	Molln	38.38	312	i P	P	04 22 03.9	-0.7
	comp=Z,2.8nm,0.6s						
CKRC	Cesky Krumlov	38.62	314	eP	P	04 22 06.8	+0.3
CKRC	Cesky Krumlov	38.62	314	eP	P	04 22 06.8	+0.3
BIOA	Bad Ischl, Aus	38.75	312	i P	P	04 22 07.1	-0.6
	comp=Z,1.0nm,0.2s						
KBA	Koelnbreinsper	38.80	311	i P	P	04 22 08.2	-0.1
	comp=Z,1.3nm,0.5s						
ZVC	Zvikov	38.87	315	eP	P	04 22 08.2	-0.4
FINES	FINESS Array B	39.05	337	P	P	04 22 09.1	-0.8
	comp=Z,1.0nm,0.5s,baz=139,slow=9.2,SNR=14						
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	39.05	337	P	P	04 22 09.7	-0.2
KHC	Kasperske Hory	39.16	314	P	P	04 22 10.5	-0.6
KHC				IAmb	IAmb	04 22 12.0	
	comp=Z,14nm,1.5s						
KHC	Kasperske Hory	39.16	314	eP	P	04 22 10.6	-0.6
KHC	Kasperske Hory	39.16	314	i P	P	04 22 09.4	-1.7
KHC				pmax	pmax		
	comp=Z,19nm,1.5s						
ABTA	Abfaltersbach	39.29	310	i P	P	04 22 11.7	-0.5
	comp=Z,0.4nm,0.3s						
LESA	Schwarzleotal	39.33	311	i P	P	04 22 11.8	-0.8
	comp=Z,1.1nm,0.4s						
PZH	PanZhiHua	39.47	82	P	P	04 22 15.8	+1.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,70nm,3.9s						
LZH	Lanzhou	39.97	67	eP	P	04 22 20.9	+2.7
LZH				pP	sP	04 22 26.4	+3.4
LZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WTTA	Wattenberg	39.98	311	i P	P	04 22 17.0	-1.1
	comp=Z,3.0nm,0.5s						
CLL	Collm	40.15	317	i P	P	04 22 19.2	0.0
CLL				i		04 22 22.3	
CLL				pmax	pmax		
	comp=Z,6.0nm,1.2s						
CLL	Collm	40.15	317	i P	P	04 22 19.2	0.0
	comp=Z,6.0nm,1.2s						
CLL				i pP	pP	04 22 22.3	-0.4
SQTA	Sankt Quirin	40.26	311	i P	P	04 22 19.2	-1.1
	comp=Z,4.0nm,0.4s						
MOTA	Moosalm	40.35	311	i P	P	04 22 20.2	-0.9
	comp=Z,1.5nm,0.4s						
FETA	Feichten	40.54	310	i P	P	04 22 21.6	-1.1
	comp=Z,1.4nm,0.5s						
RETA	Reutte	40.61	311	i P	P	04 22 21.4	-1.7
	comp=Z,1.2nm,0.4s						
FUORN	Ofenpass-Fuorn	40.78	310	P	P	04 22 24.3	-0.6
FUORN				IAmb	IAmb	04 23 05.1	
	comp=Z,6.9nm,1.4s						
DAVA	Damuels	41.16	311	i P	P	04 22 26.4	-1.4
	comp=Z,5.5nm,0.5s						
TUE	Stuetta	41.38	309	P	P	04 22 29.6	-0.2
TUE				IAmb	IAmb	04 22 30.0	
	comp=Z,2.9nm,0.7s						
SONM	Songino Array	42.58	49	P	P	04 22 36.7	-2.8
	comp=Z,0.8nm,0.6s,baz=65,slow=14,SNR=4.0						
	comp=Z,0.8nm,0.6s						
SENIN	Lac Senin/Sane	42.77	309	P	P	04 22 40.4	-0.7
ULN	Ulaanbaatar	43.03	49	i P	P	04 22 42.5	-0.6
ULN				pmax	pmax		
	comp=Z,6.0nm,2.1s						
BNI	Bardonecchia	43.06	307	P	P	04 22 42.6	-0.8
BNI				IAmb	IAmb	04 22 47.3	
	comp=Z,7.6nm,1.1s						
BNI	Bardonecchia	43.06	307	P	P	04 22 42.6	-0.8
BNI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HFS	Hagfors	43.22	330	P	P	04 22 40.2	-4.0
	comp=Z,1.4nm,0.7s,baz=107,slow=9.2,SNR=2.6						
SSB	Saint Sauveur	44.59	307	P	P	04 22 54.4	-1.2
SSB	Saint Sauveur	44.59	307	P	P	04 22 54.4	-1.2
SSB				pmax	pmax		
	comp=Z,20nm,1.4s						
NRIK	Noril'sk	44.70	15	i P	P	04 22 54.9	-1.1
NRIK				pmax	pmax		
	comp=Z,9.0nm,1.5s						
ARCES	ARCESS Array B	45.13	345	P	P	04 22 59.2	-0.2
	comp=Z,2.9nm,0.9s,baz=147,slow=8.7,SNR=7.5						
	comp=Z,2.9nm,0.9s						
HHC	Hu-ho-hao-te	45.86	59	eP	P	04 23 06.8	+1.0
HHC				pmax	pmax		
	comp=Z,16nm,0.5s						
HHC				pmax	pmax		
	comp=Z,92nm,5.3s						
CART	Cartagena	48.99	297	P	P	04 23 27.2	-2.8
EKA	Eskdalemuir Ar	50.45	320	P	P	04 23 39.8	-1.1
	comp=Z,0.3nm,0.3s,baz=98,slow=7.2,SNR=6.1						
	comp=Z,0.3nm,0.3s						
ESDC	Sonseca Array	51.04	300	P	P	04 23 44.2	-1.4
	comp=Z,0.3nm,0.5s,baz=75,slow=6.6,SNR=4.6						
	comp=Z,0.3nm,0.5s						
TORD	Torodi Ar. Bea	53.57	266	P	P	04 24 02.8	-1.9
	comp=Z,1.3nm,0.5s,baz=61,slow=7.6,SNR=18						
	comp=Z,1.3nm,0.5s						
KBS	Kingsbay	54.35	350	P	P	04 24 10.8	+1.3
KBS	Kingsbay	54.35	350	P	P	04 24 10.8	+1.3
KBS				pmax	pmax		
	comp=Z,113nm,1.5s						
TIXI	Tiksi	57.66	21	P	P	04 24 33.0	-0.2
TIXI				IAmb	IAmb	04 24 33.8	
	comp=Z,3.1nm,0.6s						
TIXI	Tiksi	57.66	21	P	P	04 24 33.0	-0.2
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SUMG	Summit	64.92	341	P	P	04 25 22.7	-0.2
SUMG	Summit	64.92	341	P	P	04 25 22.7	-0.2
SUMG				pmax	pmax		
	comp=Z,13nm,1.3s						
B20K	Meade River	78.91	11	P	P	04 26 46.0	-0.4
B22K	Teshekpuk Lake	79.23	10	P	P	04 26 48.2	+0.1
B22K				IAmb	IAmb	04 27 05.3	
	comp=Z,7.3nm,1.1s						
B21K	Ikpikpuk River	79.68	11	P	P	04 26 50.2	-0.4
A36M	Sachs Harbour	79.97	1	P	P	04 26 51.6	-0.5
A36M				IAmb	IAmb	04 26 53.5	
	comp=Z,4.4nm,0.9s						
C23K	Itkillik River	80.11	9	P	P	04 26 52.6	-0.3
D22K	Ayikyak River	80.66	11	P	P	04 26 55.7	-0.2
D22K				IAmb	IAmb	04 27 27.8	
	comp=Z,7.1nm,1.4s						
D23K	Nanushuk River	80.89	10	P	P	04 26 57.4	+0.2
E19K	Redstone River	81.11	13	P	P	04 26 57.6	-0.8
C27K	Jago River	81.19	7	P	P	04 26 59.2	+0.5
C27K				IAmb	IAmb	04 27 33.1	
	comp=Z,2.5nm,1.2s						
TOLK	Toolik Lake Re	81.36	10	P	P	04 26 59.4	-0.4
E23K	Chandalar	81.89	10	P	P	04 27 02.9	+0.3
E23K				IAmb	IAmb	04 27 36.8	
	comp=Z,6.9nm,1.4s						
E24K	Your Creek	82.04	9	P	P	04 27 03.5	+0.2
E24K				IAmb	IAmb	04 27 06.2	
	comp=Z,4.9nm,1.3s						
C36M	Paulatuk	82.64	0	P	P	04 27 05.0	-1.3
F24K	Squaw Lake	82.64	9	P	P	04 27 06.8	+0.4
F24K				IAmb	IAmb	04 27 21.2	
	comp=Z,6.9nm,1.5s						
ILAR	Eielson Array	85.36	10	P	P	04 27 18.6	-1.7
	comp=Z,0.2nm,0.6s,baz=316,slow=3.9,SNR=4.1						
	comp=Z,0.2nm,0.6s						
WRA	Warramunga Arr	88.63	113	P	P	04 27 36.0	-0.9
	comp=Z,0.8nm,0.9s,baz=315,slow=4.0,SNR=7.4						
	comp=Z,0.8nm,0.9s						

*CATAC **06** 04:14:44.9±0.5, 12°.28N×89°.05W, h0km, ML3.6*
*SNET **06** 04:14:49.4±1.0, 12°.52N×89°.01W, h15km, ML3.6, Fault plane solution: NP1:φs195.50000°, δ69.50000°, λ-34.60000°.*

ISC 06 04:14:48.2±1.4, 12°.49N±0°.07×89°.04W±0°.04, h10km, n52, σ1s58/70, 6C-6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	1.03	344	i P	Pn	04 15 07.8	-0.9
LALI	Alcalda de L	1.03	344	i P	Pn	04 15 08.2	-0.5
LALI				i S	Sg	04 15 19.8	-1.6
LALI				IAML		04 15 39.6	
	comp=Z,200nm,1.0s						
TECO	Alcaldia de Te	1.07	13	eP	Pn	04 15 08.3	-0.9
TECO	Alcaldia de Te	1.07	13	i P	Pb	04 15 08.2	-0.6
TECO				IAML		04 15 16.5	
	comp=Z,380nm,1.0s						
TECA	Tecapa	1.12	28	eP	Pn	04 15 09.4	-0.8
LFRS	El Faro	1.12	359	i P	Pn	04 15 09.3	-0.8
LOMA	Loma Larga	1.15	353	i P	Pn	04 15 09.9	-0.6
LOMA	Loma Larga	1.15	353	i P	Pn	04 15 10.0	-0.6
LOMA				i S	Sn	04 15 32.4	+6.0
LOMA				IAML		04 15 37.3	
	comp=Z,580nm,1.0s						
UESV	Universidad de	1.16	12	e	Pn	04 15 09.8	-0.8
UESV				eP	Pn	04 15 09.8	-0.8
UESV	Universidad de	1.16	12	i P	Pn	04 15 09.7	-0.8
UESV				i S	Sn	04 15 30.3	+3.8
UESV				IAML		04 15 36.9	
	comp=Z,600nm,1.0s						
LCY	Lacayo	1.17	38	eP	Pg	04 15 10.2	-0.6
RANC	El Ranchito	1.19	38	eP	Pg	04 15 10.3	-0.7
RANC	El Ranchito	1.19	38	i P	Pg	04 15 10.3	-0.7
RANC				i S	Sn	04 15 27.9	+0.6
RANC				IAML		04 15 39.6	
	comp=Z,740nm,1.0s						
VSM	San Miguel	1.19	39	eP	Pg	04 15 10.8	-0.3
PAVA	Las Pavas	1.22	5	eP	Pb	04 15 10.7	-0.7
PAVA	Las Pavas	1.22	5	i P	Pb	04 15 10.7	-0.7
PAVA				i S	Sn	04 15 29.3	+1.3
PAVA				IAML		04 15 38.5	
	comp=Z,1μm,1.0s						
JAYA	Jayaque - finc	1.22	341	eP	Pb	04 15 10.6	-0.9
JAYA				eS	Sn	04 15 28.0	-0.3
JAYA	Jayaque - finc	1.22	341	i P	Pb	04 15 10.6	-0.9
JAYA				i S	Sn	04 15 29.9	+1.7
JAYA				IAML		04 15 31.0	
	comp=Z,2μm,1.0s						
BLLM	Bellamira	1.22	39	i P	Pb	04 15 10.9	-0.6
SCLA	Alcaldia de Sa	1.24	14	eP	Pg	04 15 11.2	-0.8
SCLA	Alcaldia de Sa	1.24	14	i P	Pb	04 15 11.1	-0.6
SCLA				IAML		04 15 12.1	
	comp=Z,330nm,1.0s						
SCLA				i S	Sb	04 15 25.9	-1.9
PMON	Piamonte	1.24	347	eP	Pb	04 15 11.1	-0.8
PMON	Piamonte	1.24	347	i P	Pb	04 15 11.0	-0.8
PMON				i S	Sn	04 15 33.1	+4.5
PMON				IAML		04 15 44.3	
	comp=Z,1μm,1.0s						
LFU	La Fuente	1.25	357	i P	Pg	04 15 11.6	-0.7
BOQS	Boqueron	1.26	349	i P	Pg	04 15 11.6	-0.8
PIC2	El Picacho	1.26	350	eP	Pg	04 15 11.8	-0.7
CEDA	San Andres	1.35	345	i P	Pn	04 15 12.4	-0.7
LCND	La Caada	1.38	54	eP	Pn	04 15 13.0	-0.6
LCND	La Caada	1.38	54	i P	Pn	04 15 12.5	-1.1
LCND				i S	Sg	04 15 37.1	+4.4
LCND				IAML		04 15 39.8	
	comp=Z,650nm,1.0s						
CNCH	Conchagua	1.41	56	eP	Pn	04 15 13.2	-0.8
CNCH	Conchagua	1.41	56	i P	Pn	04 15 13.2	-0.8
CNCH				i S	Sg	04 15 33.1	-0.5
CNCH				IAML		04 15 44.7	
	comp=Z,1μm,1.0s						
CEVE	Cerro Verde	1.45	337	i P	Pb	04 15 14.7	-0.7
CEVE	Cerro Verde	1.45	337	i P	Pb	04 15 14.4	-1.0
CEVE				i S	Sg	04 15 38.7	+3.9
CEVE				IAML		04 15 49.4	
	comp=Z,990nm,1.0s						
SNJE	San Jose	1.48	338	eP	Pn	04 15 14.3	-0.7
CAHU	Cacacuatique	1.50	32	i P	Pb	04 15 15.7	-0.7
CSGN	Cosiguina Volc	1.52	71	i P	Pn	04 15 14.2	-1.3
CSGN				IAML		04 15 52.4	
	comp=Z,120nm,1.0s						
UNIC	Universidad Ca	1.56	341	eP	Pb	04 15 16.1	-1.1
UNIC	Universidad Ca	1.56	341	i P	Pb	04 15 16.4	-0.9
UNIC				i S	Sg	04 15 41.2	+2.7
UNIC				IAML		04 15 42.7	
	comp=Z,320nm,1.0s						
NUBE	Las Nubes	1.58	333	eP	Pn	04 15 15.4	-1.0
NUBE				eS	Sb	04 15 37.4	-0.3
NUBE	Las Nubes	1.58	333	i P	Pn	04 15 16.0	-0.4
NUBE				i S	Sg	04 15 38.1	-0.9
NUBE				IAML		04 15 44.0	
	comp=Z,720nm,1.0s						
SLOZ	Alcaldia de Sa	1.69	335	eP	Pb	04 15 18.2	-1.2
MTO3	Montecristo	1.92	351	eP	Pn	04 15 21.4	+0.1
MTO3	Montecristo	1.92	351	i P	Pn	04 15 21.3	+0.1
MTO3				IAML		04 15 24.9	
	comp=Z,190nm,1.0s						
MTO3				i S	Sg	04 15 48.6	-1.4
CRIN	San Cristobal	1.95	84	i P	Pn	04 15 20.5	-0.9
CRIN				i S	Sn	04 15 32.4	-14
CRIN				IAML		04 16 04.5	
	comp=Z,920nm,1.0s						
ESQI	Esquipulas	2.08	352	i P	Pb	04 15 24.6	-1.5
ESQI				IAML		04 15 59.3	
	comp=Z,470nm,1.0s						
PACN	Al O del Volca	2.19	90	i P	Pn	04 15 22.8	-1.9
PACN				i S	Sn	04 15 51.1	-0.8
PACN				IAML		04 15 56.8	
	comp=Z,380nm,1.0s						
TGUH	Tegucigalpa,Un	2.32	48	i P	Pn	04 15 26.4	-0.1
TGUH				IAML		04 16 10.6	
	comp=Z,330nm,1.0s						
COPN	Copaltepe	2.41	97	i P	Pn	04 15 28.8	+1.1
LIMN	Finca el Limon	2.67	77	i P	Pn	04 15 29.9	-1.4
LIMN				IAML		04 16 16.9	
	comp=Z,88nm,1.0s						
RCVN	Varillal2	2.97	68	i P	Pn	04 15 34.6	-1.0
RCVN				IAML		04 15 44.0	
	comp=Z,1μm,1.0s						
RCPN	Sur Rio San Ju	3.04	70	i P	Pn	04 15 36.9	+0.3
LCR2	La Lucha 2	5.64	118	i P	Pn	04 16 14.1	+1.7

*NAO **06** 04:44:36.9, 37°.18N×24°.41E, h10km, mb3.5*
*IDC **06** 04:44:42.9±1.1, 38°.07N×20°.93E, h0km, mb3.6/9, mbtmp3.5/16, ML3.5/5, MS3.1/7, Error ellipse: s-maj=20.9km s-min=17.3km az=144.0*
*ATH **06** 04:44:44.1, 37°.39N×20°.56E, h6km, ML3.6/15, Error ellipse: s-maj=1.5km s-min=0.7km az=57.0*
*THE **06** 04:44:44.2, 37°.40N×20°.57E, h4km±1km, ML3.9/9, Error ellipse: s-maj=1.6km s-min=0.6km az=45.0*

ISC 06 04:44:43.9±1.3, 37°.40N±0°.04×20°.56E±0°.04, h15km±8km, n86, σ1s29/101, mb3.7/9, MS3.0/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.33	38	P	Pg	04 44 50.7	-0.2
KRI1				S	Sg	04 44 55.0	-0.6
	27μm,0.4s						
LTHK	Lithakia	0.38	35	P	Pg	04 44 51.6	-0.1
LTHK				S	Sg	04 44 56.8	-0.1
	24μm,0.4s						
LTHK	Lithakia	0.38	35	P	Pg	04 44 51.5	-0.1

SMHA AML AML 04 45 17.2
comp=N,33963μm,0.4s
AMT Artemida-Makis 0.92 81 P **Pg 04 45 01.5 -0.4**
AMT S **Sg 04 45 14.1 +0.1**
AMT AML AML 04 45 20.5
comp=E,10853μm,0.4s
AMT AML AML 04 45 20.8
comp=N,12996μm,0.3s
RLS Riolos of Patr 0.97 47 P **Pg 04 45 02.1 -0.7**
RLS S **Sb 04 45 16.1 +0.9**
comp=N,2μm,1.0s
RLS Riolos of Patr 0.97 47 P **Pg 04 45 02.1 -0.7**
RLS S **Sg 04 45 15.8 +0.2**
RLS AML AML 04 45 21.1
comp=E,3410μm,0.8s
RLS AML AML 04 45 23.0
comp=N,2554μm,0.5s
VSK1 VASILIKIADES 1.01 0 P **Pg 04 45 02.8 -0.7**
VSK1 S **Sb 04 45 17.7 +1.5**
comp=N,7μm,0.9s
FSK Fiskardo 1.06 0 P **Pg 04 45 03.6 -0.8**
FSK S **Sb 04 45 19.6 +2.0**
comp=N,4μm,0.9s
FSK Fiskardo 1.06 0 P **Pg 04 45 03.9 -0.5**
FSK S **Sg 04 45 18.7 +0.5**
FSK AML AML 04 45 23.6
comp=N,9192μm,0.9s
FSK AML AML 04 45 26.9
comp=E,7522μm,0.5s
DRO Drossia 1.07 58 P **Pg 04 45 03.9 -0.7**
DRO Drossia 1.07 58 P **Pg 04 45 03.7 -0.9**
DRO S **Sg 04 45 18.4 -0.1**
DRO AML AML 04 45 25.6
comp=N,6099μm,0.4s
DRO AML AML 04 45 28.4
comp=E,4584μm,0.3s
PYL PYLOS 1.07 118 P **Pg 04 45 04.1 -0.5**
PYL PYLOS 1.07 118 P **Pg 04 45 04.1 -0.5**
PYL S **Sg 04 45 18.2 -0.4**
PYL AML AML 04 45 26.9
comp=E,2587μm,0.6s
PYL AML AML 04 45 27.9
comp=N,1328μm,0.5s
ITM Ithomi 1.11 101 P **Pg 04 45 05.2 -0.2**
ITM Ithomi 1.11 101 P **Pg 04 45 05.2 -0.2**
ITM S **Sg 04 45 19.8 -0.2**
ITM AML AML 04 45 29.5
comp=N,1544μm,0.4s
ITM AML AML 04 45 29.7
comp=E,2512μm,0.7s
EVGI Lefkada island 1.22 4 P **Pg 04 45 06.7 -0.8**
EVGI Lefkada island 1.22 4 P **Pg 04 45 06.6 -1.0**
EVGI S **Sb 04 45 23.8 +1.4**
DRAG Dragano-Lefkad 1.28 0 P **Pg 04 45 07.5 -1.2**
DRAG Dragano-Lefkad 1.28 0 P **Pg 04 45 07.5 -1.2**
DRAG S **Sg 04 45 25.2 -0.2**
UPR University Cam 1.31 47 P **Pn 04 45 08.4 +0.7**
UPR S **Sg 04 45 25.5 -0.9**
NYDR Nydri-Lefkada 1.32 5 P **Pn 04 45 08.0 +0.2**
NYDR Nydri-Lefkada 1.32 5 P **Pn 04 45 08.2 +0.4**
NYDR S **Sg 04 45 25.4 -1.1**
LKD2 Lefkada island 1.39 3 P **Pn 04 45 10.1 +1.3**
LKD2 Lefkada island 1.39 3 P **Pn 04 45 09.7 +0.9**
LKD2 S **Sg 04 45 27.0 -1.8**
LKD2 AML AML 04 45 40.4
comp=E,4713μm,0.6s
LKD2 AML AML 04 45 41.7
comp=N,4238μm,1.0s
KLV Kalavryta, Ach 1.42 62 P **Pn 04 45 09.8 +0.6**
KLV Kalavryta, Ach 1.42 62 P **Pn 04 45 09.7 +0.6**
KLV S **Sb 04 45 28.5 +0.5**
KLV AML AML 04 45 42.4
comp=N,1291μm,0.9s
KLV AML AML 04 45 45.0
comp=E,945μm,0.7s
TSLK Tsoukalades, L 1.43 3 P **Pn 04 45 10.0 +0.7**
TSLK Tsoukalades, L 1.43 3 P **Pn 04 45 10.1 +0.7**
TSLK S **Sb 04 45 29.0 +0.8**
TSLK AML AML 04 45 35.2
comp=E,4453μm,0.5s
TSLK AML AML 04 45 37.0
comp=N,4536μm,0.6s
EFP Efpalio 1.48 46 P **Pn 04 45 10.5 +0.5**
EFP Efpalio 1.48 46 P **Pn 04 45 10.7 +0.7**
EFP S **Sb 04 45 30.2 +0.5**
EFP AML AML 04 45 42.7
comp=N,1280μm,0.7s
EFP AML AML 04 45 43.5
comp=E,2130μm,0.7s
GUR Goura 1.51 69 P **Pn 04 45 10.9 +0.3**
GUR Goura 1.51 69 P **Pn 04 45 11.1 +0.5**
GUR S **Sn 04 45 30.0 -0.1**
GUR AML AML 04 45 45.7
comp=E,2048μm,0.6s
GUR AML AML 04 45 46.7
comp=N,2273μm,0.6s
KALE Kalithea 1.59 51 P **Pn 04 45 12.5 +0.9**
ANX Ano Chora 1.61 42 P **Pn 04 45 13.2 +1.3**
ANX Ano Chora 1.61 42 P **Pn 04 45 13.1 +1.2**
IGT Igoumenitsa 2.14 355 P **Pn 04 45 20.9 +1.9**
AXAR Agios Charalam 2.15 50 P **Pn 04 45 20.3 +1.0**
VIL2 Platees 2.29 68 P **Pn 04 45 22.8 +1.6**
OHR Ohrid 3.71 3 *i* Pn **Pn 04 45 43.5 +2.7**
IDI Anoyia 4.08 120 Pn **Pn 04 45 50.1 +4.3**
comp=N,18nm,1.1s,baz=315,slow=16,SNR=2.0
IDI Sn **Sn 04 46 32.5 -0.8**
comp=N,1.2nm,0.3s,baz=347,slow=13,SNR=1.9
VAE Valguarnera 4.89 273 Pn Pn 04 46 03.8 +6.8
comp=N,7.5nm,0.6s,baz=2.9,slow=17,SNR=1.8
VAE Sn **Sn 04 46 53.1 -0.3**
comp=N,4.9nm,0.3s,baz=24,slow=23,SNR=2.9
PDG Podgorica 5.12 349 *e*Pn **Pn 04 46 00.3 +0.2**
HCY Herceg Novi 5.29 343 *e*Pn **Pn 04 46 01.5 -0.9**
TREB Trebinje 5.58 343 *e*Pn **Pn 04 46 07.2 +0.9**
BRY Bratogost 5.71 345 *e*Pn **Pn 04 46 06.8 -1.5**
SJES Sjenica 5.87 356 *e*Pn **Pn 04 46 10.1 -0.4**
STON Ston 5.89 339 *e*Pn **Pn 04 46 09.2 -1.4**
UPM Unac-Piva 5.93 348 *e*Pn **Pn 04 46 11.7 +0.3**
RUDO Rudo 6.28 352 *e*Pn **Pn 04 46 14.8 -1.2**
HAPS Han Pijesak,BI 6.79 350 *e*Pn **Pn 04 46 23.4 +0.3**
TEKS Tekeris 7.19 354 *e*Pn **Pn 04 46 27.6 -0.8**
A050A Klekovaca 7.70 338 *e*Pn **Pn 04 46 36.5 +0.9**
BLY Banja Luka 7.77 342 *e*Pn **Pn 04 46 37.7 +1.2**
A051A Mrakovica 8.09 341 *e*Pn **Pn 04 46 39.1 -1.8**
MLR Muntele Rosu 9.04 25 Pn Pn 04 46 45.3 -8.6
baz=162,slow=10,SNR=3.0
comp=N,0.3nm,0.3s
KEST Kesra 9.18 263 Pn Pn 04 47 03.9 +8.1
comp=N,0.2nm,0.3s,baz=90,slow=20,SNR=2.7
comp=N,2.7nm,0.7s
GERES GERESS Array B 12.48 339 Pn Pn 04 47 35.2 -5.8
comp=N,0.2nm,0.3s,baz=154,slow=16,SNR=2.2
comp=N,0.3nm,0.3s
AKASG Malin Array Be 14.67 22 Pn Pn 04 48 02.2 -8.5
comp=N,0.3nm,0.3s,baz=210,slow=8.9,SNR=1.2
comp=N,0.1nm,0.3s
CLL Collm 14.91 341 *es*P **P 04 48 22.0 +2.4**
GNI Garni 19.04 74 LR LR 04 57 13.0
comp=N,31nm,20.0s,baz=285,slow=40
ESDC Sonseca Array 19.31 284 P **P 04 49 10.0 +1.6**
comp=N,0.1nm,0.3s,baz=81,slow=9.7,SNR=3.1
comp=N,1.2nm,0.9s
MDT Midelt 21.07 265 LR LR 04 59 04.5
comp=N,36nm,18.7s,baz=24,slow=40
HFS Hagfors 23.17 351 P **P 04 49 45.7 -4.0**
comp=N,2.9nm,0.9s,baz=152,slow=13,SNR=2.1
comp=N,2.9nm,0.9s
EKA Eskdalemuir Ar 24.09 326 P **P 04 49 56.2 -2.4**
comp=N,1.6nm,0.8s,baz=111,slow=7.1,SNR=1.9
comp=N,1.6nm,0.8s
BELG Belogornoye 24.14 43 LR LR 04 59 44.0
comp=N,42nm,19.4s,baz=296,slow=38
FINES FINESS Array B 24.32 6 P **P 04 49 56.0 -4.7**
comp=N,4.2nm,1.2s,baz=219,slow=12,SNR=1.7
comp=N,4.2nm,1.2s
NB2 NORSAR Subarra 24.39 349 P **P 04 50 02.6 +1.2**
comp=Z,0.7nm,0.7s,baz=155,slow=9.3
NOA NORSAR Array B 24.39 349 P **P 04 49 57.1 -4.3**
comp=Z,0.6nm,0.9s,baz=182,slow=9.5,SNR=1.3
comp=Z,0.6nm,0.9s
KIRV Kirov 28.29 32 LR LR 05 01 15.0
comp=Z,66nm,20.3s,baz=339,slow=36
TORD Torodi Ar. Bea 29.45 220 P P 04 50 53.5 +6.3
comp=Z,0.3nm,0.7s,baz=15,slow=7.9,SNR=1.4
comp=Z,0.3nm,0.7s

AKTO Aktyubinsk 29.63 52 LR LR 05 06 28.0
comp=Z,26nm,18.1s,baz=40,slow=45
ARTI Arti 31.52 41 LR LR 05 04 58.9
comp=Z,78nm,18.4s,baz=344,slow=40
ARCES ARCESS Array B 32.31 3 P P 04 51 07.7 -4.2
comp=Z,4.4nm,1.1s,baz=196,slow=9.4,SNR=2.1
comp=Z,4.4nm,1.1s
DBIC Dimbokro 38.34 223 LR LR 05 08 27.5
comp=Z,29nm,18.0s,baz=73,slow=36
KURBB Kurchatov Arra 42.67 53 P P 04 52 36.3 -3.5
comp=Z,0.2nm,0.3s,baz=294,slow=9.2,SNR=1.3
comp=Z,0.2nm,0.3s
MKAR Makanchi Array 45.69 58 P P 04 52 59.6 -4.4
comp=Z,0.3nm,0.5s,baz=269,slow=7.2,SNR=1.7
comp=Z,0.3nm,0.5s
ZALV Zalesovo Beam 46.19 48 P P 04 53 02.9 -5.0
comp=Z,0.8nm,0.3s,baz=286,slow=16,SNR=1.3
comp=Z,0.8nm,0.3s

ROM 06 04:45:51.8±0.2, 41°.874N±0°.009×14°.88E±0°.01, h10km, ML1.7/14, Error ellipse: s-maj=1.2km s-min=0.2km az=216.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRES	**Fresagrandinar**	**0.18**	**303**	P	Pg	04 45 56.9	+1.2
FRES				S	Sg	04 45 59.8	+1.4
FRES				AML	AML		
	comp=E,264μm,0.7s						
FRES				AML	AML		
	comp=N,199μm,0.9s						
FRES				AML	AML		
	comp=E,264μm,1.3s						
CIGN	**Sant'Elia a Pi**	**0.22**	**175**	P	Pg	04 45 57.0	+0.6
CIGN				S	Sg	04 46 00.4	+1.0
CIGN				AML	AML		
	comp=E,96μm,0.4s						
CIGN				AML	AML		
	comp=N,76μm,1.6s						
CIGN				AML	AML		
	comp=E,95μm,0.4s						
MELA	**Melanico ??? S**	**0.25**	**132**	P	Pg	04 45 57.6	+0.7
MELA				S	Sb	04 46 02.4	-0.4
MELA				AML	AML		
	comp=N,473μm,0.3s						
MELA				AML	AML		
	comp=N,442μm,0.2s						
MELA				AML	AML		
	comp=E,484μm,0.2s						
MELA				AML	AML		
	comp=N,473μm,0.2s						
MELA				AML	AML		
	comp=E,510μm,0.4s						
MELA				AML	AML		
	comp=E,510μm,1.6s						
MELA				AML	AML		
	comp=N,473μm,1.8s						
MELA				AML	AML		
	comp=N,442μm,1.8s						
TRIV	**Trivento**	**0.27**	**246**	P	Pg	04 45 57.9	+0.7
TRIV				AML	AML		
	comp=E,80μm,0.5s						
TRIV				AML	AML		
	comp=N,115μm,0.4s						
GATE	**Gambatesa**	**0.36**	**176**	P	Pb	04 46 00.0	-0.3
BSSO	**Busso**	**0.39**	**213**	P	Pg	04 45 59.8	+0.3
BSSO				S	Sb	04 46 06.5	-0.5
BSSO				AML	AML		
BSSO				AML	AML		
BSSO				AML	AML		
BSSO				AML	AML		
BSSO				AML	AML		
BSSO				AML	AML		
APRC	**Apricena**	**0.51**	**103**	P	Pg	04 46 01.6	-0.1
APRC				S	Sb	04 46 09.7	-0.7
APRC				AML	AML		
	comp=E,89μm,0.2s						
APRC				AML	AML		
	comp=N,132μm,0.7s						
APRC				AML	AML		
	comp=E,89μm,0.2s						
LPEL	**Lama dei Pelig**	**0.55**	**289**	P	Pg	04 46 02.5	+0.1
LPEL				S	Sb	04 46 10.7	-0.8
LPEL				AML	AML		
	comp=E,95μm,1.0s						
LPEL				AML	AML		
	comp=E,95μm,1.0s						
LPEL				AML	AML		
	comp=N,116μm,0.2s						
INTR	**Introdacqua**	**0.74**	**281**	P	Pg	04 46 05.2	-0.8
INTR				S	Sg	04 46 16.1	+0.4
INTR				AML	AML		
	comp=E,27μm,0.1s						
INTR				AML	AML		
	comp=N,69μm,0.1s						

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*JMA **06** 04:49:42.1±0.1, 29°.3N±0°.4×130°.6E±0°.9, h59km±3km, MV3.3/25, NEAR AMAMI-OSHIMA ISLAND*
*NEIC **06** 04:49:42.9±1.2, 29°.26N±0°.06×130°.5E±0°.1, h35km±6km, mb4.4/31, Error ellipse: s-maj=13.3km s-min=9.1km az=98.0*
*IDC **06** 04:49:43.5±1.5, 29°.3N×130°.49E, h43km±13km, mb3.7/15, mbtmp3.9/20, ML2.9/5, MS3.3/8, Error ellipse: s-maj=20.7km s-min=9.2km az=108.0*
ISC 06 04:49:42.4±0.6, 29°.29N±0°.05×130°.52E±0°.07, h34km, n69, σ0°.92/68, mb4.3/31, MS3.6/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYAK	**Yakushimahirau**	**0.95**	**360**	P	**Pn**	**04 49 59.7**	**+0.4**
JYAK				*e*S	**Sb**	**04 50 13.1**	**+0.4**
JZK	**Kikaishima**	**1.08**	**206**	*e*P	**Pn**	**04 50 01.6**	**+0.5**
JTAJ	**Takarajima**	**1.16**	**264**	P	**Pb**	**04 50 03.4**	**-0.5**
JMTN	**Minamitane**	**1.16**	**17**	P	**Pn**	**04 50 02.3**	**+0.1**
JAM	**Amami Oshima**	**1.18**	**223**	P	**Pn**	**04 50 03.1**	**+0.6**
JTN	**Tanegashima 3**	**1.42**	**16**	P	**Pn**	**04 50 06.0**	**+0.1**
JAMN	**Amaminishikomi**	**1.57**	**229**	*e*P	**Pn**	**04 50 08.5**	**+0.6**
JTSR	**Tashiro 2**	**1.91**	**11**	P	**Pn**	**04 50 13.4**	**+0.8**
JTK	**Tokunoshima**	**2.03**	**223**	P	**Pn**	**04 50 15.2**	**+1.0**
JSU	**Suzuyama**	**2.21**	**359**	P	**Pn**	**04 50 17.3**	**+0.5**
JYRO	**Yoronjima**	**2.90**	**219**	P	**Pn**	**04 50 26.6**	**+0.4**
JOW	**Kunigami**	**3.15**	**220**	Pn	**Pn**	**04 50 29.3**	**-0.2**
JOW	**Kunigami**	**3.15**	**220**	P	**Pn**	**04 50 29.0**	**-0.6**
	1.9nm,0.3s,baz=72,slow=19,SNR=2.1						
JOW				S	**Sn**	**04 51 07.7**	**+1.7**
	43nm,0.6s,baz=62,slow=18,SNR=4.0						
	7.3nm,0.4s						
JMZ	**Minamidaito 2**	**3.51**	**170**	Pn	**Pn**	**04 50 34.3**	**-0.2**
JNU	**Nakatsue**	**3.84**	**5**	Pn	**Pn**	**04 50 39.6**	**+0.5**
JNU	**Nakatsue**	**3.84**	**5**	P	**Pn**	**04 50 40.3**	**+1.2**
	1.6nm,0.3s,baz=173,slow=6.8,SNR=15						
JNU				S	**Sn**	**04 51 23.7**	**+0.7**
	21nm,0.9s,baz=221,slow=21,SNR=1.3						
JNU				LR	LR	04 51 57.2	
	comp=Z,61nm,19.9s,baz=156,slow=35						
	17nm,0.7s						
JMN	**Monobe**	**5.28**	**32**	Pn	**Pn**	**04 50 58.8**	**-0.1**
KSRS	**Korea Array**	**8.43**	**346**	P	**Pn**	**04 51 42.8**	**+0.7**
	0.3nm,0.3s,baz=169,slow=12,SNR=1.4						
KSRS				LR	LR	04 55 15.8	
	comp=Z,121nm,19.6s,baz=165,slow=40						
	1.1nm,0.6s						
MJAR	**Matsushiro Arr**	**9.70**	**40**	P	**Pn**	**04 52 01.4**	**+1.9**
	baz=223,slow=14,SNR=1.6						
	0.8nm,0.4s						
ASAJ	**Asahikawa**	**17.66**	**30**	LR	LR	05 00 49.3	
	comp=Z,51nm,21.9s,baz=302,slow=38						
KLR	**Kul'dur**	**19.94**	**2**	P	**P**	**04 54 10.2**	**-1.1**
	0.2nm,0.3s,baz=172,slow=8.2,SNR=14						
KLR				LR	LR	05 02 23.5	
	comp=Z,77nm,18.4s,baz=236,slow=38						
	3.6nm,0.7s						
SONM	**Songino Array**	**26.26**	**322**	P	**P**	**04 55 13.5**	**-1.0**
	0.9nm,0.7s,baz=145,slow=10,SNR=4.8						
SONM				LR	LR	05 07 00.8	
	comp=Z,113nm,19.0s,baz=147,slow=40						
	0.9nm,0.7s						
MK31	**Makanchi Array**	**41.11**	**309**	P	**P**	**04 57 22.2**	**-0.8**
MKAR	**Makanchi Array**	**41.11**	**309**	P	**P**	**04 57 23.2**	**+0.2**
	0.4nm,0.4s,baz=89,slow=11,SNR=7.6						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**41.13**	**320**	P	**P**	**04 57 22.7**	**-0.4**
	0.9nm,0.3s,baz=118,slow=8.3,SNR=1.7						
	0.9nm,0.3s						

KURK Kurchatov 44.08 314 P **P 04 57 47.3 +0.3**
KURK IAmb IAmb 04 57 48.1
comp=Z,5.7nm,0.7s
KURBB Kurchatov Arra 44.12 314 P **P 04 57 47.5 +0.1**
comp=Z,4.5nm,0.7s,baz=102,slow=8.8,SNR=26
comp=Z,4.5nm,0.7s
AAK Ala-Archa 46.47 302 LR LR 05 20 17.7
comp=Z,42nm,18.3s,baz=17,slow=40
NRIK Noril'sk 47.01 341 P **P 04 58 08.8 -1.1**
comp=Z,2.8nm,0.6s,baz=128,slow=10.0,SNR=7.2
comp=Z,2.8nm,0.6s
WRA Warramunga Arr 49.08 175 P **P 04 58 26.6 +0.1**
comp=Z,0.3nm,0.7s,baz=355,slow=8.3,SNR=2.1
comp=Z,0.3nm,0.7s
KKAR Karatay Array 49.37 303 P **P 04 58 28.3 -0.3**
BVAR Borovoye Array 49.41 316 P **P 04 58 28.8 +0.1**
comp=Z,4.6nm,0.6s,baz=91,slow=9.0,SNR=23
comp=Z,4.6nm,0.6s
BRVK Borovoye 49.47 316 P **P 04 58 28.9 -0.3**
ASAR Alice Springs 52.75 176 P **P 04 58 54.8 +0.7**
comp=Z,0.2nm,0.3s,baz=10,slow=13,SNR=7.0
comp=Z,0.2nm,0.3s
ABKAR Akbulak array 56.08 312 P **P 04 59 18.7 +0.6**
ARTI Arti 56.39 321 LR LR 05 26 13.9
comp=Z,66nm,18.5s,baz=40,slow=39
J19K Poorman 57.05 30 P **P 04 59 25.5 +0.8**
J19K IAmb IAmb 04 59 26.6
comp=Z,2.9nm,0.8s
K20K Telida 57.75 31 P **P 04 59 30.0 +0.3**
K20K IAmb IAmb 04 59 39.8
comp=Z,5.8nm,1.3s
SUA Susitna One 59.41 33 P **P 04 59 42.2 +0.7**
F24K Squaw Lake 60.11 26 P **P 04 59 46.5 +0.5**
F24K IAmb IAmb 04 59 48.5
comp=Z,1.8nm,0.7s
ILAR Eielson Array 60.79 29 P **P 04 59 50.2 -0.5**
comp=Z,0.7nm,0.7s,baz=279,slow=6.2,SNR=6.6
comp=Z,0.7nm,0.7s
F26K Sheenjek River 61.52 26 P **P 04 59 57.1 +1.5**
F26K IAmb IAmb 05 00 00.9
comp=Z,4.1nm,1.4s
HIN Hinchinbrook I 61.61 34 P **P 04 59 57.2 +0.8**
DZM Mont Dzumac 61.68 142 P **P 04 59 57.5 +0.1**
SCRK Sand Creek 62.16 30 P **P 05 00 00.2 +0.1**
SCRK IAmb IAmb 05 00 17.5
comp=Z,3.8nm,1.4s
J26L Joseph Creek 62.25 29 P **P 05 00 00.5 -0.1**
J26L IAmb IAmb 05 00 02.0
comp=Z,1.9nm,0.8s
N25K Chitina, Valde 62.31 33 P **P 05 00 00.7 -0.4**
N25K IAmb IAmb 05 00 09.4
comp=Z,6.8nm,1.3s
E27K Coleen River 62.39 25 P **P 05 00 03.1 +1.6**
E27K IAmb IAmb 05 00 04.6
comp=Z,2.2nm,0.8s
G27K Doyon Strip 62.61 26 P **P 05 00 05.1 +2.1**
F28M Old Crow 63.14 25 P **P 05 00 07.0 +0.6**
F28M IAmb IAmb 05 00 08.5
comp=Z,4.3nm,1.2s
BCAR Beaver Creek A 63.30 31 P **P 05 00 08.6 +1.0**
I28M Miner Creek 63.58 28 P **P 05 00 10.2 +0.7**
I28M IAmb IAmb 05 00 26.6
comp=Z,6.1nm,1.4s
G30M tAoh Zraii Nji 64.67 26 P **P 05 00 16.9 +0.4**
G30M IAmb IAmb 05 00 17.8
comp=Z,2.7nm,0.9s
C36M Paulatuk 68.12 22 P **P 05 00 39.2 +0.7**
C36M IAmb IAmb 05 00 49.4
comp=Z,4.4nm,1.1s
KBZ Khabaz 68.81 309 P **P 05 00 45.0 +1.9**
comp=Z,3.2nm,0.8s,baz=106,slow=3.7,SNR=6.7
comp=Z,3.2nm,0.8s
FIA1 FINESS Array S 71.21 331 P **P 05 00 58.3 +0.7**
FINES FINESS Array B 71.21 331 P **P 05 00 56.5 -1.2**
comp=Z,0.4nm,0.3s,baz=50,slow=4.3,SNR=8.6
comp=Z,0.4nm,0.3s
RES Resolute Bay 72.17 11 P **P 05 01 04.1 +0.9**
RES IAmb IAmb 05 01 05.0
comp=Z,2.7nm,0.8s
AKASG Malin Array Be 74.53 320 P **P 05 01 16.8 -0.7**
comp=Z,1.8nm,0.6s,baz=61,slow=6.0,SNR=6.1
comp=Z,1.8nm,0.6s
AKBB Malin Array Si 74.53 320 P **P 05 01 17.4 -0.1**
KIEV Kiev 74.54 320 P **P 05 01 17.6 0.0**
BRTR Keskin Array B 76.75 308 P **P 05 01 30.4 -0.3**
comp=Z,1.5nm,0.8s,baz=110,slow=5.4,SNR=8.2
comp=Z,1.5nm,0.8s
NOA NORSAR Array B 77.46 334 P **P 05 01 33.0 -1.1**
comp=Z,0.5nm,0.7s,baz=50,slow=5.5,SNR=1.6
comp=Z,0.5nm,0.7s
SABO M.te Sabotino 85.81 321 P **P 05 02 18.1 -0.4**
WAKR Walker 86.17 48 P **P 05 02 17.8 -2.8**
WAKR IAmb IAmb 05 02 18.6
comp=Z,4.2nm,1.2s
HLID Hailey 86.27 41 P **P 05 02 21.8 +0.8**
CTI Castel Tesino 86.82 322 P **P 05 02 21.6 -2.0**
CTI IAmb IAmb 05 02 22.8
comp=Z,4.7nm,1.2s
NVAR Mina Array Bea 86.94 47 P **P 05 02 25.4 +1.0**
comp=Z,0.4nm,0.7s,baz=308,slow=6.5,SNR=3.3
comp=Z,0.4nm,0.7s
ESDC Sonseca Array 99.38 326 LR LR 05 52 04.8
comp=Z,65nm,18.3s,baz=350,slow=38

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*NEIC **06** 04:53:01.3±1.0, 61°.39N±0°.03×151°.85W±0°.07, h117km±3km, Error ellipse: s-maj=4.9km s-min=4.4km az=148.0*
*AEIC **06** 04:53:02.4±1.0, 61°.39N±0°.03×151°.83W±0°.07, h111km±3km, ML3.4, ML3.5/230(NEIC), Error ellipse: s-maj=4.8km s-min=4.8km az=98.0*
ISC 06 04:53:01.0±1.2, 61°.37N±0°.04×151°.85W±0°.03, h119km±7km, n478, σ0°.65/493, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCG	**Spurr Capps Gl**	**0.11**	**227**		**Pn**	**04 53 17.4**	**0.0**
SPCG					**Sn**	**04 53 29.0**	**-0.8**
STLK	**Strandline Lak**	**0.13**	**4**		**Pn**	**04 53 17.2**	**-0.2**
STLK					**Sn**	**04 53 28.6**	**-1.2**
SPCP	**Crater Peak Br**	**0.18**	**235**		**Pn**	**04 53 17.8**	**+0.2**
SPU	**Mount Spurr**	**0.21**	**208**		**Pn**	**04 53 17.6**	**0.0**
SPU				Sn	**Sn**	**04 53 29.1**	**-0.9**
SPU				IAML		04 53 30.1	
	comp=E,864nm,0.4s						
SPU				IAML		04 53 30.3	
	comp=N,766nm,0.4s						
SPCN	**Chakachatna No**	**0.21**	**228**		**Pn**	**04 53 17.9**	**+0.3**
N20K	**Mount Spurr**	**0.24**	**226**	P	**Pn**	**04 53 17.6**	**-0.1**
	baz=44						
N20K				S	**Sn**	**04 53 29.9**	**-0.3**
	baz=44						
SPCR	**Spurr Chakacha**	**0.24**	**226**		**Pn**	**04 53 17.6**	**-0.1**
SPCR					**Sn**	**04 53 29.9**	**-0.3**
SPBG	**Spurr Blockage**	**0.27**	**247**		**Pn**	**04 53 18.1**	**+0.3**
CKL	**Chakachamna La**	**0.29**	**234**		**Pn**	**04 53 17.9**	**0.0**
SPWE	**Spurr West**	**0.35**	**255**		**Pn**	**04 53 18.5**	**+0.4**
SPNN	**North Nagishla**	**0.41**	**270**		**Pn**	**04 53 18.7**	**+0.2**
SUA	**Susitna One**	**0.54**	**79**		**Pn**	**04 53 19.8**	**+0.6**
SUA				Sn	**Sn**	**04 53 32.8**	**-0.1**
SUA	**Susitna One**	**0.54**	**79**	P	**Pn**	**04 53 19.6**	**+0.5**
	baz=262						
SUA				S	**Sn**	**04 53 33.2**	**+0.3**
	baz=262						
SKT	**Skwentna**	**0.64**	**14**		**Pn**	**04 53 19.6**	**-0.1**
SKT				Sn	**Sn**	**04 53 32.5**	**-1.3**
SKT				IAML		04 53 33.9	
	comp=E,1μm,0.4s						
SKT				IAML		04 53 34.1	
	comp=N,2μm,0.4s						
SKT	**Skwentna**	**0.64**	**14**	P	**Pn**	**04 53 19.5**	**-0.2**
	baz=194						
CAPN	**Captain Cook N**	**0.69**	**150**		**Pn**	**04 53 22.0**	**+1.9**
CAPN				Sn	**Sn**	**04 53 36.6**	**+2.2**
CAPN	**Captain Cook N**	**0.69**	**150**	P	**Pn**	**04 53 21.9**	**+1.9**
	baz=332						
M20K	**Styx River**	**0.80**	**311**		**Pn**	**04 53 21.1**	**0.0**
M20K				IAML		04 53 36.2	
	comp=E,579nm,0.9s						
M20K				IAML		04 53 36.2	
	comp=N,670nm,0.8s						
M20K	**Styx River**	**0.80**	**311**		**Sn**	**04 53 35.8**	**-0.5**
M20K	**Styx River**	**0.80**	**311**	P	**Pn**	**04 53 21.2**	**0.0**
	baz=128						
M20K				S	**Sn**	**04 53 35.8**	**-0.5**

baz=128
M20K S Sn 04 53 35.8 -0.5
baz=128
RDT Redoubt 0.84 199 Pn 04 53 21.5 0.0
RDT Sn 04 53 36.6 -0.3
RDJH Redoubt Jeurge 0.91 211 Pn 04 53 22.5 +0.3
M22K Willow 0.92 64 Pn 04 53 22.3 +0.3
M22K Willow 0.92 64 P **Pn 04 53 22.2 +0.3**
baz=246
NCT North Crescent 0.96 214 Pn 04 53 23.1 +0.5
NCT Sn 04 53 39.1 +0.1
REF Redoubt East F 0.97 206 Pn 04 53 22.9 +0.1
RDWB Redoubt West 1.00 209 Pn 04 53 23.2 +0.1
RDSO Redoubt South 1.01 206 Pn 04 53 23.3 +0.1
RED Redoubt Volcan 1.05 206 Pn 04 53 23.7 +0.2
RC01 Rabbit Creek A 1.06 104 Pn **Pn 04 53 23.8 +0.3**
RC01 IAML 04 53 42.0
comp=N,1µm,0.3s
RC01 IAML 04 53 42.3
comp=E,994nm,0.4s
RC01 Rabbit Creek A 1.06 104 Sn 04 53 41.4 +0.9
RC01 Rabbit Creek A 1.06 104 P **Pn 04 53 23.7 +0.3**
baz=287
RC01 S **Sn 04 53 41.4 +0.9**
baz=287
SLKM Skilak Lake 1.17 137 Pn 04 53 25.1 +0.4
SLKM Sn 04 53 42.3 -0.4
CUT Chulitna 1.28 35 Pn 04 53 26.1 +0.2
CUT Chulitna 1.28 35 P **Pn 04 53 26.0 +0.2**
baz=217
PMR Palmer 1.33 79 Pn **Pn 04 53 25.7 -0.5**
PMR Palmer 1.33 79 Sn 04 53 44.8 -0.6
PMR Palmer 1.33 79 P **Pn 04 53 25.6 -0.7**
baz=262
PMR S **Sn 04 53 44.8 -0.6**
baz=262
PMR Palmer 1.33 79 P **Pn 04 53 25.7 -0.5**
M19K Big River Lodg 1.33 295 Pn 04 53 26.5 +0.2
M19K IAML 04 53 46.2
comp=E,490nm,1.0s
M19K Big River Lodg 1.33 295 Sn 04 53 45.4 -0.2
M19K Big River Lodg 1.33 295 P **Pn 04 53 26.5 +0.2**
baz=112
M19K S **Sn 04 53 45.4 -0.2**
baz=112
M19K S **Sn 04 53 45.4 -0.2**
baz=112
O20K Slope Mountain 1.34 197 Pn 04 53 27.1 +0.5
O20K Slope Mountain 1.34 197 P **Pn 04 53 27.1 +0.5**
baz=16
O22K Cooper Landing 1.37 130 Pn 04 53 27.4 +0.7
O22K Cooper Landing 1.37 130 Sn 04 53 46.2 -0.1
O22K Cooper Landing 1.37 130 P **Pn 04 53 27.4 +0.7**
baz=312
O22K S **Sn 04 53 46.2 -0.1**
baz=312
N19K Bonanza Creek 1.39 248 Pn **Pn 04 53 27.6 +0.4**
N19K Bonanza Creek 1.39 248 Sn 04 53 46.9 -0.2
N19K Bonanza Creek 1.39 248 P **Pn 04 53 27.6 +0.4**
baz=65
N19K S **Sn 04 53 46.9 -0.2**
baz=65
N19K S **Sn 04 53 46.9 -0.2**
baz=65
GHO Glory Hole Cre 1.46 73 Pn 04 53 27.5 -0.4
IVE Iliamna Volcan 1.47 203 Pn 04 53 28.1 0.0
L20K Farewell, AK 1.47 320 Pn 04 53 27.9 0.0
L20K Farewell, AK 1.47 320 P **Pn 04 53 27.9 0.0**
baz=138
ILSW Iliamna Southw 1.53 205 Pn 04 53 29.0 +0.2
ILS Iliamna Low So 1.54 203 Pn 04 53 29.1 +0.3
PPLA Purkeypile 1.54 354 Pn 04 53 28.9 0.0
PPLA Purkeypile 1.54 354 P **Pn 04 53 28.9 0.0**
baz=174
KNK Knik Glacier 1.63 87 Pn 04 53 29.5 -0.4
KNK Knik Glacier 1.63 87 Sn 04 53 51.9 0.0
KNK Knik Glacier 1.63 87 P **Pn 04 53 29.4 -0.4**
baz=270
KNK S **Sn 04 53 51.9 0.0**
baz=270
L19K White Mountain 1.65 301 Pn 04 53 30.3 +0.2
L19K White Mountain 1.65 301 Sn 04 53 52.0 -0.1
L19K White Mountain 1.65 301 P **Pn 04 53 30.2 +0.2**
baz=118
L19K S **Sn 04 53 52.1 -0.1**
baz=118
L19K S **Sn 04 53 52.1 -0.1**
baz=118
BRLK Bradley Lake 1.68 163 Pn 04 53 30.6 +0.2
BRLK IAML 04 53 53.9
comp=N,858nm,0.3s
HOM Homer 1.72 176 Pn 04 53 31.6 +0.8
BRSE Bradley Lake S 1.72 161 Pn 04 53 31.1 +0.2
BRSE Bradley Lake S 1.72 161 P **Pn 04 53 31.1 +0.2**
baz=342
SEW Seward 1.73 136 Pn 04 53 31.1 +0.1
SEW Seward 1.73 136 P **Pn 04 53 31.1 +0.1**
baz=319
SML Sawmill 1.74 74 Pn **Pn 04 53 30.6 -0.6**
SML Sawmill 1.74 74 P **Pn 04 53 30.6 -0.6**
baz=257
PWL Port Wells 1.78 105 Pn 04 53 31.2 -0.5
PWL IAML 04 53 55.2
comp=N,771nm,0.4s
PWL IAML 04 53 56.3
comp=E,587nm,0.5s
PWL Port Wells 1.78 105 P **Pn 04 53 31.0 -0.7**
baz=289
SVW2 Sparrevohn 1.82 263 Pn 04 53 32.2 0.0
SVW2 Sparrevohn 1.82 263 P **Pn 04 53 32.2 0.0**
P19K Oil Pt 1.85 202 Pn **Pn 04 53 33.2 +0.7**
P19K IAML 04 54 00.5
comp=N,530nm,0.5s
P19K Oil Pt 1.85 202 P **Pn 04 53 33.3 +0.7**
baz=21
CNPM China Poot 1.87 170 Pn **Pn 04 53 33.1 +0.3**
CNPM IAML 04 53 59.9
comp=N,691nm,0.4s
CNPM IAML 04 54 00.9
comp=E,713nm,0.4s
M18K Stony River 1.91 275 Pn 04 53 33.4 +0.2
M18K Stony River 1.91 275 P **Pn 04 53 33.2 0.0**
baz=91
M23K Glacier View 2.02 76 Pn 04 53 34.1 -0.4
M23K Glacier View 2.02 76 P **Pn 04 53 34.1 -0.4**
baz=260
WAT7 Susitna Watana 2.04 43 Pn 04 53 35.0 +0.1
CAST Castle Rocks 2.06 357 Pn 04 53 34.6 -0.4
CAST Castle Rocks 2.06 357 P **Pn 04 53 34.7 -0.4**
baz=177
N18K Kilae Creek 2.08 252 Pn **Pn 04 53 35.7 +0.3**
N18K Kilae Creek 2.08 252 P **Pn 04 53 35.7 +0.3**
baz=68
WAT1 Susitna Watana 2.14 45 Pn 04 53 36.1 +0.1
WAT1 Susitna Watana 2.14 45 P **Pn 04 53 36.1 +0.1**
baz=228
AU22 Augustine Moun 2.14 201 Pn 04 53 36.7 +0.7
AUL Augustine Lava 2.14 202 Pn 04 53 37.0 +0.9
AUCH Augustine Cone 2.16 202 Pn 04 53 37.0 +0.6
SCM Sheep Creek Mo 2.21 76 Pn 04 53 36.8 -0.3
SCM Sheep Creek Mo 2.21 76 P **Pn 04 53 36.6 -0.4**
baz=260
TRF Thorofare Moun 2.21 18 Pn 04 53 37.1 -0.1
TRF Thorofare Moun 2.21 18 IAML 04 54 05.5
comp=E,221nm,0.7s
TRF IAML 04 54 05.8
comp=N,329nm,0.5s
TRF Thorofare Moun 2.21 18 P **Pn 04 53 37.1 -0.1**
baz=200
KTH Kantishna Hill 2.24 11 Pn 04 53 37.2 -0.1
KTH IAML 04 54 06.7
comp=N,246nm,0.7s
KTH IAML 04 54 08.8
comp=E,149nm,0.5s
O18K Koktuh Hills 2.25 229 Pn **Pn 04 53 38.1 +0.7**
O18K IAML 04 54 06.8
comp=E,151nm,0.7s
O18K IAML 04 54 07.4
comp=N,349nm,0.9s
O18K Koktuh Hills 2.25 229 P **Pn 04 53 38.2 +0.7**
baz=46
K20K Telida 2.25 334 Pn 04 53 37.2 -0.3
K20K IAML 04 54 04.0
comp=E,143nm,0.6s
K20K IAML 04 54 04.8
comp=N,217nm,0.9s
K20K Telida 2.25 334 P **Pn 04 53 37.2 -0.3**
baz=151
WAT6 Susitna Watana 2.29 56 Pn 04 53 38.0 -0.2
WAT6 Susitna Watana 2.29 56 P **Pn 04 53 38.0 -0.2**
baz=240
GLI Glacier Island 2.36 100 Pn 04 53 37.7 -1.1
GLI IAML 04 54 07.7
comp=E,444nm,0.5s
GLI IAML 04 54 08.3
comp=N,500nm,0.5s
GLI Glacier Island 2.36 100 P **Pn 04 53 37.7 -1.1**
baz=285
L18K Granite Mounta 2.45 293 Pn 04 53 40.3 +0.3
L18K Granite Mounta 2.45 293 P **Pn 04 53 40.3 +0.3**
baz=108
RND Reindeer 2.48 33 Pn 04 53 40.3 -0.2
RND IAML 04 54 10.6
comp=E,177nm,0.3s
RND IAML 04 54 14.6
comp=N,192nm,0.6s
TTA Tatalina 2.50 311 Pn 04 53 40.6 -0.1
TTA IAML 04 54 12.0
comp=N,99nm,0.8s
TTA Tatalina 2.50 311 P **Pn 04 53 40.7 -0.1**
baz=126
TTA Tatalina 2.50 311 P **Pn 04 53 40.6 -0.1**
CHUM Lake Minchumin 2.54 355 Pn 04 53 40.8 -0.3
CHUM Lake Minchumin 2.54 355 P **Pn 04 53 40.9 -0.2**
baz=175
P23K Montague Islan 2.58 120 Pn 04 53 41.0 -0.7
P23K Montague Islan 2.58 120 P **Pn 04 53 41.0 -0.7**
baz=305
P18K Big Mountain, 2.59 222 Pn **Pn 04 53 42.6 +0.6**
P18K IAML 04 54 15.6
comp=N,95nm,1.1s
P18K Big Mountain, 2.59 222 P **Pn 04 53 42.6 +0.6**
baz=39
Q19K Cape Douglas, 2.60 201 Pn 04 53 42.7 +0.7
Q19K IAML 04 54 31.9
comp=E,228nm,0.9s
Q19K IAML 04 54 47.2
comp=N,183nm,1.0s
Q19K Cape Douglas, 2.60 201 P **Pn 04 53 42.8 +0.7**
baz=19
FID Port Fidalgo 2.69 101 Pn 04 53 41.5 -1.5
FID IAML 04 54 15.9
comp=N,214nm,0.4s
FID IAML 04 54 18.4
comp=E,237nm,0.4s
M17K Holitna River 2.69 273 Pn **Pn 04 53 43.5 +0.4**
M17K IAML 04 54 16.6
comp=N,94nm,1.0s
M17K IAML 04 54 17.9
comp=E,96nm,1.1s
M17K Holitna River 2.69 273 P **Pn 04 53 43.5 +0.4**
baz=88
DHY Denali Highway 2.71 49 Pn 04 53 43.6 +0.1
DHY Denali Highway 2.71 49 P **Pn 04 53 43.6 +0.1**
baz=233
MCK McKinley 2.73 28 Pn 04 53 43.7 0.0
MCK McKinley 2.73 28 P **Pn 04 53 43.7 0.0**
baz=211
N17K Nushagak Hills 2.74 254 Pn **Pn 04 53 44.3 +0.6**
N17K Nushagak Hills 2.74 254 P **Pn 04 53 44.3 +0.6**
baz=69
BPAW Bear Paw Mtn. 2.77 8 Pn **Pn 04 53 43.4 -0.7**
BPAW IAML 04 54 17.1
comp=N,110nm,0.6s
BPAW Bear Paw Mtn. 2.77 8 P **Pn 04 53 43.5 -0.7**
baz=188
Q20K Shuyak Island 2.78 186 P **Pn 04 53 44.5 +0.2**
baz=5.6
SYI Shuyak Island 2.78 186 Pn **Pn 04 53 44.6 +0.3**
SYI IAML 04 54 24.8
comp=N,192nm,0.4s
SYI IAML 04 54 25.1
comp=E,165nm,0.6s
HIN Hinchinbrook I 2.79 108 Pn 04 53 43.3 -1.1
HIN IAML 04 54 20.4
comp=E,152nm,0.4s
HIN IAML 04 54 37.7
comp=N,135nm,0.9s
M24K Tolsona, Glenn 2.80 72 Pn 04 53 45.2 +0.6
M24K Tolsona, Glenn 2.80 72 P **Pn 04 53 45.3 +0.6**
baz=257
KLU Klutina 2.85 85 Pn 04 53 44.7 -0.6
KLU IAML 04 54 20.2
comp=E,263nm,0.3s
KLU Klutina 2.85 85 P **Pn 04 53 44.6 -0.6**
baz=270
DIV Divide 2.95 92 Pn 04 53 45.9 -0.7
J20K Nowinta River 3.01 341 Pn **Pn 04 53 46.9 -0.4**
J20K IAML 04 54 23.1
comp=N,127nm,1.0s
J20K IAML 04 54 23.7
comp=E,102nm,0.9s
J20K Nowinta River 3.01 341 P **Pn 04 53 47.0 -0.4**
baz=158
BWN Browne 3.02 20 Pn 04 53 47.6 +0.2
BWN IAML 04 54 45.4
comp=E,203nm,1.1s
BWN IAML 04 54 49.5
comp=N,215nm,0.8s
O17K Koliganek Bris 3.04 241 Pn 04 53 48.6 +0.9
O17K Koliganek Bris 3.04 241 P **Pn 04 53 48.6 +0.9**
baz=56
KAPH Katmai Pasha 3.05 205 Pn 04 53 48.6 +0.8
EYAK Cordova Ski Ar 3.09 103 Pn 04 53 47.3 -1.0
EYAK Cordova Ski Ar 3.09 103 P **Pn 04 53 47.3 -1.0**
baz=288
EYAK Cordova Ski Ar 3.09 103 P **Pn 04 53 47.3 -1.0**
J18K Innoko River 3.09 315 Pn **Pn 04 53 48.4 +0.1**
J18K IAML 04 54 24.0
comp=N,62nm,1.0s
J18K Innoko River 3.09 315 P **Pn 04 53 48.4 +0.1**
baz=130
KAHC Katmai Hardscr 3.15 212 Pn 04 53 49.9 +0.6
Q18K Katmai Hardscr 3.15 212 P **Pn 04 53 49.9 +0.6**
baz=29
P17K Kvichak River 3.16 228 Pn 04 53 50.4 +1.2
P17K Kvichak River 3.16 228 P **Pn 04 53 50.4 +1.2**
baz=44
J19K Poorman 3.16 328 Pn **Pn 04 53 49.0 -0.2**
J19K Poorman 3.16 328 P **Pn 04 53 49.0 -0.2**
baz=145
L17K Donlin 3.16 287 Pn 04 53 49.8 +0.6
L17K Donlin 3.16 287 P **Pn 04 53 49.8 +0.6**
baz=101
KAHG Katmai Hook Gl 3.19 206 Pn 04 53 50.4 +0.7
K17K Iditarod 3.33 297 Pn **Pn 04 53 52.0 +0.6**
K17K IAML 04 54 32.5
comp=E,112nm,1.0s
K17K IAML 04 54 43.3
comp=N,56nm,1.1s
K17K Iditarod 3.33 297 P **Pn 04 53 52.0 +0.6**
baz=111
HARP HAARP 3.33 69 Pn 04 53 52.4 +0.8
HARP HAARP 3.33 69 P **Pn 04 53 52.4 +0.8**
baz=255
Q23K Middleton Isla 3.35 123 Pn 04 53 52.3 +0.6
Q23K Middleton Isla 3.35 123 IAML 04 54 32.7
comp=E,141nm,1.2s
Q23K IAML 04 55 24.0
comp=N,111nm,1.1s
Q23K Middleton Isla 3.35 123 P **Pn 04 53 52.8 +1.0**
baz=308
MID Middleton Isla 3.36 123 Pn 04 53 52.3 +0.5
MID Middleton Isla 3.36 123 IAML 04 54 34.6
comp=E,122nm,0.8s
MID IAML 04 54 37.2
comp=N,95nm,1.0s
MID Middleton Isla 3.36 123 P **Pn 04 53 51.8 0.0**
PAX Paxson 3.40 59 Pn 04 53 53.0 +0.5
PAX Paxson 3.40 59 P **Pn 04 53 53.0 +0.5**
baz=245
M16K Timber Creek 3.46 267 Pn **Pn 04 53 54.0 +0.7**
M16K Timber Creek 3.46 267 P **Pn 04 53 53.9 +0.7**
baz=81
KAKN Katmai Knife C 3.48 209 Pn 04 53 54.1 +0.5
NEA2 Nenana 3.48 20 Pn 04 53 53.1 -0.4
NEA2 IAML 04 54 31.6
comp=E,46nm,0.8s
NEA2 Nenana 3.48 20 P **Pn 04 53 53.2 -0.3**
baz=203
N25K Chitina, Valde 3.49 83 Pn **Pn 04 53 53.0 -0.7**
N25K IAML 04 54 34.9
comp=E,142nm,0.5s
N25K IAML 04 54 36.9
comp=N,195nm,0.4s
N25K Chitina, Valde 3.49 83 P **Pn 04 53 53.3 -0.4**
baz=270
N16K Nishlik Lake 3.49 258 Pn 04 53 54.4 +0.7
N16K Nishlik Lake 3.49 258 P **Pn 04 53 54.4 +0.7**
baz=72
BMRM Bremner River 3.53 93 Pn 04 53 53.2 -1.0
BMRM Bremner River 3.53 93 P **Pn 04 53 53.2 -1.0**
baz=280
KABU Katmai Buttres 3.56 211 Pn 04 53 55.4 +0.8
WRH Wood River Hil 3.56 27 Pn 04 53 54.2 -0.3
WRH IAML 04 54 40.2
comp=N,45nm,0.4s
WRH IAML 04 54 43.1
comp=E,51nm,0.5s
GOAT Goat Mountain 3.56 100 Pn 04 53 53.8 -0.8
O16K Kokwok River B 3.56 243 Pn **Pn 04 53 55.4 +0.8**
O16K Kokwok River B 3.56 243 P **Pn 04 53 55.4 +0.8**
baz=57
KDAK Kodiak Island 3.61 186 Pn 04 53 54.4 -0.9
KDAK IAML 04 54 47.3
comp=E,59nm,0.4s
KDAK IAML 04 54 48.2
comp=E,62nm,0.6s
ACHA Angle Creek He 3.62 211 Pn 04 53 56.0 +0.6
WACK Wrangell Chich 3.64 77 Pn 04 53 56.2 +0.4
I20K Naaghedeneel 3.64 342 Pn 04 53 55.6 0.0
I20K IAML 04 54 37.7
comp=E,156nm,1.0s
I20K IAML 04 54 38.1
comp=N,142nm,1.1s
I20K Naaghedeneel 3.64 342 P **Pn 04 53 55.6 0.0**
baz=159
RAGM Ragged Mountai 3.64 102 Pn 04 53 54.8 -0.9
RAGM IAML 04 55 04.7
comp=E,161nm,0.7s
L16K Owhat River 3.67 279 Pn **Pn 04 53 56.4 +0.5**
L16K Owhat River 3.67 279 P **Pn 04 53 56.4 +0.5**
baz=92
ANCK Angle Creek 3.67 212 Pn 04 53 56.7 +0.6
WASW Wrangell South 3.71 78 Pn 04 53 57.1 +0.4
MLY Manley 3.71 7 Pn **Pn 04 53 56.0 -0.6**
MLY Manley 3.71 7 P **Pn 04 53 56.7 +0.1**
baz=188
CNTC Contact Creek 3.72 215 Pn 04 53 57.5 +0.7
Q17K Contact Creek 3.72 215 P **Pn 04 53 57.5 +0.7**
baz=31
K24K Donnelly Dome 3.72 46 Pn 04 53 58.6 +1.9
K24K Donnelly Dome 3.72 46 P **Pn 04 53 58.6 +1.9**
baz=232
WAZA Wrangell Mount 3.73 76 Pn 04 53 57.8 +0.7
CCB Clear Creek Bu 3.77 27 Pn **Pn 04 53 57.1 -0.3**
CCB IAML 04 54 43.7
comp=N,57nm,0.5s
CCB IAML 04 54 44.2
comp=E,59nm,0.3s
HDA Harding Lake 3.79 34 Pn 04 53 57.6 0.0
HDA Harding Lake 3.79 34 P **Pn 04 53 57.6 0.0**
baz=218
I21K Tanana 3.83 359 Pn 04 53 57.7 -0.4
I21K Tanana 3.83 359 P **Pn 04 53 57.7 -0.4**
baz=179
HMT Hamilton 3.85 102 Pn 04 53 57.2 -1.3
P16K Nushagak River 3.86 235 Pn 04 53 59.6 +1.2
P16K Nushagak River 3.86 235 P **Pn 04 53 59.7 +1.2**
baz=50
GLB Gilahina Butte 3.87 85 Pn **Pn 04 53 58.3 -0.4**
GLB IAML 04 54 44.2
comp=E,92nm,0.5s
GLB IAML 04 54 44.2
comp=N,110nm,0.5s
J17K VABM Dome 3.93 304 Pn **Pn 04 53 59.4 0.0**
J17K VABM Dome 3.93 304 P **Pn 04 53 59.5 0.0**
baz=118
KAIM Kayak Island 3.94 108 Pn 04 53 58.1 -1.4
KAIM Kayak Island 3.94 108 IAML 04 54 56.1
comp=N,39nm,0.8s
KAIM IAML 04 55 03.6
comp=E,56nm,1.2s
KAIM Kayak Island 3.94 108 P **Pn 04 53 59.8 +0.3**
baz=295
I23K Minto, Yukon-K 3.96 15 Pn 04 54 00.2 +0.4
I23K Minto, Yukon-K 3.96 15 IAML 04 55 05.4
comp=N,33nm,0.6s
I23K Minto, Yukon-K 3.96 15 P **Pn 04 54 00.2 +0.4**
baz=198
COLA College 3.96 26 Pn 04 53 59.9 +0.1
COLA College 3.96 26 P **Pn 04 53 59.9 +0.1**
RIDG Independent Ri 4.02 51 Pn 04 54 01.7 +0.9
RIDG Independent Ri 4.02 51 P **Pn 04 54 01.6 +0.9**
baz=237
NICHA Nichawak Mount 4.03 103 Pn 04 53 59.4 -1.3
R18K Karluk 4.04 200 Pn 04 54 00.5 -0.4
R18K Karluk 4.04 200 IAML 04 54 52.3
comp=N,121nm,0.4s
R18K IAML 04 54 52.9
comp=E,101nm,0.3s
R18K Karluk 4.04 200 P **Pn 04 54 00.6 -0.3**
baz=18
VRDI Verde Repeater 4.05 88 Pn **Pn 04 54 00.6 -0.7**
VRDI IAML 04 54 51.3
comp=N,41nm,0.4s
VRDI IAML 04 54 59.0
comp=E,36nm,0.5s
IL31 4.10 31 Pn 04 54 01.6 0.0
ILAR Eielson Array 4.10 31 Pn 04 54 01.3 -0.4
BERG Berg Lake 4.10 100 Pn 04 54 00.8 -1.0
MENT Mentasta 4.13 64 Pn 04 54 02.5 +0.4
SUCK Suckling Hills 4.17 105 Pn 04 54 01.7 -1.1
SUCK Suckling Hills 4.17 105 IAML 04 55 02.1
comp=E,34nm,1.0s
SUCK IAML 04 55 25.8
comp=N,61nm,1.2s
N15K Kwethluk River 4.22 257 Pn 04 54 04.3 +1.1
N15K IAML 04 54 55.2
comp=E,28nm,0.8s
N15K IAML 04 55 08.1
comp=N,32nm,0.9s
N15K Kwethluk River 4.22 257 P **Pn 04 54 04.0 +0.7**
baz=70
OHAK Old Harbor 4.22 191 Pn **Pn 04 54 02.0 -1.4**
OHAK IAML 04 54 54.7
comp=N,34nm,1.0s
OHAK Old Harbor 4.22 191 P **Pn 04 54 02.6 -0.8**
baz=9.5
OHAK Old Harbor 4.22 191 P **Pn 04 54 02.2 -1.2**
PLK5 Peulik 5 4.23 219 Pn 04 54 04.2 +0.7
MCARA McCarthy VSAT 4.25 86 Pn 04 54 04.0 +0.3
MCARA McCarthy VSAT 4.25 86 P **Pn 04 54 04.0 +0.3**
baz=274
POKR Poker Plat Res 4.26 26 Pn 04 54 04.0 +0.1
POKR IAML 04 54 55.2
comp=N,65nm,0.5s
POKR IAML 04 54 55.8
comp=E,40nm,0.7s
POKR Poker Plat Res 4.26 26 P **Pn 04 54 04.0 +0.1**
baz=210
PLK2 Peulik 2 4.27 214 Pn 04 54 05.2 +1.2
DOT Dot Lake 4.28 54 Pn 04 54 04.4 +0.3
CRQM Cirque 4.28 94 Pn 04 54 03.9 -0.4
CRQM IAML 04 54 58.0
comp=E,79nm,1.0s
CRQM IAML 04 55 07.8
comp=N,90nm,0.6s
CRQE Cirque 4.30 94 P **Pn 04 54 04.0 -0.6**
baz=282
KHIT Khitrov Hills 4.30 99 Pn 04 54 03.8 -0.8
PLK1 Peulik 1 4.32 216 Pn 04 54 05.3 +0.7
GRIN Grindle Hills 4.32 101 Pn 04 54 03.6 -1.0
L26K Log Cabin Wild 4.32 64 Pn 04 54 05.7 +1.0
L26K Log Cabin Wild 4.32 64 P **Pn 04 54 05.5 +0.9**
baz=251
M26K Nabesna, AK 4.32 72 Pn **Pn 04 54 05.2 +0.5**
M26K IAML 04 55 16.4
comp=E,62nm,0.5s
M26K Nabesna, AK 4.32 72 P **Pn 04 54 05.0 +0.3**
baz=260
PLK3 Peulik 3 4.32 213 Pn 04 54 05.6 +0.9
H21K Melozitna Rive 4.33 355 Pn **Pn 04 54 04.5 -0.3**
H21K Melozitna Rive 4.33 355 P **Pn 04 54 04.2 -0.5**
baz=174
M15K Kasigluk River 4.35 265 Pn 04 54 05.7 +0.6

M15K	Kasigluk River	4.35	265	P		Pn	04 54 05.7 +0.6
	baz=77						
H20K	Anotleneega Mo	4.36	343			Pn	04 54 04.8 -0.4
H20K	Anotleneega Mo	4.36	343	P		Pn	04 54 04.8 -0.4
	baz=160						
PLK4	Peulik 4	4.39	213	Pn		Pn	04 54 06.8 +1.0
PLK4				IAML			04 54 58.6
	comp=E,29nm,0.8s						
PLK4				IAML			04 55 03.1
	comp=N,28nm,0.9s						
R17L	Mt. Peulik Vol	4.39	213	P		Pn	04 54 05.9 +0.2
	baz=30						
J25K	Salcha River,	4.40	39	Pn		Pn	04 54 06.2 +0.4
J25K	Salcha River,	4.40	39	P		Pn	04 54 05.8 0.0
	baz=225						
TGL	Tana Glacier	4.43	94			Pn	04 54 05.8 -0.5
TGL				IAML			04 54 58.1
	comp=E,101nm,0.4s						
TGL				IAML			04 55 00.6
	comp=N,80nm,0.4s						
SCRK	Sand Creek	4.47	51	Pn		Pn	04 54 06.8 0.0
SCRK	Sand Creek	4.47	51	P		Pn	04 54 06.7 0.0
	baz=238						
WAX	Waxell Ridge	4.49	98			Pn	04 54 06.3 -0.7
J16K	Anvik River	4.51	299			Pn	04 54 07.1 -0.1
J16K	Anvik River	4.51	299	P		Pn	04 54 07.4 +0.2
	baz=111						
PTPK	Patty Peak	4.54	88			Pn	04 54 07.8 +0.1
O15K	Ungalikthiuk R	4.54	245			Pn	04 54 08.6 +1.0
O15K	Ungalikthiuk R	4.54	245	P		Pn	04 54 08.6 +1.0
	baz=57						
H22K	Ishtalitna Cre	4.55	2			Pn	04 54 07.5 -0.3
H22K	Ishtalitna Cre	4.55	2	P		Pn	04 54 07.5 -0.3
	baz=183						
SNH	Sunshine Point	4.58	101			Pn	04 54 07.1 -1.0
SNH				IAML			04 55 04.3
	comp=N,47nm,1.0s						
SNH				IAML			04 55 05.2
	comp=E,54nm,0.6s						
H23K	Yukon River	4.59	12			Pn	04 54 09.1 +0.7
H23K	Yukon River	4.59	12	P		Pn	04 54 08.7 +0.4
	baz=194						
BALM	Baldy	4.61	90			Pn	04 54 08.2 -0.4
KIAG	Kiagna River	4.62	91			Pn	04 54 08.5 -0.4
L15K	Ungalak Mounta	4.62	278			Pn	04 54 09.3 +0.6
L15K	Ungalak Mounta	4.62	278	P		Pn	04 54 09.3 +0.6
	baz=89						
H19K	Roundabout Mou	4.66	336	Pn		Pn	04 54 08.5 -0.6
H19K	Roundabout Mou	4.66	336	P		Pn	04 54 08.7 -0.4
	baz=151						
BARK	Barkley Ridge	4.67	98			Pn	04 54 09.0 -0.6
K15K	Wolf Creek Mou	4.68	286	Pn		Pn	04 54 10.1 +0.6
K15K	Wolf Creek Mou	4.68	286	P		Pn	04 54 10.2 +0.7
	baz=97						
ISLE	Juniper Island	4.70	95			Pn	04 54 09.3 -0.6
ISLE				IAML			04 55 04.2
	comp=N,60nm,0.7s						
ISLE				IAML			04 55 05.4
	comp=E,56nm,0.7s						
IMAR	Indian Mountai	4.71	351			Pn	04 54 09.4 -0.5
I17K	Unalakleet	4.80	306			Pn	04 54 11.5 +0.4
I17K	Unalakleet	4.80	306	IAML			04 55 53.0
	comp=E,23nm,1.1s						
I17K	Unalakleet	4.80	306	P		Pn	04 54 11.5 +0.4
	baz=118						
H18K	Honhosa River	4.80	325			Pn	04 54 11.6 +0.4
H18K	Honhosa River	4.80	325	P		Pn	04 54 11.6 +0.4
	baz=139						
H24K	Noodor Dome	4.83	20	Pn		Pn	04 54 11.6 +0.2
H24K	Noodor Dome	4.83	20	P		Pn	04 54 11.7 +0.2
	baz=203						
M27K	Edge Creek, AK	4.83	74	Pn		Pn	04 54 12.5 +0.9
M27K				IAML			04 55 11.5
	comp=N,53nm,0.9s						
M27K				IAML			04 55 12.1
	comp=E,43nm,0.8s						
M27K	Edge Creek, AK	4.83	74	P		Pn	04 54 12.8 +1.2
	baz=263						
BAGL	Bagley Icefiel	4.84	96			Pn	04 54 11.4 -0.3
J26L	Joseph Creek	4.92	47	Pn		Pn	04 54 13.2 +0.4
J26L	Joseph Creek	4.92	47	P		Pn	04 54 13.0 +0.2
	baz=234						
GRNC	Granite Creek	4.95	93			Pn	04 54 13.2 -0.1
GRNC				IAML			04 55 09.9
	comp=E,30nm,0.7s						
GRNC				IAML			04 55 11.2
	comp=N,54nm,0.5s						
M14K	Bethel	4.95	267			Pn	04 54 14.1 +1.0
M14K				IAML			04 55 27.0
	comp=N,20nm,1.1s						
M14K	Bethel	4.95	267	P		Pn	04 54 13.4 +0.4
	baz=78						
SII	Sitkinak Islan	4.97	195			Pn	04 54 12.7 -0.7
SII	Sitkinak Islan	4.97	195	IAML			04 55 12.1
	comp=E,63nm,0.5s						
SII				IAML			04 55 16.9
	comp=N,50nm,0.6s						
SII	Sitkinak Islan	4.97	195	P		Pn	04 54 12.7 -0.7
	baz=13						
SII	Sitkinak Islan	4.97	195	P		Pn	04 54 12.4 -1.0
L27K	Beaver Creek,	4.99	66	Pn		Pn	04 54 14.1 +0.4
L27K				IAML			04 55 35.9
	comp=N,22nm,1.1s						
L27K				IAML			04 55 36.8
	comp=E,19nm,1.2s						
L27K	Beaver Creek,	4.99	66	P		Pn	04 54 14.0 +0.3
	baz=255						
MESA	MESA	5.00	99			Pn	04 54 13.9 -0.1
MESA				IAML			04 55 13.1
	comp=E,49nm,0.4s						
MESA	MESA	5.00	99	P		Pn	04 54 14.5 +0.5
	baz=288						
BCAR	Beaver Creek A	5.01	66	Pn		Pn	04 54 14.3 +0.3
PRP	Porcupine Dome	5.04	32	Pn		Pn	04 54 14.6 +0.2
PRP				IAML			04 55 12.7
	comp=E,60nm,0.8s						
PRP				IAML			04 55 12.9
	comp=N,58nm,0.5s						
PRP	Porcupine Dome	5.04	32	P		Pn	04 54 14.7 +0.3
	baz=217						
YAH	Yahtse	5.04	97			Pn	04 54 14.2 -0.4
YAH				IAML			04 55 14.5
	comp=N,43nm,0.5s						
YAH				IAML			04 55 15.3
	comp=E,42nm,0.5s						
CTG	Chitna Glacier	5.11	90	P		Pn	04 54 15.5 +0.1
	baz=279						
CTGM	Chitina Glacie	5.11	90			Pn	04 54 15.5 +0.1
CTGM				IAML			04 55 16.5
	comp=E,28nm,0.6s						
CTGM				IAML			04 55 36.9
	comp=N,33nm,0.7s						
L14K	Kuka Creek	5.21	274	Pn		Pn	04 54 17.8 +1.1
L14K				IAML			04 55 16.9
	comp=E,15nm,1.0s						
L14K				IAML			04 56 04.0
	comp=N,17nm,1.1s						
L14K	Kuka Creek	5.21	274	P		Pn	04 54 17.9 +1.3
	baz=85						
G21K	Allakaket	5.22	353			Pn	04 54 16.7 -0.1
G21K				IAML			04 56 14.5
	comp=E,14nm,0.9s						
G21K	Allakaket	5.22	353	P		Pn	04 54 16.5 -0.2
	baz=171						
K27K	Chicken	5.23	55			Pn	04 54 17.1 +0.2
K27K				IAML			04 55 24.4
	comp=N,22nm,0.9s						
K27K				IAML			04 55 42.4
	comp=E,24nm,0.8s						
K27K	Chicken	5.23	55	P		Pn	04 54 17.0 +0.1
	baz=244						
RKAV	Rock Avalanche	5.25	97			Pn	04 54 17.2 -0.1
YUK2	White River	5.28	81			Pn	04 54 17.9 +0.3
LOGN	Logan Glacier	5.29	91			Pn	04 54 18.0 +0.1
LOGN				IAML			04 55 19.3
	comp=N,38nm,0.7s						
BVCY	Beaver Creek	5.30	74			Pn	04 54 19.0 +1.1
BVCY	Beaver Creek	5.30	74	P		Pn	04 54 19.0 +1.1
	baz=264						
TABL	Table Mountain	5.31	95			Pn	04 54 17.9 -0.3
TABL				IAML			04 55 20.4
	comp=E,25nm,0.6s						
TABL				IAML			04 55 20.4
	comp=N,26nm,1.2s						
G23K	Bananza Creek	5.43	8	Pn		Pn	04 54 20.2 +0.7
G23K	Bananza Creek	5.43	8	P		Pn	04 54 19.9 +0.4
	baz=189						
CHX	Chaix Hills	5.43	99			Pn	04 54 19.5 -0.2
G18K	Tagagawik	5.46	329			Pn	04 54 20.9 +0.9
G18K	Tagagawik	5.46	329	P		Pn	04 54 20.9 +0.9
	baz=143						
YUK3	Moose Creek	5.46	81			Pn	04 54 20.5 +0.3
YUK3	Moose Creek	5.46	81	P		Pn	04 54 20.8 +0.6
	baz=271						
SAMH	Samovar Hills	5.57	98			Pn	04 54 22.3 +0.7
H25L	Birch Creek	5.60	26			Pn	04 54 22.1 +0.4
H25L	Birch Creek	5.60	26	P		Pn	04 54 22.5 +0.7
	baz=211						
J14K	Nanvaranak Lak	5.67	289			Pn	04 54 23.6 +0.7
J14K	Nanvaranak Lak	5.67	289	P		Pn	04 54 23.8 +0.9
	baz=99						
G24K	Hadweenzic Riv	5.69	18	Pn		Pn	04 54 23.4 +0.4
G24K	Hadweenzic Riv	5.69	18	P		Pn	04 54 23.4 +0.4
	baz=202						
O28M	Mount Upton	5.69	91			Pn	04 54 23.9 +0.5
O28M	Mount Upton	5.69	91	P		Pn	04 54 24.4 +1.0
	baz=281						
G17K	Kiwalik Mounta	5.72	320			Pn	04 54 24.6 +1.0
G17K	Kiwalik Mounta	5.72	320	P		Pn	04 54 24.6 +1.0
	baz=132						
YUK8	Steele Glacier	5.82	86			Pn	04 54 26.3 +1.2
YUK8	Steele Glacier	5.82	86	P		Pn	04 54 26.3 +1.2
	baz=276						
PCA	Pinnacle	5.83	98			Pn	04 54 24.7 -0.4
PINM	Pinnacle	5.83	98	P		Pn	04 54 25.5 +0.4
	baz=288						
CHIR	Chirikof Islan	5.90	201	P		Pn	04 54 24.9 -1.0
F21K	Alatna River	5.92	354	Pn		Pn	04 54 26.6 +0.3
F21K	Alatna River	5.92	354	P		Pn	04 54 26.5 +0.3
	baz=172						
COLD	Coldfoot	5.93	6			Pn	04 54 26.7 +0.4
COLD	Coldfoot	5.93	6	P		Pn	04 54 26.7 +0.4
	baz=188						
EGAK	Eagle	5.94	50			Pn	04 54 26.5 +0.1
F20K	Avaraart Lake	5.95	345			Pn	04 54 26.8 +0.3
F20K	Avaraart Lake	5.95	345	P		Pn	04 54 27.2 +0.7
	baz=162						
FYU	Fort Yukon	5.98	26	Pn		Pn	04 54 27.1 +0.2
G25K	Bearman Lake	5.98	22			Pn	04 54 27.1 +0.2
G25K	Bearman Lake	5.98	22	P		Pn	04 54 27.1 +0.2
	baz=208						
F19K	Shaleruckik Mo	6.07	337			Pn	04 54 28.1 -0.1
F19K	Shaleruckik Mo	6.07	337	P		Pn	04 54 28.0 -0.1
	baz=152						
CHGN	Chignik	6.11	217			Pn	04 54 28.8 0.0
CHGN	Chignik	6.11	217	P		Pn	04 54 29.0 +0.3
	baz=31						
F22K	John River	6.17	359			Pn	04 54 29.7 +0.2
F22K	John River	6.17	359	P		Pn	04 54 29.7 +0.2
	baz=178						
BCPM	Bancas Point	6.17	98			Pn	04 54 30.4 +0.8
I27K	Kandik River	6.25	43			Pn	04 54 30.6 0.0
I27K	Kandik River	6.25	43	P		Pn	04 54 30.6 0.0
	baz=232						
DAWY	Dawson	6.34	59	Pn		Pn	04 54 32.2 +0.4
DAWY	Dawson	6.34	59	P		Pn	04 54 32.3 +0.4
	baz=250						
YUK4	Talbot Arm	6.35	84	P		Pn	04 54 33.4 +1.2
	baz=275						
PNL	Peninsula	6.38	100			Pn	04 54 32.6 +0.3
PNL	Peninsula	6.38	100	P		Pn	04 54 32.7 +0.3
	baz=291						
PNL	Peninsula	6.38	100	P		Pn	04 54 32.7 +0.3
F24K	Squaw Lake	6.41	14	Pn		Pn	04 54 33.2 +0.4
F24K	Squaw Lake	6.41	14	P		Pn	04 54 33.2 +0.4
	baz=197						
M29M	Somme Creek	6.42	74	Pn		Pn	04 54 33.7 +0.8
M29M	Somme Creek	6.42	74	P		Pn	04 54 33.8 +0.8
	baz=266						
E19K	Redstone River	6.54	342			Pn	04 54 35.7 +1.2
E19K	Redstone River	6.54	342	P		Pn	04 54 34.8 +0.3
	baz=156						
YUK6	Outpost Mounta	6.54	88			Pn	04 54 35.4 +0.5
YUK6	Outpost Mounta	6.54	88	P		Pn	04 54 35.4 +0.5
	baz=280						
O29M	Mount Kennedy	6.58	93			Pn	04 54 36.0 +0.8
O29M	Mount Kennedy	6.58	93	P		Pn	04 54 35.5 +0.3
	baz=285						
G26K	Porcupine Rive	6.62	29			Pn	04 54 35.4 -0.1
G26K	Porcupine Rive	6.62	29	P		Pn	04 54 35.4 -0.1
	baz=216						
L29M	L29M	6.65	69	Pn		Pn	04 54 36.7 +0.7
L29M	L29M	6.65	69	P		Pn	04 54 36.5 +0.5
	baz=261						
H27K	Steamboat Moun	6.68	39			Pn	04 54 36.2 -0.3
H27K	Steamboat Moun	6.68	39	P		Pn	04 54 36.2 -0.3
	baz=228						
I28M	Miner Creek	6.73	47	Pn		Pn	04 54 37.3 +0.1
I28M	Miner Creek	6.73	47	P		Pn	04 54 37.1 -0.1
	baz=238						
YUK5	Granite Creek	6.76	86			Pn	04 54 37.6 0.0
E23K	Chandalar	6.79	7			Pn	04 54 38.7 +0.8
E23K	Chandalar	6.79	7	P		Pn	04 54 38.5 +0.6
	baz=189						
F25K	Christian Rive	6.80	21			Pn	04 54 37.8 -0.2
F25K	Christian Rive	6.80	21	P		Pn	04 54 37.9 -0.1
	baz=206						
BMAR	Burnt Mountain	6.85	24	Pn		Pn	04 54 38.6 -0.1
E24K	Your Creek	6.89	11			Pn	04 54 39.9 +0.6
E24K	Your Creek	6.89	11	P		Pn	04 54 39.8 +0.6
	baz=194						
J29N	Klondike Camp	6.95	58			Pn	04 54 40.9 +0.8
HYT	Haines Junctio	6.98	88	Pn		Pn	04 54 41.1 +0.5
HYT	Haines Junctio	6.98	88	P		Pn	04 54 41.2 +0.5
	baz=281						
G27K	Doyon Strip	7.05	35			Pn	04 54 41.0 -0.4
G27K	Doyon Strip	7.05	35	P		Pn	04 54 40.8 -0.6
	baz=224						
K29M	Barlow Dome	7.06	63	Pn		Pn	04 54 42.1 +0.4
K29M	Barlow Dome	7.06	63	P		Pn	04 54 42.4 +0.7
	baz=256						
N30M	Aishikik Lake	7.09	83			Pn	04 54 41.4 -0.6
N30M	Aishikik Lake	7.09	83	P		Pn	04 54 42.1 +0.2
	baz=276						
F26K	Sheenjek River	7.16	24			Pn	04 54 42.3 -0.6
F26K	Sheenjek River	7.16	24	P		Pn	04 54 42.4 -0.6
	baz=211						
P29M	Windy Craggy	7.18	98	Pn		Pn	04 54 44.5 +1.2
P29M	Windy Craggy	7.18	98	P		Pn	04 54 44.2 +0.9
	baz=290						
M30M	Minto, Yukon	7.20	74			Pn	04 54 44.1 +0.7
M30M	Minto, Yukon	7.20	74	P		Pn	04 54 44.2 +0.7
	baz=267						
E25K	Arctic Village	7.29	19			Pn	04 54 44.4 -0.2
E25K	Arctic Village	7.29	19	P		Pn	04 54 44.7 0.0
	baz=204						
TOLK	Toolik Lake Re	7.37	7	Pn		Pn	04 54 47.1 +1.4
TOLK	Toolik Lake Re	7.37	7	P		Pn	04 54 46.1 +0.4
	baz=188						
P30M	Million Dollar	7.41	93			Pn	04 54 46.7 +0.4
P30M	Million Dollar	7.41	93	P		Pn	04 54 46.7 +0.4
	baz=286						
D22K	Ayikyak River	7.55	358			Pn	04 54 49.2 +1.0
D22K	Ayikyak River	7.55	358	P		Pn	04 54 49.2 +1.0
	baz=177						
D23K	Nanushuk River	7.65	3			Pn	04 54 50.7 +1.2
D23K	Nanushuk River	7.65	3	P		Pn	04 54 49.8 +0.4
	baz=184						
O30N	Mendenhall	7.67	88			Pn	04 54 49.5 -0.4
O30N	Mendenhall	7.67	88	P		Pn	04 54 49.4 -0.4
	baz=282						
H29M	Whitestone	7.69	45	Pn		Pn	04 54 50.6 +0.6
H29M	Whitestone	7.69	45	P		Pn	04 54 50.5 +0.4
	baz=237						
N31M	Braeburn, Yuko	7.71	82	Pn		Pn	04 54 46.8 -3.6
CHNA	Chernabura Isl	7.72	215	P		Pn	04 54 50.0 -0.6
J30M	Hart River	7.76	59	Pn		Pn	04 54 52.1 +0.9
J30M	Hart River	7.76	59	P		Pn	04 54 52.9 +1.7
	baz=253						
D24K	Happy Valley	7.92	8			Pn	04 54 54.7 +1.6
D24K	Happy Valley	7.92	8	P		Pn	04 54 54.7 +1.6
	baz=191						
I30M	Mount Dempster	7.96	54	Pn		Pn	04 54 53.8 0.0
F28M	Old Crow	8.11	34	Pn		Pn	04 54 55.7 0.0
F28M	Old Crow	8.11	34	P		Pn	04 54 55.6 -0.2
	baz=225						
E27K	Coleen River	8.12	28	Pn		Pn	04 54 55.2 -0.6
E27K	Coleen River	8.12	28	P		Pn	04 54 55.4 -0.4
	baz=217						
G29M	Pine Creek	8.20	41			Pn	04 54 57.4 +0.4
G29M	Pine Creek	8.20	41	P		Pn	04 54 57.4 +0.4
	baz=234						
WHY	Whitehorse	8.27	87	Pn		Pn	04 54 58.1 0.0
WHY	Whitehorse	8.27	87	P		Pn	04 54 57.9 -0.1
	baz=282						
D25K	Kavik River	8.31	14			Pn	04 54 58.6 +0.2
D25K	Kavik River	8.31	14	P		Pn	04 54 59.1 +0.8
	baz=198						
EPYK	Eagle Plains	8.34	47			Pn	04 54 59.5 +0.6
EPYK	Eagle Plains	8.34	47	P		Pn	04 54 59.5 +0.6
	baz=240						
SKAG	Skagway	8.39	96	P		Pn	04 55 00.9 +1.3
C24K	Franklin Bluff	8.49	7			Pn	04 55 01.3 +0.5
C24K	Franklin Bluff	8.49	7	P		Pn	04 55 01.4 +0.6
	baz=190						
C23K	Itkillik River	8.52	3			Pn	04 55 01.7 +0.5
C23K	Itkillik River	8.52	3	P		Pn	04 55 01.7 +0.5
	baz=184						
S31K	Pelican	8.61	106			Pn	04 55 02.0 -0.4
S31K	Pelican	8.61	106	P		Pn	04 55 02.7 +0.2
	baz=300						
G30M	tAoh Zraii Nji	8.83	44			Pn	04 55 04.9 -0.5
G30M	tAoh Zraii Nji	8.83	44	P		Pn	04 55 04.9 -0.5
	baz=238						
E28M	Babbage River	8.92	30			Pn	04 55 06.3 -0.4
E28M	Babbage River	8.92	30	P		Pn	04 55 06.3 -0.4
	baz=222						
JIS	Juneau Island	9.32	102	P		Pn	04 55 13.2 +1.1
G31M	Satah River	9.46	46			Pn	04 55 12.9 -1.1
G31M	Satah River	9.46	46	P		Pn	04 55 14.3 +0.4
	baz=242						
SIT	Sitka	9.50	110	P		Pn	04 55 15.0 +0.5
S32K	Killisnoo	9.62	106			Pn	04 55 17.1 +1.0
S32K	Killisnoo	9.62	106	P		Pn	04 55 17.1 +1.0
	baz=301						
F31M	Tsiigehtchic	9.89	44			Pn	04 55 19.2 -0.5
F31M	Tsiigehtchic	9.89	44	P		Pn	04 55 19.2 -0.5
	baz=241						
Q32M	Nakina River	10.04	95			Pn	04 55 22.1 0.0
Q32M	Nakina River	10.04	95	P		Pn	04 55 22.1 0.0
	baz=292						

*IDC **06** 04:55:54.7±0.9, 22°.80N×122°.78E, h0km, mb3.8/11, mbtmp3.8/14, ML3.5/3, MS3.2/12, Error ellipse: s-maj=27.8km s-min=19.0km az=74.0*

*NEIC **06** 04:55:57.8±1.8, 22°.92N±0°.06×122°.78E±0°.06, h14km±5km, mb4.7/18, Error ellipse: s-maj=9.7km s-min=7.2km az=155.0*

*NIED **06** 04:55:58.2, 22°.90N×122°.83E, h50km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=1.42; Mθθ1.32; Mφφ0.10; Mrθ0.95; Mθφ-0.81; Mφr-0.65; Fault plane solution: M0 1.95000×10^15 NP1: φs=302.00000°, δ63.00000°, λ-84.00000°. NP2: φs=109.00000°, δ27.00000°, λ-101.00000°.*

*JMA **06** 04:55:58.2±0.2, 23°.N±1°×122°.8E±0°.7, h50km, MD4.2/19, MV4.1/19, FAR S OFF ISHIGAKIJIMA*

*TAP **06** 04:55:59.2, 22°.93N×122°.79E, h68km±1km, ML4.3, D*

ISC 06 04:55:57.3±2.7, 22°.93N±0°.03×122°.82E±0°.02, h16km±17km, n213, σ1§34/293, mb4.2/22, MS3.3/7, 12C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
LDUT	Ludao	1.27	259	⇑iP		04 56 19.9	-0.5
LDUT				eS		04 56 34.5	-2.6
EOS4	EOS4	1.28	339	eP		04 56 21.0	+0.2
EOS4				eS		04 56 36.2	-0.6
ECBN	Changbin	1.32	287	eP		04 56 21.2	+0.1
ECBN				eS		04 56 36.0	-2.4
CHKH	Chenggong	1.34	282	⇑P		04 56 20.8	-0.6
CHKH				eS		04 56 35.8	-3.0
HGSD	Ruisui	1.41	294	eP		04 56 21.6	-0.7
HGSD				eS		04 56 37.5	-3.0
TEGC	Jichi Village	1.41	304	eP		04 56 22.6	+0.2
TEGC				eS		04 56 39.4	-1.3
EOS3	EOS3	1.43	341	eP		04 56 23.4	-0.2
EOS3				eS		04 56 41.0	+0.1
FULB	Fuli	1.43	281	eP		04 56 22.1	-0.6
FULB				eS		04 56 38.5	-2.8
SHUL	Shoufeng	1.44	307	eP		04 56 22.3	-0.5
SHUL				eS		04 56 40.8	-0.6
HATJ	Hateruma jima	1.44	38	P		04 56 22.8	0.0
HATJ				S		04 56 40.0	-1.4
EYUL	Yuli	1.45	287	eP		04 56 22.8	-0.1
EYUL				eS		04 56 39.5	-2.1
TEYL	Yanliau Villag	1.47	310	eP		04 56 24.2	0.0
TEYL				eS		04 56 40.7	-1.2
LAY	Lan-yu	1.47	233	⇑iP		04 56 22.6	-0.5
LAY				eS		04 56 40.2	-1.9
EHYH	Wanrong	1.47	293	eP		04 56 23.3	+0.1
YULB	Yu-li	1.48	289	Pn		04 56 22.7	-0.6
YULB				Sn		04 56 40.6	-1.8
YULB	Yu-li	1.48	289	P		04 56 23.4	+0.1
YULB	Yu-li	1.48	289	P		04 56 23.1	-0.2
YULB				eS		04 56 40.5	-1.8
ECS	Chishang	1.49	277	eP		04 56 23.8	+0.4
ECS				S		04 56 41.4	-1.1
EHY	Hungye	1.50	293	eP		04 56 23.4	-0.1
EHY				S		04 56 40.9	-1.9
EHD	Haiduan	1.51	279	eP		04 56 23.9	+0.2
JYNG	Yonagunijimaku	1.52	4	P		04 56 24.8	-0.4
JYNG				eS		04 56 43.7	+0.3
WARBT	Fenglin Townsh	1.54	301	eP		04 56 23.9	-0.3
WARBT				eS		04 56 40.9	-2.9
YOJ	Yonaguni jima	1.54	6			04 56 24.9	+0.8
YOJ	Yonaguni jima	1.54	6	P		04 56 24.7	+0.6
YOJ	Yonaguni jima	1.54	6	eP		04 56 24.7	+0.6
YOJ				eS		04 56 42.7	-1.1
YOJ	Yonaguni jima	1.54	6	⇑iP		04 56 24.8	+0.6
YOJ				i S		04 56 42.5	-1.3
ESL	Shilin	1.55	305	eP		04 56 23.7	-0.6
ESL				eS		04 56 41.1	-3.1
TTN	Taitung	1.56	264	eP		04 56 24.8	+0.5
TTN				eS		04 56 44.0	-0.1
LONT	Longtian	1.56	270	eP		04 56 25.1	+0.6
LONT				eS		04 56 43.3	-1.0
EOS2	EOS2	1.58	340	eP		04 56 25.6	-0.5
EOS2				eS		04 56 45.2	+0.6
ETM	Tongmen	1.60	311	eP		04 56 25.1	+0.1
TWD	Chiawan	1.61	316	eP		04 56 24.6	-0.5
TWD				eS		04 56 43.1	-2.4
TWGBT	Beinan	1.61	267	P		04 56 25.6	+0.5
TWGBT	Beinan	1.61	267	P		04 56 25.1	0.0
TWGBT				S		04 56 44.3	-1.2
TWG	Pinlang	1.62	267			04 56 25.1	-0.1
TWG	Pinlang	1.62	267	P		04 56 25.3	+0.1
TWG				S		04 56 44.3	-1.5
IRIF	Iriomote-Funau	1.63	30	P		04 56 25.6	+0.2
IRIF				eS		04 56 44.7	-1.4
IRIF	Iriomote-Funau	1

TAWH eS Sn 04 56 50.9 -1.3
WUSB Renai 1.89 304 eP Pn 04 56 29.6 +0.5
WUSB eS Sn 04 56 50.2 -2.5
TWC Suao 1.90 332 eP Pn 04 56 30.1 +1.1
TWC eS Sn 04 56 50.7 -2.0
STYH Taoyuan 1.90 278 eP Pn 04 56 29.7 +0.6
STYH eS Sn 04 56 50.7 -2.1
EAST Anshuo 1.90 254 eP Pn 04 56 29.8 +0.6
EAST eS Sn 04 56 51.9 -1.0
SSLB Suanglung 1.92 297 Pn 04 56 29.9 +0.5
SSLB Suanglung 1.92 297 P Pn 04 56 30.4 +1.0
SSLB Suanglung 1.92 297 eP Pn 04 56 30.2 +0.8
ALS Alishan 1.94 288 eP Pn 04 56 31.2 +1.3
ALS eS Sn 04 56 53.3 -0.9
FUSS Fushou 1.96 313 eP Pn 04 56 30.6 +0.4
WHYT Xinyi Township 1.97 293 eP Pn 04 56 31.4 +1.4
WHYT eS Sn 04 56 53.0 -1.4
NDS Dongshan 1.98 329 eP Pn 04 56 31.4 +1.2
NDS eS Sn 04 56 54.4 -0.3
LATG Datong 2.00 324 ⇑P Pn 04 56 31.0 +0.5
LATG S Sn 04 56 53.9 -1.3
NNSB Datong 2.00 319 eP Pn 04 56 31.2 +0.7
NNSB eS Sn 04 56 54.2 -1.1
NNSH Datong 2.00 319 eP Pn 04 56 31.5 +1.0
SLIU Shizi 2.00 250 eP Pn 04 56 31.1 +0.6
SLGT Liugui 2.01 272 eP Pn 04 56 32.3 +1.7
SMLT Sun Moon Lake 2.01 299 eP Pn 04 56 31.8 +1.2
TWT Tachien 2.01 312 eP Pb 04 56 32.5 -1.1
TWT eS Sn 04 56 54.9 -0.8
NNS Nan Shan 2.01 319 eP Pn 04 56 31.5 +0.7
NNS eS Sn 04 56 55.0 -0.6
TDCB Techi 2.02 311 eP Pn 04 56 31.8 +0.9
TDCB eS Sn 04 56 54.4 -1.5
TSMG Majia 2.02 264 eP Pn 04 56 31.0 +0.3
SSD Sandimen 2.03 265 eP Pn 04 56 31.5 +0.6
MASBT Mashibuluo 2.04 262 ⇑iP Pn 04 56 31.9 +0.9
MASBT eS Sn 04 56 55.1 -1.2
SMST Manzhou Townsh 2.04 244 eP Pn 04 56 31.6 +0.5
TSEB Hengchuen, Pin 2.05 241 eP Pb 04 56 29.8 -1.4
TSEB eS Sn 04 56 55.5 -0.9
TYC Yuchr 2.05 299 eP Pn 04 56 32.6 +1.5
TPUB Ta-pu 2.05 281 Pn 04 56 32.5 +1.3
TPUB Ta-pu 2.05 281 P Pb 04 56 33.1 -1.2
TPUB Ta-pu 2.05 281 eP Pb 04 56 33.1 -1.2
TPUB eS Sn 04 56 55.8 -0.7
ENTT Nioudou 2.06 326 eP Pn 04 56 32.1 +0.8
WTP Ta-pu 2.06 279 eP Pb 04 56 33.3 -1.1
WTP eS Sn 04 56 57.6 +0.9
SGST Jiashian 2.07 275 ⇑iP Pn 04 56 32.7 +1.2
SGST eS Sn 04 56 56.8 -0.1
TWE Neicheng 2.08 330 eP Pn 04 56 32.7 +1.2
TWE eS Sn 04 56 55.1 -2.0
WCS Beigang Elemen 2.08 303 eP Pn 04 56 32.8 +1.2
CHN4 Tsaushan 2.10 282 eP Pb 04 56 33.9 -1.1
CHN4 eS Sn 04 56 58.4 +0.9
TWKBT Hengchun 2.10 243 ⇑iP Pn 04 56 32.9 +1.0
TWKBT S Sn 04 56 56.4 -1.3
WCKO Fanlu 2.10 284 eP Pn 04 56 33.6 +1.7
WCKO eS Sn 04 56 59.3 +1.6
TWK1 Hengchun 2.11 243 ⇑P Pn 04 56 32.9 +0.9
TWK1 eS Sn 04 56 56.3 -1.5
SCZT Fangliau 2.11 255 eP Pn 04 56 33.7 +1.7
SCZT eS Sn 04 56 58.2 +0.4
WJS Zhushan 2.12 295 eP Pb 04 56 34.2 -1.2
WJS eS Sn 04 56 58.3 +0.1
CHN1 Nanshi 2.13 277 eP Pb 04 56 34.4 -1.1
CHN1 eS Sn 04 56 59.6 +1.2
HEN Hengchun 2.13 245 eP Pn 04 56 33.4 +1.1
HEN eS Sn 04 56 57.4 -1.0
JISG Ishigakijimahi 2.14 39 P Pn 04 56 32.2 -0.2
JISG S Sn 04 56 56.6 -2.1
JISG Ishigakijimahi 2.14 39 A A 04 56 32.2
comp=E,11nm,0.6s,comp=N,5.0nm,0.6s
FUSB Fushanzhiwuyua 2.15 328 P Pn 04 56 34.1 +1.5
FUSB eS Sn 04 56 58.4 -0.6
SCST Cishan 2.15 269 eP Pb 04 56 34.6 -1.3
SNST Tainan City 2.16 278 eP Pb 04 56 35.3 -0.8
TWK Hsinying 2.18 279 eP Pb 04 56 35.1 -1.3
TWK eS Sn 04 56 59.1 -0.5
WNT Mingjian 2.18 296 eP Pb 04 56 35.8 -0.6
YHNB Yeheng 2.19 323 Pn 04 56 33.9 +0.9
YHNB Yeheng 2.19 323 P Pn 04 56 34.3 +1.2
YHNB Yeheng 2.19 323 ⇑iP Pn 04 56 34.0 +1.0
YHNB S Sn 04 56 58.2 -1.7
WHP Taichung City 2.19 308 eP Pn 04 56 34.7 +1.6
WHP eS Sn 04 56 58.8 -1.1
NSK Sanguang 2.20 323 P Pn 04 56 34.1 +0.9
NSK S Sn 04 56 58.6 -1.7
NWLT Wulai 2.21 327 eP Pn 04 56 34.8 +1.5
NWLT eS Sn 04 56 58.8 -1.5
TWB1 Santiao Chiao 2.21 340 eP Pn 04 56 35.1 +1.8
TWM1 Shoushan 2.22 268 eP Pb 04 56 36.5 -0.5
TWM1 eS Sb 04 57 04.0 -0.3
TIPB Shuangxi 2.23 336 eP Pn 04 56 34.4 +0.7
TIPB eS Sn 04 57 00.3 -0.7
WDLH Douliu 2.23 290 eP Pn 04 56 35.3 +1.7
WDLH eS Sn 04 57 01.8 +0.9
CHY Chiayi 2.28 285 eP Pn 04 56 36.4 +2.1
NFF Wufeng Townshi 2.31 318 eP Pn 04 56 36.6 +1.8
TCU Taichung 2.32 302 eP Pn 04 56 36.1 +1.3
SXI1 Grass Mountain 2.33 338 eP Pn 04 56 35.2 +0.2
SXI1 eS Sn 04 57 00.5 -2.9
TWA Mucha 2.34 331 eP Pn 04 56 35.9 +0.7
TWA eS Sn 04 57 02.1 -1.5
WFSB Wu-fen Shan 2.34 336 eP Pn 04 56 36.2 +1.1
WFSB eS Sn 04 57 02.9 -0.7
TWP Hsiaoliuchiu 2.34 256 eP Pb 04 56 39.2 0.0
TWQ1 Liyutan 2.35 307 eP Pn 04 56 37.6 +2.2
TWQ1 eS Sn 04 57 04.1 +0.2
WTK Tuku 2.36 289 eP Pb 04 56 38.4 -1.1
WCHH Zhanghua 2.38 299 eP Pb 04 56 38.7 -1.0
TATO Taipei 2.38 329 Pn 04 56 37.5 +1.8
TATO Taipei 2.38 329 P Pb 04 56 38.1 -1.7
TATO Taipei 2.38 329 eP Pn 04 56 37.5 +1.8
TATO eS Sn 04 57 02.2 -2.3
WSSB Gushan 2.38 264 eP Pb 04 56 38.5 -1.3
ICHU Yijhu 2.38 281 eP Pn 04 56 37.2 +1.5
KSHI Guanxi Townshi 2.38 321 eP Pn 04 56 37.8 +2.1
LIOB Emei 2.38 316 eP Pn 04 56 37.9 +2.2
NSY Sanyi 2.40 309 eP Pn 04 56 37.8 +1.8
TAI Tainan 2.42 272 eP Pn 04 56 38.0 +1.8
JTJ Tarama 2.42 45 P Pn 04 56 36.6 +0.3
JTJ S Sn 04 57 04.4 -1.2
JTJ Tarama 2.42 45 A A 04 56 36.6
comp=E,4.0nm,0.7s,comp=N,5.0nm,0.8s
SCLT Jiali 2.43 276 eP Pn 04 56 38.7 +2.3
CHN8 Yiju 2.44 280 eP Pn 04 56 38.4 +1.9
CHN8 eS Sn 04 57 07.2 +1.2
YM01 YM01 2.49 333 eP Pn 04 56 39.1 +1.8
YM01 eS Sn 04 57 06.3 -1.0
SBCB Hsinchu 2.51 318 eP Pn 04 56 38.8 +1.3
ZUZH Zhuzihu 2.52 333 eP Pn 04 56 39.3 +1.7
TWS1 Kuangyinshan 2.52 330 eP Pn 04 56 39.1 +1.5
TWS1 eS Sn 04 57 07.2 -0.7
TSCK Chigu Township 2.53 276 eP Pn 04 56 39.8 +2.0
BBP Basco 2.60 198 ⇑eP Pn 04 56 38.8 +0.1
JIRB Irabujima 2.87 48 P Pn 04 56 42.5 +0.1
JIRB eS Sn 04 57 15.0 -1.5
JMJ2 Miyako jima3 2.92 51 P Pn 04 56 43.2 +0.1
JMJ2 S Sn 04 57 16.9 -1.0
WDGT Dungji 2.93 277 eP Pn 04 56 45.2 +1.9
WDGT eS Sn 04 57 16.3 -1.8
JMJ Miyako jima 2 2.94 50 P Pn 04 56 43.0 -0.4
JMJ Miyako jima 2 2.94 50 eP Pn 04 56 41.6 -1.8
JMJ eS Sn 04 57 15.2 -3.3
JIKM Ikemajima 2.98 48 P Pn 04 56 44.1 +0.2
JIKM S Sn 04 57 17.7 -1.7
JOGS Gusukube 2.99 52 P Pn 04 56 44.6 +0.5
JOGS S Sn 04 57 18.5 -1.1
PHUB P'eng-hu 3.05 282 eP Pn 04 56 45.2 +0.3
PHUB eS Sn 04 57 20.5 -0.5
PNG Penghu 3.07 283 eP Pn 04 56 46.5 +1.3
PNG eS Sn 04 57 20.0 -1.7
VCHM Qimei 3.14 276 eP Pn 04 56 46.2 +0.1
VWUC VWUC 3.71 304 eP Pn 04 56 55.5 +1.6
VWUC eS Sn 04 57 34.0 -3.3
PTMZ Houxiangcun 3.99 303 eP Pn 04 56 59.1 +1.3
PTMZ eS Sn 04 57 41.1 -3.1
MATB Ma-tsu 4.14 321 eP Pn 04 57 01.2 +1.3

KNMB Chin-men Tao 4.34 292 Pn Pn 04 57 03.8 +1.2
KNMB Chin-men Tao 4.34 292 eP Pn 04 57 04.3 +1.6
CVP Callao Caves 5.28 190 ⇑eP Pn 04 57 18.1 +2.5
CVP eS Sn 04 58 16.5 +0.4
JOW Kunigami 6.30 51 Pn Pn 04 57 29.1 -0.4
comp=N,2.3nm,0.3s,baz=243,slow=4.5,SNR=2.3
JOW Sn Sn 04 58 30.3 -11
baz=112,slow=21
comp=N,10.0nm,0.4s
JOW Kunigami 6.30 51 eP Pn 04 57 28.8 -0.7
JMZ Minamidaito 2 8.18 68 Pn Pn 04 57 56.0 +0.5
JNU Nakatsue 12.40 33 LR LR 05 03 52.0
comp=N,119nm,20.2s,baz=212,slow=38
KSRS Korea Array 15.13 16 Pn Pn 04 59 30.4 0.0
comp=N,0.3nm,0.3s,baz=199,slow=12,SNR=2.5
KSRS LR LR 05 06 04.5
comp=N,83nm,18.5s,baz=190,slow=40
comp=N,0.9nm,0.5s
DAV Davao City (W) 15.99 170 LR LR 05 06 28.5
comp=N,34nm,18.3s,baz=125,slow=40
JHJ Hachijo jima 2 18.07 52 LR LR 05 06 29.5
comp=N,50nm,20.2s,baz=132,slow=35
MJAR Matsushiro Arr 19.01 41 P Pn 05 00 20.2 +1.0
comp=N,0.1nm,0.3s,baz=226,slow=9.9,SNR=13
MJAR LR LR 05 07 44.2
comp=N,52nm,21.7s,baz=214,slow=37
comp=N,5.6nm,0.6s
USA0B Ussuriysk Arra 22.52 17 P P 05 00 56.7 +0.3
USRK Ussuriysk Ar. 22.52 17 P P 05 00 56.6 +0.3
CMAR Chiang Mai Arr 22.77 263 P P 05 01 01.6 +2.4
comp=N,1.1nm,0.3s,baz=69,slow=8.8,SNR=4.2
CMAR LR LR 05 10 16.0
comp=N,61nm,18.3s,baz=75,slow=38
ASAJ Asahikawa 26.68 33 LR LR 05 12 21.2
comp=N,85nm,20.5s,baz=136,slow=37
KLR Kul'dur 27.19 13 P P 05 01 43.0 +3.0
comp=N,0.8nm,0.5s,baz=239,slow=12,SNR=2.5
KLR LR LR 05 13 21.6
comp=N,66nm,18.7s,baz=215,slow=38
comp=N,0.8nm,0.5s
KAPI Kappang 27.93 187 LR LR 05 11 53.5
comp=N,35nm,22.0s,baz=359,slow=34
SONM Songino Array 28.11 336 P P 05 01 50.3 +1.7
comp=N,1.0nm,0.8s,baz=145,slow=11,SNR=5.0
comp=N,1.0nm,0.8s
PETK Petropavlovsk- 40.09 32 LR LR 05 20 59.4
comp=N,40nm,19.3s,baz=265,slow=37
MK31 Makanchi Array 40.28 316 P P 05 03 32.0 -1.6
MKAR Makanchi Array 40.28 316 P P 05 03 31.3 -2.4
MKAR Makanchi Array 40.28 316 P P 05 03 33.8 +0.1
comp=N,1.0nm,0.9s,baz=101,slow=15,SNR=2.5
comp=N,1.0nm,0.9s
MAKZ Makanchi 40.49 316 P P 05 03 32.6 -2.8
MAKZ IAmb IAmb 05 03 33.4
comp=Z,11nm,1.3s
FITZ Fitzroy Crossi 40.87 176 P P 05 03 39.0 +0.3
H11N1 WAKE ISLAND Hy 41.07 86 T T 05 47 43.3
baz=283
H11N2 WAKE ISLAND Hy 41.07 86 T T 05 47 35.8
baz=283
H11N3 WAKE ISLAND Hy 41.08 86 T T 05 47 47.2
baz=283
H11S3 WAKE ISLAND Hy 41.16 88 T T 05 47 42.5
baz=282
H11S1 WAKE ISLAND Hy 41.16 88 T T 05 47 46.1
baz=282
H11S2 WAKE ISLAND Hy 41.17 88 T T 05 47 52.1
baz=282
MA2 Magadan 41.59 21 LR LR 05 22 55.0
comp=Z,39nm,18.3s,baz=257,slow=39
COEN Coen 41.72 150 P P 05 03 45.4 -0.3
COEN IAmb IAmb 05 03 57.0
comp=Z,11nm,1.3s
ZALV Zalesovo Beam 42.11 327 P P 05 03 49.8 +1.2
ZALV Zalesovo Beam 42.11 327 P P 05 03 48.5 -0.1
comp=Z,1.1nm,0.5s,baz=118,slow=9.0,SNR=3.9
comp=Z,1.1nm,0.5s
WB0 Warramunga Arr 43.91 164 P P 05 04 01.6 -1.8
KURBB Kurchatov Arra 44.03 320 P P 05 04 06.4 +2.2
comp=Z,0.6nm,0.6s,baz=113,slow=8.6,SNR=4.2
comp=Z,0.6nm,0.6s
WRA Warramunga Arr 44.06 164 P P 05 04 04.7 0.0
comp=Z,0.4nm,0.5s,baz=344,slow=8.8,SNR=6.4
comp=Z,0.4nm,0.5s
WB2 Warramunga Arr 44.07 164 P P 05 04 05.0 +0.2
WB2 IAmb IAmb 05 04 05.4
comp=Z,9.0nm,1.4s
WR0 Warramunga Arr 44.13 164 P P 05 04 06.0 +0.8
WR0 IAmb IAmb 05 04 16.2
comp=Z,7.2nm,1.4s
ASAR Alice Springs 47.55 166 P P 05 04 29.7 -2.5
comp=Z,0.3nm,0.6s,baz=354,slow=7.0,SNR=1.5
comp=Z,0.3nm,0.6s
KBL Kabul 48.06 296 P P 05 04 35.3 -1.2
KBL IAmb IAmb 05 04 51.0
comp=Z,4.5nm,1.1s
BVAR Borovoye Array 49.59 321 P P 05 04 46.1 -1.6
comp=Z,0.4nm,0.5s,baz=104,slow=12,SNR=1.8
comp=Z,0.4nm,0.5s
NRIK Noril'sk 51.01 345 P P 05 04 57.3 -0.8
comp=Z,0.8nm,0.3s,baz=170,slow=15,SNR=1.8
comp=Z,0.8nm,0.3s
FORT Forrest 53.63 174 P P 05 05 18.7 +0.7
ABKAR Akulak array 55.39 315 P P 05 05 30.1 -0.6
ABKAR Akbulak array 55.39 315 P P 05 05 30.7 0.0
ABKAR IAmb IAmb 05 05 45.9
comp=Z,1.5nm,0.9s
DZM Mont Dzumac 61.68 133 P P 05 06 14.2 -0.7
DZM IAmb IAmb 05 06 17.2
comp=Z,7.9nm,0.9s
CAN Canberra 63.02 156 P P 05 06 23.6 0.0
CAN IAmb IAmb 05 06 39.5
comp=Z,19nm,1.4s
M14K Bethel 63.07 32 P P 05 06 25.2 +1.6
E18K Tukpahlearik C 63.90 25 P P 05 06 29.7 +0.7
E18K IAmb IAmb 05 06 33.3
comp=Z,13nm,1.1s
B20K Meade River 65.25 22 P P 05 06 38.6 +0.8
H19K Roundabout Mou 65.55 27 P P 05 06 39.9 +0.1
H19K IAmb IAmb 05 06 50.7
comp=Z,16nm,1.5s
J19K Poorman 65.96 29 P P 05 06 44.2 +1.7
J19K IAmb IAmb 05 06 56.7
comp=Z,11nm,1.5s
ILAR Eielson Array 69.64 27 P P 05 07 04.5 -1.1
comp=Z,0.4nm,0.7s,baz=280,slow=6.3,SNR=2.6
ILAR LR LR 05 38 38.2
comp=Z,32nm,18.6s,baz=96,slow=37
comp=Z,0.4nm,0.7s
YKA Yellowknife Ar 83.54 23 P P 05 08 26.1 +1.8
comp=Z,2.0nm,0.8s,baz=307,slow=5.7,SNR=6.6
comp=Z,2.0nm,0.8s
CLL Collm 83.96 324 eP P 05 08 27.0 +0.3

*IDC **06** 05:00:55.3±1.1, 15°.36N×94°.75W, h0km, mb4.1/13, mbtmp4.1/15, ML4.2/3, MS3.5/11, Error ellipse: s-maj=36.7km s-min=15.5km az=67.0*
*CATAC **06** 05:00:58.2±1.2, 15°.37N×94°.91W, h10km, MB5.1, mb5.0, ML4.8*
*NEIC **06** 05:00:59.5±3.0, 15°.37N±0°.06×94°.74W±0°.04, h10km±1km, mb4.3/53, Md4.6/138(MEX), Error ellipse: s-maj=10.5km s-min=5.2km az=205.0*
*MEX **06** 05:01:01.0±0.9, 15°.25N×94°.81W, h16km±32km, MD4.6*
*GCG **06** 05:01:04.4±0.6, 15°.58N×94°.48W, h50km±999km, MD5.0*
*SNET **06** 05:01:16.0±2.6, 15°.69N×93°.41W, h13km, ML4.4*
ISC 06 05:00:59.9±1.9, **15°.25N**±0°.04×**94°.77W**±0°.03, **h29**km±14km, **n212**, n2e**31**/265, **mb4.3**/21, **MS3.4**/11, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.29**	**40**	*i* P	**Pn**	**05 01 20.3**	**-1.6**
CARR				*i* S	**Sn**	**05 01 35.4**	**-2.8**
HUIG	**Huatulco**	**1.39**	**292**		**Pn**	**05 01 22.0**	**-1.4**
HUIG	**Huatulco**	**1.39**	**292**	*eP*	**Pn**	**05 01 22.0**	**-1.4**
HUIG				*eS*	**Sn**	**05 01 36.9**	**-3.9**
PCIG		**1.56**	**73**		**Pn**	**05 01 25.2**	**-0.4**
PCIG					**Sn**	**05 01 44.0**	**-0.9**
PCIG		**1.56**	**73**	*i* P	**Pn**	**05 01 25.1**	**-0.5**
PCIG				*eP*	**Pn**	**05 01 25.2**	**-0.4**
PCIG				*eS*	**Sn**	**05 01 43.6**	**-1.3**
PCIG				*eS*	**Sn**	**05 01 44.0**	**-0.9**
CMIG	**Matias Romero**	**1.83**	**357**	Pn	**Pn**	**05 01 28.6**	**-0.8**
	176nm,0.3s,baz=182,slow=14,SNR=1656						
CMIG				Sn	**Sn**	**05 01 49.2**	**-2.5**
	729nm,0.3s,baz=156,slow=12,SNR=24						
CMIG				LR	LR	05 02 12.1	
	comp=Z,634nm,21.9s,baz=154,slow=45						
UXUV	**UXUV**	**2.14**	**16**	*eP*	**Pn**	**05 01 33.8**	**+0.1**
UXUV				*eS*	**Sn**	**05 01 57.9**	**-1.4**
TGIG		**2.19**	**46**		**Pn**	**05 01 34.8**	**+0.4**
TGIG					**Sn**	**05 02 00.6**	**-0.1**
TGIG		**2.19**	**46**	*eP*	**Pn**	**05 01 34.8**	**+0.4**
TGIG				*eS*	**Sn**	**05 02 00.6**	**-0.1**
TGBT	**Tuxtla Gutierr**	**2.21**	**47**		**Pn**	**05 01 33.7**	**-1.0**
TGBT					**Sn**	**05 02 01.3**	**+0.2**
TGBT	**Tuxtla Gutierr**	**2.21**	**47**	*eP*	**Pn**	**05 01 33.7**	**-1.0**
TGBT				*eS*	**Sn**	**05 02 01.3**	**+0.2**
PEIG	**Puerto Escondi**	**2.41**	**288**		**Pn**	**05 01 36.3**	**-1.1**
PEIG	**Puerto Escondi**	**2.41**	**288**	*eP*	**Pn**	**05 01 36.3**	**-1.1**
PEIG				*eS*	**Sn**	**05 02 00.2**	**-5.8**
THIG		**2.44**	**98**		**Pn**	**05 01 37.5**	**-0.3**
THIG					**Sn**	**05 02 05.5**	**-1.2**
THIG		**2.44**	**98**	*eP*	**Pn**	**05 01 37.5**	**-0.3**
THIG				*eS*	**Sn**	**05 02 05.5**	**-1.2**
PAVE	**Pavencul**	**2.50**	**91**	*eP*	**Pn**	**05 01 38.8**	**0.0**
PAVE				*eS*	**Sn**	**05 02 08.0**	**-0.6**
OXBJ	**Oaxaca**	**2.61**	**314**		**Pn**	**05 01 40.4**	**+0.2**
OXBJ					**Sn**	**05 02 10.6**	**-0.5**
OXBJ	**Oaxaca**	**2.61**	**314**	*eP*	**Pn**	**05 01 40.4**	**+0.2**
OXBJ				*eS*	**Sn**	**05 02 10.6**	**-0.5**
OXIG	**Oaxaca**	**2.62**	**314**		**Pn**	**05 01 41.5**	**+1.1**
OXIG					**Sn**	**05 02 10.5**	**-0.8**
VHO	**Vista Hermosa**	**2.62**	**314**	*eP*	**Pn**	**05 01 41.5**	**+1.1**
VHO				*eS*	**Sn**	**05 02 10.5**	**-0.8**
NEUV	**Arroyo Zacate**	**2.64**	**338**	*eP*	**Pn**	**05 01 40.2**	**-0.4**
NEUV				*eS*	**Sn**	**05 02 09.1**	**-2.6**
MIHL	**Minatitlan**	**2.73**	**4**	*eP*	**Pn**	**05 01 44.0**	**+2.2**
MIHL				*eS*	**Sn**	**05 02 13.1**	**-0.8**
CCIG	**Comitan**	**2.73**	**68**		**Pn**	**05 01 42.9**	**+0.9**
CCIG	**Comitan**	**2.73**	**68**	*eP*	**Pn**	**05 01 42.8**	**+0.9**
CCIG				*eS*	**Sb**	**05 02 18.8**	**-2.6**
TUIG	**Tuzandepetl**	**2.79**	**7**	*eP*	**Pn**	**05 01 42.2**	**-0.3**
TUIG				*eS*	**Sn**	**05 02 13.5**	**-1.8**
RTAL	**Retalhuleu**	**3.06**	**103**		**Pn**	**05 01 47.9**	**+1.6**
RTAL	**Retalhuleu**	**3.06**	**103**	*eP*	**Pn**	**05 01 46.6**	**+0.3**
RTAL				*eS*	**Sn**	**05 02 20.9**	**-1.0**
RTAL	**Retalhuleu**	**3.06**	**103**	*i* P	**Pn**	**05 01 47.6**	**+1.3**
RTAL				*i* S	**Sn**	**05 02 22.7**	**+0.8**
RTAL				IAML		05 02 26.5	
	comp=Z,1μm,1.0s						
YOIG	**Yosondua**	**3.11**	**301**		**Pn**	**05 01 48.5**	**+1.2**
YOIG					**Sn**	**05 02 21.8**	**-1.9**
YOIG	**Yosondua**	**3.11**	**301**	*eP*	**Pn**	**05 01 48.5**	**+1.2**
YOIG				*eS*	**Sn**	**05 02 21.8**	**-1.9**
STG3	**Santiaguito 3,**	**3.14**	**99**	*i* P	**Pn**	**05 01 48.6**	**+1.0**
STG3				*i* S	**Sn**	**05 02 24.9**	**+0.7**
HUEH	**Huehuetenango**	**3.15**	**88**		**Pn**	**05 01 50.3**	**+2.5**
HUEH	**Huehuetenango**	**3.15**	**88**	*eP*	**Pn**	**05 01 49.5**	**+1.7**
HUEH				*eS*	**Sn**	**05 02 26.8**	**+2.2**
HUEH	**Huehuetenango**	**3.15**	**88**	*i* P	**Pn**	**05 01 50.3**	**+2.5**
HUEH				*i* S	**Sb**	**05 02 30.6**	**-2.9**
HUEH				IAML		05 02 37.8	
	comp=Z,6μm,1.0s						
VHSA	**Villahermosa**	**3.23**	**33**	*i* P	**Pn**	**05 01 50.7**	**+2.0**
VHSA				*eS*	**Sn**	**05 02 25.7**	**-0.5**
SULM	**Suchitepequez,**	**3.24**	**106**	*i* P	**Pn**	**05 01 51.1**	**+2.3**
SOKI	**Kika Raxquin**	**3.28**	**97**	*i* P	**Pn**	**05 01 51.5**	**+1.8**
SOKI				IAML		05 02 34.1	
	comp=Z,1μm,1.0s						
PMUV	**Sontecomapan**	**3.29**	**354**	*eP*	**Pn**	**05 01 48.0**	**-1.6**
PMUV				*eS*	**Sn**	**05 02 24.7**	**-3.1**
PNIG	**Pinotepa**	**3.43**	**290**		**Pn**	**05 01 51.2**	**-0.2**
PNIG	**Pinotepa**	**3.43**	**290**	*eP*	**Pn**	**05 01 51.2**	**-0.2**
PNIG				*eS*	**Sn**	**05 02 26.1**	**-4.9**
TXIG	**Tlaxiaco**	**3.50**	**305**		**Pn**	**05 01 54.7**	**+2.0**
TXIG					**Sn**	**05 02 30.9**	**-2.4**
TXIG	**Tlaxiaco**	**3.50**	**305**	*eP*	**Pn**	**05 01 54.7**	**+2.0**
TXIG				*eS*	**Sn**	**05 02 30.9**	**-2.4**
QUIS	**Sacapulas**	**3.55**	**89**	*i* P	**Pn**	**05 01 56.4**	**+3.2**
QUIS				*i* S	**Sn**	**05 02 38.8**	**+4.6**
QUIS				IAML		05 02 46.4	
	comp=Z,2μm,1.0s						
TOIG	**Toxpalan**	**3.58**	**322**		**Pn**	**05 01 55.1**	**+1.5**
TOIG					**Sn**	**05 02 35.1**	**0.0**
TOIG	**Toxpalan**	**3.58**	**322**	*eP*	**Pn**	**05 01 55.1**	**+1.5**
TOIG				*eS*	**Sn**	**05 02 35.1**	**0.0**
HLIG	**Huajuapan de L**	**3.88**	**312**		**Pn**	**05 01 59.9**	**+2.1**
HLIG					**Sn**	**05 02 38.2**	**-4.4**
HLIG	**Huajuapan de L**	**3.88**	**312**	*eP*	**Pn**	**05 01 59.9**	**+2.1**
HLIG				*eS*	**Sn**	**05 02 38.2**	**-4.4**
TPIG	**Tehuac#an**	**4.01**	**322**		**Pn**	**05 02 02.3**	**+2.7**
TPIG	**Tehuac#an**	**4.01**	**322**	*eP*	**Pn**	**05 02 02.3**	**+2.7**
FTIG	**Fresnillo de T**	**4.17**	**310**		**Pn**	**05 02 04.0**	**+2.3**
FTIG					**Sn**	**05 02 47.0**	**-2.5**
FTIG	**Fresnillo de T**	**4.17**	**310**	*eP*	**Pn**	**05 02 04.0**	**+2.3**
FTIG				*eS*	**Sn**	**05 02 47.0**	**-2.5**
MGIG	**Malinaltepec**	**4.20**	**298**		**Pn**	**05 02 03.5**	**+1.3**
MGIG					**Sn**	**05 02 47.6**	**-2.9**
MGIG	**Malinaltepec**	**4.20**	**298**	*eP*	**Pn**	**05 02 03.5**	**+1.3**
MGIG				*eS*	**Sn**	**05 02 47.6**	**-2.9**
TLIG	**Tlapa**	**4.31**	**303**	Pn	**Pn**	**05 02 06.1**	**+2.5**
TLIG	**Tlapa**	**4.31**	**303**	*eP*	**Pn**	**05 02 05.5**	**+1.9**
TLIG				*eS*	**Sn**	**05 02 48.6**	**-4.4**
HMTT	**Tlapaneco**	**4.43**	**305**		**Pn**	**05 02 07.6**	**+2.3**
HMTT					**Sn**	**05 02 53.8**	**-2.1**
HMTT	**Tlapaneco**	**4.43**	**305**	*eP*	**Pn**	**05 02 07.6**	**+2.3**
HMTT				*eS*	**Sn**	**05 02 53.8**	**-2.1**
CRIG	**Cruz Grande**	**4.45**	**290**		**Pn**	**05 02 05.8**	**+0.3**
CRIG	**Cruz Grande**	**4.45**	**290**	*eP*	**Pn**	**05 02 05.8**	**+0.3**
CRIG				*eS*	**Sn**	**05 02 49.8**	**-6.4**
JAUV	**Jalcomulco**	**4.53**	**335**	*eP*	**Pn**	**05 02 05.9**	**-0.7**
JAUV				*eS*	**Sn**	**05 02 56.2**	**-2.1**
MRL	**Marmol**	**4.91**	**91**	*i* P	**Pn**	**05 02 13.6**	**+1.6**
SLOZ	**Alcaldia de Sa**	**4.98**	**104**	*i* P	**Pn**	**05 02 14.5**	**+1.8**
PHPU	**Puebla**	**4.98**	**320**		**Sn**	**05 03 10.6**	**+0.8**
PHPU	**Puebla**	**4.98**	**320**	*eS*	**Sn**	**05 03 10.6**	**+0.8**
PETF	**Flores**	**4.99**	**70**		**Pn**	**05 02 13.8**	**+0.9**
PETF	**Flores**	**4.99**	**70**	*i* P	**Pn**	**05 02 13.1**	**+0.2**
PETF	**Flores**	**4.99**	**70**	*eP*	**Pn**	**05 02 13.5**	**+0.6**
PETF	**Flores**	**4.99**	**70**	*i* P	**Pn**	**05 02 13.8**	**+0.9**
PETF				IAML		05 02 16.1	
	comp=Z,600nm,1.0s						
PETF				IVmB_BB		05 02 16.1	
	comp=Z,7μm,1.0s						
PETF				IAmb	IAmb	05 02 18.8	
	comp=Z,370nm,0.6s						
DAIG	**Los Arroyos**	**5.01**	**291**		**Pn**	**05 02 13.9**	**+0.7**
DAIG	**Los Arroyos**	**5.01**	**291**	*eP*	**Pn**	**05 02 13.9**	**+0.7**
DAIG				*eS*	**Sn**	**05 03 02.8**	**-7.4**
NUBE	**Las Nubes**	**5.01**	**105**	*i* P	**Pn**	**05 02 15.1**	**+1.8**
NUBE				IAML		05 02 36.4	
	comp=Z,260nm,1.0s						
NUBE				IVmB_BB		05 02 36.4	
	comp=Z,2μm,1.0s						
NUBE				IAmb	IAmb	05 02 36.8	
	comp=Z,210nm,0.7s						
SCIG	**Sabancuy**	**5.04**	**42**	*eP*	**Pn**	**05 02 12.3**	**-1.2**
SCIG				*eS*	**Sn**	**05 03 10.3**	**-0.5**
CEVE	**Cerro Verde**	**5.18**	**105**	*i* P	**Pn**	**05 02 18.0**	**+2.3**
CEVE	**Cerro Verde**	**5.18**	**105**	*i* P	**Pn**	**05 02 18.3**	**+2.6**
CEVE				IVmB_BB		05 02 32.3	
	comp=Z,3μm,1.0s						
CEVE				IAmb	IAmb	05 02 37.6	
	comp=Z,140nm,0.6s						
CEVE				IAML		05 03 28.6	
	comp=Z,310nm,1.0s						
ACP2	**Acapulco**	**5.18**	**289**		**Pn**	**05 02 19.6**	**+4.1**
ACP2	**Acapulco**	**5.18**	**289**	*eP*	**Pn**	**05 02

MTO3	Montecristo	5.30	99	*i* P		Pn	05 02 19.5	+2.2
MTO3				IAmb	IAmb		05 02 45.9	
	comp=Z,93nm,0.8s							
MTO3				IAML			05 02 51.7	
	comp=Z,110nm,1.0s							
MTO3				IVmB_BB			05 03 03.9	
	comp=Z,1μm,1.0s							
MEIG	Mezcala	5.36	300			Pn	05 02 20.4	+2.4
MEIG	Mezcala	5.36	300	*e*P		Pn	05 02 20.4	+2.4
MEIG				*e*S		Sn	05 03 12.8	-6.1
JAYA	Jayaque - finc	5.39	106	*i* P		Pn	05 02 20.5	+2.0
JAYA				IAmb	IAmb		05 02 47.8	
	comp=Z,170nm,0.8s							
JAYA				IAML			05 03 33.5	
	comp=Z,280nm,1.0s							
YAIG	Yautepec	5.46	312			Pn	05 02 22.2	+2.8
YAIG						Sn	05 03 17.9	-3.5
YAIG	Yautepec	5.46	312	*e*P		Pn	05 02 22.2	+2.8
YAIG				*e*S		Sn	05 03 17.9	-3.5
PLIG	Platanillo	5.51	305			Pn	05 02 22.9	+2.8
PLIG						Sn	05 03 19.5	-2.9
PLIG	Platanillo	5.51	305	*e*P		Pn	05 02 22.9	+2.8
PLIG				*e*S		Sn	05 03 19.5	-2.9
CAIG	El Cayaco	5.58	289			Pn	05 02 21.4	+0.4
CAIG	El Cayaco	5.58	289	*e*P		Pn	05 02 21.4	+0.4
CAIG				*e*S		Sn	05 03 14.6	-10
CXUV	Coxquihui	5.59	332	*e*P		Pn	05 02 20.4	-0.7
CXUV				*e*S		Sn	05 03 19.1	-5.3
MPVM	San Francisco	5.64	315	*e*P		Pn	05 02 23.9	+1.8
MPVM				*e*S		Sn	05 03 25.1	-1.0
TLVM	San Miguel Top	5.75	314	*e*P		Pn	05 02 26.7	+3.1
TLVM				*e*S		Sn	05 03 26.2	-2.7
XCVM	Xochimilco	5.75	314	*e*S		Sn	05 03 22.2	-6.7
MAVM	Malinalco, Edo	5.83	310	*i* P		Pn	05 02 13.1	-12
MAVM				*e*S		Sn	05 03 12.5	-18
COVM	Coyoacan	5.85	315	*e*S		Sn	05 03 33.6	+2.5
UNM	Universidad Na	5.85	315	*e*S		Sn	05 03 29.7	-1.5
PBVM	Pinon	5.86	316			Pn	05 02 25.8	+1.0
PBVM	Pinon	5.86	316	*e*P		Pn	05 02 25.8	+1.0
PBVM				*e*S		Sn	05 03 25.3	-5.8
BJVM	Benito Juarez	5.87	315	*e*S		Sn	05 03 32.1	+0.3
AOVM	Tlapan	5.91	313			Pn	05 02 27.4	+1.5
AOVM						Sn	05 03 30.2	-2.7
AOVM	Tlapan	5.91	313	*e*P		Pn	05 02 27.4	+1.5
AOVM				*e*S		Sn	05 03 30.2	-2.7
CJVM	Cuajimalpa	5.94	314	*e*P		Pn	05 02 21.0	-5.2
CJVM				*e*S		Sn	05 03 31.9	-1.6
INVM	La Marquesa	5.96	313	*e*P		Pn	05 02 29.3	+2.7
INVM				*e*S		Sn	05 03 32.2	-2.0
TECO	Alcaldia de Te	6.05	106	*i* P		Pn	05 02 31.5	+4.1
TECO				IAmb	IAmb		05 02 40.6	
	comp=Z,44nm,0.7s							
TECO				IAML			05 02 46.6	
	comp=Z,62nm,1.0s							
SCLA	Alcaldia de Sa	6.05	104	*i* P		Pn	05 02 34.3	+6.8
ARIG	Puente Sto Nin	6.13	300			Pn	05 02 31.1	+2.4
ARIG						Sn	05 03 34.7	-3.2
ARIG	Puente Sto Nin	6.13	300	*e*P		Pn	05 02 31.1	+2.4
ARIG				*e*S		Sn	05 03 34.7	-3.2
TEJU	Tejupilco	6.31	306	*e*P		Pn	05 02 34.3	+3.2
TEJU				*e*S		Sn	05 03 38.1	-4.2
DEIG	Demacu	6.46	322	*e*P		Pn	05 02 35.4	+2.1
DHIG	Demacu	6.46	322			Pn	05 02 35.4	+2.1
ACIG	Acambay	6.77	315			Pn	05 02 40.6	+3.0
ACIG	Acambay	6.77	315	*e*P		Pn	05 02 40.6	+3.0
ZIIG	Zihuatanejo	6.84	291			Pn	05 02 40.1	+1.8
ZIIG	Zihuatanejo	6.84	291	*e*P		Pn	05 02 40.1	+1.8
ZIIG				*e*S		Sn	05 03 49.5	-5.8
LCND	La Caada	6.94	105	*i* P		Pn	05 02 44.0	+4.3
CTUV	Llano Grande	7.06	332	*e*P		Pn	05 02 33.2	-8.1
CTUV				*e*S		Sn	05 03 56.7	-4.0
TGUH	Tegucigalpa,Un	7.35	98	Pn		Pn	05 02 46.4	+1.0
MYIG	Merida	7.42	39	*e*P		Pn	05 02 47.3	+1.0
MYIG				*e*S		Sn	05 04 05.6	-3.9
MOIG	Morelia	7.54	307			Pn	05 02 49.5	+1.3
MOIG	Morelia	7.54	307	*e*P		Pn	05 02 50.9	+2.7
MOIG				*e*S		Sn	05 04 11.9	-1.0
CRIN	San Cristobal	7.91	108			Pn	05 02 55.5	+2.5
TEIG	Tepich	7.92	50	Pn		Pn	05 02 52.0	-1.1
TEIG	Tepich	7.92	50	Pn		Pn	05 02 51.1	-2.0
	comp=Z,34nm,0.3s,baz=265,slow=1.3,SNR=137							
TEIG				Sn		Sn	05 04 16.2	-5.6
	comp=Z,3.9nm,0.3s,baz=70,slow=23,SNR=1.2							
RPIG	Rio Verde	8.24	324			Pn	05 02 57.9	+0.2
RPIG	Rio Verde	8.24	324	*e*P		Pn	05 02 57.9	+0.2
MMIG	Aquila	8.75	291			Pn	05 03 06.0	+1.4
MMIG						Sn	05 04 45.1	+2.8
MMIG	Aquila	8.75	291	*e*P		Pn	05 03 06.0	+1.4
MMIG				*e*S		Sn	05 04 45.1	+2.8
GTIG	Gomez Farias	8.82	333			Pn	05 03 06.0	+0.6
GTIG	Gomez Farias	8.82	333	*e*P		Pn	05 03 06.0	+0.6
EZ5V		9.42	298			Pn	05 03 18.6	+4.6
EZ5V		9.42	298	*e*P		Pn	05 03 18.6	+4.6
EZ5V				*e*S		Sn	05 04 59.3	+0.1
MNGA	Volcan de Coli	9.43	298	*e*P		Pn	05 03 19.0	+4.8
MNGA				*e*S		Sn	05 05 01.1	+1.7
INCO	Volcan de Coli	9.45	298	*e*P		Pn	05 03 18.8	+4.3
INCO				*e*S		Sn	05 05 01.2	+1.3
SOMAC	Volcano de Col	9.47	298	*e*P		Pn	05 03 19.1	+4.4
SOMAC				*e*S		Sn	05 05 02.1	+1.7
CDAR	Ciudad de Arme	9.57	294	*e*P		Pn	05 03 18.5	+2.7
CDAR				*e*S		Sn	05 04 60.0	-2.4
CEGR	Campo Tres	9.61	297	*e*P		Pn	05 03 20.8	+4.3
CEGR				*e*S		Sn	05 04 59.8	-3.7
ZAIG	Zacatecas	10.50	317	Pn		Pn	05 03 30.1	+1.3
JTS	Las Juntas de	10.77	116	Pn		Pn	05 03 32.2	-0.1
JTS	Las Juntas de	10.77	116	Pn		Pn	05 03 32.0	-0.2
	comp=Z,0.6nm,0.3s,baz=317,slow=21,SNR=2.1							
	comp=Z,1.1nm,0.4s							
LCR2	La Lucha 2	11.85	116	Pn		Pn	05 03 48.5	+1.3
SOR	Soroa	13.41	54	Pn		Pn	05 04 05.5	-2.8
833A	Chaparral WMA,	13.70	343	Pn		Pn	05 04 13.9	+1.7
HNDO	Hondo	14.81	344			Pn	05 04 27.1	-0.3
DRIO	Del Rio	15.10	340	Pn		Pn	05 04 32.1	+0.8
DRIO				IAmb	IAmb		05 04 54.0	
	comp=Z,6.2nm,0.9s							
435B	Jarrell	15.68	351	Pn		Pn	05 04 39.0	+0.2
JCT	Junction City	15.85	344	Pn		Pn	05 04 41.0	0.0
JCT				IAmb	IAmb		05 05 06.5	
	comp=Z,9.2nm,0.7s							
SAND	Sanderson	16.12	336	Pn		Pn	05 04 45.6	+1.1
TXAR	Lajitas Array	16.24	331	Pn		Pn	05 04 46.8	+0.7
TXAR	Lajitas Array	16.24	331	Pn		Pn	05 04 46.2	+0.1
	comp=Z,0.1nm,0.3s,baz=156,slow=13,SNR=33							
	comp=Z,3.3nm,0.9s							
BRDY	Brady	16.43	347	Pn		Pn	05 04 47.5	-0.9
BRDY				IAmb	IAmb		05 05 13.4	
	comp=Z,12nm,0.8s							
OZNA	Ozona	16.65	341			Pn	05 04 52.3	+1.1
OZNA				IAmb	IAmb		05 05 07.7	
	comp=Z,19nm,0.7s							
WHTX	Lake Whitney,	16.84	352	Pn		Pn	05 04 54.0	+0.4
WHTX				IAmb	IAmb		05 05 08.2	
	comp=Z,25nm,0.8s							
ALPN	Alpine	17.12	333			P	05 04 58.4	-0.3
FW13	Cleburne	17.20	352			Pn	05 04 58.6	+0.6
FW13				IAmb	IAmb		05 05 17.2	
	comp=Z,19nm,0.7s							
TREL	Terrell	17.44	356	P		Pn	05 05 00.6	-0.5
TREL				IAmb	IAmb		05 05 13.4	
	comp=Z,22nm,0.9s							
SGCY	Sterling City	17.57	342	IAmb	IAmb		05 05 15.8	
	comp=Z,28nm,1.2s							
FW07	Weatherford	17.59	352	IAmb	IAmb		05 05 15.6	
	comp=Z,21nm,0.5s							
ABTX	Abilene, Hawle	17.86	346	IAmb	IAmb		05 05 23.4	
	comp=Z,25nm,1.1s							
APMT	Aspermont	18.64	346	IAmb	IAmb		05 05 39.5	
	comp=Z,13nm,0.6s							
LOOK	Love County	18.79	354			Pn	05 05 19.1	+1.5
LOOK				IAmb	IAmb		05 05 41.5	
	comp=Z,22nm,0.7s							
DKNS	Dickens	19.16	344	IAmb	IAmb		05 05 23.9	
	comp=Z,14nm,1.1s							
MIAR	Mount Ida	19.24	3			P	05 05 21.9	-0.1
X34A	Smith Ranch, M	19.46	352			Pn	05 05 26.1	+0.3
W35A	Tecumseh	19.91	355	IAmb	IAmb		05 05 40.8	
	comp=Z,20nm,1.0s							
MSTX	Muleshoe	19.99	340	IAmb	IAmb		05 05 51.8	
	comp=Z,7.6nm,0.8s							
FNO	Franklin	20.06	354			Pn	05 05 33.5	+0.7
AMTX	Amarillo	20.52	344	IAmb	IAmb		05 05 48.9	
	comp=Z,30nm,1.4s							
FCAR	Ozark Folk Cen	20.69	6	P		P	05 05 38.9	+1.2
OK031	S. Brethren Rd	20.70	355			Pn	05 05 39.3	-0.9
OK031				IAmb	IAmb		05 05 47.5	
	comp=Z,14nm,0.8s							
121A	Cookes Peak, D	20.88	328	IAmb	IAmb		05 05 59.0	
	comp=Z,9.5nm,0.9s							
HHAR	Hobbs	20.96	2			Pn	05 05 42.0	-1.2
OK051	E0350 and S346	21.25	355	IAmb	IAmb		05 05 53.1	
	comp=Z,19nm,0.9s							
KAN13	South Haven SW	21.81	354	IAmb	IAmb		05 06 02.1	
	comp=Z,12nm,0.7s							
ANMO	Albuquerque	22.25	334	P		P	05 05 57.0	+2.3
RTBA	Rita Blanca	22.27	343	IAmb	IAmb		05 06 06.1	
	comp=Z,18nm,1.1s							
TUC	Tucson	22.38	322	P		P	05 05 57.5	+1.4
TKL	Tuckaleechee C	22.58	24	P		P	05 05 55.9	-2.1
TKL				IAmb	IAmb		05 06 05.0	
	comp=Z,9.1nm,1.0s							
TKL	Tuckaleechee C	22.58	24	LR	LR		05 16 44.5	
	comp=Z,51nm,18.3s,baz=247,slow=42							
ROSC	El Rosal	22.61	115	P		P	05 06 00.4	+1.5
ROSC	El Rosal	22.61	115	P		P	05 06 03.0	+4.1
	comp=Z,17nm,0.6s,baz=344,slow=4.6,SNR=11							
T47A	Sharon Grove	22.70	16	P		P	05 05 57.5	-1.7
T47A				IAmb	IAmb		05 06 31.9	
	comp=Z,6.4nm,0.8s							
SDCO	Great Sand Dun	24.34	339	P		P	05 06 16.8	+1.2
SDCO				IAmb	IAmb		05 06 29.5	
	comp=Z,7.9nm,1.2s							
PFO	Pinyon Flats O	26.81	317	LR	LR		05 16 48.8	
	comp=Z,68nm,18.9s,baz=114,slow=36							
PCRV	Puerto La Cruz	29.80	96	LR	LR		05 19 13.9	
	comp=Z,92nm,21.3s,slow=37							
PDAR	Pinedale Array	30.22	338	P		P	05 07 07.3	-0.9
	comp=Z,0.1nm,0.3s,baz=156,slow=8.9,SNR=1.8							
	comp=Z,0.1nm,0.3s							
NVAR	Mina Array Bea	31.04	323	P		P	05 07 18.4	+2.9
	comp=Z,0.4nm,0.7s,baz=141,slow=7.8,SNR=3.4							
SADO	Sadowa	32.26	21	LR	LR		05 22 56.8	
	comp=Z,35nm,18.2s,baz=156,slow=41							
NNA	Nana	32.36	146	LR	LR		05 18 05.1	
	comp=Z,230nm,21.4s,baz=334,slow=32							
NEW	Newport	37.72	335	LR	LR		05 26 53.9	
	comp=Z,57nm,18.9s,baz=326,slow=41							
LPAZ	La Paz	40.91	139	P		P	05 08 42.5	+1.9
	comp=Z,0.7nm,0.7s,baz=328,slow=6.8,SNR=2.2							
LPAZ				LR	LR		05 24 22.4	
	comp=Z,85nm,18.7s,baz=260,slow=34							
	comp=Z,0.7nm,0.7s							
SCHQ	Schefferville	45.04	23	P		P	05 09 10.3	-2.6
	comp=Z,3.8nm,0.9s,baz=121,slow=15,SNR=1.8							
SCHQ				LR	LR		05 29 36.1	
	comp=Z,81nm,18.8s,baz=260,slow=38							
	comp=Z,3.8nm,0.9s							
LVC	Limon Verde	45.36	145	LR	LR		05 26 02.4	
	comp=Z,58nm,19.2s,baz=310,slow=33							
BDFB	Brasilia	55.45	122	P		P	05 10 32.5	+0.1
	comp=Z,2.8nm,0.5s,baz=302,slow=9.7,SNR=8.9							
	comp=Z,2.8nm,0.5s							
PLCA	Paso Flores	60.06	159	P		P	05 11 04.2	-0.1
	comp=Z,2.3nm,0.9s,baz=36,slow=3.2,SNR=4.2							
	comp=Z,2.3nm,0.9s							
ILAR	Eielson Array	60.65	337	P		P	05 11 07.3	-0.7
	comp=Z,0.5nm,0.8s,baz=127,slow=5.5,SNR=6.1							
	comp=Z,0.5nm,0.8s							
RCBR	Riachuelo	61.96	105	LR	LR		05 39 08.2	
	comp=Z,16nm,18.6s,baz=262,slow=37							
EKA	Eskdalemuir Ar	78.52	36	P		P	05 12 58.0	-0.4
	comp=Z,4.6nm,0.7s,baz=277,slow=5.5,SNR=14							
	comp=Z,4.6nm,0.7s							
ESDC	Sonseca Array	81.04	51	P		P	05 13 11.8	-0.6
	comp=Z,3.3nm,0.9s,baz=299,slow=5.7,SNR=11							
	comp=Z,3.3nm,0.9s							
NB2	NORSAR Subarra	84.32	28	P		P	05 13 31.8	+2.8
	comp=Z,1.2nm,0.7s,baz=292,slow=5.1							
NOA	NORSAR Array B	84.32	28	P		P	05 13 28.4	-0.6
	comp=Z,1.1nm,0.7s,baz=293,slow=5.0,SNR=5.1							
	comp=Z,1.1nm,0.7s							
ARCES	ARCESS Array B	85.78	18	P		P	05 13 35.0	-1.1
	comp=Z,4.7nm,1.0s,baz=334,slow=4.4,SNR=5.4							
	comp=Z,4.7nm,1.0s							
HFS	Hagfors	85.80	28	P		P	05 13 36.9	+0.5
	comp=Z,1.5nm,0.7s,baz=253,slow=4.4,SNR=2.1							
	comp=Z,1.5nm,0.7s							
FINES	FINESS Array B	90.49	24	P		P	05 13 57.7	-1.0
	comp=Z,0.8nm,0.7s,baz=280,slow=8.3,SNR=1.5							
	comp=Z,0.8nm,0.7s							
TORD	Torodi Ar. Bea	92.68	76	P		P	05 14 08.8	-1.1
	comp=Z,0.4nm,0.7s,baz=298,slow=4.7,SNR=2.4							
	comp=Z,0.4nm,0.7s							
YAK	Yakutsk	95.41	341	LR	LR		06 01 30.5	
	comp=Z,75nm,19.2s,baz=232,slow=38							
PZH	PanZhiHua	135.50	339	PKP		PKiKP	05 20 21.1	+1.4

*IDC **06** 05:23:34.1±0.8, 27°.92N×139°.52E, h493km±14km, mb2.9/6, mbtmp3.8/9, Error ellipse: s-maj=34.3km s-min=13.1km az=80.0*
*JMA **06** 05:23:36.1±0.3, 28°.N±2°.×14°.0E±°., h531km, MV3.6/11, W OFF OGASAWARA*

ISC 06 05:23:35.3±0.8, 27°.91N±0°.08×139°.5E±0°.1, h507km, n18, σ1°92/26, mb3.2/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.48	108	P	P	05 24 45.9	+2.3
CBIJ				*e*S	S	05 25 40.0	+0.9
JCJ	Chichijima	2.48	108	P	P	05 24 40.5	-3.1
	56nm,0.4s,baz=0.0,slow=0.0						
JCJ				S	S	05 25 36.2	-2.9
	baz=180,slow=0.0						
JHH2	Haha-jima-NKT2	2.66	118	*e*S	S	05 25 44.6	+3.5
JHJ2	Mitsune	5.20	3	*e*P	P	05 25 06.4	+2.1
JHJ2				*e*S	S	05 26 17.5	+0.5
JHJ	Hachijo jima 2	5.20	2	P	P	05 25 05.7	+1.4
	23nm,0.4s,baz=83,slow=23,SNR=0.9						
JHJ				S	S	05 26 16.8	-0.4
	65nm,0.5s,baz=68,slow=20,SNR=2.1						
JTNC	Tanabenakahech	6.79	331	P	P	05 25 22.5	+2.9
BSO1	Boso 1	6.84	10	*e*P	P	05 25 21.8	+2.5
BSO1				S	S	05 26 45.1	+0.4
JIE	Ise	6.91	340	*e*P	P	05 25 24.0	+3.3
JOD2	Odawara 2	7.35	357	P	P	05 25 26.4	+1.4
JOD2				*e*S	S	05 26 54.4	-0.7
JRY	Ryogami san	8.11	356	P	P	05 25 33.7	+0.9
JRY				*e*S	S	05 27 06.4	-2.9
MJAR	Matsushiro Arr	8.69	353	P	P	05 25 38.3	-0.5
	4.0nm,0.5s,baz=169,slow=9.7,SNR=7.8						
USRK	Ussuriysk Ar.	17.36	342	P	P	05 27 09.8	+0.6
	3.6nm,0.6s,baz=170,slow=10,SNR=8.9						
WRA	Warramunga Arr	47.83	187	P	P	05 31 26.5	-0.1
	1.0nm,0.6s,baz=1.9,slow=7.7,SNR=19						
WRA				PcP	PcP	05 32 46.0	+0.4
	0.6nm,1.1s,baz=3.3,slow=3.8,SNR=2.6						
	1.0nm,0.6s						
MKAR	Makanchi Array	48.15	309	P	P	05 31 27.8	-0.9
	0.2nm,0.4s,baz=97,slow=12,SNR=1.5						
	0.2nm,0.4s						
ASAR	Alice Springs	51.56	187	P	P	05 31 54.0	0.0
	0.3nm,0.4s,baz=18,slow=12,SNR=7.6						
	0.3nm,0.4s						
BVAR	Borovoye Array	55.86	317	P	P	05 32 23.4	-0.8
	1.3nm,0.5s,baz=92,slow=6.6,SNR=5.1						
	1.3nm,0.5s						
ILAR	Eielson Array	58.13	29	P	P	05 32 39.5	-0.1
	0.3nm,0.7s,baz=256,slow=5.9,SNR=4.7						
	0.3nm,0.7s						
FINES	FINESS Array B	76.18	333	P	P	05 34 29.5	-1.1
	1.2nm,0.8s,baz=99,slow=6.0,SNR=5.0						
	1.2nm,0.8s						

MEX 06 05:28:02.0±0.5, 15°.57N×95°.13W, h22km±17km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.96	282	*i* P	Pb	05 28 17.1	-2.9
HUIG				*e*S	Sb	05 28 28.6	-3.7
CARR	Arriaga	1.35	60	*i* P	Pn	05 28 21.4	-4.2
CARR				*i* S	Sn	05 28 37.3	-5.6
PCIG		1.84	85	*i* P	Pn	05 28 29.5	-2.8
PCIG				*i* S	Sn	05 28 51.1	-3.9
UXUV	UXUV	1.98	28	*e*P	Pn	05 28 32.1	-2.2
UXUV				*e*S	Sn	05 28 54.6	-3.8
PEIG	Puerto Escondi	1.99	283	*e*P	Pn	05 28 31.7	-2.7
PEIG				*e*S	Sn	05 28 53.1	-5.6
VHO	Vista Hermosa	2.15	314	*e*P	Pn	05 28 35.0	-1.8
VHO				*e*S	Sn	05 28 59.8	-3.0
NEUV	Arroyo Zacate	2.23	343	*e*P	Pn	05 28 35.0	-2.7
NEUV				*i* S	Sn	05 29 01.1	-3.4
TGIG		2.27	58	*e*P	Pn	05 28 36.3	-2.0
TGIG				*e*S	Sn	05 29 02.3	-3.4
TGBT	Tuxtla Gutierr	2.30	58	*i* P	Pn	05 28 37.2	-1.4
TGBT				*i* S	Sn	05 29 04.0	-2.3
TUIG	Tuzandepetl	2.54	15	*e*P	Pn	05 28 40.2	-1.8
YOIG	Yosondua	2.65	299	*e*P	Pn	05 28 43.2	-0.5
YOIG				*e*S	Sn	05 29 11.1	-4.3
PAVE	Pavencul	2.87	97	*e*P	Pn	05 28 44.7	-2.0
PAVE				*e*S	Sn	05 29 16.4	-4.3
CHUJ	Union Juarez	2.95	99	*e*S	Sn	05 29 18.3	-4.5
PMUV	Sontecomapan	2.96	0	*e*P	Pn	05 28 44.9	-2.9
PMUV				*e*S	Sn	05 29 19.1	-3.6
CCIG	Comitan	2.96	76	*e*P	Pn	05 28 46.5	-1.5
CCIG				*e*S	Sn	05 29 22.4	-0.5
PNIG	Pinotepa	3.00	286	*e*P	Pn	05 28 46.4	-1.9
PNIG				*e*S	Sn	05 29 18.2	-5.4
TXIG	Tlaxiaco	3.04	304	*e*P	Pn	05 28 48.2	-0.8
TXIG				*e*S	Sn	05 29 20.0	-4.9
TOIG	Toxpalan	3.12	324	*e*P	Pn	05 28 50.7	+0.6
TOIG				*e*S	Sn	05 29 29.1	+2.3
HLIG	Huajuapan de L	3.41	312	*e*P	Pn	05 28 55.3	+1.2
HLIG				*e*S	Sn	05 29 30.9	-3.2
RTAL	Retalhuleu	3.48	107	*e*P	Pn	05 28 53.6	-1.2
RTAL				*e*S	Sn	05 29 29.9	-5.4
HUEH	Huehuetenango	3.51	94	*e*P	Pn	05 28 46.0	-9.4
HUEH				*e*S	Sn	05 29 33.7	-2.7
TPIG	Tehuac#an	3.55	323	*e*P	Pn	05 28 58.0	+2.0
TPIG				*e*S	Sb	05 29 46.2	-0.8
FTIG	Fresnillo de T	3.70	309	*i* P	Pn	05 28 58.6	+0.6
FTIG				*e*S	Sn	05 29 38.2	-2.9
MGIG	Malinaltepec	3.75	297	*e*P	Pn	05 28 58.2	-0.5
MGIG				*e*S	Sn	05 29 38.2	-4.2
TLIG	Tlapa	3.85	302	*e*P	Pn	05 28 59.5	-0.5
TLIG				*e*S	Sn	05 29 40.7	-4.0
CRIG	Cruz Grande	4.02	287	*e*P	Pn	05 29 00.6	-1.6
CRIG				*e*S	Sn	05 29 41.0	-7.7
JAUV	Jalcomulco	4.10	337	*e*P	Pn	05 29 00.2	-3.3
JAUV				*e*S	Sn	05 29 46.0	-4.9
PBCV	Popocatepetl	4.72	317	*e*P	Pn	05 29 16.3	+4.1
PBXN	Popocatepetl	4.80	316	*e*P	Pn	05 29 11.1	-2.5
PBXN				*e*P	Pn	05 29 12.1	-1.4
PBXN				*e*S	Sn	05 30 09.6	+0.8
PBXN				*e*S	Sn	05 30 10.2	+1.4
PBPN	Popocatepetl	4.81	316	*e*P	Pn	05 29 09.0	-4.6
PPM	Popocatepetl	4.82	317	*e*P	Pn	05 29 13.2	-0.6
SCIG	Sabancuy	5.06	48	*e*P	Pn	05 29 14.3	-2.3
SCIG				*e*S	Sn	05 30 04.2	-10
CXUV	Coxquihui	5.15	333	*e*P	Pn	05 29 14.9	-3.0
CXUV				*e*S	Sn	05 30 17.3	+0.7
PETF	Flores	5.23	74	*e*P	Pn	05 29 17.7	-1.3
PETF				*e*S	Sn	05 30 15.8	-2.8
AOVM	Tlapan	5.44	313	*e*P	Pn	05 29 19.6	-2.7
AOVM				*e*S	Sn	05 30 25.6	+1.2
CJVM	Cuajimalpa	5.47	314	*e*P	Pn	05 29 23.9	+1.3
CJVM				*e*S	Sn	05 30 25.6	+0.6
ACIG	Acambay	6.30	315	*e*S	Sn	05 30 36.5	-8.9

*IDC **06** 05:38:22.3±1.1, 37°.70N×20°.93E, h0km, mb3.9/10, mbtmp3.7/17, ML3.7/6, MS3.4/9, Error ellipse: s-maj=19.0km s-min=18.1km az=20.0*
*THE **06** 05:38:23.4, 37°.60N×20°.83E, h13km, ML3.9/9, Error ellipse: s-maj=1.1km s-min=0.6km az=37.0*
*ATH **06** 05:38:23.5, 37°.58N×20°.82E, h11km±1km, ML3.9/15, Error ellipse: s-maj=2.2km s-min=0.8km az=35.0*
*NAO **06** 05:38:24.7, 37°.63N×20°.87E, h10km, mb4.1*

ISC 06 05:38:24.0±0.7, 37°.65N±0°.03×20°.88E±0°.02, h13km±4km, n105, σ1°20/122, mb3.9/10, MS3.3/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.05	283	P	Pg	05 38 26.4	-0.1
KRI1				S	Sg	05 38 27.6	-0.7
	780μm,0.6s						
LTHK	Lithakia	0.07	328	P	Pg	05 38 26.7	0.0
LTHK				S	Sg	05 38 28.

EVGI	Lefkada island	0.98	350	P		Pb	05 38 42.0 -1.0
EVGI	Lefkada island	0.98	350	P		Pb	05 38 42.1 -0.8
PYL	PYLOS	1.02	137	P		Pb	05 38 42.2 -1.3
PYL	PYLOS	1.02	137	P		Pb	05 38 42.0 -1.5
PYL				S		Sb	05 38 56.1 -0.7
PYL				AML	AML		05 39 02.8
	comp=E,5946μm,0.7s						
PYL				AML	AML		05 39 05.9
	comp=N,1788μm,0.7s						
DRAG	Dragano-Lefkad	1.06	347	P		Pb	05 38 43.4 -0.8
DRAG	Dragano-Lefkad	1.06	347	P		Pb	05 38 42.9 -1.3
NYDR	Nydri-Lefkada	1.07	352	P		Pb	05 38 43.3 -1.1
NYDR	Nydri-Lefkada	1.07	352	P		Pb	05 38 43.6 -0.8
KLV	Kalavryta, Ach	1.08	68	P		Pb	05 38 44.4 -0.2
KLV	Kalavryta, Ach	1.08	68	P		Pb	05 38 44.2 -0.4
KLV				AML	AML		05 39 12.1
	comp=N,4094μm,1.2s						
KLV				AML	AML		05 39 15.7
	comp=E,2247μm,0.9s						
EFP	Efpalio	1.12	46	P		Pb	05 38 44.8 -0.4
EFP	Efpalio	1.12	46	P		Pb	05 38 44.6 -0.6
EFP				AML	AML		05 39 10.6
	comp=E,4961μm,0.9s						
EFP				AML	AML		05 39 11.3
	comp=N,5804μm,0.7s						
LKD2	Lefkada island	1.15	351	P		Pg	05 38 46.3 +0.1
TSLK	Tsoukalades, L	1.19	351	P		Pn	05 38 45.8 -0.5
TSLK	Tsoukalades, L	1.19	351	P		Pn	05 38 45.6 -0.8
GUR	Goura	1.19	76	P		Pn	05 38 45.9 -0.6
KALE	Kalithea	1.24	53	P		Pn	05 38 46.7 -0.4
KALE	Kalithea	1.24	53	P		Pn	05 38 46.9 -0.2
ANX	Ano Chora	1.25	41	P		Pn	05 38 47.2 -0.1
ANX				AML	AML		05 39 15.1
	comp=N,11719μm,0.7s						
ANX				AML	AML		05 39 17.8
	comp=E,7548μm,0.8s						
EVR	Evrytania	1.46	30	P		Pb	05 38 51.3 +0.2
MAKR	Makrakomi, Fth	1.68	35	P		Pb	05 38 55.3 +0.5
AXAR	Agios Charalam	1.79	51	P		Pb	05 38 56.5 -0.2
VLI	Veliai	1.89	119	P		Pn	05 38 56.6 +0.7
IGT	Igoumenitsa	1.93	347	P		Pb	05 38 58.0 -1.1
VIL2	Platees	1.97	73	P		Pb	05 38 59.0 -0.7
THL	Klokotos Trika	2.11	25	P		Pb	05 39 01.9 -0.2
KEK	Kerkira	2.23	338	P		Pb	05 39 02.6 -1.5
VLY	Voula,Athens	2.32	84	P		Pb	05 39 04.1 -1.5
DION	Dionisos Attik	2.45	79	P		Pn	05 39 05.8 +2.0
PENT	Pentalofos	2.55	4	P		Pn	05 39 07.6 +2.5
KYMI	Kymi, Euboea I	2.72	68	P		Pn	05 39 08.7 +1.3
OHR	Ohrid	3.46	359	*i* Pn		Pn	05 39 21.3 +3.7
IDI	Anoyia	4.00	125	Pn		Pn	05 39 26.0 +0.9
	comp=E,7.2nm,0.7s,baz=330,slow=6.9,SNR=1.6						
IDI				Sn		Sn	05 40 10.8 -1.0
	comp=E,1.7nm,0.3s,baz=62,slow=20,SNR=1.6						
PDG	Podgorica	4.93	346	*e*Pn		Pn	05 39 37.5 -0.3
HCY	Herceg Novi	5.13	340	*e*Pn		Pn	05 39 40.0 -0.5
VAE	Valguarnera	5.14	270	Pn		Pn	05 39 44.7 +3.9
	comp=E,2.4nm,0.3s,baz=108,slow=11,SNR=2.8						
VAE				Sn		Sn	05 40 42.3 +2.2
	comp=E,3.2nm,0.3s,baz=14,slow=6.6,SNR=2.6						
TREB	Trebinje	5.42	340	*e*Pn		Pn	05 39 43.6 -0.9
BRY	Bratogost	5.54	342	*e*Pn		Pn	05 39 45.3 -1.0
SJES	Sjenica	5.65	353	*e*Pn		Pn	05 39 49.3 +1.6
UPM	Unac-Piva	5.75	345	*e*Pn		Pn	05 39 50.6 +1.4
STON	Ston	5.75	336	*e*Pn		Pn	05 39 48.1 -1.0
RUDO	Rudo	6.07	350	*e*Pn		Pn	05 39 55.1 +1.6
BBLS	Lazi&#263i	6.31	350	*e*Pn		Pn	05 39 59.0 +2.2
HAPS	Han Pijesak,BI	6.59	348	*e*Pn		Pn	05 40 01.0 +0.3
A050A	Klekovaca	7.57	336	*e*Pn		Pn	05 40 14.3 +0.2
BLY	Banja Luka	7.62	340	*e*Pn		Pn	05 40 15.4 +0.7
A051A	Mrakovica	7.94	339	*e*Pn		Pn	05 40 17.2 -1.9
MLR	Muntele Rosu	8.70	24	Pn		Pn	05 40 29.0 -0.6
	comp=E,0.1nm,0.3s,baz=212,slow=10,SNR=3.2						
	comp=E,1.8nm,0.7s						
SOKA	Soboth	10.01	336	*e*Pn		Pn	05 40 47.7 +0.2
	comp=E,3.1nm,0.6s						
OBKA	Obir	10.02	334	*e*Pn		Pn	05 40 49.1 +1.4
	comp=E,2.5nm,0.4s						
OBKA				*e*Sn		Sn	05 42 39.9 -0.2
	comp=E,15nm,0.9s						
OBKA	Obir	10.02	334	*e*Pn		Pn	05 40 47.5 -0.2
BRTR	Keskin Array B	10.19	74	Pn		Pn	05 40 54.0 +4.0
	comp=E,0.1nm,0.3s,baz=246,slow=14,SNR=1.8						
	comp=E,0.3nm,0.3s						
KBA	Koelnbreinsper	10.94	332	*i* Pn		Pn	05 41 02.9 +2.5
	comp=E,2.2nm,0.7s						
KBA				*e*Sn		Sn	05 43 00.4 -2.3
	comp=E,3.3nm,0.6s						
MODS	Modra-Piesok	11.04	347	*e*PN		Pn	05 41 08.7 +7.2
KOLS	Kolonicke sedl	11.32	5	*e*PN		Pn	05 41 12.3 +6.9
LESA	Schwarzleotal	11.48	331	*i* Pn		Pn	05 41 09.9 +2.2
	comp=E,1.5nm,0.3s						
LESA				*i* Sn		Sn	05 43 13.1 -2.7
	comp=E,6.6nm,0.9s						
STHS	Stebnicka Huta	11.77	1	*e*PN		Pn	05 41 21.5 +10
WTTA	Wattenberg	11.78	328	*e*Sn		Sn	05 43 24.2 +1.0
	comp=E,10.0nm,0.8s						
FETA	Feichten	11.99	325	*i* Sn		Sn	05 43 26.9 -1.6
	comp=E,1.5nm,0.5s						
VRAC	Vranov	12.06	346	LR		LR	05 47 38.7
	comp=E,145nm,18.2s,baz=170,slow=46						
MOTA	Moosalm	12.07	326	*i* Sn		Sn	05 43 29.2 -1.1
	comp=E,4.3nm,0.6s						
GERES	GERESS Array B	12.35	337	Pn		Pn	05 41 21.7 +2.2
	comp=E,0.2nm,0.3s,baz=157,slow=13,SNR=2.2						
GERES				LR		LR	05 47 20.6
	comp=E,240nm,18.2s,baz=119,slow=44						
	comp=E,0.6nm,0.5s						
EIL	Elat	14.15	120	Pn		Pn	05 41 44.0 -0.2
	comp=E,0.3nm,0.3s,baz=120,slow=20,SNR=1.7						
	comp=E,3.0nm,0.8s						
AKASG	Malin Array Be	14.34	22	Pn		Pn	05 41 45.8 -0.9
	comp=E,0.3nm,0.3s,baz=214,slow=10,0,SNR=1.6						
AKASG				LR		LR	05 47 43.6
	comp=E,167nm,18.3s,baz=200,slow=39						
	comp=E,0.2nm,0.3s						
NACGM	Naroch	17.72	11	*e*P		Pn	05 42 27.3 -3.0
	comp=Z,7.0nm,0.7s,baz=196						
GNI	Garni	18.73	75	LR		LR	05 49 41.3
	comp=Z,32nm,21.1s,baz=290,slow=36						
ESDC	Sonseca Array	19.49	284	P		Pn	05 42 51.6 -0.5
	comp=Z,0.1nm,0.3s,baz=80,slow=9.5,SNR=5.7						
	comp=Z,2.2nm,1.0s						
OBN	Obninsk	20.46	26	LR		LR	05 52 02.4
	comp=Z,74nm,18.6s,baz=190,slow=40						
HFS	Hagfors	22.96	351	P		P	05 43 27.9 -0.1
	comp=Z,3.1nm,0.5s,baz=152,slow=11,SNR=15						
	comp=Z,3.1nm,0.5s						
EKA	Eskdalemuir Ar	24.02	325	P		P	05 43 38.8 +0.4
	comp=Z,2.0nm,0.6s,baz=124,slow=10,SNR=4.8						
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	24.04	6	P		P	05 43 37.8 -0.7
	comp=Z,1.6nm,0.8s,baz=186,slow=11,SNR=1.3						
FINES				LR		LR	05 53 09.7
	comp=Z,94nm,21.3s,baz=193,slow=37						
	comp=Z,1.6nm,0.8s						
NB2	NORSAR Subarra	24.19	348	P		P	05 43 42.5 +2.5
	comp=Z,4.1nm,1.1s,baz=161,slow=9.3						
NOA	NORSAR Array B	24.19	348	P		P	05 43 38.8 -1.2
	comp=Z,0.9nm,0.7s,baz=159,slow=8.7,SNR=2.8						
	comp=Z,0.9nm,0.7s						
KIRV	Kirov	27.94	32	LR		LR	05 55 34.0
	comp=Z,64nm,20.2s,baz=241,slow=37						
TORD	Torodi Ar. Bea	29.81	220	P		P	05 44 31.0 +0.2
	comp=Z,0.7nm,0.7s,baz=29,slow=10,SNR=6.0						
	comp=Z,0.7nm,0.7s						
ARCES	ARCESS Array B	32.04	3	P		P	05 44 50.0 0.0
	comp=Z,1.9nm,0.9s,baz=197,slow=7.6,SNR=5.1						
ARCES				LR		LR	05 58 27.2
	comp=Z,75nm,18.6s,baz=148,slow=38						
	comp=Z,1.9nm,0.9s						
BVAR	Borovoye Array	37.24	49	P		P	05 45 35.3 +0.2
	comp=Z,1.1nm,0.5s,baz=256,slow=5.8,SNR=3.3						
	comp=Z,1.1nm,0.5s						
KURBB	Kurchatov Arra	42.31	53	P		P	05 46 16.8 -0.5
	comp=Z,1.2nm,0.2s,baz=291,slow=7.6,SNR=2.1						
	comp=Z,1.2nm,0.2s						
MKAR	Makanchi Array	45.34	58	P		P	05 46 41.0 -0.7
	comp=Z,0.4nm,0.3s,baz=277,slow=8.4,SNR=6.7						
	comp=Z,0.4nm,0.3s						
ZALV	Zalesovo Beam	45.83	48	P		P	05 46 44.8 -0.7
	comp=Z,1.6nm,0.4s,baz=272,slow=7.8,SNR=6.5						
	comp=Z,1.6nm,0.4s						
BOSA	Boshof	66.04	176	LR		LR	06 22 31.3
	comp=Z,403nm,18.2s,baz=357,slow=40						
KDAK	Kodiak Island	84.77	356	LR		LR	06 30 30.7
	comp=Z,39nm,21.1s,baz=342,slow=37						

TIF ***06*** *05:39:42.9, 40.°92N×43.°28E, h6km±1km*
MOS ***06*** *05:39:42.9, 40.°84N×43.°15E, h1km, MPVA4.1*
ISK ***06*** *05:39:42.1, 40.°97N×43.°34E, h5km, ML3.0/11*
NSSP ***06*** *05:39:43.0, 40.°85N×43.°35E, h10km, Ms3.0*
DRS ***06*** *05:39:42.8, 41.°01N×42.°61E, h32km*
AFAD ***06*** *05:39:43.8±0.0, 40.°87N×43.°27E, h7km±2km, MW3.2*

ISC 06 05:39:43.1±1.0, 40.°92N±0.°01×43.°29E±0.°02, h8km±9km, n65, σ0°96/115, 6C-4D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARS	Kars	0.33	209	Pg	Pb	05 39 50.4	-0.9
EAK	Akyaka	0.33	133	P	Pg	05 39 49.9	+0.2
EAK				S	Sg	05 39 54.4	+0.3
EAK				*i* AML	AML	05 39 55.0	
	comp=N,4μm,0.4s						
EAK				*i* AML	AML	05 39 59.0	
	comp=E,3μm,0.3s						
BOZK	Kars-Merkez-Bo	0.40	216	P	Pg	05 39 51.5	+0.5
BOZK				S	Sg	05 39 56.8	+0.5
BOZK				*i* AML	AML	05 40 04.0	
	comp=E,1μm,0.7s						
DIGO	Kars	0.51	173	P	Pg	05 39 52.9	0.0
DIGO				S	Sg	05 39 59.1	-0.5
DIGO				*i* AML	AML	05 40 01.0	
	comp=E,2μm,0.3s						
DIGO				*i* AML	AML	05 40 11.0	
	comp=N,2μm,0.5s						
AKH	Akhalkalaki	0.52	17	P	Pb	05 39 54.1	-0.5
AKH				S	Sb	05 40 01.6	-0.6
AKH	Akhalkalaki	0.52	17	*e*Pg	Pb	05 39 54.0	-0.5
AKH				*e*Sg	Sb	05 40 01.4	-0.8
GOLE	Ardahan-G¶le	0.53	262	P	Pb	05 39 54.5	-0.2
GOLE				S	Sb	05 40 02.5	-0.1
GOLE				*i* AML	AML	05 40 03.0	
	comp=E,914nm,0.4s						
AHAN	Ardahan-Merkez	0.56	296	P	Pb	05 39 55.2	0.0
AHAN				S	Sb	05 40 03.3	-0.2
AHAN				*i* AML	AML	05 40 04.0	
	comp=E,752nm,0.4s						
EPOS	Posof	0.72	324	P	Pb	05 39 58.0	0.0
EPOS				S	Sb	05 40 07.5	-0.6
EPOS				*i* AML	AML	05 40 14.0	
	comp=N,678nm,0.5s						
SENK	Senkaya-Erzuru	0.80	244	Pg	Pb	05 39 58.7	-0.6
TRLG	Trialeti	0.87	44	P	Pb	05 40 00.1	-0.4
TRLG				S	Sb	05 40 12.5	0.0
ARUZ	Aruch	0.88	136	⇓*i*P	Pg	05 39 59.8	-0.2
ARUZ				⇑*i*S	Sg	05 40 11.8	+0.4
AMBZ	Amberd	0.91	125	⇓*i*P	Pg	05 40 00.5	-0.1
AMBZ				⇓*i*S	Sg	05 40 12.9	+0.6
VNNZ	Vanand	0.91	153	⇑*i*P	Pg	05 40 00.2	-0.3
VNNZ				⇑*i*S	Sg	05 40 12.8	+0.5
METS	Metsamor	0.97	142	*e*P	Pg	05 40 02.0	+0.2
METS				*e*S	Sb	05 40 15.4	+0.2
DAGI	Agillar	1.05	279	P	Pn	05 40 04.2	+0.1
DAGI				S	Sb	05 40 18.1	+0.5
GHRG	Ghorjomi	1.08	319	P	Pb	05 40 04.3	+0.1
GHRG				S	Sn	05 40 19.8	-0.2
DDEM	Demirkent	1.17	269	P	Pb	05 40 05.5	0.0
DDEM				*i* AML	AML	05 40 28.0	
	comp=N,594nm,0.4s						
DDEM				*i* AML	AML	05 40 30.0	
	comp=E,336nm,0.6s						
TASB	TASBURUN-IGDIR	1.18	142	Pn	Pg	05 40 04.8	-0.9
IGDI	IGDIR	1.21	150	P	Pg	05 40 04.5	-1.7
IGDI				S	Sg	05 40 19.8	-2.2
DBAD	Bademkaya	1.21	275	P	Pn	05 40 06.3	0.0
EATA	Eleskirt	1.22	210	P	Pg	05 40 05.9	-0.6
ALIG	Mtskhetisjvari	1.22	13	P	Pn	05 40 06.5	+0.1
ALIG				S	Sn	05 40 23.4	+0.3
KAPZ	Kaputan	1.23	118	⇑*i*P	Pg	05 40 06.3	-0.4
KAPZ				⇑*i*S	Sg	05 40 22.6	0.0
DBOC	Borcka	1.30	290	P	Pg	05 40 07.6	-0.3
DBOC				S	Sb	05 40 24.2	-0.3
GNI	Garni	1.35	124	Pn	Pn	05 40 08.3	0.0
GNI				Sn	Sn	05 40 27.1	+0.7
GNI	Garni	1.35	124	⇓*i*P	Pn	05 40 08.2	0.0
GNI				⇑*i*S	Sg	05 40 26.6	+0.2
GNI	Garni	1.35	124	*e*Pg	Pn	05 40 08.2	-0.1
GNI				*e*Sg	Sn	05 40 26.7	+0.3
AGRB	Hanur-Agry	1.36	190	Pn	Pg	05 40 09.1	0.0
BCA	Borcka	1.36	293	Pn	Pb	05 40 08.7	-0.1
BCA				Sn	Sb	05 40 27.1	+0.5
BATM	Batumi	1.39	300	P	Pg	05 40 09.4	-0.2
BATM				S	Sg	05 40 27.8	+0.1
BATM	Batumi	1.39	300	*e*Pg	Pg	05 40 09.4	-0.2
BATM				*e*Sg	Sg	05 40 27.8	+0.1
NRKZ	NAREK	1.39	131	*e*P	Pn	05 40 08.7	-0.1
NRKZ				*e*S	Sb	05 40 27.2	0.0
KOPR	Koprukoy-ERZUR	1.43	230	Pn	Pg	05 40 10.3	-0.3
TKB	Tkibuli	1.45	351	P	Pg	05 40 10.9	0.0
TKB				S	Sg	05 40 30.8	+1.1
TKB	Tkibuli	1.45	351	*e*Pg	Pg	05 40 10.9	0.0
TKB				*e*Sg	Sg	05 40 30.8	+1.1
HOPA	Hopa-Artvin	1.47	289	Pn	Pg	05 40 10.8	-0.4
DORK	Agr/Tutak/Do	1.58	194	P	Pb	05 40 12.7	+0.2
GUDG	Gudauri	1.79	30	P	Pg	05 40 17.3	0.0
GUDG	Gudauri	1.79	30	*e*Pg	Pg	05 40 17.3	0.0
GUDG				*e*Sg	Sg	05 40 40.7	+0.3
MLAZ	Malazgirt-MUS	1.86	198	Pn	Pb	05 40 16.7	-0.7
CHRG	Chargali	1.87	40	P	Pb	05 40 17.9	+0.3
CHRG				S	Sg	05 40 43.6	+0.4
CHOM	Cayeli-Rize	1.92	276	Pn	Pb	05 40 18.5	+0.2
DIGR	Digorskoe uzhe	1.99	6	*e*Pg	Pb	05 40 19.4	-0.2
DIGR				*e*Sg	Sb	05 40 44.9	+0.2
MTEO	Meteo	1.99	27	P	Pg	05 40 20.6	-0.7
MTEO				S	Sg	05 40 48.2	+1.0
LACR	Lac	2.05	21	*e*Pg	Pb	05 40 21.0	+0.4
LACR				*e*Sg	Sg	05 40 48.6	-0.4
KORR	Kora	2.24	15	*e*Pn	Pb	05 40 24.8	+0.9
KORR				*e*Sn	Sg	05 40 57.7	+2.5
KARO	Karliova-Bingo	2.35	228	Pn	Pn	05 40 23.4	+1.3
VSHL	Vashlovani	2.37	81	P	Pb	05 40 27.2	+1.2
ARNR	Ardon	2.38	18	*e*Pn	Pb	05 40 26.3	+0.2
ARNR				*e*Sn	Sb	05 40 56.4	+0.8
LGD	Lagodekhi	2.41	67	P	Pb	05 40 26.9	+0.3
LGD				S	Sg	05 41 00.1	-0.2
STDR	Stavd-Durt	2.52	13	*e*Pn	Pg	05 40 31.5	+0.2
STDR				*e*Sn	Sb	05 41 58.5	-1.1
BTLR	Botlikh	2.80	51	*e*Pn	Pb	05 40 34.0	+0.6
	17nm,0.8s						
BTLR				*e*Sn	Sg	05 41 11.1	-2.0
	33nm,0.4s						
KBZ	Khabaz	2.83	354	*e*Pn	Pb	05 40 31.9	-1.8
KBZ				*e*Sn	Sb	05 41 07.8	-0.6
SHA1	Shidzhatmaz	2.86	351	*e*Pn	Pb	05 40 33.3	-1.2
SHA1				*e*Sn	Sg	05 41 14.6	-0.3
DVE	Vedeno	2.94	45	*e*Pn	Pb	05 40 33.5	-2.1
DVE				*e*Sn	Sg	05 41 16.0	-1.4
XNZR	Khunzakh	3.03	56	*e*Pn	Pb	05 40 38.0	+0.7
	12nm,0.4s						
XNZR				*e*Sn	Sg	05 41 17.9	-2.4
	25nm,0.5s						
ARXR	Arkhyz	3.04	331	*e*Pn	Pb	05 40 38.6	+1.2
ARXR				*e*Sn	Sb	05 41 12.4	-2.3
KIV	Kislovodsk	3.07	352	*e*Pn	Pb	05 40 38.8	+0.9
KIV				*e*Sn	Sn	05 41 10.3	+1.5
KIV0	Kislovodsk Arr	3.07	352	*e*Pn	Pb	05 40 36.0	-2.0
KIV0				*e*Sn	Sn	05 41 08.2	-0.7
GNBR	Gunib	3.12	61	*e*Pn	Pb	05 40 39.4	+0.6
	13nm,0.6s						
GNBR				*e*Sn	Sg	05 41 20.9	-2.4
	32nm,0.5s						
UNCR	Uncukul	3.18	54	*e*Pn	Pb	05 40 40.0	+0.3
	17nm,0.6s						
UNCR				*e*Sn	Sg	05 41 21.9	-3.1
	38nm,0.4s						
ARKR	Arakani	3.24	57	*e*Pn	Pb	05 40 40.1	-0.8
	11nm,0.4s						
ARKR				*e*Sn	Sb	05 41 23.4	+2.8
	16nm,0.5s						
KRNR	Karanay	3.31	54	*e*Pn	Pb	05 40 41.9	-0.1
	6.0nm,0.3s						
KRNR				*e*Sn	Sb	05 41 24.9	+2.5
	8.0nm,1.0s						
AKT	Akhty	3.40	79	*e*Pn	Pb	05 40 43.4	-0.2
AKT				*e*Sn	Sb	05 41 26.5	+1.5

TAP 06 05:40:54.4, 22.°92N×122.°66E, h28km±2km, ML2.7, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	Ludao	1.13	258	*i* P	Pn	05 41 13.9	-0.3
LDUT				*i* S	Sn	05 41 28.8	0.0
ECBN	Changbin	1.18	290	*e*P	Pn	05 41 15.5	+0.5
ECBN				S	Sn	05 41 29.7	-0.4
CHKH	Chenggong	1.20	283	*i* P	Pn	05 41 14.8	-0.3
CHKH				*i* S	Sn	05 41 29.9	-0.6
EOS4	EOS4	1.23	345	*e*P	Pb	05 41 16.2	-0.6
EOS4				*e*S	Sn	05 41 30.1	-0.8
HGSD	Ruisui	1.27	297	*e*P	Pn	05 41 15.9	-0.3
HGSD				*e*S	Sn	05 41 31.7	-0.7
FULB	Fuli	1.29	283	*e*P	Pn	05 41 16.0	-0.5
FULB				*e*S	Sn	05 41 32.2	-0.6
TEGC	Jichi Village	1.29	308	*e*P	Pb	05 41 17.4	-0.6
TEGC				*e*S	Sn	05 41 33.5	+0.5
SHUL	Shoufeng	1.33	311	P	Pn	05 41 17.1	+0.1
SHUL				*e*S	Sn	05 41 33.9	+0.1
YULB	Yu-li	1.34	291	*e*P	Pn	05 41 17.0	-0.2
YULB				*e*S	Sn	05 41 34.0	-0.1
LAY	Lan-yu	1.35	230	*e*P	Pn	05 41 16.7	-0.7
LAY				*e*S	Sn	05 41 34.4	0.0
EGFH	Guangfu	1.36	304	*e*S	Sn	05 41 35.1	+0.6
EHY	Hungye	1.36	296	P	Pn	05 41 17.7	+0.2
EHY				*e*S	Sn	05 41 35.4	+0.8
EOS3	EOS3	1.40	347	*e*P	Pn	05 41 18.1	+0.3
WARBT	Fenglin Townsh	1.41	304	*e*P	Pn	05 41 18.1	-0.1
WARBT				*e*S	Sn	05 41 35.5	-0.5
TWGBT	Beinan	1.46	266	*e*P	Pn	05 41 19.0	+0.1
TWGBT				*e*S	Sb	05 41 38.6	-0.5
TWG	Pinlang	1.47	266	*e*P	Pn	05 41 19.6	+0.7
TWG				*e*S	Sb	05 41 38.6	-0.7
ETM	Tongmen	1.49	314	*e*P	Pn	05 41 19.0	-0.3
ETM				*e*S	Sn	05 41 38.1	+0.3
ELDTW	Lidau	1.54	280	*e*P	Pn	05 41 19.8	-0.2
ELDTW				*e*S	Sn	05 41 39.5	+0.4
EOS2	EOS2	1.54	345	*e*P	Pn	05 41 20.7	+0.8
EOS2				*e*S	Sn	05 41 39.1	+0.2
YOJ	Yonaguni jima	1.57	12	*e*P	Pn	05 41 20.1	-0.2
YOJ				S	Sn	05 41 39.6	-0.1
LXIB	Xiulin Townshi	1.58	314	*e*P	Pn	05 41 20.9	+0.2
LXIB				*e*S	Sn	05 41 40.2	-0.1
NACB	Ninganchiao	1.58	322	*e*P	Pn	05 41 20.0	-0.6
NACB				*e*S	Sn	05 41 39.5	-0.6
ECL	Taimali	1.61	259	*e*P	Pn	05 41 20.9	0.0
ECL				*e*S	Sn	05 41 40.9	+0.2
ETLH	Xiulin Townshi	1.68	320	*e*P	Pn	05 41 21.2	-0.7
ETLH				*e*S	Sn	05 41 42.2	-0.3
OWD	Renai	1.71	307	*e*P	Pn	05 41 22.5	+0.1
OWD				*e*S	Sn	05 41 42.8	-0.6
ENA	Nanau	1.72	331	*e*P	Pn	05 41 22.4	0.0
ENA				*e*S	Sn	05 41 43.3	-0.2
TAWH	Dawu Township	1.74	251	*e*P	Pn	05 41 23.5	+0.9
TAWH				*e*S	Sb	05 41 45.5	-1.5
EAST	Anshuo	1.76	253	*e*P	Pn	05 41 23.8	+0.8
WHF	Hehuan Shan	1.77	314	*e*P	Pn	05 41 23.6	+0.1
WHF				*e*S	Sn	05 41 45.2	0.0
WUSB	Renai	1.77	307	P	Pn	05 41 23.8	+0.5
WUSB				S	Sn	05 41 45.1	+0.2
SSLB	Suanglung	1.79	299	*e*P	Pn	05 41 23.7	+0.3
ALS	Alishan	1.81	289	*e*P	Pn	05 41 25.1	+1.2
WHYT	Xinyi Township	1.83	295	*e*P	Pn	05 41 25.2	+1.2
WHYT				*e*S	Sn	05 41 47.7	+1.4
FUSS	Fushou	1.85	316	*e*P	Pn	05 41 24.8	+0.3
FUSS				*e*S	Sn	05 41 47.8	+0.7
SLGT	Liugui	1.86	273	*e*P	Pn	05 41 25.5	+1.2
SLIU	Shizi	1.86	248	*e*P	Pn	05 41 25.4	+1.0
MASBT	Mashibuluo	1.90	261	*e*P	Pn	05 41 25.7	+0.9
NNSB	Datong	1.90	322	*e*P	Pn	05 41 25.1	+0.1
TPUB	Ta-pu	1.91	282	*e*P	Pn	05 41 26.6	+1.6
LATG	Datong	1.91	327	*e*P	Pn	05 41 25.6	+0.4
LATG				*e*S	Sn	05 41 47.9	-0.5
CHN4	Tsaushan	1.95	283	*e*P	Pn	05 41 27.4	+1.8
SCZT	Fangliau	1.96	254	*e*P	Pn	05 41 27.3	+1.6
CHN1	Nanshi	1.98	278	*e*P	Pb	05 41 28.8	-1.0
TWK	Hsinying	2.03	280	*e*P	Pn	05 41 28.6	+1.9
WHP	Taichung City	2.07	311	*e*P	Pn	05 41 29.2	+1.9

JOW S **Sn** **05 42 21.0 -0.9**
comp=N,122nm,0.3s,baz=332,slow=29,SNR=4.1
JOW LR LR 05 43 20.4
comp=N,1μm,19.0s,baz=2.5,slow=45
comp=N,28nm,0.3s
JOW Kunigami 3.11 221 *e*P **Pn** **05 41 46.7 +0.8**
JIH Iheya 3.15 228 *e*P **Pn** **05 41 46.7 +0.2**
JKDJ Kitadaitoujima 3.29 169 P **Pn** **05 41 47.5 -0.9**
JKDJ S **Sn** **05 42 23.9 -2.4**
JMZ Minamidaito 2 3.41 170 Pn **Pn** **05 41 50.6 +0.6**
JMZ Minamidaito 2 3.41 170 *e*P **Pn** **05 41 49.1 -0.9**
JNTH Nagotoyohara 3.50 221 *e*P **Pn** **05 41 51.4 +0.3**
JNU Nakatsue 3.92 4 **Pn** **05 41 57.4 +0.3**
JNU Nakatsue 3.92 4 P **Pn** **05 41 57.2 +0.1**
comp=N,4.1nm,0.3s,baz=168,slow=9.5,SNR=39
JNU S **Sn** **05 42 41.2 -0.7**
comp=N,104nm,0.9s,baz=0.2,slow=14,SNR=1.8
comp=N,47nm,0.5s
JAGN Aguni-jima 3.93 229 *e*P **Pn** **05 41 58.2 +1.1**
JKE Kume jima 2 4.41 231 P **Pn** **05 42 03.9 +0.2**
JMN Monobe 5.33 31 Pn **Pn** **05 42 15.7 -0.7**
TJN Taejon 7.66 340 *ce*P **Pn** **05 42 48.8 +0.5**
SSE Sheshan 8.35 285 S **Sn** **05 44 28.9 -1.9**
SSE Sheshan 8.35 285 LR LR
comp=N,120nm,15.1s
SSE Sheshan 8.35 285 LR LR
comp=E,400nm,14.6s
SSE Sheshan 8.35 285 pmax pmax
comp=Z,11nm,0.6s
SSE Sheshan 8.35 285 P **Pn** **05 42 54.7 -3.1**
KSRS Korea Array 8.53 346 P **Pn** **05 43 00.9 +0.7**
comp=Z,0.3nm,0.3s,baz=168,slow=14,SNR=22
KSRS LR LR 05 46 32.9
comp=Z,380nm,19.9s,baz=165,slow=39
comp=Z,8.1nm,0.8s
JGF Kuroka 8.58 40 **Pn** **05 43 01.0 0.0**
KS19 Wonju Array Si 8.59 345 **Pn** **05 43 02.6 +1.5**
JHJ Hachijo jima 2 8.80 61 P **Pn** **05 43 04.3 +0.3**
comp=Z,8.5nm,0.3s,baz=104,slow=12,SNR=1.8
JHJ LR LR 05 46 08.5
comp=Z,239nm,19.8s,baz=277,slow=35
comp=Z,84nm,0.8s
JHJ2 Mitsune 8.83 61 Pn **Pn** **05 43 05.6 +1.3**
MAJO Matsushiro 9.74 39 Pn **Pn** **05 43 17.6 +0.8**
MAJO Matsushiro 9.74 39 P **Pn** **05 43 17.6 +0.8**
MJAR Matsushiro Arr 9.74 39 P **Pn** **05 43 16.1 -0.7**
comp=Z,0.1nm,0.3s,baz=180,slow=9.2,SNR=5.3
comp=Z,1.2nm,0.5s
MJB9 Matsu-Tunnel 9.74 39 Pn **Pn** **05 43 18.2 +1.4**
SSLB Suanglung 10.16 240 Pn **Pn** **05 43 23.3 +0.6**
JCJ Chichijima 10.46 99 P **Pn** **05 43 26.7 0.0**
comp=Z,26nm,0.5s,baz=0.0,slow=0.0
NJ2 Nanjing 10.49 289 ⇑*i*P **Pn** **05 43 29.4 +2.3**
NJ2 pmax pmax
comp=Z,33nm,0.7s
NJ2 LR LR
comp=Z,410nm,17.1s
NJ2 LR LR
comp=Z,540nm,17.0s
NJ2 LR LR
comp=Z,950nm,14.2s
WHN Wuhan 14.15 279 P **Pn** **05 44 14.1 -3.0**
WHN pmax pmax
comp=Z,32nm,0.8s
USRK Ussuriysk Ar. 15.02 4 P **Pn** **05 44 30.8 +2.1**
comp=Z,3.7nm,0.6s,baz=179,slow=10,SNR=8.3
CN2 Changchun 15.14 346 *e*P **P** **05 44 36.4 +1.6**
CN2 *e*S **Sn** **05 47 20.4 +3.6**
CN2 pmax pmax
comp=Z,50nm,0.7s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,600nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,700nm,15.0s
MDJ Mudanjiang 15.41 357 P **P** **05 44 36.8 -1.0**
MDJ pmax pmax
comp=Z,4.0nm,0.6s
HNS HongShan 15.57 306 ⇓P **P** **05 44 40.5 +0.9**
HNS pP **pP** **05 44 48.5 -0.9**
HNS PP **sP** **05 44 53.8 -0.7**
HNS pmax pmax
comp=Z,24nm,0.7s
HNS LR LR
comp=Z,460nm,15.1s
HNS LR LR
comp=Z,580nm,15.1s
HNS LR LR
comp=Z,850nm,13.7s
BJT Baijiatuau 16.02 316 P **Pn** **05 44 42.8 +1.2**
BJT Baijiatuau 16.02 316 P **Pn** **05 44 42.8 +1.2**
BJT pmax pmax
comp=Z,12nm,0.7s
BJI Beijing 16.03 316 P **P** **05 44 43.7 -0.9**
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI pmax pmax
comp=Z,51nm,3.6s
BJI LR LR
comp=Z,320nm,14.3s
BJI LR LR
comp=Z,240nm,13.7s
BJI LR LR
comp=Z,400nm,12.9s
LYN LuoYang 16.28 294 P **P** **05 44 48.4 +0.9**
LYN sP pP 05 44 58.2 +1.0
LYN S **Sn** **05 47 44.3 -0.2**
LYN sS S 05 48 02.8 +7.0
LYN pmax pmax
comp=Z,32nm,0.9s
LYN pmax pmax
comp=Z,140nm,4.8s
LYN LR LR
comp=Z,320nm,16.1s
LYN LR LR
comp=Z,410nm,16.5s
LYN LR LR
comp=Z,980nm,14.1s
ASAJ Asahikawa 17.71 30 P **Pn** **05 45 02.5 -0.2**
comp=Z,0.5nm,0.3s,baz=270,slow=13,SNR=1.8
ASAJ LR LR 05 52 05.8
comp=Z,154nm,20.9s,baz=178,slow=38
comp=Z,2.9nm,0.5s
ENH Enshi 18.35 279 P **P** **05 45 10.2 -0.2**
XLT XiLinHaoTe 18.69 326 *e*P **Pn** **05 45 15.1 +0.3**
XLT pP pP 05 45 23.6 -0.5
XLT PP **sP** **05 45 34.0 +4.8**
XLT S **Sn** **05 48 37.7 -5.2**
XLT PcS **PcS** **05 53 11.6 -6.3**
XLT pmax pmax
comp=Z,20nm,0.7s
XLT pmax pmax
comp=Z,150nm,10.4s
XLT LR LR
comp=Z,330nm,11.5s
XLT LR LR
comp=Z,530nm,14.9s
XAN Xi'an 19.05 290 P **P** **05 45 17.7 -0.5**
XAN Xi'an 19.05 290 P **P** **05 45 18.4 +0.2**
XAN pP pP 05 45 27.5 -0.5
XAN S **S** **05 48 52.2 -0.1**
XAN pmax pmax
comp=Z,46nm,0.9s
XAN LR LR
comp=Z,410nm,9.3s
XAN LR LR
comp=Z,1μm,7.8s
XAN LR LR
comp=Z,1μm,8.6s
XAN Xi'an 19.05 290 P **P** **05 45 17.7 -0.5**
XAN pmax pmax
comp=Z,30nm,1.0s
HHC Hu-ho-hao-te 19.39 312 *e*P **Pn** **05 45 23.5 +0.3**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,86nm,4.4s
HHC LR LR
comp=Z,590nm,16.4s
HHC LR LR
comp=Z,520nm,14.5s
HHC LR LR
comp=Z,670nm,14.2s

KLR Kul'dur 20.03 2 P **P** **05 45 27.7 -0.9**
comp=Z,0.8nm,0.3s,baz=185,slow=7.4,SNR=50
KLR LR LR 05 53 40.7
comp=Z,135nm,18.5s,baz=178,slow=38
comp=Z,14nm,0.7s
KLR Kul'dur 20.03 2*c i*P **P** **05 45 27.1 -1.5**
KLR pmax pmax
comp=Z,15nm,0.8s
YSS Yuzh-Sakhalins 20.11 25 *e*P **P** **05 45 28.4 -1.1**
YSS pmax pmax
comp=Z,30nm,1.2s
BTO Baotou 20.29 310 *e*P Pn 05 45 33.6 -0.3
BTO pP pP 05 45 42.4 +0.8
BTO sP sP 05 45 46.7 0.0
BTO PP **PnPn** **05 45 53.6 +4.2**
BTO S **S** **05 49 13.0 -4.0**
BTO SS **SnSn** **05 49 43.8 +7.4**
BTO pmax pmax
comp=Z,22nm,0.9s
BTO pmax pmax
comp=Z,150nm,9.0s
BTO LR LR
comp=Z,1μm,17.2s
BTO LR LR
comp=Z,1μm,12.6s
BTO LR LR
comp=Z,1μm,16.2s
GUMO Guam 20.42 137 LR LR 05 52 03.7
comp=Z,106nm,20.2s,baz=50,slow=32
HEH HeiHe 21.17 354 *e*P **P** **05 45 40.6 -0.3**
HEH pmax pmax
comp=Z,10.0nm,0.8s
GYA Guiyang 21.32 268 ⇑P **P** **05 45 46.1 +3.2**
GYA pmax pmax
comp=Z,41nm,0.7s
GYA LR LR
comp=Z,990nm,9.8s
GYA LR LR
comp=Z,410nm,7.4s
GYA LR LR
comp=Z,880nm,10.7s
DAV Davao City (W) 22.51 193 LR LR 05 54 32.7
comp=Z,50nm,19.9s,baz=358,slow=36
CD2 Chengdu 23.26 281 P **P** **05 46 03.6 +0.3**
CD2 S **S** **05 50 11.8 -0.9**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 LR LR
comp=Z,490nm,14.9s
CD2 LR LR
comp=Z,470nm,11.8s
TYV Tymovskoe 23.48 19 *e*P P 05 46 19.2 +14
TYV pmax pmax
comp=Z,200nm,2.5s
TYV pmax pmax
comp=Z,15nm,1.1s
LZH Lanzhou 23.49 294 *e*P **P** **05 46 06.3 +0.7**
LZH sP sP 05 46 20.9 +0.1
LZH pmax pmax
comp=Z,15nm,1.0s
LZH LR LR
comp=Z,330nm,13.1s
LZH LR LR
comp=Z,610nm,15.1s
LZH LR LR
comp=Z,710nm,16.5s
ZEA Zeya 24.64 355 *e*P **P** **05 46 14.4 -1.5**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
KMI Kunming 25.07 267 ⇓P **P** **05 46 21.6 +1.3**
KMI pP pP 05 46 31.3 +0.4
KMI pmax pmax
comp=Z,35nm,0.7s
SLVN Son La 25.32 258 P **P** **05 46 23.5 +1.1**
PZH PanZhiHua 25.61 271 P **P** **05 46 27.3 +2.2**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,90nm,6.0s
ULN Ulaanbaatar 26.03 322 P **P** **05 46 27.6 -1.1**
ULN Ulaanbaatar 26.03 322 *ce*P **P** **05 46 27.2 -1.5**
ULN pmax pmax
comp=Z,4.0nm,0.7s
SONM Songino Array 26.36 322 P **P** **05 46 31.2 -0.5**
SONM Songino Array 26.36 322 P **P** **05 46 30.6 -1.1**
comp=Z,2.8nm,0.6s,baz=137,slow=8.6,SNR=12
SONM LR LR 05 57 57.9
comp=Z,271nm,20.6s,baz=184,slow=39
comp=Z,2.8nm,0.6s
SONM Songino Array 26.36 322 P **P** **05 46 31.2 -0.5**
SONM pmax pmax
comp=Z,4.0nm,1.0s
GTA Gaotai 27.26 300 *e*P **P** **05 46 45.6 +5.7**
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA LR LR
comp=Z,190nm,14.9s
GTA LR LR
comp=Z,400nm,14.9s
GTA LR LR
comp=Z,420nm,15.6s
CMAR Chiang Mai Arr 30.76 257 P **P** **05 47 11.0 +0.1**
comp=Z,0.8nm,0.3s,baz=68,slow=5.3,SNR=5.7
comp=Z,0.8nm,0.3s
PETK Petropavlovsk- 31.09 32 LR LR 06 01 59.3
comp=Z,57nm,18.4s,baz=221,slow=41
PET Petropavlovsk 31.49 33 *ce*P **P** **05 47 13.2 -3.8**
PET pmax pmax
comp=Z,53nm,1.3s
FAKI Fak Fak 31.97 177 P **P** **05 47 22.3 +0.7**
FAKI lAmb lAmb 05 47 36.1
comp=Z,18nm,1.0s
MA2 Magadan 33.34 19 LR LR 06 02 26.1
comp=Z,131nm,18.5s,baz=253,slow=39
MA2 Magadan 33.34 19 P **P** **05 47 34.3 +1.1**
H11N2 WAKE ISLAND Hy 34.26 98 T T 06 24 27.8
baz=296
H11N1 WAKE ISLAND Hy 34.26 98 T T 06 24 17.1
baz=296
H11N3 WAKE ISLAND Hy 34.28 98 T T 06 24 23.3
baz=296
H11S3 WAKE ISLAND Hy 34.58 100 T T 06 25 51.0
baz=302
H11S1 WAKE ISLAND Hy 34.58 100 T T 06 25 39.6
baz=302
H11S2 WAKE ISLAND Hy 34.59 100 T T 06 25 58.7
baz=302
BRDH Bariadhala 35.49 269 LR LR 06 05 16.6
comp=Z,138nm,18.6s,baz=136,slow=41
SEY Seymchan 36.59 17 *i*P **P** **05 48 00.8 -0.3**
SEY pmax pmax
comp=Z,10.0nm,0.8s
WMQ Urumqi 37.01 305 *e*P **P** **05 48 07.0 +2.0**
WMQ pP pP 05 48 15.6 -0.3
WMQ PcP **PcP** **05 50 29.5 +4.2**
WMQ LR LR
comp=Z,100nm,23.9s
ZSN Zaisan 39.58 310 *e*P **P** **05 48 25.9 -0.6**
ZSN Zaisan 39.58 310 *e*P **P** **05 48 25.9 -0.6**
MK31 Makanchi Array 41.21 309 P **P** **05 48 40.1 +0.1**
MK31 Makanchi Array 41.21 309 P **P** **05 48 40.2 +0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 41.21 309 P **P** **05 48 39.7 -0.3**
MKAR Makanchi Array 41.21 309 P **P** **05 48 39.5 -0.5**
comp=Z,1.9nm,0.4s,baz=92,slow=9.8,SNR=23
MKAR PcP **PcP** **05 50 35.9 -2.6**
comp=Z,1.2nm,0.7s,baz=90,slow=2.9,SNR=3.6
comp=Z,1.9nm,0.4s
MKAR Makanchi Array 41.21 309 *i*P **P** **05 48 40.4 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 41.23 320 PcP **PcP** **05 50 37.9 -0.5**
comp=Z,1.6nm,0.6s,baz=106,slow=4.7,SNR=3.3
PMG Port Moresby 41.58 155 LR LR 06 03 38.8
comp=Z,65nm,21.8s,baz=150,slow=33
TIXI Tiksi 42.51 359 *i*P **P** **05 48 49.3 -1.0**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
SHLS Shalkode 42.91 303 *e*P **P** **05 48 51.0 -3.2**
SHLS Shalkode 42.91 303 *e*P **P** **05 48 50.9 -3.2**
SEM Semipalatinsk 43.10 314 *e*P **P** **05 48 54.8 -0.9**
comp=Z,13nm,0.8s
SEM Semipalatinsk 43.10 314 *e*P **P** **05 48 54.8 -0.9**
SEM pmax pmax
comp=Z,13nm,0.8s

UZB Uzynbulak 43.23 303 *e*P **P** **05 48 56.2 -0.6**
UZB Uzynbulak 43.23 303 *e*P **P** **05 48 56.1 -0.6**
KPKS Kokpek 43.49 304 *e*P **P** **05 48 58.0 -0.7**
KPKS Kokpek 43.49 304 *e*P **P** **05 48 58.0 -0.7**
PTH Pithoragarh 43.60 283 *ex* **P** **05 49 00.3 +0.4**
SATY Saty 43.68 303 *e*P **P** **05 48 59.5 -0.8**
SATY Saty 43.68 303 *e*P **P** **05 48 59.5 -0.8**
TDK Taldyqorghan 43.74 306 *e*P **P** **05 48 59.9 -0.8**
TDK Taldyqorghan 43.74 306 *e*P **P** **05 48 59.8 -0.8**
TARG Taragay, Kyrgy 44.13 301 P **P** **05 49 04.8 +0.5**
TARG Taragay, Kyrgy 44.13 301 P **P** **05 49 04.8 +0.5**
TARG pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 44.18 314 P **P** **05 49 03.3 -0.8**
KURK Kurchatov 44.18 314 *i*P **P** **05 49 04.1 +0.1**
KURK pmax pmax
comp=Z,24nm,0.7s
KURK Kurchatov 44.18 314 P **P** **05 49 04.2 +0.2**
KURK pP **pP** **05 49 17.1 +1.9**
BILL Bilibino 44.21 18 P **P** **05 49 05.0 +0.9**
BILL Bilibino 44.21 18 *ce*P **P** **05 49 02.5 -1.6**
BILL pmax pmax
comp=Z,9.0nm,1.3s
KURBB Kurchatov Arra 44.22 314 P **P** **05 49 04.0 -0.4**
comp=Z,16nm,0.6s,baz=102,slow=8.9,SNR=35
KURBB PcP **PcP** **05 50 48.8 +0.3**
comp=Z,0.6nm,0.3s,baz=101,slow=3.9,SNR=1.6
KURBB LR LR 06 09 07.2
comp=Z,290nm,21.1s,baz=163,slow=38
comp=Z,16nm,0.6s
MDOK Medeo 44.68 303 *e*P **P** **05 49 07.6 -0.7**
MDOK Medeo 44.68 303 *e*P **P** **05 49 07.6 -0.7**
TNSS Tian-Shan 44.75 303 *e*P **P** **05 49 08.0 -1.2**
TNSS Tian-Shan 44.75 303 *e*P **P** **05 49 08.0 -1.2**
KUU Kurty 45.20 304 *e*P **P** **05 49 11.6 -0.7**
KUU Kurty 45.20 304 *e*P **P** **05 49 11.5 -0.7**
SGDS Sogindy 46.44 304 *e*P **P** **05 49 21.7 -0.5**
SGDS Sogindy 46.44 304 *e*P **P** **05 49 21.6 -0.5**
AAK Ala-Archa 46.56 303 LR LR 06 12 18.0
comp=Z,124nm,18.7s,baz=115,slow=40
AAK Ala-Archa 46.56 303 *i*P **P** **05 49 22.2 -1.1**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 46.56 303 P **P** **05 49 24.4 +1.1**
BTLS Baital 46.84 306 *e*P **P** **05 49 24.4 -0.8**
BTLS Baital 46.84 306 *e*P **P** **05 49 24.3 -0.8**
KUDL Kundal 47.11 283 *ex* **P** **05 49 26.9 -0.6**
NRIK Noril'sk 47.11 341 P **P** **05 49 26.1 -0.9**
NRIK Noril'sk 47.11 341 P **P** **05 49 26.1 -0.9**
comp=Z,15nm,0.7s,baz=119,slow=9.0,SNR=22
comp=Z,15nm,0.7s
NRIK Noril'sk 47.11 341 *i*P **P** **05 49 25.2 -1.7**
NRIK pmax pmax
comp=Z,12nm,0.6s
FITZ Fitzroy Crossi 47.26 186 P **P** **05 49 28.2 -0.3**
comp=Z,1.2nm,0.6s,baz=19,slow=12,SNR=1.8
comp=Z,1.2nm,0.6s
BRZS Berezniki 47.89 313 *e*P **P** **05 49 32.5 -0.8**
comp=Z,4.6nm,0.5s
BRZS Berezniki 47.89 313 *e*P **P** **05 49 32.5 -0.8**
BRZS pmax pmax
comp=Z,5.0nm,0.5s
NIL Nilore 48.59 291 P **P** **05 49 39.4 +0.4**
NIL Nilore 48.59 291 P **P** **05 49 39.4 +0.4**
NIL pmax pmax
comp=Z,24nm,0.7s
NIL Nilore 48.59 291 P **P** **05 49 39.4 +0.4**
DZA Taraz 48.88 303 *e*P **P** **05 49 40.3 -0.7**
comp=Z,5.1nm,0.4s
DZA Taraz 48.88 303 *e*P **P** **05 49 40.3 -0.7**
DZA pmax pmax
comp=Z,5.0nm,0.4s
WRA Warramunga Arr 48.98 175 P **P** **05 49 41.5 -0.4**
comp=Z,0.7nm,0.7s,baz=356,slow=5.9,SNR=2.3
comp=Z,0.7nm,0.7s
SPIA Saint Paul Isl 49.38 38 P **P** **05 49 45.0 +0.4**
baz=262
KKAR Karatay Array 49.46 303 P **P** **05 49 46.0 +0.5**
KKAR Karatay Array 49.46 303 P **P** **05 49 46.9 +1.4**
KKAR lAmb lAmb 05 49 47.4
comp=Z,6.0nm,0.8s
KKAR Karatay Array 49.46 303 P **P** **05 49 46.9 +1.4**
KKAR pmax pmax
comp=Z,6.0nm,0.8s
BVAR Borovoye Array 49.51 316 P **P** **05 49 44.8 -0.9**
comp=Z,22nm,0.7s,baz=94,slow=9.7,SNR=35
BVAR PcP **PcP** **05 51 07.6 +0.5**
comp=Z,3.4nm,0.6s,baz=89,slow=3.2,SNR=4.6
comp=Z,22nm,0.7s
BRVK Borovoye 49.58 316 P **P** **05 49 46.5 +0.3**
BRVK Borovoye 49.58 316 *i*P **P** **05 49 45.3 -0.9**
BRVK pmax pmax
comp=Z,22nm,0.6s
BRVK Borovoye 49.58 316 P **P** **05 49 46.2 +0.1**
BRVK pP **pwP** **05 49 59.1 -0.3**
P08K Saint George I 49.68 39 P **P** **05 49 46.9 +0.1**
baz=263
NIKH Nikolski High 49.74 44 P **P** **05 49 46.8 -0.5**
baz=266
BRLS Borolday 49.96 303 *e*P **P** **05 49 49.9 +0.5**
BRLS Borolday 49.96 303 *e*P **P** **05 49 49.8 +0.5**
GAMB Gambell 50.04 29 P **P** **05 49 49.6 +0.1**
baz=255
CHM Chimkent 50.20 302 *e*P **P** **05 49 50.6 -0.5**
CHM Chimkent 50.20 302 *e*P **P** **05 49 50.5 -0.5**
TNA Tin City 52.06 28 P **P** **05 50 04.9 +0.3**
baz=257
ASAR Alice Springs 52.65 176 P **P** **05 50 10.0 +0.5**
comp=Z,0.3nm,0.5s,baz=8.5,slow=14,SNR=8.7
comp=Z,0.3nm,0.5s
M13K Dall Lake 53.32 34 P **P** **05 50 14.2 +0.2**
baz=265
J14K Nanvaranak Lak 53.46 32 P **P** **05 50 14.6 -0.4**
baz=263
M14K Bethel 54.03 34 P **P** **05 50 19.1 -0.1**
baz=266
N14K Kuskokwak Cree 54.12 35 P **P** **05 50 19.1 -0.8**
baz=267
H16K Elim 54.27 29 P **P** **05 50 20.4 -0.5**
baz=263
O14K Tigyukauivet M 54.31 36 P **P** **05 50 21.0 -0.2**
baz=268
G16K Koyuk River 54.31 28 P **P** **05 50 20.9 -0.3**
baz=263
C17K DeLong Mountai 54.48 25 P **P** **05 50 22.4 0.0**
baz=260
E17K Hotham Inlet 54.76 26 P **P** **05 50 24.9 +0.4**
baz=262
I17K Unalakleet 54.86 30 P **P** **05 50 25.1 -0.1**
baz=265
F17K Baldwin Pennin 54.90 27 P **P** **05 50 24.9 -0.6**
baz=263
N15K Kwethluk River 54.93 35 P **P** **05 50 25.3 -0.5**
baz=268
G17K Kiwalik Mounta 55.03 28 P **P** **05 50 25.6 -0.8**
baz=264
S14K Fog Glacier 55.21 40 P **P** **05 50 27.2 -0.8**
baz=272
C18K Utukok River 55.23 24 P **P** **05 50 28.5 +0.6**
baz=261
SVE Sverdlovsk 55.23 321 *e*P **P** **05 50 28.1 +0.1**
SVE pmax pmax
comp=Z,25nm,0.9s
E18K Tukpahlearik C 55.28 26 P **P** **05 50 29.2 +1.0**
baz=263
L16K Owhat River 55.29 33 P **P** **05 50 29.4 +1.1**
baz=268
H17K Granite Mounta 55.29 29 P **P** **05 50 28.7 +0.4**
baz=265
M16K Timber Creek 55.51 34 P **P** **05 50 30.8 +0.8**
baz=269
A19K Wainwright 55.52 23 P **P** **05 50 30.9 +1.0**
baz=260
J17K VABM Dome 55.55 31 P **P** **05 50 31.2 +1.0**
baz=267
F18K Selawik 55.55 27 P **P** **05 50 31.2 +1.0**
baz=264
N16K Nishlik Lake 55.59 35 P **P** **05 50 31.2 +0.6**
baz=269
L17K Donlin 55.86 32 P **P** **05 50 32.4 -0.1**
baz=269
C19K Lookout Ridge 55.87 24 P **P** **05 50 32.7 +0.2**
baz=263
K17K Iditarod 55.87 32 P **P** **05 50 32.2 -0.3**
baz=268
G18K Tagagawik 55.89 28 P **P** **05 50 32.8 +0.2**

baz=266
O16K Kokwok River B 55.93 36 P P 05 50 32.7 -0.3
baz=270
H18K Honhosa River 55.96 29 P P 05 50 33.2 0.0
baz=266
P16K Nushagak River 55.99 36 P P 05 50 33.1 -0.3
baz=271
ABKAR Akbulak array 56.18 312 P P 05 50 35.0 0.0
ABKAR Akbulak array 56.18 312 P P 05 50 34.9 0.0
R16K Pilot Point 56.25 38 P P 05 50 36.0 +0.8
baz=272
M17K Holitna River 56.25 33 P P 05 50 35.2 -0.1
baz=270
F19K Shaleruckik Mo 56.32 27 P P 05 50 35.5 -0.1
baz=266
D19K Kuna River 56.33 25 P P 05 50 35.5 -0.2
baz=264
N17K Nushagak Hills 56.38 34 P P 05 50 36.3 +0.1
baz=271
O17K Koliganek Bris 56.44 35 P P 05 50 36.4 -0.2
baz=271
ARTI Arti 56.49 321 P P 05 50 36.6 -0.5
ARTI Arti 56.49 321 LR LR 06 17 01.7
comp=Z,100nm,19.3s,baz=115,slow=38
ARTI Arti 56.49 321 *d* P P 05 50 36.2 -0.9
ARTI 05 52 38.8
ARTI S S 05 58 26.9 +1.6
ARTI pmax pmax
comp=Z,12nm,0.6s
ARTI Arti 56.49 321 P P 05 50 36.6 -0.5
ARTI pP pP 05 50 49.0 +0.6
G19K Purcell Mounta 56.55 28 P P 05 50 36.9 -0.4
baz=267
GCSA Galena City Sc 56.57 29 P P 05 50 37.7 +0.2
baz=268
E19K Redstone River 56.57 26 IAmb IAmb 05 50 40.1
comp=Z,7.6nm,0.8s
E19K Redstone River 56.57 26 P P 05 50 37.1 -0.4
baz=266
J18K Innoko River 56.61 31 P P 05 50 38.6 +0.8
baz=269
L18K Granite Mounta 56.61 32 P P 05 50 38.5 +0.7
baz=270
Q16K King Salmon 56.69 37 P P 05 50 38.9 +0.5
baz=272
H19K Roundabout Mou 56.78 28 IAmb IAmb 05 50 53.5
comp=Z,15nm,1.1s
H19K Roundabout Mou 56.78 28 P P 05 50 39.4 +0.4
baz=268
P17K Kvichak River 56.79 36 P P 05 50 38.7 -0.4
baz=272
B20K Meade River 56.82 23 P P 05 50 39.1 0.0
baz=264
D20K Etivluk River 56.90 25 P P 05 50 40.4 +0.6
baz=266
R17L Mt. Peulik Vol 56.90 38 P P 05 50 40.2 +0.2
baz=273
TTA Tatalina 56.93 32 P P 05 50 39.8 -0.3
baz=270
N18K Kilae Creek 57.02 34 P P 05 50 40.3 -0.5
baz=272
E20K Nigu River 57.02 25 P P 05 50 41.2 +0.5
baz=266
M18K Stony River 57.03 33 P P 05 50 40.5 -0.3
baz=271
J19K Poorman 57.10 30 P P 05 50 42.9 +1.6
J19K IAmb IAmb 05 50 43.5
comp=Z,5.6nm,0.6s
J19K Poorman 57.10 30 P P 05 50 41.8 +0.5
baz=270
Q17K Contact Creek 57.12 37 P P 05 50 42.6 +1.0
baz=273
F20K Avaraart Lake 57.14 27 P P 05 50 42.7 +1.3
baz=268
AKTO Aktyubinsk 57.27 314 LR LR 06 17 21.6
comp=Z,306nm,18.6s,baz=90,slow=38
O18K Koktuh Hills 57.39 35 P P 05 50 44.4 +1.0
baz=273
P18K Big Mountain, 57.40 36 P P 05 50 44.5 +1.0
baz=273
CHIR Chirikof Islan 57.43 40 P P 05 50 44.1 +0.4
baz=275
H20K Anotleneega Mo 57.44 28 P P 05 50 44.4 +0.8
baz=269
L19K White Mountain 57.47 32 P P 05 50 44.6 +0.7
baz=272
Q18K Katmai Hardscr 57.55 37 P P 05 50 45.5 +0.8
baz=274
C21K Knifeblade Rid 57.59 24 P P 05 50 44.9 +0.3
baz=267
I20K Naaghedeneel 57.60 29 P P 05 50 44.8 +0.1
baz=270
A22K Sinclair Lake 57.64 22 P P 05 50 45.0 +0.1
baz=266
B21K Ikpikpuk River 57.67 24 P P 05 50 46.2 +1.0
baz=267
M19K Big River Lodg 57.70 33 P P 05 50 46.5 +1.0
baz=272
N19K Bonanza Creek 57.70 34 P P 05 50 46.3 +0.7
baz=273
J20K Nowinta River 57.75 30 P P 05 50 47.6 +1.8
J20K IAmb IAmb 05 50 48.5
comp=Z,8.5nm,0.8s
J20K Nowinta River 57.75 30 P P 05 50 46.8 +0.9
baz=271 ,SNR=5.3
K20K Telida 57.80 31 IAmb IAmb 05 50 49.3
comp=Z,5.6nm,0.8s
K20K Telida 57.80 31 P P 05 50 46.4 +0.2
baz=272
E21K Killik River 57.85 25 P P 05 50 47.4 +0.9
baz=268
IMAR Indian Mountai 57.91 28 P P 05 50 48.2 +1.3
L20K Farewell, AK 57.92 32 P P 05 50 48.3 +1.2
baz=272
G21K Allakaket 58.00 27 P P 05 50 48.4 +0.8
baz=270
F21K Alatna River 58.02 26 P P 05 50 48.6 +0.9
baz=270
B22K Teshekpuk Lake 58.12 23 P P 05 50 49.4 +1.1
baz=268
SII Sitkinak Islan 58.17 39 P P 05 50 49.8 +0.9
baz=276
Q19K Cape Douglas, 58.24 36 P P 05 50 50.8 +1.4
baz=275
M20K Styx River 58.30 33 P P 05 50 52.3 +2.5
M20K Styx River 58.30 33 P P 05 50 50.3 +0.5
baz=273
H21K Melozitna Rive 58.30 28 P P 05 50 51.6 +1.9
H21K Melozitna Rive 58.30 28 P P 05 50 50.2 +0.6
baz=271
D22K Ayikyak River 58.33 24 P P 05 50 50.2 +0.3
baz=269
P19K Oil Pt 58.40 35 P P 05 50 51.0 +0.5
baz=275
F22K John River 58.52 26 P P 05 50 52.0 +0.8
baz=271
CHUM Lake Minchumin 58.57 30 P P 05 50 52.1 +0.6
baz=273
OHAK Old Harbor 58.59 38 P P 05 50 52.3 +0.6
OHAK Old Harbor 58.59 38 P P 05 50 51.9 +0.2
baz=276
E22K Anaktuvuk Pass 58.65 25 IAmb IAmb 05 50 54.4
comp=Z,8.8nm,0.8s
E22K Anaktuvuk Pass 58.65 25 P P 05 50 53.0 +0.9
baz=271
I21K Tanana 58.66 29 IAmb IAmb 05 50 54.9
comp=Z,6.8nm,0.8s
I21K Tanana 58.66 29 P P 05 50 53.2 +1.1
baz=272
PPLA Purkeypile 58.68 32 P P 05 50 53.3 +0.9
baz=274
CAST Castle Rocks 58.69 31 P P 05 50 54.0 +1.5
CAST IAmb IAmb 05 51 05.3
comp=Z,5.9nm,1.0s
CAST Castle Rocks 58.69 31 P P 05 50 54.0 +1.5
baz=273
N20K Mount Spurr 58.78 34 P P 05 50 53.6 +0.5
baz=274
SPCR Spurr Chakacha 58.78 34 P P 05 50 53.9 +0.7
baz=274
G22K Bettles 58.79 27 P P 05 50 54.0 +1.0
baz=272
H22K Ishtalitna Cre 58.88 28 P P 05 50 54.1 +0.4
baz=272
KDAK Kodiak Island 58.91 38 P P 05 50 54.8 +0.8
KDAK Kodiak Island 58.91 38 P P 05 50 53.9 -0.1
baz=276
KDAK Kodiak Island 58.91 38 P P 05 50 54.8 +0.8
KDAK pmax pmax
comp=Z,39nm,1.5s
KDAK Kodiak Island 58.91 38 P P 05 50 54.7 +0.7
Q20K Shuyak Island 58.92 37 P P 05 50 54.7 +0.7
baz=276
SKT Skwentna 59.05 33 P P 05 50 54.9 0.0
SKT Skwentna 59.05 33 P P 05 50 55.2 +0.3
baz=275
D23K Nanushuk River 59.06 24 P P 05 50 55.6 +0.7
baz=271
C23K Itkillik River 59.07 23 P P 05 50 55.5 +0.6
baz=271
BPAW Bear Paw Mtn. 59.14 30 P P 05 50 56.9 +1.4
BPAW Bear Paw Mtn. 59.14 30 P P 05 50 56.3 +0.8
baz=274
MLY Manley 59.19 29 P P 05 50 57.7 +1.8
MLY Manley 59.19 29 P P 05 50 56.6 +0.7
baz=274
KTH Kantishna Hill 59.21 31 P P 05 50 57.5 +1.4
KTH IAmb IAmb 05 50 59.0
comp=Z,10nm,1.4s
COLD Coldfoot 59.29 26 P P 05 50 57.3 +0.8
baz=273
G23K Bananza Creek 59.39 27 P P 05 50 57.8 +0.5
baz=273
SUA Susitna One 59.46 33 P P 05 50 58.9 +1.0
baz=276,SNR=8.8
TOLK Toolik Lake Re 59.47 25 P P 05 50 59.4 +1.6
TOLK IAmb IAmb 05 51 10.2
comp=Z,6.5nm,1.1s
TOLK Toolik Lake Re 59.47 25 P P 05 50 58.3 +0.5
baz=272
E23K Chandalar 59.48 25 IAmb IAmb 05 51 00.4
comp=Z,9.2nm,0.8s
E23K Chandalar 59.48 25 P P 05 50 58.7 +0.8
baz=273
TRF Thorofare Moun 59.50 31 P P 05 50 59.0 +0.8
baz=275
BRLK Bradley Lake 59.57 35 P P 05 50 59.0 +0.4
BRLK IAmb IAmb 05 51 03.1
comp=Z,13nm,1.2s
H23K Yukon River 59.64 28 IAmb IAmb 05 51 02.4
comp=Z,6.5nm,0.8s
H23K Yukon River 59.64 28 P P 05 51 00.1 +1.1
baz=274
D24K Happy Valley 59.72 24 P P 05 51 00.6 +1.2
baz=273
M22K Willow 59.73 33 P P 05 51 00.7 +1.2
baz=276
C24K Franklin Bluff 59.74 23 P P 05 51 00.8 +1.3
baz=273
I23K Minto, Yukon-K 59.76 29 P P 05 51 00.7 +1.0
baz=275
BWN Browne 59.80 30 P P 05 51 01.9 +1.9
E24K Your Creek 59.90 25 IAmb IAmb 05 51 03.7
comp=Z,4.7nm,0.7s
E24K Your Creek 59.90 25 P P 05 51 01.8 +1.0
baz=274
NEA2 Nenana 59.93 29 IAmb IAmb 05 51 15.9
comp=Z,9.3nm,1.0s
NEA2 Nenana 59.93 29 P P 05 51 02.7 +1.7
baz=275,SNR=5.6
RC01 Rabbit Creek A 59.99 34 P P 05 51 02.0 +0.7
baz=277
MCK McKinley 60.07 30 P P 05 51 01.8 -0.2
baz=276
F24K Squaw Lake 60.17 26 IAmb IAmb 05 51 05.4
comp=Z,5.7nm,0.7s
F24K Squaw Lake 60.17 26 P P 05 51 02.8 +0.2
baz=275
PMR Palmer 60.22 33 P P 05 51 03.1 +0.2
baz=277
SEW Seward 60.25 35 P P 05 51 03.5 +0.4
baz=278
GHO Glory Hole Cre 60.30 33 P P 05 51 04.8 +1.2
GHO IAmb IAmb 05 51 06.1
comp=Z,6.6nm,0.6s
H24K Noodor Dome 60.32 28 P P 05 51 05.6 +2.0
H24K IAmb IAmb 05 51 16.7
comp=Z,8.0nm,1.1s
H24K Noodor Dome 60.32 28 P P 05 51 04.8 +1.2
baz=276
WAT1 Susitna Watana 60.34 31 P P 05 51 03.7 -0.2
baz=277
G24K Hadweenzic Riv 60.40 27 IAmb IAmb 05 51 06.9
comp=Z,5.3nm,0.8s
G24K Hadweenzic Riv 60.40 27 P P 05 51 04.4 +0.2
baz=275
COLA College 60.43 29 *i* P P 05 51 03.2 -1.1
COLA pmax pmax
comp=Z,5.0nm,0.9s
COLA College 60.43 29 P P 05 51 06.0 +1.8
CCB Clear Creek Bu 60.47 29 P P 05 51 06.0 +1.4
KNK Knik Glacier 60.56 33 IAmb IAmb 05 51 07.6
comp=Z,8.1nm,0.8s
KNK Knik Glacier 60.56 33 P P 05 51 05.3 0.0
baz=278
SML Sawmill 60.57 33 P P 05 51 05.2 -0.2
baz=277
POKR Poker Plat Res 60.58 29 P P 05 51 05.0 -0.4
baz=276
D25K Kavik River 60.58 24 IAmb IAmb 05 51 10.3
comp=Z,5.0nm,0.8s
D25K Kavik River 60.58 24 P P 05 51 05.3 -0.1
baz=275
PWL Port Wells 60.69 34 P P 05 51 05.9 -0.4
baz=278
WAT6 Susitna Watana 60.74 32 P P 05 51 06.8 0.0
baz=278
DHY Denali Highway 60.85 31 P P 05 51 07.8 +0.4
baz=278
ILAR Eielson Array 60.85 29 P P 05 51 07.6 +0.4
ILAR Eielson Array 60.85 29 P P 05 51 07.3 +0.1
comp=Z,1.7nm,0.8s,baz=270,slow=5.6,SNR=17
comp=Z,1.7nm,0.8s
ILAR Eielson Array 60.85 29 P P 05 51 07.6 +0.4
M23K Glacier View 60.86 33 P P 05 51 07.5 +0.2
baz=278
HDA Harding Lake 60.87 30 IAmb IAmb 05 51 08.7
comp=Z,5.7nm,0.8s
HDA Harding Lake 60.87 30 P P 05 51 08.0 +0.7
baz=277
G25K Bearman Lake 60.94 27 P P 05 51 08.1 +0.4
baz=277
E25K Arctic Village 60.99 25 P P 05 51 09.7 +1.5
E25K Arctic Village 60.99 25 P P 05 51 08.7 +0.5
baz=276
F25K Christian Rive 61.02 26 IAmb IAmb 05 51 12.1
comp=Z,6.1nm,0.8s
F25K Christian Rive 61.02 26 P P 05 51 08.6 +0.1
baz=277
C26K Camden Bay 61.03 23 P P 05 51 08.5 +0.2
baz=276
SCM Sheep Creek Mo 61.04 32 P P 05 51 09.8 +1.2
SCM Sheep Creek Mo 61.04 32 P P 05 51 09.2 +0.6
baz=278
SCM Sheep Creek Mo 61.04 32 P P 05 51 09.9 +1.2
SCM pmax pmax
comp=Z,15nm,1.2s
KIRV Kirov 61.07 324 *i* P P 05 51 07.3 -1.4
P23K Montague Islan 61.28 35 P P 05 51 10.2 0.0
baz=279
GLI Glacier Island 61.29 34 P P 05 51 11.8 +1.6
PRP Porcupine Dome 61.32 28 P P 05 51 11.5 +0.9
baz=278
BMAR Burnt Mountain 61.45 26 P P 05 51 13.5 +2.2
K24K Donnelly Dome 61.46 30 P P 05 51 11.9 +0.5
baz=278
C27K Jago River 61.48 23 IAmb IAmb 05 51 13.9
comp=Z,4.3nm,0.7s
C27K Jago River 61.48 23 P P 05 51 12.0 +0.6
baz=277
M24K Tolsona, Glenn 61.54 32 P P 05 51 13.3 +1.3
M24K Tolsona, Glenn 61.54 32 P P 05 51 12.0 0.0
baz=279
F26K Sheenjek River 61.58 26 IAmb IAmb 05 51 15.6
comp=Z,7.4nm,0.8s
F26K Sheenjek River 61.58 26 P P 05 51 11.9 -0.3
baz=278
FID Port Fidalgo 61.61 34 P P 05 51 13.4 +0.9
STKA Stephens Creek 61.63 169 P P 05 51 12.2 -0.6
comp=Z,1.7nm,0.8s,baz=345,slow=19,SNR=1.4
comp=Z,1.7nm,0.8s
HIN Hinchinbrook I 61.66 34 P P 05 51 14.2 +1.4
PAX Paxson 61.72 31 P P 05 51 14.0 +0.8
baz=279
KLU Klutina 61.75 33 P P 05 51 14.2 +0.7
baz=280
G26K Porcupine Rive 61.82 26 P P 05 51 14.4 +0.7
baz=279
HARP HAARP 61.96 32 P P 05 51 16.0 +1.2
baz=280
EYAK Cordova Ski Ar 62.00 34 P P 05 51 15.8 +0.8
baz=280
SCRK Sand Creek 62.21 30 IAmb IAmb 05 51 17.9
comp=Z,4.2nm,0.7s
SCRK Sand Creek 62.21 30 P P 05 51 17.1 +0.5
baz=280,SNR=6.4
J26L Joseph Creek 62.30 29 IAmb IAmb 05 51 18.6
comp=Z,4.8nm,0.8s
J26L Joseph Creek 62.30 29 P P 05 51 17.7 +0.6
baz=280,SNR=12
N25K Chitina, Valde 62.36 33 P P 05 51 19.7 +2.2
N25K IAmb IAmb 05 51 33.2
comp=Z,5.3nm,0.8s
N25K Chitina, Valde 62.36 33 P P 05 51 17.4 -0.1
baz=281
E27K Coleen River 62.45 25 IAmb IAmb 05 51 20.6
comp=Z,4.7nm,0.7s
E27K Coleen River 62.45 25 P P 05 51 18.4 +0.4
baz=280
BMRM Bremner River 62.47 33 P P 05 51 18.6 +0.4
baz=281
D27M Malcolm River 62.50 24 P P 05 51 18.4 0.0
baz=280
RAGM Ragged Mountai 62.55 34 P P 05 51 21.4 +2.5
L26K Log Cabin Wild 62.67 31 P P 05 51 20.0 +0.5
baz=281
G27K Doyon Strip 62.67 26 P P 05 51 19.9 +0.4
baz=280
KAIM Kayak Island 62.77 34 P P 05 51 19.4 -0.8
baz=282
H27K Steamboat Moun 62.83 27 P P 05 51 21.2 +0.6
baz=281,SNR=5.7
I27K Kandik River 62.91 28 P P 05 51 22.0 +0.8
baz=281,SNR=9.6
M26K Nabesna, AK 62.95 31 IAmb IAmb 05 51 36.5
comp=Z,9.0nm,0.9s
M26K Nabesna, AK 62.95 31 P P 05 51 21.5 +0.1
baz=282,SNR=7.0
VRDI Verde Repeater 62.97 33 P P 05 51 22.9 +1.1
VRDI IAmb IAmb 05 51 34.6
comp=Z,6.9nm,1.1s
BERG Berg Lake 63.02 34 P P 05 51 24.1 +2.2
K27K Chicken 63.03 30 IAmb IAmb 05 51 27.4
comp=Z,6.9nm,1.1s
K27K Chicken 63.03 30 P P 05 51 23.1 +1.2
baz=282
E28M Babbage River 63.12 24 P P 05 51 22.3 -0.1
baz=282
MCARA McCarthy VSAT 63.14 33 IAmb IAmb 05 51 25.4
comp=Z,9.2nm,1.0s
MCARA McCarthy VSAT 63.14 33 P P 05 51 22.6 0.0
baz=282
F28M Old Crow 63.20 25 IAmb IAmb 05 51 25.7
comp=Z,5.2nm,1.0s
F28M Old Crow 63.20 25 P P 05 51 24.3 +1.3
baz=282
CRQE Cirque 63.24 33 P P 05 51 24.8 +1.3
baz=282
D28M Stokes Point 63.26 23 P P 05 51 24.7 +1.4
baz=282
BELG Belogornoye 63.31 317 *e* P P 05 51 22.0 -1.8
BELG pmax pmax
comp=Z,2.0nm,0.8s
L27K Beaver Creek, 63.34 31 P P 05 51 25.7 +1.7
L27K Beaver Creek, 63.34 31 P P 05 51 24.8 +0.8
baz=282
BCAR Beaver Creek A 63.36 31 P P 05 51 26.0 +1.9
TGL Tana Glacier 63.37 33 P P 05 51 26.2 +1.9
M27K Edge Creek, AK 63.47 31 IAmb IAmb 05 51 44.6
comp=Z,6.8nm,1.1s
M27K Edge Creek, AK 63.47 31 P P 05 51 25.1 +0.1
baz=283
SNH Sunshine Point 63.49 34 P P 05 51 26.1 +1.0
I28M Miner Creek 63.63 28 P P 05 51 27.6 +1.6
I28M IAmb IAmb 05 51 40.8
comp=Z,9.9nm,1.1s
I28M Miner Creek 63.63 28 P P 05 51 26.9 +1.0
baz=283,SNR=7.4
ISLE Juniper Island 63.64 33 P P 05 51 27.6 +1.4
ISLE IAmb IAmb 05 51 28.1
comp=Z,6.9nm,0.8s
E29M Blow River 63.76 24 P P 05 51 27.6 +0.9
baz=283
MESA MESA 63.92 34 P P 05 51 28.5 +0.4
baz=284
CTG Chitna Glacier 64.03 33 P P 05 51 29.2 +0.5
baz=284
G29M Pine Creek 64.06 26 P P 05 51 29.5 +0.8
baz=284
H29M Whitestone 64.08 27 IAmb IAmb 05 51 31.4
comp=Z,4.9nm,0.8s
H29M Whitestone 64.08 27 P P 05 51 29.4 +0.6
baz=284
DAWY Dawson 64.17 29 P P 05 51 30.9 +1.4
DAWY Dawson 64.17 29 P P 05 51 30.5 +1.0
baz=284
LOGN Logan Glacier 64.22 33 P P 05 51 30.4 +0.4
LOGN IAmb IAmb 05 51 46.6
comp=Z,12nm,1.4s
YUK3 Moose Creek 64.25 32 P P 05 51 30.7 +0.5
baz=284
I29M Ogilvie Camp, 64.31 28 P P 05 51 32.4 +2.0
I29M Ogilvie Camp, 64.31 28 P P 05 51 31.5 +1.2
baz=284
J29N Klondike Camp 64.58 29 P P 05 51 33.9 +1.7
J29N IAmb IAmb 05 51 34.8
comp=Z,7.6nm,0.7s
J29N Klondike Camp 64.58 29 P P 05 51 32.9 +0.8
baz=285
O28M Mount Upton 64.62 33 P P 05 51 32.6 -0.2
baz=285
EPYK Eagle Plains 64.69 26 IAmb IAmb 05 51 34.9
comp=Z,8.9nm,0.7s
EPYK Eagle Plains 64.69 26 P P 05 51 34.2 +1.4
baz=285,SNR=6.5
YUK8 Steele Glacier 64.69 32 P P 05 51 33.8 +0.6
baz=285
F30M Barrier River 64.72 25 P P 05 51 34.3 +1.3
baz=285
G30M tAoh Zraii Nji 64.72 26 IAmb IAmb 05 51 34.8
comp=Z,7.3nm,0.8s
G30M tAoh Zraii Nji 64.72 26 P P 05 51 34.2 +1.2
baz=285
PCA Pinnacle 64.77 34 P P 05 51 35.3 +1.8
PINM Pinnacle 64.77 34 P P 05 51 33.1 -0.4
baz=285
L29M L29M 64.96 30 P P 05 51 36.7 +2.1
L29M IAmb IAmb 05 51 37.8
comp=Z,7.1nm,0.8s
L29M L29M 64.96 30 P P 05 51 34.8 +0.1
baz=285,SNR=5.6
M29M Somme Creek 64.99 31 P P 05 51 36.9 +2.0
M29M IAmb IAmb 05 51 50.1
comp=Z,6.3nm,1.1s
M29M Somme Creek 64.99 31 P P 05 51 34.6 -0.3
baz=285
K29M Barlow Dome 65.03 29 P P 05 51 36.7 +1.5
K29M IAmb IAmb 05 51 50.0
comp=Z,7.1nm,1.2s
K29M Barlow Dome 65.03 29 P P 05 51 35.0 -0.2
baz=286
I30M Mount Dempster 65.13 28 IAmb IAmb 05 51 48.4
comp=Z,7.3nm,1.2s
I30M Mount Dempster 65.13 28 P P 05 51 36.1 +0.2
baz=286
YUK4 Talbot Arm 65.20 32 P P 05 51 36.9 +0.5
baz=286
PNL Peninsula 65.30 34 P P 05 51 37.3 +0.5
baz=286
J30M Hart River 65.33 28 P P 05 51 38.9 +1.8
J30M Hart River 65.33 28 P P 05 51 38.5 +1.4
baz=286
INK Inuvik 65.35 24 P P 05 51 38.2 +1.3
INK Inuvik 65.35 24 P P 05 51 38.1 +1.2
baz=287
INK Inuvik 65.35 24 P P 05 51 38.2 +1.3
INK pmax pmax
comp=Z,3.0nm,0.6s
YUK6 Outpost Mounta 65.44 32 P P 05 51 38.1 +0.1
baz=286
KLMR Klimovskoe 65.47 327 *e* P P 05 51 35.8 -2.0
KLMR *e*PP pP 05 51 43.7 -5.7

KLMR pmax pmax
comp=Z,38nm,1.0s
G31M Satah River 65.48 26 P **P 05 51 38.8 +1.0**
G31M Satah River 65.48 26 P **P 05 51 39.0 +1.1**
baz=287
O29M Mount Kennedy 65.52 33 P **P 05 51 39.1 +0.7**
baz=286
F31M Tsiigehtchic 65.53 25 P **P 05 51 37.2 -0.9**
baz=287
M30M Minto, Yukon 65.70 30 P **P 05 51 40.1 +0.7**
baz=287
H31M Peel River 65.78 27 P **P 05 51 40.2 +0.4**
baz=287
HYT Haines Junctio 65.88 32 P **P 05 51 41.6 +0.9**
baz=287
N30M Aishikik Lake 65.89 32 P **P 05 51 41.3 +0.7**
baz=287
P29M Windy Craggy 66.11 34 P **P 05 51 43.5 +1.4**
baz=287
AKT Akhty 66.30 305 *e*P **P 05 51 43.3 -0.4**
AKT pmax pmax
comp=Z,20nm,0.6s
P30M Million Dollar 66.34 33 P **P 05 51 44.5 +0.9**
baz=288
SPITS Spitsbergen Ar 66.36 348 P **P 05 51 42.9 -0.5**
comp=Z,15nm,1.0s,baz=45,slow=6.9,SNR=2.2
comp=Z,15nm,1.0s
O30N Mendenhall 66.56 32 P **P 05 51 46.4 +1.4**
baz=288
A36M Sachs Harbour 66.76 19 P **P 05 51 47.2 +1.3**
A36M IAmb IAmb 05 51 48.7
comp=Z,7.3nm,0.7s
A36M Sachs Harbour 66.76 19 P **P 05 51 47.3 +1.3**
baz=293,SNR=11
PLBC Pleasant Camp 66.83 34 P **P 05 51 48.0 +1.4**
baz=288
M31M Drury Creek, Y 66.88 31 P **P 05 51 48.1 +1.1**
baz=289
WHY Whitehorse 67.16 32 P **P 05 51 49.9 +1.0**
baz=289
FARO Faro, Yukon 67.33 30 IAmb IAmb 05 51 52.3
comp=Z,5.7nm,0.7s
FARO Faro, Yukon 67.33 30 P **P 05 51 50.6 +0.8**
baz=290
SKAG Skagway 67.33 34 P **P 05 51 51.1 +1.3**
baz=289
S31K Pelican 67.38 35 P **P 05 51 50.8 +0.7**
baz=289
N32M Quiet Lake 67.82 31 P **P 05 51 52.6 -0.4**
baz=290
ARCES ARCESS Array B 68.02 339 P **P 05 51 53.3 -0.7**
comp=Z,5.9nm,1.1s,baz=55,slow=7.8,SNR=4.2
ARCES LR LR 06 26 45.6
comp=Z,164nm,18.5s,baz=68,slow=40
comp=Z,5.9nm,1.1s
P32M Atlin 68.07 33 P **P 05 51 54.1 -0.4**
baz=290
MMPY Sheldon Lake, 68.11 30 P **P 05 51 55.7 +1.0**
baz=291
R32K Eaglecrest 68.13 35 P **P 05 51 55.5 +0.6**
baz=290
SIT Sitka 68.14 36 P **P 05 51 55.5 +0.6**
baz=290
C36M Paulatuk 68.19 22 P **P 05 51 56.0 +1.0**
baz=295,SNR=9.9
P33M Teslin, Yukon 68.27 32 P **P 05 51 56.0 +0.2**
baz=291
ALE Alert 68.34 2 P **P 05 51 56.9 +1.1**
GNI Garni 68.88 305 P **P 05 52 00.2 +0.1**
comp=Z,8.4nm,0.7s,baz=5.4,slow=18,SNR=2.0
comp=Z,8.4nm,0.7s
KBZ Khabaz 68.90 309 P **P 05 52 00.5 +0.6**
comp=Z,14nm,0.9s,baz=50,slow=3.5,SNR=21
comp=Z,14nm,0.9s
KBZ Khabaz 68.90 309 *ce*P **P 05 51 58.2 -1.7**
KBZ pmax pmax
comp=Z,16nm,0.9s
KIV Kislovodsk 68.97 309 *e*P **P 05 51 57.4 -3.1**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV MLR MLR
comp=Z,40nm,17.0s
Q32M Nakina River 68.98 33 P **P 05 52 00.6 +0.1**
baz=292
EUNU Eureka 69.12 6 IAmb IAmb 05 52 02.6
comp=Z,5.6nm,0.8s
R33M Jennings River 69.44 33 P **P 05 52 03.8 +0.7**
baz=293
CRAG Craig 69.86 37 P **P 05 52 07.2 +1.6**
CRAG Craig 69.86 37 P **P 05 52 06.9 +1.2**
baz=292
WRAK Wrangell Islan 69.90 36 P **P 05 52 07.1 +1.2**
baz=293
S34M Telegraph Cree 69.94 34 P **P 05 52 06.3 +0.3**
baz=293
WTLY Watson Lake, Y 70.17 32 IAmb IAmb 05 52 10.8
comp=Z,5.8nm,0.8s
WTLY Watson Lake, Y 70.17 32 P **P 05 52 08.3 +0.8**
baz=294
V35K Ketchikan 70.71 37 P **P 05 52 11.9 +1.1**
baz=294
T35M Bob Quinn 70.75 35 P **P 05 52 12.1 +1.0**
baz=294
GEVA Gevas 70.77 304 P **P 05 52 12.6 +0.8**
WRGLY Wrigley 71.11 27 P **P 05 52 13.4 +0.3**
baz=297
FINES FINESS Array B 71.31 331 P **P 05 52 13.2 -1.1**
comp=Z,2.5nm,0.4s,baz=73,slow=5.7,SNR=28
FINES LR LR 06 26 57.6
comp=Z,128nm,18.2s,baz=84,slow=39
comp=Z,2.5nm,0.4s
LIRD Liard River Hi 71.70 32 P **P 05 52 17.6 +0.8**
baz=296
RES Resolute Bay 72.25 11 P **P 05 52 21.0 +1.2**
RES IAmb IAmb 05 52 22.2
comp=Z,9.0nm,0.8s
RES Resolute Bay 72.25 11 P **P 05 52 21.0 +1.2**
RES pmax pmax
comp=Z,9.0nm,0.8s
TOAD Toad River Com 72.35 32 P **P 05 52 21.5 +0.7**
baz=297
AKASG Malin Array Be 74.63 320 P **P 05 52 34.4 +0.2**
AKASG Malin Array Be 74.63 320 P **P 05 52 34.0 -0.2**
comp=Z,6.0nm,0.5s,baz=60,slow=6.2,SNR=26
comp=Z,6.0nm,0.5s
AKASG Malin Array Be 74.63 320 *i*P **P 05 52 34.2 0.0**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
KIEV Kiev 74.64 320 P **P 05 52 34.2 0.0**
KIEV IAmb IAmb 05 52 34.8
comp=Z,9.1nm,0.6s
KIEV Kiev 74.64 320 P **P 05 52 34.2 0.0**
KIEV pmax pmax
comp=Z,9.0nm,0.6s
KIEV Kiev 74.64 320 P **P 05 52 33.9 -0.4**
AK05 Malin Array Si 74.68 320 P **P 05 52 34.4 -0.1**
AK05 IAmb IAmb 05 52 35.1
comp=Z,7.0nm,0.6s
RAYN Ar Rayn 74.84 289 P **P 05 52 36.6 +0.6**
RAYN pmax pmax
comp=Z,8.0nm,1.1s
YKA Yellowknife Ar 74.97 26 P **P 05 52 34.6 -1.4**
comp=Z,1.4nm,0.8s,baz=307,slow=5.3,SNR=5.4
comp=Z,1.4nm,0.8s
BR131 Keskin Array S 76.85 308 IAmb IAmb 05 52 49.8
comp=Z,7.3nm,0.7s
BRTR Keskin Array B 76.85 308 P **P 05 52 48.1 +0.7**
BRTR Keskin Array B 76.85 308 P **P 05 52 47.5 +0.2**
comp=Z,5.6nm,0.7s,baz=102,slow=5.0,SNR=22
comp=Z,5.6nm,0.7s
BRTR Keskin Array B 76.85 308 P **P 05 52 48.1 +0.7**
HFS Hagfors 77.16 333 P **P 05 52 47.3 -1.2**
comp=Z,1.5nm,0.5s,baz=86,slow=6.4,SNR=8.8
comp=Z,1.5nm,0.5s
NC405 NORSAR Array S 77.33 334 P **P 05 52 49.3 -0.1**
NC405 IAmb IAmb 05 53 01.3
comp=Z,9.5nm,1.1s
NB2 NORSAR Subarra 77.57 334 P **P 05 52 50.5 -0.3**
comp=Z,1.2nm,0.5s,baz=50,slow=5.9
NB2 NORSAR Subarra 77.57 334 P **P 05 52 50.1 -0.7**
NOA NORSAR Array B 77.57 334 P **P 05 52 50.5 -0.3**
comp=Z,0.9nm,0.5s,baz=50,slow=5.6,SNR=7.5
comp=Z,0.9nm,0.5s
BURAR Bucovina Array 78.42 318 P **P 05 52 56.3 +0.4**
BURAR IAmb IAmb 05 52 58.0
comp=Z,4.7nm,0.7s
BURAR Bucovina Array 78.42 318 P **P 05 52 56.8 +0.9**
BURAR pmax pmax
comp=Z,5.0nm,0.6s
MMAI Mount Meron Ar 78.64 301 P **P 05 52 58.3 +0.9**
comp=Z,0.9nm,0.3s,baz=68,slow=8.0,SNR=2.4
comp=Z,0.9nm,0.3s
MLR Muntele Rosu 79.07 316 LR LR 06 31 07.3
comp=Z,128nm,18.0s,baz=52,slow=38
KOLS Kolonicke sedl 79.41 320 *e*P **P 05 53 02.1 +0.9**
KOLS pmax pmax
comp=Z,7.0nm,0.7s
KOLS Kolonicke sedl 79.41 320 *e*P **P 05 53 02.1 +0.9**
OJC Ojcow 80.06 322 P **P 05 53 05.8 +1.2**
OJC IAmb IAmb 05 53 07.1
comp=Z,8.7nm,0.7s
OJC Ojcow 80.06 322 pmax pmax
comp=Z,9.0nm,0.7s
OJC Ojcow 80.06 322 P **P 05 53 05.9 +1.2**
VYHS Vyhne 81.55 321 *e*P **P 05 53 14.6 +1.9**
VYHS Vyhne 81.55 321 *e*P **P 05 53 14.6 +1.9**
VYHS Vyhne 81.55 321 pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 82.89 326 *i*P **P 05 53 19.2 -0.4**
CLL *e**PP **pP 05 53 29.0 -2.3**
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 82.89 326 *e*P **P 05 53 20.0 +0.4**
CLL AMS AMS 06 19 00.0
comp=Z,100nm,20.8s
CLL AMS AMS 06 33 00.0
comp=Z,200nm,18.0s
MORH Mrgy, Hungar 82.97 320 P **P 05 53 21.1 +1.0**
CONA Conrad Observa 83.50 322 *i*P **P 05 53 25.0 +2.1**
comp=Z,8.3nm,0.9s
KHC Kasperske Hory 83.96 324 *ce*P **P 05 53 21.1 -4.1**
KHC pmax pmax
comp=Z,30nm,3.1s
GERES GERESS Array B 84.08 324 P **P 05 53 26.2 +0.3**
comp=Z,0.7nm,0.5s,baz=81,slow=6.1,SNR=3.2
comp=Z,0.7nm,0.5s
ARSA Arzberg 84.09 322 *i*P **P 05 53 27.5 +1.6**
comp=Z,2.8nm,0.6s
MOA Molln 84.40 323 *i*P **P 05 53 28.0 +0.6**
comp=Z,4.4nm,1.0s
SOKA Soboth 84.70 321 *i*P **P 05 53 30.4 +1.4**
comp=Z,10nm,1.2s
BIOA Bad Ischl, Aus 84.83 323 *e*P **P 05 53 30.9 +1.3**
comp=Z,6.4nm,1.0s
KBA Koelnbreinsper 85.36 322 *i*P **P 05 53 33.2 +0.7**
comp=Z,4.1nm,0.7s
LESA Schwarzleotal 85.50 323 *i*P **P 05 53 34.2 +1.1**
comp=Z,7.1nm,1.2s
ABTA Abfaltersbach 86.02 323 *i*P **P 05 53 35.9 +0.3**
comp=Z,2.3nm,0.5s
HLID Hailey 86.30 41 P **P 05 53 38.9 +1.7**
KVN Kaiserville 86.74 47 P **P 05 53 41.4 +1.9**
KVN Kaiserville 86.74 47 P **P 05 53 41.4 +1.9**
KVN pmax pmax
comp=Z,4.0nm,1.0s
NVAR Mina Array Bea 86.97 47 P **P 05 53 43.0 +2.4**
NVAR Mina Array Bea 86.97 47 P **P 05 53 40.8 +0.2**
comp=Z,0.7nm,0.7s,baz=303,slow=5.2,SNR=7.3
comp=Z,0.7nm,0.7s
EKA Eskdalemuir Ar 86.97 336 P **P 05 53 39.4 -0.6**
comp=Z,0.8nm,0.4s,baz=44,slow=5.2,SNR=7.1
comp=Z,0.8nm,0.4s
FUORN Ofenpass-Fuorn 87.28 323 P **P 05 53 43.0 +1.0**
FUORN IAmb IAmb 05 53 46.2
comp=Z,6.5nm,1.2s
PDAR Pinedale Array 89.56 40 P **P 05 53 53.0 +0.1**
comp=Z,0.6nm,0.7s,baz=300,slow=1.3,SNR=8.5
comp=Z,0.6nm,0.7s
ULM Lac du Bonnet 90.84 28 P **P 05 53 58.1 -0.2**
comp=Z,1.3nm,0.5s,baz=84,slow=6.5,SNR=2.1
comp=Z,1.3nm,0.5s
833A Chaparral WMA, 105.47 44 PKiKP **PKiKP 05 59 19.2 +0.9**
baz=316
L61B Northampton 105.56 18 PKiKP **PKiKP 05 59 19.0 +0.9**
baz=339
TORD Torodi Ar. Bea 115.15 303 PKP **PKiKP 05 59 35.6 -1.3**
comp=Z,0.3nm,0.8s,baz=350,slow=3.5,SNR=2.1
QSPA South Pole Qui 118.96 180 PKP **PKPdf 05 59 42.5 -0.2**
comp=Z,0.6nm,0.8s,baz=322,slow=0.9,SNR=5.3

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*IDC **06** 05:43:40.7±0.5, 32.°76N×90.°17E, h0km, mb4.4/17, mbtmp4.3/19, ML3.3/1, MS3.8/31, Error ellipse: s-maj=20.2km s-min=12.0km az=63.0*
*MOS **06** 05:43:42.0±1.0, 32.°82N×90.°33E, h12km, mb4.8/23, Error ellipse: s-maj=10.3km s-min=5.1km az=117.0*
*BJI **06** 05:43:43.8, 32.°81N×90.°32E, h10km, mb4.4/33, mB4.6/12, Ms4.3/37, Ms7 4.2/37*
*NEIC **06** 05:43:43.7±2.2, 32.°88N±0.°08×90.°3E±0.°1, h10km±1km, mb4.7/76, Error ellipse: s-maj=18.4km s-min=11.4km az=238.0*
*NDI **06** 05:43:46.5, 32.°63N×89.°87E, h10km, mb4.2, ML4.1, mb4.7(NEIC)*
ISC 06 05:43:42.6±0.3, 32.°78N±0.°04×90.°17E±0.°04, h10km, n203, σ2.9 s 03/158, mb4.6/66, MS3.7/31, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LSA	**Lhasa**	**3.19**	**164**			**Pn**	**05 44 35.6**	**+2.4**
LSA	**Lhasa**	**3.19**	**164**		Pn	**Pb**	**05 44 37.4**	**-2.2**
LSA					Sn	**Sb**	**05 45 22.3**	**+3.6**
LSA					LR	LR		
	comp=N,4μm,7.6s							
LSA					LR	LR		
	comp=Z,5μm,8.3s							
LSA	**Lhasa**	**3.19**	**164**		P	**Pn**	**05 44 35.6**	**+2.4**
GOMU	**GeErMu**	**5.13**	**47**		Pg	**Pb**	**05 45 15.3**	**+2.6**
GOMU					LR	LR		
	comp=N,6μm,7.0s							
GOMU					LR	LR		
	comp=E,4μm,5.9s							
GOMU					LR	LR		
	comp=Z,5μm,7.8s							
GTK	**Tadong**	**5.61**	**194**	*e*P		**Pn**	**05 45 05.8**	**-0.5**
GTK					IAML		05 46 47.6	
	comp=N,140nm,0.4s							
GTK					IAML		05 46 59.0	
	comp=E,162nm,0.9s							
GTK				*i*	x	x	05 47 09.7	
ZIRO	**ZIRO**	**6.13**	**148**	*e*P		**Pn**	**05 45 14.1**	**+0.6**
ZIRO				*e*S		**Sn**	**05 46 21.2**	**-2.6**
ZIRO				*i*	x	x	05 47 26.8	
DIBR	**DIBRUGARH**	**6.70**	**141**	*ex*		**Pg**	**05 45 49.0**	**-2.0**
SHL	**Shillong**	**7.35**	**168**	Pn		**Pn**	**05 45 31.9**	**+1.7**
SHL	**Shillong**	**7.35**	**168**	*e*P		**Pn**	**05 45 32.3**	**+2.2**
SHL				*i*	x	x	05 48 05.9	
SHL	**Shillong**	**7.35**	**168**	P		**Pn**	**05 45 31.9**	**+1.7**
MOKO	**MOKOCHONG**	**7.47**	**148**	*e*P		**Pn**	**05 45 33.8**	**+1.9**
MOKO					IAML		05 48 14.2	
	comp=E,186nm,1.3s							
MOKO					IAML		05 48 16.8	
	comp=N,195nm,1.6s							
MOKO				*i*	x	x	05 48 30.9	
KOHI	**KOHIMA**	**7.83**	**153**	*e*P		**Pn**	**05 45 39.0**	**+2.2**
KOHI				*e*S		**Sn**	**05 47 06.8**	**+1.2**
KOHI					IAML		05 47 11.9	
	comp=E,160nm,0.6s							
KOHI					IAML		05 47 19.3	
	comp=N,157nm,0.9s							
IMP	**Imphal**	**8.59**	**156**	*e*P		**Pn**	**05 45 51.0**	**+3.9**
AZL	**Aizawl**	**9.28**	**166**	*e*P		**Pn**	**05 46 00.4**	**+3.7**
AZL				*e*S		**Sn**	**05 47 41.1**	**-0.1**
AZL					IAML		05 47 49.4	
	comp=N,115nm,0.4s							
HNLY	**HANLEY**	**9.43**	**273**	*e*P		**Pn**	**05 46 00.6**	**+1.5**
HNLY				*ex*		x	05 49 04.2	
HNLY				*i*	x	x	05 49 32.9	
BOK	**Bokaro**	**9.72**	**204**	*e*P		**Pn**	**05 46 00.0**	**-2.6**
BRDH	**Bariadhala**	**10.15**	**172**	Pn		**Pn**	**05 46 09.2**	**+0.7**
	comp=N,38nm,0.3s,baz=4.1,slow=10.0,SNR=7.4							
BRDH					Lg	Lg	05 49 01.4	
	comp=N,27nm,0.3s,baz=264,slow=20,SNR=1.7							
KLP	**Kalpa**	**10.18**	**266**	*i*	Rg	Rg	05 49 53.5	
GTA	**Gaotai**	**10.22**	**47**	*e*P		**Pn**	**05 46 12.7**	**+3.2**
GTA					sP		05 46 19.7	
GTA					pmax	pmax		
	comp=N,5.0nm,1.0s							
GTA					LR	LR		
	comp=N,660nm,9.5s							
GTA					LR	LR		
	comp=N,390nm,11.3s							
GTA					LR	LR		
	comp=N,820nm,9.1s							
TNCH	**TengChong**	**10.64**	**134**	*e*P		**Pn**	**05 46 18.8**	**+3.5**
TNCH					S	**Sn**	**05 48 17.2**	**+2.6**
TNCH					pmax	pmax		
	comp=N,98nm,5.6s							
TNCH					LR	LR		
	comp=N,760nm,10.6s							
TNCH					LR	LR		
	comp=N,750nm,8.6s							
TNCH					LR	LR		
	comp=N,480nm,12.8s							
WMQ	**Urumqi**	**11.19**	**351**	*e*P		**Pn**	**05 46 25.9**	**+3.2**
WMQ					pP		05 46 29.4	
WMQ					pmax	pmax		
	comp=N,12nm,1.1s							
WMQ					LR	LR		
	comp=N,800nm,11.1s							
WMQ					LR	LR		
	comp=N,730nm,11.7s							
WMQ					LR	LR		
	comp=N,340nm,14.9s							
LZH	**Lanzhou**	**11.76**	**70**	*e*P		**Pn**	**05 46 26.0**	**-4.6**
LZH					pP		05 46 33.9	
LZH					pmax	pmax		
	comp=Z,14nm,1.0s							
PZH	**PanZhiHua**	**11.85**	**119**	P		**Pn**	**05 46 33.3**	**+1.5**
PZH					S	**Sn**	**05 48 45.9**	**+1.7**
PZH					pmax	pmax		
	comp=Z,20nm,0.9s							
PZH					pmax	pmax		
	comp=Z,80nm,5.6s							
PZH					LR	LR		
	comp=Z,460nm,7.1s							
PZH					LR	LR		
	comp=Z,470nm,7.4s							
PZH					LR	LR		
	comp=Z,620nm,6.7s							
WUS	**Wushi**	**12.12**	**317**	Pn		**Pn**	**05 46 36.8**	**+1.3**
BLSP	**Bilaspur**	**12.78**	**216**	*e*P		**Pn**	**05 46 42.6**	**-1.9**
BLSP					IAmb	IAmb	05 46 46.9	
	comp=Z,14nm,0.8s							
TARG	**Taragay, Kyrgy**	**13.28**	**316**			**Pn**	**05 46 52.9**	**+1.3**
TARG	**Taragay, Kyrgy**	**13.28**	**316**	P		**Pn**	**05 46 52.9**	**+1.3**
KSH	**Kashi**	**13.29**	**304**	P		**P**	**05 46 59.0**	**-2.3**
KSH					pmax	pmax		
	comp=Z,6.0nm,1.0s							
KSH					LR	LR		
	comp=Z,920nm,12.0s							
KSH					LR	LR		
	comp=Z,1μm,12.4s							
KSH					LR	LR		
	comp=Z,2μm,10.3s							
NIL	**Nilore**	**14.19**	**278**	Pn		**Pn**	**05 47 04.5**	**+0.8**
NIL	**Nilore**	**14.19**	**278**	P		**Pn**	**05 47 04.5**	**+0.8**
BHPL	**Bhopal**	**14.72**	**233**	*e*P		**Pn**	**05 47 12.2**	**+1.1**
BOOM	**Boomskoye usch**	**14.85**	**315**	Pn		**Pn**	**05 47 15.6**	**+2.8**
BOOM	**Boomskoye usch**	**14.85**	**315**	P		**Pn**	**05 47 15.6**	**+2.8**
MK31	**Makanchi Array**	**15.23**	**339**	Pn		**Pn**	**05 47 19.7**	**+1.9**
MK31	**Makanchi Array**	**15.23**	**339**	*i*P		**Pn**	**05 47 19.7**	**+1.9**
MKAR	**Makanchi Array**	**15.23**	**339**	Pn		**Pn**	**05 47 19.5**	**+1.7**
MKAR	**Makanchi Array**	**15.23**	**339**	Pn		**Pn**	**05 47 17.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=143,slow=14,SNR=7.3							
MKAR					LR	LR	05 53 58.5	
	comp=Z,320nm,18.1s,baz=153,slow=40							
MKAR	**Makanchi Array**	**15.23**	**339**	*i*P		**Pn**	**05 47 20.0**	**+2.2**
MKAR					pmax	pmax		
	comp=Z,2.0nm,0.6s							
NGP	**Nagpur**	**15.23**	**223**	*e*P		**Pn**	**05 47 17.7**	**-0.2**
NGP					IAmb	IAmb	05 47 19.1	
	comp=Z,6.4nm,0.6s							
NGP				*i*	x	x	05 52 53.5	
NRDN	**NARMADA NAGAR**	**15.25**	**232**	*e*P		**Pn**	**05 47 17.8**	**-0.3**
NRDN					IAmb	IAmb	05 47 32.4	
	comp=Z,4.0nm,0.6s							
GYA	**Guiyang**	**15.66**	**109**	P		**Pn**	**05 47 23.8**	**+0.2**
GYA					S	**Sn**	**05 50 23.9**	**+6.7**
GYA					pmax	pmax		
	comp=Z,21nm,0.6s							
GYA					pmax	pmax		
	comp=Z,170nm,3.2s							
GYA					LR	LR		
	comp=Z,990nm,9.8s							
GYA					LR	LR		
	comp=Z,410nm,7.4s							
GYA					LR	LR		
	comp=Z,880nm,10.7s							
XAN	**Xi'an**	**15.71**	**80**	P		**Pn**	**05 47 25.1**	**+1.0**
XAN					S	**Sn**	**05 50 18.2**	**-0.1**
XAN					pmax	pmax		
	comp=Z,15nm,1.2s							
XAN					LR	LR		
	comp=Z,630nm,8.7s							
XAN					LR	LR		
	comp=Z,1μm,7.7s							
XAN					LR	LR		
	comp=Z,1μm,9.2s							
AAK	**Ala-Archa**	**15.81**	**313**	Pn		**Pn**	**05 47 27.5**	**+2.1**
AAK	**Ala-Archa**	**15.81**	**313**	Pn		**P**	**05 47 29.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=50,slow=22,SNR=1.4							
AAK	**Ala-Archa**	**15.81**	**313**	*i*P		**P**	**05 47 28.3**	**-1.0**
CHTO	**Chiang Mai**	**15.99**	**148**			**Pn**	**05 47 29.1**	**+1.4**
CHTO	**Chiang Mai**	**15.99**	**148**	P		**Pn**	**05 47 29.1**	**+1.4**
CHTO					pmax	pmax		
	comp=Z,11nm,1.2s							
ARSB	**Arslanbob**	**16.13**	**307**			**P**	**05 47 32.7**	**-0.2**
ARSB	**Arslanbob**	**16.13**	**307**	P		**P**	**05 47 32.7**	**-0.2**
ARSB					pmax	pmax		
	comp=Z,7.0nm,1.5s							
DRK	**Karamyk**	**16.26**	**299**	IAmb		IAmb	05 47 48.0	
	comp=Z,21nm,0.5s							
CMAR	**Chiang Mai Arr**	**16.30**	**149**			**Pn**	**05 47 32.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**16.30**	**149**	Pn		**Pn**	**05 47 31.1**	**-0.6**
	baz=320,slow=12,SNR=13							
	comp=Z,3.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**16.30**	**149**	*i*P		**Pn**	**05 47 31.7**	**0.0**
CMAR					pmax	pmax		
	comp=Z,5.0nm,0.8s							
SLVN	**Son La**	**16.70**	**130**			**Pn**	**05 47 38.3**	**+1.3**
ARK	**Arkit**	**17.03**	**307**	P		**P**	**05 47 46.1**	**+3.3**
ARK					pmax	pmax		
	comp=Z,10.0nm,1.3s							
BTK	**Batken**	**17.17**	**300**	IAmb		IAmb	05 47 51.4	
	comp=Z,62nm,1.2s							
BTK	**Batken**	**17.17**	**300**	P		**P**	**05 47 47.8**	**+3.5**
BTK					pmax	pmax		
	comp=Z,48nm,1.5s							
TRKS	**Terek-Say**	**17.48**	**305**	P		**P**	**05 47 47.5**	**-0.3**
TRKS					pmax	pmax		
	comp=Z,19nm,1.1s							
KBL	**Kabul**	**17.68**	**281**	P		**P**	**05 47 50.3**	**+0.2**
KBL					pmax	pmax		
	comp=Z,9.0nm,0.8s							
BTO	**Baotou**	**17.71**	**58**	*e*P		**Pn**	**05 47 46.2**	**-3.2**
BTO					PP	**PnPn**	**05 48 01.1**	**+1.2**
BTO					S	**Sn**	**05 50 57.4**	**-9.4**
BTO					pmax	pmax		
	comp=Z,22nm,0.8s							
BTO					pmax	pmax		
	comp=Z,160nm,6.2s							
BTO					LR	LR		
	comp=Z,1μm,17.2s							
BTO					LR	LR		
	comp=Z,1μm,12.9s							
BTO					LR	LR		
	comp=Z,1μm,16.1s							
SIMJ	**Simiganj**	**18.14**	**295**	P		**P**	**05 47 55.4**	**+0.2**
KKAR	**Karatay Array**	**18.57**	**309**	P		**Pn**	**05 48 01.3**	**+1.3**
LYN	**LuoYang**	**18.64**	**78**	*e*P		**P**	**05 48 00.5**	**0.0**
LYN					pmax	pmax		
	comp=Z,240nm,7.6s							
LYN					LR	LR		
	comp=Z,290nm,12.0s							
LYN					LR	LR		
	comp=Z,210nm,10.0s							
LYN					LR	LR		
	comp=Z,290nm,12.0s							
HHC	**Hu-ho-hao-te**	**18.89**	**59**	*e*P		**P**	**05 48 02.8**	**-0.6**
HHC					S	**Sn**	**05 51 29.2**	**-6.3**
HHC					pmax	pmax		
	comp=Z,15nm,0.6s							
HHC					pmax	pmax		
	comp=Z,110nm,4.1s							
HHC					LR	LR		
	comp=Z,590nm,15.3s							
HHC					LR	LR		
	comp=Z,500nm,14.1s							

HHC LR LR
comp=Z,670nm,14.1s
SONM Songino Array 19.41 35 P **P 05 48 08.2 -0.8**
comp=Z,1.2nm,0.7s,baz=223,slow=12,SNR=1.0
SONM Songino Array 19.41 35 P **P 05 48 08.8 -0.2**
SONM pmax pmax
comp=Z,7.0nm,1.2s
DGPR DIGLIPUR 19.68 172 *e*P **Pn 05 48 14.8 +1.4**
ULN Ulaanbaatar 19.75 35 P **P 05 48 11.7 -1.0**
ULN Ulaanbaatar 19.75 35 *i* P **P 05 48 11.7 -1.0**
ULN pmax pmax
comp=Z,14nm,1.3s
KURBB Kurchatov Arra 19.79 338 P **Pn 05 48 14.0 -0.4**
comp=Z,6.6nm,0.9s,baz=156,slow=11,SNR=18
KURBB LR LR 05 56 43.0
comp=Z,229nm,18.9s,baz=156,slow=40
KURK Kurchatov 19.84 338 P **Pn 05 48 14.8 -0.3**
KURK Kurchatov 19.84 338 *i* P **Pn 05 48 14.8 -0.3**
KURK pmax pmax
comp=Z,9.0nm,0.9s
ZAK Zakamensk 20.08 25 *e*P Pn 05 48 17.8 -0.2
ZAK pmax pmax
comp=Z,7.0nm,1.5s
CNSH ChangSha 20.13 97 P Pn 05 48 21.1 +2.4
CNSH pmax pmax
comp=Z,18nm,1.0s
CNSH LR LR
comp=Z,580nm,7.3s
CNSH LR LR
comp=Z,390nm,7.4s
CNSH LR LR
comp=Z,460nm,8.7s
HNS HongShan 20.58 70 *e*P Pn 05 48 24.1 +0.2
HNS LR LR
comp=Z,220nm,10.0s
HNS LR LR
comp=Z,570nm,10.8s
HNS LR LR
comp=Z,520nm,11.2s
ZAA0 Zalesovo Array 21.50 351 P **P 05 48 31.3 -0.1**
ZALV Zalesovo Beam 21.50 351 P **P 05 48 31.4 0.0**
comp=Z,4.4nm,0.5s,baz=172,slow=12,SNR=18
ZALV LR LR 05 57 06.1
comp=Z,125nm,18.6s,baz=130,slow=37
comp=Z,4.4nm,0.5s
ZALV Zalesovo Beam 21.50 351 *i* P **P 05 48 32.5 +1.1**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
QIZ Qiongzhong 22.32 123 P **P 05 48 41.5 +0.9**
QIZ S **S 05 52 47.7 +1.5**
QIZ LR LR
comp=Z,320nm,8.6s
QIZ LR LR
comp=Z,280nm,7.1s
QIZ LR LR
comp=Z,580nm,9.4s
NJ2 Nanjing 24.20 84 *e*P **P 05 48 58.6 -0.8**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
BVAR Borovoye Array 24.73 331 P **P 05 49 04.2 +0.1**
comp=Z,5.9nm,1.1s,baz=120,slow=8.9,SNR=14
BVAR LR LR 05 59 56.1
comp=Z,270nm,19.4s,baz=138,slow=39
comp=Z,5.9nm,1.1s
BRVK Borovoye 24.80 331 P **P 05 49 07.3 +2.7**
BRVK Borovoye 24.80 331 *e*P **P 05 49 07.0 +2.4**
BRVK pmax pmax
comp=Z,12nm,1.1s
HIA Hailar 27.49 44 *i* P **P 05 49 30.0 +1.0**
HIA pmax pmax
comp=Z,8.0nm,0.9s
AKTO Aktyubinsk 29.50 316 LR LR 06 03 11.0
comp=Z,279nm,20.0s,baz=152,slow=40
KSRS Korea Array 31.09 71 LR LR 06 03 36.6
comp=Z,116nm,18.5s,baz=275,slow=38
ARTI Arti 32.21 327 LR LR 06 04 33.2
comp=Z,153nm,20.6s,baz=129,slow=39
ARTI Arti 32.21 327 *c i* P **P 05 50 11.9 +1.2**
ARTI 05 51 16.7
ARTI S **S 05 55 27.0 +3.4**
ARTI SS **SnSn 05 57 13.3 -1.0**
ARTI pmax pmax
comp=Z,12nm,1.7s
JOW Kunigami 33.46 90 LR LR 06 05 02.7
comp=Z,152nm,19.0s,baz=119,slow=38
JNU Nakatsue 34.01 78 LR LR 06 05 19.4
comp=Z,183nm,18.1s,baz=292,slow=38
USRK Ussuriysk Ar. 34.32 58 LR LR 06 05 53.7
comp=Z,167nm,18.8s,baz=272,slow=39
MAK Makhachkala 34.85 299 *e*P **P 05 50 30.4 -3.5**
MAK *e*S **S 05 55 58.9 -5.8**
MAK MLR MLR
comp=Z,162nm,17.0s
KLR Kul'dur 34.91 49 P **P 05 50 32.8 -1.6**
comp=Z,4.0nm,0.7s,baz=267,slow=9.9,SNR=12
KLR LR LR 06 05 37.7
comp=Z,81nm,18.8s,baz=268,slow=38
comp=Z,4.0nm,0.7s
KLR Kul'dur 34.91 49 *e*P **P 05 50 34.0 -0.3**
KLR pmax pmax
comp=Z,5.0nm,1.0s
KKM Kota Kinabalu 36.00 132 P **P 05 50 44.6 +0.5**
BELG Belogornoye 36.28 316 LR LR 06 05 27.5
comp=Z,108nm,19.8s,baz=89,slow=36
NRIK Noril'sk 36.63 358 P **P 05 50 49.8 +1.0**
comp=Z,5.6nm,0.6s,baz=164,slow=8.9,SNR=4.1
comp=Z,5.6nm,0.6s
NRIK Noril'sk 36.63 358 *i* P **P 05 50 50.4 +1.6**
NRIK pmax pmax
comp=Z,5.0nm,0.6s
GNI Garni 36.94 295 LR LR 06 08 27.7
comp=Z,86nm,20.3s,baz=103,slow=40
KIRV Kirov 37.51 326 LR LR 06 08 23.1
comp=Z,144nm,18.1s,baz=117,slow=40
MYLDM Lahad Datu 38.11 130 P **P 05 51 03.7 +1.8**
KBZ Khabaz 38.23 301 LR LR 06 08 52.3
comp=Z,110nm,19.6s,baz=78,slow=40
MJAR Matsushiro Arr 39.37 71 LR LR 06 07 48.1
comp=Z,99nm,20.1s,baz=292,slow=37
VRH Novokhopyorsk 39.61 312 *e*P **P 05 51 16.0 +1.9**
VRH pmax pmax
comp=Z,8.0nm,0.9s
VORD Divnogorie 41.10 312 *e*P **P 05 51 28.0 +1.5**
VORD pmax pmax
comp=Z,7.0nm,1.0s
VSR Storozhevoye 41.20 312 *e*P **P 05 51 28.6 +1.2**
VSR pmax pmax
comp=Z,6.0nm,1.0s
JHJ Hachijo jima 2 41.31 76 LR LR 06 09 22.4
comp=Z,154nm,20.4s,baz=60,slow=37
LPSR Galich'ya Gora 41.52 314 *e*P **P 05 51 31.6 +1.7**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
DAV Davao City (W) 41.64 120 LR LR 06 10 06.3
comp=Z,88nm,19.0s,baz=340,slow=38
ASAJ Asahikawa 41.94 59 LR LR 06 11 36.3
comp=Z,117nm,19.1s,baz=352,slow=40
TOLI2 Tolitoli 42.67 131 P **P 05 51 40.0 +0.2**
TOLI2 IAmb IAmb 05 51 41.8
comp=Z,10nm,0.9s
MOS Moscow 42.76 319 *e*P **P 05 51 42.7 +2.7**
TIXI Tiksi 43.99 17 P **P 05 51 48.5 -1.2**
TIXI Tiksi 43.99 17 P **P 05 51 48.5 -1.2**
TIXI pmax pmax
comp=Z,5.0nm,0.7s
MMAI Mount Meron Ar 45.53 286 LR LR 06 14 33.0
comp=Z,64nm,20.2s,baz=26,slow=41
EIL Elat 46.87 282 LR LR 06 16 19.4
comp=Z,62nm,19.6s,baz=74,slow=42
KAPI Kappang 46.92 138 LR LR 06 14 19.9
comp=Z,56nm,18.8s,baz=311,slow=39
AKASG Malin Array Be 47.47 311 P **P 05 52 16.8 -0.6**
comp=Z,0.5nm,0.4s,baz=79,slow=6.9,SNR=8.5
comp=Z,0.5nm,0.4s
AKASG Malin Array Be 47.47 311 *i* P **P 05 52 19.2 +1.7**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
KIEV Kiev 47.48 311 P **P 05 52 20.8 +3.3**
KIEV pmax pmax
comp=Z,13nm,0.5s
MA2 Magadan 47.60 37 LR LR 06 11 15.4
comp=Z,81nm,20.1s,baz=259,slow=35
NACGM Naroch 48.86 317 *e*P **P 05 52 31.7 +3.5**
MLR Muntele Rosu 50.16 304 P **P 05 52 40.6 +2.2**
MLR IAmb IAmb 05 52 44.1
comp=Z,8.2nm,0.8s
MLR Muntele Rosu 50.16 304 P **P 05 52 40.6 +2.2**
MLR pmax pmax
comp=Z,8.0nm,0.8s
BURAR Bucovina Array 50.35 307 P **P 05 52 39.8 0.0**
BURAR pmax pmax
comp=Z,5.0nm,0.6s
KWP Kalwaria Pacla 51.73 310 P **P 05 52 50.9 +0.8**
KWP Kalwaria Pacla 51.73 310 P **P 05 52 50.9 +0.8**
KWP pmax pmax
comp=Z,17nm,0.7s
FAKI Fak Fak 53.33 123 P **P 05 53 01.6 -0.7**
LANS Liptovska Anna 53.90 310 P P 05 53 15.2 +9.1
LANS Liptovska Anna 53.90 310 *e* P 05 53 15.2 +9.1
MODS Modra-Piesok 55.47 309 *e*P **P 05 53 21.4 +3.9**
MODS Modra-Piesok 55.47 309 *e*P **P 05 53 21.4 +3.9**
HFS Hagfors 55.59 324 P **P 05 53 18.5 +0.3**
comp=Z,4.3nm,0.8s,baz=90,slow=8.8,SNR=3.7
HFS LR LR 06 19 13.3
comp=Z,138nm,18.6s,baz=78,slow=38
comp=Z,4.3nm,0.8s
NB2 NORSAR Subarra 56.68 325 P **P 05 53 25.6 -0.4**
comp=Z,1.2nm,0.7s,baz=81,slow=7.4
NOA NORSAR Array B 56.68 325 P **P 05 53 26.0 +0.1**
comp=Z,2.8nm,0.9s,baz=82,slow=7.2,SNR=6.3
NOA LR LR 06 17 12.8
comp=Z,42nm,18.6s,baz=25,slow=36
comp=Z,2.8nm,0.9s
KMBO Kilima Mbogo 60.18 247 P **P 05 53 50.2 -1.1**
comp=Z,0.8nm,0.3s,baz=34,slow=15,SNR=3.5
comp=Z,0.8nm,0.3s
KMBO Kilima Mbogo 60.18 247 *i* P **P 05 53 52.7 +1.4**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
VAE Valguarnera 60.57 298 LR LR 06 23 37.7
comp=Z,77nm,19.2s,baz=44,slow=40
FITZ Fitzroy Crossi 60.91 141 P **P 05 53 54.5 -1.3**
comp=Z,2.1nm,0.8s,baz=323,slow=5.1,SNR=2.3
FITZ LR LR 06 23 03.0
comp=Z,34nm,18.9s,baz=7.5,slow=39
comp=Z,2.1nm,0.8s
JMIC Jan Mayen 62.13 338 LR LR 06 24 59.1
comp=Z,106nm,18.3s,baz=246,slow=40
EKA Eskdalemuir Ar 65.52 321 P **P 05 54 26.0 0.0**
comp=Z,2.7nm,1.0s,baz=74,slow=4.0,SNR=1.8
comp=Z,2.7nm,1.0s
WB0 Warramunga Arr 67.21 135 P **P 05 54 36.8 -0.5**
WRAB Tennant Creek 67.31 135 P **P 05 54 37.5 -0.4**
WRAB Tennant Creek 67.31 135 P **P 05 54 37.5 -0.4**
WRAB pmax pmax
comp=Z,21nm,0.9s
WRA Warramunga Arr 67.31 135 P **P 05 54 38.3 +0.4**
comp=Z,15nm,0.9s,baz=327,slow=6.3,SNR=72
comp=Z,15nm,0.9s
WRA Warramunga Arr 67.31 135 *i* P **P 05 54 38.2 +0.4**
WRA pmax pmax
comp=Z,17nm,0.9s
F21K Alatna River 69.46 22 IAmb IAmb 05 54 52.4
comp=Z,8.9nm,1.0s
TOLK Toolik Lake Re 69.76 20 IAmb IAmb 05 54 56.5
comp=Z,8.0nm,0.8s
AS31 Alice Springs 69.94 138 IAmb IAmb 05 54 55.7
comp=Z,4.7nm,0.7s
ASAR Alice Springs 69.94 138 P **P 05 54 54.8 +0.5**
comp=Z,16nm,0.8s,baz=323,slow=6.1,SNR=93
comp=Z,16nm,0.8s
D25K Kavik River 70.19 18 IAmb IAmb 05 54 59.5
comp=Z,6.6nm,1.1s
E24K Your Creek 70.43 20 IAmb IAmb 05 55 01.1
comp=Z,8.8nm,1.1s
C27K Jago River 70.68 17 IAmb IAmb 05 54 59.8
comp=Z,6.0nm,0.7s
J20K Nowinta River 71.06 25 IAmb IAmb 05 55 05.5
comp=Z,10.0nm,0.9s
F25K Christian Rive 71.56 20 IAmb IAmb 05 55 08.3
comp=Z,5.2nm,1.0s
G24K Hadweenzic Riv 71.63 21 IAmb IAmb 05 55 08.8
comp=Z,6.3nm,0.9s
MLY Manley 71.69 23 P **P 05 55 04.7 +0.3**
MLY IAmb IAmb 05 55 09.0
comp=Z,4.8nm,0.8s
CAST Castle Rocks 72.25 25 IAmb IAmb 05 55 12.6
comp=Z,5.6nm,0.9s
E28M Babbage River 72.46 17 IAmb IAmb 05 55 13.5
comp=Z,12nm,1.4s
NEA2 Nenana 72.52 23 IAmb IAmb 05 55 14.0
comp=Z,11nm,1.0s
COLA College 72.73 22 P **P 05 55 11.5 +1.0**
COLA pmax pmax
comp=Z,17nm,1.2s
ESDC Sonseca Array 72.79 306 P **P 05 55 10.9 -0.6**
comp=Z,1.4nm,0.9s,baz=71,slow=4.4,SNR=4.7
comp=Z,1.4nm,0.9s
CCB Clear Creek Bu 72.90 22 P **P 05 55 11.3 -0.3**
E29M Blow River 73.02 17 IAmb IAmb 05 55 16.5
comp=Z,5.8nm,0.8s
IL31 73.11 22 IAmb IAmb 05 55 16.2
comp=Z,4.5nm,0.9s
ILAR Eielson Array 73.11 22 P **P 05 55 12.6 -0.2**
comp=Z,3.1nm,0.8s,baz=297,slow=5.2,SNR=26
comp=Z,3.1nm,0.8s
ILAR Eielson Array 73.11 22 P **P 05 55 12.8 0.0**
SKT Skwentna 73.36 26 IAmb IAmb 05 55 18.3
comp=Z,7.6nm,1.0s
DHY Denali Highway 74.09 24 IAmb IAmb 05 55 21.7
comp=Z,3.9nm,0.8s
INK Inuvik 74.11 15 IAmb IAmb 05 55 23.0
comp=Z,9.3nm,0.9s
INK Inuvik 74.11 15 P **P 05 55 18.8 +0.2**
INK pmax pmax
comp=Z,16nm,1.4s
J26L Joseph Creek 74.33 21 IAmb IAmb 05 55 23.8
comp=Z,3.9nm,0.8s
G30M tAoh Zraii Nji 74.52 17 IAmb IAmb 05 55 24.7
comp=Z,9.2nm,1.0s
H29M Whitestone 74.55 18 IAmb IAmb 05 55 25.0
comp=Z,4.3nm,0.9s
SCRK Sand Creek 74.57 22 P **P 05 55 21.6 0.0**
SCRK IAmb IAmb 05 55 22.5
comp=Z,7.7nm,1.1s
SML Sawmill 74.62 25 P **P 05 55 22.6 +0.8**
SML Sawmill 74.62 25 P **P 05 55 22.6 +0.8**
SML pmax pmax
comp=Z,23nm,0.9s
F31M Tsiigehtchic 74.75 16 IAmb IAmb 05 55 25.6
comp=Z,4.8nm,0.8s
G31M Satah River 75.04 17 IAmb IAmb 05 55 24.6
comp=Z,7.6nm,0.7s
CTAO Charters Tower 75.06 126 P **P 05 55 24.7 -0.2**
CTAO Charters Tower 75.06 126 P **P 05 55 24.7 -0.2**
CTAO pmax pmax
comp=Z,16nm,1.0s
C36M Paulatuk 75.12 12 P **P 05 55 23.9 -0.5**
K27K Chicken 75.12 21 IAmb IAmb 05 55 29.2
comp=Z,5.5nm,1.0s
KLU Klutina 75.68 24 IAmb IAmb 05 55 33.1
comp=Z,12nm,1.0s
I30M Mount Dempster 75.84 18 IAmb IAmb 05 55 32.4
comp=Z,5.7nm,0.8s
L27K Beaver Creek, 75.90 22 IAmb IAmb 05 55 31.0
comp=Z,5.7nm,0.9s
BCAR Beaver Creek A 75.91 22 P **P 05 55 30.2 +0.9**
N25K Chitina, Valde 76.05 24 IAmb IAmb 05 55 34.9
comp=Z,9.2nm,0.9s
K29M Barlow Dome 76.60 20 IAmb IAmb 05 55 37.3
comp=Z,5.5nm,1.0s
MCARA McCarthy VSAT 76.74 23 P **P 05 55 35.2 +1.3**
M29M Somme Creek 77.40 21 IAmb IAmb 05 55 42.4
comp=Z,3.1nm,0.8s
MMPY Sheldon Lake, 79.29 18 IAmb IAmb 05 55 50.4
comp=Z,5.3nm,1.1s
STKA Stephens Creek 80.58 138 P **P 05 55 55.0 -0.3**
STKA Stephens Creek 80.58 138 P **P 05 55 54.7 -0.7**
comp=Z,11nm,0.8s,baz=314,slow=8.6,SNR=13
comp=Z,11nm,0.8s
STKA Stephens Creek 80.58 138 P **P 05 55 55.0 -0.3**
STKA pmax pmax
comp=Z,3.0nm,0.9s
TORD Torodi Ar. Bea 81.74 280 P **P 05 56 01.4 -0.6**
comp=Z,1.3nm,0.7s,baz=30,slow=5.9,SNR=9.5
TORD LR LR 06 38 10.7
comp=Z,158nm,19.2s,baz=143,slow=40
comp=Z,1.3nm,0.7s
YKA Yellowknife Ar 82.98 11 P **P 05 56 07.1 -0.5**
comp=Z,1.4nm,0.8s,baz=330,slow=4.5,SNR=4.6
comp=Z,1.4nm,0.8s
YKA Yellowknife Ar 82.98 11 *i* P **P 05 56 08.0 +0.4**
YKA pmax pmax
comp=Z,2.0nm,0.9s
DBIC Dimbokro 90.64 278 LR LR 06 39 54.6
comp=Z,54nm,21.5s,baz=69,slow=37
YBH Yreka Blue Hor 99.91 24 LR LR 06 48 25.6
comp=Z,36nm,18.1s,baz=349,slow=39
TXAR Lajitas Array 116.84 14 PKP **PKPdf 06 02 27.2 -0.8**
comp=Z,0.7nm,0.8s,baz=318,slow=2.2,SNR=7.8
QSPA South Pole Qui 122.57 180 PKP **PKPdf 06 02 35.5 -2.1**
comp=Z,0.8nm,0.8s,baz=270,slow=8.7,SNR=1.8
CPUP Villa Florida 151.08 274 PKPbc **PKPbc 06 03 35.6 -0.7**
comp=Z,12nm,0.7s,baz=66,slow=2.7,SNR=38

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*JMA **06** 05:47:34.2±0.4, 23°N±2°×12°3E±°, h49km, MV2.8/14, FAR S OFF ISHIGAKIJIMA*
*TAP **06** 05:47:35.8, 22°.93N×122°.72E, h35km±2km, ML3.0, D*
ISC 06 05:47:29.9±1.2, 22°.91N±0°.03×122°.80E±0°.03, h15km±9km, n59, σ0°.77/96, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**1.25**	**259**	*e*P	**Pg**	**05 47 56.1**	**+2.1**
LDUT				*i* S	**Sg**	**05 48 10.0**	**-0.3**
EOS4	**EOS4**	**1.28**	**340**	*e*P	**Pg**	**05 47 56.3**	**+1.8**
EOS4				*e*S	**Sg**	**05 48 11.8**	**+0.6**
ECBN	**Changbin**	**1.30**	**288**	*e*P	**Pg**	**05 47 56.6**	**+1.6**
ECBN				S	**Sg**	**05 48 11.6**	**-0.4**
CHKH	**Chenggong**	**1.32**	**282**	*i* P	**Pg**	**05 47 56.5**	**+1.1**
CHKH				*e*S	**Sn**	**05 48 11.6**	**+0.5**
HGSD	**Ruisui**	**1.39**	**295**	*e*P	**Pg**	**05 47 57.1**	**+0.5**
HGSD				*e*S	**Sg**	**05 48 13.7**	**-1.1**
FULB	**Fuli**	**1.41**	**282**	P	**Pg**	**05 47 57.9**	**+0.8**
FULB				S	**Sb**	**05 48 14.1**	**+0.3**
EYUL	**Yuli**	**1.43**	**288**	*e*P	**Pg**	**05 47 58.3**	**+0.9**
EYUL				*e*S	**Sg**	**05 48 15.0**	**-1.0**
SHUL	**Shoufeng**	**1.43**	**308**	P	**Pg**	**05 47 58.5**	**+1.1**
SHUL				*e*S	**Sg**	**05 48 15.2**	**-0.9**
EOS3	**EOS3**	**1.44**	**342**	*e*P	**Pg**	**05 47 58.7**	**+1.1**
LAY	**Lan-yu**	**1.44**	**233**	*e*P	**Pg**	**05 47 58.3**	**+0.6**
LAY				*e*S	**Sg**	**05 48 16.5**	**-0.1**
YULB	**Yu-li**	**1.46**	**289**	*e*P	**Pg**	**05 47 58.7**	**+0.7**
YULB				*e*S	**Sg**	**05 48 16.1**	**-1.0**
ECS	**Chishang**	**1.47**	**277**	*e*P	**Pg**	**05 47 58.9**	**+0.8**
HATJ	**Hateruma jima**	**1.47**	**39**	*e*P	**Pg**	**05 47 58.5**	**+0.4**
HATJ				*e*S	**Sb**	**05 48 15.6**	**+0.3**
EHY	**Hungye**	**1.48**	**294**	*e*P	**Pg**	**05 47 59.1**	**+0.7**
EHY				*e*S	**Sb**	**05 48 15.6**	**-0.1**
WARBT	**Fenglin Townsh**	**1.52**	**302**	P	**Pg**	**05 47 59.5**	**+0.3**
WARBT				S	**Sb**	**05 48 17.2**	**+0.3**
JYNG	**Yonagunijimaku**	**1.54**	**5**	*e*S	**Sg**	**05 48 19.6**	**+0.1**
LONT	**Longtian**	**1.54**	**270**	*e*P	**Pg**	**05 47 59.9**	**+0.4**
LONT				*e*S	**Sg**	**05 48 18.7**	**-0.8**
ESL	**Shilin**	**1.54**	**306**	*e*P	**Pg**	**05 47 59.4**	**-0.2**
YOJ	**Yonaguni jima**	**1.55**	**7**	*e*S	**Sg**	**05 48 19.6**	**-0.5**
YOJ	**Yonaguni jima**	**1.55**	**7**	*e*P	**Pg**	**05 48 00.3**	**+0.5**
YOJ				*e*S	**Sg**	**05 48 19.4**	**-0.7**
EOS2	**EOS2**	**1.58**	**341**	*e*P	**Pg**	**05 48 01.2**	**+0.8**
EOS2				*e*S	**Sg**	**05 48 20.2**	**-0.8**
TWGBT	**Beinan**	**1.59**	**267**	*e*P	**Pg**	**05 48 01.1**	**+0.7**
TWGBT				*e*S	**Sb**	**05 48 19.3**	**+0.5**
TWG	**Pinlang**	**1.59**	**267**	*e*P	**Pg**	**05 48 01.3**	**+0.8**
TWG				*e*S	**Sg**	**05 48 20.0**	**-1.3**
IRIF	**Iriomote-Funau**	**1.65**	**31**	*e*P	**Pg**	**05 48 01.2**	**-0.5**
IRIF				*e*S	**Sn**	**05 48 20.0**	**+0.8**
ELDTW	**Lidau**	**1.66**	**280**	*e*P	**Pg**	**05 48 01.6**	**-0.3**
ELDTW				*e*S	**Sn**	**05 48 20.4**	**+0.7**
NACB	**Ninganchiao**	**1.67**	**319**	*e*P	**Pg**	**05 48 01.2**	**-0.8**
NACB				*e*S	**Sb**	**05 48 20.7**	**-0.5**
LXIB	**Xiulin Townshi**	**1.68**	**311**	*e*P	**Pg**	**05 48 01.8**	**-0.4**
LXIB				*e*S	**Sb**	**05 48 21.6**	**0.0**
JKRS	**Kuro-shima**	**1.72**	**40**	*e*P	**Pb**	**05 48 01.9**	**+0.7**
JKRS				*e*S	**Sn**	**05 48 21.8**	**+0.7**
ECL	**Taimali**	**1.73**	**260**	*e*P	**Pg**	**05 48 02.6**	**-0.6**
ECL				*e*S	**Sb**	**05 48 22.4**	**-0.5**
ETLH	**Xiulin Townshi**	**1.76**	**317**	*e*P	**Pg**	**05 48 03.0**	**-0.8**
ETLH				*e*S	**Sb**	**05 48 23.5**	**-0.4**
EWUT	**Wuta**	**1.79**	**329**	*e*P	**Pg**	**05 48 03.8**	**-0.5**
EWUT				*e*S	**Sb**	**05 48 24.9**	**+0.3**
ENA	**Nanau**	**1.79**	**328**	*e*P	**Pg**	**05 48 03.9**	**-0.4**
ENA				*e*S	**Sb**	**05 48 24.7**	**0.0**
OWD	**Renai**	**1.81**	**305**	*e*P	**Pg**	**05 48 04.3**	**-0.5**
TAWH	**Dawu Township**	**1.85**	**252**	*e*P	**Pg**	**05 48 04.9**	**-0.6**
TAWH				*e*S	**Sb**	**05 48 26.0**	**-0.4**
WHF	**Hehuan Shan**	**1.86**	**311**	*e*P	**Pg**	**05 48 05.4**	**-0.4**
EAST	**Anshuo**	**1.88**	**254**	*e*P	**Pg**	**05 48 05.5**	**-0.5**
WUSB	**Renai**	**1.88**	**305**	*e*P	**Pg**	**05 48 05.2**	**-0.8**
TWC	**Suao**	**1.90**	**333**	*e*P	**Pb**	**05 48 04.9**	**+0.7**
TWC				*e*S	**Sb**	**05 48 26.9**	**-0.8**
JIJ	**Ishigaki jima**	**1.90**	**40**	*e*P	**Pb**	**05 48 04.5**	**+0.3**
JIJ				*e*S	**Sn**	**05 48 25.1**	**-0.2**
SSLB	**Suanglung**	**1.90**	**298**	*e*P	**Pg**	**05 48 05.6**	**-0.9**
SSLB				*e*S	**Sb**	**05 48 26.9**	**-1.0**
ALS	**Alishan**	**1.93**	**288**	*e*P	**Pg**	**05 48 06.9**	**0.0**
WHYT	**Xinyi Township**	**1.95**	**294**	*e*P	**Pb**	**05 48 05.9**	**+0.8**
SLIU	**Shizi**	**1.97**	**250**	*e*P	**Pg**	**05 48 06.7**	**-1.1**
NDS	**Dongshan**	**1.98**	**330**	*e*P	**Pg**	**05 48 07.0**	**-0.9**
NDS				*e*S	**Sb**	**05 48 29.6**	**-0.4**
NNSB	**Datong**	**1.99**	**320**	*e*P	**Pb**	**05 48 05.7**	**-0.1**
NNSB				*e*S	**Sn**	**05 48 28.5**	**+0.7**
LATG	**Datong**	**1.99**	**324**	*e*P	**Pb**	**05 48 06.5**	**+0.6**
LATG				*e*S	**Sb**	**05 48 29.6**	**-0.9**
MASBT	**Mashibuluo**	**2.02**	**262**	*e*P	**Pg**	**05 48 08.2**	**-0.5**
TPUB	**Ta-pu**	**2.03**	**281**	*e*P	**Pb**	**05 48 07.5**	**+1.0**
TPUB				*e*S	**Sb**	**05 48 32.3**	**+0.7**
TYC	**Yuchr**	**2.04**	**299**	*e*P	**Pg**	**05 48 08.0**	**-1.0**
SGST	**Jiashian**	**2.05**	**275**	*e*P	**Pg**	**05 48 09.0**	**-0.2**
CHN4	**Tsaushan**	**2.08**	**283**	*e*P	**Pg**	**05 48 10.1**	**+0.3**
SCZT	**Fangliau**	**2.08**	**255**	*e*P	**Pg**	**05 48 08.6**	**-1.2**
CHN1	**Nanshi**	**2.11**	**278**	*e*P	**Pg**	**05 48 09.7**	**-0.7**
FUSB	**Fushanzhiwuyua**	**2.15**	**329**	*e*P	**Pb**	**05 48 08.6**	**+0.1**
TWK	**Hsinying**	**2.15**	**280**	*e*P	**Pb**	**05 48 08.5**	**-0.1**
JISG	**Ishigakijimahi**	**2.17**	**39**	S	**Sn**	**05 48 32.7**	**+0.7**
WHP	**Taichung City**	**2.17**	**309**	*e*P	**Pg**	**05 48 10.8**	**-0.8**
YHNB	**Yeheng**	**2.18**	**324**	*e*P	**Pb**	**05 48 09.9**	**+0.8**
YHNB				*e*S	**Sb**	**05 48 34.2**	**-1.7**
JTJ	**Tarama**	**2.45**	**45**	P	**Pb**	**05 48 12.3**	**-1.3**
JTJ				*e*S	**Sn**	**05 48 39.3**	**+0.3**

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*IDC **06** 05:53:47.1±13.0, 56°.11S×27°.36W, h68km±123km, mb3.4/3, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=49.3km s-min=37.0km az=75.0*
ISC 06 05:53:46.8±1.1, 55°.9S±0°.2×27°.6W±0°.3, h50km, n8, σ3°68/8, mb3.7/3, 3C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.00**	**158**	⇑P	**P**	**05 57 44.7**	**+2.9**
	comp=Z,0.3nm,0.2s						
VNA3	**Neumayer Olymp**	**17.18**	**160**	⇑P	**P**	**05 57 47.7**	**+3.7**
	comp=Z,0.3nm,0.2s						
VNA2	**Neumayer--Watz**	**17.39**	**158**	⇑P	**P**	**05 57 49.7**	**+3.5**
	comp=Z,0.2nm,0.2s,baz=320,slow=11						
SNAA	**Sanae**	**18.95**	**156**	P	**P**	**05 57 58.9**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=330,slow=16,SNR=3.6						
	comp=Z,1.3nm,0.5s						
QSPA	**South Pole Qui**	**34.32**	**180**	P	**P**	**06 00 25.7**	**-2.5**
	comp=Z,0.6nm,0.5s,baz=194,slow=16,SNR=9.0						
	comp=Z,0.6nm,0.5s						
LPAZ	**La Paz**	**50.11**	**306**	P	**P**	**06 02 37.5**	**0.0**
	comp=Z,0.3nm,0.4s,baz=174,slow=5.0,SNR=1.6						
	comp=Z,0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**73.07**	**30**	P	**P**	**06 05 10.6**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=192,slow=6.2,SNR=4.4						
	comp=Z,0.3nm,0.4s						
ILAR	**Eielson Array**	**149.86**	**312**	PKPbc	**PKPdf**	**06 13 27.3**	**+2.5**
	comp=Z,0.6nm,0.8s,baz=132,slow=2.6,SNR=5.3						

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*IDC **06** 05:58:07.3±1.0, 13°.01N×143°.52E, h209km±12km, mb3.5/12, mbtmp4.0/12, MS3.4/1, Error ellipse: s-maj=28.5km s-min=11.7km az=94.0*
ISC 06 05:58:05.8±1.3, 13°.0N±0°.2×143°.3E±0°.2, h200km, n14, σ0°33/5, mb3.7/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.63**	**69**	P	Pn	05 58 41.7	+1.0
	53nm,0.3s,baz=112,slow=16,SNR=2.0						
GUMO				S	**Sn**	**05 59 07.8**	**0.0**
	250nm,0.3s,baz=177,slow=23,SNR=9.3						
MJAR	**Matsushiro Arr**	**23.89**	**350**	P	**P**	**06 03 01.5**	**+0.3**

2.3nm,0.8s,baz=184,slow=11,SNR=4.7
2.3nm,0.8s
WRA Warramunga Arr 33.91 195 P P 06 04 31.4 +1.3
3.5nm,0.7s,baz=16,slow=9.3,SNR=12
3.5nm,0.7s
KLR Kul'dur 37.36 348 LR LR 06 20 18.3
comp=Z,46nm,18.4s,baz=342,slow=36
ASAR Alice Springs 37.59 194 P P 06 05 02.4 +1.0
1.5nm,0.7s,baz=18,slow=13,SNR=27
1.5nm,0.7s
STKA Stephens Creek 44.65 182 P **P 06 05 58.8 +0.1**
1.4nm,0.4s,baz=339,slow=11,SNR=4.7
1.4nm,0.4s
SONM Songino Array 46.35 326 P P 06 06 14.2 +2.1
0.4nm,0.6s,baz=151,slow=6.4,SNR=3.8
0.4nm,0.6s
MKAR Makanchi Array 60.86 317 P P 06 07 58.8 +1.5
0.2nm,0.5s,baz=94,slow=10,SNR=1.5
0.2nm,0.5s
KURBB Kurchatov Arra 64.09 320 P P 06 08 19.7 +1.2
0.4nm,0.3s,baz=104,slow=7.5,SNR=1.6
0.4nm,0.3s
BVAR Borovoye Array 69.45 322 P P 06 08 54.0 +1.7
1.5nm,0.3s,baz=99,slow=7.6,SNR=7.8
1.5nm,0.3s
ILAR Eielson Array 69.75 25 P P 06 08 54.0 +0.1
0.7nm,0.6s,baz=250,slow=5.8,SNR=12
0.7nm,0.6s
ARCES ARCESS Array B 87.17 342 P **P 06 10 28.7 -0.3**
4.5nm,1.0s,baz=70,slow=8.0,SNR=1.9
4.5nm,1.0s
NVAR Mina Array Bea 88.47 51 P P 06 10 36.7 +0.6
0.5nm,0.8s,baz=264,slow=6.0,SNR=4.3
0.5nm,0.8s
FINES FINESS Array B 91.05 335 P **P 06 10 47.2 0.0**
0.6nm,0.5s,baz=72,slow=6.2,SNR=7.0
0.6nm,0.5s

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*IDC **06** 06:01:38.2±3.3, 3°.17S×134°.56E, h0km, mb3.7/2, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=136.5km s-min=28.9km az=82.0*
*DJA **06** 06:01:41.1±0.5, 3°.5±7°×13°.5E±°, h10km, M4.0/6, MLv4.0/6*
ISC 06 06:01:41.1±1.4, 3°.40S±0°.09×134°.9E±0°.1, h25km, n8, σ3°.05/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.25**	**258**	P	**Pb**	**06 02 04.8**	**+0.8**
RKPI	**Ransiki, Papua**	**2.02**	**338**	P	**Pn**	**06 02 13.1**	**-0.4**
FAKI	**Fak Fak**	**2.72**	**280**	P	**Pn**	**06 02 22.9**	**-0.3**
SWI	**Sorong**	**4.45**	**304**	P	**Pn**	**06 02 46.3**	**-0.6**
WRA	**Warramunga Arr**	**16.46**	**182**	Pn	**Pn**	**06 05 33.3**	**+2.8**
	0.2nm,0.3s,baz=359,slow=13,SNR=11						
WRA				Sn	**Sn**	**06 08 26.5**	**-6.0**
	0.1nm,0.3s,baz=9.1,slow=22,SNR=2.4						
	2.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**17.21**	**211**	Pn	**Pn**	**06 05 40.4**	**+0.4**
	0.2nm,0.3s,baz=32,slow=10,SNR=1.7						
FITZ				Sn	Sn	06 08 38.8	-12
	0.1nm,0.3s,baz=96,slow=9.2,SNR=1.9						
	2.4nm,1.0s						
ASAR	**Alice Springs**	**20.18**	**183**	P	**P**	**06 06 16.8**	**+2.9**
	3.3nm,0.8s,baz=5.4,slow=11,SNR=20						
	3.3nm,0.8s						
MKAR	**Makanchi Array**	**68.07**	**324**	P	**P**	**06 12 37.3**	**-1.4**
	0.3nm,0.4s,baz=121,slow=8.1,SNR=4.8						
	0.3nm,0.4s						

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*IDC **06** 06:09:16.7±1.0, 39°.43N×74°.45E, h0km, mb3.7/7, mbtmp3.6/13, ML3.1/6, Error ellipse: s-maj=21.4km s-min=13.4km az=90.0*
*SOME **06** 06:09:16.5, 39°.67N×74°.63E, h10km*
*KRNET **06** 06:09:20.2±0.1, 39°.72N×74°.58E, h11km, mb3.6*
*NNC **06** 06:09:22.0±1.8, 39°.85N×74°.60E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=14.8km s-min=8.7km az=164.0*
ISC 06 06:09:18.1±1.4, 39°.75N±0°.04×74°.75E±0°.02, h5km±9km, n82, σ2°.14/122, mb3.6/7, 27C-23D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.99**	**286**	⇓eP	**Pg**	**06 09 36.5**	**-0.7**
SFK				⇓eS	**Sg**	**06 09 49.2**	**-0.9**
SALK	**Salom-Alik**	**1.34**	**328**	⇓eP	**Pg**	**06 09 44.3**	**+0.5**
SALK				⇓eS	**Sg**	**06 10 02.8**	**+1.6**
OHH	**Osh**	**1.69**	**298**	⇑eP	**Pb**	**06 09 49.8**	**0.0**
OHH				⇑eS	**Sb**	**06 10 11.6**	**+0.1**
NRN	**Naryn**	**1.94**	**29**	⇑eP	**Pg**	**06 09 56.4**	**+1.1**
NRN				⇑eS	**Sg**	**06 10 23.9**	**+3.5**
ARLS	**Aral**	**2.14**	**351**	⇓eP	**Pb**	**06 09 58.3**	**+0.8**
ARLS				⇓eS	**Sg**	**06 10 27.1**	**+0.3**
DRK	**Karamyk**	**2.29**	**264**	⇑eP	**Pb**	**06 09 59.0**	**-1.2**
DRK				⇑eS	**Sb**	**06 10 28.0**	**-0.9**
AML	**Almayashu**	**2.51**	**342**	P	**Pb**	**06 10 05.2**	**+1.3**
	SNR=70						
AML	**Almayashu**	**2.51**	**342**	⇑eP	**Pb**	**06 10 03.9**	**-0.1**
AML				⇑eS	**Sb**	**06 10 36.2**	**+0.8**
ULHL	**Ulahol**	**2.74**	**24**	P	**Pb**	**06 10 08.9**	**+1.2**
	SNR=23						
ULHL	**Ulahol**	**2.74**	**24**	⇓eP	**Pb**	**06 10 08.8**	**+1.0**
ULHL				⇓eS	**Sb**	**06 10 43.2**	**+1.4**
BOOM	**Boomskoye usch**	**2.89**	**18**	⇑eP	**Pb**	**06 10 10.2**	**0.0**
BOOM				⇑eS	**Sb**	**06 10 46.7**	**+0.8**
AAK	**Ala-Archa**	**2.90**	**356**	Pn	**Pb**	**06 10 11.8**	**+1.5**
	11nm,0.3s,baz=165,slow=9.0,SNR=59						
AAK				Sn	**Sg**	**06 10 52.3**	**+1.2**
	15nm,0.3s,baz=248,slow=22,SNR=7.6						
AAK				Lg	Lg	06 10 56.3	
	10nm,0.3s,baz=252,slow=20,SNR=7.6						
	37nm,0.5s						
KBK	**Karagaybulak**	**2.91**	**3**	P	**Pg**	**06 10 12.6**	**-1.4**
	SNR=24						
KBK	**Karagaybulak**	**2.91**	**3**	⇓eP	**Pb**	**06 10 10.6**	**-0.1**
KBK				⇓eS	**Sb**	**06 10 46.6**	**0.0**
ARK	**Arkit**	**2.94**	**315**	⇑eP	**Pb**	**06 10 09.1**	**-2.1**
ARK				⇑eS	**Sb**	**06 10 44.7**	**-2.8**
EKS2	**Erkin-Say**	**3.00**	**346**	P	**Pb**	**06 10 13.0**	**+0.8**
	SNR=12						
EKS2	**Erkin-Say**	**3.00**	**346**	⇓eP	**Pb**	**06 10 11.4**	**-0.8**
EKS2				⇓eS	**Sb**	**06 10 47.8**	**-1.4**
KDJ	**Kajisay**	**3.01**	**37**	⇓eP	**Pb**	**06 10 12.4**	**0.0**
KDJ				⇓eS	**Sb**	**06 10 50.6**	**+1.1**
BTK	**Batken**	**3.04**	**277**	⇑eP	**Pb**	**06 10 09.5**	**-3.3**
BTK				⇑eS	**Sn**	**06 10 45.6**	**+1.8**
FRU1	**Bishkek**	**3.06**	**358**	⇑eP	**Pb**	**06 10 12.0**	**-1.2**
FRU1				⇑eS	**Sb**	**06 10 49.9**	**-1.0**
MNAS	**Manas**	**3.22**	**329**	⇑eP	**Pb**	**06 10 13.3**	**-2.6**
MNAS				⇑eS	**Sn**	**06 10 51.8**	**+3.5**
TKM2	**Tokmak 2**	**3.24**	**11**	P	**Pb**	**06 10 16.2**	**0.0**
	SNR=64						
TKM2	**Tokmak 2**	**3.24**	**11**	⇑Pn	**Pb**	**06 10 16.3**	**0.0**
	18nm,0.4s						
TKM2				⇑Lg	Lg	06 11 04.9	
	54nm,0.6s						
TKM2	**Tokmak 2**	**3.24**	**11**	⇑eP	**Pb**	**06 10 15.3**	**-0.9**
TKM2				⇑eS	**Sb**	**06 10 54.5**	**-1.5**
CHMS	**Chumysh**	**3.25**	**0**	P	**Pb**	**06 10 16.5**	**+0.2**
	SNR=6.5						
CHMS	**Chumysh**	**3.25**	**0**	⇑Pn	**Pb**	**06 10 15.8**	**-0.5**
	22nm,0.7s						
CHMS				Pg	**Sn**	**06 10 41.8**	**-7.1**
	102nm,0.2s						
CHMS				⇓Lg	Lg	06 11 02.8	
	132nm,0.8s						
CHMS				Lg	Lg	06 11 43.0	
	137nm,0.8s						
CHMS	**Chumysh**	**3.25**	**0**	⇓eP	**Pb**	**06 10 15.1**	**-1.2**
CHMS				⇓eS	**Sb**	**06 10 54.0**	**-2.2**
TRKS	**Terek-Say**	**3.27**	**304**	⇓eP	**Pn**	**06 10 12.4**	**+2.1**
TRKS				⇓eS	**Sn**	**06 10 51.0**	**+1.4**
KST	**Kastek**	**3.42**	**15**	Pg	**Pb**	**06 10 20.6**	**+1.4**
	47nm,0.6s						
KST				Lg	Lg	06 11 06.7	
	144nm,0.6s						
KST	**Kastek**	**3.42**	**15**	eP	**Pb**	**06 10 20.6**	**+1.4**
	47nm,0.6s						
KST				eS	**Sg**	**06 11 06.7**	**-1.3**
	144nm,0.6s						
GAR	**Garm**	**3.51**	**259**	⇑eP	**Pn**	**06 10 15.8**	**+2.3**
GAR				⇑eS	**Sn**	**06 10 56.9**	**+1.3**
USP	**Ospenovka**	**3.52**	**357**	P	**Pb**	**06 10 19.6**	**-1.4**
	SNR=8.6						
USP	**Ospenovka**	**3.52**	**357**	⇓eP	**Pb**	**06 10 18.9**	**-2.1**
USP				⇓eS	**Sb**	**06 11 00.6**	**-3.5**
TNSS	**Tian-Shan**	**3.68**	**26**	Pg	**Pg**	**06 10 28.0**	**-0.6**
	28nm,0.6s						
TNSS				Lg	Lg	06 11 19.4	
	24nm,0.4s						
TNSS	**Tian-Shan**	**3.68**	**26**	eP	**Pb**	**06 10 25.6**	**+1.7**
	12nm,0.5s						
TNSS				eS	**Sg**	**06 11 15.1**	**-1.3**
	24nm,0.5s						
SGDS	**Sogindy**	**3.70**	**359**	Pg	**Pb**	**06 10 26.5**	**+2.4**
	13nm,0.4s						
SGDS				Lg	Lg	06 11 16.6	
	30nm,0.6s						
MDOK	**Medeo**	**3.83**	**26**	Pg	**Pg**	**06 10 30.8**	**-0.7**
	16nm,0.7s						
MDOK				Lg	Lg	06 11 24.2	
	49nm,0.7s						
MDOK	**Medeo**	**3.83**	**26**	eP	**Pg**	**06 10 29.7**	**-1.8**
	6.5nm,0.4s						
MDOK				eS	**Sg**	**06 11 21.7**	**+0.7**
	52nm,0.8s						
PRZ	**Przheval'sk**	**3.88**	**44**	⇓eP	**Pb**	**06 10 24.7**	**-2.6**
PRZ				⇓eS	**Sb**	**06 11 11.9**	**-2.8**
KRBS	**Karabastau**	**4.01**	**10**	Pg	**Pg**	**06 10 33.1**	**-1.9**
	14nm,0.3s						
KRBS				Lg	Lg	06 11 27.9	
	23nm,0.8s						
KRBS	**Karabastau**	**4.01**	**10**	eP	**Pg**	**06 10 33.1**	**-1.9**
	3.0nm,0.3s						
KRBS				eS	**Sg**	**06 11 27.9**	**+1.0**
	60nm,0.5s						
DZA	**Taraz**	**4.06**	**322**	Pg	**Pb**	**06 10 31.4**	**+1.2**
	112nm,0.1s						
DZA				Lg	Lg	06 11 25.1	
	176nm,0.4s						
DZA	**Taraz**	**4.06**	**322**	eP	**Pb**	**06 10 31.4**	**+1.2**
	87nm,0.1s						
DZA				eS	**Sg**	**06 11 25.1**	**-3.5**
	111nm,0.2s						
KTBS	**Karatobe**	**4.22**	**19**	Pg	**Pg**	**06 10 36.9**	**-2.0**
	16nm,0.4s						
KTBS				Lg	Lg	06 11 34.6	
	29nm,0.3s						
KTBS	**Karatobe**	**4.22**	**19**	eP	**Pg**	**06 10 36.9**	**-2.0**
	2.9nm,0.3s						
KTBS				eS	**Sg**	**06 11 34.6**	**+0.9**
	44nm,0.6s						
SATY	**Saty**	**4.30**	**39**	Pg	**Pg**	**06 10 39.2**	**-1.4**
	36nm,0.7s						
SATY				Lg	Lg	06 11 38.7	
	25nm,0.4s						
SATY	**Saty**	**4.30**	**39**	eP	**Pg**	**06 10 38.0**	**-2.6**
	5.9nm,0.5s						
SATY				eS	**Sg**	**06 11 36.2**	**-0.2**
	17nm,0.4s						
KUU	**Kurty**	**4.31**	**15**	Pg	**Pg**	**06 10 39.0**	**-1.7**
	5.2nm,0.1s						
KUU				Lg	Lg	06 11 38.2	
	47nm,0.5s						
KUU	**Kurty**	**4.31**	**15**	eP	**Pg**	**06 10 39.0**	**-1.7**
	5.2nm,0.1s						
KUU				eS	**Sg**	**06 11 38.2**	**+1.6**
	38nm,0.2s						
ZHN	**Zhinishke**	**4.40**	**38**	Pg	**Pg**	**06 10 40.5**	**-1.9**
	16nm,0.7s						
ZHN				Lg	Lg	06 11 40.8	
	27nm,0.7s						
ZHN	**Zhinishke**	**4.40**	**38**	eP	**Pg**	**06 10 40.5**	**-1.9**
	16nm,0.7s						
ZHN				eS	**Sg**	**06 11 40.8**	**+1.3**
	27nm,0.7s						
CHKK	**Chushkaly**	**4.43**	**21**	Pg	**Pg**	**06 10 41.5**	**-1.6**
	15nm,0.3s						
CHKK				Lg	Lg	06 11 42.3	
	41nm,0.3s						
CHKK	**Chushkaly**	**4.43**	**21**	eP	**Pg**	**06 10 41.5**	**-1.6**
	15nm,0.3s						
CHKK				eS	**Sg**	**06 11 42.3**	**+1.8**
	41nm,0.3s						
KURS	**Kuram**	**4.53**	**33**	Pg	**Pg**	**06 10 42.9**	**-2.1**
	18nm,0.7s						
KURS				Lg	Lg	06 11 44.7	
	18nm,1.2s						
KURS	**Kuram**	**4.53**	**33**	eP	**Pg**	**06 10 42.9**	**-2.1**
	18nm,0.7s						
KURS				eS	**Sg**	**06 11 44.7**	**+1.0**
	18nm,1.2s						
KK31	**Karatay Array**	**4.62**	**318**	⇑Pn	**Pn**	**06 10 32.3**	**+3.6**
	1.6nm,0.2s,baz=126,slow=12,SNR=74						
KK31				⇑Lg	Lg	06 11 45.1	
	16nm,0.5s,baz=130,slow=29,SNR=4.8						
CHM	**Chimkent**	**4.66**	**305**	eP	**Pb**	**06 10 41.8**	**+1.4**
	102nm,0.2s						
CHM				eS	**Sb**	**06 11 43.0**	**+6.1**
	137nm,0.8s						
UZB	**Uzynbulak**	**4.68**	**42**	Pg	**Pg**	**06 10 45.8**	**-1.9**
	16nm,0.3s						
UZB				Lg	Lg	06 11 49.9	
	17nm,0.6s						
UZB	**Uzynbulak**	**4.68**	**42**	eP	**Pg**	**06 10 44.2**	**-3.5**
	1.5nm,0.1s						
UZB				eS	**Sg**	**06 11 46.9**	**-1.4**
	3.1nm,0.1s						
KPKS	**Kokpek**	**4.75**	**37**	Pg	**Pg**	**06 10 47.1**	**-1.9**
	28nm,0.4s						
KPKS				Lg	Lg	06 11 52.1	
	37nm,0.6s						
KPKS	**Kokpek**	**4.75**	**37**	eP	**Pg**	**06 10 46.1**	**-2.9**
	2.1nm,0.1s						
KPKS				eS	**Sg**	**06 11 50.2**	**-0.3**
	40nm,0.5s						
SHLS	**Shalkode**	**4.92**	**45**	Pg	**Pg**	**06 10 55.4**	**+3.1**
	28nm,0.6s						
SHLS				Lg	Lg	06 12 06.5	
	21nm,0.8s						
SHLS	**Shalkode**	**4.92**	**45**	eP	**Pg**	**06 10 54.4**	**+2.0**
	7.7nm,0.4s						
SHLS				eS	**Sg**	**06 12 04.4**	**+8.4**
	7.5nm,0.2s						
BRLS	**Borolday**	**4.94**	**313**	Pg	**Pb**	**06 10 46.3**	**+1.2**
	8.0nm,0.6s						
BRLS				Lg	Lg	06 11 50.7	
	20nm,0.3s						
BRLS	**Borolday**	**4.94**	**313**	eP	**Pb**	**06 10 46.3**	**+1.2**
	8.0nm,0.6s						
BRLS				eS	**Sb**	**06 11 50.7**	**+5.8**
	20nm,0.3s						
ARXS	**Arharly**	**5.02**	**26**	Pg	**Pg**	**06 10 52.6**	**-1.7**
	16nm,0.7s						
ARXS				Lg	Lg	06 12 01.6	
	23nm,0.6s						
ARXS	**Arharly**	**5.02**	**26**	eP	**Pg**	**06 10 52.6**	**-1.7**
	16nm,0.7s						
ARXS				eS	**Sg**	**06 12 01.6**	**+2.3**
	23nm,0.6s						
PDGK	**Podgornoye**	**5.05**	**43**	Pg	**Pg**	**06 10 52.4**	**-2.5**
	6.1nm,0.6s						
PDGK				Lg	Lg	06 12 01.6	
	12nm,0.8s						
BTLS	**Baital**	**5.32**	**355**	Pg	**Pg**	**06 10 56.5**	**-3.4**
	3.8nm,0.6s						
BTLS				Lg	Lg	06 12 08.2	
	12nm,0.5s						
BTLS	**Baital**	**5.32**	**355**	eP	**Pg**	**06 10 56.5**	**-3.4**
	3.8nm,0.6s						
BTLS				eS	**Sg**	**06 12 08.2**	**-0.6**
	12nm,0.5s						
MKAR	**Makanchi Array**	**8.94**	**36**	Pn	Pn	06 11 33.5	+5.7
	0.2nm,0.3s,baz=210,slow=13,SNR=5.6						
	0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**11.20**	**12**	Pn	Pn	06 12 03.6	+4.9
	baz=190,slow=12,SNR=2.1						
KURBB				Lg	Lg	06 15 19.0	
	baz=203,slow=27,SNR=7.2						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**13.62**	**349**	Pn	**Pn**	**06 12 31.3**	**-0.5**
	baz=162,slow=9.8,SNR=4.0						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**15.76**	**22**	Pn	**P**	**06 13 04.9**	**+0.2**
	0.2nm,0.3s,baz=204,slow=11,SNR=3.1						
	0.6nm,0.5s						
AKTO	**Aktyubinsk**	**15.89**	**318**	Pn	**Pn**	**06 13 02.2**	**-0.2**
	0.3nm,0.3s,baz=126,slow=9.5,SNR=2.1						
	1.1nm,0.4s						
FINES	**FINESS Array B**	**36.57**	**323**	P	**P**	**06 16 24.9**	**+0.3**
	0.7nm,0.7s,baz=121,slow=9.3,SNR=5.4						
	0.7nm,0.7s						
ARCES	**ARCESS Array B**	**39.36**	**335**	P	**P**	**06 16 49.0**	**+0.9**
	2.8nm,0.9s,baz=96,slow=7.4,SNR=8.9						
	2.8nm,0.9s						
HFS	**Hagfors**	**42.43**	**320**	P	**P**	**06 17 11.6**	**-1.8**
	0.4nm,0.4s,baz=79,slow=7.8,SNR=1.1						
	0.4nm,0.4s						
NOA	**NORSAR Array B**	**43.65**	**321**	P	**P**	**06 17 23.5**	**+0.1**
	0.5nm,0.6s,baz=89,slow=7.8,SNR=2.0						
	0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**68.72**	**270**	P	**P**	**06 20 21.7**	**-1.5**
	0.2nm,0.3s,baz=50,slow=6.4,SNR=2.5						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**81.30**	**125**	P	**P**	**06 21 34.5**	**-1.1**
	0.4nm,0.6s,baz=324,slow=5.1,SNR=6.5						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**83.79**	**128**	P	**P**	**06 21 48.0**	**-0.6**
	0.3nm,0.7s,baz=321,slow=5.0,SNR=2.3						
	0.3nm,0.7s						

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*ATH **06** 06:16:25.1, 37°.38N×20°.58E, h5km±2km, ML3.7/17, Error ellipse: s-maj=2.6km s-min=0.9km az=48.0*
*THE **06** 06:16:25.9, 37°.42N×20°.66E, h0km±2km, ML3.7/11, Error ellipse: s-maj=2.7km s-min=0.6km az=228.0*
*IDC **06** 06:16:26.9±1.2, 37°.92N×21°.10E, h0km, mb3.6/8, mbtmp3.6/12, ML3.3/1, MS3.6/3, Error ellipse: s-maj=23.3km s-min=19.4km az=147.0*
*NAO **06** 06:16:46.1, 39°.48N×20°.18E, h10km, mb3.3*
ISC 06 06:16:24.6±1.5, 37°.41N±0°.03×20°.62E±0°.03, h8km±11km, n69, σ1°.14/89, mb3.6/8, MS3.6/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.29**	**31**	P	**Pb**	**06 16 31.8**	**-0.3**
KRI1				S	**Sb**	**06 16 36.1**	**-1.1**
	25μm,0.4s						
LTHK	**Lithakia**	**0.34**	**29**	P	**Pb**	**06 16 32.5**	**-0.5**
LTHK				S	**Sb**	**06 16 37.2**	**-1.3**
	19μm,0.3s						
LTHK	**Lithakia**	**0.34**	**29**	P	**Pb**	**06 16 32.4**	**-0.5**
LTHK				S	**Sb**	**06 16 37.6**	**-1.0**
LTHK				AML	AML	06 16 38.0	
	comp=N,48993μm,0.4s						
LTHK				AML	AML	06 16 38.7	
	comp=E,24188μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.68**	**10**	P	**Pb**	**06 16 38.5**	**-0.1**
RTZL				S	**Sb**	**06 16 48.4**	**+0.3**
	comp=E,9μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.70**	**357**	P	**Pb**	**06 16 39.1**	**0.0**
PSDA				S	**Sb**	**06 16 49.5**	**+0.6**
	comp=E,10μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.70**	**357**	P	**Pb**	**06 16 38.9**	**-0.2**
PSDA				S	**Sb**	**06 16 48.9**	**0.0**
VLS	**Valsamata**	**0.77**	**358**	P	**Pb**	**06 16 40.1**	**-0.1**
VLS				S	**Sb**	**06 16 51.6**	**+0.8**
	comp=E,5μm,0.5s						
VLS	**Valsamata**	**0.77**	**358**	P	**Pb**	**06 16 40.0**	**-0.1**
VLS				S	**Sb**	**06 16 51.8**	**+1.0**
VLS				AML	AML	06 16 55.5	
	comp=E,9332μm,0.4s						
VLS				AML	AML	06 16 58.2	
	comp=N,9040μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.80**	**349**	P	**Pb**	**06 16 41.4**	**+0.7**
LXRA				S	**Sb**	**06 16 51.8**	**+0.1**
LXRA				AML	AML	06 17 00.5	
	comp=E,16431μm,0.6s						
LXRA				AML	AML	06 17 02.6	
	comp=N,22335μm,0.5s						
SMHA	**Samh**	**0.84**	**1**	P	**Pg**	**06 16 40.9**	**+0.2**
SMHA				S	**Sb**	**06 16 53.3**	**+0.5**
SMHA				AML	AML	06 16 56.7	
	comp=E,40596μm,0.4s						
SMHA				AML	AML	06 16 58.6	
	comp=N,41930μm,0.4s						
DMLN	**Damoulianata-K**	**0.85**	**347**	P	**Pb**	**06 16 41.9**	**+0.3**
DMLN				S	**Sn**	**06 16 55.1**	**-0.4**
	comp=N,10μm,0.7s						
DMLN	**Damoulianata-K**	**0.85**	**347**	P	**Pb**	**06 16 41.7**	**+0.1**
DMLN				S	**Sb**	**06 16 54.2**	**+1.1**
AMT	**Artemida-Makis**	**0.87**	**82**	P	**Pb**	**06 16 42.3**	**+0.3**
AMT				S	**Sn**	**06 16 55.0**	**-1.0**
AMT				AML	AML	06 17 00.4	
	comp=N,16926μm,0.3s						
AMT				AML	AML	06 17 02.2	
	comp=E,16324μm,0.3s						
RLS	**Riolos of Patr**	**0.93**	**46**	P	**Pb**	**06 16 42.8**	**-0.1**
RLS				S	**Sb**	**06 16 55.8**	**+0.4**
	comp=E,2μm,0.6s						
RLS	**Riolos of Patr**	**0.93**	**46**	P	**Pb**	**06 16 42.7**	**-0.3**
RLS				S	**Sn**	**06 16 56.3**	**-1.1**
RLS				AML	AML	06 16 57.9	
	comp=N,2838μm,0.6s						
RLS				AML	AML	06 17 05.7	
	comp=E,3895μm,0.6s						
VSK1	**VASILIKIADES**	**1.00**	**357**	P	**Pb**	**06 16 44.2**	**+0.1**
DRO	**Drossia**	**1.02**	**58**	P	**Pb**	**06 16 44.5**	**0.0**
DRO	**Drossia**	**1.02**	**58**	P	**Pb**	**06 16 44.3**	**-0.2**
DRO				S	**Sn**	**06 17 00.3**	**+0.7**
DRO				AML	AML	06 17 05.6	
	comp=N,4827μm,0.7s						
DRO				AML	AML	06 17 10.5	
	comp=E,12180μm,0.5s						
PYL	**PYLOS**	**1.03**	**120**	P	**Pb**	**06 16 44.9**	**+0.3**
PYL				S	**Sn**	**06 16 59.5**	**-0.4**
	comp=E,1μm,0.4s						
PYL	**PYLOS**	**1.03**	**120**	P	**Pb**	**06 16 44.7**	**+0.1**
PYL				S	**Sn**	**06 16 59.2**	**-0.7**
PYL				AML	AML	06 17 01.6	
	comp=E,3946μm,0.6s						
PYL				AML	AML	06 17 02.9	
	comp=N,1997μm,0.2s						
FSK	**Fiskardo**	**1.05**	**357**	P	**Pb**	**06 16 45.0**	**0.0**
FSK				S	**Sn**	**06 17 00.4**	**0.0**
	comp=N,5μm,0.5s						
FSK	**Fiskardo**	**1.05**	**357**	P	**Pg**	**06 16 44.6**	**-0.1**
FSK				AML	AML	06 17 05.0	
	comp=E,11028μm,0.6s						
FSK				AML	AML	06 17 05.3	
	comp=N,8013μm,0.5s						
ITM	**Ithomi**	**1.06**	**102**	P	**Pn**	**06 16 46.1**	**+0.3**
ITM	**Ithomi**	**1.06**	**102**	P	**Pn**	**06 16 45.8**	**+0.1**
ITM				S	**Sn**	**06 17 01.0**	**+0.2**
ITM				AML	AML	06 17 09.1	
	comp=N,3191μm,0.6s						
ITM				AML	AML	06 17 10.7	
	comp=E,2732μm,0.5s						
EVGI	**Lefkada island**	**1.21**	**1**	P	**Pb**	**06 16 47.9**	**+0.2**
EVGI				S	**Sn**	**06 17 05.8**	**+1.5**
	comp=E,4μm,0.5s						
EVGI	**Lefkada island**	**1.21**	**1**	P	**Pg**	**06 16 47.6**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.27**	**358**	P	**Pg**	**06 16 49.1**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.27**	**358**	P	**Pn**	**06 16 48.5**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.30**	**3**	P	**Pg**	**06 16 50.9**	**+1.3**
NYDR				S	**Sn**	**06 17 08.7**	**+2.1**
	comp=E,2μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.30**	**3**	P	**Pn**	**06 16 49.2**	**+0.2**
KLV	**Kalavryta, Ach**	**1.37**	**62**	P	**Pg**	**06 16 50.4**	**-0.4**
KLV

ANX AML AML 06 17 25.9
comp=N,5964µm,0.6s
EVR Evrytania 1.77 31 P **Pg 06 16 58.3 -0.2**
VLI Velíai 1.98 110 P **Pb 06 17 00.7 0.0**
MAKR Makrakomi, Fth 1.99 36 P **Pb 06 17 01.6 +0.5**
AXAR Agios Charalam 2.10 49 P **Pb 06 17 02.6 -0.3**
IGT Igoumenitsa 2.13 354 P **Pb 06 17 02.3 -1.1**
VIL2 Platees 2.24 68 P **Pb 06 17 03.6 -1.7**
THL Klokotos Trika 2.41 26 P **Pb 06 17 07.0 -1.2**
DION Dionisos Attik 2.71 75 P **Pn 06 17 09.8 +1.4**
OHR Ohrid 3.70 2 *i* Pn **Pb 06 17 29.0 -1.2**
IDI Anoyia 4.04 120 Pn **Pn 06 17 29.6 +2.8**
comp=N,3.7nm,0.7s,baz=53,slow=22,SNR=0.8
IDI Sn **Sn 06 18 15.2 +0.9**
comp=N,3.2nm,0.3s,baz=327,slow=19,SNR=2.2
VAE Valguarnera 4.94 273 Pn **Pb 06 17 47.6 -3.8**
comp=N,7.8nm,0.4s,baz=350,slow=10,SNR=1.6
VAE Sn **Sn 06 18 36.4 -0.1**
comp=N,4.7nm,0.3s,baz=42,slow=12,SNR=3.1
MLR Muntele Rosu 9.01 25 Pn **Pn 06 18 31.2 -3.8**
comp=N,0.1nm,0.3s,baz=138,slow=22,SNR=1.6
comp=N,1.5nm,0.6s
AKASG Malin Array Be 14.64 22 Pn **P 06 19 57.6 -0.7**
comp=N,0.9nm,0.3s,baz=209,slow=8.4,SNR=7.7
CLL Collm 14.91 341 *i* (PP) 06 20 03.4
comp=Z,6.0nm,0.7s
ESDC Sonseca Array 19.35 284 P **Pn 06 20 57.2 +5.6**
comp=Z,0.6nm,0.7s,baz=79,slow=8.4,SNR=4.4
HFS Hagfors 23.17 351 P **P 06 21 31.1 -0.2**
comp=Z,2.0nm,0.5s,baz=153,slow=10.0,SNR=9.5
comp=Z,2.0nm,0.5s
EKA Eskdalemuir Ar 24.10 326 P **P 06 21 41.0 +0.6**
comp=Z,2.9nm,0.9s,baz=125,slow=8.2,SNR=4.8
comp=Z,2.9nm,0.9s
FINES FINESS Array B 24.30 6 P **P 06 21 41.2 -1.0**
comp=Z,0.7nm,0.4s,baz=195,slow=10,SNR=1.6
comp=Z,0.7nm,0.4s
NB2 NORSAR Subarra 24.39 349 P **P 06 21 42.7 -0.3**
comp=Z,1.3nm,0.8s,baz=162,slow=11
NOA NORSAR Array B 24.39 349 P **P 06 21 42.9 -0.1**
comp=Z,0.5nm,0.6s,baz=161,slow=9.8,SNR=3.9
comp=Z,0.5nm,0.6s
TORD Torodi Ar. Bea 29.49 220 P P 06 22 38.9 +10
comp=Z,0.5nm,0.7s,baz=11,slow=11,SNR=3.6
comp=Z,0.5nm,0.7s
AAK Ala-Archa 41.00 65 LR LR 06 42 26.5
comp=Z,52nm,18.9s,baz=336,slow=39
KURBB Kurchatov Arra 42.62 53 P **P 06 24 19.9 -1.2**
comp=Z,0.2nm,0.3s,baz=282,slow=8.7,SNR=2.6
comp=Z,0.2nm,0.3s
MKAR Makanchi Array 45.64 58 P **P 06 24 44.2 -1.2**
comp=Z,0.3nm,0.4s,baz=272,slow=6.4,SNR=1.9
MKAR LR LR 06 48 54.5
comp=Z,62nm,19.1s,baz=336,slow=43
comp=Z,0.3nm,0.4s
ZALV Zalesovo Beam 46.15 48 P **P 06 24 47.2 -2.0**
comp=Z,0.4nm,0.3s,baz=279,slow=9.6,SNR=1.9
comp=Z,0.4nm,0.3s
NRIK Noril'sk 47.45 26 LR LR 06 46 51.3
comp=Z,77nm,18.5s,baz=315,slow=39

*IDC **06** 06:33:48.1±0.7, 16°.16S×173°.53W, h0km, mb3.9/10, mbtmp3.9/10, MS3.6/5, Error ellipse: s-maj=36.4km s-min=18.8km az=136.0*
ISC 06 06:33:58.4±0.8, 16°.3S±0°.2×173°.6W±0°.2, h79km, n23, σ1§32/12, mb3.9/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.15**	**258**	Pn	**Pn**	**06 35 54.7**	**+0.5**
	0.2nm,0.3s,baz=284,slow=23,SNR=1.0						
RAR	**Rarotonga**	**13.97**	**113**	LR	LR	06 40 50.1	
	comp=Z,133nm,19.0s,baz=212,slow=30						
DZM	**Mont Dzumac**	**19.74**	**250**	LR	LR	06 44 49.9	
	comp=Z,382nm,19.1s,baz=64,slow=33						
PPT	**Papeete**	**22.99**	**97**	LR	LR	06 45 19.6	
	comp=Z,49nm,21.4s,baz=259,slow=30						
URZ	**Urewera**	**23.41**	**199**	P	**P**	**06 38 57.7**	**-2.7**
	3.2nm,0.7s,baz=87,slow=11,SNR=2.0						
	3.2nm,0.7s						
HNR	**Honiara**	**26.68**	**281**	LR	LR	06 48 31.2	
	comp=Z,292nm,21.2s,baz=114,slow=33						
H11S2	**WAKE ISLAND Hy**	**39.61**	**330**	T	T	07 23 27.4	
	baz=149						
H11S3	**WAKE ISLAND Hy**	**39.62**	**330**	T	T	07 23 03.7	
	baz=149,slow=74						
H11S1	**WAKE ISLAND Hy**	**39.62**	**330**	T	T	07 23 27.0	
	baz=149,slow=74						
H11N3	**WAKE ISLAND Hy**	**40.57**	**331**	T	T	07 24 15.1	
	baz=150						
H11N1	**WAKE ISLAND Hy**	**40.57**	**331**	T	T	07 24 41.5	
	baz=150,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.58**	**331**	T	T	07 24 39.1	
	baz=150,slow=74						
STKA	**Stephens Creek**	**43.48**	**241**	P	**P**	**06 41 52.8**	**-1.2**
	1.3nm,0.6s,baz=79,slow=23,SNR=1.2						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**49.50**	**257**	P	**P**	**06 42 41.5**	**+0.1**
	0.4nm,0.4s,baz=97,slow=6.7,SNR=12						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**49.70**	**253**	P	**P**	**06 42 43.0**	**+0.1**
	4.1nm,0.7s,baz=86,slow=8.0,SNR=22						
	4.1nm,0.7s						
QSPA	**South Pole Qui**	**73.80**	**180**	P	**P**	**06 45 25.7**	**+1.5**
	1.2nm,0.7s,baz=54,slow=0.4,SNR=8.5						
	1.2nm,0.7s						
NVAR	**Mina Array Bea**	**75.06**	**42**	P	**P**	**06 45 31.7**	**-0.3**
	1.2nm,0.8s,baz=228,slow=10,SNR=7.0						
	1.2nm,0.8s						
TXAR	**Lajitas Array**	**81.22**	**56**	P	**P**	**06 46 06.1**	**0.0**
	0.4nm,0.9s,baz=257,slow=1.6,SNR=3.8						
	0.4nm,0.9s						
PDAR	**Pinedale Array**	**83.00**	**42**	P	**P**	**06 46 14.6**	**-0.8**
	0.9nm,0.7s,baz=210,slow=3.4,SNR=9.7						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**83.30**	**11**	P	**P**	**06 46 15.9**	**-0.2**
	0.2nm,0.6s,baz=221,slow=6.1,SNR=2.0						
	0.2nm,0.6s						
MAW	**Mawson**	**86.94**	**199**	P	**P**	**06 46 36.2**	**+1.8**
	1.3nm,1.0s,baz=270,slow=8.4,SNR=2.3						
	1.3nm,1.0s						
SONM	**Songino Array**	**95.36**	**318**	LR	LR	07 32 05.3	
	comp=Z,31nm,18.0s,baz=337,slow=37						
BRTR	**Keskin Array B**	**146.70**	**320**	PKPbc	**PKPbc**	**06 53 32.0**	**+0.3**
	0.9nm,0.9s,baz=48,slow=2.1,SNR=1.5						

*NEIC **06** 06:35:51.0±0.9, 36°.155N±0°.005×118°.07W±0°.02, h2km±2km, Error ellipse: s-maj=2.4km s-min=0.8km az=92.0*
PAS 06 06:35:51.5±1.0, 36°.15N±0°.01×118°.07W±0°.02, h1km±1km, ML3.5/302, ML3.2/94(NEIC), Error ellipse: s-maj=2.4km s-min=1.5km az=86.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.17**	**100**		Pg	06 35 55.4	+0.4
MFS					Sg	06 35 58.0	+0.8
WRVM	**Rose V. Centra**	**0.20**	**134**		Pg	06 35 55.8	+0.4
WRVM					Sg	06 35 58.8	+0.8
JRC2	**Joshua Ridge**	**0.27**	**128**		Pg	06 35 57.1	+0.4
JRC2					Sg	06 36 01.1	+1.0
WCSM	**Coso Springs S**	**0.27**	**116**		Pg	06 35 57.2	+0.4
WCSM					Sg	06 36 01.2	+0.9
WVPM	**Volcano Peak E**	**0.28**	**134**		Pg	06 35 57.4	+0.4
WVPM					Sg	06 36 01.7	+1.1
CWC	**Cottonwood Cre**	**0.29**	**358**		Pg	06 35 57.3	+0.1
CWC					Sg	06 36 01.3	+0.3
WNMM	**Nine Mile Cany**	**0.33**	**157**		Pg	06 35 58.0	+0.1
WNMM					Sg	06 36 02.7	+0.5
TOW	**Tower One**	**0.42**	**144**		Pg	06 36 00.1	+0.6
TOW					Sg	06 36 06.8	+1.9
CGO	**Cerro Gordo**	**0.46**	**28**		Pg	06 36 00.5	+0.2
CGO					Sg	06 36 07.0	+0.8
WORM	**Onyx Ranch**	**0.47**	**198**		Pg	06 36 00.6	0.0
WORM					Sg	06 36 07.0	+0.2
MPMC	**Manual Prospec**	**0.48**	**101**		Sg	06 36 07.7	+0.8
CLC	**China Lake**	**0.50**	**131**		Sg	06 36 08.0	+0.2
WHFM	**Hanning Flat**	**0.51**	**207**		Pg	06 36 01.4	+0.2
WHFM					Sg	06 36 08.4	+0.6
SRTC	**Snort**	**0.52**	**150**		Pg	06 36 02.1	+0.6
SRTC					Sb	06 36 10.2	-1.5
SPG2	**Springville 2**	**0.57**	**276**		Pg	06 36 02.4	0.0
SPG2					Sg	06 36 10.1	+0.3
WASM	**Alta Sierra Ca**	**0.57**	**224**		Pg	06 36 02.7	+0.3
WASM					Sg	06 36 10.5	+0.6
ISA	**Isabella, Lake**	**0.59**	**214**	Pg	Pg	06 36 02.9	+0.1
ISA				IAML		06 36 12.0	
	comp=N,1µm,0.2s						
ISA				IAML		06 36 12.3	
	comp=E,2µm,0.2s						
ISA	**Isabella, Lake**	**0.59**	**214**		Sg	06 36 10.9	+0.5
WBSM	**Bird Springs**	**0.61**	**186**		Sg	06 36 11.8	+0.6
LRMC	**Laurel Mtn Rad**	**0.74**	**155**		Sg	06 36 15.5	+0.3
CCCA	**Chr Cany lake**	**0.84**	**137**		Sb	06 36 20.1	-0.8
DTP	**Desert Tortois**	**0.90**	**168**		Pg	06 36 08.6	-0.2
DTP					Sg	06 36 20.4	+0.1
TIN	**Tinemaha, Big**	**0.91**	**352**		Sg	06 36 21.8	+0.9
CCAC	**Calif City Air**	**0.99**	**178**		Pg	06 36 10.3	-0.3
CCAC				IAML		06 36 24.2	
	comp=E,1µm,0.3s						
CCAC				IAML		06 36 24.2	
	comp=N,1µm,0.4s						
GRAC	**Grapevine Rang**	**1.02**	**33**		Pg	06 36 11.1	0.0
GRAC				IAML		06 36 30.5	
	comp=N,1µm,0.3s						
VOG	**Valley Oaks Go**	**1.08**	**280**		Pg	06 36 12.0	-0.2
GWY	**Greenwater Val**	**1.13**	**88**		Pg	06 36 13.2	-0.1
GWY				IAML		06 36 32.6	
	comp=E,871nm,0.5s						
GWY				IAML		06 36 34.4	
	comp=N,713nm,0.6s						
DSP	**Deep Springs**	**1.22**	**4**	Pg	Pg	06 36 14.3	-0.6
DSP				IAML		06 36 33.3	
	comp=E,236nm,0.6s						
MTUM	**Tungsten Hills**	**1.27**	**342**		Pg	06 36 15.5	-0.4
GMN	**Gold Mountain**	**1.32**	**29**		Pg	06 36 16.4	-0.5
GMN				IAML		06 36 35.1	
	comp=N,305nm,0.4s						
GSC	**Goldstone, Bar**	**1.33**	**129**		Pg	06 36 16.2	-0.8
GSC				IAML		06 36 36.4	
	comp=N,329nm,0.4s						
GSC				IAML		06 36 36.8	
	comp=E,787nm,0.5s						
WCT	**Wildcat Mounta**	**1.33**	**61**		Pg	06 36 16.6	-0.4
WCT				IAML		06 36 36.4	
	comp=N,369nm,0.5s						
WCT				IAML		06 36 38.7	
	comp=E,360nm,0.5s						
LEOC	**Leona Valley**	**1.52**	**187**		Pg	06 36 21.4	+0.6
KCC	**Kaiser Creek**	**1.55**	**320**		Pn	06 36 20.1	-0.3
FRI	**Friant**	**1.57**	**303**		Pn	06 36 20.0	-0.6
MLAC	**Mammoth, Mammo**	**1.60**	**338**		Pn	06 36 21.7	+0.4
BCW	**Bitter Crk WRg**	**1.63**	**223**		Pn	06 36 21.3	-0.3
OMMB	**Old Mammoth Mi**	**1.64**	**333**		Pn	06 36 21.8	-0.1
OMMB				IAML		06 36 43.9	
	comp=N,310nm,0.6s						
OMMB				IAML		06 36 44.0	
	comp=E,440nm,0.5s						
MZP	**Montezuma Peak**	**1.64**	**19**		Pn	06 36 21.6	-0.3
TPNV	**Topopah Spring**	**1.67**	**61**		Pn	06 36 21.8	-0.3
TPNV				IAML		06 36 48.1	
	comp=E,333nm,0.9s						
TPNV				IAML		06 36 48.9	
	comp=E,412nm,0.4s						
PWMM	**Westland Maint**	**1.76**	**280**		Pn	06 36 23.9	+0.7
TUQ	**Turquoise Moun**	**1.88**	**112**		Pn	06 36 24.2	-0.8
PASC	**Pasadena Art C**	**1.97**	**183**		Pn	06 36 26.4	+0.2
PASC				IAML		06 36 58.0	
	comp=E,133nm,0.8s						
PASC				IAML		06 37 01.0	
	comp=N,109nm,0.7s						
TPH	**Tonopah**	**2.04**	**19**		Pn	06 36 27.1	-0.2
LHV	**Little Huntoon**	**2.13**	**351**		Pn	06 36 29.0	+0.7
LHV				IAML		06 37 03.2	
	comp=N,210nm,0.6s						
LHV				IAML		06 37 05.0	
	comp=E,285nm,0.7s						
PMPB	**Monarch Peak**	**2.21**	**273**	Pn	Pn	06 36 29.9	+0.4
MYLM	**Yosemite Lake**	**2.26**	**304**		Pb	06 36 31.7	-1.4
NVAR	**Mina Array Bea**	**2.29**	**355**		Pn	06 36 30.9	+0.3
SHPR	**Sheep Range**	**2.37**	**80**	Pn	Pn	06 36 32.1	+0.2
BBGB	**Big Mountain B**	**2.44**	**281**		Pn	06 36 33.4	+0.7
ELS	**Elsinore Mount**	**2.55**	**168**	Pn	Pn	06 36 34.2	+0.1
ELS				IAML		06 37 13.1	
	comp=E,63nm,0.5s						
ELS				IAML		06 37 14.4	
	comp=N,72nm,1.1s						
BSGM	**Shirttail Gulc**	**2.59**	**277**		Pn	06 36 35.7	+1.0
WAKR	**Walker**	**2.59**	**335**		Pb	06 36 37.0	-2.0
WAKR				IAML		06 37 15.4	
	comp=N,116nm,0.5s						
CMB	**Columbia Colle**	**2.64**	**316**	Pn	Pn	06 36 37.2	+1.8
CMB				IAML		06 37 16.8	
	comp=E,178nm,0.7s						
V12A	**Nelson**	**2.64**	**98**	Pn	Pn	06 36 34.3	-1.1
V12A				IAML		06 37 18.6	
	comp=N,56nm,0.8s						
PRN	**Pahroc Range**	**2.73**	**62**	Pn	Pn	06 36 36.8	+0.2
PRN				IAML		06 37 26.1	
	comp=N,140nm,0.5s						
PRN				IAML		06 37 31.7	
	comp=E,127nm,0.9s						
SAO	**San Andreas Ge**	**2.79**	**284**	Pn	Pn	06 36 37.1	-0.3
PFO	**Pinyon Flats O**	**2.85**	**152**		Pn	06 36 37.9	-0.5
KVN	**Kaiserville**	**2.90**	**359**	Pn	Pn	06 36 39.2	+0.1
KVN				IAML		06 37 32.7	
	comp=N,42nm,0.9s						
R11B	**Troy Canyon, C**	**2.96**	**41**	IAML		06 37 28.1	
	comp=E,43nm,0.7s						
YERR	**Yerington**	**2.98**	**342**	IAML		06 37 28.1	
	comp=N,125nm,0.4s						
PNTR	**Pine Nut**	**3.18**	**338**		Pn	06 36 45.0	+2.1
PNTR				IAML		06 37 37.3	
	comp=E,116nm,0.7s						
PNTR				IAML		06 37 37.6	
	comp=N,85nm,0.6s						
W13A	**Hualapai Mount**	**3.56**	**106**	Pn	Pn	06 36 47.6	-0.7
CBX	**Cerro Bola**	**4.00**	**163**	Pn	Pn	06 36 54.8	+0.7
CBX				IAML		06 38 06.4	
	comp=N,53nm,0.9s						
BMN	**Battle Mountai**	**4.33**	**9**	Pn	Pn	06 36 58.0	-0.7
ESJX	**Sierra Juarez**	**4.49**	**156**	Pn	Pn	06 37 00.9	0.0
ESJX				IAML		06 38 22.5	
	comp=N,16nm,1.4s						
ESJX				IAML		06 38 23.2	
	comp=E,16nm,1.3s						
U15A	**North Rim**	**4.67**	**85**	IAML		06 38 24.9	
	comp=E,18nm,1.0s						
U15A				IAML		06 38 33.3	
	comp=N,14nm,2.4s						
ELK	**Elko**	**5.10**	**25**	Pn	Pn	06 37 09.7	+0.3

*IDC **06** 06:41:15.4±1.1, 37°.69N×20°.75E, h0km, mb3.8/10, mbtmp3.7/15, ML3.2/2, MS3.1/5, Error ellipse: s-maj=23.2km s-min=19.0km az=139.0*
*ATH **06** 06:41:17.2, 37°.59N×20°.81E, h11km, ML3.7/17, Error ellipse: s-maj=1.3km s-min=0.6km az=40.0*
*THE **06** 06:41:17.1, 37°.60N×20°.83E, h12km, ML3.7/9, Error ellipse: s-maj=1.6km s-min=0.8km az=26.0*
ISC 06 06:41:17.2±0.8, 37°.63N±0°.03×20°.82E±0°.03, h13km±4km, n56, σ0§74/87, mb3.7/10, MS3.1/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.03**	**350**	P	**Pg**	**06 41 19.5**	**-0.1**
KRI1				S	**Sg**	**06 41 21.3**	**0.0**
	144µm,0.4s						
LTHK	**Lithakia**	**0.08**	**7**	P	**Pg**	**06 41 19.9**	**-0.1**
LTHK				S	**Sg**	**06 41 22.2**	**+0.2**
	107µm,0.2s						
LTHK	**Lithakia**	**0.08**	**7**	P	**Pg**	**06 41 19.9**	**-0.1**
LTHK				S	**Sg**	**06 41 21.7**	**-0.2**
LTHK				AML	AML	06 41 22.4	
LTHK				AML	AML	06 41 23.0	
RTZL	**Ratzakli, Kefa**	**0.45**	**355**	P	**Pg**	**06 41 26.5**	**+0.4**
RTZL				S	**Sb**	**06 41 34.1**	**+0.5**
	17µm,0.1s						
PSDA	**Pessada-Kefalo**	**0.52**	**339**	P	**Pg**	**06 41 27.6**	**+0.1**
PSDA				S	**Sb**	**06 41 36.2**	**+0.5**
	12µm,0.4s						
PSDA	**Pessada-Kefalo**	**0.52**	**339**	P	**Pg**	**06 41 27.7**	**+0.2**
PSDA				S	**Sb**	**06 41 36.0**	**+0.3**
VLS	**Valsamata**	**0.58**	**341**	P	**Pg**	**06 41 28.3**	**-0.2**
VLS				S	**Sb**	**06 41 37.9**	**+0.5**
	7µm,0.3s						
VLS	**Valsamata**	**0.58**	**341**	P	**Pg**	**06 41 28.4**	**-0.2**
VLS				S	**Sg**	**06 41 36.7**	**+0.5**
VLS				AML	AML	06 41 39.1	
	comp=N,11356µm,0.3s						
VLS				AML	AML	06 41 39.1	
	comp=E,16382µm,0.3s						
SMHA	**Samh**	**0.64**	**347**	P	**Pg**	**06 41 29.6**	**-0.1**
SMHA				S	**Sb**	**06 41 39.1**	**0.0**
SMHA				AML	AML	06 41 40.3	
	comp=E,57762µm,0.4s						
SMHA				AML	AML	06 41 45.8	
	comp=N,34021µm,0.3s						
LXRA	**Lixouri, Kepha**	**0.65**	**332**	P	**Pb**	**06 41 30.4**	**0.0**
LXRA				S	**Sb**	**06 41 39.7**	**+0.4**
LXRA				AML	AML	06 41 46.7	
	comp=E,34345µm,0.5s						
LXRA				AML	AML	06 41 48.4	
	comp=N,23112µm,0.5s						
RLS	**Riolos of Patr**	**0.66**	**50**	P	**Pg**	**06 41 29.7**	**-0.5**
RLS				S	**Sg**	**06 41 39.4**	**+0.4**
	comp=N,5µm,0.5s						
RLS	**Riolos of Patr**	**0.66**	**50**	P	**Pg**	**06 41 29.8**	**-0.4**
RLS				S	**Sb**	**06 41 39.8**	**0.0**
RLS				AML	AML	06 41 43.1	
	comp=N,10455µm,0.5s						
RLS				AML	AML	06 41 43.3	
	comp=E,9787µm,0.2s						
DMLN	**Damoulianata-K**	**0.70**	**330**	P	**Pg**	**06 41 31.2**	**+0.2**
DMLN	**Damoulianata-K**	**0.70**	**330**	P	**Pg**	**06 41 31.1**	**+0.2**
DMLN				S	**Sb**	**06 41 41.3**	**+0.2**
AMT	**Artemida-Makis**	**0.71**	**98**	P	**Pg**	**06 41 30.7**	**-0.3**
AMT				S	**Sb**	**06 41 41.2**	**+0.1**
AMT				AML	AML	06 41 44.6	
	comp=N,41820µm,0.5s						
AMT				AML	AML	06 41 45.9	
	comp=E,32070µm,0.4s						
DRO	**Drossia**	**0.77**	**65**	P	**Pb**	**06 41 32.6**	**0.0**
DRO				S	**Sb**	**06 41 43.5**	**+0.5**
	comp=E,7µm,0.4s						
DRO	**Drossia**	**0.77**	**65**	P	**Pb**	**06 41 32.6**	**0.0**
DRO				S	**Sb**	**06 41 42.9**	**-0.1**
DRO				AML	AML	06 41 48.4	
	comp=N,11049µm,0.3s						
DRO				AML	AML	06 41 51.9	
	comp=E,15481µm,0.4s						
VSK1	**VASILIKIADES**	**0.81**	**345**	P	**Pg**	**06 41 32.3**	**-0.6**
VSK1				S	**Sn**	**06 41 45.5**	**-0.7**
	comp=E,4µm,0.6s						
FSK	**Fiskardo**	**0.85**	**346**	P	**Pg**	**06 41 33.5**	**-0.3**
FSK				S	**Sb**	**06 41 46.1**	**+0.8**
	comp=E,3µm,0.7s						
FSK	**Fiskardo**	**0.85**	**346**	P	**Pb**	**06 41 34.0**	**+0.1**
FSK				S	**Sb**	**06 41 46.4**	**+1.1**
FSK				AML	AML	06 41 49.7	
	comp=E,5221µm,0.2s						
FSK				AML	AML	06 41 52.9	
	comp=N,5678µm,0.5s						
ITM	**Ithomi**	**0.99**	**117**	P	**Pb**	**06 41 35.3**	**-0.9**
ITM				S	**Sb**	**06 41 49.4**	**+0.3**
ITM				AML	AML	06 41 55.6	
	comp=N,5004µm,0.5s						
ITM				AML	AML	06 41 59.4	
	comp=E,3751µm,0.7s						
EVGI	**Lefkada island**	**1.00**	**352**	P	**Pb**	**06 41 35.8**	**-0.6**
EVGI	**Lefkada island**	**1.00**	**352**	P	**Pb**	**06 41 36.3**	**-0.1**
EVGI				S	**Sn**	**06 41 50.7**	**-0.3**
UPR	**University Cam**	**1.00**	**49**	P	**Pg**	**06 41 36.7**	**+0.1**
UPR				S	**Sn**	**06 41 51.3**	**+0.3**
PYL	**PYLOS**	**1.04**	**135**	P	**Pb**	**06 41 36.4**	**-0.6**
PYL				S	**Sb**	**06 41 50.3**	**-0.2**
PYL				AML	AML	06 41 54.8	
	comp=E,6140µm,0.8s						
PYL				AML	AML	06 41 56.5	
	comp=N,2472µm,0.7s						
DRAG	**Dragano-Lefkad**	**1.07**	**349**	P	**Pb**	**06 41 37.0**	**-0.7**
DRAG	**Dragano-Lefkad**	**1.07**	**349**	P	**Pb**	**06 41 37.2**	**-0.5**
DRAG				S	**Sn**	**06 41 52.9**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.09**	**355**	P	**Pb**	**06 41 37.7**	**-0.2**
NYDR				S	**Sn**	**06 41 53.4**	**+0.4**
KLV	**Kalavryta, Ach**	**1.13**	**68**	P	**Pb**	**06 41 38.5**	**-0.1**
KLV	**Kalavryta, Ach**	**1.13**	**68**	P	**Pb**	**06 41 38.6**	**-0.1**
KLV				S	**Sn**	**06 41 54.1**	**-0.1**
KLV				AML	AML	06 42 03.8	
	comp=N,2691µm,0.7s						
KLV				AML	AML	06 42 04.1	
	comp=E,2664µm,0.6s						
LKD2	**Lefkada island**	**1.17**	**354**	P	**Pb**	**06 41 38.5**	**-0.8**
LKD2				S	**Sg**	**06 41 55.0**	**+0.1**
LKD2				AML	AML	06 42 04.3	
	comp=N,5714µm,0.6s						
LKD2				AML	AML	06 42 06.9	
	comp=E,5650µm,0.6s						
EFP	**Efpalio**	**1.17**	**47**	P	**Pn**	**06 41 38.7**	**-0.6**
EFP	**Efpalio**	**1.17**	**47**	P	**Pn**	**06 41 38.6**	**-0.6**
EFP				S	**Sg**	**06 41 55.1**	**+0.1**
EFP				AML	AML	06 42 02.2	
	comp=E,2895µm,0.6s						
EFP				AML	AML	06 42 04.9	
	comp=N,5817µm,0.4s						
TSLK	**Tsoukalades, L**	**1.20**	**354**	P	**Pn**	**06 41 39.5**	**-0.2**
TSLK				S	**Sn**	**06 41 55.9**	**0.0**
TSLK				AML	AML	06 42 05.3	
	comp=E,5697µm,0.8s						
TSLK				AML	AML	06 42 06.9	
	comp=N,4688µm,0.9s						
GUR	**Goura**	**1.24**	**75**	P	**Pn**	**06 41 40.1**	**-0.3**
GUR				S	**Sb**	**06 41 56.6**	**0.0**
GUR				AML	AML	06 42 05.6	
	comp=E,5001µm,0.7s						
GUR				AML	AML	06 42 10.4	
	comp=N,3914µm,0.6s						
KALE	**Kalithea**	**1.29**	**53**	P	**Pn**	**06 41 40.4**	**-0.6**
KALE				S	**Sb**	**06 41 58.1**	**+0.2**
KALE				AML	AML	06 42 07.0	
	comp=E,6586µm,0.7s						
KALE				AML	AML	06 42 09.2	
	comp=N,3622µm,0.5s						
ANX	**Ano Chora**	**1.29**	**42**	P	**Pn**	**06 41 40.9**	**-0.2**
ANX	**Ano Chora**	**1.29**	**42**	P	**Pn**	**06 41 40.9**	**-0.2**
ANX				S	**Sb**	**06 41 58.1**	**0.0**
ANX				AML	AML	06 42 07.5	
	comp=E,8471µm,0.8s						
ANX				AML	AML	06 42 08.6	
	comp=N,17397µm,0.7s						
OHR	**Ohrid**	**3.48**	**360**	*i* Pn	**Pb**	**06 42 16.1**	**-2.6**
IDI	**Anoyia**	**4.03**	**124**	Pn	**Pn**	**06 42 20.7**	**+2.1**
	comp=N,12nm,0.9s,baz=30,slow=15,SNR=1.6						
IDI				Sn	**Sn**	**06 43 06.0**	**+0.3**
	comp=N,2.4nm,0.3s,baz=270,slow=19,SNR=3.0						
VAE	**Valguarnera**	**5.10**	**270**	Pn	**Pn**	**06 42 33.2**	**-0.2**
	comp=N,12nm,0.6s,baz=24,slow=20,SNR=2.0						
MLR	**Muntele Rosu**	**8.74**	**24**	Pn	**Pn**	**06 43 25.7**	**+2.3**
	comp=N,0.1nm,0.3s,baz=202,slow=20,SNR=1.6						
	comp=N,1.1nm,0.6s						
BRTR	**Keskin Array B**	**10.24**	**74**	Pn	**Pn

comp=N,0.3nm,0.2s,baz=282,slow=8.4,SNR=2.8
comp=N,0.3nm,0.2s
MKAR Makanchi Array 45.39 58 P P 06 49 36.1 +0.7
comp=N,0.4nm,0.5s,baz=276,slow=6.7,SNR=2.6
comp=N,0.4nm,0.5s
ZALV Zalesovo Beam 45.88 48 P P 06 49 37.7 -1.3
comp=N,1.3nm,0.6s,baz=271,slow=9.0,SNR=2.9
comp=N,1.3nm,0.6s
NRIK Noril'sk 47.18 26 P P 06 49 48.0 -1.0
comp=N,1.6nm,0.5s,baz=172,slow=14,SNR=2.3
comp=N,1.6nm,0.5s

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*IDC **06** 06:49:55.9±0.7, 8°.57S×116°.92E, h0km, mb4.1/11, mbtmp4.2/14, ML4.2/3, MS3.4/10, Error ellipse: s-maj=18.6km s-min=11.7km az=60.0*
*NEIC **06** 06:49:57.8±2.1, 8°.5S±0°.1×116°.92E±0°.06, h10km±2km, mb4.3/7, Error ellipse: s-maj=18.0km s-min=10.7km az=359.0*
*DJA **06** 06:49:58.1±0.2, 8°.S±3°×11°.7E±°, h10km, M4.8/21, mb4.9/11, mB5.4/5, MLv4.7/21, Mw4.2/31, Mw(mB)4.8/5*
ISC 06 06:50:00.8±0.5, 8°.51S±0°.05×116°.97E±0°.04, h35km, n75, σ1s56/73, mb4.2/12, MS3.5/7, 1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.86**	**112**	P	**Pn**	**06 50 15.3**	**-1.2**
PLAI	**Plampang**	**0.86**	**112**	P	**Pn**	**06 50 15.2**	**-1.2**
PLAI				S	**Sn**	**06 50 27.4**	**-0.5**
DNP	**Denpasar**	**1.75**	**264**	P	**Pn**	**06 50 27.5**	**-1.1**
DNP				S	**Sn**	**06 50 50.3**	**+0.6**
SRBI	**Singaraja**	**1.79**	**283**	P	**Pn**	**06 50 28.0**	**-1.2**
SRBI				S	**Sn**	**06 50 49.7**	**-0.9**
WBSI	**Waikabubak, Su**	**2.65**	**115**	P	**Pn**	**06 50 41.6**	**+0.5**
JAGI	**Jajag, Banyuwa**	**2.79**	**271**	Pn	**Pn**	**06 50 41.6**	**-1.3**
JAGI	**Jajag, Banyuwa**	**2.79**	**271**	P	**Pn**	**06 50 42.2**	**-0.7**
JAGI	**Jajag, Banyuwa**	**2.79**	**271**	P	**Pn**	**06 50 42.0**	**-0.9**
ABJI	**Asem Bagus**	**2.80**	**284**	P	**Pn**	**06 50 42.5**	**-0.6**
KMMI	**Kalianget**	**3.31**	**296**	P	**Pn**	**06 50 50.1**	**0.0**
BLJI	**Banyuglugur**	**3.42**	**283**	P	**Pn**	**06 50 51.5**	**-0.2**
GMJI	**Gumukmas**	**3.49**	**274**	P	**Pn**	**06 50 51.8**	**-0.9**
BASI	**Baing, Sumba**	**3.95**	**116**	P	**Pn**	**06 51 01.7**	**+2.7**
BSSI	**Bau Bau, Buton**	**4.21**	**56**	P	**Pn**	**06 51 01.4**	**-1.1**
KAPI	**Kappang**	**4.43**	**39**	Pn	**Pn**	**06 51 04.6**	**-1.0**
KAPI	**Kappang**	**4.43**	**39**	Pn	**Pn**	**06 51 04.3**	**-1.3**
	7.5nm,0.3s,baz=200,slow=6.2,SNR=8.5						
KAPI				Sn	**Sn**	**06 51 53.6**	**-2.5**
	13nm,0.3s,baz=48,slow=21,SNR=9.1						
KAPI				Lg	Lg	06 52 19.3	
	15nm,0.3s,baz=65,slow=20,SNR=4.1						
	19nm,0.3s						
BKSI	**Bulukumba**	**4.45**	**45**	P	**Pn**	**06 51 04.5**	**-1.4**
GRJI	**Gresik**	**4.72**	**289**	P	**Pn**	**06 51 09.0**	**-0.5**
PWJI	**Pagerwojo**	**5.13**	**275**	P	**Pn**	**06 51 14.4**	**-0.8**
	125nm,0.6s,1.0nm						
BNSI	**Bone**	**5.13**	**38**	P	**Pn**	**06 51 16.2**	**+1.0**
	115nm,0.9s,0.7nm						
MMRI	**Maumere**	**5.21**	**92**	Pn	**Pn**	**06 51 15.3**	**-1.1**
PCJI	**Pacitan**	**5.74**	**273**	P	**Pn**	**06 51 23.0**	**-0.5**
UGM	**Wanagama**	**6.41**	**275**		**Pn**	**06 51 32.4**	**-0.4**
UGM	**Wanagama**	**6.41**	**275**	P	**Pn**	**06 51 33.4**	**+0.6**
UGM	**Wanagama**	**6.41**	**275**	P	**Pn**	**06 51 32.3**	**-0.4**
	115nm,0.9s						
BATI	**Baumata**	**6.82**	**105**	Pn	**Pn**	**06 51 38.3**	**-0.2**
	5.3nm,0.3s,baz=69,slow=20,SNR=1.7						
BATI				Sn	**Sn**	**06 52 58.6**	**+3.6**
	8.1nm,0.3s,baz=292,slow=16,SNR=1.4						
BATI				LR	LR	06 54 36.6	
	comp=Z,290nm,19.6s,baz=248,slow=41						
	58nm,0.5s						
BATI	**Baumata**	**6.82**	**105**	P	**Pn**	**06 51 39.3**	**+0.8**
	88nm,0.8s,0.4nm						
SOEI	**Soe**	**7.32**	**100**	Pn	**Pn**	**06 51 46.3**	**+1.0**
SOEI	**Soe**	**7.32**	**100**	P	**Pn**	**06 51 45.9**	**+0.6**
SOEI	**Soe**	**7.32**	**100**	P	**Pn**	**06 51 46.2**	**+0.9**
	86nm,0.8s,1μm0.3nm						
BBJI	**Bungbulang**	**9.29**	**276**	P	**Pn**	**06 52 13.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**12.73**	**139**	Pn	**Pn**	**06 52 58.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**12.73**	**139**	Pn	**Pn**	**06 52 58.4**	**-1.0**
	1.5nm,0.3s,baz=318,slow=7.7,SNR=29						
FITZ				Sn	**Sn**	**06 55 15.2**	**-4.8**
	2.2nm,0.3s,baz=119,slow=13,SNR=8.1						
FITZ				LR	LR	06 58 13.2	
	comp=Z,104nm,18.8s,baz=314,slow=39						
	8.3nm,0.5s						
MBWA	**Marble Bar**	**12.86**	**168**	Pn	**Pn**	**06 52 59.5**	**-1.7**
MBWA	**Marble Bar**	**12.86**	**168**	P	**Pn**	**06 53 01.5**	**+0.3**
PSA00	**Pilbara Seismi**	**13.29**	**168**	Pn	**Pn**	**06 53 05.2**	**-1.9**
PSA00	**Pilbara Seismi**	**13.29**	**168**		**Pn**	**06 53 06.5**	**-0.5**
PSA00	**Pilbara Seismi**	**13.29**	**168**	P	**Pn**	**06 53 06.4**	**-0.6**
KNRA	**Kununurra**	**13.55**	**123**	Pn	**Pn**	**06 53 11.2**	**+0.5**
GIRL	**Giralia**	**14.30**	**190**	Pn	**Pn**	**06 53 18.7**	**-2.2**
GIRL	**Giralia**	**14.30**	**190**	P	**Pn**	**06 53 19.8**	**-1.1**
MTN	**Manton Dam**	**14.57**	**108**	Pn	**Pn**	**06 53 23.3**	**-1.3**
FAKI	**Fak Fak**	**16.18**	**71**		**Pn**	**06 53 45.2**	**-0.5**
FAKI				IAmb	IAmb	06 54 16.2	
	comp=Z,18nm,0.8s						
FAKI	**Fak Fak**	**16.18**	**71**	P	**Pn**	**06 53 47.5**	**+1.8**
FAKI	**Fak Fak**	**16.18**	**71**	P	**Pn**	**06 53 45.6**	**-0.1**
DAV	**Davao City (W)**	**17.69**	**29**	LR	LR	07 01 18.7	
	comp=Z,66nm,19.8s,baz=208,slow=38						
MEEK	**Meekatharra**	**18.10**	**175**	P	**Pn**	**06 54 09.0**	**-0.6**
WB0	**Warramunga Arr**	**20.25**	**125**		**P**	**06 54 33.3**	**+0.1**
WRA	**Warramunga Arr**	**20.29**	**126**		**P**	**06 54 33.7**	**-0.1**
WRA	**Warramunga Arr**	**20.29**	**126**	P	**P**	**06 54 34.4**	**+0.6**
	comp=Z,4.7nm,0.4s,baz=301,slow=12,SNR=263						
WRA				S	**S**	**06 58 12.9**	**-6.7**
	comp=Z,1.3nm,0.8s,baz=299,slow=24,SNR=3.8						
WRA				LR	LR	07 02 12.6	
	comp=Z,148nm,18.1s,baz=46,slow=36						
	comp=Z,4.7nm,0.4s						
WRAB	**Tennant Creek**	**20.30**	**126**	P	**P**	**06 54 34.4**	**+0.5**
WRAB				IAmb	IAmb	06 54 52.3	
	comp=Z,11nm,0.7s						
WB2	**Warramunga Arr**	**20.30**	**126**	P	**P**	**06 54 34.0**	**+0.1**
WB2				IAmb	IAmb	06 54 40.4	
	comp=Z,13nm,0.8s						
WR0	**Warramunga Arr**	**20.46**	**126**	IAmb	IAmb	06 54 57.6	
	comp=Z,13nm,1.1s						
AS31	**Alice Springs**	**22.14**	**135**	P	**P**	**06 54 55.3**	**+1.6**
AS31				IAmb	IAmb	06 55 02.3	
	comp=Z,3.5nm,0.6s						
ASAR	**Alice Springs**	**22.14**	**135**	P	**P**	**06 54 54.9**	**+1.1**
	comp=Z,2.7nm,0.5s,baz=307,slow=8.5,SNR=25						
ASAR				S	**S**	**06 58 58.5**	**+2.5**
	comp=Z,3.6nm,0.9s,baz=309,slow=24,SNR=7.6						
	comp=Z,2.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.16**	**327**	P	**P**	**06 56 26.9**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=153,slow=7.7,SNR=7.3						
CMAR				LR	LR	07 09 58.6	
	comp=Z,95nm,18.5s,baz=150,slow=37						
	comp=Z,1.0nm,0.3s						
STKA	**Stephens Creek**	**32.63**	**139**	P	**P**	**06 56 30.5**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=319,slow=14,SNR=5.6						
	comp=Z,1.9nm,0.5s						
HNR	**Honiara**	**42.45**	**95**	LR	LR	07 16 52.9	
	comp=Z,32nm,18.5s,baz=220,slow=38						
KSRS	**Korea Array**	**46.85**	**12**	P	**P**	**06 58 29.4**	**+2.0**
	comp=Z,1.0nm,0.6s,baz=192,slow=11,SNR=1.7						
	comp=Z,1.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**54.19**	**13**	P	**P**	**06 59 22.9**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=181,slow=5.8,SNR=4.6						
	comp=Z,2.7nm,0.8s						
BNX	**BinXian**	**54.80**	**9**	⇓P	**P**	**06 59 30.5**	**+3.3**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.2s						
SONM	**Songino Array**	**56.87**	**352**	P	**P**	**06 59 42.3**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=172,slow=5.3,SNR=4.1						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**63.12**	**334**	P	**P**	**07 00 24.9**	**0.0**
	comp=Z,0.6nm,0.7s,baz=144,slow=6.9,SNR=3.9						
	comp=Z,0.6nm,0.7s						
AAK	**Ala-Archa**	**63.95**	**326**	LR	LR	07 31 48.1	
	comp=Z,42nm,19.0s,baz=127,slow=39						
H04N2	**CROZET ISLANDS**	**66.77**	**223**	T	T	08 13 40.8	
	baz=84,slow=75,SNR=6.4						
H04N1	**CROZET ISLANDS**	**66.79**	**223**	T	T	08 13 22.0	
	baz=84,slow=75,SNR=6.7						
H04N3	**CROZET ISLANDS**	**66.79**	**223**	T	T	08 13 19.7	
	baz=84,slow=75,SNR=5.7						
MAW	**Mawson**	**69.02**	**199**	P	**P**	**07 01 02.7**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=71,slow=5.9,SNR=6.4						
	comp=Z,2.2nm,0.9s						
FURI	**Furi**	**79.87**	**281**	LR	LR	07 33 14.2	
	comp=Z,41nm,21.8s,baz=84,slow=32						
QSPA	**South Pole Qui**	**81.49**	**180**	P	**P**	**07 02 14.4**	**0.0**
	comp=Z,4.2nm,1.1s,baz=309,slow=4.0,SNR=5.0						
	comp=Z,4.2nm,1.1s						
EIL	**Elat**	**87.29**	**300**	LR	LR	07 42 53.4	
	comp=Z,20nm,19.8s,baz=60,slow=36						
BOSA	**Boshof**	**87.48**	**242**	P	**P**	**07 02 45.9**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=77,slow=4.9,SNR=1.6						
	comp=Z,3.0nm,0.9s						
MMAI	**Mount Meron Ar**	**87.58**	**304**	LR	LR	07 46 16.0	
	comp=Z,8.3nm,18.9s,baz=297,slow=39						
CPUP	**Villa Florida**	**144.93**	**189**	PKP	**PKPab**	**07 09 33.3**	**-0.9**
	comp=Z,6.9nm,0.8s,baz=167,slow=3.7,SNR=13						
BDFB	**Brasilia**	**151.77**	**212**	PKPbc	**PKPbc**	**07 09 52.9**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=128,slow=6.2,SNR=3.3						

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*IDC **06** 07:02:06.7±1.2, 54°.11N×169°.30E, h0km, mb3.5/7, mbtmp3.6/9, ML3.7/2, MS3.6/1, Error ellipse: s-maj=48.0km s-min=18.0km az=0.0*
*MOS **06** 07:02:11.0±0.7, 53°.91N×169°.32E, h54km, mb4.0/1, Error ellipse: s-maj=16.1km s-min=7.5km az=3.1*
*KRSC **06** 07:02:12.4±1.3, 53°.88N×168°.95E, h61km±33km, Ml4.4*
ISC 06 07:02:08.9±0.8, 53°.87N±0°.08×169°.36E±0°.06, h17km, n68, σ2s15/77, mb3.6/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.38**	**305**	*eP*	**Pn**	**07 02 48.2**	**+1.1**
BKI				*eS*	**Sn**	**07 03 14.6**	**-1.3**
BKI	**Bering**	**2.38**	**305**	PN	**Pn**	**07 02 48.2**	**+1.1**
BKI				S	**Sn**	**07 03 14.6**	**-1.3**
SHEM	**Shemya Is, Ala**	**3.07**	**110**	Pn	**Pn**	**07 02 56.3**	**-0.2**
	14nm,0.3s,baz=282,slow=18,SNR=2.2						
SHEM				Sn	**Sn**	**07 03 33.9**	**+1.1**
	17nm,0.3s,baz=308,slow=19,SNR=1.8						
	92nm,0.5s						
KBTR	**Krutoberegovo**	**4.43**	**305**	*eP*	**Pn**	**07 03 17.0**	**+1.7**
KBTR				*eS*	**Sn**	**07 04 05.9**	**-0.5**
KBTR	**Krutoberegovo**	**4.43**	**305**	PN	**Pn**	**07 03 16.9**	**+1.7**
KBTR				S	**Sn**	**07 04 05.8**	**-0.5**
SMKR	**Semkarok**	**5.27**	**304**	*eP*	**Pn**	**07 03 28.5**	**+1.6**
SMKR	**Semkarok**	**5.27**	**304**	PN	**Pn**	**07 03 28.4**	**+1.6**
ZLN	**Zelenaya**	**5.38**	**297**	*eS*	**Sn**	**07 04 29.1**	**-0.8**
TUMD	**Tumrok D**	**5.38**	**288**	*eP*	**Pn**	**07 03 30.6**	**+2.2**
TUMD				*eS*	**Sn**	**07 04 28.3**	**-1.6**
TUMR	**Tumrok**	**5.54**	**288**	*eP*	**Pn**	**07 03 33.5**	**+2.8**
TUMR	**Tumrok**	**5.54**	**288**	PN	**Pn**	**07 03 33.4**	**+2.8**
KMNR	**Kamenistaya**	**5.60**	**293**	*eS*	**Sn**	**07 04 34.3**	**-1.1**
SPN	**Mys Shipunski**	**5.63**	**266**	*eP*	**Pn**	**07 03 33.4**	**+1.7**
SPN				*eS*	**Sn**	**07 04 34.1**	**-1.7**
SPN	**Mys Shipunski**	**5.63**	**266**	PN	**Pn**	**07 03 33.4**	**+1.7**
KII	**Karymskiy**	**5.85**	**276**	*eP*	**Pn**	**07 03 37.1**	**+2.2**
KII				*eS*	**Sn**	**07 04 41.3**	**-0.3**
KII	**Karymskiy**	**5.85**	**276**	PN	**Pn**	**07 03 37.1**	**+2.2**
NLC	**Nalytchevo**	**6.01**	**267**	*eP*	**Pn**	**07 03 39.0**	**+2.0**
NLC				*eS*	**Sn**	**07 04 41.9**	**-3.5**
NLC	**Nalytchevo**	**6.01**	**267**	PN	**Pn**	**07 03 39.0**	**+2.0**
SDLR	**Sedlovina**	**6.27**	**269**	*eP*	**Pn**	**07 03 42.8**	**+2.1**
SDLR	**Sedlovina**	**6.27**	**269**	PN	**Pn**	**07 03 42.7**	**+2.1**
UGLR	**Uglovaya**	**6.32**	**268**	*eP*	**Pn**	**07 03 43.5**	**+2.2**
UGLR	**Uglovaya**	**6.32**	**268**	PN	**Pn**	**07 03 43.4**	**+2.2**
SMAR	**Somma**	**6.32**	**269**	*eP*	**Pn**	**07 03 43.3**	**+1.9**
SMAR	**Somma**	**6.32**	**269**	PN	**Pn**	**07 03 43.3**	**+1.9**
KRER	**Koryakskii**	**6.34**	**269**	*eP*	**Pn**	**07 03 44.0**	**+2.3**
KRER	**Koryakskii**	**6.34**	**269**	PN	**Pn**	**07 03 44.0**	**+2.3**
AVH	**Avacha**	**6.36**	**269**	*eP*	**Pn**	**07 03 44.4**	**+2.6**
AVH	**Avacha**	**6.36**	**269**	PN	**Pn**	**07 03 44.4**	**+2.6**
DALK	**Dalny**	**6.39**	**267**	*eP*	**Pn**	**07 03 44.7**	**+2.5**
DALK				*eS*	**Sn**	**07 04 53.8**	**-0.9**
DALK	**Dalny**	**6.39**	**267**	PN	**Pn**	**07 03 44.7**	**+2.5**
KRX	**Arik**	**6.39**	**270**	*eP*	**Pn**	**07 03 44.7**	**+2.3**
KRX				*eS*	**Sn**	**07 04 54.1**	**-0.9**
KRX	**Arik**	**6.39**	**270**	PN	**Pn**	**07 03 44.7**	**+2.3**
ESO	**Esso**	**6.48**	**293**	*eP*	**Pn**	**07 03 45.5**	**+2.0**
ESO	**Esso**	**6.48**	**293**	PN	**Pn**	**07 03 45.4**	**+2.0**
RUS	**Russkaya**	**6.68**	**262**	*eP*	**Pn**	**07 03 48.2**	**+2.0**
RUS				*eS*	**Sn**	**07 04 59.2**	**-2.6**
RUS	**Russkaya**	**6.68**	**262**	PN	**Pn**	**07 03 48.1**	**+2.0**
GNL	**Ganaly**	**6.77**	**273**	*eP*	**Pn**	**07 03 50.6**	**+3.1**
GNL	**Ganaly**	**6.77**	**273**	PN	**Pn**	**07 03 50.5**	**+3.1**
KRMR	**Karymshinskiy**	**6.80**	**266**	*eP*	**Pn**	**07 03 50.1**	**+2.3**
KRMR				*eS*	**Sn**	**07 05 03.1**	**-1.7**
KRMR	**Karymshinskiy**	**6.80**	**266**	PN	**Pn**	**07 03 50.1**	**+2.3**
MTVR	**Mutnovka**	**6.86**	**263**	*eP*	**Pn**	**07 03 51.5**	**+2.7**
MTVR				*eS*	**Sn**	**07 05 04.3**	**-2.1**
MTVR	**Mutnovka**	**6.86**	**263**	PN	**Pn**	**07 03 51.5**	**+2.7**
GRL	**Gorelyy**	**6.91**	**264**	*eP*	**Pn**	**07 03 52.6**	**+3.1**
GRL	**Gorelyy**	**6.91**	**264**	PN	**Pn**	**07 03 52.5**	**+3.1**
PETK	**Petropavlovsk-**	**7.00**	**268**	Pn	**Pn**	**07 03 51.6**	**+1.0**
	4.0nm,0.3s,baz=90,slow=20,SNR=64						
PETK				Sn	**Sn**	**07 05 13.0**	**+3.4**
	0.6nm,0.3s,baz=88,slow=18,SNR=1.8						
	6.6nm,0.5s						
ASAK	**Asacha**	**7.05**	**262**	*eP*	**Pn**	**07 03 53.9**	**+2.5**
ASAK	**Asacha**	**7.05**	**262**	PN	**Pn**	**07 03 53.9**	**+2.5**
KDTR	**Khodutka, Kamc**	**7.14**	**258**	*eP*	**Pn**	**07 03 54.3**	**+1.9**
KDTR				*eS*	**Sn**	**07 05 09.8**	**-3.3**
KDTR	**Khodutka, Kamc**	**7.14**	**258**	PN	**Pn**	**07 03 54.3**	**+1.9**
APC	**Apacha**	**7.36**	**268**	*eP*	**Pn**	**07 03 58.9**	**+3.4**
APC	**Apacha**	**7.36**	**268**	PN	**Pn**	**07 03 58.8**	**+3.4**
SKR	**Severo-Kuril's**	**8.72**	**254**	*eP*	**Pn**	**07 04 16.8**	**+2.6**
SKR	**Severo-Kuril's**	**8.72**	**254**	PN	**Pn**	**07 04 16.7**	**+2.6**
ILAR	**Eielson Array**	**24.31**	**46**	P	**P**	**07 07 22.6**	**-2.5**
	0.3nm,0.4s,baz=250,slow=7.1,SNR=5.6						
	0.3nm,0.4s						
USRK	**Ussuriysk Ar.**	**26.06**	**264**	P	**P**	**07 07 40.3**	**-0.9**
	1.3nm,0.7s,baz=59,slow=12,SNR=2.2						
	1.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**34.13**	**184**	T	T	07 45 13.1	
	baz=2.5,slow=76,SNR=1185						
H11N3	**WAKE ISLAND Hy**	**34.14**	**184**	T	T	07 45 17.5	
	baz=2.5,slow=76,SNR=1042						
H11N1	**WAKE ISLAND Hy**	**34.15**	**184**	T	T	07 45 17.2	
	baz=2.5,slow=76,SNR=1069						
H11S1	**WAKE ISLAND Hy**	**35.35**	**184**	T	T	07 46 44.3	
	baz=2.5,slow=76,SNR=525						
H11S3	**WAKE ISLAND Hy**	**35.37**	**184**	T	T	07 46 46.5	
	baz=2.5,slow=76,SNR=183						
H11S2	**WAKE ISLAND Hy**	**35.37**	**184**	T	T	07 46 48.4	
	baz=2.5,slow=76,SNR=370						
ZALV	**Zalesovo Beam**	**46.90**	**306**	LR	LR	07 31 32.5	
	comp=Z,66nm,18.1s,baz=46,slow=38						
NVAR	**Mina Array Bea**	**50.22**	**77**	P	**P**	**07 11 04.9**	**+1.0**
	0.2nm,0.5s,baz=296,slow=11,SNR=1.9						
	0.2nm,0.5s						
KURK	**Kurchatov**	**51.89**	**306**	P	**P**	**07 11 15.2**	**-0.8**
KURBB	**Kurchatov Arra**	**51.99**	**306**	P	**P**	**07 11 15.2**	**-1.6**
	0.2nm,0.2s,baz=51,slow=7.4,SNR=2.3						
	0.2nm,0.2s						
PDAR	**Pinedale Array**	**52.21**	**67**	P	**P**	**07 11 18.6**	**-0.2**
	0.1nm,0.3s,baz=292,slow=5.3,SNR=2.0						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**54.10**	**313**	P	**P**	**07 11 32.1**	**-0.2**
	1.5nm,0.7s,baz=39,slow=7.4,SNR=3.6						
	1.5nm,0.7s						
TXAR	**Lajitas Array**	**65.16**	**74**	P	**P**	**07 12 50.2**	**+1.2**
	0.7nm,0.6s,baz=302,slow=4.1,SNR=11						
	0.7nm,0.6s						

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*THE **06** 07:03:37.8, 37°.53N×20°.37E, h0km±3km, ML3.4/9, Error ellipse: s-maj=4.2km s-min=0.7km az=225.0*
*ATH **06** 07:03:38.0, 37°.50N×20°.33E, h6km, ML3.3/13, Error ellipse: s-maj=1.8km s-min=0.8km az=52.0*
*IDC **06** 07:03:38.5±1.4, 37°.43N×20°.76E, h0km, mb3.5/6, mbtmp3.6/8, ML3.8/1, MS3.1/1, Error ellipse: s-maj=33.2km s-min=23.7km az=108.0*
ISC 06 07:03:39.6±1.3, 37°.58N±0°.04×20°.44E±0°.05, h14km±7km, n50, σ1s25/77, mb3.7/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.31**	**74**	P	**Pg**	**07 03 45.2**	**-0.8**
KRI1				S	**Sg**	**07 03 51.3**	**+0.9**
	8μm,0.6s						
LTHK	**Lithakia**	**0.34**	**67**	P	**Pg**	**07 03 45.6**	**-0.9**
LTHK				S	**Sg**	**07 03 51.3**	**+0.1**
	8μm,0.8s						
LTHK	**Lithakia**	**0.34**	**67**	P	**Pg**	**07 03 46.4**	**-0.1**
LTHK				S	**Sb**	**07 03 53.0**	**+0.3**
LTHK				AML	AML	07 03 55.1	
	comp=E,13917μm,0.5s						
LTHK				AML	AML	07 03 57.3	
	comp=N,10948μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.55**	**12**	P	**Pb**	**07 03 49.1**	**-1.9**
PSDA				S	**Sg**	**07 03 57.9**	**+0.2**
	comp=N,5μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.55**	**12**	P	**Pg**	**07 03 50.3**	**0.0**
PSDA				S	**Sg**	**07 03 59.0**	**+1.4**
RTZL	**Ratzakli, Kefa**	**0.56**	**28**	P	**Pb**	**07 03 49.5**	**-1.7**
RTZL				S	**Sg**	**07 03 58.8**	**+0.7**
	comp=N,6μm,0.8s						
VLS	**Valsamata**	**0.61**	**11**	P	**Pb**	**07 03 50.0**	**-2.1**
VLS				S	**Sg**	**07 04 00.1**	**+0.4**
	comp=N,3μm,0.5s						
VLS	**Valsamata**	**0.61**	**11**	P	**Pb**	**07 03 50.6**	**-1.4**
VLS				S	**Sg**	**07 04 00.8**	**+1.2**
VLS				AML	AML	07 04 06.4	
	comp=E,4514μm,0.4s						
VLS				AML	AML	07 04 08.7	
	comp=N,7143μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.62**	**360**	P	**Pg**	**07 03 51.4**	**-0.4**
LXRA				S	**Sg**	**07 04 01.1**	**+1.1**
LXRA				AML	AML	07 04 06.8	
	comp=E,16164μm,0.4s						
LXRA				AML	AML	07 04 08.4	
	comp=N,20973μm,0.8s						
DMLN	**Damoulianata-K**	**0.66**	**355**	P	**Pg**	**07 03 51.8**	**-0.7**
DMLN				S	**Sg**	**07 04 01.8**	**+0.5**
	comp=N,7μm,0.4s						
DMLN	**Damoulianata-K**	**0.66**	**355**	P	**Pg**	**07 03 52.1**	**-0.5**
DMLN				S	**Sn**	**07 04 02.4**	**-2.4**
VSK1	**VASILIKIADES**	**0.84**	**7**	P	**Pb**	**07 03 54.0**	**-1.9**
VSK1				S	**Sn**	**07 04 08.0**	**-1.1**
	comp=N,5μm,0.5s						
FSK	**Fiskardo**	**0.89**	**6**	P	**Pb**	**07 03 55.6**	**-1.1**
FSK				S	**Sn**	**07 04 09.4**	**-0.9**
	comp=N,2μm,0.5s						
FSK	**Fiskardo**	**0.89**	**6**	P	**Pn**	**07 03 56.1**	**-1.6**
FSK				S	**Sn**	**07 04 09.7**	**-0.6**
FSK				AML	AML	07 04 16.7	
	comp=N,3306μm,0.4s						
FSK				AML	AML	07 04 17.9	
	comp=E,4727μm,0.5s						
RLS	**Riolos of Patr**	**0.94**	**59**	P	**Pb**	**07 03 56.1**	**-1.6**
RLS	**Riolos of Patr**	**0.94**	**59**	P	**Pn**	**07 03 57.2**	**-1.2**
RLS				S	**Sg**	**07 04 12.5**	**+2.3**
RLS				AML	AML	07 04 19.4	
	comp=E,2935μm,0.7s						
RLS				AML	AML	07 04 19.5	
	comp=N,2291μm,0.7s						
AMT	**Artemida-Makis**	**1.01**	**92**	P	**Pb**	**07 03 57.9**	**-0.9**
AMT				S	**Sg**	**07 04 13.4**	**+1.2**
AMT				AML	AML	07 04 21.2	
	comp=E,4460μm,0.8s						
AMT				AML	AML	07 04 23.4	
	comp=N,6063μm,0.7s						
EVGI	**Lefkada island**	**1.06**	**9**	P	**Pn**	**07 03 58.6**	**-1.4**
EVGI				S	**Sg**	**07 04 14.7**	**+0.9**
	comp=N,2μm,0.4s						
EVGI	**Lefkada island**	**1.06**	**9**	P	**Pn**	**07 03 58.7**	**-1.3**
EVGI				S	**Sg**	**07 04 15.4**	**+1.6**
DRO	**Drossia**	**1.07**	**69**	P	**Pn**	**07 03 59.2**	**-1.0**
DRO	**Drossia**	**1.07**	**69**	P	**Pg**	**07 04 00.1**	**-0.1**
DRO				S	**Sg**	**07 04 15.9**	**+1.6**
DRO				AML	AML	07 04 24.9	
	comp=E,3472μm,0.6s						
DRO				AML	AML	07 04 29.6	
	comp=N,3378μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.11**	**5**	P	**Pb**	**07 03 59.4**	**-1.2**
DRAG	**Dragano-Lefkad**	**1.11**	**5**	P	**Pb**	**07 03 59.8**	**-0.8**
DRAG				S	**Sg**	**07 04 17.0**	**+1.5**
NYDR	**Nydri-Lefkada**	**1.15**	**10**	P	**Pb**	**07 04 00.6**	**-0.7**
NYDR	**Nydri-Lefkada**

0.3nm,0.5s,baz=98,slow=5.2,SNR=2.2
0.3nm,0.5s

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*IDC **06** 07:18:38.3±1.2,49°.81N×81°.65E,h0km,mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=17.3km s-min=8.5km az=55.0*
*NNC **06** 07:18:41.2±1.7,49°.69N×81°.44E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=31.8km s-min=6.0km az=53.0, Suspected Mining explosion.*
ISC 06 07:18:32.5±1.4,**49°.92N**±0°.05×**82°.12E**±0°.08,**h0**km,**n9**, σ0**s67**/9,**7C**,**Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.38**	**291**	⇑Pn	**Pb**	**07 19 16.8**	**+0.6**
	24nm,0.7s						
KURK				⇑Lg	Lg	07 19 48.0	
	33nm,0.5s						
KURBB	**Kurchatov Arra**	**2.41**	**288**	⇑Pn	**Pb**	**07 19 17.3**	**+0.6**
	24nm,0.7s						
KURBB				⇑Lg	Lg	07 19 48.8	
	85nm,0.8s						
KURBB	**Kurchatov Arra**	**2.41**	**288**	Pg	**Pb**	**07 19 16.7**	**0.0**
	0.7nm,0.3s,baz=112,slow=19,SNR=108						
KURBB				Lg	Lg	07 19 48.2	
	1.8nm,0.3s,baz=107,slow=32,SNR=13						
MAKZ	**Makanchi**	**3.11**	**182**	⇑Pn	**Pb**	**07 19 29.4**	**+0.6**
	6.4nm,0.9s						
MAKZ				⇑Lg	Lg	07 20 11.5	
	17nm,0.8s						
MK31	**Makanchi Array**	**3.13**	**178**	⇑Pn	**Pb**	**07 19 30.0**	**+1.0**
	2.8nm,0.5s,baz=353,slow=12,SNR=37						
MK31				Lg	Lg	07 20 13.5	
	10nm,0.6s,baz=356,slow=27,SNR=11						
MKAR	**Makanchi Array**	**3.13**	**178**	Pn	**Pb**	**07 19 29.1**	**+0.1**
	1.4nm,0.3s,baz=354,slow=11,SNR=40						
MKAR				Pg	**Pg**	**07 19 31.7**	**-0.7**
	1.4nm,0.3s,baz=353,slow=14,SNR=20						
MKAR				Lg	Lg	07 20 11.2	
	2.3nm,0.3s,baz=354,slow=28,SNR=15						
	3.1nm,0.4s						
ZALV	**Zalesovo Beam**	**4.37**	**21**	Pn	**Pb**	**07 19 50.4**	**+0.3**
	0.1nm,0.3s,baz=207,slow=13,SNR=1.2						
ZALV				Lg	Lg	07 21 05.8	
	0.8nm,0.3s,baz=202,slow=25,SNR=16						
	0.6nm,0.3s						
I46RU	**ZALESOVO INFRA**	**4.37**	**21**	I	I	07 44 30.0	
	0.1nm,1.0s,baz=198,slow=312,SNR=1.6						
BVAR	**Borovoye Array**	**7.96**	**297**	Sn	**Sn**	**07 21 59.9**	**-0.1**
	0.1nm,0.3s,baz=105,slow=23,SNR=6.1						

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*SJA **06** 07:25:56.9±0.6,22°.03S×67°.10W,h208km±4km,ML3.0, MW3.0*
*SCB **06** 07:25:58.4±0.9,21°.95S×67°.14W,h194km±8km,ML3.1/3, Error ellipse: s-maj=4.8km s-min=2.9km az=0.0*
ISC 06 07:25:57.1±1.8,**22°.02S**±0°.05×**67°.13W**±0°.04, **h209**km±15km,**n24**,σ0**s78**/37,**1D**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.50**	**96**	*i* P	**Pn**	**07 26 32.8**	**+0.7**
YJA				*i* S	**S**	**07 26 58.7**	**-0.2**
YJA				IAML		07 26 59.0	
	comp=Z,23nm,0.5s						
MOCB	**Mochara**	**1.58**	**61**	Pg	**Pn**	**07 26 33.3**	**+0.4**
MOCB				Sg	**S**	**07 26 58.9**	**-1.3**
MOCB				IAML		07 26 59.4	
	comp=Z,85nm,0.3s						
LVC	**Limon Verde**	**1.75**	**250**	*i* P	**Pn**	**07 26 34.5**	**+0.2**
LVC				*i* S	**S**	**07 27 03.1**	**+0.3**
LVC	**Limon Verde**	**1.75**	**250**	Pg	**Pn**	**07 26 35.1**	**+0.8**
PB06	**IPOC Station P**	**2.37**	**253**	*i* P	**Pn**	**07 26 40.9**	**+0.6**
PB06				*i* S	**S**	**07 27 12.8**	**-0.6**
PB06				IAML		07 27 41.2	
	comp=Z,16nm,2.1s						
PB06	**IPOC Station P**	**2.37**	**253**	Pg	**Pn**	**07 26 41.3**	**+1.0**
PB01	**IPOC Station P**	**2.41**	**293**	*i* P	**Pn**	**07 26 41.0**	**+0.4**
PB01				*i* S	**S**	**07 27 13.6**	**-0.5**
PB01				IAML		07 27 14.2	
	comp=Z,39nm,0.2s						
PB01	**IPOC Station P**	**2.41**	**293**	Pg	**Pn**	**07 26 41.2**	**+0.6**
PB01				Sg	**S**	**07 27 13.4**	**-0.7**
PB01				IAML		07 27 14.9	
	comp=Z,50nm,0.2s						
PB15	**IPOC Station P**	**2.47**	**241**	*i* P	**Pn**	**07 26 41.9**	**+0.5**
PB15				*i* S	**S**	**07 27 14.8**	**-0.7**
PB15				IAML		07 27 17.0	
	comp=Z,117nm,0.2s						
PB15	**IPOC Station P**	**2.47**	**241**	Pg	**Pn**	**07 26 42.8**	**+1.4**
PB08	**IPOC Station P**	**2.66**	**314**	*i* P	**Pn**	**07 26 44.3**	**+0.4**
PB08				*i* S	**S**	**07 27 19.5**	**-0.3**
PB08				IAML		07 27 21.9	
	comp=Z,15nm,0.8s						
PB08	**IPOC Station P**	**2.66**	**314**	Pg	**Pn**	**07 26 45.1**	**+1.3**
PB04	**IPOC Station P**	**2.82**	**263**	*i* P	**Pn**	**07 26 45.9**	**+0.6**
PB04				*i* S	**S**	**07 27 22.1**	**-0.4**
PB04				IAML		07 27 35.2	
	comp=Z,28nm,1.1s						
PB04	**IPOC Station P**	**2.82**	**263**	Pg	**Pn**	**07 26 46.2**	**+0.9**
GO01	**Chusmiza**	**3.04**	**320**	*i* P	**Pn**	**07 26 48.9**	**+0.7**
GO01				*i* S	**S**	**07 27 27.1**	**-0.5**
HMBC	**Humberstone**	**3.11**	**303**	Pg	**Pn**	**07 26 48.6**	**0.0**
TA01	**Diego Aracena**	**3.20**	**296**	⇓*i* P	**Pn**	**07 26 50.0**	**+0.5**
TA01				IAML		07 27 47.5	
	comp=Z,22nm,0.4s						
PB11	**IPOC Station P**	**3.26**	**313**	*i* P	**Pn**	**07 26 50.7**	**+0.2**
PB11				*i* S	**S**	**07 27 31.5**	**-0.3**
PB11				IAML		07 27 33.2	
	comp=Z,24nm,0.1s						
PB11	**IPOC Station P**	**3.26**	**313**	Pg	**Pn**	**07 26 50.7**	**+0.2**
PB11				Sg	**S**	**07 27 30.2**	**-1.7**
PB11				IAML		07 27 32.9	
	comp=Z,52nm,0.2s						
GO02	**Mina Guanaco**	**3.86**	**215**	*i* P	**Pn**	**07 26 58.4**	**+0.6**
GO02				*i* S	**S**	**07 27 43.5**	**-1.6**
SOTI	**Planta Incahua**	**3.91**	**57**	Pg	**Pn**	**07 26 58.9**	**+0.6**
SOET	**ToroToro**	**4.08**	**18**	Pg	**Pn**	**07 27 01.4**	**+0.8**
AOEA	**Aiquile**	**4.21**	**25**	Pg	**Pn**	**07 27 02.9**	**+0.6**
AHML	**Horco Molle**	**5.01**	**161**	*i* P	**Pn**	**07 27 12.2**	**+0.2**
AHML				IAML		07 28 32.1	
	comp=Z,53nm,2.1s						

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*IDC **06** 07:29:41.4±1.4,39°.33N×140°.52E,h135km±13km, mb3.6/13,mbtmp4.0/17,Error ellipse: s-maj=19.1km s-min=13.6km az=119.0*
*NIED **06** 07:29:43.0,39°.24N×140°.65E,h145km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.46; $M_{\theta\theta}$=1.90; $M_{\phi\phi}$=0.57; $M_{r\theta}$=-0.76; $M_{\theta\phi}$=-0.92; $M_{\phi r}$=-0.10; Fault plane solution: M_0=2.53000×10^{14} NP1: ϕ_s=108.00000°,δ=53.00000°,λ=-101.00000°. NP2: ϕ_s=306.00000°,δ=38.00000°,λ=-76.00000°.*
*NEIC **06** 07:29:42.2±1.2,39°.24N±0°.04×140°.66E±0°.10, h147km±9km,mb4.4/8 Error ellipse: s-maj=11.0km s-min=5.3km az=74.0*
*JMA **06** 07:29:43.0±0.1,39°.2N±0°.5×140°.7E±0°.7,h145km±1km, MV3.5/40,SOUTHERN AKITA PREF*
ISC 06 07:29:42.1±0.6,**39°.23N**±0°.04×**140°.64E**±0°.06,**h148**km±5km, **n57**,σ1**s17**/65,**mb3.9**/17,**Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRG	**Rokugo**	**0.17**	**360**	*i* P	**Pn**	**07 30 02.8**	**+0.8**
JRG				S	**Sn**	**07 30 17.9**	**+0.5**
JYK	**Kaneyama**	**0.38**	**215**	*i* P	**Pn**	**07 30 03.4**	**+0.7**
JYK				S	**Sn**	**07 30 18.9**	**+0.6**
JMK	**Ichinoseki**	**0.53**	**121**	*i* P	**Pn**	**07 30 03.8**	**+0.5**
JMK				S	**Sn**	**07 30 19.7**	**+0.2**
JOM	**Ohasama**	**0.56**	**64**	*i* P	**Pn**	**07 30 04.1**	**+0.6**
JOM				S	**Sn**	**07 30 19.9**	**+0.1**
JOU	**Okura**	**0.86**	**179**	*i* P	**Pn**	**07 30 06.3**	**+0.7**
JOU				*e*S	**Sn**	**07 30 24.1**	**+0.6**
JIO	**Ouri**	**0.95**	**144**	*i* P	**Pn**	**07 30 06.4**	**+0.1**
JIO				S	**Sn**	**07 30 23.8**	**-0.9**
JAH	**Hinai**	**0.96**	**0**	P	**Pn**	**07 30 07.2**	**+0.9**
JAH				S	**Sn**	**07 30 25.1**	**+0.3**
JYA	**Atsumi**	**0.96**	**229**	*i* P	**Pn**	**07 30 07.1**	**+0.8**
JYA				S	**Sn**	**07 30 25.1**	**+0.4**
JANG	**Nango**	**1.33**	**30**	*i* P	**Pn**	**07 30 10.3**	**+0.6**
JANG				S	**Sn**	**07 30 30.2**	**-0.7**
JAW	**Awa shima**	**1.33**	**235**	P	**Pn**	**07 30 10.5**	**+0.8**
JMM	**Marumori**	**1.37**	**175**		**Pn**	**07 30 10.1**	**0.0**
JTM	**Tenmabayashi**	**1.59**	**12**	Pn	**Pn**	**07 30 12.6**	**+0.2**
JOTO	**OTAMA OYAMA**	**1.69**	**188**	S	**Sn**	**07 30 38.2**	**+0.6**
JNS	**Sasagawa**	**1.75**	**217**	P	**Pn**	**07 30 15.1**	**+0.8**
JNS				S	**Sn**	**07 30 39.1**	**+0.3**
JOT	**Ohata**	**2.17**	**8**	*i* P	**Pn**	**07 30 19.5**	**+0.5**
JSD	**Sado**	**2.21**	**238**		**Pn**	**07 30 19.6**	**0.0**
JSD	**Sado**	**2.21**	**238**	P	**Pn**	**07 30 20.2**	**+0.7**
JSD				S	**Sn**	**07 30 48.1**	**-0.2**
MJB9	**Matsu-Tunnel**	**3.30**	**216**		**Pn**	**07 30 35.5**	**+2.2**
MAJO	**Matsushiro**	**3.30**	**216**		**Pn**	**07 30 34.2**	**+1.0**
MJAR	**Matsushiro Arr**	**3.30**	**216**	P	**Pn**	**07 30 34.0**	**+0.8**
	16nm,0.4s,baz=28,slow=13,SNR=40						
ERM	**Erimo**	**3.38**	**34**	Pn	**Pn**	**07 30 33.5**	**-0.6**
JGF	**Kuroka**	**4.47**	**217**		**Pn**	**07 30 49.5**	**+1.1**
JSG	**Sagara**	**4.95**	**204**	Pn	**Pn**	**07 30 55.0**	**+0.1**
ASAJ	**Asahikawa**	**5.10**	**16**	P	**Pn**	**07 30 55.5**	**-1.1**
	11nm,0.3s,baz=203,slow=7.6,SNR=18						
ASAJ				S	**Sn**	**07 31 51.6**	**-3.2**
	4.9nm,0.4s,baz=189,slow=19,SNR=1.4						
JKA	**Kamikawa-asahi**	**5.10**	**16**		**Pn**	**07 30 55.5**	**-1.1**
JHJ	**Hachijo jima 2**	**6.14**	**187**	P	**Pn**	**07 31 09.2**	**-1.4**
	49nm,0.3s,baz=54,slow=18,SNR=14						
JHJ				S	**Sn**	**07 32 14.2**	**-5.6**
	64nm,0.3s,baz=53,slow=20,SNR=6.9						
JHJ2	**Mitsune**	**6.14**	**186**	Pn	**Pn**	**07 31 09.0**	**-1.7**
PETK	**Petropavlovsk-**	**18.16**	**35**	P	**P**	**07 33 43.8**	**+0.8**
	4.0nm,0.9s,baz=206,slow=9.6,SNR=2.9						
SONM	**Songino Array**	**26.09**	**300**	P	**P**	**07 34 59.5**	**-2.5**
	0.3nm,0.5s,baz=87,slow=12,SNR=1.2						
	0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.83**	**123**	T	T	08 06 29.8	
	baz=317,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**29.84**	**123**	T	T	08 06 29.7	
	baz=317,slow=75,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**29.85**	**123**	T	T	08 06 30.1	
	baz=317,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**30.59**	**125**	T	T	08 07 18.7	
	baz=317,slow=76,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**30.60**	**125**	T	T	08 07 20.9	
	baz=317,slow=76,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**30.61**	**125**	T	T	08 07 22.7	
	baz=317,slow=76,SNR=4.2						
ZALV	**Zalesovo Beam**	**40.00**	**310**	P	**P**	**07 37 01.7**	**-0.4**
	0.9nm,0.4s,baz=80,slow=7.0,SNR=5.5						
ZALV				PcP	**PcP**	**07 39 03.9**	**-0.2**
	0.5nm,0.3s,baz=92,slow=4.3,SNR=2.3						
	0.9nm,0.4s						
MK31	**Makanchi Array**	**42.46**	**300**	P	**P**	**07 37 21.7**	**-0.6**
MKAR	**Makanchi Array**	**42.46**	**300**	P	**P**	**07 37 22.3**	**+0.1**
	1.1nm,0.5s,baz=82,slow=9.3,SNR=9.6						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**44.19**	**306**	P	**P**	**07 37 35.7**	**-0.2**
	2.7nm,0.3s,baz=83,slow=8.2,SNR=5.3						
	2.7nm,0.3s						
B21K	**İkpikpuk River**	**45.09**	**27**	P	**P**	**07 37 43.2**	**+0.4**
B21K				IAmb	IAmb	07 38 08.4	
	comp=Z,15nm,1.4s						
D22K	**Ayikyak River**	**45.69**	**28**	P	**P**	**07 37 48.8**	**+1.2**
D22K				IAmb	IAmb	07 38 06.0	
	comp=Z,12nm,1.5s						
ILAR	**Eielson Array**	**47.98**	**33**	P	**P**	**07 38 06.4**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=265,slow=6.8,SNR=2.6						
	comp=Z,0.3nm,0.8s						
BVAR	**Borovoye Array**	**48.66**	**311**	P	**P**	**07 38 10.8**	**0.0**
	comp=Z,1.3nm,0.5s,baz=85,slow=6.5,SNR=4.3						
	comp=Z,1.3nm,0.5s						
BERG	**Berg Lake**	**50.04**	**39**	P	**P**	**07 38 20.0**	**-1.2**
ARTI	**Arti**	**54.43**	**317**	P	**P**	**07 38 53.5**	**-0.1**
A36M	**Sachs Harbour**	**54.46**	**22**	P	**P**	**07 38 54.5**	**+0.9**
A36M				IAmb	IAmb	07 39 27.8	
	comp=Z,8.3nm,1.5s						
ABKAR	**Akbulak array**	**56.07**	**309**	P	**P**	**07 39 05.2**	**-0.2**
SPITS	**Spitsbergen Ar**	**58.25**	**348**	P	**P**	**07 39 19.7**	**-0.7**
	comp=Z,13nm,1.0s,baz=45,slow=15,SNR=5.5						
	comp=Z,13nm,1.0s						
RES	**Resolute Bay**	**60.63**	**15**	P	**P**	**07 39 36.6**	**0.0**
RES				IAmb	IAmb	07 40 13.6	
	comp=Z,7.1nm,1.4s						
ARCES	**ARCESS Array B**	**61.73**	**339**	P	**P**	**07 39 44.4**	**+0.3**
	comp=Z,3.0nm,1.0s,baz=52,slow=10,SNR=1.3						
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**66.59**	**332**	P	**P**	**07 40 16.3**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=39,slow=9.0,SNR=3.9						
	comp=Z,1.9nm,0.7s						
HFS	**Hagfors**	**71.84**	**335**	P	**P**	**07 40 47.2**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=38,slow=7.3,SNR=4.9						
	comp=Z,0.7nm,0.4s						
AKASG	**Malin Array Be**	**72.19**	**322**	P	**P**	**07 40 50.1**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=50,slow=5.1,SNR=5.1						
	comp=Z,0.6nm,0.5s						
PDAR	**Pinedale Array**	**76.56**	**45**	P	**P**	**07 41 17.1**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=329,slow=1.1,SNR=5.2						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**89.26**	**52**	P	**P**	**07 42 22.6**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=336,slow=2.0,SNR=4.2						
	comp=Z,0.3nm,0.7s						
QSPA	**South Pole Qui**	**128.97**	**180**	PKP	**PKPdf**	**07 48 31.6**	**+0.5**
	comp=Z,2.3nm,1.1s,baz=310,slow=3.2,SNR=3.1						
LPAZ	**La Paz**	**146.04**	**56**	PKPbc	**PKPbc**	**07 49 05.9**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=315,slow=5.7,SNR=2.0						

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*IDC **06** 07:42:34.4±1.5,37°.67N×20°.45E,h0km,mb3.7/5, mbtmp3.7/6,ML1.2/1, Error ellipse: s-maj=37.1km s-min=26.1km az=95.0*
*THE **06** 07:42:35.8,37°.49N×20°.33E,h0km±3km,ML3.3/7,Error ellipse: s-maj=4.6km s-min=1.0km az=219.0*
*ATH **06** 07:42:36.5,37°.52N×20°.32E,h7km±1km,ML3.1/8,Error ellipse: s-maj=2.6km s-min=0.9km az=27.0*
ISC 06 07:42:36.9±1.4,**37°.56N**±0°.04×**20°.37E**±0°.05,**h20**km±7km, **n39**,σ0**s75**/55,**mb3.8**/5,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.40**	**69**	P	**Pg**	**07 42 44.0**	**-1.3**
LTHK				S	**Sg**	**07 42 51.0**	**+0.1**
	7μm,0.6s						
LTHK	**Lithakia**	**0.40**	**69**	P	**Pg**	**07 42 45.1**	**-0.1**
LTHK				S	**Sg**	**07 42 51.1**	**+0.2**
LTHK				AML	AML	07 42 51.5	
	comp=E,14133μm,0.6s						
LTHK				AML	AML	07 42 51.6	
	comp=N,10871μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.57**	**17**	P	**Pg**	**07 42 48.4**	**0.0**
PSDA				S	**Sn**	**07 42 57.8**	**-1.1**
	comp=N,4μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.57**	**17**	P	**Pg**	**07 42 48.4**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.60**	**32**	P	**Pg**	**07 42 48.9**	**-0.1**
RTZL				S	**Sn**	**07 42 59.3**	**-0.3**
	comp=N,4μm,0.6s						
LXRA	**Lixouri, Kepha**	**0.64**	**5**	P	**Pg**	**07 42 49.5**	**-0.1**
VLS	**Valsamata**	**0.64**	**16**	P	**Pb**	**07 42 49.4**	**0.0**
VLS				S	**Sn**	**07 42 59.5**	**-0.9**
	comp=N,2μm,0.2s						
VLS	**Valsamata**	**0.64**	**16**	P	**Pb**	**07 42 49.3**	**0.0**
VLS				S	**Sg**	**07 42 59.2**	**+1.1**
VLS				AML	AML	07 43 00.9	
	comp=E,3414μm,0.1s						
VLS				AML	AML	07 43 05.0	
	comp=N,3464μm,0.3s						
DMLN	**Damoulianata-K**	**0.67**	**0**	P	**Pg**	**07 42 50.2**	**-0.1**
DMLN				S	**Sn**	**07 43 01.2**	**-0.2**
	comp=N,5μm,0.5s						
DMLN	**Damoulianata-K**	**0.67**	**0**	P	**Pg**	**07 42 50.3**	**-0.1**
VSK1	**VASILIKIADES**	**0.86**	**10**	P	**Pg**	**07 42 53.4**	**-0.3**
VSK1				S	**Sn**	**07 43 06.7**	**+0.8**
	comp=N,2μm,0.7s						
FSK	**Fiskardo**	**0.91**	**10**	P	**Pn**	**07 42 54.1**	**-0.5**
FSK				S	**Sn**	**07 43 08.9**	**+1.8**
	comp=N,1μm,0.4s						
FSK	**Fiskardo**	**0.91**	**10**	P	**Pn**	**07 42 54.3**	**-0.2**
FSK				S	**Sn**	**07 43 07.9**	**+0.9**
FSK				AML	AML	07 43 14.8	
	comp=E,3407μm,0.3s						
FSK				AML	AML	07 43 16.0	
	comp=N,1785μm,0.4s						
RLS	**Riolos of Patr**	**1.00**	**60**	P	**Pn**	**07 42 55.9**	**+0.1**
RLS	**Riolos of Patr**	**1.00**	**60**	P	**Pn**	**07 42 55.8**	**+0.1**
RLS				S	**Sg**	**07 43 10.7**	**+1.1**
RLS				AML	AML	07 43 15.8	
	comp=N,2254μm,0.6s						
RLS				AML	AML	07 43 16.8	
	comp=E,1516μm,0.5s						
AMT	**Artemida-Makis**	**1.07**	**91**	P	**Pg**	**07 42 57.5**	**-0.2**
AMT				S	**Sg**	**07 43 12.8**	**+1.1**
AMT				AML	AML	07 43 18.3	
	comp=E,4604μm,0.4s						
AMT				AML	AML	07 43 19.4	
	comp=N,3324μm,0.5s						
EVGI	**Lefkada island**	**1.08**	**12**	P	**Pg**	**07 42 57.3**	**-0.6**
EVGI	**Lefkada island**	**1.08**	**12**	P	**Pg**	**07 42 57.4**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.13**	**8**	P	**Pb**	**07 42 58.0**	**+0.2**
DRO	**Drossia**	**1.13**	**70**	P	**Pb**	**07 42 58.2**	**+0.4**
DRO	**Drossia**	**1.13**	**70**	P	**Pg**	**07 42 58.6**	**-0.3**
DRO				S	**Sg**	**07 43 14.5**	**+0.8**
DRO				AML	AML	07 43 22.4	
	comp=E,2869μm,0.5s						
DRO				AML	AML	07 43 23.6	
	comp=N,2530μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.18**	**13**	P	**Pb**	**07 42 59.0**	**+0.4**
TSLK	**Tsoukalades, L**	**1.28**	**10**	P	**Pg**	**07 43 01.1**	**-0.6**
PYL	**PYLOS**	**1.28**	**121**	P	**Pb**	**07 42 59.9**	**-0.5**
PYL				S	**Sg**	**07 43 17.3**	**-1.3**
PYL				AML	AML	07 43 22.6	
	comp=E,403μm,0.3s						
PYL				AML	AML	07 43 29.3	
	comp=N,465μm,0.7s						
ITM	**Ithomi**	**1.30**	**107**	P	**Pb**	**07 43 00.9**	**+0.3**
ITM				S	**Sb**	**07 43 17.6**	**+0.7**
ITM				AML	AML	07 43 28.1	
	comp=E,771μm,1.1s						
ITM				AML	AML	07 43 29.4	
	comp=N,662μm,0.6s						
EFP	**Efpalio**	**1.49**	**54**	P	**Pg**	**07 43 04.9**	**-0.8**
EFP	**Efpalio**	**1.49**	**54**	P	**Pb**	**07 43 04.4**	**+0.5**
KLV	**Kalavryta, Ach**	**1.49**	**71**	P	**Pb**	**07 43 04.5**	**+0.5**
KLV	**Kalavryta, Ach**	**1.49**	**71**	P	**Pb**	**07 43 03.6**	**-0.3**
ANX	**Ano Chora**	**1.60**	**50**	P	**Pb**	**07 43 05.9**	**0.0**
GUR	**Goura**	**1.61**	**76**	P	**Pb**	**07 43 06.3**	**+0.3**
GUR	**Goura**	**1.61**	**76**	P	**Pb**	**07 43 05.7**	**-0.3**
IGT	**Igoumenitsa**	**1.97**	**359**	P	**Pb**	**07 43 11.5**	**-0.5**
IDI	**Anoyia**	**4.29**	**121**	Pn	**Pn**	**07 43 43.2**	**+2.0**
	comp=N,0.7nm,0.3s,baz=282,slow=20,SNR=1.6						
IDI				Sn	**Sn**	**07 44 30.2**	**-0.6**
	comp=N,0.6nm,0.3s,baz=300,slow=18,SNR=1.9						
	comp=N,4.7nm,0.8s						
HFS	**Hagfors**	**22.99**	**351**	P	**P**	**07 47 39.5**	**-0.6**
	comp=N,2.7nm,0.9s,baz=163,slow=10,SNR=2.1						
	comp=N,2.7nm,0.9s						
FINES	**FINESS Array B**	**24.17**	**7**	P	**P**	**07 47 51.4**	**-0.1**
	comp=N,1.3nm,0.5s,baz=182,slow=9.7,SNR=10						
	comp=N,1.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**29.48**	**219**	P	**P**	**07 48 40.9**	**+1.2**
	comp=N,0.5nm,0.8s,baz=30,slow=8.9,SNR=2.8						
	comp=N,0.5nm,0.8s						
ARCES	**ARCESS Array B**	**32.15**	**3**	P	**P**	**07 49 03.0**	**+0.2**
	comp=N,1.1nm,0.7s,baz=194,slow=5.6,SNR=1.0						
	comp=N,1.1nm,0.7s						
MKAR	**Makanchi Array**	**45.73**	**58**	P	**P**	**07 50 54.6**	**-2.0**
	comp=N,0.5nm,0.6s,baz=264,slow=8.2,SNR=2.8						
	comp=N,0.5nm,0.6s						

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*TIR **06** 07:46:40.6,37°.58N×20°.07E,h12km±4km,Md3.8,Ml3.8*
*IDC **06** 07:46:43.1±1.1,37°.63N×20°.40E,h0km,mb3.6/10, mbtmp3.6/15,ML1.4/2,MS3.0/3,Error ellipse: s-maj=20.8km s-min=17.1km az=162.0*
*ATH **06** 07:46:44.7,37°.56N×20°.45E,h13km±1km,ML3.9/11, Manual Solution by I.Dede This location: 2020/09/16 05:42:45 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **06** 07:46:46.4,37°.63N×20°.51E,h8km±1km,ML3.9/12,Error ellipse: s-maj=1.5km s-min=0.6km az=44.0*
*NAO **06** 07:46:59.2,39°.15N×22°.15E,h10km,mb3.7*
ISC 06 07:46:45.3±1.1,**37°.64N**±0°.04×**20°.47E**±0°.04,**h13**km±7km, **n71**,σ1**s02**/87,**mb3.6**/10,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.28**	**85**	P	**Pg**	**07 46 51.4**	**+0.3**
KRI1				S	**Sg**	**07 46 55.0**	**0.0**
	42μm,0.4s						
LTHK	**Lithakia**	**0.30**	**76**	P	**Pg**	**07 46 51.7**	**+0.2**
LTHK				S	**Sg**	**07 46 55.8**	**+0.1**
	77μm,0.3s						
LTHK	**Lithakia**	**0.30**	**76**	P	**Pg**	**07 46 51.7**	**+0.2**
LTHK				S	**Sg**	**07 46 56.0**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.48**	**11**	P	**Pb**	**07 46 55.7**	**0.0**
PSDA				S	**Sb**	**07 47 03.2**	**+0.5**
	21μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.48**	**11**	P	**Pb**	**07 46 55.7**	**0.0**
PSDA				S	**Sb**	**07 47 03.2**	**+0.5**
RTZL	**Ratzakli, Kefa**	**0.50**	**29**	P	**Pb**	**07 46 55.8**	**-0.2**
RTZL				S	**Sb**	**07 47 02.9**	**-0.3**
	44μm,0.6s						
VLS	**Valsamata**	**0.55**	**10**	P	**Pb**	**07 46 56.6**	**-0.2**
VLS				S	**Sb**	**07 47 04.4**	**-0.2**
	13μm,0.3s						
VLS	**Valsamata**	**0.55**	**10**	P	**Pb**	**07 46 56.7**	**-0.1**
VLS				S	**Sb**

FNA	Florina	3.22	12	AMP				
	comp=E,0.2nm,1.2s,baz=17							
OHR	Ohrid	3.48	4	*i* Pn	Pb	07 47 42.9	-3.9	
VAY	Valandovo	4.02	23	*i* Pn	Pn	07 47 49.0	+2.5	
IDI	Anoyia	4.27	122	Pn	Pn	07 47 51.3	+1.3	
	comp=E,0.5nm,0.3s,baz=331,slow=19,SNR=1.5							
IDI				Sn	Sn	07 48 42.7	+3.0	
	comp=E,4.9nm,0.3s,baz=317,slow=19,SNR=9.0							
	comp=E,9.4nm,1.0s							
PUK	Puka	4.42	354	AMP				
	comp=E,0.5nm,1.0s,baz=359							
PEHC	Pehcevo	4.54	24	*i* Pn	Pn	07 47 55.3	+1.5	
VAE	Valguarnera	4.81	270	Pn	Pn	07 47 58.1	+0.5	
	comp=E,2.0nm,0.3s,baz=21,slow=8.6,SNR=1.8							
VAE				Sn	Sn	07 48 55.6	+2.4	
	comp=E,1.2nm,0.3s,baz=62,slow=17,SNR=1.3							
	comp=E,6.9nm,0.4s							
MLR	Muntele Rosu	8.85	26	Pn	Pn	07 48 56.0	+2.9	
	comp=E,6.8nm,0.7s,baz=209,slow=13,SNR=8.5							
AKASG	Malin Array Be	14.48	23	Pn	Pn	07 50 07.8	-2.0	
	comp=E,0.1nm,0.3s,baz=213,slow=12,SNR=2.9							
AKASG				LR	LR	07 55 59.1		
	comp=E,46nm,20.8s,baz=204,slow=38							
CLL	Collm	14.66	341	*e*PP	P	07 50 21.0	+2.5	
CLL				AMS	AMS	09 34 00.0		
	comp=Z,100nm,18.3s							
NACGM	Naroch	17.80	12	*e*P	P	07 50 54.7	+1.4	
	comp=Z,12nm,0.8s,baz=197							
GNI	Garni	19.05	75	LR	LR	07 58 16.1		
	comp=Z,36nm,21.3s,baz=264,slow=36							
ESDC	Sonseca Array	19.18	284	P	P	07 51 07.9	-0.8	
	comp=Z,0.5nm,0.8s,baz=92,slow=14,SNR=1.8							
HFS	Hagfors	22.93	351	P	P	07 51 49.3	+0.5	
	comp=Z,3.8nm,0.7s,baz=168,slow=14,SNR=8.8							
	comp=Z,3.8nm,0.7s							
EKA	Eskdalemuir Ar	23.85	325	P	P	07 51 57.8	-0.2	
	comp=Z,3.1nm,0.9s,baz=124,slow=12,SNR=2.1							
	comp=Z,3.1nm,0.9s							
FINES	FINESS Array B	24.09	7	P	P	07 51 58.9	-1.3	
	comp=Z,0.8nm,0.4s,baz=182,slow=8.3,SNR=9.2							
	comp=Z,0.8nm,0.4s							
NB2	NORSAR Subarra	24.14	349	P	P	07 52 02.3	+1.5	
	comp=Z,3.7nm,1.1s,baz=158,slow=10							
NOA	NORSAR Array B	24.14	349	P	P	07 51 59.7	-1.0	
	comp=Z,0.5nm,0.8s,baz=164,slow=12,SNR=1.4							
	comp=Z,0.5nm,0.8s							
TORD	Torodi Ar. Bea	29.59	219	P	P	07 52 49.1	-1.0	
	comp=Z,0.1nm,0.4s,baz=32,slow=9.5,SNR=1.2							
	comp=Z,0.1nm,0.4s							
ARCES	ARCESS Array B	32.07	3	P	P	07 53 12.0	+0.5	
	comp=Z,1.8nm,0.9s,baz=192,slow=12,SNR=1.2							
	comp=Z,1.8nm,0.9s							
FURI	Furi	33.01	145	LR	LR	08 07 54.9		
	comp=Z,42nm,18.0s,baz=324,slow=38							
BVAR	Borovoye Array	37.50	49	P	P	07 53 58.6	0.0	
	comp=Z,0.3nm,0.4s,baz=268,slow=4.3,SNR=1.8							
	comp=Z,0.3nm,0.4s							
KURBB	Kurchatov Arra	42.59	53	P	P	07 54 40.9	+0.1	
	comp=Z,0.3nm,0.4s,baz=278,slow=8.6,SNR=2.0							
	comp=Z,0.3nm,0.4s							
MKAR	Makanchi Array	45.62	58	P	P	07 55 04.3	-0.9	
	comp=Z,0.4nm,0.6s,baz=284,slow=5.2,SNR=2.3							
	comp=Z,0.4nm,0.6s							
ZALV	Zalesovo Beam	46.08	48	P	P	07 55 08.3	-0.5	
	comp=Z,0.5nm,0.4s,baz=290,slow=8.6,SNR=3.0							
	comp=Z,0.5nm,0.4s							

*IDC **06** 07:56:51.5±1.7, 17°.05S×179°.17W, h572km±18km, mb3.0/8, mbtmp3.9/10, Error ellipse: s-maj=53.8km s-min=17.7km az=149.0*

*NEIC **06** 07:56:52.0±0.7, 17°.8S±0°.4×179°.0W±0°.3, h570km±26km, mb4.2/12, Error ellipse: s-maj=57.3km s-min=41.2km az=170.0*

ISC 06 07:56:49.4±0.9, 17°.3S±0°.3×179°.1W±0°.2, h550km, n23, σ1§12/23, mb4.0/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.79	260	P		P	07 58 07.2	+3.9
	16nm,0.6s,baz=90,slow=20,SNR=9.8							
DZM	Mont Dzumac	14.46	248	P		P	07 59 53.1	-0.3
	3.9nm,0.6s,baz=90,slow=17,SNR=1.4							
EIDS	Eidsvold	28.90	249	P		P	08 02 04.3	-0.1
EIDS				IAmb		IAmb	08 02 06.2	
	comp=Z,6.1nm,0.9s							
ARMA	Armidale	29.72	239	P		P	08 02 10.7	-0.9
TOO	Toolangi	37.09	230	P		P	08 03 11.9	-1.5
TOO				IAmb		IAmb	08 03 36.6	
	comp=Z,11nm,1.5s							
STKA	Stephens Creek	38.39	240	P		P	08 03 23.6	-0.4
STKA	Stephens Creek	38.39	240	P		P	08 03 24.6	+0.5
	comp=Z,2.2nm,0.8s,baz=90,slow=13,SNR=4.7							
	comp=Z,2.2nm,0.8s							
BBOO	Buckleboo	43.17	240	P		P	08 04 01.3	-0.8
WR0	Warramunga Arr	43.95	259	P		P	08 04 08.7	+0.4
WR0				IAmb		IAmb	08 04 29.2	
	comp=Z,8.5nm,1.4s							
WB0	Warramunga Arr	44.10	259	P		P	08 04 10.1	+0.6
WB0				IAmb		IAmb	08 04 34.4	
	comp=Z,9.6nm,1.4s							
WB2	Warramunga Arr	44.12	259	P		P	08 04 09.6	-0.1
WRA	Warramunga Arr	44.14	259	P		P	08 04 09.9	+0.1
	comp=Z,0.9nm,0.6s,baz=97,slow=6.8,SNR=26							
	comp=Z,0.9nm,0.6s							
AS31	Alice Springs	44.36	254	P		P	08 04 11.6	+0.1
ASAR	Alice Springs	44.36	254	P		P	08 04 11.4	-0.1
ASAR	Alice Springs	44.36	254	P		P	08 04 11.9	+0.4
	comp=Z,9.6nm,0.6s,baz=88,slow=8.2,SNR=161							
ASAR				PcP		PcP	08 05 42.6	-0.9
	comp=Z,0.2nm,0.6s,baz=82,slow=4.8,SNR=1.7							
	comp=Z,9.6nm,0.6s							
KNRA	Kununurra	49.94	264	P		P	08 04 52.6	-0.8
KNRA				IAmb		IAmb	08 05 03.8	
	comp=Z,22nm,1.5s							
FITZ	Fitzroy Crossi	52.52	260	P		P	08 05 12.3	+0.2
MBWA	Marble Bar	57.62	256	P		P	08 05 46.8	-0.8
MBWA				IAmb		IAmb	08 06 01.2	
	comp=Z,16nm,1.3s							
NVAR	Mina Array Bea	79.41	44	P		P	08 07 58.9	-0.3
	comp=Z,0.2nm,0.5s,baz=220,slow=8.3,SNR=2.1							
	comp=Z,0.2nm,0.5s							
MAW	Mawson	84.23	200	P		P	08 08 24.3	+1.5
	comp=Z,1.1nm,0.3s,baz=156,slow=0.8,SNR=5.1							
	comp=Z,1.1nm,0.3s							
ILAR	Eielson Array	85.43	13	P		P	08 08 28.1	-0.4
	comp=Z,0.1nm,0.5s,baz=228,slow=5.0,SNR=1.9							
	comp=Z,0.1nm,0.5s							
TXAR	Lajitas Array	86.19	58	P		P	08 08 32.9	-0.3
	comp=Z,0.3nm,0.7s,baz=235,slow=6.3,SNR=4.2							
	comp=Z,0.3nm,0.7s							
PDAR	Pinedale Array	87.33	44	P		P	08 08 37.8	-0.7
	comp=Z,0.1nm,0.3s,baz=268,slow=2.3,SNR=2.1							
	comp=Z,0.1nm,0.3s							

IDC 06 08:26:38.3±284.0, 54°.49N×41°.46E, h0km, Error ellipse: s-maj=125.4km s-min=77.1km az=144.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I43RU	DUBNA INFRASON	3.28	315	I		I	08 46 45.0	
	0.1nm,1.2s,baz=131,slow=318,SNR=2.8							
I31KZ	AKTYUBINSK INF	10.91	105	I		I	09 30 20.0	
	0.1nm,0.5s,baz=300,slow=326,SNR=1.4							
I46RU	ZALESOVO INFRA	25.07	73	I		I	11 01 20.0	
	baz=284,slow=322,SNR=2.1							

*SJA **06** 08:30:46.3±1.0, 18°.86S×70°.42W, h114km±14km, ML5.0, MW4.7*

*IDC **06** 08:31:00.8±0.7, 19°.61S×69°.24W, h91km±6km, mb4.1/13, mbtmp4.5/17, MS3.6/23, Error ellipse: s-maj=15.0km s-min=9.0km az=86.0*

*NEIC **06** 08:31:01.1±1.6, 19°.72S±0°.05×69°.41W±0°.07, h87km±5km, mb4.7/121, Error ellipse: s-maj=9.7km s-min=6.7km az=104.0*

*GUC **06** 08:31:01.3±0.8, 19°.73S×69°.39W, h89km±2km, ML4.8*

*VAO **06** 08:31:02.1±0.4, 19°.58S×69°.15W, h84km±3km, mb4.3*

*GCMT **06** 08:31:05.0±0.3, 19°.72S±0°.02×69°.47W±0°.03, h109km±4km, MW4.9/89, Moment Tensor Solution. s24,c24; s89,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.53±.10; $M_{\theta\theta}$0.33±.11; $M_{\phi\phi}$1.20±.15; $M_{r\theta}$1.05±.06; $M_{\theta\phi}$-0.29±.11; $M_{\phi r}$-1.68±.09; Best double couple: $M_0$2.42700×10^{16}*

NP1:ϕ_s331.00000°, δ72.00000°, λ-96.00000°. NP2: ϕ-169.00000°, δ18.00000°, λ-73.00000°. Principal axes: T 2.2810, Plg27.0000°, Azm66.0000°; N 0.2890, Plg5.0000°, Azm333.0000°; P -2.5730, Plg62.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 06 08:31:00.3±0.5, 19°.62S±0°.03×69°.38W±0°.04, h84km±4km, n292, σ1§30/288, mb4.7/61, 10C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO01	Chusmiza	0.18	106			Pn	08 31 14.3	+1.1
GO01					Sn	Sn	08 31 24.7	+2.1
GO01	Chusmiza	0.18	106	*i* P		Pn	08 31 14.3	+1.1
GO01				*e*S		Sn	08 31 25.1	+2.5
GO01	Chusmiza	0.18	106	*e*P		Pn	08 31 14.2	+1.1
PB11	IPOC Station P	0.29	241			Pn	08 31 14.0	+0.8
PB11					Sn	Sn	08 31 23.1	+0.3
PB11	IPOC Station P	0.29	241	⇓*i* P		Pn	08 31 13.9	+0.6
PB11				*e*S		Sn	08 31 24.0	+1.2
PB11	IPOC Station P	0.29	241	*e*P		Pn	08 31 13.5	+0.2
PB11				IAML			08 31 37.3	
	comp=Z,17μm,1.2s							
PB08	IPOC Station P	0.56	158			Pn	08 31 16.2	+0.8
PB08					Sn	Sn	08 31 26.9	+0.2
PB08	IPOC Station P	0.56	158	*i* P		Pn	08 31 16.3	+0.8
PB08				*e*S		Sn	08 31 27.7	+1.0
PB08				IAML			08 31 28.8	
	comp=N,38μm,0.3s							
PB08	IPOC Station P	0.56	158	*e*P		Pn	08 31 15.9	+0.5
PB08				IAML			08 31 42.9	
	comp=Z,7μm,0.3s							
HMBC	Humberstone	0.81	216			Pn	08 31 17.4	-0.3
HMBC	Humberstone	0.81	216	*e*P		Pn	08 31 17.2	-0.5
HMBC				IAML			08 31 45.1	
	comp=Z,14μm,0.4s							
PX03	IPOC Station P	0.81	197	⇑*i* P		Pn	08 31 17.0	-0.7
TA02	Huaiquique	0.96	227			Pn	08 31 18.9	-0.2
TA02	Huaiquique	0.96	227	⇑*i* P		Pn	08 31 19.0	-0.2
TA02				*e*S		Sn	08 31 32.6	-0.6
TA02	Huaiquique	0.96	227	*e*P		Pn	08 31 18.3	-0.9
TA02				*e*S		Sn	08 31 33.1	-0.1
TA01	Diego Aracena	1.21	218			Pn	08 31 21.7	-0.4
TA01	Diego Aracena	1.21	218	⇑*i* P		Pn	08 31 21.6	-0.5
TA01				*e*S		Sn	08 31 37.1	-1.4
TA01				IAML			08 31 41.0	
	comp=E,32μm,0.3s							
TA01	Diego Aracena	1.21	218	*e*P		Pn	08 31 21.5	-0.5
TA01				*e*S		Sn	08 31 38.2	-0.2
TA01				IAML			08 31 41.9	
	comp=Z,9μm,0.2s							
PATCX	Punta Patache	1.40	211			Pn	08 31 24.2	-0.4
PATCX	Punta Patache	1.40	211	⇑*i* P		Pn	08 31 24.1	-0.5
PATCX				*e*S		Sn	08 31 41.9	-1.0
PATCX				IAML			08 31 48.8	
	comp=N,23μm,0.5s							
PATCX	Punta Patache	1.40	211	*e*P		Pn	08 31 24.1	-0.5
PATCX				*e*S		Sn	08 31 43.7	+0.8
PATCX				IAML			08 31 46.7	
	comp=Z,18μm,0.5s							
PB01	IPOC Station P	1.42	184	⇑*i* P		Pn	08 31 25.0	0.0
PB01				*e*S		Sn	08 31 40.3	-3.2
PB01				IAML			08 31 46.3	
	comp=E,41μm,0.4s							
PB01	IPOC Station P	1.42	184	*e*P		Pn	08 31 24.9	0.0
PB01				*e*S		Sn	08 31 44.0	+0.6
PB01				IAML			08 31 47.7	
	comp=Z,16μm,0.2s							
AP01	Chacalluta	1.54	324			Pn	08 31 27.9	+1.5
AP01	Chacalluta	1.54	324	*e*P		Pn	08 31 28.0	+1.6
AP01				*e*S		Sn	08 31 48.8	+2.8
AP01	Chacalluta	1.54	324	*e*P		Pn	08 31 27.8	+1.5
AP01				IAML			08 32 03.0	
	comp=Z,23μm,0.3s							
PB18	Visviri	2.02	357	Pn		Pn	08 31 37.1	+4.0
PB18	Visviri	2.02	357	*i* P		Pn	08 31 37.9	+4.7
PB18				*e*S		Sn	08 32 07.3	+9.2
PB04	IPOC Station P	2.79	195	*e*P		Pn	08 31 42.3	-0.9
PB04	IPOC Station P	2.79	195	*e*P		Pn	08 31 42.3	-0.9
PB04				*e*S		Sn	08 32 20.8	+4.7
PB04				IAML			08 32 27.4	
	comp=Z,5μm,0.4s							
LVC	Limon Verde	3.01	172	Pn		Pn	08 31 47.2	+1.0
LVC	Limon Verde	3.01	172	P		Pn	08 31 47.0	+0.7
	comp=Z,701nm,0.4s,baz=353,slow=12,SNR=252							
LVC				S		Sn	08 32 22.2	+0.7
	comp=Z,1μm,0.4s,baz=3.6,slow=19,SNR=9.2							
LVC				LR		LR	08 32 40.2	
	comp=Z,799nm,19.4s,baz=288,slow=33							
LVC	Limon Verde	3.01	172	⇑*e*P		Pn	08 31 47.0	+0.7
LVC				*e*S		Sn	08 32 11.7	-10
LVC	Limon Verde	3.01	172	*e*P		Pn	08 31 47.2	+1.0
LVC				*e*S		Sn	08 32 30.1	+8.6
LVC				IAML			08 32 37.0	
	comp=Z,1μm,0.6s							
LVC	Limon Verde	3.01	172	*e*P		Pn	08 31 47.8	+1.6
PB06	IPOC Station P	3.08	183	*e*P		Pn	08 31 46.2	-0.8
PB06				*e*S		Sn	08 32 21.2	-1.7
PB06				IAML			08 32 31.2	
	comp=N,6μm,0.3s							
PB06	IPOC Station P	3.08	183	*e*P		Pn	08 31 46.5	-0.5
PB06				*e*S		Sn	08 32 31.3	+8.4
PB06				IAML			08 32 44.0	
	comp=Z,3μm,0.3s							
AF01	San Pedro de A	3.50	162			Pn	08 31 54.3	+1.5
AF01	San Pedro de A	3.50	162	*e*P		Pn	08 31 54.4	+1.6
LPAZ	La Paz	3.52	20	Pn		Pn	08 31 58.2	+4.8
LPAZ	La Paz	3.52	20	P		Pn	08 31 56.5	+3.2
	comp=Z,155nm,0.5s,baz=194,slow=13,SNR=742							
LPAZ				S		Sn	08 32 33.2	-1.1
	comp=Z,247nm,0.8s,baz=197,slow=12,SNR=6.7							
LPAZ				LR		LR	08 33 37.7	
	comp=Z,2μm,18.6s,baz=221,slow=45							
LPAZ	La Paz	3.52	20	*e*P		Pn	08 31 53.1	-0.3
PB15	IPOC Station P	3.57	181	*i* P		Pn	08 31 53.3	-0.4
PB15	IPOC Station P	3.57	181	*e*P		Pn	08 31 53.4	-0.3
PB15				*e*S		Sn	08 32 41.7	+6.8
YJA	Yavi	4.42	126	*e*P		Pn	08 32 09.3	+3.8
YJA	Yavi	4.42	126	*e*P		Pn	08 32 09.9	+4.4
GO02	Mina Guanaco	5.52	182	Pn		Pn	08 32 18.4	-2.0
AC01	Pan de Azucar	6.59	190	Pn		Pn	08 32 30.5	-4.2
AC06	Mina Casimiro	7.75	186	Pn		Pn	08 32 47.2	-3.3
BBSD	Serra de San D	8.67	75	*e*P		Pn	08 33 02.0	-1.1
SIV	San Ignacio	8.70	67	P		Pn	08 33 02.6	-0.9
	comp=Z,56nm,0.4s,baz=245,slow=14,SNR=422							
SIV				S		Sn	08 34 37.6	-2.4
	comp=Z,8.6nm,0.5s,baz=279,slow=13,SNR=1.2							
FDPY	Filadelfia	9.21	108	*e*P		Pn	08 33 10.2	-0.1
ETMB	Extrema	10.21	18	Pn		Pn	08 33 24.7	+0.6
ETMB	Extrema	10.21	18	*e*P		Pn	08 33 24.3	+0.2
NNA	Nana	10.44	316	P		Pn	08 33 25.8	-1.5
	comp=Z,5.1nm,0.3s,baz=117,slow=9.0,SNR=2.6							
NNA				S		Sn	08 35 19.6	-3.0
	comp=Z,24nm,0.4s,baz=138,slow=15,SNR=2.3							
PTLB	Pontes e Lacer	10.62	69	Pn		Pn	08 33 28.6	-1.0
PTLB	Pontes e Lacer	10.62	69	*e*P		Pn	08 33 28.0	-1.6
VILB	Vilhena	11.03	54	Pn		Pn	08 33 35.7	+0.5
VILB	Vilhena	11.03	54	*e*P		Pn	08 33 34.7	-0.5
CO03	El Pedregal	11.23	186	Pn		Pn	08 33 33.4	-4.6
PAPY	Pozo Azul	11.27	115	*e*P		Pn	08 33 36.0	-2.4
BDQN	Bodoquena, MS	11.90	96	*e*P		Pn	08 33 45.1	-2.0
SAML	Samuel	12.19	30			Pn	08 33 49.4	-1.5
SAML	Samuel	12.19	30	*e*P		Pn	08 33 48.5	-2.4
CZSB	Cruzeiro do Su	12.25	344	Pn		Pn	08 33 51.6	-0.1
CZSB	Cruzeiro do Su	12.25	344	*e*P		Pn	08 33 53.5	+1.7
AQDB	Aquidauana	12.89	96	Pn		Pn	08 33 57.9	-2.4
AQDB	Aquidauana	12.89	96	*e*P		Pn	08 33 58.9	-1.5
CPUP	Villa Florida	12.95	123	Pn		Pn	08 33 59.8	-1.3
CPUP	Villa Florida	12.95	123	P		Pn	08 33 58.7	-2.4
	comp=Z,14nm,1.0s,baz=300,slow=12,SNR=20							
CPUP				LR		LR	08 39 58.4	
	comp=Z,145nm,19.2s,baz=306,slow=42							
CPUP	Villa Florida	12.95	123	*e*P		Pn	08 34 00.8	-0.3
VA03	San Esteban	13.13	184	Pn		Pn	08 34 04.3	+0.7
SJPY	San Joaquin	13.40	116	*e*P		Pn	08 34 06.9	-0.2
SALV	Santo Antonio	13.55	76	*e*P		Pn	08 34 07.3	-1.8
MT02	Curacav	13.68	186			Pn	08 34 09.4	-1.3
MT08	Bocatoma Ro	13.78	182			Pn	08 34 12.0	-0.2
LMEL	Las Melosas	14.19	183			Pn	08 34 14.8	-2.7
RPRD	Ribas do Rio P	14.76	96	*e*P		Pn	08 34 24.8	0.0
BO01	Tunca	14.79	186	Pn		Pn	08 34 23.2	-1.9
BO02	Sierra Bellavi	15.17	184			Pn	08 34 28.0	-1.9
BO02				IAmb		IAmb	08 34 36.1	
	comp=Z,69nm,0.7s							
ATAH	Atahualpa	15.19	324	P		Pn	08 34 30.2	-0.4
	comp=Z,2.2nm,0.6s,baz=130,slow=7.9,SNR=1.8							
ATAH				LR		LR	08 41 19.8	
	comp=Z,209nm,19.3s,baz=156,slow=41							
ITQB	Itaqui	15.31	133	*e*P		Pn	08 34 32.8	+1.2
TBTG	Tabatinga, AM	15.35	358	Pn		Pn	08 34 33.0	+0.7
TBTG				IAmb		IAmb	08 34 36.9	
	comp=Z,36nm,0.9s							
TBTG	Tabatinga, AM	15.35	358	*e*P		Pn	08 34 33.7	+1.4
CLDB	Colider	15.72	58	*e*P		Pn	08 34 36.0	-1.0
H03N1	Juan Fernandez	16.18	210	T		T	08 50 42.2	
	baz=33,slow=72,SNR=265							
ML02	Panimavida	16.18	186	Pn		Pn	08 34 40.2	-2.5
ML02				IAmb		IAmb	08 34 46.9	
	comp=Z,87nm,0.8s							
H03N2	Juan Fernandez	16.19	210	T		T	08 51 10.7	
	baz=33,slow=72,SNR=246							
H03N3	Juan Fernandez	16.20	210	T		T	08 51 05.8	
	baz=33,slow=72,SNR=294							
PTGB	Pitanga	16.82	111	*e*P		Pn	08 34 50.5	-0.2
BI02	San Fabin de	17.06	185			Pn	08 34 51.9	-1.7
ARAG	Araguaiana, MT	17.19	80	*e*P		Pn	08 34 54.9	-0.3
LDASE	Londrina, Braz	17.40	106	*e*P		P	08 34 57.1	-0.9
ITAB	Concordia	17.54	119			Pn	08 35 00.4	+1.0
ITAB				IAmb		IAmb	08 35 03.1	
	comp=Z,79nm,1.4s							
ITAB	Concordia	17.54	119	*e*P		P	08 34 59.1	-0.2
ITRB	Iturama	17.92	93	*e*P		P	08 35 02.8	-0.8
CPSB	Cacapava Do Su	17.98	130	*e*P		P	08 35 04.6	+0.4
MACA	Manacapuru-AM	18.43	29	P		P	08 35 08.6	-0.6
MACA				IAmb		IAmb	08 35 30.9	
	comp=Z,92nm,1.2s							
MACA	Manacapuru-AM	18.43	29	*e*P		P	08 35 09.0	-0.3
NPGB	Novo Progresso	18.48	49	*e*P		P	08 35 09.6	-0.2
FRTB	Fartura	18.81	105	*e*P		P	08 35 12.7	-0.7
SNDB	Serra Nova Dou	18.98	69	*e*P		P	08 35 14.6	-0.7
CNLB	Canela	19.41	123	*e*P		P	08 35 20.9	+0.9
TRQA	Tornquist	19.47	162	P		P	08 35 19.9	-0.6
TRQA				IAmb		IAmb	08 35 22.0	
	comp=Z,34nm,0.9s							
COHC	Cochancay	19.59	329	P		P	08 35 22.3	+0.4
GO06	Curarrehue	19.98	185	P		P	08 35 25.6	-0.5
GO06				IAmb		IAmb	08 35 27.4	
	comp=Z,31nm,0.8s							
IPMB	Ipameri, GO	20.11	89	*e*P		P	08 35 27.6	0.0
ITTB	Itaituba	20.17	43	*e*P		P	08 35 26.7	-1.5
MAJ01	Sao Joao Batis	20.20	116	*e*P		P	08 35 28.6	+0.1
TER01	Tubaro-SC	20.49	120	*e*P		P	08 35 31.7	+0.1
RCLB	Rio Claro- Sao	20.59	102	*e*P		P	08 35 32.1	-0.6
LR05	Currie	20.67	186	P		P	08 35 32.7	-0.7
LR05				IAmb		IAmb	08 36 03.0	
	comp=Z,50nm,1.2s							
BDFB	Brasilia	20.74	82	P		P	08 35 34.7	+0.2
BDFB	Brasilia	20.74	82	P		P	08 35 33.7	-0.8
	comp=Z,6.5nm,0.5s,baz=253,slow=11,SNR=9.9							
BDFB				LR		LR	08 45 29.0	
	comp=Z,74nm,19.7s,baz=308,slow=42							
	comp=Z,6.5nm,0.5s							
SPB	Sao Paulo	20.78	105	*e*P		P	08 35 34.5	-0.2
PLCA	Paso Flores	21.07	182	P		P	08 35 37.6	-0.2
PLCA				IAmb		IAmb	08 35 41.8	
	comp=Z,29nm,0.8s							
PLCA	Paso Flores	21.07	182	P		P	08 35 37.2	-0.5
	comp=Z,22nm,0.8s,baz=3.1,slow=12,SNR=23							
	comp=Z,22nm,0.8s							
PLCA	Paso Flores	21.07	182	*e*P		P	08 35 37.4	-0.3
VAO	Valinhos	21.15	103	P		P	08 35 36.9	-1.9
VAO				IAmb		IAmb	08 35 39.6	
	comp=Z,23nm,0.6s							
VAO	Valinhos	21.15	103	*e*P		P	08 35 38.6	-0.2
LL04	Puerto Octay	21.38	186	P		P	08 35 39.3	-1.6
OTAV	Otavalo	21.64	335	*e*P		P	08 35 47.3	+2.8
PMNB	Patos De Minas	21.71	91	*e*P		P	08 35 43.6	-1.2
LL01	San Ignacio de	22.83	186	P		P	08 35 55.0	-1.3
LL01				IAmb		IAmb	08 35 57.9	
	comp=Z,41nm,1.2s							
BSCB	Bom Sucesso	23.12	98	*e*P		P	08 35 58.1	-1.4
PRPB	Parauapebas	23.25	58	*e*P		P	08 35 59.8	-0.9
BOAV	Boa Vista	23.54	23	P		P	08 36 03.5	+0.2
BOAV	Boa Vista	23.54	23

comp=Z,5.5nm,1.0s
HPIG **58.13 322** P **P** **08 40 46.2 +0.6**
HPIG IAmb IAmb 08 40 47.6
comp=Z,4.0nm,0.7s
WVT **Waverly** **58.13 342** P **P** **08 40 44.4 -0.8**
S54A **Dingess, Beckl** **58.20 349** P **P** **08 40 45.9 +0.1**
SAND **Sanderson** **58.51 327** P **P** **08 40 48.8 +0.7**
SAND IAmb IAmb 08 40 49.7
comp=Z,6.5nm,1.1s
MIAR **Mount Ida** **58.58 337** P **P** **08 40 48.4 0.0**
MIAR IAmb IAmb 08 40 49.5
comp=Z,12nm,1.1s
OZNA **Ozona** **58.78 328** P **P** **08 40 49.7 -0.2**
OZNA IAmb IAmb 08 40 50.7
comp=Z,14nm,1.5s
TXAR **Lajitas Array** **58.84 325** P **P** **08 40 50.2 -0.2**
comp=Z,0.9nm,0.7s,baz=149,slow=9.2,SNR=12
comp=Z,0.9nm,0.7s
Z35A **Perchaven, San** **58.99 333** P **P** **08 40 51.9 +0.6**
FCAR **Ozark Folk Cen** **59.26 339** P **P** **08 40 52.0 -1.1**
FCAR IAmb IAmb 08 40 53.9
comp=Z,4.6nm,0.8s
X37A **Clayton** **59.31 335** **P** **08 40 54.4 +1.0**
ALPN **Alpine** **59.64 326** P **P** **08 40 56.0 0.0**
P53A **Whipple** **59.86 349** P **P** **08 40 57.1 0.0**
MNHN **Monahans** **59.95 327** P **P** **08 40 58.2 +0.2**
MNHN IAmb IAmb 08 40 59.4
comp=Z,13nm,1.2s
S44A **Carbondale** **60.00 342** P **P** **08 40 58.2 +0.1**
HHAR **Hobbs** **60.26 337** P **P** **08 40 59.8 -0.1**
HHAR IAmb IAmb 08 41 01.4
comp=Z,9.8nm,1.1s
MGMO **Mountain Grove** **60.45 339** P **P** **08 41 00.9 -0.3**
BELA **Belgrano 2** **60.66 172** P **P** **08 41 02.6 +0.5**
BELA IAmb IAmb 08 41 04.3
comp=Z,14nm,1.3s
RKT **Rikitea** **60.73 254** *e*LR LR 08 59 00.4
comp=Z,1μm,34.8s
CCM **Cathedral Cave** **60.94 340** P **P** **08 41 04.4 -0.1**
CCM IAmb IAmb 08 41 32.0
comp=Z,10nm,1.1s
BLOK **Blackwell** **61.93 335** P **P** **08 41 11.1 -0.1**
VNA3 **Neumayer Olymp** **61.99 162** ⇑P **P** **08 41 11.0 -0.3**
comp=Z,6.6nm,0.6s
MSTX **Muleshoe** **62.06 329** P **P** **08 41 11.8 -0.5**
MSTX IAmb IAmb 08 41 13.9
comp=Z,12nm,1.0s
BBTS **Babate** **62.16 61** LR LR 09 06 11.6
comp=Z,40nm,19.4s,baz=144,slow=34
VNA1 **Neumayer--Stat** **62.20 161** ⇑P **P** **08 41 13.1 +0.6**
comp=Z,5.5nm,0.8s
ERPA **Erie** **62.20 351** P **P** **08 41 13.4 +0.5**
VNA2 **Neumayer--Watz** **62.56 161** ⇑P **P** **08 41 15.1 +0.1**
comp=Z,6.7nm,0.7s,baz=281,slow=6.5
SNAA **Sanae** **64.19 161** P **P** **08 41 25.3 -0.6**
SNAA IAmb IAmb 08 41 28.2
comp=Z,18nm,1.3s
SNAA **Sanae** **64.19 161** ⇑P **P** **08 41 25.7 -0.1**
comp=Z,149nm,0.7s
SNAA **Sanae** **64.19 161** P **P** **08 41 25.8 -0.1**
comp=Z,5.7nm,0.7s,baz=286,slow=7.4,SNR=14
comp=Z,5.7nm,0.7s
ANMO **Albuquerque** **64.69 327** P **P** **08 41 29.7 0.0**
SADO **Sadowa** **64.69 352** LR LR 09 10 46.1
comp=Z,46nm,20.5s,baz=84,slow=37
CBKS **Cedar Bluff** **64.72 334** P **P** **08 41 30.1 +0.5**
CBKS IAmb IAmb 08 42 07.5
comp=Z,8.9nm,0.9s
MNTQ **Montreal, Queb** **64.92 357** P **P** **08 41 31.3 +0.6**
TUC **Tucson** **65.09 322** P **P** **08 41 32.5 +0.2**
I42A **Draeger Farm,** **65.69 345** P **P** **08 41 36.0 +0.2**
I42A IAmb IAmb 08 42 14.1
comp=Z,20nm,1.1s
TRQ **Mont Tremblant** **65.69 356** P **P** **08 41 36.1 +0.3**
KSCO **Kaye Shedlock'** **66.11 332** P **P** **08 41 39.0 +0.3**
KSCO IAmb IAmb 08 41 40.6
comp=Z,21nm,1.3s
BGNE **Belgrade** **66.32 337** P **P** **08 41 40.2 +0.3**
SDCO **Great Sand Dun** **66.41 329** P **P** **08 41 41.2 +0.3**
X16A **Lo Mia Camp, P** **67.00 323** P **P** **08 41 45.6 +1.0**
Q24A **Divide** **67.22 330** P **P** **08 41 46.1 +0.1**
Y14A **Wickenburg** **67.55 322** P **P** **08 41 49.0 +1.1**
WUAZ **Wupatki** **67.76 324** P **P** **08 41 50.1 +0.8**
WUAZ IAmb IAmb 08 42 25.5
comp=Z,7.0nm,1.0s
ECSD **EROS Data Cent** **67.81 339** P **P** **08 41 49.0 -0.3**
ECSD IAmb IAmb 08 42 31.2
comp=Z,11nm,1.3s
ESJX **Sierra Juarez** **68.00 318** P **P** **08 41 52.7 +1.8**
ESJX IAmb IAmb 08 41 53.9
comp=Z,6.0nm,0.8s
ISCO **Idaho Springs** **68.10 331** P **P** **08 41 52.0 +0.5**
YUH **Yuha Desert** **68.42 319** P **P** **08 41 54.4 +1.1**
YUH IAmb IAmb 08 41 56.3
comp=Z,7.8nm,1.1s
DBIC **Dimbokro** **68.64 74** P **P** **08 41 54.2 -0.9**
comp=Z,3.3nm,0.3s,baz=234,slow=8.3,SNR=9.7
DBIC pP **PcP** **08 42 16.8 -2.7**
comp=Z,5.1nm,0.6s,baz=230,slow=7.2,SNR=3.2
DBIC LR LR 09 10 16.3
comp=Z,49nm,22.0s,baz=135,slow=34
comp=Z,3.3nm,0.3s
U15A **North Rim** **68.93 324** P **P** **08 41 58.7 +1.9**
U15A IAmb IAmb 08 41 59.9
comp=Z,7.8nm,0.9s
N23A **Red Feather La** **69.13 331** P **P** **08 41 58.7 +0.8**
N23A IAmb IAmb 08 42 01.7
comp=Z,10nm,1.3s
PFO **Pinyon Flats O** **69.40 319** P **P** **08 42 00.5 +1.0**
LCMT **Little Creek M** **69.88 324** P **P** **08 42 03.2 +0.7**
V12A **Nelson** **69.89 322** P **P** **08 42 02.7 +0.2**
V12A IAmb IAmb 08 42 05.2
comp=Z,8.1nm,1.1s
Q16A **Castle Valley** **70.16 326** P **P** **08 42 04.6 +0.4**
P18A **Preston Nutter** **70.21 328** P **P** **08 42 04.7 0.0**
P17A **Butcher Ranch,** **70.35 327** P **P** **08 42 06.6 +1.3**
P17A IAmb IAmb 08 42 07.5
comp=Z,7.8nm,1.0s
QSPA **South Pole Qui** **70.56 180** P **P** **08 42 05.7 -0.5**
QSPA IAmb IAmb 08 42 08.5
comp=Z,21nm,1.4s
QSPA **South Pole Qui** **70.56 180** **P** **08 42 06.5 +0.2**
QSPA **South Pole Qui** **70.56 180** P **P** **08 42 06.2 -0.1**
comp=Z,2.8nm,0.7s,baz=154,slow=12,SNR=34
comp=Z,2.8nm,0.7s
PRN **Pahroc Range** **71.18 323** P **P** **08 42 12.0 +1.7**
PRN IAmb IAmb 08 42 13.5
comp=Z,9.7nm,1.2s
GWY **Greenwater Val** **71.27 321** P **P** **08 42 12.4 +1.4**
DUG **Dugway, Tooele** **71.95 326** P **P** **08 42 15.7 +0.8**
ISA **Isabella, Lake** **72.00 320** P **P** **08 42 16.1 +0.9**
R11B **Troy Canyon, C** **72.14 323** P **P** **08 42 17.4 +1.3**
PDAR **Pinedale Array** **72.27 330** P **P** **08 42 17.1 +0.2**
comp=Z,0.7nm,0.8s,baz=129,slow=7.1,SNR=6.2
comp=Z,0.7nm,0.8s
HVU **Hansel Valley** **73.09 328** P **P** **08 42 22.0 +0.3**
ULM **Lac du Bonnet** **73.40 343** P **P** **08 42 22.1 -1.0**
comp=Z,6.2nm,0.5s,baz=157,slow=7.1,SNR=14
comp=Z,6.2nm,0.5s
MOOW **Moose Ponds** **73.58 330** P **P** **08 42 25.0 +0.5**
OMMB **Old Mammoth Mi** **73.61 321** P **P** **08 42 25.4 +0.4**
OMMB IAmb IAmb 08 42 27.7
comp=Z,7.7nm,0.8s
ELK **Elko** **73.63 325** LR LR 09 15 57.9
comp=Z,25nm,18.2s,baz=314,slow=37
TBI **Tubuai** **73.69 251** *e*LR LR 09 05 03.8
comp=Z,1μm,34.5s
NVAR **Mina Array Bea** **73.75 322** P **P** **08 42 26.2 +0.6**
comp=Z,2.2nm,0.7s,baz=126,slow=4.6,SNR=16
comp=Z,2.2nm,0.7s
KVN **Kaiserville** **74.05 323** P **P** **08 42 28.5 +1.1**
KVN IAmb IAmb 08 42 29.8
comp=Z,5.7nm,0.7s
SCHQ **Schefferville** **74.18 2** P **P** **08 42 26.9 -0.6**
comp=Z,2.2nm,0.7s,baz=220,slow=17,SNR=1.9
comp=Z,2.2nm,0.7s
YNE **Yellowstone No** **74.20 331** P **P** **08 42 29.3 +1.1**
YNE IAmb IAmb 08 42 31.0
comp=Z,12nm,0.9s
HLID **Hailey** **75.22 328** P **P** **08 42 35.5 +1.5**
HLID IAmb IAmb 08 42 37.0
comp=Z,13nm,1.3s
PAHR **Pah Rah Range** **75.22 322** P **P** **08 42 34.3 +0.2**
PAHR IAmb IAmb 08 42 37.6
comp=Z,12nm,0.8s

PPT2 **Papeete2** **75.32 256** *e*LR LR 09 05 41.4
comp=Z,116nm,30.5s
PPT2 *e*LR LR 09 05 48.3
comp=Z,106nm,27.0s
DLMT **Dillon** **75.66 330** P **P** **08 42 37.3 +0.8**
DLMT IAmb IAmb 08 42 39.0
comp=Z,9.8nm,1.2s
MFID **Camas Ranch** **75.83 327** P **P** **08 42 38.5 +1.0**
MFID IAmb IAmb 08 42 40.3
comp=Z,16nm,1.4s
ORV **Oroville** **76.36 321** P **P** **08 42 41.5 +1.1**
ORV IAmb IAmb 08 42 43.3
comp=Z,10nm,1.1s
LYMT **Lyon Mountain** **76.72 331** P **P** **08 42 44.2 +1.6**
BPMT **Black Pine Rid** **76.86 330** P **P** **08 42 45.2 +1.9**
PLID **Pearl Lake** **77.11 328** P **P** **08 42 45.5 +0.7**
PLID IAmb IAmb 08 42 47.6
comp=Z,8.6nm,1.1s
TORD **Torodi Ar. Bea** **77.15 71** P **P** **08 42 43.8 -1.5**
comp=Z,3.8nm,0.5s,baz=254,slow=5.3,SNR=41
TORD pP **pP** **08 43 07.5 -1.5**
comp=Z,3.0nm,0.6s,baz=263,slow=5.0,SNR=2.9
TORD LR LR 09 15 46.4
comp=Z,61nm,20.2s,baz=294,slow=35
comp=Z,3.8nm,0.5s
BMO **Blue Mountains** **77.60 327** P **P** **08 42 47.9 +0.5**
I07A **Izee** **78.22 326** P **P** **08 42 51.8 +1.0**
HAWA **Hanford** **79.80 327** P **P** **08 43 00.4 +1.1**
HAWA IAmb IAmb 08 43 01.9
comp=Z,12nm,1.1s
SUR **Sutherland** **79.91 121** LR LR 09 15 48.4
comp=Z,23nm,18.1s,baz=190,slow=34
ESDC **Sonseca Array** **84.81 45** P **P** **08 43 25.6 -0.1**
comp=Z,0.3nm,0.3s,baz=257,slow=4.8,SNR=2.3
ESDC LR LR 09 15 36.1
comp=Z,53nm,21.7s,baz=220,slow=32
comp=Z,0.3nm,0.3s
LBTB **Lobatse** **86.21 115** LR LR 09 21 24.7
comp=Z,24nm,18.1s,baz=228,slow=35
SFJD **Kangerlussuaq** **87.48 7** LR LR 09 23 39.5
comp=Z,38nm,19.5s,baz=170,slow=36
YKA **Yellowknife Ar** **89.27 341** P **P** **08 43 46.2 -0.4**
comp=Z,6.6nm,0.7s,baz=137,slow=4.6,SNR=34
YKA pP **pP** **08 44 11.9 +1.8**
comp=Z,5.8nm,1.0s,baz=135,slow=4.8,SNR=5.4
comp=Z,6.6nm,0.7s
STKA **Stephens Creek** **120.81 211** PKP **PKPdf** **08 49 43.1 -0.2**
comp=Z,0.9nm,0.5s,baz=117,slow=2.3,SNR=1.3
H11S2 **WAKE ISLAND Hyl27.18 279** T T 11 09 29.8
baz=101,slow=75,SNR=749
H11S1 **WAKE ISLAND Hyl27.19 279** T T 11 09 25.6
baz=101,slow=75,SNR=695
H11S3 **WAKE ISLAND Hyl27.20 279** T T 11 09 27.0
baz=101,slow=75,SNR=504
H11N3 **WAKE ISLAND Hyl27.21 280** T T 11 09 28.4
baz=100,slow=75,SNR=110
H11N2 **WAKE ISLAND Hyl27.23 280** T T 11 09 31.4
baz=100,slow=75,SNR=155
H11N1 **WAKE ISLAND Hyl27.23 280** T T 11 09 34.6
baz=100,slow=75,SNR=112
AKTO **Aktyubinsk** **128.51 40** PKP **PKPdf** **08 49 56.2 -1.1**
comp=Z,0.5nm,0.5s,baz=270,slow=3.0,SNR=1.9
ASAR **Alice Springs** **131.35 209** PKP **PKPdf** **08 50 03.0 -0.7**
comp=Z,1.4nm,0.5s,baz=141,slow=1.9,SNR=22
WRA **Warramunga Arr** **134.32 212** PKhKP PKPpre 08 50 04.0
comp=Z,0.4nm,0.8s,baz=148,slow=1.4,SNR=4.8
WRA PKP **PKPdf** **08 50 09.1 -0.2**
comp=Z,1.8nm,0.5s,baz=151,slow=2.0,SNR=27
BVAR **Borovoye Array** **134.48 33** PKP **PKPdf** **08 50 07.4 -1.2**
comp=Z,0.7nm,0.6s,baz=336,slow=3.2,SNR=2.6
KURBB **Kurchatov Arra** **140.00 32** PKP **PKPdf** **08 50 18.4 -0.4**
comp=Z,0.4nm,0.5s,baz=297,slow=2.5,SNR=2.7
ZALV **Zalesovo Beam** **140.43 24** PKhKP PKPpre 08 50 14.2
comp=Z,1.8nm,0.5s,baz=293,slow=1.1,SNR=4.0
ZALV PKP **PKPdf** **08 50 19.9 +0.4**
comp=Z,2.3nm,0.5s,baz=318,slow=1.7,SNR=8.0
KSH **Kashi** **144.23 49** PKP **PKPdf** **08 50 26.6 -0.3**
MKAR **Makanchi Array** **144.35 34** PKP **PKPab** **08 50 25.2 +0.2**
comp=Z,1.3nm,0.5s,baz=313,slow=3.9,SNR=8.7
HEH **HeiHe** **146.64 340** *e*P **PKPbc** **08 50 32.8 +0.6**
HEH pmax pmax
comp=Z,12nm,0.9s
USRK **Ussuriysk Ar.** **149.69 329** PKPbc **PKPbc** **08 50 40.2 -0.2**
comp=Z,5.7nm,0.7s,baz=52,slow=1.6,SNR=9.5
MJAR **Matsushiro Arr** **150.54 311** PKPbc **PKPbc** **08 50 42.4 -0.4**
comp=Z,4.4nm,0.7s,baz=61,slow=1.2,SNR=12
SONM **Songino Array** **151.65 6** PKPbc **PKPbc** **08 50 45.5 +0.4**
comp=Z,3.8nm,0.5s,baz=343,slow=3.0,SNR=22
HHC **Hu-ho-hao-te** **158.82 358** *e*P **PKPdf** **08 50 47.3 -1.4**
NJ2 **Nanjing** **165.58 331** *e*P **PKPdf** **08 50 55.5 -0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
PZH **PanZhiHua** **169.34 48** PKP **PKPdf** **08 50 57.6 -1.0**

TEH ***06*** *08:42:29.4, 39.°19N×44.°26E, h28km±52km, ML2.2*
AZER 06 08:42:27.6, 39.°95N×44.°93E, h3km, ml2.3,
Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYR	**Heyderabad**	**0.24**	**194**	P	Pg	08 42 32.0	-0.2
HYR				S	Sg	08 42 35.5	+0.3
MAKU	**Maku**	**0.62**	**198**	Pg	Pg	08 42 38.9	-0.6
MAKU				Sg	Sg	08 42 46.5	-1.1
SBZ	**Shahbuz**	**0.73**	**139**	P	Pg	08 42 41.6	0.0
SBZ				S	Sb	08 42 52.3	-1.2
GDB	**GEDABAY**	**1.00**	**39**	P	Pg	08 42 46.8	+0.1
GDB				S	Sb	08 43 00.7	-0.5
QZX	**Qazax, Azerbai**	**1.16**	**17**	P	Pb	08 42 50.5	+0.2
QZX				S	Sn	08 43 07.2	+0.1
ORD	**Ordubad**	**1.31**	**141**	P	Pg	08 42 51.8	-0.9
ORD				S	Sb	08 43 10.2	+0.1
IMRD	**Marand**	**1.37**	**154**	Pg	Pn	08 42 52.0	-1.8
IMRD				Sg	Sn	08 43 12.3	-0.3
AGDM	**Agdam**	**1.68**	**84**	P	Pg	08 42 59.8	0.0
ISHB	**Shabestar**	**1.75**	**162**	Pg	Pn	08 42 57.6	-1.3
IHRS	**Heris**	**2.31**	**134**	Pn	Pb	08 43 09.2	-0.8

IDC ***06*** *08:42:20.9±1.1, 42.°73N×79.°37E, h0km, mb3.8/2, mbtmp3.8/2, ML2.5/2, Error ellipse: s-maj=19.5km s-min=10.6km az=161.0*
NNC ***06*** *08:42:30.4±0.3, 44.°10N×78.°29E, h0km±2km, mb3.4, mpv3.8, Error ellipse: s-maj=2.1km s-min=1.8km az=150.0*
SOME ***06*** *08:42:31.4, 44.°10N×78.°28E, h25km*
ISC 06 08:42:31.9±0.9, 44.°09N±0.°02×78.°26E±0.°02, h16km±7km, n54, σ1.9 24/95, 10C, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARXS	**Arharly**	**0.34**	**291**	P	Pg	08 42 38.9	0.0
	176nm,0.1s						
ARXS				S	Sg	08 42 44.3	+0.6
	838nm,0.1s						
ARXS	**Arharly**	**0.34**	**291**	*e*P	Pg	08 42 38.9	0.0
	176nm,0.1s						
ARXS				*e*S	Sg	08 42 44.3	+0.6
	953nm,0.2s						
KURS	**Kuram**	**0.61**	**186**	P	Pg	08 42 43.6	-0.3
	311nm,0.2s						
KURS				S	Sb	08 42 52.5	-0.1
	114nm,0.1s						
KURS	**Kuram**	**0.61**	**186**	*e*P	Pg	08 42 43.6	-0.3
	311nm,0.2s						
KURS				*e*S	Sb	08 42 52.5	-0.1
	117nm,0.1s						
KPKS	**Kokpek**	**0.70**	**154**	P	Pg	08 42 44.4	-1.1
	44nm,0.1s						
KPKS				S	Sg	08 42 53.9	-0.9
	117nm,0.1s						
KPKS	**Kokpek**	**0.70**	**154**	*e*P	Pg	08 42 44.4	-1.1
	50nm,0.1s						
KPKS				*e*S	Sg	08 42 53.9	-0.9
	135nm,0.1s						
TDK	**Taldyqorghan**	**0.92**	**6**	P	Pb	08 42 48.2	-1.2
	285nm,0.1s						
TDK				S	Sg	08 43 00.3	-1.4
	240nm,0.2s						
TDK	**Taldyqorghan**	**0.92**	**6**	*e*P	Pb	08 42 48.2	-1.2
	285nm,0.1s						
TDK				*e*S	Sg	08 43 00.3	-1.4
	240nm,0.2s						
ZHN	**Zhinishke**	**0.93**	**172**	P	Pb	08 42 48.7	-1.1
	101nm,0.2s						
ZHN				S	Sg	08 43 01.0	-1.2
	308nm,0.2s						
ZHN	**Zhinishke**	**0.93**	**172**	*e*P	Pb	08 42 48.7	-1.1
	101nm,0.2s						
ZHN				*e*S	Sg	08 43 01.0	-1.2
	308nm,0.2s						
CHKK	**Chushkaly**	**0.95**	**256**	P	Pb	08 42 49.0	-1.0
	66nm,0.1s						
CHKK				S	Sb	08 43 01.7	-0.7
	196nm,0.2s						
CHKK	**Chushkaly**	**0.95**	**256**	*e*P	Pb	08 42 49.0	-1.0
	66nm,0.1s						
CHKK				*e*S	Sb	08 43 01.7	-0.7
	196nm,0.2s						
SATY	**Saty**	**1.04**	**174**	P	Pb	08 42 50.6	-0.9
	94nm,0.1s						
SATY				S	Sb	08 43 04.5	-0.5
	401nm,0.1s						
SATY	**Saty**	**1.04**	**174**	*e*P	Pb	08 42 50.6	-0.9
	94nm,0.1s						
SATY				*e*S	Sb	08 43 04.5	-0.5
	401nm,0.1s						
UZB	**Uzynbulak**	**1.09**	**149**	P	Pb	08 42 51.4	-1.1
	119nm,0.2s						
UZB				S	Sb	08 43 05.8	-0.9
	98nm,0.2s						
UZB	**Uzynbulak**	**1.09**	**149**	*e*P	Pb	08 42 51.4	-1.1
	119nm,0.2s						
UZB				*e*S	Sb	08 43 05.8	-0.9
	98nm,0.2s						
DJR	**Jarkent**	**1.12**	**77**	P	Pb	08 42 51.7	-1.3
	7.1nm,0.1s						
DJR				S	Sb	08 43 06.2	-1.3
	40nm,0.2s						
DJR	**Jarkent**	**1.12**	**77**	*e*P	Pb	08 42 51.7	-1.3
	7.1nm,0.1s						
DJR				*e*S	Sb	08 43 06.2	-1.3
	40nm,0.2s						
PDGK	**Podgornoye**	**1.17**	**130**	P	Pb	08 42 52.5	-1.4
	26nm,0.1s						
KTBS	**Karatobe**	**1.20**	**252**	P	Pn	08 42 53.5	-0.7
	33nm,0.2s						
KTBS				S	Sb	08 43 09.2	-0.5
	159nm,0.2s						
KTBS	**Karatobe**	**1.20**	**252**	*e*P	Pn	08 42 53.5	-0.7
	33nm,0.2s						
KTBS				*e*S	Sb	08 43 09.2	-0.5
	159nm,0.2s						
SHLS	**Shalkode**	**1.28**	**137**	P	Pg	08 42 58.3	+1.7
	30nm,0.2s						
SHLS				S	Sg	08 43 17.5	+4.3
	75nm,0.2s						
SHLS	**Shalkode**	**1.28**	**137**	*e*P	Pg	08 42 58.3	+1.7
	30nm,0.2s						
SHLS				*e*S	Sg	08 43 17.5	+4.3
	75nm,0.2s						
MDOK	**Medeo**	**1.28**	**224**	⇑P	Pn	08 42 54.6	-0.7
	14nm,0.4s						
MDOK				Pg	Pn	08 42 55.0	-0.3
	27nm,0.3s						
MDOK				Lg	Lg	08 43 12.0	
	74nm,0.2s						
MDOK				⇑S	Sb	08 43 12.1	+0.1
	76nm,0.5s						
MDOK	**Medeo**	**1.28**	**224**	*e*P	Pn	08 42 55.0	-0.3
	27nm,0.3s						
MDOK				*e*S	Sb	08 43 12.0	0.0
	74nm,0.2s						
AAA	**Alma-Ata**	**1.32**	**228**	P	Pn	08 42 55.8	+0.1
	61nm,0.1s						
AAA				S	Sb	08 43 13.3	+0.3
	148nm,0.2s						
AAA	**Alma-Ata**	**1.32**	**228**	*e*P	Pn	08 42 55.8	+0.1
	61nm,0.1s						
AAA				*e*S	Sb	08 43 13.3	+0.3
	181nm,0.2s						
KUU	**Kurty**	**1.40**	**262**	P	Pn	08 42 57.0	+0.2
	4.6nm,0.1s						
KUU				S	Sn	08 43 15.3	+0.3
	128nm,0.2s						
KUU	**Kurty**	**1.40**	**262**	*e*P	Pn	08 42 57.0	+0.2
	4.6nm,0.1s						
KUU				*e*S	Sn	08 43 15.3	+0.3
	128nm,0.2s						
TNSS	**Tian-Shan**	**1.42**	**223**	P	Pn	08 42 57.5	0.0
	19nm,0.2s						
TNSS				S	Sn	08 43 16.4	+0.3
	39nm,0.3s						
TNSS	**Tian-Shan**	**1.42**	**223**	*e*P	Pn	08 42 57.5	0.0
	19nm,0.2s						
TNSS				*e*S	Sn	08 43 16.4	+0.3
	39nm,0.3s						
KAPS	**Kapalarasan**	**1.43**	**33**	P	Pn	08 42 57.3	+0.1
	39nm,0.1s						
KAPS				S	Sn	08 43 15.9	+0.2
	314nm,0.1s						
KAPS	**Kapalarasan**	**1.43**	**33**	*e*P	Pn	08 42 57.3	+0.1
	39nm,0.1s						
KAPS				*e*S	Sn	08 43 15.9	+0.2
	314nm,0.1s						
MTBS	**Maitube**	**1.64**	**235**	P	Pb	08 43 01.3	-0.5
	18nm,0.1s						
MTBS				S	Sb	08 43 22.9	+0.6
	129nm,0.3s						
MTBS	**Maitube**	**1.64**	**235**	*e*P	Pb	08 43 01.3	-0.5
	18nm,0.1s						
MTBS				*e*S	Sb	08 43 22.9	+0.6
	129nm,0.3s						
KRBS	**Karabastau**	**1.91**	**259**	P	Pb	08 43 06.2	-0.2
	4.6nm,0.2s						
KRBS				S	Sb	08 43 31.1	+1.0
	31nm,0.1s						
KRBS	**Karabastau**	**1.91**	**259**	*e*P	Pb	08 43 06.2	-0.2
	4.6nm,0.2s						
KRBS				*e*S	Sb	08 43 31.1	+1.0
	31nm,0.1s						
KST	**Kastek**	**1.97**	**239**	P	Pb	08 43 07.3	-0.2
	6.7nm,0.1s						
KST				S	Sb	08 43 33.0	+1.0
	42nm,0.3s						
KST	**Kastek**	**1.97**	**239**	*e*P	Pb	08 43 07.3	-0.2
	6.7nm,0.1s						
KST				*e*S	Sb	08 43 33.0	+1.0
	42nm,0.3s						
TKM2	**Tokmak 2**	**2.27**	**240**	⇑Pn	Pn	08 43 10.5	+1.6
	3.8nm,0.6s						
TKM2				⇑Sn	Sb	08 43 41.4	+1.0
	11nm,0.3s						
SGDS	**Sogindy**	**2.71**	**258**	Pg	Pb	08 43 21.1	+1.1
	1.9nm,0.2s						
SGDS				Lg	Lg	08 43 56.7	
	12nm,0.1s						
CHMS	**Chumysh**	**2.78**	**248**	⇑Lg	Lg	08 43 58.9	
	7.2nm,0.3s						
AAK	**Ala-Archa**	**3.11**	**243**	Pn	Pn	08 43 19.8	-0.6
	0.3nm,0.3s,baz=100,slow=11,SNR=1.9						
AAK				Pg	Pb	08 43 28.5	+1.6
	1.2nm,0.3s,baz=84,slow=8.0,SNR=6.8						
AAK				Sn	Sb	08 44 06.1	+1.5
	1.5nm,0.3s,baz=130,slow=17,SNR=16						
BTLS	**Baital**	**3.16**	**289**	Pg	Pb	08 43 28.9	+1.2
	2.5nm,0.2s						
BTLS				Lg	Lg	08 44 09.9	
	5.7nm,0.1s						
BTLS	**Baital**	**3.16**	**289**	*e*P	Pb	08 43 28.9	+1.2
	1.9nm,0.1s						
BTLS				*e*S	Sg	08 44 09.9	-3.4
	8.6nm,0.2s						
MAKZ	**Makanchi**	**3.77**	**43**	⇑Lg	Lg	08 44 27.7	
	5.3nm,0.8s						
MRKS	**Merke**	**3.91**	**252**	Pg	Pb	08 43 42.1	+1.6
	4.7nm,0.6s						
MRKS				Lg	Lg	08 44 32.8	
	11nm,0.2s						
MRKS	**Merke**	**3.91**	**252**	*e*P	Pb	08 43 42.1	+1.6
	4.7nm,0.6s						
MRKS				*e*S	Sg	08 44 32.9	-4.5
	11nm,0.2s						
MK31	**Makanchi Array**	**3.92**	**45**	Pn	Pn	08 43 31.9	+0.5
	0.1nm,0.2s,baz=220,slow=15,SNR=8.0						
MK31				Pg	Pb	08 43 42.0	+1.4
	0.2nm,0.2s,baz=222,slow=15,SNR=8.5						
MK31				⇑Sn	Sb	08 44 16.7	-0.4
	1.2nm,0.4s,baz=218,slow=20,SNR=4.6						
MK31				⇑Lg	Lg	08 44 31.3	
	0.6nm,0.2s,baz=225,slow=29,SNR=2.9						
MKAR	**Makanchi Array**	**3.92**	**45**	Pn	Pn	08 43 32.3	+0.9
	0.3nm,0.3s,baz=218,slow=14,SNR=6.4						
MKAR				Sn	Sb	08 44 28.8	+1.1
	0.7nm,0.3s,baz=222,slow=24,SNR=4.2						

KK31	**Karatay Array**	**5.71**	**263**	⇑Lg		Lg	08 45 31.2	
	1.5nm,0.4s,baz=76,slow=28,SNR=5.8							
KURK	**Kurchatov**	**6.63**	**2**	⇑Lg		Lg	08 45 57.2	
	5.7nm,0.9s							
WRA	**Warramunga Arr**	**81.77**	**128**	P		P	08 54 33.1	-17
	0.6nm,0.7s,baz=329,slow=6.2,SNR=7.0							
	0.6nm,0.7s							
ASAR	**Alice Springs**	**84.49**	**130**	P		P	08 54 49.5	-15
	0.7nm,0.8s,baz=327,slow=7.1,SNR=7.8							
	0.7nm,0.8s							

IDC 06 08:55:17.6±3.7, 17°.83S×178°.15W, h595km±24km, mb3.0/4, mbtmp3.9/5, Error ellipse: s-maj=90.6km s-min=39.0km az=25.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.62**	**271**	P	P	08 56 40.3	0.0
	8.9nm,0.6s,baz=108,slow=20,SNR=4.5						
STKA	**Stephens Creek**	**38.89**	**241**	P	P	09 01 54.1	+0.6
	1.6nm,0.5s,baz=73,slow=11,SNR=3.8						
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**44.89**	**259**	P	P	09 02 40.3	-0.5
	0.7nm,0.5s,baz=96,slow=7.4,SNR=27						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**45.05**	**254**	P	P	09 02 41.8	-0.2
	3.1nm,0.6s,baz=87,slow=8.5,SNR=54						
ASAR				PcP	PcP	09 04 10.1	+0.2
	0.2nm,0.5s,baz=104,slow=3.9,SNR=2.6						
	3.1nm,0.6s						
QSPA	**South Pole Qui**	**72.23**	**180**	P	P	09 05 43.1	-0.3
	1.0nm,1.1s,baz=0.0,slow=0.0,SNR=1.7						
	1.0nm,1.1s						

UPA 06 09:00:03.5±1.1, 8°.41N×82°.81W, h41km±33km, MW3.7, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.36**	**86**	*e*P	Pn	09 00 11.3	-1.2
DVD				*e*S	Sn	09 00 19.3	+0.5
BRU2	**Volcan**	**0.40**	**17**	*e*P	Pn	09 00 13.7	+0.5
BRU2				*e*S	Sn	09 00 20.5	+0.6
BCO2	**Palmira**	**0.41**	**42**	*e*P	Pn	09 00 13.8	+0.5
BCO2				*e*S	Sn	09 00 20.9	+0.7

*IDC **06** 09:03:07.8±1.0, 11°.07S×164°.99E, h0km, mb4.4/7, mbtmp4.5/9, ML4.6/2, MS3.4/12, Error ellipse: s-maj=27.0km s-min=25.4km az=88.0*
*NEIC **06** 09:03:08.7±1.5, 10°.96S±0°.07×164°.88E±0°.05, h10km±1km, mb4.8/39, Error ellipse: s-maj=13.7km s-min=5.7km az=24.0*

ISC 06 09:03:08.2±0.5, 11°.07S±0°.06×164°.94E±0°.06, h10km, n69, σ1§52/61, mb4.8/25, MS3.4/10, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.18**	**288**	Pn	**Pn**	09 04 23.4	**-2.5**
HNR	**Honiara**	**5.18**	**288**	Pn	**Pn**	09 04 28.8	**+3.0**
	23nm,0.3s,baz=71,slow=5.2,SNR=7.0						
HNR				Sn	**Sn**	09 05 28.1	**+2.4**
	19nm,0.3s,baz=180,slow=20,SNR=2.0						
	115nm,0.5s						
KOUNC	**Koumac, New Ca**	**9.44**	**184**	Pn	**Pn**	09 05 26.0	**+1.6**
DZM	**Mont Dzumac**	**11.03**	**173**	Pn	**Pn**	09 05 47.8	**+1.6**
	4.2nm,0.3s,baz=340,slow=9.0,SNR=56						
DZM				Sn	**Sn**	09 07 44.4	**-5.4**
	0.4nm,0.3s,baz=217,slow=20,SNR=1.8						
DZM				LR	LR	09 08 43.2	
	comp=Z,101nm,20.7s,baz=358,slow=30						
	8.8nm,0.3s						
ONTNC	**Ouen Toro**	**11.26**	**173**	Pn	**Pn**	09 05 50.5	**+1.1**
PINNC	**Pines Island,**	**11.72**	**169**	Pn	**Pn**	09 05 57.5	**+1.9**
FUNA	**Funafuti**	**14.28**	**81**	Pn	**Pn**	09 06 30.8	**+0.2**
TARA	**Tarawa**	**14.68**	**33**	Pn	**Pn**	09 06 36.2	**0.0**
FUTU	**Fugatoga**	**16.84**	**103**	Pn	**Pn**	09 07 02.5	**-1.7**
FUTU				IAmb	IAmb	09 07 15.9	
	comp=Z,68nm,0.8s						
PMG	**Port Moresby**	**17.58**	**274**	Pn	**Pn**	09 07 11.3	**-2.2**
PMG	**Port Moresby**	**17.58**	**274**	LR	LR	09 13 27.9	
	comp=Z,177nm,19.6s,baz=169,slow=35						
EIDS	**Eidsvold**	**19.35**	**221**	P	**P**	09 07 33.2	**-0.8**
MANU	**Manus Island**	**19.61**	**296**	P	**P**	09 07 36.0	**-1.0**
MANU				IAmb	IAmb	09 07 55.2	
	comp=Z,43nm,1.3s						
CTAO	**Charters Tower**	**20.09**	**241**	P	**P**	09 07 40.8	**-1.4**
COEN	**Coen**	**21.44**	**260**	P	**P**	09 07 56.5	**-0.3**
ARMA	**Armidale**	**22.88**	**211**	P	**P**	09 08 10.9	**-1.4**
H11S2	**WAKE ISLAND Hy**	**29.43**	**3**	T	T	09 40 15.3	
	baz=184,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.43**	**3**	T	T	09 40 19.2	
	baz=184,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.45**	**3**	T	T	09 40 15.2	
	baz=184,slow=76						
BKZ	**Black Stump Fm**	**29.81**	**162**	P	**P**	09 09 16.6	**+1.1**
BKZ				IAmb	IAmb	09 09 42.0	
	comp=Z,33nm,1.5s						
STKA	**Stephens Creek**	**29.88**	**223**	P	**P**	09 09 16.6	**+0.4**
STKA	**Stephens Creek**	**29.88**	**223**	P	**P**	09 09 17.6	**+1.4**
	comp=Z,4.1nm,0.6s,baz=87,slow=11,SNR=8.3						
STKA				LR	LR	09 20 09.0	
	comp=Z,96nm,18.6s,baz=30,slow=34						
	comp=Z,4.1nm,0.6s						
WR0	**Warramunga Arr**	**30.55**	**249**	P	**P**	09 09 21.3	**-0.9**
WB0	**Warramunga Arr**	**30.65**	**250**	P	**P**	09 09 24.0	**+0.9**
WB0				IAmb	IAmb	09 09 36.4	
	comp=Z,11nm,0.8s						
WRAB	**Tennant Creek**	**30.72**	**250**	P	**P**	09 09 22.9	**-0.9**
WRAB				IAmb	IAmb	09 09 37.5	
	comp=Z,24nm,1.4s						
WB2	**Warramunga Arr**	**30.72**	**250**	P	**P**	09 09 22.4	**-1.3**
WB2				IAmb	IAmb	09 09 37.6	
	comp=Z,17nm,1.1s						
WRA	**Warramunga Arr**	**30.73**	**250**	P	**P**	09 09 25.1	**+1.2**
	comp=Z,5.1nm,0.6s,baz=79,slow=8.9,SNR=52						
WRA				PcP	**PcP**	09 12 23.5	**+1.8**
	comp=Z,1.7nm,0.7s,baz=75,slow=3.3,SNR=9.3						
WRA				LR	LR	09 21 29.0	
	comp=Z,64nm,19.1s,baz=124,slow=36						
	comp=Z,5.1nm,0.6s						
GUMO	**Guam**	**31.57**	**320**	LR	LR	09 22 42.9	
	comp=Z,41nm,18.2s,baz=96,slow=37						
AS31	**Alice Springs**	**32.07**	**243**	P	**P**	09 09 36.7	**+1.0**
ASAR	**Alice Springs**	**32.07**	**243**	P	**P**	09 09 37.0	**+1.3**
ASAR	**Alice Springs**	**32.07**	**243**	P	**P**	09 09 36.8	**+1.1**
	comp=Z,5.3nm,0.8s,baz=65,slow=9.9,SNR=41						
ASAR				PcP	**PcP**	09 12 26.9	**+1.6**
	comp=Z,2.1nm,0.7s,baz=67,slow=2.7,SNR=13						
	comp=Z,5.3nm,0.8s						
BBOO	**Buckleboo**	**34.23**	**226**		**P**	09 09 54.7	**+0.3**
BBOO				IAmb	IAmb	09 09 57.3	
	comp=Z,24nm,1.2s						
RAR	**Rarotonga**	**35.29**	**111**	LR	LR	09 21 37.3	
	comp=Z,26nm,18.2s,baz=235,slow=32						
KNRA	**Kununurra**	**35.46**	**259**	P	**P**	09 10 04.9	**-0.3**
KNRA				IAmb	IAmb	09 10 19.8	
	comp=Z,21nm,1.0s						
JOHN	**Johnston Islan**	**37.43**	**43**	P	**P**	09 10 20.1	**-1.7**
FITZ	**Fitzroy Crossi**	**38.61**	**255**	P	**P**	09 10 31.7	**-0.2**
FITZ	**Fitzroy Crossi**	**38.61**	**255**	LR	LR	09 25 09.6	
	comp=Z,69nm,20.4s,baz=94,slow=34						
PSA00	**Pilbara Seismi**	**44.38**	**251**	P	**P**	09 11 17.4	**-1.9**
PSA00				IAmb	IAmb	09 11 37.8	
	comp=Z,7.2nm,0.9s						
PPT	**Papeete**	**44.46**	**104**	LR	LR	09 27 20.0	
	comp=Z,40nm,20.8s,baz=258,slow=33						
KAPI	**Kappang**	**45.11**	**274**	LR	LR	09 32 02.6	
	comp=Z,27nm,18.4s,baz=115,slow=38						
MORW	**Morawa**	**48.92**	**241**	P	**P**	09 11 54.8	**0.0**
JNU	**Nakatsue**	**54.64**	**325**	P	**P**	09 12 36.7	**-0.8**
JKA	**Kamikawa-asahi**	**58.56**	**341**	P	**P**	09 13 03.7	**-1.4**
KS19	**Wonju Array Si**	**59.52**	**326**	P	**P**	09 13 10.7	**-1.2**
COCO	**West Island**	**66.55**	**261**	P	**P**	09 13 56.6	**-2.5**
SBA	**Scott Base**	**66.78**	**180**	P	**P**	09 14 01.9	**+2.5**
SBA				IAmb	IAmb	09 14 03.3	
	comp=Z,6.3nm,1.0s						
KDAK	**Kodiak Island**	**76.90**	**22**	LR	LR	09 42 12.0	
	comp=Z,28nm,19.9s,baz=205,slow=30						
HOM	**Homer**	**78.61**	**21**	P	**P**	09 15 09.3	**-0.6**
ANM	**Nome**	**78.69**	**13**	P	**P**	09 15 09.9	**-0.4**
QSPA	**South Pole Qui**	**78.93**	**180**	P	**P**	09 15 13.8	**+1.8**
QSPA				IAmb	IAmb	09 15 15.6	
	comp=Z,15nm,1.0s						
QSPA	**South Pole Qui**	**78.93**	**180**	P	**P**	09 15 13.1	**+1.2**
	comp=Z,11nm,0.7s,baz=14,slow=1.1,SNR=84						
	comp=Z,11nm,0.7s						
J17K	**VABM Dome**	**79.21**	**16**	P	**P**	09 15 11.8	**-1.3**
J17K				IAmb	IAmb	09 15 20.6	
	comp=Z,12nm,1.1s						
M19K	**Big River Lodg**	**79.37**	**18**	P	**P**	09 15 14.1	**-0.1**
M19K				IAmb	IAmb	09 15 37.4	
	comp=Z,11nm,1.4s						
L19K	**White Mountain**	**79.45**	**18**	P	**P**	09 15 15.8	**+1.2**
L19K				IAmb	IAmb	09 15 36.8	
	comp=Z,9.7nm,1.4s						
RC01	**Rabbit Creek A**	**80.29**	**21**	P	**P**	09 15 18.6	**-0.5**
RC01				IAmb	IAmb	09 15 43.6	
	comp=Z,8.5nm,1.4s						
SCM	**Sheep Creek Mo**	**81.64**	**21**	P	**P**	09 15 26.3	**-0.1**
SCM				IAmb	IAmb	09 15 32.5	
	comp=Z,11nm,1.4s						
IMAR	**Indian Mountai**	**82.67**	**16**	P	**P**	09 15 33.2	**+1.7**
E19K	**Redstone River**	**82.94**	**14**	P	**P**	09 15 33.4	**+0.4**
E19K				IAmb	IAmb	09 15 35.6	
	comp=Z,11nm,1.4s						
CTGM	**Chitina Glacie**	**83.30**	**23**	P	**P**	09 15 34.6	**-0.5**
CTGM				IAmb	IAmb	09 15 56.0	
	comp=Z,12nm,1.4s						
ILAR	**Eielson Array**	**83.79**	**19**	P	**P**	09 15 38.2	**+0.7**
	comp=Z,0.5nm,0.7s,baz=235,slow=4.8,SNR=4.0						
	comp=Z,0.5nm,0.7s						
J25K	**Salcha River,**	**84.17**	**19**	P	**P**	09 15 40.7	**+1.2**
J25K				IAmb	IAmb	09 15 58.5	
	comp=Z,4.2nm,1.1s						
B21K	**Ikpikpuk River**	**85.24**	**13**	P	**P**	09 15 45.1	**+0.4**
B21K				IAmb	IAmb	09 16 12.3	
	comp=Z,7.5nm,1.2s						
O30N	**Mendenhall**	**85.29**	**25**	P	**P**	09 15 45.2	**0.0**
NVAR	**Mina Array Bea**	**86.65**	**50**	LR	LR	09 49 15.8	
	comp=Z,50nm,18.3s,baz=264,slow=32						
PFO	**Pinyon Flats O**	**86.75**	**55**	LR	LR	09 47 36.1	
	comp=Z,33nm,18.7s,baz=267,slow=31						
BELA	**Belgrano 2**	**90.52**	**176**	P	**P**	09 16 10.6	**+0.6**
BELA				IAmb	IAmb	09 16 11.6	
	comp=Z,6.1nm,0.9s						
MKAR	**Makanchi Array**	**93.00**	**317**	P	**P**	09 16 22.9	**+0.8**
	comp=Z,0.5nm,0.7s,baz=112,slow=4.8,SNR=2.4						
	comp=Z,0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**93.12**	**324**	P	**P**	09 16 24.2	**+1.8**
	comp=Z,0.5nm,0.2s,baz=114,slow=3.5,SNR=1.6						
	comp=Z,0.5nm,0.2s						
TORD	**Torodi Ar. Bea**	**163.49**	**279**	PKP	**PKPdf**	09 23 12.8	**+0.4**
	comp=Z,0.4nm,0.9s,baz=72,slow=1.9,SNR=4.3						

IDC 06 09:05:46.5±9.4, 5°.46S×151°.40E, h49km±69km, mb3.4/2, mbtmp3.7/3, ML1.9/1, MS2.9/1, Error ellipse: s-maj=129.8km s-min=63.1km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.75**	**227**	P	Pn	09 07 09.0	-0.4
	2.2nm,0.3s,baz=315,slow=1.4,SNR=2.0						
PMG				S	Sn	09 08 14.9	+0.9
	11nm,0.9s,baz=324,slow=13,SNR=1.4						
	6.8nm,0.4s						
WRA	**Warramunga Arr**	**21.97**	**228**	P	P	09 10 37.4	+1.0
	1.0nm,0.6s,baz=53,slow=10,SNR=5.4						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**24.73**	**221**	P	P	09 11 03.0	-0.6
	1.5nm,0.7s,baz=55,slow=9.1,SNR=6.8						
	1.5nm,0.7s						
JOW	**Kunigami**	**39.14**	**326**	LR	LR	09 30 08.0	
	comp=Z,16nm,18.2s,baz=260,slow=37						
TORD	**Torodi Ar. Bea**	**149.17**	**286**	PKPbc	PKPbc	09 25 30.1	-0.6
	0.2nm,0.5s,baz=68,slow=2.0,SNR=1.3						

RSNC 06 09:19:25.8±0.0, 7°N±1°×7°3W±°, h147km±2km, M2.9, mB5.9, ML2.6, Mw(mB)5.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**194**	P	Pn	09 19 45.8	-0.3
BARC				S	Sn	09 20 00.6	-0.9
BRJC	**Barrancabermej**	**0.63**	**285**	P	Pn	09 19 47.6	+0.1
BRJC				S	Sn	09 20 04.3	+0.3
PAMC	**Pamplona, Colo**	**0.68**	**39**	P	Pn	09 19 48.7	+0.3
PAMC				S	Sn	09 20 05.6	0.0
RUSC	**La Rusia**	**0.91**	**177**	P	Pn	09 19 49.7	-0.5
RUSC				S	Sn	09 20 07.5	-1.2
PTBC	**PUERTO BERRIO,**	**1.34**	**259**	P	Pn	09 19 52.7	-0.8
PTBC				S	Sn	09 20 13.3	-1.4
TAMC	**Tame, Arauca**	**1.38**	**106**	P	Pn	09 19 54.1	+0.2
TAMC				S	Sn	09 20 15.5	+0.1
OCAC	**Ocana**	**1.43**	**352**	P	Pn	09 19 54.2	-0.4
OCAC				S	Sn	09 20 15.9	-0.8
SPBC	**San Pablo de B**	**1.48**	**219**	P	Pn	09 19 54.7	-0.4
SPBC				S	Sn	09 20 15.9	-1.6
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	P	Pn	09 19 58.9	-0.1
ZARC				S	Sn	09 20 24.9	+0.5
NORC	**Norcasia**	**2.13**	**234**	P	Pn	09 20 02.5	+0.2
NORC				S	Sn	09 20 30.0	-0.4
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	09 20 04.6	+0.5
CHIC				P		09 20 04.7	
CHIC				S	Sn	09 20 34.3	+0.7
ROSC	**El Rosal**	**2.29**	**211**	P	Pn	09 20 06.2	+1.6
ROSC				S	Sn	09 20 37.4	+3.0
CVER	**Cruz Verde, Cu**	**2.46**	**202**	P	Pn	09 20 07.4	+0.6
CVER				S	Sn	09 20 38.8	+0.5
HELC	**Santa Helena**	**2.46**	**256**	P	Pn	09 20 06.2	-0.5
HELC				S	Sn	09 20 37.5	-0.6
UREC	**San Jos de Ur**	**2.56**	**292**	P	Pn	09 20 06.2	-1.4
UREC				S	Sn	09 20 37.4	-2.3
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	09 20 10.2	+0.1
GUY2C				S	Sn	09 20 45.5	+1.4
PTGC	**Puerto Gaitan,**	**2.78**	**159**	P	Pn	09 20 09.0	-1.3
PTGC				S	Sn	09 20 42.4	-2.2
CBOC	**Ciudad Bolivar**	**3.02**	**252**	P	Pn	09 20 13.7	+0.3
CBOC				S	Sn	09 20 48.8	-1.4
DBBC	**Dabeiba**	**3.06**	**274**	P	Pn	09 20 14.1	+0.1
DBBC				S	Sn	09 20 50.1	-1.1
SDV	**Santo Domingo**	**3.22**	**50**	P	Pn	09 20 15.4	-0.7
SDV				S	Sn	09 20 52.4	-2.6
ARGC	**Ariguani, Magd**	**3.22**	**340**	P	Pn	09 20 15.9	0.0
ARGC				S	Sn	09 20 54.7	-0.1
PRAC	**Prado**	**3.54**	**210**	P	Pn	09 20 20.1	+0.1
PRAC				S	Sn	09 21 01.5	-0.6
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	09 20 20.9	+0.4
ORTC				S	Sn	09 21 03.9	+1.1
APAC	**Apartado, Choc**	**3.59**	**288**	P	Pn	09 20 20.1	-0.5
APAC				S	Sn	09 20 58.9	-4.2
SJCC	**San Jacinto, C**	**3.68**	**327**	P	Pn	09 20 20.3	-1.5
SJCC				S	Sn	09 21 02.0	-3.3
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	09 20 22.5	-0.4
URMC				S	Sn	09 21 07.1	0.0
CRJC	**Cerrejon, Guaj**	**4.19**	**3**	P	Pn	09 20 26.2	-2.4
CRJC				S	Sn	09 21 12.7	-4.7
YOTC	**Yotoco, Valle**	**4.26**	**229**	P	Pn	09 20 28.9	-0.6
CAPC	**Capurgana**	**4.56**	**294**	P	Pn	09 20 31.2	-2.2
CAPC				S	Sn	09 21 22.7	-3.3
MACC	**Macarena, Meta**	**4.69**	**189**	P	Pn	09 20 32.7	-2.4
MACC				S	Sn	09 21 24.5	-4.6
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	09 20 36.1	-2.9
URIC				S	Sn	09 21 31.5	-4.7
MALC	**Bahia Malaga**	**5.02**	**237**	P	Pn	09 20 40.1	+0.6

IDC 06 09:20:11.3±847.0, 53°.74N×3°.85E, h0km, Error ellipse: s-maj=388.8km s-min=154.2km az=107.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**7.88**	**124**	I	I	10 07 00.0	
	0.1nm,0.6s,baz=312,slow=320,SNR=1.0						
I43RU	**DUBNA INFRASON**	**19.15**	**68**	I	I	11 13 20.0	
	baz=277,slow=314,SNR=1.8						
I31KZ	**AKTYUBINSK INF**	**32.80**	**73**	I	I	12 40 10.0	
	baz=298,slow=329,SNR=1.2						
I46RU	**ZALESOVO INFRA**	**45.26**	**55**	I	I	13 59 00.0	
	baz=302,slow=327,SNR=2.7						

*NAO **06** 09:23:42.1, 34°.88N×23°.25E, h10km, mb4.0*
*NEIC **06** 09:23:59.7±2.4, 36°.68N±0°.06×20°.69E±0°.06, h10km±2km, mb4.5/5, Error ellipse: s-maj=12.3km s-min=5.2km az=215.0*
*IDC **06** 09:24:04.0±1.1, 37°.38N×20°.68E, h0km, mb3.8/10, mbtmp3.7/17, ML3.9/5, MS3.4/21, Error ellipse: s-maj=19.8km s-min=17.0km az=163.0*
*TIR **06** 09:24:04.8, 37°.38N×21°.24E, h1km±31km, Md3.9, Ml4.0*
*ATH **06** 09:24:05.3, 37°.19N×20°.56E, h8km±1km, ML3.9/12, Error ellipse: s-maj=2.4km s-min=1.0km az=49.0*
*THE **06** 09:24:05.2, 37°.18N×20°.56E, h0km±2km, ML3.9/8, Error ellipse: s-maj=3.4km s-min=0.6km az=233.0*
*BEO **06** 09:24:07.1±0.8, 37°.14N×20°.40E, h38km±9km, ML3.5/7*

ISC 06 09:24:05.9±1.3, 37°.22N±0°.04×20°.64E±0°.03, h16km±8km, n118, σ1§49/120, mb3.9/12, MS3.4/19, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.46**	**17**	P	**Pb**	09 24 15.3	**-0.4**
KRI1				S	**Sb**	09 24 22.6	**+0.3**
	20μm,0.3s						
LTHK	**Lithakia**	**0.51**	**17**	P	**Pg**	09 24 15.9	**-0.2**
LTHK				S	**Sb**	09 24 24.3	**+0.6**
	24μm,0.3s						
LTHK	**Lithakia**	**0.51**	**17**	P	**Pg**	09 24 15.9	**-0.2**
LTHK				S	**Sb**	09 24 24.1	**+0.3**
LTHK				AML	AML	09 24 25.2	
	comp=N,59697μm,0.4s						
LTHK				AML	AML	09 24 25.5	
	comp=E,35468μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.86**	**7**	P	**Pg**	09 24 22.2	**-0.4**
RTZL				S	**Sb**	09 24 35.7	**+1.9**
	comp=E,8μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.89**	**357**	P	**Pg**	09 24 22.7	**-0.5**
PSDA	**Pessada-Kefalo**	**0.89**	**357**	P	**Pg**	09 24 22.9	**-0.3**
PSDA				S	**Sg**	09 24 35.4	**+0.4**
AMT	**Artemida-Makis**	**0.90**	**70**	P	**Pn**	09 24 23.8	**-0.2**
AMT				S	**Sn**	09 24 36.8	**+0.1**
AMT				AML	AML	09 24 45.5	
	comp=N,43495μm,0.4s						
AMT				AML	AML	09 24 50.2	
	comp=E,44024μm,0.5s						
PYL	**PYLOS**	**0.94**	**110**	P	**Pn**	09 24 23.6	**-0.8**
PYL				S	**Sn**	09 24 38.5	**+1.0**
	comp=E,9μm,0.6s						
PYL	**PYLOS**	**0.94**	**110**	P	**Pn**	09 24 23.7	**-0.8**
PYL				S	**Sn**	09 24 38.1	**+0.6**
PYL				AML	AML	09 24 45.8	
	comp=N,22937μm,0.7s						
PYL				AML	AML	09 24 45.9	
	comp=E,13726μm,0.5s						
VLS	**Valsamata**	**0.96**	**357**	P	**Pg**	09 24 23.9	**-0.5**
VLS				S	**Sn**	09 24 38.5	**+0.5**
	comp=E,5μm,0.4s						
VLS	**Valsamata**	**0.96**	**357**	P	**Pg**	09 24 23.8	**-0.5**
VLS				AML	AML	09 24 40.3	
	comp=E,7502μm,0.2s						
VLS				AML	AML	09 24 41.2	
	comp=N,5196μm,0.2s						
ITM	**Ithomi**	**1.03**	**92**	P	**Pn**	09 24 25.6	**-0.1**
ITM				S	**Sn**	09 24 41.7	**+2.0**
	comp=N,7μm,0.9s						
ITM	**Ithomi**	**1.03**	**92**	P	**Pn**	09 24 25.5	**-0.2**
ITM				S	**Sn**	09 24 40.5	**+0.8**
ITM				AML	AML	09 24 48.8	
	comp=N,12782μm,1.0s						
ITM				AML	AML	09 24 49.9	
	comp=E,17049μm,0.8s						
SMHA	**Samh**	**1.03**	**0**	P	**Pg**	09 24 24.8	**-1.0**
SMHA				S	**Sb**	09 24 40.1	**+1.5**
SMHA				AML	AML	09 24 43.8	
	comp=N,29382μm,0.3s						
SMHA				AML	AML	09 24 47.3	
	comp=E,27923μm,0.6s						
DMLN	**Damoulianata-K**	**1.04**	**348**	P	**Pg**	09 24 25.4	**-0.6**
DMLN	**Damoulianata-K**	**1.04**	**348**	P	**Pg**	09 24 25.9	**0.0**
DMLN				S	**Sg**	09 24 39.1	**-0.5**
RLS	**Riolos of Patr**	**1.06**	**38**	P	**Pb**	09 24 25.8	**-0.1**
RLS	**Riolos of Patr**	**1.06**	**38**	P	**Pg**	09 24 25.7	**-0.7**
RLS				S	**Sb**	09 24 40.2	**+0.6**
RLS				AML	AML	09 24 49.9	
	comp=N,5256μm,0.6s						
RLS				AML	AML	09 24 50.1	
	comp=E,5177μm,0.5s						
DRO	**Drossia**	**1.12**	**49**	P	**Pn**	09 24 27.0	**0.0**
DRO	**Drossia**	**1.12**	**49**	P	**Pn**	09 24 27.0	**0.0**
DRO				S	**Sn**	09 24 43.2	**+1.2**
DRO				AML	AML	09 24 53.4	
	comp=N,13815μm,0.5s						
DRO				AML	AML	09 24 54.7	
	comp=E,14740μm,0.5s						
VSK1	**VASILIKIADES**	**1.19**	**357**	P	**Pn**	09 24 27.9	**0.0**
VSK1				S	**Sn**	09 24 46.6	**+2.9**
	comp=E,5μm,0.9s						
FSK	**Fiskardo**	**1.24**	**357**	P	**Pn**	09 24 28.6	**0.0**
FSK				S	**Sg**	09 24 47.7	**+1.8**
	comp=E,3μm,0.7s						
FSK	**Fiskardo**	**1.24**	**357**	P	**Pn**	09 24 28.5	**-0.1**
EVGI	**Lefkada island**	**1.40**	**0**	P	**Pb**	09 24 31.7	**+0.1**
KLV	**Kalavryta, Ach**	**1.45**	**55**	P	**Pg**	09 24 32.8	**-1.0**
KLV	**Kalavryta, Ach**	**1.45**	**55**	P	**Pb**	09 24 32.5	**-0.1**
KLV				AML	AML	09 25 08.8	
	comp=E,1852μm,0.9s						
KLV				AML	AML	09 25 11.3	
	comp=N,2781μm,1.0s						
NYDR	**Nydri-Lefkada**	**1.49**	**2**	P	**Pn**	09 24 32.4	**+0.4**
GUR	**Goura**	**1.53**	**62**	P	**Pb**	09 24 33.6	**-0.3**
GUR				AML	AML	09 25 04.9	
	comp=E,4347μm,0.6s						
GUR				AML	AML	09 25 07.1	
	comp=N,5892μm,0.5s						
EFP	**

VAE				Sn	Sn	09 26 15.9	-1.3
	comp=E,7.8nm,0.3s,baz=12,slow=20,SNR=3.6						
RAFF	Raffo Rosso	5.01 272			Pn	09 25 15.0	-5.5
WDD	Wied Dalam	5.12 256		Pn	Pn	09 25 16.1	-5.7
PDG	Podgorica	5.31 349		Pn	Pn	09 25 26.6	+2.0
BOSS	Bosilegrad	5.46 14		*e*Pn	Pn	09 25 26.7	+0.2
KARP	Karpathos	5.52 106		Pn	Pn	09 25 18.5	-8.9
BARS	Barje	5.66 9		*e*Pn	Pn	09 25 29.5	+0.1
VTS	Vitosha	5.75 19		*e*Pn	Pn	09 25 29.8	-0.9
VTS				*e*Sn	Sn	09 26 34.8	-1.6
TREB	Trebinje	5.76 343		*e*Pn	Pn	09 25 30.2	-0.6
TREB				*e*Sn	Sn	09 26 31.9	-4.7
SELS	Selova	6.00 3		*e*Pn	Pn	09 25 33.3	-0.8
SELS				*e*Sn	Sn	09 26 39.2	-3.3
SJES	Sjenica	6.05 355		*e*Pn	Pn	09 25 35.4	+0.5
STON	Ston	6.08 339		*e*Pn	Pn	09 25 34.3	-0.7
ZAPS	Zavoj	6.23 14		*e*Pn	Pn	09 25 37.9	+0.6
IVAS	Ivanjica	6.36 357		*e*Pn	Pn	09 25 38.5	-0.5
BOVS	Bovan	6.46 7		*e*Pn	Pn	09 25 39.4	-0.9
GRUS	Gruza	6.66 0		*e*Pn	Pn	09 25 42.4	-0.7
ZAGS	Zajecar	6.70 10		*e*Pn	Pn	09 25 44.0	+0.5
DIVS	Divibare	6.89 356		*e*Pn	Pn	09 25 45.5	-0.8
DIVS				*e*Sn	Sn	09 26 59.4	-5.0
HAPS	Han Pijesak,BI	6.98 350		*e*Pn	Pn	09 25 47.1	-0.4
NRCA	Norcia	8.05 316		Pn	Pn	09 26 03.2	+1.0
MLR	Muntele Rosu	9.17 24		Pn	Pn	09 26 17.7	0.0
MLR	Muntele Rosu	9.17 24		Pn	Pn	09 26 15.9	-1.7
	comp=E,0.3nm,0.3s,baz=192,slow=14,SNR=1.8						
	comp=E,1.8nm,0.6s						
KEST	Kesra	9.22 264		Pn	Pn	09 26 19.2	+0.9
	comp=E,0.2nm,0.3s,baz=254,slow=23,SNR=1.8						
	comp=E,2.9nm,0.7s						
FUORN	Ofenpass-Fuorn	12.15 324		Pn	Pn	09 26 59.0	+0.5
VRAC	Vranov	12.43 348		LR	LR	09 32 45.1	
	comp=E,150nm,21.5s,baz=170,slow=42						
GEC2	GERESS Array S	12.67 339		Pn	Pn	09 27 06.5	+1.0
GERES	GERESS Array B	12.67 339		Pn	Pn	09 27 04.1	-1.4
	comp=E,0.2nm,0.3s,baz=322,slow=15,SNR=2.2						
	comp=E,0.8nm,0.2s						
AKASG	Malin Array Be	14.81 22		Pn	Pn	09 27 32.5	-2.0
	comp=E,0.4nm,0.3s,baz=212,slow=9.9,SNR=1.7						
AKASG				LR	LR	09 34 19.8	
	comp=E,130nm,19.0s,baz=213,slow=42						
	comp=E,0.1nm,0.3s						
NACGM	Naroch	18.18 11		*e*P	P	09 28 20.6	+3.0
	comp=Z,15nm,0.8s,baz=196						
ESDC	Sonseca Array	19.41 285		P	P	09 28 31.9	+0.4
	comp=Z,0.3nm,0.3s,baz=82,slow=12,SNR=3.1						
	comp=Z,0.2nm,0.3s						
OBN	Obninsk	20.93 26		LR	LR	09 38 17.1	
	comp=Z,44nm,20.0s,baz=136,slow=41						
MDT	Midelt	21.12 266		LR	LR	09 38 04.2	
	comp=Z,50nm,19.7s,baz=94,slow=40						
HFS	Hagfors	23.36 351		P	P	09 29 12.4	-1.0
	comp=Z,3.0nm,0.6s,baz=153,slow=13,SNR=4.4						
HFS				LR	LR	09 38 25.1	
	comp=Z,101nm,18.7s,baz=164,slow=37						
	comp=Z,3.0nm,0.6s						
BELG	Belogornoye	24.23 43		P	P	09 29 21.9	+0.1
	comp=Z,3.4nm,0.4s,baz=8.1,slow=4.8,SNR=4.5						
BELG				LR	LR	09 39 09.1	
	comp=Z,67nm,21.7s,baz=264,slow=38						
	comp=Z,3.4nm,0.4s						
NAO01	NORSAR Array S	24.44 348		P	P	09 29 22.8	-0.8
NAO01				IAmb	IAmb	09 29 47.3	
	comp=Z,22nm,1.4s						
FINES	FINESS Array B	24.48 6		P	P	09 29 23.3	-0.7
	comp=Z,1.5nm,0.6s,baz=171,slow=13,SNR=4.5						
FINES				LR	LR	09 39 53.5	
	comp=Z,126nm,20.9s,baz=192,slow=39						
	comp=Z,1.5nm,0.6s						
FIA1	FINESS Array S	24.49 6		P	P	09 29 24.4	+0.4
NB2	NORSAR Subarra	24.57 349		P	P	09 29 26.0	+1.1
	comp=Z,1.4nm,0.7s,baz=158,slow=9.3						
NOA	NORSAR Array B	24.57 349		P	P	09 29 24.4	-0.5
	comp=Z,0.8nm,0.7s,baz=158,slow=9.0,SNR=4.2						
NOA				LR	LR	09 39 57.6	
	comp=Z,70nm,18.9s,baz=180,slow=39						
	comp=Z,0.8nm,0.7s						
NBO00	NORSAR Array S	24.63 348		P	P	09 29 26.4	+0.9
NBO00				IAmb	IAmb	09 29 51.0	
	comp=Z,8.9nm,1.0s						
KIRV	Kirov	28.41 32		LR	LR	09 43 26.6	
	comp=Z,58nm,19.0s,baz=249,slow=41						
TORD	Torodi Ar. Bea	29.36 220		P	P	09 30 09.0	+0.8
	comp=Z,0.4nm,0.5s,baz=34,slow=8.8,SNR=3.2						
TORD				LR	LR	09 42 52.9	
	comp=Z,63nm,20.0s,baz=334,slow=38						
	comp=Z,0.4nm,0.5s						
AKTO	Aktyubinsk	29.69 52		LR	LR	09 44 17.9	
	comp=Z,98nm,19.0s,baz=204,slow=41						
ARTI	Arti	31.61 41		LR	LR	09 42 33.8	
	comp=Z,60nm,18.1s,baz=260,slow=35						
ARCES	ARCESS Array B	32.48 3		P	P	09 30 34.2	-1.0
	comp=Z,2.8nm,1.0s,baz=194,slow=10,SNR=1.6						
	comp=Z,2.8nm,1.0s						
DBIC	Dimbokro	38.26 224		LR	LR	09 46 51.6	
	comp=Z,55nm,21.1s,baz=339,slow=36						
BBTS	Babate	39.91 246		LR	LR	09 49 17.9	
	comp=Z,53nm,19.8s,baz=306,slow=38						
KMBO	Kilima Mbogo	41.15 154		LR	LR	09 52 14.3	
	comp=Z,48nm,18.6s,baz=88,slow=41						
KURBB	Kurchatov Arra	42.73 53		P	P	09 32 01.6	-0.5
	comp=Z,0.4nm,0.4s,baz=278,slow=8.7,SNR=2.3						
KURBB				LR	LR	09 51 56.9	
	comp=Z,55nm,18.9s,baz=156,slow=39						
	comp=Z,0.4nm,0.4s						
MK31	Makanchi Array	45.73 58		P	P	09 32 21.4	-4.8
MKAR	Makanchi Array	45.73 58		P	P	09 32 25.4	-0.9
	comp=Z,0.2nm,0.3s,baz=284,slow=8.8,SNR=1.9						
MKAR				LR	LR	09 53 58.5	
	comp=Z,61nm,20.0s,baz=308,slow=39						
	comp=Z,0.2nm,0.3s						
ZALV	Zalesovo Beam	46.26 47		P	P	09 32 29.3	-1.0
	comp=Z,0.5nm,0.3s,baz=247,slow=9.2,SNR=1.3						
	comp=Z,0.5nm,0.3s						
RES	Resolute Bay	60.71 344		LR	LR	10 01 17.6	
	comp=Z,40nm,18.6s,baz=26,slow=37						
SONM	Songino Array	60.99 50		P	P	09 34 18.1	-0.4
	comp=Z,0.2nm,0.3s,baz=288,slow=5.8,SNR=1.3						
	comp=Z,0.2nm,0.3s						
YAK	Yakutsk	65.89 29		LR	LR	10 04 47.8	
	comp=Z,63nm,19.9s,baz=320,slow=37						
KLR	Kul'dur	74.55 39		LR	LR	10 13 46.4	
	comp=Z,40nm,18.8s,baz=346,slow=40						
KSRS	Korea Array	79.86 51		LR	LR	10 15 33.0	
	comp=Z,46nm,18.0s,baz=330,slow=39						

NOU 06 09:26:38.5, 22°.01S×169°.91E, h0km, MLv4.0/12, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.82	286	P	Pn	09 27 10.7	-0.4
PINNC	Pines Island,	2.36	255	P	Pn	09 27 18.1	-0.4
LIFNC	LIFOU	2.77	296	P	Pn	09 27 24.7	+0.5
YATNC	Mamie plateau,	2.80	268	P	Pn	09 27 23.9	-0.7
OUENC	Ouen Island, N	2.87	261	P	Pn	09 27 25.4	-0.2
ONTNC	Ouen Toro	3.22	264	P	Pn	09 27 30.8	+0.5
NOUC	Port Laguerre	3.35	268	P	Pn	09 27 32.2	+0.1
DVP	Devils Point	4.56	339	P	Pn	09 27 48.5	-0.3
KOUNC	Koumac, New Ca	5.44	284	P	Pn	09 28 00.8	-0.1
VLAKA	Lakatoro	6.33	338	P	Pn	09 28 12.1	-1.0

*IDC **06** 09:31:09.0±1.3, 51°.99S×139°.77E, h0km, mb4.2/5, mbtmp4.3/5, MS3.9/31, Error ellipse: s-maj=126.3km s-min=19.0km az=89.0*
*NEIC **06** 09:31:11.7±1.3, 51°.97S±0°.10×139°.9E±0°.1, h10km±1km, mb4.7/17, Error ellipse: s-maj=19.1km s-min=6.2km az=214.0*
*GCMT **06** 09:31:14.7±0.3, 52°.02S±0°.02×139°.50E±0°.04, h27km±1km, MW4.9/81, Moment Tensor Solution. s8,c9; s81,c97; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~0.46±.21; Mθθ0.15±.14; Mφφ0.30±.17; Mrθ~0.21±.22; Mrφ~2.67±.10; Mθφ0.54±.24; Best double couple: M0=2.72500×10^16 NP1:φs1.00000°, δ88.00000°, λ11.00000°. NP2: φs271.00000°, δ79.00000°, λ178.00000°. Principal axes: T 2.9820, Plg9.0000°, Azm226.0000°; N -0.5130, Plg79.0000°, Azm9.0000°; P -2.4690, Plg6.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular*

moment-rate function

ISC 06 09:31:11.0±0.6, 51°.97S±0°.09×139°.8E±0°.2, h10km, n74, σ0.71/37, mb4.6/10, MS3.9/31, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	Toolangi	14.95	18	Pn	Pn	09 34 42.3	+0.1
BBOO	Buckleboo	19.35	350	P	P	09 35 35.8	-0.7
BBOO				IAmb	IAmb	09 36 05.7	
	comp=E,54nm,1.5s						
MLZ	Mavora Lakes	19.74	82	P	P	09 35 41.3	+0.6
MLZ				IAmb	IAmb	09 35 56.5	
	comp=Z,38nm,1.3s						
STKA	Stephens Creek	20.12	4	P	P	09 35 45.2	+0.3
STKA	Stephens Creek	20.12	4	P	P	09 35 46.2	+1.2
	comp=Z,3.6nm,0.7s,baz=163,slow=14,SNR=4.4						
STKA				LR	LR	09 42 09.2	
	comp=Z,199nm,20.5s,baz=187,slow=33						
	comp=Z,3.6nm,0.7s						
RPZ	Rata Peaks	22.39	81	LR	LR	09 43 12.8	
	comp=Z,361nm,20.4s,baz=252,slow=32						
H01W1	Cape Leeuwin H	25.07	303	T	T	10 02 29.1	
	baz=140,slow=75						
H01W2	Cape Leeuwin H	25.08	303	T	T	10 02 30.4	
	baz=140,slow=75						
H01W3	Cape Leeuwin H	25.09	303	T	T	10 02 31.3	
	baz=140,slow=75						
NWAO	Narrogin (SRO)	25.12	310	LR	LR	09 44 06.0	
	comp=Z,409nm,20.5s,baz=74,slow=31						
EIDS	Eidsvold	27.92	22	P	P	09 37 01.0	-0.2
EIDS				IAmb	IAmb	09 37 04.8	
	comp=Z,14nm,1.4s						
ASAR	Alice Springs	28.62	349	P	P	09 37 07.4	-0.1
ASAR	Alice Springs	28.62	349	P	P	09 37 07.2	-0.4
	comp=Z,2.8nm,0.9s,baz=166,slow=10,SNR=20						
ASAR				PcP	PcP	09 40 17.4	-1.0
	comp=Z,0.4nm,0.7s,baz=158,slow=3.0,SNR=4.6						
ASAR				LR	LR	09 47 08.0	
	comp=Z,157nm,19.6s,baz=174,slow=34						
	comp=Z,2.8nm,0.9s						
AS31	Alice Springs	28.63	349	P	P	09 37 07.6	+0.1
URZ	Urewera	29.32	77	LR	LR	09 48 25.0	
	comp=Z,201nm,18.3s,baz=358,slow=35						
WR0	Warramunga Arr	32.22	351	P	P	09 37 39.3	+0.1
WR0				IAmb	IAmb	09 37 55.1	
	comp=Z,9.8nm,1.1s						
CTA	Charters Tower	32.22	11	LR	LR	09 50 30.1	
	comp=Z,19nm,20.1s,baz=179,slow=36						
WB2	Warramunga Arr	32.25	350	P	P	09 37 39.6	+0.1
WRA	Warramunga Arr	32.25	350	P	P	09 37 39.4	-0.2
WRA	Warramunga Arr	32.25	350	P	P	09 37 38.8	-0.7
	comp=Z,8.8nm,1.0s,baz=172,slow=6.8,SNR=29						
WRA				PcP	PcP	09 40 26.7	-1.1
	comp=Z,0.8nm,1.0s,baz=182,slow=2.3,SNR=4.6						
WRA				LR	LR	09 48 15.9	
	comp=Z,113nm,21.7s,baz=166,slow=32						
	comp=Z,8.8nm,1.0s						
WRAB	Tennant Creek	32.26	350	P	P	09 37 40.0	+0.3
WRAB				IAmb	IAmb	09 37 46.6	
	comp=Z,17nm,1.0s						
WB0	Warramunga Arr	32.42	350	P	P	09 37 41.2	+0.2
WB0				IAmb	IAmb	09 37 48.7	
	comp=Z,18nm,1.2s						
FITZ	Fitzroy Crossi	35.61	336	LR	LR	09 51 59.7	
	comp=Z,190nm,19.7s,baz=162,slow=35						
DZM	Mont Dzumac	36.25	45	LR	LR	09 49 35.8	
	comp=Z,350nm,20.7s,baz=238,slow=30						
COEN	Coen	38.02	5	P	P	09 38 30.0	+0.8
COEN				IAmb	IAmb	09 38 34.5	
	comp=Z,13nm,1.4s						
QSPA	South Pole Qui	38.14	180	P	P	09 38 30.7	+0.7
QSPA	South Pole Qui	38.14	180	P	P	09 38 29.9	-0.1
	comp=Z,6.5nm,1.1s,baz=307,slow=2.3,SNR=11						
QSPA				LR	LR	09 53 02.9	
	comp=Z,266nm,21.5s,baz=360,slow=34						
	comp=Z,6.5nm,1.1s						
RAO	Raoul Island	38.55	71	LR	LR	09 51 47.2	
	comp=Z,127nm,18.9s,baz=222,slow=32						
MAW	Mawson	38.81	217	LR	LR	09 52 20.3	
	comp=Z,472nm,21.2s,baz=92,slow=33						
PMG	Port Moresby	42.87	11	LR	LR	09 56 45.4	
	comp=Z,190nm,18.2s,baz=148,slow=36						
BATI	Baumata	43.68	337	LR	LR	09 57 29.5	
	comp=Z,296nm,19.2s,baz=178,slow=36						
KAPI	Kappang	49.68	333	LR	LR	10 00 33.9	
	comp=Z,116nm,19.9s,baz=160,slow=36						
FUTU	Fugatoga	50.35	58	P	P	09 40 06.3	-1.7
BELA	Belgrano 2	50.37	182	P	P	09 40 07.8	+0.3
BELA				IAmb	IAmb	09 40 15.1	
	comp=Z,7.7nm,1.1s						
LEM	Lembang	52.23	318	LR	LR	10 00 47.7	
	comp=Z,178nm,21.0s,baz=212,slow=34						
SNAA	Sanae	53.86	194	P	P	09 40 33.7	+0.1
SNAA				IAmb	IAmb	09 40 40.7	
	comp=Z,19nm,1.5s						
SNAA	Sanae	53.86	194	P	P	09 40 32.8	-0.8
	comp=Z,1.1nm,0.4s,baz=206,slow=6.8,SNR=3.8						
SNAA				LR	LR	10 03 01.1	
	comp=Z,326nm,18.3s,baz=193,slow=36						
	comp=Z,1.1nm,0.4s						
FUNA	Funafuti	53.94	51	P	P	09 40 34.9	+0.2
H04S1	CROZET ISLANDS	54.07	238	T	T	10 39 15.8	
	baz=130,slow=74						
H04S2	CROZET ISLANDS	54.07	238	T	T	10 39 16.1	
	baz=130,slow=74						
H04S3	CROZET ISLANDS	54.08	238	T	T	10 39 11.0	
	baz=130,slow=74						
AFI	Afiamalu	54.09	64	P	P	09 40 35.0	-1.0
DAV	Davao City (W)	60.07	344	LR	LR	10 08 26.9	
	comp=Z,32nm,19.3s,baz=170,slow=37						
PMSA	Palmer Station	62.13	169	LR	LR	10 04 54.3	
	comp=Z,79nm,20.5s,baz=218,slow=33						
PPT	Papeete	64.43	86	LR	LR	10 03 04.9	
	comp=Z,36nm,20.1s,baz=246,slow=30						
GUMO	Guam	65.44	5	LR	LR	10 08 18.0	
	comp=Z,45nm,21.1s,baz=60,slow=34						
H08S2	Diego Garcia H	70.11	283	T	T	10 58 39.5	
	baz=142,slow=76						
H08S1	Diego Carcia H	70.12	283	T	T	10 58 47.1	
	baz=142,slow=76						
H08S3	Diego Garcia H	70.13	283	T	T	10 58 53.8	
	baz=142,slow=76						
OPO	Ambohidratompo	77.19	256	LR	LR	10 08 00.8	
	comp=Z,56nm,21.0s,baz=350,slow=29						
CMAR	Chiang Mai Arr	78.66	321	LR	LR	10 17 23.1	
	comp=Z,46nm,20.4s,baz=175,slow=35						
SUR	Sutherland	80.51	229	LR	LR	10 11 33.7	
	comp=Z,64nm,20.5s,baz=158,slow=30						
BOSA	Boshof	81.47	234	LR	LR	10 11 56.8	
	comp=Z,109nm,20.8s,baz=204,slow=30						
PLCA	Paso Flores	83.96	157	LR	LR	10 16 09.7	
	comp=Z,49nm,18.4s,baz=183,slow=32						
LBTB	Lobatse	84.25	236	LR	LR	10 16 18.6	
	comp=Z,90nm,18.4s,baz=163,slow=32						
H03S2	Juan Fernandez	88.06	149	T	T	11 22 28.4	
	baz=202,slow=74						
H03S1	Juan Fernandez	88.06	149	T	T	11 22 35.8	
	baz=202,slow=74						
H03S3	Juan Fernandez	88.07	149	T	T	11 22 32.1	
	baz=202,slow=74						
KSRS	Korea Array	89.66	351	LR	LR	10 26 26.0	
	comp=Z,17nm,19.0s,baz=320,slow=37						
TSUM	Tsumeb	93.15	233	LR	LR	10 18 59.4	
	comp=Z,130nm,21.6s,baz=312,slow=31						
ASAJ	Asahikawa	95.74	2	LR	LR	10 34 26.6	
	comp=Z,23nm,18.0s,baz=166,slow=40						
KMBO	Kilima Mbogo	96.85	259	LR	LR	10 20 51.8	
	comp=Z,45nm,18.9s,baz=90,slow=31						
Q44A	Meyer Farm, Va	144.01	92	PKPdf	PKPdf	09 50 46.8	+0.8
U49A	Red Boiling Sp	144.50	98	PKPdf	PKPbc	09 50 46.2	+0.5
SPMN	Marine on St.	145.21	80	PKPbc	PKPdf	09 50 48.5	+0.6
ARCES	ARCESS Array B	145.60	325	PKPbc	PKPdf	09 50 46.5	-1.3
	comp=Z,2.1nm,0.6s,baz=73,slow=3.3,SNR=8.2						
SPITS	Spitsbergen Ar	147.05	342	PKPbc	PKPdf	09 50 51.1	+0.9
	comp=Z,36nm,1.3s,baz=75,slow=11,SNR=1.5						
RES	Resolute Bay	148.47	25	PKPbc	PKPbc	09 50 56.4	+0.3
Q54A	Coxs Mills	149.10	99	PKPbc	PKPbc	09 50 59.0	+0.2
FCC	Fort Churchill	149.37	56	PKPdf	PKPdf	09 50 55.3	+0.9
NB201	NORSAR Array S	150.92	308	PKPdf	PKPdf	09 50 57.6	+0.8
NAO01	NORSAR Array S	151.09	308	PKPdf	PKPdf	09 50 57.5	+0.4
S61A	Accomac	151.38	106	PKPdf	PKPdf	09 50 57.6	-0.6
ESDC	Sonseca Array	152.23	258	PKPbc	PKPbc	09 51 06.0	-0.3
	comp=Z,0.7nm,0.8s,baz=114,slow=1.5,SNR=2.3						

*GUC **06** 09:34:57.7±0.7, 17°.60S×69°.79W, h130km±5km, ML3.1*

*IDC **06** 09:34:59.7±5.5, 16°.93S×69°.59W, h162km±25km, mb4.2/2, mbtmp4.7/2, Error ellipse: s-maj=175.6km s-min=71.5km az=159.0*

ISC 06 09:34:56.2±1.8, 17°.51S±0°.09×69°.7W±0°.2, h146km±8km, n8, σ19.31/14, 3C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	Visviri	0.21	112	⇑*i*P	Pn	09 35 16.8	+0.1
PB18				*e*S	Sn	09 35 32.4	+0.3
PB18				IAML		09 35 33.7	
	comp=E,271nm,0.7s						
LPAZ	La Paz	1.92	51	P	Pn	09 35 31.1	+0.3
	comp=E,60nm,0.3s,baz=246,slow=6.1,SNR=480						
LPAZ				S	Sn	09 35 55.5	-1.7
	comp=E,26nm,0.6s,baz=192,slow=9.0,SNR=8.6						
GO01	Chusmiza	2.19	168	⇑*i*P	Pn	09 35 34.9	+0.9
GO01				*e*S	Sn	09 36 03.9	+1.0
GO01				IAML		09 36 07.4	
	comp=E,366nm,0.2s						
PB11	IPOC Station P	2.24	179	*e*P	Pn	09 35 34.2	+0.1
PB11				*e*S	Sn	09 36 02.6	-0.7
PB11				IAML		09 36 04.4	
	comp=E,232nm,0.3s						
PB08	IPOC Station P	2.66	169	*e*P	Pn	09 35 40.3	+0.7
PB08				*e*S	Sn	09 36 13.1	+0.1
PB08				IAML		09 36 15.6	
	comp=E,123nm,0.3s						
PB01	IPOC Station P	3.52	177	⇑*i*P	Pn	09 35 50.0	-0.2
PB01				*e*S	Sn	09 36 28.7	-3.3
DBIC	Dimbokro	68.36	75	P	P	09 45 42.7	+0.2
	comp=E,4.8nm,0.5s,baz=248,slow=5.2,SNR=7.6						
	comp=E,4.8nm,0.5s						
TORD	Torodi Ar. Bea	76.75	72	P	P	09 46 32.3	+0.3
	comp=E,2.9nm,0.5s,baz=262,slow=5.1,SNR=19						
	comp=E,2.9nm,0.5s						

RSNC 06 09:52:12.6±0.0, 7°.N±1°×7°.3W±°, h153km±2km, M3.4, mb3.8, mB5.0, ML3.1, Mw(mB)4.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.23	191	P	Pn	09 52 33.2	-0.5
BARC				S	Sn	09 52 48.7	-1.0
BRJC	Barrancabermej	0.62	284	P	Pn	09 52 34.9	0.0
BRJC				S	Sn	09 52 52.1	+0.2
PAMC	Pamplona, Colo	0.68	40	P	Pn	09 52 36.0	+0.1
PAMC				S	Sn	09 52 52.7	-0.9
RUSC	La Rusia	0.92	176	P	Pn	09 52 37.1	-0.5
RUSC				S	Sn	09 52 55.9	-0.8
PTBC	PUERTO BERRIO,	1.34	258	P	Pn	09 52 39.6	-1.2
PTBC				S	Sn	09 53 01.7	-0.6
TAMC	Tame, Arauca	1.39	106	P	Pn	09 52 41.6	+0.2
TAMC				S	Sn	09 53 03.4	+0.1
OCAC	Ocana	1.42	353	P	Pn	09 52 41.4	-0.4
OCAC				S	Sn	09 53 03.9	-0.3
SPBC	San Pablo de B	1.48	219	P	Pn	09 52 42.0	-0.4
SPBC				S	Sn	09 53 05.1	-0.1
ZARC	Zaragoza, Cauc	1.83	292	P	Pn	09 52 45.4	-0.6
ZARC				S	Sn	09 53 10.4	-1.2
NORC	Norcasia	2.12	234	P	Pn	09 52 49.0	-0.4
NORC				S	Sn	09 53 17.6	-0.2
CHIC	Chingaza	2.25	195	P	Pn	09 52 51.1	-0.3
CHIC				S	Sn	09 53 20.8	-0.4
ROSC	El Rosal	2.29	211	P	Pn	09 52 52.9	+1.1
ROSC				S	Sn	09 53 23.6	+1.7
HELC	Santa Helena	2.46	255	P	Pn	09 52 54.1	+0.4
HELC				S	Sn	09 53 25.1	-0.2
CVER	Cruz Verde, Cu	2.46	202	P	Pn	09 52 54.6	+0.6
CVER				S	Sn	09 53 25.6	-0.2
UREC	San Jos de Ur	2.55	291	P	Pn	09 52 52.6	-1.9
UREC				S	Sn	09 53 24.4	-2.4
GUY2C	Guyana, Caldas	2.72	234	P	Pn	09 52 57.2	+0.1
GUY2C				S	Sn	09 53 30.6	-0.8
VILC	Villavicencio,	2.75	192	P	Pn	09 52 56.6	-0.5
VILC				S	Sn	09 53 31.0	-0.5
PTGC	Puerto Gaitan,	2.79	159	P	Pn	09 52 56.4	-1.1
PTGC				S	Sn	09 53 29.3	-2.9
RECRC	Villamaria, Ca	2.87	230	P	Pn	09 53 00.1	+1.1
RECRC				S	Sn	09 53 37.0	+2.1
NIZA	Niza - Manizal	2.91	233	P	Pn	09 53 01.7	+2.5
NIZA				S	Sn	09 53 38.2	+3.0
CBOC	Ciudad Bolivar	3.01	252	P	Pn	09 53 00.9	+0.5
CBOC				S	Sn	09 53 37.1	-0.2
DBBC	Dabeiba	3.05	274	P	Pn	09 53 00.8	-0.1
DBBC				S	Sn	09 53 36.4	-1.8
ARGC	Ariguani, Magd	3.21	340	P	Pn	09 53 03.1	+0.3
ARGC				S	Sn	09 53 41.3	-0.4
SDV	Santo Domingo	3.22	50	P	Pn	09 53 02.7	-0.4
SDV				S	Sn	09 53 40.0	-2.2
ANIL	Santa Ana	3.23	224	P	Pn	09 53 04.6	+1.3
ANIL				S	Sn	09 53 43.6	+1.1
PRAC	Prado	3.54	209	P	Pn	09 53 06.7	-0.4
PRAC				S	Sn	09 53 48.4	-1.0
ORTC	Ortega, Tolima	3.57	216	P	Pn	09 53 07.2	-0.3
ORTC				S	Sn	09 53 50.7	+0.6
APAC	Apartado, Choc	3.58	288	P	Pn	09 53 06.9	-0.6
APAC				S	Sn	09 53 48.7	-1.3
SJCC	San Jacinto, C	3.66	327	P	Pn	09 53 06.8	-1.8
SJCC				S	Sn	09 53 50.7	-1.5
URMC	La Uribe, Meta	3.76	199	P	Pn	09 53 10.2

JKHN	Kushirohamanak	1.38	197	*i* P		Pb	10 02 52.8 -1.1
JKHN				S		Sb	10 03 12.3 +1.2
JAK	Akkeshi	1.59	208	P		Pb	10 02 55.3 -2.1
KUR	Kuril'sk	1.74	61	*e*P		Pb	10 02 59.0 -1.0
KUR				AMB		AMB	10 03 00.1
	30nm,0.5s						
KUR				*e*S		Sb	10 03 22.4 +1.0
KUR				A		A	10 03 26.4
	40nm,0.4s						
KUR				A		A	10 03 26.4
	40nm,0.4s						
JMP	Maruseppu	1.75	258	P		Pn	10 02 57.0 +0.2
JMP				*e*S		Sn	10 03 18.7 +0.7

IDC 06 10:05:20.6±3.7, 6°20.S×148°35.E, h83km±30km, mb3.4/1, mbtmp3.7/3, Error ellipse: s-maj=103.0km s-min=26.3km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.40	200	P	Pn	10 06 11.7	+0.3
	12nm,0.6s,baz=16,slow=15,SNR=3.1						
PMG				S	Sn	10 06 51.1	+0.5
	25nm,0.3s,baz=32,slow=19,SNR=4.3						
WRA	Warramunga Arr	19.29	224	P	P	10 09 38.9	-0.1
	1.8nm,0.6s,baz=49,slow=11,SNR=24						
ASAR	Alice Springs	22.25	217	P	P	10 10 10.9	+0.2
	1.9nm,0.6s,baz=51,slow=9.3,SNR=40						
ASAR				S	S	10 14 11.4	+0.9
	0.6nm,1.0s,baz=40,slow=22,SNR=3.3 1.9nm,0.6s						
TORD	Torodi Ar. Bea	146.44	284	PKPbc	PKPdf	10 24 52.2	+0.5
	0.2nm,0.4s,baz=72,slow=3.3,SNR=1.6						

*NEIC **06** 10:15:58.0±1.6, 51°.5N±0°.2×178°.51E±0°.08, h85km±10km, mb3.9/83, ML3.3(AEIC), Error ellipse: s-maj=25.6km s-min=7.4km az=183.0*
*AEIC **06** 10:15:59.4±4.0, 52°.1N±0°.2×178°.76E±0°.09, h87km±7km, Error ellipse: s-maj=23.9km s-min=7.0km az=187.0*
*IDC **06** 10:15:59.3±3.0, 51°.94N×178°.55E, h86km±24km, mb3.3/7, mbtmp3.7/10, MS3.2/1, Error ellipse: s-maj=59.6km s-min=16.3km az=5.0*

ISC 06 10:15:57.7±1.3, 51°.5N±0°.2×178°.48E±0°.04, h83km±10km, n131, σ1s02/131, mb3.9/32, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	Gareloi Southw	1.68	80		Pn	10 16 25.7	+0.3
GASW					Sn	10 16 46.1	-0.3
GANO	Gareloi North	1.72	79		Pn	10 16 26.0	+0.1
GANO					Sn	10 16 46.7	-0.6
GALAA	Gareloi Lava P	1.73	81		Pn	10 16 26.5	+0.4
GALAA					Sn	10 16 47.8	+0.2
GANE	Gareloi Northe	1.73	79		Pn	10 16 26.2	+0.1
GAEA	Gareloi East	1.75	80		Pn	10 16 26.5	+0.2
TASE	Tanaga Southea	2.19	80		Pn	10 16 32.4	+0.2
TAFP	Tanaga Falls P	2.23	79		Pn	10 16 32.6	-0.2
TAFP					Sn	10 16 57.7	-1.8
KIMD	Kanaga Island	2.68	83		Pn	10 16 38.9	+0.2
KIKV	Kanaga Island	2.73	81		Pn	10 16 39.5	+0.1
KIWB	Kanaga Island	2.74	81		Pn	10 16 39.4	-0.1
KIRH	Kanaga Island	2.78	80		Pn	10 16 40.1	0.0
SHEM	Shemya Is, Ala	2.96	296	P	Pn	10 16 44.2	+1.6
	78nm,0.9s,baz=127,slow=5.1,SNR=1.7						
SHEM				S	Sn	10 17 16.0	-1.1
	46nm,0.4s,baz=294,slow=17,SNR=6.2						
ADK	Adak	3.03	81		Pn	10 16 43.4	0.0
ADK					Sn	10 17 17.4	-1.2
GSMY	Great Sitkin M	3.43	79		Pn	10 16 48.8	-0.1
GSTR	Great Sitkin T	3.44	78	Pn	Pn	10 16 48.8	-0.2
ATKA	Atka Island	4.59	79		Pn	10 17 03.8	-0.7
NIKH	Nikolski High	7.91	74		Pn	10 17 50.2	+0.4
OKTU	Okmok Mt. Tuli	8.44	72		Pn	10 17 59.0	+1.9
MAPS	Pakushin South	9.15	70		Pn	10 18 08.6	+1.9
MREP	Makushin Rep't	9.27	70		Pn	10 18 10.2	+1.8
UNV	Unalaska Valle	9.41	70		Pn	10 18 10.3	+0.1
LVA	Lava Point	9.74	68	Pn	Pn	10 18 14.1	-0.6
AHB	Akutan Harbor	9.86	69		Pn	10 18 18.1	+1.7
PET	Petropavlovsk	12.24	285	Pn	Pn	10 18 49.8	+1.1
S12K	Black Hills	12.28	62	Pn	Pn	10 18 50.7	+1.5
PETK	Petropavlovsk-	12.81	285	P	Pn	10 18 58.0	+1.6
	1.6nm,0.9s,baz=95,slow=19,SNR=1.6						
PETK				S	Sn	10 21 13.0	-4.1
	2.7nm,0.9s,baz=102,slow=18,SNR=2.0						
M14K	Bethel	14.24	42	Pn	Pn	10 19 14.7	-0.4
CHGN	Chignik	14.40	62	Pn	Pn	10 19 16.1	-1.0
N15K	Kwethluk River	14.77	46	Pn	Pn	10 19 22.3	+0.5
J14K	Nanvaranak Lak	14.82	34	Pn	Pn	10 19 22.3	-0.2
O16K	Kokwok River B	15.45	49		P	10 19 32.0	-1.4
O16K				IAmb	IAmb	10 19 38.8	
	comp=Z,20nm,1.4s						
PLK4	Peulik 4	15.76	57		P	10 19 37.0	+0.1
N17K	Nushagak Hills	16.23	47		P	10 19 43.5	+1.6
N17K				IAmb	IAmb	10 19 43.5	
	comp=Z,12nm,1.5s						
N18K	Kilae Creek	16.88	47		P	10 19 49.9	+0.7
L18K	Granite Mounta	17.17	42		P	10 19 54.1	+1.9
L18K				IAmb	IAmb	10 20 19.4	
	comp=Z,11nm,1.4s						
N19K	Bonanza Creek	17.57	48		P	10 19 57.6	+0.7
N19K				IAmb	IAmb	10 20 04.7	
	comp=Z,7.4nm,1.2s						
KDAK	Kodiak Island	17.78	58	P	Pn	10 19 56.2	-3.2
	comp=Z,1.7nm,0.4s,baz=330,slow=4.7,SNR=24						
P19K	Oil Pt	17.82	52		P	10 20 00.9	+1.3
L19K	White Mountain	17.92	43		Pn	10 20 02.1	+1.0
L19K				IAmb	IAmb	10 20 02.7	
	comp=Z,12nm,1.4s						
ILSW	Iliamna Southw	17.95	51		Pn	10 20 02.1	+0.5
ILSW				IAmb	IAmb	10 20 14.0	
	comp=Z,15nm,1.3s						
M19K	Big River Lodg	18.01	44		Pn	10 20 02.8	+0.6
H18K	Honhosa River	18.12	32	P	Pn	10 20 04.2	+0.7
M20K	Styx River	18.56	45	P	Pn	10 20 12.2	+3.4
K20K	Telida	18.75	40	P	Pn	10 20 12.0	+0.9
SPU	Mount Spurr	18.81	48	P	Pn	10 20 12.3	+0.5
H19K	Roundabout Mou	18.99	33	P	Pn	10 20 12.4	-1.4
H19K				IAmb	IAmb	10 20 37.4	
	comp=Z,11nm,1.4s						
BRLK	Bradley Lake	19.00	52	P	P	10 20 11.8	-0.7
J20K	Nowinta River	19.11	38	P	Pn	10 20 14.3	-0.9
J20K				IAmb	IAmb	10 20 29.1	
	comp=Z,7.8nm,1.3s						
G19K	Purcell Mounta	19.15	31	P	Pn	10 20 17.4	+1.7
G19K				IAmb	IAmb	10 20 18.7	
	comp=Z,14nm,1.2s						
SKT	Skwentna	19.30	46	P	Pn	10 20 17.0	-0.6
SKT				IAmb	IAmb	10 20 20.5	
	comp=Z,6.4nm,0.8s						
F19K	Shaleruckik Mo	19.38	29	P	Pn	10 20 16.3	-2.1
SUA	Susitna One	19.50	47	P	Pn	10 20 18.6	-1.3
CAST	Castle Rocks	19.59	41	P	Pn	10 20 21.4	+0.5
O22K	Cooper Landing	19.73	51	P	Pn	10 20 22.6	+0.1
KTH	Kantishna Hill	20.12	41	P	Pn	10 20 27.7	+0.5
KTH				IAmb	IAmb	10 20 43.3	
	comp=Z,10nm,1.3s						
IMAR	Indian Mountai	20.17	34	P	Pn	10 20 25.9	-1.8
PMR	Palmer	20.28	48	P	Pn	10 20 28.0	-0.9
PMR				IAmb	IAmb	10 20 46.4	
	comp=Z,12nm,1.5s						
GHO	Glory Hole Cre	20.42	47	P	P	10 20 28.4	+0.5
GHO				IAmb	IAmb	10 20 33.0	
	comp=Z,11nm,1.3s						
PWL	Port Wells	20.48	50	P	P	10 20 27.7	-0.8
PWL				IAmb	IAmb	10 20 34.0	
	comp=Z,11nm,1.3s						
KNK	Knik Glacier	20.55	48	P	P	10 20 29.5	+0.3
KNK				IAmb	IAmb	10 20 29.6	
	comp=Z,10nm,1.4s						
SML	Sawmill	20.70	47	P	Pn	10 20 32.0	-2.0
SML				IAmb	IAmb	10 20 40.4	
	comp=Z,14nm,1.4s						
RND	Reindeer	20.94	43	P	Pn	10 20 34.8	-2.0
F21K	Alatna River	20.95	31	P	Pn	10 20 34.5	-2.4
F21K				IAmb	IAmb	10 20 41.7	
	comp=Z,6.8nm,1.4s						
BWN	Browne	20.96	41	P	P	10 20 33.7	+0.2
BWN				IAmb	IAmb	10 20 43.2	
	comp=Z,9.7nm,1.0s						
GLI	Glacier Island	21.08	50	P	P	10 20 34.6	-0.3
SCM	Sheep Creek Mo	21.17	48	P	P	10 20 35.2	-0.8
SCM				IAmb	IAmb	10 20 55.2	
	comp=Z,9.9nm,1.1s						
FID	Port Fidalgo	21.35	51	P	P	10 20 37.1	-0.6
DHY	Denali Highway	21.47	44	P	P	10 20 39.0	-0.2
DHY				IAmb	IAmb	10 21 00.4	
	comp=Z,4.3nm,1.0s						
B20K	Meade River	21.74	23	P	P	10 20 41.5	-0.2
KLU	Klutina	21.75	49	P	P	10 20 41.8	-0.3
KLU				IAmb	IAmb	10 21 03.7	
	comp=Z,10nm,1.4s						
CCB	Clear Creek Bu	21.80	40	P	P	10 20 42.9	+0.4
G23K	Bananza Creek	21.84	34	P	P	10 20 43.5	+0.6
G23K				IAmb	IAmb	10 21 09.5	
	comp=Z,8.8nm,1.5s						
E22K	Anaktuvuk Pass	22.00	30	P	P	10 20 45.1	+0.5
E22K				IAmb	IAmb	10 21 08.2	
	comp=Z,13nm,1.5s						
B21K	Ikpikpuk River	22.11	25	P	P	10 20 46.4	+0.6
D22K	Ayikyak River	22.17	28	P	P	10 20 48.1	+1.6
D22K				IAmb	IAmb	10 21 03.2	
	comp=Z,9.7nm,1.4s						
RAGM	Ragged Mountai	22.18	52	P	P	10 20 46.9	+0.3
ILAR	Eielson Array	22.22	40	P	P	10 20 45.4	-1.6
	comp=Z,0.3nm,0.6s,baz=242,slow=8.3,SNR=6.6 comp=Z,0.3nm,0.6s						
H24K	Noodor Dome	22.23	37	P	P	10 20 46.8	-0.4
H24K				IAmb	IAmb	10 21 13.0	
	comp=Z,5.7nm,1.5s						
HMT	Hamilton	22.38	52	P	P	10 20 49.2	+0.5
N25K	Chitina, Valde	22.40	49	P	P	10 20 48.9	-0.1
N25K				IAmb	IAmb	10 21 03.8	
	comp=Z,8.0nm,1.4s						
SUCK	Suckling Hills	22.59	53	P	P	10 20 50.5	-0.5
E23K	Chandalar	22.65	31	P	P	10 20 51.2	-0.4
E23K				IAmb	IAmb	10 20 53.8	
	comp=Z,8.8nm,1.5s						
BERG	Berg Lake	22.66	52	P	P	10 20 51.2	-0.5
G24K	Hadweenzic Riv	22.74	35	P	P	10 20 52.9	+0.5
GLB	Gilahina Butte	22.74	49	P	P	10 20 52.3	-0.3
GLB				IAmb	IAmb	10 21 10.5	
	comp=Z,9.9nm,1.4s						
D23K	Nanushuk River	22.81	29	P	P	10 20 53.0	-0.2
D23K				IAmb	IAmb	10 21 07.1	
	comp=Z,9.2nm,1.4s						
B22K	Teshekpuk Lake	22.89	24	P	P	10 20 53.6	-0.4
B22K				IAmb	IAmb	10 21 01.1	
	comp=Z,5.8nm,1.1s						
F24K	Squaw Lake	22.96	33	P	P	10 20 54.8	+0.1
TOLK	Toolik Lake Re	22.97	30	P	P	10 20 54.5	-0.4
CRQM	Cirque	22.98	51	P	P	10 20 54.5	-0.6
CRQM				IAmb	IAmb	10 21 07.4	
	comp=Z,8.5nm,1.1s						
TGL	Tana Glacier	23.13	51	P	P	10 20 55.8	-0.7
TGL				IAmb	IAmb	10 20 57.4	
	comp=Z,4.2nm,0.9s						
C23K	Itkillik River	23.33	27	P	P	10 20 58.1	-0.1
ISLE	Juniper Island	23.35	52	P	P	10 20 57.7	-0.9
D24K	Happy Valley	23.47	29	P	P	10 20 59.6	+0.1
D24K				IAmb	IAmb	10 21 20.0	
	comp=Z,12nm,1.4s						
J26L	Joseph Creek	23.50	42	P	P	10 20 59.4	-0.4
YAH	Yahtse	23.62	53	P	P	10 21 01.0	-0.2
GRNC	Granite Creek	23.65	52	P	P	10 21 01.0	-0.4
F25K	Christian Rive	23.77	34	P	P	10 21 02.1	0.0
M27K	Edge Creek, AK	23.79	48	P	P	10 21 03.5	+1.0
CTGM	Chitina Glacie	23.88	51	P	P	10 21 03.7	+0.4
CTGM				IAmb	IAmb	10 21 04.3	
	comp=Z,4.9nm,0.7s						
TABL	Table Mountain	23.93	52	P	P	10 21 03.4	-0.4
K27K	Chicken	24.01	43	P	P	10 21 03.6	-0.7
E25K	Arctic Village	24.02	33	P	P	10 21 05.3	+1.0
E25K				IAmb	IAmb	10 21 26.8	
	comp=Z,8.2nm,1.5s						
LOGN	Logan Glacier	24.02	51	P	P	10 21 02.3	-2.3
LOGN				IAmb	IAmb	10 21 05.6	
	comp=Z,9.7nm,1.2s						
D25K	Kavik River	24.31	30	P	P	10 21 06.8	-0.2
D25K				IAmb	IAmb	10 21 35.2	
	comp=Z,3.9nm,1.1s						
F26K	Sheenjek River	24.33	34	P	P	10 21 07.7	+0.5
DAWY	Dawson	25.18	44	P	P	10 21 15.1	+0.1
DAWY				IAmb	IAmb	10 21 16.4	
	comp=Z,5.8nm,1.4s						
I28M	Miner Creek	25.23	41	P	P	10 21 14.1	-1.4
M29M	Somme Creek	25.38	48	P	P	10 21 17.1	+0.2
HYT	Haines Junctio	25.74	52	P	P	10 21 19.0	-1.2
D27M	Malcolm River	26.01	32	P	P	10 21 23.6	+1.1
D27M				IAmb	IAmb	10 21 49.8	
	comp=Z,5.8nm,1.4s						
H29M	Whitestone	26.03	39	P	P	10 21 22.1	-0.6
G29M	Pine Creek	26.33	38	P	P	10 21 26.1	+0.7
J30M	Hart River	26.57	43	P	P	10 21 28.1	+0.5
J30M				IAmb	IAmb	10 21 34.8	
	comp=Z,5.5nm,1.4s						
I30M	Mount Dempster	26.65	42	P	P	10 21 28.1	-0.2
I30M				IAmb	IAmb	10 21 37.0	
	comp=Z,3.6nm,1.4s						
G31M	Satah River	27.78	38	P	P	10 21 37.9	-0.4
G31M				IAmb	IAmb	10 22 01.9	
	comp=Z,4.4nm,1.4s						
A36M	Sachs Harbour	31.79	29	P	P	10 22 14.5	+0.9
A36M				IAmb	IAmb	10 22 27.9	
	comp=Z,3.8nm,1.2s						
BBB	Bella Bella	32.37	67	LR	LR	10 35 09.7	
	comp=Z,40nm,19.0s,baz=223,slow=36						
H11N2	WAKE ISLAND Hy	33.00	200	T	T	10 57 52.8	
	baz=11						
H11N3	WAKE ISLAND Hy	33.01	200	T	T	10 57 52.4	
	baz=11						
H11N1	WAKE ISLAND Hy	33.02	200	T	T	10 57 45.3	
	baz=11						
NVAR	Mina Array Bea	45.22	81	P	P	10 24 07.0	+0.5
	comp=Z,0.7nm,0.8s,baz=291,slow=7.5,SNR=5.5 comp=Z,0.7nm,0.8s						
PDAR	Pinedale Array	47.88	71	P	P	10 24 26.5	-0.8
	comp=Z,0.4nm,0.7s,baz=300,slow=6.0,SNR=4.7 comp=Z,0.4nm,0.7s						
KURBB	Kurchatov Arra	57.79	312	P	P	10 25 39.6	-0.2
	comp=Z,1.4nm,0.2s,baz=41,slow=6.8,SNR=1.4 comp=Z,1.4nm,0.2s						
MKAR	Makanchi Array	58.60	307	P	P	10 25 45.8	+0.2
MKAR	Makanchi Array	58.60	307	P	P	10 25 44.8	-0.8
	comp=Z,0.2nm,0.4s,baz=49,slow=3.2,SNR=4.1 comp=Z,0.2nm,0.4s						
BVAR	Borovoye Array	59.67	318	P	P	10 25 52.4	-0.5
	comp=Z,0.6nm,0.3s,baz=38,slow=9.5,SNR=2.5 comp=Z,0.6nm,0.3s						
TXAR	Lajitas Array	60.30	79	P	P	10 25 57.5	-0.2
TXAR	Lajitas Array	60.30	79	P	P	10 25 58.2	+0.6
	comp=Z,0.2nm,0.5s,baz=308,slow=6.1,SNR=5.3 comp=Z,0.2nm,0.5s						
TUL3	Leonard	60.41	69	P	P	10 25 58.7	+0.5
ABKAR	Akbulak array	66.78	321	P	P	10 26 40.8	+0.9

IDC 06 11:01:57.1±6.6, 23°.59N×144°.89E, h0km, mb3.6/5, mbtmp3.6/5, MS2.6/1, Error ellipse: s-maj=261.4km s-min=25.2km az=77.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.07	317	LR	LR	11 13 46.0	
	comp=Z,16nm,19.7s,baz=350,slow=35						
WRA	Warramunga Arr	44.48	194	P	P	11 10 10.8	+0.5
	0.3nm,0.6s,baz=16,slow=9.5,SNR=7.3 0.3nm,0.6s						
ASAR	Alice Springs	48.17	194	P	P	11 10 38.5	-0.8
	0.1nm,0.4s,baz=16,slow=8.6,SNR=1.8 0.1nm,0.4s						
MKAR	Makanchi Array	54.60	312	P	P	11 11 28.3	+0.9
	0.2nm,0.4s,baz=81,slow=8.9,SNR=1.7 0.2nm,0.4s						
KURBB	Kurchatov Arra	57.24	316	P	P	11 11 45.3	-0.9
	0.4nm,0.5s,baz=93,slow=8.5,SNR=4.7 0.4nm,0.5s						
BVAR	Borovoye Array	62.27	319	P	P	11 12 20.8	0.0
	1.5nm,0.5s,baz=85,slow=8.5,SNR=6.3 1.5nm,0.5s						

DJA 06 11:09:22.3±0.5, 0°.S±3°.×12°.3E±°, h102km±6km, M3.7/8, mb4.1/1, MLv3.5/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.93	206	P	Pn	11 09 43.0	+0.8
LUWI				S	Sn	11 09 57.9	+0.8
KMSI	Cibinong	1.11	46	P	Pn	11 09 44.1	0.0
KMSI				S	Sn	11 10 00.8	+0.3
APSI	Ampana	1.69	245	P	Pn	11 09 52.5	+1.5
MPSI	Mapaga	3.33	279	P	Pn	11 10 12.6	+0.1
SANI	Sanana	3.35	123	P	Pn	11 10 11.6	-1.3
BBSI	Bau Bau	5.29	187	P	Pn	11 10 37.9	-1.1

*NEIC **06** 11:11:20.2±0.8, 11°.7S±0°.1×65°.3E±0°.2, h10km±1km, mb4.7/15, Error ellipse: s-maj=29.2km s-min=15.4km az=238.0*
*IDC **06** 11:11:26.0±1.1, 10°.49S×66°.04E, h0km, mb4.0/11, mbtmp4.0/11, MS3.8/40, Error ellipse: s-maj=33.9km s-min=20.7km az=36.0*

ISC 06 11:11:23.1±0.9, 11°.4S±0°.2×66°.1E±0°.2, h10km, n67, σ1s57/22, mb4.4/18, MS3.8/40, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	7.31	60	T	T	11 19 57.7	
	baz=245,slow=75						
H08S2	Diego Garcia H	7.32	60	T	T	11 20 00.8	
	baz=245,slow=75						
H08S3	Diego Garcia H	7.32	60	T	T	11 19 53.6	
	baz=245,slow=75						
OPO	Ambohidratompo	19.60	246	LR	LR	11 21 52.3	
	comp=Z,161nm,19.4s,baz=190,slow=31						
KMBO	Kilima Mbogo	30.40	288	P	P	11 17 36.7	+0.5
	1.0nm,0.3s,baz=65,slow=16,SNR=4.4						
KMBO				LR	LR	11 28 25.5	
	comp=Z,170nm,18.1s,baz=95,slow=34 1.0nm,0.3s						
ATD	Arta Tunnel	32.45	314	LR	LR	11 28 03.5	
	comp=Z,6.0nm,21.9s,baz=90,slow=31						
FURI	Furi	33.92	305	LR	LR	11 31 04.3	
	comp=Z,90nm,18.1s,baz=169,slow=35						
MBAR	Mbarara	36.72	285	LR	LR	11 31 58.9	
	comp=Z,145nm,18.7s,baz=113,slow=34						
LBTB	Lobatse	40.62	245	LR	LR	11 33 51.8	
	comp=Z,247nm,21.9s,baz=68,slow=33						
LEM	Lembang	41.21	87	LR	LR	11 35 52.4	
	comp=Z,205nm,18.1s,baz=186,slow=36						
BOSA	Boshof	41.78	240	LR	LR	11 36 04.0	
	comp=Z,114nm,18.4s,baz=30,slow=35						
BRDH	Bariadhala	42.11	36	LR	LR	11 36 20.6	
	comp=Z,167nm,18.6s,baz=187,slow=36						
CMAR	Chiang Mai Arr	43.93	48	P	P	11 19 31.3	+0.7
	0.6nm,0.5s,baz=247,slow=9.5,SNR=6.0						
CMAR				LR	LR	11 37 40.8	
	comp=Z,66nm,18.0s,baz=245,slow=36 0.6nm,0.5s						
SHL	Shillong	44.51	34	P	P	11 19 35.8	+0.5
SHL				IAmb	IAmb	11 19 43.1	
	comp=Z,6.9nm,0.8s						
SUR	Sutherland	46.50	236	LR	LR	11 36 30.0	
	comp=Z,128nm,20.9s,baz=94,slow=32						
H01W3	Cape Leeuwin H	49.39	126	T	T	12 13 54.3	
	baz=288,slow=75						
H01W2	Cape Leeuwin H	49.39	126	T	T	12 13 50.9	
	baz=288,slow=75						
H01W1	Cape Leeuwin H	49.41	126	T	T	12 13 53.5	
	baz=288,slow=75						
GAR	Garm	50.29	4	P	P	11 20 18.5	-1.5
GAR				IAmb	IAmb	11 20 40.0	
	comp=Z,16nm,1.4s						
EIL	Elat	50.69	324	LR	LR	11 38 15.1	
	comp=Z,48nm,21.5s,baz=70,slow=32						
BTK	Batken	51.38	5	P	P	11 20 27.9	-0.3
NWAO	Narrogin (SRO)	51.41	123	LR	LR	11 37 54.6	
	comp=Z,72nm,19.9s,baz=88,slow=31						
MMAI	Mount Meron Ar	53.00	328	LR	LR	11 40 10.9	
	comp=Z,57nm,20.7s,baz=116,slow=33						
KAPI	Kappang	53.41	88	LR	LR	11 40 20.3	
	comp=Z,103nm,20.9s,baz=253,slow=32						
AAK	Ala-Archa	54.32	8	LR	LR	11 43 06.2	
	comp=Z,52nm,19.0s,baz=172,slow=36						
MAW	Mawson	56.18	181	LR	LR	11 41 23.4	
	comp=Z,62nm,18.1s,baz=10.0,slow=32						
FITZ	Fitzroy Crossi	57.76	104	LR	LR	11 41 59.2	
	comp=Z,124nm,21.9s,baz=254,slow=32						
MK31	Makanchi Array	59.72	13	P	P	11 21 27.5	-0.5
MK31				IAmb	IAmb	11 22 11.5	
	comp=Z,5.6nm,1.4s						
MKAR	Makanchi Array	59.72	13	P	P	11 21 25.2	-2.7
	comp=Z,0.9nm,0.8s,baz=200,slow=9.0,SNR=2.8						
MKAR				LR	LR	11 43 14.5	
	comp=Z,48nm,21.3s,baz=178,slow=32 comp=Z,0.9nm,0.8s						
DAV	Davao City (W)	61.95	76	LR	LR	11 46 30.1	
	comp=Z,72nm,22.0s,baz=282,slow=34						
KURBB	Kurchatov Arra	62.71	9	P	P	11 21 46.6	-1.5
	comp=Z,1.7nm,0.8s,baz=209,slow=7.1,SNR=10 comp=Z,1.7nm,0.8s						
KURK	Kurchatov	62.81	9	P	P	11 21 48.5	-0.3
KURK				IAmb	IAmb	11 21 56.2	
	comp=Z,3.9nm,0.9s						
BVAR	Borovoye Array	64.27	3	P	P	11 21 55.2	-3.2
	comp=Z,0.4nm,0.4s,baz=152,slow=6.4,SNR=2.3 comp=Z,0.4nm,0.4s						
ASAR	Alice Springs	65.28	111	P	P	11 22 12.2	+6.5
	comp=Z,1.0nm,0.8s,baz=276,slow=6.4,SNR=12						
ASAR				LR	LR	11 47 52.2	
	comp=Z,89nm,19.1s,baz=280,slow=33 comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	65.88	107	P	P	11 22 16.0	+6.3
	comp=Z,1.4nm,0.8s,baz=277,slow=5.9,SNR=12						
WRA				LR	LR	11 47 03.1	
	comp=Z,150nm,21.6s,baz=250,slow=32 comp=Z,1.4nm,0.8s						
WB0	Warramunga Arr	65.94	107	P	P	11 22 10.7	+0.6
WB0				IAmb	IAmb	11 22 41.5	
	comp=Z,12nm,1.4s						
FAKI	Fak Fak	66.05	88	P	P	11 22 11.4	+0.6
WR0	Warramunga Arr	66.07	107	P	P	11 22 11.2	+0.3
WR0				IAmb	IAmb	11 22 12.6	
	comp=Z,6.3nm,1.4s						
ZAA0	Zalesovo Array	67.01	12	P	P	11 22 15.6	-0.5
ZAA0				IAmb	IAmb	11 22 23.2	
	comp=Z,5.4nm,1.1s						
ZALV	Zalesovo Beam	67.01	12	P	P	11 22 13.3	-2.8
	comp=Z,1.2nm,0.6s,baz=226,slow=3.9,SNR=7.1 comp=Z,1.2nm,0.6s						
WDD	Wied Dalam	67.63	316	P	P	11 22 14.7	-5.7
TORD	Torodi Ar. Bea	68.40	289	LR	LR	11 50 29.0	
	comp=Z,48nm,20.8

NOA	NORSAR Array B	84.09 336	LR	LR	12 02 58.9	
	comp=Z,14nm,18.1s,baz=275,slow=37					
ASAJ	Asahikawa	88.36 44	LR	LR	12 04 55.5	
	comp=Z,52nm,18.4s,baz=18,slow=37					
PETK	Petropavlovsk-	99.97 38	LR	LR	12 14 29.0	
	comp=Z,44nm,18.9s,baz=212,slow=38					
PDAR	Pinedale Array	148.53 354	PKPbc	PKPab	11 31 13.8	-0.3
	comp=Z,0.4nm,0.7s,baz=39,slow=1.3,SNR=4.7					
NVAR	Mina Array Bea	152.80 8	PKPbc	PKiKP	11 31 24.4	+3.0
	comp=Z,1.4nm,0.8s,baz=270,slow=2.0,SNR=8.9					
TXAR	Lajitas Array	159.77 333	PKPab	PKPab	11 32 02.1	+0.2
	comp=Z,0.4nm,0.8s,baz=54,slow=4.6,SNR=5.4					

*BJI **06** 11:19:21.2, 5.70S×147.03E, h165km, mb4.6/49, mB4.8/16*
*IDC **06** 11:19:27.9±0.7, 5.26S×146.36E, h167km±5km, mb4.3/17, mbtmp4.8/18, MS3.5/3, Error ellipse: s-maj=16.6km s-min=8.7km az=95.0*
*DJA **06** 11:19:27.4±0.9, 5.5S±5.5×14.6E±., h153km±7km, M5.1/24, mb5.1/24, mB5.4/13, MLv5.7/2, Mw4.9/11, Mw(mB)4.9/13*
*GCMT **06** 11:19:28.7±0.4, 5.14S±0.03×146.22E±0.03, h175km±4km, MW4.9/75, Moment Tensor Solution. s16,c21; s75,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.42±.12; $M_{\theta\theta}$-0.07±.12; $M_{\phi\phi}$2.49±.14; $M_{r\theta}$-0.04±.10; $M_{\theta\phi}$1.03±.14; $M_{r\phi}$0.58±.13; Best double couple: $M_0$2.70300×10^{16} NP1:ϕ_s193.00000°, δ51.00000°, λ-98.00000°. NP2: ϕ_s26.00000°, δ40.00000°, λ-80.00000°. Principal axes: T 2.9070, Plg6.0000°, Azm289.0000°; N -0.4050, Plg6.0000°, Azm198.0000°; P -2.5000, Plg81.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **06** 11:19:28.7±1.6, 5.23S±0.07×146.33E±0.08, h165km±5km, mb4.9/199 Error ellipse: s-maj=11.2km s-min=10.4km az=85.0*

ISC 06 11:19:28.4±0.4, 5.32S±0.04×146.34E±0.05, h167km±3km, h168km:pP-P, n613, o0°91/600, mb4.9/145, 3C-4D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	Manus Island	3.41	18	Pn	Pn	11 20 21.6	-0.1
PMG	Port Moresby	4.14	169	P	Pn	11 20 28.4	-2.5
	132nm,0.6s,baz=42,slow=4.7,SNR=48						
PMG				S	Sn	11 21 14.7	-5.1
	164nm,0.3s,baz=23,slow=15,SNR=5.9						
PMG	Port Moresby	4.14	169	P	Pn	11 20 28.7	-2.2
PMG	Port Moresby	4.14	169	P	Pn	11 20 28.6	-2.3
TABU	Tabubil	5.09	270	P	Pn	11 20 43.6	+0.2
RABL	Rabaul	5.91	79	Pn	Pn	11 20 54.0	-0.1
JAY	Jayapura	6.27	296	P	Pn	11 20 57.4	-1.5
GENI	Genyem	6.72	294	P	Pn	11 21 03.9	-1.0
GENI	Genyem	6.72	294	P	Pn	11 21 03.4	-1.5
COEN	Coen	9.13	200	Pn	Pn	11 21 38.4	+1.6
COEN	Coen	9.13	200	P	Pn	11 21 38.0	+1.2
	comp=Z,105nm,1.1s						
COEN	Coen	9.13	200	P	Pn	11 21 38.3	+1.6
KMPI	Kaimana, Papua	12.70	277	P	Pn	11 22 21.9	-1.4
	comp=Z,249nm,0.7s,comp=Z,2μm						
RKPI	Ransiki, Papua	12.71	287	P	Pn	11 22 23.1	-0.3
	comp=Z,141nm,0.6s,comp=Z,5μm						
MTSU	Mount Surprise	12.89	189	P	Pn	11 22 27.2	+1.6
	comp=Z,91nm,0.7s						
MTSU	Mount Surprise	12.89	189	P	Pn	11 22 27.3	+1.6
TATA	Tatamba Isabel	13.71	104	P	Pn	11 22 36.9	+0.8
TV1H	Townsville Har	13.87	178	P	Pn	11 22 39.1	+1.2
HNR	Honiara	14.10	108	Pn	Pn	11 22 40.4	-0.5
FAKI	Fak Fak	14.25	279	Pn	Pn	11 22 41.2	-1.7
FAKI	Fak Fak	14.25	279	P	Pn	11 22 41.9	-1.0
FAKI	Fak Fak	14.25	279	P	Pn	11 22 41.4	-1.5
ALEG	Aligegeo Malai	14.65	104	P	P	11 22 49.1	-0.5
CTAO	Charters Tower	14.68	180	P	P	11 22 51.5	+1.6
CTAO	Charters Tower	14.68	180	P	P	11 22 51.0	+1.1
NGOA	Tingoa Renbel	14.92	115	P	P	11 22 53.3	+0.7
SAUI	Saumlaki	15.17	259		Pn	11 22 54.5	+0.2
SAUI	Saumlaki	15.17	259	P	P	11 22 55.4	0.0
	comp=Z,155nm,1.3s						
KDU	Kakadu	15.52	241	P	Pn	11 22 57.6	-0.9
	comp=Z,58nm,0.6s						
KDU	Kakadu	15.52	241	P	Pn	11 22 58.8	+0.3
SWI	Sorong	15.69	286	P	Pn	11 22 59.9	-0.7
	comp=Z,172nm,0.6s,comp=Z,2μm						
BNDI	Bandanaira	16.39	272	P	Pn	11 23 09.5	+0.3
	comp=Z,88nm,0.8s						
QIS	Mount Isa	16.50	203	P	Pn	11 23 11.0	+0.5
	comp=Z,31nm,1.2s						
QIS	Mount Isa	16.50	203	P	Pn	11 23 11.6	+1.2
MTN	Manton Dam	16.77	242	P	Pn	11 23 13.4	-0.2
MTN				IAmb	IAmb	11 23 14.6	
	comp=Z,55nm,0.6s						
MTN	Manton Dam	16.77	242	P	Pn	11 23 13.4	-0.2
	comp=Z,77nm,1.1s						
MTN	Manton Dam	16.77	242	P	Pn	11 23 14.0	+0.4
DRS	Darwin Rock St	16.80	244	P	Pn	11 23 14.6	+0.5
	comp=Z,34nm,0.8s						
PATS	Pohnpei	16.99	45	P	Pn	11 23 16.3	0.0
WB0	Warramunga Arr	18.48	218	P	Pn	11 23 33.1	-0.9
WB0				IAmb	IAmb	11 23 33.8	
	comp=Z,37nm,0.7s						
WR0	Warramunga Arr	18.54	217	P	Pn	11 23 33.7	-0.9
WRAB	Tennant Creek	18.63	218	P	P	11 23 34.4	+1.0
WB2	Warramunga Arr	18.64	218	P	P	11 23 34.6	+1.1
WRA	Warramunga Arr	18.64	218	P	P	11 23 33.7	+0.1
WRA	Warramunga Arr	18.64	218	P	P	11 23 34.4	+0.9
	comp=Z,92nm,0.7s,baz=36,slow=12,SNR=586						
WRA				S	S	11 26 54.7	-2.6
	comp=Z,6.9nm,0.9s,baz=41,slow=20,SNR=6.1						
WRA				LR	LR	11 31 16.5	
	comp=Z,140nm,18.6s,baz=46,slow=38						
TNTI	Ternate	19.89	287	P	P	11 23 46.5	-0.6
KNRA	Kununurra	20.09	238	P	P	11 23 49.0	-0.2
KNRA	Kununurra	20.09	238	P	P	11 23 50.3	+1.1
	comp=Z,21nm,0.7s						
EIDS	Eidsvold	20.45	168	P	P	11 23 53.8	+0.9
EIDS				IAmb	IAmb	11 23 56.7	
	comp=Z,40nm,0.7s						
EIDS	Eidsvold	20.45	168	P	P	11 23 53.5	+0.5
	comp=Z,62nm,1.1s						
EIDS	Eidsvold	20.45	168	P	P	11 23 54.5	+1.6
SANI	Sanana	20.56	278	P	P	11 23 54.4	+0.1
QLP	Quilpie	21.24	185	P	P	11 24 02.0	+0.6
	comp=Z,236nm,0.9s						
QLP	Quilpie	21.24	185	P	P	11 24 03.1	+1.7
AS01	Alice Springs	21.80	212	P	P	11 24 07.6	+0.3
	comp=Z,49nm,0.8s						
AS31	Alice Springs	21.82	212	P	P	11 24 08.6	+1.0
AS31	Alice Springs	21.82	212	P	P	11 24 08.4	+0.8
	comp=Z,16nm,0.6s						
ASAR	Alice Springs	21.82	212	P	P	11 24 08.2	+0.6
ASAR				PcP	PcP	11 28 01.6	+0.6
ASAR	Alice Springs	21.82	212	P	P	11 24 08.6	+0.9
	comp=Z,32nm,0.8s,baz=47,slow=7.9,SNR=504						
ASAR				pP	pP	11 24 37.9	+0.5
	comp=Z,9.2nm,0.7s,baz=39,slow=12,SNR=2.6						
ASAR				S	S	11 27 58.9	+1.4
	comp=Z,11nm,0.8s,baz=30,slow=22,SNR=13						
ASAR				LR	LR	11 33 17.3	
	comp=Z,171nm,21.9s,baz=62,slow=38						
	comp=Z,32nm,0.8s						
SOEI	Soe	22.32	257	P	P	11 24 12.6	0.0
SOEI				IAmb	IAmb	11 24 25.4	
	comp=Z,55nm,0.7s						
SOEI	Soe	22.32	257	P	P	11 24 13.2	+0.6
	comp=Z,79nm,0.8s						
INKA	Innaminka	22.93	193	P	P	11 24 19.6	+1.7
KOUNC	Koumac, New Ca	23.09	133	P	P	11 24 19.3	-0.3
KOUNC				IAmb	IAmb	11 24 27.7	
	comp=Z,35nm,1.1s						
KOUNC	Koumac, New Ca	23.09	133	P	P	11 24 21.4	+1.9
FITZ	Fitzroy Crossi	23.88	236	P	P	11 24 27.1	+0.3
FITZ	Fitzroy Crossi	23.88	236	P	P	11 24 26.9	+0.1
	comp=Z,2μm,0.7s						
FITZ	Fitzroy Crossi	23.88	236	P	P	11 24 26.4	-0.4
	comp=Z,230nm,0.7s						
LUWI	Luwuk	23.91	279	P	P	11 24 26.3	-0.8
OOD	Oodnadatta	24.54	203	P	P	11 24 33.8	+1.2
DVP	Devils Point	24.66	122	P	P	11 24 34.9	+1.0
LIFNC	LIFOU	25.45	129	P	P	11 24 41.1	+0.1
	comp=Z,0.5nm,1.0s						
ARMA	Armidale	25.46	169	P	P	11 24 42.2	+1.1
ARMA				IAmb	IAmb	11 24 43.2	
	comp=Z,44nm,0.8s						
ARMA	Armidale	25.46	169	P	P	11 24 41.8	+0.7
	comp=Z,59nm,0.9s						
ARMA	Armidale	25.46	169	P	P	11 24 42.5	+1.4
DZM	Mont Dzumac	25.61	132	P	P	11 24 42.1	-0.4
DZM				IAmb	IAmb	11 24 45.0	
	comp=Z,25nm,0.7s						
DZM	Mont Dzumac	25.61	132	P	P	11 24 44.4	+1.9
ONTNC	Ouen Toro	25.76	133	P	P	11 24 43.2	-0.6
CMSA	Cobar Meteorol	26.09	181	P	P	11 24 47.2	+0.6
	comp=Z,22nm,0.7s						
CMSA	Cobar Meteorol	26.09	181	P	P	11 24 47.5	+0.9
LCRK	Leigh Creek	26.14	196	P	P	11 24 47.9	+0.8
WRKA	Warakurna	26.16	220	P	P	11 24 47.5	+0.2
	comp=Z,42nm,0.9s						
WRKA	Warakurna	26.16	220	P	P	11 24 48.0	+0.7
STKA	Stephens Creek	26.79	189	P	P	11 24 53.5	+0.6
STKA	Stephens Creek	26.79	189	P	P	11 24 52.9	0.0
	comp=Z,3.4nm,2.5s						
STKA	Stephens Creek	26.79	189	P	P	11 24 53.4	+0.5
	comp=Z,8.9nm,0.5s,baz=8.4,slow=11,SNR=39						
STKA				LR	LR	11 37 39.6	
	comp=Z,116nm,21.0s,baz=17,slow=41						
	comp=Z,8.9nm,0.5s						
STKA	Stephens Creek	26.79	189	P	P	11 24 53.5	+0.6
MULG	Mulgathing	27.40	204	P	P	11 24 58.8	+0.5
HTT	Hallett	28.81	193	P	P	11 25 11.5	+0.6
YNG	Young	28.90	176	P	P	11 25 12.5	+0.9
	comp=Z,136nm,1.0s						
YNG	Young	28.90	176	P	P	11 25 13.4	+1.8
BBOO	Buckleboo	28.99	198	P	P	11 25 12.2	-0.2
BBOO				IAmb	IAmb	11 25 13.4	
	comp=Z,13nm,0.8s						
BBOO	Buckleboo	28.99	198	P	P	11 25 13.1	+0.7
MYLDM	Lahad Datu	29.69	290	P	P	11 25 18.1	-0.8
CAN	Canberra	29.96	176	P	P	11 25 21.5	+0.5
CAN				IAmb	IAmb	11 25 23.2	
	comp=Z,44nm,1.5s						
CAN	Canberra	29.96	176	P	P	11 25 21.9	+0.8
	comp=Z,21nm,1.1s						
CAN	Canberra	29.96	176	P	P	11 25 22.1	+1.1
CAN	Canberra	29.96	176	P	P	11 25 21.8	+0.8
CAN				pP	pP	11 25 57.3	+1.3
CAN				sP	sP	11 26 16.2	+0.9
CNB	Canberra Magne	29.98	175	P	P	11 25 20.1	-1.1
CNB	Canberra Magne	29.98	175	P	P	11 25 22.7	+1.5
MBWA	Marble Bar	30.23	236	P	P	11 25 23.0	-0.5
FORT	Forrest	30.61	212	P	P	11 25 27.4	+0.6
FORT	Forrest	30.61	212	P	P	11 25 27.3	+0.6
	comp=Z,79nm,0.7s						
FORT	Forrest	30.61	212	P	P	11 25 27.9	+1.1
ARPS	Mount Arapiles	31.57	187	P	P	11 25 36.0	+0.8
	comp=Z,47nm,0.9s						
ARPS	Mount Arapiles	31.57	187	P	P	11 25 36.4	+1.3
TOO	Toolangi	32.11	181	P	P	11 25 41.6	+1.7
MGBR	Mount Gambier	32.68	188	P	P	11 25 43.9	-0.9
MSVF	Nonsavu	33.36	114	P	P	11 25 51.4	+0.4
	comp=Z,13nm,0.6s,baz=237,slow=22,SNR=7.7						
	comp=Z,13nm,0.6s						
MSVF	Nonsavu	33.36	114	P	P	11 25 52.9	+1.9
MSVF	Nonsavu	33.36	114	P	P	11 25 52.0	+1.0
MEEK	Meekatharra	33.90	228	P	P	11 25 55.8	+0.2
	comp=Z,41nm,1.0s						
MEEK	Meekatharra	33.90	228	P	P	11 25 56.2	+0.6
SZP	Santa	34.20	312	P	P	11 25 58.9	+0.8
KMBL	Kambalda	34.61	219	P	P	11 26 01.7	+0.1
	comp=Z,61nm,1.4s						
KMBL	Kambalda	34.61	219	P	P	11 26 02.5	+0.9
JOW	Kunigami	36.43	332	P	P	11 26 16.2	-0.9
JOW				IAmb	IAmb	11 26 22.3	
	comp=Z,26nm,1.0s						
JOW	Kunigami	36.43	332	P	P	11 26 17.7	+0.6
MORW	Morawa	37.14	227	P	P	11 26 23.7	+0.5
KLBR	Kellerberrin	37.42	222	P	P	11 26 25.6	+0.1
	comp=Z,87nm,0.5s						
KLBR	Kellerberrin	37.42	222	P	P	11 26 25.8	+0.3
YULB	Yu-li	37.58	320	P	P	11 26 25.8	-1.1
YULB	Yu-li	37.58	320	P	P	11 26 28.7	+1.8
TPUB	Ta-pu	37.94	320	P	P	11 26 29.7	-0.2
NWAO	Narrogin (SRO)	38.60	221	P	P	11 26 35.9	+0.6
NWAO				IAmb	IAmb	11 26 59.5	
	comp=Z,27nm,1.1s						
NWAO	Narrogin (SRO)	38.60	221	P	P	11 26 35.7	+0.4
MUN	Mundaring	38.70	223	P	P	11 26 36.8	+0.6
OUZ	Omaruta	38.96	143	P	P	11 26 39.9	+1.7
JMN	Monobe	40.59	344	P	P	11 26 51.7	0.0
JMN				IAmb	IAmb	11 27 11.4	
	comp=Z,38nm,1.2s						
JMN	Monobe	40.59	344	P	P	11 26 52.8	+1.1
JNU	Nakatsue	40.95	340	P	P	11 26 54.5	-0.2
JNU				IAmb	IAmb	11 27 06.8	
	comp=Z,36nm,1.4s						
KUZ	Kuaotunu	41.26	143	P	P	11 26 58.9	+1.8
RAO	Raoul Island	41.32	129	P	P	11 26 58.1	+0.3
JGF	Kuroka	41.57	349	P	P	11 26 59.0	-0.7
TOZ	Tahuroa Road	41.79	145	P	P	11 27 03.1	+1.6
TOZ				IAmb	IAmb	11 27 04.3	
	comp=Z,54nm,1.1s						
HIZ	Hauiti	41.97	146	P	P	11 27 05.3	+2.4
HIZ	Hauiti	41.97	146	P	P	11 27 05.1	+2.2
AFI	Afiamalu	42.11	105	P	P	11 27 04.0	-0.5
MJAR	Matsushiro Arr	42.33	350	P	P	11 27 04.8	-1.0
	comp=Z,4.0nm,0.8s,baz=172,slow=7.2,SNR=7.2						
	comp=Z,4.0nm,0.8s						
MAJO	Matsushiro	42.33	350	P	P	11 27 05.1	-0.8
MAJO	Matsushiro	42.33	350	P	P	11 27 04.6	-1.3
MJB9	Matsu-Tunnel	42.34	350	P	P	11 27 05.1	-0.8
QRZ	Quartz Range	42.44	150	P	P	11 27 08.8	+2.1
DSZ	Denniston Nort	42.79	152	P	P	11 27 10.7	+1.1
DSZ				IAmb	IAmb	11 27 14.3	
	comp=Z,49nm,1.1s						
MRNZ	Matariki Terra	42.98	151	P	P	11 27 12.1	+1.0
URZ	Urewera	43.09	144	P	P	11 27 12.8	+0.9
THZ	Tophouse	43.33	151	IAmb	IAmb	11 27 15.6	
	comp=Z,63nm,1.5s						
BKZ	Black Stump Fm	43.34	145	IAmb	IAmb	11 27 15.8	
	comp=Z,30nm,0.9s						
BKZ	Black Stump Fm	43.34	145	P	P	11 27 15.1	+1.1
MXZ	Matakaoa Point	43.35	142	P	P	11 27 15.3	+1.3
JCZ	Jackson Bay	43.35	156	P	P	11 27 16.8	+2.7
LTZ	Lake Taylor	43.81	152	IAmb	IAmb	11 27 20.1	
	comp=Z,74nm,1.4s						
SNZO	South Karori	43.89	149	P	P	11 27 19.0	+0.7
DCZ	Deep Cove	43.91	159	IAmb	IAmb	11 27 21.2	
	comp=Z,36nm,0.8s						
RPZ	Rata Peaks	44.00	154	P	P	11 27 20.2	+1.0
RPZ	Rata Peaks	44.00	154	P	P	11 27 20.5	+1.3
BHW	Baring Head	44.05	149	P	P	11 27 19.5	0.0
OXZ	Oxford	44.13	153	P	P	11 27 19.9	-0.3
OXZ				IAmb	IAmb	11 27 20.8	
	comp=Z,76nm,1.4s						
LBZ	Lake Benmore	44.18	155	IAmb	IAmb	11 27 21.6	
	comp=Z,34nm,0.7s						
MLZ	Mavora Lakes	44.18	158	P	P	11 27 22.0	+1.4
MLZ				IAmb	IAmb	11 27 22.8	
	comp=Z,42nm,1.0s						
MSWZ	Moikau Station	44.25	149	P	P	11 27 21.3	0.0
BFZ	Birch Farm	44.26	147	P	P	11 27 22.0	+0.8
BFZ	Birch Farm	44.26	147	P	P	11 27 21.9	+0.7
GVZ	Greta Valley S	44.31	152	P	P	11 27 22.7	+1.0
ODZ	Otahua Downs	44.90	156	P	P	11 27 27.1	+0.8
NJ2	Nanjing	45.45	327	eP	P	11 27 32.0	+1.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SYZ	Scrubby Hill	45.55	158	P	P	11 27 33.0	+1.7
	comp=Z,49nm,1.4s						
KSRS	Korea Array	45.89	340	P	P	11 27 33.6	-0.5
	comp=Z,3.7nm,0.6s,baz=155,slow=8.8,SNR=13						
KSRS				pP	pP	11 28 09.9	-0.7
	comp=Z,3.0nm,0.9s,baz=150,slow=9.1,SNR=3.3						
	comp=Z,3.7nm,0.6s						
JTM	Tenmabayashi	46.13 354	P	P	11 27 35.5	-0.4
JTM				IAmb	IAmb	11 27 36.6	
	comp=Z,25nm,0.6s						
JTM	Tenmabayashi	46.13 354	P	P	11 27 36.4	+0.5
LYN	LuoYang	50.92 324	P	P	11 28 13.0	+0.4
LYN				pmax	pmax		
	comp=Z,15nm,0.8s						
LYN				pmax	pmax		
	comp=Z,60nm,4.5s						
USA0B	Ussuriysk Arra	50.96 347	P	P	11 28 13.1	+0.4
USRK	Ussuriysk Ar.	50.96 347	P	P	11 28 12.8	0.0
	comp=Z,6.1nm,0.5s,baz=163,slow=7.7,SNR=22						
	comp=Z,6.1nm,0.5s						
HNS	HongShan	51.72 328	⇓P	P	11 28 18.6	+0.1
HNS				pP	pP	11 28 57.6	+1.4
HNS				S	S	11 35 27.4	+0.1
HNS				pmax	pmax		
	comp=Z,31nm,0.7s						
MDJ	Mudanjiang	51.94 345	P	P	11 28 20.1	+0.1
MDJ				pP	pP	11 28 57.3	-0.2
MDJ				PcP	PcP	11 29 29.5	-0.7
MDJ				PcS	PcS	11 33 22.5	-6.0
MDJ				S	S	11 35 32.9	+2.9
MDJ				ScS	ScS	11 37 52.6	-0.3
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YSS	Yuzh-Sakhalins	52.14 357	P	P	11 28 19.6	-1.8
YSS				IAmb	IAmb	11 28 36.3	
	comp=Z,37nm,1.5s						
CMAR	Chiang Mai Arr	52.35 298	P	P	11 28 24.1	+0.6
CMAR	Chiang Mai Arr	52.35 298	P	P	11 28 23.9	+0.4
	comp=Z,2.0nm,0.8s,baz=122,slow=5.5,SNR=14						
	comp=Z,2.0nm,0.8s						
CHTO	Chiang Mai	52.48 298	P	P	11 28 25.1	+0.5
XAN	Xi'an	52.74 321	P	P	11 28 26.5	+0.3
XAN				pP	pP	11 29 01.1	-3.1
XAN				pmax	pmax		
	comp=Z,23nm,1.1s						
XAN	Xi'an	52.74 321	P	P	11 28 26.0	-0.2
XAN				pP	pP	11 29 04.0	-0.2
BJI	Beijing	52.99 331	P	P	11 28 27.8	0.0
BJI				S	S	11 35 47.7	+3.2
BJI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,36nm,5.5s						
PZH	PanZhiHua	53.52 309	P	P	11 28 34.6	+2.4
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,110nm,5.2s						
BNX	BinXian	53.57 344	⇑P	P	11 28 31.7	-0.2
BNX				pmax	pmax		
	comp=Z,11nm,1.0s						
CD2	Chengdu	54.33 314	eP	P	11 28 38.0	+0.1
HHC	Hu-ho-hao-te	55.91 329	eP	P	11 28 52.3	+3.2
HHC				S	S	11 36 25.0	+1.2
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,42nm,4.2s						
BTO	Baotou	56.55 327	eP	P	11 28 58.1	+4.5
BTO				pP	pP	11 29 35.1	+3.1
BTO				sP	sP	11 29 53.3	+3.1
BTO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BTO				pmax	pmax		
	comp=Z,110nm,3.8s						
LZH	Lanzhou	57.27 319	eP	P	11 28 59.8	+1.0
LZH				pP	pP	11 29 36.2	-1.0
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
HEH	HeiHe	57.72 346	eP	P	11 29 01.0	-0.5
HEH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PETK	Petropavlovsk-	59.00 8	P	P	11 29 10.7	+0.4
PETK	Petropavlovsk-	59.00 8	P	P	11 29 10.0	-0.3
	comp=Z,17nm,1.0s,baz=160,slow=6.6,SNR=41						
PETK				pP	pP	11 29 48.9	+0.3
	comp=Z,18nm,1.1s,baz=165,slow=6.2,SNR=5.6						
	comp=Z,17nm,1.0s						
DRV	Dumont d'Urvil	61.40 183	P	P	11 29 26.8	+0.5
GTA	Gaotai	61.80 320	⇓P	P	11 29 30.3	+0.6
GTA				pP	pP	11 30 06.9	-1.9
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ULN	Ulaanbaatar	63.20 331	P	P	11 29 39.5	+0.7
ULN				IAmb	IAmb	11 29 40.4	
	comp=Z,10nm,0.8s						
ULN	Ulaanbaatar	63.20 331	P	P	11 29 39.4	+0.5
GOMU	GeErMu	63.45 315	P	P	11 29 41.2	+0.2
GOMU				pP	pP	11 30 19.0	-1.2
GOMU				sP	sP	11 30 35.7	-2.6
GOMU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	Songino Array	63.49 331	P	P	11 29 41.2	+0.4
SONM	Songino Array	63.49 331	P	P	11 29 41.2	+0.4
	comp=Z,4.6nm,0.8s,baz=158,slow=6.9,SNR=20						
SONM				pP	pP	11 30 17.9	-2.5
	comp=Z,4.1nm,1.2s,baz=144,slow=3.5,SNR=2.2						
	comp=Z,4.6nm,0.8s						
CASY	Casey	65.74 195	P	P	11 29 55.3	+0.5
CASY	Casey	65.74 195	P	P	11 29 55.1	+0.3
NIKH	Nikolski High	69.27 27	P	P	11 30 18.1	+0.9
	baz=229						
UNV	Unalaska Valle	70.91 27	P	P	11 30 28.0	+0.8
	baz=231						
CCD	Concordia, Ant	70.98 186	⇓P	P	11 30 28.0	+0.2
P08K	Saint George I	71.42 24	P	P	11 30 31.3	+1.2
	baz=227						
SPIA	Saint Paul Isl	71.53 23	P	P	11 30 31.7	+0.9
	baz=226						
FALS	False Pass	72.96 28	P	P	11 30 40.4	+1.1
	baz=233						
SBA	Scott Base	73.28 176	P	P	11 30 42.7	+1.8
S12K	Black Hills	74.08 27	P	P	11 30 46.2	+0.3
	baz=234						
CHNA	Chernabura Isl	74.75 29	P	P	11 30 49.8	0.0
	baz=237						
CHNA	Chernabura Isl	74.75 29	P	P	11 30 49.9	+0.1
	comp=Z,25nm,1.2s						
GAMB	Gambell	75.73 18	P	P	11 30 56.1	+1.0
	baz=223						
CHGN	Chignik	76.12 28	P	P	11 30 57.5	+0.1
	baz=237						
M13K	Dall Lake	76.37 23	P	P	11 30 59.4	+0.6
	baz=232						
O14K	Tigyukauivet M	76.52 25	P	P	11 31 00.2	+0.5
	baz=234						
MK31	Makanchi Array	76.56 321	P	P	11 31 00.2	-0.1
MKAR	Makanchi Array	76.56 321	P	P	11

comp=Z,24nm,0.7s
K15K **Wolf Creek Mou** 78.21 22 P P 11 31 09.7 +0.6
baz=233,SNR=5.5
N16K **Nishlik Lake** 78.25 24 P P 11 31 09.8 +0.4
baz=236
SII **Sitkinak Islan** 78.27 29 P P 11 31 10.3 +0.8
baz=241
ANM **Nome** 78.28 19 P P 11 31 09.9 +0.5
baz=229
Q17K **Contact Creek** 78.32 27 P P 11 31 09.2 -0.7
baz=239
M16K **Timber Creek** 78.48 24 P P 11 31 11.8 +1.2
M16K IAmb IAmb 11 31 12.3
comp=Z,29nm,0.9s
M16K **Timber Creek** 78.48 24 P P 11 31 10.8 +0.2
baz=236,SNR=6.9
ACHA **Angle Creek He** 78.55 27 IAmb IAmb 11 31 11.5
comp=Z,15nm,0.7s
O17K **Koliganek Bris** 78.57 26 P P 11 31 11.2 +0.1
baz=238,SNR=12
F14K **Arctic Creek** 78.58 18 P P 11 31 11.7 +0.7
baz=228
R18K **Karluk** 78.63 28 P P 11 31 11.9 +0.5
baz=241
L16K **Owhat River** 78.66 23 IAmb IAmb 11 31 12.9
comp=Z,19nm,0.9s
L16K **Owhat River** 78.66 23 P P 11 31 11.4 -0.1
baz=235,SNR=6.5
Q18K **Katmai Hardscr** 78.91 27 P P 11 31 12.4 -0.7
baz=240,SNR=12
N17K **Nushagak Hills** 78.93 25 P P 11 31 13.4 +0.3
baz=238
G15K **Niukluk** 79.00 19 P P 11 31 13.6 +0.3
baz=231
NIL **Nilore** 79.00 306 P P 11 31 13.9 -0.2
NIL IAmb IAmb 11 31 14.4
comp=Z,15nm,0.8s
OHAK **Old Harbor** 79.02 29 P P 11 31 14.2 +0.6
baz=242
OHAK **Old Harbor** 79.02 29 P P 11 31 13.2 -0.4
comp=Z,12nm,1.2s
J16K **Anvik River** 79.14 22 IAmb IAmb 11 31 16.1
comp=Z,21nm,0.8s
J16K **Anvik River** 79.14 22 P P 11 31 14.4 +0.3
baz=234
P18K **Big Mountain,** 79.19 26 P P 11 31 14.7 +0.1
baz=240
F15K **North Star Dit** 79.26 19 P P 11 31 15.3 +0.5
baz=230
M17K **Holitna River** 79.30 24 IAmb IAmb 11 31 17.1
comp=Z,25nm,0.9s
M17K **Holitna River** 79.30 24 P P 11 31 15.5 +0.5
baz=237,SNR=5.5
L17K **Donlin** 79.36 23 P P 11 31 16.0 +0.7
baz=236
H16K **Elim** 79.38 20 P P 11 31 15.6 +0.2
baz=232
O18K **Koktuh Hills** 79.43 26 P P 11 31 15.8 0.0
baz=240
I17K **Unalakleet** 79.47 21 P P 11 31 16.0 +0.2
baz=234
N18K **Kilae Creek** 79.56 25 P P 11 31 16.8 +0.3
baz=239
KDAK **Kodiak Island** 79.62 28 P P 11 31 17.1 +0.3
baz=242
Q19K **Cape Douglas,** 79.67 27 P P 11 31 17.2 0.0
baz=241
K17K **Iditarod** 79.68 23 P P 11 31 17.6 +0.6
K17K IAmb IAmb 11 31 18.9
comp=Z,25nm,0.9s
K17K **Iditarod** 79.68 23 P P 11 31 17.7 +0.6
baz=236,SNR=5.1
J17K **VABM Dome** 79.77 22 P P 11 31 18.5 +0.9
J17K IAmb IAmb 11 31 19.4
comp=Z,21nm,0.7s
J17K **VABM Dome** 79.77 22 P P 11 31 18.1 +0.6
baz=236,SNR=5.6
G16K **Koyuk River** 79.80 19 P P 11 31 17.8 +0.2
G16K **Koyuk River** 79.80 19 P P 11 31 18.2 +0.5
baz=232
M18K **Stony River** 80.01 24 P P 11 31 19.5 +0.6
baz=239,SNR=5.3
L18K **Granite Mounta** 80.04 24 P P 11 31 19.4 +0.3
L18K IAmb IAmb 11 31 20.8
comp=Z,20nm,1.1s
L18K **Granite Mounta** 80.04 24 P P 11 31 19.6 +0.5
baz=238,SNR=6.7
Q20K **Shuyak Island** 80.09 28 P P 11 31 19.8 +0.5
baz=242
P19K **Oil Pt** 80.20 27 P P 11 31 19.7 -0.3
P19K **Oil Pt** 80.20 27 P P 11 31 19.9 0.0
baz=242
N19K **Bonanza Creek** 80.22 25 P P 11 31 20.5 +0.3
N19K **Bonanza Creek** 80.22 25 P P 11 31 19.9 -0.2
baz=240
KURK **Kurchatov** 80.27 323 P P 11 31 19.8 -0.7
KURBB **Kurchatov Arra** 80.30 323 P P 11 31 19.3 -1.3
comp=Z,1.5nm,0.4s,baz=116,slow=4.2,SNR=11
KURBB pP pP 11 32 00.6 -1.1
comp=Z,0.6nm,0.6s,baz=115,slow=4.5,SNR=1.8
comp=Z,1.5nm,0.4s
H17K **Granite Mounta** 80.36 20 P P 11 31 21.3 +0.6
H17K IAmb IAmb 11 31 22.3
comp=Z,28nm,0.7s
H17K **Granite Mounta** 80.36 20 P P 11 31 21.2 +0.6
baz=235,SNR=7.1
G17K **Kiwalik Mounta** 80.44 20 P P 11 31 21.5 +0.5
baz=234,SNR=8.1
O20K **Slope Mountain** 80.67 26 P P 11 31 22.4 -0.1
baz=242
TTA **Tatalina** 80.68 23 P P 11 31 23.0 +0.4
baz=238
J18K **Innoko River** 80.70 22 P P 11 31 22.6 +0.1
baz=238
C16K **Lisburne Hills** 80.73 16 P P 11 31 23.2 +0.7
baz=229
L19K **White Mountain** 80.76 24 IAmb IAmb 11 31 24.3
comp=Z,23nm,1.1s
L19K **White Mountain** 80.76 24 P P 11 31 22.9 0.0
baz=240,SNR=7.9
F17K **Baldwin Pennin** 80.80 19 P P 11 31 23.6 +0.6
baz=233
M19K **Big River Lodg** 80.81 24 P P 11 31 23.5 +0.4
baz=240
HOM **Homer** 80.92 27 P P 11 31 23.8 +0.1
baz=243
E17K **Hotham Inlet** 81.01 18 P P 11 31 24.3 +0.3
baz=232,SNR=10
D17K **Noatak River** 81.01 17 P P 11 31 24.8 +0.8
baz=231
H18K **Honhosa River** 81.02 21 P P 11 31 23.7 -0.5
baz=236
CNPM **China Poot** 81.04 27 IAmb IAmb 11 31 24.8
comp=Z,20nm,0.7s
RDOG **Red Dog Mine** 81.29 17 P P 11 31 25.8 +0.3
baz=231,SNR=6.6
L20K **Farewell, AK** 81.30 24 P P 11 31 25.9 +0.1
baz=240,SNR=6.3
M20K **Styx River** 81.31 25 P P 11 31 26.1 +0.1
baz=241
GCSA **Galena City Sc** 81.33 21 P P 11 31 26.1 +0.4
baz=237,SNR=8.1
G18K **Tagagawik** 81.34 20 P P 11 31 26.0 +0.1
baz=236
BRSE **Bradley Lake S** 81.36 27 P P 11 31 26.0 -0.2
baz=244
N20K **Mount Spurr** 81.38 25 P P 11 31 25.9 -0.3
baz=242
SPCR **Spurr Chakacha** 81.38 25 P P 11 31 26.3 0.0
baz=242
J19K **Poorman** 81.39 22 P P 11 31 26.1 -0.1
J19K **Poorman** 81.39 22 P P 11 31 26.5 +0.4
baz=239,SNR=6.8
F18K **Selawik** 81.41 19 P P 11 31 26.6 +0.4
baz=235
C17K **DeLong Mountai** 81.47 17 P P 11 31 26.9 +0.4
baz=231,SNR=5.3
E18K **Tukpahlearik C** 81.60 18 IAmb IAmb 11 31 28.6
comp=Z,26nm,0.8s
E18K **Tukpahlearik C** 81.60 18 P P 11 31 27.7 +0.5
baz=234,SNR=6.4
K20K **Telida** 81.66 23 P P 11 31 27.9 +0.3
baz=240
H19K **Roundabout Mou** 81.90 21 IAmb IAmb 11 31 30.1
comp=Z,32nm,0.8s
H19K **Roundabout Mou** 81.90 21 P P 11 31 29.1 +0.4
baz=238,SNR=15
G19K **Purcell Mounta** 82.01 20 IAmb IAmb 11 31 30.9
comp=Z,32nm,0.9s
G19K **Purcell Mounta** 82.01 20 P P 11 31 29.7 +0.4
baz=237,SNR=10.0
SKT **Skwentna** 82.03 25 P P 11 31 30.1 +0.5
baz=243
J20K **Nowinta River** 82.04 22 IAmb IAmb 11 31 31.0
comp=Z,16nm,0.8s
J20K **Nowinta River** 82.04 22 P P 11 31 30.0 +0.5
baz=240,SNR=7.9
SEW **Seward** 82.11 27 P P 11 31 29.8 -0.1
baz=245
SUA **Susitna One** 82.13 26 P P 11 31 29.9 -0.3
baz=244
O22K **Cooper Landing** 82.14 27 P P 11 31 30.5 +0.3
baz=245
C18K **Utukok River** 82.16 17 P P 11 31 30.4 +0.2
baz=233
F19K **Shaleruckik Mo** 82.16 19 P P 11 31 30.4 +0.3
baz=236
PPLA **Purkeypile** 82.19 24 P P 11 31 30.3 -0.2
baz=242
I20K **Naaghedeneel** 82.23 22 P P 11 31 30.2 -0.3
baz=240
RC01 **Rabbit Creek A** 82.40 26 IAmb IAmb 11 31 31.6
comp=Z,52nm,1.4s
RC01 **Rabbit Creek A** 82.40 26 P P 11 31 30.9 -0.6
baz=244,SNR=5.3
B18K **Kokolik River** 82.42 16 P P 11 31 31.6 +0.2
baz=232
H20K **Anotleneega Mo** 82.44 21 P P 11 31 31.7 +0.1
baz=239,SNR=8.0
CAST **Castle Rocks** 82.47 24 P P 11 31 31.4 -0.5
CAST IAmb IAmb 11 31 32.2
comp=Z,17nm,1.0s
CAST **Castle Rocks** 82.47 24 P P 11 31 31.3 -0.6
baz=242,SNR=15
M22K **Willow** 82.53 25 P P 11 31 31.4 -0.7
baz=244
CHUM **Lake Minchumin** 82.60 23 P P 11 31 32.7 +0.2
baz=242,SNR=15
MAW **Mawson** 82.62 203 P P 11 31 32.4 -0.1
comp=Z,12nm,0.7s,baz=88,slow=5.7,SNR=30
comp=Z,12nm,0.7s
E19K **Redstone River** 82.68 19 P P 11 31 33.4 +0.6
baz=237
CUT **Chulitna** 82.75 25 P P 11 31 32.0 -1.2
CUT IAmb IAmb 11 31 33.0
comp=Z,17nm,0.8s
CUT **Chulitna** 82.75 25 P P 11 31 32.3 -0.9
baz=244,SNR=5.3
PMR **Palmer** 82.88 26 P P 11 31 33.0 -0.9
baz=245,SNR=5.9
PMR **Palmer** 82.88 26 P P 11 31 33.5 -0.4
C19K **Lookout Ridge** 82.90 17 P P 11 31 34.6 +0.7
baz=234
PWL **Port Wells** 82.92 27 P P 11 31 33.9 -0.3
PWL IAmb IAmb 11 31 34.6
comp=Z,30nm,0.9s
PWL **Port Wells** 82.92 27 P P 11 31 33.7 -0.6
baz=246,SNR=12
F20K **Avaraart Lake** 82.96 20 P P 11 31 34.9 +0.7
baz=238
D19K **Kuna River** 82.98 18 P P 11 31 34.7 +0.2
baz=236
KTH **Kantishna Hill** 83.00 24 IAmb IAmb 11 31 34.4
comp=Z,15nm,0.9s
P23K **Montague Islan** 83.00 28 P P 11 31 34.6 0.0
baz=247
GHO **Glory Hole Cre** 83.05 26 P P 11 31 34.5 -0.4
GHO IAmb IAmb 11 31 34.7
comp=Z,11nm,0.7s
IMAR **Indian Mountai** 83.09 21 P P 11 31 35.0 0.0
KNK **Knik Glacier** 83.10 26 P P 11 31 35.1 -0.1
KNK IAmb IAmb 11 31 35.8
comp=Z,13nm,0.9s
KNK **Knik Glacier** 83.10 26 P P 11 31 34.7 -0.5
baz=246
A19K **Wainwright** 83.14 16 P P 11 31 35.5 +0.4
baz=233
TRF **Thorofare Moun** 83.21 24 P P 11 31 35.4 -0.4
baz=244
BPAW **Bear Paw Mtn.** 83.22 23 P P 11 31 35.0 -0.7
BPAW **Bear Paw Mtn.** 83.22 23 P P 11 31 34.8 -0.9
baz=243,SNR=6.9
H21K **Melozitna Rive** 83.27 21 P P 11 31 35.7 -0.2
H21K **Melozitna Rive** 83.27 21 P P 11 31 36.1 +0.2
baz=241,SNR=5.5
Q23K **Middleton Isla** 83.27 28 P P 11 31 36.0 +0.1
baz=248
SML **Sawmill** 83.32 26 IAmb IAmb 11 31 36.7
comp=Z,32nm,1.0s
SML **Sawmill** 83.32 26 P P 11 31 35.9 -0.4
baz=246,SNR=7.0
KKAR **Karatay Array** 83.35 314 P P 11 31 36.1 -0.7
KKAR **Karatay Array** 83.35 314 IAmb IAmb 11 31 37.0
comp=Z,6.4nm,1.4s
G21K **Allakaket** 83.44 20 P P 11 31 36.8 +0.1
baz=240
E20K **Nigu River** 83.45 18 P P 11 31 37.3 +0.4
baz=238
SIMJ **Simiganj** 83.47 310 P P 11 31 36.0 -1.7
GLI **Glacier Island** 83.49 27 IAmb IAmb 11 31 37.5
comp=Z,25nm,0.8s
GLI **Glacier Island** 83.49 27 P P 11 31 36.8 -0.3
baz=247
D20K **Etivluk River** 83.57 18 P P 11 31 37.6 +0.2
baz=237
M23K **Glacier View** 83.58 26 P P 11 31 37.8 +0.2
baz=246
WAT1 **Susitna Watana** 83.65 25 P P 11 31 37.1 -0.8
baz=245
FID **Port Fidalgo** 83.72 27 P P 11 31 36.8 -1.5
FID IAmb IAmb 11 31 39.8
comp=Z,18nm,0.9s
MLY **Manley** 83.74 22 P P 11 31 38.1 -0.2
MLY **Manley** 83.74 22 P P 11 31 38.2 -0.2
baz=243,SNR=27
SCM **Sheep Creek Mo** 83.77 26 P P 11 31 38.3 -0.3
SCM IAmb IAmb 11 31 39.3
comp=Z,24nm,1.0s
SCM **Sheep Creek Mo** 83.77 26 P P 11 31 38.3 -0.3
baz=247,SNR=6.5
F21K **Alatna River** 83.80 20 P P 11 31 38.5 -0.1
baz=240
MCK **McKinley** 83.88 24 P P 11 31 37.8 -1.2
baz=245,SNR=18
WAT6 **Susitna Watana** 83.89 25 P P 11 31 38.5 -0.8
baz=246,SNR=9.6
H22K **Ishtalitna Cre** 83.90 21 P P 11 31 39.2 +0.1
baz=242,SNR=8.2
EYAK **Cordova Ski Ar** 83.97 27 P P 11 31 39.4 -0.1
baz=248
EYAK **Cordova Ski Ar** 83.97 27 P P 11 31 42.2 +2.7
B20K **Meade River** 84.11 17 P P 11 31 39.6 -0.4
baz=237
NEA2 **Nenana** 84.19 23 IAmb IAmb 11 31 40.3
comp=Z,16nm,0.6s
NEA2 **Nenana** 84.19 23 P P 11 31 39.6 -1.0
baz=245,SNR=11
DHY **Denali Highway** 84.24 25 IAmb IAmb 11 31 41.5
comp=Z,19nm,0.8s
DHY **Denali Highway** 84.24 25 P P 11 31 40.6 -0.4
baz=246,SNR=18
E21K **Killik River** 84.25 19 P P 11 31 41.1 +0.2
baz=240
KLU **Klutina** 84.25 27 P P 11 31 40.9 -0.2
KLU IAmb IAmb 11 31 41.9
comp=Z,19nm,1.0s
KLU **Klutina** 84.25 27 P P 11 31 41.0 0.0
baz=248,SNR=9.1
I23K **Minto, Yukon-K** 84.32 22 P 11 31 41.0 -0.1
I23K IAmb IAmb 11 31 41.3
comp=Z,12nm,0.5s
I23K **Minto, Yukon-K** 84.32 22 P P 11 31 40.8 -0.4
baz=244,SNR=12
G22K **Bettles** 84.33 21 P P 11 31 41.1 -0.1
baz=242
C21K **Knifeblade Rid** 84.36 18 P P 11 31 41.7 +0.4
baz=239
KAIM **Kayak Island** 84.36 28 P P 11 31 41.5 -0.1
baz=249
M24K **Tolsona, Glenn** 84.37 26 P P 11 31 41.5 -0.1
M24K **Tolsona, Glenn** 84.37 26 P P 11 31 41.9 +0.2
baz=248,SNR=7.4
F22K **John River** 84.38 20 P P 11 31 42.1 +0.6
baz=242
NRIK **Noril'sk** 84.43 342 P P 11 31 40.9 -0.8
NRIK IAmb IAmb 11 31 42.0
comp=Z,22nm,0.8s
NRIK **Noril'sk** 84.43 342 P P 11 31 41.0 -0.6
comp=Z,20nm,0.8s,baz=125,slow=4.7,SNR=32
NRIK pP pP 11 32 22.4 -0.5
comp=Z,7.1nm,1.0s,baz=120,slow=6.3,SNR=2.7
comp=Z,20nm,0.8s
WRH **Wood River Hil** 84.52 23 P P 11 31 41.3 -0.9
WRH IAmb IAmb 11 31 41.8
comp=Z,29nm,1.0s
H23K **Yukon River** 84.54 22 P P 11 31 42.4 0.0
baz=244
HMT **Hamilton** 84.58 28 IAmb IAmb 11 31 43.4
comp=Z,24nm,0.8s
QSPA **South Pole Qui** 84.64 180 P P 11 31 43.1 0.0
QSPA **South Pole Qui** 84.64 180 P P 11 31 42.7 -0.4
comp=Z,29nm,0.7s,baz=338,slow=1.4,SNR=225
comp=Z,29nm,0.7s
BMRM **Bremner River** 84.65 27 P P 11 31 42.8 -0.2
baz=249,SNR=5.6
B21K **Ikpikpuk River** 84.66 18 P P 11 31 42.9 +0.1
baz=239
G23K **Bananza Creek** 84.76 21 P P 11 31 43.5 +0.1
baz=244
COLA **College** 84.78 23 P P 11 31 42.4 -1.1
COLA **College** 84.78 23 P P 11 31 42.4 -1.1
baz=246
COLA **College** 84.78 23 P P 11 31 43.0 -0.5
E22K **Anaktuvuk Pass** 84.80 19 P P 11 31 43.7 +0.1
baz=242
BERG **Berg Lake** 84.86 28 IAmb IAmb 11 31 45.0
comp=Z,29nm,1.0s
D22K **Ayikyak River** 84.88 19 P P 11 31 44.4 +0.4
baz=241
N25K **Chitina, Valde** 84.88 27 P P 11 31 43.9 -0.3
N25K **Chitina, Valde** 84.88 27 P P 11 31 44.1 -0.1
baz=249,SNR=6.0
HARP **HAARP** 84.92 26 P P 11 31 44.2 -0.1
baz=248
COLD **Coldfoot** 84.93 20 P P 11 31 44.5 +0.3
baz=243,SNR=12
HDA **Harding Lake** 84.95 24 P P 11 31 43.3 -1.1
HDA IAmb IAmb 11 31 45.1
comp=Z,16nm,0.6s
HDA **Harding Lake** 84.95 24 P P 11 31 43.3 -1.1
baz=247,SNR=6.6
PAX **Paxson** 85.00 25 P P 11 31 44.0 -0.8
baz=248,SNR=7.0
POKR **Poker Plat Res** 85.04 23 P P 11 31 43.5 -1.4
POKR IAmb IAmb 11 31 44.3
comp=Z,13nm,0.6s
POKR **Poker Plat Res** 85.04 23 P P 11 31 43.7 -1.2
baz=246,SNR=5.6
ILAR **Eielson Array** 85.12 23 P P 11 31 43.4 -1.8
comp=Z,32nm,0.6s,baz=253,slow=5.0,SNR=454
H24K **Noodor Dome** 85.17 22 IAmb IAmb 11 31 46.3
comp=Z,12nm,0.7s
H24K **Noodor Dome** 85.17 22 P P 11 31 45.1 -0.4
baz=246,SNR=15
GLB **Gilahina Butte** 85.18 27 IAmb IAmb 11 31 46.3
comp=Z,16nm,0.7s
K24K **Donnelly Dome** 85.19 24 P P 11 31 45.5 -0.2
baz=248,SNR=5.3
SNH **Sunshine Point** 85.20 28 IAmb IAmb 11 31 46.7
comp=Z,36nm,1.0s
CRQM **Cirque** 85.25 28 IAmb IAmb 11 31 47.1
comp=Z,22nm,0.9s
CRQE **Cirque** 85.27 28 P P 11 31 45.9 -0.3
baz=250,SNR=8.1
A22K **Sinclair Lake** 85.27 16 P P 11 31 46.0 +0.2
baz=239
WAX **Waxell Ridge** 85.28 28 P P 11 31 46.1 -0.1
WAX IAmb IAmb 11 31 47.3
comp=Z,31nm,1.2s
B22K **Teshekpuk Lake** 85.38 17 P P 11 31 46.5 +0.1
B22K IAmb IAmb 11 31 47.2
comp=Z,19nm,0.8s
B22K **Teshekpuk Lake** 85.38 17 P P 11 31 46.5 +0.1
baz=240
TGL **Tana Glacier** 85.39 28 P P 11 31 46.6 -0.2
TGL IAmb IAmb 11 31 47.7
comp=Z,14nm,1.0s
E23K **Chandalar** 85.50 20 IAmb IAmb 11 31 48.5
comp=Z,15nm,0.6s
E23K **Chandalar** 85.50 20 P P 11 31 47.8 +0.6
baz=244,SNR=11
MCARA **McCarthy VSAT** 85.51 27 IAmb IAmb 11 31 48.1
comp=Z,10nm,0.7s
MCARA **McCarthy VSAT** 85.51 27 P P 11 31 47.2 -0.1
baz=250,SNR=5.6
RIDG **Independent Ri** 85.55 25 P P 11 31 47.1 -0.3
baz=249
D23K **Nanushuk River** 85.56 19 P P 11 31 48.1 +0.8
baz=243
MESA **MESA** 85.62 28 P P 11 31 46.4 -1.7
MESA **MESA** 85.62 28 P P 11 31 47.7 -0.3
baz=252
J25K **Salcha River,** 85.66 24 P P 11 31 47.5 -0.5
J25K **Salcha River,** 85.66 24 P P 11 31 47.2 -0.7
baz=248,SNR=61
G24K **Hadweenzic Riv** 85.67 21 P P 11 31 48.1 +0.2
baz=246
MENT **Mentasta** 85.74 26 P P 11 31 48.2 -0.2
TOLK **Toolik Lake Re** 85.77 19 P P 11 31 49.1 +0.7
TOLK IAmb IAmb 11 31 49.6
comp=Z,13nm,0.8s
TOLK **Toolik Lake Re** 85.77 19 P P 11 31 49.0 +0.5
baz=244,SNR=6.5
YAH **Yahtse** 85.77 28 P P 11 31 48.3 -0.5
BVAR **Borovoye Array** 85.83 324 P P 11 31 47.4 -1.6
comp=Z,4.5nm,0.8s,baz=104,slow=6.3,SNR=17
comp=Z,4.5nm,0.8s
F24K **Squaw Lake** 85.86 21 P P 11 31 49.5 +0.5
baz=246
M26K **Nabesna, AK** 85.87 26 P P 11 31 49.6 +0.6
baz=250
E24K **Your Creek** 85.89 20 P P 11 31 49.3 +0.3
baz=245
L26K **Log Cabin Wild** 85.93 25 IAmb IAmb 11 31 50.0
comp=Z,14nm,0.7s
L26K **Log Cabin Wild** 85.93 25 P P 11 31 49.0 -0.3
baz=250,SNR=12
PRP **Porcupine Dome** 85.94 23 P P 11 31 48.4 -1.0
baz=248
C23K **Itkillik River** 85.98 18 P P 11 31 49.8 +0.5
baz=243,SNR=13
SCRK **Sand Creek** 85.99 24 P P 11 31 48.7 -1.0
SCRK **Sand Creek** 85.99 24 P P 11 31 49.2 -0.5
baz=249,SNR=11
TABL **Table Mountain** 86.08 28 P P 11 31 49.0 -1.3
CTG **Chitna Glacier** 86.15 28 P P 11 31 50.9 +0.4
baz=252,SNR=12
G25K **Bearman Lake** 86.20 22 P P 11 31 51.3 +0.9
baz=247
D24K **Happy Valley** 86.24 19 P P 11 31 51.6 +0.9
D24K **Happy Valley** 86.24 19 P P 11 31 51.4 +0.8
baz=245,SNR=16
LOGN **Logan Glacier** 86.26 28 IAmb IAmb 11 31 51.7
comp=Z,19nm,0.8s
M27K **Edge Creek, AK** 86.35 26 P P 11 31 51.6 +0.1
M27K **Edge Creek, AK** 86.35 26 P P 11 31 51.9 +0.4
baz=251,SNR=23
J26L **Joseph Creek** 86.35 24 IAmb IAmb 11 31 52.1
comp=Z,14nm,0.8s
J26L **Joseph Creek** 86.35 24 P P 11 31 51.1 -0.3
baz=250,SNR=20
PINM **Pinnacle** 86.40 29 P P 11 31 51.7 0.0
baz=253
FYU **Fort Yukon** 86.44 22 IAmb IAmb 11 31 52.8
comp=Z,24nm,0.8s
C24K **Franklin Bluff** 86.52 18 P P 11 31 52.5 +0.5
C24K **Franklin Bluff** 86.52 18 P P 11 31 52.7 +0.7
baz=245
L27K **Beaver Creek,** 86.59 26 P P 11 31 52.8 +0.2
L27K IAmb IAmb 11 31 53.6
comp=Z,15nm,1.1s
L27K **Beaver Creek,** 86.59 26 P P 11 31 52.8 +0.2
baz=251
BCAR **Beaver Creek A** 86.61 26 P P 11 31 52.9 +0.2
O28M **Mount Upton** 86.63 28 P P 11 31 53.2 +0.2
baz=253,SNR=14
F25K **Christian Rive** 86.68 21 P P 11 31 53.4 +0.4
baz=248
PNL **Peninsula** 86.69 29 P P 11 31 53.3 +0.3
baz=254
PNL **Peninsula** 86.69 29 P P 11 31 53.8 +0.7
K27K **Chicken** 86.80 25 P P 11 31 54.1 +0.6

baz=251
YUK3 Moose Creek 86.80 27 P **P** 11 31 54.0 +0.1
baz=253,SNR=16
BVCY Beaver Creek 86.81 26 P **P** 11 31 54.1 +0.4
baz=252,SNR=13
E25K Arctic Village 86.91 20 P **P** 11 31 54.3 +0.3
baz=248
YUK8 Steele Glacier 86.98 28 P **P** 11 31 55.0 +0.3
baz=253,SNR=7.9
BMAR Burnt Mountain 87.00 21 P **P** 11 31 55.0 +0.5
D25K Kavik River 87.11 19 P **P** 11 31 55.1 +0.2
baz=247
G26K Porcupine Rive 87.12 22 P **P** 11 31 55.8 +0.9
baz=249
F26K Sheenjek River 87.25 21 P **P** 11 31 56.6 +0.9
baz=249
O29M Mount Kennedy 87.26 29 P **P** 11 31 56.4 +0.4
baz=254,SNR=7.4
EGAK Eagle 87.42 24 P **P** 11 31 56.6 +0.2
EGAK IAmb IAmb 11 31 57.2
comp=Z,17nm,0.8s
EGAK Eagle 87.42 24 P **P** 11 31 56.3 -0.1
baz=252,SNR=9.6
P29M Windy Craggy 87.49 30 P **P** 11 31 57.2 +0.3
P29M IAmb IAmb 11 31 58.2
comp=Z,14nm,0.7s
P29M Windy Craggy 87.49 30 P **P** 11 31 57.4 +0.5
baz=255,SNR=5.9
I27K Kandik River 87.49 23 P **P** 11 31 57.1 +0.2
baz=252,SNR=22
YUK4 Talbot Arm 87.51 28 P **P** 11 31 57.9 +0.7
baz=254,SNR=12
YUK6 Outpost Mounta 87.53 28 P **P** 11 31 57.6 +0.2
baz=255
H27K Steamboat Moun 87.73 23 P **P** 11 31 58.4 +0.5
baz=252,SNR=20
C26K Camden Bay 87.81 19 P **P** 11 31 59.2 +1.0
baz=248
S31K Pelican 87.84 31 P **P** 11 31 58.7 +0.2
baz=257
G27K Doyon Strip 87.86 22 IAmb IAmb 11 31 59.4
comp=Z,6.2nm,0.6s
G27K Doyon Strip 87.86 22 P **P** 11 31 59.1 +0.5
baz=251,SNR=8.9
M29M Somme Creek 87.89 27 P **P** 11 31 59.0 +0.1
M29M IAmb IAmb 11 32 00.1
comp=Z,14nm,0.8s
M29M Somme Creek 87.89 27 P **P** 11 31 59.0 +0.1
baz=254,SNR=16
HYT Haines Junctio 87.91 28 P **P** 11 31 59.4 +0.3
HYT IAmb IAmb 11 32 00.2
comp=Z,11nm,0.7s
HYT Haines Junctio 87.91 28 P **P** 11 31 59.3 +0.3
baz=255,SNR=8.4
DAWY Dawson 87.94 25 P **P** 11 31 59.4 +0.4
DAWY Dawson 87.94 25 P **P** 11 31 59.3 +0.3
baz=254,SNR=20
P30M Million Dollar 88.00 29 P **P** 11 31 59.8 +0.4
baz=256
HRA Herat 88.11 305 P **P** 11 32 00.0 -0.7
I28M Miner Creek 88.11 24 **P** 11 32 00.2 +0.3
I28M IAmb IAmb 11 32 00.6
comp=Z,9.2nm,0.8s
I28M Miner Creek 88.11 24 P **P** 11 31 59.9 0.0
baz=253,SNR=8.4
SIT Sitka 88.12 32 P **P** 11 32 00.1 +0.3
baz=257
PLBC Pleasant Camp 88.13 30 P **P** 11 32 00.2 +0.3
baz=256
L29M L29M 88.22 26 P **P** 11 32 00.5 +0.2
L29M IAmb IAmb 11 32 01.7
comp=Z,24nm,1.1s
L29M L29M 88.22 26 P **P** 11 32 00.8 +0.5
baz=255,SNR=15
N30M Aishikik Lake 88.26 28 P **P** 11 31 59.8 -0.8
N30M Aishikik Lake 88.26 28 P **P** 11 32 01.1 +0.4
baz=256,SNR=5.8
E27K Coleen River 88.33 21 P **P** 11 32 00.4 -0.3
E27K IAmb IAmb 11 32 02.2
comp=Z,14nm,0.7s
E27K Coleen River 88.33 21 P **P** 11 32 01.3 +0.6
baz=251
J29N Klondike Camp 88.54 25 IAmb IAmb 11 32 03.3
comp=Z,11nm,0.8s
J29N Klondike Camp 88.54 25 P **P** 11 32 02.3 +0.5
baz=255,SNR=6.5
O30N Mendenhall 88.57 29 P **P** 11 32 01.9 -0.1
O30N Mendenhall 88.57 29 P **P** 11 32 02.3 +0.3
baz=257
S32K Killisnoo 88.60 32 P **P** 11 32 02.6 +0.5
baz=258
SKAG Skagway 88.64 30 P **P** 11 32 03.1 +0.8
baz=257
K29M Barlow Dome 88.67 25 **P** 11 32 02.9 +0.4
K29M **pwP** 11 32 45.5 -0.8
K29M Barlow Dome 88.67 25 P **P** 11 32 02.9 +0.4
baz=255,SNR=21
M30M Minto, Yukon 88.67 27 P **P** 11 32 02.7 +0.2
M30M Minto, Yukon 88.67 27 P **P** 11 32 02.7 +0.2
baz=256
I29M Ogilvie Camp, 88.74 24 P **P** 11 32 02.7 0.0
baz=254,SNR=13
F28M Old Crow 88.77 22 P **P** 11 32 02.6 -0.2
F28M IAmb IAmb 11 32 03.9
comp=Z,8.3nm,0.8s
F28M Old Crow 88.77 22 P **P** 11 32 03.0 +0.2
baz=253,SNR=8.4
D27M Malcolm River 88.88 20 P **P** 11 32 03.6 +0.2
baz=252
N31M Braeburn, Yuko 88.88 28 P **P** 11 32 03.8 +0.4
N31M IAmb IAmb 11 32 04.5
comp=Z,8.8nm,0.8s
N31M Braeburn, Yuko 88.88 28 P **P** 11 32 04.1 +0.7
baz=257
H29M Whitestone 88.95 23 P **P** 11 32 03.9 +0.3
baz=254
CRAG Craig 89.00 34 P **P** 11 32 04.6 +0.5
baz=259
U33K Whale Pass 89.12 34 P **P** 11 32 04.4 -0.2
baz=259
WHY Whitehorse 89.12 29 P **P** 11 32 04.6 -0.1
baz=258
E28M Babbage River 89.18 21 P **P** 11 32 05.0 +0.3
baz=253
G29M Pine Creek 89.27 22 P **P** 11 32 05.2 0.0
baz=255
CRZF Crozet Islands 89.27 224 P **P** 11 32 05.4 -0.2
MAYO Mayo, Yukon 89.31 26 P **P** 11 32 06.0 +0.6
MAYO Mayo, Yukon 89.31 26 P **P** 11 32 05.8 +0.3
baz=257
J30M Hart River 89.36 25 P **P** 11 32 06.1 +0.4
J30M IAmb IAmb 11 32 06.8
comp=Z,14nm,0.8s
J30M Hart River 89.36 25 P **P** 11 32 05.7 0.0
baz=256,SNR=18
I30M Mount Dempster 89.49 24 P **P** 11 32 06.0 -0.4
I30M IAmb IAmb 11 32 07.0
comp=Z,7.5nm,0.8s
I30M Mount Dempster 89.49 24 P **P** 11 32 06.1 -0.2
baz=256,SNR=9.7
WRAK Wrangell Islan 89.60 33 P **P** 11 32 06.7 -0.1
baz=260
EPYK Eagle Plains 89.63 23 P **P** 11 32 06.9 0.0
EPYK Eagle Plains 89.63 23 P **P** 11 32 06.7 -0.2
baz=256,SNR=15
D28M Stokes Point 89.66 20 P **P** 11 32 07.0 +0.2
baz=254
M31M Drury Creek, Y 89.68 27 P **P** 11 32 07.1 0.0
M31M Drury Creek, Y 89.68 27 P **P** 11 32 07.3 +0.1
baz=258
E29M Blow River 89.70 21 P **P** 11 32 07.4 +0.3
baz=255
V35K Ketchikan 89.82 34 P **P** 11 32 08.1 +0.2
baz=260
G30M tAoh Zraii Nji 89.97 23 P **P** 11 32 08.0 -0.4
G30M IAmb IAmb 11 32 08.7
comp=Z,16nm,1.1s
G30M tAoh Zraii Nji 89.97 23 P **P** 11 32 08.0 -0.4
baz=256
P33M Teslin, Yukon 90.04 30 P **P** 11 32 08.1 -0.9
baz=260
N32M Quiet Lake 90.08 29 P **P** 11 32 08.4 -0.7
baz=259
Q32M Nakina River 90.09 31 P **P** 11 32 09.8 +0.4
baz=260
FARO Faro, Yukon 90.17 27 P **P** 11 32 09.0 -0.5
FARO Faro, Yukon 90.17 27 P **P** 11 32 09.8 +0.3
baz=259,SNR=5.4
F30M Barrier River 90.28 22 P **P** 11 32 09.4 -0.4
baz=257
H31M Peel River 90.45 24 P **P** 11 32 10.1 -0.5
H31M IAmb IAmb 11 32 11.0
comp=Z,13nm,0.7s
H31M Peel River 90.45 24 P **P** 11 32 10.2 -0.5
baz=258,SNR=7.1
S34M Telegraph Cree 90.50 32 P **P** 11 32 12.1 +1.0
baz=261
G31M Satah River 90.71 23 P **P** 11 32 11.4 -0.3
G31M Satah River 90.71 23 P **P** 11 32 11.6 -0.2
baz=258,SNR=8.4
R33M Jennings River 90.82 31 P **P** 11 32 12.8 +0.1
baz=261
T35M Bob Quinn 90.83 33 P **P** 11 32 12.4 -0.2
baz=262
F31M Tsiigehtchic 91.01 22 P **P** 11 32 12.6 -0.5
F31M IAmb IAmb 11 32 13.2
comp=Z,9.2nm,1.0s
F31M Tsiigehtchic 91.01 22 P **P** 11 32 12.7 -0.5
baz=259
DLBC Dease Lake 91.16 32 P **P** 11 32 13.8 -0.4
baz=262
INK Inuvik 91.26 21 P **P** 11 32 13.5 -0.8
INK IAmb IAmb 11 32 14.4
comp=Z,10nm,1.2s
INK Inuvik 91.26 21 P **P** 11 32 13.4 -0.8
baz=259
UOSS Minazif 92.33 295 P **P** 11 32 18.5 -1.8
UOSS IAmb IAmb 11 32 19.2
comp=Z,21nm,1.4s
LIRD Liard River Hi 93.29 31 P **P** 11 32 23.7 -0.2
baz=265
KOTAN Kotaneelee Air 94.38 30 P **P** 11 32 28.1 -0.7
baz=267
A36M Sachs Harbour 94.53 18 P **P** 11 32 28.5 -0.8
A36M Sachs Harbour 94.53 18 P **P** 11 32 28.8 -0.5
baz=267
ELIB Princess Elisa 94.68 195 *d*P **P** 11 32 30.1 -0.2
comp=Z,6.3nm,0.8s
C36M Paulatuk 94.79 21 P **P** 11 32 29.8 -0.8
baz=268
BELA Belgrano 2 96.92 180 P **P** 11 32 39.6 -0.6
BELA IAmb IAmb 11 32 40.9
comp=Z,8.1nm,0.9s
YKA Yellowknife Ar 98.88 28 P **P** 11 32 48.0 -1.1
comp=Z,2.0nm,0.9s,baz=280,slow=5.1,SNR=5.9
comp=Z,2.0nm,0.9s
R11B Troy Canyon, C 99.61 52 P **Pdif** 11 32 52.1 -1.2
baz=271
SNAA Sanae 100.56 189 P **Pdif** 11 32 55.3 -1.3
comp=Z,1.6nm,0.8s,baz=221,slow=21,SNR=3.9
VNA2 Neumayer--Watz 101.92 189 ⇑P **Pdif** 11 33 02.0 -0.6
comp=Z,2.7nm,0.8s,baz=338,slow=1.8
VNA3 Neumayer Olymp 101.96 188 ⇑P **Pdif** 11 33 01.0 -1.8
comp=Z,2.4nm,0.6s
121A Cookes Peak, D 106.22 58 P **PKiKP** 11 37 32.8 -0.9
baz=274
S22A 4UR Ranch, Cre 106.54 52 P **PKiKP** 11 37 33.4 -0.9
baz=276
Y22D IRIS PASSCAL I 106.82 56 P **PKiKP** 11 37 34.2 -0.5
baz=275
L44A Lake County Fo 119.61 44 P **PKPdf** 11 37 58.4 -0.2
baz=292
O48B Farmland 122.26 45 P **PKPdf** 11 38 03.4 -0.4
baz=293
L61B Northampton 129.38 37 P **PKPdf** 11 38 17.0 -0.4
baz=306
TORD Torodi Ar. Bea 144.28 285 PKP **PKPab** 11 38 42.9 -1.0
comp=Z,8.0nm,0.7s,baz=56,slow=3.8,SNR=41
SIV San Ignacio 145.59 128 PKPbc **PKPdf** 11 38 47.6 -0.1
comp=Z,26nm,0.7s,baz=235,slow=3.5,SNR=136
BAUV El Baul 145.71 82 PKPdf **PKPdf** 11 38 46.3 -1.7
PDPR Patillas Dam, 145.96 65 PKPdf **PKPdf** 11 38 47.6 -0.7
HUMP Col San Antoni 146.08 65 PKPdf **PKPdf** 11 38 48.4 -0.1
AQDB Aquidauana 146.45 140 PKPbc **PKPdf** 11 38 49.6 +0.5
SAML Samuel 147.33 116 PKPbc **PKPdf** 11 38 51.9 +1.1
PTLB Pontes e Lacer 147.40 130 PKPbc **PKPbc** 11 38 52.7 -0.7
VILB Vilhena 147.99 125 PKPbc **PKPbc** 11 38 54.6 -0.5
DBIC Dimbokro 151.32 274 PKPbc **PKPbc** 11 39 01.6 -1.7
comp=Z,1.2nm,0.4s,baz=88,slow=4.5,SNR=3.7

*IDC **06** 11:22:04.9±1.1, 37°.44N×21°.04E, h0km, mb4.0/7, mbtmp3.9/8, ML1.0/1, MS3.5/7, Error ellipse: s-maj=32.2km s-min=20.6km az=125.0*
*ATH **06** 11:22:06.8, 37°.58N×20°.80E, h8km±3km, ML3.5/9, Error ellipse: s-maj=3.1km s-min=1.0km az=28.0*
*THE **06** 11:22:06.5, 37°.59N×20°.84E, h12km±1km, ML3.6/5, Error ellipse: s-maj=1.5km s-min=0.6km az=326.0*
ISC 06 11:22:06.4±1.0, 37°.57N±0°.04×20°.83E±0°.04, h10km±6km, n35, σ0°77/40, mb3.8/7, MS3.8/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.09**	**354**	P	**Pg**	**11 22 09.1**	**+0.3**
KRI1				S	**Sg**	**11 22 10.9**	**+0.3**
72μm,0.6s							
LTHK	**Lithakia**	**0.14**	**3**	P	**Pg**	**11 22 09.4**	**-0.1**
LTHK				S	**Sg**	**11 22 11.4**	**-0.3**
58μm,0.5s							
LTHK	**Lithakia**	**0.14**	**3**	P	**Pg**	**11 22 09.3**	**-0.2**
LTHK				S	**Sg**	**11 22 11.4**	**-0.3**
LTHK				AML	AML	11 22 11.8	
LTHK				AML	AML	11 22 12.0	
RTZL	**Ratzakli, Kefa**	**0.51**	**355**	P	**Pg**	**11 22 16.1**	**-0.1**
RTZL				S	**Sg**	**11 22 23.3**	**+0.4**
8μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.58**	**340**	P	**Pg**	**11 22 16.8**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.58**	**340**	P	**Pg**	**11 22 17.4**	**-0.2**
PSDA				S	**Sg**	**11 22 25.3**	**+0.2**
VLS	**Valsamata**	**0.63**	**343**	P	**Pg**	**11 22 18.1**	**-0.6**
VLS				S	**Sg**	**11 22 27.7**	**+0.7**
VLS				AML	AML	11 22 33.7	
comp=N,7558μm,0.6s							
VLS				AML	AML	11 22 34.9	
comp=E,5058μm,0.5s							
AMT	**Artemida-Makis**	**0.70**	**93**	P	**Pg**	**11 22 20.2**	**+0.3**
AMT				S	**Sb**	**11 22 30.6**	**+0.1**
AMT				AML	AML	11 22 34.5	
comp=N,42988μm,0.2s							
AMT				AML	AML	11 22 35.4	
comp=E,32619μm,0.4s							
RLS	**Riolos of Patr**	**0.70**	**46**	P	**Pg**	**11 22 19.2**	**-0.7**
RLS				S	**Sg**	**11 22 29.3**	**+0.2**
comp=E,4μm,0.5s							
RLS	**Riolos of Patr**	**0.70**	**46**	P	**Pg**	**11 22 19.5**	**-0.4**
RLS				S	**Sg**	**11 22 29.7**	**+0.6**
RLS				AML	AML	11 22 31.5	
comp=E,9940μm,0.5s							
RLS				AML	AML	11 22 32.6	
comp=N,7651μm,0.4s							
DRO	**Drossia**	**0.80**	**61**	P	**Pg**	**11 22 20.7**	**-1.0**
DRO				S	**Sb**	**11 22 33.1**	**-0.1**
comp=N,5μm,0.3s							
ITM	**Ithomi**	**0.96**	**114**	P	**Pg**	**11 22 24.6**	**-0.2**
ITM	**Ithomi**	**0.96**	**114**	P	**Pb**	**11 22 25.5**	**+0.3**
ITM				S	**Sb**	**11 22 39.0**	**+1.2**
ITM				AML	AML	11 22 48.2	
comp=N,3512μm,0.8s							
ITM				AML	AML	11 22 48.9	
comp=E,3062μm,0.8s							
PYL	**PYLOS**	**0.99**	**132**	P	**Pg**	**11 22 25.2**	**-0.3**
PYL	**PYLOS**	**0.99**	**132**	P	**Pg**	**11 22 25.6**	**+0.2**
PYL				AML	AML	11 22 44.2	
comp=E,5433μm,0.9s							
PYL				AML	AML	11 22 45.6	
comp=N,2075μm,0.3s							
UPR	**University Cam**	**1.04**	**46**	P	**Pb**	**11 22 26.8**	**+0.3**
KLV	**Kalavryta, Ach**	**1.15**	**65**	P	**Pg**	**11 22 28.4**	**-0.1**
KLV				AML	AML	11 22 55.1	
comp=E,2124μm,0.7s							
KLV				AML	AML	11 22 57.7	
comp=N,1774μm,0.8s							
GUR	**Goura**	**1.25**	**73**	P	**Pg**	**11 22 30.5**	**+0.1**
GUR				AML	AML	11 22 57.5	
comp=E,5131μm,0.6s							
GUR				AML	AML	11 23 01.6	
comp=N,4432μm,0.5s							
ANX	**Ano Chora**	**1.34**	**40**	P	**Pn**	**11 22 30.7**	**-0.5**
ANX				AML	AML	11 22 57.0	
comp=E,6536μm,0.7s							
ANX				AML	AML	11 22 58.1	
comp=N,13040μm,0.7s							

OHR Ohrid 3.54 360 *i* Pn **Pg** 11 23 14.5 +0.4
IDI Anoyia 3.99 124 Pn **Pn** 11 23 05.6 -2.1
comp=N,0.6nm,0.3s,baz=83,slow=16,SNR=2.0
IDI Sn **Sn** 11 23 55.7 +1.1
comp=N,5.0nm,0.3s,baz=302,slow=22,SNR=9.4
comp=N,9.7nm,0.9s
AKASG Malin Array Be 14.43 22 LR LR 11 31 26.1
comp=N,37nm,18.2s,baz=170,slow=39
HFS Hagfors 23.04 351 P **P** 11 27 12.9 +1.3
comp=N,2.6nm,0.9s,baz=143,slow=13,SNR=6.0
comp=N,2.6nm,0.9s
FINES FINESS Array B 24.12 6 P **P** 11 27 24.2 +2.1
comp=N,1.7nm,0.7s,baz=182,slow=9.4,SNR=2.1
comp=N,1.7nm,0.7s
NOA NORSAR Array B 24.26 349 LR LR 11 38 16.7
comp=N,25nm,19.5s,baz=25,slow=40
TORD Torodi Ar. Bea 29.72 220 P **P** 11 28 12.5 -0.3
comp=N,0.9nm,0.8s,baz=33,slow=9.4,SNR=4.2
comp=N,0.9nm,0.8s
DBIC Dimbokro 38.62 224 P **P** 11 29 30.3 +0.3
comp=N,3.9nm,0.8s,baz=16,slow=8.4,SNR=3.4
comp=N,3.9nm,0.8s
KURBB Kurchatov Arra 42.40 53 P **P** 11 29 59.8 -1.1
comp=N,3.5nm,0.2s,baz=276,slow=9.2,SNR=2.4
comp=N,3.5nm,0.2s
MKAR Makanchi Array 45.41 58 P **P** 11 30 24.2 -1.0
comp=N,0.3nm,0.6s,baz=289,slow=7.5,SNR=1.3
comp=N,0.3nm,0.6s
ZALV Zalesovo Beam 45.92 48 P **P** 11 30 28.2 -0.8
comp=N,0.8nm,0.4s,baz=274,slow=8.7,SNR=2.6
comp=N,0.8nm,0.4s
LBTB Lobatse 62.41 175 LR LR 11 59 56.0
comp=N,42nm,20.3s,baz=71,slow=36
SUR Sutherland 69.59 180 LR LR 12 09 01.8
comp=N,32nm,20.3s,baz=156,slow=41
BDFB Brasilia 83.48 245 LR LR 12 11 07.5
comp=N,80nm,19.5s,baz=142,slow=35
SHEM Shemya Is, Ala 87.11 16 LR LR 12 17 19.1
comp=N,61nm,18.4s,baz=281,slow=38
LPAZ La Paz 98.94 256 LR LR 12 21 35.5
comp=N,55nm,19.0s,baz=108,slow=36

*IDC **06** 11:36:22.2±9.8, 36°.30N×70°.48E, h192km±91km, mb3.4/8, mbtmp3.9/11, Error ellipse: s-maj=51.7km s-min=22.5km az=21.0*
*NEIC **06** 11:36:26.7±1.7, 36°.53N±0°.07×70°.53E±0°.09, h237km±5km, mb4.1/12, Error ellipse: s-maj=10.8km s-min=9.9km az=202.0*
*NNC **06** 11:36:31.4±4.2, 36°.98N×70°.36E, h195km±45km, mb3.0, mpv4.3, Error ellipse: s-maj=39.0km s-min=22.1km az=11.0*
ISC 06 11:36:27.2±0.7, 36°.45N±0°.06×70°.63E±0°.07, h250km, n57, σ1°80/62, mb3.8/12, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.30**	**215**		**Pn**	**11 37 11.9**	**-1.0**
SIMJ	**Simiganj**	**2.56**	**330**	Pn	**Pn**	**11 37 12.3**	**-2.8**
GAR	**Garm**	**2.56**	**354**	Pn	**Pn**	**11 37 12.9**	**-2.3**
DRK	**Karamyk**	**3.17**	**17**		**Pn**	**11 37 20.3**	**-1.5**
NIL	**Nilore**	**3.52**	**142**	Pn	**Pn**	**11 37 25.6**	**0.0**
BTK	**Batken**	**3.61**	**2**	Pn	**Pn**	**11 37 25.5**	**-1.0**
JMU	**Jammu**	**5.12**	**135**	*e*S	**S**	**11 38 42.4**	**-3.7**
THN	**Thein Dam**	**5.80**	**132**	*e*P	**Pn**	**11 37 56.3**	**+3.4**
THN				*e*S	**S**	**11 39 00.6**	**-0.8**
THN				IAML		11 39 02.6	
comp=E,40nm,0.4s							
THN				IAML		11 39 02.8	
comp=N,48nm,0.5s							
AML	**Almayashu**	**6.15**	**22**	P	**Pn**	**11 37 55.8**	**-1.8**
SNR=106							
DHRM	**DHARAMSHALA**	**6.28**	**130**	*e*P	**Pn**	**11 38 00.2**	**+1.0**
DHRM				*e*S	**S**	**11 39 10.5**	**-2.2**
DHRM				IAML		11 39 12.4	
comp=E,147nm,0.6s							
DHRM				IAML		11 39 15.3	
comp=E,73nm,0.2s							
NRN	**Naryn**	**6.50**	**38**	Pn	**Pn**	**11 37 59.4**	**-2.5**
KK31	**Karatay Array**	**6.65**	**359**	⇑P	**Pn**	**11 38 01.0**	**-2.4**
comp=E,10nm,0.3s,baz=180,slow=12,SNR=174							
KK31				⇑S	S	11 39 10.1	-10
comp=E,2.2nm,0.3s,baz=182,slow=16,SNR=4.4							
KKAR	**Karatay Array**	**6.65**	**359**	Pn	**Pn**	**11 38 01.2**	**-2.2**
EKS2	**Erkin-Say**	**6.67**	**20**	P	**Pn**	**11 38 02.4**	**-1.3**
SNR=26							
AAK	**Ala-Archa**	**6.86**	**25**	Pn	**Pn**	**11 38 05.0**	**-1.2**
BHK	**Bhakra**	**6.95**	**135**	*ex*	**S**	**11 39 25.5**	**-2.0**
KBK	**Karagaybulak**	**7.04**	**27**	P	**Pn**	**11 38 07.9**	**-0.5**
SNR=7.9							
ULHL	**Ulahol**	**7.24**	**35**	P	**Pn**	**11 38 09.9**	**-1.1**
SNR=29							
BOOM	**Boomskoye usch**	**7.30**	**33**	Pn	**Pn**	**11 38 10.6**	**-1.1**
USP	**Ospenovka**	**7.43**	**22**	P	**Pn**	**11 38 11.2**	**-2.1**
SNR=11							
TKM2	**Tokmak 2**	**7.51**	**29**	P	**Pn**	**11 38 13.2**	**-1.3**
SNR=34							
TKM2	**Tokmak 2**	**7.51**	**29**	⇓P	**Pn**	**11 38 12.7**	**-1.8**
comp=E,12nm,0.6s							
TKM2				⇓S	**S**	**11 39 36.4**	**-4.3**
comp=E,9.4nm,0.8s							
SMLA	**Simla**	**7.59**	**132**	*e*P	**Pn**	**11 38 18.5**	**+3.1**
SMLA				*e*S	**S**	**11 39 39.5**	**-2.9**
SMLA				IAML		11 39 44.0	
comp=E,40nm,0.3s							
SMLA				IAML		11 39 44.1	
comp=E,36nm,0.5s							
KDJ	**Kajisay**	**7.61**	**40**		**Pn**	**11 38 14.8**	**-0.9**
KLP	**Kalpa**	**8.00**	**126**	*e*P	Pn	11 38 25.2	+4.3
KLP				*e*S	**S**	**11 39 49.1**	**-3.2**
KLP				IAML		11 39 53.8	
comp=E,25nm,0.8s							
KLP				IAML		11 39 57.0	
comp=N,24nm,0.8s							
WUS	**Wushi**	**8.21**	**52**	Pn	**Pn**	**11 38 22.6**	**-0.7**
KUDL	**Kundal**	**9.64**	**147**	*e*P	**Pn**	**11 38 40.7**	**-0.6**
KUDL				*e*S	**S**	**11 40 25.1**	**-5.0**
MAKZ	**Makanchi**	**13.37**	**36**		**P**	**11 39 27.6**	**-1.3**
MK31	**Makanchi Array**	**13.51**	**36**	P	**P**	**11 39 31.5**	**+1.1**
comp=N,1.1nm,0.6s,baz=219,slow=13,SNR=10							
MK31	**Makanchi Array**	**13.51**	**36**		**P**	**11 39 29.0**	**-1.4**
MKAR	**Makanchi Array**	**13.51**	**36**	P	**P**	**11 39 29.2**	**-1.2**
comp=N,1.2nm,0.7s,baz=206,slow=8.9,SNR=9.2							
AB31	**Akbulak array**	**14.99**	**332**	⇑P	**P**	**11 39 46.8**	**0.0**
comp=N,0.6nm,0.4s,baz=150,slow=12,SNR=15							
ABKAR	**Akbulak array**	**14.99**	**332**		**P**	**11 39 46.2**	**-0.5**
KURBB	**Kurchatov Arra**	**15.27**	**19**	P	**P**	**11 39 48.6**	**-1.2**
comp=N,1.1nm,0.8s,baz=206,slow=12,SNR=7.1							
BVA0	**Borovoye Array**	**16.58**	**359**	⇑P	**Pn**	**11 40 06.8**	**+0.9**
comp=N,2.2nm,0.8s,baz=0.0,slow=0.1,SNR=6.1							
BVAR	**Borovoye Array**	**16.58**	**359**	P	**P**	**11 40 05.2**	**+1.0**
comp=N,1.4nm,0.5s,baz=161,slow=9.2,SNR=7.8							
AKTO	**Aktyubinsk**	**16.68**	**331**	⇓P	**P**	**11 40 05.6**	**+0.3**
comp=N,1.7nm,0.6s							
ZAA0	**Zalesovo Array**	**20.09**	**25**	P	**P**	**11 40 42.2**	**+0.3**
ZAA0				IAmb	IAmb	11 40 43.5	
comp=Z,5.8nm,1.4s							
ZALV	**Zalesovo Beam**	**20.09**	**25**	P	**P**	**11 40 42.0**	**+0.1**
comp=Z,2.1nm,0.3s,baz=217,slow=10.0,SNR=11							
comp=Z,2.1nm,0.3s							
ARTI	**Arti**	**21.60**	**341**	P	**P**	**11 40 56.7**	**-0.6**
ARTI				IAmb	IAmb	11 40 59.8	
comp=Z,3.1nm,0.5s							
SONM	**Songino Array**	**28.61**	**55**	P	**P**	**11 42 03.5**	**+3.0**
comp=Z,0.3nm,0.4s,baz=255,slow=10,SNR=1.8							
comp=Z,0.3nm,0.4s							
FINES	**FINESS Array B**	**37.36**	**326**	P	**P**	**11 43 16.6**	**+0.9**
comp=Z,4.6nm,1.1s,baz=113,slow=11,SNR=4.3							
comp=Z,4.6nm,1.1s							
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**11 43 46.7**	**+0.4**
comp=Z,2.2nm,0.8s,baz=114,slow=8.0,SNR=4.5							
comp=Z,2.2nm,0.8s							
HFS	**Hagfors**	**42.93**	**322**	P	**P**	**11 44 02.1**	**+0.8**
comp=Z,2.4nm,0.9s,baz=106,slow=11,SNR=2.3							
comp=Z,2.4nm,0.9s							
NOA	**NORSAR Array B**	**44.25**	**323**	P	**P**	**11 44 11.8**	**0.0**
comp=Z,0.5nm,0.5s,baz=96,slow=7.8,SNR=2.9							
comp=Z,0.5nm,0.5s							
NC204	**NORSAR Array S**	**44.49**	**323**	P	**P**	**11 44 14.9**	**+1.2**
NC204				IAmb	IAmb	11 44 34.2	
comp=Z,16nm,1.4s							
TIXI	**Tiksi**	**45.93**	**22**	P	**P**	**11 44 25.1**	**+0.4**
YOJ	**Yonaguni jima**	**46.20**	**90**	P	**P**	**11 44 28.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**65.42**	**268**	P	**P**	**11 46 44.3**	**+0.6**
comp=Z,0.4nm,0.4s,baz=49,slow=6.8,SNR=2.7							
comp=Z,0.4nm,0.4s							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
D19K	**Kuna River**	69.28	17	P	**P**	11 47 08.4	+1.4
C23K	**Itkillik River**	69.84	14	P	**P**	11 47 10.2	-0.2
TOLK	**Toolik Lake Re**	71.05	14	P	**P**	11 47 20.0	+2.3
TOLK	comp=Z,9.2nm,1.4s			IAmb	IAmb	11 47 59.2	
IMAR	**Indian Mountai**	72.31	17	P	**P**	11 47 25.7	+0.5
F24K	**Squaw Lake**	72.34	15	P	**P**	11 47 25.5	+0.1
F24K	comp=Z,8.3nm,1.5s			IAmb	IAmb	11 47 34.9	
BMAR	**Burnt Mountain**	73.06	13	P	**P**	11 47 29.7	+0.1
G24K	**Hadweenzic Riv**	73.12	15	P	**P**	11 47 29.7	-0.3
G24K	comp=Z,5.5nm,1.4s			IAmb	IAmb	11 47 48.7	
WRA	**Warramunga Arr**	82.21	122	P	**P**	11 48 21.3	+0.6

comp=Z,0.5nm,0.9s,baz=326,slow=4.8,SNR=2.1
comp=Z,0.5nm,0.9s

NIED ***06*** *11:42:24.7, 44.°58N×145.°71E, h22km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr2.67; Mθθ-0.63; Mφφ-2.04; Mrθ0.01; Mφθ-0.94; Mφr0.29; Fault plane solution: M0 2.60000×10^14 NP1:φs 24.00000°, δ 48.00000°, λ 87.00000°. NP2:φs 209.00000°, δ 42.00000°, λ 94.00000°.*
JMA ***06*** *11:42:24.7±0.2, 44.°6N±0.°6×145.°7E±0.°9, h22km±1km, MV3.7/40, NEAR KUNASHIRI ISLAND*
SKHL ***06*** *11:42:26.6±0.2, 44.°50N×145.°60E, h32km±2km, mb4.7/3*
ISC 06 11:42:24.2±1.5, 44.°54N±0.°04×145.°66E±0.°04, h16km±11km, n13, σ0.°59/25, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	0.53	164	*i* P	**Pb**	11 42 35.9	+0.9
YUK	680nm,0.3s			AMB	AMB	11 42 37.2	
YUK				*e*S	**Sb**	11 42 42.9	+0.5
YUK	6μm,0.4s			A	A	11 42 43.6	
YUK	5μm,0.4s			A	A	11 42 43.6	
JRA	**Rausu**	0.72	213	*i* P	**Pn**	11 42 39.2	-0.4
JRA				S	**Sn**	11 42 49.5	-0.7
JNSB	**Nemuroshibetsu**	0.90	212	P	**Pn**	11 42 42.2	+0.1
JNSB				S	**Sn**	11 42 54.9	+0.2
SHO	**Shikotan**	1.08	128	*i* P	**Pg**	11 42 44.9	-0.1
SHO	350nm,0.3s			AMB	AMB	11 42 45.4	
SHO				*e*S	**Sn**	11 42 58.8	-0.4
SHO	5μm,0.6s			A	A	11 43 00.3	
SHO	6μm,0.6s			A	A	11 43 00.3	
JNK	**Nakash**	1.17	216	P	**Pb**	11 42 46.4	+0.4
JNK				*e*S	**Sg**	11 43 02.1	+0.1
NEM2	**Nemuro 2**	1.18	177	P	**Pn**	11 42 46.0	+0.1
NEM2				S	**Sn**	11 43 01.6	0.0
JTKR	**Abashiri--Toko**	1.38	246	P	**Pb**	11 42 49.4	-0.1
JTKR				*e*S	**Sn**	11 43 06.7	0.0
JKHN	**Kushirohamanak**	1.50	194	*i* P	**Pb**	11 42 51.3	-0.4
JKHN				S	**Sb**	11 43 10.9	+0.4
JAK	**Akkeshi**	1.69	205	P	**Pn**	11 42 53.6	+0.5
JAK				*e*S	**Sb**	11 43 15.3	-0.7
KUR	**Kuril'sk**	1.72	65	*e*P	**Pb**	11 42 54.5	-0.8
KUR	40nm,0.4s			AMB	AMB	11 42 59.8	
KUR				*e*S	**Sb**	11 43 16.4	-0.2
KUR	110nm,0.3s			A	A	11 43 22.2	
KUR	150nm,0.3s			A	A	11 43 22.2	
JMP	**Maruseppu**	1.73	253	*e*P	**Pb**	11 42 55.0	-0.7
JMP				*e*S	**Sb**	11 43 17.1	-0.2
JAR	**Ashorobuto**	1.85	228	P	**Pb**	11 42 56.9	-0.7
YSS	**Yuzh-Sakhalins**	3.15	321	*e*P	**Pn**	11 43 14.7	+1.6
YSS	20nm,0.9s			AMB	AMB	11 43 15.2	
YSS				*e*S	**Sn**	11 43 50.1	-0.3
YSS	40nm,0.9s			A	A	11 43 53.1	
YSS	50nm,0.9s			A	A	11 43 53.1	

SOME ***06*** *11:56:16.1, 44.°08N×82.°58E, h20km*
NNC ***06*** *11:56:20.7±2.4, 44.°13N×82.°23E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=30.9km s-min=7.7km az=131.0*
ISC 06 11:56:18.8±2.7, 44.°2N±0.°2×82.°3E±0.°2, h10km, n10, σ0.°76/14, 1C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	2.20	248	Pg	**Pb**	11 56 59.2	+0.5
PDGK	2.1nm,0.2s			Lg	Lg	11 57 30.2	
SHLS	**Shalkode**	2.29	245	Pg	**Pn**	11 56 56.5	-0.2
SHLS	23nm,0.3s			Lg	Lg	11 57 25.8	
SHLS	**Shalkode**	2.29	245	*e*P	**Pn**	11 56 56.1	-0.7
SHLS	50nm,0.6s			*e*S	**Sn**	11 57 24.7	-0.4
UZB	**Uzynbulak**	2.59	248	Pg	**Pb**	11 57 05.8	+0.4
UZB	15nm,0.2s			Lg	Lg	11 57 41.6	
UZB	**Uzynbulak**	2.59	248	*e*P	**Pb**	11 57 05.8	+0.4
UZB	4.5nm,0.3s			*e*S	**Sg**	11 57 41.6	-0.3
MK31	**Makanchi Array**	2.62	360	⇓Pn	**Pb**	11 57 06.2	+0.4
MK31	1.3nm,0.6s,baz=176,slow=16,SNR=15			⇑Lg	Lg	11 57 43.0	
KPKS	**Kokpek**	2.71	256	Pg	**Pb**	11 57 08.3	+1.0
KPKS	2.1nm,0.2s			Lg	Lg	11 57 45.5	
KPKS	**Kokpek**	2.71	256	*e*P	**Pb**	11 57 08.3	+1.0
KPKS	2.1nm,0.2s			*e*S	**Sg**	11 57 45.5	-0.2
SATY	**Saty**	3.04	250	Pg	**Pb**	11 57 14.1	+1.1
SATY	1.4nm,0.1s			Lg	Lg	11 57 55.6	
SATY	**Saty**	3.04	250	*e*P	**Pb**	11 57 14.1	+1.1
SATY	1.4nm,0.1s			*e*S	**Sg**	11 57 55.6	-0.7

IDC ***06*** *11:58:08.9±1.0, 57.°62S×66.°23W, h0km, mb4.2/7, mbtmp4.2/9, ML3.8/2, MS3.3/5, Error ellipse: s-maj=42.6km s-min=17.4km az=74.0*
NEIC ***06*** *11:58:12.2±1.6, 57.°52S±0.°06×66.°1W±0.°1, h10km±1km, mb4.8/46, Error ellipse: s-maj=13.3km s-min=9.2km az=254.0*
ISC 06 11:58:11.5±0.5, 57.°53S±0.°06×66.°0W±0.°1, h10km, n78, σ0.°92/72, mb4.7/30, MS3.5/4, 3C, Drake Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MG01	**Puerto William**	2.75	340		**Pn**	11 58 56.7	+1.1
USHA	**Ushuaia**	3.02	333	Pn	**Pn**	11 58 58.1	-1.1
USHA	8.0nm,0.3s,baz=167,slow=13,SNR=21			Sn	**Sn**	11 59 34.9	-0.5
MG03	**Isla Dawson**	4.46	324		**Pn**	11 59 18.9	-0.1
MG02	**Cerro Sombrero**	5.10	338	Pn	**Pn**	11 59 28.1	+0.3
GO10	**Punta Arenas**	5.24	325	Pn	**Pn**	11 59 29.2	-0.5
MG04	**Isla Riesco**	5.65	324	Pn	**Pn**	11 59 33.8	-1.7
GO09	**Cerro Castillo**	7.27	327	Pn	**Pn**	11 59 56.3	-1.3
PMSA	**Palmer Station**	7.33	173	LR	LR	12 01 48.8	
ESPZ	**Base Esperanza**	7.38	147	Pn	**Pn**	11 59 59.0	-0.1
EFI	**East Falkland**	7.47	42		**Pn**	11 59 59.4	-0.9
GO08	**Villa O'Higgin**	9.89	334	Pn	**Pn**	12 00 33.0	-0.6
SMAI	**San Martin Ant**	10.65	182		**Pn**	12 00 45.1	+1.2
LL02	**Futaleuf**	14.82	343	Pn	**Pn**	12 01 40.5	-0.4
LL06	**Loncomilla**	16.07	339	Pn	**Pn**	12 01 56.2	-1.1

comp=Z,104nm,19.1s,baz=12,slow=30

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	17.06	348		**P**	12 02 11.8	+0.1
PLCA	**Paso Flores**	17.06	348	P	**Pn**	12 02 10.7	+0.7
	0.1nm,0.3s,baz=172,slow=11,SNR=8.7						
TRQA	**Tornquist**	19.67	10		**Pn**	12 02 42.8	+1.1
BI02	**San Fabin de**	21.16	348	P	**P**	12 02 57.3	+0.6
ML02	**Panimavida**	22.07	348	P	**P**	12 03 06.9	+0.5
ML02				IAmb	IAmb	12 03 22.2	
GO05	**Hualane**	22.87	347	P	**P**	12 03 15.6	+0.6
GO05				IAmb	IAmb	12 03 38.2	
BO02	**Sierra Bellavi**	22.97	350	P	**P**	12 03 16.0	0.0
BELA	**Belgrano 2**	23.03	164	P	**P**	12 03 16.9	+0.7
BELA				IAmb	IAmb	12 03 24.0	
BO01	**Tunca**	23.39	349	P	**P**	12 03 20.6	+0.4
BO04	**La Punta**	23.75	351	P	**P**	12 03 23.4	-0.3
BO04				IAmb	IAmb	12 03 24.8	
LMEL	**Las Melosas**	23.85	351	P	**P**	12 03 25.7	+0.8
LMEL				IAmb	IAmb	12 03 33.3	
MT09	**Talagante**	23.99	350	P	**P**	12 03 27.8	+1.6
MT09				IAmb	IAmb	12 03 35.6	
MT03	**Universidad Ad**	24.23	351	P	**P**	12 03 29.0	+0.7
MT08	**Bocatoma Ro**	24.24	352	P	**P**	12 03 29.4	+0.8
MT08				IAmb	IAmb	12 03 33.7	
MT16	**CCHEN**	24.30	351	P	**P**	12 03 30.4	+1.5
MT05	**Renca**	24.35	350	P	**P**	12 03 30.4	+1.0
MT05				IAmb	IAmb	12 03 47.6	
MT02	**Curacav**	24.52	350	P	**P**	12 03 32.6	+1.7
PEL	**Peldehue**	24.59	351	P	**P**	12 03 31.4	-0.2
PEL				IAmb	IAmb	12 03 32.3	
VA01	**Torpederas**	24.81	349	P	**P**	12 03 34.7	+1.3
VA03	**San Esteban**	24.96	351	P	**P**	12 03 33.9	-1.1
VNA3	**Neumayer Olymp**	26.70	143	⇑P	**P**	12 03 49.9	-0.4
	comp=Z,6.7nm,0.8s						
CO03	**El Pedregal**	26.88	351	P	**P**	12 03 52.6	+0.3
CO03				IAmb	IAmb	12 03 53.8	
	comp=Z,22nm,1.1s						
VNA2	**Neumayer--Watz**	27.44	142	⇑P	**P**	12 03 56.3	-0.6
	comp=Z,2.5nm,0.8s,baz=287,slow=5.9						
GO04	**Tololo Observa**	27.55	351	P	**P**	12 04 00.1	+1.6
CO01	**Juntas del Tor**	27.69	352	P	**P**	12 04 00.4	+0.6
CO01				IAmb	IAmb	12 04 01.7	
	comp=Z,11nm,0.8s						
AC05	**El Transito**	28.83	352	P	**P**	12 04 10.9	+1.0
AC05				IAmb	IAmb	12 04 19.2	
	comp=Z,15nm,1.1s						
SNAA	**Sanae**	28.87	144	P	**P**	12 04 09.8	0.0
SNAA	**Sanae**	28.87	144	⇑P	**P**	12 04 09.1	-0.6
	comp=Z,54nm,0.8s						
SNAA	**Sanae**	28.87	144	P	**P**	12 04 08.6	-1.1
	comp=Z,2.3nm,0.9s,baz=278,slow=10,SNR=5.0						
	comp=Z,2.3nm,0.9s						
AC04	**Llanos de Chal**	29.52	351	P	**P**	12 04 16.2	+0.4
AC06	**Mina Casimiro**	30.31	352	P	**P**	12 04 22.8	-0.1
AC06				IAmb	IAmb	12 04 24.9	
	comp=Z,11nm,0.9s						
CPUP	**Villa Florida**	31.79	15	P	**P**	12 04 35.5	-0.3
	comp=Z,0.8nm,0.4s,baz=146,slow=6.1,SNR=1.7						
	comp=Z,0.8nm,0.4s						
ITAB	**Concordia**	31.84	24	P	**P**	12 04 36.8	+0.6
ITAB				IAmb	IAmb	12 04 45.6	
	comp=Z,27nm,1.4s						
GO02	**Mina Guanaco**	32.44	354	P	**P**	12 04 42.6	+0.7
GO02				IAmb	IAmb	12 04 44.6	
	comp=Z,22nm,1.3s						
QSPA	**South Pole Qui**	32.71	180	P	**P**	12 04 42.9	-0.9
QSPA				IAmb	IAmb	12 04 43.2	
	comp=Z,8.5nm,1.0s						
QSPA	**South Pole Qui**	32.71	180	P	**P**	12 04 42.0	-1.7
	comp=Z,6.8nm,0.9s,baz=150,slow=2.7,SNR=25						
	comp=Z,6.8nm,0.9s						
PB14	**IPOC Station P**	33.02	353	P	**P**	12 04 46.7	-0.4
TA01	**Diego Aracena**	37.04	354	P	**P**	12 05 21.5	+0.2
TA01				IAmb	IAmb	12 05 28.3	
	comp=Z,32nm,1.2s						
SBA	**Scott Base**	41.08	195	P	**P**	12 05 56.3	+1.8
LPAZ	**La Paz**	41.20	357	P	**P**	12 05 57.6	+0.8
LPAZ	**La Paz**	41.20	357	P	**P**	12 05 56.9	+0.1
	comp=Z,1.6nm,0.7s,baz=156,slow=8.8,SNR=5.8						
	comp=Z,1.6nm,0.7s						
PTLB	**Pontes e Lacer**	42.33	10	P	**P**	12 06 05.6	+0.3
VILB	**Vilhena**	44.71	8	P	**P**	12 06 25.2	+0.6
ETMB	**Extrema**	47.60	360	P	**P**	12 06 47.9	+0.5
ETMB				IAmb	IAmb	12 06 48.6	
	comp=Z,6.1nm,0.9s						
SAML	**Samuel**	48.52	4	P	**P**	12 06 54.5	+0.1
SAML				IAmb	IAmb	12 06 55.4	
	comp=Z,7.2nm,1.0s						
CZSB	**Cruzeiro do Su**	49.95	351	P	**P**	12 07 05.8	+0.4
CZSB				IAmb	IAmb	12 07 07.0	
	comp=Z,12nm,1.1s						
COHC	**Cochancay**	55.90	344		**P**	12 07 50.9	+1.6
RCBR	**Riachuelo**	56.69	37	LR	LR	12 29 23.6	
	comp=Z,8.7nm,21.8s,baz=214,slow=33						
OTAV	**Otavalo**	58.44	345	P	**P**	12 08 10.0	+2.2
OTAV				IAmb	IAmb	12 08 17.0	
	comp=Z,5.7nm,0.8s						
MDP	**Montagnes des**	63.36	15	LR	LR	12 37 56.5	
	comp=Z,58nm,18.3s,baz=170,slow=38						
H10N3	**ASCENSION HYDR**	63.47	60	T	T	13 18 12.2	
	baz=205						
H10N1	**ASCENSION HYDR**	63.48	60	T	T	13 18 16.3	
	baz=205						
H10N2	**ASCENSION HYDR**	63.49	60	T	T	13 18 17.8	
	baz=205						
BAUV	**El Baul**	66.26	358	P	**P**	12 08 59.8	+0.2
SDV	**Santo Domingo**	66.29	355	P	**P**	12 08 59.1	-0.9
SDV				IAmb	IAmb	12 09 19.7	
	comp=Z,4.7nm,0.9s						
PPT	**Papeete**	71.91	266	LR	LR	12 31 52.2	
	comp=Z,31nm,21.1s,baz=184,slow=28						
MTO3	**Montecristo**	74.22	336	P	**P**	12 09 48.5	0.0
DBIC	**Dimbokro**	80.72	62	P	**P**	12 10 25.5	+0.8
DBIC				IAmb	IAmb	12 10 47.1	
	comp=Z,11nm,1.1s						
DBIC	**Dimbokro**	80.72	62	P	**P**	12 10 24.5	-0.2
	comp=Z,4.6nm,1.0s,baz=176,slow=8.5,SNR=3.6						
DBIC				LR	LR	12 44 45.2	
	comp=Z,16nm,18.6s,baz=336,slow=35						
	comp=Z,4.6nm,1.0s						
TORD	**Torodi Ar. Bea**	89.49	64	P	**P**	12 11 08.3	-0.3
	comp=Z,0.7nm,1.0s,baz=219,slow=1.8,SNR=2.8						
	comp=Z,0.7nm,1.0s						
TXAR	**Lajitas Array**	92.14	328	P	**P**	12 11 19.5	-1.2
	comp=Z,0.9nm,1.1s,baz=153,slow=8.1,SNR=5.4						
	comp=Z,0.9nm,1.1s						
ILAR	**Eielson Array**	136.39	322	PKP	**PKPdf**	12 17 30.4	-1.4
	comp=Z,1.2nm,0.8s,baz=169,slow=1.6,SNR=12						
CMAR	**Chiang Mai Arr**	139.42	158	PKP	**PKPdf**	12 17 38.3	-0.5
	comp=Z,0.4nm,0.3s,baz=212,slow=3.2,SNR=2.0						
KURBB	**Kurchatov Arra**	158.29	93	PKPab	**PKPab**	12 18 40.7	-1.3
	comp=Z,1.8nm,1.0s,baz=242,slow=5.2,SNR=5.5						

DJA 06 12:01:03.7±0.5, 7.°S±4.°×13.°0E±.°, h186km±13km, M4.2/8, mb4.0/7, mB5.0/3, MLv4.3/8, Mw(mB)4.3/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	2.03	123	P	Pn	12 01 42.2	+0.7
SAUI				S	Sn	12 02 10.9	0.0
FAKI	**Fak Fak**	4.73	34	P	Pn	12 02 13.6	-0.7
KMPI	**Kaimana, Papua**	5.18	52	P	Pn	12 02 21.3	+1.1
	60nm,0.7s,3μm0.7nm						
SWI	**Sorong**	6.19	16	P	Pn	12 02 32.3	-1.0
	12nm,0.7s,0.1nm						
RKPI	**Ransiki, Papua**	7.01	41	P	Pn	12 02 44.6	+0.5

KRNET ***06*** *12:06:37.3±0.1, 43.°68N×69.°46E, mb2.8*
SOME ***06*** *12:06:41.7, 43.°70N×69.°73E*
NNC ***06*** *12:06:42.2±2.0, 43.°66N×69.°74E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=11.6km s-min=8.7km az=128.0, Suspected Mining explosion.*
ISC 06 12:06:41.6±2.0, 43.°63N±0.°06×69.°64E±0.°09, h0km, n24, σ1.°62/36, 17C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	0.61	166	P	**Pn**	12 06 57.1	-0.4
BRLS	4.1nm,0.1s			S	**Sn**	12 07 09.0	+0.8
KK31	**Karatay Array**	0.83	129	⇑P	**Pg**	12 06 55.6	-1.8
KK31	68nm,0.3s			⇑S	**Sg**	12 07 08.2	+0.2
	3.0nm,0.2s,baz=321,slow=17,SNR=216						
KKAR	**Karatay Array**	0.83	129	⇑*e*P	**Pg**	12 06 55.7	-1.7
KKAR	32nm,0.3s,baz=302,slow=30,SNR=13			⇑*e*S	**Sg**	12 07 09.1	+1.0
DZA	**Taraz**	1.44	120	P	**Pb**	12 07 10.3	+1.0
DZA	88nm,0.1s			S	**Sn**	12 07 31.4	+2.8
IUG	**Iuzhnay**	1.51	169	P	**Pb**	12 07 11.0	+0.5
IUG	268nm,0.3s			S	**Sn**	12 07 32.8	+2.5
TRKS	**Terek-Say**	2.37	152	⇑*e*P	**Pn**	12 07 22.1	+0.2
TRKS	41nm,0.3s			⇑*i*S	**Sb**	12 07 54.7	-0.4
MNAS	**Manas**	2.39	117	⇑*e*P	**Pn**	12 07 21.7	-0.4
MNAS				⇑*e*S	**Sb**	12 07 54.2	-1.5
ARK	**Arkit**	2.51	136	⇑*e*P	**Pn**	12 07 23.2	-0.5
ARK				⇑*e*S	**Sn**	12 07 56.8	+1.8
EKS2	**Erkin-Say**	3.18	106	⇑*e*P	**Pn**	12 07 32.7	-0.3
EKS2				⇑*e*S	**Sn**	12 08 13.2	+1.5
AML	**Almayashu**	3.34	115	⇓*e*P	**Pn**	12 07 35.1	-0.2
AML				⇓*e*S	**Sn**	12 08 17.2	+1.3
ARSB	**Arslanbob**	3.38	132	⇓*e*P	**Pn**	12 07 35.6	-0.1
ARSB				⇓*e*S	**Sn**	12 08 17.7	+1.1
BTLS	**Baital**	3.46	64	Pg	**Pg**	12 07 46.6	-1.4
BTLS	29nm,0.5s			Lg	Lg	12 08 32.7	
SGDS	**Sogindy**	3.63	91	Pg	**Pb**	12 07 47.9	+1.2
SGDS	7.3nm,0.4s			Lg	Lg	12 08 35.7	
CHMS	**Chumysh**	3.79	98	⇓Pg	**Pb**	12 07 48.5	-0.8
CHMS	9.6nm,0.6s			⇑Lg	Lg	12 08 39.9	
ARLS	**Aral**	3.88	115	⇑*e*P	**Pn**	12 07 42.4	-0.2
ARLS	6.5nm,0.6s			⇑*e*S	**Sn**	12 08 30.4	+1.5
KRBS	**Karabastau**	4.38	87	Pg	**Pb**	12 08 00.5	+1.0
KRBS	18nm,0.6s			Lg	Lg	12 08 57.0	
TKM2	**Tokmak 2**	4.41	97	⇑Pg	**Pb**	12 08 00.4	+0.4
TKM2	6.0nm,0.7s			⇑Lg	Lg	12 08 58.9	
KST	**Kastek**	4.65	95	Pg	**Pb**	12 08 04.7	+0.6
KST	4.3nm,0.6s			Lg	Lg	12 09 04.6	
KUU	**Kurty**	4.86	85	Pg	**Pb**	12 08 10.5	+2.9
KUU	2.8nm,0.5s			Lg	Lg	12 09 14.5	
KTBS	**Karatobe**	5.11	87	Pg	**Pb**	12 08 12.6	+0.7
KTBS	3.7nm,0.1s			Lg	Lg	12 09 17.8	
CHKK	**Chushkaly**	5.33	85	Pg	**Pb**	12 08 18.2	+2.6
CHKK	1.8nm,0.4s			Lg	Lg	12 09 27.3	
TNSS	**Tian-Shan**	5.37	94	Pg	**Pb**	12 08 19.1	+2.7
TNSS	8.0nm,0.2s			Lg	Lg	12 09 29.4	
MDOK	**Medeo**	5.42	92	Pg	**Pg**	12 08 22.3	-3.1
MDOK	1.7nm,0.3s			Lg	Lg	12 09 34.6	
KURS	**Kuram**	6.20	88	Pg	**Pg**	12 08 37.2	-3.2
KURS	8.9nm,0.4s			Lg	Lg	12 10 00.1	
	1.9nm,0.4s						
	5.8nm,0.6s						

IDC ***06*** *12:07:46.6±1.2, 23.°91S×179.°84W, h511km±14km, mb3.6/12, mbtmp4.4/15, Error ellipse: s-maj=15.7km s-min=13.7km az=94.0*
NEIC ***06*** *12:07:46.3±2.0, 23.°8S±0.°1×179.°8W±0.°1, h503km±9km, mb4.4/42, Error ellipse: s-maj=20.0km s-min=15.3km az=147.0*
NOU ***06*** *12:07:46.8, 23.°85S×179.°60W, h535km, mb4.3/50, South of Fiji Islands*
ISC 06 12:07:46.8±0.5, 23.°92S±0.°06×179.°78W±0.°07, h518km, n116, σ1.°05/117, mb4.5/42, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	5.57	163	P	**P**	12 09 20.5	+0.8
RAO	213nm,0.3s,baz=287,slow=21,SNR=3.2			S	**S**	12 10 35.1	-0.7
	202nm,0.2s,baz=16,slow=22,SNR=5.2						
LKBA	**Tubou, Lakemba**	5.73	9	P	**P**	12 09 21.4	-0.1
MSVF	**Nonsavu**	6.48	341	P	**P**	12 09 25.0	-3.7
MSVF	**Nonsavu**	6.48	341	P	**P**	12 09 28.0	-0.7
	6.4nm,0.4s,baz=218,slow=4.9,SNR=12						
MSVF	**Nonsavu**	6.48	341	P	**P**	12 09 28.6	-0.1
NIUE	**Niue**	10.36	64	P	**P**	12 10 05.4	-2.7
NIUE	**Niue**	10.36	64	P	**P**	12 10 07.3	-0.8
PINNC	**Pines Island,**	11.82	274	P	**P**	12 10 23.4	0.0
PINNC	**Pines Island,**	11.82	274	P	**P**	12 10 25.6	+2.2
AFI	**Afiamalu**	12.50	39	P	**P**	12 10 26.8	-4.0
AFI	**Afiamalu**	12.50	39	P	**P**	12 10 29.4	-1.4
OUZ	**Omahuta**	12.65	206	P	**P**	12 10 33.9	+2.0
DZM	**Mont Dzumac**	12.82	276	P	**P**	12 10 31.5	-2.6
KUZ	**Kuaotunu**	13.36	196	P	**P**	12 10 39.8	+0.4
URZ	**Urewera**	14.54	190	P	**P**	12 10 51.6	-0.2
	11nm,0.7s,baz=357,slow=5.3,SNR=9.9						
URZ				S	**S**	12 13 20.4	-3.8
	5.6nm,0.4s,baz=184,slow=20,SNR=14						
URZ	**Urewera**	14.54	190	P	**P**	12 10 51.3	-0.4
	18nm,0.8s						
BKZ	**Black Stump Fm**	15.53	191	P	**P**	12 11 03.7	+1.6
BFZ	**Birch Farm**	17.05	190	P	**P**	12 11 16.2	-1.1
QRZ	**Quartz Range**	18.05	199	P	**P**	12 11 26.1	-0.4
RPZ	**Rata Peaks**	21.14	199	P	**P**	12 11 54.5	0.0
	11nm,0.5s,baz=27,slow=6.8,SNR=13						
	11nm,0.5s						
RPZ	**Rata Peaks**	21.14	199	P	**P**	12 11 55.8	+1.2
JCZ	**Jackson Bay**	22.18	202	P	**P**	12 12 03.8	-0.3
ODZ	**Otahua Downs**	22.47	198	P	**P**	12 12 06.3	-0.3
ARMA	**Armidale**	26.20	249	P	**P**	12 12 41.8	+1.8
ARMA				IAmb	IAmb	12 12 42.1	
	comp=Z,9.0nm,0.8s						
EIDS	**Eidsvold**	26.50	261	P	**P**	12 12 43.3	+0.7
EIDS				IAmb	IAmb	12 12 43.5	
	comp=Z,9.7nm,0.7s						
EIDS	**Eidsvold**	26.50	261	P	**P**	12 12 43.6	+1.0
MGCD	**Mangrove Creek**	27.12	243	P	**P**	12 12 49.6	+1.7
SYDH	**Sydney Hard Ro**	27.54	242	P	**P**	12 12 52.5	+0.9
	comp=Z,19nm,1.0s						
CNB	**Canberra Magne**	29.02	240	P	**P**	12 13 05.8	+1.2
CAN	**Canberra**	29.31	240	P	**P**	12 13 07.9	+0.8
CAN				IAmb	IAmb	12 13 08.4	
	comp=Z,10nm,0.7s						
CAN	**Canberra**	29.31	240	P	**P**	12 13 07.6	+0.5
YNG	**Young**	29.56	242	P	**P**	12 13 10.3	+1.0
TV1H	**Townsville Har**	31.38	272	P	**P**	12 13 25.6	+0.5
	comp=Z,14nm,1.0s						
CMSA	**Cobar Meteorol**	31.40	248	P	**P**	12 13 25.6	+0.5
CTAO	**Charters Tower**	31.68	270	P	**P**	12 13 28.

ARPS	**Mount Arapiles**	**35.28 240**	P	**P**		**12 13 57.8**	**-0.1**
	comp=Z,12nm,0.8s						
INKA	**Innaminka**	**35.63 255**	P	**P**		**12 14 02.0**	**+1.1**
COEN	**Coen**	**36.32 279**	P	**P**		**12 14 06.8**	**+0.1**
COEN			IAmb	IAmb		12 14 08.2	
	comp=Z,10nm,1.1s						
COEN	**Coen**	**36.32 279**	P	**P**		**12 14 07.2**	**+0.5**
	comp=Z,11nm,1.7s						
HTT	**Hallett**	**37.25 246**	P	**P**		**12 14 15.0**	**+0.7**
QIS	**Mount Isa**	**37.66 267**	P	**P**		**12 14 17.5**	**-0.2**
LCRK	**Leigh Creek**	**37.77 251**	P	**P**		**12 14 18.9**	**+0.5**
BBOO	**Buckleboo**	**39.62 247**	P	**P**		**12 14 33.0**	**-0.5**
BBOO	**Buckleboo**	**39.62 247**	P	**P**		**12 14 32.3**	**-1.2**
	comp=Z,22nm,1.0s						
OOD	**Oodnadatta**	**40.10 255**	P	**P**		**12 14 38.1**	**+0.7**
MULG	**Mulgathing**	**41.36 251**	P	**P**		**12 14 47.3**	**-0.1**
AS01	**Alice Springs**	**42.19 261**	P	**P**		**12 14 53.5**	**-0.6**
	comp=Z,21nm,0.9s						
AS31	**Alice Springs**	**42.23 261**	P	**P**		**12 14 54.6**	**+0.2**
ASAR	**Alice Springs**	**42.23 261**	P	**P**		**12 14 54.3**	**-0.1**
	comp=Z,8.6nm,0.4s,baz=97,slow=7.5,SNR=102						
	comp=Z,8.6nm,0.4s						
WR0	**Warramunga Arr**	**42.42 266**	P	**P**		**12 14 55.3**	**-0.6**
WR0			IAmb	IAmb		12 14 56.1	
	comp=Z,20nm,1.1s						
WB2	**Warramunga Arr**	**42.60 266**	P	**P**		**12 14 56.9**	**-0.4**
WRAB	**Tennant Creek**	**42.60 266**	P	**P**		**12 14 56.8**	**-0.6**
WB0	**Warramunga Arr**	**42.60 266**	P	**P**		**12 14 56.7**	**-0.6**
WRA	**Warramunga Arr**	**42.61 266**	P	**P**		**12 14 56.5**	**-0.9**
WRA	**Warramunga Arr**	**42.61 266**	P	**P**		**12 14 56.7**	**-0.7**
	comp=Z,17nm,0.5s,baz=94,slow=8.4,SNR=133						
	comp=Z,17nm,0.5s						
KDU	**Kakadu**	**46.49 275**	P	**P**		**12 15 27.0**	**-0.4**
FORT	**Forrest**	**46.49 250**	P	**P**		**12 15 26.5**	**-0.7**
FORT	**Forrest**	**46.49 250**	P	**P**		**12 15 27.2**	**0.0**
WRKA	**Warakurna**	**47.03 257**	P	**P**		**12 15 31.0**	**-0.4**
MTN	**Manton Dam**	**47.66 274**	P	**P**		**12 15 35.1**	**-1.1**
MTN			IAmb	IAmb		12 15 37.5	
	comp=Z,22nm,1.4s						
DRS	**Darwin Rock St**	**48.02 275**	P	**P**		**12 15 37.9**	**-1.0**
	comp=Z,18nm,0.6s						
KNRA	**Kununurra**	**48.89 270**	P	**P**		**12 15 45.0**	**-0.3**
KNRA			IAmb	IAmb		12 15 46.1	
	comp=Z,18nm,0.8s						
FAKI	**Fak Fak**	**50.78 287**	P	**P**		**12 15 59.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**51.03 266**	P	**P**		**12 16 01.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**51.03 266**	P	**P**		**12 16 00.7**	**-0.4**
KLBR	**Kellerberrin**	**55.17 247**	P	**P**		**12 16 30.0**	**-0.4**
MEEK	**Meekatharra**	**55.30 253**	P	**P**		**12 16 30.6**	**-0.9**
	comp=Z,19nm,2.3s						
PSA00	**Pilbara Seismi**	**55.36 260**	P	**P**		**12 16 31.7**	**-0.2**
PSA00			IAmb	IAmb		12 16 41.5	
	comp=Z,22nm,1.3s						
PSA00	**Pilbara Seismi**	**55.36 260**	P	**P**		**12 16 31.4**	**-0.5**
NWAO	**Narrogin (SRO)**	**55.41 246**	P	**P**		**12 16 31.9**	**-0.2**
MBWA	**Marble Bar**	**55.57 260**	P	**P**		**12 16 32.9**	**-0.5**
MBWA			IAmb	IAmb		12 16 35.0	
	comp=Z,37nm,1.4s						
MBWA	**Marble Bar**	**55.57 260**	P	**P**		**12 16 32.9**	**-0.5**
MORW	**Morawa**	**57.06 250**	P	**P**		**12 16 43.2**	**-0.3**
MORW			IAmb	IAmb		12 16 51.1	
	comp=Z,29nm,1.4s						
MORW	**Morawa**	**57.06 250**	P	**P**		**12 16 43.3**	**-0.3**
PLAI	**Plampang**	**61.32 273**	P	**P**		**12 17 11.8**	**-0.5**
TOLI2	**Tolitoli**	**62.78 284**	P	**P**		**12 17 21.2**	**-0.6**
QSPA	**South Pole Qui**	**66.17 180**	P	**P**		**12 17 43.7**	**+1.1**
QSPA	**South Pole Qui**	**66.17 180**	P	**P**		**12 17 43.5**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=345,slow=3.6,SNR=13						
	comp=Z,0.9nm,0.6s						
MJAR	**Matsushiro Arr**	**72.03 325**	P	**P**		**12 18 18.1**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=143,slow=7.3,SNR=3.3						
	comp=Z,1.6nm,0.8s						
ADK	**Adak**	**75.52 2**	P	**P**		**12 18 37.0**	**-0.4**
MAW	**Mawson**	**77.80 200**	P	**P**		**12 18 50.4**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=141,slow=3.0,SNR=4.4						
	comp=Z,1.6nm,0.6s						
PETK	**Petropavlovsk-**	**79.16 346**	P	**P**		**12 18 57.5**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=118,slow=6.6,SNR=4.1						
	comp=Z,2.0nm,0.6s						
ESJX	**Sierra Juarez**	**82.52 50**	P	**P**		**12 19 16.8**	**+1.4**
SLBS	**Sierra La Lagu**	**82.64 60**	P	**P**		**12 19 17.0**	**+0.9**
O02D	**Mt. Diablo Mer**	**82.94 40**	P	**P**		**12 19 18.8**	**+1.6**
O02D			IAmb	IAmb		12 19 21.7	
	comp=Z,13nm,1.3s						
OHAK	**Old Harbor**	**83.84 14**	P	**P**		**12 19 21.5**	**+0.3**
OHAK			IAmb	IAmb		12 19 32.6	
	comp=Z,12nm,1.2s						
HUMO	**Hull Mountain**	**84.39 38**	P	**P**		**12 19 24.8**	**+0.5**
HUMO			IAmb	IAmb		12 19 29.8	
	comp=Z,5.0nm,0.6s						
NVAR	**Mina Array Bea**	**84.62 44**	P	**P**		**12 19 26.9**	**+1.1**
NVAR	**Mina Array Bea**	**84.62 44**	P	**P**		**12 19 26.5**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=224,slow=7.7,SNR=5.5						
	comp=Z,0.6nm,0.7s						
N15K	**Kwethluk River**	**85.32 10**	P	**P**		**12 19 29.8**	**+1.4**
O18K	**Koktuh Hills**	**85.87 12**	P	**P**		**12 19 31.0**	**0.0**
O18K			IAmb	IAmb		12 19 31.4	
	comp=Z,10nm,0.9s						
J08A	**Circle Bar Ran**	**87.44 40**	P	**P**		**12 19 39.9**	**+0.9**
L18K	**Granite Mounta**	**87.81 11**	P	**P**		**12 19 40.8**	**+0.8**
M19K	**Big River Lodg**	**87.92 12**	P	**P**		**12 19 40.0**	**-0.6**
M19K			IAmb	IAmb		12 19 57.2	
	comp=Z,7.3nm,1.2s						
M20K	**Styx River**	**88.14 12**	P	**P**		**12 19 43.2**	**+1.5**
M20K			IAmb	IAmb		12 19 49.2	
	comp=Z,9.7nm,1.4s						
SUA	**Susitna One**	**88.25 13**	P	**P**		**12 19 42.2**	**-0.1**
PWL	**Port Wells**	**88.25 15**	P	**P**		**12 19 41.9**	**-0.3**
PWL			IAmb	IAmb		12 20 09.2	
	comp=Z,9.0nm,1.2s						
G08A	**Pilot Rock**	**88.31 38**	P	**P**		**12 19 44.0**	**+1.0**
G08A			IAmb	IAmb		12 19 45.3	
	comp=Z,4.9nm,1.0s						
LTY	**Liberty**	**88.58 36**	P	**P**		**12 19 44.7**	**+0.5**
LTY			IAmb	IAmb		12 20 09.4	
	comp=Z,10nm,1.4s						
GHO	**Glory Hole Cre**	**88.92 14**	P	**P**		**12 19 45.9**	**+0.5**
GHO			IAmb	IAmb		12 20 02.0	
	comp=Z,7.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.72 290**	P	**P**		**12 19 51.3**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=128,slow=3.8,SNR=6.5						
	comp=Z,1.1nm,0.3s						
CAST	**Castle Rocks**	**89.74 12**	P	**P**		**12 19 49.2**	**+0.1**
HVU	**Hansel Valley**	**90.01 44**	P	**P**		**12 19 52.0**	**+1.0**
TXAR	**Lajitas Array**	**90.27 58**	P	**P**		**12 19 53.4**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=215,slow=5.9,SNR=15						
	comp=Z,1.1nm,0.7s						
PDAR	**Pinedale Array**	**92.56 44**	P	**P**		**12 20 02.7**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=216,slow=4.5,SNR=5.6						
	comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**142.60 349**	PKhKP	PKPpre		12 26 16.5	
	comp=Z,1.4nm,0.4s,baz=64,slow=3.4,SNR=12						
AKASG	**Malin Array Be**	**145.09 327**	PKPbc	**PKPdf**		**12 26 24.4**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=42,slow=4.0,SNR=4.6						
MMAI	**Mount Meron Ar**	**147.89 294**	PKPbc	**PKPbc**		**12 26 33.6**	**-0.3**
	comp=Z,1.6nm,0.4s,baz=87,slow=4.1,SNR=2.6						

IDC 06 12:09:51.0±1.5, 60°.55N×17°.10E, h0km, mbtmp2.2/2, ML1.3/2, Error ellipse: s-maj=26.9km s-min=9.1km az=165.0, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**1.74**	**258**	Pg	Pn	12 10 22.7	+0.2
	0.7nm,0.3s,baz=73,slow=16,SNR=28						
HFS				Lg	Lg	12 10 45.6	
	0.9nm,0.3s,baz=76,slow=32,SNR=13						
NOA	**NORSAR Array B**	**2.93**	**282**	Pn	Pn	12 10 38.7	-0.1
	baz=94,slow=14,SNR=1.5						
NOA				Lg	Lg	12 11 14.2	
	baz=93,slow=18,SNR=1.8						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**4.46**	**75**	Pn	Pn	12 11 00.1	+0.3
	0.1nm,0.3s,baz=264,slow=12,SNR=1.7						
FINES				Lg	Lg	12 12 06.7	
	0.2nm,0.3s,baz=267,slow=28,SNR=2.2						
	1.6nm,0.9s						
I37NO	**I37NO**	**8.59**	**4**	I	I	13 06 10.0	
	0.1nm,0.6s,baz=186,slow=320,SNR=0.8						

ISC 06 12:42:37.9±1.2, 25°.26N±0°.06×109°.72W±0°.05, h28km±16km, n5, σ0°.32/10, 3C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.70**	**61**	*e*P	**Pb**	**12 42 51.6**	**0.0**
TSIG				*i* S	**Sb**	**12 43 01.4**	**+0.4**
TSIG				⇑*e*		12 43 02.2	
TSIG				IAML		12 43 02.2	
	comp=N,87nm,0.8s						
TSIG				IAML		12 43 02.5	
	comp=E,111nm,0.4s						
TSIG				*e*		12 43 02.5	
EVAR0	**San Evaristo**	**0.96**	**249**	⇑*i*P	**Pb**	**12 42 55.8**	**-0.2**
EVAR0				*e*S	**Sb**	**12 43 08.6**	**+0.2**
EVAR0				IAML		12 43 09.2	
	comp=E,62nm,0.6s						
EVAR0				⇓*e*		12 43 09.2	
EVAR0				⇑*e*		12 43 23.8	
EVAR0				IAML		12 43 23.8	
	comp=N,57nm,0.6s						
UAGRB	**Rancho Ultima**	**1.42**	**282**	*e*P	**Pn**	**12 43 02.0**	**+0.2**
UAGRB				*e*S	**Sn**	**12 43 19.7**	**+0.1**
SLBS	**Sierra La Lagu**	**1.58**	**187**	*e*P	**Pn**	**12 43 04.2**	**0.0**
SLBS				*e*S	**Sn**	**12 43 23.6**	**-0.1**
NE80	**Navojoa**	**1.71**	**15**	*e*P	**Pb**	**12 43 08.6**	**0.0**
NE80				*e*S	**Sb**	**12 43 29.1**	**-0.6**
NE80				⇓*e*		12 43 40.1	
NE80				IAML		12 43 40.1	
	comp=N,24nm,0.3s						

*ISK **06** 13:07:34.1, 39°.19N×44°.04E, h15km, ML2.8/7*
*AFAD **06** 13:07:38.3±0.0, 39°.52N×43°.07E, h7km±2km, ML2.3*
ISC 06 13:07:34.8±1.1, 39°.31N±0°.03×43°.92E±0°.05, h9km, n15, σ3°.12/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.30**	**322**	P	**Pg**	**13 07 37.4**	**-3.4**
DYDN				S	**Sb**	**13 07 54.6**	**+7.1**
VMUR	**Van-Muradiye**	**0.42**	**221**	P	**Pg**	**13 07 43.1**	**+0.1**
VMUR				S	Sb	13 08 01.2	+10
IGDI	**IGDIR**	**0.57**	**12**	P	**Pg**	**13 07 44.8**	**-1.1**
IGDI				S	Sn	13 08 06.9	+8.2
OZAP	**Van, Ozalp-Mer**	**0.65**	**175**	P	**Pg**	**13 07 45.6**	**-1.7**
TASB	**TASBURUN-IGDIR**	**0.72**	**20**	Pg	**Pn**	**13 07 49.9**	**-1.3**
KOTA	**Agri, Merkez-K**	**0.74**	**312**	P	**Pg**	**13 07 44.8**	**-4.3**
AGRB	**Hanur-Agry**	**0.77**	**291**	Pg	**Pg**	**13 07 46.3**	**-3.3**
AGRB				Sg	**Sn**	**13 08 08.6**	**+4.8**
VANB	**Van**	**0.82**	**210**	Pg	**Pb**	**13 07 51.0**	**-0.3**
TVAN	**Van**	**0.88**	**207**	P	**Pg**	**13 07 50.5**	**-1.1**
TVAN				*i* AML	AML	13 08 19.0	
	comp=E,517nm,0.4s						
TVAN				*i* AML	AML	13 08 20.0	
	comp=N,254nm,0.4s						
GNI	**Garni**	**1.05**	**37**	Pn	**Pn**	**13 07 55.4**	**-0.4**
ADCV	**BITLIS_Adilcev**	**1.06**	**242**	P	**Pg**	**13 07 53.0**	**-2.1**
ADCV				*i* AML	AML	13 08 23.0	
	comp=N,67nm,0.4s						
ADCV				*i* AML	AML	13 08 23.0	
	comp=E,67nm,0.8s						
GEVA	**Gevas**	**1.20**	**214**	P	**Pb**	**13 07 55.5**	**-2.3**
GEVA				*i* AML	AML	13 08 29.0	
	comp=N,91nm,0.8s						
GEVA				*i* AML	AML	13 08 29.0	
	comp=E,82nm,0.5s						
AKDM	**Akdamar-Van**	**1.23**	**217**	Pn	**Pn**	**13 07 56.7**	**-1.5**
KOPR	**Koprukoy-ERZUR**	**1.74**	**294**	Pn	**Pb**	**13 08 06.3**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.74**	**316**	Pn	**Pg**	**13 08 06.9**	**-1.2**

DJA 06 13:10:28.5±0.9, 3°.5S±11°.1×14°.0E±°, h122km±13km, M4.3/6, mb4.4/6, mB5.3/1, MLv4.2/6, Mw(mB)4.7/1, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.17**	**48**	P	Pn	13 10 45.4	+0.1
JAY	**Jayapura**	**0.69**	**74**	P	Pn	13 10 49.9	+1.9
MMPI	**Merauke**	**5.73**	**177**	P	Pn	13 11 52.4	+1.1
RKPI	**Ransiki, Papua**	**5.98**	**281**	P	Pn	13 11 54.9	+0.2
	22nm,1.3s,3μm0.7nm						
KMPI	**Kaimana, Papua**	**6.40**	**261**	P	Pn	13 11 59.0	-1.3
	86nm,0.7s,0.4nm						
FAKI	**Fak Fak**	**7.79**	**268**	P	Pn	13 12 18.8	-0.3

*NEIC **06** 13:14:23.9±0.9, 15°.20S±0°.07×172°.87W±0°.09, h10km±1km, mb4.9/27, Error ellipse: s-maj=15.1km s-min=10.7km az=117.0*
*IDC **06** 13:14:40.1±4.3, 15°.49S×173°.49W, h116km±38km, mb3.9/14, mbtmp4.3/15, MS3.8/44, Error ellipse: s-maj=23.5km s-min=16.7km az=113.0*
ISC 06 13:14:24.5±0.5, 15°.17S±0°.07×172°.93W±0°.07, h10km, n107, σ1°.92/69, mb4.7/24, MS3.9/43, 3C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.67**	**42**	Pn	**Pb**	**13 14 54.0**	**-1.4**
AFI				Sn	**Sn**	**13 15 12.6**	**-2.8**
NIUE	**Niue**	**4.83**	**144**	Pn	**Pn**	**13 15 36.6**	**-0.7**
MSVF	**Nonsavu**	**9.03**	**252**	P	Pn	13 16 41.2	+6.2
	7.3nm,0.6s,baz=76,slow=16,SNR=6.9						
MSVF				LR	LR	13 19 43.0	
	comp=Z,551nm,18.6s,baz=133,slow=36						
FUNA	**Funafuti**	**10.15**	**310**	Pn	**Pn**	**13 16 51.4**	**+1.1**
RAR	**Rarotonga**	**13.87**	**118**	Pn	**Pn**	**13 17 41.3**	**+0.2**
RAR	**Rarotonga**	**13.87**	**118**	LR	LR	13 21 35.1	
	comp=Z,295nm,19.5s,baz=281,slow=29						
PINNC	**Pines Island,**	**19.98**	**245**		**P**	**13 18 56.3**	**-0.9**
PINNC				IAmb	IAmb	13 19 07.8	
	comp=Z,56nm,1.0s						
DZM	**Mont Dzumac**	**20.71**	**248**	P	**P**	**13 19 04.2**	**-1.0**
DZM	**Mont Dzumac**	**20.71**	**248**	P	**P**	**13 19 04.8**	**-0.4**
	comp=Z,6.1nm,0.7s,baz=81,slow=18,SNR=3.0						
DZM				LR	LR	13 25 25.1	
	comp=Z,263nm,19.9s,baz=46,slow=32						
	comp=Z,6.1nm,0.7s						
PPT	**Papeete**	**22.53**	**99**	LR	LR	13 26 49.6	
	comp=Z,132nm,18.2s,baz=286,slow=32						
KUZ	**Kuaotunu**	**23.75**	**203**	P	**P**	**13 19 37.0**	**0.0**
HAZ	**Te Kaha**	**23.96**	**198**	P	**P**	**13 19 39.5**	**+0.5**
PKGZ	**Pakihiroa**	**23.97**	**198**	P	**P**	**13 19 42.5**	**+3.4**
WIAZ	**Waiheke Island**	**24.02**	**204**	P	**P**	**13 19 41.1**	**+1.5**
MBAZ	**Motutapu North**	**24.09**	**205**	P	**P**	**13 19 41.8**	**+1.5**
PUZ	**Puketiti**	**24.11**	**197**	P	**P**	**13 19 41.5**	**+1.1**
RUGZ	**Raukumara Rang**	**24.18**	**198**	P	**P**	**13 19 42.8**	**+1.6**
ETAZ	**East Tamaki Re**	**24.24**	**204**	P	**P**	**13 19 42.7**	**+1.1**
MKAZ	**Moumakai**	**24.28**	**204**	P	**P**	**13 19 39.7**	**-2.3**
TWGZ	**Tauwhareparae**	**24.29**	**198**	P	**P**	**13 19 46.5**	**+4.3**
WTAZ	**Waiatarua**	**24.37**	**205**	P	**P**	**13 19 44.2**	**+1.4**
AWAZ	**Awhitu Peninsu**	**24.45**	**205**	P	**P**	**13 19 44.7**	**+1.2**
TKGZ	**Te Karaka**	**24.57**	**198**	P	**P**	**13 19 47.3**	**+2.7**
URZ	**Urewera**	**24.63**	**199**	P	**P**	**13 19 44.7**	**-0.4**
	comp=Z,17nm,0.9s,baz=66,slow=5.2,SNR=8.5						
URZ				LR	LR	13 27 50.9	
	comp=Z,368nm,21.6s,baz=40,slow=33						
	comp=Z,17nm,0.9s						
URZ	**Urewera**	**24.63**	**199**	P	**P**	**13 19 44.9**	**-0.2**
KMRZ	**Kaimai**	**24.65**	**202**	P	**P**	**13 19 39.8**	**-5.5**
TOZ	**Tahuroa Road**	**24.70**	**202**	P	**P**	**13 19 44.6**	**-1.2**
OMRZ	**Omania**	**24.73**	**200**	P	P	13 19 36.7	-9.5
RIGZ	**Rimuhau**	**24.84**	**198**	P	**P**	**13 19 49.0**	**+1.9**
RTZ	**Ruatahuna**	**25.00**	**199**	P	**P**	**13 19 46.9**	**-1.7**
RTZ				IAmb	IAmb	13 19 52.4	
	comp=Z,59nm,1.6s						
WPRZ	**Whakapapatarin**	**25.18**	**200**	P	**P**	**13 19 47.9**	**-2.2**
HIZ	**Hauiti**	**25.63**	**203**	P	**P**	**13 19 58.7**	**+4.5**
BKZ	**Black Stump Fm**	**25.65**	**199**	P	**P**	**13 19 52.1**	**-2.3**
BKZ	**Black Stump Fm**	**25.65**	**199**	P	**P**	**13 19 53.7**	**-0.8**
HNR	**Honiara**	**27.09**	**279**	P	**P**	**13 20 06.6**	**-1.1**
HNR	**Honiara**	**27.09**	**279**	LR	LR	13 28 52.2	
	comp=Z,187nm,20.7s,baz=115,slow=32						
MRZ	**Mangatainoka R**	**27.30**	**199**	P	**P**	**13 20 07.8**	**-1.6**
MRZ				IAmb	IAmb	13 20 36.2	
	comp=Z,41nm,1.4s						
THZ	**Tophouse**	**29.20**	**202**	P	**P**	**13 20 24.9**	**-1.4**
DSZ	**Denniston Nort**	**29.59**	**204**	P	**P**	**13 20 28.1**	**-1.6**
INZ	**Inchbonnie**	**30.57**	**203**	P	**P**	**13 20 37.4**	**-0.9**
RPZ	**Rata Peaks**	**31.57**	**202**	P	**P**	**13 20 47.1**	**0.0**
	comp=Z,6.5nm,0.8s,baz=92,slow=17,SNR=2.5						
	comp=Z,6.5nm,0.8s						
DCZ	**Deep Cove**	**34.55**	**205**	P	**P**	**13 21 11.9**	**-1.3**
ARMA	**Armidale**	**35.85**	**239**	P	**P**	**13 21 23.1**	**-1.6**
ARMA				IAmb	IAmb	13 22 44.7	
	comp=Z,46nm,1.9s						
CTA	**Charters Tower**	**39.14**	**257**	LR	LR	13 35 48.2	
	comp=Z,5.5nm,19.3s,baz=98,slow=33						
PMG	**Port Moresby**	**39.38**	**274**	P	**P**	**13 21 53.5**	**-1.1**
PMG				IAmb	IAmb	13 22 10.2	
	comp=Z,25nm,1.3s						
CAN	**Canberra**	**39.53**	**232**	P	**P**	**13 21 53.9**	**-1.8**
CAN				IAmb	IAmb	13 23 17.3	
	comp=Z,32nm,1.5s						
STKA	**Stephens Creek**	**44.55**	**240**	P	**P**	**13 22 35.1**	**-1.6**
STKA	**Stephens Creek**	**44.55**	**240**	P	**P**	**13 22 34.6**	**-2.1**
	comp=Z,4.0nm,0.7s,baz=82,slow=11,SNR=4.7						
	comp=Z,4.0nm,0.7s						
BBOO	**Buckleboo**	**49.33**	**240**	P	**P**	**13 23 12.4**	**-1.6**
WR0	**Warramunga Arr**	**50.15**	**257**	P	**P**	**13 23 19.2**	**-1.4**
WR0				IAmb	IAmb	13 23 26.5	
	comp=Z,16nm,1.6s						
WB0	**Warramunga Arr**	**50.30**	**257**	P	**P**	**13 23 19.5**	**-2.2**
WB0				IAmb	IAmb	13 24 34.3	
	comp=Z,20nm,1.7s						
WB2	**Warramunga Arr**	**50.33**	**257**	P	**P**	**13 23 20.4**	**-1.5**
WB2				IAmb	IAmb	13 23 50.3	
	comp=Z,23nm,1.8s						
WRAB	**Tennant Creek**	**50.33**	**257**	P	**P**	**13 23 19.8**	**-2.2**
WRAB				IAmb	IAmb	13 24 07.8	
	comp=Z,29nm,2.0s						
WRA	**Warramunga Arr**	**50.34**	**257**	P	**P**	**13 23 20.1**	**-1.9**
	comp=Z,1.6nm,0.6s,baz=92,slow=7.0,SNR=40						
WRA				PcP	**PcP**	**13 24 41.2**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=99,slow=3.1,SNR=3.8						
WRA				LR	LR	13 42 58.7	
	comp=Z,84nm,18.9s,baz=96,slow=34						
	comp=Z,1.6nm,0.6s						
GUMO	**Guam**	**50.59**	**302**	LR	LR	13 42 46.9	
	comp=Z,41nm,18.7s,baz=90,slow=34						
AS31	**Alice Springs**	**50.62**	**252**	P	**P**	**13 23 22.0**	**-2.1**
ASAR	**Alice Springs**	**50.62**	**252**	P	**P**	**13 23 21.9**	**-2.2**
ASAR	**Alice Springs**	**50.62**	**252**	P	**P**	**13 23 22.4**	**-1.8**
	comp=Z,12nm,0.8s,baz=87,slow=8.4,SNR=105						
ASAR				LR	LR	13 42 50.6	
	comp=Z,157nm,20.9s,baz=95,slow=34						
	comp=Z,12nm,0.8s						
FORT	**Forrest**	**55.93**	**243**	P	**P**	**13 24 01.2**	**-1.8**
FITZ	**Fitzroy Crossi**	**58.71**	**258**	LR	LR	13 47 12.7	
	comp=Z,92nm,20.4s,baz=98,slow=34						
SBA	**Scott Base**	**63.52**	**185**	P	**P**	**13 24 57.3**	**+2.8**
SBA				IAmb	IAmb	13 24 59.1	
	comp=Z,7.5nm,0.8s						
MBWA	**Marble Bar**	**63.87**	**254**	P	**P**	**13 24 57.4**	**-0.4**
DAV	**Davao City (W)**	**64.81**	**285**	LR	LR	13 52 09.0	
	comp=Z,59nm,18.0s,baz=112,slow=35						
NWAO	**Narrogin (SRO)**	**65.13**	**240**	P	**P**	**13 25 04.9**	**-1.0**
NWAO	**Narrogin (SRO)**	**65.13**	**240**	LR	LR	13 51 16.5	
	comp=Z,69nm,20.0s,baz=118,slow=34						
JHJ	**Hachijo jima 2**	**65.90**	**318**	LR	LR	13 49 16.8	
	comp=Z,20nm,20.3s,baz=99,slow=32						
SHEM	**Shemya Is, Ala**	**68.54**	**352**	LR	LR	13 48 34.0	
	comp=Z,168nm,21.3s,baz=114,slow=30						
MJAR	**Matsushiro Arr**	**69.06**	**320**	P	**P**	**13 25 32.4**	**+1.7**
	comp=Z,2.4nm,0.9s,baz=148,slow=6.0,SNR=4.0						
MJAR				LR	LR	13 50 09.8	
	comp=Z,88nm,21.9s,baz=128,slow=31						
	comp=Z,2.4nm,0.9s						
JOW	**Kunigami**	**70.72**	**306**	LR	LR	13 50 44.7	
	comp=Z,70nm,21.8s,baz=174,slow=31						
ASAJ	**Asahikawa**	**71.58**	**328**	LR	LR	13 54 44.8	
	comp=Z,31nm,18.3s,baz=158,slow=34						
JNU	**Nakatsue**	**71.97**	**313**	LR	LR	13 49 54.2	
	comp=Z,46nm,21.7s,baz=162,slow=29						
PFO	**Pinyon Flats O**	**72.43**	**47**	LR	LR	13 50 42.3	
	comp=Z,121nm,19.7s,baz=230,slow=30						
LPIG	**La Paz**	**72.53**	**58**	LR	LR	13 49 06.8	
	comp=Z,55nm,20.1s,baz=265,slow=28						
PETK	**Petropavlovsk-**	**72.55**	**342**	P	**P**	**13 25 54.6**	**+3.1**
	comp=Z,2.7nm,0.8s,baz=145,slow=7.7,SNR=2.2						
PETK				LR	LR	13 54 08.3	
	comp=Z,44nm,19.8s,baz=148,slow=33						
	comp=Z,2.7nm,0.8s						
YBH	**Yreka Blue Hor**	**73.14**	**37**	LR	LR	13 50 17.3	
	comp=Z,110nm,20.4s,baz=292,slow=29						
KKM	**Kota Kinabalu**	**73.28**	**281**	P	**P**	**13 25 57.0**	**+0.2**
NVAR	**Mina Array Bea**	**73.85**	**42**	P	P	13 26 06.1	+6.2
	comp=Z,0.4nm,0.6s,baz=237,sl

*SJA **06** 13:35:31.0±0.7,24°.03S×66°.78W,h230km±5km,ML3.7, MW3.5*
*GUC **06** 13:35:34.0±0.5,23°.98S×67°.18W,h242km±9km,ML3.8*
ISC 06 13:35:30.5±1.9,24°.02S±0°.04×66°.83W±0°.06, h232km±16km,n27,σ1§50/49,3C-1D,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.40**	**120**	*eP*	**Pn**	**13 36 06.8**	**+0.2**
SLA				*eS*	**S**	**13 36 33.3**	**-1.4**
YJA	**Yavi**	**2.20**	**34**	*eP*	**Pn**	**13 36 14.7**	**+0.8**
FSA	**Cafayete**	**2.22**	**160**	*eP*	**Pn**	**13 36 15.1**	**+1.2**
LVC	**Limon Verde**	**2.37**	**306**	*eP*	**Pn**	**13 36 16.6**	**+1.0**
LVC				*i* S	**S**	**13 36 49.3**	**-1.5**
LVC				IAML		13 36 52.2	
	comp=Z,297nm,0.2s						
LVC	**Limon Verde**	**2.37**	**306**	*eP*	**Pn**	**13 36 16.7**	**+1.1**
LVC				*eS*	**S**	**13 36 51.1**	**+0.3**
PB15	**IPOC Station P**	**2.55**	**288**	⇑*iP*	**Pn**	**13 36 18.6**	**+1.2**
PB15	**IPOC Station P**	**2.55**	**288**	*eP*	**Pn**	**13 36 18.5**	**+1.2**
PB15				*eS*	**S**	**13 36 55.8**	**+1.9**
PB15				IAML		13 36 56.0	
	comp=Z,569nm,0.1s						
GO02	**Mina Guanaco**	**2.76**	**245**	⇑*iP*	**Pn**	**13 36 20.9**	**+1.3**
GO02				*i* S	**S**	**13 36 57.4**	**-0.7**
GO02				IAML		13 36 58.7	
	comp=E,256nm,0.2s						
GO02	**Mina Guanaco**	**2.76**	**245**	*eP*	**Pn**	**13 36 21.0**	**+1.3**
GO02				*eS*	**S**	**13 36 57.7**	**-0.3**
PB06	**IPOC Station P**	**2.84**	**297**	⇑*iP*	**Pn**	**13 36 21.5**	**+1.2**
PB06				*i* S	**S**	**13 36 57.2**	**-2.1**
PB06				IAML		13 36 59.7	
	comp=E,162nm,0.1s						
PB06	**IPOC Station P**	**2.84**	**297**	*eP*	**Pn**	**13 36 21.6**	**+1.2**
PB06				*eS*	**S**	**13 36 58.3**	**-1.0**
PB06				IAML		13 37 01.0	
	comp=Z,80nm,0.1s						
PB09	**IPOC Station P**	**3.13**	**314**	*eP*	**Pn**	**13 36 25.1**	**+1.4**
PB09				*eS*	**S**	**13 37 04.2**	**-1.2**
PB09				IAML		13 37 08.8	
	comp=N,63nm,0.6s						
PB09	**IPOC Station P**	**3.13**	**314**	*eP*	**Pn**	**13 36 25.3**	**+1.7**
PB09				*eS*	**S**	**13 37 05.0**	**-0.3**
PB09				IAML		13 37 07.0	
	comp=Z,65nm,0.3s						
PB14	**IPOC Station P**	**3.32**	**259**	*eP*	**Pn**	**13 36 26.9**	**+1.0**
PB14				*i* S	**S**	**13 37 06.6**	**-2.7**
PB14				*eS*	S	13 37 06.8	-2.4
PB14				IAML		13 37 10.7	
	comp=E,72nm,0.5s						
PB14	**IPOC Station P**	**3.32**	**259**	*eP*	**Pn**	**13 36 26.9**	**+1.0**
PB14				*eS*	**S**	**13 37 07.9**	**-1.4**
PB14				IAML		13 37 09.3	
	comp=Z,77nm,0.5s						
PB04	**IPOC Station P**	**3.48**	**298**	*eP*	**Pn**	**13 36 28.6**	**+1.0**
PB04				*eS*	**S**	**13 37 09.8**	**-2.7**
PB04	**IPOC Station P**	**3.48**	**298**	*eP*	**Pn**	**13 36 28.8**	**+1.1**
PB04				*eS*	**S**	**13 37 11.7**	**-0.9**
PB04				IAML		13 37 14.1	
	comp=Z,86nm,0.2s						
PB01	**IPOC Station P**	**3.85**	**320**	*eP*	**Pn**	**13 36 32.8**	**+0.9**
PB01				*eS*	**S**	**13 37 19.4**	**-0.8**
PB01				IAML		13 37 21.1	
	comp=Z,87nm,0.2s						
AC01	**Pan de Azucar**	**4.02**	**237**	*eP*	**Pn**	**13 36 34.4**	**+0.6**
AC01				*eS*	**S**	**13 37 21.8**	**-2.0**
AC01				IAML		13 37 22.6	
	comp=Z,50nm,0.2s						
PB08	**IPOC Station P**	**4.42**	**330**	*eP*	**Pn**	**13 36 41.7**	**+2.6**
PB08				*i* S	**S**	**13 37 31.6**	**-1.6**
PB08	**IPOC Station P**	**4.42**	**330**	*eP*	**Pn**	**13 36 40.8**	**+1.7**
PB08				*eS*	**S**	**13 37 32.3**	**-0.9**
PB08				IAML		13 37 36.1	
	comp=Z,38nm,0.6s						
HMBC	**Humberstone**	**4.68**	**322**	⇓*eP*	**Pn**	**13 36 42.7**	**+0.7**
HMBC	**Humberstone**	**4.68**	**322**	*eP*	**Pn**	**13 36 42.5**	**+0.5**
HMBC				*eS*	**S**	**13 37 35.6**	**-2.9**
HMBC				IAML		13 37 36.4	
	comp=Z,88nm,0.2s						
GO03	**Copiapo**	**4.70**	**220**	*eP*	**Pn**	**13 36 43.6**	**+1.5**
GO03				*eS*	**S**	**13 37 37.0**	**-1.8**
GO01	**Chusmiza**	**4.85**	**333**	*eP*	**Pn**	**13 36 46.0**	**+1.5**
GO01				*eS*	**S**	**13 37 42.7**	**-0.2**
PB11	**IPOC Station P**	**4.98**	**328**	*eP*	**Pn**	**13 36 46.0**	**+0.3**
PB11				*eS*	**S**	**13 37 43.1**	**-2.3**
PB11				IAML		13 37 49.0	
	comp=Z,32nm,0.8s						
ACLC	**CERRO LA CRUZ**	**5.39**	**181**	*eP*	**Pn**	**13 36 52.5**	**+1.8**

NNC 06 13:47:49.8±6.1,37°.39N×71°.13E,h0km,mb3.8,mpv3.5, 2C,Error ellipse: s-maj=49.3km s-min=43.0km az=179.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.72**	**355**	P	Pn	13 49 17.5	+1.4
	2.5nm,0.2s,baz=182,slow=16,SNR=45						
KK31				S	Sn	13 50 22.9	+0.5
	1.3nm,0.3s,baz=168,slow=24,SNR=9.3						
TKM2	**Tokmak 2**	**6.49**	**30**	⇑P	Pn	13 49 25.3	-1.5
	1.2nm,0.6s						
TKM2				⇑S	Sn	13 50 43.9	+2.2
	1.8nm,0.8s						
AB31	**Akbulak array**	**14.36**	**329**	P	Pn	13 51 14.2	-0.1
	0.4nm,0.3s,baz=161,slow=11,SNR=13						

*FUNV **06** 13:59:28.4,10°.43N×62°.55W,h19km,MW3.9*
*TRN **06** 13:59:28.8,10°.55N×62°.59W,h80km,MD3.6,Gulf of Paria.*
ISC 06 13:59:26.5±1.4,10°.48N±0°.05×62°.55W±0°.04, h115km±16km,n23,σ1§55/41,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.14**	**81**	*eP*	**Pn**	**13 59 50.5**	**+1.0**
TRN				*eS*	Sn	14 00 04.8	-2.1
TBH	**Brigand Hill**	**1.46**	**90**	*eP*	**Pn**	**13 59 55.4**	**+2.4**
CUMV	**Cumana_UDO**	**1.62**	**268**	*eP*	**Pn**	**13 59 55.9**	**+1.0**
CUMV				*eS*	**Sn**	**14 00 16.6**	**0.0**
GRFF	**Grenada Fort F**	**1.75**	**27**	*eP*	**Pn**	**13 59 57.4**	**+0.7**
GRFF				*eS*	**Sn**	**14 00 17.6**	**-2.0**
GRGR	**Grenville**	**1.86**	**28**	*eP*	**Pn**	**13 59 58.8**	**+0.8**
GRGR				*eS*	**Sn**	**14 00 20.7**	**-1.4**
GRW	**Mount Saint Ca**	**1.89**	**27**	*eP*	**Pn**	**13 59 59.7**	**+1.3**
GRW				*eS*	**Sn**	**14 00 20.9**	**-1.8**
GRHS	**Sauteurs**	**1.95**	**27**	*eP*	**Pn**	**13 59 59.8**	**+0.7**
GRHS				*eS*	**Sn**	**14 00 22.1**	**-1.9**
GRSS	**Sisters**	**2.03**	**27**	*eP*	**Pn**	**14 00 01.2**	**+1.1**
GRSS				*eS*	**Sn**	**14 00 25.3**	**-0.4**
PCRV	**Puerto La Cruz**	**2.07**	**262**	*eP*	**Pn**	**14 00 01.8**	**+1.2**
PCRV				*eS*	**Sn**	**14 00 25.7**	**-1.1**
PCRV	**Puerto La Cruz**	**2.07**	**262**	*eP*	**Pn**	**14 00 01.9**	**+1.2**
PCRV				*eS*	**Sn**	**14 00 25.5**	**-1.3**
TOSP	**Speyside**	**2.14**	**67**	*eP*	**Pn**	**14 00 02.8**	**+1.4**
TOSP				*eS*	**Sn**	**14 00 27.6**	**-0.6**
GCMP	**Grenada, Carri**	**2.28**	**29**	*eP*	**Pn**	**14 00 03.9**	**+0.7**
GCMP				*eS*	**Sn**	**14 00 30.6**	**-0.8**
SVT	**Saint Vincent**	**2.97**	**25**	*eP*	**Pn**	**14 00 14.0**	**+1.8**
SVT				*eS*	**Sn**	**14 00 45.5**	**-1.9**
SVB	**Belmont**	**3.05**	**24**	*eP*	**Pn**	**14 00 14.8**	**+1.5**
SVB				*eS*	**Sn**	**14 00 47.2**	**-2.3**
SLAC	**Saint Lucia, A**	**3.76**	**25**	*eS*	**Sn**	**14 01 04.5**	**-1.9**
SLBI	**Saint Lucia, B**	**3.85**	**23**	*eP*	**Pn**	**14 00 25.8**	**+2.0**
SLBI				*eS*	**Sn**	**14 01 07.2**	**-1.1**
MERV	**Las Mercedes**	**3.89**	**252**	*eP*	**Pn**	**14 00 25.6**	**+1.1**
MERV				*eS*	**Sn**	**14 01 08.5**	**-0.8**
TACV	**Tcata**	**4.42**	**266**	*eP*	**Pn**	**14 00 33.2**	**+1.7**
TACV				*eS*	**Sn**	**14 01 20.5**	**-1.7**
LUEV	**Luepa**	**4.73**	**167**	*eP*	**Pn**	**14 00 36.9**	**+1.0**
LUEV				*eS*	**Sn**	**14 01 27.4**	**-2.5**
CACV	**CAICARA DEL OR**	**4.89**	**234**	*eP*	Pn	14 00 33.8	-4.1
CACV				*eS*	Sn	14 01 23.2	-10
BENV	**Beln**	**5.00**	**265**	*eP*	**Pn**	**14 00 41.3**	**+2.0**
BENV				*eS*	**Sn**	**14 01 35.3**	**-0.8**
BAUV	**El Baul**	**5.62**	**255**	*eP*	**Pn**	**14 00 48.6**	**+0.8**
BAUV				*eS*	**Sn**	**14 01 48.3**	**-2.9**
BAUV	**El Baul**	**5.62**	**255**	*eP*	**Pn**	**14 00 49.1**	**+1.3**
BAUV				*eS*	**Sn**	**14 01 49.9**	**-1.3**

IDC 06 14:00:34.0±2.3,10°.37S×66°.33E,h0km,mb3.7/7, mbtmp3.7/7,Error ellipse: s-maj=86.4km s-min=25.9km az=54.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**6.64**	**66**	T	T	14 09 03.4	
	baz=245,slow=76,SNR=36						
H08S3	**Diego Garcia H**	**6.66**	**66**	T	T	14 09 04.3	
	baz=245,slow=76,SNR=39						
H08S2	**Diego Garcia H**	**6.66**	**67**	T	T	14 09 07.4	
	baz=245,slow=76,SNR=62						
H01W3	**Cape Leeuwin H**	**49.83**	**127**	T	T	15 02 54.2	
	baz=288,slow=75,SNR=4.5						
H01W2	**Cape Leeuwin H**	**49.83**	**127**	T	T	15 02 56.2	
	baz=288,slow=75,SNR=4.5						
H01W1	**Cape Leeuwin H**	**49.85**	**127**	T	T	15 02 58.1	
	baz=288,slow=75,SNR=5.3						
KURBB	**Kurchatov Arra**	**61.66**	**9**	P	P	14 10 53.4	-0.2
	0.4nm,0.3s,baz=202,slow=7.1,SNR=1.7						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**63.23**	**3**	P	P	14 11 04.3	+0.2
	0.3nm,0.6s,baz=179,slow=6.9,SNR=1.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**65.45**	**111**	P	P	14 11 19.3	-0.1
	0.7nm,0.8s,baz=281,slow=5.8,SNR=7.2						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**65.96**	**12**	P	P	14 11 21.0	-0.9
	0.3nm,0.5s,baz=198,slow=4.1,SNR=1.6						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**65.97**	**107**	P	P	14 11 22.4	-0.3
	0.6nm,0.7s,baz=279,slow=5.6,SNR=10						
	0.6nm,0.7s						
SONM	**Songino Array**	**67.96**	**28**	P	P	14 11 35.9	+0.9
	0.5nm,0.5s,baz=241,slow=5.9,SNR=3.4						
	0.5nm,0.5s						
AKASG	**Malin Array Be**	**68.84**	**336**	P	P	14 11 39.3	-0.9
	0.2nm,0.4s,baz=134,slow=5.3,SNR=1.7						
	0.2nm,0.4s						
NVAR	**Mina Array Bea**	**151.75**	**8**	PKPbc	PKiKP	14 20 32.4	+0.6
	1.0nm,0.8s,baz=279,slow=1.7,SNR=7.4						

*NEIC **06** 14:06:55.4±1.4,31°.35N±0°.06×130°.29E±0°.07, h154km,6km,mb4.5/46,Error ellipse: s-maj=11.1km s-min=5.0km az=129.0*
*JMA **06** 14:06:55.9±0.1,31°.3N±0°.3×130°.5E±0°.6,h155km, MV3.7/40,SATSUMA PENINSULA REGION*
*NIED **06** 14:06:55.9,31°.34N×130°.46E,h155km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.40; $M_{\theta\theta}$-0.20; $M_{\phi\phi}$-0.19; $M_{r\theta}$0.26; $M_{\theta\phi}$-0.17; $M_{\phi r}$1.23; Fault plane solution: $M_0$1.31000×10^{15} NP1:ϕ_s14.00000°, δ83.00000°,λ83.00000°. NP2:ϕ_s236.00000°,δ10.00000°, λ132.00000°.*
*IDC **06** 14:06:56.1±1.1,31°.37N×130°.34E,h168km±10km, mb3.6/22,mbtmp4.1/28 Error ellipse: s-maj=15.2km s-min=10.6km az=80.0*
ISC 06 14:06:55.2±0.6,31°.35N±0°.04×130°.33E±0°.05,h156km±5km, n124,σ1§20/140,mb4.3/53,5D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.19**	**34**	⇓P	**Pn**	**14 07 17.0**	**+0.8**
JSU				⇓*eS*	**Sn**	**14 07 33.0**	**+0.8**
JTSR	**Tashiro 2**	**0.54**	**110**	P	**Pn**	**14 07 17.6**	**+0.2**
JTSR				*eS*	**Sn**	**14 07 33.7**	**-0.7**
JSJ	**Shimokoshiki**	**0.62**	**302**	⇓P	**Pn**	**14 07 18.7**	**+0.8**
JSJ				⇓*eS*	**Sn**	**14 07 36.4**	**+1.2**
JTZ	**Takazaki**	**0.85**	**49**	P	**Pn**	**14 07 19.6**	**+0.3**
JTZ				S	**Sn**	**14 07 36.9**	**-0.9**
JTN	**Tanegashima 3**	**0.89**	**141**	*eP*	**Pn**	**14 07 19.8**	**+0.2**
JTN				*eS*	**Sn**	**14 07 37.8**	**-0.5**
JMTN	**Minamitane**	**1.07**	**153**	P	**Pn**	**14 07 21.4**	**+0.3**
JMTN				S	**Sn**	**14 07 40.7**	**-0.3**
JYAK	**Yakushimahirau**	**1.12**	**172**	P	**Pn**	**14 07 21.9**	**+0.3**
JIU3	**Izumi3**	**1.26**	**19**	P	**Pn**	**14 07 23.5**	**+0.7**
JIU3				*eS*	**Sn**	**14 07 43.9**	**-0.3**
JNN	**Nakanoshima**	**1.56**	**195**	*eP*	**Pn**	**14 07 26.6**	**+0.8**
JNU	**Nakatsue**	**1.82**	**15**	Pn	**Pn**	**14 07 29.1**	**+0.4**
JNU	**Nakatsue**	**1.82**	**15**	P	**Pn**	**14 07 29.2**	**+0.5**
	66nm,0.3s,baz=250,slow=2.8,SNR=290						
JNU				S	**Sn**	**14 07 54.6**	**0.0**
	55nm,0.5s,baz=249,slow=22,SNR=12						
JMN	**Monobe**	**3.82**	**51**	Pn	**Pn**	**14 07 52.5**	**-0.7**
JOW	**Kunigami**	**4.85**	**202**	P	**Pn**	**14 08 06.4**	**-0.3**
	5.9nm,0.2s,baz=105,slow=21,SNR=9.9						
JOW				S	**Sn**	**14 08 58.1**	**-4.5**
	17nm,0.2s,baz=90,slow=20,SNR=9.0						
JMZ	**Minamidaito 2**	**5.57**	**172**	Pn	**Pn**	**14 08 16.8**	**+0.6**
TJN	**Taejon**	**5.59**	**335**	Pn	**Pn**	**14 08 16.1**	**-0.3**
KSAR	**Wonju Array Be**	**6.40**	**342**	Pn	**Pn**	**14 08 28.4**	**+1.2**
KSRS	**Korea Array**	**6.41**	**343**	P	**Pn**	**14 08 29.2**	**+2.0**
	2.2nm,0.5s,baz=167,slow=14,SNR=10.0						
KSRS				S	**Sn**	**14 09 33.5**	**-5.9**
	0.4nm,0.3s,baz=159,slow=27,SNR=1.2						
KS19	**Wonju Array Si**	**6.46**	**342**	Pn	**Pn**	**14 08 28.1**	**+0.1**
INU	**Inuyama**	**6.87**	**53**	Pn	**Pn**	**14 08 34.9**	**+1.5**
JGF	**Kuroka**	**7.24**	**52**	Pn	**Pn**	**14 08 39.7**	**+1.3**
JHJ	**Hachijo jima 2**	**8.20**	**75**	P	**Pn**	**14 08 54.0**	**+2.9**
	42nm,0.3s,baz=224,slow=16,SNR=9.7						
MJB9	**Matsu-Tunnel**	**8.34**	**49**	Pn	**Pn**	**14 08 53.4**	**+0.3**
MAJO	**Matsushiro**	**8.34**	**50**	Pn	**Pn**	**14 08 53.3**	**+0.3**
MJAR	**Matsushiro Arr**	**8.34**	**50**	P	**Pn**	**14 08 55.9**	**+2.8**
	1.5nm,0.3s,baz=236,slow=14,SNR=21						
MJAR				S	**Sn**	**14 10 23.2**	**-2.7**
	2.0nm,0.5s,baz=221,slow=26,SNR=4.6						
NJ2	**Nanjing**	**9.80**	**277**	*eP*	**Pn**	**14 09 10.6**	**-1.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NACB	**Ninganchiao**	**10.53**	**229**	Pn	**Pn**	**14 09 20.4**	**-1.7**
SSLB	**Suanglung**	**11.22**	**230**	Pn	**Pn**	**14 09 30.7**	**-0.5**
USA0B	**Ussuriysk Arra**	**12.89**	**5**	P	**P**	**14 09 57.4**	**0.0**
USRK	**Ussuriysk Ar.**	**12.89**	**5**	P	**P**	**14 09 57.2**	**-0.3**
CN2	**Changchun**	**13.01**	**344**	*eP*	**Pn**	**14 09 54.5**	**+0.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
HNS	**HongShan**	**14.24**	**299**	⇓P	**P**	**14 10 14.5**	**+2.1**
HNS				pmax	pmax		
	comp=Z,17nm,0.8s						
ASAJ	**Asahikawa**	**15.99**	**34**	P	**Pn**	**14 10 29.5**	**-1.9**
	comp=Z,4.8nm,0.8s,baz=243,slow=4.5,SNR=2.3						
JKA	**Kamikawa-asahi**	**15.99**	**34**		**Pn**	**14 10 31.3**	**-0.1**
JKA				IAmb	IAmb	14 10 48.5	
	comp=Z,21nm,1.2s						
HHC	**Hu-ho-hao-te**	**17.86**	**307**	*eP*	**P**	**14 10 53.9**	**+1.4**
HHC				pmax	pmax		
	comp=Z,37nm,0.8s						
HHC				pmax	pmax		
	comp=Z,120nm,5.3s						
KLR	**Kul'dur**	**17.89**	**3**	P	**P**	**14 10 52.8**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=185,slow=9.5,SNR=4.4						
ENH	**Enshi**	**17.94**	**272**	Pn	**Pn**	**14 10 55.3**	**+0.3**
XAN	**Xi'an**	**18.22**	**284**	P	**P**	**14 10 56.4**	**0.0**
XAN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
LZH	**Lanzhou**	**22.50**	**289**	*eP*	**P**	**14 11 37.2**	**-4.8**
LZH				pP	pP	14 12 10.4	+0.1
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
DAV	**Davao City (W)**	**24.56**	**191**	P	**P**	**14 12 00.2**	**-0.5**
SONM	**Songino Array**	**24.57**	**319**	P	**P**	**14 12 00.6**	**-0.1**
SONM	**Songino Array**	**24.57**	**319**	P	**P**	**14 12 00.8**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=138,slow=9.6,SNR=5.8						
	comp=Z,0.8nm,0.5s						
PZH	**PanZhiHua**	**25.45**	**266**	P	**P**	**14 12 10.7**	**+1.9**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,120nm,5.7s						
GTA	**Gaotai**	**26.06**	**296**	*eP*	**P**	**14 12 14.4**	**+0.2**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.11**	**253**	P	**P**	**14 13 00.2**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=49,slow=8.1,SNR=7.6						
	comp=Z,0.8nm,0.5s						
WMQ	**Urumqi**	**35.63**	**303**	*eP*	**P**	**14 13 39.4**	**+1.4**
KULM	**Kulim**	**38.04**	**233**	P	**P**	**14 13 58.8**	**+0.1**
KULM				IAmb	IAmb	14 14 00.6	
	comp=Z,8.9nm,1.1s						
IPM	**Ipoh**	**38.38**	**232**	P	**P**	**14 14 01.1**	**-0.4**
IPM				IAmb	IAmb	14 14 03.3	
	comp=Z,5.2nm,0.6s						
ZALV	**Zalesovo Beam**	**39.47**	**318**	P	**P**	**14 14 09.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=108,slow=9.3,SNR=2.0						
ZALV				PcP	**PcP**	**14 16 13.5**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=121,slow=3.7,SNR=2.6						
	comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**39.72**	**307**	P	**P**	**14 14 12.3**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=90,slow=10,SNR=5.5						
MKAR				PcP	**PcP**	**14 16 14.8**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=73,slow=4.3,SNR=6.3						
MKAR				ScP	**ScP**	**14 19 48.1**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=64,slow=3.4,SNR=2.8						
	comp=Z,0.7nm,0.5s						
TIXI	**Tiksi**	**40.36**	**359**	P	**P**	**14 14 16.0**	**-1.2**
KURK	**Kurchatov**	**42.55**	**312**	P	**P**	**14 14 35.9**	**+0.6**
KURBB	**Kurchatov Arra**	**42.60**	**312**	P	**P**	**14 14 35.7**	**0.0**
	comp=Z,0.9nm,0.4s,baz=99,slow=8.8,SNR=7.0						
KURBB				PcP	**PcP**	**14 16 23.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=121,slow=0.5,SNR=1.0						
	comp=Z,0.9nm,0.4s						
BVAR	**Borovoye Array**	**47.82**	**315**	P	**P**	**14 15 17.1**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=96,slow=9.6,SNR=17						
BVAR				PcP	**PcP**	**14 16 42.3**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=102,slow=3.3,SNR=6.7						
	comp=Z,1.7nm,0.4s						
BRVK	**Borovoye**	**47.89**	**315**	P	**P**	**14 15 17.6**	**+0.4**
KKAR	**Karatay Array**	**48.12**	**302**	P	**P**	**14 15 20.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**49.37**	**186**	P	**P**	**14 15 28.9**	**0.0**
WB0	**Warramunga Arr**	**50.98**	**175**	P	**P**	**14 15 40.1**	**-0.9**
WB0				IAmb	IAmb	14 15 59.7	
	comp=Z,5.6nm,1.2s						
WRA	**Warramunga Arr**	**51.15**	**175**	P	**P**	**14 15 41.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=353,slow=7.8,SNR=5.9						
	comp=Z,0.2nm,0.3s						
WB2	**Warramunga Arr**	**51.15**	**175**	P	**P**	**14 15 41.9**	**-0.4**
WB2				IAmb	IAmb	14 16 00.4	
	comp=Z,6.6nm,1.2s						
WR0	**Warramunga Arr**	**51.18**	**175**	P	**P**	**14 15 42.0**	**-0.5**
WR0				IAmb	IAmb	14 16 17.7	
	comp=Z,12nm,1.5s						
C16K	**Lisburne Hills**	**51.79**	**25**	P	**P**	**14 15 47.6**	**+1.1**
PSA00	**Pilbara Seismi**	**53.58**	**192**	P	**P**	**14 15 59.3**	**-0.8**
PSA00				IAmb	IAmb	14 16 12.0	
	comp=Z,27nm,1.4s						
J17K	**VABM Dome**	**53.82**	**32**	P	**P**	**14 16 02.1**	**+0.7**
J17K				IAmb	IAmb	14 16 43.4	
	comp=Z,16nm,1.2s						
ABKAR	**Akbulak array**	**54.60**	**311**	P	**P**	**14 16 07.4**	**+0.1**
ARTI	**Arti**	**54.71**	**320**	P	**P**	**14 16 08.2**	**+0.2**
ARTI				IAmb	IAmb	14 16 09.1	
	comp=Z,2.4nm,0.6s						
AS31	**Alice Springs**	**54.81**	**176**	P	**P**	**14 16 08.8**	**-0.3**
ASAR	**Alice Springs**	**54.81**	**176**	P	**P**	**14 16 08.5**	**-0.5**
ASAR	**Alice Springs**	**54.81**	**176**	P	**P**	**14 16 08.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=359,slow=6.6,SNR=19						
	comp=Z,0.2nm,0.3s						
IMAR	**Indian Mountai**	**56.11**	**29**	P	**P**	**14 16 18.9**	**+1.1**
CAST	**Castle Rocks**	**56.97**	**32**	P	**P**	**14 16 24.9**	**+0.9**
H23K	**Yukon River**	**57.84**	**29**	P	**P**	**14 16 30.8**	**+0.8**
H23K				IAmb	IAmb	14 16 56.0	
	comp=Z,6.4nm,1.4s						
ILAR	**Eielson Array**	**59.08**	**30**	P	**P**	**14 16 38.2**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=273,slow=6.1,SNR=4.6						
	comp=Z,0.3nm,0.6s						
F25K	**Christian Rive**	**59.18**	**26**	P	**P**	**14 16 40.5**	**+1.1**
F25K				IAmb	IAmb	14 17 13.2	
	comp=Z,5.3nm,1.4s						
BMAR	**Burnt Mountain**	**59.61**	**26**	P	**P**	**14 16 43.4**	**+1.1**
F26K	**Sheenjek River**	**59.73**	**26**	P	**P**	**14 16 44.2**	**+1.1**
M27K	**Edge Creek, AK**	**61.75**	**32**	P	**P**	**14 16 57.2**	**+0.3**
M27K				IAmb	IAmb	14 17 33.5	
	comp=Z,4.1nm,1.3s						
L29M	**L29M**	**63.21**	**31**	P	**P**	**14 17 07.5**	**+1.0**
L29M				IAmb	IAmb	14 17 44.7	
	comp=Z,6.2nm,1.4s						
BCPM	**Bancas Point**	**63.44**	**34**	P	**P**	**14 17 09.8**	**+1.8**
BCPM				IAmb	IAmb	14 17 21.9	
	comp=Z,21nm,1.4s						
STKA	**Stephens Creek**	**63.78**	**169**	P	**P**	**14 17 10.6**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=270,slow=1.0,SNR=2.1						
	comp=Z,2.4nm,0.9s						
SPB2	**Spitsbergen Ar**	**64.22**	**348**	P	**P**	**14 17 12.3**	**-0.5**
SPITS	**Spitsbergen Ar**	**64.22**	**348**	P	**P**	**14 17 12.1**	**-0.7**
	comp=Z,16nm,0.9s,baz=80,slow=9.4,SNR=11						
	comp=Z,16nm,0.9s						
A36M	**Sachs Harbour**	**64.80**	**19**	P	**P**	**14 17 16.4**	**-0.2**
KEV	**Kevo**	**65.37**	**338**	P	**P**	**14 17 19.8**	**-0.6**

comp=Z,0.2nm,0.6s
FDMO Fiordimonte 86.28 319 P **P 14 19 19.7 +0.3**
FDMO IAmb IAmb 14 19 21.4
comp=Z,12nm,0.9s
CASP Castiglione de 87.67 320 P **P 14 19 26.7 +0.6**
CEL Celeste 87.67 314 P **P 14 19 26.5 +0.2**
CEL IAmb IAmb 14 20 07.4
comp=Z,11nm,1.1s
PDAR Pinedale Array 88.04 40 P **P 14 19 28.8 +0.6**

*JMA **06** 14:12:34.5±0.2,24°N±1°×122°4E±0°4, h20km±3km, MV2.1/12, NW OFF ISHIGAKIJIMA IS*
*TAP **06** 14:12:35.6,24°16N×122°44E, h26km, ML2.6, C*
ISC 06 14:12:34.7±1.0,24°06N±0°03×122°45E±0°02, h33km±5km, n44, σ0°80/78, 4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.14 297**		P	**Pb**	**14 12 40.3**	**+0.1**
EOS4				S	**Sb**	**14 12 44.0**	**0.0**
EOS3	**EOS3**	**0.26 332**	⇓	*iP*	**Pn**	**14 12 41.7**	**-0.2**
EOS3				S	**Sn**	**14 12 46.5**	**-0.1**
EOS2	**EOS2**	**0.41 331**	⇓	*iP*	**Pn**	**14 12 44.2**	**0.0**
EOS2				S	**Sn**	**14 12 50.8**	**+0.1**
JYNG	**Yonagunijimaku**	**0.60 49**		*eP*	**Pn**	**14 12 46.9**	**0.0**
JYNG				*eS*	**Sn**	**14 12 55.4**	**0.0**
YOJ	**Yonaguni jima**	**0.65 52**		*eP*	**Pn**	**14 12 48.0**	**+0.4**
YOJ				*eS*	**Sn**	**14 12 56.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.65 52**		P	**Pn**	**14 12 47.8**	**+0.3**
YOJ				S	**Sn**	**14 12 56.7**	**-0.1**
EWUT	**Wuta**	**0.72 302**		P	**Pb**	**14 12 48.6**	**-0.3**
EWUT				S	**Sb**	**14 12 58.2**	**-0.4**
ENA	**Nanau**	**0.74 300**		*eP*	**Pb**	**14 12 49.1**	**-0.2**
ENA				*eS*	**Sb**	**14 12 59.0**	**-0.2**
TWC	**Suao**	**0.78 315**		P	**Pb**	**14 12 49.1**	**-0.7**
TWC				S	**Sb**	**14 12 58.2**	**-1.9**
NACB	**Ninganchiao**	**0.79 279**		P	**Pb**	**14 12 49.6**	**-0.4**
NACB				S	**Sb**	**14 13 00.5**	**0.0**
SHUL	**Shoufeng**	**0.86 252**		*eS*	**Sb**	**14 13 02.2**	**-0.1**
NDS	**Dongshan**	**0.88 311**		*eP*	**Pn**	**14 12 51.3**	**+0.5**
NDS				*eS*	**Sb**	**14 13 02.9**	**-0.2**
ETLH	**Xiulin Townshi**	**0.90 280**		*eP*	**Pb**	**14 12 51.2**	**-0.6**
ETLH				*eS*	**Sb**	**14 13 03.0**	**-0.6**
LXIB	**Xiulin Townshi**	**0.95 268**		*eP*	**Pn**	**14 12 52.7**	**+0.8**
LXIB				*eS*	**Sb**	**14 13 04.3**	**-0.8**
LATG	**Datong**	**0.97 300**		*eP*	**Pn**	**14 12 52.9**	**+0.8**
TWE	**Neicheng**	**0.97 313**		P	**Pn**	**14 12 52.8**	**+0.8**
TWE				*eS*	**Sb**	**14 13 04.9**	**-0.7**
ENTT	**Nioudou**	**0.99 306**		P	**Pn**	**14 12 53.3**	**+1.0**
ENTT				S	**Sn**	**14 13 06.1**	**+0.8**
EGFH	**Guangfu**	**1.01 248**		*eS*	**Sb**	**14 13 06.2**	**-0.6**
WARBT	**Fenglin Townsh**	**1.03 251**		*eP*	**Pn**	**14 12 52.6**	**-0.2**
TWB1	**Santiao Chiao**	**1.03 336**		*eP*	**Pn**	**14 12 53.5**	**+0.6**
TWB1				*eS*	**Sn**	**14 13 07.0**	**+0.8**
NNSB	**Datong**	**1.04 291**		*eP*	**Pb**	**14 12 54.0**	**-0.4**
NNSB				*eS*	**Sb**	**14 13 07.1**	**-0.7**
FUSB	**Fushanzhiwuyua**	**1.05 312**	⇓	*iP*	**Pb**	**14 12 54.5**	**+0.1**
FUSB				*eS*	**Sb**	**14 13 08.1**	**+1.3**
NNS	**Nan Shan**	**1.05 291**		*eP*	**Pb**	**14 12 54.3**	**-0.2**
NNS				*eS*	**Sb**	**14 13 07.5**	**-0.6**
TIPB	**Shuangxi**	**1.07 328**		*eP*	**Pb**	**14 12 54.2**	**-0.5**
TIPB				*eS*	**Sb**	**14 13 07.5**	**-1.0**
WHF	**Hehuan Shan**	**1.09 275**		*eP*	**Pn**	**14 12 54.6**	**+0.6**
HGSD	**Ruisui**	**1.10 239**		*eP*	**Pn**	**14 12 54.0**	**+0.3**
FUSS	**Fushou**	**1.12 280**		*eP*	**Pn**	**14 12 55.1**	**+0.8**
NWLT	**Wulai**	**1.12 310**		*eP*	**Pb**	**14 12 55.3**	**-0.3**
NWLT				*eS*	**Sn**	**14 13 09.9**	**+1.5**
YHNB	**Yeheng**	**1.15 302**	⇓	*iP*	**Pb**	**14 12 55.8**	**-0.4**
YHNB				*eS*	**Sb**	**14 13 10.2**	**-0.7**
SXI1	**Grass Mountain**	**1.16 333**		P	**Pn**	**14 12 55.2**	**+0.6**
SXI1				*eS*	**Sb**	**14 13 09.6**	**-1.3**
NSK	**Sanguang**	**1.17 302**		*eP*	**Pb**	**14 12 55.9**	**-0.6**
NSK				*eS*	**Sb**	**14 13 10.7**	**-0.7**
OWD	**Renai**	**1.17 265**		*eP*	**Pn**	**14 12 55.4**	**+0.5**
IRIF	**Iriomote-Funau**	**1.20 76**		*eP*	**Pb**	**14 12 56.7**	**-0.1**
WUSB	**Renai**	**1.22 267**		*eP*	**Pn**	**14 12 56.4**	**+0.8**
WUSB				*eS*	**Sn**	**14 13 11.6**	**+0.6**
YULB	**Yu-li**	**1.25 238**		*eP*	**Pn**	**14 12 56.3**	**+0.4**
YULB				*eS*	**Sn**	**14 13 11.4**	**-0.1**
EYUL	**Yuli**	**1.26 236**		*eP*	**Pn**	**14 12 56.5**	**+0.6**
EYUL				*eS*	**Sn**	**14 13 12.5**	**+0.8**
JKRS	**Kuro-shima**	**1.43 83**		*eP*	**Pb**	**14 13 00.6**	**-0.2**
JKRS				*eS*	**Sb**	**14 13 20.0**	**+1.3**
LIOB	**Emei**	**1.43 294**		*eP*	**Pb**	**14 13 00.2**	**-0.6**
LIOB				*eS*	**Sb**	**14 13 18.5**	**-0.3**
EDH	**Donghe**	**1.51 224**		*eP*	**Pn**	**14 12 59.8**	**+0.4**
EDH				*eS*	**Sn**	**14 13 16.7**	**-1.2**
JIJ	**Ishigaki jima**	**1.57 79**		*eP*	**Pn**	**14 13 01.6**	**+1.3**
JIJ				*eS*	**Sb**	**14 13 21.4**	**-1.3**
ALS	**Alishan**	**1.60 250**		*eP*	**Pn**	**14 13 02.2**	**+1.3**
LDUT	**Ludao**	**1.65 213**		*eP*	**Pn**	**14 13 01.1**	**-0.2**
LDUT				*eS*	**Sn**	**14 13 19.8**	**-1.6**
JISG	**Ishigakijimahi**	**1.78 72**		*eP*	**Pn**	**14 13 04.5**	**+1.4**
JISG				*eS*	**Sb**	**14 13 26.6**	**-2.0**
TPUB	**Ta-pu**	**1.83 246**		*eP*	**Pn**	**14 13 06.1**	**+2.2**
TPUB				*eS*	**Sb**	**14 13 29.8**	**-0.4**

*IDC **06** 14:15:06.8±2.0,9°81S×66°09E, h0km, mb4.0/13, mbtmp4.0/13, MS3.8/24, Error ellipse: s-maj=58.3km s-min=24.3km az=165.0*
*NEIC **06** 14:15:08.5±1.3,9°9S±0°2×66°1E±0°1, h10km±2km, mb4.5/25, Error ellipse: s-maj=27.8km s-min=21.3km az=157.0*
*GCMT **06** 14:15:09.5±0.3, 10°49S±0°04×66°25E±0°04, h13km±1km, MW4.8/82, Moment Tensor Solution. s13,c13; s82,c100; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.52±.15; Mθθ=0.55±.09; Mφφ=0.97±.10; Mrθ=-0.46±.33; Mφθ=-0.62±.05; Mφr=0.70±.28; Best double couple: M0=1.69000×10^16 NP1:φs=145.00000°, δ60.00000°, λ=-89.00000°. NP2: φs=324.00000°, δ30.00000°, λ=-92.00000°. Principal axes: T 1.6370, Plg15.0000°, Azm235.0000°; N 0.1120, Plg1.0000°, Azm325.0000°; P -1.7440, Plg75.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 14:15:07.6±1.1,9°9S±0°2×66°1E±0°1, h10km, n66, σ0°73/40, mb4.3/23, MS3.9/24, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**6.66 71**		T	T	14 23 34.6	
baz=245,slow=76,SNR=111							
H08S3	**Diego Garcia H**	**6.67 71**		T	T	14 23 35.8	
baz=245,slow=76,SNR=131							
H08S2	**Diego Garcia H**	**6.67 71**		T	T	14 23 38.6	
baz=245,slow=76,SNR=128							
KIBK	**Kibwezi**	**28.90 283**		P	**P**	**14 21 06.4**	**-0.8**
KMBO	**Kilima Mbogo**	**30.02 285**		P	**P**	**14 21 16.8**	**-0.5**
KMBO	**Kilima Mbogo**	**30.02 285**		P	**P**	**14 21 16.5**	**-0.8**
1.1nm,0.3s,baz=79,slow=9.8,SNR=3.7							
KMBO				LR	LR	14 31 52.8	
comp=Z,135nm,18.1s,baz=99,slow=34							
1.1nm,0.3s							
FURI	**Furi**	**33.11 303**		LR	LR	14 32 24.7	
comp=Z,38nm,20.3s,baz=160,slow=31							
GSI	**Gunungsitoli**	**33.22 72**		P	**P**	**14 21 44.4**	**-0.8**
RPSI	**Rantau Prapat**	**34.97 71**		P	**P**	**14 22 00.4**	**0.0**
UOSS	**Minazif**	**35.97 345**		P	**P**	**14 22 08.1**	**-0.7**
MBAR	**Mbarara**	**36.40 283**		LR	LR	14 35 35.3	
comp=Z,101nm,18.3s,baz=85,slow=34							
LSZ	**Lusaka**	**37.38 258**		P	**P**	**14 22 20.9**	**-0.3**
MATP	**Matopo**	**37.71 249**		LR	LR	14 36 18.1	
comp=Z,109nm,19.0s,baz=60,slow=34							
BRDH	**Bariadhala**	**40.91 37**		LR	LR	14 39 38.7	
comp=Z,203nm,19.4s,baz=216,slow=36							
LBTB	**Lobatse**	**41.30 243**		LR	LR	14 37 38.8	
comp=Z,220nm,21.4s,baz=70,slow=33							
BOSA	**Boshof**	**42.57 238**		LR	LR	14 39 32.5	
comp=Z,138nm,18.1s,baz=35,slow=34							
CMAR	**Chiang Mai Arr**	**42.92 49**		P	**P**	**14 23 07.5**	**+0.6**
0.4nm,0.3s,baz=243,slow=10,SNR=6.0							
CMAR				LR	LR	14 41 09.3	
comp=Z,59nm,18.2s,baz=245,slow=36							
0.4nm,0.3s							
LSA	**Lhasa**	**46.17 31**		P	**P**	**14 23 32.7**	**-0.6**
LSA				IAmb	IAmb	14 23 37.0	
comp=Z,9.5nm,1.3s							
SUR	**Sutherland**	**47.37 235**		LR	LR	14 41 20.0	
comp=Z,112nm,19.7s,baz=108,slow=33							
TSUM	**Tsumeb**	**47.76 253**		LR	LR	14 43 19.7	
comp=Z,165nm,18.9s,baz=144,slow=36							
SIMJ	**Simiganj**	**48.39 3**		P	**P**	**14 23 50.7**	**+0.6**
SIMJ				IAmb	IAmb	14 23 52.9	
comp=Z,6.9nm,1.4s							
GAR	**Garm**	**48.81 4**		P	**P**	**14 23 53.8**	**+0.5**
EIL	**Elat**	**49.51 324**		LR	LR	14 43 29.0	
comp=Z,47nm,18.8s,baz=69,slow=34							
H01W3	**Cape Leeuwin H**	**50.26 127**		T	T	15 17 33.3	
baz=288,slow=75,SNR=16							
H01W2	**Cape Leeuwin H**	**50.26 127**		T	T	15 17 39.5	
baz=288,slow=75,SNR=14							
H01W1	**Cape Leeuwin H**	**50.27 127**		T	T	15 17 35.8	
baz=288,slow=75,SNR=20							
ARSB	**Arslanbob**	**51.37 7**		P	**P**	**14 24 11.2**	**-1.4**
NRN	**Naryn**	**51.89 9**		P	**P**	**14 24 16.0**	**-0.8**
WUS	**Wushi**	**52.27 12**		P	**P**	**14 24 20.4**	**+1.0**
WUS				IAmb	IAmb	14 24 52.6	
comp=Z,5.8nm,1.3s							
KDJ	**Kajisay**	**52.77 10**		P	**P**	**14 24 22.8**	**-0.4**
KDJ				IAmb	IAmb	14 24 30.8	
comp=Z,5.6nm,1.3s							
AAK	**Ala-Archa**	**52.85 8**		P	**P**	**14 24 24.1**	**+0.4**
GURO	**Guroymak-BITLI**	**53.20 336**		P	**P**	**14 24 26.2**	**-0.1**
GURO				IAmb	IAmb	14 24 36.4	
comp=Z,3.7nm,0.6s							
MAW	**Mawson**	**57.66 181**		LR	LR	14 44 50.5	
comp=Z,129nm,18.9s,baz=18,slow=31							
FITZ	**Fitzroy Crossi**	**58.10 105**		LR	LR	14 49 47.7	
comp=Z,90nm,18.0s,baz=338,slow=36							
MKAR	**Makanchi Array**	**58.27 13**		P	**P**	**14 25 01.5**	**-0.9**
comp=Z,0.8nm,0.9s,baz=197,slow=6.9,SNR=3.4							
comp=Z,0.8nm,0.9s							
ABKAR	**Akbulak array**	**59.16 355**		P	**P**	**14 25 09.0**	**+0.5**
ABKAR				IAmb	IAmb	14 25 10.5	
comp=Z,4.3nm,1.1s							
KURBB	**Kurchatov Arra**	**61.24 9**		P	**P**	**14 25 23.0**	**+0.3**
comp=Z,0.7nm,0.2s,baz=204,slow=7.0,SNR=10							
comp=Z,0.7nm,0.2s							
KURK	**Kurchatov**	**61.34 9**		P	**P**	**14 25 23.7**	**+0.3**
KURK				IAmb	IAmb	14 25 25.7	
comp=Z,5.6nm,1.1s							
DAV	**Davao City (W)**	**61.56 76**		LR	LR	14 49 55.9	
comp=Z,68nm,21.4s,baz=285,slow=34							
BVAR	**Borovoye Array**	**62.79 3**		P	**P**	**14 25 33.6**	**+0.5**
comp=Z,1.0nm,0.8s,baz=166,slow=6.9,SNR=6.7							
comp=Z,1.0nm,0.8s							
BRVK	**Borovoye**	**62.82 3**		P	**P**	**14 25 33.9**	**+0.6**
ZAA0	**Zalesovo Array**	**65.56 12**		P	**P**	**14 25 51.3**	**+0.1**
ZAA0				IAmb	IAmb	14 26 03.4	
comp=Z,4.6nm,1.1s							
ZALV	**Zalesovo Beam**	**65.56 12**		P	**P**	**14 25 50.7**	**-0.6**
comp=Z,1.4nm,0.8s,baz=206,slow=6.4,SNR=8.0							
comp=Z,1.4nm,0.8s							
SONM	**Songino Array**	**67.65 28**		P	**P**	**14 26 05.8**	**+0.8**
comp=Z,2.2nm,0.9s,baz=226,slow=6.4,SNR=12							
comp=Z,2.2nm,0.9s							
TORD	**Torodi Ar. Bea**	**67.95 289**		P	**P**	**14 26 07.5**	**+0.1**
comp=Z,1.0nm,1.1s,baz=75,slow=7.6,SNR=2.4							
TORD				LR	LR	14 53 59.2	
comp=Z,76nm,19.0s,baz=336,slow=34							
comp=Z,1.0nm,1.1s							
ULN	**Ulaanbaatar**	**67.98 28**		P	**P**	**14 26 06.8**	**-0.3**
ULN				IAmb	IAmb	14 26 09.2	
comp=Z,4.8nm,1.1s							
AKASG	**Malin Array Be**	**68.35 336**		P	**P**	**14 26 09.2**	**+0.1**
comp=Z,0.2nm,0.3s,baz=127,slow=5.0,SNR=7.6							
comp=Z,0.2nm,0.3s							
JOW	**Kunigami**	**70.45 57**		LR	LR	14 57 42.6	
comp=Z,102nm,19.5s,baz=228,slow=36							
DBIC	**Dimbokro**	**72.60 280**		LR	LR	14 57 08.8	
comp=Z,91nm,18.8s,baz=78,slow=35							
KSRS	**Korea Array**	**74.50 47**		LR	LR	14 59 41.5	
comp=Z,56nm,20.3s,baz=225,slow=36							
JNU	**Nakatsue**	**74.94 52**		LR	LR	15 00 38.7	
comp=Z,85nm,18.5s,baz=201,slow=36							
FUORN	**Ofenpass-Fuorn**	**75.10 324**		P	**P**	**14 26 49.8**	**-0.5**
FUORN				IAmb	IAmb	14 26 52.4	
comp=Z,10nm,1.4s							
FINES	**FINESS Array B**	**77.74 342**		P	**P**	**14 27 04.7**	**+0.2**
comp=Z,2.2nm,0.9s,baz=201,slow=7.4,SNR=2.8							
comp=Z,2.2nm,0.9s							
QSPA	**South Pole Qui**	**80.14 180**		LR	LR	14 57 54.7	
comp=Z,71nm,18.8s,baz=310,slow=32							
JSG	**Sagara**	**81.17 53**		P	**P**	**14 27 21.8**	**-2.0**
HFS	**Hagfors**	**81.22 336**		P	**P**	**14 27 24.2**	**+0.7**
comp=Z,4.0nm,0.9s,baz=129,slow=14,SNR=4.7							
comp=Z,4.0nm,0.9s							
ESDC	**Sonseca Array**	**81.37 313**		P	**P**	**14 27 25.8**	**+0.9**
comp=Z,1.5nm,1.0s,baz=68,slow=0.8,SNR=5.1							
comp=Z,1.5nm,1.0s							
MJAR	**Matsushiro Arr**	**81.78 51**		P	**P**	**14 27 27.2**	**+0.1**
comp=Z,1.2nm,0.7s,baz=237,slow=13,SNR=5.1							
MJAR				LR	LR	15 01 54.7	
comp=Z,63nm,21.8s,baz=216,slow=34							
comp=Z,1.2nm,0.7s							
JHJ	**Hachijo jima 2**	**81.96 54**		LR	LR	15 03 22.2	
comp=Z,43nm,20.3s,baz=285,slow=35							
YAK	**Yakutsk**	**86.78 25**		LR	LR	15 06 55.0	
comp=Z,92nm,20.0s,baz=226,slow=36							
PMSA	**Palmer Station**	**96.77 199**		LR	LR	15 03 42.0	
comp=Z,47nm,18.6s,baz=240,slow=30							
P40A	**Paris**	**144.67 330**			**PKPab**	**14 34 44.1**	**+0.4**
RLMT	**Red Lodge**	**144.69 354**			**PKPab**	**14 34 44.1**	**+0.2**
RSSD	**Black Hills**	**144.87 348**			**PKPab**	**14 34 44.1**	**-0.4**
PDAR	**Pinedale Array**	**147.05 354**		PKPbc	**PKPdf**	**14 34 50.8**	**+1.4**
comp=Z,0.9nm,0.9s,baz=45,slow=0.8,SNR=6.8							
NVAR	**Mina Array Bea**	**151.32 7**		PKPbc	**PKPbc**	**14 35 03.1**	**+0.8**
comp=Z,2.7nm,0.8s,baz=264,slow=1.0,SNR=16							

*SJA **06** 14:19:06.8±0.7,23°74S×66°64W, h201km±8km, ML3.4, MW3.3*
*GUC **06** 14:19:10.9±0.6,23°38S×67°23W, h248km±14km, ML3.5*
ISC 06 14:19:06.8±2.3,23°58S±0°06×66°82W±0°10, h228km±19km, n23, σ1°54/36, 1C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.65 134**		*eP*	Pn	14 19 40.5	-3.9
YJA	**Yavi**	**1.84 41**		*eP*	**Pn**	**14 19 47.1**	**+0.6**
LVC	**Limon Verde**	**2.16 296**		*eP*	**Pn**	**14 19 50.7**	**+1.3**
LVC				*eS*	**S**	**14 20 22.7**	**+0.2**
PB15	**IPOC Station P**	**2.47 278**	⇑	*eP*	**Pn**	**14 19 53.6**	**+1.2**
PB15				*eS*	**S**	**14 20 26.7**	**-1.2**
PB15	**IPOC Station P**	**2.47 278**		*eP*	**Pn**	**14 19 53.0**	**+0.6**
PB15				*eS*	**S**	**14 20 28.1**	**+0.2**
PB15				IAML		14 20 33.2	
comp=Z,245nm,0.4s							
PB06	**IPOC Station P**	**2.68 288**		*eP*	**Pn**	**14 19 55.6**	**+0.9**
PB06				*eS*	**S**	**14 20 29.9**	**-2.1**
PB06				IAML		14 20 32.5	
comp=E,87nm,0.2s							
PB06	**IPOC Station P**	**2.68 288**		*eP*	**Pn**	**14 19 56.0**	**+1.4**
PB06				*eS*	**S**	**14 20 31.9**	**0.0**
PB06				IAML		14 20 34.8	
comp=Z,65nm,0.2s							
PB09	**IPOC Station P**	**2.86 308**		*eP*	**Pn**	**14 19 57.5**	**+0.9**
PB09				*eS*	**S**	**14 20 32.9**	**-2.6**
PB09				IAML		14 20 40.7	
comp=N,45nm,0.2s							
PB09	**IPOC Station P**	**2.86 308**		*eP*	**Pn**	**14 19 58.3**	**+1.7**
PB09				*eS*	**S**	**14 20 35.6**	**+0.1**
PB09				IAML		14 20 41.5	
comp=Z,33nm,0.6s							
GO02	**Mina Guanaco**	**2.98 237**		IAML		14 20 39.0	
comp=N,97nm,0.3s							
GO02	**Mina Guanaco**	**2.98 237**		*eP*	**Pn**	**14 19 59.5**	**+1.4**
PB04	**IPOC Station P**	**3.31 291**		*eP*	**Pn**	**14 20 02.6**	**+0.9**
PB04				IAML		14 20 47.3	
comp=N,77nm,0.1s							
PB04	**IPOC Station P**	**3.31 291**		*eP*	**Pn**	**14 20 03.0**	**+1.3**
PB04				*eS*	**S**	**14 20 43.8**	**-0.9**
PB04				IAML		14 20 46.5	
comp=Z,64nm,0.2s							
PB14	**IPOC Station P**	**3.44 252**		*eP*	**Pn**	**14 20 04.5**	**+1.1**
PB14				*eS*	**S**	**14 20 46.1**	**-1.6**
PB14	**IPOC Station P**	**3.44 252**		*eP*	**Pn**	**14 20 04.3**	**+0.9**
PB14				*eS*	**S**	**14 20 46.2**	**-1.5**
PB14				IAML		14 21 15.1	
comp=Z,22nm,2.1s							
PB01	**IPOC Station P**	**3.53 315**		*eP*	**Pn**	**14 20 05.1**	**+0.8**
PB01	**IPOC Station P**	**3.53 315**		*eP*	**Pn**	**14 20 05.4**	**+1.1**
PB01				*eS*	**S**	**14 20 48.1**	**-1.2**
PB01				IAML		14 20 50.1	
comp=Z,53nm,0.3s							
PB08	**IPOC Station P**	**4.05 327**		*eP*	**Pn**	**14 20 12.1**	**+1.4**
PB08	**IPOC Station P**	**4.05 327**		*eP*	**Pn**	**14 20 13.0**	**+2.3**
PB08				*eS*	**S**	**14 21 00.8**	**-0.1**
PB08				IAML		14 21 03.1	
comp=Z,21nm,0.2s							
PATCX	**Punta Patache**	**4.13 311**		*eP*	**Pn**	**14 20 14.4**	**+3.0**
AC01	**Pan de Azucar**	**4.29 233**		*eP*	**Pn**	**14 20 13.5**	**+0.4**
AC01				*eS*	**S**	**14 21 04.1**	**-1.4**
AC01				IAML		14 21 42.7	
comp=Z,27nm,3.7s							
PB11	**IPOC Station P**	**4.63 325**		*eP*	**Pn**	**14 20 18.1**	**+0.6**
PB11				*eS*	**S**	**14 21 09.9**	**-3.5**
PB11	**IPOC Station P**	**4.63 325**		*eP*	**Pn**	**14 20 17.9**	**+0.4**
PB11				*eS*	**S**	**14 21 10.8**	**-2.6**
PB11				IAML		14 21 14.1	
comp=Z,31nm,2.0s							

*IDC **06** 14:19:46.9±2.8,4°86S×132°33E, h0km, mb3.5/1, mbtmp3.7/4, ML3.9/3, Error ellipse: s-maj=124.7km s-min=29.2km az=79.0*
*NEIC **06** 14:19:48.8±1.7,4°75S±0°07×132°33E±0°08, h10km±2km, mb4.2/8, Error ellipse: s-maj=14.1km s-min=11.6km az=124.0*
*DJA **06** 14:19:53.2±0.4,5°S±4°×13°3E±°, h50km±38km, M4.4/11, mb4.6/3, mB5.2/4, MLv4.2/11, Mw(mB)4.5/4*
ISC 06 14:19:48.0±0.6,4°70S±0°06×132°53E±0°05, h10km, n32, σ1°75/34, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**1.56 49**		P	**Pn**	**14 20 17.6**	**+1.7**
KMPI				S	**Sn**	**14 20 35.1**	**-1.1**
FAKI	**Fak Fak**	**1.79 351**			**Pn**	**14 20 19.7**	**+0.6**
FAKI	**Fak Fak**	**1.79 351**		P	**Pn**	**14 20 20.0**	**+0.9**
FAKI				S	**Sn**	**14 20 40.3**	**-1.6**
BNDI	**Bandanaira**	**2.62 274**		P	**Pn**	**14 20 33.1**	**+2.7**
BNDI				S	**Sn**	**14 21 02.2**	**-0.1**
SAUI	**Saumlaki**	**3.48 200**		P	**Pb**	**14 20 49.6**	**-0.2**
RKPI	**Ransiki, Papua**	**3.57 27**		P	**Pn**	**14 20 45.9**	**+2.4**
MSAI	**Masohi**	**3.84 290**		P	**Pn**	**14 20 49.6**	**+2.4**
SWI	**Sorong**	**4.02 342**		P	**Pn**	**14 20 49.5**	**-0.2**
AAI	**Ambon**	**4.44 283**		P	**Pn**	**14 20 58.1**	**+2.6**
NLAI	**Namlea**	**5.61 285**		P	**Pn**	**14 21 15.9**	**+4.4**
SANI	**Sanana**	**7.04 292**		P	**Pn**	**14 21 31.1**	**-0.1**
32nm,0.4s,768nm0.2nm							
MTN	**Manton Dam**	**8.21 190**		Pn	**Pn**	**14 21 48.4**	**+1.2**
TABU	**Tabubil**	**8.68 94**		P	**Pg**	**14 22 32.9**	**-1.4**
SOEI	**Soe**	**9.61 238**		Pn	**Pn**	**14 22 04.9**	**-1.7**
LUWI	**Luwuk**	**10.40 290**		Pn	**Pn**	**14 22 16.1**	**-1.2**
KNRA	**Kununurra**	**11.52 198**			**Pn**	**14 22 32.6**	**0.0**
FITZ	**Fitzroy Crossi**	**14.92 206**		Pn	**Pn**	**14 23 16.9**	**-2.3**
FITZ	**Fitzroy Crossi**	**14.92 206**		Pn	Pn	14 23 15.5	-3.7
1.0nm,0.3s,baz=34,slow=11,SNR=24							
FITZ				Sn	Sn	14 25 51.3	-13
0.5nm,0.3s,baz=297,slow=16,SNR=2.9							
3.2nm,0.4s							
WB0	**Warramunga Arr**	**15.08 173**		Pn	**Pn**	**14 23 19.9**	**-1.5**
WB0				IAmb	IAmb	14 23 48.0	
comp=Z,9.7nm,1.4s							
WRAB	**Tennant Creek**	**15.24 173**		Pn	**Pn**	**14 23 22.2**	**-1.3**
WRAB				IAmb	IAmb	14 24 01.6	
comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**15.25 174**		Pn	**Pn**	**14 23 20.1**	**-3.5**
comp=Z,0.3nm,0.3s,baz=355,slow=13,SNR=23							
WRA				Sn	Sn	14 26 02.5	-10
comp=Z,0.7nm,0.3s,baz=6.5,slow=22,SNR=2.5							
comp=Z,0.3nm,0.4s							
WR0	**Warramunga Arr**	**15.29 173**		Pn	**Pn**	**14 23 22.4**	**-1.7**
AS31	**Alice Springs**	**18.90 176**		P	**P**	**14 24 08.4**	**-0.5**
ASAR	**Alice Springs**	**18.90 176**		P	**P**	**14 24 08.5**	**-0.5**
ASAR	**Alice Springs**	**18.90 176**		P	**P**	**14 24 08.7**	**-0.2**
comp=Z,0.2nm,0.3s,baz=352,slow=10,SNR=17							
comp=Z,1.6nm,0.7s							
MBWA	**Marble Bar**	**20.54 216**		P	**P**	**14 24 25.3**	**-1.5**
PSA00	**Pilbara Seismi**	**20.80 215**		Pn	**P**	**14 24 31.1**	**+1.5**
PSA00				IAmb	IAmb	14 24 31.8	
comp=Z,8.4nm,0.7s							
HNR	**Honiara**	**27.60 101**		P	**P**	**14 25 37.8**	**+1.9**
ARMA	**Armidale**	**31.29 147**		P	**P**	**14 26 09.4**	**+0.9**
USA0B	**Ussuriysk Arra**	**48.68 359**		P	**P**	**14 28 32.8**	**+0.3**
USA0B				IAmb	IAmb	14 28 48.7	
comp

comp=Z,3.0nm,0.4s
EIDS Eidsvold 19.41 171 P P 14 25 16.0 -0.7
EIDS Eidsvold 19.41 171 P P 14 25 16.0 -0.7
AAI Ambon 19.50 276 P P 14 25 18.5 +0.8
GUMO Guam 19.78 352 LR LR 14 33 04.9
comp=Z,126nm,18.2s,baz=155,slow=38
QLP Quilpie 20.59 189 P P 14 25 29.9 +0.5
QLP Quilpie 20.59 189 P P 14 25 29.7 +0.3
KNRA Kununurra 20.78 241 P P 14 25 30.5 -1.1
KNRA IAmb IAmb 14 25 52.4
comp=Z,17nm,0.9s
AS01 Alice Springs 21.83 216 P P 14 25 45.7 +2.8
comp=Z,18nm,0.7s
AS01 Alice Springs 21.83 216 P P 14 25 44.1 +1.2
comp=Z,18nm,0.7s
AS31 Alice Springs 21.86 216 P P 14 25 42.0 -1.1
ASAR Alice Springs 21.86 216 P P 14 25 42.3 -0.8
ASAR Alice Springs 21.86 216 P P 14 25 41.9 -1.3
comp=Z,5.6nm,0.6s,baz=53,slow=8.1,SNR=31
ASAR PcP **PcP 14 29 40.2 -1.3**
comp=Z,3.0nm,1.0s,baz=31,slow=2.1,SNR=6.4
ASAR ScP **ScP 14 33 17.8 +3.0**
comp=Z,1.7nm,0.8s,baz=53,slow=3.0,SNR=9.1
comp=Z,5.6nm,0.6s
SANI Sanana 21.95 280 P P 14 25 49.8 +5.7
SANI Sanana 21.95 280 P P 14 25 49.3 +5.2
SANI Sanana 21.95 280 P P 14 25 46.6 +2.5
INKA Innaminka 22.46 196 P P 14 25 51.7 +2.2
INKA Innaminka 22.46 196 P P 14 25 52.0 +2.5
AULRC Lightning Ridg 23.18 179 P P 14 25 55.8 -1.1
PVC Port Vila 23.27 122 P P 14 25 49.8 -8.1
comp=Z,0.8nm,0.8s
SOEI Soe 23.40 260 P P 14 25 58.4 -1.0
SOEI IAmb IAmb 14 26 25.4
comp=Z,35nm,0.9s
BATI Baumata 24.05 259 P P 14 26 05.2 0.0
comp=Z,23nm,0.6s,baz=112,slow=5.4,SNR=2.5
comp=Z,23nm,0.6s
OOD Oodnadatta 24.34 206 P P 14 26 08.5 +0.8
ARMA Armidale 24.45 172 P P 14 26 08.4 -0.5
ARMA IAmb IAmb 14 26 13.7
comp=Z,11nm,0.8s
ARMA Armidale 24.45 172 P P 14 26 07.7 -1.2
FITZ Fitzroy Crossi 24.52 239 P P 14 26 09.3 -0.2
FITZ Fitzroy Crossi 24.52 239 P P 14 26 08.6 -0.9
comp=Z,30nm,0.6s,baz=47,slow=12,SNR=17
FITZ LR LR 14 36 41.2
comp=Z,156nm,20.9s,baz=358,slow=39
comp=Z,30nm,0.6s
MMRI Maumere 25.29 263 P P 14 26 15.3 -1.3
MMRI IAmb IAmb 14 26 22.4
comp=Z,31nm,0.7s
CMSA Cobar Meteorol 25.34 184 P P 14 26 16.0 -0.8
CMSA Cobar Meteorol 25.34 184 P P 14 26 17.0 +0.2
LCRK Leigh Creek 25.75 199 P P 14 26 21.8 +1.3
AUDCS Dubbo College 25.98 178 P P 14 26 22.7 +0.1
STKA Stephens Creek 26.22 192 P P 14 26 23.4 -1.4
STKA Stephens Creek 26.22 192 P P 14 26 22.3 -2.5
comp=Z,6.8nm,0.8s,baz=11,slow=10,SNR=8.6
STKA LR LR 14 37 11.6
comp=Z,164nm,18.2s,baz=24,slow=37
comp=Z,6.8nm,0.8s
STKA Stephens Creek 26.22 192 P P 14 26 24.6 -0.2
STKA Stephens Creek 26.22 192 P P 14 26 26.3 +1.5
WRKA Warakurna 26.38 222 P P 14 26 27.7 +1.3
MGCD Mangrove Creek 27.14 174 P P 14 26 34.8 +1.8
comp=Z,26nm,0.7s
MULG Mulgathing 27.20 206 P P 14 26 34.3 +0.7
LHI Lord Howe Isla 27.44 158 P P 14 26 36.1 +0.4
KAPI Kappang 27.75 271 P P 14 26 37.6 -1.2
comp=Z,5.2nm,0.9s,baz=128,slow=19,SNR=1.9
comp=Z,5.2nm,0.9s
YNG Young 28.04 179 P P 14 26 43.5 +2.4
comp=Z,15nm,2.8s
HTT Hallett 28.34 195 P P 14 26 45.9 +2.1
BBOO Buckleboo 28.64 201 P P 14 26 50.1 +3.6
comp=Z,19nm,1.6s
PLAI Plampang 29.70 263 P P 14 26 59.0 +2.9
FORT Forrest 30.63 214 P P 14 27 06.8 +2.7
comp=Z,42nm,0.9s
MBWA Marble Bar 30.86 238 P P 14 27 04.8 -1.4
MBWA IAmb IAmb 14 27 39.1
comp=Z,21nm,1.2s
MBWA Marble Bar 30.86 238 P P 14 27 08.5 +2.3
comp=Z,6.2nm,2.0s
PSA00 Pilbara Seismi 30.94 238 P P 14 27 06.1 -0.8
PSA00 IAmb IAmb 14 27 49.5
comp=Z,22nm,1.4s
MLBS Spotswood, Mel 31.65 184 P P 14 27 17.5 +4.6
JAGI Jajag, Banyuwa 33.27 264 P P 14 27 25.6 -1.9
JCJ Chichijima 33.45 351 P P 14 27 28.0 -0.8
MEEK Meekatharra 34.34 230 P P 14 27 37.1 +0.4
KMBL Kambalda 34.80 221 P P 14 27 43.0 +2.4
comp=Z,27nm,2.0s
MORW Morawa 37.54 229 P P 14 28 02.1 -1.9
KLBR Kellerberrin 37.70 224 P P 14 28 05.9 +0.5
comp=Z,44nm,0.8s
TPUB Ta-pu 39.38 319 P P 14 28 19.0 -0.6
SSLB Suanglung 39.52 320 P P 14 28 20.6 0.0
SSLB IAmb IAmb 14 28 47.0
comp=Z,34nm,1.5s
URZ Urewera 41.69 144 LR LR 14 44 50.8
comp=Z,148nm,18.1s,baz=31,slow=35
JNU Nakatsue 42.15 339 P P 14 28 42.4 +0.1
JNU IAmb IAmb 14 29 05.5
comp=Z,26nm,1.2s
JNU Nakatsue 42.15 339 P P 14 28 40.8 -1.5
comp=Z,7.7nm,0.8s,baz=209,slow=10,SNR=3.8
comp=Z,7.7nm,0.8s
JGF Kuroka 42.62 348 P P 14 28 45.7 -0.3
JGF IAmb IAmb 14 28 58.6
comp=Z,16nm,1.1s
RPZ Rata Peaks 42.73 155 P P 14 28 46.8 0.0
RPZ IAmb IAmb 14 28 58.9
comp=Z,12nm,0.9s
RPZ Rata Peaks 42.73 155 P P 14 28 47.1 +0.3
comp=Z,5.7nm,0.8s,baz=237,slow=12,SNR=2.0
comp=Z,5.7nm,0.8s
LBZ Lake Benmore 42.92 156 P P 14 28 48.6 +0.3
LBZ IAmb IAmb 14 29 16.7
comp=Z,32nm,1.3s
MJAR Matsushiro Arr 43.36 349 P P 14 28 50.3 -1.6
comp=Z,5.2nm,0.8s,baz=167,slow=8.6,SNR=11
comp=Z,5.2nm,0.8s
MAJO Matsushiro 43.36 349 P P 14 28 51.1 -0.9
MAJO IAmb IAmb 14 28 55.3
comp=Z,13nm,1.1s
MJB9 Matsu-Tunnel 43.36 349 P P 14 28 51.8 -0.2
MJB9 IAmb IAmb 14 28 56.3
comp=Z,12nm,1.1s
NJ2 Nanjing 46.83 326 *e*P **P 14 29 21.1 +1.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
KSRS Korea Array 47.10 339 P P 14 29 18.5 -3.1
comp=Z,1.4nm,0.7s,baz=154,slow=7.8,SNR=5.8
comp=Z,1.4nm,0.7s
KULM Kulim 48.24 283 P P 14 29 30.0 -0.8
KULM IAmb IAmb 14 29 39.7
comp=Z,11nm,1.2s
GSI Gunungsitoli 50.50 277 P P 14 29 46.5 -1.6
USRK Ussuriysk Ar. 52.05 346 P P 14 29 58.4 -0.8
CMAR Chiang Mai Arr 53.85 298 P P 14 30 11.5 -1.5
comp=Z,0.3nm,0.3s,baz=115,slow=6.1,SNR=1.9
comp=Z,0.3nm,0.3s
XAN Xi'an 54.18 320 P P 14 30 14.3 -0.8
XAN sP sP 14 30 36.2 +1.7
XAN pmax pmax
comp=Z,11nm,1.3s
XAN LR LR
comp=E,130nm,19.9s
XAN LR LR
comp=Z,200nm,18.5s
BNX BinXian 54.71 343 ⇑P **P 14 30 18.7 +0.1**
BNX pmax pmax
comp=Z,7.0nm,1.0s
PZH PanZhiHua 55.02 308 P P 14 30 23.4 +1.9
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,110nm,5.0s
HHC Hu-ho-hao-te 57.27 328 *e*P **P 14 30 38.4 +1.2**
HHC pmax pmax
comp=Z,81nm,4.7s
HHC pmax pmax
comp=Z,81nm,4.9s
PETK Petropavlovsk- 59.63 7 LR LR 14 51 34.5
comp=Z,53nm,21.8s,baz=211,slow=31
GTA Gaotai 63.24 320 *e*P **P 14 31 20.8 +2.7**
GTA pP pP 14 31 34.6 +2.6
GTA pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 64.82 331 P P 14 31 27.6 -0.8
SONM IAmb IAmb 14 31 28.9
comp=Z,5.6nm,1.2s
SONM Songino Array 64.82 331 P P 14 31 27.2 -1.1
comp=Z,3.9nm,1.1s,baz=152,slow=7.1,SNR=14
comp=Z,3.9nm,1.1s
MA2 Magadan 65.55 2 LR LR 14 59 35.5
comp=Z,20nm,19.0s,baz=231,slow=36
MK31 Makanchi Array 77.99 320 P P 14 32 46.2 -1.5
MK31 IAmb IAmb 14 32 46.6
comp=Z,4.3nm,1.2s
MKAR Makanchi Array 77.99 320 P P 14 32 46.7 -0.9
MKAR Makanchi Array 77.99 320 P P 14 32 45.4 -2.3
comp=Z,0.9nm,0.4s,baz=98,slow=7.8,SNR=15
comp=Z,0.9nm,0.4s
MAKZ Makanchi 78.19 320 P P 14 32 47.7 -1.1
MAKZ IAmb IAmb 14 32 48.8
comp=Z,8.6nm,1.2s
OHAK Old Harbor 79.12 28 P P 14 32 53.4 -0.1
OHAK IAmb IAmb 14 33 36.0
comp=Z,12nm,1.2s
ZAA0 Zalesovo Array 79.45 328 P P 14 32 53.1 -2.3
ZALV Zalesovo Beam 79.45 328 P P 14 32 53.1 -2.4
ZALV Zalesovo Beam 79.45 328 P P 14 32 52.8 -2.7
comp=Z,2.8nm,0.6s,baz=105,slow=5.6,SNR=11
comp=Z,2.8nm,0.6s
KURBB Kurchatov Arra 81.70 323 P P 14 33 04.4 -3.2
comp=Z,0.8nm,0.3s,baz=112,slow=4.3,SNR=5.6
comp=Z,0.8nm,0.3s
MAW Mawson 82.36 203 P P 14 33 09.5 -1.3
comp=Z,0.7nm,0.7s,baz=63,slow=13,SNR=2.2
comp=Z,0.7nm,0.7s
KTH Kantishna Hill 83.23 23 P P 14 33 15.5 +0.1
KTH IAmb IAmb 14 33 45.1
comp=Z,15nm,0.8s
QSPA South Pole Qui 83.83 180 P P 14 33 17.7 -0.9
QSPA IAmb IAmb 14 33 20.0
comp=Z,6.6nm,0.9s
QSPA South Pole Qui 83.83 180 P P 14 33 17.3 -1.3
comp=Z,5.2nm,0.7s,baz=329,slow=1.3,SNR=28
comp=Z,5.2nm,0.7s
RND Reindeer 83.99 24 P P 14 33 19.6 +0.3
ILAR Eielson Array 85.36 23 P P 14 33 23.6 -2.5
comp=Z,0.5nm,0.5s,baz=247,slow=5.2,SNR=8.9
comp=Z,0.5nm,0.5s
NRIK Noril'sk 85.59 342 P P 14 33 25.0 -2.1
comp=Z,0.9nm,0.3s,baz=127,slow=4.3,SNR=2.8
comp=Z,0.9nm,0.3s
YAH Yahtse 85.89 28 P P 14 33 29.0 -0.1
BVAR Borovoye Array 87.24 324 P P 14 33 32.5 -3.0
comp=Z,1.3nm,0.6s,baz=101,slow=7.7,SNR=4.6
comp=Z,1.3nm,0.6s
I28M Miner Creek 88.35 23 P P 14 33 41.6 +0.9
YKA Yellowknife Ar 99.00 28 LR LR 15 14 03.8
comp=Z,57nm,19.9s,baz=288,slow=32
PLCA Paso Flores 121.67 147 PKP **PKPdf 14 39 43.2 -0.1**
comp=Z,1.1nm,0.8s,baz=144,slow=0.5,SNR=4.0
LPAZ La Paz 138.20 123 PKP **PKPdf 14 40 13.8 -2.0**
comp=Z,1.4nm,0.7s,baz=333,slow=2.3,SNR=3.4
CPUP Villa Florida 139.67 144 PKP **PKPdf 14 40 16.4 -1.2**
comp=Z,3.2nm,1.0s,baz=203,slow=5.0,SNR=4.9
TORD Torodi Ar. Bea 145.72 284 PKPbc **PKPdf 14 40 27.4 -1.2**
comp=Z,8.0nm,0.6s,baz=64,slow=4.1,SNR=39
DBIC Dimbokro 152.64 273 PKPbc **PKPbc 14 40 45.5 -1.2**
comp=Z,3.4nm,0.6s,baz=83,slow=2.2,SNR=9.6
DBIC PKPab **pPKPdf 14 40 56.4 +1.1**
comp=Z,2.5nm,0.5s,baz=51,slow=2.8,SNR=6.0
BDFB Brasilia 153.40 145 PKPbc **PKPbc 14 40 47.8 -0.6**
comp=Z,4.2nm,0.6s,baz=206,slow=3.2,SNR=4.9
BDFB PKPab **pPKPdf 14 40 59.0 +2.9**
comp=Z,4.0nm,0.7s,baz=198,slow=3.7,SNR=4.4

BJI ***06*** *14:26:48.0, 46˚.45N×151˚.03E, h108km, mb5.1/72, mB4.8/23*
SKHL ***06*** *14:26:49.4±0.4, 46˚.10N×151˚.20E, h117km±9km, mb5.6/13, mbv5.8/5, ms4.2/1, msh5.3/3, msha6.1/8*
NEIC ***06*** *14:26:50.3±2.0, 46˚.4N±0˚.1×150˚.7E±0˚.1, h93km±7km, mb4.8/286, Error ellipse: s-maj=18.5km s-min=10.9km az=136.0*
MOS ***06*** *14:26:50.3±1.2, 46˚.26N×150˚.82E, h115km, mb5.0/72, Error ellipse: s-maj=5.9km s-min=4.3km az=104.5*
IDC ***06*** *14:26:50.6±0.4, 46˚.46N×150˚.68E, h99km±2km, mb4.4/33, mbtmp4.8/39, MS3.6/38, Error ellipse: s-maj=9.4km s-min=8.0km az=126.0*
JMA ***06*** *14:26:53.0±0.7, 45˚.N±3˚×15˚.1E±˚, h124km, MV4.5/17, KURILE ISLANDS REGION*
NIED ***06*** *14:26:53.0, 45˚.47N×151˚.05E, h124km, MW4.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; M_{rr}0.69; $M_{\theta\theta}$-0.90; $M_{\phi\phi}$0.21; $M_{r\theta}$-0.89; $M_{\theta\phi}$-0.25; $M_{\phi r}$-1.17; Fault plane solution: $M_0$1.69000×10^16 NP1: ϕ_s225.00000°, δ78.00000°, λ70.00000°. NP2: ϕ_s105.00000°, δ23.00000°, λ148.00000°.*
GCMT ***06*** *14:26:54.3±0.3, 46˚.39N±0˚.02×150˚.96E±0˚.03, h99km±4km, MW4.9/104, Moment Tensor Solution. s29, c34; s104, c134; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.29±.14; $M_{\theta\theta}$0.02±.14; $M_{\phi\phi}$0.27±.13; $M_{r\theta}$-2.17±.08; $M_{\theta\phi}$0.75±.17; $M_{\phi r}$-1.78±.06; Best double couple: $M_0$2.87800×10^16 NP1:ϕ_s52.00000°, δ84.00000°, λ-84.00000°. NP2:ϕ_s186.00000°, δ8.00000°, λ-135.00000°. Principal axes: T 3.1580, Plg39.0000°, Azm136.0000°; N -0.5600, Plg6.0000°, Azm231.0000°; P -2.5980, Plg50.0000°, Azm328.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 14:26:50.4±0.3,**46˚.23N**±0˚.04×**150˚.86E**±0˚.03,**h105**km±2km, **h105**km:**pP-P,n865,**σ1939/821,**mb4.8**/279,**34C-30D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.32**	**246**	*i* P	**Pn**	**14 27 29.3**	**+2.0**
KUR				AMB	AMB	14 27 30.2	
KUR	5μm,1.0s			AMB	AMB	14 27 30.7	
KUR	2μm,0.5s			*i* S	**Sn**	**14 27 58.9**	**+3.4**
KUR				A	A	14 28 00.1	
KUR	10μm,3.0s			A	A	14 28 00.1	
KUR	25μm,3.0s			A	A	14 28 08.8	
KUR	4μm,0.7s			A	A	14 28 08.8	
KUR	4μm,0.7s						
KUR	**Kuril'sk**	**2.32**	**246**	*c i*PN	**Pn**	**14 27 29.2**	**+2.0**
KUR				*i* S	**Sn**	**14 27 58.3**	**+2.8**
KUR				pmax	pmax		
KUR	comp=Z,5μm,1.2s			pmax	pmax		
KUR	comp=Z,2μm,0.5s			pmax	pmax		
KUR	comp=N,635nm,0.6s			pmax	pmax		
KUR	comp=E,297nm,0.4s			smax	smax		
KUR	comp=E,25μm,2.0s			smax	smax		
KUR	comp=N,10μm,2.7s			smax	smax		
KUR	comp=N,4μm,0.6s			smax	smax		
KUR	comp=E,2μm,0.3s						
SHO	**Shikotan**	**3.70**	**232**	*e*P	**Pn**	**14 27 44.9**	**-0.8**
SHO				AMB	AMB	14 27 52.2	
SHO	comp=E,200nm,0.5s			*i* S	**Sn**	**14 28 26.7**	**-1.7**
SHO				A	A	14 28 39.9	
SHO	comp=E,1μm,0.4s			A	A	14 28 39.9	
SHO	comp=E,1μm,0.4s						
SHO	**Shikotan**	**3.70**	**232**	*e*PN	**Pn**	**14 27 44.9**	**-0.8**
SHO				*i* S	**Sn**	**14 28 26.7**	**-1.7**
SHO				pmax	pmax		
SHO	comp=Z,202nm,0.5s			pmax	pmax		
SHO	comp=N,37nm,0.2s			pmax	pmax		
SHO	comp=E,113nm,0.2s			smax	smax		
SHO	comp=N,1μm,0.4s			smax	smax		
SHO	comp=E,1μm,0.4s			smax	smax		
YUK	**Yuzh-Kuril'sk**	**4.16**	**240**	*i* P	**Pn**	**14 27 53.5**	**+1.6**
YUK				AMB	AMB	14 28 00.0	
YUK	comp=E,650nm,0.4s			*i* S	**Sn**	**14 28 41.7**	**+2.3**
YUK				A	A	14 28 47.6	
YUK	comp=E,1μm,0.4s			A	A	14 28 47.6	
YUK	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**4.16**	**240**	*d i*PN	**Pn**	**14 27 53.4**	**+1.6**
YUK				*i* S	**Sn**	**14 28 41.8**	**+2.3**
YUK				pmax	pmax		
YUK	comp=E,363nm,0.4s			pmax	pmax		
YUK	comp=Z,647nm,0.4s			pmax	pmax		
YUK	comp=N,226nm,0.2s			smax	smax		
YUK	comp=N,1μm,0.4s			smax	smax		
YUK	comp=E,2μm,0.4s						
NEM2	**Nemuro 2**	**4.63**	**234**	*e*P	**Pn**	**14 27 57.7**	**-0.5**
NEM2				*e*S	**Sn**	**14 28 48.2**	**-2.6**
JRA	**Rausu**	**4.66**	**243**	*e*P	**Pn**	**14 28 00.5**	**+2.0**
JNK	**Nakash**	**5.10**	**241**	*e*P	**Pn**	**14 28 05.9**	**+1.4**
JTKR	**Abashiri--Toko**	**5.41**	**248**	*e*P	**Pn**	**14 28 11.0**	**+2.3**
JAK	**Akkeshi**	**5.46**	**236**	*e*P	**Pn**	**14 28 08.9**	**-0.4**
JAK				*e*S	**Sn**	**14 29 07.8**	**-3.0**
YSS	**Yuzh-Sakhalins**	**5.63**	**280**		**Pn**	**14 28 13.7**	**+2.0**
YSS	**Yuzh-Sakhalins**	**5.63**	**280**	*e*P	**Pn**	**14 28 14.9**	**+3.2**
YSS				AMB	AMB	14 28 16.2	
YSS	comp=E,630nm,0.8s			AMB	AMB	14 28 16.5	
YSS	comp=E,400nm,4.0s			*e*S	**Sn**	**14 29 19.2**	**+4.2**
YSS				A	A	14 29 19.5	
YSS	comp=E,300nm,4.0s			A	A	14 29 19.5	
YSS	comp=E,300nm,4.0s			A	A	14 29 24.7	
YSS	comp=E,180nm,0.8s			A	A	14 29 24.7	
YSS	comp=E,210nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.63**	**280**	*κe*PN	**Pn**	**14 28 14.9**	**+3.2**
YSS				*e*S	**Sn**	**14 29 19.2**	**+4.2**
YSS				pmax	pmax		
YSS	comp=Z,630nm,0.8s			pmax	pmax		
YSS	comp=Z,400nm,3.8s			pmax	pmax		
YSS	comp=N,300nm,3.4s			pmax	pmax		
YSS	comp=E,800nm,5.5s			smax	smax		
YSS	comp=N,300nm,4.2s			smax	smax		
YSS	comp=E,300nm,4.9s			smax	smax		
YSS	comp=N,180nm,0.8s			smax	smax		
YSS	comp=E,210nm,0.8s			MLR	MLR		
YSS	comp=E,500nm,16.0s						
SKR	**Severo-Kuril's**	**5.66**	**36**	*e*P	**Pn**	**14 28 11.4**	**-0.7**
SKR				AMB	AMB	14 28 15.6	
SKR	comp=E,280nm,0.6s			*e*S	**Sn**	**14 29 14.0**	**-1.7**
SKR				A	A	14 29 18.6	
SKR	comp=E,210nm,0.6s			A	A	14 29 18.6	
SKR	comp=E,180nm,0.6s			AMS	AMS	14 31 00.8	
SKR	comp=E,800nm,13.0s			AMS	AMS	14 31 00.8	
SKR	comp=E,1μm,13.0s			AMS	AMS	14 31 00.8	
SKR	comp=E,1μm,13.0s						
SKR	**Severo-Kuril's**	**5.66**	**36**	*e*PN	**Pn**	**14 28 11.3**	**-0.8**
SKR				*e*S	**Sn**	**14 29 14.1**	**-1.7**
SKR				pmax	pmax		
SKR	comp=Z,283nm,0.7s			smax	smax		
SKR	comp=N,185nm,0.5s			smax	smax		
SKR	comp=E,179nm,0.6s			MLR	MLR		
SKR	comp=Z,1μm,13.0s			MLR	MLR		
SKR	comp=N,700nm,14.0s			MLR	MLR		
SKR	comp=E,1μm,12.0s						
JAR	**Ashorobuto**	**5.84**	**242**	*e*P	**Pn**	**14 28 16.4**	**+2.0**
JAR				*e*S	**Sn**	**14 29 20.7**	**+0.7**
JOB	**Onbets**	**6.02**	**239**	*e*P	**Pn**	**14 28 17.1**	**+0.2**
JOB				*e*S	**Sn**	**14 29 22.9**	**-1.5**
JKA	**Kamikawa-asahi**	**6.21**	**253**		**Pn**	**14 28 20.0**	**+0.5**
JKA	**Kamikawa-asahi**	**6.21**	**253**	*e*P	**Pn**	**14 28 20.0**	**+0.5**
JKK2	**Kamakawa 2**	**6.21**	**251**	P	**Pn**	**14 28 22.3**	**+2.8**
ASAJ	**Asahikawa**	**6.21**	**253**	P	**Pn**	**14 28 22.7**	**+3.1**
comp=E,479nm,0.9s,baz=74,slow=14,SNR=157							
ASAJ	**Asahikawa**	**6.21**	**253**	PN	**Pn**	**14 28 20.0**	**+0.5**
JWK2	**Keihoku**	**6.33**	**265**	*e*P	Pn	14 28 26.2	+5.1
JCH	**Churui**	**6.47**	**239**	*e*P	**Pn**	**14 28 22.8**	**-0.2**
JCH				*e*S	**Sn**	**14 29 31.9**	**-3.5**
PAU	**Pauzhetka**	**6.55**	**35**	*e*P	**Pn**	**14 28 24.3**	**+0.2**
PAU				AMB	AMB	14 28 26.7	
PAU	comp=E,430nm,4.0s			AMB	AMB	14 28 26.8	
PAU	comp=E,100nm,0.3s			*e*S	**Sn**	**14 29 35.2**	**-2.0**
PAU				A	A	14 29 37.1	
PAU	comp=E,130nm,0.2s			A	A	14 29 37.1	
PAU	comp=E,150nm,0.2s			A	A	14 29 39.2	
PAU	comp=E,730nm,2.0s			A	A	14 29 39.2	
PAU	comp=E,290nm,2.0s						
UGL	**Uglegorsk**	**6.59**	**299**	*e*P	**Pn**	**14 28 28.5**	**+3.9**
UGL				AMB	AMB	14 28 29.0	
UGL	comp=E,2μm,1.0s			AMB	AMB	14 28 29.7	
UGL	comp=E,510nm,0.9s			*e*S	**Sn**	**14 29 43.0**	**+4.9**
UGL	**Uglegorsk**	**6.59**	**299**	‖*e*PN	**Pn**	**14 28 28.5**	**+3.9**
UGL				S	**Sn**	**14 29 43.0**	**+4.9**
UGL				pmax	pmax		
UGL	comp=Z,2μm,1.2s			pmax	pmax		
UGL	comp=Z,787nm,1.0s						
JAB	**Ashibetsu**	**6.71**	**249**	*e*P	**Pn**	**14 28 28.7**	**+2.3**
JRBN	**Rebuntou**	**6.89**	**267**	*e*P	**Pn**	**14 28 32.4**	**+3.6**
ERM	**Erimo**	**6.96**	**235**		**Pn**	**14 28 28.8**	**-0.9**
ERM	**Erimo**	**6.96**	**235**	*ce*PN	**Pn**	**14 28 30.2**	**+0.5**
ERM				pmax	pmax		
ERM	comp=Z,117nm,0.6s						
JNBK	**Urakawa-nobuka**	**7.03**	**239**	*e*P	**Pn**	**14 28 29.4**	**-1.3**
JNBK				*e*S	**Sn**	**14 29 46.4**	**-2.7**
TYV	**Tymovskoe**	**7.15**	**313**	*e*P	**Pn**	**14 28 35.9**	**+3.7**
TYV				AMB	AMB	14 28 36.4	
TYV	comp=Z,1μm,2.0s			*e*S	**Sn**	**14 29 55.7**	**+3.9**
TYV				A	A	14 29 57.8	
TYV	comp=Z,500nm,3.0s			A	A	14 30 00.7	
TYV	comp=Z,70nm,0.9s						
TYV	**Tymovskoe**	**7.15**	**313**	*e*PN	**Pn**	**14 28 35.9**	**+3.7**
TYV				*e*S	**Sn**	**14 29 55.7**	**+3.9**
TYV				pmax	pmax		
TYV	comp=Z,1μm,1.6s			pmax	pmax		
TYV	comp=Z,76nm,1.3s			smax	smax		
TYV	comp=N,500nm,3.3s			smax	smax		
TYV	comp=N,73nm,0.9s						
KDTR	**Khodutka, Kamc**	**7.33**	**38**	*e*P	**Pn**	**14 28 33.3**	**-1.3**
KDTR				AMB	AMB	14 28 34.4	
KDTR	comp=N,40nm,0.5s			*e*S	**Sn**	**14 29 49.5**	**-6.6**
KDTR				A	A	14 29 49.5	

comp=N,100nm,0.5s
KDTR A A 14 29 49.5
comp=N,60nm,0.5s
KRMR Karymshinskiy 8.12 33 *e*P **Pn 14 28 45.6 +0.2**
KRMR AMB AMB 14 28 51.1
comp=N,110nm,0.6s
KRMR *e*S **Sn 14 30 13.3 -2.1**
KRMR A A 14 30 17.7
comp=N,80nm,0.6s
KRMR A A 14 30 17.7
comp=N,80nm,0.6s
PEA0B Petropavlovsk- 8.19 30 *i* PN **Pn 14 28 46.7 +0.4**
PETK Petropavlovsk- 8.19 30 **Pn 14 28 44.3 -2.0**
PETK Petropavlovsk- 8.19 30 P **Pn 14 28 46.6 +0.3**
comp=N,55nm,0.6s,baz=195,slow=10,SNR=74
PETK LR LR 14 32 23.0
comp=N,255nm,19.0s,baz=191,slow=41
PET Petropavlovsk 8.47 34 *e*P **Pn 14 28 49.8 -0.3**
PET AMB AMB 14 28 53.1
comp=N,10.0nm,0.6s
PET *e*S **Sn 14 30 19.5 -4.4**
PET AMS AMS 14 33 26.7
comp=N,200nm,12.0s
PET Petropavlovsk 8.47 34 *e*PN **Pn 14 28 49.8 -0.3**
PET pmax pmax
comp=Z,14nm,0.6s
PET MLR MLR
comp=Z,200nm,12.0s
PET MLR MLR
comp=Z,200nm,12.0s
DALK Dalny 8.52 34 *e*P **Pn 14 28 49.6 -1.2**
DALK *e*S **Sn 14 30 20.0 -5.0**
OKH Okha 8.93 328 *e*P **Pn 14 28 57.3 +0.9**
OKH AMB AMB 14 28 59.1
comp=Z,730nm,0.9s
JTM Tenmabayashi 8.95 236 Pn **Pn 14 28 54.4 -2.3**
JANG Nango 8.98 233 *e*P **Pn 14 28 53.8 -3.3**
JANG *e*S Sn 14 30 26.5 -10
NKL Nikolayevsk 9.56 320 *e*P **Pn 14 29 07.2 +2.3**
TEY Ternei 10.06 268 *e*P **Pn 14 29 15.7 +4.0**
TEY AMB AMB 14 29 16.7
comp=Z,50nm,0.8s
TEY Ternei 10.06 268⇑ *e*PN **Pn 14 29 15.7 +4.0**
TEY pmax pmax
comp=N,50nm,0.8s
TEY pmax pmax
comp=Z,50nm,0.8s
GRNR Gornyy 10.60 301 *e*P **Pn 14 29 22.0 +2.9**
GRNR AMB AMB 14 29 23.5
comp=Z,90nm,1.0s
GRNR Gornyy 10.60 301⇓ *i* PN **Pn 14 29 22.0 +2.9**
GRNR pmax pmax
comp=N,30nm,1.0s
GRNR pmax pmax
comp=E,80nm,1.0s
GRNR pmax pmax
comp=Z,90nm,1.0s
GRNR MLR MLR
comp=N,230nm,15.0s
JSD Sado 12.42 233 **Pn 14 29 41.0 -2.4**
KBG Krutoberegovo 12.46 32 *e*P **Pn 14 29 41.8 -2.0**
KLR Kul'dur 13.21 290 P **Pn 14 29 55.6 +1.9**
comp=N,42nm,1.1s,baz=94,slow=13,SNR=58
KLR LR LR 14 35 11.3
comp=N,115nm,18.8s,baz=94,slow=38
KLR ScP **ScP 14 38 39.6 +0.5**
comp=N,4.9nm,0.8s,baz=8.6,slow=2.7,SNR=11
KLR Kul'dur 13.21 290 *e*P **Pn 14 29 55.0 +1.3**
KLR Kul'dur 13.21 290 *ce*PN **Pn 14 29 56.2 +2.5**
KLR pmax pmax
comp=Z,113nm,1.6s
MA2 Magadan 13.37 360 P **Pn 14 29 57.2 +1.5**
comp=Z,8.8nm,0.5s,baz=166,slow=8.8,SNR=7.1
MA2 LR LR 14 34 33.0
comp=Z,79nm,20.7s,baz=168,slow=35
USA0B Ussuriysk Arra 13.46 268 *i* PN **Pn 14 29 58.4 +1.4**
USA0B Ussuriysk Arra 13.46 268 P **Pn 14 29 58.7 +1.7**
USRK Ussuriysk Ar. 13.46 268 P **Pn 14 29 57.5 +0.5**
comp=Z,36nm,0.8s,baz=81,slow=12,SNR=32
USRK LR LR 14 34 56.7
comp=Z,115nm,21.5s,baz=112,slow=36
USRK ScP **ScP 14 38 40.7 +1.1**
comp=Z,3.8nm,0.9s,baz=49,slow=4.6,SNR=5.9
MJB9 Matsu-Tunnel 13.54 229 **Pn 14 29 58.0 -0.1**
MAJO Matsushiro 13.54 229 Pn **Pn 14 29 57.5 -0.7**
MAJO Matsushiro 13.54 229 *i* P **Pn 14 29 56.9 -1.3**
MJAR Matsushiro Arr 13.54 229 P **Pn 14 29 57.0 -1.2**
comp=Z,5.6nm,0.5s,baz=26,slow=15,SNR=20
MJAR LR LR 14 35 39.3
comp=Z,130nm,19.8s,baz=49,slow=39
MJAR ScP **ScP 14 38 39.7 -0.2**
comp=Z,2.1nm,0.6s,baz=60,slow=2.0,SNR=7.0
VLA Vladivostok 13.85 264 *e*P **Pn 14 30 02.5 +0.4**
VLA Vladivostok 13.85 264 *d i*P **Pn 14 30 02.5 +0.4**
MSHR Mys Shultsa 14.54 263 *ce*P **Pn 14 30 10.6 -0.4**
MSHR pmax pmax
comp=Z,20nm,0.6s
JGF Kuroka 14.71 229 Pn **Pn 14 30 12.2 -1.0**
PSTR Posyet 14.76 263 *e*P **Pn 14 30 13.2 -0.5**
PSTR Posyet 14.76 263 *i* P **Pn 14 30 13.2 -0.5**
MDJ Mudanjiang 15.02 272 **Pn 14 30 17.0 +0.1**
MDJ Mudanjiang 15.02 272 P **Pn 14 30 17.8 +0.8**
MDJ sP sP 14 30 49.6 -1.5
MDJ pmax pmax
comp=Z,10.0nm,1.4s
MDJ pmax pmax
comp=Z,150nm,8.3s
INU Inuyama 15.08 229 Pn **Pn 14 30 17.2 -0.5**
HEH Heihe 16.11 293 *e*P **P 14 30 31.4 -0.4**
HEH pP **pP 14 30 46.2 -4.0**
HEH sP **sP 14 31 00.0 -3.1**
HEH S **S 14 33 32.1 -2.9**
HEH pmax pmax
comp=Z,210nm,1.2s
HEH pmax pmax
comp=Z,850nm,5.4s
BNX BinXian 16.30 277 ⇑P **P 14 30 33.5 -0.5**
BNX S **Sn 14 33 30.5 -3.1**
BNX pmax pmax
comp=Z,11nm,1.2s
SHEM Shemya Is, Ala 16.40 58 P **P 14 30 35.8 +0.8**
comp=Z,93nm,0.9s,baz=278,slow=18,SNR=2.6
SHEM LR LR 14 35 15.1
comp=Z,215nm,21.4s,baz=292,slow=31
SEY Seymchan 16.76 2 P **Pn 14 30 38.0 -0.4**
comp=Z,13nm,0.8s,baz=182,slow=9.3,SNR=16
ZEA Zeya 16.88 305 *e*P **P 14 30 40.4 0.0**
ZEA Zeya 16.88 305 *e*P **P 14 30 41.1 +0.7**
ZEA pmax pmax
comp=E,200nm,1.9s
ZEA pmax pmax
comp=N,200nm,1.6s
ZEA pmax pmax
comp=Z,400nm,1.8s
ZEA pmax pmax
comp=N,60nm,1.0s
ZEA pmax pmax
comp=E,60nm,1.2s
ZEA pmax pmax
comp=Z,110nm,1.2s
CN2 Changchun 18.11 271 *e*P **P 14 30 53.0 -0.9**
CN2 *e*S **S 14 34 05.7 -10**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,200nm,13.0s
KSRS Korea Array 19.15 251 P **Pn 14 31 06.9 -0.5**
comp=Z,43nm,0.6s,baz=59,slow=11,SNR=58
KSRS LR LR 14 38 17.4
comp=Z,40nm,18.7s,baz=60,slow=36
KS19 Wonju Array Si 19.16 251 P **P 14 31 06.0 +0.5**
KSAR Wonju Array Be 19.19 251 P **P 14 31 05.8 +0.1**
KSAR Wonju Array Be 19.19 251 P **P 14 31 05.9 +0.1**
YAK Yakutsk 19.95 330 P **P 14 31 13.7 -0.1**
YAK Yakutsk 19.95 330 P **P 14 31 12.8 -1.0**
comp=Z,75nm,0.6s,baz=71,slow=0.7,SNR=37
YAK S **S 14 34 48.9 -3.4**
comp=Z,4.7nm,0.5s,baz=180,slow=4.0,SNR=2.1
YAK ScP **ScP 14 38 50.3 -1.9**
comp=Z,3.4nm,0.3s,baz=146,slow=3.6,SNR=3.0

YAK Yakutsk 19.95 330 *e*P **P 14 31 14.1 +0.3**
YAK *e*S **S 14 34 53.1 +0.8**
YAK pmax pmax
comp=Z,461nm,0.9s
YAK pmax pmax
comp=N,87nm,1.0s
YAK pmax pmax
comp=E,48nm,1.0s
YAK smax smax
comp=E,141nm,2.3s
YAK smax smax
comp=N,50nm,1.7s
INCN Inchon 19.99 253 P **P 14 31 14.9 +0.5**
INCN Inchon 19.99 253 P **P 14 31 15.0 +0.5**
JNU Nakatsue 20.12 236 P **P 14 31 16.8 +0.8**
JNU Nakatsue 20.12 236 P Pn 14 31 17.6 -1.2
comp=N,25nm,0.7s,baz=45,slow=2.8,SNR=15
comp=N,25nm,0.7s
TJN Taejon 20.14 249 P **P 14 31 16.7 +0.6**
TJN Taejon 20.14 249 *ce*P **P 14 31 16.5 +0.4**
DL2 Dalian 22.65 262 P **P 14 31 44.0 +1.4**
DL2 pmax pmax
comp=N,31nm,0.7s
BILL Bilibino 23.27 15 *e*P **P 14 31 47.6 -0.7**
BILL Bilibino 23.27 15 *i* P **P 14 31 47.6 -0.7**
BILL pmax pmax
comp=Z,4.0nm,0.4s
XLT XiLinHaoTe 24.56 277 *e*P **P 14 31 59.6 -0.7**
XLT S **S 14 36 11.0 -2.5**
XLT PcS **PcS 14 39 18.1 +2.5**
XLT pmax pmax
comp=Z,13nm,0.5s
XLT pmax pmax
comp=Z,100nm,4.4s
BOD Bodaibo 25.13 311 *e*P **P 14 32 04.3 -1.0**
BOD pmax pmax
comp=Z,34nm,1.3s
BJI Beijing 25.91 269 P **P 14 32 14.7 +2.2**
BJI PcP **PcP 14 35 43.9 +5.4**
BJI pmax pmax
comp=Z,9.0nm,0.7s
BJI pmax pmax
comp=Z,52nm,4.6s
BJT Baijiatuau 25.92 269 P **P 14 32 12.0 -0.6**
BJT Baijiatuau 25.92 269 P **P 14 32 12.0 -0.6**
JOW Kunigami 26.38 231 P **P 14 32 18.0 +1.2**
JOW IAmb IAmb 14 32 19.8
comp=Z,72nm,1.3s
JOW Kunigami 26.38 231 P **P 14 32 18.4 +1.5**
comp=Z,19nm,0.5s,baz=111,slow=12,SNR=10
comp=Z,19nm,0.5s
TIXI Tiksi 27.55 345 P **P 14 32 24.7 -2.2**
TIXI IAmb IAmb 14 32 59.8
comp=Z,26nm,1.1s
TIXI Tiksi 27.55 345 LR LR 14 43 46.7
comp=Z,121nm,20.6s,baz=186,slow=37
TIXI Tiksi 27.55 345 *ce*P **P 14 32 25.2 -1.6**
TIXI pmax pmax
comp=Z,13nm,1.7s
HNS HongShan 28.15 265⇓ P **P 14 32 33.5 +1.0**
HNS pP **pP 14 32 55.4 0.0**
HNS S **S 14 37 07.2 -2.8**
HNS pmax pmax
comp=Z,24nm,0.9s
HNS LR LR
comp=Z,200nm,15.1s
HNS LR LR
comp=Z,120nm,13.5s
HNS LR LR
comp=Z,220nm,15.3s
NJ2 Nanjing 28.35 251 *e*P **P 14 32 35.7 +1.3**
NJ2 pmax pmax
comp=Z,16nm,0.8s
HHC Hu-ho-hao-te 28.77 274 *e*P **P 14 32 39.0 +0.8**
HHC S **S 14 37 19.6 -0.5**
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,81nm,5.0s
HHC LR LR
comp=Z,110nm,15.3s
HHC LR LR
comp=Z,130nm,14.5s
HHC LR LR
comp=Z,94nm,14.1s
TNA Tin City 29.33 34 P **P 14 32 42.8 +0.1**
baz=249
H11N2 WAKE ISLAND Hy 29.54 148 T T 15 04 25.1
baz=338,slow=76
H11N1 WAKE ISLAND Hy 29.55 148 T T 15 04 25.2
baz=338,slow=76,SNR=8367
H11N3 WAKE ISLAND Hy 29.55 148 T T 15 04 25.8
baz=338,slow=76
ULN Ulaanbaatar 29.60 289 P **P 14 32 45.4 -0.1**
ULN Ulaanbaatar 29.60 289 P **P 14 32 45.8 +0.3**
ULN Ulaanbaatar 29.60 289 *e*P **P 14 32 45.0 -0.5**
ULN Ulaanbaatar 29.60 289 *ce*P **P 14 32 45.0 -0.5**
ULN pmax pmax
comp=Z,4.0nm,0.7s
K13K Kusilvak Mount 29.72 42 P **P 14 32 46.8 +0.6**
baz=259
FALS False Pass 29.83 56 P **P 14 32 48.2 +0.9**
baz=273
BTO Baotou 29.94 274 *e*P **P 14 32 51.2 +2.6**
BTO pP **pwP 14 33 12.8 -1.7**
BTO sP **sP 14 33 24.8 +1.8**
BTO PP **PnPn 14 33 51.9 +2.3**
BTO S **S 14 37 40.7 +2.3**
BTO sS **sS 14 38 17.5 -0.6**
BTO SS **SnSn 14 39 21.3 +0.2**
BTO pmax pmax
comp=Z,18nm,0.5s
BTO pmax pmax
comp=Z,170nm,6.2s
BTO LR LR
comp=Z,320nm,18.2s
BTO LR LR
comp=Z,240nm,19.5s
BTO LR LR
comp=Z,220nm,19.8s
SONM Songino Array 30.04 289 P **P 14 32 48.5 -0.9**
comp=Z,2.9nm,0.6s,baz=72,slow=8.2,SNR=17
SONM PcP **PcP 14 35 49.2 +0.5**
comp=Z,2.4nm,0.7s,baz=88,slow=2.0,SNR=6.3
SONM ScP **ScP 14 39 20.9 -0.1**
comp=Z,2.3nm,1.0s,baz=93,slow=2.0,SNR=7.6
comp=Z,2.9nm,0.6s
ANM Nome 30.04 37 P **P 14 32 49.7 +0.7**
baz=254
M13K Dall Lake 30.11 45 P **P 14 32 49.5 -0.1**
baz=263
J14K Nanvaranak Lak 30.39 41 P **P 14 32 52.5 +0.4**
baz=259
L14K Kuka Creek 30.55 43 P **P 14 32 53.1 -0.5**
baz=262
S12K Black Hills 30.58 55 P **P 14 32 53.6 -0.2**
baz=272
H11S1 WAKE ISLAND Hy 30.59 149 T T 15 05 43.3
baz=338,slow=76,SNR=3733
H11S3 WAKE ISLAND Hy 30.60 149 T T 15 05 43.5
baz=338,slow=76,SNR=2327
H11S2 WAKE ISLAND Hy 30.61 149 T T 15 05 42.5
baz=338,slow=76,SNR=1642
M14K Bethel 30.83 45 P **P 14 32 55.7 -0.3**
baz=264
LYN LuoYang 31.19 262 P **P 14 33 01.1 +1.6**
LYN pP pwP 14 33 24.0 +1.5
LYN pmax pmax
comp=Z,39nm,1.2s
LYN pmax pmax
comp=Z,87nm,4.0s
C16K Lisburne Hills 31.29 30 P **P 14 32 59.9 -0.1**
baz=248
H16K Elim 31.36 37 P **P 14 33 00.8 +0.1**
baz=257
M15K Kasigluk River 31.44 45 P **P 14 33 01.5 +0.1**
baz=265
ZAK Zakamensk 31.49 295 *e*P **P 14 33 00.1 -2.0**
ZAK *e* 14 33 27.6
ZAK pmax pmax
comp=Z,6.0nm,1.2s
N15K Kwethluk River 31.70 46 P **P 14 33 03.6 -0.1**
baz=267
O15K Ungalikthiuk R 31.78 48 P **P 14 33 03.9 -0.5**
baz=269
J16K Anvik River 31.81 40 P **P 14 33 03.4 -1.2**

baz=261
CHNA Chernabura Isl 32.04 56 P **P 14 33 06.2 -0.6**
baz=276
RDOG Red Dog Mine 32.06 31 P **P 14 33 06.6 -0.1**
baz=251
C17K DeLong Mountai 32.11 30 P **P 14 33 07.1 -0.1**
baz=250
L16K Owhat River 32.12 43 P **P 14 33 07.4 +0.1**
baz=265
E17K Hotham Inlet 32.16 33 P **P 14 33 07.4 -0.2**
baz=254
F17K Baldwin Pennin 32.20 34 P **P 14 33 08.3 +0.3**
baz=256
G17K Kiwalik Mounta 32.21 36 P **P 14 33 08.2 +0.1**
baz=258
WHN Wuhan 32.29 254⇑ P **P 14 33 10.3 +1.2**
WHN pmax pmax
comp=Z,78nm,0.7s
N16K Nishlik Lake 32.37 45 P **P 14 33 10.2 +0.6**
baz=267
H17K Granite Mounta 32.40 37 P **P 14 33 09.8 +0.1**
baz=259
J17K VABM Dome 32.51 40 P **P 14 33 11.0 +0.3**
baz=262
CHGN Chignik 32.59 53 P **P 14 33 12.3 +0.8**
baz=274
O16K Kokwok River B 32.68 47 P **P 14 33 12.6 +0.3**
baz=269
E18K Tukpahlearik C 32.71 32 P **P 14 33 12.9 +0.5**
baz=255
L17K Donlin 32.72 42 P **P 14 33 12.7 +0.1**
baz=265
K17K Iditarod 32.77 41 P **P 14 33 13.3 +0.3**
baz=264
C18K Utukok River 32.85 30 P **P 14 33 13.2 -0.5**
baz=252
F18K Selawik 32.86 34 P **P 14 33 13.6 -0.1**
baz=257
GUMO Guam 32.93 191 LR LR 14 47 50.0
comp=Z,38nm,19.1s,baz=26,slow=38
R16K Pilot Point 32.98 51 P **P 14 33 15.2 +0.4**
baz=273
M17K Holitna River 33.07 44 P **P 14 33 15.5 -0.1**
baz=267
H18K Honhosa River 33.09 37 P **P 14 33 15.4 -0.3**
baz=260
G18K Tagagawik 33.10 35 P **P 14 33 16.7 +0.8**
G18K IAmb IAmb 14 33 49.3
comp=Z,26nm,1.3s
G18K Tagagawik 33.10 35 P **P 14 33 15.3 -0.6**
baz=259
N17K Nushagak Hills 33.16 45 P **P 14 33 15.5 -0.9**
baz=269
O17K Koliganek Bris 33.19 47 P **P 14 33 16.2 -0.5**
baz=270
Q16K King Salmon 33.43 49 P **P 14 33 18.1 -0.6**
baz=272
L18K Granite Mounta 33.48 42 P **P 14 33 19.1 0.0**
baz=267
C19K Lookout Ridge 33.55 30 P **P 14 33 19.1 -0.7**
baz=253
J18K Innoko River 33.57 40 P **P 14 33 19.5 -0.5**
baz=265
R17L Mt. Peulik Vol 33.63 51 P **P 14 33 20.9 +0.3**
baz=274
F19K Shaleruckik Mo 33.64 34 P **P 14 33 19.7 -0.8**
baz=259
GCSA Galena City Sc 33.65 38 P **P 14 33 19.9 -0.7**
baz=263
G19K Purcell Mounta 33.78 35 P **P 14 33 20.7 -1.0**
baz=260
N18K Kilae Creek 33.80 45 P **P 14 33 21.3 -0.7**
baz=270
TTA Tatalina 33.84 41 P **P 14 33 22.0 -0.4**
baz=266
M18K Stony River 33.85 44 P **P 14 33 21.7 -0.7**
baz=268
D19K Kuna River 33.90 31 P **P 14 33 21.8 -1.0**
baz=256
XAN Xi'an 33.91 264⇓ P **P 14 33 24.1 +0.8**
XAN pP pP 14 33 47.6 +0.9
XAN S **S 14 38 44.2 +4.0**
XAN ScS **ScS 14 43 38.9 +2.4**
XAN pmax pmax
comp=Z,49nm,1.0s
XAN Xi'an 33.91 264 P **P 14 33 23.8 +0.5**
H19K Roundabout Mou 33.94 36 IAmb IAmb 14 33 48.8
comp=Z,19nm,0.9s
H19K Roundabout Mou 33.94 36 P **P 14 33 22.8 -0.3**
baz=262,SNR=5.3
E19K Redstone River 33.98 33 IAmb IAmb 14 33 25.6
comp=Z,23nm,1.4s
E19K Redstone River 33.98 33 P **P 14 33 23.0 -0.4**
baz=258,SNR=6.2
J19K Poorman 34.10 39 P **P 14 33 24.5 0.0**
baz=265
O18K Koktuh Hills 34.14 47 P **P 14 33 24.9 -0.1**
baz=272
P18K Big Mountain, 34.14 47 P **P 14 33 25.2 +0.2**
baz=272
Q18K Katmai Hardscr 34.29 49 P **P 14 33 26.1 -0.3**
baz=273
L19K White Mountain 34.33 42 P **P 14 33 26.5 -0.1**
baz=268
F20K Avaraart Lake 34.47 34 P **P 14 33 26.5 -1.2**
baz=260
D20K Etivluk River 34.48 31 P **P 14 33 26.9 -0.9**
baz=257
E20K Nigu River 34.53 32 P **P 14 33 28.4 +0.1**
baz=258
M19K Big River Lodg 34.54 43 P **P 14 33 29.4 +1.0**
baz=269
H20K Anotleneega Mo 34.58 37 P **P 14 33 28.5 -0.2**
baz=264,SNR=5.4
B20K Meade River 34.62 28 P **P 14 33 28.5 -0.4**
baz=255
K20K Telida 34.75 40 P **P 14 33 30.5 +0.4**
baz=267
CNSH ChangSha 34.76 252 P **P 14 33 30.6 0.0**
CNSH pmax pmax
comp=Z,37nm,1.0s
J20K Nowinta River 34.77 39 P **P 14 33 31.4 +1.1**
J20K IAmb IAmb 14 33 32.6
comp=Z,6.4nm,0.6s
J20K Nowinta River 34.77 39 P **P 14 33 29.7 -0.5**
baz=266
L20K Farewell, AK 34.80 42 P **P 14 33 31.1 +0.5**
baz=269
IMAR Indian Mountai 35.10 36 P **P 14 33 33.8 +0.6**
M20K Styx River 35.14 43 P **P 14 33 33.3 -0.3**
baz=270
P19K Oil Pt 35.15 47 P **P 14 33 33.5 -0.1**
baz=273
C21K Knifeblade Rid 35.23 30 P **P 14 33 33.8 -0.3**
baz=258
G21K Allakaket 35.27 35 P **P 14 33 34.1 -0.4**
baz=263
F21K Alatna River 35.37 34 IAmb IAmb 14 34 21.9
comp=Z,14nm,1.4s
F21K Alatna River 35.37 34 P **P 14 33 34.4 -1.1**
baz=262
B21K Ikpikpuk River 35.38 30 P **P 14 33 34.8 -0.6**
baz=258
H21K Melozitna Rive 35.46 36 IAmb IAmb 14 34 01.9
comp=Z,10nm,1.0s
H21K Melozitna Rive 35.46 36 P **P 14 33 35.7 -0.5**
baz=265
PPLA Purkeypile 35.59 41 P **P 14 33 36.8 -0.7**
baz=270
A22K Sinclair Lake 35.59 27 P **P 14 33 37.3 +0.1**
baz=256
N20K Mount Spurr 35.59 44 P **P 14 33 36.6 -0.9**
baz=272
SPCR Spurr Chakacha 35.59 44 P **P 14 33 37.2 -0.3**
baz=272
KDAK Kodiak Island 35.64 50 LR LR 14 48 11.0
comp=Z,59nm,22.0s,baz=272,slow=36
KDAK Kodiak Island 35.64 50 P **P 14 33 38.4 +0.7**
baz=277
KDAK Kodiak Island 35.64 50 P **P 14 33 37.3 -0.4**
CAST Castle Rocks 35.64 40 IAmb IAmb 14 33 40.2
comp=Z,9.0nm,0.6s
CAST Castle Rocks 35.64 40 P **P 14 33 37.8 0.0**
baz=269,SNR=7.3
ENH Enshi 35.74 258 P **P 14 33 39.2 +0.2**
ENH Enshi 35.74 258 P **P 14 33 39.4 +0.4**
ENH PcP **PcP 14 36 06.1 +1.4**
SKT Skwentna 35.90 43 IAmb IAmb 14 34 34.7

comp=Z,30nm,1.8s
SKT Skwentna 35.90 43 P P 14 33 39.6 -0.4
baz=272
F22K John River 35.91 33 P P 14 33 39.6 -0.4
baz=263
D22K Ayikyak River 35.92 31 P P 14 33 40.4 +0.3
baz=261
B22K Teshekpuk Lake 35.94 28 P P 14 33 39.9 -0.3
baz=258
H22K Ishtalitna Cre 36.06 36 P P 14 33 40.5 -0.9
baz=266
G22K Bettles 36.10 34 P P 14 33 41.6 0.0
baz=265
E22K Anaktuvuk Pass 36.12 32 P P 14 33 41.4 -0.5
baz=263,SNR=9.9
BPAW Bear Paw Mtn. 36.15 39 P P 14 33 41.4 -0.7
baz=269,SNR=5.2
MLY Manley 36.28 38 IAmb IAmb 14 33 45.9
comp=Z,5.4nm,0.6s
MLY Manley 36.28 38 P P 14 33 43.0 -0.2
baz=268,SNR=5.8
SUA Susitna One 36.29 44 P P 14 33 42.8 -0.6
baz=273
LZH Lanzhou 36.34 271 ⇓P **P 14 33 45.5 +1.2**
LZH pP pwP 14 34 10.4 +0.6
LZH sP sP 14 34 22.0 +2.6
LZH pmax pmax
comp=Z,75nm,1.1s
LZH pmax pmax
comp=Z,220nm,6.6s
LZH LR LR
comp=Z,190nm,15.1s
LZH LR LR
comp=Z,200nm,14.1s
LZH LR LR
comp=Z,200nm,18.5s
BRSE Bradley Lake S 36.40 47 P P 14 33 43.8 -0.5
baz=275
TRF Thorofare Moun 36.45 40 P P 14 33 43.9 -1.0
baz=271,SNR=6.0
CUT Chulitna 36.48 42 P P 14 33 44.7 -0.2
baz=272
COLD Coldfoot 36.64 34 P P 14 33 46.2 0.0
baz=266,SNR=5.1
D23K Nanushuk River 36.65 31 P P 14 33 46.2 -0.1
baz=263
G23K Bananza Creek 36.67 35 P P 14 33 46.3 -0.2
baz=266
C23K Itkillik River 36.79 30 P P 14 33 46.9 -0.6
baz=262,SNR=6.0
RC01 Rabbit Creek A 36.80 44 P P 14 33 47.7 0.0
baz=274
H23K Yukon River 36.81 36 IAmb IAmb 14 33 50.2
comp=Z,8.9nm,0.7s
H23K Yukon River 36.81 36 P P 14 33 48.0 +0.2
baz=268,SNR=9.2
O22K Cooper Landing 36.85 45 P P 14 33 48.1 +0.1
baz=275
I23K Minto, Yukon-K 36.87 37 P P 14 33 48.6 +0.4
baz=269,SNR=5.6
E23K Chandalar 36.93 33 IAmb IAmb 14 33 58.9
comp=Z,10nm,0.7s
E23K Chandalar 36.93 33 P P 14 33 48.7 -0.1
baz=265
NEA2 Nenana 36.99 38 IAmb IAmb 14 33 51.9
comp=Z,14nm,0.6s
NEA2 Nenana 36.99 38 P P 14 33 49.1 -0.1
baz=270,SNR=7.5
TOLK Toolik Lake Re 37.01 32 IAmb IAmb 14 33 53.3
comp=Z,8.2nm,0.6s
TOLK Toolik Lake Re 37.01 32 P P 14 33 49.0 -0.4
baz=264,SNR=8.7
SEW Seward 37.02 46 P P 14 33 49.9 +0.4
baz=276
MCK McKinley 37.05 40 P P 14 33 49.6 -0.2
baz=271,SNR=5.8
MCK McKinley 37.05 40 P P 14 33 50.7 +0.9
PMR Palmer 37.05 43 P P 14 33 50.2 +0.5
baz=274
RND Reindeer 37.10 40 P P 14 33 50.6 +0.4
RND IAmb IAmb 14 33 51.9
comp=Z,8.2nm,0.7s
RND Reindeer 37.10 40 P P 14 33 50.6 +0.4
RND pmax pmax
comp=Z,8.0nm,0.7s
WAT1 Susitna Watana 37.26 41 P P 14 33 51.3 -0.3
baz=273
D24K Happy Valley 37.33 31 P P 14 33 52.2 +0.2
baz=264
E24K Your Creek 37.36 33 IAmb IAmb 14 33 57.4
comp=Z,23nm,1.2s
E24K Your Creek 37.36 33 P P 14 33 52.2 -0.2
baz=266
KNK Knik Glacier 37.39 44 IAmb IAmb 14 34 23.2
comp=Z,28nm,1.3s
KNK Knik Glacier 37.39 44 P P 14 33 53.2 +0.5
baz=275
SML Sawmill 37.42 43 P P 14 33 53.4 +0.4
baz=274,SNR=11
C24K Franklin Bluff 37.44 30 P P 14 33 52.8 -0.1
baz=264
PWL Port Wells 37.49 45 P P 14 33 53.4 -0.1
PWL IAmb IAmb 14 35 14.0
comp=Z,26nm,1.5s
PWL Port Wells 37.49 45 P P 14 33 53.5 -0.1
baz=276
H24K Noodor Dome 37.50 36 P P 14 33 53.5 -0.1
baz=270
GTA Gaotai 37.51 278 P P 14 33 54.1 0.0
GTA PcP **PcP 14 36 12.0 +1.9**
GTA ScP **ScP 14 39 44.6 -2.9**
GTA ScS **ScS 14 43 56.5 +0.3**
GTA pmax pmax
comp=Z,26nm,0.8s
GTA LR LR
comp=Z,110nm,19.6s
GTA LR LR
comp=Z,160nm,19.6s
GTA LR LR
comp=Z,210nm,19.3s
COLA College 37.51 38 P P 14 33 54.7 +1.2
COLA College 37.51 38 P P 14 33 53.8 +0.3
baz=271
COLA College 37.51 38 *i*P **P 14 33 54.1 +0.5**
COLA pmax pmax
comp=Z,18nm,0.6s
COLA College 37.51 38 P P 14 33 54.6 +1.1
COLA pP **pP 14 34 16.5 -0.1**
F24K Squaw Lake 37.55 34 P P 14 33 54.1 +0.1
baz=267
WAT6 Susitna Watana 37.64 42 P P 14 33 55.1 +0.2
baz=274
G24K Hadweenzic Riv 37.68 35 IAmb IAmb 14 33 57.6
comp=Z,10nm,0.7s
G24K Hadweenzic Riv 37.68 35 P P 14 33 55.9 +0.8
baz=269
POKR Poker Plat Res 37.68 38 P P 14 33 55.7 +0.6
baz=271,SNR=14
M23K Glacier View 37.71 43 P P 14 33 56.0 +0.7
baz=275,SNR=7.1
DHY Denali Highway 37.78 41 IAmb IAmb 14 33 57.4
comp=Z,9.0nm,0.5s
DHY Denali Highway 37.78 41 P P 14 33 56.6 +0.5
baz=274,SNR=8.2
SCM Sheep Creek Mo 37.89 43 P P 14 33 57.7 +0.7
baz=275,SNR=5.3
HDA Harding Lake 37.91 39 IAmb IAmb 14 33 58.6
comp=Z,14nm,0.6s
HDA Harding Lake 37.91 39 P P 14 33 57.2 +0.3
baz=272,SNR=16
IL31 37.92 38 IAmb IAmb 14 34 22.9
comp=Z,19nm,1.4s
ILAR Eielson Array 37.92 38 P P 14 33 57.2 +0.2
ILAR Eielson Array 37.92 38 P P 14 33 57.5 +0.5
comp=Z,3.6nm,0.5s,baz=264,slow=6.9,SNR=73
ILAR pP **pP 14 34 20.1 0.0**
comp=Z,2.9nm,1.0s,baz=223,slow=13,SNR=5.0
ILAR PcP **PcP 14 36 10.0 -0.7**
comp=Z,0.3nm,0.4s,baz=292,slow=3.5,SNR=2.1
ILAR ScP **ScP 14 39 47.5 -0.9**
comp=Z,1.0nm,0.9s,baz=275,slow=4.0,SNR=6.0
ILAR LR LR 14 51 18.7
comp=Z,43nm,18.5s,baz=300,slow=39
comp=Z,3.6nm,0.5s
P23K Montague Islan 38.05 46 P P 14 33 58.7 +0.5
baz=278
GLI Glacier Island 38.10 44 P P 14 33 57.4 -1.2
baz=277
D25K Kavik River 38.22 31 P P 14 33 59.0 -0.6
baz=266
G25K Bearman Lake 38.23 35 P P 14 33 59.5 0.0
baz=270
NRIK Noril'sk 38.41 329 P P 14 33 59.3 -1.8
NRIK IAmb IAmb 14 34 27.0
comp=Z,23nm,1.5s
NRIK Noril'sk 38.41 329 P P 14 33 59.8 -1.3
comp=Z,1.9nm,0.4s,baz=107,slow=5.7,SNR=7.0
NRIK PcP **PcP 14 36 12.9 +0.8**
comp=Z,3.6nm,0.5s,baz=198,slow=3.2,SNR=2.3
NRIK ScP **ScP 14 39 49.7 -0.5**
comp=Z,3.9nm,0.8s,baz=76,slow=4.4,SNR=5.6
NRIK LR LR 14 51 17.0
comp=Z,55nm,18.4s,baz=142,slow=38
comp=Z,1.9nm,0.4s
NRIK Noril'sk 38.41 329 ⇑*e*P **P 14 33 59.8 -1.3**
NRIK pmax pmax
comp=Z,17nm,1.4s
M24K Tolsona, Glenn 38.41 42 P P 14 34 01.0 -0.3
baz=276
F25K Christian Rive 38.41 34 IAmb IAmb 14 34 07.5
comp=Z,25nm,1.6s
F25K Christian Rive 38.41 34 P P 14 34 01.5 +0.3
baz=269
K24K Donnelly Dome 38.45 40 P P 14 34 00.9 -0.7
baz=274,SNR=6.6
E25K Arctic Village 38.45 33 IAmb IAmb 14 34 30.2
comp=Z,12nm,1.2s
E25K Arctic Village 38.45 33 P P 14 34 01.3 -0.3
baz=269
PRP Porcupine Dome 38.48 37 IAmb IAmb 14 34 04.0
comp=Z,10nm,0.7s
PRP Porcupine Dome 38.48 37 P P 14 34 01.8 -0.1
baz=272,SNR=8.4
J25K Salcha River, 38.58 38 IAmb IAmb 14 34 04.1
comp=Z,6.9nm,0.6s
J25K Salcha River, 38.58 38 P P 14 34 02.6 -0.1
baz=273,SNR=7.1
KLU Klutina 38.59 43 IAmb IAmb 14 34 05.6
comp=Z,20nm,1.3s
KLU Klutina 38.59 43 P P 14 34 03.1 +0.3
baz=277,SNR=8.5
PAX Paxson 38.65 41 P P 14 34 03.4 +0.1
baz=275
Q23K Middleton Isla 38.66 47 P P 14 34 03.9 +0.7
baz=279
C26K Camden Bay 38.76 30 P P 14 34 04.1 +0.1
baz=267
EYAK Cordova Ski Ar 38.79 45 P P 14 34 05.0 +0.6
baz=278
BMAR Burnt Mountain 38.82 34 P P 14 34 05.9 +1.3
HARP HAARP 38.85 42 P P 14 34 05.7 +0.7
baz=276,SNR=5.1
F26K Sheenjek River 38.99 33 P P 14 34 06.2 +0.2
baz=271
G26K Porcupine Rive 39.14 35 P P 14 34 07.4 +0.2
baz=272
C27K Jago River 39.17 30 P P 14 34 06.9 -0.5
baz=269
N25K Chitina, Valde 39.21 43 P P 14 34 08.1 +0.1
baz=278
SCRK Sand Creek 39.23 39 IAmb IAmb 14 34 09.2
comp=Z,6.0nm,0.5s
SCRK Sand Creek 39.23 39 P P 14 34 08.0 -0.2
baz=275,SNR=7.8
BMRM Bremner River 39.29 44 P P 14 34 09.1 +0.4
baz=279
J26L Joseph Creek 39.37 38 P P 14 34 09.9 +0.6
baz=275
I26K Coal Creek Min 39.48 37 P P 14 34 09.6 -0.4
baz=274
KAIM Kayak Island 39.55 46 P P 14 34 10.9 +0.2
baz=280
GLB Gilahina Butte 39.60 43 P P 14 34 12.6 +1.3
L26K Log Cabin Wild 39.61 41 IAmb IAmb 14 34 13.9
comp=Z,7.0nm,0.7s
L26K Log Cabin Wild 39.61 41 P P 14 34 12.2 +0.9
baz=277
BERG Berg Lake 39.82 45 IAmb IAmb 14 35 11.8
comp=Z,10nm,0.8s
M26K Nabesna, AK 39.85 42 IAmb IAmb 14 34 44.7
comp=Z,16nm,1.0s
M26K Nabesna, AK 39.85 42 P P 14 34 13.8 +0.6
baz=278,SNR=14
E27K Coleen River 39.94 33 P P 14 34 14.1 +0.2
baz=272
G27K Doyon Strip 39.99 35 P P 14 34 15.0 +0.7
baz=274
MCARA McCarthy VSAT 39.99 43 IAmb IAmb 14 34 45.2
comp=Z,12nm,1.0s
MCARA McCarthy VSAT 39.99 43 P P 14 34 15.1 +0.8
baz=279
CRQE Cirque 40.06 44 P P 14 34 15.7 +0.7
baz=280,SNR=6.6
K27K Chicken 40.06 39 P P 14 34 15.6 +0.7
baz=277
GYA Guiyang 40.08 256 ⇑P **P 14 34 16.9 +1.3**
GYA pmax pmax
comp=Z,55nm,0.9s
H27K Steamboat Moun 40.08 36 P P 14 34 15.8 +0.8
baz=275,SNR=10
I27K Kandik River 40.09 37 P P 14 34 14.4 -0.8
baz=276
D27M Malcolm River 40.14 31 IAmb IAmb 14 34 17.4
comp=Z,9.0nm,0.7s
D27M Malcolm River 40.14 31 P P 14 34 14.9 -0.6
baz=272
L27K Beaver Creek, 40.29 41 IAmb IAmb 14 34 19.7
comp=Z,12nm,0.6s
L27K Beaver Creek, 40.29 41 P P 14 34 17.8 +0.9
baz=278,SNR=6.3
BCAR Beaver Creek A 40.31 41 P P 14 34 18.7 +1.7
M27K Edge Creek, AK 40.37 42 IAmb IAmb 14 34 48.0
comp=Z,16nm,1.1s
M27K Edge Creek, AK 40.37 42 P P 14 34 18.8 +1.1
baz=279
ISLE Juniper Island 40.45 44 IAmb IAmb 14 34 50.5
comp=Z,15nm,1.1s
F28M Old Crow 40.62 33 IAmb IAmb 14 34 21.8
comp=Z,8.1nm,0.7s
F28M Old Crow 40.62 33 P P 14 34 20.8 +1.3
baz=275,SNR=12
E28M Babbage River 40.68 32 P P 14 34 20.2 +0.2
baz=274
GRNC Granite Creek 40.71 44 IAmb IAmb 14 34 23.1
comp=Z,13nm,0.6s
MESA MESA 40.72 45 P P 14 34 19.9 -0.7
baz=282
YAH Yahtse 40.78 45 IAmb IAmb 14 34 33.8
comp=Z,38nm,1.5s
I28M Miner Creek 40.81 37 P P 14 34 21.5 +0.4
baz=277,SNR=27
BVCY Beaver Creek 40.83 41 P P 14 34 22.4 +1.1
baz=280,SNR=9.1
CTG Chitna Glacier 40.86 44 P P 14 34 22.2 +0.5
baz=281,SNR=8.9
CTGM Chitina Glacie 40.87 44 IAmb IAmb 14 34 25.6
comp=Z,11nm,0.6s
D28M Stokes Point 40.93 31 P P 14 34 22.7 +0.8
baz=274
YUK3 Moose Creek 41.13 42 P P 14 34 25.4 +1.4
baz=281
DAWY Dawson 41.23 39 P P 14 34 26.0 +1.5
baz=279
E29M Blow River 41.30 32 IAmb IAmb 14 34 27.9
comp=Z,13nm,0.8s
E29M Blow River 41.30 32 P P 14 34 26.3 +1.3
baz=276
H29M Whitestone 41.35 35 IAmb IAmb 14 34 57.5
comp=Z,16nm,1.2s
H29M Whitestone 41.35 35 P P 14 34 26.9 +1.4
baz=278,SNR=7.9
G29M Pine Creek 41.41 34 IAmb IAmb 14 34 29.0
comp=Z,14nm,0.7s
G29M Pine Creek 41.41 34 P P 14 34 27.1 +1.2
baz=277
O28M Mount Upton 41.45 44 P P 14 34 27.5 +0.8
baz=282
I29M Ogilvie Camp, 41.49 37 P P 14 34 28.1 +1.5
I29M IAmb IAmb 14 34 28.9
comp=Z,12nm,0.6s
I29M Ogilvie Camp, 41.49 37 P P 14 34 27.1 +0.4
baz=279
YUK8 Steele Glacier 41.55 43 P P 14 34 28.1 +0.6
baz=282
PINM Pinnacle 41.57 45 P P 14 34 27.3 -0.1
baz=283
ZALV Zalesovo Beam 41.65 306 P P 14 34 26.5 -1.6
comp=Z,0.9nm,0.4s,baz=66,slow=7.1,SNR=4.2
ZALV PcP **PcP 14 36 23.4 +0.5**
comp=Z,11nm,0.7s,baz=80,slow=2.8,SNR=20
ZALV ScP **ScP 14 40 02.3 -0.9**
comp=Z,1.5nm,0.8s,baz=55,slow=6.5,SNR=4.6
comp=Z,0.9nm,0.4s
ZALV Zalesovo Beam 41.65 306 *i*P **P 14 34 27.2 -0.8**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
J29N Klondike Camp 41.67 38 P P 14 34 28.7 +0.5
baz=280
M29M Somme Creek 41.92 41 P P 14 34 32.2 +1.9
M29M IAmb IAmb 14 35 03.8
comp=Z,15nm,1.4s
M29M Somme Creek 41.92 41 P P 14 34 30.2 -0.1
baz=282
L29M L29M 41.95 40 IAmb IAmb 14 34 33.5
comp=Z,11nm,0.5s
L29M L29M 41.95 40 P P 14 34 31.8 +1.4
baz=281,SNR=12
EPYK Eagle Plains 41.99 35 P P 14 34 32.0 +1.3
EPYK IAmb IAmb 14 34 33.2
comp=Z,26nm,1.1s
EPYK Eagle Plains 41.99 35 P P 14 34 31.0 +0.2
baz=279,SNR=9.2
YUK4 Talbot Arm 42.07 43 P P 14 34 31.7 +0.1
baz=283
K29M Barlow Dome 42.08 39 P P 14 34 31.1 -0.4
baz=281
PNL Peninsula 42.08 45 P P 14 34 31.7 +0.2
baz=284
G30M tAoh Zraii Nji 42.10 34 IAmb IAmb 14 34 33.9
comp=Z,12nm,0.8s
G30M tAoh Zraii Nji 42.10 34 P P 14 34 32.2 +0.6
baz=278,SNR=13
F30M Barrier River 42.18 33 P P 14 34 33.5 +1.3
baz=278
YUK6 Outpost Mounta 42.29 43 P P 14 34 35.2 +1.7
baz=283
I30M Mount Dempster 42.32 37 P P 14 34 34.7 +1.2
baz=280,SNR=38
O29M Mount Kennedy 42.34 44 *i* P **P 14 34 33.3 -0.4**
baz=284
J30M Hart River 42.45 38 P P 14 34 35.5 +0.9
baz=281,SNR=10
GOMU GeErMu 42.53 277 P P 14 34 36.1 +0.2
GOMU PcP **PcP 14 36 28.1 +1.5**
GOMU pmax pmax
comp=Z,47nm,0.9s
M30M Minto, Yukon 42.66 41 P P 14 34 38.1 +2.0
M30M IAmb IAmb 14 35 43.2
comp=Z,29nm,2.0s
M30M Minto, Yukon 42.66 41 P P 14 34 36.2 0.0
baz=283
HYT Haines Junctio 42.73 43 IAmb IAmb 14 35 22.0
comp=Z,20nm,1.4s
HYT Haines Junctio 42.73 43 P P 14 34 38.0 +1.2
baz=284,SNR=5.3
N30M Aishikik Lake 42.77 42 P P 14 34 37.9 +0.7
baz=284
G31M Satah River 42.87 34 IAmb IAmb 14 34 40.0
comp=Z,14nm,1.0s
G31M Satah River 42.87 34 P P 14 34 38.3 +0.5
baz=280,SNR=14
P29M Windy Craggy 42.91 45 IAmb IAmb 14 34 42.2
comp=Z,8.6nm,0.6s
P29M Windy Craggy 42.91 45 P P 14 34 38.7 +0.5
baz=285,SNR=5.1
INK Inuvik 42.92 32 IAmb IAmb 14 34 40.4
comp=Z,14nm,0.7s
INK Inuvik 42.92 32 P P 14 34 38.8 +0.7
baz=279,SNR=15
INK Inuvik 42.92 32 P P 14 34 39.7 +1.6
INK pmax pmax
comp=Z,22nm,0.8s
F31M Tsiigehtchic 42.98 33 IAmb IAmb 14 34 40.9
comp=Z,20nm,0.8s
F31M Tsiigehtchic 42.98 33 P P 14 34 39.3 +0.6
baz=280,SNR=12
H31M Peel River 43.04 36 IAmb IAmb 14 34 41.6
comp=Z,11nm,0.6s
H31M Peel River 43.04 36 P P 14 34 39.9 +0.7
baz=281,SNR=9.2
P30M Million Dollar 43.16 44 P P 14 34 40.7 +0.4
baz=285
N31M Braeburn, Yuko 43.37 42 IAmb IAmb 14 34 48.5
comp=Z,13nm,0.7s
N31M Braeburn, Yuko 43.37 42 P P 14 34 42.1 +0.2
baz=285,SNR=5.5
PZH PanZhiHua 43.39 260 P P 14 34 43.2 +0.5
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,4.9s
O30N Mendenhall 43.41 43 P P 14 34 43.3 +1.0
baz=285
KMI Kunming 43.61 258 ⇓P **P 14 34 45.7 +1.2**
KMI pmax pmax
comp=Z,39nm,1.2s
PLBC Pleasant Camp 43.63 45 P P 14 34 44.5 +0.5
baz=286,SNR=8.2
WMQ Urumqi 43.66 291 *e*P **P 14 34 46.4 +1.9**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ LR LR
comp=Z,170nm,17.3s
WMQ LR LR
comp=Z,170nm,23.9s
M31M Drury Creek, Y 43.83 41 IAmb IAmb 14 34 48.5
comp=Z,7.7nm,0.6s
M31M Drury Creek, Y 43.83 41 P P 14 34 46.4 +0.8
baz=285,SNR=9.7
WHY Whitehorse 44.01 43 P P 14 34 49.0 +1.8
WHY IAmb IAmb 14 36 00.1
comp=Z,19nm,1.6s
WHY Whitehorse 44.01 43 P P 14 34 47.5 +0.3
baz=286
S31K Pelican 44.13 47 P P 14 34 49.4 +1.4
baz=288
SKAG Skagway 44.14 45 P P 14 34 48.3 +0.3
baz=287
R31K City Hall, Gus 44.24 46 P P 14 34 49.7 +0.9
baz=288
FARO Faro, Yukon 44.30 41 P P 14 34 50.3 +1.0
baz=286,SNR=9.1
SIT Sitka 44.88 48 P P 14 34 55.4 +1.4
baz=290
P32M Atlin 44.88 44 P P 14 34 55.0 +1.0
baz=288
R32K Eaglecrest 44.90 46 P P 14 34 56.1 +2.0
baz=289
A36M Sachs Harbour 45.01 26 P P 14 34 56.1 +1.3
baz=283,SNR=16
P33M Teslin, Yukon 45.12 43 P P 14 34 57.3 +1.4
baz=288
SLVN Son La 45.40 253 IAmb IAmb 14 35 01.4
comp=Z,18nm,1.0s
Q32M Nakina River 45.79 45 P P 14 35 02.5 +1.1
baz=290
MK31 Makanchi Array 45.79 297 IAmb IAmb 14 35 02.6
comp=Z,12nm,0.6s
MK31 Makanchi Array 45.79 297 *ce*P **P 14 34 59.8 -1.5**
MKAR Makanchi Array 45.79 297 P **P 14 35 00.3 -1.1**
MKAR Makanchi Array 45.79 297 P **P 14 35 00.4 -0.9**
comp=Z,11nm,0.6s,baz=74,slow=7.2,SNR=61
MKAR PcP **PcP 14 36 37.3 +0.2**
comp=Z,3.8nm,0.6s,baz=65,slow=4.1,SNR=7.0
MKAR ScP **ScP 14 40 19.8 -0.5**
comp=Z,2.3nm,0.7s,baz=60,slow=4.9,SNR=7.8
MKAR LR LR 14 54 42.6
comp=Z,151nm,20.8s,baz=148,slow=37
comp=Z,11nm,0.6s
MAKZ Makanchi 45.98 297 P P 14 35 01.7 -1.1
MAKZ IAmb IAmb 14 35 05.3
comp=Z,9.1nm,0.7s
MAKZ Makanchi 45.98 297 P P 14 35 01.7 -1.1
MAKZ pmax pmax
comp=Z,9.0nm,0.7s
C36M Paulatuk 46.04 29 P P 14 35 03.7 +0.8
baz=286,SNR=29
T33K Petersburg 46.19 48 P P 14 35 05.1 +0.8
baz=291
R33M Jennings River 46.27 44 P P 14 35 07.1 +2.0
baz=290
KURK Kurchatov 46.35 303 P P 14 35 04.1 -1.5
KURK IAmb IAmb 14 35 05.9
comp=Z,7.1nm,0.7s

KURK Kurchatov 46.35 303 P P 14 35 04.0 -1.6
KURK Kurchatov 46.35 303 eP P 14 35 04.5 -1.1
KURK Kurchatov 46.35 303⇑ eP P 14 35 04.5 -1.1
KURK pmax pmax
comp=Z,6.0nm,0.6s
KURK Kurchatov 46.35 303 P P 14 35 03.7 -1.9
KURK PcP PcP 14 36 39.0 +0.1
KURBB Kurchatov Arra 46.44 303 P P 14 35 04.4 -1.9
comp=Z,5.4nm,0.5s,baz=72,slow=8.6,SNR=25
KURBB PcP PcP 14 36 39.5 +0.2
comp=Z,3.9nm,0.7s,baz=70,slow=3.2,SNR=7.3
comp=Z,5.4nm,0.5s
TNCH TengChong 46.56 262 P P 14 35 09.3 +1.5
TNCH pP pP 14 35 29.8 -2.4
TNCH S S 14 41 38.5 -10
TNCH pmax pmax
comp=Z,91nm,0.8s
TNCH pmax pmax
comp=Z,240nm,3.4s
TNCH LR LR
comp=Z,84nm,4.7s
TNCH LR LR
comp=Z,90nm,5.2s
CRAG Craig 46.59 50 P P 14 35 09.2 +1.8
baz=292
WRAK Wrangell Islan 46.64 48 P P 14 35 09.4 +1.6
baz=292
S34M Telegraph Cree 46.71 46 P P 14 35 09.8 +1.4
baz=292
WTLY Watson Lake, Y 47.05 42 P P 14 35 12.1 +1.0
baz=291
DLBC Dease Lake 47.07 45 P P 14 35 13.0 +1.7
baz=292
V35K Ketchikan 47.44 49 P P 14 35 15.2 +1.2
baz=293
T35M Bob Quinn 47.50 47 IAmb IAmb 14 35 18.8
comp=Z,19nm,1.2s
T35M Bob Quinn 47.50 47 P P 14 35 15.9 +1.4
baz=293
KIP Kipapa 48.14 103 P P 14 35 22.2 +2.4
WRGLY Wrigley 48.29 37 P P 14 35 21.7 +1.3
baz=292
LSA Lhasa 48.74 272 i P P 14 35 26.9 +2.0
SNR=7.2
LSA Lhasa 48.74 272 P P 14 35 23.4 -1.5
LSA Lhasa 48.74 272 P P 14 35 26.8 +1.8
TOAD Toad River Com 49.22 43 P P 14 35 29.1 +1.4
baz=295
EUNU Eureka 49.94 11 P P 14 35 33.0 0.0
BVAR Borovoye Array 49.98 309 P P 14 35 32.3 -1.2
comp=Z,5.5nm,0.6s,baz=44,slow=7.4,SNR=23
BVAR PcP PcP 14 36 52.5 +0.5
comp=Z,7.5nm,0.3s,baz=81,slow=4.1,SNR=24
BVAR ScP ScP 14 40 37.4 -0.5
comp=Z,2.7nm,0.8s,baz=68,slow=4.0,SNR=6.9
BVAR LR LR 14 57 53.1
comp=Z,122nm,20.5s,baz=87,slow=37
comp=Z,5.5nm,0.6s
BRVK Borovoye 50.02 309 P P 14 35 33.0 -0.8
BRVK IAmb IAmb 14 35 34.6
comp=Z,7.6nm,0.7s
BRVK Borovoye 50.02 309 P P 14 35 32.6 -1.2
BRVK P P 14 35 33.8 0.0
BRVK Borovoye 50.02 309 ceP P 14 35 31.9 -1.9
BRVK pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 50.02 309 P P 14 35 32.0 -1.9
BRVK PcP PcP 14 36 52.6 +0.5
PRZ Przheval'sk 50.27 293 IAmb IAmb 14 35 39.9
comp=Z,15nm,0.8s
PRZ Przheval'sk 50.27 293 P P 14 35 36.9 +0.8
PRZ pmax pmax
comp=Z,22nm,0.8s
WUS Wushi 50.41 292 P P 14 35 37.2 +0.1
ALE Alert 50.41 5 P P 14 35 36.1 -0.2
ALE PcP PcP 14 36 54.0 +0.9
CM31 Chiang Mai Arr 50.73 255 P P 14 35 41.3 +1.7
CMAR Chiang Mai Arr 50.73 255 P P 14 35 41.3 +1.7
CMAR Chiang Mai Arr 50.73 255 P P 14 35 41.5 +1.9
comp=Z,19nm,0.7s,baz=36,slow=7.2,SNR=157
CMAR PcP PcP 14 36 57.0 +1.8
comp=Z,1.8nm,0.6s,baz=1.8,slow=2.0,SNR=4.3
CMAR ScP ScP 14 40 42.5 +1.0
comp=Z,2.1nm,0.8s,baz=13,slow=3.2,SNR=9.8
comp=Z,19nm,0.7s
SHL Shillong 50.79 267 P P 14 35 40.3 +0.1
SHL Shillong 50.79 267 P P 14 35 41.0 +0.8
POHA Pohakuloa 50.97 103 P P 14 35 43.8 +2.2
KDJ Kajisay 51.23 294 P P 14 35 43.2 -0.1
KDJ Kajisay 51.23 294 P P 14 35 43.2 -0.1
KDJ pmax pmax
comp=Z,14nm,0.7s
ULHL Ulahol 51.77 294 P P 14 35 48.6 +1.3
SNR=16
RES Resolute Bay 51.82 18 P P 14 35 47.1 +0.2
RES pmax pmax
comp=Z,27nm,0.9s
TKM2 Tokmak 2 51.82 295 P P 14 35 47.7 0.0
SNR=21
BOOM Boomskoye usch 51.83 295 P P 14 35 48.2 +0.5
BOOM pmax pmax
comp=Z,31nm,0.6s
YKA Yellowknife Ar 52.27 36 P P 14 35 50.6 +0.2
YKA Yellowknife Ar 52.27 36 P P 14 35 51.6 +1.2
comp=Z,9.0nm,0.6s,baz=300,slow=7.4,SNR=34
YKA pP pP 14 36 14.4 -0.1
comp=Z,4.0nm,0.9s,baz=302,slow=7.5,SNR=3.2
comp=Z,9.0nm,0.6s
YKA Yellowknife Ar 52.27 36 P P 14 35 50.6 +0.2
USP Ospenovka 52.33 296 P P 14 35 50.9 -0.3
SNR=17
NRN Naryn 52.35 294 IAmb IAmb 14 37 03.0
comp=Z,5.7nm,0.7s
KBK Karagaybulak 52.37 295 P P 14 35 53.2 +1.5
SNR=11
AAK Ala-Archa 52.66 296 P P 14 35 53.4 -0.4
AAK IAmb IAmb 14 35 56.0
comp=Z,7.3nm,0.7s
AAK Ala-Archa 52.66 296 i P P 14 35 53.8 -0.1
SNR=17
AAK Ala-Archa 52.66 296 P P 14 35 53.9 -0.1
AAK Ala-Archa 52.66 296 eP P 14 35 53.7 -0.1
AAK Ala-Archa 52.66 296 ceP P 14 35 53.7 -0.1
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 52.66 296 P P 14 35 53.4 -0.4
AAK PcP PcP 14 37 03.6 +1.2
SPITS Spitsbergen Ar 52.84 349 P P 14 35 53.0 -1.5
comp=Z,9.8nm,1.1s,baz=56,slow=9.2,SNR=8.1
SPITS PcP PcP 14 37 02.8 +0.5
comp=Z,14nm,1.0s,baz=94,slow=5.3,SNR=6.6
SPITS LR LR 15 01 08.3
comp=Z,51nm,19.2s,baz=34,slow=39
comp=Z,9.8nm,1.1s
EKS2 Erkin-Say 53.09 296 P P 14 35 58.4 +1.4
SNR=26
SVE Sverdlovsk 53.14 317⇓ eP P 14 35 55.8 -1.2
SVE pmax pmax
comp=Z,14nm,0.8s
ARLS Aral 53.18 295 P P 14 35 58.3 +0.6
ARLS pmax pmax
comp=Z,13nm,0.6s
KSH Kashi 53.40 292 P P 14 36 02.5 +3.2
KSH pmax pmax
comp=Z,14nm,0.8s
ARTI Arti 54.44 317 LR LR 15 00 47.5
comp=Z,88nm,19.4s,baz=48,slow=38
ARTI Arti 54.44 317 d i P P 14 36 04.6 -1.8
ARTI *PP pP 14 36 31.3 +0.6
ARTI 14 37 04.6
ARTI S S 14 43 33.5 -3.1
ARTI SS SKiKP 14 47 11.2 +6.4
ARTI pmax pmax
comp=Z,25nm,1.2s
ARTI Arti 54.44 317 P P 14 36 04.2 -2.2
ARTI PcP PcP 14 37 08.8 +0.1
OHH Osh 54.88 294 P P 14 36 11.1 +1.1
OHH pmax pmax
comp=Z,28nm,0.6s
TRKS Terek-Say 55.36 296 P P 14 36 13.6 +0.1
TRKS pmax pmax
comp=Z,31nm,0.7s
PMG Port Moresby 55.48 184 LR LR 14 56 29.1
comp=Z,52nm,21.5s,baz=269,slow=32
NEEM North Greenlan 55.84 6 i P P 14 36 15.4 -1.2
NEEM IAmb IAmb 14 36 17.0
comp=Z,15nm,0.8s
DRK Karamyk 56.10 294 P P 14 36 18.7 -0.2
DRK Karamyk 56.10 294 P P 14 36 18.7 -0.2
BTK Batken 56.39 295 P P 14 36 20.8 +0.1
BTK pmax pmax
comp=Z,26nm,0.8s
KIRV Kirov 57.25 322 LR LR 15 03 09.7
comp=Z,107nm,18.5s,baz=55,slow=38
ABKAR Akbulak array 57.55 309 P P 14 36 26.8 -1.9
ABKAR Akbulak array 57.55 309 IAmb IAmb 14 36 29.8
comp=Z,14nm,0.7s
ARCES ARCESS Array B 57.82 340 P P 14 36 29.3 -0.9
comp=Z,12nm,1.0s,baz=18,slow=5.9,SNR=9.9
ARCES PcP PcP 14 37 21.9 +0.3
comp=Z,6.7nm,0.9s,baz=58,slow=3.7,SNR=7.0
ARCES ScP ScP 14 41 10.1 -1.7
comp=Z,6.2nm,0.9s,baz=64,slow=5.5,SNR=4.3
comp=Z,12nm,1.0s
AKTO Aktyubinsk 57.90 311 LR LR 15 03 46.0
comp=Z,182nm,18.2s,baz=122,slow=38
SIMJ Simiganj 58.34 294 P P 14 36 33.7 -0.9
SIMJ Simiganj 58.34 294 P P 14 36 33.7 -0.9
G06A Carlson Farm, 58.52 56 IAmb IAmb 14 36 38.1
comp=Z,24nm,1.5s
NIL Nilore 58.58 287 P P 14 36 36.4 +0.2
NIL Nilore 58.58 287 P P 14 36 36.4 +0.2
NIL pmax pmax
comp=Z,31nm,0.7s
NIL Nilore 58.58 287 P P 14 36 36.3 +0.2
NIL PcP PcP 14 37 26.3 +1.0
KULM Kulim 59.45 243 P P 14 36 43.9 +1.6
KLMR Klimovskoe 59.73 328 eP P 14 36 40.7 -2.9
KLMR pmax pmax
comp=Z,13nm,0.7s
UPNV Upernavik 59.81 9 i P P 14 36 43.1 -0.8
UPNV IAmb IAmb 14 36 44.1
comp=Z,22nm,0.8s
KBL Kabul 60.80 291 P P 14 36 51.2 -0.4
KBL Kabul 60.80 291 P P 14 36 51.5 -0.1
SNR=6.6
KBL Kabul 60.80 291 P P 14 36 51.2 -0.4
KBL pmax pmax
comp=Z,20nm,1.1s
J08A Circle Bar Ran 60.89 57 IAmb IAmb 14 36 54.9
comp=Z,9.5nm,0.9s
PLID Pearl Lake 61.24 54 IAmb IAmb 14 37 24.5
comp=Z,11nm,0.9s
MSO Missoula 61.31 51 IAmb IAmb 14 37 33.6
comp=Z,5.8nm,0.8s
SUMG Summit 61.32 3 P P 14 36 55.1 +0.4
SUMG Summit 61.32 3 P P 14 36 55.1 +0.4
SUMG pmax pmax
comp=Z,45nm,0.9s
SUMG Summit 61.32 3 i P P 14 36 54.5 -0.2
SUMG IAmb IAmb 14 36 56.4
comp=Z,48nm,0.9s
WVOR Wild Horse Val 61.36 58 IAmb IAmb 14 37 25.5
comp=Z,9.7nm,0.8s
MTN Manton Dam 61.42 202 P P 14 36 56.8 +1.3
MTN IAmb IAmb 14 36 57.6
comp=Z,12nm,0.8s
BELG Belogornoye 61.87 317 LR LR 15 05 54.3
comp=Z,28nm,18.7s,baz=66,slow=38
FFC Flin Flon 62.13 39 P P 14 37 00.8 +0.9
PSI Prapat 62.45 242 P P 14 37 03.8 +1.1
PSI pmax pmax
comp=Z,9.0nm,0.7s
MPK Martis Peak 62.46 61 IAmb IAmb 14 37 05.4
comp=Z,17nm,1.0s
RPSI Rantau Prapat 62.54 242 P P 14 37 03.8 +0.7
RPSI IAmb IAmb 14 37 05.8
comp=Z,8.9nm,0.7s
PAHR Pah Rah Range 62.59 60 IAmb IAmb 14 37 06.0
comp=Z,8.8nm,1.0s
EMB Emerald Bay 62.62 61 IAmb IAmb 14 37 34.0
comp=Z,11nm,0.8s
EGMT Eagleton 62.77 48 IAmb IAmb 14 37 07.2
comp=Z,9.2nm,1.1s
PNTR Pine Nut 62.85 61 IAmb IAmb 14 37 08.1
comp=Z,10nm,0.8s
WAKR Walker 63.31 61 IAmb IAmb 14 37 38.5
comp=Z,9.0nm,0.9s
BOZ Bozeman (W) 63.33 51 IAmb IAmb 14 37 11.8
comp=Z,6.1nm,0.6s
BMN Battle Mountai 63.43 59 IAmb IAmb 14 37 39.5
comp=Z,12nm,0.7s
KVN Kaiserville 63.78 60 IAmb IAmb 14 37 14.1
comp=Z,12nm,0.9s
FINES FINESS Array B 63.83 334 P P 14 37 09.0 -2.0
comp=Z,5.0nm,0.6s,baz=38,slow=7.7,SNR=29
FINES PcP PcP 14 37 45.5 -0.5
comp=Z,6.8nm,0.7s,baz=73,slow=6.4,SNR=6.1
FINES LR LR 15 07 27.2
comp=Z,89nm,18.2s,baz=52,slow=38
comp=Z,5.0nm,0.6s
LHV Little Huntoon 64.04 61 IAmb IAmb 14 37 16.2
comp=Z,14nm,0.8s
NVAR Mina Array Bea 64.05 61 P P 14 37 14.3 +1.1
NVAR Mina Array Bea 64.05 61 P P 14 37 14.5 +1.3
comp=Z,6.2nm,0.7s,baz=269,slow=7.2,SNR=34
NVAR pP pP 14 37 38.6 -0.1
comp=Z,5.8nm,0.7s,baz=294,slow=6.4,SNR=9.5
comp=Z,6.2nm,0.7s
ICESG Greenland Ices 64.74 4 i P P 14 37 16.3 -1.0
ICESG IAmb IAmb 14 37 18.7
comp=Z,40nm,0.8s
OBN Obninsk 64.84 325 LR LR 15 07 15.1
comp=Z,52nm,21.2s,baz=351,slow=38
OBN Obninsk 64.84 325 ⇑ i P P 14 37 17.8 +0.1
OBN *PP pwP 14 37 46.0 -1.0
OBN e 14 37 51.6
OBN *SP sP 14 38 01.0 +7.1
OBN 14 39 43.3
OBN S S 14 45 50.0 -0.1
OBN pmax pmax
comp=Z,47nm,2.1s
OBN MLR MLR
comp=Z,69nm,17.0s
RLMT Red Lodge 64.91 50 IAmb IAmb 14 38 22.6
comp=Z,18nm,1.6s
DSP Deep Springs 64.93 62 IAmb IAmb 14 37 21.7
comp=Z,9.4nm,0.9s
TPAW Teton Pass 65.06 53 IAmb IAmb 14 37 52.8
comp=Z,8.7nm,0.8s
LOHW Long Hollow 65.17 52 IAmb IAmb 14 37 51.4
comp=Z,17nm,1.8s
HRA Herat 65.26 294 IAmb IAmb 14 37 23.6
comp=Z,26nm,1.6s
VRH Novokhopyorsk 65.40 319 eP P 14 37 18.3 -3.1
VRH pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 65.65 322 eP P 14 37 19.7 -3.3
LPSR pmax pmax
comp=Z,20nm,0.9s
Q12A Willow Creek R 65.74 58 IAmb IAmb 14 37 54.5
comp=Z,8.7nm,0.9s
R11B Troy Canyon, C 65.74 59 P P 14 37 25.5 +1.4
baz=311
SFJD Kangerlussuaq 65.92 9 LR LR 15 08 23.7
comp=Z,29nm,18.2s,baz=342,slow=38
SFJD Kangerlussuaq 65.92 9 i P P 14 37 23.9 -0.6
SKJI Sukabumi 66.05 229 P P 14 37 23.7 -2.3
DUG Dugway, Tooele 66.17 56 IAmb IAmb 14 37 57.3
comp=Z,7.4nm,0.8s
TPNV Topopah Spring 66.25 61 IAmb IAmb 14 37 29.9
comp=Z,9.6nm,0.8s
PDAR Pinedale Array 66.31 52 P P 14 37 28.3 +0.6
PDAR Pinedale Array 66.31 52 P P 14 37 29.0 +1.3
comp=Z,1.9nm,0.5s,baz=341,slow=0.3,SNR=25
PDAR pP pP 14 37 51.5 -1.8
comp=Z,5.0nm,0.7s,baz=318,slow=2.0,SNR=4.1
comp=Z,1.9nm,0.5s
GWY Greenwater Val 66.49 62 IAmb IAmb 14 37 31.2
comp=Z,11nm,0.8s
VSR Storozhevoye 66.53 320 eP P 14 37 26.3 -2.4
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 66.65 320 eP P 14 37 28.0 -1.4
VORD pmax pmax
comp=Z,10.0nm,0.8s
DY2G Dye2 66.86 7 i P P 14 37 28.3 -2.5
WB0 Warramunga Arr 67.36 197 IAmb IAmb 14 37 35.9
comp=Z,16nm,0.7s
WR0 Warramunga Arr 67.52 197 P P 14 37 35.9 +0.8
WR0 IAmb IAmb 14 37 37.3
comp=Z,12nm,0.9s
WRAB Tennant Creek 67.53 197 P P 14 37 36.0 +0.8
WRAB IAmb IAmb 14 37 37.5
comp=Z,14nm,1.0s
WRAB Tennant Creek 67.53 197 P P 14 37 36.0 +0.8
WRAB pmax pmax
comp=Z,14nm,1.0s
WB2 Warramunga Arr 67.54 197 IAmb IAmb 14 38 05.4
comp=Z,12nm,0.8s
WRA Warramunga Arr 67.54 197 P P 14 37 35.3 0.0
WRA Warramunga Arr 67.54 197 P P 14 37 36.1 +0.8
comp=Z,10nm,0.7s,baz=15,slow=6.8,SNR=73
WRA pP pP 14 38 01.3 +0.1
comp=Z,9.1nm,0.8s,baz=16,slow=6.6,SNR=8.0
comp=Z,10nm,0.7s
WRA Warramunga Arr 67.54 197 P P 14 37 35.3 0.0
ULM Lac du Bonnet 67.92 40 P P 14 37 37.5 0.0
comp=Z,4.8nm,0.4s,baz=309,slow=7.0,SNR=12
ULM pP PcP 14 38 01.6 -1.6
comp=Z,1.9nm,0.4s,baz=305,slow=3.1,SNR=2.0
comp=Z,4.8nm,0.4s
NC405 NORSAR Array S 68.02 340 IAmb IAmb 14 37 38.8
comp=Z,17nm,0.8s
NC204 NORSAR Array S 68.10 340 IAmb IAmb 14 38 29.4
comp=Z,29nm,1.4s
NB201 NORSAR Array S 68.17 340 IAmb IAmb 14 37 40.2
comp=Z,15nm,0.8s
NB2 NORSAR Subarra 68.20 340 P P 14 37 37.5 -1.6
comp=Z,5.4nm,0.8s,baz=28,slow=6.2
NB2 NORSAR Subarra 68.20 340 P P 14 37 37.2 -1.9
NOA NORSAR Array B 68.20 340 P P 14 37 37.8 -1.3
comp=Z,7.5nm,0.8s,baz=29,slow=6.3,SNR=20
NOA pP PcP 14 38 02.6 -1.6
comp=Z,0.7nm,0.5s,baz=31,slow=6.6,SNR=1.5
NOA LR LR 15 11 18.9
comp=Z,34nm,18.9s,baz=25,slow=39
comp=Z,7.5nm,0.8s
SRU San Rafael Swe 68.20 56 IAmb IAmb 14 37 41.9
comp=Z,7.9nm,0.9s
ISOG Isortoq, Green 68.30 4 i P P 14 37 37.7 -1.8
ISOG IAmb IAmb 14 37 41.0
comp=Z,111nm,1.2s
HFS Hagfors 68.38 339 P P 14 37 38.4 -1.8
comp=Z,4.7nm,0.4s,baz=45,slow=3.8,SNR=23
HFS LR LR 15 10 17.9
comp=Z,65nm,21.8s,baz=36,slow=38
comp=Z,4.7nm,0.4s
NORES NORESS Array B 68.39 340 P P 14 37 39.5 -0.7
NACGM Naroch 68.72 329 eP P 14 37 43.0 +0.7
comp=Z,11nm,0.8s,baz=38
HMU Henry Mountain 68.87 57 IAmb IAmb 14 38 14.2
comp=Z,8.7nm,0.8s
AKT Akhty 69.11 308 eP P 14 37 45.9 +0.7
AKT e 14 38 09.2
AKT pmax pmax
comp=Z,15nm,0.6s
BLYC Blythe 69.42 63 IAmb IAmb 14 37 49.6
comp=Z,9.3nm,0.8s
KIV Kislovodsk 70.03 313 P P 14 37 49.5 -1.3
KIV Kislovodsk 70.03 313 eP P 14 37 49.1 -1.7
KIV Kislovodsk 70.03 313 eP P 14 37 49.1 -1.7
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,42nm,18.0s
KBZ Khabaz 70.08 313 P P 14 37 50.7 -0.2
comp=Z,5.3nm,0.6s,baz=57,slow=3.7,SNR=19
KBZ LR LR 15 12 13.3
comp=Z,114nm,18.8s,baz=38,slow=39
comp=Z,5.3nm,0.6s
KBZ Khabaz 70.08 313 i P P 14 37 48.3 -2.6
KBZ pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 71.10 325 P P 14 37 55.3 -1.6
comp=Z,2.8nm,0.3s,baz=38,slow=6.2,SNR=22
AKASG LR LR 15 12 19.7
comp=Z,88nm,18.8s,baz=53,slow=38
comp=Z,2.8nm,0.3s
AKBB Malin Array Si 71.10 325 IAmb IAmb 14 37 58.2
comp=Z,6.8nm,0.7s
AKBB Malin Array Si 71.10 325 i P P 14 37 56.2 -0.7
AKBB pmax pmax
comp=Z,6.0nm,0.6s
KIEV Kiev 71.11 325 P P 14 37 55.2 -1.8
KIEV Kiev 71.11 325 P P 14 37 56.3 -0.7
KIEV Kiev 71.11 325 ⇑ P P 14 37 56.1 -0.9
KIEV Kiev 71.11 325 P P 14 37 56.1 -0.9
ASAR Alice Springs 71.25 196 P P 14 37 60.0 +1.9
ASAR Alice Springs 71.25 196 P P 14 38 00.1 +2.0
comp=Z,11nm,0.7s,baz=8.0,slow=5.1,SNR=159
ASAR pP pP 14 38 26.0 +1.8
comp=Z,8.5nm,0.8s,baz=13,slow=6.3,SNR=7.3
comp=Z,11nm,0.7s
ASAR Alice Springs 71.25 196 P P 14 38 00.0 +1.9
S22A 4UR Ranch, Cre 71.25 55 P P 14 37 59.5 +1.0
baz=315
Q24A Divide 71.34 53 P P 14 37 59.6 +0.6
baz=315
EYMN Ely 71.56 39 IAmb IAmb 14 38 52.7
comp=Z,16nm,1.3s
GNI Garni 71.66 309 LR LR 15 12 18.5
comp=Z,69nm,21.7s,baz=56,slow=38
ECSD EROS Data Cent 72.36 45 IAmb IAmb 14 38 29.8
comp=Z,15nm,1.1s
E38A The Farm, Brul 72.56 40 P P 14 38 06.0 +0.2
T25A Trinidad 73.04 54 P P 14 38 09.9 +0.7
baz=316
ANMO Albuquerque 73.43 57 P P 14 38 12.2 +0.8
ANMO Albuquerque 73.43 57 P P 14 38 12.2 +0.8
ANMO pmax pmax
comp=Z,4.0nm,0.9s
MILM Milestii Mici 74.24 323 ⇓ P P 14 38 15.7 0.0
MILM Milestii Mici 74.24 323 P P 14 38 15.6 0.0
GURO Guroymak-BITLI 74.27 310 IAmb IAmb 14 38 19.3
comp=Z,14nm,1.2s
121A Cookes Peak, D 74.35 59 IAmb IAmb 14 38 47.2
comp=Z,15nm,1.4s
121A Cookes Peak, D 74.35 59 P P 14 38 17.5 +0.8
baz=315
SCHQ Schefferville 74.38 22 IAmb IAmb 14 38 55.1
comp=Z,27nm,1.3s
SCHQ Schefferville 74.38 22 P P 14 38 16.9 +0.5
comp=Z,9.2nm,0.5s,baz=353,slow=6.1,SNR=33
SCHQ pP pP 14 38 41.1 -1.0
comp=Z,4.9nm,0.5s,baz=20,slow=5.2,SNR=1.7
comp=Z,9.2nm,0.5s
KWP Kalwaria Pacla 74.45 328 eP P 14 38 18.0 +1.1
SHME Shamm 74.75 292 P P 14 38 18.3 -0.7
SHME Shamm 74.75 292 P P 14 38 18.9 0.0
OJC Ojcow 75.00 330 eP P 14 38 20.7 +0.7
OJC Ojcow 75.00 330 IAmb IAmb 14 38 21.9
comp=Z,14nm,0.7s
OJC Ojcow 75.00 330 P P 14 38 21.1 +1.1
OJC pmax pmax
comp=Z,25nm,0.8s
WSAR Wadi Sarin 75.07 288 P P 14 38 21.6 +0.8
comp=Z,3.7nm,0.5s,baz=95,slow=7.3,SNR=9.9
comp=Z,3.7nm,0.5s
BUR08 Bucovina Ar. S 75.13 325 IAmb IAmb 14 38 22.6
comp=Z,13nm,0.6s
BURAR Bucovina Array 75.15 325 P P 14 38 20.1 -0.9
BURAR IAmb IAmb 14 38 23.0
comp=Z,16nm,0.7s
BURAR Bucovina Array 75.15 325 ⇑ P P 14 38 20.8 -0.2
BURAR Bucovina Array 75.15 325 P P 14 38 20.8 -0.2
STHS Stebnicka Huta 75.17 329 eP P 14 38 21.6 +0.6
STHS pmax pmax
comp=Z,11nm,0.8s
STHS Stebnicka Huta 75.17 329 eP P 14 38 21.6 +0.6
MDH Madha 75.17 291 P P 14 38 21.8 +0.4
MDH Madha 75.17 291 P P 14 38 21.6 +0.2
KOLS Kolonicke sedl 75.19 328 eP P 14 38 22.3 +1.2
KOLS pmax pmax
comp=Z,13nm,0.8s
KOLS Kolonicke sedl 75.19 328 eP P 14 38 22.3 +1.2
MASF Masafi 75.21 291 P P 14 38 22.3 +0.7
MSFE Esma-Masafi 75.22 291 P P 14 38 22.3 +0.6
WBK Wadi Bani Khal 75.28 287 P P 14 38 23.6 +1.5
JLN Jalan Bani Buh 75.31 287 P P 14 38 23.3 +1.1
SNR=8.5
UOSS Minazif 75.48 291 P P 14 38 22.9 -0.3
UOSS Minazif 75.48 291 P P 14 38 23.2 +0.1
UOSS Minazif 75.48 291 P P 14 38 23.3 +0.2
NIE Niedzica 75.50 329 eP P 14 38 24.7 +1.8
NIE Niedzica 75.50 329 P P 14 38 25.0 +2.1
NIE pmax pmax
comp=Z,9.0nm,0.9s

SMDO Samad 75.58 288 P **P 14 38 24.8 +0.9**
HATD Hatta, Dubai 75.61 291 *i* P **P 14 38 24.2 +0.3**
SNR=8.3
HATD Hatta, Dubai 75.61 291 P **P 14 38 24.4 +0.5**
KSP Ksiaz 75.65 332 P **P 14 38 24.6 +0.9**
KSP pmax pmax
comp=Z,15nm,1.1s
HOQ Hoqain 75.70 289 P **P 14 38 25.1 +0.7**
ASHO Ashiyiah 75.75 291 P **P 14 38 24.8 0.0**
NAZ Nazwa, Dubai 75.80 291 P **P 14 38 25.6 +0.6**
ARPR Arapgir-MALATY 75.81 312 IAmb IAmb 14 38 28.1
comp=Z,12nm,0.8s
SOHO SOHO 75.83 290 P **P 14 38 24.7 -0.5**
SOHO SOHO 75.83 290 P **P 14 38 24.3 -0.8**
FAQ Al Faqa, Dubai 76.01 291 *i* P **P 14 38 26.2 +0.1**
SNR=6.8
FAQ Al Faqa, Dubai 76.01 291 P **P 14 38 26.3 +0.1**
LANS Liptovska Anna 76.02 329 *e*P **P 14 38 27.6 +1.7**
LANS pmax pmax
comp=Z,9.0nm,0.9s
LANS Liptovska Anna 76.02 329 *e*P **P 14 38 27.6 +1.7**
JMDO Jabal Madar 76.03 288 ⇑P **P 14 38 27.1 +0.8**
SNR=6.3
DPC Dobruska-Polom 76.07 332 *e*P **P 14 38 27.1 +1.0**
DPC Dobruska-Polom 76.07 332 *e*P **P 14 38 27.1 +1.0**
KRLC Kraliky 76.15 332 P **P 14 38 27.7 +1.1**
KRLC pmax pmax
comp=Z,12nm,1.1s
MORC Moravsky Berou 76.15 331 IAmb IAmb 14 38 28.7
comp=Z,14nm,0.9s
MORC Moravsky Berou 76.15 331 *e*P **P 14 38 27.4 +0.8**
MORC Moravsky Berou 76.15 331 ⇑P **P 14 38 26.5 -0.1**
MORC Moravsky Berou 76.15 331 P **P 14 38 26.5 -0.1**
AMTX Amarillo 76.20 54 IAmb IAmb 14 38 57.6
comp=Z,11nm,0.9s
ASUD Al Ashush, Dub 76.27 291 P **P 14 38 28.0 +0.4**
ASUD Al Ashush, Dub 76.27 291 P **P 14 38 28.0 +0.4**
CLL Collm 76.28 334 IAmb IAmb 14 38 34.0
comp=Z,13nm,1.0s
CLL Collm 76.28 334 ⇑ *i*P **P 14 38 27.4 +0.2**
CLL *i* 14 38 32.1
CLL pmax pmax
comp=Z,19nm,1.2s
CLL Collm 76.28 334 ⇑ *i*P **P 14 38 27.4 +0.2**
comp=Z,19nm,1.2s
CLL *i* x x 14 38 32.1
comp=Z,15nm,1.1s
CLL *i* PcP **PcP 14 38 38.3 -0.4**
comp=Z,10.0nm,1.1s
ARMA Armidale 76.29 179 IAmb IAmb 14 38 31.5
comp=Z,12nm,0.8s
BSY Bisya 76.36 289 P **P 14 38 28.4 +0.2**
SNR=15
BRG Berggiesshubel 76.37 334 *e*P **P 14 38 28.1 +0.4**
BRG Amp 14 38 29.5
comp=Z,4.6nm,0.9s
BRG Berggiesshubel 76.37 334 P P 14 38 34.1 +6.4
BRG Amp 14 38 34.9
comp=Z,7.2nm,0.9s
BRG Berggiesshubel 76.37 334 *e*P **P 14 38 28.1 +0.4**
BRG 14 38 34.1
BRG pmax pmax
comp=Z,5.0nm,0.9s
ALNE Al Ain 76.39 290 *i* P **P 14 38 28.9 +0.5**
SNR=6.9
ALNE Al Ain 76.39 290 P **P 14 38 28.4 0.0**
ARQ Araqi 76.39 289 P **P 14 38 28.6 +0.2**
EKA Eskdalemuir Ar 76.46 345 P **P 14 38 27.7 -0.5**
comp=Z,3.1nm,0.5s,baz=19,slow=5.4,SNR=15
comp=Z,3.1nm,0.5s
MLR Muntele Rosu 76.58 324 LR LR 15 15 34.0
comp=Z,54nm,18.6s,baz=54,slow=38
MLR Muntele Rosu 76.58 324 ⇑P **P 14 38 27.8 -1.5**
MLR Muntele Rosu 76.58 324 P **P 14 38 27.7 -1.5**
DRGR 76.80 326 ⇓P **P 14 38 30.1 -0.2**
DRGR 76.80 326 P **P 14 38 30.1 -0.2**
VYHS Vyhne 76.80 329 *e*P **P 14 38 31.3 +1.0**
VYHS pmax pmax
comp=Z,20nm,1.4s
VYHS Vyhne 76.80 329 *e*P **P 14 38 31.3 +1.0**
VRAC Vranov 76.87 331 LR LR 15 16 41.0
comp=Z,59nm,18.9s,baz=23,slow=39
VRAC Vranov 76.87 331 *e*P **P 14 38 31.6 +0.9**
VRAC Vranov 76.87 331 ⇓P **P 14 38 30.1 -0.6**
VRAC Vranov 76.87 331 P **P 14 38 30.0 -0.6**
JAVC Velka Javorina 76.89 330 *e*P **P 14 38 32.6 +1.8**
PSZ Piszkesteto 76.91 329 P **P 14 38 32.2 +1.2**
PSZ pmax pmax
comp=Z,13nm,1.1s
PRU Pruhonice 76.95 333 *e*P **P 14 38 31.5 +0.4**
PRU Pruhonice 76.95 333 *e*P **P 14 38 31.5 +0.4**
VOIR 76.99 324 ⇑P **P 14 38 31.1 -0.3**
VOIR 76.99 324 P **P 14 38 31.1 -0.3**
MHTO MHTO 77.08 287 P **P 14 38 33.1 +0.8**
KRUC Moravsky 77.15 331 *e*P **P 14 38 32.9 +0.7**
KRUC Moravsky 77.15 331 P **P 14 38 33.2 +1.0**
KRUC pmax pmax
comp=Z,16nm,1.2s
TREC Trest 77.25 332 P **P 14 38 33.9 +1.1**
TREC pmax pmax
comp=Z,9.0nm,2.3s
MOX Moxa 77.27 335 P **P 14 38 33.1 +0.2**
MOX pmax pmax
comp=Z,10.0nm,1.8s
MODS Modra-Piesok 77.45 330 *e*P **P 14 38 35.3 +1.4**
MODS pmax pmax
comp=Z,37nm,1.1s
MODS Modra-Piesok 77.45 330 *e*P **P 14 38 35.3 +1.4**
ZVC Zvikov 77.54 333 *e*P **P 14 38 34.9 +0.5**
JRN Qarnain Island 77.64 293 P **P 14 38 34.8 -0.5**
BR131 Keskin Array S 77.68 315 P **P 14 38 35.9 +0.4**
BR131 Keskin Array S 77.68 315 P **P 14 38 35.9 +0.4**
BR131 pmax pmax
comp=Z,9.0nm,1.1s
BRTR Keskin Array B 77.68 315 P **P 14 38 35.7 +0.2**
comp=Z,3.0nm,0.8s,baz=84,slow=3.6,SNR=12
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 77.68 315 *i* P **P 14 38 36.5 +1.0**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
UMZA Um Al Zommool 77.72 290 P **P 14 38 36.0 +0.2**
MZWR Madinat Zayed 77.81 292 P **P 14 38 36.4 +0.1**
KBD Kabd 77.83 299 P **P 14 38 37.5 +1.2**
SURR Surduc 77.89 326 ⇓P **P 14 38 35.6 -0.7**
GZR Gura Zlata 77.93 325 ⇑P **P 14 38 35.5 -1.3**
GZR Gura Zlata 77.93 325 P **P 14 38 35.4 -1.3**
KIRS Kirsehir-Merke 78.00 315 ⇑P **P 14 38 37.3 +0.1**
KHC Kasperske Hory 78.01 333 IAmb IAmb 14 38 38.6
comp=Z,12nm,0.8s
KHC Kasperske Hory 78.01 333 *e*P **P 14 38 37.8 +0.8**
KHC Kasperske Hory 78.01 333 *e*P **P 14 38 37.8 +0.8**
CKRC Cesky Krumlov 78.05 332 *e*P **P 14 38 37.9 +0.7**
CKRC Cesky Krumlov 78.05 332 *e*P **P 14 38 37.9 +0.7**
SHMA Al-Shehemyia 78.19 295 P **P 14 38 38.7 +0.4**
STKA Stephens Creek 78.19 188 P **P 14 38 40.0 +2.0**
comp=Z,4.7nm,0.8s,baz=32,slow=4.9,SNR=6.1
comp=Z,4.7nm,0.8s
BZS Buzias 78.20 326 P **P 14 38 38.5 +0.4**
BZS pmax pmax
comp=Z,13nm,1.5s
WET Wettzell 78.22 333 P **P 14 38 39.2 +1.0**
WET pmax pmax
comp=Z,13nm,1.1s
GERES GERESS Array B 78.22 333 P **P 14 38 37.4 -0.8**
comp=Z,3.4nm,0.5s,baz=28,slow=6.0,SNR=7.7
comp=Z,3.4nm,0.5s
GRF Grafenberg Arr 78.24 335 *e*P **P 14 38 39.0 +0.8**
comp=Z,8.5nm,0.9s,baz=27,slow=4.3
CONA Conrad Observa 78.31 331 *i* P **P 14 38 39.8 +1.0**
comp=Z,6.1nm,0.5s,SNR=6.2
RONA Rosalia, Austr 78.36 331 *e*P **P 14 38 40.1 +1.1**
comp=Z,3.1nm,0.4s
S39A Bolivar 78.56 47 IAmb IAmb 14 39 42.9
comp=Z,29nm,1.8s
MZR Muzera 78.61 291 *i* P **P 14 38 40.9 +0.2**
SNR=28
MZR Muzera 78.61 291 P **P 14 38 41.0 +0.3**
MORH Mrgy, Hungar 78.81 328 ⇑P **P 14 38 40.2 -1.2**
BTNL Ternell 78.85 338 *d*P **P 14 38 42.0 +0.4**
MEM Membach 78.86 338 *d*P **P 14 38 41.5 -0.1**
comp=Z,14nm,1.0s
MOA Molln 78.91 332 *e*P **P 14 38 42.4 +0.4**
comp=Z,2.0nm,0.3s
BSTI Sart Tilman 79.00 338 *d*P **P 14 38 42.4 +0.1**

SMRA Abu-Samra 79.07 294 P **P 14 38 43.0 -0.1**
BHOU Houvegnez 79.10 338 *d*P **P 14 38 43.0 +0.1**
comp=Z,11nm,0.9s
TXAR Lajitas Array 79.10 59 P **P 14 38 44.5 +1.0**
TXAR Lajitas Array 79.10 59 P **P 14 38 44.4 +0.9**
comp=Z,4.7nm,0.5s,baz=317,slow=6.3,SNR=23
TXAR pP **pP 14 39 08.6 -1.4**
comp=Z,4.7nm,0.6s,baz=315,slow=4.2,SNR=6.7
comp=Z,4.7nm,0.5s
BCLA Clavier 79.22 338 *d*P **P 14 38 43.0 -0.6**
comp=Z,13nm,0.7s
SLBS Sierra La Lagu 79.29 67 P **P 14 38 45.6 +1.1**
SLBS IAmb IAmb 14 38 48.0
comp=Z,13nm,1.1s
BGES Gesves 79.31 339 *d*P **P 14 38 45.8 +1.7**
comp=Z,9.8nm,0.8s
BMRD Maredsous 79.46 339 *d*P **P 14 38 45.3 +0.4**
comp=Z,11nm,0.9s
RCHB Rochefort 79.48 338 *d*P **P 14 38 45.4 +0.4**
SOKA Soboth 79.68 331 *e*P **P 14 38 46.7 +0.5**
comp=Z,2.6nm,0.3s,SNR=7.3
WLF Walferdange 79.69 338 *d*P **P 14 38 50.1 +3.9**
DOU Dourbes 79.70 339 *d*P **P 14 38 45.7 -0.4**
GROS Grobnik 79.71 330 *e*P **P 14 38 46.7 +0.3**
LESA Schwarzleotal 79.80 333 *e*P **P 14 38 47.5 +0.6**
comp=Z,7.0nm,0.4s
BOVS Bovan 79.82 325 ⇓P **P 14 38 45.6 -1.3**
BAIF Baives 79.83 339 *e*P **P 14 38 50.2 +3.3**
BAIF pmax pmax
comp=Z,31nm,1.3s
KBA Konbnbreinsper 79.89 332 *e*P **P 14 38 48.2 +0.7**
comp=Z,12nm,0.6s,SNR=9.9
KBA Koelnbreinsper 79.89 332 P **P 14 38 48.5 +1.0**
KBA pmax pmax
comp=Z,40nm,0.8s
WATA Walderalm 80.22 333 *i* P **P 14 38 50.0 +0.7**
comp=Z,13nm,0.6s
PDKS Podkum 80.23 331 *e*P **P 14 38 49.1 0.0**
WTTA Wattenberg 80.27 333 *e*P **P 14 38 49.5 0.0**
comp=Z,18nm,0.5s,SNR=6.7
WTTA Wattenberg 80.27 333 P **P 14 38 50.4 +0.9**
WTTA pmax pmax
comp=Z,36nm,0.9s
BFO Black Forest 80.30 336 P **P 14 38 49.5 0.0**
BFO IAmb IAmb 14 38 53.0
comp=Z,15nm,0.8s
BFO Black Forest 80.30 336 P **P 14 38 49.5 0.0**
BFO pmax pmax
comp=Z,15nm,0.8s
RETA Reutte 80.34 334 *e*P **P 14 38 50.3 +0.5**
comp=Z,12nm,1.1s
MOTA Moosalm 80.36 334 *i* P **P 14 38 50.4 +0.4**
comp=Z,16nm,0.7s
PRED Cave del Predi 80.37 332 IAmb IAmb 14 38 50.3
comp=Z,8.7nm,0.7s
O48B Farmland 80.42 40 P **P 14 38 51.1 +0.9**
baz=325
SQTA Sankt Quirin 80.44 333 *i* P **P 14 38 51.1 +0.7**
comp=Z,15nm,0.8s
VISS Visnje 80.51 330 *e*P **P 14 38 50.5 -0.1**
CDF Champ du Feu 80.53 336 *e*P **P 14 38 50.4 -0.4**
CDF pmax pmax
comp=Z,16nm,0.9s
RAR Rarotonga 80.63 134 LR LR 15 15 05.6
comp=Z,29nm,19.1s,baz=234,slow=36
ECH Echery 80.74 336 P **P 14 38 51.7 -0.1**
ECH IAmb IAmb 14 38 52.8
comp=Z,14nm,0.8s
ECH Echery 80.74 336 P **P 14 38 51.7 -0.1**
ECH pmax pmax
comp=Z,14nm,0.8s
FETA Feichten 80.77 334 *e*P **P 14 38 52.6 +0.4**
comp=Z,6.3nm,0.9s
SLE Schleitheim 80.77 335 P **P 14 38 51.8 -0.2**
SLE pmax pmax
comp=Z,15nm,1.2s
DAVA Damuels 80.79 334 *e*P **P 14 38 52.8 +0.5**
comp=Z,15nm,0.8s
DRIO Del Rio 80.83 57 IAmb IAmb 14 38 55.0
comp=Z,10nm,0.8s
HAU Haudompre 81.15 337 *e*P **P 14 38 53.5 -0.5**
HAU pmax pmax
comp=Z,7.0nm,0.6s
HINF Hinteralfeld 81.19 336 *e*P **P 14 38 53.5 -0.7**
HINF pmax pmax
comp=Z,6.0nm,0.8s
FUORN Ofenpass-Fuorn 81.27 334 IAmb IAmb 14 38 58.7
comp=Z,23nm,1.4s
DOK Doka 81.30 288 P **P 14 38 55.6 +0.4**
CTI Castel Tesino 81.34 333 P **P 14 38 54.5 -0.7**
CTI IAmb IAmb 14 38 55.2
comp=Z,9.8nm,0.8s
CTI Castel Tesino 81.34 333 P **P 14 38 54.5 -0.7**
CTI pmax pmax
comp=Z,10.0nm,0.8s
DMTO DMTO 81.40 286 P **P 14 38 55.7 0.0**
BATG Bathurst New B 81.42 24 P **P 14 38 55.8 +0.4**
BATG IAmb IAmb 14 38 57.0
comp=Z,22nm,1.2s
TUE Stuetta 81.68 334 IAmb IAmb 14 39 00.3
comp=Z,15nm,0.8s
PDG Podgorica 81.80 326 IAmb IAmb 14 38 58.1
comp=Z,16nm,0.7s
PDG Podgorica 81.80 326 ⇑P **P 14 38 57.2 -0.3**
PUK Puka 81.88 325 IAmb IAmb 14 38 59.4
comp=Z,7.6nm,0.7s
MMAI Mount Meron Ar 81.97 310 P **P 14 38 59.5 +0.8**
comp=Z,9.4nm,0.5s,baz=54,slow=8.5,SNR=3.9
MMAI LR LR 15 19 48.2
comp=Z,82nm,19.7s,baz=325,slow=39
comp=Z,9.4nm,0.5s
WHFO Wadi Hawf 82.03 287 P **P 14 38 59.2 0.0**
RBK Rabkut 82.04 287 P **P 14 38 59.2 0.0**
RBK P **PcP 14 38 59.4 -5.0**
FLN La Foliniere 82.15 341 *e*P **P 14 38 59.4 +0.2**
FLN pmax pmax
comp=Z,46nm,1.1s
TAOE Nuku Hiva Isla 82.19 111 *e*LR LR 15 04 35.1
comp=Z,158nm,31.6s
LDF La Druitiere 82.22 341 *e*P **P 14 38 59.7 +0.1**
LDF pmax pmax
comp=Z,68nm,1.1s
FNA Florina 82.34 324 IAmb IAmb 14 39 01.0
comp=Z,11nm,0.9s
LOR Lormes 82.50 338 P **P 14 39 01.6 +0.5**
LOR pmax pmax
comp=Z,27nm,1.2s
CABF La Chapelle 82.50 336 *e*P **P 14 39 03.1 +1.9**
CABF pmax pmax
comp=Z,25nm,1.3s
GRR Gorron 82.58 341 *e*P **P 14 39 01.4 -0.1**
GRR pmax pmax
comp=Z,33nm,0.6s
ABTO Aybut 82.75 287 P **P 14 39 03.0 +0.1**
SSF Saint Saulge 82.78 338 *e*P **P 14 39 02.6 +0.1**
SSF pmax pmax
comp=Z,13nm,0.8s
AVF Avril sur Loir 83.07 338 *e*P **P 14 39 04.4 +0.4**
AVF pmax pmax
comp=Z,21nm,1.0s
SGMF Saint Gilles 83.08 342 *e*P **P 14 39 03.9 -0.1**
SGMF pmax pmax
comp=Z,80nm,1.0s
SMF Signal de Mont 83.08 338 *e*P **P 14 39 04.6 +0.5**
SMF pmax pmax
comp=Z,41nm,0.9s
PPT Papeete 83.14 124 LR LR 15 05 53.0
comp=Z,50nm,21.9s,baz=322,slow=28
ROSF Rostrenen 83.14 343 *e*P **P 14 39 04.3 -0.1**
ROSF pmax pmax
comp=Z,50nm,1.1s
PPT2 Papeete2 83.15 124 *e*LR LR 15 05 10.5
comp=Z,118nm,27.2s
PPT2 *e*LR LR 15 05 11.9
comp=Z,113nm,27.8s
T50A Nancy 83.20 42 IAmb IAmb 14 39 34.6
comp=Z,8.5nm,0.8s
RAYN Ar Rayn 83.28 297 P **P 14 39 05.6 0.0**
RAYN IAmb IAmb 14 39 07.3
comp=Z,20nm,0.9s
RAYN Ar Rayn 83.28 297 *i* P **P 14 39 06.3 +0.8**
SNR=18
RAYN Ar Rayn 83.28 297 P **P 14 39 06.5 +0.9**
RAYN Ar Rayn 83.28 297 P **P 14 39 05.6 0.0**
RAYN pmax pmax
comp=Z,20nm,1.0s

LPL La Plagne 83.32 335 *e*P **P 14 39 06.8 +1.2**
LPL pmax pmax
comp=Z,22nm,0.8s
LPG La Plagne 83.33 335 *e*P **P 14 39 07.0 +1.2**
LPG pmax pmax
comp=Z,36nm,1.0s
BGF Bois d'Agland 83.42 338 *e*P **P 14 39 07.2 +1.4**
BGF pmax pmax
comp=Z,12nm,0.7s
FDMO Fiordimonte 83.53 330 IAmb IAmb 14 39 07.8
comp=Z,9.9nm,0.8s
L61B Northampton 83.59 31 P **P 14 39 07.5 +0.8**
baz=332
TCF Toulx Ste Croi 83.83 339 *e*P **P 14 39 08.1 +0.1**
TCF pmax pmax
comp=Z,26nm,1.0s
MFF Saint Martin d 84.11 340 *e*P **P 14 39 09.4 +0.1**
MFF pmax pmax
comp=Z,18nm,0.6s
ORIF Oris-en-Rattie 84.11 336 *e*P **P 14 39 10.4 +0.9**
ORIF pmax pmax
comp=Z,28nm,0.8s
SSB Saint Sauveur 84.15 337 IAmb IAmb 14 39 12.2
comp=Z,17nm,0.9s
SSB Saint Sauveur 84.15 337 P **P 14 39 08.6 -1.0**
SSB pmax pmax
comp=Z,24nm,1.4s
INTR Introdacqua 84.15 329 IAmb IAmb 14 39 11.1
comp=Z,16nm,0.9s
SWET Sewanee 84.15 44 IAmb IAmb 14 39 39.2
comp=Z,9.5nm,0.8s
SBF Sospel 84.62 334 *e*P **P 14 39 12.0 -0.1**
SBF pmax pmax
comp=Z,27nm,0.7s
EIL Elat 84.81 308 LR LR 15 21 41.6
comp=Z,44nm,18.7s,baz=69,slow=39
RJF Les Rejaudoux 84.92 339 *e*P **P 14 39 13.8 +0.3**
RJF pmax pmax
comp=Z,94nm,1.7s
CAF Calviac 85.14 338 *e*P **P 14 39 15.3 +0.7**
CAF pmax pmax
comp=Z,24nm,0.9s
LMR La Mourre 85.38 335 *e*P **P 14 39 15.7 0.0**
LMR pmax pmax
comp=Z,64nm,1.2s
TIP Timpagrande 85.56 326 ⇓P **P 14 39 16.3 -0.5**
MTLF Montolieu 86.57 338 *e*P **P 14 39 22.3 +0.6**
MTLF pmax pmax
comp=Z,38nm,1.3s
ETSF Etsaut 87.69 339 *e*P **P 14 39 25.5 -1.7**
TBI Tubuai 87.80 127 *e*LR LR 15 07 15.1
comp=Z,613nm,31.8s
VAE Valguarnera 87.94 327 LR LR 15 22 50.7
comp=Z,54nm,18.3s,baz=73,slow=38
KEST Kesra 91.35 330 P **P 14 39 44.3 -0.1**
comp=Z,12nm,0.8s,baz=1.5,slow=3.8,SNR=9.9
KEST LR LR 15 24 34.8
comp=Z,51nm,20.2s,baz=265,slow=38
comp=Z,12nm,0.8s
ESDC Sonseca Array 91.56 341 P **P 14 39 44.2 -1.0**
ESDC IAmb IAmb 14 39 45.3
comp=Z,3.8nm,1.1s
ESDC Sonseca Array 91.56 341 P **P 14 39 43.8 -1.4**
comp=Z,2.9nm,0.8s,baz=9.3,slow=3.5,SNR=12
comp=Z,2.9nm,0.8s
RKT Rikitea 96.12 117 *e*LR LR 15 10 49.3
comp=Z,728nm,36.5s
MDT Midelt 98.25 339 LR LR 15 30 12.1
comp=Z,37nm,18.5s,baz=6.5,slow=39
FURI Furi 98.53 292 LR LR 15 29 35.5
comp=Z,18nm,18.3s,baz=103,slow=38
TORD Torodi Ar. Bea 114.70 327 PKiKP **PKiKP 14 45 18.4 -0.3**
comp=Z,0.6nm,0.3s,baz=23,slow=2.5,SNR=11
MAW Mawson 130.96 210 PKP **PKiKP 14 45 50.0 +0.9**
comp=Z,1.0nm,0.6s,baz=115,slow=15,SNR=2.6
MAW SKPbc **SKPab 14 49 04.3 +1.2**
comp=Z,8.0nm,1.0s,baz=74,slow=4.5,SNR=12
MAW Mawson 130.96 210 PKiKP **PKiKP 14 45 50.0 +0.9**
LPAZ La Paz 135.96 60 SKPbc **SKPbc 14 49 20.9 -1.0**
comp=Z,1.3nm,0.5s,baz=6.3,slow=4.6,SNR=6.2
QSPA South Pole Qui 135.97 180 PKhKP PKPpre 14 45 47.5
comp=Z,1.2nm,0.8s,baz=269,slow=3.2,SNR=5.8
QSPA PKP **PKPdf 14 45 58.4 +0.7**
comp=Z,2.2nm,0.8s,baz=270,slow=3.0,SNR=8.6
QSPA SKPbc **SKPbc 14 49 18.8 -0.9**
comp=Z,3.8nm,1.1s,baz=358,slow=3.0,SNR=3.9
H03N2 Juan Fernandez 140.31 89 T T 17 22 56.1
baz=307,slow=77,SNR=146
H03N1 Juan Fernandez 140.33 89 T T 17 22 57.5
baz=307,slow=77,SNR=311
H03N3 Juan Fernandez 140.33 89 T T 17 22 57.0
baz=307,slow=77,SNR=258
ELIB Princess Elisa 144.66 205 *d*P **PKPdf 14 46 14.6 +1.2**
ELIB *d*pP **pPKPdf 14 46 41.1 -0.4**
BDFB Brasilia 145.66 34 PKPbc **PKPab 14 46 17.8 +0.2**
comp=Z,6.3nm,0.6s,baz=330,slow=1.9,SNR=7.0
BDFB pPKPbc pPKPbc 14 46 44.3 -0.7
comp=Z,5.9nm,0.8s,baz=264,slow=7.0,SNR=2.7
BDFB SKPbc **SKPbc 14 49 46.4 -0.5**
comp=Z,2.5nm,0.5s,baz=1.4,slow=3.3,SNR=4.5
PLCA Paso Flores 149.72 95 PKPbc **PKiKP 14 46 28.8 +0.3**
comp=Z,9.0nm,0.7s,baz=281,slow=3.2,SNR=26
CPUP Villa Florida 150.07 58 PKPbc **PKiKP 14 46 29.4 -0.1**
comp=Z,1.6nm,0.7s,baz=319,slow=7.4,SNR=2.5
CPUP pPKPbc **pPKPbc 14 46 56.3 -0.3**
comp=Z,9.9nm,0.9s,baz=337,slow=4.0,SNR=9.6
SNAA Sanae 151.61 197 ⇑P **PKiKP 14 46 31.5 +0.1**
SNAA Sanae 151.61 197 PKPbc **PKiKP 14 46 31.6 +0.2**
comp=Z,4.3nm,0.8s,baz=153,slow=5.9,SNR=8.9
SNAA pPKPbc **pPKPbc 14 46 58.5 -0.5**
comp=Z,5.2nm,0.8s,baz=155,slow=3.6,SNR=5.7
VNA2 Neumayer--Watz 153.09 196 ⇑P **PKiKP 14 46 34.8 +0.4**
baz=162,slow=1.8
VNA2 Neumayer--Watz 153.09 196 ⇑P PKPab 14 47 00.0 +14
baz=162,slow=1.8
VNA3 Neumayer Olymp 153.23 194 ⇑P PKPab 14 47 01.9 +15
VNA3 Neumayer Olymp 153.23 194 ⇑P **PKiKP 14 46 35.2 +0.5**

IDC 06 14:27:15.0±999.0, 54°.11N×2°.48E, h0km, Error ellipse:
s-maj=479.4km s-min=163.0km az=111.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.76**	**122**	I	I	15 16 30.0	
baz=312,slow=326,SNR=0.6							
I43RU	**DUBNA INFRASONI**	**9.77**	**68**	I	I	16 28 20.0	
baz=279,slow=316,SNR=1.6							
I31KZ	**AKTYUBINSK INF**	**33.47**	**73**	I	I	17 53 12.8	
baz=300,slow=331							

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*IDC **06** 14:27:18.9±1.8, 2°.83S×119°.98E, h0km, mb3.3/3, mbtmp3.4/4, ML3.9/1, MS2.9/2, Error ellipse: s-maj=61.3km s-min=23.5km az=83.0*

*DJA **06** 14:27:20.0±0.4, 3°S±3°×11°9E±°, h10km, M3.9/8, MLv3.9/8*

ISC 06 14:27:20.3±1.2, 2°.86S±0°.05×119°.46E±0°.10, h10km, n12, σ1°.09/14, mb3.1/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.40**	**117**	P	**Pg**	**14 27 27.9**	**-0.2**
TTSI				S	**Sg**	**14 27 34.4**	**+1.0**
SPSI	**Sidrap Palu**	**1.14**	**165**	P	Pb	14 27 39.8	-2.3
SPSI				S	**Sg**	**14 27 57.9**	**+0.9**
BNSI	**Bone**	**1.66**	**157**	P	**Pn**	**14 27 49.7**	**+0.3**
BNSI				S	**Sn**	**14 28 11.6**	**+0.8**
KAPI	**Kappang**	**2.16**	**172**	Pn	**Pn**	**14 27 56.1**	**-0.2**
34nm,0.3s,baz=357,slow=12,SNR=57							
KAPI				LR	LR	14 28 20.3	
comp=Z,44nm,21.1s,baz=216,slow=28							
KAPI				Sn	**Sn**	**14 28 23.6**	**+0.4**
39nm,0.3s,baz=18,slow=20,SNR=18							
87nm,0.3s							
BKSI	**Bulukumba**	**2.53**	**165**	P	**Pn**	**14 28 01.3**	**-0.2**
APSI	**Ampana**	**2.92**	**48**	P	**Pn**	**14 28 06.7**	**-0.1**
MPSI	**Mapaga**	**3.21**	**8**	P	**Pn**	**14 28 11.4**	**+0.7**
BSSI	**Bau Bau, Buton**	**3.42**	**163**	P	**Pn**	**14 28 14.7**	**+1.0**
LEM	**Lembang**	**12.44**	**251**	LR	LR	14 36 52.6	
comp=Z,344nm,19.2s,baz=200,slow=44							
WRA	**Warramunga Arr**	**22.34**	**141**	P	**P**	**14 32 16.6**	**-2.0**
0.5nm,0.7s,baz=325,slow=12,SNR=1.7							
0.5nm,0.7s							
ASAR	**Alice Springs**	**24.96**	**147**	P	**P**	**14 32 42.0**	**-2.1**
0.2nm,0.8s,baz=327,slow=8.9,SNR=1.4							
0.2nm,0.8s							
SONM	**Songino Array**	**51.77**	**349**	P	**P**	**14 36 28.8**	**+0.6**

1.0nm,0.6s,baz=172,slow=8.8,SNR=3.5
1.0nm,0.6s

*IDC **06** 14:34:23.7±0.9,24°.37N×122°.43E,h0km,mb4.0/11, mbtmp4.0/13,ML3.3/2,Error ellipse: s-maj=29.1km s-min=19.0km az=68.0*
*NEIC **06** 14:34:25.9±0.6,23°.98N±0°.06×122°.52E±0°.05,h22km±6km, mb4.5/14,Error ellipse: s-maj=9.7km s-min=5.0km az=147.0*
*JMA **06** 14:34:26.6±0.2,24°.0N±0°.9×122°.5E±0°.4,h22km±2km, MV3.6/16,NW OFF ISHIGAKIJIMA IS*
*NIED **06** 14:34:26.6,23°.99N×122°.45E,h22km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.92; $M_{\theta\theta}$-1.09; $M_{\phi\phi}$0.16; $M_{r\theta}$0.62; $M_{\theta\phi}$0.01; $M_{\phi r}$0.21; Fault plane solution: $M_0$1.21000×10^{15} NP1:ϕ_s79.00000°, δ62.00000°,λ78.00000°. NP2:ϕ_s284.00000°,δ30.00000°, λ112.00000°.*
*TAP **06** 14:34:27.3,24°.10N×122°.45E,h28km,ML4.2,C*
*ASIES **06** 14:34:27.3,24°.10N×122°.45E,h28km,ML4.2,Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}6.66; $M_{\theta\theta}$-6.90; $M_{\phi\phi}$0.24; $M_{r\theta}$5.16; $M_{\theta\phi}$1.99; $M_{\phi r}$3.03; Fault plane solution: $M_0$9.25759×10^{21} NP1:ϕ_s79.29000°, δ65.52000°,λ66.29000°. NP2:ϕ_s305.95000°,δ33.56000°, λ131.45000°. Principal axes: T Plg61.9120°, Azm312.1390°; N Plg21.4660°, Azm89.5990°; P Plg17.2320°, Azm186.6040°;*

ISC 06 14:34:25.9±0.9,23°.99N±0°.02×122°.49E±0°.02,h28km±6km, n206,σ1§01/326,mb4.3/19,22C-9D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.21**	**310**	*i* P	**Pn**	**14 34 32.6**	**-0.2**
EOS4				*i* S	**Sb**	**14 34 36.4**	**+0.8**
EOS3	**EOS3**	**0.34**	**332**	⇓*i* P	**Pn**	**14 34 34.3**	**-0.5**
EOS3				*i* S	**Sb**	**14 34 39.3**	**+0.4**
EOS2	**EOS2**	**0.49**	**331**	⇓*i* P	**Pn**	**14 34 36.9**	**0.0**
EOS2				*i* S	**Sn**	**14 34 44.2**	**-0.2**
JYNG	**Yonagunijimaku**	**0.62**	**42**	P	**Pn**	**14 34 38.9**	**+0.1**
JYNG				*e*S	**Sn**	**14 34 47.1**	**-0.8**
YOJ	**Yonaguni jima**	**0.67**	**45**		**Pn**	**14 34 39.5**	**0.0**
YOJ				Sg	**Sb**	**14 34 47.7**	**-0.3**
YOJ	**Yonaguni jima**	**0.67**	**45**	P	**Pn**	**14 34 40.0**	**+0.5**
YOJ	**Yonaguni jima**	**0.67**	**45**	*e*P	**Pn**	**14 34 39.9**	**+0.3**
YOJ				*e*S	**Sn**	**14 34 48.5**	**-0.5**
YOJ	**Yonaguni jima**	**0.67**	**45**	⇓*i* P	**Pn**	**14 34 39.8**	**+0.3**
YOJ				S	**Sn**	**14 34 48.4**	**-0.7**
EAHA	**Aohua**	**0.77**	**296**	P	**Pn**	**14 34 41.1**	**+0.3**
EAHA				*e*S	**Sn**	**14 34 51.6**	**+0.2**
EWUT	**Wuta**	**0.79**	**305**	*e*P	**Pn**	**14 34 41.1**	**-0.1**
EWUT				*e*S	**Sb**	**14 34 51.3**	**-0.3**
HWA	**Hwalien**	**0.81**	**269**	*e*P	**Pn**	**14 34 42.7**	**+1.2**
HWA				*e*S	**Sn**	**14 34 53.1**	**+0.6**
ETL	**Fush Village**	**0.81**	**282**	*e*P	**Pn**	**14 34 41.8**	**+0.3**
ETL				*e*S	**Sb**	**14 34 52.3**	**+0.2**
ENA	**Nanau**	**0.81**	**303**	*e*P	**Pn**	**14 34 41.6**	**+0.1**
ENA				*e*S	**Sb**	**14 34 52.3**	**+0.2**
TWD	**Chiawan**	**0.82**	**277**	*e*P	**Pn**	**14 34 41.8**	**+0.1**
TWD				*e*S	**Sb**	**14 34 52.2**	**-0.2**
TEYL	**Yanliau Villag**	**0.83**	**262**	P	**Pn**	**14 34 43.1**	**+1.5**
TEYL				S	**Sn**	**14 34 54.1**	**+1.2**
ESAO	**Su ao**	**0.83**	**315**	*e*P	**Pb**	**14 34 41.6**	**-0.2**
ESAO				*e*S	**Sb**	**14 34 51.6**	**-1.0**
NACB	**Ninganchiao**	**0.84**	**283**		**Pb**	**14 34 41.7**	**-0.3**
NACB	**Ninganchiao**	**0.84**	**283**	P	**Pn**	**14 34 42.0**	**+0.1**
NACB	**Ninganchiao**	**0.84**	**283**	⇑*i* P	**Pn**	**14 34 41.9**	**0.0**
NACB				*e*S	**Sb**	**14 34 52.3**	**-0.6**
TWC	**Suao**	**0.85**	**317**	⇓*i* P	**Pb**	**14 34 41.7**	**-0.5**
TWC				S	**Sb**	**14 34 52.0**	**-1.3**
SHUL	**Shoufeng**	**0.87**	**257**	P	**Pn**	**14 34 42.7**	**+0.4**
SHUL				S	**Sn**	**14 34 54.5**	**+0.4**
ETM	**Tongmen**	**0.91**	**269**	*i* P	**Pn**	**14 34 43.0**	**+0.2**
ETM				*i* S	**Sb**	**14 34 54.4**	**-0.6**
TEGC	**Jichi Village**	**0.91**	**252**	S	**Sn**	**14 34 55.4**	**+0.3**
ETLH	**Xiulin Townshi**	**0.95**	**283**	P	**Pn**	**14 34 43.7**	**+0.3**
ETLH				*i* S	**Sb**	**14 34 56.1**	**0.0**
NDS	**Dongshan**	**0.96**	**312**	⇑P	**Pn**	**14 34 44.1**	**+0.6**
NDS				S	**Sb**	**14 34 55.6**	**-0.7**
ESL	**Shilin**	**0.98**	**260**	*e*P	**Pn**	**14 34 43.6**	**-0.2**
LXIB	**Xiulin Townshi**	**0.99**	**272**	⇑P	**Pb**	**14 34 44.0**	**-0.5**
LXIB				*e*S	**Sb**	**14 34 56.1**	**-1.1**
ILA	**Ilan**	**1.03**	**319**	*e*P	**Pb**	**14 34 45.6**	**+0.5**
ILA				S	**Sb**	**14 34 58.1**	**-0.1**
LATG	**Datong**	**1.04**	**302**	⇑*i* P	**Pb**	**14 34 45.2**	**-0.2**
LATG				*e*S	**Sn**	**14 34 58.9**	**+0.7**
WARBT	**Fenglin Townsh**	**1.05**	**255**	⇑P	**Pn**	**14 34 44.6**	**-0.1**
WARBT				S	**Sb**	**14 34 58.4**	**-0.4**
TWE	**Neicheng**	**1.05**	**314**	⇑P	**Pb**	**14 34 45.5**	**+0.1**
TWE				*e*S	**Sb**	**14 34 58.2**	**-0.6**
NTC	**Toucheng**	**1.05**	**325**	*e*P	**Pb**	**14 34 46.0**	**+0.5**
NTC				*e*S	**Sb**	**14 34 59.0**	**+0.1**
ENTT	**Nioudou**	**1.06**	**308**	⇑P	**Pb**	**14 34 45.7**	**0.0**
ENTT				*e*S	**Sn**	**14 34 59.8**	**+1.0**
HGSD	**Ruisui**	**1.10**	**243**	*e*P	**Pb**	**14 34 45.5**	**-0.8**
NNSB	**Datong**	**1.10**	**294**	⇑*i* P	**Pb**	**14 34 46.2**	**-0.3**
NNSB				S	**Sb**	**14 34 59.7**	**-0.8**
TWB1	**Santiao Chiao**	**1.11**	**336**	*e*P	**Pb**	**14 34 46.0**	**-0.5**
TWB1				*e*S	**Sb**	**14 34 59.8**	**-0.9**
NNS	**Nan Shan**	**1.12**	**294**	⇑*i* P	**Pb**	**14 34 46.4**	**-0.3**
NNS				S	**Sb**	**14 35 00.6**	**-0.3**
FUSB	**Fushanzhiwuyua**	**1.13**	**313**	⇑*i* P	**Pb**	**14 34 47.0**	**+0.1**
FUSB				S	**Sb**	**14 35 01.0**	**-0.1**
WHF	**Hehuan Shan**	**1.13**	**278**	P	**Pb**	**14 34 46.8**	**-0.4**
WHF				S	**Sb**	**14 35 01.2**	**-0.4**
TIPB	**Shuangxi**	**1.15**	**328**	*e*P	**Pb**	**14 34 47.0**	**-0.2**
TIPB				*e*S	**Sn**	**14 35 01.4**	**+0.4**
EHYH	**Wanrong**	**1.16**	**245**	*e*P	**Pb**	**14 34 47.0**	**-0.3**
EHYH				S	**Sb**	**14 35 01.4**	**-0.6**
ECBN	**Changbin**	**1.17**	**235**	*e*P	**Pb**	**14 34 47.0**	**-0.5**
ECBN				*e*S	**Sn**	**14 35 01.2**	**-0.1**
FUSS	**Fushou**	**1.17**	**283**	P	**Pb**	**14 34 47.6**	**-0.1**
FUSS				S	**Sn**	**14 35 02.3**	**+0.5**
EHY	**Hungye**	**1.17**	**246**	⇑P	**Pb**	**14 34 47.0**	**-0.6**
EHY				*e*S	**Sb**	**14 35 02.2**	**-0.3**
IRIF	**Iriomote-Funau**	**1.18**	**73**	*e*P	**Pb**	**14 34 48.5**	**+0.7**
IRIF				*e*S	**Sb**	**14 35 04.9**	**+2.2**
NWLT	**Wulai**	**1.20**	**311**	*e*P	**Pb**	**14 34 48.1**	**+0.1**
NWLT				S	**Sb**	**14 35 03.5**	**+0.4**
HATJ	**Hateruma jima**	**1.20**	**86**	*e*P	**Pb**	**14 34 49.1**	**+1.0**
HATJ				*e*S	**Sb**	**14 35 05.3**	**+2.0**
OWD	**Renai**	**1.20**	**269**	*e*P	**Pb**	**14 34 47.8**	**-0.4**
OWD				*e*S	**Sn**	**14 35 01.7**	**-0.8**
YHNB	**Yeheng**	**1.22**	**304**		**Pb**	**14 34 48.0**	**-0.4**
YHNB	**Yeheng**	**1.22**	**304**	P	**Pb**	**14 34 48.1**	**-0.4**
YHNB	**Yeheng**	**1.22**	**304**	⇑*i* P	**Pb**	**14 34 48.1**	**-0.4**
TWT	**Tachien**	**1.23**	**283**	*e*P	**Pb**	**14 34 49.1**	**+0.4**
SXI1	**Grass Mountain**	**1.24**	**333**	⇑*i* P	**Pb**	**14 34 48.0**	**-0.7**
SXI1				S	**Sn**	**14 35 03.8**	**+0.6**
NSK	**Sanguang**	**1.24**	**304**	⇑*i* P	**Pb**	**14 34 48.2**	**-0.5**
NSK				*e*S	**Sn**	**14 35 03.9**	**+0.6**
YULB	**Yu-li**	**1.25**	**242**		**Pb**	**14 34 47.7**	**-1.1**
YULB	**Yu-li**	**1.25**	**242**	P	**Pb**	**14 34 47.7**	**-1.1**
YULB	**Yu-li**	**1.25**	**242**	⇓*i* P	**Pb**	**14 34 48.0**	**-0.9**
YULB				S	**Sn**	**14 35 03.3**	**0.0**
TDCB	**Techi**	**1.25**	**282**	*e*P	**Pb**	**14 34 48.3**	**-0.6**
TDCB				*e*S	**Sn**	**14 35 03.4**	**-0.1**
EYUL	**Yuli**	**1.25**	**240**	P	**Pb**	**14 34 48.3**	**-0.6**
EYUL				S	**Sb**	**14 35 04.3**	**-0.3**
NWF	**Wu-fen Shan**	**1.26**	**329**	*e*P	**Pb**	**14 34 48.3**	**-0.8**
NWF				*e*S	**Sb**	**14 35 04.8**	**-0.1**
WFSB	**Wu-fen Shan**	**1.26**	**329**	⇑P	**Pb**	**14 34 48.4**	**-0.7**
WFSB				S	**Sn**	**14 35 04.1**	**+0.5**
WUSB	**Renai**	**1.26**	**270**	⇑P	**Pb**	**14 34 48.5**	**-0.6**
WUSB				*e*S	**Sn**	**14 35 04.1**	**+0.3**
CHKH	**Chenggong**	**1.28**	**232**	*e*P	**Pn**	**14 34 48.0**	**+0.1**
TWA	**Mucha**	**1.29**	**320**	P	**Pn**	**14 34 48.3**	**+0.3**
TWA				S	**Sb**	**14 35 05.5**	**-0.2**
TATO	**Taipei**	**1.34**	**317**		**Pb**	**14 34 49.9**	**-0.6**
TATO	**Taipei**	**1.34**	**317**	P	**Pb**	**14 34 50.3**	**-0.2**
FULB	**Fuli**	**1.35**	**235**	*e*P	**Pn**	**14 34 49.2**	**+0.3**
NFF	**Wufeng Townshi**	**1.41**	**297**	*e*P	**Pb**	**14 34 51.2**	**-0.4**
NFF				*e*S	**Sb**	**14 35 08.7**	**-0.5**
JKRS	**Kuro-shima**	**1.41**	**80**	*e*P	**Pb**	**14 34 52.1**	**+0.6**
JKRS				*e*S	**Sb**	**14 35 11.4**	**+2.3**
SSLB	**Suanglung**	**1.42**	**262**		**Pb**	**14 34 50.9**	**-0.9**
SSLB	**Suanglung**	**1.42**	**262**	P	**Pb**	**14 34 51.3**	**-0.5**
SSLB	**Suanglung**	**1.42**	**262**	⇑P	**Pb**	**14 34 51.0**	**-0.8**
YM01	**YM01**	**1.43**	**324**	P	**Pn**	**14 34 50.8**	**+0.8**
YM01				S	**Sb**	**14 35 09.6**	**-0.1**
KSHI	**Guanxi Townshi**	**1.43**	**303**	*e*P	**Pb**	**14 34 52.2**	**+0.2**
KSHI				*e*S	**Sb**	**14 35 10.3**	**+0.4**
WHP	**Taichung City**	**1.44**	**282**	*e*P	**Pb**	**14 34 52.2**	**+0.1**
WHP				*e*S	**Sb**	**14 35 10.1**	**-0.1**
EHD	**Haiduan**	**1.45**	**235**	*e*P	**Pb**	**14 34 50.8**	**-1.4**
EHD				*e*S	**Sn**	**14 35 08.1**	**-0.2**
WCS	**Beigang Elemen**	**1.45**	**273**	P	**Pb**	**14 34 51.4**	**-0.8**
YM08	**YM08**	**1.45**	**326**	*e*P	**Pb**	**14 34 51.4**	**-0.9**
YM08				*e*S	**Sn**	**14 35 08.9**	**+0.6**
ZUZH	**Zhuzihu**	**1.45**	**324**	*e*P	**Pn**	**14 34 51.1**	**+0.8**
ZUZH				*e*S	**Sb**	**14 35 10.1**	**-0.3**
SMLT	**Sun Moon Lake**	**1.46**	**266**	⇓*e*P	**Pb**	**14 34 51.9**	**-0.6**
SMLT				*e*S	**Sn**	**14 35 09.5**	**+0.8**
ECS	**Chishang**	**1.47**	**233**	*e*S	**Sb**	**14 35 09.6**	**-1.2**
TWS1	**Kuangyinshan**	**1.48**	**319**	*e*P	**Pn**	**14 34 50.7**	**+0.1**
ANP	**Anpu**	**1.48**	**324**	*e*P	**Pb**	**14 34 52.8**	**-0.1**
EDH	**Donghe**	**1.49**	**227**	*e*P	**Pb**	**14 34 51.7**	**-1.2**
EDH				*e*S	**Sn**	**14 35 08.8**	**-0.5**
LIOB	**Emei**	**1.50**	**296**	⇑P	**Pb**	**14 34 53.0**	**-0.1**
LIOB				*e*S	**Sb**	**14 35 11.6**	**-0.2**
TYC	**Yuchr**	**1.50**	**267**	*e*P	**Pb**	**14 34 52.6**	**-0.5**
TYC				*e*S	**Sn**	**14 35 09.9**	**+0.4**
NSTT	**Nanjuang**	**1.50**	**296**	⇑P	**Pb**	**14 34 52.9**	**-0.3**
NSTT				*e*S	**Sn**	**14 35 10.8**	**+1.1**
NTST	**Danshui**	**1.51**	**321**	*e*P	**Pb**	**14 34 52.9**	**-0.3**
NTST				*e*S	**Sb**	**14 35 11.9**	**0.0**
TWY	**Chenhua**	**1.52**	**328**	*e*P	**Pb**	**14 34 52.4**	**-1.1**
TWY				*e*S	**Sb**	**14 35 12.6**	**+0.3**
WHYT	**Xinyi Township**	**1.53**	**259**	*e*P	**Pb**	**14 34 53.8**	**+0.1**
NCUH	**Zhongli**	**1.54**	**310**	*e*P	**Pb**	**14 34 53.1**	**-0.7**
NCUH				*e*S	**Sb**	**14 35 13.4**	**+0.6**
JIJ	**Ishigaki jima**	**1.55**	**76**	*e*P	**Pb**	**14 34 53.3**	**-0.7**
JIJ				*e*S	**Sb**	**14 35 13.1**	**-0.2**
ELDTW	**Lidau**	**1.57**	**240**	⇓*e*P	**Pn**	**14 34 52.3**	**+0.3**
ELDTW				*e*S	**Sn**	**14 35 11.6**	**+0.2**
SBCB	**Hsinchu**	**1.59**	**301**	*e*P	**Pb**	**14 34 54.0**	**-0.6**
HSN	**Hsinchu**	**1.61**	**301**	*e*P	**Pb**	**14 34 53.6**	**-1.4**
HSN				*e*S	**Sn**	**14 35 13.4**	**+1.2**
TWQ1	**Liyutan**	**1.61**	**283**	*e*P	**Pb**	**14 34 54.7**	**-0.3**
TWQ1				*e*S	**Sb**	**14 35 14.4**	**-0.5**
LDUT	**Ludao**	**1.61**	**216**	⇓*e*P	**Pn**	**14 34 52.6**	**+0.1**
LDUT				*e*S	**Sn**	**14 35 11.1**	**-1.2**
ALS	**Alishan**	**1.62**	**253**	⇑*e*P	**Pb**	**14 34 54.6**	**-0.7**
ALS				*e*S	**Sn**	**14 35 14.0**	**+1.1**
WJS	**Zhushan**	**1.62**	**264**	*e*P	**Pb**	**14 34 55.7**	**+0.5**
WJS				*e*S	**Sb**	**14 35 16.3**	**+1.0**
NMLH	**Miaoli**	**1.65**	**290**	*e*P	**Pb**	**14 34 55.4**	**-0.2**
NMLH				*e*S	**Sb**	**14 35 15.3**	**-0.6**
LONT	**Longtian**	**1.65**	**230**	*e*P	**Pb**	**14 34 53.7**	**+0.7**
LONT				*e*S	**Sb**	**14 35 14.3**	**-1.8**
WNT	**Mingjian**	**1.66**	**267**	*e*P	**Pb**	**14 34 56.2**	**+0.4**
WNT				*e*S	**Sb**	**14 35 16.4**	**+0.1**
PCYT	**Pengchaiyu**	**1.68**	**347**	⇑*e*P	**Pn**	**14 34 54.2**	**+0.8**
PCYT				*e*S	**Sn**	**14 35 15.2**	**+1.2**
CHN5	**Tsauling**	**1.71**	**257**	*e*P	**Pb**	**14 34 56.3**	**-0.4**
WDJ	**Dajia District**	**1.73**	**282**	*e*P	**Pb**	**14 34 56.6**	**-0.4**
WDJ				*e*S	**Sb**	**14 35 17.7**	**-0.6**
TTN	**Taitung**	**1.74**	**225**	*e*P	**Pb**	**14 34 56.0**	**-1.2**
TTN				*e*S	**Sb**	**14 35 16.8**	**-1.9**
TWGBT	**Beinan**	**1.74**	**228**	P	**Pn**	**14 34 54.8**	**+0.5**
TWGBT	**Beinan**	**1.74**	**228**	⇓*e*P	**Pn**	**14 34 54.4**	**+0.1**
TWGBT				*e*S	**Sn**	**14 35 15.7**	**+0.1**
TWG	**Pinlang**	**1.75**	**229**	Pn	**Pn**	**14 34 54.4**	**+0.1**
TWG	**Pinlang**	**1.75**	**229**	*e*P	**Pn**	**14 34 54.8**	**+0.5**
TWG				*e*S	**Sn**	**14 35 15.8**	**+0.2**
JISG	**Ishigakijimahi**	**1.76**	**70**	P	**Pb**	**14 34 56.2**	**-1.4**
JISG				*e*S	**Sb**	**14 35 18.3**	**-1.1**
WCHH	**Zhanghua**	**1.77**	**273**	*e*P	**Pb**	**14 34 56.9**	**-0.8**
WCHH				*e*S	**Sb**	**14 35 19.0**	**-0.5**
STYH	**Taoyuan**	**1.77**	**243**	*e*P	**Pb**	**14 34 56.8**	**-1.0**
STYH				*e*S	**Sb**	**14 35 18.1**	**-1.4**
WCH1	**Changhua City**	**1.78**	**273**	*e*P	**Pb**	**14 34 57.5**	**-0.4**
WCH1				*e*S	**Sb**	**14 35 19.4**	**-0.5**
WGK	**Gukeng**	**1.79**	**261**	*e*P	**Pb**	**14 34 58.3**	**+0.2**
WGK				*e*S	**Sb**	**14 35 20.3**	**+0.2**
WDLH	**Douliu**	**1.81**	**261**	*e*P	**Pb**	**14 34 57.5**	**-0.9**
WDLH				*e*S	**Sb**	**14 35 19.3**	**-1.5**
WCKO	**Fanlu**	**1.81**	**253**	*e*P	**Pb**	**14 34 58.4**	**-0.1**
WCKO				*e*S	**Sb**	**14 35 20.8**	**0.0**
TPUB	**Ta-pu**	**1.84**	**249**		**Pb**	**14 34 57.4**	**-1.5**
TPUB	**Ta-pu**	**1.84**	**249**	P	**Pb**	**14 34 58.4**	**-0.5**
TPUB	**Ta-pu**	**1.84**	**249**	*e*P	**Pb**	**14 34 58.0**	**-0.9**
TPUB				*e*S	**Sb**	**14 35 20.9**	**-0.6**
CHN4	**Tsaushan**	**1.85**	**250**	*e*P	**Pb**	**14 34 58.6**	**-0.5**
CHN4				*e*S	**Sb**	**14 35 21.8**	**-0.1**
CHN2	**Minshiung**	**1.90**	**257**	*e*S	**Sb**	**14 35 23.3**	**0.0**
WTK	**Tuku**	**1.95**	**262**	*e*P	**Pb**	**14 34 60.0**	**-0.8**
WTK				*e*S	**Sb**	**14 35 24.2**	**-0.4**
CHY	**Chiayi**	**1.96**	**256**	*e*P	**Pb**	**14 35 00.4**	**-0.5**
CHY				*e*S	**Sb**	**14 35 24.1**	**-0.8**
SLGT	**Liugui**	**1.96**	**240**	*e*P	**Pb**	**14 34 59.7**	**-1.4**
SLGT				*e*S	**Sb**	**14 35 25.3**	**+0.2**
SGST	**Jiashian**	**1.97**	**243**	*e*P	**Pb**	**14 34 59.6**	**-1.5**
SGST				*e*S	**Sb**	**14 35 24.9**	**-0.4**
CHN1	**Nanshi**	**1.97**	**246**	*e*P	**Pb**	**14 35 00.4**	**-0.7**
CHN1				*e*S	**Sb**	**14 35 25.1**	**-0.3**
TWK	**Hsinying**	**1.97**	**249**	*e*P	**Pb**	**14 35 00.5**	**-0.7**
TWK				*e*S	**Sb**	**14 35 24.8**	**-0.6**
ECL	**Taimali**	**1.98**	**226**	*e*P	**Pn**	**14 34 57.8**	**+0.3**
ECL				*e*S	**Sn**	**14 35 21.4**	**0.0**
SNST	**Tainan City**	**1.98**	**248**	*e*P	**Pb**	**14 35 00.9**	**-0.5**
SNST				*e*S	**Sb**	**14 35 25.1**	**-0.9**
WTCT	**Ta-ch'eng**	**2.03**	**267**	*e*S	**Sb**	**14 35 25.9**	**-0.9**
WSF	**Szhu**	**2.11**	**261**	*e*P	**Pb**	**14 35 02.3**	**-1.1**
WSF				*e*S	**Sb**	**14 35 28.1**	**-1.1**
JTJ	**Tarama**	**2.12**	**72**	*e*P	**Pb**	**14 35 01.6**	**-2.1**
JTJ				*e*S	**Sb**	**14 35 28.2**	**-1.4**
ICHU	**Yijhu**	**2.12**	**253**	*e*P	**Pb**	**14 35 02.9**	**-0.9**
ICHU				*e*S	**Sb**	**14 35 28.7**	**-0.9**
TSMG	**Majia**	**2.12**	**233**	*e*P	**Pb**	**14 35 02.6**	**-1.2**
LAY	**Lan-yu**	**2.12**	**204**	*e*P	**Pn**	**14 35 00.2**	**+0.6**
SCST	**Cishan**	**2.14**	**240**	*e*P	**Pb**	**14 35 03.6**	**-0.4**
LYUB	**Lan-yu**	**2.15**	**203**	*e*P	**Pn**	**14 34 59.5**	**-0.3**
LYUB				*e*S	**Sn**	**14 35 23.2**	**-2.3**
CHN3	**Shinhua**	**2.15**	**245**	*e*S	**Sb**	**14 35 31.4**	**+0.9**
CHN8	**Yiju**	**2.19**	**253**	*e*P	**Pb**	**14 35 03.0**	**-1.8**
CHN8				*e*S	**Sb**	**14 35 29.5**	**-2.0**
MASBT	**Mashibuluo**	**2.19**	**232**	*e*P	**Pn**	**14 35 02.1**	**+1.7**
MASBT				*e*S	**Sb**	**14 35 31.5**	**-0.1**
EAST	**Anshuo**	**2.20**	**224**	*e*P	**Pn**	**14 35 01.4**	**+0.8**
TAWH	**Dawu Township**	**2.21**	**222**	*e*P	**Pn**	**14 35 01.9**	**+1.2**
TAWH				*e*S	**Sn**	**14 35 27.4**	**+0.4**
SCLT	**Jiali**	**2.26**	**249**	*e*P	**Pn**	**14 35 03.2**	**+1.9**
SCLT				*e*S	**Sb**	**14 35 32.1**	**-1.4**
SLIU	**Shizi**	**2.35**	**222**	*e*P	**Pn**	**14 35 03.5**	**+0.8**
SLIU				*e*S	**Sn**	**14 35 30.9**	**+0.2**
SCZT	**Fangliau**	**2.36**	**227**	*e*P	**Pb**	**14 35 05.6**	**-2.2**
TSCK	**Chigu Township**	**2.36**	**250**	*e*P	**Pb**	**14 35 05.5**	**-2.2**
TSCK				*e*S	**Sb**	**14 35 33.7**	**-2.8**
WSSB	**Gushan**	**2.45**	**237**	*e*P	**Pb**	**14 35 07.6**	**-1.7**
TSEB	**Hengchuen, Pin**	**2.54**	**216**	*e*S	**Sn**	**14 35 35.5**	**+0.1**
HEN	**Hengchun**	**2.55**	**220**	*e*P	**Pn**	**14 35 07.5**	**+2.1**
HEN				*e*S	**Sn**	**14 35 37.3**	**+1.8**
TWKBT	**Hengchun**	**2.56**	**218**	*e*P	**Pn**	**14 35 06.7**	**+1.2**
TWKBT				*e*S	**Sn**	**14 35 37.8**	**+2.1**
TWK1	**Hengchun**	**2.56**	**218**	*e*P	**Pn**	**14 35 07.3**	**+1.8**
TWK1				*e*S	**Sn**	**14 35 37.5**	**+1.7**
JIRB	**Irabujima**	**2.58**	**71**	*e*P	**Pb**	**14 35 08.2**	**-3.4**
JIRB				*e*S	**Sn**	**14 35 38.5**	**+2.2**
JMJ	**Miyako jima 2**	**2.68**	**72**	P	**Pb**	**14 35 11.0**	**-2.3**
WDGT	**Dungji**	**2.70**	**255**	*e*P	**Pn**	**14 35 09.8**	**+2.4**
WDGT				*e*S	**Sn**	**14 35 40.1**	**+1.0**
PHUB	**P'eng-hu**	**2.72**	**261**	*e*P	**Pn**	**14 35 09.3**	**+1.7**
PHUB				*e*S	**Sn**	**14 35 40.5**	**+0.9**
PNG	**Penghu**	**2.72**	**262**	*e*P	**Pn**	**14 35 09.7**	**+1.9**
PNG				*e*S	**Sn**	**14 35 40.8**	**+1.0**
VCHM	**Qimei**	**2.91**	**255**	*e*P	**Pn**	**14 35 12.7**	**+2.3**
VCHM				*e*S	**Sn**	**14 35 44.9**	**+0.4**
VWUC	**VWUC**	**2.95**	**290**	*e*P	**Pn**	**14 35 11.4**	**+0.5**
VWUC				*e*S	**Sn**	**14 35 43.5**	**-1.8**
MATB	**Ma-tsu**	**3.16**	**314**	*e*P	**Pn**	**14 35 14.1**	**+0.4**
PTMZ	**Houxiangcun**	**3.25**	**290**	*e*P	**Pn**	**14 35 15.4**	**+0.5**
PTMZ				*e*S	**Sn**	**14 35 50.8**	**-1.8**
BBP	**Basco**	**3.56**	**188**	⇑*e*P	**Pn**	**14 35 20.1**	**+0.7**
XPSS	**Dashiqiu**	**3.59**	**325**	P	**Pn**	**14 35 20.4**	**+0.7**
KNM	**Kinmen**	**3.73**	**277**	*e*P	**Pn**	**14 35 24.0**	**+2.4**
KNMB	**Chin-men Tao**	**3.78**	**278**	Pn	**Pn**	**14 35 22.9**	**+0.6**
KNMB	**Chin-men Tao**	**3.78**	**278**	*e*P	**Pn**	**14 35 23.1**	**+0.9**
MHZQ	**Yeshan**	**3.78**	**305**	*e*P	**Pn**	**14 35 22.3**	**+0.1**
SXFK	**Yanhouchang**	**5.00**	**300**	*e*P	**Pn**	**14 35 39.2**	**+0.1**
JOW	**Kunigami**	**5.95**	**60**	Pn	**Pn**	**14 35 52.3**	**+0.2**
	1.7nm,0.3s,baz=150,slow=14,SNR=14						
JOW				Sn	**Sn**	**14 36 55.4**	**-3.9**
	baz=197,slow=20 4.3nm,0.3s						
JOW	**Kunigami**	**5.95**	**60**	P	**Pn**	**14 35 55.9**	**+3.8**
	38nm,1.6s						
JNU	**Nakatsue**	**11.71**	**37**	Pn	**Pn**	**14 37 11.2**	**+0.1**
KSAR	**Wonju Array Be**	**14.19**	**18**	P	**P**	**14 37 52.3**	**+0.2**
KSRS	**Korea Array**	**14.21**	**18**	Pn	**Pn**	**14 37 41.0**	**-4.2**
	0.1nm,0.3s,baz=209,slow=12,SNR=1.1 0.9nm,0.8s						
KS19	**Wonju Array Si**	**14.24**	**18**	P	**P**	**14 37 52.7**	**+0.1**
USRK	**Ussuriysk Ar.**	**21.61**	**19**	P	**P**	**14 39 12.1**	**-1.5**
	1.4nm,0.7s,baz=187,slow=9.6,SNR=2.9 1.4nm,0.7s						
SONM	**Songino Array**	**27.02**	**336**	P	**P**	**14 40 05.8**	**+0.1**
SONM	**Songino Array**	**27.02**	**336**	P	**P**	**14 40 04.6**	**-1.1**
	1.0nm,0.7s,baz=150,slow=8.3,SNR=4.4 1.0nm,0.7s						
YAK	**Yakutsk**	**38.34**	**5**	P	**P**	**14 41 41.6**	**-2.4**
	5.7nm,0.4s,baz=160,slow=16,SNR=2.5 5.7nm,0.4s						
MK31	**Makanchi Array**	**39.31**	**316**	P	**P**	**14 41 52.5**	**+0.1**
MKAR	**Makanchi Array**	**39.31**	**316**	P	**P**	**14 41 52.7**	**+0.2**
MKAR	**Makanchi Array**	**39.31**	**316**	P	**P**	**14 41 52.5**	**0.0**
	1.4nm,0.5s,baz=101,slow=10,SNR=19 1.4nm,0.5s						
MAKZ	**Makanchi**	**39.52**	**315**	P	**P**	**14 41 54.6**	**+0.4**
MAKZ				IAmb	IAmb	14 42 34.2	
	comp=Z,10nm,1.4s						
ZALV	**Zalesovo Beam**	**41.06**	**327**	P	**P**	**14 42 05.7**	**-1.1**

60nm,1.1s
BATI Baumata 8.37 150 LR LR 14 52 54.4
comp=Z,314nm,20.1s,baz=347,slow=41
TNTI Ternate 8.75 65 Pn **Pn 14 49 18.4 -0.3**
TNTI Ternate 8.75 65 P **Pn 14 49 19.5 +0.8**
26nm,0.8s,577nm
PCJI Pacitan 9.73 237 P **Pn 14 49 32.0 -0.2**
63nm,1.7s
MTN Manton Dam 15.21 131 Pn **Pn 14 50 47.4 +0.3**
FITZ Fitzroy Crossi 16.27 158 Pn **Pn 14 51 01.0 +0.3**
FITZ Fitzroy Crossi 16.27 158 Pn **Pn 14 51 01.1 +0.3**
0.1nm,0.3s,baz=21,slow=5.1,SNR=6.4
FITZ LR LR 14 59 17.6
comp=Z,147nm,19.3s,baz=339,slow=44
4.3nm,0.9s
IPM Ipoh 19.80 292 P **P 14 51 42.6 -0.2**
SISI Saibi 20.38 274 P **P 14 51 49.3 +0.2**
RPSI Rantau Prapat 21.23 285 P **P 14 51 58.8 +0.5**
RPSI IAmb IAmb 14 52 04.6
comp=Z,11nm,0.6s
WB0 Warramunga Arr 22.23 140 P **P 14 52 07.7 -1.4**
WB0 IAmb IAmb 14 52 15.1
comp=Z,9.7nm,0.8s
WRA Warramunga Arr 22.32 140 P **P 14 52 08.6 -1.4**
WRA Warramunga Arr 22.32 140 P **P 14 52 08.2 -1.8**
comp=Z,9.9nm,1.0s,baz=319,slow=10,SNR=42
WRA PcP **PcP 14 56 03.5 -2.4**
comp=Z,0.3nm,0.8s,baz=325,slow=1.8,SNR=1.5
WRA LR LR 15 01 05.5
comp=Z,105nm,20.4s,baz=332,slow=37
comp=Z,9.9nm,1.0s
WRAB Tennant Creek 22.32 140 P **P 14 52 07.7 -2.4**
WRAB IAmb IAmb 14 52 10.8
comp=Z,28nm,1.4s
WB2 Warramunga Arr 22.33 140 P **P 14 52 08.2 -1.9**
WB2 IAmb IAmb 14 52 15.7
comp=Z,12nm,0.9s
WR0 Warramunga Arr 22.46 140 P **P 14 52 10.7 -0.9**
WR0 IAmb IAmb 14 52 12.4
comp=Z,18nm,1.1s
AS31 Alice Springs 24.93 147 **P 14 52 35.9 +0.3**
ASAR Alice Springs 24.93 147 P **P 14 52 35.8 +0.2**
comp=Z,3.7nm,0.8s,baz=331,slow=9.3,SNR=39
ASAR PcP **PcP 14 56 10.1 -1.2**
comp=Z,0.8nm,0.8s,baz=6.3,slow=2.0,SNR=6.0
ASAR LR LR 15 02 51.3
comp=Z,133nm,19.9s,baz=310,slow=38
comp=Z,3.7nm,0.8s
CMAR Chiang Mai Arr 29.29 317 P **P 14 53 14.0 -0.8**
comp=Z,0.4nm,0.3s,baz=150,slow=6.5,SNR=4.2
CMAR LR LR 15 07 18.7
comp=Z,72nm,18.5s,baz=140,slow=41
comp=Z,0.4nm,0.3s
GUMO Guam 30.11 56 LR LR 15 05 28.3
comp=Z,20nm,19.0s,baz=78,slow=37
PZH PanZhiHua 33.88 331 P **P 14 53 58.3 +3.1**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,120nm,5.2s
STKA Stephens Creek 35.57 146 P **P 14 54 10.2 +0.5**
comp=Z,1.9nm,0.6s,baz=312,slow=9.7,SNR=4.0
STKA LR LR 15 09 38.4
comp=Z,101nm,18.3s,baz=21,slow=38
comp=Z,1.9nm,0.6s
KSRS Korea Array 40.94 10 LR LR 15 12 49.9
comp=Z,30nm,19.9s,baz=210,slow=38
HHC Hu-ho-hao-te 44.15 351 *eP* **P 14 55 23.0 +2.0**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,100nm,5.3s
GTA Gaotai 45.83 339 *eP* **P 14 55 34.5 +0.1**
GTA pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 51.72 349 P **P 14 56 18.2 -1.4**
ULN IAmb IAmb 14 56 24.7
comp=Z,4.3nm,0.8s
SONM Songino Array 51.82 349 P **P 14 56 19.0 -1.3**
comp=Z,2.8nm,0.7s,baz=166,slow=8.8,SNR=14
comp=Z,2.8nm,0.7s
WMQ Urumqi 54.55 332 *eP* **P 14 56 45.2 +4.7**
WMQ pmax pmax
comp=Z,16nm,1.1s
KSH Kashi 58.08 321 P **P 14 57 05.9 +0.1**
KSH pP pP 14 57 11.3 +1.7
KSH pmax pmax
comp=Z,8.0nm,0.8s
KDJ Kajisay 58.92 324 P **P 14 57 11.5 -0.3**
KDJ IAmb IAmb 14 57 12.7
comp=Z,2.5nm,0.7s
NRN Naryn 59.20 323 P **P 14 57 12.7 -1.1**
NRN IAmb IAmb 14 57 14.6
comp=Z,3.1nm,0.9s
MK31 Makanchi Array 59.32 331 P **P 14 57 13.3 -0.8**
MKAR Makanchi Array 59.32 331 P **P 14 57 13.4 -0.7**
comp=Z,3.3nm,0.6s,baz=139,slow=7.9,SNR=22
comp=Z,3.3nm,0.6s
BOOM Boomskoye usch 59.87 324 P P 14 57 16.5 -1.8
AAK Ala-Archa 60.81 323 P **P 14 57 24.7 0.0**
AAK IAmb IAmb 14 57 25.4
comp=Z,3.5nm,0.9s
AAK Ala-Archa 60.81 323 LR LR 15 28 35.9
comp=Z,29nm,19.7s,baz=107,slow=41
ARSB Arslanbob 60.98 321 P **P 14 57 25.7 -0.1**
ARSB IAmb IAmb 14 57 26.3
comp=Z,1.9nm,1.0s
ZALV Zalesovo Beam 63.57 338 P P 14 57 40.8 -1.9
comp=Z,1.0nm,0.5s,baz=143,slow=5.8,SNR=6.0
comp=Z,1.0nm,0.5s
KURBB Kurchatov Arra 63.78 332 P P 14 57 42.1 -2.0
comp=Z,0.6nm,0.3s,baz=138,slow=6.7,SNR=5.2
comp=Z,0.6nm,0.3s
KURK Kurchatov 63.80 332 P **P 14 57 43.0 -1.3**
BVAR Borovoye Array 69.19 331 P P 14 58 16.6 -2.2
comp=Z,0.5nm,0.6s,baz=115,slow=6.7,SNR=3.7
comp=Z,0.5nm,0.6s
MAW Mawson 75.06 199 P **P 14 58 54.6 +0.9**
comp=Z,2.8nm,0.9s,baz=28,slow=8.0,SNR=6.7
comp=Z,2.8nm,0.9s
BELG Belogornoye 81.30 324 LR LR 15 39 07.7
comp=Z,26nm,18.8s,baz=83,slow=38
QSPA South Pole Qui 87.03 180 P **P 14 59 57.2 -0.4**
comp=Z,1.9nm,1.1s,baz=249,slow=1.2,SNR=2.5
comp=Z,1.9nm,1.1s

*TAP **06** 14:52:10.5, 24.°39N×121.°78E, h9km, ML3.7, B*
*JMA **06** 14:52:10.8±0.1, 24.°4N±0.°5×121.°8E±0.°9, h1 1km±4km, MV3.1/12, TAIWAN REGION*
*ASIES **06** 14:52:10.5, 24.°39N×121.°78E, h9km, ML3.7, Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}-5.81; $M_{\theta\theta}$3.27; $M_{\phi\phi}$2.25; $M_{r\theta}$-0.74; $M_{\theta\phi}$5.41; $M_{\phi r}$-6.42; Fault plane solution: $M_0$9.78834×10^{20} NP1:ϕ_s19.99000°, δ68.79000°, λ-118.81000°. NP2:ϕ_s256.66000°, δ35.23000°, λ-38.84000°. Principal axes: T Plg18.7710°, Azm131.0900°; N Plg26.7000°, Azm31.2480°; P Plg56.4510°, Azm251.9200°;*
ISC 06 14:52:10.7±0.8, 24.°39N±0.°01×121.°81E±0.°01, h8km±4km, n142, σ0°56/229, 19C-20D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.07**	**333**	↑*iP*	**Pg**	**14 52 12.7**	**0.0**
EWUT				*i* S	**Sg**	**14 52 14.0**	**-0.1**
ENA	**Nanau**	**0.08**	**304**	↑*iP*	**Pg**	**14 52 12.6**	**-0.2**
ENA				S	**Sg**	**14 52 13.8**	**-0.5**
EAHA	**Aohua**	**0.09**	**230**	↓*iP*	**Pg**	**14 52 12.9**	**+0.1**
EAHA				S	**Sg**	**14 52 14.5**	**0.0**
EHP	**Heping Village**	**0.10**	**221**	↓*iP*	**Pg**	**14 52 13.2**	**+0.1**
EHP				S	**Sg**	**14 52 15.0**	**+0.3**
ESAO	**Su ao**	**0.19**	**9**	↓P	**Pg**	**14 52 14.8**	**+0.2**
ESAO				S	**Sg**	**14 52 17.4**	**+0.1**
TWC	**Suao**	**0.23**	**9**	↓*iP*	**Pg**	**14 52 15.5**	**+0.2**
TWC				*i* S	**Sg**	**14 52 18.6**	**+0.3**
NDS	**Dongshan**	**0.26**	**341**	↑*iP*	**Pg**	**14 52 16.1**	**+0.2**
NDS				*i* S	**Sg**	**14 52 19.7**	**+0.2**
ETL	**Fush Village**	**0.28**	**217**	↓*iP*	**Pg**	**14 52 16.2**	**-0.1**
ETL				*e*S	**Sg**	**14 52 20.4**	**+0.2**
NACB	**Ninganchiao**	**0.29**	**223**	P	**Pg**	**14 52 16.2**	**-0.2**
NACB	**Ninganchiao**	**0.29**	**223**	↓*iP*	**Pg**	**14 52 16.2**	**-0.2**
NACB				*i* S	**Sg**	**14 52 20.2**	**-0.1**
LATG	**Datong**	**0.30**	**300**	↑*iP*	**Pg**	**14 52 16.6**	**-0.1**
LATG				S	**Sg**	**14 52 20.5**	**-0.2**
ENTT	**Nioudou**	**0.34**	**319**	↑*iP*	**Pg**	**14 52 17.5**	**+0.1**
ENTT				*e*S	**Sg**	**14 52 21.7**	**-0.2**
ETLH	**Xiulin Townshi**	**0.35**	**240**	↓*iP*	**Pg**	**14 52 17.2**	**-0.3**
ETLH				*e*S	**Sg**	**14 52 21.8**	**-0.4**
TWE	**Neicheng**	**0.36**	**339**	↑*iP*	**Pg**	**14 52 17.9**	**+0.2**
TWE				S	**Sg**	**14 52 22.6**	**+0.1**
TWD	**Chiawan**	**0.36**	**213**	↓*iP*	**Pg**	**14 52 17.6**	**-0.2**
TWD				S	**Sg**	**14 52 22.5**	**-0.1**
ILA	**Ilan**	**0.38**	**351**	*eP*	**Pg**	**14 52 18.7**	**+0.5**
ILA				S	**Sg**	**14 52 24.2**	**+0.9**
EOS2	**EOS2**	**0.39**	**85**	*eP*	**Pb**	**14 52 19.6**	**0.0**
NNSB	**Datong**	**0.39**	**276**	↑*iP*	**Pg**	**14 52 18.2**	**-0.2**
NNSB				S	**Sg**	**14 52 23.0**	**-0.6**
NNS	**Nan Shan**	**0.40**	**278**	↑*iP*	**Pg**	**14 52 18.4**	**-0.2**
NNS				S	**Sg**	**14 52 23.1**	**-0.8**
FUSB	**Fushanzhiwuyua**	**0.42**	**331**	↑*iP*	**Pg**	**14 52 19.3**	**+0.3**
FUSB				S	**Sg**	**14 52 24.4**	**-0.2**
HWA	**Hwalien**	**0.45**	**205**	P	**Pg**	**14 52 19.8**	**+0.4**
HWA				*e*S	**Sg**	**14 52 26.8**	**+1.5**
NTC	**Toucheng**	**0.47**	**2**	*eP*	**Pg**	**14 52 20.2**	**+0.4**
NTC				*e*S	**Sg**	**14 52 26.7**	**+0.8**
EOS3	**EOS3**	**0.47**	**102**	*eP*	**Pb**	**14 52 21.3**	**+0.2**
NWLT	**Wulai**	**0.48**	**324**	↑*iP*	**Pg**	**14 52 20.3**	**+0.2**
NWLT				S	**Sg**	**14 52 26.1**	**-0.3**
YHNB	**Yeheng**	**0.49**	**306**	P	**Pg**	**14 52 20.1**	**-0.1**
YHNB	**Yeheng**	**0.49**	**306**	↑*iP*	**Pg**	**14 52 20.4**	**+0.2**
YHNB				*e*S	**Sg**	**14 52 26.1**	**-0.5**
NSK	**Sanguang**	**0.50**	**305**	↑*iP*	**Pg**	**14 52 20.6**	**+0.1**
NSK				*e*S	**Sg**	**14 52 26.6**	**-0.5**
ETM	**Tongmen**	**0.51**	**215**	*eP*	**Pg**	**14 52 20.1**	**-0.4**
ETM				*e*S	**Sg**	**14 52 26.7**	**-0.5**
LXIB	**Xiulin Townshi**	**0.51**	**225**	↓*iP*	**Pg**	**14 52 20.2**	**-0.5**
LXIB				*e*S	**Sg**	**14 52 28.2**	**+0.8**
EOS4	**EOS4**	**0.53**	**120**	*eP*	**Pg**	**14 52 21.7**	**+0.8**
FUSS	**Fushou**	**0.54**	**255**	↓*iP*	**Pg**	**14 52 20.9**	**-0.2**
FUSS				*i* S	**Sg**	**14 52 28.1**	**-0.1**
TEYL	**Yanliau Villag**	**0.55**	**201**	*eP*	**Pg**	**14 52 22.2**	**+0.9**
WHF	**Hehuan Shan**	**0.55**	**245**	↑*iP*	**Pg**	**14 52 21.2**	**-0.3**
WHF				*e*S	**Sg**	**14 52 28.0**	**-0.8**
TIPB	**Shuangxi**	**0.58**	**1**	↓P	**Pg**	**14 52 22.3**	**+0.2**
TIPB				S	**Sg**	**14 52 29.5**	**-0.2**
TWT	**Tachien**	**0.59**	**257**	*eP*	**Pg**	**14 52 22.6**	**+0.3**
TWT				S	**Sg**	**14 52 29.9**	**-0.1**
TDCB	**Techi**	**0.61**	**258**	*eP*	**Pg**	**14 52 22.4**	**-0.1**
TDCB				*e*S	**Sg**	**14 52 29.8**	**-0.7**
TWA	**Mucha**	**0.63**	**341**	↑*iP*	**Pg**	**14 52 22.3**	**-0.6**
TWA				S	**Sg**	**14 52 30.0**	**-1.0**
NHDH	**Xindian Distri**	**0.63**	**336**	*i P*	**Pb**	**14 52 23.4**	**-0.6**
NHDH				*e*S	**Sg**	**14 52 31.1**	**0.0**
SHUL	**Shoufeng**	**0.64**	**201**	*eP*	**Pg**	**14 52 23.6**	**+0.6**
TWB1	**Santiao Chiao**	**0.64**	**15**	*eP*	**Pg**	**14 52 23.1**	**0.0**
TWB1				*e*S	**Sg**	**14 52 31.2**	**-0.3**
TATO	**Taipei**	**0.66**	**333**	P	**Pg**	**14 52 23.8**	**+0.4**
ESL	**Shilin**	**0.67**	**211**	↓*iP*	**Pg**	**14 52 22.9**	**-0.6**
ESL				*e*S	**Sg**	**14 52 32.3**	**+0.1**
NFF	**Wufeng Townshi**	**0.68**	**291**	*eP*	**Pg**	**14 52 24.0**	**+0.2**
NFF				*i* S	**Sg**	**14 52 32.4**	**-0.3**
NWF	**Wu-fen Shan**	**0.68**	**358**	*eP*	**Pb**	**14 52 24.6**	**-0.3**
NWF				*i* S	**Sg**	**14 52 32.9**	**+0.1**
WFSB	**Wu-fen Shan**	**0.68**	**358**	*eP*	**Pb**	**14 52 24.6**	**-0.2**
WFSB				*i* S	**Sg**	**14 52 33.3**	**+0.4**
KSHI	**Guanxi Townshi**	**0.70**	**304**	↑P	**Pb**	**14 52 24.9**	**-0.2**
KSHI				*e*S	**Sb**	**14 52 34.1**	**-0.7**
SXI1	**Grass Mountain**	**0.71**	**5**	*eP*	**Pb**	**14 52 24.8**	**-0.5**
SXI1				*e*S	**Sg**	**14 52 33.6**	**0.0**
TEGC	**Jichi Village**	**0.72**	**200**	*eP*	**Pb**	**14 52 25.3**	**-0.1**
OWD	**Renai**	**0.72**	**234**	↓*iP*	**Pg**	**14 52 24.2**	**-0.4**
OWD				*e*S	**Sg**	**14 52 33.9**	**-0.2**
WUSB	**Renai**	**0.74**	**238**	↓*iP*	**Pg**	**14 52 24.9**	**-0.1**
WUSB				*i* S	**Sg**	**14 52 34.7**	**-0.1**
WARBT	**Fenglin Townsh**	**0.77**	**210**	↓*iP*	**Pg**	**14 52 24.8**	**-0.8**
WARBT				*e*S	**Sg**	**14 52 34.2**	**-1.3**
LIOB	**Emei**	**0.77**	**290**	↑*iP*	**Pb**	**14 52 26.1**	**-0.2**
LIOB				*i* S	**Sg**	**14 52 35.5**	**-0.1**
NSTT	**Nanjuang**	**0.78**	**289**	↑*iP*	**Pb**	**14 52 26.0**	**-0.4**
NSTT				*i* S	**Sg**	**14 52 35.8**	**-0.1**
YM01	**YM01**	**0.79**	**344**	↑*iP*	**Pb**	**14 52 26.6**	**-0.1**
YM01				S	**Sg**	**14 52 36.0**	**-0.2**
EGFH	**Guangfu**	**0.80**	**206**	*i P*	**Pg**	**14 52 25.5**	**-0.4**
EGFH				*e*S	**Sg**	**14 52 36.2**	**-0.2**
TWS1	**Kuangyinshan**	**0.80**	**333**	↑*iP*	**Pg**	**14 52 26.1**	**+0.1**
TWS1				S	**Sg**	**14 52 36.4**	**0.0**
WHP	**Taichung City**	**0.80**	**262**	↓P	**Pg**	**14 52 26.4**	**+0.3**
WHP				*i* S	**Sg**	**14 52 36.1**	**-0.3**
ZUZH	**Zhuzihu**	**0.81**	**343**	*eP*	**Pb**	**14 52 26.9**	**-0.2**
ZUZH				*e*S	**Sg**	**14 52 37.0**	**+0.1**
NCUH	**Zhongli**	**0.81**	**316**	*eP*	**Pn**	**14 52 27.8**	**-0.6**
YM08	**YM08**	**0.82**	**346**	P	**Pb**	**14 52 26.9**	**-0.3**
ANP	**Anpu**	**0.84**	**342**	*eP*	**Pb**	**14 52 27.5**	**-0.1**
NTST	**Danshui**	**0.84**	**337**	*eP*	**Pb**	**14 52 27.9**	**+0.4**
SBCB	**Hsinchu**	**0.85**	**299**	*eP*	**Pb**	**14 52 28.3**	**+0.6**
HSN	**Hsinchu**	**0.87**	**299**	*eP*	**Pb**	**14 52 28.4**	**+0.4**
WCS	**Beigang Elemen**	**0.88**	**249**	*eP*	**Pg**	**14 52 27.0**	**-0.7**
WCS				*e*S	**Sg**	**14 52 38.0**	**-1.2**
TWY	**Chenhua**	**0.91**	**348**	*eP*	**Pb**	**14 52 28.4**	**-0.2**
TWY				*e*S	**Sb**	**14 52 40.8**	**-0.1**
NMLH	**Miaoli**	**0.94**	**279**	*eP*	**Pn**	**14 52 30.0**	**-0.2**
NMLH				*e*S	**Sb**	**14 52 41.7**	**-0.2**
TWQ1	**Liyutan**	**0.95**	**268**	*eP*	**Pb**	**14 52 29.7**	**+0.4**
TWQ1				*e*S	**Sg**	**14 52 40.8**	**-0.4**
HGSD	**Ruisui**	**0.96**	**202**	*eP*	**Pg**	**14 52 29.4**	**+0.3**
HGSD				*e*S	**Sb**	**14 52 43.1**	**+0.8**
NSY	**Sanyi**	**0.96**	**272**	*eP*	**Pn**	**14 52 30.3**	**-0.1**
NSY				*e*S	**Sb**	**14 52 42.5**	**+0.1**
SMLT	**Sun Moon Lake**	**0.97**	**239**	↓*iP*	**Pg**	**14 52 29.1**	**-0.3**
SMLT				*e*S	**Sg**	**14 52 41.9**	**-0.1**
EHY	**Hungye**	**0.98**	**207**	*eP*	**Pg**	**14 52 28.6**	**-0.9**
EHYH	**Wanrong**	**0.98**	**206**	*eP*	**Pg**	**14 52 29.1**	**-0.5**
EHYH				*e*S	**Sb**	**14 52 43.8**	**+0.7**
SSLB	**Suanglung**	**0.98**	**233**	P	**Pg**	**14 52 29.0**	**-0.6**
SSLB	**Suanglung**	**0.98**	**233**	↓*iP*	**Pg**	**14 52 29.0**	**-0.6**
SSLB				*e*S	**Sg**	**14 52 41.5**	**-0.9**
TYC	**Yuchr**	**0.99**	**241**	↓*iP*	**Pg**	**14 52 29.4**	**-0.4**
TYC				*e*S	**Sg**	**14 52 41.9**	**-0.8**
JYNG	**Yonagunijimaku**	**1.04**	**86**	*eP*	**Pg**	**14 52 30.8**	**+0.2**
JYNG				*e*S	**Sb**	**14 52 44.9**	**+0.3**
WDJ	**Dajia District**	**1.07**	**268**	*eP*	**Pn**	**14 52 33.0**	**+1.0**
YULB	**Yu-li**	**1.09**	**206**	P	**Pg**	**14 52 30.7**	**-1.0**
YULB	**Yu-li**	**1.09**	**206**	↓*iP*	**Pg**	**14 52 30.9**	**-0.8**
YULB				*e*S	**Sg**	**14 52 45.4**	**-0.5**
YOJ	**Yonaguni jima**	**1.10**	**86**	P	**Pg**	**14 52 31.6**	**-0.2**
YOJ	**Yonaguni jima**	**1.10**	**86**	*eP*	**Pg**	**14 52 31.5**	**-0.2**
YOJ				*e*S	**Sg**	**14 52 46.2**	**+0.2**
YOJ	**Yonaguni jima**	**1.10**	**86**	P	**Pg**	**14 52 31.8**	**0.0**
YOJ				*i* S	**Sb**	**14 52 47.0**	**+0.7**
WHYT	**Xinyi Township**	**1.11**	**232**	*i P*	**Pg**	**14 52 31.6**	**-0.5**
ECBN	**Changbin**	**1.11**	**197**	*eP*	**Pg**	**14 52 31.7**	**-0.4**
EYUL	**Yuli**	**1.13**	**204**	*eP*	**Pg**	**14 52 31.9**	**-0.4**
WJS	**Zhushan**	**1.14**	**241**	*eP*	**Pn**	**14 52 33.1**	**+0.2**
WJS				*e*S	**Sn**	**14 52 48.9**	**+0.3**
WNT	**Mingjian**	**1.15**	**244**	*eP*	**Pn**	**14 52 33.8**	**+0.8**
WNT				*e*S	**Sn**	**14 52 49.5**	**+0.6**
WCHH	**Zhanghua**	**1.18**	**255**	*eP*	**Pn**	**14 52 34.8**	**+1.3**
WCHH				*e*S	**Sn**	**14 52 50.2**	**+0.5**
WCH1	**Changhua City**	**1.20**	**255**	*eP*	**Pn**	**14 52 34.8**	**+1.1**
WCH1				*e*S	**Sb**	**14 52 49.4**	**+0.2**
CHKH	**Chenggong**	**1.25**	**198**	P	**Pn**	**14 52 33.6**	**-0.8**
CHKH				*e*S	**Sg**	**14 52 51.3**	**+0.5**
PCYT	**Pengchaiyu**	**1.26**	**11**	*eP*	**Pn**	**14 52 34.3**	**-0.3**
PCYT				*i* S	**Sn**	**14 52 53.5**	**+0.8**
ALS	**Alishan**	**1.27**	**227**	*eP*	**Pg**	**14 52 34.6**	**-0.4**
ALS				*e*S	**Sg**	**14 52 51.7**	**+0.2**
FULB	**Fuli**	**1.27**	**202**	*eP*	**Pn**	**14 52 34.2**	**-0.5**
WGK	**Gukeng**	**1.34**	**239**	*eP*	**Pg**	**14 52 37.8**	**+1.4**
WDL	**Douliou City**	**1.34**	**240**	*eP*	**Pg**	**14 52 37.0**	**+0.6**
EHD	**Haiduan**	**1.35**	**204**	*eP*	**Pn**	**14 52 35.9**	**+0.1**
WDLH	**Douliu**	**1.35**	**239**	*eP*	**Pg**	**14 52 37.3**	**+0.6**
WDLH				*e*S	**Sg**	**14 52 54.5**	**+0.3**
ECS	**Chishang**	**1.39**	**203**	*eP*	**Pb**	**14 52 37.1**	**+0.2**
ELDTW	**Lidau**	**1.40**	**212**	*eP*	**Pn**	**14 52 36.2**	**-0.3**
WCKO	**Fanlu**	**1.45**	**230**	*eP*	**Pb**	**14 52 38.0**	**+0.1**
WCKO				*e*S	**Sg**	**14 52 58.4**	**+1.0**
WTK	**Tuku**	**1.47**	**242**	*eP*	**Pg**	**14 52 38.8**	**-0.2**
WTK				*e*S	**Sg**	**14 52 59.1**	**+1.0**
EDH	**Donghe**	**1.48**	**198**	*eP*	**Pn**	**14 52 37.1**	**-0.5**
CHN2	**Minshiung**	**1.49**	**235**	*eP*	**Pb**	**14 52 38.4**	**-0.2**
CHN4	**Tsaushan**	**1.52**	**228**	*eP*	**Pg**	**14 52 40.0**	**+0.1**
CHN4				*e*S	**Sg**	**14 52 59.6**	**+0.1**
TPUB	**Ta-pu**	**1.53**	**225**	P	**Pb**	**14 52 39.8**	**+0.5**
TPUB	**Ta-pu**	**1.53**	**225**	*eP*	**Pb**	**14 52 39.7**	**+0.5**
STYH	**Taoyuan**	**1.54**	**218**	P	**Pn**	**14 52 39.1**	**+0.7**
STYH				*e*S	**Sb**	**14 52 59.6**	**+0.6**
CHY	**Chiayi**	**1.55**	**235**	*eP*	**Pg**	**14 52 40.2**	**-0.1**
CHY				*e*S	**Sg**	**14 53 00.9**	**+0.5**
LONT	**Longtian**	**1.60**	**203**	*eP*	**Pn**	**14 52 39.4**	**+0.1**
WSF	**Szhu**	**1.63**	**243**	*eP*	**Pb**	**14 52 41.0**	**-0.1**
WSF				*e*S	**Sg**	**14 53 03.6**	**+0.4**
TWK	**Hsinying**	**1.65**	**228**	*eP*	**Pb**	**14 52 41.6**	**+0.3**
SNST	**Tainan City**	**1.67**	**226**	*eP*	**Pb**	**14 52 42.3**	**+0.6**
SNST				*e*S	**Sg**	**14 53 04.6**	**+0.1**
CHN1	**Nanshi**	**1.68**	**225**	*eP*	**Pg**	**14 52 43.0**	**+0.2**
CHN1				*e*S	**Sg**	**14 53 04.4**	**-0.2**
WSL	**Shuilin Townsh**	**1.68**	**240**	*eP*	**Pg**	**14 52 42.8**	**-0.2**
WSL				*e*S	**Sg**	**14 53 04.5**	**-0.3**
TWG	**Pinlang**	**1.70**	**204**	*eP*	**Pb**	**14 52 42.2**	**0.0**
TWGBT	**Beinan**	**1.70**	**203**	P	**Pg**	**14 52 43.0**	**-0.3**
TWGBT	**Beinan**	**1.70**	**203**	*eP*	**Pn**	**14 52 40.7**	**+0.1**
SGST	**Jiashian**	**1.72**	**221**	*eP*	**Pb**	**14 52 42.1**	**-0.4**
LDUT	**Ludao**	**1.73**	**191**	*eP*	**Pn**	**14 52 39.2**	**-1.8**
ICHU	**Yijhu**	**1.73**	**234**	*i P*	**Pb**	**14 52 43.1**	**+0.4**
ICHU				*e*S	**Sg**	**14 53 07.1**	**+0.6**
SLGT	**Liugui**	**1.75**	**218**	*eP*	**Pn**	**14 52 42.3**	**+1.0**
IRIF	**Iriomote-Funau**	**1.75**	**91**	*eP*	**Pn**	**14 52 40.9**	**-0.4**
IRIF				*e*S	**Sn**	**14 53 03.3**	**-0.5**
CHN8	**Yiju**	**1.79**	**235**	*eP*	**Pb**	**14 52 43.8**	**0.0**
CHN8				*e*S	**Sg**	**14 53 08.8**	**+0.4**
SCLT	**Jiali**	**1.91**	**231**	*eP*	**Pg**	**14 52 46.7**	**-0.6**
SCLT				*e*S	**Sg**	**14 53 11.3**	**-0.8**
SCST	**Cishan**	**1.92**	**219**	*eP*	**Pb**	**14 52 45.5**	**-0.4**
ECL	**Taimali**	**1.95**	**204**	*eP*	**Pn**	**14 52 44.8**	**+0.8**
TSMG	**Majia**	**1.98**	**213**	*eP*	**Pn**	**14 52 45.7**	**+1.2**
TWM1	**Shoushan**	**2.01**	**220**	*eP*	**Pb**	**14 52 47.4**	**-0.1**
JKRS	**Kuro-shima**	**2.01**	**94**	*eP*	**Pn**	**14 52 45.3**	**+0.4**
JKRS				*e*S	**Sn**	**14 53 10.2**	**0.0**
MASBT	**Mashibuluo**	**2.07**	**212**	*eP*	**Pn**	**14 52 47.3**	**+1.6**
JIJ	**Ishigaki jima**	**2.13**	**90**	*eP*	**Pn**	**14 52 46.0**	**-0.5**
JIJ				*e*S	**Sn**	**14 53 11.7**	**-1.3**
PNG	**Penghu**	**2.22**	**249**	*eP*	**Pn**	**14 52 48.5**	**+0.8**
PHUB	**P'eng-hu**	**2.23**	**247**	*eP*	**Pn**	**14 52 48.2**	**+0.4**
VWUC	**VWUC**	**2.23**	**286**	*eP*	**Pn**	**14 52 47.0**	**-0.9**
WDGT	**Dungji**	**2.27**	**241**	*eP*	**Pn**	**14 52 49.7**	**+1.3**
SCZT	**Fangliau**	**2.28**	**209**	*eP*	**Pb**	**14 52 51.0**	**-1.1**
JISG	**Ishigakijimahi**	**2.29**	**84**	*eP*	**Pn**	**14 52 48.4**	**-0.3**
JISG				*e*S	**Sn**	**14 53 16.6**	**-0.4**
LAY	**Lan-yu**	**2.35**	**186**	*eP*	**Pn**	**14 52 48.2**	**-1.4**
LYUB	**Lan-yu**	**2.38**	**185**	*eP*	**Pn**	**14 52 48.3**	**-1.7**
MATB	**Ma-tsu**	**2.44**	**317**	*eP*	**Pn**	**14 52 50.2**	**-0.6**
PTMZ	**Houxiangcun**	**2.53**	**285**	*eP*	**Pn**	**14 52 53.1**	**+1.0**

*TRN **06** 15:09:00.5, 10.°87N×60.°65W, h83km, MD2.9, South of Tobago.*
FUNV 06 15:08:59.6, 10.°31N×62.°27W, h6km, MW3.3, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.92**	**68**	*eP*	Pg	15 09 16.6	-0.7
TRN				*e*S	Sb	15 09 30.3	-0.1
TBH	**Brigand Hill**	**1.20**	**82**	*eP*	Pg	15 09 15.2	-7.4
TBH				*e*S	Sg	15 09 25.9	-12
GRFF	**Grenada Fort F**	**1.81**	**17**	*e*S	Sn	15 09 46.7	-7.8
GRGR	**Grenville**	**1.91**	**18**	*e*P	Pn	15 09 27.9	-4.8
GRGR				*e*S	Sn	15 09 47.1	-10
GRSS	**Sisters**	**2.08**	**18**	*e*P	Pn	15 09 29.2	-5.8
PCRV	**Puerto La Cruz**	**2.33**	**267**	*eP*	Pn	15 09 36.9	-1.6
PCRV				*e*S	Sn	15 10 05.0	-2.5
CACV	**CAICARA DEL OR**	**5.02**	**237**	*eP*	Pn	15 10 09.9	-5.6
CACV				*e*S	Sn	15 10 58.6	-15
BENV	**Beln**	**5.26**	**267**	*eP*	Pn	15 10 16.7	-2.1
BENV				*e*S	Sn	15 11 15.2	-4.5
BAUV	**El Baul**	**5.85**	**257**	*eP*	Pn	15 10 24.0	-2.9
BAUV				*e*S	Sn	15 11 27.4	-6.9

*IDC **06** 15:11:06.6±0.7, 23.°29S×171.°93E, h0km, mb4.2/13, mbtmp4.2/15, ML3.4/2, MS3.2/11, Error ellipse: s-maj=22.7km s-min=19.6km az=93.0*
*NEIC **06** 15:11:09.8±1.8, 23.°2S±0

SBA	Scott Base	54.66	181	P	P	15 20 38.9	+1.5
SBA				IAmb	IAmb	15 20 39.9	
comp=Z,5.5nm,1.0s							
QSPA	South Pole Qui	66.77	180	P	P	15 22 00.3	0.0
QSPA				IAmb	IAmb	15 22 03.8	
comp=Z,12nm,1.3s							
QSPA	South Pole Qui	66.77	180	P	P	15 22 00.3	0.0
comp=Z,6.0nm,0.9s,baz=11,slow=0.9,SNR=30							
comp=Z,6.0nm,0.9s							
MJAR	Matsushiro Arr	67.45	331	LR	LR	15 49 10.8	
comp=Z,12nm,19.9s,baz=131,slow=34							
JNU	Nakatsue	68.35	324	LR	LR	15 52 02.8	
comp=Z,18nm,18.3s,baz=175,slow=36							
KSRS	Korea Array	73.19	325	P	P	15 22 40.1	+0.3
comp=Z,2.8nm,0.8s,baz=152,slow=7.1,SNR=7.5							
comp=Z,8.0nm,0.8s							
KSAR	Wonju Array Be	73.21	325	P	P	15 22 40.8	+1.0
MAW	Mawson	75.58	202	P	P	15 22 53.7	+0.4
comp=Z,2.2nm,0.7s,baz=135,slow=5.8,SNR=7.1							
comp=Z,2.2nm,0.7s							
USRK	Ussuriysk Ar.	76.43	332	P	P	15 22 58.7	+0.3
comp=Z,2.2nm,0.8s,baz=126,slow=7.3,SNR=2.6							
comp=Z,2.2nm,0.8s							
PET	Petropavlovsk	76.86	352	P	P	15 22 59.5	-1.1
PETK	Petropavlovsk-	77.07	351	P	P	15 23 01.3	-0.5
PETK	Petropavlovsk-	77.07	351	P	P	15 23 01.1	-0.7
comp=Z,3.1nm,0.9s,baz=130,slow=5.7,SNR=6.2							
comp=Z,3.1nm,0.9s							
SMAI	San Martin Ant	79.23	161	P	P	15 23 13.7	0.0
CMAR	Chiang Mai Arr	82.34	294	P	P	15 23 32.9	+1.7
comp=Z,1.2nm,0.6s,baz=136,slow=4.1,SNR=14							
comp=Z,1.2nm,0.6s							
CHTO	Chiang Mai	82.50	294	P	P	15 23 32.9	+0.8
CHTO				IAmb	IAmb	15 23 34.9	
comp=Z,3.8nm,0.9s							
SNAA	Sanae	85.21	182	P	P	15 23 43.6	-1.5
comp=Z,1.7nm,0.8s,baz=204,slow=12,SNR=2.8							
comp=Z,1.7nm,0.8s							
KHMM	Horse Mountain	87.47	43	P	P	15 23 57.6	+0.9
O02D	Mt. Diablo Mer	87.68	44	P	P	15 23 58.1	+0.5
O02D				IAmb	IAmb	15 24 31.4	
comp=Z,18nm,1.4s							
J14K	Nanvaranak Lak	87.97	11	P	P	15 23 59.4	+1.1
PAHR	Pah Rah Range	89.65	46	P	P	15 24 06.8	-0.3
PAHR				IAmb	IAmb	15 24 07.4	
comp=Z,14nm,1.7s							
NVAR	Mina Array Bea	89.72	48	P	P	15 24 07.2	-0.3
comp=Z,1.6nm,0.8s,baz=227,slow=8.6,SNR=8.4							
comp=Z,1.6nm,0.8s							
NV11	Mina Array Sit	89.83	48	P	P	15 24 07.4	-0.5
NV11				IAmb	IAmb	15 26 51.0	
comp=Z,11nm,1.8s							
SONM	Songino Array	91.89	322	P	P	15 24 16.6	-0.7
comp=Z,0.6nm,0.5s,baz=144,slow=6.0,SNR=4.7							
comp=Z,0.6nm,0.5s							
ILAR	Eielson Array	93.41	16	P	P	15 24 21.1	-2.6
comp=Z,0.6nm,0.8s,baz=244,slow=4.9,SNR=4.5							
comp=Z,0.6nm,0.8s							
BVAR	Borovoye Array	115.05	319	PKP	PKiKP	15 29 48.5	-1.1
comp=Z,0.5nm,0.5s,baz=118,slow=2.5,SNR=4.3							
ARCES	ARCESS Array B	129.59	345	PKP	PKPdf	15 30 16.2	-0.9
comp=Z,3.4nm,0.9s,baz=54,slow=2.1,SNR=4.9							
BRTR	Keskin Array B	141.15	305	PKP	PKPdf	15 30 39.7	+0.1
comp=Z,0.7nm,1.0s,baz=356,slow=5.4,SNR=1.4							
RONA	Rosalia, Austr	148.78	327	*e*PKP	PKPbc	15 30 56.4	+0.1
comp=Z,2.8nm,0.5s							
CONA	Conrad Observa	148.84	328	*e*PKP	PKPbc	15 30 56.6	+0.1
comp=Z,5.7nm,0.9s							
GERES	GERESS Array B	149.19	331	PKPbc	PKPbc	15 30 57.3	0.0
comp=Z,1.7nm,0.7s,baz=20,slow=4.3,SNR=5.9							
SOKA	Soboth	150.11	327	*e*PKP	PKPbc	15 30 59.4	-0.3
comp=Z,4.7nm,1.0s							
KBA	Koelnbreinsper	150.65	329	*i* PKP	PKPbc	15 31 00.3	-0.8
comp=Z,8.6nm,1.2s							
LESA	Schwarzleotal	150.71	330	*i* PKP	PKPbc	15 31 00.1	-0.9
comp=Z,2.9nm,0.4s							
MYKA	Terra Mystica	150.83	328	*i* PKP	PKPbc	15 30 59.6	-1.8
comp=Z,4.3nm,0.5s							
WATA	Walderalm	151.26	331	*e*PKP	PKPbc	15 31 02.1	-0.4
comp=Z,4.4nm,0.5s							
WTTA	Wattenberg	151.29	331	*e*PKP	PKPbc	15 31 02.1	-0.4
comp=Z,3.7nm,0.5s							
MOTA	Moosalm	151.46	332	*i* PKP	PKPbc	15 31 02.6	-0.3
comp=Z,7.6nm,0.8s							
SQTA	Sankt Quirin	151.51	332	*e*PKP	PKPbc	15 31 02.7	-0.3
comp=Z,6.0nm,0.6s							

DJA ***06*** *15:40:33.2±0.7,6°S±5°×10°3E±°, h29km±12km, M4.0/7, mb4.0/3, MLv4.0/7*

IDC ***06*** *15:40:35.3±4.5,5°.54S×104°.00E, h0km, mb3.5/5, mbtmp3.5/5, MS2.9/1, Error ellipse: s-maj=207.3km s-min=22.4km az=53.0*

ISC 06 15:40:33.1±1.4,5°.8S±0°.1×102°.89E±0°.10, h10km, n24, σ2§73/15, **mb3.5/5, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LWLI	Liwa	1.42	55	P	Pn	15 40 58.1	-1.0
LWLI				S	Sn	15 41 17.4	-0.5
MNAI	Manna	1.47	3	P	Pn	15 40 58.0	-1.6
MNAI				S	Sn	15 41 16.4	-2.6
KASI	Kota Agung	1.63	79	P	Pn	15 41 00.4	-1.4
KASI				S	Sn	15 41 23.1	+0.2
CNJI	Cibinong	4.46	109	P	Pn	15 41 39.1	-1.7
LEM	Lembang	4.80	102	P	Pn	15 41 47.3	+1.7
SISI	Saibi	5.87	320	P	Pn	15 41 57.0	-3.2
22nm,1.5s,0.1nm							
KPJI	Karang Pucung	6.18	104	P	Pn	15 42 05.1	+0.6
CMAR	Chiang Mai Arr	24.45	351	P	P	15 45 57.3	+5.0
0.5nm,0.6s,baz=180,slow=9.4,SNR=6.0							
CMAR				LR	LR	15 56 55.8	
comp=Z,23nm,18.0s,baz=170,slow=40							
0.5nm,0.6s							
H08S2	Diego Garcia H	30.24	265	T	T	16 18 16.2	
baz=88,slow=75,SNR=50							
H08S3	Diego Garcia H	30.25	265	T	T	16 18 07.6	
baz=88,slow=75,SNR=55							
H08S1	Diego Carcia H	30.25	265	T	T	16 18 08.4	
baz=88,slow=75,SNR=23							
H01W3	Cape Leeuwin H	30.71	162	T	T	16 19 16.5	
baz=339,slow=76,SNR=4.8							
H01W2	Cape Leeuwin H	30.73	162	T	T	16 19 16.0	
baz=339,slow=76,SNR=4.6							
H01W1	Cape Leeuwin H	30.73	162	T	T	16 19 07.0	
baz=339,slow=76,SNR=4.9							
WRA	Warramunga Arr	33.62	118	P	P	15 47 10.5	-3.6
0.6nm,0.9s,baz=294,slow=8.9,SNR=4.2							
0.6nm,0.9s							
ASAR	Alice Springs	34.70	124	P	P	15 47 20.9	-2.6
0.5nm,0.7s,baz=310,slow=8.2,SNR=8.7							
0.5nm,0.7s							
MKAR	Makanchi Array	55.50	343	P	P	15 50 11.0	+2.8
0.4nm,0.7s,baz=163,slow=8.9,SNR=2.4							
0.4nm,0.7s							
H04N2	CROZET ISLANDS	59.54	219	T	T	16 55 02.1	
baz=63,slow=75,SNR=125							
H04N1	CROZET ISLANDS	59.55	219	T	T	16 54 50.6	
baz=63,slow=75,SNR=119							
H04N3	CROZET ISLANDS	59.55	219	T	T	16 55 01.1	
baz=63,slow=75,SNR=136							
H04S1	CROZET ISLANDS	59.77	218	T	T	16 55 19.0	
baz=61,slow=75,SNR=50							
H04S3	CROZET ISLANDS	59.78	218	T	T	16 55 15.7	
baz=61,slow=75,SNR=86							
H04S2	CROZET ISLANDS	59.79	218	T	T	16 55 17.0	
baz=61,slow=75,SNR=45							
ZALV	Zalesovo Beam	61.47	348	P	P	15 50 52.7	+2.9
0.4nm,0.3s,baz=148,slow=8.5,SNR=1.7							
0.4nm,0.3s							

NEIC ***06*** *15:50:32.1±1.4, 9°.2S±0°.2×109°.7W±0°.2, h10km±2km, mb4.7/13, Error ellipse: s-maj=32.6km s-min=22.9km az=234.0*

IDC ***06*** *15:50:32.4±1.0, 8°.99S×109°.71W, h0km, mb3.6/6, mbtmp3.6/6, MS4.1/14, Error ellipse: s-maj=34.2km s-min=27.3km az=90.0*

GCMT ***06*** *15:50:37.1±0.3, 9°.10S±0°.02×109°.53W±0°.02, h20km±1km, MW4.9/81, Moment Tensor Solution. s36,c41; s81,c110; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.47±.13; Mθθ=0.10±.12; Mφφ=0.56±.14; Mrθ=0.67±.22; Mφθ=3.06±.10; Mφr=0.67±.24; Best double couple: M=3.18900×10^16 NP1:φs=268.00000°, δ82.00000°, λ.10.00000°. NP2: φs=176.00000°, δ80.00000°, λ.171.00000°. Principal axes: T 3.5330, Plg13.0000°, Azm132.0000°; N -0.6870, Plg77.0000°, Azm306.0000°; P -2.8460, Plg1.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 15:50:34.6±0.7, 9°.0S±0°.1×109°.5W±0°.1, h20km, n45, σ1§11/23, **mb4.5/14, MS4.1/13, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	Rapa Nui	18.02	179	LR	LR	15 59 11.8	
comp=Z,142nm,18.7s,baz=257,slow=29							
CMIG	Matias Romero	29.71	29	LR	LR	16 04 51.8	
comp=Z,113nm,20.1s,baz=203,slow=29							
COHC	Cochancay	30.81	80	P	P	15 56 50.0	+0.6
ATAH	Atahualpa	30.89	89	LR	LR	16 05 44.2	
comp=Z,409nm,20.7s,baz=267,slow=29							
JTS	Las Juntas de	31.09	52	LR	LR	16 06 11.9	
comp=Z,398nm,21.9s,baz=226,slow=30							
ACON	Acoyapa	31.95	50	P	P	15 56 59.7	+0.2
NNA	Nana	32.27	98	LR	LR	16 06 35.9	
comp=Z,387nm,19.2s,baz=261,slow=30							
PETF	Flores	32.28	37	P	P	15 57 01.9	-0.3
SLBS	Sierra La Lagu	32.50	359	P	P	15 57 05.6	+1.4
SLBS				IAmb	IAmb	15 57 47.4	
comp=Z,8.7nm,1.2s							
ESPN	Las Esperanzas	32.76	50	P	P	15 57 06.3	-0.2
ESPN				IAmb	IAmb	15 57 07.8	
comp=Z,13nm,1.0s							
LPIG	La Paz	32.92	359	LR	LR	16 07 05.1	
comp=Z,138nm,21.9s,baz=180,slow=30							
TEIG	Tepich	35.80	36	LR	LR	16 10 03.6	
comp=Z,390nm,19.9s,baz=220,slow=33							
H03N2	Juan Fernandez	37.23	135	T	T	16 37 13.0	
baz=307,slow=77,SNR=88							
H03N3	Juan Fernandez	37.24	135	T	T	16 37 10.8	
baz=307,slow=77,SNR=100							
H03N1	Juan Fernandez	37.24	135	T	T	16 37 15.1	
baz=307,slow=77,SNR=155							
TXAR	Lajitas Array	38.54	8	P	P	15 57 55.6	-0.5
comp=Z,0.3nm,0.5s,baz=180,slow=15,SNR=2.2							
comp=Z,0.3nm,0.5s							
PPT	Papeete	39.81	253	P	P	15 58 05.1	-1.7
comp=Z,23nm,0.6s,baz=86,slow=19,SNR=2.5							
LPAZ	La Paz	40.99	104	P	P	15 58 17.6	+0.4
LPAZ	La Paz	40.99	104	P	P	15 58 18.8	+1.5
comp=Z,0.8nm,0.6s,baz=297,slow=8.6,SNR=2.1							
LPAZ				LR	LR	16 11 37.7	
comp=Z,410nm,18.9s,baz=262,slow=31							
comp=Z,0.8nm,0.6s							
LVC	Limon Verde	41.22	114	LR	LR	16 10 51.4	
comp=Z,419nm,19.3s,baz=282,slow=30							
AC05	El Transito	41.79	124	P	P	15 58 21.9	-1.3
AC05				IAmb	IAmb	15 59 04.5	
comp=Z,26nm,1.4s							
PFO	Pinyon Flats O	42.89	352	LR	LR	16 11 58.6	
comp=Z,283nm,20.0s,baz=166,slow=30							
SAML	Samuel	45.77	94	P	P	15 58 53.9	-1.3
SAML				IAmb	IAmb	15 59 04.6	
comp=Z,8.2nm,1.2s							
PLCA	Paso Flores	46.80	139	LR	LR	16 14 01.3	
comp=Z,497nm,18.2s,baz=334,slow=30							
NVAR	Mina Array Bea	47.90	351	P	P	15 59 12.3	+0.7
comp=Z,0.5nm,0.7s,baz=188,slow=10,SNR=2.7							
comp=Z,0.5nm,0.7s							
PCRV	Puerto La Cruz	48.59	68	LR	LR	16 16 30.2	
comp=Z,149nm,20.5s,slow=32							
DUG	Dugway, Tooele	49.05	357	P	P	15 59 19.6	-0.9
PTLB	Pontes e Lacer	49.58	103	P	P	15 59 23.8	-1.1
PTLB				IAmb	IAmb	15 59 25.6	
comp=Z,5.3nm,1.2s							
TKL	Tuckaleechee C	50.64	27	LR	LR	16 20 07.3	
comp=Z,72nm,19.4s,baz=208,slow=35							
PDAR	Pinedale Array	51.52	360	P	P	15 59 40.3	+1.1
comp=Z,0.2nm,0.3s,baz=252,slow=10,SNR=2.3							
comp=Z,0.2nm,0.3s							
CPUP	Villa Florida	52.28	116	LR	LR	16 17 48.0	
comp=Z,300nm,21.6s,baz=314,slow=31							
V58A	Windy Hill, Pi	52.99	31	P	P	15 59 48.9	-1.1
V58A				IAmb	IAmb	16 00 20.9	
comp=Z,13nm,1.2s							
VRDI	Verde Repeater	74.90	344	P	P	16 02 13.3	-0.6
VRDI				IAmb	IAmb	16 02 15.8	
comp=Z,6.9nm,1.0s							
MCARA	McCarthy VSAT	74.91	344	P	P	16 02 13.7	-0.1
ILAR	Eielson Array	78.70	345	P	P	16 02 36.8	+1.7
comp=Z,0.4nm,0.8s,baz=155,slow=4.1,SNR=4.8							
comp=Z,0.4nm,0.8s							
QSPA	South Pole Qui	81.07	180	P	P	16 02 50.4	+2.2
comp=Z,1.5nm,0.9s,baz=198,slow=3.2,SNR=2.7							
comp=Z,1.5nm,0.9s							
H11S2	WAKE ISLAND Hy	86.97	289	T	T	17 39 28.6	
baz=101,slow=75,SNR=200							
H11S1	WAKE ISLAND Hy	86.97	289	T	T	17 39 31.5	
baz=101,slow=75,SNR=168							
H11S3	WAKE ISLAND Hy	86.98	289	T	T	17 39 33.8	
baz=101,slow=75,SNR=125							
H11N3	WAKE ISLAND Hy	87.00	290	T	T	17 39 35.6	
baz=101,slow=75,SNR=24							
H11N2	WAKE ISLAND Hy	87.01	290	T	T	17 39 36.7	
baz=101,slow=75,SNR=33							
H11N1	WAKE ISLAND Hy	87.02	290	T	T	17 39 36.9	
baz=101,slow=75,SNR=22							
BRTR	Keskin Array B	135.15	41	PKP	PKPdf	16 09 53.7	+0.5
comp=Z,0.5nm,0.7s,baz=305,slow=6.9,SNR=3.7							
KURBB	Kurchatov Arra	137.98	352	PKP	PKiKP	16 09 59.4	-0.6
comp=Z,0.1nm,0.3s,baz=48,slow=1.4,SNR=1.9							
CMAR	Chiang Mai Arr	150.82	292	PKPbc	PKiKP	16 10 27.6	+0.3
comp=Z,0.3nm,0.5s,baz=43,slow=1.1,SNR=2.4							

BJI ***06*** *16:11:38.4, 22°.07S×174°.39W, h5km, mb5.7/82, mB6.4/73, Ms5.7/90, Ms7 5.4/87*

IDC ***06*** *16:11:39.0±0.4, 22°.27S×174°.69W, h0km, mb5.3/21, mbtmp5.3/23, ML5.5/2, MS5.4/57, Error ellipse: s-maj=15.9km s-min=13.7km az=131.0*

NEIC ***06*** *16:11:39.5, 22°.19S×174°.51W, h16km*

NEIC ***06*** *16:11:39.7±2.0, 22°.19S±0°.07×174°.53W±0°.09, h10km±1km, mb5.8/265, Ms_20 5.7/993, Mww5.5/26, Error ellipse: s-maj=14.5km s-min=12.0km az=113.0*

NEIC ***06*** *16:11:39.5, 22°.29S×173°.75W, h16km, Moment Tensor Solution. Duration: 2§7 Moment tensor: Scale 10^17Nm; Mrr1.88; Mθθ-0.25; Mφφ-1.63; Mrθ0.01; Mθφ0.15; Mφr1.80; Fault plane solution: M0=2.52000×10^17 NP1: φs=358.30000°, δ67.84000°, λ92.83000°. NP2: φs=170.83000°, δ22.33000°, λ83.08000°. Principal axes: T 2.6423, Plg67.0000°, Azm273.0000°; N -0.2422, Plg3.0000°, Azm177.0000°; P -2.4001, Plg23.0000°, Azm86.0000°;*

MOS ***06*** *16:11:40.1±1.0, 22°.27S×174°.89W, h12km, mb5.7/40, MS5.6/23 Error ellipse: s-maj=9.8km s-min=7.7km az=112.2*

GCMT ***06*** *16:11:43.7±0.1, 22°.47S±0°.01×174°.02W±0°.01, h17km, MW5.7/163, Moment Tensor Solution. s119,c225; s163,c307; Duration: 1§6 Moment tensor: Scale 10^17 Nm; Mrr2.30±.03; Mθθ-0.21±.02; Mφφ-2.09±.03; Mrθ1.47±.08; Mθφ-0.41±.02; Mφr2.59±.09; Best double couple: M=3.72100×10^17 NP1:φs=26.00000°, δ72.00000°, λ98.00000°. NP2:φs182.00000°, δ20.00000°, λ67.00000°. Principal axes: T 3.8430, Plg62.0000°, Azm308.0000°; N -0.2430, Plg8.0000°, Azm203.0000°; P -3.5990, Plg26.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU ***06*** *16:11:49.1, 22°.31S×174°.71W, h73km, ML5.9/149, Tonga Islands Region*

ISC 06 16:11:40.0±0.4, 22°.32S±0°.04×174°.61W±0°.04, h10km±2km, h10km:pP-P, n1695, σ1§73/1493, **mb5.8/240, MS5.7/573, 130C-66D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	Niue	5.45	54		Pn	16 12 53.3	-8.0
NIUE	Niue	5.45	54	P	Pn	16 12 53.9	-7.4
comp=Z,0.0nmcomp=Z,1μm,0.7s							
NIUE				S	Sn	16 13 48.7	-15
NIUE	Niue	5.45	54	⇑P	Pn	16 12 53.5	-7.8
LKBA	Tubou, Lakemba	5.67	315	P	Pn	16 13 09.1	+4.8
RIZ	Raoul Island	7.51	203	P	Pn	16 13 28.8	-0.8
RIZ				S	Sn	16 14 51.8	-3.1
RIZ	Raoul Island	7.51	203	P	Pn	16 13 30.0	+0.4
RIZ				S	Sn	16 14 50.5	-4.4
RAO	Raoul Island	7.51	203	Pn	Pn	16 13 30.8	+1.1
RAO	Raoul Island	7.51	203	Pn	Pn	16 13 30.4	+0.8
comp=Z,318nm,0.3s,baz=168,slow=16,SNR=12							
RAO				S	Sn	16 14 51.8	-3.2
comp=Z,276nm,0.3s,baz=249,slow=23,SNR=13							
comp=Z,697nm,0.3s							
RAO	Raoul Island	7.51	203	P	Pn	16 13 33.1	+3.4
RAO	Raoul Island	7.51	203	⇓P	Pn	16 13 22.3	-7.4
RAO	Raoul Island	7.51	203	P	Pn	16 13 30.8	+1.1
DGTI	Dogotuki	8.02	317	P	Pn	16 13 40.6	+3.9
MSVF	Nonsavu	8.27	302	Pn	Pn	16 13 45.5	+5.3
MSVF	Nonsavu	8.27	302	Pn	Pn	16 13 45.9	+5.7
comp=Z,4.2nm,0.3s,baz=124,slow=13,SNR=78							
MSVF	Nonsavu	8.27	302	P	Pn	16 13 46.0	+5.8
MSVF	Nonsavu	8.27	302	⇑P	Pn	16 13 45.3	+5.1
FUTU	Fugatoga	8.64	337	P	Pn	16 13 49.5	+4.3
comp=Z,2μm,1.7s							
AFI	Afiamalu	8.79	18	Pn	Pn	16 13 40.3	-7.0
YSA	Yasawairara	9.25	306	P	Pn	16 13 58.3	+4.8
RAR	Rarotonga	13.83	88	Pn	Pn	16 14 47.7	-8.5
RAR	Rarotonga	13.83	88	Pn	Pn	16 14 49.2	-7.0
comp=Z,32nm,0.3s,baz=237,slow=8.7,SNR=80							
RAR				Sn	Sn	16 17 06.9	-23
comp=Z,5.6nm,0.3s,baz=83,slow=19,SNR=2.5							
RAR				LR	LR	16 20 47.3	
comp=Z,10μm,18.5s,baz=271,slow=39							
MARNC	Mare, Loyalty	16.13	270	P	P	16 15 31.8	+1.5
GRZ	Great Barrier	16.34	210	P	P	16 15 32.6	+0.1
OUZ	Omahuta	16.47	216	P	Pn	16 15 33.6	+2.4
OUZ	Omahuta	16.47	216	P	P	16 15 35.4	+1.5
OUZ	Omahuta	16.47	216	⇓P	P	16 15 35.2	+1.3
PINNC	Pines Island,	16.59	266	P	P	16 15 35.3	0.0
PINNC	Pines Island,	16.59	266	P	P	16 15 37.5	+2.2
WCZ	Waipu Caves	16.63	213	P	Pn	16 15 33.6	+0.4
WCZ	Waipu Caves	16.63	213	P	Pn	16 15 33.8	+0.6
KUZ	Kuaotunu	16.64	208	P	P	16 15 39.5	+3.8
HAZ	Te Kaha	16.72	201	P	Pn	16 15 25.1	-9.2
HAZ	Te Kaha	16.72	201	P	Pn	16 15 27.2	-7.1
DVP	Devils Point	16.80	283	P	P	16 15 39.0	+1.4
PUZ	Puketiti	16.85	200	P	Pn	16 15 27.7	-8.4
WIAZ	Waiheke Island	16.94	209	P	P	16 15 40.7	+1.6
RUGZ	Raukumara Rang	16.94	201	P	Pn	16 15 31.0	-6.3
LIFNC	LIFOU	16.95	272	P	P	16 15 41.1	+1.7
MBAZ	Motutapu North	17.02	210	P	P	16 15 41.2	+1.2
TWGZ	Tauwhareparae	17.04	200	P	Pn	16 15 33.7	-4.7
TWGZ				S	Sn	16 18 35.6	-12
NFK	Norfolk Island	17.08	243	P	P	16 15 42.9	+2.2
comp=Z,0.0nmcomp=Z,519nm,1.2s							
NFK	Norfolk Island	17.08	243	P	P	16 15 43.6	+2.8
comp=Z,518nm,1.2s							
NFK	Norfolk Island	17.08	243	⇑P	P	16 15 41.9	+1.1
YATNC	Mamie plateau,	17.14	267	P	P	16 15 44.3	+2.9
OUENC	Ouen Island, N	17.16	266	P	P	16 15 44.5	+2.9
CNGZ	Carnagh Statio	17.25	199	P	Pn	16 15 38.5	-2.5
TKGZ	Te Karaka	17.32	200	P	Pn	16 15 38.9	-3.0
TKGZ				S	Sn	16 18 37.7	-17
MWZ	Matawai	17.33	201	P	Pn	16 15 29.9	-12
AWAZ	Awhitu Peninsu	17.38	210	P	P	16 15 46.0	+1.9
URZ	Urewera	17.40	202	P	Pn	16 15 44.2	+1.3
comp=Z,3.9nm,0.3s,baz=286,slow=2.5,SNR=10							
URZ				S	Sn	16 18 43.6	-13
comp=Z,62nm,0.8s,baz=53,slow=20,SNR=10							
URZ				LR	LR	16 21 20.9	
comp=Z,10μm,19.9s,baz=86,slow=33							
comp=Z,33nm,0.5s							
URZ	Urewera	17.40 202		P	Pn	16 15 36.1	-6.8
URZ				S	Sn	16 18 43.2	-13
URZ	Urewera	17.40 202		P	P	16 15 45.9	+1.7
URZ	Urewera	17.40 202		⇓P	Pn	16 15 44.7	+1.7
ONTNC	Ouen Toro	17.52 266		P	P	16 15 47.6	+1.9
ONTNC	Ouen Toro	17.52 266		P	P	16 15 48.4	+2.7
ONTNC	Ouen Toro	17.52 266		⇑P	P	16 15 47.0	+1.4
DZM	Mont Dzumac	17.55 267		*e*P	P	16 15 48.1	+2.1
comp=Z,385nm,1.3s							
DZM				*e*LR	LR	16 19 47.9	
comp=Z,8μm,20.4s							
DZM	Mont Dzumac	17.55 267		P	P	16 15 48.2	+2.1
DZM	Mont Dzumac	17.55 267		P	P	16 15 46.7	+0.6
comp=Z,136nm,1.1s,baz=82,slow=16,SNR=24							
DZM	Mont Dzumac	17.55 267		P	P	16 15 48.7	+2.6
DZM	Mont Dzumac	17.55 267		⇑P	P	16 15 47.8	+1.7
TOZ	Tahuroa Road	17.56 207			Pn	16 15 45.6	+0.7
RIGZ	Rimuhau	17.59 200		P	Pn	16 15 44.4	-0.9
RIGZ				S	Sn	16 18 45.2	-16
NOUC	Port Laguerre	17.68 267		P	P	16 15 50.2	+2.8
PRGZ	Paritu Road	17.75 200		P	Pn	16 15 47.4	+0.2
PRGZ				P	Sn	16 18 52.2	-13
RTZ	Ruatahuna	17.77 202		P	Pn	16 15 47.7	+0.1
RTZ	Ruatahuna	17.77 202		P	Pn	16 15 42.0	-5.5
RTZ				P	Sn	16 18 50.7	-15
SNGZ	Shannon Statio	17.79 201		P	Pn	16 15 40.0	-7.8
SNGZ				S	Sn	16 18 48.7	-17
KNZ	Kokohu	17.90 200		P	Pn	16 15 46.2	-2.9
KNZ				S	Sn	16 18 51.3	-18
MHGZ	Mahia Peninsul	17.95 199		P	Pn	16 15 44.7	-5.0
MHGZ				P	Sn	16 18 54.5	-15
RAHZ	Arahi	18.00 201		P	P	16 15 52.4	+1.5
RAHZ				S	Sn	16 18 56.9	-14
MTHZ	Maungataniwha	18.03 202		P	P	16 15 53.0	+1.8
MTHZ				S	Sn	16 18 58.8	-13

HOWZ Holdsworth Sta 20.31 202 P **P 16 16 12.7 -3.5**
HOWZ S S 16 19 44.4 -19
OGWZ Otaki Gorge 20.36 203 P **P 16 16 15.6 -1.1**
OGWZ S S 16 19 43.5 -21
TMWZ Te Maipa 20.37 201 P Pn 16 16 20.2 +1.3
TMWZ S S 16 19 47.0 -18
MTW Mount Morrison 20.55 202 P **P 16 16 20.4 +1.7**
MTW S S 16 19 48.9 -20
CAW Cannon Point 20.65 203 P **P 16 16 22.2 +2.4**
CAW S S 16 19 53.9 -17
TRWZ Traveller 20.70 201 P Pn 16 16 24.3 +1.6
TRWZ S S 16 19 57.6 -14
MSWZ Moikau Station 20.86 202 P **P 16 16 23.3 +1.2**
MSWZ S S 16 19 57.1 -18
PLWZ Palliser 21.00 202 P **P 16 16 22.6 -1.0**
PLWZ Palliser 21.00 202 P **P 16 16 30.7 +7.1**
PLWZ S S 16 19 59.7 -18
TCW Tory Channel 21.03 204 P **P 16 16 25.1 +1.2**
TCW S S 16 19 58.9 -19
TUWZ Tuamarina 21.35 204 P **P 16 16 25.4 -1.9**
TUWZ S S 16 20 09.4 -15
NNZ Nelson 21.39 205 P **P 16 16 26.3 -1.4**
NNZ S S 16 20 09.9 -15
QRZ Quartz Range 21.41 208 P **P 16 16 28.0 0.0**
QRZ S S 16 20 15.3 -10
CTZ Chatham Island 21.42 184 P **P 16 16 31.5 +3.5**
THZ Tophouse 22.04 206 P **P 16 16 33.1 -1.7**
THZ S S 16 20 25.4 -13
KHZ Kahutara 22.35 204 P **P 16 16 35.8 -2.3**
KHZ Kahutara 22.35 204 P **P 16 16 35.5 -2.6**
KHZ S S 16 20 31.1 -13
TBI Tubuai 23.20 97 *e*P P 16 16 34.1 -13
comp=Z,7µm,27.5s
TBI *e*S **S 16 20 52.1 -7.0**
comp=Z,43µm,25.2s
TBI *e*LR LR 16 22 09.4
comp=Z,9µm,30.2s
TBI *e*LR LR 16 22 12.1
comp=Z,51µm,29.5s
INZ Inchbonnie 23.43 207 P **P 16 16 49.3 -0.1**
OXZ Oxford 23.70 205 P **P 16 16 52.2 +0.3**
PPT2 Papeete2 23.99 83 *e*P P 16 16 37.8 -17
comp=Z,657nm,24.5s
PPT2 *e*S **S 16 21 05.7 -6.4**
comp=Z,13µm,24.8s
PPT2 *e*LR LR 16 22 23.4
comp=Z,14µm,26.0s
PPT2 *e*LR LR 16 22 31.2
comp=Z,7µm,36.5s
PPT Papeete 23.99 83 P **P 16 16 54.9 -0.1**
comp=Z,83nm,1.0s,baz=272,slow=7.1,SNR=8.4
PPT LR LR 16 24 44.9
comp=Z,11µm,18.4s,baz=265,slow=33
comp=Z,83nm,1.0s
PPTF Pamatai, Papee 24.00 83 P **P 16 16 53.2 -1.9**
PPTF IAmb IAmb 16 17 12.0
comp=Z,352nm,1.3s
PPTF Pamatai, Papee 24.00 83 P **P 16 16 56.5 +1.4**
FOZ Fox Glacier 24.78 208 IAMs_20 IAMs_20 16 26 18.4
comp=Z,20µm,18.0s
JCZ Jackson Bay 25.66 208 P **P 16 17 13.4 +3.3**
ODZ Otahua Downs 25.69 205 ⇑P **P 16 17 12.0 +1.8**
TARA Tarawa 26.49 331 P **P 16 17 15.4 -2.3**
TARA IAmb IAmb 16 17 45.2
comp=Z,505nm,1.9s
TARA IAMs_20 IAMs_20 16 26 59.0
comp=Z,19µm,18.0s
ALEG Aligegeo Malai 27.29 296 P **P 16 17 25.6 +0.7**
WHZ Wether Hill Ro 27.47 207 IAmb IAmb 16 17 32.1
comp=Z,156nm,1.1s
HNR Honiara 27.57 294 P **P 16 17 26.3 -1.1**
HNR IAmb IAmb 16 17 35.4
comp=Z,127nm,1.1s
HNR Honiara 27.57 294 LR LR 16 29 24.8
comp=Z,3µm,18.0s,baz=178,slow=39
HNR Honiara 27.57 294 P **P 16 17 28.5 +1.1**
HNR Honiara 27.57 294 P **P 16 17 26.3 -1.1**
HNR pmax pmax
comp=Z,127nm,1.1s
HNR MLR MLR
comp=Z,6µm,19.0s
TATA Tatamba Isabel 28.23 295 P **P 16 17 35.1 +1.7**
AUWSH Wavell State H 29.73 254 P **P 16 17 49.4 +2.8**
TW1H Toowoomba 1 Ha 30.69 253 P **P 16 17 57.1 +1.9**
comp=Z,86nm,1.2s
ARMA Armidale 31.21 248 P **P 16 17 59.0 -0.9**
ARMA Armidale 31.21 248 P **P 16 18 00.9 +1.1**
ARMA Armidale 31.21 248 ⇑P **P 16 17 59.6 -0.2**
EIDS Eidsvold 31.48 258 P **P 16 18 01.4 -0.7**
EIDS IAmb IAmb 16 18 03.0
comp=Z,97nm,1.1s
EIDS Eidsvold 31.48 258 P **P 16 18 01.9 -0.2**
EIDS Eidsvold 31.48 258 ⇑P **P 16 18 01.6 -0.4**
NTLH Newcastle Hard 31.53 243 P **P 16 18 05.3 +2.8**
comp=Z,71nm,1.1s
AUPHS Peel High Sch 31.93 247 P **P 16 18 09.0 +3.0**
MGCD Mangrove Creek 32.08 243 P **P 16 18 10.2 +2.9**
SYDH Sydney Hard Ro 32.49 242 P **P 16 18 12.6 +1.7**
comp=Z,42nm,1.2s
WOLH Wollongong Har 32.52 241 P **P 16 18 13.2 +2.1**
comp=Z,47nm,0.9s
CNB Canberra Magne 33.92 240 P **P 16 18 24.5 +1.0**
AUDCS Dubbo College 33.99 245 P **P 16 18 25.0 +1.0**
CAN Canberra 34.22 240 IAMs_20 IAMs_20 16 30 46.8
comp=Z,10µm,18.0s
CAN Canberra 34.22 240 P **P 16 18 27.3 +1.3**
CAN Canberra 34.22 240 ⇑P **P 16 18 27.1 +1.1**
AULRC Lightning Ridg 34.28 250 P **P 16 18 26.7 +0.1**
YNG Young 34.50 242 P **P 16 18 28.9 +0.4**
AUSMG Snowy Mountain 34.77 238 P **P 16 18 33.6 +2.8**
TAOE Nuku Hiva Isla 35.69 73 *e*P P 16 18 28.3 -11
comp=Z,313nm,36.4s
TAOE Nuku Hiva Isla 35.69 73 *e*PP PP 16 19 53.9 -6.1
comp=Z,421nm,26.4s
TAOE *e*S **S 16 24 14.2 -1.7**
comp=Z,1µm,22.9s
TAOE *e*LQ LQ 16 26 35.8
comp=Z,5µm,23.3s
TAOE *e*LR LR 16 27 43.7
comp=Z,8µm,27.8s
TV1H Townsville Har 36.14 268 P **P 16 18 42.8 +0.1**
CMSA Cobar Meteorol 36.40 247 P **P 16 18 44.5 -0.3**
CTA Charters Tower 36.49 266 LR LR 16 32 46.7
comp=Z,219nm,19.0s,baz=116,slow=35
CTA Charters Tower 36.49 266 P **P 16 18 45.2 -0.5**
CTAO Charters Tower 36.49 266 P **P 16 18 44.7 -1.0**
CTAO Charters Tower 36.49 266 P **P 16 18 45.2 -0.5**
CTAO Charters Tower 36.49 266 ⇑P **P 16 18 45.0 -0.7**
CTAO Charters Tower 36.49 266 P **P 16 18 44.7 -1.0**
CTAO pmax pmax
comp=Z,84nm,0.9s
RKT Rikitea 36.49 99 *e*P P 16 18 34.5 -11
comp=Z,1µm,35.2s
RKT *e*S **S 16 24 28.6 +0.7**
comp=Z,5µm,26.0s
RKT *e*LR LR 16 28 13.8
comp=Z,33µm,30.0s
RABL Rabaul 36.88 294 P **P 16 18 47.7 -1.4**
CORO Coronation Par 37.28 230 P **P 16 18 54.4 +2.3**
MOO Moorlands 37.57 229 P **P 16 18 55.9 +1.3**
QLP Quilpie 37.59 255 P **P 16 18 54.4 -0.6**
QLP Quilpie 37.59 255 ⇑P P 16 18 49.9 -5.1
AUMAG Moama Anglican 37.76 239 P **P 16 18 56.5 +0.2**
GEXS Deakin Univers 38.52 236 P **P 16 19 03.7 +1.0**
BRAT Ballarat 38.67 237 P **P 16 19 04.9 +1.0**
MTSU Mount Surprise 38.68 269 P **P 16 19 04.9 +0.6**
PMG Port Moresby 38.83 283 P **P 16 19 03.5 -2.0**
PMG Port Moresby 38.83 283 IAMs_20 IAMs_20 16 34 22.3
comp=Z,8µm,18.0s
PMG Port Moresby 38.83 283 P **P 16 19 04.8 -0.7**
PMG Port Moresby 38.83 283 ⇑P **P 16 19 04.5 -1.0**
PMG Port Moresby 38.83 283 *ce*P **P 16 19 05.0 -0.5**
PMG pmax pmax
comp=Z,94nm,1.1s
PMG MLR MLR
comp=Z,8µm,16.0s
STKA Stephens Creek 39.90 247 P **P 16 19 13.7 -0.7**
STKA Stephens Creek 39.90 247 P **P 16 19 13.9 -0.4**
comp=Z,27nm,1.0s,baz=81,slow=8.5,SNR=16
STKA LR LR 16 35 54.3
comp=Z,8µm,18.2s,baz=82,slow=36
comp=Z,27nm,1.0s
STKA Stephens Creek 39.90 247 P **P 16 19 14.4 0.0**
ARPS Mount Arapiles 40.19 239 P **P 16 19 17.1 +0.5**

INKA Innaminka 40.64 253 P **P 16 19 20.7 +0.2**
COEN Coen 40.86 274 P **P 16 19 20.8 -1.6**
COEN IAmb IAmb 16 19 23.6
comp=Z,153nm,1.2s
COEN Coen 40.86 274 P **P 16 19 21.9 -0.5**
COEN Coen 40.86 274 ⇑P **P 16 19 21.9 -0.5**
AUMBR Murray Bridge 42.05 242 P **P 16 19 31.7 -0.2**
MANU Manus Island 42.07 293 P **P 16 19 32.1 -0.3**
MANU IAmb IAmb 16 19 33.7
comp=Z,335nm,1.8s
HTT Hallett 42.23 244 P **P 16 19 33.4 -0.2**
HTT Hallett 42.23 244 ⇓P **P 16 19 33.2 -0.4**
HTT Hallett 42.23 244 ⇓P **P 16 19 33.2 -0.4**
QIS Mount Isa 42.53 264 P **P 16 19 35.2 -0.9**
LCRK Leigh Creek 42.78 249 P **P 16 19 37.3 -0.7**
WHYH Whyalla 43.34 245 P **P 16 19 44.6 +2.1**
BBOO Buckleboo 44.62 245 IAMs_20 IAMs_20 16 38 29.6
comp=Z,11µm,18.0s
OOD Oodnadatta 45.11 252 P **P 16 19 56.9 +0.1**
WAKE Wake Island 45.23 335 IAMs_20 IAMs_20 16 37 08.8
comp=Z,11µm,19.0s
STCH Steam Cracks 45.62 26 P **P 16 19 58.7 -2.1**
STCH IAmb IAmb 16 20 06.0
comp=Z,140nm,1.1s
HMH Humu'ula Sheep 45.67 26 P **P 16 19 59.4 -2.1**
MULG Mulgathing 46.37 249 P **P 16 20 05.9 -0.8**
KIP Kipapa 46.40 22 *ce*P **P 16 20 09.8 +3.0**
KIP pmax pmax
comp=Z,102nm,2.5s
AS01 Alice Springs 47.16 258 P **P 16 20 12.0 -1.0**
ASAR Alice Springs 47.20 258 P **P 16 20 11.6 -1.8**
ASAR Alice Springs 47.20 258 P **P 16 20 12.1 -1.2**
comp=Z,108nm,0.9s,baz=91,slow=8.3,SNR=404
ASAR PcP **PcP 16 21 45.4 +0.6**
comp=Z,16nm,0.8s,baz=92,slow=5.1,SNR=4.2
ASAR S **S 16 27 01.4 -5.1**
comp=Z,1.9nm,1.0s,baz=90,slow=15,SNR=5.9
ASAR LR LR 16 40 45.8
comp=Z,6µm,18.1s,baz=105,slow=37
comp=Z,108nm,0.9s
WB0 Warramunga Arr 47.48 263 IAmb IAmb 16 20 15.3
comp=Z,75nm,0.9s
WB2 Warramunga Arr 47.48 263 IAmb IAmb 16 20 15.3
comp=Z,94nm,0.9s
WRAB Tennant Creek 47.49 263 P **P 16 20 13.7 -1.9**
WRAB IAmb IAmb 16 20 15.3
comp=Z,91nm,1.0s
WRAB Tennant Creek 47.49 263 ⇑*i*P **P 16 20 14.0 -1.6**
WRAB pmax pmax
comp=Z,95nm,0.9s
WRA Warramunga Arr 47.49 263 P **P 16 20 14.4 -1.3**
WRA Warramunga Arr 47.49 263 P **P 16 20 14.0 -1.6**
comp=Z,55nm,0.9s,baz=90,slow=5.9,SNR=390
WRA PcP **PcP 16 21 46.8 +0.9**
comp=Z,23nm,0.9s,baz=102,slow=3.1,SNR=6.5
WRA S **S 16 27 04.1 -6.6**
comp=Z,3.6nm,1.1s,baz=102,slow=14,SNR=6.1
WRA LR LR 16 40 11.7
comp=Z,4µm,19.5s,baz=108,slow=36
comp=Z,55nm,0.9s
WRA Warramunga Arr 47.49 263 P **P 16 20 14.4 -1.3**
WRA pmax pmax
comp=Z,8.0nm,1.0s
JAY Jayapura 47.61 288 P **P 16 20 15.1 -1.5**
comp=Z,118nm,1.1s,comp=Z,2µm
GENI Genyem 48.05 288 P **P 16 20 19.4 -0.5**
GENI Genyem 48.05 288 P **P 16 20 18.9 -1.0**
comp=Z,181nm,1.2s,comp=Z,4µmcomp=Z,4µm
KDU Kakadu 51.15 271 P **P 16 20 42.3 -1.3**
KDU Kakadu 51.15 271 ⇑P **P 16 20 42.0 -1.6**
FORT Forrest 51.50 248 P **P 16 20 45.3 -0.8**
FORT Forrest 51.50 248 ⇓P **P 16 20 44.9 -1.2**
WRKA Warakurna 52.03 255 P **P 16 20 49.1 -1.1**
WRKA Warakurna 52.03 255 ⇓P **P 16 20 49.0 -1.2**
MTN Manton Dam 52.34 271 IAMs_20 IAMs_20 16 42 59.9
comp=Z,8µm,19.0s
MTN Manton Dam 52.34 271 P **P 16 20 50.6 -1.9**
MTN Manton Dam 52.34 271 ⇑P **P 16 20 50.7 -1.8**
DRS Darwin Rock St 52.69 271 P **P 16 20 53.6 -1.5**
GUMO Guam 53.40 308 P **P 16 20 59.0 -1.2**
GUMO Guam 53.40 308 LR LR 16 42 24.4
comp=Z,2µm,18.1s,baz=130,slow=35
GUMO Guam 53.40 308 P **P 16 20 59.0 -1.2**
GUMO pmax pmax
comp=Z,650nm,1.4s
GUMO MLR MLR
comp=Z,3µm,18.0s
SAUI Saumlaki 53.84 277 P **P 16 21 03.4 -0.2**
SAUI Saumlaki 53.84 277 P **P 16 21 04.1 +0.5**
comp=Z,321nm,1.6s,comp=Z,6µm
RKPI Ransiki, Papua 53.86 285 P **P 16 21 04.5 +0.8**
FAKI Fak Fak 54.98 283 P **P 16 21 10.1 -1.8**
FAKI Fak Fak 54.98 283 P **P 16 21 11.0 -0.9**
FAKI Fak Fak 54.98 283 P **P 16 21 10.6 -1.3**
comp=Z,105nm,1.6s,comp=Z,2µmcomp=Z,3µm
FITZ Fitzroy Crossi 55.92 263 P **P 16 21 17.9 -0.8**
comp=Z,105nm,1.1s,baz=103,slow=6.1,SNR=61
FITZ LR LR 16 45 41.8
comp=Z,5µm,18.7s,baz=93,slow=37
comp=Z,105nm,1.1s
SBA Scott Base 56.29 185 ⇓P **P 16 21 24.3 +3.9**
BNDI Bandanaira 56.45 280 P **P 16 21 22.0 -0.5**
BNDI Bandanaira 56.45 280 P **P 16 21 21.9 -0.5**
comp=Z,338nm,1.2s,comp=Z,5µmcomp=Z,3µm
KMBL Kambalda 56.70 246 P **P 16 21 24.1 0.0**
SWI Sorong 56.76 284 P **P 16 21 23.5 -1.1**
MSAI Masohi 57.82 281 P **P 16 21 30.7 -1.4**
comp=Z,82nm,1.0s,comp=Z,2µm
AAI Ambon 58.35 280 P **P 16 21 34.7 -1.2**
comp=Z,84nm,1.2s,comp=Z,2µmcomp=Z,3µm
RPN Rapa Nui 58.91 109 LR LR 16 41 50.3
comp=Z,5µm,18.3s,baz=257,slow=31
NLAI Namlea 59.53 280 P **P 16 21 43.3 -0.7**
comp=Z,88nm,1.3s,comp=Z,2µm
SOEI Soe 59.71 272 IAMs_20 IAMs_20 16 48 36.2
comp=Z,4µm,20.0s
SOEI Soe 59.71 272 P **P 16 21 45.8 +0.3**
SOEI Soe 59.71 272 ⇑P **P 16 21 45.7 +0.2**
SOEI Soe 59.71 272 P **P 16 21 45.8 +0.3**
BATI Baumata 60.12 271 LR LR 16 48 51.3
comp=Z,5µm,19.4s,baz=142,slow=37
BATI Baumata 60.12 271 P **P 16 21 48.9 +0.8**
comp=Z,155nm,0.9s,comp=Z,3µmcomp=Z,3µm
KLBR Kellerberrin 60.16 245 P **P 16 21 48.6 +0.4**
MEEK Meekatharra 60.31 251 P **P 16 21 48.7 -0.7**
PSA00 Pilbara Seismi 60.34 257 P **P 16 21 47.9 -1.6**
PSA00 Pilbara Seismi 60.34 257 P **P 16 21 49.1 -0.5**
NWAO Narrogin (SRO) 60.39 244 LR LR 16 47 07.3
comp=Z,4µm,18.1s,baz=52,slow=35
MBWA Marble Bar 60.54 258 P **P 16 21 49.1 -1.9**
MBWA IAmb IAmb 16 21 52.9
comp=Z,79nm,0.9s
MBWA Marble Bar 60.54 258 IAMs_20 IAMs_20 16 50 11.7
comp=Z,4µm,18.0s
MBWA Marble Bar 60.54 258 P **P 16 21 50.3 -0.7**
MBWA Marble Bar 60.54 258 ⇑P **P 16 21 49.9 -1.1**
TNTI Ternate 60.97 284 P **P 16 21 51.8 -2.2**
TNTI Ternate 60.97 284 P **P 16 21 53.5 -0.4**
TNTI Ternate 60.97 284 ⇑P **P 16 21 53.0 -1.0**
TNTI Ternate 60.97 284 P **P 16 21 53.3 -0.6**
comp=Z,165nm,1.1s,comp=Z,2µm
SANI Sanana 61.02 280 P **P 16 21 53.2 -1.1**
SANI Sanana 61.02 280 ⇑P **P 16 21 52.1 -2.2**
SANI Sanana 61.02 280 P **P 16 21 52.6 -1.7**
comp=Z,112nm,1.2s,comp=Z,2µmcomp=Z,3µm
MUN Mundaring 61.40 245 P **P 16 21 57.5 +0.9**
MMRI Maumere 61.98 272 P **P 16 21 58.6 -2.1**
MMRI Maumere 61.98 272 P **P 16 22 00.0 -0.8**
MMRI Maumere 61.98 272 ⇑P **P 16 21 59.8 -1.0**
MMRI Maumere 61.98 272 P **P 16 21 59.8 -1.0**
comp=Z,164nm,1.1s,comp=Z,3µmcomp=Z,3µm
MORW Morawa 62.07 248 IAmb IAmb 16 22 02.0
comp=Z,52nm,1.0s
MORW Morawa 62.07 248 P **P 16 22 01.4 +0.2**
MORW Morawa 62.07 248 ⇑P **P 16 22 01.2 0.0**
BBSI Bau Bau 62.81 275 P P 16 22 20.3 +14
BASI Baing, Sumba 62.97 270 P **P 16 22 08.0 +0.6**
comp=Z,381nm,1.2s,comp=Z,4µmcomp=Z,2µm
KMSI Cibinong 63.94 282 P P 16 22 18.7 +4.9
WBSI Waikabubak, Su 64.26 270 P **P 16 22 15.5 -0.5**
comp=Z,109nm,1.1s,comp=Z,2µm
LUWI Luwuk 64.37 280 P **P 16 22 17.1 +0.4**
LUWI Luwuk 64.37 280 P **P 16 22 17.0 +0.4**
comp=Z,173nm,1.4s,comp=Z,3µmcomp=Z,3µm
BSSI Bau Bau, Buton 64.49 274 P **P 16 22 16.9 -0.5**

comp=Z,86nm,1.4s,comp=Z,2µmcomp=Z,3µm
JCJ Chichijima 64.50 317 LR LR 16 44 51.6
comp=Z,1µm,21.4s,baz=135,slow=31
BKSI Bulukumba 65.13 275 P **P 16 22 20.4 -1.2**
comp=Z,65nm,1.1s,comp=Z,1µmcomp=Z,2µm
DAV Davao City (W) 65.42 289 LR LR 16 49 59.5
comp=Z,2µm,18.1s,baz=150,slow=35
APSI Ampana 65.44 280 P **P 16 22 26.1 +2.5**
comp=Z,88nm,1.2s,comp=Z,2µm
BNSI Bone 65.49 275 P **P 16 22 23.3 -0.6**
comp=Z,92nm,1.5s,comp=Z,2µmcomp=Z,2µm
KAPI Kappang 65.59 275 LR LR 16 51 32.1
comp=Z,867nm,19.8s,baz=134,slow=36
SPSI Sidrap Palu 65.97 276 P **P 16 22 25.4 -1.6**
comp=Z,46nm,1.0s
PLAI Plampang 66.04 270 P **P 16 22 27.1 -0.4**
PLAI Plampang 66.04 270 P **P 16 22 26.9 -0.6**
comp=Z,284nm,1.1s,comp=Z,3µmcomp=Z,3µm
TTSI Tana Toraja 66.28 277 P **P 16 22 29.4 +0.4**
CGP Cagayan de Oro 66.85 290 ⇓*e*P **P 16 22 32.5 -0.1**
TOLI2 Tolitoli 67.06 281 P **P 16 22 32.6 -1.4**
TOLI2 IAmb IAmb 16 22 33.8
comp=Z,82nm,1.2s
TOLI2 Tolitoli 67.06 281 P **P 16 22 33.0 -1.0**
MPSI Mapaga 67.55 280 P **P 16 22 36.2 -0.9**
comp=Z,86nm,1.0s,comp=Z,1µmcomp=Z,2µm
QSPA South Pole Qui 67.75 180 P **P 16 22 38.9 +1.2**
QSPA IAmb IAmb 16 23 01.2
comp=Z,78nm,1.1s
QSPA South Pole Qui 67.75 180 IAMs_20 IAMs_20 16 50 03.2
comp=Z,5µm,20.0s
QSPA South Pole Qui 67.75 180 P **P 16 22 39.0 +1.2**
comp=Z,30nm,0.9s,baz=62,slow=1.4,SNR=25
QSPA LR LR 16 48 04.4
comp=Z,5µm,20.9s,baz=40,slow=32
comp=Z,30nm,0.9s
QSPA South Pole Qui 67.75 180 ⇑P **P 16 22 39.8 +2.1**
PLP Palo 67.91 293 ⇓*e*P **P 16 22 37.8 -1.6**
TBP Tagbilaran 68.16 291 *e*P **P 16 22 39.6 -1.3**
SRBI Singaraja 68.67 270 P **P 16 22 44.1 -0.1**
comp=Z,146nm,1.0s,comp=Z,3µmcomp=Z,3µm
JAGI Jajag, Banyuwa 69.52 269 P **P 16 22 48.3 -1.2**
JAGI Jajag, Banyuwa 69.52 269 ⇑P **P 16 22 48.0 -1.4**
JAGI Jajag, Banyuwa 69.52 269 P **P 16 22 48.3 -1.2**
comp=Z,157nm,1.1s,comp=Z,2µm
ABJI Asem Bagus 69.68 270 P **P 16 22 50.7 +0.3**
comp=Z,147nm,1.1s
RCP Roxas 70.02 292 ⇑*i*P **P 16 22 48.2 -4.2**
KMMI Kalianget 70.19 270 P **P 16 22 54.7 +1.1**
comp=Z,117nm,1.3s,comp=Z,2µmcomp=Z,4µm
JHJ Hachijo jima 2 70.23 320 LR LR 16 53 57.4
comp=Z,1µm,18.3s,baz=100,slow=36
GMJI Gumukmas 70.24 269 P **P 16 22 53.6 -0.3**
comp=Z,80nm,1.1s,comp=Z,2µm
MYLDM Lahad Datu 70.85 284 IAmb IAmb 16 23 20.7
comp=Z,88nm,1.1s
MYLDM Lahad Datu 70.85 284 P **P 16 22 59.4 +1.8**
MYLDM Lahad Datu 70.85 284 ⇑P **P 16 22 59.2 +1.6**
GQP Guinayangan 71.41 294 ⇑*e*P **P 16 23 00.4 -0.5**
GRJI Gresik 71.62 270 P **P 16 23 03.1 +0.8**
MTKI Muara Teweh, K 71.62 277 P **P 16 23 02.6 +0.3**
PWJI Pagerwojo 71.85 269 P **P 16 23 03.9 +0.2**
comp=Z,112nm,1.0s,comp=Z,2µm
LQP Lukban 72.28 294 ⇑*e*P **P 16 23 05.8 -0.5**
PCJI Pacitan 72.37 268 P **P 16 23 07.4 +0.6**
comp=Z,293nm,1.0s,comp=Z,4µm
NGJI Ngawi 72.40 269 P P 16 23 18.8 +12
TGY Tagaytay City 72.78 294 LR LR 16 55 30.3
comp=Z,1µm,18.0s,baz=44,slow=36
TGY Tagaytay City 72.78 294 ⇑*e*P **P 16 23 11.0 +1.8**
JMM Marumori 73.08 324 IAmb IAmb 16 23 11.6
comp=Z,62nm,1.1s
JMM Marumori 73.08 324 P **P 16 23 10.8 +0.3**
JMM Marumori 73.08 324 ⇑P **P 16 23 10.8 +0.3**
JGF Kuroka 73.40 321 IAmb IAmb 16 23 33.1
comp=Z,107nm,1.6s
JGF Kuroka 73.40 321 P **P 16 23 12.7 +0.3**
INU Inuyama 73.42 320 P **P 16 23 13.5 +1.0**
MJAR Matsushiro Arr 73.56 322 P **P 16 23 13.0 -0.4**
comp=Z,20nm,0.8s,baz=153,slow=6.0,SNR=26
MJAR LR LR 16 51 42.6
comp=Z,766nm,20.4s,baz=136,slow=33
comp=Z,20nm,0.8s
MJAR Matsushiro Arr 73.56 322 P **P 16 23 13.0 -0.4**
MAJO Matsushiro 73.56 322 P **P 16 23 10.2 -3.2**
MAJO Matsushiro 73.56 322 P **P 16 23 13.6 +0.2**
MAJO Matsushiro 73.56 322 ⇑P **P 16 23 13.1 -0.3**
MAJO Matsushiro 73.56 322 *i*P **P 16 23 12.1 -1.3**
MAJO pmax pmax
comp=Z,30nm,0.9s
MAJO MLR MLR
comp=Z,541nm,17.0s
JOW Kunigami 73.76 309 IAmb IAmb 16 23 16.3
comp=Z,95nm,1.1s
JOW Kunigami 73.76 309 LR LR 16 53 22.8
comp=Z,1µm,19.0s,baz=112,slow=34
JOW Kunigami 73.76 309 P **P 16 23 15.7 +1.0**
JOW Kunigami 73.76 309 ⇑P **P 16 23 15.4 +0.8**
ATKA Atka Island 74.21 0 P **P 16 23 17.0 +0.3**
JMN Monobe 74.24 317 P **P 16 23 18.6 +1.2**
JSD Sado 74.59 323 P **P 16 23 20.2 +0.9**
KPJI Karang Pucung 74.75 268 P **P 16 23 21.4 +0.6**
comp=Z,37nm,1.0s,comp=Z,2µm
ERM Erimo 74.99 329 IAMs_20 IAMs_20 16 52 20.2
comp=Z,4µm,20.0s
ERM Erimo 74.99 329 P **P 16 23 23.1 +1.7**
ERM Erimo 74.99 329 *ce*P **P 16 23 23.3 +1.9**
ERM pmax pmax
comp=Z,269nm,3.4s
JTM Tenmabayashi 75.09 327 P **P 16 23 23.5 +1.4**
NIKH Nikolski High 75.14 4 P **P 16 23 22.3 +0.2**
baz=185
STKI Sintang 75.16 276 P **P 16 23 23.9 +0.7**
comp=Z,91nm,1.1s,comp=Z,3µmcomp=Z,4µm
SHEM Shemya Is, Ala 75.38 353 LR LR 16 52 03.1
comp=Z,3µm,19.9s,baz=142,slow=32
SBUM Sibu 75.41 279 P **P 16 23 25.4 +0.8**
KUR Kuril'sk 75.42 334 *c i*P **P 16 23 24.4 +0.5**
KUR *e* 16 23 39.1
KUR *e* 16 26 17.0
KUR *e*S **S 16 33 03.0 -0.9**
KUR pmax pmax
comp=Z,3µm,4.0s
KUR pmax pmax
comp=Z,302nm,1.1s
SMAI San Martin Ant 75.77 158 P **P 16 23 26.0 +0.3**
SMAI IAmb IAmb 16 23 43.8
comp=Z,122nm,1.3s
SMAI IAMs_20 IAMs_20 16 56 37.4
comp=Z,3µm,18.0s
JNU Nakatsue 75.78 315 P **P 16 23 23.8 -2.5**
JNU IAmb IAmb 16 23 28.4
comp=Z,91nm,1.2s
JNU Nakatsue 75.78 315 LR LR 16 56 14.8
comp=Z,670nm,18.1s,baz=111,slow=35
JNU Nakatsue 75.78 315 P **P 16 23 27.2 +0.9**
JNU Nakatsue 75.78 315 ⇑P **P 16 23 26.4 +0.2**
BBJI Bungbulang 75.89 268 P **P 16 23 27.3 -0.2**
LEM Lembang 76.15 268 LR LR 16 56 36.6
comp=Z,1µm,20.1s,baz=80,slow=36
UNV Unalaska Valle 76.17 5 P **P 16 23 27.7 -0.3**
baz=188
UNV S **S 16 33 09.7 -2.1**
baz=188
SNCC San Nicolas Is 76.23 45 IAMs_20 IAMs_20 16 55 59.7
comp=Z,3µm,18.0s
KSM Kuching 76.78 277 IAmb IAmb 16 23 34.2
comp=Z,78nm,0.9s
KSM Kuching 76.78 277 P **P 16 23 33.1 +0.7**
JKA Kamikawa-asahi 76.85 330 IAMs_20 IAMs_20 16 56 42.7
comp=Z,3µm,19.0s
ASAJ Asahikawa 76.86 330 LR LR 16 53 51.4
comp=Z,3µm,20.1s,baz=158,slow=33
ASAJ Asahikawa 76.86 330 P **P 16 23 34.1 +2.0**
TWGBT Beinan 77.01 301 P **P 16 23 32.5 -1.0**
TWG Pinlang 77.02 301 IAmb IAmb 16 23 33.7
comp=Z,43nm,0.8s
TWG IAMs_20 IAMs_20 16 55 56.5
comp=Z,3µm,19.0s
DBJI Dramaga 77.05 268 P **P 16 23 36.6 +2.6**
comp=Z,100nm,1.6s
YULB Yu-li 77.14 302 P **P 16 23 33.2 -1.0**
SKR Severo-Kuril's 77.15 341 *c i*P **P 16 23 33.9 +0.4**
SKR *e* 16 23 47.4
SKR *i*S **S 16 33 24.6 +2.0**

SKR pmax pmax
comp=Z,2µm,13.0s
SAO San Andreas Ge 77.25 41 IAMs_20 IAMs_20 16 52 18.6
comp=Z,4µm,19.0s
PMPB Monarch Peak 77.29 42 IAMs_20 IAMs_20 16 52 00.7
comp=Z,4µm,20.0s
MCCM Marconi Confer 77.30 39 IAms_20 IAMs_20 16 59 49.8
comp=Z,3µm,18.0s
NACB Ninganchiao 77.31 303 IAmb IAmb 16 23 36.0
comp=Z,70nm,0.9s
NACB Ninganchiao 77.31 303 P **P** **16 23 34.8 -0.3**
BELA Belgrano 2 77.34 172 P **P** **16 23 34.7 +0.3**
BCW Bitter Crk WRg 77.36 44 IAMs_20 IAMs_20 16 51 25.5
comp=Z,3µm,20.0s
BBGB Big Mountain B 77.38 42 IAMs_20 IAMs_20 16 52 13.0
comp=Z,5µm,19.0s
FALS False Pass 77.46 7 P **P** **16 23 34.5 -0.7**
baz=190
FALS S **S** **16 33 23.5 -2.4**
baz=190
SSLB Suanglung 77.61 302 IAMs_20 IAMs_20 16 55 41.3
comp=Z,3µm,19.0s
SSLB Suanglung 77.61 302 P **P** **16 23 36.4 -0.5**
TPUB Ta-pu 77.61 302 IAMs_20 IAMs_20 16 55 58.4
comp=Z,3µm,18.0s
TPUB Ta-pu 77.61 302 P **P** **16 23 36.0 -0.9**
VTX Valle De La Tr 77.64 49 IAMs_20 IAMs_20 16 51 23.9
comp=Z,5µm,19.0s
LPIG La Paz 77.67 57 LR LR 16 51 23.8
comp=Z,5µm,19.2s,baz=234,slow=31
PASC Pasadena Art C 77.68 45 IAMs_20 IAMs_20 16 57 02.0
comp=Z,3µm,18.0s
SLBS Sierra La Lagu 77.74 58 IAMs_20 IAMs_20 16 51 05.0
comp=Z,6µm,20.0s
YHNB Yeheng 77.74 303 IAmb IAmb 16 23 38.1
comp=Z,84nm,1.2s
YHNB IAMs_20 IAMs_20 16 58 38.6
comp=Z,3µm,18.0s
YHNB Yeheng 77.74 303 P **P** **16 23 37.7 +0.1**
HOPS Hopland Field 77.75 39 IAMs_20 IAMs_20 16 56 53.9
comp=Z,5µm,18.0s
TATO Taipei 77.81 304 IAMs_20 IAMs_20 16 56 18.3
comp=Z,3µm,19.0s
TATO Taipei 77.81 304 P **P** **16 23 38.3 +0.4**
TATO Taipei 77.81 304 P **P** **16 23 37.9 0.0**
ESJX Sierra Juarez 77.88 48 IAMs_20 IAMs_20 16 51 31.4
comp=Z,4µm,20.0s
CNBA Chernabura Isl 77.90 9 IAmb IAmb 16 23 41.2
comp=Z,65nm,1.2s
CNBA IAMs_20 IAMs_20 16 57 05.5
comp=Z,5µm,19.0s
CHNA Chernabura Isl 77.91 9 P **P** **16 23 37.3 -0.4**
baz=194
CHNA S **S** **16 33 29.6 -1.1**
baz=194
CHNA Chernabura Isl 77.91 9 P **P** **16 23 38.5 +0.8**
YUH Yuha Desert 78.28 47 IAMs_20 IAMs_20 16 51 32.9
comp=Z,3µm,20.0s
PMSA Palmer Station 78.35 156 LR LR 16 50 56.0
comp=Z,2µm,20.0s,baz=234,slow=30
PMSA Palmer Station 78.35 156 ⇑P P 16 23 28.5 -12
CCAC Calif City Air 78.39 44 IAMs_20 IAMs_20 16 57 34.8
comp=Z,3µm,18.0s
ISA Isabella, Lake 78.41 44 IAMs_20 IAMs_20 16 52 39.3
comp=Z,3µm,20.0s
JCC Jacoby Creek, 78.44 37 IAMs_20 IAMs_20 16 52 28.1
comp=Z,5µm,20.0s
S12K Black Hills 78.45 7 IAMs_20 IAMs_20 16 57 48.6
comp=Z,3µm,20.0s
S12K Black Hills 78.45 7 P **P** **16 23 40.6 -0.1**
baz=192
S12K S **S** **16 33 33.3 -3.2**
baz=192
PFO Pinyon Flats O 78.48 46 IAMs_20 IAMs_20 16 57 15.4
comp=Z,3µm,18.0s
PFO Pinyon Flats O 78.48 46 LR LR 16 51 22.4
comp=Z,2µm,19.6s,baz=240,slow=30
PFO Pinyon Flats O 78.48 46 *i*P **P** **16 23 43.4 +1.8**
PFO pmax pmax
comp=Z,87nm,2.2s
PET Petropavlovsk 78.55 344 P **P** **16 23 41.9 +0.6**
PET Petropavlovsk 78.55 344 *e*P **P** **16 23 41.5 +0.2**
PET *e*S **S** **16 33 31.1 -6.5**
PET *e*SP **SPn** **16 34 27.3 +9.3**
PET pmax pmax
comp=Z,1µm,4.3s
PET pmax pmax
comp=Z,900nm,9.5s
PET pmax pmax
comp=Z,53nm,1.3s
PET MLR MLR
comp=Z,2µm,16.0s
KHMM Horse Mountain 78.65 37 IAMs_20 IAMs_20 16 52 55.5
comp=Z,5µm,20.0s
CMB Columbia Colle 78.71 41 IAMs_20 IAMs_20 16 52 46.3
comp=Z,3µm,19.0s
P08K Saint George I 78.73 3 P **P** **16 23 42.4 +0.2**
baz=185
P08K S **S** **16 33 36.8 -2.6**
baz=185
P08K S **S** **16 33 36.8 -2.6**
baz=185
PEA0B Petropavlovsk- 78.87 343 *ce*P **P** **16 23 42.6 -0.5**
PETK Petropavlovsk- 78.87 343 P **P** **16 23 43.0 -0.1**
comp=Z,41nm,0.9s,baz=126,slow=6.3,SNR=35
PETK LR LR 16 54 15.8
comp=Z,2µm,20.2s,baz=147,slow=32
comp=Z,41nm,0.9s
AFDM Forest Hills D 78.95 40 IAMs_20 IAMs_20 16 57 48.6
comp=Z,3µm,19.0s
YSS Yuzh-Sakhalins 78.96 332 P **P** **16 23 44.5 +0.8**
YSS IAMs_20 IAMs_20 17 03 27.0
comp=Z,3µm,18.0s
YSS Yuzh-Sakhalins 78.96 332 P **P** **16 23 44.9 +1.2**
YSS Yuzh-Sakhalins 78.96 332 ⇑P **P** **16 23 45.1 +1.4**
YSS Yuzh-Sakhalins 78.96 332 *oe*P **P** **16 23 45.4 +1.7**
YSS *e* 16 26 39.0
YSS *e*S **S** **16 33 36.2 -6.1**
YSS *e*PS pS 16 33 54.6 +10
YSS *e*PPS PPS 16 34 09.0
YSS pmax pmax
comp=Z,2µm,4.2s
YSS pmax pmax
comp=N,800nm,4.0s
YSS pmax pmax
comp=E,400nm,3.2s
YSS pmax pmax
comp=Z,80nm,1.0s
YSS smax smax
comp=N,2µm,13.0s
YSS smax smax
comp=E,800nm,11.3s
KSXB Camp Six Broad 79.22 36 IAMs_20 IAMs_20 16 52 24.4
comp=Z,5µm,20.0s
PPBI Pangkal Pinang 79.24 272 P **P** **16 23 47.1 +1.0**
GSC Goldstone, Bar 79.27 45 IAMs_20 IAMs_20 16 57 54.0
comp=Z,3µm,18.0s
SPIA Saint Paul Isl 79.28 2 P **P** **16 23 45.7 +0.5**
baz=184
OMMB Old Mammoth Mi 79.29 42 IAMs_20 IAMs_20 16 58 01.7
comp=Z,4µm,18.0s
S14K Fog Glacier 79.33 8 P **P** **16 23 46.2 +0.5**
baz=194
EMB Emerald Bay 79.49 40 IAMs_20 IAMs_20 16 51 43.8
comp=Z,3µm,20.0s
CHIR Chirikof Islan 79.49 11 IAMs_20 IAMs_20 16 58 01.2
comp=Z,5µm,20.0s
CHIR Chirikof Islan 79.49 11 P **P** **16 23 46.6 +0.2**
baz=198
CHGN Chignik 79.51 9 IAMs_20 IAMs_20 16 57 55.7
comp=Z,4µm,20.0s
CHGN Chignik 79.51 9 P **P** **16 23 46.7 +0.2**
baz=195
CHGN S **S** **16 33 46.4 -1.3**
baz=195
KASI Kota Agung 79.51 268 P **P** **16 23 48.6 +1.0**
comp=Z,125nm,1.7s,comp=Z,3µm
WAKR Walker 79.59 41 IAMs_20 IAMs_20 16 53 05.4
comp=Z,4µm,19.0s
MPK Martis Peak 79.74 40 IAMs_20 IAMs_20 16 52 24.2
comp=Z,3µm,20.0s
HSIG 79.77 53 IAMs_20 IAMs_20 16 52 17.7
comp=Z,4µm,19.0s
DSP Deep Springs 79.78 43 IAMs_20 IAMs_20 16 53 22.6
comp=Z,4µm,19.0s
YBH Yreka Blue Hor 79.80 37 IAMs_20 IAMs_20 16 52 44.9
comp=Z,4µm,20.0s
YBH Yreka Blue Hor 79.80 37 LR LR 16 52 26.4
comp=Z,4µm,20.1s,baz=231,slow=31
PNTR Pine Nut 79.86 40 IAMs_20 IAMs_20 16 53 05.7
comp=Z,3µm,19.0s
HATC Hat Creek Radi 79.89 38 IAMs_20 IAMs_20 16 53 01.4
comp=Z,5µm,20.0s
GRAC Grapevine Rang 79.93 43 IAMs_20 IAMs_20 16 53 47.6
comp=Z,4µm,19.0s
LHV Little Huntoon 80.00 42 IAMs_20 IAMs_20 16 53 39.3
comp=Z,3µm,19.0s
YERR Yerington 80.01 41 IAMs_20 IAMs_20 16 53 38.7
comp=Z,3µm,19.0s
QZH Quanzhou 80.05 302 P **P** **16 23 50.8 +0.6**
QZH S **S** **16 33 56.4 +1.6**
QZH pmax pmax
comp=Z,82nm,1.5s
QZH pmax pmax
comp=Z,1µm,4.6s
QZH LR LR
comp=Z,2µm,15.9s
QZH LR LR
comp=Z,2µm,16.9s
QZH LR LR
comp=Z,2µm,18.1s
TJN Taejon 80.06 316 P **P** **16 23 52.6 +2.6**
TJN Taejon 80.06 316 *ce*P **P** **16 23 51.3 +1.3**
LWLI Liwa 80.10 269 P **P** **16 23 52.0 +1.1**
comp=Z,150nm,0.7s,comp=Z,3µm
RYN Ryan 80.22 41 IAMs_20 IAMs_20 16 53 55.3
comp=Z,3µm,19.0s
NVAR Mina Array Bea 80.23 42 P **P** **16 23 50.5 -0.7**
NVAR Mina Array Bea 80.23 42 P **P** **16 23 52.0 +0.8**
comp=Z,11nm,1.0s,baz=224,slow=8.3,SNR=29
NVAR LR LR 16 52 53.1
comp=Z,3µm,19.5s,baz=232,slow=31
comp=Z,11nm,1.0s
HUMO Hull Mountain 80.25 36 IAMs_20 IAMs_20 16 53 36.9
comp=Z,4µm,19.0s
L04D Klamath Falls 80.34 37 IAMs_20 IAMs_20 16 53 42.4
comp=Z,4µm,20.0s
KSRS Korea Array 80.35 317 P **P** **16 23 53.1 +1.6**
comp=Z,30nm,1.0s,baz=137,slow=6.0,SNR=53
KSRS LR LR 16 57 30.6
comp=Z,901nm,18.9s,baz=115,slow=34
comp=Z,30nm,1.0s
KSAR Wonju Array Be 80.37 317 P **P** **16 23 50.3 -1.3**
KSAR Wonju Array Be 80.37 317 P **P** **16 23 50.3 -1.3**
PAHR Pah Rah Range 80.38 40 IAMs_20 IAMs_20 16 52 54.5
comp=Z,3µm,20.0s
KS19 Wonju Array Si 80.42 317 IAmb IAmb 16 23 54.1
comp=Z,91nm,1.3s
TEY Ternei 80.43 327 ⇓*e*P **P** **16 23 51.1 -0.7**
TEY pmax pmax
comp=N,10.0nm,1.4s
TEY pmax pmax
comp=Z,20nm,1.4s
TEY pmax pmax
comp=N,100nm,3.9s
TEY pmax pmax
comp=Z,300nm,4.4s
TEY pmax pmax
comp=E,100nm,4.2s
SII Sitkinak Islan 80.45 11 IAMs_20 IAMs_20 16 57 59.5
comp=Z,4µm,20.0s
SII Sitkinak Islan 80.45 11 P **P** **16 23 52.7 +1.0**
baz=199
SII S **S** **16 34 00.5 +2.8**
baz=199
TPNV Topopah Spring 80.61 44 IAMs_20 IAMs_20 16 54 09.7
comp=Z,4µm,19.0s
TPNV Topopah Spring 80.61 44 ⇓P **P** **16 23 54.5 +1.3**
KVN Kaiserville 80.74 41 IAMs_20 IAMs_20 16 54 21.0
comp=Z,3µm,19.0s
V12A Nelson 80.80 45 IAMs_20 IAMs_20 16 58 42.6
comp=Z,3µm,18.0s
R16K Pilot Point 80.86 9 IAMs_20 IAMs_20 16 58 47.3
comp=Z,4µm,19.0s
R16K Pilot Point 80.86 9 P **P** **16 23 54.3 +0.5**
baz=196
UGL Uglegorsk 80.89 333 *d i*P **P** **16 23 56.5 +2.4**
UGL *e*S **S** **16 34 05.5 +3.0**
UGL pmax pmax
comp=Z,2µm,4.8s
UGL smax smax
comp=E,2µm,13.0s
UGL smax smax
comp=N,3µm,15.0s
MAW Mawson 80.90 199 P **P** **16 23 55.6 +1.6**
comp=N,21nm,0.8s,baz=130,slow=6.6,SNR=51
MAW LR LR 16 58 15.7
comp=N,4µm,19.5s,baz=116,slow=35
comp=N,21nm,0.8s
K04D Chiloquin, OR 80.92 37 IAMs_20 IAMs_20 16 54 20.6
comp=Z,4µm,20.0s
Y14A Wickenburg 81.02 48 IAMs_20 IAMs_20 16 52 59.4
comp=Z,4µm,20.0s
R17L Mt. Peulik Vol 81.10 10 P **P** **16 23 55.9 +0.8**
baz=197
R17L S **S** **16 34 04.4 -0.1**
baz=197
PLK4 Peulik 4 81.10 10 IAmb IAmb 16 23 59.2
comp=Z,138nm,1.3s
PLK4 IAMs_20 IAMs_20 16 58 55.8
comp=Z,5µm,20.0s
J04A Umpqua Nationa 81.14 36 IAMs_20 IAMs_20 16 53 47.3
comp=Z,4µm,20.0s
Q09A Carvers 81.17 42 IAMs_20 IAMs_20 16 53 22.2
comp=Z,3µm,20.0s
INCN Inchon 81.19 317 P **P** **16 23 57.8 +1.8**
INCN P **P** **16 23 57.8 +1.8**
INCN S **SKSac** **16 34 12.1 -3.2**
INCN S **SKSac** **16 34 12.1 -3.2**
INCN Inchon 81.19 317 P **P** **16 23 58.1 +2.0**
OHAK Old Harbor 81.24 12 IAMs_20 IAMs_20 16 58 34.4
comp=Z,3µm,20.0s
OHAK Old Harbor 81.24 12 P **P** **16 23 56.9 +1.0**
baz=200
OHAK S **S** **16 34 04.0 -1.9**
baz=200
OHAK Old Harbor 81.24 12 P **P** **16 23 56.8 +1.0**
SSE Sheshan 81.28 309 P **P** **16 23 57.2 +0.5**
SSE S **S** **16 34 03.5 -3.9**
SSE pmax pmax
comp=Z,21nm,1.4s
SSE pmax pmax
comp=Z,540nm,6.9s
SSE LR LR
comp=Z,310nm,20.4s
SSE LR LR
comp=Z,370nm,18.9s
I04A Tendick Farm, 81.34 35 IAMs_20 IAMs_20 16 54 39.8
comp=Z,5µm,20.0s
S11A Rachel 81.35 43 IAMs_20 IAMs_20 16 54 15.0
comp=Z,4µm,20.0s
R18K Karluk 81.36 11 P **P** **16 23 56.9 +0.5**
baz=199
R18K S **S** **16 34 07.8 +0.7**
baz=199
R18K S **S** **16 34 07.8 +0.7**
baz=199
HEBO Mount Hebo 81.60 34 IAMs_20 IAMs_20 16 54 13.7
comp=Z,5µm,20.0s
Q17K Contact Creek 81.78 10 P **P** **16 23 59.3 +0.5**
baz=197
Q17K S **S** **16 34 12.0 +0.3**
baz=197
ACHA Angle Creek He 81.82 10 IAMs_20 IAMs_20 16 59 48.8
comp=Z,3µm,19.0s
G03D McMinnville, O 81.86 34 IAMs_20 IAMs_20 16 54 42.4
comp=Z,4µm,20.0s
R11B Troy Canyon, C 81.88 43 IAMs_20 IAMs_20 16 54 52.0
comp=Z,3µm,19.0s
R11B Troy Canyon, C 81.88 43 P **P** **16 24 00.7 +0.8**
baz=233
R11B S **SKSac** **16 34 17.0 -3.4**
baz=233
TPRI Tanjung Pinang 81.89 274 P **P** **16 24 02.3 +2.0**
comp=Z,112nm,1.7s,comp=Z,3µmcomp=Z,3µm
KDAK Kodiak Island 81.90 12 IAMs_20 IAMs_20 16 59 02.8
comp=Z,3µm,19.0s
KDAK Kodiak Island 81.90 12 P **P** **16 24 00.4 +1.1**
baz=200
KDAK S **SKSac** **16 34 14.4 -4.7**
baz=200
KDAK Kodiak Island 81.90 12 *i*P **P** **16 23 59.8 +0.5**
KDAK pmax pmax
comp=Z,141nm,1.4s
O14K Tigyukauivet M 82.02 7 IAMs_20 IAMs_20 17 00 00.1
comp=Z,4µm,19.0s
O14K Tigyukauivet M 82.02 7 P **P** **16 24 00.5 +0.6**
baz=192
O14K S **S** **16 34 13.6 -0.2**
baz=192
TYV Tymovskoe 82.02 334 *e*P **P** **16 24 01.1 +1.0**
TYV *e*S **S** **16 34 07.5 -6.7**
TYV pmax pmax
comp=Z,72nm,1.2s
TYV pmax pmax
comp=Z,2µm,4.1s
TYV smax smax
comp=N,2µm,9.6s
TYV smax smax
comp=E,2µm,9.6s
Q16K King Salmon 82.06 9 P **P** **16 24 00.6 +0.6**
baz=197
Q16K S **S** **16 34 15.3 +1.0**
baz=197
O15K Ungalikthiuk R 82.11 8 P **P** **16 24 00.6 +0.2**
baz=194
O15K S **S** **16 34 15.9 +1.1**
baz=194
BMN Battle Mountai 82.13 40 IAMs_20 IAMs_20 16 55 43.7
comp=Z,3µm,20.0s
PINE Pine Mountain 82.14 36 IAMs_20 IAMs_20 16 54 31.9
comp=Z,5µm,20.0s
F03A Seaside 82.20 33 IAMs_20 IAMs_20 16 54 59.4
comp=Z,3µm,19.0s
P16K Nushagak River 82.21 9 P **P** **16 24 01.0 +0.1**
baz=195
P16K S **SKSac** **16 34 17.2 -4.0**
baz=195
P16K S **SKSac** **16 34 17.2 -4.0**
baz=195
USA0B Ussuriysk Arra 82.26 324 *i*P **P** **16 24 02.9 +1.4**
USRK Ussuriysk Ar. 82.26 324 P **P** **16 24 03.4 +1.8**
comp=Z,93nm,1.0s,baz=130,slow=3.3,SNR=123
USRK LR LR 16 57 12.0
comp=Z,2µm,19.5s,baz=128,slow=33
comp=Z,93nm,1.0s
I05D Terrebonne, OR 82.28 35 IAMs_20 IAMs_20 16 55 01.7
comp=Z,5µm,19.0s
Q18K Katmai Hardscr 82.29 10 P **P** **16 24 02.0 +0.5**
baz=198
Q18K S **S** **16 34 16.5 -0.5**
baz=198
X16A Lo Mia Camp, P 82.36 48 IAMs_20 IAMs_20 16 53 50.9
comp=Z,4µm,20.0s
H03N2 Juan Fernandez 82.50 123 T T 17 56 10.6
baz=239,slow=73,SNR=14
H03N3 Juan Fernandez 82.50 123 T T 17 56 13.8
baz=239,slow=73,SNR=21
H03N1 Juan Fernandez 82.52 123 T T 17 56 18.6
baz=239,slow=73,SNR=22
WVOR Wild Horse Val 82.55 38 IAMs_20 IAMs_20 16 55 06.8
comp=Z,4µm,20.0s
F04D Rainier, OR 82.58 33 IAMs_20 IAMs_20 16 54 34.5
comp=Z,3µm,20.0s
P17K Kvichak River 82.59 9 P **P** **16 24 03.4 +0.6**
baz=197
P17K S **S** **16 34 18.8 -0.9**
baz=197
P17K S **S** **16 34 18.8 -0.9**
baz=197
LCMT Little Creek M 82.60 45 IAMs_20 IAMs_20 17 00 07.3
comp=Z,3µm,18.0s
N14K Kuskokwak Cree 82.63 7 P **P** **16 24 04.3 +1.3**
baz=192
N14K S **SKSac** **16 34 21.9 -2.0**
baz=192
COYC Coyhaique 82.66 136 IAMs_20 IAMs_20 16 52 20.6
comp=Z,3µm,20.0s
M11K Mekoryuk 82.69 4 IAMs_20 IAMs_20 17 00 59.1
comp=Z,3µm,19.0s
M11K Mekoryuk 82.69 4 P **P** **16 24 03.3 0.0**
baz=188
M11K S **S** **16 34 26.0 +5.3**
baz=188
Q20K Shuyak Island 82.71 12 P **P** **16 24 04.1 +0.6**
baz=200
Q20K S **SKSac** **16 34 21.6 -3.0**
baz=200
SYI Shuyak Island 82.71 12 IAMs_20 IAMs_20 16 59 40.3
comp=Z,4µm,19.0s
O16K Kokwok River B 82.74 8 IAmb IAmb 16 24 07.0
comp=Z,120nm,1.6s
O16K IAMs_20 IAMs_20 17 00 09.1
comp=Z,4µm,19.0s
O16K Kokwok River B 82.74 8 P **P** **16 24 03.3 -0.4**
baz=195
O16K S **SKSac** **16 34 21.8 -2.9**
baz=195
BTDF Bukit Timah Da 82.76 274 P **P** **16 24 06.2 +1.3**
Q12A Willow Creek R 82.76 43 IAMs_20 IAMs_20 16 55 36.5
comp=Z,3µm,20.0s
F04A Amboy 82.78 34 IAMs_20 IAMs_20 16 55 04.9
comp=Z,4µm,19.0s
Q19K Cape Douglas, 82.79 11 IAMs_20 IAMs_20 16 59 38.3
comp=Z,3µm,20.0s
Q19K Cape Douglas, 82.79 11 P **P** **16 24 03.9 -0.1**
baz=199
Q19K S **SKSac** **16 34 22.3 -2.8**
baz=199
Q19K S **SKSac** **16 34 22.3 -2.8**
baz=199
MYKOM Kota Tinggi 82.85 275 P **P** **16 24 06.5 +1.2**
LL07 Hotel Espejo d 82.86 133 IAMs_20 IAMs_20 16 54 42.9
comp=Z,4µm,19.0s
WISH Wishkah 82.91 32 IAMs_20 IAMs_20 16 54 33.2
comp=Z,5µm,20.0s
M13K Dall Lake 82.95 6 IAMs_20 IAMs_20 16 58 47.8
comp=Z,3µm,20.0s
M13K Dall Lake 82.95 6 P **P** **16 24 05.1 +0.4**
baz=190
M13K S **SKSac** **16 34 26.2 +0.2**
baz=190
MOIG Morelia 82.96 66 IAMs_20 IAMs_20 16 53 21.7
comp=Z,4µm,20.0s
P18K Big Mountain, 82.97 10 IAmb IAmb 16 24 32.1
comp=Z,56nm,1.1s
P18K IAMs_20 IAMs_20 17 00 24.1
comp=Z,3µm,19.0s
P18K Big Mountain, 82.97 10 P **P** **16 24 04.9 0.0**
baz=198
P18K S **SKSac** **16 34 23.6 -2.7**
baz=198
WUAZ Wupatki 83.01 47 IAMs_20 IAMs_20 16 54 43.2
comp=Z,3µm,20.0s
N15K Kwethluk River 83.05 7 IAMs_20 IAMs_20 17 00 30.3
comp=Z,4µm,20.0s
N15K Kwethluk River 83.05 7 P **P** **16 24 05.3 +0.1**
baz=193
N15K S **SKSac** **16 34 25.2 -1.6**
baz=193
NLWA Neilton Lookou 83.05 32 IAMs_20 IAMs_20 16 54 25.0
comp=Z,4µm,20.0s
SPR3 Spring Creek 3 83.05 43 IAMs_20 IAMs_20 16 55 18.2
comp=Z,4µm,20.0s
O17K Koliganek Bris 83.05 9 P **P** **16 24 05.2 0.0**
baz=196
O17K S **SKSac** **16 34 24.4 -2.3**
baz=196
PSUT Pine Spring 83.08 44 IAMs_20 IAMs_20 16 55 40.0
comp=Z,4µm,19.0s
I07A Izee 83.11 37 IAMs_20 IAMs_20 16 55 14.7
comp=Z,4µm,20.0s
J08A Circle Bar Ran 83.23 38 IAMs_20 IAMs_20 16 55 20.7
comp=Z,5µm,19.0s
G06A Carlson Farm, 83.25 35 IAmb IAmb 16 24 26.5
comp=Z,135nm,1.8s
HOLB Holberg 83.41 28 IAMs_20 IAMs_20 17 02 58.4
comp=Z,2µm,18.0s
O18K Koktuh Hills 83.41 10 IAMs_20 IAMs_20 17 00 37.8
comp=Z,3µm,20.0s
O18K Koktuh Hills 83.41 10 P **P** **16 24 07.7 +0.6**
baz=198
O18K S **SKSac** **16 34 29.6 +0.4**
baz=198
O18K S **SKSac** **16 34 29.6 +0.4**
baz=198
M14K Bethel 83.41 6 IAMs_20 IAMs_20 17 00 55.1
comp=Z,3µm,20.0s
M14K Bethel 83.41 6 P **P** **16 24 07.2 +0.2**
baz=192
M14K S **SKSac** **16 34 28.9 -0.1**
baz=192

X18A	**Snowflake**	**83.45**	**49**	IAMs_20	IAMs_20	16 54 43.3
	comp=Z,4μm,20.0s					
PKCU	**Pink Cliffs**	**83.46**	**45**	IAMs_20	IAMs_20	17 00 36.0
	comp=Z,3μm,18.0s					
NJ2	**Nanjing**	**83.47**	**308**	⇑*i*P	**P**	**16 24 09.6 +1.5**
NJ2				pP	**PcP**	**16 24 12.2 -0.2**
NJ2				S	**SKSac**	**16 34 30.7 -0.1**
NJ2				pmax	pmax	
	comp=Z,89nm,1.1s					
NJ2				pmax	pmax	
	comp=Z,1μm,4.0s					
M15K	**Kasigluk River**	**83.49**	**7**	P	**P**	**16 24 08.9 +1.4**
	baz=193,SNR=12					
M15K				S	**SKSac**	**16 34 29.7 0.0**
	baz=193					
N16K	**Nishlik Lake**	**83.50**	**8**	P	**P**	**16 24 08.8 +1.2**
	baz=195					
N16K				S	**S**	**16 34 31.5 +2.5**
	baz=195					
ELK	**Elko**	**83.52**	**41**	IAMs_20	IAMs_20	16 56 56.5
	comp=Z,3μm,19.0s					
ELK	**Elko**	**83.52**	**41**	⇓P	**P**	**16 24 09.4 +1.0**
ELK	**Elko**	**83.52**	**41**	⇓P	**P**	**16 24 09.5 +1.0**
P19K	**Oil Pt**	**83.54**	**11**	IAMs_20	IAMs_20	17 00 32.3
	comp=Z,3μm,20.0s					
P19K	**Oil Pt**	**83.54**	**11**	P	**P**	**16 24 08.3 +0.4**
	baz=200					
P19K				S	**SKSac**	**16 34 29.5 -0.6**
	baz=200					
LON	**Longmire**	**83.64**	**33**	IAmb	IAmb	16 24 15.2
	comp=Z,115nm,1.9s					
GNW	**Green Mountain**	**83.68**	**32**	IAMs_20	IAMs_20	16 55 07.7
	comp=Z,4μm,20.0s					
N17K	**Nushagak Hills**	**83.76**	**9**	IAMs_20	IAMs_20	17 00 49.2
	comp=Z,3μm,19.0s					
N17K	**Nushagak Hills**	**83.76**	**9**	P	**P**	**16 24 09.8 +0.8**
	baz=196					
N17K				S	**SKSac**	**16 34 31.8 +0.3**
	baz=196					
CNPM	**China Poot**	**83.78**	**12**	IAMs_20	IAMs_20	17 00 13.6
	comp=Z,3μm,20.0s					
HOM	**Homer**	**83.83**	**11**	IAMs_20	IAMs_20	17 00 25.8
	comp=Z,3μm,19.0s					
HOM	**Homer**	**83.83**	**11**	P	**P**	**16 24 09.8 +0.6**
	baz=201					
HOM				S	**S**	**16 34 33.5 +1.2**
	baz=201					
MDJ	**Mudanjiang**	**83.84**	**324**	P	**P**	**16 24 10.9 +1.2**
MDJ				sP	PcP	16 24 14.6 +0.9
MDJ				S	**S**	**16 34 34.9 +1.9**
MDJ				sS	SKKSac	16 34 40.0 +2.5
MDJ				pmax	pmax	
	comp=Z,53nm,0.9s					
MDJ				pmax	pmax	
	comp=Z,3μm,4.5s					
MDJ				LR	LR	
	comp=Z,860nm,20.7s					
MDJ				LR	LR	
	comp=Z,2μm,19.1s					
MDJ				LR	LR	
	comp=Z,3μm,18.9s					
MDJ	**Mudanjiang**	**83.84**	**324**	P	**P**	**16 24 11.2 +1.5**
D05A	**Enumclaw**	**83.85**	**33**	IAMs_20	IAMs_20	16 55 52.1
	comp=Z,3μm,20.0s					
ILSW	**Iliamna Southw**	**83.87**	**11**	IAMs_20	IAMs_20	17 00 41.9
	comp=Z,4μm,20.0s					
MTPU	**Mount Pierson**	**83.88**	**45**	IAMs_20	IAMs_20	17 00 43.1
	comp=Z,2μm,18.0s					
CLRS	**Cowichan Lake**	**83.92**	**31**	IAMs_20	IAMs_20	16 55 39.8
	comp=Z,5μm,20.0s					
L14K	**Kuka Creek**	**83.92**	**6**	P	**P**	**16 24 11.1 +1.4**
	baz=191,SNR=8.0					
L14K				S	**S**	**16 34 35.8 +2.7**
	baz=191					
121A	**Cookes Peak, D**	**83.93**	**51**	P	**P**	**16 24 11.8 +1.1**
	baz=239					
121A				S	**SKSac**	**16 34 32.9 -1.3**
	baz=239					
M16K	**Timber Creek**	**84.01**	**8**	IAMs_20	IAMs_20	17 01 09.8
	comp=Z,4μm,20.0s					
M16K	**Timber Creek**	**84.01**	**8**	P	**P**	**16 24 11.8 +1.6**
	baz=194,SNR=15					
M16K				S	**S**	**16 34 37.1 +3.0**
	baz=194					
TCRU	**Three Creeks R**	**84.03**	**44**	IAMs_20	IAMs_20	17 01 11.1
	comp=Z,3μm,18.0s					
O20K	**Slope Mountain**	**84.05**	**11**	P	**P**	**16 24 10.5 0.0**
	baz=200					
O20K				S	**S**	**16 34 35.4 +0.7**
	baz=200					
O20K				S	**S**	**16 34 35.4 +0.7**
	baz=200					
BRLK	**Bradley Lake**	**84.07**	**12**	IAMs_20	IAMs_20	17 00 30.8
	comp=Z,3μm,20.0s					
BRSE	**Bradley Lake S**	**84.08**	**12**	P	**P**	**16 24 10.8 +0.3**
	baz=202					
BRSE				S	**S**	**16 34 34.4 -0.5**
	baz=202					
N18K	**Kilae Creek**	**84.10**	**9**	IAMs_20	IAMs_20	17 01 09.0
	comp=Z,3μm,20.0s					
N18K	**Kilae Creek**	**84.10**	**9**	P	**P**	**16 24 11.0 +0.4**
	baz=197					
N18K				S	**S**	**16 34 35.3 +0.3**
	baz=197					
N18K				S	**S**	**16 34 35.3 +0.3**
	baz=197					
PGC	**Sidney**	**84.12**	**31**	IAMs_20	IAMs_20	16 55 45.3
	comp=Z,3μm,20.0s					
COCO	**West Island**	**84.14**	**259**	P	**P**	**16 24 15.7 +3.7**
COCO				P	**P**	**16 24 15.7 +3.7**
G08A	**Pilot Rock**	**84.19**	**36**	IAMs_20	IAMs_20	16 55 46.1
	comp=Z,4μm,19.0s					
CBB	**Campbell River**	**84.19**	**29**	IAMs_20	IAMs_20	16 56 01.2
	comp=Z,3μm,20.0s					
TLIG	**Tlapa**	**84.28**	**69**	IAMs_20	IAMs_20	16 53 34.8
	comp=Z,4μm,19.0s					
K13K	**Kusilvak Mount**	**84.34**	**5**	IAmb	IAmb	16 24 17.1
	comp=Z,100nm,1.4s					
K13K	**Kusilvak Mount**	**84.34**	**5**	P	**P**	**16 24 13.8 +2.0**
	baz=189					
K13K				S	**S**	**16 34 41.0 +3.6**
	baz=189					
L15K	**Ungalak Mounta**	**84.37**	**6**	P	**P**	**16 24 13.6 +1.6**
	baz=192,SNR=13					
L15K				S	**S**	**16 34 38.9 +1.3**
	baz=192					
LL04	**Puerto Octay**	**84.37**	**132**	IAmb	IAmb	16 24 16.8
	comp=Z,110nm,1.9s					
N19K	**Bonanza Creek**	**84.44**	**10**	IAmb	IAmb	16 24 16.0
	comp=Z,115nm,1.5s					
N19K				IAMs_20	IAMs_20	17 01 00.9
	comp=Z,4μm,20.0s					
N19K	**Bonanza Creek**	**84.44**	**10**	P	**P**	**16 24 12.6 +0.1**
	baz=198,SNR=16					
N19K				S	**S**	**16 34 38.8 +0.2**
	baz=198					
N19K				S	**S**	**16 34 38.8 +0.2**
	baz=198					
QIZ	**Qiongzhong**	**84.48**	**293**	P	**P**	**16 24 12.8 -0.7**
QIZ				PP	**PP**	**16 27 27.5 -1.6**
QIZ				S	**S**	**16 34 40.7 +0.2**
QIZ				SS	**SS**	**16 40 12.4 +0.9**
QIZ				pmax	pmax	
	comp=Z,44nm,1.6s					
QIZ				pmax	pmax	
	comp=Z,790nm,5.3s					
QIZ				LR	LR	
	comp=Z,610nm,14.2s					
QIZ				LR	LR	
	comp=Z,440nm,13.2s					
QIZ				LR	LR	
	comp=Z,1μm,15.2s					
EPT	**El Paso**	**84.48**	**53**	IAMs_20	IAMs_20	16 55 28.3
	comp=Z,4μm,20.0s					
UNM	**Universidad Na**	**84.51**	**67**	IAMs_20	IAMs_20	16 53 60.0
	comp=Z,4μm,20.0s					
BBB	**Bella Bella**	**84.56**	**27**	LR	LR	16 57 26.4
	comp=Z,2μm,18.8s,baz=224,slow=32					
LTY	**Liberty**	**84.56**	**34**	IAMs_20	IAMs_20	16 56 00.0
	comp=Z,3μm,20.0s					
M17K	**Holitna River**	**84.57**	**8**	IAMs_20	IAMs_20	17 01 16.6
	comp=Z,4μm,19.0s					
M17K	**Holitna River**	**84.57**	**8**	P	**P**	**16 24 14.7 +1.6**
	baz=196					
M17K				S	**S**	**16 34 42.4 +2.7**
	baz=196					
GRNR	**Gornyy**	**84.59**	**331**	⇓*i*P	**P**	**16 24 14.6 +1.2**
GRNR				*e*		16 34 41.8
GRNR				pmax	pmax	
	comp=Z,30nm,1.2s					
L16K	**Owhat River**	**84.62**	**7**	IAMs_20	IAMs_20	17 01 29.9
	comp=Z,3μm,20.0s					
L16K	**Owhat River**	**84.62**	**7**	P	**P**	**16 24 14.9 +1.7**
	baz=194,SNR=15					
L16K				S	**S**	**16 34 41.6 +1.5**
	baz=194					
SEW	**Seward**	**84.67**	**12**	P	**P**	**16 24 13.9 +0.4**
	baz=203					
SEW				S	**S**	**16 34 40.6 +0.1**
	baz=203					
DUG	**Dugway, Tooele**	**84.70**	**43**	IAMs_20	IAMs_20	16 56 41.8
	comp=Z,3μm,19.0s					
Q23K	**Middleton Isla**	**84.71**	**14**	IAMs_20	IAMs_20	16 59 17.0
	comp=Z,3μm,18.0s					
Q23K	**Middleton Isla**	**84.71**	**14**	P	**P**	**16 24 14.1 +0.4**
	baz=206					
MID	**Middleton Isla**	**84.71**	**14**	IAMs_20	IAMs_20	16 59 26.0
	comp=Z,3μm,19.0s					
BMO	**Blue Mountains**	**84.82**	**37**	IAMs_20	IAMs_20	16 56 19.8
	comp=Z,4μm,20.0s					
BMO	**Blue Mountains**	**84.82**	**37**	⇓P	**P**	**16 24 15.6 +0.8**
BMO	**Blue Mountains**	**84.82**	**37**	⇓P	**P**	**16 24 15.6 +0.8**
M18K	**Stony River**	**84.88**	**9**	P	**P**	**16 24 14.7 +0.1**
	baz=197					
M18K				S	**S**	**16 34 43.2 +0.5**
	baz=197					
LR05	**Currie**	**84.94**	**131**	IAMs_20	IAMs_20	17 00 04.6
	comp=Z,3μm,18.0s					
LR03	**Panguipulli**	**84.95**	**131**	IAMs_20	IAMs_20	16 58 04.9
	comp=Z,4μm,19.0s					
CAPN	**Captain Cook N**	**84.96**	**11**	IAMs_20	IAMs_20	17 00 44.7
	comp=Z,4μm,20.0s					
CAPN	**Captain Cook N**	**84.96**	**11**	P	**P**	**16 24 15.4 +0.5**
	baz=202					
CAPN				S	**S**	**16 34 46.1 +2.7**
	baz=202					
O22K	**Cooper Landing**	**84.96**	**12**	IAMs_20	IAMs_20	17 06 43.7
	comp=Z,2μm,18.0s					
O22K	**Cooper Landing**	**84.96**	**12**	P	**P**	**16 24 15.4 +0.4**
	baz=203					
O22K				S	**S**	**16 34 43.6 +0.1**
	baz=203					
K15K	**Wolf Creek Mou**	**84.97**	**6**	IAMs_20	IAMs_20	17 01 53.2
	comp=Z,3μm,20.0s					
K15K	**Wolf Creek Mou**	**84.97**	**6**	P	**P**	**16 24 16.9 +1.9**
	baz=192,SNR=24					
K15K				S	**S**	**16 34 45.5 +1.9**
	baz=192					
BGU	**Big Grassy Mou**	**84.98**	**42**	IAMs_20	IAMs_20	16 57 09.2
	comp=Z,3μm,19.0s					
P23K	**Montague Islan**	**84.99**	**13**	P	**P**	**16 24 16.3 +1.1**
	baz=205					
P23K				S	**S**	**16 34 46.6 +2.7**
	baz=205					
P23K				S	**S**	**16 34 46.6 +2.7**
	baz=205					
Q16A	**Castle Valley**	**85.03**	**44**	IAMs_20	IAMs_20	17 01 24.5
	comp=Z,2μm,18.0s					
NLU	**North Lily Min**	**85.03**	**43**	IAMs_20	IAMs_20	16 56 43.5
	comp=Z,4μm,19.0s					
CRAG	**Craig**	**85.15**	**22**	P	**P**	**16 24 16.5 +0.5**
	baz=218					
CRAG				S	**S**	**16 34 46.6 +1.0**
	baz=218					
ELIB	**Princess Elisa**	**85.17**	**186**	*d*P	**P**	**16 24 17.3 +1.0**
	comp=Z,56nm,0.9s					
L17K	**Donlin**	**85.17**	**8**	P	**P**	**16 24 18.1 +2.0**
	baz=195,SNR=15					
L17K				S	**S**	**16 34 49.1 +3.5**
	baz=195					
N20K	**Mount Spurr**	**85.18**	**11**	P	**P**	**16 24 16.5 +0.4**
	baz=201,SNR=18					
N20K				S	**S**	**16 34 44.7 -1.2**
	baz=201					
SPCR	**Spurr Chakacha**	**85.18**	**11**	P	**P**	**16 24 15.8 -0.4**
	baz=201					
SPCR				S	**S**	**16 34 44.7 -1.2**
	baz=201					
TMUT	**Trail Mountain**	**85.21**	**44**	IAMs_20	IAMs_20	17 01 40.4
	comp=Z,3μm,18.0s					
DL2	**Dalian**	**85.23**	**315**	P	**P**	**16 24 18.1 +1.3**
DL2				S	**SKSac**	**16 34 41.8 0.0**
DL2				pmax	pmax	
	comp=Z,170nm,0.9s					
DL2				pmax	pmax	
	comp=Z,2μm,6.6s					
DL2				LR	LR	
	comp=Z,1μm,18.3s					
DL2				LR	LR	
	comp=Z,750nm,15.3s					
DL2				LR	LR	
	comp=Z,1μm,19.4s					
J14K	**Nanvaranak Lak**	**85.24**	**5**	IAMs_20	IAMs_20	17 02 26.3
	comp=Z,3μm,20.0s					
J14K	**Nanvaranak Lak**	**85.24**	**5**	P	**P**	**16 24 16.6 +0.3**
	baz=190					
J14K				S	**S**	**16 34 48.3 +2.2**
	baz=190					
MNTX	**Cornudas Mount**	**85.27**	**53**	⇓P	**P**	**16 24 18.2 +0.9**
D08A	**Wollman Farm,**	**85.34**	**35**	IAmb	IAmb	16 24 51.1
	comp=Z,58nm,1.4s					
MPU	**Maple Canyon**	**85.34**	**43**	IAMs_20	IAMs_20	16 56 53.8
	comp=Z,4μm,19.0s					
Y22D	**IRIS PASSCAL I**	**85.34**	**50**	P	**P**	**16 24 18.9 +1.1**
	baz=239					
TXAR	**Lajitas Array**	**85.42**	**56**	P	**P**	**16 24 19.2 +1.0**
	comp=Z,9.7nm,1.0s,baz=210,slow=7.2,SNR=22					
TXAR				LR	LR	16 55 49.6
	comp=Z,2μm,19.4s,baz=241,slow=31					
	comp=Z,9.7nm,1.0s					
L18K	**Granite Mounta**	**85.46**	**8**	IAmb	IAmb	16 24 22.5
	comp=Z,109nm,1.4s					
L18K				IAMs_20	IAMs_20	17 01 55.1
	comp=Z,4μm,19.0s					
L18K	**Granite Mounta**	**85.46**	**8**	P	**P**	**16 24 18.4 +0.9**
	baz=196,SNR=14					
L18K				S	**S**	**16 34 50.5 +2.1**
	baz=196					
L18K				S	**S**	**16 34 50.5 +2.1**
	baz=196					
M19K	**Big River Lodg**	**85.49**	**9**	IAMs_20	IAMs_20	17 01 42.7
	comp=Z,3μm,20.0s					
M19K	**Big River Lodg**	**85.49**	**9**	P	**P**	**16 24 17.8 +0.2**
	baz=199					
M19K				S	**S**	**16 34 47.3 -1.4**
	baz=199					
M19K				S	**S**	**16 34 47.3 -1.4**
	baz=199					
RC01	**Rabbit Creek A**	**85.52**	**12**	P	**P**	**16 24 17.9 +0.2**
	baz=203					
RC01				S	**S**	**16 34 48.5 -0.5**
	baz=203					
BI05	**Punta Hualpn**	**85.54**	**128**	IAMs_20	IAMs_20	16 57 02.6
	comp=Z,3μm,19.0s					
HIN	**Hinchinbrook I**	**85.55**	**14**	IAMs_20	IAMs_20	17 00 34.1
	comp=Z,4μm,19.0s					
SPUT	**South Promonto**	**85.56**	**42**	IAMs_20	IAMs_20	16 57 36.6
	comp=Z,4μm,19.0s					
V35K	**Ketchikan**	**85.58**	**23**	P	**P**	**16 24 17.4 -0.8**
	baz=219					
GO06	**Curarrehue**	**85.58**	**131**	IAMs_20	IAMs_20	16 58 34.6
	comp=Z,4μm,18.0s					
PWL	**Port Wells**	**85.58**	**13**	IAmb	IAmb	16 24 22.0
	comp=Z,110nm,1.4s					
PWL				IAMs_20	IAMs_20	17 01 00.1
	comp=Z,3μm,20.0s					
PWL	**Port Wells**	**85.58**	**13**	P	**P**	**16 24 18.5 +0.4**
	baz=204,SNR=14					
PWL				S	**S**	**16 34 49.2 -0.5**
	baz=204					
KAIM	**Kayak Island**	**85.60**	**15**	P	**P**	**16 24 17.1 -1.0**
	baz=208					
KAIM				S	**S**	**16 34 51.8 +1.9**
	baz=208					
HVU	**Hansel Valley**	**85.63**	**41**	IAMs_20	IAMs_20	17 01 48.4
	comp=Z,3μm,18.0s					
SNY	**Shenyang**	**85.64**	**319**	⇑P	**P**	**16 24 20.1 +1.3**
SNY				S	**SKSac**	**16 34 44.3 0.0**
SNY				pmax	pmax	
	comp=Z,54nm,1.8s					
SNY				pmax	pmax	
	comp=Z,2μm,3.8s					
SNY				LR	LR	
	comp=Z,630nm,16.7s					
SNY				LR	LR	
	comp=Z,900nm,17.5s					
SNY				LR	LR	
	comp=Z,2μm,17.5s					
CTU	**Camp Tracy**	**85.65**	**43**	IAMs_20	IAMs_20	16 57 22.9
	comp=Z,2μm,19.0s					
U33K	**Whale Pass**	**85.66**	**22**	P	**P**	**16 24 17.0 -1.5**
	baz=218					
U33K				S	**S**	**16 34 53.1 +2.5**
	baz=218					
U33K				S	**S**	**16 34 53.1 +2.5**
	baz=218					
M20K	**Styx River**	**85.66**	**10**	IAmb	IAmb	16 24 22.1
	comp=Z,88nm,1.9s					
M20K				IAMs_20	IAMs_20	17 01 58.4
	comp=Z,4μm,20.0s					
M20K	**Styx River**	**85.66**	**10**	P	**P**	**16 24 18.7 +0.1**
	baz=200					
M20K				S	**S**	**16 34 48.9 -1.8**
	baz=200					
M20K				S	**S**	**16 34 48.9 -1.8**
	baz=200					
SUA	**Susitna One**	**85.68**	**11**	IAMs_20	IAMs_20	17 01 28.7
	comp=Z,3μm,20.0s					
SUA	**Susitna One**	**85.68**	**11**	P	**P**	**16 24 18.9 +0.2**
	baz=202,SNR=7.5					
SUA				S	**S**	**16 34 49.4 -1.5**
	baz=202					
CN2	**Changchun**	**85.68**	**321**	*e*P	**P**	**16 24 19.7 +0.7**
CN2				*e*S	**SKSac**	**16 34 44.0 -0.5**
CN2				SS	**SS**	**16 40 26.1 -2.3**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
CN2				pmax	pmax	
	comp=Z,2μm,3.1s					
CN2				LR	LR	
	comp=Z,400nm,17.0s					
CN2				LR	LR	
	comp=Z,1μm,17.0s					
CN2				LR	LR	
	comp=Z,1μm,18.6s					
L19K	**White Mountain**	**85.68**	**9**	IAMs_20	IAMs_20	17 02 07.9
	comp=Z,3μm,19.0s					
L19K	**White Mountain**	**85.68**	**9**	P	**P**	**16 24 18.9 +0.3**
	baz=198					
L19K				S	**S**	**16 34 50.9 +0.1**
	baz=198					
L19K				S	**S**	**16 34 50.9 +0.1**
	baz=198					
SIT	**Sitka**	**85.68**	**20**	P	**P**	**16 24 19.1 +0.4**
	baz=216					
SIT				S	**S**	**16 34 52.2 +1.4**
	baz=216					
HLID	**Hailey**	**85.69**	**39**	⇑P	**P**	**16 24 21.1 +1.8**
KLR	**Kul'dur**	**85.72**	**328**	LR	LR	16 58 51.5
	comp=Z,2μm,20.3s,baz=136,slow=33					
KLR	**Kul'dur**	**85.72**	**328**	*c*eP	**P**	**16 24 20.7 +1.6**
KLR				pmax	pmax	
	comp=Z,91nm,2.0s					
PLCA	**Paso Flores**	**85.72**	**132**	P	**P**	**16 24 19.4 -0.3**
PLCA	**Paso Flores**	**85.72**	**132**	P	**P**	**16 24 20.9 +1.2**
	comp=Z,11nm,1.2s,baz=240,slow=5.6,SNR=11					
PLCA				LR	LR	16 56 12.3
	comp=Z,2μm,18.4s,baz=238,slow=31					
	comp=Z,11nm,1.2s					
PLCA	**Paso Flores**	**85.72**	**132**	⇑P	**P**	**16 24 21.3 +1.6**
PLCA	**Paso Flores**	**85.72**	**132**	*e*P	**P**	**16 24 20.9 +1.2**
K17K	**Iditarod**	**85.74**	**7**	IAmb	IAmb	16 24 23.9
	comp=Z,130nm,1.5s					
K17K				IAMs_20	IAMs_20	17 02 14.4
	comp=Z,4μm,20.0s					
K17K	**Iditarod**	**85.74**	**7**	P	**P**	**16 24 19.9 +1.1**
	baz=195					
K17K				S	**S**	**16 34 54.1 +2.9**
	baz=195					
BNX	**BinXian**	**85.75**	**323**	⇑P	**P**	**16 24 20.4 +1.1**
BNX				S	**SKSac**	**16 34 46.2 +1.4**
BNX				pmax	pmax	
	comp=Z,150nm,1.1s					
BNX				pmax	pmax	
	comp=Z,2μm,4.3s					
BNX				LR	LR	
	comp=Z,1μm,19.6s					
BNX				LR	LR	
	comp=Z,1μm,20.1s					
BNX				LR	LR	
	comp=Z,2μm,19.9s					
JLU	**Jordanelle**	**85.79**	**43**	IAMs_20	IAMs_20	16 57 18.6
	comp=Z,4μm,19.0s					
GAMB	**Gambell**	**85.84**	**1**	P	**P**	**16 24 19.4 +0.1**
	baz=183					
GAMB				S	**S**	**16 34 55.4 +3.4**
	baz=183					
EYAK	**Cordova Ski Ar**	**85.85**	**14**	P	**P**	**16 24 20.0 +0.6**
	baz=206					
EYAK				S	**S**	**16 34 52.0 -0.3**
	baz=206					
EYAK	**Cordova Ski Ar**	**85.85**	**14**	P	**P**	**16 24 20.4 +1.0**
GLI	**Glacier Island**	**85.85**	**13**	IAmb	IAmb	16 24 23.3
	comp=Z,90nm,1.3s					
GLI				IAMs_20	IAMs_20	17 00 46.3
	comp=Z,3μm,19.0s					
GLI	**Glacier Island**	**85.85**	**13**	P	**P**	**16 24 19.6 +0.1**
	baz=205					
GLI				S	**S**	**16 34 52.8 +0.3**
	baz=205					
FID	**Port Fidalgo**	**85.87**	**13**	IAMs_20	IAMs_20	17 00 34.5
	comp=Z,4μm,19.0s					
MVCO	**Mesa Verde**	**85.88**	**47**	IAMs_20	IAMs_20	16 56 15.0
	comp=Z,3μm,20.0s					
SUCK	**Suckling Hills**	**85.88**	**15**	IAMs_20	IAMs_20	17 05 52.8
	comp=Z,4μm,18.0s					
TROLL	**Troll, Antarti**	**85.89**	**179**	⇑P	**P**	**16 24 22.2 +2.2**
	comp=Z,1μm,0.8s					
ALPN	**Alpine**	**85.94**	**55**	IAmb	IAmb	16 24 24.8
	comp=Z,130nm,2.0s					
B08A	**Colville Reser**	**85.97**	**33**	IAmb	IAmb	16 24 25.4
	comp=Z,102nm,2.0s					
P18A	**Preston Nutter**	**86.02**	**44**	IAMs_20	IAMs_20	17 02 14.7
	comp=Z,3μm,18.0s					
SKT	**Skwentna**	**86.02**	**11**	P	**P**	**16 24 19.1 -1.2**
SKT				IAMs_20	IAMs_20	17 01 50.8
	comp=Z,4μm,20.0s					
SKT	**Skwentna**	**86.02**	**11**	P	**P**	**16 24 19.8 -0.5**
	baz=201					
SKT				S	**S**	**16 34 51.8 -2.3**
	baz=201					
J16K	**Anvik River**	**86.03**	**6**	IAMs_20	IAMs_20	17 02 15.3
	comp=Z,3μm,19.0s					
J16K	**Anvik River**	**86.03**	**6**	P	**P**	**16 24 21.9 +1.6**
	baz=193					
J16K				S	**S**	**16 34 58.5 +4.4**
	baz=193					
BGLC	**Bering Glacier**	**86.04**	**15**	P	**P**	**16 24 21.6 +1.3**
	baz=209					
BGLC				S	**S**	**16 34 57.3 +3.2**
	baz=209					
CNSH	**ChangSha**	**86.05**	**302**	P	**P**	**16 24 20.5 -0.7**
CNSH				S	**SKSac**	**16 34 48.5 +1.0**
CNSH				pmax	pmax	
	comp=Z,63nm,1.4s					
CNSH				LR	LR	
	comp=Z,1μm,18.0s					
CNSH				LR	LR	
	comp=Z,1μm,18.1s					
CNSH				LR	LR	
	comp=Z,2μm,18.1s					
M22K	**Willow**	**86.06**	**11**	IAMs_20	IAMs_20	17 01 29.8
	comp=Z,3μm,20.0s					
M22K	**Willow**	**86.06**	**11**	P	**P**	**16 24 20.7 +0.3**
	baz=202					
M22K				S	**S**	**16 34 53.1 -1.2**
	baz=202					
KNK	**Knik Glacier**	**86.06**	**12**	IAmb	IAmb	16 24 24.6
	comp=Z,99nm,1.5s					
KNK				IAMs_20	IAMs_20	17 01 36.9
	comp=Z,3μm,19.0s					
KNK	**Knik Glacier**	**86.06**	**12**	P	**P**	**16 24 21.2 +0.7**
	baz=204,SNR=10					
KNK				S	**S**	**16 34 53.4 -1.1**
	baz=204					
WHN	**Wuhan**	**86.07**	**305**	⇑P	**P**	**16 24 22.7 +1.5**
WHN				PP	**PP**	**16 27 40.0 -1.8**
WHN				SKS	**SKSac**	**16 34 47.7 +0.2**
WHN				S	**SKSac**	**16 34 50.6 +3.1**
WHN				pmax	pmax	
	comp=Z,390nm,1.3s					
WHN				pmax	pmax	
	comp=Z,5μm,4.4s					

WHN				LR	LR		
	comp=Z,4μm,18.8s						
WHN				LR	LR		
	comp=Z,3μm,13.6s						
WHN				LR	LR		
	comp=Z,5μm,18.8s						
SISI	**Saibi**	**86.08**	**270**	P	**P**	**16 24 23.4**	**+1.7**
	comp=Z,99nm,1.8s,comp=Z,4μm						
SNAA	**Sanae**	**86.08**	**177**	P	**P**	**16 24 20.8**	**0.0**
SNAA				IAmb	IAmb	16 24 26.0	
	comp=Z,88nm,1.5s						
SNAA	**Sanae**	**86.08**	**177**	⇑P	**P**	**16 24 22.6**	**+1.8**
	comp=Z,426nm,1.0s						
SNAA	**Sanae**	**86.08**	**177**	P	**P**	**16 24 22.0**	**+1.2**
	comp=Z,29nm,1.1s,baz=193,slow=6.5,SNR=26						
SNAA				LR	LR	16 58 59.8	
	comp=Z,5μm,20.7s,baz=193,slow=33						
	comp=Z,29nm,1.1s						
SNAA	**Sanae**	**86.08**	**177**	⇓P	**P**	**16 24 22.4**	**+1.6**
SNAA	**Sanae**	**86.08**	**177**	*ce*P	**P**	**16 24 23.8**	**+3.0**
SNAA				pmax	pmax		
	comp=Z,113nm,2.5s						
VNA3	**Neumayer Olymp**	**86.09**	**175**	⇑P	**P**	**16 24 21.1**	**+0.3**
	comp=Z,30nm,0.8s						
PMR	**Palmer**	**86.10**	**12**	IAmb	IAmb	16 24 24.6	
	comp=Z,90nm,1.5s						
PMR	**Palmer**	**86.10**	**12**	P	**P**	**16 24 21.1**	**+0.5**
	baz=203,SNR=11						
PMR				S	**S**	**16 34 54.0**	**-0.7**
	baz=203						
PMR	**Palmer**	**86.10**	**12**	P	**P**	**16 24 20.7**	**+0.1**
TCUT	**Toone Canyon**	**86.10**	**43**	IAMs_20	IAMs_20	16 57 45.9	
	comp=Z,3μm,19.0s						
L20K	**Farewell, AK**	**86.11**	**9**	P	**P**	**16 24 21.1**	**+0.4**
	baz=199,SNR=6.4						
L20K				S	**S**	**16 34 55.5**	**+0.6**
	baz=199						
L20K				S	**S**	**16 34 55.5**	**+0.6**
	baz=199						
ANMO	**Albuquerque**	**86.12**	**50**	LR	LR	16 57 02.7	
	comp=Z,4μm,18.9s,baz=49,slow=32						
ANMO	**Albuquerque**	**86.12**	**50**	*ce*P	**P**	**16 24 22.5**	**+0.8**
ANMO				pmax	pmax		
	comp=Z,52nm,2.5s						
S31K	**Pelican**	**86.14**	**19**	P	**P**	**16 24 21.6**	**+0.7**
	baz=215						
S31K				S	**S**	**16 34 58.4**	**+3.3**
	baz=215						
S31K				S	**S**	**16 34 58.4**	**+3.3**
	baz=215						
WRAK	**Wrangell Islan**	**86.17**	**22**	P	**P**	**16 24 22.4**	**+1.3**
	baz=218						
WRAK				S	**S**	**16 34 58.2**	**+2.6**
	baz=218						
BERG	**Berg Lake**	**86.18**	**15**	IAmb	IAmb	16 24 25.7	
	comp=Z,116nm,1.5s						
BERG				IAMs_20	IAMs_20	17 00 20.8	
	comp=Z,4μm,19.0s						
SNH	**Sunshine Point**	**86.20**	**15**	IAmb	IAmb	16 24 26.3	
	comp=Z,128nm,1.4s						
LLLB	**Lillooet**	**86.20**	**31**	IAmb	IAmb	16 24 59.0	
	comp=Z,74nm,1.7s						
TTA	**Tatalina**	**86.23**	**8**	IAMs_20	IAMs_20	17 02 27.5	
	comp=Z,3μm,19.0s						
TTA	**Tatalina**	**86.23**	**8**	P	**P**	**16 24 22.7**	**+1.3**
	baz=197,SNR=14						
TTA				S	**S**	**16 34 59.4**	**+3.2**
	baz=197						
TTA	**Tatalina**	**86.23**	**8**	P	**P**	**16 24 22.6**	**+1.2**
TTA	**Tatalina**	**86.23**	**8**	⇑P	**P**	**16 24 22.6**	**+1.2**
S32K	**Killisnoo**	**86.26**	**20**	P	**P**	**16 24 22.7**	**+1.2**
	baz=216						
HWUT	**Hardware Ranch**	**86.28**	**42**	IAMs_20	IAMs_20	17 02 12.6	
	comp=Z,3μm,18.0s						
GHO	**Glory Hole Cre**	**86.30**	**12**	IAmb	IAmb	16 24 25.9	
	comp=Z,126nm,1.5s						
J17K	**VABM Dome**	**86.31**	**7**	IAMs_20	IAMs_20	17 02 42.5	
	comp=Z,3μm,19.0s						
J17K	**VABM Dome**	**86.31**	**7**	P	**P**	**16 24 23.4**	**+1.7**
	baz=194,SNR=7.6						
J17K				S	**S**	**16 34 59.8**	**+3.1**
	baz=194						
J17K				S	**S**	**16 34 59.8**	**+3.1**
	baz=194						
MA2	**Magadan**	**86.41**	**343**	P	**P**	**16 24 21.7**	**-0.5**
MA2				IAmb	IAmb	16 24 25.5	
	comp=Z,74nm,1.2s						
MA2				IAMs_20	IAMs_20	16 58 59.8	
	comp=Z,3μm,20.0s						
MA2	**Magadan**	**86.41**	**343**	LR	LR	16 59 31.5	
	comp=Z,3μm,20.0s,baz=155,slow=33						
MA2	**Magadan**	**86.41**	**343**	P	**P**	**16 24 23.4**	**+1.2**
MA2	**Magadan**	**86.41**	**343**	*ce*P	**P**	**16 24 23.6**	**+1.4**
MA2				pmax	pmax		
	comp=Z,27nm,1.1s						
MESA	**MESA**	**86.42**	**16**	IAMs_20	IAMs_20	17 00 26.1	
	comp=Z,4μm,19.0s						
MESA	**MESA**	**86.42**	**16**	P	**P**	**16 24 23.5**	**+1.0**
	baz=210						
MESA				S	**S**	**16 34 59.1**	**+0.8**
	baz=210						
SML	**Sawmill**	**86.45**	**12**	IAmb	IAmb	16 24 26.7	
	comp=Z,162nm,2.0s						
SML				IAMs_20	IAMs_20	17 01 22.1	
	comp=Z,2μm,19.0s						
SML	**Sawmill**	**86.45**	**12**	P	**P**	**16 24 22.8**	**+0.4**
	baz=204						
SML				S	**S**	**16 34 57.9**	**-0.4**
	baz=204						
BMRM	**Bremner River**	**86.48**	**14**	P	**P**	**16 24 23.4**	**+0.8**
	baz=208,SNR=5.3						
BMRM				S	**S**	**16 34 59.1**	**+0.5**
	baz=208						
IPM	**Ipoh**	**86.48**	**276**	P	**P**	**16 24 24.8**	**+1.1**
M23K	**Glacier View**	**86.56**	**12**	P	**P**	**16 24 23.5**	**+0.6**
	baz=205,SNR=6.3						
VNA2	**Neumayer--Watz**	**86.57**	**176**	⇑P	**P**	**16 24 23.9**	**+0.7**
	comp=Z,22nm,0.8s,baz=183,slow=3.6						
U35K	**Hyder**	**86.61**	**23**	P	**P**	**16 24 24.6**	**+1.4**
	baz=220						
U35K				S	**S**	**16 35 03.6**	**+3.7**
	baz=220						
I17K	**Unalakleet**	**86.61**	**6**	IAMs_20	IAMs_20	17 02 24.7	
	comp=Z,3μm,20.0s						
I17K	**Unalakleet**	**86.61**	**6**	P	**P**	**16 24 24.8**	**+1.7**
	baz=193						
I17K				S	**S**	**16 35 03.2**	**+3.5**
	baz=193						
YAH	**Yahtse**	**86.63**	**16**	IAMs_20	IAMs_20	17 00 32.5	
	comp=Z,4μm,19.0s						
CRQM	**Cirque**	**86.63**	**15**	IAmb	IAmb	16 24 27.9	
	comp=Z,152nm,1.7s						
CRQM				IAMs_20	IAMs_20	17 00 45.0	
	comp=Z,4μm,20.0s						
CRQE	**Cirque**	**86.64**	**15**	P	**P**	**16 24 24.4**	**+0.9**
	baz=209						
CRQE				S	**S**	**16 35 00.9**	**+0.6**
	baz=209						
CUT	**Chulitna**	**86.64**	**11**	IAMs_20	IAMs_20	17 02 00.2	
	comp=Z,3μm,20.0s						
CUT	**Chulitna**	**86.64**	**11**	P	**P**	**16 24 23.7**	**+0.4**
	baz=202,SNR=14						
CUT				S	**S**	**16 34 59.2**	**-0.7**
	baz=202						
PNL	**Peninsula**	**86.64**	**17**	P	**P**	**16 24 24.8**	**+1.4**
	baz=212						
PNL				S	**S**	**16 35 03.1**	**+2.9**
	baz=212						
PNL	**Peninsula**	**86.64**	**17**	P	**P**	**16 24 24.3**	**+0.9**
J18K	**Innoko River**	**86.66**	**8**	IAmb	IAmb	16 24 28.9	
	comp=Z,83nm,1.2s						
J18K				IAMs_20	IAMs_20	17 02 22.7	
	comp=Z,3μm,20.0s						
J18K	**Innoko River**	**86.66**	**8**	P	**P**	**16 24 24.6**	**+1.2**
	baz=196,SNR=15						
J18K				S	**S**	**16 35 02.2**	**+2.1**
	baz=196						
KLU	**Klutina**	**86.66**	**13**	IAmb	IAmb	16 24 27.8	
	comp=Z,60nm,1.4s						
KLU				IAMs_20	IAMs_20	17 01 11.5	
	comp=Z,3μm,19.0s						
KLU	**Klutina**	**86.66**	**13**	P	**P**	**16 24 24.5**	**+1.0**
	baz=206						
KLU				S	**S**	**16 35 00.8**	**+0.5**
	baz=206						
R31K	**City Hall, Gus**	**86.66**	**19**	P	**P**	**16 24 24.3**	**+0.9**
	baz=216						
R31K				S	**S**	**16 35 03.2**	**+2.9**
	baz=216						
SCM	**Sheep Creek Mo**	**86.67**	**13**	IAMs_20	IAMs_20	17 01 44.9	
	comp=Z,3μm,20.0s						
SCM	**Sheep Creek Mo**	**86.67**	**13**	P	**P**	**16 24 24.5**	**+0.9**
	baz=205,SNR=9.3						
SCM				S	**S**	**16 35 00.5**	**0.0**
	baz=205						
ISLE	**Juniper Island**	**86.69**	**15**	IAmb	IAmb	16 24 28.1	
	comp=Z,139nm,1.6s						
ISLE				IAMs_20	IAMs_20	17 00 26.3	
	comp=Z,4μm,19.0s						
TGL	**Tana Glacier**	**86.70**	**15**	IAmb	IAmb	16 24 28.2	
	comp=Z,102nm,1.5s						
TGL				IAMs_20	IAMs_20	17 06 36.7	
	comp=Z,4μm,18.0s						
PPLA	**Purkeypile**	**86.77**	**10**	P	**P**	**16 24 23.7**	**-0.4**
	baz=201						
PPLA				S	**S**	**16 34 59.1**	**-2.4**
	baz=201						
GULI	**GuiLin**	**86.78**	**299**	⇑P	**P**	**16 24 27.5**	**+2.6**
GULI				pmax	pmax		
	comp=Z,130nm,1.3s						
GULI				LR	LR		
	comp=Z,780nm,18.5s						
GULI				LR	LR		
	comp=Z,530nm,18.0s						
GULI				LR	LR		
	comp=Z,1μm,18.0s						
PINM	**Pinnacle**	**86.78**	**16**	P	**P**	**16 24 25.4**	**+1.3**
	baz=211						
PINM				S	**S**	**16 35 02.7**	**+1.1**
	baz=211						
VNA1	**Neumayer--Stat**	**86.78**	**175**	⇑P	**P**	**16 24 26.9**	**+2.8**
	comp=Z,39nm,1.0s						
BCPM	**Bancas Point**	**86.82**	**17**	IAMs_20	IAMs_20	17 06 06.8	
	comp=Z,2μm,18.0s						
TIA	**Tai'an**	**86.84**	**311**	P	**P**	**16 24 26.0**	**+1.1**
TIA				S	**SKSac**	**16 34 53.7**	**+1.6**
TIA				pmax	pmax		
	comp=Z,160nm,0.9s						
TIA				pmax	pmax		
	comp=Z,2μm,4.7s						
TIA				LR	LR		
	comp=Z,680nm,14.7s						
TIA				LR	LR		
	comp=Z,1μm,17.2s						
TIA				LR	LR		
	comp=Z,2μm,15.7s						
TABL	**Table Mountain**	**86.85**	**16**	IAmb	IAmb	16 24 29.1	
	comp=Z,90nm,1.4s						
TABL				IAMs_20	IAMs_20	17 00 31.4	
	comp=Z,3μm,19.0s						
ANM	**Nome**	**86.90**	**4**	IAMs_20	IAMs_20	17 03 21.4	
	comp=Z,3μm,19.0s						
ANM	**Nome**	**86.90**	**4**	P	**P**	**16 24 25.3**	**+0.8**
	baz=188						
K20K	**Telida**	**86.92**	**9**	P	**P**	**16 24 25.9**	**+1.2**
	baz=199,SNR=22						
K20K				S	**S**	**16 35 03.6**	**+0.9**
	baz=199						
K20K				S	**S**	**16 35 03.6**	**+0.9**
	baz=199						
R32K	**Eaglecrest**	**86.92**	**20**	P	**P**	**16 24 24.9**	**+0.2**
	baz=216						
GRNC	**Granite Creek**	**86.94**	**15**	IAmb	IAmb	16 24 29.6	
	comp=Z,103nm,1.4s						
GRNC				IAMs_20	IAMs_20	17 00 43.0	
	comp=Z,3μm,19.0s						
JIS	**Juneau Island**	**86.97**	**20**	P	**P**	**16 24 26.2**	**+1.3**
VRDI	**Verde Repeater**	**86.97**	**15**	IAmb	IAmb	16 24 29.5	
	comp=Z,92nm,1.4s						
VRDI				IAMs_20	IAMs_20	17 01 16.8	
	comp=Z,4μm,19.0s						
BI02	**San Fabin de**	**86.97**	**128**	IAmb	IAmb	16 24 29.7	
	comp=Z,67nm,1.6s						
NEW	**Newport**	**87.05**	**34**	LR	LR	16 58 36.0	
	comp=Z,7μm,19.0s,baz=216,slow=32						
N25K	**Chitina, Valde**	**87.05**	**14**	IAmb	IAmb	16 24 29.8	
	comp=Z,112nm,1.5s						
N25K				IAMs_20	IAMs_20	17 01 11.8	
	comp=Z,3μm,19.0s						
N25K	**Chitina, Valde**	**87.05**	**14**	P	**P**	**16 24 25.8**	**+0.4**
	baz=208,SNR=18						
N25K				S	**S**	**16 35 04.8**	**+0.6**
	baz=208						
NVL	**N'lazarevskaya**	**87.05**	**182**	*e*P	**P**	**16 24 24.2**	**-1.2**
NVL				*e*S	**SKSac**	**16 34 51.4**	**-1.1**
NVL				pmax	pmax		
	comp=Z,50nm,1.9s						
NVL				MLR	MLR		
	comp=Z,3μm,17.0s						
P29M	**Windy Craggy**	**87.07**	**18**	IAmb	IAmb	16 24 30.5	
	comp=Z,89nm,1.5s						
P29M	**Windy Craggy**	**87.07**	**18**	P	**P**	**16 24 26.7**	**+1.2**
	baz=214						
P29M				S	**S**	**16 35 07.0**	**+2.7**
	baz=214						
GLB	**Gilahina Butte**	**87.08**	**14**	IAmb	IAmb	16 24 29.9	
	comp=Z,141nm,1.7s						
GLB				IAMs_20	IAMs_20	17 01 19.6	
	comp=Z,3μm,19.0s						
KULM	**Kulim**	**87.14**	**277**	P	**P**	**16 24 27.9**	**+1.0**
M24K	**Tolsona, Glenn**	**87.16**	**13**	IAMs_20	IAMs_20	17 01 38.7	
	comp=Z,3μm,20.0s						
M24K	**Tolsona, Glenn**	**87.16**	**13**	P	**P**	**16 24 26.8**	**+0.9**
	baz=206,SNR=11						
M24K				S	**S**	**16 35 07.1**	**+2.0**
	baz=206						
MCARA	**McCarthy VSAT**	**87.21**	**15**	IAmb	IAmb	16 24 46.7	
	comp=Z,51nm,1.2s						
MCARA				IAMs_20	IAMs_20	17 01 14.1	
	comp=Z,3μm,19.0s						
MCARA	**McCarthy VSAT**	**87.21**	**15**	P	**P**	**16 24 27.4**	**+1.3**
	baz=209,SNR=11						
MCARA				S	**S**	**16 35 07.0**	**+1.4**
	baz=209						
H16K	**Elim**	**87.21**	**5**	P	**P**	**16 24 27.4**	**+1.4**
	baz=191						
H16K				S	**S**	**16 35 08.2**	**+2.9**
	baz=191						
LOGN	**Logan Glacier**	**87.21**	**16**	IAmb	IAmb	16 24 30.7	
	comp=Z,102nm,1.5s						
LOGN				IAMs_20	IAMs_20	17 00 42.1	
	comp=Z,3μm,19.0s						
AHID	**Auburn Hatcher**	**87.21**	**41**	IAMs_20	IAMs_20	16 58 10.3	
	comp=Z,2μm,19.0s						
CTG	**Chitna Glacier**	**87.25**	**16**	P	**P**	**16 24 27.5**	**+1.0**
	baz=210,SNR=17						
CTGM	**Chitina Glacie**	**87.25**	**16**	IAmb	IAmb	16 24 31.0	
	comp=Z,87nm,1.4s						
CTGM				IAMs_20	IAMs_20	17 00 53.1	
	comp=Z,3μm,19.0s						
ML02	**Panimavida**	**87.26**	**128**	IAMs_20	IAMs_20	16 58 30.0	
	comp=Z,3μm,18.0s						
CMIG	**Matias Romero**	**87.27**	**70**	LR	LR	16 54 55.4	
	comp=Z,2μm,20.7s,baz=246,slow=30						
WAT6	**Susitna Watana**	**87.27**	**12**	P	**P**	**16 24 27.2**	**+0.6**
	baz=205,SNR=32						
WAT6				S	**S**	**16 35 07.0**	**+0.5**
	baz=205						
CAST	**Castle Rocks**	**87.28**	**10**	IAMs_20	IAMs_20	17 03 00.1	
	comp=Z,4μm,20.0s						
CAST	**Castle Rocks**	**87.28**	**10**	P	**P**	**16 24 25.8**	**-0.6**
	baz=201,SNR=19						
CAST				S	**S**	**16 35 04.1**	**-2.1**
	baz=201						
S22A	**4UR Ranch, Cre**	**87.29**	**47**	IAMs_20	IAMs_20	16 57 10.9	
	comp=Z,3μm,20.0s						
S22A	**4UR Ranch, Cre**	**87.29**	**47**	P	**P**	**16 24 27.6**	**+0.2**
	baz=239						
J19K	**Poorman**	**87.31**	**8**	IAmb	IAmb	16 24 32.4	
	comp=Z,137nm,1.7s						
J19K				IAMs_20	IAMs_20	17 03 00.9	
	comp=Z,4μm,19.0s						
J19K	**Poorman**	**87.31**	**8**	P	**P**	**16 24 27.9**	**+1.4**
	baz=197,SNR=10						
J19K				S	**S**	**16 35 10.1**	**+3.7**
	baz=197						
J19K				S	**S**	**16 35 10.1**	**+3.7**
	baz=197						
PLBC	**Pleasant Camp**	**87.32**	**18**	P	**P**	**16 24 27.9**	**+1.2**
	baz=215,SNR=8.4						
PLBC				S	**S**	**16 35 08.6**	**+1.9**
	baz=215						
T35M	**Bob Quinn**	**87.34**	**23**	IAMs_20	IAMs_20	17 00 05.4	
	comp=Z,2μm,19.0s						
T35M	**Bob Quinn**	**87.34**	**23**	P	**P**	**16 24 28.0**	**+1.1**
	baz=220						
T35M				S	**S**	**16 35 10.1**	**+3.0**
	baz=220						
WAT1	**Susitna Watana**	**87.34**	**12**	P	**P**	**16 24 26.8**	**+0.1**
	baz=204						
WAT1				S	**S**	**16 35 07.0**	**+0.1**
	baz=204						
O28M	**Mount Upton**	**87.37**	**16**	P	**P**	**16 24 28.1**	**+0.8**
	baz=212						
O28M				S	**S**	**16 35 09.6**	**+1.8**
	baz=212						
O29M	**Mount Kennedy**	**87.40**	**17**	IAmb	IAmb	16 24 32.1	
	comp=Z,121nm,1.6s						
O29M				IAMs_20	IAMs_20	17 04 06.2	
	comp=Z,2μm,18.0s						
O29M	**Mount Kennedy**	**87.40**	**17**	P	**P**	**16 24 28.3**	**+1.0**
	baz=213,SNR=11						
O29M				S	**S**	**16 35 10.8**	**+3.1**
	baz=213						
G15K	**Niukluk**	**87.42**	**4**	P	**P**	**16 24 27.2**	**+0.2**
	baz=190						
KTH	**Kantishna Hill**	**87.59**	**10**	IAmb	IAmb	16 24 31.2	
	comp=Z,114nm,1.5s						
TRF	**Thorofare Moun**	**87.61**	**11**	P	**P**	**16 24 28.2**	**0.0**
	baz=202,SNR=17						
TRF				S	**S**	**16 35 09.3**	**-0.3**
	baz=202						
HARP	**HAARP**	**87.63**	**13**	P	**P**	**16 24 29.2**	**+1.0**
	baz=207						
HARP				S	**S**	**16 35 10.5**	**+0.9**
	baz=207						
SKAG	**Skagway**	**87.63**	**19**	P	**P**	**16 24 29.2**	**+1.1**
	baz=216						
SKAG				S	**S**	**16 35 11.9**	**+2.3**
	baz=216						
SKAG	**Skagway**	**87.63**	**19**	P	**P**	**16 24 29.9**	**+1.8**
CHUM	**Lake Minchumin**	**87.68**	**10**	P	**P**	**16 24 28.1**	**-0.2**
	baz=200						
CHUM				S	**S**	**16 35 07.8**	**-2.1**
	baz=200						
J20K	**Nowinta River**	**87.68**	**9**	IAMs_20	IAMs_20	17 03 21.8	
	comp=Z,3μm,19.0s						
J20K	**Nowinta River**	**87.68**	**9**	P	**P**	**16 24 29.2**	**+0.9**
	baz=199,SNR=24						
J20K				S	**S**	**16 35 10.1**	**+0.1**
	baz=199						
J20K				S	**S**	**16 35 10.1**	**+0.1**
	baz=199						
P30M	**Million Dollar**	**87.70**	**18**	P	**P**	**16 24 29.5**	**+0.9**
	baz=214						
P30M				S	**S**	**16 35 12.5**	**+2.1**
	baz=214						
H17K	**Granite Mounta**	**87.72**	**6**	IAmb	IAmb	16 24 32.9	
	comp=Z,83nm,1.4s						
H17K				IAMs_20	IAMs_20	17 03 18.9	
	comp=Z,3μm,20.0s						
H17K	**Granite Mounta**	**87.72**	**6**	P	**P**	**16 24 29.6**	**+1.1**
	baz=194						
H17K				S	**S**	**16 35 12.8**	**+2.5**
	baz=194						
F14K	**Arctic Creek**	**87.75**	**3**	P	**P**	**16 24 29.2**	**+0.6**
	baz=188						
S34M	**Telegraph Cree**	**87.75**	**22**	IAmb	IAmb	16 24 34.0	
	comp=Z,75nm,1.4s						
S34M	**Telegraph Cree**	**87.75**	**22**	P	**P**	**16 24 30.1**	**+1.3**
	baz=220,SNR=9.0						
S34M				S	**S**	**16 35 12.8**	**+1.9**
	baz=220						
TNA	**Tin City**	**87.75**	**3**	P	**P**	**16 24 28.6**	**0.0**
	baz=186						
TNA				S	**S**	**16 35 14.5**	**+4.0**
	baz=186						
PSI	**Prapat**	**87.78**	**274**	P	**P**	**16 24 30.2**	**0.0**
DHY	**Denali Highway**	**87.79**	**12**	IAmb	IAmb	16 24 33.2	
	comp=Z,76nm,1.5s						
DHY				IAMs_20	IAMs_20	17 07 44.6	
	comp=Z,2μm,18.0s						
DHY	**Denali Highway**	**87.79**	**12**	P	**P**	**16 24 29.6**	**+0.5**
	baz=205,SNR=17						
DHY				S	**S**	**16 35 10.9**	**-0.5**
	baz=205						
DLMT	**Dillon**	**87.80**	**39**	IAMs_20	IAMs_20	16 57 27.6	
	comp=Z,3μm,20.0s						
SNOW	**Snow King Moun**	**87.81**	**41**	IAMs_20	IAMs_20	16 58 21.1	
	comp=Z,2μm,20.0s						
DRIO	**Del Rio**	**87.81**	**57**	P	**P**	**16 24 28.2**	**-1.6**
DRIO				IAmb	IAmb	16 24 33.3	
	comp=Z,65nm,1.4s						
RND	**Reindeer**	**87.82**	**11**	IAMs_20	IAMs_20	17 02 05.2	
	comp=Z,2μm,20.0s						
EFI	**East Falkland**	**87.83**	**146**	*ce*P	**P**	**16 24 30.2**	**+0.7**
EFI				pmax	pmax		
	comp=Z,34nm,1.3s						
GCSA	**Galena City Sc**	**87.87**	**8**	P	**P**	**16 24 30.9**	**+1.8**
	baz=196,SNR=12						
GCSA				S	**S**	**16 35 15.0**	**+3.3**
	baz=196						
YUK8	**Steele Glacier**	**87.92**	**16**	P	**P**	**16 24 30.9**	**+1.0**
	baz=212,SNR=16						
YUK8				S	**S**	**16 35 15.9**	**+2.9**
	baz=212						
G16K	**Koyuk River**	**87.94**	**5**	IAMs_20	IAMs_20	17 04 10.8	
	comp=Z,3μm,20.0s						
G16K	**Koyuk River**	**87.94**	**5**	P	**P**	**16 24 30.1**	**+0.6**
	baz=191						
YUK6	**Outpost Mounta**	**88.00**	**17**	P	**P**	**16 24 31.0**	**+0.8**
	baz=213						
YUK6				S	**S**	**16 35 15.1**	**+1.5**
	baz=213						
VA05	**Santo Domingo**	**88.01**	**126**	IAMs_20	IAMs_20	16 54 58.1	
	comp=Z,3μm,20.0s						
PAX	**Paxson**	**88.08**	**13**	P	**P**	**16 24 30.9**	**+0.5**
	baz=207,SNR=14						
PAX				S	**S**	**16 35 12.6**	**-1.4**
	baz=207						
F15K	**North Star Dit**	**88.08**	**4**	IAMs_20	IAMs_20	17 04 26.2	
	comp=Z,2μm,20.0s						
F15K	**North Star Dit**	**88.08**	**4**	P	**P**	**16 24 30.1**	**-0.1**
	baz=189						
F15K				S	**S**	**16 35 17.6**	**+3.8**
	baz=189						
H18K	**Honhosa River**	**88.09**	**7**	IAMs_20	IAMs_20	17 03 29.7	
	comp=Z,3μm,20.0s						
H18K	**Honhosa River**	**88.09**	**7**	P	**P**	**16 24 31.2**	**+1.0**
	baz=195						
H18K				S	**S**	**16 35 14.2**	**+0.3**
	baz=195						
BPAW	**Bear Paw Mtn.**	**88.09**	**10**	IAMs_20	IAMs_20	17 03 25.6	
	comp=Z,4μm,19.0s						
BPAW	**Bear Paw Mtn.**	**88.09**	**10**	P	**P**	**16 24 30.2**	**-0.1**
	baz=202,SNR=9.2						
BPAW				S	**S**	**16 35 10.9**	**-3.1**
	baz=202						
BO01	**Tunca**	**88.09**	**126**	P	**P**	**16 24 29.7**	**-1.5**
BO01				IAmb	IAmb	16 24 34.9	
	comp=Z,67nm,1.6s						
MCK	**McKinley**	**88.10**	**11**	P	**P**	**16 24 30.8**	**+0.4**
	baz=204,SNR=33						
MCK				S	**S**	**16 35 14.2**	**+0.1**
	baz=204						
M26K	**Nabesna, AK**	**88.11**	**14**	IAmb	IAmb	16 24 35.1	
	comp=Z,89nm,1.4s						
M26K				IAMs_20	IAMs_20	17 01 46.9	
	comp=Z,3μm,19.0s						
M26K	**Nabesna, AK**	**88.11**	**14**	P	**P**	**16 24 31.6**	**+1.2**
	baz=209,SNR=19						
M26K				S	**S**	**16 35 14.9**	**+0.7**
	baz=209						
M26K				S	**S**	**16 35 14.9**	**+0.7**
	baz=209						
HYT	**Haines Junctio**	**88.13**	**17**	IAmb	IAmb	16 24 35.6	
	comp=Z,109nm,1.7s						
HYT	**Haines Junctio**	**88.13**	**17**	P	**P**	**16 24 32.1**	**+1.4**
	baz=214,SNR=13						
HYT				S	**S**	**16 35 16.5**	**+1.8**
	baz=214						
PDAR	**Pinedale Array**	**88.16**	**42**	P	**P**	**16 24 30.3**	**-1.2**
PDAR	**Pinedale Array**	**88.16**	**42**	P	**P**	**16 24 31.2**	**-0.2**
	comp=Z,3.4nm,1.0s,baz=207,slow=3.0,SNR=12						
PDAR				PP	**PP**	**16 27 55.7**	**-3.0**
	comp=Z,1.2nm,1.0s,baz=221,slow=6.6,SNR=2.4					

	baz=218						
Q32M				S	**S**	**16 35 17.4**	**+2.0**
	baz=218						
SDCO	**Great Sand Dun**	**88.19**	**48**	IAMs_20	IAMs_20	16 57 30.5	
	comp=Z,2μm,20.0s						
MT01	**Popeta**	**88.20**	**126**	IAMs_20	IAMs_20	16 55 26.9	
	comp=Z,3μm,20.0s						
G17K	**Kiwalik Mounta**	**88.20**	**6**	P	**P**	**16 24 31.8**	**+1.0**
G17K	baz=193			S	**S**	**16 35 18.3**	**+3.5**
	baz=193						
I20K	**Naaghedeneel**	**88.23**	**8**	IAMs_20	IAMs_20	17 03 31.2	
	comp=Z,3μm,19.0s						
I20K	**Naaghedeneel**	**88.23**	**8**	P	**P**	**16 24 32.0**	**+1.1**
I20K	baz=198			S	**S**	**16 35 18.9**	**+3.8**
	baz=198						
P32M	**Atlin**	**88.23**	**19**	IAmb	IAmb	16 24 36.0	
	comp=Z,103nm,1.7s						
P32M	**Atlin**	**88.23**	**19**	P	**P**	**16 24 32.1**	**+1.0**
P32M	baz=217			S	**S**	**16 35 16.5**	**+1.0**
	baz=217						
YUK4	**Talbot Arm**	**88.26**	**16**	P	**P**	**16 24 32.7**	**+1.3**
YUK4	baz=213			S	**S**	**16 35 17.6**	**+1.5**
	baz=213						
VA01	**Torpederas**	**88.26**	**125**	IAMs_20	IAMs_20	16 55 39.8	
	comp=Z,2μm,20.0s						
833A	**Chaparral WMA,**	**88.28**	**59**	P	**P**	**16 24 32.1**	**+0.1**
833A	baz=244			S	**S**	**16 35 16.1**	**-1.1**
	baz=244						
YFT	**Old Faithful**	**88.31**	**40**	IAMs_20	IAMs_20	17 02 56.3	
	comp=Z,3μm,18.0s						
M27K	**Edge Creek, AK**	**88.33**	**15**	IAMs_20	IAMs_20	17 02 00.6	
	comp=Z,3μm,19.0s						
M27K	**Edge Creek, AK**	**88.33**	**15**	P	**P**	**16 24 33.2**	**+1.5**
M27K	baz=210,SNR=37			S	**S**	**16 35 18.5**	**+2.0**
	baz=210						
M27K				S	**S**	**16 35 18.5**	**+2.0**
	baz=210						
MENT	**Mentasta**	**88.42**	**14**	IAmb	IAmb	16 24 36.6	
	comp=Z,56nm,1.1s						
MENT				IAMs_20	IAMs_20	17 02 18.1	
	comp=Z,3μm,20.0s						
H17A	**Grant Village**	**88.44**	**40**	IAMs_20	IAMs_20	16 57 56.6	
	comp=Z,2μm,20.0s						
GSI	**Gunungsitoli**	**88.47**	**272**	P	**P**	**16 24 34.7**	**+1.4**
GSI	**Gunungsitoli**	**88.47**	**272**	P	**P**	**16 24 35.0**	**+1.7**
O30N	**Mendenhall**	**88.48**	**18**	IAmb	IAmb	16 24 37.2	
	comp=Z,92nm,1.5s						
O30N	**Mendenhall**	**88.48**	**18**	P	**P**	**16 24 33.8**	**+1.6**
	baz=215,SNR=14						
O30N				S	**S**	**16 35 20.7**	**+2.8**
	baz=215						
BOZ	**Bozeman (W)**	**88.49**	**39**	IAMs_20	IAMs_20	16 58 17.9	
	comp=Z,3μm,20.0s						
BOZ	**Bozeman (W)**	**88.49**	**39**	P	**P**	**16 24 34.4**	**+1.6**
DLBC	**Dease Lake**	**88.53**	**22**	LR	LR	16 59 49.6	
	comp=Z,1μm,18.2s,baz=228,slow=33						
DLBC	**Dease Lake**	**88.53**	**22**	P	**P**	**16 24 33.5**	**+0.9**
DLBC	baz=220			S	**S**	**16 35 21.6**	**+3.1**
	baz=220						
HEH	**HeiHe**	**88.53**	**327**	*e*P	**P**	**16 24 33.3**	**+0.6**
HEH				pP	**pwP**	**16 24 39.9**	**-0.7**
HEH				sP	sP	16 24 42.4	+7.3
HEH				SKS	**SKSac**	**16 35 01.8**	**+0.1**
HEH				S	**S**	**16 35 19.0**	**+0.4**
HEH				sS	**ScS**	**16 35 24.2**	**-0.1**
HEH				pmax	pmax		
	comp=Z,52nm,1.7s						
HEH				pmax	pmax		
	comp=Z,2μm,4.7s						
HEH				LR	LR		
	comp=Z,970nm,20.4s						
HEH				LR	LR		
	comp=Z,1μm,17.8s						
HEH				LR	LR		
	comp=Z,2μm,19.2s						
MT02	**Curacav**	**88.55**	**125**	IAMs_20	IAMs_20	16 55 16.1	
	comp=Z,3μm,20.0s						
L26K	**Log Cabin Wild**	**88.58**	**14**	IAmb	IAmb	16 24 37.4	
	comp=Z,61nm,1.3s						
L26K				IAMs_20	IAMs_20	17 02 13.3	
	comp=Z,4μm,19.0s						
L26K	**Log Cabin Wild**	**88.58**	**14**	P	**P**	**16 24 33.9**	**+1.2**
L26K	baz=209,SNR=17			S	**S**	**16 35 21.5**	**+2.9**
	baz=209						
L26K				S	**S**	**16 35 21.5**	**+2.9**
	baz=209						
BVCY	**Beaver Creek**	**88.62**	**15**	P	**P**	**16 24 34.4**	**+1.6**
BVCY	baz=211,SNR=12			S	**S**	**16 35 22.1**	**+3.0**
	baz=211						
BO04	**La Punta**	**88.62**	**126**	IAMs_20	IAMs_20	16 57 51.2	
	comp=Z,3μm,19.0s						
LKWY	**Lake**	**88.63**	**40**	IAMs_20	IAMs_20	16 57 52.9	
	comp=Z,3μm,18.0s						
T25A	**Trinidad**	**88.65**	**49**	IAMs_20	IAMs_20	16 58 13.5	
	comp=Z,4μm,20.0s						
T25A	**Trinidad**	**88.65**	**49**	P	**P**	**16 24 33.2**	**-0.6**
T25A	baz=240			S	**S**	**16 35 21.7**	**+0.9**
	baz=240						
H19K	**Roundabout Mou**	**88.67**	**7**	IAMs_20	IAMs_20	17 03 56.0	
	comp=Z,4μm,20.0s						
H19K	**Roundabout Mou**	**88.67**	**7**	P	**P**	**16 24 34.4**	**+1.5**
H19K	baz=197,SNR=17			S	**S**	**16 35 22.1**	**+2.8**
	baz=197						
WHY	**Whitehorse**	**88.74**	**18**	IAmb	IAmb	16 24 38.5	
	comp=Z,112nm,1.8s						
WHY	**Whitehorse**	**88.74**	**18**	P	**P**	**16 24 35.1**	**+1.5**
WHY	baz=216,SNR=6.4			S	**S**	**16 35 21.9**	**+1.4**
	baz=216						
K24K	**Donnelly Dome**	**88.76**	**12**	P	**P**	**16 24 35.4**	**+1.8**
K24K	baz=206,SNR=22			S	**S**	**16 35 22.4**	**+2.1**
	baz=206						
K24K				S	**S**	**16 35 22.4**	**+2.1**
	baz=206						
N30M	**Aishikik Lake**	**88.77**	**17**	IAMs_20	IAMs_20	17 06 16.4	
	comp=Z,2μm,19.0s						
N30M	**Aishikik Lake**	**88.77**	**17**	P	**P**	**16 24 35.0**	**+1.3**
N30M	baz=214			S	**S**	**16 35 21.7**	**+1.1**
	baz=214						
G18K	**Tagagawik**	**88.78**	**6**	IAmb	IAmb	16 24 37.7	
	comp=Z,114nm,1.6s						
G18K				IAMs_20	IAMs_20	17 04 10.5	
	comp=Z,3μm,19.0s						
G18K	**Tagagawik**	**88.78**	**6**	P	**P**	**16 24 34.8**	**+1.3**
G18K	baz=195			S	**S**	**16 35 22.4**	**+2.0**
	baz=195						
MT05	**Renca**	**88.79**	**126**	IAMs_20	IAMs_20	16 58 50.6	
	comp=Z,3μm,19.0s						
H20K	**Anotleneega Mo**	**88.84**	**8**	P	**P**	**16 24 35.1**	**+1.3**
H20K	baz=198,SNR=13			S	**S**	**16 35 23.2**	**+2.3**
	baz=198						
NEA2	**Nenana**	**88.87**	**11**	P	**P**	**16 24 34.0**	**0.0**
NEA2	baz=203			S	**S**	**16 35 20.4**	**-0.9**
	baz=203						
YMP	**Mirror Lake Pl**	**88.88**	**40**	IAMs_20	IAMs_20	16 58 01.3	
	comp=Z,2μm,19.0s						
SEY	**Seymchan**	**88.89**	**346**	*ce*P	**P**	**16 24 34.3**	**+0.3**
SEY				pmax	pmax		
	comp=Z,97nm,1.8s						
RIDG	**Independent Ri**	**88.89**	**13**	IAMs_20	IAMs_20	17 02 54.7	
	comp=Z,3μm,20.0s						
RIDG	**Independent Ri**	**88.89**	**13**	P	**P**	**16 24 34.8**	**+0.7**
RIDG	baz=207			S	**S**	**16 35 23.8**	**+2.1**
	baz=207						
JCT	**Junction City**	**88.92**	**56**	IAMs_20	IAMs_20	16 58 09.0	
	comp=Z,4μm,20.0s						
PEL	**Peldehue**	**88.94**	**125**	IAmb	IAmb	16 24 37.5	
	comp=Z,47nm,1.1s						
R33M	**Jennings River**	**88.95**	**21**	IAmb	IAmb	16 24 39.7	
	comp=Z,94nm,1.6s						
R33M	**Jennings River**	**88.95**	**21**	P	**P**	**16 24 36.1**	**+1.5**
	baz=220						
R33M				S	**S**	**16 35 25.0**	**+2.5**
	baz=220						
L27K	**Beaver Creek,**	**88.95**	**14**	IAmb	IAmb	16 24 39.1	
	comp=Z,81nm,1.6s						
L27K				IAMs_20	IAMs_20	17 02 13.1	
	comp=Z,3μm,19.0s						
L27K	**Beaver Creek,**	**88.95**	**14**	P	**P**	**16 24 35.5**	**+1.1**
L27K	baz=210,SNR=16			S	**S**	**16 35 25.5**	**+3.3**
	baz=210						
BCAR	**Beaver Creek A**	**88.96**	**14**	P	**P**	**16 24 32.3**	**-2.2**
P33M	**Teslin, Yukon**	**89.00**	**19**	IAmb	IAmb	16 24 42.2	
	comp=Z,95nm,1.9s						
P33M	**Teslin, Yukon**	**89.00**	**19**	P	**P**	**16 24 36.0**	**+1.2**
P33M	baz=218			S	**S**	**16 35 24.9**	**+2.1**
	baz=218						
MLY	**Manley**	**89.00**	**10**	P	**P**	**16 24 33.5**	**-1.2**
MLY				IAmb	IAmb	16 24 38.1	
	comp=Z,68nm,1.5s						
MLY				IAMs_20	IAMs_20	17 04 04.5	
	comp=Z,3μm,19.0s						
MLY	**Manley**	**89.00**	**10**	P	**P**	**16 24 34.5**	**-0.1**
MLY	baz=202,SNR=14			S	**S**	**16 35 22.1**	**-0.5**
	baz=202						
Q24A	**Divide**	**89.04**	**47**	IAMs_20	IAMs_20	16 58 02.9	
	comp=Z,3μm,20.0s						
Q24A	**Divide**	**89.04**	**47**	P	**P**	**16 24 35.7**	**-0.1**
Q24A	baz=240			S	**S**	**16 35 27.2**	**+2.6**
	baz=240						
F17K	**Baldwin Pennin**	**89.07**	**5**	P	**P**	**16 24 34.9**	**+0.2**
	baz=192						
HDA	**Harding Lake**	**89.08**	**12**	IAmb	IAmb	16 24 39.0	
	comp=Z,82nm,1.3s						
HDA	**Harding Lake**	**89.08**	**12**	P	**P**	**16 24 35.5**	**+0.5**
	baz=205,SNR=22						
HDA				S	**S**	**16 35 22.8**	**-0.4**
	baz=205						
HNS	**HongShan**	**89.11**	**311**	⇑P	**P**	**16 24 37.6**	**+1.9**
HNS				sP	**pwP**	**16 24 45.9**	**+2.2**
HNS				SKS	**SKSac**	**16 35 04.0**	**-1.7**
HNS				S	**S**	**16 35 23.5**	**-1.1**
HNS				pmax	pmax		
	comp=Z,84nm,1.5s						
HNS				pmax	pmax		
	comp=Z,2μm,5.8s						
HNS				LR	LR		
	comp=Z,1μm,17.5s						
HNS				LR	LR		
	comp=Z,1μm,17.5s						
HNS				LR	LR		
	comp=Z,1μm,18.3s						
KVTX	**Kingsville**	**89.13**	**60**	IAMs_20	IAMs_20	17 02 44.8	
	comp=Z,2μm,18.0s						
N31M	**Braeburn, Yuko**	**89.15**	**18**	IAmb	IAmb	16 24 40.2	
	comp=Z,90nm,1.4s						
N31M	**Braeburn, Yuko**	**89.15**	**18**	P	**P**	**16 24 36.9**	**+1.5**
N31M	baz=215,SNR=5.3			S	**S**	**16 35 26.7**	**+2.6**
	baz=215						
G19K	**Purcell Mounta**	**89.19**	**7**	IAMs_20	IAMs_20	17 04 23.6	
	comp=Z,4μm,19.0s						
G19K	**Purcell Mounta**	**89.19**	**7**	P	**P**	**16 24 36.6**	**+1.2**
G19K	baz=196,SNR=11			S	**S**	**16 35 27.6**	**+3.4**
	baz=196						
VA03	**San Esteban**	**89.20**	**125**	IAMs_20	IAMs_20	16 56 06.6	
	comp=Z,3μm,20.0s						
M29M	**Somme Creek**	**89.23**	**16**	IAmb	IAmb	16 24 40.5	
	comp=Z,78nm,1.5s						
M29M				IAMs_20	IAMs_20	17 01 58.6	
	comp=Z,2μm,19.0s						
M29M	**Somme Creek**	**89.23**	**16**	P	**P**	**16 24 37.3**	**+1.4**
	baz=213,SNR=20						
M29M				S	**S**	**16 35 26.4**	**+1.4**
	baz=213						
H21K	**Melozitna Rive**	**89.28**	**9**	IAmb	IAmb	16 24 40.5	
	comp=Z,75nm,1.4s						
H21K				IAMs_20	IAMs_20	17 04 22.9	
	comp=Z,3μm,20.0s						
H21K	**Melozitna Rive**	**89.28**	**9**	P	**P**	**16 24 36.9**	**+1.0**
	baz=200,SNR=13						
H21K				S	**S**	**16 35 26.0**	**+0.9**
	baz=200						
H21K				S	**S**	**16 35 26.0**	**+0.9**
	baz=200						
SCRK	**Sand Creek**	**89.28**	**13**	IAmb	IAmb	16 24 40.6	
	comp=Z,79nm,1.4s						
SCRK				IAMs_20	IAMs_20	17 02 55.9	
	comp=Z,3μm,20.0s						
SCRK	**Sand Creek**	**89.28**	**13**	P	**P**	**16 24 37.3**	**+1.2**
	baz=208,SNR=20						
SCRK				S	**S**	**16 35 27.8**	**+2.4**
	baz=208						
MT08	**Bocatoma Ro**	**89.31**	**126**	IAMs_20	IAMs_20	16 55 50.3	
	comp=Z,3μm,20.0s						
I23K	**Minto, Yukon-K**	**89.33**	**10**	P	**P**	**16 24 36.2**	**+0.2**
	baz=203,SNR=22						
I23K				S	**S**	**16 35 24.0**	**-1.5**
	baz=203						
I23K				S	**S**	**16 35 24.0**	**-1.5**
	baz=203						
COLA	**College**	**89.34**	**11**	IAMs_20	IAMs_20	17 03 13.5	
	comp=Z,2μm,20.0s						
COLA	**College**	**89.34**	**11**	P	**P**	**16 24 36.2**	**+0.1**
	baz=204						
COLA				S	**S**	**16 35 24.8**	**-0.8**
	baz=204						
COLA	**College**	**89.34**	**11**	P	**P**	**16 24 35.8**	**-0.3**
COLA	**College**	**89.34**	**11**	⇓*i*P	**P**	**16 24 35.1**	**-1.0**
COLA				pmax	pmax		
	comp=Z,36nm,1.0s						
CCIG	**Comitan**	**89.36**	**72**	IAMs_20	IAMs_20	16 57 40.6	
	comp=Z,2μm,18.0s						
LYN	**LuoYang**	**89.36**	**308**	⇑*i*P	**P**	**16 24 39.0**	**+2.1**
LYN				SKS	**SKSac**	**16 35 00.9**	**-6.4**
LYN				S	**S**	**16 35 24.6**	**-2.5**
LYN				pmax	pmax		
	comp=Z,210nm,1.1s						
LYN				pmax	pmax		
	comp=Z,3μm,3.5s						
LYN				LR	LR		
	comp=Z,1μm,17.5s						
LYN				LR	LR		
	comp=Z,710nm,16.8s						
LYN				LR	LR		
	comp=Z,1μm,22.0s						
SRIT	**Nakonsritamara**	**89.36**	**279**	P	**P**	**16 24 40.1**	**+2.7**
F18K	**Selawik**	**89.37**	**6**	P	**P**	**16 24 37.5**	**+1.3**
	baz=194						
BJT	**Baijiatuau**	**89.41**	**314**	IAmb	IAmb	16 24 39.4	
	comp=Z,86nm,1.3s						
BJT	**Baijiatuau**	**89.41**	**314**	P	**P**	**16 24 38.7**	**+1.7**
	comp=Z,74nm,2.2s						
BJI	**Beijing**	**89.41**	**314**	P	**P**	**16 24 38.5**	**+1.5**
BJI				pmax	pmax		
	comp=Z,30nm,1.3s						
BJI				pmax	pmax		
	comp=Z,990nm,4.0s						
BJI				LR	LR		
	comp=Z,360nm,17.7s						
BJI				LR	LR		
	comp=Z,430nm,16.8s						
BJI				LR	LR		
	comp=Z,730nm,18.1s						
IL31		**89.42**	**12**	IAmb	IAmb	16 24 40.5	
	comp=Z,83nm,1.4s						
ILAR	**Eielson Array**	**89.42**	**12**	P	**P**	**16 24 35.6**	**-0.9**
ILAR	**Eielson Array**	**89.42**	**12**	P	**P**	**16 24 36.6**	**+0.1**
	comp=Z,30nm,1.1s,baz=218,slow=5.1,SNR=44						
ILAR				PP	**PP**	**16 28 02.2**	**-5.9**
	comp=Z,1.7nm,1.1s,baz=201,slow=3.7,SNR=3.6						
ILAR				LR	LR	17 02 16.7	
	comp=Z,1μm,18.3s,baz=190,slow=34						
	comp=Z,30nm,1.1s						
IMAR	**Indian Mountai**	**89.45**	**8**	P	**P**	**16 24 36.5**	**-0.2**
N23A	**Red Feather La**	**89.48**	**45**	P	**P**	**16 24 37.8**	**0.0**
N23A	baz=240			S	**S**	**16 35 28.6**	**0.0**
	baz=240						
SURA	**Surathani**	**89.55**	**280**	P	**P**	**16 24 40.7**	**+2.4**
J25K	**Salcha River,**	**89.57**	**12**	IAmb	IAmb	16 24 41.7	
	comp=Z,76nm,1.3s						
J25K				IAMs_20	IAMs_20	17 03 36.5	
	comp=Z,2μm,20.0s						
J25K	**Salcha River,**	**89.57**	**12**	P	**P**	**16 24 38.1**	**+0.8**
	baz=207,SNR=41						
J25K				S	**S**	**16 35 28.7**	**+0.8**
	baz=207						
J25K				S	**S**	**16 35 28.7**	**+0.8**
	baz=207						
POKR	**Poker Plat Res**	**89.64**	**11**	IAmb	IAmb	16 24 41.5	
	comp=Z,85nm,1.4s						
POKR				IAMs_20	IAMs_20	17 05 05.4	
	comp=Z,2μm,20.0s						
POKR	**Poker Plat Res**	**89.64**	**11**	P	**P**	**16 24 38.2**	**+0.6**
	baz=205,SNR=6.3						
POKR				S	**S**	**16 35 28.0**	**-0.5**
	baz=205						
POKR				S	**S**	**16 35 28.0**	**-0.5**
	baz=205						
POKR				S	**ScS**	**16 35 30.5**	**-2.3**
	baz=205						
POKR				S	**ScS**	**16 35 30.5**	**-2.3**
	baz=205						
E17K	**Hotham Inlet**	**89.65**	**5**	P	**P**	**16 24 37.2**	**-0.3**
	baz=192						
E17K				S	**S**	**16 35 30.3**	**+1.9**
	baz=192						
N32M	**Quiet Lake**	**89.66**	**19**	IAMs_20	IAMs_20	17 07 16.7	
	comp=Z,2μm,18.0s						
N32M	**Quiet Lake**	**89.66**	**19**	P	**P**	**16 24 38.7**	**+0.9**
	baz=218						
N32M				S	**S**	**16 35 31.3**	**+2.3**
	baz=218						
ENH	**Enshi**	**89.67**	**303**	P	**P**	**16 24 40.2**	**+1.6**
H22K	**Ishtalitna Cre**	**89.71**	**9**	P	**P**	**16 24 39.0**	**+1.1**
	baz=201,SNR=16						
H22K				S	**S**	**16 35 28.0**	**-1.1**
	baz=201						
H22K				S	**S**	**16 35 28.0**	**-1.1**
	baz=201						
K27K	**Chicken**	**89.74**	**14**	IAmb	IAmb	16 24 43.1	
	comp=Z,82nm,1.4s						
K27K				IAMs_20	IAMs_20	17 03 08.9	
	comp=Z,3μm,19.0s						
K27K	**Chicken**	**89.74**	**14**	P	**P**	**16 24 39.4**	**+1.4**
	baz=210						
K27K				S	**S**	**16 35 32.1**	**+2.8**
	baz=210						
K27K				S	**S**	**16 35 32.1**	**+2.8**
	baz=210						
735A	**Kenedy**	**89.77**	**59**	IAMs_20	IAMs_20	16 58 23.5	
	comp=Z,2μm,20.0s						
M30M	**Minto, Yukon**	**89.78**	**16**	IAmb	IAmb	16 24 42.7	
	comp=Z,69nm,1.6s						
M30M	**Minto, Yukon**	**89.78**	**16**	P	**P**	**16 24 39.2**	**+1.0**
	baz=214,SNR=17						
M30M				S	**S**	**16 35 30.7**	**+0.8**
	baz=214						
F19K	**Shaleruckik Mo**	**89.78**	**7**	IAMs_20	IAMs_20	17 04 42.4	
	comp=Z,3μm,20.0s						
F19K	**Shaleruckik Mo**	**89.78**	**7**	P	**P**	**16 24 38.7**	**+0.6**
	baz=195						
F19K				S	**S**	**16 35 32.9**	**+3.3**
	baz=195						
J26L	**Joseph Creek**	**89.83**	**13**	IAmb	IAmb	16 24 44.4	
	comp=Z,73nm,1.0s						
J26L				IAMs_20	IAMs_20	17 03 05.5	
	comp=Z,3μm,19.0s						
J26L	**Joseph Creek**	**89.83**	**13**	P	**P**	**16 24 40.0**	**+1.4**
	baz=208,SNR=76						
J26L				S	**S**	**16 35 32.2**	**+1.7**
	baz=208						
J26L				S	**S**	**16 35 32.2**	**+1.7**
	baz=208						
L29M	**L29M**	**89.88**	**16**	IAMs_20	IAMs_20	17 04 41.6	
	comp=Z,3μm,20.0s						
L29M	**L29M**	**89.88**	**16**	P	**P**	**16 24 39.9**	**+1.2**
	baz=213,SNR=44						
L29M				S	**S**	**16 35 33.1**	**+2.2**
	baz=213						
H23K	**Yukon River**	**89.93**	**10**	P	**P**	**16 24 39.4**	**+0.5**
	baz=203						
H23K				S	**S**	**16 35 31.4**	**+0.3**
	baz=203						
H23K				S	**S**	**16 35 31.4**	**+0.3**
	baz=203						
G21K	**Allakaket**	**89.99**	**8**	IAmb	IAmb	16 24 43.7	
	comp=Z,100nm,1.6s						
G21K				IAMs_20	IAMs_20	17 04 35.4	
	comp=Z,3μm,20.0s						
G21K	**Allakaket**	**89.99**	**8**	P	**P**	**16 24 40.1**	**+0.9**
	baz=199						
G21K				S	**S**	**16 35 34.5**	**+2.9**
	baz=199						
K22A	**Casper**	**90.00**	**43**	IAMs_20	IAMs_20	17 04 47.1	
	comp=Z,4μm,18.0s						
SNSI	**Sinabang, Aceh**	**90.04**	**273**	P	**P**	**16 24 44.2**	**+3.6**
E18K	**Tukpahlearik C**	**90.08**	**5**	IAmb	IAmb	16 24 44.8	
	comp=Z,56nm,1.1s						
E18K				IAMs_20	IAMs_20	17 11 05.0	
	comp=Z,2μm,19.0s						
E18K	**Tukpahlearik C**	**90.08**	**5**	P	**P**	**16 24 40.6**	**+1.0**
	baz=193						
E18K				S	**S**	**16 35 36.6**	**+4.2**
	baz=193						
M31M	**Drury Creek, Y**	**90.12**	**18**	IAMs_20	IAMs_20	17 05 33.1	
	comp=Z,2μm,18.0s						
M31M	**Drury Creek, Y**	**90.12**	**18**	P	**P**	**16 24 40.7**	**+0.8**
	baz=217						
M31M				S	**S**	**16 35 33.8**	**+0.7**
	baz=217						
D17K	**Noatak River**	**90.16**	**4**	P	**P**	**16 24 40.3**	**+0.4**
	baz=190						
D17K				S	**S**	**16 35 34.9**	**+1.8**
	baz=190						
WTLY	**Watson Lake, Y**	**90.21**	**21**	IAmb	IAmb	16 24 45.3	
	comp=Z,61nm,1.3s						
WTLY	**Watson Lake, Y**	**90.21**	**21**	P	**P**	**16 24 41.8**	**+1.4**
	baz=222,SNR=6.4						
WTLY				S	**S**	**16 35 34.9**	**+0.9**
	baz=222						
H24K	**Noodor Dome**	**90.22**	**11**	P	**P**	**16 24 40.5**	**+0.2**
	baz=204						
H24K				S	**S**	**16 35 33.6**	**-0.3**
	baz=204						
H24K				S	**S**	**16 35 33.6**	**-0.3**
	baz=204						
F20K	**Avaraart Lake**	**90.22**	**7**	IAmb	IAmb	16 24 44.6	
	comp=Z,65nm,1.4s						
F20K				IAMs_20	IAMs_20	17 05 04.9	
	comp=Z,4μm,20.0s						
F20K	**Avaraart Lake**	**90.22**	**7**	P	**P**	**16 24 41.7**	**+1.6**
	baz=197						
F20K				S	**S**	**16 35 36.3**	**+2.6**
	baz=197						
GYA	**Guiyang**	**90.29**	**298**	⇑P	**P**	**16 24 43.5**	**+1.8**
GYA				SKS	**SKSac**	**16 35 15.4**	**+2.0**
GYA				S	**S**	**16 35 34.9**	**-1.5**
GYA				pmax	pmax		
	comp=Z,87nm,1.6s						
GYA				pmax	pmax		
	comp=Z,2μm,4.2s						
GYA				LR	LR		
	comp=Z,450nm,16.4s						
GYA				LR	LR		
	comp=Z,460nm,18.7s						
GYA				LR	LR		
	comp=Z,850nm,17.8s						
PRP	**Porcupine Dome**	**90.35**	**12**	IAmb	IAmb	16 24 45.3	
	comp=Z,97nm,1.4s						
PRP				IAMs_20	IAMs_20	17 04 32.2	
	comp=Z,2μm,20.0s						
PRP	**Porcupine Dome**	**90.35**	**12**	P	**P**	**16 24 41.8**	**+0.8**
	baz=207,SNR=25						
PRP				S	**S**	**16 35 34.6**	**-0.7**
	baz=207						
DAWY	**Dawson**	**90.38**	**15**	IAmb	IAmb	16 24 45.9	
	comp=Z,70nm,1.3s						
DAWY				IAMs_20	IAMs_20	17 02 56.8	
	comp=Z,3μm,19.0s						
DAWY	**Dawson**	**90.38**	**15**	P	**P**	**16 24 42.3**	**+1.3**
	baz=212,SNR=32						
DAWY				S	**S**	**16 35 37.2**	**+1.8**
	baz=212						
FARO	**Faro, Yukon**	**90.44**	**18**	P	**P**	**16 24 42.3**	**+0.9**
	baz=218,SNR=5.4						
FARO				S	**S**	**16 35 37.5**	**+1.4**
	baz=218						
E19K	**Redstone River**	**90.44**	**7**	IAmb	IAmb	16 24 45.7	
	comp=Z,56nm,1.0s						
E19K				IAMs_20	IAMs_20	17 05 23.5	

	comp=Z,3μm,19.0s						
E19K	**Redstone River**	**90.44**	**7**	P	**P**	**16 24 42.4 +1.1**	
	baz=196						
E19K				S	**S**	**16 35 36.4 +0.6**	
	baz=196						
SLVN	**Son La**	**90.50**	**293**	P	**P**	**16 24 44.8 +2.1**	
LHMI	**Lhok Sumawe**	**90.52**	**275**	P	**P**	**16 24 45.2 +2.3**	
LHMI	**Lhok Sumawe**	**90.52**	**275**	P	**P**	**16 24 45.2 +2.3**	
RDOG	**Red Dog Mine**	**90.52**	**4**	IAMs_20	IAMs_20	17 06 13.1	
	comp=Z,3μm,20.0s						
RDOG	**Red Dog Mine**	**90.52**	**4**	P	**P**	**16 24 42.8 +1.2**	
	baz=191						
TOAD	**Toad River Com**	**90.53**	**23**	P	**P**	**16 24 42.7 +0.8**	
	baz=224,SNR=51						
TOAD				S	**S**	**16 35 36.0 -1.0**	
	baz=224						
EGAK	**Eagle**	**90.59**	**14**	IAmb	IAmb	16 24 46.5	
	comp=Z,87nm,1.5s						
EGAK				IAMs_20	IAMs_20	17 03 35.4	
	comp=Z,4μm,19.0s						
EGAK	**Eagle**	**90.59**	**14**	P	**P**	**16 24 43.1 +1.2**	
	baz=211,SNR=10						
EGAK				S	**S**	**16 35 40.4 +3.2**	
	baz=211						
C16K	**Lisburne Hills**	**90.59**	**3**	P	**P**	**16 24 43.5 +1.6**	
	baz=188						
LIRD	**Liard River Hi**	**90.62**	**23**	P	**P**	**16 24 43.7 +1.4**	
	baz=224						
LIRD				S	**S**	**16 35 37.9 +0.1**	
	baz=224						
I26K	**Coal Creek Min**	**90.63**	**13**	IAMs_20	IAMs_20	17 03 49.3	
	comp=Z,3μm,19.0s						
I26K	**Coal Creek Min**	**90.63**	**13**	P	**P**	**16 24 43.7 +1.5**	
	baz=209						
I26K				S	**S**	**16 35 41.4 +3.9**	
	baz=209						
I26K				S	**S**	**16 35 41.4 +3.9**	
	baz=209						
K29M	**Barlow Dome**	**90.64**	**16**	IAmb	IAmb	16 24 48.1	
	comp=Z,61nm,1.1s						
K29M				IAMs_20	IAMs_20	17 03 02.8	
	comp=Z,3μm,20.0s						
K29M	**Barlow Dome**	**90.64**	**16**	P	**P**	**16 24 43.9 +1.5**	
	baz=214,SNR=37						
K29M				S	**S**	**16 35 41.0 +2.9**	
	baz=214						
G22K	**Bettles**	**90.65**	**9**	P	**P**	**16 24 44.4 +2.2**	
	baz=201						
G22K				S	**S**	**16 35 41.8 +4.1**	
	baz=201						
F21K	**Alatna River**	**90.66**	**8**	IAMs_20	IAMs_20	17 04 56.6	
	comp=Z,3μm,20.0s						
F21K	**Alatna River**	**90.66**	**8**	P	**P**	**16 24 43.3 +1.0**	
	baz=199						
F21K				S	**S**	**16 35 40.5 +2.6**	
	baz=199						
MLSI	**Meulaboh, Aceh**	**90.66**	**274**	P	**P**	**16 24 45.5 +2.0**	
	comp=Z,149nm,0.9s,comp=Z,3μmcomp=Z,2μm						
G23K	**Bananza Creek**	**90.67**	**10**	IAMs_20	IAMs_20	17 05 08.8	
	comp=Z,2μm,19.0s						
G23K	**Bananza Creek**	**90.67**	**10**	P	**P**	**16 24 43.6 +1.2**	
	baz=202						
G23K				S	**S**	**16 35 41.2 +3.1**	
	baz=202						
435B	**Jarrell**	**90.77**	**57**	P	**P**	**16 24 44.0 +0.4**	
	baz=244						
435B				S	**S**	**16 35 42.8 +2.4**	
	baz=244						
ZEA	**Zeya**	**90.77**	**330**	*e*P	**P**	**16 24 44.4 +1.3**	
ZEA				*e*		16 35 17.2	
ZEA				*e*S	**S**	**16 35 43.2 +3.9**	
ZEA				pmax	pmax		
	comp=E,200nm,3.7s						
ZEA				pmax	pmax		
	comp=N,300nm,5.2s						
ZEA				pmax	pmax		
	comp=Z,600nm,4.3s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.4s						
ZEA				smax	smax		
	comp=E,700nm,10.3s						
ZEA				smax	smax		
	comp=N,1μm,12.1s						
TIY	**Taiyuan**	**90.85**	**311**	P	**P**	**16 24 45.8 +1.9**	
TIY				SKS	**SKSac**	**16 35 18.5 +2.5**	
TIY				S	**S**	**16 35 39.0 -2.0**	
TIY				pmax	pmax		
	comp=N,75nm,2.5s						
TIY				pmax	pmax		
	comp=N,1μm,4.1s						
TIY				LR	LR		
	comp=N,950nm,17.9s						
TIY				LR	LR		
	comp=N,850nm,17.9s						
TIY				LR	LR		
	comp=N,1μm,17.9s						
MAYO	**Mayo, Yukon**	**90.85**	**16**	P	**P**	**16 24 44.8 +1.5**	
	baz=215						
MAYO				S	**S**	**16 35 41.6 +1.9**	
	baz=215						
C17K	**DeLong Mountai**	**90.92**	**4**	P	**P**	**16 24 45.5 +2.0**	
	baz=190						
H25L	**Birch Creek**	**90.97**	**11**	P	**P**	**16 24 45.5 +1.8**	
	baz=206						
J29N	**Klondike Camp**	**90.98**	**15**	IAMs_20	IAMs_20	17 03 05.8	
	comp=Z,3μm,20.0s						
J29N	**Klondike Camp**	**90.98**	**15**	P	**P**	**16 24 45.7 +1.8**	
	baz=213,SNR=25						
J29N				S	**S**	**16 35 42.9 +1.9**	
	baz=213						
G24K	**Hadweenzic Riv**	**91.07**	**10**	IAMs_20	IAMs_20	17 04 58.3	
	comp=Z,4μm,20.0s						
G24K	**Hadweenzic Riv**	**91.07**	**10**	P	**P**	**16 24 45.1 +0.9**	
	baz=205						
G24K				S	**S**	**16 35 46.3 +4.6**	
	baz=205						
MTO3	**Montecristo**	**91.09**	**75**	IAmb	IAmb	16 24 49.9	
	comp=Z,72nm,1.3s						
F22K	**John River**	**91.11**	**8**	P	**P**	**16 24 46.4 +2.0**	
	baz=201						
F22K				S	**S**	**16 35 45.3 +3.4**	
	baz=201						
COLD	**Coldfoot**	**91.12**	**9**	P	**P**	**16 24 46.1 +1.7**	
	baz=202,SNR=13						
COLD				S	**S**	**16 35 43.3 +1.3**	
	baz=202						
AC05	**El Transito**	**91.14**	**122**	IAMs_20	IAMs_20	17 06 10.9	
	comp=Z,3μm,18.0s						
ZON	**Zonda**	**91.17**	**125**	IAMs_20	IAMs_20	16 56 51.5	
	comp=Z,3μm,21.0s						
BILL	**Bilibino**	**91.19**	**353**	IAMs_20	IAMs_20	17 01 48.2	
	comp=Z,4μm,20.0s						
I27K	**Kandik River**	**91.20**	**13**	P	**P**	**16 24 46.0 +1.1**	
	baz=210,SNR=17						
I27K				S	**S**	**16 35 44.0 +1.0**	
	baz=210						
I27K				S	**S**	**16 35 44.0 +1.0**	
	baz=210						
C18K	**Utukok River**	**91.24**	**5**	IAMs_20	IAMs_20	17 06 17.5	
	comp=Z,3μm,20.0s						
C18K	**Utukok River**	**91.24**	**5**	P	**P**	**16 24 45.9 +0.9**	
	baz=192						
E20K	**Nigu River**	**91.33**	**7**	P	**P**	**16 24 47.1 +1.7**	
	baz=197						
E20K				S	**S**	**16 35 44.0 0.0**	
	baz=197						
D19K	**Kuna River**	**91.36**	**6**	IAMs_20	IAMs_20	17 06 16.0	
	comp=Z,3μm,20.0s						
D19K	**Kuna River**	**91.36**	**6**	P	**P**	**16 24 47.7 +2.2**	
	baz=195						
G25K	**Bearman Lake**	**91.37**	**11**	P	**P**	**16 24 47.2 +1.7**	
	baz=206						
G25K				S	**S**	**16 35 48.6 +4.3**	
	baz=206						
WHTX	**Lake Whitney,**	**91.39**	**56**	IAMs_20	IAMs_20	16 59 48.3	
	comp=Z,4μm,19.0s						
XLT	**XiLinHaoTe**	**91.40**	**317**	*e*P	**P**	**16 24 47.0 +0.6**	
XLT				S	**S**	**16 35 42.4 -3.4**	
XLT				SS	**SS**	**16 41 51.1 -0.9**	
XLT				pmax	pmax		
	comp=Z,38nm,1.4s						
XLT				pmax	pmax		
	comp=Z,930nm,10.1s						
XLT				LR	LR		
	comp=Z,520nm,15.9s						
XLT				LR	LR		
	comp=Z,710nm,21.4s						
I28M	**Miner Creek**	**91.43**	**14**	IAMs_20	IAMs_20	17 09 51.7	
	comp=Z,3μm,18.0s						
I28M	**Miner Creek**	**91.43**	**14**	P	**P**	**16 24 46.9 +0.9**	
	baz=212,SNR=10						
I28M				S	**S**	**16 35 46.1 +1.0**	
	baz=212						
J30M	**Hart River**	**91.54**	**16**	IAmb	IAmb	16 24 51.3	
	comp=Z,52nm,1.4s						
J30M				IAMs_20	IAMs_20	17 03 50.6	
	comp=Z,3μm,19.0s						
J30M	**Hart River**	**91.54**	**16**	P	**P**	**16 24 47.6 +1.1**	
	baz=215,SNR=22						
J30M				S	**S**	**16 35 46.6 +0.4**	
	baz=215						
WMOK	**Wichita Mounta**	**91.58**	**53**	IAMs_20	IAMs_20	16 59 18.3	
	comp=Z,2μm,20.0s						
D20K	**Etivluk River**	**91.72**	**6**	P	**P**	**16 24 48.2 +1.0**	
	baz=196						
GO03	**Copiapo**	**91.72**	**121**	IAMs_20	IAMs_20	16 59 23.2	
	comp=Z,4μm,19.0s						
I29M	**Ogilvie Camp,**	**91.72**	**14**	IAMs_20	IAMs_20	17 03 50.4	
	comp=Z,3μm,19.0s						
I29M	**Ogilvie Camp,**	**91.72**	**14**	P	**P**	**16 24 48.0 +0.7**	
	baz=213,SNR=12						
AC06	**Mina Casimiro**	**91.73**	**120**	IAMs_20	IAMs_20	16 58 55.4	
	comp=Z,4μm,20.0s						
E22K	**Anaktuvuk Pass**	**91.74**	**8**	IAmb	IAmb	16 24 51.8	
	comp=Z,80nm,1.4s						
E22K				IAMs_20	IAMs_20	17 06 02.1	
	comp=Z,3μm,20.0s						
E22K	**Anaktuvuk Pass**	**91.74**	**8**	P	**P**	**16 24 48.6 +1.3**	
	baz=201,SNR=13						
E22K				S	**S**	**16 35 49.5 +1.7**	
	baz=201						
XAN	**Xi'an**	**91.75**	**306**	⇑P	**P**	**16 24 49.5 +1.3**	
XAN				pP	pwP	16 24 53.2 -3.0	
XAN				SKS	**SKSac**	**16 35 22.3 +1.0**	
XAN				S	**ScS**	**16 35 52.5 +0.6**	
XAN				pmax	pmax		
	comp=Z,290nm,1.0s						
XAN				pmax	pmax		
	comp=Z,2μm,3.8s						
XAN				LR	LR		
	comp=Z,1μm,17.5s						
XAN				LR	LR		
	comp=Z,1μm,15.8s						
XAN				LR	LR		
	comp=Z,2μm,18.8s						
F24K	**Squaw Lake**	**91.75**	**10**	IAmb	IAmb	16 24 52.4	
	comp=Z,42nm,1.4s						
F24K	**Squaw Lake**	**91.75**	**10**	P	**P**	**16 24 49.1 +1.7**	
	baz=204						
F24K				S	**S**	**16 35 51.7 +3.9**	
	baz=204						
E21K	**Killik River**	**91.76**	**7**	IAMs_20	IAMs_20	17 06 04.1	
	comp=Z,3μm,19.0s						
E21K	**Killik River**	**91.76**	**7**	P	**P**	**16 24 48.7 +1.3**	
	baz=199						
E21K				S	**S**	**16 35 50.4 +2.6**	
	baz=199						
H27K	**Steamboat Moun**	**91.77**	**13**	P	**P**	**16 24 49.4 +1.9**	
	baz=210,SNR=28						
H27K				S	**S**	**16 35 50.6 +2.6**	
	baz=210						
HKT	**Hockley**	**91.79**	**58**	IAMs_20	IAMs_20	17 00 08.1	
	comp=Z,3μm,20.0s						
HKT	**Hockley**	**91.79**	**58**	*i* P	**P**	**16 24 51.1 +2.8**	
HKT				pmax	pmax		
	comp=Z,12nm,1.2s						
C19K	**Lookout Ridge**	**91.82**	**5**	IAMs_20	IAMs_20	17 06 35.8	
	comp=Z,2μm,20.0s						
C19K	**Lookout Ridge**	**91.82**	**5**	P	**P**	**16 24 49.2 +1.6**	
	baz=194						
KOTAN	**Kotaneelee Air**	**91.86**	**23**	P	**P**	**16 24 50.0 +2.0**	
	baz=226						
KOTAN				S	**S**	**16 35 49.8 +0.8**	
	baz=226						
B18K	**Kokolik River**	**91.89**	**5**	P	**P**	**16 24 50.0 +2.0**	
	baz=192						
G26K	**Porcupine Rive**	**91.95**	**12**	P	**P**	**16 24 50.4 +2.1**	
	baz=208						
G26K				S	**S**	**16 35 53.8 +4.3**	
	baz=208						
E23K	**Chandalar**	**91.98**	**9**	P	**P**	**16 24 49.8 +1.3**	
	baz=203						
E23K				S	**S**	**16 35 50.9 +1.0**	
	baz=203						
SRDT	**SRDT**	**91.98**	**285**	P	**P**	**16 24 52.2 +2.6**	
HIA	**Hailar**	**92.02**	**323**	IAmb	IAmb	16 24 54.0	
	comp=Z,79nm,2.0s						
HIA	**Hailar**	**92.02**	**323**	P	**P**	**16 24 50.6 +1.6**	
	comp=Z,32nm,1.7s						
I30M	**Mount Dempster**	**92.06**	**15**	IAmb	IAmb	16 24 53.5	
	comp=Z,69nm,1.4s						
I30M				IAMs_20	IAMs_20	17 04 07.4	
	comp=Z,3μm,19.0s						
I30M	**Mount Dempster**	**92.06**	**15**	P	**P**	**16 24 50.0 +1.0**	
	baz=215,SNR=38						
I30M				S	**S**	**16 35 52.3 +1.4**	
	baz=215						
OGNE	**Ogallala**	**92.09**	**46**	IAMs_20	IAMs_20	17 00 30.6	
	comp=Z,3μm,20.0s						
Z35A	**Perchaven, San**	**92.11**	**55**	IAMs_20	IAMs_20	17 00 21.5	
	comp=Z,4μm,20.0s						
E24K	**Your Creek**	**92.17**	**10**	P	**P**	**16 24 51.0 +1.7**	
	baz=204						
E24K				S	**S**	**16 35 53.9 +2.3**	
	baz=204						
F25K	**Christian Rive**	**92.19**	**11**	IAmb	IAmb	16 24 54.7	
	comp=Z,51nm,1.4s						
F25K				IAMs_20	IAMs_20	17 06 03.9	
	comp=Z,3μm,20.0s						
F25K	**Christian Rive**	**92.19**	**11**	P	**P**	**16 24 50.7 +1.2**	
	baz=206,SNR=15						
F25K				S	**S**	**16 35 56.3 +4.5**	
	baz=206						
BMAR	**Burnt Mountain**	**92.23**	**11**	P	**P**	**16 24 49.7 +0.1**	
G27K	**Doyon Strip**	**92.24**	**12**	IAmb	IAmb	16 24 54.5	
	comp=Z,41nm,1.4s						
G27K				IAMs_20	IAMs_20	17 04 51.5	
	comp=Z,3μm,20.0s						
G27K	**Doyon Strip**	**92.24**	**12**	P	**P**	**16 24 51.0 +1.4**	
	baz=210,SNR=18						
G27K				S	**S**	**16 35 55.8 +3.6**	
	baz=210						
D22K	**Ayikyak River**	**92.33**	**8**	IAmb	IAmb	16 25 07.5	
	comp=Z,42nm,1.2s						
D22K				IAMs_20	IAMs_20	17 06 23.3	
	comp=Z,3μm,19.0s						
D22K	**Ayikyak River**	**92.33**	**8**	P	**P**	**16 24 52.1 +2.1**	
	baz=200						
D22K				S	**S**	**16 35 54.6 +1.7**	
	baz=200						
C21K	**Knifeblade Rid**	**92.34**	**7**	P	**P**	**16 24 51.8 +1.7**	
	baz=198						
C21K				S	**S**	**16 35 55.6 +2.6**	
	baz=198						
H29M	**Whitestone**	**92.43**	**14**	IAMs_20	IAMs_20	17 04 23.1	
	comp=Z,3μm,19.0s						
H29M	**Whitestone**	**92.43**	**14**	P	**P**	**16 24 51.7 +1.2**	
	baz=213,SNR=17						
H29M				S	**S**	**16 35 53.6 -0.3**	
	baz=213						
TOLK	**Toolik Lake Re**	**92.53**	**9**	P	**P**	**16 24 51.1 +0.1**	
	baz=203						
TOLK				S	**S**	**16 35 54.9 +0.1**	
	baz=203						
TOLK				S	**S**	**16 35 54.9 +0.1**	
	baz=203						
F26K	**Sheenjek River**	**92.55**	**11**	IAmb	IAmb	16 24 56.4	
	comp=Z,51nm,1.5s						
F26K				IAMs_20	IAMs_20	17 06 26.2	
	comp=Z,3μm,19.0s						
F26K	**Sheenjek River**	**92.55**	**11**	P	**P**	**16 24 53.1 +2.0**	
	baz=208						
F26K				S	**S**	**16 35 57.9 +3.0**	
	baz=208						
NNA	**Nana**	**92.55**	**104**	IAMs_20	IAMs_20	16 57 34.3	
	comp=Z,3μm,20.0s						
NNA	**Nana**	**92.55**	**104**	LR	LR	16 57 26.1	
	comp=Z,3μm,19.9s,baz=247,slow=30						
237A	**Washetta, Mont**	**92.66**	**57**	IAMs_20	IAMs_20	17 02 40.1	
	comp=Z,4μm,18.0s						
D23K	**Nanushuk River**	**92.67**	**8**	IAmb	IAmb	16 24 57.3	
	comp=Z,39nm,1.3s						
D23K				IAMs_20	IAMs_20	17 06 22.5	
	comp=Z,3μm,19.0s						
D23K	**Nanushuk River**	**92.67**	**8**	P	**P**	**16 24 53.0 +1.4**	
	baz=202						
E25K	**Arctic Village**	**92.68**	**10**	IAmb	IAmb	16 24 56.7	
	comp=Z,41nm,1.3s						
E25K				IAMs_20	IAMs_20	17 06 08.8	
	comp=Z,4μm,20.0s						
E25K	**Arctic Village**	**92.68**	**10**	P	**P**	**16 24 52.9 +1.3**	
	baz=207,SNR=17						
E25K				S	**S**	**16 35 59.2 +3.1**	
	baz=207						
A19K	**Wainwright**	**92.77**	**5**	P	**P**	**16 24 53.4 +1.5**	
	baz=192						
B21K	**Ikpikpuk River**	**92.81**	**7**	P	**P**	**16 24 53.4 +1.3**	
	baz=198						
FNO	**Franklin**	**92.83**	**53**	IAMs_20	IAMs_20	17 01 18.3	
	comp=Z,4μm,19.0s						
TRQA	**Tornquist**	**92.83**	**133**	IAMs_20	IAMs_20	17 03 51.8	
	comp=Z,3μm,18.0s						
HHC	**Hu-ho-hao-te**	**92.89**	**313**	*e*P	**P**	**16 24 55.1 +1.7**	
HHC				sP	pwP	16 25 01.6 +0.3	
HHC				SKS	**SKSac**	**16 35 28.2 +0.7**	
HHC				S	**ScS**	**16 36 01.0 -0.2**	
HHC				SS	**SS**	**16 42 10.0 -3.5**	
HHC				pmax	pmax		
	comp=Z,71nm,1.0s						
HHC				pmax	pmax		
	comp=Z,1μm,5.2s						
HHC				LR	LR		
	comp=Z,880nm,16.8s						
HHC				LR	LR		
	comp=Z,1μm,17.6s						
HHC				LR	LR		
	comp=Z,2μm,16.8s						
B20K	**Meade River**	**92.91**	**6**	IAMs_20	IAMs_20	17 06 59.9	
	comp=Z,3μm,20.0s						
B20K	**Meade River**	**92.91**	**6**	P	**P**	**16 24 54.3 +1.7**	
	baz=196						
EPYK	**Eagle Plains**	**92.93**	**14**	IAMs_20	IAMs_20	17 04 56.3	
	comp=Z,2μm,19.0s						
EPYK	**Eagle Plains**	**92.93**	**14**	P	**P**	**16 24 53.8 +1.0**	
	baz=215,SNR=10						
EPYK				S	**S**	**16 35 58.5 +0.1**	
	baz=215						
KMI	**Kunming**	**92.98**	**296**	⇑P	**P**	**16 24 56.8 +2.5**	
KMI				SKS	**SKSac**	**16 35 31.1 +2.1**	
KMI				pmax	pmax		
	comp=Z,100nm,1.1s						
KMI				pmax	pmax		
	comp=Z,1μm,8.3s						
KMI				LR	LR		
	comp=Z,390nm,17.9s						
KMI				LR	LR		
	comp=Z,690nm,19.3s						
KMI				LR	LR		
	comp=Z,970nm,18.9s						
ATAH	**Atahualpa**	**93.03**	**99**	LR	LR	16 58 35.8	
	comp=Z,4μm,18.6s,baz=266,slow=30						
H31M	**Peel River**	**93.03**	**15**	IAMs_20	IAMs_20	17 04 37.0	
	comp=Z,2μm,19.0s						
H31M	**Peel River**	**93.03**	**15**	P	**P**	**16 24 54.4 +1.0**	
	baz=217,SNR=5.9						
H31M				S	**S**	**16 36 00.0 +0.7**	
	baz=217						
G29M	**Pine Creek**	**93.09**	**14**	IAmb	IAmb	16 24 58.0	
	comp=Z,57nm,1.5s						
G29M				IAMs_20	IAMs_20	17 04 54.5	
	comp=Z,3μm,19.0s						
G29M	**Pine Creek**	**93.09**	**14**	P	**P**	**16 24 54.4 +0.8**	
	baz=213						
G29M				S	**S**	**16 36 02.0 +2.3**	
	baz=213						
D24K	**Happy Valley**	**93.11**	**9**	IAmb	IAmb	16 25 41.5	
	comp=Z,37nm,1.4s						
D24K				IAMs_20	IAMs_20	17 06 58.9	
	comp=Z,2μm,19.0s						
D24K	**Happy Valley**	**93.11**	**9**	P	**P**	**16 24 55.2 +1.7**	
	baz=204						
D24K				S	**S**	**16 36 02.3 +2.5**	
	baz=204						
W35A	**Tecumseh**	**93.17**	**53**	IAMs_20	IAMs_20	17 01 17.4	
	comp=Z,4μm,20.0s						
F28M	**Old Crow**	**93.29**	**13**	IAMs_20	IAMs_20	17 05 14.9	
	comp=Z,3μm,20.0s						
F28M	**Old Crow**	**93.29**	**13**	P	**P**	**16 24 56.0 +1.5**	
	baz=212,SNR=14						
F28M				S	**S**	**16 36 01.2 -0.3**	
	baz=212						
E27K	**Coleen River**	**93.45**	**12**	IAmb	IAmb	16 25 00.2	
	comp=Z,54nm,1.4s						
E27K				IAMs_20	IAMs_20	17 06 16.8	
	comp=Z,2μm,19.0s						
E27K	**Coleen River**	**93.45**	**12**	P	**P**	**16 24 56.5 +1.3**	
	baz=210						
E27K				S	**S**	**16 36 06.9 +4.0**	
	baz=210						
C23K	**Itkillik River**	**93.49**	**8**	IAMs_20	IAMs_20	17 07 01.7	
	comp=Z,4μm,20.0s						
C23K	**Itkillik River**	**93.49**	**8**	P	**P**	**16 24 56.3 +1.0**	
	baz=202						
C23K				S	**S**	**16 36 04.6 +1.5**	
	baz=202						
JTS	**Las Juntas de**	**93.53**	**80**	IAMs_20	IAMs_20	17 00 19.6	
	comp=Z,2μm,18.0s						
JTS	**Las Juntas de**	**93.53**	**80**	LR	LR	16 59 56.7	
	comp=Z,2μm,18.0s,baz=256,slow=31						
JTS	**Las Juntas de**	**93.53**	**80**	*i* P	**P**	**16 24 58.8 +2.0**	
JTS				pmax	pmax		
	comp=Z,74nm,1.5s						
OK031	**S. Brethren Rd**	**93.53**	**53**	IAMs_20	IAMs_20	17 01 08.0	
	comp=Z,4μm,20.0s						
G30M	**tAoh Zraii Nji**	**93.54**	**14**	IAmb	IAmb	16 25 25.5	
	comp=Z,80nm,1.4s						
G30M				IAMs_20	IAMs_20	17 04 57.4	
	comp=Z,2μm,19.0s						
G30M	**tAoh Zraii Nji**	**93.54**	**14**	P	**P**	**16 24 56.6 +0.9**	
	baz=215						
G30M				S	**S**	**16 36 05.7 +1.9**	
	baz=215						
OK052	**Battle Ridge R**	**93.58**	**53**	IAMs_20	IAMs_20	17 01 48.2	
	comp=Z,4μm,20.0s						
B22K	**Teshekpuk Lake**	**93.62**	**7**	IAMs_20	IAMs_20	17 06 57.5	
	comp=Z,3μm,20.0s						
B22K	**Teshekpuk Lake**	**93.62**	**7**	P	**P**	**16 24 57.0 +1.2**	
	baz=200						
D25K	**Kavik River**	**93.63**	**10**	IAMs_20	IAMs_20	17 06 34.5	
	comp=Z,4μm,20.0s						
D25K	**Kavik River**	**93.63**	**10**	P	**P**	**16 24 57.3 +1.2**	
	baz=206						
D25K				S	**S**	**16 36 06.6 +2.1**	
	baz=206						
C24K	**Franklin Bluff**	**93.64**	**9**	IAMs_20	IAMs_20	17 09 39.2	
	comp=Z,3μm,19.0s						
C24K	**Franklin Bluff**	**93.64**	**9**	P	**P**	**16 24 58.4 +2.4**	
	baz=204						
C24K				S	**S**	**16 36 07.8 +3.4**	
	baz=204						
OK048	**Pawnee Station**	**93.65**	**52**	IAMs_20	IAMs_20	17 01 29.1	
	comp=Z,4μm,20.0s						
BOAB	**BOACO BROADBAND**	**93.68**	**78**	IAMs_20	IAMs_20	17 03 48.5	
	comp=Z,2μm,19.0s						
CMAR	**Chiang Mai Arr**	**93.69**	**288**	P	**P**	**16 24 56.8 -0.7**	
CMAR	**Chiang Mai Arr**	**93.69**	**288**	P	**P**	**16 24 59.1 +1.7**	
	comp=Z,52nm,0.9s,baz=124,slow=2.8,SNR=303						
CMAR				PP	PP	16 28 33.0 -10	
	comp=Z,0.9nm,1.0s,baz=111,slow=4.9,SNR=2.5						
CMAR				LR	LR	17 06 27.9	
	comp=Z,703nm,19.2s,baz=115,slow=35						
	comp=Z,52nm,0.9s						
BTO	**Baotou**	**93.83**	**312**	*e*P	**P**	**16 25 00.3 +2.6**	
BTO				PP	**PP**	**16 28 50.3 +6.7**	
BTO				SKS	**SKSac**	**16 35 34.6 +2.0**	
BTO				S	**S**	**16 36 03.7 -3.9**	
BTO				SS	**SS**	**16 42 30.9 +3.9**	
BTO				pmax	pmax		
	comp=Z,98nm,1.1s						
BTO				pmax	pmax		
	comp=Z,2μm,8.4s						
BTO				LR	LR		
	comp=Z,2μm,19.9s						
BTO				LR	LR		
	comp=Z,2μm,18.7s						
BTO				LR	LR		
	comp=Z,2μm,19.4s						
G31M	**Satah River**	**93.95**	**15**	IAMs_20	IAMs_20	17 05 27.2	
	comp=Z,3μm,19.0s						
G31M	**Satah River**	**93.95**	**15**	P	**P**	**16 24 58.1 +0.7**	
	baz=217,SNR=18						
G31M				S	**S**	**16 36 09.0 +1.8**	
	baz=217						
X37A	**Clayton**	**94.06**	**54**	IAMs_20	IAMs_20	17 01 24.0	

comp=Z,4µm,20.0s
A22K Sinclair Lake 94.09 6 P P 16 24 59.9 +2.0
baz=198
F30M Barrier River 94.16 14 P P 16 25 00.3 +1.9
baz=216
F30M S **S 16 36 12.9 +3.8**
baz=216
441A DeRidder 94.20 59 IAMs_20 IAMs_20 17 09 29.9
comp=Z,2µm,18.0s
E28M Babbage River 94.20 12 IAmb IAmb 16 25 04.1
comp=Z,35nm,1.2s
E28M IAMs_20 IAMs_20 17 06 41.7
comp=Z,3µm,20.0s
E28M Babbage River 94.20 12 P P 16 25 00.4 +1.8
baz=212
E28M S **S 16 36 12.9 +3.5**
baz=212
WRGLY Wrigley 94.23 21 P P 16 24 59.0 +0.2
baz=226
WRGLY S **S 16 36 11.3 +1.5**
baz=226
A21K Barrow 94.23 6 P P 16 24 59.9 +1.3
baz=196
TEIG Tepich 94.26 70 IAMs_20 IAMs_20 17 00 56.3
comp=Z,2µm,19.0s
TEIG Tepich 94.26 70 LR LR 17 00 57.6
comp=Z,2µm,19.7s,baz=234,slow=31
DGMT Dagmar 94.32 39 IAMs_20 IAMs_20 17 02 46.3
comp=Z,3µm,19.0s
C27K Jago River 94.33 10 P P 16 25 00.7 +1.5
baz=208
C27K S **S 16 36 13.0 +2.5**
baz=208
PZH PanZhiHua 94.35 297 P P 16 25 02.0 +1.6
PZH SKS **SKSac 16 35 35.5 -0.6**
PZH S **S 16 36 11.1 -1.7**
PZH pmax pmax
comp=Z,50nm,1.2s
PZH pmax pmax
comp=Z,890nm,5.7s
PZH LR LR
comp=Z,530nm,16.9s
PZH LR LR
comp=Z,840nm,17.6s
PZH LR LR
comp=Z,930nm,16.5s
E29M Blow River 94.35 13 IAMs_20 IAMs_20 17 05 57.8
comp=Z,4µm,19.0s
E29M Blow River 94.35 13 P P 16 25 00.0 +0.7
baz=214,SNR=7.5
C26K Camden Bay 94.39 10 P P 16 25 01.8 +2.3
baz=207
C26K S **S 16 36 12.9 +1.9**
baz=207
CD2 Chengdu 94.43 301 P P 16 25 02.0 +1.4
CD2 sP pwP 16 25 07.6 -1.0
CD2 PP **PP 16 28 46.8 -1.6**
CD2 SKS **SKSac 16 35 37.6 +1.4**
CD2 S **ScS 16 36 16.5 +2.1**
CD2 SS **SS 16 42 37.6 +1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 pmax pmax
comp=Z,770nm,5.2s
CD2 LR LR
comp=Z,830nm,17.6s
CD2 LR LR
comp=Z,1µm,19.1s
D27M Malcolm River 94.48 11 IAmb IAmb 16 25 05.7
comp=Z,59nm,1.5s
D27M IAMs_20 IAMs_20 17 07 10.9
comp=Z,2µm,19.0s
D27M Malcolm River 94.48 11 P P 16 25 02.1 +2.2
baz=211
D27M S **S 16 36 14.4 +2.5**
baz=211
F31M Tsiigehtchic 94.49 15 IAmb IAmb 16 25 04.8
comp=Z,45nm,1.1s
F31M IAMs_20 IAMs_20 17 05 52.5
comp=Z,3µm,19.0s
F31M Tsiigehtchic 94.49 15 P P 16 25 01.3 +1.4
baz=217
F31M S **S 16 36 14.0 +2.1**
baz=217
BGNE Belgrade 94.92 47 IAMs_20 IAMs_20 17 01 48.5
comp=Z,2µm,19.0s
D28M Stokes Point 94.97 12 P P 16 25 03.9 +1.8
baz=213
YAK Yakutsk 95.00 337 P P 16 24 59.7 -2.6
YAK IAmb IAmb 16 25 04.5
comp=Z,26nm,0.8s
YAK Yakutsk 95.00 337 LR LR 17 03 51.9
comp=Z,1µm,19.4s,baz=121,slow=33
YAK Yakutsk 95.00 337 *c i* P **P 16 25 01.9 -0.5**
YAK *e* 16 28 51.4
YAK *e*S **SKSac 16 35 34.6 -3.1**
YAK *e* 16 36 16.4
YAK *e*PS **PS 16 37 36.6 +1.9**
YAK *e*SS **SS 16 42 41.6 -0.8**
YAK pmax pmax
comp=Z,26nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=Z,346nm,4.6s
YAK pmax pmax
comp=N,107nm,2.6s
YAK pmax pmax
comp=E,122nm,3.7s
YAK smax smax
comp=N,282nm,4.3s
YAK smax smax
comp=E,132nm,3.7s
YAK MLR MLR
comp=Z,1µm,20.0s
YAK MLR MLR
comp=N,627nm,21.0s
LVC Limon Verde 95.00 117 IAMs_20 IAMs_20 17 00 52.1
comp=Z,4µm,20.0s
LVC Limon Verde 95.00 117 LR LR 17 01 02.9
comp=Z,3µm,18.5s,baz=240,slow=31
LVC Limon Verde 95.00 117 *e*P **P 16 25 07.2 +3.2**
INK Inuvik 95.23 14 IAMs_20 IAMs_20 17 06 18.1
comp=Z,3µm,19.0s
INK Inuvik 95.23 14 LR LR 17 05 24.8
comp=Z,2µm,18.5s,baz=222,slow=34
INK Inuvik 95.23 14 P P 16 25 04.7 +1.4
baz=218
INK S **S 16 36 20.6 +2.4**
baz=218
MIAR Mount Ida 95.40 55 IAMs_20 IAMs_20 17 02 26.5
comp=Z,4µm,20.0s
E28A Huff 95.54 42 IAMs_20 IAMs_20 17 08 22.5
comp=Z,3µm,18.0s
PB11 IPOC Station P 95.63 114 IAMs_20 IAMs_20 17 00 54.8
comp=Z,3µm,20.0s
X40A Basin Creek Fa 95.94 55 IAMs_20 IAMs_20 17 05 47.8
comp=Z,3µm,18.0s
143A Socs Landing, 96.36 57 IAMs_20 IAMs_20 17 03 19.0
comp=Z,3µm,19.0s
L34A Svendsen Farm, 96.36 47 IAMs_20 IAMs_20 17 02 43.6
comp=Z,2µm,20.0s
LZH Lanzhou 96.38 306 *e*P **P 16 25 11.0 +1.4**
LZH pP pwP 16 25 15.3 -2.3
LZH SKS **SKSac 16 35 46.8 +0.1**
LZH SS **SS 16 43 08.8 +5.1**
LZH pmax pmax
comp=Z,39nm,1.1s
LZH pmax pmax
comp=Z,710nm,8.6s
LZH LR LR
comp=Z,750nm,17.2s
LZH LR LR
comp=Z,1µm,16.7s
LZH LR LR
comp=Z,2µm,16.8s
N35A Tabor 96.42 49 IAMs_20 IAMs_20 17 02 50.1
comp=Z,3µm,20.0s
UALR University of 96.42 55 IAMs_20 IAMs_20 17 02 48.6
comp=Z,3µm,19.0s
TNCH TengChong 96.49 294 P **P 16 25 11.9 +1.6**
TNCH sP pwP 16 25 18.2 -0.1
TNCH PP **PP 16 29 03.2 -1.5**
TNCH SKS **SKSac 16 35 51.1 +3.4**
TNCH sS sS 16 36 39.3 +4.8
TNCH pmax pmax
comp=Z,43nm,1.4s
TNCH pmax pmax
comp=Z,570nm,4.2s
TNCH LR LR
comp=Z,230nm,12.5s
TNCH LR LR
comp=Z,370nm,14.9s
TNCH LR LR
comp=Z,970nm,17.0s
MDND Maddock 96.77 41 IAMs_20 IAMs_20 17 08 46.0
comp=Z,2µm,18.0s
CIT Chita 96.81 324 *e*P **P 16 25 12.0 +1.0**
CIT *e* 16 25 19.8
CIT pmax pmax
comp=Z,129nm,3.3s
S39A Bolivar 96.82 52 IAMs_20 IAMs_20 17 03 48.9
comp=Z,4µm,19.0s
YKA Yellowknife Ar 96.87 24 P P 16 25 10.0 -0.9
YKA Yellowknife Ar 96.87 24 P P 16 25 10.8 -0.1
comp=Z,4.3nm,1.0s,baz=243,slow=3.8,SNR=6.4
YKA LR LR 17 04 53.0
comp=Z,1µm,18.5s,baz=240,slow=33
comp=Z,4.3nm,1.0s
VBMS Vicksburg 96.87 58 IAMs_20 IAMs_20 17 03 57.6
comp=Z,3µm,19.0s
ECSD EROS Data Cent 96.93 46 IAMs_20 IAMs_20 17 05 42.5
comp=Z,2µm,20.0s
CZSB Cruzeiro do Su 97.98 102 IAMs_20 IAMs_20 17 02 18.1
comp=Z,2µm,18.0s
F33A 5 Mile Ranch, 97.99 44 IAMs_20 IAMs_20 17 04 26.5
comp=Z,3µm,20.0s
146A Union 98.17 58 IAMs_20 IAMs_20 17 04 10.1
comp=Z,2µm,20.0s
C36M Paulatuk 98.30 16 P Pdif 16 25 18.3 +1.1
baz=226
C36M S **S 16 36 46.4 +1.8**
baz=226
MET Memphis--Engin 98.39 56 IAMs_20 IAMs_20 17 03 48.7
comp=Z,2µm,20.0s
LPAZ La Paz 98.45 111 P Pdif 16 25 21.6 +1.6
comp=Z,0.8nm,0.3s,baz=222,slow=5.5,SNR=7.6
LPAZ PP **PP 16 29 19.2 -0.9**
comp=Z,1.5nm,0.7s,baz=235,slow=8.3,SNR=7.1
LPAZ LR LR 17 03 32.2
comp=Z,2µm,18.0s,baz=256,slow=32
comp=Z,0.8nm,0.3s
LPAZ La Paz 98.45 111 *e*P Pdif 16 25 21.6 +1.6
SCIA State Center 98.51 48 IAMs_20 IAMs_20 17 04 46.4
comp=Z,3µm,20.0s
ULN Ulaanbaatar 98.81 318 IAMs_20 IAMs_20 17 16 17.8
comp=Z,2µm,18.0s
ULN Ulaanbaatar 98.81 318 P Pdif 16 25 21.1 +0.9
ULN P Pdif 16 25 21.1 +0.9
ULN S **SKSac 16 35 59.1 +0.6**
ULN S **SKSac 16 35 59.1 +0.6**
ULN Ulaanbaatar 98.81 318 *c e*P Pdif 16 25 20.9 +0.7
ULN pmax pmax
comp=Z,22nm,1.3s
Z47A Carrollton 99.15 58 IAMs_20 IAMs_20 17 05 07.9
comp=Z,3µm,20.0s
I37A Lemond, Waseca 99.17 46 IAMs_20 IAMs_20 17 05 08.0
comp=Z,3µm,20.0s
SONM Songino Array 99.21 318 P **Pdif 16 25 21.2 -0.8**
SONM IAmb IAmb 16 25 24.4
comp=Z,32nm,1.7s
SONM Songino Array 99.21 318 P **Pdif 16 25 22.6 +0.6**
comp=Z,2.2nm,0.8s,baz=131,slow=4.0,SNR=15
SONM PP **PP 16 29 19.1 -5.9**
comp=Z,1.9nm,1.0s,baz=133,slow=5.7,SNR=4.2
SONM LR LR 17 10 40.2
comp=Z,546nm,18.1s,baz=108,slow=36
comp=Z,2.2nm,0.8s
SOR Soroa 99.75 69 IAMs_20 IAMs_20 17 04 13.9
comp=Z,3µm,19.0s
S44A Carbondale 99.82 53 IAMs_20 IAMs_20 17 04 45.3
comp=Z,3µm,20.0s
SIUC Southern Illin 99.85 53 IAMs_20 IAMs_20 17 04 45.3
comp=Z,3µm,20.0s
A36M Sachs Harbour 99.86 14 IAMs_20 IAMs_20 17 08 39.5
comp=Z,2µm,20.0s
A36M Sachs Harbour 99.86 14 Pdiff **Pdif 16 25 24.9 +0.7**
baz=225
L40A Anamosa 99.94 49 IAMs_20 IAMs_20 17 05 37.5
comp=Z,3µm,19.0s
ULM Lac du Bonnet 99.99 40 LR LR 17 07 38.9
comp=Z,4µm,18.8s,baz=249,slow=34
P43A Skaggs, Pawnee 100.30 51 IAMs_20 IAMs_20 17 05 55.0
comp=Z,3µm,19.0s
X48A Hartselle 100.38 57 IAMs_20 IAMs_20 17 05 18.5
comp=Z,2µm,20.0s
GTA Gaotai 100.57 308 ⇑P **Pdif 16 25 29.5 +1.2**
GTA pP pwP 16 25 33.8 -2.5
GTA SKS **SKSac 16 36 08.1 +0.5**
GTA sS sS 16 37 15.1 +6.7
GTA pmax pmax
comp=Z,11nm,1.5s
GTA pmax pmax
comp=Z,280nm,6.2s
GTA LR LR
comp=Z,560nm,17.5s
GTA LR LR
comp=Z,650nm,19.3s
GTA LR LR
comp=Z,2µm,17.8s
Y49A Blount Mountai 100.67 58 IAMs_20 IAMs_20 17 08 18.3
comp=Z,2µm,18.0s
JFWS Jewell Farm 100.92 48 IAMs_20 IAMs_20 17 05 41.2
comp=Z,3µm,19.0s
V48A Smith Brothers 100.99 56 IAMs_20 IAMs_20 17 05 45.5
comp=Z,3µm,20.0s
I40A Norwalk 101.00 47 IAMs_20 IAMs_20 17 05 48.4
comp=Z,3µm,20.0s
OLIL Olney 101.03 53 IAMs_20 IAMs_20 17 05 50.4
comp=Z,3µm,20.0s
CAMR Camarioca 101.26 70 IAMs_20 IAMs_20 17 05 54.0
comp=Z,3µm,19.0s
E38A The Farm, Brul 101.33 44 IAMs_20 IAMs_20 17 07 36.8
comp=Z,3µm,18.0s
TIXI Tiksi 101.33 344 IAMs_20 IAMs_20 17 08 54.8
comp=Z,2µm,20.0s
TIXI Tiksi 101.33 344 *i* P **Pdif 16 25 30.2 -0.4**
TIXI pmax pmax
comp=Z,10.0nm,1.4s
CLTN Cedars of Leba 101.48 56 IAMs_20 IAMs_20 17 08 52.5
comp=Z,3µm,18.0s
SWET Sewanee 101.50 57 IAMs_20 IAMs_20 17 07 50.1
comp=Z,3µm,18.0s
EYMN Ely 101.83 43 IAMs_20 IAMs_20 17 06 42.0
comp=Z,3µm,20.0s
ZAK Zakamensk 102.05 320 *e*P **Pdif 16 25 34.7 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,2.2s
X51A Calhoun 102.12 58 IAMs_20 IAMs_20 17 06 23.7
comp=Z,2µm,20.0s
I42A Draeger Farm, 102.16 48 IAMs_20 IAMs_20 17 06 32.1
comp=Z,3µm,20.0s
K43A Burlington 102.18 49 IAMs_20 IAMs_20 17 06 36.6
comp=Z,3µm,20.0s
L44A Lake County Fo 102.30 49 Pdiff **Pdif 16 25 35.3 -0.4**
baz=251
SHL Shillong 102.31 293 P **Pdif 16 25 36.8 +0.4**
Y52A Lilburn 102.52 58 IAMs_20 IAMs_20 17 08 35.3
comp=Z,2µm,18.0s
CPCT Cooper Cave 102.67 57 IAMs_20 IAMs_20 17 06 18.0
comp=Z,2µm,20.0s
GOGA Godfrey 102.85 59 IAMs_20 IAMs_20 17 07 56.1
comp=Z,3µm,19.0s
T50A Nancy 102.91 55 IAMs_20 IAMs_20 17 06 48.5
comp=Z,4µm,20.0s
ETMB Extrema 102.95 106 IAMs_20 IAMs_20 17 04 09.7
comp=Z,3µm,20.0s
W52A Murphy 103.02 57 IAMs_20 IAMs_20 17 09 16.3
comp=Z,3µm,18.0s
H43A Windswept, Lux 103.13 47 IAMs_20 IAMs_20 17 07 02.7
comp=Z,3µm,20.0s
GOMU GeErMu 103.27 304 Pdif **Pdif 16 25 40.5 -0.1**
GOMU SKS **SKSac 16 36 21.2 +0.1**
GOMU AMB AMB
comp=Z,230nm,5.9s
GOMU LR LR
comp=Z,1µm,19.5s
GOMU LR LR
comp=Z,1µm,18.1s
GOMU LR LR
comp=Z,2µm,18.7s
O48B Farmland 103.67 52 Pdiff **Pdif 16 25 41.7 -0.2**
baz=252
TZTN Tazewell 103.75 56 IAMs_20 IAMs_20 17 10 57.7
comp=Z,3µm,18.0s
BG3 Lake Jocassee 103.76 58 IAMs_20 IAMs_20 17 10 25.1
comp=Z,3µm,18.0s
I45A Fountain 104.05 48 IAMs_20 IAMs_20 17 07 47.0
comp=Z,3µm,19.0s
FCC Fort Churchill 104.06 32 IAMs_20 IAMs_20 17 11 22.5
comp=Z,2µm,19.0s
V53A Saluda 104.06 57 IAMs_20 IAMs_20 17 09 47.9
comp=Z,2µm,19.0s
PAULI Pauline 104.59 58 IAMs_20 IAMs_20 17 13 01.9
comp=Z,2µm,18.0s
CHIV Chivirico 104.62 74 IAMs_20 IAMs_20 17 09 58.1
comp=Z,870nm,19.0s
JSC Jenkinsville 104.87 59 IAMs_20 IAMs_20 17 10 40.4
comp=Z,3µm,18.0s
KMSC Kings Mountain 105.06 58 IAMs_20 IAMs_20 17 11 06.4
comp=Z,3µm,18.0s
U54A Nelsons Funny 105.08 56 IAMs_20 IAMs_20 17 10 28.8
comp=Z,2µm,19.0s
V55A Taylorsville 105.35 57 IAMs_20 IAMs_20 17 10 47.2
comp=Z,2µm,18.0s
NHSC New Hope 105.39 60 IAMs_20 IAMs_20 17 09 39.3
comp=Z,3µm,19.0s
CSU Charleston Sou 105.44 60 IAMs_20 IAMs_20 17 09 23.7
comp=Z,2µm,20.0s
BIRD Birdtown, Kers 105.60 59 IAMs_20 IAMs_20 17 13 45.9
comp=Z,2µm,18.0s
GTBY Guantanamo Bay 105.77 75 IAMs_20 IAMs_20 17 10 32.6
comp=Z,2µm,18.0s
SAML Samuel 106.01 107 IAMs_20 IAMs_20 17 08 53.0
comp=Z,2µm,18.0s
E46A Sault Ste Mari 106.02 46 IAMs_20 IAMs_20 17 10 51.0
comp=Z,2µm,19.0s
NMDO Nuevo Mundo 106.08 74 IAMs_20 IAMs_20 17 23 17.8
comp=Z,850nm,18.0s
W57A Gilead 106.11 58 IAMs_20 IAMs_20 17 11 58.4
comp=Z,2µm,18.0s
U56A King 106.14 57 IAMs_20 IAMs_20 17 10 55.0
comp=Z,2µm,19.0s
SDV Santo Domingo 106.20 87 IAMs_20 IAMs_20 17 07 54.5
comp=Z,2µm,18.0s
BLA Blacksburg 106.35 56 IAMs_20 IAMs_20 17 13 45.4
comp=Z,3µm,18.0s
I49A Point Hope 106.38 49 IAMs_20 IAMs_20 17 08 47.8
comp=Z,3µm,20.0s
PTLB Pontes e Lacer 106.50 115 IAMs_20 IAMs_20 17 06 58.9
comp=Z,2µm,19.0s
VILB Vilhena 106.80 112 IAMs_20 IAMs_20 17 07 56.7
comp=Z,2µm,18.0s
R55A Marlinton 106.86 55 IAMs_20 IAMs_20 17 09 31.0
comp=Z,3µm,20.0s
V58A Windy Hill, Pi 106.98 58 IAMs_20 IAMs_20 17 12 14.2
comp=Z,2µm,18.0s
T57A Hurt 107.19 57 IAMs_20 IAMs_20 17 11 44.7
comp=Z,2µm,18.0s
Y60A Bolivia 107.21 60 IAMs_20 IAMs_20 17 10 17.6
comp=Z,2µm,19.0s
W59A Clinton 107.34 59 IAMs_20 IAMs_20 17 11 27.9
comp=Z,2µm,19.0s
S57A Dark Hollow, R 107.62 56 IAMs_20 IAMs_20 17 16 31.0
comp=Z,3µm,18.0s
R58B Mineral 108.49 56 IAMs_20 IAMs_20 17 15 35.1
comp=Z,3µm,18.0s
T59A Double "B" Far 108.50 57 IAMs_20 IAMs_20 17 14 54.4
comp=Z,2µm,18.0s
CBN Corbin Frederi 108.94 56 IAMs_20 IAMs_20 17 10 15.9
comp=Z,2µm,20.0s
V61A Roper 108.97 58 IAMs_20 IAMs_20 17 13 53.0
comp=Z,2µm,18.0s
SDMD Soldier's Deli 109.62 55 IAMs_20 IAMs_20 17 10 39.0
comp=Z,2µm,20.0s
S61A Accomac 110.12 57 IAMs_20 IAMs_20 17 13 09.4
comp=Z,3µm,18.0s
WMQ Urumqi 110.51 310 *e*PKiP **PKiKP 16 30 12.6 -0.2**
WUPA West Chester U 110.67 54 IAMs_20 IAMs_20 17 11 41.6
comp=Z,3µm,20.0s
WBO Williamsburg 111.88 49 IAMs_20 IAMs_20 17 13 56.5
comp=Z,2µm,19.0s
FRNY Flat Rock 113.04 49 IAMs_20 IAMs_20 17 14 22.0
comp=Z,3µm,19.0s
ZSN Zaisan 113.09 314 *e*PKiKP **PKiKP 16 30 17.3 -0.3**
ZSN *e*PP **PP 16 31 06.0 -1.2**
ZSN Zaisan 113.09 314 *i* PKIKP **PKiKP 16 30 17.3 -0.3**
ZSN *e* 16 31 05.9
BOAV Boa Vista 113.16 97 IAMs_20 IAMs_20 17 10 20.3
comp=Z,3µm,20.0s
L61B Northampton 113.31 52 PKiKP **PKiKP 16 30 18.7 +0.6**
baz=261
NRIK Noril'sk 113.44 337 *i* PKIKP **PKiKP 16 30 20.1 +2.6**
ZALV Zalesovo Beam 113.89 321 PKiKP **PKiKP 16 30 17.1 -1.7**
comp=Z,1.9nm,0.8s,baz=93,slow=2.9,SNR=8.3
M65A Busby, Falmout 114.66 53 PKiKP **PKiKP 16 30 20.9 +0.2**
baz=261
MK31 Makanchi Array 114.75 313 *i* PKIKP **PKiKP 16 30 20.4 -0.4**
MKAR Makanchi Array 114.75 313 PKP PKPdf 16 30 19.8 -1.0
comp=Z,2.2nm,0.9s,baz=73,slow=4.5,SNR=8.6
LDAQ Lac Daran 115.06 46 IAMs_20 IAMs_20 17 16 00.2
comp=Z,2µm,18.0s
SHLS Shalkode 116.32 308 *e*PKP **PKPdf 16 30 22.9 -1.2**
SHLS *e*PP **PP 16 31 26.5 -3.8**
SHLS Shalkode 116.32 308 *e*PKIKP **PKPdf 16 30 22.8 -1.2**
SHLS *e* 16 31 26.4
SEM Semipalatinsk 116.42 316 *e*PKP **PKPdf 16 30 23.7 -0.4**
SEM Semipalatinsk 116.42 316 *e*PKIKP **PKPdf 16 30 23.7 -0.4**
UZB Uzynbulak 116.64 308 *e*PKP **PKPdf 16 30 24.2 -0.5**
UZB Uzynbulak 116.64 308 *e*PKIKP **PKPdf 16 30 24.2 -0.5**
F64A Sherman 116.83 49 IAMs_20 IAMs_20 17 18 33.4
comp=Z,2µm,19.0s
CBE Ff, Capester 116.86 83 IAMs_20 IAMs_20 17 16 23.9
comp=Z,1µm,18.0s
KPKS Kokpek 116.92 309 *e*PKP **PKPdf 16 30 24.7 -0.4**
KPKS Kokpek 116.92 309 *e*PKIKP **PKPdf 16 30 24.7 -0.4**
ZHN Zhinishke 117.06 308 *e*PKP **PKiKP 16 30 25.1 -0.4**
ZHN Zhinishke 117.06 308 *e*PKIKP **PKiKP 16 30 25.1 -0.4**
SATY Saty 117.08 308 *e*PKP **PKiKP 16 30 25.1 -0.4**
SATY Saty 117.08 308 *e*PKIKP **PKiKP 16 30 25.1 -0.4**
TDK Taldyqorghan 117.26 310 *e*PKP **PKPdf 16 30 25.2 -0.4**
TDK Taldyqorghan 117.26 310 *e*PKIKP **PKPdf 16 30 25.2 -0.4**
KURK Kurchatov 117.47 317 PKPdf 16 30 25.0 -0.8
KURK Kurchatov 117.47 317 IAMs_20 IAMs_20 17 22 31.8
comp=Z,2µm,19.0s
KURK Kurchatov 117.47 317 P **PKiKP 16 30 25.8 0.0**
KURK Kurchatov 117.47 317 *i* PKIKP **PKiKP 16 30 25.6 -0.2**
KURBB Kurchatov Arra 117.53 317 PKP **PKPdf 16 30 25.0 -1.0**
comp=Z,3.4nm,0.8s,baz=98,slow=2.1,SNR=20
KURBB PP **PP 16 31 31.9 -6.3**
comp=Z,2.9nm,1.0s,baz=89,slow=5.7,SNR=9.4
KURBB PKKPbc **PKKPbc 16 40 48.6 -0.9**
comp=Z,0.8nm,1.0s,baz=282,slow=5.1,SNR=3.9
FOMA Nahampoana Res 118.03 223 IAMs_20 IAMs_20 17 14 42.6
comp=Z,2µm,19.0s
MDOK Medeo 118.08 308 *e*PKP **PKPdf 16 30 26.8 -0.7**
MDOK *e*PP **PP 16 31 40.8 -1.8**
MDOK Medeo 118.08 308 *e*PKIKP **PKPdf 16 30 26.8 -0.7**
MDOK *e* 16 31 40.7
TNSS Tian-Shan 118.14 308 *e*PKP **PKPdf 16 30 27.2 -0.7**
TNSS Tian-Shan 118.14 308 *e*PKIKP **PKPdf 16 30 27.2 -0.7**
AAA Alma-Ata 118.17 308 *e*PKP **PKPdf 16 30 27.1 -0.4**
AAA Alma-Ata 118.17 308 *e*PKIKP **PKPdf 16 30 27.1 -0.4**
KSH Kashi 118.52 304 PKP **PKiKP 16 30 29.8 +1.4**
KSH PP **PP 16 31 46.7 +1.0**
KSH AMB AMB
comp=Z,500nm,7.6s
KSH LR LR
comp=Z,580nm,16.8s
KSH LR LR
comp=Z,630nm,21.3s
KSH LR LR
comp=Z,730nm,17.9s
NEEM North Greenlan 118.72 12 *i* P **PKPdf 16 30 27.1 -0.8**
TKM2 Tokmak 2 119.12 308 P **PKiKP 16 30 29.7 +0.1**
SNR=9.3
KBK Karagaybulak 119.57 307 P **PKiKP 16 30 30.9 +0.5**
SNR=5.7
SGDS Sogindy 119.86 308 *e*PKP **PKPdf 16 30 30.2 -0.6**
SGDS Sogindy 119.86 308 *e*PKIKP **PKPdf 16 30 30.2 -0.6**
AAK Ala-Archa 119.91 307 *i* PKIKP **PKiKP 16 30 31.5 +0.4**
SNR=6.3
AAK Ala-Archa 119.91 307 *i* PKIKP **PKiKP 16 30 30.8 -0.3**
USP Ospenovka 119.94 308 P **PKiKP 16 30 31.1 +0.2**
SNR=7.2
VOI Vohitsoka 120.32 225 IAMs_20 IAMs_20 17 18 33.8
comp=Z,2µm,18.0s
BTLS Baital 120.35 310 *e*PKP **PKiKP 16 30 31.5 -0.2**
BTLS *e*PP **PP 16 31 56.9 -1.1**

BTLS	Baital	120.35 310	*e*PKIKP	PKiKP	16 30 31.4	-0.2	
BTLS			*e*		16 31 56.9		
EKS2	Erkin-Say	120.44 307	P	PKiKP	16 30 33.0	+1.0	
SNR=5.7							
AML	Almayashu	120.47 307	P	PKiKP	16 30 33.2	+0.7	
SNR=9.9							
BRZS	Berezniki	121.28 316	*e*PKP	PKiKP	16 30 33.0	-0.3	
BRZS	Berezniki	121.28 316	*e*PKIKP	PKiKP	16 30 33.0	-0.3	
ABPO	Ambohimpanom	122.03 228	IAMs_20	IAMs_20	17 22 16.2		
comp=Z,2μm,18.0s							
DZA	Taraz	122.24 307	*e*PKP	PKPdf	16 30 34.9	-0.5	
DZA	Taraz	122.24 307	*e*PKIKP	PKPdf	16 30 34.8	-0.5	
BVAR	Borovoye Array	122.50 320	PKP	PKiKP	16 30 35.3	-0.3	
comp=Z,6.2nm,0.8s,baz=51,slow=0.9,SNR=21							
BRVK	Borovoye	122.56 320		PKPdf	16 30 35.1	-0.5	
BRVK	Borovoye	122.56 320	IAMs_20	IAMs_20	17 28 37.0		
comp=Z,2μm,18.0s							
BRVK	Borovoye	122.56 320	P	PKiKP	16 30 36.2	+0.5	
BRVK	Borovoye	122.56 320	*i* PKIKP	PKiKP	16 30 36.3	+0.5	
KKAR	Karatay Array	122.85 308	PKIKP	PKPdf	16 30 35.9	-0.6	
GAR	Garm	122.85 303	IAMs_20	IAMs_20	17 27 26.2		
comp=Z,2μm,20.0s							
IUG	Iuzhnay	123.19 307	*e*PKP	PKPdf	16 30 36.9	-0.4	
IUG	Iuzhnay	123.19 307	*e*PKIKP	PKPdf	16 30 36.8	-0.4	
BRLS	Borolday	123.34 308	*e*PKP	PKiKP	16 30 37.4	-0.3	
BRLS			*e*PP	PP	16 32 17.8	-0.6	
BRLS	Borolday	123.34 308	*e*PKIKP	PKiKP	16 30 37.4	-0.3	
BRLS			*e*		16 32 17.8		
KBL	Kabul	123.53 297	P	PKiKP	16 30 39.1	+0.5	
SNR=15							
SPITS	Spitsbergen Ar	123.85 357	PKP	PKiKP	16 30 38.0	+0.4	
comp=Z,29nm,0.8s,baz=73,slow=5.0,SNR=6.1							
SIMJ	Simiganj	123.85 302		PKPdf	16 30 37.4	-1.3	
SUMG	Summit	124.15 15	*i* P	PKiKP	16 30 39.1	+0.2	
MSEY	Mahe Island	124.16 248	IAMs_20	IAMs_20	17 19 30.3		
comp=Z,2μm,20.0s							
POGA	Pongola	124.45 209	IAMs_20	IAMs_20	17 21 45.4		
comp=Z,2μm,19.0s							
BOSA	Boshof	125.85 202	PKP	PKiKP	16 30 44.3	+1.0	
comp=Z,9.5nm,1.2s,baz=214,slow=3.6,SNR=4.6							
ICESG	Greenland Ices	125.97 18	*i* P	PKPdf	16 30 40.2	-1.9	
SVE	Sverdlovsk	127.28 325	*i* PKIKP	PKiKP	16 30 45.6	+0.6	
SVE			pmax	pmax			
comp=Z,35nm,1.5s							
SVE			MLR	MLR			
comp=Z,2μm,20.0s							
ARTI	Arti	128.59 325	IAMs_20	IAMs_20	17 32 51.5		
comp=Z,2μm,19.0s							
ARTI	Arti	128.59 325	*i* PKIKP	PKPdf	16 30 45.2	-1.8	
ARTI					16 32 50.4		
ARTI					16 37 55.9		
ARTI			SP	SP	16 42 58.2	-0.3	
ARTI			SS	SS	16 50 29.8	+20	
JLN	Jalan Bani Buh	130.23 281	P	PKiKP	16 30 51.9	-0.1	
SNR=5.5							
WBK	Wadi Bani Khal	130.72 281	P	PKiKP	16 30 52.8	-0.2	
ARCES	ARCESS Array B	131.25 351	PKP	PKiKP	16 30 52.2	-0.4	
comp=Z,12nm,0.7s,baz=16,slow=1.6,SNR=14							
MHTO	MHTO	131.32 279	P	PKPdf	16 30 52.7	-0.5	
JMDO	Jabal Madar	131.46 281	P	PKiKP	16 30 54.2	-0.3	
SNR=5.3							
APA	Apatity	131.49 346	⇓*i* PKIKP	PKPdf	16 30 49.4	-2.8	
APA			*i*		16 33 08.1		
APA			pmax	pmax			
comp=Z,56nm,0.9s							
DQM	DQM	131.49 277	P	PKiKP	16 30 54.6	0.0	
SMDO	Samad	131.63 282	P	PKiKP	16 30 55.3	+0.4	
SNR=7.7							
BIDO	Bidbid	131.64 282	P	PKiKP	16 30 55.6	+0.8	
KIRV	Kirov	132.10 331	*i* PKIKP	PKiKP	16 30 56.1	+1.5	
JASK	Jask - Hormozg	132.22 285	P	PKPdf	16 30 53.9	-0.9	
BSY	Bisya	132.35 281	P	PKiKP	16 30 57.2	+0.9	
HOQ	Hoqain	132.39 282	P	PKiKP	16 30 56.2	-0.1	
ARQ	Araqi	133.06 282	P	PKPdf	16 30 54.2	-2.3	
SOHO	SOHO	133.18 283	*i* PKIKP	PKPdf	16 30 56.2	-0.5	
SNR=6.1							
SOHO	SOHO	133.18 283	P	PKiKP	16 30 58.2	+0.4	
DMTO	DMTO	133.37 274	P	PKPdf	16 30 57.4	+0.2	
MDH	Madha	133.55 284	*i* PKIKP	PKPdf	16 30 57.0	-0.4	
SNR=5.6							
MDH	Madha	133.55 284	P	PKiKP	16 30 58.1	-0.5	
UOSS	Minazif	133.59 284	*i* PKIKP	PKPdf	16 30 57.1	-0.3	
SNR=5.9							
UOSS	Minazif	133.59 284	P	PKiKP	16 30 58.4	-0.3	
HATD	Hatta, Dubai	133.64 284	PKIKP	PKPdf	16 30 57.8	+0.2	
HATD	Hatta, Dubai	133.64 284	P	PKiKP	16 30 58.5	-0.3	
MSFE	Esma-Masafi	133.68 284	*i* PKIKP	PKPdf	16 30 57.9	+0.3	
SNR=5.4							
ASHO	Ashiyiah	133.69 283	*i* PKIKP	PKiKP	16 30 58.1	-0.9	
SNR=7.2							
ASHO	Ashiyiah	133.69 283	P	PKiKP	16 30 58.8	-0.2	
SHME	Shamm	133.78 285	PKIKP	PKPdf	16 30 58.0	+0.2	
SHME	Shamm	133.78 285	P	PKiKP	16 30 59.9	+0.8	
ALNE	Al Ain	133.87 282	*i* PKIKP	PKPdf	16 30 57.7	-0.3	
SNR=6.9							
ALNE	Al Ain	133.87 282	P	PKPdf	16 30 57.6	-0.4	
RBK	Rabkut	134.01 273	P	PKPdf	16 30 58.5	0.0	
SNR=5.7							
NAZ	Nazwa, Dubai	134.08 284	PKIKP	PKPdf	16 30 58.6	+0.3	
NAZ	Nazwa, Dubai	134.08 284	P	PKPdf	16 30 58.6	+0.3	
FAQ	Al Faqa, Dubai	134.11 283	PKIKP	PKPdf	16 30 58.0	-0.4	
FAQ	Al Faqa, Dubai	134.11 283	P	PKPdf	16 30 54.8	-3.6	
UMQ	Umm Al-Quwin	134.15 284	P	PKiKP	16 31 01.0	+1.2	
UMZA	Um Al Zommool	134.20 280	P	PKPdf	16 30 58.7	+0.1	
DOK	Doka	134.34 275	P	PKPdf	16 30 59.3	+0.3	
SNR=6.2							
WHFO	Wadi Hawf	134.51 274	P	PKiKP	16 31 00.5	-0.3	
SNR=5.3							
AJN	Ajban	134.63 283	P	PKiKP	16 31 01.4	+0.6	
KLMR	Klimovskoe	134.79 337	*e*PKIKP	PKPpre	16 30 51.8		
KLMR			pmax	pmax			
comp=Z,47nm,1.4s							
ABTO	Aybut	134.81 273	P	PKiKP	16 31 01.4	0.0	
MZWR	Madinat Zayed	135.53 282	P	PKiKP	16 31 03.6	+1.0	
MZR	Muzera	135.78 281	*i* PKIKP	PKiKP	16 31 02.5	-0.7	
SNR=6.4							
MZR	Muzera	135.78 281	P	PKiKP	16 31 04.0	+0.8	
BELG	Belogornoye	135.94 324	*i* PKIKP	PKiKP	16 31 01.8	-0.7	
GHWR	Ruwais	136.46 282	P	PKiKP	16 31 04.0	-0.6	
JRN	Qarnain Island	136.61 283	P	PKiKP	16 31 04.4	-0.4	
SLWR	Sila	137.55 282	P	PKiKP	16 31 06.9	+0.1	
FINES	FINESS Array B	138.37 345	PKhKP	PKPpre	16 30 55.2		
comp=Z,2.2nm,0.8s,baz=189,slow=34,SNR=3.7							
FINES			PKP	PKPdf	16 31 05.0	-0.2	
comp=Z,14nm,0.9s,baz=17,slow=1.5,SNR=13							
SHMA	Al-Shehemyia	138.40 284	P	PKiKP	16 31 08.8	+0.4	
MOS	Moscow	138.97 333	*i* PKIKP	PKPdf	16 31 05.9	-0.5	
MOS			pmax	pmax			
comp=Z,38nm,0.8s							
MAK	Makhachkala	139.52 311	*e*P	Pdif	16 28 14.4	-6.8	
MAK			*i*		16 31 05.1		
MAK			*e*		16 38 15.2		
MAK			*e*SS	SS	16 52 13.2	-9.0	
MAK			pmax	pmax			
comp=Z,293nm,1.4s							
VRH	Novokhopyorsk	139.72 325	*e*PKIKP	PKPdf	16 31 07.6	-0.3	
VRH			pmax	pmax			
comp=Z,10.0nm,0.9s							
AKT	Akhty	139.77 308	*e*PKIKP	PKPdf	16 31 08.4	-0.2	
AKT			pmax	pmax			
comp=Z,29nm,1.2s							
KIBK	Kibwezi	139.78 237	IAMs_20	IAMs_20	17 29 47.3		
comp=Z,1μm,20.0s							
OBN	Obninsk	139.84 333	IAMs_20	IAMs_20	17 44 01.7		
comp=Z,2μm,18.0s							
OBN	Obninsk	139.84 333	*d* PKIKP	PKiKP	16 31 09.4	-1.0	
OBN			*i*		16 34 04.0		
OBN			*i*		16 44 40.7		
OBN			*i* SS	SS	16 52 18.0	-6.5	
OBN			pmax	pmax			
comp=Z,38nm,1.6s							
LPSR	Galich'ya Gora	140.35 328	*e*PKIKP	PKPdf	16 31 07.3	-1.8	
LPSR			pmax	pmax			
comp=Z,10.0nm,0.9s							
VORR	Voronezh	140.76 327	*e*PKIKP	PKPdf	16 31 08.6	-1.2	
VORR			pmax	pmax			
comp=Z,20nm,0.9s							
VSU	Vasula	140.77 342	*i* PKIKP	PKPdf	16 31 08.3	-1.3	
VSR	Storozhevoye	141.05 326	*e*PKIKP	PKPpre	16 31 07.3		
VSR			pmax	pmax			
comp=Z,8.0nm,1.0s							
NB2	NORSAR Subarra	141.10 355	PKP	PKPpre	16 31 05.0		
comp=Z,18nm,1.4s,baz=17,slow=2.6							
NOA	NORSAR Array B	141.10 355	PKhKP	PKPpre	16 31 04.0		
comp=Z,3.6nm,0.9s,baz=16,slow=4.6,SNR=10							
KMBO	Kilima Mbogo	141.16 237	IAMs_20	IAMs_20	17 40 50.1		
comp=Z,1μm,18.0s							
KMBO	Kilima Mbogo	141.16 237	PKPdf	PKPdf	16 31 06.8	-5.3	
KMBO	Kilima Mbogo	141.16 237	PKhKP	PKPpre	16 31 05.7		
comp=Z,1.3nm,0.2s,baz=118,slow=3.5,SNR=7.9							
HFS	Hagfors	141.77 353	PKhKP	PKPpre	16 31 05.6		
comp=Z,9.4nm,0.7s,baz=42,slow=4.5,SNR=12							
GNI	Garni	142.31 307	P	PKPdf	16 31 10.6	-2.7	
KBZ	Khabaz	142.43 314	PKhKP	PKPpre	16 31 08.4		
comp=Z,4.5nm,1.0s,baz=164,slow=2.5,SNR=5.6							
KBZ	Khabaz	142.43 314	*i* PKHKP	PKPpre	16 31 07.7		
KIV	Kislovodsk	142.49 314	IAMs_20	IAMs_20	17 40 23.8		
comp=Z,2μm,19.0s							
KIV	Kislovodsk	142.49 314	PKPdf	PKPpre	16 31 08.7		
KIV	Kislovodsk	142.49 314	P	PKPdf	16 31 10.7	-2.6	
KIV	Kislovodsk	142.49 314	*i* PKIKP	PKiKP	16 31 15.5	-0.9	
KIV			*e*		16 34 16.3		
KIV			*e*SS	SS	16 52 50.5	-6.3	
KIV			pmax	pmax			
comp=Z,12nm,1.1s							
RAYN	Ar Rayn	143.12 280		PKPbc	16 31 12.0	+0.1	
RAYN	Ar Rayn	143.12 280	IAMs_20	IAMs_20	17 38 40.4		
comp=Z,1μm,19.0s							
RAYN	Ar Rayn	143.12 280	*i* PKPdf	PKPbc	16 31 12.6	+0.8	
SNR=7.5							
RAYN	Ar Rayn	143.12 280	P	PKPdf	16 31 13.9	-1.1	
RAYN	Ar Rayn	143.12 280	⇑PKIKP	PKPbc	16 31 12.4	+0.5	
KARS	Kars	143.38 309		PKPdf	16 31 13.6	-1.5	
KARS	Kars	143.38 309	PKIKP	PKPdf	16 31 13.6	-1.5	
KARS			MLR	MLR			
comp=Z,4μm,19.0s							
LABN	Labinsk	143.49 316	*i* PKIKP	PKPdf	16 31 13.7	-1.3	
LABN			pmax	pmax			
comp=Z,206nm,3.3s							
MNK	Minsk	143.68 338	*i* PKP	PKPdf	16 31 13.8	-1.2	
comp=E,18nm,0.8s							
MNK			*i* PKP	PKPdf	16 31 13.8	-1.2	
comp=N,22nm,0.8s							
MNK			*i* PKP	PKPdf	16 31 13.8	-1.2	
comp=Z,60nm,0.9s,baz=37							
MNK			*i* PP	PP	16 34 28.8	+1.8	
MNK			*i* PPP	PPP	16 37 36.9		
MNK			*i* SKS	SKSdf	16 38 24.0	-0.5	
MNK			*i* SS	SS	16 53 23.5	+15	
MNK			*i* SSS	SSS	16 58 37.2		
MNK			*i* LQ	LQ	17 30 01.4		
MNK			*i* LR	LR	17 31 27.4		
MNK			*i* LRM	MLR	17 34 42.5		
comp=E,720nm,19.8s							
MNK			*i* LRM	MLR	17 34 57.1		
comp=N,521nm,19.1s							
MNK			*i* LRM	MLR	17 34 57.1		
comp=Z,1μm,19.8s							
MNK	Minsk	143.68 338	*i* PKIKP	PKPdf	16 31 13.7	-1.2	
MNK			*i*		16 34 28.8		
MNK			*i* PPP	PPP	16 37 36.9		
MNK			*i*		16 38 23.9		
MNK			*i* SSS	SSS	16 58 37.1		
MNK			pmax	pmax			
comp=E,18nm,0.8s							
MNK			pmax	pmax			
comp=Z,60nm,0.9s							
MNK			pmax	pmax			
comp=N,22nm,0.8s							
MNK			MLR	MLR			
comp=E,720nm,20.0s							
MNK			MLR	MLR			
comp=Z,1μm,20.0s							
MNK			MLR	MLR			
comp=N,521nm,19.0s							
NACGM	Naroch	143.73 339	*e*PKP	PKPdf	16 31 14.9	-0.1	
baz=35							
BATM	Batumi	144.04 311	⇓P	PKPdf	16 31 15.0	-1.0	
BATM	Batumi	144.04 311	⇓PKIKP	PKPdf	16 31 15.0	-1.0	
PABE	Paberze	144.09 342	IAMs_20	IAMs_20	17 35 43.8		
comp=Z,2μm,20.0s							
BCA	Borcka	144.15 311	⇑P	PKPdf	16 31 15.0	-1.2	
SOC	Sochi	144.60 315	*c* PKIKP	PKPab	16 31 15.0	-0.5	
SOC			*i*		16 31 19.0		
SOC			*e*		16 34 29.3		
SOC			*e*SS	SS	16 53 20.2	-0.7	
SOC			*e*SSS	SSS	16 58 45.4		
SOC			pmax	pmax			
comp=Z,27nm,1.1s							
SOC			pmax	pmax			
comp=Z,41nm,1.2s							
GURO	Guroymak-BITLI	144.78 306	IAMs_20	IAMs_20	17 50 06.0		
comp=Z,1μm,18.0s							
OVD	Ostervraa, Den	144.87 355	*i* P	PKPbc	16 31 15.3	-0.7	
OVD			IAmb	IAmb	16 31 18.2		
comp=Z,260nm,1.0s							
GOET	G??ttrup	145.22 356	*i* P	PKPdf	16 31 17.2	-0.3	
GOET			IAmb	IAmb	16 31 19.1		
comp=Z,138nm,1.1s							
DEL	Delary	145.33 352	*i* P	PKPbc	16 31 16.0	-1.5	
FURI	Furi	145.37 253	IAMs_20	IAMs_20	17 38 28.6		
comp=Z,972nm,19.0s							
LODK	Lodwar	145.40 241	IAMs_20	IAMs_20	17 47 14.6		
comp=Z,965nm,18.0s							
LODK	Lodwar	145.40 241	P	PKPab	16 31 19.4	+0.1	
ANN	Anapa	145.49 318	*i* PKIKP	PKPab	16 31 18.9	+0.3	
ANN			pmax	pmax			
comp=Z,366nm,1.2s							
SUW	Suwalki	145.61 341	*e*PKP	PKPab	16 31 19.3	+0.5	
SUW			*e*L	L	17 37 50.7		
comp=Z,2μm,19.8s							
SUW	Suwalki	145.61 341	IAMs_20	IAMs_20	17 37 40.0		
comp=Z,2μm,20.0s							
KTUT	Trabzon	145.62 311	⇑P	PKPab	16 31 19.1	-0.2	
MUD	Monsted U'grnd	145.80 356	*i* P	PKPdf	16 31 18.0	-0.5	
AKASG	Malin Array Be	146.11 333	PKPbc	PKPbc	16 31 19.5	-0.7	
comp=Z,29nm,0.7s,baz=42,slow=4.1,SNR=120							
AKBB	Malin Array Si	146.11 333		PKPdf	16 31 18.0	-1.3	
AKBB	Malin Array Si	146.11 333	PKIKP	PKPdf	16 31 18.0	-1.3	
KIEV	Kiev	146.12 333		PKPdf	16 31 18.1	-1.2	
KIEV	Kiev	146.12 333	IAMs_20	IAMs_20	17 39 27.5		
comp=Z,2μm,20.0s							
KIEV	Kiev	146.12 333	*i* PKPdf	PKPdf	16 31 18.4	-0.8	
SNR=23							
KIEV	Kiev	146.12 333	PKIKP	PKPdf	16 31 18.1	-1.2	
KIEV			MLR	MLR			
comp=Z,2μm,20.0s							
MBAR	Mbarara	146.39 231	P	PKPbc	16 31 22.9	+0.5	
EKA	Eskdalemuir Ar	146.42 9	PKPbc	PKPbc	16 31 20.0	-0.9	
comp=Z,15nm,0.9s,baz=335,slow=3.1,SNR=12							
BSD	Bornholm Skovb	146.49 350	*i* P	PKPbc	16 31 20.6	-0.5	
SIM	Simferopol'	147.41 321	*e*PKP2	PKPbc	16 31 24.4	+0.3	
SIM			*e*		16 34 57.0		
SIM			pmax	pmax			
comp=Z,97nm,1.0s							
SIM			pmax	pmax			
comp=Z,300nm,13.0s							
GKP	Gorka Klasztor	147.81 347	*e*PKP	PKiKP	16 31 25.9	-0.9	
GKP			*e*L	L	17 40 40.6		
comp=Z,2μm,20.4s							
BEL	Belsk	148.22 342	*e*PKP	PKiKP	16 31 27.4	-0.3	
BEL			*e*L	L	17 41 17.6		
comp=Z,1μm,18.7s							
PURM	Purcari	148.76 327	⇑P	PKiKP	16 31 28.5	-0.5	
BZK	Bozkurt	149.07 316	⇓P	PKiKP	16 31 30.3	+0.5	
KWP	Kalwaria Pacla	149.51 338	*e*PKP	PKiKP	16 31 30.5	-0.1	
KWP			*e*L	L	17 42 06.4		
comp=Z,1μm,18.9s							
KWP	Kalwaria Pacla	149.51 338	IAMs_20	IAMs_20	17 45 34.8		
comp=Z,2μm,20.0s							
OJC	Ojcow	149.94 341	*e*PKP	PKiKP	16 31 31.6	+0.1	
OJC			*e*L	L	17 40 27.0		
comp=Z,1μm,20.4s							
OJC	Ojcow	149.94 341	PKPdf	PKPdf	16 31 25.1	-0.5	
OJC	Ojcow	149.94 341	PKIKP	PKPdf	16 31 25.1	-0.5	
VLDR	Vladesti	150.14 327	⇑P	PKiKP	16 31 32.4	+0.4	
BURAR	Bucovina Array	150.16 333	⇓P	PKiKP	16 31 33.0	+0.9	
BURAR	Bucovina Array	150.16 333	⇓PKP2	PKiKP	16 31 33.0	+0.9	
STHS	Stebnicka Huta	150.19 339	*e*PKIKP	PKPdf	16 31 26.3	+0.2	
STHS			*e*		16 31 31.9		
STHS	Stebnicka Huta	150.19 339	*e*PKP	PKPdf	16 31 26.3	+0.2	
STHS			*e*		16 31 31.9		
TLCR		150.21 326	⇓P	PKiKP	16 31 31.8	-0.3	
KOLS	Kolonicke sedl	150.25 337	*e*PKIKP	PKPdf	16 31 27.0	+0.8	
KOLS			*e*		16 31 32.9		
KOLS	Kolonicke sedl	150.25 337	*e*PKP	PKPdf	16 31 27.0	+0.8	
KOLS			*e*		16 31 32.9		
KSP	Ksiaz	150.29 346	*e*PKP	PKiKP	16 31 32.8	+0.7	
KSP			*e*L	L	17 44 00.9		
comp=Z,1μm,18.8s							
GHRR		150.32 328	⇑P	PKiKP	16 31 33.5	+1.1	
TATR	Tatarca	150.32 327	⇑P	PKiKP	16 31 32.1	-0.2	
TESR	Tescani	150.35 330	⇓P	PKiKP	16 31 32.7	+0.3	
BR131	Keskin Array S	150.40 312		PKPbc	16 31 31.2	-0.9	
BR131	Keskin Array S	150.40 312	PKIKP	PKPbc	16 31 31.2	-0.9	
BRTR	Keskin Array B	150.40 312	PKPdf	PKPdf	16 31 26.0	-0.9	
BRTR	Keskin Array B	150.40 312	PKPbc	PKiKP	16 31 32.2	-0.7	
comp=Z,20nm,0.9s,baz=131,slow=1.9,SNR=59							
BRTR	Keskin Array B	150.40 312	PKIKP	PKPdf	16 31 26.0	-0.9	
NEGRR	Negrea	150.45 327	⇑P	PKiKP	16 31 34.0	+1.4	
JURR	Jurilovca	150.46 325	⇓P	PKiKP	16 31 33.0	+0.4	
CLL	Collm	150.47 350	IAMs_20	IAMs_20	17 39 37.6		
comp=Z,1μm,22.0s							
CLL	Collm	150.47 350	*e*PKIKP	PKPdf	16 31 27.0	+0.6	
CLL			*i*		16 31 32.3		
CLL			*e*		16 31 38.0		
CLL			pmax	pmax			
comp=Z,130nm,1.1s							
CLL			pmax	pmax			
comp=Z,161nm,1.5s							
CLL			MLR	MLR			
comp=Z,1μm,19.2s							
CLL	Collm	150.47 350	*e*PKPdf	PKPdf	16 31 27.0	+0.6	
CLL			*i* PKPbc	PKiKP	16 31 32.3	-0.1	
comp=Z,130nm,1.1s							
CLL			*i* x	x	16 31 35.1		
comp=Z,271nm,1.3s							
CLL			*e*PKPab	PKPab	16 31 38.0	-0.2	
comp=Z,161nm,1.5s							
CLL			*e*PP	PP	16 35 08.0	+1.3	
CLL			*e*SKSdf	SKSdf	16 38 30.0	-4.2	
CLL			*e*x	x	16 38 48.0		
CLL			*e*SKKSac	SKKSac	16 42 02.0	+3.6	
CLL			*e*x	x	16 42 44.0		
CLL			*e*PSKS		16 45 17.0		
CLL			*e*PPS	PPS	16 48 06.0		
CLL			*e*x	x	16 50 36.0		
CLL			*e*SS	SS	16 54 24.0	-1.2	
CLL			*e*PSPS		16 55 36.0		
CLL			*e*SSS	SSS	16 59 59.0		
CLL			AMS	AMS	17 43 00.0		
comp=Z,1μm,19.2s							
CLL			AMS	AMS	17 43 00.0		
comp=N,1μm,19.2s							
CLL			AMS	AMS	17 43 00.0		
comp=E,300nm,21.8s							
SLCR	Slobozia Conac	150.47 327	⇑P	PKiKP	16 31 34.3	+1.7	
KIRS	Kirsehir-Merke	150.47 311	⇓P	PKiKP	16 31 32.6	-0.4	
NIE	Niedzica	150.50 340	*e*PKP	PKiKP	16 31 34.5	+1.8	
NIE			*e*L	L	17 42 08.3		
comp=E,1μm,19.4s							
SCHL	Schela	150.50 327	⇓P	PKiKP	16 31 33.1	+0.5	
IZVR	Izvoarele	150.50 327	⇑P	PKiKP	16 31 34.0	+1.3	
COSR	Cosmesti PH	150.51 328	⇑P	PKiKP	16 31 33.8	+1.1	
SCHLR	Schela	150.52 327	⇑P	PKiKP	16 31 33.3	+0.6	
CFR	Carcaliu	150.57 326	⇑P	PKiKP	16 31 32.4	-0.5	
CFR	Carcaliu	150.57 326	⇑PKIKP	PKiKP	16 31 32.4	-0.5	
OSTC	Ostas	150.57 346	⇑*e*PKP	PKiKP	16 31 32.7	0.0	
OSTC			AMS	AMS	17 43 20.0		
comp=E,2μm,21.3s							
OSTC	Ostas	150.57 346	*e*PKIKP	PKiKP	16 31 32.7	0.0	
OSTC			MLR	MLR			
comp=Z,2μm,21.3s							
CHVC	Chvalec	150.58 346	⇑*e*PKP	PKiKP	16 31 33.0	+0.2	
CHVC			AMS	AMS	17 53 20.0		
comp=Z,2μm,16.0s							
CHVC	Chvalec	150.58 346	*e*PKIKP	PKiKP	16 31 33.0	+0.2	
CHVC			MLR	MLR			
comp=Z,2μm,16.0s							
PANC	Panciu	150.58 328	⇑P	PKiKP	16 31 33.6	+0.8	
ONER	Baraj Valea Uz	150.60 330	⇑P	PKiKP	16 31 33.8	+0.9	
UPC	Upice	150.66 346	⇑*e*PKP	PKiKP	16 31 33.7	+0.8	
UPC			AMS	AMS	17 45 30.0		
comp=Z,1μm,16.9s							
UPC	Upice	150.66 346	*e*PKIKP	PKiKP	16 31 33.7	+0.8	
UPC			MLR	MLR			
comp=Z,1μm,16.9s							
BRG	Berggiesshubel	150.73 349	⇓*e*PKPf	PKPdf	16 31 28.6	+1.8	
BRG			Amp		16 31 29.4		
comp=Z,22nm,1.3s							
BRG			⇑PKP	sPKPbc	16 31 34.1	-0.7	
BRG			Amp		16 31 38.0		
comp=Z,109nm,1.0s							
BRG			PKPab	sPKPab	16 31 41.0	-0.8	
BRG			Amp		16 31 41.8		
comp=Z,53nm,1.0s							
BRG			pPKP	pPKPab	16 31 51.9	+11	
BRG			Amp		16 31 52.9		
comp=Z,78nm,1.1s							
BRG			sPKP		16 31 59.4		
BRG			Amp		16 32 04.1		
comp=Z,38nm,1.1s							
BRG	Berggiesshubel	150.73 349	PP	PP	16 35 06.0	-2.3	
BRG	Berggiesshubel	150.73 349	*e*PKIKP	PKPdf	16 31 28.6	+1.8	
BRG			pmax	pmax			
comp=Z,23nm,1.3s							
DPC	Dobruska-Polom	150.74 346	AMS	AMS	17 48 50.0		
comp=Z,2μm,18.2s							
OKC	Ostrava-Krasne	150.76 343	AMS	AMS	17 49 20.0		
comp=Z,1μm,16.3s							
VRI	Vrincioaia	150.79 329	⇓P	PKiKP	16 31 33.5	+0.2	
VRI	Vrincioaia	150.79 329	⇓PKIKP	PKiKP	16 31 33.5	+0.2	

ICOR	Ion Corvin	151.47	325	⇑P	PKiKP	16 31 35.8	+1.1
MESR	Meseseni	151.47	334	⇓P	PKiKP	16 31 35.0	+0.3
GOPC	GO Pecny, Ondr	151.49	347	AMS	AMS	17 47 50.0	
	comp=Z,2μm,18.5s						
CJR	Cluj-Napoca	151.55	333	⇑P	PKiKP	16 31 35.9	+0.9
UCC	Uccle	151.57	1	dPKP	PKiKP	16 31 35.3	+0.6
NKC	Novy Kostel	151.60	350	⇑ePKP	PKiKP	16 31 35.8	+0.9
NKC				AMS	AMS	17 40 00.0	
	comp=Z,2μm,21.8s						
PSN	Preselentsi	151.60	324	eP	PKiKP	16 31 35.7	+0.7
VRAC	Vranov	151.65	344	ePKP	PKPdf	16 31 28.4	+0.1
VRAC				e		16 31 35.6	
VRAC	Vranov	151.65	344	⇑P	PKiKP	16 31 35.1	+0.1
VRAC	Vranov	151.65	344	⇑PKIKP	PKiKP	16 31 35.1	+0.1
GHAJ	Ghor Haditha	151.69	295	IAMs_20	IAMs_20	17 44 43.8	
	comp=Z,2μm,20.0s						
MEM	Membach	151.76	359	dPKP	PKiKP	16 31 35.6	+0.5
VYHS	Vyhne	151.77	341	ePKIKP	PKPdf	16 31 28.8	+0.3
VYHS				e		16 31 36.2	
VYHS	Vyhne	151.77	341	ePKP	PKPdf	16 31 28.8	+0.3
VYHS				e		16 31 36.2	
VYHS				e		16 31 45.7	
JAVC	Velka Javorina	151.78	343	ePKP	PKPdf	16 31 30.1	+1.5
JAVC				e		16 31 36.9	
MARR	Marisel-Cluj	151.78	334	⇑P	PKiKP	16 31 35.9	+0.5
BTNL	Ternell	151.79	359	dPKP	PKiKP	16 31 35.5	+0.2
BSTI	Sart Tilman	151.79	360	dPKPdf	PKPdf	16 31 29.8	+1.4
BSTI				dPKP	pPKPbc	16 31 35.9	-0.8
DRGR		151.85	334	⇑P	PKiKP	16 31 36.0	+0.4
DRGR		151.85	334	⇑PKIKP	PKiKP	16 31 36.0	+0.4
VOIR		151.90	330	⇑P	PKiKP	16 31 35.8	+0.1
VOIR		151.90	330	⇑PKIKP	PKiKP	16 31 35.8	+0.1
TREC	Trest	151.92	346	AMS	AMS	17 49 20.0	
	comp=Z,2μm,17.3s						
KRUC	Moravsky	151.92	345	ePKP	PKPdf	16 31 28.9	+0.2
KRUC				e		16 31 35.9	
PSZ	Piszkesteto	151.94	339	IAMs_20	IAMs_20	17 40 29.8	
	comp=Z,1μm,20.0s						
BCLA	Clavier	151.96	0	dPKP	PKiKP	16 31 35.6	+0.1
BGES	Gesves	151.99	0	dPKP	PKPbc	16 31 33.0	-2.2
BHOU	Houvegnez	152.02	359	dPKP	PKiKP	16 31 36.7	+0.9
MTUR	Matau	152.05	329	⇓P	PKiKP	16 31 39.8	+3.7
ZVC	Zvikov	152.06	348	AMS	AMS	17 46 30.0	
	comp=Z,2μm,16.9s						
BMRD	Maredsous	152.07	1	dPKP	PKiKP	16 31 36.4	+0.6
ARR	Arges	152.14	330	⇓P	PKiKP	16 31 37.6	+1.4
RCHB	Rochefort	152.22	0	dPKP	PKiKP	16 31 36.8	+0.7
DOU	Dourbes	152.28	1	dPKP	PKiKP	16 31 37.0	+0.8
GRF	Grafenberg Arr	152.30	352	ePKP	PKiKP	16 31 37.6	+1.3
	baz=12,slow=1.5						
PRD	Provadia	152.32	324	eP	PKPdf	16 31 29.8	+0.3
NEF	NEVSHA	152.32	324	eP	PKiKP	16 31 36.9	+0.3
MODS	Modra-Piesok	152.33	343	ePKIKP	PKPdf	16 31 30.3	+0.9
MODS				e		16 31 37.7	
MODS	Modra-Piesok	152.33	343	ePKP	PKPdf	16 31 30.3	+0.9
MODS				e		16 31 37.7	
MODS				e		16 31 48.9	
KHC	Kasperske Hory	152.47	348	IAMs_20	IAMs_20	17 43 17.7	
	comp=Z,1μm,19.0s						
KHC	Kasperske Hory	152.47	348	ePKPDF	PKPdf	16 31 30.0	+0.4
KHC				⇑ePKP	PKiKP	16 31 37.1	+0.4
KHC				AMS	AMS	17 43 10.0	
	comp=Z,2μm,18.6s						
KHC	Kasperske Hory	152.47	348	ePKIKP	PKiKP	16 31 37.1	+0.4
KHC				MLR	MLR		
	comp=Z,2μm,18.6s						
LOT	Lotru	152.47	331	⇑P	PKPbc	16 31 35.7	-1.0
DEV	Deva	152.51	333	⇑P	PKiKP	16 31 37.6	+0.8
SRO	Srobarova	152.53	341	ePKP2	PKPab	16 31 49.7	+2.8
SRO	Srobarova	152.53	341	ePKP	PKPab	16 31 49.7	+2.8
CSS	Mathiatis	152.53	303	IAMs_20	IAMs_20	17 45 30.7	
	comp=Z,1μm,19.0s						
CKRC	Cesky Krumlov	152.62	347	⇑ePKP	PKiKP	16 31 38.2	+1.2
CKRC				AMS	AMS	17 47 00.0	
	comp=Z,1μm,16.6s						
SIRR	Siria	152.70	335	⇓P	PKPdf	16 31 32.0	+2.0
WLF	Walferdange	152.71	359	dPKP	PKiKP	16 31 38.8	+1.6
GERES	GERESS Array B	152.72	348	PKP	PKPdf	16 31 29.6	-0.4
	comp=Z,1.0nm,0.8s,baz=48,slow=1.5,SNR=3.4						
GERES				PKPbc	pPKPbc	16 31 37.5	-1.4
	comp=Z,18nm,0.9s,baz=17,slow=1.3,SNR=17						
SURR	Surduc	152.93	334	⇑P	PKPbc	16 31 34.4	-3.2
GZR	Gura Zlata	152.95	332	⇑P	PKiKP	16 31 38.2	+0.3
SZH	Strazhitsa	153.01	326	eP	PKPdf	16 31 26.7	-3.8
CONA	Conrad Observa	153.11	344	ePKP	PKPdf	16 31 29.0	-1.6
	comp=Z,6.6nm,1.2s						
CONA				ePKiKP	PKiKP	16 31 37.7	-0.4
	comp=Z,21nm,1.1s						
RONA	Rosalia, Austr	153.21	344	ePKP	PKPdf	16 31 30.2	-0.5
	comp=Z,1.5nm,0.5s						
RONA				ePKiKP	pPKPbc	16 31 38.8	-1.2
	comp=Z,23nm,1.0s						
BZS	Buzias	153.25	334	⇑P	PKPdf	16 31 31.2	+0.4
BZS	Buzias	153.25	334	⇑PKIKP	PKPdf	16 31 31.2	+0.4
ELND	Elena	153.30	325	⇑P	PKPab	16 31 51.3	+0.9
STU	Stuttgart	153.44	354	IAMs_20	IAMs_20	17 46 35.7	
	comp=Z,2μm,19.0s						
HERR	Herculane	153.51	332	⇑P	PKiKP	16 31 39.8	+0.8
MOA	Molln	153.55	347	i PKP	PKPdf	16 31 29.9	-1.3
	comp=Z,4.0nm,1.3s						
MOA				i PKiKP	PKiKP	16 31 38.9	-0.1
	comp=Z,17nm,1.1s						
ARSA	Arzberg	153.82	344	ePKP	PKPdf	16 31 29.7	-1.9
	comp=Z,1.1nm,0.5s						
ARSA				ePKP	PKPbc	16 31 38.2	-1.2
	comp=Z,5.8nm,1.3s						
BIOA	Bad Ischl, Aus	153.84	347	ePKP	PKPdf	16 31 29.6	-2.0
	comp=Z,1.4nm,0.4s						
BIOA				i PKiKP	PKiKP	16 31 39.2	-0.4
	comp=Z,15nm,1.2s						
MORH	Mrgy, Hungar	153.84	339	⇑P	PKiKP	16 31 40.4	+0.9
MDVR	Moldovita	153.89	333	⇑P	PKiKP	16 31 41.2	+1.3
VALD	Valchedram	153.97	329	eP	PKPbc	16 31 37.7	-2.1
MPEP	Malo Peshtene	154.08	328	eP	PKPdf	16 31 33.9	+1.9
BEHE	Becsehely	154.20	342	IAMs_20	IAMs_20	17 46 52.3	
	comp=Z,2μm,19.0s						
LESA	Schwarzleotal	154.28	349	ePKP	PKPdf	16 31 31.6	-0.7
	comp=Z,9.8nm,1.3s						
LESA				ePKiKP	pPKPbc	16 31 40.9	-1.5
	comp=Z,10nm,1.0s						
SOKA	Soboth	154.48	344	ePKP	PKPdf	16 31 31.1	-1.5
	comp=Z,8.1nm,1.2s						
SOKA				ePKiKP	pPKPbc	16 31 41.3	-1.5
	comp=Z,14nm,1.2s						
KBA	Koelnbreinsper	154.48	347	ePKP	PKPdf	16 31 30.4	-2.3
	comp=Z,1.1nm,0.5s						
KBA				ePKiKP	PKiKP	16 31 40.6	-0.5
	comp=Z,16nm,1.1s						
PGB	Panagyurishte	154.48	326	eP	PKPdf	16 31 31.8	-0.9
RETA	Reutte	154.52	352	epPKP	pPKPdf	16 31 34.5	0.0
	comp=Z,19nm,1.3s						
RETA				epPKP	pPKPab	16 31 55.6	-1.6
	comp=Z,24nm,1.3s						
WATA	Walderalm	154.55	350	epPKP	PKPab	16 31 56.1	+0.5
	comp=Z,34nm,1.3s						
WTTA	Wattenberg	154.61	350	ePKP	PKPdf	16 31 32.5	-0.4
	comp=Z,14nm,1.4s						
WTTA				epPKP	sPKPab	16 31 57.7	-0.7
	comp=Z,37nm,1.1s						
MOTA	Moosalm	154.62	351	ePKP	PKPdf	16 31 32.5	-0.4
	comp=Z,9.1nm,1.3s						
MOTA				epPKP	pPKPab	16 31 56.3	-1.4
	comp=Z,35nm,1.1s						
SQTA	Sankt Quirin	154.72	351	ePKP	PKPdf	16 31 32.4	-0.6
	comp=Z,3.3nm,0.6s						
SQTA				epPKP	pPKPab	16 31 56.7	-1.4
	comp=Z,24nm,1.3s						
OBKA	Obir	154.75	345	ePKP	PKPdf	16 31 30.3	-2.7
	comp=Z,5.9nm,1.2s						
BOVS	Bovan	154.81	331	⇑P	PKPbc	16 31 39.1	-2.6
DAVA	Damuels	154.83	353	pPKP	pPKPdf	16 31 34.5	-0.5
	comp=Z,18nm,1.6s						
DAVA				epPKP	pPKPab	16 31 57.4	-1.2
	comp=Z,23nm,1.2s						
MYKA	Terra Mystica	154.85	347	ePKiKP	PKPbc	16 31 41.0	-0.8
	comp=Z,20nm,1.7s						
VTS	Vitosha	154.88	328	eP	PKPdf	16 31 31.8	-1.6
ABTA	Abfaltersbach	154.96	348	ePKP	PKPdf	16 31 32.7	-0.6
	comp=Z,3.7nm,0.8s						
FETA	Feichten	154.99	351	ePKP	PKPdf	16 31 31.1	-2.3
	comp=Z,6.2nm,1.3s						
FETA				ePKP	PKPab	16 31 56.4	-1.1
	comp=Z,16nm,1.0s						
PRED	Cave del Predi	155.04	347	IAMs_20	IAMs_20	17 42 27.9	
	comp=Z,1μm,20.0s						
LJU	Ljubljana	155.19	345	ePKPdf	PKPdf	16 31 34.2	+0.7
VISS	Visnje	155.34	344	i PKPdf	PKPdf	16 31 34.2	+0.5
VISS				i		16 31 59.2	
MMB	Musomishta	155.39	325	eP	PKPdf	16 31 33.1	-0.9
FUORN	Ofenpass-Fuorn	155.44	352	IAMs_20	IAMs_20	17 44 51.0	
	comp=Z,1μm,20.0s						
KKB	Krupnik	155.50	327	eP	PKPdf	16 31 32.0	-2.1
BOJS	Bojanci	155.51	343	i PKPdf	PKPdf	16 31 34.8	+0.8
PEHC	Pehcevo	155.66	327	i Pn	PKPdf	16 31 34.4	0.0
PDG	Podgorica	156.84	333	IAMs_20	IAMs_20	17 55 15.4	
	comp=Z,1μm,18.0s						
PUK	Puka	156.88	332	IAMs_20	IAMs_20	17 50 57.8	
	comp=Z,1μm,19.0s						
LIT	Litokhoron	157.09	325	IAMs_20	IAMs_20	17 51 56.5	
	comp=Z,1μm,19.0s						
FNA	Florina	157.17	327	IAMs_20	IAMs_20	17 49 41.0	
	comp=Z,2μm,19.0s						
OHR	Ohrid	157.20	329	i Pn	PKPdf	16 31 37.5	+1.1
BNI	Bardonecchia	157.31	358	IAMs_20	IAMs_20	17 47 28.9	
	comp=Z,2μm,21.0s						
PGAV	Gavieira, Arco	157.31	27	eLR	LR	17 25 30.6	
PGAV				A	A	17 39 02.8	
	comp=Z,2μm,18.0s						
TIR	Tirane	157.45	331	IAMs_20	IAMs_20	17 45 10.1	
	comp=Z,1μm,20.0s						
AGG	Agios Georgios	157.94	323	IAMs_20	IAMs_20	17 47 51.2	
	comp=Z,1μm,20.0s						
OSSC	Osservatorio P	158.31	348	IAMs_20	IAMs_20	17 48 51.1	
	comp=Z,1μm,20.0s						
FDMO	Fiordimonte	158.37	345	IAMs_20	IAMs_20	17 53 13.3	
	comp=Z,1μm,19.0s						
MVO	Moncorvo	158.49	26	ePKPdf	PKPdf	16 31 36.3	-1.7
MVO	Moncorvo	158.49	26	eLQ	LQ	17 33 17.2	
MVO				eLR	LR	17 33 38.0	
MVO				A	A	17 40 09.0	
	comp=Z,2μm,20.0s						
KEK	Kerkira	158.77	328	IAMs_20	IAMs_20	17 48 51.2	
	comp=Z,1μm,19.0s						
CESX	Cesi	158.90	345	IAMs_20	IAMs_20	17 45 00.2	
	comp=Z,2μm,22.0s						
MTE	Manteigas	158.91	28	eLQ	LQ	17 34 19.6	
MTE				eLR	LR	17 35 32.2	
MTE				A	A	17 40 18.1	
	comp=Z,1μm,20.0s						
SCTE	Santa Cesarea	159.11	331	IAMs_20	IAMs_20	17 55 34.8	
	comp=Z,1μm,19.0s						
PMRV	Marv??o	159.76	30	ePKPdf	PKPdf	16 31 41.6	+2.1
PMRV	Marv??o	159.76	30	eLR	LR	17 33 04.5	
PMRV				eLQ	LQ	17 33 24.8	
PMRV				A	A	17 41 26.6	
	comp=Z,1μm,20.0s						
PBEJ	Beja	160.64	33	ePKPdf	PKPdf	16 31 42.1	+1.7
MORF	Marmelete	160.77	36	ePKPdf	PKPdf	16 31 41.6	+0.9
PCVE	Castro Verde	160.85	34	ePKPdf	PKPdf	16 31 42.1	+1.4
PAB	San Pablo	160.93	24	⇓PKIKP	PKPdf	16 31 42.3	+1.5
ESDC	Sonseca Array	160.96	23	PKP	PKPdf	16 31 41.4	+0.6
	comp=Z,3.2nm,1.0s,baz=357,slow=2.6,SNR=9.7						
ESDC				PKPab	sPKPab	16 32 24.4	-1.5
	comp=Z,0.6nm,0.6s,baz=329,slow=1.5,SNR=3.3						
ESDC				PP	PP	16 36 07.2	+1.7
	comp=Z,2.0nm,0.9s,baz=326,slow=4.5,SNR=4.2						
PVAQ	Vaqueiros	161.19	34	eLR	LR	17 29 12.6	
PVAQ				A	A	17 39 24.4	
	comp=Z,2μm,20.0s						
DBIC	Dimbokro	161.56	146	PKP	PKPdf	16 31 41.0	-1.1
	comp=Z,9.4nm,1.1s,baz=330,slow=2.5,SNR=3.8						
DBIC	Dimbokro	161.56	146	PKIKP	PKPdf	16 31 41.0	-1.1
KEST	Kesra	166.20	346	PKPab	PKPab	16 32 46.4	-0.1
	comp=Z,6.7nm,0.8s,baz=43,slow=4.1,SNR=5.2						
TORD	Torodi Ar. Bea	170.22	158	PKP	PKPdf	16 31 47.8	-1.3
	comp=Z,6.9nm,1.2s,baz=196,slow=1.1,SNR=14						
TORD				PKPab	PKPab	16 33 04.9	+0.3
	comp=Z,6.3nm,1.1s,baz=245,slow=2.3,SNR=6.8						
TORD				PP	PP	16 36 54.0	+0.6
	comp=Z,1.9nm,1.1s,baz=224,slow=5.6,SNR=3.6						

*RSNC **06** 16:12:10.6±0.0, 10°N±1°×7°3W±°, h117km±2km, M3.6, mb4.3, mB5.4, ML3.2, Mw(mB)4.8*

ISC 06 16:12:08.6±1.6, 10.08N±0.05×73.18W±0.04, h129km±15km, n23, σ1°58/43, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	Cerrejon, Guaj	0.98	17	P	Pn	16 12 32.1	+0.7
CRJC				S	Sn	16 12 48.3	-0.4
ARGC	Ariguani, Magd	1.07	258	P	Pn	16 12 33.6	+1.5
ARGC				S	Sn	16 12 50.8	+0.8
OCAC	Ocana	1.83	184	P	Pn	16 12 40.9	+0.2
OCAC				S	Sn	16 13 04.1	-1.1
SJCC	San Jacinto, C	1.98	265	P	Pn	16 12 43.2	+0.9
SJCC				S	Sn	16 13 07.9	-0.2
URIC	Uribia, Colomb	1.99	36	P	Pn	16 12 43.1	+0.6
URIC				S	Sn	16 13 07.7	-0.7
PAMC	Pamplona, Colo	2.76	170	P	Pn	16 12 53.9	+1.2
PAMC				S	Sn	16 13 25.6	-0.8
SDV	Santo Domingo	2.78	115	P	Pn	16 12 53.4	+0.8
SDV				S	Sn	16 13 24.8	-1.6
ZARC	Zaragoza, Cauc	3.06	213	P	Pn	16 12 56.5	+0.5
ZARC				S	Sn	16 13 30.9	-1.7
BRJC	Barrancabermej	3.13	190	P	Pn	16 12 58.3	+1.3
BRJC				S	Sn	16 13 34.6	+0.2
UREC	San Jos de Ur	3.28	225	P	Pn	16 12 59.4	+0.5
UREC				S	Sn	16 13 35.4	-2.3
BARC	Barichara	3.46	180	P	Pn	16 13 02.7	+1.1
BARC				S	Sn	16 13 43.0	+0.6
PTBC	PUERTO BERRIO,	3.73	200	P	Pn	16 13 06.2	+1.3
PTBC				S	Sn	16 13 48.9	+0.4
TAMC	Tame, Arauca	3.87	159	P	Pn	16 13 08.8	+2.0
TAMC				S	Sn	16 13 50.0	-1.8
APAC	Apartado, Choc	3.99	237	P	Pn	16 13 10.9	+2.6
APAC				S	Sn	16 13 53.7	-0.9
RUSC	La Rusia	4.16	179	P	Pn	16 13 11.7	+0.7
DBBC	Dabeiba	4.27	225	P	Pn	16 13 13.8	+1.7
DBBC				S	Sn	16 13 56.8	-4.5
CAPC	Capurgana	4.36	251	P	Pn	16 13 12.3	-0.9
CAPC				S	Sn	16 13 59.8	-3.5
HELC	Santa Helena	4.51	211	P	Pn	16 13 17.1	+1.6
HELC				S	Sn	16 14 04.6	-2.8
NORC	Norcasia	4.79	201	P	Pn	16 13 19.3	+0.3
NORC				S	Sn	16 14 14.4	+0.7
CBOC	Ciudad Bolivar	5.04	214	P	Pn	16 13 23.9	+1.5
	20nm,0.6s,920nm						
CBOC				S	Sn	16 14 19.4	-0.5
	20nm,0.6s,920nm						
BAUV	El Baul	5.19	102	eP	Pn	16 13 24.6	+0.2
BAUV	El Baul	5.19	102	eS	Sn	16 14 20.7	-2.6
GUY2C	Guyana, Caldas	5.29	204	P	Pn	16 13 27.0	+1.0
GUY2C				S	Sn	16 14 26.0	-0.2

*IDC **06** 17:08:32.0±1.4, 37°23N×20°71E, h0km, mb3.5/13, mbtmp3.5/17, ML3.8/2, Error ellipse: s-maj=30.2km s-min=17.0km az=180.0*
*THE **06** 17:08:35.3, 37°40N×20°47E, h6km, ML3.6/13, Error ellipse: s-maj=1.1km s-min=0.5km az=64.0*
*ATH **06** 17:08:35.0, 37°39N×20°45E, h12km±4km, ML3.5/8, Error ellipse: s-maj=5.1km s-min=1.6km az=21.0*
*NAO **06** 17:08:40.3, 37°40N×20°47E, h10km, mb4.0*

ISC 06 17:08:33.9±1.6, 37°35N±0°04×20°66E±0°04, h4km±10km, n53, σ1°82/71, mb3.5/13, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.33	22	P	Pb	17 08 42.9	+0.4
KRI1				S	Sb	17 08 47.9	-0.3
	18μm,0.6s						
LTHK	Lithakia	0.38	21	P	Pb	17 08 43.6	+0.3
LTHK				S	Sb	17 08 49.3	-0.3
	11μm,0.6s						
LTHK	Lithakia	0.38	21	P	Pb	17 08 43.4	+0.1
LTHK				S	Sb	17 08 49.3	-0.3
LTHK				AML	AML	17 08 50.1	
	comp=N,23330μm,0.6s						
LTHK				AML	AML	17 08 53.6	
	comp=E,22436μm,0.7s						
RTZL	Ratzakli, Kefa	0.73	7	P	Pb	17 08 48.8	-0.4
RTZL				S	Sb	17 08 59.3	-0.2
	comp=E,7μm,0.5s						
PSDA	Pessada-Kefalo	0.76	355	P	Pg	17 08 49.0	+0.4
PSDA				S	Sb	17 08 59.4	-1.1
	comp=E,7μm,0.5s						
PSDA	Pessada-Kefalo	0.76	355	P	Pg	17 08 49.0	+0.4
VLS	Valsamata	0.83	356	P	Pg	17 08 50.0	+0.2
VLS				S	Sb	17 09 01.8	-0.6
	comp=E,4μm,0.6s						
VLS	Valsamata	0.83	356	P	Pg	17 08 49.9	+0.1
VLS				S	Sb	17 09 00.9	-1.5
VLS				AML	AML	17 09 05.7	
	comp=E,8616μm,0.7s						
VLS				AML	AML	17 09 08.0	
	comp=N,8436μm,0.5s						
AMT	Artemida-Makis	0.85	77	P	Pn	17 08 53.5	+0.7
AMT				AML	AML	17 09 19.4	
	comp=N,10886μm,0.5s						
AMT				AML	AML	17 09 23.6	
	comp=E,10513μm,0.6s						
DMLN	Damoulianata-K	0.91	346	P	Pg	17 08 51.0	-0.5
DMLN				S	Sb	17 09 03.7	-1.2
	comp=E,13μm,0.6s						
DMLN	Damoulianata-K	0.91	346	P	Pg	17 08 51.0	-0.5
RLS	Riolos of Patr	0.95	42	P	Pn	17 08 54.3	+0.2
RLS				S	Sn	17 09 09.1	+1.0
	comp=E,1μm,0.6s						
RLS	Riolos of Patr	0.95	42	P	Pn	17 08 54.3	+0.2
RLS				AML	AML	17 09 14.0	
	comp=N,2160μm,0.4s						
RLS				AML	AML	17 09 23.0	
	comp=E,2669μm,0.9s						
PYL	PYLOS	0.97	118	P	Pn	17 08 56.0	+1.6
PYL				S	Sn	17 09 13.5	+4.8
	comp=E,848nm,0.7s						
PYL	PYLOS	0.97	118	P	Pn	17 08 55.8	+1.4
PYL				AML	AML	17 09 15.8	
	comp=E,2083μm,0.5s						
PYL				AML	AML	17 09 27.0	
	comp=N,1897μm,0.9s						
ITM	Ithomi	1.02	99	P	Pn	17 08 57.6	+2.5
ITM	Ithomi	1.02	99	P	Pn	17 08 57.9	+2.8
ITM				AML	AML	17 09 28.2	
	comp=N,1792μm,0.5s						
ITM				AML	AML	17 09 28.7	
	comp=E,2820μm,0.6s						
DRO	Drossia	1.02	54	P	Pn	17 08 56.2	+1.1
DRO				S	Sn	17 09 12.9	+2.9
	comp=E,3μm,0.6s						
DRO	Drossia	1.02	54	P	Pn	17 08 56.2	+1.1
DRO				AML	AML	17 09 19.1	
	comp=N,5567μm,0.6s						
DRO				AML	AML	17 09 26.5	
	comp=E,5624μm,0.5s						
VSK1	VASILIKIADES	1.06	356	P	Pg	17 08 54.2	0.0
VSK1				S	Sb	17 09 08.9	-0.2
	comp=E,5μm,0.6s						
FSK	Fiskardo	1.11	356	P	Pg	17 08 54.8	-0.4
FSK				S	Sb	17 09 10.7	+0.2
	comp=E,4μm,0.6s						
FSK	Fiskardo	1.11	356	P	Pg	17 08 54.6	-0.5
FSK				AML	AML	17 09 16.7	
	comp=N,6594μm,0.8s						
FSK				AML	AML	17 09 19.1	
	comp=E,7920μm,0.5s						
EVGI	Lefkada island	1.27	360	P	Pg	17 08 57.6	-0.6
EVGI				S	Sn	17 09 16.1	+0.2
	comp=E,2μm,0.4s						
DRAG	Dragano-Lefkad	1.33	357	P	Pg	17 08 58.6	-0.9
DRAG				S	Sn	17 09 17.6	+0.1
NYDR	Nydri-Lefkada	1.36	1	P	Pn	17 08 59.1	-0.6
NYDR				S	Sn	17 09 18.2	0.0
	comp=E,2μm,0.7s						
OHR	Ohrid	3.76	2	i Pn	Pn	17 09 33.0	+0.3
IDI	Anoyia	3.99	120	Pn	Pb	17 09 41.9	-2.9
	comp=E,0.6nm,0.3s,baz=297,slow=16,SNR=1.6						
IDI				Sn	Sn	17 10 22.9	-0.2
	comp=E,1.3nm,0.3s,baz=297,slow=18,SNR=2.5						
VAY	Valandovo	4.23	20	i Pn	Pn	17 09 41.7	+2.6
PEHC	Pehcevo	4.75	21	i Pn	Pn	17 09 47.4	+1.1
VAE	Valguarnera	4.98	273	Pn	Pn	17 09 51.2	+1.7
	comp=E,8.2nm,0.7s,baz=126,slow=19,SNR=2.4						
VAE				Sn	Sn	17 10 49.4	+1.8
	comp=E,1.5nm,0.3s,baz=195,slow=15,SNR=3.8						
MLR	Muntele Rosu	9.04	24	Pn	Pn	17 10 49.4	+4.0
	comp=E,0.4nm,0.3s,baz=217,slow=20,SNR=4.4						
SOKA	Soboth	10.21	338	ePn	Pn	17 11 05.3	+4.0
	comp=E,1.4nm,0.3s						
ARSA	Arzberg	10.60	341	ePn	Pn	17 11 08.1	+1.6
	comp=E,0.5nm,0.3s						
MOA	Molln	11.50	338	ePn	Pn	17 11 19.6	+0.7
	comp=E,0.9nm,0.3s						
BIOA	Bad Ischl, Aus	11.55	336	ePn	Pn	17 11 24.1	+4.5
	comp=E,0.6nm,0.2s						
LESA	Schwarzleotal	11.66	332	ePn	Pn	17 11 25.8	+4.7
	comp=E,0.8nm,0.2s						
GERES	GERESS Array B	12.56	338	Pn	Pn	17 11 36.2	+2.8
	comp=E,0.2nm,0.3s,baz=155,slow=12,SNR=2.1						
	comp=E,0.5nm,0.4s						
AKASG	Malin Array Be	14.68	22	Pn	Pn	17 12 00.9	-1.4
	comp=E,0.5nm,0.3s,baz=212,slow=11,SNR=4.2						
	comp=E,0.3nm,0.5s						
ESDC	Sonseca Array	19.40	284	P	P	17 13 00.3	-0.7
	comp=E,0.5nm,0.7s,baz=82,slow=11,SNR=2.8						
MDT	Midelt	21.15	265	P	P	17 13 18.4	-1.6
	comp=E,0.4

SHL IAmb IAmb 17 17 21.8
comp=Z,8.3nm,1.1s
NIL Nilore 44.35 8 P **P 17 17 24.7 +0.2**
NIL IAmb IAmb 17 17 41.0
comp=Z,5.7nm,1.1s
KSM Kuching 45.26 77 P **P 17 17 30.7 -1.4**
LSA Lhasa 46.51 30 P **P 17 17 39.3 -2.9**
LSA IAmb IAmb 17 17 46.1
comp=Z,7.2nm,1.3s
GAR Garm 49.34 4 P **P 17 18 03.7 +0.1**
H01W3 Cape Leeuwin H 49.70 127 T T 18 11 50.3
baz=288,slow=75,SNR=19
H01W2 Cape Leeuwin H 49.71 127 T T 18 11 49.5
baz=288,slow=75,SNR=18
H01W1 Cape Leeuwin H 49.72 127 T T 18 11 51.7
baz=288,slow=75,SNR=18
BTK Batken 50.43 4 P **P 17 18 12.2 +0.4**
BTK IAmb IAmb 17 18 17.0
comp=Z,4.8nm,1.1s
ARSB Arslanbob 51.89 6 P **P 17 18 22.6 -0.2**
NRN Naryn 52.39 9 P **P 17 18 27.6 +0.9**
WUS Wushi 52.75 12 P **P 17 18 28.8 -0.4**
KDJ Kajisay 53.26 10 P **P 17 18 33.2 +0.2**
KDJ IAmb IAmb 17 18 35.0
comp=Z,5.4nm,1.3s
AAK Ala-Archa 53.36 7 P **P 17 18 33.0 -0.7**
BOOM Boomskoye usch 53.41 9 P **P 17 18 33.6 -0.5**
BOOM IAmb IAmb 17 18 43.3
comp=Z,3.7nm,1.0s
KKAR Karatay Array 53.44 4 P **P 17 18 33.6 -0.5**
KKAR IAmb IAmb 17 18 45.0
comp=Z,2.1nm,1.4s
GURO Guroymak-BITLI 53.81 336 P **P 17 18 37.3 +0.2**
GURO IAmb IAmb 17 18 39.8
comp=Z,7.2nm,1.2s
MAW Mawson 57.12 182 LR LR 17 39 15.4
comp=Z,243nm,18.1s,baz=14,slow=31
MK31 Makanchi Array 58.74 13 P **P 17 19 11.6 -0.4**
MK31 IAmb IAmb 17 19 13.9
comp=Z,6.0nm,1.4s
MKAR Makanchi Array 58.74 13 P **P 17 19 11.5 -0.5**
comp=Z,0.7nm,0.8s,baz=231,slow=6.5,SNR=3.9
comp=Z,0.7nm,0.8s
ABKAR Akbulak array 59.74 355 P **P 17 19 18.3 -0.4**
ABKAR IAmb IAmb 17 19 20.2
comp=Z,5.4nm,1.1s
KURBB Kurchatov Arra 61.74 9 P **P 17 19 32.8 +0.4**
comp=Z,2.1nm,1.0s,baz=208,slow=7.2,SNR=9.9
comp=Z,2.1nm,1.0s
KURK Kurchatov 61.85 9 P **P 17 19 32.8 -0.2**
KURK IAmb IAmb 17 19 34.8
comp=Z,7.7nm,1.2s
BVAR Borovoye Array 63.33 3 P **P 17 19 43.0 +0.1**
comp=Z,1.0nm,0.8s,baz=164,slow=5.7,SNR=5.2
comp=Z,1.0nm,0.8s
BRVK Borovoye 63.36 3 P **P 17 19 43.5 +0.4**
ASAR Alice Springs 65.34 111 P **P 17 19 58.1 +1.2**
comp=Z,0.8nm,0.9s,baz=270,slow=6.0,SNR=8.4
comp=Z,0.8nm,0.9s
WRA Warramunga Arr 65.86 107 P **P 17 20 01.9 +1.6**
comp=Z,1.2nm,0.8s,baz=278,slow=5.2,SNR=8.2
comp=Z,1.2nm,0.8s
WB2 Warramunga Arr 65.87 107 P **P 17 19 59.0 -1.3**
ZAA0 Zalesovo Array 66.04 12 P **P 17 19 58.9 -1.7**
ZAA0 IAmb IAmb 17 20 09.7
comp=Z,4.1nm,1.2s
ZALV Zalesovo Beam 66.04 12 P **P 17 20 00.3 -0.3**
comp=Z,1.4nm,0.9s,baz=224,slow=7.9,SNR=5.1
comp=Z,1.4nm,0.9s
MLR Muntele Rosu 66.54 330 P **P 17 20 03.4 -0.8**
SONM Songino Array 68.01 28 P **P 17 20 14.8 +1.3**
comp=Z,1.4nm,0.9s,baz=205,slow=7.4,SNR=9.6
comp=Z,1.4nm,0.9s
ULN Ulaanbaatar 68.34 28 P **P 17 20 16.4 +0.9**
ULN IAmb IAmb 17 20 18.4
comp=Z,4.2nm,1.2s
AKASG Malin Array Be 68.96 336 P **P 17 20 19.2 0.0**
comp=Z,1.0nm,0.7s,baz=136,slow=5.5,SNR=8.2
comp=Z,1.0nm,0.7s
KIEV Kiev 68.96 336 P **P 17 20 18.4 -0.7**
KIEV IAmb IAmb 17 20 20.4
comp=Z,3.0nm,0.8s
JOW Kunigami 70.52 57 LR LR 17 50 51.3
comp=Z,129nm,18.8s,baz=280,slow=36
KSRS Korea Array 74.69 46 LR LR 17 54 21.9
comp=Z,78nm,18.5s,baz=225,slow=36
JNU Nakatsue 75.07 52 LR LR 17 53 40.0
comp=Z,167nm,18.3s,baz=272,slow=36
PMG Port Moresby 79.32 98 LR LR 17 56 17.5
comp=Z,114nm,19.6s,baz=220,slow=36
HFS Hagfors 81.84 336 P **P 17 21 34.8 +1.8**
comp=Z,2.5nm,0.8s,baz=101,slow=7.5,SNR=4.3
comp=Z,2.5nm,0.8s
MJAR Matsushiro Arr 81.92 51 LR LR 17 57 17.5
comp=Z,110nm,18.5s,baz=268,slow=35
JHJ Hachijo jima 2 82.06 54 LR LR 17 58 24.1
comp=Z,45nm,19.7s,baz=265,slow=36
YAK Yakutsk 87.17 25 LR LR 18 01 34.4
comp=Z,264nm,18.3s,baz=287,slow=36
DZM Mont Dzumac 95.25 113 LR LR 18 05 10.6
comp=Z,96nm,18.1s,baz=62,slow=35
152A Waverly Hall 145.43 314 PKPbc 17 28 53.2 +0.5
YNE Yellowstone No 145.44 356 PKPab 17 28 53.2 +0.4
RSSD Black Hills 145.46 348 PKPbc 17 28 52.3 -0.5
YHL Hebgen Lake 145.68 357 PKPdf 17 28 53.6 +0.4
QLMT Earthquake Lak 145.71 357 PKPdf **PKPdf 17 28 53.5 +0.3**
YHH Holmes Hill 145.72 357 PKPdf **PKPbc 17 28 54.1 +0.5**
MCMT McKenzie Canyo 145.76 359 PKPdf **PKPdf 17 28 53.9 +0.6**
YHB Horse Butte 145.78 357 PKPdf **PKPdf 17 28 53.6 +0.3**
YNR Norris Junctio 145.78 356 PKPdf **PKPab 17 28 54.7 +0.6**
Y49A Blount Mountai 145.92 317 PKPdf **PKPdf 17 28 54.0 +0.4**
H17A Grant Village 146.09 356 PKPdf **PKPab 17 28 55.5 +0.2**
I07A Izee 146.12 8 PKPdf **PKPbc 17 28 55.1 +0.5**
FLWY Flagg Ranch 146.41 356 PKPdf **PKPdf 17 28 55.4 +1.0**
HLID Hailey 147.02 1 PKPab 17 28 58.8 0.0
TPAW Teton Pass 147.02 356 PKPbc **PKPab 17 28 59.5 +0.6**
LCAR Lake Charles 147.39 325 PKPbc 17 28 58.8 +0.4
PDAR Pinedale Array 147.63 354 PKPbc **PKPbc 17 29 00.2 +1.0**
PDAR Pinedale Array 147.63 354 PKPbc **PKPbc 17 29 00.0 +0.8**
comp=Z,2.6nm,1.2s,baz=174,slow=0.9,SNR=5.5
WVOR Wild Horse Val 147.85 7 PKPbc **PKiKP 17 29 01.3 -0.3**
NVAR Mina Array Bea 151.84 8 PKPbc **PKiKP 17 29 11.8 +1.8**
comp=Z,0.8nm,0.6s,baz=326,slow=1.3,SNR=6.9

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*IDC **06** 17:34:01.2±1.2, 9.°88S×159.°46E, h0km, mb3.6/6, mbtmp3.6/7, ML3.0/1, Error ellipse: s-maj=40.1km s-min=14.0km az=145.0*
ISC 06 17:34:04.5±0.8, 9.°9S±0.°1×159.°5E±0.°1, h22km, n8, σ1$09/9, mb3.6/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.65**	**45**	Pn	**Pn**	**17 34 18.6**	**+0.2**
	455nm,0.3s,baz=206,slow=4.6,SNR=438						
HNR				Sn	**Sn**	**17 34 28.0**	**+0.1**
	1μm,0.3s,baz=107,slow=20,SNR=66						
DZM	**Mont Dzumac**	**13.83**	**152**	Pn	**Pn**	**17 37 19.6**	**+0.2**
	0.1nm,0.3s,baz=3.0,slow=20,SNR=1.1						
	3.3nm,0.7s						
WRA	**Warramunga Arr**	**26.23**	**245**	P	**P**	**17 39 36.8**	**-1.5**
	0.3nm,0.6s,baz=72,slow=10,SNR=1.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**27.99**	**238**	P	**P**	**17 39 54.3**	**+0.3**
	0.3nm,0.8s,baz=64,slow=11,SNR=2.4						
	0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**66.03**	**295**	P	**P**	**17 44 51.9**	**+1.8**
	0.2nm,0.4s,baz=126,slow=4.6,SNR=1.6						
	0.2nm,0.4s						
SONM	**Songino Array**	**74.19**	**326**	P	**P**	**17 45 39.7**	**0.0**
	0.9nm,0.6s,baz=141,slow=6.0,SNR=6.7						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**84.48**	**20**	P	**P**	**17 46 34.5**	**-0.8**
	0.2nm,0.6s,baz=238,slow=5.2,SNR=2.1						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**88.51**	**318**	P	**P**	**17 46 54.6**	**-0.9**
	0.4nm,0.5s,baz=97,slow=7.1,SNR=4.6						
	0.4nm,0.5s						

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*SJA **06** 18:07:33.0, 31.°30S×72.°78W, h10km, ML4.4*
*NEIC **06** 18:07:35.8±1.5, 31.°30S±0.°05×72.°50W±0.°07, h15km±4km, mb4.8/19, Mwr4.3/65, Error ellipse: s-maj=9.4km s-min=5.8km az=114.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}2.47; $M_{\theta\theta}$0.59; $M_{\phi\phi}$-3.06; $M_{r\theta}$0.94; $M_{\theta\phi}$-0.64; $M_{r\phi}$-0.47; Fault plane solution: $M_0$3.07000×10^15^ NP1:$\phi_1$167.53000°, $\delta_1$52.85000°, $\lambda_1$59.26000°. NP2:$\phi_2$32.08000°, $\delta_2$46.76000°, $\lambda_2$124.00000°. Principal axes: T 2.9354, Plg66.0000°, Azm16.0000°; N 0.2545, Plg24.0000°, Azm187.0000°; P -3.1899, Plg3.0000°, Azm279.0000°;*
*IDC **06** 18:07:35.4±0.7, 31.°37S×72.°24W, h0km, mb4.4/9, mbtmp4.3/14, ML4.2/5, MS3.8/9 Error ellipse: s-maj=27.3km s-min=17.1km az=104.0*
*NEIC **06** 18:07:35.6, 31.°29S×72.°50W, h13km*
*VAO **06** 18:07:36.5±0.5, 31.°39S×72.°37W, h10km, mb4.5*
*GUC **06** 18:07:36.3±0.7, 31.°38S×72.°41W, h18km±5km, ML4.2*
ISC 06 18:07:35.1±1.6, 31.°29S±0.°04×72.°44W±0.°05, h6km±9km, n195, σ1$25/195, mb4.7/16, MS4.0/5, 4C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.93**	**48**		**Pg**	**18 07 54.1**	**+1.1**
CO06				Sg	**Sg**	**18 08 05.4**	**+0.4**
CO06	**Fray Jorge**	**0.93**	**48**	⇑*iP*	**Pg**	**18 07 54.3**	**+1.3**
CO06				*e*S	**Sg**	**18 08 06.3**	**+1.3**
CO06				IAML		18 08 07.2	
	comp=E,8μm,0.4s						
CO04	**Los Peladeros**	**1.46**	**121**	⇓*iP*	**Pn**	**18 08 00.9**	**-1.4**
CO04				*e*S	**Sb**	**18 08 17.4**	**-4.2**
CO04				IAML		18 08 18.0	
	comp=N,5μm,0.3s						
CO03	**El Pedregal**	**1.57**	**74**	Pn	**Pn**	**18 08 03.4**	**-0.3**
CO03				Sn	**Sn**	**18 08 21.7**	**-2.6**
CO03	**El Pedregal**	**1.57**	**74**	⇑*e*P	**Pn**	**18 08 03.3**	**-0.3**
CO03				IAML		18 08 23.1	
	comp=E,6μm,0.3s						
CO03	**El Pedregal**	**1.57**	**74**	*i* P	**Pn**	**18 08 02.8**	**-0.8**
CO05	**La Serena**	**1.72**	**37**		**Pn**	**18 08 05.9**	**+0.4**
CO05				Sn	**Sn**	**18 08 26.6**	**-1.2**
CO05	**La Serena**	**1.72**	**37**	*e*P	**Pn**	**18 08 06.0**	**+0.4**
CO05				IAML		18 08 27.5	
	comp=E,3μm,0.3s						
GO04	**Tololo Observa**	**1.80**	**52**		**Pn**	**18 08 07.0**	**0.0**
GO04				Sn	**Sn**	**18 08 28.3**	**-1.9**
GO04	**Tololo Observa**	**1.80**	**52**	⇑*iP*	**Pn**	**18 08 06.9**	**0.0**
GO04	**Tololo Observa**	**1.80**	**52**	*i* P	**Pn**	**18 08 06.3**	**-0.6**
VA01	**Torpederas**	**1.85**	**159**	Pn	**Pn**	**18 08 06.5**	**-0.9**
ROCH	**El Roble**	**2.07**	**144**	*e*P	**Pn**	**18 08 09.6**	**-1.0**
VA03	**San Esteban**	**2.17**	**133**		**Pn**	**18 08 11.5**	**-0.4**
VA03	**San Esteban**	**2.17**	**133**	*i* P	**Pn**	**18 08 11.5**	**-0.4**
VA03				IAML		18 08 38.1	
	comp=N,3μm,0.3s						
VA03	**San Esteban**	**2.17**	**133**	*i* P	**Pn**	**18 08 11.0**	**-0.9**
MT02	**Curacav**	**2.25**	**151**		**Pn**	**18 08 12.0**	**-0.8**
MT02	**Curacav**	**2.25**	**151**	*e*P	**Pn**	**18 08 12.3**	**-0.6**
MT02	**Curacav**	**2.25**	**151**	*i* P	**Pn**	**18 08 11.5**	**-1.4**
PEL	**Peldehue**	**2.37**	**142**	Pn	**Pn**	**18 08 14.2**	**-0.4**
PEL	**Peldehue**	**2.37**	**142**	*e*P	**Pn**	**18 08 14.0**	**-0.6**
CO01	**Juntas del Tor**	**2.41**	**58**		**Pn**	**18 08 16.4**	**+1.1**
CO01	**Juntas del Tor**	**2.41**	**58**	*i* P	**Pn**	**18 08 16.4**	**+1.1**
CO01				IAML		18 08 45.5	
	comp=N,1μm,0.3s						
CO01	**Juntas del Tor**	**2.41**	**58**	*i* P	**Pn**	**18 08 15.8**	**+0.5**
VA05	**Santo Domingo**	**2.46**	**164**		**Pn**	**18 08 14.9**	**-0.7**
VA05	**Santo Domingo**	**2.46**	**164**	*e*P	**Pn**	**18 08 15.0**	**-0.7**
MT05	**Renca**	**2.54**	**146**		**Pn**	**18 08 16.6**	**-0.3**
MT05	**Renca**	**2.54**	**146**	*e*P	**Pn**	**18 08 16.8**	**-0.1**
MT05				IAML		18 08 53.9	
	comp=N,1μm,0.4s						
MT05	**Renca**	**2.54**	**146**	*i* P	**Pn**	**18 08 17.1**	**+0.1**
MT10	**Hacienda Santa**	**2.55**	**141**	*e*P	**Pn**	**18 08 16.7**	**-0.5**
MT10				IAML		18 08 46.5	
	comp=E,2μm,0.4s						
MT14	**Cerro Calan**	**2.64**	**143**	*e*P	**Pn**	**18 08 18.1**	**-0.3**
MT14				IAML		18 09 04.7	
	comp=E,1μm,0.3s						
MT16	**CCHEN**	**2.68**	**143**		**Pn**	**18 08 18.5**	**-0.4**
MT16	**CCHEN**	**2.68**	**143**	*e*P	**Pn**	**18 08 18.4**	**-0.4**
MT16				IAML		18 09 00.7	
	comp=N,822nm,0.6s						
FCH	**Farellones**	**2.73**	**139**	*e*P	**Pn**	**18 08 19.2**	**-0.5**
FCH				IAML		18 08 53.6	
	comp=E,491nm,0.3s						
LCO	**Las Campanas**	**2.73**	**34**		**Pn**	**18 08 20.3**	**+0.5**
LCO	**Las Campanas**	**2.73**	**34**	⇑*iP*	**Pn**	**18 08 20.2**	**+0.5**
LCO	**Las Campanas**	**2.73**	**34**	*i* P	**Pn**	**18 08 19.7**	**0.0**
RTLS	**Leoncito**	**2.73**	**101**	*i* P	**Pb**	**18 08 22.3**	**-2.2**
MT03	**Universidad Ad**	**2.73**	**144**		**Pn**	**18 08 19.3**	**-0.3**
MT03	**Universidad Ad**	**2.73**	**144**	*e*P	**Pn**	**18 08 19.4**	**-0.2**
MT03				IAML		18 09 05.1	
	comp=N,1μm,0.5s						
MT03	**Universidad Ad**	**2.73**	**144**	*i* P	**Pn**	**18 08 19.0**	**-0.6**
MT01	**Popeta**	**2.75**	**159**		**Pn**	**18 08 18.8**	**-1.0**
MT01	**Popeta**	**2.75**	**159**	*e*P	**Pn**	**18 08 19.0**	**-0.8**
MT01				IAML		18 08 58.2	
	comp=E,746nm,0.4s						
MT01	**Popeta**	**2.75**	**159**	*i* P	**Pn**	**18 08 18.5**	**-1.3**
MT09	**Talagante**	**2.76**	**154**		**Pn**	**18 08 20.0**	**-0.1**
MT09	**Talagante**	**2.76**	**154**	*e*P	**Pn**	**18 08 19.8**	**-0.3**
MT09				IAML		18 08 52.8	
	comp=N,793nm,0.4s						
AROD	**Rodeo**	**2.79**	**67**	*i* P	**Pb**	**18 08 23.6**	**-2.0**
MT15	**Las Vizcachas**	**2.82**	**145**	*e*P	**Pn**	**18 08 20.5**	**-0.3**
MT15				IAML		18 08 57.3	
	comp=E,1μm,0.3s						
MT04	**Ro Olivares**	**2.87**	**138**	*e*P	**Pn**	**18 08 21.9**	**+0.2**
MT04				IAML		18 09 04.2	
	comp=E,444nm,0.4s						
MT04	**Ro Olivares**	**2.87**	**138**	*i* P	**Pn**	**18 08 21.3**	**-0.3**
DOCA	**Reserva Natura**	**2.90**	**84**	*i* P	**Pn**	**18 08 23.9**	**+1.7**
MT12	**Pirque**	**2.91**	**147**	*i* P	**Pn**	**18 08 21.8**	**-0.2**
MT12				IAML		18 08 57.8	
	comp=E,1μm,0.4s						
MT08	**Bocatoma Ro**	**2.97**	**137**		**Pn**	**18 08 23.3**	**+0.3**
MT08	**Bocatoma Ro**	**2.97**	**137**	*e*P	**Pn**	**18 08 23.8**	**+0.8**
MT08				IAML		18 09 13.2	
	comp=N,483nm,0.7s						
MT08	**Bocatoma Ro**	**2.97**	**137**	*i* P	**Pn**	**18 08 23.8**	**+0.8**
ACCO	**Cerro Coronel**	**2.98**	**77**	*i* P	**Pb**	**18 08 26.5**	**-2.4**
AC05	**El Transito**	**3.09**	**38**		**Pn**	**18 08 25.9**	**+1.4**
AC05	**El Transito**	**3.09**	**38**	*i* P	**Pn**	**18 08 25.4**	**+0.9**
BO04	**La Punta**	**3.10**	**151**		**Pn**	**18 08 24.7**	**+0.1**
BO04	**La Punta**	**3.10**	**151**	*i* P	**Pn**	**18 08 24.8**	**+0.1**
BO04				IAML		18 09 01.2	
	comp=E,543nm,0.5s						
LMEL	**Las Melosas**	**3.17**	**144**		**Pn**	**18 08 25.8**	**+0.1**
LMEL	**Las Melosas**	**3.17**	**144**	*e*P	**Pn**	**18 08 25.7**	**0.0**
LMEL				IAML		18 09 07.1	
	comp=N,819nm,0.3s						
LMEL	**Las Melosas**	**3.17**	**144**	*i* P	**Pn**	**18 08 25.5**	**-0.1**
BO03	**Pichilemu**	**3.22**	**173**	*e*P	**Pn**	**18 08 25.3**	**-0.9**
BO03				IAML		18 09 01.3	
	comp=N,550nm,0.3s						
ZON	**Zonda**	**3.23**	**95**		**Pn**	**18 08 28.9**	**+2.5**
BO01	**Tunca**	**3.29**	**160**		**Pn**	**18 08 26.5**	**-0.7**
BO01	**Tunca**	**3.29**	**160**	*e*P	**Pn**	**18 08 26.7**	**-0.5**
BO01	**Tunca**	**3.29**	**160**	*i* P	**Pn**	**18 08 26.4**	**-0.7**
AC04	**Llanos de Chal**	**3.30**	**21**		**Pn**	**18 08 27.3**	**0.0**
AC04	**Llanos de Chal**	**3.30**	**21**	*i* P	**Pn**	**18 08 27.0**	**-0.4**
RTLL	**Cerro Villicun**	**3.40**	**92**	*i* P	**Pn**	**18 08 30.8**	**+2.1**
GO05	**Hualane**	**3.73**	**174**	Pn	**Pn**	**18 08 32.1**	**-1.1**
GO05	**Hualane**	**3.73**	**174**	*e*P	**Pn**	**18 08 32.0**	**-1.2**
GO05	**Hualane**	**3.73**	**174**	*i* P	**Pn**	**18 08 32.2**	**-1.1**
BO02	**Sierra Bellavi**	**3.76**	**159**		**Pn**	**18 08 33.2**	**-0.4**
BO02	**Sierra Bellavi**	**3.76**	**159**	*e*P	**Pn**	**18 08 33.5**	**-0.1**
BO02	**Sierra Bellavi**	**3.76**	**159**	*i* P	**Pn**	**18 08 33.2**	**-0.4**
GO03	**Copiapo**	**4.16**	**28**		**Pn**	**18 08 39.6**	**+0.4**
GO03	**Copiapo**	**4.16**	**28**	*i* P	**Pn**	**18 08 39.3**	**+0.1**
AC06	**Mina Casimiro**	**4.33**	**25**	Pn	**Pn**	**18 08 41.5**	**+0.1**
AVFE	**Valle Fertil**	**4.33**	**83**	*i* P	**Pn**	**18 08 43.4**	**+1.9**
VCA	**Vinchina**	**4.47**	**56**	*i* P	**Pn**	**18 08 47.1**	**+3.5**
ML02	**Panimavida**	**4.54**	**169**		**Pn**	**18 08 44.0**	**-0.3**
RFA	**San Rafael**	**4.81**	**137**	*i* P	**Pn**	**18 08 48.8**	**+0.6**
ACHE	**Chepes**	**4.95**	**90**	*i* P	**Pn**	**18 08 52.1**	**+1.9**
ACLC	**CERRO LA CRUZ**	**5.10**	**70**	*i* P	**Pn**	**18 08 54.1**	**+1.9**
AC01	**Pan de Azucar**	**5.38**	**18**	Pn	**Pn**	**18 08 54.8**	**-1.1**
BI02	**San Fabin de**	**5.44**	**170**	Pn	**Pn**	**18 08 56.6**	**-0.2**
BI05	**Punta Hualpn**	**5.47**	**186**	Pn	**Pn**	**18 08 55.8**	**-1.4**
H03N1	**Juan Fernandez**	**5.88**	**247**	T	T	18 16 01.5	
	baz=77,slow=72						
VA04	**Juan Fernndez**	**5.88**	**245**		**Pn**	**18 09 01.6**	**-1.2**
H03N3	**Juan Fernandez**	**5.89**	**247**	T	T	18 15 54.8	
	baz=77,slow=72						
H03N2	**Juan Fernandez**	**5.89**	**247**	T	T	18 16 02.2	
	baz=77,slow=72						
GO02	**Mina Guanaco**	**6.61**	**23**	Pn	**Pn**	**18 09 12.2**	**-0.9**
PB14	**IPOC Station P**	**6.88**	**16**		**Pn**	**18 09 15.1**	**-1.7**
LC02	**Puerto Saavedr**	**7.52**	**186**	Pn	**Pn**	**18 09 23.6**	**-1.6**
GO06	**Curarrehue**	**8.31**	**175**	Pn	**Pn**	**18 09 35.7**	**-0.6**
LR03	**Panguipulli**	**8.32**	**179**	Pn	**Pn**	**18 09 35.0**	**-1.3**
PB15	**IPOC Station P**	**8.48**	**19**		**Pn**	**18 09 37.1**	**-1.5**
LR04	**Corral**	**8.61**	**185**	Pn	**Pn**	**18 09 39.1**	**-1.0**
LR05	**Currie**	**8.92**	**178**	Pn	**Pn**	**18 09 42.6**	**-1.9**
PB06	**IPOC Station P**	**8.93**	**17**	Pn	**Pn**	**18 09 42.4**	**-2.4**
PB04	**IPOC Station P**	**9.16**	**13**	Pn	**Pn**	**18 09 47.4**	**-0.6**
LVC	**Limon Verde**	**9.20**	**21**	Pn	**Pn**	**18 09 47.2**	**-1.6**
LVC	**Limon Verde**	**9.20**	**21**	Pn	**Pn**	**18 09 48.4**	**-0.3**
	comp=N,0.8nm,0.3s,baz=170,slow=6.1,SNR=10.0						
LVC				Sn	**Sn**	**18 11 28.2**	**-4.7**
	comp=N,0.9nm,0.3s,baz=147,slow=20,SNR=1.6						
LVC				LR	LR	18 12 59.5	
	comp=N,183nm,21.9s,baz=196,slow=35						
	comp=N,2.4nm,0.3s						
LVC	**Limon Verde**	**9.20**	**21**	*e*P	**Pn**	**18 09 49.8**	**+1.1**
PLCA	**Paso Flores**	**9.54**	**171**	Pn	**Pn**	**18 09 52.5**	**-0.6**
PLCA	**Paso Flores**	**9.54**	**171**	Pn	**Pn**	**18 09 53.3**	**+0.2**
	comp=N,0.5nm,0.3s,baz=333,slow=12,SNR=18						
PLCA				LR	LR	18 13 50.7	
	comp=N,405nm,18.2s,baz=353,slow=40						
	comp=N,1.6nm,0.4s						
PLCA	**Paso Flores**	**9.54**	**171**	*e*P	**Pn**	**18 09 53.0**	**-0.1**
PB09	**IPOC Station P**	**9.88**	**18**	Pn	**Pn**	**18 09 56.5**	**-1.4**
TRQA	**Tornquist**	**10.94**	**131**	Pn	**Pn**	**18 10 10.7**	**-1.5**
HMBC	**Humberstone**	**11.21**	**12**	Pn	**Pn**	**18 10 14.8**	**-1.3**
PB11	**IPOC Station P**	**11.76**	**13**	Pn	**Pn**	**18 10 21.5**	**-2.0**
GO01	**Chusmiza**	**11.94**	**15**		**Pn**	**18 10 24.8**	**-1.6**
PSAL	**Palomas, Salto**	**12.70**	**93**	*e*P	**Pn**	**18 10 36.2**	**-0.1**
ITQB	**Itaqui**	**13.74**	**87**	*e*P	**Pn**	**18 10 50.5**	**+0.1**
CPUP	**Villa Florida**	**14.14**	**73**	Pn	**Pn**	**18 10 55.4**	**-0.5**
	comp=N,0.2nm,0.3s,baz=184,slow=20,SNR=1.5						
CPUP				Sn	**Sn**	**18 13 32.9**	**-0.3**
	comp=N,0.3nm,0.3s,baz=222,slow=16,SNR=1.3						
CPUP				LR	LR	18 16 22.6	
	comp=N,290nm,20.4s,baz=249,slow=38						
	comp=N,0.6nm,0.4s						
CPUP	**Villa Florida**	**14.14**	**73**	*e*P	**Pn**	**18 10 56.6**	**+0.7**
LPAZ	**La Paz**	**15.45**	**16**	P	**Pn**	**18 11 17.0**	**+2.7**
LPAZ				IAmb	IAmb	18 11 18.3	
	comp=Z,23nm,0.7s						
LPAZ	**La Paz**	**15.45**	**16**	Pn	**Pn**	**18 11 17.4**	**+3.1**
	comp=Z,1.6nm,0.3s,baz=187,slow=7.0,SNR=72						
	comp=Z,23nm,0.7s						
LPAZ	**La Paz**	**15.45**	**16**	*e*P	**Pn**	**18 11 16.9**	**+2.7**
PLTB	**Pedras Altas**	**16.07**	**97**	*e*P	**Pn**	**18 11 21.7**	**0.0**
AMBA	**Amambai (Brazi**	**17.61**	**66**	*e*P	**P**	**18 11 43.0**	**+0.7**
BBSD	**Serra de San D**	**17.69**	**40**	*e*P	**Pn**	**18 11 42.4**	**+0.2**
SIV	**San Ignacio**	**18.43**	**37**	P	**Pn**	**18 11 52.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=208,slow=9.5,SNR=37						
SIV				LR	LR	18 18 17.4	
	comp=Z,268nm,20.2s,baz=80,slow=35						
	comp=Z,7.7nm,0.7s						
AQDB	**Aquidauana**	**18.49**	**58**	P	**P**	**18 11 51.8**	**-0.2**
AQDB	**Aquidauana**	**18.49**	**58**	*e*P	**Pn**	**18 11 53.5**	**+1.4**
CNLB	**Canela**	**18.74**	**90**	*e*P	**Pn**	**18 11 55.0**	**-0.1**
PTGB	**Pitanga**	**19.14**	**75**	*e*P	**Pn**	**18 12 00.8**	**+0.8**
PTLB	**Pontes e Lacer**	**19.92**	**41**		**P**	**18 12 05.9**	**-1.6**
PTLB	**Pontes e Lacer**	**19.92**	**41**	*e*P	**P**	**18 12 08.5**	**+0.9**
TER01	**Tubaro-SC**	**20.39**	**88**	*e*P	**P**	**18 12 12.4**	**-0.3**
LDASE	**Londrina, Braz**	**20.49**	**73**	*e*P	**P**	**18 12 13.2**	**-0.7**
MAJ01	**Sao Joao Batis**	**20.78**	**85**	*e*P	**P**	**18 12 17.1**	**+0.2**
VILB	**Vilhena**	**21.46**	**34**	P	**P**	**18 12 22.2**	**-2.1**
VILB				IAmb	IAmb	18 12 28.9	
	comp=Z,24nm,0.9s						
VILB	**Vilhena**	**21.46**	**34**	*e*P	**P**	**18 12 25.6**	**+1.3**
SALV	**Santo Antonio**	**21.64**	**49**	*e*P	**P**	**18 12 26.1**	**-0.1**
FRTB	**Fartura**	**21.79**	**74**	*e*P	**P**	**18 12 29.6**	**+1.8**
ETMB	**Extrema**	**22.14**	**16**	P	**P**	**18 12 31.9**	**+0.3**
ETMB				IAmb	IAmb	18 12 37.0	
	comp=Z,34nm,1.3s						
ETMB	**Extrema**	**22.14**	**16**	*e*P	**P**	**18 12 34.0**	**+2.4**
MG03	**Isla Dawson**	**22.59**	**177**	P	**P**	**18 12 37.5**	**+1.4**
EFI	**East Falkland**	**22.96**	**157**	P	**P**	**18 12 39.5**	**-0.5**
ITRB	**Iturama**	**22.98**	**65**	*e*P	**P**	**18 12 42.0**	**+1.4**
SPB	**Sao Paulo**	**23.45**	**77**	P	**P**	**18 12 44.5**	**-0.8**
SPB				IAmb	IAmb	18 12 46.2	
	comp=Z,24nm,0.9s						
SPB	**Sao Paulo**	**23.45**	**77**	*e*P	**P**	**18 12 46.0**	**+0.7**
BB19B	**Bebedouro**	**23.71**	**70**	*e*P	**P**	**18 12 48.0**	**+0.1**
SAML	**Samuel**	**23.85**	**23**	P	**P**	**18 12 50.2**	**+1.0**
SAML				IAmb	IAmb	18 12 53.0	

baz=116,slow=75,SNR=6.9
H11S3 WAKE ISLAND Hyl 25.44 271 T T 20 45 34.3
baz=116,slow=75,SNR=6.7
BVAR Borovoye Array 145.49 40 PKPbc **PKPab 18 27 15.2 +1.3**
comp=Z,4.4nm,0.7s,baz=301,slow=3.5,SNR=27
KURBB Kurchatov Arra 151.07 40 PKPbc **PKiKP 18 27 29.8 +0.6**
comp=Z,3.7nm,0.7s,baz=299,slow=3.0,SNR=33
ZALV Zalesovo Beam 152.08 29 PKP **PKPdf 18 27 25.3 +1.1**
comp=Z,1.1nm,0.6s,baz=321,slow=1.3,SNR=6.2
ZALV PKPbc **PKiKP 18 27 31.8 +0.6**
comp=Z,10.0nm,0.6s,baz=306,slow=3.1,SNR=36
MKAR Makanchi Array 155.16 44 PKPbc PKiKPdf 18 27 38.8 +10
comp=Z,1.1nm,0.7s,baz=321,slow=2.6,SNR=6.3
MKAR PKPab **PKPab 18 27 54.4 +0.7**
comp=Z,1.2nm,0.9s,baz=299,slow=5.0,SNR=4.6
GTA Gaotai 169.73 36 *e*PKP **PKPdf 18 27 45.6 +1.8**
PZH PanZhiHua 173.02 132 PKP **PKPdf 18 27 43.9 -1.9**

ISC 06 18:12:53.6±1.1, 45°21N±0°.04×14°70E±0°.04, h16km±9km, n7, σ0°85/14, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIY	**Rijeka**	**0.19**	**306**	*e*Pg	**Pg**	**18 12 58.2**	**+0.1**
RIY				Sg	**Sg**	**18 13 01.2**	**0.0**
GBRS	**Gornja Briga**	**0.33**	**13**	*i* Pg	**Pb**	**18 13 01.5**	**+0.4**
GBRS				*i* Sg	**Sb**	**18 13 07.5**	**+1.3**
KNDS	**Knezji Dol**	**0.39**	**324**	*i* Pg	**Pb**	**18 13 02.0**	**-0.2**
KNDS				*i* Sg	**Sb**	**18 13 08.3**	**+0.3**
KNDS				IAML		18 13 08.7	
comp=Z,4.9nm,0.1s							
BOJS	**Bojanci**	**0.48**	**53**	*i* Pg	**Pn**	**18 13 04.6**	**-1.3**
BOJS				*i* Sg	**Sb**	**18 13 11.9**	**+1.2**
BOJS				IAML		18 13 13.0	
comp=Z,5.2nm,0.1s							
SKDS	**Skadanscina**	**0.59**	**305**	*i* Pg	**Pb**	**18 13 05.0**	**-0.6**
SKDS				*i* Sg	**Sb**	**18 13 14.3**	**+0.6**
SKDS				IAML		18 13 15.0	
comp=Z,2.4nm,0.1s							
NVLJ	**Novalja**	**0.66**	**169**	*e*Pg	**Pb**	**18 13 06.8**	**+0.1**
NVLJ				Sg	**Sb**	**18 13 15.8**	**+0.1**
BRJN	**Brijuni**	**0.74**	**246**	*e*Pg	**Pn**	**18 13 09.2**	**-0.2**
BRJN				Sg	**Sb**	**18 13 19.1**	**+1.1**

IDC 06 18:30:40.5±652.0, 54°37N×0°23E, h0km, Error ellipse: s-maj=274.0km s-min=170.0km az=87.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**10.04**	**118**	I	I	19 28 53.3	
0.1nm,1.4s,baz=312,slow=320,SNR=3.1							
I37NO	**I37NO**	**17.00**	**23**	I	I	20 18 00.0	
baz=225,slow=323,SNR=1.3							
I43RU	**DUBNA INFRASON**	**20.89**	**68**	I	I	20 34 35.0	
baz=277,slow=317,SNR=2.3							
I31KZ	**AKTYUBINSK INF**	**34.65**	**72**	I	I	22 01 30.0	
baz=300,slow=328,SNR=1.3							

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*IDC **06** 18:41:48.0±15.0, 0°.77N×123°.71E, h250km±170km, mb3.0/5, mbtmp3.6/6, Error ellipse: s-maj=118.9km s-min=24.4km az=59.0*

ISC 06 18:41:47.9±1.1, 0°8N±0°.3×123°8E±0°.7, h250km, n6, σ0°19/6, mb3.2/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.87**	**174**	P	**P**	**18 45 49.8**	**-0.1**
0.6nm,0.4s,baz=340,slow=9.1,SNR=6.7							
WRA	**Warramunga Arr**	**23.07**	**154**	P	**P**	**18 46 31.8**	**+0.1**
1.0nm,0.5s,baz=331,slow=9.9,SNR=35							
1.0nm,0.5s							
ASAR	**Alice Springs**	**26.24**	**159**	P	**P**	**18 47 00.5**	**+0.2**
0.3nm,0.7s,baz=339,slow=8.0,SNR=6.8							
0.3nm,0.7s							
STKA	**Stephens Creek**	**36.62**	**154**	P	**P**	**18 48 30.6**	**0.0**
4.3nm,1.1s,baz=324,slow=14,SNR=2.2							
4.3nm,1.1s							
SONM	**Songino Array**	**49.22**	**345**	P	**P**	**18 50 11.1**	**-0.1**
0.4nm,0.7s,baz=140,slow=9.4,SNR=2.5							
0.4nm,0.7s							
MKAR	**Makanchi Array**	**58.35**	**328**	P	**P**	**18 51 17.2**	**+0.1**
0.2nm,0.3s,baz=124,slow=8.3,SNR=5.5							
0.2nm,0.3s							

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*UCR **06** 18:50:06.5±0.9, 10°.97N×86°.57W, h12km±18km, MW4.0*
*CATAC **06** 18:50:09.1±0.8, 10°.92N×86°.45W, h24km±10km, ML3.5*

ISC 06 18:50:07.6±2.0, 10°92N±0°.06×86°50W±0°.07, h19km±4km, n27, σ0°76/39, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	**La Cruz**	**0.87**	**79**	*e*P	**Pb**	**18 50 24.0**	**0.0**
LCRUZ				*e*S	**Sg**	**18 50 36.3**	**+0.2**
ELI1	**Hacienda Flor**	**0.97**	**106**	*e*P	**Pb**	**18 50 25.5**	**-0.3**
ALIBA	**Liberia Airpor**	**0.99**	**109**	*e*P	**Pb**	**18 50 25.8**	**-0.4**
CARN	**Rivas**	**1.00**	**74**	*i* P	**Pb**	**18 50 25.8**	**-0.4**
CARN				*i* S	**Sn**	**18 50 40.9**	**+0.8**
CARN				IAML		18 50 44.2	
comp=Z,2μm,1.0s							
JAPN	**AI SSO del Vol**	**1.01**	**53**	*i* P	**Pn**	**18 50 27.0**	**+0.3**
JAPN				IAML		18 50 27.7	
comp=Z,2μm,1.0s							
MORN	**AI O del Volca**	**1.04**	**53**	*i* P	**Pb**	**18 50 26.9**	**-0.2**
MORN				IAML		18 50 45.4	
comp=Z,200nm,1.0s							
CONN	**Concepcion**	**1.07**	**53**	*i* P	**Pb**	**18 50 27.4**	**-0.1**
CONN				*i* S	**Sn**	**18 50 42.1**	**+0.1**
CONN				IAML		18 50 46.9	
comp=Z,5μm,1.0s							
NANN	**Nandasmo**	**1.08**	**20**	*i* P	**Pg**	**18 50 29.3**	**+0.8**
NANN				*i* S	**Sg**	**18 50 44.5**	**+1.8**
NANN				IAML		18 50 50.0	
comp=Z,17μm,1.0s							
SABN	**Sabanita**	**1.08**	**18**	*i* P	**Pg**	**18 50 28.4**	**-0.2**
SABN				IAML		18 50 47.1	
comp=Z,2μm,1.0s							
VRLE	**La Escondida,**	**1.12**	**97**	*e*P	**Pn**	**18 50 27.4**	**-1.0**
VORI	**VORI**	**1.14**	**95**	*e*P	**Pn**	**18 50 27.9**	**-0.8**
MAS3	**AI N del Volca**	**1.14**	**16**	*i* P	**Pb**	**18 50 29.0**	**+0.2**
MAS3				IAML		18 50 29.4	
comp=Z,1μm,1.0s							
MAS3				*i* S	**Sg**	**18 50 44.4**	**-0.3**
UNAN	**Cigeo UNAN**	**1.21**	**11**	*i* P	**Pg**	**18 50 30.4**	**-0.5**
UNAN				*i* S	**Sg**	**18 50 45.9**	**-0.8**
UNAN				IAML		18 50 49.2	
comp=Z,4μm,1.0s							
SAPS	**Ciudad Sandino**	**1.25**	**4**	*i* P	**Pg**	**18 50 31.2**	**-0.5**
SAPS				*i* S	**Sg**	**18 50 48.1**	**+0.1**
SAPS				IAML		18 50 57.2	
comp=Z,920nm,1.0s							
COPN	**Copaltepe**	**1.25**	**356**	*i* P	**Pb**	**18 50 31.0**	**+0.3**
COPN				IAML		18 50 55.1	
comp=Z,450nm,1.0s							
CUI	**Cuipilapa**	**1.34**	**101**	*e*P	**Pn**	**18 50 30.8**	**-0.5**
MOM2	**El Cardon**	**1.51**	**1**	*i* P	**Pb**	**18 50 34.4**	**-0.6**
MOM2				*i* S	**Sb**	**18 50 53.4**	**-0.4**
MOM2				IAML		18 50 56.8	
comp=Z,280nm,1.0s							
MACN	**El Madrono**	**1.55**	**354**	*i* P	**Pb**	**18 50 35.8**	**+0.1**
MACN				*i* S	**Sb**	**18 50 54.6**	**-0.3**
MACN				IAML		18 51 00.9	
comp=Z,330nm,1.0s							
JTS	**Las Juntas de**	**1.65**	**112**	*e*P	**Pn**	**18 50 35.8**	**+0.2**
ACON	**Acoyapa**	**1.67**	**51**	*i* P	**Pn**	**18 50 35.2**	**-0.6**
ACON				*i* S	**Sn**	**18 50 56.7**	**0.0**
ACON				IAML		18 51 02.2	
comp=Z,160nm,1.0s							
ACON	**Acoyapa**	**1.67**	**51**	*e*P	**Pn**	**18 50 35.2**	**-0.6**
BOAB	**BOACO BROADBAN**	**1.73**	**28**	*i* P	**Pn**	**18 50 36.7**	**+0.1**
BOAB				*i* S	**Sn**	**18 50 58.5**	**+0.3**
BOAB				IAML		18 51 07.6	
comp=Z,110nm,1.0s							
PKGN	**Cerro Pekin**	**1.80**	**345**	*i* P	**Pn**	**18 50 37.6**	**-0.1**
PKGN				*i* S	**Sb**	**18 51 03.1**	**+0.9**
PKGN				IAML		18 51 05.9	
comp=Z,480nm,1.0s							
SOCE	**Pocosol**	**1.93**	**106**	*i* P	**Pn**	**18 50 40.8**	**+1.4**
SOCE				IAML		18 51 15.6	
comp=Z,130nm,1.0s							
LIMN	**Finca el Limon**	**2.13**	**4**	*i* P	**Pn**	**18 50 43.5**	**+1.2**
LIMN				IAML		18 51 24.2	
comp=Z,97nm,1.0s							

ESPN	**Las Esperanzas**	**2.50**	**59**	*i* P	**Pn**	**18 50 47.8**	**+0.5**
ESPN				IAML		18 50 51.3	
comp=Z,1μm,1.0s							
RCPN	**Sur Rio San Ju**	**2.62**	**9**	*i* P	**Pb**	**18 50 51.6**	**-2.4**
RCPN				IAML		18 50 52.7	
comp=Z,0.3nm,1.0s							

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*IDC **06** 18:50:24.9±1.5, 37°.44S×177°.40E, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=29.5km s-min=19.2km az=97.0*
*WEL **06** 18:50:26.7±0.3, 39°.5S±2°.×17°.8E±°, h25km±2km, M3.7/26, ML4.1/26, MLv3.7/26, Error ellipse: s-maj=3.8km s-min=2.4km az=135.6, confirmed*

ISC 06 18:50:25.1±1.0, 39°26S±0°.03×177°66E±0°.04, h30km±6km, n74, σ1°02/94, mb3.5/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.22**	**61**	P	Pb	18 50 35.2	+3.5
KNZ	**Kokohu**	**0.24**	**3**	P	**Pn**	**18 50 33.1**	**+0.5**
KNZ				S	**Sn**	**18 50 38.0**	**+0.8**
WHHZ	**Waihua**	**0.38**	**299**	P	**Pb**	**18 50 34.0**	**+0.3**
WHHZ				S	**Sb**	**18 50 39.6**	**0.0**
PRGZ	**Paritu Road**	**0.38**	**27**	P	**Pn**	**18 50 36.0**	**+1.5**
PRGZ				S	**Sn**	**18 50 43.7**	**+2.9**
ARHZ	**Aropaoanui**	**0.52**	**269**	P	**Pn**	**18 50 36.9**	**+0.5**
ARHZ				S	**Sn**	**18 50 44.7**	**+0.6**
SNGZ	**Shannon Statio**	**0.54**	**332**	P	**Pb**	**18 50 36.4**	**+0.2**
SNGZ				S	**Sb**	**18 50 43.3**	**-0.5**
RIGZ	**Rimuhau**	**0.56**	**8**	P	**Pn**	**18 50 37.8**	**+0.8**
RIGZ				S	**Sn**	**18 50 46.2**	**+0.9**
RAHZ	**Arahi**	**0.56**	**307**	P	**Pb**	**18 50 36.5**	**-0.1**
RAHZ				S	**Sb**	**18 50 43.4**	**-1.0**
CKHZ	**Cape Kidnapper**	**0.60**	**228**	P	**Pn**	**18 50 39.6**	**+2.1**
CKHZ				S	**Sn**	**18 50 49.5**	**+3.2**
NMHZ	**Naumai**	**0.68**	**284**	P	**Pn**	**18 50 38.9**	**+0.2**
NMHZ				S	**Sb**	**18 50 47.9**	**+0.2**
MTHZ	**Maungataniwha**	**0.76**	**302**	P	**Pb**	**18 50 39.3**	**-0.5**
MTHZ				S	**Sb**	**18 50 48.7**	**-1.1**
MCHZ	**McNeill Hill**	**0.77**	**256**	P	**Pn**	**18 50 41.3**	**+1.4**
MCHZ				S	**Sn**	**18 50 53.0**	**+2.5**
RAGZ	**Rawiri**	**0.79**	**346**	P	**Pb**	**18 50 40.5**	**+0.1**
RAGZ				S	**Sb**	**18 50 50.8**	**+0.1**
KAHZ	**Kahuranaki**	**0.81**	**228**	P	Pn	18 50 42.4	+2.0
RTZ	**Ruatahuna**	**0.83**	**320**	P	**Pb**	**18 50 40.6**	**-0.6**
RTZ				S	**Sb**	**18 50 51.1**	**-0.9**
TKGZ	**Te Karaka**	**0.83**	**10**	P	**Pn**	**18 50 41.5**	**+0.8**
TKGZ				S	**Sb**	**18 50 52.9**	**+0.9**
CNGZ	**Carnagh Statio**	**0.89**	**29**	P	**Pn**	**18 50 42.9**	**+1.5**
BKZ	**Black Stump Fm**	**0.91**	**276**	P	**Pn**	**18 50 42.3**	**+0.4**
BKZ				S	**Sb**	**18 50 53.4**	**-0.8**
MWZ	**Matawai**	**0.93**	**354**	P	**Pb**	**18 50 42.4**	**-0.3**
MWZ				S	**Sb**	**18 50 53.9**	**-0.8**
KWHZ	**Kaweka Forest**	**0.97**	**260**	P	**Pn**	**18 50 43.7**	**+0.9**
PXZ	**Pawanui**	**0.98**	**218**	P	**Pn**	**18 50 44.2**	**+1.3**
MUGZ	**Murupara**	**1.04**	**318**	P	**Pn**	**18 50 43.7**	**0.0**
MUGZ				S	**Sb**	**18 50 56.6**	**-1.3**
MRHZ	**Matea Rd**	**1.06**	**293**	P	**Pn**	**18 50 44.3**	**+0.4**
MRHZ				S	**Sb**	**18 50 56.6**	**-1.8**
KRHZ	**Kereru**	**1.07**	**249**	P	**Pb**	**18 50 45.0**	**0.0**
URZ	**Urewera**	**1.09**	**337**	Pn	**Pn**	**18 50 44.3**	**+0.1**
88nm,0.3s,baz=318,slow=4.5,SNR=398							
URZ				Sn	**Sb**	**18 50 58.0**	**-1.2**
229nm,0.3s,baz=82,slow=21,SNR=21							
URZ	**Urewera**	**1.09**	**337**	P	**Pn**	**18 50 44.4**	**+0.1**
URZ				S	**Sb**	**18 50 57.6**	**-1.5**
TWGZ	**Tauwhareparae**	**1.11**	**13**	P	**Pb**	**18 50 45.6**	**-0.1**
WPHZ	**Waipukurau**	**1.24**	**229**	P	**Pb**	**18 50 47.8**	**-0.1**
WPHZ				S	**Sb**	**18 51 03.7**	**+0.2**
ALRZ	**Allen Road**	**1.24**	**304**	P	**Pb**	**18 50 48.0**	**+0.1**
PRRZ	**Plateau Road**	**1.25**	**307**	P	**Pn**	**18 50 47.5**	**+1.0**
HATZ	**Hinemaiaia**	**1.27**	**286**	P	**Pb**	**18 50 48.1**	**-0.4**
PUZ	**Puketiti**	**1.28**	**22**	P	**Pn**	**18 50 46.6**	**-0.3**
PUZ				S	**Sn**	**18 51 03.2**	**+0.2**
PRHZ	**Porangahau**	**1.28**	**218**	P	**Pb**	**18 50 48.0**	**-0.6**
RRRZ	**Republican Roa**	**1.28**	**315**	P	**Pb**	**18 50 48.5**	**-0.1**
RUGZ	**Raukumara Rang**	**1.29**	**1**	P	**Pn**	**18 50 47.6**	**+0.4**
TARZ	**Mount Tarawera**	**1.36**	**318**	P	**Pn**	**18 50 48.7**	**+0.6**
HRRZ	**Handcock Road**	**1.38**	**309**	P	**Pn**	**18 50 50.3**	**0.0**
WPRZ	**Whakapapatarin**	**1.38**	**302**	P	**Pn**	**18 50 50.6**	**+0.2**
RITZ	**Rihia Road**	**1.43**	**281**	P	**Pb**	**18 50 51.3**	**+0.2**
HLRZ	**Highlands Stat**	**1.43**	**314**	P	**Pb**	**18 50 51.6**	**+0.4**
WHTZ	**Whakaora**	**1.45**	**294**	P	**Pb**	**18 50 52.3**	**+0.7**
HSRZ	**Hossack Road**	**1.46**	**310**	P	**Pn**	**18 50 50.5**	**+1.1**
MKRZ	**Makatiti**	**1.46**	**320**	P	**Pb**	**18 50 51.8**	**+0.1**
MOVZ	**Moawhango**	**1.49**	**264**	P	**Pb**	**18 50 51.1**	**-1.0**
MARZ	**Manawahe**	**1.49**	**328**	P	**Pb**	**18 50 51.6**	**-0.5**
WHRZ	**Whale Island**	**1.50**	**339**	P	**Pn**	**18 50 50.9**	**+0.9**
HAZ	**Te Kaha**	**1.50**	**4**	P	**Pn**	**18 50 50.5**	**+0.5**
GRRZ	**Galatos Road**	**1.51**	**306**	P	**Pb**	**18 50 52.3**	**-0.3**
ETVZ	**East Tongariro**	**1.52**	**274**	P	**Pn**	**18 50 51.2**	**+0.9**
RATZ	**Rangitukua**	**1.52**	**284**	P	**Pb**	**18 50 52.3**	**-0.3**
TMVZ	**Te Maari**	**1.53**	**275**	P	**Pn**	**18 50 51.3**	**+0.9**
OMRZ	**Omania**	**1.53**	**318**	P	**Pb**	**18 50 53.1**	**+0.3**
TSZ	**Takapari Road**	**1.53**	**238**	P	**Pb**	**18 50 51.1**	**-1.8**
DVHZ	**Dannevirke**	**1.55**	**227**	P	**Pb**	**18 50 51.7**	**-1.5**
NTVZ	**North Tongarir**	**1.55**	**275**	P	**Pn**	**18 50 51.6**	**+0.8**
OTVZ	**Oturere**	**1.55**	**273**	P	**Pn**	**18 50 51.9**	**+1.1**
KATZ	**Kakaramea**	**1.55**	**280**	P	**Pn**	**18 50 51.7**	**+0.9**
SNVZ	**South Ngauruho**	**1.57**	**272**	P	**Pn**	**18 50 52.0**	**+1.0**
KRVZ	**Karewarewa**	**1.58**	**275**	P	**Pn**	**18 50 51.9**	**+0.8**
NNVZ	**North Ngauruho**	**1.59**	**274**	P	**Pb**	**18 50 53.7**	**-0.3**
NGZ	**Ngauruhoe**	**1.60**	**272**	P	**Pn**	**18 50 52.4**	**+0.9**
WNVZ	**Wahianoa**	**1.60**	**267**	P	**Pn**	**18 50 52.5**	**+1.1**
WHVZ	**Whangaehu Hut**	**1.61**	**269**	P	**Pn**	**18 50 52.6**	**+1.0**
WTVZ	**West Tongariro**	**1.61**	**274**	P	**Pn**	**18 50 52.7**	**+1.1**
KUTZ	**Kaahu Road**	**1.63**	**298**	P	**Pb**	**18 50 53.6**	**-0.9**
MAVZ	**Matarangi**	**1.63**	**269**	P	**Pb**	**18 50 54.9**	**+0.2**
FWVZ	**Far West T-bar**	**1.64**	**270**	P	**Pn**	**18 50 52.8**	**+0.8**
TRVZ	**Turoa**	**1.64**	**268**	P	**Pb**	**18 50 53.7**	**-1.1**
MTVZ	**Mangateitei**	**1.70**	**265**	P	**Pn**	**18 50 54.0**	**+1.2**
MXZ	**Matakaoa Point**	**1.77**	**17**	P	**Pn**	**18 50 54.2**	**+0.6**
BFZ	**Birch Farm**	**1.79**	**217**	P	**Pb**	**18 50 54.3**	**-2.8**
PPT	**Papeete**	**35.72**	**62**	P	**P**	**18 57 19.7**	**-1.4**
15nm,0.3s,baz=217,slow=19,SNR=1.7							
ASAR	**Alice Springs**	**40.03**	**280**	P	**P**	**18 57 57.1**	**-0.3**
1.0nm,1.0s,baz=125,slow=8.7,SNR=16							
1.0nm,1.0s							
WRA	**Warramunga Arr**	**41.84**	**285**	P	**P**	**18 58 12.0**	**-0.4**
0.6nm,0.7s,baz=127,slow=8.3,SNR=11							
0.6nm,0.7s							

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*IDC **06** 18:53:41.2±1.9, 46°.97N×152°.21E, h0km, mb3.9/5, mbtmp3.8/6, ML2.1/1, Error ellipse: s-maj=73.1km s-min=31.7km az=97.0*

ISC 06 18:53:42.9±1.5, 47°0N±0°.2×152°2E±0°.3, h10km, n12, σ0°47/6, mb4.2/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.08**	**28**	Pn	**Pn**	**18 55 26.6**	**+0.1**
0.2nm,0.3s,baz=192,slow=10,SNR=6.3							
4.8nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**29.70**	**151**	T	T	19 31 05.0	
baz=341,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hy**	**29.71**	**151**	T	T	19 31 09.0	
baz=341,slow=76,SNR=9.1							
H11N3	**WAKE ISLAND Hy**	**29.72**	**151**	T	T	19 30 55.6	
baz=341,slow=76,SNR=7.5							
H11S1	**WAKE ISLAND Hy**	**30.78**	**152**	T	T	19 32 24.6	
baz=341,slow=76,SNR=43							
H11S3	**WAKE ISLAND Hy**	**30.79**	**152**	T	T	19 32 30.8	
baz=341,slow=76,SNR=36							
H11S2	**WAKE ISLAND Hy**	**30.80**	**152**	T	T	19 32 13.3	
baz=341,slow=76,SNR=45							
FINES	**FINESS Array B**	**63.58**	**334**	P	**P**	**19 04 13.5**	**+0.3**
0.6nm,0.4s,baz=44,slow=6.3,SNR=7.0							
0.6nm,0.4s							
NOA	**NORSAR Array B**	**67.82**	**341**	P	**P**	**19 04 40.0**	**-0.6**
0.5nm,0.6s,baz=29,slow=6.7,SNR=2.1							
0.8nm,0.6s							
HFS	**Hagfors**	**68.03**	**339**	P	**P**	**19 04 41.5**	**-0.4**
1.5nm,0.4s,baz=32,slow=6.5,SNR=12							
1.5nm,0.4s							
AKASG	**Malin Array Be**	**71.02**	**326**	P	**P**	**19 05 00.7**	**+0.2**
0.7nm,0.3s,baz=35,slow=6.2,SNR=5.3							
0.7nm,0.3s							
ASAR	**Alice Springs**	**72.23**	**198**	P	**P**	**19 05 08.1**	**0.0**
0.2nm,0.7s,baz=10.0,slow=7.0,SNR=2.0							
0.2nm,0.7s							

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*NEIC **06** 18:53:50.0±1.0, 18°.2S±0°.4×178°.4W±0°.3, h562km±17km, mb4.2/11, Error ellipse: s-maj=56.4km s-min=33.0km az=147.0*
*IDC **06** 18:53:50.3±3.4, 17°.75S×178°.49W, h582km±21km, mb3.2/4, mbtmp4.1/5, Error ellipse: s-maj=106.9km s-min=27.3km az=140.0*

ISC 06 18:53:51.0±2.4, 17°7S±0°.5×178°5W±0°.4, h600km, n19, σ1°32/21, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.29**	**269**	P	**P**	**18 55 09.0**	**-2.9**
MSVF	**Nonsavu**	**3.29**	**269**	P	**P**	**18 55 09.9**	**-2.0**
32nm,0.6s,baz=80,slow=5.2,SNR=22							
FUTU	**Fugatoga**	**3.40**	**6**	P	**P**	**18 55 10.4**	**-2.2**
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**19 00 24.0**	**-0.7**
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**19 00 24.8**	**+0.1**
2.2nm,0.6s,baz=59,slow=8.0,SNR=5.4							
2.2nm,0.8s							
BBOO	**Buckleboo**	**43.43**	**241**	P	**P**	**19 01 00.8**	**-1.6**
WR0	**Warramunga Arr**	**44.40**	**259**	P	**P**	**19 01 10.4**	**+0.4**
WR0				IAmb	IAmb	19 01 17.4	
comp=Z,4.9nm,1.3s							
WB0	**Warramunga Arr**	**44.55**	**260**	P	**P**	**19 01 11.8**	**+0.6**
WB0				IAmb	IAmb	19 01 36.8	
comp=Z,5.8nm,1.4s							
WB2	**Warramunga Arr**	**44.58**	**259**	P	**P**	**19 01 11.4**	**0.0**
WRA	**Warramunga Arr**	**44.59**	**259**	P	**P**	**19 01 11.7**	**+0.2**
comp=Z,1.0nm,0.4s,baz=97,slow=7.0,SNR=55							
WRA				PcP	**PcP**	**19 02 42.0**	**+0.8**
comp=Z,0.4nm,0.9s,baz=90,slow=3.7,SNR=4.5							
comp=Z,1.0nm,0.4s							
AS31	**Alice Springs**	**44.77**	**254**	P	**P**	**19 01 13.4**	**+0.5**
AS31				IAmb	IAmb	19 01 14.3	
comp=Z,3.3nm,0.5s							
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**19 01 12.9**	**+0.1**
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**19 01 13.4**	**+0.6**
comp=Z,7.7nm,0.5s,baz=88,slow=9.1,SNR=251							
ASAR				PcP	**PcP**	**19 02 42.7**	**+0.9**
comp=Z,0.3nm,0.4s,baz=105,slow=3.7,SNR=4.7							
comp=Z,7.7nm,0.5s							
MTN	**Manton Dam**	**48.72**	**268**	P	**P**	**19 01 43.3**	**+0.7**
MTN				IAmb	IAmb	19 02 15.1	
comp=Z,19nm,1.4s							
FORT	**Forrest**	**50.02**	**244**	P	**P**	**19 01 51.8**	**-0.1**
KNRA	**Kununurra**	**50.43**	**264**	P	**P**	**19 01 55.5**	**+0.4**
KNRA				IAmb	IAmb	19 01 55.9	
comp=Z,23nm,1.3s							
FITZ	**Fitzroy Crossi**	**52.98**	**260**	P	**P**	**19 02 14.3**	**+1.0**
SOEI	**Soe**	**55.99**	**270**	P	**P**	**19 02 36.8**	**+2.3**
SOEI				IAmb	IAmb	19 02 42.5	
comp=Z,7.2nm,0.8s							
ILAR	**Eielson Array**	**85.71**	**13**	P	**P**	**19 05 28.0**	**+1.0**
comp=Z,0.2nm,0.4s,baz=209,slow=5.1,SNR=7.4							
comp=Z,0.2nm,0.4s							

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*IDC **06** 19:08:24.2±0.9, 30°.08S×71°.41W, h0km, mb3.9/1, mbtmp3.6/6, ML3.5/5, MS3.0/2, Error ellipse: s-maj=39.1km s-min=21.1km az=126.0*
*SJA **06** 19:08:27.0, 29°.72S×71°.91W, h10km, ML4.2*
*NEIC **06** 19:08:28.9±2.3, 29°.79S±0°.03×71°.77W±0°.06, h28km±1km, mb4.4/7, Error ellipse: s-maj=7.2km s-min=4.1km az=97.0*
*GUC **06** 19:08:30.5±0.7, 29°.79S×71°.48W, h47km±3km, ML4.1*

ISC 06 19:08:27.5±1.4, 29°79S±0°.04×71°84W±0°.05, h25km±11km, n112, σ1°70/119, mb4.3/4, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.54**	**104**		**Pb**	**19 08 39.4**	**+1.1**
CO05				Sg	**Sb**	**19 08 45.8**	**+0.2**
CO05	**La Serena**	**0.54**	**104**	↑*i* P	**Pb**	**19 08 39.4**	**+1.1**
CO05				*i* S	**Sb**	**19 08 46.0**	**+0.4**
CO05				IAML		19 08 47.6	
comp=E,24μm,0.4s							
CO06	**Fray Jorge**	**0.90**	**169**		**Pn**	**19 08 46.0**	**+1.5**
CO06					**Sb**	**19 08 57.2**	**+1.3**
GO04	**Tololo Observa**	**0.98**	**113**		**Pb**	**19 08 45.4**	**-0.5**
GO04					**Sb**	**19 08 56.7**	**-1.8**
GO04	**Tololo Observa**	**0.98**	**113**	↓↓*i* P	**Pb**	**19 08 45.7**	**-0.2**
GO04				*i* S	**Sb**	**19 08 56.5**	**-2.0**
GO04				IAML		19 09 00.1	
comp=N,36μm,0.5s							
GO04	**Tololo Observa**	**0.98**	**113**	*i* P	**Pb**	**19 08 45.0**	**-1.0**
LCO	**Las Campanas**	**1.26**	**52**	

BI02	**San Fabin de**	**6.87**	**176**	Pn		**Pn**	**19 10 07.8**	**+1.1**
PB15	**IPOC Station P**	**6.89**	**18**			**Pn**	**19 10 06.3**	**-0.9**
BI05	**Punta Hualpn**	**7.03**	**189**	Pn		**Pn**	**19 10 11.1**	**+2.3**
H03N1	**Juan Fernandez**	**7.04**	**237**	Pn		**Pn**	**19 10 11.3**	**+2.5**
	baz=114,slow=18							
H03N1				Sn		**Sn**	**19 11 24.6**	**-3.4**
	baz=184,slow=19							
H03N1				T		T	19 17 42.8	
	baz=66,slow=71,SNR=1977							
H03N2	**Juan Fernandez**	**7.06**	**237**	Pn		**Pn**	**19 10 11.5**	**+2.5**
	baz=114,slow=18							
H03N2				Sn		**Sn**	**19 11 25.1**	**-3.1**
	baz=184,slow=19							
H03N2				T		T	19 17 38.3	
	baz=66,slow=71,SNR=1626							
H03N3	**Juan Fernandez**	**7.06**	**237**	Pn		**Pn**	**19 10 11.1**	**+2.1**
	baz=114,slow=18							
H03N3				Sn		Sn	19 11 24.0	-4.4
	baz=184,slow=19							
H03N3				T		T	19 17 38.7	
	baz=66,slow=71,SNR=1617							
VA04	**Juan Fernndez**	**7.08**	**235**	Pn		**Pn**	**19 10 10.9**	**+1.4**
H03S3	**Juan Fernandez**	**7.24**	**234**	Pn		**Pn**	**19 10 13.4**	**+2.0**
	baz=35,slow=19							
H03S3				Sn		Sn	19 11 28.2	-4.5
	baz=168,slow=76							
H03S1	**Juan Fernandez**	**7.24**	**234**	Pn		**Pn**	**19 10 12.8**	**+1.3**
	baz=35,slow=19							
H03S1				Sn		Sn	19 11 27.4	-5.4
	baz=168,slow=76							
H03S2	**Juan Fernandez**	**7.25**	**234**	Pn		**Pn**	**19 10 13.4**	**+1.8**
	baz=35,slow=19							
H03S2				Sn		Sn	19 11 28.4	-4.7
	baz=168,slow=76							
PB06	**IPOC Station P**	**7.35**	**17**	Pn		**Pn**	**19 10 13.7**	**+0.3**
AF01	**San Pedro de A**	**7.56**	**27**	Pn		**Pn**	**19 10 16.5**	**+0.1**
PB04	**IPOC Station P**	**7.58**	**12**	Pn		**Pn**	**19 10 15.9**	**-0.7**
LVC	**Limon Verde**	**7.62**	**21**	Pn		**Pn**	**19 10 17.8**	**+0.5**
	comp=N,0.6nm,0.3s,baz=170,slow=9.4,SNR=6.3							
LVC				Sn		**Sn**	**19 11 40.3**	**-2.9**
	comp=N,1.4nm,0.3s,baz=220,slow=21,SNR=1.5							
	comp=N,1.3nm,0.2s							
PB09	**IPOC Station P**	**8.30**	**17**	Pn		**Pn**	**19 10 26.5**	**0.0**
PB01	**IPOC Station P**	**8.97**	**14**	Pn		**Pn**	**19 10 34.8**	**-0.8**
LC02	**Puerto Saavedr**	**9.07**	**188**	Pn		**Pn**	**19 10 37.3**	**+0.6**
HMBC	**Humberstone**	**9.64**	**11**	Pn		**Pn**	**19 10 46.7**	**+2.0**
GO06	**Curarrehue**	**9.77**	**178**	Pn		**Pn**	**19 10 47.5**	**+0.9**
PB08	**IPOC Station P**	**9.91**	**15**	Pn		**Pn**	**19 10 47.6**	**-1.2**
PB11	**IPOC Station P**	**10.18**	**12**	Pn		**Pn**	**19 10 52.2**	**-0.1**
GO01	**Chusmiza**	**10.36**	**14**	Pn		**Pn**	**19 10 53.4**	**-1.7**
PLCA	**Paso Flores**	**10.96**	**175**	Pn		**Pn**	**19 11 01.8**	**-1.1**
PLCA	**Paso Flores**	**10.96**	**175**	Pn		Pn	19 10 57.9	-5.0
	comp=N,0.1nm,0.3s,baz=357,slow=20,SNR=1.2							
PLCA				LR		LR	19 15 38.3	
	comp=N,104nm,19.0s,baz=32,slow=41							
	comp=N,0.2nm,0.4s							
TRQA	**Tornquist**	**11.61**	**138**	Pn		**Pn**	**19 11 09.3**	**-2.4**
LL01	**San Ignacio de**	**12.57**	**182**	Pn		**Pn**	**19 11 23.8**	**-0.8**
CPUP	**Villa Florida**	**13.27**	**78**	Pn		**Pn**	**19 11 33.6**	**-0.7**
CPUP	**Villa Florida**	**13.27**	**78**	Pn		Pn	19 11 29.6	-4.7
	comp=N,0.1nm,0.3s,baz=353,slow=20,SNR=1.3							
CPUP				LR		LR	19 16 11.7	
	comp=N,52nm,19.4s,baz=225,slow=36							
	comp=N,1.1nm,0.8s							
LPAZ	**La Paz**	**13.87**	**15**	Pn		**Pn**	**19 11 41.7**	**-1.4**
LPAZ	**La Paz**	**13.87**	**15**	Pn		**Pn**	**19 11 47.1**	**+4.0**
	comp=N,0.2nm,0.3s,baz=172,slow=5.8,SNR=6.7							
	comp=N,1.5nm,0.6s							
SIV	**San Ignacio**	**16.93**	**38**	Pn		**Pn**	**19 12 23.3**	**+0.5**
	baz=228,slow=11,SNR=4.2							
	comp=N,0.8nm,0.5s							
SAML	**Samuel**	**22.27**	**23**	P		**P**	**19 13 22.9**	**0.0**
BDFB	**Brasilia**	**26.03**	**62**	P		**P**	**19 13 58.6**	**-0.3**
BDFB				IAmb		IAmb	19 14 08.4	
	comp=Z,7.1nm,1.2s							
VA02	**Isla de Pascua**	**33.06**	**265**	P		**P**	**19 15 00.9**	**-0.3**
BOAV	**Boa Vista**	**33.79**	**21**	P		**P**	**19 15 06.7**	**-0.9**
BOAV				IAmb		IAmb	19 15 08.4	
	comp=Z,5.4nm,1.1s							
MLPR	**Magueyes Islan**	**47.71**	**6**	P		**P**	**19 17 01.8**	**-0.4**
CELP	**Cerrillos**	**47.86**	**7**	P		**P**	**19 17 03.7**	**+0.3**
CELP				IAmb		IAmb	19 17 05.2	
	comp=Z,7.7nm,0.8s							
TEIG	**Tepich**	**52.19**	**340**	P		**P**	**19 17 37.3**	**+1.0**
PDAR	**Pinedale Array**	**80.10**	**333**	P		**P**	**19 20 37.9**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=140,slow=4.4,SNR=4.6							
	comp=Z,0.4nm,0.3s							
ASAR	**Alice Springs**	**121.37**	**208**	PKP		**PKPdf**	**19 27 19.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=146,slow=2.5,SNR=2.4							
WRA	**Warramunga Arr**	**124.49**	**210**	PKP		**PKPdf**	**19 27 25.7**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=158,slow=1.6,SNR=11							
H11S2	**WAKE ISLAND Hyl**	**25.90**	**272**	T		T	21 46 30.1	
	baz=115,slow=75,SNR=9.3							
H11S1	**WAKE ISLAND Hyl**	**25.91**	**272**	T		T	21 46 26.8	
	baz=115,slow=75,SNR=9.9							
H11S3	**WAKE ISLAND Hyl**	**25.91**	**272**	T		T	21 46 32.5	
	baz=115,slow=75,SNR=7.3							
KURBB	**Kurchatov Arra**	**149.59**	**38**	PKPbc		**PKPbc**	**19 28 14.9**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=299,slow=2.4,SNR=4.6							
ZALV	**Zalesovo Beam**	**150.52**	**28**	PKPbc		**PKiKP**	**19 28 17.6**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=291,slow=3.3,SNR=14							

IDC 06 19:15:07.5±2.3, 2°.54N×127°.45E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=155.5km s-min=28.1km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.34**	**163**	P	P	19 20 17.8	+0.1
	0.2nm,0.3s,baz=343,slow=10,SNR=12						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**26.79**	**167**	P	P	19 20 48.9	-0.7
	0.2nm,0.8s,baz=349,slow=7.2,SNR=4.8						
	0.2nm,0.8s						
MKAR	**Makanchi Array**	**58.94**	**325**	P	P	19 25 09.3	+0.5
	0.3nm,0.6s,baz=116,slow=6.6,SNR=2.2						
	0.3nm,0.6s						

*RSNC **06** 19:18:56.9±0.0, 9°.N±6°.×7°.1W±°, h6km±8km, M3.0, mb4.0, mB4.7, ML2.8, Mw(mB)3.9*
*FUNV **06** 19:18:56.2, 8°.65N×70°.49W, h9km, MW3.7*

ISC 06 19:18:54.6±1.1, 8.71N±0°.04×70°.49W±0°.03, h10km±9km, n29, σ1§35/52, 2C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.23**	**321**	P		**Pg**	**19 18 59.5**	**+0.1**
SDV				S		**Sg**	**19 19 02.4**	**-0.3**
SOCV	**Socops**	**0.56**	**221**	⇑iP		**Pg**	**19 19 06.3**	**+1.0**
SOCV				eS		**Sg**	**19 19 12.5**	**-0.2**
TEPV	**Terepaima**	**1.79**	**46**	eP		**Pb**	**19 19 26.7**	**-0.8**
TEPV				eS		**Sb**	**19 19 50.5**	**+0.5**
CAPV	**Capacho**	**1.99**	**245**	⇑iP		**Pn**	**19 19 29.9**	**+1.4**
CAPV				eS		**Sn**	**19 19 53.6**	**-0.1**
MAPV	**Macapo**	**2.29**	**61**	eP		**Pn**	**19 19 34.0**	**+1.4**
MAPV				eS		**Sn**	**19 20 02.8**	**+1.9**
BAUV	**El Baul**	**2.43**	**84**	eP		**Pn**	**19 19 34.9**	**+0.5**
BAUV				eS		**Sn**	**19 20 04.4**	**+0.2**
PAMC	**Pamplona, Colo**	**2.58**	**238**	P		**Pn**	**19 19 37.8**	**+1.0**
PAMC				S		**Sb**	**19 20 14.4**	**+1.2**
TAMC	**Tame, Arauca**	**2.60**	**210**	P		**Pn**	**19 19 38.0**	**+1.2**
TAMC				S		**Sg**	**19 20 18.0**	**-0.2**
OCAC	**Ocana**	**2.84**	**261**	P		**Pn**	**19 19 35.8**	**-4.4**
OCAC				S		**Sb**	**19 20 21.0**	**+0.6**
JACV	**Jacura**	**2.88**	**34**	eP		**Pn**	**19 19 42.0**	**+1.5**
JACV				eS		**Sn**	**19 20 15.2**	**-0.1**
BENV	**Beln**	**3.11**	**66**	eP		**Pn**	**19 19 45.2**	**+1.3**
BENV				eS		**Sn**	**19 20 21.4**	**+0.2**
TURV	**Turiamo**	**3.13**	**56**	eP		**Pn**	**19 19 45.5**	**+1.5**
TURV				eS		**Sn**	**19 20 21.7**	**+0.1**
BARC	**Barichara**	**3.40**	**232**	P		**Pn**	**19 19 49.3**	**+1.4**
BRJC	**Barrancabermej**	**3.66**	**242**	P		**Pn**	**19 19 53.4**	**+2.1**
BRJC				S		**Sn**	**19 20 35.7**	**+1.2**
TACV	**Tcata**	**3.70**	**67**	eP		**Pn**	**19 19 52.4**	**+0.5**
TACV				eS		**Sn**	**19 20 35.0**	**-0.6**
RUSC	**La Rusia**	**3.80**	**223**	P		**Pn**	**19 19 54.5**	**+0.8**
CACV	**CAICARA DEL OR**	**4.07**	**106**	eP		**Pb**	**19 20 05.0**	**-1.4**
CACV				eS		**Sb**	**19 20 54.6**	**-1.0**
MERV	**Las Mercedes**	**4.17**	**82**	eP		**Pn**	**19 19 59.1**	**+0.7**
MERV				eS		**Sn**	**19 20 45.1**	**-2.3**
PTBC	**PUERTO BERRIO,**	**4.48**	**242**	P		**Pn**	**19 20 02.4**	**-0.3**
PTBC				S		**Sn**	**19 20 53.3**	**-1.7**
ZARC	**Zaragoza, Cauc**	**4.49**	**255**	P		**Pn**	**19 20 03.3**	**+0.5**
ZARC				S		**Sn**	**19 20 54.0**	**-1.2**
PTGC	**Puerto Gaitan,**	**4.77**	**200**	P		**Pn**	**19 20 06.4**	**-0.2**
PTGC				S		**Sn**	**19 20 59.9**	**-2.0**
CHIC	**Chingaza**	**5.17**	**219**	P		**Pn**	**19 20 13.0**	**+0.5**
	12nm,0.6s							
CHIC				S		**Sn**	**19 21 13.2**	**+0.6**
	12nm,0.6s							
NORC	**Norcasia**	**5.35**	**235**	P		**Pn**	**19 20 14.8**	**+0.1**
	5.1nm,0.7s							
NORC				S		**Sn**	**19 21 18.2**	**+1.7**
	5.1nm,0.7s							
CVER	**Cruz Verde, Cu**	**5.47**	**221**	P		**Pn**	**19 20 19.6**	**+2.9**
VILC	**Villavicencio,**	**5.56**	**215**	P		**Pn**	**19 20 18.6**	**+0.9**
	25nm,0.5s,657nm							
GUY2C	**Guyana, Caldas**	**5.95**	**235**	P		**Pn**	**19 20 25.4**	**+2.1**
	13nm,0.7s							
PRAC	**Prado**	**6.61**	**222**	P		**Pn**	**19 20 32.8**	**+0.8**
	5.2nm,0.5s							
PRAC				S		**Sn**	**19 21 46.4**	**-1.1**
	5.2nm,0.5s							
URMC	**La Uribe, Meta**	**6.66**	**216**	P		**Pn**	**19 20 33.6**	**+0.9**
URMC				S		**Sn**	**19 21 47.7**	**-1.1**
MACC	**Macarena, Meta**	**7.33**	**207**	P		**Pn**	**19 20 41.2**	**-0.6**

*IDC **06** 19:41:00.9±0.7, 27°.84S×64°.10E, h0km, mb4.0/15, mbtmp4.0/15, MS3.4/1, Error ellipse: s-maj=24.8km s-min=17.5km az=69.0*
*NEIC **06** 19:41:01.5±1.2, 27°.9S±0°.1×64°.3E±0°.2, h10km±1km, mb4.5/17, Error ellipse: s-maj=29.7km s-min=22.1km az=275.0*

ISC 06 19:41:01.8±0.6, 27°.8S±0°.1×64°.2E±0°.1, h10km, n39, σ1§10/32, mb4.2/21, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**20.78**	**205**	T	T	20 06 58.8	
	baz=33,slow=74,SNR=442						
H04N1	**CROZET ISLANDS**	**20.78**	**205**	T	T	20 06 59.8	
	baz=33,slow=74,SNR=584						
H04N3	**CROZET ISLANDS**	**20.79**	**205**	T	T	20 06 55.5	
	baz=33,slow=74,SNR=482						
KMBO	**Kilima Mbogo**	**37.01**	**311**	P	**P**	**19 48 12.3**	**+0.2**
	0.8nm,0.2s,baz=203,slow=11,SNR=3.2						
	0.8nm,0.2s						
MAW	**Mawson**	**39.82**	**181**	P	**P**	**19 48 35.9**	**+1.0**
	1.7nm,0.6s,baz=334,slow=11,SNR=4.6						
	1.7nm,0.6s						
H01W2	**Cape Leeuwin H**	**42.87**	**112**	T	T	20 34 55.0	
	baz=265,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**42.87**	**112**	T	T	20 34 54.6	
	baz=265,slow=75,SNR=13						
H01W1	**Cape Leeuwin H**	**42.89**	**112**	T	T	20 34 55.7	
	baz=265,slow=75,SNR=15						
WSAR	**Wadi Sarin**	**51.03**	**353**	LR	LR	20 06 54.6	
	comp=Z,34nm,18.5s,baz=188,slow=30						
SNAA	**Sanae**	**56.66**	**200**	P	**P**	**19 50 44.2**	**-0.7**
SNAA				IAmb	IAmb	19 50 46.9	
	comp=Z,7.2nm,1.5s						
CM31	**Chiang Mai Arr**	**56.99**	**40**	P	**P**	**19 50 47.0**	**-0.9**
CM31				IAmb	IAmb	19 50 50.7	
	comp=Z,3.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**56.99**	**40**	P	**P**	**19 50 49.8**	**+1.9**
	comp=Z,2.0nm,0.7s,baz=230,slow=7.6,SNR=25						
	comp=Z,2.0nm,0.7s						
SOEI	**Soe**	**59.09**	**85**		**P**	**19 51 01.9**	**-1.0**
SHL	**Shillong**	**59.39**	**29**	P	**P**	**19 51 04.6**	**-0.1**
ASAR	**Alice Springs**	**62.17**	**103**	P	**P**	**19 51 24.6**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=248,slow=6.4,SNR=20						
	comp=Z,1.5nm,0.7s						
AS31	**Alice Springs**	**62.17**	**103**	P	**P**	**19 51 21.7**	**-2.1**
QSPA	**South Pole Qui**	**62.34**	**180**	P	**P**	**19 51 23.9**	**-0.4**
QSPA	**South Pole Qui**	**62.34**	**180**	P	**P**	**19 51 24.9**	**+0.6**
	comp=Z,4.1nm,0.7s,baz=270,slow=2.2,SNR=18						
	comp=Z,4.1nm,0.7s						
LSA	**Lhasa**	**62.73**	**26**	P	**P**	**19 51 27.2**	**-0.5**
LSA				IAmb	IAmb	19 51 38.0	
	comp=Z,2.2nm,0.8s						
WRA	**Warramunga Arr**	**63.87**	**100**	P	**P**	**19 51 36.3**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=250,slow=5.2,SNR=5.1						
	comp=Z,1.1nm,0.9s						
MMAI	**Mount Meron Ar**	**66.39**	**334**	P	**P**	**19 51 52.8**	**+1.8**
	comp=Z,0.3nm,0.4s,baz=108,slow=8.0,SNR=3.6						
	comp=Z,0.3nm,0.4s						
GURO	**Guroymak-BITLI**	**69.19**	**342**	P	**P**	**19 52 08.1**	**-0.6**
GURO				IAmb	IAmb	19 52 19.6	
	comp=Z,2.7nm,0.6s						
ARSB	**Arslanbob**	**69.27**	**7**	P	**P**	**19 52 08.8**	**-0.4**
NRN	**Naryn**	**69.76**	**9**	P	**P**	**19 52 11.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**72.93**	**295**	P	**P**	**19 52 31.6**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=127,slow=6.1,SNR=2.2						
	comp=Z,0.4nm,0.8s						
BR131	**Keskin Array S**	**72.97**	**336**	P	**P**	**19 52 31.8**	**+0.2**
BR131				IAmb	IAmb	19 52 34.6	
	comp=Z,4.7nm,1.3s						
BRTR	**Keskin Array B**	**72.97**	**336**	P	**P**	**19 52 32.2**	**+0.6**
BRTR	**Keskin Array B**	**72.97**	**336**	P	**P**	**19 52 32.4**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=151,slow=6.3,SNR=5.1						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**76.04**	**13**	P	**P**	**19 52 50.1**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=193,slow=5.0,SNR=5.3						
	comp=Z,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**79.11**	**9**	P	**P**	**19 53 07.2**	**+1.0**
	comp=Z,0.7nm,0.2s,baz=206,slow=6.2,SNR=5.8						
	comp=Z,0.7nm,0.2s						
PUK	**Puka**	**80.64**	**328**	P	**P**	**19 53 14.2**	**-0.7**
PUK				IAmb	IAmb	19 53 18.8	
	comp=Z,6.1nm,1.1s						
BVAR	**Borovoye Array**	**80.67**	**4**	P	**P**	**19 53 15.2**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=163,slow=5.7,SNR=5.2						
	comp=Z,0.9nm,0.8s						
ZAA0	**Zalesovo Array**	**83.36**	**12**	P	**P**	**19 53 26.3**	**-2.3**
ZAA0				IAmb	IAmb	19 53 30.7	
	comp=Z,1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**83.36**	**12**	P	**P**	**19 53 29.8**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=196,slow=4.2,SNR=8.6						
	comp=Z,1.8nm,0.7s						
KIEV	**Kiev**	**84.06**	**338**	P	**P**	**19 53 30.2**	**-2.1**
AKASG	**Malin Array Be**	**84.06**	**339**	P	**P**	**19 53 32.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=147,slow=5.5,SNR=1.8						
	comp=Z,0.1nm,0.3s						
SONM	**Songino Array**	**84.31**	**27**	P	**P**	**19 53 35.5**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=215,slow=4.9,SNR=3.2						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**138.11**	**19**	PKP	**PKPdf**	**20 00 26.2**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=324,slow=1.5,SNR=4.2						
YKA	**Yellowknife Ar**	**145.31**	**359**	PKPbc	**PKPbc**	**20 00 38.6**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=358,slow=2.9,SNR=7.0						

*IDC **06** 20:10:20.9±4.5, 35°.53N×69°.44E, h0km, mb3.8/2, mbtmp3.8/5, ML3.0/3, Error ellipse: s-maj=129.4km s-min=28.8km az=136.0*

ISC 06 20:10:24.5±2.0, 35°.9N±0°.2×69°.1E±0°.2, h10km, n7, σ1§23/8, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.24**	**8**	⇓P		**Pn**	**20 12 12.2**	**+1.8**
	0.3nm,0.2s,baz=185,slow=13,SNR=9.9						
KK31				⇑S		**Sn**	**20 13 31.3**	**-1.4**
	0.8nm,0.3s,baz=185,slow=24,SNR=4.6						
TKM2	**Tokmak 2**	**8.59**	**34**	⇓P		**Pn**	**20 12 29.8**	**+0.7**
	1.7nm,0.5s						
TKM2				⇑S		Sn	20 13 50.4	-16
	2.2nm,0.6s						
MKAR	**Makanchi Array**	**14.65**	**38**	Pn		**Pn**	**20 13 50.9**	**-1.0**
	0.1nm,0.3s,baz=229,slow=15,SNR=2.3						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**16.18**	**22**	Pn		**Pn**	**20 14 11.2**	**-0.7**
	0.1nm,0.3s,baz=213,slow=10,SNR=2.0						
	3.1nm,0.2s						
BVAR	**Borovoye Array**	**17.11**	**3**	P		**P**	**20 14 25.2**	**-0.2**
	baz=163,slow=10,SNR=4.6						
	0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**21.08**	**26**	P		**P**	**20 15 08.5**	**-0.3**
	1.9nm,0.5s,baz=215,slow=10,SNR=7.4						
	1.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**64.19**	**268**	P		**P**	**20 20 59.3**	**-0.4**
	0.6nm,0.5s,baz=48,slow=6.3,SNR=2.8						
	0.6nm,0.5s						

*IDC **06** 20:12:36.3±0.6, 55°.71S×26°.31W, h0km, mb4.4/9, mbtmp4.3/10, ML3.8/1, MS3.5/5, Error ellipse: s-maj=24.2km s-min=18.9km az=71.0*

*NEIC **06** 20:12:48.3±1.9, 56°.0S±0°.1×27°.8W±0°.2, h80km±7km, mb4.9/18, Error ellipse: s-maj=21.7km s-min=13.9km az=204.0*

ISC 06 20:12:48.1±0.5, 56°.06S±0°.08×27°.61W±0°.08, h100km, n81, σ1§84/83, mb4.7/16, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.39**	**286**		**Pn**	**20 14 03.7**	**-2.3**
HOPE				Sn	**Sn**	**20 15 03.3**	**-3.5**
VNA1	**Neumayer--Stat**	**16.87**	**158**	⇑P	**Pn**	**20 16 36.7**	**-1.0**
	comp=Z,4.3nm,0.6s						
VNA3	**Neumayer Olymp**	**17.06**	**160**	⇑P	**Pn**	**20 16 39.3**	**-0.7**
	comp=Z,6.4nm,0.7s						
VNA2	**Neumayer--Watz**	**17.27**	**158**	⇑P	**P**	**20 16 41.4**	**-1.1**
	comp=Z,2.2nm,0.4s,baz=317,slow=14						
EFI	**East Falkland**	**18.40**	**271**	P	**P**	**20 16 51.0**	**-4.0**
SNAA	**Sanae**	**18.82**	**156**	P	**P**	**20 16 57.5**	**-2.1**
SNAA	**Sanae**	**18.82**	**156**	⇑P	**P**	**20 16 57.7**	**-1.9**
	comp=Z,71nm,0.7s						
SNAA	**Sanae**	**18.82**	**156**	P	**P**	**20 16 58.6**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=286,slow=12,SNR=5.5						
	comp=Z,2.0nm,0.6s						
PMSA	**Palmer Station**	**19.71**	**229**	P	**P**	**20 17 09.7**	**+0.4**
PMSA	**Palmer Station**	**19.71**	**229**	P	**Pn**	**20 17 15.6**	**+4.0**
	comp=Z,8.1nm,0.6s,baz=47,slow=6.7,SNR=6.9						
PMSA				LR	LR	20 23 40.3	
	comp=Z,125nm,20.3s,baz=62,slow=32						
	comp=Z,8.1nm,0.6s						
TROLL	**Troll, Antarti**	**20.34**	**153**	⇑P	**P**	**20 17 13.9**	**-2.2**
	comp=Z,134nm,0.3s						
SMAI	**San Martin Ant**	**21.60**	**220**	P	**P**	**20 17 27.3**	**-2.1**
BELA	**Belgrano 2**	**22.05**	**184**	P	**P**	**20 17 33.4**	**-0.7**
MG02	**Cerro Sombrero**	**24.17**	**260**	P	**P**	**20 17 51.6**	**-3.0**
MG03	**Isla Dawson**	**24.42**	**257**	P	**P**	**20 17 55.6**	**-1.3**
MG03				IAmb	IAmb	20 18 28.0	
	comp=Z,74nm,1.2s						
QSPA	**South Pole Qui**	**34.19**	**180**	P	**P**	**20 19 25.7**	**+2.2**
QSPA				IAmb	IAmb	20 19 34.5	
	comp=Z,34nm,1.8s						
QSPA	**South Pole Qui**	**34.19**	**180**	P	**P**	**20 19 26.5**	**+2.9**
	comp=Z,5.4nm,0.6s,baz=192,slow=3.6,SNR=13						
QSPA				LR	LR	20 33 06.6	
	comp=Z,84nm,18.5s,baz=210,slow=36						
	comp=Z,5.4nm,0.6s						
QSPA	**South Pole Qui**	**34.19**	**180**	P	**P**	**20 19 26.0**	**+2.5**
CPUP	**Villa Florida**	**36.65**	**312**	P	**P**	**20 19 48.5**	**+3.7**
	comp=Z,3.6nm,0.7s,baz=181,slow=8.0,SNR=3.3						
CPUP				LR	LR	20 33 11.8	
	comp=Z,34nm,20.5s,baz=211,slow=33						
	comp=Z,3.6nm,0.7s						
MT09	**Talagante**	**37.09**	**288**	P	**P**	**20 19 49.1**	**+0.5**
CO06	**Fray Jorge**	**39.85**	**291**	P	**P**	**20 20 12.5**	**+0.9**
MAW	**Mawson**	**40.28**	**144**	P	**P**	**20 20 13.7**	**-1.0**
	comp=Z,3.6nm,0.7s,baz=238,slow=6.3,SNR=7.5						
	comp=Z,3.6nm,0.7s						
SUR	**Sutherland**	**40.87**	**75**	LR	LR	20 33 07.2	
	comp=Z,78nm,18.4s,baz=204,slow=31						
LVC	**Limon Verde**	**45.11**	**301**	P	**P**	**20 20 57.7**	**+3.1**
LVC				IAmb	IAmb	20 21 22.9	
	comp=Z,17nm,1.3s						
LVC	**Limon Verde**	**45.11**	**301**	P	**P**	**20 20 58.1**	**+3.4**
PB09	**IPOC Station P**	**45.96**	**301**	P	**P**	**20 21 04.5**	**+3.3**
PB09				IAmb	IAmb	20 21 16.7	
	comp=Z,43nm,1.4s						
BOSA	**Boshof**	**46.20**	**76**	P	P	20 20 56.6	-6.3
	comp=Z,4.2nm,0.9s,baz=234,slow=8.1,SNR=3.4						
BOSA				LR	LR	20 36 21.1	
	comp=Z,73nm,20.2s,baz=208,slow=31						
	comp=Z,4.2nm,0.9s						
PB01	**IPOC Station P**	**46.72**	**301**	P	**P**	**20 21 10.2**	**+3.2**
PB01				IAmb	IAmb	20 21 31.8	
	comp=Z,26nm,1.4s						
PTLB	**Pontes e Lacer**	**47.15**	**317**	P	**P**	**20 21 11.4**	**+1.2**
PTLB				IAmb	IAmb	20 21 12.4	
	comp=Z,4.6nm,0.7s						
PB08	**IPOC Station P**	**47.33**	**302**	P	**P**	**20 21 15.2**	**+3.1**
PB08				IAmb	IAmb	20 21 16.9	
	comp=Z,36nm,1.

*GUC **06** 20:20:14:16.7±0.9,21°.79S×68°.59W,h127km±5km,ML4.5*
ISC 06 20:14:15.3±0.6,21°.76S±0°.03×68°.55W±0°.05,h124km±6km,
n124,σ1§38/147,mb4.2/6,9C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.64**	**266**		**Pn**	**20 14 35.4**	**+0.6**
PB09				Sn	**Sn**	**20 14 49.8**	**+0.3**
PB09	**IPOC Station P**	**0.64**	**266⇑**	*eP*	**Pn**	**20 14 36.0**	**+1.3**
PB09				*eS*	**Sn**	**20 14 51.0**	**+1.6**
PB09	**IPOC Station P**	**0.64**	**266**	*i P*	**Pn**	**20 14 35.3**	**+0.6**
LVC	**Limon Verde**	**0.91**	**201**		**Pn**	**20 14 38.0**	**+0.8**
LVC				Sn	**Sn**	**20 14 53.5**	**-0.3**
LVC	**Limon Verde**	**0.91**	**201**	P	**Pn**	**20 14 37.8**	**+0.6**
	1μm,0.5s,baz=20,slow=7.2,SNR=672						
LVC				S	**Sn**	**20 14 53.8**	**-0.1**
	1μm,0.4s,baz=275,slow=22,SNR=70						
LVC				LR	LR	20 15 10.5	
	comp=Z,358nm,19.9s,baz=46,slow=57						
LVC	**Limon Verde**	**0.91**	**201⇑**	*eP*	**Pn**	**20 14 38.0**	**+0.8**
LVC				*eS*	**Sn**	**20 14 53.8**	**-0.1**
LVC				IAML		20 14 55.2	
	15μm,0.4s						
LVC	**Limon Verde**	**0.91**	**201**	*eP*	**Pn**	**20 14 37.8**	**+0.6**
LVC				*eS*	**Sn**	**20 14 53.7**	**-0.2**
PB01	**IPOC Station P**	**1.12**	**309**		**Pn**	**20 14 39.8**	**+0.8**
PB01				Sn	**Sn**	**20 14 56.9**	**0.0**
PB01	**IPOC Station P**	**1.12**	**309⇑**	*eP*	**Pn**	**20 14 39.9**	**+1.0**
PB01				*eS*	**Sn**	**20 14 58.1**	**+1.2**
PB01				IAML		20 15 00.4	
	comp=N,4μm,0.2s						
PB01	**IPOC Station P**	**1.12**	**309**	*i P*	**Pn**	**20 14 39.2**	**+0.3**
AF01	**San Pedro de A**	**1.24**	**164**		**Pn**	**20 14 41.9**	**+1.5**
AF01	**San Pedro de A**	**1.24**	**164**	*eP*	**Pn**	**20 14 41.9**	**+1.5**
AF01				*eS*	**Sn**	**20 15 00.1**	**+0.7**
AF01				IAML		20 15 15.4	
	comp=E,3μm,0.7s						
AF01	**San Pedro de A**	**1.24**	**164**	*i P*	**Pn**	**20 14 42.2**	**+1.9**
PB06	**IPOC Station P**	**1.34**	**225**		**Pn**	**20 14 42.1**	**+0.8**
PB06				Sn	**Sn**	**20 15 01.4**	**+0.4**
PB06	**IPOC Station P**	**1.34**	**225⇑**	*eP*	**Pn**	**20 14 42.4**	**+1.1**
PB06				*eS*	**Sn**	**20 15 01.8**	**+0.8**
PB06				IAML		20 15 02.8	
	comp=E,10μm,0.4s						
PB06	**IPOC Station P**	**1.34**	**225**	*i P*	**Pn**	**20 14 41.4**	**+0.1**
PB04	**IPOC Station P**	**1.59**	**248**	Pn	**Pn**	**20 14 44.7**	**+0.5**
PB04				Sn	**Sn**	**20 15 05.6**	**-0.6**
PB04	**IPOC Station P**	**1.59**	**248⇑**	*eP*	**Pn**	**20 14 44.9**	**+0.7**
PB04				*eS*	**Sn**	**20 15 06.3**	**+0.2**
PB04				IAML		20 15 08.3	
	comp=E,5μm,0.5s						
PB04	**IPOC Station P**	**1.59**	**248**	*i P*	**Pn**	**20 14 44.4**	**+0.2**
PB15	**IPOC Station P**	**1.68**	**210**		**Pn**	**20 14 46.1**	**+0.9**
PB15				Sn	**Sn**	**20 15 08.5**	**+0.4**
PB15	**IPOC Station P**	**1.68**	**210**	*eP*	**Pn**	**20 14 46.1**	**+0.9**
PB15				*eS*	**Sn**	**20 15 08.7**	**+0.6**
PB15	**IPOC Station P**	**1.68**	**210**	*i P*	**Pn**	**20 14 45.8**	**+0.6**
PB08	**IPOC Station P**	**1.70**	**341**		**Pn**	**20 14 47.3**	**+1.5**
PB08				Sn	**Sn**	**20 15 10.6**	**+1.7**
PATCX	**Punta Patache**	**1.76**	**302**		**Pn**	**20 14 46.8**	**+0.7**
PATCX				Sn	**Sn**	**20 15 08.5**	**-1.0**
PATCX	**Punta Patache**	**1.76**	**302⇑**	*eP*	**Pn**	**20 14 47.0**	**+0.9**
PATCX				*eS*	**Sn**	**20 15 10.4**	**+0.8**
PATCX				IAML		20 15 12.8	
	comp=E,6μm,0.2s						
PATCX	**Punta Patache**	**1.76**	**302**	*i P*	**Pn**	**20 14 46.6**	**+0.6**
TA01	**Diego Aracena**	**1.93**	**308**	Pn	**Pn**	**20 14 48.3**	**+0.3**
TA01				Sn	**Sn**	**20 15 12.8**	**-0.2**
TA01	**Diego Aracena**	**1.93**	**308**	*eP*	**Pn**	**20 14 48.4**	**+0.4**
TA01				*eS*	**Sn**	**20 15 13.2**	**+0.2**
TA01				IAML		20 15 15.9	
	comp=E,3μm,0.5s						
TA01	**Diego Aracena**	**1.93**	**308**	*i P*	**Pn**	**20 14 48.2**	**+0.2**
HMBC	**Humberstone**	**1.93**	**319**		**Pn**	**20 14 48.2**	**0.0**
HMBC				Sn	**Sn**	**20 15 13.1**	**-0.2**
HMBC	**Humberstone**	**1.93**	**319⇑**	*eP*	**Pn**	**20 14 48.7**	**+0.5**
HMBC				*eS*	**Sn**	**20 15 13.8**	**+0.5**
HMBC				IAML		20 15 15.1	
	comp=N,5μm,0.6s						
HMBC	**Humberstone**	**1.93**	**319**	*i P*	**Pn**	**20 14 48.1**	**0.0**
TA02	**Huaiquique**	**2.09**	**315**		**Pn**	**20 14 50.2**	**+0.2**
TA02	**Huaiquique**	**2.09**	**315**	*eS*	**Sn**	**20 15 16.5**	**-0.1**
TA02				IAML		20 15 26.5	
	comp=N,5μm,0.1s						
GO01	**Chusmiza**	**2.16**	**344**		**Pn**	**20 14 52.8**	**+1.4**
GO01	**Chusmiza**	**2.16**	**344⇑**	*eP*	**Pn**	**20 14 53.0**	**+1.6**
GO01				*eS*	**Sn**	**20 15 20.8**	**+1.7**
GO01				IAML		20 15 24.6	
	comp=N,3μm,0.1s						
GO01	**Chusmiza**	**2.16**	**344**	*i P*	**Pn**	**20 14 52.5**	**+1.0**
PB11	**IPOC Station P**	**2.24**	**332**	Pn	**Pn**	**20 14 52.8**	**+0.7**
PB11	**IPOC Station P**	**2.24**	**332⇑**	*eP*	**Pn**	**20 14 53.0**	**+0.9**
PB11				*eS*	**Sn**	**20 15 20.9**	**+0.7**
PB11				IAML		20 15 23.7	
	comp=E,4μm,0.6s						
PB11	**IPOC Station P**	**2.24**	**332**	*i P*	**Pn**	**20 14 52.3**	**+0.2**
YJA	**Yavi**	**2.85**	**99**	*i P*	**Pn**	**20 15 03.3**	**+3.1**
PB14	**IPOC Station P**	**3.33**	**210**	Pn	**Pn**	**20 15 06.3**	**0.0**
GO02	**Mina Guanaco**	**3.52**	**195**	Pn	**Pn**	**20 15 08.9**	**0.0**
GO02	**Mina Guanaco**	**3.52**	**195**	*i P*	**Pn**	**20 15 08.5**	**-0.4**
AZAP	**Zapla**	**4.04**	**128**	*i P*	**Pn**	**20 15 17.9**	**+2.2**
SLA	**San Lorenzo**	**4.07**	**137**	*i P*	**Pn**	**20 15 19.1**	**+3.1**
PB18	**Visviri**	**4.24**	**348**	Pn	Pn	20 15 23.6	+5.0
AC01	**Pan de Azucar**	**4.76**	**203**	Pn	**Pn**	**20 15 23.6**	**-1.4**
AC01	**Pan de Azucar**	**4.76**	**203**	*i P*	**Pn**	**20 15 22.9**	**-2.1**
LPAZ	**La Paz**	**5.45**	**4**	Pn	**Pn**	**20 15 36.9**	**+1.9**
LPAZ	**La Paz**	**5.45**	**4**	P	**Pn**	**20 15 37.1**	**+2.1**
	comp=E,14nm,0.4s,baz=195,slow=7.5,SNR=53						
LPAZ				S	**Sn**	**20 16 31.6**	**-5.4**
	comp=E,16nm,0.7s,baz=181,slow=7.7,SNR=5.2						
LPAZ	**La Paz**	**5.45**	**4**	*eP*	**Pn**	**20 15 33.2**	**-1.8**
AC06	**Mina Casimiro**	**5.81**	**196**	Pn	**Pn**	**20 15 36.8**	**-2.5**
GO03	**Copiapo**	**6.01**	**194**		**Pn**	**20 15 39.7**	**-2.2**
AC04	**Llanos de Chal**	**6.81**	**199**	Pn	**Pn**	**20 15 48.9**	**-3.9**
AC05	**El Transito**	**7.22**	**192**	Pn	**Pn**	**20 15 55.8**	**-2.5**
LCO	**Las Campanas**	**7.48**	**195**		**Pn**	**20 15 58.5**	**-3.5**
FDPY	**Filadelfia**	**8.01**	**95**	*eP*	**Pn**	**20 16 08.2**	**-0.6**
CO01	**Juntas del Tor**	**8.30**	**189**	Pn	**Pn**	**20 16 10.7**	**-2.4**
GO04	**Tololo Observa**	**8.62**	**193**	Pn	**Pn**	**20 16 13.7**	**-3.7**
BBSD	**Serra de San D**	**8.76**	**60**	*eP*	**Pn**	**20 16 17.4**	**-1.7**
SIV	**San Ignacio**	**9.11**	**52**	P	**Pn**	**20 16 21.4**	**-2.4**
	comp=E,9.5nm,0.5s,baz=230,slow=11,SNR=34						
SIV				S	Sn	20 17 56.7	-8.0
	comp=E,11nm,0.7s,baz=308,slow=22,SNR=8.9						
CO03	**El Pedregal**	**9.25**	**192**	Pn	**Pn**	**20 16 23.6**	**-2.0**
CO06	**Fray Jorge**	**9.30**	**197**	Pn	Pn	20 16 20.7	-5.6
PTLB	**Pontes e Lacer**	**10.91**	**56**	Pn	**Pn**	**20 16 45.3**	**-2.7**
PTLB	**Pontes e Lacer**	**10.91**	**56**	*eP*	**Pn**	**20 16 47.8**	**-0.2**
BDQN	**Bodoquena, MS**	**11.10**	**85**	*eP*	**Pn**	**20 16 49.5**	**-0.9**
CPUP	**Villa Florida**	**11.22**	**116**	Pn	**Pn**	**20 16 50.8**	**-1.2**
CPUP	**Villa Florida**	**11.22**	**116**	P	**Pn**	**20 16 49.5**	**-2.6**
	comp=E,2.8nm,0.7s,baz=293,slow=11,SNR=5.9						
MT02	**Curacav**	**11.69**	**191**	Pn	**Pn**	**20 16 57.2**	**-1.0**
MT08	**Bocatoma Ro**	**11.72**	**186**		**Pn**	**20 16 59.6**	**+0.8**
VILB	**Vilhena**	**11.84**	**44**	Pn	**Pn**	**20 17 02.0**	**+1.7**
VILB	**Vilhena**	**11.84**	**44**	*eP*	**Pn**	**20 17 00.0**	**-0.3**
SJPY	**San Joaquin**	**11.88**	**108**	*eP*	**Pn**	**20 17 00.5**	**-0.3**
AQDB	**Aquidauana**	**12.06**	**86**	Pn	**Pn**	**20 17 04.8**	**+1.5**
AQDB	**Aquidauana**	**12.06**	**86**	*eP*	**Pn**	**20 17 04.3**	**+1.0**
MT09	**Talagante**	**12.17**	**190**	Pn	**Pn**	**20 17 02.7**	**-1.9**
MT01	**Popeta**	**12.29**	**191**	Pn	**Pn**	**20 17 05.1**	**-1.1**
BO04	**La Punta**	**12.32**	**188**	Pn	**Pn**	**20 17 04.9**	**-1.7**
AMBA	**Amambai (Brazi**	**12.61**	**98**	*eP*	**Pn**	**20 17 11.1**	**+0.7**
SALV	**Santo Antonio**	**13.49**	**67**	*eP*	**Pn**	**20 17 21.4**	**-0.4**
SAML	**Samuel**	**13.74**	**23**	*eP*	**Pn**	**20 17 24.4**	**-0.7**
RPRD	**Ribas do Rio P**	**13.92**	**87**	*eP*	**Pn**	**20 17 28.2**	**+0.9**
ML02	**Panimavida**	**14.18**	**190**	Pn	**Pn**	**20 17 28.1**	**-2.4**
BI02	**San Fabin de**	**15.04**	**188**	Pn	**Pn**	**20 17 40.0**	**-1.5**
PDRB	**Porto dos Gac**	**15.16**	**50**	*eP*	**Pn**	**20 17 43.2**	**+0.3**
PTGB	**Pitanga**	**15.44**	**104**	*eP*	**P**	**20 17 48.6**	**+0.3**
ITAB	**Concordia**	**15.91**	**113**	Pn	**Pn**	**20 17 52.2**	**0.0**
ITAB				IAmb	IAmb	20 17 55.1	
	comp=Z,38nm,0.8s						
ITAB	**Concordia**	**15.91**	**113**	*eP*	**P**	**20 17 54.0**	**+0.7**
CPSB	**Cacapava Do Su**	**16.07**	**126**	*eP*	**Pn**	**20 17 53.6**	**-0.6**
LDASE	**Londrina, Braz**	**16.19**	**99**	*eP*	**Pn**	**20 17 55.4**	**-0.4**
PLTB	**Pedras Altas**	**16.64**	**130**	Pn	**Pn**	**20 17 59.0**	**-2.3**
TRQA	**Tornquist**	**17.21**	**162**	P	**P**	**20 18 05.6**	**-2.1**
GO06	**Curarrehue**	**17.95**	**187**		**P**	**20 18 15.4**	**-0.5**
GO06				IAmb	IAmb	20 18 18.0	
	comp=Z,26nm,1.1s						
LR05	**Currie**	**18.65**	**188**	P	**P**	**20 18 23.8**	**+0.3**
LR05				IAmb	IAmb	20 18 26.7	
	comp=Z,36nm,1.4s						
PLCA	**Paso Flores**	**19.00**	**185**	P	**P**	**20 18 27.9**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=0.7,slow=10,SNR=9.3						
PLCA				LR	LR	20 27 10.9	
	comp=Z,73nm,19.2s,baz=98,slow=41						
SNDB	**Serra Nova Dou**	**19.15**	**62**	*eP*	**P**	**20 18 28.6**	**-0.6**
LL04	**Puerto Octay**	**19.37**	**189**	P	**P**	**20 18 31.9**	**+0.6**
LL04				IAmb	IAmb	20 18 33.4	
	comp=Z,19nm,0.6s						
NPGB	**Novo Progresso**	**19.40**	**43**	*eP*	**P**	**20 18 30.5**	**-1.3**
SPB	**Sao Paulo**	**19.58**	**99**	P	**P**	**20 18 33.0**	**-0.7**
SPB				IAmb	IAmb	20 19 02.8	
	comp=Z,52nm,1.5s						
LL03	**Petrohue**	**19.60**	**189**	P	**P**	**20 18 33.3**	**-0.4**
VAO	**Valinhos**	**20.00**	**98**	P	**P**	**20 18 37.8**	**-0.6**
LL05	**Los Muermos**	**20.03**	**191**	P	**P**	**20 18 37.7**	**-0.7**
BDFB	**Brasilia**	**20.37**	**76**	P	**P**	**20 18 41.3**	**-1.1**
BDFB	**Brasilia**	**20.37**	**76**	P	**P**	**20 18 41.7**	**-0.8**
	comp=Z,5.3nm,0.5s,baz=246,slow=12,SNR=8.5						
	comp=Z,5.3nm,0.5s						
LL01	**San Ignacio de**	**20.82**	**188**	P	**P**	**20 18 46.0**	**-0.8**
LL01				IAmb	IAmb	20 18 52.8	
	comp=Z,12nm,0.8s						
ITTB	**Itaituba**	**21.29**	**38**	*eP*	**P**	**20 18 51.2**	**-1.0**
PRPB	**Parauapebas**	**23.84**	**52**	*eP*	**P**	**20 19 17.1**	**-0.1**
JANB	**Januaria**	**23.93**	**78**	*eP*	**P**	**20 19 17.2**	**-0.9**
SDBA	**SAO DESIDERIO**	**24.41**	**71**	*eP*	**P**	**20 19 22.3**	**-0.3**
BOAV	**Boa Vista**	**25.25**	**19**	P	**P**	**20 19 31.1**	**+1.0**
BOAV	**Boa Vista**	**25.25**	**19**	*eP*	**P**	**20 19 31.4**	**+1.4**
DBIC	**Dimbokro**	**68.49**	**73**	P	**P**	**20 25 05.0**	**+0.3**
DBIC	**Dimbokro**	**68.49**	**73**	P	**P**	**20 25 05.2**	**+0.6**
	comp=Z,12nm,0.7s,baz=236,slow=6.6,SNR=15						
	comp=Z,12nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.13**	**70**	P	**P**	**20 25 56.0**	**+0.3**
	comp=Z,3.1nm,0.5s,baz=260,slow=5.2,SNR=30						
	comp=Z,3.1nm,0.5s						
MDT	**Midelt**	**81.66**	**50**	P	**P**	**20 26 20.8**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=288,slow=5.0,SNR=2.0						
	comp=Z,1.1nm,0.7s						
BOSA	**Boshof**	**83.03**	**118**	P	**P**	**20 26 27.5**	**0.0**
	comp=Z,4.4nm,0.9s,baz=248,slow=6.2,SNR=3.5						
	comp=Z,4.4nm,0.9s						
ESDC	**Sonseca Array**	**85.78**	**44**	P	**P**	**20 26 42.5**	**+1.7**
	comp=Z,1.1nm,0.9s,baz=245,slow=4.7,SNR=3.7						
	comp=Z,1.1nm,0.9s						
YKA	**Yellowknife Ar**	**91.54**	**340**	P	**P**	**20 27 09.0**	**+1.6**
	comp=Z,0.9nm,0.7s,baz=200,slow=9.1,SNR=3.0						
ZALV	**Zalesovo Beam**	**142.04**	**26**	PKP	**PKPdf**	**20 33 34.0**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=306,slow=5.0,SNR=3.1						
KSH	**Kashi**	**145.00**	**52**	PKP	**PKPdf**	**20 33 39.8**	**+1.5**
MKAR	**Makanchi Array**	**145.64**	**36**	PKPbc	**PKPab**	**20 33 41.0**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=321,slow=3.2,SNR=7.8						
KLR	**Kul'dur**	**148.19**	**334**	PKPbc	**PKiKP**	**20 33 48.3**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=63,slow=4.5,SNR=2.4						
PZH	**PanZhiHua**	**169.96**	**60**	PKP	**PKPdf**	**20 34 07.7**	**-1.3**

*MOS **06** 20:22:26.6±1.6,37°.35N×20°.31E,h17km,mb4.4/6,Error ellipse: s-maj=9.6km s-min=4.0km az=78.6*
*IDC **06** 20:22:26.8±0.8,37°.56N×20°.67E,h0km,mb3.9/13, mbtmp3.8/21,ML3.8/5,MS3.2/16,Error ellipse: s-maj=14.5km s-min=12.7km az=140.0*
*ATH **06** 20:22:28.2,37°.40N×20°.54E,h10km±2km,ML3.9/10,Error ellipse: s-maj=3.4km s-min=1.1km az=39.0*
*THE **06** 20:22:28.6,37°.41N×20°.54E,h6km,ML4.0/11,Error ellipse: s-maj=0.9km s-min=0.3km az=61.0*
*NEIC **06** 20:22:30.0±1.9,37°.42N±0°.06×20°.51E±0°.07,h25km±6km, mb4.4/21,Error ellipse: s-maj=9.2km s-min=8.0km az=180.0*
*PDG **06** 20:22:30.8±0.4,37°.47N×20°.49E,h40km±11km,ML4.2/13, Error ellipse: s-maj=2.0km s-min=1.7km az=90.0*
*BEO **06** 20:22:30.1±2.8,37°.33N×20°.17E,h44km±9km,ML3.7/9*
*NAO **06** 20:22:33.7,37°.40N×20°.47E,h10km,mb3.8*
ISC 06 20:22:29.4±0.5,37°.49N±0°.04×20°.60E±0°.03,h20km±2km,
n231,σ1§58/259,mb4.0/22,MS3.1/11,3C-1D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.24**	**45**	P	**Pb**	**20 22 35.1**	**-0.2**
KRI1				S	**Sb**	**20 22 39.9**	**+0.6**
	57μm,0.3s						
LTHK	**Lithakia**	**0.28**	**40**	P	**Pb**	**20 22 35.8**	**0.0**
LTHK				S	**Sb**	**20 22 41.2**	**+1.0**
	54μm,0.3s						
LTHK	**Lithakia**	**0.28**	**40**	P	**Pb**	**20 22 35.6**	**-0.2**
LTHK				S	**Sb**	**20 22 41.3**	**+1.0**
LTHK				AML	AML	20 22 41.8	
LTHK				AML	AML	20 22 42.5	
	comp=E,58001μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.60**	**13**	P	**Pb**	**20 22 41.5**	**+0.3**
RTZL				S	**Sn**	**20 22 51.8**	**0.0**
	comp=E,20μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.62**	**359**	P	**Pb**	**20 22 41.9**	**+0.3**
PSDA				S	**Sn**	**20 22 52.3**	**-0.1**
	comp=E,26μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.62**	**359**	P	**Pb**	**20 22 41.6**	**+0.1**
PSDA				S	**Sn**	**20 22 51.9**	**-0.4**
VLS	**Valsamata**	**0.68**	**359**	P	**Pb**	**20 22 42.8**	**+0.1**
VLS				S	**Sn**	**20 22 54.5**	**+0.5**
	comp=E,19μm,0.4s						
VLS	**Valsamata**	**0.68**	**359**	P	**Pb**	**20 22 42.7**	**0.0**
LXRA	**Lixouri, Kepha**	**0.72**	**349**	P	**Pb**	**20 22 43.7**	**+0.5**
LXRA				S	**Sn**	**20 22 54.4**	**-0.4**
SMHA	**Samh**	**0.76**	**3**	P	**Pb**	**20 22 43.6**	**-0.2**
DMLN	**Damoulianata-K**	**0.77**	**346**	P	**Pb**	**20 22 44.3**	**+0.3**
DMLN	**Damoulianata-K**	**0.77**	**346**	P	**Pb**	**20 22 43.8**	**-0.2**
AMT	**Artemida-Makis**	**0.88**	**87**	P	**Pb**	**20 22 46.2**	**+0.2**
AMT				S	**Sn**	**20 22 58.4**	**-0.4**
AMT				AML	AML	20 23 04.4	
	comp=N,30011μm,0.6s						
AMT				AML	AML	20 23 07.4	
	comp=E,35017μm,0.4s						
RLS	**Riolos of Patr**	**0.89**	**50**	P	**Pb**	**20 22 46.4**	**+0.4**
RLS				S	**Sn**	**20 23 00.8**	**+1.9**
	comp=E,3μm,0.5s						
RLS	**Riolos of Patr**	**0.89**	**50**	P	**Pn**	**20 22 46.6**	**-0.1**
RLS				AML	AML	20 23 06.6	
	comp=N,6596μm,0.7s						
RLS				AML	AML	20 23 07.5	
	comp=E,5773μm,0.7s						
FSK	**Fiskardo**	**0.96**	**358**	P	**Pn**	**20 22 47.8**	**0.0**
FSK				S	**Sn**	**20 23 03.3**	**+2.4**
	comp=E,11μm,0.6s						
FSK	**Fiskardo**	**0.96**	**358**	P	**Pb**	**20 22 47.7**	**+0.3**
FSK				AML	AML	20 23 07.4	
	comp=E,23703μm,0.6s						
FSK				AML	AML	20 23 07.6	
	comp=N,18831μm,0.6s						
DRO	**Drossia**	**0.99**	**62**	P	**Pn**	**20 22 48.6**	**+0.5**
DRO	**Drossia**	**0.99**	**62**	P	**Pb**	**20 22 47.7**	**-0.2**
DRO				AML	AML	20 23 12.6	
	comp=N,8890μm,0.7s						
DRO				AML	AML	20 23 16.1	
	comp=E,13303μm,0.6s						
PYL	**PYLOS**	**1.09**	**123**	P	**Pn**	**20 22 48.8**	**-0.6**
PYL				S	**Sn**	**20 23 04.9**	**+1.0**
	comp=E,4μm,0.6s						
PYL	**PYLOS**	**1.09**	**123**	P	**Pn**	**20 22 48.6**	**-0.8**
PYL				AML	AML	20 23 07.0	
	comp=E,8762μm,0.6s						
PYL				AML	AML	20 23 11.8	
	comp=N,5468μm,0.6s						
ITM	**Ithomi**	**1.10**	**106**	P	**Pb**	**20 22 49.8**	**+0.1**
ITM				S	**Sn**	**20 23 06.3**	**+2.1**
	comp=N,3μm,0.7s						
ITM	**Ithomi**	**1.10**	**106**	P	**Pn**	**20 22 49.2**	**-0.4**
ITM				AML	AML	20 23 10.2	
	comp=N,6710μm,0.5s						
ITM				AML	AML	20 23 21.7	
	comp=E,5691μm,0.6s						
EVGI	**Lefkada island**	**1.13**	**2**	P	**Pb**	**20 22 51.0**	**+0.8**
EVGI				S	**Sn**	**20 23 08.4**	**+3.5**
	comp=E,7μm,0.4s						
EVGI	**Lefkada island**	**1.13**	**2**	P	**Pb**	**20 22 50.5**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.19**	**359**	P	**Pb**	**20 22 51.9**	**+0.7**
DRAG				S	**Sn**	**20 23 10.1**	**+3.7**
DRAG	**Dragano-Lefkad**	**1.19**	**359**	P	**Pb**	**20 22 51.7**	**+0.5**
NYDR	**Nydri-Lefkada**	**1.22**	**3**	P	**Pb**	**20 22 52.5**	**+0.8**
NYDR				S	**Sn**	**20 23 11.3**	**+4.1**
	comp=E,4μm,0.4s						
NYDR	**Nydri-Lefkada**	**1.22**	**3**	P	**Pb**	**20 22 52.4**	**+0.6**
KLV	**Kalavryta, Ach**	**1.34**	**65**	P	**Pb**	**20 22 54.3**	**+0.4**
KLV	**Kalavryta, Ach**	**1.34**	**65**	P	**Pn**	**20 22 52.6**	**-0.4**
EFP	**Efpalio**	**1.39**	**47**	P	**Pb**	**20 22 54.5**	**-0.1**
EFP				AML	AML	20 23 25.4	
	comp=E,5159μm,0.7s						
EFP				AML	AML	20 23 27.0	
	comp=N,6212μm,0.7s						
GUR	**Goura**	**1.45**	**72**	P	**Pb**	**20 22 55.7**	**0.0**
GUR	**Goura**	**1.45**	**72**	P	**Pn**	**20 22 55.9**	**+0.2**
GUR				AML	AML	20 23 30.9	
	comp=N,5319μm,0.5s						
GUR				AML	AML	20 23 36.3	
	comp=E,5990μm,0.5s						
KALE	**Kalithea**	**1.51**	**53**	P	**Pb**	**20 22 56.4**	**-0.3**
KALE				AML	AML	20 23 30.6	
	comp=N,5514μm,0.5s						
KALE				AML	AML	20 23 37.8	
	comp=E,4583μm,0.8s						
ANX	**Ano Chora**	**1.51**	**43**	P	**Pb**	**20 22 56.9**	**+0.1**
AGG	**Agios Georgios**	**2.04**	**41**	Pn	**Pb**	**20 23 06.2**	**+0.4**
AGG	**Agios Georgios**	**2.04**	**41**	P	**Pb**	**20 23 06.2**	**+0.4**
IGT	**Igoumenitsa**	**2.05**	**354**	P	**Pb**	**20 23 08.4**	**+2.5**
KEK	**Kerkira**	**2.31**	**344**	Pn	**Pn**	**20 23 07.3**	**+1.1**
KZN	**Kozani**	**2.95**	**18**	P	**Pb**	**20 23 19.0**	**-2.3**
LIT	**Litokhoron**	**2.99**	**29**		**Pn**	**20 23 17.6**	**+1.9**
LIT	**Litokhoron**	**2.99**	**29**	P	**Pn**	**20 23 17.6**	**+1.9**
SCTE	**Santa Cesarea**	**3.07**	**328**	Pn	**Pn**	**20 23 17.2**	**+0.5**
FNA	**Florina**	**3.34**	**10**	Pn	**Pn**	**20 23 22.6**	**+2.1**
FNA	**Florina**	**3.34**	**10**	*ePn*	**Pn**	**20 23 23.3**	**+2.8**
FNA				*eSn*	**Sn**	**20 24 02.8**	**+3.2**
FNA	**Florina**	**3.34**	**10**	P	**Pn**	**20 23 22.6**	**+2.1**
PAIG	**Paliouri**	**3.42**	**44**	P	**Pb**	**20 23 28.6**	**-0.6**
TIP	**Timpagrande**	**3.46**	**300**		**Pn**	**20 23 22.4**	**+0.2**
OHR	**Ohrid**	**3.62**	**2**	*ePn*	**Pn**	**20 23 26.9**	**+2.6**
OHR				*eSn*	**Sn**	**20 24 07.2**	**+0.8**
OHR	**Ohrid**	**3.62**	**2**	*i Pn*	**Pn**	**20 23 28.4**	**+4.1**
OHR	**Ohrid**	**3.62**	**2**	P	**Pn**	**20 23 28.2**	**+3.9**
THE	**Thessaloniki**	**3.63**	**30**	P	**Pb**	**20 23 29.7**	**-3.2**
CEL	**Celeste**	**3.81**	**283**		**Pn**	**20 23 26.3**	**-0.5**
OUR	**Ouranopolis**	**3.87**	**42**	P	**Pb**	**20 23 34.1**	**-2.8**
TIR	**Tirane**	**3.89**	**352**		**Pn**	**20 23 27.8**	**-0.2**
TIR	**Tirane**	**3.89**	**352**	*ePn*	**Pn**	**20 23 29.5**	**+1.5**
TIR	**Tirane**	**3.89**	**352**	P	**Pn**	**20 23 27.8**	**-0.2**
SOH	**Sokhos**	**3.95**	**32**	P	**Pn**	**20 23 32.6**	**+3.7**
KNT	**Kendrikon**	**4.07**	**25**	P	**Pn**	**20 23 33.8**	**+3.3**
IDI	**Anoyia**	**4.10**	**121**	Pn	**Pn**	**20 23 29.6**	**-1.3**
IDI	**Anoyia**	**4.10**	**121**	Pn	**Pn**	**20 23 31.7**	**+0.8**
	comp=E,4.8nm,0.4s,baz=252,slow=8.0,SNR=12						
IDI				Sn	**Sn**	**20 24 19.2**	**+1.0**
	comp=E,5.6nm,0.3s,baz=343,slow=21,SNR=4.3						
IDI				LR	LR	20 25 29.9	
	comp=E,207nm,20.4s,baz=307,slow=45						
SRS	**Serrai**	**4.30**	**32**	*ePn*	**Pn**	**20 23 35.9**	**+2.3**
CUC	**Castrocucco**	**4.50**	**305**		**Pn**	**20 23 36.1**	**-0

comp=Z,1.5nm,0.2s
OBKA Obir 10.07 335 *e*Pn **Pn 20 24 52.5 -0.3**
TEOL Teolo 10.33 322 Pn **Pn 20 24 54.4 -1.8**
PSZ Piszkesteto 10.43 357 Pn **Pn 20 24 58.9 +1.1**
PSZ Piszkesteto 10.43 357 P **Pn 20 24 58.9 +1.1**
BRTR Keskin Array B 10.44 74 Pn **Pn 20 24 57.1 -1.0**
baz=103,slow=23
BRTR LR LR 20 29 03.6
comp=Z,195nm,18.7s,baz=276,slow=38
ARSA Arzberg 10.45 341 *e*Pn **Pn 20 24 58.3 +0.4**
comp=Z,1.5nm,0.4s
CSS Mathiatis 10.59 100 Pn **Pn 20 25 01.4 +1.6**
BURAR Bucovina Array 10.67 17 Pn **Pn 20 25 02.5 +1.5**
BURAR Bucovina Array 10.67 17 P **Pn 20 25 03.9 +2.8**
CTI Castel Tesino 10.85 325 Pn **Pn 20 25 02.3 -1.2**
CTI Castel Tesino 10.85 325 P **Pn 20 25 02.3 -1.2**
KBA Koelnbreinsper 10.98 333 *e*Pn **Pn 20 25 06.1 +0.7**
comp=Z,0.6nm,0.3s
ABTA Abfaltersbach 11.02 330 *e*Pn **Pn 20 25 06.7 +0.9**
comp=Z,2.5nm,0.5s
VYHS Vyhne 11.07 354 *e*P **Pn 20 25 08.7 +2.2**
VYHS Vyhne 11.07 354 *e*PN **Pn 20 25 08.7 +2.2**
MODS Modra-Piesok 11.14 348 *e*P **Pn 20 25 11.2 +3.7**
MODS Modra-Piesok 11.14 348 *e*PN **Pn 20 25 11.2 +3.7**
MOA Molln 11.35 338 *i* Pn **Pn 20 25 10.6 +0.3**
comp=Z,1.1nm,0.2s
BIOA Bad Ischl, Aus 11.41 336 *e*Pn **Pn 20 25 10.5 -0.6**
comp=Z,0.8nm,0.3s
LESA Schwarzleotal 11.52 332 *e*Pn **Pn 20 25 12.5 -0.1**
comp=Z,2.6nm,0.5s
WTTA Wattenberg 11.79 329 *e*Pn **Pn 20 25 19.6 +3.1**
comp=Z,0.7nm,0.2s
FUORN Ofenpass-Fuorn 11.92 323 Pn **Pn 20 25 18.2 -0.1**
FETA Feichten 12.00 326 *e*Pn **Pn 20 25 22.2 +3.0**
comp=Z,0.8nm,0.4s
MOTA Moosalm 12.08 328 *e*Pn **Pn 20 25 20.4 0.0**
comp=Z,0.3nm,0.2s
TUE Stuetta 12.26 321 Pn **Pn 20 25 22.6 -0.3**
GEC2 GERESS Array S 12.41 338 Pn **Pn 20 25 24.1 -0.8**
GERES GERESS Array B 12.41 338 Pn **Pn 20 25 27.0 +2.2**
comp=Z,0.4nm,0.3s,baz=153,slow=14,SNR=4.4
GERES Sn **Sn 20 27 39.1 -3.3**
comp=Z,0.3nm,0.3s,baz=296,slow=33,SNR=1.6
comp=Z,1.1nm,0.6s
DAVA Damuels 12.58 324 *e*Pn **Pn 20 25 27.3 +0.1**
comp=Z,0.4nm,0.2s
KHC Kasperske Hory 12.70 339 *e*PN **Pn 20 25 30.4 +1.6**
KHC *ex* x 20 25 45.3
KHC *e*SN **Sn 20 27 43.3 -6.2**
KHC Kasperske Hory 12.70 339 *e*P **Pn 20 25 30.4 +1.6**
KHC *e* 20 27 43.3
MMAI Mount Meron Ar 12.89 106 Pn **Pn 20 25 30.2 -1.2**
comp=Z,0.5nm,0.3s,baz=303,slow=15,SNR=1.6
comp=Z,0.2nm,0.3s
KZIT Kziot 13.16 116 P Pn 20 25 26.5 -8.7
SENIN Lac Senin/Sane 13.28 316 Pn **Pn 20 25 32.8 -4.1**
QRNJ Al-Qirein 13.32 108 P **Pn 20 25 35.2 -2.0**
GHAJ Ghor Haditha 13.80 112 Pn **Pn 20 25 40.9 -3.0**
EIL Elat 14.27 119 LR LR 20 34 02.4
comp=Z,43nm,18.3s,baz=316,slow=49
KIEV Kiev 14.56 22 Pn **Pn 20 25 54.3 +0.3**
KIEV Kiev 14.56 22 P **Pn 20 25 54.3 +0.3**
AKASG Malin Array Be 14.57 22 Pn **Pn 20 25 54.0 -0.2**
comp=Z,0.3nm,0.3s,baz=209,slow=11,SNR=1.8
AKASG LR LR 20 31 38.7
comp=Z,78nm,18.3s,baz=206,slow=38
comp=Z,0.2nm,0.3s
AKBB Malin Array Si 14.57 22 Pn **Pn 20 25 54.0 -0.2**
AKBB Malin Array Si 14.57 22 P **Pn 20 25 54.0 -0.2**
CLL Collm 14.83 341 Pn **Pn 20 25 57.1 -0.6**
CLL Collm 14.83 341 P **Pn 20 25 57.2 -0.6**
CLL Collm 14.83 341 *i* (PP) 20 26 05.9
comp=Z,7.0nm,1.0s
CLL *es*PPP 20 26 18.0
SUW Suwalki 16.62 5 Pn **Pn 20 26 19.5 -1.4**
SUW IAmb IAmb 20 26 34.3
comp=Z,27nm,1.0s
SUW Suwalki 16.62 5 P **Pn 20 26 19.5 -1.4**
SUW pmax pmax
comp=Z,27nm,1.0s
PABE Paberze 18.16 6 P **Pn 20 26 39.4 -0.7**
PABE IAmb IAmb 20 26 40.7
comp=Z,30nm,0.8s
GNI Garni 18.98 75 LR LR 20 34 19.0
comp=Z,62nm,18.6s,baz=284,slow=38
ESDC Sonseca Array 19.32 284 P **Pn 20 26 54.1 -0.2**
comp=Z,0.1nm,0.3s,baz=79,slow=12,SNR=5.6
comp=Z,1.9nm,1.0s
OBN Obninsk 20.70 27⇓*i*P Pn 20 27 19.2 +8.8
OBN *e**SP sP 20 27 23.3 +6.8
OBN *e* 20 27 32.1
OBN S Sn 20 31 02.0 -1.3
OBN *e* 20 31 25.2
OBN SSS SSS 20 31 45.0
OBN pmax pmax
comp=Z,32nm,1.8s
OBN MLR MLR
comp=Z,74nm,13.0s
MDT Midelt 21.11 265 P **P 20 27 13.8 +0.9**
comp=Z,2.3nm,0.9s,baz=68,slow=6.0,SNR=4.4
comp=Z,2.3nm,0.9s
HFS Hagfors 23.09 351 P **P 20 27 33.1 -0.4**
comp=Z,5.4nm,0.6s,baz=160,slow=11,SNR=16
HFS LR LR 20 37 41.4
comp=Z,63nm,18.7s,baz=350,slow=40
comp=Z,5.4nm,0.6s
NC602 NORSAR Array S 23.96 349 P **P 20 27 42.9 +0.9**
NC602 IAmb IAmb 20 27 59.5
comp=Z,6.4nm,0.9s
NORES NORESS Array B 23.96 349 P **P 20 27 45.9 +3.9**
EKA Eskdalemuir Ar 24.03 326 P **P 20 27 42.3 -0.4**
comp=Z,3.1nm,0.7s,baz=118,slow=8.9,SNR=6.9
comp=Z,3.1nm,0.7s
ESK Eskdalemuir 24.04 325 P **P 20 27 42.9 +0.1**
ESK Eskdalemuir 24.04 325 P **P 20 27 42.9 +0.1**
ESK pmax pmax
comp=Z,25nm,1.2s
BELG Belogornoye 24.05 43 LR LR 20 38 59.9
comp=Z,27nm,19.2s,baz=137,slow=41
NAO01 NORSAR Array S 24.17 348 P **P 20 27 44.1 +0.2**
NAO01 IAmb IAmb 20 28 11.9
comp=Z,16nm,1.1s
FINES FINESS Array B 24.22 6 P **P 20 27 43.3 -1.1**
comp=Z,1.7nm,0.6s,baz=175,slow=11,SNR=8.7
FINES LR LR 20 39 51.8
comp=Z,42nm,18.7s,baz=196,slow=43
comp=Z,1.7nm,0.6s
FINES FINESS Array B 24.22 6 P **P 20 27 44.3 -0.1**
FIA1 FINESS Array S 24.22 6 P **P 20 27 43.7 -0.7**
NC405 NORSAR Array S 24.30 349 P **P 20 27 45.7 +0.5**
NC405 IAmb IAmb 20 28 05.2
comp=Z,13nm,1.1s
NB2 NORSAR Subarra 24.30 349 P **P 20 27 45.6 +0.4**
comp=Z,1.5nm,0.7s,baz=162,slow=9.3
NOA NORSAR Array B 24.30 349 P **P 20 27 44.7 -0.5**
comp=Z,1.1nm,0.7s,baz=158,slow=9.1,SNR=8.3
NOA LR LR 20 37 31.6
comp=Z,34nm,20.1s,baz=155,slow=37
comp=Z,1.1nm,0.7s
NBO00 NORSAR Array S 24.36 348 P **P 20 27 46.4 +0.6**
DSB Dublin 24.44 319 P **P 20 27 45.1 -1.4**
KIRV Kirov 28.20 32 LR LR 20 39 31.6
comp=Z,48nm,18.1s,baz=224,slow=36
TORD Torodi Ar. Bea 29.54 220 P **P 20 28 33.7 +1.0**
comp=Z,1.0nm,0.7s,baz=23,slow=9.9,SNR=6.7
TORD LR LR 20 40 07.6
comp=Z,39nm,19.8s,baz=323,slow=36
comp=Z,1.0nm,0.7s
ARTI Arti 31.42 41 P **P 20 28 50.0 +1.1**
ARTI IAmb IAmb 20 28 57.3
comp=Z,3.1nm,1.0s
ARTI Arti 31.42 41 LR LR 20 42 37.4
comp=Z,46nm,20.6s,baz=235,slow=39
ARTI Arti 31.42 41 P **P 20 28 50.0 +1.1**
ARTI pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 32.21 3 P **P 20 28 55.4 -0.3**
comp=Z,1.4nm,0.8s,baz=188,slow=11,SNR=1.0
comp=Z,1.4nm,0.8s
BVAR Borovoye Array 37.51 49 P **P 20 29 42.2 +0.6**
comp=Z,0.4nm,0.5s,baz=320,slow=5.6,SNR=2.4
comp=Z,0.4nm,0.5s
KKAR Karatay Array 38.02 65 P **P 20 29 48.5 +2.4**
KKAR Karatay Array 38.02 65 P **P 20 29 48.5 +2.4**
DBIC Dimbokro 38.44 223 P **P 20 29 49.5 -0.3**
DBIC IAmb IAmb 20 29 51.5
comp=Z,4.2nm,0.9s
DBIC Dimbokro 38.44 223 P **P 20 29 50.3 +0.6**
comp=Z,2.7nm,0.7s,baz=36,slow=7.3,SNR=3.6
comp=Z,2.7nm,0.7s
DBIC Dimbokro 38.44 223 P **P 20 29 49.5 -0.3**
DBIC pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 40.98 65 LR LR 20 49 02.6
comp=Z,46nm,18.5s,baz=320,slow=39
KDJ Kajisay 43.03 65 P **P 20 30 28.5 +0.8**
KDJ Kajisay 43.03 65 P **P 20 30 28.5 +0.8**
KDJ pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 45.61 58 P **P 20 30 47.7 -0.4**
MK31 Makanchi Array 45.61 58 P **P 20 30 47.7 -0.4**
MK31 pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 45.61 58 P **P 20 30 47.9 -0.2**
comp=Z,0.3nm,0.5s,baz=270,slow=6.6,SNR=6.2
comp=Z,0.3nm,0.5s
ZAA0 Zalesovo Array 46.10 48 P **P 20 30 51.2 -0.6**
ZAA0 IAmb IAmb 20 31 16.6
comp=Z,3.1nm,1.1s
ZALV Zalesovo Beam 46.10 48 P **P 20 30 51.8 0.0**
comp=Z,0.8nm,0.6s,baz=268,slow=8.6,SNR=2.0
ZALV LR LR 20 50 42.9
comp=Z,24nm,20.6s,baz=28,slow=37
comp=Z,0.8nm,0.6s
RES Resolute Bay 60.44 344 P **P 20 32 37.0 +0.1**
RES IAmb IAmb 20 32 47.6
comp=Z,4.9nm,1.1s
RES Resolute Bay 60.44 344 P **P 20 32 37.0 +0.1**
RES pmax pmax
comp=Z,5.0nm,1.1s
CMAR Chiang Mai Arr 69.92 82 P **P 20 33 39.8 +0.5**
comp=Z,0.3nm,0.3s,baz=299,slow=8.9,SNR=5.1
comp=Z,0.3nm,0.3s
KSRS Korea Array 79.71 51 LR LR 21 14 22.8
comp=Z,21nm,18.9s,baz=40,slow=39
PETK Petropavlovsk- 82.40 24 P **P 20 34 50.0 +0.3**
comp=Z,1.2nm,0.3s,baz=301,slow=7.4,SNR=2.4
comp=Z,1.2nm,0.3s

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*IDC **06** 20:30:18.4±0.6, 7.°25S×123.°81E, h485^{km}±7^{km}, mb3.8/18, mbtmp4.7/22, Error ellipse: s-maj=16.4km s-min=7.0km az=66.0*
*DJA **06** 20:30:18.9±0.1, 7.°S±2.°×12.°4E± °, h484^{km}±2^{km}, M4.6/48, mB5.1/30, mb4.9/48, MLv5.3/28, Mw(mB)4.5/30*
*NEIC **06** 20:30:18.3±1.8, 7.°23S±0.°06×123.°86E±0.°08, h485^{km}±6^{km}, mb4.7/80, Error ellipse: s-maj=11.9km s-min=8.4km az=102.0*
ISC 06 20:30:18.0±0.5,**7.°26S**±0.°04×**123.°85E**±0.°05,**h486**^{km}±5^{km}, **n228**,σ1§**45**/242,**mb4.6**/65,**2C-2D**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
MMRI	**Maumere**	**2.10**	**229**	P	**P**	**20 31 22.0**		**-0.3**
MMRI	**Maumere**	**2.10**	**229**	P	**P**	**20 31 23.2**		**+0.9**
MMRI	**Maumere**	**2.10**	**229**	P	**P**	**20 31 22.3**		**0.0**
MMRI				S	**S**	**20 32 14.9**		**+0.4**
BBSI	**Bau Bau**	**2.17**	**324**	P	**P**	**20 31 25.5**		**+2.7**
BBSI				S	**S**	**20 32 17.9**		**+2.6**
SOEI	**Soe**	**2.51**	**170**	P	**P**	**20 31 25.8**		**+0.9**
SOEI				S	**S**	**20 32 15.6**		**-3.5**
SOEI	**Soe**	**2.51**	**170**	P	**P**	**20 31 26.2**		**+1.4**
SOEI	**Soe**	**2.51**	**170**	P	**P**	**20 31 25.8**		**+0.9**
SOEI				S	**S**	**20 32 19.4**		**+0.3**
BATI	**Baumata**	**2.93**	**184**	P	**P**	**20 31 28.2**		**+0.8**
	2μm,0.4s,baz=16,slow=0.4,SNR=268							
BATI				S	**S**	**20 32 23.6**		**-0.2**
	3μm,0.5s,baz=38,slow=17,SNR=32							
BATI	**Baumata**	**2.93**	**184**	P	**P**	**20 31 28.2**		**+0.8**
BATI				S	**S**	**20 32 23.7**		**-0.2**
BSSI	**Bau Bau, Buton**	**3.51**	**288**	P	**P**	**20 31 33.0**		**+1.3**
BKSI	**Bulukumba**	**4.17**	**297**	P	**P**	**20 31 38.5**		**+1.5**
BASI	**Baing, Sumba**	**4.37**	**227**	P	**P**	**20 31 38.2**		**-0.4**
KAPI	**Kappang**	**4.64**	**299**	P	**P**	**20 31 43.1**		**+2.0**
KAPI				S	**S**	**20 32 49.6**		**+0.9**
KAPI	**Kappang**	**4.64**	**299**	P	**P**	**20 31 42.1**		**+1.0**
	739nm,0.6s,baz=130,slow=5.0,SNR=472							
KAPI				S	**S**	**20 32 50.5**		**+1.8**
	99nm,0.7s,baz=155,slow=19,SNR=13							
BNSI	**Bone**	**4.68**	**307**	P	**P**	**20 31 43.2**		**+1.8**
WBSI	**Waikabubak, Su**	**5.00**	**241**	P	**P**	**20 31 43.0**		**-1.3**
NLAI	**Namlea**	**5.15**	**39**	P	**P**	**20 31 48.1**		**+2.5**
	341nm,0.8s,7μm2.8nm							
SPSI	**Sidrap Palu**	**5.21**	**309**	P	**P**	**20 31 47.4**		**+1.1**
	114nm,0.6s,0.4nm							
AAI	**Ambon**	**5.60**	**51**	P	**P**	**20 31 52.5**		**+2.6**
	169nm,0.7s,0.8nm							
SANI	**Sanana**	**5.60**	**23**	P	**P**	**20 31 51.9**		**+1.9**
SANI	**Sanana**	**5.60**	**23**	P	**P**	**20 31 51.5**		**+1.5**
	65nm,0.8s,6μm2.4nm							
TTSI	**Tana Toraja**	**5.80**	**316**	P	**P**	**20 31 53.8**		**+1.9**
	345nm,0.8s,3μm1.2nm							
PLAI	**Plampang**	**6.21**	**255**	P	**P**	**20 31 54.9**		**-0.9**
PLAI	**Plampang**	**6.21**	**255**	P	**P**	**20 31 54.5**		**-1.3**
	598nm,0.7s,7μm3.0nm							
LUWI	**Luwuk**	**6.27**	**350**	P	**P**	**20 31 58.5**		**+2.0**
LUWI	**Luwuk**	**6.27**	**350**	P	**P**	**20 31 58.6**		**+2.0**
LUWI	**Luwuk**	**6.27**	**350**	P	**P**	**20 31 58.3**		**+1.8**
	829nm,1.1s,9μm3.1nm							
MSAI	**Masohi**	**6.38**	**53**	P	**P**	**20 31 59.0**		**+1.4**
BNDI	**Bandanaira**	**6.61**	**66**	P	**P**	**20 32 02.6**		**+2.7**
BNDI	**Bandanaira**	**6.61**	**66**	P	**P**	**20 32 02.5**		**+2.7**
	288nm,0.7s,3μm2.4nm							
APSI	**Ampana**	**6.68**	**341**	P	**P**	**20 32 02.7**		**+2.2**
	396nm,1.1s,4μm1.1nm							
SAUI	**Saumlaki**	**7.42**	**96**	P	**P**	**20 32 08.4**		**+0.3**
SAUI				S	**S**	**20 33 34.4**		**-4.0**
SAUI	**Saumlaki**	**7.42**	**96**	P	**P**	**20 32 09.2**		**+1.1**
SAUI	**Saumlaki**	**7.42**	**96**	P	**P**	**20 32 08.8**		**+0.7**
	648nm,1.2s,5μm2.0nm							
KMSI	**Cibinong**	**7.79**	**1**	P	**P**	**20 32 14.4**		**+2.5**
MRSI	**Marisa**	**7.92**	**346**	P	**P**	**20 32 14.9**		**+1.6**
MPSI	**Mapaga**	**8.52**	**332**	P	**P**	**20 32 21.4**		**+1.8**
	327nm,0.9s,5μm							
SRBI	**Singaraja**	**8.60**	**264**	P	**P**	**20 32 20.5**		**+0.1**
	91nm,0.8s							
DRS	**Darwin Rock St**	**8.64**	**127**	P	**P**	**20 32 22.7**		**+1.9**
TNTI	**Ternate**	**8.72**	**24**	P	**P**	**20 32 21.1**		**-0.7**
TNTI				S	**S**	**20 34 01.6**		**-1.7**
TNTI	**Ternate**	**8.72**	**24**	P	**P**	**20 32 22.8**		**+1.1**
TNTI	**Ternate**	**8.72**	**24**	P	**P**	**20 32 23.3**		**+1.6**
	45nm,0.4s,0.4nm							
TOLI2	**Tolitoli**	**8.86**	**340**	P	**P**	**20 32 24.5**		**+1.2**
TOLI2				S	**S**	**20 34 05.7**		**-0.3**
TOLI2	**Tolitoli**	**8.86**	**340**	P	**P**	**20 32 25.1**		**+1.9**
MTN	**Manton Dam**	**9.07**	**128**	P	**P**	**20 32 26.2**		**+0.8**
MTN	**Manton Dam**	**9.07**	**128**	⇑P	**P**	**20 32 26.5**		**+1.2**
	comp=Z,337nm,0.6s							
MTN	**Manton Dam**	**9.07**	**128**	P	**P**	**20 32 26.4**		**+1.1**
BKB	**Balikpapan**	**9.14**	**310**	P	**P**	**20 32 28.6**		**+2.4**
BKB	**Balikpapan**	**9.14**	**310**	P	**P**	**20 32 30.8**		**+4.6**
FAKI	**Fak Fak**	**9.42**	**63**	P	**P**	**20 32 28.0**		**-1.2**
FAKI				S	**S**	**20 34 11.2**		**-5.7**
FAKI	**Fak Fak**	**9.42**	**63**	P	**P**	**20 32 28.9**		**-0.2**
FAKI	**Fak Fak**	**9.42**	**63**	P	**P**	**20 32 29.7**		**+0.6**
	comp=Z,62nm,0.7s							
SMKI	**Samarinda**	**9.47**	**315**	P	**P**	**20 32 33.3**		**+3.6**
KNRA	**Kununurra**	**9.65**	**150**	P	**P**	**20 32 32.2**		**+0.7**
KNRA	**Kununurra**	**9.65**	**150**	⇑P	**P**	**20 32 32.6**		**+1.1**
	comp=Z,212nm,1.2s							
JAGI	**Jajag, Banyuwa**	**9.68**	**262**	P	**P**	**20 32 30.2**		**-1.7**
JAGI				S	**S**	**20 34 14.5**		**-7.5**
JAGI	**Jajag, Banyuwa**	**9.68**	**262**	P	**P**	**20 32 31.1**		**-0.8**
JAGI	**Jajag, Banyuwa**	**9.68**	**262**	P	**P**	**20 32 31.3**		**-0.6**
	comp=Z,68nm,0.4s,comp=Z,2μm							
SWI	**Sorong**	**9.75**	**50**	P	**P**	**20 32 33.9**		**+1.2**
	comp=Z,291nm,0.9s,comp=Z,3μm							
KMMI	**Kalianget**	**9.80**	**271**	P	P	20 32 40.4		+7.2
KDU	**Kakadu**	**10.06**	**123**	P	**P**	**20 32 36.3**		**+0.4**
	comp=Z,223nm,0.9s							
KDU	**Kakadu**	**10.06**	**123**	P	**P**	**20 32 36.9**		**+1.0**
BLJI	**Banyuglugur**	**10.18**	**267**	P	**P**	**20 32 39.2**		**+2.0**
	comp=Z,108nm,0.6s							
KMPI	**Kaimana, Papua**	**10.45**	**70**	P	**P**	**20 32 41.2**		**+1.1**
	comp=Z,298nm,0.6s,comp=Z,3μm							
FITZ	**Fitzroy Crossi**	**10.91**	**171**	P	**P**	**20 32 45.7**		**+0.7**
FITZ	**Fitzroy Crossi**	**10.91**	**171**	P	**P**	**20 32 45.8**		**+0.9**
	comp=Z,198nm,0.5s,baz=5.4,slow=8.2,SNR=902							
FITZ				S	**S**	**20 34 44.5**		**-1.4**
	comp=Z,19nm,0.6s,baz=340,slow=23,SNR=5.6							
MTKI	**Muara Teweh, K**	**10.91**	**305**	P	**P**	**20 32 46.5**		**+1.4**
RKPI	**Ransiki, Papua**	**11.78**	**61**	P	**P**	**20 32 56.5**		**+2.2**
	comp=Z,217nm,0.7s,comp=Z,2μm							
MYLDM	**Lahad Datu**	**13.46**	**337**	P	**P**	**20 33 13.7**		**+1.4**
STKI	**Sintang**	**14.32**	**300**	P	**P**	**20 33 22.1**		**+0.7**
	comp=Z,109nm,0.8s,comp=Z,1μm							
MBWA	**Marble Bar**	**14.38**	**196**	P	**P**	**20 33 21.8**		**-0.1**
MBWA	**Marble Bar**	**14.38**	**196**	P	**P**	**20 33 22.3**		**+0.5**
PSA00	**Pilbara Seismi**	**14.74**	**195**	P	**P**	**20 33 25.4**		**-0.3**
PSA00	**Pilbara Seismi**	**14.74**	**195**	P	**P**	**20 33 26.6**		**+0.9**
KPJI	**Karang Pucung**	**14.79**	**269**	P	**P**	**20 33 26.4**		**0.0**
SBUM	**Sibu**	**15.09**	**309**	P	**P**	**20 33 29.9**		**+0.5**
SBUM	**Sibu**	**15.09**	**309**	P	**P**	**20 33 30.5**		**+1.0**
KKM	**Kota Kinabalu**	**15.26**	**330**	P	**P**	**20 33 31.1**		**-0.2**
KSM	**Kuching**	**16.05**	**302**	P	**P**	**20 33 39.2**		**-0.5**
KSM	**Kuching**	**16.05**	**302**	P	**P**	**20 33 40.3**		**+0.7**
WB0	**Warramunga Arr**	**16.10**	**142**	P	**P**	**20 33 39.4**		**-0.7**
WRA	**Warramunga Arr**	**16.20**	**142**	P	**P**	**20 33 39.6**		**-1.5**
WRA	**Warramunga Arr**	**16.20**	**142**	P	**P**	**20 33 40.6**		**-0.5**
	comp=Z,116nm,0.8s,baz=320,slow=11,SNR=377							
WRA				S	**S**	**20 36 27.7**		**-1.0**
	comp=Z,19nm,1.0s,baz=317,slow=19,SNR=9.5							
WRAB	**Tennant Creek**	**16.20**	**142**	P	**P**	**20 33 40.7**		**-0.4**
WB2	**Warramunga Arr**	**16.21**	**142**	P	**P**	**20 33 40.6**		**-0.6**
WR0	**Warramunga Arr**	**16.34**	**142**	P	**P**	**20 33 42.0**		**-0.6**
GENI	**Genyem**	**16.91**	**75**	P	**P**	**20 33 49.9**		**+1.3**
GENI	**Genyem**	**16.91**	**75**	P	**P**	**20 33 49.0**		**+0.4**
	comp=Z,168nm,0.9s							
TABU	**Tabubil**	**17.39**	**84**	P	**P**	**20 33 54.5**		**+1.1**
GIRL	**Giralia**	**17.87**	**210**	P	**P**	**20 33 58.5**		**+0.6**
WRKA	**Warakurna**	**18.18**	**167**	P	**P**	**20 34 01.5**		**+0.7**
XMIS	**Christmas Isla**	**18.26**	**259**	P	**P**	**20 33 59.6**		**-2.0**
PPBI	**Pangkal Pinang**	**18.36**	**285**	P	**P**	**20 34 04.7**		**+2.2**
	comp=Z,49nm,1.3s							
AS31	**Alice Springs**	**18.95**	**150**	P	**P**	**20 34 08.2**		**+0.3**
AS31				IAmb	IAmb	20 34 11.5		
	comp=Z,14nm,0.6s							
ASAR	**Alice Springs**	**18.95**	**150**	P	**P**	**20 34 08.6**		**+0.6**
ASAR	**Alice Springs**	**18.95**	**150**	P	**P**	**20 34 08.8**		**+0.8**
	comp=Z,32nm,0.7s,baz=332,slow=9.3,SNR=350							
ASAR				S	**S**	**20 37 17.9**		**+2.6**
	comp=Z,6.7nm,1.0s,baz=338,slow=21,SNR=4.6							
AS01	**Alice Springs**	**18.98**	**150**	P	**P**	**20 34 09.1**		**+1.0**
	comp=Z,69nm,0.9s							
MEEK	**Meekatharra**	**19.90**	**194**	P	**P**	**20 34 16.9**		**+0.4**
COEN	**Coen**	**20.12**	**111**	P	**P**	**20 34 18.5**		**-0.1**
COEN				IAmb	IAmb	20 34 19.9		
	comp=Z,11nm,0.5s							
QIS	**Mount Isa**	**20.19**	**132**	P	**P**	**20 34 21.0**		**+1.8**
TPRI	**Tanjung Pinang**	**20.92**	**292**	P	**P**	**20 34 29.6**		**+3.7**
	comp=Z,40nm,0.7s							
MYKOM	**Kota Tinggi**	**21.89**	**294**	P	**P**	**20 34 35.0**		**+0.3**
MYKOM				IAmb	IAmb	20 34 54.8		
	comp=Z,28nm,1.2s							
MORW	**Morawa**	**22.90**	**198**	P	**P**	**20 34 43.6**		**0.0**
MORW				IAmb	IAmb	20 35 10.8		
	comp=Z,45nm,1.5s							
PMG	**Port Moresby**	**23.16**	**97**	P	**P**	**20 34 45.9**		**-0.2**
OOD	**Oodnadatta**	**23.30**	**153**	P	**P**	**20 34 47.9**		**+0.8**
FORT	**Forrest**	**23.73**	**171**	P	**P**	**20 34 50.7**		**-0.2**
FORT				IAmb	IAmb	20 34 52.1		
	comp=Z,40nm,1.1s							
IPM	**Ipoh**	**25.59**	**296**	P	**P**	**20 35 07.2**		**-0.5**
IPM				IAmb	IAmb	20 35 08.8		
	comp=Z,11nm,0.8s							
IPM	**Ipoh**	**25.59**	**296**	P	**P**	**20 35 09.2**		**+1.5**
	comp=Z,15nm,0.9s							
NWAO	**Narrogin (SRO)**	**26.26**	**193**	P	**P**	**20 35 13.5**		**+0.1**
NWAO				IAmb	IAmb	20 35 19.9		
	comp=Z,37nm,1.4s							
KULM	**Kulim**	**26.29**	**298**	P	**P**	**20 35 13.6**		**-0.3**
KULM				IAmb	IAmb	20 35 14.6		
	comp=Z,16nm,0.7s							
KULM	**Kulim**	**26.29**	**298**	P	**P**	**20 35 14.3**		**+0.4**
RPSI	**Rantau Prapat**	**26.77**	**291**	P	**P**	**20 35 17.4**		**-0.7**
RPSI				IAmb	IAmb	20 35 19.1		
	comp=Z,20nm,0.9s							
PSI	**Prapat**	**26.80**	**291**	P	**P**	**20 35 18.3**		**-0.3**
	comp=Z,26nm,0.9s							
GSI	**Gunungsitoli**	**27.56**	**287**	P	**P**	**20 35 23.1**		**-1.9**
BBOO	**Buckleboo**	**27.84**	**158**	P	**P**	**20 35 27.2**		**0.0**
BBOO				IAmb	IAmb	20 35 28.5		
	comp=Z,22nm,0.8s							
SRIT	**Nakonsritamara**	**28.85**	**303**	P	**P**	**20 35 37.1**		**+0.8**
	comp=Z,96nm,0.8s							
SURA	**Surathani**	**29.13**	**304**	P	**P**	**20 35 39.8**		**+1.0**
	comp=Z,63nm,0.8s							
HTT	**Hallett**	**29.55**	**154**	P	**P**	**20 35 43.9**		**+1.6**
QIZ	**Qiongzhong**	**29.55**	**332**	P	**P**	**20 35 40.9**		**-1.5**
QIZ	**Qiongzhong**	**29.55**	**332**	P	**P**	**20 35 42.6**		**+0.2**
QIZ				pmax	pmax			
	comp=Z,40nm,1.1s							
STKA	**Stephens Creek**	**29.56**	**148**	P	**P**	**20 35 43.1**		**+0.8**
STKA	**Stephens Creek**	**29.56**	**148**	P	**P**	**20 35 43.5**		**+1.1**
	comp=Z,13nm,0.7s,baz=316,slow=10,SNR=21							
	comp=Z,13nm,0.7s							
STKA	**Stephens Creek**	**29.56**	**148**	P	**P**	**20 35 43.5**		**+1.1**
TWG	**Pinlang**	**30.02**	**355**	P	**P**	**20 35 44.6**		**-1.9**
TWG				IAmb	IAmb	20 35 52.9		
	comp=Z,18nm,0.6s							
TPUB	**Ta-pu**	**30.54**	**354**	P	**P**	**20 35 49.7**		**-1.2**
YULB	**Yu-li**	**30.57**	**355**	P	**P**	**20 35 48.5**		**-2.7**
YULB				IAmb	IAmb	20 35 53.3		
	comp=Z,13nm,0.6s							
HKPS	**Hong Kong Po S**	**30.86**	**342**	P	**P**	**20 35 51.9**		**-1.8**
SSLB	**Suanglung**	**30.99**	**355**	P	**P**	**20 35 53.2**		**-1.6**
SSLB				IAmb	IAmb	20 35 56.3		
	comp=Z,21nm,1.0s							
NACB	**Ninganchiao**	**31.32**	**356**	P	**P**	**20 35 55.8**		**-1.8**
NACB				IAmb	IAmb	20 36 07.5		
	comp=Z,48nm,1.5s							
YHNB	**Yeheng**	**31.83**	**356**	P	**P**	**20 36 00.3**		**-1.8**
YHNB				IAmb	IAmb	20 36 01.0		
	comp=Z,29nm,1.1s							
SRDT	**SRDT**	**32.60**	**311**	P	**P**	**20 36 09.7**		**+1.0**
ARPS	**Mount Arapiles**	**33.64**	**153**	P	**P**	**20 36

SHL Shillong 45.06 318 P P 20 37 49.5 -0.6
SHL IAmb IAmb 20 37 50.3
comp=Z,12nm,0.8s
HNS HongShan 45.24 350 *e*P **P 20 37 51.6 +0.6**
MAJO Matsushiro 45.61 16 P **P 20 37 53.2 -0.7**
MAJO IAmb IAmb 20 37 54.3
comp=Z,17nm,0.7s
MAJO Matsushiro 45.61 16 P **P 20 37 54.2 +0.3**
MJAR Matsushiro Arr 45.61 16 P **P 20 37 53.6 -0.2**
comp=Z,16nm,0.7s,baz=191,slow=8.9,SNR=35
comp=Z,16nm,0.7s
MJB9 Matsu-Tunnel 45.61 16 P **P 20 37 54.2 +0.3**
MJB9 IAmb IAmb 20 37 55.3
comp=Z,17nm,0.7s
LZH Lanzhou 47.04 338 *e*P **P 20 38 05.7 +0.7**
LZH pP pP 20 39 45.0 +7.7
LZH S **S 20 44 20.8 +0.3**
LZH pmax pmax
comp=Z,26nm,1.0s
BJI Beijing 47.60 352 P **P 20 38 10.8 +2.0**
BJI pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 48.36 321 P **P 20 38 15.9 +0.5**
HHC Hu-ho-hao-te 49.19 348 *e*P **P 20 38 24.7 +3.8**
HHC pmax pmax
comp=Z,24nm,0.7s
HHC pmax pmax
comp=Z,110nm,5.4s
JTM Tenmabayashi 50.37 17 P **P 20 38 29.6 +0.1**
JTM IAmb IAmb 20 38 41.8
comp=Z,56nm,1.2s
GTA Gaotai 51.50 336 *e*P **P 20 38 38.2 +0.3**
GTA PcP **PcP 20 39 45.2 +1.2**
GTA pP pP 20 40 20.2 +7.6
GTA pmax pmax
comp=Z,3.0nm,1.0s
USA0B Ussuriysk Arra 51.75 7 P **P 20 38 39.4 -0.1**
USA0B IAmb IAmb 20 38 40.6
comp=Z,15nm,0.6s
USRK Ussuriysk Ar. 51.75 7 P **P 20 38 39.4 -0.1**
USRK Ussuriysk Ar. 51.75 7 P **P 20 38 39.8 +0.4**
comp=Z,14nm,0.5s,baz=185,slow=6.8,SNR=42
comp=Z,14nm,0.5s
MDJ Mudanjiang 51.90 5 P **P 20 38 40.5 0.0**
MDJ IAmb IAmb 20 38 42.1
comp=Z,21nm,0.8s
MDJ Mudanjiang 51.90 5 P **P 20 38 41.5 +1.0**
MDJ PcP **PcP 20 39 49.7 +4.5**
MDJ pP pwP 20 40 23.1 +3.1
MDJ PcS **PcS 20 43 44.8 +0.8**
MDJ S **S 20 45 26.6 +0.4**
MDJ pmax pmax
comp=Z,32nm,0.7s
MDJ Mudanjiang 51.90 5 P **P 20 38 41.3 +0.8**
comp=Z,28nm,0.8s
MSVF Nonsavu 53.77 107 P **P 20 38 55.9 +1.4**
comp=Z,17nm,0.8s,baz=248,slow=8.9,SNR=7.4
comp=Z,17nm,0.8s
BKZ Black Stump Fm 56.84 132 P **P 20 39 15.7 0.0**
SONM Songino Array 56.99 346 P **P 20 39 16.6 +0.1**
SONM Songino Array 56.99 346 P **P 20 39 16.6 +0.1**
comp=Z,3.1nm,0.6s,baz=167,slow=8.2,SNR=20
SONM PcP **PcP 20 40 05.1 +0.1**
comp=Z,0.9nm,0.7s,baz=178,slow=5.0,SNR=2.2
comp=Z,3.1nm,0.6s
HEH HeiHe 57.36 3 *e*P **P 20 39 19.3 +0.4**
HEH pmax pmax
comp=Z,20nm,0.8s
HEH pmax pmax
comp=Z,110nm,5.7s
CASY Casey 59.64 186 P **P 20 39 35.0 +1.0**
CASY IAmb IAmb 20 39 37.7
comp=Z,50nm,1.4s
NIL Nilore 62.87 314 P **P 20 39 55.0 -1.0**
KSH Kashi 64.20 320 P **P 20 40 04.9 +0.4**
KSH pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 65.24 330 P **P 20 40 10.6 -0.2**
MKAR Makanchi Array 65.24 330 P **P 20 40 11.0 +0.2**
comp=Z,4.2nm,0.5s,baz=131,slow=7.3,SNR=62
comp=Z,4.2nm,0.5s
NRN Naryn 65.30 322 P **P 20 40 11.1 -0.6**
PEA0B Petropavlovsk- 66.64 21 P **P 20 40 20.1 +0.8**
PETK Petropavlovsk- 66.64 21 P **P 20 40 20.6 +1.2**
comp=Z,21nm,0.7s,baz=185,slow=4.5,SNR=23
comp=Z,21nm,0.7s
DRK Karamyk 66.88 318 P **P 20 40 21.8 +0.3**
AAK Ala-Archa 66.91 323 P **P 20 40 21.4 -0.1**
YAK Yakutsk 69.24 3 P **P 20 40 34.7 -0.3**
ZAA0 Zalesovo Array 69.25 337 P **P 20 40 34.6 -0.7**
ZALV Zalesovo Beam 69.25 337 P **P 20 40 34.1 -1.2**
ZALV Zalesovo Beam 69.25 337 P **P 20 40 34.6 -0.7**
comp=Z,1.2nm,0.3s,baz=128,slow=4.7,SNR=10
comp=Z,1.2nm,0.3s
KKAR Karatay Array 69.61 321 P **P 20 40 36.8 -1.0**
KURBB Kurchatov Arra 69.66 331 P **P 20 40 38.1 +0.2**
comp=Z,1.9nm,0.6s,baz=140,slow=5.2,SNR=11
comp=Z,1.9nm,0.6s
KURK Kurchatov 69.68 331 P **P 20 40 38.3 +0.3**
MAW Mawson 72.51 201 P **P 20 40 54.6 +0.3**
comp=Z,0.7nm,0.4s,baz=43,slow=8.1,SNR=3.6
comp=Z,0.7nm,0.4s
BVAR Borovoye Array 75.12 330 P **P 20 41 09.8 +0.3**
comp=Z,1.2nm,0.5s,baz=140,slow=4.8,SNR=9.7
comp=Z,1.2nm,0.5s
BRVK Borovoye 75.20 330 P **P 20 41 09.3 -0.6**
TIXI Tiksi 78.82 2 P **P 20 41 27.9 -1.4**
TIXI IAmb IAmb 20 41 29.8
comp=Z,12nm,0.6s
ABKAR Abkulak array 78.99 323 P **P 20 41 29.4 -1.2**
ABKAR Abkulak array 78.99 323 P **P 20 41 29.7 -1.0**
ABKAR IAmb IAmb 20 41 30.9
comp=Z,3.7nm,0.6s
NRIK Noril'sk 80.42 348 P **P 20 41 38.4 +0.5**
comp=Z,3.3nm,0.6s,baz=122,slow=5.4,SNR=5.6
comp=Z,3.3nm,0.6s
RAYN Ar Rayn 82.29 295 P **P 20 41 48.1 -0.4**
QSPA South Pole Qui 82.72 180 P **P 20 41 49.9 0.0**
QSPA South Pole Qui 82.72 180 P **P 20 41 50.2 +0.3**
comp=Z,5.1nm,1.0s,baz=300,slow=2.2,SNR=8.9
comp=Z,5.1nm,1.0s
ARTI Arti 82.83 329 P **P 20 41 49.5 -0.9**
ARTI IAmb IAmb 20 41 50.8
comp=Z,7.3nm,0.6s
KBZ Khabaz 88.47 314 P **P 20 42 17.8 -0.2**
comp=Z,1.7nm,0.8s,baz=104,slow=6.4,SNR=4.8
comp=Z,1.7nm,0.8s
H19K Roundabout Mou 92.31 24 P **P 20 42 34.0 -1.2**
H19K IAmb IAmb 20 42 36.6
comp=Z,12nm,0.9s
MLY Manley 94.59 25 IAmb IAmb 20 42 47.1
comp=Z,4.3nm,0.8s
G23K Bananza Creek 95.08 23 IAmb IAmb 20 42 49.7
comp=Z,6.2nm,1.1s
CCB Clear Creek Bu 95.80 26 P **P 20 42 49.7 -1.5**
CCB IAmb IAmb 20 42 51.0
comp=Z,5.0nm,0.9s
ILAR Eielson Array 96.20 26 P **P 20 42 51.5 -1.5**
comp=Z,0.9nm,0.9s,baz=273,slow=3.6,SNR=7.7
comp=Z,0.9nm,0.9s
J26L Joseph Creek 97.62 26 IAmb IAmb 20 43 00.4
comp=Z,4.1nm,0.9s
AKASG Malin Array Be 98.50 320 P Pdif 20 43 02.3 -1.2
comp=Z,0.5nm,0.6s,baz=85,slow=2.0,SNR=2.9
comp=Z,0.5nm,0.6s
NVAR Mina Array Bea 116.22 51 PKP **PKPdf 20 48 06.0 -0.3**
comp=Z,0.7nm,0.7s,baz=248,slow=3.2,SNR=3.7
HLID Hailey 117.75 44 PKPdf 20 48 08.6 -0.4
FLWY Flagg Ranch 120.12 43 PKPdf 20 48 12.3 -1.3
LOHW Long Hollow 120.35 43 PKPdf 20 48 13.2 -0.8
PDAR Pinedale Array 121.37 44 PKP **PKiKP 20 48 16.4 +0.2**
comp=Z,0.4nm,0.3s,baz=264,slow=1.8,SNR=4.0
TORD Torodi Ar. Bea 122.86 281 PKP **PKPdf 20 48 19.1 -0.2**
comp=Z,2.7nm,0.7s,baz=33,slow=2.6,SNR=16
O20A White River Ci 123.23 46 PKPdf 20 48 19.0 -0.7
VHRN Van Horn 128.76 56 PKPdf 20 48 29.0 -1.3
DBIC Dimbokro 129.10 273 PKP **PKPdf 20 48 31.3 0.0**
comp=Z,1.8nm,0.5s,baz=180,slow=6.1,SNR=4.2
T57A Hurt 143.69 32 PKPab 20 48 55.7 -0.4
GOGA Godfrey 143.72 40 PKPab 20 48 55.9 -0.4
JSC Jenkinsville 144.52 37 PKPbc 20 48 58.4 -0.5
T59A Double "B" Far 144.58 30 PKPbc 20 48 57.8 -1.2
W57A Gilead 144.65 35 PKPdf 20 48 57.8 -1.4
ITAB Concordia 145.49 186 PKPdf 20 48 59.2 -1.8
CPUP Villa Florida 146.59 178 PKPbc 20 49 05.7 +0.5
CPUP Villa Florida 146.59 178 PKPbc **PKPbc 20 49 05.4 +0.2**
comp=Z,9.1nm,0.8s,baz=181,slow=2.4,SNR=16
LPAZ La Paz 153.77 153 PKP **PKPdf 20 49 15.3 +0.4**
comp=Z,2.0nm,0.8s,baz=202,slow=2.7,SNR=3.9
LPAZ PKPab **PKPab 20 49 39.6 +1.3**
comp=Z,3.8nm,0.6s,baz=185,slow=2.7,SNR=12

NEIC ***06*** *20:40:01.1±1.5, 18°.3S±0°.3×178°.4W±0°.2, h590km±8km, mb4.3/14, Error ellipse: s-maj=52.5km s-min=25.1km az=157.0*
IDC ***06*** *20:40:01.1±4.0, 17°.83S×178°.53W, h601km±21km, mb3.3/3, mbtmp4.3/4, Error ellipse: s-maj=127.1km s-min=39.8km az=142.0*
ISC 06 20:40:00.3±2.6, 18°.2S±0°.4×178°.4W±0°.4, h600km, n21, σ0$89/20, mb4.3/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.45**	**276**	P	**P**	**20 41 21.6**	**-0.7**
MSVF	**Nonsavu**	**3.45**	**276**	P	**P**	**20 41 21.9**	**-0.3**
35nm,0.7s,baz=102,slow=4.1,SNR=20							
EIDS	**Eidsvold**	**29.23**	**250**	P	**P**	**20 45 15.4**	**-0.1**
EIDS				IAmb	IAmb	20 45 32.7	
comp=Z,18nm,1.5s							
TOO	**Toolangi**	**37.06**	**231**	P	**P**	**20 46 22.0**	**+0.9**
TOO				IAmb	IAmb	20 46 56.3	
comp=Z,10nm,1.4s							
COEN	**Coen**	**37.16**	**271**	P	**P**	**20 46 22.8**	**+0.7**
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**20 46 33.8**	**+0.5**
comp=Z,2.2nm,0.5s,baz=87,slow=12,SNR=3.7							
comp=Z,2.2nm,0.5s							
BBOO	**Buckleboo**	**43.34**	**241**	P	**P**	**20 47 11.4**	**+0.4**
WB0	**Warramunga Arr**	**44.61**	**260**	P	**P**	**20 47 20.4**	**-0.6**
WB0				IAmb	IAmb	20 48 04.1	
comp=Z,7.2nm,1.4s							
WB2	**Warramunga Arr**	**44.63**	**260**	P	**P**	**20 47 20.4**	**-0.7**
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**20 47 20.6**	**-0.6**
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**	**20 47 20.9**	**-0.3**
comp=Z,1.8nm,0.5s,baz=94,slow=7.0,SNR=35							
comp=Z,1.8nm,0.5s							
AS31	**Alice Springs**	**44.78**	**254**	P	**P**	**20 47 22.1**	**-0.1**
ASAR	**Alice Springs**	**44.78**	**254**	P	**P**	**20 47 22.4**	**+0.1**
comp=Z,4.3nm,0.4s,baz=87,slow=8.6,SNR=61							
comp=Z,4.3nm,0.4s							
FORT	**Forrest**	**49.95**	**245**	P	**P**	**20 48 00.1**	**-0.6**
FORT				IAmb	IAmb	20 48 01.1	
comp=Z,21nm,0.9s							
KNRA	**Kununurra**	**50.52**	**264**	P	**P**	**20 48 05.1**	**0.0**
KNRA				IAmb	IAmb	20 48 45.3	
comp=Z,25nm,1.4s							
SOEI	**Soe**	**56.12**	**270**	P	**P**	**20 48 46.0**	**+1.2**
SOEI				IAmb	IAmb	20 49 25.9	
comp=Z,9.9nm,1.1s							
PSA00	**Pilbara Seismi**	**57.90**	**256**	P	**P**	**20 48 54.9**	**-1.8**
PSA00				IAmb	IAmb	20 48 55.3	
comp=Z,28nm,1.4s							
MBWA	**Marble Bar**	**58.07**	**256**	P	**P**	**20 48 57.2**	**-0.6**
MBWA				IAmb	IAmb	20 49 18.9	
comp=Z,20nm,1.1s							
143A	**Socs Landing,**	**97.11**	**58**	P	Pdif	20 52 30.9	+1.4
BRTR	**Keskin Array B**	**144.99**	**315**	PKP	**PKPdf**	**20 58 29.4**	**-1.2**
comp=Z,0.4nm,0.6s,baz=62,slow=3.4,SNR=4.0							
MMAI	**Mount Meron Ar**	**146.32**	**303**	PKPbc	**PKPdf**	**20 58 34.8**	**+1.8**
comp=Z,0.8nm,0.5s,baz=61,slow=6.8,SNR=4.5							

ATH 06 21:03:22.3, 37°.62N×20°.42E, h13km±2km, ML2.6/5, Error ellipse: s-maj=3.7km s-min=1.3km az=37.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.35**	**75**	P	Pg	21 03 29.0	-0.3
LTHK				S	Sg	21 03 33.9	-0.1
LTHK				AML	AML	21 03 34.5	
comp=E,8103μm,0.4s							
LTHK				AML	AML	21 03 35.6	
comp=N,5065μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.51**	**15**	P	Pg	21 03 32.2	-0.1
PSDA				S	Sb	21 03 39.9	-0.6
VLS	**Valsamata**	**0.57**	**14**	P	Pg	21 03 33.3	-0.2
VLS				S	Sg	21 03 40.9	-0.3
VLS				AML	AML	21 03 44.0	
comp=N,1012μm,0.2s							
VLS				AML	AML	21 03 44.2	
comp=E,764μm,0.1s							
LXRA	**Lixouri, Kepha**	**0.58**	**2**	P	Pg	21 03 33.9	+0.3
LXRA				S	Sg	21 03 41.8	+0.5
DMLN	**Damoulianata-K**	**0.62**	**357**	P	Pg	21 03 33.8	-0.6
SMHA	**Samh**	**0.66**	**16**	P	Pg	21 03 34.4	-0.7
SMHA				S	Sg	21 03 44.1	+0.3
FSK	**Fiskardo**	**0.85**	**8**	P	Pg	21 03 37.6	-1.1
FSK				AML	AML	21 03 56.7	
comp=E,597μm,0.5s							
FSK				AML	AML	21 03 57.3	
comp=N,423μm,0.2s							
RLS	**Riolos of Patr**	**0.94**	**62**	P	Pb	21 03 39.7	-0.7
RLS				AML	AML	21 03 55.5	
comp=E,389μm,0.3s							
RLS				AML	AML	21 03 59.3	
comp=N,383μm,0.4s							
EVGI	**Lefkada island**	**1.02**	**11**	P	Pb	21 03 41.6	-0.2
AMT	**Artemida-Makis**	**1.03**	**94**	P	Pb	21 03 40.8	-1.2
AMT				AML	AML	21 04 01.6	
comp=E,917μm,0.3s							
AMT				AML	AML	21 04 01.6	
comp=N,1575μm,0.4s							
DRAG	**Dragano-Lefkad**	**1.07**	**7**	P	Pb	21 03 41.9	-0.7
DRO	**Drossia**	**1.08**	**72**	P	Pb	21 03 42.8	+0.1
NYDR	**Nydri-Lefkada**	**1.11**	**11**	P	Pb	21 03 41.7	-1.7
TSLK	**Tsoukalades, L**	**1.22**	**9**	P	Pn	21 03 44.4	-0.5
ITM	**Ithomi**	**1.28**	**110**	P	Pn	21 03 45.5	-0.4
PYL	**PYLOS**	**1.28**	**124**	P	Pn	21 03 43.2	-2.6
EFP	**Efpalio**	**1.43**	**55**	P	Pb	21 03 49.1	+0.4
KLV	**Kalavryta, Ach**	**1.44**	**72**	P	Pn	21 03 47.6	-0.4
GUR	**Goura**	**1.56**	**78**	P	Pn	21 03 49.9	+0.2

ATH 06 21:04:22.1, 37°.62N×20°.59E, h15km±3km, ML2.6/6, Manual Solution by F.Gkika This location: 2020/09/23 12:51:19 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.22**	**65**	P	Pg	21 04 26.6	-0.4
LTHK				S	Sg	21 04 29.5	-0.8
PSDA	**Pessada-Kefalo**	**0.49**	**360**	P	Pg	21 04 32.1	+0.2
PSDA				S	Sg	21 04 38.6	0.0
VLS	**Valsamata**	**0.56**	**0**	P	Pg	21 04 32.9	-0.2
VLS				S	Sg	21 04 40.5	-0.1
LXRA	**Lixouri, Kepha**	**0.59**	**348**	P	Pb	21 04 34.2	0.0
LXRA				S	Sb	21 04 42.3	-0.1
SMHA	**Samh**	**0.63**	**4**	P	Pg	21 04 33.6	-0.9
SMHA				S	Sg	21 04 42.8	-0.2
DMLN	**Damoulianata-K**	**0.64**	**345**	P	Pg	21 04 34.7	0.0
RLS	**Riolos of Patr**	**0.82**	**57**	P	Pg	21 04 37.7	-0.4
RLS				S	Sb	21 04 49.3	+0.3
FSK	**Fiskardo**	**0.84**	**359**	P	Pb	21 04 37.8	-0.6
FSK				S	Sb	21 04 49.6	+0.1
AMT	**Artemida-Makis**	**0.89**	**95**	P	Pg	21 04 39.5	+0.1
AMT				S	Sg	21 04 51.3	+0.2
DRO	**Drossia**	**0.95**	**69**	P	Pb	21 04 39.9	-0.3
EVGI	**Lefkada island**	**1.00**	**3**	P	Pb	21 04 40.8	-0.4
PYL	**PYLOS**	**1.17**	**128**	P	Pb	21 04 44.1	+0.1

IDC ***06*** *21:08:11.1±1.4, 3°.82S×137°.17E, h0km, mb3.6/6, mbtmp3.6/9, ML3.5/3, MS3.2/1, Error ellipse: s-maj=51.9km s-min=19.6km az=94.0*
DJA ***06*** *21:08:13.3±0.7, 4°.5±6°×13°.7E±°, h18km±6km, M4.3/7, mb4.3/5, MLv4.2/7*
ISC 06 21:08:15.7±0.8, 4°.09S±0°.08×137°.03E±0°.08, h35km, n16, σ2$00/19, mb3.7/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**3.35**	**277**	P	**Pn**	**21 09 04.8**	**-0.7**
GENI	**Genyem**	**3.47**	**65**	P	**Pn**	**21 09 06.4**	**-0.8**
RKPI	**Ransiki, Papua**	**3.84**	**312**	P	**Pn**	**21 09 13.7**	**+1.4**
JAY	**Jayapura**	**3.99**	**67**	P	**Pn**	**21 09 12.2**	**-2.2**
FAKI	**Fak Fak**	**4.92**	**284**	P	**Pn**	**21 09 28.5**	**+1.4**
FAKI				S	**Sn**	**21 10 25.5**	**+2.7**
SWI	**Sorong**	**6.60**	**299**	P	**Pn**	**21 09 48.4**	**-1.9**
21nm,0.5s,0.1nm							
SANI	**Sanana**	**11.21**	**280**	P	**Pn**	**21 10 49.4**	**-4.2**
WRA	**Warramunga Arr**	**15.97**	**189**	Pn	**Pn**	**21 11 59.2**	**+1.4**
0.1nm,0.3s,baz=14,slow=13,SNR=2.9							
WRA				Sn	**S**	**21 15 04.9**	**-2.0**
0.1nm,0.3s,baz=11,slow=22,SNR=4.8							
WRA				Lg	Lg	21 16 46.4	
0.1nm,0.3s,baz=9.1,slow=28,SNR=4.3							
0.8nm,0.8s							
FITZ	**Fitzroy Crossi**	**17.84**	**218**	P	**P**	**21 12 24.6**	**+3.0**
0.1nm,0.3s,baz=79,slow=21,SNR=2.2							
FITZ				S	**Sn**	**21 15 37.5**	**-1.6**
1.4nm,0.7s,baz=88,slow=16,SNR=1.5							
1.8nm,0.8s							
ASAR	**Alice Springs**	**19.69**	**189**	P	**Pn**	**21 12 46.0**	**+2.4**
0.3nm,0.3s,baz=16,slow=9.1,SNR=20							
ASAR				LR	LR	21 20 25.2	
comp=Z,68nm,19.1s,baz=58,slow=37							
2.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**43.71**	**302**	P	**P**	**21 16 17.9**	**+0.1**
0.7nm,0.3s,baz=116,slow=6.3,SNR=1.6							
0.7nm,0.3s							
USRK	**Ussuriysk Ar.**	**48.29**	**355**	P	**P**	**21 16 52.1**	**-1.3**
0.5nm,0.5s,baz=147,slow=17,SNR=1.7							
0.5nm,0.5s							
SONM	**Songino Array**	**58.28**	**336**	P	**P**	**21 18 07.1**	**+0.1**
0.1nm,0.5s,baz=159,slow=12,SNR=1.6							
0.1nm,0.5s							
MKAR	**Makanchi Array**	**69.87**	**323**	P	**P**	**21 19 23.4**	**+0.4**
0.5nm,0.8s,baz=107,slow=7.6,SNR=2.4							
0.5nm,0.8s							
KURBB	**Kurchatov Arra**	**73.90**	**326**	P	**P**	**21 19 46.1**	**-0.9**
0.6nm,1.0s,baz=112,slow=7.3,SNR=2.6							
0.6nm,1.0s							
ILAR	**Eielson Array**	**87.78**	**25**	P	**P**	**21 21 00.1**	**-0.7**
0.7nm,0.8s,baz=263,slow=5.4,SNR=5.6							
0.7nm,0.8s							

BJI ***06*** *21:22:53.1, 44°.75S×76°.90W, h10km, mB5.0/2, Ms5.3/7, Ms7 5.2/7*
GUC ***06*** *21:22:54.4±0.4, 45°.19S×76°.97W, h15km, ML4.4, MS5.1*
NEIC ***06*** *21:22:55.8±1.5, 45°.53S±0°.06×76°.8W±0°.1, h10km±1km, mb5.1/41, Mww5.3/17, Error ellipse: s-maj=17.3km s-min=9.9km az=269.0*
IDC ***06*** *21:22:55.2±0.7, 45°.66S×76°.50W, h0km, mb4.4/13, mbtmp4.4/14, ML4.3/1, MS4.7/35, Error ellipse: s-maj=28.4km s-min=16.0km az=98.0*
GCMT ***06*** *21:22:56.8±0.1, 45°.69S±0°.01×77°.09W±0°.01, h12km, MW5.2/147, Moment Tensor Solution. s89,c123; s147,c244; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.22±.01; $M_{\theta\theta}$0.43±.01; $M_{\phi\phi}$-0.21±.01; $M_{r\theta}$0.37±.03; $M_{\theta\phi}$-0.70±.01; $M_{\phi r}$-0.46±.04; Best double couple: $M_0$0.93800×10^{17} NP1:ϕ_s343.00000°, δ87.00000°, λ-37.00000°. NP2:ϕ_s75.00000°, δ53.00000°, λ-176.00000°. Principal axes: T 1.1150, Plg23.0000°, Azm35.0000°; N -0.3530, Plg53.0000°, Azm159.0000°; P -0.7610, Plg27.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***06*** *21:22:56, 45°.51S×76°.72W, h12km*
NEIC ***06*** *21:22:56, 45°.51S×77°.01W, h12km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.24; $M_{\theta\theta}$0.42; $M_{\phi\phi}$-0.19; $M_{r\theta}$0.27; $M_{\theta\phi}$-0.83; $M_{\phi r}$-0.51; Fault plane solution: $M_0$1.04000×10^{17} NP1: ϕ_s346.31000°, δ85.90000°, λ-34.09000°. NP2:ϕ_s79.08000°, δ56.01000°, λ-175.06000°. Principal axes: T 1.1880, Plg20.0000°, Azm38.0000°; N -0.2917, Plg56.0000°, Azm160.0000°; P -0.8964, Plg26.0000°, Azm297.0000°;*
VAO ***06*** *21:23:01.0±1.2, 45°.18S×76°.70W, h10km, mb4.9*
ISC 06 21:22:56.0±0.4, 45°.57S±0°.05×76°.86W±0°.07, h10km, n225, σ1$82/181, mb4.9/36, MS4.6/33, 5C-1D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AY02	**Valle Explorad**	**2.71**	**111**		**Pn**	**21 23 38.1**	**-1.5**
AY02	**Valle Explorad**	**2.71**	**111**	*i* P	**Pn**	**21 23 41.0**	**+1.4**
AY02				IAML		21 25 30.3	
comp=E,545nm,0.7s							
USPA	**Uspallante**	**2.72**	**78**	*e*P	**Pn**	**21 23 38.0**	**-1.7**
USPA				*i* S	**Sn**	**21 24 11.3**	**-1.4**
MGDN	**Magdalena**	**2.94**	**73**	*e*P	**Pn**	**21 23 40.3**	**-2.4**
MGDN				*i* S	**Sn**	**21 24 16.1**	**-1.9**
RMBA	**Ra$l Marn B**	**3.28**	**61**	*e*P	**Pn**	**21 23 44.2**	**-3.2**
PHPI	**Puyuhuapi**	**3.29**	**69**	*e*P	**Pn**	**21 23 45.2**	**-2.4**
PHPI				IAML		21 24 32.1	
comp=E,2μm,0.5s							
PHPI				IVMs_BB	IVMs_BB	21 25 20.2	
comp=N,136μm,4.3s							
COYC	**Coyhaique**	**3.35**	**92**	Pn	**Pn**	**21 23 47.2**	**-1.2**
GO07	**Milladeo Hill,**	**3.36**	**44**		**Pn**	**21 23 45.4**	**-3.1**
GO07	**Milladeo Hill,**	**3.36**	**44**	*e*P	Pn	21 23 44.1	-4.4
GO07				IVMs_BB	IVMs_BB	21 25 58.0	
comp=E,28μm,5.9s							
CYQE	**Coyhaique**	**3.38**	**91**	*e*P	**Pn**	**21 23 50.3**	**+1.5**
AY03	**Cochrane**	**3.40**	**121**		**Pn**	**21 23 48.4**	**-0.6**
LJUN	**La Junta**	**3.50**	**65**	*e*P	**Pn**	**21 23 48.0**	**-2.5**
LJUN				IVMs_BB	IVMs_BB	21 25 29.4	
comp=N,95μm,5.3s							
LL07	**Hotel Espejo d**	**3.66**	**43**		**Pn**	**21 23 50.1**	**-2.5**
LL07	**Hotel Espejo d**	**3.66**	**43**	*e*P	Pn	21 23 48.0	-4.6
LL07				IVMs_BB	IVMs_BB	21 27 05.7	
comp=E,55μm,4.4s							
LL06	**Loncomilla**	**4.09**	**36**		**Pn**	**21 23 56.5**	**-2.0**
LL06	**Loncomilla**	**4.09**	**36**	*e*P	**Pn**	**21 23 56.5**	**-2.0**
LL06				IVMs_BB	IVMs_BB	21 26 12.9	
comp=E,62μm,5.1s							
GO08	**Villa O'Higgin**	**4.13**	**136**	Pn	**Pn**	**21 23 57.7**	**-1.3**
GO08	**Villa O'Higgin**	**4.13**	**136**	*e*P	**Pn**	**21 23 57.2**	**-1.9**
VNTQ	**Ventisquero**	**4.15**	**51**	*e*P	**Pn**	**21 23 57.1**	**-2.4**
GLCR	**Glaciar**	**4.19**	**50**	*e*P	**Pn**	**21 23 57.6**	**-2.4**
PDRA	**Piedra**	**4.23**	**52**	*e*P	**Pn**	**21 23 58.4**	**-2.2**
LL02	**Futaleuf**	**4.31**	**58**		**Pn**	**21 23 59.3**	**-2.3**
LL02	**Futaleuf**	**4.31**	**58**	*e*P	Pn	21 23 57.4	-4.2
LL02				IVMs_BB	IVMs_BB	21 25 59.8	
comp=E,19μm,6.5s							
LL01	**San Ignacio de**	**4.53**	**47**		**Pn**	**21 24 02.4**	**-2.2**
LL01	**San Ignacio de**	**4.53**	**47**	*e*P	**Pn**	**21 24 01.8**	**-2.7**
LL01				IVMs_BB	IVMs_BB	21 26 56.9	
comp=E,16μm,4.5s							
LL05	**Los Muermos**	**4.84**	**32**		**Pn**	**21 24 07.1**	**-1.7**
LL05	**Los Muermos**	**4.84**	**32**	*e*P	**Pn**	**21 24 06.9**	**-2.0**
LL03	**Petrohue**	**5.49**	**38**		**Pn**	**21 24 16.0**	**-1.8**
LR04	**Corral**	**6.22**	**25**	Pn	**Pn**	**21 24 26.1**	**-1.7**
LR05	**Currie**	**6.42**	**35**	Pn	**Pn**	**21 24 29.2**	**-1.3**
GO09	**Cerro Castillo**	**6.45**	**154**		**Pn**	**21 24 30.5**	**-0.4**
PLCA	**Paso Flores**	**6.68**	**46**	Pn	**Pn**	**21 24 33.2**	**-1.0**
PLCA	**Paso Flores**	**6.68**	**46**	Pn	**Pn**	**21 24 32.2**	**-2.0**
comp=E,1.5nm,0.3s,baz=233,slow=10,SNR=27							
PLCA				LR	LR	21 27 10.3	
comp=E,18μm,19.4s,baz=214,slow=39							
comp=E,6.6nm,0.7s							
PLCA	**Paso Flores**	**6.68**	**46**	*e*P	**Pn**	**21 24 35.6**	**+1.3**
LR03	**Panguipulli**	**6.80**	**31**		**Pn**	**21 24 34.2**	**-1.6**
GO06	**Curarrehue**	**7.18**	**35**	Pn	**Pn**	**21

baz=167
H03N2 Juan Fernandez 12.22 352 Pn Pn 21 25 49.9 +0.2
baz=291,slow=76
H03N2 T T 21 38 46.6
baz=167
MT01 Popeta 12.46 22 Pn 21 25 50.1 -3.2
MT03 Universidad Ad 13.01 24 Pn 21 25 58.3 -2.7
TRQA Tornquist 13.39 61 Pn **Pn 21 26 04.8 -1.2**
CO03 El Pedregal 15.48 20 Pn **Pn 21 26 31.9 -2.5**
GO04 Tololo Observa 16.09 19 Pn 21 26 40.0 -2.5
LCO Las Campanas 17.23 18 Pn **Pn 21 26 55.3 -1.7**
PMSA Palmer Station 20.51 164 LR LR 21 33 41.8
comp=E,1μm,20.3s,baz=329,slow=32
PSAL Palomas, Salto 20.84 53 *eP* **P 21 27 38.7 +1.0**
PB14 IPOC Station P 21.54 16 P **P 21 27 43.3 -2.4**
PB14 IAmb IAmb 21 27 48.2
comp=Z,62nm,1.0s
ITQB Itaqui 22.46 52 P **P 21 27 53.2 -2.0**
ITQB IAmb IAmb 21 28 07.4
comp=Z,53nm,1.0s
ITQB Itaqui 22.46 52 *eP* **P 21 27 54.9 -0.2**
PLTB Pedras Altas 22.69 61 P **P 21 27 56.0 -1.7**
PLTB IAmb IAmb 21 28 01.4
comp=Z,48nm,1.1s
SMAI San Martin Ant 23.18 171 P **P 21 28 02.1 -0.2**
CPSB Cacapava Do Su 23.75 58 *eP* **P 21 28 09.0 +0.5**
LVC Limon Verde 23.81 18 P **P 21 28 08.1 -1.3**
LVC Limon Verde 23.81 18 LR LR 21 38 05.9
comp=Z,2μm,19.7s,baz=192,slow=38
LVC Limon Verde 23.81 18 *eP* **P 21 28 11.8 +2.5**
CPUP Villa Florida 24.75 46 P **P 21 28 17.0 -0.7**
CPUP IAmb IAmb 21 28 21.8
comp=Z,48nm,0.9s
CPUP Villa Florida 24.75 46 P **P 21 28 16.8 -0.9**
comp=Z,37nm,0.9s,baz=224,slow=8.9,SNR=29
CPUP LR LR 21 38 41.3
comp=Z,6μm,18.5s,baz=217,slow=38
comp=Z,37nm,0.9s
CNLB Canela 26.10 61 *eP* **P 21 28 33.1 +3.1**
PAPY Pozo Azul 26.21 41 *eP* **P 21 28 32.8 +2.0**
SJPY San Joaquin 26.47 46 *eP* **P 21 28 35.4 +2.1**
ITAB Concordia 26.86 56 P **P 21 28 35.7 -1.1**
ITAB IAmb IAmb 21 28 40.4
comp=Z,91nm,1.4s
ITAB Concordia 26.86 56 *eP* **P 21 28 39.6 +2.8**
FDPY Filadelfia 27.03 36 *eP* **P 21 28 40.9 +2.6**
TER01 Tubaro-SC 27.71 62 *eP* **P 21 28 47.4 +3.0**
MAJ01 Sao Joao Batis 28.60 60 *eP* **P 21 28 55.3 +3.0**
AMBA Amambai (Brazi 28.75 46 *eP* **P 21 28 53.1 -0.7**
PTGB Pitanga 28.85 52 *eP* **P 21 28 57.8 +3.1**
LPAZ La Paz 30.10 17 P **P 21 29 06.5 +0.1**
LPAZ La Paz 30.10 17 P **P 21 29 07.6 +1.2**
comp=Z,4.9nm,1.0s,baz=177,slow=5.1,SNR=12
comp=Z,4.9nm,1.0s
LPAZ La Paz 30.10 17 *eP* **P 21 29 09.1 +2.7**
LDASE Londrina, Braz 30.42 52 *eP* **P 21 29 09.7 +1.2**
AQDB Aquidauana 30.49 42 P **P 21 29 08.4 -0.7**
AQDB IAmb IAmb 21 29 20.0
comp=Z,23nm,1.1s
AQDB Aquidauana 30.49 42 *eP* **P 21 29 12.2 +3.1**
BBSD Serra de San D 31.39 31 *eP* **P 21 29 17.4 +0.3**
RPN Rapa Nui 31.69 294 LR LR 21 38 31.7
comp=Z,2μm,20.6s,baz=150,slow=29
SIV San Ignacio 32.33 29 LR LR 21 43 35.6
comp=Z,2μm,20.2s,baz=228,slow=38
RCLB Rio Claro- Sao 33.22 56 *eP* **P 21 29 36.5 +3.3**
NNA Nana 33.47 0 LR LR 21 40 05.2
comp=Z,1μm,19.7s,baz=174,slow=31
PTLB Pontes e Lacer 33.53 32 P **P 21 29 34.7 -1.1**
PTLB Pontes e Lacer 33.53 32 *eP* **P 21 29 36.0 +0.3**
ITRB Iturama 33.82 49 *eP* **P 21 29 40.0 +1.6**
SALV Santo Antonio 34.50 38 *eP* **P 21 29 46.2 +1.9**
VILB Vilhena 35.46 29 P **P 21 29 50.9 -1.7**
VILB Vilhena 35.46 29 *eP* **P 21 29 53.3 +0.7**
VAS01 Vassouras-RJ 35.77 61 *eP* **P 21 29 57.1 +1.9**
BSCB Bom Sucesso 35.94 58 *eP* **P 21 29 59.2 +2.4**
BELA Belgrano 2 36.33 166 P **P 21 30 00.5 +1.1**
BELA IAmb IAmb 21 30 15.3
comp=Z,74nm,1.7s
ETMB Extrema 36.78 18 P **P 21 30 02.9 -0.9**
ETMB IAmb IAmb 21 30 08.4
comp=Z,54nm,1.6s
ETMB Extrema 36.78 18 *eP* **P 21 30 04.9 +1.1**
PMNB Patos De Minas 36.91 53 *eP* **P 21 30 07.0 +2.0**
CZSB Cruzeiro do Su 37.87 7 P **P 21 30 11.8 -1.3**
CZSB Cruzeiro do Su 37.87 7 *eP* **P 21 30 14.6 +1.5**
PDRB Porto dos Gac 37.95 33 *eP* **P 21 30 14.6 +0.8**
ATAH Atahualpa 38.31 358 LR LR 21 42 35.7
comp=Z,2μm,20.2s,baz=189,slow=31
SAML Samuel 38.34 22 P **P 21 30 15.8 -1.3**
SAML IAmb IAmb 21 30 20.4
comp=Z,33nm,1.2s
SAML Samuel 38.34 22 *eP* **P 21 30 17.8 +0.7**
BDFB Brasilia 38.42 48 P **P 21 30 16.6 -1.4**
BDFB IAmb IAmb 21 30 21.0
comp=Z,35nm,1.2s
BDFB Brasilia 38.42 48 P **P 21 30 16.5 -1.4**
comp=Z,23nm,1.1s,baz=211,slow=9.8,SNR=14
BDFB LR LR 21 47 32.4
comp=Z,7μm,19.1s,baz=208,slow=39
comp=Z,23nm,1.1s
DIAM Diamantina, MG 38.69 56 *eP* **P 21 30 24.1 +3.9**
CLDB Colider 38.99 34 *eP* **P 21 30 24.6 +2.0**
SJMB Sao Joao De Ma 39.85 60 *eP* **P 21 30 31.5 +1.8**
RIB01 Linhares ES 39.87 61 *eP* **P 21 30 32.2 +2.3**
SNDB Serra Nova Dou 39.94 41 *eP* **P 21 30 32.4 +2.0**
VNA3 Neumayer Olymp 40.40 153 ⇑P **P 21 30 32.6 -1.1**
comp=Z,7.9nm,0.8s
VNA1 Neumayer--Stat 40.84 152 ⇑P **P 21 30 36.4 -0.9**
comp=Z,7.6nm,0.9s
JANB Januaria 40.91 53 *eP* **P 21 30 41.0 +2.4**
VNA2 Neumayer--Watz 41.13 152 ⇑P **P 21 30 38.9 -0.9**
comp=Z,7.0nm,0.7s,baz=289,slow=7.2
GUA01 Guaratinga, BA 42.31 59 *eP* **P 21 30 52.9 +2.9**
SNAA Sanae 42.58 153 P **P 21 30 50.6 -1.0**
SNAA Sanae 42.58 153 ⇑P **P 21 30 50.6 -1.0**
comp=Z,190nm,0.8s
SNAA Sanae 42.58 153 P **P 21 30 49.6 -2.0**
comp=Z,4.8nm,1.0s,baz=281,slow=7.9,SNR=7.1
comp=Z,4.8nm,1.0s
NPGB Novo Progresso 42.66 32 *eP* **P 21 30 53.4 +0.5**
SDBA SAO DESIDERIO 42.76 50 *eP* **P 21 30 56.3 +2.6**
COHC Cochancay 42.98 356 P **P 21 30 54.6 -0.8**
TEFE Tefe 43.24 18 *eP* **P 21 30 59.2 +1.7**
TROLL Troll, Antarti 44.22 154 ⇑P **P 21 31 04.1 -0.9**
comp=Z,570nm,1.1s
SMTB Santa Maria do 44.40 44 *eP* **P 21 31 07.0 +0.2**
MACA Manacapuru-AM 44.55 23 P **P 21 31 06.3 -1.8**
MACA IAmb IAmb 21 31 15.8
comp=Z,18nm,0.7s
MACA Manacapuru-AM 44.55 23 *eP* **P 21 31 09.7 +1.6**
QSPA South Pole Qui 44.68 180 P **P 21 31 07.9 -0.8**
QSPA South Pole Qui 44.68 180 P **P 21 31 07.9 -0.8**
comp=Z,5.1nm,0.7s,baz=130,slow=4.3,SNR=16
QSPA LR LR 21 48 05.1
comp=Z,572nm,18.5s,baz=150,slow=34
comp=Z,5.1nm,0.7s
GDU01 Guandu, BA 44.69 57 *eP* **P 21 31 12.2 +3.0**
ITTB Itaituba 44.99 31 *eP* **P 21 31 12.4 +0.8**
OTAV Otavalo 45.64 358 P **P 21 31 15.3 -1.8**
OTAV IAmb IAmb 21 31 21.8
comp=Z,22nm,1.4s
OTAV Otavalo 45.64 358 *eP* **P 21 31 19.1 +2.0**
PRPB Paraiapebas 45.73 39 *eP* **P 21 31 19.6 +2.2**
NBLA Lagarto - SE 47.91 57 *eP* **P 21 31 36.9 +2.4**
BOAV Boa Vista 49.91 22 P **P 21 31 49.1 -0.7**
BOAV IAmb IAmb 21 31 53.6
comp=Z,30nm,1.6s
BOAV Boa Vista 49.91 22 *eP* **P 21 31 51.4 +1.5**
ROSC El Rosal 50.24 3 P **P 21 31 51.7 -1.0**
ROSC El Rosal 50.24 3 P **P 21 31 52.6 -0.1**
comp=Z,10nm,0.3s,baz=87,slow=21,SNR=1.3
ROSC LR LR 21 51 22.4
comp=Z,2μm,19.1s,baz=202,slow=34
comp=Z,10nm,0.3s
ELIB Princess Elisa 50.40 157 *dP* **P 21 31 51.4 -1.7**
comp=Z,5.9nm,1.4s
SBA Scott Base 50.99 194 P **P 21 31 58.0 +0.7**
SBA IAmb IAmb 21 32 34.4
comp=Z,44nm,2.0s
RKT Rikitea 51.72 275 *eS* S 21 39 14.6 -11
comp=Z,832nm,28.0s
RKT *eLR* LR 21 46 56.2
comp=Z,2μm,28.0s

RCBR Riachuelo 53.16 55 LR LR 21 53 49.0
comp=Z,456nm,18.6s,baz=206,slow=35
BAUV El Baul 54.84 11 P **P 21 32 25.3 -1.0**
MDP Montagnes des 54.88 30 LR LR 21 56 35.1
comp=Z,790nm,20.0s,baz=192,slow=37
JTS Las Juntas de 56.08 350 LR LR 21 50 37.3
comp=Z,416nm,21.7s,baz=166,slow=30
TBI Tubuai 61.74 265 *eS* **S 21 41 34.2 -3.3**
comp=Z,965nm,30.2s
TBI *eLR* LR 21 51 30.4
comp=Z,2μm,27.0s
MAW Mawson 63.12 164 P **P 21 33 23.1 -0.1**
comp=Z,3.7nm,0.8s,baz=192,slow=8.6,SNR=7.7
MAW LR LR 21 59 31.1
comp=Z,1μm,21.9s,baz=206,slow=35
comp=Z,3.7nm,0.8s
PETF Flores 63.30 346 P **P 21 33 24.3 -0.6**
CMIG Matias Romero 64.47 341 LR LR 21 56 16.7
comp=Z,169nm,19.0s,baz=160,slow=31
TAOE Nuku Hiva Isla 65.11 283 *eLR* LR 21 53 00.2
comp=Z,303nm,24.7s
PPT2 Papeete2 65.62 269 *eLR* LR 21 53 18.5
comp=Z,179nm,22.8s
PPT Papeete 65.63 269 LR LR 21 56 25.0
comp=Z,213nm,19.5s,baz=180,slow=30
TEIG Tepich 66.30 348 P **P 21 33 43.8 -0.7**
TEIG IAmb IAmb 21 34 26.8
comp=Z,16nm,1.1s
TEIG Tepich 66.30 348 LR LR 21 56 49.3
comp=Z,272nm,21.0s,baz=176,slow=31
RAR Rarotonga 70.31 260 LR LR 21 58 17.3
comp=Z,427nm,18.6s,baz=132,slow=30
ZAIG Zacatecas 71.92 335 P **P 21 34 19.6 -0.1**
SUR Sutherland 72.54 118 LR LR 22 01 15.1
comp=Z,326nm,20.8s,baz=216,slow=32
RPZ Rata Peaks 72.62 225 LR LR 21 58 27.2
comp=Z,1μm,20.3s,baz=120,slow=29
URZ Urewera 73.37 232 LR LR 21 58 07.5
comp=Z,368nm,21.0s,baz=212,slow=29
LPIG La Paz 75.73 329 LR LR 22 01 05.2
comp=Z,175nm,18.1s,baz=188,slow=30
833A Chaparral WMA, 76.35 340 P **P 21 34 45.2 +0.2**
HPIG 76.78 334 P **P 21 34 47.8 0.0**
HPIG IAmb IAmb 21 34 59.8
comp=Z,29nm,1.8s
RAO Raoul Island 76.80 242 LR LR 22 02 31.1
comp=Z,178nm,19.4s,baz=109,slow=31
BOSA Boshof 77.91 118 P **P 21 34 55.4 +1.1**
comp=Z,4.5nm,0.9s,baz=189,slow=6.8,SNR=3.2
BOSA LR LR 22 06 48.3
comp=Z,268nm,18.5s,baz=218,slow=34
comp=Z,4.5nm,0.9s
TXAR Lajitas Array 78.43 336 P **P 21 34 59.0 +2.2**
comp=Z,0.5nm,0.5s,baz=218,slow=48,SNR=1.7
comp=Z,0.5nm,0.5s
JCT Junction City 78.51 340 P **P 21 34 57.7 +0.6**
GOGA Godfrey 78.84 354 P **P 21 34 58.8 0.0**
GOGA IAmb IAmb 21 35 19.1
comp=Z,34nm,1.5s
TSUM Tsumeb 79.56 107 LR LR 22 07 06.0
comp=Z,261nm,18.7s,baz=178,slow=33
LBTB Lobatse 80.69 116 LR LR 22 08 30.5
comp=Z,274nm,18.8s,baz=221,slow=34
BBTS Babate 80.94 58 LR LR 22 10 11.4
comp=Z,400nm,18.2s,baz=123,slow=35
FCAR Ozark Folk Cen 82.25 348 P **P 21 35 17.0 -0.1**
FCAR IAmb IAmb 21 35 19.9
comp=Z,33nm,1.8s
DBIC Dimbokro 82.33 72 P **P 21 35 18.4 +0.3**
comp=Z,6.0nm,1.0s,baz=330,slow=3.4,SNR=4.6
DBIC LR LR 22 08 53.1
comp=Z,205nm,18.2s,baz=215,slow=34
comp=Z,6.0nm,1.0s
WMOK Wichita Mounta 82.36 342 P **P 21 35 17.6 -0.2**
S39A Bolivar 84.20 347 P **P 21 35 26.7 -0.5**
S39A IAmb IAmb 21 35 48.8
comp=Z,12nm,0.9s
CCM Cathedral Cave 84.25 349 P **P 21 35 26.6 -0.7**
T25A Trinidad 86.00 338 P **P 21 35 36.5 +0.1**
T25A IAmb IAmb 21 35 49.1
comp=Z,26nm,1.4s
PFO Pinyon Flats O 86.59 328 LR LR 22 05 41.8
comp=Z,174nm,20.7s,baz=142,slow=30
MSVF Nonsavu 87.64 247 LR LR 22 06 58.1
comp=Z,284nm,21.2s,baz=186,slow=30
P18A Preston Nutter 89.95 335 P **P 21 35 53.1 -2.3**
P18A IAmb IAmb 21 36 06.1
comp=Z,31nm,1.7s
TORD Torodi Ar. Bea 91.44 73 P **P 21 36 02.6 +0.1**
comp=Z,0.5nm,0.8s,baz=251,slow=4.4,SNR=3.4
comp=Z,0.5nm,0.8s
DZM Mont Dzumac 91.54 236 *eLR* LR 22 05 25.3
comp=Z,1μm,30.2s
DZM Mont Dzumac 91.54 236 LR LR 22 09 41.8
comp=Z,199nm,19.0s,baz=163,slow=31
NVAR Mina Array Bea 91.55 329 P **P 21 36 03.7 +0.9**
comp=Z,0.2nm,0.5s,baz=140,slow=7.1,SNR=2.5
comp=Z,0.2nm,0.5s
PDAR Pinedale Array 92.65 337 P **P 21 36 09.9 +2.2**
comp=Z,0.3nm,0.7s,baz=152,slow=10.0,SNR=2.1
comp=Z,0.3nm,0.7s
STKA Stephens Creek 95.39 212 LR LR 22 11 42.0
comp=Z,444nm,19.6s,baz=179,slow=31
OPO Ambohidratompo 98.50 127 LR LR 22 15 37.1
comp=Z,132nm,19.8s,baz=358,slow=32
PVAQ Vaqueiros 103.38 50 *eLR* LR 22 15 28.1
PVAQ A A 22 20 30.7
comp=Z,521nm,22.0s
PMRV Marv??o 105.04 49 *eLR* LR 22 18 31.6
PMRV A A 22 22 19.1
comp=Z,554nm,22.0s
MTE Manteigas 105.67 48 *eLR* LR 22 18 00.3
MTE A A 22 22 48.2
comp=Z,685nm,20.0s
PGAV Gavieira, Arco 106.44 46 *eLR* LR 22 18 41.6
PGAV A A 22 24 53.1
comp=Z,632nm,18.0s
MVO Moncorvo 106.49 48 *eLR* LR 22 19 37.5
MVO A A 22 23 42.5
comp=Z,674nm,20.0s
H11S2 WAKE ISLAND Hyt21.41 265 T T 23 54 48.9
baz=140,slow=75,SNR=79
H11S1 WAKE ISLAND Hyt21.42 265 T T 23 54 52.1
baz=140,slow=75,SNR=33
H11S3 WAKE ISLAND Hyt21.42 265 T T 23 54 46.1
baz=140,slow=75,SNR=42
H11N3 WAKE ISLAND Hyt22.09 266 T T 23 55 32.8
baz=132,slow=76,SNR=4.1
H11N1 WAKE ISLAND Hyt22.10 266 T T 23 55 34.4
baz=132,slow=76,SNR=6.9
H11N2 WAKE ISLAND Hyt22.11 266 T T 23 55 34.3
baz=132,slow=76,SNR=7.3
NACGM Naroch 132.59 50 *e*PKP **PKPdf 21 42 07.1 -2.7**
comp=Z,12nm,0.9s,baz=248
KIRV Kirov 145.49 48 PKPbc **PKPdf 21 42 34.0 +0.9**
comp=Z,13nm,0.9s,baz=270,slow=11,SNR=13
HRA Herat 147.06 95 PKPbc **PKPdf 21 42 38.3 +1.4**
AKTO Aktyubinsk 149.78 64 PKPbc **PKPbc 21 42 44.8 -0.6**
comp=Z,1.9nm,0.8s,baz=271,slow=3.1,SNR=3.8
ARTI Arti 150.34 52 PKPbc **PKPbc 21 42 45.5 -0.9**
comp=Z,6.1nm,0.9s,baz=261,slow=5.3,SNR=7.3
ABKAR Akbulak array 150.83 67 PKPbc 21 42 46.9 -1.0
ABKAR Akbulak array 150.83 67 PKPbc 21 42 46.3 -1.6
TIXI Tiksi 151.11 343 PKPbc 21 42 47.7 -0.2
MJAR Matsushiro Arr 152.25 263 PKPbc **PKiKP 21 42 54.2 +2.3**
comp=Z,0.4nm,0.5s,baz=160,slow=3.9,SNR=4.1
CMAR Chiang Mai Arr 152.74 171 PKPbc **PKPbc 21 42 52.0 -1.3**
CMAR Chiang Mai Arr 152.74 171 PKPbc **PKPbc 21 42 52.2 -1.0**
comp=Z,0.3nm,0.3s,baz=249,slow=2.8,SNR=5.1
PZH PanZhiHua 160.94 176 PKP **PKPdf 21 42 56.5 -0.1**
NJ2 Nanjing 161.82 227 *e*PKP **PKPdf 21 42 57.6 +0.5**
KURBB Kurchatov Arra 162.84 64 PKPab **PKPab 21 43 48.0 +1.3**
comp=Z,0.6nm,0.3s,baz=284,slow=5.2,SNR=4.8
CD2 Chengdu 165.35 182 PKP **PKPdf 21 43 00.1 -0.4**
MKAR Makanchi Array 165.50 78 PKPab **PKPab 21 43 58.7 0.0**
comp=Z,1.5nm,1.0s,baz=251,slow=3.7,SNR=4.1
ZALV Zasovo Beam 165.53 48 PKPdf 21 42 58.7 -1.1
ZALV Zalesovo Beam 165.53 48 PKP **PKPdf 21 43 01.6 +1.8**
comp=Z,0.3nm,0.4s,baz=253,slow=4.5,SNR=1.8
WMQ Urumqi 168.86 94 *e*PKP **PKPdf 21 43 02.9 +0.2**
HHC Hu-ho-hao-te 172.25 235 *e*PKP **PKPdf 21 43 00.4 -4.3**
BTO Baotou 172.93 228 *e*PKP PKPdf 21 42 57.8 -7.2
BTO AMB AMB
comp=Z,210nm,10.6s
BTO LR LR
comp=Z,370nm,17.9s
BTO LR LR

comp=Z,350nm,13.3s
BTO LR LR
comp=Z,580nm,20.5s
GTA Gaotai 173.37 157 *e*PKP **PKPdf 21 43 09.0 +3.7**
GTA sPKP 21 43 15.1
GTA PKPab **sPKPab 21 44 41.2 +4.6**

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*ISN **06** 21:36:54.3±0.3, 34°.03N×46°.65E, h18km±2km, ML2.9*
*TEH **06** 21:36:54.4, 33°.99N×46°.65E, h11km±47km, ML2.9*
ISC 06 21:36:55.1±1.0, 33°.99N±0°.05×46°.66E±0°.04, h10km, n12, σ1°01/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.35**	**348**	Pg	**Pg**	**21 37 02.4**	**+0.2**
KCHF	**Cheshme Sefid,**	**0.43**	**48**	Pg	**Pg**	**21 37 03.1**	**-0.5**
GLG1	**Gilan-e-Gharb**	**0.63**	**282**	Pg	**Pg**	**21 37 06.6**	**-0.8**
IDHR	**Dehrash**	**0.75**	**343**	Pg	**Pg**	**21 37 08.7**	**-0.9**
ILIN	**Lien**	**0.96**	**15**	Pg	**Pg**	**21 37 13.0**	**-0.7**
KGS1	**Ghasr-e-Shirin**	**1.03**	**301**	Pg	**Pn**	**21 37 16.9**	**+1.3**
IBDR	**Badra**	**1.06**	**215**	*e*Pg	**Pb**	**21 37 14.5**	**-1.1**
IBDR				*e*Sg	**Sb**	**21 37 29.0**	**-0.5**
SNQR	**Sonqor, Kerman**	**1.19**	**42**	Pg	**Pg**	**21 37 17.0**	**-0.9**
IDOB	**Doab**	**1.28**	**98**	Pg	**Pn**	**21 37 19.3**	**+0.1**
BMDN	**Meydan**	**1.83**	**99**	Pn	**Pn**	**21 37 28.2**	**+1.4**
BHD	**Baghdad**	**2.03**	**250**	*e*Pn	**Pn**	**21 37 29.5**	**+0.2**
BHD				*e*Sn	**Sn**	**21 37 55.5**	**+0.8**
RAFI	**Al-Rafai**	**2.30**	**192**	*e*Pn	**Pn**	**21 37 34.0**	**+0.9**
RAFI				*e*Sn	**Sn**	**21 38 03.0**	**+1.6**

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*IDC **06** 21:57:29.3±0.9, 24°.21N×94°.69E, h0km, mb3.7/8, mbtmp3.7/10, ML4.0/2, MS4.4/3, Error ellipse: s-maj=34.0km s-min=16.1km az=64.0*
ISC 06 21:57:30.8±0.8, 24°.20N±0°.09×94°.61E±0°.08, h10km, n13, σ1°37/12, mb3.7/8, MS4.4/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**3.12**	**242**	Pn	**Pn**	**21 58 21.1**	**+1.2**
	34nm,0.3s,baz=242,slow=16,SNR=1.4						
BRDH				Sn	**Sn**	**21 58 55.6**	**-1.7**
	122nm,0.3s,baz=239,slow=19,SNR=18						
	96nm,0.3s						
CMAR	**Chiang Mai Arr**	**6.99**	**144**	Pn	**Pn**	**21 59 12.1**	**-1.2**
	0.4nm,0.3s,baz=295,slow=16,SNR=2.9						
CMAR				Sn	**Sn**	**22 00 35.2**	**+2.2**
	2.0nm,0.3s,baz=316,slow=15,SNR=12						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**24.62**	**339**	P	**P**	**22 02 51.4**	**+0.1**
	1.1nm,0.4s,baz=153,slow=8.9,SNR=26						
	1.1nm,0.4s						
SONM	**Songino Array**	**25.39**	**19**	P	**P**	**22 02 59.7**	**+1.4**
	0.6nm,0.4s,baz=198,slow=9.7,SNR=6.7						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**29.18**	**339**	P	**P**	**22 03 31.8**	**-0.4**
	0.2nm,0.6s,baz=186,slow=4.5,SNR=1.8						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**30.61**	**349**	P	**P**	**22 03 44.9**	**+0.1**
	0.4nm,0.4s,baz=164,slow=9.6,SNR=2.7						
	0.4nm,0.4s						
BATI	**Baumata**	**44.44**	**137**	LR	LR	22 27 06.3	
	comp=Z,377nm,19.6s,baz=186,slow=40						
MLR	**Muntele Rosu**	**58.44**	**310**	LR	LR	22 39 36.0	
	comp=Z,398nm,19.5s,baz=257,slow=43						
WRA	**Warramunga Arr**	**58.50**	**135**	P	**P**	**22 07 27.4**	**-0.1**
	0.7nm,0.5s,baz=321,slow=7.4,SNR=15						
	0.7nm,0.5s						
FINES	**FINESS Array B**	**58.80**	**328**	P	**P**	**22 07 29.9**	**+0.9**
	2.4nm,0.9s,baz=66,slow=6.7,SNR=3.2						
	2.4nm,0.9s						
ARCES	**ARCESS Array B**	**60.26**	**338**	LR	LR	22 37 26.9	
	comp=Z,290nm,19.1s,baz=253,slow=40						
ASAR	**Alice Springs**	**60.97**	**138**	P	**P**	**22 07 44.2**	**-0.2**
	0.4nm,0.3s,baz=314,slow=6.3,SNR=7.6						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**79.55**	**23**	P	**P**	**22 09 35.8**	**-1.8**
	0.4nm,0.6s,baz=291,slow=4.8,SNR=4.3						
	0.4nm,0.6s						

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*IDC **06** 22:11:20.7±3.2, 12°.66N×88°.36W, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=73.4km s-min=58.0km az=33.0*
*CATAC **06** 22:11:30.9±0.5, 12°.89N×88°.90W, h25km±4km, ML4.2*
*SNET **06** 22:11:32.0±0.8, 12°.93N×88°.90W, h42km±5km, ML4.1*
*UCR **06** 22:11:32.9±0.6, 13°.25N×88°.70W, h34km±999km, MW3.8*
ISC 06 22:11:31.4±1.1, 12°.94N±0°.06×88°.89W±0°.04, h58km±9km, n89, σ0°82/122, mb3.7/4, 34C-6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.61**	**10**	⇑*i*P	**Pn**	**22 11 44.6**	**0.0**
TECO	**Alcaldia de Te**	**0.61**	**10**	⇑*i*P	**Pn**	**22 11 44.5**	**0.0**
TECO				*i* S	**Sn**	**22 11 54.3**	**+0.3**
TECO				IAML		22 11 55.1	
	comp=Z,11μm,1.0s						
TECA	**Tecapa**	**0.67**	**34**	⇑*i*P	**Pn**	**22 11 45.7**	**+0.3**
TECA				⇑*i*P		22 11 45.8	
SNVI	**San Vicente**	**0.67**	**4**	⇑*e*P	**Pn**	**22 11 45.6**	**+0.2**
LALI	**Alcalda de L**	**0.69**	**323**	⇑*e*P	**Pn**	**22 11 45.4**	**-0.1**
LALI				*e*S	**Sn**	**22 11 54.8**	**-0.9**
LALI	**Alcalda de L**	**0.69**	**323**	⇑*i*P	**Pn**	**22 11 45.4**	**-0.1**
LALI				*i* S	**Sn**	**22 11 55.0**	**-0.7**
LALI				IAML		22 11 55.3	
	comp=Z,4μm,1.0s						
LFRS	**El Faro**	**0.70**	**346**	⇓*e*P	**Pn**	**22 11 45.7**	**-0.1**
UESV	**Universidad de**	**0.70**	**8**	⇑*e*P	**Pn**	**22 11 46.0**	**+0.3**
UESV	**Universidad de**	**0.70**	**8**	⇑*i*P	**Pn**	**22 11 46.0**	**+0.3**
UESV				IAML		22 11 46.2	
	comp=Z,20μm,1.0s						
UESV				*i* S	**Sn**	**22 11 56.8**	**+0.7**
PANCS	**Alcalda de**	**0.73**	**337**	*i* P	**Pn**	**22 11 45.3**	**-0.7**
PANCS				*i* S	**Sn**	**22 11 56.2**	**-0.4**
PANCS				IAML		22 12 05.6	
	comp=Z,7μm,1.0s						
LOMA	**Loma Larga**	**0.75**	**339**	*e*P	**Pn**	**22 11 46.3**	**0.0**
LOMA				*e*S	**Sn**	**22 11 57.6**	**+0.2**
LOMA	**Loma Larga**	**0.75**	**339**	*i* P	**Pn**	**22 11 46.4**	**0.0**
LOMA				*i* S	**Sn**	**22 11 57.5**	**+0.2**
LOMA				IAML		22 11 59.0	
	comp=Z,7μm,1.0s						
PQSS	**Presa 15 de Se**	**0.76**	**25**	*e*P	**Pn**	**22 11 47.0**	**+0.7**
PQSS	**Presa 15 de Se**	**0.76**	**25**	*i* P	**Pn**	**22 11 47.0**	**+0.7**
PQSS				*i* S	**Sn**	**22 11 58.8**	**+1.7**
PQSS				IAML		22 11 59.2	
	comp=Z,49μm,1.0s						
LCY	**Lacayo**	**0.76**	**50**	⇑*i*P	**Pn**	**22 11 46.6**	**+0.2**
RANC	**El Ranchito**	**0.77**	**50**	⇓*i*P	**Pn**	**22 11 46.8**	**+0.2**
RANC	**El Ranchito**	**0.77**	**50**	⇓*i*P	**Pn**	**22 11 46.7**	**+0.2**
RANC				*i* S	**Sn**	**22 11 58.1**	**+0.4**
RANC				IAML		22 12 02.2	
	comp=Z,9μm,1.0s						
PAVA	**Las Pavas**	**0.77**	**357**	⇑*i*P	**Pn**	**22 11 47.0**	**+0.4**
PAVA	**Las Pavas**	**0.77**	**357**	⇑*i*P	**Pn**	**22 11 47.0**	**+0.4**
PAVA				*i* S	**Sn**	**22 11 58.4**	**+0.7**
PAVA				IAML		22 12 00.5	
	comp=Z,27μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.78**	**12**	⇑*e*P	**Pn**	**22 11 47.2**	**+0.5**
SCLA	**Alcaldia de Sa**	**0.78**	**12**	⇑*i*P	**Pn**	**22 11 47.1**	**+0.5**
SCLA				*i* S	**Sn**	**22 11 58.3**	**+0.6**
SCLA				IAML		22 12 05.1	
	comp=Z,4μm,1.0s						
AEIL	**Aeropuerto Ilo**	**0.79**	**344**	*e*P	**Pn**	**22 11 47.2**	**+0.5**
BLLM	**Bellamira**	**0.81**	**52**	⇓*i*P	**Pn**	**22 11 47.3**	**+0.3**
SNET	**Serv Nac Est T**	**0.81**	**336**	⇑*e*P	**Pn**	**22 11 47.2**	**0.0**
SNET	**Serv Nac Est T**	**0.81**	**336**	⇑*i*P	**Pn**	**22 11 47.1**	**0.0**
SNET				*i* S	**Sn**	**22 11 58.7**	**+0.1**
SNET				IAML		22 12 01.8	
	comp=Z,7μm,1.0s						
UDBS	**Universidad Do**	**0.81**	**342**	*e*P	**Pn**	**22 11 47.6**	**+0.5**
UTEC	**Universidad Te**	**0.82**	**338**	*i* P	**Pn**	**22 11 47.2**	**+0.1**
UTEC				*i* S	**Sn**	**22 11 58.8**	**+0.2**
UTEC				IAML		22 12 05.0	
	comp=Z,3μm,1.0s						
ITCA	**Escuela Especi**	**0.82**	**333**	*e*P	**Pn**	**22 11 47.3**	**+0.1**
ITCA	**Escuela Especi**	**0.82**	**333**	*i* P	**Pn**	**22 11 47.2**	**0.0**
ITCA				*i* S	**Sn**	**22 11 59.3**	**+0.5**
ITCA				IAML		22 12 10.1	
	comp=Z,8μm,1.0s						
SEMO	**Seminario San**	**0.83**	**337**	*i* P	**Pn**	**22 11 47.4**	**+0.1**

SEMO				*i* S	**Sn**	**22 11 58.9**	**0.0**
SEMO				IAML		22 12 00.4	
	comp=Z,9μm,1.0s						
LFU	**La Fuente**	**0.83 345**		*e*P	**Pn**	**22 11 47.7**	**+0.3**
UEES	**Universidad Ev**	**0.84 336**		*e*P	**Pn**	**22 11 47.7**	**+0.1**
UEES	**Universidad Ev**	**0.84 336**		*i* P	**Pn**	**22 11 47.6**	**+0.1**
UEES				*i* S	**Sn**	**22 12 00.1**	**+0.8**
UEES				IAML		22 12 03.3	
	comp=Z,4μm,1.0s						
PMON	**Piamonte**	**0.87 332**	⇑	*i*P	**Pn**	**22 11 48.0**	**+0.1**
PMON	**Piamonte**	**0.87 332**	⇑	*i*P	**Pn**	**22 11 48.0**	**+0.1**
PMON				*i* S	**Sn**	**22 12 08.6**	**+0.6**
PMON				IAML		22 12 09.0	
	comp=Z,6μm,1.0s						
PIC2	**El Picacho**	**0.88 336**	⇑	*i*P	**Pn**	**22 11 48.5**	**+0.4**
BOQS	**Boqueron**	**0.88 335**	⇑	*e*P	**Pn**	**22 11 48.4**	**+0.3**
CNRM	**Centro Naciona**	**0.88 53**		*e*P	**Pn**	**22 11 48.2**	**+0.3**
CNRM	**Centro Naciona**	**0.88 53**		*i* P	**Pn**	**22 11 48.2**	**+0.3**
CNRM				*i* S	**Sn**	**22 12 00.7**	**+0.7**
CNRM				IAML		22 12 21.3	
	comp=Z,17μm,1.0s						
JAYA	**Jayaque - finc**	**0.90 323**	⇑	*i*Pg	**Pn**	**22 11 48.1**	**-0.2**
JAYA	**Jayaque - finc**	**0.90 323**	⇑	*i*P	**Pn**	**22 11 48.0**	**-0.2**
JAYA				*i* S	**Sn**	**22 12 00.8**	**+0.2**
JAYA				IAML		22 12 01.5	
	comp=Z,26μm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.97 338**		*i* P	**Pn**	**22 11 49.8**	**+0.8**
QUEZ				*i* S	**Sn**	**22 12 03.1**	**+1.1**
QUEZ				IAML		22 12 14.0	
	comp=Z,8μm,1.0s						
CEDA	**San Andres**	**0.99 330**	⇑	*e*P	**Pn**	**22 11 49.6**	**+0.3**
CEDA	**San Andres**	**0.99 330**		*i* P	**Pn**	**22 11 49.6**	**+0.3**
CEDA				*i* S	**Sn**	**22 12 03.4**	**+0.8**
CEDA				IAML		22 12 19.0	
	comp=Z,6μm,1.0s						
LCND	**La Caada**	**1.04 69**	⇑	*e*P	**Pn**	**22 11 50.3**	**+0.2**
LCND				*e*S	**Sn**	**22 12 04.4**	**+0.7**
LCND	**La Caada**	**1.04 69**	⇑	*i*P	**Pn**	**22 11 50.2**	**+0.2**
LCND				*i* S	**Sn**	**22 12 04.4**	**+0.7**
LCND				IAML		22 12 08.3	
	comp=Z,8μm,1.0s						
CAHU	**Cacacuatique**	**1.06 39**	⇓	*e*P	**Pn**	**22 11 51.0**	**+0.6**
CNCH	**Conchagua**	**1.08 72**	⇓	*e*P	**Pn**	**22 11 50.7**	**0.0**
CEVE	**Cerro Verde**	**1.14 321**		*e*P	**Pn**	**22 11 51.9**	**+0.5**
CEVE	**Cerro Verde**	**1.14 321**		*i* P	**Pn**	**22 11 51.9**	**+0.5**
CEVE				*i* S	**Sn**	**22 12 08.0**	**+1.7**
CEVE				IAML		22 12 15.6	
	comp=Z,5μm,1.0s						
SBLS	**San Blas**	**1.15 322**		*e*P	**Pn**	**22 11 52.3**	**+0.7**
SNJE	**San Jose**	**1.16 323**		*e*P	**Pn**	**22 11 52.1**	**+0.5**
RTR	**El Retiro**	**1.20 323**		*e*P	**Pn**	**22 11 53.2**	**+0.9**
LLGN	**La Laguna**	**1.22 358**	⇑	*i*P	**Pn**	**22 11 53.1**	**+0.6**
LLGN	**La Laguna**	**1.22 358**	⇑	*i*P	**Pn**	**22 11 53.0**	**+0.6**
LLGN				IAML		22 11 53.1	
	comp=Z,2μm,1.0s						
LLGN				*i* S	**Sn**	**22 12 10.6**	**+2.5**
UNIC	**Universidad Ca**	**1.22 328**		*i* P	**Pn**	**22 11 53.0**	**+0.6**
UNIC				IAML		22 11 53.3	
	comp=Z,3μm,1.0s						
UNIC				*i* S	**Sn**	**22 12 09.1**	**+1.1**
NUBE	**Las Nubes**	**1.29 318**	⇑	*e*P	**Pn**	**22 11 53.9**	**+0.4**
NUBE				*e*S	**Sn**	**22 12 10.2**	**+0.4**
NUBE	**Las Nubes**	**1.29 318**	⇑	*i*P	**Pn**	**22 11 53.8**	**+0.4**
NUBE				*i* S	**Sn**	**22 12 10.4**	**+0.5**
NUBE				IAML		22 12 11.8	
	comp=Z,4μm,1.0s						
CSGN	**Cosiguina Volc**	**1.30 88**		*i* P	**Pn**	**22 11 54.2**	**+0.7**
CSGN				*i* S	**Sn**	**22 12 10.7**	**+0.7**
CSGN				IAML		22 12 14.4	
	comp=Z,960nm,1.0s						
LOAL	**Lomas de Alarc**	**1.36 321**		*e*P	**Pn**	**22 11 55.4**	**+1.1**
LOAL	**Lomas de Alarc**	**1.36 321**		*i* P	**Pn**	**22 11 55.3**	**+1.0**
LOAL				*i* S	**Sn**	**22 12 13.7**	**+2.2**
LOAL				IAML		22 12 17.7	
	comp=Z,3μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.39 321**		*e*P	**Pn**	**22 11 55.7**	**+1.1**
MTO3	**Montecristo**	**1.52 343**	⇑	*e*P	**Pn**	**22 11 57.4**	**+0.7**
ESQI	**Esquipulas**	**1.67 345**	⇑	*i*P	**Pn**	**22 11 59.7**	**+1.2**
ESQI				IAML		22 12 26.2	
	comp=Z,920nm,1.0s						
CRIN	**San Cristobal**	**1.81 97**		*i* P	**Pn**	**22 12 01.1**	**+0.7**
CRIN				IAML		22 12 36.3	
	comp=Z,7μm,1.0s						
CRIN	**San Cristobal**	**1.81 97**		*e*P	**Pn**	**22 12 00.8**	**+0.4**
CRIN				*e*S	**Sn**	**22 12 22.5**	**+0.1**
PKGN	**Cerro Pekin**	**1.89 98**		*i* P	**Pn**	**22 12 01.6**	**+0.3**
PKGN				IAML		22 12 28.6	
	comp=Z,8μm,1.0s						
PACN	**Al O del Volca**	**2.09 102**		*i* P	**Pn**	**22 12 04.5**	**+0.3**
PACN				IAML		22 12 40.8	
	comp=Z,2μm,1.0s						
ROCN	**Rota Cerro Neg**	**2.14 101**		*i* P	**Pn**	**22 12 04.5**	**-0.3**
ILCN	**San Idelfonso**	**2.17 99**		*i* P	**Pn**	**22 12 05.3**	**+0.1**
ILCN				IAML		22 12 39.9	
	comp=Z,490nm,1.0s						
CNGA	**Al SSO del Vol**	**2.18 101**		*i* P	**Pn**	**22 12 05.9**	**+0.5**
CNGA				IAML		22 12 36.4	
	comp=Z,2μm,1.0s						
COPN	**Copaltepe**	**2.37 108**		*i* P	**Pn**	**22 12 08.1**	**+0.2**
COPN				IAML		22 12 39.5	
	comp=Z,700nm,1.0s						
MOM2	**El Cardon**	**2.40 102**		*i* P	**Pn**	**22 12 08.6**	**+0.3**
MOM2				IAML		22 12 44.4	
	comp=Z,500nm,1.0s						
LIMN	**Finca el Limon**	**2.46 87**	⇑	*i*P	**Pn**	**22 12 09.5**	**+0.2**
LIMN				IAML		22 12 50.4	
	comp=Z,350nm,1.0s						
SAPS	**Ciudad Sandino**	**2.55 107**		*i* P	**Pn**	**22 12 11.7**	**+1.4**
SAPS				IAML		22 12 53.6	
	comp=Z,1μm,1.0s						
APYN	**Apoyeque**	**2.58 105**		*i* P	**Pn**	**22 12 11.5**	**+0.7**
APYN				IAML		22 12 46.5	
	comp=Z,34nm,1.0s						
RCVN	**Varillal2**	**2.71 76**	⇓	*i*P	**Pn**	**22 12 12.9**	**+0.3**
RCVN				IAML		22 12 33.7	
	comp=Z,4μm,1.0s						
RCPN	**Sur Rio San Ju**	**2.79 78**		*i* P	**Pn**	**22 12 14.7**	**+1.0**
RCPN				IAML		22 12 24.1	
	comp=Z,1.5nm,1.0s						
NANN	**Nandasmo**	**2.88 110**		*i* P	**Pn**	**22 12 15.5**	**+0.5**
NANN				*i* S	**Sn**	**22 12 46.9**	**-1.6**
NANN				IAML		22 12 51.3	
	comp=Z,10μm,1.0s						
BOAB	**BOACO BROADBAN**	**3.19 98**		*i* P	**Pn**	**22 12 18.8**	**-0.3**
BOAB				IAML		22 12 48.0	
	comp=Z,99nm,1.0s						
ACON	**Acoyapa**	**3.76 104**		*e*P	**Pn**	**22 12 27.7**	**+0.8**
VRLE	**La Escondida,**	**4.06 121**		*e*P	**Pn**	**22 12 33.5**	**+2.3**
ARE1	**Arenal 1**	**4.77 121**		*e*P	**Pn**	**22 12 42.8**	**+1.9**
LCR2	**La Lucha 2**	**5.75 123**		*e*P	**Pn**	**22 12 57.2**	**+2.8**
TXAR	**Lajitas Array**	**21.32 322**		P	**P**	**22 16 15.9**	**+2.2**
	comp=Z,1.1nm,0.6s,baz=146,slow=12,SNR=12						
	comp=Z,1.1nm,0.6s						
PDAR	**Pinedale Array**	**34.69 333**		P	**P**	**22 18 16.2**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=131,slow=9.7,SNR=2.6						
PDAR				PcP	**PcP**	**22 20 47.7**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=132,slow=5.0,SNR=3.7						
	comp=Z,0.1nm,0.5s						
SCHQ	**Schefferville**	**45.23 18**		P	**P**	**22 19 40.9**	**-2.0**
	comp=Z,1.7nm,0.8s,baz=196,slow=15,SNR=1.4						
	comp=Z,1.7nm,0.8s						
YKA	**Yellowknife Ar**	**52.78 345**		P	**P**	**22 20 39.8**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=136,slow=8.2,SNR=7.2						
	comp=Z,1.3nm,0.7s						
WRA	**Warramunga Arr**	**138.05 255**		PKP	**PKPdf**	**22 30 48.9**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=84,slow=2.6,SNR=4.8						

*AEIC **06** 22:17:17.3±13.0, 52.°1N±0.°2×179.°3E±0.°2, h50km±9km, Error ellipse: s-maj=28.7km s-min=13.1km az=187.0*

NEIC 06 22:17:19.3±1.1, 51.°3N±0.°2×179.°6E±0.°2, h35km±2km, mb3.6/13, ML3.1 (AEIC), Error ellipse: s-maj=42.1km s-min=12.5km az=150.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	**1.12**	**62**		Pn	22 17 38.0	-0.4
GASW					Sn	22 17 52.7	+0.1
GANO	**Gareloi North**	**1.17**	**61**		Pn	22 17 38.7	-0.4
GANO					Sn	22 17 53.7	-0.1
GANE	**Gareloi Northe**	**1.18**	**61**		Pn	22 17 38.9	-0.4
GAEA	**Gareloi East**	**1.18**	**63**		Pn	22 17 39.0	-0.2
TASE	**Tanaga Southea**	**1.61**	**68**		Pn	22 17 44.6	-0.6
TAFP	**Tanaga Falls P**	**1.66**	**66**		Pn	22 17 45.3	-0.6
TAFP					Sn	22 18 06.9	+0.8
TAPA	**Tanaga Point A**	**1.73**	**70**		Pn	22 17 46.8	-0.1
KICM	**Kanaga Island**	**2.13**	**71**		Pn	22 17 51.5	-0.8
KIKV	**Kanaga Island**	**2.13**	**72**		Pn	22 17 51.6	-0.8
KIWB	**Kanaga Island**	**2.14**	**73**		Pn	22 17 52.1	-0.3
ADK	**Adak**	**2.43**	**74**		Pn	22 17 56.3	-0.1
ADK					Sn	22 18 25.5	+0.7
GSMY	**Great Sitkin M**	**2.84**	**72**		Pn	22 18 02.3	+0.1
ATKA	**Atka Island**	**4.00**	**74**		Pn	22 18 18.6	+0.6
ATKA					Sn	22 19 03.8	+0.3
E19K	**Redstone River**	**19.87**	**27**	P	Pn	22 21 48.1	-0.8
IMAR	**Indian Mountai**	**20.02**	**32**	P	P	22 21 49.5	+0.9
F21K	**Alatna River**	**20.83**	**30**	P	P	22 21 57.3	-0.2
F21K				IAmb	IAmb	22 22 06.3	
	comp=Z,2.9nm,1.1s						
E22K	**Anaktuvuk Pass**	**21.89**	**29**	P	P	22 22 09.1	+0.2
H24K	**Noodor Dome**	**22.03**	**36**	P	P	22 22 09.9	-0.5
H24K				IAmb	IAmb	22 22 13.6	
	comp=Z,2.4nm,1.1s						
B21K	**Ikpikpuk River**	**22.06**	**24**	P	P	22 22 10.8	+0.2
G24K	**Hadweenzic Riv**	**22.56**	**34**	P	P	22 22 16.4	+0.3
G24K				IAmb	IAmb	22 22 34.9	
	comp=Z,2.7nm,1.1s						
D23K	**Nanushuk River**	**22.72**	**28**	P	P	22 22 18.1	+0.5
F24K	**Squaw Lake**	**22.81**	**32**	P	P	22 22 19.4	+0.7
TOLK	**Toolik Lake Re**	**22.86**	**29**	P	P	22 22 19.3	+0.1
TOLK				IAmb	IAmb	22 22 19.9	
	comp=Z,1.5nm,0.7s						
C23K	**Itkillik River**	**23.26**	**26**	P	P	22 22 23.2	+0.1
C23K				IAmb	IAmb	22 22 31.6	
	comp=Z,1.6nm,0.9s						
TABL	**Table Mountain**	**23.55**	**52**	P	P	22 22 25.6	-0.8
L27K	**Beaver Creek,**	**23.62**	**45**	P	P	22 22 25.8	-1.0
E25K	**Arctic Village**	**23.87**	**32**	P	P	22 22 29.1	0.0
BMAR	**Burnt Mountain**	**23.90**	**34**	P	P	22 22 29.3	-0.1
F26K	**Sheenjek River**	**24.17**	**34**	P	P	22 22 31.6	-0.3
F26K				IAmb	IAmb	22 22 34.2	
	comp=Z,2.5nm,1.1s						
I28M	**Miner Creek**	**24.99**	**40**	P	P	22 22 39.0	-0.3
I28M				IAmb	IAmb	22 22 40.3	
	comp=Z,1.6nm,1.1s						
M30M	**Minto, Yukon**	**25.84**	**47**	P	P	22 22 47.6	+0.6

*BJI **06** 22:50:40.2, 24.°34N×94.°34E, h53km, mb4.0/12, mB4.4/2, ML3.5/5, Ms3.9/2, Ms7 3.7/3*
*NDI **06** 22:50:41.4±3.3, 24.°14N×94.°36E, h34km±35km, ML3.5, MW3.8, mb4.2(NEIC)*
*NEIC **06** 22:50:42.1±1.4, 24.°38N±0.°07×94.°34E±0.°09, h64km±4km, mb4.2/18, Error ellipse: s-maj=13.1km s-min=9.0km az=56.0*
*IDC **06** 22:50:46.2±2.7, 24.°28N×94.°72E, h108km±32km, mb3.3/5, mbtmp3.7/7, MS3.9/1, Error ellipse: s-maj=38.0km s-min=17.9km az=57.0*

ISC 06 22:50:40.5±0.6, 24.°23N±0.°05×94.°31E±0.°06, h50km, n46, σ1$91/47, mb4.0/14, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.69**	**331**	*e*P	**Pn**	**22 50 57.0**	**+2.7**
IMP				*e*S	**Sn**	**22 51 09.9**	**+5.7**
IMP				IAML		22 51 11.3	
	comp=E,2μm,0.4s						
IMP				IAML		22 51 15.3	
	comp=E,1μm,0.5s						
KOHI	**KOHIMA**	**1.50**	**353**	*e*P	**Pn**	**22 51 07.0**	**+1.8**
KOHI				*e*S	**Sn**	**22 51 25.7**	**+2.0**
KOHI				IAML		22 51 33.5	
	comp=E,1μm,0.6s						
KOHI				IAML		22 51 33.9	
	comp=E,750nm,0.3s						
AZL	**Aizawl**	**1.56**	**252**	*e*P	**Pn**	**22 51 08.0**	**+2.0**
AZL				*e*S	**Sn**	**22 51 28.6**	**+3.4**
AZL				IAML		22 51 29.7	
	comp=E,808nm,0.1s						
AZL				IAML		22 51 30.1	
	comp=N,357nm,0.7s						
SHL	**Shillong**	**2.58**	**302**		**Pn**	**22 51 20.5**	**+0.6**
SHL	**Shillong**	**2.58**	**302**	*e*P	**Pn**	**22 51 20.6**	**+0.6**
SHL				*e*S	**Sn**	**22 51 48.6**	**-1.6**
SHL				IAML		22 51 54.1	
	comp=E,281nm,0.2s						
SHL				IAML		22 51 55.9	
	comp=N,533nm,0.2s						
BRDH	**Bariadhala**	**2.90**	**238**	P	Pn	22 51 36.0	+12
	comp=N,86nm,0.3s,baz=86,slow=3.9,SNR=4.1						
LKP	**Lekhapani**	**3.39**	**24**	*e*P	**Pn**	**22 51 32.0**	**+1.1**
LKP				*e*S	**Sn**	**22 52 12.4**	**+2.6**
LKP				IAML		22 52 24.3	
	comp=E,192nm,0.3s						
LKP				IAML		22 52 29.9	
	comp=E,89nm,0.3s						
TNCH	**TengChong**	**3.91**	**77**	P	**Pn**	**22 51 34.7**	**-3.5**
TNCH				smax	smax		
	comp=E,110nm,1.0s						
TNCH				smax	smax		
	comp=E,75nm,1.7s						
GTK	**Tadong**	**6.00**	**302**	*e*P	**Pn**	**22 52 07.7**	**+0.8**
LSA	**Lhasa**	**6.14**	**333**	Pn	**Pn**	**22 52 08.0**	**-1.1**
CHTO	**Chiang Mai**	**6.90**	**140**	Pn	**Pn**	**22 52 20.6**	**+1.5**
CM31	**Chiang Mai Arr**	**7.18**	**142**	Pn	**Pn**	**22 52 25.3**	**+2.3**
CMAR	**Chiang Mai Arr**	**7.18**	**142**	Pn	**Pn**	**22 52 23.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**7.18**	**142**	P	**Pn**	**22 52 25.6**	**+2.6**
	comp=E,1.2nm,0.3s,baz=320,slow=15,SNR=10						
BOK	**Bokaro**	**7.72**	**269**	*e*P	**Pn**	**22 52 30.3**	**-0.1**
BOK				*e*S	**Sn**	**22 53 52.1**	**-4.3**
BOK				IAML		22 53 54.9	
	comp=N,35nm,0.1s						
BOK				IAML		22 53 57.1	
	comp=E,55nm,0.2s						
PHRA	**Phrae**	**7.93**	**135**	Pn	**Pn**	**22 52 35.6**	**+2.4**
GOMU	**GeErMu**	**11.94**	**2**	P	**Pn**	**22 53 26.9**	**-1.5**
GOMU				pmax	pmax		
	comp=E,9.0nm,0.9s						
PBA	**Port Blair**	**12.59**	**187**	Pn	**Pn**	**22 53 37.5**	**+0.5**
LZH	**Lanzhou**	**14.40**	**33**	*e*P	Pn	22 53 56.0	-5.6
LZH				pP	P	22 54 06.2	-1.2
LZH				sP		22 54 13.8	
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
WMQ	**Urumqi**	**20.29**	**346**	*e*P	Pn	22 55 14.7	+0.3
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				LR	LR		
	comp=Z,420nm,21.1s						
WMQ				LR	LR		
	comp=Z,340nm,21.5s						
NIL	**Nilore**	**20.66**	**302**	P	**P**	**22 55 14.5**	**-1.7**
NIL				IAmb	IAmb	22 55 20.7	
	comp=Z,9.3nm,0.8s						
WUS	**Wushi**	**21.11**	**327**	P	**P**	**22 55 19.5**	**-1.5**
WUS				IAmb	IAmb	22 55 21.6	
	comp=Z,9.9nm,1.3s						
KSH	**Kashi**	**21.73**	**319**	P	**P**	**22 55 27.1**	**-0.6**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**21.98**	**37**	*e*P	**P**	**22 55 31.3**	**+0.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,72nm,4.8s						
KBL	**Kabul**	**24.24**	**301**	P	**P**	**22 55 53.2**	**+0.2**
KBL				IAmb	IAmb	22 55 54.3	
	comp=Z,3.2nm,0.5s						
MK31	**Makanchi Array**	**24.50**	**340**	P	**P**	**22 55 54.5**	**-0.6**
MKAR	**Makanchi Array**	**24.50**	**340**	P	**P**	**22 55 55.5**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=150,slow=9.7,SNR=11						
	comp=Z,0.6nm,0.5s						
MAKZ	**Makanchi**	**24.61**	**339**	P	**P**	**22 55 56.2**	**+0.1**
GAR	**Garm**	**25.09**	**312**	P	**P**	**22 55 59.9**	**-0.8**
BTK	**Batken**	**25.29**	**314**	P	**P**	**22 56 02.3**	**-0.1**
BTK				IAmb	IAmb	22 56 16.7	
	comp=Z,4.1nm,0.6s						
BTK				pP	**pP**	**22 56 16.0**	**+0.6**
SONM	**Songino Array**	**25.44**	**19**	P	**P**	**22 56 02.8**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=195,slow=10,SNR=6.6						
	comp=Z,0.8nm,0.7s						
ULN	**Ulaanbaatar**	**25.67**	**20**	P	**P**	**22 56 05.3**	**-0.6**
SIMJ	**Simiganj**	**25.84**	**310**	P	**P**	**22 56 06.5**	**-0.9**
SIMJ				IAmb	IAmb	22 56 35.2	
	comp=Z,3.2nm,1.1s						
KURBB	**Kurchatov Arra**	**29.05**	**339**	P	**P**	**22 56 36.7**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=148,slow=8.8,SNR=2.0						
	comp=Z,0.2nm,0.5s						
TIXI	**Tiksi**	**51.30**	**13**	P	**P**	**22 59 37.1**	**-2.1**
TIXI				IAmb	IAmb	22 59 38.3	
	comp=Z,2.0nm,0.8s						
KNRA	**Kununurra**	**52.00**	**136**	P	**P**	**22 59 46.5**	**+1.4**
BR131	**Keskin Array S**	**52.80**	**302**	P	**P**	**22 59 50.4**	**-0.6**
BR131				IAmb	IAmb	23 00 14.2	
	comp=Z,3.9nm,1.2s						
BRTR	**Keskin Array B**	**52.80**	**302**	P	**P**	**22 59 50.3**	**-0.8**
SEY	**Seymchan**	**54.29**	**29**	LR	LR	23 27 10.2	
	comp=Z,110nm,20.9s,baz=330,slow=40						
WB0	**Warramunga Arr**	**58.62**	**135**	P	**P**	**23 00 30.4**	**-2.3**
WB0				IAmb	IAmb	23 00 53.3	
	comp=Z,5.9nm,1.3s						
FINES	**FINESS Array B**	**58.63**	**328**	P	**P**	**23 00 32.8**	**+0.5**
	comp=Z,3.5nm,1.1s,baz=104,slow=5.9,SNR=1.6						
	comp=Z,3.5nm,1.1s						
WRA	**Warramunga Arr**	**58.71**	**135**	P	**P**	**23 00 31.4**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=321,slow=7.5,SNR=11						
	comp=Z,0.3nm,0.4s						
STHS	**Stebnicka Huta**	**61.14**	**314**	*e*P	P	23 00 56.3	+6.5
VYHS	**Vyhne**	**62.81**	**314**	*e*P	P	23 01 06.6	+5.7
PDG	**Podgorica**	**63.35**	**307**	P	**P**	**23 01 03.3**	**-1.3**
BMAR	**Burnt Mountain**	**78.79**	**20**	P	**P**	**23 02 37.7**	**0.0**

*TEH **06** 23:35:39.4, 27.°80N×53.°01E, h5km, ML2.9*
*IDC **06** 23:35:44.0±13.0, 28.°28N×52.°62E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=302.9km s-min=45.6km az=120.0*

ISC 06 23:35:40.9±0.9, 27.°82N±0.°05×52.°95E±0.°09, h10km, n9, σ1$55/11, mb3.8/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.51**	**158**	Pg	**Pb**	**23 35 50.1**	**-1.9**
LMD1				Sg	**Sb**	**23 35 58.1**	**-1.4**
QIR1	**Qir**	**0.66**	**7**	Pg	**Pb**	**23 35 54.0**	**-0.7**
QIR1				Sg	**Sn**	**23 36 05.4**	**-1.6**
JHRM	**Jahrom**	**0.88**	**39**	Pg	**Pn**	**23 35 58.8**	**-0.7**
LAR1	**LAR**	**1.27**	**96**	Pg	**Pg**	**23 36 07.0**	**+1.6**
SHI	**Shiraz**	**1.86**	**348**	Pn	**Pg**	**23 36 16.4**	**-0.2**
FINES	**FINESS Array B**	**38.12**	**339**	P	**P**	**23 42 59.8**	**0.0**
	1.3nm,0.7s,baz=131,slow=7.8,SNR=4.7						
	1.3nm,0.7s						
HFS	**Hagfors**	**41.83**	**332**	P	**P**	**23 43 30.6**	**-0.1**
	0.9nm,0.6s,baz=120,slow=8.9,SNR=8.7						
	0.9nm,0.6s						
ARCES	**ARCESS Array B**	**44.69**	**347**	P	**P**	**23 43 54.1**	**+0.5**
	2.3nm,0.9s,baz=141,slow=7.8,SNR=6.7						
	2.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**49.84**	**264**	P	**P**	**23 44 37.3**	**+2.7**
	0.1nm,0.4s,baz=58,slow=8.5,SNR=1.1						
	0.1nm,0.4s						

*NEIC **06** 23:52:08.9±0.6, 36.°967N±0.°005×97.°85W±0.°01, h8km±2km, mb_Lg2.3/18, ML2.5/11, ML2.7/44, Error ellipse: s-maj=1.5km s-min=0.7km az=104.0*

NEIC 06 23:52:09.1±0.6, 36.°961N±0.°008×97.°84W±0.°01, h8km±2km, Error ellipse: s-maj=1.4km s-min=1.0km az=132.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.10**	**267**	Pg	Pg	23 52 11.6	+0.2
KAN14				Sg	Sg	23 52 13.2	+0.2
KAN17	**Caldwell West**	**0.10**	**36**	Pg	Pg	23 52 11.7	+0.2
KAN17				Sg	Sg	23 52 13.1	-0.1
KAN17				IAML		23 52 13.8	
	comp=E,4μm,0.2s						
GC02	**Grant County #**	**0.11**	**188**	Pg	Pg	23 52 11.8	+0.2
GC02				Sg	Sg	23 52 13.4	+0.1
KAN01	**Argonia South**	**0.20**	**19**	Pg	Pg	23 52 13.5	+0.3
KAN01				Sg	Sg	23 52 16.3	+0.3
KAN01				IAML		23 52 16.6	
	comp=N,2μm,0.2s						
KAN09	**Caldwell North**	**0.25**	**45**		Pg	23 52 14.3	+0.2
KAN09				IAML		23 52 18.9	
	comp=N,2μm,0.2s						
KAN09				IAML		23 52 18.9	
	comp=E,2μm,0.2s						
KAN10	**Anthony SW Sta**	**0.26**	**309**		Pg	23 52 14.5	+0.3
KAN10					Sg	23 52 18.3	+0.6
KAN08	**Anthony NE Sta**	**0.28**	**339**		Pg	23 52 14.9	+0.2
KAN08				Sg	Sg	23 52 18.9	+0.3
KAN08				IAML		23 52 19.2	
	comp=N,964nm,0.1s						
KAN13	**South Haven SW**	**0.29**	**80**	Pg	Pg	23 52 15.1	+0.2
KAN13				Sg	Sg	23 52 19.1	+0.3
KAN13				IAML		23 52 19.6	
	comp=N,1μm,0.3s						
KAN13				IAML		23 52 21.7	
	comp=E,827nm,0.3s						
KS21	**Milan North St**	**0.35**	**24**	Pg	Pg	23 52 16.2	+0.1
KAN12	**Harper NE Stat**	**0.36**	**340**		Pg	23 52 16.2	+0.1
KAN12				Sg	Sg	23 52 21.3	+0.4
KAN12				IAML		23 52 26.2	
	comp=E,1μm,0.3s						
CROK	**Carrier**	**0.47**	**194**	Pg	Pg	23 52 18.3	+0.1
CROK				Sg	Sg	23 52 24.6	+0.3
CROK				IAML		23 52 28.0	

*IDC **06** 23:57:45.5±12.0, 37°.45N×20°.74E, h0km, mb3.5/7, mbtmp3.5/7, Error ellipse: s-maj=242.8km s-min=36.5km az=32.0*
*THE **06** 23:57:48.9, 37°.61N×20°.88E, h14km, ML3.1/9, Error ellipse: s-maj=0.9km s-min=0.4km az=231.0*
*ATH **06** 23:57:49.6, 37°.59N×20°.87E, h10km±1km, ML3.1/11, Error ellipse: s-maj=1.8km s-min=0.7km az=33.0*
ISC 06 23:57:48.9±0.9, 37°.60N±0°.04×20°.90E±0°.03, h12km±5km, n47, σ0°53/69, mb3.5/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.10**	**314**	P	**Pg**	**23 57 51.8**	**0.0**
KRI1				S	**Sg**	**23 57 53.7**	**-0.1**
LTHK	**Lithakia**	**0.13**	**335**	P	**Pg**	**23 57 52.0**	**-0.1**
LTHK				S	**Sg**	**23 57 54.2**	**-0.3**
LTHK	**Lithakia**	**0.13**	**335**	P	**Pg**	**23 57 52.0**	**-0.1**
LTHK				S	**Sg**	**23 57 54.0**	**-0.5**
LTHK				AML	AML	23 57 54.4	
LTHK				AML	AML	23 57 54.6	
RTZL	**Ratzakli, Kefa**	**0.49**	**348**	P	**Pg**	**23 57 58.3**	**-0.3**
RTZL				S	**Sg**	**23 58 05.7**	**+0.6**
	7μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.58**	**334**	P	**Pg**	**23 57 59.4**	**-0.8**
PSDA				S	**Sg**	**23 58 08.0**	**+0.2**
	4μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.58**	**334**	P	**Pg**	**23 57 59.8**	**-0.4**
PSDA				S	**Sg**	**23 58 08.3**	**+0.5**
VLS	**Valsamata**	**0.63**	**337**	P	**Pg**	**23 58 00.4**	**-0.8**
VLS				S	**Sg**	**23 58 09.6**	**0.0**
	3μm,0.2s						
VLS	**Valsamata**	**0.63**	**337**	P	**Pg**	**23 58 00.8**	**-0.4**
VLS				S	**Sg**	**23 58 10.0**	**+0.4**
RLS	**Riolos of Patr**	**0.64**	**44**	P	**Pg**	**23 58 00.9**	**-0.5**
RLS				S	**Sb**	**23 58 10.6**	**-0.3**
	1μm,0.5s						
RLS	**Riolos of Patr**	**0.64**	**44**	P	**Pb**	**23 58 01.9**	**-0.2**
RLS				S	**Sb**	**23 58 11.8**	**+0.9**
RLS				AML	AML	23 58 14.3	
	comp=N,2567μm,0.7s						
RLS				AML	AML	23 58 15.7	
	comp=E,2814μm,0.4s						
AMT	**Artemida-Makis**	**0.64**	**95**	P	**Pb**	**23 58 02.6**	**+0.5**
AMT				S	**Sb**	**23 58 11.3**	**+0.3**
AMT				AML	AML	23 58 20.3	
	comp=N,11743μm,0.5s						
AMT				AML	AML	23 58 22.2	
	comp=E,8438μm,0.5s						
SMHA	**Samh**	**0.69**	**343**	P	**Pg**	**23 58 01.9**	**-0.3**
SMHA				S	**Sg**	**23 58 11.4**	**+0.1**
LXRA	**Lixouri, Kepha**	**0.71**	**329**	P	**Pg**	**23 58 02.5**	**-0.2**
LXRA				S	**Sb**	**23 58 12.8**	**-0.1**
DRO	**Drossia**	**0.73**	**61**	P	**Pg**	**23 58 03.1**	**0.0**
DRO				S	**Sb**	**23 58 14.2**	**+0.6**
	comp=E,3μm,0.4s						
DRO	**Drossia**	**0.73**	**61**	P	**Pb**	**23 58 03.6**	**0.0**
DRO				S	**Sb**	**23 58 13.8**	**+0.3**
DRO				AML	AML	23 58 23.0	
	comp=E,5416μm,0.5s						
DRO				AML	AML	23 58 23.8	
	comp=N,4590μm,0.4s						
DMLN	**Damoulianata-K**	**0.77**	**327**	P	**Pb**	**23 58 04.2**	**0.0**
DMLN				S	**Sg**	**23 58 14.4**	**+0.6**
FSK	**Fiskardo**	**0.90**	**343**	P	**Pg**	**23 58 05.3**	**-1.1**
FSK				S	**Sg**	**23 58 18.1**	**-0.1**
	comp=N,615nm,0.6s						
FSK	**Fiskardo**	**0.90**	**343**	P	**Pb**	**23 58 06.7**	**+0.2**
FSK				AML	AML	23 58 21.2	
	comp=N,742μm,0.3s						
FSK				AML	AML	23 58 21.7	
	comp=E,1454μm,0.7s						
ITM	**Ithomi**	**0.91**	**117**	P	**Pb**	**23 58 06.8**	**+0.1**
ITM	**Ithomi**	**0.91**	**117**	P	**Pn**	**23 58 07.6**	**0.0**
ITM				AML	AML	23 58 27.0	
	comp=N,1917μm,0.5s						
ITM				AML	AML	23 58 29.5	
	comp=E,1321μm,0.5s						
PYL	**PYLOS**	**0.97**	**136**	P	**Pg**	**23 58 06.6**	**-1.0**
PYL				S	**Sn**	**23 58 22.0**	**+0.1**
	comp=E,550nm,0.6s						
PYL	**PYLOS**	**0.97**	**136**	P	**Pb**	**23 58 08.3**	**+0.7**
UPR	**University Cam**	**0.98**	**45**	P	**Pn**	**23 58 08.9**	**+0.5**
EVGI	**Lefkada island**	**1.04**	**349**	P	**Pg**	**23 58 08.3**	**-0.7**
EVGI				S	**Sg**	**23 58 22.1**	**-0.5**
	comp=E,730nm,0.4s						
EVGI	**Lefkada island**	**1.04**	**349**	P	**Pg**	**23 58 09.0**	**-0.1**
EVGI				S	**Sb**	**23 58 23.0**	**+0.5**
KLV	**Kalavryta, Ach**	**1.08**	**65**	P	**Pg**	**23 58 09.2**	**-0.6**
KLV	**Kalavryta, Ach**	**1.08**	**65**	P	**Pn**	**23 58 10.2**	**+0.3**
KLV				AML	AML	23 58 38.3	
	comp=N,708μm,0.8s						
KLV				AML	AML	23 58 42.3	
	comp=E,450μm,1.0s						
DRAG	**Dragano-Lefkad**	**1.12**	**347**	P	**Pg**	**23 58 10.2**	**-0.3**
DRAG				S	**Sb**	**23 58 25.2**	**+0.5**
NYDR	**Nydri-Lefkada**	**1.13**	**352**	P	**Pg**	**23 58 10.2**	**-0.5**
EFP	**Efpalio**	**1.15**	**43**	P	**Pn**	**23 58 11.4**	**+0.7**
EFP				AML	AML	23 58 30.6	
	comp=N,1337μm,1.1s						
EFP				AML	AML	23 58 32.3	
	comp=E,1220μm,0.5s						
GUR	**Goura**	**1.19**	**73**	P	**Pg**	**23 58 10.4**	**-1.4**
GUR	**Goura**	**1.19**	**73**	P	**Pn**	**23 58 11.7**	**+0.3**
GUR				AML	AML	23 58 39.9	
	comp=E,1195μm,0.5s						
GUR				AML	AML	23 58 41.5	
	comp=N,2206μm,0.5s						
LKD2	**Lefkada island**	**1.21**	**351**	P	**Pn**	**23 58 12.2**	**+0.6**
LKD2				AML	AML	23 58 35.8	
	comp=N,1401μm,0.7s						
LKD2				AML	AML	23 58 36.7	
	comp=E,1130μm,0.6s						
TSLK	**Tsoukalades, L**	**1.24**	**351**	P	**Pn**	**23 58 11.2**	**-0.9**
TSLK				S	**Sb**	**23 58 27.7**	**-0.6**
	comp=E,710nm,0.6s						
TSLK	**Tsoukalades, L**	**1.24**	**351**	P	**Pg**	**23 58 12.8**	**-0.1**
ANX	**Ano Chora**	**1.28**	**39**	P	**Pn**	**23 58 12.5**	**-0.2**
ANX				AML	AML	23 58 38.8	
	comp=E,1313μm,0.6s						
ANX				AML	AML	23 58 40.1	
	comp=N,1837μm,0.8s						
EVR	**Evrytania**	**1.50**	**28**	P	**Pn**	**23 58 16.4**	**+0.6**
VLY	**Voula,Athens**	**2.31**	**83**	P	**Pn**	**23 58 27.6**	**+0.9**
PTL	**Penteli**	**2.39**	**78**	P	**Pn**	**23 58 28.5**	**+0.7**
DION	**Dionisos Attik**	**2.45**	**78**	P	**Pn**	**23 58 29.2**	**+0.6**
HFS	**Hagfors**	**23.02**	**351**	P	**P**	**00 02 52.6**	**-0.9**
	comp=N,1.6nm,0.8s,baz=156,slow=11,SNR=5.7						
	comp=N,1.6nm,0.8s						
FINES	**FINESS Array B**	**24.09**	**6**	P	**P**	**00 03 04.1**	**+0.1**
	comp=N,1.5nm,1.0s,baz=192,slow=12,SNR=3.7						
	comp=N,1.5nm,1.0s						
NOA	**NORSAR Array B**	**24.25**	**348**	P	**P**	**00 03 05.6**	**+0.1**
	comp=N,0.4nm,0.7s,baz=163,slow=9.3,SNR=2.1						
	comp=N,0.4nm,0.7s						
BVAR	**Borovoye Array**	**37.26**	**49**	P	**P**	**00 05 01.2**	**+0.9**
	comp=N,0.6nm,0.6s,baz=247,slow=9.5,SNR=3.8						
	comp=N,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**42.33**	**53**	P	**P**	**00 05 42.1**	**-0.4**
	comp=N,0.2nm,0.6s,baz=279,slow=8.7,SNR=2.5						
	comp=N,0.2nm,0.6s						
MKAR	**Makanchi Array**	**45.35**	**58**	P	**P**	**00 06 06.5**	**-0.4**
	comp=N,0.2nm,0.5s,baz=277,slow=7.4,SNR=2.2						
	comp=N,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**45.86**	**48**	P	**P**	**00 06 10.2**	**-0.4**
	comp=N,0.6nm,0.4s,baz=277,slow=8.7,SNR=4.2						
	comp=N,0.6nm,0.4s						

*IDC **07** 00:43:33.8±1.6, 37°.78N×20°.44E, h0km, mb3.4/4, mbtmp3.4/4, MS2.8/1, Error ellipse: s-maj=69.6km s-min=28.8km az=128.0*
*ATH **07** 00:43:36.5, 37°.56N×20°.37E, h7km±2km, ML3.2/10, Error ellipse: s-maj=2.7km s-min=0.7km az=37.0*
*THE **07** 00:43:37.3, 37°.58N×20°.41E, h0km±6km, ML3.2/10, Error ellipse: s-maj=8.4km s-min=1.1km az=222.0*
ISC 07 00:43:36.2±1.5, 37°.55N±0°.04×20°.37E±0°.05, h11km±8km, n45, σ0°95/72, mb3.5/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.37**	**72**	P	**Pg**	**00 43 43.8**	**+0.2**
KRI1				S	**Sg**	**00 43 48.9**	**+0.4**
	11μm,0.5s						
LTHK	**Lithakia**	**0.40**	**66**	P	**Pg**	**00 43 44.0**	**-0.1**
LTHK				S	**Sg**	**00 43 49.4**	**-0.1**
LTHK	**Lithakia**	**0.40**	**66**	P	**Pg**	**00 43 44.1**	**0.0**
LTHK				S	**Sg**	**00 43 49.1**	**-0.4**
LTHK				AML	AML	00 43 50.0	
	comp=E,27887μm,0.4s						
LTHK				AML	AML	00 43 53.4	
	comp=N,8995μm,0.7s						
PSDA	**Pessada-Kefalo**	**0.59**	**17**	P	**Pg**	**00 43 47.5**	**-0.2**
PSDA				S	**Sg**	**00 43 55.9**	**+0.5**
	comp=N,2μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.59**	**17**	P	**Pg**	**00 43 47.5**	**-0.2**
PSDA				S	**Sg**	**00 43 54.9**	**-0.5**
RTZL	**Ratzakli, Kefa**	**0.62**	**31**	P	**Pg**	**00 43 48.1**	**0.0**
RTZL				S	**Sb**	**00 43 56.7**	**-1.0**
	comp=N,3μm,0.7s						
VLS	**Valsamata**	**0.65**	**15**	P	**Pg**	**00 43 48.4**	**-0.4**
VLS				S	**Sb**	**00 43 58.2**	**-0.5**
	comp=N,2μm,0.6s						
VLS	**Valsamata**	**0.65**	**15**	P	**Pg**	**00 43 48.7**	**-0.1**
VLS				S	**Sg**	**00 43 56.9**	**-0.5**
VLS				AML	AML	00 44 02.8	
	comp=E,2937μm,0.5s						
VLS				AML	AML	00 44 05.3	
	comp=N,2810μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.65**	**5**	P	**Pg**	**00 43 49.1**	**+0.3**
LXRA				S	**Sg**	**00 43 57.5**	**0.0**
LXRA				AML	AML	00 44 04.4	
	comp=E,11153μm,0.4s						
LXRA				AML	AML	00 44 06.1	
	comp=N,10155μm,0.5s						
DMLN	**Damoulianata-K**	**0.69**	**0**	P	**Pg**	**00 43 49.8**	**+0.3**
DMLN	**Damoulianata-K**	**0.69**	**0**	P	**Pg**	**00 43 49.5**	**0.0**
DMLN				S	**Sg**	**00 43 58.6**	**0.0**
SMHA	**Samh**	**0.73**	**17**	P	**Pg**	**00 43 49.7**	**-0.7**
SMHA				S	**Sg**	**00 43 59.6**	**-0.4**
VSK1	**VASILIKIADES**	**0.87**	**10**	P	**Pg**	**00 43 52.7**	**-0.3**
VSK1				S	**Sb**	**00 44 05.9**	**+0.8**
	comp=N,3μm,0.7s						
FSK	**Fiskardo**	**0.92**	**9**	P	**Pg**	**00 43 53.5**	**-0.4**
FSK				S	**Sb**	**00 44 07.0**	**+0.5**
	comp=N,2μm,0.6s						
FSK	**Fiskardo**	**0.92**	**9**	P	**Pg**	**00 43 53.5**	**-0.4**
FSK				S	**Sg**	**00 44 05.5**	**-0.4**
FSK				AML	AML	00 44 11.7	
	comp=E,2952μm,0.6s						
FSK				AML	AML	00 44 13.4	
	comp=N,2955μm,0.6s						
RLS	**Riolos of Patr**	**1.01**	**59**	P	**Pg**	**00 43 54.8**	**-0.8**
RLS	**Riolos of Patr**	**1.01**	**59**	P	**Pg**	**00 43 54.7**	**-0.8**
RLS				S	**Sb**	**00 44 09.1**	**+0.2**
RLS				AML	AML	00 44 16.1	
	comp=E,1394μm,0.7s						
RLS				AML	AML	00 44 18.5	
	comp=N,1407μm,1.0s						
AMT	**Artemida-Makis**	**1.06**	**90**	P	**Pg**	**00 43 56.3**	**-0.4**
AMT				S	**Sg**	**00 44 10.4**	**-0.1**
AMT				AML	AML	00 44 18.2	
	comp=E,3377μm,0.5s						
AMT				AML	AML	00 44 19.6	
	comp=N,4148μm,0.7s						
EVGI	**Lefkada island**	**1.09**	**12**	P	**Pg**	**00 43 56.8**	**-0.5**
EVGI				S	**Sb**	**00 44 12.0**	**+0.5**
	comp=N,1μm,0.4s						
EVGI	**Lefkada island**	**1.09**	**12**	P	**Pg**	**00 43 56.7**	**-0.5**
EVGI				S	**Sb**	**00 44 11.4**	**-0.1**
DRO	**Drossia**	**1.14**	**69**	P	**Pg**	**00 43 57.8**	**-0.2**
DRO				S	**Sn**	**00 44 14.7**	**+1.0**
	comp=N,2μm,0.5s						
DRO	**Drossia**	**1.14**	**69**	P	**Pg**	**00 43 57.3**	**-0.7**
DRO				S	**Sb**	**00 44 13.0**	**+0.3**
DRO				AML	AML	00 44 19.0	
	comp=E,4029μm,0.5s						
DRO				AML	AML	00 44 19.4	
	comp=N,2855μm,0.6s						
DRAG	**Dragano-Lefkad**	**1.15**	**8**	P	**Pn**	**00 43 59.3**	**+1.1**
DRAG				S	**Sn**	**00 44 14.9**	**+1.0**
DRAG	**Dragano-Lefkad**	**1.15**	**8**	P	**Pg**	**00 43 57.6**	**-0.6**
DRAG				S	**Sb**	**00 44 13.1**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.19**	**12**	P	**Pg**	**00 43 58.9**	**-0.2**
NYDR				S	**Sn**	**00 44 17.6**	**+2.6**
	comp=N,685nm,0.7s						
NYDR	**Nydri-Lefkada**	**1.19**	**12**	P	**Pg**	**00 43 58.3**	**-0.8**
NYDR				S	**Sb**	**00 44 14.6**	**+0.4**
LKD2	**Lefkada island**	**1.26**	**10**	P	**Pg**	**00 43 59.7**	**-0.6**
PYL	**PYLOS**	**1.27**	**120**	P	**Pg**	**00 43 59.9**	**-0.7**
PYL				S	**Sg**	**00 44 17.4**	**+0.2**
PYL				AML	AML	00 44 25.4	
	comp=N,283μm,0.3s						
PYL				AML	AML	00 44 27.4	
	comp=E,319μm,0.8s						
ITM	**Ithomi**	**1.29**	**106**	P	**Pg**	**00 44 00.6**	**-0.4**
ITM				S	**Sb**	**00 44 18.1**	**+0.9**
ITM				AML	AML	00 44 26.6	
	comp=E,613μm,0.7s						
ITM				AML	AML	00 44 31.4	
	comp=N,569μm,0.7s						
TSLK	**Tsoukalades, L**	**1.29**	**10**	P	**Pn**	**00 44 02.0**	**+1.7**
TSLK				S	**Sn**	**00 44 20.6**	**+3.0**
	comp=N,2μm,0.6s						
TSLK	**Tsoukalades, L**	**1.29**	**10**	P	**Pg**	**00 44 00.1**	**-0.9**
TSLK				S	**Sg**	**00 44 17.2**	**-0.7**
TSLK				AML	AML	00 44 24.8	
	comp=E,3086μm,0.7s						
TSLK				AML	AML	00 44 27.5	
	comp=N,3068μm,0.5s						
KLV	**Kalavryta, Ach**	**1.50**	**70**	P	**Pn**	**00 44 04.1**	**+1.0**
EFP	**Efpalio**	**1.50**	**54**	P	**Pb**	**00 44 05.0**	**+1.0**
EFP	**Efpalio**	**1.50**	**54**	P	**Pn**	**00 44 03.3**	**+0.3**
ANX	**Ano Chora**	**1.61**	**49**	P	**Pg**	**00 44 06.5**	**-0.5**
ANX	**Ano Chora**	**1.61**	**49**	P	**Pn**	**00 44 05.2**	**+0.5**
GUR	**Goura**	**1.61**	**75**	P	**Pn**	**00 44 06.1**	**+1.4**
KALE	**Kalithea**	**1.63**	**58**	P	**Pn**	**00 44 06.0**	**+1.0**
KALE	**Kalithea**	**1.63**	**58**	P	**Pn**	**00 44 05.7**	**+0.8**
OHR	**Ohrid**	**3.57**	**5**	*i* Pn	**Pg**	**00 44 43.8**	**-0.9**
FINES	**FINESS Array B**	**24.18**	**7**	P	**P**	**00 48 49.6**	**-2.8**
	comp=N,1.6nm,0.8s,baz=171,slow=9.6,SNR=4.5						
	comp=N,1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.47**	**219**	P	**P**	**00 49 41.4**	**+1.2**
	comp=N,0.2nm,0.6s,baz=23,slow=10,SNR=1.3						
	comp=N,0.2nm,0.6s						
FURI	**Furi**	**32.98**	**145**	LR	LR	01 04 45.8	
	comp=N,16nm,18.7s,baz=58,slow=38						
MKAR	**Makanchi Array**	**45.73**	**58**	P	**P**	**00 51 55.7**	**-1.7**
	comp=N,0.2nm,0.5s,baz=277,slow=6.5,SNR=4.2						
	comp=N,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**46.20**	**48**	P	**P**	**00 51 58.0**	**-2.9**
	comp=N,0.4nm,0.6s,baz=265,slow=7.1,SNR=2.9						
	comp=N,0.4nm,0.6s						

*ISK **07** 01:01:44.8, 37°.25N×26°.87E, h3km, ML2.3/15*
*AFAD **07** 01:01:45.7±0.0, 37°.22N×26°.84E, h7km±1km, ML2.2*
*ATH **07** 01:01:45.8, 37°.24N×26°.88E, h14km±3km, ML2.6/2, Error ellipse: s-maj=4.4km s-min=1.2km az=81.0*
ISC 07 01:01:45.5±1.0, 37°.25N±0°.02×26°.86E±0°.03, h13km±8km, n39, σ0°78/56, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNA	**Kalymnos**	**0.30**	**163**	P	**Pg**	**01 01 51.7**	**0.0**
KLNA				S	**Sg**	**01 01 56.4**	**+0.5**
KLNA				AML	AML	01 01 57.7	
	comp=E,4040μm,0.2s						
KLNA				AML	AML	01 01 59.4	
	comp=N,4082μm,0.2s						
DIDI	**Didim-Aydin**	**0.33**	**66**	Pg	**Pg**	**01 01 51.9**	**-0.4**
YKAV	**Yalikavak-Bodr**	**0.36**	**110**	Pg	**Pg**	**01 01 52.5**	**-0.2**
YKAV				Sg	**Sg**	**01 01 57.9**	**+0.4**
DDIM	**Aydin, Didim**	**0.37**	**55**	P	**Pg**	**01 01 52.6**	**-0.3**
DDIM				S	**Sg**	**01 01 58.8**	**+0.8**
DDIM				*i* AML	AML	01 02 00.0	
	comp=N,300nm,0.2s						
DDIM				*i* AML	AML	01 02 01.0	
	comp=N,308nm,0.4s						
BODT	**Bodrum**	**0.40**	**117**	Pg	**Pg**	**01 01 53.5**	**-0.1**
BODT				Sg	**Sg**	**01 01 59.7**	**+0.7**
SMG	**Samos**	**0.46**	**358**	P	**Pg**	**01 01 54.9**	**+0.2**
SMG				S	**Sg**	**01 02 01.1**	**+0.2**
SMG				AML	AML	01 02 02.5	
	comp=E,1659μm,0.3s						
SMG				AML	AML	01 02 03.0	
	comp=N,2196μm,0.2s						
BDRM	**Kayabasi**	**0.50**	**111**	P	**Pg**	**01 01 55.3**	**-0.1**
BDRM				S	**Sg**	**01 02 02.1**	**+0.1**
BDRM				*i* AML	AML	01 02 04.0	
	comp=N,174nm,0.2s						
GCAM	**G?zelcaml?**	**0.54**	**33**	P	**Pg**	**01 01 56.4**	**+0.2**
GCAM				S	**Sg**	**01 02 04.3**	**+0.9**
GCAM	**G?zelcaml?**	**0.54**	**33**	Pg	**Pg**	**01 01 55.9**	**-0.3**
GCAM				Sg	**Sb**	**01 02 04.6**	**-0.1**
YAZI	**Mula-Dat§a-**	**0.74**	**140**	P	**Pg**	**01 01 59.7**	**-0.1**
YAZI				S	**Sg**	**01 02 08.5**	**-1.0**
DAT	**Datca**	**0.77**	**132**	P	**Pg**	**01 02 00.1**	**-0.3**
DAT				*i* AML	AML	01 02 16.0	
	comp=N,82nm,0.2s						
DAT	**Datca**	**0.77**	**132**	Pg	**Pg**	**01 02 00.2**	**-0.3**
DGB	**zmir**	**0.81**	**1**	P	**Pg**	**01 02 01.0**	**-0.2**
DGB				S	**Sg**	**01 02 10.9**	**-0.8**
ZEYE	**Izmir, Urla-Ze**	**1.03**	**344**	P	**Pg**	**01 02 04.4**	**-1.1**
ZEYE				S	**Sg**	**01 02 19.0**	**+0.1**
ZEYE				*i* AML	AML	01 02 23.0	
	comp=N,59nm,0.9s						
ZEYE				*i* AML	AML	01 02 24.0	
	comp=N,88nm,0.4s						
APE	**Apeiranthos**	**1.08**	**261**	Pn	**Pg**	**01 02 06.4**	**+0.1**
APE	**Apeiranthos**	**1.08**	**261**	P	**Pg**	**01 02 05.7**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.08**	**49**	Pg	**Pg**	**01 02 05.9**	**-0.4**
YER	**Yerkesik**	**1.14**	**95**	Pn	**Pg**	**01 02 07.2**	**-0.3**
BLCB	**Balcova**	**1.15**	**7**	Pn	**Pg**	**01 02 07.4**	**-0.3**
MULA	**Mugla, Merkez-**	**1.17**	**89**	P	**Pg**	**01 02 07.3**	**-0.7**
MULA				S	**Sg**	**01 02 21.8**	**-1.4**
TURN	**Turunc**	**1.20**	**113**	P	**Pg**	**01 02 07.9**	**-0.8**
TURN				S	**Sg**	**01 02 23.3**	**-1.0**
TURN				*i* AML	AML	01 02 29.0	
	comp=N,45nm,0.4s						
TURN				*i* AML	AML	01 02 30.0	
	comp=N,58nm,0.5s						
TURN	**Turunc**	**1.20**	**113**	Pn	**Pg**	**01 02 07.9**	**-0.8**
IZMR	**zmir-demi**	**1.24**	**44**	P	**Pb**	**01 02 08.0**	**-0.8**
IZMR				S	**Sg**	**01 02 23.6**	**-2.0**
ESEN	**Aydn-Nazilli**	**1.31**	**65**	P	**Pn**	**01 02 09.4**	**-0.1**
ESEN				S	**Sb**	**01 02 25.1**	**-1.5**
CHOS	**Chios island**	**1.31**	**331**	P	**Pn**	**01 02 10.4**	**+0.8**
NAZL	**Nazilli-Aydin**	**1.34**	**57**	Pn	**Pn**	**01 02 10.2**	**+0.1**
NAZL				Sn	**Sn**	**01 02 30.0**	**+2.1**
ARG	**Arkhangelos**	**1.45**	**135**	P	**Pn**	**01 02 11.4**	**0.0**
DALY	**Dalyan (Mula)**	**1.50**	**106**	Pn	**Pb**	**01 02 13.4**	**+0.2**
KIRA	**zmir-Kiraz**	**1.55**	**52**	P	**Pn**	**01 02 13.0**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.65**	**82**	P	**Pn**	**01 02 15.5**	**+1.1**
KARP	**Karpathos**	**1.71**	**172**	Pn	**Pn**	**01 02 14.5**	**-0.6**
DNZT	**Denizli-Tavas-**	**1.73**	**88**	P	**Pb**	**01 02 17.8**	**+0.6**
SABU	**Mula-Dalaman**	**1.74**	**103**	P	**Pb**	**01 02 17.4**	**0.0**
SABU				S	**Sn**	**01 02 37.6**	**0.0**
DNIZ	**Denizli-Tavas-**	**1.77**	**77**	P	**Pn**	**01 02 16.8**	**+0.7**
DNIZ				*i* AML	AML	01 02 57.0	
	comp=N,29nm,0.3s						
DNIZ				*i* AML	AML	01 02 59.0	
	comp=N,25nm,0.5s						
FETY	**Fethiye**	**1.88**	**108**	Pn	**Pn**	**01 02 18.9**	**+1.4**
APMY	**Acipayam-Deniz**	**1.96**	**83**	Pn	**Pn**	**01 02 19.8**	**+1.2**
CAEL	**Denizli, Camel**	**1.97**	**93**	P	**Pg**	**01 02 23.2**	**-0.1**
CAME	**Cameli-Denizli**	**1.98**	**98**	Pn	**Pn**	**01 02 20.3**	**+1.4**
IZZE	**Mula-Seydike**	**2.06**	**112**	P	**Pb**	**01 02 22.6**	**-0.3**

*IDC **07** 01:34:56.3±3.1, 5°.21S×150°.70E, h117km±23km, mb3.4/7, mbtmp3.8/8, Error ellipse: s-maj=57.8km s-min=15.3km az=115.0*
ISC 07 01:34:55.9±1.6, 5°.1S±0°.2×150°.4E±0°.4, h100km, n9, σ2°37/12, mb3.6/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.36**	**216**	P	**Pn**	**01 36 16.0**	**+2.4**
	6.6nm,0.2s,baz=285,slow=9.8,SNR=1.9						
WRA	**Warramunga Arr**	**21.50**	**225**	P	**P**	**01 39 36.5**	**-0.4**
	0.9nm,0.4s,baz=49,slow=9.9,SNR=23						
WRA				S	**S**	**01 43 24.1**	**-5.8**
	1.0nm,0.8s,baz=51,slow=16,SNR=6.9						
WRA				PcP	**PcP**	**01 43 35.1**	**-1.0**
	0.5nm,0.6s,baz=32,slow=1.7,SNR=7.5						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**24.37**	**219**	P	**P**	**01 40 05.0**	**+0.1**
	2.0nm,0.5s,baz=56,slow=8.5,SNR=41						
ASAR				S	**S**	**01 44 17.6**	**+0.1**
	0.7nm,0.8s,baz=27,slow=17,SNR=4.8						
	2.0nm,0.5s						
SONM	**Songino Array**	**65.30**	**329**	P	**P**	**01 45 29.4**	**+2.0**
	0.5nm,0.5s,baz=142,slow=4.3,SNR=3.8						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**78.96**	**319**	P	**P**	**01 46 47.8**	**-0.9**
	0.3nm,0.7s,baz=108,slow=4.7,SNR=2.2						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**80.06**	**327**	P	**P**	**01 46 53.6**	**-0.8**
	0.6nm,0.6s,baz=106,slow=6.5,SNR=2.6						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**82.54**	**322**	P	**P**	**01 47 08.0**	**+0.3**
	0.6nm,0.7s,baz=119,slow=4.2,SNR=5.1						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**83.32**	**23**	P	**P**	**01 47 09.7**	**-1.8**
	0.3nm,0.5s,baz=240,slow=4.8,SNR=6.0						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**148.09**	**287**	PKPbc	**PKPdf**	**01 54 28.9**	**+1.2**
	0.2nm,0.2s,baz=79,slow=1.8,SNR=5.4						

*SJA **07** 01:53:29.3±0.5, 36°.16S×71°.98W, h76km±2km, ML2.9, MW3.1*
*GUC **07** 01:53:31.0±0.8, 36°.24S×71°.62W, h89km±4km, ML2.9*
**ISC 07 01:53:31.1±

LMEL	**Las Melosas**	**2.66**	**28**	*e*P	**Pn**	**01 54 12.6**	**+0.5**
LMEL				*e*S	**Sn**	**01 54 46.0**	**+2.4**
LMEL	**Las Melosas**	**2.66**	**28**	*e*P	**Pn**	**01 54 13.6**	**+1.5**
MT03	**Universidad Ad**	**2.89**	**20**	*e*P	**Pn**	**01 54 15.0**	**-0.1**
MT03				*e*S	**Sn**	**01 54 48.4**	**-0.4**
MT03				IAML		01 54 54.6	
MT03	**Universidad Ad**	**2.89**	**20**	*e*P	**Pn**	**01 54 15.8**	**+0.7**
MT03				*e*S	**Sn**	**01 54 49.8**	**+0.9**
MT03				IAML		01 54 54.4	
comp=Z,26nm,0.2s							
MT05	**Renca**	**2.93**	**16**	*e*P	**Pn**	**01 54 15.9**	**+0.4**
MT05				*e*S	**Sn**	**01 54 50.4**	**+0.7**
MT05				IAML		01 54 53.8	
comp=Z,26nm,0.3s							
MT02	**Curacav**	**2.99**	**9**	*e*P	**Pn**	**01 54 16.0**	**-0.3**
MT02				*e*S	**Sn**	**01 54 50.6**	**-0.6**
MT02				IAML		01 54 59.6	
comp=N,22nm,0.3s							
MT02	**Curacav**	**2.99**	**9**	*e*P	**Pn**	**01 54 15.9**	**-0.3**
MT02				*e*S	**Sn**	**01 54 51.0**	**-0.1**
MT02				IAML		01 54 53.6	
comp=Z,25nm,1.4s							
RFA	**San Rafael**	**3.00**	**62**	*e*P	**Pn**	**01 54 17.1**	**+0.5**
RFA				*e*S	**Sn**	**01 54 49.1**	**-2.6**
MT04	**Ro Olivares**	**3.08**	**25**	*e*P	**Pn**	**01 54 18.5**	**+0.6**
MT04				*e*S	**Sn**	**01 54 54.1**	**+0.3**
MT04				IAML		01 54 56.5	
comp=N,34nm,0.4s							
MT04	**Ro Olivares**	**3.08**	**25**	*e*P	**Pn**	**01 54 18.6**	**+0.8**
MT04				*e*S	**Sn**	**01 54 54.9**	**+1.1**
MT04				IAML		01 55 00.8	
comp=Z,20nm,1.6s							
MT10	**Hacienda Santa**	**3.09**	**18**	*e*P	**Pn**	**01 54 18.5**	**+0.7**
MT10				*e*S	**Sn**	**01 54 53.3**	**-0.5**
MT10				IAML		01 55 11.6	
comp=E,61nm,0.9s							
FCH	**Farellones**	**3.11**	**22**	*e*P	**Pn**	**01 54 18.5**	**+0.2**
FCH				*e*S	**Sn**	**01 54 54.3**	**-0.2**
FCH				IAML		01 54 57.1	
comp=N,39nm,0.4s							
PEL	**Peldehue**	**3.18**	**15**	*e*P	**Pn**	**01 54 19.3**	**+0.4**
PEL				*e*S	**Sn**	**01 54 55.0**	**-0.8**
PEL				IAML		01 54 57.8	
comp=N,47nm,0.3s							
PEL	**Peldehue**	**3.18**	**15**	*e*P	**Pn**	**01 54 19.9**	**+1.0**
PEL				*e*S	**Sn**	**01 54 56.5**	**+0.7**
ROC1	**El Roble**	**3.28**	**10**	*e*P	**Pn**	**01 54 20.2**	**-0.3**
ROC1				*e*S	**Sn**	**01 54 58.3**	**-0.3**
ROCH	**El Roble**	**3.29**	**10**	*e*P	**Pn**	**01 54 20.1**	**-0.5**
ROCH				*e*S	**Sn**	**01 54 57.4**	**-1.4**
GO06	**Curarrehue**	**3.37**	**177**	*e*P	**Pn**	**01 54 22.5**	**+0.9**
LR03	**Panguipulli**	**3.45**	**188**	*e*P	**Pn**	**01 54 21.2**	**-1.3**
LR03				IAML		01 55 03.7	
comp=Z,29nm,0.3s							
VA03	**San Esteban**	**3.57**	**16**	*e*P	**Pn**	**01 54 24.5**	**+0.2**
VA03				*e*S	**Sn**	**01 55 05.3**	**-0.2**
VA03				IAML		01 55 07.5	
comp=Z,21nm,1.1s							

*THE **07** 02:26:45.7, 37°.60N×20°.58E, h3km±4km, ML2.6/11, Error ellipse: s-maj=4.8km s-min=0.8km az=36.0*
*ATH **07** 02:26:46.2, 37°.63N×20°.60E, h8km±2km, ML2.6/9, Error ellipse: s-maj=3.0km s-min=0.7km az=31.0*
ISC 07 02:26:46.1±1.5, 37°.63N±0°.04×20°.59E±0°.05, h8km±9km, n28, σ0s54/53, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.18**	**78**	P	**Pg**	**02 26 49.9**	**+0.1**
KRI1				S	**Sg**	**02 26 52.5**	**+0.1**
3μm,0.3s							
LTHK	**Lithakia**	**0.21**	**67**	P	**Pg**	**02 26 50.2**	**-0.2**
LTHK				S	**Sg**	**02 26 52.7**	**-0.6**
LTHK	**Lithakia**	**0.21**	**67**	P	**Pg**	**02 26 50.4**	**+0.1**
LTHK				S	**Sg**	**02 26 53.1**	**-0.2**
LTHK				AML	AML	02 26 53.5	
comp=N,5101μm,0.2s							
LTHK				AML	AML	02 26 53.7	
comp=E,6779μm,0.3s							
RTZL	**Ratzakli, Kefa**	**0.47**	**17**	P	**Pg**	**02 26 55.0**	**-0.3**
RTZL				S	**Sg**	**02 27 02.0**	**+0.5**
comp=E,3μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.49**	**359**	P	**Pg**	**02 26 55.4**	**-0.2**
PSDA				S	**Sg**	**02 27 02.8**	**+0.8**
comp=E,1μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.49**	**359**	P	**Pg**	**02 26 55.3**	**-0.2**
PSDA				S	**Sg**	**02 27 02.3**	**+0.3**
VLS	**Valsamata**	**0.55**	**360**	P	**Pg**	**02 26 56.4**	**-0.4**
VLS				S	**Sg**	**02 27 04.6**	**+0.6**
comp=E,595nm,0.3s							
VLS	**Valsamata**	**0.55**	**360**	P	**Pg**	**02 26 56.4**	**-0.4**
VLS				S	**Sg**	**02 27 04.0**	**0.0**
VLS				AML	AML	02 27 05.7	
comp=N,1396μm,0.4s							
VLS				AML	AML	02 27 08.8	
comp=E,1137μm,0.4s							
LXRA	**Lixouri, Kepha**	**0.59**	**348**	P	**Pg**	**02 26 57.7**	**+0.3**
LXRA				S	**Sg**	**02 27 05.1**	**0.0**
LXRA				AML	AML	02 27 13.1	
comp=E,4327μm,0.5s							
LXRA				AML	AML	02 27 16.6	
comp=N,2918μm,0.3s							
SMHA	**Samh**	**0.63**	**4**	P	**Pg**	**02 26 57.3**	**-0.9**
SMHA				S	**Sg**	**02 27 06.7**	**+0.3**
SMHA				AML	AML	02 27 09.7	
comp=E,3619μm,0.3s							
SMHA				AML	AML	02 27 10.2	
comp=N,5808μm,0.4s							
DMLN	**Damoulianata-K**	**0.64**	**344**	P	**Pg**	**02 26 58.5**	**+0.1**
DMLN				S	**Sb**	**02 27 08.5**	**0.0**
comp=N,1μm,0.3s							
DMLN	**Damoulianata-K**	**0.64**	**344**	P	**Pg**	**02 26 58.0**	**-0.4**
DMLN				S	**Sg**	**02 27 07.5**	**+0.8**
VSK1	**VASILIKIADES**	**0.78**	**358**	P	**Pg**	**02 27 00.6**	**-0.6**
VSK1				S	**Sb**	**02 27 12.9**	**+0.2**
comp=N,585nm,0.4s							
RLS	**Riolos of Patr**	**0.81**	**58**	P	**Pg**	**02 27 01.4**	**-0.4**
RLS				S	**Sb**	**02 27 13.8**	**+0.2**
comp=N,238nm,0.5s							
RLS	**Riolos of Patr**	**0.81**	**58**	P	**Pg**	**02 27 01.1**	**-0.6**
RLS				S	**Sg**	**02 27 12.2**	**-0.2**
RLS				AML	AML	02 27 14.4	
comp=E,585μm,0.6s							
RLS				AML	AML	02 27 17.2	
comp=N,373μm,0.3s							
FSK	**Fiskardo**	**0.83**	**358**	P	**Pg**	**02 27 01.4**	**-0.7**
FSK				S	**Sg**	**02 27 13.8**	**+0.8**
comp=N,328nm,0.5s							
FSK	**Fiskardo**	**0.83**	**358**	P	**Pg**	**02 27 01.3**	**-0.9**
FSK				S	**Sg**	**02 27 13.3**	**+0.4**
FSK				AML	AML	02 27 17.7	
comp=E,615μm,0.3s							
FSK				AML	AML	02 27 19.1	
comp=N,497μm,0.5s							
AMT	**Artemida-Makis**	**0.89**	**96**	P	**Pg**	**02 27 03.4**	**+0.2**
AMT				S	**Sg**	**02 27 15.2**	**+0.3**
AMT				AML	AML	02 27 23.0	
comp=N,1648μm,0.4s							
AMT				AML	AML	02 27 24.1	
comp=E,1206μm,0.4s							
DRO	**Drossia**	**0.94**	**69**	P	**Pg**	**02 27 04.0**	**-0.2**
DRO				S	**Sb**	**02 27 18.4**	**+1.0**
comp=E,498nm,0.3s							
DRO	**Drossia**	**0.94**	**69**	P	**Pg**	**02 27 04.0**	**-0.2**
DRO				S	**Sg**	**02 27 16.2**	**-0.3**
DRO				AML	AML	02 27 20.2	
comp=E,971μm,0.3s							
DRO				AML	AML	02 27 21.9	
comp=N,1001μm,0.4s							
EVGI	**Lefkada island**	**0.99**	**3**	P	**Pg**	**02 27 04.3**	**-0.9**
EVGI				S	**Sb**	**02 27 19.2**	**+0.4**
comp=N,225nm,0.3s							
EVGI	**Lefkada island**	**0.99**	**3**	P	**Pg**	**02 27 04.5**	**-0.8**
EVGI				S	**Sg**	**02 27 18.2**	**0.0**
DRAG	**Dragano-Lefkad**	**1.06**	**359**	P	**Pg**	**02 27 05.2**	**-1.2**
NYDR	**Nydri-Lefkada**	**1.09**	**4**	P	**Pg**	**02 27 05.8**	**-1.2**
NYDR				S	**Sn**	**02 27 23.5**	**+0.6**
comp=N,220nm,0.4s							
ITM	**Ithomi**	**1.15**	**112**	P	**Pg**	**02 27 08.0**	**-0.2**
ITM				S	**Sb**	**02 27 23.4**	**+0.1**
ITM				AML	AML	02 27 31.1	
comp=E,89μm,0.3s							
ITM				AML	AML	02 27 35.5	
comp=N,143μm,0.4s							
LKD2	**Lefkada island**	**1.16**	**3**	P	**Pb**	**02 27 08.7**	**+0.2**
PYL	**PYLOS**	**1.17**	**128**	P	**Pg**	**02 27 08.0**	**-0.6**
PYL				S	**Sg**	**02 27 23.7**	**0.0**
ANX	**Ano Chora**	**1.43**	**47**	P	**Pn**	**02 27 11.8**	**-0.6**

*BJI **07** 02:33:59.2, 29°.98N×87°.67E, h14km, mb4.5/23, mB4.7/8, Ms3.9/6, Ms7 3.6/6*
*IDC **07** 02:34:00.8±0.7, 30°.17N×87°.65E, h0km, mb3.9/13, mbtmp3.9/16, ML3.1/1, MS3.1/7, Error ellipse: s-maj=29.4km s-min=14.8km az=54.0*
*NDI **07** 02:34:01.9±3.0, 30°.55N×88°.11E, h10km, ML3.9, mb4.4(NEIC)*
*NEIC **07** 02:34:03.0±1.7, 30°.51N±0°.06×87°.94E±0°.07, h10km±1km, mb4.4/24, Error ellipse: s-maj=13.2km s-min=6.0km az=43.0*
*MOS **07** 02:34:02.3±1.6, 30°.26N×87°.81E, h19km, mb4.5/9, Error ellipse: s-maj=14.0km s-min=6.4km az=118.7*
ISC 07 02:34:02.3±0.4, 30°.37N±0°.06×87°.82E±0°.05, h10km, n111, σ2s21/109, mb4.3/33, MS3.2/6, 5C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**2.97**	**102**	Pn	**Pn**	**02 34 49.0**	**-0.9**
LSA	**Lhasa**	**2.97**	**102**	P	**Pn**	**02 34 49.0**	**-0.9**
GTK	**Tadong**	**3.12**	**167**	IAML		02 35 05.4	
comp=E,250nm,0.8s							
GTK				IAML		02 35 06.5	
comp=N,318nm,0.7s							
GTK				*i* x	x	02 35 53.7	
VLK	**Valmikinagar**	**4.61**	**230**	*e*P	**Pn**	**02 35 14.1**	**+2.0**
VLK				*e*S	**Sn**	**02 36 06.6**	**+0.9**
VLK				IAML		02 36 15.2	
comp=E,210nm,0.9s							
VLK				IAML		02 36 16.5	
comp=N,207nm,1.5s							
SHL	**Shillong**	**5.99**	**142**	Pn	**Pn**	**02 35 31.9**	**+0.7**
SHL	**Shillong**	**5.99**	**142**	*e*P	**Pn**	**02 35 33.0**	**+1.8**
SHL	**Shillong**	**5.99**	**142**	P	**Pn**	**02 35 31.9**	**+0.7**
BOK	**Bokaro**	**6.77**	**195**	*e*P	**Pn**	**02 35 43.2**	**+1.3**
JOSI	**Joshimath**	**7.13**	**274**	*e*P	**Pn**	**02 35 47.8**	**+0.8**
JOSI				*e*S	**Sn**	**02 37 07.6**	**-0.6**
JOSI				IAML		02 37 16.5	
comp=N,168nm,0.5s							
JOSI				IAML		02 37 19.1	
comp=E,183nm,1.2s							
JOSI				*i* x	x	02 38 13.4	
HNLY	**HANLEY**	**7.92**	**290**	*e*P	**Pn**	**02 35 59.4**	**+1.4**
HNLY				IAML		02 37 34.0	
comp=N,113nm,0.9s							
HNLY				IAML		02 37 35.2	
comp=E,104nm,1.2s							
GOMU	**GeErMu**	**8.25**	**43**	P	Pn	02 36 08.9	+6.5
GOMU				pmax	pmax		
comp=E,4.0nm,0.8s							
SMLA	**Simla**	**9.20**	**277**	*e*P	**Pn**	**02 36 15.3**	**+0.3**
SMLA				*e*S	**Sn**	**02 37 57.5**	**-1.1**
DHRM	**DHARAMSHALA**	**10.03**	**284**	*e*P	**Pn**	**02 36 26.0**	**-0.7**
DHRM				*e*S	**Sn**	**02 38 15.8**	**-3.6**
BHPL	**Bhopal**	**11.68**	**235**	*ex*	Pn	02 36 46.1	-3.1
NRDN	**NARMADA NAGAR**	**12.20**	**234**	*ex*	Pn	02 37 04.6	+8.4
NIL	**Nilore**	**12.79**	**289**	Pn	Pn	02 37 00.1	-4.1
NIL	**Nilore**	**12.79**	**289**	P	Pn	02 37 00.2	-4.0
PZH	**PanZhiHua**	**12.85**	**104**	P	**Pn**	**02 37 07.4**	**+2.2**
PZH				pmax	pmax		
comp=E,10.0nm,0.6s							
PZH				pmax	pmax		
comp=E,100nm,6.1s							
WUS	**Wushi**	**12.85**	**330**	Pn	**Pn**	**02 37 01.2**	**-4.0**
KSH	**Kashi**	**13.32**	**316**	P	**Pn**	**02 37 09.9**	**-1.6**
KSH				pmax	pmax		
comp=E,8.0nm,0.6s							
WMQ	**Urumqi**	**13.43**	**360**	*e*P	**Pn**	**02 37 12.5**	**-0.4**
NRN	**Naryn**	**14.60**	**322**	P	**Pn**	**02 37 31.7**	**+2.5**
NRN	**Naryn**	**14.60**	**322**	P	**Pn**	**02 37 31.7**	**+2.5**
CHTO	**Chiang Mai**	**15.31**	**136**	Pn	**Pn**	**02 37 38.1**	**-0.5**
CHTO				IAmb	IAmb	02 37 46.3	
comp=Z,20nm,1.5s							
CHTO	**Chiang Mai**	**15.31**	**136**	P	**Pn**	**02 37 38.1**	**-0.5**
CHTO				pmax	pmax		
comp=Z,20nm,1.5s							
BOOM	**Boomskoye usch**	**15.39**	**325**	Pn	**Pn**	**02 37 34.5**	**-5.3**
BOOM	**Boomskoye usch**	**15.39**	**325**	P	**Pn**	**02 37 35.6**	**-4.2**
BOOM				pmax	pmax		
comp=Z,7.0nm,1.2s							
CMAR	**Chiang Mai Arr**	**15.59**	**137**	Pn	**Pn**	**02 37 42.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**15.59**	**137**	Pn	**Pn**	**02 37 41.4**	**-0.9**
comp=Z,0.9nm,0.4s,baz=310,slow=13,SNR=1.1							
CMAR				LR	LR	02 44 14.8	
comp=Z,26nm,19.7s,baz=330,slow=40							
CMAR	**Chiang Mai Arr**	**15.59**	**137**	P	**Pn**	**02 37 42.5**	**+0.3**
AAK	**Ala-Archa**	**16.24**	**323**	Pn	**Pn**	**02 37 44.6**	**-6.1**
AAK	**Ala-Archa**	**16.24**	**323**	Pn	**Pn**	**02 37 50.6**	**-0.1**
comp=Z,0.1nm,0.3s,baz=137,slow=13,SNR=1.5							
comp=Z,0.8nm,0.8s							
AAK	**Ala-Archa**	**16.24**	**323**	*i* P	**Pn**	**02 37 51.3**	**+0.6**
KBL	**Kabul**	**16.38**	**290**	Pn	**Pn**	**02 37 48.5**	**-4.1**
KBL				IAmb	IAmb	02 37 58.4	
comp=Z,22nm,1.2s							
KBL	**Kabul**	**16.38**	**290**	P	**Pn**	**02 37 48.5**	**-4.1**
KBL				pmax	pmax		
comp=Z,23nm,1.3s							
GAR	**Garm**	**16.75**	**306**	Pn	**Pn**	**02 37 52.5**	**-4.7**
GAR				IAmb	IAmb	02 37 56.2	
comp=Z,36nm,1.4s							
BTK	**Batken**	**16.90**	**309**	Pn	**Pn**	**02 37 54.6**	**-4.4**
BTK				IAmb	IAmb	02 38 04.1	
comp=Z,38nm,0.6s							
BTK	**Batken**	**16.90**	**309**	P	**Pn**	**02 37 54.6**	**-4.4**
BTK				pmax	pmax		
comp=Z,38nm,0.6s							
MK31	**Makanchi Array**	**16.95**	**347**	*ce*P	**P**	**02 38 01.9**	**+0.4**
MKAR	**Makanchi Array**	**16.95**	**347**	P	**P**	**02 38 02.3**	**+0.8**
comp=Z,1.3nm,0.7s,baz=151,slow=9.9,SNR=3.8							
MKAR	**Makanchi Array**	**16.95**	**347**	*i* P	**P**	**02 38 00.0**	**-1.5**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
SIMJ	**Simiganj**	**17.55**	**303**	Pn	**Pn**	**02 38 02.5**	**-4.7**
KKAR	**Karatay Array**	**18.76**	**317**		**P**	**02 38 19.8**	**-1.8**
KKAR	**Karatay Array**	**18.76**	**317**	P	**P**	**02 38 19.8**	**-1.8**
KKAR				pmax	pmax		
comp=Z,2.0nm,0.9s							
KURBB	**Kurchatov Arra**	**21.39**	**344**	P	**P**	**02 38 50.5**	**+0.4**
comp=Z,3.4nm,0.9s,baz=160,slow=10,SNR=13							
comp=Z,3.4nm,0.9s							
KURK	**Kurchatov**	**21.46**	**344**	P	**P**	**02 38 50.0**	**-0.7**
KURK	**Kurchatov**	**21.46**	**344**	*ce*P	**P**	**02 38 51.5**	**+0.8**
KURK				pmax	pmax		
comp=Z,7.0nm,1.2s							
HHC	**Hu-ho-hao-te**	**21.89**	**55**	*e*P	**P**	**02 38 55.8**	**+0.2**
HHC				pmax	pmax		
comp=Z,16nm,0.8s							
HHC				pmax	pmax		
comp=Z,130nm,5.1s							
HHC				LR	LR		
comp=Z,110nm,8.2s							
HHC				LR	LR		
comp=Z,150nm,8.2s							
HHC				LR	LR		
comp=Z,140nm,8.6s							
SONM	**Songino Array**	**22.53**	**34**	P	**P**	**02 39 04.7**	**+2.3**
comp=Z,0.7nm,0.7s,baz=217,slow=13,SNR=4.8							
comp=Z,0.7nm,0.7s							
ULN	**Ulaanbaatar**	**22.87**	**35**	*i* P	**P**	**02 39 08.9**	**+2.9**
ULN				pmax	pmax		
comp=Z,10.0nm,2.5s							
ZALV	**Zalesovo Beam**	**23.66**	**356**	P	**P**	**02 39 16.1**	**+2.4**
comp=Z,2.2nm,0.6s,baz=182,slow=9.8,SNR=11							
comp=Z,2.2nm,0.6s							
ZALV	**Zalesovo Beam**	**23.66**	**356**	*e*P	**P**	**02 39 16.9**	**+3.1**
ZALV				pmax	pmax		
comp=Z,2.0nm,0.6s							
IRK	**Irkutsk**	**24.99**	**24**	*e*P	**P**	**02 39 21.3**	**-4.8**
IRK				pmax	pmax		
comp=Z,49nm,1.6s							
BVAR	**Borovoye Array**	**25.97**	**336**	P	**P**	**02 39 37.4**	**+2.4**
comp=Z,1.7nm,0.6s,baz=152,slow=13,SNR=7.7							
BVAR				PcP	**PcP**	**02 43 03.8**	**+0.6**
comp=Z,0.7nm,0.6s,baz=104,slow=3.7,SNR=4.2							
comp=Z,1.7nm,0.6s							
BRVK	**Borovoye**	**26.04**	**336**	*i* P	**P**	**02 39 37.8**	**+2.2**
BRVK				pmax	pmax		
comp=Z,8.0nm,2.0s							
NJ2	**Nanjing**	**26.55**	**78**	*e*P	**P**	**02 39 39.0**	**-1.5**
NJ2				pmax	pmax		
comp=Z,8.0nm,0.7s							
ABKAR	**Akbulak array**	**28.28**	**320**	P	**P**	**02 39 55.2**	**-0.6**
ABKAR				IAmb	IAmb	02 39 58.8	
comp=Z,2.3nm,0.6s							
ARTI	**Arti**	**33.20**	**330**	*c i* P	**P**	**02 40 41.4**	**+2.3**
ARTI						02 41 48.1	
ARTI				S	**S**	**02 46 04.9**	**+6.1**
ARTI				SS	**SnSn**	**02 47 54.5**	**-3.7**
ARTI				pmax	pmax		
comp=Z,20nm,2.6s							
KSRS	**Korea Array**	**33.83**	**67**	LR	LR	02 57 18.7	
comp=Z,5.9nm,20.6s,baz=215,slow=41							
JOW	**Kunigami**	**35.57**	**85**	LR	LR	02 58 34.2	
comp=Z,31nm,21.0s,baz=213,slow=41							
MSHR	**Mys Shultsa**	**36.54**	**58**	*ce*P	**P**	**02 41 07.7**	**-0.4**
MSHR				pmax	pmax		
comp=Z,22nm,1.0s							
USRK	**Ussuriysk Ar.**	**37.31**	**56**	LR	LR	02 56 15.7	
comp=Z,40nm,19.7s,baz=351,slow=36							
KIRV	**Kirov**	**38.44**	**328**	*ce*P	**P**	**02 41 26.8**	**+2.9**
SOC	**Sochi**	**40.09**	**303**	*e*P	**P**	**02 41 36.2**	**-1.8**
SOC				*e*		02 43 10.7	
SOC				*e*PPP	PPP	02 43 33.5	
SOC				*e*S	**S**	**02 47 44.2**	**+0.1**
SOC				*e*SSS	SSS	02 51 07.2	
SOC				pmax	pmax		
comp=Z,23nm,0.8s							
ANN	**Anapa**	**41.79**	**305**	*e*P	**P**	**02 41 52.8**	**+0.9**
ANN				*e**PP	**pP**	**02 41 55.2**	**-1.6**
ANN				*e*S	**S**	**02 48 12.9**	**+3.6**
ANN				pmax	pmax		
comp=Z,36nm,1.1s							
OBN	**Obninsk**	**43.73**	**320**	*e*P	**P**	**02 42 09.9**	**+2.3**
OBN				*e*		02 43 52.3	
OBN				*e*		02 43 55.6	
OBN				*e*PPP	PPP	02 44 27.1	
OBN				pmax	pmax		
comp=Z,5.0nm,0.9s							
BRTR	**Keskin Array B**	**44.74**	**297**	P	**P**	**02 42 12.4**	**-3.7**
BRTR	**Keskin Array B**	**44.74**	**297**	P	**P**	**02 42 16.6**	**+0.5**
comp=Z,0.5nm,0.5s,baz=102,slow=7.9,SNR=6.5							
comp=Z,0.5nm,0.5s							
BRTR	**Keskin Array B**	**44.74**	**297**	*e*P	**P**	**02 42 17.2**	**+1.1**
BRTR				pmax	pmax		
comp=Z,1.0nm,0.4s							
EIL	**Elat**	**45.42**	**283**	LR	LR	03 04 12.6	
comp=Z,30nm,18.3s,baz=100,slow=40							
AKASG	**Malin Array Be**	**47.57**	**313**	P	**P**	**02 42 38.4**	**+0.4**
comp=Z,0.4nm,0.4s,baz=107,slow=11,SNR=4.5							
AKASG				LR	LR	03 06 33.4	
comp=Z,44nm,20.1s,baz=336,slow=41							
comp=Z,0.4nm,0.4s							
AKASG	**Malin Array Be**	**47.57**	**313**	*e*P	**P**	**02 42 41.5**	**+3.5**
ELL	**Elmali**	**48.05**	**294**	P	**P**	**02 42 41.5**	**-0.6**
ELL	**Elmali**	**48.05**	**294**	P	**P**	**02 42 41.5**	**-0.6**
ELL				pmax	pmax		
comp=Z,38nm,0.9s							
LVZ	**Lovozero**	**48.57**	**336**	*i* P	**P**	**02 42 49.9**	**+4.4**
LVZ				pmax	pmax		
comp=Z,10.0nm,0.9s							
MLR	**Muntele Rosu**	**49.90**	**306**	LR	LR	03 06 38.6	
comp=Z,60nm,18.2s,baz=56,slow=39							
MLR	**Muntele Rosu**	**49.90**	**306**	P	**P**	**02 42 52.1**	**-4.1**
MLR				pmax	pmax		
comp=Z,6.0nm,1.1s							
BURAR	**Bucovina Array**	**50.24**	**309**	P	**P**	**02 42 58.1**	**-0.6**
BURAR				pmax	pmax		
comp=Z,1.0nm,1.0s							
FIA1	**FINESS Array S**	**50.37**	**327**	P	**P**	**02 42 59.8**	**+0.5**
FINES	**FINESS Array B**	**50.37**	**327**	P	**P**	**02 42 59.7**	**+0.4**
comp=Z,1.9nm,0.5s,baz=98,slow=8.6,SNR=20							
comp=Z,1.9nm,0.5s							
FINES	**FINESS Array B**	**50.37**	**327**	*i* P	**P**	**02 43 01.2**	**+1.9**
FINES				pmax	pmax		
comp=Z,2.0nm,0.5s							
ARCES	**ARCESS Array B**	**52.25**	**337**	P	**P**	**02 43 14.8**	**+1.4**
comp=Z,3.3nm,0.8s,baz=117,slow=7.5,SNR=7.1							
comp=Z,3.3nm,0.8s							
ARCES	**ARCESS Array B**	**52.25**	**337**	*e*P	**P**	**02 43 14.7**	**+1.4**
ARCES				pmax	pmax		
comp=Z,4.0nm,0.8s							
PETK	**Petropavlovsk-**	**54.51**	**44**	P	**P**	**02 43 29.6**	**-0.6**
HFS	**Hagfors**	**56.37**	**325**	P	**P**	**02 43 43.3**	**-0.2**
comp=Z,4.5nm,0.7s,baz=98,slow=9.1,SNR=13							
comp=Z,4.5nm,0.7s							
NC303	**NORSAR Array S**	**57.44**	**326**	P	**P**	**02 43 52.6**	**+1.6**
NB2	**NORSAR Subarra**	**57.52**	**326**	P	**P**	**02 43 52.5**	**+0.8**
comp=Z,0.7nm,0.5s,baz=85,slow=6.9							
NOA	**NORSAR Array B**	**57.52**	**326**	P	**P**	**02 43 51.3**	**-0.3**
comp=Z,1.8nm,0.8s,baz=86,slow=6.9,SNR=7.3							
comp=Z,1.8nm,0.8s							
NOA	**NORSAR Array B**	**57.52**	**326**	*e*P	**P**	**02 43 52.3**	**+0.6**
NOA				pmax	pmax		
comp=Z,1.0nm,0.7s							
WB0	**Warramunga Arr**	**67.02**	**132**	P	**P**	**02 44 55.8**	**0.0**
WRA	**Warramunga Arr**	**67.12**	**132**	P	**P**	**02 44 56.1**	**-0.3**
comp=Z,1.1nm,0.7s,baz=325,slow=6.3,SNR=12							
comp=Z,1.1nm,0.7s							
WRA	**Warramunga Arr**	**67.12**	**132**	*i* P	**P**	**02 44 56.5**	**+0.1**
WRA				pmax	pmax		
comp=Z,1.0nm,0.8s							
WB2	**Warramunga Arr**	**67.12**	**132**	P	**P**	**02 44 56.4**	**0.0**
WB2				IAmb	IAmb	02 44 58.7	
comp=Z,9.5nm,1.5s							
WR0	**Warramunga Arr**	**67.26**	**132**	P	**P**	**02 44 56.3**	**-1.0**
WR0				IAmb	IAmb	02 45 31.0	
comp=Z,5.7nm,1.4s							
ASAR	**Alice Springs**	**69.59**	**135**	P	**P**	**02 45 12.0**	**+0.2**
comp=Z,1.1nm,0.8s,baz=314,slow=5.8,SNR=11							
comp=Z,1.1nm,0.8s							
ASAR	**Alice Springs**	**69.59**	**135**	P	**P**	**02 45 12.2**	**+0.4**
BMAR	**Burnt Mountain**	**74.90**	**18**	P	**P**	**02 45 43

comp=Z,10nm,1.0s
BKZ Black Stump Fm 17.81 191 P **P** **03 03 07.4 -0.3**
BKZ IAmb IAmb 03 03 11.5
comp=Z,16nm,1.3s
QRZ Quartz Range 20.33 198 P **P** **03 03 32.0 +1.6**
KHZ Kahutara 21.55 195 P **P** **03 03 41.5 +0.3**
WHZ Wether Hill Ro 26.33 201 P **P** **03 04 26.4 +2.8**
EIDS Eidsvold 27.47 257 P **P** **03 04 34.4 +0.5**
EIDS IAmb IAmb 03 04 35.5
comp=Z,6.6nm,0.6s
ARMA Armidale 27.56 246 P **P** **03 04 36.8 +2.1**
ARMA IAmb IAmb 03 04 52.1
comp=Z,24nm,1.4s
CTAO Charters Tower 32.29 266 P **P** **03 05 15.7 +0.5**
CTAO IAmb IAmb 03 05 16.5
comp=Z,10nm,1.1s
STKA Stephens Creek 36.28 245 P **P** **03 05 49.5 +1.2**
STKA Stephens Creek 36.28 245 P **P** **03 05 48.6 +0.3**
comp=Z,3.3nm,0.5s,baz=82,slow=13,SNR=7.7
comp=Z,3.3nm,0.5s
COEN Coen 36.57 276 P **P** **03 05 51.5 +0.5**
COEN IAmb IAmb 03 05 52.4
comp=Z,8.8nm,0.8s
BBOO Buckleboo 41.03 245 P **P** **03 06 26.9 +0.4**
BBOO IAmb IAmb 03 06 30.9
comp=Z,23nm,1.2s
WR0 Warramunga Arr 43.16 264 P **P** **03 06 42.9 -0.4**
WR0 IAmb IAmb 03 06 44.5
comp=Z,4.5nm,0.6s
AS31 Alice Springs 43.17 258 P **P** **03 06 43.9 +0.4**
ASAR Alice Springs 43.17 258 P **P** **03 06 43.7 +0.2**
ASAR Alice Springs 43.17 258 P **P** **03 06 43.5 +0.1**
comp=Z,11nm,0.6s,baz=91,slow=7.7,SNR=139
ASAR PcP **PcP** **03 08 18.8 -0.2**
comp=Z,2.5nm,0.6s,baz=108,slow=3.9,SNR=9.4
ASAR ScP **ScP** **03 11 13.1 -0.6**
comp=Z,1.0nm,0.9s,baz=116,slow=2.2,SNR=4.6
ASAR S **S** **03 12 24.8 -3.1**
comp=Z,1.1nm,0.8s,baz=88,slow=15,SNR=7.2
comp=Z,11nm,0.6s
WB0 Warramunga Arr 43.33 264 P **P** **03 06 44.3 -0.4**
WB2 Warramunga Arr 43.34 264 P **P** **03 06 44.4 -0.4**
WB2 IAmb IAmb 03 06 45.1
comp=Z,14nm,0.8s
WRAB Tennant Creek 43.34 264 P **P** **03 06 44.4 -0.4**
WRAB IAmb IAmb 03 06 45.0
comp=Z,10nm,0.8s
WRA Warramunga Arr 43.35 264 P **P** **03 06 44.3 -0.5**
comp=Z,4.1nm,0.3s,baz=96,slow=7.6,SNR=327
WRA PcP **PcP** **03 08 19.6 0.0**
comp=Z,0.5nm,0.3s,baz=96,slow=3.4,SNR=3.6
WRA S **S** **03 12 25.6 -4.8**
comp=Z,0.5nm,0.6s,baz=99,slow=12,SNR=3.7
comp=Z,4.1nm,0.3s
FORT Forrest 47.81 248 P **P** **03 07 18.4 -0.1**
FORT IAmb IAmb 03 07 19.1
comp=Z,20nm,0.7s
MTN Manton Dam 48.08 272 P **P** **03 07 20.0 -0.7**
MTN IAmb IAmb 03 07 20.5
comp=Z,15nm,0.7s
KNRA Kununurra 49.48 268 P **P** **03 07 30.7 -0.3**
KNRA IAmb IAmb 03 07 44.4
comp=Z,27nm,1.4s
FITZ Fitzroy Crossi 51.78 264 P **P** **03 07 47.8 +0.2**
PSA00 Pilbara Seismi 56.32 258 P **P** **03 08 18.7 -0.7**
PSA00 Pilbara Seismi 56.32 258 P **P** **03 08 19.4 -0.1**
PSA00 IAmb IAmb 03 08 20.3
comp=Z,15nm,1.1s
MBWA Marble Bar 56.52 258 P **P** **03 08 20.8 0.0**
MBWA IAmb IAmb 03 08 21.1
comp=Z,15nm,0.8s
MORW Morawa 58.35 248 P **P** **03 08 33.3 +0.1**
GIRL Giralia 61.17 255 P **P** **03 08 53.1 +1.3**
TOLI2 Tolitoli 62.77 283 P **P** **03 09 02.1 -0.3**
TOLI2 IAmb IAmb 03 09 02.8
comp=Z,12nm,1.1s
QSPA South Pole Qui 68.38 180 P **P** **03 09 38.6 +2.1**
QSPA South Pole Qui 68.38 180 P **P** **03 09 38.0 +1.6**
comp=Z,5.3nm,0.7s,baz=93,slow=7.9,SNR=14
comp=Z,5.3nm,0.7s
MJAR Matsushiro Arr 70.52 325 P **P** **03 09 48.5 -1.0**
comp=Z,1.5nm,0.5s,baz=175,slow=6.1,SNR=5.3
comp=Z,1.5nm,0.5s
TPUB Ta-pu 73.70 304 P **P** **03 10 06.8 -1.3**
KSAR Wonju Array Be 77.06 319 P **P** **03 10 26.0 -0.3**
PETK Petropavlovsk- 77.14 346 P **P** **03 10 25.3 -1.1**
PETK Petropavlovsk- 77.14 346 P **P** **03 10 24.4 -2.1**
comp=Z,2.8nm,0.7s,baz=200,slow=4.0,SNR=7.5
comp=Z,2.8nm,0.7s
USRK Ussuriysk Ar. 79.33 327 P **P** **03 10 38.8 +0.5**
USRK Ussuriysk Ar. 79.33 327 P **P** **03 10 37.8 -0.5**
comp=Z,2.0nm,0.8s,baz=104,slow=3.0,SNR=4.0
comp=Z,2.0nm,0.8s
NJ2 Nanjing 79.79 310 *e*P **P** **03 10 41.6 +0.6**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
MAW Mawson 80.07 200 P **P** **03 10 42.1 +0.3**
comp=Z,1.6nm,0.7s,baz=172,slow=7.1,SNR=3.7
comp=Z,1.6nm,0.7s
NVAR Mina Array Bea 82.65 44 P **P** **03 10 56.3 +0.5**
comp=Z,0.5nm,0.7s,baz=220,slow=7.8,SNR=4.1
comp=Z,0.5nm,0.7s
ELIB Princess Elisa 85.34 187 *d*P **P** **03 11 08.7 +0.3**
comp=Z,5.0nm,0.5s
SNAA Sanae 86.85 179 P **P** **03 11 15.7 +0.3**
SNAA Sanae 86.85 179 P **P** **03 11 15.2 -0.2**
comp=Z,0.8nm,0.4s,baz=176,slow=18,SNR=2.2
comp=Z,0.8nm,0.4s
VNA3 Neumayer Olymp 87.03 177 ⇑P **P** **03 11 15.8 -0.4**
comp=Z,1.1nm,0.4s
VNA2 Neumayer-Watz 87.46 177 ⇑P **P** **03 11 17.5 -0.7**
comp=Z,0.9nm,0.5s,baz=197,slow=2.7
CAST Castle Rocks 87.46 12 P **P** **03 11 16.1 -2.0**
CAST IAmb IAmb 03 11 26.7
comp=Z,6.5nm,1.3s
XAN Xi'an 87.97 308 *e*P **P** **03 11 22.2 +0.9**
XAN pmax pmax
comp=Z,9.0nm,0.8s
XLT XiLinHaoTe 88.10 319 *e*P **P** **03 11 24.5 +2.8**
XLT pmax pmax
comp=Z,9.0nm,0.7s
TXAR Lajitas Array 88.63 58 P **P** **03 11 24.6 +0.1**
comp=Z,0.6nm,0.8s,baz=212,slow=8.2,SNR=6.7
comp=Z,0.6nm,0.8s
HHC Hu-ho-hao-te 89.39 315 *e*P **P** **03 11 28.1 +0.3**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,75nm,5.4s
CMAR Chiang Mai Arr 89.47 290 P **P** **03 11 28.7 +0.2**
comp=Z,1.7nm,0.3s,baz=152,slow=3.4,SNR=15
comp=Z,1.7nm,0.3s
ILAR Eielson Array 89.72 13 P **P** **03 11 26.9 -1.7**
comp=Z,0.2nm,0.4s,baz=225,slow=5.0,SNR=5.0
comp=Z,0.2nm,0.4s
PZH PanZhiHua 90.29 298 P **P** **03 11 32.7 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.9s
LZH Lanzhou 92.61 308 *e*P **P** **03 11 45.1 +2.3**
LZH pP pP 03 13 50.8 -1.2
LZH pmax pmax
comp=Z,18nm,1.1s
BVAR Borovoye Array 119.26 320 PKP **PKPdf** **03 17 13.6 -1.9**
comp=Z,1.9nm,0.3s,baz=109,slow=2.1,SNR=9.6
ARCES ARCESS Array B 129.88 349 PKP **PKPdf** **03 17 33.9 -1.4**
comp=Z,1.7nm,0.6s,baz=33,slow=3.7,SNR=8.6
FINES FINESS Array B 136.58 343 PKhKP PKPpre 03 17 36.1
comp=Z,2.5nm,1.1s,baz=348,slow=3.0,SNR=3.5
NB2 NORSAR Subarra140.01 352 PKP PKPdf 03 17 47.2 -7.2
comp=Z,0.3nm,0.7s,baz=17,slow=2.6
NOA NORSAR Array B140.01 352 PKhKP PKPpre 03 17 46.5
comp=Z,0.3nm,0.8s,baz=32,slow=4.7,SNR=4.6
HFS Hagfors 140.52 350 PKhKP PKPpre 03 17 48.4
comp=Z,1.1nm,0.3s,baz=72,slow=4.7,SNR=19
AKASG Malin Array Be 143.49 329 PKP PKPab 03 17 58.1 -1.6
comp=Z,2.1nm,0.3s,baz=43,slow=4.2,SNR=45
AKBB Malin Array Si 143.49 329 PKPab 03 17 58.6 -1.1
KIEV Kiev 143.50 329 PKPab 03 17 58.1 -1.5
ARPR Arapgir-MALATY 143.59 307 PKPab 03 18 00.1 -0.6
EKA Eskdalemuir Ar 146.27 4 PKPbc **PKPbc** **03 18 07.7 -0.1**
comp=Z,0.9nm,0.5s,baz=302,slow=1.3,SNR=3.6
BR131 Keskin Array S 146.78 310 **PKPdf** **03 18 08.9 +1.9**
BRTR Keskin Array B 146.78 310 PKPbc **PKPdf** **03 18 09.3 +2.3**
comp=Z,2.4nm,0.6s,baz=138,slow=4.1,SNR=17
MMAI Mount Meron Ar 147.41 298 PKPbc **PKPbc** **03 18 11.8 +0.1**
comp=Z,3.1nm,0.5s,baz=76,slow=6.4,SNR=15
BUR08 Bucovina Ar. S 147.51 329 **PKPbc** **03 18 11.6 +0.1**
STHS Stebnicka Huta 147.93 335 *e*PKP **PKPbc** **03 18 11.6 -0.8**
LANS Liptovska Anna 148.84 336 *e*PKP **PKPbc** **03 18 15.5 +0.8**
DPC Dobruska-Polom 148.90 341⇑*e*PKP **PKPbc** **03 18 14.8 0.0**
CLL Collm 148.94 345 *i* PKPbc **PKPbc** **03 18 14.7 -0.1**
comp=Z,9.0nm,1.2s
MAUC Maruska 149.25 338⇑*e*PKP **PKPbc** **03 18 15.9 +0.2**
VYHS Vyhne 149.61 336 *e*PKP **PKPbc** **03 18 16.6 +0.1**
VRAC Vranov 149.72 339 *e*PKP **PKPbc** **03 18 16.9 +0.2**
JAVC Velka Javorina 149.74 338 *e*PKP **PKPbc** **03 18 18.0 +1.1**
PRU Pruhonice 149.75 342⇑*e*PKP **PKPbc** **03 18 16.3 -0.4**
KRUC Moravsky 150.00 339 *e*PKP **PKPbc** **03 18 17.1 -0.3**
TREC Trest 150.08 341⇑*e*PKP **PKPbc** **03 18 16.9 -0.7**
MODS Modra-Piesok 150.29 338 *e*PKP **PKPbc** **03 18 18.5 +0.4**
ZVC Zvikov 150.34 342⇑*e*PKP **PKPbc** **03 18 18.3 +0.1**
KHC Kasperske Hory 150.79 343⇑*e*PKP **PKPbc** **03 18 19.1 -0.2**
KHC *e*PKPAB **PKPab** **03 18 29.4 +0.2**
CKRC Cesky Krumlov 150.86 342⇑*e*PKP **PKPbc** **03 18 19.4 0.0**
GERES GERESS Array B 151.01 342 PKPbc **PKPbc** **03 18 19.4 -0.4**
comp=Z,1.3nm,0.5s,baz=5.7,slow=2.7,SNR=8.1
CONA Conrad Observa 151.16 339 *e*PKiKP **PKPbc** **03 18 19.8 -0.4**
comp=Z,0.8nm,0.3s
RONA Rosalia, Austr 151.21 338 *e*PKiKP **PKPbc** **03 18 20.1 -0.1**
comp=Z,3.1nm,0.4s
LESA Schwarzleotal 152.59 342 *i* PKiKP **PKPbc** **03 18 22.7 -0.7**
comp=Z,0.4nm,0.2s
WTTA Wattenberg 153.02 344 *e*PKiKP **PKPbc** **03 18 23.7 -0.7**
comp=Z,1.4nm,0.3s
ABTA Abfaltersbach 153.26 342 *i* PKiKP **PKPbc** **03 18 23.8 -1.0**
comp=Z,0.7nm,0.4s
TORD Torodi Ar. Bea 171.46 186 PKP **PKPdf** **03 18 33.9 -1.3**
comp=Z,0.6nm,0.8s,baz=338,slow=1.0,SNR=3.0
TORD PKPab **PKPab** **03 19 59.8 -0.3**
comp=Z,0.4nm,0.6s,baz=204,slow=3.1,SNR=2.4

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*REN **07** 03:35:47.4±1.6, 36°.56N±0°.02×112°.85W±0°.04, h6km±2km, Error ellipse: s-maj=4.5km s-min=2.4km az=98.0*
NEIC 07 03:35:46.4±1.4, 36°.53N±0°.02×112.80W±0°.04, h6km±1km, ML2.5/78, ML2.4/7(REN), Error ellipse: s-maj=4.2km s-min=2.4km az=85.0, Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U15A	**North Rim**	**0.42**	**104**		Pg	03 35 55.1	+0.6
U15A				Sg	Sg	03 36 00.5	+0.5
U15A				IAML		03 36 00.8	
	comp=N,579nm,0.3s						
U15A				IAML		03 36 02.5	
	comp=E,532nm,1.0s						
KNB	**Kanab**	**0.49**	**358**		Pg	03 35 56.3	+0.5
KNB	**Kanab**	**0.49**	**358**		Sg	03 36 02.5	+0.3
KNB				IAML		03 36 04.2	
	comp=E,143nm,0.2s						
KNB				IAML		03 36 04.5	
	comp=N,247nm,0.5s						
LCMT	**Little Creek M**	**0.60**	**323**		Pg	03 35 58.3	+0.3
LCMT	**Little Creek M**	**0.60**	**323**		Sg	03 36 05.5	-0.4
LCMT				IAML		03 36 06.7	
	comp=E,857nm,0.2s						
LCMT				IAML		03 36 06.8	
	comp=N,605nm,0.1s						
PKCU	**Pink Cliffs**	**0.99**	**23**		Pg	03 36 05.4	-0.1
ICU	**Indian Springs**	**1.10**	**305**		Pb	03 36 07.7	-0.2
ARUT	**Antelope Range**	**1.36**	**338**		Pg	03 36 13.0	+0.5
BTU	**Barney Top**	**1.43**	**31**		Pn	03 36 13.4	+0.1
WUAZ	**Wupatki**	**1.53**	**131**		Pb	03 36 15.4	+0.1
WUAZ				IAML		03 36 37.0	
	comp=N,117nm,0.4s						
MTPU	**Mount Pierson**	**1.59**	**18**		Pn	03 36 15.7	+0.3
MTPU				IAML		03 36 36.8	
	comp=E,54nm,0.2s						
MTPU				IAML		03 36 39.4	
	comp=N,41nm,0.3s						
W13A	**Hualapai Mount**	**1.68**	**212**		Pn	03 36 16.8	+0.3
W13A				IAML		03 36 41.3	
	comp=N,35nm,0.5s						
W13A				IAML		03 36 42.1	
	comp=E,33nm,0.4s						
V12A	**Nelson**	**1.85**	**245**		Sb	03 36 44.4	+0.4
V12A	**Nelson**	**1.85**	**245**		Pn	03 36 19.4	+0.7
V12A	**Nelson**	**1.85**	**245**	IAML		03 36 46.9	
	comp=N,31nm,0.4s						
V12A				IAML		03 36 47.1	
	comp=E,50nm,0.5s						
SHPR	**Sheep Range**	**1.91**	**270**	Pn	Pn	03 36 20.6	+0.9
PRN	**Pahroc Range**	**2.01**	**297**	Pn	Pn	03 36 21.7	+0.7
PRN				IAML		03 36 59.8	
	comp=E,58nm,0.8s						
PRN				IAML		03 36 59.8	
	comp=N,46nm,0.7s						
MVU	**Marysvale**	**2.03**	**13**	Pn	Pn	03 36 22.5	+1.1
MSU	**Marysvale**	**2.04**	**14**		Pn	03 36 22.5	+0.9
HMU	**Henry Mountain**	**2.16**	**49**		Pn	03 36 24.1	+0.9
PSUT	**Pine Spring**	**2.17**	**338**	Pn	Pn	03 36 23.7	+0.3
X16A	**Lo Mia Camp, P**	**2.38**	**152**	Pn	Pn	03 36 27.6	+1.5
X16A				IAML		03 37 05.0	
	comp=E,15nm,0.8s						
Q16A	**Castle Valley**	**2.71**	**28**		Pb	03 36 34.6	-0.8
SPR3	**Spring Creek 3**	**2.75**	**334**	Pn	Pn	03 36 32.2	+0.7
TUQ	**Turquoise Moun**	**2.76**	**248**		Pn	03 36 32.2	+0.8
TPNV	**Topopah Spring**	**2.81**	**280**		Pn	03 36 33.2	+1.2
TPNV				IAML		03 37 15.8	
	comp=E,21nm,0.4s						
TPNV				IAML		03 37 22.8	
	comp=E,17nm,0.5s						
AMDNV	**Amargosa**	**2.81**	**270**		Pn	03 36 33.7	+1.8
R11B	**Troy Canyon, C**	**2.87**	**310**	Pn	Pn	03 36 34.7	+1.8
Q12A	**Willow Creek R**	**2.98**	**328**	Pn	Pn	03 36 36.2	+1.7
Q12A				IAML		03 37 25.4	
	comp=E,14nm,0.6s						
Q12A				IAML		03 37 27.5	
	comp=N,17nm,0.7s						
WCT	**Wildcat Mounta**	**3.09**	**276**		Pn	03 36 38.1	+2.2
WCT				IAML		03 37 33.5	
	comp=E,7.5nm,1.3s						
BLYC	**Blythe**	**3.11**	**208**	Pn	Pn	03 36 36.3	+0.2
BLYC				IAML		03 37 29.2	
	comp=N,14nm,0.7s						
BLYC				IAML		03 37 38.7	
	comp=E,9.0nm,0.8s						
P17A	**Butcher Ranch,**	**3.36**	**28**	Pn	Pn	03 36 43.0	+3.3
P17A				IAML		03 37 33.5	
	comp=N,18nm,0.5s						
SGV	**South Grapevin**	**3.43**	**279**		Pn	03 36 41.5	+0.9
NLU	**North Lily Min**	**3.47**	**9**	Pn	Pn	03 36 42.6	+1.5
NLU				IAML		03 37 04.5	
	comp=N,6.1nm,5.0s						
GSC	**Goldstone, Bar**	**3.48**	**251**	Pn	Pn	03 36 41.0	-0.2
GSC				IAML		03 37 42.5	
	comp=N,11nm,0.7s						
GSC				IAML		03 37 57.2	
	comp=E,13nm,4.7s						
MVCO	**Mesa Verde**	**3.51**	**78**		Pn	03 36 44.5	+2.7
GMN	**Gold Mountain**	**3.66**	**283**		Pn	03 36 45.0	+1.2
GMN				IAML		03 37 45.9	
	comp=N,7.5nm,0.9s						
GMN				IAML		03 38 11.0	
	comp=E,5.0nm,3.1s						
P18A	**Preston Nutter**	**3.69**	**32**	Pn	Pn	03 36 47.9	+3.6
GRAC	**Grapevine Rang**	**3.70**	**279**	Pn	Pn	03 36 46.5	+2.3
GRAC				IAML		03 38 27.4	
	comp=N,12nm,4.8s						
JLU	**Jordanelle**	**4.20**	**14**	Pn	Pn	03 36 54.5	+3.1
JLU				IAML		03 37 20.5	
	comp=N,5.1nm,3.7s						
JLU				IAML		03 38 33.2	
	comp=E,5.3nm,4.7s						
S22A	**4UR Ranch, Cre**	**4.92**	**74**	Pn	Pn	03 37 03.0	+1.8
S22A				IAML		03 39 54.3	
	comp=E,4.6nm,3.3s						
YERR	**Yerington**	**5.67**	**298**		Pn	03 37 11.7	+0.3

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*IDC **07** 03:38:16.7±2.5, 12°.88N×143°.96E, h46km±28km, mb3.3/9, mbtmp3.6/9, MS3.1/10, Error ellipse: s-maj=29.9km s-min=18.3km az=111.0*
ISC 07 03:38:16.9±0.9, 12°.9N±0°.1×144°.0E±0°.1, h50km, n23, σ1§18/11, mb3.6/9, MS3.0/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.10**	**50**	P	**Pn**	**03 38 35.2**	**-0.8**
GUMO				S	**Sn**	**03 38 50.7**	**+0.6**
	519nm,0.3s,baz=192,slow=12,SNR=32						
JOW	**Kunigami**	**20.25**	**316**	LR	LR	03 49 27.9	
	comp=Z,44nm,19.8s,baz=113,slow=33						
H11S3	**WAKE ISLAND Hy 22.54**	**73**		T	T	04 06 40.3	
	baz=258,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy 22.55**	**73**		T	T	04 06 41.3	
	baz=258,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy 22.55**	**73**		T	T	04 06 41.8	
	baz=258,slow=76,SNR=17						
H11N1	**WAKE ISLAND Hy 22.98**	**70**		T	T	04 07 14.4	
	baz=256,slow=75,SNR=34						
H11N2	**WAKE ISLAND Hy 23.00**	**70**		T	T	04 07 15.2	
	baz=256,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy 23.00**	**70**		T	T	04 07 15.8	
	baz=256,slow=75,SNR=36						
MJAR	**Matsushiro Arr**	**24.13**	**349**	LR	LR	03 52 45.7	
	comp=Z,49nm,18.1s,baz=186,slow=36						
KAPI	**Kappang**	**29.94**	**235**	LR	LR	03 55 21.7	
	comp=Z,26nm,20.7s,baz=236,slow=34						
ASAJ	**Asahikawa**	**31.15**	**358**	LR	LR	03 59 51.7	
	comp=Z,17nm,18.1s,baz=213,slow=42						
WRA	**Warramunga Arr**	**33.98**	**196**	P	**P**	**03 44 56.0**	**+0.1**
	0.5nm,0.6s,baz=20,slow=9.8,SNR=10						
WRA				LR	LR	04 00 15.7	
	comp=Z,82nm,18.1s,baz=20,slow=39						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**37.64**	**195**	P	**P**	**03 45 28.1**	**+0.9**
	0.4nm,0.9s,baz=18,slow=13,SNR=2.3						
ASAR				LR	LR	04 00 21.5	
	comp=Z,59nm,21.4s,baz=49,slow=35						
	0.4nm,0.9s						
PETK	**Petropavlovsk-**	**41.59**	**12**	LR	LR	04 00 29.6	
	comp=Z,35nm,21.0s,baz=192,slow=32						
CMAR	**Chiang Mai Arr**	**43.65**	**283**	P	**P**	**03 46 14.8**	**-2.1**
	1.4nm,0.3s,baz=63,slow=4.2,SNR=2.3						
CMAR				LR	LR	04 04 21.1	
	comp=Z,13nm,19.6s,baz=110,slow=36						
	1.4nm,0.3s						
SHEM	**Shemya Is, Ala**	**46.46**	**25**	LR	LR	04 03 13.9	
	comp=Z,38nm,21.2s,baz=293,slow=32						
SONM	**Songino Array**	**46.82**	**326**	P	**P**	**03 46 43.1**	**+1.2**
	0.4nm,0.5s,baz=145,slow=8.8,SNR=2.2						
	0.4nm,0.5s						
MA2	**Magadan**	**46.88**	**5**	LR	LR	04 03 36.1	
	comp=Z,16nm,22.0s,baz=74,slow=32						
MKAR	**Makanchi Array**	**61.41**	**316**	P	**P**	**03 48 27.5**	**-0.5**
	0.4nm,0.8s,baz=100,slow=7.9,SNR=2.1						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**64.61**	**320**	P	**P**	**03 48 50.4**	**+1.2**
	0.2nm,0.2s,baz=103,slow=6.3,SNR=1.5						
	0.2nm,0.2s						
ILAR	**Eielson Array**	**69.57**	**25**	P	**P**	**03 49 19.6**	**-0.8**
	0.1nm,0.6s,baz=246,slow=6.5,SNR=2.2						
	0.1nm,0.6s						
BVAR	**Borovoye Array**	**69.95**	**322**	P	**P**	**03 49 24.1**	**+1.1**
	0.4nm,0.4s,baz=106,slow=9.1,SNR=2.1						
	0.4nm,0.4s						
NVAR	**Mina Array Bea**	**88.02**	**51**	P	**P**	**03 51 02.3**	**-0.1**
	0.3nm,0.7s,baz=276,slow=4.0,SNR=3.6						
	0.3nm,0.7s						

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*THE **07** 03:43:58.9, 37°.61N×20°.63E, h0km±8km, ML2.7/9, Error ellipse: s-maj=10.6km s-min=0.9km az=208.0*
*ATH **07** 03:43:58.7, 37°.62N×20°.68E, h16km, ML2.7/9, Error ellipse: s-maj=2.0km s-min=0.8km az=37.0*
ISC 07 03:43:58.2±1.5, 37°.63N±0°.07×20°.69E±0°.06, h18km±5km, n28, σ0§70/52, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.10**	**70**	P	**Pg**	**03 44 02.1**	**+0.2**
KRI1				S	**Sg**	**03 44 04.1**	**-0.3**
	6μm,0.4s						
LTHK	**Lithakia**	**0.14**	**54**	P	**Pg**	**03 44 02.5**	**+0.2**
LTHK				S	**Sg**	**03 44 04.7**	**-0.4**
LTHK	**Lithakia**	**0.14**	**54**	P	**Pg**	**03 44 02.4**	**0.0**
LTHK				S	**Sg**	**03 44 05.0**	**-0.1**
LTHK				AML	AML	03 44 05.1	
	comp=E,13545μm,0.2s						
LTHK				AML	AML	03 44 06.1	
	comp=N,8356μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.45**	**8**	P	**Pb**	**03 44 07.8**	**0.0**
RTZL				S	**Sb**	**03 44 15.1**	**+0.9**
	comp=N,3μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.49**	**350**	P	**Pb**	**03 44 08.4**	**0.0**
PSDA				S	**Sb**	**03 44 15.9**	**+0.5**
	comp=N,2μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.49**	**350**	P	**Pb**	**03 44 08.6**	**+0.1**
PSDA				S	**Sb**	**03 44 15.6**	**+0.2**
VLS	**Valsamata**	**0.56**	**352**	P	**Pb**	**03 44 09.4**	**-0.1**
VLS				S	**Sb**	**03 44 17.8**	**+0.6**
	comp=N,615nm,0.2s						
VLS	**Valsamata**	**0.56**	**352**	P	**Pg**	**03 44 09.3**	**-0.1**
VLS				S	**Sb**	**03 44 16.9**	**-0.3**
VLS				AML	AML	03 44 18.6	
	comp=N,1603μm,0.2s						
VLS				AML	AML	03 44 18.7	
	comp=E,859μm,0.2s						
LXR1	**Lixouri, Cepha**	**0.61**	**341**	P	**Pb**	**03 44 11.0**	**+0.6**
LXR1				S	**Sn**	**03 44 20.2**	**-1.2**
LXRA	**Lixouri, Kepha**	**0.61**	**341**	P	**Pb**	**03 44 10.6**	**+0.3**
LXRA				S	**Sb**	**03 44 18.9**	**+0.3**
LXRA				AML	AML	03 44 25.6	
	comp=E,2438μm,0.3s						
LXRA				AML	AML	03 44 27.3	
	comp=N,2332μm,0.4s						
SMHA	**Samh**	**0.62**	**357**	P	**Pg**	**03 44 10.3**	**-0.4**
SMHA				S	**Sb**	**03 44 19.6**	**+0.5**
SMHA				AML	AML	03 44 20.0	
	comp=E,4262μm,0.3s						
SMHA				AML	AML	03 44 20.2	
	comp=N,4998μm,0.3s						
DMLN	**Damoulianata-K**	**0.66**	**338**	P	**Pg**	**03 44 11.4**	**+0.1**
DMLN				S	**Sn**	**03 44 22.2**	**-0.6**
	comp=N,915nm,0.6s						
DMLN	**Damoulianata-K**	**0.66**	**338**	P	**Pg**	**03 44 11.4**	**+0.1**
DMLN				S	**Sb**	**03 44 20.5**	**+0.3**
RLS	**Riolos of Patr**	**0.75**	**55**	P	**Pn**	**03 44 14.0**	**0.0**
RLS				S	**Sn**	**03 44 24.9**	**0.0**
RLS	**Riolos of Patr**	**0.75**	**55**	P	**Pn**	**03 44 13.7**	**-0.3**
RLS				S	**Sn**	**03 44 22.9**	**-2.0**
RLS				AML	AML	03 44 27.3	
	comp=N,460μm,0.4s						
RLS				AML	AML	03 44 29.8	
	comp=E,364μm,0.4s						
VSK1	**VASILIKIADES**	**0.79**	**353**	P	**Pg**	**03 44 13.5**	**-0.2**
VSK1				S	**Sn**	**03 44 25.8**	**-0.1**
	comp=E,548nm,0.4s						
AMT	**Artemida-Makis**	**0.81**	**96**	P	**Pg**	**03 44 13.7**	**-0.4**
AMT				S	**Sg**	**03 44 24.7**	**-0.2**
AMT				AML	AML	03 44 42.0	
	comp=N,3181μm,0.4s						
AMT				AML	AML	03 44 46.7	
	comp=E,2571μm,0.4s						
FSK	**Fiskardo**	**0.84**	**353**	P	**Pb**	**03 44 14.3**	**0.0**
FSK				S	**Sn**	**03 44 26.9**	**-0.2**
	comp=E,268nm,0.4s						
FSK	**Fiskardo**	**0.84**	**353**	P	**Pb**	**03 44 14.1**	**-0.2**
FSK				S	**Sg**	**03 44 25.5**	**-0.2**
FSK				AML	AML	03 44 32.3	
	comp=E,529μm,0.5s						
FSK				AML	AML	03 44 34.0	
	comp=N,496μm,0.4s						
DRO	**Drossia**	**0.87**	**68**	P	**Pn**	**03 44 17.1**	**+1.5**
DRO				S	**Sn**	**03 44 30.6**	**+2.7**
	comp=N,305nm,0.4s						
DRO	**Drossia**	**0.87**	**68**	P	**Pn**	**03 44 15.7**	**0.0**
DRO				S	**Sn**	**03 44 26.9**	**-1.0**
DRO				AML	AML	03 44 36.7	
	comp=N,578μm,0.3s						
DRO				AML	AML	03 44 42.9	
	comp=E,632μm,0.4s						
EVGI	**

ITM				AML	AML	03 44 36.3			
	comp=E,1040µm,0.7s								
NYDR	**Nydri-Lefkada**	**1.08**	**0**	P	**Pb**	**03 44 18.3**	**-0.2**		
KLV	**Kalavryta, Ach**	**1.23**	**70**	P	**Pb**	**03 44 20.6**	**-0.4**		

*IDC **07** 03:52:30.7±2.6, 8°.73S×118°.67E, h116km±21km, mb3.8/10, mbtmp4.2/14, Error ellipse: s-maj=29.7km s-min=8.7km az=64.0*
*NEIC **07** 03:52:30.8±1.8, 8°.80S±0°.07×118°.57E±0°.07, h107km±5km, mb4.2/17, Error ellipse: s-maj=11.3km s-min=7.9km az=225.0*
*DJA **07** 03:52:30.2±0.2, 9°S±2°×11°9E±°, h116km±3km, M4.6/25, mb4.5/15, mB5.2/7, MLv4.6/25, Mw(mB)4.6/7*
ISC 07 03:52:29.8±0.5, 8°.80S±0°.04×118°.65E±0°.04, h100km, n82, σ1°62/92, mb4.1/14, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.87**	**268**	P	**Pn**	**03 52 51.3**	**+2.5**
PLAI	**Plampang**	**0.87**	**268**	P	**Pn**	**03 52 51.1**	**+2.3**
PLAI				S	**Sn**	**03 53 05.9**	**+2.8**
WBSI	**Waikabubak, Su**	**1.11**	**139**	P	**Pn**	**03 52 53.5**	**+2.0**
WBSI				S	**Sn**	**03 53 09.9**	**+2.1**
BASI	**Baing, Sumba**	**2.37**	**127**	P	**Pn**	**03 53 08.1**	**+1.0**
BSSI	**Bau Bau, Buton**	**3.21**	**35**	P	**Pn**	**03 53 20.5**	**+2.2**
BSSI				S	**Sn**	**03 53 57.0**	**+1.2**
DNP	**Denpasar**	**3.41**	**272**	P	**Pn**	**03 53 22.8**	**+1.9**
SRBI	**Singaraja**	**3.48**	**282**	P	**Pn**	**03 53 22.8**	**+0.9**
SRBI				S	**Sn**	**03 54 02.6**	**+0.4**
MMRI	**Maumere**	**3.55**	**88**		**Pn**	**03 53 25.0**	**+2.1**
MMRI	**Maumere**	**3.55**	**88**	P	**Pn**	**03 53 25.0**	**+2.1**
MMRI				S	**Sn**	**03 54 07.5**	**+3.5**
BKSI	**Bulukumba**	**3.75**	**23**	P	**Pn**	**03 53 27.9**	**+2.3**
BKSI				S	**Sn**	**03 54 09.4**	**+0.6**
KAPI	**Kappang**	**3.92**	**16**		**Pn**	**03 53 29.8**	**+1.9**
KAPI	**Kappang**	**3.92**	**16**	P	**Pn**	**03 53 29.6**	**+1.8**
	58nm,0.4s,baz=194,slow=10,SNR=31						
KAPI				S	**Sn**	**03 54 12.6**	**-0.2**
	59nm,0.6s,baz=357,slow=23,SNR=12						
JAGI	**Jajag, Banyuwa**	**4.46**	**274**	Pn	**Pn**	**03 53 35.3**	**+0.1**
JAGI	**Jajag, Banyuwa**	**4.46**	**274**	P	**Pn**	**03 53 35.5**	**+0.3**
JAGI	**Jajag, Banyuwa**	**4.46**	**274**	P	**Pn**	**03 53 35.3**	**+0.1**
ABJI	**Asem Bagus**	**4.49**	**283**	P	**Pn**	**03 53 35.7**	**+0.2**
BNSI	**Bone**	**4.60**	**18**	P	**Pn**	**03 53 40.1**	**+3.0**
SPSI	**Sidrap Palu**	**4.93**	**13**	P	**Pn**	**03 53 43.4**	**+1.8**
	41nm,0.9s						
KMMI	**Kalianget**	**4.96**	**290**	P	**Pn**	**03 53 42.0**	**+0.1**
	41nm,0.7s,0.3nm						
BBSI	**Bau Bau**	**5.09**	**50**	P	**Pn**	**03 53 47.1**	**+3.3**
	140nm,1.1s,0.4nm						
BLJI	**Banyuglugur**	**5.11**	**281**	P	**Pn**	**03 53 44.9**	**+0.9**
BATI	**Baumata**	**5.14**	**106**	P	**Pn**	**03 53 46.2**	**+1.9**
	100nm,0.4s,baz=291,slow=13,SNR=9.9						
BATI				S	**Sn**	**03 54 43.4**	**+0.9**
	64nm,0.3s,baz=44,slow=5.1,SNR=2.1						
BATI	**Baumata**	**5.14**	**106**	P	**Pn**	**03 53 45.8**	**+1.4**
GMJI	**Gumukmas**	**5.18**	**275**	P	**Pn**	**03 53 45.0**	**+0.1**
SOEI	**Soe**	**5.62**	**105**	Pn	**Pn**	**03 53 52.2**	**+2.1**
SOEI	**Soe**	**5.62**	**100**	P	**Pn**	**03 53 52.3**	**+1.2**
	96nm,0.6s,1µm0.5nm						
TTSI	**Tana Toraja**	**5.83**	**12**	P	**Pn**	**03 53 56.7**	**+2.9**
	27nm,0.6s,0.1nm						
PWJI	**Pagerwojo**	**6.82**	**276**	P	**Pn**	**03 54 09.3**	**+2.1**
	36nm,0.7s,0.5nm						
PCJI	**Pacitan**	**7.42**	**274**	P	**Pn**	**03 54 14.1**	**-1.3**
	53nm,0.5s						
UGM	**Wanagama**	**8.09**	**276**	Pn	**Pn**	**03 54 23.3**	**-1.3**
UGM	**Wanagama**	**8.09**	**276**	P	**Pn**	**03 54 28.7**	**+4.1**
UGM	**Wanagama**	**8.09**	**276**	P	**Pn**	**03 54 24.8**	**+0.2**
	125nm,2.0s						
BBJI	**Bungbulang**	**10.97**	**276**	P	**Pn**	**03 55 05.4**	**+1.6**
FITZ	**Fitzroy Crossi**	**11.47**	**144**	Pn	**Pn**	**03 55 09.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**11.47**	**144**	P	**Pn**	**03 55 09.8**	**-0.6**
	14nm,0.6s,baz=330,slow=8.5,SNR=50						
FITZ				S	Sn	03 57 08.8	-7.7
	8.9nm,0.4s,baz=172,slow=16,SNR=11						
FITZ	**Fitzroy Crossi**	**11.47**	**144**	P	**Pn**	**03 55 09.8**	**-0.6**
KNRA	**Kununurra**	**12.01**	**126**	Pn	**Pn**	**03 55 16.8**	**-0.9**
MBWA	**Marble Bar**	**12.33**	**175**	Pn	**Pn**	**03 55 22.5**	**+0.6**
PSA00	**Pilbara Seismi**	**12.75**	**175**	Pn	**Pn**	**03 55 27.6**	**+0.2**
PSA00	**Pilbara Seismi**	**12.75**	**175**	P	**Pn**	**03 55 31.3**	**+3.9**
MTN	**Manton Dam**	**12.90**	**109**	Pn	**Pn**	**03 55 28.2**	**-1.3**
MTN	**Manton Dam**	**12.90**	**109**	P	**Pn**	**03 55 28.1**	**-1.3**
KDU	**Kakadu**	**14.12**	**107**	P	**Pn**	**03 55 44.2**	**-1.1**
GIRL	**Giralia**	**14.40**	**197**	Pn	**Pn**	**03 55 49.1**	**+0.2**
FAKI	**Fak Fak**	**14.73**	**67**	Pn	**Pn**	**03 55 52.0**	**-1.1**
FAKI	**Fak Fak**	**14.73**	**67**	P	**Pn**	**03 55 52.6**	**-0.6**
	19nm,0.8s						
WB0	**Warramunga Arr**	**18.73**	**127**	P	**P**	**03 56 40.4**	**-0.4**
WB0				IAmb	IAmb	03 56 56.9	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**18.79**	**128**	P	**P**	**03 56 42.4**	**+1.0**
WRA	**Warramunga Arr**	**18.79**	**128**	P	**P**	**03 56 41.1**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=302,slow=13,SNR=27						
WRA				S	**S**	**04 00 05.1**	**-4.9**
	comp=Z,0.7nm,0.7s,baz=290,slow=25,SNR=2.3						
WB2	**Warramunga Arr**	**18.79**	**128**	P	**P**	**03 56 41.5**	**0.0**
WB2				IAmb	IAmb	03 56 48.5	
	comp=Z,5.0nm,0.7s						
WR0	**Warramunga Arr**	**18.95**	**128**		**P**	**03 56 43.6**	**+0.4**
MORW	**Morawa**	**20.31**	**187**	P	**P**	**03 56 58.2**	**+0.3**
AS31	**Alice Springs**	**20.77**	**137**	P	**P**	**03 57 03.4**	**+0.5**
ASAR	**Alice Springs**	**20.77**	**137**	P	**P**	**03 57 03.3**	**+0.4**
ASAR	**Alice Springs**	**20.77**	**137**	P	**P**	**03 57 04.0**	**+1.0**
	comp=Z,2.3nm,0.5s,baz=310,slow=9.8,SNR=40						
ASAR				S	**S**	**04 00 48.2**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=314,slow=24,SNR=4.1						
	comp=Z,2.3nm,0.5s						
FORT	**Forrest**	**23.57**	**159**	P	**P**	**03 57 32.3**	**+0.9**
NWAO	**Narrogin (SRO)**	**24.05**	**183**	P	**P**	**03 57 35.0**	**-0.6**
COEN	**Coen**	**24.57**	**104**	P	**P**	**03 57 41.2**	**+0.6**
COEN				IAmb	IAmb	03 58 21.8	
	comp=Z,6.0nm,0.9s						
BBOO	**Buckleboo**	**28.82**	**148**	P	**P**	**03 58 19.2**	**+0.6**
STKA	**Stephens Creek**	**31.32**	**140**	P	**P**	**03 58 42.0**	**+1.3**
STKA	**Stephens Creek**	**31.32**	**140**	P	**P**	**03 58 41.7**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=306,slow=8.4,SNR=8.2						
	comp=Z,1.7nm,0.4s						
KSRS	**Korea Array**	**46.82**	**10**	P	**P**	**04 00 50.0**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=193,slow=10,SNR=2.4						
	comp=Z,1.6nm,0.8s						
USA0B	**Ussuriysk Arra**	**54.12**	**12**	P	**P**	**04 01 43.9**	**-0.5**
USA0B				IAmb	IAmb	04 02 07.8	
	comp=Z,3.7nm,0.9s						
USRK	**Ussuriysk Ar.**	**54.12**	**12**	P	**P**	**04 01 43.5**	**-0.9**
USRK	**Ussuriysk Ar.**	**54.12**	**12**	P	**P**	**04 01 42.8**	**-1.6**
	comp=Z,1.4nm,0.3s,baz=182,slow=6.1,SNR=8.1						
	comp=Z,1.4nm,0.3s						
SONM	**Songino Array**	**57.42**	**350**	P	**P**	**04 02 07.6**	**-0.5**
SONM	**Songino Array**	**57.42**	**350**	P	**P**	**04 02 06.8**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=169,slow=9.0,SNR=6.8						
	comp=Z,0.8nm,0.4s						
MKAR	**Makanchi Array**	**64.12**	**333**	P	**P**	**04 02 51.8**	**-1.6**
MKAR	**Makanchi Array**	**64.12**	**333**	P	**P**	**04 02 51.0**	**-2.4**
	comp=Z,0.7nm,0.4s,baz=143,slow=7.2,SNR=7.9						
	comp=Z,0.7nm,0.4s						
SIMJ	**Simiganj**	**66.01**	**319**	P	**P**	**04 03 07.2**	**+1.2**
SIMJ				IAmb	IAmb	04 03 28.2	
	comp=Z,3.2nm,1.1s						
KURBB	**Kurchatov Arra**	**68.64**	**334**	P	**P**	**04 03 20.1**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=141,slow=4.7,SNR=4.9						
	comp=Z,0.4nm,0.5s						
ZAA0	**Zalesovo Array**	**68.73**	**339**	P	**P**	**04 03 21.7**	**-0.9**
ZAA0				IAmb	IAmb	04 03 22.3	
	comp=Z,2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**68.73**	**339**	P	**P**	**04 03 20.9**	**-1.7**
ZALV	**Zalesovo Beam**	**68.73**	**339**	P	**P**	**04 03 20.8**	**-1.8**
	comp=Z,2.5nm,0.4s,baz=142,slow=5.3,SNR=10						
	comp=Z,2.5nm,0.4s						
PETK	**Petropavlovsk-**	**70.03**	**24**	P	**P**	**04 03 31.5**	**+0.8**
PETK	**Petropavlovsk-**	**70.03**	**24**	P	**P**	**04 03 31.1**	**+0.5**
	comp=Z,4.6nm,1.0s,baz=235,slow=5.1,SNR=2.0						
	comp=Z,4.6nm,1.0s						
ABKAR	**Akbulak array**	**77.20**	**325**	P	**P**	**04 04 10.9**	**-1.8**
QSPA	**South Pole Qui**	**81.19**	**180**	P	**P**	**04 04 34.7**	**+0.3**
QSPA				IAmb	IAmb	04 05 03.5	
	comp=Z,3.4nm,1.2s						
QSPA	**South Pole Qui**	**81.19**	**180**	P	**P**	**04 04 34.6**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=285,slow=1.4,SNR=7.6						
	comp=Z,0.8nm,0.6s						
BELA	**Belgrano 2**	**92.18**	**185**	P	**P**	**04 05 28.3**	**+0.6**
BELA				IAmb	IAmb	04 06 00.1	
	comp=Z,3.7nm,1.4s						

TORD	**Torodi Ar. Bea**	**118.09**	**280**	PKP	**PKPdf**	**04 11 04.8**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=38,slow=2.4,SNR=9.0						
CPUP	**Villa Florida**	**144.86**	**186**	PKP	**PKPab**	**04 11 55.0**	**0.0**
	comp=Z,4.2nm,0.8s,baz=153,slow=1.5,SNR=5.4						

*IDC **07** 03:56:30.3±2.1, 26°.15S×177°.31W, h88km±19km, mb3.8/9, mbtmp4.2/13, Error ellipse: s-maj=21.2km s-min=16.1km az=99.0*
*NEIC **07** 03:56:30.1±1.4, 26°.17S±0°.09×177°.2W±0°.1, h89km±6km, mb4.8/24, Error ellipse: s-maj=17.2km s-min=12.2km az=117.0*
ISC 07 03:56:30.9±0.4, 26°.17S±0°.06×177°.23W±0°.08, h100km, n63, σ1°01/59, mb4.4/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.13**	**191**	P	**Pn**	**03 57 17.3**	**-1.1**
	288nm,0.3s,baz=81,slow=15,SNR=12						
RAO				S	**Sn**	**03 57 54.8**	**-0.3**
	722nm,0.3s,baz=80,slow=22,SNR=13						
MSVF	**Nonsavu**	**9.46**	**332**	P	**Pn**	**03 58 43.1**	**-1.3**
	7.4nm,0.8s,baz=30,slow=14,SNR=1.7						
NIUE	**Niue**	**9.76**	**45**	Pn	**Pn**	**03 58 46.1**	**-2.2**
URZ	**Urewera**	**12.97**	**200**	P	**Pn**	**03 59 30.9**	**-0.4**
	2.3nm,0.3s,baz=120,slow=23,SNR=2.2						
URZ				S	Sn	04 01 37.8	-16
	7.3nm,0.4s,baz=120,slow=21,SNR=12						
BKZ	**Black Stump Fm**	**13.99**	**201**	Pn	**Pn**	**03 59 44.9**	**+0.2**
DZM	**Mont Dzumac**	**15.45**	**282**	Pn	**Pn**	**04 00 00.7**	**-2.8**
DZM				IAmb	IAmb	04 00 17.4	
	comp=Z,31nm,1.4s						
RAR	**Rarotonga**	**16.73**	**77**	P	**P**	**04 00 19.6**	**-0.2**
RAR				IAmb	IAmb	04 00 49.5	
	comp=Z,131nm,1.4s						
RAR	**Rarotonga**	**16.73**	**77**	P	**P**	**04 00 19.2**	**-0.6**
	comp=Z,12nm,0.8s,baz=233,slow=17,SNR=1.2						
RAR				S	Sn	04 03 08.3	-17
	comp=Z,12nm,0.7s,baz=23,slow=16,SNR=1.5						
CTAO	**Charters Tower**	**34.05**	**273**	P	**P**	**04 03 06.6**	**+1.0**
CTAO				IAmb	IAmb	04 03 09.9	
	comp=Z,4.2nm,0.7s						
CTAO	**Charters Tower**	**34.05**	**273**	P	**P**	**04 03 07.6**	**+1.9**
COEN	**Coen**	**38.98**	**280**	P	**P**	**04 03 49.2**	**+1.5**
COEN				IAmb	IAmb	04 04 29.0	
	comp=Z,11nm,1.3s						
AS31	**Alice Springs**	**44.19**	**262**	P	**P**	**04 04 30.0**	**-0.1**
ASAR	**Alice Springs**	**44.19**	**262**	P	**P**	**04 04 29.6**	**-0.6**
ASAR	**Alice Springs**	**44.19**	**262**	P	**P**	**04 04 29.9**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=89,slow=7.0,SNR=13						
ASAR				PcP	**PP**	**04 06 14.1**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=126,slow=3.6,SNR=1.9						
	comp=Z,1.0nm,0.6s						
WR0	**Warramunga Arr**	**44.61**	**268**	P	**P**	**04 04 31.7**	**-1.8**
WB2	**Warramunga Arr**	**44.78**	**267**	P	**P**	**04 04 34.8**	**-0.1**
WB2				IAmb	IAmb	04 05 01.9	
	comp=Z,6.1nm,1.2s						
WRA	**Warramunga Arr**	**44.79**	**267**	P	**P**	**04 04 34.4**	**-0.6**
WRA	**Warramunga Arr**	**44.79**	**267**	P	**P**	**04 04 34.4**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=102,slow=7.5,SNR=17						
WRA				PcP	**PcP**	**04 06 15.6**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=96,slow=3.6,SNR=2.4						
	comp=Z,1.7nm,0.5s						
WB0	**Warramunga Arr**	**44.80**	**268**	P	**P**	**04 04 34.4**	**-0.6**
KNRA	**Kununurra**	**51.21**	**271**	P	**P**	**04 05 25.8**	**+1.3**
KNRA				IAmb	IAmb	04 05 26.9	
	comp=Z,21nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.18**	**266**	P	**P**	**04 05 38.5**	**-0.5**
CCD	**Concordia, Ant**	**57.20**	**195**	P	**P**	**04 06 07.4**	**-0.1**
MBWA	**Marble Bar**	**57.47**	**261**	P	**P**	**04 06 08.8**	**-1.1**
QSPA	**South Pole Qui**	**63.93**	**180**	P	**P**	**04 06 53.7**	**+0.6**
QSPA				IAmb	IAmb	04 07 20.4	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**63.93**	**180**	P	**P**	**04 06 53.9**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=19,slow=1.7,SNR=13						
	comp=Z,2.0nm,0.7s						
QSPA	**South Pole Qui**	**63.93**	**180**	P	**P**	**04 06 53.6**	**+0.6**
QSPA				pP	**pP**	**04 07 17.5**	**-0.1**
BELA	**Belgrano 2**	**73.87**	**172**	P	**P**	**04 07 54.3**	**0.0**
ADK	**Adak**	**77.71**	**0**	P	**P**	**04 08 16.8**	**+0.5**
PEA0B	**Petropavlovsk-**	**81.90**	**345**	P	**P**	**04 08 38.8**	**-0.1**
PEA0B				IAmb	IAmb	04 09 15.1	
	comp=Z,57nm,1.4s						
PETK	**Petropavlovsk-**	**81.90**	**345**	P	**P**	**04 08 39.5**	**+0.6**
PETK	**Petropavlovsk-**	**81.90**	**345**	P	**P**	**04 08 39.3**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=109,slow=7.8,SNR=9.1						
	comp=Z,2.3nm,0.6s						
H03S2	**Juan Fernandez**	**82.24**	**124**	T	T	05 39 33.7	
	baz=242,slow=75,SNR=11						
H03S1	**Juan Fernandez**	**82.25**	**124**	T	T	05 39 47.3	
	baz=242,slow=75,SNR=12						
H03S3	**Juan Fernandez**	**82.25**	**124**	T	T	05 39 42.9	
	baz=242,slow=75,SNR=11						
H03N3	**Juan Fernandez**	**82.41**	**123**	T	T	05 39 33.8	
	baz=250,slow=73,SNR=1.0						
H03N2	**Juan Fernandez**	**82.41**	**123**	T	T	05 39 29.5	
	baz=250,slow=73,SNR=3.4						
H03N1	**Juan Fernandez**	**82.42**	**123**	T	T	05 39 36.1	
	baz=250,slow=73,SNR=8.2						
QIZ	**Qiongzhong**	**83.83**	**295**	P	**P**	**04 08 49.0**	**-0.7**
USRK	**Ussuriysk Ar.**	**84.03**	**326**	P	**P**	**04 08 51.8**	**+1.7**
	comp=Z,1.3nm,0.6s,baz=193,slow=4.4,SNR=2.7						
	comp=Z,1.3nm,0.6s						
NVAR	**Mina Array Bea**	**84.67**	**43**	P	**P**	**04 08 55.8**	**+2.0**
	comp=Z,1.0nm,0.8s,baz=228,slow=9.5,SNR=6.3						
	comp=Z,1.0nm,0.8s						
O16K	**Kokwok River B**	**86.89**	**10**	P	**P**	**04 09 04.8**	**+0.9**
O16K				IAmb	IAmb	04 09 32.4	
	comp=Z,29nm,1.5s						
N15K	**Kwethluk River**	**87.16**	**8**	P	**P**	**04 09 07.3**	**+2.1**
N15K				IAmb	IAmb	04 09 09.2	
	comp=Z,32nm,1.4s						
O18K	**Koktuh Hills**	**87.60**	**11**	P	**P**	**04 09 08.4**	**+1.1**
O18K				IAmb	IAmb	04 09 09.2	
	comp=Z,14nm,0.8s						
N19K	**Bonanza Creek**	**88.63**	**11**	P	**P**	**04 09 12.3**	**0.0**
N19K				IAmb	IAmb	04 09 27.3	
	comp=Z,20nm,1.4s						
M17K	**Holitna River**	**88.72**	**9**	P	**P**	**04 09 13.4**	**+0.8**
K15K	**Wolf Creek Mou**	**89.05**	**7**	P	**P**	**04 09 14.7**	**+0.6**
L18K	**Granite Mounta**	**89.61**	**9**	P	**P**	**04 09 16.4**	**-0.3**
L18K				IAmb	IAmb	04 09 42.8	
	comp=Z,14nm,1.4s						
PDAR	**Pinedale Array**	**92.60**	**43**	P	**P**	**04 09 32.3**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=188,slow=5.3,SNR=2.6						
	comp=Z,0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**92.66**	**289**	P	**P**	**04 09 33.5**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=145,slow=3.9,SNR=5.2						
	comp=Z,0.8nm,0.3s						
ILAR	**Eielson Array**	**93.66**	**13**	P	**P**	**04 09 34.9**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=216,slow=5.3,SNR=7.2						
	comp=Z,0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**118.62**	**315**	PKP	**PKPdf**	**04 15 05.5**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=95,slow=1.9,SNR=4.4						
BVAR	**Borovoye Array**	**123.80**	**318**	PKP	**PKiKP**	**04 15 16.7**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=69,slow=2.0,SNR=2.5						
ARCES	**ARCESS Array B**	**134.59**	**349**	PKP	**PKPdf**	**04 15 36.5**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=29,slow=2.1,SNR=4.4						
H10N3	**ASCENSION HYDR**	**142.26**	**151**	T	T	06 55 14.1	
	baz=204						
H10N1	**ASCENSION HYDR**	**142.26**	**151**	T	T	06 55 12.1	
	baz=204						
H10N2	**ASCENSION HYDR**	**142.28**	**151**	T	T	06 55 17.3	
	baz=204						
NB2	**NORSAR Subarra**	**144.66**	**353**	PKP	**PKPdf**	**04 15 54.8**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=11,slow=3.5						
NOA	**NORSAR Array B**	**144.66**	**353**	PKP	**PKPdf**	**04 15 54.3**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=7.0,slow=1.8,SNR=15						
HFS	**Hagfors**	**145.22**	**350**	PKPbc	**PKPab**	**04 15 56.2**	**0.0**
	comp=Z,1.7nm,0.4s,baz=60,slow=3.5,SNR=18						
AKASG	**Malin Array Be**	**148.23**	**327**	PKPbc	**PKPbc**	**04 16 04.8**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=45,slow=3.9,SNR=13						
EKA	**Eskdalemuir Ar**	**150.54**	**7**	PKPbc	**PKiKP**	**04 16 11.8**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=326,slow=2.4,SNR=4.0						
MMAI	**Mount Meron Ar**	**150.90**	**291**	PKPbc	**PKiKP**	**04 16 13.2**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=74,slow=3.6,SNR=5.4						
BRTR	**Keskin Array B**	**150.94**	**305**	PKPbc	**PKiKP**	**04 16 12.2**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=154,slow=5.7,SNR=5.0						
BRTR				PKPab	**PKPab**	**04 16 20.6**	**+0.7**
	comp=Z,3.5nm,0.6s,baz=103,slow=3.2,SNR=20						

TRN 07 04:00:36.2, 17°.54N×60°.69W, h28km, MD3.8, Far South-east of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.05**	**277**	*eP*	Pb	04 00 55.6	-0.2
ANWB				*eS*	Sb	04 01 11.9	+2.8
ANBD	**Bethesda, Anti**	**1.14**	**245**	*eP*	Pb	04 00 57.0	-0.3
ANBD				*eS*	Sb	04 01 12.2	+0.5
MBWH		**1.64**	**241**	*eP*	Pb	04 01 05.1	-0.7
MBWH				*eS*	Sb	04 01 26.1	0.0
MBFL	**Flemmings, Mon**	**1.66**	**242**	*eP*	Pb	04 01 05.3	-0.8
MBFL				*eS*	Sb	04 01 26.3	-0.2
SKOC	**St. Kitts, UWI**	**1.96**	**263**	*eP*	Pb	04 01 10.2	-1.1
SKOC				*eS*	Sb	04 01 33.5	-1.9
SKI	**Saint Kitts**	**1.97**	**264**	*eP*	Pb	04 01 09.8	-1.6
SKI				*eS*	Sb	04 01 34.7	-0.7
BIM	**Bigot**	**3.03**	**187**	*eP*	Pn	04 01 24.4	+2.0
BIM				*eS*	Sn	04 01 59.7	+1.8
SLBI	**Saint Lucia, B**	**3.51**	**184**	*eP*	Pn	04 01 31.1	+2.2
SLBI				*eS*	Sn	04 02 10.8	+1.2
SLAC	**Saint Lucia, A**	**3.63**	**183**	*eP*	Pn	04 01 32.3	+1.7
SLAC				*eS*	Sn	04 02 14.2	+1.6

*VAO **07** 04:06:34.3±0.9, 21°.32S×69°.19W, h85km±6km, mb4.5*
*SJA **07** 04:06:39.9±0.6, 21°.27S×68°.94W, h123km±3km, ML4.1, MW3.9*
*GUC **07** 04:06:41.8±0.6, 21°.28S×68°.90W, h113km±3km, ML4.1*
*NEIC **07** 04:06:41.1±1.4, 21°.26S±0°.04×68°.90W±0°.08, h115km±6km, mb4.5/21, Error ellipse: s-maj=11.0km s-min=6.0km az=85.0*
*IDC **07** 04:06:43.0±1.0, 21°.32S×68°.43W, h121km±6km, mb4.0/5, mbtmp4.2/8, MS2.9/3, Error ellipse: s-maj=31.5km s-min=17.1km az=113.0*
ISC 07 04:06:40.2±0.5, 21°.29S±0°.03×68°.83W±0°.05, h119km±4km, n130, σ1°34/158, mb4.3/7, 9C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.63**	**217**		**Pn**	**04 06 59.7**	**+0.6**
PB09				Sn	**Sn**	**04 07 13.5**	**+0.2**
PB09	**IPOC Station P**	**0.63**	**217**	⇑*iP*	**Pn**	**04 06 59.6**	**+0.6**
PB09				*eS*	**Sn**	**04 07 13.6**	**+0.3**
PB09				IAML		04 07 14.7	
	comp=N,4µm,0.3s						
PB09	**IPOC Station P**	**0.63**	**217**	*eP*	**Pn**	**04 06 59.7**	**+0.6**
PB09				*eS*	**Sn**	**04 07 14.3**	**+1.0**
PB09				IAML		04 07 17.3	
	comp=Z,3µm,0.4s						
PB01	**IPOC Station P**	**0.66**	**292**	Pn	**Pn**	**04 06 59.1**	**0.0**
PB01				Sn	**Sn**	**04 07 12.5**	**-1.0**
PB01	**IPOC Station P**	**0.66**	**292**	⇑*iP*	**Pn**	**04 06 59.2**	**0.0**
PB01				*i* S	**Sn**	**04 07 12.6**	**-0.8**
PB01	**IPOC Station P**	**0.66**	**292**	*eP*	**Pn**	**04 06 59.1**	**0.0**
PB01				*eS*	**Sn**	**04 07 13.3**	**-0.1**
PB01				IAML		04 07 13.5	
	comp=Z,9µm,0.4s						
PX03	**IPOC Station P**	**1.16**	**320**	⇑*iP*	**Pn**	**04 07 03.0**	**-0.8**
PX03				*i* S	**Sn**	**04 07 21.0**	**-0.7**
PB08	**IPOC Station P**	**1.18**	**345**	Pn	**Pn**	**04 07 05.1**	**+0.7**
PB08	**IPOC Station P**	**1.18**	**345**	⇓*iP*	**Pn**	**04 07 05.2**	**+0.7**
PB08				*i* S	**Sn**	**04 07 22.7**	**0.0**
PB08				IAML		04 07 24.7	
	comp=E,4µm,0.3s						
PB08	**IPOC Station P**	**1.18**	**345**	*eP*	**Pn**	**04 07 05.0**	**+0.6**
PB08				*eS*	**Sn

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
BBSD	**Serra de San D**	8.78	64	*eP*	**Pn**	**04 08 41.9**	**-2.3**
GO04	**Tololo Observa**	9.02	191	Pn	**Pn**	**04 08 45.5**	**-2.1**
CO03	**El Pedregal**	9.65	190	Pn	**Pn**	**04 08 52.2**	**-3.8**
MURT	**Porto Murtinho**	10.46	94	*eP*	**Pn**	**04 09 04.5**	**-2.4**
PTLB	**Pontes e Lacer**	10.88	59	Pn	**Pn**	**04 09 10.7**	**-2.0**
PTLB	**Pontes e Lacer**	10.88	59	*eP*	**Pn**	**04 09 11.7**	**-1.0**
BDQN	**Bodoquena, MS**	11.33	88	*eP*	**Pn**	**04 09 15.4**	**-3.1**
CPUP	**Villa Florida**	11.66	118	Pn	**Pn**	**04 09 22.2**	**-0.7**
CPUP	**Villa Florida**	11.66	118	P	**Pn**	**04 09 21.6**	**-1.4**
	comp=Z,1.5nm,0.5s,baz=297,slow=14,SNR=6.3						
CPUP	**Villa Florida**	11.66	118	*eP*	**Pn**	**04 09 22.2**	**-0.7**
ETMB	**Extrema**	11.68	13	*eP*	**Pn**	**04 09 20.1**	**-3.2**
VILB	**Vilhena**	11.69	46	Pn	**Pn**	**04 09 22.7**	**-0.8**
VILB	**Vilhena**	11.69	46	*eP*	**Pn**	**04 09 22.1**	**-1.3**
MT02	**Curacav**	12.10	189	Pn	**Pn**	**04 09 28.6**	**0.0**
SJPY	**San Joaquin**	12.28	110	*eP*	**Pn**	**04 09 30.1**	**-1.0**
AQDB	**Aquidauana**	12.30	89	Pn	**Pn**	**04 09 30.3**	**-1.2**
AQDB	**Aquidauana**	12.30	89	*eP*	**Pn**	**04 09 29.5**	**-2.0**
AMBA	**Amambai (Brazi**	12.94	100	*eP*	**Pn**	**04 09 39.7**	**+0.1**
BO01	**Tunca**	13.20	188	Pn	**Pn**	**04 09 42.8**	**-0.2**
SAML	**Samuel**	13.43	25	Pn	**Pn**	**04 09 46.1**	**+0.1**
SAML	**Samuel**	13.43	25	*eP*	**Pn**	**04 09 43.7**	**-2.3**
SALV	**Santo Antonio**	13.56	69	*eP*	**Pn**	**04 09 48.6**	**+0.9**
BO02	**Sierra Bellavi**	13.56	187	Pn	**Pn**	**04 09 47.2**	**-0.5**
RPRD	**Ribas do Rio P**	14.17	89	*eP*	**Pn**	**04 09 56.0**	**+0.4**
PDRB	**Porto dos Gac**	15.07	52	*eP*	**Pn**	**04 10 06.4**	**-0.6**
BI02	**San Fabin de**	15.46	187	Pn	**P**	**04 10 12.9**	**-0.9**
PTGB	**Pitanga**	15.81	106	*eP*	**Pn**	**04 10 16.5**	**+0.2**
CLDB	**Colider**	16.24	52	*eP*	**Pn**	**04 10 21.2**	**-0.4**
ITAB	**Concordia**	16.33	115		**P**	**04 10 24.4**	**+1.0**
ITAB				IAmb	IAmb	04 10 25.6	
	comp=Z,20nm,1.1s						
ITAB	**Concordia**	16.33	115	*eP*	**P**	**04 10 22.9**	**-0.5**
LDASE	**Londrina, Braz**	16.52	101	*eP*	**P**	**04 10 25.4**	**-0.2**
CPSB	**Cacapava Do Su**	16.55	126	*eP*	**Pn**	**04 10 23.9**	**-1.3**
ITRB	**Iturama**	17.38	88	*eP*	**Pn**	**04 10 35.2**	**-0.3**
TRQA	**Tornquist**	17.73	162	P	**Pn**	**04 10 40.4**	**+0.9**
FRTB	**Fartura**	17.95	100	*eP*	**Pn**	**04 10 42.4**	**+0.1**
GO06	**Curarrehue**	18.37	186		**Pn**	**04 10 47.7**	**+0.5**
BB19B	**Bebedouro**	18.94	93	*eP*	**Pn**	**04 10 52.6**	**-1.4**
MAJ01	**Sao Joao Batis**	19.05	113	*eP*	**P**	**04 10 53.6**	**+0.4**
SNDB	**Serra Nova Dou**	19.17	64	*eP*	**P**	**04 10 53.9**	**-0.7**
NPGB	**Novo Progresso**	19.25	45	*eP*	**P**	**04 10 54.6**	**-0.8**
PLCA	**Paso Flores**	19.44	184	P	**P**	**04 10 56.4**	**-0.9**
PLCA	**Paso Flores**	19.44	184	P	**Pn**	**04 10 59.4**	**-0.3**
	comp=Z,4.4nm,0.7s,baz=11,slow=11,SNR=11						
PLCA	**Paso Flores**	19.44	184	*eP*	**P**	**04 10 53.0**	**-4.3**
MACA	**Manacapuru-AM**	19.69	25	P	**P**	**04 11 00.2**	**0.0**
MACA				IAmb	IAmb	04 11 02.9	
	comp=Z,39nm,0.7s						
MACA	**Manacapuru-AM**	19.69	25	*eP*	**P**	**04 10 59.0**	**-1.2**
IPMB	**Ipameri, GO**	19.70	84	*eP*	**Pn**	**04 11 01.4**	**-1.6**
LL04	**Puerto Octay**	19.79	188	P	**P**	**04 11 02.1**	**+1.0**
LL04				IAmb	IAmb	04 11 03.5	
	comp=Z,11nm,0.7s						
RCLB	**Rio Claro- Sao**	19.80	97	*eP*	**Pn**	**04 11 02.5**	**-1.7**
LL03	**Petrohue**	20.02	188	P	**P**	**04 11 04.4**	**+0.9**
LL03				IAmb	IAmb	04 11 10.1	
	comp=Z,34nm,0.8s						
VAO	**Valinhos**	20.33	99	P	**P**	**04 11 06.3**	**-0.9**
VAO				IAmb	IAmb	04 11 08.8	
	comp=Z,13nm,0.9s						
BDFB	**Brasilia**	20.52	78		**P**	**04 11 08.6**	**-0.7**
BDFB				IAmb	IAmb	04 11 13.4	
	comp=Z,14nm,0.5s						
BDFB	**Brasilia**	20.52	78	P	**P**	**04 11 08.8**	**-0.6**
	comp=Z,13nm,0.5s,baz=252,slow=9.7,SNR=26						
	comp=Z,13nm,0.5s						
ITTB	**Itaituba**	21.09	39	*eP*	**P**	**04 11 14.8**	**-0.5**
PRPB	**Paraua pebas**	23.77	54	*eP*	**P**	**04 11 41.2**	**-0.8**
DIAM	**Diamantina, MG**	23.85	87	*eP*	**P**	**04 11 41.6**	**-1.3**
SMTB	**Santa Maria do**	23.91	62	*eP*	**P**	**04 11 42.7**	**-0.5**
JANB	**Januaria**	24.09	79	*eP*	**P**	**04 11 44.9**	**-0.1**
COYC	**Coyhaique**	24.36	186	P	**P**	**04 11 47.4**	**+0.3**
COYC				IAmb	IAmb	04 12 09.5	
	comp=Z,17nm,1.3s						
SDBA	**SAO DESIDERIO**	24.52	73	*eP*	**P**	**04 11 48.4**	**-0.4**
BOAV	**Boa Vista**	24.91	20	P	**P**	**04 11 53.1**	**+0.8**
BOAV	**Boa Vista**	24.91	20	*eP*	**P**	**04 11 50.1**	**-2.2**
RUSC	**La Rusia**	27.34	351	P	**P**	**04 12 14.9**	**+0.2**
RUSC				IAmb	IAmb	04 12 47.8	
	comp=Z,9.8nm,1.2s						
GDU01	**Guandu, BA**	28.87	80	*eP*	**P**	**04 12 28.2**	**+0.4**
GO09	**Cerro Castillo**	30.05	184	P	**P**	**04 12 38.2**	**+0.4**
RCBR	**Riachuelo**	35.40	69	P	**P**	**04 13 27.1**	**+2.1**
FDF	**Fort de France**	36.59	13	P	**P**	**04 13 36.1**	**+1.2**
ILAM	**Ilet Lapin Mar**	36.68	13	P	**P**	**04 13 38.2**	**+2.6**
CELP	**Cerrillos**	39.19	3	P	**P**	**04 13 56.5**	**-0.2**
CELP				IAmb	IAmb	04 14 29.9	
	comp=Z,35nm,1.5s						
CMIG	**Matias Romero**	45.91	324	LR	LR	04 31 57.2	
	comp=Z,14nm,18.3s,baz=137,slow=33						
TKL	**Tuckaleechee C**	58.38	346	LR	LR	04 45 49.6	
	comp=Z,18nm,18.7s,baz=7.5,slow=40						
SNAA	**Sanae**	62.45	161	P	**P**	**04 16 52.1**	**+1.7**
SNAA				IAmb	IAmb	04 16 53.5	
	comp=Z,2.3nm,0.9s						
SNAA	**Sanae**	62.45	161	P	**P**	**04 16 52.0**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=234,slow=17,SNR=2.6						
	comp=Z,1.4nm,0.6s						
DBIC	**Dimbokro**	68.61	73	P	**P**	**04 17 30.9**	**0.0**
	comp=Z,5.1nm,0.9s,baz=241,slow=9.4,SNR=1.8						
	comp=Z,5.1nm,0.9s						
QSPA	**South Pole Qui**	68.90	180	P	**P**	**04 17 34.8**	**+2.7**
QSPA				IAmb	IAmb	04 18 13.3	
	comp=Z,5.0nm,1.2s						
QSPA	**South Pole Qui**	68.90	180	P	**P**	**04 17 34.7**	**+2.7**
	comp=Z,1.7nm,0.5s,baz=208,slow=3.2,SNR=15						
QSPA				pP	**pP**	**04 18 04.1**	**+1.6**
	comp=Z,1.8nm,0.9s,baz=312,slow=5.3,SNR=1.6						
	comp=Z,1.7nm,0.5s						
TORD	**Torodi Ar. Bea**	77.22	70	P	**P**	**04 18 21.8**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=260,slow=4.9,SNR=17						
TORD				pP	**pP**	**04 18 52.8**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=238,slow=4.3,SNR=1.7						
TORD				sP	**sP**	**04 19 05.2**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=240,slow=5.8,SNR=3.0						
	comp=Z,1.1nm,0.5s						
WRA	**Warramunga Arr**	133.17	211	PKP	**PKiKP**	**04 25 44.3**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=150,slow=2.1,SNR=1.6						
MKAR	**Makanchi Array**	145.42	36	PKPbc	**PKiKP**	**04 26 06.9**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=356,slow=4.5,SNR=2.1						
MKAR				pPKPbc	**pPKPdf**	**04 26 38.2**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=322,slow=2.8,SNR=7.9						

*IDC **07** 04:07:04.8±1.8, 22°.70S×174°.85W, h0km, mb4.2/5, mbtmp4.1/6, ML4.9/1, MS3.3/3, Error ellipse: s-maj=63.3km s-min=34.1km az=152.0*
*NEIC **07** 04:07:05.1±1.0, 22°.73S±0°.10×174°.58W±0°.03, h10km±1km, mb4.6/12, Error ellipse: s-maj=16.4km s-min=3.9km az=348.0*

ISC 07 04:07:06.6±0.6, **22°.7S**±0°.1×**174°.56W**±0°.09, **h22**km, **n35**, σ1§**46**/32, **mb4.5**/12, **Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
NIUE	**Niue**	5.62	51	Pn	**Pn**	**04 08 28.8**	**-0.1**
MSVF	**Nonsavu**	8.50	304	Pn	**Pn**	**04 09 08.2**	**-0.4**
MSVF	**Nonsavu**	8.50	304	Pn	**Pn**	**04 09 07.7**	**-0.8**
	0.5nm,0.3s,baz=4.8,slow=23,SNR=1.8						
	3.2nm,0.6s						
RAR	**Rarotonga**	13.80	87	Pn	**Pn**	**04 10 18.6**	**-2.5**
RAR	**Rarotonga**	13.80	87	Pn	Pn	04 10 17.0	-4.0
	3.0nm,0.3s,baz=263,slow=15,SNR=12						
RAR				LR	LR	04 15 42.1	
	comp=Z,62nm,18.4s,baz=276,slow=37						
TKNZ	**Takaka Hill**	21.11	207	Pn	**P**	**04 11 51.3**	**+1.5**
CMWZ	**Cape Campbell**	21.22	204	P	**P**	**04 11 49.6**	**-1.4**
MRNZ	**Matariki Terra**	21.50	207	P	**P**	**04 11 51.8**	**-2.1**
THZ	**Tophouse**	21.74	206	P	**P**	**04 11 55.2**	**-1.4**
THZ				IAmb	IAmb	04 11 56.6	
	comp=Z,18nm,1.1s						
PPT	**Papeete**	23.99	82	LR	LR	04 19 37.4	
	comp=Z,37nm,21.2s,baz=224,slow=31						
ASAR	**Alice Springs**	47.17	258	P	**P**	**04 15 34.2**	**-3.7**
ASAR	**Alice Springs**	47.17	258	P	**P**	**04 15 37.2**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=94,slow=7.0,SNR=16						
	comp=Z,1.9nm,0.8s						
WR0	**Warramunga Arr**	47.31	263	P	**P**	**04 15 38.1**	**-0.8**
WR0				IAmb	IAmb	04 15 38.2	
	comp=Z,5.4nm,1.2s						
WB2	**Warramunga Arr**	47.49	263	P	**P**	**04 15 39.5**	**-0.9**
WB2				IAmb	IAmb	04 15 45.3	
	comp=Z,6.5nm,1.3s						
WB0	**Warramunga Arr**	47.49	263	P	**P**	**04 15 39.7**	**-0.6**
WRA	**Warramunga Arr**	47.50	263	P	**P**	**04 15 39.6**	**-0.9**
WRA	**Warramunga Arr**	47.50	263	P	**P**	**04 15 39.2**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=101,slow=8.2,SNR=15						
	comp=Z,1.5nm,0.7s						
KNRA	**Kununurra**	53.72	267	P	**P**	**04 16 27.2**	**-0.2**
KNRA				IAmb	IAmb	04 16 35.6	
	comp=Z,10.0nm,1.3s						
FITZ	**Fitzroy Crossi**	55.93	263	P	**P**	**04 16 42.8**	**-0.6**
CASY	**Casey**	63.40	206	P	**P**	**04 17 33.9**	**-0.1**
LUWI	**Luwuk**	64.47	280	P	**P**	**04 17 40.5**	**-1.6**
QSPA	**South Pole Qui**	67.41	180	P	**P**	**04 18 03.1**	**+2.8**
MJAR	**Matsushiro Arr**	73.86	322	P	**P**	**04 18 39.4**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=135,slow=8.7,SNR=1.7						
	comp=Z,0.9nm,0.3s						
ISLE	**Juniper Island**	87.01	15	P	**P**	**04 19 49.9**	**-0.1**
ISLE				IAmb	IAmb	04 19 50.0	
	comp=Z,13nm,0.8s						
NEW	**Newport**	87.31	34	LR	LR	04 58 27.1	
	comp=Z,42nm,18.2s,baz=203,slow=35						
LRM	**Limekiln Ridge**	88.39	38	P	**P**	**04 19 58.5**	**+1.4**
H19K	**Roundabout Mou**	89.01	7	P	**P**	**04 19 60.0**	**+0.8**
H19K				IAmb	IAmb	04 20 04.7	
	comp=Z,6.1nm,1.1s						
H21K	**Melozitna Rive**	89.61	9	P	**P**	**04 20 02.6**	**+0.5**
H21K				IAmb	IAmb	04 20 09.0	
	comp=Z,5.9nm,1.5s						
ILAR	**Eielson Array**	89.75	11	P	**P**	**04 20 04.5**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=221,slow=6.7,SNR=2.0						
	comp=Z,0.3nm,0.8s						
IMAR	**Indian Mountai**	89.79	8	P	**P**	**04 20 04.8**	**+1.9**
CMAR	**Chiang Mai Arr**	93.84	288	P	**P**	**04 20 24.7**	**+1.9**
	comp=Z,2.8nm,0.3s,baz=121,slow=4.6,SNR=4.3						
	comp=Z,2.8nm,0.3s						
ARCES	**ARCESS Array B**	131.60	351	PKP	**PKiKP**	**04 26 18.3**	**+0.3**
	comp=Z,2.4nm,1.0s,baz=28,slow=4.4,SNR=3.7						
FINES	**FINESS Array B**	138.72	345	PKP	**PKiKP**	**04 26 32.3**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=32,slow=3.6,SNR=1.2						
AKASG	**Malin Array Be**	146.43	332	PKPbc	**PKPab**	**04 26 46.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=42,slow=3.8,SNR=9.3						
BRTR	**Keskin Array B**	150.66	312	PKPbc	**PKiKP**	**04 26 59.2**	**+1.2**
	comp=Z,0.7nm,0.7s,baz=142,slow=6.3,SNR=4.9						

*SJA **07** 04:21:38.5±0.6, 20°.41S×68°.84W, h120km±4km, ML3.4, MW3.5*
*GUC **07** 04:21:39.5±0.7, 20°.40S×68°.82W, h121km±3km, ML3.3*

ISC 07 04:21:40.4±1.4, **20°.44S**±0°.03×**68°.91W**±0°.06, **h116**km±9km, **n29**, σ0§**84**/47, **5C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
PB08	**IPOC Station P**	0.37	321	*i*P	**Pn**	**04 21 57.0**	**-0.7**
PB08				*e*S	**Sn**	**04 22 10.4**	**-0.2**
PB08				IAML		04 22 11.0	
	comp=N,2μm,0.2s						
PB08	**IPOC Station P**	0.37	321	*e*P	**Pn**	**04 21 56.9**	**-0.7**
PB08				*e*S	**Sn**	**04 22 10.7**	**+0.1**
PB08				IAML		04 22 11.0	
	comp=Z,792nm,0.2s						
PX03	**IPOC Station P**	0.68	272	*e*P	**Pn**	**04 21 58.2**	**-1.0**
GO01	**Chusmiza**	0.81	340	⇑*i*P	**Pn**	**04 21 60.0**	**-0.9**
GO01				*e*S	**Sn**	**04 22 15.9**	**-0.3**
GO01				IAML		04 22 18.8	
	comp=N,2μm,0.1s						
GO01	**Chusmiza**	0.81	340	*e*P	**Pn**	**04 21 59.9**	**-0.9**
GO01				*e*S	**Sn**	**04 22 17.1**	**+1.0**
PB01	**IPOC Station P**	0.81	222	*i*P	**Pn**	**04 22 00.1**	**-0.3**
PB01				*e*S	**Sn**	**04 22 16.1**	**+0.5**
PB01	**IPOC Station P**	0.81	222	*e*P	**Pn**	**04 22 00.1**	**-0.3**
PB01				*e*S	**Sn**	**04 22 16.2**	**+0.7**
PB01				IAML		04 22 17.4	
	comp=Z,919nm,0.2s						
PB11	**IPOC Station P**	0.97	313	⇑*i*P	**Pn**	**04 22 01.4**	**-0.6**
PB11				*e*S	**Sn**	**04 22 18.4**	**+0.1**
PB11				IAML		04 22 19.6	
	comp=E,2μm,0.1s						
PB11	**IPOC Station P**	0.97	313	*e*P	**Pn**	**04 22 01.4**	**-0.6**
PB11				*e*S	**Sn**	**04 22 19.3**	**+1.0**
PB11				IAML		04 22 19.8	
	comp=Z,617nm,0.1s						
TA02	**Huaiquique**	1.16	278	*e*P	**Pn**	**04 22 03.6**	**-0.1**
TA02	**Huaiquique**	1.16	278	*e*P	**Pn**	**04 22 03.6**	**-0.1**
TA02				IAML		04 22 23.9	
	comp=Z,547nm,0.3s						
TA01	**Diego Aracena**	1.20	264	⇑*i*P	**Pn**	**04 22 03.8**	**-0.3**
TA01				*e*S	**Sn**	**04 22 22.7**	**+0.6**
TA01				IAML		04 22 24.8	
	comp=E,264nm,0.2s						
TA01	**Diego Aracena**	1.20	264	*e*P	**Pn**	**04 22 03.9**	**-0.2**
TA01				*e*S	**Sn**	**04 22 23.7**	**+1.6**
TA01				IAML		04 22 26.4	
	comp=Z,153nm,0.4s						
PB09	**IPOC Station P**	1.39	193	*e*P	**Pn**	**04 22 06.5**	**0.0**
PB09				*e*S	**Sn**	**04 22 28.0**	**+1.8**
PB09	**IPOC Station P**	1.39	193	*e*P	**Pn**	**04 22 06.4**	**-0.1**
PB09				*e*S	**Sn**	**04 22 28.3**	**+2.0**
PB09				IAML		04 22 30.8	
	comp=Z,165nm,0.3s						
PX02	**IPOC Station P**	1.90	320	*e*P	**Pn**	**04 22 11.0**	**-1.5**
PX02				*e*S	**Sn**	**04 22 36.9**	**-0.2**
LVC	**Limon Verde**	2.17	180	⇑*e*P	**Pn**	**04 22 16.1**	**0.0**
LVC	**Limon Verde**	2.17	180	*e*P	**Pn**	**04 22 16.0**	**0.0**
LVC				*e*S	**Sn**	**04 22 44.8**	**+1.4**
PB04	**IPOC Station P**	2.22	211	*e*P	**Pn**	**04 22 16.6**	**+0.1**
PB04				IAML		04 22 49.6	
	comp=E,129nm,0.2s						
PB04	**IPOC Station P**	2.22	211	*e*P	**Pn**	**04 22 16.6**	**+0.1**
PB04				*e*S	**Sn**	**04 22 44.4**	**+0.2**
PB04				IAML		04 22 50.3	
	comp=Z,147nm,0.3s						
PB06	**IPOC Station P**	2.34	195	⇓*e*P	**Pn**	**04 22 18.2**	**0.0**
PB06				IAML		04 22 55.2	
	comp=N,102nm,0.5s						
PB06	**IPOC Station P**	2.34	195	*e*P	**Pn**	**04 22 17.8**	**-0.4**
PB06				*e*S	**Sn**	**04 22 46.5**	**-0.6**
PB06				IAML		04 22 51.8	
	comp=Z,113nm,0.4s						
PB15	**IPOC Station P**	2.81	191	*e*P	**Pn**	**04 22 24.4**	**+0.1**
PB15				*e*S	**Sn**	**04 22 58.1**	**+0.1**
PB15				IAML		04 23 04.3	
	comp=Z,376nm,0.2s						
PB18	**Visviri**	2.88	349	*e*P	**Pn**	**04 22 26.4**	**+0.8**
YJA	**Yavi**	3.61	119	*e*P	**Pn**	**04 22 34.6**	**-0.4**
LPAZ	**La Paz**	4.19	10	*e*P	**Pn**	**04 22 44.0**	**+0.9**
GO02	**Mina Guanaco**	4.75	188	*e*P	**Pn**	**04 22 48.1**	**-2.1**
GO02				*e*S	**Sn**	**04 23 43.2**	**-1.2**
AZAP	**Zapla**	5.18	137	*e*P	**Pn**	**04 22 55.2**	**-0.8**
AZAP				IAML		04 24 21.4	
	comp=Z,13nm,3.4s						
SLA	**San Lorenzo**	5.30	144	*e*P	**Pn**	**04 22 57.0**	**-0.4**

*IDC **07** 04:46:04.8±1.3, 45°.63S×76°.85W, h0km, mb3.8/4, mbtmp3.7/5, ML3.3/1, MS3.6/19, Error ellipse: s-maj=55.9km s-min=33.3km az=128.0*
*VAO **07** 04:46:05.3±4.2, 46°.23S×77°.13W, h28km±24km, mb4.4*
*GUC **07** 04:46:06.4±0.5, 45°.49S×76°.58W, h10km±11km, MS4.2*
*NEIC **07** 04:46:07.1±1.9, 45°.44S±0°.06×76°.8W±0°.2, h10km±1km, mb4.4/10, Error ellipse: s-maj=22.7km s-min=10.7km az=263.0*

ISC 07 04:46:06.8±0.7, **45°.56S**±0°.07×**76°.75W**±0°.10, **h10**km, **n98**, σ1§**42**/75, **mb4.1**/9, **MS3.6**/19, **2C, Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
ETRA	**Estrella**	2.44	82	*e*P	**Pn**	**04 46 45.1**	**-1.5**
AY02	**Valle Explorad**	2.64	112		**Pn**	**04 46 50.8**	**+1.4**
USPA	**Uspallante**	2.65	78	*e*P	**Pn**	**04 46 48.5**	**-0.9**
MGDN	**Magdalena**	2.86	72	*e*P	**Pn**	**04 46 51.2**	**-1.3**
MGDN				*e*S	**Sn**	**04 47 25.3**	**-1.6**
PHPI	**Puyuhuapi**	3.22	69	*e*P	**Pn**	**04 46 57.8**	**+0.5**
COYC	**Coyhaique**	3.28	92	Pn	**Pn**	**04 46 59.2**	**+1.0**
CYQE	**Coyhaique**	3.30	91	*e*P	**Pn**	**04 46 59.8**	**+1.4**
CYQE				IVMs_BB	IVMs_BB	04 48 47.8	
	comp=Z,7μm,6.2s						
GO07	**Milladeo Hill,**	3.30	43		**Pn**	**04 46 56.4**	**-2.1**
GO07	**Milladeo Hill,**	3.30	43	*e*P	**Pn**	**04 46 56.8**	**-1.7**
AY03	**Cochrane**	3.33	122	Pn	**Pn**	**04 46 59.2**	**+0.3**
LJUN	**La Junta**	3.43	64	*e*P	**Pn**	**04 46 58.7**	**-1.6**
LL07	**Hotel Espejo d**	3.60	42	Pn	**Pn**	**04 47 00.9**	**-1.7**
LL07	**Hotel Espejo d**	3.60	42	*e*P	**Pn**	**04 47 01.4**	**-1.3**
LL06	**Loncomilla**	4.04	35	Pn	**Pn**	**04 47 07.9**	**-0.7**
LL06	**Loncomilla**	4.04	35	*e*P	**Pn**	**04 47 07.1**	**-1.5**
GO08	**Villa O'Higgin**	4.08	137	*e*P	**Pn**	**04 47 08.7**	**-0.5**
TBIO	**Turbio**	4.10	51	*e*P	**Pn**	**04 47 08.7**	**-0.8**
PDRA	**Piedra**	4.17	51	*e*P	**Pn**	**04 47 09.2**	**-1.3**
LL02	**Futaleuf**	4.24	58		**Pn**	**04 47 10.4**	**-0.9**
LL01	**San Ignacio de**	4.46	46	*e*P	**Pn**	**04 47 13.1**	**-1.4**
LL05	**Los Muermos**	4.79	31		**Pn**	**04 47 18.7**	**-0.2**
LL05	**Los Muermos**	4.79	31	*e*P	**Pn**	**04 47 18.2**	**-0.8**
LL03	**Petrohue**	5.44	37	Pn	**Pn**	**04 47 27.3**	**-0.5**
LL04	**Puerto Octay**	5.63	36		**Pn**	**04 47 29.5**	**-0.9**
LR04	**Corral**	6.18	24		**Pn**	**04 47 37.4**	**-0.7**
LR05	**Currie**	6.37	35	Pn	**Pn**	**04 47 40.2**	**-0.4**
PLCA	**Paso Flores**	6.62	45	Pn	**Pn**	**04 47 44.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=244,slow=12,SNR=3.6						
	comp=Z,0.9nm,0.6s						
PLCA	**Paso Flores**	6.62	45	*e*P	Pn	04 47 49.6	+5.5
LR03	**Panguipulli**	6.76	30		**Pn**	**04 47 45.5**	**-0.5**
GO06	**Curarrehue**	7.13	35	Pn	**Pn**	**04 47 50.8**	**-0.4**
ML02	**Panimavida**	10.59	24	Pn	**Pn**	**04 48 38.2**	**-0.3**
BO02	**Sierra Bellavi**	11.68	25		**Pn**	**04 48 52.6**	**-0.9**
H03S1	**Juan Fernandez**	11.82	351	T	T	05 01 07.3	
	baz=171,slow=74						
H03S2	**Juan Fernandez**	11.83	351	T	T	05 01 03.9	
	baz=171,slow=74						
H03S3	**Juan Fernandez**	11.84	351	T	T	05 01 03.9	
	baz=171						
LMEL	**Las Melosas**	12.73	25		**Pn**	**04 49 07.1**	**-0.9**
CO03	**El Pedregal**	15.45	20	Pn	**Pn**	**04 49 43.0**	**-1.8**
CO03				IAmb	IAmb	04 49 51.2	
	comp=Z,19nm,1.2s						
GO04	**Tololo Observa**	16.06	19	Pn	**Pn**	**04 49 48.4**	**-4.5**
GO04				IAmb	IAmb	04 50 15.5	
	comp=Z,29nm,1.2s						
CO01	**Juntas del Tor**	16.41	21	Pn	**Pn**	**04 49 54.8**	**-2.7**
LCO	**Las Campanas**	17.20	18		**Pn**	**04 50 06.9**	**-0.4**
PMSA	**Palmer Station**	20.50	164	LR	LR	04 56 42.1	
	comp=Z,135nm,20.5s,baz=314,slow=31						
PSAL	**Palomas, Salto**	20.77	52	*e*P	Pn	04 50 50.7	+0.6
ITQB	**Itaqui**	22.39	52	*e*P	**P**	**04 51 08.4**	**+3.2**
CPSB	**Cacapava Do Su**	23.68	58	*e*P	**P**	**04 51 18.9**	**+0.4**
LVC	**Limon Verde**	23.77	18	LR	LR	05 01 16.6	
	comp=Z,94nm,19.3s,baz=192,slow=38						
LVC	**Limon Verde**	23.77	18	*e*P	**P**	**04 51 21.4**	**+1.5**
CPUP	**Villa Florida**	24.70	46	P	**P**	**04 51 27.2**	**-0.7**
CPUP	**Villa Florida**	24.70	46	P	**P**	**04 51 29.1**	**+1.2**
	comp=Z,3.7nm,0.8s,baz=232,slow=9.0,SNR=9.0						
CPUP				LR	LR	05 01 59.9	
	comp=Z,359nm,18.3s,baz=219,slow=38						
	comp=Z,3.7nm,0.8s						
CPUP	**Villa Florida**	24.70	46	*e*P	**P**	**04 51 29.4**	**+1.5**
MAJ01	**Sao Joao Batis**	28.53	60	*e*P	**P**	**04 52 04.1**	**+1.6**
MURT	**Porto Murtinho**	28.54	40	*e*P	**P**	**04 52 03.9**	**+1.4**
BDQN	**Bodoquena, MS**	29.98	40	*e*P	**P**	**04 52 17.0**	**+1.7**
LPAZ	**La Paz**	30.07	17	P	**P**	**04 52 16.0**	**-0.9**
	comp=

HARU	**Harads**	**1.07 175**	P	**Pg**	**04 47 30.7**	**0.0**
KLF	**Kolari**	**1.25 88**	PG	**Pn**	**04 47 35.1**	**+0.2**
KLF			MSG		04 47 51.6	
	comp=Z,1.0nm,0.2s					
KLF			SG	**Sn**	**04 47 52.5**	**0.0**
HEF	**Hetta**	**1.62 42**	PG	**Pg**	**04 47 41.8**	**+0.5**
HEF			MSG		04 48 02.5	
	comp=Z,1.2nm,0.2s					
HEF			SG	**Sg**	**04 48 03.7**	**+1.4**
KALU	**Kalix**	**1.72 142**	PG	**Pg**	**04 47 43.0**	**-0.2**
	baz=318					
KALU			SN	**Sg**	**04 48 05.7**	**+0.2**
TOF	**Tornio**	**1.83 127**	PG	**Pb**	**04 47 44.9**	**+0.4**
TOF			MSG		04 48 07.1	
	comp=Z,1.9nm,0.2s					
TOF			SG	**Sg**	**04 48 08.9**	**0.0**
KTK1	**Kautokeino**	**2.02 26**	PG	**Pg**	**04 47 49.1**	**+0.1**
KTK1			SG	**Sg**	**04 48 16.5**	**+1.3**
RNF	**Rovaniemi**	**2.16 104**	PG	**Pg**	**04 47 51.1**	**-0.6**
RNF			SG	**Sg**	**04 48 19.6**	**0.0**
TRO	**Tromso**	**2.51 345**	SG	**Sb**	**04 48 28.5**	**+0.9**
RANF	**Ranua**	**2.70 114**	PG	**Pg**	**04 48 01.6**	**-0.2**
RANF			SB	**Sb**	**04 48 34.0**	**+1.1**
KMNF	**Kaamanen**	**3.03 47**	SN	**Sb**	**04 48 40.0**	**-2.5**
KEV	**Kevo**	**3.43 39**	SN	**Sn**	**04 48 45.1**	**-1.0**
VRF	**Varrio**	**3.45 77**	SG	**Sg**	**04 49 00.6**	**-0.3**
OLKF	**Oulanka, Finla**	**3.54 101**	PG	**Pg**	**04 48 17.4**	**-0.7**

GUC 07 04:47:41.9±0.4, 42°.46S×73°.08W, h77km±2km, ML2.5, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL07	**Hotel Espejo d**	**0.47 218**		*eP*	Pn	04 47 55.2	+0.1
LL07				*i* S	Sn	04 48 05.5	+0.6
LL07				IAML		04 48 06.5	
	comp=N,554nm,0.8s						
LL06	**Loncomilla**	**0.47 301**		*eP*	Pn	04 47 55.4	+0.3
LL06				*i* S	Sn	04 48 05.3	+0.4
LL06				IAML		04 48 05.9	
	comp=N,448nm,0.2s						
LL01	**San Ignacio de**	**0.50 81**		*eP*	Pn	04 47 55.5	+0.2
LL01				*eS*	Sn	04 48 05.9	+0.6
GLCR	**Glaciar**	**0.53 128**		*eP*	Pn	04 47 56.0	+0.2
GLCR				*eS*	Sn	04 48 06.5	+0.6
GLCR				IAML		04 48 07.7	
	comp=N,241nm,0.8s						
VNTQ	**Ventisquero**	**0.62 132**		*eP*	Pn	04 47 56.8	+0.2
VNTQ				*eS*	Sn	04 48 08.0	+0.6
PDRA	**Piedra**	**0.67 126**		*eP*	Pn	04 47 57.1	0.0
PDRA				*i* S	Sn	04 48 09.3	+0.8
TBIO	**Turbio**	**0.69 132**		*eP*	Pn	04 47 57.3	+0.1
TBIO				*eS*	Sn	04 48 09.0	+0.4
TBIO	**Turbio**	**0.69 132**		*eS*	Pn	04 47 57.3	+0.1
GO07	**Milladeo Hill,**	**0.78 213**		*eP*	Pn	04 47 58.2	0.0
GO07				*eS*	Sn	04 48 09.6	-0.7
GO07				IAML		04 48 10.1	
	comp=E,416nm,0.3s						
LL05	**Los Muermos**	**1.09 344**		*eP*	Pn	04 48 02.0	+0.1
LL05				*eS*	Sn	04 48 16.3	-0.6
LL05				IAML		04 48 17.6	
	comp=E,64nm,0.1s						

*UPP **07** 04:57:28.0±0.1, 67°.16N×20°.64E, h0km, ML2.6, Confirmed Induced event*
*HEL **07** 04:57:28.0±0.3, 67°.17N×20°.51E, h0km, ML1.2, Suspected explosion*
ISC 07 04:57:27.2±1.0, 67°.22N±0°.03×20°.64E±0°.04, h0km, n16, σ0°74/23, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.10 196**		P	**Pg**	**04 57 29.3**	**+0.2**
DUNU				S	**Sg**	**04 57 30.5**	**+0.2**
MASU	**Masugnsbyn**	**0.58 65**		P	**Pb**	**04 57 39.5**	**-0.7**
RATU	**Laukkuluspa**	**0.73 327**		P	**Pb**	**04 57 42.6**	**-0.2**
KUA	**Kurravaara**	**0.75 351**		P	**Pb**	**04 57 43.0**	**-0.1**
ERTU	**Ertsjaerv**	**0.91 137**		PG	**Pg**	**04 57 44.3**	**-0.2**
	baz=306						
ERTU				SG	**Sg**	**04 57 56.1**	**-0.1**
LANU	**Lannavaara**	**0.98 31**		SB	**Sb**	**04 58 01.6**	**+1.1**
KOVU	**Salmi**	**1.03 350**		P	**Pn**	**04 57 48.7**	**-0.2**
KLF	**Kolari**	**1.29 88**		PG	**Pg**	**04 57 52.2**	**+0.2**
	baz=270						
KLF				MSG		04 58 08.7	
	comp=Z,1.1nm,0.2s						
KLF				SG	**Sg**	**04 58 09.3**	**+0.6**
HEF	**Hetta**	**1.66 42**		PG	**Pg**	**04 57 58.9**	**0.0**
HEF				MSG		04 58 19.6	
	comp=Z,1.3nm,0.2s						
HEF				SG	**Sg**	**04 58 21.0**	**+0.6**
KALU	**Kalix**	**1.75 140**		SN	**Sb**	**04 58 22.6**	**+0.2**
TOF	**Tornio**	**1.86 126**		PG	**Pb**	**04 58 01.6**	**-0.4**
	baz=303						
TOF				MSG		04 58 24.0	
	comp=Z,2.0nm,0.2s						
TOF				SG	**Sb**	**04 58 26.0**	**+0.2**
KTK1	**Kautokeino**	**2.05 27**		PG	**Pg**	**04 58 05.9**	**-0.5**
KTK1				SG	**Sg**	**04 58 33.7**	**+0.7**
RNF	**Rovaniemi**	**2.21 104**		PG	**Pg**	**04 58 09.4**	**0.0**
RNF				SG	**Sb**	**04 58 36.2**	**+0.6**
RANF	**Ranua**	**2.73 113**		SB	**Sb**	**04 58 50.8**	**-0.1**
KMNF	**Kaamanen**	**3.07 48**		SB	**Sb**	**04 58 58.4**	**-2.0**
VRF	**Varrio**	**3.49 77**		SB	**Sb**	**04 59 14.4**	**+1.7**

*SJA **07** 05:07:02.4±0.7, 32°.33S×70°.54W, h8km±2km, ML3.3, MW3.1*
*GUC **07** 05:07:03.8±0.8, 32°.35S×70°.59W, h14km±2km, ML3.3*
ISC 07 05:07:02.3±1.0, 32°.32S±0°.01×70°.55W±0°.02, h10km±10km, n57, σ1°50/101, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA03	**San Esteban**	**0.45 180**		*eP*	**Pb**	**05 07 12.1**	**-0.2**
VA03				*i* S	**Sb**	**05 07 18.5**	**-0.7**
VA03	**San Esteban**	**0.45 180**		*eP*	**Pb**	**05 07 12.0**	**-0.4**
VA03				IAML		05 07 19.4	
	comp=Z,5μm,0.2s						
CO04	**Los Peladeros**	**0.45 307**	⇑	*iP*	**Pb**	**05 07 13.1**	**+0.6**
CO04				*i* S	**Sb**	**05 07 19.8**	**+0.4**
CO04				IAML		05 07 20.7	
	comp=E,5μm,0.2s						
ROCH	**El Roble**	**0.76 211**	⇓	*iP*	**Pb**	**05 07 17.8**	**0.0**
ROCH				*eS*	**Sb**	**05 07 28.5**	**+0.1**
ROC1	**El Roble**	**0.77 211**		*eP*	**Pb**	**05 07 17.8**	**-0.1**
ROC1				*eS*	**Sg**	**05 07 25.7**	**-1.5**
PEL	**Peldehue**	**0.83 188**		*eP*	**Pg**	**05 07 18.5**	**+0.1**
PEL				*eS*	**Sb**	**05 07 29.9**	**-0.4**
PEL	**Peldehue**	**0.83 188**		*eP*	**Pb**	**05 07 18.8**	**-0.1**
PEL				*eS*	**Sb**	**05 07 30.0**	**-0.2**
MT10	**Hacienda Santa**	**0.95 179**		*eP*	**Pb**	**05 07 20.8**	**-0.3**
MT10				*i* S	**Sb**	**05 07 33.5**	**-0.3**
MT10				IAML		05 07 35.0	
	comp=E,2μm,0.3s						
FCH	**Farellones**	**1.03 168**		*eP*	**Pg**	**05 07 22.1**	**-0.1**
FCH				*eS*	**Sb**	**05 07 35.8**	**-0.4**
MT02	**Curacav**	**1.06 208**		*eP*	**Pb**	**05 07 22.6**	**-0.2**
MT02				*i* S	**Sg**	**05 07 36.9**	**+0.4**
MT02				IAML		05 07 37.2	
	comp=E,713nm,0.1s						
MT02	**Curacav**	**1.06 208**		*eP*	**Pb**	**05 07 22.4**	**-0.4**
MT02				*eS*	**Sb**	**05 07 34.9**	**-1.9**
MT02				IAML		05 07 37.6	
	comp=Z,543nm,0.2s						
MT14	**Cerro Calın**	**1.08 179**		*eP*	**Pg**	**05 07 23.1**	**+0.1**
MT14				*i* S	**Sg**	**05 07 37.5**	**+0.5**
MT14				IAML		05 07 41.0	
	comp=E,1μm,0.6s						
MT05	**Renca**	**1.08 188**		*eP*	**Pg**	**05 07 23.2**	**0.0**
MT05				*i* S	**Sb**	**05 07 37.0**	**-0.5**
MT05				IAML		05 07 43.9	
	comp=E,914nm,0.4s						
MT05	**Renca**	**1.08 188**		*eP*	**Pg**	**05 07 23.2**	**0.0**
MT05				IAML		05 07 38.5	
	comp=Z,297nm,0.2s						
MT05				*eS*	**Sn**	**05 07 38.5**	**-0.3**
MT16	**CCHEN**	**1.11 179**		*eP*	**Pg**	**05 07 23.6**	**-0.1**
MT16				*eS*	**Sg**	**05 07 38.3**	**+0.2**
MT04	**Ro Olivares**	**1.14 162**		*eP*	**Pb**	**05 07 23.9**	**-0.4**
MT04				*i* S	**Sb**	**05 07 38.9**	**-0.3**
MT04				IAML		05 07 40.7	
	comp=E,751nm,0.2s						
MT04	**Ro Olivares**	**1.14 162**		*eP*	**Pb**	**05 07 23.9**	**-0.4**
MT04				*eS*	**Sb**	**05 07 39.0**	**-0.3**
MT04				IAML		05 07 40.4	
	comp=Z,482nm,0.1s						
VA01	**Torpederas**	**1.16 232**		*eP*	**Pg**	**05 07 24.7**	**+0.1**
VA01				*i* S	**Sg**	**05 07 40.4**	**+0.6**
VA01				IAML		05 07 42.3	
	comp=N,2μm,0.1s						
VA01	**Torpederas**	**1.16 232**		*eP*	**Pb**	**05 07 24.6**	**+0.1**
VA01				*eS*	**Sn**	**05 07 40.6**	**+0.1**
VA01				IAML		05 07 42.2	
	comp=Z,1μm,0.2s						
MT03	**Universidad Ad**	**1.18 178**		*eP*	**Pb**	**05 07 24.6**	**-0.2**
MT03				*i* S	**Sg**	**05 07 40.2**	**0.0**
MT03				IAML		05 07 41.6	
	comp=N,1μm,0.2s						
MT03	**Universidad Ad**	**1.18 178**		*eP*	**Pb**	**05 07 24.6**	**-0.2**
MT03				*eS*	**Sn**	**05 07 40.7**	**-0.4**
MT03				IAML		05 07 42.1	
	comp=Z,799nm,0.1s						
RTLS	**Leoncito**	**1.18 65**		*eP*	**Pg**	**05 07 25.3**	**+0.2**
RTLS				*eS*	**Sb**	**05 07 38.7**	**-1.8**
RTLS				IAML		05 07 41.8	
	comp=Z,650nm,0.3s						
MT08	**Bocatoma Ro**	**1.21 158**		*eP*	**Pg**	**05 07 25.5**	**-0.2**
MT08				*eS*	**Sn**	**05 07 42.0**	**-0.2**
MT08	**Bocatoma Ro**	**1.21 158**		*eP*	**Pn**	**05 07 24.9**	**-0.7**
MT08				IAML		05 07 42.8	
	comp=Z,219nm,0.2s						
MT15	**Las Vizcachas**	**1.28 178**		*eP*	**Pb**	**05 07 26.5**	**0.0**
MT15				*i* S	**Sn**	**05 07 43.3**	**-0.3**
MT15				IAML		05 07 46.5	
	comp=E,804nm,0.2s						
MT12	**Pirque**	**1.41 180**		*eP*	**Pb**	**05 07 28.6**	**-0.2**
MT12				*eS*	**Sb**	**05 07 46.8**	**-0.1**
MT12				IAML		05 07 48.4	
	comp=E,685nm,0.2s						
CO03	**El Pedregal**	**1.48 355**		*eP*	**Pg**	**05 07 30.1**	**-0.6**
CO03				*eS*	**Sg**	**05 07 50.3**	**+0.5**
CO03				IAML		05 07 55.8	
	comp=E,766nm,0.5s						
CO03	**El Pedregal**	**1.48 355**		*eP*	**Pg**	**05 07 30.4**	**-0.2**
CO03				*eS*	**Sg**	**05 07 51.2**	**+1.4**
CO03				IAML		05 07 52.0	
	comp=Z,339nm,0.3s						
MT09	**Talagante**	**1.50 194**		*eP*	**Pb**	**05 07 30.0**	**-0.4**
MT09				*eS*	**Sb**	**05 07 49.6**	**+0.1**
MT09				IAML		05 07 52.9	
	comp=N,782nm,0.2s						
LMEL	**Las Melosas**	**1.56 169**		*eP*	**Pb**	**05 07 31.3**	**0.0**
LMEL				*eS*	**Sg**	**05 07 52.3**	**0.0**
LMEL	**Las Melosas**	**1.56 169**		*eP*	**Pb**	**05 07 31.3**	**0.0**
VA05	**Santo Domingo**	**1.61 213**		*eP*	**Pb**	**05 07 31.8**	**-0.3**
VA05				*i* S	**Sb**	**05 07 52.8**	**+0.3**
MT01	**Popeta**	**1.65 201**		*eP*	**Pb**	**05 07 32.3**	**-0.5**
MT01				*i* S	**Sb**	**05 07 54.1**	**+0.3**
MT01	**Popeta**	**1.65 201**		*eP*	**Pb**	**05 07 32.5**	**-0.4**
MT01				IAML		05 07 56.4	
	comp=Z,320nm,0.1s						
RTCV	**Cerro Valdivia**	**1.77 76**		*eP*	**Pg**	**05 07 37.3**	**+1.1**
ZON	**Zonda**	**1.77 65**		*eP*	**Pg**	**05 07 38.9**	**+2.8**
ZON				*eS*	**Sg**	**05 08 07.2**	**+8.1**
DOCA	**Reserva Natura**	**1.85 43**		*eP*	**Pg**	**05 07 37.2**	**-0.6**
DOCA				*eS*	**Sg**	**05 08 02.4**	**+0.6**
RTLL	**Cerro Villicun**	**2.02 61**		*eP*	**Pb**	**05 07 37.3**	**-1.9**
RTLL				*eS*	**Sg**	**05 08 06.6**	**-0.7**
BO01	**Tunca**	**2.12 192**		*eP*	**Pb**	**05 07 39.9**	**-0.9**
BO01				*eS*	**Sb**	**05 08 08.1**	**+1.0**
BO01				IAML		05 08 11.2	
	comp=Z,108nm,0.2s						
ACCO	**Cerro Coronel**	**2.14 37**		*eP*	**Pg**	**05 07 42.2**	**-1.2**
ACCO				*eS*	**Sg**	**05 08 10.3**	**-0.8**
GO04	**Tololo Observa**	**2.15 354**		*eP*	**Pb**	**05 07 41.3**	**-0.1**
GO04				*eS*	**Sg**	**05 08 10.0**	**-1.3**
GO04	**Tololo Observa**	**2.15 354**		*eP*	**Pb**	**05 07 41.1**	**-0.3**
GO04				*eS*	**Sg**	**05 08 09.8**	**-1.6**
AROD	**Rodeo**	**2.33 24**		*eP*	**Pg**	**05 07 46.1**	**-0.9**
AROD				*eS*	**Sg**	**05 08 17.0**	**-0.3**
CO01	**Juntas del Tor**	**2.36 10**		*eP*	**Pn**	**05 07 41.5**	**+0.2**
CO01				*eS*	**Sg**	**05 08 19.1**	**+0.8**
CO01				IAML		05 08 21.0	
	comp=Z,145nm,0.3s						
ACDV	**Cuesta del Vie**	**2.46 30**		*eS*	**Sg**	**05 08 24.2**	**+2.7**
ACDV				IAML		05 08 25.7	
	comp=Z,76nm,0.7s						
BO02	**Sierra Bellavi**	**2.48 184**		*eP*	**Pb**	**05 07 46.0**	**-1.0**
BO02				*eS*	**Sb**	**05 08 19.6**	**+2.0**
BO02				IAML		05 08 25.1	
	comp=Z,200nm,0.2s						
GO05	**Hualane**	**2.92 203**		*eP*	**Pb**	**05 07 51.5**	**-3.0**
GO05				*eS*	**Sb**	**05 08 28.4**	**-1.9**
RFA	**San Rafael**	**3.00 145**		*eP*	**Pn**	**05 07 49.1**	**-0.9**
RFA				*eS*	**Sb**	**05 08 33.2**	**+0.5**
RFA				IAML		05 08 40.6	
	comp=Z,158nm,0.4s						
AVFE	**Valle Fertil**	**3.12 59**		*eP*	**Pb**	**05 07 56.5**	**-1.4**
AVFE				*eS*	**Sb**	**05 08 33.9**	**-2.1**
AVFE				IAML		05 08 44.4	
	comp=Z,66nm,0.5s						
LCO	**Las Campanas**	**3.30 358**		*eP*	**Pn**	**05 07 56.9**	**+2.7**
LCO				*eS*	**Sb**	**05 08 42.1**	**+0.8**
LCO				IAML		05 08 49.5	
	comp=Z,138nm,0.8s						
AC05	**El Transito**	**3.48 4**		*eP*	**Pb**	**05 08 00.2**	**-3.8**
AC05				*eS*	**Sb**	**05 08 44.7**	**-1.7**
AC05				IAML		05 08 55.8	
	comp=Z,47nm,0.9s						
ACHE	**Chepes**	**3.51 72**		*eP*	**Pb**	**05 08 01.8**	**-2.8**
ACHE				*eS*	**Sg**	**05 08 50.9**	**-4.0**
EDS3	**Malargue**	**3.58 165**		*eP*	**Pb**	**05 08 04.5**	**-1.2**
MRA	**San Martin**	**4.09 93**		*eP*	**Pn**	**05 08 08.9**	**+3.9**
MRA				IAML		05 09 13.6	
	comp=Z,66nm,0.4s						
VCA	**Vinchina**	**4.10 30**		*eP*	**Pn**	**05 08 09.1**	**+3.9**
AC04	**Llanos de Chal**	**4.12 354**		IAML		05 09 14.3	
	comp=Z,58nm,0.7s						
ACLC	**CERRO LA CRUZ**	**4.23 48**		*eP*	Pb	05 08 11.6	-5.3

IDC 07 05:11:38.8±3.2, 18°.17S×178°.05W, h532km±21km, mb3.1/4, mbtmp4.0/5, Error ellipse: s-maj=73.7km s-min=39.1km az=23.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.73 276**		P	P	05 12 57.6	0.0
	8.6nm,0.4s,baz=141,slow=13,SNR=15						
STKA	**Stephens Creek**	**38.80 242**		P	P	05 18 18.2	+0.2
	1.9nm,0.5s,baz=94,slow=14,SNR=3.3						
	1.9nm,0.5s						
WRA	**Warramunga Arr**	**44.92 260**		P	P	05 19 05.8	-0.6
	0.6nm,0.4s,baz=96,slow=6.7,SNR=24						
WRA				PcP	PcP	05 20 36.8	+0.2
	0.2nm,0.3s,baz=93,slow=3.4,SNR=2.4						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**45.05 254**		P	P	05 19 07.5	+0.1
	5.1nm,0.4s,baz=88,slow=8.4,SNR=67						
ASAR				PcP	PcP	05 20 36.7	-0.4
	0.3nm,0.4s,baz=94,slow=3.6,SNR=2.8						
	5.1nm,0.4s						
QSPA	**South Pole Qui**	**71.89 180**		P	P	05 22 07.7	-0.1
	0.2nm,0.4s,baz=353,slow=2.7,SNR=1.3						
	0.2nm,0.4s						

IDC 07 05:23:30.1±3.5, 23°.07N×143°.07E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=164.9km s-min=26.3km az=80.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N1	**WAKE ISLAND Hy**	**22.42 94**		T	T	05 52 04.9	
	baz=282,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**22.43 94**		T	T	05 52 05.0	
	baz=282,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**22.44 94**		T	T	05 52 07.6	
	baz=282,slow=75,SNR=25						
WRA	**Warramunga Arr**	**43.59 192**		P	P	05 31 35.4	-0.7
	0.6nm,0.9s,baz=15,slow=8.6,SNR=2.8						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**47.30 191**		P	P	05 32 06.0	+0.4
	0.3nm,0.6s,baz=14,slow=12,SNR=4.1						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**56.46 316**		P	P	05 33 13.3	-0.3
	0.4nm,0.5s,baz=90,slow=6.8,SNR=4.4						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**61.57 319**		P	P	05 33 49.0	-0.1
	0.5nm,0.4s,baz=101,slow=7.5,SNR=3.2						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**81.91 334**		P	P	05 35 51.5	+0.3
	1.1nm,0.6s,baz=74,slow=5.9,SNR=5.8						
	1.1nm,0.6s						

*IDC **07** 05:53:48.8±4.1, 19°.74N×145°.57E, h89km±37km, mb3.6/10, mbtmp4.0/12, MS2.9/1, Error ellipse: s-maj=29.5km s-min=15.9km az=94.0*
*NEIC **07** 05:53:53.3±1.1, 19°.8N±0°.1×145°.5E±0°.2, h120km±9km, mb4.5/23, Error ellipse: s-maj=25.6km s-min=15.8km az=78.0*
ISC 07 05:53:50.3±0.8, 19°.7N±0°.1×145°.5E±0°.2, h100km, n44, σ0°93/35, mb4.3/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**7.98 338**		Pn	**Pn**	**05 55 45.7**	**+2.3**
JCJ	**Chichijima**	**7.98 338**		P	**Pn**	**05 55 41.0**	**-2.5**
	60nm,0.3s						
JSG	**Sagara**	**16.27 338**		Pn	**Pn**	**05 57 32.5**	**-0.4**
JOW	**Kunigami**	**17.37 297**		LR	LR	06 03 04.1	
	comp=Z,42nm,20.1s,baz=134,slow=32						
JGF	**Kuroka**	**17.40 337**		P	**P**	**05 57 46.2**	**-0.4**
JGF				IAmb	IAmb	05 57 54.7	
	comp=Z,17nm,1.3s						
JMN	**Monobe**	**17.40 326**		P	**P**	**05 57 46.9**	**+0.3**
JMN				IAmb	IAmb	05 58 25.6	
	comp=Z,50nm,1.5s						
PATS	**Pohnpei**	**17.82 134**		P	**P**	**05 57 50.7**	**-0.6**
MJAR	**Matsushiro Arr**	**17.97 341**		P	**P**	**05 57 53.2**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=166,slow=10,SNR=4.2						
MAJO	**Matsushiro**	**17.97 341**		P	**P**	**05 57 52.8**	**0.0**
MAJO				IAmb	IAmb	05 58 06.4	
	comp=Z,9.3nm,0.8s						
MJB9	**Matsu-Tunnel**	**17.97 341**		P	**P**	**05 57 53.5**	**+0.7**
H11S3	**WAKE ISLAND Hy**	**20.02 90**		T	T	06 19 29.3	
	baz=276						
H11S1	**WAKE ISLAND Hy**	**20.03 90**		T	T	06 19 40.2	
	baz=276						
H11S2	**WAKE ISLAND Hy**	**20.04 90**		T	T	06 19 40.2	
	baz=276						
H11N1	**WAKE ISLAND Hy**	**20.10 86**		T	T	06 19 46.1	
	baz=275						
H11N2	**WAKE ISLAND Hy**	**20.11 86**		T	T	06 19 50.0	
	baz=275						
H11N3	**WAKE ISLAND Hy**	**20.12 86**		T	T	06 19 42.1	
	baz=275						
KSRS	**Korea Array**	**23.43 323**		P	**P**	**05 58 50.2**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=149,slow=8.5,SNR=7.0						
	comp=Z,2.1nm,0.7s						
WB0	**Warramunga Arr**	**40.72 196**		P	**P**	**06 01 22.2**	**+0.8**
WB0				IAmb	IAmb	06 01 22.6	
	comp=Z,4.1nm,0.8s						
WB2	**Warramunga Arr**	**40.90 196**		P	**P**	**06 01 23.2**	**+0.4**
WB2				IAmb	IAmb	06 01 55.7	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**40.90 196**		P	**P**	**06 01 22.8**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=15,slow=8.9,SNR=25						
	comp=Z,2.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**42.34 209**		P	**P**	**06 01 35.4**	**+0.8**
AS31	**Alice Springs**	**44.57 195**		P	**P**	**06 01 52.3**	**-0.2**
ASAR	**Alice Springs**	**44.58 195**		P	**P**	**06 01 52.2**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=11,slow=6.6,SNR=14						
	comp=Z,0.5nm,0.4s						
N15K	**Kwethluk River**	**55.62 29**		P	**P**	**06 03 16.7**	**+1.2**
MKAR	**Makanchi Array**	**57.66 313**		P	**P**	**06 03 31.7**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=119,slow=5.1,SNR=3.2						
	comp=Z,0.4nm,0.7s						
N18K	**Kilae Creek**	**57.76 30**		P	**P**	**06 03 31.3**	**+0.6**
N18K				IAmb	IAmb	06 03 31.6	
	comp=Z,19nm,1.5s						
H18K	**Honhosa River**	**58.28 24**		P	**P**	**06 03 34.8**	**+0.6**
KURBB	**Kurchatov Arra**	**60.48 318**		P	**P**	**06 03 48.1**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=92,slow=8.0,SNR=2.2						
	comp=Z,0.3nm,0.3s						
B20K	**Meade River**	**60.68 19**		P	**P**	**06 03 51.2**	**+0.6**
BPAW	**Bear Paw Mtn.**	**60.93 27**		P	**P**	**06 03 53.1**	**+0.6**
BPAW				IAmb	IAmb	06 03 58.1	
	comp=Z,6.1nm,1.2s						
MLY	**Manley**	**61.28 26**		P	**P**	**06 03 55.3**	**+0.5**
MLY				IAmb	IAmb	06 03 56.5	
	comp=Z,6.4nm,1.5s						
E22K	**Anaktuvuk Pass**	**61.78 22**		P	**P**	**06 03 58.7**	**+0.6**
E22K				IAmb	IAmb	06 04 23.1	
	comp=Z,11nm,1.4s						
E23K	**Chandalar**	**62.54 23**		P	**P**	**06 04 04.0**	**+0.7**
E23K				IAmb	IAmb	06 04 09.0	
	comp=Z,6.4nm,1.4s						
TOLK	**Toolik Lake Re**	**62.72 22**		P	**P**	**06 04 05.3**	**+0.9**
TOLK				IAmb	IAmb	06 04 06.4	
	comp=Z,6.8nm,1.2s						
ILAR	**Eielson Array**	**62.82 26**		P	**P**	**06 04 03.9**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=265,slow=5.0,SNR=5.5						
	comp=Z,0.3nm,0.5s						
F25K	**Christian Rive**	**63.89 23**		P	**P**	**06 04 12.2**	**+0.1**
MCARA	**McCarthy VSAT**	**64.01 31**		P	**P**	**06 04 12.8**	**-0.2**
MCARA				IAmb	IAmb	06 04 37.0	
	comp=Z,5.9nm,1.0s						
BMAR	**Burnt Mountain**	**64.26 24**		P	**P**	**06 04 15.2**	**+0.7**
BVAR	**Borovoye Array**	**65.61 320**		P	**P**	**06 04 23.3**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=97,slow=7.2,SNR=3.9						
	comp=Z,0.7nm,0.4s						
BTK	**Batken**	**66.08 306**		P	P	06 04 24.2	-2.7
BTK				IAmb	IAmb	06 05 05.8	
	comp=Z,5.4nm,0.5s						
ABKAR	**Akbulak array**	**72.51 317**		P	**P**	**06 05 04.9**	**-1.3**
YKA	**Yellowknife

IRIF	Iriomote-Funau	1.05	69	P	Pb	05 55 04.4	+0.5
HATJ	Hateruma jima	1.05	84	P	Pb	05 55 04.9	+0.9
TEGC	Jichi Village	1.06	257	eP	Pn	05 55 03.3	-0.6
TEGC				eS	Sb	05 55 17.8	+0.4
ETM	Tongmen	1.07	271	eP	Pn	05 55 03.0	-1.1
ETM				eS	Sb	05 55 18.0	+0.2
NDS	Dongshan	1.10	308	eP	Pb	05 55 05.1	+0.4
NDS				S	Sn	05 55 18.9	0.0
ETLH	Xiulin Townshi	1.11	283	i P	Pn	05 55 04.2	-0.5
ETLH				eS	Sb	05 55 18.9	-0.2
ESL	Shilin	1.13	263	eP	Pn	05 55 03.9	-1.1
ESL				S	Sb	05 55 19.2	-0.5
LXIB	Xiulin Townshi	1.14	274	eP	Pn	05 55 04.6	-0.6
LXIB				eS	Sb	05 55 19.9	-0.2
EGFH	Guangfu	1.17	256	eP	Pn	05 55 05.3	-0.1
EGFH				eS	Sb	05 55 20.3	-0.3
TWE	Neicheng	1.19	310	eP	Pb	05 55 06.1	-0.2
TWE				eS	Sn	05 55 23.7	+2.5
LATG	Datong	1.19	299	i P	Pb	05 55 06.2	-0.2
LATG				eS	Sn	05 55 20.7	-0.6
WARBT	Fenglin Townsh	1.19	259	i P	Pn	05 55 04.8	-1.0
WARBT				S	Sn	05 55 20.6	-0.7
ENTT	Nioudou	1.21	305	eP	Pb	05 55 06.6	-0.1
ENTT				i S	Sn	05 55 23.1	+1.3
TWB1	Santiao Chiao	1.22	330	eP	Pn	05 55 05.5	-0.6
TWB1				eS	Sn	05 55 22.4	+0.5
HGSD	Ruisui	1.22	248	eP	Pn	05 55 05.5	-0.7
HGSD				eS	Sn	05 55 20.8	-1.3
NNSB	Datong	1.26	292	i P	Pb	05 55 07.1	-0.5
NNSB				S	Sb	05 55 23.4	0.0
NNSH	Datong	1.26	292	][P	Pn	05 55 06.9	+0.1
NNSH				eS	Sb	05 55 23.4	-0.1
JKUS	Kuro-shima	1.26	77	P	Pb	05 55 08.7	+1.2
FUSB	Fushanzhiwuyua	1.27	310	i P	Pb	05 55 08.0	+0.3
FUSB				eS	Sb	05 55 24.8	+1.2
TIPB	Shuangxi	1.27	323	eP	Pb	05 55 08.0	+0.3
TIPB				eS	Sb	05 55 23.4	-0.1
ECBN	Changbin	1.28	240	eP	Pb	05 55 09.5	+1.7
ECBN				i S	Sn	05 55 23.0	-0.4
EHYH	Wanrong	1.29	249	P	Pn	05 55 06.7	-0.4
EHYH				eS	Sn	05 55 24.3	+0.5
WHF	Hehuan Shan	1.29	279	eP	Pn	05 55 07.1	-0.4
WHF				eS	Sb	05 55 24.8	+0.1
EHY	Hungye	1.31	250	i P	Pn	05 55 06.8	-0.5
EHY				eS	Sn	05 55 23.6	-0.5
FUSS	Fushou	1.33	283	eP	Pn	05 55 08.1	+0.2
FUSS				eS	Sb	05 55 25.6	0.0
NWLT	Wulai	1.34	308	P	Pb	05 55 09.1	+0.2
NWLT				eS	Sb	05 55 26.6	+1.1
SXI1	Grass Mountain	1.34	328	eP	Pb	05 55 08.2	-0.7
SXI1				eS	Sb	05 55 26.9	+1.2
OWD	Renai	1.36	270	eP	Pn	05 55 08.2	-0.1
OWD				eS	Sn	05 55 25.1	-0.6
YULB	Yu-li	1.37	246	i P	Pn	05 55 08.0	-0.2
YULB				S	Sn	05 55 25.4	-0.3
NWF	Wu-fen Shan	1.37	324	eP	Pb	05 55 09.7	+0.2
NWF				eS	Sb	05 55 27.7	+1.1
WFSB	Wu-fen Shan	1.37	324	eP	Pb	05 55 09.8	+0.3
WFSB				eS	Sb	05 55 28.8	+2.3
EYUL	Yuli	1.37	244	eP	Pn	05 55 08.0	-0.2
EYUL				eS	Sb	05 55 27.6	+1.1
YHNB	Yeheng	1.37	302	eP	Pb	05 55 09.1	-0.4
YHNB				eS	Sb	05 55 26.0	-0.7
CHKH	Chenggong	1.39	237	eP	Pn	05 55 07.1	-1.4
CHKH				eS	Sn	05 55 23.6	-2.5
NSK	Sanguang	1.39	301	eP	Pb	05 55 09.2	-0.6
NSK				eS	Sb	05 55 26.9	-0.3
TDCB	Techi	1.41	283	eP	Pb	05 55 09.6	-0.6
TDCB				eS	Sb	05 55 27.9	+0.2
JIJ	Ishigaki jima	1.41	73	P	Pb	05 55 10.0	-0.1
JIJ				S	Sb	05 55 28.5	+0.8
WUSB	Renai	1.41	272	eP	Pn	05 55 08.6	-0.4
WUSB				eS	Sb	05 55 28.4	+0.6
TWA	Mucha	1.42	316	P	Pb	05 55 09.6	-0.6
TWA				eS	Sb	05 55 27.4	-0.5
FULB	Fuli	1.46	239	eP	Pn	05 55 09.0	-0.6
FULB				eS	Sn	05 55 27.2	-0.9
NHY	Taipei	1.47	318	eS	Sb	05 55 28.9	-0.4
TATO	Taipei	1.48	314	eP	Pb	05 55 11.3	+0.1
TATO				eS	Sb	05 55 31.1	+1.6
YM01	YM01	1.55	320	eP	Pb	05 55 13.5	+1.0
YM01				eS	Sn	05 55 29.7	-0.4
NFF	Wufeng Townshi	1.56	296	i P	Pb	05 55 12.9	+0.2
NFF				i S	Sb	05 55 31.9	-0.2
YM08	YM08	1.57	322	eP	Pn	05 55 11.3	+0.3
YM08				eS	Sb	05 55 31.1	-1.1
SSLB	Suanglung	1.57	264	eP	Pn	05 55 11.5	+0.4
SSLB				eS	Sb	05 55 32.1	-0.2
ZUZH	Zhuzihu	1.57	320	eP	Pb	05 55 12.6	-0.4
ZUZH				eS	Sn	05 55 30.5	-0.3
ECS	Chishang	1.58	237	eP	Pb	05 55 12.7	-0.3
ECS				eS	Sn	05 55 32.1	+1.3
KSHI	Guanxi Townshi	1.58	301	P	Pb	05 55 12.9	-0.2
KSHI				eS	Sb	05 55 33.7	+1.1
DPDB	Guoxing	1.59	273	eP	Pn	05 55 12.3	+1.0
DPDB				eS	Sb	05 55 33.4	+0.6
WHP	Taichung City	1.60	282	eP	Pb	05 55 14.2	+0.8
WHP				eS	Sb	05 55 35.1	+1.9
WCS	Beigang Elemen	1.60	274	P	Pn	05 55 12.1	+0.6
WCS				eS	Sb	05 55 33.7	+0.5
TWS1	Kuangyinshan	1.61	315	eS	Sb	05 55 33.6	+0.3
SMLT	Sun Moon Lake	1.61	268	eP	Pn	05 55 12.2	+0.5
JISG	Ishigakijimahi	1.63	67	P	Pb	05 55 12.8	-1.0
LIOB	Emei	1.65	295	P	Pb	05 55 14.0	-0.2
LIOB				i S	Sb	05 55 35.1	+0.5
TYC	Yuchr	1.65	269	eP	Pn	05 55 12.5	+0.4
NSTT	Nanjuang	1.66	294	eP	Pb	05 55 13.9	-0.4
NSTT				eS	Sb	05 55 34.2	-0.6
WHYT	Xinyi Township	1.68	262	eP	Pb	05 55 14.4	-0.2
WHYT				eS	Sb	05 55 35.2	-0.1
LDUT	Ludao	1.68	221	eP	Pn	05 55 11.9	-0.6
LDUT				eS	Sn	05 55 31.0	-2.3
NCUH	Zhongli	1.68	307	eS	Sb	05 55 34.9	-0.6
ELDTW	Lidau	1.69	244	P	Pn	05 55 11.9	-0.9
ELDTW				eS	Sn	05 55 32.7	-1.1
LONT	Longtian	1.75	234	eP	Pn	05 55 14.2	+0.7
LONT				eS	Sn	05 55 34.9	-0.2
PCYT	Pengchaiyu	1.75	342	eP	Pb	05 55 14.7	-1.2
PCYT				eS	Sb	05 55 36.7	-0.8
ALS	Alishan	1.76	256	eP	Pn	05 55 14.6	+0.7
ALS				eS	Sn	05 55 36.1	+0.4
TWQ1	Liyutan	1.77	283	P	Pn	05 55 14.8	+1.1
TWQ1				eS	Sb	05 55 37.2	-0.8
WWF	Wufeng	1.80	273	P	Pb	05 55 16.5	-0.2
WWF				eS	Sb	05 55 39.3	+0.5
WNT	Mingjian	1.81	268	P	Pb	05 55 16.6	-0.3
WNT				eS	Sb	05 55 39.5	+0.3
TWGBT	Beinan	1.84	232	P	Pn	05 55 14.2	-0.5
TWGBT				eS	Sn	05 55 36.7	-0.7
TWG	Pinlang	1.85	233	eP	Pn	05 55 14.3	-0.4
TWG				eS	Sn	05 55 36.4	-1.1
CHN5	Tsauling	1.85	259	eP	Pn	05 55 16.4	+1.5
CHN5				eS	Sb	05 55 40.6	+0.1
STYH	Taoyuan	1.90	246	eP	Pn	05 55 17.0	+1.5
STYH				eS	Sn	05 55 39.0	+0.2
TPUB	Ta-pu	1.97	251	eP	Pb	05 55 19.8	0.0
TPUB				i S	Sb	05 55 43.3	-0.6
CHN4	Tsaushan	1.99	253	eP	Pn	05 55 18.3	+1.5
CHN4				eS	Sn	05 55 43.1	+2.1
WTP	Ta-pu	2.01	250	P	Pn	05 55 18.6	+1.6
WTP				eS	Sb	05 55 43.7	-1.1
SLGT	Liugui	2.08	243	eP	Pn	05 55 19.0	+1.0
SLGT				eS	Sn	05 55 45.2	+1.9
SGST	Jiashian	2.10	246	eP	Pn	05 55 20.1	+1.8
SGST				eS	Sb	05 55 46.2	-1.2
WTK	Tuku	2.10	263	eP	Pb	05 55 21.0	-0.8
WTK				eS	Sb	05 55 48.3	+0.9
CHN1	Nanshi	2.10	249	eP	Pn	05 55 20.5	+2.2
CHN1				eS	Sb	05 55 47.3	-0.3
TWK	Hsinying	2.11	251	P	Pn	05 55 20.2	+1.8
TWK				eS	Sb	05 55 47.6	-0.2
SNST	Tainan City	2.12	250	eP	Pn	05 55 20.7	+2.2
SNST				eS	Sb	05 55 46.8	-1.2
LYUB	Lan-yu	2.18	207	eP	Pn	05 55 19.6	+0.2
LYUB				eS	Sn	05 55 43.0	-2.8
TAWH	Dawu Township	2.29	226	eP	Pn	05 55 21.1	+0.2
TAWH				eS	Sn	05 55 50.1	+1.7
MASBT	Mashibuluo	2.29	235	eP	Pb	05 55 24.3	-0.9
MASBT				eS	Sb	05 55 52.8	-0.3
SLIU	Shizi	2.44	225	eP	Pn	05 55 23.0	+0.1
SLIU				eS	Sb	05 55 56.1	-1.1
TWKBT	Hengchun	2.63	221	P	Pn	05 55 26.6	+1.0
TWKBT				eS	Sn	05 55 59.2	+2.4
PHUB	P'eng-hu	2.87	262	eP	Pn	05 55 30.1	+1.3
PHUB				eS	Sn	05 56 04.0	+1.4
PNG	Penghu	2.87	263	eP	Pn	05 55 30.1	+1.2
PNG				eS	Sn	05 56 03.4	+0.6
VWUC	VWUC	3.10	290	eP	Pn	05 55 32.2	+0.1
VWUC				eS	Sn	05 56 07.1	-1.4
PTMZ	Houxiangcun	3.40	289	eP	Pn	05 55 36.0	-0.2

CATAC 07 06:03:15.4±0.5, 12°.13N×87°.41W, h33km±4km, ML3.6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVIJ	El Viejo	0.60	28	i P	Pb	06 03 27.9	+0.3
EVIJ				i S	Sn	06 03 37.7	+1.5
EVIJ				IAML		06 03 48.3	
comp=Z,5μm,1.0s							
CRIN	San Cristobal	0.67	32	i P	Pb	06 03 29.5	+0.7
CRIN				i S	Sn	06 03 40.0	+2.0
CRIN				IAML		06 03 43.5	
comp=Z,4μm,1.0s							
PKGN	Cerro Pekin	0.69	38	i P	Pb	06 03 29.2	+0.2
PKGN				i S	Sn	06 03 40.0	+1.7
PKGN				IAML		06 03 42.7	
comp=Z,3μm,1.0s							
PACN	Al O del Volca	0.71	58	i P	Pb	06 03 29.6	+0.2
PACN				IAML		06 03 29.9	
comp=Z,2μm,1.0s							
PACN				i S	Sb	06 03 41.2	+2.3
ROCN	Rota Cerro Neg	0.76	59	i S	Sn	06 03 40.2	0.0
PLRN	Geotermica Pol	0.77	54	i P	Pn	06 03 30.0	0.0
PLRN				IAML		06 03 30.3	
comp=Z,5μm,1.0s							
PLRN				i S	Sb	06 03 41.6	+0.8
CNGA	Al SSO del Vol	0.78	62	i P	Pn	06 03 30.4	+0.2
CNGA				i S	Sb	06 03 42.1	+1.1
CNGA				IAML		06 03 48.8	
comp=Z,2μm,1.0s							
COPN	Copaltepe	0.80	86	i P	Pn	06 03 30.5	+0.1
COPN				IAML		06 03 43.9	
comp=Z,550nm,1.0s							
LEVN	Ruinas Leon Vi	0.82	71	i P	Pn	06 03 30.7	0.0
LEVN				i S	Sb	06 03 43.4	+1.3
LEVN				IAML		06 03 47.2	
comp=Z,1μm,1.0s							
ILCN	San Idelfonso	0.82	57	i P	Pn	06 03 30.7	0.0
ILCN				i S	Sb	06 03 42.7	+0.5
ILCN				IAML		06 03 43.4	
comp=Z,500nm,1.0s							
BC86	Nagarote	0.84	81	i P	Pn	06 03 31.0	+0.1
BC86				IAML		06 04 30.8	
comp=Z,4μm,1.0s							
CSGN	Cosiguina Volc	0.86	350	i P	Pn	06 03 31.3	+0.1
CSGN				i S	Sb	06 03 43.7	+0.5
CSGN				IAML		06 03 44.7	
comp=Z,1μm,1.0s							
BC84	Volcan Momotom	0.89	73	i P	Pn	06 03 31.7	+0.1
BC84				IAML		06 04 22.9	
comp=Z,7μm,1.0s							
MOM2	El Cardon	0.95	71	i P	Pn	06 03 32.5	0.0
MOM2				i S	Sb	06 03 46.1	+0.2
MOM2				IAML		06 03 48.1	
comp=Z,460nm,1.0s							
APYN	Apoyeque	1.04	84	i P	Pn	06 03 33.6	-0.1
APYN				IAML		06 03 50.5	
comp=Z,34nm,1.0s							
APQ2	Apoyeque	1.06	86	i P	Pn	06 03 34.0	0.0
APQ2				i S	Sb	06 03 48.7	-0.2
APQ2				IAML		06 03 56.5	
comp=Z,510nm,1.0s							
RA5A7	El Crucero	1.08	97	i P	Pn	06 03 35.0	+0.6
RA5A7				IAML		06 03 56.5	
comp=Z,2μm,1.0s							
ALLN	Telcor Managua	1.11	88	i P	Pn	06 03 34.6	0.0
ALLN				IAML		06 03 47.7	
comp=Z,10μm,1.0s							
USIM	UNAN	1.11	90	i P	Pn	06 03 34.7	0.0
USIM				i S	Sb	06 03 49.6	-0.7
USIM				IAML		06 04 31.4	
comp=Z,5μm,1.0s							
UNAN	Cigeo UNAN	1.11	91	i P	Pn	06 03 34.7	0.0
UNAN				i S	Sn	06 03 49.4	+0.5
UNAN				IAML		06 03 54.3	
comp=Z,2μm,1.0s							
TISN	Laguna Tiscapa	1.11	89	i P	Pn	06 03 34.7	0.0
TISN				IAML		06 03 50.4	
comp=Z,86nm,1.0s							
ENAN	Enatrel Managu	1.12	91	i P	Pn	06 03 35.0	+0.2
ENAN				i S	Sn	06 03 49.6	+0.5
ENAN				IAML		06 04 15.4	
comp=Z,7μm,1.0s							
MGA1	Managua	1.14	89	i P	Pn	06 03 34.9	-0.1
MGA1				i S	Sn	06 03 49.7	+0.3
MGA1				IAML		06 03 57.9	
comp=Z,5μm,1.0s							
R4DEC	Barrio San Lui	1.14	89	i P	Pn	06 03 35.0	0.0
R4DEC				i S	Sn	06 03 49.7	+0.3
R4DEC				IAML		06 03 50.6	
comp=Z,730nm,1.0s							
MGAN	Managua	1.14	89	i P	Pn	06 03 35.0	0.0
MGAN				i S	Sn	06 03 49.7	+0.2
MGAN				IAML		06 03 50.6	
comp=Z,720nm,1.0s							
MAFN	Magfor	1.15	91	i P	Pn	06 03 35.2	+0.1
MAFN				i S	Sn	06 03 50.4	+0.7
MAFN				IAML		06 03 52.9	
comp=Z,7μm,1.0s							
R0529	La Mascota	1.15	90	i P	Pn	06 03 35.4	+0.3
R0529				IAML		06 03 51.7	
comp=Z,830nm,1.0s							
AMPH	Amapala	1.18	348	i P	Pn	06 03 35.6	0.0
AMPH				i S	Sb	06 03 51.4	-0.8
BRAN	Las Pilas	1.19	60	i P	Pn	06 03 34.0	-1.8
BRAN				i S	Sn	06 03 48.0	-2.8
BRAN				IAML		06 03 51.2	
comp=Z,1μm,1.0s							
WILN	Americas 2	1.20	88	i P	Pn	06 03 35.9	+0.1
WILN				i S	Sn	06 03 51.3	+0.4
WILN				IAML		06 03 53.1	
comp=Z,330nm,1.0s							
MAS3	Al N del Volca	1.21	95	i P	Pn	06 03 36.0	-0.1
MAS3				i S	Sn	06 03 51.0	-0.4
MAS3				IAML		06 03 52.9	
comp=Z,1μm,1.0s							
AERN	Aeropuerto Man	1.21	89	i P	Pn	06 03 36.1	0.0
AERN				IAML		06 04 01.4	
comp=Z,6μm,1.0s							
CNCH	Conchagua	1.22	340	i P	Pn	06 03 36.1	-0.1
CNCH				i S	Sn	06 03 52.3	+0.7
CNCH				IAML		06 03 54.0	
comp=Z,750nm,1.0s							
SABN	Sabanita	1.23	98	i P	Pn	06 03 36.2	-0.1
SABN				IAML		06 03 56.3	
comp=Z,610nm,1.0s							
LCND	La Caada	1.27	338	i P	Pn	06 03 36.6	-0.2
LCND				i S	Sn	06 03 52.9	+0.2
LCND				IAML		06 03 56.1	
comp=Z,340nm,1.0s							
NANN	Nandasmo	1.27	98	i P	Pb	06 03 38.0	-0.9
NANN				i S	Sb	06 03 54.8	-0.2
NANN				IAML		06 03 57.1	
comp=Z,6μm,1.0s							
LIMN	Finca el Limon	1.38	47	i P	Pn	06 03 38.7	+0.3
LIMN				IAML		06 03 56.9	
comp=Z,190nm,1.0s							

*IDC **07** 06:04:22.3±0.4, 12°.78S×45°.43E, h0km, mb4.4/27, mbtmp4.4/29, ML4.4/2, MS3.8/38, Error ellipse: s-maj=16.7km s-min=12.3km az=78.0*

*NEIC **07** 06:04:23.8±1.6, 12°.80S±0°.06×45°.41E±0°.08, h10km±1km, mb4.9/46, Error ellipse: s-maj=13.8km s-min=10.2km az=114.0*

ISC 07 06:04:23.2±0.3, 12°.84S±0°.05×45°.43E±0°.05, h10km, n218, σ1§41/211, mb4.8/75, MS3.9/40, 4C-2D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	Sambava	4.42	98	eP	Pn	06 05 27.7	-2.7
SBV	Sambava	4.42	98	P	Pn	06 05 29.9	-0.4
SNR=65							
OPO	Ambohidratompo	5.94	164	Pn	Pn	06 05 51.6	+0.1
46nm,0.3s,baz=336,slow=12,SNR=1942							
OPO				Sn	Sn	06 06 53.6	-6.1
42nm,0.3s,baz=265,slow=21,SNR=12							
OPO				LR	LR	06 08 22.2	
comp=Z,1μm,18.0s,baz=182,slow=40							
ABPO	Ambohimpanom	6.38	165	Pn	Pn	06 05 56.9	-0.6
ABPO	Ambohimpanom	6.38	165	eP	Pn	06 05 55.1	-2.4
VOI	Vohitsoka	9.11	172	Pn	Pn	06 06 34.0	-0.9
VOI	Vohitsoka	9.11	172	eP	Pn	06 06 34.0	-0.9
VOI	Vohitsoka	9.11	172	P	Pn	06 06 34.6	-0.3
FOMA	Nahampoana Res	12.16	173		Pn	06 07 15.8	-0.7
FOMA	Nahampoana Res	12.16	173	P	Pn	06 07 15.9	-0.7
KIBK	Kibwezi	12.74	324	Pn	Pn	06 07 21.5	-3.2
KIBK	Kibwezi	12.74	324	P	Pn	06 07 21.8	-3.0
MSEY	Mahe Island	12.82	52		Pn	06 07 23.1	-2.7
MSEY	Mahe Island	12.82	52	eP	Pn	06 07 22.4	-3.3
MSEY	Mahe Island	12.82	52	P	Pn	06 07 22.5	-3.3
MSEY				P	Pn	06 07 22.5	-3.3
RER	Riviere de l'E	12.87	131		Pn	06 07 25.2	-1.2
RER	Riviere de l'E	12.87	131	P	Pn	06 07 24.3	-2.1
KMBO	Kilima Mbogo	14.19	325	Pn	Pn	06 07 41.6	-3.0
KMBO	Kilima Mbogo	14.19	325	eP	Pn	06 07 41.4	-3.2
KMBO	Kilima Mbogo	14.19	325	Pn	Pn	06 07 40.8	-3.8
1.1nm,0.3s,baz=141,slow=11,SNR=17							
KMBO				Sn	Sn	06 10 09.6	-13
2.0nm,0.3s,baz=212,slow=7.6,SNR=4.1							
KMBO				LR	LR	06 12 50.1	
comp=Z,227nm,18.2s,baz=128,slow=36							
KMBO	Kilima Mbogo	14.19	325	P	Pn	06 07 42.2	-2.4
CHIPN	CHIPINGE	14.29	237	i P	Pn	06 07 42.7	-3.1
CHIPN	CHIPINGE	14.29	237	i P	Pn	06 07 42.7	-3.1
KRI	Karoi	15.79	254	eP	Pn	06 08 04.5	-1.6
KRI	Karoi	15.79	254	i P	Pn	06 08 04.0	-2.1
KRI	Karoi	15.79	254	i P	Pn	06 08 04.0	-2.1
LSZ	Lusaka	16.90	260		Pn	06 08 18.6	-1.5
LSZ				IAmb	IAmb	06 08 24.4	
comp=Z,171nm,0.9s							
LSZ	Lusaka	16.90	260	eP	Pn	06 08 18.7	-1.5
LSZ	Lusaka	16.90	260	P	Pn	06 08 20.8	+0.6
LSZ	Lusaka	16.90	260	i P	P	06 08 22.4	+0.2
LSZ	Lusaka	16.90	260	i P	P	06 08 22.4	+0.2
MOPA	Mopani	17.03	229	eP	Pn	06 08 19.0	-2.6
MUSN	Musina, Limpop	17.55	236	eP	Pn	06 08 26.1	-2.1
MUSN				IAmb	IAmb	06 08 37.9	
comp=Z,42nm,0.8s							
MUSN	Musina, Limpop	17.55	236	i P	Pn	06 08 27.4	-0.8
MUSN	Musina, Limpop	17.55	236	i P	Pn	06 08 27.4	-0.8
MPHEP	Siloam, Limpop	17.62	233	eP	Pn	06 08 27.5	-1.5
BLWY	Bulawayo	17.68	244	eP	Pn	06 08 29.5	-0.4
BLWY	Bulawayo	17.68	244	i P	Pn	06 08 29.5	-0.4
BLWY	Bulawayo	17.68	244	i P	Pn	06 08 29.5	-0.4
MATP	Matopo	17.88	243	P	P	06 08 33.8	+0.8
comp=Z,0.8nm,0.3s,baz=70,slow=13,SNR=34							
MATP				S	Sn	06 11 50.2	-1.7
comp=Z,2.4nm,0.6s,baz=26,slow=18,SNR=1.7							
comp=Z,20nm,0.9s							
MATP	Matopo	17.88	243	i P	P	06 08 34.0	+1.0
MATP	Matopo	17.88	243	i P	P	06 08 34.0	+1.0
HOED	Hoedspruit, Li	17.90	228	eP	Pn	06 08 31.0	-1.5
PILG	Pilgrimsrest,	18.38	227	eP	Pn	06 08 37.9	-0.6
MBAR	Mbarara	18.98	309		P	06 08 43.8	-1.4
MBAR	Mbarara	18.98	309	P	P	06 08 45.1	-0.1
comp=Z,1.9nm,0.3s,baz=135,slow=12,SNR=14							
MBAR				S	Sn	06 11 56.1	-23
comp=Z,4.0nm,0.2s,baz=249,slow=23,SNR=0.5							
MBAR				LR	LR	06 16 11.5	
comp=Z,415nm,18.3s,baz=126,slow=38							
comp=Z,6.2nm,0.2s							
MBAR	Mbarara	18.98 309		P	P	06 08 44.7	-0.5
MBAR				P	P	06 08 44.7	-0.5
LODK	Lodwar	19.00	328		P	06 08 45.7	+0.4
LODK	Lodwar	19.00	328	P	Pn	06 08 48.5	+2.4
SNR=11							
DULL	Dullstroom, Mp	19.03	227	eP	P	06 08 45.4	-0.3
BROLN	Tlhalogang	19.14	242	i P	P	06 08 47.1	+0.2
WTBG	Waterberg Wild	19.32	232	eP	P	06 08 47.6	-1.3
POGA	Pongola	19.32	220	P	P	06 08 49.0	+0.3
POGA				IAmb	IAmb	06 08 56.3	
comp=Z,52nm,1.0s							
POGA	Pongola	19.32	220	eP	Pn	06 08 50.0	+0.3
POGA				IAmb	IAmb	06 08 56.0	
comp=Z,52nm,1.0s							
CRLN	Carolina, Mapu	19.52	226	eP	P	06 08 51.8	+0.7
SOOWA	Sowa	19.93	245	i P	P	06 08 54.9	-0.6
LEPH	Lephalale, Lim	19.98	234	eP	P	06 08 57.0	+0.9
LEPH				IAmb	IAmb	06 09 01.5	
comp=Z,53nm,0.9s							
KSANE	Kasane	20.16	253	i P	P	06 08 58.4	+0.4
RUST	Rust De Winter	20.16	230	eP	P	06 08 57.1	-0.8
MTLB	Matlabas, Limp	20.55	235	eP	P	06 09 01.5	-0.7
TSWA	Tswaing Meteor	20.59	230	eP	P	06 09 02.1	-0.6
NHAM	Northam, North	20.90	232	eP	P	06 09 05.2	-0.7
NYAT	Nyati, Northwe	20.95	231	eP	P	06 09 04.6	-1.9
HRAO	HartRAO	21.15	230	eP	P	06 09 07.4	-1.4
LPHEP	Lephephe	21.32	238	i P	P	06 09 11.1	+0.5
PMBG	Pietermaritzbu	21.61	218	eP	P	06 09 14.4	+0.8
WDLM	Western Deep L	21.65	229	eP	P	06 09 12.4	-1.8
MRCO	Marico , North	21.89	232	eP	P	06 09 16.7	-0.1
PRYS	Parys	21.98	228	eP	P	06 09 16.7	-1.0
PRYS				IAmb	IAmb	06 09 23.2	
comp=Z,56nm,1.0s							
LBTB	Lobatse	22.29	234	P	P	06 09 20.1	-0.9
LBTB				IAmb	IAmb	06

SUR Sutherland 29.78 225 LR LR 06 23 42.8
comp=Z,244nm,18.0s,baz=34,slow=39
SUR Sutherland 29.78 225 P **P** **06 10 31.8 +1.3**
HMDM Hanimaadhoo 33.77 56 P **P** **06 11 04.0 -1.5**
RAYN Ar Rayn 36.14 0 P **P** **06 11 26.0 +0.1**
JMDO Jabal Madar 37.14 20 P **P** **06 11 34.7 +0.3**
JMDO P **P** **06 11 34.7 +0.3**
BSY Bisya 37.20 18 P **P** **06 11 36.1 +1.1**
SNR=6.5
BSY P **P** **06 11 36.1 +1.1**
SNR=6.5
JLN Jalan Bani Buh 37.38 22 P **P** **06 11 37.1 +0.7**
WBK Wadi Bani Khal 37.65 21 P **P** **06 11 40.0 +1.3**
WBK P **P** **06 11 40.0 +1.3**
SMDO Samad 37.76 19 P **P** **06 11 40.4 +0.7**
SNR=6.2
SMDO P **P** **06 11 40.4 +0.7**
SNR=6.2
HOQ Hoqain 38.02 18 P **P** **06 11 43.0 +1.1**
HOQ P **P** **06 11 43.0 +1.1**
WSAR Wadi Sarin 38.12 20 LR LR 06 26 27.2
comp=Z,103nm,18.0s,baz=208,slow=35
ASHO Ashiyiah 38.72 16 P **P** **06 11 48.8 +1.2**
ASHO P **P** **06 11 48.8 +1.2**
EIL Elat 43.46 347 LR LR 06 30 04.2
comp=Z,41nm,18.0s,baz=94,slow=36
MMAI Mount Meron Ar 46.60 348 LR LR 06 31 26.2
comp=Z,68nm,18.1s,baz=112,slow=35
SHEL Horse Pasture 49.57 260 P **P** **06 13 15.6 +0.6**
HRA Herat 49.62 18 P **P** **06 13 14.4 -0.7**
HRA IAmb IAmb 06 13 17.3
comp=Z,6.6nm,0.8s
TORD Torodi Ar. Bea 50.47 299 P **P** **06 13 22.9 +1.2**
comp=Z,3.8nm,1.0s,baz=119,slow=7.0,SNR=16
TORD PP **PP** **06 15 16.9 -0.6**
comp=Z,1.4nm,0.9s,baz=106,slow=7.3,SNR=4.3
TORD LR LR 06 35 33.1
comp=Z,176nm,18.3s,baz=138,slow=37
comp=Z,3.8nm,1.0s
KARP Karpathos 51.14 341 P **P** **06 13 25.9 -0.6**
ELL Elmali 51.45 344 P **P** **06 13 29.7 +0.8**
GNI Garni 52.73 359 LR LR 06 37 00.3
comp=Z,110nm,19.9s,baz=180,slow=37
TAM Tamanrasset 52.75 312 P **P** **06 13 40.2 +1.4**
BRTR Keskin Array B 53.44 349 P **P** **06 13 44.0 +0.4**
BRTR Keskin Array B 53.44 349 P **P** **06 13 44.4 +0.7**
comp=Z,1.8nm,0.7s,baz=168,slow=10.0,SNR=6.1
comp=Z,1.8nm,0.7s
DBIC Dimbokro 53.59 288 LR LR 06 37 09.0
comp=Z,146nm,18.1s,baz=102,slow=37
SIMJ Simiganj 55.78 22 P **P** **06 14 00.8 +0.2**
SIMJ IAmb IAmb 06 14 14.2
comp=Z,18nm,0.9s
MAW Mawson 55.90 172 P **P** **06 14 02.9 +2.0**
comp=Z,2.5nm,0.5s,baz=328,slow=12,SNR=5.9
MAW LR LR 06 35 43.9
comp=Z,138nm,18.2s,baz=344,slow=34
comp=Z,2.5nm,0.5s
KBZ Khabaz 56.34 358 P **P** **06 14 05.5 +1.1**
comp=Z,2.6nm,0.8s,baz=165,slow=8.1,SNR=5.3
comp=Z,2.6nm,0.8s
GAR Garm 56.57 23 P **P** **06 14 06.3 +0.1**
KEST Kesra 59.15 326 P **P** **06 14 24.8 +0.4**
comp=Z,4.3nm,1.0s,baz=90,slow=4.0,SNR=2.6
KEST LR LR 06 41 28.5
comp=Z,112nm,18.0s,baz=329,slow=38
comp=Z,4.3nm,1.0s
KSH Kashi 59.35 27 P **P** **06 14 22.6 -3.2**
KSH sP sP 06 14 30.0 +0.6
KSH pmax pmax
comp=Z,5.0nm,0.9s
ARSB Arslanbob 59.60 24 P **P** **06 14 27.4 -0.1**
KKAR Karatay Array 60.23 21 P **P** **06 14 31.7 +0.1**
KKAR IAmb IAmb 06 14 39.4
comp=Z,6.7nm,0.9s
ELIB Princess Elisa 60.55 188 *dP* **P** **06 14 35.2 +1.6**
comp=Z,8.2nm,1.0s
CMAR Chiang Mai Arr 61.25 61 P **P** **06 14 40.6 +1.5**
comp=Z,1.4nm,0.3s,baz=242,slow=6.9,SNR=1.4
CMAR LR LR 06 38 39.0
comp=Z,17nm,18.6s,baz=225,slow=34
comp=Z,1.4nm,0.3s
AAK Ala-Archa 61.31 24 P **P** **06 14 39.0 -0.3**
AAK IAmb IAmb 06 14 47.7
comp=Z,5.1nm,0.9s
BOOM Boomskoye usch 61.78 25 IAmb IAmb 06 14 50.6
comp=Z,8.2nm,1.0s
ABKAR Akbulak array 63.14 11 P **P** **06 14 50.7 -0.4**
ABKAR IAmb IAmb 06 14 53.7
comp=Z,18nm,0.8s
AKTO Aktyubinsk 63.97 9 LR LR 06 45 27.0
comp=Z,57nm,18.1s,baz=166,slow=39
TROLL Troll, Antarti 64.41 194 ⇑P **P** **06 15 02.0 +2.6**
comp=Z,837nm,0.9s
AKASG Malin Array Be 64.84 349 P **P** **06 15 01.9 -0.3**
comp=Z,0.4nm,0.5s,baz=177,slow=5.9,SNR=5.3
comp=Z,0.4nm,0.5s
BELG Belogornoye 65.00 1 LR LR 06 46 23.6
comp=Z,64nm,18.5s,baz=205,slow=39
SOKA Soboth 65.23 337 *eP* **P** **06 15 04.9 -0.1**
comp=Z,7.0nm,1.0s
OBKA Obir 65.27 337 *eP* **P** **06 15 05.0 -0.3**
comp=Z,9.3nm,1.7s
SNAA Sanae 65.48 195 P **P** **06 15 07.7 +1.4**
comp=Z,1.2nm,0.8s,baz=39,slow=13,SNR=2.4
SNAA LR LR 06 41 41.2
comp=Z,116nm,18.1s,baz=12,slow=34
comp=Z,1.2nm,0.8s
ARSA Arzberg 65.53 338 *eP* **P** **06 15 07.1 +0.2**
comp=Z,7.9nm,0.9s
PRED Cave del Predi 65.59 336 P **P** **06 15 07.5 +0.2**
PRED IAmb IAmb 06 15 15.8
comp=Z,8.2nm,1.0s
RONA Rosalia, Austr 65.63 339 *eP* **P** **06 15 08.1 +0.6**
comp=Z,9.4nm,0.8s
MYKA Terra Mystica 65.72 337 *eP* **P** **06 15 08.2 +0.1**
comp=Z,6.4nm,0.9s
MDT Midelt 65.90 315 LR LR 06 45 23.0
comp=Z,89nm,19.0s,baz=128,slow=37
CONA Conrad Observa 65.98 339 *eP* **P** **06 15 10.3 +0.4**
comp=Z,6.6nm,1.0s
JAVC Velka Javorina 66.17 340 *eP* **P** **06 15 09.9 -1.1**
KBA Koelnbreinsper 66.20 337 *eP* **P** **06 15 11.4 0.0**
comp=Z,5.5nm,0.8s
VNA2 Neumayer--Watz 66.27 197 ⇑P **P** **06 15 13.1 +1.8**
comp=Z,2.8nm,0.8s,baz=37,slow=5.8
VNA1 Neumayer--Stat 66.38 197 ⇑P **P** **06 15 14.2 +2.2**
comp=Z,10nm,1.1s
MOA Molln 66.49 338 *eP* **P** **06 15 13.1 +0.1**
comp=Z,4.7nm,0.7s
KRUC Moravsky 66.77 340 *eP* **P** **06 15 14.7 0.0**
VRAC Vranov 66.91 340 LR LR 06 46 28.9
comp=Z,48nm,18.8s,baz=221,slow=38
VRAC Vranov 66.91 340 *eP* **P** **06 15 15.6 -0.1**
MORC Moravsky Berou 67.00 341 P **P** **06 15 15.8 -0.5**
MORC IAmb IAmb 06 15 27.8
comp=Z,9.9nm,1.0s
MORC Moravsky Berou 67.00 341 *eP* **P** **06 15 16.5 +0.2**
VNA3 Neumayer Olymp 67.08 197 ⇑P **P** **06 15 17.7 +1.2**
comp=Z,7.7nm,0.8s
BBTS Babate 67.16 292 LR LR 06 45 17.7
comp=Z,200nm,18.1s,baz=331,slow=37
FETA Feichten 67.20 335 *eP* **P** **06 15 17.5 -0.2**
comp=Z,7.8nm,1.1s
PZH PanZhiHua 67.25 54 P **P** **06 15 18.4 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.7s
GEC2 GERESS Array S 67.53 338 P **P** **06 15 18.2 -1.5**
GEC2 IAmb IAmb 06 15 20.2
comp=Z,5.5nm,0.9s
GERES GERESS Array B 67.53 338 P **P** **06 15 19.6 -0.2**
comp=Z,1.7nm,0.5s,baz=133,slow=5.9,SNR=9.6
comp=Z,1.7nm,0.5s
RETA Reutte 67.56 335 *eP* **P** **06 15 18.0 -1.9**
comp=Z,9.0nm,1.4s
DAVA Damuels 67.76 335 P **P** **06 15 19.8 -1.5**
comp=Z,14nm,1.7s
MAKZ Makanchi 67.81 26 P **P** **06 15 21.9 +0.4**
MAKZ IAmb IAmb 06 15 31.9
comp=Z,7.0nm,0.8s
KHC Kasperske Hory 67.81 338 *eP* **P** **06 15 22.5 +1.1**
KHC *ex* x 06 15 29.1
MK31 Makanchi Array 67.94 26 P **P** **06 15 22.1 -0.1**
MKAR Makanchi Array 67.94 26 P **P** **06 15 22.4 +0.2**
comp=Z,2.6nm,0.7s,baz=220,slow=6.4,SNR=16
comp=Z,2.6nm,0.7s
NWAO Narrogin (SRO) 67.94 120 LR LR 06 39 18.3
comp=Z,33nm,19.9s,baz=310,slow=31
MNK Minsk 68.72 349 *i* P **P** **06 15 25.9 -1.0**
comp=E,6.0nm,0.9s
MNK *i* P **P** **06 15 25.9 -1.0**
comp=N,7.0nm,0.8s
MNK *i* P **P** **06 15 25.9 -1.0**
comp=Z,8.0nm,0.8s,baz=162
MNK *i* PP **PP** **06 17 55.0 -3.9**
MNK *i* PPP PPP 06 19 35.6
MNK *i* S **S** **06 24 29.1 -0.9**
MNK *i* SS **SS** **06 28 55.1 -0.1**
MNK *i* SSS SSS 06 32 11.9
MNK *i* LQ LQ 06 40 52.9
MNK *i* LR LR 06 45 39.7
MNK *i* LRM MLR 06 47 21.8
comp=N,296nm,22.9s
MNK *i* LRM MLR 06 47 33.3
comp=E,403nm,31.4s
MNK *i* LRM MLR 06 47 57.4
comp=Z,62nm,16.4s
BVAR Borovoye Array 69.02 16 P **P** **06 15 28.6 -0.2**
comp=Z,3.0nm,0.9s,baz=206,slow=6.4,SNR=9.9
comp=Z,3.0nm,0.9s
BRVK Borovoye 69.02 16 P **P** **06 15 28.4 -0.5**
BRVK IAmb IAmb 06 15 41.0
comp=Z,4.3nm,0.9s
NACGM Naroch 69.31 349 *eP* **P** **06 15 27.1 -3.4**
comp=E,816nm,0.8s
KURBB Kurchatov Arra 69.50 22 P **P** **06 15 32.0 +0.1**
comp=E,1.2nm,0.8s,baz=219,slow=6.9,SNR=11
comp=E,1.2nm,0.8s
ESDC Sonseca Array 69.55 321 P **P** **06 15 33.7 +1.3**
comp=E,3.4nm,0.7s,baz=126,slow=5.2,SNR=17
ESDC LR LR 06 46 44.7
comp=E,69nm,18.4s,baz=83,slow=37
comp=E,3.4nm,0.7s
KURK Kurchatov 69.61 22 P **P** **06 15 32.4 -0.1**
ARTI Arti 69.82 8 P **P** **06 15 33.6 -0.1**
ARTI IAmb IAmb 06 15 36.2
comp=Z,19nm,1.0s
ARTI Arti 69.82 8 LR LR 06 49 57.1
comp=Z,50nm,18.3s,baz=209,slow=39
QIZ Qiongzhong 70.92 65 P **P** **06 15 41.4 +0.2**
QIZ S **S** **06 24 58.5 +1.2**
QIZ LR LR
comp=N,210nm,14.3s
QIZ LR LR
comp=E,160nm,11.8s
QIZ LR LR
comp=Z,200nm,14.7s
KIRV Kirov 71.25 2 LR LR 06 49 26.5
comp=Z,25nm,18.2s,baz=191,slow=38
ZAA0 Zalesovo Array 74.49 23 P **P** **06 16 00.9 -0.8**
ZALV Zalesovo Beam 74.49 23 P **P** **06 16 01.1 -0.7**
comp=Z,2.8nm,0.8s,baz=224,slow=6.5,SNR=12
comp=Z,2.8nm,0.8s
MPSI Mapaga 74.94 86 P **P** **06 16 05.8 +0.6**
comp=Z,11nm,0.9s
BELA Belgrano 2 75.44 192 P **P** **06 16 07.9 +1.0**
BELA IAmb IAmb 06 16 09.8
comp=Z,9.6nm,1.1s
FINES FINESS Array B 75.61 351 P **P** **06 16 07.9 -0.1**
comp=Z,4.2nm,0.8s,baz=155,slow=5.5,SNR=8.7
comp=Z,4.2nm,0.8s
TOLI2 Tolitoli 75.97 86 P **P** **06 16 10.9 -0.3**
TOLI2 IAmb IAmb 06 16 12.9
comp=Z,13nm,1.1s
XAN Xi'an 76.21 50 P **P** **06 16 13.3 +1.2**
XAN pP pwP 06 16 17.8 +0.5
XAN pmax pmax
comp=Z,9.0nm,1.0s
BATI Baumata 76.43 98 LR LR 06 44 20.3
comp=Z,78nm,19.1s,baz=268,slow=31
FITZ Fitzroy Crossi 76.94 106 P **P** **06 16 17.4 +0.8**
comp=Z,3.7nm,0.7s,baz=240,slow=4.9,SNR=7.2
FITZ LR LR 06 44 17.2
comp=Z,72nm,20.4s,baz=205,slow=31
comp=Z,3.7nm,0.7s
HFS Hagfors 77.06 344 P **P** **06 16 16.7 +0.4**
comp=Z,5.0nm,1.1s,baz=167,slow=7.0,SNR=3.7
HFS LR LR 06 55 13.5
comp=Z,60nm,18.1s,baz=233,slow=40
comp=Z,5.0nm,1.1s
QSPA South Pole Qui 77.25 180 P **P** **06 16 18.5 +0.9**
QSPA South Pole Qui 77.25 180 P **P** **06 16 18.8 +1.2**
comp=Z,20nm,1.0s,baz=256,slow=3.1,SNR=41
QSPA LR LR 06 47 50.0
comp=Z,127nm,19.1s,baz=264,slow=34
comp=Z,20nm,1.0s
WRKA Warakurna 78.30 113 P **P** **06 16 26.5 +2.3**
comp=Z,21nm,0.9s
NOA NORSAR Array B 78.49 344 P **P** **06 16 24.8 +0.5**
comp=Z,0.8nm,0.8s,baz=135,slow=5.6,SNR=5.1
NOA LR LR 06 53 17.9
comp=Z,14nm,19.7s,baz=260,slow=37
comp=Z,0.8nm,0.8s
EKA Eskdalemuir Ar 79.20 334 P **P** **06 16 29.1 +0.8**
comp=Z,2.7nm,0.9s,baz=123,slow=5.2,SNR=2.7
comp=Z,2.7nm,0.9s
SONM Songino Array 81.04 37 P **P** **06 16 40.3 +1.7**
comp=Z,1.8nm,0.7s,baz=232,slow=4.5,SNR=7.9
comp=Z,1.8nm,0.7s
HHC Hu-ho-hao-te 81.06 45 *eP* **P** **06 16 39.9 +1.1**
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,29nm,6.6s
HHC LR LR
comp=N,120nm,13.5s
HHC LR LR
comp=E,86nm,10.9s
HHC LR LR
comp=Z,140nm,13.5s
HNS HongShan 81.88 49 ⇓P **P** **06 16 45.3 +2.2**
HNS pmax pmax
comp=Z,10.0nm,0.8s
HNS LR LR
comp=E,140nm,15.1s
HNS LR LR
comp=Z,130nm,15.9s
NJ2 Nanjing 83.13 55 *eP* **P** **06 16 50.0 +0.3**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
ARCES ARCESS Array B 83.36 353 P **P** **06 16 49.2 -0.9**
comp=Z,3.8nm,0.9s,baz=186,slow=5.6,SNR=6.2
ARCES LR LR 06 56 33.7
comp=Z,47nm,18.1s,baz=244,slow=38
comp=Z,3.8nm,0.9s
ASAR Alice Springs 83.57 113 P **P** **06 16 53.0 +0.7**
comp=Z,9.3nm,0.8s,baz=262,slow=4.8,SNR=68
ASAR LR LR 06 48 47.0
comp=Z,143nm,20.3s,baz=290,slow=32
comp=Z,9.3nm,0.8s
AS31 Alice Springs 83.57 113 P **P** **06 16 53.5 +1.1**
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 84.70 109 P **P** **06 16 59.0 +0.9**
comp=Z,14nm,0.9s,baz=263,slow=3.7,SNR=52
WRA LR LR 06 48 23.8
comp=Z,56nm,21.9s,baz=175,slow=31
comp=Z,14nm,0.9s
WB0 Warramunga Arr 84.78 109 P **P** **06 16 58.3 -0.2**
WR0 Warramunga Arr 84.88 109 P **P** **06 16 59.0 0.0**
WR0 IAmb IAmb 06 17 01.1
comp=Z,9.9nm,0.9s
XLT XiLinHaoTe 85.36 43 *eP* **P** **06 16 57.4 -3.5**
XLT sP pP 06 17 03.7 +0.1
XLT pmax pmax
comp=Z,9.0nm,0.9s
NRIK Norilʼsk 87.12 14 P **P** **06 17 10.3 +1.4**
comp=Z,1.3nm,0.4s,baz=139,slow=3.7,SNR=1.7
comp=Z,1.3nm,0.4s
STKA Stephens Creek 88.45 122 P **P** **06 17 16.3 0.0**
STKA Stephens Creek 88.45 122 P **P** **06 17 17.4 +1.1**
comp=Z,2.1nm,1.2s
STKA Stephens Creek 88.45 122 P **P** **06 17 17.2 +0.9**
comp=Z,7.4nm,1.0s,baz=312,slow=4.1,SNR=5.1
comp=Z,7.4nm,1.0s
BDFB Brasília 89.84 254 LR LR 06 55 16.5
comp=Z,52nm,18.2s,baz=153,slow=34
CPUP Villa Florida 95.50 242 LR LR 06 58 36.1
comp=Z,65nm,18.6s,baz=52,slow=34
CTA Charters Tower 95.55 112 LR LR 06 55 47.9
comp=Z,8.7nm,19.2s,baz=270,slow=32
ILAR Eielson Array 127.44 7 PKP **PKPdf** **06 23 28.1 0.0**
comp=Z,0.7nm,0.8s,baz=304,slow=2.6,SNR=5.7
PDAR Pinedale Array 143.16 329 PKP **PKPdf** **06 23 57.0 -1.2**
comp=Z,2.1nm,0.9s,baz=76,slow=6.3,SNR=11
TXAR Lajitas Array 146.97 305 PKPbc **PKPdf** **06 24 06.0 +1.0**
comp=Z,2.1nm,0.8s,baz=103,slow=3.3,SNR=24
NVAR Mina Array Bea 150.70 333 PKP **PKPdf** **06 24 12.8 +1.9**
comp=Z,1.6nm,0.8s,baz=104,slow=1.3,SNR=12

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*SSNC **07** 06:09:19.6±1.7, 18°.50N×71°.71W, h20km±26km, MD2.2, ML2.7*
*SDD **07** 06:09:20.4±2.3, 19°.22N×71°.48W, h82km±13km, MD3.5, ML2.9, MW3.3*
*OSPL **07** 06:09:21.4±1.4, 19°.20N×71°.46W, h68km±6km, ML2.7*
ISC 07 06:09:19.3±1.2, 19°.22N±0°.04×71°.48W±0°.03, h76km±8km, n32, σ1°.08/57, 15C-7D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.30**	**142**	*e*P	**Pn**	**06 09 30.7**	**-0.6**
SDDR				*e*S	**Sn**	**06 09 38.9**	**-1.1**
SDDR				IAML		06 09 39.7	
	483nm,0.2s						
SDDR				IAML		06 09 41.3	
	comp=Z,421nm,0.2s						
SDDR	**Presa de Saban**	**0.30**	**142**	⇑*e*Pg	**Pn**	**06 09 30.9**	**-0.4**
SDDR				IAML	**Sn**	**06 09 39.8**	**-0.2**
	comp=N,452nm,0.4s						
SDDR				⇑*e*Sg	**Sn**	**06 09 39.8**	**-0.2**
SDDR				IAML		06 09 41.0	
	comp=E,481nm,0.5s						
SDDR	**Presa de Saban**	**0.30**	**142**	*i* P	**Pn**	**06 09 30.9**	**-0.4**
SDDR				*e*S	**Sn**	**06 09 39.0**	**-1.1**
SDDR				IAML		06 09 40.0	
	comp=Z,400nm,0.1s						
LONE3	**El Aguacate, B**	**0.62**	**178**	*i* P	**Pn**	**06 09 33.5**	**-0.4**
LONE3				*e*S	**Sn**	**06 09 44.1**	**-0.6**
LONE3				IAML		06 09 46.1	
	comp=Z,318nm,0.5s						
NEDR	**Neiba UASD**	**0.74**	**175**	⇓*e*Pg	**Pn**	**06 09 35.2**	**+0.2**
NEDR				⇑*e*Sg	**Sn**	**06 09 47.6**	**+0.8**
NEDR				IAML		06 09 47.9	
	comp=N,636nm,0.4s						
NEDR				IAML		06 09 48.1	
	comp=E,647nm,0.6s						
SC01	**Santiago de Io**	**0.74**	**74**	⇑*e*Pg	**Pn**	**06 09 36.7**	**+1.6**
SC01				⇑*e*Sg	**Sn**	**06 09 48.4**	**+1.6**
SC01				IAML		06 09 51.1	
	comp=N,662nm,0.6s						
SC01				IAML		06 09 51.4	
	comp=E,593nm,0.3s						
SC01	**Santiago de Io**	**0.74**	**74**	*i* P	**Pn**	**06 09 36.6**	**+1.6**
SC01				*e*S	**Sn**	**06 09 46.6**	**-0.3**
SC01				IAML		06 09 53.6	
	comp=Z,250nm,0.3s						
JIDR	**Jimani**	**0.81**	**206**	⇓*e*Pg	**Pn**	**06 09 36.7**	**+0.9**
JIDR				⇓*e*		06 09 36.7	
JIDR				⇓*e*Sg	**Sn**	**06 09 50.0**	**+1.9**
JIDR				IAML		06 09 50.0	
	comp=E,1μm,0.3s						
JIDR				IAML		06 09 50.1	
	comp=N,575nm,0.5s						
LODU1	**El Espartillar**	**0.87**	**179**	*i* P	**Pn**	**06 09 37.0**	**+0.5**
LODU1				*e*S	**Sn**	**06 09 49.3**	**-0.1**
LODU1				IAML		06 09 52.0	
	comp=Z,229nm,0.4s						
ABDR	**Alto Bandera**	**0.91**	**117**	⇑*e*Pg	**Pn**	**06 09 37.2**	**-0.2**
ABDR				⇓*e*Sg	**Sn**	**06 09 50.0**	**-0.8**
ABDR				IAML		06 09 50.7	
	comp=E,233nm,0.7s						
ABDR				IAML		06 09 55.3	
	comp=N,204nm,0.3s						
PODR	**Polo**	**1.07**	**170**	⇑*e*Pg	**Pn**	**06 09 39.5**	**+0.2**
PODR				⇑*e*Sg	**Sn**	**06 09 54.8**	**+0.8**
PODR				IAML		06 09 55.1	
	comp=E,216nm,0.5s						
PODR				IAML		06 09 58.5	
	comp=N,145nm,0.2s						
PODR	**Polo**	**1.07**	**170**	*i* P	**Pn**	**06 09 39.4**	**+0.2**
PODR				*e*S	**Sn**	**06 09 53.9**	**-0.1**
PODR				IAML		06 09 58.9	
	comp=Z,105nm,0.4s						
LOBA2	**Hotel Casa Bon**	**1.19**	**162**	⇑*e*Pg	**Pn**	**06 09 40.3**	**-0.2**
LOBA2				⇑*e*Sg	**Sn**	**06 09 56.1**	**-0.3**
LOBA2				IAML		06 09 59.5	
	comp=E,11nm,0.8s						
LOBA2				IAML		06 10 00.1	
	comp=N,20nm,0.6s						
BANI	**BANI**	**1.35**	**128**	⇓*e*Pg	**Pn**	**06 09 42.4**	**-0.2**
BANI				⇑*e*Sg	**Sn**	**06 09 59.5**	**-0.7**
BANI				IAML		06 10 00.8	
	comp=E,147nm,0.1s						
BANI				IAML		06 10 03.5	
	comp=N,163nm,0.5s						
LOBH	**Bahia de las A**	**1.36**	**186**	*i* P	**Pn**	**06 09 43.7**	**+1.0**
LOBH				IAML		06 10 07.5	
	comp=Z,49nm,1.1s						
LOVI	**El Cajuil, Ovi**	**1.42**	**176**	*i* P	**Pn**	**06 09 44.2**	**+0.8**
LOVI				IAML		06 10 03.5	
	comp=Z,60nm,0.7s						
NADR	**Nagua**	**1.54**	**85**	⇑*e*Pg	**Pn**	**06 09 44.4**	**-0.5**
NADR				⇑*e*Sg	**Sn**	**06 10 05.1**	**+0.7**
NADR				IAML		06 10 10.2	
	comp=N,532nm,0.1s						
NADR				IAML		06 10 10.2	
	comp=E,462nm,0.3s						
SDD	**Santo Domingo**	**1.67**	**117**	*i* P	**Pn**	**06 09 47.2**	**+0.5**
SDD				*e*S	**Sn**	**06 10 06.2**	**-1.2**
HATOM	**Hato Mayor del**	**2.04**	**102**	⇑*e*Pg	**Pn**	**06 09 52.0**	**+0.4**
HATOM				⇑*e*Sg	**Sn**	**06 10 14.4**	**-1.8**
HATOM				IAML		06 10 17.5	
	comp=N,86nm,0.8s						
HATOM				IAML		06 10 17.9	
	comp=E,73nm,0.5s						
GRTK	**Grand Turk**	**2.30**	**8**	*i* P	**Pn**	**06 09 55.7**	**+0.7**
GRTK				*e*S	**Sn**	**06 10 22.0**	**-0.5**
GRTK				IAML		06 10 23.8	
	comp=Z,18nm,0.8s						
MASC	**Masc**	**2.76**	**291**	*e*P	**Pn**	**06 10 02.0**	**+0.7**
MASC				*e*S	**Sn**	**06 10 35.0**	**+1.5**
MASC	**Masc**	**2.76**	**291**	*i* P	**Pn**	**06 10 02.0**	**+0.7**
MASC				*e*S	**Sn**	**06 10 33.3**	**-0.2**
MASC				IAML		06 10 44.8	
	comp=Z,29nm,2.6s						
PCDR	**Punta Cana, DR**	**3.02**	**103**	*i* P	**Pn**	**06 10 05.8**	**+1.0**
PCDR				IAML		06 10 48.8	
	comp=Z,62nm,1.2s						
QMBU	**Quimbuelo**	**3.28**	**288**	*e*P	**Pn**	**06 10 08.5**	**+0.1**
QMBU				*e*S	**Sn**	**06 10 46.5**	**+0.1**
QMBU				*e*Sg		06 10 48.6	
GTBY	**Guantanamo Bay**	**3.49**	**282**	*e*P	**Pn**	**06 10 11.9**	**+0.7**
GTBY				*e*S	**Sn**	**06 10 52.1**	**+0.6**
GTBY	**Guantanamo Bay**	**3.49**	**282**	*i* P	**Pn**	**06 10 12.3**	**+1.1**
GTBY				IAML		06 10 54.6	
	comp=Z,21nm,2.5s						
RCC	**Rio Carpintero**	**4.04**	**282**	⇓*e*P	**Pn**	**06 10 19.2**	**+0.4**
RCC				*e*S	**Sn**	**06 11 03.6**	**-1.3**
MARVS	**Santiago de Cu**	**4.24**	**281**	*e*P	**Pn**	**06 10 21.6**	**+0.2**
PINC	**Pinares de May**	**4.25**	**288**	*e*P	**Pn**	**06 10 21.9**	**+0.4**
PINC				*e*S	**Sn**	**06 11 04.7**	**-5.1**
CRPR	**Cabo Rojo, PR**	**4.32**	**106**	*i* P	**Pn**	**06 10 22.4**	**-0.1**
CRPR				IAML		06 11 23.6	
	comp=Z,36nm,2.0s						
CHIV	**Chivirico**	**4.71**	**280**	*e*P	**Pn**	**06 10 28.2**	**+0.4**
LMGC	**Las Mercedes**	**5.27**	**280**	*e*P	**Pn**	**06 10 34.6**	**-0.8**

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*IDC **07** 06:10:15.9±0.9, 2°.54N×128°.15E, h0km, mb3.7/8, mbtmp3.7/8, MS2.7/1, Error ellipse: s-maj=53.5km s-min=17.4km az=81.0*
ISC 07 06:10:22.4±0.9, 2°.5N±0°.1×128°.1E±0°.4, h51km, n15, σ0°.98/9, mb3.9/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.58**	**187**	P	**P**	**06 14 56.5**	**-0.8**
	0.8nm,0.7s,baz=0.0,slow=10,SNR=1.3						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**23.10**	**165**	P	**P**	**06 15 25.2**	**+1.1**
	2.7nm,0.5s,baz=344,slow=10,SNR=35						
	2.7nm,0.5s						
ASAR	**Alice Springs**	**26.59**	**168**	P	**P**	**06 15 57.1**	**+1.1**
	0.4nm,0.6s,baz=356,slow=7.9,SNR=12						
ASAR				PcP	**PcP**	**06 19 18.3**	**-1.2**
	0.3nm,0.3s,baz=357,slow=2.0,SNR=2.8						
	0.4nm,0.6s						

JNU Nakatsue 30.60 5 LR LR 06 29 26.3
comp=Z,14nm,18.9s,baz=7.5,slow=38
KSRS Korea Array 34.82 360 P **P 06 17 08.4 +0.1**
0.8nm,0.4s,baz=180,slow=9.6,SNR=2.4
0.8nm,0.4s
H11S3 WAKE ISLAND Hy 41.01 64 T T 07 01 18.1
baz=252,slow=75,SNR=12
H11S2 WAKE ISLAND Hy 41.02 64 T T 07 01 21.0
baz=252,slow=75,SNR=8.8
H11S1 WAKE ISLAND Hy 41.02 64 T T 07 01 19.1
baz=252,slow=75,SNR=8.5
H11N1 WAKE ISLAND Hy 41.58 63 T T 07 02 00.1
baz=250,slow=75,SNR=49
H11N2 WAKE ISLAND Hy 41.59 63 T T 07 02 01.0
baz=250,slow=75,SNR=20
H11N3 WAKE ISLAND Hy 41.60 63 T T 07 02 01.5
baz=250,slow=75,SNR=42
PETK Petropavlovsk- 56.09 21 P **P 06 19 56.6 +0.2**
3.4nm,0.8s,baz=202,slow=6.1,SNR=4.4
3.4nm,0.8s
MKAR Makanchi Array 59.37 325 P **P 06 20 20.4 +0.9**
0.4nm,0.4s,baz=115,slow=8.7,SNR=5.5
0.4nm,0.4s
KURBB Kurchatov Arra 63.53 327 P **P 06 20 47.7 +0.2**
0.2nm,0.4s,baz=128,slow=6.1,SNR=4.1
0.2nm,0.4s
ILAR Eielson Array 85.65 25 P **P 06 22 54.6 -0.8**
0.1nm,0.5s,baz=260,slow=5.6,SNR=1.7
0.1nm,0.5s

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*IDC **07** 06:17:30.0±1.2,23°.02N×143°.25E, h0km, mb3.7/7, mbtmp3.8/8, MS2.9/1, Error ellipse: s-maj=51.0km s-min=18.8km az=84.0*

ISC 07 06:17:36.4±1.2,23°.00N±0°.1×143°.3E±0°.3, h48km, n15, σ1ϑ50/9, mb3.6/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**4.17**	**346**	Pn	**Pn**	**06 18 34.8**	**-2.7**
	76nm,0.8s,baz=180,slow=0.0						
JCJ				Sn	**Sn**	**06 19 27.2**	**+2.2**
	baz=0.0,slow=0.0						
JOW	**Kunigami**	**14.13**	**289**	LR	LR	06 26 06.7	
	comp=Z,46nm,18.9s,baz=313,slow=37						
H11N1	**WAKE ISLAND Hy 22.23**		**94**	T	T	06 46 16.8	
	baz=282,slow=74,SNR=49						
H11N2	**WAKE ISLAND Hy 22.23**		**94**	T	T	06 46 15.0	
	baz=282,slow=74,SNR=52						
H11N3	**WAKE ISLAND Hy 22.25**		**94**	T	T	06 46 23.8	
	baz=282,slow=74,SNR=64						
H11S3	**WAKE ISLAND Hy 22.34**		**97**	T	T	06 46 15.1	
	baz=285,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy 22.35**		**97**	T	T	06 46 17.2	
	baz=285,slow=75,SNR=6.0						
H11S2	**WAKE ISLAND Hy 22.36**		**97**	T	T	06 46 33.5	
	baz=285,slow=75,SNR=3.6						
WRA	**Warramunga Arr**	**43.59**	**192**	P	**P**	**06 25 35.8**	**-0.2**
	0.7nm,0.6s,baz=14,slow=8.5,SNR=7.0						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**47.30**	**192**	P	**P**	**06 26 05.5**	**+0.2**
	0.4nm,0.6s,baz=15,slow=9.5,SNR=10						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**53.87**	**312**	P	**P**	**06 26 54.7**	**0.0**
	0.2nm,0.5s,baz=106,slow=7.3,SNR=1.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**56.62**	**316**	P	**P**	**06 27 14.6**	**+0.2**
	0.7nm,0.5s,baz=95,slow=7.7,SNR=8.1						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**60.82**	**27**	P	**P**	**06 27 43.7**	**+0.4**
	0.2nm,0.8s,baz=245,slow=5.9,SNR=1.8						
	0.2nm,0.8s						
BVAR	**Borovoye Array**	**61.73**	**319**	P	**P**	**06 27 49.7**	**+0.1**
	1.4nm,0.6s,baz=98,slow=7.6,SNR=6.3						
	1.4nm,0.6s						
FINES	**FINESS Array B**	**82.02**	**334**	P	**P**	**06 29 52.1**	**+0.9**
	1.5nm,0.6s,baz=70,slow=6.3,SNR=9.0						
	1.5nm,0.6s						

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*IDC **07** 06:28:58.0±1.3,37°.69N×20°.56E, h0km, mb3.6/9, mbtmp3.6/11, ML3.9/1, MS3.5/3, Error ellipse: s-maj=25.3km s-min=21.3km az=69.0*
*THE **07** 06:28:59.9,37°.60N×20°.47E, h0km±2km, ML3.7/20, Error ellipse: s-maj=2.8km s-min=0.6km az=235.0*
*ATH **07** 06:28:59.4,37°.60N×20°.43E, h9km±1km, ML3.7/19, Error ellipse: s-maj=2.4km s-min=0.9km az=47.0*

ISC 07 06:28:59.0±1.4,37°.61N±0°.04×20°.43E±0°.04, h8km±8km, n85, σ0ϑ99/119, mb3.6/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.31**	**80**	P	**Pg**	**06 29 05.3**	**+0.1**
KRI1				S	**Sg**	**06 29 09.1**	**-0.3**
	32μm,0.4s						
LTHK	**Lithakia**	**0.34**	**72**	P	**Pg**	**06 29 05.6**	**-0.1**
LTHK				S	**Sg**	**06 29 09.8**	**-0.4**
	27μm,0.2s						
LTHK	**Lithakia**	**0.34**	**72**	P	**Pg**	**06 29 05.6**	**-0.1**
LTHK				S	**Sg**	**06 29 09.8**	**-0.4**
LTHK				AML	AML	06 29 10.2	
	comp=N,52591μm,0.3s						
LTHK				AML	AML	06 29 11.3	
	comp=E,51812μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.52**	**14**	P	**Pg**	**06 29 09.5**	**+0.3**
PSDA				S	**Sg**	**06 29 17.2**	**+1.2**
	comp=E,13μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.52**	**14**	P	**Pg**	**06 29 09.4**	**+0.3**
PSDA				S	**Sg**	**06 29 17.1**	**+1.1**
RTZL	**Ratzakli, Kefa**	**0.54**	**30**	P	**Pg**	**06 29 09.5**	**0.0**
RTZL				S	**Sg**	**06 29 17.0**	**+0.4**
	comp=E,36μm,0.5s						
VLS	**Valsamata**	**0.58**	**13**	P	**Pg**	**06 29 10.4**	**+0.1**
VLS				S	**Sg**	**06 29 19.0**	**+1.0**
	comp=E,12μm,0.3s						
VLS	**Valsamata**	**0.58**	**13**	P	**Pg**	**06 29 10.4**	**+0.1**
VLS				S	**Sg**	**06 29 18.5**	**+0.5**
VLS				AML	AML	06 29 19.4	
	comp=E,31151μm,0.3s						
VLS				AML	AML	06 29 19.4	
	comp=N,16596μm,0.3s						
LXR1	**Lixouri, Cepha**	**0.59**	**1**	P	**Pb**	**06 29 11.4**	**-0.2**
LXR1				S	**Sb**	**06 29 20.2**	**0.0**
	comp=N,33μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.59**	**1**	P	**Pg**	**06 29 11.1**	**+0.6**
LXRA				S	**Sg**	**06 29 18.4**	**+0.2**
DMLN	**Damoulianata-K**	**0.63**	**356**	P	**Pg**	**06 29 11.8**	**+0.6**
DMLN				S	**Sb**	**06 29 22.0**	**+0.7**
	comp=N,15μm,0.5s						
DMLN	**Damoulianata-K**	**0.63**	**356**	P	**Pg**	**06 29 11.9**	**+0.6**
DMLN				S	**Sg**	**06 29 20.7**	**+1.2**
SMHA	**Samh**	**0.67**	**15**	P	**Pg**	**06 29 11.1**	**-0.8**
SMHA				S	**Sg**	**06 29 21.3**	**+0.7**
VSK1	**VASILIKIADES**	**0.81**	**8**	P	**Pg**	**06 29 14.6**	**0.0**
VSK1				S	**Sb**	**06 29 26.9**	**+0.5**
	comp=N,10μm,0.4s						
FSK	**Fiskardo**	**0.86**	**7**	P	**Pg**	**06 29 15.0**	**-0.5**
FSK				S	**Sb**	**06 29 28.1**	**+0.3**
	comp=N,5μm,0.8s						
FSK	**Fiskardo**	**0.86**	**7**	P	**Pg**	**06 29 15.5**	**0.0**
FSK				S	**Sb**	**06 29 28.0**	**+0.3**
FSK				AML	AML	06 29 29.2	
	comp=E,12356μm,0.3s						
FSK				AML	AML	06 29 37.0	
	comp=N,9240μm,0.9s						
RLS	**Riolos of Patr**	**0.94**	**61**	P	**Pg**	**06 29 16.5**	**-0.5**
RLS				S	**Sg**	**06 29 29.4**	**+0.2**
	comp=N,6μm,0.4s						
RLS	**Riolos of Patr**	**0.94**	**61**	P	**Pg**	**06 29 16.3**	**-0.8**
RLS				S	**Sg**	**06 29 29.6**	**+0.4**
RLS				AML	AML	06 29 30.4	
	comp=E,10749μm,0.5s						
RLS				AML	AML	06 29 30.6	
	comp=N,12743μm,0.4s						
AMT	**Artemida-Makis**	**1.02**	**94**	P	**Pg**	**06 29 18.0**	**-0.6**
AMT				S	**Sb**	**06 29 33.2**	**+0.7**
AMT				AML	AML	06 29 37.3	
	comp=E,26297μm,0.4s						
AMT				AML	AML	06 29 37.9	
	comp=N,26637μm,0.5s						
EVGI	**Lefkada island**	**1.03**	**10**	P	**Pg**	**06 29 18.4**	**-0.4**
EVGI				S	**Sb**	**06 29 33.2**	**+0.5**
	comp=N,6μm,0.3s						
EVGI	**Lefkada island**	**1.03**	**10**	P	**Pg**	**06 29 18.2**	**-0.6**
EVGI				S	**Sb**	**06 29 33.0**	**+0.3**
DRO	**Drossia**	**1.07**	**71**	P	**Pg**	**06 29 19.1**	**-0.5**
DRO				S	**Sb**	**06 29 34.5**	**+0.5**
	comp=N,7μm,0.4s						
DRO	**Drossia**	**1.07**	**71**	P	**Pg**	**06 29 18.9**	**-0.8**
DRO				S	**Sg**	**06 29 33.3**	**-0.3**
DRO				AML	AML	06 29 36.1	
	comp=E,16208μm,0.5s						
DRO				AML	AML	06 29 40.2	
	comp=N,12333μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.08**	**6**	P	**Pg**	**06 29 19.2**	**-0.6**
DRAG				S	**Sb**	**06 29 35.3**	**+1.0**
DRAG	**Dragano-Lefkad**	**1.08**	**6**	P	**Pg**	**06 29 19.3**	**-0.6**
DRAG				S	**Sg**	**06 29 33.9**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.12**	**11**	P	**Pg**	**06 29 19.8**	**-0.8**
NYDR				S	**Sn**	**06 29 36.5**	**-0.2**
	comp=N,2μm,0.8s						
NYDR	**Nydri-Lefkada**	**1.12**	**11**	P	**Pg**	**06 29 19.6**	**-1.0**
NYDR				S	**Sg**	**06 29 34.8**	**-0.4**
LKD2	**Lefkada island**	**1.19**	**9**	P	**Pn**	**06 29 22.6**	**+0.6**
LKD2				S	**Sn**	**06 29 40.0**	**+1.6**
	comp=N,3μm,0.6s						
LKD2	**Lefkada island**	**1.19**	**9**	P	**Pn**	**06 29 22.2**	**+0.1**
LKD2				S	**Sn**	**06 29 38.4**	**-0.1**
LKD2				AML	AML	06 29 48.0	
	comp=E,6757μm,0.4s						
LKD2				AML	AML	06 29 51.1	
	comp=N,6210μm,0.7s						
TSLK	**Tsoukalades, L**	**1.23**	**8**	P	**Pb**	**06 29 21.9**	**-0.6**
TSLK				S	**Sn**	**06 29 40.3**	**+1.0**
	comp=N,3μm,0.7s						
TSLK	**Tsoukalades, L**	**1.23**	**8**	P	**Pb**	**06 29 21.4**	**-1.1**
TSLK				AML	AML	06 29 46.5	
	comp=N,5186μm,0.5s						
TSLK				AML	AML	06 29 50.2	
	comp=E,8100μm,0.5s						
PYL	**PYLOS**	**1.27**	**124**	P	**Pg**	**06 29 23.5**	**+0.2**
PYL				S	**Sn**	**06 29 42.4**	**+2.2**
	comp=E,1μm,0.6s						
PYL	**PYLOS**	**1.27**	**124**	P	**Pn**	**06 29 22.7**	**-0.3**
PYL				AML	AML	06 29 43.2	
	comp=N,2222μm,0.4s						
PYL				AML	AML	06 29 44.8	
	comp=E,2752μm,0.4s						
ITM	**Ithomi**	**1.27**	**109**	P	**Pg**	**06 29 23.2**	**-0.2**
ITM				S	**Sn**	**06 29 41.5**	**+1.3**
	comp=E,1μm,1.0s						
ITM	**Ithomi**	**1.27**	**109**	P	**Pg**	**06 29 23.2**	**-0.2**
ITM				AML	AML	06 29 53.8	
	comp=E,2456μm,1.1s						
ITM				AML	AML	06 29 55.0	
	comp=N,3269μm,0.8s						
EFP	**Efpalio**	**1.43**	**55**	P	**Pn**	**06 29 25.2**	**0.0**
EFP				S	**Sg**	**06 29 45.7**	**+0.8**
	comp=N,2μm,0.7s						
EFP	**Efpalio**	**1.43**	**55**	P	**Pn**	**06 29 23.9**	**-1.3**
KLV	**Kalavryta, Ach**	**1.43**	**72**	P	**Pn**	**06 29 24.7**	**-0.6**
KLV				S	**Sg**	**06 29 46.6**	**+1.5**
	comp=N,1μm,0.8s						
KLV	**Kalavryta, Ach**	**1.43**	**72**	P	**Pn**	**06 29 24.7**	**-0.6**
KLV				AML	AML	06 29 55.0	
	comp=N,2684μm,1.1s						
KLV				AML	AML	06 29 55.9	
	comp=E,2055μm,0.7s						
ALIK	**Aliki, Aigiali**	**1.48**	**63**	P	**Pn**	**06 29 25.9**	**0.0**
ALIK				S	**Sg**	**06 29 47.5**	**+0.8**
ANX	**Ano Chora**	**1.53**	**50**	P	**Pn**	**06 29 26.9**	**+0.1**
ANX				S	**Sg**	**06 29 49.1**	**+0.7**
	comp=E,4μm,0.7s						
ANX	**Ano Chora**	**1.53**	**50**	P	**Pn**	**06 29 26.7**	**-0.1**
ANX				AML	AML	06 29 54.8	
	comp=N,8585μm,0.6s						
ANX				AML	AML	06 29 59.8	
	comp=E,6601μm,0.8s						
GUR	**Goura**	**1.55**	**77**	P	**Pb**	**06 29 27.6**	**-0.5**
GUR	**Goura**	**1.55**	**77**	P	**Pn**	**06 29 26.8**	**-0.2**
GUR				AML	AML	06 30 01.0	
	comp=E,3874μm,0.6s						
GUR				AML	AML	06 30 02.7	
	comp=N,4556μm,0.6s						
KALE	**Kalithea**	**1.56**	**59**	P	**Pn**	**06 29 27.2**	**+0.1**
KALE	**Kalithea**	**1.56**	**59**	P	**Pn**	**06 29 26.2**	**-0.9**
KALE				AML	AML	06 29 56.9	
	comp=N,4267μm,0.6s						
KALE				AML	AML	06 29 58.5	
	comp=E,3097μm,0.4s						
DLFA	**Delphi**	**1.85**	**61**	P	**Pn**	**06 29 31.8**	**+0.8**
DLFA				AML	AML	06 30 04.9	
	comp=N,1514μm,1.1s						
DLFA				AML	AML	06 30 05.9	
	comp=E,1998μm,0.8s						
IGT	**Igoumenitsa**	**1.92**	**358**	P	**Pn**	**06 29 33.3**	**+1.2**
IGT				AML	AML	06 30 11.8	
	comp=E,1754μm,0.5s						
IGT				AML	AML	06 30 17.2	
	comp=N,968μm,0.7s						
MAKR	**Makrakomi, Fth**	**1.94**	**43**	P	**Pb**	**06 29 34.1**	**-0.6**
MAKR				AML	AML	06 30 06.7	
	comp=E,3495μm,0.5s						
MAKR				AML	AML	06 30 08.5	
	comp=N,3584μm,0.6s						
LOUT	**Loutraki**	**2.05**	**79**	P	**Pn**	**06 29 34.2**	**+0.4**
AXAR	**Agios Charalam**	**2.10**	**56**	P	**Pn**	**06 29 35.6**	**+1.1**
AXAR				AML	AML	06 30 14.7	
	comp=N,5177μm,0.8s						
AXAR				AML	AML	06 30 17.4	
	comp=E,3592μm,0.9s						
KEK	**Kerkira**	**2.16**	**347**	P	**Pn**	**06 29 35.0**	**-0.3**
THL	**Klokotos Trika**	**2.32**	**32**	P	**Pn**	**06 29 38.4**	**+1.0**
VIL2	**Platees**	**2.33**	**74**	P	**Pn**	**06 29 38.8**	**+1.3**
TYRN	**Tyrnavos**	**2.53**	**33**	P	**Pn**	**06 29 41.6**	**+1.2**
VLY	**Voula,Athens**	**2.68**	**84**	P	**Pn**	**06 29 42.3**	**-0.2**
DION	**Dionisos Attik**	**2.81**	**79**	P	**Pn**	**06 29 43.7**	**-0.7**
DION				AML	AML	06 30 30.1	
	comp=E,1135μm,1.1s						
DION				AML	AML	06 30 34.0	
	comp=N,919μm,0.7s						
SCTE	**Santa Cesarea**	**2.90**	**329**	P	**Pn**	**06 29 44.5**	**-0.9**
OHR	**Ohrid**	**3.51**	**5**	*i* Pn	**Pn**	**06 29 56.6**	**+2.7**
IDI	**Anoyia**	**4.28**	**121**	Pn	**Pn**	**06 30 02.2**	**-2.3**
	comp=N,4.3nm,0.6s,baz=315,slow=7.0,SNR=1.4						
IDI				Sn	**Sn**	**06 30 54.0**	**-0.5**
	comp=N,2.8nm,0.3s,baz=310,slow=17,SNR=6.9						
PEHC	**Pehcevo**	**4.58**	**24**	*i* Pn	**Pn**	**06 30 08.7**	**0.0**
PDG	**Podgorica**	**4.90**	**350**	*e*Pn	**Pn**	**06 30 12.0**	**-0.9**
TREB	**Trebinje**	**5.35**	**343**	*e*Pn	**Pn**	**06 30 17.8**	**-1.3**
BRY	**Bratogost**	**5.48**	**345**	*e*Pn	**Pn**	**06 30 19.8**	**-1.3**
STON	**Ston**	**5.66**	**339**	*e*Pn	**Pn**	**06 30 21.7**	**-1.6**
SJES	**Sjenica**	**5.66**	**357**	*e*Pn	**Pn**	**06 30 20.1**	**-3.4**
UPM	**Unac-Piva**	**5.71**	**349**	*e*Pn	**Pn**	**06 30 20.4**	**-3.8**
RUDO	**Rudo**	**6.06**	**353**	*e*Pn	**Pn**	**06 30 25.7**	**-3.2**
BBLS	**Lazi&#263i**	**6.30**	**353**	*e*Pn	**Pn**	**06 30 31.8**	**-0.4**
A050A	**Klekovaca**	**7.47**	**338**	*e*Pn	**Pn**	**06 30 48.6**	**+0.3**
BLY	**Banja Luka**	**7.54**	**342**	*e*Pn	**Pn**	**06 30 49.6**	**+0.4**
A051A	**Mrakovica**	**7.86**	**341**	*e*Pn	**Pn**	**06 30 51.9**	**-1.7**
MLR	**Muntele Rosu**	**8.89**	**26**	Pn	**Pn**	**06 31 05.9**	**-2.0**
	comp=N,0.3nm,0.3s,baz=146,slow=17,SNR=1.5						
	comp=N,2.4nm,0.7s						
AKASG	**Malin Array Be**	**14.52**	**23**	LR	LR	06 38 57.8	
	comp=N,66nm,21.0s,baz=204,slow=42						
HFS	**Hagfors**	**22.95**	**351**	P	**P**	**06 34 02.7**	**-0.7**
	comp=N,2.4nm,0.6s,baz=168,slow=9.1,SNR=7.4						
	comp=N,2.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**23.85**	**326**	P	**P**	**06 34 12.9**	**+0.4**
	comp=N,1.1nm,0.6s,baz=133,slow=7.9,SNR=1.8						
	comp=N,1.1nm,0.6s						
FINES	**FINESS Array B**	**24.12**	**7**	P	**P**	**06 34 14.1**	**-0.9**
	comp=N,1.4nm,0.4s,baz=165,slow=8.4,SNR=11						
	comp=N,1.4nm,0.4s						
NOA	**NORSAR Array B**	**24.16**	**349**	P	**P**	**06 34 15.0**	**-0.4**
	comp=N,0.2nm,0.5s,baz=163,slow=10,SNR=3.0						
	comp=N,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**29.54**	**219**	P	**P**	**06 35 05.3**	**+1.1**
	comp=N,0.2nm,0.6s,baz=20,slow=11,SNR=2.1						
	comp=N,0.2nm,0.6s						
ARCES	**ARCESS Array B**	**32.10**	**3**	P	**P**	**06 35 25.5**	**-0.8**
	comp=N,1.4nm,0.8s,baz=187,slow=12,SNR=1.7						
	comp=N,1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**42.63**	**53**	P	**P**	**06 36 55.6**	**0.0**
	comp=N,0.4nm,0.7s,baz=279,slow=8.8,SNR=2.8						
	comp=N,0.4nm,0.7s						
MKAR	**Makanchi Array**	**45.66**	**58**	P	**P**	**06 37 19.8**	**-0.2**
	comp=N,0.3nm,0.4s,baz=268,slow=9.5,SNR=2.2						
	comp=N,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**46.13**	**48**	P	**P**	**06 37 23.8**	**+0.3**
	comp=N,0.6nm,0.4s,baz=276,slow=9.3,SNR=2.9						
	comp=N,0.6nm,0.4s						
TKL	**Tuckaleechee C**	**78.81**	**306**	LR	LR	07 14 09.7	
	comp=N,43nm,21.4s,baz=87,slow=34						
PETK	**Petropavlovsk-**	**82.35**	**24**	LR	LR	07 21 40.7	
	comp=N,49nm,18.1s,baz=130,slow=38						

TRN 07 06:34:23.4,15°.91N×60°.41W, h43km, MD3.6, North-east of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIM	**Bigot**	**1.53**	**205**	*e*P	Pn	06 34 49.4	+1.1
BIM				*e*S	Sn	06 35 09.1	+2.2
ANBD	**Bethesda, Anti**	**1.73**	**311**	*e*P	Pn	06 34 52.3	+1.3
ANBD				*e*S	Sn	06 35 13.5	+1.7
MBWH		**1.91**	**296**	*e*P	Pn	06 34 55.5	+2.0
MBWH				*e*S	Sn	06 35 18.7	+2.5
MBFL	**Flemmings, Mon**	**1.93**	**296**	*e*P	Pn	06 34 55.6	+1.9
MBFL				*e*S	Sn	06 35 18.3	+1.5
SLBI	**Saint Lucia, B**	**1.96**	**196**	*e*P	Pn	06 34 55.9	+1.9
SLBI				*e*S	Sn	06 35 19.1	+1.7
SLAC	**Saint Lucia, A**	**2.06**	**193**	*e*P	Pn	06 34 57.4	+1.9

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*DJA **07** 06:37:22.6±0.5,7°.N±5°.×9°.5E±°, h207km±6km, M4.7/10, mB5.0/6, mb4.8/10, MLv4.9/8, Mw(mB)4.3/6*
*NEIC **07** 06:37:23.5±1.3,6°.54N±0°.07×95°.1E±0°.1, h198km±6km, mb4.4/13, Error ellipse: s-maj=18.8km s-min=9.3km az=71.0*
*IDC **07** 06:37:24.3±1.6,6°.54N×95°.30E, h205km±10km, mb3.4/7, mbtmp4.0/8, Error ellipse: s-maj=51.8km s-min=14.4km az=63.0*

ISC 07 06:37:23.8±0.6,6°.65N±0°.06×95°.22E±0°.08, h200km, n48, σ1ϑ69/56, mb4.0/12, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.33**	**286**	*e*P	**Pn**	**06 37 58.1**	**+2.1**
CMBY				*e*S	**Sn**	**06 38 23.5**	**+2.5**
CMBY				IAML		06 38 24.1	
	comp=E,870nm,0.4s						
CMBY				IAML		06 38 25.9	
	comp=E,767nm,0.2s						
LHMI	**Lhok Sumawe**	**2.22**	**129**	Pn	**Pn**	**06 38 06.0**	**+1.4**
LHMI	**Lhok Sumawe**	**2.22**	**129**	P	**Pn**	**06 38 06.4**	**+1.8**
LHMI	**Lhok Sumawe**	**2.22**	**129**	P	**Pn**	**06 38 06.0**	**+1.4**
LHMI				S	**Sn**	**06 38 38.4**	**+2.0**
MLSI	**Meulaboh, Aceh**	**2.64**	**153**	P	**Pn**	**06 38 08.8**	**-0.5**
MLSI				S	**Sn**	**06 38 43.7**	**-1.2**
KCSI	**Kotacane, Aceh**	**4.01**	**141**	P	**Pn**	**06 38 25.4**	**-0.4**
PSI	**Prapat**	**5.31**	**136**	P	**Pn**	**06 38 42.3**	**0.0**
RPSI	**Rantau Prapat**	**5.39**	**137**	Pn	**Pn**	**06 38 42.0**	**-1.2**
PBA	**Port Blair**	**5.55**	**334**	Pn	**Pn**	**06 38 44.8**	**-0.4**
PBA	**Port Blair**	**5.55**	**334**	*e*P	**Pn**	**06 38 44.6**	**-0.6**
PBA				*e*S	**Sn**	**06 39 47.6**	**-2.0**
PBA				IAML		06 39 54.9	
	comp=E,688nm,0.5s						
PBA				IAML		06 39 57.8	
	comp=N,474nm,0.1s						
KULM	**Kulim**	**5.57**	**104**	Pn	**Pn**	**06 38 45.2**	**-0.3**
KULM	**Kulim**	**5.57**	**104**	P	**Pn**	**06 38 45.5**	**0.0**
GSI	**Gunungsitoli**	**5.80**	**156**	Pn	**Pn**	**06 38 47.2**	**-1.3**
GSI	**Gunungsitoli**	**5.80**	**156**	P	**Pn**	**06 38 47.7**	**-0.8**
GSI	**Gunungsitoli**	**5.80**	**156**	P	**Pn**	**06 38 47.1**	**-1.4**
	comp=N,81nm,0.8s,comp=N,1.8nm						
IPM	**Ipoh**	**6.17**	**110**	Pn	**Pn**	**06 38 52.7**	**-0.5**
IPM	**Ipoh**	**6.17**	**110**	P	**Pn**	**06 38 53.0**	**-0.3**
DGPR	**DIGLIPUR**	**6.87**	**341**	*e*P	**Pn**	**06 39 00.8**	**-1.6**
DGPR				*e*S	**Sn**	**06 40 14.2**	**-6.5**
DGPR				IAML		06 40 23.9	
	comp=E,661nm,0.3s						
DGPR				IAML		06 40 27.6	
	comp=E,457nm,0.1s						
PBSI	**Pulau Batu**	**7.32**	**155**	P	**Pn**	**06 39 07.5**	**-0.8**
	comp=E,308nm,1.5s						
SISI	**Saibi**	**8.81**	**154**	P	**Pn**	**06 39 25.4**	**-2.2**
	comp=E,37nm,1.1s						
PDSI	**Padang**	**9.15**	**145**	P	**Pn**	**06 39 30.2**	**-1.9**
	comp=E,105nm,0.6s						
CMAR	**Chiang Mai Arr**	**12.29**	**17**	P	**Pn**	**06 40 15.3**	**+2.9**
	comp=E,12nm,0.7s,baz=207,slow=12,SNR=24						
CHTO	**Chiang Mai**	**12.63**	**16**	Pn	**Pn**	**06 40 19.2**	**+2.5**
PHRA	**Phrae**	**12.75**	**22**		**Pn**	**06 40 20.9**	**+2.6**
MNAI	**Manna**	**13.38**	**145**	Pn	**Pn**	**06 40 24.6**	**-1.6**
MNAI	**Manna**	**13.38**	**145**	P	**Pn**	**06 40 24.7**	**-1.5**
SLVN	**Son La**	**16.85**	**29**		**P**	**06 41 08.2**	**+1.1**
SLVN				IAmb	IAmb	06 41 12.7	
	comp=Z,9.3nm,1.0s						
BBJI	**Bungbulang**	**18.71**	**138**	P	**Pn**	**06 41 28.8**	**-1.6**
	comp=Z,30nm,1.6s						
COCO	**West Island**	**18.78**	**175**	P	**Pn**	**06 41 33.9**	**+2.9**
	comp=Z,75nm,1.4s						
HYB	**Hyderabad**	**19.48**	**305**	*e*P	**Pn**	**06 41 38.1**	**-1.3**
XMIS	**Christmas Isla**	**19.93**	**149**	P	**Pn**	**06 41 44.1**	**-0.8**
PSA00	**Pilbara Seismi**	**37.01**	**140**	P	**P**	**06 44 14.2**	**-0.3**
PSA00				IAmb	IAmb	06 44 46.5	
	comp=Z,14nm,1.1s						
FAKI	**Fak Fak**	**38.17**	**103**	P	**P**	**06 44 24.3**	**0.0**
FAKI				IAmb	IAmb	06 44 25.0	
	comp=Z,12nm,0.7s						
FITZ	**Fitzroy Crossi**	**38.81**	**130**	P	**P**	**06 44 28.0**	**-1.5**
MK31	**Makanchi Array**	**41.52**	**347**	P	**P**	**06 44 52.1**	**+0.7**
MKAR	**Makanchi Array**	**41.52**	**347**	P	**P**	**06 44 51.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=152,slow=9.5,SNR=5.8						
	comp=Z,0.3nm,0.3s						
SONM	**Songino Array**	**42.14**	**11**	P	**P**	**06 44 56.9**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=198,slow=9.3,SNR=4.0						
SONM				pP	**pwP**	**06 45 42.0**	**+0.7**
	comp=Z,0.2nm

*IDC **07** 06:45:07.8±3.0, 18°.08S×179°.23W, h553km±19km, mb3.4/5, mbtmp4.3/7, Error ellipse: s-maj=67.4km s-min=23.0km az=35.0*

ISC 07 06:45:06.6±2.6, **17°.9S**±0°.4×**179°.1W**±0°.2, **h562**km, **n9**, σ0°71/9, **mb4.0**/6, **2C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.73**	**272**	P	**P**	**06 46 20.9**	**-0.2**
	66nm,0.8s,baz=66,slow=4.0,SNR=29						
DZM	**Mont Dzumac**	**14.23**	**251**	P	**P**	**06 48 08.5**	**+0.4**
	5.2nm,1.0s,baz=30,slow=18,SNR=1.5						
URZ	**Urewera**	**20.59**	**189**	P	**P**	**06 49 06.9**	**-0.3**
	1.9nm,0.3s,baz=63,slow=4.5,SNR=6.8						
	1.9nm,0.3s						
STKA	**Stephens Creek**	**38.08**	**241**	P	**P**	**06 51 37.1**	**-1.0**
	2.5nm,0.4s,baz=102,slow=9.3,SNR=6.2						
	2.5nm,0.4s						
WRA	**Warramunga Arr**	**44.00**	**260**	P	**P**	**06 52 25.1**	**0.0**
	0.9nm,0.3s,baz=84,slow=7.3,SNR=16						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**44.18**	**254**	P	**P**	**06 52 27.4**	**+0.9**
	9.7nm,0.4s,baz=89,slow=8.0,SNR=113						
	9.7nm,0.4s						
QSPA	**South Pole Qui**	**72.19**	**180**	P	**P**	**06 55 35.7**	**+0.9**
	1.3nm,0.7s,baz=33,slow=3.2,SNR=13						
	1.3nm,0.7s						
VNA3	**Neumayer Olymp**	**90.83**	**177**	⇑P	**P**	**06 57 09.8**	**-0.2**
	comp=Z,2.2nm,0.6s						
VNA2	**Neumayer--Watz**	**91.26**	**177**	⇑P	**P**	**06 57 11.5**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=186,slow=3.1						

TRN 07 07:27:31.2, 16°.74N×60°.68W, h16km, MD3.5, North-east of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**1.08**	**286**	*e*P	Pg	07 27 52.6	+0.5
ANBD				*e*S	Sg	07 28 09.1	+2.8
ANWB	**Willy Bob**	**1.40**	**311**	*e*P	Pg	07 27 57.8	-0.4
ANWB				*e*S	Sg	07 28 16.5	0.0
MBWH		**1.45**	**270**	*e*P	Pg	07 27 59.4	+0.3
MBWH				*e*S	Sg	07 28 18.8	+0.8
MBFL	**Flemmings, Mon**	**1.47**	**270**	*e*P	Pg	07 27 59.2	-0.3
MBFL				*e*S	Sg	07 28 19.5	+0.9
SKI	**Saint Kitts**	**2.06**	**287**	*e*P	Pn	07 28 06.4	+1.3
SKI				*e*S	Sb	07 28 34.4	+0.9
BIM	**Bigot**	**2.25**	**190**	*e*S	Sb	07 28 37.8	-1.2
SLBI	**Saint Lucia, B**	**2.72**	**186**	*e*P	Pb	07 28 17.1	-2.3
SLBI				*e*S	Sn	07 28 48.9	+2.2

*SOME **07** 07:54:27.7, 44°.32N×82°.42E, h5km*
*NNC **07** 07:54:29.4±2.4, 44°.35N×82°.41E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=23.5km s-min=13.3km az=139.0*

ISC 07 07:54:27.5±1.5, **44°.23N**±0°.08×**82°.52E**±0°.08, **h10**km, **n23**, σ1°88/32, **4C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.96**	**274**	Pg	**Pg**	**07 55 04.5**	**-0.6**
	1.8nm,0.2s						
DJR				Lg	Lg	07 55 32.7	
	16nm,0.3s						
DJR	**Jarkent**	**1.96**	**274**	*e*P	**Pg**	**07 55 05.0**	**-0.1**
	9.9nm,0.3s						
DJR				*e*S	**Sg**	**07 55 32.7**	**+2.1**
	35nm,0.4s						
PDGK	**Podgornoye**	**2.37**	**249**	Pg	**Pg**	**07 55 11.7**	**-1.2**
	0.8nm,0.2s						
PDGK				Lg	Lg	07 55 44.2	
	9.0nm,0.5s						
PDGK	**Podgornoye**	**2.37**	**249**	⇓Pg	Pg	07 55 18.0	+5.1
	1.4nm,0.5s						
PDGK				⇑Lg	Lg	07 55 43.6	
	14nm,0.4s						
SHLS	**Shalkode**	**2.46**	**245**	Pg	**Pn**	**07 55 08.8**	**+1.0**
	3.8nm,0.2s						
SHLS				Lg	Lg	07 55 39.6	
	27nm,0.3s						
SHLS	**Shalkode**	**2.46**	**245**	*e*P	**Pn**	**07 55 09.0**	**+1.2**
	3.8nm,0.2s						
SHLS				*e*S	**Sn**	**07 55 39.6**	**+1.5**
	27nm,0.3s						
MK31	**Makanchi Array**	**2.57**	**356**	⇑Pg	**Pg**	**07 55 16.4**	**-0.3**
	0.7nm,0.3s,baz=177,slow=16,SNR=13						
MK31				⇓Lg	Lg	07 55 42.0	
	0.7nm,0.2s,baz=178,slow=26,SNR=8.0						
UZB	**Uzynbulak**	**2.76**	**248**	Pg	**Pb**	**07 55 17.5**	**+0.5**
	2.1nm,0.1s						
UZB				Lg	Lg	07 55 54.9	
	7.3nm,0.3s						
UZB	**Uzynbulak**	**2.76**	**248**	*e*P	**Pb**	**07 55 17.5**	**+0.5**
	2.1nm,0.1s						
UZB				*e*S	**Sg**	**07 55 54.2**	**-1.9**
	7.3nm,0.3s						
KPKS	**Kokpek**	**2.88**	**256**	Pg	**Pb**	**07 55 19.9**	**+1.0**
	1.4nm,0.1s						
KPKS				Lg	Lg	07 55 58.8	
	62nm,0.6s						
KPKS	**Kokpek**	**2.88**	**256**	*e*P	**Pg**	**07 55 20.2**	**-2.4**
	1.8nm,0.2s						
KPKS				*e*S	**Sg**	**07 55 58.9**	**-1.0**
	62nm,0.6s						
ZHN	**Zhinishke**	**3.15**	**252**	Pg	**Pb**	**07 55 25.0**	**+1.4**
	2.9nm,0.1s						
ZHN				Lg	Lg	07 56 07.2	
	19nm,0.2s						
ZHN	**Zhinishke**	**3.15**	**252**	*e*P	**Pb**	**07 55 25.1**	**+1.6**
	2.4nm,0.1s						
ZHN				*e*S	**Sg**	**07 56 07.2**	**-1.3**
	18nm,0.2s						
SATY	**Saty**	**3.21**	**250**	Pg	**Pb**	**07 55 25.8**	**+1.2**
	1.2nm,0.1s						
SATY				Lg	Lg	07 56 08.4	
	8.2nm,0.1s						
SATY	**Saty**	**3.21**	**250**	*e*P	**Pb**	**07 55 25.8**	**+1.2**
	1.2nm,0.1s						
SATY				*e*S	**Sg**	**07 56 08.4**	**-2.1**
	8.2nm,0.1s						
KURS	**Kuram**	**3.23**	**258**	Pg	**Pg**	**07 55 26.5**	**-2.9**
	1.7nm,0.3s						
KURS				Lg	Lg	07 56 09.6	
	5.6nm,0.4s						
KURS	**Kuram**	**3.23**	**258**	*e*P	**Pg**	**07 55 26.5**	**-2.9**
	1.7nm,0.5s						
KURS				*e*S	**Sg**	**07 56 09.6**	**-1.7**
	7.1nm,0.7s						
ARXS	**Arharly**	**3.37**	**271**	Pg	**Pg**	**07 55 29.1**	**-3.0**
	0.5nm,0.1s						
ARXS				Lg	Lg	07 56 14.1	
	15nm,0.4s						
ARXS	**Arharly**	**3.37**	**271**	*e*P	**Pg**	**07 55 29.1**	**-3.0**
	0.4nm,0.1s						
ARXS				*e*S	**Sg**	**07 56 14.1**	**-1.7**
	15nm,0.3s						
ZSN	**Zaisan**	**3.61**	**26**	*e*P	**Pb**	**07 55 30.4**	**-1.1**
	2.4nm,0.2s						
ZSN				*e*S	**Sb**	**07 56 16.3**	**+1.0**
	6.2nm,0.3s						
CHKK	**Chushkaly**	**4.01**	**267**	Pg	**Pb**	**07 55 39.7**	**+1.6**
	3.4nm,0.3s						
CHKK				Lg	Lg	07 56 32.3	
	7.7nm,0.3s						
CHKK	**Chushkaly**	**4.01**	**267**	*e*P	**Pb**	**07 55 39.7**	**+1.6**
	3.1nm,0.3s						
CHKK				*e*S	**Sg**	**07 56 32.3**	**-3.8**
	7.7nm,0.3s						
TKM2	**Tokmak 2**	**5.20**	**258**	⇑Pg	**Pg**	**07 56 08.7**	**+1.7**
	0.6nm,0.5s						
TKM2				⇑Lg	Lg	07 57 13.4	
	1.6nm,0.6s						

*KRNET **07** 08:24:21.2±0.1, 40°.83N×73°.19E, h18km, mb2.8*
*NNC **07** 08:24:23.0±0.8, 40°.94N×73°.22E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=6.6km s-min=3.0km az=175.0*
*SOME **07** 08:24:22.7, 41°.02N×73°.18E, h0km*
*KNET **07** 08:24:23.9±0.4, 40°.99N×73°.27E, h6km±3km, ml2.4, Error ellipse: s-maj=5.1km s-min=2.9km az=100.0*
*ISU **07** 08:24:23.5, 40°.78N×73°.12E, h10km*

ISC 07 08:24:20.8±1.1, **40°.83N**±0°.02×**73°.25E**±0°.02, **h6**km±10km, **n63**, σ1°81/108, **38C-23D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	**Salom-Alik**	**0.44**	**83**	⇓*e*P	**Pg**	**08 24 30.5**	**+1.2**
SALK				⇓*e*S	**Sg**	**08 24 37.1**	**+2.1**
OHH	**Osh**	**0.47**	**229**	⇓*e*P	**Pg**	**08 24 29.8**	**-0.1**
OHH				⇓*e*S	**Sg**	**08 24 35.9**	**-0.1**
ARSB	**Arslanbob**	**0.53**	**338**	⇑*e*P	**Pg**	**08 24 31.3**	**+0.2**
ARSB				⇑*e*S	**Sg**	**08 24 38.2**	**+0.2**
SFK	**Sufi-Kurgan**	**0.84**	**167**	⇓*e*P	**Pb**	**08 24 37.1**	**-0.9**
SFK				⇓*e*S	**Sg**	**08 24 49.5**	**+1.6**
FRG	**Fergana**	**1.21**	**248**	P	**Pg**	**08 24 45.0**	**+1.1**
FRG				S	**Sg**	**08 25 01.1**	**+1.5**
NAM	**Namangan**	**1.22**	**278**	P	**Pg**	**08 24 45.6**	**+1.5**
NAM				S	**Sg**	**08 25 02.1**	**+2.2**
ARLS	**Aral**	**1.31**	**38**	⇑*e*P	**Pb**	**08 24 45.9**	**0.0**
ARLS				⇑*e*S	**Sg**	**08 25 03.7**	**+0.8**
AML	**Almayashu**	**1.34**	**14**	⇑P	**Pb**	**08 24 46.7**	**+0.1**
	33nm,0.2s,SNR=134						
AML				⇑S	**Sg**	**08 25 05.0**	**+1.0**
	75nm,0.2s						
AML	**Almayashu**	**1.34**	**14**	⇑*e*P	**Pb**	**08 24 46.5**	**-0.1**
AML				⇑*e*S	**Sg**	**08 25 04.6**	**+0.7**
KSNS	**Kasansay**	**1.35**	**285**	P	**Pg**	**08 24 47.2**	**+0.5**
KSNS				S	**Sg**	**08 25 05.1**	**+0.9**
ARK	**Arkit**	**1.37**	**315**	⇑*e*P	**Pb**	**08 24 46.1**	**-0.8**
ARK				⇑*e*S	**Sg**	**08 25 04.0**	**-0.8**
UCH	**Uchtor**	**1.69**	**34**	⇑P	**Pg**	**08 24 53.8**	**+0.6**
	4.7nm,0.1s,SNR=9.7						
UCH				⇓S	**Sg**	**08 25 16.1**	**+1.1**
	18nm,0.2s						
UCH	**Uchtor**	**1.69**	**34**	⇑*e*P	**Pb**	**08 24 52.8**	**+0.3**
UCH				⇑*e*S	**Sg**	**08 25 15.6**	**+0.6**
TRKS	**Terek-Say**	**1.74**	**294**	⇑*e*P	**Pb**	**08 24 51.7**	**-1.5**
TRKS				⇑*e*S	**Sb**	**08 25 13.7**	**-1.7**
MNAS	**Manas**	**1.74**	**342**	⇑*e*P	**Pb**	**08 24 53.0**	**-0.3**
MNAS				⇑*e*S	**Sg**	**08 25 16.3**	**-0.6**
DRK	**Karamyk**	**1.75**	**220**	⇓*e*P	**Pb**	**08 24 52.8**	**-0.7**
DRK				⇓*e*S	**Sg**	**08 25 15.6**	**-1.4**
EKS2	**Erkin-Say**	**1.87**	**12**	⇑P	**Pg**	**08 24 56.6**	**-0.1**
	7.3nm,0.1s,SNR=34						
EKS2				⇑S	**Sg**	**08 25 21.0**	**+0.1**
	15nm,0.2s						
EKS2	**Erkin-Say**	**1.87**	**12**	⇑*e*P	**Pb**	**08 24 55.2**	**-0.2**
EKS2				⇑*e*S	**Sg**	**08 25 20.1**	**-0.8**
MRKS	**Merke**	**1.91**	**359**	Pg	**Pb**	**08 24 56.7**	**+0.6**
	18nm,0.3s						
MRKS				Lg	Lg	08 25 22.1	
	79nm,0.3s						
MRKS	**Merke**	**1.91**	**359**	*e*P	**Pb**	**08 24 56.7**	**+0.6**
	17nm,0.3s						
MRKS				*e*S	**Sg**	**08 25 22.1**	**-0.1**
	79nm,0.4s						
BTK	**Batken**	**2.01**	**248**	⇑*e*P	**Pb**	**08 24 56.4**	**-1.4**
BTK				⇑*e*S	**Sb**	**08 25 22.2**	**-0.9**
NRN	**Naryn**	**2.16**	**73**	⇑*e*P	**Pb**	**08 24 59.5**	**-1.1**
NRN				⇑*e*S	**Sb**	**08 25 27.2**	**-0.5**
KBK	**Karagaybulak**	**2.22**	**34**	⇑P	**Pb**	**08 25 02.2**	**+0.7**
	7.5nm,0.1s,SNR=7.5						
KBK				⇑S	**Sg**	**08 25 32.7**	**+0.5**
	81nm,0.3s						
KBK	**Karagaybulak**	**2.22**	**34**	⇓*e*P	**Pb**	**08 25 00.4**	**-1.1**
KBK				⇓*e*S	**Sb**	**08 25 28.9**	**-0.4**
FRU1	**Bishkek**	**2.23**	**27**	⇑*e*P	**Pb**	**08 25 00.6**	**-0.9**
FRU1				⇑*e*S	**Sb**	**08 25 29.2**	**-0.2**
PSK	**Pskem**	**2.42**	**298**	P	**Pb**	**08 25 05.0**	**+0.1**
PSK				S	**Sg**	**08 25 36.9**	**-1.8**
CHMS	**Chumysh**	**2.44**	**27**	⇓*e*P	**Pb**	**08 25 03.2**	**-1.9**
CHMS				⇓*e*S	**Sb**	**08 25 33.7**	**-1.7**
USP	**Ospenovka**	**2.60**	**21**	⇓P	**Pb**	**08 25 07.3**	**-0.6**
	2.9nm,0.2s						
USP	**Ospenovka**	**2.60**	**21**	⇓*e*P	**Pb**	**08 25 05.5**	**-2.4**
USP				⇓*e*S	**Sb**	**08 25 37.7**	**-2.5**
BOOM	**Boomskoye usch**	**2.61**	**50**	⇑*e*P	**Pb**	**08 25 05.9**	**-2.2**
BOOM				⇑*e*S	**Sb**	**08 25 38.4**	**-2.0**
ULHL	**Ulahol**	**2.65**	**57**	⇓*e*P	**Pb**	**08 25 06.6**	**-2.3**
ULHL				⇓*e*S	**Sb**	**08 25 39.6**	**-2.1**
TKM2	**Tokmak 2**	**2.73**	**39**	⇑P	**Pb**	**08 25 09.4**	**-0.7**
	8.0nm,0.2s,SNR=12						
TKM2	**Tokmak 2**	**2.73**	**39**	⇑Pg	**Pb**	**08 25 10.8**	**+0.7**
	3.8nm,0.4s						
TKM2				⇑Lg	Lg	08 25 46.6	
	7.6nm,0.5s						
TKM2	**Tokmak 2**	**2.73**	**39**	⇑*e*P	**Pb**	**08 25 07.5**	**-2.6**
TKM2				⇑*e*S	**Sb**	**08 25 41.2**	**-2.6**
IUG	**Iuzhnay**	**2.75**	**300**	Pg	**Pg**	**08 25 11.7**	**-1.9**
	20nm,0.4s						
IUG				Lg	Lg	08 25 46.9	
	108nm,0.5s						
IUG	**Iuzhnay**	**2.75**	**300**	*e*P	**Pg**	**08 25 11.7**	**-1.9**
	20nm,0.3s						
IUG				*e*S	**Sg**	**08 25 46.9**	**-2.3**
	108nm,0.5s						
SGDS	**Sogindy**	**2.81**	**21**	Pg	**Pb**	**08 25 12.7**	**+1.2**
	0.8nm,0.1s						
SGDS				Lg	Lg	08 25 49.2	
	13nm,0.3s						
GAR	**Garm**	**2.91**	**232**	⇑*e*P	**Pn**	**08 25 09.0**	**+1.3**
GAR				⇑*e*S	**Sb**	**08 25 43.8**	**-5.1**
KST	**Kastek**	**3.00**	**42**	Pg	**Pb**	**08 25 16.4**	**+1.8**
	6.8nm,0.3s						
KST				Lg	Lg	08 25 55.7	
	12nm,0.5s						
KST	**Kastek**	**3.00**	**42**	*e*P	**Pb**	**08 25 16.4**	**+1.8**
	6.8nm,0.3s						
KST				*e*S	**Sg**	**08 25 55.1**	**-1.9**
	12nm,0.4s						
KK31	**Karatay Array**	**3.05**	**319**	Pg	**Pg**	**08 25 17.5**	**-1.8**
	1.2nm,0.3s,baz=132,slow=16,SNR=6.8						
KK31				⇓Lg	Lg	08 25 56.4	
	3.7nm,0.3s,baz=133,slow=31,SNR=11						
KKAR	**Karatay Array**	**3.05**	**319**	⇓*e*P	**Pn**	**08 25 11.1**	**+1.5**
KKAR				⇓*e*S	**Sn**	**08 25 47.5**	**+1.0**
KDJ	**Kajisay**	**3.23**	**65**	⇓*e*P	**Pn**	**08 25 14.7**	**+2.5**
KDJ				⇓*e*S	**Sn**	**08 25 53.5**	**+2.5**
MTBS	**Maitube**	**3.30**	**45**	Pg	**Pb**	**08 25 22.2**	**+2.4**
	1.4nm,0.1s						
MTBS				Lg	Lg	08 26 05.7	
	15nm,0.4s						
MTBS	**Maitube**	**3.30**	**45**	*e*P	**Pb**	**08 25 22.2**	**+2.4**
	1.4nm,0.1s						
MTBS				*e*S	**Sg**	**08 26 05.2**	**-1.6**
	15nm,0.4s						
BRLS	**Borolday**	**3.36**	**312**	Pg	**Pb**	**08 25 21.7**	**+0.9**
	4.5nm,0.3s						
BRLS				Lg	Lg	08 26 04.0	
	4.4nm,0.3s						
BRLS	**Borolday**	**3.36**	**312**	*e*P	**Pb**	**08 25 21.7**	**+0.9**
	4.4nm,0.3s						
BRLS				*e*S	**Sb**	**08 26 04.0**	**+2.0**
	4.4nm,0.3s						
KRBS	**Karabastau**	**3.38**	**31**	Pg	**Pb**	**08 25 23.1**	**+1.9**
	1.5nm,0.5s						
KRBS				Lg	Lg	08 26 06.3	
	9.7nm,0.4s						
KRBS	**Karabastau**	**3.38**	**31**	*e*P	**Pb**	**08 25 23.1**	**+1.9**
	1.5nm,0.5s						
KRBS				*e*S	**Sg**	**08 26 06.3**	**-3.0**
	9.7nm,0.4s						
TNSS	**Tian-Shan**	**3.53**	**50**	Pg	**Pb**	**08 25 26.4**	**+2.5**
	3.2nm,0.4s						
TNSS				Lg	Lg	08 26 12.5	
	6.3nm,0.5s						
TNSS	**Tian-Shan**	**3.53**	**50**	*e*P	**Pb**	**08 25 26.4**	**+2.5**
	2.5nm,0.3s						
TNSS				*e*S	**Sg**	**08 26 12.5**	**-1.7**
	6.3nm,0.6s						
MDOK	**Medeo**	**3.67**	**49**	Pg	**Pb**	**08 25 29.7**	**-1.4**
	3.7nm,0.4s						
MDOK				Lg	Lg	08 26 17.7	
	15nm,0.8s						
MDOK	**Medeo**	**3.67**	**49**	*e*P	**Pg**	**08 25 29.7**	**-1.4**
	3.7nm,0.4s						
MDOK				*e*S	**Sg**	**08 26 17.7**	**-0.9**
	15nm,0.8s						
CHKK	**Chushkaly**	**4.10**	**41**	Pg	**Pg**	**08 25 37.4**	**-1.9**
	2.2nm,0.1s						
CHKK				Lg	Lg	08 26 31.1	
	12nm,0.4s						
CHKK	**Chushkaly**	**4.10**	**41**	*e*P	**Pg**	**08 25 37.5**	**-1.9**
	2.2nm,0.1s						
CHKK				*e*S	**Sg**	**08 26 31.1**	**-1.2**
	12nm,0.4s						
BTLS	**Baital**	**4.25**	**8**	Pg	**Pb**	**08 25 38.8**	**+2.9**
	1.6nm,0.6s						
BTLS				Lg	Lg	08 26 33.4	
	5.9nm,0.3s						
BTLS	**Baital**	**4.25**	**8**	*e*P	**Pb**	**08 25 38.8**	**+2.9**
	1.6nm,0.6s						
BTLS				*e*S	**Sg**	**08 26 33.4**	**-3.8**
	5.9nm,0.3s						
ARXS	**Arharly**	**4.78**	**44**	Pg	**Pb**	**08 25 48.9**	**+3.9**
	0.9nm,0.3s						
ARXS				Lg	Lg	08 26 50.7	
	8.2nm,0.3s						
ARXS	**Arharly**	**4.78**	**44**	*e*P	**Pb**	**08 25 48.9**	**+3.9**
	0.9nm,0.3s						
ARXS				*e*S	**Sg**	**08 26 50.7**	**-3.6**
	8.3nm,0.4s						
KPKS	**Kokpek**	**4.82**	**55**	Pg	**Pg**	**08 25 51.1**	**-2.1**
	2.0nm,0.5s						
KPKS				Lg	Lg	08 26 54.3	
	4.0nm,0.6s						
KPKS	**Kokpek**	**4.82**	**55**	*e*P	**Pg**	**08 25 51.0**	**-2.1**
	2.0nm,0.5s						
KPKS				*e*S	**Sg**	**08 26 54.3**	**-1.3**
	3.9nm,0.5s						
UZB	**Uzynbulak**	**4.88**	**60**	Pg	**Pg**	**08 25 51.6**	**-2.8**
	1.3nm,0.1s						
UZB				Lg	Lg	08 26 55.6	
	3.2nm,0.4s						
UZB	**Uzynbulak**	**4.88**	**60**	*e*P	**Pg**	**08 25 51.6**	**-2.8**
	1.3nm,0.1s						
UZB				*e*S	**Sg**	**08 26 55.6**	**-2.0**
	4.7nm,0.7s						

NNC 07 08:39:47.4±1.9, **53°.56N×90°.44E, h0**km, **mb3.8, mpv3.5, 7C-5D, Error ellipse: s-maj=14.3km s-min=10.5km az=54.0, Suspected Mining explosion., Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.36**	**279**	⇑Pg	Pb	08 40 49.4	+1.7
	2.2nm,0.6s						
ZAA0				⇑Lg	Lg	08 41 34.8	
	23nm,0.9s						
KURK	**Kurchatov**	**7.81**	**253**	⇑Pn	Pn	08 41 42.1	0.0
	3.2nm,0.7s						
KURK				⇓Sn	Sn	08 43 11.1	-0.1
	21nm,0.7s						
KURK				⇑Lg	Lg	08 43 55.9	
	19nm,0.8s						
KURBB	**Kurchatov Arra**	**7.90**	**253**	⇓Pn	Pn	08 41 43.2	-0.2
	2.4nm,0.3s						
KURBB				⇑Sn	Sn	08 43 13.7	+0.2
	85nm,1.0s						
KURBB				⇑Lg	Lg	08 43 58.6	
	89nm,0.9s						
MK31	**Makanchi Array**	**8.55**	**221**	Pn	Pn	08 41 52.8	+0.4
	0.8nm,0.5s,baz=38,slow=12,SNR=16						
MK31				Sn	Sn	08 43 32.4	+2.9
	3.0nm,0.7s,baz=39,slow=28,SNR=4.3						
MK31				⇓Lg	Lg	08 44 19.9	
	15nm,0.9s,baz=10,slow=40,SNR=3.7						
MAKZ	**Makanchi**	**8.66**	**222**	⇑Pn	Pn	08 41 52.9	-1.0
	1.0nm,0.5s						
MAKZ				⇓Sn	Sn	08 43 34.3	+2.0
	6.3nm,0.8s						
MAKZ				⇓Lg	Lg	08 44 26.2	
	6.3nm,0.8s						

*IDC **07** 08:42:20.5±0.8, 60°.17N×29°.16W, h0km, mb3.7/10, mbtmp3.8/11, ML4.4/1, MS3.6/20, Error ellipse: s-maj=25.4km s-min=17.0km az=6.0*

ISC 07 08:42:21.9±0.8, **60°.1N**±0°.1×**29°.2W**±0°.1, **h10**km, **n29**, σ0°59/13, **mb3.8**/9, **MS3.5**/18, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**5.87**	**35**	Pn	**Pn**	**08 43 49.4**	**+0.5**
	9.9nm,0.3s,baz=210,slow=7.0,SNR=25						
	29nm,0.4s						
SFJD	**Kangerlussuaq**	**11.72**	**315**	LR	LR	08 49 00.7	
	comp=Z,214nm,21.1s,baz=154,slow=34						
FRB	**Frobisher Bay**	**18.66**	**298**	LR	LR	08 52 55.9	
	comp=Z,174nm,18.2s,baz=106,slow=34						
SCHQ	**Schefferville**	**20.72**	**272**	P	**P**	**08 47 02.5**	**+0.3**
	4.6nm,0.8s,baz=78,slow=7.2,SNR=5.1						
SCHQ				LR	LR	08 53 12.5	
	comp=Z,94nm,21.2s,baz=26,slow=32						
	4.6nm,0.8s						
HFS	**Hagfors**	**21.06**	**71**	LR	LR	08 53 43.7	
	comp=Z,87nm,19.1s,baz=262,slow=32						
ARCES	**ARCESS Array B**	**24.17**	**44**	P	**P**	**08 47 38.0**	**+0.1**
	2.8nm,0.7s,baz=298,slow=2.6,SNR=6.5						
	2.8nm,0.7s						
ESDC	**Sonseca Array**	**25.84**	**131**	P	**P**	**08 47 53.6**	**+0.3**
	2.5nm,1.1s,baz=337,slow=10.0,SNR=2.3						
ESDC				LR	LR	08 56 32.9	
	comp=Z,72nm,18.4s,baz=312,slow=33						
	2.5nm,1.1s						
FINES	**FINESS Array B**	**26.31**	**63**	P	**P**	**08 47 57.2**	**-0.1**
	2.6nm,1.0s,baz=273,slow=8.2,SNR=2.1						
	2.6nm,1.0s						
VRAC	**Vranov**	**27.98**	**92**	LR	LR	08 58 59.8	
	comp=Z,86nm,18.2s,baz=291,slow=36						
SADO	**Sadowa**	**33.19**	**265**	LR	LR	09 01 07.6	
	comp=Z,98nm,18.4s,baz=302,slow=34						
AKASG	**Malin Array Be**	**33.38**	**80**	P	**P**	**08 48 58.9**	**-1.1**
	0.6nm,0.6s,baz=306,slow=8.6,SNR=1.4						
	0.6nm,0.6s						
MLR	**Muntele Rosu**	**35.23**	**89**	LR	LR	09 03 54.6	
	comp=Z,48nm,20.8s,baz=326,slow=37						
VAE	**Valguarnera**	**35.61**	**110**	LR	LR	09 01 23.1	
	comp=Z,46nm,20.1s,baz=356,slow=32						
ULM	**Lac du Bonnet**	**37.74**	**286**	LR	LR	09 04 06.5	
	comp=Z,114nm,19.1s,baz=40,slow=35						
YKA	**Yellowknife Ar**	**38.26**	**312**	LR	LR	09 04 29.4	
	comp=Z,109nm,18.1s,baz=322,slow=35						
TKL	**Tuckaleechee C**	**42.41**	**260**	LR	LR	09 05 23.4	
	comp=Z,91nm,18.5s,baz=22,slow=33						
ILAR	**Eielson Array**	**46.96**	**329**	P	**P**	**08 50 52.2**	**-0.2**
	0.3nm,0.7s,baz=31,slow=6.7,SNR=4.1						
	0.3nm,0.7s						
NEW	**Newport**	**49.00**	**298**	LR	LR	09 10 22.6	
	comp=Z,54nm,21.9s,baz=54,slow=34						
**PD

KRI1 S **Sb** **08 43 39.7 +0.2**
10μm,0.4s
LTHK **Lithakia** **0.43 349** P **Pg** **08 43 33.6 -0.6**
LTHK S **Sb** **08 43 41.2 +0.5**
LTHK **Lithakia** **0.43 349** P **Pg** **08 43 33.6 -0.6**
LTHK AML AML 08 43 44.4
comp=N,11954μm,0.5s
LTHK AML AML 08 43 50.1
comp=E,13657μm,0.4s
AMT **Artemida-Makis** **0.66 68** P **Pb** **08 43 38.7 +0.3**
AMT AML AML 08 43 57.9
AMT AML AML 08 44 05.9
comp=E,71165μm,0.5s
PYL **PYLOS** **0.75 121** P **Pg** **08 43 40.1 0.0**
PYL S **Sn** **08 43 52.2 +0.2**
comp=E,8μm,0.6s
PYL **PYLOS** **0.75 121** P **Pg** **08 43 40.1 0.0**
PYL S **Sg** **08 43 50.6 +0.6**
PYL AML AML 08 43 52.9
comp=E,22390μm,0.6s
PYL AML AML 08 43 57.6
comp=N,10656μm,0.7s
ITM **Ithomi** **0.79 97** P **Pb** **08 43 39.9 -0.8**
ITM S **Sn** **08 43 54.0 +0.8**
comp=N,7μm,0.4s
ITM **Ithomi** **0.79 97** P **Pb** **08 43 40.1 -0.6**
ITM S **Sn** **08 43 53.0 -0.2**
ITM AML AML 08 43 59.9
comp=N,14144μm,0.3s
ITM AML AML 08 44 01.1
comp=E,14363μm,0.5s
RTZL **Ratzakli, Kefa** **0.80 350** P **Pb** **08 43 39.7 -1.1**
RTZL S **Sn** **08 43 54.6 +1.3**
PSDA **Pessada-Kefalo** **0.88 341** P **Pb** **08 43 41.1 -1.0**
PSDA S **Sn** **08 43 56.0 +0.8**
comp=E,5μm,0.6s
PSDA **Pessada-Kefalo** **0.88 341** P **Pb** **08 43 40.8 -1.3**
PSDA S **Sg** **08 43 53.8 -0.2**
RLS **Riolos of Patr** **0.88 28** P **Pb** **08 43 41.9 -0.2**
RLS S **Sn** **08 43 56.7 +1.5**
comp=E,5μm,0.8s
RLS **Riolos of Patr** **0.88 28** P **Pb** **08 43 41.7 -0.4**
RLS S **Sn** **08 43 55.9 +0.7**
RLS AML AML 08 43 57.5
comp=E,9661μm,0.8s
RLS AML AML 08 44 01.3
comp=N,12325μm,0.9s
DRO **Drossia** **0.90 42** P **Pb** **08 43 42.3 -0.3**
DRO **Drossia** **0.90 42** P **Pb** **08 43 42.4 -0.3**
DRO AML AML 08 44 09.1
comp=E,13423μm,0.5s
DRO AML AML 08 44 15.7
comp=N,12278μm,0.7s
VLS **Valsamata** **0.93 343** P **Pb** **08 43 41.7 -1.4**
VLS S **Sn** **08 43 59.1 +2.4**
VLS **Valsamata** **0.93 343** P **Pb** **08 43 41.9 -1.2**
VLS S **Sg** **08 43 55.5 -0.4**
VLS AML AML 08 44 01.1
comp=E,389μm,0.2s
VLS AML AML 08 44 01.5
comp=N,5419μm,0.5s
LXRA **Lixouri, Kepha** **1.00 337** P **Pb** **08 43 43.8 -0.3**
DMLN **Damoulianata-K** **1.05 335** P **Pb** **08 43 44.6 -0.6**
DMLN S **Sn** **08 44 02.3 +2.7**
comp=N,5μm,0.8s
DMLN **Damoulianata-K** **1.05 335** P **Pb** **08 43 44.2 -0.9**
DMLN S **Sg** **08 43 59.2 -0.5**
UPR **University Cam** **1.20 34** P **Pg** **08 43 49.1 +0.5**
FSK **Fiskardo** **1.21 346** P **Pb** **08 43 47.7 -0.1**
FSK S **Sg** **08 44 06.9 +2.3**
comp=N,2μm,1.1s
FSK **Fiskardo** **1.21 346** P **Pn** **08 43 47.0 -0.5**
FSK AML AML 08 44 10.4
comp=N,3529μm,0.9s
FSK AML AML 08 44 16.0
comp=E,4299μm,0.8s
KLV **Kalavryta, Ach** **1.22 51** P **Pb** **08 43 48.1 +0.1**
KLV S **Sg** **08 44 08.1 +3.1**
comp=E,2μm,0.9s
KLV **Kalavryta, Ach** **1.22 51** P **Pb** **08 43 48.1 +0.1**
KLV AML AML 08 44 15.6
comp=N,4693μm,0.9s
KLV AML AML 08 44 25.9
comp=E,3766μm,0.9s
GUR **Goura** **1.29 59** P **Pn** **08 43 48.9 +0.3**
GUR S **Sg** **08 44 07.3 +0.1**
GUR AML AML 08 44 23.9
comp=N,7961μm,1.0s
GUR AML AML 08 44 25.0
comp=E,7397μm,0.7s
EVGI **Lefkada island** **1.35 350** P **Pg** **08 43 51.5 0.0**
EVGI S **Sg** **08 44 12.1 +2.9**
EVGI **Lefkada island** **1.35 350** P **Pn** **08 43 49.6 +0.2**
EFP **Efpalio** **1.37 34** P **Pg** **08 43 51.7 -0.2**
EFP **Efpalio** **1.37 34** P **Pg** **08 43 51.3 -0.6**
EFP AML AML 08 44 17.7
comp=E,4906μm,0.9s
EFP AML AML 08 44 21.7
comp=N,3165μm,0.6s
DRAG **Dragano-Lefkad** **1.43 348** P **Pn** **08 43 50.9 +0.4**
NYDR **Nydri-Lefkada** **1.44 352** P **Pg** **08 43 53.0 -0.2**
NYDR S **Sg** **08 44 13.4 +1.5**
comp=N,1μm,0.9s
NYDR **Nydri-Lefkada** **1.44 352** P **Pb** **08 43 51.2 -0.5**
KALE **Kalithea** **1.46 40** P **Pg** **08 43 53.1 -0.4**
KALE **Kalithea** **1.46 40** P **Pb** **08 43 52.1 +0.1**
KALE AML AML 08 44 20.5
comp=E,6316μm,0.7s
KALE AML AML 08 44 20.8
comp=N,5661μm,0.8s
ANX **Ano Chora** **1.52 30** P **Pb** **08 43 53.6 +0.5**
ANX AML AML 08 44 21.4
comp=E,7926μm,0.8s
ANX AML AML 08 44 24.1
comp=N,5458μm,0.6s
LKD2 **Lefkada island** **1.52 352** P **Pb** **08 43 53.2 +0.1**
LKD2 AML AML 08 44 21.1
comp=N,3220μm,0.7s
LKD2 AML AML 08 44 22.1
comp=E,4514μm,0.7s
TSLK **Tsoukalades, L** **1.55 352** P **Pn** **08 43 52.9 +0.7**
VLI **Veliai** **1.69 109** P **Pb** **08 43 56.0 -0.1**
DLFA **Delphi** **1.71 45** P **Pb** **08 43 56.5 +0.1**
DLFA AML AML 08 44 29.3
comp=N,2287μm,0.8s
DLFA AML AML 08 44 36.0
comp=E,2278μm,0.8s
LOUT **Loutraki** **1.76 66** P **Pb** **08 43 57.4 +0.2**
LOUT **Loutraki** **1.76 66** P **Pb** **08 43 56.2 -0.9**
EVR **Evrytania** **1.77 23** P **Pb** **08 43 57.5 +0.1**
EVR AML AML 08 44 27.9
comp=E,4197μm,0.8s
EVR AML AML 08 44 29.2
comp=N,5445μm,0.7s
MAKR **Makrakomi, Fth** **1.96 28** P **Pb** **08 44 00.4 -0.3**
MAKR AML AML 08 44 34.6
comp=N,5124μm,0.9s
MAKR AML AML 08 44 35.0
comp=E,8007μm,0.6s
AXAR **Agios Charalam** **2.01 42** P **Pb** **08 44 00.5 -0.9**
AXAR AML AML 08 44 43.1
comp=N,6850μm,0.9s
AXAR AML AML 08 44 55.5
comp=E,5787μm,1.0s
VIL2 **Platees** **2.06 63** P **Pb** **08 44 00.9 -1.4**
VIL2 AML AML 08 44 40.5
comp=N,1985μm,1.0s
VIL2 AML AML 08 44 49.6
comp=E,3442μm,0.8s
IGT **Igoumenitsa** **2.29 348** P **Pn** **08 44 02.8 +0.4**
IGT AML AML 08 45 01.1
comp=E,782μm,1.7s
IGT AML AML 08 45 06.8
comp=N,579μm,0.9s
ANKY **Antikythira Is** **2.37 126** P **Pn** **08 44 04.5 +1.1**
THL **Klokotos Trika** **2.43 20** P **Pn** **08 44 05.4 +1.2**
THL AML AML 08 44 46.2
comp=E,1080μm,0.8s
THL AML AML 08 44 54.5
comp=N,780μm,0.7s
PTL **Penteli** **2.44 71** P **Pn** **08 44 06.3 +1.9**
DION **Dionisos Attik** **2.50 71** P **Pn** **08 44 07.1 +1.8**
TYRN **Tyrnavos** **2.62 22** P **Pn** **08 44 07.7 +0.8**
NEO **Neokhori** **2.70 41** P **Pn** **08 44 10.3 +2.3**
KYMI **Kymi, Euboea I** **2.84 61** P **Pn** **08 44 11.5 +1.7**

AOS2 **Alonissos-2** **2.95 50** P **Pn** **08 44 13.6 +2.3**
IDI **Anoyia** **3.76 121** Pn **Pn** **08 44 22.9 +0.3**
comp=N,6.3nm,0.8s,baz=248,slow=11,SNR=2.0
IDI Sn **Sn** **08 45 09.2 +2.7**
comp=N,7.5nm,0.3s,baz=143,slow=22,SNR=5.0
OHR **Ohrid** **3.82 358** *i* Pn **Pn** **08 44 26.6 +3.2**
VAY **Valandovo** **4.22 17** *i* Pn **Pn** **08 44 28.1 -0.8**
MMB **Musomishta** **4.78 26** *e*P **Pn** **08 44 38.5 +1.9**
KKB **Krupnik** **4.85 20** *i* P **Pn** **08 44 38.6 +1.0**
VAE **Valguarnera** **5.20 274** Pn **Pn** **08 44 43.7 +1.2**
comp=N,9.4nm,0.4s,baz=149,slow=4.9,SNR=2.2
VAE Sn **Sn** **08 45 46.5 +4.5**
comp=N,3.0nm,0.3s,baz=244,slow=5.4,SNR=1.8
RZN **Rozhen** **5.29 33** *i* P **Pn** **08 44 44.7 +0.9**
KDZ **Kurdzhali** **5.51 37** *i* P **Pn** **08 44 49.1 +2.5**
VTS **Vitosha** **5.61 18** *i* P **Pn** **08 44 50.3 +2.2**
DIM **Dimitrovgrad** **5.95 36** *i* P **Pn** **08 44 54.5 +1.9**
MPEP **Malo Peshtene** **6.43 19** *i* P **Pb** **08 45 18.6 +1.9**
MLR **Muntele Rosu** **9.02 23** Pn **Pn** **08 45 33.0 -1.8**
comp=N,0.2nm,0.3s,baz=186,slow=10,SNR=1.9
comp=N,1.1nm,0.4s
KEST **Kesra** **9.46 264** Pn **Pn** **08 45 41.6 +0.7**
comp=N,0.1nm,0.3s,baz=36,slow=14,SNR=2.5
comp=N,3.1nm,0.7s
BRTR **Keskin Array B** **10.25 72** Pn **Pn** **08 45 49.3 -2.4**
comp=N,0.2nm,0.3s,baz=269,slow=9.4,SNR=2.4
MMAI **Mount Meron Ar** **12.58 106** Pn **Pn** **08 46 22.3 -1.2**
comp=N,2.2nm,0.6s,baz=318,slow=13,SNR=1.2
MMAI Sn **Sn** **08 48 45.4 +2.2**
comp=N,1.9nm,0.3s,baz=349,slow=41,SNR=2.1
AKASG **Malin Array Be** **14.66 21** Pn **Pn** **08 46 50.2 -1.6**
comp=N,0.1nm,0.3s,baz=212,slow=12,SNR=4.2
KBZ **Khabaz** **17.87 62** P **P** **08 47 33.5 -0.1**
comp=N,0.1nm,0.3s,baz=299,slow=5.9,SNR=6.3
comp=N,4.7nm,0.9s
HFS **Hagfors** **23.33 351** P **P** **08 48 30.3 -2.1**
comp=N,2.0nm,0.8s,baz=166,slow=13,SNR=1.6
comp=N,2.0nm,0.8s
BELG **Belogornoye** **24.02 43** P **P** **08 48 38.1 -1.0**
comp=N,15nm,0.6s,baz=229,slow=4.0,SNR=4.8
comp=N,15nm,0.6s
EKA **Eskdalemuir Ar** **24.35 326** P **P** **08 48 42.5 +0.4**
comp=N,3.1nm,0.7s,baz=116,slow=9.6,SNR=6.7
comp=N,3.1nm,0.7s
FINES **FINESS Array B** **24.40 6** P **P** **08 48 41.1 -1.4**
comp=N,1.8nm,0.8s,baz=170,slow=12,SNR=3.4
FINES LR LR 08 59 31.6
comp=N,93nm,19.4s,baz=224,slow=40
comp=N,1.8nm,0.8s
NOA **NORSAR Array B** **24.56 349** P **P** **08 48 43.6 -0.4**
comp=N,0.6nm,0.7s,baz=156,slow=9.1,SNR=3.4
comp=N,0.6nm,0.7s
AKTO **Aktyubinsk** **29.46 52** P **P** **08 49 27.2 -0.9**
comp=N,1.3nm,0.6s,baz=270,slow=10,SNR=3.8
AKTO LR LR 09 03 07.8
comp=N,42nm,18.8s,baz=210,slow=40
comp=N,1.3nm,0.6s
TORD **Torodi Ar. Bea** **29.56 221** P **P** **08 49 30.7 +1.5**
comp=N,0.5nm,0.7s,baz=28,slow=10,SNR=3.8
comp=N,0.5nm,0.7s
BVAR **Borovoye Array** **37.44 49** P **P** **08 50 36.7 -0.8**
comp=N,1.9nm,0.6s,baz=268,slow=8.3,SNR=6.8
comp=N,1.9nm,0.6s
MBAR **Mbarara** **38.77 164** LR LR 09 07 55.3
comp=N,47nm,18.9s,baz=22,slow=38
KURBB **Kurchatov Arra** **42.50 53** P **P** **08 51 18.9 -0.6**
comp=N,1.7nm,0.6s,baz=281,slow=8.7,SNR=10
comp=N,1.7nm,0.6s
MKAR **Makanchi Array** **45.49 58** P **P** **08 51 43.0 -0.6**
comp=N,2.0nm,0.7s,baz=279,slow=7.3,SNR=11
comp=N,2.0nm,0.7s
ZALV **Zalesovo Beam** **46.04 47** P **P** **08 51 46.2 -1.6**
comp=N,1.0nm,0.3s,baz=299,slow=8.3,SNR=1.1
comp=N,1.0nm,0.3s
SONM **Songino Array** **60.77 50** P **P** **08 53 35.5 -0.7**
comp=N,0.8nm,0.6s,baz=291,slow=8.9,SNR=3.8
comp=N,0.8nm,0.6s
CMAR **Chiang Mai Arr** **69.68 82** P **P** **08 54 33.6 -0.8**
comp=N,1.0nm,0.4s,baz=307,slow=7.4,SNR=5.3
comp=N,1.0nm,0.4s
WRA **Warramunga Arr** **120.17 93** PKP **PKPdf** **09 02 15.0 -0.6**
comp=N,0.5nm,0.8s,baz=308,slow=3.1,SNR=2.7
ASAR **Alice Springs** **121.74 97** PKP **PKPdf** **09 02 18.4 -0.2**
comp=N,0.6nm,0.7s,baz=300,slow=1.1,SNR=6.0

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*IDC **07** 08:45:01.0±1.5, 38°.70N×26°.43E, h0km, mb3.5/2, mbtmp3.6/5, ML3.8/3, MS3.2/3, Error ellipse: s-maj=21.1km s-min=17.9km az=172.0*
*ISK **07** 08:45:01.2, 38°.79N×26°.53E, h10km, ML3.6/52*
*THE **07** 08:45:01.9, 38°.80N×26°.57E, h2km±1km, ML3.7/6, Error ellipse: s-maj=1.2km s-min=0.4km az=247.0*
*AFAD **07** 08:45:01.4±0.0, 38°.78N×26°.54E, h11km±1km, MW3.6*
*ATH **07** 08:45:02.5, 38°.77N×26°.52E, h14km±1km, ML3.4/12, Error ellipse: s-maj=2.9km s-min=0.9km az=268.0*
ISC 07 08:45:01.8±0.8, 38°.77N±0°.02×26°.53E±0°.02, h14km±5km, n136, σ0.91/166, 14C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.14**	**222**	P	**Pg**	**Pg**	**08 45 05.6**	**+0.2**
KARB				S	**Sg**	**Sg**	**08 45 08.5**	**+0.7**
KARB				*i* AML	AML	AML	08 45 09.0	
	comp=N,5μm,0.4s							
KARB				*i* AML	AML	AML	08 45 10.0	
	comp=E,2μm,0.6s							
FOCM	**Foa**	**0.17**	**108**	Pg	**Pg**	**Pg**	**08 45 05.3**	**-0.5**
FOCM				Sg	**Sg**	**Sg**	**08 45 07.7**	**-0.8**
CAND	**Candarli**	**0.29**	**49**	Pg	**Pg**	**Pg**	**08 45 07.2**	**-0.6**
CAND				Sg	**Sg**	**Sg**	**08 45 11.8**	**-0.1**
IZMD	**zmir-Dikili-**	**0.38**	**55**	P	**Pg**	**Pg**	**08 45 08.9**	**-0.7**
EAG2	**Marmaro, Chios**	**0.40**	**236**	P	**Pb**	**Pb**	**08 45 10.6**	**-0.1**
EAG2				S	**Sb**	**Sb**	**08 45 15.3**	**-1.3**
DKL	**Dikili**	**0.42**	**44**	Pg	**Pg**	**Pg**	**08 45 09.5**	**-0.8**
DKL				Sg	**Sg**	**Sg**	**08 45 16.2**	**+0.2**
CESE	**eme**	**0.47**	**202**	Pg	**Pb**	**Pb**	**08 45 11.4**	**-0.5**
CESE				Sg	**Sb**	**Sb**	**08 45 19.1**	**+0.4**
ZEDA	**zmir-Bergama**	**0.47**	**65**	P	**Pg**	**Pg**	**08 45 10.5**	**-0.7**
ZEDA				S	**Sg**	**Sg**	**08 45 17.8**	**+0.2**
ZEDA				*i* AML	AML	AML	08 45 18.0	
	comp=N,2μm,0.3s							
ZEDA				*i* AML	AML	AML	08 45 18.0	
	comp=E,3μm,0.4s							
PRK	**Paraskevi**	**0.52**	**338**	P	**Pb**	**Pb**	**08 45 12.0**	**-0.8**
PRK				S	**Sb**	**Sb**	**08 45 19.8**	**-0.4**
	13μm,0.7s							
PRK	**Paraskevi**	**0.52**	**338**	P	**Pb**	**Pb**	**08 45 11.9**	**-0.8**
PRK				S	**Sb**	**Sb**	**08 45 20.0**	**-0.3**
PRK				AML	AML	AML	08 45 20.2	
	comp=N,27112μm,0.5s							
PRK				AML	AML	AML	08 45 22.4	
	comp=E,20392μm,0.5s							
ZEYE	**Izmir, Urla-Ze**	**0.53**	**182**	P	**Pb**	**Pb**	**08 45 12.0**	**-0.8**
ZEYE				S	**Sb**	**Sb**	**08 45 20.8**	**+0.4**
ZEYE				*i* AML	AML	AML	08 45 25.0	
	comp=E,4μm,0.4s							
ZEYE				*i* AML	AML	AML	08 45 27.0	
	comp=E,3μm,0.4s							
CHOS	**Chios island**	**0.53**	**225**	P	**Pb**	**Pb**	**08 45 13.0**	**0.0**
CHOS				S	**Sb**	**Sb**	**08 45 21.9**	**+1.4**
	comp=E,5μm,0.6s							
CHOS	**Chios island**	**0.53**	**225**	P	**Pb**	**Pb**	**08 45 12.9**	**-0.1**
CHOS				S	**Sb**	**Sb**	**08 45 20.2**	**-0.4**
CHOS				AML	AML	AML	08 45 24.4	
	comp=E,10980μm,0.6s							
CHOS				AML	AML	AML	08 45 30.6	
	comp=N,8960μm,0.5s							
BLCB	**Balcova**	**0.55**	**133**	Pg	**Pb**	**Pb**	**08 45 12.5**	**-0.8**
BLCB				Sg	**Sb**	**Sb**	**08 45 21.2**	**+0.1**
BLCB	**Balcova**	**0.55**	**133**	P	**Pb**	**Pb**	**08 45 12.5**	**-0.8**
AYVA	**Ayvalik**	**0.56**	**13**	P	**Pg**	**Pb**	**08 45 12.0**	**-0.8**
AYVA				S	**Sg**	**Sb**	**08 45 20.0**	**-0.2**
AYVA				*i* AML	AML	AML	08 45 21.0	
	comp=N,3μm,0.4s							
AYVA				*i* AML	AML	AML	08 45 22.0	
	comp=N,6μm,0.3s							
SIGR	**SIGRI**	**0.69**	**311**	Pg	**Pb**	**Pb**	**08 45 15.4**	**-0.3**
SIGR	**SIGRI**	**0.69**	**311**	P	**Pb**	**Pb**	**08 45 15.4**	**-0.3**
SIGR				S	**Sb**	**Sb**	**08 45 25.2**	**+0.2**
	comp=N,5μm,0.5s							
SIGR	**SIGRI**	**0.69**	**311**	P	**Pb**	**Pb**	**08 45 15.4**	**-0.3**
SIGR				S	**Sb**	**Sb**	**08 45 24.8**	**-0.2**
SIGR				AML	AML	AML	08 45 28.6	
	comp=E,10489μm,0.5s							
SIGR				AML	AML	AML	08 45 31.9	
	comp=N,8417μm,0.4s							

GMLD **Gumuldur** **0.75 156** Pg **Pb** **08 45 16.2 -0.5**
DGB **zmir** **0.77 159** P **Pb** **08 45 16.3 -0.7**
DGB S **Sb** **08 45 27.0 -0.2**
DGB *i* AML AML 08 45 31.0
comp=N,825nm,0.2s
DGB *i* AML AML 08 45 31.0
comp=N,1μm,0.7s
KOCA **Canakkale, Ayv** **0.80 338** P **Pb** **08 45 17.3 -0.3**
KOCA S **Sb** **08 45 27.6 -0.6**
KOCA *i* AML AML 08 45 31.0
comp=N,8μm,0.6s
KOCA *i* AML AML 08 45 31.0
comp=N,3μm,0.4s
BUHA **Balikesir, Bur** **0.85 30** P **Pg** **08 45 16.7 -1.6**
BUHA S **Sg** **08 45 29.2 -0.2**
BUHA *i* AML AML 08 45 32.0
comp=N,9μm,0.5s
SOMA **Soma-Manisa** **0.88 63** Pg **Pb** **08 45 18.9 0.0**
BAYC **CANAKKALE_Bayr** **0.97 1** P **Pg** **08 45 19.4 -1.3**
BAYC S **Sg** **08 45 32.7 -0.7**
BAYC *i* AML AML 08 45 35.0
comp=N,3μm,0.3s
BAYC *i* AML AML 08 45 37.0
comp=N,2μm,0.3s
EZNE **Ezine-Canakkal** **1.00 353** Pg **Pg** **08 45 20.3 -0.8**
AKS **Akhisar** **1.01 83** Pg **Pb** **08 45 21.2 0.0**
AKHS **Akhisar** **1.01 83** P **Pb** **08 45 21.1 -0.1**
AKHS S **Sb** **08 45 34.2 -0.1**
AKHS *i* AML AML 08 45 40.0
comp=N,826nm,0.3s
EZN **Ezine** **1.07 352** Pg **Pg** **08 45 21.2 -1.3**
EZN Sg **Sb** **08 45 36.5 +0.4**
EZN **Ezine** **1.07 352** P **Pg** **08 45 21.2 -1.3**
EZN S **Sb** **08 45 36.1 0.0**
comp=N,4μm,0.6s
SMG **Samos** **1.08 167** P **Pn** **08 45 22.1 -0.6**
SMG S **Sn** **08 45 39.0 +1.5**
comp=N,6μm,0.4s
SMG **Samos** **1.08 167** P **Pb** **08 45 21.8 -0.6**
SMG S **Sn** **08 45 37.9 +0.4**
SMG AML AML 08 45 40.9
comp=N,13145μm,0.5s
SMG AML AML 08 45 41.0
comp=E,9528μm,0.3s
GOMA **Golmarmara-Man** **1.09 93** Pn **Pn** **08 45 23.5 +0.8**
STEP **BALIKESIR_Sava** **1.11 56** P **Pb** **08 45 22.8 -0.1**
STEP S **Sg** **08 45 37.2 -0.5**
STEP *i* AML AML 08 45 46.0
comp=E,6μm,0.5s
STEP *i* AML AML 08 45 50.0
comp=E,3μm,0.4s
BOZC **Bozcaada** **1.14 341** P **Pb** **08 45 22.9 -0.4**
GCAM **G?zelcaml?** **1.20 152** Pn **Pn** **08 45 24.5 +0.3**
GCAM Sn **Sn** **08 45 42.3 +2.0**
IZMR **zmir-demi** **1.28 119** P **Pn** **08 45 25.6 +0.3**
IZMR S **Sg** **08 45 40.7 -2.5**
IZMR *i* AML AML 08 45 50.0
comp=E,415nm,0.7s
BALY **Balya** **1.29 41** P **Pg** **08 45 25.4 -1.3**
YENI **Yenice-Canakka** **1.29 25** Pn **Pb** **08 45 25.9 -0.1**
GORD **Gordes-Manisa** **1.30 83** Pn **Pb** **08 45 26.1 0.0**
CANM **Can-anakkale** **1.31 18** Pn Pb 08 45 31.0 +4.7
AYDB **Zeytinkoy-Aydi** **1.35 127** Pn **Pb** **08 45 26.7 -0.3**
EFSA **Agios Efstrati** **1.43 303** P **Pn** **08 45 26.9 -0.5**
EFSA AML AML 08 45 51.0
comp=N,2944μm,0.5s
EFSA AML AML 08 45 53.0
comp=E,2476μm,0.6s
BKES **Balkesir-Mer** **1.46 48** P **Pn** **08 45 27.6 -0.2**
GADA **Gvkgeada** **1.50 341** Pn **Pn** **08 45 27.8 -0.6**
LIA **Limnos Island** **1.54 318** P **Pn** **08 45 29.2 +0.3**
LIA S **Sg** **08 45 50.4 -1.0**
comp=E,3μm,0.5s
LIA **Limnos Island** **1.54 318** P **Pn** **08 45 29.2 +0.3**
LIA S **Sn** **08 45 47.8 -0.9**
LIA AML AML 08 45 53.0
comp=E,4860μm,0.5s
LIA AML AML 08 45 53.4
comp=N,5987μm,0.4s
GONE **Gonen-Balikesi** **1.56 35** Pn **Pn** **08 45 29.5 +0.3**
BLKS **Balkesir-Sus** **1.57 45** P **Pb** **08 45 30.3 -0.4**
KIRA **zmir-Kiraz** **1.58 111** P **Pb** **08 45 30.1 -0.8**
KIRA S **Sn** **08 45 50.2 +0.4**
KIRA *i* AML AML 08 45 57.0
comp=N,200nm,0.2s
KIRA *i* AML AML 08 46 03.0
comp=N,256nm,0.9s
NAZL **Nazilli-Aydin** **1.60 119** Pn **Pb** **08 45 30.6 -0.6**
LPK **Lapseki** **1.61 6** Pn **Pn** **08 45 30.2 +0.2**
TNSA **Tinos** **1.63 222** P **Pn** **08 45 29.3 -0.9**
TNSA AML AML 08 46 03.7
comp=E,1411μm,0.5s
TNSA AML AML 08 46 03.7
comp=N,1569μm,0.6s
GELI **Tayfur-Gelibol** **1.63 359** Pn **Pn** **08 45 30.7 +0.5**
KULA **Kula-Manisa** **1.69 98** Pn **Pn** **08 45 31.7 +0.6**
KULA **Kula-Manisa** **1.69 98** P **Pn** **08 45 31.7 +0.6**
KULA S **Sn** **08 45 53.6 +1.0**
KRBG **Karabiga-Canak** **1.73 20** Pn **Pn** **08 45 31.3 -0.3**
YKAV **Yalikavak-Bodr** **1.74 160** Pn **Pb** **08 45 32.4 -1.2**
BODT **Bodrum** **1.81 160** Pn **Pn** **08 45 32.8 +0.1**
BODT **Bodrum** **1.81 160** P **Pn** **08 45 32.8 +0.1**
DST **Dursunbey** **1.83 62** Pn **Pb** **08 45 34.1 -1.0**
ENZZ **Sultanice-Enez** **1.86 351** Pn **Pn** **08 45 33.4 0.0**
APE **Apeiranthos** **1.87 205** Pn **Pb** **08 45 34.2 -1.6**
APE **Apeiranthos** **1.87 205** ⇑P **Pn** **08 45 33.2 -0.3**
APE **Apeiranthos** **1.87 205** P **Pn** **08 45 32.9 -0.6**
APE AML AML 08 46 09.1
comp=E,666μm,0.5s
APE AML AML 08 46 11.9
comp=N,593μm,0.7s
SMTH **Samothraki Isl** **1.87 336** P **Pn** **08 45 33.4 -0.1**
SMTH **Samothraki Isl** **1.87 336** P **Pn** **08 45 33.5 0.0**
EDC **Edincik** **1.89 33** Pn **Pn** **08 45 34.1 +0.4**
ERIK **Erikli-Kesan** **1.90 360** Pn **Pn** **08 45 34.2 +0.3**
SIMA **Simav-Kutahya** **1.94 80** Pn **Pb** **08 45 35.9 -1.2**
SMAA **Simav-Kutahya** **1.94 79** Pn **Pb** **08 45 36.1 -1.0**
CAVK **Edirne/Enez-Ca** **1.94 352** ⇑P **Pn** **08 45 34.8 +0.3**
RKY **Sarkoy-Tekirda** **1.98 14** Pn **Pn** **08 45 35.1 0.0**
ENEZ **Enez** **1.99 352** Pn **Pn** **08 45 35.9 +0.8**
ENEZ **Enez** **1.99 352** P **Pn** **08 45 35.7 +0.6**
BAND **Balkesir-Ban** **2.00 37** P **Pn** **08 45 35.4 +0.1**
BAND **Balkesir-Ban** **2.00 37** ⇑P **Pn** **08 45 35.9 +0.7**
MRMT **Marmara Adasi** **2.01 24** Pn **Pn** **08 45 35.6 +0.1**
KCTX **Karacabey (Bur** **2.06 43** Pn **Pn** **08 45 36.6 +0.5**
SHAP **Saphane-Kutahy** **2.12 82** Pn **Pn** **08 45 38.3 +1.3**
YER **Yerkesik** **2.14 139** Pn **Pn** **08 45 37.8 +0.6**
YER **Yerkesik** **2.14 139** P **Pn** **08 45 37.9 +0.7**
DION **Dionisos Attik** **2.15 252** P **Pn** **08 45 35.9 -1.4**
ALN **Alexandroupoli** **2.16 350** Pn **Pn** **08 45 37.7 +0.2**
ALN **Alexandroupoli** **2.16 350** P **Pn** **08 45 37.6 +0.1**
ALN **Alexandroupoli** **2.16 350** P **Pn** **08 45 37.3 -0.2**
ALN S **Sn** **08 46 04.6 +0.5**
ALN AML AML 08 46 11.7
comp=E,1154μm,0.6s
ALN AML AML 08 46 11.9
comp=N,1400μm,0.5s
DATC **Datca-Mugla** **2.19 156** Pn **Pn** **08 45 38.9 +1.0**
DAT **Datca** **2.20 157** Pn **Pn** **08 45 38.6 +0.5**
GEDZ **Gediz** **2.27 82** Pn **Pn** **08 45 40.1 +1.1**
THAS **Thassos island** **2.31 323** P **Pn** **08 45 39.5 0.0**
THAS **Thassos island** **2.31 323** P **Pn** **08 45 39.2 -0.3**
THAS AML AML 08 46 23.1
comp=N,536μm,0.6s
THAS AML AML 08 46 24.0
comp=E,610μm,0.5s
YYLC **Yaylacik** **2.34 48** P **Pb** **08 45 43.2 -0.7**
TKR **Tekirdag** **2.35 19** Pn **Pn** **08 45 41.5 +1.4**
UKOP **Uzunkopru-Edir** **2.36 2** Pn **Pn** **08 45 41.1 +0.9**
TVSB **Tavsanli** **2.38 72** Pn **Pn** **08 45 41.1 +0.5**
TURN **Turunc** **2.41 145** Pn **Pn** **08 45 41.5 +0.7**
MDNY **Mudanya-Bursa** **2.42 48** Pn **Pn** **08 45 41.9 +0.8**
ULDT **Uludag** **2.44 55** P **Pb** **08 45 45.1 -0.6**
PAIG **Paliouri** **2.50 299** Pn **Pb** **08 45 42.5 +0.5**
OUR **Ouranopolis** **2.52 309** Pn **Pn** **08 45 42.5 +0.2**
OUR **Ouranopolis** **2.52 309** P **Pn** **08 45 42.3 -0.1**
OUR AML AML 08 46 27.9
comp=E,416μm,0.7s
OUR AML AML 08 46 30.1
comp=N,588μm,0.7s
SNT5 **Nea Kammeni, S** **2.52 201** P **Pn** **08 45 42.4 0.0**
CRLT **Corlu** **2.54 21** Pn **Pn** **08 45 43.8 +1.2**
APMY **Acipayam-Deniz** **2.54 120** Pn **Pn** **08 45 44.3 +1.5**

DALY	**Dalyan (Mula)**	**2.57 138**	Pn	**Pn**	**08 45 43.7 +0.6**
KAVA	**Kavala**	**2.71 326**	P	**Pn**	**08 45 45.4 +0.3**
KAVA	**Kavala**	**2.71 326**	P	**Pn**	**08 45 45.2 +0.1**
KOKK	**Kokkinochori,**	**2.83 317**	P	**Pn**	**08 45 46.7 +0.1**
ARG	**Arkhangelos**	**2.84 153**	P	**Pn**	**08 45 48.4 +1.6**
ARG			AML	AML	08 46 45.8
	comp=N,414μm,1.1s				
ARG			AML	AML	08 46 49.7
	comp=E,468μm,0.8s				
CAME	**Cameli-Denizli**	**2.85 129**	Pn	**Pn**	**08 45 48.4 +1.3**
HISA	**Bilecik-Osmane**	**3.12 56**	P	**Pg**	**08 45 59.6 -2.1**
SRS	**Serrai**	**3.26 317**	P	**Pn**	**08 45 52.9 +0.4**
NVR	**Nevrokopi**	**3.29 322**	P	**Pn**	**08 45 54.7 +1.6**
IDI	**Anoyia**	**3.71 201**	LR	LR	08 47 20.4
	comp=E,187nm,18.9s,baz=314,slow=38				
BRTR	**Keskin Array B**	**5.60 78**	Pn	**Pn**	**08 46 27.5 +2.6**
	comp=E,1.1nm,0.3s,baz=255,slow=14,SNR=13				
BRTR			Pg	**Pg**	**08 46 46.0 -3.1**
	comp=E,0.4nm,0.3s,baz=257,slow=16,SNR=20				
BRTR			Lg	Lg	08 48 03.1
	baz=5.2,slow=28				
	comp=E,4.8nm,0.5s				
KIRS	**Kirsehir-Merke**	**5.77 84**	⇑P	**Pn**	**08 46 29.0 +1.8**
BOVS	**Bovan**	**6.07 325**	⇑P	**Pn**	**08 46 32.2 +1.0**
MLR	**Muntele Rosu**	**6.74 357**	Pn	**Pn**	**08 46 42.3 +1.8**
	comp=E,0.7nm,0.3s,baz=208,slow=10,SNR=5.5				
MLR			Lg	Lg	08 48 39.4
	comp=E,0.6nm,0.3s,baz=276,slow=17,SNR=1.8				
	comp=E,4.7nm,0.4s				
MLR	**Muntele Rosu**	**6.74 357**	⇓P	**Pn**	**08 46 42.1 +1.7**
VOIR		**6.76 351**	⇓P	**Pn**	**08 46 41.7 +1.0**
LOT	**Lotru**	**6.99 344**	⇑P	**Pn**	**08 46 44.1 +0.3**
VRI	**Vrincioaia**	**7.10 1**	⇑P	**Pn**	**08 46 47.8 +2.5**
GZR	**Gura Zlata**	**7.19 338**	⇑P	**Pn**	**08 46 46.8 +0.3**
DOPR	**Dopca**	**7.25 354**	⇑P	**Pn**	**08 46 48.7 +1.3**
TURR	**Turia**	**7.29 357**	⇓P	**Pn**	**08 46 49.8 +1.8**
OZUR		**7.35 356**	⇑P	**Pn**	**08 46 51.0 +2.2**
SURR	**Surduc**	**7.71 336**	⇑P	**Pn**	**08 46 54.7 +1.1**
BZS	**Buzias**	**7.75 334**	⇑P	**Pn**	**08 46 54.9 +0.6**
MARR	**Marisel-Cluj**	**8.29 344**	⇓P	**Pn**	**08 47 03.1 +1.3**
SIRR	**Siria**	**8.31 336**	⇑P	**Pn**	**08 47 02.9 +0.9**
BURAR	**Bucovina Array**	**8.90 354**	⇑P	**Pn**	**08 47 11.5 +1.5**
MMAI	**Mount Meron Ar**	**9.20 126**	Pn	**Pn**	**08 47 14.6 +0.3**
	comp=E,1.7nm,0.3s,baz=312,slow=15,SNR=2.6				
	comp=E,1.1nm,0.3s				
ESDC	**Sonseca Array**	**23.59 282**	P	**P**	**08 50 12.8 +0.6**
	comp=E,1.0nm,0.8s,baz=74,slow=10,SNR=3.1				
	comp=E,1.0nm,0.8s				
MDT	**Midelt**	**25.87 266**	LR	LR	09 01 12.8
	comp=E,53nm,18.3s,baz=30,slow=38				
FURI	**Furi**	**31.68 157**	LR	LR	09 05 04.6
	comp=E,44nm,18.6s,baz=75,slow=38				
TORD	**Torodi Ar. Bea**	**33.69 228**	P	**P**	**08 51 43.7 +1.1**
	comp=E,0.5nm,0.6s,baz=35,slow=7.8,SNR=2.4				
	comp=E,0.5nm,0.6s				

TRN 07 09:11:12.9, 16.76N×60.74W, h22km, MD3.5, North-east of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**1.02**	**286**	*eP*	Pn	09 11 33.9	+2.0
ANBD				*eS*	Sn	09 11 48.8	+3.3
ANWB	**Willy Bob**	**1.34**	**312**	*eP*	Pb	09 11 37.9	+0.5
MBWH		**1.39**	**269**	*eP*	Pb	09 11 38.1	0.0
MBWH				*eS*	Sb	09 11 58.0	+2.6
MBFL	**Flemmings, Mon**	**1.41**	**270**	*eP*	Pb	09 11 38.8	+0.3
MBFL				*eS*	Sb	09 11 57.6	+1.5
BIM	**Bigot**	**2.25**	**188**	*eP*	Pn	09 11 50.8	+1.9
BIM				*eS*	Sb	09 12 18.6	-1.9

IDC ***07*** *09:28:03.4±1.5, 24.64N×122.74E, h0km, mb3.6/4, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=71.0km s-min=23.0km az=66.0*
JMA ***07*** *09:28:03.4±0.2, 25.0N±0.8×123.6E±0.3, h24km, MV3.2/10, NW OFF ISHIGAKIJIMA IS*
ISC 07 09:28:02.4±2.2, 25.05N±0.09×123.56E±0.04, h4km±15km, n19, σ0.48/22, mb3.6/4, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.73**	**167**	P	**Pg**	**09 28 16.9**	**+0.4**
IRIF				S	**Sg**	**09 28 26.3**	**+0.3**
YOJ	**Yonaguni jima**	**0.77**	**220**	P	**Pg**	**09 28 17.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.77**	**220**	P	**Pg**	**09 28 17.4**	**+0.2**
YOJ				S	**Sg**	**09 28 26.9**	**-0.3**
JYNG	**Yonagunijimaku**	**0.82**	**223**	P	**Pg**	**09 28 18.2**	**+0.1**
JYNG				S	**Sg**	**09 28 28.3**	**-0.4**
JISG	**Ishigakijimahi**	**0.83**	**124**	P	**Pg**	**09 28 18.6**	**+0.3**
JIJ	**Ishigaki jima**	**0.87**	**142**	P	**Pg**	**09 28 19.0**	**-0.1**
JKRS	**Kuro-shima**	**0.91**	**153**	P	**Pg**	**09 28 19.6**	**-0.3**
JKRS				S	**Sg**	**09 28 31.9**	**+0.2**
HATJ	**Hateruma jima**	**1.02**	**167**	P	**Pg**	**09 28 21.6**	**-0.3**
HATJ				S	**Sg**	**09 28 34.9**	**-0.2**
JTJ	**Tarama**	**1.12**	**111**	P	**Pg**	**09 28 23.7**	**-0.2**
JMJ	**Miyako jima 2**	**1.60**	**98**	P	Pg	09 28 42.5	+9.5
NACB	**Ninganchiao**	**1.99**	**244**	P	**Pn**	**09 28 37.3**	**+0.5**
YHNB	**Yeheng**	**2.02**	**260**	P	**Pn**	**09 28 37.1**	**-0.2**
YULB	**Yu-li**	**2.64**	**232**	P	**Pn**	**09 28 45.3**	**-0.5**
SSLB	**Suanglung**	**2.69**	**243**	P	**Pn**	**09 28 47.9**	**+1.5**
KSRS	**Korea Array**	**12.91**	**16**	Pn	Pn	09 31 16.3	+10
	0.3nm,0.3s,baz=203,slow=12,SNR=2.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**39.25**	**314**	P	**P**	**09 35 32.0**	**0.0**
	1.5nm,0.9s,baz=105,slow=9.9,SNR=7.1						
	1.5nm,0.9s						
KURBB	**Kurchatov Arra**	**42.86**	**319**	P	**P**	**09 36 01.4**	**-0.3**
	0.9nm,0.7s,baz=110,slow=8.9,SNR=4.7						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**45.94**	**166**	P	**P**	**09 36 26.0**	**-0.5**
	0.9nm,0.8s,baz=345,slow=8.5,SNR=4.6						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**49.46**	**167**	P	**P**	**09 36 54.1**	**+0.3**
	0.3nm,0.8s,baz=350,slow=9.1,SNR=2.8						
	0.3nm,0.8s						

IDC ***07*** *09:35:58.1±1.2, 24.59N×122.74E, h0km, mb3.5/5, mbtmp3.5/6, Error ellipse: s-maj=47.9km s-min=21.3km az=73.0*
JMA ***07*** *09:35:58.1±0.2, 25.1N±1.3×123.6E±0.3, h32km, MV3.3/11, NW OFF ISHIGAKIJIMA IS*
ISC 07 09:36:00.2±0.9, 24.86N±0.07×123.61E±0.04, h32km, n21, σ1.33/22, mb3.5/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.53**	**168**	*i P*	**Pb**	**09 36 11.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.67**	**234**	P	**Pn**	**09 36 11.6**	**-1.8**
YOJ	**Yonaguni jima**	**0.67**	**234**	*i P*	**Pn**	**09 36 11.7**	**-1.8**
YOJ				*eS*	**Sb**	**09 36 20.9**	**-1.6**
JIJ	**Ishigaki jima**	**0.69**	**135**	*eP*	**Pn**	**09 36 13.0**	**-0.7**
JISG	**Ishigakijimahi**	**0.69**	**113**	*eP*	**Pn**	**09 36 12.8**	**-1.0**
JKRS	**Kuro-shima**	**0.72**	**149**	*eP*	**Pn**	**09 36 14.0**	**0.0**
JKRS				*eS*	**Sb**	**09 36 23.7**	**-0.1**
JYNG	**Yonagunijimaku**	**0.72**	**236**	*i P*	**Pn**	**09 36 12.4**	**-1.7**
JYNG				*eS*	**Sb**	**09 36 22.7**	**-1.3**
HATJ	**Hateruma jima**	**0.82**	**167**	P	**Pn**	**09 36 15.4**	**0.0**
JMJ	**Miyako jima 2**	**1.53**	**91**	P	Pb	09 36 33.4	+5.5
TATO	**Taipei**	**1.93**	**274**	P	**Pb**	**09 36 35.4**	**+0.7**
NACB	**Ninganchiao**	**1.96**	**250**	P	**Pn**	**09 36 30.8**	**-0.3**
YHNB	**Yeheng**	**2.04**	**265**	P	**Pn**	**09 36 32.9**	**+0.6**
YULB	**Yu-li**	**2.56**	**236**	P	**Pn**	**09 36 38.8**	**-0.7**
SSLB	**Suanglung**	**2.64**	**247**	P	**Pn**	**09 36 41.6**	**+1.0**
TPUB	**Ta-pu**	**3.13**	**241**	P	**Pn**	**09 36 49.7**	**+2.4**
KSRS	**Korea Array**	**13.09**	**15**	Pn	**P**	**09 39 12.3**	**-1.3**
	1.6nm,0.9s,baz=184,slow=12,SNR=2.4						
USRK	**Ussuriysk Ar.**	**20.47**	**17**	P	Pn	09 40 42.3	+4.9
	1.0nm,0.7s,baz=198,slow=9.1,SNR=2.4						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**39.42**	**314**	P	**P**	**09 43 26.9**	**-0.2**
	0.4nm,0.5s,baz=97,slow=9.5,SNR=6.1						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**43.04**	**319**	P	**P**	**09 43 56.2**	**-0.5**
	0.8nm,0.8s,baz=110,slow=8.1,SNR=4.5						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**45.74**	**166**	P	**P**	**09 44 20.5**	**+1.9**
	0.6nm,0.7s,baz=344,slow=8.8,SNR=3.9						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**49.26**	**168**	P	**P**	**09 44 48.1**	**+2.2**
	0.2nm,0.5s,baz=348,slow=8.1,SNR=7.3						
	0.2nm,0.5s						

IDC ***07*** *09:42:23.9±0.4, 2.93S×119.22E, h0km, mb4.7/28, mbtmp4.7/32, ML4.3/4, MS4.4/64, Error ellipse: s-maj=20.0km s-min=9.4km az=66.0*
BJI ***07*** *09:42:24.0, 2.90S×119.40E, h10km, mb4.9/81, mB5.3/57, Ms4.8/88, Ms7 4.6/84*
MOS ***07*** *09:42:24.5±1.0, 2.86S×119.44E, h16km, mb5.3/54, MS4.5/9, Error ellipse: s-maj=11.2km s-min=4.7km az=117.6*
NEIC ***07*** *09:42:25.9±2.3, 2.92S±0.05×119.41E±0.06, h9km±3km, mb5.2/87, Ms_20 4.7/55, Mww5.2/42, Error ellipse: s-maj=8.9km s-min=6.4km az=65.0*
DJA ***07*** *09:42:26.6±0.1, 3.3S±1.1×119.9E±.1, h10km, M5.0/83, mb5.2/83, mB5.6/48, MLv5.4/31, Mw(mB)5.1/48, MwMwp4.9/23, Mwp5.2/23*
GCMT ***07*** *09:42:26.9±0.1, 2.86S±0.01×119.42E±0.01, h12km, MW5.3/128, Moment Tensor Solution. s94,c147; s128,c240; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.65±.01; Mθθ0.65±.01; Mφφ0.00±.01; Mrθ0.51±.03; Mθφ0.51±.01; Mφr0.42±.04; Best double couple: M0 1.03600×10^17 NP1:φs232.00000°, δ65.00000°, λ-101.00000°. NP2:φs76.00000°, δ27.00000°, λ-68.00000°. Principal axes: T 1.1640, Plg20.0000°, Azm329.0000°; N -0.2560, Plg10.0000°, Azm236.0000°; P -0.9070, Plg68.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***07*** *09:42:26.7, 2.91S×119.40E, h12km*
NEIC ***07*** *09:42:26.7, 2.91S×119.60E, h12km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16 Nm; Mrr-5.90; Mθθ6.26; Mφφ-0.36; Mrθ3.35; Mθφ4.79; Mφr1.62; Fault plane solution: M0 8.23000×10^16 NP1: φs243.90000°, δ58.47000°, λ-87.98000°. NP2:φs60.05000°, δ31.59000°, λ-93.28000°. Principal axes: T 9.6629, Plg13.0000°, Azm332.0000°; N -2.8686, Plg2.0000°, Azm63.0000°; P -6.7943, Plg76.0000°, Azm160.0000°;*
ISC 07 09:42:26.8±0.4, 2.92S±0.03×119.48E±0.04, h18km±1km, h18km: pP-P, n527, σ1.68/535, mb5.1/147, MS4.5/110, 11C-17D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.37**	**110**	P	**Pg**	**09 42 32.5**	**-2.0**
TTSI				S	**Sg**	**09 42 39.1**	**-0.6**
SPSI	**Sidrap Palu**	**1.08**	**164**	P	**Pb**	**09 42 44.8**	**-2.3**
SPSI				S	**Sn**	**09 43 01.8**	**+0.1**
BNSI	**Bone**	**1.60**	**157**	P	**Pn**	**09 42 54.5**	**+0.2**
KAPI	**Kappang**	**2.10**	**172**	Pn	**Pn**	**09 43 01.0**	**-0.2**
KAPI	**Kappang**	**2.10**	**172**	Pn	**Pn**	**09 43 01.6**	**+0.5**
	310nm,0.3s,baz=332,slow=10,SNR=320						
KAPI				Sn	**Sb**	**09 43 30.0**	**-0.2**
	1μm,0.3s,baz=23,slow=23,SNR=14						
KAPI				LR	LR	09 43 55.4	
	comp=Z,16μm,20.8s,baz=249,slow=43						
	3μm,0.6s						
KAPI	**Kappang**	**2.10**	**172**	*c iP*	**Pn**	**09 43 00.7**	**-0.5**
BKSI	**Bulukumba**	**2.48**	**165**	P	**Pn**	**09 43 06.8**	**+0.5**
APSI	**Ampana**	**2.95**	**48**	P	**Pn**	**09 43 13.1**	**+0.3**
BKB	**Balikpapan**	**3.06**	**302**	Pn	**Pn**	**09 43 13.6**	**-0.7**
BKB	**Balikpapan**	**3.06**	**302**	P	**Pn**	**09 43 14.7**	**+0.4**
BKB	**Balikpapan**	**3.06**	**302**	P	**Pn**	**09 43 14.6**	**+0.3**
MPSI	**Mapaga**	**3.26**	**7**	P	**Pn**	**09 43 17.1**	**0.0**
SMKI	**Samarinda**	**3.34**	**317**	P	**Pn**	**09 43 17.7**	**-0.5**
BSSI	**Bau Bau, Buton**	**3.36**	**163**	P	**Pn**	**09 43 18.6**	**+0.1**
LUWI	**Luwuk**	**3.78**	**61**	Pn	**Pn**	**09 43 25.1**	**+0.7**
LUWI	**Luwuk**	**3.78**	**61**	P	**Pn**	**09 43 25.0**	**+0.7**
LUWI	**Luwuk**	**3.78**	**61**	P	**Pn**	**09 43 24.6**	**+0.3**
BBSI	**Bau Bau**	**4.01**	**130**	P	**Pn**	**09 43 30.0**	**+2.6**
MRSI	**Marisa**	**4.17**	**36**	P	**Pn**	**09 43 29.1**	**-0.6**
TOLI2	**Tolitoli**	**4.21**	**18**	Pn	**Pn**	**09 43 32.3**	**+2.1**
TOLI2	**Tolitoli**	**4.21**	**18**	P	**Pn**	**09 43 33.0**	**+2.8**
MTKI	**Muara Teweh, K**	**4.98**	**293**	P	**Pn**	**09 43 39.4**	**-1.4**
KMSI	**Cibinong**	**5.68**	**52**	P	**Pn**	**09 43 53.6**	**+3.1**
PLAI	**Plampang**	**6.11**	**196**	P	**Pn**	**09 43 55.9**	**-0.4**
PLAI	**Plampang**	**6.11**	**196**	P	**Pn**	**09 43 55.7**	**-0.6**
	153nm,0.7s,2μm8μm1.5nm						
MMRI	**Maumere**	**6.31**	**154**	P	**Pn**	**09 44 00.4**	**+1.3**
MMRI	**Maumere**	**6.31**	**154**	P	**Pn**	**09 44 00.1**	**+1.0**
	227nm,0.7s,5μm1.0nm						
SANI	**Sanana**	**6.56**	**83**	P	**Pn**	**09 44 02.7**	**+0.1**
SANI	**Sanana**	**6.56**	**83**	P	**Pn**	**09 44 02.3**	**-0.3**
	80nm,0.7s,0.9nm						
SRBI	**Singaraja**	**6.66**	**219**	P	**Pn**	**09 44 02.5**	**-1.4**
WBSI	**Waikabubak, Su**	**6.68**	**181**	P	**Pn**	**09 44 04.2**	**0.0**
	197nm,0.7s,3μm1.4nm						
KMMI	**Kalianget**	**6.85**	**233**	P	**Pn**	**09 44 06.9**	**+0.4**
	74nm,0.6s,5μm2.6nm						
ABJI	**Asem Bagus**	**7.12**	**227**	P	**Pn**	**09 44 10.8**	**+0.6**
	64nm,0.9s,1.0nm						
BASI	**Baing, Sumba**	**7.34**	**171**	P	**Pn**	**09 44 15.1**	**+1.9**
BLJI	**Banyuglugur**	**7.57**	**230**	P	**Pn**	**09 44 16.0**	**-0.3**
	48nm,0.6s,2μm3μm0.5nm						
NLAI	**Namlea**	**7.62**	**93**	P	Pn	09 44 22.1	+5.0
	94nm,0.8s						
JAGI	**Jajag, Banyuwa**	**7.65**	**224**	Pn	**Pn**	**09 44 17.6**	**+0.2**
JAGI	**Jajag, Banyuwa**	**7.65**	**224**	P	**Pn**	**09 44 18.2**	**+0.7**
JAGI	**Jajag, Banyuwa**	**7.65**	**224**	P	**Pn**	**09 44 17.2**	**-0.3**
	95nm,0.8s,2μm0.5nm						
GMJI	**Gumukmas**	**8.02**	**228**	P	**Pn**	**09 44 22.5**	**-0.1**
GRJI	**Gresik**	**8.02**	**240**	P	**Pn**	**09 44 23.6**	**+1.0**
	149nm,0.7s,1.6nm						
MYLDM	**Lahad Datu**	**8.10**	**353**	Pn	**Pn**	**09 44 24.5**	**+0.8**
MYLDM	**Lahad Datu**	**8.10**	**353**	P	**Pn**	**09 44 25.9**	**+2.2**
SOEI	**Soe**	**8.30**	**145**	Pn	**Pn**	**09 44 27.7**	**+1.3**
SOEI	**Soe**	**8.30**	**145**	P	**Pn**	**09 44 29.9**	**+3.4**
SOEI	**Soe**	**8.30**	**145**	P	**Pn**	**09 44 29.3**	**+2.8**
	245nm,1.1s,4μm10μm						
LBMI	**Labuha**	**8.34**	**74**	P	**Pn**	**09 44 28.5**	**+1.6**
BATI	**Baumata**	**8.35**	**150**	Pn	**Pn**	**09 44 27.2**	**+0.1**
	4.9nm,0.3s,baz=290,slow=24,SNR=1.5						
BATI				LR	LR	09 48 09.2	
	comp=Z,10μm,20.3s,baz=11,slow=41						
	14nm,0.3s						
BATI	**Baumata**	**8.35**	**150**	P	**Pn**	**09 44 29.0**	**+1.8**
	136nm,2.2s,3μm6μm						
TNTI	**Ternate**	**8.70**	**65**	Pn	**Pn**	**09 44 31.1**	**-0.8**
TNTI	**Ternate**	**8.70**	**65**	P	**Pn**	**09 44 35.6**	**+3.7**
TNTI	**Ternate**	**8.70**	**65**	P	**Pn**	**09 44 31.3**	**-0.6**
	133nm,1.0s,1μm						
AAI	**Ambon**	**8.74**	**95**	P	**Pn**	**09 44 36.1**	**+3.7**
	269nm,1.8s,4μm						
SBUM	**Sibu**	**9.00**	**306**		**Pn**	**09 44 33.8**	**-2.2**
SBUM	**Sibu**	**9.00**	**306**	P	**Pn**	**09 44 36.5**	**+0.5**
PWJI	**Pagerwojo**	**9.17**	**236**	P	**Pn**	**09 44 38.8**	**+0.5**
	50nm,0.9s						
MSAI	**Masohi**	**9.45**	**93**	P	**Pn**	**09 44 43.9**	**+1.7**
	98nm,1.0s,3μm						
KKM	**Kota Kinabalu**	**9.48**	**340**		**Pn**	**09 44 42.2**	**-0.5**
KKM	**Kota Kinabalu**	**9.48**	**340**	P	**Pn**	**09 44 45.3**	**+2.6**
PCJI	**Pacitan**	**9.78**	**237**	P	**Pn**	**09 44 47.4**	**+0.7**
	119nm,1.3s						
KSM	**Kuching**	**10.15**	**295**		**Pn**	**09 44 50.1**	**-1.6**
KSM	**Kuching**	**10.15**	**295**	P	**Pn**	**09 44 53.0**	**+1.2**
UGM	**Wanagama**	**10.20**	**241**	P	**Pn**	**09 44 54.0**	**+1.5**
	142nm,1.6s						
BNDI	**Bandanaira**	**10.53**	**99**	P	**Pn**	**09 45 00.9**	**+3.9**
BNDI	**Bandanaira**	**10.53**	**99**	P	**Pn**	**09 44 59.8**	**+2.8**
KPJI	**Karang Pucung**	**11.38**	**247**	P	**Pn**	**09 45 10.1**	**+1.5**
DAV	**Davao City (W)**	**11.64**	**32**	LR	LR	09 50 20.8	
	comp=Z,2μm,20.1s,baz=196,slow=40						
SWI	**Sorong**	**11.95**	**80**	P	**Pn**	**09 45 19.6**	**+3.1**
	55nm,0.9s,938nm						
LEM	**Lembang**	**12.44**	**251**	Pn	Pn	09 45 18.3	-4.9
	8.7nm,0.3s,baz=114,slow=23,SNR=1.7						
LEM				LR	LR	09 50 29.3	
	comp=Z,5μm,19.1s,baz=34,slow=40						
	16nm,0.3s						
LEM	**Lembang**	**12.44**	**251**	P	**Pn**	**09 45 25.2**	**+2.0**
	41nm,0.8s						
BBJI	**Bungbulang**	**12.61**	**249**	P	**Pn**	**09 45 28.3**	**+2.7**
FAKI	**Fak Fak**	**12.76**	**90**		**Pn**	**09 45 28.2**	**+0.7**
FAKI	**Fak Fak**	**12.76**	**90**	P	**Pn**	**09 45 30.3**	**+2.7**
FAKI	**Fak Fak**	**12.76**	**90**	P	**Pn**	**09 45 30.2**	**+2.7**
	48nm,1.1s,1μm						
SAUI	**Saumlaki**	**12.80**	**114**	P	**Pn**	**09 45 31.1**	**+3.0**
SAUI	**Saumlaki**	**12.80**	**114**	P	**Pn**	**09 45 31.4**	**+3.3**
	117nm,0.4s						
CNJI	**Cibinong**	**13.04**	**250**	P	**Pn**	**09 45 34.3**	**+2.9**
	60nm,1.3s,1μm						
DBJI	**Dramaga**	**13.19**	**254**	P	**Pn**	**09 45 34.6**	**+1.2**
	107nm,1.3s						
PPBI	**Pangkal Pinang**	**13.35**	**273**	P	**Pn**	**09 45 35.9**	**+0.3**
SKJI	**Sukabumi**	**13.49**	**252**	P	**Pn**	**09 45 40.2**	**+2.6**
	248nm,1.4s,4μm2μm						
KMPI	**Kaimana, Papua**	**14.23**	**93**	P	**Pn**	**09 45 49.7**	**+2.1**
	181nm,0.8s						
DRS	**Darwin Rock St**	**14.74**	**130**	P	**Pn**	**09 45 56.4**	**+1.8**
RKPI	**Ransiki, Papua**	**14.76**	**85**	P	**Pn**	**09 45 57.7**	**+2.8**
	111nm,1.1s						
KASI	**Kota Agung**	**15.16**	**260**	P	**P**	**09 46 03.2**	**-2.0**
	227nm,1.1s,3μm						
MTN	**Manton Dam**	**15.18**	**131**		**Pn**	**09 46 01.0**	**+0.5**
MTN	**Manton Dam**	**15.18**	**131**	P	**Pn**	**09 45 58.6**	**-1.9**
MTN	**Manton Dam**	**15.18**	**131**	P	**Pn**	**09 46 02.5**	**+2.0**
TPRI	**Tanjung Pinang**	**15.42**	**284**	P	**Pn**	**09 46 02.4**	**-1.3**
LWLI	**Liwa**	**15.52**	**262**	P	**Pn**	**09 46 05.0**	**-0.1**
	308nm,1.4s						
KNRA	**Kununurra**	**15.63**	**145**		**Pn**	**09 46 05.3**	**-1.2**
KNRA	**Kununurra**	**15.63**	**145**	P	**Pn**	**09 46 07.4**	**+0.9**
KDU	**Kakadu**	**16.11**	**128**	P	**Pn**	**09 46 12.3**	**-0.3**
	comp=Z,36nm,1.9s						
KDU	**Kakadu**	**16.11**	**128**	P	**Pn**	**09 46 12.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**16.25**	**159**		**Pn**	**09 46 15.0**	**+0.6**
FITZ				IAmb	IAmb	09 46 19.4	
	comp=Z,362nm,1.0s						
FITZ	**Fitzroy Crossi**	**16.25**	**159**	P	**P**	**09 46 16.5**	**-0.9**
	comp=Z,871nm,1.4s						
FITZ	**Fitzroy Crossi**	**16.25**	**159**	Pn	**Pn**	**09 46 13.2**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=34,slow=15,SNR=1.8						
FITZ				LR	LR	09 53 21.6	
	comp=Z,3μm,19.1s,baz=326,slow=40						
	comp=Z,6.8nm,1.0s						
FITZ	**Fitzroy Crossi**	**16.25**	**159**	P	**P**	**09 46 17.5**	**+0.1**
BTDF	**Bukit Timah Da**	**16.26**	**285**	P	**P**	**09 46 18.2**	**+0.7**
MYKOM	**Kota Tinggi**	**16.30**	**286**		**Pn**	**09 46 15.2**	**+0.1**
MYKOM				IAmb	IAmb	09 46 22.4	
	comp=Z,434nm,2.0s						
MYKOM	**Kota Tinggi**	**16.30**	**286**	P	**Pn**	**09 46 16.1**	**+1.0**
TGY	**Tagaytay City**	**16.97**	**5**	LR	LR	09 54 57.3	
	comp=Z,1μm,18.9s,baz=314,slow=44						
MBWA	**Marble Bar**	**18.14**	**179**		**Pn**	**09 46 36.6**	**-1.3**
MBWA				IAmb	IAmb	09 46 45.5	
	comp=Z,245nm,1.7s						
MBWA	**Marble Bar**	**18.14**	**179**	P	**Pn**	**09 46 36.7**	**-1.2**
MBWA				IAmb	IAmb	09 46 45.6	
	comp=Z,246nm,1.6s						
MBWA	**Marble Bar**	**18.14**	**179**	P	**P**	**09 46 38.1**	**-0.1**
	comp=Z,81nm,2.6s						
MBWA	**Marble Bar**	**18.14**	**179**	P	**P**	**09 46 39.0**	**+0.8**
MBWA	**Marble Bar**	**18.14**	**179**	P	**P**	**09 46 38.8**	**+0.6**
PSAD1	**Pilbara Seismi**	**18.43**	**179**	P	**Pn**	**09 46 42.4**	**+0.8**
	comp=Z,47nm,2.2s						
PSA00	**Pilbara Seismi**	**18.55**	**179**	P	**P**	**09 46 42.4**	**-0.3**
PSA00	**Pilbara Seismi**	**18.55**	**179**	P	**Pn**	**09 46 43.9**	**+0.9**
	comp=Z,51nm,1.9s						
PSA00	**Pilbara Seismi**	**18.55**	**179**	P	**Pn**	**09 46 43.6**	**+0.6**
PSAA1	**Pilbara Seismi**	**18.55**	**179**	P	**Pn**	**09 46 44.0**	**+1.0**
	comp=Z,60nm,1.8s						
BKNI	**Bangkinang**	**18.71**	**280**	P	**Pn**	**09 46 45.4**	**+0.4**
PDSI	**Padang**	**19.11**	**276**	P	**P**	**09 46 49.2**	**+0.2**
	comp=Z,93nm,0.9s						
IPM	**Ipoh**	**19.84**	**292**	P	**Pn**	**09 46 58.0**	**-0.7**
IPM				IAmb	IAmb	09 47 05.8	
	comp=Z,118nm,1.2s						
IPM	**Ipoh**	**19.84**	**292**	P	**Pn**	**09 46 59.1**	**+0.4**
SISI	**Saibi**	**20.43**	**274**	P	**P**	**09 47 02.7**	**-0.7**
	comp=Z,273nm,1.0s						
KULM	**Kulim**	**20.50**	**293**	P	**P**	**09 47 04.1**	**0.0**
KULM				IAmb	IAmb	09 47 06.6	
	comp=Z,89nm,1.0s						
KULM

COEN	**Coen**	**25.85 116**	P	**P**	**09 47 59.9 +2.3**
	comp=Z,28nm,1.0s				
COEN	**Coen**	**25.85 116**	P	**P**	**09 48 00.2 +2.5**
YULB	**Yu-li**	**26.21 4**	P	**P**	**09 47 59.5 -1.2**
YULB	**Yu-li**	**26.21 4**	P	**P**	**09 48 04.4 +3.6**
MORW	**Morawa**	**26.21 187**	P	**P**	**09 48 00.7 0.0**
	comp=Z,26nm,1.6s				
MORW	**Morawa**	**26.21 187**	P	**P**	**09 48 02.7 +1.9**
QIS	**Mount Isa**	**26.32 133**	P	**P**	**09 48 01.8 0.0**
	comp=Z,18nm,0.9s				
QIS	**Mount Isa**	**26.32 133**	P	**P**	**09 48 01.9 0.0**
NONG	**Nongkai**	**26.34 323**	P	**P**	**09 48 03.3 +1.3**
SRDT	**SRDT**	**26.48 311**	P	**P**	**09 48 05.2 +1.9**
SSLB	**Suanglung**	**26.58 3**	P	**P**	**09 48 05.2 +1.0**
SSLB	**Suanglung**	**26.58 3**	P	**P**	**09 48 06.1 +1.9**
YHNB	**Yeheng**	**27.48 4**	P	**P**	**09 48 12.6 +0.3**
QZH	**Quanzhou**	**27.71 358**	P	**P**	**09 48 14.8 +0.6**
QZH			S	**S**	**09 52 58.6 +2.8**
QZH			LR	LR	
	comp=Z,570nm,17.9s				
QZH			LR	LR	
	comp=Z,820nm,21.0s				
QZH			LR	LR	
	comp=Z,1μm,25.4s				
PMG	**Port Moresby**	**28.25 104**	P	**P**	**09 48 19.0 -0.3**
PMG			IAmb	IAmb	09 48 22.1
	comp=Z,34nm,1.2s				
PMG	**Port Moresby**	**28.25 104**	LR	LR	10 02 02.5
	comp=Z,762nm,20.2s,baz=287,slow=41				
PMG	**Port Moresby**	**28.25 104** *d*	*i*P	**P**	**09 48 19.4 +0.1**
PMG			pmax	pmax	
	comp=Z,29nm,1.2s				
KMBL	**Kambalda**	**28.39 176**	P	**P**	**09 48 20.2 -0.1**
	comp=Z,30nm,0.8s				
KMBL	**Kambalda**	**28.39 176**	P	**P**	**09 48 20.0 -0.3**
SLVN	**Son La**	**28.52 328**	P	**P**	**09 48 21.9 +0.2**
SLVN			IAMs_20	IAMs_20	10 01 33.4
	comp=Z,1μm,20.0s				
SLVN	**Son La**	**28.52 328**	P	**P**	**09 48 23.7 +2.1**
KLBR	**Kellerberrin**	**28.57 183**	P	**P**	**09 48 21.5 -0.4**
	comp=Z,25nm,1.0s				
MTSU	**Mount Surprise**	**28.66 124**	P	**P**	**09 48 23.2 +0.3**
	comp=Z,7.7nm,0.9s				
MTSU	**Mount Surprise**	**28.66 124**	P	**P**	**09 48 23.6 +0.7**
FORT	**Forrest**	**28.88 165**	P	**P**	**09 48 24.7 +0.1**
FORT			IAmb	IAmb	09 48 48.4
	comp=Z,44nm,0.8s				
FORT	**Forrest**	**28.88 165**	P	**P**	**09 48 26.4 +1.8**
	comp=Z,55nm,1.1s				
OOD	**Oodnadatta**	**29.19 150**	P	**P**	**09 48 30.8 +3.4**
CM31	**Chiang Mai Arr**	**29.32 317**	P	**P**	**09 48 30.1 +1.3**
	SNR=12				
CMAR	**Chiang Mai Arr**	**29.32 317**	P	**P**	**09 48 28.8 0.0**
CMAR	**Chiang Mai Arr**	**29.32 317**	P	**P**	**09 48 28.4 -0.4**
	comp=Z,6.8nm,1.1s,baz=145,slow=6.5,SNR=32				
CMAR			LR	LR	10 02 34.8
	comp=Z,1μm,18.5s,baz=135,slow=42				
	comp=Z,6.8nm,1.1s				
CMAR	**Chiang Mai Arr**	**29.32 317**	*i*P	**P**	**09 48 30.3 +1.5**
CMAR			pmax	pmax	
	comp=Z,8.0nm,0.9s				
CHTO	**Chiang Mai**	**29.57 318**	P	**P**	**09 48 31.4 +0.4**
CHTO			IAmb	IAmb	09 48 34.9
	comp=Z,37nm,1.3s				
CHTO			IAMs_20	IAMs_20	10 02 13.2
	comp=Z,1μm,19.0s				
CHTO	**Chiang Mai**	**29.57 318**	P	**P**	**09 48 31.4 +0.4**
CHTO			pmax	pmax	
	comp=Z,37nm,1.3s				
CHTO			MLR	MLR	
	comp=Z,1μm,19.0s				
NWAO	**Narrogin (SRO)**	**29.93 184**	P	**P**	**09 48 34.5 +0.5**
NWAO			IAmb	IAmb	09 48 36.5
	comp=Z,42nm,1.3s				
NWAO	**Narrogin (SRO)**	**29.93 184**	P	**P**	**09 48 35.0 +1.1**
	comp=Z,84nm,1.1s				
NWAO	**Narrogin (SRO)**	**29.93 184**	LR	LR	10 02 24.6
	comp=Z,810nm,18.2s,baz=32,slow=40				
NWAO	**Narrogin (SRO)**	**29.93 184**	P	**P**	**09 48 35.0 +1.1**
NWAO	**Narrogin (SRO)**	**29.93 184**	P	**P**	**09 48 35.3 +1.3**
NWAO	**Narrogin (SRO)**	**29.93 184**	P	**P**	**09 48 34.5 +0.5**
NWAO			pmax	pmax	
	comp=Z,42nm,1.3s				
GUMO	**Guam**	**30.06 56**	LR	LR	10 00 21.2
	comp=Z,156nm,19.8s,baz=220,slow=36				
MULG	**Mulgathing**	**30.52 155**	P	**P**	**09 48 40.1 +0.9**
JOW	**Kunigami**	**30.77 15**	LR	LR	10 00 22.2
	comp=Z,1μm,21.6s,baz=200,slow=35				
CTA	**Charters Tower**	**31.21 125**	LR	LR	10 02 01.4
	comp=Z,70nm,19.4s,baz=296,slow=38				
CTA	**Charters Tower**	**31.21 125**	P	**P**	**09 48 45.7 +0.2**
CTAO	**Charters Tower**	**31.21 125**	P	**P**	**09 48 45.7 +0.2**
CTAO	**Charters Tower**	**31.21 125**	IAMs_20	IAMs_20	10 01 47.6
	comp=Z,1μm,20.0s				
CTAO	**Charters Tower**	**31.21 125**	P	**P**	**09 48 46.5 +1.0**
CTAO	**Charters Tower**	**31.21 125**	P	**P**	**09 48 45.7 +0.2**
CTAO			pmax	pmax	
	comp=Z,10.0nm,1.1s				
CTAO			MLR	MLR	
	comp=Z,1μm,20.0s				
RKGY	**Rocky Gully**	**31.62 184**	P	**P**	**09 48 50.5 +1.7**
	comp=Z,66nm,0.9s				
GYA	**Guiyang**	**31.72 338**	P	**P**	**09 48 51.0 +1.0**
GYA			PP	**PnPn**	**09 49 56.6 +2.4**
GYA			S	**S**	**09 54 01.6 +2.5**
GYA			pmax	pmax	
	comp=Z,32nm,1.5s				
GYA			pmax	pmax	
	comp=Z,140nm,3.8s				
GYA			LR	LR	
	comp=Z,470nm,18.6s				
GYA			LR	LR	
	comp=Z,1μm,20.9s				
GYA			LR	LR	
	comp=Z,1μm,20.7s				
INKA	**Innaminka**	**31.97 143**	P	**P**	**09 48 54.3 +2.3**
KMI	**Kunming**	**32.26 331**	⇑P	**P**	**09 48 57.4 +2.6**
KMI			pP	sP	09 49 04.2 +1.0
KMI			S	**S**	**09 54 10.1 +2.3**
KMI			pmax	pmax	
	comp=Z,35nm,1.2s				
KMI			pmax	pmax	
	comp=Z,200nm,3.5s				
KMI			LR	LR	
	comp=Z,590nm,18.7s				
KMI			LR	LR	
	comp=Z,680nm,17.8s				
KMI			LR	LR	
	comp=Z,880nm,20.9s				
LCRK	**Leigh Creek**	**32.62 149**	P	**P**	**09 48 59.6 +1.9**
QLP	**Quilpie**	**33.42 137**	P	**P**	**09 49 06.7 +1.9**
	comp=Z,47nm,1.6s				
QLP	**Quilpie**	**33.42 137**	P	**P**	**09 49 08.1 +3.3**
BBOO	**Buckleboo**	**33.56 154**	P	**P**	**09 49 07.0 +1.1**
	comp=Z,35nm,1.6s				
WHN	**Wuhan**	**33.63 352**	P	**P**	**09 49 08.3 +1.8**
WHN			LR	LR	
	comp=Z,3μm,17.7s				
WHN			LR	LR	
	comp=Z,3μm,21.5s				
WHN			LR	LR	
	comp=Z,3μm,16.5s				
PZH	**PanZhiHua**	**33.90 331**	P	**P**	**09 49 11.0 +1.9**
PZH			pP	**sP**	**09 49 18.2 +0.7**
PZH			S	**S**	**09 54 33.0 -0.1**
PZH			pmax	pmax	
	comp=Z,30nm,0.8s				
PZH			pmax	pmax	
	comp=Z,230nm,7.1s				
PZH			LR	LR	
	comp=Z,530nm,19.1s				
PZH			LR	LR	
	comp=Z,1μm,20.1s				
PZH			LR	LR	
	comp=Z,560nm,18.2s				
ENH	**Enshi**	**34.35 345**	P	**P**	**09 49 13.1 +0.2**
ENH			IAmb	IAmb	09 49 18.8
	comp=Z,36nm,0.9s				
ENH			IAMs_20	IAMs_20	10 02 08.8
	comp=Z,975nm,22.0s				
ENH	**Enshi**	**34.35 345**	P	**P**	**09 49 13.3 +0.5**
NJ2	**Nanjing**	**34.78 359**	⇑P	**P**	**09 49 17.8 +1.4**
NJ2			S	**S**	**09 54 46.9 +0.7**
NJ2			pmax	pmax	
	comp=Z,28nm,1.1s				
NJ2			pmax	pmax	
	comp=Z,320nm,4.3s				
NJ2			LR	LR	
	comp=Z,730nm,18.9s				
NJ2			LR	LR	
	comp=Z,300nm,18.9s				
NJ2			LR	LR	
	comp=Z,930nm,20.8s				
HTT	**Hallett**	**35.39 151**	P	**P**	**09 49 23.6 +1.8**
	comp=Z,28nm,1.3s				
HTT	**Hallett**	**35.39 151**	P	**P**	**09 49 25.5 +3.7**
STKA	**Stephens Creek**	**35.54 147**	P	**P**	**09 49 23.8 +0.8**
STKA	**Stephens Creek**	**35.54 147**	P	**P**	**09 49 25.2 +2.1**
	comp=Z,6.9nm,1.3s				
STKA	**Stephens Creek**	**35.54 147**	P	**P**	**09 49 24.5 +1.4**
	comp=Z,6.6nm,0.6s,baz=310,slow=8.4,SNR=11				
STKA			LR	LR	10 05 30.3
	comp=Z,2μm,19.3s,baz=308,slow=39				
	comp=Z,6.6nm,0.6s				
STKA	**Stephens Creek**	**35.54 147**	P	**P**	**09 49 25.7 +2.6**
STKA	**Stephens Creek**	**35.54 147**	⇑*i*P	**P**	**09 49 24.3 +1.2**
CD2	**Chengdu**	**36.83 337**	P	**P**	**09 49 34.2 +0.1**
CD2			pP	sP	09 49 42.9 +0.4
CD2			S	**S**	**09 55 17.7 -0.1**
CD2			pmax	pmax	
	comp=Z,60nm,0.9s				
CD2			pmax	pmax	
	comp=Z,150nm,3.4s				
CD2			LR	LR	
	comp=Z,1μm,19.2s				
CD2			LR	LR	
	comp=Z,850nm,14.0s				
CD2			LR	LR	
	comp=Z,1μm,17.6s				
BRDH	**Bariadhala**	**37.22 315**	LR	LR	10 06 54.1
	comp=Z,1μm,20.7s,baz=134,slow=40				
JNU	**Nakatsue**	**37.43 16**	LR	LR	10 04 33.0
	comp=Z,615nm,21.1s,baz=197,slow=35				
CMSA	**Cobar Meteorol**	**37.69 142**	P	**P**	**09 49 43.4 +2.1**
	comp=Z,15nm,1.6s				
CMSA	**Cobar Meteorol**	**37.69 142**	P	**P**	**09 49 43.5 +2.1**
AULRC	**Lightning Ridg**	**37.78 137**	P	**P**	**09 49 44.5 +2.3**
LYN	**LuoYang**	**37.85 351**	P	**P**	**09 49 44.0 +1.4**
LYN			S	**S**	**09 55 35.9 +2.8**
LYN			pmax	pmax	
	comp=Z,43nm,2.1s				
LYN			pmax	pmax	
	comp=Z,310nm,4.7s				
LYN			LR	LR	
	comp=Z,710nm,21.0s				
LYN			LR	LR	
	comp=Z,570nm,22.0s				
LYN			LR	LR	
	comp=Z,1μm,17.5s				
XAN	**Xi'an**	**38.08 346**	P	**P**	**09 49 44.5 -0.2**
XAN			pP	sP	09 49 51.7 -1.4
XAN			PP	**PnPn**	**09 51 18.2 +4.8**
XAN			S	**S**	**09 55 36.4 -0.4**
XAN			pmax	pmax	
	comp=Z,32nm,1.8s				
XAN			pmax	pmax	
	comp=Z,430nm,5.7s				
XAN			LR	LR	
	comp=Z,560nm,16.1s				
XAN			LR	LR	
	comp=Z,1μm,17.5s				
XAN			LR	LR	
	comp=Z,1μm,17.7s				
SHL	**Shillong**	**38.94 318**	P	**P**	**09 49 53.6 +1.4**
	SNR=15				
TIA	**Tai'an**	**38.99 357**	*e*P	**P**	**09 49 51.8 -0.4**
TIA			S	**S**	**09 55 49.5 -0.8**
TIA			pmax	pmax	
	comp=Z,28nm,1.6s				
TIA			pmax	pmax	
	comp=Z,290nm,4.0s				
TIA			LR	LR	
	comp=Z,490nm,24.5s				
TIA			LR	LR	
	comp=Z,780nm,20.1s				
TIA			LR	LR	
	comp=Z,770nm,25.0s				
ARPS	**Mount Arapiles**	**39.49 151**	P	**P**	**09 49 57.7 +1.2**
	comp=Z,28nm,0.7s				
ARPS	**Mount Arapiles**	**39.49 151**	P	**P**	**09 49 58.7 +2.3**
AUDCS	**Dubbo College**	**40.00 140**	P	**P**	**09 50 02.3 +1.5**
HNS	**HongShan**	**40.35 354**	⇓P	**P**	**09 50 02.4 -1.1**
HNS			S	**S**	**09 56 11.2 +0.5**
HNS			SS	**SS**	**09 59 06.1 -3.9**
HNS			pmax	pmax	
	comp=Z,44nm,1.6s				
HNS			pmax	pmax	
	comp=Z,300nm,4.2s				
HNS			LR	LR	
	comp=Z,520nm,15.1s				
HNS			LR	LR	
	comp=Z,630nm,19.6s				
HNS			LR	LR	
	comp=Z,970nm,22.6s				
JHJ	**Hachijo jima 2**	**40.66 27**	LR	LR	10 05 36.1
	comp=Z,376nm,20.8s,baz=284,slow=34				
HNR	**Honiara**	**40.73 101**	LR	LR	10 09 35.0
	comp=Z,247nm,21.2s,baz=270,slow=40				
KSAR	**Wonju Array Be**	**40.91 10**	P	**P**	**09 50 08.1 0.0**
KSAR	**Wonju Array Be**	**40.91 10**	P	**P**	**09 50 08.1 0.0**
KSRS	**Korea Array**	**40.92 10**	P	**P**	**09 50 09.6 +1.4**
	comp=Z,5.2nm,0.9s,baz=189,slow=9.8,SNR=10				
KSRS			LR	LR	10 07 55.4
	comp=Z,479nm,19.9s,baz=195,slow=37				
	comp=Z,5.2nm,0.9s				
TIY	**Taiyuan**	**40.95 351**	*e*P	**P**	**09 50 09.2 +0.6**
TIY			pP	**pP**	**09 50 12.0 -2.6**
TIY			S	**S**	**09 56 19.9 +0.1**
TIY			sS	**sS**	**09 56 33.6 +3.9**
TIY			LR	LR	
	comp=Z,250nm,20.6s				
TIY			LR	LR	
	comp=Z,380nm,16.2s				
TIY			LR	LR	
	comp=Z,480nm,17.7s				
YNG	**Young**	**41.23 143**	P	**P**	**09 50 13.0 +2.0**
	comp=Z,114nm,1.0s				
YNG	**Young**	**41.23 143**	P	**P**	**09 50 12.6 +1.6**
LZH	**Lanzhou**	**41.46 341**	*e*P	**P**	**09 50 13.4 +0.5**
LZH			pP	sP	09 50 22.1 +0.7
LZH			sP	pP	09 50 25.5 +6.5
LZH			PP	**PnPn**	**09 51 52.7 -0.9**
LZH			pmax	pmax	
	comp=Z,42nm,1.6s				
LZH			pmax	pmax	
	comp=Z,430nm,4.8s				
LZH			LR	LR	
	comp=Z,830nm,21.6s				
LZH			LR	LR	
	comp=Z,680nm,18.2s				
LZH			LR	LR	
	comp=Z,1μm,19.6s				
INU	**Inuyama**	**41.47 22**	IAMs_20	IAMs_20	10 05 28.6
	comp=Z,640nm,21.0s				
DL2	**Dalian**	**41.66 3**	P	**P**	**09 50 16.8 +2.5**
DL2			S	**S**	**09 56 27.8 -2.4**
DL2			pmax	pmax	
	comp=Z,51nm,0.7s				
DL2			LR	LR	
	comp=Z,380nm,18.0s				
DL2			LR	LR	
	comp=Z,460nm,18.3s				
DL2			LR	LR	
	comp=Z,710nm,20.4s				
LSA	**Lhasa**	**42.27 322**	P	**P**	**09 50 21.8 +1.8**
LSA			IAmb	IAmb	09 50 26.9
	comp=Z,35nm,0.8s				
LSA			IAMs_20	IAMs_20	10 09 09.1
	comp=Z,798nm,22.0s				
LSA	**Lhasa**	**42.27 322**	P	**P**	**09 50 22.0 +2.0**
LSA			LR	LR	
	comp=Z,1μm,14.5s				
LSA	**Lhasa**	**42.27 322**	P	**P**	**09 50 21.8 +1.8**
LSA			pmax	pmax	
	comp=Z,35nm,0.8s				
LSA			MLR	MLR	
	comp=Z,800nm,22.0s				
BJT	**Baijiatuau**	**42.83 356**	P	**P**	**09 50 23.7 -0.2**
BJT			IAmb	IAmb	09 50 30.3
	comp=Z,114nm,1.5s				
BJT	**Baijiatuau**	**42.83 356**	IAMs_20	IAMs_20	10 09 31.6
	comp=Z,603nm,21.0s				
BJT	**Baijiatuau**	**42.83 356**	P	**P**	**09 50 23.4 -0.5**
BJT	**Baijiatuau**	**42.83 356**	P	**P**	**09 50 23.7 -0.2**
BJT			pmax	pmax	
	comp=Z,115nm,1.5s				
BJT			MLR	MLR	
	comp=Z,600nm,21.0s				
BJI	**Beijing**	**42.85 356**	P	**P**	**09 50 24.0 0.0**
BJI			S	**S**	**09 56 47.7 0.0**
BJI			pmax	pmax	
	comp=Z,21nm,1.2s				
BJI			pmax	pmax	
	comp=Z,95nm,3.5s				
BJI			LR	LR	
	comp=Z,190nm,18.5s				
BJI			LR	LR	
	comp=Z,240nm,18.8s				
BJI			LR	LR	
	comp=Z,160nm,15.9s				
MJAR	**Matsushiro Arr**	**42.97 22**	P	**P**	**09 50 25.6 +0.5**
	comp=Z,3.0nm,1.1s,baz=183,slow=10,SNR=3.5				
MJAR			LR	LR	10 07 11.9
	comp=Z,283nm,20.4s,baz=212,slow=34				
	comp=Z,3.0nm,1.1s				
HHC	**Hu-ho-hao-te**	**44.15 351**	*e*P	**P**	**09 50 34.8 +0.2**
HHC			pP	sP	09 50 43.1 -0.2
HHC			PcP	**PcP**	**09 52 22.4 +2.9**
HHC			S	**S**	**09 57 05.3 -1.7**
HHC			sS	sS	09 57 17.1 +0.2
HHC			SS	**SS**	**10 00 16.3 -8.8**
HHC			pmax	pmax	
	comp=Z,31nm,1.1s				
HHC			pmax	pmax	
	comp=Z,170nm,4.5s				
HHC			LR	LR	
	comp=Z,270nm,18.5s				
HHC			LR	LR	
	comp=Z,340nm,16.0s				
HHC			LR	LR	
	comp=Z,550nm,21.0s				
BTO	**Baotou**	**44.17 350**	*e*P	**P**	**09 50 35.9 +1.1**
BTO			pP	**pP**	**09 50 39.9 -0.9**
BTO			sP	**sP**	**09 50 43.7 +0.3**
BTO			PP	**PcP**	**09 52 21.3 +1.8**
BTO			S	**S**	**09 57 08.0 +0.8**
BTO			sS	**sS**	**09 57 18.6 +1.4**
BTO			pmax	pmax	
	comp=Z,68nm,1.4s				
BTO			pmax	pmax	
	comp=Z,530nm,9.1s				
BTO			LR	LR	
	comp=Z,820nm,19.5s				
BTO			LR	LR	
	comp=Z,850nm,17.1s				
BTO			LR	LR	
	comp=Z,1μm,19.8s				
GOMU	**GeErMu**	**45.22 332**	P	**P**	**09 50 44.4 +0.9**
GOMU			pP	sP	09 50 51.4 -0.8
GOMU			sP	pP	09 50 54.4 +4.8
GOMU			PcP	**PcP**	**09 52 25.4 +1.8**
GOMU			pmax	pmax	
	comp=Z,20nm,1.4s				
GOMU			pmax	pmax	
	comp=Z,240nm,6.3s				
GOMU			LR	LR	
	comp=Z,740nm,18.3s				
GOMU			LR	LR	
	comp=Z,580nm,17.3s				
GOMU			LR	LR	
	comp=Z,2μm,17.5s				
GTA	**Gaotai**	**45.84 339**	*e*P	**P**	**09 50 48.5 +0.4**
GTA			pP	sP	09 50 57.1 +0.3
GTA			PP	**PP**	**09 52 37.2 +1.4**
GTA			S	**S**	**09 57 33.6 +2.1**
GTA			pmax	pmax	
	comp=Z,44nm,1.6s				
GTA			pmax	pmax	
	comp=Z,310nm,5.7s				
GTA			LR	LR	
	comp=Z,510nm,16.0s				
GTA			LR	LR	
	comp=Z,480nm,13.1s				
GTA			LR	LR	
	comp=Z,530nm,14.5s				
PSTR	**Posyet**	**46.50 12**	⇓*e*P	**P**	**09 50 54.7 +1.6**
MSHR	**Mys Shultsa**	**46.50 12**	⇓*e*P	**P**	**09 50 54.4 +1.3**
MSHR			pmax	pmax	
	comp=Z,15nm,0.9s				
XLT	**XiLinHaoTe**	**46.70 357**	*e*P	**P**	**09 50 52.0 -2.8**
XLT			sP	pP	09 50 59.4 -1.5
XLT			PcP	**PcP**	**09 52 23.8 -4.4**
XLT			S	**S**	**09 57 43.3 -0.4**
XLT			pmax	pmax	
	comp=Z,26nm,1.4s				
XLT			pmax	pmax	
	comp=Z,200nm,5.9s				
XLT			LR	LR	
	comp=Z,460nm,17.0s				
XLT			LR	LR	
	comp=Z,640nm,16.2s				
CN2	**Changchun**	**46.81 6**	*e*P	**P**	**09 50 53.4 -2.1**
CN2			*e*S	**S**	**09 57 43.7 -1.4**
CN2			*e*sS	pS	09 57 51.2 -1.2
CN2			*e*SS	**SS**	**10 01 03.3 -8.6**
CN2			pmax	pmax	
	comp=Z,10.0nm,0.7s				
CN2			LR	LR	
	comp=Z,90nm,10.0s				
CN2			LR	LR	
	comp=Z,150nm,10.0s				
MDJ	**Mudanjiang**	**48.18 10**	P	**P**	**09 51 06.2 +0.1**
MDJ			IAmb	IAmb	09 51 10.2
	comp=Z,57nm,1.2s				
MDJ			IAMs_20	IAMs_20	10 10 39.7
	comp=Z,552nm,21.0s				
MDJ	**Mudanjiang**	**48.18 10**	P	**P**	**09 51 05.0 -1.1**
MDJ			PcP	**PcP**	**09 52 36.6 +3.3**
MDJ			PcS	**PcS**	**09 56 29.7 +0.7**
MDJ			S	**S**	**09 58 01.6 -2.9**
MDJ			SS	**SS**	**10 01 31.9 -2.1**
MDJ			pmax	pmax	
	comp=Z,25nm,1.6s				
MDJ			LR	LR	
	comp=Z,310nm,20.3s				
MDJ			LR	LR	
	comp=Z,570nm,22.3s				
MDJ			LR	LR	
	comp=Z,740nm,22.7s				
MDJ	**Mudanjiang**	**48.18 10**	P	**P**	**09 51 07.2 +1.1**
USA0B	**Ussuriysk Arra**	**48.23 12**	P	**P**	**09 51 05.1 -1.4**
USA0B	**Ussuriysk Arra**	**48.23 12** *d*	*i*P	**P**	**09 51 05.0 -1.5**
USRK	**Ussuriysk Ar.**	**48.23 12**	P	**P**	**09 51 05.3 -1.2**
USRK	**Ussuriysk Ar.**	**48.23 12**	P	**P**	**09 51 06.3 -0.2**
	comp=Z,17nm,1.1s,baz=194,slow=8.3,SNR=8.4				
	comp=Z,17nm,1.1s				
BNX	**BinXian**	**48.95 7**	⇓P	**P**	**09 51 11.1 -1.0**
BNX			S	**S**	**09 58 15.4 0.0**
BNX			pmax	pmax	
	comp=Z,11nm,1.9s				
BNX			pmax	pmax	
	comp=Z,170nm,6.4s				
BNX			LR	LR	
	comp=Z,300nm,23.1s				
BNX			LR	LR	
	comp=Z,420nm,21.8s				
BNX			LR	LR	
	comp=Z,540nm,26.7s				
DZM	**Mont Dzumac**	**49.38 117**	*e*P	**P**	**09 51 15.6 -0.3**
	comp=Z,41nm,1.2s				
DZM			*e*S	**S**	**09 58 20.0 -2.3**
	comp=Z,352nm,34.0s				
DZM			*e*SS	**SS**	**10 01 49.3 -5.0**
	comp=Z,402nm,24.0s				
DZM			*e*LQ	LQ	10 03 19.5
	comp=Z,2μm,31.6s				
DZM			*e*LR	LR	10 05 21.6
	comp=Z,1μm,23.4s				
DZM	**Mont Dzumac**	**49.38 117**	LR	LR	10 12 09.3
	comp=Z,741nm,21.7s,baz=277,slow=36				
ASAJ	**Asahikawa**	**51.21 21**	LR	LR	10 12 39.8
	comp=Z,327nm,21.8s,baz=224,slow=35				
ULN	**Ulaanbaatar**	**51.73 349**	P	**P**	**09 51 32.7 -0.6**
ULN	**Ulaanbaatar**	**51.73 349**	IAMs_20	IAMs_20	10 14 27.8
	comp=Z,437nm,20.0s				
ULN	**Ulaanbaatar**	**51.73 349**	P	**P**	**09 51 32.9 -0.3**
ULN	**Ulaanbaatar**	**51.73 349** *c*	*e*P	**P**	**09 51 32.6 -0.6**
ULN			pmax	pmax	

comp=Z,146nm,1.2s
SONM Songino Array 51.82 349 P P 09 51 33.5 -0.5
SONM Songino Array 51.82 349 P P 09 51 33.2 -0.7
comp=Z,33nm,0.7s,baz=170,slow=8.2,SNR=62
SONM LR LR 10 17 06.9
comp=Z,385nm,19.2s,baz=154,slow=40
comp=Z,33nm,0.7s
SONM Songino Array 51.82 349 P P 09 51 33.5 -0.5
SONM pmax pmax
comp=Z,136nm,1.5s
KLR Kul'dur 53.02 10 LR LR 10 16 51.3
comp=Z,197nm,18.5s,baz=196,slow=39
KLR Kul'dur 53.02 10‖ *i*P P 09 51 41.8 -0.8
KLR pmax pmax
comp=Z,24nm,2.0s
HEH HeiHe 53.40 6 *e*P P 09 51 43.9 -1.5
HEH pP **pP 09 51 47.9 -3.7**
HEH sP **sP 09 51 50.2 -3.9**
HEH S **S 09 59 14.5 -2.2**
HEH pmax pmax
comp=Z,42nm,1.0s
HEH pmax pmax
comp=Z,320nm,4.5s
HEH LR LR
comp=Z,330nm,21.1s
HEH LR LR
comp=Z,410nm,19.4s
HEH LR LR
comp=Z,500nm,18.0s
YSS Yuzh-Sakhalins 53.73 20 *e*P P 09 51 52.0 +4.2
YSS *e*S **S 09 59 23.3 +2.1**
YSS pmax pmax
comp=Z,10.0nm,1.3s
YSS MLR MLR
comp=Z,200nm,11.0s
WMQ Urumqi 54.57 332 *e*P P 09 51 55.1 +0.9
WMQ sP sP 09 52 07.9 +5.0
WMQ S **S 09 59 37.1 +4.1**
WMQ pmax pmax
comp=Z,29nm,1.3s
WMQ pmax pmax
comp=Z,230nm,3.7s
WMQ LR LR
comp=Z,700nm,17.3s
WMQ LR LR
comp=Z,670nm,20.9s
WMQ LR LR
comp=Z,350nm,23.9s
ZAK Zakamensk 54.89 347 *e*P P 09 51 56.0 -0.4
ZAK pmax pmax
comp=Z,19nm,1.3s
IRK Irkutsk 56.44 349 *e*P P 09 52 06.5 -0.9
IRK pmax pmax
comp=Z,78nm,3.4s
MOY Mondy 56.61 346 *e*P P 09 52 08.5 -0.2
MOY pmax pmax
comp=Z,93nm,2.1s
NIL Nilore 56.74 314 P **P 09 52 09.5 -0.4**
NIL Nilore 56.74 314 P **P 09 52 09.5 -0.4**
NIL pmax pmax
comp=Z,207nm,1.6s
ZEA Zeya 56.83 6 *e*P P 09 52 09.5 -0.6
ZEA *e*S **S 10 00 02.2 -0.3**
ZEA pmax pmax
comp=Z,20nm,1.5s
ZEA smax smax
comp=E,100nm,4.4s
WUS Wushi 57.18 325 P **P 09 52 13.5 +0.4**
WUS IAMs_20 IAMs_20 10 20 23.5
comp=Z,868nm,22.0s
KSH Kashi 58.11 321 P **P 09 52 20.2 +0.6**
KSH pP sP 09 52 27.4 -0.9
KSH S **S 10 00 24.2 +4.0**
KSH pmax pmax
comp=Z,69nm,1.1s
KSH LR LR
comp=Z,570nm,24.4s
KSH LR LR
comp=Z,520nm,29.5s
KSH LR LR
comp=Z,800nm,32.3s
SHLS Shalkode 58.31 326 *e*P P 09 52 19.3 -1.6
comp=Z,28nm,1.4s
SHLS Shalkode 58.31 326 *e*P P 09 52 19.3 -1.6
SHLS pmax pmax
comp=Z,27nm,1.4s
TARG Taragay, Kyrgy 58.34 324 IAmb IAmb 09 52 34.9
comp=Z,53nm,1.2s
PDGK Podgornoye 58.41 327 P **P 09 52 21.1 -0.5**
UZB Uzynbulak 58.55 326 *e*P P 09 52 22.5 -0.1
comp=Z,25nm,1.5s
UZB Uzynbulak 58.55 326 *e*P P 09 52 22.5 -0.1
UZB pmax pmax
comp=Z,25nm,1.5s
ZSN Zaisan 58.62 333 *e*P P 09 52 22.9 0.0
comp=Z,28nm,1.5s
ZSN Zaisan 58.62 333 *e*P P 09 52 22.8 0.0
ZSN pmax pmax
comp=Z,28nm,1.5s
SATY Saty 58.84 326 *e*P P 09 52 24.5 -0.1
SATY Saty 58.84 326 *e*P P 09 52 24.5 -0.1
ZHN Zhinishke 58.89 326 *e*P P 09 52 24.8 -0.2
comp=Z,24nm,1.4s
ZHN Zhinishke 58.89 326 *e*P P 09 52 24.8 -0.2
ZHN pmax pmax
comp=Z,24nm,1.4s
KPKS Kokpek 58.94 326 *e*P P 09 52 25.3 0.0
comp=Z,38nm,1.4s
KPKS Kokpek 58.94 326 *e*P P 09 52 25.3 0.0
KPKS pmax pmax
comp=Z,38nm,1.4s
KDJ Kajisay 58.95 324 P **P 09 52 26.1 +0.6**
NRN Naryn 59.23 323 IAmb IAmb 09 52 32.6
comp=Z,28nm,1.1s
MSVF Nonsavu 59.23 109 P **P 09 52 29.1 +1.4**
comp=Z,18nm,0.9s,baz=332,slow=14,SNR=3.6
MSVF LR LR 10 16 21.2
comp=Z,238nm,21.9s,baz=268,slow=34
comp=Z,18nm,0.9s
MK31 Makanchi Array 59.34 331 P **P 09 52 27.9 +0.1**
MK31 Makanchi Array 59.34 331 *c i*P **P 09 52 28.2 +0.3**
MKAR Makanchi Array 59.34 331 P **P 09 52 27.8 -0.1**
MKAR Makanchi Array 59.34 331 P **P 09 52 28.2 +0.3**
comp=Z,48nm,0.7s,baz=132,slow=6.7,SNR=67
MKAR LR LR 10 21 00.9
comp=Z,282nm,21.6s,baz=130,slow=39
comp=Z,48nm,0.7s
MKAR Makanchi Array 59.34 331 *i*P **P 09 52 27.8 -0.1**
MKAR pmax pmax
comp=Z,43nm,0.9s
MAKZ Makanchi 59.50 331 P **P 09 52 29.0 0.0**
MAKZ Makanchi 59.50 331 P **P 09 52 29.0 0.0**
MAKZ pmax pmax
comp=Z,47nm,1.0s
ULHL Ulahol 59.57 324 P **P 09 52 30.1 +0.2**
SNR=19
TNSS Tian-Shan 59.65 325 *e*P P 09 52 30.3 -0.4
TNSS Tian-Shan 59.65 325 *e*P P 09 52 30.2 -0.4
MDOK Medeo 59.67 325 *e*P P 09 52 30.4 -0.1
MDOK Medeo 59.67 325 *e*P P 09 52 30.3 -0.1
ARXS Arharly 59.90 326 *e*P P 09 52 31.6 -0.3
BOOM Boomskoye usch 59.90 324 P **P 09 52 32.0 0.0**
TDK Taldyqorghan 60.09 327 *e*P P 09 52 33.2 0.0
TDK Taldyqorghan 60.09 327 *e*P P 09 52 33.1 0.0
KBL Kabul 60.22 313 P **P 09 52 33.9 -0.6**
KBL Kabul 60.22 313 P **P 09 52 34.4 -0.1**
SNR=39
KBL Kabul 60.22 313 P **P 09 52 33.9 -0.6**
KBL pmax pmax
comp=Z,60nm,1.2s
TKM2 Tokmak 2 60.36 324 P **P 09 52 35.4 +0.1**
SNR=41
TKM2 Tokmak 2 60.36 324 *i*P **P 09 52 34.3 -0.9**
TKM2 pmax pmax
comp=Z,65nm,1.5s
KBK Karagaybulak 60.59 324 P **P 09 52 38.1 +1.4**
SNR=19
BOD Bodaibo 60.70 357 *e*P P 09 52 35.2 -1.8
BOD pmax pmax
comp=Z,42nm,1.5s
AAK Ala-Archa 60.84 323 P **P 09 52 38.8 +0.3**
AAK IAmb IAmb 09 52 44.0
comp=Z,45nm,0.9s
AAK Ala-Archa 60.84 323 P **P 09 52 38.5 +0.1**
comp=Z,16nm,0.9s,baz=136,slow=5.3,SNR=25
AAK LR LR 10 23 41.8
comp=Z,485nm,20.4s,baz=136,slow=41
comp=Z,16nm,0.9s
AAK Ala-Archa 60.84 323 P **P 09 52 39.5 +1.0**
AAK Ala-Archa 60.84 323 *c i*P **P 09 52 39.0 +0.5**
AAK pmax pmax
comp=Z,58nm,1.0s
RPZ Rata Peaks 61.00 139 P **P 09 52 42.0 +2.6**
RPZ IAmb IAmb 09 52 51.9
comp=Z,36nm,1.0s
RPZ Rata Peaks 61.00 139 LR LR 10 19 24.0
comp=Z,526nm,21.4s,baz=312,slow=36
AML Almayashu 61.03 322 P **P 09 52 41.1 +1.1**
SNR=27
USP Ospenovka 61.21 324 P **P 09 52 41.6 +0.8**
SNR=15
SGDS Sogindy 61.25 324 *e*P P 09 52 40.8 -0.3
comp=Z,12nm,1.1s
SGDS Sogindy 61.25 324 *e*P P 09 52 40.7 -0.3
SGDS pmax pmax
comp=Z,12nm,1.1s
EKS2 Erkin-Say 61.29 323 P **P 09 52 42.7 +1.3**
SNR=16
BTK Batken 61.71 319 P **P 09 52 43.9 -0.4**
SIMJ Simiganj 62.21 317 P **P 09 52 46.6 -1.1**
BTLS Baital 62.53 325 *e*P P 09 52 49.5 -0.1
comp=Z,12nm,1.3s
BTLS Baital 62.53 325 *e*P P 09 52 49.4 -0.1
BTLS pmax pmax
comp=Z,12nm,1.3s
DZA Taraz 62.90 322 *e*P P 09 52 52.1 -0.1
comp=Z,12nm,1.2s
DZA Taraz 62.90 322 *e*P P 09 52 52.0 -0.1
DZA pmax pmax
comp=Z,12nm,1.2s
URZ Urewera 63.13 132 P **P 09 52 55.6 +1.9**
comp=Z,8.0nm,0.8s,baz=132,slow=13,SNR=2.7
URZ LR LR 10 20 41.7
comp=Z,511nm,20.4s,baz=22,slow=36
comp=Z,8.0nm,0.8s
RTZ Ruatahuna 63.15 132 IAMs_20 IAMs_20 10 19 18.0
comp=Z,979nm,20.0s
IUG Iuzhnay 63.31 321 *e*P P 09 52 54.8 -0.2
comp=Z,13nm,0.9s
IUG Iuzhnay 63.31 321 *e*P P 09 52 54.8 -0.2
IUG pmax pmax
comp=Z,13nm,0.9s
KK31 Karatay Array 63.52 322 *i*P **P 09 52 56.0 -0.3**
KKAR Karatay Array 63.52 322 P **P 09 52 55.6 -0.7**
KKAR IAmb IAmb 09 53 01.4
comp=Z,14nm,0.9s
KKAR Karatay Array 63.52 322 P **P 09 52 55.3 -1.0**
KKAR Karatay Array 63.52 322 P **P 09 52 55.6 -0.7**
KKAR pmax pmax
comp=Z,14nm,1.0s
ZAA0 Zalesovo Array 63.59 338 P **P 09 52 55.1 -1.3**
ZALV Zalesovo Beam 63.59 338 P **P 09 52 55.1 -1.3**
ZALV Zalesovo Beam 63.59 338 P **P 09 52 54.9 -1.5**
comp=Z,12nm,0.6s,baz=123,slow=5.3,SNR=13
ZALV LR LR 10 21 56.2
comp=Z,178nm,20.7s,baz=148,slow=37
comp=Z,12nm,0.6s
ZALV Zalesovo Beam 63.59 338 *i*P **P 09 52 59.2 +2.8**
ZALV pmax pmax
comp=Z,21nm,0.8s
KURBB Kurchatov Arra 63.80 332 P **P 09 52 56.9 -0.9**
comp=Z,6.3nm,0.6s,baz=137,slow=5.7,SNR=46
KURBB LR LR 10 24 54.1
comp=Z,400nm,19.1s,baz=150,slow=40
comp=Z,6.3nm,0.6s
KURK Kurchatov 63.82 332 P **P 09 52 57.0 -1.0**
KURK Kurchatov 63.82 332 P **P 09 52 58.5 +0.5**
KURK Kurchatov 63.82 332 *de*P **P 09 52 56.3 -1.7**
KURK pmax pmax
comp=Z,49nm,0.9s
BRLS Borolday 63.90 322 *e*P P 09 52 58.3 -0.5
comp=Z,15nm,1.1s
BRLS Borolday 63.90 322 *e*P P 09 52 58.3 -0.5
BRLS pmax pmax
comp=Z,15nm,1.1s
PETK Petropavlovsk- 64.36 24 P **P 09 53 02.8 +1.3**
comp=Z,4.8nm,0.9s,baz=240,slow=2.8,SNR=2.2
comp=Z,4.8nm,0.9s
WSAR Wadi Sarin 64.68 297 LR LR 10 21 47.5
comp=Z,320nm,21.8s,baz=118,slow=37
WSAR Wadi Sarin 64.68 297 P **P 09 53 04.3 +0.1**
SNR=7.0
MHTO MHTO 64.71 295 P **P 09 53 02.9 -1.5**
RAO Raoul Island 64.78 121 LR LR 10 21 21.8
comp=Z,471nm,19.4s,baz=302,slow=36
JMDO Jabal Madar 64.92 296 P **P 09 53 04.6 -1.3**
SNR=5.2
BIDO Bidbid 65.20 297 P **P 09 53 07.6 0.0**
SNR=5.3
YAK Yakutsk 65.24 5 IAMs_20 IAMs_20 10 20 04.6
comp=Z,370nm,22.0s
YAK Yakutsk 65.24 5 LR LR 10 24 33.6
comp=Z,162nm,18.9s,baz=194,slow=39
YAK Yakutsk 65.24 5 *e*P **P 09 53 04.8 -2.2**
YAK *e**PP **pP 09 53 13.9 +0.6**
YAK *e* 09 53 35.6
YAK *e* 09 55 26.6
YAK *e*PPP PPP 09 57 00.4
YAK *e*S **S 10 01 46.9 -2.5**
YAK *e**SS **sS 10 02 00.9 +1.1**
YAK *e* 10 02 56.1
YAK *e*SS **SS 10 06 09.3 +6.9**
YAK *e*SSS SSS 10 08 59.1
YAK pmax pmax
comp=Z,37nm,1.6s
YAK pmax pmax
comp=N,27nm,1.8s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK pmax pmax
comp=Z,328nm,8.1s
YAK pmax pmax
comp=N,166nm,3.3s
YAK pmax pmax
comp=E,43nm,1.9s
YAK smax smax
comp=E,174nm,4.1s
YAK smax smax
comp=N,145nm,4.2s
YAK MLR MLR
comp=E,170nm,32.0s
HOQ Hoqain 65.94 297 P **P 09 53 10.6 -1.7**
SNR=5.8
BRZS Berezniki 66.25 329 *e*P P 09 53 13.9 +0.1
comp=E,25nm,1.4s
BRZS Berezniki 66.25 329 *e*P P 09 53 13.9 +0.1
BRZS pmax pmax
comp=Z,25nm,1.4s
ASHO Ashiyiah 67.32 298 P **P 09 53 21.0 -0.2**
ALNE Al Ain 67.44 297 P **P 09 53 20.5 -1.5**
SNR=7.0
UMZA Um Al Zommool 67.65 296 P **P 09 53 21.1 -2.2**
DOK Doka 67.73 291 P **P 09 53 21.4 -2.5**
WHFO Wadi Hawf 67.93 291 P **P 09 53 23.0 -2.2**
ASUD Al Ashush, Dub 67.95 298 P **P 09 53 24.6 -0.6**
ABTO Aybut 68.27 290 P **P 09 53 24.9 -2.4**
BVA0 Borovoye Array 69.22 331 *e*P P 09 53 31.0 -1.5
BVAR Borovoye Array 69.22 331 P **P 09 53 31.1 -1.4**
comp=Z,4.1nm,0.7s,baz=121,slow=7.4,SNR=15
BVAR LR LR 10 28 20.0
comp=Z,389nm,18.7s,baz=128,slow=40
comp=Z,4.1nm,0.7s
BRVK Borovoye 69.29 331 P **P 09 53 30.7 -2.2**
BRVK IAmb IAmb 09 53 45.4
comp=Z,23nm,1.1s
BRVK Borovoye 69.29 331 *c i*P **P 09 53 32.4 -0.5**
BRVK pmax pmax
comp=Z,21nm,1.0s
SEY Seymchan 70.21 15⇑ *e*P P 09 53 41.0 +2.6
SEY pmax pmax
comp=Z,33nm,1.6s
SHEM Shemya Is, Ala 71.85 31 LR LR 10 19 45.3
comp=Z,117nm,22.0s,baz=131,slow=31
VOI Vohitsoka 72.85 248 P **P 09 53 53.7 -1.7**
VOI IAmb IAmb 09 53 57.8
comp=Z,16nm,1.0s
VOI Vohitsoka 72.85 248 P **P 09 53 55.0 -0.3**
AB31 Akbulak array 72.92 324 *i*P **P 09 53 54.0 -1.1**
ABKAR Akbulak array 72.92 324 P **P 09 53 53.7 -1.4**
AKTO Aktyubinsk 74.56 324 P **P 09 54 04.1 -0.5**
comp=Z,16nm,0.9s,baz=100,slow=7.9,SNR=12
AKTO LR LR 10 30 59.8
comp=Z,423nm,21.9s,baz=171,slow=39
comp=Z,16nm,0.9s
TIXI Tiksi 74.68 3 P **P 09 54 03.0 -1.8**
TIXI IAmb IAmb 09 54 07.3
comp=Z,38nm,1.0s
TIXI Tiksi 74.68 3 IAMs_20 IAMs_20 10 27 56.7
comp=Z,613nm,22.0s
TIXI Tiksi 74.68 3 LR LR 10 28 30.7
comp=Z,457nm,21.8s,baz=195,slow=37
TIXI Tiksi 74.68 3⇑ *e*P P 09 54 02.4 -2.5
TIXI pmax pmax
comp=Z,38nm,0.9s
MAW Mawson 75.09 199 P **P 09 54 07.4 +0.1**
comp=Z,24nm,1.0s,baz=57,slow=8.0,SNR=20
MAW LR LR 10 26 38.9
comp=Z,248nm,18.3s,baz=55,slow=35
comp=Z,24nm,1.0s
NRIK Noril'sk 75.31 349 P **P 09 54 07.2 -1.4**
NRIK IAmb IAmb 09 54 11.9
comp=Z,24nm,1.2s
NRIK Noril'sk 75.31 349 P **P 09 54 07.9 -0.7**
comp=Z,8.4nm,0.9s,baz=168,slow=3.5,SNR=8.8
NRIK LR LR 10 31 01.5
comp=Z,286nm,19.2s,baz=150,slow=39
comp=Z,8.4nm,0.9s
NRIK Noril'sk 75.31 349⇑ *i*P P 09 54 06.6 -2.0
NRIK pmax pmax
comp=Z,24nm,1.3s
SVE Sverdlovsk 76.00 331 *e*P P 09 54 12.3 -0.5
SVE pmax pmax
comp=Z,22nm,1.2s
RAYN Ar Rayn 76.52 295 P **P 09 54 14.1 -2.4**
RAYN IAmb IAmb 09 54 21.9
comp=Z,43nm,2.0s
RAYN Ar Rayn 76.52 295 P **P 09 54 14.1 -2.4**
RAYN pmax pmax
comp=Z,43nm,2.0s
ARTI Arti 76.91 330 P **P 09 54 16.2 -1.7**
ARTI IAmb IAmb 09 54 20.0
comp=Z,27nm,1.5s
ARTI Arti 76.91 330 P **P 09 54 17.0 -1.0**
comp=Z,3.9nm,0.6s,baz=156,slow=3.4,SNR=6.4
ARTI LR LR 10 32 07.5
comp=Z,229nm,20.2s,baz=130,slow=39
comp=Z,3.9nm,0.6s
ARTI Arti 76.91 330 *d i*P **P 09 54 16.7 -1.2**
ARTI 09 57 06.3
ARTI S **S 10 04 05.0 0.0**
ARTI pmax pmax
comp=Z,21nm,1.6s
ATD Arta Tunnel 77.51 282 LR LR 10 28 42.0
comp=Z,8.4nm,18.2s,baz=38,slow=36
BILL Bilibino 77.86 16‖ *e*P P 09 54 22.6 -0.4
BILL pmax pmax
comp=Z,26nm,1.9s
SBA Scott Base 78.88 171 P **P 09 54 29.7 +1.1**
SBA Scott Base 78.88 171 P **P 09 54 29.7 +1.1**
SBA pmax pmax
comp=Z,16nm,1.4s
GNI Garni 80.26 311 LR LR 10 36 28.2
comp=Z,86nm,21.2s,baz=108,slow=40
RAR Rarotonga 80.33 111 LR LR 10 30 52.8
comp=Z,60nm,18.6s,baz=294,slow=36
KIBK Kibwezi 81.33 268 P **P 09 54 42.1 -1.0**
KIBK IAMs_20 IAMs_20 10 28 44.2
comp=Z,377nm,20.0s
KIBK Kibwezi 81.33 268 P **P 09 54 42.0 -1.2**
BELG Belogornoye 81.33 324 P **P 09 54 39.9 -2.3**
comp=Z,12nm,0.6s,baz=210,slow=1.0,SNR=2.7
BELG LR LR 10 35 59.1
comp=Z,284nm,20.6s,baz=138,slow=40
comp=Z,12nm,0.6s
BELG Belogornoye 81.33 324 *de*P **P 09 54 42.3 +0.1**
BELG pmax pmax
comp=Z,4.0nm,1.5s
FURI Furi 81.37 279 IAMs_20 IAMs_20 10 31 34.2
comp=Z,354nm,19.0s
FURI Furi 81.37 279 LR LR 10 29 17.5
comp=Z,218nm,20.3s,baz=110,slow=35
KARS Kars 81.60 312 P **P 09 54 43.3 -0.8**
KARS Kars 81.60 312 P **P 09 54 43.3 -0.8**
KARS pmax pmax
comp=Z,77nm,0.5s
GURO Guroymak-BITLI 82.02 309 P **P 09 54 45.0 -1.3**
GURO IAmb IAmb 09 54 51.2
comp=Z,62nm,1.9s
KMBO Kilima Mbogo 82.18 269 P **P 09 54 46.1 -1.8**
KMBO Kilima Mbogo 82.18 269 IAMs_20 IAMs_20 10 29 23.7
comp=Z,362nm,19.0s
KMBO Kilima Mbogo 82.18 269 P **P 09 54 46.5 -1.4**
comp=Z,1.1nm,0.4s,baz=82,slow=2.5,SNR=6.8
KMBO LR LR 10 29 55.3
comp=Z,276nm,18.7s,baz=92,slow=35
comp=Z,1.1nm,0.4s
KMBO Kilima Mbogo 82.18 269 P **P 09 54 46.8 -1.1**
KIRV Kirov 82.22 330‖ *e*P P 09 54 45.3 -1.5
KBZ Khabaz 82.34 315 P **P 09 54 47.8 0.0**
comp=Z,2.6nm,1.0s,baz=104,slow=6.9,SNR=3.8
KBZ LR LR 10 38 36.2
comp=Z,142nm,19.1s,baz=104,slow=41
comp=Z,2.6nm,1.0s
KBZ Khabaz 82.34 315‖ *e*P P 09 54 46.9 -0.8
KBZ pmax pmax
comp=Z,7.0nm,1.4s
SHA1 Shidzhatmaz 82.52 315 *de*P **P 09 54 49.6 +0.6**
KIV Kislovodsk 82.54 315 *e*P P 09 54 48.4 -0.5
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,172nm,19.0s
LODK Lodwar 84.30 274 IAMs_20 IAMs_20 10 30 23.1
comp=Z,309nm,20.0s
SOC Sochi 84.59 314 *e*P P 09 54 58.0 -1.3
SOC *e* 09 58 12.1
SOC *e*PPP PPP 10 00 04.8
SOC *e*S **SKSac 10 05 18.3 -4.4**
SOC *e*SS **SS 10 10 55.7 -1.4**
SOC *e*SSS SSS 10 14 23.4
VRH Novokhopyorsk 84.61 322 *e*P P 09 54 58.7 -0.5
VRH pmax pmax
comp=Z,9.0nm,0.8s
ARPR Arapgir-MALATY 84.95 309 P **P 09 55 00.7 -0.8**
ARPR IAmb IAmb 09 55 24.9
comp=Z,35nm,1.5s
GAZ Gaziantep 85.58 307 P **P 09 55 03.7 -0.9**
GAZ IAmb IAmb 09 55 07.6
comp=Z,59nm,2.0s
VORD Divnogorie 86.07 321 *e*P P 09 55 06.4 -0.1
VORD pmax pmax
comp=Z,8.0nm,0.9s
VSR Storozhevoye 86.19 322 *e*P P 09 55 05.9 -1.2
VSR pmax pmax
comp=Z,8.0nm,0.9s
GHAJ Ghor Haditha 86.30 301 IAMs_20 IAMs_20 10 36 33.4
comp=Z,450nm,19.0s
ANN Anapa 86.39 315 *e*P P 09 55 06.8 -1.5
ANN *e**PP **sP 09 55 16.7 -0.5**
ANN *e*S **SKSac 10 05 29.8 -4.2**
ANN *e*SS **SS 10 11 27.0 +3.5**
ANN pmax pmax
comp=Z,34nm,1.5s
MMAI Mount Meron Ar 86.60 303 P **P 09 55 08.5 -1.3**
comp=Z,1.3nm,0.4s,baz=71,slow=9.3,SNR=2.6
MMAI LR LR 10 39 30.9
comp=Z,244nm,18.0s,baz=47,slow=40
comp=Z,1.3nm,0.4s
QSPA South Pole Qui 87.04 180 P **P 09 55 10.9 -0.3**
QSPA South Pole Qui 87.04 180 P **P 09 55 11.3 +0.1**
comp=Z,2.5nm,0.9s,baz=289,slow=0.7,SNR=13
QSPA LR LR 10 33 04.5
comp=Z,338nm,19.7s,baz=336,slow=35
comp=Z,2.5nm,0.9s
KLMR Klimovskoe 87.64 331 *e*P P 09 55 15.2 +1.2
KLMR *e* 09 58 42.0
KLMR pmax pmax
comp=Z,42nm,1.8s
OBN Obninsk 88.31 325 LR LR 10 39 47.8
comp=Z,347nm,21.2s,baz=168,slow=39
OBN Obninsk 88.31 325 *e*P P 09 55 17.8 +0.5
OBN *e* 09 58 43.7
OBN *e*PPP PPP 10 00 42.0
OBN pmax pmax
comp=Z,11nm,1.5s
CSS Mathiatis 88.49 305 IAMs_20 IAMs_20 10 40 19.4
comp=Z,287nm,20.0s
BR131 Keskin Array S 88.64 310 P **P 09 55 17.6 -1.9**

BR131 Keskin Array S 88.64 310 ||*iP* **P 09 55 20.8 +1.3**
BRTR Keskin Array B 88.64 310 P **P 09 55 17.6 -1.9**
BRTR Keskin Array B 88.64 310 P **P 09 55 17.8 -1.6**
comp=Z,3.0nm,1.0s,baz=114,slow=3.0,SNR=10
BRTR PP **PP 09 58 47.2 -0.9**
comp=Z,2.6nm,1.1s,baz=140,slow=6.5,SNR=4.7
BRTR LR LR 10 40 09.5
comp=Z,81nm,21.4s,baz=104,slow=39
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 88.64 310 *i* P **P 09 55 20.7 +1.3**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BR106 Keskin Array S 88.66 310 P **P 09 55 20.3 +0.8**
comp=Z,4.3nm,1.1s
MBAR Mbarara 88.71 269 P **P 09 55 19.1 -1.2**
MBAR IAmb IAmb 09 55 23.6
comp=Z,11nm,1.1s
MBAR Mbarara 88.71 269 LR LR 10 33 13.6
comp=Z,256nm,19.2s,baz=71,slow=34
MBAR Mbarara 88.71 269 P **P 09 55 19.2 -1.2**
MBAR pmax pmax
comp=Z,11nm,1.1s
ELIB Princess Elisa 89.15 198 *dP* **P 09 55 22.0 +0.8**
comp=Z,8.4nm,1.3s
TBI Tubuai 89.84 113 *e*S **S 10 06 17.6 +0.5**
comp=Z,1μm,31.8s
TBI Tubuai 89.84 113 *e*LQ LQ 10 20 20.2
comp=Z,3μm,34.2s
TBI *e*LR LR 10 24 06.1
comp=Z,950nm,28.0s
TBI *e*LR LR 10 24 07.9
comp=Z,2μm,24.8s
PPT2 Papeete2 90.03 108 *e*LQ LQ 10 20 29.5
comp=Z,436nm,28.8s
PPT2 *e*LR LR 10 24 08.0
comp=Z,240nm,30.0s
PPT2 *e*LR LR 10 24 14.3
comp=Z,332nm,28.0s
PPT Papeete 90.04 107 LR LR 10 31 20.1
comp=Z,128nm,19.1s,baz=301,slow=32
ISP Isparta 90.94 308 IAMs_20 IAMs_20 10 34 10.4
comp=Z,176nm,18.0s
KDAK Kodiak Island 91.34 32 LR LR 10 31 23.0
comp=Z,143nm,22.0s,baz=111,slow=32
LBTB Lobatse 92.29 245 LR LR 10 35 07.9
comp=Z,147nm,18.0s,baz=86,slow=34
BOSA Boshof 92.32 241 LR LR 10 31 09.3
comp=Z,524nm,21.7s,baz=92,slow=32
AK10 Malin Array Si 92.37 320 P **P 09 55 37.5 +1.1**
AKASG Malin Array Be 92.39 320 P **P 09 55 35.0 -1.5**
comp=Z,0.3nm,0.3s,baz=78,slow=4.7,SNR=6.8
AKASG PP **PP 09 59 17.5 +0.2**
comp=Z,0.2nm,0.3s,baz=83,slow=6.4,SNR=1.6
AKASG LR LR 10 42 12.3
comp=Z,173nm,19.3s,baz=91,slow=39
comp=Z,0.3nm,0.3s
AKASG Malin Array Be 92.39 320 *i* P **P 09 55 36.5 0.0**
AKBB Malin Array Si 92.39 320 P **P 09 55 37.1 +0.6**
KIEV Kiev 92.40 320 P P 09 55 31.5 -5.0
KIEV Kiev 92.40 320 P **P 09 55 37.5 +1.0**
AK04 Malin Array Si 92.43 320 P **P 09 55 37.1 +0.5**
MLY Manley 92.53 25 P **P 09 55 36.1 -0.8**
MLY IAmb IAmb 09 55 45.4
comp=Z,36nm,1.9s
CTYL Yalikoy Yolu 92.80 311 P **P 09 55 39.7 +1.1**
comp=Z,66nm,0.9s,comp=Z,3μm
MNK Minsk 93.28 324 *i* P **P 09 55 38.0 -2.5**
comp=E,5.0nm,1.0s
MNK *i* P **P 09 55 38.0 -2.5**
comp=N,9.0nm,1.0s
MNK *i* P **P 09 55 38.0 -2.5**
comp=Z,6.0nm,0.9s,baz=90
MNK *i* PP **PP 09 59 22.6 -1.7**
MNK *i* PPP PPP 10 01 21.8
MNK *i* S **SKSac 10 06 09.2 -4.7**
MNK *i* SS **SS 10 13 00.9 -1.9**
MNK *i* SSS SSS 10 16 40.8
MNK *i* LQ LQ 10 31 32.6
MNK *i* LR LR 10 36 12.6
MNK *i* LRM MLR 10 38 09.8
comp=E,507nm,21.5s
MNK *i* LRM MLR 10 39 08.0
comp=Z,308nm,22.4s
MNK *i* LRM MLR 10 39 12.8
comp=N,314nm,19.2s
MNK Minsk 93.28 324 *i* P **P 09 55 37.9 -2.5**
MNK *i* 09 59 22.5
MNK *i* PPP PPP 10 01 21.7
MNK *i* S **SKSac 10 06 09.2 -4.7**
MNK *i* SS **SS 10 13 00.9 -1.9**
MNK *i* SSS SSS 10 16 40.8
MNK pmax pmax
comp=N,9.0nm,1.0s
MNK pmax pmax
comp=Z,6.0nm,0.9s
MNK pmax pmax
comp=E,5.0nm,1.0s
MNK MLR MLR
comp=E,507nm,22.0s
MNK MLR MLR
comp=Z,308nm,22.0s
MNK MLR MLR
comp=N,314nm,19.0s
LUBAR Lubar, Ukraine 93.32 320 P **P 09 55 41.0 +0.2**
CCB Clear Creek Bu 93.78 26 P **P 09 55 43.1 +0.5**
CCB IAmb IAmb 09 57 14.4
comp=Z,15nm,1.6s
ARCES ARCESS Array B 94.11 339 LR LR 10 45 02.3
comp=Z,280nm,18.2s,baz=102,slow=40
FINES FINESS Array B 94.17 331 LR LR 10 42 51.0
comp=Z,190nm,18.9s,baz=94,slow=39
ILAR Eielson Array 94.18 25 P **P 09 55 45.3 +0.9**
comp=Z,0.6nm,0.7s,baz=247,slow=4.4,SNR=5.9
ILAR LR LR 10 40 42.4
comp=Z,50nm,19.7s,baz=276,slow=37
comp=Z,0.6nm,0.7s
MLR Muntele Rosu 94.54 315 LR LR 10 49 32.7
comp=Z,139nm,18.6s,baz=60,slow=43
MLR Muntele Rosu 94.54 315 P **P 09 55 48.0 +1.3**
MLR Muntele Rosu 94.54 315 P **P 09 55 48.0 +1.3**
comp=Z,4.8nm,0.5s
SPITS Spitsbergen Ar 95.52 348 LR LR 10 43 49.0
comp=Z,200nm,21.4s,baz=46,slow=39
I26K Coal Creek Min 95.72 25 P **P 09 55 50.2 -1.2**
I26K IAmb IAmb 09 55 58.9
comp=Z,10nm,0.9s
SUR Sutherland 95.76 237 LR LR 10 35 45.7
comp=Z,134nm,18.9s,baz=114,slow=34
K27K Chicken 96.31 26 P **P 09 55 54.1 -0.1**
K27K IAmb IAmb 09 56 02.4
comp=Z,7.6nm,1.1s
L27K Beaver Creek, 96.53 27 IAmb IAmb 09 56 03.1
comp=Z,4.8nm,1.0s
BCAR Beaver Creek A 96.55 27 P **P 09 55 55.2 -0.1**
SNAA Sanae 96.95 196 IAMs_20 IAMs_20 10 37 46.1
comp=Z,356nm,20.0s
SNAA Sanae 96.95 196 LR LR 10 37 48.4
comp=Z,304nm,19.8s,baz=182,slow=34
I28M Miner Creek 97.04 24 IAmb IAmb 09 56 08.4
comp=Z,23nm,1.6s
I29M Ogilvie Camp, 97.73 24 IAmb IAmb 09 56 07.1
comp=Z,6.2nm,1.1s
PSZ Piszkesteto 98.58 318 IAMs_20 IAMs_20 10 37 33.9
comp=Z,264nm,18.0s
TAOE Nuku Hiva Isla 99.79 99 *e*LR LR 10 28 40.6
comp=Z,149nm,26.1s
BRG Berggiesshubel 102.04 321 *e*P **PKiKP 10 00 38.3 -4.3**
BRG Amp 10 00 39.3
comp=Z,6.7nm,1.2s
BRG Berggiesshubel 102.04 321 P **PKiKP 10 00 49.4 +6.8**
BRG Amp 10 00 51.7
comp=Z,5.1nm,1.1s
RKT Rikitea 103.11 114 *e*LR LR 10 30 16.1
comp=Z,1μm,27.2s
NVAR Mina Array Bea 116.71 48 PKP **PKiKP 10 01 12.1 +1.2**
comp=Z,0.2nm,0.5s,baz=289,slow=2.8,SNR=2.3
TORD Torodi Ar. Bea 117.70 283 PKP **PKPdf 10 01 11.2 -1.9**
comp=Z,1.1nm,0.6s,baz=53,slow=1.6,SNR=7.8
DUG Dugway, Tooele 120.03 44 IAMs_20 IAMs_20 10 44 55.7
comp=Z,366nm,18.0s
AHID Auburn Hatcher 120.08 41 IAMs_20 IAMs_20 10 46 47.7
comp=Z,372nm,18.0s
TCRU Three Creeks R 120.93 46 **PKPdf 10 01 18.4 -0.6**
PDAR Pinedale Array 121.09 40 PKP **PKiKP 10 01 20.1 +0.8**
comp=Z,0.3nm,0.7s,baz=215,slow=1.1,SNR=2.9
PDAR PKKPbc **PKKPbc 10 11 23.9 +1.0**
comp=Z,0.5nm,0.8s,baz=113,slow=3.9,SNR=4.1

TXAR Lajitas Array 131.37 53 PKP **PKPdf 10 01 39.5 +0.4**
comp=Z,0.3nm,0.7s,baz=264,slow=1.3,SNR=3.5
U49A Red Boiling Sp 139.26 32 **PKPdf 10 01 52.3 -1.1**
AC05 El Transito 147.07 164 **PKPab 10 02 10.4 -0.6**
PETF Flores 148.00 62 **PKiKP 10 02 14.1 -0.1**
CPUP Villa Florida 150.76 186 PKPbc **PKPbc 10 02 18.9 -0.1**
comp=Z,4.0nm,0.6s,baz=108,slow=2.2,SNR=8.2
TGUH Tegucigalpa,Un 151.36 66 PKPab **PKPab 10 02 27.4 -1.5**
PB01 IPOC Station P 154.62 160 **PKPab 10 02 41.4 -0.8**
SOCE Pocosol 154.96 72 **PKPab 10 02 41.5 -2.6**
LPAZ La Paz 159.49 159 PKP **PKPdf 10 02 27.8 +1.5**
comp=Z,1.8nm,0.9s,baz=175,slow=2.4,SNR=4.9
LPAZ PKPab **PKPab 10 03 05.7 +1.7**
comp=Z,2.8nm,0.9s,baz=154,slow=2.2,SNR=2.8

IDC 07 09:45:00.9±52.0, 18°.26S×179°.92W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=947.9km s-min=164.7km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.21**	**241**	P	P	09 52 14.2	0.0
	3.7nm,0.9s,baz=61,slow=11,SNR=1.7						
	3.7nm,0.9s						
WRA	**Warramunga Arr**	**43.16**	**260**	P	P	09 53 03.4	-0.3
	0.4nm,0.4s,baz=95,slow=7.3,SNR=5.2						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**43.32**	**255**	P	P	09 53 04.9	-0.1
	2.4nm,0.4s,baz=90,slow=9.0,SNR=37						
	2.4nm,0.4s						

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*IDC **07** 09:52:07.3±1.1, 2°.93S×119°.31E, h0km, mb3.6/5, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=84.9km s-min=16.9km az=67.0*
*DJA **07** 09:52:08.2±0.3, 3°.S±2°×11°.9E±°, h10km, M4.2/12, mb4.1/1, MLv4.2/12*
ISC 07 09:52:08.3±0.9, **2°.88S**±0°.05×**119°.43E**±0°.08, **h10**km, **n17**, σ1§**00**/20, **mb3.8/5, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.42**	**113**	P	**Pg**	**09 52 15.9**	**-0.8**
TTSI				S	**Sg**	**09 52 23.0**	**+0.7**
SPSI	**Sidrap Palu**	**1.13**	**162**	P	**Pb**	**09 52 27.7**	**-2.3**
BNSI	**Bone**	**1.66**	**156**	P	**Pn**	**09 52 38.0**	**+0.6**
BNSI				S	**Sg**	**09 53 02.0**	**+0.4**
KAPI	**Kappang**	**2.15**	**171**	Pn	**Pn**	**09 52 43.9**	**-0.2**
	19nm,0.3s,baz=320,slow=14,SNR=10.0						
KAPI				Sn	**Sn**	**09 53 11.4**	**+0.5**
	46nm,0.3s,baz=238,slow=23,SNR=8.9						
	90nm,0.4s						
BKSI	**Bulukumba**	**2.52**	**164**	P	**Pn**	**09 52 50.1**	**+0.7**
APSI	**Ampana**	**2.96**	**49**	P	**Pn**	**09 52 54.9**	**-0.5**
MPSI	**Mapaga**	**3.23**	**8**	P	**Pn**	**09 52 58.9**	**-0.2**
BSSI	**Bau Bau, Buton**	**3.41**	**162**	P	**Pn**	**09 53 01.7**	**+0.1**
LUWI	**Luwuk**	**3.81**	**61**	P	**Pn**	**09 53 06.8**	**-0.3**
BBSI	**Bau Bau**	**4.07**	**130**	P	**Pn**	**09 53 12.7**	**+2.1**
MRSI	**Marisa**	**4.17**	**37**	P	**Pn**	**09 53 11.4**	**-0.7**
PLAI	**Plampang**	**6.13**	**195**	P	**Pn**	**09 53 37.9**	**-1.2**
WRA	**Warramunga Arr**	**22.35**	**140**	P	**P**	**09 57 07.1**	**+0.4**
	1.1nm,0.9s,baz=316,slow=11,SNR=4.5						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**24.96**	**147**	P	**P**	**09 57 33.3**	**+1.1**
	0.8nm,1.0s,baz=337,slow=8.6,SNR=4.1						
	0.8nm,1.0s						
SONM	**Songino Array**	**51.78**	**349**	P	**P**	**10 01 16.6**	**+0.3**
	1.0nm,0.6s,baz=178,slow=8.7,SNR=5.7						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**59.28**	**331**	P	**P**	**10 02 10.7**	**+0.5**
	0.8nm,0.6s,baz=131,slow=7.8,SNR=6.9						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**63.74**	**332**	P	**P**	**10 02 41.5**	**+1.2**
	0.4nm,0.6s,baz=134,slow=5.4,SNR=2.5						
	0.4nm,0.6s						

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*IDC **07** 09:53:11.8±0.9, 2°.90S×119°.46E, h0km, mb3.9/6, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=70.9km s-min=15.6km az=68.0*
*NEIC **07** 09:53:13.2±1.4, 2°.93S±0°.06×119°.75E±0°.03, h10km±1km, mb4.3/14, Error ellipse: s-maj=9.8km s-min=3.3km az=162.0*
*DJA **07** 09:53:13.4±0.4, 3°.S±3°×11°.9E±°, h10km, M4.3/10, mb4.3/3, MLv4.2/10*
ISC 07 09:53:12.7±0.6, **2°.93S**±0°.05×**119°.52E**±0°.07, **h10**km, **n35**, σ1§**46**/38, **mb4.2**/12, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.32**	**111**	P	**Pg**	**09 53 20.3**	**+1.3**
TTSI				S	**Sb**	**09 53 27.3**	**+1.6**
SPSI	**Sidrap Palu**	**1.06**	**167**	P	**Pg**	**09 53 32.1**	**-1.0**
BNSI	**Bone**	**1.57**	**158**	P	**Pb**	**09 53 42.1**	**+0.2**
BNSI				S	**Sg**	**09 54 06.2**	**+2.9**
KAPI	**Kappang**	**2.08**	**174**	Pn	**Pn**	**09 53 47.0**	**-0.7**
KAPI	**Kappang**	**2.08**	**174**	Pn	**Pn**	**09 53 48.3**	**+0.6**
	47nm,0.3s,baz=342,slow=8.7,SNR=13						
KAPI				Sn	**Sb**	**09 54 15.6**	**-1.0**
	97nm,0.3s,baz=157,slow=19,SNR=7.6						
	118nm,0.3s						
BKSI	**Bulukumba**	**2.45**	**166**	P	**Pn**	**09 53 54.7**	**+1.9**
BKB	**Balikpapan**	**3.11**	**302**	Pn	**Pn**	**09 54 04.9**	**+3.1**
LUWI	**Luwuk**	**3.75**	**60**	Pn	**Pn**	**09 54 07.7**	**-2.9**
TOLI2	**Tolitoli**	**4.21**	**17**	Pn	**Pn**	**09 54 15.1**	**-1.9**
PLAI	**Plampang**	**6.11**	**196**	P	**Pn**	**09 54 43.6**	**+0.4**
	34nm,1.2s,0.2nm						
MMRI	**Maumere**	**6.28**	**155**	Pn	**Pn**	**09 54 43.6**	**-1.8**
WBSI	**Waikabubak, Su**	**6.67**	**181**	P	**Pn**	**09 54 51.2**	**+0.3**
WB0	**Warramunga Arr**	**22.16**	**140**	P	**P**	**09 58 07.4**	**-1.6**
WB0				IAmb	IAmb	09 58 17.1	
	comp=Z,6.4nm,1.1s						
WRA	**Warramunga Arr**	**22.25**	**141**	P	**P**	**09 58 10.9**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=316,slow=11,SNR=9.1						
	comp=Z,2.3nm,0.8s						
WB2	**Warramunga Arr**	**22.26**	**141**	P	**P**	**09 58 08.6**	**-1.5**
WR0	**Warramunga Arr**	**22.39**	**140**	P	**P**	**09 58 10.0**	**-1.5**
WR0				IAmb	IAmb	09 58 14.4	
	comp=Z,6.7nm,1.1s						
ASAR	**Alice Springs**	**24.87**	**147**	P	**P**	**09 58 33.5**	**-2.3**
ASAR	**Alice Springs**	**24.87**	**147**	P	**P**	**09 58 37.5**	**+1.8**
	comp=Z,1.6nm,1.0s,baz=332,slow=7.7,SNR=6.5						
	comp=Z,1.6nm,1.0s						
JNU	**Nakatsue**	**37.43**	**16**	P	**P**	**10 00 24.2**	**-2.0**
MGBR	**Mount Gambier**	**39.65**	**153**	P	**P**	**10 00 44.0**	**-0.8**
ARMA	**Armidale**	**40.85**	**135**	P	**P**	**10 00 55.5**	**+0.4**
TOO	**Toolangi**	**41.90**	**149**	P	**P**	**10 01 03.5**	**0.0**
BJT	**Baijiatuau**	**42.85**	**356**	P	**P**	**10 01 10.5**	**-0.6**
BJT				IAmb	IAmb	10 01 11.3	
	comp=Z,7.6nm,0.8s						
ULN	**Ulaanbaatar**	**51.75**	**349**	P	**P**	**10 02 20.9**	**+0.4**
SONM	**Songino Array**	**51.85**	**349**	P	**P**	**10 02 21.2**	**0.0**
SONM				IAmb	IAmb	10 02 25.2	
	comp=Z,4.0nm,1.1s						
SONM	**Songino Array**	**51.85**	**349**	P	**P**	**10 02 20.8**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=170,slow=7.7,SNR=12						
	comp=Z,2.2nm,0.6s						
WUS	**Wushi**	**57.22**	**325**	P	**P**	**10 03 01.6**	**+1.1**
WUS				IAmb	IAmb	10 03 08.9	
	comp=Z,4.9nm,1.1s						
MK31	**Makanchi Array**	**59.38**	**331**	P	**P**	**10 03 15.9**	**+0.7**
MK31				IAmb	IAmb	10 03 19.2	
	comp=Z,2.6nm,0.9s						
MKAR	**Makanchi Array**	**59.38**	**331**	P	**P**	**10 03 15.9**	**+0.7**
MKAR	**Makanchi Array**	**59.38**	**331**	P	**P**	**10 03 16.8**	**+1.5**
	comp=Z,2.3nm,0.8s,baz=143,slow=5.9,SNR=12						
	comp=Z,2.3nm,0.8s						
ZAA0	**Zalesovo Array**	**63.62**	**338**	P	**P**	**10 03 45.3**	**+1.5**
ZAA0				IAmb	IAmb	10 04 11.3	
	comp=Z,2.2nm,1.1s						
ZALV	**Zalesovo Beam**	**63.62**	**338**	P	**P**	**10 03 44.1**	**+0.3**
KURBB	**Kurchatov Arra**	**63.83**	**332**	P	**P**	**10 03 45.0**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=139,slow=6.3,SNR=4.2						
	comp=Z,0.9nm,0.8s						
KURK	**Kurchatov**	**63.85**	**332**	P	**P**	**10 03 46.2**	**+0.9**
BVAR	**Borovoye Array**	**69.25**	**331**	P	**P**	**10 04 19.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=126,slow=7.5,SNR=3.8						
	comp=Z,0.7nm,0.5s						

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*IDC **07** 10:21:31.5±0.6, 13°.23N×90°.08W, h0km, mb4.5/22, mbtmp4.5/24, ML3.6/2, MS4.1/27, Error ellipse: s-maj=24.0km s-min=12.3km az=51.0*

*CATAC **07** 10:21:32.5±0.5, 12°.81N×90°.59W, h8km±4km, MB6.0, mb6.1, ML4.8*
*NEIC **07** 10:21:33.5±1.5, 13°.00N±0°.07×90°.53W±0°.06, h10km±1km, mb4.7/373, Error ellipse: s-maj=13.1km s-min=8.6km az=215.0*
*SNET **07** 10:21:36.0, 12°.86N×90°.59W, h36km, ML5.0*
*GCMT **07** 10:21:38.5±0.6, 12°.84N±0°.03×90°.97W±0°.03, h27km±1km, MW4.9/65, Moment Tensor Solution. s17,c17; s65,c89; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.12±.21; Mθθ-1.10±.12; Mφφ-1.02±.12; Mrθ0.89±.16; Mrφ0.93±.06; Mθφ-1.98±.20; Best double couple: M=2.98200×10^16 NP1:φs149.00000°, δ69.00000°, λ100.00000°. NP2: φs302.00000°, δ24.00000°, λ65.00000°. Principal axes: T 3.1160, Plg65.0000°, Azm76.0000°; N -0.2690, Plg10.0000°, Azm325.0000°; P -2.8470, Plg23.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*GCG **07** 10:21:41.6±0.5, 13°.37N×90°.73W, h32km, MD4.5*
ISC 07 10:21:34.4±1.3, **12°.97N**±0°.04×**90°.55W**±0°.04, **h23**km±8km, **n702**, σ1§**33**/563, **mb4.7**/178, **MS4.1**/26, **23C-14D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.20**	**39**	||*eP*	**Pn**	**10 21 56.7**	**+0.8**
NUBE				*e*S	**Sb**	**10 22 13.1**	**+1.5**
NUBE	**Las Nubes**	**1.20**	**39**	||*iP*	**Pn**	**10 21 56.4**	**+0.5**
NUBE				IAML		10 22 26.4	
	comp=Z,9μm,1.0s						
CEVE	**Cerro Verde**	**1.24**	**46**	*e*P	**Pb**	**10 21 57.9**	**+0.5**
CEVE	**Cerro Verde**	**1.24**	**46**	||*iP*	**Pn**	**10 21 57.7**	**+1.0**
CEVE				IAML		10 22 25.3	
	comp=Z,18μm,1.0s						
SBLS	**San Blas**	**1.25**	**46**	⇑*iP*	**Pb**	**10 21 58.1**	**+0.6**
LOAL	**Lomas de Alarc**	**1.27**	**36**	*e*P	**Pb**	**10 21 58.2**	**+0.5**
LOAL	**Lomas de Alarc**	**1.27**	**36**	*i*P	**Pn**	**10 21 57.3**	**+0.4**
LOAL				*i*S	**Sb**	**10 22 16.8**	**+3.2**
LOAL				IAML		10 22 31.0	
	comp=Z,31μm,1.0s						
JAYA	**Jayaque - finc**	**1.27**	**57**	||*eP*	**Pn**	**10 21 58.0**	**+1.0**
JAYA	**Jayaque - finc**	**1.27**	**57**	||*iP*	**Pn**	**10 21 57.7**	**+0.7**
JAYA				*i*S	**Sb**	**10 22 18.5**	**+4.7**
JAYA				IAML		10 22 23.5	
	comp=Z,19μm,1.0s						
RTR	**El Retiro**	**1.28**	**44**	⇑*eP*	**Pb**	**10 21 58.5**	**+0.6**
SNJE	**San Jose**	**1.28**	**46**	||*eP*	**Pb**	**10 21 58.4**	**+0.3**
SLOZ	**Alcaldia de Sa**	**1.29**	**35**	*e*P	**Pn**	**10 21 58.2**	**+1.1**
LALI	**Alcalda de L**	**1.31**	**67**	||*eP*	**Pn**	**10 21 58.3**	**+1.1**
LALI				*e*S	**Sn**	**10 22 13.1**	**-0.9**
LALI	**Alcalda de L**	**1.31**	**67**	||*iP*	**Pn**	**10 21 58.1**	**+0.8**
LALI				IAML		10 22 25.8	
	comp=Z,3μm,1.0s						
CEDA	**San Andres**	**1.40**	**53**	*e*P	**Pb**	**10 22 00.0**	**+0.1**
CEDA	**San Andres**	**1.40**	**53**	*i*P	**Pn**	**10 21 59.3**	**+0.7**
CEDA				IAML		10 22 38.9	
	comp=Z,36μm,1.0s						
UNIC	**Universidad Ca**	**1.40**	**44**	*e*P	**Pn**	**10 21 59.8**	**+1.1**
UNIC	**Universidad Ca**	**1.40**	**44**	*i*P	**Pn**	**10 21 59.3**	**+0.6**
UNIC				IAML		10 22 23.9	
	comp=Z,3μm,1.0s						
PMON	**Piamonte**	**1.41**	**58**	⇑*eP*	**Pn**	**10 22 00.2**	**+1.3**
PMON	**Piamonte**	**1.41**	**58**	⇑*iP*	**Pn**	**10 22 00.0**	**+1.1**
PMON				IAML		10 22 10.0	
	comp=Z,14μm,1.0s						
PCG	**Pacaya**	**1.42**	**358**	*e*P	**Pb**	**10 22 00.6**	**+0.3**
ITCA	**Escuela Especi**	**1.43**	**60**	*e*P	**Pn**	**10 22 00.4**	**+1.4**
ITCA	**Escuela Especi**	**1.43**	**60**	*i*P	**Pn**	**10 22 00.0**	**+1.0**
ITCA				IAML		10 22 28.2	
	comp=Z,40μm,1.0s						
BOQS	**Boqueron**	**1.45**	**58**	*e*P	**Pb**	**10 22 01.0**	**+0.1**
SNET	**Serv Nac Est T**	**1.47**	**61**		**Pn**	**10 22 00.7**	**+1.0**
SNET	**Serv Nac Est T**	**1.47**	**61**	*e*P	**Pn**	**10 22 00.7**	**+1.0**
SNET	**Serv Nac Est T**	**1.47**	**61**	⇑*iP*	**Pn**	**10 22 00.6**	**+1.0**
SNET				IAML		10 22 31.9	
	comp=Z,11μm,1.0s						
PIC2	**El Picacho**	**1.48**	**58**	*e*P	**Pn**	**10 22 01.2**	**+1.3**
UEES	**Universidad Ev**	**1.48**	**60**	⇑*eP*	**Pn**	**10 22 01.1**	**+1.3**
UEES	**Universidad Ev**	**1.48**	**60**	⇑*iP*	**Pn**	**10 22 00.8**	**+1.0**
UEES				IAML		10 22 32.9	
	comp=Z,7μm,1.0s						
PANCS	**Alcalda de**	**1.48**	**64**	*e*P	**Pn**	**10 22 00.9**	**+1.1**
PANCS	**Alcalda de**	**1.48**	**64**	*i*P	**Pn**	**10 22 00.5**	**+0.7**
PANCS				IAML		10 22 10.1	
	comp=Z,10μm,1.0s						
SEMO	**Seminario San**	**1.48**	**60**	*i*P	**Pn**	**10 22 00.8**	**+1.0**
SEMO				IAML		10 22 38.8	
	comp=Z,18μm,1.0s						
FUG	**Fuego 3**	**1.50**	**349**	*e*P	**Pn**	**10 22 00.8**	**+0.7**
LOMA	**Loma Larga**	**1.50**	**63**	*e*P	**Pn**	**10 22 01.3**	**+1.2**
LOMA	**Loma Larga**	**1.50**	**63**	⇑*iP*	**Pn**	**10 22 01.3**	**+1.2**
LOMA				IAML		10 22 11.0	
	comp=Z,5μm,1.0s						
AEIL	**Aeropuerto Ilo**	**1.57**	**62**	*e*P	**Pb**	**10 22 03.1**	**+0.2**
JUAM	**Asuncion Mita**	**1.59**	**31**	⇑*iP*	**Pn**	**10 22 02.4**	**+1.2**
JUAM				*i*S	**Sb**	**10 22 26.0**	**+3.2**
JUAM				IAML		10 22 33.3	
	comp=Z,8μm,1.0s						
LFRS	**El Faro**	**1.59**	**66**	||*iP*	**Pn**	**10 22 02.6**	**+1.3**
GCG4	**OSOP**	**1.61**	**1**	*i*P	**Pb**	**10 22 05.5**	**+1.9**
GCG4				IAML		10 22 38.1	
	comp=Z,9μm,1.0s						
NBG	**Las Nubes**	**1.62**	**7**	*e*P	**Pb**	**10 22 04.3**	**+0.4**
SULM	**Suchitepequez,**	**1.65**	**324**	*e*P	**Pn**	**10 22 02.6**	**+0.5**
PAVA	**Las Pavas**	**1.74**	**65**	*e*P	**Pn**	**10 22 05.1**	**+1.8**
PAVA	**Las Pavas**	**1.74**	**65**	⇑*iP*	**Pn**	**10 22 04.9**	**+1.6**
PAVA				IAML		10 22 21.2	
	comp=Z,10μm,1.0s						
TECO	**Alcaldia de Te**	**1.82**	**72**	⇑*iP*	**Pn**	**10 22 05.3**	**+0.9**
TECO	**Alcaldia de Te**	**1.82**	**72**	⇑*iP*	**Pn**	**10 22 05.2**	**+0.9**
TECO				*i*S	**Sb**	**10 22 29.0**	**-0.3**
TECO				IAML		10 22 54.4	
	comp=Z,2μm,1.0s						
MTO3	**Montecristo**	**1.83**	**39**		**Pn**	**10 22 06.4**	**+1.7**
MTO3	**Montecristo**	**1.83**	**39**	||*eP*	**Pn**	**10 22 06.5**	**+1.7**
MTO3	**Montecristo**	**1.83**	**39**	||*iP*	**Pn**	**10 22 06.1**	**+1.3**
MTO3				IAML		10 22 38.2	
	comp=Z,5μm,1.0s						
UESV	**Universidad de**	**1.84**	**69**	⇑*eP*	**Pn**	**10 22 06.2**	**+1.5**
UESV	**Universidad de**	**1.84**	**69**	⇑*iP*	**Pn**	**10 22 05.9**	**+1.2**
UESV				IAML		10 22 24.0	
	comp=Z,4μm,1.0s						
UESV				*i*S	**Sb**	**10 22 29.7**	**-0.4**
RTAL	**Retalhuleu**	**1.90**	**324**	Pn	**Pn**	**10 22 04.5**	**-1.0**
SCLA	**Alcaldia de Sa**	**1.92**	**67**	⇑*iP*	**Pn**	**10 22 07.7**	**+1.9**
SCLA	**Alcaldia de Sa**	**1.92**	**67**	⇑*iP*	**Pn**	**10 22 07.5**	**+1.7**
SCLA				IAML		10 23 11.5	
	comp=Z,2μm,1.0s						
LLGN	**La Laguna**	**1.96**	**53**	*i*P	**Pn**	**10 22 08.2**	**+1.8**
LLGN				IAML		10 22 46.1	
	comp=Z,4μm,1.0s						
ESQI	**Esquipulas**	**1.97**	**36**		**Pn**	**10 22 08.6**	**+2.0**
ESQI	**Esquipulas**	**1.97**	**36**	*e*P	**Pn**	**10 22 08.5**	**+2.0**
ESQI	**Esquipulas**	**1.97**	**36**	||*iP*	**Pn**	**10 22 08.3**	**+1.7**
ESQI				IAML		10 22 43.9	
	comp=Z,14μm,1.0s						
**STG3

LCND La Caada 2.62 82 *i* P **Pn 10 22 16.4 +1.0**
LCND IAML 10 22 30.0
comp=Z,1µm,1.0s
CNCH Conchagua 2.67 83⇑ *eP* **Pn 10 22 17.1 +0.9**
CNCH Conchagua 2.67 83⇑ *i* P **Pn 10 22 17.0 +0.9**
CNCH IAML 10 23 16.7
comp=Z,4µm,1.0s
AMPH Amapala 2.84 83⇑ *i* P **Pn 10 22 19.5 +1.2**
CSGN Cosiguina Volc 2.92 90 *i* P **Pn 10 22 20.3 +0.7**
CSGN *i* S **Sb 10 22 58.5 -2.6**
CSGN IAML 10 23 02.2
comp=Z,470nm,1.0s
COMHN El Horno 3.26 63⇑ *i* P **Pn 10 22 25.2 +0.8**
TGUH Tegucigalpa,Un 3.37 71 Pn **Pn 10 22 27.3 +1.5**
TGUH Tegucigalpa,Un 3.37 71 *i* P **Pn 10 22 26.9 +1.1**
TGUH IAML 10 23 38.0
comp=Z,2µm,1.0s
CRIN San Cristobal 3.43 94 Pn **Pn 10 22 25.1 -1.5**
PKGN Cerro Pekin 3.50 94 *i* P **Pn 10 22 27.9 +0.4**
PKGN *i* S **Sn 10 23 08.9 +0.7**
PKGN IAML 10 23 12.7
comp=Z,4µm,1.0s
CCIG Comitan 3.63 335 Pn 10 22 31.8 +2.3
CCIG Comitan 3.63 335 *i* P **Pn 10 22 31.6 +2.1**
CCIG IAML 10 24 04.6
comp=Z,800nm,1.0s
PACN Al O del Volca 3.70 97 *i* P **Pn 10 22 31.3 +1.1**
PACN IAML 10 23 24.2
comp=Z,470nm,1.0s
YUSH Yuscaran 3.74 74⇓ *i* P **Pn 10 22 31.9 +1.0**
ROCN Rota Cerro Neg 3.74 96 *i* P **Pn 10 22 30.0 -0.8**
ROCN IAML 10 23 36.6
comp=Z,360nm,1.0s
COPN Copaltepe 3.95 101 *i* P **Pn 10 22 32.8 -0.8**
COPN IAML 10 23 21.3
comp=Z,670nm,1.0s
PETF Flores 3.98 10 Pn 10 22 37.0 +2.8
PETF Flores 3.98 10 *i* P **Pn 10 22 36.9 +2.8**
PETF IAML 10 24 01.6
comp=Z,790nm,1.0s
MOM2 El Cardon 4.00 97 *i* P **Pn 10 22 33.8 -0.6**
MOM2 IAML 10 23 24.4
comp=Z,660nm,1.0s
LIMN Finca el Limon 4.08 88⇓ *i* P **Pn 10 22 36.0 +0.4**
LIMN IAML 10 23 02.1
comp=Z,620nm,1.0s
TISN Laguna Tiscapa 4.26 101 *i* P **Pn 10 22 37.8 -0.2**
TISN IAML 10 22 56.6
comp=Z,41nm,1.0s
UNAN Cigeo UNAN 4.27 101 *i* P **Pn 10 22 38.2 +0.1**
UNAN IAML 10 23 33.0
comp=Z,6µm,1.0s
R4DEC Barrio San Lui 4.28 100 *i* P **Pn 10 22 38.3 +0.1**
R4DEC IAML 10 23 33.6
comp=Z,680nm,1.0s
MGAN Managua 4.28 101 Pn **Pn 10 22 38.6 +0.3**
RCVN Varilla!2 4.29 81 *i* P **Pn 10 22 39.6 +1.1**
RCVN IAML 10 22 40.4
comp=Z,6µm,1.0s
MAS3 Al N del Volca 4.38 102 *i* P **Pn 10 22 39.6 0.0**
MAS3 IAML 10 23 39.2
comp=Z,570nm,1.0s
RCPN Sur Rio San Ju 4.38 82 *i* P **Pn 10 22 41.4 +1.7**
RCPN IAML 10 22 49.9
comp=Z,0.4nm,1.0s
NANN Nandasmo 4.45 103 *i* P **Pn 10 22 41.7 +1.1**
NANN IAML 10 23 41.4
comp=Z,9µm,1.0s
BOAB BOACO BROADBAN 4.80 96 Pn **Pn 10 22 45.4 0.0**
BOAB BOACO BROADBAN 4.80 96⇑ *i* P **Pn 10 22 45.0 -0.3**
BOAB IAML 10 23 41.0
comp=Z,230nm,1.0s
JAPN Al SSO del Vol 4.97 106 *i* P **Pn 10 22 48.6 +0.8**
JAPN IAML 10 22 49.8
comp=Z,290nm,1.0s
CONN Concepcion 5.01 106 *i* P **Pn 10 22 48.2 -0.1**
CONN IAmb IAmb 10 23 02.8
comp=Z,2µm,0.9s
CONN IVmB_BB 10 23 19.1
comp=Z,17µm,1.0s
CONN IAML 10 23 48.4
comp=Z,3µm,1.0s
LCRUZ La Cruz 5.17 111 *eP* **Pn 10 22 52.0 +1.5**
CARN Rivas 5.23 109 *i* S **Sn 10 23 50.1 -0.8**
ACON Acoyapa 5.35 100 Pn **Pn 10 22 52.6 -0.3**
ACON Acoyapa 5.35 100 *eP* **Pn 10 22 52.4 -0.5**
ELI1 Hacienda Flor 5.41 115 *eP* **Pn 10 22 56.6 +2.9**
ALIBA Liberia Airpor 5.44 115 *eP* **Pn 10 22 56.8 +2.6**
VRLE La Escondida, 5.52 113 *eP* **Pn 10 22 57.6 +2.2**
VORI VORI 5.53 112 *eP* **Pn 10 22 59.2 +3.6**
GPS3 Bodega del ICE 5.53 113 *eP* **Pn 10 22 57.2 +1.7**
GPS2 Hotel Rincn d 5.55 113 *eP* **Pn 10 22 58.2 +2.5**
BAGA Bagaces 5.72 115 *eP* **Pn 10 23 00.3 +2.3**
CUI Cuipilapa 5.75 113 *eP* **Pn 10 23 00.2 +1.7**
CMIG Matias Romero 5.86 315 Pn **Pn 10 23 00.5 +0.6**
comp=Z,2.4nm,0.3s,baz=125,slow=11,SNR=16
CMIG Sn **Sn 10 24 03.9 -2.5**
comp=Z,2.9nm,0.3s,baz=95,slow=12,SNR=4.8
comp=Z,15nm,0.6s
TENO El Achiote 5.90 112 *eP* **Pn 10 23 01.8 +1.2**
VERA Finca Concepci 5.95 110 *eP* **Pn 10 23 01.5 +0.4**
JUNT Juntas 6.09 115 *eP* **Pn 10 23 05.0 +1.8**
JTS Las Juntas de 6.10 115 Pn **Pn 10 23 05.0 +1.8**
JTS Las Juntas de 6.10 115 Pn **Pn 10 23 04.9 +1.7**
comp=Z,9.6nm,0.3s,baz=280,slow=5.8,SNR=37
JTS Sn **Sn 10 24 10.0 -2.4**
baz=200,slow=22
JTS Las Juntas de 6.10 115 *eP* **Pn 10 23 05.1 +1.8**
ESPN Las Esperanzas 6.15 96 Pn 10 23 04.5 +0.5
MTEVE Monteverde 6.20 115 *eP* **Pn 10 23 07.3 +2.6**
ARE1 Arenal 1 6.23 113 *eP* **Pn 10 23 07.5 +2.4**
CEDE Laguna Cedeo 6.24 113 *eP* **Pn 10 23 07.6 +2.4**
VACR Volcan Arenal 6.26 113 *eP* **Pn 10 23 07.6 +2.1**
SOCE Pocosol 6.36 113 Pn 10 23 08.6 +1.8
SOCE Pocosol 6.36 113 *eP* **Pn 10 23 08.4 +1.6**
ARZA Esparza 6.48 117 *eP* **Pn 10 23 10.9 +2.3**
SRA1 San Ramn 6.61 115 *eP* **Pn 10 23 13.6 +3.3**
SANTA Santa Ana 6.93 115 *eP* **Pn 10 23 16.8 +2.0**
HDC Heredia 6.96 114 Pn 10 23 15.9 +0.6
HDC Heredia 6.96 114 *eP* **Pn 10 23 18.2 +2.9**
ACOS Acosta 7.01 116 *eP* **Pn 10 23 18.4 +2.5**
LUJA Lujan 7.04 115 *eP* **Pn 10 23 19.2 +3.0**
SJS Escuela Geolog 7.04 115 *eP* Pn 10 23 21.7 +5.3
CORON Coronado 7.08 114 *eP* **Pn 10 23 19.2 +2.4**
CVIMO Finca Echandi 7.11 114 *eP* Pn 10 23 22.1 +4.8
ABE2 San Pablo 7.15 116 *eP* **Pn 10 23 20.9 +3.0**
LCR2 La Lucha 2 7.18 116 Pn **Pn 10 23 20.2 +2.0**
LCR2 La Lucha 2 7.18 116 *eP* **Pn 10 23 19.3 +1.1**
RAZU San Marcos de 7.20 117 *eP* **Pn 10 23 21.8 +3.3**
VICA Volcano Irazu 7.21 114 *eP* **Pn 10 23 20.8 +1.8**
LLNJ Naranjito 7.22 118 *eP* **Pn 10 23 21.8 +3.2**
TURIB Turrialba 7.39 114 *eP* **Pn 10 23 23.6 +2.6**
BUS1 Rivas 7.49 116 *eP* **Pn 10 23 26.3 +3.6**
TEIG Tepich 7.54 17 Pn **Pn 10 23 25.0 +2.0**
TEIG Tepich 7.54 17 Pn **Pn 10 23 24.7 +1.7**
comp=Z,3.9nm,0.3s,baz=199,slow=7.0,SNR=38
TEIG Sn Sn 10 24 34.7 -13
baz=197,slow=22
TEIG LR LR 10 26 41.2
comp=Z,2µm,18.2s,baz=186,slow=43
BURE Buenos Aires 8.02 117 *eP* **Pn 10 23 33.4 +3.7**
DRK0 Durika 8.06 116 *eP* **Pn 10 23 33.1 +2.7**
DRK0 *eP* Pn 10 23 35.2 +4.8
DRK0 *eS* 10 23 44.8
DRK0 Durika 8.06 116 *eP* **Pn 10 23 33.3 +2.9**
EDP2 Potrero Grande 8.24 118 *eP* **Pn 10 23 36.3 +3.7**
JIME Puerto Jimenez 8.35 121 *eP* **Pn 10 23 37.5 +3.3**
PIRO Carate, Puerto 8.42 122 *eP* **Pn 10 23 38.5 +3.4**
EDAD Golfito 8.43 120 *eP* **Pn 10 23 38.1 +2.8**
CNI2 El Empalme, Bo 8.68 113 *eP* Pn 10 23 33.8 -4.8
CNI2 *eS* 10 23 49.4
BRU2 Volcan 8.76 117 *eP* **Pn 10 23 42.9 +2.9**
BRU2 *eS* 10 24 03.3
BRU2 Volcan 8.76 117 *eP* **Pn 10 23 43.0 +3.0**
TLIG Tlapa 8.98 302 Pn **Pn 10 23 44.9 +2.0**
DVD David 9.15 119 *eP* Pn 10 23 40.2 -4.9
DVD *eS* 10 23 52.9
UNM Universidad Na 10.42 308 Pn **Pn 10 24 03.6 +0.8**
BCIP Isla Barro Col 11.17 109 Pn **Pn 10 24 14.6 +1.8**
SOR Soroa 12.12 35 Pn **Pn 10 24 25.9 +0.1**
MOIG Morelia 12.19 305 Pn **Pn 10 24 27.2 +0.2**
JRQG Juriquilla Cam 12.20 310 Pn **Pn 10 24 26.5 -0.6**
MTDJ Mount Denham 13.58 66 Pn 10 24 45.7 -0.2

ZAIG Zacatecas 15.02 312 Pn 10 25 06.8 +1.1
HBVL Hebbronville 15.96 333 Pn **Pn 10 25 19.1 +1.5**
060A Indiantown 16.94 33 Pn **Pn 10 25 29.8 -0.3**
DWPF Disney Wildern 17.30 28 P **Pn 10 25 35.3 +0.7**
833A Chaparral WMA, 17.36 333 P **P 10 25 36.4 -0.1**
833A Chaparral WMA, 17.36 333 P **P 10 25 37.3 +0.8**
baz=150
OTAV Otavalo 17.43 136 P **P 10 25 38.0 +0.1**
OTAV Otavalo 17.43 136 *eP* **P 10 25 37.6 -0.3**
HKT Hockley 17.59 345 P **Pn 10 25 37.4 -0.7**
441A DeRidder 17.86 353 IAmb IAmb 10 25 47.2
comp=Z,48nm,1.0s
656A Willston 17.94 23 P **P 10 25 43.8 +0.9**
656A IAmb IAmb 10 25 58.6
comp=Z,51nm,0.8s
ROSC El Rosal 17.94 115 P **P 10 25 44.2 +0.7**
ROSC IAmb IAmb 10 25 58.6
comp=Z,71nm,1.1s
ROSC El Rosal 17.94 115 P **P 10 25 47.2 +3.7**
comp=Z,37nm,0.9s,baz=110,slow=8.9,SNR=9.1
553A Crawfordville 18.05 17 P **P 10 25 45.1 +1.0**
553A IAmb IAmb 10 25 57.4
comp=Z,130nm,1.4s
HNVL Huntsville, TX 18.28 346 P **Pn 10 25 47.7 +1.1**
346A Big Creek Wild 18.36 3 P **P 10 25 47.5 -0.1**
346A IAmb IAmb 10 26 08.5
comp=Z,76nm,1.0s
HNDO Hondo 18.36 335 P **P 10 25 47.6 0.0**
PAPH Port-au-Prince 18.41 70 P **P 10 25 48.2 0.0**
PAPH IAmb IAmb 10 25 58.3
comp=Z,56nm,0.8s
DRIO Del Rio 18.85 332 P **Pn 10 25 53.9 +0.3**
435B Jarrell 18.88 341 P **Pn 10 25 55.3 +1.4**
baz=158
COHC Cochancay 19.00 143 P **Pn 10 25 55.5 0.0**
NATX Nacogdoches 19.08 349 P **P 10 25 55.4 -0.1**
NATX IAmb IAmb 10 26 05.4
comp=Z,25nm,0.7s
352A Blakely 19.14 15 P **P 10 25 56.2 +0.1**
352A IAmb IAmb 10 26 13.0
comp=Z,31nm,0.9s
JCT Junction City 19.41 335 P **P 10 25 59.0 -0.1**
TIGA Tifton 19.47 18 P **P 10 26 00.1 +0.4**
TIGA IAmb IAmb 10 26 15.2
comp=Z,52nm,1.1s
146A Union 19.63 4 P **Pn 10 26 02.4 -0.5**
146A IAmb IAmb 10 26 11.0
comp=Z,54nm,0.8s
143A Socs Landing, 19.66 358 IAmb IAmb 10 26 14.6
comp=Z,41nm,1.0s
BRDY Brady 19.82 338 P **P 10 26 03.2 -0.4**
HPIG 19.84 317 P **P 10 26 04.6 +0.5**
WHTX Lake Whitney, 19.97 343 P **P 10 26 05.0 -0.2**
SDV Santo Domingo 19.97 100 P **P 10 26 05.5 -0.1**
SDV IAmb IAmb 10 26 18.0
comp=Z,27nm,0.9s
SDV Santo Domingo 19.97 100 P **P 10 26 03.3 -2.3**
comp=Z,1.3nm,0.3s,baz=300,slow=5.5,SNR=5.1
SDV LR LR 10 34 41.8
comp=Z,382nm,20.1s,baz=272,slow=40
comp=Z,9.5nm,0.6s
SDV Santo Domingo 19.97 100 *eP* **P 10 26 06.2 +0.6**
SAND Sanderson 20.02 329 P **P 10 26 06.5 +0.7**
Z47A Carrollton 20.27 6 P **P 10 26 09.2 +0.9**
FW13 Cleburne 20.30 343 P **P 10 26 08.6 -0.2**
FW13 IAmb IAmb 10 26 33.6
comp=Z,32nm,1.2s
Z41A Richland Creek 20.30 355 P **P 10 26 08.2 -0.6**
Z41A IAmb IAmb 10 26 17.5
comp=Z,38nm,1.0s
152A Waverly Hall 20.32 14 P **P 10 26 08.8 -0.2**
TXAR Lajitas Array 20.34 325 P Pn 10 26 11.5 +0.1
comp=Z,21nm,0.8s,baz=149,slow=11,SNR=181
TXAR PcP **PcP 10 30 23.9 +1.8**
comp=Z,1.1nm,0.8s,baz=139,slow=4.3,SNR=3.6
TXAR ScP **ScP 10 34 03.3 +5.8**
comp=Z,1.3nm,1.0s,baz=145,slow=2.2,SNR=7.4
comp=Z,21nm,0.8s
OZNA Ozona 20.36 333 P **P 10 26 10.4 +0.9**
OZNA IAmb IAmb 10 26 12.4
comp=Z,26nm,0.9s
Z38A Mt. Pleasant 20.60 349 P **P 10 26 12.2 +0.2**
Z38A IAmb IAmb 10 26 17.4
comp=Z,34nm,0.7s
154A Montrose 20.71 18 IAmb IAmb 10 26 41.4
comp=Z,34nm,0.8s
FW07 Weatherford 20.73 343 P **P 10 26 13.4 -0.1**
FW07 IAmb IAmb 10 26 18.1
comp=Z,28nm,0.6s
WLAR White Oak Lake 20.76 354 IAmb IAmb 10 26 34.3
comp=Z,41nm,0.8s
Y45A Yeager Farm, C 20.82 2 P **P 10 26 14.2 -0.2**
CCAR Cane Creek 20.89 357 P **P 10 26 16.4 +1.3**
FW03 Perrin-Whitt E 21.13 342 IAmb IAmb 10 26 20.6
comp=Z,25nm,0.7s
Y49A Blount Mountai 21.14 10 P **P 10 26 18.0 +0.2**
Y49A IAmb IAmb 10 26 22.6
comp=Z,21nm,0.8s
Z35A Perchaven, San 21.17 344 P **P 10 26 17.9 -0.3**
Z35A IAmb IAmb 10 26 44.5
comp=Z,31nm,0.9s
SGCY Sterling City 21.21 334 P **P 10 26 18.3 -0.4**
SLBS Sierra La Lagu 21.24 303 P **P 10 26 19.0 -0.2**
ABTX Abilene, Hawle 21.26 338 P **P 10 26 19.1 -0.1**
ABTX IAmb IAmb 10 26 46.4
comp=Z,31nm,1.2s
GOGA Godfrey 21.35 16 P **P 10 26 19.2 -0.9**
X40A Basin Creek Fa 21.52 355 P **P 10 26 21.8 -0.1**
X48A Hartselle 21.62 8 IAmb IAmb 10 26 25.9
comp=Z,22nm,0.7s
Y52A Lilburn 21.62 15 IAmb IAmb 10 26 26.1
comp=Z,19nm,0.7s
MIAR Mount Ida 21.66 353 IAmb IAmb 10 26 27.0
comp=Z,49nm,1.4s
LPIG La Paz 21.73 303 P **P 10 26 28.1 +3.9**
comp=Z,16nm,0.9s,baz=205,slow=6.6,SNR=3.1
LPIG LR LR 10 35 05.0
comp=Z,459nm,18.3s,baz=130,slow=37
comp=Z,16nm,0.9s
UALR University of 21.77 356 P **P 10 26 24.2 -0.4**
UALR IAmb IAmb 10 26 28.8
comp=Z,21nm,0.7s
FPAL Fort Paine 21.94 11 P **P 10 26 26.6 +0.1**
SN05 Snyder 5 21.96 336 P **P 10 26 24.4 -2.3**
SN05 IAmb IAmb 10 26 31.1
comp=Z,24nm,0.7s
X37A Clayton 21.96 349 P 10 26 26.3 -0.4
X37A IAmb IAmb 10 26 45.3
comp=Z,44nm,1.1s
ODSA Odessa 22.01 332 IAmb IAmb 10 26 29.9
comp=Z,29nm,1.0s
PLAL Pickwick Lake 22.03 5 P **P 10 26 26.9 -0.5**
PECS Pecos 22.04 328 IAmb IAmb 10 26 41.9
comp=Z,26nm,0.9s
APMT Aspermont 22.07 338 P **P 10 26 27.2 -0.7**
APMT IAmb IAmb 10 26 31.1
comp=Z,20nm,0.7s
NHSC New Hope 22.18 24 IAmb IAmb 10 26 31.2
comp=Z,40nm,0.8s
WHAR Wooly Hollow 22.28 356 IAmb IAmb 10 26 51.6
comp=Z,30nm,1.1s
POST Post 22.37 335 P **P 10 26 30.2 -0.9**
POST IAmb IAmb 10 26 35.5
comp=Z,26nm,0.8s
BAUV El Baul 22.45 98 P **P 10 26 30.9 -1.3**
BAUV IAmb IAmb 10 26 37.9
comp=Z,25nm,0.6s
SWET Sewanee 22.54 10 IAmb IAmb 10 26 42.8
comp=Z,32nm,0.7s
W50A Signal Mountai 22.64 11 IAmb IAmb 10 26 44.7
comp=Z,19nm,0.9s
DKNS Dickens 22.67 337 IAmb IAmb 10 26 39.4
comp=Z,29nm,0.7s
W35A Tecumseh 22.82 347 IAmb IAmb 10 26 54.5
comp=Z,23nm,0.8s
W52A Murphy 22.83 14 IAmb IAmb 10 27 01.8
comp=Z,22nm,0.9s
FCAR Ozark Folk Cen 22.87 357 P **P 10 26 35.8 -0.5**
V48A Smith Brothers 22.92 8 IAmb IAmb 10 26 38.5
comp=Z,21nm,0.7s
LCAR Lake Charles 23.01 359 IAmb IAmb 10 26 59.5
comp=Z,19nm,0.9s
CPCT Cooper Cave 23.04 13 P **P 10 26 38.2 +0.1**
CPCT IAmb IAmb 10 26 39.8
comp=Z,15nm,0.7s

WVT Waverly 23.19 6 P **P 10 26 39.2 -0.4**
WVT IAmb IAmb 10 26 40.4
comp=Z,17nm,0.9s
TUL3 Leonard 23.33 349 IAmb IAmb 10 26 42.1
comp=Z,20nm,0.7s
CLTN Cedars of Leba 23.34 9 P **P 10 26 41.2 +0.2**
CLTN IAmb IAmb 10 26 42.4
comp=Z,29nm,0.7s
TKL Tuckaleechee C 23.41 14 IAmb IAmb 10 26 43.7
comp=Z,15nm,0.6s
TKL Tuckaleechee C 23.41 14 LR LR 10 37 08.6
comp=Z,862nm,18.2s,baz=196,slow=41
OK031 S. Brethren Rd 23.58 347 IAmb IAmb 10 26 43.9
comp=Z,20nm,0.7s
OK052 Battle Ridge R 23.61 347 IAmb IAmb 10 26 44.2
comp=Z,27nm,0.8s
V53A Saluda 23.66 16 IAmb IAmb 10 26 48.7
comp=Z,13nm,0.7s
OK048 Pawnee Station 24.05 347 IAmb IAmb 10 26 47.9
comp=Z,30nm,0.8s
MGMO Mountain Grove 24.13 357 IAmb IAmb 10 26 49.4
comp=Z,12nm,0.8s
V55A Taylorsville 24.29 19 IAmb IAmb 10 27 07.0
comp=Z,14nm,0.9s
TZTN Tazewell 24.30 14 IAmb IAmb 10 26 51.3
comp=Z,24nm,0.8s
CROK Carrier 24.37 345 IAmb IAmb 10 26 50.8
comp=Z,18nm,0.7s
T35A Sooner Cattle 24.44 348 IAmb IAmb 10 26 51.5
comp=Z,23nm,0.8s
T50A Nancy 24.49 11 IAmb IAmb 10 27 02.4
comp=Z,14nm,0.8s
S39A Bolivar 24.75 355 IAmb IAmb 10 26 54.6
comp=Z,18nm,0.7s
HSIG 24.79 313 IAmb IAmb 10 27 08.6
comp=Z,20nm,1.4s
KAN09 Caldwell North 24.89 346 IAmb IAmb 10 26 56.4
comp=Z,22nm,0.9s
KAN01 Argonia South 24.93 346 IAmb IAmb 10 26 56.4
comp=Z,16nm,0.8s
V58A Windy Hill, Pi 24.96 22 IAmb IAmb 10 27 14.9
comp=Z,20nm,0.8s
CCM Cathedral Cave 24.99 359 P **P 10 26 55.6 -0.9**
U56A King 25.01 20 IAmb IAmb 10 26 58.5
comp=Z,14nm,0.8s
USIN University of 25.03 5 P **P 10 26 56.3 -0.6**
KAN08 Anthony NE Sta 25.05 346 IAmb IAmb 10 26 58.9
comp=Z,13nm,0.6s
121A Cookes Peak, D 25.07 324 P **P 10 26 58.9 +1.5**
baz=137
R40A Maddies Statio 25.27 357 IAmb IAmb 10 26 59.0
comp=Z,12nm,0.6s
S51A Beattyville 25.34 13 IAmb IAmb 10 27 00.8
comp=Z,11nm,0.7s
WCI Wyandotte Cave 25.44 8 P **P 10 27 00.0 -0.5**
PCRV Puerto La Cruz 25.54 94 LR LR 10 38 05.2
comp=Z,324nm,21.1s,slow=40
R49A Shelbyville 25.67 10 IAmb IAmb 10 27 05.3
comp=Z,21nm,0.8s
Y22D IRIS PASSCAL I 25.75 327 P **P 10 27 04.7 +1.1**
baz=141
RTBA Rita Blanca 25.81 337 IAmb IAmb 10 27 09.4
comp=Z,11nm,0.9s
R50A Paris 25.81 11 IAmb IAmb 10 27 25.0
comp=Z,16nm,1.1s
ANMO Albuquerque 26.19 329 P **P 10 27 08.6 +0.9**
P40A Paris 26.49 357 IAmb IAmb 10 27 09.9
comp=Z,19nm,0.7s
T59A Double "B" Far 26.59 24 IAmb IAmb 10 27 14.2
comp=Z,11nm,0.8s
TBTG Tabatinga, AM 26.66 128 *eP* **P 10 27 12.8 +0.9**
P38A Dawn 26.68 355 IAmb IAmb 10 27 11.8
comp=Z,14nm,1.0s
P46A Rosedale 26.71 6 IAmb IAmb 10 27 33.7
comp=Z,18nm,0.9s
TUC Tucson 26.73 319 P **P 10 27 12.9 +0.5**
P48A Milroy 26.77 9 P **P 10 27 11.6 -1.0**
P48A IAmb IAmb 10 27 12.0
comp=Z,17nm,0.8s
Q52A Bidwell 26.91 14 IAmb IAmb 10 27 14.9
comp=Z,19nm,0.8s
T25A Trinidad 27.08 335 P **P 10 27 17.2 +1.5**
baz=149
CZSB Cruzeiro do Su 27.15 138 *eP* **P 10 27 18.7 +2.4**
Q54A Coxs Mills 27.31 17 IAmb IAmb 10 27 18.5
comp=Z,12nm,0.8s
O48B Farmland 27.59 9 IAmb IAmb 10 27 21.4
comp=Z,20nm,1.0s
X18A Snowflake 27.75 324 IAmb IAmb 10 27 35.5
comp=Z,13nm,1.1s
SDCO Great Sand Dun 28.05 334 P **P 10 27 25.0 +0.5**
KSCO Kaye Shedlock' 28.06 340 P **P 10 27 24.3 -0.1**
X16A Lo Mia Camp, P 28.55 322 IAmb IAmb 10 27 33.0
comp=Z,11nm,0.7s
S22A 4UR Ranch, Cre 28.63 332 P **P 10 27 30.9 +1.3**
baz=145
P57A Homestead Farm 28.64 21 IAmb IAmb 10 27 30.0
comp=Z,10nm,1.0s
Q24A Divide 28.94 336 P **P 10 27 33.6 +1.2**
baz=150
MVCO Mesa Verde 28.99 330 IAmb IAmb 10 27 44.9
comp=Z,12nm,0.8s
WUAZ Wupatki 29.28 324 IAmb IAmb 10 27 47.6
comp=Z,13nm,1.0s
YUH Yuha Desert 30.37 314 IAmb IAmb 10 28 04.6
comp=Z,12nm,1.2s
U15A North Rim 30.45 324 IAmb IAmb 10 27 58.1
comp=Z,11nm,1.1s
W13A Hualapai Mount 30.50 320 IAmb IAmb 10 27 50.6
comp=Z,8.5nm,1.0s
CBX Cerro Bola 30.70 313 IAmb IAmb 10 27 51.5
comp=Z,12nm,1.2s
TKX Tecate 30.80 314 IAmb IAmb 10 28 03.2
comp=Z,12nm,0.9s
KNB Kanab 31.16 324 IAmb IAmb 10 27 58.3
comp=Z,9.1nm,0.8s
O20A White River Ci 31.22 333 IAmb IAmb 10 27 55.0
comp=Z,7.8nm,0.9s
V12A Nelson 31.51 320 IAmb IAmb 10 28 02.1
comp=Z,9.7nm,0.9s
BOAV Boa Vista 31.52 107 P **P 10 27 55.3 +0.2**
BOAV Boa Vista 31.52 107 *eP* **P 10 27 55.9 +0.8**
MTPU Mount Pierson 31.54 326 IAmb IAmb 10 27 59.8
comp=Z,13nm,0.9s
Q16A Castle Valley 31.65 328 IAmb IAmb 10 28 08.7
comp=Z,9.1nm,1.1s
P18A Preston Nutter 31.74 330 IAmb IAmb 10 28 09.0
comp=Z,7.0nm,0.9s
P17A Butcher Ranch, 31.86 330 IAmb IAmb 10 28 00.8
comp=Z,13nm,1.0s
TCRU Three Creeks R 32.09 327 IAmb IAmb 10 28 03.5
comp=Z,12nm,0.8s
MPU Maple Canyon 32.72 329 IAmb IAmb 10 28 08.3
comp=Z,9.1nm,1.0s
PRN Pahroc Range 32.73 322 IAmb IAmb 10 28 30.9
comp=Z,14nm,1.4s
PSUT Pine Spring 32.81 325 IAmb IAmb 10 28 14.0
comp=Z,9.8nm,0.9s
ETMB Extrema 33.12 132 P **P 10 28 09.2 +0.2**
ETMB Extrema 33.12 132 *eP* **P 10 28 09.8 +0.7**
F33A 5 Mile Ranch, 33.12 353 IAmb IAmb 10 28 07.7
comp=Z,9.0nm,0.7s
RSSD Black Hills 33.13 342 P **P 10 28 09.1 -0.1**
TPNV Topopah Spring 33.16 321 IAmb IAmb 10 28 23.3
comp=Z,15nm,1.4s
SADO Sadowa 33.16 15 LR LR 10 42 50.6
comp=Z,814nm,18.1s,baz=236,slow=39
CTU Camp Tracy 33.29 330 IAmb IAmb 10 28 13.2
comp=Z,7.9nm,0.8s
SPR3 Spring Creek 3 33.40 325 IAmb IAmb 10 28 24.1
comp=Z,15nm,1.2s
R11B Troy Canyon, C 33.67 323 IAmb IAmb 10 28 18.3
comp=Z,15nm,1.2s
R11B Troy Canyon, C 33.67 323 P **P 10 28 15.3 +1.4**
baz=132,SNR=17
Q12A Willow Creek R 33.70 325 IAmb IAmb 10 28 27.2
comp=Z,20nm,1.3s
MACA Manacapuru-AM 33.71 116 P **P 10 28 14.3 0.0**
MACA Manacapuru-AM 33.71 116 *eP* **P 10 28 15.5 +1.2**
ISA Isabella, Lake 33.82 317 IAmb IAmb 10 28 18.6
comp=Z,8.9nm,1.1s
HWUT Hardware Ranch 33.91 331 IAmb IAmb 10 28 26.5
comp=Z,7.9nm,0.8s
PDAR Pinedale Array 33.94 335 P **P 10 28 16.0 -0.3**
comp=Z,1.2nm,0.6s,baz=130,slow=8.7,SNR=13
PDAR PcP **PcP 10 30 55.3 +0.9**
comp=Z,0.5nm,0.5s,baz=118,slow=5.1,SNR=5.3

PDAR ScP **ScP** **10 34 44.1 +6.1**
comp=Z,0.2nm,0.5s,baz=134,slow=2.6,SNR=3.6
comp=Z,1.2nm,0.6s
BGU Big Grassy Mou 34.10 329 IAmb IAmb 10 28 19.9
comp=Z,7.0nm,0.8s
SPUT South Promonto 34.10 330 IAmb IAmb 10 28 30.5
comp=Z,9.6nm,1.1s
AHID Auburn Hatcher 34.61 333 IAmb IAmb 10 28 23.7
comp=Z,13nm,1.1s
HVU Hansel Valley 34.62 330 IAmb IAmb 10 28 25.6
comp=Z,11nm,1.0s
SAML Samuel 34.83 127 P **P** **10 28 23.6 -0.4**
SAML IAmb IAmb 10 28 24.3
comp=Z,13nm,0.7s
SAML Samuel 34.83 127 *e*P **P** **10 28 23.4 -0.5**
EYMN Ely 34.88 359 P **P** **10 28 21.7 -2.3**
EYMN IAmb IAmb 10 28 23.1
comp=Z,11nm,0.8s
LOHW Long Hollow 35.08 334 IAmb IAmb 10 28 28.0
comp=Z,12nm,0.8s
ELK Elko 35.12 327 IAmb IAmb 10 28 31.1
comp=Z,12nm,0.9s
TPAW Teton Pass 35.12 334 IAmb IAmb 10 28 32.5
comp=Z,12nm,0.8s
MOOW Moose Ponds 35.25 334 IAmb IAmb 10 28 29.2
comp=Z,6.5nm,0.8s
NV11 Mina Array Sit 35.27 321 IAmb IAmb 10 28 46.3
comp=Z,13nm,0.9s
OMMB Old Mammoth Mi 35.30 319 IAmb IAmb 10 28 33.3
comp=Z,13nm,1.3s
NVAR Mina Array Bea 35.35 321 P **P** **10 28 31.1 +2.6**
comp=Z,9.4nm,0.7s,baz=135,slow=8.0,SNR=72
NVAR PcP **PcP** **10 31 00.1 +1.5**
comp=Z,2.0nm,0.7s,baz=136,slow=3.9,SNR=5.8
NVAR ScP **ScP** **10 34 48.6 +5.4**
comp=Z,0.8nm,0.8s,baz=121,slow=6.4,SNR=5.1
NVAR LR LR 10 44 33.2
comp=Z,240nm,18.9s,baz=116,slow=39
comp=Z,9.4nm,0.7s
FLWY Flagg Ranch 35.50 335 IAmb IAmb 10 28 35.1
comp=Z,7.6nm,0.8s
KVN Kaiserville 35.62 322 IAmb IAmb 10 28 35.5
comp=Z,14nm,1.0s
YMP Mirror Lake Pl 35.82 336 IAmb IAmb 10 28 47.2
comp=Z,12nm,0.9s
YFT Old Faithful 35.86 335 IAmb IAmb 10 28 37.9
comp=Z,10nm,0.8s
YNE Yellowstone No 35.98 336 IAmb IAmb 10 28 43.0
comp=Z,11nm,1.0s
BMN Battle Mountai 36.00 324 IAmb IAmb 10 28 37.3
comp=Z,8.6nm,0.7s
YMR Madison River 36.09 335 IAmb IAmb 10 28 37.2
comp=Z,15nm,0.9s
LAO LASA Array 36.11 342 IAmb IAmb 10 28 36.0
comp=Z,15nm,1.4s
YERR Yerington 36.27 321 IAmb IAmb 10 28 40.9
comp=Z,14nm,1.1s
YHL Hebgen Lake 36.33 335 IAmb IAmb 10 28 40.4
comp=Z,16nm,1.3s
LPAZ La Paz 36.56 142 P **P** **10 28 39.0 -0.5**
LPAZ La Paz 36.56 142 P **P** **10 28 39.5 +0.1**
comp=Z,3.2nm,0.8s,baz=326,slow=4.7,SNR=12
LPAZ LR LR 10 43 29.9
comp=Z,161nm,18.8s,baz=288,slow=36
comp=Z,3.2nm,0.8s
LPAZ La Paz 36.56 142 *e*P **P** **10 28 39.7 +0.2**
PNTR Pine Nut 36.56 321 IAmb IAmb 10 28 44.0
comp=Z,15nm,0.8s
EMB Emerald Bay 36.80 320 IAmb IAmb 10 28 55.5
comp=Z,31nm,1.4s
PAHR Pah Rah Range 36.80 322 IAmb IAmb 10 28 45.1
comp=Z,11nm,1.0s
MPK Martis Peak 36.95 321 IAmb IAmb 10 28 48.2
comp=Z,29nm,1.3s
DLMT Dillon 37.33 334 IAmb IAmb 10 28 47.8
comp=Z,33nm,1.4s
ULM Lac du Bonnet 37.43 354 P **P** **10 28 43.7 -2.1**
comp=Z,17nm,0.6s,baz=167,slow=9.5,SNR=24
comp=Z,17nm,0.6s
WVOR Wild Horse Val 38.13 326 IAmb IAmb 10 28 59.4
comp=Z,18nm,0.8s
EGMT Eagleton 38.44 339 IAmb IAmb 10 28 56.3
comp=Z,25nm,1.4s
ITTB Itaituba 38.63 114 *e*P **P** **10 28 56.5 +0.1**
PLID Pearl Lake 38.65 331 IAmb IAmb 10 28 58.3
comp=Z,17nm,0.9s
MSO Missoula 39.06 334 IAmb IAmb 10 29 08.8
comp=Z,18nm,1.2s
O02D Mt. Diablo Mer 39.19 320 P **P** **10 29 00.3 -0.6**
VILB Vilhena 39.61 129 P **P** **10 29 04.5 -0.1**
VILB Vilhena 39.61 129 *e*P **P** **10 29 05.1 +0.5**
I07A Izee 39.71 327 IAmb IAmb 10 29 10.4
comp=Z,13nm,0.9s
YBH Yreka Blue Hor 40.04 322 LR LR 10 46 11.0
comp=Z,313nm,20.7s,baz=227,slow=37
NPGB Novo Progresso 40.23 118 *e*P **P** **10 29 09.2 -0.5**
G08A Pilot Rock 40.25 329 P **P** **10 29 09.6 -0.1**
PINE Pine Mountain 40.30 325 IAmb IAmb 10 29 12.6
comp=Z,16nm,0.8s
I05D Terrebonne, OR 40.87 326 IAmb IAmb 10 29 19.1
comp=Z,11nm,0.8s
I04A Tendick Farm, 41.12 324 IAmb IAmb 10 29 22.0
comp=Z,15nm,0.9s
D08A Wollman Farm, 41.48 331 P **P** **10 29 19.7 +0.1**
PDRB Porto dos Gac 41.51 125 *e*P **P** **10 29 21.0 +0.7**
NEW Newport 41.54 333 P **P** **10 29 20.0 -0.2**
C09A Chrisman Ranch 41.72 332 IAmb IAmb 10 29 23.5
comp=Z,13nm,0.7s
MXC Moxie City 41.81 329 IAmb IAmb 10 29 25.2
comp=Z,14nm,1.1s
CLDB Colider 41.85 123 *e*P **P** **10 29 26.1 +3.0**
PTLB Pontes e Lacer 41.99 131 P **P** **10 29 24.2 0.0**
PTLB Pontes e Lacer 41.99 131 *e*P **P** **10 29 26.6 +2.4**
BBSD Serra de San D 42.10 135 *e*P **P** **10 29 26.1 +1.0**
FFC Flin Flon 42.62 350 P **P** **10 29 27.9 -0.9**
FFC IAmb IAmb 10 29 28.9
comp=Z,13nm,0.7s
LON Longmire 42.70 328 IAmb IAmb 10 29 35.0
comp=Z,12nm,0.9s
SALV Santo Antonio 44.85 129 *e*P **P** **10 29 47.9 +0.6**
LLLB Lillooet 45.38 332 IAmb IAmb 10 30 02.2
comp=Z,6.8nm,0.7s
SCHQ Schefferville 45.72 19 P **P** **10 29 52.0 -1.6**
SCHQ Schefferville 45.72 19 P **P** **10 29 51.6 -2.1**
comp=Z,28nm,0.9s,baz=219,slow=6.8,SNR=23
comp=Z,28nm,0.9s
LCO Las Campanas 45.93 156 P **P** **10 29 56.6 +0.6**
LCO IAmb IAmb 10 30 09.5
comp=Z,14nm,1.1s
FDPY Filadelfia 46.13 139 *e*P **P** **10 29 59.0 +1.7**
SNDB Serra Nova Dou 46.16 121 *e*P **P** **10 29 57.7 0.0**
BDQN Bodoquena, MS 46.99 134 *e*P **P** **10 30 04.1 +0.1**
MURT Porto Murtinho 47.22 136 *e*P **P** **10 30 05.7 -0.2**
AQDB Aquidauana 47.74 134 P **P** **10 30 09.9 0.0**
AQDB IAmb IAmb 10 30 10.6
comp=Z,8.9nm,0.8s
AQDB Aquidauana 47.74 134 *e*P **P** **10 30 10.0 0.0**
ARAG Araguaiana, MT 47.75 125 *e*P **P** **10 30 09.4 -0.7**
SMTB Santa Maria do 47.87 115 *e*P **P** **10 30 11.5 +0.4**
BBB Bella Bella 49.35 330 LR LR 10 54 58.6
comp=Z,191nm,18.1s,baz=259,slow=41
AMBA Amambai (Brazi 49.85 135 *e*P **P** **10 30 26.2 +0.1**
MT08 Bocatoma Ro 50.14 158 P **P** **10 30 30.4 +2.0**
MT08 IAmb IAmb 10 30 30.9
comp=Z,12nm,0.8s
SJPY San Joaquin 50.53 138 *e*P **P** **10 30 31.2 0.0**
CPUP Villa Florida 50.69 141 P **P** **10 30 31.6 -0.8**
comp=Z,2.2nm,0.8s,baz=323,slow=10,SNR=3.5
comp=Z,2.2nm,0.8s
CPUP Villa Florida 50.69 141 *e*P **P** **10 30 32.6 +0.1**
BDFB Brasilia 50.78 123 P **P** **10 30 32.0 -1.5**
comp=Z,1.4nm,0.4s,baz=96,slow=16,SNR=2.0
comp=Z,1.4nm,0.4s
SDBA SAO DESIDERIO 51.82 117 *e*P **P** **10 30 43.4 +2.2**
IPMB Ipameri, GO 51.88 125 *e*P **P** **10 30 43.6 +2.0**
YKA Yellowknife Ar 52.35 346 P **P** **10 30 42.9 -1.4**
comp=Z,3.1nm,0.7s,baz=134,slow=9.0,SNR=14
YKA PcP **PcP** **10 31 55.3 +0.1**
comp=Z,1.7nm,0.8s,baz=154,slow=3.5,SNR=4.5
comp=Z,3.1nm,0.7s
TOAD Toad River Com 52.61 338 P **P** **10 30 46.7 +0.3**
baz=136
T35M Bob Quinn 53.33 334 P **P** **10 30 53.1 +1.4**
baz=129
ITQB Itaqui 53.55 143 *e*P **P** **10 30 54.2 +0.5**
JANB Januaria 53.57 120 *e*P **P** **10 30 56.8 +2.7**
TAOE Nuku Hiva Isla 53.82 249 *e*LR LR 10 46 21.6
comp=Z,184nm,24.6s
PSAL Palomas, Salto 54.03 145 *e*P **P** **10 30 57.8 +0.6**
DLBC Dease Lake 54.17 336 IAmb IAmb 10 30 60.0
comp=Z,6.5nm,0.8s
DLBC Dease Lake 54.17 336 P **P** **10 30 58.3 +0.4**
baz=130
S34M Telegraph Cree 54.28 335 P **P** **10 30 59.5 +0.8**
baz=129
ITAB Concordia 54.65 137 *e*P **P** **10 31 01.9 +0.2**
WTLY Watson Lake, Y 54.80 338 IAmb IAmb 10 31 03.4
comp=Z,5.7nm,0.7s
WTLY Watson Lake, Y 54.80 338 P **P** **10 31 02.5 0.0**
baz=132
R33M Jennings River 55.16 336 P **P** **10 31 05.7 +0.6**
baz=130
Q32M Nakina River 55.41 335 IAmb IAmb 10 31 11.3
comp=Z,7.5nm,0.9s
Q32M Nakina River 55.41 335 P **P** **10 31 07.9 +0.9**
baz=128
S32K Killisnoo 55.50 333 P **P** **10 31 08.4 +0.9**
baz=125
DIAM Diamantina, MG 55.70 123 *e*P **P** **10 31 10.3 +0.6**
R32K Eaglecrest 55.94 334 P **P** **10 31 12.2 +1.6**
baz=125
S31K Pelican 56.52 333 P **P** **10 31 15.7 +1.0**
baz=123
R31K City Hall, Gus 56.55 333 P **P** **10 31 16.1 +1.2**
baz=124
PLCA Paso Flores 56.55 162 P **P** **10 31 15.5 +0.3**
PLCA IAmb IAmb 10 31 18.0
comp=Z,10nm,1.3s
PLCA Paso Flores 56.55 162 P **P** **10 31 15.9 +0.6**
comp=Z,4.8nm,1.1s,baz=319,slow=7.4,SNR=5.9
comp=Z,4.8nm,1.1s
PLCA Paso Flores 56.55 162 *e*P **P** **10 31 16.1 +0.8**
PLTB Pedras Altas 56.85 142 *e*P **P** **10 31 17.5 0.0**
MAJ01 Sao Joao Batis 56.86 135 *e*P **P** **10 31 16.7 -1.0**
GDU01 Guandu, BA 57.05 116 *e*P **P** **10 31 22.0 +2.8**
RCBR Riachuelo 57.41 106 P **P** **10 31 21.8 -0.1**
RCBR Riachuelo 57.41 106 *e*P **P** **10 31 23.1 +1.2**
WHY Whitehorse 57.49 336 P **P** **10 31 22.1 +0.4**
baz=126
NBLA Lagarto - SE 57.52 112 *e*P **P** **10 31 24.5 +2.0**
CMC01 Camacan, BA 57.81 118 *e*P **P** **10 31 26.4 +1.9**
SJMB Sao Joao De Ma 57.95 122 *e*P **P** **10 31 26.2 +0.8**
P30M Million Dollar 58.02 335 P **P** **10 31 26.4 +0.9**
baz=124
O30N Mendenhall 58.03 336 P **P** **10 31 26.0 +0.5**
baz=125
P29M Windy Craggy 58.08 334 P **P** **10 31 26.4 +0.6**
baz=123
GUA01 Guaratinga, BA 58.11 119 *e*P **P** **10 31 29.0 +2.4**
M31M Drury Creek, Y 58.22 338 P **P** **10 31 28.0 +1.2**
baz=127
N31M Braeburn, Yuko 58.33 336 P **P** **10 31 28.2 +0.7**
baz=126
NBAN Anadia - AL 58.40 110 *e*P **P** **10 31 29.0 +0.2**
HYT Haines Junctio 58.64 335 P **P** **10 31 31.0 +1.2**
baz=124
O29M Mount Kennedy 58.80 334 P **P** **10 31 31.9 +0.9**
baz=122
N30M Aishikik Lake 58.83 336 IAmb IAmb 10 31 32.6
comp=Z,5.3nm,0.8s
N30M Aishikik Lake 58.83 336 P **P** **10 31 32.1 +1.0**
baz=124
RIB01 Linhares ES 58.90 122 *e*P **P** **10 31 32.5 +0.4**
YUK6 Outpost Mounta 59.06 335 P **P** **10 31 33.6 +0.8**
baz=123
CAM01 Campos-RJ 59.13 125 *e*P **P** **10 31 34.3 +0.7**
M30M Minto, Yukon 59.35 337 P **P** **10 31 35.5 +0.9**
baz=125
YUK4 Talbot Arm 59.39 335 P **P** **10 31 35.9 +0.8**
baz=123
PINM Pinnacle 59.41 334 P **P** **10 31 36.1 +1.0**
baz=120
O28M Mount Upton 59.73 334 P **P** **10 31 38.0 +0.5**
baz=121
YUK8 Steele Glacier 59.81 335 P **P** **10 31 38.4 +0.3**
baz=121
M29M Somme Creek 59.91 336 P **P** **10 31 39.2 +0.6**
baz=123
SFJD Kangerlussuaq 60.08 17 LR LR 10 58 20.9
comp=Z,370nm,18.1s,baz=252,slow=37
SFJD Kangerlussuaq 60.08 17 *i* P **P** **10 31 36.9 -2.5**
SFJD IAmb IAmb 10 31 39.8
comp=Z,35nm,1.3s
L29M L29M 60.16 337 P **P** **10 31 40.9 +0.7**
baz=124
K29M Barlow Dome 60.35 338 P **P** **10 31 42.3 +0.8**
baz=125
J30M Hart River 60.35 339 P **P** **10 31 42.2 +0.7**
baz=126
YUK3 Moose Creek 60.35 335 P **P** **10 31 42.8 +1.0**
baz=121
H31M Peel River 60.45 341 P **P** **10 31 42.6 +0.5**
baz=129
BGLC Bering Glacier 60.75 333 P **P** **10 31 44.3 +0.2**
baz=117
I30M Mount Dempster 60.76 340 P **P** **10 31 44.6 +0.3**
baz=127,SNR=5.0
BVCY Beaver Creek 60.84 336 P **P** **10 31 45.0 +0.1**
baz=121
J29N Klondike Camp 60.95 338 P **P** **10 31 46.5 +0.9**
baz=124
CRQE Cirque 60.96 334 P **P** **10 31 46.1 +0.3**
baz=118
DY2G Dye2 61.03 19 *i* P **P** **10 31 43.4 -2.8**
G31M Satah River 61.14 342 IAmb IAmb 10 31 47.2
comp=Z,5.9nm,0.7s
G31M Satah River 61.14 342 P **P** **10 31 46.4 -0.2**
baz=130
DAWY Dawson 61.16 338 P **P** **10 31 47.2 +0.3**
baz=123
M27K Edge Creek, AK 61.23 335 P **P** **10 31 47.3 -0.2**
baz=120
MCARA McCarthy VSAT 61.23 334 P **P** **10 31 48.0 +0.6**
baz=118
F31M Tsiigehtchic 61.32 342 IAmb IAmb 10 31 48.0
comp=Z,5.0nm,0.8s
F31M Tsiigehtchic 61.32 342 P **P** **10 31 47.9 0.0**
baz=130
I29M Ogilvie Camp, 61.50 339 P **P** **10 31 49.0 -0.2**
baz=125
BCAR Beaver Creek A 61.54 336 P **P** **10 31 49.4 -0.2**
L27K Beaver Creek, 61.56 336 IAmb IAmb 10 31 53.0
comp=Z,5.9nm,0.9s
L27K Beaver Creek, 61.56 336 P **P** **10 31 50.0 +0.4**
baz=120,SNR=7.3
EPYK Eagle Plains 61.56 341 P **P** **10 31 50.0 +0.3**
baz=127
M26K Nabesna, AK 61.70 335 P **P** **10 31 51.1 +0.4**
baz=119
BMRM Bremner River 61.72 333 P **P** **10 31 51.2 +0.4**
baz=116
RES Resolute Bay 61.75 359 LR LR 11 00 31.7
comp=Z,201nm,19.3s,baz=341,slow=38
G30M tAch'Zrail Nji 61.78 341 P **P** **10 31 51.1 0.0**
baz=128
INK Inuvik 61.82 343 P **P** **10 31 51.0 -0.3**
baz=131,SNR=11
N25K Chitina, Valde 62.00 334 P **P** **10 31 53.0 +0.3**
baz=117
H29M Whitestone 62.01 340 P **P** **10 31 52.8 +0.1**
baz=125
F30M Barrier River 62.03 342 P **P** **10 31 52.6 -0.2**
baz=129
EYAK Cordova Ski Ar 62.04 333 P **P** **10 31 52.6 -0.3**
baz=115
I28M Miner Creek 62.11 339 P **P** **10 31 53.6 +0.2**
baz=123
K27K Chicken 62.14 337 P **P** **10 31 53.9 +0.3**
baz=120
L26K Log Cabin Wild 62.15 336 P **P** **10 31 53.9 +0.2**
baz=119
EGAK Eagle 62.19 338 P **P** **10 31 54.0 +0.2**
baz=122
G29M Pine Creek 62.30 341 P **P** **10 31 54.9 +0.3**
baz=126
UMMG Uummannaq 62.33 14 *i* P **P** **10 31 52.7 -1.9**
UMMG IAmb IAmb 10 31 53.9
comp=Z,18nm,0.9s
KLU Klutina 62.52 334 P **P** **10 31 56.4 +0.1**
baz=115
A36M Sachs Harbour 62.53 348 P **P** **10 31 54.9 -1.1**
baz=141
HARP HAARP 62.59 335 P **P** **10 31 56.8 +0.2**
baz=116
NUUG Nuugaatsiaq 62.73 13 *i* P **P** **10 31 55.5 -1.8**
NUUG IAmb IAmb 10 31 56.9
comp=Z,23nm,0.9s
GLI Glacier Island 62.78 333 P **P** **10 31 58.2 +0.3**
baz=114
I27K Kandik River 62.79 339 P **P** **10 31 58.5 +0.6**
baz=122
SCRK Sand Creek 62.85 337 P **P** **10 31 58.9 +0.5**
baz=118
M24K Tolsona, Glenn 62.89 334 P **P** **10 31 58.9 +0.3**
baz=115
J26L Joseph Creek 62.94 337 IAmb IAmb 10 32 00.6
comp=Z,4.2nm,0.8s
J26L Joseph Creek 62.94 337 P **P** **10 31 59.7 +0.7**
baz=119,SNR=6.9
PAX Paxson 62.98 335 P **P** **10 31 59.5 +0.3**
baz=116
RIDG Independent Ri 63.08 336 P **P** **10 32 00.4 +0.5**
baz=117
H27K Steamboat Moun 63.09 339 P **P** **10 32 00.0 +0.2**
baz=122,SNR=6.1
E29M Blow River 63.14 342 IAmb IAmb 10 32 08.8
comp=Z,12nm,1.4s
E29M Blow River 63.14 342 P **P** **10 32 00.2 0.0**
baz=126
I26K Coal Creek Min 63.19 338 P **P** **10 32 00.7 +0.2**
baz=120
SCM Sheep Creek Mo 63.27 334 P **P** **10 32 01.2 0.0**
baz=114
F28M Old Crow 63.30 341 P **P** **10 32 01.5 +0.3**
baz=124,SNR=6.4
M23K Glacier View 63.43 333 P **P** **10 32 01.8 -0.4**
baz=114
G27K Doyon Strip 63.44 340 P **P** **10 32 02.7 +0.5**
baz=122
K24K Donnelly Dome 63.48 336 P **P** **10 32 02.9 +0.4**
baz=116
SEW Seward 63.56 331 P **P** **10 32 03.7 +0.7**
baz=111
KNK Knik Glacier 63.60 333 P **P** **10 32 04.0 +0.6**
baz=113
J25K Salcha River, 63.68 337 IAmb IAmb 10 32 07.0
comp=Z,5.5nm,0.8s
J25K Salcha River, 63.68 337 P **P** **10 32 04.1 +0.2**
baz=117,SNR=6.4
SML Sawmill 63.70 333 P **P** **10 32 04.4 +0.4**
baz=113
WAT6 Susitna Watana 63.76 334 P **P** **10 32 04.8 +0.3**
baz=114
E28M Babbage River 63.76 342 P **P** **10 32 04.3 +0.1**
baz=125
D28M Stokes Point 63.95 343 P **P** **10 32 06.0 +0.7**
baz=126
PMR Palmer 63.97 333 P **P** **10 32 05.5 -0.2**
baz=112
BRSE Bradley Lake S 64.04 331 P **P** **10 32 06.3 0.0**
baz=110
RC01 Rabbit Creek A 64.05 332 P **P** **10 32 06.4 +0.1**
baz=111
E27K Coleen River 64.16 341 P **P** **10 32 07.8 +0.9**
baz=123
PRP Porcupine Dome 64.16 338 P **P** **10 32 07.3 +0.2**
baz=118
HDA Harding Lake 64.20 336 IAmb IAmb 10 32 07.6
comp=Z,6.3nm,0.9s
HDA Harding Lake 64.20 336 P **P** **10 32 07.7 +0.5**
baz=116
G26K Porcupine Rive 64.23 339 P **P** **10 32 07.6 +0.2**
baz=120
KDAK Kodiak Island 64.33 328 LR LR 11 01 20.4
comp=Z,78nm,18.1s,baz=202,slow=37
IL31 64.34 337 IAmb IAmb 10 32 09.7
comp=Z,7.2nm,0.8s
ILAR Eielson Array 64.34 337 P **P** **10 32 07.8 -0.3**
comp=Z,3.2nm,0.8s,baz=135,slow=4.1,SNR=36
comp=Z,3.2nm,0.8s
KULLO Kullorsuaq 64.36 9 *i* P **P** **10 32 06.5 -1.6**
D27M Malcolm River 64.55 342 IAmb IAmb 10 32 10.6
comp=Z,5.1nm,1.1s
D27M Malcolm River 64.55 342 P **P** **10 32 10.1 +0.6**
baz=124
ICESG Greenland Ices 64.61 18 *i* P **P** **10 32 07.3 -2.8**
ICESG IAmb IAmb 10 32 11.2
comp=Z,29nm,0.9s
H25L Birch Creek 64.61 338 P **P** **10 32 10.7 +0.9**
baz=118
SUA Susitna One 64.64 333 P **P** **10 32 10.4 +0.2**
baz=111
MCK McKinley 64.72 335 P **P** **10 32 10.9 +0.3**
baz=113
F26K Sheenjek River 64.73 340 P **P** **10 32 11.0 +0.4**
baz=120
BMAR Burnt Mountain 64.74 340 P **P** **10 32 10.1 -0.6**
COLA College 64.75 337 P **P** **10 32 10.7 -0.1**
COLA College 64.75 337 P **P** **10 32 11.5 +0.8**
baz=115
CUT Chulitna 64.77 334 P **P** **10 32 11.9 +1.0**
baz=112
NEA2 Nenana 65.12 336 P **P** **10 32 14.2 +1.0**
baz=114
TRF Thorofare Moun 65.17 335 P **P** **10 32 14.2 +0.5**
baz=112
SKT Skwentna 65.17 333 P **P** **10 32 14.2 +0.6**
baz=110
H24K Noodor Dome 65.18 338 IAmb IAmb 10 32 16.6
comp=Z,5.8nm,1.0s
H24K Noodor Dome 65.18 338 P **P** **10 32 14.1 +0.5**
baz=115
F25K Christian Rive 65.18 340 P **P** **10 32 14.0 +0.5**
baz=118
N20K Mount Spurr 65.22 332 P **P** **10 32 14.3 +0.3**
baz=109
E25K Arctic Village 65.40 340 IAmb IAmb 10 32 23.4
comp=Z,8.9nm,1.2s
E25K Arctic Village 65.40 340 P **P** **10 32 15.5 +0.5**
baz=118
G24K Hadweenzic Riv 65.40 338 P **P** **10 32 15.3 +0.3**
baz=116
CHIR Chirikof Islan 65.42 326 P **P** **10 32 15.4 +0.2**
baz=104
I23K Minto, Yukon-K 65.45 337 P **P** **10 32 15.5 +0.2**
baz=114
C27K Jago River 65.57 342 P **P** **10 32 16.4 +0.3**
baz=121
PPT Papeete 65.69 244 LR LR 10 53 15.6
comp=Z,151nm,19.2s,baz=45,slow=29
PPT2 Papeete2 65.70 244 *e*LR LR 10 51 55.1
comp=Z,112nm,29.8s
PPT2 *e*LR LR 10 51 57.7
comp=Z,84nm,21.8s
BPAW Bear Paw Mtn. 65.70 335 IAmb IAmb 10 32 17.8
comp=Z,6.6nm,0.8s
BPAW Bear Paw Mtn. 65.70 335 P **P** **10 32 16.9 0.0**
baz=112,SNR=5.2
H23K Yukon River 65.79 337 P **P** **10 32 17.7 +0.1**
baz=114
Q18K Katmai Hardscr 65.81 329 P **P** **10 32 18.3 +0.4**
baz=105
M20K Styx River 65.86 333 P **P** **10 32 18.0 -0.1**
baz=108
CAST Castle Rocks 65.91 334 P **P** **10 32 18.8 +0.5**
baz=110
F24K Squaw Lake 65.91 339 P **P** **10 32 18.3 0.0**
baz=116
MLY Manley 65.94 336 P **P** **10 32 18.6 +0.1**
baz=112,SNR=12
C26K Camden Bay 66.08 342 P **P** **10 32 19.5 +0.2**
baz=120
P18K Big Mountain, 66.11 330 P **P** **10 32 19.8 +0.1**
baz=106
N19K Bonanza Creek 66.15 331 P **P** **10 32 20.3 +0.2**
baz=107
Q17K Contact Creek 66.15 328 P **P** **10 32 20.2 +0.1**
baz=104
O18K Koktuh Hills 66.23 330 P **P** **10 32 20.3 -0.1**
baz=106
D25K Kavik River 66.24 341 P **P** **10 32 20.9 +0.5**
baz=118
R17L Mt. Peulik Vol 66.24 328 P **P** **10 32 20.5 -0.1**
baz=104
G23K Bananza Creek 66.33 338 P **P** **10 32 21.4 +0.4**
baz=114
L20K Farewell, AK 66.38 333 P **P** **10 32 21.5 +0.1**
baz=108
M19K Big River Lodg 66.43 332 P **P** **10 32 21.9 +0.2**
baz=107
H22K Ishtalitna Cre 66.52 337 P **P** **10 32 22.7 +0.6**
baz=112

COLD	Coldfoot	66.60	339	P	P	10 32 23.1 +0.4
	baz=114					
Q16K	King Salmon	66.64	329	P	P	10 32 23.5 +0.5
	baz=104					
L19K	White Mountain	66.72	333	P	P	10 32 23.8 +0.2
	baz=107					
K20K	Telida	66.73	334	P	P	10 32 24.0 +0.4
	baz=108					
E23K	Chandalar	66.74	339	P	P	10 32 24.3 +0.6
	baz=114					
SUMG	Summit	66.86	15	P	P	10 32 23.4 -1.3
SUMG	Summit	66.86	15	*i* P	P	10 32 21.0 -3.7
SUMG				IAmb	IAmb	10 32 32.5
	comp=Z,47nm,1.4s					
D24K	Happy Valley	66.94	341	P	P	10 32 25.8 +1.0
	baz=116					
G22K	Bettles	66.95	338	P	P	10 32 25.6 +0.7
	baz=112					
M18K	Stony River	66.97	332	P	P	10 32 25.6 +0.5
	baz=106					
TOLK	Toolik Lake Re	66.97	340	P	P	10 32 25.9 +0.8
TOLK	Toolik Lake Re	66.97	340	P	P	10 32 25.6 +0.6
	baz=115					
H21K	Melozitna Rive	66.98	337	P	P	10 32 25.3 +0.1
H21K				IAmb	IAmb	10 32 42.6
	comp=Z,4.6nm,1.2s					
H21K	Melozitna Rive	66.98	337	P	P	10 32 25.1 0.0
	baz=110					
J20K	Nowinta River	67.03	335	P	P	10 32 25.6 +0.2
	baz=108					
O17K	Koliganek Bris	67.13	330	P	P	10 32 26.5 +0.4
	baz=104					
EUNU	Eureka	67.13	1	P	P	10 32 25.9 -0.1
EUNU				IAmb	IAmb	10 32 35.3
	comp=Z,3.0nm,0.7s					
C24K	Franklin Bluff	67.15	341	P	P	10 32 26.9 +0.8
	baz=116					
N17K	Nushagak Hills	67.36	331	P	P	10 32 28.4 +0.8
	baz=104					
I20K	Naaghedeneel	67.36	335	P	P	10 32 27.6 +0.1
	baz=108					
P16K	Nushagak River	67.40	329	P	P	10 32 28.2 +0.4
	baz=103					
F22K	John River	67.42	338	P	P	10 32 28.5 +0.7
	baz=112					
TTA	Tatalina	67.45	333	P	P	10 32 28.5 +0.3
	baz=106					
D23K	Nanushuk River	67.47	340	P	P	10 32 28.9 +0.7
	baz=114					
E22K	Anaktuvuk Pass	67.52	339	P	P	10 32 29.0 +0.4
	baz=112					
NEEM	North Greenlan	67.53	9	*i* P	P	10 32 26.9 -2.0
NEEM				IAmb	IAmb	10 32 29.5
	comp=Z,12nm,0.5s					
G21K	Allakaket	67.55	337	P	P	10 32 29.5 +0.8
	baz=110					
L18K	Granite Mounta	67.56	332	P	P	10 32 29.0 +0.1
	baz=105					
O16K	Kokwok River B	67.58	329	P	P	10 32 29.9 +0.9
	baz=103					
J19K	Poorman	67.59	334	P	P	10 32 29.2 +0.2
	baz=107					
M17K	Holitna River	67.69	331	P	P	10 32 30.4 +0.7
	baz=104					
H20K	Anotleneega Mo	67.74	336	P	P	10 32 30.6 +0.6
	baz=108					
F21K	Alatna River	67.78	338	P	P	10 32 30.7 +0.5
	baz=110					
C23K	Itkillik River	67.80	341	P	P	10 32 30.6 +0.4
	baz=114					
J18K	Innoko River	67.90	334	P	P	10 32 31.3 +0.3
	baz=106					
TBI	Tubuai	67.99	238	*e*LR	LR	10 52 55.1
	comp=Z,485nm,25.0s					
D22K	Ayikyak River	68.10	340	P	P	10 32 32.9 +0.7
	baz=112					
N16K	Nishlik Lake	68.11	330	P	P	10 32 32.0 -0.4
	baz=103					
O15K	Ungalikthiuk R	68.36	329	P	P	10 32 34.2 +0.3
	baz=101					
H19K	Roundabout Mou	68.37	336	P	P	10 32 33.9 0.0
	baz=107					
K17K	Iditarod	68.41	333	P	P	10 32 34.2 0.0
	baz=104					
F20K	Avaraart Lake	68.55	338	P	P	10 32 35.6 +0.6
	baz=108					
N15K	Kwethluk River	68.69	330	P	P	10 32 36.1 +0.2
	baz=101					
L16K	Owhat River	68.71	332	P	P	10 32 36.5 +0.5
	baz=102					
G19K	Purcell Mounta	68.80	336	P	P	10 32 37.0 +0.4
	baz=106					
B22K	Teshekpuk Lake	68.88	341	P	P	10 32 37.2 +0.2
	baz=112					
C21K	Knifeblade Rid	68.91	340	P	P	10 32 37.8 +0.6
	baz=110					
B21K	Ikpikpuk River	69.01	340	P	P	10 32 38.4 +0.6
	baz=110					
E20K	Nigu River	69.10	339	P	P	10 32 39.2 +0.7
	baz=108					
E19K	Redstone River	69.23	338	P	P	10 32 40.0 +0.8
	baz=107					
F19K	Shaleruckik Mo	69.26	337	P	P	10 32 39.9 +0.6
	baz=106					
D20K	Etivluk River	69.39	339	P	P	10 32 41.3 +1.1
	baz=108					
J16K	Anvik River	69.56	333	P	P	10 32 42.2 +0.9
	baz=102					
A22K	Sinclair Lake	69.60	342	P	P	10 32 42.6 +1.2
	baz=110					
H17K	Granite Mounta	69.63	335	P	P	10 32 41.7 0.0
	baz=103					
FALS	False Pass	69.64	324	P	P	10 32 42.7 +0.8
	baz=96					
L15K	Ungalak Mounta	69.64	331	P	P	10 32 42.8 +0.9
	baz=101					
M14K	Bethel	69.70	330	P	P	10 32 43.6 +1.4
	baz=100					
I17K	Unalakleet	69.73	334	P	P	10 32 43.0 +0.7
	baz=102					
K15K	Wolf Creek Mou	69.78	332	P	P	10 32 43.2 +0.6
	baz=101					
D19K	Kuna River	69.85	339	P	P	10 32 44.1 +1.1
	baz=106					
F18K	Selawik	69.92	337	P	P	10 32 44.2 +0.8
	baz=104					
B20K	Meade River	69.97	340	P	P	10 32 44.7 +1.0
	baz=108					
A21K	Barrow	70.21	342	P	P	10 32 45.9 +0.8
	baz=109					
F17K	Baldwin Pennin	70.51	336	P	P	10 32 47.6 +0.5
	baz=103					
J14K	Nanvaranak Lak	70.78	332	P	P	10 32 49.8 +1.0
	baz=99					
E17K	Hotham Inlet	70.87	337	P	P	10 32 50.2 +1.0
	baz=102					
A19K	Wainwright	71.31	340	P	P	10 32 53.1 +1.3
	baz=104					
RDOG	Red Dog Mine	71.48	338	P	P	10 32 53.7 +0.7
	baz=102					
C17K	DeLong Mountai	71.66	338	P	P	10 32 55.1 +1.0
	baz=101					
DAG	Danmarks Havn	73.34	13	*i* P	P	10 33 01.0 -2.9
DAG				IAmb	IAmb	10 33 02.8
	comp=Z,7.4nm,0.7s					
NOR	Nord	74.91	8	*i* P	P	10 33 10.7 -2.3
NOR				IAmb	IAmb	10 33 12.3
	comp=Z,4.2nm,0.6s					
JMIC	Jan Mayen	75.23	20	LR	LR	11 05 52.5
	comp=Z,122nm,18.2s,baz=320,slow=36					
RAR	Rarotonga	75.97	244	LR	LR	10 57 50.6
	comp=Z,61nm,21.0s,baz=305,slow=28					
EKA	Eskdalemuir Ar	77.98	36	P	P	10 33 27.6 -3.2
	comp=Z,4.8nm,0.7s,baz=264,slow=6.1,SNR=7.3					
	comp=Z,4.8nm,0.7s					
ESDC	Sonseca Array	79.25	52	P	P	10 33 35.4 -2.9
	comp=Z,2.3nm,0.7s,baz=290,slow=4.6,SNR=11					
	comp=Z,2.3nm,0.7s					
SPITS	Spitsbergen Ar	80.81	12	P	P	10 33 45.3 -0.6
	comp=Z,4.5nm,0.8s,baz=134,slow=2.4,SNR=1.2					
SPITS				LR	LR	11 11 36.4
	comp=Z,181nm,18.0s,baz=152,slow=37					
	comp=Z,4.5nm,0.8s					
DBIC	Dimbokro	84.35	84	P	P	10 34 05.7 +0.1
DBIC	Dimbokro	84.35	84	P	P	10 34 05.3 -0.2
	comp=Z,8.3nm,0.6s,baz=278,slow=4.7,SNR=15					
	comp=Z,8.3nm,0.6s					
NB2	NORSAR Subarra	84.37	29	P	P	10 34 04.0 -0.8
	comp=Z,0.7nm,0.6s,baz=288,slow=5.1					
NOA	NORSAR Array B	84.37	29	P	P	10 34 04.1 -0.7
	comp=Z,1.3nm,0.8s,baz=290,slow=5.0,SNR=5.1					
NOA				LR	LR	11 08 58.9
	comp=Z,61nm,20.8s,baz=275,slow=34					
	comp=Z,1.3nm,0.8s					
HFS	Hagfors	85.82	29	P	P	10 34 10.4 -1.6
	comp=Z,3.3nm,0.7s,baz=241,slow=3.1,SNR=5.8					
HFS				LR	LR	11 09 30.8
	comp=Z,71nm,21.5s,baz=352,slow=34					
	comp=Z,3.3nm,0.7s					
ARCES	ARCESS Array B	86.67	18	P	P	10 34 14.6 -1.4
	comp=Z,3.0nm,0.8s,baz=300,slow=2.7,SNR=11					
	comp=Z,3.0nm,0.8s					
CLL	Collm	88.27	38	*e*P	P	10 34 23.0 -1.1
TORD	Torodi Ar. Bea	89.25	77	P	P	10 34 27.9 -1.5
	comp=Z,2.0nm,0.7s,baz=300,slow=5.7,SNR=11					
	comp=Z,2.0nm,0.7s					
FINES	FINESS Array B	90.83	25	P	P	10 34 34.5 -1.3
	comp=Z,1.0nm,0.7s,baz=235,slow=4.9,SNR=1.9					
FINES				LR	LR	11 13 07.3
	comp=Z,86nm,20.0s,baz=292,slow=34					
	comp=Z,1.0nm,0.7s					
VRAC	Vranov	91.12	39	LR	LR	11 11 08.1
	comp=Z,54nm,21.9s,baz=332,slow=33					
TIXI	Tiksi	91.55	348	LR	LR	11 21 26.4
	comp=Z,111nm,18.8s,baz=14,slow=39					
PETK	Petropavlovsk-	92.28	326	P	P	10 34 42.6 -0.2
	comp=Z,2.8nm,0.8s,baz=47,slow=8.5,SNR=1.7					
	comp=Z,2.8nm,0.8s					
MA2	Magadan	92.64	333	LR	LR	11 20 32.2
	comp=Z,48nm,18.8s,baz=38,slow=38					
VAE	Valguarnera	93.74	50	LR	LR	11 11 02.3
	comp=Z,203nm,19.3s,baz=306,slow=32					
AKASG	Malin Array Be	97.80	34	LR	LR	11 17 56.0
	comp=Z,51nm,18.4s,baz=256,slow=35					
NRIK	Noril'sk	97.89	1	LR	LR	11 21 54.1
	comp=Z,206nm,20.2s,baz=328,slow=37					
YAK	Yakutsk	98.87	342	LR	LR	11 25 29.2
	comp=Z,52nm,20.5s,baz=14,slow=39					
DZM	Mont Dzumac	106.66	251	*e*LR	LR	11 10 59.0
	comp=Z,94nm,23.7s					
KSRS	Korea Array	118.18	326	PKP	PKPdf	10 40 19.9 -0.3
	comp=Z,1.1nm,0.6s,baz=19,slow=1.5,SNR=2.5					
BOSA	Boshof	118.64	116	PKP	PKPdf	10 40 21.1 -0.4
	comp=Z,3.6nm,0.6s,baz=302,slow=1.2,SNR=3.1					
MKAR	Makanchi Array	120.17	6	PKP	PKPdf	10 40 23.1 -0.8
	comp=Z,0.6nm,0.7s,baz=5.7,slow=2.4,SNR=4.5					
HHC	Hu-ho-hao-te	122.67	340	*e*P	PKPdf	10 40 26.9 -2.0
WMQ	Urumqi	123.46	2	*e*PKP	PKiKP	10 40 31.9 +1.4
WMQ				LR	LR	
	comp=Z,96nm,17.3s					
NJ2	Nanjing	127.11	328	*e*P	PKPdf	10 40 37.3 -0.2
NJ2				pmax	pmax	
	comp=Z,7.0nm,0.6s					
XAN	Xi'an	129.71	339	*e*PKP	PKPpre	10 40 32.1
WRA	Warramunga Arr	136.49	255	PKP	PKPdf	10 40 55.2 -0.3
	comp=Z,1.2nm,0.9s,baz=87,slow=2.4,SNR=8.3					
ASAR	Alice Springs	136.63	249	PKP	PKPdf	10 40 55.9 +0.2
	comp=Z,0.8nm,0.9s,baz=94,slow=1.8,SNR=7.2					
PZH	PanZhiHua	138.99	343	PKP	PKPdf	10 40 59.2 -0.9
PHRA	Phrae	146.97	341		PKPab	10 41 17.4 -0.1
CHTO	Chiang Mai	147.06	343		PKPab	10 41 17.0 -0.8
CMAR	Chiang Mai Arr	147.40	343	PKPbc	PKPbc	10 41 16.6 -0.7
	comp=Z,14nm,0.7s,baz=338,slow=3.3,SNR=65					

IDC ***07*** *10:38:13.6±0.9, 38°.79N×26°.49E, h0km, mb3.7/7, mbtmp3.7/11, ML3.9/3, Error ellipse: s-maj=15.7km s-min=14.1km az=152.0*
ISK ***07*** *10:38:14.5, 38°.78N×26°.51E, h12km, ML3.9/51*
ATH ***07*** *10:38:15.4, 38°.77N×26°.56E, h11km±1km, ML3.6/18, Error ellipse: s-maj=1.9km s-min=0.8km az=264.0*
THE ***07*** *10:38:15.7, 38°.78N×26°.54E, h6km±1km, ML4.1/5, Error ellipse: s-maj=1.2km s-min=0.4km az=259.0*
AFAD ***07*** *10:38:15.1±0.0, 38°.77N×26°.54E, h12km±1km, MW4.1*
NEIC ***07*** *10:38:15.7±1.5, 38°.73N±0°.06×26°.53E±0°.06, h10km±1km, mb4.1/4, Error ellipse: s-maj=9.8km s-min=7.7km az=202.0*
BEO ***07*** *10:38:23.1±7.0, 38°.98N×26°.43E, h94km±5km, ML3.7/3*
NAO ***07*** *10:38:46.7, 40°.81N×21°.41E, h10km, mb3.6*
ISC 07 10:38:15.5±0.8, 38°.77N±0°.01×26°.53E±0°.01, h11km±5km, n251, σ1°.09/337, mb3.7/8, 9C-11D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	zmir-Karabur	0.14	219	P	Pg	10 38 19.1	+0.3
KARB				S	Sg	10 38 22.1	+1.0
FOCM	Foa	0.17	111	Pg	Pg	10 38 18.8	-0.4
FOCM				Sg	Sg	10 38 21.7	-0.1
CAND	Candarli	0.28	50	Pg	Pg	10 38 20.6	-0.6
CAND				Sg	Sg	10 38 25.1	+0.1
IZMD	zmir-Dikili-	0.38	56	P	Pg	10 38 22.2	-0.8
IZMD				S	Sg	10 38 28.1	+0.1
EAG2	Marmaro, Chios	0.40	235	P	Pb	10 38 24.1	-0.5
EAG2				S	Sg	10 38 28.8	+0.1
DKL	Dikili	0.42	45	Pg	Pg	10 38 23.1	-0.6
DKL				Sg	Sg	10 38 29.7	+0.4
ZEDA	zmir-Bergama	0.47	66	P	Pg	10 38 23.9	-0.8
ZEDA				S	Sg	10 38 31.0	+0.1
ZEDA				*i* AML	AML	10 38 37.0	
	comp=N,5μm,0.6s						
ZEDA				*i* AML	AML	10 38 37.0	
	comp=E,6μm,0.6s						
CESE	eme	0.48	202	Pg	Pg	10 38 24.7	-0.1
PRK	Paraskevi	0.51	337	P	Pg	10 38 25.4	0.0
PRK				S	Sb	10 38 33.1	-0.9
	25μm,0.7s						
PRK	Paraskevi	0.51	337	P	Pg	10 38 25.5	0.0
PRK				S	Sg	10 38 32.2	-0.1
PRK				AML	AML	10 38 33.6	
	comp=N,56198μm,0.5s						
PRK				AML	AML	10 38 35.8	
	comp=E,37512μm,0.6s						
ZEYE	Izmir, Urla-Ze	0.54	182	P	Pg	10 38 25.5	-0.4
ZEYE				S	Sb	10 38 35.4	+0.8
AYVA	Ayvalik	0.55	13	P	Pg	10 38 25.6	-0.6
AYVA				S	Sg	10 38 33.9	+0.5
BLCB	Balcova	0.56	134	Pg	Pg	10 38 26.1	-0.3
BLCB	Balcova	0.56	134	P	Pg	10 38 25.9	-0.5
BLCB				S	Sb	10 38 35.5	+0.2
SIGR	SIGRI	0.68	310	Pg	Pg	10 38 28.1	-0.6
SIGR	SIGRI	0.68	310	P	Pg	10 38 28.8	+0.1
SIGR				S	Sb	10 38 39.4	+0.5
	comp=E,13μm,0.4s						
SIGR	SIGRI	0.68	310	P	Pb	10 38 29.0	-0.4
SIGR				S	Sg	10 38 37.8	+0.2
SIGR				AML	AML	10 38 42.0	
	comp=E,31368μm,0.4s						
SIGR				AML	AML	10 38 42.2	
	comp=N,20562μm,0.4s						
GMLD	Gumuldur	0.76	156	Pg	Pg	10 38 29.9	-0.2
DGB	zmir	0.77	159	P	Pg	10 38 29.8	-0.6
DGB				S	Sb	10 38 41.6	+0.1
KOCA	Canakkale, Ayv	0.79	337	P	Pb	10 38 30.8	-0.4
KOCA				*i* AML	AML	10 38 44.0	
	comp=N,9μm,0.6s						
KOCA				S	Sn	10 38 44.3	-0.1
KOCA				*i* AML	AML	10 38 45.0	
	comp=N,2μm,0.7s						
BUHA	Balikesir, Bur	0.84	30	P	Pg	10 38 30.2	-1.5
BUHA				S	Sb	10 38 43.7	+0.2
BUHA				*i* AML	AML	10 38 46.0	
	comp=N,1μm,0.5s						
BUHA				*i* AML	AML	10 38 48.0	
	comp=N,6μm,0.6s						
SOMA	Soma-Manisa	0.87	64	Pg	Pb	10 38 32.8	+0.1
BAYC	CANAKKALE_Bayr	0.97	1	P	Pg	10 38 33.7	-0.4
BAYC				S	Sn	10 38 47.8	-1.0
BAYC				*i* AML	AML	10 38 48.0	
	comp=N,5μm,0.3s						
BAYC				*i* AML	AML	10 38 50.0	
	comp=N,4μm,0.3s						
EZNE	Ezine-Canakkal	0.99	353	Pg	Pg	10 38 34.1	-0.4
AKS	Akhisar	1.01	84	Pg	Pb	10 38 34.8	-0.2
AKHS	Akhisar	1.01	84	P	Pg	10 38 34.6	-0.3
AKHS				S	Sb	10 38 48.4	+0.1
EZN	Ezine	1.06	352	Pg	Pb	10 38 34.5	-1.4
EZN	Ezine	1.06	352	P	Pb	10 38 34.2	-1.7
EZN				S	Sg	10 38 49.3	-0.4
	comp=N,9μm,0.3s						
GOMA	Golmarmara-Man	1.09	93	Pn	Pg	10 38 36.2	-0.2
SMG	Samos	1.09	167	P	Pb	10 38 35.5	-0.9
SMG				S	Sn	10 38 52.4	+0.5
	comp=N,10μm,0.4s						
SMG	Samos	1.09	167	P	Pb	10 38 35.4	-1.0
SMG				S	Sb	10 38 49.4	-1.2
SMG				AML	AML	10 38 54.8	
	comp=N,24361μm,0.4s						
SMG				AML	AML	10 38 56.0	
	comp=E,15932μm,0.4s						
STEP	BALIKESIR_Sava	1.10	57	P	Pb	10 38 36.1	-0.5
STEP				S	Sn	10 38 53.2	+1.0
STEP				*i* AML	AML	10 38 54.0	
	comp=E,7μm,0.4s						
STEP				*i* AML	AML	10 38 54.0	
	comp=E,1μm,0.5s						
BOZC	Bozcaada	1.13	341	P	Pb	10 38 36.4	-0.6
BOZC				S	Sg	10 38 52.0	+0.2
GCAM	G?zelcaml?	1.21	152	P	Pn	10 38 37.3	-1.0
GCAM				S	Sn	10 38 54.8	+0.2
GCAM	G?zelcaml?	1.21	152	Pn	Pn	10 38 37.9	-0.4
BALY	Balya	1.28	41	P	Pn	10 38 38.9	-0.5
BALY				S	Sg	10 38 57.8	+1.0
YENI	Yenice-Canakka	1.29	25	Pn	Pn	10 38 38.5	-0.9
IZMR	zmir-demi	1.29	119	P	Pn	10 38 39.1	-0.3
IZMR				S	Sb	10 38 56.1	-0.1
CNKL	anakkale-Mer	1.29	355	P	Pn	10 38 39.1	-0.5
CNKL				S	Sg	10 38 58.7	+1.5
GORD	Gordes-Manisa	1.29	84	Pn	Pn	10 38 39.2	-0.4
ECEA	Canakkale, Ece	1.30	348	P	Pb	10 38 39.9	0.0
ECEA				S	Sg	10 38 59.0	+1.8
ECEA				*i* AML	AML	10 39 00.0	
	comp=E,1μm,0.5s						
ECEA				*i* AML	AML	10 39 02.0	
	comp=E,8μm,0.4s						
CANM	Can-anakkale	1.30	18	Pn	Pg	10 38 44.6	+4.1
AYDB	Zeytinkoy-Aydi	1.35	127	Pn	Pn	10 38 40.1	-0.4
EFSA	Agios Efstrati	1.42	303	P	Pn	10 38 40.4	-0.9
EFSA				AML	AML	10 39 04.4	
	comp=N,6287μm,0.5s						
EFSA				AML	AML	10 39 06.3	
	comp=E,3692μm,0.6s						
DDIM	Aydin, Didim	1.43	157	P	Pb	10 38 42.3	+0.1
DDIM				S	Sg	10 39 03.8	+2.3
BKES	Balkesir-Mer	1.45	48	P	Pn	10 38 41.1	-0.6
BKES				S	Sg	10 39 02.5	+0.3
BKES				*i* AML	AML	10 39 03.0	
	comp=E,2μm,0.6s						
BKES				*i* AML	AML	10 39 04.0	
	comp=E,1μm,0.5s						
GOAD	anakkale-G¶	1.47	341	P	Pn	10 38 41.0	-0.9
GOAD				S	Sg	10 39 03.2	+0.6
GOAD				*i* AML	AML	10 39 04.0	
	comp=E,3μm,0.4s						
GOAD				*i* AML	AML	10 39 04.0	
	comp=E,3μm,0.5s						
GADA	Gvkgeada	1.50	341	Pn	Pn	10 38 42.0	-0.3
LIA	Limnos Island	1.53	318	P	Pn	10 38 42.6	-0.2
LIA				S	Sn	10 39 01.7	-1.0
	comp=E,5μm,0.5s						
LIA	Limnos Island	1.53	318	P	Pn	10 38 42.8	0.0
LIA				S	Sn	10 39 01.4	-1.3
LIA				AML	AML	10 39 06.8	
	comp=N,13334μm,0.4s						
LIA				AML	AML	10 39 11.8	
	comp=E,7337μm,0.6s						
GONE	Gonen-Balikesi	1.56	35	Pn	Pn	10 38 42.7	-0.4
BLKS	Balkesir-Sus	1.57	45	S	Sb	10 39 04.5	+0.1
KIRA	zmir-Kiraz	1.58	111	P	Pn	10 38 43.6	+0.1
KIRA				S	Sb	10 39 04.7	-0.1
LPK	Lapseki	1.61	6	Pn	Pn	10 38 43.6	-0.2
NAZL	Nazilli-Aydin	1.61	120	Pn	Pn	10 38 43.0	-0.8
MANT	Manisa	1.61	99	P	Pn	10 38 44.0	-0.1
MANT				S	Sg	10 39 06.8	-0.7
MANT	Manisa	1.61	99	Pn	Pn	10 38 44.1	0.0
MANT				Sn	Sn	10 39 04.1	-1.0
GELI	Tayfur-Gelibol	1.62	359	Pn	Pn	10 38 43.8	-0.2
TNSA	Tinos	1.64	222	P	Pn	10 38 43.1	-1.1
TNSA				AML	AML	10 39 11.0	
	comp=E,2569μm,0.4s						
TNSA				AML	AML	10 39 15.6	
	comp=N,2502μm,0.4s						
KULA	Kula-Manisa	1.69	98	Pn	Pn	10 38 44.8	-0.3
KULA	Kula-Manisa	1.69	98	P	Pn	10 38 44.7	-0.3
KULA				S	Sn	10 39 06.3	-0.5
DURS	Dursunbey	1.72	61	P	Pn	10 38 44.7	-0.8
DURS				S	Sn	10 39 07.8	+0.2
KRBG	Karabiga-Canak	1.72	20	Pn	Pn	10 38 45.0	-0.4
ESEN	Aydn-Nazilli	1.73	124	P	Pn	10 38 45.1	-0.5
ESEN				S	Sg	10 39 10.5	-0.7
YKAV	Yalikavak-Bodr	1.75	160	Pn	Pn	10 38 45.9	+0.1
BODT	Bodrum	1.82	160	Pn	Pn	10 38 46.3	-0.5
BODT	Bodrum	1.82	160	P	Pn	10 38 46.2	-0.5
DST	Dursunbey	1.82	62	Pn	Pn	10 38 47.1	+0.2
BDRM	Kayabasi	1.85	157	P	Pn	10 38 46.4	-0.8
BDRM				S	Sg	10 39 15.7	+0.7
ENZZ	Sultanice-Enez	1.85	351	Pn	Pn	10 38 46.7	-0.5
SMTH	Samothraki Isl	1.86	336	P	Pn	10 38 47.0	-0.3
SMTH	Samothraki Isl	1.86	336	P	Pn	10 38 46.8	-0.6
APE	Apeiranthos	1.88	205	Pn	Pn	10 38 46.9	-0.7
APE	Apeiranthos	1.88	205	P	Pn	10 38 46.4	-1.2
APE	Apeiranthos	1.88	205	⇑P	Pn	10 38 46.4	-1.2
APE	Apeiranthos	1.88	205	P	Pn	10 38 46.4	-1.2
APE				AML	AML	10 39 15.5	
	comp=N,1154μm,0.5s						
APE				AML	AML	10 39 22.6	
	comp=E,1222μm,0.4s						
EDC	Edincik	1.88	33	Pn	Pn	10 38 47.2	-0.4
ERIK	Erikli-Kesan	1.89	360	Pn	Pn	10 38 47.3	-0.5
KYMI	Kymi, Euboea I	1.91	267	P	Pn	10 38 47.6	-0.3
KYMI	Kymi, Euboea I	1.91	267	P	Pn	10 38 47.3	-0.6
KYMI				AML	AML	10 39 24.1	
	comp=E,728μm,0.8s						
KYMI				AML	AML	10 39 26.8	
	comp=N,1044μm,0.7s						
CAVK	Edirne/Enez-Ca	1.94	352	P	Pn	10 38 48.0	-0.4
CAVK				S	Sg	10 39 18.5	+0.8
CAVK				*i* AML	AML	10 39 26.0	
	comp=N,1μm,0.6s						
CAVK				*i* AML	AML	10 39 39.0	
	comp=N,1μm,0.8s						
CAVK	Edirne/Enez-Ca	1.94	352	⇓P	Pn	10 38 48.4	+0.1
SIMA	Simav-Kutahya	1.94	80	Pn	Pn	10 38 48.6	+0.1
SMAA	Simav-Kutahya	1.94	80	Pn	Pn	10 38 48.7	+0.2
USAK	Uak-Merkez	1.95	91	P	Pn	10 38 48.5	0.0
USAK				S	Sb	10 39 16.4	+1.1
RKY	Sarkoy-Tekirda	1.98	14	Pn	Pn	10 38 48.6	-0.4
SART	Tekirdag	1.98	15	P	Pn	10 38 48.6	-0.4
SART				S	Sn	10 39 14.3	+0.4
ENEZ	Enez	1.98	352	Pn	Pn	10 38 49.0	+0.1
ENEZ	Enez	1.98	352	P	Pn	10 38 49.1	+0.1
BAND	Balkesir-Ban	1.99	37	P	Pn	10 38 48.2	-0.9
BAND				S	Sn	10 39 13.5	-0.6
BAND				*i* AML	AML	10 39 22.0	
	comp=N,910nm,0.3s						
BAND				*i* AML	AML	10 39 24.0

DAT				S	Sn	10 39 19.4	-0.1
DAT	**Datca**	**2.21**	**158**	Pn	Pn	10 38 51.9	-0.3
DAT	**Datca**	**2.21**	**158**	P	Pn	10 38 51.7	-0.5
YAZI	**Mula-Dat§a-**	**2.21**	**160**	P	Pn	10 38 51.3	-0.9
YAZI				S	Sg	10 39 29.2	+2.5
EMET	**Ktahya-Emet**	**2.25**	**74**	P	Pn	10 38 51.9	-1.0
EMET				S	Sg	10 39 26.7	-1.2
GEDZ	**Gediz**	**2.27**	**82**	Pn	Pn	10 38 53.4	+0.4
DNIZ	**Denizli-Tavas-**	**2.29**	**119**	P	Pn	10 38 52.8	-0.4
DNIZ				S	Sg	10 39 29.3	+0.4
TAVA	**DENIZLI_Tavas**	**2.29**	**124**	P	Pn	10 38 53.0	-0.3
TAVA				S	Sn	10 39 21.6	+0.1
THAS	**Thassos island**	**2.30**	**323**	P	Pn	10 38 52.9	-0.5
THAS	**Thassos island**	**2.30**	**323**	P	Pn	10 38 53.0	-0.3
THAS				AML	AML	10 39 31.5	
	comp=N,866µm,0.4s						
THAS				AML	AML	10 39 37.4	
	comp=E,833µm,0.6s						
GDZ	**Gediz**	**2.33**	**81**	P	Pb	10 38 56.0	-1.5
GDZ				S	Sg	10 39 29.8	-0.4
YYLC	**Yaylacik**	**2.34**	**48**	P	Pb	10 38 57.9	+0.2
YYLC				S	Sg	10 39 32.1	+1.6
VLY	**Voula,Athens**	**2.34**	**248**	P	Pn	10 38 53.2	-0.6
TKR	**Tekirdag**	**2.34**	**19**	Pn	Pn	10 38 54.2	+0.2
UKOP	**Uzunkopru-Edir**	**2.35**	**2**	Pn	Pn	10 38 54.5	+0.4
PASA	**Karahalli, USA**	**2.36**	**99**	P	Pn	10 38 55.1	+0.8
PASA				S	Sg	10 39 30.0	-1.2
TVSB	**Tavsanli**	**2.38**	**73**	Pn	Pn	10 38 54.7	+0.1
TURN	**Turunc**	**2.42**	**145**	P	Pn	10 38 54.8	-0.1
TURN				S	Sg	10 39 35.1	+2.1
TURN	**Turunc**	**2.42**	**145**	Pn	Pn	10 38 54.7	-0.2
MDNY	**Mudanya-Bursa**	**2.42**	**48**	Pn	Pn	10 38 55.5	+0.5
ULDT	**Uludag**	**2.44**	**55**	P	Pb	10 39 00.5	+1.0
ULDT				S	Sg	10 39 33.9	+0.1
ULDT				*i* AML	AML	10 39 39.0	
	comp=E,673nm,0.7s						
ULDT				*i* AML	AML	10 39 47.0	
	comp=E,762nm,0.7s						
DNZT	**Denizli-Tavas-**	**2.47**	**126**	P	Pn	10 38 55.2	-0.6
DNZT				S	Sn	10 39 25.6	-0.5
PAIG	**Paliouri**	**2.49**	**298**	Pn	Pn	10 38 55.6	-0.4
THR8	**Santorini-Mono**	**2.51**	**200**	P	Pn	10 38 54.8	-1.3
OUR	**Ouranopolis**	**2.51**	**309**	Pn	Pn	10 38 55.7	-0.5
OUR	**Ouranopolis**	**2.51**	**309**	P	Pn	10 38 56.2	0.0
OUR				AML	AML	10 39 42.4	
	comp=E,912µm,0.4s						
OUR				AML	AML	10 39 43.5	
	comp=N,1252µm,0.6s						
CRLT	**Corlu**	**2.53**	**21**	Pn	Pn	10 38 56.4	-0.1
APMY	**Acipayam-Deniz**	**2.54**	**120**	Pn	Pn	10 38 57.3	+0.5
IGD	**Bursa**	**2.55**	**53**	P	Pb	10 39 02.5	+1.3
IGD				S	Sg	10 39 37.2	-0.1
DALY	**Dalyan (Mula)**	**2.58**	**139**	Pn	Pn	10 38 57.6	+0.4
VIL2	**Platees**	**2.62**	**259**	P	Pn	10 38 57.7	-0.1
VIL2				AML	AML	10 39 45.3	
	comp=E,1060µm,0.6s						
VIL2				AML	AML	10 39 47.9	
	comp=N,569µm,0.7s						
BNAZ	**Uak-Banaz**	**2.62**	**91**	P	Pn	10 38 59.0	+1.1
BNAZ				S	Sg	10 39 46.1	+6.3
INCE	**Denizli-Bozkur**	**2.62**	**113**	P	Pn	10 38 58.8	+0.9
INCE				S	Sg	10 39 43.3	+3.5
DOMA	**Ktahya-Doman**	**2.66**	**67**	P	Pn	10 38 58.7	+0.3
DOMA				S	Sg	10 39 41.1	+0.3
MHLO	**Agia Marina, M**	**2.68**	**220**	P	Pn	10 38 57.6	-1.0
KAVA	**Kavala**	**2.71**	**326**	P	Pn	10 38 58.8	-0.1
KAVA	**Kavala**	**2.71**	**326**	P	Pn	10 38 58.6	-0.4
ANDZ	**Kutahya, Merke**	**2.72**	**73**	P	Pn	10 38 59.0	-0.3
ANDZ				S	Sg	10 39 41.9	-1.0
SABU	**Mula-Dalaman**	**2.74**	**134**	P	Pn	10 38 59.2	-0.3
SABU				S	Sb	10 39 36.4	-1.8
CAEL	**Denizli, Camel**	**2.75**	**126**	P	Pb	10 39 02.5	-2.3
CAEL				S	Sg	10 39 47.4	+3.5
KOKK	**Kokkinochori,**	**2.82**	**317**	P	Pn	10 39 00.2	-0.4
KOKK	**Kokkinochori,**	**2.82**	**317**	P	Pn	10 39 00.1	-0.4
ARG	**Arkhangelos**	**2.85**	**153**	P	Pn	10 39 00.5	-0.4
ARG				AML	AML	10 40 00.7	
	comp=N,549µm,1.1s						
ARG				AML	AML	10 40 03.2	
	comp=E,679µm,0.8s						
CAME	**Cameli-Denizli**	**2.86**	**129**	Pn	Pn	10 39 01.4	+0.2
KZIL	**AFYON_Kizioren**	**2.88**	**99**	P	Pn	10 39 00.1	-1.4
BILE	**Bilecik/Merkez**	**2.94**	**61**	P	Pb	10 39 05.6	-2.4
BILE				S	Sg	10 39 47.4	-2.4
FETY	**Fethiye**	**2.94**	**136**	P	Pn	10 39 02.3	+0.1
FETY				S	Sb	10 39 42.4	-1.6
AUBOZ	**BOZOYUK**	**2.94**	**66**	P	Pg	10 39 09.8	-2.1
AUBOZ				S	Sg	10 39 49.9	-0.2
AFYO	**Afyonkarahisar**	**2.95**	**89**	P	Pn	10 39 03.2	+0.8
AFYO				S	Sg	10 39 53.4	+3.3
AUKUT	**KUTAHYA**	**2.95**	**65**	P	Pb	10 39 08.5	+0.3
AUKUT				S	Sg	10 39 47.8	-2.5
VIZE	**Kirklareli, Vi**	**2.98**	**19**	P	Pn	10 39 01.3	-1.4
VIZE				S	Sn	10 39 37.0	-1.4
BRDR	**BURDUR-Merkez**	**2.98**	**110**	P	Pn	10 39 04.4	+1.6
BRDR				S	Sg	10 39 50.1	-1.1
AXAR	**Agios Charalam**	**3.02**	**271**	P	Pn	10 39 03.7	+0.4
KIRK	**Kirklareli**	**3.04**	**8**	P	Pn	10 39 02.6	-0.9
KIRK				S	Sb	10 39 48.0	+1.3
EDRB	**Edirne**	**3.07**	**3**	P	Pn	10 39 03.8	-0.2
KNIK	**Mula-Seydike**	**3.09**	**128**	P	Pn	10 39 05.7	+1.4
KNIK				S	Sb	10 39 44.8	-3.4
HISA	**Bilecik-Osmane**	**3.12**	**56**	P	Pn	10 39 06.0	+1.3
HISA				S	Sg	10 39 56.8	+1.1
AFYN	**Afyon-Dinar-K**	**3.16**	**98**	P	Pn	10 39 06.0	+0.7
AFYN				S	Sg	10 40 01.3	+4.4
ARMN	**Kirklareli, Me**	**3.16**	**12**	P	Pn	10 39 04.2	-1.0
ARMN				S	Sb	10 39 52.6	+2.4
IZZE	**Mula-Seydike**	**3.17**	**137**	P	Pn	10 39 06.8	+1.5
IZZE				S	Sn	10 39 46.1	+3.0
SOH	**Sokhos**	**3.19**	**311**	P	Pn	10 39 06.0	+0.4
SOH				AML	AML	10 40 02.3	
	comp=N,406µm,0.5s						
SOH				AML	AML	10 40 06.7	
	comp=E,494µm,0.7s						
HORT	**Hortiatis**	**3.21**	**306**	P	Pn	10 39 06.3	+0.3
BORA	**Eskisehir**	**3.24**	**69**	P	Pn	10 39 05.8	-0.6
BORA				S	Sg	10 39 58.1	-1.4
SEMS	**Kocaeli-K¶rfe**	**3.24**	**49**	P	Pb	10 39 14.1	+1.1
SEMS				S	Sg	10 39 58.2	-1.3
SRS	**Serrai**	**3.25**	**317**	P	Pn	10 39 06.6	+0.2
SRS	**Serrai**	**3.25**	**317**	*e*Pn	Pn	10 39 06.6	+0.2
SRS				*e*Sg	Sg	10 40 00.0	+0.1
SRS	**Serrai**	**3.25**	**317**	P	Pn	10 39 06.2	-0.3
SRS				AML	AML	10 40 04.6	
	comp=E,422µm,0.4s						
SRS				AML	AML	10 40 08.7	
	comp=N,320µm,0.5s						
KARP	**Karpathos**	**3.26**	**171**		Pn	10 39 06.4	-0.2
KARP	**Karpathos**	**3.26**	**171**	P	Pn	10 39 06.0	-0.6
ISP	**Isparta**	**3.28**	**106**	Pn	Pn	10 39 07.5	+0.5
AGG	**Agios Georgios**	**3.28**	**276**		Pn	10 39 08.8	+1.9
NVR	**Nevrokopi**	**3.29**	**322**	P	Pn	10 39 08.2	+1.2
NVR	**Nevrokopi**	**3.29**	**322**	P	Pn	10 39 07.9	+1.0
NVR				AML	AML	10 40 04.0	
	comp=E,312µm,0.5s						
NVR				AML	AML	10 40 05.3	
	comp=N,310µm,0.7s						
GEYV	**SAKARYA_Geyve**	**3.37**	**58**	P	Pb	10 39 12.7	-2.6
GEYV				S	Sg	10 40 04.1	+0.3
GUR	**Goura**	**3.40**	**257**	P	Pn	10 39 08.7	+0.1
LIT	**Litokhoron**	**3.40**	**294**		Pn	10 39 09.4	+1.0
MAKR	**Makrakomi, Fth**	**3.44**	**275**	P	Pn	10 39 09.7	+0.7
KALE	**Kalithea**	**3.46**	**265**	P	Pn	10 39 10.1	+0.8
VLI	**Veliai**	**3.51**	**235**	P	Pn	10 39 09.4	-0.5
KLV	**Kalavryta, Ach**	**3.52**	**259**	P	Pn	10 39 09.8	-0.3
AKAS	**Kas**	**3.52**	**135**	P	Pn	10 39 10.4	+0.1
AKAS				S	Sb	10 39 56.5	-4.3
THL	**Klokotos Trika**	**3.60**	**284**	P	Pn	10 39 11.7	+0.5
ANX	**Ano Chora**	**3.61**	**269**	P	Pn	10 39 12.0	+0.5
PLD	**Plovdiv**	**3.63**	**339**	*e*Pn	Pn	10 39 12.2	+0.5
PLD				*e*Sg	Sg	10 40 11.0	-1.1
ZKR	**Zakros**	**3.66**	**184**	P	Pn	10 39 11.4	-0.7
IDI	**Anoyia**	**3.72**	**201**		Pn	10 39 12.3	-0.6
IDI	**Anoyia**	**3.72**	**201**	Pn	Pn	10 39 12.2	-0.7
	comp=N,6.5nm,0.3s,baz=5.6,slow=10,SNR=11						
IDI				Sn	Sn	10 39 57.4	+0.6
	comp=N,5.0nm,0.3s,baz=306,slow=18,SNR=3.6						
IDI	**Anoyia**	**3.72**	**201**	P	Pn	10 39 11.9	-1.0
VAY	**Valandovo**	**3.96**	**311**	*i* Pn	Pg	10 39 31.2	-0.2
ITM	**Ithomi**	**3.97**	**248**	P	Pn	10 39 16.9	+0.6
PEHC	**Pehcevo**	**4.09**	**318**	*i* Pn	Pn	10 39 19.2	+1.2
ELND	**Elena**	**4.18**	**353**	⇑P	Pn	10 39 19.3	+0.1
FNA	**Florina**	**4.45**	**298**		Pn	10 39 23.9	+1.0
FNA	**Florina**	**4.45**	**298**	*e*Pn	Pn	10 39 24.4	+1.5
VTS	**Vitosha**	**4.58**	**328**	*e*Pn	Pn	10 39 25.9	+1.0
BOSS	**Bosilegrad**	**4.83**	**322**	*e*Pn	Pn	10 39 29.7	+1.6
ZAPS	**Zavoj**	**5.37**	**328**	*e*Pn	Pn	10 39 37.0	+1.4
BARS	**Barje**	**5.39**	**320**	*e*Pn	Pn	10 39 36.9	+1.0
BR131	**Keskin Array S**	**5.60**	**78**		Pn	10 39 39.6	+0.7
BRTR	**Keskin Array B**	**5.60**	**78**		Pn	10 39 39.9	+1.0
BRTR	**Keskin Array B**	**5.60**	**78**	Pn	Pn	10 39 39.5	+0.7
	comp=N,1.1nm,0.3s,baz=254,slow=14,SNR=22						
BRTR				Pg	Pb	10 39 56.8	+3.5
	comp=N,0.6nm,0.3s,baz=251,slow=12,SNR=4.2						
BRTR				Sn	Sn	10 40 45.9	+2.6
	comp=N,0.2nm,0.3s,baz=276,slow=19,SNR=1.7						
BRTR				Lg	Lg	10 41 15.0	
	baz=279,slow=20						
	comp=N,4.4nm,0.5s						
KIRS	**Kirsehir-Merke**	**5.77**	**84**	⇓P	Pn	10 39 42.7	+1.6
ZAGS	**Zajecar**	**5.98**	**329**	*e*Pn	Pn	10 39 44.3	+0.4
PUK	**Puka**	**6.02**	**305**		Pn	10 39 44.1	-0.5
SELS	**Selova**	**6.04**	**319**	*e*Pn	Pn	10 39 45.7	+1.0
BOVS	**Bovan**	**6.07**	**325**	*e*Pn	Pn	10 39 45.6	+0.5
BOVS	**Bovan**	**6.07**	**325**	⇓P	Pn	10 39 45.6	+0.5
SJES	**Sjenica**	**6.68**	**314**	*e*Pn	Pn	10 39 52.9	-0.8
KUBS	**Kucevo**	**6.70**	**329**	*e*Pn	Pn	10 39 53.3	-0.6
GRUS	**Gruza**	**6.72**	**321**	*e*Pn	Pn	10 39 54.4	+0.3
MLR	**Muntele Rosu**	**6.73**	**356**		Pn	10 39 56.0	+1.7
MLR	**Muntele Rosu**	**6.73**	**356**	Pn	Pn	10 39 54.6	+0.4
	comp=N,1.6nm,0.3s,baz=156,slow=6.4,SNR=16						
MLR				Lg	Lg	10 41 48.0	
	comp=N,0.6nm,0.3s,baz=307,slow=22,SNR=2.0						
	comp=N,14nm,0.6s						
MLR	**Muntele Rosu**	**6.73**	**356**	⇑P	Pn	10 39 55.6	+1.3
VOIR		**6.75**	**351**	⇓P	Pn	10 39 54.6	+0.1
IVAS	**Ivanjica**	**6.79**	**317**	*e*Pn	Pn	10 39 55.7	+0.6
MDVR	**Moldovita**	**7.00**	**331**	⇑P	Pn	10 39 58.3	+0.3
PLOR	**Plostina**	**7.07**	**1**	⇓P	Pn	10 39 58.9	-0.1
VRI	**Vrincioaia**	**7.09**	**1**	⇑P	Pn	10 39 59.9	+0.7
GZR	**Gura Zlata**	**7.18**	**338**	⇑P	Pn	10 40 00.1	-0.3
DOPR	**Dopca**	**7.24**	**354**	⇓P	Pn	10 40 01.7	+0.5
TURR	**Turia**	**7.29**	**357**	⇓P	Pn	10 40 02.1	+0.3
OZUR		**7.34**	**356**	⇓P	Pn	10 40 03.5	+0.9
VRSS	**Vrsac**	**7.43**	**330**	*e*Pn	Pn	10 40 03.8	-0.1
ONER	**Baraj Valea Uz**	**7.56**	**359**	⇑P	Pn	10 40 06.4	+0.8
TIP	**Timpagrande**	**7.62**	**276**	Pn	Pn	10 40 06.6	0.0
SURR	**Surduc**	**7.70**	**336**	⇓P	Pn	10 40 07.5	-0.1
BZS	**Buzias**	**7.75**	**334**	⇑P	Pn	10 40 07.8	-0.4
CUC	**Castrocucco**	**8.38**	**282**		Pn	10 40 17.2	+0.2
BUR01	**Bucovina Ar. S**	**8.89**	**354**	⇑P	Pn	10 40 24.7	+0.8
BURAR	**Bucovina Array**	**8.89**	**354**	Pn	Pn	10 40 24.6	+0.7
BUR08	**Bucovina Ar. S**	**8.92**	**354**	Pn	Pn	10 40 24.9	+0.5
MMAI	**Mount Meron Ar**	**9.21**	**126**	Pn	Pn	10 40 29.1	+0.7
	comp=N,2.0nm,0.3s,baz=319,slow=13,SNR=5.6						
	comp=N,1.1nm,0.3s						
MORH	**Mrgy, Hungar**	**9.44**	**324**	⇓P	Pn	10 40 31.9	+0.5
RAFF	**Raffo Rosso**	**9.73**	**265**	Pn	Pn	10 40 34.3	-1.1
HFS	**Hagfors**	**22.87**	**343**	P	**P**	10 43 17.1	-1.6
	comp=N,1.9nm,0.9s,baz=168,slow=15,SNR=1.8						
	comp=N,1.9nm,0.9s						
ESDC	**Sonseca Array**	**23.59**	**282**	P	**P**	10 43 27.3	+1.0
	comp=N,1.2nm,0.7s,baz=75,slow=11,SNR=7.1						
	comp=N,1.2nm,0.7s						
NC602	**NORSAR Array S**	**23.90**	**342**	P	**P**	10 43 28.6	-0.5
NC602				IAmb	IAmb	10 43 44.8	
	comp=Z,6.0nm,0.9s						
NB2	**NORSAR Subarra**	**24.25**	**342**	P	**P**	10 43 31.8	-0.5
	comp=Z,2.5nm,0.8s,baz=158,slow=11						
NOA	**NORSAR Array B**	**24.25**	**342**	P	**P**	10 43 31.0	-1.3
	comp=Z,0.6nm,0.6s,baz=146,slow=9.6,SNR=4.3						
	comp=Z,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**33.70**	**228**	P	**P**	10 44 56.5	-0.2
	comp=Z,1.0nm,0.8s,baz=28,slow=8.6,SNR=3.6						
	comp=Z,1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**38.06**	**55**	P	**P**	10 45 33.5	-0.3
	comp=Z,1.2nm,0.6s,baz=279,slow=8.7,SNR=11						
	comp=Z,1.2nm,0.6s						
KURK	**Kurchatov**	**38.12**	**54**	P	**P**	10 45 34.3	0.0
MKAR	**Makanchi Array**	**40.95**	**60**	P	**P**	10 45 57.7	-0.3
	comp=Z,0.7nm,0.7s,baz=282,slow=6.9,SNR=4.0						
	comp=Z,0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**41.76**	**49**	P	**P**	10 46 04.5	0.0
	comp=Z,1.1nm,0.5s,baz=260,slow=8.9,SNR=6.0						
	comp=Z,1.1nm,0.5s						
A36M	**Sachs Harbour**	**67.76**	**351**	P	**P**	10 49 13.4	+0.8
C23K	**Itkillik River**	**71.68**	**359**	P	**P**	10 49 38.1	+1.3
ASAR	**Alice Springs**	**117.58**	**99**	PKP	**PKPdf**	10 57 00.3	-1.5
	comp=Z,0.6nm,1.0s,baz=316,slow=2.6,SNR=4.5						

*AEIC **07** 10:46:28.4±1.5, 53°.39N±0°.05×166°.26W±0°.06, h28km±4km, Error ellipse: s-maj=7.8km s-min=3.4km az=144.0*

NEIC 07 10:46:27.4±1.3, 53°.36N±0°.05×166°.19W±0°.07, h28km±11km, ML2.6(AEIC), **Error ellipse: s-maj=9.0km s-min=2.0km az=137.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.53**	**339**		Pb	10 46 38.4	+0.3
UNV	**Unalaska Valle**	**0.53**	**339**		Sn	10 46 46.6	-0.4
MREP	**Makushin Rep't**	**0.56**	**324**		Sn	10 46 47.9	-0.1
MGOD	**Makushin Gods**	**0.60**	**318**		Pb	10 46 39.4	+0.1
MAPS	**Pakushin South**	**0.64**	**316**		Pb	10 46 39.9	-0.1
MAPS					Sb	10 46 49.1	+0.6
MSW	**Makushin Switc**	**0.66**	**328**		Pb	10 46 40.2	-0.2
MSW					Sb	10 46 49.7	+0.4
MTBL	**Makushin Table**	**0.68**	**335**		Pb	10 46 40.7	-0.1
MTBL					Sn	10 46 51.0	0.0
AKMO	**Akutan Morgan**	**0.75**	**8**		Pn	10 46 42.0	-0.1
ZRO	**Akutan Zero**	**0.75**	**10**		Pn	10 46 42.1	0.0
ZRO					Sn	10 46 52.9	+0.3
AKBBA	**Akutan Broad B**	**0.76**	**12**		Pn	10 46 42.2	-0.1
AKRB	**Akutan Reef Bi**	**0.78**	**5**		Pn	10 46 42.6	0.0
AKRB					Sn	10 46 53.6	+0.3
AKV	**Akutan Volcano**	**0.79**	**10**		Pn	10 46 42.6	-0.1
AHB	**Akutan Harbor**	**0.79**	**16**		Pb	10 46 42.6	0.0
LVA	**Lava Point**	**0.81**	**7**		Pb	10 46 42.8	-0.1
LVA					Sb	10 46 53.5	-0.1
AKSA	**Akutan Strait**	**0.84**	**20**		Pb	10 46 42.8	-0.5
AKSA					Sn	10 46 54.7	0.0
AKGG	**Akutan Green G**	**0.85**	**8**		Pb	10 46 43.7	+0.1
OKFG	**Magazine Ridge**	**1.03**	**274**		Pb	10 46 46.3	-0.3
OKFG					Sb	10 47 00.2	+0.5
OKNC	**Okmok New Cone**	**1.16**	**276**		Pb	10 46 48.4	-0.4
OKCE	**Okmok Cone E**	**1.18**	**274**		Pb	10 46 49.1	-0.1
WECS	**Westdahl Cape**	**1.44**	**35**		Pb	10 46 52.9	-0.7
WEBT	**Westdahl Beart**	**1.50**	**34**		Pb	10 46 53.7	-0.9
WEBT					Sb	10 47 12.7	-0.5
NIKH	**Nikolski High**	**1.65**	**258**		Pn	10 46 54.3	-0.1
NIKH	**Nikolski High**	**1.65**	**258**		Sn	10 47 14.6	-0.1
ISNN	**Isanotski Nort**	**2.05**	**43**		Pb	10 47 02.0	-1.9
CLCO	**Concord Point,**	**2.21**	**256**		Pn	10 47 02.6	+0.5
FALS	**False Pass**	**2.22**	**46**		Pb	10 47 05.1	-1.6

*ISK **07** 10:51:15.1, 38°.80N×26°.53E, h11km, ML3.0/35*
*THE **07** 10:51:15.7, 38°.80N×26°.56E, h0km±1km, ML3.1/5, Error ellipse: s-maj=2.1km s-min=0.6km az=67.0*
*AFAD **07** 10:51:15.1±0.0, 38°.78N×26°.55E, h1km, MW3.4*
*ATH **07** 10:51:16.1, 38°.77N×26°.53E, h13km±1km, ML3.1/5, Error ellipse: s-maj=2.6km s-min=1.0km az=269.0*

ISC 07 10:51:15.7±0.8, **38°.79N**±0°.01×**26°.54E**±0°.02, **h12**km±6km, **n101**, $_e$**0**^{s}**68**/146, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.16**	**220**	P	**Pg**	**10 51 19.4**	**0.0**
KARB				S	**Sg**	**10 51 22.5**	**+0.5**
KARB				*i* AML	AML	10 51 23.0	
	comp=N,4µm,0.2s						
KARB				*i* AML	AML	10 51 24.0	
	comp=E,6µm,0.6s						
FOCM	**Foa**	**0.16**	**116**	Pg	**Pg**	**10 51 19.2**	**-0.3**
FOCM				Sg	**Sg**	**10 51 22.1**	**-0.1**
IZMD	**zmir-Dikili-**	**0.36**	**57**	P	**Pg**	**10 51 22.5**	**-0.5**
IZMD				S	**Sg**	**10 51 28.1**	**+0.2**
DKL	**Dikili**	**0.40**	**45**	Pg	**Pg**	**10 51 23.4**	**-0.3**
DKL				Sg	**Sb**	**10 51 29.7**	**-1.1**
EAG2	**Marmaro, Chios**	**0.42**	**235**	P	**Pg**	**10 51 24.3**	**+0.4**
EAG2				S	**Sg**	**10 51 29.4**	**-0.1**
EAG2	**Marmaro, Chios**	**0.42**	**235**	P	**Pg**	**10 51 24.4**	**+0.4**
EAG2				S	**Sg**	**10 51 30.4**	**+0.8**
EAG2				AML	AML	10 51 30.7	
	comp=E,38482µm,0.4s						
EAG2				AML	AML	10 51 31.0	
	comp=N,36758µm,0.4s						
ZEDA	**zmir-Bergama**	**0.46**	**66**	P	**Pg**	**10 51 24.5**	**-0.2**
ZEDA				S	**Sb**	**10 51 31.7**	**-0.7**
ZEDA				*i* AML	AML	10 51 37.0	
	comp=N,691nm,0.6s						
ZEDA				*i* AML	AML	10 51 38.0	
	comp=N,876nm,0.4s						
CESE	**eme**	**0.49**	**203**	Pg	**Pg**	**10 51 25.3**	**-0.1**
PRK	**Paraskevi**	**0.51**	**335**	P	**Pg**	**10 51 25.7**	**+0.1**
PRK				S	**Sb**	**10 51 33.7**	**-0.1**
	comp=N,3µm,0.4s						
PRK	**Paraskevi**	**0.51**	**335**	P	**Pg**	**10 51 25.8**	**+0.1**
PRK				S	**Sb**	**10 51 33.7**	**-0.1**
PRK				AML	AML	10 51 33.9	
	comp=N,8378µm,0.5s						
PRK				AML	AML	10 51 37.8	
	comp=E,5069µm,0.3s						
PRK	**Paraskevi**	**0.51**	**335**	P	**Pg**	**10 51 25.8**	**+0.1**
PRK				S	**Sb**	**10 51 33.3**	**-0.5**
PRK				AML	AML	10 51 33.9	
	comp=N,8378µm,0.5s						
PRK				AML	AML	10 51 34.8	
	comp=E,4044µm,0.4s						
AYVA	**Ayvalik**	**0.53**	**12**	P	**Pg**	**10 51 26.0**	**-0.2**
AYVA				S	**Sb**	**10 51 34.1**	**-0.6**
AYVA				*i* AML	AML	10 51 36.0	
	comp=E,1µm,0.3s						
AYVA				*i* AML	AML	10 51 36.0	
	comp=E,712nm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.55**	**183**	P	**Pg**	**10 51 25.9**	**-0.5**
ZEYE				S	**Sb**	**10 51 35.5**	**+0.5**
ZEYE				*i* AML	AML	10 51 38.0	
	comp=E,968nm,0.3s						
ZEYE				*i* AML	AML	10 51 40.0	
	comp=E,807nm,0.3s						
BLCB	**Balcova**	**0.56**	**135**	Pg	**Pb**	**10 51 27.2**	**-0.2**
BLCB	**Balcova**	**0.56**	**135**	P	**Pg**	**10 51 26.8**	**+0.1**
SIGR	**SIGRI**	**0.68**	**309**	Pg	**Pb**	**10 51 29.2**	**-0.3**
SIGR	**SIGRI**	**0.68**	**309**	P	**Pb**	**10 51 29.3**	**-0.3**
SIGR	**SIGRI**	**0.68**	**309**	P	**Pb**	**10 51 29.1**	**-0.3**
SIGR				S	**Sg**	**10 51 38.0**	**0.0**
SIGR				AML	AML	10 51 42.2	
	comp=E,3440µm,0.3s						
SIGR				AML	AML	10 51 43.0	
	comp=N,3387µm,0.3s						
SIGR	**SIGRI**	**0.68**	**309**	P	**Pb**	**10 51 29.3**	**-0.2**
SIGR				S	**Sb**	**10 51 39.0**	**0.0**
SIGR				AML	AML	10 51 42.2	
	comp=E,3440µm,0.3s						
SIGR				AML	AML	10 51 43.0	
	comp=N,3387µm,0.3s						
GMLD	**Gumuldur**	**0.77**	**157**	Pg	**Pg**	**10 51 30.3**	**-0.3**
DGB	**zmir**	**0.78**	**160**	P	**Pg**	**10 51 30.0**	**-0.8**
DGB				S	**Sb**	**10 51 41.8**	**+0.2**
DGB				*i* AML	AML	10 51 44.0	
	comp=N,263nm,0.8s						
KOCA	**Canakkale, Ayv**	**0.78**	**336**	P	**Pb**	**10 51 31.5**	**+0.3**
KOCA				S	**Sb**	**10 51 42.3**	**+0.5**
KOCA				*i* AML	AML	10 51 45.0	
	comp=N,1µm,0.3s						
KOCA				*i* AML	AML	10 51 45.0	
	comp=N,2µm,0.6s						
BUHA	**Balikesir, Bur**	**0.83**	**30**	P	**Pg**	**10 51 31.0**	**-0.7**
BUHA				S	**Sn**	**10 51 44.9**	**-0.4**
BUHA				*i* AML	AML	10 51 46.0	
	comp=N,1µm,0.7s			

GOAD			*i* AML	AML	10 52 04.0	
	comp=N,468nm,0.6s					
GADA	**Gvkgeada**	**1.49 341**	Pn	**Pn**	**10 51 42.2**	**-0.1**
LIA	**Limnos Island**	**1.53 317**	P	**Pn**	**10 51 42.8**	**0.0**
LIA			S	**Sn**	**10 52 02.4**	**-0.2**
	comp=N,628nm,0.6s					
LIA	**Limnos Island**	**1.53 317**	P	**Pn**	**10 51 42.8**	**0.0**
LIA			S	**Sn**	**10 52 01.6**	**-1.0**
LIA			AML	AML	10 52 06.6	
	comp=N,1480μm,0.5s					
LIA			AML	AML	10 52 08.9	
	comp=E,959μm,0.4s					
LIA	**Limnos Island**	**1.53 317**	P	**Pn**	**10 51 42.9**	**+0.1**
LIA			S	**Sn**	**10 52 01.8**	**-0.8**
LIA			AML	AML	10 52 03.6	
	comp=E,977μm,0.3s					
LIA			AML	AML	10 52 06.6	
	comp=N,1480μm,0.5s					
GONE	**Gonen-Balikesi**	**1.54 35**	Pn	**Pn**	**10 51 43.1**	**+0.2**
KIRA	**zmir-Kiraz**	**1.57 111**	P	**Pg**	**10 51 45.4**	**-0.5**
KIRA			S	**Sg**	**10 52 07.3**	**+1.0**
KIRA			*i* AML	AML	10 52 15.0	
	comp=N,87nm,0.7s					
LPK	**Lapseki**	**1.59 6**	Pn	**Pn**	**10 51 43.5**	**-0.2**
NAZL	**Nazilli-Aydin**	**1.60 120**	Pn	**Pn**	**10 51 44.4**	**+0.6**
MANT	**Manisa**	**1.61 100**	P	**Pb**	**10 51 45.5**	**+0.1**
MANT			S	**Sg**	**10 52 07.1**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.61 358**	Pn	**Pn**	**10 51 43.9**	**0.0**
TNSA	**Tinos**	**1.65 222**	P	**Pn**	**10 51 43.8**	**-0.6**
KULA	**Kula-Manisa**	**1.68 99**	Pn	**Pn**	**10 51 45.7**	**+0.7**
DURS	**Dursunbey**	**1.71 61**	P	**Pn**	**10 51 45.8**	**+0.4**
DURS			S	**Sb**	**10 52 08.0**	**-0.5**
DURS			*i* AML	AML	10 52 19.0	
	comp=N,126nm,0.6s					
DURS			*i* AML	AML	10 52 20.0	
	comp=N,100nm,0.5s					
KRBG	**Karabiga-Canak**	**1.71 20**	Pn	**Pn**	**10 51 44.4**	**-0.9**
ESEN	**Aydn-Nazilli**	**1.73 124**	P	**Pn**	**10 51 45.7**	**+0.1**
ESEN			S	**Sb**	**10 52 09.4**	**+0.4**
DST	**Dursunbey**	**1.81 62**	Pn	**Pn**	**10 51 47.1**	**+0.4**
BODT	**Bodrum**	**1.82 160**	Pn	**Pn**	**10 51 46.9**	**0.0**
SMTH	**Samothraki Isl**	**1.85 335**	P	**Pn**	**10 51 47.4**	**+0.1**
SMTH	**Samothraki Isl**	**1.85 335**	P	**Pn**	**10 51 47.3**	**0.0**
SMTH	**Samothraki Isl**	**1.85 335**	P	**Pn**	**10 51 47.5**	**+0.2**
EDC	**Edincik**	**1.86 33**	Pn	**Pn**	**10 51 47.7**	**+0.3**
ERIK	**Erikli-Kesan**	**1.88 359**	Pn	**Pn**	**10 51 47.7**	**0.0**
APE	**Apeiranthos**	**1.89 205**	Pn	**Pn**	**10 51 46.0**	**-1.8**
APE	**Apeiranthos**	**1.89 205**	P	**Pn**	**10 51 46.6**	**-1.2**
APE	**Apeiranthos**	**1.89 205**	P	**Pn**	**10 51 46.9**	**-1.0**
KYMI	**Kymi, Euboea I**	**1.92 266**	P	**Pn**	**10 51 48.1**	**0.0**
CAVK	**Edirne/Enez-Ca**	**1.93 351**	P	**Pn**	**10 51 47.9**	**-0.3**
CAVK			S	**Sg**	**10 52 19.2**	**+1.6**
CAVK			*i* AML	AML	10 52 28.0	
	comp=N,197nm,0.5s					
CAVK			*i* AML	AML	10 52 31.0	
	comp=N,147nm,0.9s					
SIMA	**Simav-Kutahya**	**1.93 80**	Pn	**Pn**	**10 51 48.6**	**+0.2**
USAK	**Uak-Merkez**	**1.94 91**	P	**Pn**	**10 51 48.7**	**+0.2**
USAK			*i* AML	AML	10 52 13.0	
	comp=N,68nm,1.1s					
USAK			*i* AML	AML	10 52 13.0	
	comp=N,96nm,1.3s					
USAK			S	**Sb**	**10 52 15.6**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.96 14**	Pn	**Pn**	**10 51 49.3**	**+0.5**
SART	**Tekirdag**	**1.96 14**	P	**Pn**	**10 51 48.0**	**-0.9**
SART			*i* AML	AML	10 52 12.0	
	comp=N,167nm,0.9s					
SART			S	**Sb**	**10 52 16.2**	**+0.4**
SART			*i* AML	AML	10 52 47.0	
	comp=N,164nm,1.4s					
ENEZ	**Enez**	**1.97 351**	Pn	**Pn**	**10 51 48.9**	**0.0**
ENEZ	**Enez**	**1.97 351**	P	**Pn**	**10 51 49.8**	**+0.9**
BAND	**Balkesir-Ban**	**1.98 37**	P	**Pn**	**10 51 48.5**	**-0.5**
BAND			S	**Sn**	**10 52 14.1**	**+0.5**
BAND			*i* AML	AML	10 52 21.0	
	comp=N,111nm,0.3s					
BAND			*i* AML	AML	10 52 22.0	
	comp=N,137nm,0.3s					
MRMT	**Marmara Adasi**	**1.99 24**	Pn	**Pn**	**10 51 49.4**	**+0.2**
KCTX	**Karacabey (Bur**	**2.04 43**	Pn	**Pn**	**10 51 50.2**	**+0.4**
AOS2	**Alonissos-2**	**2.13 281**	P	**Pn**	**10 51 51.2**	**+0.1**
ALN	**Alexandroupoli**	**2.14 350**	Pn	**Pn**	**10 51 50.9**	**-0.3**
ALN	**Alexandroupoli**	**2.14 350**	P	**Pn**	**10 51 51.7**	**+0.5**
ALN			S	**Sb**	**10 52 20.1**	**-0.9**
	comp=N,178nm,0.5s					
ALN	**Alexandroupoli**	**2.14 350**	P	**Pn**	**10 51 51.5**	**+0.2**
ALN			AML	AML	10 52 25.4	
	comp=E,360μm,0.5s					
ALN			AML	AML	10 52 25.6	
	comp=N,345μm,0.5s					
ALN	**Alexandroupoli**	**2.14 350**	P	**Pn**	**10 51 51.6**	**+0.4**
YER	**Yerkesik**	**2.15 140**	Pn	**Pn**	**10 51 51.9**	**+0.5**
DION	**Dionisos Attik**	**2.17 252**	P	**Pn**	**10 51 51.4**	**-0.2**
DION	**Dionisos Attik**	**2.17 252**	P	**Pn**	**10 51 51.5**	**-0.2**
DAT	**Datca**	**2.21 158**	Pn	**Pn**	**10 51 53.1**	**+0.8**
YAZI	**Mula-Dat§a-**	**2.22 161**	P	**Pn**	**10 51 50.6**	**-1.7**
YAZI			S	**Sb**	**10 52 23.2**	**0.0**
THAS	**Thassos island**	**2.30 323**	P	**Pn**	**10 51 53.2**	**-0.2**
TVSB	**Tavsanli**	**2.37 73**	Pn	**Pn**	**10 51 54.9**	**+0.5**
OUR	**Ouranopolis**	**2.51 309**	P	**Pn**	**10 51 56.5**	**+0.2**
KAVA	**Kavala**	**2.70 325**	P	**Pn**	**10 51 58.4**	**-0.6**
KOKK	**Kokkinochori,**	**2.82 317**	P	**Pn**	**10 52 00.7**	**+0.2**

AFAD 07 11:10:47.3±0.0,**37°.67N**×**37°.46E**,**h7**km±3km,**ML1.2,**
Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCA	**Adyaman/G¶l**	**0.22**	**56**	P	Pg	11 10 51.6	-0.1
AKCA				S	Sg	11 10 55.5	+0.8
AKCA				*i* AML	AML	11 10 58.0	
	comp=E,61nm,0.4s						
AKCA				*i* AML	AML	11 10 59.0	
	comp=N,68nm,0.5s						
AKCA	**Adyaman/G¶l**	**0.22**	**56**	P	Pg	11 10 51.4	-0.3
AKCA				S	Sg	11 10 55.6	+1.0
AKCA				*i* AML	AML	11 10 58.0	
	comp=E,61nm,0.4s						
AKCA				*i* AML	AML	11 10 59.0	
	comp=N,68nm,0.5s						
GZT	**Gaziantep**	**0.33**	**166**	P	Pg	11 10 52.8	-0.9
GZT				*i* AML	AML	11 10 59.0	
	comp=E,18nm,0.2s						
GZT				S	Sg	11 10 59.3	+1.2
GZT				*i* AML	AML	11 11 02.0	
	comp=N,14nm,0.3s						
GZT	**Gaziantep**	**0.33**	**166**	P	Pg	11 10 52.6	-1.2
GZT				*i* AML	AML	11 10 59.0	
	comp=E,18nm,0.2s						
GZT				S	Sg	11 10 59.1	+1.1
GZT				*i* AML	AML	11 11 02.0	
	comp=N,14nm,0.3s						
ATAB	**Bozova**	**0.69**	**107**	P	Pg	11 11 01.0	+0.4
ATAB				S	Sn	11 11 13.6	-1.0
ATAB				*i* AML	AML	11 11 14.0	
	comp=E,44nm,0.2s						
ATAB				*i* AML	AML	11 11 14.0	
	comp=N,18nm,0.2s						
ATAB	**Bozova**	**0.69**	**107**	P	Pg	11 11 01.0	+0.4
ATAB				S	Sn	11 11 13.7	-0.9
ATAB				*i* AML	AML	11 11 14.0	
	comp=E,44nm,0.2s						
ATAB				*i* AML	AML	11 11 14.0	
	comp=N,18nm,0.2s						
KAMA	**Osmaniye**	**0.80**	**233**	P	Pg	11 11 02.8	+0.2
KAMA				S	Sb	11 11 14.6	+0.1
KAMA				*i* AML	AML	11 11 16.0	
	comp=E,8.6nm,0.2s						
KAMA				*i* AML	AML	11 11 17.0	
	comp=N,6.0nm,0.2s						
KAMA	**Osmaniye**	**0.80**	**233**	P	Pg	11 11 01.3	-1.3
KAMA				S	Sb	11 11 14.6	+0.1
KAMA				*i* AML	AML	11 11 16.0	
	comp=E,8.6nm,0.2s						
KAMA				*i* AML	AML	11 11 17.0	
	comp=N,6.0nm,0.2s						

TIF ***07*** *11:14:37.5, 42°.48N×43°.58E, h8km±1km*
NORS ***07*** *11:14:37.2, 42°.42N×43°.52E, h2km, MPVA4.0*
AFAD ***07*** *11:14:38.5±0.0, 42°.52N×43°.37E, h11km±1km, ML2.5*
ISC 07 11:14:37.9±1.0,**42°.46N**±0°.02×**43°.55E**±0°.02,**h7**km±9km,
n32,σ0°.95/64,**Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALIG	**Mtskhetisjvari**	**0.36**	**168**	P	Pg	**11 14 45.7**	**+0.7**
ALIG				S	Sg	**11 14 51.4**	**+1.8**
TKB	**Tkibuli**	**0.42**	**256**	P	Pb	**11 14 47.1**	**-0.7**
TKB				S	Sb	**11 14 54.4**	**0.0**
DIGR	**Digorskoe uzhe**	**0.45**	**3**	*i* Pg	Pg	**11 14 46.2**	**-0.4**
DIGR				*e*Sg	Sg	**11 14 52.6**	**+0.1**
LACR	**Lac**	**0.67**	**56**	*e*Pg	Pg	**11 14 50.2**	**-0.6**
LACR				*e*Sg	Sg	**11 14 59.0**	**-0.5**
GUDG	**Gudauri**	**0.69**	**89**	*e*Pg	Pg	**11 14 51.0**	**-0.2**
GUDG				*e*Sg	Sg	**11 15 01.1**	**+0.9**
KORR	**Kora**	**0.74**	**31**	*e*Pg	Pg	**11 14 52.0**	**-0.1**
KORR				*e*Sg	Sb	**11 15 03.3**	**-0.1**
MTEO	**Meteo**	**0.76**	**73**	P	Pg	**11 14 52.0**	**-0.7**
MTEO				S	Sg	**11 15 03.1**	**+0.5**
ARNR	**Ardon**	**0.90**	**37**	*e*Pg	Pn	**11 14 57.1**	**+0.1**
ARNR				*e*Sg	Sn	**11 15 10.6**	**+0.2**
STDR	**Stavd-Durt**	**0.99**	**22**	*i* Pg	Pn	**11 14 58.0**	**-0.2**
STDR				*e*Sg	Sn	**11 15 12.6**	**+0.1**
TRLG	**Trialeti**	**1.00**	**156**	P	Pb	**11 14 57.8**	**+0.1**
TRLG				S	Sn	**11 15 12.6**	**-0.4**
VLKR	**Vladikavkaz**	**1.02**	**54**	*e*Pg	Pb	**11 14 57.7**	**-0.2**
VLKR				*e*Sg	Sn	**11 15 13.1**	**-0.2**
CHRG	**Chargali**	**1.03**	**97**	P	Pg	**11 14 57.1**	**-0.5**
CHRG				S	Sg	**11 15 10.6**	**-0.4**
NCK	**Nalchik**	**1.04**	**2**	*e*Pg	Pn	**11 14 58.4**	**-0.6**
NCK				*e*Sg	Sn	**11 15 13.8**	**+0.1**
AKH	**Akhalkalaki**	**1.04**	**182**	P	Pb	**11 14 58.6**	**+0.2**
AKH				S	Sn	**11 15 14.1**	**0.0**
EPOS	**Posof**	**1.13**	**213**	P	Pn	**11 15 00.1**	**-0.2**
EPOS				S	Sn	**11 15 16.1**	**0.0**
EPOS				*i* AML	AML	11 15 27.0	
	comp=E,73nm,0.5s						
EPOS				*i* AML	AML	11 15 28.0	
	comp=N,82nm,0.5s						
GHRG	**Ghorjomi**	**1.15**	**232**	P	Pn	**11 15 00.5**	**-0.2**
GHRG				S	Sn	**11 15 18.1**	**+1.4**
SHTL	**Shatili**	**1.20**	**80**	P	Pb	**11 15 00.1**	**-0.9**
SHTL				S	Sn	**11 15 20.2**	**+2.3**
KBTC	**Kuba-Taba**	**1.36**	**356**	*e*Pg	Pg	**11 15 05.1**	**+1.0**
KBTC				*e*Sg	Sn	**11 15 24.9**	**+3.1**
SHA1	**Shidzhatmaz**	**1.44**	**333**	*e*Pg	Pg	**11 15 05.8**	**+0.2**
SHA1				*e*Sg	Sg	**11 15 25.1**	**+0.9**
AHAN	**Ardahan-Merkez**	**1.46**	**208**	P	Pg	**11 15 06.0**	**0.0**
AHAN				S	Sg	**11 15 27.5**	**+2.6**
AHAN				*i* AML	AML	11 15 28.0	
	comp=E,461nm,0.7s						
AHAN				*i* AML	AML	11 15 29.0	
	comp=N,182nm,0.7s						
BATM	**Batumi**	**1.62**	**239**	P	Pg	**11 15 08.0**	**-1.0**
BATM				S	Sg	**11 15 31.0**	**+1.0**
GOLE	**Ardahan-G¶le**	**1.77**	**204**	P	Pg	**11 15 11.8**	**0.0**
GOLE				S	Sg	**11 15 34.6**	**-0.1**
GOLE				*i* AML	AML	11 15 37.0	
	comp=E,50nm,0.4s						
GOLE				*i* AML	AML	11 15 45.0	
	comp=N,64nm,0.8s						
DBOC	**Borcka**	**1.79**	**232**	P	Pb	**11 15 10.8**	**-0.3**
DBOC				S	Sg	**11 15 35.3**	**-0.1**
DBOC				*i* AML	AML	11 15 39.0	
	comp=E,98nm,0.3s						
DAGI	**Agillar**	**1.84**	**222**	P	Pg	**11 15 12.6**	**-0.6**
DAGI				S	Sg	**11 15 37.8**	**+0.7**
DAGI				*i* AML	AML	11 15 40.0	
	comp=E,35nm,0.9s						
DAGI				*i* AML	AML	11 15 49.0	
	comp=N,29nm,0.8s						
BOZK	**Kars-Merkez-Bo**	**1.91**	**193**	P	Pb	**11 15 13.3**	**0.0**
BOZK				S	Sg	**11 15 41.4**	**+2.0**
BOZK				*i* AML	AML	11 15 45.0	
	comp=E,106nm,0.8s						
BOZK				*i* AML	AML	11 15 46.0	
	comp=N,41nm,0.6s						
DVE	**Vedeno**	**1.96**	**74**	*e*Pg	Pg	**11 15 14.8**	**-0.8**
DVE				*e*Sg	Sg	**11 15 40.5**	**-0.5**
DBAD	**Bademkaya**	**2.00**	**225**	P	Pb	**11 15 14.7**	**+0.1**
DBAD				S	Sg	**11 15 41.1**	**-1.0**
DBAD				*i* AML	AML	11 15 44.0	
	comp=E,140nm,0.7s						
DBAD				*i* AML	AML	11 15 46.0	
	comp=N,155nm,0.7s						
DDEM	**Demirkent**	**2.06**	**221**	P	Pg	**11 15 16.2**	**-1.2**
DDEM				S	Sg	**11 15 43.9**	**-0.3**
DDEM				*i* AML	AML	11 15 50.0	
	comp=N,179nm,0.4s						
DDEM				*i* AML	AML	11 15 52.0	
	comp=E,116nm,0.4s						
LGD	**Lagodekhi**	**2.10**	**106**	P	Pb	**11 15 15.9**	**-0.3**
LGD				S	Sb	**11 15 43.5**	**+1.0**
VSHL	**Vashlovani**	**2.46**	**119**	P	Pb	**11 15 21.6**	**-0.8**
VSHL				S	Sg	**11 15 58.2**	**+1.4**
EATA	**Eleskirt**	**2.71**	**197**	P	Pb	**11 15 25.1**	**-1.9**
EATA				S	Sg	**11 16 03.8**	**-1.2**
EATA				*i* AML	AML	11 16 04.0	
	comp=N,10nm,2.1s						
EATA				*i* AML	AML	11 16 15.0	
	comp=E,15nm,1.3s						
IZDR	**Rize**	**2.79**	**234**	P	Pn	**11 15 22.7**	**-0.3**
IZDR				S	Sb	**11 16 01.8**	**-0.8**
IZDR				*i* AML	AML	11 16 11.0	
	comp=N,14nm,0.6s						
IZDR				*i* AML	AML	11 16 16.0	
	comp=E,12nm,0.8s						

RISSC ***07*** *11:18:56.3, 41°.00N×15°.01E, h8km, ML3.0/7*
ROM ***07*** *11:18:56.8±0.1, 40°.982N±0°.005×15°.032E±0°.007,*
h10km, ML3.0/126, Error ellipse: s-maj=0.6km s-min=0.4km
az=59.0
ISC 07 11:18:56.9±0.8,**40°.99N**±0°.02×**15°.04E**±0°.02,**h17**km±5km,
n63,σ0°.63/74,**12C**,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTMR	**Montemarano**	**0.07**	**203**	AML	AML		
	comp=N,19050μm,0.5s						
MTMR				AML	AML		
	comp=E,19150μm,1.0s						
MTMR				AML	AML		
	comp=E,19150μm,1.0s						
MTMR				AML	AML		
	comp=N,19000μm,0.5s						
RSF3	**Rocca San Feli**	**0.10**	**102**	⇑*i*P	Pg	**11 18 59.8**	**-0.7**
RSF3				*i* S	Sg	**11 19 02.4**	**-0.5**
RSF3	**Rocca San Feli**	**0.10**	**102**	P	Pg	**11 18 59.8**	**-0.7**
RSF3				S	Sg	**11 19 02.4**	**-0.5**
LIO3	**Lioni**	**0.14**	**130**	*i* P	Pg	**11 19 00.6**	**-0.3**
LIO3	**Lioni**	**0.14**	**130**	⇑P	Pg	**11 19 00.6**	**-0.3**
LIO3				S	Sg	**11 19 03.8**	**+0.3**
SNAL	**S. Angelo Dei**	**0.14**	**115**	⇑P	Pg	**11 19 00.6**	**-0.4**
SNAL				S	Sg	**11 19 03.9**	**+0.2**
SNAL				AML	AML		
	comp=E,13600μm,0.7s						
SNAL				AML	AML		
	comp=N,12150μm,0.7s						
SNAL				AML	AML		
	comp=E,13550μm,0.7s						
SNAL				AML	AML		
	comp=N,11100μm,0.7s						
SNAL				AML	AML		
	comp=E,13500μm,0.7s						
SNAL				AML	AML		
	comp=E,13150μm,0.6s						
SNAL				AML	AML		
	comp=E,13200μm,0.6s						
SNAL				AML	AML		
	comp=N,12150μm,1.3s						
MRB1	**Monte Rocchett**	**0.15**	**340**	⇑P	Pg	**11 19 00.5**	**-0.6**
MRB1				S	Sg	**11 19 03.5**	**-0.3**
MRB1				AML	AML		
	comp=N,20400μm,0.6s						
MRB1				AML	AML		
	comp=E,19000μm,0.7s						
MRB1				AML	AML		
	comp=E,18750μm,0.7s						
MRB1				AML	AML		
	comp=N,21400μm,0.6s						
MRB1				AML	AML		
	comp=N,20400μm,0.6s						
CAFE	**Carife**	**0.15**	**74**	⇑P	Pg	**11 19 00.6**	**-0.6**
CAFE				S	Sg	**11 19 04.0**	**0.0**
CAFE				AML	AML		
	comp=N,20100μm,0.6s						
CAFE				AML	AML		
	comp=E,25550μm,0.5s						
CAFE				AML	AML		
	comp=N,20700μm,0.6s						
CAFE				AML	AML		
	comp=E,25100μm,0.5s						
BIOG	**Biogem**	**0.23**	**18**	⇑P	Pb	**11 19 02.4**	**-0.2**
BIOG				S	Sg	**11 19 07.5**	**+1.8**
MCRV	**Calabrutti - M**	**0.23**	**154**	⇑P	Pg	**11 19 01.9**	**-0.3**
MCRV				S	Sg	**11 19 06.3**	**+0.6**
AND3	**Andretta**	**0.23**	**104**	*i* P	Pg	**11 19 02.1**	**-0.1**
AND3				*i* S	Sg	**11 19 06.8**	**+0.9**
AND3	**Andretta**	**0.23**	**104**	⇑P	Pg	**11 19 02.1**	**-0.1**
AND3				S	Sg	**11 19 06.9**	**+1.1**
SNR3	**Senerchia**	**0.28**	**155**	*i* P	Pg	**11 19 03.0**	**+0.1**
SNR3	**Senerchia**	**0.28**	**155**	P	Pg	**11 19 03.0**	**+0.1**
SGTA	**Sant Agata di**	**0.29**	**59**	⇑P	Pg	**11 19 02.9**	**-0.2**
SGTA				S	Sb	**11 19 08.8**	**+0.5**
SGTA				AML	AML		
	comp=N,3900μm,0.6s						
SGTA				AML	AML		
	comp=E,4015μm,1.0s						
SGTA				AML	AML		
	comp=N,3815μm,0.6s						
SGTA				AML	AML		
	comp=N,3905μm,0.6s						
SGTA				AML	AML		
	comp=N,3815μm,0.6s						
SGTA				AML	AML		
	comp=E,4160μm,1.0s						
SGTA				AML	AML		
	comp=N,3905μm,1.4s						
SGTA				AML	AML		
	comp=N,3815μm,1.4s						
PSB1	**Pescosannita**	**0.29**	**324**	P	Pg	**11 19 02.8**	**-0.5**
PSB1				S	Sg	**11 19 07.8**	**+0.2**
PAOL	**Paolisi**	**0.36**	**277**	P	Pg	**11 19 04.2**	**-0.2**
PAOL				AML	AML		
	comp=E,1410μm,0.5s						
PAOL				AML	AML		
	comp=N,1915μm,0.7s						
PAOL				AML	AML		
	comp=E,1410μm,0.5s						
PAOL				AML	AML		
	comp=N,1910μm,0.7s						
PAOL				AML	AML		
	comp=E,1440μm,0.5s						
PAOL				AML	AML		
	comp=N,1825μm,0.7s						
PAOL				AML	AML		
	comp=E,1405μm,0.5s						
PAOL				AML	AML		
	comp=N,1825μm,1.3s						
PAOL				AML	AML		
	comp=N,1910μm,1.3s						
VITU	**Vitulano (BN)**	**0.37**	**303**	⇑P	Pg	**11 19 03.7**	**-0.8**
VITU				AML	AML		
	comp=E,810μm,0.3s						
VITU				AML	AML		
	comp=E,1077μm,0.6s						
VITU				AML	AML		
	comp=E,2410μm,0.4s						
VITU				AML	AML		
	comp=E,1074μm,0.6s						
VITU				AML	AML		
	comp=N,2370μm,1.4s						
VITU				AML	AML		
	comp=N,2335μm,1.4s						
VITU				AML	AML		
	comp=E,2410μm,1.6s						
VITU				AML	AML		
	comp=E,1074μm,1.4s						
COL3	**Colliano**	**0.37**	**143**	*i* P	Pg	**11 19 04.2**	**-0.4**
RDM3	**Ruvo Del Monte**	**0.39**	**106**	*i* P	Pb	**11 19 05.3**	**-0.1**
MOCO	**Biccari - m.te**	**0.39**	**13**	⇑P	Pg	**11 19 04.9**	**-0.2**
MOCO				S	Sb	**11 19 11.8**	**+0.4**
MOCO				AML	AML		
	comp=N,775μm,0.5s						
MOCO				AML	AML		
	comp=E,1755μm,0.5s						
MOCO				AML	AML		
	comp=E,1790μm,0.5s						
MOCO				AML	AML		
	comp=N,734μm,0.5s						
MOCO				AML	AML		
	comp=E,1755μm,1.5s						
MOCO				AML	AML		
	comp=E,1790μm,1.5s						
SCL3	**Muro Lucano (S**	**0.46**	**129**	*i* P	Pg	**11 19 05.9**	**-0.3**
SCL3	**Muro Lucano (S**	**0.46**	**129**	P	Pg	**11 19 05.9**	**-0.3**
SACR	**S. Croce Del S**	**0.48**	**329**	P	Pg	**11 19 05.9**	**-0.7**
SACR				S	Sb	**11 19 14.3**	**+0.5**
SACR				AML	AML		
	comp=E,594μm,0.7s						
SACR				AML	AML		
	comp=E,582μm,1.0s						
SACR				AML	AML		
	comp=E,595μm,0.7s						
SACR				AML	AML		
	comp=E,582μm,1.0s						
SACR				AML	AML		
	comp=E,595μm,1.3s						
SACR				AML	AML		
	comp=N,708μm,0.7s						
SACR				AML	AML		
	comp=N,698μm,0.8s						
VBKN	**Vesuvio Bunker**	**0.49**	**252**	P	Pn	**11 19 08.7**	**-0.5**
VBKN				AML	AML		
	comp=N,5410μm,1.2s						
VBKN				AML	AML		
	comp=E,6635μm,0.5s						
VBKN				AML	AML		
	comp=N,5410μm,0.8s						
VVDG	**Vesuvio Valle**	**0.49**	**252**	P	Pb	**11 19 07.6**	**+0.5**
CRTO	**Cratere Ovest,**	**0.50**	**251**	P	Pb	**11 19 07.1**	**-0.2**
CRTO				AML	AML		
	comp=E,12320μm,1.2s						
CRTO				AML	AML		
	comp=E,15050μm,0.5s						
CRTO				AML	AML		
	comp=N,5220μm,0.7s						
CRTO				AML	AML		
	comp=E,15050μm,1.5s						
VTIR	**Vesuvio Tirone**	**0.50**	**249**	P	Pb	**11 19 07.1**	**-0.2**
VTIR				AML	AML		
	comp=E,2140μm,0.5s						
VTIR				AML	AML		
	comp=N,1820μm,0.4s						
CDRU	**Civita di Ruta**	**0.54**	**158**	⇑P	Pg	**11 19 06.8**	**-0.8**
CDRU				AML	AML		
	comp=E,1295μm,0.4s						
CDRU				AML	AML		
	comp=N,1395μm,0.4s						
CDRU				AML	AML		
	comp=N,1395μm,1.6s						
GATE	**Gambatesa**	**0.54**	**350**	P	Pb	**11 19 08.0**	**+0.1**
SRN3	**Sant'Arsenio**	**0.59**	**147**	P	Pg	**11 19 08.0**	**-0.6**
SGG	**Gregorio Mates**	**0.64**	**309**	P	Pg	**11 19 09.4**	**-0.2**
SGG				AML	AML		
	comp=E,4.5nm,0.5s						
SGG				AML	AML		
	comp=N,3.5nm,1.1s						
SGG				AML	AML		
	comp=N,1018μm,0.9s						
SGG				AML	AML		
	comp=E,1430μm,0.5s						
SGG				AML	AML		
	comp=N,3.5nm,0.9s						
BSSO	**Busso**	**0.65**	**329**	P	Pg	**11 19 08.9**	**-0.8**
BSSO				AML	AML		
BSSO				AML	AML		
	comp=E,234μm,0.6s						
BSSO				AML	AML		
	comp=N,268μm,0.8s						
BSSO				AML	AML		
BSSO				AML	AML		
BSSO				AML	AML		
	comp=N,268μm,1.2s						
CIGN	**Sant'Elia a Pi**	**0.68**	**351**	P	Pg	**11 19 09.5**	**-0.7**
CIGN				AML	AML		
	comp=N,492μm,0.6s						
CIGN				AML	AML		
	comp=E,467μm,0.4s						
CIGN				AML	AML		

	comp=N,492μm,1.4s					
PIGN	**Pignataro Magg**	**0.68 289**	P	**Pg**	**11 19 10.2 -0.2**	
PIGN			AML	AML		
	comp=N,1068μm,1.0s					
PIGN			AML	AML		
	comp=N,1305μm,1.0s					
PIGN			AML	AML		
	comp=E,1625μm,0.9s					
PIGN			AML	AML		
	comp=E,1455μm,0.9s					
PIGN			AML	AML		
	comp=N,1145μm,0.4s					
CMPR	**Campora**	**0.70 163**	P	**Pg**	**11 19 09.5 -1.1**	
CMPR			AML	AML		
	comp=N,1220μm,0.4s					
CMPR			AML	AML		
	comp=E,1950μm,0.4s					
PALZ	**Palazzo San Ge**	**0.70 93**	P	**Pg**	**11 19 10.2 -0.3**	
PALZ			AML	AML		
	comp=N,1505μm,0.7s					
PALZ			AML	AML		
	comp=E,2335μm,1.6s					
PALZ			AML	AML		
	comp=E,2335μm,0.4s					
ACER	**Acerenza**	**0.71 106**	P	**Pg**	**11 19 10.0 -0.8**	
ACER			AML	AML		
	comp=N,3060μm,0.6s					
ACER			AML	AML		
	comp=E,2185μm,0.6s					
ACER			AML	AML		
	comp=N,3195μm,0.6s					
ACER			AML	AML		
	comp=E,2185μm,1.4s					
ACER			AML	AML		
	comp=E,2125μm,0.5s					
ACER			AML	AML		
	comp=N,3195μm,1.4s					
ACER			AML	AML		
	comp=N,3060μm,1.4s					
MELA	**Melanico ??? S**	**0.72 5**	P	**Pg**	**11 19 09.9 -1.2**	
MELA			AML	AML		
	comp=N,1275μm,0.7s					
MELA			AML	AML		
	comp=E,1245μm,1.0s					
MELA			AML	AML		
	comp=N,1276μm,0.7s					
MELA			AML	AML		
	comp=E,1240μm,1.0s					
MELA			AML	AML		
	comp=E,1245μm,1.0s					
MELA			AML	AML		
	comp=E,1240μm,1.0s					
MELA			AML	AML		
	comp=N,1293μm,0.6s					
CFMN	**Campi Flegrei**	**0.74 258**	AML	AML		
	comp=N,1805μm,1.3s					
CFMN			AML	AML		
	comp=N,1805μm,0.7s					
CFMN			AML	AML		
	comp=E,2090μm,0.8s					
VAGA	**Valle Agricola**	**0.74 305**	P	**Pb**	**11 19 11.9 +0.4**	
VAGA			AML	AML		
	comp=E,770μm,0.7s					
VAGA			AML	AML		
	comp=E,778μm,0.7s					
VAGA			AML	AML		
	comp=N,1290μm,0.6s					
VAGA			AML	AML		
	comp=N,1260μm,0.6s					
VAGA			AML	AML		
	comp=E,769μm,0.7s					
SLCN	**Sala Consilina**	**0.75 143**	P	**Pg**	**11 19 11.2 -0.3**	
SLCN			AML	AML		
	comp=E,1840μm,0.4s					
SLCN			AML	AML		
	comp=N,1225μm,0.4s					
SLCN			AML	AML		
	comp=E,1845μm,0.4s					
SLCN			AML	AML		
	comp=N,1091μm,0.4s					
SLCN			AML	AML		
	comp=E,2035μm,0.4s					
SLCN			AML	AML		
	comp=N,1225μm,1.6s					
SLCN			AML	AML		
	comp=N,1091μm,1.6s					
APRC	**Apricena**	**0.86 26**	P	**Pg**	**11 19 12.8 -0.8**	
APRC			S	**Sb**	**11 19 25.4 +0.7**	
APRC			AML	AML		
	comp=E,1345μm,0.3s					
APRC			AML	AML		
	comp=N,1210μm,0.4s					
APRC			AML	AML		
	comp=N,1210μm,1.6s					
TRIV	**Trivento**	**0.86 335**	P	**Pg**	**11 19 12.6 -1.1**	
TRIV			AML	AML		
	comp=N,1445μm,0.5s					
TRIV			AML	AML		
	comp=E,969μm,0.5s					
TRIV			AML	AML		
	comp=N,1385μm,0.5s					
TRIV			AML	AML		
	comp=E,996μm,0.5s					
MRVN	**Minervino Murg**	**0.88 85**	P	**Pg**	**11 19 12.5 -1.5**	
MRVN			S	**Sb**	**11 19 26.4 +1.2**	
MRVN			AML	AML		
	comp=E,892μm,0.5s					
MRVN			AML	AML		
	comp=N,786μm,0.4s					
MODR	**Mondragone**	**0.89 281**	P	**Pb**	**11 19 14.3 +0.3**	
MODR			AML	AML		
	comp=E,738μm,1.5s					
MODR			AML	AML		
	comp=N,1940μm,0.9s					
MODR			AML	AML		
	comp=E,738μm,0.5s					
MTSN	**Montesano sull**	**0.90 143**	P	**Pg**	**11 19 13.7 -0.7**	
MTSN			AML	AML		
	comp=E,871μm,0.5s					
MTSN			AML	AML		
	comp=N,920μm,0.4s					
MGR	**Morigerati**	**0.93 155**	P	**Pg**	**11 19 14.3 -0.7**	
MGR			AML	AML		
	comp=E,1164μm,1.4s					
MGR			AML	AML		
	comp=E,673μm,0.4s					
MGR			AML	AML		
	comp=N,847μm,1.4s					
MGR			AML	AML		
	comp=E,673μm,1.6s					
MGR			AML	AML		
	comp=N,830μm,0.4s					
MGR			AML	AML		
	comp=E,1164μm,0.6s					
BULG	**Bulgheria - Ca**	**0.94 164**	P	**Pg**	**11 19 14.2 -1.0**	
BULG			AML	AML		
	comp=E,902μm,0.8s					
BULG			AML	AML		
	comp=N,1156μm,0.6s					
BULG			AML	AML		
	comp=N,1195μm,0.6s					
BULG			AML	AML		
	comp=E,902μm,0.8s					
BULG			AML	AML		
	comp=N,1195μm,1.4s					
BULG			AML	AML		
	comp=E,937μm,0.8s					
BULG			AML	AML		
	comp=N,1156μm,1.4s					
CERA	**Filignano**	**0.98 309**	P	**Pg**	**11 19 15.3 -0.7**	
CERA			AML	AML		
	comp=E,1070μm,0.6s					
CERA			AML	AML		
	comp=E,1036μm,0.6s					
CERA			AML	AML		
	comp=N,958μm,0.8s					
CERA			AML	AML		
	comp=N,928μm,0.8s					
SIRI	**Monte Sirino -**	**1.02 142**	P	**Pg**	**11 19 15.4 -1.3**	
SIRI			AML	AML		
	comp=E,642μm,0.3s					
SIRI			AML	AML		
	comp=N,736μm,0.7s					
SIRI			AML	AML		
	comp=N,732μm,0.7s					
SIRI			AML	AML		
	comp=E,650μm,0.3s					
SIRI			AML	AML		
	comp=E,642μm,1.7s					
MIGL	**Miglionico**	**1.13 109**	P	**Pb**	**11 19 17.8 -0.2**	
MIGL			AML	AML		
	comp=N,1420μm,1.1s					
MIGL			AML	AML		
	comp=E,1080μm,0.6s					
CUC	**Castrocucco**	**1.16 149**	P	**Pb**	**11 19 18.8 +0.4**	
CUC			AML	AML		
	comp=N,384μm,0.9s					
CUC			AML	AML		
	comp=E,466μm,0.9s					
CUC			AML	AML		
	comp=N,384μm,1.1s					
CUC			AML	AML		
	comp=E,466μm,1.1s					
CUC			AML	AML		
	comp=E,374μm,0.7s					
CUC			AML	AML		
	comp=N,494μm,0.6s					
AMUR	**Altamura**	**1.19 93**	P	**Pg**	**11 19 19.8 0.0**	
POFI	**Posta Fibreno**	**1.24 307**	P	**Pn**	**11 19 19.3 -0.2**	
POFI			AML	AML		
	comp=N,190μm,0.9s					
POFI			AML	AML		
	comp=N,190μm,1.1s					
POFI			AML	AML		
	comp=E,250μm,1.0s					
LPEL	**Lama dei Pelig**	**1.24 329**	P	**Pg**	**11 19 20.9 +0.1**	
LPEL			AML	AML		
	comp=E,426μm,1.1s					
LPEL			AML	AML		
	comp=N,316μm,0.9s					
LPEL			AML	AML		
	comp=N,316μm,1.1s					
LPEL			AML	AML		
	comp=E,426μm,0.9s					
LRP	**Arpino**	**1.28 302**	P	**Pn**	**11 19 19.9 -0.1**	
LRP			AML	AML		
	comp=N,242μm,0.8s					
LRP			AML	AML		
	comp=N,242μm,1.2s					
LRP			AML	AML		
	comp=E,238μm,0.6s					
INTR	**Introdacqua**	**1.33 321**	P	**Pb**	**11 19 21.8 +0.3**	
INTR			AML	AML		
	comp=N,944μm,0.7s					
INTR			AML	AML		
	comp=N,1046μm,0.7s					
INTR			AML	AML		
	comp=N,944μm,1.3s					
INTR			AML	AML		
	comp=E,650μm,0.9s					
INTR			AML	AML		
	comp=E,393μm,0.9s					
INTR			AML	AML		
	comp=N,1046μm,1.3s					
LTRZ	**Laterza**	**1.40 105**	P	**Pn**	**11 19 21.4 -0.3**	
LTRZ			AML	AML		
	comp=E,332μm,0.4s					
LTRZ			AML	AML		
	comp=N,167μm,1.6s					
LTRZ			AML	AML		
	comp=N,167μm,0.4s					
SALB	**San Lorenzo Be**	**1.49 138**	P	**Pg**	**11 19 25.1 -0.4**	
SALB			AML	AML		
	comp=E,216μm,0.7s					
SALB			AML	AML		
	comp=N,236μm,0.6s					
LNSS	**Leonessa**	**2.20 318**	AML	AML		
	comp=E,175μm,1.2s					
LNSS			AML	AML		
	comp=N,156μm,0.6s					
LNSS			AML	AML		
	comp=E,175μm,0.8s					
EL6	**Elcito**	**2.75 329**	AML	AML		
	comp=E,103μm,0.7s					
EL6			AML	AML		
	comp=N,115μm,1.0s					
EL6			AML	AML		
	comp=E,103μm,1.3s					
FOSV	**Fossato di Vic**	**2.86 324**	AML	AML		
	comp=E,40μm,1.1s					
FOSV			AML	AML		
	comp=E,40μm,0.9s					
FOSV			AML	AML		
	comp=N,48μm,0.7s					
FOSV			AML	AML		
	comp=N,48μm,1.3s					

ROM 07 11:19:11.5±0.1, 40°.986N±0°.004×15°.035E±0°.008, h10km, ML3.0/13, Error ellipse: s-maj=0.8km s-min=0.3km az=59.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTMR	**Montemarano**	**0.07**	**200**	AML	AML		
	comp=N,19050μm,0.5s						
MTMR				AML	AML		
	comp=E,19150μm,1.0s						
MTMR				AML	AML		
	comp=E,19150μm,1.0s						
MTMR				AML	AML		
	comp=N,19000μm,0.5s						
MTMR				AML	AML		
	comp=E,11552μm,0.4s						
MTMR				AML	AML		
	comp=N,22038μm,0.5s						
RSF3	**Rocca San Feli**	**0.11**	**101**	P	Pg	11 19 14.5	+0.1
RSF3				S	Sg	11 19 16.9	+0.6
LIO3	**Lioni**	**0.14**	**129**	P	Pg	11 19 15.2	+0.4
LIO3				S	Sg	11 19 18.5	+1.4
SNAL	**S. Angelo Dei**	**0.14**	**115**	P	Pg	11 19 15.2	+0.3
SNAL				S	Sg	11 19 18.4	+1.2
SNAL				AML	AML		
	comp=E,13600μm,0.7s						
SNAL				AML	AML		
	comp=N,11100μm,0.7s						
SNAL				AML	AML		
	comp=E,13500μm,0.7s						
SNAL				AML	AML		
	comp=E,13550μm,0.7s						
SNAL				AML	AML		
	comp=E,13200μm,0.6s						
SNAL				AML	AML		
	comp=E,13150μm,0.6s						
SNAL				AML	AML		
	comp=N,12150μm,0.7s						
SNAL				AML	AML		
	comp=N,12150μm,1.3s						
SNAL				AML	AML		
	comp=N,7168μm,0.7s						
SNAL				AML	AML		
	comp=E,7357μm,0.7s						
SNAL				AML	AML		
	comp=E,5581μm,0.4s						
SNAL				AML	AML		
	comp=N,7737μm,0.7s						
SNAL				AML	AML		
	comp=E,6114μm,0.2s						
SNAL				AML	AML		
	comp=E,5602μm,0.2s						
MRB1	**Monte Rocchett**	**0.15**	**341**	P	Pg	11 19 15.3	+0.4
MRB1				S	Sg	11 19 18.8	+1.5
MRB1				AML	AML		
	comp=E,18750μm,0.7s						
MRB1				AML	AML		
	comp=N,20400μm,0.6s						
MRB1				AML	AML		
	comp=N,21400μm,0.6s						
MRB1				AML	AML		
	comp=E,19000μm,0.7s						
MRB1				AML	AML		
	comp=N,20400μm,0.6s						
MRB1				AML	AML		
	comp=E,12643μm,1.4s						
MRB1				AML	AML		
	comp=N,15170μm,0.8s						
MRB1				AML	AML		
	comp=E,13001μm,1.3s						
MRB1				AML	AML		
	comp=E,14013μm,0.4s						
MRB1				AML	AML		
	comp=N,16501μm,0.5s						
MRB1				AML	AML		
	comp=N,19399μm,0.6s						
CAFE	**Carife**	**0.16**	**74**	P	Pg	11 19 15.2	+0.1
CAFE				S	Sg	11 19 18.6	+1.0
CAFE				AML	AML		
	comp=N,20100μm,0.6s						
CAFE				AML	AML		
	comp=N,20700μm,0.6s						
CAFE				AML	AML		
	comp=E,25550μm,0.5s						
CAFE				AML	AML		
	comp=E,25100μm,0.5s						
CAFE				AML	AML		
	comp=E,11583μm,0.6s						
BIOG	**Biogem**	**0.23**	**19**	P	Pb	11 19 17.3	-0.4
MCRV	**Calabrutti - M**	**0.23**	**154**	P	Pg	11 19 16.9	+0.6
MCRV				S	Sg	11 19 21.0	+1.5
AND3	**Andretta**	**0.23**	**104**	P	Pg	11 19 16.7	+0.4
SGTA	**Sant Agata di**	**0.29**	**59**	P	Pb	11 19 18.3	-0.6
SGTA				S	Sb	11 19 23.3	-0.5
SGTA				AML	AML		
	comp=N,3815μm,0.6s						
SGTA				AML	AML		
	comp=N,3900μm,0.6s						
SGTA				AML	AML		
	comp=N,3815μm,0.6s						
SGTA				AML	AML		
	comp=N,3905μm,0.6s						
SGTA				AML	AML		
	comp=E,4015μm,1.0s						
SGTA				AML	AML		
	comp=N,3905μm,1.4s						
SGTA				AML	AML		
	comp=N,3815μm,1.4s						
SGTA				AML	AML		
	comp=E,4160μm,1.0s						
SGTA				AML	AML		
	comp=N,4734μm,0.5s						
SGTA				AML	AML		
	comp=N,4801μm,0.5s						
SGTA				AML	AML		
	comp=E,5604μm,0.7s						
SGTA				AML	AML		
	comp=E,5445μm,0.7s						
PSB1	**Pescosannita**	**0.29**	**325**	P	Pg	11 19 17.9	+0.4
PSB1				S	Sg	11 19 22.5	+1.1
PAOL	**Paolisi**	**0.36**	**277**	P	Pb	11 19 19.5	-0.5
PAOL				AML	AML		
	comp=E,1410μm,0.5s						
PAOL				AML	AML		
	comp=N,1915μm,0.7s						
PAOL				AML	AML		
	comp=E,1410μm,0.5s						
PAOL				AML	AML		
	comp=N,1910μm,0.7s						
PAOL				AML	AML		
	comp=E,1405μm,0.5s						
PAOL				AML	AML		
	comp=E,1440μm,0.5s						
PAOL				AML	AML		
	comp=N,1825μm,0.7s						
PAOL				AML	AML		
	comp=N,1825μm,1.3s						
PAOL				AML	AML		
	comp=N,1910μm,1.3s						
VITU	**Vitulano (BN)**	**0.36**	**303**	P	Pb	11 19 20.0	-0.1
VITU				AML	AML		
	comp=E,810μm,0.3s						
VITU				AML	AML		
	comp=E,2410μm,0.4s						
VITU				AML	AML		
	comp=E,1077μm,0.6s						
VITU				AML	AML		
	comp=N,2335μm,1.4s						
VITU				AML	AML		
	comp=E,1074μm,0.6s						
VITU				AML	AML		
	comp=E,2410μm,1.6s						
VITU				AML	AML		
	comp=N,2370μm,1.4s						
VITU				AML	AML		
	comp=E,1074μm,1.4s						
MOCO	**Biccari - m.te**	**0.40**	**14**	P	Pg	11 19 19.6	+0.3
MOCO				S	Sb	11 19 25.8	-1.0
MOCO				AML	AML		
	comp=E,1790μm,0.5s						
MOCO				AML	AML		
	comp=E,1755μm,0.5s						
MOCO				AML	AML		
	comp=N,734μm,0.5s						
MOCO				AML	AML		
	comp=N,775μm,0.5s						
MOCO				AML	AML		
	comp=E,1755μm,1.5s						
MOCO				AML	AML		
	comp=E,1790μm,1.5s						
MOCO				AML	AML		
	comp=E,1793μm,0.5s						
MOCO				AML	AML		
	comp=E,1751μm,0.5s						
MOCO				AML	AML		
	comp=N,1019μm,0.8s						
MOCO				AML	AML		
	comp=N,980μm,0.8s						
SACR	**S. Croce Del S**	**0.48**	**329**	P	Pg	11 19 21.0	+0.1
SACR				AML	AML		
	comp=E,594μm,0.7s						
SACR				AML	AML		
	comp=E,595μm,0.7s						
SACR				AML	AML		
	comp=E,582μm,1.0s						
SACR				AML	AML		
	comp=E,582μm,1.0s						
SACR				AML	AML		
	comp=E,595μm,1.3s						
SACR				AML	AML		
	comp=N,698μm,0.8s						
SACR				AML	AML		
	comp=N,708μm,0.7s						

DJA 07 11:19:54.1±0.2, 8°S±6°×11°7E±°, h10km, M4.0/12, mb4.5/2, MLv3.8/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.87**	**116**	P	Pg	11 20 10.6	-0.3
PLAI				S	Sg	11 20 22.7	+0.4
DNP	**Denpasar**	**1.77**	**263**	P	Pn	11 20 25.5	+0.8
SRBI	**Singaraja**	**1.79**	**282**	P	Pn	11 20 24.4	-0.6
WBSI	**Waikabubak, Su**	**2.66**	**117**	P	Pn	11 20 37.8	+0.7
ABJI	**Asem Bagus**	**2.79**	**283**	P	Pn	11 20 40.6	+1.7
JAGI	**Jajag, Banyuwa**	**2.80**	**269**	P	Pn	11 20 38.3	-0.7
KMMI	**Kalianget**	**3.29**	**295**	P	Pn	11 20 47.8	+2.0
BLJI	**Banyuglugur**	**3.42**	**282**	P	Pn	11 20 48.2	+0.6
GMJI	**Gumukmas**	**3.50**	**273**	P	Pn	11 20 48.9	+0.2
BSSI	**Bau Bau, Buton**	**4.17**	**57**	P	Pn	11 20 57.6	-0.2
BSSI	**Bau Bau, Buton**	**4.17**	**57**	P	Pn	11 20 57.3	-0.5
BKSI	**Bulukumba**	**4.40**	**45**	P	Pn	11 20 59.9	-1.2
PCJI	**Pacitan**	**5.75**	**272**	P	Pn	11 21 18.6	-0.9
	50nm,1.5s						
UGM	**Wanagama**	**6.41**	**274**	P	Pn	11 21 29.5	+0.8

DJA 07 11:20:28.4±2.8, 3°S±21°×12°0E±°, h16km±7km, M2.8/5, MLv2.8/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.40**	**140**	P	Pb	11 20 37.6	+0.5
TTSI				S	Sb	11 20 44.5	+1.5
SPSI	**Sidrap Palu**	**1.23**	**170**	P	Pn	11 20 49.1	-1.9
BNSI	**Bone**	**1.74**	**162**	P	Pn	11 20 57.8	-0.1
BKSI	**Bulukumba**	**2.62**	**168**	P	Pn	11 21 11.6	+1.4

AUST 07 11:32:44.9±2.1, 25°S±11°×13°0E±°, h7km±14km, mb3.9/2, ML2.6/2, Error ellipse: s-maj=23.9km s-min=6.7km az=19.9, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRKA	**Warakurna**	**1.58**	**281**	P	Pn	11 33 12.8	-0.5
WRKA				S	Sn	11 33 34.1	+0.1
AS31	**Alice Springs**	**3.94**	**65**	P	Pn	11 33 43.5	-2.2
AS31	**Alice Springs**	**3.94**	**65**	S	Sn	11 34 29.4	-2.8
OOD	**Oodnadatta**	**5.64**	**117**	P	Pn	11 34 09.2	+0.1
	comp=Z,0.1nmcomp=Z,9.5nm,1.7s						
OOD	**Oodnadatta**	**5.64**	**117**	S	Sn	11 35 15.1	+1.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FORT	**Forest**	**5.67**	**197**	P	Pn	11 34 09.5	0.0
	comp=Z,0.1nmcomp=Z,21nm,0.9s						

*SOME **07** 11:32:46.5, 44.63N×82.02E, h15km*
*NNC **07** 11:32:48.2±1.9, 44.67N×81.96E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=18.5km s-min=9.3km az=125.0, Suspected Mining explosion.*
ISC 07 11:32:45.7±1.6, 44.64N±0.06×82.14E±0.08, h0km, n20, σ0.70/31, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.71**	**261**	P	Pg	11 33 18.4	0.0
	11nm,0.2s						
DJR				S	Sg	11 33 41.6	+1.1
	14nm,0.1s						
DJR	**Jarkent**	**1.71**	**261**	*e*P	Pn	11 33 17.1	+0.3
	11nm,0.2s						
DJR				*e*S	Sn	11 33 39.0	-0.5
	14nm,0.1s						
KAPS	**Kapalarasan**	**2.08**	**289**	Pg	Pb	11 33 24.1	-0.2
	5.0nm,0.1s						
KAPS				Lg	Lg	11 33 50.1	
	50nm,0.1s						
KAPS	**Kapalarasan**	**2.08**	**289**	*e*P	Pb	11 33 23.6	-0.8
	5.0nm,0.1s						
KAPS				*e*S	Sb	11 33 50.4	-0.3
	50nm,0.1s						
MK31	**Makanchi Array**	**2.16**	**3**	⇓Pn	Pb	11 33 25.6	-0.2
	2.4nm,0.3s,baz=185,slow=14,SNR=76						
MK31				⇑Sn	Sb	11 33 53.2	+0.1
	1.4nm,0.2s,baz=187,slow=29,SNR=9.8						
PDGK	**Podgornoye**	**2.31**	**237**	Pg	Pb	11 33 28.1	-0.3
	4.8nm,0.2s						
PDGK				Lg	Lg	11 33 58.1	
	8.0nm,0.7s						
PDGK	**Podgornoye**	**2.31**	**237**	⇓Pn	Pb	11 33 27.8	-0.6
	2.9nm,0.3s						
PDGK				⇑Sn	Sb	11 33 58.2	+0.5
	5.2nm,0.4s						
SHLS	**Shalkode**	**2.43**	**234**	Pg	Pn	11 33 27.2	+0.3
	17nm,0.2s						
SHLS				Lg	Lg	11 33 56.9	
	28nm,0.4s						
SHLS	**Shalkode**	**2.43**	**234**	*e*P	Pn	11 33 27.2	+0.3
	17nm,0.2s						
SHLS				*e*S	Sn	11 33 56.9	-0.5
	27nm,0.3s						
UZB	**Uzynbulak**	**2.70**	**238**	Pg	Pb	11 33 33.5	-1.5
	7.4nm,0.2s						
UZB				Lg	Lg	11 34 08.8	
	5.4nm,0.5s						
UZB	**Uzynbulak**	**2.70**	**238**	*e*P	Pb	11 33 34.1	-0.9
	7.8nm,0.3s						
UZB				*e*S	Sb	11 34 08.4	-0.3
	6.8nm,0.2s						
KPKS	**Kokpek**	**2.75**	**246**	Pg	Pb	11 33 35.4	-0.4
	14nm,0.2s						
KPKS				Lg	Lg	11 34 10.6	
	18nm,0.4s						
KPKS	**Kokpek**	**2.75**	**246**	*e*P	Pb	11 33 35.4	-0.4
	14nm,0.2s						
KPKS				*e*S	Sb	11 34 10.6	+0.4
	18nm,0.4s						
ARXS	**Arharly**	**3.12**	**264**	Pg	Pb	11 33 40.9	-1.2
	3.8nm,0.3s						
ARXS				Lg	Lg	11 34 20.0	
	14nm,0.5s						
ARXS	**Arharly**	**3.12**	**264**	*e*P	Pb	11 33 40.9	-1.2
	3.8nm,0.3s						
ARXS				*e*S	Sb	11 34 19.9	-0.7
	14nm,0.5s						
SATY	**Saty**	**3.12**	**241**	Pg	Pb	11 33 41.9	-0.3
	3.6nm,0.3s						
SATY				Lg	Lg	11 34 21.9	
	9.6nm,0.2s						
SATY	**Saty**	**3.12**	**241**	*e*P	Pb	11 33 41.9	-0.3
	3.6nm,0.3s						
SATY				*e*S	Sb	11 34 21.9	+1.0
	9.6nm,0.2s						
KTBS	**Karatobe**	**4.03**	**259**	Pg	Pb	11 33 57.3	-0.4
	1.1nm,0.3s						
KTBS				Lg	Lg	11 34 47.6	
	7.7nm,0.6s						
KTBS	**Karatobe**	**4.03**	**259**	*e*P	Pb	11 33 56.8	-0.8
	0.8nm,0.4s						
KTBS				*e*S	Sb	11 34 47.6	+0.6
	7.7nm,0.6s						
KRBS	**Karabastau**	**4.74**	**261**	Pg	Pb	11 34 10.7	+0.9
	1.2nm,0.3s						
KRBS				Lg	Lg	11 35 10.9	
	1.3nm,0.6s						

*IDC **07** 11:35:24.5±0.9, 48.07N×27.89W, h0km, mb4.0/18, mbtmp4.0/20, ML4.1/2, MS3.8/53, Error ellipse: s-maj=26.6km s-min=14.8km az=4.0*
*NEIC **07** 11:35:26.2±1.6, 48.1N±0.1×27.72W±0.05, h10km±1km, mb4.7/121, Error ellipse: s-maj=19.1km s-min=4.9km az=171.0*
ISC 07 11:35:26.0±0.5, 48.04N±0.10×27.80W±0.07, h10km, n164, σ0.70/82, mb4.6/84, MS3.8/53, 7D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**10.41**	**170**	Pn	Pn	11 37 55.3	+0.1
COI	**Coimbra**	**15.95**	**112**	Pn	Pn	11 39 10.1	-0.2
MTE	**Manteigas**	**16.38**	**110**	Pn	Pn	11 39 15.1	-0.8
MTE				IAmb	IAmb	11 39 29.8	
	comp=Z,51nm,1.3s						
ESK	**Eskdalemuir**	**16.84**	**55**	Pn	Pn	11 39 20.9	-0.7
EKA	**Eskdalemuir Ar**	**16.87**	**55**	Pn	P	11 39 23.9	-0.1
	baz=258,slow=13						
	comp=Z,6.7nm,0.9s						
BORG	**Borgarnes**	**17.11**	**9**	LR	LR	11 44 20.9	
	comp=Z,377nm,20.8s,baz=173,slow=31						
ESDC	**Sonseca Array**	**19.06**	**107**	P	Pn	11 39 50.4	+1.2
	comp=Z,0.4nm,0.3s,baz=303,slow=11,SNR=13						
ESDC				LR	LR	11 45 10.9	
	comp=Z,132nm,19.5s,baz=278,slow=31						
	comp=Z,3.8nm,0.8s						
UCC	**Uccle**	**21.02**	**70**	P	P	11 40 09.3	-0.2
DOU	**Dourbes**	**21.24**	**72**	*d*P	P	11 40 12.3	+0.4
	comp=Z,12nm,0.8s						
BMRD	**Maredsous**	**21.32**	**72**	*d*P	P	11 40 13.4	+0.6
	comp=Z,13nm,0.9s						
BGES	**Gesves**	**21.52**	**71**	*d*P	P	11 40 14.7	-0.2
	comp=Z,10nm,1.0s						
RCHB	**Rochefort**	**21.64**	**72**	*d*P	P	11 40 15.9	-0.2
	comp=Z,12nm,1.0s						
BCLA	**Clavier**	**21.65**	**71**	*d*P	P	11 40 17.0	+0.7
	comp=Z,9.3nm,1.0s						
BHOU	**Houvegnez**	**22.11**	**71**	*d*P	P	11 40 21.5	+0.3
	comp=Z,10nm,1.3s						
WLF	**Walferdange**	**22.30**	**73**	*d*P	P	11 40 24.3	+1.0
ECH	**Echery**	**23.22**	**76**	P	P	11 40 32.9	-0.1
SENIN	**Lac Senin/Sane**	**23.79**	**81**	P	P	11 40 38.8	-0.1
STU	**Stuttgart**	**24.42**	**74**	P	P	11 40 44.3	-0.2
STU				IAmb	IAmb	11 40 47.4	
	comp=Z,9.0nm,0.6s						
JMIC	**Jan Mayen**	**24.77**	**15**	LR	LR	11 47 44.6	
	comp=Z,136nm,20.6s,baz=227,slow=30						
TUE	**Stuetta**	**25.11**	**80**	P	P	11 40 51.0	0.0
TUE				IAmb	IAmb	11 40 56.7	
	comp=Z,12nm,1.1s						
DAVOX	**Davos/Dischmat**	**25.37**	**79**	LR	LR	11 50 10.1	
	comp=Z,247nm,18.7s,baz=265,slow=35						
NOA	**NORSAR Array B**	**25.65**	**45**	P	P	11 40 55.4	-0.1
	comp=Z,0.2nm,0.3s,baz=258,slow=10,SNR=3.4						
NOA				LR	LR	11 49 38.4	
	comp=Z,168nm,20.4s,baz=255,slow=33						
	comp=Z,0.2nm,0.3s						
RGN	**Rugen**	**26.22**	**60**	P	P	11 41 00.5	-0.2
CLL	**Collm**	**26.36**	**67**	P	P	11 41 01.6	-0.4
CLL	**Collm**	**26.36**	**67**	*e*P	P	11 41 03.0	+1.0
CLL				AMS	AMS	11 50 00.0	
	comp=Z,200nm,20.0s						
HFS	**Hagfors**	**26.69**	**48**	LR	LR	11 50 00.8	
	comp=Z,200nm,20.3s,baz=266,slow=33						
ZCCA	**Zocca**	**26.90**	**83**	P	P	11 41 05.7	-1.3
TEOL	**Teolo**	**27.00**	**81**	P	P	11 41 07.8	-0.1
TEOL				IAmb	IAmb	11 41 09.2	
	comp=Z,13nm,0.7s						
FRB	**Frobisher Bay**	**27.11**	**320**	LR	LR	11 49 04.6	
	comp=Z,125nm,18.0s,baz=114,slow=30						
GERES	**GERESS Array B**	**27.30**	**73**	P	P	11 41 11.2	+0.5
	comp=Z,0.5nm,0.3s,baz=250,slow=7.2,SNR=4.1						
GERES				LR	LR	11 51 12.4	
	comp=Z,321nm,19.6s,baz=272,slow=35						
	comp=Z,0.5nm,0.3s						
PRED	**Cave del Predi**	**27.89**	**78**	P	P	11 41 16.1	+0.2
VRAC	**Vranov**	**29.03**	**71**	LR	LR	11 52 27.7	
	comp=Z,254nm,20.1s,baz=283,slow=35						
KEST	**Kesra**	**29.98**	**100**	P	P	11 41 34.4	-0.2
	comp=Z,3.3nm,0.8s,baz=302,slow=7.9,SNR=3.8						
	comp=Z,3.3nm,0.8s						
VAE	**Valguarnera**	**32.37**	**93**	LR	LR	11 52 53.5	
	comp=Z,120nm,19.9s,baz=248,slow=32						
WBO	**Williamsburg**	**32.40**	**283**	P	P	11 41 55.9	+0.2
FINES	**FINESS Array B**	**32.83**	**46**	P	P	11 41 58.6	-0.7
	comp=Z,2.8nm,0.9s,baz=294,slow=7.5,SNR=4.8						
FINES				LR	LR	11 54 47.5	
	comp=Z,194nm,18.5s,baz=274,slow=35						
	comp=Z,2.8nm,0.9s						
ARCES	**ARCESS Array B**	**33.38**	**31**	P	P	11 42 03.5	-0.5
	comp=Z,4.9nm,1.0s,baz=257,slow=12,SNR=4.5						
ARCES				LR	LR	11 53 05.5	
	comp=Z,107nm,19.5s,baz=264,slow=32						
	comp=Z,4.9nm,1.0s						
BUR08	**Bucovina Ar. S**	**34.99**	**70**	P	P	11 42 18.8	+0.4
SADO	**Sadowa**	**35.02**	**284**	LR	LR	11 55 27.3	
	comp=Z,141nm,21.6s,baz=95,slow=34						
MLR	**Muntele Rosu**	**36.28**	**73**	LR	LR	11 57 41.0	
	comp=Z,154nm,19.8s,baz=288,slow=37						
KIEV	**Kiev**	**36.44**	**64**	P	P	11 42 30.3	-0.3
KIEV				IAmb	IAmb	11 42 31.6	
	comp=Z,9.0nm,1.0s						
AKASG	**Malin Array Be**	**36.45**	**64**	P	P	11 42 30.0	-0.6
	comp=Z,5.5nm,0.8s,baz=286,slow=8.6,SNR=14						
AKASG				LR	LR	11 57 45.3	
	comp=Z,298nm,19.0s,baz=270,slow=37						
	comp=Z,5.5nm,0.8s						
AKBB	**Malin Array Si**	**36.45**	**64**	P	P	11 42 30.1	-0.5
AKBB				IAmb	IAmb	11 42 31.6	
	comp=Z,10nm,1.0s						
OBN	**Obninsk**	**39.32**	**55**	LR	LR	11 58 32.4	
	comp=Z,216nm,19.8s,baz=359,slow=35						
TORD	**Torodi Ar. Bea**	**42.56**	**135**	P	P	11 43 21.4	-0.5
	comp=Z,1.2nm,0.8s,baz=340,slow=8.6,SNR=3.6						
TORD				LR	LR	12 00 00.6	
	comp=Z,72nm,18.1s,baz=336,slow=35						
	comp=Z,1.2nm,0.8s						
TKL	**Tuckaleechee C**	**42.60**	**274**	LR	LR	11 58 44.6	
	comp=Z,139nm,21.8s,baz=60,slow=33						
SJG	**San Juan**	**43.15**	**240**	LR	LR	11 57 23.8	
	comp=Z,115nm,21.8s,baz=46,slow=31						
BRTR	**Keskin Array B**	**44.00**	**77**	P	P	11 43 32.2	-1.3
BRTR	**Keskin Array B**	**44.00**	**77**	P	P	11 43 34.1	+0.5
	comp=Z,1.3nm,0.8s,baz=286,slow=6.3,SNR=4.6						
	comp=Z,1.3nm,0.8s						
DBIC	**Dimbokro**	**45.62**	**147**	LR	LR	12 01 33.1	
	comp=Z,106nm,18.2s,baz=333,slow=34						
ECSD	**EROS Data Cent**	**46.64**	**292**	P	P	11 43 55.4	+1.1
ECSD				IAmb	IAmb	11 43 55.6	
	comp=Z,8.3nm,1.1s						
A36M	**Sachs Harbour**	**47.35**	**335**	P	P	11 43 59.9	+0.5
ARPR	**Arapgir-MALATY**	**47.40**	**75**	P	P	11 44 02.0	+1.6
ARPR				IAmb	IAmb	11 44 07.4	
	comp=Z,8.2nm,1.0s						
MDP	**Montagnes des**	**47.77**	**214**	LR	LR	11 58 57.7	
	comp=Z,171nm,19.5s,baz=82,slow=30						
KBZ	**Khabaz**	**47.82**	**67**	P	P	11 44 04.2	+0.8
	comp=Z,2.8nm,0.9s,baz=316,slow=6.7,SNR=6.0						
KBZ				LR	LR	12 04 37.3	
	comp=Z,129nm,20.0s,baz=306,slow=37						
	comp=Z,2.8nm,0.9s						
PCRV	**Puerto La Cruz**	**48.78**	**232**	LR	LR	12 00 23.9	
	comp=Z,86nm,20.4s,slow=31						
MMAI	**Mount Meron Ar**	**48.99**	**84**	LR	LR	12 05 20.4	
	comp=Z,40nm,21.8s,baz=256,slow=37						
GNI	**Garni**	**50.92**	**70**	LR	LR	12 08 27.9	
	comp=Z,81nm,18.1s,baz=320,slow=39						
INK	**Inuvik**	**51.63**	**333**	P	P	11 44 32.3	+0.2
INK				IAmb	IAmb	11 44 39.0	
	comp=Z,9.4nm,1.1s						
F31M	**Tsiigehtchic**	**52.20**	**332**	P	P	11 44 36.6	+0.3
E29M	**Blow River**	**52.90**	**334**	IAmb	IAmb	11 44 49.0	
	comp=Z,9.4nm,1.1s						
AKTO	**Aktyubinsk**	**53.04**	**53**	LR	LR	12 07 07.8	
	comp=Z,143nm,18.8s,baz=205,slow=36						
SDV	**Santo Domingo**	**53.12**	**237**	LR	LR	12 03 57.5	
	comp=Z,42nm,21.8s,baz=50,slow=32						
D27M	**Malcolm River**	**53.23**	**336**	IAmb	IAmb	11 44 52.5	
	comp=Z,9.2nm,1.0s						
K22A	**Casper**	**53.32**	**296**	P	P	11 44 45.4	+0.1
K22A				IAmb	IAmb	11 44 52.2	
	comp=Z,9.2nm,1.1s						
RLMT	**Red Lodge**	**53.55**	**299**	IAmb	IAmb	11 44 53.9	
	comp=Z,10nm,1.3s						
EPYK	**Eagle Plains**	**53.78**	**332**	P	P	11 44 47.9	-0.2
YNE	**Yellowstone No**	**54.05**	**300**	IAmb	IAmb	11 44 57.8	
	comp=Z,7.2nm,1.0s						
E27K	**Coleen River**	**54.09**	**335**	IAmb	IAmb	11 44 58.4	
	comp=Z,6.7nm,1.0s						
RCBR	**Riachuelo**	**54.11**	**190**	LR	LR	12 01 49.0	
	comp=Z,14nm,21.2s,baz=42,slow=29						
I30M	**Mont Dempster**	**54.39**	**331**	IAmb	IAmb	11 45 00.1	
	comp=Z,6.1nm,0.9s						
H29M	**Whitestone**	**54.40**	**332**	IAmb	IAmb	11 44 60.0	
	comp=Z,12nm,1.1s						
RTBA	**Rita Blanca**	**54.61**	**287**	P	P	11 44 54.5	-0.2
RTBA				IAmb	IAmb	11 44 56.2	
	comp=Z,9.4nm,1.2s						
BOZ	**Bozeman (W)**	**54.65**	**301**	P	P	11 44 54.9	0.0
BOZ				IAmb	IAmb	11 45 02.1	
	comp=Z,5.3nm,0.9s						
WTLY	**Watson Lake, Y**	**54.71**	**323**	P	P	11 44 54.4	-0.6
WTLY				IAmb	IAmb	11 45 03.1	
	comp=Z,10.0nm,1.1s						
I29M	**Ogilvie Camp,**	**54.93**	**331**	IAmb	IAmb	11 45 04.0	
	comp=Z,8.1nm,1.0s						
PDAR	**Pinedale Array**	**55.08**	**297**	P	P	11 44 56.9	-1.3
	comp=Z,2.0nm,0.9s,baz=59,slow=7.1,SNR=14						
	comp=Z,2.0nm,0.9s						
BPMT	**Black Pine Rid**	**55.20**	**303**	P	P	11 44 58.4	-0.5
LOHW	**Long Hollow**	**55.20**	**299**	P	P	11 44 59.1	+0.2
MOOW	**Moose Ponds**	**55.20**	**299**	P	P	11 44 58.8	-0.3
MOOW				IAmb	IAmb	11 45 06.2	
	comp=Z,6.1nm,1.1s						
T25A	**Trinidad**	**55.26**	**289**	IAmb	IAmb	11 45 06.7	
	comp=Z,7.1nm,1.1s						
DLMT	**Dillon**	**55.34**	**301**	IAmb	IAmb	11 45 02.9	
	comp=Z,11nm,1.4s						
BRDY	**Brady**	**55.37**	**280**	P	P	11 44 59.6	-0.5
I28M	**Miner Creek**	**55.39**	**332**	IAmb	IAmb	11 45 01.1	
	comp=Z,12nm,1.3s						
FXWY	**Fox Creek**	**55.44**	**299**	P	P	11 45 00.1	-0.6
TEIG	**Tepich**	**55.57**	**262**	LR	LR	12 04 47.1	
	comp=Z,69nm,21.7s,baz=71,slow=32						
K29M	**Barlow Dome**	**55.65**	**330**	IAmb	IAmb	11 45 09.8	
	comp=Z,9.0nm,1.1s						
DAWY	**Dawson**	**56.13**	**330**	P	P	11 45 04.8	-0.4
DAWY				IAmb	IAmb	11 45 13.1	
	comp=Z,12nm,1.1s						
MSTX	**Muleshoe**	**56.15**	**285**	P	P	11 45 05.5	-0.3
MSTX				IAmb	IAmb	11 45 06.6	
	comp=Z,10nm,1.0s						
RDMU	**Red Mountain**	**56.39**	**295**	IAmb	IAmb	11 45 15.3	
	comp=Z,7.8nm,0.9s						
H10N2	**ASCENSION HYDR**	**56.86**	**164**	T	T	12 46 09.0	
	baz=350,slow=75,SNR=12						
H10N3	**ASCENSION HYDR**	**56.87**	**164**	T	T	12 46 09.8	
	baz=350,slow=75,SNR=14						
H10N1	**ASCENSION HYDR**	**56.88**	**164**	T	T	12 46 10.4	
	baz=350,slow=75,SNR=15						
M29M	**Somme Creek**	**56.89**	**329**	IAmb	IAmb	11 45 19.2	
	comp=Z,5.3nm,1.1s						
HWUT	**Hardware Ranch**	**56.97**	**297**	IAmb	IAmb	11 45 18.6	
	comp=Z,8.4nm,1.1s						
J25K	**Salcha River,**	**57.65**	**333**	IAmb	IAmb	11 45 24.0	
	comp=Z,9.6nm,1.0s						
SCRK	**Sand Creek**	**57.67**	**332**	IAmb	IAmb	11 45 24.4	
	comp=Z,9.1nm,1.0s						
BRVK	**Borovoye**	**57.71**	**45**	P	P	11 45 16.1	-0.4
P17A	**Butcher Ranch,**	**57.77**	**295**	IAmb	IAmb	11 45 24.9	
	comp=Z,12nm,1.4s						
BVAR	**Borovoye Array**	**57.78**	**45**	P	P	11 45 17.2	+0.3
	comp=Z,3.8nm,0.8s,baz=316,slow=6.2,SNR=14						
BVAR				LR	LR	12 09 29.8	
	comp=Z,178nm,19.4s,baz=308,slow=35						
	comp=Z,3.8nm,0.8s						
MVCO	**Mesa Verde**	**57.79**	**291**	P	P	11 45 17.7	+0.2
MVCO				IAmb	IAmb	11 45 26.6	
	comp=Z,8.9nm,1.3s						
SRU	**San Rafael Swe**	**57.86**	**294**	P	P	11 45 17.8	-0.1
POKR	**Poker Plat Res**	**57.90**	**334**	P	P	11 45 17.3	-0.3
ANMO	**Albuquerque**	**57.91**	**288**	P	P	11 45 17.6	-0.8
ANMO	**Albuquerque**	**57.91**	**288**	LR	LR	12 09 19.5	
	comp=Z,63nm,18.1s,baz=219,slow=35						
H10S3	**ASCENSION HYDR**	**57.93**	**165**	T	T	12 47 26.6	
	baz=350,slow=74,SNR=39						
H10S2	**ASCENSION HYDR**	**57.94**	**165**	T	T	12 47 29.8	
	baz=230,slow=74,SNR=58						
ILAR	**Eielson Array**	**57.99**	**334**	P	P	11 45 18.4	+0.2
	comp=Z,1.3nm,1.0s,baz=36,slow=5.2,SNR=7.7						
	comp=Z,1.3nm,1.0s						
TMUT	**Trail Mountain**	**58.16**	**295**	IAmb	IAmb	11 45 27.9	
	comp=Z,8.5nm,1.2s						
HDA	**Harding Lake**	**58.27**	**334**	IAmb	IAmb	11 45 28.1	
	comp=Z,7.7nm,0.9s						
Q16A	**Castle Valley**	**58.38**	**294**	IAmb	IAmb	11 45 29.2	
	comp=Z,12nm,1.4s						
ROSC	**El Rosal**	**58.51**	**238**	LR	LR	12 06 26.4	
	comp=Z,106nm,21.9s,baz=60,slow=32						
DUG	**Dugway, Tooele**	**58.58**	**297**	IAmb	IAmb	11 45 30.5	
	comp=Z,6.4nm,1.1s						
LTY	**Liberty**	**58.67**	**307**	IAmb	IAmb	11 45 29.7	
	comp=Z,6.1nm,1.1s						
HMU	**Henry Mountain**	**58.72**	**293**	IAmb	IAmb	11 45 31.6	
	comp=Z,7.8nm,1.2s						
MTPU	**Mount Pierson**	**59.55**	**294**	IAmb	IAmb	11 45 38.2	
	comp=Z,8.4nm,1.2s						
TXAR	**Lajitas Array**	**59.70**	**281**	P	P	11 45 30.4	-0.4
	comp=Z,0.6nm,0.7s,baz=58,slow=7.5,SNR=7.6						
	comp=Z,0.6nm,0.7s						
J08A	**Circle Bar Ran**	**59.90**	**303**	IAmb	IAmb	11 45 39.5	
	comp=Z,6.7nm,1.0s						
KTH	**Kantishna Hill**	**60.08**	**334**	P	P	11 45 32.9	0.0
SPR3	**Spring Creek 3**	**60.24**	**296**	P	P	11 45 34.5	-0.1
SPR3				IAmb	IAmb	11 45 43.9	
	comp=Z,5.2nm,1.2s						
PSUT	**Pine Spring**	**60.25**	**296**	P	P	11 45 33.8	-0.7
PSUT				IAmb	IAmb	11 45 42.4	
	comp=Z,6.1nm,1.0s						
WUAZ	**Wupatki**	**60.65**	**292**	IAmb	IAmb	11 45 45.3	
	comp=Z,8.4nm,1.2s						
JTS	**Las Juntas de**	**60.67**	**251**	LR	LR	12 08 25.1	
	comp=Z,49nm,20.2s,baz=68,slow=33						
PINE	**Pine Mountain**	**61.01**	**304**	IAmb	IAmb	11 45 47.8	
	comp=Z,6.1nm,1.0s						
PMR	**Palmer**	**61.03**	**332**	P	P	11 45 46.4	+7.2
BMN	**Battle Mountai**	**61.04**	**299**	IAmb	IAmb	11 45 48.2	
	comp=Z,5.7nm,1.0s						
PRN	**Pahroc Range**	**61.70**	**295**	IAmb	IAmb	11 45 52.4	
	comp=Z,5.1nm,1.1s						
CMIG	**Matias Romero**	**62.19**	**265**	LR	LR	12 10 21.8	
	comp=Z,100nm,21.0s,baz=32,slow=34						
V12A	**Nelson**	**62.67**	**294**	P	P	11 45 50.3	-0.5
V12A				IAmb	IAmb	11 45 58.5	
	comp=Z,5.8nm,1.2s						
TPNV	**Topopah Spring**	**62.72**	**296**	IAmb	IAmb	11 46 20.4	
	comp=Z,7.8nm,1.4s						
PAHR	**Pah Rah Range**	**62.77**	**300**	IAmb	IAmb	11 45 59.3	
	comp=Z,6.3nm,1.1s						
MZP	**Montezuma Peak**	**62.91**	**297**	IAmb	IAmb	11 45 60.0	
	comp=Z,3.6nm,1.0s						
NVAR	**Mina Array Bea**	**62.98**	**298**	P	P	11 45 52.9	0.0
	comp=Z,0.3nm,0.8s,baz=74,slow=7.6,SNR=2.2						
	comp=Z,0.3nm,0.8s						
WCT	**Wildcat Mounta**	**63.05**	**296**	IAmb	IAmb	11 46 00.6	
	comp=Z,4.1nm,1.1s						
GMN	**Gold Mountain**	**63.10**	**297**	IAmb	IAmb	11 46 01.3	
	comp=Z,3.7nm,1.0s						
KURK	**Kurchatov**	**63.15**	**43**	P	P	11 45 52.0	-1.6
KURK				IAmb	IAmb	11 45 55.9	
	comp=Z,3.7nm,0.8s						
KURBB	**Kurchatov Arra**	**63.17**	**43**	P	P	11 45 54.1	+0.3
	comp=Z,2.3nm,1.0s,baz=318,slow=6.9,SNR=11						
KURBB				LR	LR	12 13 35.7	
	comp=Z,100nm,18.6s,baz=166,slow=36						
	comp=Z,2.3nm,1.0s						
PNTR	**Pine Nut**	**63.31**	**299**	P	P	11 45 55.5	+0.4
ZALV	**Zalesovo Beam**	**63.55**	**38**	P	P	11 45 56.0	-0.2
	comp=Z,0.4nm,0.4s,baz=317,slow=7.9,SNR=2.0						
ZALV				LR	LR	12 14 19.2	
	comp=Z,115nm,19.1s,baz=320,slow=37						
	comp=Z,0.4nm,0.4s						
ISA	**Isabella, Lake**	**64.92**	**296**	IAmb	IAmb	11 46 13.9	
	comp=Z,7.7nm,1.1s						
PFO	**Pinyon Flats O**	**65.06**	**293**	LR	LR	12 13 20.3	
	comp=Z,66nm,18.2s,baz=46,slow=35						
BDFB	**Brasilia**	**65.92**	**201**	LR	LR	12 10 10.4	
	comp=Z,89nm,20.2s,baz=336,slow=32						
AAK	**Ala-Archa**	**66.74**	**52**	LR	LR	12 17 18.3	
	comp=Z,113nm,18.4s,baz=325,slow=38						
LPIG	**La Paz**	**67.60**	**281**	LR	LR	12 15 56.7	
	comp=Z,84nm,18.2s,baz=28,slow=36						
MKAR	**Makanchi Array**	**67.65**	**44**	P	P	11 46 23.3	+0.4
	comp=Z,1.6nm,1.0s,baz=316,slow=6.8,SNR=7.1						
MKAR				LR	LR	12 16 01.6	
	comp=Z,71nm,18.3s,baz=308,slow=36						
	comp=Z,1.6nm,1.0s						
UOSS	**Minazif**	**68.00**	**77**	P	P	11 46 25.0	-0.4
KSH	**Kashi**	**69.74**	**53**	P	P	11 46 39.6	+3.4
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SIV	**San Ignacio**	**70.33**	**214**	LR	LR	12 12 47.5	
	comp=Z,126nm,21.4s,baz=28,slow=32						
ATAH	**Atahualpa**	**70.65**	**234**	LR	LR	12 14 56.7	
	comp=Z,101nm,22.0s,baz=0.6,slow=34						
LPAZ	**La Paz**	**73.46**	**220**	LR	LR	12 15 11.4	
	comp=Z,91nm,20.7s,baz=18,slow=32						
NNA	**Nana**	**73.89**	**230**	LR	LR	12 17 03.6	
	comp=Z,53nm,21.8s,baz=346,slow=34						
SONM	**Songino Array**	**76.55**	**30**	P	P	11 47 16.6	+0.4
	comp=Z,1.2nm,1.1s,baz=357,slow=3.0,SNR=2.3						
SONM				LR	LR	12 22 22.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPR	**Espera**	**0.27**	**290**	Pg	**Pg**	**11 39 38.2**	**+2.4**
ESPR				Sg	**Sg**	**11 39 41.2**	**+1.8**
ESPR	**Espera**	**0.27**	**290**	⇑Pg	**Pg**	**11 39 38.2**	**+2.4**
ESPR				Sg	**Sg**	**11 39 39.8**	**+0.3**
ESPR				*i* Vmb_Lg		11 39 48.1	
EJIF	**Jimena Fronter**	**0.33**	**169**	Pg	**Pg**	**11 39 38.2**	**+1.3**
EJIF				Sg	**Sb**	**11 39 44.6**	**+1.0**
EXMOR	**Moron de la Fr**	**0.35**	**12**	Sg	**Sb**	**11 39 44.6**	**+0.1**
CEU	**Ceuta**	**0.89**	**171**	Pg	**Pb**	**11 39 49.5**	**+1.7**
SMIR	**Smir Dam**	**1.10**	**173**	P	**Pb**	**11 39 51.8**	**+0.4**
SMIR	**Smir Dam**	**1.10**	**173**	S	**Sb**	**11 40 06.0**	**+0.1**
EGOR	**Sierra Gorda,**	**1.20**	**73**	Pn	**Pg**	**11 39 54.6**	**+1.3**
EGOR				Sn	**Sg**	**11 40 10.2**	**+1.3**
EGOR	**Sierra Gorda,**	**1.20**	**73**	Pg	**Pb**	**11 39 53.4**	**+0.2**
EGOR				Sg	**Sb**	**11 40 09.8**	**+1.0**
EGOR				*i* Vmb_Lg		11 40 24.3	
ECAB	**El Cabril**	**1.30**	**4**	Pn	**Pn**	**11 39 55.5**	**+0.8**
ECAB	**El Cabril**	**1.30**	**4**	Pg	**Pn**	**11 39 55.4**	**+0.8**
ECAB				Sn	**Sb**	**11 40 10.5**	**-1.2**
ECAB				Sg	**Sn**	**11 40 12.8**	**+0.7**
ECAB				*i* Vmb_Lg		11 40 13.9	
EMIN	**Mina Concepcio**	**1.34**	**318**	Pn	**Pn**	**11 39 54.8**	**-0.4**
EMIN				Sn	**Sb**	**11 40 12.1**	**-0.6**
EMIN	**Mina Concepcio**	**1.34**	**318**	Pn	**Pn**	**11 39 54.7**	**-0.4**
EMIN				Pg	**Pb**	**11 39 56.1**	**+0.6**
EMIN				Sn	**Sb**	**11 40 12.7**	**0.0**
EMIN				Sg	**Sg**	**11 40 14.3**	**+0.8**
EMIN				*i* Vmb_Lg		11 40 15.9	
ELGU	**Los Guajares,**	**1.54**	**86**	Pn	**Pn**	**11 39 58.6**	**+0.7**
ELGU	**Los Guajares,**	**1.54**	**86**	Pn	**Pn**	**11 39 58.7**	**+0.7**
ELGU				Sn	**Sb**	**11 40 19.9**	**+1.3**
ELGU				*i* Vmb_Lg		11 40 27.6	
EADA	**Adamuz**	**1.59**	**29**	Pn	**Pn**	**11 39 58.6**	**-0.1**
EADA				Sn	**Sn**	**11 40 17.8**	**-1.4**
EADA	**Adamuz**	**1.59**	**29**	Pn	**Pn**	**11 39 58.5**	**-0.1**
EADA				Pg	**Pb**	**11 40 00.9**	**+1.0**
EADA				Sn	**Sn**	**11 40 18.1**	**-1.1**
EADA				Sg	**Sg**	**11 40 21.4**	**0.0**
EADA				*i* Vmb_Lg		11 40 24.4	
EGRO	**El Granado**	**1.72**	**297**	Pn	**Pn**	**11 40 00.1**	**-0.3**
EGRO				Sn	**Sn**	**11 40 21.0**	**-1.5**
EGRO				Sg	**Sg**	**11 40 25.5**	**-0.3**
EGRO				*i* Vmb_Lg		11 40 28.6	
EQTA	**Presa de Quent**	**1.74**	**75**	Sn	**Sn**	**11 40 22.4**	**-0.5**
EQTA				Pn	**Pn**	**11 40 01.3**	**+0.6**
EQUE	**Quentar**	**1.74**	**75**	Pg	**Pb**	**11 40 03.6**	**+1.2**
EQUE				Sg	**Sg**	**11 40 28.8**	**+2.5**
EQUE				*i* Vmb_Lg		11 40 36.5	
PBAR	**Barrancos**	**1.83**	**320**	*e*Pg	**Pn**	**11 40 01.6**	**-0.3**
PBAR	**Barrancos**	**1.83**	**320**	*e*Pg	**Pb**	**11 40 04.7**	**+0.7**
PBAR				*e*Sn	**Sn**	**11 40 23.0**	**-2.2**
PBAR				A	A	11 40 31.5	
	49nm,0.2s						
PBAR	**Barrancos**	**1.83**	**320**	Pn	**Pn**	**11 40 01.6**	**-0.3**
PBAR				Sn	**Sn**	**11 40 23.0**	**-2.2**
PVAQ	**Vaqueiros**	**1.85**	**290**	*e*Pn	**Pn**	**11 40 01.8**	**-0.3**
PVAQ	**Vaqueiros**	**1.85**	**290**	*e*Pg	**Pb**	**11 40 04.6**	**+0.4**
PVAQ				*e*Sg	**Sg**	**11 40 29.9**	**+0.1**
PVAQ				A	A	11 40 35.5	
	73nm,0.4s						
PVAQ	**Vaqueiros**	**1.85**	**290**	P	**Pn**	**11 40 01.9**	**-0.3**
PVAQ	**Vaqueiros**	**1.85**	**290**	S	**Sb**	**11 40 27.9**	**+0.5**
PBDV	**Barranco-do-Ve**	**1.97**	**284**	*e*Pn	**Pn**	**11 40 03.6**	**-0.2**
PBDV				*e*Sg	**Sg**	**11 40 34.3**	**+0.7**
PBDV				A	A	11 40 38.8	
	36nm,0.4s						
PALE	**Palemas**	**2.03**	**140**	P	**Pn**	**11 40 03.6**	**-1.1**
PALE	**Palemas**	**2.03**	**140**	S	**Sn**	**11 40 27.9**	**-2.2**
EBER	**Berja**	**2.13**	**86**	Pn	**Pn**	**11 40 07.3**	**+1.1**
EBER	**Berja**	**2.13**	**86**	Pg	**Pb**	**11 40 10.3**	**+1.1**
EBER				Sn	**Sn**	**11 40 34.6**	**+1.8**
EBER				*i* Vmb_Lg		11 40 51.2	
PCVE	**Castro Verde**	**2.17**	**294**	*e*Pn	**Pn**	**11 40 06.3**	**-0.2**
PCVE	**Castro Verde**	**2.17**	**294**	*e*Pg	**Pg**	**11 40 11.9**	**0.0**
PCVE				*e*Sg	**Sg**	**11 40 39.1**	**-0.9**
PCVE				A	A	11 40 53.6	
	40nm,0.4s						
PBEJ	**Beja**	**2.23**	**305**	*e*Pn	**Pn**	**11 40 07.3**	**-0.1**
PBEJ				*e*Sg	**Sg**	**11 40 42.6**	**+0.5**
PBEJ				A	A	11 40 48.5	
	23nm,0.6s						
EBAD	**Badajoz**	**2.29**	**330**	Pn	**Pn**	**11 40 08.0**	**-0.3**
EBAD				Sn	**Sn**	**11 40 34.5**	**-2.1**
EBAD	**Badajoz**	**2.29**	**330**	Pn	**Pn**	**11 40 07.9**	**-0.4**
EBAD				Sn	**Sn**	**11 40 35.0**	**-1.5**
EBAD				Sg	**Sb**	**11 40 42.3**	**+2.0**
EBAD				*i* Vmb_Lg		11 40 46.7	
MESJ	**Messejana**	**2.38**	**297⇓**	*e*Pn	**Pn**	**11 40 09.3**	**-0.2**
MESJ	**Messejana**	**2.38**	**297**	*e*Pg	**Pb**	**11 40 14.6**	**+1.2**
MESJ				*e*Sn	**Sn**	**11 40 37.5**	**-1.3**
MESJ				*e*Sg	**Sg**	**11 40 46.3**	**-0.6**
MESJ				A	A	11 40 56.6	
	32nm,0.2s						
MESJ	**Messejana**	**2.38**	**297**	*e*P	**Pn**	**11 40 09.3**	**-0.2**
MORF	**Marmelete**	**2.54**	**283**	*e*Pn	**Pn**	**11 40 12.9**	**+1.2**
MORF	**Marmelete**	**2.54**	**283**	*e*Pg	**Pg**	**11 40 18.6**	**-0.5**
MORF				*e*Sn	**Sn**	**11 40 41.9**	**-0.8**
MORF				*e*Sg	**Sg**	**11 40 50.6**	**-1.5**
MORF				A	A	11 40 55.5	
	27nm,0.2s						
GOG	**Mont Gurugu**	**2.58**	**126**	P	**Pn**	**11 40 11.4**	**-0.9**
GOG	**Mont Gurugu**	**2.58**	**126**	S	**Sn**	**11 40 41.7**	**-2.1**
EVO	**Evora**	**2.63**	**313**	*e*Pn	**Pn**	**11 40 12.9**	**+0.1**
EVO				*e*Sn	**Sn**	**11 40 42.8**	**-2.1**
EVO				*e*Sg	**Sb**	**11 40 52.5**	**+2.6**
EVO				A	A	11 41 01.6	
	22nm,0.2s						
EVO	**Evora**	**2.63**	**313**	Pn	**Pn**	**11 40 13.0**	**+0.1**
EVO				Sn	**Sn**	**11 40 42.7**	**-2.1**
EVO				Sg	**Sb**	**11 40 51.2**	**+1.2**
AKLM	**AKL**	**2.64**	**148**	P	Pn	11 40 09.6	-3.6
AKLM	**AKL**	**2.64**	**148**	S	**Sn**	**11 40 39.0**	**-6.3**
PESTR	**Estremoz**	**2.64**	**323**	*e*Pn	**Pn**	**11 40 13.2**	**+0.1**
PESTR	**Estremoz**	**2.64**	**323**	*e*Pg	**Pb**	**11 40 18.1**	**+0.3**
PESTR				*e*Sn	**Sn**	**11 40 43.0**	**-2.2**
PESTR				*e*Sg	**Sb**	**11 40 53.0**	**+2.7**
PESTR				A	A	11 41 00.6	
	28nm,0.5s						
PESTR	**Estremoz**	**2.64**	**323**	P	**Pn**	**11 40 14.4**	**+1.3**
PESTR	**Estremoz**	**2.64**	**323**	S	**Sb**	**11 40 48.3**	**-2.0**
PFVI	**Vila Bisbo**	**2.65**	**279**	*e*Pn	**Pn**	**11 40 13.2**	**0.0**
PFVI	**Vila Bisbo**	**2.65**	**279**	*e*Pg	**Pg**	**11 40 20.6**	**-0.6**
PFVI				*e*Sg	**Sg**	**11 40 56.6**	**+1.0**
PFVI				A	A	11 41 04.7	
	18nm,0.7s						
PFVI	**Vila Bisbo**	**2.65**	**279**	P	**Pn**	**11 40 13.6**	**+0.4**
PFVI	**Vila Bisbo**	**2.65**	**279**	S	**Sn**	**11 40 46.5**	**+1.0**
PTEO	**Sao Teotonio**	**2.65**	**288**	*e*Pn	**Pn**	**11 40 12.9**	**-0.3**
PTEO	**Sao Teotonio**	**2.65**	**288**	*e*Pg	**Pg**	**11 40 21.1**	**-0.1**
PTEO				*e*Sn	**Sn**	**11 40 45.9**	**+0.5**
PTEO				*e*Sg	**Sg**	**11 40 55.8**	**+0.2**
PTEO				A	A	11 41 13.5	
	22nm,0.6s						
PAB	**San Pablo**	**2.92**	**18**	Pn	**Pn**	**11 40 17.6**	**+0.6**
PAB				Sn	**Sn**	**11 40 50.8**	**-1.4**
PAB				Sg	**Sb**	**11 41 00.6**	**+2.2**
PAB				*i* Vmb_Lg		11 41 09.0	
CHAS	**Isla Isabel II**	**2.98**	**121**	Pn	**Pn**	**11 40 17.0**	**-0.7**
CHAS				Sn	**Sn**	**11 40 49.7**	**-3.8**
PMRV	**Marv??o**	**3.02**	**332**	*e*Pn	**Pn**	**11 40 18.1**	**-0.2**
PMRV	**Marv??o**	**3.02**	**332**	*e*Pg	**Pb**	**11 40 26.2**	**+1.9**
PMRV				*e*Sn	**Sn**	**11 40 52.4**	**-2.2**
PMRV				*e*Sg	**Sb**	**11 41 04.3**	**+3.0**
PMRV				A	A	11 41 11.8	
	45nm,0.6s						
PMTG	**Montargil**	**3.12**	**318**	*e*Pn	**Pn**	**11 40 19.5**	**-0.1**
PMTG	**Montargil**	**3.12**	**318**	*e*Pg	**Pb**	**11 40 28.5**	**+2.6**
PMTG				*e*Sn	**Sn**	**11 40 55.7**	**-1.2**
PMTG				A	A	11 41 21.9	
	22nm,0.4s						
ESDC	**Sonseca Array**	**3.15**	**23**	Pn	**Pn**	**11 40 20.5**	**+0.4**
ESDC				Sn	**Sn**	**11 40 54.6**	**-3.2**
ESDC				Sg	**Sb**	**11 41 07.6**	**+2.6**
ESDC				*i* Vmb_Lg		11 41 14.7	
IFR	**Ifrane**	**3.27**	**174**	Pn	**Pn**	**11 40 21.2**	**-0.6**
EPLA	**Plasencia**	**3.31**	**353**	Pn	**Pn**	**11 40 23.1**	**+0.9**
EPLA				Sn	**Sn**	**11 40 58.0**	**-3.7**
EPLA				Sg	**Sb**	**11 41 13.5**	**+3.9**
EPLA				*i* Vmb_Lg		11 41 32.0	
PCBR	**Castelo Branco**	**3.42**	**334**	*e*Pn	**Pn**	**11 40 24.6**	**+0.9**
PCBR				*e*Sn	**Sn**	**11 41 01.4**	**-2.8**
PCBR				A	A	11 41 26.4	
	16nm,0.4s						
ZHG	**ZHG**	**3.44**	**195**	P	**Pn**	**11 40 24.4**	**+0.3**
ZHG	**ZHG**	**3.44**	**195**	S	**Sn**	**11 41 04.8**	**-0.2**
PMAFR	**Mafra**	**3.67**	**307**	*e*Pn	**Pn**	**11 40 27.4**	**+0.2**
PMAFR				*e*Sn	**Sn**	**11 41 07.4**	**-3.2**
PMAFR				A	A	11 41 39.0	
	28nm,0.8s						
PSBE	**So Bento**	**3.75**	**318**	*e*Pn	**Pn**	**11 40 28.9**	**+0.6**
PSBE				*e*Sn	**Sn**	**11 41 11.4**	**-1.1**
PSBE				A	A	11 41 41.8	
	19nm,0.7s						
CZD	**Col de Zad**	**3.76**	**174**	P	**Pn**	**11 40 26.4**	**-2.3**
CZD	**Col de Zad**	**3.76**	**174**	S	**Sn**	**11 41 08.4**	**-4.7**
MTE	**Manteigas**	**3.94**	**337**	*e*Sn	**Sn**	**11 41 15.9**	**-1.4**
MTE				*e*Sg	**Sg**	**11 41 34.0**	**-3.0**
MTE				A	A	11 41 45.4	
	39nm,0.6s						
MD31	**MD31**	**3.95**	**170**	P	**Pn**	**11 40 29.4**	**-1.8**
MD31	**MD31**	**3.95**	**170**	S	**Sn**	**11 41 13.0**	**-4.6**
PCAS	**Casmilo, Conde**	**4.01**	**326**	*e*Pn	**Pn**	**11 40 32.6**	**+0.7**
PCAS				*e*Sn	**Sn**	**11 41 16.3**	**-2.6**
PCAS				A	A	11 41 43.2	
	28nm,0.6s						
GUD	**Guadarrama**	**4.01**	**15**	Pn	**Pn**	**11 40 32.6**	**+0.6**
GUD				Sn	**Sn**	**11 41 14.4**	**-4.7**
GUD				Sg	**Sb**	**11 41 32.5**	**+2.6**
GUD				*i* Vmb_Lg		11 41 44.1	
PVIS	**Viseu**	**4.34**	**336**	*e*Pn	**Pn**	**11 40 37.2**	**+0.7**
PVIS				*e*Sn	**Sn**	**11 41 24.3**	**-2.9**
MVO	**Moncorvo**	**4.53**	**346**	*e*Pn	**Pn**	**11 40 38.9**	**-0.2**
MVO				*e*Sn	**Sn**	**11 41 27.6**	**-4.3**
MVO				*e*Sg	**Sg**	**11 41 53.9**	**-2.0**
MVO				A	A	11 41 58.8	
	23nm,0.5s						
ECHE	**Chera**	**4.57**	**51**	Pn	**Pn**	**11 40 39.3**	**-0.3**
ECHE				Sn	**Sn**	**11 41 30.0**	**-2.8**
ECHE				*i* Vmb_Lg		11 42 06.4	
PVRL	**Vila Real**	**4.80**	**340**	*e*Sn	**Sn**	**11 41 35.4**	**-3.1**
PVRL				A	A	11 42 07.7	
	16nm,0.6s						
ETOR	**Torete**	**4.87**	**33**	Pn	**Pn**	**11 40 43.8**	**+0.1**
ETOR				Sn	**Sn**	**11 41 35.3**	**-4.9**
ETOR				*i* Vmb_Lg		11 42 38.9	
POLO	**Lamas de Olo**	**4.91**	**340**	*e*Pn	**Pn**	**11 40 44.5**	**+0.1**
POLO				*e*Sn	**Sn**	**11 41 37.6**	**-3.7**
POLO				*e*Sg	**Sg**	**11 42 06.2**	**-1.9**
POLO				A	A	11 42 19.6	
	5.9nm,0.5s						
E0901	**Celadas (Terue**	**5.06**	**42**	Pn	**Pn**	**11 40 47.1**	**+0.7**
E0901				Sn	**Sn**	**11 41 42.6**	**-2.4**
E0901				*i* Vmb_Lg		11 42 29.1	
PBRG	**Braganca**	**5.11**	**350**	*e*Sn	**Sn**	**11 41 42.6**	**-3.4**
PBRG				A	A	11 42 19.4	
	9.1nm,0.4s						
ECAL	**Calabor**	**5.24**	**350**	Sn	**Sn**	**11 41 45.4**	**-4.0**
ECAL	**Calabor**	**5.24**	**350**	Sn	**Sn**	**11 41 43.9**	**-5.5**
PCAB	**Cabril**	**5.29**	**339**	*e*Sn	**Sn**	**11 41 47.1**	**-3.4**
PCAB				A	A	11 42 30.6	
	15nm,0.7s						
EMOS	**Mosqueruela**	**5.35**	**46**	Pn	**Pn**	**11 40 50.7**	**+0.3**
EMOS				Sn	**Sn**	**11 41 50.4**	**-1.7**
ELOB	**Lobios**	**5.45**	**340**	Sn	**Sn**	**11 41 50.1**	**-4.3**
PGAV	**Gavieira, Arco**	**5.60**	**339**	*e*Pn	**Pn**	**11 40 53.6**	**-0.1**
PGAV				*e*Sn	**Sn**	**11 41 55.3**	**-2.8**
PGAV				A	A	11 42 41.8	
	10nm,0.6s						
ELAN	**Lanestosa**	**6.65**	**13**	Pn	**Pn**	**11 41 08.3**	**+0.2**
ELAN				Sn	**Sn**	**11 42 18.1**	**-5.8**
ELAN				*i* Vmb_Lg		11 46 12.3	
SJPF	**Ste Jean**	**7.14**	**26**	*e*Pn	**Pn**	**11 41 15.6**	**+0.7**
SJPF				*e*Sn	**Sn**	**11 42 32.5**	**-3.6**
	1.3nm,0.3s						
EPF	**Esparros**	**7.71**	**34**	*e*Pn	**Pn**	**11 41 23.5**	**+0.8**
EPF				*e*Sn	**Sn**	**11 42 44.2**	**-5.9**
	3.3nm,0.3s						
MTLF	**Montolieu**	**8.85**	**40**	*e*Pn	**Pn**	**11 41 36.5**	**-1.8**

*SJA **07** 11:41:02.5±0.6,20°.24S×69°.21W,h98km±7km,ML3.8, MW3.7*
*GUC **07** 11:41:03.8±0.7,20°.27S×69°.24W,h90km±2km,ML4.0*
ISC 07 11:41:06.0±1.5,**20°.30S**±0°.04×**69°.29W**±0°.05,**h79**km±10km, **n26**,σ1°.**46**/44,**3C-1D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.20**	**38⇓**	*e*P	**Pn**	**11 41 17.6**	**-0.6**
PB08				*e*S	**Sn**	**11 41 28.0**	**+0.8**
PB08				IAML		11 41 28.6	
	comp=E,11μm,0.3s						
PB08	**IPOC Station P**	**0.20**	**38**	*e*P	**Pn**	**11 41 17.4**	**-0.8**
PB08				IAML		11 41 28.9	
	comp=Z,3μm,0.2s						
PX03	**IPOC Station P**	**0.34**	**253**	*e*P	**Pn**	**11 41 17.4**	**-1.2**
PX03				*e*S	**Sn**	**11 41 29.0**	**+1.2**
PX03				IAML		11 41 29.2	
	comp=N,11μm,0.2s						
GO01	**Chusmiza**	**0.64**	**8**	*e*P	**Pn**	**11 41 20.1**	**-1.4**
GO01				*e*S	**Sn**	**11 41 32.9**	**-0.1**
GO01	**Chusmiza**	**0.64**	**8**	*e*P	**Pn**	**11 41 20.0**	**-1.6**
PB11	**IPOC Station P**	**0.64**	**327⇑**	*i*P	**Pn**	**11 41 20.3**	**-0.9**
PB11				*e*S	**Sn**	**11 41 32.9**	**+0.4**
PB11	**IPOC Station P**	**0.64**	**327**	*e*P	**Pn**	**11 41 20.1**	**-1.1**
PB11				IAML		11 41 36.1	
	comp=Z,4μm,0.2s						
PB01	**IPOC Station P**	**0.76**	**194⇑**	*e*P	**Pn**	**11 41 22.0**	**-0.4**
PB01				*e*S	**Sn**	**11 41 35.7**	**+1.2**
PB01				IAML		11 41 37.6	
	comp=N,3μm,0.2s						
PB01	**IPOC Station P**	**0.76**	**194**	*e*P	**Pn**	**11 41 21.8**	**-0.6**
PB01				IAML		11 41 37.0	
	comp=Z,2μm,0.2s						
TA02	**Huaiquique**	**0.79**	**272**	*e*P	**Pn**	**11 41 22.0**	**-0.6**
TA02				*e*S	**Sn**	**11 41 36.0**	**+1.1**
TA02				IAML		11 41 39.3	
	comp=N,11μm,0.1s						
TA02	**Huaiquique**	**0.79**	**272**	*e*P	**Pn**	**11 41 22.1**	**-0.6**
TA02				*e*S	**Sn**	**11 41 36.9**	**+1.9**
TA02				IAML		11 41 40.1	
	comp=Z,4μm,0.1s						
TA01	**Diego Aracena**	**0.88**	**253⇑**	*i*P	**Pn**	**11 41 22.8**	**-0.8**
TA01				*e*S	**Sn**	**11 41 37.4**	**+0.7**
TA01	**Diego Aracena**	**0.88**	**253**	*e*P	**Pn**	**11 41 22.7**	**-0.8**
TA01				*e*S	**Sn**	**11 41 38.7**	**+2.0**
TA01				IAML		11 41 39.5	
	comp=Z,609nm,0.4s						
PB09	**IPOC Station P**	**1.49**	**178**	*e*P	**Pn**	**11 41 30.8**	**-0.5**
PB09				*e*S	**Sn**	**11 41 52.3**	**+1.9**
PB09	**IPOC Station P**	**1.49**	**178**	*e*P	**Pn**	**11 41 30.6**	**-0.7**
PB09				IAML		11 41 54.0	
	comp=Z,524nm,0.7s						
PB04	**IPOC Station P**	**2.17**	**202**	*e*P	**Pn**	**11 41 39.9**	**-0.5**
PB04				*e*S	**Sn**	**11 42 04.9**	**-1.7**
PB04				IAML		11 42 19.0	
	comp=E,440nm,0.3s						
PB04	**IPOC Station P**	**2.17**	**202**	*e*P	**Pn**	**11 41 39.8**	**-0.6**
PB04				*e*S	**Sn**	**11 42 06.3**	**-0.3**
PB04				IAML		11 42 20.1	
	comp=Z,327nm,0.3s						
LVC	**Limon Verde**	**2.32**	**171**	*e*P	**Pn**	**11 41 41.9**	**-0.7**
LVC				*e*S	**Sn**	**11 42 11.0**	**+0.6**
LVC				IAML		11 42 18.5	
	comp=Z,1μm,0.3s						
LVC	**Limon Verde**	**2.32**	**171**	*e*P	**Pn**	**11 41 42.0**	**-0.5**
LVC				*e*S	**Sn**	**11 42 08.4**	**-2.0**
PB06	**IPOC Station P**	**2.41**	**186**	*e*P	**Pn**	**11 41 42.3**	**-1.2**
PB06				*e*S	**Sn**	**11 42 10.4**	**-1.7**
PB06	**IPOC Station P**	**2.41**	**186**	*e*P	**Pn**	**11 41 42.0**	**-1.4**
PB06				*e*S	**Sn**	**11 42 14.4**	**+2.3**
PB06				IAML		11 42 23.1	
	comp=Z,347nm,0.2s						
PB15	**IPOC Station P**	**2.90**	**183**	*e*P	**Pn**	**11 41 49.5**	**-0.7**
PB15				*e*S	**Sn**	**11 42 25.7**	**+1.6**
PB15	**IPOC Station P**	**2.90**	**183**	*e*P	**Pn**	**11 41 49.5**	**-0.7**
PB15				*e*S	**Sn**	**11 42 29.2**	**+5.1**
PB15				IAML		11 42 39.8	
	comp=Z,662nm,0.2s						
YJA	**Yavi**	**3.98**	**119**	*e*P	**Pn**	**11 42 05.3**	**+0.2**
LPAZ	**La Paz**	**4.14**	**16**	*e*P	**Pn**	**11 42 08.0**	**+0.5**
GO02	**Mina Guanaco**	**4.84**	**183**	*e*P	**Pn**	**11 42 14.1**	**-2.6**
GO02				*e*S	Sn	11 43 20.5	+8.8

*TEH **07** 12:06:45.6,33°.03N×47°.37E,h8km±56km,ML2.9*
*ISN **07** 12:06:46.4±0.6,32°.91N×47°.37E,h19km±4km,ML2.9*
ISC 07 12:06:45.9±1.0,**32°.98N**±0°.06×**47°.39E**±0°.04,**h15**km,**n15**, σ1°.**09**/19,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.67**	**35**	Pg	**Pg**	**12 06 57.4**	**-1.7**
IKFM				Sg	**Sg**	**12 07 07.9**	**-0.1**
IDOB	**Doab**	**1.04**	**39**	Pg	**Pb**	**12 07 05.2**	**-0.6**
ILBA	**Ilam Banvizeh**	**1.18**	**304**	Pg	**Pn**	**12 07 07.5**	**-0.5**
IBDR	**Badra**	**1.23**	**277**	*e*Pg	**Pb**	**12 07 09.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**12 07 25.0**	**0.0**
IBDR				AML	AML	12 07 34.2	
	comp=N,161nm,0.5s						
IBDR				AML	AML	12 07 40.0	
	comp=E,160nm,0.4s						
KCHF	**Cheshme Sefid,**	**1.33**	**347**	Pg	**Pn**	**12 07 10.0**	**-0.1**
BMDN	**Meydan**	**1.39**	**60**	Pg	**Pn**	**12 07 11.7**	**+0.7**
IGHG	**Ghaleghazi**	**1.51**	**333**	Pg	**Pb**	**12 07 13.7**	**-0.2**
IBZA	**Bozab**	**1.54**	**15**	Pg	**Pb**	**12 07 14.3**	**-0.1**
BDRS	**Dareh Seyedi**	**1.58**	**52**	Pg	**Pb**	**12 07 15.4**	**+0.3**
HSAM	**Samen**	**1.60**	**39**	Pg	**Pn**	**12 07 14.9**	**+1.0**
RAFI	**Al-Rafai**	**1.65**	**221**	*e*Pg	**Pb**	**12 07 15.3**	**-0.7**
RAFI				*e*Sg	**Sb**	**12 07 36.0**	**-0.6**
RAFI				AML	AML	12 07 41.1	
	comp=N,328nm,0.4s						
RAFI				AML	AML	12 07 42.4	
	comp=E,300nm,0.4s						
GLG1	**Gilan-e-Gharb**	**1.68**	**313**	Pg	**Pb**	**12 07 16.1**	**-0.5**
IDHR	**Dehrash**	**1.91**	**334**	Pn	**Pn**	**12 07 19.4**	**+1.2**
HAGD	**Aghdareh**	**2.35**	**38**	Pn	**Pn**	**12 07 26.2**	**+2.0**
BHD	**Baghdad**	**2.54**	**277**	*e*Pn	**Pn**	**12 07 28.2**	**+1.6**
BHD				*e*Sn	**Sn**	**12 07 59.5**	**+2.2**

*IDC **07** 12:10:52.8±1.9,1°.38N×127°.24E,h0km,mb3.6/4, mbtmp3.7/4,Error ellipse: s-maj=190.1km s-min=21.3km az=67.0*
*DJA **07** 12:10:59.2±0.4,1°.N±2°.×12°.7E±°,h41km±10km,M4.2/9, mb4.7/3,mB5.5/1,MLv3.9/9,Mw(mB)5.0/1*
ISC 07 12:10:59.8±1.4,**1°.3N**±0°.1×**127°.26E**±0°.09,**h50**km,**n10**, σ1°.**22**/13,**mb3.6/4**,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.51**	**168**	P	**Pn**	**12 11 12.0**	**+0.7**
TNTI				S	**Sn**	**12 11 21.2**	**+1.8**
KMSI	**Cibinong**	**3.36**	**258**	P	**Pn**	**12 11 49.2**	**-0.6**
KMSI				S	**Sn**	**12 12 28.2**	**-0.2**
SANI	**Sanana**	**3.54**	**201**	P	**Pn**	**12 11 52.2**	**-0.2**
SANI				S	**Sn**	**12 12 31.3**	**-1.7**
NLAI	**Namlea**	**4.49**	**182**	P	**Pn**	**12 12 04.7**	**-0.7**
LUWI	**Luwuk**	**5.05**	**243**	P	**Pn**	**12 12 15.1**	**+2.1**
	96nm,0.8s,0.3nm						
APSI	**Ampana**	**6.02**	**249**	P	**Pn**	**12 12 27.8**	**+1.4**
	26nm,0.8s,0.1nm						
WRA	**Warramunga Arr**	**22.20**	**162**	P	**P**	**12 15 52.3**	**+0.1**
	0.4nm,0.5s,baz=341,slow=11,SNR=4.2						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**25.62**	**166**	P	**P**	**12 16 25.0**	**+0.2**
	0.4nm,0.6s,baz=349,slow=8.3,SNR=7.0						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**59.87**	**326**	P	**P**	**12 21 00.1**	**-0.4**
	0.7nm,0.4s,baz=122,slow=8.3,SNR=12						
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**64.08**	**328**	P	**P**	**12 21 27.7**	**-1.0**
	1.1nm,0.6s,baz=128,slow=6.2,SNR=14						
	1.1nm,0.6s						

*MEX **07** 12:32:43.6±0.7,15°.47N×93°.05W,h110km±6km,MD4.4*
*IDC **07** 12:32:44.5±2.3,15°.72N×92°.87W,h94km±15km,mb3.4/3, mbtmp3.9/7,Error ellipse: s-maj=30.0km s-min=13.9km az=8.0*
ISC 07 12:32:43.0±0.9,**15°.49N**±0°.05×**93°.11W**±0°.03,**h104**km±7km, **n44**,σ3°.**10**/82,**mb3.8**/3,**Near coast of

YAIG	**Yautepec**	**6.61**	**301**	*i* P	**Pn**	**12 34 20.8**	**+3.1**
YAIG				*i* S	**Sn**	**12 35 22.9**	**-8.7**
MEIG	**Mezcala**	**6.69**	**292**	*e*P	**Pn**	**12 34 15.4**	**-3.4**
MEIG				*i* S	**Sn**	**12 35 33.5**	**-0.1**
PLIG	**Platanillo**	**6.76**	**296**	*e*P	**Pn**	**12 34 20.8**	**+1.0**
PLIG				*e*S	**Sn**	**12 35 37.0**	**+1.5**
JTS	**Las Juntas de**	**9.48**	**122**	P	**Pn**	**12 34 57.4**	**+0.6**
	2.8nm,0.3s,baz=311,slow=19,SNR=3.8						
TXAR	**Lajitas Array**	**16.87**	**327**	P	**P**	**12 36 36.0**	**+2.7**
	0.9nm,0.7s,baz=152,slow=14,SNR=16						
PDAR	**Pinedale Array**	**30.63**	**336**	P	**P**	**12 38 49.0**	**+1.4**
	0.3nm,0.7s,baz=142,slow=10,SNR=2.2						
	0.3nm,0.7s						
NVAR	**Mina Array Bea**	**31.84**	**321**	P	**P**	**12 39 01.7**	**+3.3**
	1.3nm,0.7s,baz=130,slow=8.4,SNR=15						
	1.3nm,0.7s						
ILAR	**Eielson Array**	**61.05**	**337**	P	**P**	**12 42 46.5**	**+0.9**
	1.4nm,0.7s,baz=134,slow=5.6,SNR=19						
	1.4nm,0.7s						

*IDC **07** 12:36:33.7±1.0,2°.83S×119°.54E, h0km, mb3.5/5, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=71.9km s-min=17.2km az=70.0*

ISC 07 12:36:38.8±1.0,2°.8S±0°.1×119°.6E±0°.4, h35km, n6, σ0°78/8, mb3.8/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.18**	**177**	Pn	**Pn**	**12 37 11.6**	**-1.0**
	36nm,0.3s,baz=334,slow=11,SNR=28						
KAPI				Sn	**Sn**	**12 37 39.4**	**+1.1**
	35nm,0.3s,baz=78,slow=18,SNR=8.1						
	78nm,0.3s						
WRA	**Warramunga Arr**	**22.26**	**141**	P	**P**	**12 41 32.7**	**-0.2**
	1.0nm,0.9s,baz=318,slow=11,SNR=4.4						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**24.90**	**148**	P	**P**	**12 41 59.0**	**+0.4**
	0.5nm,0.8s,baz=338,slow=10,SNR=5.6						
ASAR				PcP	**PcP**	**12 45 34.4**	**+0.4**
	0.2nm,0.7s,baz=330,slow=2.6,SNR=2.4						
	0.5nm,0.8s						
SONM	**Songino Array**	**51.77**	**349**	P	**P**	**12 45 43.5**	**+0.5**
	1.1nm,0.7s,baz=173,slow=8.2,SNR=4.5						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**59.34**	**331**	P	**P**	**12 46 37.4**	**0.0**
	1.1nm,0.9s,baz=128,slow=7.9,SNR=5.4						
	1.1nm,0.9s						
ZALV	**Zalesovo Beam**	**63.56**	**338**	P	**P**	**12 47 05.2**	**-0.5**
	0.3nm,0.3s,baz=142,slow=7.3,SNR=1.6						
	0.3nm,0.3s						

*IDC **07** 12:37:34.7±1.0,2°.90S×119°.17E, h0km, mb3.9/6, mbtmp4.0/7, ML3.8/1, Error ellipse: s-maj=92.4km s-min=15.9km az=65.0*

*NEIC **07** 12:37:34.8±0.7,2°.80S±0°.06×119°.2E±0°.1, h10km±1km, mb4.2/12, Error ellipse: s-maj=19.5km s-min=10.8km az=89.0*

*DJA **07** 12:37:38.1±0.3,3°.S±2°.×11°.9E±°, h10km, M4.2/14, mb4.3/3, MLv4.1/14*

ISC 07 12:37:35.9±0.8,2°.91S±0°.04×119°.38E±0°.07, h10km, n34, σ1°69/31, mb4.2/11, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.46**	**107**	P	**Pg**	**12 37 44.1**	**-0.8**
TTSI				S	**Sg**	**12 37 50.6**	**-0.4**
SPSI	**Sidrap Palu**	**1.12**	**160**	P	**Pg**	**12 37 56.1**	**-1.4**
BNSI	**Bone**	**1.65**	**154**	P	**Pn**	**12 38 06.2**	**+1.2**
BNSI				S	**Sg**	**12 38 29.2**	**+0.1**
KAPI	**Kappang**	**2.13**	**170**	Pn	**Pn**	**12 38 12.6**	**+1.0**
KAPI	**Kappang**	**2.13**	**170**	Pn	**Pn**	**12 38 12.3**	**+0.7**
	32nm,0.3s,baz=293,slow=8.6,SNR=4.7						
KAPI				Sn	**Sb**	**12 38 42.2**	**+1.1**
	30nm,0.3s,baz=216,slow=23,SNR=5.8						
	135nm,0.5s						
BKSI	**Bulukumba**	**2.51**	**163**	P	**Pn**	**12 38 19.3**	**+2.5**
BKSI				S	**Sn**	**12 38 50.6**	**+3.1**
APSI	**Ampana**	**3.01**	**49**	P	**Pn**	**12 38 27.0**	**+3.3**
MPSI	**Mapaga**	**3.26**	**9**	P	**Pn**	**12 38 30.7**	**+3.5**
BSSI	**Bau Bau, Buton**	**3.40**	**161**	P	**Pn**	**12 38 31.6**	**+2.5**
LUWI	**Luwuk**	**3.86**	**61**	Pn	**Pn**	**12 38 36.0**	**+0.6**
LUWI	**Luwuk**	**3.86**	**61**	P	**Pn**	**12 38 35.1**	**-0.3**
MRSI	**Marisa**	**4.22**	**37**	P	**Pn**	**12 38 40.5**	**+0.1**
TOLI2	**Tolitoli**	**4.23**	**19**	Pn	**Pn**	**12 38 38.9**	**-1.5**
PLAI	**Plampang**	**6.09**	**195**	P	**Pn**	**12 39 07.3**	**+1.2**
	25nm,1.0s,0.1nm						
WBSI	**Waikabubak, Su**	**6.69**	**180**	P	**Pn**	**12 39 15.1**	**+0.7**
PSA00	**Pilbara Seismi**	**18.56**	**179**	P	**P**	**12 41 50.1**	**-2.9**
GSI	**Gunungsitoli**	**22.19**	**281**	P	P	12 42 27.3	-5.4
WB0	**Warramunga Arr**	**22.27**	**140**	P	**P**	**12 42 33.5**	**+0.1**
WRA	**Warramunga Arr**	**22.36**	**140**	P	**P**	**12 42 35.6**	**+1.2**
	1.7nm,0.8s,baz=316,slow=12,SNR=5.4						
	1.7nm,0.8s						
WB2	**Warramunga Arr**	**22.37**	**140**	P	**P**	**12 42 34.4**	**-0.1**
WB2				IAmb	IAmb	12 42 41.7	
	comp=Z,7.0nm,1.1s						
WR0	**Warramunga Arr**	**22.50**	**140**	P	**P**	**12 42 36.2**	**+0.3**
SRIT	**Nakonsritamara**	**22.79**	**300**	P	P	12 42 34.7	-4.2
ASAR	**Alice Springs**	**24.97**	**147**	P	**P**	**12 43 01.4**	**+1.6**
	comp=Z,1.4nm,1.0s,baz=319,slow=7.2,SNR=6.9						
	comp=Z,1.4nm,1.0s						
SHL	**Shillong**	**38.87**	**318**	P	P	12 44 57.7	-4.2
SHL				IAmb	IAmb	12 45 07.0	
	comp=Z,3.4nm,0.6s						
HMDM	**Hanimaadhoo**	**47.10**	**282**	P	P	12 46 04.6	-4.1
ULN	**Ulaanbaatar**	**51.70**	**349**	P	**P**	**12 46 41.3**	**-2.0**
ULN				IAmb	IAmb	12 46 44.7	
	comp=Z,4.2nm,0.9s						
SONM	**Songino Array**	**51.80**	**349**	P	**P**	**12 46 41.9**	**-2.1**
SONM				IAmb	IAmb	12 46 45.3	
	comp=Z,2.2nm,0.8s						
SONM	**Songino Array**	**51.80**	**349**	P	**P**	**12 46 44.1**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=168,slow=8.9,SNR=8.5						
	comp=Z,2.4nm,0.7s						
MK31	**Makanchi Array**	**59.28**	**331**	P	P	12 47 34.7	-3.1
MK31				IAmb	IAmb	12 47 43.0	
	comp=Z,3.6nm,1.3s						
MKAR	**Makanchi Array**	**59.28**	**331**	P	P	12 47 34.6	-3.3
MKAR	**Makanchi Array**	**59.28**	**331**	P	**P**	**12 47 37.9**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=134,slow=7.3,SNR=11						
	comp=Z,1.9nm,0.8s						
MAKZ	**Makanchi**	**59.45**	**331**	P	P	12 47 36.0	-3.0
MAKZ				IAmb	IAmb	12 47 43.0	
	comp=Z,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**63.54**	**338**	P	**P**	**12 48 05.5**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=137,slow=4.9,SNR=1.9						
	comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**63.74**	**332**	P	**P**	**12 48 07.5**	**-0.4**
	comp=Z,0.9nm,0.2s,baz=141,slow=6.0,SNR=1.9						
	comp=Z,0.9nm,0.2s						

*IDC **07** 12:40:40.5±1.0,2°.85S×119°.67E, h0km, mb3.9/5, mbtmp4.0/6, ML4.1/1, MS3.1/8, Error ellipse: s-maj=62.4km s-min=16.1km az=70.0*

*DJA **07** 12:40:42.3±0.3,3°.S±2°.×11°.9E±°, h10km, M4.2/13, mb4.2/2, MLv4.2/13*

*NEIC **07** 12:40:43.9±1.2,3°.04S±0°.05×119°.57E±0°.05, h10km±1km, mb4.4/17, Error ellipse: s-maj=11.6km s-min=5.4km az=226.0*

ISC 07 12:40:43.1±1.7,2°.97S±0°.04×119°.52E±0°.06, h8km±11km, n42, σ1°36/42, mb4.3/12, MS3.1/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.31**	**104**	P	**Pg**	**12 40 48.9**	**-0.3**
TTSI				S	**Sb**	**12 40 55.8**	**-0.4**
SPSI	**Sidrap Palu**	**1.02**	**166**	P	**Pg**	**12 41 01.5**	**-1.2**
SPSI				S	**Sb**	**12 41 17.4**	**+0.7**
BNSI	**Bone**	**1.54**	**158**	P	**Pn**	**12 41 11.3**	**+0.4**
BNSI				S	**Sg**	**12 41 34.6**	**+2.0**
KAPI	**Kappang**	**2.04**	**173**	Pn	**Pn**	**12 41 17.8**	**-0.1**
	56nm,0.3s,baz=342,slow=11,SNR=13						
KAPI				Sn	**Sn**	**12 41 45.1**	**+1.5**
	66nm,0.3s,baz=108,slow=23,SNR=11						
KAPI				LR	LR	12 41 55.9	
	comp=Z,88nm,20.6s,baz=354,slow=35						
	168nm,0.4s						
BKSI	**Bulukumba**	**2.41**	**166**	P	**Pn**	**12 41 23.7**	**+0.7**
BKSI				S	**Sb**	**12 41 56.1**	**-0.7**
APSI	**Ampana**	**2.95**	**46**	P	**Pn**	**12 41 28.8**	**-1.6**
BSSI	**Bau Bau, Buton**	**3.30**	**163**	P	**Pn**	**12 41 36.5**	**+1.3**
MPSI	**Mapaga**	**3.31**	**7**	P	**Pn**	**12 41 33.5**	**-1.8**
LUWI	**Luwuk**	**3.77**	**60**	Pn	**Pn**	**12 41 41.5**	**-0.2**
LUWI	**Luwuk**	**3.77**	**60**	P	**Pn**	**12 41 40.0**	**-1.7**
BBSI	**Bau Bau**	**3.94**	**130**	P	**Pn**	**12 41 46.7**	**+2.7**
MRSI	**Marisa**	**4.19**	**35**	P	**Pn**	**12 41 47.9**	**+0.4**
TOLI2	**Tolitoli**	**4.25**	**17**	Pn	**Pn**	**12 41 50.2**	**+2.0**
PLAI	**Plampang**	**6.07**	**196**	P	**Pn**	**12 42 11.0**	**-2.3**
MYLDM	**Lahad Datu**	**8.16**	**353**	Pn	**Pn**	**12 42 43.0**	**+1.0**
SOEI	**Soe**	**8.23**	**145**	Pn	**Pn**	**12 42 41.6**	**-1.5**
BATI	**Baumata**	**8.29**	**150**	LR	LR	12 45 52.1	
	comp=Z,165nm,20.6s,baz=308,slow=38						
FITZ	**Fitzroy Crossi**	**16.19**	**159**	LR	LR	12 52 39.5	
	comp=Z,108nm,19.9s,baz=350,slow=44						
KULM	**Kulim**	**20.56**	**293**	P	**P**	**12 45 22.8**	**+0.3**
RPSI	**Rantau Prapat**	**21.34**	**285**	P	**P**	**12 45 32.1**	**+1.1**
WRA	**Warramunga Arr**	**22.23**	**140**	P	**P**	**12 45 38.8**	**-1.7**
	1.3nm,0.8s,baz=316,slow=11,SNR=7.9						
WRA				LR	LR	12 54 48.3	
	comp=Z,69nm,18.3s,baz=125,slow=38						
	1.3nm,0.8s						
WB2	**Warramunga Arr**	**22.23**	**140**	P	**P**	**12 45 39.2**	**-1.3**
ASAR	**Alice Springs**	**24.84**	**147**	P	**P**	**12 46 05.3**	**-1.0**
	0.9nm,0.8s,baz=331,slow=9.6,SNR=10.0						
ASAR				LR	LR	12 55 44.2	
	comp=Z,76nm,19.1s,baz=141,slow=36						
	0.9nm,0.8s						
YHNB	**Yeheng**	**27.53**	**4**	P	**P**	**12 46 30.6**	**0.0**
CMAR	**Chiang Mai Arr**	**29.39**	**317**	LR	LR	12 59 26.3	
	comp=Z,22nm,18.4s,baz=130,slow=38						
JNU	**Nakatsue**	**37.47**	**16**	LR	LR	13 04 50.5	
	comp=Z,26nm,18.4s,baz=167,slow=39						
KSRS	**Korea Array**	**40.97**	**10**	LR	LR	13 06 10.9	
	comp=Z,16nm,19.5s,baz=205,slow=38						
KS19	**Wonju Array Si**	**41.01**	**10**	P	**P**	**12 48 27.6**	**+0.7**
INU	**Inuyama**	**41.50**	**22**	P	**P**	**12 48 31.6**	**+0.6**
INU				IAmb	IAmb	12 48 46.3	
	comp=Z,11nm,1.1s						
LSA	**Lhasa**	**42.34**	**322**	P	**P**	**12 48 40.2**	**+1.8**
BJT	**Baijiatuau**	**42.89**	**356**	P	**P**	**12 48 42.9**	**+0.7**
BJT				IAmb	IAmb	12 48 45.1	
	comp=Z,4.3nm,0.5s						
ULN	**Ulaanbaatar**	**51.79**	**349**	P	**P**	**12 49 50.2**	**-1.4**
ULN				IAmb	IAmb	12 49 53.0	
	comp=Z,4.7nm,0.8s						
SONM	**Songino Array**	**51.88**	**349**	P	**P**	**12 49 50.3**	**-2.0**
SONM	**Songino Array**	**51.88**	**349**	P	**P**	**12 49 49.4**	**-2.9**
	comp=Z,3.1nm,0.7s,baz=173,slow=8.5,SNR=11						
	comp=Z,3.1nm,0.7s						
MK31	**Makanchi Array**	**59.41**	**331**	P	**P**	**12 50 46.0**	**-0.3**
MK31				IAmb	IAmb	12 50 48.2	
	comp=Z,2.8nm,1.0s						
MKAR	**Makanchi Array**	**59.41**	**331**	P	**P**	**12 50 46.4**	**+0.1**
MKAR	**Makanchi Array**	**59.41**	**331**	P	**P**	**12 50 45.0**	**-1.3**
	comp=Z,2.6nm,0.7s,baz=133,slow=7.5,SNR=16						
	comp=Z,2.6nm,0.7s						
MAKZ	**Makanchi**	**59.57**	**331**	P	**P**	**12 50 47.1**	**-0.3**
MAKZ				IAmb	IAmb	12 50 49.9	
	comp=Z,2.4nm,0.9s						
BOOM	**Boomskoye usch**	**59.97**	**324**	P	**P**	**12 50 50.3**	**-0.1**
BOOM				IAmb	IAmb	12 50 52.6	
	comp=Z,2.7nm,1.0s						
KBL	**Kabul**	**60.29**	**313**	P	**P**	**12 50 53.0**	**+0.1**
KURBB	**Kurchatov Arra**	**63.86**	**332**	P	**P**	**12 51 14.8**	**-1.4**
	comp=Z,0.5nm,0.2s,baz=140,slow=6.1,SNR=5.0						
	comp=Z,0.5nm,0.2s						
KURK	**Kurchatov**	**63.88**	**332**	P	**P**	**12 51 16.7**	**+0.4**
KURK				IAmb	IAmb	12 51 18.0	
	comp=Z,4.1nm,1.1s						

*IDC **07** 12:42:02.5±1.1,37°.40N×20°.84E, h0km, mb3.7/11, mbtmp3.7/13, ML3.9/1, MS3.2/3, Error ellipse: s-maj=21.3km s-min=20.4km az=137.0*

*THE **07** 12:42:03.5,37°.57N×20°.37E, h0km±7km, ML3.5/5, Error ellipse: s-maj=9.1km s-min=0.6km az=225.0*

*ATH **07** 12:42:03.8,37°.61N×20°.38E, h8km±1km, ML3.5/20, Error ellipse: s-maj=2.0km s-min=0.9km az=48.0*

ISC 07 12:42:03.9±1.3,37°.61N±0°.04×20°.44E±0°.04, h12km±8km, n62, σ1°51/77, mb3.7/10, MS3.1/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.30**	**80**	P	**Pb**	**12 42 10.8**	**-0.5**
KRI1				S	**Sb**	**12 42 15.8**	**-0.4**
	27μm,0.4s						
LTHK	**Lithakia**	**0.33**	**72**	P	**Pb**	**12 42 11.3**	**-0.5**
LTHK				S	**Sb**	**12 42 16.6**	**-0.4**
	21μm,0.4s						
LTHK	**Lithakia**	**0.33**	**72**	P	**Pb**	**12 42 11.2**	**-0.5**
LTHK				S	**Sb**	**12 42 16.0**	**-0.9**
LTHK				AML	AML	12 42 17.9	
	comp=E,54470μm,0.4s						
LTHK				AML	AML	12 42 21.0	
	comp=N,28636μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.52**	**12**	P	**Pg**	**12 42 14.2**	**+0.1**
PSDA				S	**Sb**	**12 42 22.5**	**+0.1**
	comp=N,5μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.52**	**12**	P	**Pg**	**12 42 13.6**	**-0.5**
PSDA				S	**Sg**	**12 42 20.4**	**-0.5**
RTZL	**Ratzakli, Kefa**	**0.53**	**29**	P	**Pb**	**12 42 14.6**	**-0.7**
RTZL				S	**Sn**	**12 42 23.8**	**-2.5**
	comp=N,4μm,0.4s						
VLS	**Valsamata**	**0.58**	**11**	P	**Pg**	**12 42 15.1**	**-0.1**
VLS				S	**Sb**	**12 42 25.1**	**+0.8**
	comp=N,3μm,0.4s						
VLS	**Valsamata**	**0.58**	**11**	P	**Pg**	**12 42 15.2**	**-0.1**
VLS				S	**Sg**	**12 42 22.9**	**0.0**
VLS				AML	AML	12 42 31.6	
	comp=E,5835μm,0.3s						
VLS				AML	AML	12 42 35.9	
	comp=N,6290μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.59**	**360**	P	**Pg**	**12 42 15.5**	**+0.1**
DMLN	**Damoulianata-K**	**0.63**	**355**	P	**Pg**	**12 42 15.8**	**-0.5**
DMLN				S	**Sg**	**12 42 23.8**	**-0.8**
VSK1	**VASILIKIADES**	**0.80**	**7**	P	**Pb**	**12 42 19.8**	**-0.1**
FSK	**Fiskardo**	**0.85**	**6**	P	**Pb**	**12 42 20.4**	**-0.3**
FSK	**Fiskardo**	**0.85**	**6**	P	**Pg**	**12 42 20.1**	**-0.3**
FSK				S	**Sb**	**12 42 32.0**	**-0.2**
FSK				AML	AML	12 42 40.2	
	comp=N,4330μm,0.6s						
FSK				AML	AML	12 42 40.7	
	comp=E,5464μm,0.5s						
RLS	**Riolos of Patr**	**0.93**	**61**	P	**Pb**	**12 42 21.4**	**-0.6**
RLS				AML	AML	12 42 45.6	
	comp=E,4598μm,0.8s						
RLS				AML	AML	12 42 47.7	
	comp=N,4453μm,0.6s						
AMT	**Artemida-Makis**	**1.01**	**94**	P	**Pg**	**12 42 23.3**	**-0.1**
AMT				AML	AML	12 42 48.2	
	comp=N,12286μm,0.4s						
AMT				AML	AML	12 42 48.6	
	comp=E,13448μm,0.8s						
EVGI	**Lefkada island**	**1.02**	**9**	P	**Pb**	**12 42 23.4**	**-0.2**
EVGI	**Lefkada island**	**1.02**	**9**	P	**Pb**	**12 42 22.4**	**-1.2**
DRO	**Drossia**	**1.06**	**71**	P	**Pn**	**12 42 24.4**	**-0.2**
DRO				S	**Sn**	**12 42 39.9**	**+0.5**
DRO				AML	AML	12 42 51.1	
	comp=E,7495μm,0.4s						
DRO				AML	AML	12 43 00.2	
	comp=N,5611μm,0.9s						
DRAG	**Dragano-Lefkad**	**1.08**	**5**	P	**Pb**	**12 42 24.1**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.08**	**5**	P	**Pg**	**12 42 24.4**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.12**	**10**	P	**Pn**	**12 42 25.1**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.12**	**10**	P	**Pb**	**12 42 24.9**	**-0.4**
LKD2	**Lefkada island**	**1.19**	**8**	P	**Pn**	**12 42 25.7**	**-0.8**
LKD2				S	**Sg**	**12 42 42.3**	**0.0**
LKD2				AML	AML	12 42 52.6	
	comp=E,5001μm,0.6s						
LKD2				AML	AML	12 42 55.1	
	comp=N,5571μm,0.9s						
TSLK	**Tsoukalades, L**	**1.23**	**8**	P	**Pg**	**12 42 27.5**	**0.0**
TSLK	**Tsoukalades, L**	**1.23**	**8**	P	**Pb**	**12 42 26.7**	**-0.4**
TSLK				S	**Sg**	**12 42 42.9**	**-0.6**
TSLK				AML	AML	12 42 54.8	
	comp=N,4297μm,0.6s						
TSLK				AML	AML	12 42 54.9	
	comp=E,4720μm,0.6s						
ITM	**Ithomi**	**1.26**	**110**	P	**Pb**	**12 42 27.5**	**-0.1**
ITM				S	**Sg**	**12 42 44.6**	**+0.2**
ITM				AML	AML	12 42 54.7	
	comp=N,3279μm,0.9s						
ITM				AML	AML	12 43 01.4	
	comp=E,2731μm,0.8s						
PYL	**PYLOS**	**1.26**	**124**	P	**Pb**	**12 42 27.5**	**-0.1**
PYL				S	**Sg**	**12 42 44.8**	**+0.3**
PYL				AML	AML	12 42 51.0	
	comp=E,3850μm,0.7s						
PYL				AML	AML	12 42 52.0	
	comp=N,2815μm,0.8s						
EFP	**Efpalio**	**1.41**	**54**	P	**Pg**	**12 42 32.0**	**+0.9**
EFP	**Efpalio**	**1.41**	**54**	P	**Pb**	**12 42 30.3**	**+0.1**
EFP				S	**Sg**	**12 42 49.3**	**-0.2**
EFP				AML	AML	12 43 02.4	
	comp=E,2011μm,0.7s						
EFP				AML	AML	12 43 06.6	
	comp=N,1846μm,0.9s						
KLV	**Kalavryta, Ach**	**1.42**	**72**	P	**Pg**	**12 42 33.2**	**+2.0**
KLV	**Kalavryta, Ach**	**1.42**	**72**	P	**Pn**	**12 42 29.6**	**0.0**
KLV				S	**Sb**	**12 42 48.2**	**-0.2**
KLV				AML	AML	12 43 01.4	
	comp=N,1597μm,0.7s						
KLV				AML	AML	12 43 03.3	
	comp=E,2027μm,1.0s						
ALIK	**Aliki, Aigiali**	**1.47**	**63**	P	**Pg**	**12 42 33.5**	**+1.3**
ANX	**Ano Chora**	**1.52**	**49**	P	**Pg**	**12 42 34.6**	**+1.4**
ANX	**Ano Chora**	**1.52**	**49**	P	**Pn**	**12 42 31.2**	**0.0**
ANX				S	**Sb**	**12 42 50.5**	**-1.1**
ANX				AML	AML	12 43 06.0	
	comp=E,2815μm,0.5s						
ANX				AML	AML	12 43 06.6	
	comp=N,4356μm,0.8s						
GUR	**Goura**	**1.54**	**77**	P	**Pg**	**12 42 34.6**	**+1.1**
GUR	**Goura**	**1.54**	**77**	P	**Pn**	**12 42 30.7**	**-0.7**
GUR				AML	AML	12 43 04.0	
	comp=N,2388μm,0.8s						
GUR				AML	AML	12 43 10.3	
	comp=E,3027μm,0.7s						
KALE	**Kalithea**	**1.55**	**59**	P	**Pg**	**12 42 34.5**	**+0.8**
KALE	**Kalithea**	**1.55**	**59**	P	**Pb**	**12 42 32.3**	**-0.4**
KALE				AML	AML	12 43 07.7	
	comp=N,2149μm,0.9s						
KALE				AML	AML	12 43 09.2	
	comp=E,2605μm,0.7s						
EVR	**Evrytania**	**1.69**	**39**	P	**Pn**	**12 42 33.0**	**-0.4**
EVR				AML	AML	12 43 23.4	
	comp=N,1011μm,1.0s						
EVR				AML	AML	12 43 36.0	
	comp=E,1454μm,1.0s						
IGT	**Igoumenitsa**	**1.92**	**357**	P	**Pn**	**12 42 35.9**	**-0.6**
IGT				AML	AML	12 43 23.8	
	comp=E,1001μm,0.7s						
IGT				AML	AML	12 43 27.2	
	comp=N,628μm,0.5s						
MAKR	**Makrakomi, Fth**	**1.93**	**43**	P	**Pn**	**12 42 36.4**	**-0.2**
MAKR				AML	AML	12 43 17.8	
	comp=N,2336μm,0.9s						
MAKR				AML	AML	12 43 20.5	
	comp=E,2244μm,0.5s						
KEK	**Kerkira**	**2.16**	**347**	P	**Pn**	**12 42 39.0**	**-0.8**
KEK				AML	AML	12 43 26.0	
	comp=E,742μm,0.8s						
KEK				AML	AML	12 43 34.9	
	comp=N,940μm,0.7s						
VLI	**Veliai**	**2.18**	**113**	P	**Pn**	**12 42 39.8**	**-0.2**
VLI				AML	AML	12 43 33.9	
	comp=E,1002μm,1.3s						
VLI				AML	AML	12 43 49.0	
	comp=N,680μm,1.0s						
OHR	**Ohrid**	**3.51**	**4**	*i* Pn	**Pb**	**12 43 02.9**	**-3.1**
VAY	**Valandovo**	**4.05**	**23**	*i* Pn	**Pg**	**12 43 21.6**	**0.0**
IDI	**Anoyia**	**4.27**	**122**	Pn	**Pn**	**12 43 04.5**	**-4.3**
	comp=N,5.7nm,0.8s,baz=304,slow=18,SNR=1.8						
IDI				Sn	**Sn**	**12 43 51.5**	**-7.1**
	comp=N,1.8nm,0.3s,baz=289,slow=22,SNR=3.7						
PEHC	**Pehcevo**	**4.58**	**24**	*i* Pn	Pn	12 43 18.1	+5.0
MLR	**Muntele Rosu**	**8.89**	**26**	Pn	**Pn**	**12 44 13.8**	**+1.6**
	comp=N,0.3nm,0.3s,baz=170,slow=12,SNR=1.7						
	comp=N,2.1nm,0.6s						
KOLS	**Kolonicke sedl**	**11.40**	**6**	*e*SG	Sn	12 47 05.6	+12
MDT	**Midelt**	**21.00**	**264**	P	**P**	**12 46 51.4**	**+4.1**
	comp=N,2.1nm,0.8s,baz=69,slow=6.2,SNR=4.3						
	comp=N,2.1nm,0.8s						
HFS	**Hagfors**	**22.95**	**351**	P	**P**	**12 47 11.4**	**+3.5**
	comp=N,1.3nm,0.5s,baz=183,slow=14,SNR=4.9						
	comp=N,1.3nm,0.5s						
FINES	**FINESS Array B**	**24.12**	**7**	P	**P**	**12 47 21.0**	**+1.7**
	comp=N,1.5nm,0.5s,baz=194,slow=10.0,SNR=6.6						
	comp=N,1.5nm,0.5s						
NOA	**NORSAR Array B**	**24.16**	**349**	P	**P**	**12 47 22.6**	**+2.8**
	comp=N,0.2nm,0.5s,baz=163,slow=9.7,SNR=2.4						
NOA				LR	LR	12 58 16.5	
	comp=N,22nm,19.7s,baz=250,slow=40						
	comp=N,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**29.55**	**219**	P	**P**	**12 48 08.2**	**-0.4**
	comp=N,0.4nm,0.6s,baz=25,slow=8.9,SNR=3.1						
	comp=N,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**32.10**	**3**	P	**P**	**12 48 33.8**	**+3.2**
	comp=N,1.2nm,0.8s,baz=179,slow=8.1,SNR=1.1						
	comp=N,1.2nm,0.8s						
DBIC	**Dimbokro**	**38.44**	**223**	LR	LR	13 05 20.6	
	comp=N,32nm,19.8s,baz=332,slow=36						
KURBB	**Kurchatov Arra**	**42.62**	**53**	P	**P**	**12 49 59.9**	**0.0**
	comp=N,0.5nm,0.3s,baz=283,slow=9.2,SNR=2.1						
	comp=N,0.5nm,0.3s						
MKAR	**Makanchi Array**	**45.65**	**58**	P	**P**	**12 50 23.1**

KNIK				*i* AML	AML	12 52 31.0	
	comp=N,62nm,1.2s						
MULA	**Mugla, Merkez-**	**0.87**	**339**	P	**Pb**	**12 51 59.7**	**-0.1**
MULA				S	**Sb**	**12 52 11.9**	**0.0**
MULA				*i* AML	AML	12 52 23.0	
	comp=N,43nm,0.3s						
MULA				*i* AML	AML	12 52 24.0	
	comp=E,99nm,0.4s						
DAT	**Datca**	**0.96**	**288**	P	**Pb**	**12 52 01.1**	**-0.1**
DAT				S	**Sn**	**12 52 16.2**	**-0.4**
DAT				*i* AML	AML	12 52 21.0	
	comp=E,109nm,0.6s						
DAT				*i* AML	AML	12 52 24.0	
	comp=N,101nm,0.4s						
DAT	**Datca**	**0.96**	**288**	Pg	**Pb**	**12 52 01.2**	**-0.1**
DAT	**Datca**	**0.96**	**288**	P	**Pg**	**12 52 00.7**	**+0.4**
DAT				S	**Sn**	**12 52 17.1**	**+0.5**
ELL	**Elmali**	**1.01**	**72**	Pg	**Pb**	**12 52 01.9**	**-0.1**
TAVA	**DENIZLI_Tavas**	**1.03**	**9**	P	**Pb**	**12 52 02.2**	**-0.3**
TAVA				S	**Sg**	**12 52 15.4**	**+0.2**
TAVA				*i* AML	AML	12 52 22.0	
	comp=E,107nm,0.4s						
TAVA				*i* AML	AML	12 52 23.0	
	comp=N,76nm,0.4s						
YAZI	**Mula-Dat§a-**	**1.05**	**284**	P	**Pg**	**12 52 02.1**	**+0.2**
YAZI				S	**Sb**	**12 52 17.4**	**+0.6**
YAZI				*i* AML	AML	12 52 23.0	
	comp=E,42nm,0.4s						
YAZI				*i* AML	AML	12 52 25.0	
	comp=N,50nm,0.4s						
APMY	**Acipayam-Deniz**	**1.13**	**24**	Pn	**Pb**	**12 52 03.7**	**-0.4**
BDRM	**Kayabasi**	**1.20**	**302**	P	**Pg**	**12 52 04.6**	**-0.2**
BDRM				S	**Sn**	**12 52 23.6**	**+1.3**
BDRM				*i* AML	AML	12 52 26.0	
	comp=E,50nm,0.4s						
DNIZ	**Denizli-Tavas-**	**1.21**	**12**	P	**Pn**	**12 52 05.8**	**0.0**
DNIZ				S	**Sn**	**12 52 23.9**	**+1.1**
DNIZ				*i* AML	AML	12 52 28.0	
	comp=E,647nm,0.3s						
DNIZ				*i* AML	AML	12 52 28.0	
	comp=N,331nm,0.3s						
BODT	**Bodrum**	**1.29**	**299**	Pn	**Pb**	**12 52 07.1**	**+0.3**
BODT	**Bodrum**	**1.29**	**299**	P	**Pb**	**12 52 07.0**	**+0.3**
BODT				S	**Sn**	**12 52 25.4**	**+0.8**
AKUM	**Antalya-Kumluc**	**1.32**	**95**	P	**Pg**	**12 52 07.5**	**+0.4**
AKUM				S	**Sn**	**12 52 28.3**	**+3.1**
AKUM				*i* AML	AML	12 52 35.0	
	comp=E,46nm,0.4s						
AKUM				*i* AML	AML	12 52 36.0	
	comp=N,29nm,0.6s						
YKAV	**Yalikavak-Bodr**	**1.34**	**301**	Pn	**Pg**	**12 52 08.3**	**+0.7**
ESEN	**Aydn-Nazilli**	**1.39**	**348**	P	**Pg**	**12 52 08.9**	**+0.4**
ESEN				S	**Sn**	**12 52 27.0**	**0.0**
ESEN				*i* AML	AML	12 52 30.0	
	comp=N,43nm,0.3s						
ESEN				*i* AML	AML	12 52 32.0	
	comp=E,70nm,0.3s						
KORT	**Korkueli**	**1.43**	**66**	P	**Pn**	**12 52 07.0**	**-1.8**
KORT				S	**Sn**	**12 52 33.2**	**+5.1**
KORT				*i* AML	AML	12 52 37.0	
	comp=E,87nm,0.4s						
KORT				*i* AML	AML	12 52 38.0	
	comp=N,54nm,1.0s						
INCE	**Denizli-Bozkur**	**1.44**	**28**	P	**Pg**	**12 52 10.1**	**+0.6**
INCE				S	**Sn**	**12 52 30.6**	**+2.1**
INCE				*i* AML	AML	12 52 33.0	
	comp=E,73nm,0.4s						
INCE				*i* AML	AML	12 52 33.0	
	comp=N,71nm,0.5s						
KARP	**Karpathos**	**1.54**	**235**	P	**Pn**	**12 52 10.4**	**+0.1**
KARP				S	**Sg**	**12 52 31.9**	**+0.4**
	135nm,1.0s						
NAZL	**Nazilli-Aydin**	**1.56**	**348**	Pn	**Pg**	**12 52 11.7**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.64**	**337**	Pn	**Pb**	**12 52 12.9**	**0.0**
KIRA	**zmir-Kiraz**	**1.77**	**352**	P	**Pb**	**12 52 14.5**	**-0.6**
KIRA				S	**Sb**	**12 52 37.5**	**-0.2**
KIRA				*i* AML	AML	12 52 38.0	
	comp=E,37nm,0.5s						
KIRA				*i* AML	AML	12 52 39.0	
	comp=N,24nm,0.3s						
IZMR	**zmir-demi**	**1.80**	**340**	P	**Pn**	**12 52 11.5**	**-2.3**
IZMR				S	**Sn**	**12 52 36.7**	**-0.4**
IZMR				*i* AML	AML	12 52 40.0	
	comp=N,20nm,0.7s						
IZMR				*i* AML	AML	12 52 42.0	
	comp=E,16nm,0.5s						
PASA	**Karahalli, USA**	**2.00**	**18**	P	**Pb**	**12 52 17.8**	**-1.2**
PASA				S	**Sb**	**12 52 43.6**	**-0.7**
PASA				*i* AML	AML	12 52 46.0	
	comp=E,14nm,0.5s						
PASA				*i* AML	AML	12 52 47.0	
	comp=N,9.5nm,0.3s						
USAK	**Uak-Merkez**	**2.28**	**6**	P	**Pn**	**12 52 21.4**	**+0.9**
USAK				S	**Sn**	**12 52 49.4**	**+0.3**
USAK				*i* AML	AML	12 53 06.0	
	comp=E,65nm,0.8s						
USAK				*i* AML	AML	12 53 16.0	
	comp=N,79nm,1.3s						

*IDC **07** 12:57:46.2±0.8, 55°.75S×26°.94W, h0km, mb4.3/6, mbtmp4.2/7, ML4.1/1, MS3.4/15, Error ellipse: s-maj=37.7km s-min=19.1km az=61.0*
*NEIC **07** 12:57:47.9±1.2, 55°.7S±0°.1×26°.87W±0°.07, h10km±1km, mb4.7/42, Error ellipse: s-maj=20.0km s-min=5.7km az=189.0*

ISC 07 12:57:49.7±0.5, 55°.69S±0°.09×26°.92W±0°.10, h25km, n81, σ0°73/59, mb4.7/25, MS3.5/15, 8C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.69**	**280**		**Pn**	**12 59 12.4**	**0.0**
VNA1	**Neumayer--Stat**	**17.08**	**159**	⇑P	**P**	**13 01 47.7**	**-0.2**
	comp=Z,5.9nm,0.8s						
VNA3	**Neumayer Olymp**	**17.28**	**161**	⇑P	**P**	**13 01 50.0**	**-0.2**
	comp=Z,4.3nm,0.6s						
VNA3				⇑ScP	**ScP**	**13 10 05.9**	**+2.6**
	comp=Z,0.6nm,0.8s						
VNA2	**Neumayer--Watz**	**17.47**	**159**	⇑P	**P**	**13 01 52.2**	**0.0**
	comp=Z,2.2nm,0.6s,baz=321,slow=9.9						
VNA2				⇑ScP	**ScP**	**13 10 03.5**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=313,slow=4.2						
SNAA	**Sanae**	**19.01**	**157**	P	**P**	**13 02 08.5**	**-0.8**
SNAA	**Sanae**	**19.01**	**157**	⇑P	**P**	**13 02 08.7**	**-0.5**
	comp=Z,24nm,0.5s						
SNAA				⇑ScP	**ScP**	**13 10 07.4**	**+0.3**
	comp=Z,23nm,1.0s						
SNAA	**Sanae**	**19.01**	**157**	P	**P**	**13 02 08.8**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=305,slow=8.9,SNR=28						
	comp=Z,2.1nm,0.5s						
PMSA	**Palmer Station**	**20.25**	**228**	P	Pn	13 02 23.3	-1.4
PMSA				IAmb	IAmb	13 02 31.2	
	comp=Z,90nm,1.5s						
TROLL	**Troll, Antarti**	**20.50**	**154**	⇑P	Pn	13 02 25.8	-2.0
	comp=Z,28nm,0.3s						
BELA	**Belgrano 2**	**22.45**	**184**	P	**P**	**13 02 45.1**	**-1.2**
MG02	**Cerro Sombrero**	**24.61**	**259**	P	**P**	**13 03 06.2**	**-1.4**
MG03	**Isla Dawson**	**24.88**	**256**	P	**P**	**13 03 10.6**	**+0.5**
MG03				IAmb	IAmb	13 03 24.8	
	comp=Z,35nm,1.2s						
GO08	**Villa O'Higgin**	**28.52**	**265**	P	**P**	**13 03 42.9**	**+0.1**
GO08				IAmb	IAmb	13 03 43.7	
	comp=Z,8.4nm,0.6s						
TRQA	**Tornquist**	**29.32**	**292**	P	**P**	**13 03 50.8**	**+0.8**
TRQA				IAmb	IAmb	13 04 05.6	
	comp=Z,17nm,1.4s						
PLTB	**Pedras Altas**	**30.37**	**311**	P	**P**	**13 03 59.1**	**-0.3**
PLTB				IAmb	IAmb	13 04 01.4	
	comp=Z,19nm,1.3s						
PLCA	**Paso Flores**	**32.09**	**279**	LR	LR	13 17 53.6	
	comp=Z,40nm,18.5s,baz=140,slow=38						
QSPA	**South Pole Qui**	**34.56**	**180**	P	**P**	**13 04 36.9**	**+1.0**
QSPA	**South Pole Qui**	**34.56**	**180**	P	**P**	**13 04 35.7**	**-0.2**
	comp=Z,3.7nm,0.5s,baz=201,slow=4.0,SNR=38						
QSPA				LR	LR	13 18 13.7	
	comp=Z,28nm,21.4s,baz=203,slow=36						
	comp=Z,3.7nm,0.5s						
SPB	**Sao Paulo**	**35.45**	**326**	P	**P**	**13 04 43.3**	**-0.5**
CPUP	**Villa Florida**	**36.69**	**311**	P	**P**	**13 04 54.2**	**-0.2**
CPUP	**Villa Florida**	**36.69**	**311**	P	**P**	**13 04 54.6**	**+0.2**
	comp=Z,3.5nm,0.9s,baz=146,slow=8.7,SNR=5.1						
CPUP				LR	LR	13 22 10.7	
	comp=Z,37nm,18.6s,baz=204,slow=40						
	comp=Z,3.5nm,0.9s						
MT09	**Talagante**	**37.34**	**287**	P	**P**	**13 04 59.1**	**-1.0**
MT02	**Curacav**	**37.82**	**288**	P	**P**	**13 05 03.6**	**-0.3**
MT02				IAmb	IAmb	13 05 29.9	
	comp=Z,27nm,1.3s						
ZON	**Zonda**	**37.84**	**292**	P	**P**	**13 05 04.1**	**0.0**
ZON				IAmb	IAmb	13 05 04.3	
	comp=Z,7.0nm,0.8s						
CO01	**Juntas del Tor**	**39.82**	**292**	P	**P**	**13 05 22.8**	**+1.9**
GO04	**Tololo Observa**	**40.03**	**291**	P	**P**	**13 05 23.8**	**+1.1**
GO04				IAmb	IAmb	13 05 40.6	
	comp=Z,29nm,1.4s						
MAW	**Mawson**	**40.35**	**144**	P	**P**	**13 05 24.8**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=231,slow=9.1,SNR=5.1						
	comp=Z,2.9nm,0.7s						
SUR	**Sutherland**	**40.40**	**75**	LR	LR	13 20 37.0	
	comp=Z,52nm,18.0s,baz=214,slow=34						
AC05	**El Transito**	**40.82**	**293**	P	**P**	**13 05 29.8**	**+0.6**
LCO	**Las Campanas**	**40.91**	**292**	P	**P**	**13 05 30.3**	**+0.3**
LCO				IAmb	IAmb	13 05 57.8	
	comp=Z,16nm,1.4s						
AQDB	**Aquidauana**	**41.24**	**317**	P	**P**	**13 05 32.6**	**+0.2**
AC04	**Llanos de Chal**	**41.75**	**293**	P	**P**	**13 05 37.0**	**+0.4**
AC04				IAmb	IAmb	13 05 38.0	
	comp=Z,19nm,0.8s						
BDFB	**Brasilia**	**43.13**	**330**	LR	LR	13 25 16.2	
	comp=Z,62nm,18.1s,baz=312,slow=38						
AC01	**Pan de Azucar**	**43.16**	**295**	P	**P**	**13 05 48.4**	**+0.2**
AC01				IAmb	IAmb	13 06 11.9	
	comp=Z,31nm,1.2s						
GO02	**Mina Guanaco**	**43.46**	**297**	P	**P**	**13 05 51.9**	**+1.0**
GO02				IAmb	IAmb	13 05 53.5	
	comp=Z,12nm,0.8s						
PB14	**IPOC Station P**	**44.32**	**296**	P	**P**	**13 05 57.8**	**0.0**
PB14				IAmb	IAmb	13 06 20.4	
	comp=Z,17nm,1.3s						
LVC	**Limon Verde**	**45.25**	**299**	P	**P**	**13 06 05.6**	**+0.3**
LVC				IAmb	IAmb	13 06 08.3	
	comp=Z,9.3nm,0.8s						
LVC	**Limon Verde**	**45.25**	**299**	LR	LR	13 24 11.2	
	comp=Z,30nm,21.1s,baz=159,slow=35						
BOSA	**Boshof**	**45.74**	**76**	P	**P**	**13 06 09.2**	**+0.4**
PB09	**IPOC Station P**	**46.10**	**300**	P	**P**	**13 06 12.7**	**+0.9**
SBA	**Scott Base**	**46.45**	**184**	P	**P**	**13 06 14.7**	**+1.0**
SBA				IAmb	IAmb	13 06 17.2	
	comp=Z,4.0nm,0.8s						
PB01	**IPOC Station P**	**46.86**	**300**	P	**P**	**13 06 17.4**	**-0.3**
PTLB	**Pontes e Lacer**	**47.14**	**315**	P	**P**	**13 06 19.8**	**0.0**
PTLB				IAmb	IAmb	13 06 21.3	
	comp=Z,9.0nm,1.0s						
PB08	**IPOC Station P**	**47.46**	**301**	P	**P**	**13 06 22.5**	**-0.2**
PB08				IAmb	IAmb	13 06 36.5	
	comp=Z,8.2nm,0.9s						
H04S2	**CROZET ISLANDS**	**47.56**	**114**	T	T	13 58 02.1	
	baz=230,slow=75,SNR=18						
H04S3	**CROZET ISLANDS**	**47.57**	**114**	T	T	13 58 03.6	
	baz=230,slow=75,SNR=14						
H04S1	**CROZET ISLANDS**	**47.58**	**114**	T	T	13 58 05.7	
	baz=230,slow=75,SNR=21						
H10S2	**ASCENSION HYDR**	**47.61**	**17**	T	T	13 57 47.9	
	baz=190,slow=74,SNR=148						
H10S3	**ASCENSION HYDR**	**47.62**	**17**	T	T	13 57 48.2	
	baz=30,slow=74,SNR=108						
GO01	**Chusmiza**	**47.88**	**301**	P	**P**	**13 06 26.9**	**+0.8**
GO01				IAmb	IAmb	13 06 38.4	
	comp=Z,7.9nm,0.8s						
H10N1	**ASCENSION HYDR**	**48.73**	**17**	T	T	13 59 12.2	
	baz=189,SNR=22						
H10N3	**ASCENSION HYDR**	**48.73**	**16**	T	T	13 59 11.6	
	baz=189,SNR=56						
H10N2	**ASCENSION HYDR**	**48.75**	**16**	T	T	13 59 13.2	
	baz=189,SNR=39						
LBTB	**Lobatse**	**48.76**	**73**	P	**P**	**13 06 32.1**	**-0.2**
LBTB				IAmb	IAmb	13 06 40.8	
	comp=Z,9.8nm,1.5s						
LBTB	**Lobatse**	**48.76**	**73**	LR	LR	13 23 34.2	
	comp=Z,28nm,20.1s,baz=208,slow=32						
TSUM	**Tsumeb**	**49.38**	**61**	LR	LR	13 24 39.2	
	comp=Z,45nm,18.4s,baz=315,slow=33						
RCBR	**Riachuelo**	**50.24**	**348**	P	**P**	**13 06 43.2**	**-0.4**
LPAZ	**La Paz**	**50.29**	**305**		**P**	**13 06 44.5**	**-0.2**
LPAZ				IAmb	IAmb	13 06 56.3	
	comp=Z,4.6nm,0.7s						
LPAZ	**La Paz**	**50.29**	**305**	P	**P**	**13 06 45.7**	**+1.0**
	comp=Z,3.9nm,0.8s,baz=166,slow=5.7,SNR=11						
LPAZ				LR	LR	13 28 43.8	
	comp=Z,25nm,19.5s,baz=194,slow=37						
	comp=Z,3.9nm,0.8s						
SAML	**Samuel**	**54.66**	**314**	P	**P**	**13 07 16.6**	**+0.2**
ETMB	**Extrema**	**55.14**	**310**	P	**P**	**13 07 20.3**	**+0.4**
ETMB				IAmb	IAmb	13 07 44.9	
	comp=Z,5.4nm,0.9s						
CZSB	**Cruzeiro do Su**	**59.90**	**305**	P	**P**	**13 07 53.2**	**-0.2**
BOAV	**Boa Vista**	**64.09**	**322**	P	**P**	**13 08 21.4**	**-0.1**
BOAV				IAmb	IAmb	13 08 22.1	
	comp=Z,3.6nm,0.7s						
MDP	**Montagnes des**	**64.19**	**131**	LR	LR	13 33 47.8	
	comp=Z,38nm,19.2s,baz=105,slow=34						
DBIC	**Dimbokro**	**64.78**	**24**	LR	LR	13 29 03.3	
	comp=Z,45nm,21.0s,baz=175,slow=29						
MBAR	**Mbarara**	**71.85**	**63**	LR	LR	13 38 21.5	
	comp=Z,24nm,18.3s,baz=195,slow=34						
TORD	**Torodi Ar. Bea**	**72.67**	**29**	P	**P**	**13 09 15.8**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=200,slow=5.3,SNR=6.3						
	comp=Z,0.6nm,0.5s						
BAUV	**El Baul**	**72.89**	**317**	P	**P**	**13 09 15.8**	**-0.7**
SDV	**Santo Domingo**	**73.86**	**315**	P	**P**	**13 09 22.2**	**-0.1**
SDV	**Santo Domingo**	**73.86**	**315**	LR	LR	13 41 07.2	
	comp=Z,28nm,21.7s,baz=220,slow=35						
KMBO	**Kilima Mbogo**	**74.77**	**69**	LR	LR	13 39 41.2	
	comp=Z,28nm,20.9s,baz=93,slow=34						
TBI	**Tubuai**	**87.43**	**231**	*e*LR	LR	13 38 02.1	
	comp=Z,689nm,39.5s						
PPT2	**Papeete2**	**92.51**	**234**	*e*LR	LR	13 40 42.5	
	comp=Z,42nm,24.5s						
PPT	**Papeete**	**92.53**	**234**	LR	LR	13 46 57.2	
	comp=Z,28nm,18.0s,baz=134,slow=32						
ASAR	**Alice Springs**	**99.29**	**162**	P	**Pdif**	**13 11 28.2**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=193,slow=3.8,SNR=8.0						
	comp=Z,0.3nm,0.6s						
PZH	**PanZhiHua**	**133.07**	**107**	PKP	**PKiKP**	**13 17 03.0**	**-0.9**
BVAR	**Borovoye Array**	**134.46**	**57**	PKP	**PKiKP**	**13 17 06.3**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=90,slow=1.4,SNR=3.1						
MKAR	**Makanchi Array**	**136.63**	**71**	PKP	**PKiKP**	**13 17 09.9**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=253,slow=1.5,SNR=2.3						
ZALV	**Zalesovo Beam**	**142.07**	**63**	PKhKP	PKPpre	13 17 22.8	
	comp=Z,0.5nm,0.4s,baz=236,slow=4.1,SNR=2.5						
ILAR	**Eielson Array**	**149.99**	**312**	PKPbc	**PKiKP**	**13 17 36.2**	**-0.9**
	comp=Z,4.3nm,0.8s,baz=130,slow=1.8,SNR=35						
SONM	**Songino Array**	**150.55**	**86**	PKPbc	**PKiKP**	**13 17 38.7**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=208,slow=3.1,SNR=7.8						

DJA 07 12:59:29.6±0.4, 3°S±3°×11°9E±°, h10km, M3.8/12, mb4.1/2, MLv3.7/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.36**	**105**	P	Pg	12 59 35.5	-1.3
TTSI				S	Sg	12 59 42.1	+0.5
SPSI	**Sidrap Palu**	**1.05**	**164**	P	Pg	12 59 47.7	-2.1
SPSI				S	Sb	13 00 04.2	+0.5
BNSI	**Bone**	**1.57**	**156**	P	Pn	12 59 57.9	+0.3
BNSI				S	Sg	13 00 20.0	-0.3
BKSI	**Bulukumba**	**2.44**	**165**	P	Pn	13 00 10.9	+1.3
APSI	**Ampana**	**2.97**	**47**	P	Pn	13 00 19.1	+2.2
BSSI	**Bau Bau, Buton**	**3.33**	**162**	P	Pn	13 00 22.9	+1.1
MRSI	**Marisa**	**4.21**	**36**	P	Pn	13 00 33.6	-0.2
PLAI	**Plampang**	**6.08**	**196**	P	Pn	13 00 58.7	-0.9
	32nm,1.9s						
WBSI	**Waikabubak, Su**	**6.65**	**181**	P	Pn	13 01 07.5	0.0

*ISK **07** 13:19:12.6, 38°.80N×26°.56E, h8km, ML2.5/21*
*AFAD **07** 13:19:12.4±0.0, 38°.76N×26°.56E, h7km±3km, ML2.6*
*THE **07** 13:19:13.0, 38°.79N×26°.49E, h10km±3km, ML2.6/4, Error ellipse: s-maj=3.5km s-min=0.8km az=280.0*

ISC 07 13:19:12.8±0.9, 38°.79N±0°.02×26°.55E±0°.02, h9km±7km, n44, σ0°73/66, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOCM	**Foa**	**0.16**	**119**	Pg	**Pg**	**13 19 16.1**	**-0.2**
FOCM				Sg	**Sg**	**13 19 18.7**	**0.0**
KARB	**zmir-Karabur**	**0.17**	**220**	P	**Pg**	**13 19 16.3**	**-0.1**
KARB				S	**Sg**	**13 19 19.3**	**+0.5**
KARB				*i* AML	AML	13 19 20.0	
	comp=N,1μm,0.2s						
KARB				*i* AML	AML	13 19 21.0	
	comp=E,2μm,0.6s						
CAND	**Candarli**	**0.26**	**51**	Pg	**Pg**	**13 19 17.8**	**-0.2**
CAND				Sg	**Sg**	**13 19 22.3**	**+0.8**
IZMD	**zmir-Dikili-**	**0.35**	**57**	P	**Pg**	**13 19 19.1**	**-0.8**
IZMD				S	**Sg**	**13 19 25.1**	**+0.6**
DKL	**Dikili**	**0.39**	**45**	Pg	**Pg**	**13 19 20.5**	**0.0**
DKL				Sg	**Sb**	**13 19 26.8**	**-1.3**
ZEDA	**zmir-Bergama**	**0.45**	**67**	P	**Pg**	**13 19 20.6**	**-0.9**
ZEDA				S	**Sb**	**13 19 29.9**	**+0.2**
ZEDA				*i* AML	AML	13 19 35.0	
	comp=E,295nm,0.4s						
CESE	**eme**	**0.50**	**203**	Pg	**Pb**	**13 19 23.1**	**-0.6**
PRK	**Paraskevi**	**0.50**	**335**	P	**Pg**	**13 19 22.7**	**+0.1**
PRK				S	**Sg**	**13 19 30.2**	**+1.0**
	862nm,0.4s						
AYVA	**Ayvalik**	**0.53**	**12**	P	**Pg**	**13 19 23.0**	**-0.1**
AYVA				S	**Sb**	**13 19 31.0**	**-0.9**
AYVA				*i* AML	AML	13 19 32.0	
	comp=N,363nm,0.3s						
AYVA				*i* AML	AML	13 19 33.0	
	comp=E,188nm,0.3s						
ZEYE	**Izmir, Urla-Ze**	**0.55**	**184**	P	**Pg**	**13 19 22.8**	**-0.7**
ZEYE				S	**Sb**	**13 19 33.0**	**+0.4**
ZEYE				*i* AML	AML	13 19 34.0	
	comp=N,479nm,0.2s						
ZEYE				*i* AML	AML	13 19 34.0	
	comp=E,408nm,0.4s						
BLCB	**Balcova**	**0.56**	**136**	Pg	**Pg**	**13 19 23.9**	**+0.2**
BLCB				Sg	**Sb**	**13 19 32.5**	**-0.3**
BLCB	**Balcova**	**0.56**	**136**	P	**Pb**	**13 19 24.2**	**-0.6**
CHOS	**Chios island**	**0.56**	**224**	P	**Pg**	**13 19 23.7**	**0.0**
CHOS				S	**Sg**	**13 19 30.9**	**-0.1**
	575nm,0.2s						
SIGR	**SIGRI**	**0.68**	**308**	Pg	**Pb**	**13 19 26.6**	**-0.3**
SIGR	**SIGRI**	**0.68**	**308**	P	**Pg**	**13 19 24.8**	**-1.2**
SIGR				S	**Sg**	**13 19 35.5**	**+0.5**
	460nm,0.4s						
GMLD	**Gumuldur**	**0.77**	**158**	Pg	**Pb**	**13 19 27.9**	**-0.4**
KOCA	**Canakkale, Ayv**	**0.78**	**336**	P	**Pg**	**13 19 27.9**	**0.0**
KOCA				S	**Sb**	**13 19 40.4**	**+1.3**
KOCA				*i* AML	AML	13 19 42.0	
	comp=E,293nm,0.4s						
KOCA				*i* AML	AML	13 19 43.0	
	comp=N,222nm,0.3s						
BUHA	**Balikesir, Bur**	**0.82**	**30**	P	**Pg**	**13 19 28.1**	**-0.5**
BUHA				S	**Sn**	**13 19 41.9**	**-0.9**
BUHA				*i* AML	AML	13 19 43.0	
	comp=E,454nm,0.6s						
BUHA				*i* AML	AML	13 19 45.0	
	comp=N,200nm,0.5s						
SOMA	**Soma-Manisa**	**0.85**	**64**	Pg	**Pb**	**13 19 29.4**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.95**	**360**	P	**Pg**	**13 19 30.5**	**-0.6**
BAYC				S	**Sn**	**13 19 45.9**	**0.0**
BAYC				*i* AML	AML	13 19 46.0	
	comp=N,177nm,0.4s						
BAYC				*i* AML	AML	13 19 48.0	
	comp=E,150nm,0.2s						
EZNE	**Ezine-Canakkal**	**0.97**	**352**	Pg	**Pb**	**13 19 31.7**	**-0.1**
AKHS	**Akhisar**	**0.99**	**85**	P	**Pg**	**13 19 31.2**	**-0.6**
AKHS				*i* AML	AML	13 19 49.0	
	comp=E,76nm,0.4s						
EZN	**Ezine**	**1.05**	**351**	Pg	**Pg**	**13 19 32.9**	**0.0**
EZN	**Ezine**	**1.05**	**351**	P	**Pg**	**13 19 31.2**	**-1.7**
SMG	**Samos**	**1.10**	**168**	P	**Pg**	**13 19 33.2**	**-0.8**
SMG				S	**Sn**	**13 19 49.8**	**0.0**
	510nm,0.4s						
BOZC	**Bozcaada**	**1.12**	**340**	P	**Pg**	**13 19 33.6**	**-0.6**
BOZC				S	**Sn**	**13 19 50.3**	**+0.2**
BOZC				*i* AML	AML	13 19 51.0	
	comp=N,233nm,0.3s						
BOZC				*i* AML	AML	13 19 51.0	
	comp=E,187nm,0.3s						
BALY	**Balya**	**1.26**	**41**	P	**Pn**	**13 19 35.1**	**-1.5**
BALY				S	**Sn**	**13 19 55.2**	**+1.5**
BALY				*i* AML	AML	13 19 56.0	
	comp=E,82nm,0.3s						
BALY				*i* AML	AML	13 19 57.0	
	comp=N,224nm,0.5s						
GORD	**Gordes-Manisa**	**1.28**	**84**	Pn	**Pg**	**13 19 37.9**	**+0.6**
CNKL	**anakkale-Mer**	**1.28**	**354**	P	**Pn**	**13 19 36.7**	**-0.1**
CNKL				S	**Sn**	**13 19 55.3**	**+1.2**
CNKL				*i* AML	AML	13 19 57.0	
	comp=E,118nm,0.3s						
CNKL				*i* AML	AML	13 19 59.0	
	comp=N,106nm,0.3s						
ECEA	**Canakkale, Ece**	**1.28**	**347**	P	**Pn**	**13 19 36.9**	**0.0**
ECEA				S	**Sn**	**13 19 56.0**	**+1.8**
ECEA				*i* AML	AML	13 19 57.0	
	comp=E,396nm,0.4s						
ECEA				*i* AML	AML	13 19 59.0	
	comp=N,281nm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**1.35**	**128**	Pn	**Pg**	**13 19 38.4**	**-0.3**
GOAD	**anakkale-G¶**	**1.46**	**340**	P	**Pn**	**13 19 39.6**	**+0.4**
GOAD				S	**Sg**	**13 19 59.7**	**+0.1**
GOAD				*i* AML	AML	13 20 00.0	
	comp=N,104nm,0.7s						
GOAD				*i* AML	AML	13 20 04.0	
	comp=E,74nm,0.5s						
GADA	**Gvkgeada**	**1.48**	**340**	Pn	**Pn**	**13 19 39.8**	**+0.2**
LIA	**Limnos Island**	**1.53**	**317**	P	**Pn**	**13 19 39.8**	**-0.5**
LPK	**Lapseki**	**1.59**	**6**	Pn	**Pb**	**13 19 41.7**	**-0.6**

ONTNC	Ouen Toro	0.30	161	P	Pg	13 44 32.9	-0.9
ONTNC	Ouen Toro	0.30	161	P	Pg	13 44 33.7	-0.1
YATNC	Mamie plateau,	0.50	95	P	Pg	13 44 34.3	-3.4
OUENC	Ouen Island, N	0.60	131	P	Pg	13 44 39.9	+0.3
PINNC	Pines Island,	1.17	120	P	Pg	13 44 44.9	-5.6

*IDC **07** 13:52:35.6±1.3,26°.65S×67°.68E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=39.3km s-min=27.1km az=70.0*

ISC 07 13:52:37.3±1.2,26°.6S±0°.2×67°.7E±0°.3,h10km,n13, σ0°61/7,mb4.1/7,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	19.43	14	T	T	14 16 56.0	
	baz=194,slow=76,SNR=12						
H08S2	Diego Garcia H	19.44	14	T	T	14 16 55.6	
	baz=194,slow=76,SNR=17						
H08S3	Diego Garcia H	19.45	14	T	T	14 16 56.0	
	baz=194,slow=76,SNR=17						
H04N2	CROZET ISLANDS	23.22	209	T	T	14 21 48.2	
	baz=39,slow=73,SNR=675						
H04N1	CROZET ISLANDS	23.23	209	T	T	14 21 49.7	
	baz=39,slow=73,SNR=465						
H04N3	CROZET ISLANDS	23.24	209	T	T	14 21 41.5	
	baz=39,slow=73,SNR=681						
CMAR	Chiang Mai Arr	54.13	37	P	P	14 02 03.5	+0.7
	1.4nm,1.0s,baz=232,slow=7.2,SNR=8.3						
	1.4nm,1.0s						
ASAR	Alice Springs	59.40	103	P	P	14 02 40.1	-0.3
	2.3nm,0.8s,baz=252,slow=6.5,SNR=47						
	2.3nm,0.8s						
WRA	Warramunga Arr	60.99	99	P	P	14 02 51.1	-0.1
	2.1nm,0.8s,baz=253,slow=6.8,SNR=12						
	2.1nm,0.8s						
QSPA	South Pole Qui	63.49	180	P	P	14 03 07.6	+0.2
	1.2nm,0.8s,baz=282,slow=2.1,SNR=4.7						
	1.2nm,0.8s						
BRTR	Keskin Array B	73.26	333	P	P	14 04 09.1	+0.2
	0.3nm,0.4s,baz=151,slow=3.3,SNR=1.8						
	0.3nm,0.4s						
ZALV	Zalesovo Beam	81.62	10	P	P	14 04 54.2	-0.9
	1.5nm,0.8s,baz=192,slow=4.2,SNR=5.4						
	1.5nm,0.8s						
SONM	Songino Array	81.90	25	P	P	14 04 56.9	0.0
	0.7nm,0.8s,baz=208,slow=4.9,SNR=2.0						
	0.7nm,0.8s						

*IDC **07** 13:56:43.9±0.6,26°.61S×67°.69E, h0km, mb4.2/14, mbtmp4.2/14, MS3.5/19, Error ellipse: s-maj=23.3km s-min=16.4km az=91.0*
*NEIC **07** 13:56:45.5±1.3,26°.7S±0°.1×67°.4E±0°.1, h10km±1km, mb4.7/27, Error ellipse: s-maj=23.4km s-min=19.4km az=310.0*

ISC 07 13:56:45.5±0.5,26°.69S±0°.10×67°.5E±0°.1,h10km,n56, σ0°92/36,mb4.5/23,MS3.5/19,2C,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	Nahampoana Res	18.56	271	P	P	14 01 01.1	-1.4
H08S1	Diego Garcia H	19.52	15	T	T	14 21 02.8	
	baz=194,slow=76,SNR=20						
H08S2	Diego Garcia H	19.52	15	T	T	14 21 03.1	
	baz=194,slow=76,SNR=25						
H08S3	Diego Garcia H	19.54	15	T	T	14 21 04.3	
	baz=194,slow=76,SNR=39						
H04N2	CROZET ISLANDS	23.10	209	T	T	14 25 55.3	
	baz=39,slow=74,SNR=232						
H04N1	CROZET ISLANDS	23.11	209	T	T	14 25 52.7	
	baz=39,slow=74,SNR=175						
H04N3	CROZET ISLANDS	23.12	209	T	T	14 25 53.0	
	baz=39,slow=74,SNR=180						
SOE	Somerset East	36.74	250	P	P	14 03 52.4	-0.9
LBTB	Lobatse	37.63	263	LR	LR	14 16 50.1	
	comp=Z,32nm,21.1s,baz=86,slow=32						
KMBO	Kilima Mbogo	38.61	306	LR	LR	14 17 23.5	
	comp=Z,29nm,18.6s,baz=87,slow=32						
H01W2	Cape Leeuwin H	40.59	113	T	T	14 47 17.1	
	baz=268,slow=75,SNR=13						
H01W3	Cape Leeuwin H	40.59	113	T	T	14 47 17.7	
	baz=268,slow=75,SNR=16						
H01W1	Cape Leeuwin H	40.60	113	T	T	14 47 18.7	
	baz=268,slow=75,SNR=13						
MAW	Mawson	41.03	183	P	P	14 04 29.6	+1.1
	4.4nm,0.6s,baz=357,slow=9.2,SNR=11						
MAW				LR	LR	14 17 12.8	
	comp=Z,50nm,20.8s,baz=52,slow=30						
	4.4nm,0.6s						
MBAR	Mbarara	43.84	300	LR	LR	14 19 57.4	
	comp=Z,54nm,18.7s,baz=84,slow=32						
IPM	Ipoh	44.85	51	P	P	14 05 01.9	+1.7
IPM				IAmb	IAmb	14 05 03.2	
	comp=Z,10nm,1.0s						
MYKOM	Kota Tinggi	45.06	57	P	P	14 05 03.2	+1.4
MYKOM				IAmb	IAmb	14 05 18.4	
	comp=Z,21nm,1.5s						
FURI	Furi	45.10	318	LR	LR	14 20 46.2	
	comp=Z,35nm,19.8s,baz=136,slow=32						
FITZ	Fitzroy Crossi	54.05	94	P	P	14 06 09.4	-1.0
FITZ	Fitzroy Crossi	54.05	94	LR	LR	14 25 55.0	
	comp=Z,39nm,19.1s,baz=129,slow=32						
CM31	Chiang Mai Arr	54.27	38	P	P	14 06 11.6	-0.4
CM31				IAmb	IAmb	14 06 14.4	
	comp=Z,7.9nm,0.9s						
CMAR	Chiang Mai Arr	54.27	38	P	P	14 06 11.9	-0.1
	comp=Z,3.4nm,0.9s,baz=230,slow=7.1,SNR=21						
CMAR				LR	LR	14 25 24.8	
	comp=Z,23nm,20.1s,baz=235,slow=32						
	comp=Z,3.4nm,0.9s						
SHL	Shillong	57.03	26	P	P	14 06 31.9	0.0
SNAA	Sanae	58.73	200	P	P	14 06 43.8	+0.6
SNAA				IAmb	IAmb	14 06 44.9	
	comp=Z,4.8nm,1.1s						
SNAA	Sanae	58.73	200	⇑P	P	14 06 43.4	+0.2
	comp=Z,38nm,0.8s						
SNAA	Sanae	58.73	200	P	P	14 06 44.4	+1.2
	comp=Z,2.2nm,0.8s,baz=81,slow=6.3,SNR=8.8						
SNAA				LR	LR	14 26 59.9	
	comp=Z,17nm,20.3s,baz=10.0,slow=31						
	comp=Z,2.2nm,0.8s						
ASAR	Alice Springs	59.55	103	P	P	14 06 48.5	-1.1
	comp=Z,6.2nm,0.8s,baz=251,slow=6.4,SNR=73						
	comp=Z,6.2nm,0.8s						
AS31	Alice Springs	59.56	103	P	P	14 06 48.4	-1.2
VNA2	Neumayer--Watz	60.09	201	⇑P	P	14 06 52.6	+0.1
	comp=Z,1.5nm,0.6s,baz=76,slow=5.0						
NIL	Nilore	60.26	6	P	P	14 06 53.7	-0.3
NIL				IAmb	IAmb	14 06 55.1	
	comp=Z,5.3nm,0.7s						
KBL	Kabul	60.91	1	P	P	14 06 59.7	+0.9
KBL				IAmb	IAmb	14 07 01.5	
	comp=Z,4.8nm,0.8s						
WRA	Warramunga Arr	61.15	99	P	P	14 06 59.3	-1.3
	comp=Z,6.2nm,0.8s,baz=252,slow=6.7,SNR=27						
WRA				PcP	PcP	14 07 41.7	-1.7
	comp=Z,0.7nm,0.7s,baz=249,slow=2.8,SNR=5.6						
	comp=Z,6.2nm,0.8s						
WB2	Warramunga Arr	61.16	99	P	P	14 06 59.3	-1.3
WB2				IAmb	IAmb	14 07 01.8	
	comp=Z,5.8nm,0.8s						
QSPA	South Pole Qui	63.45	180	P	P	14 07 15.1	-0.3
QSPA				IAmb	IAmb	14 07 17.0	
	comp=Z,5.7nm,0.9s						
QSPA	South Pole Qui	63.45	180	P	P	14 07 15.8	+0.4
	comp=Z,4.0nm,0.9s,baz=284,slow=2.5,SNR=15						
QSPA				LR	LR	14 32 06.5	
	comp=Z,56nm,19.1s,baz=271,slow=33						
	comp=Z,4.0nm,0.9s						
TNTI	Ternate	63.69	75	P	P	14 07 17.5	-0.1
EIL	Elat	64.13	329	LR	LR	14 32 29.3	
	comp=Z,30nm,18.1s,baz=251,slow=33						
SBA	Scott Base	66.04	167	P	P	14 07 32.3	+0.4
MMAI	Mount Meron Ar	66.77	331	LR	LR	14 33 26.0	
	comp=Z,30nm,19.6s,baz=114,slow=33						
AAK	Ala-Archa	69.28	6	LR	LR	14 35 30.5	
	comp=Z,40nm,18.5s,baz=206,slow=34						
KKAR	Karatay Array	69.50	2	P	P	14 07 54.4	+0.3
BRTR	Keskin Array B	73.23	333	P	P	14 08 17.4	+0.5
	comp=Z,0.9nm,0.7s,baz=159,slow=7.4,SNR=3.6						
	comp=Z,0.9nm,0.7s						
MAKZ	Makanchi	74.31	10	P	P	14 08 23.0	+0.1
MKAR	Makanchi Array	74.35	10	P	P	14 08 22.5	-0.7
	comp=Z,0.9nm,0.8s,baz=200,slow=6.1,SNR=7.2						
MKAR				LR	LR	14 38 36.9	
	comp=Z,35nm,20.6s,baz=343,slow=34						
	comp=Z,0.9nm,0.8s						
TORD	Torodi Ar. Bea	75.16	293	P	P	14 08 28.8	+0.3
	comp=Z,0.6nm,0.7s,baz=98,slow=4.1,SNR=3.8						
TORD				LR	LR	14 39 09.3	
	comp=Z,43nm,21.8s,baz=142,slow=34						
	comp=Z,0.6nm,0.7s						
DBIC	Dimbokro	77.42	284	LR	LR	14 42 27.0	
	comp=Z,31nm,18.1s,baz=284,slow=35						
KURBB	Kurchatov Arra	77.59	7	P	P	14 08 40.3	-1.2
	comp=Z,1.2nm,0.2s,baz=201,slow=6.8,SNR=3.3						
	comp=Z,1.2nm,0.2s						
BVAR	Borovoye Array	79.42	2	LR	LR	14 41 23.6	
	comp=Z,29nm,20.3s,baz=173,slow=34						
BELG	Belogornoye	80.64	348	LR	LR	14 43 14.5	
	comp=Z,55nm,18.3s,baz=227,slow=35						
ZAA0	Zalesovo Array	81.69	10	P	P	14 09 03.6	0.0
ZAA0				IAmb	IAmb	14 09 05.3	
	comp=Z,5.0nm,0.9s						
ZALV	Zalesovo Beam	81.69	10	P	P	14 09 02.6	-1.1
	comp=Z,3.3nm,0.7s,baz=198,slow=4.4,SNR=15						
ZALV				LR	LR	14 42 00.8	
	comp=Z,31nm,20.7s,baz=355,slow=33						
	comp=Z,3.3nm,0.7s						
SONM	Songino Array	82.01	25	P	P	14 09 05.2	-0.5
	comp=Z,2.2nm,0.9s,baz=211,slow=5.2,SNR=8.3						
	comp=Z,2.2nm,0.9s						
ULN	Ulaanbaatar	82.29	26	P	P	14 09 07.6	+0.4
ULN				IAmb	IAmb	14 09 08.8	
	comp=Z,3.5nm,0.9s						
AKASG	Malin Array Be	84.16	337	P	P	14 09 16.1	-0.4
	comp=Z,0.2nm,0.3s,baz=149,slow=4.2,SNR=4.1						
	comp=Z,0.2nm,0.3s						
ESDC	Sonseca Array	93.70	313	P	P	14 10 03.8	+1.3
	comp=Z,0.8nm,0.8s,baz=114,slow=3.1,SNR=2.7						
	comp=Z,0.8nm,0.8s						
FINES	FINESS Array B	93.98	341	LR	LR	14 50 49.7	
	comp=Z,60nm,18.0s,baz=280,slow=34						

*TEH **07** 13:57:17.6,27°.50N×58°.65E, h14km±51km, ML3.5*
*DSN **07** 13:57:18.9±2.9,27°.43N×58°.51E, h10km, ML2.8/8, Error ellipse: s-maj=52.4km s-min=15.8km az=165.0*
*OMAN **07** 13:57:22.4±0.2,27°.12N×58°.53E, h10km, mb4.4/1, ml3.2/18, Error ellipse: s-maj=3.1km s-min=2.2km az=26.0*

ISC 07 13:57:16.9±1.2,27°.42N±0°.04×58°.65E±0°.05,h10km,n45, σ2°24/66,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	Kahnooj	0.99	302	Pg	Pb	13 57 36.3	+0.2
JASK	Jask - Hormozg	1.70	204	Pg	Pg	13 57 50.2	+0.7
KBAM	BAM	1.72	354	Pg	Pn	13 57 46.9	-0.1
IBND	Bandar-abas	1.87	271	Pn	Pb	13 57 50.6	-0.6
GENO	Geno	2.20	270	Pn	Pn	13 57 55.2	+1.5
CHBR	Chabahar	2.45	137	Pn	Pn	13 57 59.8	+2.7
BANOM	Banah	2.58	235	P	Pn	13 57 58.6	-0.1
BANOM	Banah	2.58	235	P	Pn	13 58 00.2	+1.5
BANOM				S	Sn	13 58 30.6	+0.4
CHMN	Cheshme madani	2.62	338	Pn	Pn	13 58 01.2	+1.5
SHME	Shamm	2.62	239	eP	Pn	13 58 01.1	+1.7
	SNR=10						
SHME				S	Sn	13 58 31.5	+0.2
SHME	Shamm	2.62	239	P	Pn	13 58 01.3	+1.9
	SNR=66						
SHME				S	Sn	13 58 32.3	+1.0
ZHDN	Zahedan	2.74	44	Pn	Pn	13 58 02.5	+1.4
NGRK	Negar Kerman	2.78	323	Pn	Pn	13 58 03.6	+1.6
MDH	Madha	2.98	225	eP	Pn	13 58 04.0	-0.3
	SNR=36						
MDH	Madha	2.98	225	P	Pn	13 58 04.7	+0.3
	SNR=36						
MDH				S	Sn	13 58 37.4	-2.9
MASF	Masafi	3.02	228	P	Pn	13 58 05.7	+0.8
	SNR=13						
MASF				S	Sn	13 58 38.6	-2.7
MSFE	Esma-Masafi	3.03	228	eP	Pn	13 58 05.7	+0.7
	SNR=13						
NGCH	Negor - Chabah	3.03	132	Pn	Pn	13 58 07.8	+2.7
TVBK	TV Kerman	3.04	327	Pn	Pn	13 58 06.4	+0.9
UOSS	Minazif	3.30	222	P	Pn	13 58 08.8	+0.1
UOSS	Minazif	3.30	222	P	Pn	13 58 09.3	+0.6
UOSS				S	Sn	13 58 44.6	-3.5
HATD	Hatta, Dubai	3.43	222	P	Pn	13 58 10.8	+0.2
HATD	Hatta, Dubai	3.43	222	P	Pn	13 58 11.6	+1.1
HATD				S	Sn	13 58 47.3	-4.0
HATD				S	Sb	13 58 50.0	-10
	SNR=6.0						
KHGB	Koh Gabri	3.50	328	Pn	Pn	13 58 13.3	+1.6
ASHO	Ashiyiah	3.58	221	i P	Pn	13 58 15.1	+2.4
	SNR=12						
ASHO	Ashiyiah	3.58	221	P	Pn	13 58 15.8	+3.2
	SNR=12						
ASHO				S	Sn	13 58 54.5	-0.6
NAZ	Nazwa, Dubai	3.61	229	P	Pn	13 58 16.7	+3.7
NAZ				S	Sn	13 58 57.5	+1.8
SOHO	SOHO	3.79	211	P	Pn	13 58 15.6	+0.2
SOHO				S	Sn	13 58 55.6	-4.4
FAQ	Al Faqa, Dubai	3.83	227	i P	Pn	13 58 18.3	+2.3
	SNR=10.0						
FAQ	Al Faqa, Dubai	3.83	227	P	Pn	13 58 19.1	+3.1
FAQ				S	Sn	13 59 01.3	+0.3
BIDO	Bidbid	3.91	187	P	Pn	13 58 18.4	+1.3
BIDO				S	Sn	13 59 01.5	-1.6
HOQ	Hoqain	4.01	198	P	Pn	13 58 19.5	+1.1
	SNR=14						
HOQ				S	Sn	13 59 01.1	-4.4
ASUD	Al Ashush, Dub	4.08	228	P	Pn	13 58 22.7	+3.3
ASUD				S	Sn	13 59 06.8	-0.5
WSAR	Wadi Sarin	4.16	180	P	Pn	13 58 23.2	+2.6
WSAR				S	Sn	13 59 08.3	-1.0
ALNE	Al Ain	4.25	219	i P	Pn	13 58 24.2	+2.4
	SNR=6.6						
ALNE	Al Ain	4.25	219	P	Pn	13 58 25.0	+3.2
	SNR=20						
ALNE				S	Sn	13 59 12.9	+1.4
SMDO	Samad	4.38	187	P	Pn	13 58 26.4	+2.8
SMDO				S	Sn	13 59 14.5	-0.3
ARQ	Araqi	4.50	206	P	Pn	13 58 28.7	+3.5
ARQ				S	Sn	13 59 19.0	+1.4
WBK	Wadi Bani Khal	4.80	176	P	Pn	13 58 31.6	+2.3
	SNR=15						
JLN	Jalan Bani Buh	5.29	172	P	Pn	13 58 37.4	+1.3
	SNR=20						
JLN				S	Sn	13 59 33.7	-3.5
	SNR=19						
ITEG	Tejag	5.46	1	Pn	Pn	13 58 39.0	+0.4
MHTO	MHTO	6.44	186	P	Pn	13 58 55.0	+3.1
MHTO				S	Sn	14 00 04.5	-0.9
TRNA	Turayna	7.20	250	P	Pn	13 59 02.6	+0.3
WHFO	Wadi Hawf	10.47	206	P	Pn	13 59 46.6	-0.6
WHFO				S	Sn	14 01 37.7	-7.0
	SNR=9.6						
ABTO	Aybut	11.17	207	P	Pn	13 59 56.0	-0.8

*IDC **07** 14:10:52.3±1.9, 0°.37N×128°.28E, h0km, mb3.4/4, mbtmp3.4/4, MS3.3/1, Error ellipse: s-maj=145.8km s-min=23.9km az=68.0*
*DJA **07** 14:10:52.9±0.6, 0°N±2°×12°8E±°, h13km±5km, M3.4/8, MLv3.4/8*

ISC 07 14:10:53.1±1.0,0°.32N±0°.06×127°.99E±0°.07,h10km,n10, σ1°31/12,mb3.5/4,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.77	306	P	Pg	14 11 07.2	-0.8
TNTI				S	Sg	14 11 18.1	0.0
LBMI	Labuha	1.07	207	P	Pg	14 11 13.3	-0.4
LBMI				S	Sn	14 11 29.0	-0.1
SANI	Sanana	3.09	220	P	Pn	14 11 40.1	-1.9
SANI				S	Sn	14 12 18.0	-1.0
SWI	Sorong	3.47	110	P	Pn	14 11 45.5	-1.7
NLAI	Namlea	3.65	194	P	Pn	14 11 50.4	+0.8
WRA	Warramunga Arr	21.07	163	P	P	14 15 38.1	+0.4
	0.9nm,0.7s,baz=344,slow=11,SNR=5.0						
	0.9nm,0.7s						
ASAR	Alice Springs	24.52	167	P	P	14 16 13.5	+0.5
	1.3nm,0.7s,baz=349,slow=10,SNR=20						
	1.3nm,0.7s						
NWAO	Narrogin (SRO)	34.59	196	LR	LR	14 34 46.3	
	comp=Z,44nm,18.4s,baz=224,slow=41						
MKAR	Makanchi Array	61.06	326	P	P	14 21 08.0	+0.7
	0.2nm,0.6s,baz=117,slow=8.2,SNR=1.5						
	0.2nm,0.6s						
KURBB	Kurchatov Arra	65.28	328	P	P	14 21 37.5	+2.4
	0.3nm,0.7s,baz=128,slow=6.2,SNR=2.6						
	0.3nm,0.7s						

IDC 07 14:53:56.6±2.1,18°.01S×178°.14W,h572km±22km, mb2.9/5,mbtmp3.8/6,Error ellipse: s-maj=46.3km s-min=26.2km az=157.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.64	274	P	P	14 55 17.8	+0.1
	26nm,0.7s,baz=107,slow=19,SNR=19						
STKA	Stephens Creek	38.81	241	P	P	15 00 31.4	-1.9
	1.3nm,0.7s,baz=81,slow=13,SNR=1.6						
	1.3nm,0.7s						
WRA	Warramunga Arr	44.87	260	P	P	15 01 21.0	-0.1
	0.5nm,0.5s,baz=96,slow=7.1,SNR=12						
	0.5nm,0.5s						
ASAR	Alice Springs	45.01	254	P	P	15 01 22.6	+0.4
	4.3nm,0.5s,baz=88,slow=9.1,SNR=208						
	4.3nm,0.5s						
QSPA	South Pole Qui	72.05	180	P	P	15 04 23.7	+0.5
	0.2nm,0.4s,baz=36,slow=0.2,SNR=0.9						
	0.2nm,0.4s						
NVAR	Mina Array Bea	79.32	44	P	P	15 05 03.6	-0.4
	0.3nm,0.7s,baz=224,slow=7.6,SNR=2.7						
	0.3nm,0.7s						

*DJA **07** 14:57:05.8±0.3,5°N±2°×12°7E±°, h56km±5km, M4.6/24, mB5.1/15, mb4.7/24, MLv4.8/13, Mw(mB)4.5/15*
*IDC **07** 14:57:06.7±1.7,5°.38N×126°.97E, h64km±13km, mb4.2/26, mbtmp4.5/29, MS3.5/20, Error ellipse: s-maj=22.8km s-min=9.2km az=72.0*
*NEIC **07** 14:57:06.7±1.5,5°.36N±0°.06×126°.93E±0°.09, h60km±8km, mb4.7/55, Error ellipse: s-maj=13.9km s-min=8.4km az=70.0*

ISC 07 14:57:05.8±0.9,5°.35N±0°.04×126°.94E±0°.07,h57km±8km, n137,σ1°14/140,mb4.6/51,MS3.6/20,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.18	322	Pn	Pn	14 57 40.6	+0.9
DAV	Davao City (W)	2.18	322	P	Pn	14 57 40.8	+1.1
	589nm,0.3s,baz=93,slow=4.0,SNR=28						
DAV				S	Sn	14 58 07.6	+2.1
	1μm,0.6s,baz=142,slow=19,SNR=6.6						
DAV	Davao City (W)	2.18	322	P	Pn	14 57 37.0	-2.7
TNTI	Ternate	4.57	175	Pn	Pn	14 58 12.7	+0.3
TNTI	Ternate	4.57	175	P	Pn	14 58 13.2	+0.8
TNTI				S	Sn	14 59 04.1	-0.2
KMSI	Cibinong	5.59	212	P	Pn	14 58 29.7	+3.3
LBMI	Labuha	5.98	175	P	Pn	14 58 28.4	-3.3
	164nm,0.8s,5μm1.0nm						
LBMI				S	Sn	14 59 39.2	+0.3
	164nm,0.8s,5μm1.0nm						
MRSI	Marisa	6.96	226	P	Pn	14 58 45.3	+0.1
	89nm,0.7s,1μm0.4nm						
SANI	Sanana	7.42	187	P	Pn	14 58 48.7	-2.7
	28nm,0.5s,1μm0.3nm						
TOLI2	Tolitoli	7.45	236	Pn	Pn	14 58 50.4	-1.6
SWI	Sorong	7.53	145	P	Pn	14 58 52.8	-0.2
	59nm,0.8s,0.2nm						
LUWI	Luwuk	7.60	213	Pn	Pn	14 58 57.3	+3.3
LUWI	Luwuk	7.60	213	P	Pn	14 58 57.4	+3.5
APSI	Ampana	8.16	221	P	Pn	14 59 04.6	+2.9
	119nm,1.1s,1μm						
MYLDM	Lahad Datu	8.41	269		Pn	14 59 05.9	+0.8
NLAI	Namlea	8.54	179	P	Pn	14 59 04.4	-2.4
	30nm,0.6s,1μm						
MSAI	Masohi	8.87	167	P	Pn	14 59 13.7	+2.4
	41nm,0.6s,879nm						
FAKI	Fak Fak	9.78	147	Pn	Pn	14 59 23.9	+0.1
FAKI	Fak Fak	9.78	147	P	Pn	14 59 23.4	-0.4
	35nm,0.8s						
RKPI	Ransiki, Papua	9.94	133	P	Pn	14 59 26.8	+0.8
	44nm,0.8s						
TTSI	Tana Toraja	10.96	221	P	Pn	14 59 41.7	+1.7
	26nm,1.0s,685nm						
KAPI	Kappang	12.55	215	Pn	Pn	15 00 01.9	+0.1
KAPI	Kappang	12.55	215	P	Pn	15 00 02.2	+0.4
	2.6nm,0.4s,baz=131,slow=18,SNR=2.3						
KAPI				LR	LR	15 05 21.4	
	comp=Z,307nm,20.5s,baz=52,slow=39						
SAUI	Saumlaki	13.94	162	P	Pn	15 00 20.9	+0.3
SBUM	Sibu	14.97	259	P	P	15 00 37.6	-0.8
SOEI	Soe	15.24	190		P	15 00 39.9	-1.7
SOEI				IAmb	IAmb	15 01 10.1	
	comp=Z,30nm,0.8s						
SOEI	Soe	15.24	190	P	Pn	15 00 38.1	+0.4
	comp=Z,28nm,0.8s						
BATI	Baumata	15.80	192	P	Pn	15 00 45.1	+0.4
	comp=Z,12nm,0.5s,baz=342,slow=20,SNR=1.8						
BATI				S	Sn	15 03 41.0	+1.9
	comp=Z,8.9nm,0.5s,baz=278,slow=20,SNR=1.3						
JAY	Jayapura	15.81	119	P	Pn	15 00 42.0	-3.0
STKI	Sintang	16.31	252	P	P	15 00 53.0	-0.3
	comp=Z,15nm,0.8s						
WBSI	Waikabubak, Su	16.69	207	P	Pn	15 00 56.8	+0.8
	comp=Z,23nm,1.1s						
KSM	Kuching	17.04	258	P	Pn	15 01 00.6	+0.2
MTN	Manton Dam	18.55	167	P	P	15 01 16.3	-1.8
JAGI	Jajag, Banyuwa	18.74	223	P	Pn	15 01 20.9	-0.2
JAGI				IAmb	IAmb	15 01 35.1	
	comp=Z,67nm,1.3s						
TPUB	Ta-pu	18.85	342	P	P	15 01 21.5	+0.2
TPUB				IAmb	IAmb	15 02 02.5	
	comp=Z,51nm,1.4s						
GUMO	Guam	19.47	64	LR	LR	15 07 45.0	
	comp=Z,68nm,19.9s,baz=152,slow=33						
YHNB	Yeheng	19.94	345	P	P	15 01 33.8	+0.6
KNRA	Kununurra	20.97	175		P	15 01 43.6	-0.8
KNRA				IAmb	IAmb	15 02 04.7	
	comp=Z,22nm,0.8s						
JOW	Kunigami	21.40	3	LR	LR	15 11 57.0	
	comp=Z,70nm,19.6s,baz=193,slow=42						
LEM	Lembang	22.77	238	LR	LR	15 12 40.7	
	comp=Z,250nm,20.8s,baz=354,slow=41						
MYKOM	Kota Tinggi	23.31	262	P	P	15 02 08.2	-0.9
MYKOM				IAmb	IAmb	15 02 09.7	
	comp=Z,65nm,1.5s						
FITZ	Fitzroy Crossi	23.34	183	P	P	15 02 09.4	+0.2
COEN	Coen	25.05	140	P	P	15 02 24.8	-0.

CHTO Chiang Mai 30.40 299 P **P** **15 03 11.7 -1.2**
CTAO Charters Tower 31.62 144 P **P** **15 03 25.8 +2.2**
CTAO IAmb IAmb 15 03 44.8
comp=Z,7.5nm,1.1s
KSRS Korea Array 31.96 1 P **P** **15 03 25.7 -0.6**
comp=Z,0.7nm,0.4s,baz=178,slow=9.6,SNR=6.8
KSRS LR LR 15 20 05.8
comp=Z,47nm,18.1s,baz=185,slow=43
comp=Z,0.7nm,0.4s
XAN Xi'an 33.08 332 P **P** **15 03 36.9 +0.6**
XAN pP pP 15 03 43.5 -6.0
XAN pmax pmax
comp=Z,17nm,0.9s
MORW Morawa 35.79 196 P **P** **15 03 59.0 -0.7**
BJT Baijiatuau 35.85 346 P **P** **15 04 01.3 +1.2**
HNR Honiara 36.02 114 LR LR 15 17 17.4
comp=Z,56nm,21.6s,baz=342,slow=34
BBOO Buckleboo 38.93 168 P **P** **15 04 25.9 -0.3**
USA0B Ussuriysk Arra 38.94 6 P **P** **15 04 26.5 +0.3**
USRK Ussuriysk Ar. 38.94 6 P **P** **15 04 26.5 +0.3**
USRK Ussuriysk Ar. 38.94 6 P **P** **15 04 26.9 +0.7**
comp=Z,3.0nm,0.4s,baz=185,slow=7.4,SNR=17
comp=Z,3.0nm,0.4s
MDJ Mudanjiang 39.17 3 P **P** **15 04 28.7 +0.6**
MDJ IAmb IAmb 15 04 30.1
comp=Z,9.5nm,0.8s
MDJ Mudanjiang 39.17 3 P **P** **15 04 28.2 +0.1**
MDJ pmax pmax
comp=Z,15nm,0.7s
STKA Stephens Creek 39.57 160 P **P** **15 04 31.5 -0.1**
STKA Stephens Creek 39.57 160 P **P** **15 04 31.6 0.0**
comp=Z,4.5nm,0.5s,baz=337,slow=9.3,SNR=12
comp=Z,4.5nm,0.5s
JKA Kamikawa-asahi 40.99 17 P **P** **15 04 43.4 +0.2**
JKA IAmb IAmb 15 04 44.9
comp=Z,9.5nm,1.0s
H11N1 WAKE ISLAND Hy 41.39 66 T T 15 49 24.7
baz=255,slow=75,SNR=7.9
H11N2 WAKE ISLAND Hy 41.40 66 T T 15 49 25.4
baz=255,slow=75,SNR=9.1
H11N3 WAKE ISLAND Hy 41.41 66 T T 15 49 25.2
baz=255,slow=75,SNR=8.2
GTA Gaotai 41.83 328 *e*P **P** **15 04 50.8 +0.5**
GTA sP pwP 15 05 08.4 -0.4
GTA PcP **PcP** **15 06 46.7 +1.2**
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA LR LR
comp=N,120nm,20.4s
GTA LR LR
comp=E,130nm,19.3s
GTA LR LR
comp=Z,220nm,21.1s
ARMA Armidale 42.71 148 P **P** **15 04 57.4 -0.1**
KLR Kul'dur 43.91 5 LR LR 15 26 11.5
comp=Z,30nm,19.7s,baz=199,slow=40
SONM Songino Array 45.84 341 P **P** **15 05 23.9 +1.6**
SONM Songino Array 45.84 341 P **P** **15 05 22.4 0.0**
comp=Z,1.4nm,0.5s,baz=156,slow=8.0,SNR=6.3
SONM PcP **PcP** **15 06 59.0 +0.1**
comp=Z,0.4nm,0.4s,baz=168,slow=6.0,SNR=2.3
SONM LR LR 15 25 21.2
comp=Z,69nm,19.7s,baz=133,slow=37
comp=Z,1.4nm,0.5s
PETK Petropavlovsk- 53.86 22 P **P** **15 06 23.0 +0.1**
PETK Petropavlovsk- 53.86 22 P **P** **15 06 23.2 +0.2**
comp=Z,8.0nm,0.8s,baz=222,slow=3.7,SNR=6.4
comp=Z,8.0nm,0.8s
MK31 Makanchi Array 56.36 325 P **P** **15 06 41.0 -0.2**
MK31 IAmb IAmb 15 06 43.0
comp=Z,5.9nm,0.9s
MKAR Makanchi Array 56.36 325 P **P** **15 06 40.3 -0.9**
MKAR Makanchi Array 56.36 325 P **P** **15 06 40.9 -0.3**
comp=Z,4.5nm,0.6s,baz=116,slow=7.1,SNR=51
MKAR PcP **PcP** **15 07 37.8 -0.1**
comp=Z,4.0nm,1.0s,baz=134,slow=5.2,SNR=6.1
MKAR LR LR 15 31 40.9
comp=Z,137nm,21.9s,baz=86,slow=37
comp=Z,4.5nm,0.6s
MAKZ Makanchi 56.55 324 P **P** **15 06 42.0 -0.4**
MAKZ IAmb IAmb 15 06 44.3
comp=Z,9.3nm,1.0s
YAK Yakutsk 56.59 2 P **P** **15 06 42.6 +0.2**
YAK Yakutsk 56.59 2 LR LR 15 35 27.0
comp=Z,24nm,19.0s,baz=185,slow=41
MA2 Magadan 57.09 14 LR LR 15 30 05.8
comp=Z,24nm,21.3s,baz=210,slow=35
NIL Nilore 57.12 307 P **P** **15 06 45.9 -0.9**
KDJ Kajisay 57.29 318 P **P** **15 06 47.8 -0.2**
KDJ IAmb IAmb 15 06 49.8
comp=Z,4.2nm,0.6s
ZAA0 Zalesovo Array 59.25 333 P **P** **15 07 00.4 -0.8**
ZAA0 IAmb IAmb 15 07 02.6
comp=Z,12nm,1.2s
ZALV Zalesovo Beam 59.25 333 P **P** **15 07 00.7 -0.6**
ZALV Zalesovo Beam 59.25 333 P **P** **15 07 00.9 -0.3**
comp=Z,2.1nm,0.4s,baz=128,slow=6.1,SNR=16
comp=Z,2.1nm,0.4s
AAK Ala-Archa 59.31 317 PcP **PcP** **15 07 49.9 +0.2**
comp=Z,1.4nm,0.5s,baz=133,slow=6.1,SNR=2.9
AAK LR LR 15 35 49.6
comp=Z,70nm,19.6s,baz=90,slow=39
DRK Karamyk 60.06 313 P **P** **15 07 07.6 +0.1**
DRK IAmb IAmb 15 07 25.8
comp=Z,5.5nm,0.7s
KURK Kurchatov 60.50 327 P **P** **15 07 09.4 -0.4**
KURBB Kurchatov Arra 60.50 327 P **P** **15 07 10.4 +0.5**
comp=Z,8.5nm,0.6s,baz=128,slow=6.8,SNR=96
comp=Z,8.5nm,0.6s
BTK Batken 60.96 313 P **P** **15 07 14.0 +0.7**
GAR Garm 60.99 312 P **P** **15 07 13.4 -0.3**
SIMJ Simiganj 61.87 311 P **P** **15 07 20.2 +0.7**
SIMJ IAmb IAmb 15 07 36.8
comp=Z,5.5nm,1.2s
KKAR Karatay Array 62.20 316 P **P** **15 07 21.6 0.0**
KKAR IAmb IAmb 15 07 23.2
comp=Z,3.7nm,0.8s
BKZ Black Stump Fm 63.65 139 P **P** **15 07 31.8 +0.5**
BKZ IAmb IAmb 15 07 44.4
comp=Z,14nm,1.3s
BVAR Borovoye Array 66.09 327 P **P** **15 07 47.8 +1.0**
comp=Z,7.8nm,0.5s,baz=119,slow=8.6,SNR=51
comp=Z,7.8nm,0.5s
BRVK Borovoye 66.16 327 P **P** **15 07 46.7 -0.6**
TIXI Tiksi 66.23 1 P **P** **15 07 46.8 -0.5**
TIXI IAmb IAmb 15 07 48.4
comp=Z,6.1nm,1.1s
NRIK Noril'sk 68.91 346 P **P** **15 08 04.7 +0.4**
NRIK IAmb IAmb 15 08 25.1
comp=Z,13nm,1.4s
NRIK Noril'sk 68.91 346 P **P** **15 08 04.4 0.0**
comp=Z,3.6nm,0.8s,baz=128,slow=0.8,SNR=5.6
comp=Z,3.6nm,0.8s
ABKAR Akbulak array 71.04 320 P **P** **15 08 16.7 -1.1**
ABKAR IAmb IAmb 15 08 19.0
comp=Z,7.2nm,0.8s
ABKAR Akbulak array 71.04 320 P **P** **15 08 17.3 -0.5**
AKTO Aktyubinsk 72.53 321 P **P** **15 08 27.5 +0.8**
comp=Z,7.6nm,0.7s,baz=96,slow=5.5,SNR=17
comp=Z,7.6nm,0.7s
ARTI Arti 73.77 327 P **P** **15 08 33.2 -0.7**
comp=Z,3.5nm,0.5s,baz=113,slow=3.2,SNR=6.5
comp=Z,3.5nm,0.5s
RAR Rarotonga 76.47 113 LR LR 15 40 09.0
comp=Z,142nm,19.7s,baz=144,slow=34
KDAK Kodiak Island 80.41 32 LR LR 15 43 56.8
comp=Z,31nm,20.0s,baz=109,slow=35
GNI Garni 80.61 310 LR LR 15 49 34.8
comp=Z,28nm,21.1s,baz=36,slow=39
CAST Castle Rocks 81.20 27 P **P** **15 09 15.8 +0.5**
CAST IAmb IAmb 15 09 16.6
comp=Z,5.2nm,0.9s
MLY Manley 81.93 25 P **P** **15 09 19.5 +0.4**
MLY IAmb IAmb 15 09 20.6
comp=Z,5.2nm,1.0s
KBZ Khabaz 82.03 313 P **P** **15 09 20.5 +0.5**
comp=Z,1.8nm,0.8s,baz=150,slow=7.6,SNR=4.2
KBZ LR LR 15 51 41.8
comp=Z,33nm,18.2s,baz=49,slow=40
comp=Z,1.8nm,0.8s
H24K Noodor Dome 83.17 24 P **P** **15 09 26.1 +0.5**
H24K IAmb IAmb 15 09 38.8
comp=Z,11nm,1.4s
ILAR Eielson Array 83.56 25 P **P** **15 09 26.5 -1.0**
comp=Z,1.5nm,1.0s,baz=230,slow=5.6,SNR=9.2
comp=Z,1.5nm,1.0s
BMAR Burnt Mountain 84.51 23 P **P** **15 09 32.9 +0.5**
F26K Sheenjek River 84.67 23 P **P** **15 09 33.4 +0.3**
GLB Gilahina Butte 84.98 29 P **P** **15 09 35.7 +0.8**
BERG Berg Lake 85.07 30 P **P** **15 09 36.5 +1.2**
MAW Mawson 85.34 200 P **P** **15 09 36.6 +0.3**
comp=Z,2.8nm,0.9s,baz=325,slow=12,SNR=3.8
comp=Z,2.8nm,0.9s
D27M Malcolm River 85.78 21 P **P** **15 09 39.2 +0.5**
D27M IAmb IAmb 15 10 21.7
comp=Z,6.6nm,1.4s
SPITS Spitsbergen Ar 88.94 349 P **P** **15 09 53.6 -0.1**
comp=Z,8.1nm,0.8s,baz=104,slow=12,SNR=2.4
SPITS LR LR 15 57 41.0
comp=Z,39nm,18.0s,baz=184,slow=41
comp=Z,8.1nm,0.8s
ARCES ARCESS Array B 89.01 340 P **P** **15 09 53.5 -0.7**
comp=Z,1.2nm,0.5s,baz=83,slow=6.3,SNR=22
comp=Z,1.2nm,0.5s
BRTR Keskin Array B 89.16 310 P **P** **15 09 55.1 -0.6**
comp=Z,1.6nm,0.8s,baz=109,slow=3.8,SNR=8.9
comp=Z,1.6nm,0.8s
FINES FINESS Array B 90.51 332 P **P** **15 10 00.7 -0.6**
comp=Z,1.2nm,0.4s,baz=82,slow=3.5,SNR=15
comp=Z,1.2nm,0.4s
AKASG Malin Array Be 90.77 321 P **P** **15 10 02.1 -0.6**
comp=Z,0.3nm,0.4s,baz=75,slow=3.6,SNR=4.6
comp=Z,0.3nm,0.4s
MNK Minsk 90.93 325 *i* P **P** **15 10 02.0 -1.4**
comp=E,14nm,1.1s
MNK *i* P **P** **15 10 02.0 -1.4**
comp=N,13nm,1.0s
MNK *i* P **P** **15 10 02.0 -1.4**
comp=Z,13nm,0.9s,baz=80
MNK *i* PP **PP** **15 13 36.2 -3.7**
MNK *i* PPP PPP 15 15 34.6
MNK *i* S **SKSac** **15 20 30.8 +0.3**
MNK *i* SS **SS** **15 26 59.6 -0.1**
MNK *i* SSS SSS 15 30 39.6
MNK *i* LQ LQ 15 44 53.4
MNK *i* LR LR 15 49 57.6
MNK *i* LRM MLR 15 52 12.3
comp=N,132nm,18.6s
MNK *i* LRM MLR 15 52 26.9
comp=E,134nm,23.8s
MNK *i* LRM MLR 15 53 33.2
comp=Z,68nm,19.5s
QSPA South Pole Qui 95.25 180 P **P** **15 10 23.7 +0.5**
comp=Z,1.6nm,0.9s,baz=304,slow=3.6,SNR=7.2
comp=Z,1.6nm,0.9s
HFS Hagfors 96.69 332 P **P** **15 10 28.6 -1.2**
comp=Z,1.4nm,0.5s,baz=64,slow=3.4,SNR=7.8
comp=Z,1.4nm,0.5s
NOA NORSAR Array B 97.44 334 P **P** **15 10 32.5 -0.7**
comp=Z,0.7nm,0.7s,baz=66,slow=4.7,SNR=3.5
NOA LR LR 15 57 55.0
comp=Z,89nm,20.0s,baz=70,slow=37
comp=Z,0.7nm,0.7s
TORD Torodi Ar. Bea 122.60 289 PKP **PKPdf** **15 15 55.8 -0.3**
comp=Z,1.9nm,0.7s,baz=31,slow=2.9,SNR=12

*CNRM **07** 15:01:35.4, 35°.33N×4°.83W, h79km, ML1.8*
*INMG **07** 15:01:36.4±1.3, 35°.57N×4°.82W, h39km, ML2.2, Error ellipse: s-maj=4.4km s-min=3.0km az=4.0*
*SFS **07** 15:01:36.5, 35°.54N×4°.72W, h57km, ML2.2/6, ML1.4/6, MLv2.0/6*
*IGIL **07** 15:01:36.5, 35°.54N×4°.83W, h24km, ML2.3*
*MDD **07** 15:01:36.1±0.9, 35°.53N×4°.81W, h40km, mb_Lg2.6/10, Error ellipse: s-maj=8.0km s-min=3.7km az=178.0*
ISC 07 15:01:33.7±1.2, 35°.53N±0°.02×4°.76W±0°.02, h30km±13km, n58, σ2°14/84, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVLZ	**Pen de Vlez**	**0.52**	**133**	Sg	**Sn**	**15 01 56.7**	**+3.9**
PVLZ				Pg	**Pn**	15 01 47.3	+2.3
SMIR	**Smir Dam**	**0.53**	**287**	P	**Pn**	**15 01 50.0**	**+4.8**
SMIR	**Smir Dam**	**0.53**	**287**	S	**Sn**	**15 02 00.8**	**+7.7**
CEU	**Ceuta**	**0.62**	**307**	Sg	**Sn**	**15 01 57.3**	**+1.9**
CEU				Pg	**Pn**	**15 01 49.1**	**+2.6**
ECEU	**Ceuta**	**0.62**	**307**	Pn	**Pn**	**15 01 50.5**	**+4.0**
ECEU				Sn	**Sn**	**15 01 58.6**	**+3.2**
CHEFC	**Chefchaouen**	**0.63**	**229**	P	**Pn**	**15 01 49.6**	**+2.8**
CHEFC	**Chefchaouen**	**0.63**	**229**	S	**Sn**	**15 02 00.0**	**+4.2**
PALE	**Palemas**	**0.74**	**115**	P	**Pn**	**15 01 51.0**	**+2.9**
PALE	**Palemas**	**0.74**	**115**	S	**Sn**	**15 02 03.6**	**+5.2**
EJIF	**Jimena Fronter**	**1.08**	**328**	P	**Pb**	**15 01 54.0**	**+0.1**
EJIF				S	**Sb**	**15 02 07.0**	**-0.8**
AKLM	**AKL**	**1.26**	**144**	P	**Pn**	**15 01 54.4**	**-0.9**
AKLM	**AKL**	**1.26**	**144**	S	**Sn**	**15 02 09.3**	**-1.9**
EMAL	**Malaga-Limoner**	**1.26**	**12**	Pn	**Pb**	**15 01 56.4**	**-0.5**
EALB	**Alboran**	**1.47**	**73**	Sn	**Sn**	**15 02 16.5**	**+0.3**
EALB	**Alboran**	**1.47**	**73**	S	**Sn**	**15 02 17.1**	**+0.9**
EALB				*i* Vmb_Lg		15 02 17.1	
GOG	**Mont Gurugu**	**1.48**	**101**	P	**Pb**	**15 02 00.4**	**-0.2**
GOG	**Mont Gurugu**	**1.48**	**101**	S	**Sb**	**15 02 20.2**	**+1.2**
ESPR	**Espera**	**1.60**	**327**	Sn	**Sb**	**15 02 22.0**	**-0.5**
ELGU	**Los Guajares,**	**1.62**	**34**	P	**Pn**	**15 02 01.4**	**+1.1**
ELGU				S	**Sn**	**15 02 20.3**	**0.0**
ELGU				*i* Vmb_Lg		15 02 24.3	
EGOR	**Sierra Gorda,**	**1.66**	**18**	P	**Pb**	**15 02 02.9**	**-1.0**
EGOR				S	**Sn**	**15 02 22.6**	**+1.2**
EGOR				*i* Vmb_Lg		15 02 26.2	
IFR	**Ifrane**	**2.03**	**189**	Pn	**Pn**	**15 02 07.8**	**+1.7**
IFR				Sn	**Sn**	**15 02 30.5**	**0.0**
EBER	**Berja**	**2.04**	**47**	P	**Pn**	**15 02 07.3**	**+1.1**
EBER				S	**Sn**	**15 02 31.5**	**+0.8**
EBER				*i* Vmb_Lg		15 02 35.2	
JBK	**JBK**	**2.16**	**123**	P	**Pn**	**15 02 08.1**	**+0.3**
JBK	**JBK**	**2.16**	**123**	S	**Sn**	**15 02 33.3**	**-0.4**
CZD	**Col de Zad**	**2.50**	**185**	P	**Pn**	**15 02 11.6**	**-1.1**
CZD	**Col de Zad**	**2.50**	**185**	S	**Sn**	**15 02 39.5**	**-2.7**
ZHG	**ZHG**	**2.59**	**217**	P	**Pn**	**15 02 14.8**	**+1.1**
ZHG	**ZHG**	**2.59**	**217**	S	**Sn**	**15 02 44.7**	**+0.5**
ECAB	**El Cabril**	**2.60**	**348**	P	**Pn**	**15 02 15.0**	**+1.3**
ECAB				S	**Sn**	**15 02 42.8**	**-1.5**
ECAB				*i* Vmb_Lg		15 02 46.7	
EADA	**Adamuz**	**2.64**	**3**	P	**Pn**	**15 02 16.3**	**+2.0**
EADA				S	**Sn**	**15 02 44.7**	**-0.5**
EADA				*i* Vmb_Lg		15 02 46.5	
MD31	**MD31**	**2.66**	**180**	P	**Pn**	**15 02 15.3**	**+0.7**
EMIN	**Mina Concepcio**	**2.71**	**326**	P	**Pn**	**15 02 16.6**	**+1.3**
EMIN				S	**Sn**	**15 02 45.1**	**-1.9**
EMIN				*i* Vmb_Lg		15 02 46.7	
EGRO	**El Granado**	**2.97**	**313**	P	**Pn**	**15 02 19.9**	**+1.1**
EGRO				S	**Sn**	**15 02 51.4**	**-1.9**
EGRO				*i* Vmb_Lg		15 02 52.9	
PVAQ	**Vaqueiros**	**3.03**	**309**	*e*P	**Pn**	**15 02 20.7**	**+1.1**
PVAQ				*e*S	**Sn**	**15 02 53.3**	**-1.5**
PVAQ				A	A	15 02 53.9	
10nm,0.2s							
PBDV	**Barranco-do-Ve**	**3.08**	**305**	*e*P	**Pn**	**15 02 21.7**	**+1.4**
PBDV				*e*S	**Sn**	**15 02 54.7**	**-1.4**
PBAR	**Barrancos**	**3.21**	**326**	*e*S	**Sn**	**15 02 57.6**	**-1.7**
PBAR				A	A	15 02 58.1	
4.8nm,0.4s							
PCVE	**Castro Verde**	**3.37**	**309**	*e*P	**Pn**	**15 02 25.4**	**+1.1**
PCVE				*e*S	**Sn**	**15 03 02.2**	**-1.1**
PCVE				A	A	15 03 06.2	
3.5nm,0.3s							
PBEJ	**Beja**	**3.52**	**316**	*e*S	**Sn**	**15 03 05.5**	**-1.6**
MORF	**Marmelete**	**3.60**	**301**	*e*P	**Pn**	**15 02 29.0**	**+1.5**
MORF				*e*S	**Sn**	**15 03 07.4**	**-1.7**
MORF				A	A	15 03 10.8	
4.1nm,0.1s							
MORF	**Marmelete**	**3.60**	**301**	*e*P	**Pn**	**15 02 28.8**	**+1.2**
MORF				*e*S	**Sn**	**15 03 07.0**	**-2.1**
MORF				IAML		15 03 08.4	
comp=N,8.6nm,0.3s							
MESJ	**Messejana**	**3.61**	**311**	*e*P	**Pn**	**15 02 29.0**	**+1.3**
MESJ				*e*S	**Sn**	**15 03 07.5**	**-1.7**
MESJ				A	A	15 03 11.9	
comp=N,4.5nm,0.3s							
MESJ	**Messejana**	**3.61**	**311**	*e*P	**Pn**	**15 02 28.9**	**+1.3**
MESJ				*e*S	**Sn**	**15 03 07.2**	**-2.0**
MESJ				IAML		15 03 11.3	
comp=N,6.8nm,0.2s							
PFVI	**Vila Bisbo**	**3.65**	**297**	*e*S	**Sn**	**15 03 08.0**	**-2.2**
EBAD	**Badajoz**	**3.69**	**331**	P	**Pn**	**15 02 30.1**	**+1.4**
EBAD				S	**Sn**	**15 03 08.9**	**-2.2**
EBAD				*i* Vmb_Lg		15 03 10.8	
PTEO	**Sao Teotonio**	**3.77**	**303**	*e*P	**Pn**	**15 02 31.1**	**+1.3**
PTEO				*e*S	**Sn**	**15 03 11.7**	**-1.5**
EVO	**Evora**	**3.97**	**320**	*e*S	**Sn**	**15 03 16.4**	**-1.6**
EVO				A	A	15 03 17.1	
comp=N,7.8nm,0.3s							
PAB	**San Pablo**	**4.02**	**5**	P	**Pn**	**15 02 34.2**	**+0.9**
PAB				S	**Sn**	**15 03 17.4**	**-2.1**
PAB				*i* Vmb_Lg		15 03 20.7	
PESTR	**Estremoz**	**4.03**	**327**	*e*P	**Pn**	**15 02 35.5**	**+2.2**
PESTR				*e*S	**Sn**	**15 03 17.0**	**-2.4**
TISM	**Timmit**	**4.05**	**201**	P	**Pn**	**15 02 32.3**	**-1.3**
TISM	**Timmit**	**4.05**	**201**	S	**Sn**	**15 03 17.1**	**-2.9**
PMRV	**Marv??o**	**4.42**	**333**	*e*P	**Pn**	**15 02 40.2**	**+1.5**
PMRV				*e*S	**Sn**	**15 03 27.3**	**-1.9**
PMRV				A	A	15 03 28.4	
comp=N,2.5nm,0.5s							
PMTG	**Montargil**	**4.48**	**323**	*e*S	**Sn**	**15 03 28.0**	**-2.7**
PMTG				A	A	15 03 30.7	
comp=N,3.1nm,0.5s							
EPLA	**Plasencia**	**4.65**	**347**	P	**Pn**	**15 02 42.3**	**+0.4**
EPLA				S	**Sn**	**15 03 31.9**	**-2.9**
OUZM	**OUZ**	**4.90**	**201**	P	**Pn**	**15 02 46.5**	**+1.1**
OUZM	**OUZ**	**4.90**	**201**	S	**Sn**	**15 03 42.1**	**+0.9**
OUK	**Oukaimeden**	**5.03**	**212**	P	**Pn**	**15 02 46.5**	**-0.9**
OUK	**Oukaimeden**	**5.03**	**212**	S	**Sn**	**15 03 41.4**	**-3.3**
TIO	**Tiouine**	**5.04**	**205**	Sn	**Sn**	**15 03 43.6**	**-1.2**
TIO				Pn	**Pn**	**15 02 49.1**	**+1.6**

*IDC **07** 15:11:48.0±1.6, 20°.53S×177°.87W, h548km±17km, mb3.6/12, mbtmp4.4/15, Error ellipse: s-maj=15.8km s-min=14.8km az=93.0*
*NEIC **07** 15:11:48.1±1.4, 20°.6S±0°.1×177°.9W±0°.1, h541km±9km, mb4.5/35, Error ellipse: s-maj=18.3km s-min=17.2km az=91.0*
ISC 07 15:11:46.8±0.5, 20°.60S±0°.08×177°.83W±0°.09, h534km, n73, σ1°.05/69, mb4.5/31, 3C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.83**	**306**	P	**P**	**15 13 15.9**	**+1.5**
MSVF	**Nonsavu**	**4.83**	**306**	P	**P**	**15 13 16.6**	**+2.2**
13nm,0.5s,baz=195,slow=12,SNR=14							
RAO	**Raoul Island**	**8.61**	**181**	P	**P**	**15 13 50.2**	**0.0**
FUNA	**Funafuti**	**12.35**	**346**	P	**P**	**15 14 31.7**	**+2.6**
DZM	**Mont Dzumac**	**14.73**	**261**	P	**P**	**15 14 54.1**	**+0.3**
5.5nm,0.6s,baz=100,slow=22,SNR=8.0							
KOUNC	**Koumac, New Ca**	**16.75**	**267**	P	**P**	**15 15 16.7**	**+2.7**
KOUNC				IAmb	IAmb	15 15 17.7	
comp=Z,14nm,0.8s							
TOZ	**Tahuroa Road**	**18.02**	**197**	P	**P**	**15 15 28.4**	**+2.9**
TOZ				IAmb	IAmb	15 15 29.8	
comp=Z,20nm,1.4s							
URZ	**Urewera**	**18.13**	**193**	P	**P**	**15 15 26.1**	**-0.4**
comp=Z,2.8nm,0.3s,baz=345,slow=2.7,SNR=10							
PPT	**Papeete**	**26.86**	**88**	P	**P**	**15 16 45.8**	**+0.9**
comp=Z,13nm,0.5s,baz=227,slow=18,SNR=4.7							
comp=Z,13nm,0.5s							
PPTF	**Pamatai, Papee**	**26.86**	**88**	P	**P**	**15 16 45.7**	**+0.6**
EIDS	**Eidsvold**	**28.97**	**255**	P	**P**	**15 17 04.0**	**+0.6**
EIDS				IAmb	IAmb	15 17 37.3	
comp=Z,12nm,1.4s							
ARMA	**Armidale**	**29.16**	**244**	P	**P**	**15 17 05.8**	**+0.7**
ARMA				IAmb	IAmb	15 17 47.6	
comp=Z,17nm,1.3s							
CTAO	**Charters Tower**	**33.64**	**264**	P	**P**	**15 17 43.5**	**+0.2**
COEN	**Coen**	**37.75**	**274**	P	**P**	**15 18 17.3**	**-0.2**
COEN				IAmb	IAmb	15 18 18.5	
comp=Z,7.8nm,0.8s							
STKA	**Stephens Creek**	**37.89**	**244**	P	**P**	**15 18 18.9**	**+0.5**
STKA	**Stephens Creek**	**37.89**	**244**	P	**P**	**15 18 18.9**	**+0.5**
comp=Z,3.3nm,0.5s,baz=90,slow=11,SNR=11							
comp=Z,3.3nm,0.5s							
MANU	**Manus Island**	**38.63**	**294**	P	**P**	**15 18 24.6**	**-0.1**
MANU				IAmb	IAmb	15 18 25.8	
comp=Z,15nm,0.9s							
BBOO	**Buckleboo**	**42.64**	**244**	P	**P**	**15 18 56.0**	**-0.5**
BBOO				IAmb	IAmb	15 18 56.9	
comp=Z,10nm,0.6s							
WR0	**Warramunga Arr**	**44.55**	**262**	P	**P**	**15 19 11.0**	**-0.5**
AS31	**Alice Springs**	**44.65**	**257**	P	**P**	**15 19 12.2**	**-0.1**
ASAR	**Alice Springs**	**44.65**	**257**	P	**P**	**15 19 12.3**	**0.0**
ASAR	**Alice Springs**	**44.65**	**257**	P	**P**	**15 19 12.1**	**-0.1**
comp=Z,10nm,0.4s,baz=92,slow=6.8,SNR=375							
ASAR				PcP	**PcP**	**15 20 43.4**	**-0.1**
comp=Z,1.3nm,0.5s,baz=112,slow=3.5,SNR=5.8							
comp=Z,10nm,0.4s							
WB0	**Warramunga Arr**	**44.72**	**262**	P	**P**	**15 19 12.4**	**-0.4**
WRA	**Warramunga Arr**	**44.74**	**262**	P	**P**	**15 19 12.2**	**-0.7**
comp=Z,6.5nm,0.5s,baz=98,slow=8.1,SNR=61							
WRA				PcP	**PcP**	**15 20 43.5**	**-0.3**
comp=Z,1.0nm,0.8s,baz=95,slow=2.9,SNR=3.7							
comp=Z,6.5nm,0.5s							
MTN	**Manton Dam**	**49.32**	**271**	P	**P**	**15 19 46.6**	**-0.9**
MTN				IAmb	IAmb	15 19 47.8	
comp=Z,12nm,0.6s							
FORT	**Forrest**	**49.40**	**247**	P	**P**	**15 19 47.2**	**-0.6**
FORT				IAmb	IAmb	15 20 14.3	
comp=Z,18nm,1.1s							
KNRA	**Kununurra**	**50.81**	**266**	P	**P**	**15 19 57.6**	**-0.7**
KNRA				IAmb	IAmb	15 20 18.7	
comp=Z,25nm,1.4s							
FAKI	**Fak Fak**	**51.68**	**283**	P	**P**	**15 20 04.0**	**-0.7**
FAKI				IAmb	IAmb	15 20 08.2	
comp=Z,35nm,1.3s							
FITZ	**Fitzroy Crossi**	**53.17**	**262**	P	**P**	**15 20 14.9**	**-0.4**
SOEI	**Soe**	**56.66**	**272**	P	**P**	**15 20 40.3**	**+0.3**
SOEI				IAmb	IAmb	15 20 41.8	
comp=Z,27nm,0.8s							
PSA00	**Pilbara Seismi**	**57.80**	**257**	P	**P**	**15 20 46.5**	**-1.0**
MBWA	**Marble Bar**	**57.98**	**257**	P	**P**	**15 20 47.5**	**-1.3**
MBWA				IAmb	IAmb	15 20 48.4	
comp=Z,9.1nm,0.5s							
TOLI2	**Tolitoli**	**63.78**	**282**	P	**P**	**15 21 27.4**	**+0.4**
TOLI2				IAmb	IAmb	15 21 54.1	
comp=Z,19nm,1.3s							
QSPA	**South Pole Qui**	**69.47**	**180**	P	**P**	**15 22 03.0**	**+1.6**
QSPA	**South Pole Qui**	**69.47**	**180**	P	**P**	**15 22 02.4**	**+1.0**
comp=Z,3.3nm,0.7s,baz=353,slow=0.6,SNR=37							
comp=Z,3.3nm,0.7s							
KKM	**Kota Kinabalu**	**69.94**	**285**	P	**P**	**15 22 05.2**	**+0.1**
UGM	**Wanagama**	**70.12**	**269**	P	**P**	**15 22 04.7**	**-1.4**
MJAR	**Matsushiro Arr**	**70.39**	**324**	P	**P**	**15 22 05.9**	**-1.2**
comp=Z,4.1nm,0.7s,baz=163,slow=5.7,SNR=13							
comp=Z,4.1nm,0.7s							
MAJO	**Matsushiro**	**70.39**	**324**	P	**P**	**15 22 06.2**	**-1.0**
MJB9	**Matsu-Tunnel**	**70.39**	**324**	P	**P**	**15 22 07.2**	**+0.1**
JKA	**Kamikawa-asahi**	**73.89**	**331**	P	**P**	**15 22 28.1**	**+0.9**
SSLB	**Suanglung**	**74.16**	**303**	P	**P**	**15 22 27.3**	**-2.0**
SSLB				IAmb	IAmb	15 22 48.0	
comp=Z,22nm,1.4s							
TPUB	**Ta-pu**	**74.16**	**303**	P	**P**	**15 22 27.5**	**-1.8**
PETK	**Petropavlovsk-**	**76.41**	**345**	P	**P**	**15 22 40.9**	**-0.2**
comp=Z,5.6nm,1.0s,baz=126,slow=7.5,SNR=4.2							
comp=Z,5.6nm,1.0s							
KSRS	**Korea Array**	**77.07**	**318**	P	**P**	**15 22 44.9**	**-0.1**
comp=Z,1.0nm,0.7s,baz=130,slow=6.6,SNR=5.4							
comp=Z,1.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**79.14**	**326**	P	**P**	**15 22 56.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**79.14**	**326**	P	**P**	**15 22 56.1**	**+0.1**
comp=Z,3.0nm,0.7s,baz=113,slow=3.3,SNR=4.5							
comp=Z,3.0nm,0.7s							
M16K	**Timber Creek**	**82.75**	**9**	P	**P**	**15 23 14.9**	**+0.6**
M16K				IAmb	IAmb	15 23 42.7

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO				IAmb	IAmb	15 23 53.3	
	comp=Z,3.8nm,0.6s						
MKAR	**Makanchi Array**	**111.38**	**313**	PKiKP	**PKiKP**	**15 29 18.9**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=53,slow=3.8,SNR=5.0						
KURBB	**Kurchatov Arra**	**114.23**	**317**	PKP	PKPdf	15 29 23.8	-1.6
	comp=Z,0.7nm,0.7s,baz=105,slow=1.8,SNR=7.1						
BVAR	**Borovoye Array**	**119.26**	**320**	PKP	**PKPdf**	**15 29 33.8**	**-1.3**
	comp=Z,1.5nm,0.4s,baz=110,slow=1.8,SNR=8.5						
ARCES	**ARCESS Array B**	**129.05**	**350**	PKP	**PKPdf**	**15 29 52.1**	**-1.2**
	comp=Z,2.1nm,1.0s,baz=345,slow=2.5,SNR=6.4						
FINES	**FINESS Array B**	**135.91**	**344**	PKP	**PKPdf**	**15 30 04.2**	**-2.2**
	comp=Z,1.2nm,0.8s,baz=81,slow=2.5,SNR=5.1						
HFS	**Hagfors**	**139.66**	**351**	PKhKP	PKPpre	15 30 07.0	
	comp=Z,0.6nm,0.4s,baz=90,slow=9.0,SNR=1.4						
AKASG	**Malin Array Be**	**143.18**	**331**		PKPpre	15 30 16.7	
AKASG	**Malin Array Be**	**143.18**	**331**	PKhKP	PKPpre	15 30 16.4	
	comp=Z,3.5nm,0.4s,baz=44,slow=4.4,SNR=38						
AKBB	**Malin Array Si**	**143.18**	**331**	PKPpre	PKPpre	15 30 15.9	
KIEV	**Kiev**	**143.19**	**331**	PKPpre	PKPpre	15 30 16.1	
EKA	**Eskdalemuir Ar**	**145.09**	**5**	PKP	**PKPdf**	**15 30 23.1**	**0.0**
	comp=Z,0.8nm,0.5s,baz=327,slow=2.5,SNR=1.9						
BR131	**Keskin Array S**	**147.02**	**312**		**PKPbc**	**15 30 29.0**	**-1.0**
BRTR	**Keskin Array B**	**147.03**	**312**	PKPbc	**PKPbc**	**15 30 29.1**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=140,slow=4.7,SNR=9.5						
MMAI	**Mount Meron Ar**	**148.00**	**300**	PKPbc	**PKPbc**	**15 30 32.5**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=70,slow=7.2,SNR=8.9						
CLL	**Collm**	**148.20**	**347**	*i* PKPbc	**PKPbc**	**15 30 32.0**	**-0.5**
	comp=Z,7.0nm,0.9s						

*IDC **07** 15:45:53.6±1.4, 24°.30N×122°.42E, h0km, mb3.6/3, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=42.1km s-min=26.1km az=84.0*
*TAP **07** 15:46:04.7, 24°.45N×122°.86E, h94km, ML4.0, B*
*JMA **07** 15:46:04.6±0.2, 24°.N±2°.×122°.9E±0°.6, h94km±1km, MV3.5/18, NW OFF ISHIGAKIJIMA IS*

ISC 07 15:46:04.2±0.8, 24°.42N±0°.03×122°.86E±0°.02, h98km±5km, n150, σ1§16/265, mb3.5/3, 28C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	**0.08**	**65**	*i* P	**Pn**	**15 46 18.0**	**+0.3**
JYNG				*e*S	**Sn**	**15 46 27.5**	**-0.4**
YOJ	**Yonaguni jima**	**0.14**	**71**	P	**Pn**	**15 46 18.2**	**+0.3**
YOJ	**Yonaguni jima**	**0.14**	**71**	P	**Pn**	**15 46 18.2**	**+0.3**
YOJ				S	**Sn**	**15 46 27.6**	**-0.5**
YOJ	**Yonaguni jima**	**0.14**	**71**	⇓*i* P	**Pn**	**15 46 18.2**	**+0.3**
YOJ				*i* S	**Sn**	**15 46 27.7**	**-0.5**
EOS3	**EOS3**	**0.51**	**256**	P	**Pn**	**15 46 20.5**	**+0.9**
EOS3				S	**Sn**	**15 46 32.7**	**+1.5**
EOS2	**EOS2**	**0.57**	**270**	P	**Pn**	**15 46 20.7**	**+0.6**
EOS2				S	**Sn**	**15 46 33.0**	**+1.0**
EOS4	**EOS4**	**0.58**	**240**	⇑P	**Pn**	**15 46 20.4**	**+0.5**
EOS4				S	**Sn**	**15 46 32.2**	**+0.6**
IRIF	**Iriomote-Funau**	**0.80**	**96**	P	**Pn**	**15 46 22.6**	**+0.4**
IRIF				S	**Sn**	**15 46 35.5**	**-0.3**
HATJ	**Hateruma jima**	**0.93**	**112**	P	**Pn**	**15 46 24.6**	**+0.9**
HATJ				S	**Sn**	**15 46 38.6**	**+0.3**
ESAO	**Su ao**	**0.94**	**280**	*e*P	**Pn**	**15 46 24.1**	**+0.4**
ESAO				S	**Sn**	**15 46 37.6**	**-0.9**
TWC	**Suao**	**0.94**	**282**	⇑*i* P	**Pn**	**15 46 23.8**	**0.0**
TWC				*i* S	**Sn**	**15 46 37.1**	**-1.4**
EWUT	**Wuta**	**0.99**	**272**	*e*P	**Pn**	**15 46 24.2**	**-0.1**
EWUT				*e*S	**Sn**	**15 46 38.7**	**-0.7**
ENA	**Nanau**	**1.02**	**271**	P	**Pn**	**15 46 24.9**	**+0.3**
ENA				S	**Sn**	**15 46 39.5**	**-0.6**
EAHA	**Aohua**	**1.03**	**265**	*e*P	**Pn**	**15 46 24.8**	**+0.2**
EAHA				S	**Sn**	**15 46 40.1**	**-0.1**
JKRS	**Kuro-shima**	**1.06**	**99**	P	**Pn**	**15 46 25.8**	**+0.8**
JKRS				S	**Sn**	**15 46 41.1**	**+0.3**
NDS	**Dongshan**	**1.07**	**282**	*e*P	**Pn**	**15 46 26.0**	**+0.8**
NDS				*e*S	**Sn**	**15 46 40.1**	**-0.9**
ILA	**Ilan**	**1.07**	**289**	*e*S	**Sn**	**15 46 40.6**	**-0.4**
TIPB	**Shuangxi**	**1.09**	**301**	*e*P	**Pn**	**15 46 25.6**	**+0.1**
TIPB				*e*S	**Sn**	**15 46 40.5**	**-1.1**
SXI1	**Grass Mountain**	**1.12**	**307**	⇓P	**Pn**	**15 46 26.2**	**+0.4**
SXI1				*e*S	**Sn**	**15 46 41.5**	**-0.8**
TWE	**Neicheng**	**1.13**	**286**	⇑*e*P	**Pn**	**15 46 26.2**	**+0.4**
TWE				*e*S	**Sn**	**15 46 41.2**	**-1.0**
ETL	**Fush Village**	**1.16**	**258**	*e*P	**Pn**	**15 46 26.2**	**-0.1**
ETL				*e*S	**Sn**	**15 46 41.8**	**-1.1**
JIJ	**Ishigaki jima**	**1.17**	**92**	P	**Pn**	**15 46 26.5**	**+0.2**
JIJ				S	**Sn**	**15 46 42.2**	**-0.8**
NWF	**Wu-fen Shan**	**1.18**	**304**	*e*P	**Pn**	**15 46 27.0**	**+0.5**
NWF				*e*S	**Sn**	**15 46 42.6**	**-0.8**
WFSB	**Wu-fen Shan**	**1.18**	**304**	*e*P	**Pn**	**15 46 27.0**	**+0.6**
WFSB				*e*S	**Sn**	**15 46 42.7**	**-0.6**
NACB	**Ninganchiao**	**1.18**	**259**	P	**Pn**	**15 46 26.3**	**-0.2**
NACB	**Ninganchiao**	**1.18**	**259**	⇑*i* P	**Pn**	**15 46 26.2**	**-0.2**
NACB				*e*S	**Sn**	**15 46 42.2**	**-1.1**
ENTT	**Nioudou**	**1.20**	**281**	⇓P	**Pn**	**15 46 27.4**	**+0.7**
ENTT				S	**Sn**	**15 46 43.9**	**+0.2**
TWD	**Chiawan**	**1.20**	**254**	⇑*i* P	**Pn**	**15 46 26.5**	**-0.2**
TWD				S	**Sn**	**15 46 42.5**	**-1.2**
FUSB	**Fushanzhiwuyua**	**1.21**	**287**	⇑P	**Pn**	**15 46 27.4**	**+0.5**
FUSB				S	**Sn**	**15 46 43.4**	**-0.6**
LATG	**Datong**	**1.22**	**276**	⇑*i* P	**Pn**	**15 46 27.5**	**+0.4**
LATG				S	**Sn**	**15 46 44.1**	**-0.3**
HWA	**Hwalien**	**1.23**	**249**	⇑P	**Pn**	**15 46 27.3**	**+0.3**
HWA				S	**Sn**	**15 46 44.3**	**+0.1**
ETLH	**Xiulin Townshi**	**1.28**	**261**	⇑P	**Pn**	**15 46 27.7**	**0.0**
ETLH				S	**Sn**	**15 46 44.4**	**-1.1**
TEYL	**Yanliau Villag**	**1.28**	**245**	⇑*i* P	**Pn**	**15 46 28.6**	**+1.0**
TEYL				S	**Sn**	**15 46 45.5**	**+0.2**
NWLT	**Wulai**	**1.29**	**286**	*e*P	**Pn**	**15 46 28.5**	**+0.7**
NWLT				S	**Sn**	**15 46 44.7**	**-0.9**
TWA	**Mucha**	**1.29**	**296**	*e*P	**Pn**	**15 46 27.7**	**-0.1**
TWA				S	**Sn**	**15 46 42.7**	**-2.9**
ETM	**Tongmen**	**1.33**	**251**	⇑*i* P	**Pn**	**15 46 28.1**	**-0.1**
ETM				S	**Sn**	**15 46 45.0**	**-1.4**
JISG	**Ishigakijimahi**	**1.33**	**82**	*i* P	**Pn**	**15 46 28.4**	**+0.2**
JISG				*e*S	**Sn**	**15 46 45.6**	**-0.8**
SHUL	**Shoufeng**	**1.34**	**243**	⇑*i* P	**Pn**	**15 46 28.5**	**+0.2**
SHUL				S	**Sn**	**15 46 46.2**	**-0.4**
NNSB	**Datong**	**1.35**	**271**	⇑*i* P	**Pn**	**15 46 28.8**	**+0.3**
NNSB				S	**Sn**	**15 46 46.1**	**-0.9**
NNS	**Nan Shan**	**1.36**	**271**	⇓P	**Pn**	**15 46 29.1**	**+0.4**
NNS				*e*S	**Sn**	**15 46 46.6**	**-0.6**
TATO	**Taipei**	**1.37**	**294**	P	**Pn**	**15 46 31.8**	**+3.1**
YHNB	**Yeheng**	**1.38**	**281**	P	**Pn**	**15 46 29.6**	**+0.7**
YHNB	**Yeheng**	**1.38**	**281**	⇑*i* P	**Pn**	**15 46 29.6**	**+0.7**
YHNB				*e*S	**Sn**	**15 46 47.1**	**-0.5**
LXIB	**Xiulin Townshi**	**1.38**	**254**	⇑*i* P	**Pn**	**15 46 28.8**	**-0.2**
LXIB				*e*S	**Sn**	**15 46 46.6**	**-1.1**
YM01	**YM01**	**1.38**	**302**	P	**Pn**	**15 46 29.5**	**+0.6**
YM01				S	**Sn**	**15 46 46.7**	**-0.9**
YM08	**YM08**	**1.39**	**304**	*e*S	**Sn**	**15 46 46.3**	**-1.5**
NSK	**Sanguang**	**1.40**	**281**	P	**Pn**	**15 46 29.7**	**+0.7**
NSK				S	**Sn**	**15 46 47.5**	**-0.5**
TEGC	**Jichi Village**	**1.40**	**240**	P	**Pn**	**15 46 29.2**	**+0.2**
TEGC				S	**Sn**	**15 46 47.2**	**-0.7**
PCYT	**Pengchaiyu**	**1.41**	**329**	⇑*i* P	**Pn**	**15 46 30.2**	**+1.0**
ZUZH	**Zhuzihu**	**1.41**	**302**	P	**Pn**	**15 46 29.8**	**+0.5**
ZUZH				S	**Sn**	**15 46 47.2**	**-1.0**
TWY	**Chenhua**	**1.43**	**307**	*e*P	**Pn**	**15 46 30.0**	**+0.6**
ESL	**Shilin**	**1.44**	**246**	⇑*i* P	**Pn**	**15 46 29.2**	**-0.5**
ESL				S	**Sn**	**15 46 47.6**	**-1.1**
TWS1	**Kuangyinshan**	**1.48**	**298**	*e*P	**Pn**	**15 46 29.9**	**-0.2**
TWS1				S	**Sn**	**15 46 48.4**	**-1.3**
WHF	**Hehuan Shan**	**1.48**	**260**	⇑*i* P	**Pn**	**15 46 30.7**	**+0.2**
WHF				S	**Sn**	**15 46 49.7**	**-0.7**
NTST	**Danshui**	**1.48**	**300**	*e*S	**Sn**	**15 46 49.0**	**-0.7**
FUSS	**Fushou**	**1.49**	**264**	P	**Pn**	**15 46 31.0**	**+0.6**
FUSS				S	**Sn**	**15 46 49.5**	**-0.7**
EGFH	**Guangfu**	**1.51**	**241**	P	**Pn**	**15 46 30.3**	**-0.1**
EGFH				S	**Sn**	**15 46 49.6**	**-0.7**
WARBT	**Fenglin Townsh**	**1.52**	**243**	⇑*i* P	**Pn**	**15 46 30.3**	**-0.2**
WARBT				S	**Sn**	**15 46 49.0**	**-1.6**
TWT	**Tachien**	**1.55**	**264**	P	**Pn**	**15 46 32.2**	**+1.2**
TWT				S	**Sn**	**15 46 51.5**	**0.0**
TDCB	**Techi**	**1.56**	**264**	P	**Pn**	**15 46 32.2**	**+1.0**
TDCB				S	**Sn**	**15 46 51.0**	**-0.7**
KSHI	**Guanxi Townshi**	**1.58**	**284**	*e*P	**Pn**	**15 46 32.4**	**+1.2**
KSHI				*e*S	**Sn**	**15 46 53.2**	**+1.4**
NFF	**Wufeng Townshi**	**1.60**	**278**	P	**Pn**	**15 46 32.6**	**+0.9**
NFF				S	**Sn**	**15 46 52.4**	**-0.1**
HGSD	**Ruisui**	**1.61**	**235**	⇑*i* P	**Pn**	**15 46 31.5**	**-0.1**
HGSD				*e*S	**Sn**	**15 46 52.0**	**-0.5**
OWD	**Renai**	**1.61**	**254**	⇑*i* P	**Pn**	**15 46 32.1**	**+0.3**
OWD				S	**Sn**	**15 46 51.5**	**-1.2**
NCUH	**Zhongli**	**1.62**	**290**	S	**Sn**	**15 46 52.4**	**-0.4**
WUSB	**Renai**	**1.65**	**256**	⇑*i* P	**Pn**	**15 46 32.9**	**+0.6**
WUSB				S	**Sn**	**15 46 52.7**	**-1.0**
EHYH	**Wanrong**	**1.66**	**237**	*e*P	**Pn**	**15 46 32.6**	**+0.3**
EHYH				*e*S	**Sn**	**15 46 52.7**	**-1.1**
EHY	**Hungye**	**1.68**	**238**	⇑*e*P	**Pn**	**15 46 32.3**	**-0.2**
JTJ	**Tarama**	**1.69**	**82**	P	**Pn**	**15 46 33.1**	**+0.5**
JTJ				S	**Sn**	**15 46 54.1**	**-0.2**
ECBN	**Changbin**	**1.69**	**230**	⇑P	**Pn**	**15 46 32.8**	**+0.1**
ECBN				S	**Sn**	**15 46 53.4**	**-1.0**
LIOB	**Emei**	**1.70**	**278**	*e*P	**Pn**	**15 46 33.9**	**+1.1**
LIOB				*e*S	**Sn**	**15 46 54.6**	**0.0**
NSTT	**Nanjuang**	**1.71**	**278**	*e*P	**Pn**	**15 46 33.9**	**+1.0**
NSTT				S	**Sn**	**15 46 54.4**	**-0.4**
WHP	**Taichung City**	**1.75**	**266**	P	**Pn**	**15 46 35.2**	**+1.6**
WHP				S	**Sn**	**15 46 56.3**	**+0.4**
YULB	**Yu-li**	**1.76**	**235**	P	**Pn**	**15 46 33.4**	**-0.2**
YULB	**Yu-li**	**1.76**	**235**	⇑*i* P	**Pn**	**15 46 33.6**	**+0.1**
YULB				S	**Sn**	**15 46 54.8**	**-1.1**
EYUL	**Yuli**	**1.77**	**233**	P	**Pn**	**15 46 34.3**	**+0.6**
EYUL				S	**Sn**	**15 46 56.2**	**+0.1**
CHKH	**Chenggong**	**1.81**	**228**	P	**Pn**	**15 46 34.1**	**-0.2**
CHKH				*i* S	**Sn**	**15 46 55.8**	**-1.4**
WCS	**Beigang Elemen**	**1.82**	**259**	*e*P	**Pn**	**15 46 35.5**	**+1.3**
WCS				*e*S	**Sn**	**15 46 57.8**	**+0.6**
SSLB	**Suanglung**	**1.85**	**251**	P	**Pn**	**15 46 35.4**	**+0.6**
SSLB	**Suanglung**	**1.85**	**251**	⇑*i* P	**Pn**	**15 46 35.4**	**+0.6**
SSLB				*e*S	**Sn**	**15 46 57.1**	**-1.0**
FULB	**Fuli**	**1.88**	**230**	*e*P	**Pn**	**15 46 35.0**	**-0.2**
FULB				*e*S	**Sn**	**15 46 57.7**	**-1.0**
NMLH	**Miaoli**	**1.89**	**274**	*e*S	**Sn**	**15 46 58.7**	**-0.3**
TYC	**Yuchr**	**1.90**	**255**	P	**Pn**	**15 46 36.4**	**+1.1**
TYC				S	**Sn**	**15 47 00.1**	**+0.9**
TWQ1	**Liyutan**	**1.91**	**268**	*e*P	**Pn**	**15 46 37.2**	**+1.8**
TWQ1				*e*S	**Sn**	**15 46 59.9**	**+0.6**
WHYT	**Xinyi Township**	**1.97**	**249**	P	**Pn**	**15 46 37.7**	**+1.4**
WHYT				*e*S	**Sn**	**15 47 01.4**	**+0.5**
EHD	**Haiduan**	**1.97**	**231**	*e*P	**Pn**	**15 46 36.3**	**-0.1**
EHD				*e*S	**Sn**	**15 47 00.0**	**-0.8**
ECS	**Chishang**	**2.00**	**229**	P	**Pn**	**15 46 37.2**	**+0.6**
ECS				*e*S	**Sn**	**15 47 01.5**	**0.0**
EDH	**Donghe**	**2.03**	**225**	P	**Pn**	**15 46 36.7**	**-0.3**
EDH				S	**Sn**	**15 47 00.7**	**-1.4**
WDJ	**Dajia District**	**2.03**	**269**	*e*S	**Sn**	**15 47 02.3**	**+0.2**
WJS	**Zhushan**	**2.04**	**254**	*e*P	**Pn**	**15 46 39.3**	**+2.1**
WJS				*e*S	**Sn**	**15 47 04.1**	**+1.8**
WNT	**Mingjian**	**2.06**	**255**	*e*P	**Pn**	**15 46 39.4**	**+2.0**
WNT				*e*S	**Sn**	**15 47 04.7**	**+1.8**
ELDTW	**Lidau**	**2.08**	**235**	⇑P	**Pn**	**15 46 37.9**	**+0.1**
ELDTW				*e*S	**Sn**	**15 47 01.7**	**-1.9**
ALS	**Alishan**	**2.09**	**245**	⇑P	**Pn**	**15 46 39.3**	**+1.2**
ALS				*e*S	**Sn**	**15 47 04.4**	**+0.5**
WCHH	**Zhanghua**	**2.13**	**261**	*e*S	**Sn**	**15 47 04.9**	**+0.4**
JIRB	**Irabujima**	**2.14**	**78**	P	**Pn**	**15 46 38.7**	**+0.2**
JIRB				S	**Sn**	**15 47 03.8**	**-0.9**
WCH1	**Changhua City**	**2.14**	**261**	*e*S	**Sn**	**15 47 05.4**	**+0.7**
LDUT	**Ludao**	**2.15**	**217**	*e*P	**Pn**	**15 46 38.3**	**-0.4**
LDUT				*e*S	**Sn**	**15 47 02.7**	**-2.4**
CHN5	**Tsauling**	**2.16**	**248**	*e*P	**Pn**	**15 46 40.2**	**+1.4**
CHN5				*e*S	**Sn**	**15 47 06.3**	**+1.1**
LONT	**Longtian**	**2.19**	**227**	*e*P	**Pn**	**15 46 39.3**	**+0.2**
LONT				*e*S	**Sn**	**15 47 04.5**	**-1.3**
WGK	**Gukeng**	**2.23**	**251**	*e*S	**Sn**	**15 47 09.3**	**+2.6**
JIKM	**Ikemajima**	**2.23**	**76**	*e*P	**Pn**	**15 46 40.2**	**+0.6**
JIKM				*e*S	**Sn**	**15 47 06.9**	**+0.2**
WDL	**Douliou City**	**2.24**	**252**	*e*S	**Sn**	**15 47 08.9**	**+2.0**
WDLH	**Douliu**	**2.25**	**252**	*e*P	**Pn**	**15 46 40.6**	**+0.7**
WDLH				*e*S	**Sn**	**15 47 09.6**	**+2.5**
JMJ	**Miyako jima 2**	**2.25**	**79**	P	**Pn**	**15 46 41.0**	**+1.2**
JMJ2	**Miyako jima3**	**2.27**	**81**	P	**Pn**	**15 46 40.8**	**+0.7**
JMJ2				*e*S	**Sn**	**15 47 08.5**	**+0.8**
STYH	**Taoyuan**	**2.28**	**237**	*e*P	**Pn**	**15 46 41.7**	**+1.4**
STYH				*e*S	**Sn**	**15 47 08.6**	**+0.7**
TWGBT	**Beinan**	**2.28**	**226**	P	**Pn**	**15 46 40.8**	**+0.5**
TWGBT	**Beinan**	**2.28**	**226**	*e*P	**Pn**	**15 46 40.1**	**-0.2**
TWGBT				*e*S	**Sn**	**15 47 06.9**	**-1.1**
TTN	**Taitung**	**2.28**	**224**	*e*P	**Pn**	**15 46 40.3**	**0.0**
TTN				*e*S	**Sn**	**15 47 07.1**	**-0.9**
TWG	**Pinlang**	**2.28**	**226**	*e*P	**Pn**	**15 46 40.1**	**-0.3**
TWG				*e*S	**Sn**	**15 47 07.4**	**-0.7**
WCKO	**Fanlu**	**2.28**	**245**	*e*P	**Pn**	**15 46 42.2**	**+1.9**
WCKO				*e*S	**Sn**	**15 47 10.0**	**+1.9**
TPUB	**Ta-pu**	**2.33**	**242**	P	**Pn**	**15 46 43.0**	**+2.1**
TPUB	**Ta-pu**	**2.33**	**242**	*e*P	**Pn**	**15 46 42.4**	**+1.5**
TPUB				*e*S	**Sn**	**15 47 11.2**	**+2.1**
CHN4	**Tsaushan**	**2.33**	**243**	*e*P	**Pn**	**15 46 43.0**	**+2.0**
CHN4				*e*S	**Sn**	**15 47 11.6**	**+2.3**
JOGS	**Gusukube**	**2.34**	**81**	P	**Pn**	**15 46 42.0**	**+0.9**
JOGS				*e*S	**Sn**	**15 47 09.3**	**-0.1**
WTP	**Ta-pu**	**2.37**	**241**	*e*P	**Pn**	**15 46 43.0**	**+1.5**
WTP				*e*S	**Sn**	**15 47 11.8**	**+1.7**
WTK	**Tuku**	**2.38**	**253**	*e*P	**Pn**	**15 46 42.9**	**+1.4**
WTK				*e*S	**Sn**	**15 47 12.0**	**+1.8**
CHY	**Chiayi**	**2.41**	**248**	*e*S	**Sn**	**15 47 13.0**	**+2.0**
WTCT	**Ta-ch'eng**	**2.42**	**257**	*e*S	**Sn**	**15 47 11.2**	**0.0**
TWK	**Hsinying**	**2.46**	**243**	*e*P	**Pn**	**15 46 44.8**	**+2.1**
TWK				*e*S	**Sn**	**15 47 14.0**	**+1.8**
CHN1	**Nanshi**	**2.46**	**241**	*e*P	**Pn**	**15 46 44.8**	**+2.0**
CHN1				*e*S	**Sn**	**15 47 13.9**	**+1.5**
SNST	**Tainan City**	**2.47**	**242**	*e*P	**Pn**	**15 46 45.4**	**+2.6**
SNST				*e*S	**Sn**	**15 47 13.9**	**+1.4**
SGST	**Jiashian**	**2.48**	**238**	*e*P	**Pn**	**15 46 43.9**	**+1.0**
SGST				*e*S	**Sn**	**15 47 14.0**	**+1.4**
SLGT	**Liugui**	**2.48**	**236**	*e*P	**Pn**	**15 46 44.5**	**+1.6**
SLGT				*e*S	**Sn**	**15 47 13.9**	**+1.3**
ECL	**Taimali**	**2.52**	**224**	*e*P	**Pn**	**15 46 42.7**	**-0.7**
ECL				*e*S	**Sn**	**15 47 11.9**	**-1.7**
WSF	**Szhu**	**2.54**	**253**	*e*S	**Sn**	**15 47 15.1**	**+1.1**
ICHU	**Yijhu**	**2.59**	**247**	*e*S	**Sn**	**15 47 16.2**	**+1.0**
CHN8	**Yiju**	**2.65**	**247**	*e*S	**Sn**	**15 47 17.7**	**+1.0**
SCST	**Cishan**	**2.65**	**235**	*e*P	**Pn**	**15 46 47.5**	**+2.3**
SCST				*e*S	**Sn**	**15 47 20.2**	**+3.4**
TSMG	**Majia**	**2.65**	**231**	*e*P	**Pn**	**15 46 46.5**	**+1.2**
LAY	**Lan-yu**	**2.66**	**207**	*e*P	**Pn**	**15 46 44.5**	**-0.8**
LAY				*e*S	**Sn**	**15 47 13.0**	**-3.9**
LYUB	**Lan-yu**	**2.67**	**206**	P	**Pn**	**15 46 44.5**	**-1.0**
LYUB				*e*S	**Sn**	**15 47 14.8**	**-2.5**
MASBT	**Mashibuluo**	**2.72**	**229**	⇓P	**Pn**	**15 46 47.3**	**+1.1**
MASBT				*e*S	**Sn**	**15 47 18.5**	**+0.1**
EAST	**Anshuo**	**2.74**	**223**	*e*P	**Pn**	**15 46 46.3**	**-0.2**
EAST				*e*S	**Sn**	**15 47 18.1**	**-0.9**
TWM1	**Shoushan**	**2.74**	**235**	*e*P	**Pn**	**15 46 49.7**	**+3.3**
TAWH	**Dawu Township**	**2.75**	**222**	*e*P	**Pn**	**15 46 46.8**	**+0.2**
TAWH				S	**Sn**	**15 47 17.6**	**-1.5**
SCZT	**Fangliau**	**2.90**	**226**	*e*P	**Pn**	**15 46 50.0**	**+1.6**
HEN	**Hengchun**	**3.10**	**220**	*e*P	**Pn**	**15 46 52.2**	**+1.1**
HEN				*e*S	**Sn**	**15 47 27.4**	**+0.1**
TWKBT	**Hengchun**	**3.10**	**218**	*e*P	**Pn**	**15 46 51.8**	**+0.6**
TWKBT				*e*S	**Sn**	**15 47 26.8**	**-0.7**
PNG	**Penghu**	**3.14**	**255**	*e*P	**Pn**	**15 46 51.7**	**0.0**
PNG				*e*S	**Sn**	**15 47 27.0**	**-1.5**
PHUB	**P'eng-hu**	**3.14**	**254**	*e*P	**Pn**	**15 46 51.8**	**+0.1**
PHUB				*e*S	**Sn**	**15 47 26.1**	**-2.3**
WDGT	**Dungji**	**3.15**	**249**	*e*P	**Pn**	**15 46 52.4**	**+0.5**
WDGT				*e*S	**Sn**	**15 47 27.5**	**-1.1**
VWUC	**VWUC**	**3.16**	**281**	*e*P	**Pn**	**15 46 51.9**	**0.0**
VWUC				*e*S	**Sn**	**15 47 25.4**	**-3.4**
PTMZ	**Houxiangcun**	**3.46**	**281**	*e*P	**Pn**	**15 46 56.1**	**+0.1**
PTMZ				*e*S	**Sn**	**15 47 33.0**	**-3.1**
KNMB	**Chin-men Tao**	**4.08**	**272**	*e*P	**Pn**	**15 47 04.1**	**-0.2**
KNMB				*e*S	**Sn**	**15 47 47.4**	**-3.6**
JOW	**Kunigami**	**5.45**	**63**	Pn	**Pn**	**15 47 21.3**	**-1.6**
	1.3nm,0.3s,baz=194,slow=4.2,SNR=18						
	4.2nm,0.3s						
KSRS	**Korea Array**	**13.70**	**17**	Pn	**Pn**	**15 49 13.6**	**-0.5**
	0.2nm,0.3s,baz=200,slow=13,SNR=2.8						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**45.48**	**165**	P	**P**	**15 54 14.8**	**+1.0**
	1.5nm,0.8s,baz=346,slow=8.6,SNR=10.0						
	1.5nm,0.8s						
BVAR	**Borovoye Array**	**48.47**	**320**	P	**P**	**15 54 36.1**	**-0.6**
	0.2nm,0.4s,baz=113,slow=6.6,SNR=1.9						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**48.98**	**167**	P	**P**	**15 54 41.8**	**+0.8**
	0.5nm,0.9s,baz=349,slow=7.3,SNR=13						
	0.5nm,0.9s						

TAP 07 15:48:10.5, 26°.99N×128°.42E, h26km, ML0.0, D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.20**	**219**	*e*P	Pb	15 48 16.8	+0.4
JOW				S	Sb	15 48 21.4	+1.1
JOW	**Kunigami**	**0.20**	**219**	Sn	Sb	15 48 20.9	+0.6
	2.2nm,0.3s,baz=204,slow=20,SNR=6.0						

*JMA **07** 15:54:32.2±0.1, 42°.6N±0°.4×141°.9E±0°.4, h24km±1km, MV3.2/39, ISHIKARI DEPRESSION*
JMA Felt II J1 at ISHIKARI DEPRESSION .

ISC 07 15:54:32.2±1.0, 42°.57N±0°.04×141°.95E±0°.03, h25km±7km, n15, σ0§64/23, 10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIAM	**Iburiatsuma**	**0.06**	**343**	*i* P	**Pb**	**15 54 36.0**	**-0.6**
JIAM				*e*S	**Sb**	**15 54 39.9**	**+0.3**
JBT2	**Biratori 2**	**0.38**	**55**	⇓*i* P	**Pb**	**15 54 40.0**	**-0.3**
JBT2				⇓S	**Sb**	**15 54 46.3**	**+0.3**
JSHD	**Hidakashinhida**	**0.42**	**112**	*i* P	**Pb**	**15 54 41.4**	**+0.4**
JSHD				*e*S	**Sn**	**15 54 49.8**	**+0.4**
JEW	**Eniwo**	**0.46**	**307**	⇓*i* P	**Pb**	**15 54 41.7**	**0.0**
JEW				⇓S	**Sb**	**15 54 49.1**	**+1.0**
JNBK	**Urakawa-nobuka**	**0.66**	**115**	*i* P	**Pb**	**15 54 44.8**	**-0.3**
JNBK				*e*S	**Sn**	**15 54 55.9**	**+0.3**
JNB	**Noboribetsu**	**0.68**	**262**	⇓*i* P	**Pb**	**15 54 44.5**	**-0.9**
JNB				⇓S	**Sb**	**15 54 53.8**	**-0.5**
JFR	**Furan**	**0.76**	**38**	⇓*i* P	**Pb**	**15 54 46.1**	**-0.7**
JISS	**Ishikarishitsu**	**0.81**	**332**	*i* P	**Pb**	**15 54 47.3**	**-0.3**
JISS				S	**Sn**	**15 54 59.2**	**0.0**
JKB	**Kayabe**	**0.96**	**225**	⇓*i* P	**Pb**	**15 54 49.1**	**-1.0**
JKB				⇓S	**Sb**	**15 55 02.1**	**-0.3**
JAB	**Ashibetsu**	**0.96**	**12**	⇓*i* P	**Pn**	**15 54 50.4**	**+0.3**
JCH	**Chur

PEHC	**Pehcevo**	**0.82**	**8**	⇑ *i*Pg	**Pg**	**16 46 14.2**	**-0.7**
PEHC				*i* Sg	**Sb**	**16 46 25.5**	**-0.9**
LIT	**Litokhoron**	**0.88**	**193**	P	**Pg**	**16 46 15.5**	**-0.5**
LIT				S	**Sb**	**16 46 28.9**	**+0.9**
comp=N,845nm,0.2s							
KKB	**Krupnik**	**0.92**	**18**	*i* P	**Pg**	**16 46 16.0**	**-0.7**
KKB				*i* S	**Sg**	**16 46 28.0**	**-0.8**
KKB	**Krupnik**	**0.92**	**18**	⇑ *i*Pg	**Pg**	**16 46 16.1**	**-0.6**
KKB				*i* Sg	**Sg**	**16 46 28.4**	**-0.5**
NVR	**Nevrokopi**	**0.93**	**65**	P	**Pb**	**16 46 17.2**	**+0.1**
NVR				S	**Sb**	**16 46 29.6**	**+0.2**
comp=N,1μm,0.5s							
NVR	**Nevrokopi**	**0.93**	**65**	P	**Pb**	**16 46 17.1**	**+0.1**
NVR				S	**Sg**	**16 46 28.5**	**-0.5**
NVR				AML	AML	16 46 31.4	
comp=N,2135μm,0.3s							
NVR				AML	AML	16 46 34.1	
comp=E,2328μm,0.6s							
MMB	**Musomishta**	**0.96**	**52**	*i* P	**Pg**	**16 46 16.7**	**-0.7**
MMB				*i* S	**Sb**	**16 46 29.7**	**-0.5**
MMB	**Musomishta**	**0.96**	**52**	⇑ *i*Pg	**Pg**	**16 46 16.7**	**-0.7**
MMB				*i* Sg	**Sb**	**16 46 30.1**	**-0.1**
KOKK	**Kokkinochori,**	**0.97**	**98**	P	**Pg**	**16 46 16.9**	**-0.6**
KOKK				S	**Sg**	**16 46 29.9**	**-0.2**
comp=E,490nm,0.5s							
KOKK	**Kokkinochori,**	**0.97**	**98**	P	**Pg**	**16 46 17.4**	**-0.1**
KOKK				S	**Sg**	**16 46 29.8**	**-0.3**
KOKK				AML	AML	16 46 33.0	
comp=E,2520μm,0.4s							
KOKK				AML	AML	16 46 34.4	
comp=N,2418μm,0.3s							
KZN	**Kozani**	**0.99**	**229**	P	**Pg**	**16 46 15.7**	**-2.2**
KZN				S	**Sb**	**16 46 32.3**	**+1.2**
comp=N,660nm,0.4s							
KZN	**Kozani**	**0.99**	**229**	P	**Pg**	**16 46 17.2**	**-0.7**
KZN				S	**Sg**	**16 46 30.6**	**-0.2**
KZN				AML	AML	16 46 33.9	
comp=N,976μm,0.6s							
KZN				AML	AML	16 46 35.9	
comp=E,1654μm,0.3s							
FNA	**Florina**	**1.05**	**261**	Pg	**Pg**	**16 46 18.6**	**-0.6**
FNA				Sg	**Sg**	**16 46 32.8**	**0.0**
FNA	**Florina**	**1.05**	**261**	P	**Pg**	**16 46 18.4**	**-0.7**
FNA				S	**Sg**	**16 46 32.2**	**-0.6**
comp=E,562nm,0.4s							
FNA	**Florina**	**1.05**	**261**	*e*Pg	**Pg**	**16 46 18.5**	**-0.6**
FNA				*e*Sg	**Sg**	**16 46 32.7**	**0.0**
FNA	**Florina**	**1.05**	**261**	⇓ *i*Pg	**Pg**	**16 46 18.5**	**-0.6**
FNA				*i* Sg	**Sn**	**16 46 34.8**	**+0.5**
FNA	**Florina**	**1.05**	**261**	P	**Pg**	**16 46 18.4**	**-0.7**
FNA				S	**Sg**	**16 46 32.1**	**-0.6**
FNA				AML	AML	16 46 38.5	
comp=E,1053μm,0.3s							
FNA				AML	AML	16 46 39.3	
comp=N,1188μm,0.5s							
OUR	**Ouranopolis**	**1.14**	**123**	Pn	**Pb**	**16 46 20.5**	**0.0**
OUR				Sn	**Sn**	**16 46 36.7**	**+0.5**
OUR	**Ouranopolis**	**1.14**	**123**	P	**Pb**	**16 46 20.3**	**-0.2**
OUR				S	**Sn**	**16 46 36.8**	**+0.5**
comp=N,1μm,0.5s							
OUR	**Ouranopolis**	**1.14**	**123**	P	**Pb**	**16 46 20.2**	**-0.2**
OUR				S	**Sg**	**16 46 35.4**	**-0.1**
OUR				AML	AML	16 46 39.1	
comp=E,2830μm,0.6s							
OUR				AML	AML	16 46 39.1	
comp=N,2647μm,0.4s							
KVLA	**Kavala**	**1.25**	**91**	P	**Pn**	**16 46 21.9**	**-0.3**
KVLA				AML	AML	16 46 39.2	
comp=E,1098μm,0.6s							
KVLA				AML	AML	16 46 41.8	
comp=N,1304μm,0.3s							
PAIG	**Paliouri**	**1.26**	**145**	Pn	**Pn**	**16 46 22.1**	**-0.3**
PAIG				Sn	**Sg**	**16 46 39.6**	**+0.1**
PAIG	**Paliouri**	**1.26**	**145**	P	**Pn**	**16 46 22.0**	**-0.3**
PAIG				S	**Sb**	**16 46 38.5**	**-0.3**
comp=N,395nm,0.6s							
TYRN	**Tyrnavos**	**1.31**	**197**	P	**Pn**	**16 46 23.2**	**+0.1**
TYRN				S	**Sb**	**16 46 40.8**	**+0.5**
comp=N,450nm,0.6s							
KAVA	**Kavala**	**1.34**	**88**	P	**Pn**	**16 46 23.3**	**-0.2**
KAVA				S	**Sb**	**16 46 40.6**	**-0.6**
comp=N,1μm,0.6s							
KAVA	**Kavala**	**1.34**	**88**	P	**Pn**	**16 46 23.3**	**-0.2**
NEST	**Nestorio**	**1.40**	**247**	P	**Pn**	**16 46 24.9**	**+0.5**
NEST	**Nestorio**	**1.40**	**247**	P	**Pn**	**16 46 24.5**	**+0.1**
NEST				AML	AML	16 46 52.7	
comp=N,444μm,0.6s							
NEST				AML	AML	16 46 54.9	
comp=E,348μm,0.5s							
PENT	**Pentalofos**	**1.44**	**238**	P	**Pb**	**16 46 26.3**	**+0.5**
OHR	**Ohrid**	**1.48**	**276**	*e*Pg	**Pn**	**16 46 26.0**	**+0.6**
OHR				*e*Sg	**Sb**	**16 46 45.8**	**+0.7**
OHR	**Ohrid**	**1.48**	**276**	⇑ *i*Pg	**Pb**	**16 46 26.4**	**+0.1**
OHR				*i* Sg	**Sg**	**16 46 46.6**	**+0.2**
OHR				*e*Lg	Lg	16 46 53.0	
comp=N,107nm,0.6s							
OHR				*e*Lg	Lg	16 46 53.3	
comp=E,86nm,0.8s							
THL	**Klokotos Trika**	**1.50**	**202**	P	**Pn**	**16 46 26.3**	**+0.5**
THL	**Klokotos Trika**	**1.50**	**202**	P	**Pn**	**16 46 25.7**	**0.0**
THL				S	**Sn**	**16 46 45.0**	**-0.4**
THL				AML	AML	16 46 50.5	
comp=E,745μm,0.7s							
THL				AML	AML	16 46 53.3	
comp=N,329μm,0.8s							
BOSS	**Bosilegrad**	**1.54**	**353**	*e*Pg	**Pn**	**16 46 26.8**	**+0.5**
BOSS				*e*Sg	**Sn**	**16 46 45.9**	**-0.5**
THAS	**Thassos island**	**1.54**	**103**	P	**Pn**	**16 46 25.6**	**-0.7**
THAS				S	**Sn**	**16 46 44.6**	**-1.7**
comp=N,320nm,0.3s							
THAS	**Thassos island**	**1.54**	**103**	P	**Pn**	**16 46 25.9**	**-0.4**
THAS				S	**Sn**	**16 46 45.0**	**-1.4**
THAS				AML	AML	16 46 49.8	
comp=N,492μm,0.4s							
THAS				AML	AML	16 46 52.1	
comp=E,748μm,0.4s							
PLNA	**Plana**	**1.59**	**19**	*i* P	**Pb**	**16 46 28.6**	**+0.1**
PLNA				*i* S	**Sg**	**16 46 49.3**	**-1.0**
RZN	**Rozhen**	**1.67**	**64**	*i* P	**Pn**	**16 46 28.9**	**+0.6**
RZN				*i* S	**Sb**	**16 46 51.2**	**+0.3**
VTS	**Vitosha**	**1.69**	**12**	*i* P	**Pb**	**16 46 29.4**	**-0.7**
VTS				*i* S	**Sb**	**16 46 51.8**	**+0.3**
VTS	**Vitosha**	**1.69**	**12**	*e*Pg	**Pb**	**16 46 29.3**	**-0.8**
VTS				*e*Sg	**Sb**	**16 46 51.0**	**-0.5**
NEO	**Neokhori**	**1.70**	**167**	P	**Pn**	**16 46 28.2**	**-0.2**
NEO				S	**Sn**	**16 46 49.3**	**-0.8**
comp=E,412nm,0.2s							
NEO	**Neokhori**	**1.70**	**167**	P	**Pn**	**16 46 27.8**	**-0.7**
NEO				AML	AML	16 46 50.2	
comp=E,841μm,0.3s							
NEO				AML	AML	16 46 52.4	
comp=N,808μm,0.3s							
TRAN	**Tran**	**1.87**	**358**	*i* P	**Pb**	**16 46 32.9**	**-0.2**
PGB	**Panagyurishte**	**1.88**	**34**	*i* P	**Pb**	**16 46 33.3**	**0.0**
PLD	**Plovdiv**	**1.92**	**51**	Pn	**Pb**	**16 46 32.9**	**-0.9**
PLD	**Plovdiv**	**1.92**	**51**	*e*Pn	**Pn**	**16 46 31.8**	**+0.4**
PLD				*e*Sn	**Sn**	**16 46 55.7**	**+0.2**
AGG	**Agios Georgios**	**1.96**	**189**	Pn	**Pn**	**16 46 32.4**	**+0.3**
AGG				Sn	**Sn**	**16 46 57.3**	**+0.5**
AGG	**Agios Georgios**	**1.96**	**189**	P	**Pn**	**16 46 32.2**	**+0.1**
BARS	**Barje**	**1.98**	**340**	*e*Pn	**Pn**	**16 46 31.9**	**-0.4**
BARS	**Barje**	**1.98**	**340**	⇓ *i*Pn	**Pn**	**16 46 32.0**	**-0.2**
BARS				*i* Sn	**Sb**	**16 47 00.1**	**+0.6**
AOS	**Alonnisos**	**1.99**	**154**	P	**Pn**	**16 46 32.0**	**-0.5**
AOS2	**Alonissos-2**	**2.00**	**155**	P	**Pn**	**16 46 32.0**	**-0.6**
MAKR	**Makrakomi, Fth**	**2.00**	**194**	P	**Pn**	**16 46 33.2**	**+0.5**
MAKR	**Makrakomi, Fth**	**2.00**	**194**	P	**Pn**	**16 46 32.9**	**+0.2**
MAKR				AML	AML	16 47 00.3	
comp=N,998μm,0.5s							
MAKR				AML	AML	16 47 00.3	
comp=E,966μm,0.4s							
KDZ	**Kurdzhali**	**2.07**	**70**	Pn	**Pn**	**16 46 34.2**	**+0.7**
KDZ	**Kurdzhali**	**2.07**	**70**	*i* P	**Pb**	**16 46 36.8**	**+0.4**
EVR	**Evrytania**	**2.17**	**200**	P	**Pn**	**16 46 35.5**	**+0.5**
EVR				AML	AML	16 47 21.1	
comp=N,266μm,0.7s							
EVR				AML	AML	16 47 21.9	
comp=E,224μm,0.8s							
SMTH	**Samothraki Isl**	**2.18**	**102**	P	**Pn**	**16 46 34.4**	**-0.6**
SMTH	**Samothraki Isl**	**2.18**	**102**	P	**Pn**	**16 46 34.3**	**-0.8**
ZAPS	**Zavoj**	**2.31**	**358**	*e*Pn	**Pn**	**16 46 36.6**	**-0.3**
ZAPS				*e*Sn	**Sn**	**16 47 05.4**	**+0.1**
IGT	**Igoumenitsa**	**2.33**	**233**	⇓ *i*Pn	**Pb**	**16 46 40.8**	**-0.1**
ALN	**Alexandroupoli**	**2.51**	**90**	Pn	**Pn**	**16 46 40.4**	**+0.9**
ALN	**Alexandroupoli**	**2.51**	**90**	P	**Pn**	**16 46 39.5**	**0.0**
ALN	**Alexandroupoli**	**2.51**	**90**	P	**Pn**	**16 46 39.6**	**+0.1**
ALN				AML	AML	16 47 23.1	
comp=N,106μm,0.5s							
ALN				AML	AML	16 47 26.0	
comp=E,170μm,0.8s							
GADA	**Gvkgeada**	**2.53**	**107**	Pn	**Pn**	**16 46 41.6**	**+1.8**
SELS	**Selova**	**2.56**	**332**	*e*Pn	**Pn**	**16 46 39.8**	**-0.5**
KEK	**Kerkira**	**2.57**	**242**	Pn	**Pn**	**16 46 40.5**	**0.0**
ENEZ	**Enez**	**2.60**	**94**	Pn	**Pn**	**16 46 42.4**	**+1.6**
BLKB	**Belogradchik**	**2.66**	**359**	⇓ S	**Sn**	**16 47 13.5**	**-0.3**
VALD	**Valchedram**	**2.77**	**10**	*i* P	**Pb**	**16 46 49.6**	**+1.2**
BOVS	**Bovan**	**2.78**	**344**	*e*Pn	**Pn**	**16 46 43.2**	**-0.1**
BOVS				*e*Sn	**Sn**	**16 47 17.2**	**+0.5**
BOVS	**Bovan**	**2.78**	**344**	⇓ P	**Pn**	**16 46 43.6**	**+0.3**
ZAGS	**Zajecar**	**2.87**	**353**	*e*Pn	**Pn**	**16 46 44.2**	**-0.4**
ERIK	**Erikli-Kesan**	**2.88**	**95**	Pn	**Pn**	**16 46 46.2**	**+1.6**
GELI	**Tayfur-Gelibol**	**2.90**	**100**	Pn	**Pn**	**16 46 46.7**	**+1.8**
UKOP	**Uzunkopru-Edir**	**2.95**	**86**	Pn	**Pn**	**16 46 47.8**	**+2.2**
SIGR	**SIGRI**	**2.96**	**125**	Pn	**Pn**	**16 46 46.9**	**+1.1**
EZN	**Ezine**	**2.96**	**111**	Pn	**Pn**	**16 46 47.8**	**+2.0**
SJES	**Sjenica**	**3.08**	**319**	*e*Pn	**Pn**	**16 46 47.6**	**0.0**
EDRB	**Edirne**	**3.14**	**72**	Pn	**Pn**	**16 46 49.3**	**+1.1**
IVAS	**Ivanjica**	**3.24**	**325**	*e*Pn	**Pn**	**16 46 48.9**	**-0.8**
GRUS	**Gruza**	**3.28**	**334**	*e*Pn	**Pn**	**16 46 49.0**	**-1.2**
RKY	**Sarkoy-Tekirda**	**3.38**	**93**	Pn	**Pn**	**16 46 53.7**	**+2.1**
KUBS	**Kucevo**	**3.53**	**348**	*e*Pn	**Pn**	**16 46 52.2**	**-1.5**
TRUS	**Trudelj**	**3.68**	**333**	*e*Pn	**Pn**	**16 46 54.5**	**-1.3**
DIVS	**Divibare**	**3.73**	**328**	*e*Pn	**Pn**	**16 46 55.9**	**-0.6**
GZR	**Gura Zlata**	**4.43**	**0**	⇓ P	**Pn**	**16 47 07.6**	**+1.6**
BZS	**Buzias**	**4.72**	**350**	⇑ P	**Pn**	**16 47 11.3**	**+1.3**
VOIR		**4.78**	**20**	⇑ P	**Pn**	**16 47 12.6**	**+1.8**
MLR	**Muntele Rosu**	**5.09**	**26**	⇑ P	**Pn**	**16 47 17.7**	**+2.5**
DOPR	**Dopca**	**5.36**	**20**	⇓ P	**Pn**	**16 47 21.4**	**+2.6**
TURR	**Turia**	**5.62**	**24**	⇑ P	**Pn**	**16 47 25.1**	**+2.7**
PLOR	**Plostina**	**5.65**	**29**	⇓ P	**Pn**	**16 47 24.7**	**+1.9**
VRI	**Vrincioaia**	**5.69**	**29**	⇓ P	**Pn**	**16 47 27.0**	**+3.7**
MORH	**Mrgy, Hungar**	**6.03**	**332**	⇓ P	**Pn**	**16 47 28.2**	**+0.2**

*ATH **07** 16:51:40.0, 37°.62N×20°.51E, h7km±1km, ML3.4/16, Error ellipse: s-maj=1.9km s-min=0.8km az=39.0*
*THE **07** 16:51:39.3, 37°.62N×20°.46E, h0km±2km, ML3.5/19, Error ellipse: s-maj=3.5km s-min=0.8km az=232.0*
ISC 07 16:51:39.8±1.4, **37°.62N**±0°.04×**20°.51E**±0°.04, **h5**km±9km, **n48**, σ0s**98**/84, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.25**	**81**	P	**Pg**	**16 51 45.1**	**+0.4**
KRI1				S	**Sg**	**16 51 48.9**	**+0.9**
23μm,0.4s							
LTHK	**Lithakia**	**0.28**	**71**	P	**Pg**	**16 51 45.3**	**+0.1**
LTHK				S	**Sg**	**16 51 49.4**	**+0.6**
13μm,0.4s							
LTHK	**Lithakia**	**0.28**	**71**	P	**Pg**	**16 51 45.3**	**+0.1**
LTHK				S	**Sg**	**16 51 48.9**	**+0.1**
LTHK				AML	AML	16 51 50.1	
comp=N,25074μm,0.4s							
LTHK				AML	AML	16 51 53.4	
comp=E,22153μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.49**	**7**	P	**Pg**	**16 51 49.2**	**-0.2**
PSDA				S	**Sg**	**16 51 56.2**	**+0.4**
comp=E,11μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.49**	**7**	P	**Pg**	**16 51 49.2**	**-0.2**
PSDA				S	**Sg**	**16 51 55.8**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.50**	**25**	P	**Pg**	**16 51 49.4**	**0.0**
RTZL				S	**Sg**	**16 51 57.1**	**+1.2**
comp=E,14μm,0.3s							
VLS	**Valsamata**	**0.56**	**7**	P	**Pg**	**16 51 50.2**	**-0.4**
VLS				S	**Sg**	**16 51 58.3**	**+0.5**
comp=E,8μm,0.4s							
VLS	**Valsamata**	**0.56**	**7**	P	**Pg**	**16 51 50.1**	**-0.4**
VLS				S	**Sg**	**16 51 58.3**	**+0.5**
VLS				AML	AML	16 51 59.5	
comp=E,19463μm,0.4s							
VLS				AML	AML	16 52 02.3	
comp=N,9129μm,0.2s							
LXRA	**Lixouri, Kepha**	**0.58**	**355**	P	**Pg**	**16 51 51.2**	**+0.3**
LXRA				S	**Sg**	**16 51 59.1**	**+0.6**
DMLN	**Damoulianata-K**	**0.62**	**350**	P	**Pg**	**16 51 51.6**	**-0.2**
DMLN				S	**Sg**	**16 52 00.8**	**+0.8**
comp=N,11μm,0.6s							
DMLN	**Damoulianata-K**	**0.62**	**350**	P	**Pg**	**16 51 51.6**	**-0.2**
DMLN				S	**Sg**	**16 52 00.2**	**+0.2**
VSK1	**VASILIKIADES**	**0.79**	**3**	P	**Pg**	**16 51 54.3**	**-0.6**
VSK1				S	**Sb**	**16 52 06.1**	**-0.9**
comp=N,8μm,0.4s							
FSK	**Fiskardo**	**0.84**	**3**	P	**Pg**	**16 51 54.8**	**-1.0**
FSK				S	**Sb**	**16 52 07.6**	**-0.8**
comp=N,5μm,0.3s							
FSK	**Fiskardo**	**0.84**	**3**	P	**Pg**	**16 51 54.9**	**-1.0**
FSK				S	**Sg**	**16 52 07.3**	**+0.6**
FSK				AML	AML	16 52 09.4	
comp=E,9474μm,0.1s							
FSK				AML	AML	16 52 09.7	
comp=N,7890μm,0.2s							
RLS	**Riolos of Patr**	**0.88**	**60**	P	**Pg**	**16 51 55.8**	**-0.8**
RLS				S	**Sg**	**16 52 08.4**	**+0.4**
comp=N,2μm,0.4s							
RLS	**Riolos of Patr**	**0.88**	**60**	P	**Pg**	**16 51 55.6**	**-1.0**
AMT	**Artemida-Makis**	**0.96**	**95**	P	**Pg**	**16 51 58.2**	**0.0**
AMT				S	**Sg**	**16 52 11.1**	**+0.4**
AMT				AML	AML	16 52 17.7	
comp=N,11797μm,0.4s							
AMT				AML	AML	16 52 19.1	
comp=E,15520μm,0.4s							
EVGI	**Lefkada island**	**1.00**	**7**	P	**Pg**	**16 51 58.0**	**-1.1**
EVGI				S	**Sb**	**16 52 13.0**	**-0.2**
comp=E,4μm,0.3s							
EVGI	**Lefkada island**	**1.00**	**7**	P	**Pg**	**16 51 58.0**	**-1.1**
DRO	**Drossia**	**1.01**	**71**	P	**Pg**	**16 51 58.5**	**-0.7**
DRO				S	**Sb**	**16 52 13.9**	**+0.5**
comp=E,2μm,0.6s							
DRO	**Drossia**	**1.01**	**71**	P	**Pg**	**16 51 59.0**	**-0.2**
DRO				S	**Sg**	**16 52 12.5**	**+0.3**
DRO				AML	AML	16 52 23.4	
comp=N,4943μm,0.5s							
DRO				AML	AML	16 52 27.3	
comp=E,4455μm,0.4s							
DRAG	**Dragano-Lefkad**	**1.06**	**3**	P	**Pg**	**16 51 59.0**	**-1.2**
DRAG				S	**Sb**	**16 52 14.4**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.10**	**8**	P	**Pg**	**16 51 59.6**	**-1.3**
NYDR				S	**Sg**	**16 52 15.3**	**+0.1**
comp=E,1μm,0.6s							
LKD2	**Lefkada island**	**1.17**	**6**	P	**Pg**	**16 52 02.1**	**-0.2**
LKD2	**Lefkada island**	**1.17**	**6**	P	**Pg**	**16 52 02.3**	**0.0**
LKD2				S	**Sb**	**16 52 18.5**	**+0.4**
LKD2				AML	AML	16 52 24.2	
comp=E,2853μm,0.6s							
LKD2				AML	AML	16 52 28.5	
comp=N,3105μm,0.8s							
TSLK	**Tsoukalades, L**	**1.21**	**6**	P	**Pg**	**16 52 01.5**	**-1.5**
TSLK				S	**Sn**	**16 52 19.8**	**-0.3**
comp=N,2μm,0.7s							
TSLK	**Tsoukalades, L**	**1.21**	**6**	P	**Pg**	**16 52 01.8**	**-1.1**
TSLK				S	**Sb**	**16 52 18.8**	**-0.3**
TSLK				AML	AML	16 52 24.7	
comp=N,5190μm,0.4s							
TSLK				AML	AML	16 52 27.4	
comp=E,2844μm,0.9s							
UPR	**University Cam**	**1.21**	**56**	P	**Pg**	**16 52 02.5**	**-0.5**
ITM	**Ithomi**	**1.21**	**111**	P	**Pg**	**16 52 02.8**	**-0.3**
ITM	**Ithomi**	**1.21**	**111**	P	**Pg**	**16 52 02.7**	**-0.3**
ITM				S	**Sg**	**16 52 18.6**	**-0.2**
ITM				AML	AML	16 52 28.8	
comp=N,2529μm,0.4s							
ITM				AML	AML	16 52 34.2	
comp=E,2020μm,0.8s							
PYL	**PYLOS**	**1.22**	**126**	P	**Pg**	**16 52 02.8**	**-0.4**
PYL				S	**Sn**	**16 52 22.0**	**+1.5**
comp=E,2μm,0.5s							
PYL	**PYLOS**	**1.22**	**126**	P	**Pg**	**16 52 02.8**	**-0.4**
PYL				S	**Sg**	**16 52 19.5**	**+0.4**
PYL				AML	AML	16 52 23.7	
comp=E,4077μm,0.5s							
PYL				AML	AML	16 52 27.1	
comp=N,3175μm,0.6s							
EFP	**Efpalio**	**1.37**	**54**	P	**Pn**	**16 52 04.3**	**-1.2**
EFP				S	**Sn**	**16 52 26.4**	**+2.4**
comp=N,822nm,0.6s							
EFP	**Efpalio**	**1.37**	**54**	P	**Pn**	**16 52 04.3**	**-1.2**
EFP				S	**Sg**	**16 52 23.0**	**-0.7**
EFP				AML	AML	16 52 30.7	
comp=N,1368μm,0.5s							
EFP				AML	AML	16 52 34.2	
comp=E,1509μm,0.6s							
KLV	**Kalavryta, Ach**	**1.37**	**72**	P	**Pn**	**16 52 04.5**	**-1.1**
KLV				S	**Sn**	**16 52 27.6**	**+3.4**
comp=E,695nm,1.1s							
KLV	**Kalavryta, Ach**	**1.37**	**72**	P	**Pn**	**16 52 04.8**	**-0.9**
KLV				S	**Sg**	**16 52 22.1**	**-1.7**
KLV				AML	AML	16 52 34.0	
comp=N,1417μm,1.0s							
KLV				AML	AML	16 52 35.0	
comp=E,1307μm,0.9s							
ALIK	**Aliki, Aigiali**	**1.42**	**63**	P	**Pn**	**16 52 05.5**	**-0.8**
ANX	**Ano Chora**	**1.48**	**49**	P	**Pn**	**16 52 06.2**	**-1.0**
ANX				S	**Sg**	**16 52 28.2**	**+0.9**
comp=E,2μm,0.5s							
ANX	**Ano Chora**	**1.48**	**49**	P	**Pn**	**16 52 06.1**	**-1.0**
ANX				S	**Sb**	**16 52 24.9**	**-2.1**
ANX				AML	AML	16 52 30.7	
comp=E,2100μm,0.5s							
ANX				AML	AML	16 52 33.5	
comp=N,3539μm,0.5s							
GUR	**Goura**	**1.49**	**77**	P	**Pn**	**16 52 06.6**	**-0.7**
GUR				S	**Sn**	**16 52 26.2**	**-1.0**
GUR				AML	AML	16 52 38.7	
comp=E,1451μm,0.4s							
GUR				AML	AML	16 52 39.4	
comp=N,2096μm,0.7s							
KALE	**Kalithea**	**1.50**	**59**	P	**Pn**	**16 52 06.4**	**-1.1**
KALE	**Kalithea**	**1.50**	**59**	P	**Pn**	**16 52 06.3**	**-1.2**
KALE				AML	AML	16 52 36.6	
comp=E,1404μm,0.5s							
KALE				AML	AML	16 52 41.8	
comp=N,1735μm,0.6s							
EVR	**Evrytania**	**1.65**	**38**	P	**Pb**	**16 52 10.6**	**-0.2**
EVR				S	**Sg**	**16 52 35.1**	**+2.3**
comp=N,598nm,1.2s							
EVR	**Evrytania**	**1.65**	**38**	P	**Pn**	**16 52 08.6**	**-0.9**
EVR				AML	AML	16 52 44.8	
comp=E,1189μm,1.1s							
EVR				AML	AML	16 52 51.5	
comp=N,1365μm,1.6s							
MAKR	**Makrakomi, Fth**	**1.89**	**42**	P	**Pb**	**16 52 14.4**	**-0.4**
IGT	**Igoumenitsa**	**1.91**	**356**	P	**Pn**	**16 52 12.9**	**-0.2**
IGT				AML	AML	16 52 50.0	
comp=E,824μm,0.5s							
IGT				AML	AML	16 52 58.3	
comp=N,539μm,0.5s							
AGG	**Agios Georgios**	**2.00**	**45**	P	**Pn**	**16 52 15.4**	**+1.1**
AGG				S	**Sg**	**16 52 45.9**	**+1.7**
comp=N,422nm,1.2s							
OHR	**Ohrid**	**3.49**	**4**	*i* Pn	**Pn**	**16 52 36.9**	**+2.0**

*AEIC **07** 16:51:55.9±1.5, 54°.97N±0°.06×160°.40W±0°.05, h33km±7km, Error ellipse: s-maj=8.3km s-min=3.5km az=195.0*
NEIC 07 16:51:56.7±1.3, **55°.02N**±0°.04×**160°.42W**±0°.05, **h35**km±2km, **ML3.5**/16, **ML3.3**(AEIC), **Error ellipse: s-maj=7.0km s-min=4.5km az=187.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.52**	**113**		Pn	16 52 06.1	-1.6
CNBA					Sn	16 52 13.7	-1.6
CNBA				IAML		16 52 14.4	
comp=N,3μm,0.3s							
CNBA				IAML		16 52 14.8	
comp=E,2μm,0.5s							
PN7A	**Pavlof North-7**	**0.99**	**295**		Pn	16 52 14.2	0.0
PN7A					Sn	16 52 26.9	-0.1
S12K	**Black Hills**	**1.16**	**307**		Pn	16 52 16.0	-0.4
S12K					Sn	16 52 30.5	-0.5
S12K				IAML		16 52 34.6	
comp=N,1μm,0.2s							
VNKR	**Veniaminof 5**	**1.18**	**30**		Pn	16 52 16.6	-0.1
VNSG	**Veniaminof 6**	**1.34**	**34**		Pn	16 52 19.0	0.0
VNFG	**Fog Glacier, M**	**1.36**	**21**		Pn	16 52 20.3	+1.0
VNFG	**Fog Glacier, M**	**1.36**	**21**		Pn	16 52 19.9	+0.6
VNFG					Sn	16 52 39.0	+2.9
VNFG				IAML		16 52 41.2	
comp=N,949nm,0.6s							
VNFG				IAML		16 52 57.9	
comp=E,992nm,0.7s							
VNHG	**Veniaminof 1**	**1.40**	**30**		Pn	16 52 20.0	+0.2
CHGN	**Chignik**	**1.71**	**41**	Pn	Pn	16 52 23.6	-0.4
FALS	**False Pass**	**1.73**	**266**		Pn	16 52 23.6	-0.7
FALS	**False Pass**	**1.73**	**266**		Sn	16 52 47.1	+2.0
ISLZ	**Isanotski Laza**	**1.92**	**262**		Pn	16 52 27.0	+0.1
ISNN	**Isanotski Nort**	**1.95**	**266**		Pn	16 52 27.9	+0.6
ISNN					Sn	16 52 54.8	+4.3
ANPB	**Aniakchak Plen**	**2.15**	**33**		Pn	16 52 30.2	+0.1
WESE	**West Dahl East**	**2.48**	**259**		Pn	16 52 35.3	+0.7
WECS	**Westdahl Cape**	**2.57**	**261**		Pn	16 52 36.7	+0.8
R16K	**Pilot Point**	**3

0.2nm,0.4s,baz=209,slow=12,SNR=1.1
CMAR LR LR 17 32 46.7
comp=Z,18nm,19.1s,baz=220,slow=32
0.2nm,0.4s
ASAR Alice Springs 58.83 105 P P 17 15 43.5 -0.1
0.8nm,0.8s,baz=257,slow=6.9,SNR=8.4
ASAR LR LR 17 37 20.8
comp=Z,50nm,20.0s,baz=82,slow=32
0.8nm,0.8s
WRA Warramunga Arr 60.13 101 P P 17 15 52.4 -0.2
0.8nm,0.8s,baz=255,slow=6.5,SNR=4.7
0.8nm,0.8s
QSPA South Pole Qui 67.41 180 P P 17 16 40.4 +0.3
1.4nm,1.1s,baz=356,slow=4.3,SNR=2.6
1.4nm,1.1s
MKAR Makanchi Array 70.15 9 P P 17 16 56.8 -0.3
0.3nm,0.6s,baz=206,slow=7.3,SNR=3.8
0.3nm,0.6s
ZALV Zalesovo Beam 77.50 9 P P 17 17 39.6 -0.3
0.7nm,0.6s,baz=201,slow=4.6,SNR=3.2
0.7nm,0.6s

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*IDC **07** 17:08:50.4±1.2, 37.°67N×20.°19E, h0km, mb3.7/8, mbtmp3.6/11, ML3.7/2, MS3.5/4, Error ellipse: s-maj=26.2km s-min=21.4km az=144.0*
*THE **07** 17:08:54.7, 37.°50N×20.°41E, h0km±4km, ML3.5/11, Error ellipse: s-maj=4.8km s-min=1.2km az=218.0*
*ATH **07** 17:08:54.6, 37.°49N×20.°40E, h8km±1km, ML3.3/16, Error ellipse: s-maj=1.9km s-min=0.9km az=42.0*
ISC 07 17:08:52.9±1.3, 37.°44N±0.°04×20.°39E±0.°04, h17km±6km, n59, σ1.9°30/83, mb3.5/9, MS3.6/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.41**	**57**	P	**Pb**	**17 09 01.6**	**-0.1**
KRI1				S	**Sg**	**17 09 06.6**	**-0.4**
13μm,0.5s							
LTHK	**Lithakia**	**0.45**	**53**	P	**Pb**	**17 09 02.4**	**0.0**
LTHK				S	**Sb**	**17 09 07.9**	**-0.8**
14μm,0.5s							
LTHK	**Lithakia**	**0.45**	**53**	P	**Pb**	**17 09 02.2**	**-0.2**
LTHK				S	**Sg**	**17 09 07.6**	**-0.6**
LTHK				AML	AML	17 09 08.4	
comp=E,31900μm,0.4s							
LTHK				AML	AML	17 09 08.5	
comp=N,23354μm,0.6s							
PSDA	**Pessada-Kefalo**	**0.69**	**13**	P	**Pb**	**17 09 06.5**	**0.0**
PSDA				S	**Sb**	**17 09 15.5**	**-0.2**
comp=N,4μm,0.6s							
PSDA	**Pessada-Kefalo**	**0.69**	**13**	P	**Pb**	**17 09 07.0**	**+0.5**
RTZL	**Ratzakli, Kefa**	**0.70**	**26**	P	**Pb**	**17 09 06.7**	**0.0**
RTZL				S	**Sb**	**17 09 15.5**	**-0.6**
comp=N,5μm,0.7s							
VLS	**Valsamata**	**0.75**	**12**	P	**Pg**	**17 09 07.5**	**-0.2**
VLS				S	**Sb**	**17 09 18.3**	**+0.7**
comp=N,4μm,0.6s							
VLS	**Valsamata**	**0.75**	**12**	P	**Pg**	**17 09 07.5**	**-0.2**
VLS				S	**Sb**	**17 09 17.3**	**-0.3**
VLS				AML	AML	17 09 21.7	
comp=N,7238μm,0.6s							
VLS				AML	AML	17 09 23.2	
comp=E,7668μm,0.7s							
LXRA	**Lixouri, Kepha**	**0.76**	**3**	P	**Pb**	**17 09 08.5**	**+0.8**
LXRA				S	**Sb**	**17 09 17.9**	**+0.2**
DMLN	**Damoulianata-K**	**0.80**	**359**	P	**Pb**	**17 09 08.9**	**+0.6**
DMLN				S	**Sb**	**17 09 19.5**	**+0.7**
comp=E,8μm,0.7s							
DMLN	**Damoulianata-K**	**0.80**	**359**	P	**Pb**	**17 09 08.9**	**+0.6**
DMLN				S	**Sb**	**17 09 19.6**	**+0.7**
FSK	**Fiskardo**	**1.03**	**8**	P	**Pg**	**17 09 12.5**	**-0.4**
FSK				S	**Sb**	**17 09 25.7**	**+0.3**
comp=E,3μm,0.7s							
FSK	**Fiskardo**	**1.03**	**8**	P	**Pb**	**17 09 12.7**	**+0.4**
FSK				S	**Sb**	**17 09 26.2**	**+0.8**
FSK				AML	AML	17 09 31.8	
comp=N,4987μm,0.8s							
FSK				AML	AML	17 09 33.8	
comp=E,6279μm,0.6s							
RLS	**Riolos of Patr**	**1.06**	**54**	P	**Pg**	**17 09 12.9**	**-0.5**
RLS	**Riolos of Patr**	**1.06**	**54**	P	**Pn**	**17 09 13.5**	**+0.6**
RLS				S	**Sn**	**17 09 28.4**	**+1.2**
RLS				AML	AML	17 09 33.5	
comp=N,1507μm,0.4s							
RLS				AML	AML	17 09 36.7	
comp=E,1781μm,0.6s							
AMT	**Artemida-Makis**	**1.06**	**85**	P	**Pn**	**17 09 14.2**	**+1.3**
AMT				S	**Sn**	**17 09 28.3**	**+1.0**
AMT				AML	AML	17 09 36.1	
comp=N,6893μm,0.6s							
AMT				AML	AML	17 09 37.9	
comp=E,6022μm,0.4s							
DRO	**Drossia**	**1.17**	**64**	P	**Pn**	**17 09 15.7**	**+1.2**
DRO	**Drossia**	**1.17**	**64**	P	**Pn**	**17 09 15.6**	**+1.2**
DRO				S	**Sn**	**17 09 31.7**	**+1.6**
DRO				AML	AML	17 09 37.5	
comp=E,2718μm,0.8s							
DRO				AML	AML	17 09 39.6	
comp=N,2685μm,0.4s							
EVGI	**Lefkada island**	**1.20**	**10**	P	**Pb**	**17 09 15.3**	**+0.1**
EVGI				S	**Sn**	**17 09 32.7**	**+2.0**
comp=N,2μm,0.7s							
EVGI	**Lefkada island**	**1.20**	**10**	P	**Pn**	**17 09 16.0**	**+1.2**
PYL	**PYLOS**	**1.21**	**116**	P	**Pn**	**17 09 16.7**	**+1.6**
PYL				S	**Sn**	**17 09 33.6**	**+2.5**
PYL				AML	AML	17 09 36.5	
comp=E,1331μm,0.6s							
PYL				AML	AML	17 09 37.6	
comp=N,571μm,0.4s							
DRAG	**Dragano-Lefkad**	**1.25**	**7**	P	**Pg**	**17 09 16.7**	**-0.4**
ITM	**Ithomi**	**1.26**	**101**	P	**Pg**	**17 09 17.8**	**+0.6**
ITM	**Ithomi**	**1.26**	**101**	P	**Pg**	**17 09 17.7**	**+0.6**
ITM				S	**Sn**	**17 09 34.2**	**+2.1**
ITM				AML	AML	17 09 46.5	
comp=E,949μm,1.0s							
ITM				AML	AML	17 09 51.7	
comp=N,867μm,0.9s							
NYDR	**Nydri-Lefkada**	**1.30**	**11**	P	**Pb**	**17 09 17.2**	**+0.4**
NYDR				S	**Sn**	**17 09 36.6**	**+3.5**
comp=N,1μm,0.9s							
LKD2	**Lefkada island**	**1.36**	**9**	P	**Pg**	**17 09 20.2**	**+0.9**
LKD2				S	**Sg**	**17 09 39.8**	**+2.7**
comp=N,2μm,0.7s							
LKD2	**Lefkada island**	**1.36**	**9**	P	**Pg**	**17 09 18.7**	**-0.6**
LKD2				S	**Sb**	**17 09 35.1**	**-0.1**
LKD2				AML	AML	17 09 44.6	
comp=N,3563μm,0.6s							
LKD2				AML	AML	17 09 46.2	
comp=E,3478μm,0.6s							
TSLK	**Tsoukalades, L**	**1.40**	**9**	P	**Pg**	**17 09 19.6**	**-0.3**
TSLK				S	**Sg**	**17 09 39.8**	**+1.6**
comp=E,2μm,0.9s							
TSLK	**Tsoukalades, L**	**1.40**	**9**	P	**Pb**	**17 09 19.0**	**+0.4**
TSLK				S	**Sn**	**17 09 36.4**	**+0.8**
TSLK				AML	AML	17 09 46.3	
comp=N,4839μm,0.8s							
TSLK				AML	AML	17 09 46.4	
comp=E,5778μm,0.7s							
KLV	**Kalavryta, Ach**	**1.52**	**66**	P	**Pg**	**17 09 22.1**	**-0.2**
KLV	**Kalavryta, Ach**	**1.52**	**66**	P	**Pb**	**17 09 21.0**	**+0.3**
KLV				S	**Sg**	**17 09 40.7**	**-1.4**
KLV				AML	AML	17 09 55.9	
comp=E,434μm,0.7s							
KLV				AML	AML	17 09 57.0	
comp=N,796μm,0.8s							
EFP	**Efpalio**	**1.56**	**50**	P	**Pg**	**17 09 22.2**	**-0.7**
EFP	**Efpalio**	**1.56**	**50**	P	**Pb**	**17 09 21.8**	**+0.6**
EFP				S	**Sb**	**17 09 40.7**	**+0.2**
EFP				AML	AML	17 09 52.9	
comp=E,1070μm,0.8s							
EFP				AML	AML	17 09 53.3	
comp=N,662μm,0.5s							
GUR	**Goura**	**1.63**	**72**	P	**Pg**	**17 09 23.8**	**-0.5**
GUR	**Goura**	**1.63**	**72**	P	**Pb**	**17 09 22.6**	**0.0**
GUR				AML	AML	17 09 57.1	
comp=N,1333μm,0.8s							
GUR				AML	AML	17 10 00.7	
comp=E,942μm,0.6s							
ANX	**Ano Chora**	**1.67**	**46**	P	**Pg**	**17 09 24.4**	**-0.7**
ANX	**Ano Chora**	**1.67**	**46**	P	**Pb**	**17 09 23.6**	**+0.3**
ANX				S	**Sn**	**17 09 43.1**	**+0.5**
ANX				AML	AML	17 09 55.8	
comp=E,2068μm,0.6s							
ANX				AML	AML	17 09 56.0	
comp=N,2903μm,0.5s							
KALE	**Kalithea**	**1.68**	**55**	P	**Pb**	**17 09 24.1**	**+0.7**
EVR	**Evrytania**	**1.85**	**37**	P	**Pg**	**17 09 29.1**	**+0.5**
EVR	**Evrytania**	**1.85**	**37**	P	**Pb**	**17 09 26.0**	**-0.4**
EVR				AML	AML	17 10 03.0	
comp=E,669μm,0.8s							
EVR				AML	AML	17 10 09.9	
comp=N,714μm,1.0s							
MAKR	**Makrakomi, Fth**	**2.09**	**41**	P	**Pb**	**17 09 31.6**	**+1.3**
THL	**Klokotos Trika**	**2.48**	**31**	P	**Pn**	**17 09 34.1**	**+1.7**
THL				AML	AML	17 10 21.1	
comp=E,487μm,1.3s							
THL				AML	AML	17 10 31.4	
comp=N,565μm,0.9s							
OHR	**Ohrid**	**3.68**	**5**	*i* Pn	**Pb**	**17 09 56.3**	**-1.2**
IDI	**Anoyia**	**4.22**	**119**	Pn	**Pn**	**17 10 00.5**	**+4.0**
comp=N,6.5nm,0.9s,baz=263,slow=9.4,SNR=1.7							
IDI				Sn	**Sn**	**17 10 45.5**	**+0.1**
comp=N,2.8nm,0.3s,baz=321,slow=19,SNR=11							
PEHC	**Pehcevo**	**4.75**	**23**	*i* Pn	**Pn**	**17 10 08.0**	**+4.2**
MLR	**Muntele Rosu**	**9.06**	**26**	Pn	**Pn**	**17 11 01.9**	**-1.1**
comp=N,0.1nm,0.3s,baz=296,slow=21,SNR=1.7							
comp=N,2.1nm,0.9s							
ESDC	**Sonseca Array**	**19.16**	**284**	P	**P**	**17 13 13.1**	**-2.4**
comp=N,0.1nm,0.3s,baz=77,slow=12,SNR=2.6							
comp=N,0.9nm,0.9s							
HFS	**Hagfors**	**23.11**	**351**	P	**P**	**17 13 54.1**	**-3.6**
comp=N,1.2nm,0.8s,baz=177,slow=39,SNR=2.4							
comp=N,1.2nm,0.8s							
FINES	**FINESS Array B**	**24.29**	**7**	P	**P**	**17 14 08.8**	**-0.3**
comp=N,0.6nm,0.5s,baz=180,slow=6.9,SNR=7.4							
FINES				LR	LR	17 23 57.6	
comp=N,82nm,19.3s,baz=274,slow=38							
comp=N,0.6nm,0.5s							
TORD	**Torodi Ar. Bea**	**29.39**	**220**	P	**P**	**17 14 56.4**	**+1.1**
comp=N,0.2nm,0.5s,baz=50,slow=10,SNR=1.6							
comp=N,0.2nm,0.5s							
BVAR	**Borovoye Array**	**37.68**	**49**	P	**P**	**17 16 05.4**	**-1.6**
comp=N,0.4nm,0.7s,baz=301,slow=3.0,SNR=2.1							
comp=N,0.4nm,0.7s							
SPITS	**Spitsbergen Ar**	**40.88**	**359**	P	**P**	**17 16 33.1**	**-0.4**
comp=N,3.6nm,0.6s,baz=93,slow=13,SNR=2.0							
comp=N,3.6nm,0.6s							
KURBB	**Kurchatov Arra**	**42.76**	**53**	P	**P**	**17 16 49.0**	**-0.2**
comp=N,0.3nm,0.3s,baz=278,slow=8.3,SNR=1.2							
MKAR	**Makanchi Array**	**45.78**	**58**	P	**P**	**17 17 13.2**	**-0.3**
comp=N,0.5nm,0.9s,baz=276,slow=8.9,SNR=1.8							
comp=N,0.5nm,0.9s							
ZALV	**Zalesovo Beam**	**46.27**	**48**	P	**P**	**17 17 17.5**	**+0.4**
comp=N,0.5nm,0.4s,baz=294,slow=11,SNR=3.8							
comp=N,0.5nm,0.4s							
ULM	**Lac du Bonnet**	**76.23**	**324**	P	**P**	**17 20 37.9**	**-2.3**
comp=N,2.0nm,0.6s,baz=14,slow=8.3,SNR=1.9							
comp=N,2.0nm,0.6s							
ASAJ	**Asahikawa**	**83.43**	**38**	LR	LR	18 01 19.6	
comp=N,27nm,19.8s,baz=4.5,slow=38							
YBH	**Yreka Blue Hor**	**94.30**	**333**	LR	LR	18 08 51.7	
comp=N,40nm,18.0s,baz=344,slow=38							
CPUP	**Villa Florida**	**96.61**	**242**	LR	LR	18 06 19.5	
comp=N,16nm,18.4s,baz=51,slow=36							

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*MOS **07** 17:27:46.8±1.1, 44.°19N×82.°56E, h12km, mb4.5/15, Error ellipse: s-maj=6.5km s-min=5.9km az=53.1*
*IDC **07** 17:27:46.1±0.6, 44.°15N×82.°49E, h0km, mb4.0/14, mbtmp4.0/21, ML3.5/7, MS3.3/4, Error ellipse: s-maj=11.9km s-min=8.6km az=70.0*
*NEIC **07** 17:27:47.9±2.0, 44.°11N±0.°04×82.°6E±0.°1, h10km±1km, mb4.5/36, Error ellipse: s-maj=14.6km s-min=2.9km az=115.0*
*BJI **07** 17:27:47.6, 44.°14N×82.°72E, h11km, mb4.3/26, mB4.5/10, ML4.2/10, Ms3.8/10, Ms7 3.6/9*
*SOME **07** 17:27:48.5, 44.°22N×82.°40E, h10km, MS3.4*
*NNC **07** 17:27:49.5±1.0, 44.°14N×82.°35E, h0km, mb4.9, mpv4.5, Error ellipse: s-maj=10.5km s-min=4.6km az=135.0*
ISC 07 17:27:46.9±0.8, 44.°16N±0.°03×82.°48E±0.°03, h4km±5km, n199, σ2.9°07/230, mb4.5/46, MS3.6/6, 18C-11D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.94**	**276**	Pg	**Pb**	**17 28 24.5**	**+1.7**
460nm,0.4s							
DJR				Lg	Lg	17 28 50.9	
4μm,0.5s							
DJR	**Jarkent**	**1.94**	**276**	*e*P	**Pb**	**17 28 24.5**	**+1.7**
460nm,0.4s							
DJR				*e*S	**Sg**	**17 28 50.9**	**+1.7**
4μm,0.5s							
PDGK	**Podgornoye**	**2.32**	**250**	⇑Pn	**Pn**	**17 28 27.4**	**+1.4**
238nm,0.7s							
PDGK				⇑Lg	Lg	17 28 59.8	
2μm,0.8s							
PDGK	**Podgornoye**	**2.32**	**250**	PN	**Pn**	**17 28 27.3**	**+1.4**
PDGK						17 28 59.7	
SHLS	**Shalkode**	**2.41**	**246**	Pg	**Pn**	**17 28 27.4**	**+0.2**
293nm,0.2s							
SHLS				Lg	Lg	17 28 55.5	
6μm,0.5s							
SHLS	**Shalkode**	**2.41**	**246**	*e*P	**Pn**	**17 28 26.7**	**-0.5**
509nm,0.5s							
SHLS				*e*S	**Sn**	**17 28 54.7**	**-2.5**
1μm,9.4s							
SHLS	**Shalkode**	**2.41**	**246**	*e*PN	**Pn**	**17 28 26.7**	**-0.5**
KAPS	**Kapalarasan**	**2.49**	**298**	Pg	**Pb**	**17 28 34.7**	**+2.5**
129nm,0.4s							
KAPS				Lg	Lg	17 29 07.6	
3μm,0.2s							
KAPS	**Kapalarasan**	**2.49**	**298**	*e*P	**Pb**	**17 28 34.7**	**+2.5**
77nm,0.2s							
KAPS				*e*S	**Sg**	**17 29 07.6**	**+0.7**
3μm,0.2s							
MK31	**Makanchi Array**	**2.63**	**357**	⇓Pn	**Pn**	**17 28 32.5**	**+2.4**
8.6nm,0.3s,baz=192,slow=13,SNR=1268							
MK31				⇓Pg	**Pg**	**17 28 37.0**	**-0.3**
33nm,0.3s,baz=169,slow=16,SNR=8.4							
MK31				⇓Lg	Lg	17 29 10.5	
80nm,0.1s,baz=184,slow=22,SNR=9.6							
MK31	**Makanchi Array**	**2.63**	**357**		**Pn**	**17 28 32.5**	**+2.4**
MK31				Sn	**Sn**	**17 29 04.5**	**+1.9**
MK31	**Makanchi Array**	**2.63**	**357**	*d* iPN	**Pn**	**17 28 32.9**	**+2.8**
MKAR	**Makanchi Array**	**2.63**	**357**		**Pn**	**17 28 32.5**	**+2.3**
MKAR				Sn	**Sb**	**17 29 05.8**	**-1.5**
MKAR	**Makanchi Array**	**2.63**	**357**	Pn	**Pn**	**17 28 32.9**	**+2.7**
17nm,0.3s,baz=182,slow=15,SNR=236							
MKAR				Sn	**Sn**	**17 29 04.8**	**+2.3**
126nm,0.3s,baz=181,slow=29,SNR=19							
76nm,0.4s							
MAKZ	**Makanchi**	**2.67**	**353**		**Pn**	**17 28 31.6**	**+1.1**
MAKZ	**Makanchi**	**2.67**	**353**	PN	**Pn**	**17 28 31.7**	**+1.1**
UZB	**Uzynbulak**	**2.71**	**249**	Pg	**Pb**	**17 28 36.1**	**+0.1**
51nm,0.4s							
UZB				Lg	Lg	17 29 10.5	
621nm,0.5s							
UZB	**Uzynbulak**	**2.71**	**249**	*e*P	**Pb**	**17 28 36.1**	**+0.1**
51nm,0.4s							
UZB				*e*S	**Sb**	**17 29 10.5**	**+1.0**
621nm,0.5s							
UZB	**Uzynbulak**	**2.71**	**249**	*e*PN	**Pb**	**17 28 35.9**	**0.0**
KPKS	**Kokpek**	**2.84**	**257**	*e*P	**Pb**	**17 28 39.2**	**+1.1**
311nm,0.4s							
KPKS				*e*S	**Sb**	**17 29 15.8**	**+2.6**
1μm,0.5s							
KPKS	**Kokpek**	**2.84**	**257**	*e*PN	**Pn**	**17 28 35.8**	**+2.8**
TDK	**Taldyqorghan**	**3.03**	**287**	Pg	**Pb**	**17 28 44.4**	**+3.0**
908nm,0.4s							
TDK				Lg	Lg	17 29 23.6	
6.8nm,0.8s							
TDK	**Taldyqorghan**	**3.03**	**287**	*e*P	**Pb**	**17 28 44.4**	**+3.0**
908nm,0.4s							
TDK				*e*S	**Sg**	**17 29 23.6**	**-0.6**
6.8nm,0.8s							
ZHN	**Zhinishke**	**3.10**	**253**	Pg	**Pb**	**17 28 44.3**	**+1.7**
41nm,0.2s							
ZHN				Lg	Lg	17 29 24.0	
889nm,0.3s							
ZHN	**Zhinishke**	**3.10**	**253**	*e*P	**Pb**	**17 28 44.3**	**+1.7**
41nm,0.2s							
ZHN				*e*S	**Sb**	**17 29 24.0**	**+3.2**
889nm,0.3s							
SATY	**Saty**	**3.16**	**251**	Pg	**Pb**	**17 28 45.1**	**+1.5**
42nm,0.2s							
SATY				Lg	Lg	17 29 25.5	
1μm,0.2s							
SATY	**Saty**	**3.16**	**251**	*e*P	**Pb**	**17 28 45.1**	**+1.5**
42nm,0.2s							
SATY				*e*S	**Sb**	**17 29 25.6**	**+3.0**
692nm,5.7s							
KURS	**Kuram**	**3.19**	**259**	Pg	**Pb**	**17 28 46.3**	**+2.2**
81nm,0.4s							
KURS				Lg	Lg	17 29 27.4	
155nm,0.4s							
KURS	**Kuram**	**3.19**	**259**	*e*P	**Pb**	**17 28 46.3**	**+2.2**
81nm,0.4s							
KURS				*e*S	**Sb**	**17 29 27.4**	**+4.0**
155nm,0.4s							
ARXS	**Arharly**	**3.35**	**272**	Pg	**Pb**	**17 28 48.4**	**+1.6**
53nm,0.1s							
ARXS				Lg	Lg	17 29 31.5	
577nm,0.3s							
ARXS	**Arharly**	**3.35**	**272**	*e*P	**Pb**	**17 28 48.4**	**+1.6**
53nm,0.1s							
ARXS				*e*S	**Sb**	**17 29 31.5**	**+3.6**
577nm,0.3s							
ARXS	**Arharly**	**3.35**	**272**	*e*PN	**Pn**	**17 28 42.5**	**+2.5**
PRZ	**Przheval'sk**	**3.42**	**242**	Pn	**Pn**	**17 28 40.9**	**-0.2**
PRZ	**Przheval'sk**	**3.42**	**242**	PN	**Pn**	**17 28 40.9**	**-0.2**
ZSN	**Zaisan**	**3.69**	**26**	Pg	**Pg**	**17 28 58.6**	**+1.2**
160nm,0.3s							
ZSN				Lg	Lg	17 29 49.2	
3μm,0.8s							
ZSN	**Zaisan**	**3.69**	**26**	*e*P	**Pb**	**17 28 55.5**	**+3.0**
179nm,0.5s							
ZSN				*e*S	**Sg**	**17 29 43.9**	**-1.3**
3μm,0.8s							
WMQ	**Urumqi**	**3.78**	**93**	Pg	**Pn**	**17 28 49.7**	**+3.8**
WMQ				smax	smax		
comp=N,190nm,0.5s							
WMQ				smax	smax		
comp=E,170nm,0.5s							
WUS	**Wushi**	**3.82**	**220**	Pn	**Pn**	**17 28 49.2**	**+2.7**
CHKK	**Chushkaly**	**3.98**	**267**	Pg	**Pb**	**17 28 59.0**	**+1.6**
50nm,0.3s							
CHKK				Lg	Lg	17 29 49.3	
457nm,0.3s							
CHKK	**Chushkaly**	**3.98**	**267**	*e*P	**Pb**	**17 28 59.0**	**+1.6**
50nm,0.3s							
CHKK				*e*S	**Sb**	**17 29 49.2**	**+3.4**
457nm,0.3s							
MDOK	**Medeo**	**4.07**	**258**	⇓Pn	**Pn**	**17 28 52.1**	**+2.1**
15nm,0.4s							
MDOK				⇑Pg	**Pb**	**17 29 01.7**	**+2.6**
93nm,0.5s							
MDOK				Pg	**Pb**	**17 29 03.2**	**+4.1**
80nm,0.8s							
MDOK				Lg	Lg	17 29 56.8	
182nm,0.8s							
MDOK				⇑Lg	Lg	17 29 58.9	
349nm,0.7s							
MDOK	**Medeo**	**4.07**	**258**	*e*P	**Pb**	**17 29 03.2**	**+4.1**
80nm,0.8s							
MDOK				*e*S	**Sg**	**17 29 56.8**	**-0.7**
182nm,0.8s							
MDOK	**Medeo**	**4.07**	**258**	PN	**Pn**	**17 28 52.1**	**+2.1**
MDOK						17 29 01.7	
KNDC	**Almaty**	**4.11**	**259**	⇓Pg	**Pb**	**17 29 03.0**	**+3.1**
219nm,0.6s							
KNDC				⇑Lg	Lg	17 29 59.9	
830nm,0.7s							
KNDC	**Almaty**	**4.11**	**259**	PN	**Pb**	**17 29 02.9**	**+3.1**
AAA	**Alma-Ata**	**4.15**	**259**	Pg	**Pb**	**17 29 04.5**	**+4.1**
104nm,0.4s							
AAA				Lg	Lg	17 29 59.8	
31nm,0.5s							
AAA	**Alma-Ata**	**4.15**	**259**	*e*P	**Pb**	**17 29 04.9**	**+4.4**
105nm,0.5s							
AAA				*e*S	**Sg**	**17 29 59.8**	**-0.3**
244nm,0.2s							
TNSS	**Tian-Shan**	**4.17**	**256**	Pg	**Pg**	**17 29 06.2**	**-0.6**
78nm,0.3s							
TNSS				Lg	Lg	17 30 01.3	
84nm,0.5s							
TNSS	**Tian-Shan**	**4.17**	**256**	*e*P	**Pg**	**17 29 06.2**	**-0.6**
82nm,0.6s							
TNSS				*e*S	**Sg**	**17 30 01.7**	**+0.7**
125nm,0.5s							
KDJ	**Kajisay**	**4.38**	**244**	Pn	**Pn**	**17 28 55.5**	**+1.3**
KDJ	**Kajisay**	**4.38**	**244**	PN	**Pn**	**17 28 55.6**	**+1.3**
KUU	**Kurty**	**4.44**	**269**	Pg	**Pb**	**17 29 06.9**	**+1.5**
76nm,0.6s							
KUU				Lg	Lg	17 30 03.3	
425nm,0.7s							
KUU	**Kurty**	**4.44**	**269**	*e*P	**Pb**	**17 29 06.9**	**+1.5**
76nm,0.6s							
KUU				*e*S	**Sb**	**17 30 03.3**	**+4.1**
425nm,0.7s							
MTBS	**Maitube**	**4.51**	**259**	Pg	**Pb**	**17 29 11.2**	**+4.6**
29nm,0.3s							
MTBS				Lg	Lg	17 30 09.9	
450nm,0.2s							
MTBS	**Maitube**	**4.51**	**259**	*e*P	**Pb**	**17 29 11.0**	**+4.3**
29nm,0.3s							
MTBS				*e*S	**Sg**	**17 30 09.9**	**-1.9**
450nm,0.2s							
KST	**Kastek**	**4.87**	**259**	Pg	Pb	17 29 17.6	+4.9
37nm,0.5s							
KST				Lg	Lg	17 30 21.9	
276nm,0.6s							
KST	**Kastek**	**4.87**	**259**	*e*P	Pb	17 29 17.6	+4.9
37nm,0.5s							
KST				*e*S	**Sg**	**17 30 21.9**	**-1.2**
276nm,0.6s							
ULHL	**Ulahol**	**4.95**	**249**	P	**Pn**	**17 29 05.1**	**+3.0**
SNR=11							
BOOM	**Boomskoye usch**	**5.06**	**253**		**Pn**	**17 29 06.2**	**+2.7**
BOOM	**Boomskoye usch**	**5.06**	**253**	PN	**Pn**	**17 29 06.3**	**+2.7**
TKM2	**Tokmak 2**	**5.16**	**258**	P	**Pn**	**17 29 07.8**	**+2.8**
SNR=8.9							
TKM2	**Tokmak 2**	**5.16**	**258**	⇑Pg	**Pb**	**17 29 21.1**	**+3.4**
40nm,0.6s							
TKM2				⇓Lg	Lg	17 30 29.9	
254nm,0.8s							
NRN	**Naryn**	**5.49**	**242**	Pn	**Pn**	**17 29 12.6**	**+2.9**
NRN	**Naryn**	**5.49**	**242**	PN	**Pn**	**17 29 12.6**	**+2.9**
KBK	**Karagaybulak**	**5.69**	**257**	P	**Pn**	**17 29 15.9**	**+3.6**
SNR=8.1							
SGDS	**Sogindy**	**5.73**	**266**	Pg	Pb	17 29 33.2	+5.9
10nm,0.5s							
SGDS				Lg	Lg	17 30 47.0	
91nm,0.6s							
USP	**Ospenovka**	**5.86**	**264**	P	**Pn**	**17 29 17.4**	**+3.0**
SNR=7.3							
FRU1	**Bishkek**	**5.87**	**259**	Pn	**Pn**	**17 29 15.4**	**+0.8**
FRU1	**Bishkek**	**5.87**	**259**	PN	**Pn**	**17 29 15.4**	**+0.8**
AAK	**Ala-Archa**	**6.02**	**258**	Pn	**Pn**	**17 29 18.6**	**+1.8**
AAK	**Ala-Archa**	**6.02**	**258**	Pn	**Pn**	**17 29 19.8**	**+3.1**
0.8nm,0.3s,baz=115,slow=6.7,SNR=9.8							
AAK				Lg	Lg	17 30 56.5	
3.3nm,0.3s,baz=0.0,slow=20,SNR=1.3							
1.8nm,0.3s							
**

KK31 ⇑Pg Pg 17 30 29.9 -4.4
7.1nm,0.6s
KK31 ⇑Lg Lg 17 32 19.0
42nm,0.7s,baz=74,slow=27,SNR=3.6
KKAR Karatay Array 8.75 267 Pn **Pn 17 29 56.0 +1.9**
KKAR Karatay Array 8.75 267 Pn **Pn 17 29 56.1 +2.0**
KKAR Karatay Array 8.75 267 P **Pn 17 29 56.1 +2.0**
DRK Karamyk 9.24 243 Pn **Pn 17 30 01.4 +0.3**
DRK Karamyk 9.24 243 P **Pn 17 30 01.5 +0.3**
BTK Batken 9.59 249 Pn **Pn 17 30 06.9 +1.2**
BTK Batken 9.59 249 P **Pn 17 30 06.9 +1.2**
ZAA0 Zalesovo Array 9.91 8 Pn **Pn 17 30 10.4 +0.5**
ZALV Zalesovo Beam 9.91 8 Pn **Pn 17 30 10.4 +0.5**
ZALV Zalesovo Beam 9.91 8 Pn **Pn 17 30 10.3 +0.4**
1.2nm,0.3s,baz=191,slow=14,SNR=46
ZALV Sn **Sn 17 31 58.6 -2.9**
2.6nm,0.3s,baz=186,slow=22,SNR=8.0
ZALV Lg Lg 17 33 03.9
1.0nm,0.3s,baz=198,slow=27,SNR=5.0
7.2nm,0.6s
ZALV Zalesovo Beam 9.91 8 *eP* **Pn 17 30 10.6 +0.7**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
GAR Garm 10.47 245 Pn **Pn 17 30 18.5 +0.7**
SIMJ Simiganj 11.51 246 Pn **Pn 17 30 29.3 -2.8**
BVAR Borovoye Array 11.93 322 Pn **Pn 17 30 37.9 +0.3**
comp=Z,0.1nm,0.3s,baz=123,slow=13,SNR=14
BVAR Sn **Sn 17 32 46.0 -5.0**
comp=Z,0.1nm,0.3s,baz=119,slow=27,SNR=5.2
BVAR Lg Lg 17 34 07.6
comp=Z,0.3nm,0.3s,baz=144,slow=23,SNR=6.8
BVAR LR LR 17 35 31.4
comp=Z,122nm,18.6s,baz=154,slow=39
comp=Z,1.4nm,0.4s
BRVK Borovoye 12.00 322 Pn **Pn 17 30 38.1 -0.4**
BRVK Borovoye 12.00 322 *d iP* **Pn 17 30 39.9 +1.4**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
GOMU GeErMu 12.33 126 P **Pn 17 30 42.7 -0.7**
GOMU S **Sn 17 33 00.1 -1.3**
GOMU pmax pmax
comp=Z,54nm,1.0s
GOMU pmax pmax
comp=Z,180nm,4.5s
GOMU LR LR
comp=Z,230nm,8.6s
GOMU LR LR
comp=Z,100nm,9.6s
GOMU LR LR
comp=Z,250nm,9.5s
NIL Nilore 12.71 217 Pn **Pn 17 30 46.0 -2.4**
NIL Nilore 12.71 217 P **Pn 17 30 46.0 -2.4**
GTA Gaotai 13.77 104 *eP* **P 17 31 12.4 +0.7**
GTA sP Pn 17 31 20.4 +17
GTA pmax pmax
comp=Z,22nm,1.1s
LSA Lhasa 16.00 152 P **P 17 31 38.7 +2.0**
LSA Lhasa 16.00 152 P **P 17 31 39.4 +2.6**
LSA Lhasa 16.00 152 P **P 17 31 38.7 +2.0**
LSA pmax pmax
comp=Z,10.0nm,0.9s
AB31 Akbulak array 16.25 296 ⇑Pn **Pn 17 31 32.4 -3.4**
comp=Z,2.0nm,0.6s,baz=112,slow=9.1,SNR=16
AB31 Akbulak array 16.25 296 P **Pn 17 31 32.4 -3.4**
ABKAR Akbulak array 16.25 296 P **Pn 17 31 29.6 -6.2**
ABKAR Akbulak array 16.25 296 Pn **Pn 17 31 30.2 -5.6**
SONM Songino Array 17.00 69 Pn **Pn 17 31 45.7 +0.3**
comp=Z,0.2nm,0.3s,baz=266,slow=12,SNR=22
SONM Lg Lg 17 36 49.3
comp=Z,0.1nm,0.3s,baz=274,slow=24,SNR=1.8
comp=Z,4.5nm,0.9s
SONM Songino Array 17.00 69 *eP* **P 17 31 49.1 +1.7**
ULN Ulaanbaatar 17.44 69 **Pn 17 31 51.1 +0.1**
ULN Ulaanbaatar 17.44 69⇓ *eP* **P 17 31 52.8 +0.5**
ULN pmax pmax
comp=Z,11nm,2.5s
AKTO Aktyubinsk 17.70 299 P **Pn 17 31 53.5 -0.5**
comp=Z,0.2nm,0.3s,baz=94,slow=7.0,SNR=6.4
AKTO Lg Lg 17 37 07.9
comp=Z,0.1nm,0.3s,baz=352,slow=22,SNR=3.9
AKTO LR LR 17 38 56.5
comp=Z,103nm,18.2s,baz=36,slow=38
comp=Z,2.1nm,0.7s
ARTI Arti 19.54 317 P **P 17 32 10.5 -4.7**
ARTI Arti 19.54 317 LR LR 17 40 34.3
comp=Z,48nm,19.0s,baz=67,slow=39
ARTI Arti 19.54 317 P **Pn 17 32 18.0 +1.6**
SHL Shillong 20.07 155 **P 17 32 18.9 -2.4**
SHL IAmb IAmb 17 32 32.2
comp=Z,20nm,0.9s
SHL Shillong 20.07 155 P **P 17 32 18.9 -2.4**
SHL pmax pmax
comp=Z,20nm,0.9s
HHC Hu-ho-hao-te 21.64 89 *eP* **P 17 32 36.4 -1.8**
HHC pmax pmax
comp=Z,19nm,0.5s
HHC pmax pmax
comp=Z,100nm,5.1s
HHC LR LR
comp=Z,89nm,10.9s
HHC LR LR
comp=Z,90nm,9.0s
HHC LR LR
comp=Z,110nm,10.3s
XAN Xi'an 22.79 107 P **P 17 32 51.2 +0.8**
XAN pP sP 17 32 54.7 +1.4
XAN pmax pmax
comp=Z,12nm,1.0s
BELG Belogornoye 24.42 302⇑ *eP* **P 17 33 06.4 +0.2**
BELG pmax pmax
comp=Z,2.0nm,0.7s
KIRV Kirov 24.86 317⇑ *eP* **P 17 33 11.3 +1.2**
LYN LuoYang 24.98 102 P **P 17 33 12.6 +1.2**
LYN pP sP 17 33 17.8 +3.4
LYN sP pP 17 33 19.8 +6.3
LYN pmax pmax
comp=Z,22nm,0.9s
LYN pmax pmax
comp=Z,150nm,4.6s
LYN LR LR
comp=Z,160nm,13.1s
LYN LR LR
comp=Z,150nm,12.4s
LYN LR LR
comp=Z,150nm,15.8s
HNS HongShan 25.21 94 ⇑P **P 17 33 14.8 +1.3**
HNS pmax pmax
comp=Z,17nm,0.6s
BJT Baijiatuau 25.23 88 P **P 17 33 10.9 -2.8**
BJT IAmb IAmb 17 33 12.9
comp=Z,7.6nm,0.4s
BJT Baijiatuau 25.23 88 P **P 17 33 10.9 -2.8**
BJT pmax pmax
comp=Z,8.0nm,0.4s
NRIK Noril'sk 25.38 4 P **P 17 33 12.4 -2.3**
NRIK Noril'sk 25.38 4 P **P 17 33 15.8 +1.1**
comp=Z,2.3nm,0.5s,baz=185,slow=14,SNR=2.9
comp=Z,2.3nm,0.5s
NRIK Noril'sk 25.38 4⇓ *eP* **P 17 33 16.3 +1.6**
NRIK pmax pmax
comp=Z,4.0nm,0.8s
ENH Enshi 25.45 114 P **P 17 33 15.2 -0.6**
ENH IAmb IAmb 17 33 18.6
comp=Z,16nm,1.4s
KIV Kislovodsk 28.41 284 *eP* **P 17 33 41.7 -0.7**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,52nm,15.0s
CM31 Chiang Mai Arr 29.12 146 P **P 17 33 47.5 -1.3**
CM31 IAmb IAmb 17 33 50.2
comp=Z,7.4nm,1.4s
CMAR Chiang Mai Arr 29.12 146 P **P 17 33 49.6 +0.9**
comp=Z,0.8nm,0.6s,baz=320,slow=8.9,SNR=12
comp=Z,0.8nm,0.6s
CMAR Chiang Mai Arr 29.12 146 *eP* **P 17 33 50.0 +1.3**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
ZEA Zeya 30.45 56 *eP* **P 17 33 57.8 -2.5**
CN2 Changchun 30.66 75 *eP* P 17 33 56.9 -5.3
CN2 pmax pmax
comp=Z,10.0nm,0.7s
HEH HeiHe 30.75 62 *eP* **P 17 34 03.8 +0.9**
HEH pmax pmax
comp=Z,5.0nm,0.5s
NJ2 Nanjing 30.82 101 *eP* **P 17 34 03.7 0.0**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
OBN Obninsk 31.14 307 *eP* **P 17 34 07.1 +0.9**
OBN *e* 17 35 09.5
OBN *e*PPP PPP 17 35 20.2
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,118nm,19.0s
ANN Anapa 31.84 287 *eP* **P 17 34 09.6 -2.9**
ANN *e**PP **pP 17 34 12.9 -1.5**
ANN *e*S **S 17 39 20.0 -3.4**
ANN *e*SS **SnSn 17 41 10.7 +0.3**
ANN pmax pmax
comp=Z,38nm,1.4s
YAK Yakutsk 32.56 40⇑ *eP* **P 17 34 18.5 -0.2**
YAK pmax pmax
comp=Z,5.0nm,1.0s
KLR Kul'dur 33.68 64⇑ *eP* **P 17 34 29.2 +0.6**
KLR pmax pmax
comp=Z,13nm,2.8s
USRK Ussurisk Ar. 35.07 72 P **P 17 34 40.3 -0.4**
comp=Z,1.4nm,0.7s,baz=308,slow=7.1,SNR=3.0
comp=Z,1.4nm,0.7s
TIXI Tiksi 35.33 23⇑ *eP* **P 17 34 42.2 -0.5**
TIXI pmax pmax
comp=Z,7.0nm,1.8s
AKASG Malin Array Be 35.94 300 P **P 17 34 48.5 +0.4**
comp=Z,0.4nm,0.5s,baz=43,slow=14,SNR=1.0
comp=Z,0.4nm,0.5s
BRTR Keskin Array B 36.17 280 P **P 17 34 49.9 -0.5**
BRTR Keskin Array B 36.17 280 P **P 17 34 51.5 +1.0**
comp=Z,0.3nm,0.5s,baz=96,slow=11,SNR=4.1
comp=Z,0.3nm,0.5s
BRTR Keskin Array B 36.17 280 *eP* **P 17 34 52.6 +2.2**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
MNK Minsk 36.18 306 *i* P **P 17 34 50.6 +0.5**
comp=E,7.0nm,0.8s
MNK *i* P **P 17 34 50.6 +0.5**
comp=N,6.0nm,0.8s
MNK *i* P **P 17 34 50.6 +0.5**
comp=Z,8.0nm,0.9s,baz=83
MNK *i* PP **PnPn 17 36 10.9 -0.4**
MNK *i* PPP PPP 17 36 26.1
MNK *i* S **S 17 40 31.1 +0.7**
MNK *i* SS **SnSn 17 43 01.2 +5.7**
MNK *i* SSS SSS 17 43 18.0
MNK *i* LQ LQ 17 46 50.9
MNK *i* LR LR 17 49 23.2
MNK *i* LRM MLR 17 50 17.7
comp=Z,82nm,15.8s
MNK *i* LRM MLR 17 50 59.8
comp=N,154nm,16.3s
MNK *i* LRM MLR 17 51 10.3
comp=E,203nm,21.0s
MNK Minsk 36.18 306 *i* P **P 17 34 50.6 +0.5**
MNK *i* 17 36 10.8
MNK *i* S **S 17 40 31.1 +0.7**
MNK *i* SS **SnSn 17 43 01.2 +5.7**
MNK *i* SSS SSS 17 43 17.9
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=Z,8.0nm,0.9s
MNK pmax pmax
comp=N,6.0nm,0.8s
MNK MLR MLR
comp=Z,82nm,16.0s
MNK MLR MLR
comp=N,154nm,16.0s
MNK MLR MLR
comp=E,203nm,21.0s
RAYN Ar Rayn 36.56 248 P **P 17 34 53.5 -0.3**
RAYN IAmb IAmb 17 34 55.1
comp=Z,5.0nm,0.6s
RAYN Ar Rayn 36.56 248 P **P 17 34 53.5 -0.3**
RAYN pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 36.85 318 P **P 17 34 56.0 +0.3**
comp=Z,0.7nm,0.5s,baz=100,slow=10.0,SNR=8.7
FINES PcP **PcP 17 37 16.8 -0.5**
comp=Z,3.0nm,1.1s,baz=48,slow=2.1,SNR=4.0
comp=Z,0.7nm,0.5s
FINES FINESS Array B 36.85 318 *eP* **P 17 34 56.7 +1.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
JNU Nakatsue 38.87 90 LR LR 17 53 23.2
comp=Z,54nm,19.3s,baz=170,slow=40
HFS Hagfors 42.99 317 P **P 17 35 47.2 +0.4**
comp=Z,1.0nm,0.4s,baz=88,slow=8.0,SNR=11
comp=Z,1.0nm,0.4s
NB2 NORSAR Subarra 44.03 318 P **P 17 35 55.8 +0.6**
comp=Z,1.2nm,0.5s,baz=79,slow=8.6
NB2 NORSAR Subarra 44.03 318 P **P 17 35 56.0 +0.8**
NOA NORSAR Array B 44.03 318 P **P 17 35 55.8 +0.6**
comp=Z,1.2nm,0.5s,baz=79,slow=8.0,SNR=5.6
comp=Z,1.2nm,0.5s
NOA NORSAR Array B 44.03 318 *eP* **P 17 35 56.2 +1.0**
NOA pmax pmax
comp=Z,1.0nm,0.5s
CLL Collm 45.67 305 *eP* **P 17 36 09.0 +0.7**
CLL pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 45.67 305 *eP* **P 17 36 09.0 +0.7**
comp=Z,5.0nm,0.9s
ESDC Sonseca Array 61.58 299 P **P 17 38 04.3 -1.0**
comp=Z,0.5nm,0.6s,baz=53,slow=6.9,SNR=4.5
comp=Z,0.5nm,0.6s
BMAR Burnt Mountain 63.18 18 P **P 17 38 16.7 +1.2**
E28M Babbage River 63.28 16 P **P 17 38 16.6 +0.5**
E28M IAmb IAmb 17 38 17.5
comp=Z,5.3nm,1.5s
E29M Blow River 63.78 16 P **P 17 38 19.5 +0.1**
E29M IAmb IAmb 17 38 37.4
comp=Z,8.3nm,1.4s
G27K Doyon Strip 64.34 18 P **P 17 38 23.6 +0.5**
G27K IAmb IAmb 17 38 53.2
comp=Z,5.2nm,1.5s
INK Inuvik 64.65 14 P **P 17 38 25.6 +0.5**
INK IAmb IAmb 17 38 30.8
comp=Z,7.6nm,1.4s
INK Inuvik 64.65 14 P **P 17 38 25.6 +0.5**
INK pmax pmax
comp=Z,8.0nm,1.5s
PPLA Purkeypile 64.75 24 P **P 17 38 26.5 +0.5**
ILAR Eielson Array 64.76 21 P **P 17 38 25.4 -0.5**
comp=Z,1.2nm,0.8s,baz=311,slow=5.0,SNR=15
comp=Z,1.2nm,0.8s
ILAR Eielson Array 64.76 21 *eP* **P 17 38 25.6 -0.3**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
C36M Paulatuk 65.12 10 P **P 17 38 27.3 -0.8**
G30M tAoh Zraii Nji 65.32 16 P **P 17 38 28.8 -0.8**
G30M IAmb IAmb 17 39 10.6
comp=Z,4.4nm,1.3s
H29M Whitestone 65.55 17 P **P 17 38 31.4 +0.4**
H29M IAmb IAmb 17 39 15.8
comp=Z,2.4nm,1.1s
G31M Satah River 65.75 15 P **P 17 38 32.2 0.0**
J26L Joseph Creek 65.82 20 P **P 17 38 32.9 0.0**
J26L IAmb IAmb 17 38 39.0
comp=Z,5.1nm,1.4s
I28M Miner Creek 65.87 18 P **P 17 38 33.1 -0.1**
I28M IAmb IAmb 17 38 51.1
comp=Z,7.3nm,1.4s
DHY Denali Highway 65.99 22 P **P 17 38 32.3 -1.7**
SCRK Sand Creek 66.14 20 P **P 17 38 35.1 +0.1**
SCRK IAmb IAmb 17 39 03.4
comp=Z,7.6nm,1.4s
I30M Mount Dempster 66.83 17 P **P 17 38 39.2 -0.2**
I30M IAmb IAmb 17 38 40.4
comp=Z,8.5nm,1.5s
SCM Sheep Creek Mo 67.00 23 P **P 17 38 40.6 +0.1**
SCM Sheep Creek Mo 67.00 23 P **P 17 38 40.6 +0.1**
SCM pmax pmax
comp=Z,16nm,0.9s
BCAR Beaver Creek A 67.45 20 P **P 17 38 44.3 +1.0**
M29M Somme Creek 68.79 19 P **P 17 38 51.4 -0.4**
KNRA Kununurra 72.98 133 P **P 17 39 15.2 -2.4**
VOI Vohitsoka 73.42 214 P **P 17 39 19.7 -0.5**
FITZ Fitzroy Crossi 73.44 137 P **P 17 39 20.1 -0.1**
TORD Torodi Ar. Bea 74.39 273 P **P 17 39 25.6 -0.5**
comp=Z,2.9nm,0.6s,baz=33,slow=5.9,SNR=17
comp=Z,2.9nm,0.6s
WRA Warramunga Arr 79.47 131 P **P 17 39 53.8 -0.7**
comp=Z,1.6nm,0.9s,baz=335,slow=5.6,SNR=8.0
comp=Z,1.6nm,0.9s
WRA Warramunga Arr 79.47 131 *eP* **P 17 39 55.7 +1.2**
WRA pmax pmax
comp=Z,1.0nm,0.6s
AS31 Alice Springs 82.28 134 P **P 17 40 08.5 -1.0**
ASAR Alice Springs 82.28 134 P **P 17 40 08.7 -0.8**
comp=Z,1.0nm,0.7s,baz=326,slow=5.0,SNR=16
comp=Z,1.0nm,0.7s
ASAR Alice Springs 82.28 134 *eP* **P 17 40 10.2 +0.7**
DBIC Dimbokro 83.49 273 P **P 17 40 15.2 -0.8**
comp=Z,1.7nm,0.8s,baz=45,slow=7.1,SNR=1.8
comp=Z,1.7nm,0.8s
PINE Pine Mountain 89.97 17 P **P 17 40 46.3 -1.3**
PINE IAmb IAmb 17 40 47.6
comp=Z,2.7nm,0.7s

*FUNV **07** 17:29:41.1,9°.64N×62°.54W,h14km,MW3.8*
*TRN **07** 17:29:42.5,9°.80N×62°.46W,h136km,MD3.6,Venezuela.*
ISC 07 17:29:43.6±1.3,10°.10N±0°.07×62°.74W±0°.03,h33km±5km,
n20,σ1§92/34,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**1.29**	**80**	*eP*	**Pb**	**17 30 07.5**	**+0.1**
TPP				*eS*	**Sb**	**17 30 25.9**	**+2.3**
TRN	**Trinidad (W)**	**1.43**	**67**	*eP*	**Pn**	**17 30 08.2**	**+1.0**
TRN				*eS*	**Sb**	**17 30 28.9**	**+1.5**
CUMV	**Cumana_UDO**	**1.47**	**283**	*eP*	**Pb**	**17 30 10.7**	**+0.4**
CUMV				*eS*	**Sb**	**17 30 34.1**	**+5.5**
PCRV	**Puerto La Cruz**	**1.87**	**273**	*eP*	**Pb**	**17 30 15.2**	**-2.0**
PCRV				*eS*	**Sb**	**17 30 40.7**	**+0.5**
GRFF	**Grenada Fort F**	**2.18**	**27**	*eP*	**Pb**	**17 30 22.1**	**-0.3**
GRFF				*eS*	**Sb**	**17 30 48.7**	**-0.3**
GRGR	**Grenville**	**2.29**	**28**	*eP*	**Pn**	**17 30 21.7**	**+2.6**
GRGR				*eS*	**Sb**	**17 30 51.1**	**-1.1**
GRW	**Mount Saint Ca**	**2.31**	**27**	*eP*	**Pb**	**17 30 23.3**	**-1.4**
GRW				*eS*	**Sb**	**17 30 52.5**	**-0.3**
GRSS	**Sisters**	**2.45**	**27**	*eP*	**Pn**	**17 30 23.9**	**+2.5**
GRSS				*eS*	**Sb**	**17 30 55.3**	**-1.6**
GRIC	**Isle de Caille**	**2.45**	**27**	*eP*	**Pn**	**17 30 24.3**	**+2.9**
TOSP	**Speyside**	**2.48**	**61**	*eP*	**Pn**	**17 30 21.5**	**-0.2**
TOSP				*eS*	**Sn**	**17 30 50.8**	**+0.1**
GCMP	**Grenada, Carri**	**2.70**	**28**	*eP*	**Pb**	**17 30 28.7**	**-2.6**
GCMP				*eS*	**Sb**	**17 31 00.9**	**-3.2**
SVB	**Belmont**	**3.48**	**25**	*e*	**Pb**	**17 30 44.2**	**-0.4**
MERV	**Las Mercedes**	**3.61**	**257**	*eP*	**Pn**	**17 30 36.5**	**-0.7**
MERV				*eS*	**Sn**	**17 31 18.3**	**-0.4**
TACV	**Tcata**	**4.22**	**271**	*eP*	**Pn**	**17 30 46.4**	**+0.6**
TACV				*eS*	**Sn**	**17 31 35.5**	**+1.5**
LUEV	**Luepa**	**4.41**	**163**	*eP*	Pn	17 30 40.4	-8.1
LUEV				*eS*	Sn	17 31 23.2	-16
CACV	**CAICARA DEL OR**	**4.52**	**236**	*eP*	Pn	17 30 41.4	-8.4
CACV				*eS*	Sn	17 31 26.0	-15
BENV	**Beln**	**4.79**	**269**	*eP*	**Pn**	**17 30 54.5**	**+1.0**
BENV				*eS*	**Sn**	**17 31 48.9**	**+1.0**
TURV	**Turiamo**	**5.03**	**274**	*eP*	**Pn**	**17 30 58.0**	**+1.1**
TURV				*eS*	**Sn**	**17 31 54.4**	**+0.5**
BAUV	**El Baul**	**5.35**	**258**	*eP*	**Pn**	**17 30 59.5**	**-1.8**
BAUV				*eS*	**Sn**	**17 31 58.4**	**-3.5**
MAPV	**Macapo**	**5.64**	**268**	*eP*	**Pn**	**17 31 05.5**	**+0.2**
MAPV				*eS*	**Sn**	**17 32 07.8**	**-1.2**

*IDC **07** 17:32:52.7±0.7, 12°.12N×86°.48W, h78km±6km, mb3.8/12, mbtmp4.1/14, MS3.2/12, Error ellipse: s-maj=25.4km s-min=7.1km az=56.0*
*NEIC **07** 17:32:53.6±1.8, 11°.97N±0°.07×86°.80W±0°.06, h67km±7km, mb4.6/120, Error ellipse: s-maj=11.2km s-min=6.3km az=218.0*
*CATAC **07** 17:32:53.1±0.2, 11°.90N×86°.86W, h41km±4km, ML4.9*
*UCR **07** 17:32:53.1±1.0, 11°.96N×86°.77W, h70km±11km, MW4.6*
*SNET **07** 17:32:55.8±1.0, 12°.06N×87°.09W, h17km±217km, ML4.9*
ISC 07 17:32:52.7±0.5,11°.96N±0°.04×86°.81W±0°.03,h75km±4km,
n271,σ1§13/304,mb4.5/64,2C-11D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.30**	**44**⇓	*iP*	**Pn**	**17 33 03.4**	**-1.1**
COPN				*i* S	**Sn**	**17 33 11.2**	**-2.0**
COPN				IAML		17 33 12.1	
comp=Z,45μm,1.0s							
BC86	**Nagarote**	**0.39**	**38**	*i* P	**Pn**	**17 33 04.9**	**-0.2**
BC86				*i* S	**Sn**	**17 33 13.8**	**-0.3**
BC86				IAML		17 33 15.0	
comp=Z,50μm,1.0s							
SAPS	**Ciudad Sandino**	**0.45**	**62**⇓	*iP*	**Pn**	**17 33 05.3**	**-0.2**
SAPS				IAML		17 33 26.0	
comp=Z,68μm,1.0s							
LEVN	**Ruinas Leon Vi**	**0.48**	**23**	*i* P	**Pn**	**17 33 05.7**	**-0.1**
LEVN				*i* S	**Sn**	**17 33 15.3**	**-0.1**
LEVN				IAML		17 33 17.0	
comp=Z,33μm,1.0s							
RA5A7	**El Crucero**	**0.49**	**86**	*i* P	**Pn**	**17 33 05.6**	**-0.4**
RA5A7				IAML		17 33 19.4	
comp=Z,130μm,1.0s							
BC84	**Volcan Momotom**	**0.50**	**31**	*i* P	**Pn**	**17 33 06.1**	**+0.1**
BC84				*i* S	**Sn**	**17 33 15.8**	**-0.1**
BC84				IAML		17 33 18.3	
comp=Z,46μm,1.0s							
ABCN	**Banco Central**	**0.51**	**72**	*i* P	**Pn**	**17 33 06.0**	**-0.1**
ABCN				*i* S	**Sn**	**17 33 16.0**	**0.0**
ABCN				IAML		17 33 20.6	
comp=Z,110μm,1.0s							
MACN	**El Madrono**	**0.52**	**14**	*i* P	**Pn**	**17 33 06.2**	**0.0**
MACN				*i* S	**Sn**	**17 33 15.9**	**-0.3**
MACN				IAML		17 33 21.1	
comp=Z,22μm,1.0s							
APYN	**Apoyeque**	**0.52**	**59**	*i* P	**Pn**	**17 33 06.1**	**-0.1**
APYN				*i* S	**Sn**	**17 33 16.1**	**-0.1**
APYN				IAML		17 33 16.7	
comp=Z,3μm,1.0s							
APQ2	**Apoyeque**	**0.53**	**63**	*i* P	**Pn**	**17 33 06.2**	**0.0**
APQ2				*i* S	**Sn**	**17 33 16.3**	**+0.1**
APQ2				IAML		17 33 19.8	
comp=Z,47μm,1.0s							
PACN	**Al O del Volca**	**0.54**	**2**	*i* P	**Pn**	**17 33 06.4**	**0.0**
PACN				*i* S	**Sn**	**17 33 16.7**	**+0.2**
PACN				IAML		17 33 23.2	
comp=Z,34μm,1.0s							
CNGA	**Al SSO del Vol**	**0.54**	**11**	*i* P	**Pn**	**17 33 06.2**	**-0.3**
CNGA				*i* S	**Sn**	**17 33 16.5**	**-0.1**
CNGA				IAML		17 33 17.7	
comp=Z,88μm,1.0s							
USIM	**UNAN**	**0.55**	**73**	*i* P	**Pn**	**17 33 06.4**	**0.0**
USIM				*i* S	**Sn**	**17 33 16.4**	**-0.2**
USIM				IAML		17 33 17.6	
comp=Z,84μm,1.0s							
UNAN	**Cigeo UNAN**	**0.55**	**74**⇓	*iP*	**Pn**	**17 33 06.3**	**-0.1**
UNAN				*i* S	**Sn**	**17 33 16.2**	**-0.4**
UNAN				IAML		17 33 17.4	
comp=Z,220μm,1.0s							
ENAN	**Enatrel Managu**	**0.56**	**74**	*i* P	**Pn**	**17 33 06.6**	**+0.1**
ENAN				*i* S	**Sn**	**17 33 16.9**	**+0.1**
ENAN				IAML		17 33 18.8	
comp=Z,100μm,1.0s							
ALLN	**Telcor Managua**	**0.56**	**70**	*i* P	**Pn**	**17 33 06.5**	**0.0**
ALLN				*i* S	**Sn**	**17 33 16.7**	**0.0**
ALLN				IAML		17 33 19.5	
comp=Z,42μm,1.0s							
TISN	**Laguna Tiscapa**	**0.56**	**71**	*i* P	**Pn**	**17 33 06.4**	**-0.1**
TISN				IAML		17 33 17.2	
comp=Z,2μm,1.0s							
MOM2	**El Cardon**	**0.57**	**34**	*i* P	**Pn**	**17 33 06.7**	**0.0**
MOM2				*i* S	**Sn**	**17 33 17.1**	**+0.1**
MOM2				IAML		17 33 21.6	
comp=Z,24μm,1.0s							
MAFN	**Magfor**	**0.57**	**76**	*i* P	**Pn**	**17 33 06.6**	**-0.1**
MAFN				*i* S	**Sn**	**17 33 17.0**	**0.0**
MAFN				IAML		17 33 18.6	
comp=Z,78μm,1.0s							
MGA1	**Managua**	**0.58**	**71**	*i* P	**Pn**	**17 33 06.7**	**0.0**
MGA1				*i* S	**Sn**	**17 33 17.1**	**0.0**
MGA1				IAML		17 33 20.1	
comp=Z,27μm,1.0s							
R4DEC	**Barrio San Lui**	**0.58**	**71**	*i* P	**Pn**	**17 33 06.6**	**-0.1**
R4DEC				*i* S	**Sn**	**17 33 16.8**	**-0.3**
R4DEC				IAML		17 33 20.1	
comp=Z,25μm,1.0s							
MGAN	**Managua**	**0.58**	**71**		**Pn**	**17 33 06.2**	**-0.5**

MGAN Managua 0.58 71 ⇓iP Pn 17 33 06.7 0.0
MGAN i S Sn 17 33 17.0 -0.1
MGAN IAML 17 33 20.1
comp=Z,24µm,1.0s
MGAN Managua 0.58 71 eP Pn 17 33 06.7 0.0
MGAN eS Sn 17 33 16.8 -0.4
R0529 La Mascota 0.58 74 i P Pn 17 33 06.7 -0.1
R0529 IAML 17 33 22.4
comp=Z,39µm,1.0s
PLRN Geotermica Pol 0.62 4 i P Pn 17 33 07.1 -0.1
PLRN i S Sn 17 33 17.7 -0.2
PLRN IAML 17 33 20.5
comp=Z,37µm,1.0s
MAS3 Al N del Volca 0.62 84 i P Pn 17 33 06.8 -0.4
MAS3 i S Sn 17 33 17.3 -0.6
MAS3 IAML 17 33 18.4
comp=Z,60µm,1.0s
SABN Sabanita 0.63 90 i P Pn 17 33 07.0 -0.3
SABN IAML 17 33 21.7
comp=Z,61µm,1.0s
WILN Americas 2 0.64 72 i P Pn 17 33 07.0 -0.3
WILN i S Sn 17 33 18.5 +0.3
WILN IAML 17 33 19.6
comp=Z,27µm,1.0s
MASN Masaya 0.64 88 i P Pn 17 33 07.1 -0.3
MASN i S Sn 17 33 17.6 -0.8
MASN IAML 17 33 19.5
comp=Z,16µm,1.0s
NANN Nandasmo 0.67 92 ⇓iP Pn 17 33 08.5 +0.8
NANN i S Sn 17 33 19.8 +0.9
NANN IAML 17 33 21.3
comp=Z,770µm,1.0s
PKGN Cerro Pekin 0.72 347 i P Pn 17 33 08.6 +0.3
PKGN i S Sn 17 33 20.0 +0.2
PKGN IAML 17 33 23.8
comp=Z,150µm,1.0s
BC87 San Francisco 0.74 43 i P Pn 17 33 08.5 0.0
BC87 IAML 17 33 22.1
comp=Z,14µm,1.0s
EVIJ El Viejo 0.76 336 i P Pn 17 33 08.2 -0.5
EVIJ i S Sn 17 33 19.4 -1.1
EVIJ IAML 17 33 28.6
comp=Z,40µm,1.0s
CRIN San Cristobal 0.77 342 Pn 17 33 08.8 -0.1
CRIN Sn 17 33 19.4 -1.5
CRIN San Cristobal 0.77 342 ⇑iP Pn 17 33 09.1 +0.2
CRIN i S Sn 17 33 21.4 +0.5
CRIN IAML 17 33 24.7
comp=Z,140µm,1.0s
CRIN San Cristobal 0.77 342 eP Pn 17 33 08.9 0.0
CRIN eS Sn 17 33 21.4 +0.5
NADN Granada 0.79 105 i P Pn 17 33 08.4 -0.6
NADN i S Sn 17 33 20.4 -0.7
NADN IAML 17 33 21.1
comp=Z,150µm,1.0s
SBEN San Benito 0.81 65 i P Pn 17 33 09.4 +0.2
SBEN i S Sn 17 33 22.3 +0.8
SBEN IAML 17 33 23.9
comp=Z,19µm,1.0s
BRAN Las Pilas 0.88 31 i P Pn 17 33 06.0 -4.0
BRAN i S Sn 17 33 16.0 -6.9
BRAN IAML 17 33 17.7
comp=Z,41µm,1.0s
ARIN Rivas 1.08 118 i P Pn 17 33 11.9 -0.5
ARIN i S Sn 17 33 25.9 -1.3
ARIN IAML 17 33 26.2
comp=Z,25µm,1.0s
LIMN Finca el Limon 1.18 21 i P Pn 17 33 14.5 +0.7
LIMN IAML 17 33 15.6
comp=Z,5µm,1.0s
JAPN Al SSO del Vol 1.19 111 i P Pn 17 33 13.9 +0.1
JAPN i S Sn 17 33 30.9 +1.3
JAPN IAML 17 33 34.8
comp=Z,40µm,1.0s
MORN Al O del Volca 1.21 110 i P Pn 17 33 14.0 -0.1
MORN i S Sn 17 33 30.1 -0.1
MORN IAML 17 33 34.2
comp=Z,4µm,1.0s
BOAB BOACO BROADBAN .22 66 Pn Pn 17 33 14.2 0.0
BOAB BOACO BROADBAN .22 66 ⇓iP Pn 17 33 14.5 +0.3
BOAB i S Sn 17 33 30.5 +0.2
BOAB IAML 17 33 34.0
comp=Z,8µm,1.0s
CONN Concepcion 1.22 109 i P Pn 17 33 14.0 -0.3
CONN i S Sn 17 33 30.2 -0.3
CONN IAML 17 33 32.1
comp=Z,140µm,1.0s
CSGN Cosiguina Volc 1.25 324 i P Pn 17 33 14.8 +0.1
CSGN i S Sn 17 33 30.7 -0.4
CSGN IAML 17 33 33.2
comp=Z,17µm,1.0s
LCRUZ La Cruz 1.45 127 eP Pn 17 33 17.8 +0.6
CARN Rivas 1.48 121 ⇓iP Pn 17 33 17.3 -0.2
CARN i S Sn 17 33 35.1 -1.1
CARN IAML 17 33 40.8
comp=Z,14µm,1.0s
AMPH Amapala 1.56 328 i P Pn 17 33 18.7 +0.1
AMPH i S Sn 17 33 38.2 0.0
ACON Acoyapa 1.60 90 Pn 17 33 19.1 0.0
ACON Acoyapa 1.60 90 i P Pn 17 33 19.4 +0.3
ACON i S Sn 17 33 38.8 -0.3
ACON IAML 17 33 43.3
comp=Z,4µm,1.0s
ACON Acoyapa 1.60 90 ⇓eP Pn 17 33 19.3 +0.1
ACON eS Sn 17 33 39.3 +0.2
CNCH Conchagua 1.65 323 ⇓eP Pn 17 33 20.2 +0.2
CNCH eS Sn 17 33 40.8 +0.3
CNCH IAML 17 33 42.9
comp=Z,30µm,0.4s
CNCH Conchagua 1.65 323 ⇑iP Pn 17 33 20.1 +0.2
CNCH i S Sn 17 33 40.1 -0.4
CNCH IAML 17 33 42.6
comp=Z,26µm,1.0s
RCPN Sur Rio San Ju 1.71 24 ⇓iP Pn 17 33 22.3 +1.6
RCPN IAML 17 33 23.0
comp=Z,30nm,1.0s
LCND La Caada 1.71 322 eP Pn 17 33 20.8 +0.2
LCND eP 17 33 20.9
LCND eS Sn 17 33 41.6 -0.2
LCND IAML 17 33 44.1
comp=Z,11µm,0.4s
LCND La Caada 1.71 322 i P Pn 17 33 20.7 +0.2
LCND i S Sn 17 33 41.1 -0.6
LCND IAML 17 33 47.1
comp=Z,9µm,1.0s
RCVN Varillal2 1.72 20 i P Pn 17 33 22.4 +1.5
RCVN i S Sn 17 33 44.6 +2.3
RCVN IAML 17 33 45.6
comp=Z,44µm,1.0s
ELI1 Hacienda Flor 1.80 137 eP Pn 17 33 21.5 -0.2
VORI VORI 1.83 128 eP Pn 17 33 21.9 -0.4
VRLE La Escondida, 1.83 129 eP Pn 17 33 21.7 -0.6
ALIBA Liberia Airpor 1.84 138 eP Pn 17 33 22.5 +0.2
GPS3 Bodega del ICE 1.85 130 eP Pn 17 33 23.8 +1.2
GPS2 Hotel Rincn d 1.86 130 eP Pn 17 33 22.0 -0.7
DELF Filadelfia 1.94 141 eP Pn 17 33 24.3 +0.6
YUSH Yuscaran 1.98 359 i P Pn 17 33 24.7 +0.4
CNRM Centro Naciona 2.01 319 eP Pn 17 33 25.4 +0.9
CNRM Centro Naciona 2.01 319 i P Pn 17 33 25.1 +0.5
CNRM i S Sn 17 33 49.8 +0.9
CNRM IAML 17 33 51.4
comp=Z,42µm,1.0s
BLLM Bellamira 2.03 317 eP Pn 17 33 25.9 +0.9
COLC Colonia 2.03 129 eP Pn 17 33 24.9 -0.1
VSM San Miguel 2.04 316 eP Pn 17 33 25.8 +0.5
LCY Lacayo 2.05 315 eP Pn 17 33 26.1 +0.8
RANC El Ranchito 2.06 316 eP Pn 17 33 26.1 +0.7
RANC El Ranchito 2.06 316 i P Pn 17 33 26.1 +0.7
RANC i S Sn 17 33 50.4 +0.1
RANC IAML 17 33 55.4
comp=Z,8µm,1.0s
CUI Cuipilapa 2.07 129 eP Pn 17 33 25.5 +0.1
BAGA Bagaces 2.08 133 eP Pn 17 33 25.7 +0.1
TGUH Tegucigalpa,Un 2.13 348 Pn Pn 17 33 27.8 +1.5
TGUH Tegucigalpa,Un 2.13 348 ⇓iP Pn 17 33 27.9 +1.5
TGUH IAML 17 33 28.3
comp=Z,4µm,1.0s
TGUH i S Sn 17 33 52.7 +0.6
TENO El Achiote 2.19 125 eP Pn 17 33 27.2 +0.1
VERA Finca Concepci 2.20 120 eP Pn 17 33 26.8 -0.3
LCHIL Los Chiles 2.25 114 eP Pn 17 33 27.6 -0.2
TECA Tecapa 2.25 313 eP Pn 17 33 28.7 +0.7
TECA eP 17 33 28.9

NICO Nicoya 2.25 144 eP Pn 17 33 28.7 +0.8
CNAS Canas 2.27 132 eP Pn 17 33 28.7 +0.6
PQSS Presa 15 de Se 2.38 314 eP Pn 17 33 30.5 +1.0
PQSS eS Sn 17 33 57.4 -0.4
JTS Las Juntas de 2.46 132 Pn 17 33 30.7 -0.1
JTS Las Juntas de 2.46 132 P Pn 17 33 29.4 -1.4
comp=Z,159nm,0.3s,baz=330,slow=18,SNR=89
JTS S Sn 17 33 58.0 -1.9
comp=Z,476nm,0.3s,baz=292,slow=19,SNR=10
JTS Las Juntas de 2.46 132 eP Pn 17 33 30.5 -0.2
ESPN Las Esperanzas 2.46 84 Pn 17 33 31.9 +1.2
ESPN Las Esperanzas 2.46 84 i P Pn 17 33 32.1 +1.4
ESPN i S Sn 17 34 00.4 +0.5
ESPN IAML 17 34 03.6
comp=Z,1µm,1.0s
ESPN Las Esperanzas 2.46 84 eP Pn 17 33 31.6 +0.9
TECO Alcaldia de Te 2.48 309 eP Pn 17 33 31.7 +0.7
TECO Alcaldia de Te 2.48 309 i P Pn 17 33 31.7 +0.7
TECO i S Sn 17 33 59.0 -1.4
TECO IAML 17 34 03.6
comp=Z,4µm,1.0s
CEDE Laguna Cedeo 2.53 125 eP Pn 17 33 31.9 +0.2
ARE1 Arenal 1 2.53 126 eP Pn 17 33 32.5 +0.8
MTEVE Monteverde 2.54 130 eP Pn 17 33 33.0 +1.1
UESV Universidad de 2.55 311 eP Pn 17 33 32.6 +0.7
UESV Universidad de 2.55 311 i P Pn 17 33 32.4 +0.5
UESV i S Sn 17 34 01.9 -0.1
UESV IAML 17 34 08.6
comp=Z,5µm,1.0s
SNVI San Vicente 2.57 310 eP Pn 17 33 33.5 +1.2
INTHN La Esperanza I 2.66 332 i P Pn 17 33 34.6 +1.0
SOCE Pocosol 2.66 126 Pn 17 33 33.5 +0.1
SOCE Pocosol 2.66 126 i P Pn 17 33 33.8 +0.4
SOCE IAML 17 34 18.0
comp=Z,2µm,1.0s
COVE Coope Vega, Sa 2.66 117 i P Pn 17 33 33.6 +0.2
COVE IAML 17 34 40.0
comp=Z,1µm,1.0s
PAVA Las Pavas 2.71 310 eP Pn 17 33 35.2 +1.0
PAVA Las Pavas 2.71 310 i P Pn 17 33 35.4 +1.2
PAVA i S Sn 17 34 06.0 0.0
PAVA IAML 17 34 18.0
comp=Z,6µm,1.0s
LFRS El Faro 2.75 307 eP Pn 17 33 35.3 +0.6
PANCS Alcalda de 2.84 306 eP Pn 17 33 36.5 +0.7
PANCS Alcalda de 2.84 306 i P Pn 17 33 36.5 +0.7
PANCS IAML 17 34 11.2
comp=Z,7µm,1.0s
LOMA Loma Larga 2.85 306 eP Pn 17 33 36.6 +0.5
LOMA eS Sn 17 34 09.2 -0.2
LOMA Loma Larga 2.85 306 i P Pn 17 33 36.6 +0.5
LOMA i S Sn 17 34 08.3 -1.1
LOMA IAML 17 34 12.7
comp=Z,5µm,1.0s
UDBS Universidad Do 2.88 308 i S Sn 17 34 09.9 -0.1
LALI Alcalda de L 2.88 302 eP Pn 17 33 36.8 +0.4
LALI Alcalda de L 2.88 302 i P Pn 17 33 37.1 +1.3
LALI IAML 17 34 14.3
comp=Z,1µm,1.0s
CBL1 Cabuya 2.90 144 eP Pn 17 33 36.9 +0.3
SNET Serv Nac Est T 2.92 306 Pn 17 33 37.0 0.0
SNET Serv Nac Est T 2.92 306 i P Pn 17 33 37.4 +0.4
SNET i S Sn 17 34 09.7 -1.4
SNET IAML 17 34 11.9
comp=Z,8µm,1.0s
UEES Universidad Ev 2.94 307 i P Pn 17 33 38.5 +1.2
UEES i S Sn 17 34 11.6 -0.1
UEES IAML 17 34 18.0
comp=Z,3µm,1.0s
PIC2 El Picacho 2.97 307 eP Pn 17 33 39.4 +1.5
BOQS Boqueron 2.99 306 eP Pn 17 33 39.4 +1.3
BOQS eS Sn 17 34 12.7 -0.3
PMON Piamonte 3.00 306 eP Pn 17 33 39.2 +1.1
PMON eS Sn 17 34 12.3 -0.7
LLGN La Laguna 3.02 317 eP Pn 17 33 39.2 +0.8
JAYA Jayaque - finc 3.08 303 eP Pn 17 33 39.6 +0.5
JAYA eS Sn 17 34 13.2 -1.8
JAYA IAML 17 34 16.3
comp=Z,3µm,0.3s
HDC Heredia 3.28 126 Pn 17 33 41.9 -0.1
CEVE Cerro Verde 3.31 304 eP Pn 17 33 43.8 +1.3
CEVE IAML 17 34 27.4
comp=Z,4µm,0.3s
SBLS San Blas 3.32 305 eP Pn 17 33 43.9 +1.3
SNJE San Jose 3.32 305 eP Pn 17 33 43.7 +1.2
RTR El Retiro 3.37 305 eP Pn 17 33 44.8 +1.6
MTO3 Montecristo 3.47 315 Pn 17 33 45.6 +1.0
MTO3 Montecristo 3.47 315 eP Pn 17 33 45.8 +1.1
NUBE Las Nubes 3.48 304 eP Pn 17 33 45.7 +1.0
LCR2 La Lucha 2 3.53 128 Pn Pn 17 33 45.5 +0.2
LCR2 La Lucha 2 3.53 128 eP Pn 17 33 45.8 +0.5
LOAL Lomas de Alarc 3.54 305 eP Pn 17 33 46.5 +1.2
ESQI Esquipulas 3.57 317 Pn 17 33 47.2 +1.3
ESQI Esquipulas 3.57 317 eP Pn 17 33 47.5 +1.6
ESQI eS Sn 17 34 27.8 +0.8
BUS1 Rivas 3.84 128 eP Pn 17 33 50.4 +0.6
PIRO Carate, Puerto 4.92 136 eP Pn 17 34 06.0 +1.9
BRU2 Volcan 5.13 127 Pn Pn 17 34 09.5 +2.3
RTAL Retalhuleu 5.40 299 Pn Pn 17 34 12.1 +1.4
PRVC Isla de Provid 5.50 75 Pn Pn 17 34 14.1 +2.1
HUEH Huehuetenango 5.65 307 Pn Pn 17 34 16.4 +2.0
PETF Flores 5.75 329 Pn 17 34 17.2 +1.7
CCIG Comitan 6.72 310 Pn 17 34 30.3 +1.4
BCIP Isla Barro Col 7.39 111 Pn 17 34 38.0 0.0
TEIG Tepich 8.34 350 Pn Pn 17 34 55.5 +4.7
TEIG Tepich 8.34 350 P Pn 17 34 49.3 -1.6
comp=Z,3.5nm,0.7s,baz=82,slow=8.0,SNR=1.5
CMIG Matias Romero 9.34 304 P Pn 17 35 05.2 +0.7
comp=Z,39nm,0.3s,baz=159,slow=10.0,SNR=160
CMIG S Sn 17 36 42.9 -5.0
comp=Z,4.3nm,0.3s,baz=39,slow=14,SNR=1.9
MTDJ Mount Denham 10.91 54 Pn Pn 17 35 30.1 +4.1
TLIG Tlapa 12.66 297 Pn Pn 17 35 51.6 +1.7
CHIV Chivirico 12.78 50 Pn Pn 17 35 50.7 -0.7
GTBY Guantanamo Bay 13.75 53 P P 17 36 09.6 -0.7
NMDO Nuevo Mundo 14.21 51 Pn P 17 36 13.8 -1.7
ROSC El Rosal 14.23 119 P Pn 17 36 12.6 +1.6
comp=Z,15nm,0.6s,baz=328,slow=14,SNR=3.6
ROSC LR LR 17 41 44.5
comp=Z,177nm,21.2s,baz=308,slow=38
OTAV Otavalo 14.30 144 P 17 36 18.4 +1.4
COHC Cochancay 16.18 152 Pn Pn 17 36 35.0 -0.6
SDV Santo Domingo 16.20 99 Pn P 17 36 37.0 -0.8
SDV Santo Domingo 16.20 99 P Pn 17 36 36.7 +0.7
comp=Z,7.8nm,0.4s,baz=272,slow=8.3,SNR=6.8
SDV LR LR 17 43 28.5
comp=Z,41nm,19.3s,baz=256,slow=40
ZAIG Zacatecas 18.47 308 P Pn 17 37 03.9 +0.1
BAUV El Baul 18.70 97 P P 17 37 05.1 -0.1
HBVL Hebbronville 18.71 325 Pn Pn 17 37 08.1 +1.7
HBVL IAmb IAmb 17 37 09.4
comp=Z,36nm,0.9s
HKT Hockley 19.77 336 P P 17 37 17.8 +1.1
HKT IAmb IAmb 17 37 24.0
comp=Z,27nm,1.3s
MLPR Magueyes Islan 20.00 70 Pn Pn 17 37 21.6 -0.1
MLPR IAmb IAmb 17 37 22.6
comp=Z,23nm,0.8s
833A Chaparral WMA, 20.09 326 P P 17 37 21.1 +0.9
CELP Cerrillos 20.45 70 P Pn 17 37 26.1 -0.9
ATAH Atahualpa 20.73 156 LR LR 17 43 30.2
comp=Z,49nm,20.7s,baz=357,slow=31
SJG San Juan 20.86 70 P Pn 17 37 30.6 -1.2
comp=Z,5.8nm,0.3s,baz=201,slow=13,SNR=1.5
SJG LR LR 17 44 35.0
comp=Z,63nm,21.9s,baz=220,slow=34
DRIO Del Rio 21.61 326 P P 17 37 38.4 +1.7
JCT Junction City 22.02 329 P P 17 37 42.1 +1.2
JCT IAmb IAmb 17 37 43.7
comp=Z,13nm,0.7s
BRDY Brady 22.29 332 P P 17 37 44.1 +0.2
BRDY IAmb IAmb 17 37 46.5
comp=Z,23nm,0.8s
FW07 Weatherford 22.97 336 P P 17 37 51.3 +0.2
FW07 IAmb IAmb 17 37 52.9
comp=Z,21nm,0.7s
OZNA Ozona 23.05 327 P P 17 37 52.0 +0.1
HPIG 23.15 313 P P 17 37 54.8 +1.8
HPIG IAmb IAmb 17 37 56.3
comp=Z,19nm,0.8s
TXAR Lajitas Array 23.35 320 P P 17 37 55.6 +0.8
comp=Z,19nm,0.5s,baz=138,slow=10,SNR=91
TX31 Lajitas Ar. Si 23.35 320 P P 17 37 55.4 +0.7

FW03 Perrin-Whitt E 23.38 336 P P 17 37 54.9 0.0
FW03 IAmb IAmb 17 37 56.4
comp=Z,21nm,0.8s
ABTX Abilene, Hawle 23.70 332 IAmb IAmb 17 37 59.1
comp=Z,18nm,1.0s
TKL Tuckaleechee C 23.75 6 P P 17 37 58.0 -0.2
comp=Z,1.9nm,0.5s,baz=203,slow=7.7,SNR=3.0
comp=Z,1.9nm,0.5s
SGCY Sterling City 23.84 329 IAmb IAmb 17 37 59.8
comp=Z,13nm,0.5s
ALPN Alpine 24.07 322 P P 17 38 01.8 +0.5
ALPN IAmb IAmb 17 38 04.3
comp=Z,14nm,0.6s
CZSB Cruzeiro do Su 24.07 144 P P 17 38 03.0 +1.8
CZSB IAmb IAmb 17 38 05.6
comp=Z,19nm,0.8s
SN05 Snyder 5 24.50 330 IAmb IAmb 17 38 06.7
comp=Z,16nm,0.6s
APMT Aspermont 24.51 332 IAmb IAmb 17 38 07.9
comp=Z,24nm,0.7s
V58A Windy Hill, Pi 24.73 15 P P 17 38 08.6 +1.6
V58A IAmb IAmb 17 38 09.3
comp=Z,12nm,0.6s
SLBS Sierra La Lagu 24.88 301 P P 17 38 10.1 +1.5
SLBS IAmb IAmb 17 38 12.2
comp=Z,28nm,1.4s
PECS Pecos 24.92 323 P P 17 38 09.9 +0.9
PECS IAmb IAmb 17 38 11.0
comp=Z,9.8nm,0.5s
POST Post 24.95 330 IAmb IAmb 17 38 29.4
comp=Z,13nm,0.7s
DKNS Dickens 25.16 331 IAmb IAmb 17 38 12.9
comp=Z,16nm,0.6s
LPIG La Paz 25.35 302 LR LR 17 48 41.7
comp=Z,59nm,18.7s,baz=190,slow=37
MNTX Cornudas Mount 26.06 322 P P 17 38 19.8 +0.7
AMTX Amarillo 26.52 332 IAmb IAmb 17 38 27.3
comp=Z,19nm,0.9s
121A Cookes Peak, D 28.11 320 P P 17 38 39.3 +1.5
121A IAmb IAmb 17 38 44.3
comp=Z,13nm,1.1s
P38A Dawn 28.19 349 P P 17 38 37.9 -0.2
P38A IAmb IAmb 17 38 39.0
comp=Z,7.4nm,0.6s
CRNM Carthage 28.45 324 P P 17 38 42.0 +1.2
BNM Barren Site 28.54 324 P P 17 38 42.9 +1.3
SBM South Baldy 28.73 323 P P 17 38 44.4 +0.9
LENM Lemitar 28.75 324 P P 17 38 45.0 +1.6
ANMO Albuquerque 29.02 325 P P 17 38 46.9 +1.1
ETMB Extrema 29.78 136 P P 17 38 52.3 -0.2
TUC Tucson 29.93 316 P P 17 38 53.7 0.0
SDCO Great Sand Dun 30.65 330 IAmb IAmb 17 39 02.8
comp=Z,4.8nm,0.6s
X16A Lo Mia Camp, P 31.66 319 IAmb IAmb 17 39 12.0
comp=Z,5.9nm,0.8s
MVCO Mesa Verde 31.80 326 IAmb IAmb 17 39 12.4
comp=Z,9.4nm,0.9s
WUAZ Wupatki 32.31 321 IAmb IAmb 17 39 17.9
comp=Z,11nm,1.1s
PV02 Paradox Valley 32.65 327 P P 17 39 19.2 +1.3
PV02 IAmb IAmb 17 39 21.7
comp=Z,7.7nm,0.7s
PV13 Radium Mtn., P 32.66 327 P P 17 39 18.4 +0.4
PV13 IAmb IAmb 17 39 20.5
comp=Z,8.5nm,0.9s
PV03 Paradox Valley 32.75 327 P P 17 39 20.0 +1.4
PV05 Paradox Valley 32.75 326 P P 17 39 19.7 +1.0
PV12 Saucer Basin, 32.77 327 P P 17 39 19.3 +0.4
PV18 Skein Mesa, Pa 32.77 327 P P 17 39 20.4 +1.5
PV11 David Mesa, Pa 32.79 327 P P 17 39 20.4 +1.4
PV16 Nyswonger Mesa 32.82 327 P P 17 39 20.6 +1.3
PV17 East Wray Mesa 32.83 327 P P 17 39 20.2 +0.9
PV19 Morning Glory 32.86 327 P P 17 39 20.6 +0.9
PV20 West Nyswonger 32.87 327 P P 17 39 20.6 +0.8
PV04 Paradox Valley 32.88 327 P P 17 39 21.2 +1.4
PV04 IAmb IAmb 17 39 21.9
comp=Z,11nm,0.8s
PV14 Lion Creek, Pa 32.93 327 P P 17 39 20.6 +0.3
PV14 IAmb IAmb 17 39 21.1
comp=Z,11nm,0.7s
PV10 Paradox Valley 32.94 327 P P 17 39 20.6 +0.2
U15A North Rim 33.47 321 IAmb IAmb 17 39 27.8
comp=Z,5.0nm,0.9s
LPAZ La Paz 33.60 146 P P 17 39 26.3 -0.4
comp=Z,0.9nm,0.4s,baz=348,slow=6.9,SNR=2.5
LPAZ PcP **PcP 17 42 06.0 +0.3**
comp=Z,0.9nm,0.5s,baz=243,slow=2.3,SNR=1.9
LPAZ LR LR 17 54 27.7
comp=Z,34nm,18.7s,baz=334,slow=39
comp=Z,0.9nm,0.4s
O20A White River Ci 33.84 330 IAmb IAmb 17 39 31.0
comp=Z,7.3nm,0.7s
KNB Kanab 34.17 321 IAmb IAmb 17 39 34.4
comp=Z,15nm,1.4s
MTPU Mount Pierson 34.47 323 IAmb IAmb 17 39 37.1
comp=Z,7.2nm,0.8s
P18A Preston Nutter 34.49 327 IAmb IAmb 17 39 36.3
comp=Z,8.8nm,0.9s
TMUT Trail Mountain 34.78 326 IAmb IAmb 17 39 56.5
comp=Z,4.9nm,0.9s
TCRU Three Creeks R 35.00 324 IAmb IAmb 17 39 41.1
comp=Z,7.3nm,0.8s
BSUT Blindstream Ca 35.42 328 IAmb IAmb 17 39 44.0
comp=Z,6.3nm,0.9s
PSUT Pine Spring 35.78 322 IAmb IAmb 17 39 47.7
comp=Z,5.2nm,0.9s
JLU Jordanelle 35.83 327 IAmb IAmb 17 39 47.1
comp=Z,5.4nm,0.8s
GO01 Chusmiza 35.90 151 IAmb IAmb 17 39 49.5
comp=Z,6.7nm,0.8s
VILB Vilhena 36.19 132 P P 17 39 47.8 -0.5
DUG Dugway, Tooele 36.29 325 IAmb IAmb 17 40 10.0
comp=Z,6.3nm,1.1s
SPR3 Spring Creek 3 36.36 323 IAmb IAmb 17 40 09.9
comp=Z,4.5nm,0.8s
PDAR Pinedale Array 36.50 331 P P 17 39 51.0 0.0
comp=Z,1.4nm,0.6s,baz=128,slow=11,SNR=18
PDAR pP **pP 17 40 09.7 +0.6**
comp=Z,1.9nm,0.6s,baz=130,slow=9.5,SNR=9.6
PDAR LR LR 17 55 53.1
comp=Z,16nm,20.4s,baz=58,slow=38
comp=Z,1.4nm,0.6s
Q12A Willow Creek R 36.69 322 IAmb IAmb 17 39 55.4
comp=Z,4.2nm,0.9s
AHID Auburn Hatcher 37.24 330 IAmb IAmb 17 40 17.8
comp=Z,5.5nm,0.7s
HVU Hansel Valley 37.37 327 IAmb IAmb 17 40 00.8
comp=Z,4.7nm,0.9s
TPAW Teton Pass 37.71 331 IAmb IAmb 17 40 26.3
comp=Z,3.9nm,0.8s
NVAR Mina Array Bea 38.48 319 P P 17 40 09.1 +1.3
comp=Z,1.8nm,0.7s,baz=132,slow=7.6,SNR=14
NVAR pP **pP 17 40 27.9 +2.0**
comp=Z,2.1nm,0.7s,baz=131,slow=8.0,SNR=7.4
NVAR PcP **PcP 17 42 20.7 +1.1**
comp=Z,0.3nm,0.5s,baz=126,slow=4.0,SNR=2.8
NVAR pPcP 17 42 41.1
comp=Z,1.3nm,0.7s,baz=134,slow=4.3,SNR=5.8
comp=Z,1.8nm,0.7s
LHV Little Huntoon 38.51 318 IAmb IAmb 17 40 28.9
comp=Z,4.7nm,0.8s
KVN Kaiserville 38.71 320 P P 17 40 11.1 +1.5
ULM Lac du Bonnet 38.90 351 P P 17 40 08.8 -2.0
comp=Z,1.9nm,0.5s,baz=205,slow=11,SNR=2.3
comp=Z,1.9nm,0.5s
BMN Battle Mountai 38.99 322 IAmb IAmb 17 40 32.4
comp=Z,5.5nm,0.8s
WVOR Wild Horse Val 41.07 324 P P 17 40 29.9 +0.8
WVOR IAmb IAmb 17 40 30.5
comp=Z,5.5nm,0.8s
BMO Blue Mountains 41.89 327 P P 17 40 34.6 -1.1
AC06 Mina Casimiro 42.22 158 P P 17 40 39.4 +0.9
AC06 IAmb IAmb 17 40 40.8
comp=Z,9.1nm,0.7s
YBH Yreka Blue Hor 43.13 320 LR LR 17 59 45.9
comp=Z,47nm,20.0s,baz=148,slow=37
E07A Sunnyside 44.35 327 IAmb IAmb 17 41 15.8
comp=Z,8.5nm,0.8s
H04A Detroit Lake 44.48 324 IAmb IAmb 17 40 57.7
comp=Z,5.6nm,0.6s
MXC Moxie City 44.60 327 P P 17 40 57.2 -0.3
MXC IAmb IAmb 17 40 59.0
comp=Z,6.3nm,0.8s
SCHQ Schefferville 45.57 16 P P 17 41 03.5 -1.5
comp=Z,2.5nm,0.4s,baz=212,slow=6.1,SNR=13
comp=Z,2.5nm,0.4s
BDFB Brasilia 47.18 125 P P 17 41 16.8 -1.5

comp=Z,2.0nm,0.3s,baz=323,slow=20,SNR=2.5
BDFB LR LR 18 01 56.6
comp=Z,53nm,18.0s,baz=301,slow=37
comp=Z,2.0nm,0.3s
CPUP Villa Florida 47.65 143 P **P 17 41 20.4 -1.1**
comp=Z,1.2nm,0.6s,baz=341,slow=7.1,SNR=3.3
comp=Z,1.2nm,0.6s
MT08 Bocatoma Ro 47.91 161 P **P 17 41 25.8 +2.1**
LMEL Las Melosas 48.22 161 P **P 17 41 27.6 +1.6**
RCBR Riachuelo 53.62 106 LR LR 18 09 32.6
comp=Z,15nm,18.3s,baz=264,slow=41
PLCA Paso Flores 54.55 165 P **P 17 42 13.8 +0.7**
PLCA IAmb IAmb 17 42 15.5
comp=Z,7.3nm,1.0s
PLCA Paso Flores 54.55 165 P **P 17 42 13.3 +0.2**
comp=Z,5.2nm,0.9s,baz=344,slow=9,SNR=11
PLCA PcP **PcP 17 43 15.8 +0.3**
comp=Z,2.5nm,0.8s,baz=331,slow=6.4,SNR=4.0
PLCA LR LR 18 02 09.3
comp=Z,24nm,18.9s,baz=148,slow=32
comp=Z,5.2nm,0.9s
ILAR Eielson Array 66.72 336 P **P 17 43 34.6 -0.9**
comp=Z,0.2nm,0.5s,baz=142,slow=5.3,SNR=5.7
ILAR pP **pP 17 43 53.8 -1.4**
comp=Z,0.2nm,0.5s,baz=141,slow=4.4,SNR=3.5
comp=Z,0.2nm,0.5s
KPA Kalaupapa 67.44 288 P **P 17 43 41.1 +0.2**
ESDC Sonseca Array 77.00 52 P **P 17 44 35.1 -2.5**
comp=Z,0.8nm,0.6s,baz=286,slow=5.0,SNR=4.2
comp=Z,0.8nm,0.6s
ARCES ARCESS Array B 86.44 19 P **P 17 45 24.3 -2.4**
comp=Z,1.9nm,0.9s,baz=284,slow=7.3,SNR=1.4
comp=Z,1.9nm,0.9s
MA2 Magadan 95.15 334 LR LR 18 35 36.0
comp=Z,28nm,18.0s,baz=338,slow=40
QSPA South Pole Qui 101.93 180 P **Pdif 17 46 39.6 +1.8**
comp=Z,0.9nm,1.0s,baz=85,slow=2.6,SNR=1.4
MKAR Makanchi Array 120.70 9 PKP **PKPdf 17 51 33.8 -2.5**
comp=Z,0.3nm,0.8s,baz=29,slow=3.3,SNR=2.2
STKA Stephens Creek 131.37 238 PKP **PKPdf 17 51 56.8 -0.2**
comp=Z,1.7nm,0.8s,baz=45,slow=2.9,SNR=2.0
ASAR Alice Springs 139.67 248 PKhKP PKPpre 17 52 04.8
comp=Z,0.7nm,0.6s,baz=108,slow=3.8,SNR=12
ASAR PKP **PKPdf 17 52 12.4 -0.2**
comp=Z,1.2nm,0.7s,baz=110,slow=2.2,SNR=6.3
ASAR SKPbc **SKPbc 17 55 40.2 -1.7**
comp=Z,0.6nm,1.0s,baz=102,slow=2.7,SNR=2.9
WRA Warramunga Arr 139.73 253 PKP **PKPdf 17 52 12.9 +0.1**
comp=Z,1.5nm,0.5s,baz=91,slow=2.3,SNR=25
PZH PanZhiHua 140.87 348 PKP **PKPdf 17 52 14.8 -0.2**
CMAR Chiang Mai Arr 149.25 349 PKPbc **PKPdf 17 52 31.5 +2.1**
comp=Z,0.3nm,0.3s,baz=323,slow=2.9,SNR=3.9

NEIC 07 17:37:18.2±0.3, 36°.28N±0°.01×97°.51W±0°.01, h6km±5km, mb_Lg2.5/30, ML2.9/69, Error ellipse: s-maj=1.7km s-min=1.5km az=75.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.44**	**300**	Pg	Pg	17 37 27.1	+0.3
CROK				IAML		17 37 33.7	
comp=E,1μm,0.3s							
OK048	**Pawnee Station**	**0.48**	**73**	Pg	Pg	17 37 27.6	+0.2
OK029	**Liberty Lake**	**0.48**	**175**	Pg	Pg	17 37 27.9	+0.3
OK029				IAML		17 37 34.8	
comp=E,673nm,0.1s							
BLOK	**Blackwell**	**0.54**	**26**	Pg	Pg	17 37 28.8	+0.2
BLOK				Sg	Sg	17 37 35.8	+0.2
OK051	**E0350 and S346**	**0.59**	**67**	Pg	Pg	17 37 29.7	+0.1
OK051				IAML		17 37 40.4	
comp=E,482nm,0.2s							
OK051				IAML		17 37 47.3	
comp=E,480nm,0.2s							
OK031	**S. Brethren Rd**	**0.63**	**121**	Pg	Pg	17 37 30.6	+0.2
OK031				IAML		17 37 39.4	
comp=E,614nm,0.3s							
OK031				IAML		17 37 39.4	
comp=E,575nm,0.3s							
GC02	**Grant County #**	**0.64**	**334**	Pg	Pg	17 37 30.5	0.0
OK052	**Battle Ridge R**	**0.64**	**116**	Pg	Pg	17 37 30.7	+0.2
OK052				IAML		17 37 39.5	
comp=E,465nm,0.2s							
QUOK	**Quay**	**0.66**	**99**	Pg	Pg	17 37 30.9	+0.1
QUOK				IAML		17 37 40.0	
comp=N,673nm,0.3s							
QUOK				IAML		17 37 42.4	
comp=E,414nm,0.2s							
KAN13	**South Haven SW**	**0.73**	**2**		Pg	17 37 32.4	+0.1
KAN13				IAML		17 37 48.8	
comp=N,550nm,0.3s							
KAN14	**Manchester OK**	**0.77**	**332**	Pg	Pg	17 37 33.0	0.0
KAN14				IAML		17 37 48.1	
comp=E,619nm,0.1s							
KAN14				IAML		17 37 53.2	
comp=N,546nm,0.1s							
KAN17	**Caldwell West**	**0.79**	**345**	Pg	Pg	17 37 33.3	-0.1
KAN17				IAML		17 37 49.6	
comp=E,454nm,0.2s							
KAN17				IAML		17 37 50.1	
comp=N,543nm,0.2s							
KAN09	**Caldwell North**	**0.86**	**354**		Pg	17 37 34.6	-0.1
OKCSW	**OKLAHOMA CITY**	**0.88**	**176**		Pg	17 37 35.1	+0.1
KAN01	**Argonia South**	**0.89**	**347**	IAML		17 37 53.4	
comp=N,415nm,0.1s							
KAN01				IAML		17 37 54.4	
comp=E,320nm,0.1s							
DEOK	**Depew**	**0.93**	**118**	Pg	Pg	17 37 35.6	-0.4
DEOK				IAML		17 37 48.5	
comp=N,444nm,0.3s							
DEOK				IAML		17 37 50.1	
comp=E,325nm,0.2s							
KS21	**Milan North St**	**1.01**	**353**	Pg	Pg	17 37 37.3	-0.3
KS21	**Milan North St**	**1.01**	**353**	IAML		17 37 55.4	
comp=E,329nm,0.1s							
KS21				IAML		17 37 58.4	
comp=E,399nm,0.1s							
OK038	**West end E0370**	**1.01**	**282**	Pg	Pg	17 37 37.4	-0.3
KAN08	**Anthony NE Sta**	**1.01**	**339**	IAML		17 37 56.3	
comp=N,370nm,0.1s							
KAN08				IAML		17 37 57.6	
comp=E,315nm,0.1s							
T35A	**Sooner Catle**	**1.02**	**51**	Pg	Pg	17 37 37.5	-0.4
T35A				IAML		17 37 51.9	
comp=N,214nm,0.3s							
FNO	**Franklin**	**1.02**	**175**	Pg	Pg	17 37 37.5	-0.3
FNO				IAML		17 37 53.3	
comp=E,325nm,0.3s							
CSTR	**Hydro, Custer**	**1.15**	**237**		Pg	17 37 39.8	-0.5
NOKA	**Waynoka**	**1.20**	**288**	Pg	Pg	17 37 40.7	-0.6
W35A	**Tecumseh**	**1.24**	**155**	IAML		17 37 59.1	
comp=N,218nm,0.2s							
W35A				IAML		17 38 05.7	
comp=E,175nm,0.4s							
ELIS	**Ellis County**	**1.56**	**263**		Pn	17 37 46.7	+0.2
X34A	**Smith Ranch, M**	**1.70**	**189**		Pn	17 37 48.2	-0.1
WMOK	**Wichita Mounta**	**1.86**	**214**	Pn	Pn	17 37 51.0	+0.4
RLO	**Rose Lookout**	**2.01**	**93**		Pn	17 37 52.9	+0.2
LOOK	**Love County**	**2.30**	**173**		Pn	17 37 56.6	0.0
LOOK				IAmb_Lg		17 38 36.1	
comp=Z,22nm,0.9s							
X37A	**Clayton**	**2.43**	**133**	Pn	Pn	17 37 59.1	+0.7
X37A				IAmb_Lg		17 38 41.7	
comp=Z,21nm,0.8s							
SMWD	**Samnorwood**	**2.52**	**243**	Pn	Pn	17 37 59.6	0.0
WTFS	**Witchita Falls**	**2.63**	**198**		Pn	17 38 01.1	0.0
HHAR	**Hobbs**	**2.88**	**89**	Pn	Pn	17 38 05.1	+0.4
KSU1	**Kansas State U**	**2.91**	**14**	IAmb_Lg		17 38 57.8	
comp=Z,16nm,0.8s							
FW03	**Perrin-Whitt E**	**3.27**	**188**	IAmb_Lg		17 39 09.8	
comp=Z,15nm,1.0s							
S39A	**Bolivar**	**3.64**	**66**		Pb	17 38 19.1	-3.7
MIAR	**Mount Ida**	**3.65**	**117**	IAmb_Lg		17 39 17.4	
comp=Z,14nm,1.0s							
AMTX	**Amarillo**	**3.67**	**249**	IAmb_Lg		17 39 22.8	
comp=Z,10nm,0.8s							
RTBA	**Rita Blanca**	**4.22**	**274**	Pn	Pn	17 38 23.1	0.0
MGMO	**Mountain Grove**	**4.30**	**77**	Pn	Pn	17 38 24.9	+0.8
MGMO				IAmb_Lg		17 39 38.1	
comp=Z,9.7nm,0.7s							
FCAR	**Ozark Folk Cen**	**4.38**	**94**	IAmb_Lg		17 39 35.7	
comp=Z,11nm,0.8s							
SN05	**Snyder 5**	**4.39**	**220**	IAmb_Lg		17 39 43.1	
comp=Z,12nm,0.7s							
P38A	**Dawn**	**4.58**	**42**	IAmb_Lg		17 39 45.2	
comp=Z,9.1nm,0.7s							
R40A	**Maddies Statio**	**4.64**	**63**	IAmb_Lg		17 39 47.7	
comp=Z,8.1nm,0.9s							
CCM	**Cathedral Cave**	**5.31**	**69**	IAmb_Lg		17 40 15.3	
comp=Z,9.4nm,0.9s							
P40A	**Paris**	**5.40**	**51**	IAmb_Lg		17 40 10.3	
comp=Z,7.8nm,0.9s							
T25A	**Trinidad**	**5.61**	**281**	IAmb_Lg		17 40 24.2	
comp=Z,9.4nm,0.7s							
Q24A	**Divide**	**6.63**	**296**	IAmb_Lg		17 40 55.0	
comp=Z,7.0nm,0.8s							

DJA 07 17:55:01.4±0.4, 3°.7N±4°.×12°.5E±°, h10km, M4.0/11, mb4.1/7, mB4.8/3, MLv3.9/11, Mw(mB)4.1/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**3.18**	**206**	P	Pn	17 55 51.3	-0.2
TNTI	**Ternate**	**3.33**	**143**	P	Pn	17 55 53.4	-0.1
LUWI	**Luwuk**	**5.16**	**210**	P	Pn	17 56 18.8	0.0
SANI	**Sanana**	**5.50**	**174**	P	Pn	17 56 24.4	+1.0
17nm,0.7s,1μm0.1nm							
NLAI	**Namlea**	**6.87**	**165**	P	Pn	17 56 42.9	+0.7
13nm,0.8s,743nm							
SWI	**Sorong**	**7.28**	**126**	P	Pn	17 56 47.4	-0.5
6.6nm,0.5s,0.0nm							

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*OSPL **07** 17:55:21.3±1.9, 18°.22N×72°.40W, h5km±143km, ML1.6*
SDD 07 17:55:18.3±0.6, 18°.38N×70°.52W, h29km±4km, MD2.5, ML1.9, MW2.8, 3C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANI	**BANI**	**0.15**	**87⇑**	*e*Pg	Pb	17 55 23.8	-0.2
BANI				*e*Sg	Sb	17 55 27.1	-0.7
BANI				IAML		17 55 27.8	
comp=N,536nm,0.2s							
BANI				IAML		17 55 28.3	
comp=E,337nm,0.3s							
ABDR	**Alto Bandera**	**0.44**	**346⇓**	*e*Pg	Pb	17 55 26.9	-1.0
ABDR				IAML		17 55 31.6	
comp=E,92nm,0.8s							
ABDR				*e*Sg	Sb	17 55 33.9	-0.7
ABDR				IAML		17 55 34.2	
comp=N,54nm,2.1s							
PODR	**Polo**	**0.76**	**254**	*i* P	Pn	17 55 35.5	+2.2
PODR				*e*S	Sn	17 55 48.5	+4.5
PODR				IAML		17 55 53.7	
comp=Z,15nm,0.8s							
LONE3	**El Aguacate, B**	**0.92**	**284**	*i* P	Pb	17 55 37.9	+2.1
LONE3				*e*S	Sn	17 55 52.4	+4.5
LONE3				IAML		17 55 54.3	
comp=Z,9.9nm,1.5s							
LOVI	**El Cajuil, Ovi**	**1.00**	**234**	*i* P	Pb	17 55 40.1	+3.1
LOVI				*e*S	Sb	17 55 55.0	+5.2
LOVI				IAML		17 55 59.1	
comp=Z,58nm,0.7s							
HATOM	**Hato Mayor del**	**1.15**	**69⇑**	*e*Pg	Pn	17 55 37.7	-0.8
HATOM				IAML		17 55 50.6	
comp=E,12nm,3.8s							
HATOM				⇑*e*Sg	Sn	17 55 52.4	-0.9
HATOM				IAML		17 55 52.7	
comp=N,21nm,0.3s							

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*SOME **07** 17:56:15.0, 42°.13N×84°.32E, h0km*
*NNC **07** 17:56:21.8±3.9, 42°.34N×84°.05E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=28.3km s-min=15.2km az=137.0*
ISC 07 17:56:23.6±2.3, 42°.4N±0°.1×83°.96E±0°.08, h10km, n23, σ1°56/33, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.41**	**285**	Pg	**Pn**	**17 57 17.0**	**+0.1**
SHLS				Lg	Lg	17 58 03.2	
9.0nm,0.3s							
42nm,0.3s							
SHLS	**Shalkode**	**3.41**	**285**	*e*P	**Pn**	**17 57 17.8**	**+0.8**
SHLS				*e*S	**Sb**	**17 58 03.2**	**-2.5**
8.7nm,0.2s							
49nm,0.3s							
DJR	**Jarkent**	**3.63**	**304**	Pg	**Pb**	**17 57 28.3**	**+0.5**
DJR				Lg	Lg	17 58 21.8	
6.1nm,0.4s							
17nm,0.7s							
DJR	**Jarkent**	**3.63**	**304**	*e*P	**Pb**	**17 57 28.6**	**+0.8**
DJR				*e*S	**Sg**	**17 58 21.8**	**+1.8**
6.1nm,0.4s							
17nm,0.5s							
UZB	**Uzynbulak**	**3.72**	**284**	Pg	**Pb**	**17 57 28.1**	**-1.4**
UZB				Lg	Lg	17 58 22.2	
4.5nm,0.2s							
22nm,0.4s							
UZB	**Uzynbulak**	**3.72**	**284**	*e*P	**Pb**	**17 57 28.8**	**-0.7**
UZB				*e*S	**Sg**	**17 58 22.2**	**-0.9**
3.0nm,0.2s							
22nm,0.5s							
KPKS	**Kokpek**	**4.03**	**288**	*e*P	**Pb**	**17 57 35.1**	**+0.3**
KPKS				*e*S	**Sg**	**17 58 32.7**	**-0.3**
3.3nm,0.2s							
24nm,0.4s							
ZHN	**Zhinishke**	**4.15**	**283**	Pg	**Pb**	**17 57 37.3**	**+0.5**
ZHN				Lg	Lg	17 58 36.4	
2.6nm,0.2s							
38nm,0.2s							
ZHN	**Zhinishke**	**4.15**	**283**	*e*P	**Pb**	**17 57 37.3**	**+0.5**
ZHN				*e*S	**Sg**	**17 58 36.4**	**-0.4**
2.8nm,0.2s							
40nm,0.2s							
SATY	**Saty**	**4.16**	**282**	Pg	**Pb**	**17 57 37.8**	**+0.9**
SATY				Lg	Lg	17 58 36.9	
2.2nm,0.1s							
34nm,1.0s							
SATY	**Saty**	**4.16**	**282**	*e*P	**Pb**	**17 57 37.5**	**+0.6**
SATY				*e*S	**Sg**	**17 58 36.9**	**-0.1**
2.2nm,0.1s							
23nm,0.2s							
KURS	**Kuram**	**4.40**	**287**	Pg	**Pb**	**17 57 42.7**	**+1.7**
KURS				Lg	Lg	17 58 46.3	
1.1nm,0.3s							
5.2nm,0.9s							
KURS	**Kuram**	**4.40**	**287**	*e*P	**Pb**	**17 57 43.0**	**+2.0**
KURS				*e*S	**Sg**	**17 58 46.3**	**+1.4**
1.5nm,0.4s							
8.4nm,0.9s							
KAPS	**Kapalarasan**	**4.43**	**313**	Pg	**Pb**	**17 57 41.9**	**+0.4**
KAPS				Lg	Lg	17 58 45.0	
4.5nm,0.3s							
6.5nm,0.3s							
KAPS	**Kapalarasan**	**4.43**	**313**	*e*P	**Pb**	**17 57 42.2**	**+0.6**
KAPS				*e*S	**Sg**	**17 58 44.8**	**-1.2**
1.0nm,0.2s							
12nm,0.2s							
MAKZ	**Makanchi**	**4.67**	**343**	⇓Pg	**Pb**	**17 57 46.5**	**+0.9**
MAKZ				⇑Sn	**Sn**	**17 58 31.0**	**+2.7**
2.6nm,0.5s							
2.5nm,0.6s							
MAKZ				⇑Lg	Lg	17 58 52.6	
3.5nm,0.4s							
ZSN	**Zaisan**	**5.13**	**7**	Pg	**Pb**	**17 57 54.3**	**+0.9**
ZSN				Lg	Lg	17 59 05.7	
3.4nm,0.4s							
7.1nm,0.7s							
ZSN	**Zaisan**	**5.13**	**7**	*e*P	**Pb**	**17 57 54.3**	**+0.9**
ZSN				*e*S	**Sg**	**17 59 05.7**	**-2.6**
3.4nm,0.2s							
8.9nm,0.5s							
MDOK	**Medeo**	**5.16**	**281**	Pn	Pb	17 57 48.5	-5.4
MDOK				Pg	**Pg**	**17 57 60.0**	**-2.3**
0.9nm,0.5s							
1.9nm,0.6s							
MDOK				Sn	**Sn**	**17 58 44.0**	**+3.4**
MDOK				Lg	Lg	17 59 07.2	
2.1nm,0.6s							
7.7nm,0.8s							
KTBS	**Karatobe**	**5.51**	**287**	Pg	**Pb**	**17 58 01.7**	**+1.9**
KTBS				Lg	Lg	17 59 18.0	
0.6nm,0.2s							
7.1nm,0.7s							
KTBS	**Karatobe**	**5.51**	**287**	*e*P	**Pb**	**17 58 01.6**	**+1.9**
KTBS				*e*S	**Sg**	**17 59 18.0**	**-2.3**
0.8nm,0.2s							
9.6nm,0.4s							
KURBB	**Kurchatov Arra**	**9.07**	**338**	⇓Lg	Lg	18 01 10.9	
6.8nm,0.7s							
KURK	**Kurchatov**	**9.13**	**338**	⇓Lg	Lg	18 01 14.2	
4.8nm,1.0s							

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*TEH **07** 17:58:07.6, 33°.75N×45°.71E, h9km±30km, ML2.8*
*ISN **07** 17:58:08.5±0.5, 33°.68N×45°.69E, h8km±2km, ML2.8*
ISC 07 17:58:08.0±1.1, 33°.73N±0°.03×45°.69E±0°.04, h13km, n12, σ0°79/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.42**	**26**	Pg	**Pg**	**17 58 15.4**	**-1.0**
ILBA	**Ilam Banvizeh**	**0.44**	**104**	Pg	**Pg**	**17 58 16.3**	**-0.5**
IBDR	**Badra**	**0.65**	**162**	*e*Pg	**Pg**	**17 58 20.5**	**-0.2**
IBDR				*e*Sg	**Sg**	**17 58 29.0**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.78**	**354**	Pg	**Pg**	**17 58 22.9**	**-0.1**
IGHG	**Ghaleghazi**	**0.94**	**51**	Pg	**Pg**	**17 58 25.9**	**-0.3**
IDHR	**Dehrash**	**1.12**	**31**	Pg	**Pb**	**17 58 28.8**	**-0.6**
BHD	**Baghdad**	**1.19**	**247**	*e*Pg	**Pg**	**17 58 31.0**	**+0.1**
BHD				*e*Sg	**Sg**	**17 58 47.0**	**+0.7**
KCHF	**Cheshme Sefid,**	**1.24**	**64**	Pg	**Pb**	**17 58 31.7**	**+0.3**
ILIN	**Lien**	**1.58**	**41**	Pg	**Pb**	**17 58 37.4**	**+0.2**
IKFM	**Kafar-mosalman**	**1.81**	**96**	Pg	**Pb**	**17 58 40.7**	**-0.3**
IKFM				Sg	**Sg**	**17 59 08.3**	**+2.1**
SNQR	**Sonqor, Kerman**	**1.96**	**54**	Pn	**Pb**	**17 58 43.0**	**-0.6**
RAFI	**Al-Rafai**	**2.04**	**170**	*e*Pn	**Pb**	**17 58 44.0**	**-0.8**
RAFI				*e*Sn	**Sb**	**17 59 10.5**	**+0.4**

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*IDC **07** 18:07:05.6±0.9, 29°.43N×139°.47E, h430km±19km, mb2.7/3, mbtmp3.7/8, Error ellipse: s-maj=54.0km s-min=13.6km az=65.0*
*JMA **07** 18:07:08.2±0.2, 30°.N±2°.×13°.9E±°, h441km, MV3.4/27, NEAR TORISHIMA IS*
ISC 07 18:07:06.4±0.9, 29°.45N±0°.07×139°.4E±0°.1, h450km, n16, σ2°14/22, mb2.8/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.37**	**133**	P	**P**	**18 08 17.9**	**+1.5**
CBIJ				*e*S	**S**	**18 09 13.9**	**+0.7**
JCJ	**Chichijima**	**3.38**	**133**	P	P	18 08 12.4	-4.0
34nm,0.3s							
JCJ				S	**S**	**18 09 09.4**	**-3.8**
BSO1	**Boso 1**	**5.35**	**14**	*e*P	**P**	**18 08 36.2**	**+2.7**
BSO1				*e*S	**S**	**18 09 45.8**	**+1.1**
JIE	**Ise**	**5.45**	**335**	P	**P**	**18 08 37.8**	**+2.8**
JOD2	**Odawara 2**	**5.80**	**357**	*e*P	**P**	**18 08 40.4**	**+1.7**
JOD2				*e*S	**S**	**18 09 54.0**	**0.0**
JRY	**Ryogami san**	**6.56**	**356**	P	**P**	**18 08 48.1**	**+1.6**
JRY				S	**S**	**18 10 05.7**	**-2.6**
JAG	**Ashikaga**	**6.96**	**0**	P	**P**	**18 08 50.7**	**+0.1**
JAG				*e*S	**S**	**18 10 10.5**	**-5.3**
MJAR	**Matsushiro Arr**	**7.15**	**352**	P	**P**	**18 08 53.4**	**+0.8**
2.2nm,0.4s,baz=163,slow=10,SNR=11							
JHO	**Hitachi**	**7.20**	**7**	*e*P	**P**	**18 08 55.1**	**+1.9**
JHO				*e*S	**S**	**18 10 18.6**	**-2.1**
JNU	**Nakatsue**	**8.18**	**299**	P	**P**	**18 09 04.4**	**+0.5**
3.8nm,0.6s,baz=135,slow=7.1,SNR=8.3							
JAMN	**Amaminishikomi**	**9.08**	**265**	*e*P	**P**	**18 09 13.6**	**+0.1**
KSRS	**Korea Array**	**12.49**	**313**	P	**P**	**18 09 49.6**	**-0.8**
1.2nm,0.5s,baz=129,slow=10,SNR=6.1							
USRK	**Ussuriysk Ar.**	**15.87**	**340**	P	**P**	**18 10 27.4**	**+0.8**
2.9nm,0.5s,baz=142,slow=9.8,SNR=9.9							
WRA	**Warramunga Arr**	**49.35**	**186**	P	**P**	**18 15 14.0**	**+0.7**
0.4nm,0.3s,baz=0.8,slow=7.8,SNR=11							
0.4nm,0.3s							
ASAR	**Alice Springs**	**53.08**	**186**	P	**P**	**18 15 41.6**	**+1.1**
0.2nm,0.4s,baz=358,slow=5.0,SNR=4.5							
0.2nm,0.4s							
BVAR	**Borovoye Array**	**54.67**	**316**	P	**P**	**18 15 50.8**	**-0.8**
0.2nm,0.5s,baz=95,slow=8.7,SNR=2.4							
0.2nm,0.5s							

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*ATH **07** 18:31:11.8, 37°.50N×20°.43E, h7km±1km, ML3.0/16, Error ellipse: s-maj=2.5km s-min=1.0km az=49.0*
*THE **07** 18:31:11.3, 37°.49N×20°.42E, h0km±4km, ML3.2/13, Error ellipse: s-maj=5.2km s-min=1.2km az=211.0*
*IDC **07** 18:31:18.0±17.0, 38°.38N×21°.46E, h0km, mb3.4/5, mbtmp3.4/5, MS3.7/1, Error ellipse: s-maj=326.1km s-min=42.4km az=38.0*
ISC 07 18:31:12.0±1.4, 37°.50N±0°.05×20°.49E±0°.05, h18km±6km, n41, σ0°95/63, mb3.5/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.30**	**58**	P	**Pb**	**18 31 18.8**	**-0.2**
KRI1				S	**Sb**	**18 31 23.6**	**0.0**
11μm,0.3s							
LTHK	**Lithakia**	**0.34**	**52**	P	**Pb**	**18 31 19.3**	**-0.4**
LTHK				S	**Sb**	**18 31 24.7**	**-0.1**
16μm,0.4s							
LTHK	**Lithakia**	**0.34**	**52**	P	**Pb**	**18 31 19.3**	**-0.4**
LTHK				S	**Sb**	**18 31 24.7**	**-0.1**
LTHK				AML	AML	18 31 25.1	
comp=E,30505μm,0.3s							
LTHK				AML	AML	18 31 25.7	
comp=N,25553μm,0.2s							
RTZL	**Ratzakli, Kefa**	**0.61**	**21**	P	**Pb**	**18 31 23.7**	**-0.6**
RTZL				S	**Sb**	**18 31 32.9**	**+0.3**
comp=N,3μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.62**	**7**	P	**Pg**	**18 31 23.5**	**-0.8**
PSDA				S	**Sb**	**18 31 33.2**	**+0.6**
comp=N,2μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.62**	**7**	P	**Pg**	**18 31 23.5**	**-0.8**
VLS	**Valsamata**	**0.68**	**6**	P	**Pg**	**18 31 24.3**	**-1.2**
VLS				S	**Sb**	**18 31 34.6**	**+0.1**
comp=N,2μm,0.6s							
VLS	**Valsamata**	**0.68**	**6**	P	**Pg**	**18 31 24.4**	**-1.0**
VLS				S	**Sb**	**18 31 34.4**	**-0.1**
VLS				AML	AML	18 31 40.4	
comp=N,4064μm,0.5s							
VLS				AML	AML	18 31 42.5	
comp=E,3073μm,0.3s							
DMLN	**Damoulianata-K**	**0.74**	**353**	P	**Pg**	**18 31 25.6**	**-1.0**
DMLN				S	**Sb**	**18 31 36.6**	**+0.3**
comp=E,4μm,0.5s							
DMLN	**Damoulianata-K**	**0.74**	**353**	P	**Pg**	**18 31 25.8**	**-0.9**
DMLN				S	**Sg**	**18 31 35.7**	**-0.8**
VSK1	**VASILIKIADES**	**0.91**	**3**	P	**Pg**	**18 31 28.7**	**-1.1**
VSK1				S	**Sn**	**18 31 42.7**	**+0.1**
comp=E,2μm,0.7s							
RLS	**Riolos of Patr**	**0.95**	**54**	P	**Pn**	**18 31 30.0**	**-0.5**
RLS				S	**Sn**	**18 31 44.3**	**+0.7**
comp=E,575nm,0.3s							
RLS	**Riolos of Patr**	**0.95**	**54**	P	**Pn**	**18 31 30.1**	**-0.5**
RLS				S	**Sn**	**18 31 43.5**	**-0.1**
RLS				AML	AML	18 31 47.8	
comp=N,1420μm,0.4s							
RLS				AML	AML	18 31 49.3	
comp=E,880μm,0.3s							
FSK	**Fiskardo**	**0.96**	**3**	P	**Pg**	**18 31 29.6**	**-1.1**
FSK				S	**Sn**	**18 31 43.7**	**-0.1**
comp=E,1μm,0.5s							
FSK	**Fiskardo**	**0.96**	**3**	P	**Pg**	**18 31 29.4**	**-1.3**
FSK				S	**Sb**	**18 31 42.9**	**+0.4**
FSK				AML	AML	18 31 48.9	
comp=N,1793μm,0.4s							
FSK				AML	AML

ITM AML AML 18 31 58.8
comp=E,500μm,0.6s
ITM AML AML 18 32 04.1
comp=N,524μm,0.5s
NYDR Nydri-Lefkada 1.22 8 P Pb 18 31 34.2 -0.4
NYDR S Sg 18 31 53.3 +1.6
comp=N,625nm,0.4s
LKD2 Lefkada island 1.29 6 P Pg 18 31 36.6 -0.4
LKD2 S Sg 18 31 57.4 +3.5
comp=N,818nm,0.6s
LKD2 Lefkada island 1.29 6 P Pb 18 31 35.4 -0.4
LKD2 S Sn 18 31 52.3 +0.2
LKD2 AML AML 18 32 00.5
comp=N,1650μm,0.4s
LKD2 AML AML 18 32 03.0
comp=E,1605μm,0.8s
TSLK Tsoukalades, L 1.33 5 P Pb 18 31 36.1 -0.4
TSLK S Sg 18 31 57.8 +2.7
comp=E,988nm,0.4s
TSLK Tsoukalades, L 1.33 5 P Pb 18 31 36.3 -0.1
TSLK AML AML 18 32 00.0
comp=N,2315μm,0.4s
TSLK AML AML 18 32 00.5
comp=E,1746μm,0.4s
KLV Kalavryta, Ach 1.42 67 P Pg 18 31 38.7 -0.7
KLV Kalavryta, Ach 1.42 67 P Pg 18 31 38.0 -1.4
KLV AML AML 18 32 07.4
comp=E,329μm,0.7s
KLV AML AML 18 32 11.3
comp=N,388μm,0.9s
EFP Efpalio 1.45 50 P Pg 18 31 38.6 -1.4
EFP AML AML 18 32 12.6
comp=N,521μm,0.5s
EFP AML AML 18 32 12.8
comp=E,687μm,0.5s
GUR Goura 1.53 73 P Pb 18 31 39.4 -0.5
GUR AML AML 18 32 12.7
comp=N,850μm,0.5s
GUR AML AML 18 32 15.6
comp=E,736μm,0.5s
ANX Ano Chora 1.57 45 P Pb 18 31 40.3 -0.3
ANX AML AML 18 32 10.7
comp=N,1601μm,0.5s
ANX AML AML 18 32 13.7
comp=E,822μm,0.5s
EVR Evrytania 1.75 36 P Pb 18 31 42.4 -1.3
EVR AML AML 18 32 22.4
comp=N,329μm,0.6s
EVR AML AML 18 32 25.6
comp=E,431μm,0.6s
IGT Igoumenitsa 2.03 356 P Pn 18 31 46.4 +1.0
IGT S Sn 18 32 10.3 -0.1
IGT AML AML 18 32 24.8
comp=E,619μm,0.5s
IGT AML AML 18 32 27.4
comp=N,266μm,0.4s
HFS Hagfors 23.07 351 P P 18 36 16.8 +0.6
comp=N,0.8nm,0.5s,baz=169,slow=10,SNR=5.2
comp=N,0.8nm,0.5s
FINES FINESS Array B 24.22 7 P P 18 36 26.9 -0.6
comp=N,0.9nm,0.7s,baz=170,slow=12,SNR=6.6
comp=N,0.9nm,0.7s
KURBB Kurchatov Arra 42.65 53 P P 18 39 06.2 -1.1
comp=N,0.2nm,0.5s,baz=277,slow=9.1,SNR=3.2
comp=N,0.2nm,0.5s
MKAR Makanchi Array 45.68 58 P P 18 39 31.4 -0.3
comp=N,0.2nm,0.5s,baz=278,slow=7.1,SNR=1.8
comp=N,0.2nm,0.5s
ZALV Zalesovo Beam 46.16 48 P P 18 39 35.3 0.0
comp=N,0.4nm,0.3s,baz=280,slow=8.0,SNR=2.2
comp=N,0.4nm,0.3s
SFJD Kangerlussuaq 48.81 330 LR LR 18 59 46.8
comp=N,71nm,18.6s,baz=148,slow=35

*IDC **07** 18:31:21.9±2.1,5°.61S×148°.32E,h91km±19km,mb4.1/5, mbtmp4.5/8,Error ellipse: s-maj=31.8km s-min=12.7km az=123.0*
*NEIC **07** 18:31:24.3±1.2,5°.80S±0°.07×148°.51E±0°.09,h105km±5km, mb4.5/27,Error ellipse: s-maj=13.7km s-min=8.7km az=122.0*
ISC 07 18:31:23.6±0.7,5°.81S±0°.07×148°.44E±0°.08,h100km,n55, σ1$42/59,mb4.4/15,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.79**	**199**	P			**Pn**	**18 32 21.5**	**+1.4**
	181nm,0.3s,baz=36,slow=5.2,SNR=105								
PMG				S			**Sn**	**18 33 04.7**	**+1.0**
	173nm,0.4s,baz=212,slow=21,SNR=7.4								
PMG	**Port Moresby**	**3.79**	**199**	P			**Pn**	**18 32 21.6**	**+1.5**
MANU	**Manus Island**	**3.89**	**344**				**Pn**	**18 32 23.2**	**+1.8**
RABL	**Rabaul**	**4.04**	**67**	Pn			**Pn**	**18 32 23.1**	**-0.3**
COEN	**Coen**	**9.62**	**212**	Pn			**Pn**	**18 33 40.2**	**+1.0**
COEN				Sn			**Sn**	**18 35 19.8**	**-5.6**
HNR	**Honiara**	**11.96**	**108**	Pn			**Pn**	**18 34 11.5**	**+0.6**
HNR	**Honiara**	**11.96**	**108**	P			**Pn**	**18 34 10.8**	**-0.1**
	11nm,0.3s,baz=264,slow=17,SNR=1.3								
MTSU	**Mount Surprise**	**12.90**	**198**	P			**Pn**	**18 34 25.8**	**+2.5**
CTAO	**Charters Tower**	**14.35**	**188**				**P**	**18 34 47.2**	**+0.9**
QIS	**Mount Isa**	**16.99**	**210**	P			**Pn**	**18 35 16.1**	**+0.9**
MTN	**Manton Dam**	**18.45**	**246**	P			**P**	**18 35 30.5**	**-1.1**
WB0	**Warramunga Arr**	**19.47**	**223**				**P**	**18 35 43.7**	**+0.9**
WB0					IAmb		IAmb	18 35 44.6	
	comp=Z,9.8nm,0.8s								
WR0	**Warramunga Arr**	**19.51**	**223**				**P**	**18 35 43.6**	**+0.5**
WR0					IAmb		IAmb	18 35 44.9	
	comp=Z,14nm,0.8s								
EIDS	**Eidsvold**	**19.62**	**173**	P			**P**	**18 35 43.9**	**-0.4**
EIDS					IAmb		IAmb	18 36 00.7	
	comp=Z,14nm,0.6s								
WRAB	**Tennant Creek**	**19.62**	**223**	P			**P**	**18 35 44.0**	**-0.3**
WRAB					IAmb		IAmb	18 35 46.0	
	comp=Z,23nm,0.8s								
WB2	**Warramunga Arr**	**19.62**	**223**				**P**	**18 35 45.0**	**+0.6**
WB2					IAmb		IAmb	18 35 46.1	
	comp=Z,16nm,0.8s								
WRA	**Warramunga Arr**	**19.63**	**223**	P			**P**	**18 35 44.2**	**-0.2**
WRA	**Warramunga Arr**	**19.63**	**223**	P			**P**	**18 35 45.0**	**+0.5**
	comp=Z,9.4nm,0.5s,baz=46,slow=11,SNR=76								
WRA				S			**S**	**18 39 19.8**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=54,slow=23,SNR=5.0								
QLP	**Quilpie**	**21.05**	**191**	P			**P**	**18 36 00.9**	**+1.3**
KNRA	**Kununurra**	**21.66**	**242**	P			**P**	**18 36 05.7**	**-0.5**
KNRA					IAmb		IAmb	18 36 43.8	
	comp=Z,27nm,1.4s								
AS01	**Alice Springs**	**22.58**	**217**	P			**P**	**18 36 16.5**	**+0.6**
AS31	**Alice Springs**	**22.61**	**217**				**P**	**18 36 15.4**	**-0.8**
ASAR	**Alice Springs**	**22.61**	**217**				**P**	**18 36 16.3**	**+0.1**
ASAR	**Alice Springs**	**22.61**	**217**	P			**P**	**18 36 16.6**	**+0.3**
	comp=Z,12nm,0.6s,baz=52,slow=9.1,SNR=376								
ASAR				S			**S**	**18 40 19.7**	**+2.9**
	comp=Z,1.2nm,0.7s,baz=35,slow=23,SNR=9.4								
	comp=Z,12nm,0.6s								
INKA	**Innaminka**	**23.01**	**198**	P			**P**	**18 36 20.9**	**+0.8**
ARMA	**Armidale**	**24.66**	**173**	P			**P**	**18 36 34.4**	**-0.9**
ARMA					IAmb		IAmb	18 36 38.6	
	comp=Z,28nm,1.2s								
PINNC	**Pines Island,**	**24.82**	**134**	P			**P**	**18 36 37.4**	**+0.8**
BATI	**Baumata**	**24.91**	**258**	P			**P**	**18 36 36.1**	**-1.5**
	comp=Z,5.6nm,0.7s,baz=252,slow=18,SNR=1.7								
	comp=Z,5.6nm,0.7s								
OOD	**Oodnadatta**	**25.00**	**208**	P			**P**	**18 36 40.1**	**+1.9**
FITZ	**Fitzroy Crossi**	**25.39**	**239**	P			**P**	**18 36 41.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**25.39**	**239**	P			**P**	**18 36 42.0**	**+0.1**
	comp=Z,4.5nm,0.4s,baz=50,slow=10,SNR=27								
	comp=Z,4.5nm,0.4s								
STKA	**Stephens Creek**	**26.72**	**193**	P			**P**	**18 36 56.7**	**+3.0**
STKA	**Stephens Creek**	**26.72**	**193**	P			**P**	**18 36 56.3**	**+2.6**
	comp=Z,3.5nm,0.6s,baz=2.2,slow=9.9,SNR=9.0								
	comp=Z,3.5nm,0.6s								
BBOO	**Buckleboo**	**29.24**	**202**	P			**P**	**18 37 15.4**	**-0.8**
BBOO					IAmb		IAmb	18 37 32.8	
	comp=Z,27nm,1.4s								
FORT	**Forrest**	**31.37**	**215**	P			**P**	**18 37 34.8**	**-0.2**
MORW	**Morawa**	**38.37**	**229**	P			**P**	**18 38 34.8**	**-0.5**
E19K	**Redstone River**	**82.47**	**18**	P			**P**	**18 43 34.8**	**0.0**
E19K					IAmb		IAmb	18 43 51.3	
	comp=Z,13nm,1.5s								
Q23K	**Middleton Isla**	**82.71**	**28**	P			**P**	**18 43 34.7**	**-1.4**
F20K	**Avaraart Lake**	**82.72**	**19**	P			**P**	**18 43 35.8**	**-0.1**
F20K					IAmb		IAmb	18 43 50.0	
	comp=Z,11nm,1.5s								
IMAR	**Indian Mountai**	**82.81**	**20**	P			**P**	**18 43 35.8**	**-0.6**
FID	**Port Fidalgo**	**83.20**	**27**	P			**P**	**18 43 37.6**	**-1.0**
G23K	**Bananza Creek**	**84.47**	**21**	P			**P**	**18 43 44.8**	**-0.2**
G23K					IAmb		IAmb	18 44 20.3	
	comp=Z,7.6nm,1.5s								
B21K	**Ikpikpuk River**	**84.49**	**17**	P			**P**	**18 43 44.1**	**-0.8**
B21K					IAmb		IAmb	18 43 45.2	
	comp=Z,15nm,1.1s								
E22K	**Anaktuvuk Pass**	**84.57**	**19**	P			**P**	**18 43 44.9**	**-0.6**
E22K					IAmb		IAmb	18 43 57.3	
	comp=Z,7.1nm,1.4s								
ILAR	**Eielson Array**	**84.74**	**23**	P			**P**	**18 43 44.5**	**-1.8**
ILAR	**Eielson Array**	**84.74**	**23**	P			**P**	**18 43 44.0**	**-2.3**
	comp=Z,1.0nm,0.7s,baz=251,slow=5.1,SNR=13								
	comp=Z,1.0nm,0.7s								
E23K	**Chandalar**	**85.25**	**19**	P			**P**	**18 43 48.9**	**0.0**
E23K					IAmb		IAmb	18 43 58.8	
	comp=Z,4.9nm,1.4s								
J25K	**Salcha River,**	**85.27**	**23**	P			**P**	**18 43 47.5**	**-1.5**
D23K	**Nanushuk River**	**85.35**	**18**	P			**P**	**18 43 49.0**	**-0.3**
F24K	**Squaw Lake**	**85.59**	**20**	P			**P**	**18 43 50.5**	**-0.1**
BCAR	**Beaver Creek A**	**86.15**	**25**	P			**P**	**18 43 53.2**	**-0.2**
BMAR	**Burnt Mountain**	**86.70**	**21**	P			**P**	**18 43 56.1**	**0.0**
K29M	**Barlow Dome**	**88.21**	**25**	P			**P**	**18 44 02.9**	**-0.5**
K29M					IAmb		IAmb	18 44 03.6	
	comp=Z,2.3nm,0.9s								
PTLB	**Pontes e Lacer**	**145.47**	**128**	PKPdf			**PKPdf**	**18 50 48.6**	**-2.4**
TORD	**Torodi Ar. Bea**	**146.43**	**285**	PKPbc			**PKPdf**	**18 50 51.4**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=59,slow=3.4,SNR=1.9								

*SOME **07** 18:33:08.4,39°.50N×74°.72E,h15km*
*KRNET **07** 18:33:09.1±0.1,39°.39N×75°.25E,mb3.0*
*NNC **07** 18:33:13.1±7.6,39°.65N×74°.81E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=54.5km s-min=33.0km az=165.0*
ISC 07 18:33:13.6±2.6,39°.61N±0°.08×75°.21E±0°.05,h5km±16km, n33,σ1$66/60,25C-16D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.92**	**18**	↑*iP*			**Pn**	**18 33 47.6**	**+0.4**
NRN				↑*iS*			**Sg**	**18 34 15.6**	**+0.5**
OHH	**Osh**	**2.07**	**297**	↑*eP*			**Pn**	**18 33 49.0**	**-0.1**
OHH				↑*iS*			**Sb**	**18 34 18.1**	**+0.3**
ARLS	**Aral**	**2.35**	**344**	↓*eP*			**Pn**	**18 33 53.9**	**+1.0**
ARLS				↓*eS*			**Sb**	**18 34 26.6**	**+0.8**
ARSB	**Arslanbob**	**2.41**	**316**	↑*eP*			**Pn**	**18 33 54.4**	**+0.6**
ARSB				↑*eS*			**Sb**	**18 34 27.5**	**-0.1**
DRK	**Karamyk**	**2.64**	**268**	↑*eP*			Pn	18 33 55.6	-1.5
DRK				↑*eS*			**Sn**	**18 34 29.6**	**-0.1**
UCH	**Uchtor**	**2.67**	**349**	↓*eP*			**Pn**	**18 33 58.7**	**+1.1**
UCH				↓*eS*			**Sb**	**18 34 34.8**	**-0.5**
ULHL	**Ulahol**	**2.74**	**16**	↓*iP*			**Pn**	**18 33 59.3**	**+0.8**
ULHL				↓*iS*			**Sb**	**18 34 36.0**	**-1.3**
AML	**Almayashu**	**2.77**	**336**	↑*iP*			**Pn**	**18 34 00.0**	**+1.1**
AML				↑*iS*			**Sb**	**18 34 37.2**	**-0.9**
KDJ	**Kajisay**	**2.92**	**30**	↓*eP*			**Pn**	**18 34 01.5**	**+0.6**
KDJ				↓*eS*			**Sb**	**18 34 39.7**	**-2.7**
BOOM	**Boomskoye usch**	**2.93**	**11**	↓*eP*			**Pn**	**18 34 02.0**	**+1.1**
BOOM				↓*iS*			**Sb**	**18 34 40.5**	**-2.0**
KBK	**Karagaybulak**	**3.05**	**356**	↓*eP*			**Pn**	**18 34 03.8**	**+1.2**
KBK				↓*eS*			**Sb**	**18 34 43.6**	**-2.4**
FRU1	**Bishkek**	**3.23**	**352**	↑*eP*			**Pn**	**18 34 06.4**	**+1.5**
FRU1				↑*eS*			**Sb**	**18 34 48.3**	**-2.7**
EKS2	**Erkin-Say**	**3.23**	**341**	↑*iP*			**Pn**	**18 34 06.3**	**+1.2**
EKS2				↑*iS*			**Sb**	**18 34 48.0**	**-3.3**
ARK	**Arkit**	**3.30**	**313**	↑*eP*			**Pn**	**18 34 06.5**	**+0.6**
ARK				↑*eS*			**Sn**	**18 34 48.5**	**+2.9**
TKM2	**Tokmak 2**	**3.32**	**5**	↑Pn			**Pn**	**18 34 09.0**	**+2.7**
	7.9nm,0.3s								
TKM2				↓Sn			**Sb**	**18 34 53.2**	**-0.5**
	16nm,0.5s								
BTK	**Batken**	**3.41**	**279**	↑*eP*			**Pn**	**18 34 06.7**	**-0.8**
BTK				↑*eS*			**Sn**	**18 34 48.8**	**+0.4**
MRKS	**Merke**	**3.47**	**335**	Pg			**Pn**	**18 34 10.2**	**+1.9**
	6.1nm,0.4s								
MRKS				Lg			Lg	18 34 56.3	
	11nm,0.4s								
MRKS	**Merke**	**3.47**	**335**	*eP*			**Pn**	**18 34 10.6**	**+2.2**
	6.1nm,0.4s								
MRKS				*eS*			**Sb**	**18 34 55.3**	**-2.7**
	3.4nm,0.4s								
KST	**Kastek**	**3.47**	**9**	Pg			**Pn**	**18 34 11.4**	**+3.0**
	2.5nm,0.4s								
KST				Lg			Lg	18 34 56.9	
	21nm,0.7s								
KST	**Kastek**	**3.47**	**9**	*eP*			**Pb**	**18 34 15.5**	**-0.1**
	2.6nm,0.6s								
KST				*eS*			**Sg**	**18 35 03.7**	**-1.4**
	16nm,0.6s								
MTBS	**Maitube**	**3.63**	**14**	*eP*			**Pb**	**18 34 19.4**	**+1.1**
	1.6nm,0.3s								
MTBS				*eS*			**Sg**	**18 35 10.4**	**+0.2**
	4.8nm,0.4s								
TRKS	**Terek-Say**	**3.65**	**303**	↑*eP*			**Pn**	**18 34 10.3**	**-0.5**
TRKS				↑*eS*			**Sn**	**18 34 55.0**	**+0.7**
TNSS	**Tian-Shan**	**3.66**	**20**	*eP*			**Pb**	**18 34 19.8**	**+0.8**
	1.1nm,0.3s								
TNSS				*eS*			**Sg**	**18 35 11.2**	**0.0**
	4.1nm,0.6s								
MDOK	**Medeo**	**3.81**	**21**	*eP*			**Pb**	**18 34 21.4**	**0.0**
	0.5nm,0.2s								
MDOK				*eS*			**Sg**	**18 35 13.9**	**-2.0**
	9.1nm,0.6s								
GAR	**Garm**	**3.85**	**262**	↑*eP*			Pn	18 34 11.9	-1.6
GAR				↑*eS*			**Sn**	**18 34 57.7**	**-1.5**
KRBS	**Karabastau**	**4.09**	**5**	Pg			**Pb**	**18 34 27.2**	**+1.0**
	2.1nm,0.3s								
KRBS				Lg			Lg	18 35 24.2	
	6.2nm,0.6s								
KRBS	**Karabastau**	**4.09**	**5**	*eP*			**Pb**	**18 34 27.2**	**+1.0**
	2.1nm,0.3s								
KRBS				*eS*			**Sg**	**18 35 23.6**	**-1.4**
	6.2nm,0.6s								
KTBS	**Karatobe**	**4.24**	**15**	Pg			**Pb**	**18 34 30.4**	**+1.7**
	1.1nm,0.4s								
KTBS				Lg			Lg	18 35 28.9	
	10nm,0.6s								
KTBS	**Karatobe**	**4.24**	**15**	*eP*			**Pb**	**18 34 30.1**	**+1.4**
	1.1nm,0.3s								
KTBS				*eS*			**Sg**	**18 35 28.9**	**-0.9**
	10nm,0.6s								
CHKK	**Chushkaly**	**4.44**	**17**	Pg			**Pb**	**18 34 32.8**	**+0.8**
	1.7nm,0.3s								
CHKK				Lg			Lg	18 35 34.2	
	7.2nm,0.4s								
KURS	**Kuram**	**4.46**	**29**	*eP*			**Pb**	**18 34 34.1**	**+1.7**
	0.8nm,0.5s								
KURS				*eS*			**Sg**	**18 35 35.9**	**-1.0**
	4.0nm,0.7s								
KK31	**Karatay Array**	**4.97**	**316**	↓Pn			**Pn**	**18 34 28.0**	**-0.8**
	0.2nm,0.2s,baz=128,slow=12,SNR=9.7								
KK31				Pg			**Pb**	**18 34 43.1**	**+2.2**
	1.1nm,0.5s,baz=131,slow=18,SNR=8.7								
KK31				↓Sn			**Sn**	**18 35 21.4**	**-5.3**
	1.7nm,0.5s								
KK31				↓Lg			Lg	18 35 47.8	
	1.6nm,0.5s								
KKAR	**Karatay Array**	**4.97**	**316**	↑*eP*			**Pn**	**18 34 29.7**	**+0.9**
KKAR				↑*eS*			**Sn**	**18 35 28.6**	**+2.0**

*IDC **07** 18:36:09.2±0.5,8°.17S×116°.75E,h0km,mb4.3/18, mbtmp4.3/21,ML4.2/3,MS3.7/32,Error ellipse: s-maj=17.3km s-min=11.9km az=74.0*
*NEIC **07** 18:36:11.5±1.9,8°.08S±0°.08×116°.79E±0°.03,h10km±1km, mb4.8/28,Error ellipse: s-maj=13.5km s-min=4.2km az=162.0*
*DJA **07** 18:36:12.7±0.6,8°S±2°×11°7E±°,h15km±6km,M4.7/22, mb4.9/21,mB5.3/13,MLv4.8/22,Mw(mB)4.7/13, MwMwp4.5/4,Mwp4.9/4*
ISC 07 18:36:11.5±0.3,8°.22S±0°.04×116°.78E±0°.05,h10km,n165, σ1$59/143,mb4.5/37,MS3.9/37,5C-1D,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.15**	**122**	P			**Pn**	**18 36 34.1**	**+0.4**
PLAI	**Plampang**	**1.15**	**122**	P			**Pn**	**18 36 33.6**	**-0.1**
PLAI				S			**Sn**	**18 36 51.2**	**+1.7**
SRBI	**Singaraja**	**1.56**	**275**	P			**Pn**	**18 36 39.6**	**+0.3**
DNP	**Denpasar**	**1.62**	**254**	P			**Pn**	**18 36 41.2**	**+1.0**
ABJI	**Asem Bagus**	**2.56**	**279**	P			**Pn**	**18 36 53.8**	**+0.7**
JAGI	**Jajag, Banyuwa**	**2.62**	**264**				**Pn**	**18 36 52.5**	**-1.4**
JAGI	**Jajag, Banyuwa**	**2.62**	**264**	P			**Pn**	**18 36 54.7**	**+0.8**
JAGI	**Jajag, Banyuwa**	**2.62**	**264**	P			**Pn**	**18 36 52.9**	**-1.0**
WBSI	**Waikabubak, Su**	**2.94**	**119**	P			**Pn**	**18 36 59.1**	**+0.8**
KMMI	**Kalianget**	**3.03**	**292**	P			**Pn**	**18 37 01.7**	**+2.2**
BLJI	**Banyuglugur**	**3.19**	**278**	P			**Pn**	**18 37 01.4**	**-0.4**
GMJI	**Gumukmas**	**3.31**	**269**	P			**Pn**	**18 37 03.2**	**-0.2**
BSSI	**Bau Bau, Buton**	**4.22**	**61**	P			**Pn**	**18 37 14.9**	**-1.0**
BASI	**Baing, Sumba**	**4.24**	**118**	P			**Pn**	**18 37 19.3**	**+3.1**
KAPI	**Kappang**	**4.34**	**43**				**Pn**	**18 37 15.8**	**-1.8**
KAPI	**Kappang**	**4.34**	**43**	Pn			**Pn**	**18 37 16.4**	**-1.2**
	8.5nm,0.3s,baz=196,slow=9.9,SNR=28								
KAPI				Sn			**Sn**	**18 38 06.2**	**-2.1**
	16nm,0.3s,baz=214,slow=23,SNR=8.6								
KAPI				Lg			Lg	18 38 25.1	
	27nm,0.3s,baz=328,slow=18,SNR=6.9								
KAPI				LR			LR	18 39 13.1	
	comp=Z,3μm,18.1s,baz=217,slow=42								
	18nm,0.3s								
BKSI	**Bulukumba**	**4.39**	**49**	P			**Pn**	**18 37 18.0**	**-0.3**
PWJI	**Pagerwojo**	**4.94**	**272**	P			**Pn**	**18 37 25.6**	**-0.2**
BNSI	**Bone**	**5.03**	**41**	P			**Pn**	**18 37 28.3**	**+1.2**
	242nm,0.8s,5μm3μm								
SPSI	**Sidrap Palu**	**5.17**	**35**	P			**Pn**	**18 37 28.9**	**-0.1**
MMRI	**Maumere**	**5.41**	**95**				**Pn**	**18 37 31.5**	**-0.9**
MMRI	**Maumere**	**5.41**	**95**	P			**Pn**	**18 37 33.9**	**+1.6**
MMRI	**Maumere**	**5.41**	**95**	P			**Pn**	**18 37 31.6**	**-0.7**
PCJI	**Pacitan**	**5.55**	**270**	P			**Pn**	**18 37 34.3**	**+0.1**
	165nm,1.2s,0.7nm								
TTSI	**Tana Toraja**	**5.96**	**31**	P			**Pn**	**18 37 42.7**	**+2.8**
	89nm,1.1s,2μm2μm0.8nm								
UGM	**Wanagama**	**6.21**	**272**	Pn			**Pn**	**18 37 43.0**	**-0.3**
UGM	**Wanagama**	**6.21**	**272**	P			**Pn**	**18 37 45.7**	**+2.4**
UGM	**Wanagama**	**6.21**	**272**	P			**Pn**	**18 37 45.7**	**+2.4**
BBSI	**Bau Bau**	**6.36**	**65**	P			**Pn**	**18 37 48.3**	**+3.0**
	89nm,1.0s,1μm0.4nm								
BATI	**Baumata**	**7.07**	**107**	Pn			**Pn**	**18 37 54.5**	**-0.7**
	6.9nm,0.3s,baz=318,slow=12,SNR=18								
BATI				Sn			**Sn**	**18 39 18.0**	**+2.3**
	1.9nm,0.3s,baz=244,slow=20,SNR=0.9								
	32nm,0.5s								
BATI	**Baumata**	**7.07**	**107**	P			**Pn**	**18 37 55.9**	**+0.7**
	111nm,0.6s,2μm0.4nm								
MTKI	**Muara Teweh, K**	**7.47**	**345**	P			**Pn**	**18 38 00.2**	**-0.5**
	58nm,0.6s,2μm0.5nm								
SOEI	**Soe**	**7.55**	**102**	Pn			**Pn**	**18 38 02.8**	**+1.0**
SOEI	**Soe**	**7.55**	**102**	P			**Pn**	**18 38 04.1**	**+2.3**
SOEI	**Soe**	**7.55**	**102**	P			**Pn**	**18 38 02.9**	**+1.0**
	133nm,1.1s,4μm								
BBJI	**Bungbulang**	**9.08**	**274**	P			**Pn**	**18 38 25.7**	**+2.9**
LEM	**Lembang**	**9.19**	**278**	Pn			**Pn**	**18 38 25.3**	**+0.8**
	baz=311,slow=19								
SANI	**Sanana**	**11.03**	**57**	P			Pn	18 38 54.0	+4.6
KSM	**Kuching**	**11.60**	**326**	P			Pn	18 39 01.2	+4.0
AAI	**Ambon**	**12.21**	**69**	P			Pn	18 39 10.5	+4.9
FITZ	**Fitzroy Crossi**	**13.06**	**140**	Pn			**Pn**	**18 39 17.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**13.06**	**140**	Pn			**Pn**	**18 39 16.1**	**-1.1**
	0.8nm,0.3s,baz=329,slow=10,SNR=13								
FITZ				Sn			**Sn**	**18 41 41.3**	**-1.4**
	0.7nm,0.3s,baz=154,slow=22,SNR=3.4								
FITZ				LR			LR	18 44 23.0	
	comp=Z,128nm,18.6s,baz=307,slow=38								
	5.3nm,0.6s								
MBWA	**Marble Bar**	**13.17**	**168**				**Pn**	**18 39 17.9**	**-0.8**
MBWA	**Marble Bar**	**13.17**	**168**	P			**Pn**	**18 39 19.2**	**+0.4**
BNDI	**Bandanaira**	**13.55**	**75**	P			**Pn**	**18 39 25.2**	**+1.3**
PSA00	**Pilbara Seismi**	**13.60**	**168**				**Pn**	**18 39 23.4**	**-1.2**
PSA00	**Pilbara Seismi**	**13.60**	**168**	Pn			**Pn**	**18 39 22.6**	**-2.0**
PSA00	**Pilbara Seismi**	**13.60**	**168**	P			**Pn**	**18 39 24.7**	**+0.1**
KNRA	**Kununurra**	**13.86**	**123**	Pn			**Pn**	**18 39 25.8**	**-2.4**
GIRL	**Giralia**	**14.55**	**189**	P			**Pn**	**18 39 37.9**	**+0.3**
MTN	**Manton Dam**	**14.83**	**109**				**Pn**	**18 39 39.6**	**-2.0**
SWI	**Sorong**	**16.17**	**64**	P			**P**	**18 40 02.6**	**+0.4**
FAKI	**Fak Fak**	**16.26**	**72**				**Pn**	**18 40 00.7**	**+0.4**
FAKI					IAmb		IAmb	18 40 07.6	
	comp=Z,33nm,0.7s								
FAKI	**Fak Fak**	**16.26**	**72**	P			**P**	**18 40 01.5**	**-1.8**
FAKI	**Fak Fak**	**16.26**	**72**	P			**Pn**	**18 39 59.8**	**-0.5**
	comp=Z,52nm,1.2s,comp=Z,869nm								
DAV	**Davao City (W)**	**17.54**	**30**	P			**P**	**18 40 21.0**	**+3.6**
	comp=Z,102nm,0.4s,baz=64,slow=14,SNR=1.2								
MEEK	**Meekatharra**	**18.40**	**175**	P			**P**	**18 40 28.5**	**+1.6**
WRKA	**Warakurna**	**20.01**	**148**	P			**P**	**18 40 45.8**	**+1.2**
WB0	**Warramunga Arr**	**20.56**	**126**	P			**P**	**18 40 50.2**	**-0.3**
WB0					IAmb		IAmb	18 40 51.3	
	comp=Z,34nm,0.7s								
WRA	**Warramunga Arr**	**20.61**	**126**	P			**P**	**18 40 50.0**	**-1.1**
WRA	**Warramunga Arr**	**20.61**	**126**	P			**P**	**18 40 50.7**	**-0.4**
	comp=Z,24nm,0.6s,baz=302,slow=12,SNR=153								
WRA				S			**S**	**18 44 36.3**	**-5.3**
	comp=Z,1.6nm,0.9s,

PZH pmax pmax
comp=Z,120nm,6.5s
PZH LR LR
comp=N,300nm,19.2s
PZH LR LR
comp=E,360nm,17.6s
PZH LR LR
comp=Z,340nm,20.0s
NJ2 Nanjing 40.09 3 *e*P **P 18 43 48.7 +1.4**
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
SHL Shillong 41.41 325 P **P 18 43 57.2 -1.4**
SHL IAmb IAmb 18 44 03.9
comp=Z,20nm,0.9s
XAN Xi'an 42.69 350 *e*P **P 18 44 10.4 +1.7**
XAN S **S 18 50 38.5 +6.3**
XAN Xi'an 42.69 350 ScS ScS 18 54 23.3 +13
XAN pmax pmax
comp=Z,5.0nm,0.8s
XAN LR LR
comp=N,230nm,17.9s
XAN LR LR
comp=E,200nm,15.1s
XAN LR LR
comp=Z,330nm,17.2s
JNU Nakatsue 43.25 17 LR LR 19 03 33.8
comp=Z,42nm,20.6s,baz=196,slow=38
HNS HongShan 45.42 358 *e*P **P 18 44 34.0 +3.5**
HNS LR LR
comp=N,210nm,14.3s
HNS LR LR
comp=Z,170nm,17.3s
LZH Lanzhou 45.72 345 *e*P P 18 44 26.1 -7.1
LZH sP pP 18 44 34.6 -1.6
LZH pmax pmax
comp=Z,11nm,1.1s
LZH LR LR
comp=N,160nm,14.8s
LZH LR LR
comp=E,170nm,13.4s
JHJ Hachijo jima 2 46.58 27 LR LR 19 05 06.8
comp=E,87nm,18.1s,baz=290,slow=37
KSAR Wonju Array Be 46.60 12 P **P 18 44 37.8 -2.0**
KSRS Korea Array 46.62 12 LR LR 19 05 40.7
comp=E,21nm,20.3s,baz=200,slow=38
MJAR Matsushiro Arr 48.86 23 P **P 18 44 55.8 -1.6**
comp=E,2.6nm,0.9s,baz=179,slow=9.7,SNR=3.0
MJAR LR LR 19 03 57.2
comp=E,39nm,21.4s,baz=186,slow=34
comp=E,2.6nm,0.9s
BTO Baotou 48.98 353 *e*P P 18 45 04.8 +6.4
BTO pP sP 18 45 16.6 +14
BTO sP pP 18 45 22.8 +21
BTO pmax pmax
comp=Z,20nm,1.6s
BTO pmax pmax
comp=Z,270nm,5.0s
HHC Hu-ho-hao-te 49.06 355 *e*P P 18 45 03.1 +4.1
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,35nm,3.5s
HHC LR LR
comp=N,74nm,10.9s
HHC LR LR
comp=E,110nm,10.1s
HHC LR LR
comp=Z,96nm,13.5s
DZM Mont Dzumac 49.65 112 LR LR 19 06 59.1
comp=Z,111nm,18.1s,baz=284,slow=37
GTA Gaotai 49.94 343 *e*P **P 18 45 06.2 +0.4**
GTA sP sP 18 45 12.9 +2.9
GTA pmax pmax
comp=Z,7.0nm,1.5s
YATNC Mamie plateau, 50.06 112 P **P 18 45 08.3 +1.4**
CN2 Changchun 52.37 8 *e*P **P 18 45 23.4 -0.4**
CN2 *e*S **S 18 52 46.4 -3.1**
MDJ Mudanjiang 53.85 11 P **P 18 45 35.6 +0.9**
MDJ pmax pmax
comp=Z,6.0nm,1.1s
USRK Ussuriysk Ar. 53.96 13 P **P 18 45 33.3 -2.2**
USRK Ussuriysk Ar. 53.96 13 P **P 18 45 34.5 -1.0**
comp=Z,2.8nm,0.7s,baz=177,slow=7.3,SNR=7.0
comp=Z,2.8nm,0.7s
BNX BinXian 54.55 9 ⇓P P 18 45 43.8 +4.0
BNX pmax pmax
comp=Z,7.0nm,1.5s
SONM Songino Array 56.56 352 P **P 18 45 53.4 -1.0**
SONM Songino Array 56.56 352 P **P 18 45 53.8 -0.6**
comp=Z,2.1nm,0.6s,baz=170,slow=9.0,SNR=15
SONM LR LR 19 13 03.5
comp=Z,54nm,18.2s,baz=167,slow=39
comp=Z,2.1nm,0.6s
WMQ Urumqi 58.12 336 *e*P **P 18 46 07.0 +1.6**
WMQ pmax pmax
comp=Z,14nm,0.7s
KLR Kul'dur 58.70 11 LR LR 19 14 35.6
comp=Z,33nm,18.2s,baz=210,slow=39
HEH HeiHe 58.96 8 *e*P **P 18 46 10.4 -0.6**
HEH pmax pmax
comp=Z,7.0nm,0.8s
HEH pmax pmax
comp=Z,130nm,4.6s
WUS Wushi 60.08 328 IAmb IAmb 18 46 24.1
comp=Z,8.7nm,1.1s
KSH Kashi 60.69 325 P **P 18 46 23.2 -0.2**
KSH sP sP 18 46 31.5 +3.9
KSH pmax pmax
comp=Z,3.0nm,1.9s
URZ Urewera 61.75 129 LR LR 19 13 39.2
comp=Z,106nm,18.9s,baz=31,slow=36
MK31 Makanchi Array 62.79 334 P **P 18 46 36.5 -0.7**
MK31 IAmb IAmb 18 46 41.9
comp=Z,5.5nm,0.9s
MKAR Makanchi Array 62.79 334 P **P 18 46 36.6 -0.6**
MKAR Makanchi Array 62.79 334 P **P 18 46 36.7 -0.5**
comp=Z,4.4nm,0.8s,baz=145,slow=7.7,SNR=28
comp=Z,4.4nm,0.8s
MAKZ Makanchi 62.93 334 P **P 18 46 37.2 -0.9**
MAKZ IAmb IAmb 18 46 42.7
comp=Z,6.0nm,1.1s
AAK Ala-Archa 63.61 326 P **P 18 46 43.2 +0.3**
KURBB Kurchatov Arra 67.32 335 P **P 18 47 05.6 -0.9**
comp=Z,1.0nm,0.3s,baz=147,slow=5.5,SNR=8.8
comp=Z,1.0nm,0.3s
ZAA0 Zalesovo Array 67.56 340 IAmb IAmb 18 47 11.7
comp=Z,5.9nm,0.9s
ZALV Zalesovo Beam 67.56 340 P **P 18 47 06.4 -1.5**
ZALV Zalesovo Beam 67.56 340 P **P 18 47 06.6 -1.4**
comp=Z,3.3nm,0.8s,baz=154,slow=5.2,SNR=12
comp=Z,3.3nm,0.8s
MAW Mawson 69.23 199 P **P 18 47 18.6 +0.4**
comp=Z,2.2nm,0.6s,baz=40,slow=8.9,SNR=4.5
comp=Z,2.2nm,0.6s
PETK Petropavlovsk- 70.27 25 P **P 18 47 24.9 0.0**
comp=Z,1.7nm,0.7s,baz=210,slow=8.3,SNR=1.4
PETK LR LR 19 20 36.9
comp=Z,29nm,18.2s,baz=140,slow=38
comp=Z,1.7nm,0.7s
YAK Yakutsk 70.75 6 P **P 18 47 26.1 -1.5**
BVAR Borovoye Array 72.59 333 P **P 18 47 37.1 -1.8**
comp=Z,0.7nm,0.7s,baz=132,slow=6.4,SNR=6.0
comp=Z,0.7nm,0.7s
MA2 Magadan 72.82 17 LR LR 19 22 56.5
comp=Z,14nm,18.8s,baz=220,slow=39
ABKAR Akbulak array 75.68 326 P **P 18 47 54.4 -2.6**
SEY Seymchan 76.00 16 P **P 18 47 59.3 +0.7**
comp=Z,1.3nm,0.7s,baz=247,slow=7.7,SNR=1.1
comp=Z,1.3nm,0.7s
KMBO Kilima Mbogo 79.48 270 LR LR 19 18 10.8
comp=Z,98nm,21.7s,baz=90,slow=32
TIXI Tiksi 80.11 4 P **P 18 48 19.8 -1.4**
TIXI Tiksi 80.11 4 P **P 18 48 19.6 -1.6**
comp=Z,2.5nm,0.3s,baz=163,slow=4.6,SNR=3.4
TIXI LR LR 19 27 24.6
comp=Z,41nm,18.5s,baz=222,slow=38
comp=Z,2.5nm,0.3s
QSPA South Pole Qui 81.77 180 P **P 18 48 30.6 +0.1**
QSPA IAmb IAmb 18 48 46.0
comp=Z,13nm,1.3s
QSPA South Pole Qui 81.77 180 P **P 18 48 29.7 -0.7**
comp=Z,1.1nm,0.7s,baz=259,slow=1.0,SNR=6.7
QSPA LR LR 19 25 25.4
comp=Z,70nm,18.0s,baz=8.5,slow=36
comp=Z,1.1nm,0.7s
BELG Belogornoye 84.06 325 LR LR 19 30 49.3
comp=Z,55nm,20.0s,baz=109,slow=39

MBAR Mbarara 86.00 270 LR LR 19 23 30.9
comp=Z,67nm,19.0s,baz=80,slow=33
EIL Elat 87.00 300 LR LR 19 29 54.2
comp=Z,26nm,19.9s,baz=68,slow=37
BOSA Boshof 87.45 242 P **P 18 48 59.2 -0.8**
comp=Z,1.9nm,0.8s,baz=51,slow=1.6,SNR=4.1
BOSA LR LR 19 20 59.8
comp=Z,71nm,21.6s,baz=102,slow=31
comp=Z,1.9nm,0.8s
LBTB Lobatse 87.64 245 LR LR 19 21 45.6
comp=Z,38nm,21.4s,baz=98,slow=31
TROLL Troll, Antarti 89.50 196 ⇑P **P 18 49 10.1 +1.3**
comp=Z,146nm,0.6s
SUR Sutherland 90.66 237 LR LR 19 23 01.8
comp=Z,78nm,21.2s,baz=130,slow=31
SNAA Sanae 91.15 196 P **P 18 49 17.4 +1.0**
SNAA Sanae 91.15 196 ⇑P **P 18 49 17.3 +0.8**
comp=Z,60nm,0.7s
SNAA Sanae 91.15 196 P **P 18 49 17.2 +0.8**
comp=Z,2.3nm,0.8s,baz=176,slow=6.1,SNR=27
SNAA LR LR 19 24 59.0
comp=Z,96nm,20.3s,baz=189,slow=32
comp=Z,2.3nm,0.8s
VNA2 Neumayer--Watz 92.79 196 ⇑P **P 18 49 24.4 +0.5**
comp=Z,2.8nm,0.6s,baz=124,slow=3.5
VNA3 Neumayer Olymp 93.20 195 ⇑P **P 18 49 25.1 -0.8**
comp=Z,1.5nm,0.7s
TSUM Tsumeb 95.92 250 LR LR 19 26 50.2
comp=Z,51nm,21.3s,baz=128,slow=32
FINES FINESS Array B 97.50 331 LR LR 19 38 06.4
comp=Z,70nm,18.2s,baz=281,slow=38
ARCESS ARCESS Array B 98.09 339 LR LR 19 39 31.8
comp=Z,70nm,20.8s,baz=222,slow=39
TORD Torodi Ar. Bea 116.17 281 PKP **PKPdf 18 54 53.4 -2.7**
comp=Z,0.6nm,0.5s,baz=70,slow=2.1,SNR=6.6
CPUP Villa Florida 145.18 189 PKPbc **PKPbc 18 55 47.9 -1.8**
comp=Z,5.3nm,1.0s,baz=125,slow=4.1,SNR=5.7
BDFB Brasilia 151.91 212 PKPbc **PKPdf 18 56 04.9 +3.4**
comp=Z,2.0nm,0.5s,baz=138,slow=3.3,SNR=3.8
LPAZ La Paz 155.17 169 PKPab **PKPab 18 56 31.4 +0.1**
comp=Z,2.3nm,0.6s,baz=182,slow=6.4,SNR=6.6

DJA 07 18:40:38.3±1.6, 4°.5±4°.×10°.2E±°, h22km±14km, M3.6/7, MLv3.6/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.26**	**118**	P	Pn	18 40 59.8	-0.8
MNAI				S	Sn	18 41 16.1	-0.8
PPSI	**Pulau Pagai**	**2.08**	**299**	P	Pn	18 41 12.7	+0.8
PPSI				S	Sn	18 41 37.3	+0.1
LWLI	**Liwa**	**2.54**	**119**	P	Pn	18 41 19.5	+1.2
PDSI	**Padang**	**3.15**	**334**	P	Pn	18 41 26.9	+0.2
KASI	**Kota Agung**	**3.17**	**123**	P	Pn	18 41 27.8	+0.9
SISI	**Saibi**	**3.67**	**311**	P	Pn	18 41 33.9	+0.2

IDC 07 18:49:27.1±2.3, 7°.14S×127°.70E, h0km, mb3.8/1, mbtmp3.5/3, ML3.6/2, Error ellipse: s-maj=296.8km s-min=30.6km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.27**	**154**	Pn	Pn	18 52 48.8	-1.8
	0.3nm,0.3s,baz=329,slow=13,SNR=9.2						
WRA				Sn	Sn	18 55 18.6	-11
	0.1nm,0.3s,baz=332,slow=23,SNR=1.3						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**17.48**	**161**	P	P	18 53 33.7	-0.1
	0.2nm,0.3s,baz=340,slow=11,SNR=16						
ASAR				S	Sn	18 56 41.6	-6.3
	0.5nm,1.1s,baz=302,slow=29,SNR=1.6						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**67.11**	**328**	P	P	19 00 22.6	0.0
	0.5nm,0.4s,baz=116,slow=7.8,SNR=10						
	0.5nm,0.4s						

*ATH **07** 18:52:48.0, 37°.64N×20°.84E, h14km±1km, ML3.1/5, Error ellipse: s-maj=3.0km s-min=1.3km az=23.0*
*THE **07** 18:52:47.5, 37°.60N×20°.84E, h12km±1km, ML3.1/6, Error ellipse: s-maj=1.8km s-min=1.2km az=223.0*
ISC 07 18:52:47.7±1.5, 37°.63N±0°.07×20°.84E±0°.05, h13km±6km, n19, σ0°.52/29, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.04**	**325**	P	**Pg**	**18 52 50.2**	**+0.1**
KRI1				S	**Sg**	**18 52 51.9**	**+0.1**
	29μm,0.6s						
LTHK	**Lithakia**	**0.08**	**356**	P	**Pg**	**18 52 50.5**	**0.0**
LTHK				S	**Sg**	**18 52 52.4**	**0.0**
	27μm,0.5s						
LTHK	**Lithakia**	**0.08**	**356**	P	**Pg**	**18 52 50.4**	**0.0**
LTHK				S	**Sg**	**18 52 52.3**	**0.0**
LTHK				AML	AML	18 52 53.0	
	comp=N,58837μm,0.4s						
LTHK				AML	AML	18 52 53.0	
	comp=E,29554μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.45**	**353**	P	**Pg**	**18 52 57.1**	**+0.6**
RTZL				S	**Sb**	**18 53 04.4**	**+0.5**
	comp=E,4μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.52**	**337**	P	**Pg**	**18 52 57.9**	**0.0**
PSDA				S	**Sg**	**18 53 05.9**	**+1.0**
	comp=E,2μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.52**	**337**	P	**Pg**	**18 52 58.3**	**+0.4**
VLS	**Valsamata**	**0.58**	**340**	P	**Pg**	**18 52 58.9**	**-0.1**
VLS				S	**Sb**	**18 53 08.5**	**+0.7**
	comp=E,812nm,0.2s						
VLS	**Valsamata**	**0.58**	**340**	P	**Pg**	**18 52 58.6**	**-0.4**
VLS				S	**Sg**	**18 53 07.5**	**+0.8**
VLS				AML	AML	18 53 09.3	
	comp=E,1622μm,0.2s						
VLS				AML	AML	18 53 09.4	
	comp=N,1592μm,0.2s						
LXRA	**Lixouri, Kepha**	**0.65**	**331**	P	**Pg**	**18 52 59.9**	**-0.4**
RLS	**Riolos of Patr**	**0.65**	**49**	P	**Pg**	**18 53 00.0**	**-0.4**
RLS				S	**Sb**	**18 53 10.1**	**+0.3**
	comp=N,1μm,0.5s						
RLS	**Riolos of Patr**	**0.65**	**49**	P	**Pg**	**18 53 00.3**	**-0.1**
RLS				S	**Sg**	**18 53 09.8**	**+0.8**
AMT	**Artemida-Makis**	**0.69**	**98**	P	**Pg**	**18 53 01.4**	**+0.2**
AMT				S	**Sg**	**18 53 10.6**	**+0.2**
AMT				AML	AML	18 53 13.1	
	comp=E,7489μm,0.4s						
AMT				AML	AML	18 53 16.1	
	comp=N,8017μm,0.4s						
DMLN	**Damoulianata-K**	**0.71**	**329**	P	**Pg**	**18 53 01.3**	**-0.2**
DMLN	**Damoulianata-K**	**0.71**	**329**	P	**Pg**	**18 53 01.8**	**+0.3**
DRO	**Drossia**	**0.76**	**65**	P	**Pb**	**18 53 02.9**	**+0.2**
DRO				AML	AML	18 53 17.5	
	comp=E,3156μm,0.5s						
DRO				AML	AML	18 53 17.7	
	comp=N,2334μm,0.7s						
FSK	**Fiskardo**	**0.85**	**345**	P	**Pg**	**18 53 03.2**	**-1.0**
EFP	**Efpalio**	**1.16**	**46**	P	**Pb**	**18 53 08.8**	**-0.6**
GUR	**Goura**	**1.23**	**75**	P	**Pn**	**18 53 10.7**	**+0.1**
ANX	**Ano Chora**	**1.28**	**41**	P	**Pn**	**18 53 10.3**	**-1.1**
ANX				AML	AML	18 53 37.0	
	comp=E,1134μm,0.7s						
ANX				AML	AML	18 53 37.4	
	comp=N,1535μm,0.5s						

*IDC **07** 19:04:48.6±1.0, 2°.76S×119°.70E, h0km, mb3.4/7, mbtmp3.4/8, ML3.7/1, MS3.0/2, Error ellipse: s-maj=55.5km s-min=16.3km az=73.0*
*DJA **07** 19:04:51.4±0.3, 3°.5±2°.×11°.9E±°, h10km, M4.2/13, mb4.4/3, mB5.2/1, MLv4.2/13, Mw(mB)4.6/1*
ISC 07 19:04:50.4±0.9, 2°.99S±0°.04×119°.45E±0°.07, h10km, n22, σ1°.35/21, mb3.7/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.37**	**98**	P	**Pg**	**19 04 57.9**	**+0.1**
TTSI				S	**Sb**	**19 05 04.5**	**-0.5**
SPSI	**Sidrap Palu**	**1.02**	**162**	P	**Pg**	**19 05 09.6**	**-0.4**
SPSI				S	**Sg**	**19 05 19.7**	**-3.6**
BNSI	**Bone**	**1.55**	**155**	P	**Pb**	**19 05 19.5**	**+0.4**
KAPI	**Kappang**	**2.03**	**171**	Pn	**Pn**	**19 05 25.6**	**+0.9**
	19nm,0.3s,baz=338,slow=9.8,SNR=22						
KAPI				Sn	**Sg**	**19 05 55.4**	**-0.4**
	43nm,0.3s,baz=48,slow=23,SNR=6.5						
	37nm,0.3s						
BKSI	**Bulukumba**	**2.41**	**164**	P	**Pn**	**19 05 32.2**	**+2.3**

APSI Ampana 3.02 47 P **Pn 19 05 39.1 +0.9**
BSSI Bau Bau, Buton 3.30 162 P **Pn 19 05 43.5 +1.4**
MPSI Mapaga 3.33 8 P **Pn 19 05 43.7 +1.1**
LUWI Luwuk 3.84 60 P **Pn 19 05 49.7 +0.1**
BBSI Bau Bau 3.98 129 P **Pb 19 06 02.2 +1.5**
KMSI Cibinong 5.75 52 P **Pn 19 06 16.1 +0.3**
103nm,0.8s,2μm
PLAI Plampang 6.03 196 P Pn 19 06 26.8 +7.1
WBSI Waikabubak, Su 6.61 180 P **Pn 19 06 28.7 +1.0**
BATI Baumata 8.30 150 LR LR 19 10 31.2
comp=Z,160nm,18.3s,baz=48,slow=41
WRA Warramunga Arr 22.25 140 P **P 19 09 47.9 +0.2**
0.5nm,0.9s,baz=317,slow=11,SNR=10.0
0.5nm,0.9s
ASAR Alice Springs 24.86 147 P **P 19 10 14.8 +1.5**
0.3nm,0.8s,baz=329,slow=8.9,SNR=2.4
0.3nm,0.8s
CMAR Chiang Mai Arr 29.36 317 LR LR 19 23 33.0
comp=Z,17nm,19.5s,baz=150,slow=38
KSRS Korea Array 41.00 10 P P 19 12 29.3 -4.3
1.1nm,0.8s,baz=236,slow=13,SNR=1.9
1.1nm,0.8s
SONM Songino Array 51.89 349 P **P 19 13 57.7 -1.5**
0.6nm,0.6s,baz=157,slow=7.8,SNR=5.0
0.6nm,0.6s
MKAR Makanchi Array 59.39 331 P **P 19 14 53.4 +0.3**
0.5nm,0.8s,baz=138,slow=7.4,SNR=2.8
0.5nm,0.8s
ZALV Zalesovo Beam 63.65 338 P **P 19 15 21.4 -0.2**
0.4nm,0.5s,baz=169,slow=8.5,SNR=1.1
0.4nm,0.5s
KURBB Kurchatov Arra 63.85 332 P **P 19 15 21.8 -1.2**
0.1nm,0.3s,baz=133,slow=6.5,SNR=0.9
0.1nm,0.3s

*SDD **07** 19:20:18.3±1.8, 19°.73N×69°.93W, h21km±8km, MD2.9, ML2.9, MW3.3*
*OSPL **07** 19:20:27.8±2.7, 19°.47N×70°.11W, h50km±17km, ML2.5*
ISC 07 19:20:19.8±0.9, 19°.57N±0°.04×69°.96W±0°.03, h12km±6km, n18, σ1°.09/28, 6C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADR	**Cabrera**	**0.10**	**10**	⇑*e*P*g*	**Pg**	**19 20 22.0**	**-0.6**
CADR				*e*S*g*	**Sg**	**19 20 24.7**	**0.0**
CADR				IAML		19 20 25.4	
	comp=N,6μm,0.2s						
CADR				IAML		19 20 28.2	
	comp=E,4μm,0.2s						
NADR	**Nagua**	**0.24**	**156**	⇑*e*P*g*	**Pg**	**19 20 24.7**	**-0.1**
NADR				*e*S*g*	**Sb**	**19 20 30.2**	**+2.0**
NADR				IAML		19 20 30.9	
	comp=N,2μm,0.2s						
NADR				IAML		19 20 33.5	
	comp=E,2μm,0.2s						
NADR				*e*		19 20 39.8	
SFDR	**San Fco. de Ma**	**0.39**	**223**	⇓*e*P*g*	**Pg**	**19 20 27.7**	**0.0**
SFDR				*e*S*g*	**Sb**	**19 20 35.0**	**+0.3**
SFDR				IAML		19 20 37.4	
	comp=N,998nm,0.3s						
SC01	**Santiago de lo**	**0.74**	**259**	*e*S	**Sn**	**19 20 47.9**	**+0.5**
SC01				IAML		19 20 55.1	
	comp=Z,223nm,0.4s						
HATOM	**Hato Mayor del**	**0.95**	**145**	⇑*e*P*g*	**Pb**	**19 20 37.0**	**-1.3**
HATOM				⇑*e*S*g*	**Sn**	**19 20 51.0**	**-1.6**
HATOM				IAML		19 20 52.1	
	comp=E,139nm,0.3s						
HATOM				IAML		19 20 52.1	
	comp=N,76nm,0.2s						
ABDR	**Alto Bandera**	**0.99**	**220**	⇓*e*P*g*	**Pb**	**19 20 37.2**	**-1.9**
ABDR				*e*S*g*	**Sb**	**19 20 52.7**	**+0.5**
ABDR				IAML		19 20 53.7	
	comp=N,346nm,0.4s						
ABDR				IAML		19 20 54.5	
	comp=E,275nm,0.3s						
SDD	**Santo Domingo**	**1.11**	**178**	*e*S	**Sn**	**19 20 56.6**	**+0.1**
BANI	**BANI**	**1.23**	**198**	⇑*e*P*g*	**Pn**	**19 20 42.0**	**-1.1**
BANI				*e*S*g*	**Sg**	**19 21 00.9**	**+1.2**
BANI				IAML		19 21 02.0	
	comp=E,303nm,0.6s						
BANI				IAML		19 21 02.6	
	comp=N,380nm,0.2s						
SDDR	**Presa de Saban**	**1.39**	**245**	*i* P	**Pb**	**19 20 45.9**	**+0.1**
SDDR				*e*S	**Sb**	**19 21 04.1**	**+0.7**
SDDR				IAML		19 21 08.4	
	comp=Z,35nm,0.7s						
LONE3	**El Aguacate, B**	**1.72**	**236**	*i* P	**Pb**	**19 20 51.1**	**-0.3**
LONE3				IAML		19 21 17.5	
	comp=Z,48nm,0.5s						
PCDR	**Punta Cana, DR**	**1.82**	**125**	*i* P	**Pg**	**19 20 57.3**	**+2.4**
PCDR				*e*S	**Sg**	**19 21 17.7**	**-0.9**
PCDR				IAML		19 21 23.1	
	comp=Z,81nm,0.5s						
PODR	**Polo**	**1.88**	**222**	⇑*e*P*g*	**Pb**	**19 20 53.2**	**-1.0**
PODR				*e*S*g*	**Sn**	**19 21 16.6**	**+0.9**
PODR				IAML		19 21 23.8	
	comp=N,40nm,0.5s						
PODR				IAML		19 21 28.6	
	comp=E,48nm,0.8s						
PODR	**Polo**	**1.88**	**222**	*i* P	**Pb**	**19 20 54.3**	**0.0**
PODR				IAML		19 21 25.9	
	comp=Z,42nm,1.2s						
LODU1	**El Espartillar**	**1.88**	**230**	*i* P	**Pb**	**19 20 53.9**	**-0.3**
LODU1				IAML		19 21 32.0	
	comp=Z,52nm,0.9s						
LOVI	**El Cajuil, Ovi**	**2.21**	**217**	*i* P	**Pb**	**19 20 59.1**	**-0.7**
LOVI				IAML		19 21 31.8	
	comp=Z,65nm,0.9s						
GRTK	**Grand Turk**	**2.22**	**330**	*i* P	**Pg**	**19 21 03.1**	**+0.6**
GRTK				*e*S	**Sn**	**19 21 25.0**	**+1.1**
GRTK				IAML		19 21 26.0	
	comp=Z,28nm,1.2s						
LOBH	**Bahia de las A**	**2.33**	**223**	*i* P	**Pb**	**19 21 00.5**	**-1.3**
CRPR	**Cabo Rojo, PR**	**3.12**	**120**	*i* P	**Pb**	**19 21 14.9**	**-0.3**
CRPR				IAML		19 21 53.1	
	comp=Z,30nm,2.8s						

*IDC **07** 19:38:22.7±8.6, 7°.22S×130°.25E, h136km±88km, mb3.1/2, mbtmp3.7/6, Error ellipse: s-maj=76.9km s-min=26.7km az=38.0*
ISC 07 19:38:21.1±1.4, 7°.29S±0°.10×130°.27E±0°.08, h100km, n13, σ3°.34/15, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.23**	**124**	P	**Pn**	**19 38 47.3**	**+3.1**
BNDI	**Bandanaira**	**2.77**	**353**	P	Pn	19 38 57.5	-6.4
FAKI	**Fak Fak**	**4.77**	**25**	P	Pn	19 39 22.4	-8.4
DRS	**Darwin Rock St**	**5.15**	**173**	P	**Pn**	**19 39 39.8**	**+3.9**
MTN	**Manton Dam**	**5.58**	**171**	P	**Pn**	**19 39 46.0**	**+4.2**
KDU	**Kakadu**	**5.79**	**158**	P	**Pn**	**19 39 47.8**	**+3.2**
SOEI	**Soe**	**6.42**	**247**	P	**Pn**	**19 39 55.8**	**+2.5**
BATI	**Baumata**	**7.14**	**246**	P	**Pn**	**19 40 05.5**	**+2.5**
	12nm,0.3s,baz=115,slow=7.4,SNR=12						
BATI				S	**Sn**	**19 41 25.5**	**+2.8**
	4.4nm,0.2s,baz=35,slow=9.4,SNR=3.6						
FITZ	**Fitzroy Crossi**	**11.65**	**202**	P	**Pn**	**19 41 04.2**	**0.0**
	3.8nm,0.3s,baz=28,slow=12,SNR=41						
FITZ				S	**Sn**	**19 43 08.7**	**-3.6**
	1.7nm,0.3s,baz=96,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**13.18**	**163**	P	**Pn**	**19 41 25.0**	**+0.5**
	0.2nm,0.2s,baz=346,slow=14,SNR=8.1						
WRA				S	**Sn**	**19 43 46.2**	**-3.5**
	1.0nm,0.4s,baz=336,slow=22,SNR=7.9						
ASAR	**Alice Springs**	**16.65**	**168**	P	**Pn**	**19 42 10.8**	**+2.2**
	0.5nm,0.8s,baz=344,slow=9.6,SNR=15						
ASAR				S	**Sn**	**19 45 10.1**	**-3.5**
	0.6nm,0.8s,baz=349,slow=25,SNR=7.0						
MKAR	**Makanchi Array**	**68.61**	**327**	P	**P**	**19 49 10.7**	**-2.7**
	0.3nm,0.5s,baz=145,slow=5.3,SNR=5.3						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**72.89**	**328**	P	**P**	**19 49 36.1**	**-3.2**
	0.3nm,0.7s,baz=108,slow=5.0,SNR=1.5						
	0.3nm,0.7s						

ISC 07 19:46:26.0±1.2, 45°.18N±0°.04×14°.60E±0°.07, h14km±13km, n8, σ0°.43/14, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDS	**Knezji Dol**	**0.38**	**336**	*i* P*g*	**Pg**	**19 46 33.7**	**+0.1**
KNDS				*i* S*g*	**Sb**	**19 46 40.0**	**-0.3**
GBRS	**Gornja Briga**	**0.38**	**23**	*i* P*g*	**Pg**	**19 46 33.2**	**-0.5**

GBRS				*i* Sg	**Sg**	**19 46 39.3**	**+0.4**
GBRS				IAML		19 46 40.0	
	comp=Z,4.1nm,0.1s						
RABC	**Rab**	**0.45**	**163**	*e*Pg	**Pg**	**19 46 34.7**	**-0.3**
RABC				Sg	**Sb**	**19 46 41.9**	**-0.4**
SKDS	**Skadanscina**	**0.55**	**312**	*i* Pg	**Pg**	**19 46 36.7**	**-0.1**
SKDS				*i* Sg	**Sb**	**19 46 45.8**	**+0.6**
NVLJ	**Novalja**	**0.65**	**162**	*e*Pg	**Pg**	**19 46 38.5**	**-0.2**
NVLJ				Sg	**Sb**	**19 46 48.5**	**+0.6**
BRJN	**Brijuni**	**0.66**	**246**	*e*Pg	**Pn**	**19 46 40.7**	**-0.2**
BRJN				Sg	**Sn**	**19 46 50.7**	**-0.4**
VIRC	**Vir**	**0.95**	**160**	*e*Pg	**Pg**	**19 46 44.2**	**-0.1**
DUGI	**Dugi Otok**	**1.23**	**164**	*e*Pn	**Pn**	**19 46 49.3**	**+0.4**

*IDC **07** 20:15:17.3±1.6, 32°.28N×49°.65E, h0km, mb3.7/8, mbtmp3.7/9, ML2.9/1, MS3.3/1, Error ellipse: s-maj=34.7km s-min=24.5km az=5.0*
*TEH **07** 20:15:18.6, 32°.27N×49°.62E, h8km±45km, ML3.4*
*DSN **07** 20:15:22.8±1.4, 31°.92N×49°.67E, h10km, ML3.1/4, Error ellipse: s-maj=16.8km s-min=9.4km az=9.0*
*OMAN **07** 20:15:22.4±1.4, 32°.12N×49°.95E, h10km, mb4.0/20, Error ellipse: s-maj=15.6km s-min=12.1km az=101.0*

ISC 07 20:15:18.6±0.6, 32°.30N±0°.04×49°.65E±0°.03, h10km, n78, σ2s10/94, mb3.7/7, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZNGN	**Zangian**	**1.04**	**100**	Pg	**Pb**	**20 15 39.4**	**+0.4**
AHWZ	**Ahwaz**	**1.29**	**222**	Pg	**Pg**	**20 15 43.7**	**+0.3**
IBRJ	**Brojen**	**1.43**	**105**	Pg	**Pg**	**20 15 47.4**	**+1.4**
BMDN	**Meydan**	**1.53**	**333**	Pg	**Pg**	**20 15 48.8**	**+0.7**
IKLH	**Kolahrood**	**1.92**	**58**	Pn	**Pb**	**20 15 55.1**	**+1.1**
IDOB	**Doab**	**1.93**	**321**	Pn	**Pb**	**20 15 54.7**	**+0.6**
IKFM	**Kafar-mosalman**	**1.94**	**309**	Pn	**Pb**	**20 15 54.8**	**+0.7**
IGAR	**Gharneh**	**2.03**	**86**	Pn	**Pb**	**20 15 56.5**	**+0.7**
QAMS	**Qamsar**	**2.05**	**45**	Pn	**Pb**	**20 15 57.0**	**+0.8**
HSAM	**Samen**	**2.10**	**336**	Pn	**Pb**	**20 15 57.2**	**+0.2**
KLNJ	**Kolanjah**	**2.10**	**127**	Pn	**Pb**	**20 15 57.2**	**+0.2**
IZEF	**Zefreh**	**2.34**	**75**	Pn	**Pb**	**20 16 01.0**	**-0.1**
IRAM	**Ramesheh**	**2.37**	**101**	Pn	**Pb**	**20 16 01.1**	**-0.6**
KRSH	**Karshahi**	**2.67**	**51**	Pn	**Pb**	**20 16 05.7**	**-0.9**
IQOM	**Qom**	**2.80**	**25**	Pn	**Pb**	**20 16 07.9**	**-1.1**
ISFB	**Sefidab**	**2.98**	**46**	Pn	**Pb**	**20 16 09.9**	**-2.1**
SNQR	**Sonqor, Kerman**	**3.06**	**327**	Pn	**Pn**	**20 16 10.0**	**+2.7**
IRAZ	**Razeghan**	**3.11**	**4**	Pn	**Pb**	**20 16 11.8**	**-2.3**
ILBA	**Ilam Banvizeh**	**3.18**	**295**	Pn	**Pn**	**20 16 10.6**	**+1.8**
IVRN	**Varamin**	**3.20**	**32**	Pn	**Pn**	**20 16 12.7**	**+3.6**
IGHG	**Ghaleghazi**	**3.28**	**309**	Pn	**Pn**	**20 16 13.1**	**+2.8**
QABG	**Abgarm-Qazvin**	**3.40**	**359**	Pn	**Pb**	**20 16 16.0**	**-3.2**
ILIN	**Lien**	**3.44**	**320**	Pn	**Pn**	**20 16 14.9**	**+2.4**
ANAR	**Anarak**	**3.55**	**74**	Pn	**Pn**	**20 16 17.6**	**+3.6**
IDHR	**Dehrash**	**3.62**	**312**	Pn	**Pn**	**20 16 17.6**	**+2.5**
AHBU	**AHRAM**	**3.71**	**157**	Pn	**Pn**	**20 16 18.9**	**+2.9**
IDMV	**Damavand**	**3.82**	**31**	Pn	**Pn**	**20 16 21.6**	**+3.8**
ICHK	**Chekchek**	**4.03**	**90**	Pn	**Pn**	**20 16 23.9**	**+3.2**
ILAS	**Lasjerd**	**4.13**	**41**	Pn	**Pn**	**20 16 25.6**	**+3.5**
IFIR	**Firoozkooh**	**4.22**	**37**	Pn	**Pn**	**20 16 27.3**	**+4.1**
IBAF	**Bafgh**	**5.08**	**96**	Pn	**Pn**	**20 16 38.2**	**+3.2**
SAKB	**Bahrain**	**6.35**	**173**	P	**Pn**	**20 16 54.9**	**+2.7**
SAKB				S	**Sn**	**20 18 05.9**	**+1.1**
SHMA	**Al-Shehemyia**	**6.52**	**169**	P	**Pn**	**20 16 57.2**	**+2.5**
SHMA				S	**Sn**	**20 18 08.9**	**-0.3**
TRNA	**Turayna**	**7.66**	**169**	P	**Pn**	**20 17 12.2**	**+1.9**
	SNR=6.0						
TRNA				S	**Sn**	**20 18 34.9**	**-2.3**
JRN	**Qarnain Island**	**7.85**	**158**	P	**Pn**	**20 17 15.0**	**+2.0**
JRN				S	**Sn**	**20 18 42.0**	**+0.1**
SHME	**Shamm**	**8.43**	**136**	P	**Pn**	**20 17 21.5**	**+0.7**
SHME	**Shamm**	**8.43**	**136**	P	**Pn**	**20 17 21.5**	**+0.7**
MASF	**Masafi**	**8.96**	**139**	P	**Pn**	**20 17 28.3**	**+0.1**
MASF				S	**Sn**	**20 19 05.3**	**-3.8**
MSFE	**Esma-Masafi**	**8.97**	**139**	P	**Pn**	**20 17 27.8**	**-0.5**
NAZ	**Nazwa, Dubai**	**9.00**	**143**	P	**Pn**	**20 17 29.2**	**+0.5**
NAZ				S	**Sn**	**20 19 09.7**	**-0.4**
AJN	**Ajban**	**9.03**	**147**	P	**Pn**	**20 17 30.7**	**+1.6**
AJN				S	**Sn**	**20 19 08.6**	**-2.2**
MDH	**Madha**	**9.09**	**138**	P	**Pn**	**20 17 29.0**	**-1.0**
MDH	**Madha**	**9.09**	**138**	P	**Pn**	**20 17 29.6**	**-0.3**
MDH				S	**Sn**	**20 19 08.0**	**-4.5**
ASUD	**Al Ashush, Dub**	**9.13**	**145**	P	**Pn**	**20 17 31.8**	**+1.2**
ASUD				S	**Sn**	**20 19 10.9**	**-2.5**
ASUD	**Al Ashush, Dub**	**9.13**	**145**	P	**Pn**	**20 17 31.9**	**+1.3**
	SNR=6.3						
ASUD				S	**Sn**	**20 19 12.0**	**-1.4**
UOSS	**Minazif**	**9.32**	**140**	P	**Pn**	**20 17 33.1**	**0.0**
UOSS	**Minazif**	**9.32**	**140**	P	**Pn**	**20 17 34.1**	**+1.0**
UOSS				S	**Sn**	**20 19 12.6**	**-5.5**
HATD	**Hatta, Dubai**	**9.38**	**141**	P	**Pn**	**20 17 35.5**	**+1.6**
HATD				S	**Sn**	**20 19 15.1**	**-4.3**
ASHO	**Ashiyiah**	**9.45**	**142**	P	**Pn**	**20 17 34.9**	**-0.1**
ASHO	**Ashiyiah**	**9.45**	**142**	P	**Pn**	**20 17 35.9**	**+0.9**
	SNR=8.5						
ASHO				S	**Sn**	**20 19 17.8**	**-3.5**
RAYN	**Ar Rayn**	**9.48**	**204**	P	**Pn**	**20 17 34.7**	**-0.6**
ALNE	**Al Ain**	**9.82**	**145**	P	**Pn**	**20 17 39.9**	**-0.1**
ALNE	**Al Ain**	**9.82**	**145**	P	**Pn**	**20 17 40.2**	**+0.3**
ALNE				S	**Sn**	**20 19 26.6**	**-3.7**
MZR	**Muzera**	**9.86**	**159**	P	**Pn**	**20 17 41.0**	**+0.5**
MZR	**Muzera**	**9.86**	**159**	P	**Pn**	**20 17 42.3**	**+1.7**
SOHO	**SOHO**	**10.15**	**142**	P	**Pn**	**20 17 43.8**	**-0.7**
SOHO				S	**Sn**	**20 19 34.3**	**-4.1**
UMZA	**Um Al Zommool**	**10.73**	**152**	P	**Pn**	**20 17 53.0**	**+0.6**
ARQ	**Araqi**	**10.80**	**144**	P	**Pn**	**20 17 53.1**	**-0.4**
BSY	**Bisya**	**11.64**	**143**	P	**Pn**	**20 18 05.8**	**+0.9**
SMDO	**Samad**	**11.83**	**139**	P	**Pn**	**20 18 07.8**	**+0.1**
SMDO				S	**Sn**	**20 20 15.9**	**-3.9**
WSAR	**Wadi Sarin**	**12.03**	**136**	P	**Pn**	**20 18 10.3**	**+0.1**
WSAR				S	**Sn**	**20 20 19.1**	**-5.2**
JMDO	**Jabal Madar**	**12.42**	**141**	P	**Pn**	**20 18 15.4**	**-0.1**
WBK	**Wadi Bani Khal**	**12.71**	**137**	P	**Pn**	**20 18 19.0**	**-0.6**
JLN	**Jalan Bani Buh**	**13.32**	**137**	P	**Pn**	**20 18 25.8**	**-2.1**
MHTO	**MHTO**	**13.49**	**145**	P	**Pn**	**20 18 29.5**	**-0.7**
	SNR=6.7						
DOK	**Doka**	**14.21**	**162**	P	**Pn**	**20 18 39.6**	**-0.4**
WHFO	**Wadi Hawf**	**14.80**	**164**	P	**Pn**	**20 18 46.8**	**-1.3**
BRTR	**Keskin Array B**	**14.91**	**304**	Pn	**P**	**20 18 52.9**	**-2.4**
	0.1nm,0.3s,baz=132,slow=13,SNR=1.6						
	0.2nm,0.5s						
DMTO	**DMTO**	**15.29**	**160**	P	**Pn**	**20 18 52.5**	**-2.1**
	SNR=6.8						
BELG	**Belogornoye**	**20.14**	**356**	P	**P**	**20 19 52.5**	**-0.2**
	7.6nm,0.8s,baz=129,slow=4.4,SNR=3.5						
	7.6nm,0.8s						
IDI	**Anoyia**	**20.77**	**285**	LR	LR	20 31 22.4	
	comp=Z,84nm,19.7s,baz=306,slow=46						
BVAR	**Borovoye Array**	**25.55**	**30**	P	**P**	**20 20 47.6**	**+0.1**
	0.9nm,0.7s,baz=223,slow=7.9,SNR=3.1						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**28.80**	**50**	P	**P**	**20 21 18.1**	**+1.3**
	0.3nm,0.6s,baz=244,slow=7.9,SNR=2.1						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**32.93**	**339**	P	**P**	**20 21 53.3**	**+0.4**
	1.4nm,1.0s,baz=169,slow=16,SNR=2.0						
	1.4nm,1.0s						
HFS	**Hagfors**	**36.53**	**330**	P	**P**	**20 22 24.0**	**-0.1**
	0.6nm,0.3s,baz=134,slow=8.5,SNR=7.1						
	0.6nm,0.3s						
NOA	**NORSAR Array B**	**38.05**	**331**	P	**P**	**20 22 37.8**	**+0.7**
	0.4nm,0.6s,baz=124,slow=8.6,SNR=1.3						
	0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**46.25**	**95**	P	**P**	**20 23 44.1**	**-0.3**
	0.6nm,0.3s,baz=297,slow=8.0,SNR=2.3						
	0.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**47.72**	**258**	P	**P**	**20 23 56.1**	**+0.2**
	0.6nm,0.9s,baz=45,slow=8.9,SNR=4.2						
	0.6nm,0.9s						

GUC 07 20:28:08.7±0.7, 22°.60S×69°.99W, h55km±3km, ML3.5, 3C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.30**	**331**	⇓*i*P	Pn	20 28 17.8	-0.7
PB04				*i* S	Sn	20 28 25.2	-0.5
PB06	**IPOC Station P**	**0.40**	**105**	⇑*i*P	Pn	20 28 18.8	-0.7
PB06				*i* S	Sn	20 28 26.6	-0.6
PB06				IAML		20 28 27.2	
	comp=N,8μm,0.1s						
PB15	**IPOC Station P**	**0.77**	**142**	⇑*i*P	Pn	20 28 23.1	-0.8
PB15				*i* S	Sn	20 28 34.3	-0.6
LVC	**Limon Verde**	**1.00**	**91**	*i* P	Pn	20 28 27.1	+0.2
LVC				*i* S	Sn	20 28 41.1	+0.7
LVC				IAML		20 28 41.8	
	comp=N,4μm,0.2s						
PB09	**IPOC Station P**	**1.06**	**41**	⇑*i*P	Pn	20 28 27.8	+0.2
PB09				*i* S	Sn	20 28 42.1	+0.6
PB01	**IPOC Station P**	**1.62**	**17**	⇓*i*P	Pn	20 28 34.8	-0.2
PB01				*i* S	Sn	20 28 55.2	+0.4
PB01				IAML		20 29 02.4	
	comp=E,774nm,0.2s						
AF01	**San Pedro de A**	**1.71**	**102**	*i* P	Pn	20 28 39.1	+2.7
AF01				*i* S	Sn	20 29 03.0	+5.7
AF01				IAML		20 29 13.6	
	comp=N,1μm,0.6s						
TA01	**Diego Aracena**	**2.03**	**355**	*e*P	Pn	20 28 38.9	-1.7
TA01				*e*S	Sn	20 29 07.2	+2.4
TA01				IAML		20 29 12.1	
	comp=N,304nm,0.4s						
PB14	**IPOC Station P**	**2.05**	**191**	*e*P	Pn	20 28 39.8	-1.3
PB08	**IPOC Station P**	**2.57**	**18**	*e*P	Pn	20 28 48.2	-0.1
PB08				*e*S	Sn	20 29 20.3	+1.8
PB08				IAML		20 29 27.2	
	comp=N,159nm,0.6s						
GO02	**Mina Guanaco**	**2.58**	**172**	*e*P	Pn	20 28 48.6	+0.2
GO02				*e*S	Sn	20 29 20.2	+1.6
GO02				IAML		20 29 31.2	
	comp=E,284nm,0.5s						
PB11	**IPOC Station P**	**2.84**	**6**	*i* P	Pn	20 28 50.3	-1.5
PB11				*i* S	Sn	20 29 26.3	+1.4
PB11				IAML		20 29 34.7	
	comp=N,262nm,0.2s						
GO01	**Chusmiza**	**3.01**	**14**	*e*P	Pn	20 28 54.4	0.0
GO01				*e*S	Sn	20 29 29.9	+0.4
AC01	**Pan de Azucar**	**3.58**	**189**	*e*P	Pn	20 28 59.8	-2.0

*UCR **07** 20:44:46.7±1.1, 12°.18N×86°.61W, h125km±8km, MW4.2*
*CATAC **07** 20:44:47.4±0.2, 12°.06N×86°.74W, h105km±2km, ML3.8*
*SNET **07** 20:44:49.7±0.7, 11°.93N×87°.12W, h92km±91km, ML3.7*

ISC 07 20:44:46.7±1.3, 12°.11N±0°.05×86°.73W±0°.04, h122km±6km, n86, σ0s80/135, 11C-6D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.15**	**62**	⇑*i*P	**Pn**	**20 45 02.4**	**-1.1**
COPN				IAML		20 45 22.5	
	comp=Z,4μm,1.0s						
BC86	**Nagarote**	**0.23**	**46**	*i* P	**Pn**	**20 45 04.0**	**+0.3**
BC86				IAML		20 45 19.8	
	comp=Z,8μm,1.0s						
LEVN	**Ruinas Leon Vi**	**0.31**	**21**	*i* P	**Pn**	**20 45 03.9**	**-0.1**
LEVN				*i* S	**Sn**	**20 45 17.5**	**+0.5**
LEVN				IAML		20 45 19.1	
	comp=Z,5μm,1.0s						
SAPS	**Ciudad Sandino**	**0.32**	**79**	⇑*i*P	**Pn**	**20 45 04.0**	**0.0**
SAPS				IAML		20 45 23.9	
	comp=Z,7μm,1.0s						
BC84	**Volcan Momotom**	**0.34**	**33**	*i* P	**Pn**	**20 45 03.4**	**-0.7**
BC84				IAML		20 45 46.6	
	comp=Z,5μm,1.0s						
MOMN	**Momotombo**	**0.35**	**32**	⇑*i*P	**Pn**	**20 45 04.1**	**-0.1**
MOMN				*i* S	**Sn**	**20 45 17.0**	**-0.4**
MOMN				IAML		20 45 20.0	
	comp=Z,120nm,1.0s						
MACN	**El Madrono**	**0.36**	**9**	⇑*i*P	**Pn**	**20 45 04.2**	**0.0**
MACN				*i* S	**Sn**	**20 45 17.8**	**+0.4**
MACN				IAML		20 45 21.5	
	comp=Z,2μm,1.0s						
CNGA	**Al SSO del Vol**	**0.39**	**4**	⇑*i*P	**Pn**	**20 45 04.3**	**-0.1**
CNGA				*i* S	**Sn**	**20 45 18.7**	**+1.0**
CNGA				IAML		20 45 20.4	
	comp=Z,5μm,1.0s						
APYN	**Apoyeque**	**0.39**	**71**	*i* P	**Pn**	**20 45 04.4**	**+0.1**
APYN				*i* S	**Sn**	**20 45 18.6**	**+1.0**
APYN				IAML		20 45 19.4	
	comp=Z,100nm,1.0s						
PACN	**Al O del Volca**	**0.40**	**351**	*i* P	**Pn**	**20 45 04.5**	**+0.1**
PACN				IAML		20 45 05.4	
	comp=Z,5μm,1.0s						
PACN				*i* S	**Sn**	**20 45 19.2**	**+1.5**
APQ2	**Apoyeque**	**0.41**	**77**	*i* P	**Pn**	**20 45 04.2**	**-0.2**
APQ2				*i* S	**Sn**	**20 45 18.1**	**+0.5**
APQ2				IAML		20 45 20.6	
	comp=Z,4μm,1.0s						
MOM2	**El Cardon**	**0.41**	**36**	*i* P	**Pn**	**20 45 04.4**	**0.0**
MOM2				*i* S	**Sn**	**20 45 17.9**	**+0.2**
MOM2				IAML		20 45 19.3	
	comp=Z,2μm,1.0s						
ABCN	**Banco Central**	**0.41**	**88**	*i* P	**Pn**	**20 45 03.5**	**-0.9**
ABCN				IAML		20 45 26.3	
	comp=Z,11μm,1.0s						
RA5A7	**El Crucero**	**0.43**	**106**	*i* P	**Pn**	**20 45 05.0**	**+0.4**
RA5A7				IAML		20 45 19.1	
	comp=Z,18μm,1.0s						
ALLN	**Telcor Managua**	**0.45**	**84**	*i* P	**Pn**	**20 45 03.4**	**-1.2**
ALLN				IAML		20 45 22.6	
	comp=Z,9μm,1.0s						
UNAN	**Cigeo UNAN**	**0.45**	**90**	*i* P	**Pn**	**20 45 04.4**	**-0.2**
UNAN				*i* S	**Sn**	**20 45 17.7**	**-0.4**
UNAN				IAML		20 45 30.8	
	comp=Z,14μm,1.0s						
TISN	**Laguna Tiscapa**	**0.45**	**86**	*i* P	**Pn**	**20 45 04.9**	**+0.3**
TISN				IAML		20 45 21.0	
	comp=Z,220nm,1.0s						
MGA1	**Managua**	**0.47**	**85**	*i* P	**Pn**	**20 45 03.4**	**-1.3**
MGA1				IAML		20 45 48.2	
	comp=Z,6μm,1.0s						
R4DEC	**Barrio San Lui**	**0.47**	**85**	*i* P	**Pn**	**20 45 04.1**	**-0.6**
R4DEC				*i* S	**Sn**	**20 45 18.1**	**-0.2**
R4DEC				IAML		20 45 24.0	
	comp=Z,2μm,1.0s						
MGAN	**Managua**	**0.47**	**85**	*i* P	**Pn**	**20 45 04.8**	**+0.1**
MGAN				*i* S	**Sn**	**20 45 18.2**	**-0.1**
MGAN				IAML		20 45 24.0	
	comp=Z,2μm,1.0s						
MGAN	**Managua**	**0.47**	**85**	*e*P	**Pn**	**20 45 04.5**	**-0.3**
MGAN				*e*S	**Sn**	**20 45 18.0**	**-0.3**
PLRN	**Geotermica Pol**	**0.47**	**356**	*i* P	**Pn**	**20 45 04.2**	**-0.6**
PLRN				*i* S	**Sn**	**20 45 18.5**	**+0.1**
PLRN				IAML		20 45 23.3	
	comp=Z,4μm,1.0s						
MAFN	**Magfor**	**0.48**	**92**	*i* P	**Pn**	**20 45 03.5**	**-1.3**
MAFN				IAML		20 45 22.7	
	comp=Z,9μm,1.0s						
WILN	**Americas 2**	**0.53**	**84**	*i* P	**Pn**	**20 45 04.8**	**-0.3**
WILN				*i* S	**Sn**	**20 45 18.7**	**-0.2**
WILN				IAML		20 45 30.1	
	comp=Z,2μm,1.0s						
MAS3	**Al N del Volca**	**0.55**	**99**	*i* P	**Pn**	**20 45 05.6**	**+0.4**
MAS3				*i* S	**Sn**	**20 45 19.8**	**+0.6**
MAS3				IAML		20 45 22.8	
	comp=Z,5μm,1.0s						
SABN	**Sabanita**	**0.58**	**105**	*i* P	**Pn**	**20 45 05.8**	**+0.4**
SABN				IAML		20 45 24.0	
	comp=Z,7μm,1.0s						
MASN	**Masaya**	**0.58**	**102**	*i* P	**Pn**	**20 45 04.5**	**-1.0**
MASN				*i* S	**Sn**	**20 45 20.0**	**+0.4**
MASN				IAML		20 45 23.2	
	comp=Z,1μm,1.0s						
BC87	**San Francisco**	**0.59**	**47**	*i* P	**Pn**	**20 45 04.5**	**-0.9**
BC87				IAML		20 45 18.7	
	comp=Z,6μm,1.0s						
PKGN	**Cerro Pekin**	**0.61**	**337**	⇑*i*P	**Pn**	**20 45 05.8**	**+0.2**
PKGN				*i* S	**Sn**	**20 45 21.0**	**+1.1**
PKGN				IAML		20 45 26.1	
	comp=Z,12μm,1.0s						
NANN	**Nandasmo**	**0.62**	**106**	*i* P	**Pn**	**20 45 06.0**	**+0.3**
NANN				*i* S	**Sn**	**20 45 21.7**	**+1.7**
NANN				IAML		20 45 27.0	
	comp=Z,62μm,1.0s						
CRIN	**San Cristobal**	**0.67**	**332**	⇑*i*P	**Pn**	**20 45 06.4**	**+0.3**
CRIN				*i* S	**Sn**	**20 45 21.8**	**+1.0**
CRIN				IAML		20 45 25.3	
	comp=Z,15μm,1.0s						
CRIN	**San Cristobal**	**0.67**	**332**	*e*P	**Pn**	**20 45 06.3**	**+0.2**
EVIJ	**El Viejo**	**0.67**	**325**	*i* P	**Pn**	**20 45 06.1**	**+0.1**
EVIJ				*i* S	**Sn**	**20 45 20.7**	**+0.1**
EVIJ				IAML		20 45 23.2	
	comp=Z,6μm,1.0s						
SBEN	**San Benito**	**0.69**	**73**	*i* P	**Pn**	**20 45 05.8**	**-0.4**
SBEN				IAML		20 45 06.5	
	comp=Z,8μm,1.0s						
BRAN	**Las Pilas**	**0.71**	**31**	*i* P	**Pn**	**20 45 03.7**	**-2.7**
BRAN				*i* S	**Sn**	**20 45 18.1**	**-3.1**
BRAN				IAML		20 45 26.8	
	comp=Z,5μm,1.0s						
NADN	**Granada**	**0.77**	**118**	*i* P	**Pn**	**20 45 06.0**	**-0.8**
NADN				*i* S	**Sn**	**20 45 21.9**	**-0.1**
NADN				IAML		20 45 23.8	
	comp=Z,9μm,1.0s						
LIMN	**Finca el Limon**	**1.01**	**21**	⇓*i*P	**Pn**	**20 45 09.3**	**+0.1**
LIMN				IAML		20 45 09.7	
	comp=Z,2μm,1.0s						
LIMN				*i* S	**Sn**	**20 45 25.2**	**-1.0**
ARIN	**Rivas**	**1.09**	**126**	*i* P	**Pn**	**20 45 09.4**	**-0.4**
ARIN				IAML		20 45 28.4	
	comp=Z,6μm,1.0s						
BOAB	**BOACO BROADBAN**	**.09**	**72**	⇓*i*P	**Pn**	**20 45 09.7**	**-0.1**
BOAB				IAML		20 45 09.9	
	comp=Z,1μm,1.0s						
BOAB				*i* S	**Sn**	**20 45 26.8**	**-0.6**
CSGN	**Cosiguina Volc**	**1.18**	**317**	⇑*i*P	**Pn**	**20 45 11.1**	**+0.2**
CSGN				*i* S	**Sn**	**20 45 30.0**	**+0.8**
CSGN				IAML		20 45 34.6	
	comp=Z,820nm,1.0s						
CONN	**Concepcion**	**1.21**	**116**	⇓*i*P	**Pn**	**20 45 10.9**	**-0.2**
CONN				IAML		20 45 11.5	
	comp=Z,13μm,1.0s						
CONN				*i* S	**Sn**	**20 45 29.0**	**-0.5**
AMPH	**Amapala**	**1.48**	**322**	⇑*i*P	**Pn**	**20 45 14.5**	**+0.5**
AMPH				*i* S	**Sn**	**20 45 34.5**	**-0.4**
LCRUZ	**La Cruz**	**1.49**	**133**	*e*P	**Pn**	**20 45 15.1**	**+1.0**
LCRUZ				*e*S	**Sn**	**20 45 35.5**	**+0.5**
CARN	**Rivas**	**1.50**	**128**	⇑*i*P	**Pn**	**20 45 14.2**	**0.0**
CARN				*i* S	**Sn**	**20 45 34.0**	**-1.2**
CARN				IAML		20 45 43.6	
	comp=Z,970nm,1.0s						
ACON	**Acoyapa**	**1.53**	**95**	*i* P	**Pn**	**20 45 14.4**	**-0.2**
ACON				IAML		20 45 14.8	
	comp=Z,1μm,1.0s						
ACON	**Acoyapa**	**1.53**	**95**	*e*P	**Pn**	**20 45 14.3**	**-0.3**
RCPN	**Sur Rio San Ju**	**1.54**	**24**	⇓*i*P	**Pn**	**20 45 15.3**	**+0.4**
RCPN				IAML		20 45 15.6	
	comp=Z,3.8nm,1.0s						
RCVN	**Varillal2**	**1.56**	**20**	*i* P	**Pn**	**20 45 15.6**	**+0.5**
RCVN				IAML		20 45 15.9	
	comp=Z,27μm,1.0s						
RCVN				*i* S	**Sn**	**20 45 36.8**	**+0.1**
CNCH	**Conchagua**	**1.58**	**317**	*e*P	**Pn**	**20 45 15.6**	**+0.2**
CNCH				*e*S	**Sn**	**20 45 36.6**	**-0.6**
CNCH	**Conchagua**	**1.58**	**317**	⇑*i*P	**Pn**	**20 45 15.5**	**+0.2**
CNCH				*i* S	**Sn**	**20 45 36.9**	**-0.3**
CNCH				IAML		20 45 41.6	
	comp=Z,2μm,1.0s						
LCND	**La Caada**	**1.65**	**317**	*e*P	**Pn**	**20 45 16.2**	**+0.2**
LCND				*e*S	**Sn**	**20 45 37.5**	**-0.8**
LCND				IAML		20 45 44.0	
	comp=Z,1μm,0.2s						
LCND	**La Caada**	**1.65**	**317**	*i* P	**Pn**	**20 45 16.4**	**+0.4**
LCND				*i* S	**Sn**	**20 45 38.3**	**0.0**
LCND				IAML		20 45 43.7	
	comp=Z,1μm,1.0s						
YUSH	**Yuscaran**	**1.84**	**357**	⇓*i*P	**Pn**	**20 45 19.1**	**+0.7**
YUSH				*i* S	**Sn**	**20 45 42.9**	**+0.3**
ELI1	**Hacienda Flor**	**1.86**	**141**	*e*P	**Pn**	**20 45 19.2**	**+0.6**
VORI	**VORI**	**1.87**	**133**	*e*P	**Pn**	**20 45 19.5**	**+0.7**
CNRM	**Centro Naciona**	**1.95**	**314**	*i* P	**Pn**	**20 45 20.1**	**+0.4**
CNRM				*i* S	**Sn**	**20 45 45.3**	**+0.3**
CNRM				IAML		20 45 54.4	
	comp=Z,4μm,1.0s						
BLLM	**Bellamira**	**1.98**	**312**	*e*P	**Pn**	**20 45 20.8**	**+0.7**
BLLM				*e*S	**Sn**	**20 45 44.6**	**-1.1**
VSM	**San Miguel**	**2.00**	**311**	*e*P	**Pn**	**20 45 21.5**	**+0.9**
VSM				*e*S	**Sn**	**20 45 45.4**	**-1.0**
TGUH	**Tegucigalpa,Un**	**2.01**	**345**	⇓*i*P	**Pn**	**20 45 21.4**	**+0.9**
TGUH				IAML		20 45 21.8	
	comp=Z,420nm,1.0s						
TGUH				*i* S	**Sn**	**20 45 46.5**	**+0.1**
LCY	**Lacayo**	**2.01**	**311**	*e*P	**Pn**	**20 45 21.1**	**+0.6**
LCY				*e*S	**Sn**	**20 45 45.4**	**-1.0**
RANC	**El Ranchito**	**2.01**	**311**	*e*P	**Pn**	**20 45 21.3**	**+0.8**
RANC	**El Ranchito**	**2.01**	**311**	*i* P	**Pn**	**20 45 21.8**	**+1.2**
RANC				*i* S	**Sn**	**20 45 47.5**	**+1.0**
RANC				IAML		20 45 49.7	
	comp=Z,820nm,1.0s			

JRA			S	Sb	20 55 53.4	+0.9
JNSB	**Nemuroshibetsu**	**0.97 211**	P	Pn	20 55 45.9	+0.3
JNSB			S	Sn	20 55 58.8	+0.2
SHO	**Shikotan**	**1.10 132**	*e*P	Pb	20 55 47.7	+0.1
SHO			AMB	AMB	20 55 48.1	
	20nm,0.2s					
SHO			*e*S	Sn	20 56 01.8	+0.1
SHO			A	A	20 56 02.5	
	330nm,0.5s					
SHO			A	A	20 56 02.5	
	120nm,0.5s					
NMR	**Nemuro--Hokkai**	**1.24 179**	*e*P	Pb	20 55 49.4	-0.6
NMR			*e*S	Sn	20 56 04.7	-0.4
JNK	**Nakash**	**1.24 215**	P	Pb	20 55 50.1	0.0
JNK			S	Sn	20 56 05.4	+0.1
NEM2	**Nemuro 2**	**1.24 179**	P	Pn	20 55 49.2	0.0
NEM2			S	Sn	20 56 05.3	+0.1
JTKR	**Abashiri--Toko**	**1.44 244**	*e*S	Sb	20 56 11.2	+0.1
JMP	**Maruseppu**	**1.78 251**	*e*S	Sb	20 56 20.9	-0.4

IDC ***07*** *21:05:09.0±0.6,22°.84N×122°.64E,h0km,mb4.4/23, mbtmp4.4/27,ML3.9/4,MS4.0/53,Error ellipse: s-maj=17.0km s-min=13.8km az=74.0*

NEIC ***07*** *21:05:09.4,22°.80N×122°.53E,h12km,Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.33; $M_{\theta\theta}$=2.21; $M_{\phi\phi}$=-1.88; $M_{r\theta}$=0.30; $M_{\theta\phi}$=-0.03; $M_{\phi r}$=0.78; Fault plane solution: M_0=2.23000×10^{16} NP1: ϕ_s=313.25000°,δ=79.26000°,λ=-21.52000°. NP2:ϕ_s=47.46000°, δ=68.87000°,λ=-168.48000°. Principal axes: T 2.2496, Plg=7.0000°, Azm=2.0000°; N -0.0372, Plg=66.0000°, Azm=108.0000°; P -2.2124, Plg=23.0000°, Azm=269.0000°;*

NEIC ***07*** *21:05:09.4,22°.90N×122°.53E,h12km*

GCMT ***07*** *21:05:11.0±0.2,22°.74N±0°.01×122°.59E±0°.01,h17km±1km, MW4.9/114,Moment Tensor Solution. s26,c31; s114,c167; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.54±.10; $M_{\theta\theta}$=2.87±.09; $M_{\phi\phi}$=-2.33±.07; $M_{r\theta}$=0.50±.18; $M_{\theta\phi}$=0.20±.06; $M_{\phi r}$=0.42±.21; Best double couple: M_0=2.69000×10^{16} NP1:ϕ_s=43.00000°,δ=87.00000°, λ=-165.00000°. NP2:ϕ_s=313.00000°,δ=75.00000°, λ=-3.00000°. Principal axes: T 2.9540, Plg=8.0000°, Azm=177.0000°; N -0.5300, Plg=75.0000°, Azm=53.0000°; P -2.4250, Plg=12.0000°, Azm=269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***07*** *21:05:11.3,22°.82N×122°.55E,h30km,mb4.5/76,mB4.9/37, ML4.6/8,Ms4.6/84,Ms7 4.3/81*

TAP ***07*** *21:05:11.7,22°.78N×122°.57E,h49km,ML5.3,D*

NIED ***07*** *21:05:11.2,22°.80N×122°.58E,h45km,MW4.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.85; $M_{\theta\theta}$=1.68; $M_{\phi\phi}$=-0.82; $M_{r\theta}$=0.98; $M_{\theta\phi}$=0.25; $M_{\phi r}$=0.03; Fault plane solution: M_0=1.62000×10^{16} NP1: ϕ_s=279.00000°,δ=66.00000°,λ=-71.00000°. NP2:ϕ_s=59.00000°, δ=30.00000°,λ=-126.00000°.*

ASIES ***07*** *21:05:11.7,22°.78N×122°.57E,h49km,ML5.3,Mw4.9, Moment Tensor Solution. Moment tensor: Scale 10^{23}Nm; M_{rr}=0.14; $M_{\theta\theta}$=2.43; $M_{\phi\phi}$=-2.28; $M_{r\theta}$=0.41; $M_{\theta\phi}$=-0.37; $M_{\phi r}$=0.55; Fault plane solution: M_0=2.48369×10^{23} NP1: ϕ_s=319.13000°,δ=87.86000°,λ=-16.25000°. NP2:ϕ_s=49.76000°, δ=73.76000°,λ=-177.77000°. Principal axes: T Plg=9.8650°, Azm=5.5820°; N Plg=73.6120°, Azm=131.8330°; P Plg=12.9540°, Azm=273.2890°;*

NEIC ***07*** *21:05:12.0±1.4,22°.86N±0°.05×122°.54E±0°.05,h19km±4km, mb4.9/100,Mww4.8/20 Error ellipse: s-maj=9.0km s-min=5.4km az=144.0*

JMA ***07*** *21:05:11.2±0.2,23°.N±1°.×122°.6E±0°.6,h45km,MD4.9/19, MW4.8/19,FAR S OFF ISHIGAKIJIMA*

ISC 07 21:05:11.8±0.7,**22°.83N**±0°.02×**122°.59E**±0°.02,**h19**km,2km, **n704**,σ1§**49**/837,**mb4.8**/98,**MS4.2**/63,**57C-56D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**1.04 262**		↓*i*P	**Pb**	**21 05 29.1**	**-2.1**
LDUT				S	**Sb**	**21 05 41.3**	**-3.1**
ECBN	**Changbin**	**1.15 295**		↓*i*P	**Pn**	**21 05 31.2**	**-1.6**
ECBN				*i* S	**Sb**	**21 05 44.9**	**-2.7**
CHKH	**Chenggong**	**1.16 288**		↓*i*P	**Pn**	**21 05 31.0**	**-1.9**
CHKH				*i* S	**Sb**	**21 05 44.4**	**-3.3**
EDH	**Donghe**	**1.19 277**		↓*i*P	**Pn**	**21 05 31.7**	**-1.7**
EDH				S	**Sb**	**21 05 45.9**	**-2.8**
LAY	**Lan-yu**	**1.24 231**		↓*i*P	**Pn**	**21 05 31.6**	**-2.4**
LAY				*e*S	**Sb**	**21 05 47.7**	**-2.4**
LYUB	**Lan-yu**	**1.24 229**		↓*i*P	**Pn**	**21 05 31.9**	**-2.1**
LYUB				S	**Sb**	**21 05 45.0**	**-5.1**
FULB	**Fuli**	**1.25 287**		↓*i*P	**Pn**	**21 05 32.2**	**-2.0**
FULB				S	**Sb**	**21 05 46.9**	**-3.5**
HGSD	**Ruisui**	**1.26 302**		↓*i*P	**Pn**	**21 05 32.4**	**-1.9**
HGSD				S	**Sb**	**21 05 46.6**	**-4.0**
EYUL	**Yuli**	**1.28 294**		↓*i*P	**Pn**	**21 05 33.2**	**-1.3**
EYUL				*i* S	**Sb**	**21 05 48.8**	**-2.4**
ECS	**Chishang**	**1.29 282**		↓*i*P	**Pn**	**21 05 33.6**	**-1.2**
ECS				*i* S	**Sb**	**21 05 49.3**	**-2.2**
TEGC	**Jichi Village**	**1.30 313**		*e*P	**Pn**	**21 05 33.5**	**-1.4**
TEGC				*e*S	**Sn**	**21 05 49.1**	**-2.6**
EOS4	**EOS4**	**1.31 349**		⇑*i*P	**Pn**	**21 05 33.8**	**-0.9**
EOS4				*i* S	**Sn**	**21 05 50.1**	**-1.3**
EHD	**Haiduan**	**1.31 284**		↓*i*P	**Pn**	**21 05 33.6**	**-1.5**
EHD				*e*S	**Sn**	**21 05 48.5**	**-3.5**
YULB	**Yu-li**	**1.31 296**	Pn		**Pn**	**21 05 33.6**	**-1.5**
YULB					**Sn**	**21 05 49.1**	**-2.9**
YULB	**Yu-li**	**1.31 296**	P		**Pn**	**21 05 33.7**	**-1.4**
YULB	**Yu-li**	**1.31 296**		↓*i*P	**Pn**	**21 05 33.6**	**-1.5**
YULB				S	**Sn**	**21 05 49.3**	**-2.7**
EHYH	**Wanrong**	**1.32 300**		*e*P	**Pn**	**21 05 33.7**	**-1.5**
EHYH				*e*S	**Sn**	**21 05 50.8**	**-1.4**
SHUL	**Shoufeng**	**1.34 316**		⇑*e*P	**Pn**	**21 05 34.2**	**-1.2**
SHUL				S	**Sn**	**21 05 50.3**	**-2.4**
EHY	**Hungye**	**1.34 300**		↓*i*P	**Pn**	**21 05 33.9**	**-1.6**
EHY				S	**Sn**	**21 05 50.0**	**-2.8**
LONT	**Longtian**	**1.34 274**		↓*i*P	**Pn**	**21 05 34.0**	**-1.6**
LONT				*e*S	**Sn**	**21 05 50.0**	**-2.9**
EGFH	**Guangfu**	**1.35 308**	P		**Pn**	**21 05 34.4**	**-1.2**
EGFH				*e*S	**Sn**	**21 05 50.3**	**-2.8**
TEYL	**Yanliau Villag**	**1.38 319**		*e*P	**Pn**	**21 05 36.0**	**0.0**
TEYL				*e*S	**Sn**	**21 05 52.8**	**-0.8**
TWGBT	**Beinan**	**1.39 270**	P		**Pn**	**21 05 34.9**	**-1.2**
TWGBT	**Beinan**	**1.39 270**		↓*i*P	**Pn**	**21 05 34.5**	**-1.6**
TWGBT				S	**Sn**	**21 05 51.4**	**-2.6**
TWG	**Pinlang**	**1.40 270**			**Pn**	**21 05 34.6**	**-1.6**
TWG					**Sn**	**21 05 51.7**	**-2.4**
TWG	**Pinlang**	**1.40 270**		↓*i*P	**Pn**	**21 05 34.6**	**-1.6**
TWG				*i* S	**Sn**	**21 05 51.2**	**-2.9**
WARBT	**Fenglin Townsh**	**1.42 309**		⇑*i*P	**Pn**	**21 05 35.0**	**-1.5**
WARBT				*e*S	**Sn**	**21 05 51.7**	**-2.9**
ESL	**Shilin**	**1.44 313**		⇑*i*P	**Pn**	**21 05 35.2**	**-1.7**
ESL				*e*S	**Sn**	**21 05 51.9**	**-3.4**
HWA	**Hwalien**	**1.46 322**	P		**Pn**	**21 05 35.9**	**-1.1**
HWA				S	**Sn**	**21 05 54.1**	**-1.5**
EOS3	**EOS3**	**1.47 350**		⇑*i*P	**Pn**	**21 05 36.6**	**-0.5**
EOS3				*i* S	**Sn**	**21 05 55.1**	**-0.7**
ELDTW	**Lidau**	**1.49 284**		↓*i*P	**Pn**	**21 05 36.1**	**-1.5**
ELDTW				S	**Sn**	**21 05 53.3**	**-3.3**
ETM	**Tongmen**	**1.51 319**		⇑*i*P	**Pn**	**21 05 36.2**	**-1.6**
ETM				S	**Sn**	**21 05 54.1**	**-2.9**
ECL	**Taimali**	**1.52 262**		↓*i*P	**Pn**	**21 05 36.5**	**-1.4**
ECL				*e*S	**Sn**	**21 05 53.8**	**-3.5**
TWD	**Chiawan**	**1.54 324**		⇑*i*P	**Pn**	**21 05 36.8**	**-1.4**
TWD				*e*S	**Sn**	**21 05 55.9**	**-1.8**
ETL	**Fush Village**	**1.59 326**		⇑P	**Pn**	**21 05 37.7**	**-1.3**
ETL				*e*S	**Sn**	**21 05 56.8**	**-2.2**
LXIB	**Xiulin Townshi**	**1.60 318**		⇑*i*P	**Pn**	**21 05 37.8**	**-1.4**
LXIB				*e*S	**Sn**	**21 05 56.4**	**-3.1**
EOS2	**EOS2**	**1.62 348**		⇑*i*P	**Pn**	**21 05 38.9**	**-0.2**
EOS2				*e*S	**Sn**	**21 05 59.2**	**-0.1**
NACB	**Ninganchiao**	**1.62 326**			**Pn**	**21 05 37.8**	**-1.5**
NACB				Sn	**Sn**	**21 05 56.4**	**-3.2**
NACB	**Ninganchiao**	**1.62 326**	P		**Pn**	**21 05 38.2**	**-1.1**
NACB	**Ninganchiao**	**1.62 326**		⇑*i*P	**Pn**	**21 05 37.9**	**-1.4**
NACB				S	**Sn**	**21 05 55.7**	**-3.9**
TAW	**Tawu**	**1.63 254**		↓*i*P	**Pn**	**21 05 38.4**	**-1.0**
TAWH	**Dawu Township**	**1.64 253**		↓*i*P	**Pn**	**21 05 38.6**	**-0.9**
TAWH				S	**Sn**	**21 05 58.1**	**-2.0**
JYNG	**Yonagunijimaku**	**1.65 11**	P		**Pn**	**21 05 39.2**	**-0.4**
JYNG			S		**Sn**	**21 05 59.5**	**-0.8**
JYNG	**Yonagunijimaku**	**1.65 11**	A		A	21 05 39.2	
	comp=E,12nm,2.6s,comp=N,25nm,1.8s						
HATJ	**Hateruma jima**	**1.66 42**		*i* P	**Pn**	**21 05 39.1**	**-0.7**
HATJ				S	**Sn**	**21 05 58.6**	**-1.9**
HATJ	**Hateruma jima**	**1.66 42**	A		A	21 05 39.1	
	comp=E,34nm,1.7s,comp=N,38nm,1.2s						
EAST	**Anshuo**	**1.67 255**		↓↓*i*P	**Pn**	**21 05 38.9**	**-1.0**
EAST				*e*S	**Sn**	**21 05 58.4**	**-2.5**
EHP	**Heping Village**	**1.67 332**		*e*P	**Pn**	**21 05 38.9**	**-1.0**
EHP				S	**Sn**	**21 05 59.2**	**-1.6**
YOJ	**Yonaguni jima**	**1.67 13**			**Pn**	**21 05 39.6**	**-0.4**
YOJ				Sn	**Sn**	**21 05 59.8**	**-1.1**
YOJ	**Yonaguni jima**	**1.67 13**	P		**Pn**	**21 05 40.2**	**+0.2**
YOJ	**Yonaguni jima**	**1.67 13**	P		**Pn**	**21 05 39.9**	**-0.2**
YOJ				S	**Sn**	**21 06 00.1**	**-0.8**
YOJ	**Yonaguni jima**	**1.67 13**	A		A	21 05 39.9	
	comp=E,16nm,1.7s,comp=N,19nm,2.5s						
YOJ	**Yonaguni jima**	**1.67 13**	⇑*i*P		**Pn**	**21 05 39.8**	**-0.2**
YOJ				*e*S	**Sn**	**21 06 00.4**	**-0.5**
EAHA	**Aohua**	**1.68 333**	⇑*e*P		**Pn**	**21 05 39.5**	**-0.7**
EAHA				*i* S	**Sn**	**21 05 59.8**	**-1.4**
STYH	**Taoyuan**	**1.70 282**	↓↓*i*P		**Pn**	**21 05 39.8**	**-0.6**
STYH				*e*S	**Sn**	**21 05 59.6**	**-2.1**
ETLH	**Xiulin Townshi**	**1.71 324**	⇑P		**Pn**	**21 05 39.4**	**-1.2**
ETLH				S	**Sn**	**21 06 00.1**	**-1.8**
OWD	**Renai**	**1.71 311**	⇑*i*P		**Pn**	**21 05 39.9**	**-0.8**
OWD				S	**Sn**	**21 05 59.9**	**-2.2**
ENA	**Nanau**	**1.77 334**	⇑*i*P		**Pn**	**21 05 40.7**	**-0.7**
ENA				*e*S	**Sn**	**21 06 01.5**	**-1.8**
EWUT	**Wuta**	**1.77 335**	⇑*e*P		**Pn**	**21 05 40.8**	**-0.6**
EWUT				*e*S	**Sn**	**21 06 02.2**	**-1.2**
ALS	**Alishan**	**1.77 293**	↓↓*i*P		**Pn**	**21 05 41.6**	**-0.1**
ALS				*e*S	**Sn**	**21 06 03.1**	**-0.7**
SSLB	**Suanglung**	**1.78 303**	Pn		**Pn**	**21 05 40.8**	**-0.6**
SSLB				Sn	**Sn**	**21 06 00.7**	**-2.9**
SSLB	**Suanglung**	**1.78 303**	P		**Pn**	**21 05 41.3**	**-0.2**
SSLB	**Suanglung**	**1.78 303**	↓*i*P		**Pn**	**21 05 40.9**	**-0.6**
SSLB				S	**Sn**	**21 06 00.9**	**-2.7**
WUSB	**Renai**	**1.78 311**	⇑*i*P		**Pn**	**21 05 41.1**	**-0.5**
WUSB				*e*S	**Sn**	**21 06 01.9**	**-1.8**
WHF	**Hehuan Shan**	**1.79 317**	⇑*i*P		**Pn**	**21 05 40.9**	**-1.1**
WHF				*i* S	**Sn**	**21 06 01.6**	**-2.7**
SLGT	**Liugui**	**1.80 276**	↓↓*i*P		**Pn**	**21 05 40.9**	**-0.8**
SLGT				*e*S	**Sn**	**21 06 03.0**	**-1.0**
TSMG	**Majia**	**1.80 266**	*e*P		**Pn**	**21 05 41.0**	**-0.7**
TSMG				*e*S	**Sn**	**21 06 02.1**	**-1.9**
SMST	**Manzhou Townsh**	**1.81 244**	*e*P		**Pn**	**21 05 41.1**	**-0.7**
SMST				*e*S	**Sn**	**21 06 01.5**	**-2.7**
WHYT	**Xinyi Township**	**1.81 299**	↓↓*i*P		**Pn**	**21 05 42.2**	**+0.2**
WHYT				*i* S	**Sn**	**21 06 03.4**	**-1.0**
MASBT	**Mashibuluo**	**1.82 264**	↓↓*i*P		**Pn**	**21 05 41.3**	**-0.7**
MASBT				S	**Sn**	**21 06 03.0**	**-1.5**
IRIF	**Iriomote-Funau**	**1.83 35**	*i* P		**Pn**	**21 05 41.7**	**-0.5**
IRIF				S	**Sn**	**21 06 03.6**	**-1.2**
IRIF	**Iriomote-Funau**	**1.83 35**	A		A	21 05 41.7	
	comp=E,28nm,1.9s,comp=N,45nm,1.4s						
TPUB	**Ta-pu**	**1.86 285**			**Pn**	**21 05 43.2**	**+0.5**
TPUB				Sn	**Sn**	**21 06 04.4**	**-1.2**
TPUB	**Ta-pu**	**1.86 285**	P		**Pn**	**21 05 43.4**	**+0.8**
TPUB	**Ta-pu**	**1.86 285**	↓↓*i*P		**Pn**	**21 05 43.2**	**+0.5**
TPUB				*e*S	**Sn**	**21 06 04.8**	**-0.8**
SGST	**Jiashian**	**1.86 278**	↓↓*i*P		**Pn**	**21 05 42.4**	**-0.3**
SGST				*i* S	**Sn**	**21 06 05.3**	**-0.4**
TWKBT	**Hengchun**	**1.86 242**	↓↓*i*P		**Pn**	**21 05 42.0**	**-0.7**
TWKBT				S	**Sn**	**21 06 02.3**	**-3.4**
WTP	**Ta-pu**	**1.86 283**	↓↓*i*P		**Pn**	**21 05 43.1**	**+0.5**
WTP				*e*S	**Sn**	**21 06 05.4**	**-0.4**
ESAO	**Su ao**	**1.87 339**	⇑P		**Pn**	**21 05 42.6**	**-0.1**
ESAO				*e*S	**Sn**	**21 06 04.7**	**-1.1**
TWK1	**Hengchun**	**1.87 242**	↓↓*i*P		**Pn**	**21 05 41.9**	**-0.8**
TWK1				S	**Sn**	**21 06 03.0**	**-2.7**
SMLT	**Sun Moon Lake**	**1.87 304**	↓↓*i*P		**Pn**	**21 05 42.7**	**-0.1**
SMLT				*e*S	**Sn**	**21 06 05.2**	**-0.8**
SCZT	**Fangliau**	**1.87 256**	↓↓*e*P		**Pn**	**21 05 42.4**	**-0.4**
SCZT				*e*S	**Sn**	**21 06 03.8**	**-2.1**
HEN	**Hengchun**	**1.90 245**	↓↓*i*P		**Pn**	**21 05 42.8**	**-0.3**
HEN				*i* S	**Sn**	**21 06 03.9**	**-2.5**
TWC	**Suao**	**1.90 339**	⇑*i*P		**Pn**	**21 05 42.7**	**-0.4**
TWC				*e*S	**Sn**	**21 06 04.7**	**-1.8**
CHN4	**Tsaushan**	**1.91 286**	↓↓*i*P		**Pn**	**21 05 44.2**	**+0.9**
CHN4				*e*S	**Sb**	**21 06 08.5**	**-0.8**
TYC	**Yuchr**	**1.92 304**	*e*P		**Pn**	**21 05 43.4**	**+0.1**
TYC				S	**Sn**	**21 06 05.3**	**-1.6**
JKRS	**Kuro-shima**	**1.92 43**	*i* P		**Pn**	**21 05 42.9**	**-0.4**
JKRS				S	**Sn**	**21 06 05.1**	**-1.8**
JKRS	**Kuro-shima**	**1.92 43**	A		A	21 05 42.9	
	comp=E,20nm,2.1s,comp=N,33nm,3.9s						
TWT	**Tachien**	**1.92 318**	⇑*i*P		**Pn**	**21 05 43.6**	**0.0**
TWT				*e*S	**Sn**	**21 06 05.7**	**-1.6**
WCKO	**Fanlu**	**1.92 289**	↓↓*e*P		**Pn**	**21 05 44.5**	**+1.1**
WCKO				S	**Sn**	**21 06 08.0**	**+0.9**
CHN1	**Nanshi**	**1.93 281**	↓↓*i*P		**Pn**	**21 05 44.7**	**+1.1**
CHN1				S	**Sb**	**21 06 08.6**	**-1.5**
SCST	**Cishan**	**1.93 272**	↓↓P		**Pn**	**21 05 44.7**	**+1.2**
SCST				*e*S	**Sb**	**21 06 09.1**	**-0.9**
TDCB	**Techi**	**1.93 318**	⇑*i*P		**Pn**	**21 05 43.6**	**-0.1**
TDCB				S	**Sn**	**21 06 05.0**	**-2.6**
SGLT	**Jiouru**	**1.94 267**	*e*P		**Pn**	**21 05 43.2**	**-0.4**
NNSB	**Datong**	**1.94 326**	⇑*i*P		**Pn**	**21 05 43.4**	**-0.4**
NNSB				S	**Sn**	**21 06 05.3**	**-2.4**
NNS	**Nan Shan**	**1.95 326**	⇑*i*P		**Pn**	**21 05 43.5**	**-0.5**
NNS				S	**Sn**	**21 06 06.3**	**-1.8**
LATG	**Datong**	**1.96 330**	⇑*i*P		**Pn**	**21 05 43.5**	**-0.5**
LATG				S	**Sn**	**21 06 05.9**	**-2.2**
SNST	**Tainan City**	**1.96 282**	↓↓*i*P		**Pn**	**21 05 45.2**	**+1.2**
SNST				S	**Sb**	**21 06 10.0**	**-1.0**
WCS	**Beigang Elemen**	**1.96 309**	⇑*i*P		**Pn**	**21 05 44.3**	**+0.3**
WCS				*e*S	**Sn**	**21 06 07.5**	**-0.6**
NDS	**Dongshan**	**1.97 336**	⇑*i*P		**Pn**	**21 05 43.9**	**-0.2**
NDS				*e*S	**Sn**	**21 06 07.6**	**-0.6**
WJS	**Zhushan**	**1.97 300**	↓↓*e*P		**Pn**	**21 05 45.4**	**+1.2**
WJS				*i* S	**Sb**	**21 06 10.1**	**-1.3**
TWK	**Hsinying**	**1.98 283**	↓↓*i*P		**Pn**	**21 05 45.2**	**+0.9**
TWK				*i* S	**Sb**	**21 06 10.2**	**-1.3**
TWM1	**Shoushan**	**2.00 270**	↓↓*i*P		**Pb**	**21 05 46.2**	**-1.3**
ENTT	**Nioudou**	**2.03 333**	⇑*i*P		**Pn**	**21 05 44.7**	**-0.3**
ENTT				*e*S	**Sn**	**21 06 08.7**	**-1.1**
WNT	**Mingjian**	**2.04 301**	*e*P		**Pn**	**21 05 46.2**	**+1.2**
WNT				S	**Sn**	**21 06 11.2**	**+1.3**
WGK	**Gukeng**	**2.05 295**	*e*P		**Pb**	**21 05 46.9**	**-1.4**
WGK				S	**Sb**	**21 06 12.8**	**-0.6**
CHN3	**Shinhua**	**2.06 277**	↓↓*i*P		**Pb**	**21 05 47.9**	**-0.7**
CHN3				*e*S	**Sb**	**21 06 14.6**	**+0.8**
TWE	**Neicheng**	**2.06 336**	⇑*i*P		**Pn**	**21 05 45.4**	**+0.1**
TWE				S	**Sn**	**21 06 09.8**	**-0.8**
CHN2	**Minshiung**	**2.06 290**	↓↓P		**Pb**	**21 05 47.3**	**-1.4**
CHN2				S	**Sb**	**21 06 12.2**	**-1.7**
WDLH	**Douliu**	**2.07 295**	*e*P		**Pb**	**21 05 47.2**	**-1.5**
WDLH				*e*S	**Sn**	**21 06 12.0**	**+1.3**
SHHT	**Tainan City**	**2.07 276**	*e*P		**Pb**	**21 05 48.6**	**-0.1**
ILA	**Ilan**	**2.08 338**	⇑*i*P		**Pn**	**21 05 46.1**	**+0.6**
ILA				*i* S	**Sn**	**21 06 11.2**	**+0.3**
SNJT	**Kaohsiung City**	**2.08 268**	*e*P		**Pb**	**21 05 49.1**	**+0.3**
WDL	**Douliou City**	**2.08 296**	*e*P		**Pb**	**21 05 47.5**	**-1.4**
WDL				*e*S	**Sb**	**21 06 13.4**	**-0.9**
WHP	**Taichung City**	**2.08 314**	⇑*e*P		**Pn**	**21 05 46.2**	**+0.4**
WHP				*e*S	**Sn**	**21 06 10.1**	**-1.1**
JIJ	**Ishigaki jima**	**2.09 43**	*i* P		**Pn**	**21 05 44.8**	**-1.0**
JIJ				S	**Sn**	**21 06 08.8**	**-2.5**
JIJ	**Ishigaki jima**	**2.09 43**	A		A	21 05 44.8	
	comp=E,8.0nm,1.3s,comp=N,13nm,1.4s						
CHY	**Chiayi**	**2.10 289**	*e*P		**Pb**	**21 05 47.7**	**-1.5**
CHY				*i* S	**Sb**	**21 06 13.4**	**-1.5**
FUSB	**Fushanzhiwuyua**	**2.13 335**	⇑*i*P		**Pn**	**21 05 46.5**	**+0.1**
FUSB				*i* S	**Sb**	**21 06 10.6**	**-1.7**
NTC	**Toucheng**	**2.13 341**	*e*P		**Pn**	**21 05 47.1**	**+0.8**
NTC				*e*S	**Sn**	**21 06 12.5**	**+0.3**
SSHA	**Shanhua**	**2.14 279**	*e*P		**Pb**	**21 05 49.2**	**-0.7**
SSHA				*e*S	**Sb**	**21 06 14.8**	**-1.3**
YHNB	**Yeheng**	**2.14 329**	Pn		**Pn**	**21 05 46.3**	**-0.2**
YHNB	**Yeheng**	**2.14 329**	P		**Pn**	**21 05 46.7**	**+0.1**
YHNB	**Yeheng**	**2.14 329**	⇑*i*P		**Pn**	**21 05 46.5**	**0.0**
YHNB				*i* S	**Sn**	**21 06 11.4**	**-1.2**
WSSB	**Gushan**	**2.15 266**	↓↓*i*P		**Pb**	**21 05 48.7**	**-1.5**
WSSB				*e*S	**Sb**	**21 06 16.8**	**+0.3**
NSK	**Sanguang**	**2.16 329**	⇑*i*P		**Pn**	**21 05 46.6**	**-0.1**
NSK				S	**Sn**	**21 06 11.2**	**-1.8**
NWLT	**Wulai**	**2.18 333**	⇑P		**Pn**	**21 05 47.2**	**+0.2**
NWLT				*e*S	**Sn**	**21 06 12.9**	**-0.6**
TAI1	**Yung-k'ang**	**2.18 276**	*e*P		**Pn**	**21 05 46.7**	**-0.3**
TAI1				*e*S	**Sb**	**21 06 15.4**	**-1.9**
ICHU	**Yijhu**	**2.19 284**	↓↓P		**Pn**	**21 05 48.8**	**+1.6**
ICHU				*e*S	**Sb**	**21 06 15.5**	**-2.0**
WTK	**Tuku**	**2.19 293**	*e*P		**Pn**	**21 05 48.7**	**+1.5**
WTK				*e*S	**Sn**	**21 06 15.4**	**+1.6**
SCLT	**Jiali**	**2.23 279**	*e*P		**Pn**	**21 05 49.2**	**+1.5**
SCLT				S	**Sb**	**21 06 17.8**	**-0.9**
TWB1	**Santiao Chiao**	**2.24 346**	⇑*e*P		**Pn**	**21 05 47.2**	**-0.6**
TWB1				S	**Sn**	**21 06 12.9**	**-2.0**
WCHH	**Zhanghua**	**2.24 304**	*e*P		**Pn**	**21 05 49.5**	**+1.7**
NFF	**Wufeng Townshi**	**2.24 323**	⇑P		**Pn**	**21 05 48.5**	**+0.6**
NFF				*e*S	**Sn**	**21 06 14.3**	**-0.8**
TIPB	**Shuangxi**	**2.25 342**	⇑*i*P		**Pn**	**21 05 48.0**	**+0.1**
TIPB				*e*S	**Sn**	**21 06 14.6**	**-0.5**
WCH1	**Changhua City**	**2.25 304**	*e*P		**Pb**	**21 05 50.0**	**-1.6**
WCH1				*e*S	**Sn**	**21 06 16.3**	**+1.3**
CHN8	**Yiju**	**2.25 284**	↓↓*i*P		**Pn**	**21 05 49.3**	**+1.4**
CHN8				*i* S	**Sn**	**21 06 16.8**	**+1.8**
TWQ1	**Liyutan**	**2.25 313**	⇑*i*P		**Pn**	**21 05 49.5**	**+1.6**
TWQ1				*e*S	**Sn**	**21 06 16.2**	**+1.0**
WSL	**Shuilin Townsh**	**2.28 288**	*i* P		**Pn**	**21 05 49.7**	**+1.4**
WSL				*i* S	**Sn**	**21 06 17.4**	**+1.6**
WRL	**Guolierlin Hig**	**2.29 298**	*e*P		**Pn**	**21 05 50.4**	**+1.9**
WRL				*e*S	**Sn**	**21 06 18.2**	**+1.9**
NSY	**Sanyi**	**2.30 314**	⇑*i*P		**Pn**	**21 05 50.3**	**+1.6**
NSY				*i* S	**Sb**	**21 06 18.5**	**-2.3**
NSTT	**Nanjuang**	**2.31 321**	⇑*i*P		**Pn**	**21 05 50.0**	**+1.2**
NSTT				S	**Sn**	**21 06 16.1**	**-0.6**
LIOB	**Emei**	**2.31 322**	⇑P		**Pn**	**21 05 50.3**	**+1.5**
LIOB				*e*S	**Sn**	**21 06 17.1**	**+0.4**
WSF	**Szhu**	**2.32 291**	P		**Pn**	**21 05 49.9**	**+1.0**
WSF				*i* S	**Sn**	**21 06 17.4**	**+0.6**
TSCK	**Chigu Township**	**2.33 278**	*e*P		**Pn**	**21 05 50.8**	**+1.8**
TSCK				*i* S	**Sn**	**21 06 18.9**	**+1.9**
KSHI	**Guanxi Townshi**	**2.33 327**	⇑*i*P		**Pn**	**21 05 50.4**	**+1.3**
KSHI				*e*S	**Sn**	**21 06 17.5**	**+0.4**
TWA	**Mucha**	**2.33 337**	⇑*i*P		**Pn**	**21 05 48.0**	**-1.0**
TWA				*i* S	**Sn**	**21 06 16.3**	**-0.9**
WDJ	**Dajia District**	**2.34 311**	*e*P		**Pn**	**21 05 51.0**	**+1.8**
WDJ				*e*S	**Sb**	**21 06 20.0**	**-1.8**
SXI1	**Grass Mountain**	**2.35 344**	⇑*i*P		**Pn**	**21 05

comp=N,3μm,15.2s
NJ2 LR LR
comp=N,840nm,14.7s
CNSH ChangSha 10.22 303 P **Pn** **21 07 37.6 +0.2**
CNSH LR LR
comp=N,4μm,16.7s
CNSH LR LR
comp=N,3μm,15.5s
CNSH LR LR
comp=N,2μm,8.7s
WHN Wuhan 10.64 318 ⇑P **Pn** **21 07 46.5 +3.4**
WHN pP 21 07 49.6
WHN S **Sn** **21 09 41.0 -0.7**
WHN LR LR
comp=N,7μm,14.7s
WHN LR LR
comp=N,6μm,13.7s
WHN LR LR
comp=N,5μm,15.1s
QIZ Qiongzhong 12.49 255 Pn **Pn** **21 08 07.7 -0.9**
QIZ Qiongzhong 12.49 255 P **Pn** **21 08 07.4 -1.2**
QIZ S **Sn** **21 10 30.7 +3.4**
QIZ pmax pmax
comp=N,28nm,1.5s
QIZ LR LR
comp=N,450nm,9.8s
QIZ LR LR
comp=N,710nm,10.3s
QIZ LR LR
comp=N,670nm,12.3s
JNU Nakatsue 12.60 34 Pn **Pn** **21 08 09.5 -0.4**
JNU Nakatsue 12.60 34 Pn **Pn** **21 08 09.0 -1.0**
comp=N,0.6nm,0.3s,baz=191,slow=9.6,SNR=8.9
comp=N,18nm,0.9s
JNU Nakatsue 12.60 34 P **Pn** **21 08 10.6 +0.6**
ENH Enshi 13.86 305 Pn **Pn** **21 08 26.9 -0.4**
ENH Enshi 13.86 305 P **Pn** **21 08 28.4 +1.1**
TIA Tai'an 14.15 342 *e*P **Pn** **21 08 33.6 +2.4**
TIA pmax pmax
comp=N,17nm,1.6s
TIA pmax pmax
comp=N,250nm,8.0s
TIA LR LR
comp=N,1μm,18.6s
TIA LR LR
comp=N,2μm,17.2s
TIA LR LR
comp=N,760nm,25.0s
LYN LuoYang 14.66 325 P **P** **21 08 41.4 -2.9**
LYN sP Pn 21 08 47.5 +9.4
LYN PP **PnPn** **21 08 53.6 +7.4**
LYN SS **S** **21 11 41.0 +2.2**
LYN pmax pmax
comp=N,19nm,0.9s
LYN pmax pmax
comp=N,230nm,4.3s
LYN LR LR
comp=N,2μm,21.6s
LYN LR LR
comp=N,2μm,23.0s
LYN LR LR
comp=N,2μm,13.4s
GYA Guiyang 14.92 287 ⇑P **Pn** **21 08 42.9 +1.1**
GYA S **Sn** **21 11 27.7 +1.0**
GYA pmax pmax
comp=N,20nm,1.5s
GYA pmax pmax
comp=N,210nm,3.8s
GYA LR LR
comp=N,1μm,15.6s
GYA LR LR
comp=N,1μm,14.0s
GYA LR LR
comp=N,910nm,12.8s
INCN Inchon 15.02 13 **Pn** **21 08 43.0 0.0**
INCN Inchon 15.02 13 P **Pn** **21 08 44.8 +1.8**
KSAR Wonju Array Be 15.26 16 **Pn** **21 08 46.0 -0.2**
KSRS Korea Array 15.29 16 Pn **Pn** **21 08 46.3 -0.2**
comp=N,2.5nm,0.3s,baz=197,slow=12,SNR=25
KSRS LR LR 21 14 43.4
comp=N,577nm,21.2s,baz=185,slow=38
comp=N,13nm,0.6s
KS19 Wonju Array Si 15.32 16 **Pn** **21 08 45.8 -1.1**
KS19 IAmb IAmb 21 08 49.0
comp=Z,191nm,1.9s
DAV Davao City (W) 15.93 169 LR LR 21 15 18.4
comp=Z,572nm,18.3s,baz=330,slow=38
HNS HongShan 16.03 337 ⇑P **P** **21 08 57.9 -1.6**
HNS sP **pwP** **21 09 08.1 -2.6**
HNS *e*S **Sn** **21 11 56.6 +3.2**
HNS sS **S** **21 12 03.9 -2.9**
HNS SS **SnSn** **21 12 10.9 +4.3**
HNS pmax pmax
comp=Z,45nm,1.5s
HNS pmax pmax
comp=Z,400nm,3.7s
HNS LR LR
comp=Z,930nm,15.1s
HNS LR LR
comp=Z,2μm,14.3s
HNS LR LR
comp=Z,870nm,13.9s
DL2 Dalian 16.05 357 P **P** **21 08 59.6 0.0**
DL2 pmax pmax
comp=Z,80nm,1.0s
DL2 pmax pmax
comp=Z,99nm,4.1s
DL2 LR LR
comp=Z,440nm,17.3s
DL2 LR LR
comp=Z,2μm,16.7s
DL2 LR LR
comp=Z,2μm,14.4s
XAN Xi'an 16.39 316 ⇓P **P** **21 09 02.3 -1.2**
XAN pP sP 21 09 08.5 -1.0
XAN S **Sn** **21 12 05.7 +3.5**
XAN pmax pmax
comp=Z,21nm,1.6s
XAN LR LR
comp=Z,3μm,17.6s
XAN LR LR
comp=Z,2μm,19.4s
XAN LR LR
comp=Z,2μm,14.0s
TIY Taiyuan 17.21 332 *e*P **P** **21 09 14.2 +1.5**
TIY pP **sP** **21 09 17.4 -1.1**
TIY pmax pmax
comp=Z,34nm,0.5s
TIY pmax pmax
comp=Z,370nm,4.0s
TIY LR LR
comp=Z,2μm,11.8s
TIY LR LR
comp=Z,340nm,13.2s
TIY LR LR
comp=Z,1μm,12.2s
SLVN Son La 17.38 269 **Pn** **21 09 11.6 -1.8**
SLVN Son La 17.38 269 P **P** **21 09 15.0 +0.4**
INU Inuyama 17.71 42 P **P** **21 09 19.2 +1.1**
KKM Kota Kinabalu 17.78 201 P **Pn** **21 09 18.5 +0.1**
KKM IAmb IAmb 21 09 24.5
comp=Z,89nm,1.2s
KKM Kota Kinabalu 17.78 201 P **P** **21 09 20.5 +1.4**
BJT Baijiatuau 17.98 344 P **Pn** **21 09 19.7 -0.9**
BJT Baijiatuau 17.98 344 P **P** **21 09 22.3 +1.3**
MYLDM Lahad Datu 17.98 193 P **P** **21 09 21.4 +0.2**
MYLDM Lahad Datu 17.98 193 P **P** **21 09 22.9 +1.7**
BJI Beijing 18.00 344 P **P** **21 09 22.0 +0.8**
BJI pmax pmax
comp=Z,9.0nm,1.2s
BJI pmax pmax
comp=Z,140nm,3.5s
BJI LR LR
comp=Z,270nm,15.9s
BJI LR LR
comp=Z,340nm,14.9s
BJI LR LR
comp=Z,240nm,18.5s
JGF Kuroka 18.09 42 **Pn** **21 09 22.3 +0.2**
KMI Kunming 18.28 281 ⇓P **P** **21 09 24.7 0.0**
KMI pP pP 21 09 28.2 -0.5
KMI pmax pmax
comp=Z,13nm,0.9s
KMI pmax pmax
comp=Z,200nm,6.0s
KMI LR LR
comp=Z,580nm,15.3s
KMI LR LR
comp=Z,590nm,10.9s
KMI LR LR
comp=Z,550nm,13.8s
CD2 Chengdu 18.61 300 P **P** **21 09 27.0 -1.1**
CD2 S **Sn** **21 12 53.3 -2.8**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,130nm,5.0s
CD2 LR LR
comp=Z,2μm,14.9s
CD2 LR LR
comp=Z,1μm,15.7s
CD2 LR LR
comp=Z,1μm,11.2s
MAJO Matsushiro 19.22 41 P **P** **21 09 34.5 -0.3**
MAJO Matsushiro 19.22 41 P **P** **21 09 35.0 +0.2**
MJB9 Matsushiro-Tunnel 19.22 41 P **P** **21 09 35.3 +0.5**
MJAR Matsushiro Arr 19.23 41 P **P** **21 09 35.2 +0.4**
comp=Z,0.1nm,0.3s,baz=228,slow=9.7,SNR=26
MJAR LR LR 21 17 28.1
comp=Z,368nm,20.8s,baz=221,slow=38
comp=Z,16nm,1.0s
PZH PanZhiHua 19.29 285 P **Pn** **21 09 36.4 -0.4**
PZH PP **PnPn** **21 09 49.2 -0.6**
PZH S **Sn** **21 13 05.3 -7.4**
PZH sS **S** **21 13 15.9 +2.4**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,290nm,4.1s
PZH LR LR
comp=Z,580nm,12.4s
PZH LR LR
comp=Z,830nm,11.8s
PZH LR LR
comp=Z,740nm,11.2s
HHC Hu-ho-hao-te 20.23 335 ⇑*i*P Pn 21 09 47.9 +0.1
HHC pP sP 21 09 51.3 -0.4
HHC PP **PnPn** **21 10 01.6 -1.0**
HHC S **S** **21 13 32.1 +0.1**
HHC sS sS 21 13 39.2 +0.8
HHC SS **SnSn** **21 13 58.1 +8.3**
HHC pmax pmax
comp=Z,83nm,1.4s
HHC pmax pmax
comp=Z,290nm,4.0s
HHC LR LR
comp=Z,750nm,11.9s
HHC LR LR
comp=Z,870nm,12.0s
HHC LR LR
comp=Z,440nm,15.8s
BTO Baotou 20.66 332 *e*P Pn 21 09 54.1 +1.3
BTO pP sP 21 09 58.2 +1.8
BTO sP pwP 21 10 01.1 -0.7
BTO PP **PnPn** **21 10 16.3 +7.8**
BTO pmax pmax
comp=Z,120nm,1.2s
BTO pmax pmax
comp=Z,360nm,4.3s
BTO LR LR
comp=Z,2μm,13.5s
BTO LR LR
comp=Z,4μm,19.2s
BTO LR LR
comp=Z,3μm,12.8s
LZH Lanzhou 20.95 313 *e*P Pn 21 09 56.1 -0.2
LZH sP pwP 21 10 07.6 +2.8
LZH SS Sn 21 14 12.0 +19
LZH pmax pmax
comp=Z,21nm,1.8s
LZH pmax pmax
comp=Z,200nm,6.1s
LZH LR LR
comp=Z,2μm,17.2s
LZH LR LR
comp=Z,1μm,16.1s
LZH LR LR
comp=Z,1μm,12.7s
CN2 Changchun 21.05 6 *e*P **P** **21 09 54.1 -0.4**
CN2 *e*PP **PnPn** **21 10 16.8 +3.0**
CN2 *e*S **S** **21 13 43.5 -4.6**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,460nm,13.0s
CN2 LR LR
comp=Z,420nm,13.0s
CN2 LR LR
comp=Z,450nm,14.0s
PHRA Phrae 21.35 262 P **P** **21 09 57.7 -0.3**
JMM Marumori 21.66 42 P **P** **21 09 58.6 -2.4**
JMM IAmb IAmb 21 10 16.4
comp=Z,89nm,1.4s
TOLI2 Tolitoli 21.66 185 P **P** **21 09 59.0 -2.2**
TOLI2 IAmb IAmb 21 10 03.6
comp=Z,66nm,1.0s
TOLI2 Tolitoli 21.66 185 P **P** **21 10 00.0 -1.3**
XLT XiLinHaoTe 21.69 347 *e*P **P** **21 09 55.1 -6.4**
XLT pP pP 21 10 01.1 -4.4
XLT sP sP 21 10 04.0 -3.5
XLT PP **PnPn** **21 10 23.5 +0.9**
XLT S **S** **21 13 54.2 -6.7**
XLT SS **SnSn** **21 14 20.6 -5.1**
XLT pmax pmax
comp=Z,40nm,1.2s
XLT LR LR
comp=N,30nm,17.0s
XLT LR LR
comp=E,1μm,18.7s
XLT LR LR
comp=Z,710nm,17.0s
TNCH TengChong 22.10 281 P **P** **21 10 05.7 -0.5**
TNCH pmax pmax
comp=Z,26nm,2.0s
KMSI Cibinong 22.16 176 P **P** **21 10 07.8 +1.1**
comp=Z,170nm,1.2s,comp=Z,5μm
MRSI Marisa 22.23 182 P **P** **21 10 09.7 +2.3**
comp=Z,72nm,1.0s,comp=Z,882nm
TNTI Ternate 22.41 167 P **P** **21 10 08.1 -1.2**
TNTI IAmb IAmb 21 10 10.1
comp=Z,90nm,1.1s
TNTI Ternate 22.41 167 P **P** **21 10 09.0 -0.4**
TNTI Ternate 22.41 167 P **P** **21 10 08.9 -0.4**
comp=Z,76nm,1.1s,comp=Z,828nm
CHTO Chiang Mai 22.45 264 P **P** **21 10 09.5 -0.3**
CHTO IAmb IAmb 21 10 27.1
comp=Z,34nm,1.3s
MDJ Mudanjiang 22.48 13 P **P** **21 10 08.0 -1.9**
MDJ Mudanjiang 22.48 13 P **P** **21 10 08.0 -1.9**
MDJ PP **PnPn** **21 10 34.1 +0.8**
MDJ pmax pmax
comp=Z,21nm,1.0s
MDJ LR LR
comp=Z,590nm,15.1s
MDJ LR LR
comp=Z,1μm,16.1s
MDJ LR LR
comp=Z,460nm,22.7s
MDJ Mudanjiang 22.48 13 P **P** **21 10 08.4 -1.5**
MPSI Mapaga 22.51 187 P **P** **21 10 10.5 +0.1**
comp=Z,29nm,1.0s
CM31 Chiang Mai Arr 22.54 263 P **P** **21 10 10.5 -0.3**
CM31 IAmb IAmb 21 10 27.5
comp=Z,26nm,1.2s
CMAR Chiang Mai Arr 22.54 263 P **P** **21 10 10.1 -0.7**
CMAR Chiang Mai Arr 22.54 263 P **P** **21 10 12.2 +1.4**
comp=Z,3.7nm,0.9s,baz=65,slow=8.4,SNR=26
CMAR LR LR 21 20 16.5
comp=Z,278nm,19.6s,baz=75,slow=40
comp=Z,3.7nm,0.9s
SBUM Sibu 22.62 208 P **P** **21 10 11.0 -0.5**
SBUM Sibu 22.62 208 P **P** **21 10 12.8 +1.3**
USA0B Ussuriysk Arra 22.68 18 P **P** **21 10 08.7 -3.3**
USRK Ussuriysk Ar. 22.68 18 P **P** **21 10 09.4 -2.6**
USRK Ussuriysk Ar. 22.68 18 P **P** **21 10 11.4 -0.6**
comp=Z,5.0nm,0.7s,baz=207,slow=8.9,SNR=11
USRK LR LR 21 19 07.8
comp=Z,446nm,21.4s,baz=192,slow=37
comp=Z,5.0nm,0.7s
GUMO Guam 23.05 110 LR LR 21 17 02.8
comp=Z,205nm,20.2s,baz=338,slow=31
BNX BinXian 23.19 9 ⇑P **P** **21 10 15.2 -2.1**
BNX S **S** **21 14 22.8 -5.2**
BNX pmax pmax
comp=Z,33nm,1.0s
BNX LR LR
comp=Z,470nm,15.9s
BNX LR LR
comp=Z,580nm,13.1s
BNX LR LR
comp=Z,680nm,13.1s
APSI Ampana 23.61 182 P **P** **21 10 23.4 +1.7**
LUWI Luwuk 23.73 180 P **P** **21 10 22.1 -0.7**
LUWI Luwuk 23.73 180 P **P** **21 10 25.1 +2.3**
LUWI Luwuk 23.73 180 P **P** **21 10 23.2 +0.4**
comp=Z,180nm,1.2s,comp=Z,2μm
JTM Tenmabayashi 23.73 37 P **P** **21 10 20.7 -1.9**
SRDT SRDT 23.76 253 P **P** **21 10 25.6 +2.4**
LBMI Labuha 23.81 168 P **P** **21 10 24.6 +1.0**
KSM Kuching 24.35 211 P **P** **21 10 27.3 -1.3**
KSM Kuching 24.35 211 P **P** **21 10 30.1 +1.5**
BKB Balikpapan 24.58 194 P **P** **21 10 28.6 -2.1**
BKB Balikpapan 24.58 194 P **P** **21 10 30.9 +0.2**
comp=Z,114nm,0.9s,comp=Z,2μm
MTKI Muara Teweh, K 24.79 199 P **P** **21 10 35.0 +2.4**
SANI Sanana 24.95 172 P **P** **21 10 33.8 -0.2**
SANI Sanana 24.95 172 P **P** **21 10 33.4 -0.6**
comp=Z,39nm,1.2s,comp=Z,534nm
SWI Sorong 25.02 159 P **P** **21 10 36.1 +1.4**
comp=Z,23nm,0.9s
GTA Gaotai 25.45 316 *e*P **P** **21 10 40.0 +1.4**
GTA sP pwP 21 10 51.7 +1.6
GTA sS sS 21 15 15.6 +3.0
GTA SS **SnSn** **21 16 01.4 +3.7**
GTA pmax pmax
comp=Z,6.0nm,1.5s
GTA LR LR
comp=Z,440nm,13.5s
GTA LR LR
comp=Z,740nm,12.7s
GTA LR LR
comp=Z,760nm,12.4s
TTSI Tana Toraja 25.86 186 P **P** **21 10 44.5 +2.2**
comp=Z,30nm,1.1s
NLAI Namlea 26.28 170 P **P** **21 10 47.5 +1.4**
comp=Z,71nm,1.1s,comp=Z,918nm
HIA Hailar 26.48 356 P **P** **21 10 45.7 -2.0**
MSAI Masohi 26.74 166 P **P** **21 10 51.7 +1.4**
comp=Z,59nm,1.5s,comp=Z,2μm
SPSI Sidrap Palu 26.77 186 P **P** **21 10 52.8 +2.3**
comp=Z,17nm,1.1s
ASAJ Asahikawa 26.88 33 LR LR 21 22 44.9
comp=Z,211nm,20.0s,baz=245,slow=39
JKA Kamikawa-asahi 26.88 33 P **P** **21 10 50.7 -0.6**
JKA IAmb IAmb 21 11 20.6
comp=Z,14nm,1.0s
AAI Ambon 26.92 168 P **P** **21 10 53.0 +1.1**
comp=Z,26nm,0.9s,comp=Z,1μm
FAKI Fak Fak 27.27 159 P **P** **21 10 54.1 -0.9**
FAKI IAmb IAmb 21 11 18.6
comp=Z,41nm,1.1s
FAKI Fak Fak 27.27 159 P **P** **21 10 55.0 -0.1**
comp=Z,36nm,1.1s
KLR Kul'dur 27.33 13 LR LR 21 21 49.7
comp=Z,416nm,22.0s,baz=192,slow=37
GOMU GeErMu 27.49 305 P **P** **21 10 58.0 +0.7**
GOMU pP sP 21 11 02.9 -0.5
GOMU sP pwP 21 11 06.8 -2.0
GOMU S **S** **21 15 37.8 +0.3**
GOMU pmax pmax
comp=Z,12nm,1.2s
GOMU LR LR
comp=Z,3μm,14.5s
GOMU LR LR
comp=Z,930nm,14.1s
GOMU LR LR
comp=Z,1μm,14.7s
HEH HeiHe 27.63 7 *e*P **P** **21 10 57.4 -0.6**
HEH pmax pmax
comp=Z,15nm,1.4s
HEH pmax pmax
comp=Z,210nm,5.5s
HEH LR LR
comp=Z,820nm,16.1s
HEH LR LR
comp=Z,270nm,12.8s
HEH LR LR
comp=Z,1μm,14.5s
KAPI Kappang 27.81 186 LR LR 21 22 28.5
comp=Z,193nm,21.4s,baz=344,slow=37
ULN Ulaanbaatar 27.90 337 P **P** **21 11 00.1 -0.6**
ULN IAmb IAmb 21 11 02.2
comp=Z,37nm,1.4s
BNDI Bandanaira 28.11 164 P **P** **21 11 02.5 0.0**
SHL Shillong 28.11 282 P **P** **21 11 01.4 -1.4**
SHL IAmb IAmb 21 11 50.0
comp=Z,11nm,0.6s
SONM Songino Array 28.11 337 P **P** **21 11 01.7 -0.8**
SONM IAmb IAmb 21 11 17.9
comp=Z,40nm,1.7s
SONM Songino Array 28.11 337 P **P** **21 11 02.6 +0.1**
comp=Z,8.8nm,1.1s,baz=157,slow=9.6,SNR=33
SONM LR LR 21 22 40.5
comp=Z,544nm,21.2s,baz=146,slow=37
comp=Z,8.8nm,1.1s
LSA Lhasa 28.95 290 P **P** **21 11 08.6 -2.0**
SAUI Saumlaki 31.79 163 P **P** **21 11 33.6 -1.5**
SAUI Saumlaki 31.79 163 P **P** **21 11 36.9 +1.8**
comp=Z,82nm,1.4s
SAUI Saumlaki 31.79 163 P **P** **21 11 35.0 -0.1**
BATI Baumata 32.85 178 LR LR 21 27 26.1
comp=Z,120nm,18.5s,baz=8.0,slow=41
WMQ Urumqi 35.52 315 *e*P **P** **21 12 09.6 +2.1**
WMQ pmax pmax
comp=Z,14nm,1.3s
WMQ LR LR
comp=Z,940nm,14.1s
WMQ LR LR
comp=Z,680nm,12.9s
WMQ LR LR
comp=Z,170nm,17.9s
MTN Manton Dam 36.43 166 P **P** **21 12 13.8 -1.5**
MTN IAmb IAmb 21 12 14.6
comp=Z,52nm,1.4s
MTN Manton Dam 36.43 166 P **P** **21 12 13.9 -1.5**
KDU Kakadu 36.60 164 P **P** **21 12 16.0 -0.8**
KNRA Kununurra 38.74 170 P **P** **21 12 33.9 -1.0**
KNRA IAmb IAmb 21 12 37.4
comp=Z,56nm,1.6s
ZSN Zaisan 38.87 319 *e*P **P** **21 12 36.4 +0.6**
YAK Yakutsk 39.48 5 P **P** **21 12 39.8 -0.9**
YAK IAmb IAmb 21 12 41.7
comp=Z,39nm,0.8s
YAK Yakutsk 39.48 5 LR LR 21 30 19.4
comp=Z,293nm,20.5s,baz=180,slow=38
PMG Port Moresby 40.07 140 LR LR 21 26 02.1
comp=Z,52nm,20.8s,baz=321,slow=31
MK31 Makanchi Array 40.20 316 P **P** **21 12 46.6 -0.3**
MK31 IAmb IAmb 21 12 49.3
comp=Z,14nm,1.1s
MKAR Makanchi Array 40.20 316 P **P** **21 12 47.0 0.0**
MKAR Makanchi Array 40.20 316 P **P** **21 12 48.0 +1.1**
comp=Z,9.5nm,0.8s,baz=105,slow=10,SNR=62
comp=Z,9.5nm,0.8s
PEA0B Petropavlovsk- 40.29 32 P **P** **21 12 46.9 -0.6**
PETK Petropavlovsk- 40.29 32 P **P** **21 12 47.4 -0.1**
PETK Petropavlovsk- 40.29 32 P **P** **21 12 48.1 +0.5**
comp=Z,8.9nm,0.8s,baz=160,slow=3.4,SNR=6.5
PETK LR LR 21 31 28.7
comp=Z,99nm,18.4s,baz=233,slow=39
comp=Z,8.9nm,0.8s
MAKZ Makanchi 40.41 316 P **P** **21 12 48.4 -0.3**
MAKZ IAmb IAmb 21 12 51.1
comp=Z,20nm,1.1s
WUS Wushi 40.60 307 P **P** **21 12 50.3 -0.2**
SHLS Shalkode 40.91 310 *e*P **P** **21 12 51.0 -2.0**
UZB Uzynbulak 41.22 310 *e*P **P** **21 12 56.1 +0.5**
H11N1 WAKE ISLAND Hy 41.29 86 T T 21 57 12.8
baz=282
H11N2 WAKE ISLAND Hy 41.29 86 T T 21 57 00.1
baz=282
H11N3 WAKE ISLAND Hy 41.31 86 T T 21 57 03.0
baz=282
H11S3 WAKE ISLAND Hy 41.38 88 T T 21 57 00.1
baz=283,slow=75,SNR=9.9
H11S1 WAKE ISLAND Hy 41.39 88 T T 21 57 08.9
baz=283,slow=75,SNR=7.9
H11S2 WAKE ISLAND Hy 41.40 88 T T 21 57 06.6

baz=283,slow=75,SNR=7.1
PRZ Przheval'sk 41.50 309 P P 21 12 57.1 -0.8
KPKS Kokpek 41.55 310 *eP* **P 21 12 58.8 +0.7**
SATY Saty 41.64 310 *eP* **P 21 12 59.4 +0.5**
COEN Coen 41.75 149 P P 21 13 00.1 +0.1
COEN IAmb IAmb 21 13 13.1
comp=Z,24nm,0.8s
COEN Coen 41.75 149 P P 21 13 01.6 +1.7
MA2 Magadan 41.76 21 LR LR 21 30 53.7
comp=Z,330nm,20.4s,baz=216,slow=37
ZAA0 Zalesovo Array 42.08 327 P P 21 13 02.1 -0.1
ZAA0 IAmb IAmb 21 13 03.3
comp=Z,15nm,0.9s
ZALV Zalesovo Beam 42.08 327 P P 21 13 01.5 -0.7
ZALV Zalesovo Beam 42.08 327 P P 21 13 02.4 +0.2
comp=Z,12nm,0.8s,baz=114,slow=8.1,SNR=51
ZALV LR LR 21 30 45.8
comp=Z,209nm,18.6s,baz=98,slow=36
comp=Z,12nm,0.8s
TDK Taldygorghan 42.16 313 *eP* **P 21 13 03.5 +0.4**
comp=Z,19nm,0.9s
KDJ Kajisay 42.30 308 P P 21 13 03.5 -1.0
MDOK Medeo 42.63 310 *eP* **P 21 13 07.3 +0.2**
KSH Kashi 42.72 304 P P 21 13 12.0 +4.2
KSH pmax pmax
comp=Z,4.0nm,1.2s
KSH LR LR
comp=Z,620nm,21.3s
KSH LR LR
comp=Z,350nm,18.5s
KSH LR LR
comp=Z,370nm,17.5s
SEM Semipalatinsk 42.88 321 *eP* **P 21 13 09.4 +0.3**
comp=Z,20nm,1.0s
NRN Naryn 43.02 307 P P 21 13 10.4 -0.1
NRN IAmb IAmb 21 13 24.3
comp=Z,24nm,1.5s
KUU Kurty 43.30 310 *eP* **P 21 13 12.9 +0.5**
WB0 Warramunga Arr 43.88 164 P P 21 13 16.4 -0.8
WB0 IAmb IAmb 21 13 19.3
comp=Z,19nm,0.9s
KURK Kurchatov 43.95 321 P P 21 13 17.4 0.0
KURK IAmb IAmb 21 13 19.4
comp=Z,17nm,0.8s
KURBB Kurchatov Arra 43.97 320 P P 21 13 18.4 +0.9
comp=Z,15nm,0.9s,baz=113,slow=8.3,SNR=72
comp=Z,15nm,0.9s
WRA Warramunga Arr 44.03 164 P P 21 13 17.2 -1.1
WRA Warramunga Arr 44.03 164 P P 21 13 18.0 -0.3
comp=Z,13nm,0.9s,baz=346,slow=8.6,SNR=41
comp=Z,13nm,0.9s
WR0 Warramunga Arr 44.10 164 P P 21 13 17.9 -1.1
WR0 IAmb IAmb 21 13 21.2
comp=Z,18nm,0.8s
AAK Ala-Archa 44.35 308 P P 21 13 21.0 0.0
AAK Ala-Archa 44.35 308 LR LR 21 32 12.6
comp=Z,321nm,20.8s,baz=95,slow=37
SGDS Sogindy 44.41 309 *eP* **P 21 13 21.9 +0.5**
NIL Nilore 44.42 295 P P 21 13 20.3 -1.2
NIL IAmb IAmb 21 13 34.9
comp=Z,17nm,1.1s
BTLS Baital 45.16 311 *eP* **P 21 13 27.7 +0.5**
MTSU Mount Surprise 45.92 151 P P 21 13 35.2 +1.7
QIS Mount Isa 46.21 158 P P 21 13 38.0 +2.3
BTK Batken 46.73 304 P P 21 13 38.4 -1.4
BTK IAmb IAmb 21 13 58.3
comp=Z,12nm,1.4s
GAR Garm 47.02 303 P P 21 13 41.7 -0.5
BRZS Berezniki 47.30 318 *eP* **P 21 13 44.4 +0.5**
KKAR Karatay Array 47.31 308 P P 21 13 43.9 -0.3
AS31 Alice Springs 47.51 166 P P 21 13 45.3 -0.5
ASAR Alice Springs 47.51 166 P P 21 13 45.2 -0.6
ASAR Alice Springs 47.51 166 P P 21 13 46.0 +0.2
comp=Z,3.0nm,0.4s,baz=350,slow=11,SNR=60
comp=Z,3.0nm,0.4s
AS01 Alice Springs 47.52 166 P P 21 13 46.9 +1.0
comp=Z,8.3nm,1.0s
IUG Iuzhnay 47.54 307 *eP* **P 21 13 46.5 +0.4**
comp=Z,12nm,1.2s
BRLS Borolday 47.80 308 *eP* **P 21 13 49.1 +1.2**
CHM Chimkent 47.88 307 *eP* **P 21 13 49.2 +0.6**
KBL Kabul 47.91 297 P P 21 13 48.4 -0.8
KBL IAmb IAmb 21 14 02.6
comp=Z,21nm,1.4s
SIMJ Simiganj 48.02 302 P P 21 13 49.5 -0.4
SIMJ IAmb IAmb 21 14 06.7
comp=Z,9.0nm,1.4s
TIXI Tiksi 48.98 3 P P 21 13 55.7 -0.8
TIXI Tiksi 48.98 3 LR LR 21 36 34.6
comp=Z,718nm,20.6s,baz=192,slow=38
SHEM Shemya Is, Ala 49.05 39 LR LR 21 34 52.9
comp=Z,43nm,21.9s,baz=142,slow=36
BVAR Borovoye Array 49.53 321 P P 21 14 01.0 -0.1
comp=Z,3.9nm,0.6s,baz=99,slow=6.8,SNR=20
BVAR LR LR 21 34 34.1
comp=Z,201nm,21.4s,baz=103,slow=36
comp=Z,3.9nm,0.6s
BRVK Borovoye 49.60 321 P P 21 14 01.1 -0.6
BRVK IAmb IAmb 21 14 03.8
comp=Z,12nm,0.9s
NRIK Noril'sk 51.04 345 P P 21 14 11.5 -0.7
NRIK IAmb IAmb 21 14 13.6
comp=Z,31nm,1.1s
NRIK Noril'sk 51.04 345 P P 21 14 12.6 +0.3
comp=Z,13nm,0.9s,baz=127,slow=6.4,SNR=18
NRIK LR LR 21 36 55.2
comp=Z,222nm,20.6s,baz=147,slow=37
comp=Z,13nm,0.9s
OOD Oodnadatta 51.89 165 P P 21 14 20.5 +1.4
BILL Bilibino 52.53 19 P P 21 14 24.0 +0.6
HRA Herat 53.53 297 P P 21 14 30.8 -0.8
MULG Mulgathing 53.94 168 P P 21 14 37.6 +3.4
LCRK Leigh Creek 55.06 164 P P 21 14 45.0 +2.7
ABKAR Akbulak array 55.30 315 P P 21 14 44.4 +0.4
ABKAR IAmb IAmb 21 14 46.2
comp=Z,6.7nm,0.8s
ABKAR Akbulak array 55.30 315 P P 21 14 44.5 +0.6
NWAO Narrogin (SRO) 55.68 185 LR LR 21 38 20.1
comp=Z,30nm,20.4s,baz=54,slow=36
BBOO Buckleboo 56.80 166 P P 21 14 54.6 -0.1
BBOO Buckleboo 56.80 166 P P 21 14 57.4 +2.6
ARTI Arti 57.05 323 LR LR 21 39 00.2
comp=Z,167nm,20.4s,baz=101,slow=36
STKA Stephens Creek 57.36 161 P P 21 14 59.6 +0.9
STKA Stephens Creek 57.36 161 P P 21 14 59.4 +0.7
comp=Z,3.1nm,0.7s,baz=339,slow=9.3,SNR=4.7
comp=Z,3.1nm,0.7s
WSAR Wadi Sarin 58.40 284 LR LR 21 43 36.6
comp=Z,64nm,19.1s,baz=80,slow=40
GAMB Gambell 59.06 28 P P 21 15 11.3 +1.1
baz=259
DZM Mont Dzumac 61.77 133 *e*LR LR 21 33 52.5
comp=Z,215nm,24.9s
K13K Kusilvak Mount 62.02 31 P P 21 15 29.2 -1.3
baz=266
KIRV Kirov 62.06 325 LR LR 21 42 10.9
comp=Z,220nm,20.2s,baz=95,slow=36
F15K North Star Dit 62.34 26 P P 21 15 32.2 -0.4
baz=264
G15K Niukluk 62.52 27 P P 21 15 33.0 -0.9
baz=265
M13K Dall Lake 62.57 33 P P 21 15 33.1 -1.1
baz=268
J14K Nanvaranak Lak 62.58 30 P P 21 15 34.5 +0.3
baz=267
L14K Kuka Creek 62.93 31 P P 21 15 37.0 +0.5
L14K Kuka Creek 62.93 31 P P 21 15 36.3 -0.3
baz=268
D17K Noatak River 63.15 24 P P 21 15 36.3 -1.7
baz=265
BELG Belogornoye 63.16 318 LR LR 21 43 30.1
comp=Z,116nm,18.8s,baz=81,slow=36
C17K DeLong Mountai 63.19 23 P P 21 15 36.5 -1.7
baz=264
RDOG Red Dog Mine 63.25 24 P P 21 15 36.4 -2.3
baz=265
M14K Bethel 63.27 32 P P 21 15 39.9 +1.1
baz=269
N14K Kuskokwak Cree 63.40 33 P P 21 15 41.1 +1.4
baz=270
O14K Tigyukauivet M 63.61 34 P P 21 15 41.3 +0.2
baz=271
M15K Kasigluk River 63.89 32 P P 21 15 42.7 -0.3
baz=270
C18K Utukok River 63.93 23 P P 21 15 43.0 -0.2
J16K Anvik River 63.94 29 P P 21 15 43.9 +0.6
baz=269
G17K Kiwalik Mounta 63.98 27 P **P 21 15 43.7 +0.2**
baz=268
E18K Tukpahlearik C 64.08 25 P **P 21 15 44.1 0.0**
baz=267
A19K Wainwright 64.09 22 P **P 21 15 44.1 0.0**
baz=265
N15K Kwethluk River 64.19 33 P **P 21 15 45.4 +0.4**
baz=271
H17K Granite Mounta 64.27 27 P **P 21 15 46.5 +1.0**
baz=269
F18K Selawik 64.42 26 P **P 21 15 47.3 +1.0**
baz=268
L16K Owhat River 64.47 31 P **P 21 15 46.8 0.0**
baz=271
C19K Lookout Ridge 64.54 23 P **P 21 15 47.3 +0.1**
baz=267
J17K VABM Dome 64.63 29 P **P 21 15 48.9 +1.1**
J17K VABM Dome 64.63 29 P **P 21 15 47.9 +0.1**
baz=271
CHNA Chernabura Isl 64.71 39 P **P 21 15 49.1 +0.7**
baz=274
M16K Timber Creek 64.73 32 P **P 21 15 49.1 +0.5**
baz=272
G18K Tagagawik 64.81 26 P **P 21 15 49.4 +0.4**
baz=270
N16K Nishlik Lake 64.84 32 P **P 21 15 50.6 +1.3**
baz=272
H18K Honhosa River 64.93 27 P **P 21 15 50.3 +0.5**
baz=270
K17K Iditarod 65.00 30 P **P 21 15 51.0 +0.8**
baz=272
L17K Donlin 65.02 31 P **P 21 15 50.3 0.0**
baz=272
D19K Kuna River 65.06 24 P **P 21 15 50.6 +0.1**
baz=269
F19K Shaleruckik Mo 65.17 25 P **P 21 15 52.1 +0.8**
baz=270
O16K Kokwok River B 65.22 33 P **P 21 15 52.3 +0.6**
baz=273
CHGN Chignik 65.27 37 P **P 21 15 51.9 -0.1**
baz=274
E19K Redstone River 65.38 25 P **P 21 15 53.1 +0.5**
E19K Redstone River 65.38 25 P **P 21 15 53.4 +0.8**
baz=270
G19K Purcell Mounta 65.45 26 P **P 21 15 53.9 +0.8**
baz=271
GCSA Galena City Sc 65.57 28 P **P 21 15 54.3 +0.5**
baz=272
D20K Etivluk River 65.61 23 P **P 21 15 54.7 +0.6**
baz=270
N17K Nushagak Hills 65.62 32 P **P 21 15 54.6 +0.3**
baz=274
J18K Innoko River 65.69 29 P **P 21 15 55.1 +0.4**
baz=273
H19K Roundabout Mou 65.73 27 P **P 21 15 55.6 +0.7**
baz=272
L18K Granite Mounta 65.77 30 P **P 21 15 55.3 +0.1**
L18K Granite Mounta 65.77 30 P **P 21 15 55.2 0.0**
baz=273
E20K Nigu River 65.77 24 P **P 21 15 55.4 +0.2**
baz=271
F20K Avaraart Lake 65.97 25 P **P 21 15 56.4 0.0**
baz=272
TTA Tatalina 66.04 30 P **P 21 15 56.8 -0.2**
baz=274
TTA Tatalina 66.04 30 P **P 21 15 59.4 +2.4**
P17K Kvichak River 66.09 34 P **P 21 15 57.2 -0.1**
baz=275
J19K Poorman 66.15 28 P **P 21 15 58.0 +0.4**
J19K IAmb IAmb 21 16 03.2
comp=Z,18nm,1.0s
J19K Poorman 66.15 28 P **P 21 15 58.3 +0.6**
baz=273
A22K Sinclair Lake 66.16 21 P **P 21 15 58.1 +0.6**
baz=271
M18K Stony River 66.22 31 P **P 21 15 58.2 +0.1**
baz=274
N18K Kilae Creek 66.25 32 P **P 21 15 58.2 -0.2**
baz=275
C21K Knifeblade Rid 66.26 23 P **P 21 15 58.0 -0.3**
baz=272
B21K Ikpikpuk River 66.31 22 P **P 21 15 58.7 +0.2**
baz=272
H20K Anotleneega Mo 66.38 27 P **P 21 16 00.2 +1.1**
baz=273
E21K Killik River 66.58 24 P **P 21 16 00.5 +0.1**
baz=273
I20K Naaghedeneel 66.60 28 P **P 21 16 00.7 +0.2**
baz=274,SNR=5.3
L19K White Mountain 66.63 30 P **P 21 16 01.2 +0.5**
baz=275
GNI Garni 66.63 305 LR LR 21 48 31.4
comp=Z,94nm,19.5s,baz=84,slow=39
O18K Koktuh Hills 66.66 33 P **P 21 16 01.5 +0.5**
baz=276
B22K Teshekpuk Lake 66.69 22 P **P 21 16 01.4 +0.4**
baz=273
P18K Big Mountain, 66.69 34 P **P 21 16 01.0 -0.2**
baz=276
J20K Nowinta River 66.79 28 P **P 21 16 02.2 +0.6**
J20K IAmb IAmb 21 16 07.1
comp=Z,14nm,1.1s
J20K Nowinta River 66.79 28 P **P 21 16 02.9 +1.2**
baz=275
F21K Alatna River 66.84 25 P **P 21 16 03.7 +1.7**
baz=274
M19K Big River Lodg 66.87 31 P **P 21 16 03.0 +0.7**
baz=275
G21K Allakaket 66.88 26 P **P 21 16 03.2 +1.0**
baz=274
K20K Telida 66.89 29 P **P 21 16 03.9 +1.6**
baz=275
N19K Bonanza Creek 66.93 32 P **P 21 16 02.9 +0.1**
baz=276
D22K Ayikyak River 67.03 23 P **P 21 16 04.0 +0.8**
baz=274
L20K Farewell, AK 67.05 30 P **P 21 16 05.2 +1.7**
baz=276
H21K Melozitna Rive 67.23 27 P **P 21 16 05.7 +1.2**
baz=275
F22K John River 67.32 25 P **P 21 16 06.5 +1.4**
baz=275
KBZ Khabaz 67.33 309 P **P 21 16 06.9 +1.5**
comp=Z,3.4nm,0.9s,baz=141,slow=5.4,SNR=6.9
KBZ LR LR 21 48 37.1
comp=Z,114nm,19.1s,baz=66,slow=39
comp=Z,3.4nm,0.9s
E22K Anaktuvuk Pass 67.41 24 P **P 21 16 06.6 +0.9**
baz=275
KIV Kislovodsk 67.44 310 P **P 21 16 06.1 -0.3**
KIV IAmb IAmb 21 16 09.0
comp=Z,17nm,1.1s
KIV Kislovodsk 67.44 310 P **P 21 16 07.9 +1.6**
comp=Z,13nm,1.3s
M20K Styx River 67.46 31 P **P 21 16 06.8 +0.6**
baz=276
Q19K Cape Douglas, 67.56 34 P **P 21 16 06.3 -0.5**
baz=277
CHUM Lake Minchumin 67.62 28 P **P 21 16 06.8 -0.1**
baz=276
G22K Bettles 67.64 25 P **P 21 16 07.4 +0.4**
baz=276
P19K Oil Pt 67.68 33 P **P 21 16 08.2 +0.8**
baz=277
C23K Itkillik River 67.69 22 P **P 21 16 09.0 +1.7**
baz=275
D23K Nanushuk River 67.75 23 P **P 21 16 09.1 +1.4**
baz=276
CAST Castle Rocks 67.77 29 P **P 21 16 08.7 +0.7**
CAST Castle Rocks 67.77 29 P **P 21 16 08.8 +0.7**
baz=277,SNR=7.7
PPLA Purkeypile 67.78 30 P **P 21 16 09.2 +1.0**
baz=277
H22K Ishtalitna Cre 67.80 26 P **P 21 16 09.2 +1.1**
baz=276,SNR=12
O20K Slope Mountain 67.93 33 P **P 21 16 10.0 +0.9**
baz=276
N20K Mount Spurr 67.98 31 P **P 21 16 10.3 +0.9**
baz=278
SPCR Spurr Chakacha 67.98 31 P **P 21 16 10.1 +0.6**
baz=278
COLD Coldfoot 68.11 25 P **P 21 16 10.9 +0.8**
baz=277
MLY Manley 68.16 27 P **P 21 16 11.2 +0.8**
MLY Manley 68.16 27 P **P 21 16 10.6 +0.2**
baz=277,SNR=5.5
BPAW Bear Paw Mtn. 68.17 28 P **P 21 16 11.2 +0.7**
baz=277
TOLK Toolik Lake Re 68.18 23 P **P 21 16 11.1 +0.6**
TOLK IAmb IAmb 21 16 15.5
comp=Z,15nm,0.9s
TOLK Toolik Lake Re 68.18 23 P **P 21 16 11.4 +0.9**
baz=277,SNR=5.1
SKT Skwentna 68.20 30 P **P 21 16 11.4 +0.7**
baz=278
E23K Chandalar 68.23 24 P **P 21 16 11.8 +0.9**
baz=277
G23K Bananza Creek 68.24 25 P **P 21 16 11.3 +0.4**
baz=277
C24K Franklin Bluff 68.36 22 P **P 21 16 12.1 +0.6**
baz=277
D24K Happy Valley 68.39 23 P **P 21 16 12.1 +0.3**
baz=277
HOM Homer 68.48 33 P **P 21 16 12.7 +0.3**
baz=279
H23K Yukon River 68.55 26 P **P 21 16 13.4 +0.5**
baz=278
SUA Susitna One 68.65 31 P **P 21 16 13.2 -0.4**
SUA Susitna One 68.65 31 P **P 21 16 14.5 +0.8**
baz=279
E24K Your Creek 68.65 24 P **P 21 16 14.2 +0.7**
baz=278
I23K Minto, Yukon-K 68.72 27 P **P 21 16 14.8 +0.9**
baz=278
CUT Chulitna 68.73 30 P **P 21 16 14.3 +0.3**
baz=279
M22K Willow 68.90 31 P **P 21 16 13.7 -1.3**
baz=279
NEA2 Nenana 68.93 28 P **P 21 16 15.4 +0.2**
baz=279
F24K Squaw Lake 68.96 24 P **P 21 16 15.2 -0.1**
baz=279,SNR=16
MCK McKinley 69.12 28 P **P 21 16 16.9 +0.5**
baz=279
RND Reindeer 69.21 29 P **P 21 16 17.0 0.0**
D25K Kavik River 69.23 22 P **P 21 16 17.7 +0.7**
baz=280
H24K Noodor Dome 69.23 26 P **P 21 16 18.4 +1.3**
baz=280
G24K Hadweenzic Riv 69.25 25 P **P 21 16 17.8 +0.6**
baz=280
OBN Obninsk 69.36 322 LR LR 21 48 43.3
comp=Z,173nm,18.3s,baz=20,slow=38
PMR Palmer 69.39 31 P **P 21 16 18.7 +0.6**
baz=280
WAT1 Susitna Watana 69.44 29 P **P 21 16 19.6 +1.1**
baz=280
POKR Poker Plat Res 69.53 27 P **P 21 16 20.2 +1.2**
baz=280
C26K Camden Bay 69.63 22 P **P 21 16 20.2 +0.8**
baz=281
E25K Arctic Village 69.73 24 P **P 21 16 21.2 +1.1**
baz=281,SNR=5.5
SML Sawmill 69.73 30 P **P 21 16 21.3 +1.1**
baz=281
KNK Knik Glacier 69.74 31 P **P 21 16 20.2 -0.1**
baz=281
G25K Bearman Lake 69.78 25 P **P 21 16 21.3 +1.0**
baz=281
F25K Christian Rive 69.80 24 P **P 21 16 21.4 +0.9**
baz=281
ILAR Eielson Array 69.83 27 P **P 21 16 20.6 -0.1**
ILAR Eielson Array 69.83 27 P **P 21 16 20.9 +0.1**
comp=Z,1.0nm,0.7s,baz=292,slow=6.6,SNR=9.9
ILAR LR LR 21 49 38.0
comp=Z,96nm,18.4s,baz=272,slow=38
comp=Z,1.0nm,0.7s
WAT6 Susitna Watana 69.86 30 P **P 21 16 21.2 +0.1**
baz=281
HDA Harding Lake 69.87 28 P **P 21 16 20.6 -0.4**
HDA IAmb IAmb 21 16 25.3
comp=Z,8.6nm,0.9s
HDA Harding Lake 69.87 28 P **P 21 16 21.4 +0.4**
baz=281
PWL Port Wells 69.90 31 P **P 21 16 21.5 +0.2**
baz=281
DHY Denali Highway 69.93 29 P **P 21 16 21.2 -0.4**
baz=281
RAYN Ar Rayn 69.98 288 P **P 21 16 22.8 +0.4**
RAYN IAmb IAmb 21 16 35.0
comp=Z,10nm,1.4s
H25L Birch Creek 69.98 26 P **P 21 16 21.9 +0.3**
baz=281
M23K Glacier View 70.01 30 P **P 21 16 23.1 +1.1**
baz=281
C27K Jago River 70.09 22 P **P 21 16 23.2 +0.9**
baz=282
SCM Sheep Creek Mo 70.19 30 P **P 21 16 24.2 +1.1**
baz=281
BMAR Burnt Mountain 70.23 24 P **P 21 16 24.6 +1.4**
PRP Porcupine Dome 70.25 26 P **P 21 16 23.7 +0.3**
baz=282
F26K Sheenjek River 70.34 24 P **P 21 16 25.1 +1.3**
baz=282
K24K Donnelly Dome 70.49 28 P **P 21 16 25.4 +0.6**
baz=282
GLI Glacier Island 70.49 31 P **P 21 16 26.0 +1.2**
baz=282
J25K Salcha River, 70.50 27 P **P 21 16 25.5 +0.6**
baz=282
G26K Porcupine Rive 70.63 25 P **P 21 16 26.8 +1.2**
baz=283
M24K Tolsona, Glenn 70.67 30 P **P 21 16 26.7 +0.7**
baz=282
PAX Paxson 70.80 29 P **P 21 16 27.9 +1.0**
baz=283
KLU Klutina 70.92 30 P **P 21 16 29.1 +1.5**
baz=283
SPITS Spitsbergen Ar 71.07 348 LR LR 21 51 55.9
comp=Z,315nm,18.2s,baz=19,slow=40
D27M Malcolm River 71.13 22 P **P 21 16 29.7 +1.1**
baz=284
E27K Coleen River 71.17 23 P **P 21 16 30.4 +1.5**
baz=284
EYAK Cordova Ski Ar 71.21 31 P **P 21 16 29.9 +0.7**
baz=283
SCRK Sand Creek 71.22 28 P **P 21 16 28.9 -0.6**
SCRK Sand Creek 71.22 28 P **P 21 16 30.3 +0.9**
baz=284
ARCES ARCESS Array B 71.27 338 P **P 21 16 28.9 -0.6**
comp=Z,3.0nm,0.9s,baz=101,slow=4.7,SNR=1.7
ARCES LR LR 21 53 29.0
comp=Z,112nm,18.7s,baz=76,slow=41
comp=Z,3.0nm,0.9s
J26L Joseph Creek 71.28 27 P **P 21 16 30.2 +0.5**
baz=284
G27K Doyon Strip 71.48 25 P **P 21 16 31.9 +1.1**
baz=285
MENT Mentasta 71.59 29 P **P 21 16 33.1 +1.6**
BMRM Bremner River 71.66 31 P **P 21 16 33.5 +1.5**
baz=284
H27K Steamboat Moun 71.68 25 P **P 21 16 32.8 +0.8**
baz=285
L26K Log Cabin Wild 71.73 29 P **P 21 16 33.0 +0.6**
baz=284
E28M Babbage River 71.79 22 P **P 21 16 32.8 +0.2**
baz=286
I27K Kandik River 71.81 26 P **P 21 16 32.3 -0.5**
baz=285
D28M Stokes Point 71.87 22 P **P 21 16 33.8 +0.7**
baz=286
GLB Gilahina Butte 71.92 30 P **P 21 16 33.9 +0.3**
GLB IAmb IAmb 21 16 49.9
comp=Z,20nm,1.1s
F28M Old Crow 71.94 24 P **P 21 16 34.2 +0.6**
baz=286,SNR=13
K27K Chicken 72.03 27 P **P 21 16 35.4 +1.3**
baz=285
M26K Nabesna, AK 72.05 29 P **P 21 16 34.2 -0.1**
baz=285,SNR=9.6
EGAK Eagle 72.21 27 P **P 21 16 36.3 +1.1**
baz=286
MCARA McCarthy VSAT 72.30 30 P **P 21 16 36.4 +0.6**
baz=285
L27K Beaver Creek, 72.39 28 P **P 21 16 36.9 +0.5**
baz=286,SNR=8.9
BCAR Beaver Creek A 72.41 28 P **P 21 16 37.1 +0.6**
CRQE Cirque 72.43 31 P **P 21 16 36.7 0.0**
baz=285
E29M Blow River 72.43 23 P **P 21 16 37.6 +1.1**
baz=288
I28M Miner Creek 72.52 26 P **P 21 16 38.3 +1.1**
baz=287
M27K Edge Creek, AK 72.56 29 P **P 21 16 37.5 0.0**
baz=286

G29M	Pine Creek	72.84	24	P	P	21 16 39.3	+0.4
	baz=288,SNR=6.1						
H29M	Whitestone	72.91	25	P	P	21 16 40.8	+1.5
	baz=288						
BVCY	Beaver Creek	73.00	29	P	P	21 16 40.1	+0.2
	baz=287						
MESA	MESA	73.13	31	P	P	21 16 40.4	-0.6
	baz=286						
DAWY	Dawson	73.15	27	P	P	21 16 41.5	+0.6
DAWY				IAmb	IAmb	21 16 46.3	
	comp=Z,11nm,0.8s						
DAWY	Dawson	73.15	27	P	P	21 16 41.0	+0.1
	baz=288,SNR=12						
CTG	Chitna Glacier	73.19	30	P	P	21 16 41.2	-0.1
	baz=287						
I29M	Ogilvie Camp,	73.20	26	P	P	21 16 42.1	+1.0
	baz=288						
FINES	FINESS Array B	73.26	330	P	P	21 16 41.7	+0.3
FINES	FINESS Array B	73.26	330	P	P	21 16 41.6	+0.2
	comp=Z,2.6nm,0.8s,baz=60,slow=5.4,SNR=7.9						
FINES				LR	LR	21 51 32.3	
	comp=Z,288nm,19.0s,baz=74,slow=38						
	comp=Z,2.6nm,0.8s						
YUK3	Moose Creek	73.36	30	P	P	21 16 42.3	-0.1
	baz=287						
F30M	Barrier River	73.44	23	P	P	21 16 43.3	+0.9
	baz=290						
G30M	tAoh Zraii Nji	73.49	24	P	P	21 16 43.4	+0.6
	baz=289						
EPYK	Eagle Plains	73.50	24	P	P	21 16 43.9	+1.0
	baz=289,SNR=8.4						
J29N	Klondike Camp	73.52	27	P	P	21 16 43.2	+0.1
J29N				IAmb	IAmb	21 16 49.1	
	comp=Z,16nm,0.7s						
J29N	Klondike Camp	73.52	27	P	P	21 16 42.5	-0.6
	baz=288,SNR=5.1						
O28M	Mount Upton	73.79	30	P	P	21 16 44.8	-0.2
	baz=288						
YUK8	Steele Glacier	73.83	30	P	P	21 16 46.5	+1.3
	baz=288						
PINM	Pinnacle	73.97	31	P	P	21 16 46.9	+1.1
	baz=288						
L29M	L29M	73.98	28	P	P	21 16 47.2	+1.4
	baz=289						
INK	Inuvik	73.99	22	P	P	21 16 45.8	+0.2
INK				IAmb	IAmb	21 16 51.0	
	comp=Z,16nm,1.1s						
INK	Inuvik	73.99	22	P	P	21 16 46.5	+0.9
	baz=291						
K29M	Barlow Dome	74.01	27	P	P	21 16 46.2	+0.2
	baz=289						
I30M	Mount Dempster	74.01	25	P	P	21 16 46.3	+0.2
I30M				IAmb	IAmb	21 16 51.4	
	comp=Z,7.8nm,0.8s						
I30M	Mount Dempster	74.01	25	P	P	21 16 46.2	+0.2
	baz=290,SNR=9.8						
M29M	Somme Creek	74.05	29	P	P	21 16 46.3	0.0
	baz=289						
G31M	Satah River	74.23	24	P	P	21 16 47.4	+0.3
	baz=291						
F31M	Tsiigehtchic	74.23	23	P	P	21 16 46.2	-0.9
	baz=291						
J30M	Hart River	74.25	26	P	P	21 16 47.7	+0.3
J30M	Hart River	74.25	26	P	P	21 16 47.2	-0.2
	baz=290,SNR=6.0						
MNK	Minsk	74.38	323	*i* P	P	21 16 49.4	+1.2
	comp=E,14nm,1.1s						
MNK				*i* P	P	21 16 49.4	+1.2
	comp=N,10.0nm,1.1s						
MNK				*i* P	P	21 16 49.4	+1.2
	comp=Z,15nm,1.0s,baz=72						
MNK				*i* PP	PP	21 19 34.9	+0.9
MNK				*i* PPP	PPP	21 21 14.5	
MNK				*i* S	S	21 26 23.1	+1.6
MNK				*i* SS	SS	21 31 11.7	+4.5
MNK				*i* SSS	SSS	21 34 32.0	
MNK				*i* LQ	LQ	21 43 57.9	
MNK				*i* LR	LR	21 48 29.7	
MNK				*i* LRM	MLR	21 49 56.9	
	comp=Z,157nm,16.9s						
MNK				*i* LRM	MLR	21 50 37.1	
	comp=N,180nm,17.6s						
MNK				*i* LRM	MLR	21 51 56.6	
	comp=E,213nm,20.9s						
YUK6	Outpost Mounta	74.58	30	P	P	21 16 49.0	-0.6
	baz=289						
H31M	Peel River	74.61	25	P	P	21 16 50.7	+1.4
	baz=291						
O29M	Mount Kennedy	74.70	31	P	P	21 16 49.8	-0.3
	baz=289						
AK09	Malin Array Si	74.72	319	P	P	21 16 49.8	-0.4
AK03	Malin Array Si	74.73	319	P	P	21 16 49.8	-0.4
AKASG	Malin Array Be	74.73	319	P	P	21 16 50.0	-0.3
	comp=E,1.1nm,0.5s,baz=60,slow=6.0,SNR=9.6						
AKASG				LR	LR	21 51 29.1	
	comp=E,128nm,18.0s,baz=52,slow=37						
	comp=E,1.1nm,0.5s						
AKBB	Malin Array Si	74.73	319	P	P	21 16 49.9	-0.4
M30M	Minto, Yukon	74.74	28	P	P	21 16 51.3	+1.2
	baz=290						
KIEV	Kiev	74.75	319	P	P	21 16 49.9	-0.4
	comp=E,20nm,1.9s						
AK20	Malin Array Si	74.85	319	P	P	21 16 50.4	-0.6
NACGM	Naroch	74.87	323	*e*P	P	21 16 52.5	+1.5
	comp=Z,16nm,0.8s,baz=72						
N30M	Aishikik Lake	74.99	29	P	P	21 16 51.1	-0.6
	baz=290						
BR131	Keskin Array S	75.01	307	P	P	21 16 52.0	-0.3
BRTR	Keskin Array B	75.01	307	P	P	21 16 52.2	-0.1
BRTR	Keskin Array B	75.01	307	P	P	21 16 53.6	+1.3
	comp=Z,2.2nm,1.0s,baz=90,slow=3.7,SNR=9.9						
BRTR				LR	LR	21 54 09.0	
	comp=Z,58nm,18.1s,baz=14,slow=39						
	comp=Z,2.2nm,1.0s						
HYT	Haines Junctio	75.02	30	P	P	21 16 52.2	+0.3
HYT				IAmb	IAmb	21 17 01.4	
	comp=Z,14nm,1.1s						
HYT	Haines Junctio	75.02	30	P	P	21 16 52.3	+0.4
	baz=290						
BR105	Keskin Array S	75.03	307	P	P	21 16 51.6	-0.8
	comp=Z,4.2nm,1.0s,comp=Z,51nm						
A36M	Sachs Harbour	75.03	17	P	P	21 16 52.3	+0.7
	baz=298						
P29M	Windy Craggy	75.32	31	P	P	21 16 54.1	+0.5
	baz=290						
N31M	Braeburn, Yuko	75.57	29	P	P	21 16 55.5	+0.5
	baz=291						
MI28	Mi28,Pidlybu	75.60	319	P	P	21 16 55.2	-0.1
	comp=Z,136nm,1.1s						
MMAI	Mount Meron Ar	75.68	300	LR	LR	21 55 17.1	
	comp=Z,91nm,20.4s,baz=18,slow=40						
O30N	Mendenhall	75.69	30	P	P	21 16 56.2	+0.5
	baz=291						
LUBAR	Lubar, Ukraine	75.87	318	P	P	21 16 55.6	-1.2
M31M	Drury Creek, Y	75.92	28	P	P	21 16 57.2	+0.3
	baz=292						
WHY	Whitehorse	76.28	30	P	P	21 17 00.5	+1.3
	baz=292						
FARO	Faro, Yukon	76.36	28	P	P	21 16 60.0	+0.5
	baz=293						
RNPP9	Sopachiv	76.50	320	P	P	21 17 00.1	-0.3
SKAG	Skagway	76.53	31	P	P	21 17 01.1	+0.8
	baz=292						
SKAG	Skagway	76.53	31	P	P	21 17 02.6	+2.2
NDNU	Novodnistrovsk	76.54	317	P	P	21 17 00.2	-0.5
RNPP8	Varash	76.55	320	P	P	21 17 00.3	-0.4
RNPP5	Staryi Chortor	76.57	320	P	P	21 17 00.4	-0.4
S31K	Pelican	76.64	33	P	P	21 17 01.2	+0.2
	baz=292						
C36M	Paulatuk	76.65	20	P	P	21 17 01.9	+1.0
	baz=300						
MMPY	Sheldon Lake,	77.09	27	P	P	21 17 03.6	0.0
	baz=295						
EIL	Elat	77.11	297	LR	LR	21 54 10.8	
	comp=Z,80nm,18.3s,baz=67,slow=38						
SUW	Suwalki	77.15	323	P	P	21 17 03.9	-0.1
P32M	Atlin	77.23	30	P	P	21 17 05.0	+0.6
	baz=293						
R32K	Eaglecrest	77.37	32	P	P	21 17 06.6	+1.5
	baz=293						
P33M	Teslin, Yukon	77.40	30	P	P	21 17 05.6	+0.2
	baz=294						
BURAR	Bucovina Array	78.23	317	P	P	21 17 10.5	+0.2
STNU	Starunia	78.28	318	P	P	21 17 10.9	+0.4
MORS	Morshin	78.50	319	P	P	21 17 10.5	-1.2
MLR	Muntele Rosu	78.51	315	LR	LR	21 57 29.7	
	comp=Z,123nm,18.5s,baz=64,slow=40						
R33M	Jennings River	78.59	30	P	P	21 17 12.6	+0.4
	baz=296						
ELL	Elmali	78.74	305	P	P	21 17 12.8	-0.6
TGTN	Hyland Airport	78.84	27	P	P	21 17 13.1	-0.2
	baz=298						
KWP	Kalwaria Pacla	79.04	319	P	P	21 17 14.3	-0.3
	comp=Z,21nm,2.3s						
VOIR		79.12	315	P	P	21 17 15.0	-0.2
WTLY	Watson Lake, Y	79.26	29	P	P	21 17 16.3	+0.7
	baz=297						
HFS	Hagfors	79.37	331	P	P	21 17 16.1	-0.1
	comp=Z,2.1nm,0.8s,baz=147,slow=8.3,SNR=2.4						
HFS				LR	LR	21 54 48.0	
	comp=Z,332nm,19.3s,baz=64,slow=38						
	comp=Z,2.1nm,0.8s						
DLBC	Dease Lake	79.45	31	LR	LR	21 53 54.2	
	comp=Z,93nm,19.4s,baz=306,slow=37						
DLBC	Dease Lake	79.45	31	P	P	21 17 16.9	+0.2
	baz=297						
HOLU	Holmets	79.66	318	P	P	21 17 18.5	+0.5
RES	Resolute Bay	79.78	9	LR	LR	21 56 22.6	
	comp=Z,128nm,19.7s,baz=8.0,slow=38						
NB2	NORSAR Subarra	80.02	333	P	P	21 17 19.8	+0.1
	comp=Z,7.1nm,1.4s,baz=62,slow=5.6						
NOA	NORSAR Array B	80.02	333	P	P	21 17 19.0	-0.7
	comp=Z,1.8nm,0.9s,baz=61,slow=5.3,SNR=4.4						
NOA				LR	LR	21 56 15.5	
	comp=Z,213nm,18.8s,baz=55,slow=38						
	comp=Z,1.8nm,0.9s						
V35K	Ketchikan	80.04	34	P	P	21 17 20.7	+0.8
	baz=296						
JMIC	Jan Mayen	80.46	345	LR	LR	21 57 55.6	
	comp=Z,134nm,18.1s,baz=65,slow=39						
OJC	Ojcow	80.53	321	P	P	21 17 22.7	0.0
OJC				IAmb	IAmb	21 17 24.3	
	comp=Z,11nm,1.1s						
OJC	Ojcow	80.53	321	P	P	21 17 23.2	+0.5
	comp=Z,11nm,1.1s						
FURI	Furi	81.02	276	LR	LR	21 53 42.2	
	comp=Z,32nm,18.4s,baz=30,slow=36						
LANS	Liptovska Anna	81.17	320	*e*P	P	21 17 27.5	+1.3
TOAD	Toad River Com	81.46	29	P	P	21 17 28.0	+0.4
	baz=300						
VYHS	Vyhne	81.83	319	*e*P	P	21 17 30.5	+0.9
KSP	Ksiaz	82.29	322	P	P	21 17 32.2	+0.2
	comp=Z,9.7nm,2.6s						
VRAC	Vranov	82.80	321	LR	LR	21 56 56.8	
	comp=Z,146nm,20.5s,baz=53,slow=38						
MORH	Mrgy, Hungar	82.92	317	P	P	21 17 36.4	+1.1
YKA	Yellowknife Ar	83.71	23	P	P	21 17 39.4	+0.4
	comp=Z,1.8nm,0.9s,baz=314,slow=4.8,SNR=4.1						
	comp=Z,1.8nm,0.9s						
CLL	Collm	83.90	324	*i* P	P	21 17 40.5	+0.2
	comp=Z,12nm,1.3s						
CLL				*e*SS	SS	21 33 42.0	+12
GERES	GERESS Array B	84.70	321	P	P	21 17 45.0	+0.5
	comp=Z,1.8nm,0.8s,baz=55,slow=5.6,SNR=8.1						
	comp=Z,1.8nm,0.8s						
KMBO	Kilima Mbogo	86.13	267	LR	LR	21 54 38.4	
	comp=Z,50nm,21.6s,baz=90,slow=34						
DAVOX	Davos/Dischmat	87.97	321	LR	LR	22 00 31.4	
	comp=Z,159nm,21.0s,baz=50,slow=38						
BORG	Borgarnes	88.36	345	LR	LR	22 00 39.2	
	comp=Z,112nm,19.9s,baz=8.6,slow=38						
SFJD	Kangerlussuaq	90.31	357	LR	LR	21 59 30.2	
	comp=Z,117nm,19.2s,baz=98,slow=36						
NEW	Newport	91.37	35	P	P	21 18 16.3	-0.2
NEW				IAmb	IAmb	21 18 25.7	
	comp=Z,5.8nm,1.0s						
MBAR	Mbarara	91.94	270	LR	LR	21 59 20.0	
	comp=Z,44nm,21.1s,baz=22,slow=35						
FRB	Frobisher Bay	93.27	5	LR	LR	22 03 24.0	
	comp=Z,106nm,20.1s,baz=334,slow=38						
PPT	Papeete	94.73	107	LR	LR	21 52 01.9	
	comp=Z,53nm,22.0s,baz=344,slow=30						
PPT2	Paete2	94.74	107	*e*LR	LR	21 49 02.7	
NVAR	Mina Array Bea	96.53	44	P	P	21 18 41.4	+0.7
	comp=Z,0.1nm,0.3s,baz=275,slow=5.2,SNR=1.5						
	comp=Z,0.1nm,0.3s						
R11B	Troy Canyon, C	98.29	42	P	P	21 18 48.3	-0.2
	baz=308						
ULM	Lac du Bonnet	99.67	24	LR	LR	22 08 33.4	
	comp=Z,112nm,18.2s,baz=359,slow=38						
RKT	Rikitea	109.49	108	*e*LR	LR	21 55 59.7	
	comp=Z,326nm,25.8s						
L61B	Northampton	113.54	12	PKiKP	PKiKP	21 23 48.5	-0.3
	baz=345						

DJA 07 21:22:34.8±0.5,3°S±3°×11°9E±°, h10km, M3.7/6, MLv3.7/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.40	119	P	Pg	21 22 42.6	-0.1
TTSI				S	Sg	21 22 48.9	+0.9
TTSI	Tana Toraja	0.40	119	P	Pg	21 22 42.4	-0.3
TTSI				S	Sg	21 22 48.7	+0.7
SPSI	Sidrap Palu	1.15	165	P	Pb	21 22 54.7	-2.0
SPSI				S	Sb	21 23 10.2	-1.5
SPSI	Sidrap Palu	1.15	165	P	Pb	21 22 54.6	-2.1
SPSI				S	Sb	21 23 10.0	-1.7
BNSI	Bone	1.67	158	P	Pn	21 23 04.5	+0.4
BNSI				S	Sg	21 23 28.3	-0.1
BNSI	Bone	1.67	158	P	Pn	21 23 04.4	+0.3
BNSI				S	Sg	21 23 28.8	+0.4
BKSI	Bulukumba	2.54	165	P	Pn	21 23 17.8	+1.7
BKSI				S	Sn	21 23 48.6	+1.5
BKSI	Bulukumba	2.54	165	P	Pn	21 23 16.7	+0.6
BKSI				S	Sn	21 23 48.5	+1.4
MPSI	Mapaga	3.19	8	P	Pn	21 23 25.6	+0.5
MPSI	Mapaga	3.19	8	P	Pb	21 23 30.4	-1.3
BSSI	Bau Bau, Buton	3.43	163	P	Pb	21 23 32.6	-3.0
BSSI	Bau Bau, Buton	3.43	163	P	Pb	21 23 33.3	-2.3
LUWI	Luwuk	3.76	62	P	Pn	21 23 32.3	-0.6

ATH 07 21:28:13.1, 37°56N×20°70E, h11km±3km, ML2.0/5, Manual Solution by A.Andreou This location: 2020/07/03 16:53:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.18	37	P	Pg	21 28 17.1	0.0
LTHK				S	Sg	21 28 19.6	-0.2
PSDA	Pessada-Kefalo	0.56	351	P	Pg	21 28 24.1	+0.1
PSDA				S	Sg	21 28 31.4	+0.1
VLS	Valsamata	0.62	352	P	Pg	21 28 25.1	0.0
VLS				S	Sg	21 28 33.1	-0.2
SMHA	Samh	0.69	357	P	Pg	21 28 26.5	+0.1
SMHA				S	Sg	21 28 35.2	-0.3

*DNK **07** 21:28:23.1±4.6, 60°23N×0°78W, h0km±37km, ML2.7*
*IDC **07** 21:28:26.6±1.2, 79°96N×2°15W, h0km, mb3.5/8, mbtmp3.7/11, ML4.3/3, Error ellipse: s-maj=26.6km s-min=20.4km az=32.0*
*BER **07** 21:28:27.2±3.5, 80°29N×1°27W, h10km, mb(Pn)4.2, ML2.7(DNK), Confirmed Earthquake*
*KOLA **07** 21:28:29.5, 80°47N×0°80E, h0km, ML2.8, Error ellipse: s-maj=111.5km s-min=41.7km az=50.0, Greenland sea, Knipovich ridge, north*
*FCIAR **07** 21:28:31.0, 80°09N×0°82E, h10km, station ZFI2 has station magnitude of 3.90 station OMEGA has station magnitude of 3.80*

ISC 07 21:28:26.9±0.6, 80°16N±0°05×1°06W±0°04, h10km, n62, σ3°22/86, mb3.5/6, 1D, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	2.67	111	Pn	Pn	21 29 09.0	-0.9
KBS				Sn	Sn	21 29 37.7	-4.5
KBS	Kingsbay	2.67	111	P	Pn	21 29 08.8	-1.1
KBS				S	Sn	21 29 37.9	-4.3
KBS	Kingsbay	2.67	111	*e*P	Pn	21 29 09.1	-0.8
KBS				*e*S	Sn	21 29 37.8	-4.5
KBS				IAML		21 29 45.2	
	comp=Z,36nm,0.4s						
KBS	Kingsbay	2.67	111	*e*P	Pn	21 29 08.9	-0.9
KBS				*e*S	Sn	21 29 37.7	-4.5
KBS	Kingsbay	2.67	111	*i* P	Pn	21 29 09.0	-0.9
KBS				*e*S	Sn	21 29 37.9	-4.3
NOR	Nord	2.87	308	Pn	Pn	21 29 11.0	-1.6
NOR				Sn	Sn	21 29 42.8	-4.3
NOR	Nord	2.87	308	*i* P	Pn	21 29 10.9	-1.7
NOR				*e*S	Sn	21 29 42.0	-5.1
NOR				IAML		21 29 46.0	
	comp=Z,31nm,0.4s						
NOR	Nord	2.87	308	*i* P	Pn	21 29 10.9	-1.7
NOR				*e*S	Sn	21 29 42.0	-5.1
NOR				IAML		21 29 46.0	
	comp=Z,31nm,0.4s						
BRBB	Barentsburg B	3.55	118	Pn	Pn	21 29 22.4	+0.5
BRBB				Sn	Sn	21 30 02.0	-1.8
BRBB	Barentsburg B	3.55	118	P	Pn	21 29 22.2	+0.3
BRBB				S	Sn	21 30 01.8	-2.1
BRBB	Barentsburg B	3.55	118	*e*P	Pn	21 29 23.2	+1.2
BRBB				*e*S	Sn	21 30 02.2	-1.7
BRBA	Barentsburg A	3.58	118	Pn	Pn	21 29 22.7	+0.5
BRBA				Sn	Sn	21 30 03.2	-1.3
BRBA	Barentsburg A	3.58	118	*e*P	Pn	21 29 23.6	+1.3
BRBA				*e*S	Sn	21 30 03.1	-1.3
BRBA				IAML		21 30 06.7	
	comp=Z,22nm,0.5s						
SPA0	Spitsbergen Ar	3.83	112	Pn	Pn	21 29 25.8	0.0
	baz=333,slow=8.6						
SPA0				Sn	Sn	21 30 07.3	-3.5
	baz=319,slow=8.6						
SPA0	Spitsbergen Ar	3.83	112	Pn	Pn	21 29 25.8	0.0
	baz=333,slow=8.6						
SPA0				Sn	Sn	21 30 07.3	-3.5
	baz=319,slow=8.6						
SPA0	Spitsbergen Ar	3.83	112	*i* P	Pn	21 29 25.7	0.0
SPA0				*i* S	Sn	21 30 06.0	-4.8
SPITS	Spitsbergen Ar	3.83	112	P	Pn	21 29 25.6	-0.2
SPITS				S	Sn	21 30 07.6	-3.2
SPITS	Spitsbergen Ar	3.83	112	Pn	Pn	21 29 25.8	0.0
	baz=325,slow=8.1						
SPITS				Sn	Sn	21 30 07.5	-3.3
	baz=315,slow=14						
	comp=Z,87nm,0.3s						
HSPB	Hornsund (broa	4.56	126	Pn	Pn	21 29 36.1	+0.4
HSPB				Sn	Sn	21 30 25.6	-2.9
HSPB	Hornsund (broa	4.56	126	P	Pn	21 29 36.7	+1.0
HSPB				S	Sn	21 30 26.9	-1.6
HSPB	Hornsund (broa	4.56	126	*e*P	Pn	21 29 36.8	+1.1
HSPB				*e*S	Sn	21 30 25.3	-3.2
HSPB				IAML		21 30 31.7	
	comp=Z,32nm,0.5s						
DAG	Danmarks Havn	4.88	235	*i* P	Pn	21 29 39.1	-1.0
DAG				*i* S	Sn	21 30 30.5	-6.1
DAG				IAML		21 30 34.7	
	comp=Z,51nm,0.3s						
DAG	Danmarks Havn	4.88	235	*i* P	Pn	21 29 39.1	-1.0
DAG				*i* S	Sn	21 30 30.5	-6.1
DAG				IAML		21 30 34.7	
	comp=Z,51nm,0.3s						
HOPEN	Hopen	6.36	111	Pn	Pn	21 29 59.8	-0.7
HOPEN				Sn	Sn	21 31 07.4	-5.6
HOPEN	Hopen	6.36	111	*e*P	Pn	21 29 59.6	-0.9
HOPEN				*e*S	Sn	21 31 06.6	-6.5
DBG	Daneborg	7.19	226	Pn	Pn	21 30 11.9	0.0
DBG				Sn	Sn	21 31 26.2	-7.2
DBG	Daneborg	7.19	226	*e*P	Pn	21 30 10.8	-1.1
DBG				*i* S	Sn	21 31 26.5	-7.0
DBG				IAML		21 31 29.7	
	comp=Z,34nm,0.4s						
DBG	Daneborg	7.19	226	*e*P	Pn	21 30 10.8	-1.1
DBG				*i* S	Sn	21 31 26.5	-7.0
DBG				IAML		21 31 29.7	
	comp=Z,34nm,0.4s						
ZFI2	Zemlya Franca-	7.89	62	*e*P	Pn	21 30 20.4	-1.1
ZFI2				*e*S	Sn	21 31 42.5	-8.1
	comp=Z,31nm,2.0s						
OMEGA	Omega	7.91	62	*e*P	Pn	21 30 20.5	-1.2
OMEGA				S	Sn	21 31 42.3	-8.8
	comp=Z,28nm,2.0s						
JMIC	Jan Mayen	9.40	195	Sn	Sn	21 32 21.0	-6.5
	comp=Z,3.4nm,0.3s,baz=26,slow=22,SNR=0.9						
NEEM	North Greenlan	9.80	280	*e*P	Pn	21 30 45.3	-2.5
NEEM				*e*S	Sn	21 32 26.3	-11
NEEM				IAML		21 32 32.1	
	comp=Z,16nm,0.3s						
NEEM	North Greenlan	9.80	280	*e*P	Pn	21 30 45.3	-2.5
NEEM				*e*S	Sn	21 32 26.3	-11
NEEM				IAML		21 32 32.1	
	comp=Z,16nm,0.3s						
SCO	Scoresbysund	10.95	219	*e*	Pn	21 31 07.1	+3.9
SCO	Scoresbysund	10.95	219	*e*	Pn	21 31 07.1	+3.9
HAMF	Hammerfest	11.24	134	Pn	Pn	21 31 07.6	+0.3
SUMG	Summit	11.33	249	*i* P	Pn	21 31 07.1	-1.8
SUMG				*e*S	Sn	21 33 05.0	-11
SUMG				IAML		21 33 13.7	
	comp=Z,8.3nm,0.4s						
SUMG	Summit	11.33	249	*i* P	Pn	21 31 07.1	-1.8
SUMG				*e*S	Sn	21 33 05.0	-11
SUMG				IAML		21 33 13.7	
	comp=Z,8.3nm,0.4s						
KIF	Kilpisjarvi	12.46	142	Pn	Pn	21 31 26.4	+2.5
KIF	Kilpisjarvi	12.46	142	Pn	Pn	21 31 26.4	+2.5
ARA0	ARCESS Array S	12.51	133	Pn	Pn	21 31 26.9	+2.3
	baz=346,slow=11						
ARA0				Sn	Sn	21 33 43.3	-0.4
	baz=343,slow=22						
ARA0	ARCESS Array S	12.51	133	Pn	Pn	21 31 26.9	+2.3
	baz=346,slow=11						
ARA0				Sn	Sn	21 33 43.3	-0.4
	baz=343,slow=22						
ARCES	ARCESS Array B	12.51	133	Pn	Pn	21 31 25.6	+1.0
	comp=Z,0.3nm,0.3s,baz=354,slow=10,SNR=19						
	comp=Z,1.3nm,0.5s						
LOF	Lofoten	12.65	154	Pn	Pn	21 31 29.4	+2.8
KULLO	Kullorsuaq	12.89	275	*e*P	Pn	21 31 25.9	-3.8
KULLO				*e*S	Sn	21 33 37.9	-15
KULLO				IAML		21 33 46.5	
	comp=Z,11nm,0.7s						
KULLO	Kullorsuaq	12.89	275	*e*P	Pn	21 31 25.9	-3.8
KULLO				*e*S	Sn	21 33 37.9	-15
KULLO				IAML		21 33 46.5	
	comp=Z,11nm,0.7s						
UPNV	Upernavik	14.13	269	*e*	Pn	21 31 41.3	-5.4
UPNV				*e*		21 34 08.6	
UPNV	Upernavik	14.13	269	*e*	Pn	21 31 41.3	-5.4
UPNV				*e*		21 34 08.6	
NUUG	Nuugaatsiaq	14.67	263	*e*	Pn	21 31 47.7	-6.3
NUUG	Nuugaatsiaq	14.67	263	*e*	Pn	21 31 47.7	-6.3
SFJD	Kangerlussuaq	18.25	253	P	Pn	21 32 36.3	-3.5
	comp=Z,1.0nm,0.3s,baz=21,slow=11,SNR=4.2						
SFJD				S	Sn	21 35 44.5	-19
	comp=Z,2.3nm,0.4s,baz=72,slow=21,SNR=1.1						
	comp=Z,3.3nm,0.4s						
RES	Resolute Bay	18.81	305	P	P	21 32 42.8	-3.2
	comp=Z,0.8nm,0.3s,baz=19,slow=10,SNR=7.7						
RES				S	Sn	21 35 56.5	-20
	comp=Z,1.8nm,1.0s,baz=86,slow=14,SNR=2.1						
FIA0	FINESS Array S	20.37

ellipse: s-maj=2.5km s-min=0.9km az=49.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.46**	**24**	P	Pg	21 28 45.2	-0.9
LTHK				S	Sg	21 28 51.9	-0.2
LTHK				AML	AML	21 28 52.2	
	comp=N,1519μm,0.2s						
LTHK				AML	AML	21 28 52.9	
	comp=E,984μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.82**	**359**	P	Pg	21 28 52.0	-0.9
PSDA				S	Sg	21 29 04.4	+0.7
VLS	**Valsamata**	**0.89**	**360**	P	Pg	21 28 53.5	-0.7
VLS				S	Sg	21 29 06.2	+0.5
AMT	**Artemida-Makis**	**0.92**	**74**	P	Pg	21 28 54.8	+0.1
AMT				S	Sg	21 29 07.3	+0.6
LXRA	**Lixouri, Kepha**	**0.92**	**352**	P	Pg	21 28 54.9	+0.1
LXRA				S	Sg	21 29 07.1	+0.4
SMHA	**Samh**	**0.96**	**2**	P	Pg	21 28 55.3	-0.3
SMHA				S	Sg	21 29 08.3	+0.2
DMLN	**Damoulianata-K**	**0.96**	**349**	P	Pg	21 28 55.8	+0.2
DMLN				S	Sg	21 29 08.5	+0.3
PYL	**PYLOS**	**1.00**	**113**	P	Pg	21 28 55.5	-0.7
PYL				S	Sb	21 29 10.1	-0.2
PYL				AML	AML	21 29 12.0	
	comp=E,173μm,0.3s						
PYL				AML	AML	21 29 12.9	
	comp=N,154μm,0.4s						
RLS	**Riolos of Patr**	**1.03**	**42**	P	Pg	21 28 55.5	-1.5
RLS				S	Sg	21 29 10.6	+0.3
RLS				AML	AML	21 29 15.3	
	comp=E,195μm,0.4s						
RLS				AML	AML	21 29 17.8	
	comp=N,184μm,0.5s						
ITM	**Ithomi**	**1.07**	**95**	P	Pg	21 28 56.5	-1.1
ITM				S	Sg	21 29 11.8	+0.4
ITM				AML	AML	21 29 15.2	
	comp=N,188μm,0.2s						
ITM				AML	AML	21 29 15.3	
	comp=E,144μm,0.4s						
DRO	**Drossia**	**1.10**	**53**	P	Pg	21 28 56.8	-1.6
DRO				S	Sg	21 29 12.8	+0.2
DRO				AML	AML	21 29 20.2	
	comp=N,720μm,0.4s						
DRO				AML	AML	21 29 21.3	
	comp=E,661μm,0.4s						
FSK	**Fiskardo**	**1.17**	**359**	P	Pg	21 28 59.2	-0.4
FSK				AML	AML	21 29 16.6	
	comp=N,338μm,0.2s						
FSK				AML	AML	21 29 17.1	
	comp=E,387μm,0.2s						
EVGI	**Lefkada island**	**1.33**	**2**	P	Pn	21 29 01.1	-1.3
EVGI				S	Sg	21 29 18.8	-1.2
NYDR	**Nydri-Lefkada**	**1.42**	**3**	P	Pn	21 29 02.9	-0.8
KLV	**Kalavryta, Ach**	**1.44**	**58**	P	Pn	21 29 02.4	-1.6
LKD2	**Lefkada island**	**1.50**	**2**	P	Pn	21 29 04.1	-0.6
LKD2				AML	AML	21 29 28.8	
	comp=N,211μm,0.7s						
LKD2				AML	AML	21 29 29.1	
	comp=E,199μm,0.5s						
GUR	**Goura**	**1.53**	**64**	P	Pn	21 29 04.0	-1.2
TSLK	**Tsoukalades, L**	**1.53**	**2**	P	Pn	21 29 04.7	-0.5
EFP	**Efpalio**	**1.54**	**42**	P	Pn	21 29 04.4	-0.8
EFP				AML	AML	21 29 32.1	
	comp=N,77μm,0.3s						
EFP				AML	AML	21 29 32.5	
	comp=E,92μm,0.5s						
ANX	**Ano Chora**	**1.67**	**38**	P	Pn	21 29 06.7	-0.4
EVR	**Evrytania**	**1.89**	**30**	P	Pn	21 29 09.7	-0.4
VLI	**Veliai**	**1.96**	**106**	P	Pn	21 29 11.2	+0.2

*NEIC **07** 21:34:39.1±1.6, 17°.4N±0°.1×94°.06W±0°.01, h170^{km}±12^{km}, mb4.2/8, Md4.5/79(MEX), Error ellipse: s-maj=15.2km s-min=1.6km az=183.0*
*MEX **07** 21:34:40.2±1.0, 17°.25N×94°.19W, h174^{km}±8^{km}, MD4.5*
ISC 07 21:34:38.1±0.8, 17°.28N±0°.04×94°.13W±0°.03, h182^{km}±7^{km}, n78, σ2°23/128, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UXUV	**UXUV**	**0.04**	**345**	*i* P	**Pn**	**21 35 02.4**	**+0.3**
UXUV				*i* S	**Sn**	**21 35 18.9**	**-1.7**
TUIG	**Tuzandepetl**	**0.80**	**340**	*i* P	**Pn**	**21 35 05.1**	**+0.4**
TUIG				*e*S	**Sn**	**21 35 24.0**	**-1.3**
CARR	**Arriaga**	**1.04**	**168**	*e*P	**Pn**	**21 35 07.0**	**+0.7**
CARR				*e*S	**Sn**	**21 35 27.9**	**-0.3**
TGIG		**1.09**	**117**		**Pn**	**21 35 06.9**	**+0.2**
TGIG		**1.09**	**117**	*i* P	**Pn**	**21 35 06.9**	**+0.2**
TGIG				*e*S	**Sn**	**21 35 26.8**	**-1.9**
TGBT	**Tuxtla Gutierr**	**1.12**	**116**		**Pn**	**21 35 06.5**	**-0.4**
TGBT	**Tuxtla Gutierr**	**1.12**	**116**	*e*P	**Pn**	**21 35 06.5**	**-0.4**
TGBT				*e*S	**Sn**	**21 35 27.1**	**-1.8**
PMUV	**Sontecomapan**	**1.57**	**323**	*i* P	**Pn**	**21 35 11.3**	**+0.3**
PMUV				*i* S	**Sn**	**21 35 34.7**	**-1.9**
NEUV	**Arroyo Zacate**	**1.65**	**286**	*e*P	**Pn**	**21 35 11.5**	**-0.1**
NEUV				*i* S	**Sn**	**21 35 34.0**	**-3.7**
PCIG		**1.79**	**151**		**Pn**	**21 35 13.9**	**+0.8**
PCIG					**Sn**	**21 35 39.6**	**-0.7**
PCIG		**1.79**	**151**	*e*P	**Pn**	**21 35 13.9**	**+0.8**
PCIG				*e*S	**Sn**	**21 35 39.6**	**-0.7**
CCIG	**Comitan**	**2.15**	**117**		**Pn**	**21 35 17.8**	**+0.7**
CCIG				Sn	**Sn**	**21 35 48.2**	**+0.8**
CCIG	**Comitan**	**2.15**	**117**	*e*P	**Pn**	**21 35 18.0**	**+0.9**
CCIG				*e*S	**Sn**	**21 35 46.3**	**-1.1**
HUIG	**Huatulco**	**2.41**	**232**		**Pn**	**21 35 18.5**	**-1.4**
HUIG					**Sn**	**21 35 51.8**	**-0.6**
HUIG	**Huatulco**	**2.41**	**232**	*e*P	**Pn**	**21 35 18.5**	**-1.4**
HUIG				*e*S	**Sn**	**21 35 51.8**	**-0.6**
OXBJ	**Oaxaca**	**2.48**	**266**		**Pn**	**21 35 22.6**	**+1.7**
OXBJ					**Sn**	**21 35 55.6**	**+1.4**
OXBJ	**Oaxaca**	**2.48**	**266**	*e*P	**Pn**	**21 35 22.6**	**+1.7**
OXBJ				*e*S	**Sn**	**21 35 55.6**	**+1.4**
OXIG	**Oaxaca**	**2.49**	**266**		**Pn**	**21 35 21.9**	**+0.9**
OXIG					**Sn**	**21 35 55.4**	**+1.1**
VHO	**Vista Hermosa**	**2.49**	**266**	*e*P	**Pn**	**21 35 21.9**	**+0.9**
VHO				*e*S	**Sn**	**21 35 55.4**	**+1.1**
PAVE	**Pavencul**	**2.80**	**137**	*e*P	**Pn**	**21 35 25.8**	**+1.1**
PAVE				*i* S	**Sn**	**21 35 58.0**	**-2.8**
TOIG	**Toxpalan**	**2.91**	**287**		**Pn**	**21 35 27.1**	**+1.3**
TOIG					**Sn**	**21 36 01.5**	**-1.5**
TOIG	**Toxpalan**	**2.91**	**287**	*e*P	**Pn**	**21 35 27.1**	**+1.3**
TOIG				*e*S	**Sn**	**21 36 01.5**	**-1.5**
PEIG	**Puerto Escondi**	**3.16**	**247**		**Pn**	**21 35 27.4**	**-1.4**
PEIG	**Puerto Escondi**	**3.16**	**247**	*e*P	**Pn**	**21 35 27.4**	**-1.4**
PEIG				*e*S	**Sn**	**21 36 03.4**	**-4.9**
HUEH	**Huehuetenango**	**3.19**	**127**	Sn	**Sn**	**21 36 04.1**	**-5.3**
SCIG	**Sabancuy**	**3.27**	**59**	*e*P	**Pn**	**21 35 29.0**	**-1.1**
SCIG				*e*S	**Sn**	**21 36 04.2**	**-6.6**
TPIG	**Tehuac#an**	**3.28**	**291**		**Pn**	**21 35 32.1**	**+1.7**
TPIG					**Sn**	**21 36 09.8**	**-1.4**
TPIG	**Tehuac#an**	**3.28**	**291**	*e*P	**Pn**	**21 35 32.1**	**+1.7**
TPIG				*e*S	**Sn**	**21 36 09.8**	**-1.4**
JAUV	**Jalcomulco**	**3.28**	**310**	*e*P	**Pn**	**21 35 30.4**	**+0.2**
JAUV				*e*S	**Sn**	**21 36 08.6**	**-2.4**
YOIG	**Yosondua**	**3.29**	**263**		**Pn**	**21 35 30.9**	**+0.3**
YOIG					**Sn**	**21 36 10.6**	**-1.0**
YOIG	**Yosondua**	**3.29**	**263**	*e*P	**Pn**	**21 35 30.9**	**+0.3**
YOIG				*e*S	**Sn**	**21 36 08.1**	**-3.5**
YOIG				*e*S		21 36 10.6	
TXIG	**Tlaxiaco**	**3.47**	**270**		**Pn**	**21 35 33.8**	**+0.9**
TXIG	**Tlaxiaco**	**3.47**	**270**	*e*P	**Pn**	**21 35 33.8**	**+0.9**
TXIG				*i* S	**Sn**	**21 36 12.1**	**-3.6**
HLIG	**Huajuapan de L**	**3.54**	**280**		**Pn**	**21 35 34.8**	**+1.0**
HLIG					**Sn**	**21 36 15.6**	**-1.6**
HLIG	**Huajuapan de L**	**3.54**	**280**	*e*P	**Pn**	**21 35 34.8**	**+1.0**
HLIG				*e*S	**Sn**	**21 36 15.6**	**-1.6**
RTAL	**Retalhuleu**	**3.60**	**139**	Sn	**Sn**	**21 36 13.6**	**-4.6**
FTIG	**Fresnillo de T**	**3.87**	**280**		**Pn**	**21 35 39.0**	**+1.3**
FTIG					**Sn**	**21 36 22.7**	**-1.5**
FTIG	**Fresnillo de T**	**3.87**	**280**	*e*P	**Pn**	**21 35 39.0**	**+1.3**
FTIG				*i* S	**Sn**	**21 36 22.7**	**-1.5**
PNIG	**Pinotepa**	**3.92**	**258**		**Pn**	**21 35 37.4**	**-0.9**
PNIG	**Pinotepa**	**3.92**	**258**	*e*P	**Pn**	**21 35 37.4**	**-0.9**
PNIG				*i* S	**Sn**	**21 36 21.7**	**-3.7**
PETF	**Flores**	**4.10**	**94**		**Pn**	**21 35 40.2**	**-0.2**
PETF	**Flores**	**4.10**	**94**	*i* P	**Pn**	**21 35 40.4**	**-0.1**
PETF				*i* S	**Sn**	**21 36 29.1**	**-0.3**
TLIG	**Tlapa**	**4.24**	**275**		**Pn**	**21 35 43.4**	**+0.9**
TLIG	**Tlapa**	**4.24**	**275**	*e*P	**Pn**	**21 35 43.5**	**+1.0**
TLIG				*i* S	**Sn**	**21 36 28.2**	**-4.6**
MGIG	**Malinaltepec**	**4.30**	**270**		**Pn**	**21 35 44.0**	**+0.7**
MGIG	**Malinaltepec**	**4.30**	**270**	*e*P	**Pn**	**21 35 44.0**	**+0.7**
MGIG				*i* S	**Sn**	**21 36 31.4**	**-2.9**
CXUV	**Coxquihui**	**4.36**	**312**	*e*P	**Pn**	**21 35 45.0**	**+1.1**
CXUV				*i* S	**Sn**	**21 36 34.8**	**-0.8**
PBCV	**Popocatepetl**	**4.54**	**293**	*e*P	**Pn**	**21 35 49.3**	**+2.9**
PBCV				*i* S	**Sn**	**21 36 38.7**	**-1.3**
PBPN	**Popocatepetl**	**4.62**	**293**	*e*P	**Pn**	**21 35 48.3**	**+0.6**
PBPN				*i* S	**Sn**	**21 36 40.9**	**-1.3**
PPM	**Popocatepetl**	**4.63**	**293**	*e*P	**Pn**	**21 35 50.6**	**+2.8**
PPM				*e*S	**Sn**	**21 36 34.1**	**-8.2**
PPIG	**Popocatepetl**	**4.63**	**293**		**Pn**	**21 35 50.6**	**+2.8**
PBXN	**Popocatepetl**	**4.63**	**293**	*e*P	Pn	21 35 37.8	-10
PBXN				*i* P		21 35 50.7	
PBXN				*i* S	Sn	21 36 25.9	-17
PBXN				*i* S		21 36 37.7	
CRIG	**Cruz Grande**	**4.81**	**264**		**Pn**	**21 35 49.1**	**-0.5**
CRIG	**Cruz Grande**	**4.81**	**264**	*e*P	**Pn**	**21 35 49.1**	**-0.5**
CRIG				*i* S	**Sn**	**21 36 39.1**	**-6.7**
YAIG	**Yautepec**	**4.95**	**289**		**Pn**	**21 35 53.9**	**+2.3**
YAIG	**Yautepec**	**4.95**	**289**	*i* P	**Pn**	**21 35 53.9**	**+2.3**
YAIG				*i* S	**Sn**	**21 36 41.7**	**-7.6**
PLIG	**Platanillo**	**5.23**	**283**		**Pn**	**21 35 57.3**	**+2.1**
PLIG					**Sn**	**21 36 54.4**	**-1.3**
PLIG	**Platanillo**	**5.23**	**283**	*e*P	**Pn**	**21 35 57.3**	**+2.1**
PLIG				*e*S	**Sn**	**21 36 54.4**	**-1.3**
MEIG	**Mezcala**	**5.27**	**278**		**Pn**	**21 35 57.5**	**+1.8**
MEIG	**Mezcala**	**5.27**	**278**	*i* P	**Pn**	**21 35 57.5**	**+1.8**
MEIG				*i* S	**Sn**	**21 36 53.8**	**-2.9**
DAIG	**Los Arroyos**	**5.28**	**268**		**Pn**	**21 35 56.1**	**+0.4**
DAIG					**Sn**	**21 36 55.3**	**-1.5**
DAIG	**Los Arroyos**	**5.28**	**268**	*e*P	**Pn**	**21 35 56.1**	**+0.4**
DAIG				*e*S	**Sn**	**21 36 55.3**	**-1.5**
MTO3	**Montecristo**	**5.41**	**121**	Pn	**Pn**	**21 35 57.4**	**-0.2**
CAIG	**El Cayaco**	**5.87**	**269**		**Pn**	**21 36 03.6**	**+0.2**
CAIG					**Sn**	**21 37 09.4**	**-1.1**
CAIG	**El Cayaco**	**5.87**	**269**	*e*P	**Pn**	**21 36 03.6**	**+0.2**
CAIG				*i* S	**Sn**	**21 37 09.4**	**-1.1**
ARIG	**Puente Sto Nin**	**6.00**	**281**		**Pn**	**21 36 07.7**	**+2.5**
ARIG	**Puente Sto Nin**	**6.00**	**281**	*e*P	**Pn**	**21 36 07.7**	**+2.5**
ARIG				*e*S	**Sn**	**21 37 08.0**	**-5.8**
TEIG	**Tepich**	**6.28**	**61**		**Pn**	**21 36 06.7**	**-2.1**
ZIIG	**Zihuatanejo**	**7.00**	**274**	*e*P	**Pn**	**21 36 19.8**	**+1.5**
ZIIG				*e*S	**Sn**	**21 37 34.9**	**-2.6**
MIAR	**Mount Ida**	**17.21**	**2**	P	**P**	**21 38 27.1**	**+0.7**
WMOK	**Wichita Mounta**	**17.88**	**347**	P	**P**	**21 38 34.7**	**+0.9**
Y49A	**Blount Mountai**	**17.91**	**21**	P	**P**	**21 38 33.8**	**-0.4**
Y49A				IAmb	IAmb	21 38 45.7	
	comp=Z,7.4nm,1.2s						
W35A	**Tecumseh**	**17.97**	**353**	P	**P**	**21 38 35.7**	**+0.9**
W35A				IAmb	IAmb	21 38 36.7	
	comp=Z,15nm,1.1s						
FCAR	**Ozark Folk Cen**	**18.63**	**5**	P	**P**	**21 38 41.7**	**-0.1**
AMTX	**Amarillo**	**18.79**	**340**	P	**P**	**21 38 44.7**	**+0.9**
AMTX				IAmb	IAmb	21 38 50.0	
	comp=Z,9.7nm,0.6s						
BMAR	**Burnt Mountain**	**59.53**	**340**	P	**P**	**21 44 23.7**	**+1.7**
K20K	**Telida**	**61.36**	**334**	P	**P**	**21 44 36.1**	**+1.7**
F21K	**Alatna River**	**62.52**	**338**	P	**P**	**21 44 44.6**	**+2.5**
F21K				IAmb	IAmb	21 45 05.1	
	comp=Z,5.2nm,1.5s						

*IDC **07** 21:36:43.7±3.7, 2°.29S×141°.39E, h0^{km}, mb3.5/3, mbtmp3.6/4, ML3.8/1, MS2.7/2, Error ellipse: s-maj=151.6km s-min=27.6km az=92.0*
*DJA **07** 21:36:51.3±1.9, 3°.5S±25°×14°.0E±°, h10^{km}, M3.8/2, MLv3.8/2*
ISC 07 21:36:48.5±1.2, 2°.28S±0°.09×140°.40E±0°.06, h10^{km}, n14, σ0°58/9, mb3.3/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.38**	**127**	P	**Pb**	**21 36 57.9**	**+0.5**
JAY				S	**Sb**	**21 37 02.8**	**-0.6**
GENI	**Genyem**	**0.39**	**217**	P	**Pb**	**21 36 58.2**	**+0.7**
GENI				S	**Sb**	**21 37 03.1**	**-0.4**
RKPI	**Ransiki, Papua**	**6.27**	**277**	P	**Pb**	**21 38 37.8**	**0.0**
RKPI				S	Sn	21 39 22.2	-11
WRA	**Warramunga Arr**	**18.53**	**198**	P	**P**	**21 41 04.8**	**-0.5**
	0.3nm,0.3s,baz=23,slow=11,SNR=7.7						
WRA				LR	LR	21 48 37.1	
	comp=Z,125nm,21.6s,baz=359,slow=38						
	0.6nm,0.4s						
CTA	**Charters Tower**	**18.60**	**163**	LR	LR	21 48 20.7	
	comp=Z,4.6nm,18.5s,baz=99,slow=38						
ASAR	**Alice Springs**	**22.17**	**196**	P	**P**	**21 41 44.3**	**-0.5**
	0.6nm,0.5s,baz=30,slow=10,SNR=11						
	0.6nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**33.10**	**50**	T	T	22 18 23.6	
	baz=230,slow=74,SNR=18						
H11S2	**WAKE ISLAND Hy**	**33.11**	**50**	T	T	22 18 25.4	
	baz=230,slow=74,SNR=8.7						
H11S1	**WAKE ISLAND Hy**	**33.12**	**50**	T	T	22 18 21.5	
	baz=230,slow=74,SNR=6.1						
H11N1	**WAKE ISLAND Hy**	**33.98**	**49**	T	T	22 19 39.3	
	baz=229						
H11N2	**WAKE ISLAND Hy**	**33.99**	**49**	T	T	22 19 33.5	
	baz=229						
H11N3	**WAKE ISLAND Hy**	**33.99**	**49**	T	T	22 19 40.1	
	baz=229						
ZALV	**Zalesovo Beam**	**72.42**	**329**	P	**P**	**21 48 15.1**	**+0.2**
	0.6nm,0.6s,baz=134,slow=4.2,SNR=1.9						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**79.93**	**325**	P	**P**	**21 48 58.0**	**+0.3**
	0.1nm,0.3s,baz=103,slow=6.2,SNR=1.5						
	0.1nm,0.3s						

*IDC **07** 21:47:14.7±2.4, 43°.35N×105°.47W, h0^{km}, mbtmp3.4/2, ML2.9/2, Error ellipse: s-maj=51.1km s-min=10.2km az=155.0*
*NEIC **07** 21:47:15.3±1.1, 43°.49N±0°.04×105°.39W±0°.06, h0^{km}±1^{km}, ML3.2/46, Error ellipse: s-maj=9.5km s-min=3.0km az=315.0*
ISC 07 21:47:15.6±1.0, 43°.51N±0°.06×105°.37W±0°.05, h0^{km}, n25, σ1°31/24, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.14**	**57**		**Pb**	**21 47 37.8**	**-0.6**
K22A	**Casper**	**1.21**	**225**		**Pg**	**21 47 37.9**	**-0.8**
N23A	**Red Feather La**	**2.65**	**189**	Pn	**Pn**	**21 48 01.0**	**+1.2**
N23A				IAML		21 48 38.7	
	comp=N,105nm,0.7s						
N23A				IAML		21 48 40.7	
	comp=E,79nm,0.9s						
PD31	**Pinedale Array**	**3.15**	**258**		**Pn**	**21 48 07.4**	**+0.6**
PDAR	**Pinedale Array**	**3.15**	**258**	Pn	**Pn**	**21 48 07.8**	**+1.0**
PDAR	**Pinedale Array**	**3.15**	**258**	Pn	**Pn**	**21 48 07.7**	**+0.9**
	comp=E,1.4nm,0.3s,baz=79,slow=15,SNR=58						
PDAR				Lg	Lg	21 48 49.6	
	comp=E,4.8nm,0.3s,baz=81,slow=34,SNR=18						
	comp=E,3.2nm,0.2s						
RLMT	**Red Lodge**	**3.23**	**301**	Pn	**Pn**	**21 48 08.4**	**+0.7**
RLMT				IAML		21 49 01.0	
	comp=E,44nm,0.9s						
RLMT				IAML		21 49 04.8	
	comp=E,51nm,0.9s						
LAO	**LASA Array**	**3.23**	**350**		**Pn**	**21 48 08.1**	**+0.5**
OGNE	**Ogallala**	**3.57**	**135**	Pn	**Pn**	**21 48 13.5**	**+1.2**
YNE	**Yellowstone No**	**3.65**	**296**	Pn	**Pn**	**21 48 14.2**	**+0.7**
YNE				IAML		21 49 13.6	
	comp=N,65nm,0.9s						
YNE				IAML		21 49 21.1	
	comp=E,43nm,0.7s						
YMP	**Mirror Lake PI**	**3.66**	**291**		**Pn**	**21 48 15.2**	**+1.5**
H17A	**Grant Village**	**3.86**	**285**		**Pn**	**21 48 18.4**	**+1.9**
H17A				IAML		21 49 22.2	
	comp=N,33nm,1.6s						
FLWY	**Flagg Ranch**	**3.90**	**280**	Pn	**Pn**	**21 48 18.4**	**+1.5**
FLWY				IAML		21 49 28.9	
	comp=N,44nm,1.8s						
MOOW	**Moose Ponds**	**3.91**	**275**	Pn	**Pn**	**21 48 18.8**	**+1.7**
O20A	**White River Ci**	**4.00**	**213**	Pn	**Pn**	**21 48 19.8**	**+1.4**
O20A				IAML		21 49 33.6	
	comp=N,44nm,0.9s						
O20A				IAML		21 50 01.8	
	comp=E,39nm,2.1s						
TPAW	**Teton Pass**	**4.06**	**272**		**Pn**	**21 48 20.5**	**+1.2**
TPAW				IAML		21 49 42.2	
	comp=E,38nm,0.9s						
YMR	**Madison River**	**4.19**	**288**		**Pn**	**21 48 23.0**	**+2.0**
YMR				IAML		21 49 52.2	
	comp=E,44nm,0.9s						
AHID	**Auburn Hatcher**	**4.26**	**262**		**Pn**	**21 48 23.3**	**+1.4**
K30B	**Basset**	**4.30**	**99**	Pn	**Pn**	**21 48 23.8**	**+1.5**
YHL	**Hebgen Lake**	**4.39**	**290**	Pn	**Pn**	**21 48 24.7**	**+0.9**
YHL				IAML		21 49 38.2	
	comp=E,27nm,0.9s						
YHL				IAML		21 49 49.7	
	comp=N,35nm,1.0s						
BSUT	**Blindstream Ca**	**5.00**	**235**	Pn	**Pn**	**21 48 32.8**	**+0.6**
BSUT				IAML		21 49 59.5	
	comp=N,15nm,1.0s						
BSUT				IAML		21 50 07.0	
	comp=E,14nm,1.9s						
DGMT	**Dagmar**	**5.02**	**9**	Pn	**Pn**	**21 48 34.2**	**+2.0**
HMU	**Henry Mountain**	**6.90**	**218**		**Pn**	**21 48 58.2**	**-0.1**
I10CA	**LAC DU BONNET**	**9.25**	**40**	I	I	22 43 30.0	
	baz=222,slow=334,SNR=5.3						
ULM	**Lac du Bonnet**	**9.36**	**41**	Pn	**Pn**	**21 49 31.3**	**-0.3**
	comp=E,0.3nm,0.3s,baz=227,slow=12,SNR=1.7						
ULM				Lg	Lg	21 52 06.1	
	comp=E,0.2nm,0.3s,baz=327,slow=21,SNR=1.8						
	comp=E,2.2nm,0.8s						

*NIED **07** 22:35:23.9, 41°.03N×140°.71E, h16^{km}, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.36; $M_{\theta\theta}$0.34; $M_{\phi\phi}$-0.70; $M_{r\theta}$-0.64; $M_{\theta\phi}$-1.09; $M_{\phi r}$1.57; Fault plane solution: $M_0$2.09000×10^{14} NP1: ϕ_s349.00000°, δ84.00000°, λ54.00000°. NP2: ϕ_s250.00000°, δ37.00000°, λ170.00000°.*
*JMA **07** 22:35:23.9±0.1, 41°.0N±0°.1×140°.7E±0°.2, h16^{km}, MV3.6/20, TSUGARU PENINSULA REGION*
JMA Felt III J1 at TSUGARU PENINSULA REGION.
*IDC **07** 22:35:24.4±1.0, 41°.16N×140°.37E, h0^{km}, mb3.8/9, mbtmp3.7/13, ML3.1/4, Error ellipse: s-maj=23.4km s-min=18.6km az=99.0*
ISC 07 22:35:23.9±1.0, 41°.02N±0°.03×140°.68E±0°.03, h6^{km}±8^{km}, n32, σ1°42/34, mb3.8/9, 12D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSI2	**Shiura 2**	**0.21**	**280**	⇓P	**Pg**	**22 35 28.7**	**+0.7**
JSI2				⇓S	**Sg**	**22 35 32.2**	**+1.4**
JTM	**Tenmabayashi**	**0.37**	**129**	⇓*i*P	**Pg**	**22 35 31.0**	**-0.1**
JTM				⇓S	**Sg**	**22 35 35.8**	**-0.2**
JOT	**Ohata**	**0.45**	**37**	*i* P	**Pg**	**22 35 32.8**	**+0.1**
JOT				S	**Sg**	**22 35 38.8**	**+0.2**
JARK	**Aomorirokkasho**	**0.52**	**91**	⇓*i*P	**Pg**	**22 35 33.9**	**+0.1**
JARK				⇓S	**Sg**	**22 35 40.9**	**+0.4**
JSR	**Shiriuchi**	**0.55**	**339**	⇓*i*P	**Pg**	**22 35 34.9**	**+0.5**
JSR				⇓*i*S	**Sb**	**22 35 42.6**	**-1.4**
JIW	**Iwasaki**	**0.67**	**230**	*i* P	**Pg**	**22 35 36.7**	**0.0**
JIW				S	**Sg**	**22 35 45.6**	**+0.2**
JOMM	**Oshimamatsumae**	**0.72**	**315**	⇓*i*P	**Pg**	**22 35 37.4**	**-0.3**
JOMM				⇓S	**Sg**	**22 35 46.8**	**-0.2**
JAH	**Hinai**	**0.83**	**182**	*i* P	**Pb**	**22 35 39.4**	**-1.4**
JANG	**Nango**	**0.91**	**135**	⇓*i*P	**Pb**	**22 35 40.1**	**-1.9**
JANG				⇓S	**Sb**	**22 35 52.6**	**-1.7**
JKB	**Kayabe**	**0.91**	**17**	*i* P	**Pb**	**22 35 40.7**	**-1.3**
JKB				S	**Sb**	**22 35 52.2**	**-2.1**
ASAJ	**Asahikawa**	**3.40**	**24**	Pn	**Pn**	**22 36 19.4**	**+2.0**
	1.6nm,0.3s,baz=226,slow=14,SNR=9.1						
ASAJ				Sn	**Sn**	**22 37 00.1**	**+2.0**
	1.5nm,0.3s,baz=346,slow=22,SNR=4.7						
	4.8nm,0.3s						
MJAR	**Matsushiro Arr**	**4.87**	**204**	Pn	**Pn**	**22 36 38.7**	**+0.9**
	0.1nm,0.3s,baz=353,slow=15,SNR=4.9						
	1.2nm,0.3s						
USRK	**Ussuriysk Ar.**	**7.16**	**299**	Pn	**Pn**	**22 37 08.2**	**-0.9**
	0.7nm,0.3s,baz=110,slow=14,SNR=9.2						
USRK				Sn	**Sn**	**22 38 28.1**	**-2.6**
	0.3nm,0.3s,baz=115,slow=28,SNR=4.2						
	1.1nm,0.3s						
KSRS	**Korea Array**	**10.52**	**254**	Pn	**Pn**	**22 37 55.6**	**+0.4**
	0.4nm,0.3s,baz=65,slow=14,SNR=6.3						
	3.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**30.81**	**126**	T	T	23 14 06.7	
	baz=321,slow=76,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**30.82**	**126**	T	T	23 14 04.6	
	baz=321,slow=76,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**30.83**	**126**	T	T	23 14 03.6	
	baz=321,slow=76,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**31.62**	**127**	T	T	23 15 01.5	
	baz=323,slow=76,SNR=3.3						
H11S3	**WAKE ISLAND Hy**	**31.62**	**127**	T	T	23 15 11

KIRR eS Sn 23 10 53.9 +1.9
KIRR Kirishev 5.31 303 PN Pn 23 09 53.4 +2.7
KRSR Krestovskiy 5.33 306 eS Sn 23 10 51.8 -0.5
NLC Nalytchevo 5.35 272 eP Pn 23 09 52.2 +1.0
NLC Nalytchevo 5.35 272 PN Pn 23 09 52.2 +1.0
KPT Kopyto 5.38 303 eP Pn 23 09 54.8 +3.2
KPT eS Sn 23 10 56.1 +2.6
KPT Kopyto 5.38 303 PN Pn 23 09 54.8 +3.2
KPT S Sn 23 10 56.1 +2.6
KOZ Kozyrevsk 5.59 303 eS Sn 23 11 00.6 +1.8
SDLR Sedlovina 5.62 274 eP Pn 23 09 56.3 +1.3
SDLR Sedlovina 5.62 274 PN Pn 23 09 56.3 +1.3
SMAR Somma 5.67 273 eP Pn 23 09 56.9 +1.1
SMAR Somma 5.67 273 PN Pn 23 09 56.9 +1.1
AVH Avacha 5.71 273 eP Pn 23 09 57.8 +1.6
AVH eS Sn 23 10 59.5 -2.2
AVH Avacha 5.71 273 PN Pn 23 09 57.8 +1.6
DALK Dalny 5.72 271 eP Pn 23 09 57.3 +1.1
DALK eS Sn 23 10 59.6 -2.3
DALK Dalny 5.72 271 PN Pn 23 09 57.3 +1.1
KRX Arik 5.76 274 eP Pn 23 09 58.1 +1.2
KRX eS Sn 23 10 59.5 -3.5
KRX Arik 5.76 274 PN Pn 23 09 58.1 +1.2
KOK Koryaka 5.77 274 eP Pn 23 09 58.4 +1.4
KOK Koryaka 5.77 274 PN Pn 23 09 58.4 +1.4
PET Petropavlovsk 5.78 271 Pn 23 09 58.6 +1.5
PET Petropavlovsk 5.78 271 eP Pn 23 09 58.9 +1.8
PET eS Sn 23 11 01.8 -1.5
PET Petropavlovsk 5.78 271 ePN Pn 23 09 58.8 +1.7
PET pmax pmax
comp=Z,94nm,0.5s
PET MLR MLR
comp=Z,100nm,11.0s
RUS Russkaya 5.96 266 eP Pn 23 10 00.5 +0.9
RUS eS Sn 23 11 03.3 -4.5
RUS Russkaya 5.96 266 PN Pn 23 10 00.5 +0.9
KRMR Karymshinskiy 6.12 270 eP Pn 23 10 02.7 +1.0
KRMR Karymshinskiy 6.12 270 PN Pn 23 10 02.7 +1.0
MTVR Mutnovka 6.15 266 eP Pn 23 10 03.6 +1.3
MTVR eS Sn 23 11 09.3 -3.4
MTVR Mutnovka 6.15 266 PN Pn 23 10 03.6 +1.3
GNL Ganaly 6.17 278 eP Pn 23 10 04.7 +2.2
GNL Ganaly 6.17 278 PN Pn 23 10 04.7 +2.2
GRL Gorelyy 6.20 267 eP Pn 23 10 04.7 +1.7
GRL Gorelyy 6.20 267 PN Pn 23 10 04.7 +1.7
ASAK Asacha 6.34 266 eP Pn 23 10 06.5 +1.6
ASAK Asacha 6.34 266 PN Pn 23 10 06.5 +1.6
PEA0B Petropavlovsk- 6.35 273 Pn 23 10 07.1 +2.2
PEA0B Petropavlovsk- 6.35 273 *d* iPN Pn 23 10 07.1 +2.2
PETK Petropavlovsk- 6.35 273 Pn 23 10 06.5 +1.6
PETK Petropavlovsk- 6.35 273 Pn Pn 23 10 06.1 +1.2
comp=Z,16nm,0.3s,baz=143,slow=2.2,SNR=253
PETK Sn Sn 23 11 16.3 -1.0
comp=Z,8.5nm,0.3s,baz=167,slow=21,SNR=6.7
comp=Z,47nm,0.4s
KDTR Khodutka, Kamc 6.38 261 eP Pn 23 10 05.6 +0.3
KDTR eS Sn 23 11 11.8 -6.4
KDTR Khodutka, Kamc 6.38 261 PN Pn 23 10 05.6 +0.3
APC Apacha 6.69 271 eP Pn 23 10 12.3 +2.7
APC eS Sn 23 11 24.2 -1.6
APC Apacha 6.69 271 PN Pn 23 10 12.3 +2.7
SKR Severo-Kuril's 7.94 256 ePN Pn 23 10 27.8 +1.2
SKR pmax pmax
comp=Z,120nm,1.0s
SKR MLR MLR
comp=Z,400nm,12.0s
ATKA Atka Island 10.70 89 Pn Pn 23 11 05.1 +0.7
BILL Bilibino 14.82 357 P P 23 12 05.4 -1.2
BILL Bilibino 14.82 357⇓ *eP* P 23 12 08.3 +1.7
K13K Kusilvak Mount 16.77 48 P 23 12 27.3 -1.0
K13K IAmb IAmb 23 12 36.7
comp=Z,28nm,1.4s
M13K Dall Lake 16.98 54 P P 23 12 30.4 -0.1
M13K IAmb IAmb 23 12 32.5
comp=Z,26nm,0.9s
M14K Bethel 17.72 53 P 23 12 38.9 +0.2
N15K Kwethluk River 18.53 56 P P 23 12 47.2 -0.5
N15K IAmb IAmb 23 12 48.5
comp=Z,29nm,1.2s
L16K Owhat River 19.09 51 P P 23 12 52.8 -1.0
ASAJ Asahikawa 19.17 252 Pn P 23 12 56.9 +2.1
comp=Z,1.4nm,0.3s,baz=275,slow=31,SNR=8.9
ASAJ LR LR 23 20 45.3
comp=Z,45nm,21.4s,baz=354,slow=38
comp=Z,5.4nm,0.2s
M16K Timber Creek 19.21 53 P P 23 12 54.4 -0.8
M16K IAmb IAmb 23 12 60.0
comp=Z,23nm,1.4s
K17K Iditarod 19.84 48 P P 23 13 01.6 -0.3
K17K IAmb IAmb 23 13 06.1
comp=Z,17nm,0.9s
M17K Holitna River 20.00 52 P P 23 13 03.2 -0.5
H21K Melozitna Rive 22.87 42 P P 23 13 34.1 -0.4
KLR Kul'dur 23.03 275 LR LR 23 23 06.9
comp=Z,36nm,18.4s,baz=41,slow=38
KLR Kul'dur 23.03 275 *eP* P 23 13 36.2 -0.1
KLR pmax pmax
comp=Z,7.0nm,1.5s
ZEA Zeya 24.15 288 *eP* P 23 13 42.5 -4.7
ZEA pmax pmax
comp=Z,10.0nm,0.7s
TIXI Tiksi 25.10 332 P P 23 13 55.6 0.0
TIXI Tiksi 25.10 332⇑ *eP* P 23 13 56.5 +0.9
TIXI pmax pmax
comp=Z,6.0nm,0.8s
ILAR Eielson Array 25.18 45 P P 23 13 55.1 -1.4
comp=Z,3.2nm,0.7s,baz=252,slow=6.8,SNR=40
ILAR LR LR 23 23 43.0
comp=Z,26nm,19.5s,baz=300,slow=36
comp=Z,3.2nm,0.7s
USRK Ussuriysk Ar. 25.34 264 P P 23 13 58.6 +0.4
comp=Z,1.8nm,0.7s,baz=29,slow=6.8,SNR=3.6
comp=Z,1.8nm,0.7s
MJAR Matsushiro Arr 26.80 243 LR LR 23 27 30.0
comp=Z,17nm,18.2s,baz=21,slow=42
KSRS Korea Array 31.95 257 P P 23 14 58.4 +1.3
comp=Z,1.8nm,0.8s,baz=44,slow=9.1,SNR=1.8
comp=Z,1.8nm,0.8s
JNU Nakatsue 33.36 248 LR LR 23 28 58.9
comp=Z,16nm,19.1s,baz=10.0,slow=37
H11N2 WAKE ISLAND Hy 33.52 182 T T 23 50 42.1
baz=1.6,slow=74
H11N3 WAKE ISLAND Hy 33.53 182 T T 23 50 39.9
baz=1.6
H11N1 WAKE ISLAND Hy 33.54 182 T T 23 50 43.5
baz=1.6,slow=74
H11S1 WAKE ISLAND Hy 34.74 183 T T 23 52 19.8
baz=358
H11S3 WAKE ISLAND Hy 34.76 183 T T 23 52 16.6
baz=358
H11S2 WAKE ISLAND Hy 34.76 183 T T 23 52 19.2
baz=358
BBB Bella Bella 37.40 65 LR LR 23 31 01.5
comp=Z,47nm,18.2s,baz=6.5,slow=36
NRIK Noril'sk 38.54 326 P P 23 15 54.5 +1.0
comp=Z,3.9nm,0.6s,baz=120,slow=20,SNR=9.6
comp=Z,3.9nm,0.6s
NRIK Noril'sk 38.54 326⇑ *iP* P 23 15 55.2 +1.8
NRIK pmax pmax
comp=Z,4.0nm,0.6s
SONM Songino Array 38.58 288 P P 23 15 54.4 +0.2
comp=Z,0.3nm,0.4s,baz=46,slow=10,SNR=1.6
SONM PcP PcP 23 18 06.8 +0.3
comp=Z,0.5nm,0.5s,baz=48,slow=2.1,SNR=1.3
SONM LR LR 23 31 22.9
comp=Z,38nm,19.1s,baz=35,slow=36
comp=Z,0.3nm,0.4s
HHC Hu-ho-hao-te 39.54 275 *eP* P 23 16 02.7 +0.4
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,78nm,4.0s
YKA Yellowknife Ar 39.61 45 P P 23 16 01.9 -0.5
comp=Z,0.8nm,0.8s,baz=285,slow=15,SNR=1.0
comp=Z,0.8nm,0.8s
NEW Newport 45.46 65 LR LR 23 35 53.5
comp=Z,33nm,18.8s,baz=28,slow=36
YBH Yreka Blue Hor 46.28 75 LR LR 23 34 39.1
comp=Z,22nm,19.0s,baz=20,slow=34
SPITS Spitsbergen Ar 47.66 352 P P 23 17 07.6 +0.5
comp=Z,12nm,0.8s,baz=54,slow=4.5,SNR=5.9
comp=Z,12nm,0.8s
NVAR Mina Array Bea 50.99 76 P P 23 17 33.6 +0.3
comp=Z,3.6nm,1.0s,baz=291,slow=8.3,SNR=7.9
comp=Z,3.6nm,1.0s

KURK Kurchatov 51.70 306⇓ *eP* P 23 17 37.8 -0.3
KURK pmax pmax
comp=Z,5.0nm,1.2s
KURBB Kurchatov Arra 51.80 306 P P 23 17 39.0 +0.1
comp=Z,2.2nm,0.2s,baz=52,slow=7.4,SNR=6.4
comp=Z,2.2nm,0.2s
MKAR Makanchi Array 52.40 300 P P 23 17 43.2 -0.3
MKAR Makanchi Array 52.40 300 P P 23 17 42.7 -0.7
comp=Z,0.3nm,0.7s,baz=53,slow=6.1,SNR=4.5
comp=Z,0.3nm,0.7s
MKAR Makanchi Array 52.40 300 *ce*P P 23 17 43.7 +0.2
PDAR Pinedale Array 53.04 66 P P 23 17 47.5 -1.0
PDAR Pinedale Array 53.04 66 P P 23 17 48.1 -0.5
comp=Z,1.3nm,0.8s,baz=328,slow=2.7,SNR=6.5
comp=Z,1.3nm,0.8s
TPNV Topopah Spring 53.19 76 P P 23 17 49.4 -0.2
TPNV IAmb IAmb 23 17 54.3
comp=Z,4.4nm,1.1s
TPNV Topopah Spring 53.19 76 P P 23 17 49.4 -0.2
TPNV pmax pmax
comp=Z,4.0nm,1.1s
PSUT Pine Spring 53.49 73 P P 23 17 52.0 +0.1
PSUT IAmb IAmb 23 17 58.7
comp=Z,2.8nm,0.8s
BVAR Borovoye Array 54.00 312 P P 23 17 55.0 -0.2
comp=Z,1.4nm,0.5s,baz=56,slow=7.4,SNR=11
BVAR PcP PcP 23 19 00.7 +0.6
comp=Z,1.3nm,0.8s,baz=45,slow=4.6,SNR=3.6
comp=Z,1.4nm,0.5s
BRVK Borovoye 54.02 312 P P 23 17 55.4 +0.1
BRVK IAmb IAmb 23 17 55.9
comp=Z,2.2nm,0.7s
BRVK Borovoye 54.02 312⇓ *iP* P 23 17 55.1 -0.2
BRVK pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 54.50 345 P P 23 17 58.2 -0.4
comp=Z,1.4nm,0.7s,baz=46,slow=8.7,SNR=5.2
comp=Z,1.4nm,0.7s
ARCES ARCESS Array B 54.50 345 *eP* P 23 17 58.5 -0.1
ARCES pmax pmax
comp=Z,1.0nm,0.7s
SRU San Rafael Swe 54.99 70 P P 23 18 02.8 +0.1
SRU San Rafael Swe 54.99 70 P P 23 18 02.8 +0.1
SRU pmax pmax
comp=Z,7.0nm,0.7s
PZH PanZhiHua 55.29 269 P P 23 18 05.8 +0.8
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.2s
HMU Henry Mountain 55.67 71 P P 23 18 08.0 +0.2
ARTI Arti 56.55 321 *d* *iP* P 23 18 13.2 -0.2
ARTI 23 19 10.4
ARTI S S 23 26 00.7 -3.9
ARTI SS SS 23 29 45.1 -6.0
ARTI pmax pmax
comp=Z,4.0nm,0.9s
KIRV Kirov 58.02 327⇓ *eP* P 23 18 24.7 +1.0
AAK Ala-Archa 59.28 301⇑ *eP* P 23 18 33.4 +0.3
AAK pmax pmax
comp=Z,7.0nm,3.3s
ANMO Albuquerque 60.23 71 LR LR 23 41 16.7
comp=Z,27nm,20.3s,baz=193,slow=33
KKAR Karatay Array 60.96 304 P P 23 18 44.2 -0.2
KKAR Karatay Array 60.96 304 P P 23 18 44.2 -0.2
ABKAR Akbulak array 61.27 315 P P 23 18 46.2 -0.1
ABKAR Akbulak array 61.27 315 P P 23 18 46.4 +0.1
ABKAR IAmb IAmb 23 18 47.1
comp=Z,2.3nm,1.2s
FINES FINESS Array B 61.73 340 P P 23 18 48.6 -0.6
FINES FINESS Array B 61.73 340 P P 23 18 48.8 -0.4
comp=Z,2.1nm,0.7s,baz=42,slow=5.9,SNR=6.8
comp=Z,2.1nm,0.7s
FINES FINESS Array B 61.73 340 *eP* P 23 18 49.7 +0.5
FINES pmax pmax
comp=Z,2.0nm,0.7s
BORG Borgarnes 62.05 5 *i* P P 23 18 53.0 +1.7
CMAR Chiang Mai Arr 63.06 265 P P 23 18 59.4 +0.7
comp=Z,0.7nm,0.3s,baz=23,slow=7.2,SNR=1.9
comp=Z,0.7nm,0.3s
NB2 NORSAR Subarra 64.55 348 P P 23 19 08.3 +0.2
comp=Z,1.0nm,0.5s,baz=15,slow=6.9
NB2 NORSAR Subarra 64.55 348 P P 23 19 08.2 +0.2
NOA NORSAR Array B 64.55 348 P P 23 19 07.9 -0.1
comp=Z,9.5nm,1.2s,baz=17,slow=6.5,SNR=10.0
comp=Z,9.5nm,1.2s
NOA NORSAR Array B 64.55 348 *eP* P 23 19 08.2 +0.2
NOA pmax pmax
comp=Z,2.0nm,0.7s
OBN Obninsk 64.83 332 *eP* P 23 19 09.8 0.0
OBN *e* 23 19 45.5
OBN *e*PPP PPP 23 23 02.7
OBN pmax pmax
comp=Z,3.0nm,1.0s
OBN MLR MLR
comp=Z,53nm,13.0s
TXAR Lajitas Array 65.96 73 P P 23 19 17.7 0.0
comp=Z,1.0nm,0.8s,baz=307,slow=4.4,SNR=7.8
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 70.79 334 P P 23 19 47.0 -0.5
comp=Z,0.4nm,0.5s,baz=306,slow=0.8,SNR=1.3
comp=Z,0.4nm,0.5s
AKASG Malin Array Be 70.79 334 P P 23 19 47.0 -0.5
TKL Tuckaleechee C 71.74 55 LR LR 23 50 47.8
comp=Z,42nm,20.9s,baz=7.5,slow=35
KBZ Khabaz 72.59 322 P P 23 19 59.1 +0.7
comp=Z,2.4nm,0.9s,baz=16,slow=7.4,SNR=4.6
comp=Z,2.4nm,0.9s
KBZ Khabaz 72.59 322⇓ *eP* P 23 20 00.0 +1.6
KBZ pmax pmax
comp=Z,4.0nm,1.0s
AKT Akhty 72.62 317 *eP* P 23 19 57.4 -1.4
GERES GERESS Array B 75.97 343 P P 23 20 17.2 -1.0
comp=Z,0.5nm,0.5s,baz=19,slow=6.2,SNR=1.4
comp=Z,0.5nm,0.5s
WRA Warramunga Arr 78.61 212 P P 23 20 32.9 -0.2
comp=Z,0.8nm,0.9s,baz=5.4,slow=5.9,SNR=3.2
comp=Z,0.8nm,0.9s
BRTR Keskin Array B 79.40 326 P P 23 20 37.4 -0.1
comp=Z,0.4nm,0.5s,baz=18,slow=5.7,SNR=2.6
comp=Z,0.4nm,0.5s
ASAR Alice Springs 82.23 211 P P 23 20 53.1 +0.6
comp=Z,0.9nm,0.7s,baz=20,slow=4.7,SNR=7.9
comp=Z,0.9nm,0.7s
MMAI Mount Meron Ar 84.79 322 P P 23 21 06.5 +0.7
comp=Z,0.6nm,0.5s,baz=22,slow=7.2,SNR=3.6
comp=Z,0.6nm,0.5s

*AEIC **07** 23:11:55.7±1.7, 56°.09N±0°.09×149°.2W±0°.1, h6km±7km, Error ellipse: s-maj=13.3km s-min=8.7km az=163.0*
NEIC 07 23:11:52.1±1.2, 56°.05N±0°.06×149°.3W±0°.1, h20km±7km, ML3.7/37, ML3.6(AEIC), Error ellipse: s-maj=12.1km s-min=3.1km az=139.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.49**	**300**	Pn	Pn	23 12 31.4	-0.1
OHAK					Sn	23 12 59.3	-2.0
SII	**Sitkinak Islan**	**2.77**	**283**	Pn	Pn	23 12 34.8	-0.5
SII				IAML		23 13 17.8	
comp=N,376nm,0.8s							
SYI	**Shuyak Island**	**3.06**	**328**	Pn	Pn	23 12 39.0	-0.4
SYI					Sn	23 13 14.8	-0.5
CHIR	**Chirikof Islan**	**3.56**	**269**	Pn	Pn	23 12 46.0	-0.2
CNPM	**China Poot**	**3.63**	**344**	Pn	Pn	23 12 46.8	-0.4
CNPM					Sn	23 13 28.4	-1.1
Q19K	**Cape Douglas,**	**3.71**	**323**		Pn	23 12 48.7	+0.4
KAHG	**Katmai Hook Gl**	**3.75**	**313**		Pn	23 12 50.4	+1.5
BRSE	**Bradley Lake S**	**3.78**	**349**		Pn	23 12 48.7	-0.5
BRSE					Sn	23 13 32.6	-0.4
KAKN	**Katmai Knife C**	**3.86**	**308**		Pn	23 12 51.5	+1.2
KAKN					Sn	23 13 34.6	-0.5
KCE	**Katmai Mt Cerb**	**3.88**	**307**		Pn	23 12 52.5	+1.8
ACHA	**Angle Creek He**	**3.93**	**306**		Pn	23 12 52.3	+0.9
ACHA					Sn	23 13 36.3	-0.5
KJL	**Kejulik**	**3.97**	**303**		Pn	23 12 52.9	+1.1
KVTA	**Katmai Vly 10**	**4.01**	**308**		Pn	23 12 54.0	+1.6
SEW	**Seward**	**4.06**	**359**		Pn	23 12 52.1	-1.0
P19K	**Oil Pt**	**4.17**	**331**	Pn	Pn	23 12 54.7	+0.1
P19K				IAML		23 13 48.9	
comp=E,148nm,0.5s							
PLK4	**Peulik 4**	**4.18**	**295**		Pn	23 12 55.3	+0.4
PLK4					Sn	23 13 42.1	-1.0
PLK4				IAML		23 13 50.8	
comp=N,128nm,0.7s							
PLK4				IAML		23 14 00.5	
comp=E,127nm,0.8s							
PLK2	**Peulik 2**	**4.21**	**297**		Pn	23 12 56.2	+1.1
ILS	**Iliamna Low So**	**4.40**	**334**		Pn	23 12 57.6	-0.2
O20K	**Slope Mountain**	**4.41**	**338**		Pn	23 12 57.6	-0.3
ILSW	**Iliamna Southw**	**4.44**	**334**		Pn	23 12 58.1	-0.3
ILSW				IAML		23 13 56.8	
comp=E,75nm,0.9s							
ILSW				IAML		23 14 01.5	
comp=N,62nm,0.7s							
O22K	**Cooper Landing**	**4.45**	**357**		Pn	23 12 58.2	-0.1
SLKM	**Skilak Lake**	**4.49**	**354**		Pn	23 12 58.3	-0.7
HIN	**Hinchinbrook I**	**4.60**	**18**	Pn	Pn	23 13 00.4	-0.1
HIN				IAML		23 13 57.7	
comp=N,104nm,1.5s							
P18K	**Big Mountain,**	**4.61**	**319**		Pn	23 13 00.9	+0.2
RED	**Redoubt Volcan**	**4.75**	**339**		Pn	23 13 01.2	-1.3
RDSO	**Redoubt South**	**4.77**	**339**		Pn	23 13 01.8	-1.1
RDT	**Redoubt**	**4.82**	**341**		Pn	23 13 02.6	-0.9
RDWB	**Redoubt West**	**4.82**	**339**		Pn	23 13 02.5	-1.2
PWL	**Port Wells**	**4.85**	**6**	Pn	Pn	23 13 03.5	-0.3
PWL				IAML		23 14 00.0	
comp=N,55nm,0.8s							
PWL				IAML		23 14 05.8	
comp=E,59nm,0.6s							
EYAK	**Cordova Ski Ar**	**4.88**	**21**		Pn	23 13 03.8	-0.5
FID	**Port Fidalgo**	**4.94**	**16**	Pn	Pn	23 13 04.6	-0.5
FID				IAML		23 14 06.0	
comp=E,65nm,0.6s							
FID				IAML		23 16 13.5	
comp=N,57nm,3.2s							
O18K	**Koktuh Hills**	**4.94**	**323**		Pn	23 13 05.1	-0.1
O18K				IAML		23 14 12.2	
comp=E,37nm,0.8s							
O18K				IAML		23 14 15.2	
comp=N,41nm,1.3s							
P17K	**Kvichak River**	**4.96**	**312**		Pn	23 13 06.3	+0.9
GLI	**Glacier Island**	**4.98**	**13**		Pn	23 13 05.2	-0.5
GLI				IAML		23 14 14.6	
comp=E,53nm,0.8s							
GLI				IAML		23 14 16.9	
comp=N,49nm,1.4s							
RC01	**Rabbit Creek A**	**5.06**	**358**		Pn	23 13 05.9	-0.8
RC01				IAML		23 14 04.9	
comp=E,41nm,0.7s							
RC01				IAML		23 14 14.9	
comp=N,46nm,0.7s							
SPCR	**Spurr Chakacha**	**5.38**	**345**		Pn	23 13 10.5	-0.7
KNK	**Knik Glacier**	**5.39**	**4**		Pn	23 13 11.7	+0.4
KNK				IAML		23 14 16.5	
comp=E,43nm,0.9s							
KNK				IAML		23 14 17.0	
comp=N,29nm,0.6s							
SPCP	**Crater Peak Br**	**5.43**	**345**		Pn	23 13 12.5	+0.4
KHIT	**Khitrov Hills**	**5.44**	**33**		Pn	23 13 11.6	-0.5
SPCG	**Spurr Capps Gl**	**5.44**	**346**		Pn	23 13 11.9	-0.2
SUA	**Susitna One**	**5.48**	**353**	Pn	Pn	23 13 11.9	-0.8
N19K	**Bonanza Creek**	**5.49**	**332**		Pn	23 13 12.2	-0.7
BMRM	**Bremner River**	**5.51**	**25**		Pn	23 13 12.9	-0.1
WAX	**Waxell Ridge**	**5.57**	**35**		Pn	23 13 13.1	-0.7
O17K	**Koliganek Bris**	**5.58**	**315**		Pn	23 13 13.2	-0.7
MESA	**MESA**	**5.68**	**40**		Pn	23 13 15.7	+0.2
CRQM	**Cirque**	**5.72**	**32**		Pn	23 13 15.5	-0.5
KLU	**Klutina**	**5.73**	**16**		Pn	23 13 16.0	-0.1
GHO	**Glory Hole Cre**	**5.74**	**2**		Pn	23 13 16.6	+0.5
N18K	**Kilae Creek**	**5.79**	**326**	Pn	Pn	23 13 16.4	-0.4
SML	**Sawmill**	**5.79**	**5**		Pn	23 13 16.6	-0.3
TGL	**Tana Glacier**	**5.81**	**33**		Pn	23 13 17.1	-0.1
O16K	**Kokwok River B**	**5.88**	**311**		Pn	23 13 18.9	+0.9
YAH	**Yahtse**	**5.88**	**40**		Pn	23 13 18.4	+0.1
CNBA	**Chernabura Isl**	**5.98**	**262**	Pn	Pn	23 13 19.2	-0.3
RKAV	**Rock Avalanche**	**5.99**	**41**		Pn	23 13 19.8	+0.2
SKT	**Skwentna**	**6.05**	**350**		Pn	23 13 20.8	+0.3
N25K	**Chitina, Valde**	**6.08**	**22**		Pn	23 13 21.1	+0.3
KIAG	**Kiagna River**	**6.09**	**34**		Pn	23 13 20.9	-0.2
SAMH	**Samovar Hills**	**6.09**	**44**		Pn	23 13 21.9	+0.8
GLB	**Gilahina Butte**	**6.11**	**26**		Pn	23 13 21.5	+0.3
N17K	**Nushagak Hills**	**6.11**	**320**		Pn	23 13 21.1	-0.1
GRNC	**Granite Creek**	**6.14**	**37**		Pn	23 13 21.6	-0.2
TABL	**Table Mountain**	**6.16**	**41**		Pn	23 13 21.9	-0.1
M20K	**Styx River**	**6.17**	**343**		Pn	23 13 21.1	-1.0
MCARA	**McCarthy VSAT**	**6.26**	**29**		Pn	23 13 23.7	+0.4
PCA	**Pinnacle**	**6.28**	**46**		Pn	23 13 23.5	-0.1
PNL	**Peninsula**	**6.41**	**51**		Pn	23 13 25.1	-0.2
M18K	**Stony River**	**6.42**	**331**		Pn	23 13 24.4	-1.0
CTGM	**Chitina Glacie**	**6.46**	**37**		Pn	23 13 25.8	-0.3
O15K	**Ungalikthiuk R**	**6.46**	**303**		Pn	23 13 27.1	+1.1
WAT6	**Susitna Watana**	**6.60**	**6**		Pn	23 13 29.1	+1.1
WAZA	**Wrangell Mount**	**6.60**	**22**		Pn	23 13 29.4	+1.3
O28M	**Mount Upton**	**6.73**	**42**		Pn	23 13 30.4	+0.4
M17K	**Holitna River**	**6.83**	**325**		Pn	23 13 31.1	+0.1
N15K	**Kwethluk River**	**7.04**	**310**		Pn	23 13 35.4	+1.4
M16K	**Timber Creek**	**7.09**	**319**		Pn	23 13 35.3	+0.6
O29M	**Mount Kennedy**	**7.09**	**49**		Pn	23 13 34.9	+0.1
DHY	**Denali Highway**	**7.11**	**7**		Pn	23 13 35.2	+0.2
PS4A	**Pavlof South-4**	**7.13**	**269**		Pn	23 13 34.8	-0.4
P29M	**Windy Craggy**	**7.14**	**55**		Pn	23 13 34.9	-0.4
O14K	**Tigyukauivet M**	**7.17**	**301**		Pn	23 13 36.5	+0.8
S12K	**Black Hills**	**7.19**	**272**	Pn	Pn	23 13 35.5	-0.5
M27K	**Edge Creek, AK**	**7.38**	**28**		Pn	23 13 39.7	+1.0
RND	**Reindeer**	**7.38**	**2**		Pn	23 13 38.8	+0.2
S31K	**Pelican**	**7.39**	**70**		Pn	23 13 36.9	-1.8
TRF	**Thorofare Moun**	**7.44**	**357**		Pn	23 13 39.8	+0.2
M15K	**Kasigluk River**	**7.58**	**313**		Pn	23 13 42.1	+0.9
N14K	**Kuskokwak Cree**	**7.63**	**306**		Pn	23 13 42.5	+0.5
L17K	**Donlin**	**7.65**	**327**		Pn	23 13 43.0	+0.7
P30M	**Million Dollar**	**7.71**	**53**		Pn	23 13 43.3	+0.1
L16K	**Owhat River**	**7.74**	**321**		Pn	23 13 43.6	+0.1
BCAR	**Beaver Creek A**	**8.00**	**25**	Pn	Pn	23 13 47.7	+0.6
CHUM	**Lake Minchumin**	**8.00**	**350**		Pn	23 13 47.9	+0.9
ISLZ	**Isanotski Laza**	**8.31**	**267**		Pn	23 13 51.7	+0.3
ISNN	**Isanotski Nort**	**8.32**	**268**		Pn	23 13 50.9	-0.6
N30M	**Aishikik Lake**	**8.34**	**44**		Pn	23 13 51.9	+0.1
O30N	**Mendenhall**	**8.39**	**50**	Pn	Pn	23 13 52.1	-0.4
L15K	**Ungalak Mounta**	**8.46**	**317**		Pn	23 13 54.0	+0.7
WHY	**Whitehorse**	**8.87**	**53**		Pn	23 13 59.5	+0.4
P32M	**Atlin**	**9.04**	**61**		Pn	23 14 00.9	-0.5
DAWY	**Dawson**	**9.43**	**28**	Pn	Pn	23 14 07.0	+0.2
Q32M	**Nakina River**	**9.62**	**65**	Pn	Pn	23 14 09.7	+0.3
P33M	**Teslin, Yukon**	**9.66**	**58**		Pn	23 14 09.4	-0.4
IMAR	**Indian Mountai**	**10.19**	**350**	Pn	Pn	23 14 15.8	-1.3
R33M	**Jennings River**	**10.36**	**64**	Pn	Pn	23 14 18.9	-0.5
E19K	**Redstone River**	**12.03**	**345**	Pn	Pn	23 14 43.2	+1.0
B22K	**Teshekpuk Lake**	**14.46**	**354**	Pn	Pn	23 15 15.2	0.0
J05D	**Fort Rock, OR**	**22.02**	**114**	P	P	23 16 47.4	+2.2
I07A	**Izee**	**22.37**	**110**	P	P	23 16 50.5	+1.6

*BEO **07** 23:14:02.2±3.0, 36°.90N×20°.07E, h73km, ML3.6/10*
*IDC **07** 23:14:04.0±1.1, 37°.57N×20°.58E, h0km, mb3.8/9, mbtmp3.6/16, ML3.4/5, Error ellipse: s-maj=20.9km s-min=15.6km az=15.0*
*ATH **07** 23:14:05.5, 37°.46N×20°.39E, h7km±1km, ML3.8/7, Error ellipse: s-maj=2.7km s-min=1.4km az=58.0*
*NEIC **07** 23:14:05.5±2.4, 37°.36N±0°.08×20°.44E±0°.06, h10km±1km, mb4.3/7, Error ellipse: s-maj=13.2km s-min=7.8km az=15.0*
*THE **07** 23:14:06.2, 37°.51N×20°.44E, h0km±2km, ML3.9/14, Error ellipse: s-maj=2.9km s-min=0.7km az=226.0*
ISC 07 23:14:06.6±1.1, 37°.51N±0°.03×20°.45E±0°.03, h16km±7km, n153, σ1§76/182, mb3.7/10, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.33**	**62**	P	**Pg**	**23 14 13.1**	**-0.4**
KRI1				S	**Sg**	**23 14 18.0**	**-0.3**
13μm,0.4s							
LTHK	**Lithakia**	**0.37**	**57**	P	**Pg**	**23 14 13.6**	**-0.6**
LTHK				S	**Sg**	**23 14 19.1**	**-0.2**
15μm,0.4s							
LTHK	**Lithakia**	**0.37**	**57**	P	**Pg**	**23 14 13.6**	**-0.6**
LTHK				S	**Sg**	**23 14 19.5**	**+0.1**
LTHK				AML	AML	23 14 19.6	
comp=E,36571μm,0.4s							
LTHK				AML	AML	23 14 19.9	
comp=N,22453μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.61**	**10**	P	**Pg**	**23 14 17.9**	**-0.8**
PSDA				S	**Sg**	**23 14 27.0**	**+0.1**
comp=N,13μm,0.8s							
PSDA	**Pessada-Kefalo**	**0.61**	**10**	P	**Pg**	**23 14 18.2**	**-0.5**
PSDA				S	**Sg**	**23 14 27.8**	**+0.8**

RTZL	**Ratzakli, Kefa**	**0.62**	**24**	P	**Pg**	**23 14 18.1**	**-0.8**
RTZL				S	**Sg**	**23 14 26.9**	**-0.3**
comp=N,12μm,1.0s							
VLS	**Valsamata**	**0.68**	**9**	P	**Pg**	**23 14 18.8**	**-1.1**
VLS				S	**Sg**	**23 14 29.3**	**+0.4**
comp=N,9μm,0.6s							
VLS	**Valsamata**	**0.68**	**9**	P	**Pg**	**23 14 19.2**	**-0.7**
VLS				S	**Sg**	**23 14 29.7**	**+0.8**
VLS				AML	AML	23 14 34.7	
comp=E,20378μm,0.5s							
VLS				AML	AML	23 14 36.0	
comp=N,16975μm,0.7s							
LXRA	**Lixouri, Kepha**	**0.69**	**359**	P	**Pg**	**23 14 19.5**	**-0.7**
LXRA				S	**Sg**	**23 14 29.7**	**+0.3**
LXRA				AML	AML	23 14 35.5	
comp=E,61632μm,0.5s							
LXRA				AML	AML	23 14 40.7	
comp=N,28229μm,0.6s							
LXR1	**Lixouri, Cepha**	**0.69**	**359**	P	**Pg**	**23 14 19.7**	**-0.5**
LXR1				S	**Sb**	**23 14 30.4**	**+0.8**
comp=N,40μm,0.5s							
DMLN	**Damoulianata-K**	**0.73**	**355**	P	**Pg**	**23 14 19.9**	**-1.0**
DMLN				S	**Sg**	**23 14 30.4**	**-0.2**
comp=N,26μm,0.5s							
DMLN	**Damoulianata-K**	**0.73**	**355**	P	**Pg**	**23 14 20.0**	**-0.9**
SMHA	**Samh**	**0.76**	**12**	P	**Pg**	**23 14 20.7**	**-0.7**
SMHA				S	**Sg**	**23 14 32.0**	**+0.5**
VSK1	**VASILIKIADES**	**0.91**	**6**	P	**Pg**	**23 14 23.2**	**-1.0**
VSK1				S	**Sg**	**23 14 36.0**	**-0.1**
comp=N,12μm,0.6s							
FSK	**Fiskardo**	**0.95**	**5**	P	**Pg**	**23 14 24.0**	**-1.1**
FSK				S	**Sg**	**23 14 37.1**	**-0.6**
comp=N,8μm,0.8s							
FSK	**Fiskardo**	**0.95**	**5**	P	**Pg**	**23 14 24.0**	**-1.1**
FSK				S	**Sg**	**23 14 37.8**	**+0.1**
FSK				AML	AML	23 14 43.4	
comp=N,15779μm,1.0s							
FSK				AML	AML	23 14 45.4	
comp=E,16913μm,0.6s							
RLS	**Riolos of Patr**	**0.98**	**55**	P	**Pg**	**23 14 24.4**	**-1.1**
RLS	**Riolos of Patr**	**0.98**	**55**	P	**Pg**	**23 14 24.5**	**-1.1**
RLS				AML	AML	23 14 46.0	
comp=N,3624μm,0.7s							
RLS				AML	AML	23 14 48.2	
comp=E,3526μm,0.6s							
AMT	**Artemida-Makis**	**1.00**	**88**	P	**Pb**	**23 14 25.3**	**-0.3**
DRO	**Drossia**	**1.09**	**66**	P	**Pg**	**23 14 26.9**	**-0.9**
DRO	**Drossia**	**1.09**	**66**	P	**Pg**	**23 14 26.8**	**-0.9**
DRO				AML	AML	23 14 53.3	
comp=E,4484μm,0.7s							
DRO				AML	AML	23 14 56.5	
comp=N,7092μm,0.6s							
EVGI	**Lefkada island**	**1.12**	**8**	P	**Pg**	**23 14 27.0**	**-1.3**
EVGI				S	**Sn**	**23 14 44.1**	**+1.3**
comp=N,5μm,0.6s							
EVGI	**Lefkada island**	**1.12**	**8**	P	**Pg**	**23 14 27.2**	**-1.2**
EVGI				S	**Sg**	**23 14 43.0**	**-0.1**
DRAG	**Dragano-Lefkad**	**1.18**	**5**	P	**Pb**	**23 14 27.9**	**-0.7**
DRAG				S	**Sn**	**23 14 47.2**	**+3.0**
DRAG	**Dragano-Lefkad**	**1.18**	**5**	P	**Pb**	**23 14 28.0**	**-0.6**
PYL	**PYLOS**	**1.20**	**120**	P	**Pb**	**23 14 28.3**	**-0.6**
PYL				S	**Sn**	**23 14 45.1**	**+0.5**
comp=N,888nm,0.8s							
NYDR	**Nydri-Lefkada**	**1.22**	**9**	P	**Pn**	**23 14 28.4**	**-0.6**
NYDR				S	**Sb**	**23 14 45.3**	**+0.5**
comp=N,4μm,0.8s							
NYDR	**Nydri-Lefkada**	**1.22**	**9**	P	**Pn**	**23 14 28.7**	**-0.3**
NYDR				S	**Sb**	**23 14 45.7**	**+0.9**
ITM	**Ithomi**	**1.22**	**105**	P	**Pn**	**23 14 29.6**	**+0.6**
ITM	**Ithomi**	**1.22**	**105**	P	**Pn**	**23 14 29.4**	**+0.4**
LKD2	**Lefkada island**	**1.29**	**7**	P	**Pg**	**23 14 31.4**	**-0.1**
LKD2				S	**Sn**	**23 14 51.0**	**+4.1**
comp=N,5μm,0.8s							
LKD2	**Lefkada island**	**1.29**	**7**	P	**Pg**	**23 14 31.3**	**-0.1**
LKD2				AML	AML	23 14 57.7	
comp=E,9674μm,0.7s							
LKD2				AML	AML	23 14 57.9	
comp=N,9182μm,0.8s							
UPR	**University Cam**	**1.31**	**53**	P	**Pg**	**23 14 32.8**	**+0.9**
TSLK	**Tsoukalades, L**	**1.32**	**7**	P	**Pn**	**23 14 30.8**	**+0.4**
TSLK				S	**Sg**	**23 14 50.9**	**+1.5**
comp=N,6μm,0.9s							
TSLK	**Tsoukalades, L**	**1.32**	**7**	P	**Pn**	**23 14 31.0**	**+0.6**
KLV	**Kalavryta, Ach**	**1.45**	**68**	P	**Pb**	**23 14 33.4**	**+0.1**
EFP	**Efpalio**	**1.47**	**51**	P	**Pg**	**23 14 34.4**	**-0.5**
GUR	**Goura**	**1.56**	**74**	P	**Pg**	**23 14 35.9**	**-0.8**
EVR	**Evrytania**	**1.77**	**37**	P	**Pg**	**23 14 40.5**	**-0.1**
AGG	**Agios Georgios**	**2.12**	**44**		**Pb**	**23 14 43.9**	**-0.7**
AGG	**Agios Georgios**	**2.12**	**44**	P	**Pb**	**23 14 43.9**	**-0.7**
VLI	**Veliai**	**2.14**	**111**	P	**Pb**	**23 14 44.2**	**-0.8**
KEK	**Kerkira**	**2.26**	**347**		**Pn**	**23 14 44.8**	**+1.5**
KEK	**Kerkira**	**2.26**	**347**	P	**Pn**	**23 14 44.7**	**+1.4**
THL	**Klokotos Trika**	**2.39**	**30**	P	**Pn**	**23 14 47.4**	**+2.3**
SRN	**Sarande**	**2.40**	**352**	P	**Pn**	**23 14 46.7**	**+1.6**
TYRN	**Tyrnavos**	**2.61**	**32**	P	**Pn**	**23 14 49.9**	**+1.9**
LSK	**Leskovik**	**2.64**	**3**	P	**Pn**	**23 14 51.2**	**+2.6**
VLY	**Voula,Athens**	**2.68**	**82**	P	**Pn**	**23 14 49.9**	**+0.9**
PENT	**Pentalofos**	**2.74**	**11**	P	**Pn**	**23 14 53.0**	**+3.0**
DION	**Dionisos Attik**	**2.82**	**77**	P	**Pn**	**23 14 51.7**	**+0.7**
NEO	**Neokhori**	**2.83**	**50**	P	**Pn**	**23 14 52.3**	**+1.2**
NEST	**Nestorio**	**2.94**	**9**	P	**Pn**	**23 14 55.9**	**+3.2**
KZN	**Kozani**	**2.98**	**20**	P	**Pn**	**23 14 55.0**	**+1.8**
SCTE	**Santa Cesarea**	**2.99**	**329**	Pn	**Pn**	**23 14 54.5**	**+1.2**
LIT	**Litokhoron**	**3.04**	**31**	Pn	**Pn**	**23 14 55.6**	**+1.6**
LIT	**Litokhoron**	**3.04**	**31**	P	**Pn**	**23 14 55.4**	**+1.4**
KYMI	**Kymi, Euboea I**	**3.09**	**68**	P	**Pn**	**23 14 56.0**	**+1.3**
KTI	**Kastanea**	**3.16**	**24**	P	**Pn**	**23 14 56.5**	**+0.7**
AOS	**Alonnisos**	**3.17**	**57**	P	**Pn**	**23 14 56.2**	**+0.4**
TIP	**Timpagrande**	**3.35**	**301**		**Pn**	**23 14 59.6**	**+1.3**
FNA	**Florina**	**3.35**	**12**	Pn	**Pn**	**23 15 00.5**	**+2.1**
FNA	**Florina**	**3.35**	**12**	P	**Pn**	**23 14 59.4**	**+1.1**
FNA	**Florina**	**3.35**	**12**	*e*Pn	**Pn**	**23 15 00.3**	**+2.0**
FNA				*e*Sn	**Sn**	**23 15 41.5**	**+3.7**
PAIG	**Paliouri**	**3.50**	**45**	P	**Pn**	**23 15 01.1**	**+0.8**
OHR	**Ohrid**	**3.61**	**4**	*e*Pn	**Pn**	**23 15 03.7**	**+1.8**
OHR	**Ohrid**	**3.61**	**4**	*i* Pn	**Pn**	**23 15 05.3**	**+3.4**
CEL	**Celeste**	**3.68**	**283**		**Pn**	**23 15 03.6**	**+0.8**
HORT	**Hortiatis**	**3.71**	**33**	P	**Pn**	**23 15 04.7**	**+1.4**
TIR	**Tirane**	**3.86**	**353**	*e*Pn	**Pn**	**23 15 06.5**	**+1.2**
SOH	**Sokhos**	**4.01**	**33**	P	**Pn**	**23 15 09.0**	**+1.7**
KNT	**Kendrikon**	**4.11**	**27**	P	**Pn**	**23 15 10.0**	**+1.2**
VAY	**Valandovo**	**4.15**	**23**	*i* Pn	**Pb**	**23 15 17.9**	**-1.3**
IDI	**Anoyia**	**4.21**	**120**	Pn	**Pn**	**23 15 09.4**	**-0.8**
comp=N,5.0nm,0.8s,baz=310,slow=18,SNR=1.3							
IDI				Sn	**Sn**	**23 15 59.2**	**+0.1**
comp=N,1.3nm,0.3s,baz=317,slow=22,SNR=8.9							
KOKK	**Kokkinochori,**	**4.31**	**39**	P	**Pn**	**23 15 12.0**	**+0.6**
SRS	**Serrai**	**4.35**	**33**	P	**Pn**	**23 15 13.1**	**+1.0**
SRS	**Serrai**	**4.35**	**33**	*e*Pn	**Pn**	**23 15 13.0**	**+1.0**
CUC	**Castrocucco**	**4.39**	**306**		**Pn**	**23 15 14.9**	**+2.3**
PUK	**Puka**	**4.55**	**355**		**Pn**	**23 15 15.7**	**+0.8**
NVR	**Nevrokopi**	**4.66**	**33**	P	**Pn**	**23 15 18.7**	**+2.4**
PEHC	**Pehcevo**	**4.67**	**23**	*i* Pn	**Pn**	**23 15 19.1**	**+2.6**
VAE	**Valguarnera**	**4.80**	**271**	Pn	**Pn**	**23 15 20.3**	**+2.0**
comp=N,9.5nm,0.7s,baz=30,slow=22,SNR=8.3							
VAE				Sn	**Sn**	**23 16 18.0**	**+4.4**
comp=N,1.6nm,0.3s,baz=99,slow=3.5,SNR=4.1							
RAFF	**Raffo Rosso**	**4.86**	**268**		**Pn**	**23 15 18.7**	**-0.3**
PDG	**Podgorica**	**5.00**	**350**		**Pn**	**23 15 22.4**	**+1.5**
PDG	**Podgorica**	**5.00**	**350**	*e*Pn	**Pn**	**23 15 21.3**	**+0.4**
PDG				*e*Sn	**Sn**	**23 16 16.9**	**-1.5**
PDG	**Podgorica**	**5.00**	**350**	*e*Pn	**Pn**	**23 15 22.7**	**+1.8**
HCY	**Herceg Novi**	**5.16**	**344**	*e*Pn	**Pn**	**23 15 23.3**	**+0.2**
BOSS	**Bosilegrad**	**5.22**	**17**	*e*Pn	**Pn**	**23 15 25.5**	**+1.5**
BARS	**Barje**	**5.41**	**11**	*e*Pn	**Pn**	**23 15 26.9**	**+0.4**
TREB	**Trebinje**	**5.45**	**343**	*e*Pn	**Pn**	**23 15 25.7**	**-1.4**
TREB				*e*Sn	**Sn**	**23 16 26.0**	**-3.4**
TREB	**Trebinje**	**5.45**	**343**	*e*Pn	**Pn**	**23 15 24.3**	**-2.8**
VTS	**Vitosha**	**5.53**	**22**	*e*Pn	**Pn**	**23 15 29.9**	**+1.5**
VTS				*e*Sn	**Sn**	**23 16 31.4**	**-0.3**
BRY	**Bratogost**	**5.58**	**345**	*e*Pn	**Pn**	**23 15 32.3**	**+3.2**
SELS	**Selova**	**5.73**	**5**	*e*Pn	**Pn**	**23 15 31.5**	**+0.5**
STON	**Ston**	**5.76**	**339**	*e*Pn	**Pn**	**23 15 30.5**	**-0.8**
STON				*e*Sn	**Sn**	**23 16 33.6**	**-3.3**
STON	**Ston**	**5.76**	**339**	*e*Pn	**Pn**	**23 15 29.8**	**-1.5**
SJES	**Sjenica**	**5.76**	**357**	*e*Pn	**Pn**	**23 15 32.6**	**+1.1**
SJES				*e*Sn	**Sn**	**23 16 35.5**	**-1.7**
SJES	**Sjenica**	**5.76**	**357**	*e*Pn	**Pn**	**23 15 32.5**	**+1.1**
UPM	**Unac-Piva**	**5.81**	**349**	*e*Pn	**Pn**	**23 15 34.3**	**+2.1**
ZAPS	**Zavoj**	**6.00**	**15**	*e*Pn	**Pn**	**23 15 35.6**	**+0.9**
IVAS	**Ivanjica**	**6.07**	**358**	*e*Pn	**Pn**	**23 15 35.8**	**+0.2**
RUDO	**Rudo**	**6.16**	**353**	*e*Pn	Pn	23 15 42.2	+5.3
BOVS	**Bovan**	**6.20**	**8**	*e*Pn	**Pn**	**23 15 37.8**	**+0.5**
GRUS	**Gruza**	**6.38**	**2**	*e*Pn	**Pn**	**23 15 40.3**	**+0.5**
BBLS	**Lazi&#263i**	**6.40**	**353**	*e*Pn	**Pn**	**23 15 43.7**	**+3.5**
DIVS	**Divibare**	**6.59**	**357**	*e*Pn	**Pn**	**23 15 43.1**	**+0.2**
DIVS				*e*Sn	**Sn**	**23 16 54.4**	**-3.3**
A050A	**Klekovaca**	**7.57**	**338**	*e*Pn	**Pn**	**23 15 56.3**	**0.0**
BLY	**Banja Luka**	**7.64**	**342**	*e*Pn	**Pn**	**23 15 57.7**	**+0.5**
FRGS	**Fruska Gora**	**7.66**	**357**	*e*Pn	Pn	23 15 52.8	-4.6
NRCA	**Norcia**	**7.73**	**316**		**Pn**	**23 16 01.1**	**+2.6**
FDMO	**Fiordimonte**	**7.88**	**317**	Pn	**Pn**	**23 16 03.3**	**+2.7**
A051A	**Mrakovica**	**7.96**	**342**	*e*Pn	**Pn**	**23 15 59.6**	**-2.0**
MLR	**Muntele Rosu**	**8.98**	**26**	Pn	**Pn**	**23 16 18.8**	**+3.1**
MLR	**Muntele Rosu**	**8.98**	**26**	Pn	**Pn**	**23 16 19.3**	**+3.7**
comp=N,0.3nm,0.3s,baz=145,slow=18,SNR=10.0							
OBKA	**Obir**	**10.01**	**336**	*e*Pn	**Pn**	**23 16 34.2**	**+4.5**
comp=N,1.3nm,0.4s							
OBKA				*e*Sn	**Sn**	**23 18 19.5**	**-2.1**
comp=N,9.4nm,0.7s							
OBKA	**Obir**	**10.01**	**336**	*e*Pn	**Pn**	**23 16 33.1**	**+3.4**
SOKA	**Soboth**	**10.01**	**338**	*e*Pn	**Pn**	**23 16 32.5**	**+2.8**
comp=N,1.7nm,0.4s							
SOKA				*e*Sn	**Sn**	**23 18 16.1**	**-5.4**
comp=N,2.6nm,0.6s							
ARSA	**Arzberg**	**10.39**	**341**	*e*Pn	Pn	23 16 47.5	+13
comp=N,0.6nm,0.2s							
BRTR	**Keskin Array B**	**10.56**	**74**	Pn	**Pn**	**23 16 38.7**	**+1.3**
baz=257,slow=11,SNR=1.3							
comp=N,0.4nm,0.7s							
CTI	**Castel Tesino**	**10.76**	**325**	Pn	**Pn**	**23 16 41.0**	**+1.0**
KBA	**Koelnbreinsper**	**10.91**	**333**	*e*Pn	Pn	23 16 50.8	+8.7
comp=N,0.6nm,0.4s							
ABTA	**Abfaltersbach**	**10.95**	**330**	*e*Pn	Pn	23 16 54.7	+12
comp=N,1.4nm,0.5s							
ABTA				*e*Sn	**Sn**	**23 18 40.7**	**-4.0**
comp=N,5.9nm,0.7s							
MOA	**Molln**	**11.29**	**338**	*e*Pn	**Pn**	**23 16 49.9**	**+2.7**
comp=N,1.0nm,0.3s							
MOA				*e*Sn	**Sn**	**23 18 49.5**	**-3.4**
comp=N,1.7nm,0.5s							
BIOA	**Bad Ischl, Aus**	**11.34**	**336**	*e*Pn	**Pn**	**23 16 52.3**	**+4.4**
comp=N,0.4nm,0.3s							
LESA	**Schwarzleotal**	**11.45**	**332**	*e*Pn	Pn	23 16 54.6	+5.2
comp=N,3.0nm,0.6s							
WTTA	**Wattenberg**	**11.72**	**329**	*e*Pn	Pn	23 17 04.2	+11
comp=N,1.7nm,0.5s							
WTTA				*e*Sn	**Sn**	**23 19 02.9**	**-0.7**
comp=N,3.8nm,0.6s							
WATA	**Walderalm**	**11.80**	**329**	*e*Sn	**Sn**	**23 19 01.9**	**-3.7**
comp=N,4.0nm,0.5s							
FUORN	**Ofenpass-Fuorn**	**11.83**	**324**	Pn	**Pn**	**23 16 57.7**	**+2.9**
FETA	**Feichten**	**11.91**	**326**	*e*Sn	**Sn**	**23 19 09.2**	**+0.7**
comp=N,1.4nm,0.6s							
MOTA	**Moosalm**	**12.00**	**328**	*e*Pn	Pn	23 17 11.6	+14
comp=N,1.4nm,0.6s							
DAVOX	**Davos/Dischmat**	**12.13**	**323**	Pn	**Pn**	**23 16 59.2**	**+0.4**
comp=N,0.1nm,0.3s,baz=163,slow=15,SNR=1.9							
comp=N,0.3nm,0.3s							
TUE	**Stuetta**	**12.17**	**321**	Pn	**Pn**	**23 17 01.5**	**+2.1**
GEC2	**GERESS Array S**	**12.35**	**339**	Pn	**Pn**	**23 17 03.7**	**+2.0**
GERES	**GERESS Array B**	**12.35**	**339**	Pn	**Pn**	**23 17 02.7**	**+1.0**
comp=N,0.1nm,0.3s,baz=158,slow=17,SNR=2.4							
comp=N,0.6nm,0.6s							
MMAI	**Mount Meron Ar**	**13.02**	**106**	Pn	**Pn**	**23 17 10.5**	**-0.3**
comp=N,0.3nm,0.3s,baz=296,slow=11,SNR=1.8							
comp=N,0.1nm,0.3s							
SENIN	**Lac Senin/Sane**	**13.18**	**316**	Pn	**Pn**	**23 17 15.7**	**+2.5**
AKASG	**Malin Array Be**	**14.60**	**23**	Pn	**Pn**	**23 17 32.6**	**+0.2**
comp=N,0.3nm,0.3s,baz=208,slow=8.7,SNR=1.5							
CLL	**Collm**	**14.78**	**341**	*i* PP	**P**	**23 17 44.8**	**+4.2**
CLL				*ex*	x	23 18 05.0	
SUW	**Suwalki**	**16.61**	**6**		**P**	**23 18 01.6**	**+0.6**
SUW				IAmb	IAmb	23 18 09.3	
comp=Z,33nm,1.1s							
ESDC	**Sonseca Array**	**19.19**	**284**	P	**P**	**23 18 30.0**	**+0.3**
baz=68,slow=11,SNR=5.3							
comp=Z,1.3nm,1.1s							
HFS	**Hagfors**	**23.05**	**351**	P	**P**	**23 19 10.6**	**-0.4**
comp=Z,1.6nm,0.5s,baz=166,slow=14,SNR=18							
comp=Z,1.6nm,0.5s							
HFS	**Hagfors**	**23.05**	**351**	P	**P**	**23 19 10.6**	**-0.7**
EKA	**Eskdalemuir Ar**	**23.95**	**326**	P	**P**	**23 19 20.3**	**+0.5**
comp=Z,1.7nm,0.8s,baz=132,slow=12,SNR=2.4							
comp=Z,1.7nm,0.8s							
FINES	**FINESS Array B**	**24.22**	**7**	P	**P**	**23 19 21.4**	**-0.8**
comp=Z,1.1nm,0.5s,baz=175,slow=10,SNR=14							
comp=Z,1.1nm,0.5s							
FIA1	**FINESS Array S**	**24.22**	**7**	P	**P**	**23 19 21.3**	**-0.9**
NB201	**NORSAR Array S**	**24.26**	**349**	P	**P**	**23 19 21.1**	**-1.6**
NB201				IAmb	IAmb	23 19 31.5	
comp=Z,15nm,1.2s							
TORD	**Torodi Ar. Bea**	**29.48**	**220**	P	**P**	**23 20 10.5**	**+0.6**
comp=Z,0.3nm,0.5s,baz=25,slow=9.2,SNR=2.4							
comp=Z,0.3nm,0.5s							
ARCES	**ARCESS Array B**	**32.20**	**3**	P	**P**	**23 20 32.7**	**-0.8**
comp=Z,4.1nm,1.1s,baz=193,slow=11,SNR=4.1							
comp=Z,4.1nm,1.1s							
BVAR	**Borovoye Array**	**37.59**	**49**	P	**P**	**23 21 18.6**	**-1.6**
comp=Z,0.3nm,0.5s,baz=264,slow=7.1,SNR=2.0							
comp=Z,0.3nm,0.5s							
SPITS	**Spitsbergen Ar**	**40.81**	**359**	P	**P**	**23 21 45.4**	**-1.4**
comp=Z,4.6nm,0.7s,baz=207,slow=1.3,SNR=7.9							
comp=Z,4.6nm,0.7s							
MK31	**Makanchi Array**	**45.70**	**58**	P	**P**	**23 22 25.3**	**-1.4**
MKAR	**Makanchi Array**	**45.70**	**58**	P	**P**	**23 22 25.4**	**-1.3**
comp=Z,0.3nm,0.5s,baz=279,slow=7.4,SNR=8.1							
comp=Z,0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**46.18**	**48**	P	**P**	**23 22 28.7**	**-1.6**
comp=Z,0.6nm,0.4s,baz=275,slow=6.9,SNR=4.1							
comp=Z,0.6nm,0.4s							

*ISK **07** 23:29:31.4, 36°.88N×27°.60E, h7km, ML3.6/12*
*THE **07** 23:29:31.2, 36°.88N×27°.63E, h6km±2km, ML3.5/3, Error ellipse: s-maj=2.8km s-min=0.7km az=205.0*
*ATH **07** 23:29:31.9, 36°.87N×27°.61E, h14km±2km, ML3.3/6, Error ellipse: s-maj=2.8km s-min=1.1km az=219.0*
*AFAD **07** 23:29:31.6±0.0, 36°.86N×27°.56E, h7km±2km, ML3.0*
ISC 07 23:29:31.5±0.8, 36°.87N±0°.02×27°.59E±0°.02, h14km±5km, n30, σ0°.55/50, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DATC	**Datca-Mugla**	**0.12**	**153**	Pg	**Pg**	**23 29 34.6**	**-0.2**
DATC				Sg	**Sg**	**23 29 37.8**	**+0.7**
DAT	**Datca**	**0.14**	**185**	P	**Pg**	**23 29 35.0**	**-0.2**
DAT				S	**Sg**	**23 29 37.6**	**0.0**
DAT				*i* AML	AML	23 29 38.0	
comp=N,9μm,0.5s							
DAT				*i* AML	AML	23 29 39.0	
comp=E,6μm,0.5s							
DAT	**Datca**	**0.14**	**185**	Pg	**Pg**	**23 29 34.8**	**-0.4**
DAT				Sg	**Sg**	**23 29 37.7**	**0.0**
DAT	**Datca**	**0.14**	**185**	P	**Pg**	**23 29 34.8**	**-0.4**
DAT				S	**Sg**	**23 29 37.2**	**-0.5**
YAZI	**Mula-Dat§a-**	**0.22**	**211**	P	**Pg**	**23 29 36.1**	**-0.1**
YAZI				S	**Sg**	**23 29 40.0**	**+0.5**
YAZI				*i* AML	AML	23 29 41.0	
comp=N,2μm,0.4s							
YAZI				*i* AML	AML	23 29 41.0	
comp=E,2μm,0.3s							
BDRM	**Kayabasi**	**0.23**	**329**	P	**Pg**	**23 29 36.1**	**-0.4**
BDRM				S	**Sg**	**23 29 40.1**	**+0.1**
BDRM				*i* AML	AML	23 29 41.0	
comp=E,1μm,0.3s							
BODT	**Bodrum**	**0.30**	**311**	Pg	**Pg**	**23 29 37.4**	**-0.3**
BODT				Sg	**Sg**	**23 29 42.5**	**+0.5**
BODT	**Bodrum**	**0.30**	**311**	P	**Pg**	**23 29 37.3**	**-0.4**
BODT				S	**Sg**	**23 29 42.1**	**+0.1**
YKAV	**Yalikavak-Bodr**	**0.36**	**316**	Pg	**Pg**	**23 29 38.9**	**+0.1**
YKAV				Sg	**Sg**	**23 29 44.3**	**+0.6**
NISR	**Nisiros**	**0.45**	**236**	P	**Pg**	**23 29 40.7**	**+0.3**
NISR				S	**Sb**	**23 29 48.2**	**+0.4**
7μm,0.2s							
NISR	**Nisiros**	**0.45**	**236**	P	**Pg**	**23 29 40.3**	**-0.1**
NISR				S	**Sg**	**23 29 47.7**	**+1.2**
NISR				AML	AML	23 29 49.4	
comp=N,9682μm,0.3s							
NISR				AML	AML	23 29 50.9	
comp=E,17923μm,0.3s							
KLNA	**Kalymnos**	**0.51**	**281**	P	**Pg**	**23 29 41.4**	**0.0**
KLNA				S	**Sb**	**23 29 49.7**	**+0.3**
KLNA				AML	AML	23 29 53.6	
comp=E,11924μm,0.3s							
KLNA				AML	AML	23 29 54.8	
comp=N,12468μm,0.3s							
MRSB	**Marmaris-Mugla**	**0.51**	**107**	Pg	**Pg**	**23 29 41.7**	**+0.2**
TURN	**Turunc**	**0.53**	**100**	Pg	**Pg**	**23 29 41.7**	**-0.2**
TURN				Sg	**Sb**	**23 29 49.9**	**-0.2**
DIDI	**Didim-Aydin**	**0.58**	**331**	Pg	**Pg**	**23 29 43.3**	**+0.4**
YER	**Yerkesik**	**0.61**	**64**	Pg	**Pb**	**23 29 44.0**	**-0.1**
YER	**Yerkesik**	**0.61**	**64**	P	**Pg**	**23 29 43.2**	**-0.3**
YER				S	**Sg**	**23 29 50.9**	**-0.8**
ARG	**Arkhangelos**	**0.78**	**146**	P	**Pb**	**23 29 47.2**	**+0.4**
ARG				S	**Sb**	**23 29 57.7**	**+0.5**
comp=N,3μm,0.5s							
ARG	**Arkhangelos**	**0.78**	**146**	P	**Pg**	**23 29 46.3**	**-0.3**
ARG				S	**Sb**	**23 29 57.9**	**+0.7**
ARG				AML	AML	23 30 01.6	
comp=E,6076μm,0.6s							
ARG				AML	AML	23 30 03.1	
comp=N,6685μm,0.5s							
DALY	**Dalyan (Mula)**	**0.85**	**93**	Pg	**Pg**	**23 29 48.0**	**0.0**
GCAM	**G?zelcaml?**	**0.88**	**341**	Pg	**Pb**	**23 29 48.8**	**+0.3**
SMG	**Samos**	**1.03**	**325**	P	**Pg**	**23 29 50.8**	**-0.7**
SMG				S	**Sb**	**23 30 05.2**	**+0.6**
SMG	**Samos**	**1.03**	**325**	P	**Pg**	**23 29 50.7**	**-0.7**
SMG				S	**Sb**	**23 30 05.3**	**+0.7**
SMG				AML	AML	23 30 10.6	
comp=E,9197μm,0.4s							
SMG				AML	AML	23 30 11.7	
comp=N,5825μm,0.3s							
AYDB	**Zeytinkoy-Aydi**	**1.10**	**12**	Pn	**Pg**	**23 29 52.6**	**-0.2**
NAZL	**Nazilli-Aydin**	**1.23**	**27**	Pn	**Pn**	**23 29 55.1**	**+0.8**
KARP	**Karpathos**	**1.36**	**195**	P	**Pn**	**23 29 56.2**	**+0.1**
KARP				S	**Sb**	**23 30 12.6**	**-1.4**
KARP				AML	AML	23 30 21.3	
comp=E,1916μm,0.5s							
KARP				AML	AML	23 30 21.8	
comp=N,1596μm,0.6s							
CAME	**Cameli-Denizli**	**1.37**	**86**	P	**Pb**	**23 29 57.6**	**+0.6**
APE	**Apeiranthos**	**1.66**	**278**	P	**Pn**	**23 29 60.0**	**-0.3**
APE				S	**Sn**	**23 30 19.8**	**-1.7**
APE				AML	AML	23 30 22.9	
comp=N,297μm,0.3s							
APE				AML	AML	23 30 23.9	
comp=E,266μm,0.4s							
ZKR	**Zakros**	**2.07**	**213**	P	**Pn**	**23 30 06.1**	**+0.2**
LIA	**Limnos Island**	**3.57**	**329**	P	**Pn**	**23 30 26.3**	**-0.1**

*IDC **07** 23:38:34.0±1.1, 36°.83N×27°.68E, h0km, mb3.5/4, mbtmp3.4/9, ML2.0/2, MS3.2/1, Error ellipse: s-maj=21.9km s-min=16.3km az=155.0*
*ISK **07** 23:38:35.4, 36°.89N×27°.61E, h11km, ML3.7/10*
*AFAD **07** 23:38:35.7±0.0, 36°.87N×27°.60E, h7km±2km, ML3.3*
*ATH **07** 23:38:36.1, 36°.89N×27°.61E, h14km±2km, ML3.8/5, Error ellipse: s-maj=2.5km s-min=0.9km az=217.0*
*THE **07** 23:38:36.1, 36°.88N×27°.60E, h7km±1km, ML3.8/5, Error ellipse: s-maj=1.5km s-min=0.6km az=234.0*
ISC 07 23:38:35.7±0.7, 36°.87N±0°.02×27°.59E±0°.02, h17km±5km, n71, σ0°.92/100, mb3.5/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DATC	**Datca-Mugla**	**0.12**	**153**	Pg	**Pb**	**23 38 39.0**	**-0.5**
DATC				Sg	**Sg**

DGB				S	Sg	23 39 17.9	-0.3
DGB				*i* AML	AML	23 39 23.0	
	comp=N,380nm,0.5s						
DGB				*i* AML	AML	23 39 24.0	
	comp=N,359nm,0.4s						
KARP	**Karpathos**	**1.36**	**195**	Pn	**Pb**	**23 39 00.9**	**+0.2**
KARP	**Karpathos**	**1.36**	**195**	P	**Pn**	**23 39 00.2**	**+0.2**
KARP				S	**Sb**	**23 39 18.6**	**+0.7**
	comp=N,2μm,0.7s						
KARP	**Karpathos**	**1.36**	**195**	P	**Pn**	**23 39 00.1**	**+0.1**
KARP	**Karpathos**	**1.36**	**195**	P	**Pn**	**23 39 00.2**	**+0.2**
KARP				S	**Sb**	**23 39 17.8**	**-0.1**
KARP				AML	AML	23 39 24.2	
	comp=E,3525μm,0.5s						
KARP				AML	AML	23 39 27.9	
	comp=N,4408μm,0.9s						
CAME	**Cameli-Denizli**	**1.37**	**86**	Pn	**Pg**	**23 39 01.5**	**-0.7**
APE	**Apeiranthos**	**1.67**	**278**	P	**Pn**	**23 39 04.4**	**+0.2**
APE				S	**Sn**	**23 39 24.6**	**-0.6**
	comp=N,625nm,0.3s						
APE	**Apeiranthos**	**1.67**	**278**	P	**Pn**	**23 39 04.3**	**+0.1**
THR8	**Santorini-Mono**	**1.76**	**256**	P	**Pn**	**23 39 05.6**	**+0.2**
THR3	**Thira Island,**	**1.82**	**256**	P	**Pn**	**23 39 06.8**	**+0.6**
THR6	**Thira Island,**	**1.84**	**255**	P	**Pn**	**23 39 06.9**	**+0.4**
ZKR	**Zakros**	**2.07**	**213**	P	**Pn**	**23 39 10.6**	**+0.9**
ZKR	**Zakros**	**2.07**	**213**	P	**Pn**	**23 39 09.5**	**-0.2**
PRK	**Paraskevi**	**2.60**	**337**	P	**Pn**	**23 39 17.3**	**+0.4**
IDI	**Anoyia**	**2.70**	**235**	Pn	**Pn**	**23 39 19.5**	**+1.1**
	comp=N,1.6nm,0.3s,baz=177,slow=18,SNR=2.5						
IDI				Sn	**Sb**	**23 39 55.0**	**-1.4**
	comp=N,7.9nm,0.3s,baz=343,slow=18,SNR=5.2						
	comp=N,4.6nm,0.4s						
IDI	**Anoyia**	**2.70**	**235**	P	**Pn**	**23 39 19.5**	**+1.1**
SIGRI	**SIGRI**	**2.71**	**330**	P	**Pn**	**23 39 18.9**	**+0.4**
LIA	**Limnos Island**	**3.57**	**329**	P	**Pn**	**23 39 31.1**	**+0.8**
CSS	**Mathiatis**	**5.03**	**110**	P	**Pn**	**23 39 51.6**	**+1.2**
BRTR	**Keskin Array B**	**5.55**	**57**	Pn	**Pn**	**23 39 59.7**	**+2.1**
	comp=N,0.3nm,0.3s,baz=240,slow=16,SNR=13						
	comp=N,0.8nm,0.4s						
MMA0	**Mount Meron ar**	**7.47**	**119**	P	**Pn**	**23 40 22.7**	**-1.3**
MMAI	**Mount Meron Ar**	**7.47**	**119**	Pn	**Pn**	**23 40 23.4**	**-0.6**
	comp=N,1.4nm,0.3s,baz=310,slow=12,SNR=15						
MMAI				Sn	**Sn**	**23 41 46.6**	**-1.8**
	comp=N,2.6nm,0.3s,baz=42,slow=13,SNR=8.5						
GEM	**Giv'at Ha'Em**	**7.55**	**116**	P	**Pn**	**23 40 24.1**	**-1.0**
NATI	**Neve Ativ**	**7.58**	**116**	P	**Pn**	**23 40 24.8**	**-0.6**
SHMJ	**Saham**	**7.89**	**119**	P	**Pn**	**23 40 28.3**	**-1.3**
SALP	**Salfit**	**7.89**	**125**	P	**Pn**	**23 40 28.4**	**-1.3**
QRNJ	**Al-Qirein**	**7.98**	**122**	P	**Pn**	**23 40 30.3**	**-0.6**
HMDT	**Nahal Hemdat**	**8.00**	**123**	P	**Pn**	**23 40 30.7**	**-0.4**
UJAP	**Al Uja**	**8.14**	**125**	P	**Pn**	**23 40 32.7**	**-0.4**
KZIT	**Kziot**	**8.20**	**134**	P	**Pn**	**23 40 33.4**	**-0.6**
DSI	**Dead Sea**	**8.33**	**127**	P	**Pn**	**23 40 33.9**	**-1.8**
GHAJ	**Ghor Haditha**	**8.63**	**128**	P	**Pn**	**23 40 39.0**	**-0.8**
MLR	**Muntele Rosu**	**8.71**	**352**	Pn	**Pn**	**23 40 43.1**	**+2.1**
	comp=N,0.9nm,0.8s,baz=164,slow=12						
PRNI	**Paran**	**8.96**	**134**	P	**Pn**	**23 40 43.7**	**-0.7**
KRMI	**Paran Flat**	**8.98**	**136**	P	**Pn**	**23 40 42.7**	**-2.0**
HRFI	**Mount Harif**	**9.22**	**135**	P	**Pn**	**23 40 46.7**	**-1.2**
MBRI	**Mt Berech**	**9.34**	**137**	P	**Pn**	**23 40 48.8**	**-0.8**
EIL	**Elat**	**9.45**	**137**	Pn	**Pn**	**23 40 50.8**	**-0.4**
	comp=N,1.6nm,0.4s,baz=117,slow=8.1,SNR=2.5						
EIL				Sn	**Sn**	**23 42 32.5**	**-4.5**
	comp=N,0.6nm,0.3s,baz=17,slow=16,SNR=2.3						
KEST	**Kesra**	**14.76**	**271**	LR	LR	23 47 59.8	
	comp=N,82nm,18.6s,baz=294,slow=38						
ESDC	**Sonseca Array**	**24.87**	**286**	P	**P**	**23 43 58.6**	**+1.1**
	comp=N,0.4nm,0.6s,baz=78,slow=10.0,SNR=4.9						
	comp=N,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**33.09**	**231**	P	**P**	**23 45 11.7**	**+0.9**
	comp=N,0.8nm,0.5s,baz=32,slow=8.8,SNR=9.2						
	comp=N,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**38.52**	**53**	P	**P**	**23 45 58.1**	**+1.1**
	comp=N,0.5nm,0.3s,baz=269,slow=8.2,SNR=2.0						
	comp=N,0.5nm,0.3s						
MKAR	**Makanchi Array**	**41.20**	**58**	P	**P**	**23 46 19.9**	**+0.5**
	comp=N,0.2nm,0.6s,baz=257,slow=9.5,SNR=2.0						
	comp=N,0.2nm,0.6s						

*IDC **07** 23:42:05.9±1.0, 37°.60N×20°.60E, h0km, mb3.4/8, mbtmp3.4/13, ML1.4/3, Error ellipse: s-maj=23.7km s-min=15.6km az=170.0*
*ATH **07** 23:42:08.2, 37°.47N×20°.38E, h8km±1km, ML3.3/13, Error ellipse: s-maj=2.3km s-min=0.9km az=40.0*
*THE **07** 23:42:08.7, 37°.50N×20°.44E, h0km±3km, ML3.3/6, Error ellipse: s-maj=4.0km s-min=1.0km az=233.0*

ISC 07 23:42:08.3±1.2, 37°.48N±0°.03×20°.45E±0°.03, h11km±8km, n76, σ1§38/100, mb3.5/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.34**	**58**	P	**Pg**	**23 42 15.2**	**0.0**
KRI1				S	**Sg**	**23 42 20.3**	**+0.5**
	9μm,0.4s						
LTHK	**Lithakia**	**0.38**	**54**	P	**Pg**	**23 42 15.8**	**-0.1**
LTHK				S	**Sg**	**23 42 21.3**	**+0.3**
	11μm,0.6s						
LTHK	**Lithakia**	**0.38**	**54**	P	**Pg**	**23 42 16.1**	**+0.1**
LTHK				S	**Sb**	**23 42 22.4**	**-0.6**
LTHK				AML	AML	23 42 22.9	
	comp=E,19150μm,0.3s						
LTHK				AML	AML	23 42 25.2	
	comp=N,13232μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.64**	**10**	P	**Pg**	**23 42 20.0**	**-0.7**
PSDA				S	**Sg**	**23 42 29.7**	**+0.5**
	comp=N,3μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.64**	**10**	P	**Pg**	**23 42 20.3**	**-0.4**
PSDA				S	**Sb**	**23 42 30.5**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.65**	**23**	P	**Pg**	**23 42 19.9**	**-1.0**
RTZL				S	**Sg**	**23 42 29.6**	**+0.2**
	comp=N,3μm,0.7s						
VLS	**Valsamata**	**0.70**	**9**	P	**Pg**	**23 42 20.9**	**-1.0**
VLS				S	**Sb**	**23 42 31.9**	**-0.4**
	comp=N,3μm,0.5s						
VLS	**Valsamata**	**0.70**	**9**	P	**Pg**	**23 42 21.7**	**-0.2**
VLS				S	**Sb**	**23 42 32.1**	**-0.2**
VLS				AML	AML	23 42 37.0	
	comp=E,5640μm,0.5s						
VLS				AML	AML	23 42 37.5	
	comp=N,5153μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.72**	**359**	P	**Pg**	**23 42 22.5**	**+0.3**
LXRA				S	**Sb**	**23 42 32.9**	**+0.2**
DMLN	**Damoulianata-K**	**0.76**	**356**	P	**Pg**	**23 42 22.3**	**-0.7**
DMLN	**Damoulianata-K**	**0.76**	**356**	P	**Pg**	**23 42 23.1**	**+0.2**
DMLN				S	**Sb**	**23 42 33.5**	**-0.4**
SMHA	**Samh**	**0.78**	**12**	P	**Pg**	**23 42 22.8**	**-0.7**
SMHA				S	**Sb**	**23 42 34.5**	**-0.1**
VSK1	**VASILIKIADES**	**0.93**	**6**	P	**Pg**	**23 42 25.4**	**-0.8**
FSK	**Fiskardo**	**0.98**	**5**	P	**Pg**	**23 42 26.1**	**-1.1**
FSK				S	**Sb**	**23 42 41.0**	**+0.8**
	comp=N,1μm,0.9s						
FSK	**Fiskardo**	**0.98**	**5**	P	**Pg**	**23 42 26.4**	**-0.8**
FSK				S	**Sb**	**23 42 41.3**	**+1.1**
FSK				AML	AML	23 42 44.8	
	comp=E,2997μm,0.6s						
FSK				AML	AML	23 42 45.9	
	comp=N,2346μm,0.7s						
RLS	**Riolos of Patr**	**0.99**	**54**	P	**Pg**	**23 42 26.5**	**-0.9**
RLS	**Riolos of Patr**	**0.99**	**54**	P	**Pg**	**23 42 27.4**	**0.0**
RLS				S	**Sb**	**23 42 41.6**	**+1.0**
RLS				AML	AML	23 42 49.3	
	comp=E,1775μm,0.7s						
RLS				AML	AML	23 42 50.4	
	comp=N,1237μm,0.4s						
AMT	**Artemida-Makis**	**1.00**	**87**	P	**Pb**	**23 42 28.5**	**+0.8**
AMT				S	**Sb**	**23 42 42.7**	**+1.8**
AMT				AML	AML	23 42 49.1	
	comp=N,7360μm,0.4s						
AMT				AML	AML	23 42 50.5	
	comp=E,7154μm,0.5s						
DRO	**Drossia**	**1.11**	**65**	P	**Pg**	**23 42 28.7**	**-0.9**
DRO	**Drossia**	**1.11**	**65**	P	**Pb**	**23 42 30.3**	**+0.8**
DRO				S	**Sb**	**23 42 45.7**	**+1.8**
DRO				AML	AML	23 42 53.5	
	comp=N,2937μm,0.4s						
DRO				AML	AML	23 42 55.2	
	comp=E,3579μm,0.5s						
EVGI	**Lefkada island**	**1.15**	**8**	P	**Pg**	**23 42 29.0**	**-1.4**
EVGI	**Lefkada island**	**1.15**	**8**	P	**Pg**	**23 42 29.3**	**-1.1**
EVGI				S	**Sb**	**23 42 45.9**	**+0.8**
PYL	**PYLOS**	**1.19**	**119**	P	**Pg**	**23 42 30.8**	**-0.3**
PYL				S	**Sb**	**23 42 47.7**	**+1.5**
PYL	**PYLOS**	**1.19**	**119**	P	**Pg**	**23 42 31.3**	**+0.1**
PYL				S	**Sg**	**23 42 46.6**	**0.0**
PYL				AML	AML	23 42 51.9	
	comp=N,1291μm,0.4s						
PYL				AML	AML	23 42 53.6	
	comp=E,1549μm,0.8s						
DRAG	**Dragano-Lefkad**	**1.20**	**5**	P	**Pg**	**23 42 29.8**	**-1.7**
DRAG	**Dragano-Lefkad**	**1.20**	**5**	P	**Pg**	**23 42 30.2**	**-1.3**
ITM	**Ithomi**	**1.22**	**104**	P	**Pb**	**23 42 32.1**	**+0.8**
ITM	**Ithomi**	**1.22**	**104**	P	**Pg**	**23 42 31.8**	**+0.1**
ITM				S	**Sb**	**23 42 48.5**	**+1.4**
ITM				AML	AML	23 42 54.9	
	comp=E,1454μm,0.8s						
ITM				AML	AML	23 42 57.8	
	comp=N,1579μm,0.9s						
NYDR	**Nydri-Lefkada**	**1.25**	**9**	P	**Pg**	**23 42 30.5**	**-1.7**
NYDR	**Nydri-Lefkada**	**1.25**	**9**	P	**Pg**	**23 42 31.5**	**-0.8**
LKD2	**Lefkada island**	**1.31**	**7**	P	**Pb**	**23 42 33.5**	**+0.5**
LKD2				S	**Sn**	**23 42 52.8**	**+2.6**
LKD2	**Lefkada island**	**1.31**	**7**	P	**Pg**	**23 42 32.9**	**-0.7**
LKD2				AML	AML	23 42 56.6	
	comp=E,2099μm,0.6s						
LKD2				AML	AML	23 42 58.5	
	comp=N,1630μm,0.4s						
UPR	**University Cam**	**1.33**	**53**	P	**Pg**	**23 42 32.9**	**-0.9**
TSLK	**Tsoukalades, L**	**1.35**	**7**	P	**Pg**	**23 42 32.7**	**-1.5**
TSLK				S	**Sn**	**23 42 54.6**	**+3.6**
TSLK	**Tsoukalades, L**	**1.35**	**7**	P	**Pg**	**23 42 32.7**	**-1.5**
KLV	**Kalavryta, Ach**	**1.46**	**67**	P	**Pg**	**23 42 36.2**	**-0.2**
KLV	**Kalavryta, Ach**	**1.46**	**67**	P	**Pn**	**23 42 35.1**	**+0.4**
KLV				AML	AML	23 43 08.8	
	comp=E,516μm,0.8s						
KLV				AML	AML	23 43 09.3	
	comp=N,834μm,1.1s						
EFP	**Efpalio**	**1.49**	**50**	P	**Pb**	**23 42 36.5**	**+0.5**
EFP	**Efpalio**	**1.49**	**50**	P	**Pn**	**23 42 35.4**	**+0.4**
EFP				AML	AML	23 43 06.3	
	comp=N,918μm,0.8s						
EFP				AML	AML	23 43 06.8	
	comp=E,1347μm,0.6s						
ALIK	**Aliki, Aigiali**	**1.53**	**59**	P	**Pg**	**23 42 37.9**	**+0.2**
GUR	**Goura**	**1.57**	**73**	P	**Pn**	**23 42 37.6**	**+1.4**
GUR	**Goura**	**1.57**	**73**	P	**Pn**	**23 42 36.7**	**+0.5**
GUR				AML	AML	23 43 12.7	
	comp=E,1436μm,0.7s						
GUR				AML	AML	23 43 14.3	
	comp=N,1726μm,0.7s						
ANX	**Ano Chora**	**1.61**	**46**	P	**Pn**	**23 42 37.2**	**+0.5**
ANX				AML	AML	23 43 07.6	
	comp=E,1786μm,0.5s						
ANX				AML	AML	23 43 08.5	
	comp=N,2659μm,0.6s						
EVR	**Evrytania**	**1.79**	**36**	P	**Pg**	**23 42 43.6**	**+1.0**
DLFA	**Delphi**	**1.90**	**58**	P	**Pn**	**23 42 41.8**	**+1.1**
IGT	**Igoumenitsa**	**2.05**	**358**	P	**Pn**	**23 42 43.1**	**+0.4**
IGT	**Igoumenitsa**	**2.05**	**358**	P	**Pn**	**23 42 42.2**	**-0.5**
VLI	**Veliai**	**2.13**	**110**	P	**Pb**	**23 42 46.6**	**-0.3**
VLI	**Veliai**	**2.13**	**110**	P	**Pn**	**23 42 44.8**	**+1.0**
AGG	**Agios Georgios**	**2.14**	**43**	P	**Pn**	**23 42 46.3**	**+2.4**
KEK	**Kerkira**	**2.29**	**347**	P	**Pn**	**23 42 46.2**	**+0.3**
THL	**Klokotos Trika**	**2.42**	**30**	P	**Pn**	**23 42 49.6**	**+1.9**
TYRN	**Tyrnavos**	**2.63**	**32**	P	**Pn**	**23 42 52.1**	**+1.5**
PENT	**Pentalofos**	**2.76**	**11**	P	**Pn**	**23 42 55.5**	**+2.9**
DION	**Dionisos Attik**	**2.83**	**77**	P	**Pn**	**23 42 54.2**	**+0.8**
NEO	**Neokhori**	**2.84**	**49**	P	**Pn**	**23 42 54.5**	**+0.9**
NEST	**Nestorio**	**2.97**	**9**	P	**Pn**	**23 42 58.6**	**+3.2**
PAIG	**Paliouri**	**3.52**	**45**	P	**Pn**	**23 43 03.2**	**+0.4**
OHR	**Ohrid**	**3.63**	**4**	*i* Pn	**Pb**	**23 43 12.1**	**-0.5**
SOH	**Sokhos**	**4.03**	**33**	P	**Pn**	**23 43 11.2**	**+1.3**
VAY	**Valandovo**	**4.17**	**23**	*i* Pn	**Pn**	**23 43 16.3**	**+4.5**
IDI	**Anoyia**	**4.20**	**120**	Pn	**Pn**	**23 43 11.9**	**-0.4**
	comp=N,0.2nm,0.3s,baz=184,slow=21,SNR=2.0						
IDI				Sn	**Sn**	**23 44 01.2**	**-0.2**
	comp=N,3.5nm,0.3s,baz=308,slow=15,SNR=10						
	comp=N,8.1nm,0.9s						
PEHC	**Pehcevo**	**4.69**	**23**	*i* Pn	**Pn**	**23 43 20.4**	**+1.3**
VAE	**Valguarnera**	**4.80**	**272**	Pn	**Pn**	**23 43 21.9**	**+1.4**
	comp=N,0.5nm,0.3s,baz=171,slow=16,SNR=2.3						
VAE				Sn	**Sn**	**23 44 20.2**	**+4.0**
	comp=N,1.2nm,0.3s,baz=262,slow=18,SNR=2.5						
	comp=N,6.7nm,0.7s						
MLR	**Muntele Rosu**	**9.00**	**26**	Pn	**Pn**	**23 44 20.9**	**+2.7**
	comp=N,0.1nm,0.3s,baz=198,slow=20,SNR=4.4						
BRTR	**Keskin Array B**	**10.56**	**74**	Pn	**Pn**	**23 44 38.3**	**-1.5**
	baz=294,slow=14,SNR=2.6						
	comp=N,0.5nm,0.8s						
MMAI	**Mount Meron Ar**	**13.01**	**106**	Pn	**Pn**	**23 45 11.9**	**-1.2**
	comp=N,0.5nm,0.5s,baz=291,slow=12,SNR=1.9						
ESDC	**Sonseca Array**	**19.20**	**284**	P	**P**	**23 46 32.9**	**+0.8**
	comp=N,1.2nm,1.1s,baz=86,slow=9.4,SNR=3.5						
MDT	**Midelt**	**20.99**	**265**	P	**P**	**23 46 52.1**	**+0.4**
	comp=N,1.2nm,0.8s,baz=88,slow=11,SNR=2.4						
	comp=N,1.2nm,0.8s						
HFS	**Hagfors**	**23.08**	**351**	P	**P**	**23 47 12.4**	**-1.2**
	comp=N,1.3nm,0.7s,baz=179,slow=17,SNR=2.3						
	comp=N,1.3nm,0.7s						
FINES	**FINESS Array B**	**24.24**	**7**	P	**P**	**23 47 23.2**	**-1.8**
	comp=N,0.7nm,0.5s,baz=173,slow=10,SNR=10						
	comp=N,0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**29.45**	**220**	P	**P**	**23 48 12.7**	**+0.5**
	comp=N,0.3nm,0.4s,baz=24,slow=10,SNR=4.8						
	comp=N,0.3nm,0.4s						
BVAR	**Borovoye Array**	**37.61**	**49**	P	**P**	**23 49 20.8**	**-2.0**
	comp=N,0.2nm,0.5s,baz=292,slow=7.6,SNR=1.6						
	comp=N,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**42.69**	**53**	P	**P**	**23 50 02.1**	**-2.8**
	comp=N,0.1nm,0.3s,baz=281,slow=8.9,SNR=2.3						
	comp=N,0.1nm,0.3s						
MKAR	**Makanchi Array**	**45.72**	**58**	P	**P**	**23 50 27.7**	**-1.6**
	comp=N,0.2nm,0.4s,baz=274,slow=6.7,SNR=6.1						
	comp=N,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**46.20**	**48**	P	**P**	**23 50 30.1**	**-2.8**
	comp=N,0.6nm,0.6s,baz=285,slow=6.5,SNR=2.5						
	comp=N,0.6nm,0.6s						

DJA 08 00:02:24.6±0.5, 10°S±5°×11°9E±°, h19km±4km, M3.9/8, mb4.0/2, MLv3.9/8, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.39**	**60**	P	Pb	00 02 33.8	+0.8
WBSI				S	Sn	00 02 40.9	-1.3
BASI	**Baing, Sumba**	**1.55**	**104**	P	Pn	00 02 50.9	-0.3
PLAI	**Plampang**	**1.61**	**309**	P	Pn	00 02 51.4	-0.6
PLAI				S	Sn	00 03 11.6	-0.7
BSSI	**Bau Bau, Buton**	**3.94**	**21**	P	Pn	00 03 24.9	+0.8
BSSI				S	Sn	00 04 09.9	0.0
SRBI	**Singaraja**	**4.17**	**294**	P	Pn	00 03 26.5	-0.8
BKSI	**Bulukumba**	**4.61**	**13**	P	Pn	00 03 34.3	+0.9
BKSI				S	Sn	00 04 27.5	+1.1
JAGI	**Jajag, Banyuwa**	**5.02**	**285**	P	Pn	00 03 38.3	-0.7
	33nm,1.1s						
GMJI	**Gumukmas**	**5.75**	**285**	P	Pn	00 03 48.6	-0.4

*ISK **08** 00:05:26.4, 36°.89N×27°.62E, h13km, ML2.5/11*
*THE **08** 00:05:27.0, 36°.88N×27°.63E, h8km±1km, ML2.2/5, Error ellipse: s-maj=1.5km s-min=0.4km az=216.0*
*AFAD **08** 00:05:27.1±0.0, 36°.86N×27°.58E, h7km±2km, ML1.9*
*ATH **08** 00:05:27.6, 36°.90N×27°.59E, h14km±3km, ML2.2/4, Error ellipse: s-maj=4.3km s-min=1.2km az=247.0*

ISC 08 00:05:26.8±0.8, 36°.88N±0°.02×27°.62E±0°.02, h14km±5km, n27, σ0§41/45, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DATC	**Datca-Mugla**	**0.13**	**163**	Pg	**Pg**	**00 05 30.3**	**+0.1**
DATC				Sg	**Sg**	**00 05 32.9**	**+0.4**
DAT	**Datca**	**0.15**	**191**	P	**Pg**	**00 05 30.5**	**-0.1**
DAT				S	**Sg**	**00 05 33.0**	**-0.4**
DAT				*i* AML	AML	00 05 34.0	
	comp=N,525nm,0.1s						
DAT				*i* AML	AML	00 05 35.0	
	comp=E,582nm,0.5s						
DAT	**Datca**	**0.15**	**191**	Pg	**Pg**	**00 05 30.6**	**-0.1**
DAT				Sg	**Sg**	**00 05 33.5**	**+0.1**
DAT	**Datca**	**0.15**	**191**	P	**Pg**	**00 05 30.5**	**-0.1**
DAT				S	**Sg**	**00 05 33.1**	**-0.2**
BDRM	**Kayabasi**	**0.23**	**323**	P	**Pg**	**00 05 31.7**	**-0.1**
BDRM				*i* AML	AML	00 05 35.0	
	comp=E,293nm,0.3s						
BDRM				S	**Sg**	**00 05 35.8**	**+0.5**
YAZI	**Mula-Dat§a-**	**0.24**	**213**	P	**Pg**	**00 05 31.7**	**-0.2**
YAZI				S	**Sg**	**00 05 35.7**	**+0.3**
YAZI				*i* AML	AML	00 05 37.0	
	comp=E,187nm,0.5s						
YAZI				*i* AML	AML	00 05 39.0	
	comp=N,168nm,0.4s						
BODT	**Bodrum**	**0.30**	**307**	Pg	**Pg**	**00 05 33.1**	**-0.1**
BODT				Sg	**Sg**	**00 05 38.0**	**+0.6**
BODT	**Bodrum**	**0.30**	**307**	P	**Pg**	**00 05 33.0**	**-0.1**
BODT				S	**Sg**	**00 05 38.4**	**+1.0**
YKAV	**Yalikavak-Bodr**	**0.36**	**312**	Pg	**Pg**	**00 05 34.1**	**0.0**
NISR	**Nisiros**	**0.47**	**236**	P	**Pg**	**00 05 36.6**	**+0.4**
NISR				S	**Sb**	**00 05 44.0**	**+0.2**
	388nm,0.2s						
NISR	**Nisiros**	**0.47**	**236**	P	**Pg**	**00 05 36.5**	**+0.3**
NISR				S	**Sg**	**00 05 43.6**	**+1.1**
NISR				AML	AML	00 05 44.9	
	comp=N,525μm,0.2s						
NISR				AML	AML	00 05 45.1	
	comp=E,1011μm,0.2s						
MRSB	**Marmaris-Mugla**	**0.49**	**109**	Pg	**Pg**	**00 05 36.6**	**0.0**
TURN	**Turunc**	**0.52**	**102**	Pg	**Pg**	**00 05 36.9**	**0.0**
KLNA	**Kalymnos**	**0.52**	**279**	P	**Pg**	**00 05 36.9**	**-0.1**
KLNA				S	**Sg**	**00 05 44.3**	**+0.3**
YER	**Yerkesik**	**0.59**	**64**	Pg	**Pg**	**00 05 38.3**	**-0.1**
YER	**Yerkesik**	**0.59**	**64**	P	**Pg**	**00 05 38.5**	**+0.1**
YER				S	**Sb**	**00 05 47.2**	**-0.1**
ARG	**Arkhangelos**	**0.78**	**148**	P	**Pg**	**00 05 42.1**	**+0.2**
ARG				S	**Sb**	**00 05 53.6**	**+1.0**
	comp=E,210nm,0.6s						
ARG	**Arkhangelos**	**0.78**	**148**	P	**Pg**	**00 05 42.2**	**+0.3**
ARG				S	**Sn**	**00 05 54.8**	**-0.2**
ARG				AML	AML	00 05 56.9	
	comp=E,394μm,0.5s						
ARG				AML	AML	00 05 57.7	
	comp=N,442μm,0.6s						
DALY	**Dalyan (Mula)**	**0.83**	**94**	Pg	**Pg**	**00 05 42.8**	**-0.2**
GCAM	**G?zelcaml?**	**0.87**	**340**	Pg	**Pg**	**00 05 43.6**	**-0.1**
SMG	**Samos**	**1.03**	**323**	P	**Pb**	**00 05 46.1**	**-0.4**
SMG				S	**Sg**	**00 06 00.5**	**+0.2**
	comp=N,160nm,0.6s						
SMG	**Samos**	**1.03**	**323**	P	**Pb**	**00 05 46.4**	**-0.1**
SMG				S	**Sb**	**00 05 60.0**	**0.0**
SMG				AML	AML	00 06 06.2	
	comp=E,344μm,0.6s						
SMG				AML	AML	00 06 07.5	
	comp=N,304μm,0.6s						
AYDB	**Zeytinkoy-Aydi**	**1.09**	**12**	Pg	**Pb**	**00 05 47.8**	**+0.3**
NAZL	**Nazilli-Aydin**	**1.21**	**26**	Pn	**Pn**	**00 05 49.3**	**-0.1**
KARP	**Karpathos**	**1.38**	**196**	P	**Pn**	**00 05 51.4**	**-0.3**
KARP				S	**Sn**	**00 06 08.9**	**-0.9**
	comp=N,55nm,0.5s						
KARP	**Karpathos**	**1.38**	**196**	P	**Pn**	**00 05 51.5**	**-0.2**
KARP				S	**Sn**	**00 06 09.6**	**-0.2**
KARP				AML	AML	00 06 12.8	
	comp=N,86μm,0.7s						
KARP				AML	AML	00 06 14.8	
	comp=E,123μm,0.4s						
APE	**Apeiranthos**	**1.68**	**277**	P	**Pn**	**00 05 55.4**	**-0.5**

*GII **08** 00:11:28.5±0.8, 33°.90N±0°.05×28°.26E±0°.02, h60km, Mws3.0, confirmed*
*NIC **08** 00:11:30.4, 34°.04N×28°.24E, h32km±27km, Ml2.8/11*
*ATH **08** 00:11:32.4±0.8, 34°.35N×27°.79E, h10km, ML2.6/5, Manual Solution by A.Papageorgiou This location: 2020/07/20 08:42:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*

ISC 08 00:11:27.8±1.2, 33°.94N±0°.09×28°.14E±0°.05, h35km, n79, σ1§58/91, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.80**	**333**	P	**Pn**	**00 11 57.7**	**+1.3**
KARP	**Karpathos**	**1.80**	**333**	P	**Pn**	**00 11 58.3**	**+1.9**
KARP				S	**Sn**	**00 12 20.6**	**+2.7**
KARP				AML	AML	00 12 21.4	
	0.2nm,0.4s						
KARP				AML	AML	00 12 27.7	
	0.2nm,0.4s						
KARP	**Karpathos**	**1.80**	**333**	P	**Pn**	**00 11 56.4**	**0.0**
KARP				S	**Sn**	**00 12 14.8**	**-3.1**
ZKR	**Zakros**	**1.98**	**307**	S	**Sn**	**00 12 25.9**	**+3.5**
ZKR				AML	AML	00 12 28.7	
	0.1nm,0.4s						
ZKR				AML	AML	00 12 30.1	
	0.1nm,0.4s						
ZKR	**Zakros**	**1.98**	**307**	P	**Pn**	**00 11 59.7**	**+0.9**
ZKR				S	**Sn**	**00 12 20.3**	**-2.1**
ARG	**Arkhangelos**	**2.27**	**360**	S	**Sn**	**00 12 30.8**	**+1.2**
ARG				AML	A

MMA0B	Mount Meron ar	6.14 97	S	Sn	00 14 04.0	-1.1
AMAZ	Amatzia	6.19 111	P	Pn	00 12 56.3	-0.5
AMAZ	Amatzia	6.19 111	S	Sn	00 14 04.3	-2.0
SALP	Salfit	6.21 106	P	Pn	00 12 56.7	-0.3
SALP	Salfit	6.21 106	S	Sn	00 14 05.8	-1.0
MMLI	Mount Malkishu	6.28 102	S	Sn	00 14 05.9	-2.7
MMLI	Mount Malkishu	6.28 102	P	Pn	00 12 57.5	-0.5
GEM	Giv'at Ha'Em	6.32 95	S	Sn	00 14 07.5	-1.9
GEM	Giv'at Ha'Em	6.32 95	S	Sn	00 14 07.9	-1.5
GEM	Giv'at Ha'Em	6.32 95	P	Pn	00 12 58.0	-0.5
NATI	Neve Ativ	6.37 94	S	Sn	00 14 09.5	-1.2
NATI	Neve Ativ	6.37 94	P	Pn	00 12 58.9	-0.3
YTIR	Yattir	6.42 112	P	Pn	00 12 59.8	-0.1
YTIR	Yattir	6.42 112	S	Sn	00 14 10.8	-1.3
HMDT	Nahal Hemdat	6.42 103	S	Sn	00 14 10.8	-1.2
HMDT	Nahal Hemdat	6.42 103	P	Pn	00 12 59.4	-0.5
QRNJ	Al-Qirein	6.43 102	P	Pn	00 13 00.9	+0.8
UJAP	Al Uja	6.46 106	P	Pn	00 13 01.8	+1.3
UJAP	Al Uja	6.46 106	P	Pn	00 13 01.0	+0.5
UJAP	Al Uja	6.46 106	S	Sn	00 14 11.9	-1.1
SHMJ	Saham	6.49 99	S	Sn	00 14 12.4	-1.3
DSI	Dead Sea	6.54 109	P	Pn	00 13 01.5	0.0
DSI	Dead Sea	6.54 109	P	Pn	00 13 01.0	-0.5
DSI	Dead Sea	6.54 109	S	Sn	00 14 13.7	-1.2
MSBI	Mazada	6.62 111	P	Pn	00 13 03.6	+1.0
MSBI	Mazada	6.62 111	S	Sn	00 14 15.8	-1.2
KRMI	Paran Flat	6.76 123	P	Pn	00 13 04.3	-0.3
KRMI	Paran Flat	6.76 123	S	Sn	00 14 17.4	-3.1
GHAJ	Ghor Haditha	6.79 111	P	Pn	00 13 06.9	+1.9
GHAJ	Ghor Haditha	6.79 111	P	Pn	00 13 04.6	-0.3
GHAJ	Ghor Haditha	6.79 111	S	Sn	00 14 19.8	-1.3
PRNI	Paran	6.83 120	P	Pn	00 13 05.4	-0.1
PRNI	Paran	6.83 120	S	Sn	00 14 19.1	-2.9
HRFI	Mount Harif	7.03 122	P	Pn	00 13 08.0	-0.3
HRFI	Mount Harif	7.03 122	S	Sn	00 14 25.8	-1.3
MBRI	Mt Berech	7.09 124	P	Pn	00 13 10.5	+1.4
MBRI	Mt Berech	7.09 124	P	Pn	00 13 08.8	-0.3
MBRI	Mt Berech	7.09 124	S	Sn	00 14 27.8	-0.7
EIL	Elat	7.19 124	P	Pn	00 13 10.3	-0.2
EIL	Elat	7.19 124	S	Sn	00 14 25.1	-5.8

*IDC **08** 00:22:00.6±1.7,24°.36S×179°.83E,h510km±17km,mb3.5/7, mbtmp4.4/9,Error ellipse: s-maj=26.0km s-min=16.4km az=147.0*
*NOU **08** 00:22:00.4,24°.01S×179°.73W,h571km,mb4.2/13,South of Fiji Islands*
*NEIC **08** 00:22:03.3±1.3,24°.3S±0°.1×179°.8E±0°.1,h530km±8km, mb4.4/22,Error ellipse: s-maj=20.0km s-min=18.3km az=170.0*
ISC 08 00:22:03.3±0.6,**24°.34S**±0°.07×**179°.84E**±0°.09,**h550**km,**n95,** σ1°**63**/99,**mb4.4**/19,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	Raoul Island	5.28	158	S	S	00 24 39.2	-11
RAO	Raoul Island	5.29	158	P	P	00 23 34.6	-0.8
GLKZ	Green Lake	5.30	158	P	P	00 23 33.8	-1.8
GLKZ				S	S	00 24 40.3	-11
MSVF	Nonsavu	6.78	345	P	P	00 23 45.1	-4.3
MSVF	Nonsavu	6.78	345	P	P	00 23 44.9	-4.5
	3.9nm,0.4s,baz=95,slow=23,SNR=6.8						
MSVF	Nonsavu	6.78	345	P	P	00 23 45.1	-4.3
	25nm,2.4s						
YSA	Yasawairara	7.89	344	P	P	00 23 56.5	-3.6
	58nm,0.9s						
PINNC	Pines Island,	11.50	276	P	P	00 24 36.8	+0.2
OUZ	Omahuta	12.12	205	P	P	00 24 44.6	+1.8
OUZ	Omahuta	12.12	205	P	P	00 24 45.6	+2.8
	24nm,1.2s						
YATNC	Mamie plateau,	12.12	278	P	P	00 24 43.8	+0.7
	15nm,1.4s						
GRZ	Great Barrier	12.46	197	P	P	00 24 46.2	-0.1
DZM	Mont Dzumac	12.52	278	P	P	00 24 47.7	+0.3
DZM	Mont Dzumac	12.52	278	P	P	00 24 47.5	+0.2
	11nm,0.7s,baz=94,slow=15,SNR=14						
DZM	Mont Dzumac	12.52	278	P	P	00 24 48.0	+0.6
	19nm,0.7s						
NOUC	Port Laguerre	12.64	277	P	P	00 24 48.9	+0.4
	13nm,1.0s						
KUZ	Kuaotunu	12.86	195	P	P	00 24 56.6	+6.1
KUZ	Kuaotunu	12.86	195	P	P	00 24 52.9	+2.4
	25nm,0.5s						
ABAZ	Army Bay	12.96	198	P	P	00 25 01.2	+10
WIAZ	Waiheke Island	13.05	197	P	P	00 24 53.0	+0.5
MBAZ	Motutapu North	13.09	198	P	P	00 24 54.4	+1.4
MXZ	Matakaoa Point	13.24	185	P	P	00 24 55.0	+0.5
MXZ	Matakaoa Point	13.24	185	P	P	00 24 55.5	+1.0
MXZ	Matakaoa Point	13.24	185	P	P	00 24 55.5	+1.0
	79nm,1.1s						
MKAZ	Moumakai	13.34	196	P	P	00 24 57.0	+1.5
AWAZ	Awhitu Peninsu	13.44	198	P	P	00 25 00.7	+4.2
HAZ	Te Kaha	13.49	187	P	P	00 24 58.1	+1.1
HAZ				S	S	00 27 16.0	-4.0
RUGZ	Raukumara Rang	13.71	187	P	P	00 24 59.7	+0.3
RUGZ				S	S	00 27 20.3	-4.1
PUZ	Puketiti	13.76	185	P	P	00 25 02.7	+2.9
TWGZ	Tauwhareparae	13.88	186	P	P	00 25 02.0	+0.8
URZ	Urewera	14.07	189	P	P	00 25 01.4	-1.5
	45nm,0.5s,baz=334,slow=3.5,SNR=43						
URZ				S	S	00 27 28.1	-2.8
	5.8nm,0.6s,baz=168,slow=21,SNR=5.6						
URZ	Urewera	14.07	189	P	P	00 25 01.9	-1.0
URZ				S	S	00 27 27.4	-3.6
URZ	Urewera	14.07	189	P	P	00 25 02.0	-1.0
	61nm,0.6s						
MWZ	Matawai	14.09	187	P	P	00 25 02.9	-0.4
MWZ				S	S	00 27 33.1	+1.7
CNGZ	Carnagh Statio	14.17	185	P	P	00 25 05.0	+1.0
RTZ	Ruatahuna	14.44	189	P	P	00 25 05.8	-1.1
RAHZ	Arahi	14.72	188	P	P	00 25 07.9	-1.8
WATZ	Wairara	14.74	193	P	P	00 25 12.0	+2.1
KNZ	Kokohu	14.75	187	P	P	00 25 09.6	-0.4
RATZ	Rangitukua	14.89	192	P	P	00 25 12.9	+1.4
NMHZ	Naumai	14.94	189	P	P	00 25 12.6	+0.6
BKZ	Black Stump Fm	15.05	190	P	P	00 25 12.1	-1.0
BKZ				S	S	00 27 48.8	-0.6
BKZ	Black Stump Fm	15.05	190	P	P	00 25 12.2	-1.0
	21nm,0.5s						
NTVZ	North Tongarir	15.13	192	P	P	00 25 15.4	+1.3
TMVZ	Te Maari	15.14	192	P	P	00 25 14.4	+0.2
TWVZ	Taurewa	15.15	193	P	P	00 25 15.7	+1.5
ETVZ	East Tongariro	15.16	192	P	P	00 25 15.0	+0.6
WTVZ	West Tongariro	15.16	193	P	P	00 25 14.3	-0.1
WNVZ	Wahianoa	15.37	192	P	P	00 25 16.1	-0.4
MOVZ	Moawhango	15.41	192	P	P	00 25 15.7	-1.2
KRHZ	Kereru	15.54	190	P	P	00 25 17.9	-0.2
BFZ	Birch Farm	16.57	190	P	P	00 25 27.3	-0.6
	43nm,2.2s						
QRZ	Quartz Range	17.54	199	P	P	00 25 37.4	+0.6
	47nm,1.2s						
KHZ	Kahutara	18.77	195	P	P	00 25 48.7	+0.8
	46nm,1.7s						
ARMA	Armidale	25.73	250	P	P	00 26 51.4	+0.7
ARMA				IAmb	IAmb	00 27 19.2	
	comp=Z,26nm,1.4s						
EIDS	Eidsvold	26.09	262	P	P	00 26 54.5	+0.7
CTAO	Charters Tower	31.33	271	P	P	00 27 40.2	+0.9
TOO	Toolangi	32.08	238	P	P	00 27 47.1	+1.5
TOO				IAmb	IAmb	00 28 00.2	
	comp=Z,7.9nm,1.3s						
STKA	Stephens Creek	34.42	249	P	P	00 28 06.4	+1.1
STKA	Stephens Creek	34.42	249	P	P	00 28 04.0	-1.3
	comp=Z,3.5nm,0.5s,baz=96,slow=10,SNR=8.4						
	comp=Z,3.5nm,0.5s						
PMG	Port Moresby	34.50	290	P	P	00 28 05.8	-0.3
COEN	Coen	36.04	280	P	P	00 28 19.1	+0.2
COEN				IAmb	IAmb	00 28 20.6	
	comp=Z,21nm,1.4s						
BBOO	Buckleboo	39.13	247	P	P	00 28 44.4	+0.4
BBOO				IAmb	IAmb	00 28 44.7	
	comp=Z,21nm,1.1s						
AS31	Alice Springs	41.81	261	P	P	00 29 05.8	+0.3
AS31				IAmb	IAmb	00 29 08.2	
	comp=Z,4.4nm,0.3s						
ASAR	Alice Springs	41.82	261	P	P	00 29 05.6	0.0
ASAR	Alice Springs	41.82	261	P	P	00 29 05.8	+0.2
	comp=Z,7.4nm,0.8s,baz=94,slow=7.2,SNR=64						
ASAR				S	S	00 34 42.1	-1.8
	comp=Z,0.4nm,0.6s,baz=99,slow=16,SNR=2.7						
	comp=Z,7.4nm,0.8s						
WR0	Warramunga Arr	42.04	267	P	P	00 29 06.8	-0.5
WR0				IAmb	IAmb	00 29 07.8	
	comp=Z,22nm,1.2s						
WRA	Warramunga Arr	42.23	267	P	P	00 29 08.6	-0.2
WRA	Warramunga Arr	42.23	267	P	P	00 29 08.5	-0.2
	comp=Z,13nm,0.5s,baz=97,slow=8.3,SNR=83						
	comp=Z,13nm,0.5s						
FORT	Forrest	46.02	250	P	P	00 29 37.9	+0.1
MTN	Manton Dam	47.34	275	P	P	00 29 47.5	-0.5
MTN				IAmb	IAmb	00 29 48.5	
	comp=Z,14nm,1.1s						
KNRA	Kununurra	48.54	270	P	P	00 29 57.4	+0.4
FAKI	Fak Fak	50.57	287	P	P	00 30 11.3	-0.6
FAKI				IAmb	IAmb	00 30 34.8	
	comp=Z,20nm,1.0s						
PSA00	Pilbara Seismi	54.94	260	P	P	00 30 43.3	+0.2
PSA00				IAmb	IAmb	00 31 02.4	
	comp=Z,25nm,1.4s						
MORW	Morawa	56.58	250	P	P	00 30 54.8	+0.5
MORW				IAmb	IAmb	00 31 12.9	
	comp=Z,35nm,1.4s						
SLBS	Sierra La Lagu	83.15	60	P	P	00 33 33.7	+1.4
SLBS				IAmb	IAmb	00 33 34.6	
	comp=Z,4.4nm,0.8s						
O02D	Mt. Diablo Mer	83.49	41	P	P	00 33 35.1	+1.5
SNAA	Sanae	84.23	179	P	P	00 33 38.0	+1.2
SNAA	Sanae	84.23	179	P	P	00 33 37.4	+0.7
	comp=Z,1.7nm,1.2s,baz=203,slow=10.0,SNR=5.8						
	comp=Z,1.7nm,1.2s						
YBH	Yreka Blue Hor	84.52	39	P	P	00 33 40.0	+1.3
NVAR	Mina Array Bea	85.17	44	P	P	00 33 42.8	+0.7
	comp=Z,0.5nm,0.6s,baz=224,slow=5.7,SNR=4.7						
	comp=Z,0.5nm,0.6s						
TX31	Lajitas Ar. Si	90.79	58	P	P	00 34 09.7	+1.3
TX31				IAmb	IAmb	00 34 11.1	
	comp=Z,2.7nm,0.9s						
TXAR	Lajitas Array	90.79	58	P	P	00 34 10.1	+1.7
TXAR	Lajitas Array	90.79	58	P	P	00 34 10.4	+1.9
	comp=Z,1.3nm,0.7s,baz=213,slow=6.4,SNR=19						
	comp=Z,1.3nm,0.7s						
PDAR	Pinedale Array	93.11	44	P	P	00 34 17.9	-1.0
	comp=Z,0.3nm,0.6s,baz=244,slow=3.9,SNR=3.7						
	comp=Z,0.3nm,0.6s						
ARCES	ARCESS Array B	132.28	348	PKP	PKiKP	00 40 15.8	+0.3
	comp=Z,3.2nm,1.0s,baz=42,slow=1.5,SNR=2.2						
FINES	FINESS Array B	138.81	341	PKP	PKPdf	00 40 26.8	+0.3
	comp=Z,2.5nm,1.1s,baz=90,slow=1.4,SNR=3.0						
FINES				SKPbc	SKiKP	00 43 13.2	+0.2
	comp=Z,3.0nm,0.8s,baz=343,slow=1.9,SNR=7.9						
HFS	Hagfors	142.95	349	PKhKP	PKPpre	00 40 31.9	
	comp=Z,1.0nm,0.3s,baz=48,slow=2.1,SNR=16						
ARPR	Arapgir-MALATY	144.38	304	PKPbc	PKPab	00 40 39.0	+1.2
AKASG	Malin Array Be	145.26	327	SKPbc	SKiKP	00 43 30.3	+3.7
	comp=Z,0.7nm,0.6s,baz=50,slow=2.0,SNR=5.7						
BRTR	Keskin Array B	147.72	307	PKPbc	PKiKP	00 40 47.5	-0.7
	comp=Z,1.1nm,0.6s,baz=98,slow=4.4,SNR=3.7						
MMAI	Mount Meron Ar	147.74	294	PKPbc	PKiKP	00 40 48.6	+0.3
	comp=Z,2.3nm,0.6s,baz=64,slow=6.7,SNR=9.5						
EKA	Eskdalemuir Ar	148.96	3	PKPbc	PKPbc	00 40 49.5	+0.4
	comp=Z,0.6nm,0.4s,baz=336,slow=3.3,SNR=5.5						
CSS	Mathiatis	149.16	298	PKPbc	PKiKP	00 40 51.0	-0.1
BURAR	Bucovina Array	149.25	325	PKPbc	PKiKP	00 40 51.1	+0.2

*UPA **08** 00:41:34.8±1.2,8°.85N×84°.44W,h34km±17km,MD4.2, MW4.5*
*UCR **08** 00:41:38.6±0.8,8°.87N×84°.07W,h0km±5km,MW3.7*
ISC 08 00:41:37.7±2.5,**8°.87N**±0°.09×**84°.2W**±0°.1,**h18**km±10km,**n14,** σ0°**71**/19,**Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLNJ	Naranjito	0.60	6	eP	Pn	00 41 51.2	-0.3
LLNJ				eS	Sn	00 42 01.3	+0.4
ABE2	San Pablo	0.84	7	eP	Pn	00 41 55.2	+0.3
LCR2	La Lucha 2	0.88	10	eP	Pn	00 41 55.4	-0.1
PIRO	Carate, Puerto	0.94	119	eP	Pb	00 41 54.8	-0.7
PIRO				eS	Sn	00 42 09.4	+0.4
DRK0	Durika	0.99	66	eP	Pb	00 41 55.8	-0.6
EDAD	Golfito	1.01	102	eP	Pb	00 41 56.4	-0.3
RAFA	San Farael, Vo	1.14	18	eP	Pg	00 41 60.0	+0.2
VICA	Volcano Irazu	1.15	16	eP	Pg	00 42 00.2	0.0
NELY	Ciudad Neily	1.22	100	eP	Pb	00 42 00.9	+0.6
BRU2	Volcan	1.46	93	eP	Pn	00 42 03.7	+0.4
BRU2				eS	Sg	00 42 25.4	+0.5
BRU2	Volcan	1.46	93	eP	Pb	00 42 04.3	-0.1
BRIBI	Bribri	1.50	60	eP	Pg	00 42 06.7	+0.1
BCO2	Palmira	1.62	95	eP	Pn	00 42 05.3	-0.3
BCO2				eS	Sb	00 42 28.8	+1.3
CNI2	El Empalme, Bo	1.76	72	eP	Pn	00 42 05.5	-1.9
CNI2				eS	Sn	00 42 29.1	-0.3

*ISK **08** 00:48:30.7,36°.47N×28°.72E,h5km,ML2.8/15*
*AFAD **08** 00:48:31.7±0.0,36°.43N×28°.67E,h16km±2km,ML2.3*
*THE **08** 00:48:32.6,36°.45N×28°.62E,h0km±1km,ML2.5/3,Error ellipse: s-maj=2.5km s-min=0.8km az=103.0*
ISC 08 00:48:31.5±1.1,**36°.44N**±0°.03×**28°.74E**±0°.02,**h13**km±9km, **n33,** σ0°**77**/48,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETY	Fethiye	0.34	54	Pg	Pg	00 48 38.2	-0.2
FETY				Sg	Sb	00 48 44.4	-0.3
DALY	Dalyan (Mula)	0.39	349	Pg	Pg	00 48 38.6	-0.6
DALY				Sg	Sg	00 48 44.7	+0.3
MRSB	Marmaris-Mugla	0.52	303	Pg	Pg	00 48 41.5	-0.2
TURN	Turunc	0.52	310	P	Pg	00 48 40.9	-0.9
TURN				S	Sg	00 48 48.9	+0.2
TURN				i AML	AML	00 48 50.0	
	comp=N,179nm,0.3s						
TURN				i AML	AML	00 48 52.0	
	comp=E,147nm,0.3s						
TURN	Turunc	0.52	310	Pg	Pg	00 48 41.6	-0.2
TURN				Sg	Sb	00 48 49.2	-0.8
ARG	Arkhangelos	0.54	246	P	Pg	00 48 41.4	-0.7
ARG				S	Sg	00 48 50.0	+0.6
	310nm,0.3s						
CAME	Cameli-Denizli	0.68	42	Pg	Pg	00 48 44.5	-0.2
CAME				Sg	Sb	00 48 54.9	+0.3
AKAS	Kas	0.73	106	Pg	Pb	00 48 46.3	+0.2
YER	Yerkesik	0.79	332	Pg	Pg	00 48 46.5	-0.3
YER	Yerkesik	0.79	332	P	Pg	00 48 46.4	-0.3
YER				S	Sn	00 48 58.7	-1.3
MULA	Mugla, Merkez-	0.88	338	P	Pg	00 48 48.8	+0.2
MULA				i AML	AML	00 49 09.0	
	comp=N,71nm,0.7s						
MULA				i AML	AML	00 49 10.0	
	comp=E,112nm,0.6s						
DAT	Datca	0.98	288	P	Pb	00 48 49.7	-0.6
DAT				i AML	AML	00 49 10.0	
	comp=N,121nm,0.3s						
DAT				i AML	AML	00 49 10.0	
	comp=E,142nm,0.6s						
DAT	Datca	0.98	288	Pg	Pb	00 48 50.1	-0.3
DAT	Datca	0.98	288	P	Pb	00 48 49.8	-0.6
DAT				S	Sn	00 49 04.5	-0.4
ELL	Elmali	0.99	71	Pg	Pn	00 48 50.9	-0.3
YAZI	Mula-Dat§a-	1.07	284	P	Pb	00 48 51.3	-0.5
YAZI				S	Sn	00 49 07.5	+0.7
YAZI				i AML	AML	00 49 08.0	
	comp=E,51nm,0.3s						
YAZI				i AML	AML	00 49 11.0	
	comp=N,74nm,0.4s						
APMY	Acipayam-Deniz	1.13	23	Pn	Pg	00 48 53.0	-0.2
BDRM	Kayabasi	1.22	301	P	Pn	00 48 53.9	-0.3
BDRM				i AML	AML	00 49 14.0	
	comp=E,79nm,0.4s						
BODT	Bodrum	1.31	299	Pn	Pg	00 48 56.2	-0.4
BODT	Bodrum	1.31	299	P	Pb	00 48 55.7	-0.2
BODT				S	Sg	00 49 13.1	-0.5
ESEN	Aydn-Nazilli	1.39	347	P	Pb	00 48 57.3	0.0
ESEN				i AML	AML	00 49 20.0	
	comp=N,55nm,0.6s						
ESEN				i AML	AML	00 49 22.0	
	comp=E,71nm,0.9s						
KORT	Korkueli	1.41	66	Pn	Pg	00 48 58.8	+0.2
KARP	Karpathos	1.56	236	P	Pn	00 48 59.3	+0.4
KARP				S	Sb	00 49 20.2	+0.4
	138nm,0.4s						
NAZL	Nazilli-Aydin	1.57	347	Pn	Pb	00 49 00.4	+0.1
DDIM	Aydin, Didim	1.57	311	P	Pg	00 49 01.6	-0.1
DDIM				S	Sg	00 49 25.6	+3.4
DDIM				i AML	AML	00 49 27.0	
	comp=E,90nm,0.5s						
DDIM				i AML	AML	00 49 31.0	
	comp=N,69nm,0.6s						
ANTB	Antalya	1.60	73	Pn	Pg	00 49 01.5	-0.8
AYDB	Zeytinkoy-Aydi	1.65	336	Pn	Pb	00 49 01.5	-0.4
GCAM	G?zelcaml?	1.75	317	P	Pn	00 49 02.1	+0.6
GCAM				S	Sg	00 49 28.5	+0.9
GCAM				i AML	AML	00 49 30.0	
	comp=N,108nm,0.8s						
GCAM				i AML	AML	00 49 31.0	
	comp=E,61nm,0.4s						
IZMR	zmir-demi	1.81	340	P	Pb	00 49 03.7	-0.7
IZMR				S	Sg	00 49 28.8	-0.9
IZMR				i AML	AML	00 49 31.0	
	comp=N,20nm,0.6s						
IZMR				i AML	AML	00 49 35.0	
	comp=E,20nm,0.8s						
BASM	Basmaki-Afyon	1.81	35	Pn	Pb	00 49 03.9	-0.6
SMG	Samos	1.98	310	P	Pn	00 49 05.3	+0.6
KULA	Kula-Manisa	2.08	358	P	Pn	00 49 07.0	+0.9
DGB	zmir	2.19	318	P	Pn	00 49 08.7	+1.2
DGB				S	Sb	00 49 38.2	+0.2
DGB				i AML	AML	00 49 41.0	
	comp=N,30nm,0.6s						
DGB				i AML	AML	00 49 41.0	
	comp=E,35nm,0.6s						

*IDC **08** 00:54:08.3±9.5,33°.84N×83°.51E,h0km,mb3.5/4, mbtmp3.5/6,ML3.1/2,MS3.6/3,Error ellipse: s-maj=183.1km s-min=63.5km az=121.0*
ISC 08 00:54:12.9±7.0,**34°.0N**±0°.5×**84°.0E**±0°.8,**h35**km,**n10,** σ0°**38**/7,**mb3.8**/3,**MS3.9**/3,**Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	12.82	355	Pn	Pn	00 57 12.4	-0.2
	0.1nm,0.3s,baz=180,slow=12,SNR=2.2						
	0.3nm,0.6s						
KURBB	Kurchatov Arra	17.06	348	Pn	Pn	00 58 09.1	+0.5
	0.1nm,0.3s,baz=171,slow=11,SNR=14						
	0.6nm,0.3s						
ZALV	Zalesovo Beam	19.93	1	P	Pn	00 58 43.6	+0.3
	0.4nm,0.3s,baz=183,slow=13,SNR=2.6						
	0.4nm,0.3s						
BVAR	Borovoye Array	21.33	337	P	P	00 58 56.6	-0.1
	1.1nm,0.6s,baz=154,slow=13,SNR=5.6						
	1.1nm,0.6s						
SONM	Songino Array	21.74	44	LR	LR	01 08 19.2	
	comp=Z,27nm,18.7s,baz=282,slow=38						
FINES	FINESS Array B	45.54	325	P	P	01 02 29.0	+0.2
	0.8nm,0.7s,baz=99,slow=8.7,SNR=3.8						
	0.8nm,0.7s						
NB2	NORSAR Subarra	52.68	324	P	P	01 03 23.3	-0.2
	comp=Z,1.2nm,0.6s,baz=87,slow=7.4						
NOA	NORSAR Array B	52.68	324	P	P	01 03 23.3	-0.2
	comp=Z,1.0nm,0.6s,baz=87,slow=7.4,SNR=6.0						
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	71.96	130	LR	LR	01 41 34.1	
	comp=Z,140nm,18.2s,baz=116,slow=39						
ASAR	Alice Springs	74.45	133	LR	LR	01 42 09.1	
	comp=Z,64nm,19.5s,baz=45,slow=39						

*IDC **08** 00:56:31.5±0.8,23°.47S×179°.51E,h540km±7km,mb3.7/14, mbtmp4.6/17,Error ellipse: s-maj=14.6km s-min=10.7km az=84.0*
*NEIC **08** 00:56:32.4±1.6,23°.41S±0°.10×179°.5E±0°.1,h545km±7km, mb4.5/60,Error ellipse: s-maj=15.9km s-min=13.6km az=124.0*
ISC 08 00:56:31.8±0.3,**23°.54S**±0°.05×**179°.50E**±0°.06,**h550**km, **n196,** σ1°**47**/205,**mb4.5**/57,**12C-1D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	5.93	347	P	P	00 58 08.8	-1.3
	11nm,0.4s,baz=267,slow=22,SNR=17						
MSVF				S	S	00 59 28.8	-1.4
	13nm,0.9s,baz=198,slow=20,SNR=1.3						
RIZ	Raoul Island	6.14	158	P	P	00 58 11.7	+0.1
RIZ				S	S	00 59 28.7	-4.6
RAO	Raoul Island	6.15	158	P	P	00 58 13.3	+1.7
RAO	Raoul Island	6.15	158	P	P	00 58 12.4	+0.7
	186nm,0.3s,baz=341,slow=4.8,SNR=6.0						
RAO				S	S	00 59 33.0	-0.4
	219nm,0.3s,baz=75,slow=20,SNR=5.7						
FUTU	Fugatoga	9.45	14	P	P	00 58 43.2	-1.1
MARNC	Mare, Loyalty	10.80	279	P	P	00 58 57.8	-0.2
NIUE	Niue	10.81	68	P	P	00 58 55.8	-2.3
PINNC	Pines Island,	11.13	272	P	P	00 59 02.7	+1.2
LIFNC	LIFOU	11.69	281	P	P	00 59 07.1	-0.1
YATNC	Mamie plateau,	11.72	275	P	P	00 59 08.4	+0.8
ONTNC	Ouen Toro	12.09	273	P	P	00 59 17.3	+6.0
DZM	Mont Dzumac	12.13	274	P	P	00 59 12.0	+0.1
	12nm,0.6s,baz=106,slow=18,SNR=5.1						
DZM	Mont Dzumac	12.13	274	P	P	00 59 12.7	+0.8
DZM	Mont Dzumac	12.13	274	P	P	00 59 12.9	+1.0
NOUC	Port Laguerre	12.26	274	P	P	00 59 14.1	+1.0
NOUC	Port Laguerre	12.26	274	P	P	00 59 13.8	+0.7
AFI	Afiamalu	12.64	42	P	P	00 59 12.9	-4.3
OUZ	Omahuta	12.73	202	P	P	00 59 20.2	+2.5
GRZ	Great Barrier	13.15	195	P	P	00 59 23.5	+1.5
KUZ	Kuaotunu	13.56	193	P	P	00 59 27.8	+1.5
KUZ	Kuaotunu	13.56	193	P	P	00 59 27.6	+1.3
MXZ	Matakaoa

PMG	Port Moresby	33.94	289	P	P	01 02 29.8	-0.3
STKA	Stephens Creek	34.44	248	P	P	01 02 34.4	+0.5
STKA	Stephens Creek	34.44	248	P	P	01 02 34.7	+0.8
	4.7nm,0.4s,baz=96,slow=12,SNR=13						
	4.7nm,0.4s						
COEN	Coen	35.60	279	P	P	01 02 44.4	+0.5
BBOO	Buckleboo	39.17	246	P	P	01 03 12.7	-0.1
AS31	Alice Springs	41.64	260	P	P	01 03 32.6	-0.1
ASAR	Alice Springs	41.64	260	P	P	01 03 32.8	+0.1
ASAR	Alice Springs	41.64	260	P	P	01 03 32.9	+0.2
	21nm,0.7s,baz=93,slow=8.1,SNR=144						
ASAR				ScP	ScP	01 08 16.6	+1.9
	4.1nm,0.8s,baz=107,slow=4.0,SNR=18						
ASAR				S	S	01 09 06.2	-3.8
	1.0nm,0.8s,baz=101,slow=14,SNR=6.0						
	21nm,0.7s						
WR0	Warramunga Arr	41.79	266	P	P	01 03 33.2	-0.6
WR0				IAmb	IAmb	01 03 34.3	
	comp=Z,17nm,0.8s						
WRA	Warramunga Arr	41.97	266	P	P	01 03 34.5	-0.8
WRA	Warramunga Arr	41.97	266	P	P	01 03 34.9	-0.4
	comp=Z,14nm,0.5s,baz=89,slow=5.8,SNR=80						
WRA				ScP	ScP	01 08 18.1	+2.1
	comp=Z,3.7nm,0.9s,baz=96,slow=3.8,SNR=12						
WRA				S	S	01 09 10.3	-4.5
	comp=Z,3.0nm,1.0s,baz=97,slow=14,SNR=5.2						
	comp=Z,14nm,0.5s						
JAY	Jayapura	42.95	293	P	P	01 03 42.6	-0.5
	comp=Z,29nm,1.0s						
GENI	Genyem	43.36	293	P	P	01 03 46.1	-0.1
	comp=Z,80nm,1.1s						
GENI	Genyem	43.36	293	P	P	01 03 46.3	+0.1
FORT	Forrest	46.01	249	P	P	01 04 06.0	-0.3
KNRA	Kununurra	48.23	270	P	P	01 04 23.1	-0.1
HMH	Humu'ula Sheep	49.33	32	P	P	01 04 31.7	0.0
DHH	Diamond Head	49.71	28	P	P	01 04 33.4	-0.7
FAKI	Fak Fak	50.04	287	P	P	01 04 35.6	-1.1
FAKI				IAmb	IAmb	01 04 38.4	
	comp=Z,29nm,1.2s						
FITZ	Fitzroy Crossi	50.40	265	S	S	01 11 06.9	-5.2
	comp=Z,1.0nm,0.6s,baz=251,slow=17,SNR=1.2						
SWI	Sorong	51.89	289	P	P	01 04 49.6	-0.5
SWI	Sorong	51.89	289	P	P	01 04 49.9	-0.2
SOEI	Soe	54.36	275	P	P	01 05 07.8	+0.1
SOEI	Soe	54.36	275	P	P	01 05 08.3	+0.6
	comp=Z,83nm,1.1s						
NLAI	Namlea	54.45	284	P	P	01 05 07.7	-0.5
	comp=Z,21nm,0.9s						
NLAI	Namlea	54.45	284	P	P	01 05 08.3	+0.1
	comp=Z,21nm,0.9s						
SBA	Scott Base	54.71	183	P	P	01 05 11.4	+2.3
NWAO	Narrogin (SRO)	54.97	245	P	P	01 05 11.5	-0.1
NWAO				IAmb	IAmb	01 05 39.0	
	comp=Z,25nm,1.3s						
SANI	Sanana	55.98	284	P	P	01 05 17.5	-1.4
	comp=Z,25nm,0.9s						
SANI	Sanana	55.98	284	P	P	01 05 17.8	-1.1
TNTI	Ternate	56.08	288	P	P	01 05 18.8	-0.9
TNTI				IAmb	IAmb	01 05 19.6	
	comp=Z,32nm,0.9s						
TNTI	Ternate	56.08	288	P	P	01 05 18.7	-0.9
MORW	Morawa	56.57	250	P	P	01 05 22.4	-0.4
MORW				IAmb	IAmb	01 05 23.6	
	comp=Z,23nm,0.9s						
MMRI	Maumere	56.63	275	P	P	01 05 12.3	-11
LUWI	Luwuk	59.30	284	P	P	01 05 40.5	-0.9
LUWI				IAmb	IAmb	01 05 42.4	
	comp=Z,36nm,0.9s						
CASY	Casey	60.24	206	P	P	01 05 47.0	+0.2
CASY				IAmb	IAmb	01 05 47.1	
	comp=Z,44nm,1.3s						
TOLI2	Tolitoli	62.04	285	P	P	01 05 58.2	-1.3
TOLI2				IAmb	IAmb	01 05 59.5	
	comp=Z,29nm,0.9s						
JAGI	Jajag, Banyuwa	64.10	272	P	P	01 06 11.8	-1.0
JAGI				IAmb	IAmb	01 06 12.4	
	comp=Z,22nm,1.0s						
QSPA	South Pole Qui	66.55	180	P	P	01 06 28.1	+0.8
QSPA				IAmb	IAmb	01 06 29.5	
	comp=Z,7.0nm,0.6s						
QSPA	South Pole Qui	66.55	180	P	P	01 06 28.6	+1.3
	comp=Z,7.3nm,0.6s,baz=40,slow=1.6,SNR=22						
	comp=Z,7.3nm,0.6s						
JOW	Kunigami	70.41	312	P	P	01 06 50.4	-0.7
JOW				IAmb	IAmb	01 06 52.5	
	comp=Z,22nm,0.9s						
MJAR	Matsushiro Arr	71.34	326	P	P	01 06 55.8	-0.6
	comp=Z,2.0nm,0.4s,baz=161,slow=5.6,SNR=7.4						
	comp=Z,2.0nm,0.4s						
ADK	Adak	75.17	2	P	P	01 07 16.5	-1.3
BELA	Belgrano 2	76.85	173	P	P	01 07 27.5	+0.6
KSRS	Korea Array	77.67	320	P	P	01 07 32.7	+0.8
	comp=Z,3.6nm,0.8s,baz=130,slow=5.2,SNR=6.5						
	comp=Z,3.6nm,0.8s						
MAW	Mawson	77.93	201	P	P	01 07 33.9	+1.0
	comp=Z,2.3nm,0.5s,baz=130,slow=4.8,SNR=13						
	comp=Z,2.3nm,0.5s						
NJ2	Nanjing	80.08	311	*e*P	P	01 07 46.8	+2.0
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
USRK	Ussuriysk Ar.	80.21	327	P	P	01 07 45.1	-0.1
USRK	Ussuriysk Ar.	80.21	327	P	P	01 07 45.8	+0.6
	comp=Z,4.6nm,0.8s,baz=147,slow=4.6,SNR=5.3						
	comp=Z,4.6nm,0.8s						
MDJ	Mudanjiang	81.71	326	P	P	01 07 52.9	0.0
MDJ				pmax	pmax		
	comp=Z,12nm,1.6s						
ESJX	Sierra Juarez	82.78	51	P	P	01 07 59.8	+0.9
SLBS	Sierra La Lagu	83.02	61	P	P	01 08 00.8	+0.6
SLBS				IAmb	IAmb	01 08 02.6	
	comp=Z,9.5nm,0.9s						
O02D	Mt. Diablo Mer	83.08	41	P	P	01 08 01.2	+1.1
O02D				IAmb	IAmb	01 08 02.4	
	comp=Z,10nm,0.9s						
CMB	Columbia Colle	83.25	44	P	P	01 08 01.2	+0.3
ELIB	Princess Elisa	83.36	187	*d*P	P	01 08 01.6	+0.5
	comp=Z,1.5nm,0.7s						
BNX	BinXian	83.60	326	⇑P	P	01 08 02.5	+0.1
BNX				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TIA	Tai'an	83.65	314	P	P	01 08 03.8	+0.9
TIA				pmax	pmax		
	comp=Z,23nm,0.8s						
GSC	Goldstone, Bar	84.02	47	P	P	01 08 05.2	+0.3
TROLL	Troll, Antarti	84.69	181	⇑P	P	01 08 08.3	+0.6
	comp=Z,151nm,0.5s						
NVAR	Mina Array Bea	84.81	44	P	P	01 08 09.1	+0.2
NVAR	Mina Array Bea	84.81	44	P	P	01 08 08.8	0.0
	comp=Z,1.4nm,0.8s,baz=219,slow=8.0,SNR=9.1						
	comp=Z,1.4nm,0.8s						
HSIG		84.88	55	P	P	01 08 09.4	+0.2
HSIG				IAmb	IAmb	01 08 11.3	
	comp=Z,11nm,1.1s						
SNAA	Sanae	85.04	179	P	P	01 08 09.3	0.0
SNAA	Sanae	85.04	179	⇑P	P	01 08 08.9	-0.4
	comp=Z,18nm,0.4s						
SNAA				⇑pP	pwP	01 10 12.4	+1.7
	comp=Z,21nm,1.2s						
SNAA	Sanae	85.04	179	P	P	01 08 09.0	-0.3
	comp=Z,1.1nm,0.5s,baz=209,slow=8.2,SNR=42						
	comp=Z,1.1nm,0.5s						
N15K	Kwethluk River	85.06	10	P	P	01 08 09.2	-0.1
N15K				IAmb	IAmb	01 08 17.0	
	comp=Z,30nm,1.5s						
VNA3	Neumayer Olymp	85.26	177	⇑P	P	01 08 10.0	-0.3
VNA3				⇑pP	pwP	01 10 13.6	+1.8
	comp=Z,1.7nm,0.6s						
	comp=Z,0.9nm,0.8s						
KVN	Kaiserville	85.30	44	P	P	01 08 11.7	+0.5
VNA2	Neumayer--Watz	85.67	178	⇑P	P	01 08 12.2	0.0
	comp=Z,3.9nm,0.6s,baz=177,slow=4.5						
VNA2				⇑pP	pwP	01 10 17.6	+3.8
	comp=Z,1.0nm,0.6s,baz=253,slow=3.7						
J05D	Fort Rock, OR	85.91	39	P	P	01 08 14.7	+0.7
J05D				IAmb	IAmb	01 08 16.2	
	comp=Z,13nm,1.2s						
PRN	Pahroc Range	86.36	47	P	P	01 08 16.9	+0.7
PINE	Pine Mountain	86.39	39	P	P	01 08 17.0	+0.7
PINE				IAmb	IAmb	01 08 19.4	
	comp=Z,19nm,1.4s						
BMN	Battle Mountai	86.64	43	P	P	01 08 17.9	+0.4
TUC	Tucson	86.66	53	P	P	01 08 18.0	+0.3
TUC				IAmb	IAmb	01 08 20.5	
	comp=Z,6.4nm,1.1s						
WVOR	Wild Horse Val	86.93	41	P	P	01 08 19.2	+0.4
WVOR				IAmb	IAmb	01 08 20.8	
	comp=Z,10.0nm,1.2s						
I07A	Izee	87.39	39	P	P	01 08 21.5	+0.6
I07A				IAmb	IAmb	01 08 23.1	
	comp=Z,7.8nm,1.0s						
D05A	Enumclaw	87.90	36	P	P	01 08 23.7	+0.7
HPIG		87.97	60	P	P	01 08 23.9	-0.2
HPIG				IAmb	IAmb	01 08 25.6	
	comp=Z,4.7nm,0.8s						
ELK	Elko	88.07	44	P	P	01 08 24.6	+0.3
XAN	Xi'an	88.16	308	*e*P	P	01 08 26.3	+1.7
XAN				sP	sP	01 11 18.1	-0.2
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KAIM	Kayak Island	88.25	17	P	P	01 08 23.6	-0.8
HAWA	Hanford	88.76	37	P	P	01 08 27.0	0.0
HAWA				IAmb	IAmb	01 08 29.0	
	comp=Z,5.5nm,0.9s						
CMAR	Chiang Mai Arr	88.97	291	P	P	01 08 29.7	+1.0
	comp=Z,1.2nm,0.3s,baz=131,slow=2.9,SNR=17						
	comp=Z,1.2nm,0.3s						
CHTO	Chiang Mai	89.12	291	P	P	01 08 30.2	+0.8
CHTO				IAmb	IAmb	01 08 31.7	
	comp=Z,6.2nm,0.9s						
HHC	Hu-ho-hao-te	89.84	315	*e*P	P	01 08 34.1	+1.8
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,46nm,3.9s						
PZH	PanZhiHua	90.11	299	P	P	01 08 34.6	+0.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
HVU	Hansel Valley	90.19	44	P	P	01 08 34.5	+0.5
HVU				IAmb	IAmb	01 08 35.8	
	comp=Z,7.0nm,1.0s						
SRU	San Rafael Swe	90.28	47	P	P	01 08 35.1	+0.5
SRU				IAmb	IAmb	01 08 36.2	
	comp=Z,8.1nm,0.8s						
MNTX	Cornudas Mount	90.38	55	P	P	01 08 35.3	+0.3
MNTX				IAmb	IAmb	01 08 36.9	
	comp=Z,3.6nm,0.8s						
TX31	Lajitas Ar. Si	90.63	58	P	P	01 08 36.7	+0.5
TXAR	Lajitas Array	90.63	58	P	P	01 08 36.4	+0.1
TXAR	Lajitas Array	90.63	58	P	P	01 08 37.5	+1.3
	comp=Z,1.6nm,0.8s,baz=213,slow=6.7,SNR=24						
	comp=Z,1.6nm,0.8s						
ANMO	Albuquerque	91.10	52	P	P	01 08 38.8	+0.4
ANMO				IAmb	IAmb	01 08 40.1	
	comp=Z,7.1nm,1.4s						
ILAR	Eielson Array	91.79	14	P	P	01 08 39.6	-1.0
	comp=Z,0.4nm,0.8s,baz=251,slow=5.6,SNR=1.7						
	comp=Z,0.4nm,0.8s						
LZH	Lanzhou	92.79	308	*e*P	P	01 08 47.7	+1.6
LZH				pP	pP	01 10 43.6	-2.1
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
DRIO	Del Rio	93.06	59	P	P	01 08 47.5	+0.2
DRIO				IAmb	IAmb	01 08 48.8	
	comp=Z,4.3nm,0.7s						
ZALV	Zalesovo Beam	111.38	321	SKP		01 16 47.2	
	comp=Z,0.9nm,0.7s,baz=122,slow=1.9,SNR=4.1						
MKAR	Makanchi Array	111.57	313	SKP		01 16 47.8	
	comp=Z,0.8nm,0.7s,baz=210,slow=0.2,SNR=5.4						
KURBB	Kurchatov Arra	114.67	317	PKP	PKPdf	01 14 08.7	-0.9
	comp=Z,0.4nm,0.6s,baz=91,slow=1.8,SNR=4.9						
KURBB				SKP		01 16 54.3	
	comp=Z,0.9nm,0.7s,baz=101,slow=1.9,SNR=10						
BVAR	Borovoye Array	119.86	319	PKP	PKPdf	01 14 19.2	-0.4
	comp=Z,1.0nm,0.6s,baz=107,slow=3.0,SNR=3.4						
BVAR				SKP		01 17 03.6	
	comp=Z,1.8nm,0.8s,baz=48,slow=2.1,SNR=7.8						
ARCES	ARCESS Array B	131.44	348	PKP	PKPdf	01 14 41.6	+0.3
	comp=Z,2.8nm,1.0s,baz=62,slow=2.0,SNR=6.7						
ARCES				SKPbc	SKPab	01 17 16.1	-0.4
	comp=Z,3.6nm,0.8s,baz=31,slow=5.4,SNR=5.2						
KMBO	Kilima Mbogo	135.87	242	SKP		01 17 34.8	
	comp=Z,0.9nm,0.6s,baz=140,slow=1.2,SNR=5.3						
FINES	FINESS Array B	137.96	341	PKP	PKiKP	01 14 55.2	-0.5
	comp=Z,1.1nm,0.9s,baz=102,slow=2.8,SNR=4.7						
FINES				SKPbc	SKPbc	01 17 36.1	0.0
	comp=Z,3.5nm,0.7s,baz=46,slow=6.0,SNR=14						
NOA	NORSAR Array B	141.65	351	PKhKP	PKPpre	01 14 56.0	
	comp=Z,0.2nm,0.6s,baz=40,slow=3.5,SNR=1.2						
HFS	Hagfors	142.10	348	PKhKP	PKPpre	01 14 56.9	
	comp=Z,1.9nm,0.4s,baz=48,slow=2.1,SNR=32						
ARPR	Arapgir-MALATY	143.68	305	PKPdf	PKPbc	01 15 04.6	+0.9
AKASG	Malin Array Be	144.42	327	PKP	PKPbc	01 15 04.7	-0.7
	comp=Z,2.6nm,0.5s,baz=47,slow=4.3,SNR=20						
AKASG				SKPbc	SKiKP	01 17 53.6	+0.2
	comp=Z,2.3nm,0.7s,baz=50,slow=2.3,SNR=10.0						
GAZ	Gaziantep	144.97	302		PKPbc	01 15 08.1	+0.4
BNN	Bunyan	145.62	305		PKPbc	01 15 09.8	+0.1
BR131	Keskin Array S	146.99	307		PKPbc	01 15 13.1	-0.2
BRTR	Keskin Array B	146.99	307		PKPbc	01 15 13.2	-0.3
BRTR	Keskin Array B	146.99	307	PKPbc	PKPbc	01 15 12.9	-0.4
	comp=Z,3.3nm,0.7s,baz=141,slow=4.1,SNR=7.9						
MMAI	Mount Meron Ar	147.13	295	PKPbc	PKPbc	01 15 14.7	+0.8
	comp=Z,5.2nm,0.6s,baz=66,slow=4.9,SNR=16						
EKA	Eskdalemuir Ar	148.18	3	PKPbc	PKPbc	01 15 14.8	-0.8
	comp=Z,0.7nm,0.6s,baz=344,slow=2.5,SNR=5.3						
BURAR	Bucovina Array	148.41	326	PKPbc	PKiKP	01 15 17.8	0.0
CSS	Mathiatis	148.50	299	PKPbc	PKPbc	01 15 17.1	-0.1
KOLS	Kolonicke sedl	148.93	330	*e*PKP	PKiKP	01 15 18.8	+0.1
KOLS				*e*		01 15 26.6	
DPC	Dobruska-Polom	150.19	338⇑	*e*PKP	PKiKP	01 15 21.6	+0.3
DPC				*e*PKPAB	PKPab	01 15 30.3	+1.0
KRLC	Kraliky	150.26	337⇑	*e*PKP	PKPbc	01 15 21.3	+0.3
CLL	Collm	150.37	343	*i* PKPbc	PKPbc	01 15 21.4	+0.3
	comp=Z,5.0nm,0.7s						
CLL	Collm	150.37	343	*i* x	x	01 15 22.9	
CLL	Collm	150.37	343	*i* PKPab	PKPab	01 15 31.5	+1.6
	comp=Z,5.0nm,1.0s						
ELL	Elmali	150.73	304	PKPbc	PKPbc	01 15 22.4	-0.2
VYHS	Vyhne	150.75	333	*e*PKP	PKPbc	01 15 22.4	+0.3
VYHS				*e*		01 15 30.2	
MODS	Modra-Piesok	151.48	335	*e*PKP	PKPbc	01 15 23.5	-0.2
ZVC	Zvikov	151.68	340⇑	*e*PKP	PKPdf	01 15 20.3	+3.0
KHC	Kasperske Hory	152.15	340⇑	*e*PKP	PKPbc	01 15 22.4	-2.8
KHC				*e*pPKP	pPKPab	01 17 42.0	+3.2
TORD	Torodi Ar. Bea	169.46	192	PKPab	PKPab	01 16 54.7	+0.8
	comp=Z,1.0nm,0.7s,baz=166,slow=3.5,SNR=10.0						

*DSN **08** 01:07:54.6±2.4,28°.57N×56°.75E,h10km,ML3.3/7,Error ellipse: s-maj=30.3km s-min=17.0km az=63.0*
*TEH **08** 01:07:55.5,28°.33N×57°.21E,h8km±38km,ML3.7*
*IDC **08** 01:08:00.2±3.1,28°.14N×57°.22E,h71km±41km,mb3.4/10, mbtmp3.7/14,ML3.4/4,MS3.0/1,Error ellipse: s-maj=21.1km s-min=17.2km az=152.0*
*OMAN **08** 01:08:01.4±2.1,28°.02N×57°.02E,h10km,mb4.2/6, ml3.5/17,Error ellipse: s-maj=22.8km s-min=10.0km az=26.0*

ISC 08 01:07:55.0±0.6,**28°.32N**±0°.04×**57°.20E**±0°.04,**h10km**,**n93**, σ2**S09**/107,**mb3.9**/18,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
KHNJ	Kahnooj	0.58	130	Pg	Pg	01 08 07.4	+1.0	
IBND	Bandar-abas	1.05	214	Pg	Pb	01 08 16.3	+1.0	
GENO	Geno	1.29	225	Pg	Pg	01 08 20.7	+0.8	
KBAM	BAM	1.36	53	Pg	Pn	01 08 21.1	+0.9	
NGRK	Negar Kerman	1.38	343	Pg	Pn	01 08 21.9	+1.1	
CHMN	Cheshme madani	1.56	11	Pg	Pn	01 08 24.7	+1.5	
TVBK	TV Kerman	1.70	347	Pg	Pn	01 08 27.4	+2.2	
KHGB	Koh Gabri	2.14	343	Pn	Pn	01 08 33.8	+2.8	
KRM1	Kerman Provinc	2.17	2	Pn	Pn	01 08 35.0	+3.5	
SHME	Shamm	2.45	203	P	Pn	01 08 36.4	+1.3	
SHME				S	Sb	01 09 09.0	-0.5	
SHME	Shamm	2.45	203	P	Pn	01 08 36.4	+1.3	
	SNR=8.6							
JASK	Jask - Hormozg	2.52	166	Pn	Pn	01 08 38.1	+2.1	
JASK	Jask - Hormozg	2.52	166	P	Pn	01 08 37.9	+1.9	
	SNR=13							
BANOM	Banah	2.52	199	P	Pb	01 08 40.2	-0.3	
BANOM				S	Sn	01 09 08.1	+1.2	
LAR1	LAR	2.58	256	Pn	Pn	01 08 39.6	+2.7	
MASF	Masafi	3.08	198	P	Pn	01 08 46.7	+2.9	
MDH	Madha	3.12	195	P	Pn	01 08 44.8	+0.5	
MDH	Madha	3.12	195	P	Pn	01 08 45.0	+0.7	
ZHDN	Zahedan	3.34	70	Pn	Pn	01 08 51.1	+3.6	
UOSS	Minazif	3.48	195	P	Pn	01 08 52.1	+2.8	
UOSS	Minazif	3.48	195	P	Pn	01 08 52.7	+3.4	
NAZ	Nazwa, Dubai	3.59	203	P	Pn	01 08 54.4	+3.6	
NAZ				S	Sn	01 09 34.7	+1.3	
HATD	Hatta, Dubai	3.61	196	P	Pn	01 08 55.7	+4.6	
QIR1	Qir	3.67	273	Pn	Pn	01 08 54.1	+2.2	
ASHO	Ashiyiah	3.77	196	P	Pn	01 08 55.4	+2.3	
ASHO	Ashiyiah	3.77	196	P	Pn	01 08 55.5	+2.3	
IMEH	Mehriz	3.79	324	Pn	Pn	01 08 57.2	+3.4	
FAQ	Al Faqa, Dubai	3.84	202	P	Pn	01 08 54.6	+0.3	
FAQ	Al Faqa, Dubai	3.84	202	P	Pn	01 08 56.0	+1.8	
FAQ				S	Sn	01 09 39.9	+0.4	
CHBR	Chabahar	3.99	132	Pn	Pn	01 08 58.6	+2.3	
BSRN	Basiran	4.00	24	Pn	Pn	01 08 59.8	+3.3	
ASUD	Al Ashush, Dub	4.05	205	P	Pn	01 08 56.9	-0.2	
ASUD	Al Ashush, Dub	4.05	205	P	Pn	01 08 59.2	+2.2	
	SNR=15							
SOHO	SOHO	4.21	188	P	Pn	01 09 01.4	+2.0	
AJN	Ajban	4.24	208	P	Pn	01 08 59.4	-0.3	
AJN	Ajban	4.24	208	P	Pn	01 09 01.2	+1.5	
AJN				S	Sn	01 09 48.7	-0.5	
IKOO	Kooshah	4.38	20	Pn	Pn	01 09 05.5	+3.7	
NGCH	Negor - Chabah	4.59	129	Pn	Pn	01 09 06.6	+2.1	
NGCH	Negor - Chabah	4.59	129	P	Pn	01 09 06.9	+2.4	
	SNR=7.0							
SRVN	Saravan	4.69	100	Pn	Pn	01 09 09.5	+3.4	
ISAD	Sadrabad	4.70	320	Pn	Pn	01 09 09.6	+3.3	
HOQ	Hoqain	4.72	179	P	Pn	01 09 06.3	-0.1	
	SNR=14							
ITEG	Tejag	4.75	16	Pn	Pn	01 09 10.3	+3.4	
BIDO	Bidbid	4.85	170	P	Pn	01 09 08.8	+0.6	
	SNR=5.6							
BIDO				S	Sn	01 10 02.2	-2.2	
ARQ	Araqi	5.00	187	P	Pn	01 09 12.3	+2.0	
	SNR=31							
ARQ				S	Sn	01 10 09.7	+1.6	
JRN	Qarnain Island	5.15	230	P	Pn	01 09 14.3	+2.2	
WSAR	Wadi Sarin	5.22	165	P	Pn	01 09 13.8	+0.6	
	3.6nm,0.3s,baz=3.0,slow=6.2,SNR=44							
WSAR				S	Sn	01 10 10.6	-3.0	
	19nm,0.3s,baz=267,slow=20,SNR=15							
	11nm,0.4s							
WSAR	Wadi Sarin	5.22	165	P	Pn	01 09 14.5	+1.2	
	SNR=16							
WSAR				S	Sn	01 10 12.2	-1.4	
SMDO	Samad	5.30	172	P	Pn	01 09 15.6	+1.3	
	SNR=7.6							
SMDO				S	Sn	01 10 14.7	-0.8	
AFRZ	Afriz	5.32	17	Pn	Pn	01 09 17.6	+3.0	
IRAM	Ramesheh	5.43	311	Pn	Pn	01 09 19.2	+2.9	
BSY	Bisya	5.55	180	P	Pn	01 09 20.1	+2.2	
BSY				S	Sn	01 10 23.6	+1.8	
KLNJ	Kolanjah	5.57	300	Pn	Pn	01 09 21.3	+3.0	
ANAR	Anarak	5.70	329	Pn	Pn	01 09 23.3	+3.4	
WBK	Wadi Bani Khal	5.91	164	P	Pn	01 09 23.7	+1.0	
	SNR=8.7							
WBK				S	Sn	01 10 28.3	-2.2	
JMDO	Jabal Madar	5.98	172	P	Pn	01 09 25.5	+1.8	
SHMA	Al-Shehemyia	6.08	248	P	Pn	01 09 27.1	+2.2	
	SNR=7.6							
SHMA				S	Sn	01 10 31.5	-3.1	
IZEF	Zefreh	6.20	319	Pn	Pn	01 09 29.5	+2.7	
IBRJ	Brojen	6.26	306	Pn	Pn	01 09 30.7	+2.9	
MZR	Muzera	6.27	213	P	Pn	01 09 27.2	-0.4	
MZR				S	Sn	01 10 35.8	-3.6	
	SNR=11							
JLN	Jalan Bani Buh	6.46	161	P	Pn	01 09 31.2	+1.0	
	SNR=9.2							
TAPT	Tabas- Tapeh t	6.54	360	Pn	Pn	01 09 34.5	+3.0	
ZNGN	Zangian	6.67	306	Pn	Pn	01 09 36.5	+3.2	
SMRA	Abu-Samra	6.73	240	P	Pn	01 09 35.5	+1.6	
	SNR=11							
SMRA				S	Sn	01 10 47.4	-3.2	
JHBN	Jahan bin	6.86	306	Pn	Pn	01 09 39.0	+3.0	
IPIR	Pirpir	6.97	310	Pn	Pn	01 09 40.4	+3.0	
MHTO	MHTO	7.34	174	P	Pn	01 09 43.5	+1.2	
DOK	Doka	10.06	197	P	Pn	01 10 20.5	+0.8	
DMTO	DMTO	10.76	192	P	Pn	01 10 29.1	-0.1	
RAYN	Ar Rayn	11.56	248	P	Pn	01 10 36.5	-3.7	
KBZ	Khabaz	19.20	327	P	P	01 12 20.0	+1.1	
	baz=135,slow=7.1,SNR=1.7							
	0.7nm,0.7s							
MMAI	Mount Meron Ar	19.32	289	P	P	01 12 20.7	+0.3	
	0.3nm,0.3s,baz=96,slow=15,SNR=4.6							
	1.1nm,0.6s							
KVAR	Kislovodsk Arr	19.46	327	P	P	01 12 24.4	+2.4	
	baz=134,slow=12							
	2.2nm,0.8s							
AAK	Ala-Archa	20.00	40	P	P	01 12 28.8	+0.8	
	1.1nm,0.8s,baz=159,slow=16,SNR=4.6							
	1.1nm,0.8s							
BRTR	Ke

h572km,5km,n1108,c1909/1051,mb5.0/210,84C-114D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	Tubou, Lakemba	2.73	352	P	P	01 19 54.5	-0.3
TAVE	Taveuni	4.45	341	P	P	01 20 06.6	+0.3
MSVF	Nonsavu	4.63	313	P	P	01 20 07.0	-0.8
MSVF	Nonsavu	4.63	313	P	P	01 20 07.2	-0.6
	85nm,0.7s,baz=154,slow=7.8,SNR=50						
MSVF				S	S	01 21 18.6	-1.2
	25nm,0.8s,baz=135,slow=22,SNR=3.9						
MSVF	Nonsavu	4.63	313	P	P	01 20 07.2	-0.6
MSVF	Nonsavu	4.63	313	*c iP*	P	01 20 07.6	-0.2
YSA	Yasawairara	5.69	317	P	P	01 20 15.8	-0.7
	331nm,1.0s						
FUTU	Fugatoga	6.61	2	P	P	01 20 23.0	-1.7
NIUE	Niue	8.18	78	P	P	01 20 38.9	-0.7
NIUE	Niue	8.18	78	P	P	01 20 38.6	-1.0
	1μm,1.3s						
RAO	Raoul Island	8.28	177	P	P	01 20 40.0	-0.4
	165nm,0.4s,baz=252,slow=20,SNR=2.8						
RAO				S	S	01 22 18.6	-1.1
	228nm,0.5s,baz=85,slow=23,SNR=3.9						
AFI	Afiamalu	9.43	43	P	P	01 20 49.3	-2.8
AFI	Afiamalu	9.43	43	P	P	01 20 49.3	-2.8
	341nm,1.1s						
AFI	Afiamalu	9.43	43	P	P	01 20 49.3	-2.8
MARNC	Mare, Loyalty	12.67	265	P	P	01 21 24.2	-0.7
	9.2nm,0.5s						
DVP	Devils Point	13.06	282	P	P	01 21 29.1	+0.1
PINNC	Pines Island,	13.26	260	P	P	01 21 29.8	-1.1
PINNC	Pines Island,	13.26	260	P	P	01 21 31.1	+0.1
	243nm,1.3s						
YATNC	Mamie plateau,	13.74	263	P	P	01 21 35.5	-0.5
	71nm,1.5s						
OUENC	Ouen Island, N	13.80	261	P	P	01 21 37.4	+0.8
	0.4nm,1.4s						
DZM	Mont Dzumac	14.15	263	*e*P	P	01 21 38.4	-1.9
	173nm,1.4s						
DZM				*e*S	S	01 24 03.4	-5.3
	86nm,1.4s						
DZM	Mont Dzumac	14.15	263	P	P	01 21 38.7	-1.5
DZM	Mont Dzumac	14.15	263	P	P	01 21 38.3	-2.0
	26nm,0.6s,baz=85,slow=18,SNR=13						
ONTNC	Ouen Toro	14.15	262	P	P	01 21 38.6	-1.5
ONTNC	Ouen Toro	14.15	262	P	P	01 21 40.7	+0.6
	133nm,1.3s						
VLAKA	Lakatoro	14.28	287	P	P	01 21 41.7	+0.2
	144nm,1.4s						
NOUC	Port Laguerre	14.29	263	P	P	01 21 40.3	-1.1
	103nm,1.4s						
NFK	Norfolk Island	14.77	234	P	P	01 21 47.6	+1.5
	232nm,1.4s						
KOUNC	Koumac, New Ca	16.20	268	P	P	01 21 59.5	-0.5
KUZ	Kuaotunu	16.55	197	P	P	01 22 04.0	+1.1
KUZ	Kuaotunu	16.55	197	P	P	01 22 04.7	+1.8
	71nm,0.7s						
WIAZ	Waiheke Island	16.77	198	P	P	01 22 06.4	+1.5
MXZ	Matakaoa Point	16.80	189	P	P	01 22 04.9	-0.2
MXZ	Matakaoa Point	16.80	189	P	P	01 22 05.2	0.0
MBAZ	Motutapu North	16.81	199	P	P	01 22 07.4	+2.2
MKAZ	Moumakai	17.05	198	P	P	01 22 09.0	+1.6
WTAZ	Waiatarua	17.06	200	P	P	01 22 09.6	+2.0
HAZ	Te Kaha	17.07	190	P	P	01 22 06.7	-0.9
AWAZ	Awhitu Peninsu	17.16	199	P	P	01 22 10.3	+1.9
RUGZ	Raukumara Rang	17.30	190	P	P	01 22 09.3	-0.5
RAR	Rarotonga	17.38	94	P	P	01 22 11.8	+1.1
RAR	Rarotonga	17.38	94	P	P	01 22 10.0	-0.7
	85nm,0.9s,baz=236,slow=4.0,SNR=7.6						
RAR	Rarotonga	17.38	94	P	P	01 22 11.8	+1.1
	100nm,1.2s						
RAR	Rarotonga	17.38	94	P	P	01 22 11.8	+1.1
TWGZ	Tauwhareparae	17.45	190	P	P	01 22 11.8	+0.7
TOZ	Tahuroa Road	17.54	196	P	P	01 22 13.5	+1.6
URZ	Urewera	17.68	192	P	P	01 22 11.7	-1.5
	13nm,0.3s,baz=356,slow=2.7,SNR=17						
URZ				S	S	01 25 01.6	-5.5
	13nm,0.8s,baz=252,slow=20,SNR=3.2						
URZ	Urewera	17.68	192	P	P	01 22 13.1	-0.1
	36nm,0.8s						
RTZ	Ruatahuna	18.05	192	P	P	01 22 14.7	-1.9
BKZ	Black Stump Fm	18.68	192	P	P	01 22 19.5	-2.8
BKZ	Black Stump Fm	18.68	192	P	P	01 22 23.8	+1.5
	24nm,1.4s						
BFZ	Birch Farm	20.19	192	P	P	01 22 34.9	-1.1
MRZ	Mangataiokia R	20.31	193	P	P	01 22 36.0	-1.0
QRZ	Quartz Range	21.26	199	P	P	01 22 45.6	-0.1
ALEG	Aligegeo Malai	23.53	298	P	P	01 23 07.4	+1.2
	107nm,1.2s						
OXZ	Oxford	23.70	198	P	P	01 23 06.3	-1.0
RPZ	Rata Peaks	24.35	199	P	P	01 23 13.2	+0.1
	8.5nm,0.5s,baz=350,slow=6.1,SNR=2.1						
	8.5nm,0.5s						
TATA	Tatamba Isabel	24.47	297	P	P	01 23 15.3	+0.8
	82nm,1.1s						
AUWSH	Wavell State H	26.80	251	P	P	01 23 36.3	+1.4
	79nm,1.2s						
TBI	Tubuai	26.89	101	*e*S	S	01 27 31.2	-1.9
	435nm,23.5s						
TBI				*es*S	sS	01 30 22.5	-1.0
	2μm,26.5s						
WHZ	Wether Hill Ro	27.29	201	P	P	01 23 39.8	+1.0
PAE	Paea	27.38	88	*e*P	P	01 23 39.6	-0.4
	56nm,1.3s						
PPT	Papeete	27.40	88	P	P	01 23 40.1	-0.2
	64nm,0.8s,baz=100,slow=22,SNR=6.0						
	64nm,0.8s						
PPTF	Pamatai, Papee	27.40	88	P	P	01 23 41.4	+1.0
PPTF	Pamatai, Papee	27.40	88	P	P	01 23 41.1	+0.7
	117nm,1.1s						
TW1H	Toowoomba 1 Ha	27.76	250	P	P	01 23 44.6	+1.2
	95nm,1.0s						
EIDS	Eidsvold	28.37	255	P	P	01 23 48.6	0.0
EIDS	Eidsvold	28.37	255	P	P	01 23 48.9	+0.2
	27nm,1.1s						
ARMA	Armidale	28.54	245	P	P	01 23 50.9	+0.7
PMOR	Pomariorio Ree	29.58	84	*e*P	P	01 23 59.7	+0.5
	192nm,1.2s						
VAH	Vaihoa	29.76	84	*e*P	P	01 24 00.8	0.0
	102nm,0.9s						
CTA	Charters Tower	33.08	265	P	P	01 24 29.3	+0.2
	4.5nm,0.8s						
CTA	Charters Tower	33.08	265	P	P	01 24 28.9	-0.1
CTAO	Charters Tower	33.08	265	P	P	01 24 29.2	+0.2
CTAO				IAmb	IAmb	01 24 30.0	
	comp=Z,41nm,0.8s						
CTAO	Charters Tower	33.08	265	P	P	01 24 29.4	+0.4
	comp=Z,52nm,0.8s						
CTAO	Charters Tower	33.08	265	P	P	01 24 29.2	+0.2
CTAO				pmax	pmax		
	comp=Z,41nm,0.9s						
CTAO	Charters Tower	33.08	265	P	P	01 24 29.1	0.0
CTAO				PcP	PcP	01 26 55.7	+0.4
PMG	Port Moresby	35.09	284	P	P	01 24 46.2	+0.4
PMG	Port Moresby	35.09	284	P	P	01 24 46.3	+0.4
	comp=Z,91nm,0.9s						
PMG	Port Moresby	35.09	284	P	P	01 24 46.5	+0.7
	comp=Z,91nm,0.9s						
PMG	Port Moresby	35.09	284	*d iP*	P	01 24 46.1	+0.2
PMG				pmax	pmax		
	comp=Z,96nm,1.3s						
PMG	Port Moresby	35.09	284	P	P	01 24 46.0	+0.2
TOO	Toolangi	35.33	234	P	P	01 24 47.9	+0.2
TOO	Toolangi	35.33	234	P	P	01 24 47.9	+0.2
TOO				pmax	pmax		
	comp=Z,12nm,0.9s						
TAU	Tasmania Unive	36.05	225	P	P	01 24 52.8	-0.6
TAU				IAmb	IAmb	01 25 32.8	
	comp=Z,93nm,1.6s						
TAU	Tasmania Unive	36.05	225	P	P	01 24 52.8	-0.6
TAU				pmax	pmax		
	comp=Z,93nm,1.6s						
COEN	Coen	37.24	274	P	P	01 25 03.9	+0.2
COEN				IAmb	IAmb	01 25 05.0	
	comp=Z,36nm,0.8s						
STKA	Stephens Creek	37.26	245	P	P	01 25 04.0	+0.4
STKA	Stephens Creek	37.26	245	P	P	01 25 03.6	0.0
	comp=Z,21nm,0.9s,baz=90,slow=8.5,SNR=20						
STKA				PcP	PcP	01 27 08.6	+0.9
	comp=Z,5.5nm,0.5s,baz=94,slow=4.7,SNR=6.2						
	comp=Z,21nm,0.9s						
STKA	Stephens Creek	37.26	245	*⇑ iP*	P	01 25 03.8	+0.2
MANU	Manus Island	38.30	295	P	P	01 25 12.2	+0.1
TAOE	Nuku Hiva Isla	38.76	78	*e*S	S	01 30 25.6	-7.8
	comp=Z,191nm,24.5s						
TAOE	Nuku Hiva Isla	38.76	78	P	P	01 25 16.7	+0.6
TAOE	Nuku Hiva Isla	38.76	78	P	P	01 25 16.8	+0.8
RKT	Rikitea	40.20	101	*e*S	S	01 30 55.0	+1.0
	comp=Z,885nm,38.8s						
BBOO	Buckleboo	42.02	244	P	P	01 25 41.5	-0.1
OOD	Oodnadatta	42.19	251	P	P	01 25 44.1	+1.1
	comp=Z,25nm,1.1s						
MULG	Mulgathing	43.60	248	P	P	01 25 53.8	-0.2
	comp=Z,41nm,0.9s						
WR0	Warramunga Arr	43.98	263	P	P	01 25 56.5	-0.6
AS31	Alice Springs	44.05	257	P	P	01 25 57.7	+0.1
ASAR	Alice Springs	44.06	257	P	P	01 25 57.5	-0.1
	comp=Z,22nm,0.5s,baz=98,slow=7.6,SNR=236						
ASAR				PcP	PcP	01 27 30.6	+0.2
	comp=Z,18nm,0.8s,baz=102,slow=3.9,SNR=16						
ASAR				S	S	01 31 46.4	-3.0
	comp=Z,4.9nm,0.9s,baz=98,slow=15,SNR=17						
ASAR				PKiKP	PKiKP	01 34 27.9	-1.2
	comp=Z,0.4nm,0.4s,baz=70,slow=1.3,SNR=4.3						
	comp=Z,22nm,0.5s						
WB0	Warramunga Arr	44.15	263	P	P	01 25 57.9	-0.5
WB0				IAmb	IAmb	01 25 58.5	
	comp=Z,22nm,0.6s						
WB2	Warramunga Arr	44.16	263	P	P	01 25 57.9	-0.6
WRAB	Tennant Creek	44.16	263	*d iP*	P	01 25 58.1	-0.4
WRAB				pmax	pmax		
	comp=Z,20nm,0.9s						
WRA	Warramunga Arr	44.17	263	P	P	01 25 57.9	-0.7
	comp=Z,12nm,0.6s,baz=98,slow=8.4,SNR=92						
WRA				PcP	PcP	01 27 31.4	+0.6
	comp=Z,5.3nm,0.6s,baz=95,slow=3.7,SNR=11						
WRA				S	S	01 31 46.6	-4.4
	comp=Z,3.6nm,0.7s,baz=99,slow=12,SNR=8.4						
	comp=Z,12nm,0.6s						
GENI	Genyem	44.27	289	P	P	01 26 00.3	+0.9
	comp=Z,116nm,0.9s						
HMH	Humu'ula Sheep	46.12	31	P	P	01 26 14.3	+0.6
MTN	Manton Dam	48.80	271	P	P	01 26 33.2	-0.3
MTN				IAmb	IAmb	01 26 34.3	
	comp=Z,28nm,0.6s						
KNRA	Kununurra	50.26	267	P	P	01 26 44.0	-0.2
KNRA				IAmb	IAmb	01 26 44.6	
	comp=Z,22nm,0.6s						
FITZ	Fitzroy Crossi	52.60	263	S	S	01 33 46.2	-0.1
	comp=Z,11nm,1.3s,baz=288,slow=19,SNR=5.5						
DRV	Dumont d'Urvil	52.81	199	*⇓iP*	P	01 27 02.1	+0.4
SWI	Sorong	53.00	285	P	P	01 27 03.9	-0.1
	comp=Z,99nm,1.0s,comp=Z,1μm						
NLAI	Namlea	55.82	281	P	P	01 27 23.7	0.0
	comp=Z,39nm,1.4s,comp=Z,528nm						
SOEI	Soe	56.15	272	P	P	01 27 26.1	0.0
SOEI	Soe	56.15	272	P	P	01 27 27.2	+1.1
	comp=Z,88nm,0.6s						
PSA00	Pilbara Seismi	57.21	257	P	P	01 27 32.8	-0.4
TNTI	Ternate	57.22	285	P	P	01 27 34.0	+0.7
	comp=Z,56nm,1.1s						
TNTI	Ternate	57.22	285	P	P	01 27 33.0	-0.3
	comp=Z,55nm,1.2s						
SANI	Sanana	57.31	281	P	P	01 27 35.1	+1.2
	comp=Z,42nm,1.1s						
SANI	Sanana	57.31	281	P	P	01 27 33.2	-0.7
	comp=Z,42nm,1.2s						
MBWA	Marble Bar	57.39	258	P	P	01 27 33.7	-0.7
MBWA				PcP	PcP	01 28 20.3	0.0
SBA	Scott Base	57.40	184	P	P	01 27 36.4	+2.9
KLBR	Kellerberrin	57.53	245	P	P	01 27 35.0	-0.2
	comp=Z,87nm,0.7s						
NWAO	Narrogin (SRO)	57.84	244	P	P	01 27 37.3	+0.1
MORW	Morawa	59.32	248	P	P	01 27 47.1	-0.1
LUWI	Luwuk	60.65	281	P	P	01 27 56.2	-0.1
LUWI				IAmb	IAmb	01 27 57.8	
	comp=Z,78nm,1.1s						
CCD	Concordia, Ant	61.94	194	P	P	01 28 05.2	+1.0
CCD				PcP	PcP	01 28 38.2	0.0
TOLI2	Tolitoli	63.34	282	P	P	01 28 13.2	-0.5
QSPA	South Pole Qui	69.12	180	P	P	01 28 49.9	+1.1
	comp=Z,23nm,0.6s,baz=29,slow=1.2,SNR=89						
	comp=Z,23nm,0.6s						
QSPA	South Pole Qui	69.12	180	P	P	01 28 50.0	+1.2
JGF	Kuroka	70.14	323	P	P	01 28 55.5	+0.4
INU	Inuyama	70.16	322	P	P	01 28 55.6	+0.4
INU				IAmb	IAmb	01 28 56.5	
	comp=Z,35nm,1.0s						
INU	Inuyama	70.16	322	P	P	01 28 56.1	+0.9
	comp=Z,37nm,1.0s						
INU	Inuyama	70.16	322	P	P	01 28 55.3	+0.1
JOW	Kunigami	70.17	310	P	P	01 28 56.2	+0.7
JOW				IAmb	IAmb	01 28 57.4	
	comp=Z,58nm,1.1s						
MJAR	Matsushiro Arr	70.35	324	P	P	01 28 56.3	-0.1
	comp=Z,23nm,0.8s,baz=156,slow=5.7,SNR=35						
	comp=Z,23nm,0.8s						
MAJO	Matsushiro	70.35	324	P	P	01 28 56.5	+0.1
MAJO				IAmb	IAmb	01 28 57.0	
	comp=Z,27nm,0.7s						
MAJO	Matsushiro	70.35	324	P	P	01 28 56.8	+0.4
	comp=Z,42nm,1.0s						
MAJO	Matsushiro	70.35	324	*d iP*	P	01 28 56.4	0.0
MAJO				pmax	pmax		
	comp=Z,27nm,0.7s						
MAJO	Matsushiro	70.35	324	P	P	01 28 56.3	-0.1
JMN	Monobe	70.88	319	P	P	01 29 00.3	+0.8
JMN				IAmb	IAmb	01 29 01.6	
	comp=Z,62nm,1.0s						
JSD	Sado	71.42	325	P	P	01 29 03.6	+1.0
JSD				IAmb	IAmb	01 29 04.2	
	comp=Z,43nm,1.0s						
SBUM	Sibu	71.72	280	P	P	01 29 05.1	+0.3
JNU	Nakatsue	72.35	317	P	P	01 29 08.6	+0.4
JNU				IAmb	IAmb	01 29 09.5	
	comp=Z,91nm,1.1s						
KIWB	Kanaga Island	72.50	1	P	P	01 29 08.9	+0.4
ADK	Adak	72.53	1	P	P	01 29 08.8	+0.2
ADK	Adak	72.53	1	P	P	01 29 08.8	+0.2
	comp=Z,76nm,1.0s						
ADK	Adak	72.53	1	P	P	01 29 08.8	+0.2
ADK				pmax	pmax		
	comp=Z,92nm,0.8s						
ATKA	Atka Island	72.93	3	P	P	01 29 10.9	+0.1
ATKA	Atka Island	72.93	3	P	P	01 29 11.0	+0.1
SSLB	Suanglung	73.91	304	P	P	01 29 16.7	-0.5
SSLB				IAmb	IAmb	01 29 17.1	
	comp=Z,78nm,1.1s						
JKA	Kamikawa-asahi	73.94	332	P	P	01 29 18.1	+1.2
ASAJ	Asahikawa	73.94	332	P	P	01 29 18.1	+1.2
ASAJ				pmax	pmax		
	comp=Z,90nm,1.0s						
YHNB	Yeheng	74.06	305	P	P	01 29 18.1	0.0
YHNB				IAmb	IAmb	01 29 18.9	
	comp=Z,51nm,1.0s						
NIKH	Nikolski High	74.07	6	P	P	01 29 17.2	-0.2
	baz=189						
NIKH	Nikolski High	74.07	6	P	P	01 29 17.7	+0.3
	comp=Z,270nm,0.9s						
UNV	Unalaska Valle	75.19	7	P	P	01 29 23.2	-0.4
	baz=192						
UNV	Unalaska Valle	75.19	7	P	P	01 29 23.9	+0.3
	comp=Z,125nm,1.4s						
YSS	Yuzh-Sakhalins	76.13	334	P	P	01 29 29.8	+0.8
YSS				IAmb	IAmb	01 29 30.9	
	comp=Z,57nm,0.9s						
YSS	Yuzh-Sakhalins	76.13	334	P	P	01 29 30.1	+1.1
	comp=Z,92nm,1.1s						
YSS	Yuzh-Sakhalins	76.13	334	*⇓iP*	P	01 29 30.3	+1.3
YSS				*e*S	S	01 38 29.6	+2.8
YSS				pmax	pmax		
	comp=Z,60nm,1.1s						
YSS				MLR	MLR		
	comp=Z,100nm,16.0s						
PET	Petropavlovsk	76.31	346	*e*P	P	01 29 29.5	-0.3
PET				pmax	pmax		
	comp=Z,67nm,1.0s						
PET				pmax	pmax		
	comp=Z,100nm,9.4s						
FALS	False Pass	76.58	9	P	P	01 29 30.9	-0.4
	baz=194						
PEA0B	Petropavlovsk-	76.61	345	*d iP*	P	01 29 31.7	+0.2
PETK	Petropavlovsk-	76.61	345	P	P	01 29 31.8	+0.3
PETK	Petropavlovsk-	76.61	345	P	P	01 29 31.9	+0.4
	comp=Z,63nm,0.8s,baz=127,slow=7.3,SNR=31						
	comp=Z,63nm,0.8s						
PETK	Petropavlovsk-	76.61	345	P	P	01 29 31.8	+0.3
KSRS	Korea Array	76.98	319	P	P	01 29 34.7	+0.8
	comp=Z,12nm,0.8s,baz=135,slow=6.3,SNR=23						
	comp=Z,12nm,0.8s						
KSAR	Wonju Array Be	76.99	319	P	P	01 29 34.6	+0.6
KSAR	Wonju Array Be	76.99	319	P	P	01 29 34.6	+0.6
CHNA	Chernabura Isl	77.17	11	P	P	01 29 34.2	-0.2
	baz=198						
S12K	Black Hills	77.60	9	P	P	01 29 36.6	-0.2
	baz=196						
SPIA	Saint Paul Isl	78.12	5	P	P	01 29 39.8	+0.3
	baz=188						
MSHR	Mys Shultsa	78.46	324	*⇑iP*	P	01 29 43.6	+1.9
MSHR				pmax	pmax		
	comp=Z,84nm,1.0s						
S14K	Fog Glacier	78.56	11	P	P	01 29 42.6	+0.5
	baz=198						
PSTR	Posyet	78.70	324	*c iP*	P	01 29 44.5	+1.5
CHGN	Chignik	78.78	11	IAmb	IAmb	01 29 44.2	
	comp=Z,93nm,0.9s						
CHGN	Chignik	78.78	11	P	P	01 29 43.4	+0.3
	baz=199,SNR=5.5						
CHIR	Chirikof Islan	78.88	13	P	P	01 29 44.2	+0.6
	baz=202						
HOPS	Hopland Field	78.95	41	IAmb	IAmb	01 29 48.0	
	comp=Z,69nm,1.1s						
USA0B	Ussuriysk Arra	79.13	326	IAmb	IAmb	01 29 47.7	
	comp=Z,73nm,1.0s						
USA0B	Ussuriysk Arra	79.13	326	*d iP*	P	01 29 46.0	+0.8
USRK	Ussuriysk Ar.	79.13	326	P	P	01 29 46.1	+0.9
USRK	Ussuriysk Ar.	79.13	326	P	P	01 29 46.4	+1.2
	comp=Z,49nm,0.9s,baz=136,slow=3.6,SNR=47						
	comp=Z,49nm,0.9s						
USRK	Ussuriysk Ar.	79.13	326	P	P	01 29 46.1	+0.9
BELA	Belgrano 2	79.16	173	P	P	01 29 45.2	+0.2
MYKOM	Kota Tinggi	79.21	276	P	P	01 29 47.5	+1.1
KMPM	Mount Pierce	79.22	39	IAmb	IAmb	01 29 49.4	
	comp=Z,114nm,1.1s						
TYV	Tymovskoe	79.30	336	*e*P	P	01 29 47.0	+1.0
TYV				pmax	pmax		
	comp=Z,300nm,1.8s						
TYV				pmax	pmax		
	comp=Z,82nm,1.1s						
O02D	Mt. Diablo Mer	79.86	40	IAmb	IAmb	01 29 52.4	
	comp=Z,45nm,0.8s						
SII	Sitkinak Islan	79.86	13	P	P	01 29 49.5	+0.7
	baz=203						
NJ2	Nanjing	79.88	310	*⇑iP*	P	01 29 50.8	+1.3
NJ2				PcP	PcP	01 29 57.5	+2.7
NJ2				pmax	pmax		
	comp=Z,34nm,1.0s						
R16K	Pilot Point	80.13	11	P	P	01 29 50.8	+0.6
	baz=200						
PFO	Pinyon Flats O	80.15	48	P	P	01 29 51.5	+0.5
PFO	Pinyon Flats O	80.15	48	P	P	01 29 51.5	+0.5
PFO				pmax	pmax		
	comp=Z,15nm,1.1s						
R17L	Mt. Peulik Vol	80.42	12	P	P	01 29 52.4	+0.7
	baz=201						
OHAK	Old Harbor	80.67	14	P	P	01 29 53.7	+0.8
	baz=204						
MDJ	Mudanjiang	80.67	325	P	P	01 29 54.6	+1.2
MDJ				pP	pP	01 31 52.8	-1.8
MDJ				sP	sP	01 32 48.3	-4.0
MDJ				pmax	pmax		
	comp=Z,87nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,270nm,5.0s						
MDJ	Mudanjiang	80.67	325	P	P	01 29 54.5	+1.2
	comp=Z,81nm,1.1s						
R18K	Karluk	80.74	13	P	P	01 29 53.7	+0.4
	baz=203						
YBH	Yreka Blue Hor	80.87	39	IAmb	IAmb	01 29 57.8	
	comp=Z,45nm,0.8s						
WAKR	Walker	80.92	43	IAmb	IAmb	01 29 58.1	
	comp=Z,46nm,1.0s						
MAW	Mawson	81.02	200	P	P	01 29 55.3	+0.5
	comp=Z,6.6nm,0.5s,baz=144,slow=5.5,SNR=18						
	comp=Z,6.6nm,0.5s						
Q17K	Contact Creek	81.10	12	P	P	01 29 55.6	+0.3
	baz=201,SNR=12						
O14K	Tigyukauivet M	81.14	9	P	P	01 29 55.6	+0.3
	baz=196						
ACHA	Angle Creek He	81.16	12	IAmb	IAmb	01 29 58.2	
	comp=Z,57nm,1.6s						
PNTR	Pine Nut	81.16	42	IAmb	IAmb	01 29 59.2	
	comp=Z,68nm,0.8s						
HUMO	Hull Mountain	81.27	38	IAmb	IAmb	01 30 00.0	
	comp=Z,60nm,1.1s						
O15K	Ungalikthiuk R	81.28	10	P	P	01 29 56.3	+0.1
	baz=198						
Q16K	King Salmon	81.35	11	P	P	01 29 56.9	+0.5
	baz=200,SNR=8.5						
L04D	Klamath Falls	81.41	39	IAmb	IAmb	01 30 00.3	
	comp=Z,83nm,1.0s						
P16K	Nushagak River	81.44	11	P	P	01 29 57.2	+0.3
	baz=199,SNR=7.2						
NVAR	Mina Array Bea	81.60	43	P	P	01 29 59.8	+1.2
	comp=Z,20nm,0.8s,baz=224,slow=8.8,SNR=109						
	comp=Z,20nm,0.8s						
Q18K	Katmai Hardscr	81.63	12	P	P	01 29 58.3	+0.3
	baz=202,SNR=16						
M11K	Mekoryuk	81.65	6	P	P	01 29 59.0	+1.1
	baz=192						
PAHR	Pah Rah Range	81.66	42	IAmb	IAmb	01 30 01.4	
	comp=Z,45nm,1.1s						
N14K	Kuskokwak Cree	81.73	8	P	P	01 29 59.5	+1.1
	baz=196,SNR=16						
GRNR	Gornyy	81.73	333	*⇓iP*	P	01 29 59.9	+1.3
GRNR				pmax	pmax		
	comp=Z,40nm,1.1s						
P17K	Kvichak River	81.87	11	P	P	01 29 59.5	+0.5
	baz=201,SNR=17						
O16K	Kokwok River B	81.96	10	P	P	01 29 59.6	+0.1
O16K				IAmb	IAmb	01 30 00.2	
	comp=Z,51nm,0.9s						
O16K	Kokwok River B	81.96	10	P	P	01 29 59.4	-0.1
	baz=199,SNR=12						
M13K	Dall Lake	81.99	7	P	P	01 30 00.8	+1.2
	baz=194,SNR=6.2						
Q19K	Cape Douglas,	82.16	13	P	P	01 30 01.1	+0.4
	baz=203						
N15K	Kwethluk River	82.19	9	P	P	01 30 02.1	+1.3
	baz=197,SNR=19						
P18K	Big Mountain,	82.28	12	IAmb	IAmb	01 30 02.2	
	comp=Z,60nm,0.9s						
P18K	Big Mountain,	82.28	12	P	P	01 30 01.3	0.0
	baz=202,SNR=7.0

K13K	**Kusilvak Mount**	83.32	6	P	P	01 30 07.4	+1.1
	baz=193,SNR=7.8						
R11B	**Troy Canyon, C**	83.33	45	P	P	01 30 08.1	+1.0
	baz=237						
N18K	**Kilae Creek**	83.36	11	P	P	01 30 06.8	+0.2
	baz=201						
O20K	**Slope Mountain**	83.43	13	P	P	01 30 07.0	0.0
	baz=204						
L15K	**Ungalak Mounta**	83.45	8	P	P	01 30 07.6	+0.6
	baz=196,SNR=12						
KULM	**Kulim**	83.47	278	P	P	01 30 08.3	+0.1
KULM				IAmb	IAmb	01 30 10.3	
	comp=Z,82nm,1.4s						
KULM	**Kulim**	83.47	278	P	P	01 30 09.5	+1.3
	comp=Z,42nm,1.4s						
BRSE	**Bradley Lake S**	83.52	14	P	P	01 30 08.1	+0.7
	baz=206						
TUC	**Tucson**	83.55	52	P	P	01 30 10.2	+1.9
TUC				IAmb	IAmb	01 30 11.9	
	comp=Z,32nm,1.1s						
TUC	**Tucson**	83.55	52	P	P	01 30 10.2	+1.9
TUC				pmax	pmax		
	comp=Z,32nm,1.1s						
F04A	**Amboy**	83.66	36	IAmb	IAmb	01 30 10.4	
	comp=Z,36nm,0.8s						
WISH	**Wishkah**	83.69	34	IAmb	IAmb	01 30 11.9	
	comp=Z,42nm,1.0s						
N19K	**Bonanza Creek**	83.74	12	IAmb	IAmb	01 30 09.4	
	comp=Z,39nm,1.0s						
N19K	**Bonanza Creek**	83.74	12	P	P	01 30 08.3	-0.3
	baz=202,SNR=8.3						
L16K	**Owhat River**	83.76	9	IAmb	IAmb	01 30 10.9	
	comp=Z,50nm,1.2s						
L16K	**Owhat River**	83.76	9	P	P	01 30 09.7	+1.2
	baz=198,SNR=9.7						
M17K	**Holitna River**	83.78	10	IAmb	IAmb	01 30 11.3	
	comp=Z,68nm,1.1s						
M17K	**Holitna River**	83.78	10	P	P	01 30 10.2	+1.6
	baz=200,SNR=11						
K15K	**Wolf Creek Mou**	84.04	8	P	P	01 30 11.0	+1.1
	baz=196,SNR=13						
MA2	**Magadan**	84.12	345	*de*P	P	01 30 10.0	-0.3
MA2				pmax	pmax		
	comp=Z,36nm,1.3s						
MA2	**Magadan**	84.12	345	P	P	01 30 10.3	0.0
	comp=Z,71nm,1.8s						
RPSI	**Rantau Prapat**	84.12	275	P	P	01 30 10.8	-0.7
RPSI				IAmb	IAmb	01 30 12.3	
	comp=Z,50nm,1.2s						
M18K	**Stony River**	84.13	11	P	P	01 30 11.1	+0.7
	baz=201,SNR=7.0						
SEW	**Seward**	84.14	14	P	P	01 30 11.4	+1.1
	baz=207						
PSI	**Prapat**	84.16	275	P	P	01 30 12.9	+1.1
	comp=Z,44nm,1.1s						
PSI	**Prapat**	84.16	275	P	P	01 30 10.8	-1.0
PSI				pmax	pmax		
	comp=Z,50nm,1.2s						
I07A	**Izee**	84.17	38	IAmb	IAmb	01 30 14.1	
	comp=Z,41nm,1.0s						
J14K	**Nanvaranak Lak**	84.24	7	P	P	01 30 11.6	+0.8
	baz=194						
Q23K	**Middleton Isla**	84.29	16	P	P	01 30 11.8	+0.6
	baz=210						
L17K	**Donlin**	84.34	9	P	P	01 30 12.6	+1.3
	baz=199,SNR=7.5						
J08A	**Circle Bar Ran**	84.35	39	IAmb	IAmb	01 30 14.9	
	comp=Z,55nm,1.3s						
O22K	**Cooper Landing**	84.42	14	P	P	01 30 12.1	+0.4
	baz=207						
GNW	**Green Mountain**	84.47	34	IAmb	IAmb	01 30 15.1	
	comp=Z,28nm,0.9s						
KNB	**Kanab**	84.47	47	IAmb	IAmb	01 30 15.9	
	comp=Z,91nm,1.9s						
U15A	**North Rim**	84.54	48	IAmb	IAmb	01 30 16.4	
	comp=Z,35nm,0.8s						
N20K	**Mount Spurr**	84.54	12	P	P	01 30 12.0	-0.5
	baz=204,SNR=8.8						
SPCR	**Spurr Chakacha**	84.54	12	P	P	01 30 11.9	-0.5
	baz=204,SNR=8.1						
CLRS	**Cowichan Lake**	84.60	33	IAmb	IAmb	01 30 15.6	
	comp=Z,32nm,0.9s						
GAMB	**Gambell**	84.61	3	P	P	01 30 13.4	+0.9
	baz=186						
L18K	**Granite Mounta**	84.67	10	IAmb	IAmb	01 30 15.2	
	comp=Z,34nm,0.8s						
L18K	**Granite Mounta**	84.67	10	P	P	01 30 14.2	+1.2
	baz=200,SNR=11						
M19K	**Big River Lodg**	84.77	11	P	P	01 30 13.7	+0.2
	baz=202						
CBB	**Campbell River**	84.79	31	IAmb	IAmb	01 30 16.7	
	comp=Z,65nm,1.4s						
PGC	**Sidney**	84.84	33	IAmb	IAmb	01 30 16.6	
	comp=Z,38nm,1.0s						
ELK	**Elko**	84.86	43	P	P	01 30 19.0	+4.3
K17K	**Iditarod**	84.89	9	IAmb	IAmb	01 30 16.2	
	comp=Z,34nm,1.2s						
K17K	**Iditarod**	84.89	9	P	P	01 30 14.8	+0.7
	baz=199						
L19K	**White Mountain**	84.95	11	IAmb	IAmb	01 30 16.3	
	comp=Z,48nm,1.1s						
L19K	**White Mountain**	84.95	11	P	P	01 30 14.9	+0.6
	baz=202,SNR=14						
RC01	**Rabbit Creek A**	84.96	14	P	P	01 30 14.9	+0.5
	baz=207						
M20K	**Styx River**	84.98	12	P	P	01 30 14.3	-0.3
	baz=204						
PKCU	**Pink Cliffs**	85.04	47	IAmb	IAmb	01 30 19.4	
	comp=Z,39nm,1.0s						
PWL	**Port Wells**	85.07	14	IAmb	IAmb	01 30 16.2	
	comp=Z,67nm,1.0s						
PWL	**Port Wells**	85.07	14	P	P	01 30 15.0	0.0
	baz=208,SNR=6.5						
SUA	**Susitna One**	85.08	13	P	P	01 30 15.1	0.0
	baz=206						
J16K	**Anvik River**	85.11	8	P	P	01 30 15.9	+0.8
	baz=197,SNR=5.2						
G08A	**Pilot Rock**	85.20	38	IAmb	IAmb	01 30 18.8	
	comp=Z,49nm,1.0s						
CRAG	**Craig**	85.28	24	P	P	01 30 17.6	+1.6
	baz=222						
GLI	**Glacier Island**	85.37	15	P	P	01 30 16.8	+0.4
	baz=209,SNR=6.4						
SKT	**Skwentna**	85.39	12	P	P	01 30 15.6	-0.9
	baz=205						
L20K	**Farewell, AK**	85.40	11	P	P	01 30 16.6	+0.1
	baz=203,SNR=10						
EYAK	**Cordova Ski Ar**	85.42	16	P	P	01 30 16.8	+0.2
	baz=210						
J17K	**VABM Dome**	85.43	9	IAmb	IAmb	01 30 18.7	
	comp=Z,28nm,1.1s						
J17K	**VABM Dome**	85.43	9	P	P	01 30 17.5	+0.9
	baz=198,SNR=5.3						
E07A	**Sunnyside**	85.45	36	IAmb	IAmb	01 30 20.0	
	comp=Z,48nm,0.9s						
TTA	**Tatalina**	85.45	10	IAmb	IAmb	01 30 18.8	
	comp=Z,43nm,1.2s						
TTA	**Tatalina**	85.45	10	P	P	01 30 17.6	+0.7
	baz=201,SNR=11						
TTA	**Tatalina**	85.45	10	P	P	01 30 17.8	+1.0
	comp=Z,34nm,1.4s						
M22K	**Willow**	85.47	13	P	P	01 30 17.1	+0.3
	baz=206,SNR=7.2						
HEH	**HeiHe**	85.50	329	*e*P	P	01 30 17.6	+0.4
HEH				pmax	pmax		
	comp=Z,51nm,1.2s						
HAWA	**Hanford**	85.53	36	IAmb	IAmb	01 30 20.4	
	comp=Z,51nm,0.9s						
KNK	**Knik Glacier**	85.53	14	P	P	01 30 17.6	+0.4
	baz=208,SNR=6.4						
PMR	**Palmer**	85.54	14	P	P	01 30 17.4	+0.3
	baz=207,SNR=7.5						
PMR	**Palmer**	85.54	14	P	P	01 30 18.3	+1.2
	comp=Z,58nm,1.2s						
HNS	**HongShan**	85.58	313	⇓P	P	01 30 19.1	+1.2
HNS				pmax	pmax		
	comp=Z,44nm,1.1s						
SRIT	**Nakonsritamara**	85.65	281	P	P	01 30 20.7	+1.9
	comp=Z,84nm,1.1s						
SIT	**Sitka**	85.68	22	P	P	01 30 17.5	-0.4
	baz=220						
I17K	**Unalakleet**	85.68	8	P	P	01 30 18.3	+0.5
	baz=196						
LYN	**LuoYang**	85.75	309	P	P	01 30 19.8	+1.0
LYN				sP	sP	01 33 15.8	-2.5
LYN				S	S	01 40 07.9	+3.4
LYN				pmax	pmax		
	comp=Z,87nm,0.9s						
LYN				pmax	pmax		
	comp=Z,260nm,4.8s						
V35K	**Ketchikan**	85.75	25	P	P	01 30 19.9	+1.6
	baz=223						
U33K	**Whale Pass**	85.76	24	P	P	01 30 19.9	+1.6
	baz=222						
ANM	**Nome**	85.83	6	P	P	01 30 20.7	+2.2
	baz=192						
SURA	**Surathani**	85.84	281	P	P	01 30 21.1	+1.4
J18K	**Innoko River**	85.84	10	P	P	01 30 19.1	+0.5
	baz=200						
E08A	**Dider Farm, El**	85.85	37	IAmb	IAmb	01 30 21.7	
	comp=Z,35nm,0.9s						
121A	**Cookes Peak, D**	85.88	53	IAmb	IAmb	01 30 23.2	
	comp=Z,25nm,1.1s						
121A	**Cookes Peak, D**	85.88	53	P	P	01 30 20.7	+1.0
	baz=242						
BMO	**Blue Mountains**	85.90	39	IAmb	IAmb	01 30 21.8	
	comp=Z,19nm,0.8s						
SML	**Sawmill**	85.91	14	P	P	01 30 19.0	0.0
	baz=208						
BJT	**Baijiatuau**	85.94	316	P	P	01 30 20.7	+1.1
	comp=Z,32nm,1.7s						
BJT	**Baijiatuau**	85.94	316	P	P	01 30 20.4	+0.8
BJI	**Beijing**	85.95	316	P	P	01 30 20.4	+0.8
BJI				pmax	pmax		
	comp=Z,14nm,0.8s						
BJI				pmax	pmax		
	comp=Z,120nm,4.3s						
MFID	**Camas Ranch**	85.97	40	IAmb	IAmb	01 30 22.5	
	comp=Z,26nm,1.1s						
ENH	**Enshi**	85.98	304	P	P	01 30 20.9	+0.8
	comp=Z,106nm,1.3s						
CUT	**Chulitna**	86.03	13	P	P	01 30 19.7	+0.3
	baz=206,SNR=8.5						
M23K	**Glacier View**	86.03	14	P	P	01 30 19.9	+0.4
	baz=208						
BMRM	**Bremner River**	86.06	16	P	P	01 30 20.4	+0.7
	baz=211,SNR=5.4						
COYC	**Coyhaique**	86.07	137	P	P	01 30 22.2	+2.0
COYC				IAmb	IAmb	01 30 23.0	
	comp=Z,18nm,0.8s						
S31K	**Pelican**	86.07	21	P	P	01 30 19.9	+0.2
	baz=219						
PPLA	**Purkeypile**	86.09	12	P	P	01 30 20.1	+0.1
	baz=204						
MESA	**MESA**	86.10	17	P	P	01 30 21.1	+1.0
	baz=214						
ELIB	**Princess Elisa**	86.16	187	*d*P	P	01 30 20.4	+0.1
	comp=Z,30nm,0.6s						
ELIB				*d*pP	pP	01 32 25.6	+2.3
SCM	**Sheep Creek Mo**	86.16	14	P	P	01 30 20.8	+0.6
	baz=209,SNR=9.0						
K20K	**Telida**	86.17	11	P	P	01 30 20.6	+0.4
	baz=203						
KLU	**Klutina**	86.19	15	P	P	01 30 20.8	+0.4
	baz=210						
H16K	**Elim**	86.22	7	P	P	01 30 20.8	+0.5
	baz=195						
NAYO	**Nakonayok**	86.24	287	P	P	01 30 23.3	+1.8
	comp=Z,363nm,1.3s						
S32K	**Killisnoo**	86.25	22	P	P	01 30 21.8	+1.2
	baz=220						
D08A	**Wollman Farm,**	86.26	36	IAmb	IAmb	01 30 23.7	
	comp=Z,47nm,0.9s						
CRQE	**Cirque**	86.28	17	P	P	01 30 21.6	+0.8
	baz=213						
G15K	**Niukluk**	86.38	6	P	P	01 30 21.7	+0.6
	baz=193						
PNL	**Peninsula**	86.42	19	P	P	01 30 22.3	+0.9
	baz=216						
PNL	**Peninsula**	86.42	19	P	P	01 30 22.3	+0.9
	comp=Z,89nm,0.9s						
EPT	**El Paso**	86.49	54	IAmb	IAmb	01 30 25.6	
	comp=Z,48nm,1.2s						
J19K	**Poorman**	86.51	10	IAmb	IAmb	01 30 23.8	
	comp=Z,62nm,1.6s						
J19K	**Poorman**	86.51	10	P	P	01 30 22.3	+0.6
	baz=201,SNR=9.2						
PINM	**Pinnacle**	86.52	18	P	P	01 30 22.5	+0.5
	baz=215						
GYA	**Guiyang**	86.55	300	⇓P	P	01 30 23.9	+0.9
GYA				pmax	pmax		
	comp=Z,28nm,0.8s						
CAST	**Castle Rocks**	86.59	12	P	P	01 30 21.1	-1.1
	baz=204,SNR=31						
TNA	**Tin City**	86.61	4	P	P	01 30 22.8	+0.7
	baz=190						
N25K	**Chitina, Valde**	86.61	15	P	P	01 30 23.2	+0.8
	baz=211,SNR=9.7						
F14K	**Arctic Creek**	86.64	5	P	P	01 30 22.6	+0.3
	baz=191						
M24K	**Tolsona, Glenn**	86.66	15	P	P	01 30 23.3	+0.7
	baz=210						
WAT6	**Susitna Watana**	86.72	14	P	P	01 30 23.1	+0.1
	baz=208,SNR=16						
SEY	**Seymchan**	86.73	347	⇓*i*P	P	01 30 23.2	+0.5
SEY				pmax	pmax		
	comp=Z,95nm,1.1s						
SLVN	**Son La**	86.73	294	P	P	01 30 25.4	+1.6
	comp=Z,12nm,1.3s						
WAT1	**Susitna Watana**	86.77	13	P	P	01 30 23.1	+0.1
	baz=208						
H17K	**Granite Mounta**	86.79	8	P	P	01 30 23.3	+0.3
	baz=197						
B08A	**Colville Reser**	86.81	35	IAmb	IAmb	01 30 25.5	
	comp=Z,45nm,0.9s						
MCARA	**McCarthy VSAT**	86.83	16	P	P	01 30 24.1	+0.9
	baz=213,SNR=6.6						
LLLB	**Lillooet**	86.87	32	IAmb	IAmb	01 30 26.2	
	comp=Z,27nm,0.8s						
R32K	**Eaglecrest**	86.89	22	P	P	01 30 24.7	+1.1
	baz=220						
P29M	**Windy Craggy**	86.90	19	P	P	01 30 25.1	+1.4
	baz=218						
HLID	**Hailey**	86.91	41	IAmb	IAmb	01 30 27.3	
	comp=Z,29nm,1.1s						
J20K	**Nowinta River**	86.92	10	IAmb	IAmb	01 30 25.2	
	comp=Z,71nm,1.6s						
J20K	**Nowinta River**	86.92	10	P	P	01 30 24.2	+0.5
	baz=203,SNR=12						
CTG	**Chitna Glacier**	86.93	17	P	P	01 30 24.9	+0.9
	baz=214,SNR=9.2						
KTH	**Kantishna Hill**	86.93	12	IAmb	IAmb	01 30 24.2	
	comp=Z,52nm,1.0s						
G16K	**Koyuk River**	86.94	7	P	P	01 30 24.3	+0.6
	baz=195						
TRF	**Thorofare Moun**	86.96	12	P	P	01 30 23.8	-0.3
	baz=206,SNR=32						
CHUM	**Lake Minchumin**	86.97	11	P	P	01 30 23.4	-0.5
	baz=204,SNR=12						
F15K	**North Star Dit**	87.02	6	P	P	01 30 24.2	+0.1
	baz=193						
GCSA	**Galena City Sc**	87.02	9	P	P	01 30 24.6	+0.5
	baz=200,SNR=5.5						
TLIG	**Tlapa**	87.09	70	IAmb	IAmb	01 30 29.0	
	comp=Z,44nm,1.7s						
O28M	**Mount Upton**	87.09	18	P	P	01 30 25.1	+0.2
	baz=215,SNR=8.6						
HARP	**HAARP**	87.16	15	P	P	01 30 25.4	+0.5
	baz=211,SNR=6.7						
O29M	**Mount Kennedy**	87.18	19	P	P	01 30 26.3	+1.2
	baz=217						
PLBC	**Pleasant Camp**	87.19	20	P	P	01 30 26.1	+1.1
	baz=219,SNR=7.4						
H18K	**Honhosa River**	87.20	8	P	P	01 30 25.0	0.0
	baz=199						
VHRN	**Van Horn**	87.21	56	IAmb	IAmb	01 30 29.2	
	comp=Z,34nm,1.0s						
RND	**Reindeer**	87.22	13	P	P	01 30 25.4	+0.2
DHY	**Denali Highway**	87.24	14	P	P	01 30 25.6	+0.3
	baz=209,SNR=7.8						
G17K	**Kiwalik Mounta**	87.24	7	P	P	01 30 25.5	+0.4
	baz=197						
LL02	**Futaleuf**	87.27	135	P	P	01 30 28.1	+2.1
TROLL	**Troll, Antarti**	87.28	180	⇓P	P	01 30 25.0	-0.6
	comp=Z,414nm,0.5s						
TIY	**Taiyuan**	87.30	312	*e*P	P	01 30 27.8	+1.6
TIY				pmax	pmax		
	comp=Z,44nm,0.5s						
BPAW	**Bear Paw Mtn.**	87.42	12	P	P	01 30 24.9	-1.1
	baz=206,SNR=6.1						
I20K	**Naaghedeneel**	87.44	10	P	P	01 30 26.7	+0.6
	baz=202,SNR=8.3						
T35M	**Bob Quinn**	87.48	24	IAmb	IAmb	01 30 29.5	
	comp=Z,31nm,1.2s						
T35M	**Bob Quinn**	87.48	24	P	P	01 30 28.1	+1.7
	baz=224						
MCK	**McKinley**	87.49	13	P	P	01 30 26.4	0.0
	baz=207,SNR=21						
MCK	**McKinley**	87.49	13	P	P	01 30 26.4	0.0
P30M	**Million Dollar**	87.53	19	P	P	01 30 28.1	+1.4
	baz=218						
SKAG	**Skagway**	87.53	20	P	P	01 30 28.3	+1.7
	baz=220,SNR=6.4						
SKAG	**Skagway**	87.53	20	P	P	01 30 27.7	+1.1
	comp=Z,32nm,1.3s						
P18A	**Preston Nutter**	87.54	46	IAmb	IAmb	01 30 30.2	
	comp=Z,33nm,1.4s						
SNAA	**Sanae**	87.57	179	P	P	01 30 26.8	-0.1
SNAA				IAmb	IAmb	01 32 34.1	
	comp=Z,44nm,2.0s						
SNAA	**Sanae**	87.57	179	⇓P	P	01 30 26.3	-0.6
	comp=Z,36nm,0.5s						
SNAA	**Sanae**	87.57	179	P	P	01 30 26.4	-0.5
	comp=Z,1.6nm,0.5s,baz=208,slow=7.9,SNR=36						
	comp=Z,1.6nm,0.5s						
SNAA	**Sanae**	87.57	179	*c i*P	P	01 30 25.7	-1.2
SNAA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PAX	**Paxson**	87.58	14	P	P	01 30 26.9	+0.1
	baz=210,SNR=7.0						
TXAR	**Lajitas Array**	87.61	57	P	P	01 30 29.6	+1.7
TXAR	**Lajitas Array**	87.61	57	P	P	01 30 29.8	+2.0
	comp=Z,17nm,0.9s,baz=219,slow=5.4,SNR=125						
TXAR				PKKPbc	**PKKPbc**	01 48 13.7	+0.8
	comp=Z,0.6nm,0.5s,baz=159,slow=2.5,SNR=21						
	comp=Z,17nm,0.9s						
TXAR	**Lajitas Array**	87.61	57	P	P	01 30 29.6	+1.7
YUK8	**Steele Glacier**	87.63	18	P	P	01 30 28.4	+1.0
	baz=216,SNR=17						
M26K	**Nabesna, AK**	87.69	16	P	P	01 30 28.1	+0.8
	baz=213,SNR=14						
VNA3	**Neumayer Olymp**	87.72	176	⇓P	P	01 30 27.3	-0.2
	comp=Z,28nm,0.5s						
YUK6	**Outpost Mounta**	87.76	18	P	P	01 30 28.9	+0.9
	baz=217						
H19K	**Roundabout Mou**	87.82	9	IAmb	IAmb	01 30 29.6	
	comp=Z,42nm,1.0s						
H19K	**Roundabout Mou**	87.82	9	P	P	01 30 28.4	+0.6
	baz=200,SNR=13						
S34M	**Telegraph Cree**	87.82	23	P	P	01 30 30.0	+2.0
	baz=223,SNR=13						
YUK3	**Moose Creek**	87.84	17	P	P	01 30 29.4	+1.1
	baz=215,SNR=34						
ZEA	**Zeya**	87.84	331	*e*P	P	01 30 29.1	+0.9
ZEA				pmax	pmax		
	comp=E,10.0nm,0.7s						
ZEA				pmax	pmax		
	comp=N,20nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.1s						
G18K	**Tagagawik**	87.87	8	P	P	01 30 28.2	+0.1
	baz=198						
HYT	**Haines Junctio**	87.92	19	IAmb	IAmb	01 30 30.8	
	comp=Z,28nm,1.0s						
HYT	**Haines Junctio**	87.92	19	P	P	01 30 29.7	+1.2
	baz=218,SNR=6.8						
M27K	**Edge Creek, AK**	87.94	16	P	P	01 30 29.9	+1.2
	baz=214,SNR=30						
NEW	**Newport**	87.95	36	IAmb	IAmb	01 30 31.0	
	comp=Z,16nm,0.9s						
NEW	**Newport**	87.95	36	P	P	01 30 29.8	+0.9
MENT	**Mentasta**	87.97	15	P	P	01 30 30.0	+1.4
	comp=Z,45nm,1.1s						
ANMO	**Albuquerque**	87.97	51	P	P	01 30 30.8	+1.2
ANMO				IAmb	IAmb	01 30 32.1	
	comp=Z,24nm,1.1s						
ANMO	**Albuquerque**	87.97	51	*d i*P	P	01 30 30.7	+1.2
ANMO				pmax	pmax		
	comp=Z,12nm,1.1s						
YUK4	**Talbot Arm**	88.00	18	P	P	01 30 30.3	+1.2
	baz=217,SNR=6.2						
H20K	**Anotleneega Mo**	88.03	10	P	P	01 30 29.6	+0.8
	baz=202,SNR=27						
XLT	**XiLinHaoTe**	88.03	319	*e*P	P	01 30 30.2	+0.7
XLT				pmax	pmax		
	comp=Z,22nm,0.9s						
XLT				pmax	pmax		
	comp=Z,130nm,4.6s						
ALPN	**Alpine**	88.08	57	IAmb	IAmb	01 30 32.9	
	comp=Z,21nm,0.8s						
F17K	**Baldwin Pennin**	88.08	7	P	P	01 30 29.7	+0.8
	baz=196						
XAN	**Xi'an**	88.11	308	⇓P	P	01 30 31.2	+1.2
XAN				pP	pP	01 32 32.3	-0.8
XAN				pmax	pmax		
	comp=Z,94nm,1.0s						
L26K	**Log Cabin Wild**	88.13	15	P	P	01 30 30.1	+0.8
	baz=212,SNR=12						
VNA2	**Neumayer--Watz**	88.16	177	⇓P	P	01 30 29.7	+0.2
	comp=Z,22nm,0.6s,baz=180,slow=4.3						
P32M	**Atlin**	88.16	21	IAmb	IAmb	01 30 32.1	
	comp=Z,34nm,1.1s						
P32M	**Atlin**	88.16	21	P	P	01 30 31.0	+1.4
	baz=221						
Q32M	**Nakina River**	88.19	22	P	P	01 30 31.6	+1.6
	baz=222						
I21K	**Tanana**	88.22	11	P	P	01 30 30.1	+0.4
	baz=205						
SRDT	**SRDT**	88.22	286	P	P	01 30 32.9	+2.0
	comp=Z,36nm,1.2s						
K24K	**Donnelly Dome**	88.23	14	P	P	01 30 30.6	+0.8
	baz=210,SNR=18						
NEA2	**Nenana**	88.23	12	P	P	01 30 29.3	-0.5
	baz=207,SNR=16						
NVL	**N'lazarevskaya**	88.25	183	*e*P	P	01 30 28.7	-1.2
NVL				pmax	pmax		
	comp=Z,16nm,0.9s						
BVCY	**Beaver Creek**	88.25	16	P	P	01 30 31.2	+1.2
	baz=215,SNR=18						
O30N	**Mendenhall**	88.30	19	P	P	01 30 31.5	+1.3
	baz=219,SNR=9.9						
MLY	**Manley**	88.31	11	IAmb	IAmb	01 30 30.7	
	comp=Z,45nm,1.1s						
MLY	**Manley**	88.31	11	P	P	01 30 29.8	-0.4
	baz=206,SNR=32						
G19K	**Purcell Mounta**	88.31	9	P	P	01 30 30.7	+0.5
	baz=200						
RIDG	**Independent Ri**	88.39	14	P	P	01 30 31.0	+0.4
	baz=211						
VNA1	**Neumayer--Stat**	88.39	177	⇓P	P	01 30 30.4	-0.2
	comp=Z,15nm,0.7s						
F18K	**Selawik**	88.42	7	P	P	01 30 30.6	+0.1
	baz=198						
HDA	**Harding Lake**	88.50	13	P	P	01 30 31.1	+0.1
	baz=209,SNR=18						
H21K	**Melozitna Rive**	88.51	10	P	P	01 30 31.7	+0.6
	baz=204,SNR=19						
L27K	**Beaver Creek,**	88.54	16	IAmb	IAmb	01 30 33.1	
	comp=Z,24nm,1.1s						
L27K	**Beaver Creek,**	88.54	16	P	P	01 30 32.0	+0.7
	baz=214,SNR=12						
N30M	**Aishikik Lake**	88.54	18	P	P	01 30 32.2	+0.9
	baz=218,SNR=5.2						
BCAR	**Beaver Creek A**	88.56	16	P	P	01 30 32.0	+0.7
WHY	**Whitehorse**	88.60	20	IAmb	IAmb	01 30 34.0	
	comp=Z,24nm,0.9s						
WHY	**Whitehorse**	88.60	20	P	P	01 30 33.0	+1.3
	baz=220,SNR=7.0						
DLBC	**Dease Lake**	88.61	23	IAmb	IAmb	01 30 34.4	
	comp=Z,30nm,1.1s						
DLBC	**Dease Lake**	88.61	23	P	P	01 30 33.1	+1.4
	baz=224,SNR=6.3						
E17K	**Hotham Inlet**	88.

ILAR PKKP **PKKPdf** **01 48 07.5 +1.1**
comp=Z,0.3nm,0.4s,baz=319,slow=2.2,SNR=7.2
comp=Z,12nm,0.7s
HIA **Hailar** **88.84 325** P **P** **01 30 33.9 +0.9**
comp=Z,26nm,1.0s
F19K **Shaleruckik Mo** **88.87 8** P **P** **01 30 33.0 +0.4**
baz=199
P33M **Teslin, Yukon** **88.93 21** IAmb IAmb 01 30 35.3
comp=Z,13nm,0.9s
P33M **Teslin, Yukon** **88.93 21** P **P** **01 30 34.3 +1.0**
baz=222,SNR=5.4
M29M **Somme Creek** **88.93 17** P **P** **01 30 34.4 +1.1**
baz=217,SNR=27
N31M **Braeburn, Yuko** **88.96 19** P **P** **01 30 34.4 +1.2**
baz=219,SNR=8.0
R33M **Jennings River** **88.96 22** IAmb IAmb 01 30 36.2
comp=Z,44nm,1.4s
R33M **Jennings River** **88.96 22** P **P** **01 30 34.8 +1.3**
baz=223,SNR=12
H22K **Ishtalitna Cre** **88.97 11** P **P** **01 30 33.7 +0.4**
baz=205,SNR=32
S22A **4UR Ranch, Cre** **88.99 49** IAmb IAmb 01 30 37.2
comp=Z,27nm,1.4s
S22A **4UR Ranch, Cre** **88.99 49** P **P** **01 30 35.7 +1.3**
baz=242,SNR=22
TPAW **Teton Pass** **89.02 42** IAmb IAmb 01 30 37.0
comp=Z,31nm,1.1s
J25K **Salcha River,** **89.02 14** P **P** **01 30 33.9 +0.4**
baz=211,SNR=18
POKR **Poker Plat Res** **89.02 13** P **P** **01 30 32.9 -0.5**
baz=209,SNR=9.4
E18K **Tukpahlearik C** **89.09 7** P **P** **01 30 34.3 +0.6**
baz=197
D17K **Noatak River** **89.11 6** P **P** **01 30 34.6 +0.9**
baz=194
O20A **White River Ci** **89.14 46** IAmb IAmb 01 30 37.2
comp=Z,30nm,1.2s
G21K **Allakaket** **89.19 10** P **P** **01 30 34.8 +0.6**
baz=203
KMI **Kunming** **89.22 297** ⇓P **P** **01 30 37.3 +1.7**
KMI pmax pmax
comp=Z,36nm,0.9s
PLCA **Paso Flores** **89.23 134** P **P** **01 30 36.7 +1.4**
comp=Z,3.3nm,1.1s,baz=234,slow=7.9,SNR=4.1
comp=Z,3.3nm,1.1s
H23K **Yukon River** **89.24 11** P **P** **01 30 34.3 -0.2**
baz=207
MOOW **Moose Ponds** **89.28 42** IAmb IAmb 01 30 37.9
comp=Z,52nm,1.9s
K27K **Chicken** **89.29 15** P **P** **01 30 35.9 +1.2**
baz=214
J26L **Joseph Creek** **89.33 14** P **P** **01 30 36.1 +1.1**
baz=212,SNR=46
F20K **Avaraart Lake** **89.35 9** P **P** **01 30 35.4 +0.5**
baz=201
HHC **Hu-ho-hao-te** **89.40 315** *e*P **P** **01 30 37.1 +1.2**
HHC sP sP 01 33 37.0 +0.7
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,35nm,3.8s
BILL **Bilibino** **89.44 354** P **P** **01 30 35.9 +0.6**
BILL IAmb IAmb 01 30 36.9
comp=Z,20nm,0.9s
BILL **Bilibino** **89.44 354** ⇓*i*P **P** **01 30 35.7 +0.4**
BILL pmax pmax
comp=Z,28nm,1.1s
RDOG **Red Dog Mine** **89.47 6** P **P** **01 30 36.0 +0.5**
baz=194
M30M **Minto, Yukon** **89.51 18** P **P** **01 30 36.7 +0.8**
baz=218,SNR=26
E19K **Redstone River** **89.53 8** P **P** **01 30 36.5 +0.7**
baz=200
PD31 **Pinedale Array** **89.54 43** IAmb IAmb 01 30 38.6
comp=Z,22nm,0.8s
PDAR **Pinedale Array** **89.54 43** P **P** **01 30 37.7 +1.0**
PDAR **Pinedale Array** **89.54 43** P **P** **01 30 37.5 +0.7**
comp=Z,19nm,0.8s,baz=211,slow=3.0,SNR=178
PDAR PKKP **PKKPdf** **01 48 05.3 +0.8**
comp=Z,0.3nm,0.5s,baz=87,slow=4.1,SNR=4.3
comp=Z,19nm,0.8s
N32M **Quiet Lake** **89.55 20** P **P** **01 30 37.3 +1.2**
baz=222
L29M **L29M** **89.56 17** P **P** **01 30 37.3 +1.3**
baz=217,SNR=27
YHL **Hebgen Lake** **89.56 41** IAmb IAmb 01 30 40.1
comp=Z,38nm,1.1s
H24K **Noodor Dome** **89.57 12** P **P** **01 30 34.8 -1.2**
baz=208
ODSA **Odessa** **89.67 55** IAmb IAmb 01 30 39.6
comp=Z,26nm,1.0s
PRP **Porcupine Dome** **89.77 13** IAmb IAmb 01 30 38.3
comp=Z,38nm,1.3s
PRP **Porcupine Dome** **89.77 13** P **P** **01 30 36.8 -0.3**
baz=210,SNR=19
F21K **Alatna River** **89.85 9** P **P** **01 30 37.6 +0.3**
baz=203
C17K **DeLong Mountai** **89.86 6** P **P** **01 30 37.9 +0.6**
baz=194
G22K **Bettles** **89.89 10** P **P** **01 30 38.1 +0.7**
baz=205
CMAR **Chiang Mai Arr** **89.92 290** P **P** **01 30 40.5 +1.8**
comp=Z,30nm,1.0s,baz=122,slow=2.8,SNR=110
comp=Z,30nm,1.0s
M31M **Drury Creek, Y** **89.93 19** P **P** **01 30 38.1 +0.3**
baz=220,SNR=6.7
G23K **Bananza Creek** **89.95 11** P **P** **01 30 38.2 +0.4**
baz=206
DAWY **Dawson** **89.99 16** P **P** **01 30 38.9 +0.9**
baz=216,SNR=24
CHTO **Chiang Mai** **90.05 290** P **P** **01 30 40.2 +0.9**
CHTO **Chiang Mai** **90.05 290** P **P** **01 30 40.2 +0.9**
CHTO pmax pmax
comp=Z,75nm,1.4s
DRIO **Del Rio** **90.06 59** IAmb IAmb 01 30 41.5
comp=Z,27nm,0.8s
EGAK **Eagle** **90.13 15** P **P** **01 30 39.2 +0.6**
baz=214,SNR=7.1
C18K **Utukok River** **90.22 6** P **P** **01 30 39.4 +0.5**
baz=196
WTLY **Watson Lake, Y** **90.25 22** P **P** **01 30 40.6 +1.3**
baz=225,SNR=5.4
FARO **Faro, Yukon** **90.27 19** P **P** **01 30 39.9 +0.5**
baz=221
MSTX **Muleshoe** **90.28 54** IAmb IAmb 01 30 42.2
comp=Z,20nm,0.9s
K29M **Barlow Dome** **90.31 17** P **P** **01 30 40.8 +1.2**
baz=218,SNR=22
F22K **John River** **90.31 10** P **P** **01 30 39.9 +0.5**
baz=204
BTO **Baotou** **90.32 314** *e*P **P** **01 30 42.4 +2.2**
BTO pmax pmax
comp=Z,57nm,1.1s
BTO pmax pmax
comp=Z,310nm,8.8s
H25L **Birch Creek** **90.36 13** P **P** **01 30 39.6 0.0**
baz=210
COLD **Coldfoot** **90.39 11** P **P** **01 30 40.6 +0.9**
baz=206,SNR=20
D19K **Kuna River** **90.41 7** P **P** **01 30 40.3 +0.4**
baz=199
G24K **Hadweenzic Riv** **90.41 12** P **P** **01 30 40.9 +1.0**
baz=209
E20K **Nigu River** **90.43 8** P **P** **01 30 40.7 +0.7**
baz=201
T25A **Trinidad** **90.44 50** P **P** **01 30 41.8 +0.8**
baz=244
MAYO **Mayo, Yukon** **90.56 18** P **P** **01 30 42.1 +1.4**
baz=219,SNR=5.4
PZH **PanZhiHua** **90.59 298** P **P** **01 30 42.9 +1.1**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,100nm,3.5s
833A **Chaparral WMA,** **90.61 60** IAmb IAmb 01 30 44.0
comp=Z,25nm,1.2s
833A **Chaparral WMA,** **90.61 60** P **P** **01 30 42.9 +1.2**
baz=246
J29N **Klondike Camp** **90.61 16** P **P** **01 30 42.2 +1.3**
baz=217,SNR=7.2
TOAD **Toad River Com** **90.71 25** P **P** **01 30 42.7 +1.2**
baz=228,SNR=22
I27K **Kandik River** **90.71 14** P **P** **01 30 41.6 +0.3**
baz=214,SNR=6.8
Q24A **Divide** **90.72 48** IAmb IAmb 01 30 44.8
comp=Z,15nm,1.2s
Q24A **Divide** **90.72 48** P **P** **01 30 43.6 +1.3**
baz=243,SNR=8.8

G25K **Bearman Lake** **90.73 12** P **P** **01 30 42.0 +0.7**
baz=210,SNR=5.4
LIRD **Liard River Hi** **90.75 24** P **P** **01 30 42.7 +1.1**
baz=228,SNR=8.2
D20K **Etivluk River** **90.80 8** P **P** **01 30 42.3 +0.7**
baz=200
C19K **Lookout Ridge** **90.82 7** P **P** **01 30 42.3 +0.6**
baz=198
B18K **Kokolik River** **90.85 6** P **P** **01 30 42.6 +0.8**
baz=196
E21K **Killik River** **90.90 9** P **P** **01 30 42.4 +0.3**
baz=203
E22K **Anaktuvuk Pass** **90.94 10** P **P** **01 30 42.8 +0.5**
baz=205
I28M **Miner Creek** **90.98 15** IAmb IAmb 01 30 44.0
comp=Z,18nm,0.9s
I28M **Miner Creek** **90.98 15** P **P** **01 30 43.1 +0.4**
baz=216,SNR=9.6
N23A **Red Feather La** **91.04 46** IAmb IAmb 01 30 46.3
comp=Z,18nm,1.0s
N23A **Red Feather La** **91.04 46** P **P** **01 30 45.0 +1.3**
baz=243,SNR=9.8
F24K **Squaw Lake** **91.06 11** P **P** **01 30 43.7 +0.8**
baz=208
J30M **Hart River** **91.21 17** IAmb IAmb 01 30 45.7
comp=Z,21nm,1.4s
J30M **Hart River** **91.21 17** P **P** **01 30 44.6 +0.9**
baz=219,SNR=6.0
MMPY **Sheldon Lake,** **91.21 20** IAmb IAmb 01 30 46.8
comp=Z,10nm,0.8s
MMPY **Sheldon Lake,** **91.21 20** P **P** **01 30 44.8 +1.0**
baz=223
E23K **Chandalar** **91.23 10** P **P** **01 30 44.2 +0.5**
baz=207
H27K **Steamboat Moun** **91.25 14** P **P** **01 30 44.6 +0.8**
baz=214,SNR=18
I29M **Ogilvie Camp,** **91.31 16** P **P** **01 30 44.3 +0.2**
baz=217,SNR=8.3
G26K **Porcupine Rive** **91.36 13** P **P** **01 30 45.1 +0.9**
baz=212
TGTN **Hyland Airport** **91.42 22** P **P** **01 30 46.0 +1.3**
baz=226,SNR=5.6
E24K **Your Creek** **91.44 11** P **P** **01 30 45.3 +0.7**
baz=208
C21K **Knifeblade Rid** **91.45 8** P **P** **01 30 45.6 +1.0**
baz=202
D22K **Ayikyak River** **91.49 9** P **P** **01 30 45.7 +0.9**
baz=204
F25K **Christian Rive** **91.54 12** P **P** **01 30 45.9 +0.8**
baz=210,SNR=8.2
BMAR **Burnt Mountain** **91.61 12** P **P** **01 30 46.6 +1.1**
I30M **Mount Dempster** **91.70 16** IAmb IAmb 01 30 47.5
comp=Z,22nm,1.0s
I30M **Mount Dempster** **91.70 16** P **P** **01 30 46.5 +0.5**
baz=219,SNR=16
G27K **Doyon Strip** **91.70 14** P **P** **01 30 46.4 +0.6**
baz=214
A19K **Wainwright** **91.73 6** P **P** **01 30 46.4 +0.6**
baz=196
TOLK **Toolik Lake Re** **91.76 10** IAmb IAmb 01 30 47.9
comp=Z,30nm,1.4s
TOLK **Toolik Lake Re** **91.76 10** P **P** **01 30 46.6 +0.5**
baz=207
D23K **Nanushuk River** **91.88 10** P **P** **01 30 47.5 +1.0**
baz=206
B21K **Ikpikpuk River** **91.91 8** P **P** **01 30 47.1 +0.5**
baz=202
F26K **Sheenjek River** **91.93 12** P **P** **01 30 47.8 +0.9**
baz=212,SNR=8.6
B20K **Meade River** **91.96 7** P **P** **01 30 47.7 +0.8**
baz=200
H29M **Whitestone** **91.99 15** P **P** **01 30 47.8 +0.7**
baz=217,SNR=17
KOTAN **Kotaneelee Air** **92.00 24** P **P** **01 30 48.3 +1.0**
baz=229
E25K **Arctic Village** **92.01 12** IAmb IAmb 01 34 17.9
comp=Z,13nm,1.1s
E25K **Arctic Village** **92.01 12** P **P** **01 30 48.0 +0.8**
baz=210
APMT **Aspermont** **92.03 55** IAmb IAmb 01 30 49.9
comp=Z,17nm,1.2s
D24K **Happy Valley** **92.34 10** P **P** **01 30 49.7 +1.0**
baz=208
YAK **Yakutsk** **92.39 338** *e*P **P** **01 30 47.6 -1.4**
YAK *e*S **SKSac** **01 40 26.8 -0.5**
YAK *e* 01 40 57.8
YAK *e*SP **SP** **01 42 19.6 -0.4**
YAK pmax pmax
comp=Z,81nm,1.5s
YAK pmax pmax
comp=N,9.0nm,1.4s
YAK pmax pmax
comp=E,9.0nm,1.5s
YAK smax smax
comp=N,138nm,2.9s
YAK smax smax
comp=E,83nm,3.0s
EPYK **Eagle Plains** **92.52 16** P **P** **01 30 49.8 +0.2**
baz=218,SNR=10
G29M **Pine Creek** **92.62 15** P **P** **01 30 50.4 +0.4**
baz=217
C23K **Itkillik River** **92.67 9** P **P** **01 30 50.9 +0.8**
baz=206
H31M **Peel River** **92.69 17** P **P** **01 30 50.6 +0.2**
baz=221
B22K **Teshekpuk Lake** **92.73 8** P **P** **01 30 50.9 +0.4**
baz=203
LZH **Lanzhou** **92.75 308** *e*P **P** **01 30 53.1 +1.6**
LZH pmax pmax
comp=E,34nm,1.1s
F28M **Old Crow** **92.77 14** P **P** **01 30 51.2 +0.5**
baz=216,SNR=7.3
E27K **Coleen River** **92.86 13** P **P** **01 30 52.0 +0.8**
baz=214
C24K **Franklin Bluff** **92.87 10** P **P** **01 30 51.8 +0.8**
baz=208
D25K **Kavik River** **92.91 11** P **P** **01 30 51.4 0.0**
baz=210
435B **Jarrell** **93.01 58** P **P** **01 30 52.9 +0.2**
baz=247
G30M **tAoh Zraii Nji** **93.12 15** P **P** **01 30 52.6 +0.2**
baz=219,SNR=22
A22K **Sinclair Lake** **93.15 7** P **P** **01 30 52.9 +0.6**
baz=202
LAO **LASA Array** **93.49 41** IAmb IAmb 01 30 57.2
comp=Z,18nm,0.9s
G31M **Satah River** **93.56 16** P **P** **01 30 54.6 +0.3**
baz=221,SNR=17
E28M **Babbage River** **93.65 13** IAmb IAmb 01 30 56.4
comp=Z,17nm,1.0s
E28M **Babbage River** **93.65 13** P **P** **01 30 55.3 +0.6**
baz=216
C27K **Jago River** **93.66 12** P **P** **01 30 55.4 +0.7**
baz=212
C26K **Camden Bay** **93.69 11** P **P** **01 30 55.9 +1.1**
baz=211
F30M **Barrier River** **93.72 15** P **P** **01 30 56.2 +1.2**
baz=219
RSSD **Black Hills** **93.73 44** P **P** **01 30 56.4 +0.5**
RSSD IAmb IAmb 01 30 57.0
comp=Z,8.0nm,0.8s
RSSD **Black Hills** **93.73 44** P **P** **01 30 56.4 +0.5**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
E29M **Blow River** **93.83 14** IAmb IAmb 01 30 56.5
comp=Z,21nm,1.6s
E29M **Blow River** **93.83 14** P **P** **01 30 55.7 +0.2**
baz=217
D27M **Malcolm River** **93.87 13** IAmb IAmb 01 30 57.7
comp=Z,14nm,1.2s
D27M **Malcolm River** **93.87 13** P **P** **01 30 56.6 +0.8**
baz=215
F31M **Tsiigehtchic** **94.09 16** P **P** **01 30 56.9 +0.2**
baz=221,SNR=18
D28M **Stokes Point** **94.40 13** P **P** **01 30 58.4 +0.3**
baz=217
INK **Inuvik** **94.80 15** IAmb IAmb 01 31 00.8
comp=Z,18nm,1.1s
INK **Inuvik** **94.80 15** P **P** **01 31 00.0 +0.1**
baz=221,SNR=9.0
INK **Inuvik** **94.80 15** P **P** **01 30 59.8 -0.1**
ULN **Ulaanbaatar** **95.46 319** P **P** **01 31 03.6 0.0**
ULN **Ulaanbaatar** **95.46 319** *de*P **P** **01 31 03.5 0.0**
ULN pmax pmax
comp=Z,4.0nm,0.8s
SONM **Songino Array** **95.85 319** P **P** **01 31 04.6 -0.7**
comp=Z,1.5nm,0.8s,baz=100,slow=1.2,SNR=8.3
SONM PP **PP** **01 35 03.0 -4.5**

comp=Z,1.8nm,1.0s,baz=129,slow=4.7,SNR=5.4
comp=Z,1.5nm,0.8s
GTA **Gaotai** **96.97 309** *e*P **P** **01 31 10.9 +0.4**
GTA pmax pmax
comp=Z,8.0nm,1.5s
YKA **Yellowknife Ar** **97.07 25** P Pdif 01 31 10.0 -0.2
comp=Z,1.9nm,0.8s,baz=242,slow=4.5,SNR=5.4
comp=Z,1.9nm,0.8s
C36M **Paulatuk** **97.99 17** Pdiff **P** **01 31 14.7 +0.5**
baz=230
TIXI **Tiksi** **99.08 345** ⇑*i*P **Pdif** **01 31 18.3 -0.7**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
A36M **Sachs Harbour** **99.40 15** Pdiff **Pdif** **01 31 20.7 +0.3**
baz=229
ZALV **Zalesovo Beam** **110.61 321** PKiKP **PKiKP** **01 36 06.2 -1.0**
comp=Z,6.7nm,0.8s,baz=142,slow=0.5,SNR=22
NRIK **Noril'sk** **110.84 338** PKiKP **PKiKP** **01 36 07.3 +0.1**
comp=Z,1.4nm,0.5s,baz=104,slow=2.4,SNR=5.0
NRIK **Noril'sk** **110.84 338** ⇑*i*PKiKP **PKiKP** **01 36 07.1 -0.1**
MK31 **Makanchi Array** **111.23 313** *d*iPKiKP **PKiKP** **01 36 07.6 -1.1**
MKAR **Makanchi Array** **111.23 313** PKiKP **PKiKP** **01 36 07.9 -0.8**
comp=Z,2.4nm,0.4s,baz=168,slow=0.6,SNR=12
MKAR PKKPbc **PKKPbc** **01 47 06.8 -0.4**
comp=Z,0.9nm,0.5s,baz=260,slow=3.5,SNR=10
KURK **Kurchatov** **114.07 317** P PKPdf 01 36 13.2 -0.7
KURK **Kurchatov** **114.07 317** *d*iPKiKP PKPdf 01 36 12.8 -1.1
KURBB **Kurchatov Arra** **114.12 317** PKiKP PKPdf 01 36 13.1 -0.9
comp=Z,6.6nm,0.8s,baz=97,slow=1.9,SNR=33
KURBB PKKPbc **PKKPbc** **01 46 57.3 -0.4**
comp=Z,0.4nm,0.3s,baz=272,slow=3.5,SNR=4.2
KURBB PKKPab **PKKPab** **01 47 04.5 +0.2**
comp=Z,0.2nm,0.2s,baz=273,slow=4.4,SNR=5.0
AAK **Ala-Archa** **116.28 308** PKPdf **PKPdf** **01 36 18.4 -0.3**
AAK **Ala-Archa** **116.28 308** PKPdf **PKPdf** **01 36 18.3 -0.3**
AAK **Ala-Archa** **116.28 308** P **PKPdf** **01 36 18.4 -0.3**
AAK **Ala-Archa** **116.28 308** *d*iPKiKP **PKPdf** **01 36 18.1 -0.6**
NEEM **North Greenlan** **118.09 11** *i*P **PKPdf** **01 36 20.6 -0.8**
KULLO **Kullorsuaq** **118.16 15** *i*P **PKPdf** **01 36 19.9 -1.2**
NOR **Nord** **118.82 3** *i*P **PKPdf** **01 36 21.4 -1.0**
BVAO **Borovoye Array** **119.18 320** PKiKP **PKPdf** **01 36 22.8 -0.9**
BVAR **Borovoye Array** **119.18 320** PKP **PKPdf** **01 36 23.2 -0.5**
comp=Z,20nm,0.4s,baz=114,slow=2.1,SNR=129
BDFB **Brasilia** **119.22 123** PKP **PKPdf** **01 36 24.4 -0.7**
comp=Z,2.1nm,0.4s,baz=210,slow=2.7,SNR=4.6
KK31 **Karatay Array** **119.23 308** *i*PKiKP **PKPdf** **01 36 23.2 -1.0**
KKAR **Karatay Array** **119.23 308** PKiKP **PKPdf** **01 36 23.5 -0.7**
BRVK **Borovoye** **119.24 320** PKPdf **PKPdf** **01 36 23.4 -0.4**
BRVK **Borovoye** **119.24 320** P **PKPdf** **01 36 23.5 -0.3**
BRVK **Borovoye** **119.24 320** *d*iPKiKP **PKPdf** **01 36 23.0 -0.8**
KBL **Kabul** **119.78 299** PKPdf **PKPdf** **01 36 25.7 0.0**
KBL **Kabul** **119.78 299** P **PKiKP** **01 36 26.2 +0.3**
SNR=10
KBL **Kabul** **119.78 299** PKiKP **PKPdf** **01 36 25.7 0.0**
SIMJ **Simiganj** **120.15 303** PKPdf **PKPdf** **01 36 25.9 -0.3**
NUUG **Nuugaatsiaq** **120.57 18** *i*P **PKPdf** **01 36 24.8 -1.0**
UMMG **Uummannaq** **121.28 18** *i*P **PKPdf** **01 36 26.3 -0.9**
KBS **Kingsbay** **121.77 358** *e*P **PKiKP** **01 36 28.6 +0.3**
SPA0 **Spitsbergen Ar** **122.29 356** *e*P **PKiKP** **01 36 29.2 -0.1**
SPITS **Spitsbergen Ar** **122.29 356** PKP **PKPdf** **01 36 28.9 -0.2**
comp=Z,19nm,0.6s,baz=65,slow=6.5,SNR=25
DAG **Danmarks Havn** **123.22 5** *i*P **PKPdf** **01 36 29.0 -1.8**
DAG *i*P **PKPdf** **01 36 29.0 -1.8**
SUMG **Summit** **123.67 13** PKPdf **PKiKP** **01 36 32.5 -0.1**
SUMG **Summit** **123.67 13** PKiKP **PKiKP** **01 36 32.6 -0.1**
SUMG **Summit** **123.67 13** *i*P **PKPdf** **01 36 32.0 -0.3**
SUR **Sutherland** **123.88 200** P **PKiKP** **01 36 34.2 +0.1**
SVE **Sverdlovsk** **124.15 325** *e*PKiKP **PKPdf** **01 36 33.2 +0.1**
SVE pmax pmax
comp=Z,33nm,1.0s
NUUK **Nuuk** **124.33 25** *i*P **PKPdf** **01 36 33.0 -0.3**
DY2G **Dye2** **125.26 21** *i*P **PKPdf** **01 36 34.5 -0.9**
DBG **Daneborg** **125.32 7** *i*P **PKPdf** **01 36 34.2 -0.8**
ARTI **Arti** **125.46 325** PKP **PKPdf** **01 36 35.7 0.0**
comp=Z,22nm,0.4s,baz=126,slow=0.5,SNR=57
ARTI **Arti** **125.46 325** *i*PKiKP **PKiKP** **01 36 35.9 -0.2**
ARTI 01 38 37.1
ARTI 01 42 53.1
ARTI SP SP 01 47 46.8 +5.9
BOSA **Boshof** **125.69 206** PKP **PKPdf** **01 36 37.4 +0.1**
comp=Z,5.6nm,0.7s,baz=148,slow=3.1,SNR=12
ICESG **Greenland Ices** **125.73 17** *i*P **PKPdf** **01 36 35.1 -1.2**
AB31 **Akbulak array** **126.16 316** *i*PKiKP **PKPdf** **01 36 36.5 -0.7**
JLN **Jalan Bani Buh** **126.51 283** P **PKPdf** **01 36 38.6 -0.1**
SNR=5.6
AKTO **Aktyubinsk** **127.15 318** PKP **PKiKP** **01 36 39.4 -0.3**
comp=Z,12nm,0.7s,baz=79,slow=3.8,SNR=38
AKTO **Aktyubinsk** **127.15 318** PKiKP **PKPdf** **01 36 38.3 -0.8**
WSAR **Wadi Sarin** **127.40 284** P **PKiKP** **01 36 40.9 -0.1**
MHTO **MHTO** **127.62 281** P **PKPdf** **01 36 40.5 -0.3**
JMDO **Jabal Madar** **127.74 283** P **PKPdf** **01 36 40.8 -0.3**
SMDO **Samad** **127.90 283** P **PKiKP** **01 36 42.0 -0.2**
SNR=7.0
VADS **Vadso** **128.09 348** *e*PKPdf **PKPdf** **01 36 40.5 +0.2**
SCO **Scoresbysund** **128.52 10** *i*P **PKiKP** **01 36 41.5 -0.3**
HAMF **Hammerfest** **128.60 351** *e*P **PKPdf** **01 36 41.0 -0.2**
BSY **Bisya** **128.62 283** P **PKPdf** **01 36 41.7 -1.1**
HOQ **Hoqain** **128.65 284** P **PKPdf** **01 36 43.1 +0.3**
KIRV **Kirov** **129.17 330** PKP **PKPdf** **01 36 42.9 +0.3**
comp=Z,20nm,0.5s,baz=88,slow=0.9,SNR=12
KIRV **Kirov** **129.17 330** *c*iPKiKP **PKiKP** **01 36 43.2 -0.2**
ARA0 **ARCESS Array S** **129.29 349** *e*P **PKPdf** **01 36 42.4 -0.2**
ARCES **ARCESS Array B** **129.29 349** PKhKP PKPpre 01 36 30.9
comp=Z,0.9nm,0.5s,baz=356,slow=1.2,SNR=8.3
ARCES PKP **PKPdf** **01 36 42.5 -0.2**
comp=Z,9.0nm,0.5s,baz=39,slow=1.2,SNR=51
ARCES **ARCESS Array B** **129.29 349** PKiKP **PKPdf** **01 36 42.6 0.0**
SOHO **SOHO** **129.43 285** *i*PKPdf **PKPdf** **01 36 44.0 -0.3**
SNR=25
SOHO **SOHO** **129.43 285** P **PKPdf** **01 36 43.9 -0.3**
DMTO **DMTO** **129.75 276** P **PKPdf** **01 36 45.3 +0.4**
SNR=12
UOSS **Minazif** **129.84 285** PKPdf **PKPdf** **01 36 44.1 -0.9**
UOSS **Minazif** **129.84 285** PKPdf **PKPdf** **01 36 43.6 -1.4**
UOSS **Minazif** **129.84 285** P **PKPdf** **01 36 43.9 -1.1**
HATD **Hatta, Dubai** **129.89 285** *i*PKPdf **PKPdf** **01 36 44.3 -0.8**
SNR=13
HATD **Hatta, Dubai** **129.89 285** P **PKiKP** **01 36 46.1 +0.1**
SNR=7.7
MSFE **Esma-Masafi** **129.93 286** *i*PKPdf **PKPdf** **01 36 44.6 -0.6**
SNR=7.5
MASF **Masafi** **129.93 286** P **PKPdf** **01 36 45.3 +0.1**
SNR=5.3
ASHO **Ashiyiah** **129.94 285** *i*PKPdf **PKPdf** **01 36 45.3 +0.1**
SNR=12
ASHO **Ashiyiah** **129.94 285** P **PKPdf** **01 36 45.3 +0.1**
SNR=12
SHME **Shamm** **130.02 287** PKPdf **PKPdf** **01 36 45.1 -0.1**
SHME **Shamm** **130.02 287** P **PKPdf** **01 36 45.7 +0.4**
JETT **Jettan, Norway** **130.07 351** *e*P **PKPdf** **01 36 44.5 +0.4**
ALNE **Al Ain** **130.13 284** *i*PKPdf **PKPdf** **01 36 45.7 +0.2**
SNR=7.0
ALNE **Al Ain** **130.13 284** P **PKPdf** **01 36 45.5 -0.1**
SNR=6.0
KTK1 **Kautokeino** **130.14 350** *e*P **PKPdf** **01 36 43.8 -0.4**
TRO **Tromso** **130.19 352** *e*P **PKPdf** **01 36 44.1 -0.2**
NAZ **Nazwa, Dubai** **130.33 285** *i*PKPdf **PKPdf** **01 36 45.9 0.0**
SNR=6.5
NAZ **Nazwa, Dubai** **130.33 285** P **PKiKP** **01 36 46.6 -0.2**
FAQ **Al Faqa, Dubai** **130.36 285** *i*PKPdf **PKPdf** **01 36 45.5 -0.4**
SNR=7.1
FAQ **Al Faqa, Dubai** **130.36 285** P **PKPdf** **01 36 45.7 -0.2**
RBK **Rabkut** **130.39 276** P **PKiKP** **01 36 47.1 -0.1**
ASUD **Al Ashush, Dub** **130.59 285** PKPdf **PKPdf** **01 36 46.2 -0.2**
ASUD **Al Ashush, Dub** **130.59 285** P **PKPdf** **01 36 45.6 -0.8**
DOK **Doka** **130.70 277** P **PKPdf** **01 36 46.9 +0.1**
WHFO **Wadi Hawf** **130.88 276** P **PKPdf** **01 36 47.7 +0.5**
SNR=13
ABTO **Aybut** **131.20 275** P **PKiKP** **01 36 48.5 -0.3**
MZR **Muzera** **132.05 283** *i*PKPdf **PKPdf** **01 36 49.6 +0.3**
SNR=8.4
MZR **Muzera** **132.05 283** P **PKPdf** **01 36 49.8 +0.6**
KLMR **Klimovskoe** **132.14 336** *e*PKiKP **PKPdf** **01 36 47.8 -0.4**
KLMR *e* 01 39 21.3
KLMR pmax pmax
comp=Z,33nm,1.3s
STEI **Steigen** **132.25 353** *e*PKPdf **PKPdf** **01 36 48.0 -0.2**
BELG **Belogornoye** **132.74 323** PKP **PKPdf** **01 36 49.3 -0.3**
comp=Z,46nm,0.5s,baz=304,slow=0.1,SNR=26
BELG **Belogornoye** **132.74 323** *d*iPKiKP **PKPdf** **01 36 49.0 -0.6**
JRN **Qarnain Island** **132.86 285** P **PKPdf** **01 36 50.8 +0.1**
KONS **Konsvik** **133.86 354** *e*PKPdf **PKiKP** **01 36 52.8 +0.1**
FINES **FINESS Array B** **136.09 343** PKhKP PKPpre 01 36 43.5
comp=Z,0.9nm,0.3s,baz=40,slow=5.0,SNR=21

FINES PKP **PKPdf** 01 36 55.1 -0.4
comp=Z,12nm,0.9s,baz=72,slow=4.5,SNR=11
FINES SKPbc **SKPbc** 01 39 36.8 +2.5
comp=Z,4.8nm,0.8s,baz=64,slow=4.4,SNR=8.9
FINES FINESS Array B 136.09 343 PKIKP **PKiKP** 01 36 57.1 -0.3
MOS Moscow 136.11 331 *e*PKIKP **PKPdf** 01 36 53.7 -2.1
MOS pmax pmax
comp=Z,24nm,0.9s
PUL Pulkovo 136.16 339⇓*e*PKIKP **PKPdf** 01 36 55.0 -0.7
VRH Novokhopyorsk 136.55 324 *e*PKIKP **PKPdf** 01 36 56.3 -0.4
VRH pmax pmax
comp=Z,26nm,0.6s
OBN Obninsk 136.97 331 PKP **PKPdf** 01 36 56.8 -0.5
comp=Z,22nm,0.7s,baz=138,slow=4.6,SNR=6.5
OBN Obninsk 136.97 331⇓*e*PKIKP **PKPdf** 01 36 56.9 -0.5
OBN *e* 01 39 44.5
OBN *e*PPP PPP 01 42 58.6
OBN *e*SS SS 01 57 41.9 +33
OBN pmax pmax
comp=Z,27nm,0.8s
OBN Obninsk 136.97 331 PKP **PKiKP** 01 36 59.0 -0.3
LPSR Galich'ya Gora 137.31 327 *e*PKIKP **PKPdf** 01 36 57.0 -1.1
LPSR pmax pmax
comp=Z,20nm,1.0s
KIBK Kibwezi 137.47 241 PKPdf **PKPdf** 01 36 59.6 -0.1
VORR Voronezh 137.67 326 *e*PKIKP **PKPdf** 01 36 57.7 -1.1
VORR pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 137.93 325 *e*PKIKP **PKPdf** 01 36 58.1 -1.2
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 137.99 325 *e*PKIKP **PKPdf** 01 36 58.6 -0.8
VORD pmax pmax
comp=Z,10.0nm,1.0s
NCK Nalchik 138.53 313⇑*i*PKIKP **PKPdf** 01 37 01.1 +0.4
DOMB Dombas 138.61 355 *e*P **PKPdf** 01 36 53.4 -6.9
GNI Garni 138.68 307 PKPdf **PKPdf** 01 37 01.7 +0.5
GNI Garni 138.68 307 PKPdf **PKPdf** 01 36 58.3 -3.0
GNI Garni 138.68 307 PKP **PKPdf** 01 37 01.5 +0.2
comp=Z,11nm,1.0s,baz=195,slow=7.9,SNR=6.7
GNI Garni 138.68 307 *ce*PKIKP **PKPdf** 01 37 01.2 -0.1
GNI Garni 138.68 307 PKP **PKPdf** 01 37 01.8 +0.5
GNI PKP **PKiKP** 01 37 02.2 -1.4
KMBO Kilima Mbogo 138.80 242 PKPdf **PKPdf** 01 36 54.9 -7.5
KMBO Kilima Mbogo 138.80 242 PKhKP PKPpre 01 36 55.1
comp=Z,0.9nm,0.4s,baz=66,slow=5.5,SNR=5.2
KBZ Khabaz 138.93 313 PKhKP PKPpre 01 36 54.2
comp=Z,1.8nm,0.9s,baz=349,slow=4.2,SNR=4.5
KIV Kislovodsk 139.00 314 PKPdf **PKPdf** 01 36 55.5 -6.1
KIV Kislovodsk 139.00 314 *i* PKIKP **PKPdf** 01 37 01.4 -0.2
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,65nm,24.0s
SHA1 Shidzhatmaz 139.09 313 *ce*PKIKP **PKPdf** 01 37 00.4 -1.6
NB2 NORSAR Subarra139.38 353 PKP PKPdf 01 36 53.5 -8.2
comp=Z,1.3nm,0.4s,baz=16,slow=3.2
NB2 SKPa 01 39 45.7
comp=Z,0.8nm,0.7s,baz=11,slow=3.0
NB2 NORSAR Subarra139.38 353 PKP PKPdf 01 36 53.5 -8.2
baz=16,slow=3.2
NOA NORSAR Array B 139.38 353 PKhKP PKPpre 01 36 53.7
comp=Z,7.0nm,0.7s,baz=11,slow=2.3,SNR=28
NOA PKP **PKPdf** 01 37 02.1 +0.4
comp=Z,3.4nm,0.6s,baz=14,slow=3.8,SNR=9.4
NOA SKPbc **SKiKP** 01 39 45.2 -1.2
comp=Z,1.1nm,0.6s,baz=16,slow=4.4,SNR=4.2
RAYN Ar Rayn 139.40 282⇑PKHKP PKPpre 01 36 52.7
NC602 NORSAR Array S 139.64 352 *e*P **PKPdf** 01 36 54.4 -7.8
HFS Hagfors 139.92 351 PKhKP PKPpre 01 36 55.0
comp=Z,10nm,0.3s,baz=55,slow=3.4,SNR=94
HFS PKP **PKPdf** 01 37 03.2 +0.5
comp=Z,4.7nm,0.7s,baz=327,slow=2.5,SNR=4.6
HFS SKPbc **SKiKP** 01 39 47.7 +0.2
comp=Z,2.7nm,0.8s,baz=18,slow=3.2,SNR=3.1
LABN Labinsk 140.05 315 *i* PKIKP **PKPdf** 01 37 02.7 -0.7
LABN pmax pmax
comp=Z,27nm,0.8s
KONO Kongsberg 140.92 354 *e*P **PKPdf** 01 36 59.3 -5.1
KONO Kongsberg 140.92 354⇓PKHKP PKPpre 01 36 59.1
MNK Minsk 141.04 336 *i* PKP **PKPdf** 01 37 01.3 -3.5
comp=E,12nm,1.0s
MNK *i* PKP **PKPdf** 01 37 01.3 -3.5
comp=N,10.0nm,0.9s
MNK *i* PKP **PKPdf** 01 37 01.3 -3.5
comp=Z,27nm,0.8s,baz=41
MNK *i* PKiKP **PKiKP** 01 37 04.8 -2.9
MNK *i* pPKP **pPKPdf** 01 39 14.1 -3.5
MNK *i* PP **PP** 01 40 11.4 -2.1
MNK *i* SKS **SKSdf** 01 43 20.8 -0.1
MNK *i* PPP PPP 01 43 24.3
MNK *i* SKKS **SKKSdf** 01 52 40.0 -6.4
MNK *i* SS **SS** 01 57 56.4 +0.4
MNK *i* SSS SSS 02 03 24.1
MNK Minsk 141.04 336 *i* PKHKP PKPpre 01 37 01.3
MNK *i* 01 37 04.7
MNK *i* 01 39 14.0
MNK *i* 01 40 11.4
MNK *i* 01 43 20.7
MNK *i* PPP PPP 01 43 24.3
MNK *i* SS SS 01 57 56.3 +0.3
MNK *i* SSS SSS 02 03 24.1
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=Z,27nm,0.8s
MNK pmax pmax
comp=E,12nm,1.0s
NACGM Naroch 141.14 337 *e*PKP **PKPdf** 01 37 00.6 -4.4
comp=Z,48nm,1.1s,baz=39
BLS5 Blasjo 141.41 356 *e*P **PKPdf** 01 37 00.8 -4.6
ANN Anapa 142.10 317 *e*PKHKP PKPpre 01 37 03.0
ANN *e* 01 40 21.1
ANN pmax pmax
comp=Z,18nm,0.8s
HOMB Homborsund 142.39 354 *e*P **PKPdf** 01 37 04.3 -2.8
SNART Snartemo 142.43 355 *e*P **PKPdf** 01 37 04.4 -2.8
LODK Lodwar 142.83 247 PKPdf **PKPdf** 01 37 08.0 -1.4
LODK Lodwar 142.83 247 P **PKPdf** 01 37 08.0 -1.4
SNR=7.9
SUW Suwalki 143.12 339 *e*PKPbc PKPbc 01 37 06.8 0.0
OVD Ostervraa, Den 143.13 352 *i* P PKPab 01 37 06.1 -0.2
AK03 Malin Array Si 143.21 331 PKP PKPab 01 37 06.4 -0.4
AKASG Malin Array Be 143.22 330 PKP PKPab 01 37 06.5 -0.4
comp=Z,76nm,0.5s,baz=44,slow=4.3,SNR=288
AKASG SKPbc **SKPbc** 01 39 52.6 -1.0
comp=Z,3.7nm,0.9s,baz=54,slow=1.6,SNR=5.8
AKASG Malin Array Be 143.22 330 PKIKP PKPab 01 37 06.9 0.0
AKBB Malin Array Si 143.22 330 *d*PKIKP PKPab 01 37 06.3 -0.6
AKBB Malin Array Si 143.22 330 PKP PKPab 01 37 06.5 -0.4
AK23 Malin Array Si 143.22 331 PKP PKPab 01 37 06.6 -0.3
AK04 Malin Array Si 143.23 331 PKP PKPab 01 37 06.5 -0.4
KIEV Kiev 143.23 331 PKPdf PKPab 01 37 06.6 -0.3
KIEV Kiev 143.23 331⇑P PKPab 01 37 06.7 -0.2
KIEV Kiev 143.23 331⇑PKIKP PKPab 01 37 06.7 -0.2
KIEV Kiev 143.23 331 PKP PKPab 01 37 06.0 -0.9
KIEV PKP PKPbc 01 37 06.4 -0.8
MCD Coleburn Disti 143.24 4 *e*P PKPab 01 37 05.6 -1.1
KPL Plockton 143.27 7 *e*P PKPab 01 37 06.6 -0.2
MI28 Mi28,Pidlybu 143.76 332 PKP PKPbc 01 37 08.7 -0.2
SIM Simferopol' 144.09 319 *i* PKIKP **PKPdf** 01 37 10.9 +0.4
MUD Monsted U'grnd 144.10 353 *i* P PKPbc 01 37 08.6 -1.1
RNPP9 Sopachiv 144.16 334 PKP PKPbc 01 37 10.0 -0.1
RNPP8 Varash 144.23 334 PKP PKPbc 01 37 10.3 0.0
LAWE Loch Awe, Argy 144.35 7 *e*P PKPbc 01 37 09.9 -0.6
MBAR Mbarara 144.36 237 PKPdf **PKPab** 01 37 13.0 +0.5
MBAR Mbarara 144.36 237 PKIKP **PKPab** 01 37 13.0 +0.5
COP Copenhagen 144.38 349 *i* P PKPbc 01 37 10.0 -0.6
BSD Bornholm Skovb 144.44 347 *i* P **PKPdf** 01 37 09.7 -1.1
LUBAR Lubar, Ukraine 144.44 331 PKP **PKPdf** 01 37 10.9 0.0
BAL3X Bal3x, Balta 144.89 327 PKP PKPbc 01 37 12.8 +0.3
PGBU Glenifferbraes 144.89 6 *e*P **PKPdf** 01 37 11.2 -0.3
SSRD Sdr. Stenderup 145.00 352 *i* P **PKPdf** 01 37 11.3 -0.3
IDGL Inch Island, C 145.24 9 *e*P **PKPdf** 01 37 12.6 +0.4
EKA Eskdalemuir Ar 145.48 5 PKPbc **PKPbc** 01 37 13.8 -0.2
comp=Z,28nm,0.8s,baz=344,slow=2.5,SNR=34
GKP Gorka Klasztor 145.57 343 *e*PKPbc **PKPbc** 01 37 14.6 +0.3
NEWG New Galloway 145.60 6 *e*P **PKPdf** 01 37 13.5 +0.7
PURM Purcari 145.64 325⇑P **PKPdf** 01 37 13.8 +0.8
BEL Belsk 145.74 339 *e*PKPbc **PKPbc** 01 37 15.4 +0.6
GAL1 Galloway 145.80 6 *e*P **PKPbc** 01 37 14.3 -0.5
MILM Milestii Mici 145.96 326⇓P **PKPbc** 01 37 15.4 -0.2
MILM Milestii Mici 145.96 326⇓PKP2 **PKPbc** 01 37 15.4 -0.2
KMPD K-Podol'skiy 146.00 330 PKP **PKPbc** 01 37 15.4 -0.2
EDMD Edmundbyers 146.06 4 *e*P **PKPbc** 01 37 15.2 -0.5
KESW Keswick, Cumbr 146.22 5 *e*P **PKPbc** 01 37 15.4 -0.7
WIM Isle of Man 146.51 7 *e*P **PKPbc** 01 37 16.5 -0.4
LEOM Leova 146.54 326⇑P **PKPbc** 01 37 17.8 +0.6
LEOM Leova 146.54 326⇑PKP2 **PKPbc** 01 37 17.8 +0.6
ASF Jabal al Asfar 146.65 297 PKPbc **PKPbc** 01 37 18.7 +0.6
comp=Z,34nm,0.8s,baz=44,slow=0.1,SNR=40
KWP Kalwaria Pacla 146.83 335 *e*PKPbc **PKPbc** 01 37 18.0 +0.1
BR131 Keskin Array S 146.86 312 P **PKPbc** 01 37 18.4 0.0
SNR=24
BR131 Keskin Array S 146.86 312 *ce*PKIKP **PKPdf** 01 37 15.2 -0.4
BRTR Keskin Array B 146.86 312 PKPdf **PKPdf** 01 37 14.1 -1.5
BRTR Keskin Array B 146.86 312 PKPbc **PKPbc** 01 37 18.5 0.0
comp=Z,19nm,0.6s,baz=173,slow=4.5,SNR=98
BRTR Keskin Array B 146.86 312 PKHKP PKPpre 01 37 14.1
KIRS Kirsehir-Merke 146.91 310⇑P **PKPbc** 01 37 19.0 +0.4
HPK Haverah Park 146.95 3 *e*P **PKPbc** 01 37 18.2 +0.2
PRAR RASCA 146.96 329⇓P **PKPbc** 01 37 19.1 +0.8
BIR Birlad 147.00 326⇑P **PKiKP** 01 37 19.6 -0.7
BIR Birlad 147.00 326⇑PKP2 **PKiKP** 01 37 19.6 -0.7
VLDR Vladesti 147.04 325⇓P **PKPbc** 01 37 19.3 +0.8
TLCR 147.05 324⇑P **PKPbc** 01 37 19.2 +0.6
TLCR 147.05 324⇑PKP2 **PKPbc** 01 37 19.2 +0.6
VARL Varlezi 147.12 325⇑P **PKiKP** 01 37 19.7 -0.8
SCTR Scanteiesti 147.19 325⇓P **PKiKP** 01 37 19.9 -0.8
TATR Tatarca 147.21 325⇓P **PKPbc** 01 37 19.5 +0.5
GHRR 147.25 326⇓P **PKiKP** 01 37 20.5 -0.3
BUR01 Bucovina Ar. S 147.27 330⇑P **PKiKP** 01 37 20.4 -0.5
JURR Jurilovca 147.28 323⇑P **PKPbc** 01 37 19.9 +0.7
WME Myndd Eilian 147.29 7 *e*P **PKPbc** 01 37 18.4 -0.5
TESR Tescani 147.34 327⇓P **PKPbc** 01 37 19.7 +0.4
NEGRR Negrea 147.34 325⇓P **PKPbc** 01 37 20.1 +0.8
SLCR Slobozia Conac 147.37 325⇑P **PKiKP** 01 37 20.4 -0.6
ANTO Ankara 147.39 312⇓P **PKPbc** 01 37 20.1 +0.3
ANTO Ankara 147.39 312⇓PKP2 **PKPbc** 01 37 20.1 +0.3
ANTO Ankara 147.39 312 PKP **PKPbc** 01 37 19.7 -0.1
ANTO PKP **PKiKP** 01 37 19.9 -1.5
WLF1 Llynfaes 147.39 7 *e*P **PKPdf** 01 37 17.0 +1.2
IZVR Izvoarele 147.40 325⇑P **PKiKP** 01 37 20.5 -0.5
SCHLR Schela 147.41 325⇑P **PKiKP** 01 37 20.4 -0.7
TUDR 147.42 325⇑P **PKiKP** 01 37 20.6 -0.5
CFR Carcaliu 147.43 324⇓P **PKPbc** 01 37 20.0 +0.4
CFR Carcaliu 147.43 324⇓PKP2 **PKPbc** 01 37 20.0 +0.4
COSR Cosmesti PH 147.44 326⇑P **PKiKP** 01 37 21.0 -0.1
OJC Ojcow 147.44 338 *e*PKPbc **PKPbc** 01 37 19.8 +0.3
LBWR Ladybower, Pea 147.50 4 *e*P **PKPbc** 01 37 19.3 -0.2
PANC Panciu 147.51 326⇑P **PKiKP** 01 37 21.3 0.0
KOLS Kolonicke sedl 147.56 334 *e*PKIKP **PKPdf** 01 37 16.9 +0.6
KOLS *e* 01 37 24.3
KOLS Kolonicke sedl 147.56 334 *e*PKP **PKPdf** 01 37 16.9 +0.6
KOLS *e* 01 37 20.8
KOLS *e* 01 37 24.2
STHS Stebnicka Huta 147.57 336 *e*PKP2 **PKPbc** 01 37 20.0 +0.1
STHS Stebnicka Huta 147.57 336 *e*PKP **PKPbc** 01 37 20.0 +0.1
STHS *e* 01 37 25.0
ONER Baraj Valea Uz 147.59 327⇓P **PKiKP** 01 37 21.1 -0.4
ODBI Odobesti 147.63 326⇑P **PKiKP** 01 37 21.6 0.0
MMAI Mount Meron Ar 147.71 299 PKPbc **PKiKP** 01 37 21.6 -0.7
comp=Z,45nm,0.6s,baz=75,slow=7.3,SNR=264
VRI Vrincioaia 147.74 326⇑P **PKPbc** 01 37 20.6 +0.2
VRI Vrincioaia 147.74 326⇑PKP2 **PKPbc** 01 37 20.6 +0.2
PLOR Plostina 147.79 326⇓P **PKPbc** 01 37 20.6 0.0
PLOR Plostina 147.79 326⇓PKP2 **PKPbc** 01 37 20.6 0.0
HARR Harsova 147.85 324⇑P **PKiKP** 01 37 21.5 -0.5
HARR Harsova 147.85 324⇑PKP2 **PKiKP** 01 37 21.5 -0.5
TLBR Topalu 147.88 323⇓P **PKiKP** 01 37 21.5 -0.6
MFTR Murfatlar 147.89 322⇑P **PKiKP** 01 37 21.7 -0.4
LLW Llanuwychllyn 147.90 6 *e*P **PKPbc** 01 37 19.7 -0.8
FOEL Foel Wylfa 147.90 5 *e*P **PKPbc** 01 37 20.3 -0.3
GRER 147.93 325⇑P **PKiKP** 01 37 22.5 +0.3
NIE Niedzica 147.93 337 *e*PKPbc **PKiKP** 01 37 22.4 +0.3
BISRR Bisoca 147.96 326⇓P **PKiKP** 01 37 22.0 -0.3
TURR Turia 147.97 327⇓P **PKiKP** 01 37 21.8 -0.6
KSP Ksiaz 148.01 342 *e*PKPbc **PKiKP** 01 37 21.7 -0.5
BMR Baia Mare 148.01 332⇓P **PKiKP** 01 37 22.2 -0.1
BMR Baia Mare 148.01 332⇓PKP2 **PKiKP** 01 37 22.2 -0.1
MANR Mangalia 148.01 322⇑P **PKiKP** 01 37 22.2 -0.2
COVR Voineasa-Covas 148.02 327⇓P **PKPbc** 01 37 21.3 +0.1
OZUR 148.06 327⇓P **PKiKP** 01 37 21.9 -0.6
CWF Charnwood Fore 148.19 3 *e*P **PKPbc** 01 37 20.7 -0.5
NEHR Nehoiu 148.25 326⇑P **PKPbc** 01 37 22.2 +0.5
WACR West Acre 148.27 1 *e*P **PKPbc** 01 37 19.8 -1.7
ICOR Ion Corvin 148.28 323⇓P **PKiKP** 01 37 22.5 -0.4
OSTC Ostas 148.28 342⇑*e*PKP **PKiKP** 01 37 22.6 -0.2
OSTC Ostas 148.28 342 *e*PKP2 **PKiKP** 01 37 22.6 -0.2
HLM1 Long Mynd 148.30 5 *e*P **PKPdf** 01 37 17.5 +0.2
CHVC Chvalec 148.30 342 *e*PKPDF **PKPdf** 01 37 18.3 +0.9
CHVC ⇑*e*PKP **PKiKP** 01 37 22.5 -0.4
OKC Ostrava-Krasne 148.32 339⇑*e*PKP **PKPbc** 01 37 22.0 +0.3
ISR Istrita 148.33 325⇑P **PKiKP** 01 37 22.8 -0.3
ISR Istrita 148.33 325⇑PKP2 **PKiKP** 01 37 22.8 -0.3
DOPR Dopca 148.35 328⇓P **PKiKP** 01 37 23.0 -0.1
PSN Preselentsi 148.38 322 *i* P **PKPbc** 01 37 22.5 +0.5
UPC Upice 148.39 342⇑*e*PKP **PKiKP** 01 37 22.6 -0.4
MLR Muntele Rosu 148.39 326 PKPbc **PKPbc** 01 37 22.2 0.0
comp=Z,25nm,0.4s,baz=344,slow=5.0,SNR=119
MLR Muntele Rosu 148.39 326⇑P **PKPbc** 01 37 22.5 +0.3
MLR Muntele Rosu 148.39 326⇑PKP2 **PKPbc** 01 37 22.5 +0.3
CLL Collm 148.41 346⇓*e*PKHKP PKPpre 01 37 18.0
CLL *i* 01 37 27.6
CLL pmax pmax
comp=Z,23nm,1.5s
CLL pmax pmax
comp=Z,67nm,0.9s
CLL Collm 148.41 346 *e*PKPdf **PKPdf** 01 37 18.0 +0.5
comp=Z,23nm,1.5s
CLL ⇓*i*PKPbc **PKPbc** 01 37 22.2 +0.4
comp=Z,102nm,1.0s
CLL ⇑*i*PKPab **PKPab** 01 37 27.6 +0.2
comp=Z,67nm,0.9s
CLL Collm 148.41 346 PKP **PKPdf** 01 37 18.8 +1.3
CLL PKP **PKPbc** 01 37 22.3 +0.4
DPC Dobruska-Polom 148.44 342 *e*PKPDF **PKPdf** 01 37 18.3 +0.6
DPC ⇑*e*PKP **PKiKP** 01 37 22.9 -0.3
LANS Liptovska Anna 148.45 337 *e*PKHKP PKPpre 01 37 18.8
LANS *e* 01 37 29.3
LANS Liptovska Anna 148.45 337 *e*PKP **PKPdf** 01 37 18.8 +1.1
LANS *e* 01 37 23.6
LANS *e* 01 37 29.3
KRLC Kraliky 148.55 341 *e*PKPDF **PKPdf** 01 37 18.7 +0.8
KRLC ⇑*e*PKP **PKiKP** 01 37 23.1 -0.3
KRLC *e*PKPAB **PKPab** 01 37 28.7 +0.6
MORC Moravsky Berou 148.57 340 *e*PKP **PKPbc** 01 37 22.8 +0.4
MORC *e* 01 37 28.9
MORC Moravsky Berou 148.57 340⇑P **PKiKP** 01 37 23.3 -0.1
MORC Moravsky Berou 148.57 340⇑PKP2 **PKiKP** 01 37 23.3 -0.1
BRG Berggiesshubel 148.60 345 *e*PKP **PKPdf** 01 37 18.4 +0.6
BRG Amp 01 37 19.6
comp=Z,21nm,1.3s
BRG Berggiesshubel 148.60 345 P **PKiKP** 01 37 23.1 -0.3
BRG Amp 01 37 24.2
comp=Z,51nm,1.0s
BRG Berggiesshubel 148.60 345 P **PKPab** 01 37 28.7 +0.5
BRG Amp 01 37 29.4
comp=Z,34nm,0.9s
BRG Berggiesshubel 148.60 345 *e*PKHKP PKPpre 01 37 18.4
BRG 01 37 28.7
BRG pmax pmax
comp=Z,21nm,1.3s
BRG pmax pmax
comp=Z,34nm,0.9s
LEHL Lehliu 148.60 324⇓P **PKiKP** 01 37 23.2 -0.4
KECS Kecovo 148.62 336 *e*PKP2 **PKiKP** 01 37 23.9 +0.4
KECS Kecovo 148.62 336 *e*PKP **PKiKP** 01 37 23.8 +0.3
KECS *e* 01 37 29.4
MESR Meseseni 148.65 331⇑P **PKiKP** 01 37 23.5 -0.1
CBBR Cluj-Babes-Bol 148.66 330⇓P **PKiKP** 01 37 23.2 -0.4
CJR Cluj-Napoca 148.68 330⇓P **PKiKP** 01 37 23.5 -0.3
CJR Cluj-Napoca 148.68 330⇓PKP2 **PKiKP** 01 37 23.5 -0.3
EIL Elat 148.72 293 PKPbc **PKPbc** 01 37 23.8 +0.5
comp=Z,32nm,0.8s,baz=108,slow=1.4,SNR=28
MDB Medias 148.72 329⇓P **PKiKP** 01 37 24.0 +0.2
MDB Medias 148.72 329⇓PKP2 **PKiKP** 01 37 24.0 +0.2
PLAR PLOIESTI 148.74 326⇓P **PKiKP** 01 37 23.5 -0.4
PVCC Panska Ves 148.76 344⇑*e*PKP **PKiKP** 01 37 23.6 -0.1
MCH1 Michaelchurch 148.80 5 *e*P **PKPbc** 01 37 22.1 -0.7
MAUC Maruska 148.84 339⇑*e*PKP **PKiKP** 01 37 24.1 +0.1
MAUC *e*PKPAB **PKPab** 01 37 30.3 +1.0
CSS Mathiatis 148.84 303 PKP **PKPbc** 01 37 23.1 -0.4
CSS PKP **PKiKP** 01 37 23.5 -1.0
VOIR 148.89 327⇑P **PKiKP** 01 37 23.9 -0.4
VOIR 148.89 327⇑PKP2 **PKiKP** 01 37 23.9 -0.4
MARR Marisel-Cluj 148.93 331⇑P **PKiKP** 01 37 24.0 -0.4
HSKC Hora Svate Kat 148.97 345⇑*e*PKP **PKiKP** 01 37 23.8 -0.4
MONM Monmouth 148.98 5 *e*P **PKPbc** 01 37 22.7 -0.5
DRGR 149.03 331⇑P **PKiKP** 01 37 24.2 -0.3
DRGR 149.03 331⇑PKHKP PKPpre 01 37 24.2
STRD Stroud 149.09 5 *e*P **PKPbc** 01 37 22.4 -1.1
PRD Provadia 149.09 322 *i* P **PKiKP** 01 37 24.4 -0.3
NEF NEVSHA 149.11 322 *i* P **PKiKP** 01 37 24.4 -0.3
ARR Arges 149.15 327⇑P **PKiKP** 01 37 25.6 +0.8
SGRR Singureni 149.22 325⇑P **PKPbc** 01 37 24.0 -0.1
VYHS Vyhne 149.23 337 *e*PKHKP PKPpre 01 37 19.4
VYHS *e* 01 37 32.1
VYHS Vyhne 149.23 337 *e*PKP **PKPdf** 01 37 19.4 +0.4
VYHS *e* 01 37 24.6
VYHS *e* 01 37 32.1
PRU Pruhonice 149.26 344⇑*e*PKP **PKiKP** 01 37 24.4 -0.4
PRU *e*PKPAB **PKPab** 01 37 31.9 +1.0
GOPC GO Pecny, Ondr 149.26 343⇑*e*PKP **PKiKP** 01 37 24.6 -0.2
VRAC Vranov 149.28 341 PKPbc **PKPbc** 01 37 24.4 +0.3
comp=Z,26nm,1.1s,baz=106,slow=0.9,SNR=24
VRAC Vranov 149.28 341 *e*PKP **PKPbc** 01 37 24.4 +0.3
VRAC *e* 01 37 31.9
VRAC Vranov 149.28 341⇑P **PKiKP** 01 37 25.0 +0.1
VRAC Vranov 149.28 341⇑PKHKP PKPpre 01 37 25.0
PSZ Piszkesteto 149.31 336⇓P **PKiKP** 01 37 24.7 -0.4
PSZ Piszkesteto 149.31 336⇓PKHKP PKPpre 01 37 24.7
JAVC Velka Javorina 149.33 339 *e*PKP **PKiKP** 01 37 25.9 +0.8
SWN1 Swindon 149.38 4 *e*P **PKPbc** 01 37 23.9 -0.3
LOT Lotru 149.52 328⇑P **PKPbc** 01 37 24.8 +0.7
NKC Novy Kostel 149.54 346⇑*e*PKP **PKiKP** 01 37 25.1 -0.3
NKC *e*PKPAB **PKPab** 01 37 32.7 +0.6
KRUC Moravsky 149.56 341 *e*PKP **PKiKP** 01 37 25.1 -0.4
KRUC *e* 01 37 32.8
DEV Deva 149.62 330⇓P **PKiKP** 01 37 25.4 -0.3
DEV Deva 149.62 330⇓PKHKP PKPpre 01 37 25.4
TREC Trest 149.62 342⇑*e*PKP **PKPbc** 01 37 24.9 0.0
SMOL Smolenice 149.71 339 *e*PKP2 **PKiKP** 01 37 26.5 +0.7
SZH Strazhitsa 149.85 323 *i* P **PKPbc** 01 37 25.7 +0.1
ZVC Zvikov 149.85 344 *e*PKPDF **PKPdf** 01 37 20.1 +0.2
ZVC ⇑*e*PKP **PKiKP** 01 37 25.9 -0.2
ZVC *e*PKPAB **PKPab** 01 37 33.8 +0.4
MODS Modra-Piesok 149.88 339 *e*PKHKP PKPpre 01 37 26.4
MODS Modra-Piesok 149.88 339 *e*PKP **PKiKP** 01 37 26.4 +0.2
MODS *e* 01 37 35.1
SIRR Siria 149.89 332⇓P **PKiKP** 01 37 26.3 0.0
SRO Srobarova 149.99 337 *e*PKHKP PKPpre 01 37 26.4
SRO *e* 01 37 35.1
SRO Srobarova 149.99 337 *e*PKP **PKiKP** 01 37 26.4 0.0
SRO *e* 01 37 35.1
JMB Yambol 150.01 321 *i* P **PKPbc** 01 37 26.2 +0.2
GZR Gura Zlata 150.04 329⇓P **PKPbc** 01 37 26.2 +0.1
GZR Gura Zlata 150.04 329⇓PKIKP **PKPbc** 01 37 26.2 +0.1
BEBN Eben Emael 150.04 355 *d*PKiKP **PKiKP** 01 37 26.4 0.0
BEBN *d*PKP **PKPab** 01 37 34.2 +0.1
SURR Surduc 150.07 331⇓P **PKPbc** 01 37 26.3 +0.3
ELND Elena 150.12 323⇓P **PKPbc** 01 37 26.3 +0.1
UCC Uccle 150.13 356 *d*PKiKP **PKPbc** 01 37 26.2 +0.3
UCC *d*PKP **PKPab** 01 37 34.8 +0.3
MEM Membach 150.20 354 *d*PKiKP **PKPbc** 01 37 26.3 +0.1
MEM *d*PKP **PKPab** 01 37 35.1 +0.4
BTNL Ternell 150.21 354 *d*PKPdf **PKPdf** 01 37 20.5 +0.1
BTNL *d*PKiKP **PKPbc** 01 37 26.4 +0.1
BTNL *d*PKP **PKPab** 01 37 35.2 +0.3
VLAD Vladila 150.22 326⇑P **PKiKP** 01 37 27.3 +0.3
BSTI Sart Tilman 150.26 355 *d*PKiKP **PKiKP** 01 37 26.8 -0.1
EDRB Edirne 150.28 320 P **PKPbc** 01 37 26.6 0.0
BAND Balkesir-Ban 150.29 317⇑P **PKPbc** 01 37 26.9 +0.1
KHC Kasperske Hory 150.30 344 *e*PKPDF **PKPdf** 01 37 21.2 +0.5
KHC ⇑*e*PKP **PKiKP** 01 37 26.9 -0.1
KHC *e*PKPAB **PKPab** 01 37 36.2 +0.9
SRE Strehaia 150.36 328⇑P **PKiKP** 01 37 27.8 +0.6
SRE Strehaia 150.36 328⇑PKIKP **PKiKP** 01 37 27.8 +0.6
CKRC Cesky Krumlov 150.39 343 *e*PKPDF **PKPdf** 01 37 21.1 +0.3
CKRC ⇑*e*PKP **PKPbc** 01 37 26.9 +0.2
BZS Buzias 150.41 331⇓P **PKiKP** 01 37 27.2 -0.1
BZS Buzias 150.41 331⇓PKIKP **PKiKP** 01 37 27.2 -0.1
BCLA Clavier 150.44 355 *d*PKiKP **PKiKP** 01 37 27.4 +0.2
BCLA *d*PKP **PKPab** 01 37 35.8 -0.1
BHOU Houvegnez 150.45 354 *d*PKPdf **PKPdf** 01 37 21.3 +0.5
BHOU *d*PKiKP **PKiKP** 01 37 27.2 -0.1
BHOU *d*PKP **PKPab** 01 37 34.6 -1.3
BGES Gesves 150.50 355 *d*PKiKP **PKiKP** 01 37 28.0 +0.7
BGES *d*PKP **PKPab** 01 37 37.0 +0.9
GERES GERESS Array B 150.53 344 PKPbc **PKPbc** 01 37 27.2 +0.1
comp=Z,26nm,0.8s,baz=194,slow=2.8,SNR=10
GERES PKPab **PKPab** 01 37 36.7 +0.3
comp=Z,8.8nm,0.8s,baz=29,slow=4.9,SNR=6.1
HERR Herculane 150.59 329⇓P **PKPbc** 01 37 27.4 +0.2
BMRD Maredsous 150.60 356 *d*PKiKP **PKiKP** 01 37 27.4 -0.2
BMRD *d*PKP **PKPab** 01 37 36.2 -0.3
RCHB Rochefort 150.71 355 *d*PKiKP **PKPbc** 01 37 26.7 -0.7
RCHB *d*PKP **PKPab** 01 37 36.9 0.0
CONA Conrad Observa 150.73 340 *e*PKiKP **PKiKP** 01 37 28.3 +0.3
comp=Z,23nm,0.6s,SNR=22
RONA Rosalia, Austr 150.79 339 *i* PKiKP **PKiKP** 01 37 28.3 +0.2
comp=Z,42nm,0.5s,SNR=24
BANR Banloc 150.81 331⇑P **PKiKP** 01 37 28.7 +0.6
DOU Dourbes 150.82 356 *d*PKiKP **PKiKP** 01 37 28.2 +0.2
DIM Dimitrovgrad 150.84 322 *i* P **PKiKP** 01 37 28.3 0.0
KULA Kula-Manisa 150.86 313 P **PKPbc** 01 37 28.2 0.0
VALD Valchedram 150.93 326 *i* P **PKiKP** 01 37 28.5 +0.1
MDVR Moldovita 151.00 330⇓P **PKiKP** 01 37 28.5 -0.1
MPEP Malo Peshtene 151.01 325 *i* P **PKiKP** 01 37 28.5 -0.1
WLF Walferdange 151.12 354 *d*PKiKP **PKiKP** 01 37 29.2 +0.5
WLF *d*PKP **PKPab** 01 37 39.0 +0.3
MORH Mrgy, Hungar 151.20 335⇓P **PKiKP** 01 37 28.8 -0.1
MORH Mrgy, Hungar 151.20 335 PKP **PKPdf** 01 37 21.8 -0.2
MORH PKP **PKPbc** 01 37 28.6 0.0
KDZ Kurdzhali 151.24 321 *i* P **PKPbc** 01 37 28.7 -0.2
PLD Plovdiv 151.26 323 *i* P **PKPbc** 01 37 28.4 -0.5
ALN Alexandroupoli 151.27 319 **PKPbc** 01 37 28.6 -0.3
ALN Alexandroupoli 151.27 319 P **PKPbc** 01 37 28.1 -0.8
ALN Alexandroupoli 151.27 319 PKIKP **PKPbc** 01 37 28.6 -0.3
MOA Molln 151.28 342 *i* PKP **PKiKP** 01 37 29.0 -0.1
comp=Z,9.8nm,0.5s,SNR=7.2
PGB Panagyurishte 151.34 324 *i* P **PKPbc** 01 37 29.0 -0.1
ARSA Arzberg 151.43 340 *i* PKP **PKPbc** 01 37 29.1 0.0
comp=Z,9.3nm,0.7s,SNR=5.7
RZN Rozhen 151.55 322 *i* P **PKPbc** 01 37 29.5 -0.3
FRGS Fruska Gora 151.57 332⇓*i* P **PKPbc** 01 37 29.0 -0.5
BIOA Bad Ischl, Aus 151.60 343 *e*PKP **PKPbc** 01 37 29.4 -0.1
comp=Z,7.5nm,0.5s,SNR=8.9
JLP Les Platons 151.61 5

MYKA	Terra Mystica	152.57	342	*e*PKP		PKPbc	01 37 31.1	-0.7
	comp=Z,8.8nm,0.4s,SNR=6.0							
SRS	Serrai	152.58	322	P		PKPbc	01 37 30.7	-1.2
GCIS	Gornji Cirnik	152.61	338	*e*PKPdf		PKPdf	01 37 24.1	-0.1
GCIS				*i* PKPbc		PKiKP	01 37 32.0	+0.1
GCIS				*i* PKPab		PKPab	01 37 45.5	+0.4
SQTA	Sankt Quirin	152.66	346	*e*PKP		PKiKP	01 37 32.1	0.0
	comp=Z,13nm,0.7s,SNR=7.5							
BBLS	Lazi&#263i	152.76	331	⇓*i*P		PKiKP	01 37 32.4	+0.1
ABTA	Abfaltersbach	152.77	343	*i* PKP		PKPbc	01 37 31.7	-0.5
	comp=Z,18nm,0.5s							
LJU	Ljubljana	152.82	340	*e*PKPdf		PKPdf	01 37 24.1	-0.3
LJU				*i* PKPbc		PKiKP	01 37 32.3	0.0
A051A	Mrakovica	152.88	336	⇓*i*P		PKPbc	01 37 32.4	0.0
DAVA	Damuels	152.88	348	*e*PKiKP		PKiKP	01 37 32.7	+0.1
	comp=Z,9.7nm,0.7s							
SOH	Sokhos	152.91	322	P		PKPbc	01 37 31.5	-1.1
VISS	Visnje	152.93	339	*i* PKPab		PKPab	01 37 46.3	-0.2
KNT	Kendrikon	152.95	323	P		PKPbc	01 37 31.1	-1.5
FETA	Feichten	152.95	346	*i* PKiKP		PKiKP	01 37 32.9	+0.1
	comp=Z,18nm,1.0s							
SJES	Sjenica	152.97	330	*e*P		PKiKP	01 37 33.1	+0.3
RUDO	Rudo	152.97	331	⇑*i*P		PKPbc	01 37 32.0	-0.6
BLY	Banja Luka	152.99	335	*e*P		PKPbc	01 37 32.5	-0.1
VAY	Valandovo	153.03	324	*i* P		PKPbc	01 37 32.0	-0.8
KARP	Karpathos	153.30	308			PKPbc	01 37 33.6	0.0
KARP	Karpathos	153.30	308	PKP		PKiKP	01 37 33.8	+0.1
DAVOX	Davos/Dischmat	153.36	347	PKP		PKPdf	01 37 25.9	+0.4
	comp=Z,4.4nm,0.8s,baz=103,slow=2.6,SNR=10							
DAVOX				PKPbc		PKiKP	01 37 33.9	+0.3
	comp=Z,19nm,0.5s,baz=251,slow=2.4,SNR=44							
DAVOX				PKPab		PKPab	01 37 48.8	+0.3
	comp=Z,24nm,0.9s,baz=5.1,slow=3.9,SNR=12							
A050A	Klekovaca	153.47	336	*e*P		PKPbc	01 37 33.0	-0.7
UPM	Unac-Piva	153.51	331	*e*P		PKPbc	01 37 33.0	-1.0
LIT	Litokhoron	153.88	322	P		PKPbc	01 37 33.6	-1.1
BRY	Bratogost	153.91	331	*e*P		PKPbc	01 37 33.7	-1.1
PDG	Podgorica	153.94	329	⇓*i*P		PKPbc	01 37 34.1	-0.6
PDG	Podgorica	153.94	329	⇑P		PKiKP	01 37 34.7	0.0
FNA	Florina	154.05	324	P		PKPbc	01 37 34.5	-0.6
OHR	Ohrid	154.13	325	*i* P		PKPbc	01 37 34.8	-0.4
TREB	Trebinje	154.14	331	*e*P		PKPbc	01 37 34.4	-0.7
KZN	Kozani	154.16	323	P		PKPbc	01 37 32.6	-2.7
THR6	Thira Island,	154.18	312	P		PKPab	01 37 52.0	-0.2
STON	Ston	154.31	332	*e*P		PKiKP	01 37 34.1	-1.3
VLY	Voula,Athens	154.46	316	P		PKiKP	01 37 34.6	-1.3
LSK	Leskovik	154.92	324	P		PKiKP	01 37 36.6	-0.3
ANX	Ano Chora	155.19	320	P		PKPdf	01 37 37.8	+10
ITM	Ithomi	156.06	317	P		PKPdf	01 37 38.2	+9.0
PBRG	Braganca	158.04	17	*e*PKPab		PKPab	01 38 09.3	+0.6
CEST	Esterri de Car	158.41	1	PKPab		PKPab	01 38 11.5	+1.1
MVO	Moncorvo	158.56	18	*e*PKPab		PKPab	01 38 10.6	-0.4
PCAS	Casmilo, Conde	159.09	22	*e*PKPab		PKPab	01 38 13.8	+0.5
MTE	Manteigas	159.10	20	*e*PKPdf		PKPdf	01 37 34.8	+1.9
PSBE	So Bento	159.46	23	*e*PKPab		PKPab	01 38 15.2	+0.2
PCBR	Castelo Branco	159.63	20	*e*PKPdf		PKPdf	01 37 34.8	+1.4
PCBR	Castelo Branco	159.63	20	*e*PKPab		PKPab	01 38 15.8	+0.2
PMRV	Marv??o	160.03	21	*e*PKPab		PKPab	01 38 18.0	+0.6
PMTG	Montargil	160.06	23	*e*PKPab		PKPab	01 38 17.5	-0.1
EVO	Evora	160.61	23	*e*PKPab		PKPab	01 38 20.3	+0.3
ESDC	Sonseca Array	160.74	13	PKP		PKPdf	01 37 34.6	-0.1
	comp=Z,2.7nm,1.1s,baz=337,slow=2.6,SNR=7.5							
ESDC				PKPab		PKPab	01 38 20.9	+0.4
	comp=Z,13nm,1.0s,baz=336,slow=4.3,SNR=24							
ESDC				PP		PP	01 42 04.7	+0.2
	comp=Z,3.2nm,1.2s,baz=337,slow=3.8,SNR=6.0							
MESJ	Messejana	161.14	25	*e*PKPdf		PKPdf	01 37 36.4	+1.3
MESJ	Messejana	161.14	25	*e*PKPab		PKPab	01 38 22.8	+0.5
PBAR	Barrancos	161.28	22	*e*PKPdf		PKPdf	01 37 36.6	+1.4
PBAR	Barrancos	161.28	22	*e*PKPab		PKPab	01 38 23.5	+0.6
MORF	Marmelete	161.42	26	*e*PKPdf		PKPdf	01 37 36.8	+1.4
PVAQ	Vaqueiros	161.71	24	*e*PKPab		PKPab	01 38 25.3	+0.4
KEST	Kesra	163.78	337	PKPab		PKPab	01 38 34.4	+0.3
	comp=Z,14nm,0.9s,baz=37,slow=1.2,SNR=13							
DBIC	Dimbokro	164.49	155	PKP		PKPdf	01 37 38.0	-0.9
	comp=Z,8.0nm,0.7s,baz=159,slow=1.3,SNR=12							
DBIC				PKPab		PKPab	01 38 38.1	+0.6
	comp=Z,4.9nm,0.6s,baz=190,slow=5.4,SNR=5.9							
TORD	Torodi Ar. Bea	172.24	181	PKP		PKPdf	01 37 43.1	-0.8
	comp=Z,8.6nm,1.0s,baz=350,slow=2.0,SNR=37							
TORD				PKPab		PKPab	01 39 11.9	+0.2
	comp=Z,3.8nm,0.8s,baz=176,slow=2.8,SNR=11							
TORD				PP		PP	01 43 02.4	0.0
	comp=Z,1.2nm,0.8s,baz=151,slow=1.9,SNR=5.2							

NEIC ***08*** *01:49:22.1±1.0, 17.°98N±0.°03×67.°19W±0.°02, h15km±1km, ML2.4/30, Md2.4/17(RSPR), Error ellipse: s-maj=4.5km s-min=1.9km az=205.0*

RSPR ***08*** *01:49:22.7±1.3, 18.°01N±0.°02×67.°18W±0.°02, h6km±4km, Error ellipse: s-maj=3.7km s-min=1.8km az=216.0*

SDD ***08*** *01:49:23.8±0.7, 18.°03N×67.°17W, h17km±38km, MD2.7, ML2.3, MW2.5*

OSPL ***08*** *01:49:23.0±0.3, 17.°99N×67.°15W, h9km±7km, ML2.4*

ISC 08 01:49:22.3±0.9, 18.°00N±0.°04×67.°18W±0.°03, h11km±5km, n36, σ0°56/48, 5C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	Cabo Rojo, PR	0.06	86		Sg	01 49 25.9	-0.4
CRPR	Cabo Rojo, PR	0.06	86	Pg	Pg	01 49 24.7	+0.1
CRPR	Cabo Rojo, PR	0.06	86	IAML		01 49 26.5	
	comp=N,2μm,0.3s						
CRPR				IAML		01 49 26.7	
	comp=E,2μm,0.1s						
CRPR	Cabo Rojo, PR	0.06	86	*i* P	Pg	01 49 24.7	+0.1
CRPR				*e*S	Sg	01 49 25.9	-0.4
CRPR				IAML		01 49 26.0	
	comp=Z,6μm,0.1s						
MLPR	Magueyes Islan	0.13	104		Pg	01 49 26.0	+0.5
MLPR					Sg	01 49 28.4	+0.7
MLPR	Magueyes Islan	0.13	104	IAML		01 49 28.6	
	comp=N,1μm,0.4s						
MLPR				IAML		01 49 29.0	
	comp=E,1μm,0.1s						
LSP	Las Mesas	0.19	27		Pg	01 49 26.8	+0.2
LSP					Sg	01 49 30.4	+0.9
PRSN	Puerto Rico Se	0.22	8		Pg	01 49 27.2	+0.3
PRSN					Sg	01 49 31.3	+1.3
PRSN	Puerto Rico Se	0.22	8	IAML		01 49 32.7	
	comp=N,4μm,0.2s						
PRSN				IAML		01 49 33.1	
	comp=E,2μm,0.3s						
GBPR	Guanica, Bosqu	0.28	95		Pg	01 49 28.9	+0.8
GBPR					Sg	01 49 33.4	+1.4
AGPR	Aguadilla, PR	0.47	8		Pg	01 49 31.7	+0.2
AGPR	Aguadilla, PR	0.47	8		Sg	01 49 38.3	+0.6
AGPR				IAML		01 49 38.8	
	comp=E,238nm,0.3s						
AGPR				IAML		01 49 42.7	
	comp=N,274nm,0.8s						
AGPR	Aguadilla, PR	0.47	8	⇑*e*Pg	Pg	01 49 31.7	+0.2
AGPR				⇑*e*Pg	Pg	01 49 31.8	+0.2
AGPR				⇓*e*Sg	Sg	01 49 38.3	+0.6
AGPR				IAML		01 49 42.5	
	comp=N,252nm,0.8s						
AGPR	Aguadilla, PR	0.47	8	*i* P	Pg	01 49 31.7	+0.2
AGPR				*e*S	Sg	01 49 38.1	+0.4
AGPR				IAML		01 49 38.8	
	comp=Z,148nm,0.2s						
IDE	Isla Desecheo	0.48	324		Pg	01 49 31.9	+0.2
IDE					Sg	01 49 38.7	+0.7
UUPR	Utuado, UPR, P	0.50	60		Pg	01 49 32.4	+0.2
UUPR					Sg	01 49 39.2	+0.4
AOPR	Arecibo Observ	0.53	49		Pg	01 49 32.7	+0.1
AOPR					Sg	01 49 39.9	+0.2
AOPR	Arecibo Observ	0.53	49	IAML		01 49 40.1	
	comp=N,298nm,0.2s						
AOPR				IAML		01 49 40.1	
	comp=E,443nm,0.3s						
AOPR	Arecibo Observ	0.53	49	⇓*e*Pg	Pg	01 49 32.8	+0.1
AOPR				*e*Sg	Sg	01 49 39.9	+0.2
AOPR				⇓*e*Sg	Sg	01 49 40.0	+0.2
AOPR				IAML		01 49 45.6	
	comp=N,258nm,0.2s						
OBIP	Obispado Ponce	0.55	86		Pg	01 49 33.3	+0.3
OBIP					Sg	01 49 41.3	+1.1
OBIP	Obispado Ponce	0.55	86	IAML		01 49 41.4	
	comp=E,60nm,0.5s						
OBIP				IAML		01 49 43.0	
	comp=N,55nm,0.4s						
CELP	Cerrillos	0.57	83		Pg	01 49 33.8	+0.3
CELP					Sg	01 49 42.0	+1.0
CELP	Cerrillos	0.57	83	*e*Pg	Pg	01 49 34.0	+0.5
CELP				⇑*e*Sg	Sb	01 49 42.3	-0.3
CELP				IAML		01 49 43.0	
	comp=N,82nm,0.4s						
EMPR	Esperanza - Ma	0.78	52		Pg	01 49 37.9	+0.6
EMPR					Sb	01 49 48.4	+0.1
EMPR	Esperanza - Ma	0.78	52	IAML		01 49 53.0	
	comp=N,187nm,1.1s						
EMPR				IAML		01 49 53.3	
	comp=E,147nm,0.6s						
SJG	San Juan	0.98	83		Pb	01 49 40.6	-0.7
SJG				IAML		01 50 00.7	
	comp=E,57nm,0.3s						
IGPR	InterUniversit	1.02	92		Pb	01 49 41.7	-0.3
IGPR				IAML		01 49 59.9	
	comp=E,72nm,0.6s						
IGPR				IAML		01 50 00.3	
	comp=N,64nm,0.2s						
IGPR	InterUniversit	1.02	92		Sb	01 49 55.5	+0.1
GCPR	Guaynabo City	1.08	73		Pb	01 49 42.4	-0.7
GCPR					Sb	01 49 56.5	-0.8
GCPR				IAML		01 49 56.9	
	comp=N,66nm,1.1s						
GCPR				IAML		01 50 04.1	
	comp=E,44nm,0.4s						
PDPR	Patillas Dam,	1.10	89		Pb	01 49 42.7	-0.7
PCDR	Punta Cana, DR	1.25	294		Pn	01 49 45.5	-0.2
PCDR				IAML		01 49 55.6	
	comp=N,115nm,1.7s						
PCDR				IAML		01 50 18.4	
	comp=E,72nm,2.2s						
PCDR	Punta Cana, DR	1.25	294	*i* P	Pn	01 49 45.3	-0.4
PCDR				IAML		01 50 04.4	
	comp=Z,53nm,1.1s						
HUMP	Col San Antoni	1.27	83		Sb	01 50 02.6	0.0
HUMP	Col San Antoni	1.27	83		Pn	01 49 45.5	-0.5
HUMP	Col San Antoni	1.27	83	IAML		01 50 06.5	
	comp=E,52nm,0.2s						
HUMP				IAML		01 50 06.7	
	comp=N,54nm,0.5s						
HIDR	Higuey Centro	1.58	292	⇑*e*Pg	Pb	01 49 51.2	-0.3
HIDR				⇑*e*Sg	Sn	01 50 11.0	+0.4
HIDR				IAML		01 50 16.4	
	comp=N,59nm,0.2s						

DJA 08 01:53:02.1±0.5, 9°S±3°×11°5E±°, h38km±13km, M4.0/15, mb4.5/1, MLv3.8/15, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	Denpasar	0.77	359	P	Pn	01 53 16.5	+0.1
DNP				S	Sn	01 53 27.7	+0.9
SRBI	Singaraja	1.36	360	P	Pn	01 53 25.8	+1.3
SRBI				S	Sn	01 53 42.6	+1.4
JAGI	Jajag, Banyuwa	1.44	313	P	Pn	01 53 25.0	-0.6
JAGI				S	Sn	01 53 41.7	-1.5
ABJI	Asem Bagus	1.91	329	P	Pn	01 53 33.4	+1.3
ABJI				S	Sn	01 53 55.7	+0.8
GMJI	Gumukmas	2.11	304	P	Pn	01 53 34.3	-0.5
GMJI				S	Sn	01 53 59.1	-0.7
BLJI	Banyuglugur	2.33	316	P	Pn	01 53 38.8	+0.8
BLJI				S	Sn	01 54 06.1	+0.7
PLAI	Plampang	2.60	76	P	Pn	01 53 42.0	+0.4
PLAI				S	Sn	01 54 12.0	0.0
KMMI	Kalianget	2.69	332	P	Pn	01 53 43.1	+0.3
KMMI				S	Sn	01 54 14.7	+0.6
PWJI	Pagerwojo	3.66	293	P	Pn	01 53 56.6	+0.4
PWJI				S	Sn	01 54 36.7	-1.5
GRJI	Gresik	3.70	313	P	Pn	01 53 55.4	-1.4
WBSI	Waikabubak, Su	4.12	93	P	Pn	01 54 02.1	-0.4
PCJI	Pacitan	4.19	287	P	Pn	01 54 03.8	+0.4
PCJI				S	Sn	01 54 49.3	-1.8
TBJI	Tambak Boyo	4.24	308	P	Pn	01 54 04.1	-0.1
NGJI	Ngawi	4.26	299	P	Pn	01 54 03.2	-1.2
UGM	Wanagama	4.89	288	P	Pn	01 54 13.7	+0.6
BASI	Baing, Sumba	5.33	99	P	Pn	01 54 19.0	-0.2

MOS ***08*** *02:15:12.3±0.9, 42.°25N×141.°45E, h121km, mb4.2/7, Error ellipse: s-maj=8.5km s-min=7.0km az=82.0*

SKHL ***08*** *02:15:13.5±0.7, 42.°30N×141.°50E, h124km±4km, mb5.3/3, msha6.1/3*

IDC ***08*** *02:15:13.1±1.4, 42.°30N×141.°42E, h111km±10km, mb3.8/17, mbtmp4.1/23, Error ellipse: s-maj=16.3km s-min=11.3km az=151.0*

NIED ***08*** *02:15:13.5, 42.°23N×141.°39E, h104km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.08; $M_{\theta\theta}$0.48; $M_{\phi\phi}$-0.40; $M_{r\theta}$0.21; $M_{\theta\phi}$-0.47; $M_{\phi r}$-0.77; Fault plane solution: $M_0$1.03000×10^{15} NP1: ϕ_s=338.00000°, δ87.00000°, λ-51.00000°. NP2:ϕ_s=72.00000°, δ39.00000°, λ-175.00000°.*

NEIC ***08*** *02:15:13.4±1.1, 42.°25N±0.°06×141.°37E±0.°09, h107km±9km, mb4.4/36 Error ellipse: s-maj=10.7km s-min=6.8km az=123.0*

JMA ***08*** *02:15:13.5±0.1, 42.°2N±0.°3×141.°4E±0.°5, h104km, MV3.7/35, S OFF TOMAKOMAI*

JMA Felt I J1 at S OFF TOMAKOMAI .

ISC 08 02:15:12.9±0.6, 42.°21N±0.°04×141.°44E±0.°03, h111km±4km, n136, σ1°45/170, mb4.3/43, 11C-17D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNB	Noboribetsu	0.39	311	*i* P	Pn	02 15 28.7	-0.5
JNB				S	Sn	02 15 40.3	-1.1
JKB	Kayabe	0.45	223	*i* P	Pn	02 15 29.3	-0.2
JKB				S	Sn	02 15 41.1	-0.8
JIAM	Iburiatsuma	0.54	41	⇓*i*P	Pn	02 15 30.4	+0.3
JIAM				⇓S	Sn	02 15 43.5	+0.5
JEW	Eniwo	0.63	0	⇓*i*P	Pn	02 15 30.7	0.0
JEW				⇓S	Sn	02 15 43.5	-0.7
JYM2	Yakumo 2	0.80	263	*i* P	Pn	02 15 32.1	-0.1
JYM2				*e*S	Sn	02 15 45.8	-1.0
JOT	Ohata	0.88	200	P	Pn	02 15 33.2	+0.2
JBT2	Biratori 2	0.89	50	⇓*i*P	Pn	02 15 33.1	+0.2
JBT2				⇓*e*S	Sn	02 15 48.4	+0.2
JNBK	Urakawa-nobuka	0.97	86	⇓*i*P	Pn	02 15 34.3	+0.4
JNBK				⇓*e*S	Sn	02 15 51.2	+1.5
JSR	Shiriuchi	1.03	229	*i* P	Pn	02 15 34.8	+0.4
JSR				*e*S	Sn	02 15 50.5	-0.1
JISS	Ishikarishitsu	1.06	359	P	Pn	02 15 35.1	+0.4
JISS				S	Sn	02 15 51.6	+0.3
JSH	Shimam	1.12	293	*i* P	Pn	02 15 35.5	+0.1
JOMM	Oshimamatsumae	1.27	238	*e*P	Pn	02 15 37.3	+0.2
ERM	Erimo	1.29	98		Pn	02 15 38.2	+1.0
ERM				Sn	Sn	02 15 57.2	+1.5
ERM	Erimo	1.29	98	*d* iPN	Pn	02 15 38.2	+1.0
ERM				pmax	pmax		
	comp=Z,774nm,0.5s						
JTM	Tenmabayashi	1.45	191	Pn	Pn	02 15 39.5	+0.4
JTM				Sn	Sn	02 15 58.9	-0.3
JOSM	Okushiri--Mats	1.47	266	P	Pn	02 15 39.1	-0.2
JOSM				*e*S	Sn	02 15 58.8	-0.7
JCH	Churui	1.48	74	⇓P	Pn	02 15 40.0	+0.6
JCH				⇓*e*S	Sn	02 16 00.3	+0.7
JHR	Hokuryu	1.54	8	P	Pn	02 15 40.9	+0.7
ASAJ	Asahikawa	2.08	24	P	Pn	02 15 47.2	+0.3
	comp=Z,82nm,0.2s,baz=221,slow=14,SNR=47						
ASAJ				S	Sn	02 16 11.7	-1.2
	comp=Z,67nm,0.3s,baz=194,slow=17,SNR=8.3						
JKA	Kamikawa-asahi	2.08	24		Pn	02 15 46.9	0.0
JKA				Sn	Sn	02 16 12.0	-1.0
JKA	Kamikawa-asahi	2.08	24	*e*P	Pn	02 15 47.2	+0.3
AKK	Akkeshi	2.63	71	*e*P	Pn	02 15 53.5	-0.5
AKK				*e*S	Sn	02 16 23.6	-2.1
NMR	Nemuro--Hokkai	3.36	68	*i* P	Pn	02 16 02.5	-1.1
NMR				*e*S	Sn	02 16 39.5	-3.3
NMR	Nemuro--Hokkai	3.36	68	⇑*i*PN	Pn	02 16 02.5	-1.1
NMR				*e*S	Sn	02 16 39.4	-3.3
RUSJ	Misakicho	3.36	55	*e*PN	Pn	02 16 06.4	+2.7
RUSJ				*e*S	Sn	02 16 47.3	+4.4
YUK	Yuzh-Kuril'sk	3.71	59	*e*P	Pn	02 16 08.9	+0.6
YUK				AMB	AMB	02 16 10.3	
	comp=Z,320nm,0.3s						
YUK				*i* S	Sn	02 16 50.7	-0.4
YUK				A	A	02 16 55.4	
	comp=Z,740nm,0.5s						
YUK				A	A	02 16 55.4	
	comp=Z,990nm,0.5s						
YUK	Yuzh-Kuril'sk	3.71	59	*e*PN	Pn	02 16 08.9	+0.6
YUK				*i* S	Sn	02 16 50.8	-0.4
YUK				pmax	pmax		
	comp=N,118nm,0.2s						
YUK				pmax	pmax		
	comp=Z,354nm,0.2s						
YUK				pmax	pmax		
	comp=E,49nm,0.1s						
YUK				smax	smax		
	comp=N,474nm,0.3s						
YUK				smax	smax		
	comp=E,997nm,0.3s						
SHO	Shikotan	4.28	65	*i* P	Pn	02 16 15.3	-0.6
SHO				AMB	AMB	02 16 15.9	
	comp=E,90nm,0.2s						
SHO				*e*S	Sn	02 17 00.8	-4.1
SHO				A	A	02 17 02.5	
	comp=E,590nm,0.4s						
SHO				A	A	02 17 02.5	
	comp=E,460nm,0.4s						
SHO	Shikotan	4.28	65	⇑*i*PN	Pn	02 16 15.3	-0.6
SHO				*e*S	Sn	02 17 00.6	-4.3
SHO				pmax	pmax		
	comp=Z,90nm,0.2s						
SHO				pmax	pmax		
	comp=N,15nm,0.1s						
SHO				smax	smax		
	comp=N,72nm,0.2s						
SHO				smax	smax		
	comp=E,627nm,0.2s						
JMM	Marumori	4.37	187	Pn	Pn	02 16 17.0	-0.2
TEY	Ternei	4.51	310	*e*P	Pn	02 16 18.6	-0.3
TEY	Ternei	4.51	310	⇑*e*PN	Pn	02 16 18.6	-0.3
TEY				pmax	pmax		
	comp=N,20nm,0.9s						
TEY				pmax	pmax		
	comp=E,20nm,0.9s						
TEY				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS	Yuzh-Sakhalins	4.83	11	*e*P	Pn	02 16 24.0	+0.7
YSS				AMB	AMB	02 16 24.7	
	comp=Z,20nm,0.8s						
YSS				*e*S	Sn	02 17 17.9	-0.2
YSS				A	A	02 17 21.6	
	comp=Z,20nm,0.8s						
YSS	Yuzh-Sakhalins	4.83	11	*e*PN	Pn	02 16 24.0	+0.7
YSS				*e*S	Sn	02 17 17.9	-0.2
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				smax	smax		
	comp=N,20nm,0.8s						
JSD	Sado	4.83	211	Pn	Pn	02 16 24.9	+1.5
KUR	Kuril'sk	5.55	55	*e*P	Pn	02 16 33.9	+0.9
KUR				AMB	AMB	02 16 36.4	
	comp=N,30nm,0.4s						
KUR				*i* S	Sn	02 17 35.0	-0.4
KUR				A	A	02 17 41.0	
	comp=N,70nm,0.3s						
KUR				A	A	02 17 41.0	
	comp=N,140nm,0.3s						
KUR	Kuril'sk	5.55	55	*e*PN	Pn	02 16 34.6	+1.6
KUR				*i* S	Sn	02 17 37.2	+1.8
KUR				pmax	pmax		
	comp=Z,55nm,0.7s						
KUR				smax	smax		
	comp=N,126nm,0.4s						
KUR				smax	smax		
	comp=E,86nm,0.4s						
MJB9	Matsu-Tunnel	6.19	205		Pn	02 16 43.8	+2.0
MAJO	Matsushiro	6.19	205		Pn	02 16 43.0	+1.2
MAJO	Matsushiro	6.19	205	*de*PN	Pn	02 16 43.2	+1.4
MJAR	Matsushiro Arr	6.19	205	P	Pn	02 16 43.2	+1.4
	comp=E,3.0nm,0.4s,baz=25,slow=13,SNR=8.3						
VLA	Vladivostok	7.10	281	⇑*e*PN	Pn	02 16 56.4	+2.3
USA0B	Ussuriysk Arra	7.19	289		Pn	02 16 54.9	-0.3
USA0B	Ussuriysk Arra	7.19	289	*c i* PN	Pn	02 16 57.0	+1.8
USRK	Ussuriysk Ar.	7.19	289		Pn	02 16 55.4	+0.2
USRK	Ussuriysk Ar.	7.19	289	P	Pn	02 16 56.0	+0.8
	comp=E,7.4nm,0.6s,baz=90,slow=15,SNR=15						
USRK	Ussuriysk Ar.	7.19	289	PN	Pn	02 16 56.0	+0.8
PSTR	Posyet	7.88	277	*e*P	Pn	02 17 06.3	+1.7
PSTR	Posyet	7.88	277	⇓*e*PN	Pn	02 17 03.8	-0.8
KLR	Kul'dur	9.75	319	P	Pn	02 17 30.1	+0.2
	comp=E,1.9nm,0.7s,baz=122,slow=14,SNR=5.9						
KLR	Kul'dur	9.75	319	*e*P	Pn	02 17 31.1	+1.2
KLR	Kul'dur	9.75	319	⇓*e*PN	Pn	02 17 31.5	+1.6
KLR				pmax	pmax		
	comp=Z,11nm,2.0s						
BNX	BinXian	10.71	294	⇑P	Pn	02 17 42.7	-0.3
BNX				pmax	pmax		
	comp=Z,6.0nm,1.5s						
PETK	Petropavlovsk-	15.41	39	P	Pn	02 18 42.4	-1.6
	comp=Z,5.1nm,0.9s,baz=211,slow=11,SNR=6.7						
MA2	Magadan	18.32	15	P	P	02 19 16.1	-2.0
	comp=Z,17nm,0.7s,baz=192,slow=18,SNR=4.0						
TIA	Tai'an	19.74	260	P	P	02 19 32.7	-1.1
TIA				pmax	pmax		
	comp=Z,12nm,0.7s						
YAK	Yakutsk	21.05	344	⇓*e*P	P	02 19 45.9	-1.7
YAK				pmax	pmax		
	comp=Z,16nm,0.5s						
SEY	Seymchan	21.73	14	P	P	02 19 53.0	-1.9
	comp=Z,6.3nm,0.4s,baz=192,slow=8.9,SNR=23						
	comp=Z,6.3nm,0.4s						
SEY	Seymchan	21.73	14	*e*P	P	02 19 53.5	-1.4
SEY	Seymchan	21.73	14	⇓*e*P	P	02 19 53.5	-1.4
SEY				pmax	pmax		
	comp=Z,38nm,3.3s						
HHC	Hu-ho-hao-te	22

comp=Z,5.0nm,0.7s
KURBB **Kurchatov Arra** 42.99 304 P P 02 23 00.7 -0.1
comp=Z,3.5nm,0.5s,baz=77,slow=8.9,SNR=20
comp=Z,3.5nm,0.5s
E22K **Anaktuvuk Pass** 43.07 30 P P 02 23 01.5 +0.2
E22K IAmb IAmb 02 23 02.0
comp=Z,5.4nm,0.8s
G23K **Bananza Creek** 43.75 32 P P 02 23 06.8 0.0
G23K IAmb IAmb 02 23 08.0
comp=Z,4.6nm,0.9s
D24K **Happy Valley** 44.18 29 P P 02 23 09.8 -0.4
NEA2 **Nenana** 44.26 35 P P 02 23 12.0 +1.2
NEA2 IAmb IAmb 02 23 13.2
comp=Z,4.4nm,0.7s
E24K **Your Creek** 44.31 30 P P 02 23 11.6 +0.3
F24K **Squaw Lake** 44.56 31 P P 02 23 13.5 +0.2
D25K **Kavik River** 45.05 29 P P 02 23 17.0 -0.1
D25K IAmb IAmb 02 23 18.2
comp=Z,3.9nm,0.6s
IL31 45.17 35 P P 02 23 18.8 +0.7
ILAR **Eielson Array** 45.17 35 P P 02 23 18.2 +0.2
comp=Z,2.1nm,0.9s,baz=275,slow=7.3,SNR=21
comp=Z,2.1nm,0.9s
WUS **Wushi** 45.53 291 P P 02 23 21.6 +0.2
WUS IAmb IAmb 02 23 23.4
comp=Z,4.3nm,0.7s
PRP **Porcupine Dome** 45.66 34 P P 02 23 23.3 +1.2
PRP IAmb IAmb 02 23 24.3
comp=Z,3.8nm,0.6s
C27K **Jago River** 45.97 28 P P 02 23 24.8 +0.5
C27K IAmb IAmb 02 23 26.4
comp=Z,4.0nm,0.7s
F26K **Sheenjek River** 45.98 31 P P 02 23 25.5 +1.1
SCRK **Sand Creek** 46.53 36 P P 02 23 29.2 +0.3
SCRK IAmb IAmb 02 23 29.8
comp=Z,6.1nm,0.8s
BVAR **Borovoye Array** 47.22 309 P P 02 23 33.9 -0.4
comp=Z,2.3nm,0.5s,baz=71,slow=8.2,SNR=15
comp=Z,2.3nm,0.5s
BRVK **Borovoye** 47.27 309 *e*P P 02 23 34.8 +0.2
K27K **Chicken** 47.35 36 P P 02 23 36.3 +1.2
K27K IAmb IAmb 02 23 37.4
comp=Z,11nm,1.3s
I28M **Miner Creek** 47.98 33 P P 02 23 41.4 +1.3
E29M **Blow River** 48.21 29 P P 02 23 42.7 +1.1
AAK **Ala-Archa** 48.21 294 *e*P P 02 23 42.5 +0.3
EPYK **Eagle Plains** 49.07 32 P P 02 23 49.7 +1.4
K29M **Barlow Dome** 49.35 35 P P 02 23 52.0 +1.3
K29M IAmb IAmb 02 23 52.6
comp=Z,4.2nm,0.7s
I30M **Mount Dempster** 49.48 33 P P 02 23 53.1 +1.5
ARSB **Arslanbob** 49.78 293 P P 02 23 54.9 +0.7
ARSB **Arslanbob** 49.78 293 P P 02 23 54.9 +0.7
ARSB pmax pmax
comp=Z,1.0nm,1.0s
INK **Inuvik** 49.81 29 P P 02 23 54.6 +0.8
INK IAmb IAmb 02 23 56.1
comp=Z,3.6nm,0.6s
INK **Inuvik** 49.81 29 P P 02 23 54.6 +0.8
INK pmax pmax
comp=Z,4.0nm,0.6s
H31M **Peel River** 50.15 32 P P 02 23 57.6 +1.1
A36M **Sachs Harbour** 51.48 23 P P 02 24 07.5 +1.2
ARTI **Arti** 52.68 316 P P 02 24 15.5 0.0
ARTI IAmb IAmb 02 24 16.2
comp=Z,4.3nm,0.7s
ARTI **Arti** 52.68 316 *d*P P 02 24 15.4 0.0
ARTI S S 02 31 35.6 +1.3
ARTI SS SS 02 35 09.5 -4.0
ARTI pmax pmax
comp=Z,4.0nm,0.7s
ABKAR **Akbulak array** 54.71 307 P P 02 24 30.6 +0.2
ABKAR IAmb IAmb 02 24 31.1
comp=Z,2.1nm,0.7s
KIRV **Kirov** 56.19 321 *ce*P P 02 24 41.6 +0.9
ARCES **ARCESS Array B** 59.18 338 P P 02 25 00.9 -0.6
comp=Z,4.6nm,1.1s,baz=60,slow=8.5,SNR=4.4
comp=Z,4.6nm,1.1s
WRA **Warramunga Arr** 62.19 188 P P 02 25 22.2 -0.3
comp=Z,0.3nm,0.4s,baz=5.5,slow=6.9,SNR=5.8
comp=Z,0.3nm,0.4s
FINES **FINESS Array B** 64.27 331 P P 02 25 34.9 -0.8
comp=Z,1.2nm,0.4s,baz=37,slow=8.6,SNR=22
comp=Z,1.2nm,0.4s
FINES **FINESS Array B** 64.27 331 *ce*P P 02 25 35.7 0.0
FINES pmax pmax
comp=Z,1.0nm,0.4s
F07A **Phinny Hill Vi** 66.34 49 P P 02 25 49.7 +0.3
MNK **Minsk** 68.25 325 *i* P P 02 26 00.5 -0.7
comp=E,7.0nm,0.8s
MNK *i* P P 02 26 00.5 -0.7
comp=N,10.0nm,1.0s
MNK *i* P P 02 26 00.5 -0.7
comp=Z,5.0nm,0.8s,baz=47
MNK *i* pP pP 02 26 30.1 +1.1
MNK *i* PP PP 02 28 32.6 0.0
MNK *i* PPP PPP 02 30 12.9
MNK *i* S S 02 34 52.6 -0.1
MNK *i* sS SKiKP 02 35 44.1 -0.2
MNK *i* SS SS 02 39 23.3 +6.6
MNK *i* SSS SSS 02 42 36.2
MNK *i* LR LR 02 57 36.9
MNK *i* LRM MLR 02 58 38.1
comp=N,72nm,14.3s
MNK *i* LRM MLR 02 58 45.3
comp=Z,52nm,13.8s
MNK *i* LRM MLR 02 59 31.7
comp=E,89nm,16.3s
MNK **Minsk** 68.25 325 *i* P P 02 26 00.5 -0.7
MNK *i* *PP pP 02 26 30.1 +1.1
MNK *i* 02 28 32.6
MNK *i* PPP PPP 02 30 12.9
MNK *i* S S 02 34 52.5 -0.1
MNK *i* *SS SKiKP 02 35 44.0 -0.2
MNK *i* SS SS 02 39 23.3 +6.6
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=N,10.0nm,1.0s
MNK MLR MLR
comp=N,72nm,14.0s
MNK MLR MLR
comp=Z,52nm,14.0s
MNK MLR MLR
comp=E,89nm,16.0s
NACGM **Naroch** 68.44 326 *e*P P 02 26 11.3 +8.8
comp=Z,18nm,1.1s,baz=46
HFS **Hagfors** 69.39 335 P P 02 26 08.2 -0.1
comp=Z,1.2nm,0.5s,baz=46,slow=6.4,SNR=13
comp=Z,1.2nm,0.5s
NB2 **NORSAR Subarra** 69.44 337 P P 02 26 08.4 -0.2
comp=Z,0.4nm,0.5s,baz=36,slow=6.5
NOA **NORSAR Array B** 69.44 337 P P 02 26 08.4 -0.2
comp=Z,0.5nm,0.6s,baz=205,slow=2.7,SNR=4.2
comp=Z,0.5nm,0.6s
AKASG **Malin Array Be** 70.25 321 P P 02 26 13.1 -0.5
comp=Z,0.5nm,0.5s,baz=44,slow=6.4,SNR=5.9
comp=Z,0.5nm,0.5s
DLMT **Dillon** 70.69 46 P P 02 26 18.1 +1.5
DLMT IAmb IAmb 02 26 18.6
comp=Z,3.2nm,0.6s
BOZ **Bozeman (W)** 71.05 45 P P 02 26 19.8 +1.0
BOZ **Bozeman (W)** 71.05 45 P P 02 26 19.8 +1.0
BOZ pmax pmax
comp=Z,2.0nm,0.7s
NVAR **Mina Array Bea** 71.91 54 P P 02 26 24.4 +0.2
comp=Z,1.0nm,0.7s,baz=297,slow=4.6,SNR=7.7
comp=Z,1.0nm,0.7s
PD31 **Pinedale Array** 74.05 46 P P 02 26 37.6 +0.9
PDAR **Pinedale Array** 74.05 46 P P 02 26 37.4 +0.6
comp=Z,1.0nm,0.7s,baz=267,slow=2.4,SNR=12
comp=Z,1.0nm,0.7s
MMAI **Mount Meron Ar** 79.02 305 P P 02 27 04.8 +0.1
comp=Z,2.5nm,0.9s,baz=63,slow=6.6,SNR=4.5
comp=Z,2.5nm,0.9s
TXAR **Lajitas Array** 86.95 52 P P 02 27 46.6 +0.9
comp=Z,0.3nm,0.6s,baz=282,slow=2.4,SNR=5.6
comp=Z,0.3nm,0.6s

*IDC **08** 02:40:31.3±1.1, 3°.01S×141°.06E, h0km, mb3.8/7, mbtmp3.9/9, ML3.5/2, MS3.5/20, Error ellipse: s-maj=41.3km s-min=14.5km az=93.0*

*NEIC **08** 02:40:34.5±1.7, 2°.6S±0°.1×139°.94E±0°.10, h35km±2km, mb4.4/8, Error ellipse: s-maj=19.8km s-min=13.9km az=322.0*

*DJA **08** 02:40:42.8±1.4, 1°.S±18°×14°.0E±1°.0, h10km, M4.5/4, mb4.3/1, mB6.4/1, MLv4.6/4, Mw(mB)6.1/1*

ISC 08 02:40:42.9±0.8, 3°.14S±0°.09×139°.23E±0°.08, h35km, n40, σ1§21/20, mb3.8/8, MS3.6/15, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.08**	**60**	P	**Pn**	**02 41 03.8**	**+2.2**
JAY	**Jayapura**	**1.60**	**67**	P	**Pn**	**02 41 09.4**	**+0.7**
RKPI	**Ransiki, Papua**	**5.30**	**288**	P	Pn	02 42 05.7	+6.1
FAKI	**Fak Fak**	**6.97**	**272**	Pn	**Pn**	**02 42 24.3**	**+1.6**
MANU	**Manus Island**	**8.20**	**83**	Pn	Pn	02 42 20.7	-19
PMG	**Port Moresby**	**10.04**	**129**	Pn	Pn	02 42 38.0	-27
	11nm,0.3s,baz=95,slow=8.1,SNR=15						
PMG				Sn	Sn	02 44 04.3	-52
	2.0nm,0.3s,baz=19,slow=7.9,SNR=8.2						
	25nm,0.4s						
MTN	**Manton Dam**	**12.54**	**219**	Pn	**Pn**	**02 43 41.0**	**+2.1**
KNRA	**Kununurra**	**16.17**	**219**	Pn	**P**	**02 44 29.5**	**-1.0**
KNRA				IAmb	IAmb	02 44 39.5	
	comp=Z,25nm,1.0s						
SOEI	**Soe**	**16.25**	**245**		**P**	**02 44 30.5**	**-1.0**
SOEI				IAmb	IAmb	02 44 59.3	
	comp=Z,43nm,0.9s						
BATI	**Baumata**	**16.97**	**245**	LR	LR	02 54 04.0	
	comp=Z,116nm,18.6s,baz=110,slow=44						
WB0	**Warramunga Arr**	**17.19**	**196**		**Pn**	**02 44 39.4**	**-1.2**
WR0	**Warramunga Arr**	**17.34**	**195**		**Pn**	**02 44 41.8**	**-0.5**
WB2	**Warramunga Arr**	**17.37**	**196**		**Pn**	**02 44 42.8**	**+0.1**
WB2				IAmb	IAmb	02 45 13.8	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**17.37**	**196**	P	**Pn**	**02 44 42.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=12,slow=12,SNR=9.9						
WRA				S	**Sn**	**02 47 55.5**	**+0.3**
	comp=Z,3.5nm,1.0s,baz=18,slow=22,SNR=5.6						
WRA				LR	LR	02 52 12.0	
	comp=Z,339nm,19.2s,baz=78,slow=39						
	comp=Z,1.3nm,0.9s						
GUMO	**Guam**	**17.53**	**18**	LR	LR	02 50 00.1	
	comp=Z,85nm,21.7s,baz=54,slow=34						
CTA	**Charters Tower**	**18.19**	**158**	LR	LR	02 52 37.4	
	comp=Z,15nm,19.5s,baz=330,slow=41						
FITZ	**Fitzroy Crossi**	**19.96**	**221**	P	**Pn**	**02 45 15.1**	**+1.0**
	comp=Z,2.9nm,0.4s,baz=62,slow=12,SNR=9.2						
FITZ				S	**S**	**02 48 53.8**	**-1.3**
	comp=Z,4.4nm,0.7s,baz=110,slow=14,SNR=3.4						
FITZ				LR	LR	02 53 41.7	
	comp=Z,186nm,21.0s,baz=22,slow=37						
ASAR	**Alice Springs**	**21.05**	**194**	P	**P**	**02 45 24.6**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=18,slow=11,SNR=31						
ASAR				S	Sn	02 49 26.0	+2.1
	comp=Z,0.8nm,0.7s,baz=17,slow=23,SNR=3.5						
ASAR				LR	LR	02 54 27.3	
	comp=Z,246nm,19.3s,baz=16,slow=39						
	comp=Z,1.4nm,0.7s						
PSA00	**Pilbara Seismi**	**26.29**	**224**	P	**P**	**02 46 15.2**	**-0.1**
STKA	**Stephens Creek**	**28.68**	**176**	LR	LR	02 58 34.7	
	comp=Z,155nm,20.6s,baz=26,slow=38						
NWAO	**Narrogin (SRO)**	**36.09**	**212**	LR	LR	03 03 50.6	
	comp=Z,247nm,18.0s,baz=40,slow=38						
JNU	**Nakatsue**	**36.92**	**348**	LR	LR	03 00 01.0	
	comp=Z,41nm,19.2s,baz=200,slow=31						
TAU	**Tasmania Unive**	**40.26**	**171**	P	P	02 48 08.0	-8.4
KSRS	**Korea Array**	**41.34**	**146**	LR	LR	03 06 20.1	
	comp=Z,20nm,18.9s,baz=135,slow=37						
ASAJ	**Asahikawa**	**47.13**	**3**	LR	LR	03 11 11.8	
	comp=Z,20nm,19.3s,baz=170,slow=39						
URZ	**Urusvera**	**49.16**	**140**	LR	LR	03 10 13.4	
	comp=Z,55nm,18.0s,baz=31,slow=37						
KLR	**Kul'dur**	**52.56**	**354**	LR	LR	03 09 05.6	
	comp=Z,28nm,20.1s,baz=171,slow=33						
PETK	**Petropavlovsk-**	**58.15**	**13**	LR	LR	03 11 47.8	
	comp=Z,28nm,21.9s,baz=126,slow=33						
SONM	**Songino Array**	**58.32**	**335**	P	**P**	**02 50 34.4**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=128,slow=7.5,SNR=2.1						
SONM				LR	LR	03 16 24.9	
	comp=Z,37nm,19.5s,baz=284,slow=36						
	comp=Z,0.3nm,0.5s						
MA2	**Magadan**	**63.18**	**7**	LR	LR	03 18 57.1	
	comp=Z,18nm,18.0s,baz=214,slow=37						
MKAR	**Makanchi Array**	**70.44**	**322**	P	**P**	**02 51 53.4**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=110,slow=7.8,SNR=12						
	comp=Z,1.3nm,0.5s						
MAKZ	**Makanchi**	**70.64**	**322**	P	P	02 51 44.9	-10
MAKZ				IAmb	IAmb	02 51 56.1	
	comp=Z,4.1nm,0.8s						
ZALV	**Zalesovo Beam**	**72.56**	**330**	P	**P**	**02 52 04.5**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=118,slow=5.7,SNR=2.2						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**74.37**	**325**	P	**P**	**02 52 16.2**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=120,slow=6.0,SNR=6.0						
	comp=Z,0.5nm,0.5s						
BVAR	**Borovoye Array**	**79.95**	**325**	P	**P**	**02 52 47.2**	**-1.2**
	comp=Z,1.0nm,0.4s,baz=119,slow=7.1,SNR=7.3						
	comp=Z,1.0nm,0.4s						
MAW	**Mawson**	**81.93**	**202**	LR	LR	03 28 51.0	
	comp=Z,36nm,18.0s,baz=159,slow=35						
ILAR	**Eielson Array**	**86.00**	**24**	P	P	02 53 10.4	-9.1
	comp=Z,0.2nm,0.6s,baz=254,slow=5.3,SNR=1.7						
	comp=Z,0.2nm,0.6s						
BBB	**Bella Bella**	**94.09**	**38**	LR	LR	03 26 52.3	
	comp=Z,26nm,20.4s,baz=68,slow=30						
YBH	**Yreka Blue Hor**	**98.09**	**48**	LR	LR	03 30 07.3	
	comp=Z,44nm,19.2s,baz=309,slow=31						
YKA	**Yellowknife Ar**	**100.21**	**27**	LR	LR	03 33 34.5	
	comp=Z,33nm,20.4s,baz=318,slow=32						

*AFAD **08** 03:03:28.0±0.0, 41°.56N×43°.91E, h7km±2km, ML1.8*

*MOS **08** 03:03:28.8, 41°.74N×44°.13E, h5km, MPVA3.2*

*NORS **08** 03:03:28.1, 41°.72N×44°.06E, h5km, MPVA3.5*

*DRS **08** 03:03:29.4, 41°.74N×44°.05E, h0km*

ISC 08 03:03:26.9±1.0, 41°.55N±0°.03×44°.05E±0°.02, h15km±10km, n23, σ1§14/47, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAK	**Akyaka**	**0.93**	**201**	P	**Pg**	**03 03 45.0**	**+0.1**
EAK				*i* AML	AML	03 03 58.0	
	comp=E,74nm,0.5s						
EAK				S	**Sn**	**03 03 58.2**	**-0.4**
EAK				*i* AML	AML	03 03 59.0	
	comp=N,55nm,0.4s						
GUDG	**Gudauri**	**0.97**	**19**	*i* Pg	**Pn**	**03 03 45.4**	**-0.7**
GUDG				*e*Sg	**Sn**	**03 03 58.7**	**-1.0**
EPOS	**Posof**	**0.99**	**268**	P	**Pb**	**03 03 45.2**	**-0.7**
EPOS				S	**Sb**	**03 03 58.4**	**-0.4**
EPOS				*i* AML	AML	03 04 07.0	
	comp=E,15nm,0.3s						
EPOS				*i* AML	AML	03 04 11.0	
	comp=N,25nm,0.6s						
AHAN	**Ardahan-Merkez**	**1.14**	**251**	P	**Pg**	**03 03 48.5**	**-0.5**
AHAN				*i* AML	AML	03 04 11.0	
	comp=N,14nm,0.5s						
AHAN				*i* AML	AML	03 04 12.0	
	comp=E,18nm,0.7s						
DIGO	**Kars**	**1.25**	**204**	P	**Pg**	**03 03 51.0**	**0.0**
DIGO				S	**Sg**	**03 04 07.8**	**+0.6**
DIGO				*i* AML	AML	03 04 12.0	
	comp=N,50nm,0.4s						
DIGO				*i* AML	AML	03 04 12.0	
	comp=E,66nm,0.7s						
BOZK	**Kars-Merkez-Bo**	**1.26**	**221**	P	**Pg**	**03 03 51.1**	**-0.1**
BOZK				*i* AML	AML	03 04 08.0	
	comp=N,14nm,0.5s						
BOZK				S	**Sg**	**03 04 08.2**	**+0.6**
BOZK				*i* AML	AML	03 04 11.0	
	comp=E,14nm,0.5s						
LACR	**Lac**	**1.29**	**8**	*i* Pg	**Pg**	**03 03 51.1**	**-0.7**
LACR				*e*Sg	**Sg**	**03 04 08.5**	**-0.1**
GOLE	**Ardahan-G¶le**	**1.31**	**237**	P	**Pg**	**03 03 51.8**	**-0.3**
GOLE				S	**Sg**	**03 04 09.4**	**+0.2**
GOLE				*i* AML	AML	03 04 10.0	
	comp=N,58nm,0.3s						
GOLE				*i* AML	AML	03 04 10.0	
	comp=E,62nm,0.2s						
DIGR	**Digorskoe uzhe**	**1.39**	**346**	*e*Pg	**Pg**	**03 03 52.6**	**-1.2**
DIGR				*e*Sg	**Sg**	**03 04 12.0**	**+0.1**
KORR	**Kora**	**1.53**	**1**	*e*Pg	**Pg**	**03 03 56.7**	**+0.2**
KORR				*e*Sg	**Sg**	**03 04 17.4**	**+1.0**
ARNR	**Ardon**	**1.64**	**6**	*e*Pg	**Pg**	**03 03 58.5**	**+0.1**
ARNR				*e*Sg	**Sg**	**03 04 20.2**	**+0.6**
STDR	**Stavd-Durt**	**1.82**	**0**	*e*Pg	**Pg**	**03 04 01.7**	**-0.1**
STDR				*e*Sg	**Sg**	**03 04 28.6**	**+3.2**
BTLR	**Botlikh**	**1.96**	**55**	*e*Pg	**Pg**	**03 04 04.1**	**-0.5**
	8.0nm,0.7s						
BTLR				*e*Sg	**Sg**	**03 04 29.0**	**-1.1**
	15nm,0.7s						
DVE	**Vedeno**	**2.09**	**47**	*e*Pg	**Pg**	**03 04 06.8**	**-0.2**
DVE				*e*Sg	**Sg**	**03 04 34.4**	**+0.3**
XNZR	**Khunzakh**	**2.21**	**63**	*e*Pg	**Pg**	**03 04 08.7**	**-0.7**
	4.0nm,0.3s						
XNZR				*e*Sg	**Sg**	**03 04 37.1**	**-1.0**
	7.0nm,0.6s						
GNBR	**Gunib**	**2.33**	**68**	*e*Pn	**Pg**	**03 04 10.4**	**-1.3**
	5.0nm,0.5s						
GNBR				*e*Sn	**Sb**	**03 04 39.1**	**+1.9**
	16nm,0.6s						
UNCR	**Uncukul**	**2.35**	**59**	*e*Pn	**Pg**	**03 04 10.7**	**-1.3**
	4.0nm,0.9s						
UNCR				*e*Sn	**Sg**	**03 04 40.2**	**-2.2**
	16nm,0.4s						
KMKR	**Kumukh**	**2.35**	**75**	*e*Pn	**Pb**	**03 04 10.1**	**+1.0**
KMKR				*e*Pn	**Pb**	**03 04 10.1**	**+1.0**
	4.0nm,0.4s						
KMKR				*e*Sn	**Sg**	**03 04 41.0**	**-1.6**
KMKR				*e*Sn	**Sg**	**03 04 41.0**	**-1.6**
	24nm,0.2s						
SHA1	**Shidzhatmaz**	**2.41**	**335**	*e*Pn	**Pg**	**03 04 11.5**	**-1.7**
SHA1				*e*Sn	**Sb**	**03 04 40.8**	**+0.9**
ARKR	**Arakani**	**2.43**	**63**	*e*Pn	**Pb**	**03 04 11.5**	**+1.1**
	3.0nm,0.9s						
ARKR				*e*Sn	**Sb**	**03 04 42.2**	**+2.1**
	5.0nm,0.6s						
DLMR	**Dylym**	**2.44**	**51**	*e*Pn	**Pb**	**03 04 11.1**	**+0.6**
	18nm,0.2s						
DLMR				*e*Sn	**Sb**	**03 04 41.8**	**+1.3**
	36nm,0.3s						
KRNR	**Karanay**	**2.48**	**58**	*e*Pn	**Pb**	**03 04 12.1**	**+1.0**
	2.0nm,0.4s						
KRNR				*e*Sn	**Sb**	**03 04 43.2**	**+1.7**
	4.0nm,0.3s						
DBC	**Dubki**	**2.53**	**54**	*e*Pn	**Pb**	**03 04 12.5**	**+0.4**
	2.0nm,0.4s						
DBC				*e*Sn	**Sb**	**03 04 44.1**	**+1.1**
	7.0nm,0.2s						

DJA 08 03:07:36.2±0.3, 8°.S±6°×11°.7E±°, h10km, M3.6/10, MLv3.6/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.87**	**115**	P	Pg	03 07 52.8	-0.2
PLAI				S	Sg	03 08 04.6	+0.3
DNP	**Denpasar**	**1.76**	**263**	P	Pn	03 08 07.7	+0.9
SRBI	**Singaraja**	**1.79**	**282**	P	Pn	03 08 07.8	+0.6
WBSI	**Waikabubak, Su**	**2.66**	**116**	P	Pn	03 08 19.6	+0.5
JAGI	**Jajag, Banyuwa**	**2.80**	**270**	P	Pn	03 08 20.8	-0.3
KMMI	**Kalianget**	**3.30**	**295**	P	Pn	03 08 29.2	+1.3
GMJI	**Gumukmas**	**3.50**	**273**	P	Pn	03 08 31.4	+0.6
BSSI	**Bau Bau, Buton**	**4.17**	**57**	P	Pn	03 08 40.2	+0.2
BKSI	**Bulukumba**	**4.41**	**45**	P	Pn	03 08 42.4	-0.8

JMA 08 03:09:05.4±0.3, 25°.N±4°×122°.8E±0°.9, h172km±4km, MV2.3/13, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.78**	**171**	S	Sn	03 09 51.0	+0.8
IRIF	**Iriomote-Funau**	**1.22**	**137**	P	Pn	03 09 34.3	+0.3
JKRS	**Kuro-shima**	**1.47**	**132**	P	Pn	03 09 36.8	+0.4
JKRS				S	Sn	03 10 00.0	-0.1
HATJ	**Hateruma jima**	**1.47**	**142**	P	Pn	03 09 36.9	+0.5
HATJ				*e*S	Sn	03 10 00.5	+0.2
JIJ	**Ishigaki jima**	**1.48**	**125**	P	Pn	03 09 36.4	-0.1
JIJ				S	Sn	03 09 59.4	-1.0
JISG	**Ishigakijimahi**	**1.50**	**115**	S	Sn	03 10 00.6	-0.2
JTJ	**Tarama**	**1.81**	**108**	*e*P	Pn	03 09 40.3	+0.5
JTJ				*e*S	Sn	03 10 06.2	-0.3
JIRB	**Irabujima**	**2.18**	**100**	*e*S	Sn	03 10 12.9	-0.7
JMJ2	**Miyako jima3**	**2.33**	**101**	*e*S	Sn	03 10 16.9	+0.1

TAP 08 03:09:49.6, 24°.50N×121°.55E, h22km±1km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LATG	**Datong**	**0.04**	**325**	*e*P	Pb	03 09 54.0	+0.5
LATG				*e*S	Sb	03 09 57.9	+1.6
ENTT	**Nioudou**	**0.14**	**5**	*e*P	Pb	03 09 55.0	-0.3
NNSB	**Datong**	**0.17**	**245**	*e*P	Pb	03 09 54.8	-0.6
NNSB				*e*S	Sb	03 09 58.8	-0.6
EWUT	**Wuta**	**0.21**	**105**	*e*P	Pb	03 09 55.9	+0.5
YHNB	**Yeheng**	**0.23**	**316**	*e*P	Pb	03 09 56.0	+0.3
YHNB				*e*S	Sb	03 10 00.4	+0.5
NSK	**Sanguang**	**0.25**	**315**	*e*P	Pb	03 09 56.2	+0.4
NSK				*e*S	Sb	03 10 00.5	+0.4
FUSB	**Fushanzhiwuyua**	**0.26**	**7**	*e*P	Pb	03 09 56.0	+0.1
ETLH	**Xiulin Townshi**	**0.30**	**193**	*e*P	Pb	03 09 57.0	+0.6
ETLH				*e*S	Sb	03 10 01.6	+0.5
NACB	**Ninganchiao**	**0.33**	**173**	P	Pb	03 09 57.4	+0.6
FUSS	**Fushou**	**0.38**	**228**	P	Pb	03 09 58.4	+0.7
FUSS				*e*S	Sb	03 10 04.5	+1.3
NFF	**Wufeng Townshi**	**0.42**	**288**	*e*P	Pb	03 09 58.2	0.0
TWT	**Tachien**	**0.42**	**235**	*e*P	Pb	03 09 59.0	+0.6
TWT				*e*S	Sn	03 10 06.1	-1.7
TDCB	**Techi**	**0.44**	**236**	*e*S	Sb	03 10 06.3	+1.6
WHF	**Hehuan Shan**	**0.44**	**217**	*e*P	Pb	03 09 59.0	+0.1
WHF				*e*S	Sb	03 10 06.1	+0.9
LXIB	**Xiulin Townshi**	**0.49**	**195**	*e*P	Pb	03 10 00.1	+0.5

*IDC **08** 03:36:34.4±7.6, 7°.29S×128°.66E, h134km±79km, mb3.6/2, mbtmp3.9/5, Error ellipse: s-maj=69.1km s-min=25.5km az=36.0*

*NEIC **08** 03:36:34.8±1.4, 7°.39S±0°.09×128°.58E±0°.08, h138km±8km, mb4.2/6, Error ellipse: s-maj=13.3km s-min=11.5km az=170.0*

ISC 08 03:36:35.6±0.8, 7°.43S±0°.08×128°.65E±0°.07, h151km, n23, σ1§12/25, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.68**	**102**	Pn	**Pn**	**03 37 19.8**	**+0.8**
SOEI	**Soe**	**4.91**	**242**		**Pn**	**03 37 46.2**	**-1.9**
BATI	**Baumata**	**5.65**	**240**	P	**Pn**	**03 37 58.6**	**+0.9**
	192nm,0.4s,baz=93,slow=8.2,SNR=14						
BATI				S	**Sn**	**03 39 02.0**	**+0.1**
	62nm,0.4s,baz=37,slow=16,SNR=6.0						
FAKI	**Fak Fak**	**5.74**	**39**	Pn	**Pn**	**03 37 58.2**	**-0.7**
MTN	**Manton Dam**	**5.90**	**156**	Pn	**Pn**	**03 38 00.4**	**-0.7**
KNRA	**Kununurra**	**8.19**	**179**	Pn	**Pn**	**03 38 32.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**11.00**	**195**	P	**Pn**	**03 39 08.2**	**-0.7**
	5.1nm,0.8s,baz=15,slow=13,SNR=11						
FITZ				S	Sn	03 41 02.3	-8.3
	3.6nm,0.3s,baz=289,slow=20,SNR=9.0						
WB0	**Warramunga Arr**	**13.47**	**156**	Pn	**Pn**	**03 39 40.5**	**-0.4**
WRA	**Warramunga Arr**	**13.60**	**157**	Pn	**Pn**	**03 39 42.6**	**0.0**
WRA	**Warramunga Arr**	**13.60**	**157**	P	**Pn**	**03 39 43.6**	**+1.0**
	0.3nm,0.4s,baz=342,slow=13,SNR=8.9						
WRA				S	Sn	03 42 06.7	-6.6
	0.8nm,0.6s,baz=323,slow=23,SNR=4.1						
WB2	**Warramunga Arr**	**13.61**	**157**	Pn	**Pn**	**03 39 42.1**	**-0.5**
WR0	**Warramunga Arr**	**13.70**	**156**	Pn	**Pn**	**03 39 42.6**	**-1.2**
COEN	**Coen**	**15.67**	**116**		**Pn**	**03 40 08.5**	**+0.1**
COEN				IAmb	IAmb	03 40 37.5	
	comp=Z,16nm,1.5s						
PSA00	**Pilbara Seismi**	**16.43**	**210**		**P**	**03 40 17.9**	**+0.3**
PSA00				IAmb	IAmb	03 40 24.9	
	comp

comp=Z,0.5nm,0.4s
KURBB **Kurchatov Arra** 72.19 329 P P 03 47 43.6 -0.3
comp=Z,0.6nm,0.3s,baz=127,slow=5.6,SNR=6.5
comp=Z,0.6nm,0.3s
ABKAR **Abkulak array** 82.02 322 P P 03 48 38.3 -0.5
ABKAR **Abkulak array** 82.02 322 P P 03 48 38.4 -0.5
ABKAR IAmb IAmb 03 48 41.3
comp=Z,1.4nm,1.1s

SIGU ***08*** *03:47:48.8, 45°.73N×26°.60E, h74km*
BUC ***08*** *03:47:49.0±0.1, 45°.72N×26°.62E, h74km±1km, ml3.7/65, Error ellipse: s-maj=1.4km s-min=1.0km az=27.0*
MCSM ***08*** *03:47:48.7±0.2, 46°.N±2°×2°.7E±°, h74km±4km, mB5.5, mb3.9, MLv3.2, Mw(mB)5.0*
MOLD ***08*** *03:47:49.8, 45°.92N×26°.78E, h40km, MB2.7, Mb3.2*
BEO ***08*** *03:47:50.3±1.4, 45°.65N×26°.45E, h49km, ML3.2/11*
SOF ***08*** *03:47:50.4, 45°.58N±0°.03×26°.53E±0°.02, h80km±3km, MD3.1/5*

ISC 08 03:47:48.1±1.1, **45°.72N**±0°.02×**26°.59E**±0°.02, **h83**km±4km, **n166**, σ1§**12**/223, **67C-42D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBR	**Spulber**	**0.12**	**73**	⇑P	**Pn**	**03 48 00.5**	**+0.4**
PLOR5	**Plostina Array**	**0.14**	**23**	P	**Pn**	**03 48 00.9**	**+0.7**
PLOR	**Plostina**	**0.14**	**18**	⇑P	**Pn**	**03 47 59.9**	**-0.2**
PLOR				⇓S	**Sn**	**03 48 07.9**	**-1.2**
VRI	**Vrincioaia**	**0.18**	**33**	⇑P	**Pn**	**03 48 00.2**	**-0.1**
VRI				⇓S	**Sn**	**03 48 08.1**	**-1.1**
VRI	**Vrincioaia**	**0.18**	**33**	P	**Pn**	**03 48 00.1**	**-0.2**
BISRR	**Bisoca**	**0.19**	**152**	⇑P	**Pn**	**03 48 00.9**	**+0.5**
BISRR				⇑S	**Sn**	**03 48 09.6**	**-0.4**
BISRR	**Bisoca**	**0.19**	**152**	P	**Pn**	**03 48 00.9**	**+0.5**
COVR	**Voineasa-Covas**	**0.30**	**296**	⇑P	**Pn**	**03 48 00.8**	**0.0**
COVR				⇑S	**Sn**	**03 48 09.4**	**-0.8**
ODBI	**Odobesti**	**0.33**	**81**	⇑S	**Sn**	**03 48 10.6**	**+0.1**
ODBI	**Odobesti**	**0.33**	**81**	P	**Pn**	**03 48 01.9**	**+1.0**
NEHR	**Nehoiu**	**0.35**	**215**	⇑P	**Pn**	**03 48 02.2**	**+1.1**
NEHR				⇓S	**Sn**	**03 48 10.5**	**-0.3**
PANC	**Panciu**	**0.42**	**68**	⇑P	**Pn**	**03 48 01.9**	**+0.4**
PANC				⇑S	**Sn**	**03 48 11.7**	**+0.1**
MLR	**Muntele Rosu**	**0.50**	**244**	⇑P	**Pn**	**03 48 03.2**	**+0.8**
MLR				⇑S	**Sn**	**03 48 13.0**	**+0.1**
MLR	**Muntele Rosu**	**0.50**	**244**	P	**Pn**	**03 48 03.2**	**+0.8**
TURR	**Turia**	**0.52**	**311**	⇓P	**Pn**	**03 48 02.8**	**+0.4**
TURR				⇑S	**Sn**	**03 48 12.5**	**-0.5**
COSR	**Cosmesti PH**	**0.53**	**74**	⇑S	**Sn**	**03 48 12.7**	**-0.3**
ISR	**Istrita**	**0.60**	**183**	⇑S	**Sn**	**03 48 13.7**	**-0.5**
ISR	**Istrita**	**0.60**	**183**	P	**Pn**	**03 48 04.4**	**+1.3**
ONER	**Baraj Valea Uz**	**0.63**	**348**	⇓P	**Pn**	**03 48 03.6**	**+0.1**
ONER				⇑S	**Sn**	**03 48 14.1**	**-0.7**
GHRR		**0.67**	**59**	⇑P	**Pn**	**03 48 04.1**	**+0.4**
GHRR				⇑S	**Sn**	**03 48 15.5**	**+0.2**
GHRR		**0.67**	**59**	P	**Pn**	**03 48 04.1**	**+0.4**
OZUR		**0.68**	**305**	⇓P	**Pn**	**03 48 03.9**	**+0.1**
TUDR		**0.77**	**99**	⇑P	**Pn**	**03 48 04.5**	**-0.2**
TUDR				⇑S	**Sn**	**03 48 16.4**	**-0.7**
TESR	**Tescani**	**0.80**	**3**	⇑P	**Pn**	**03 48 05.1**	**-0.1**
TESR				⇓S	**Sn**	**03 48 16.7**	**-1.0**
TESR	**Tescani**	**0.80**	**3**	P	**Pn**	**03 48 05.0**	**-0.1**
SLCR	**Slobozia Conac**	**0.84**	**98**	⇓P	**Pn**	**03 48 05.5**	**+0.1**
SLCR				⇑S	**Sn**	**03 48 17.2**	**-1.3**
IZVR	**Izvoarele**	**0.85**	**101**	⇑P	**Pn**	**03 48 06.5**	**+0.9**
DOPR	**Dopca**	**0.87**	**287**	⇓P	**Pn**	**03 48 06.6**	**+0.7**
DOPR				⇓S	**Sn**	**03 48 19.5**	**+0.3**
PLAR	**PLOIESTI**	**0.89**	**206**	⇑S	**Sn**	**03 48 21.0**	**+1.5**
SCHL	**Schela**	**0.90**	**103**	⇑P	**Pn**	**03 48 06.2**	**+0.1**
VARL	**Varlezi**	**0.90**	**78**	⇑P	**Pn**	**03 48 06.9**	**+0.8**
VARL				⇑S	**Sn**	**03 48 19.3**	**-0.4**
SCHLR	**Schela**	**0.91**	**105**	⇑P	**Pn**	**03 48 06.2**	**0.0**
NEGRR	**Negrea**	**0.92**	**101**	⇑P	**Pn**	**03 48 06.5**	**+0.1**
NEGRR				⇑S	**Sn**	**03 48 19.3**	**-0.8**
SCTR	**Scanteiesti**	**0.99**	**92**	⇓P	**Pn**	**03 48 07.7**	**+0.5**
SCTR				⇓S	**Sn**	**03 48 21.0**	**-0.4**
TATR	**Tatarca**	**1.03**	**96**	⇑P	**Pn**	**03 48 08.3**	**+0.6**
TATR				⇑S	**Sn**	**03 48 22.2**	**-0.2**
GISR	**Galati**	**1.07**	**104**	⇓S	**Sn**	**03 48 22.7**	**-0.4**
VOIR		**1.11**	**256**	⇓P	**Pn**	**03 48 09.5**	**+0.7**
VOIR				⇑S	**Sn**	**03 48 24.6**	**+0.3**
VOIR		**1.11**	**256**	P	**Pn**	**03 48 09.5**	**+0.7**
GIUM	**Giurgiulesti**	**1.16**	**101**	⇑P	**Pn**	**03 48 09.7**	**+0.4**
GIUM				⇓S	**Sn**	**03 48 25.5**	**+0.3**
GIUM	**Giurgiulesti**	**1.16**	**101**	P	**Pn**	**03 48 10.3**	**+1.0**
GIUM				S	**Sn**	**03 48 25.4**	**+0.3**
GIUM	**Giurgiulesti**	**1.16**	**101**	P	**Pn**	**03 48 09.6**	**+0.4**
GIUM				S	**Sn**	**03 48 25.4**	**+0.3**
MTUR	**Matau**	**1.18**	**246**	⇑P	**Pn**	**03 48 09.9**	**+0.4**
CFR	**Carcaliu**	**1.22**	**116**	⇑P	**Pn**	**03 48 10.0**	**0.0**
CFR				⇑S	**Sn**	**03 48 25.3**	**-1.1**
AMRR	**Amara**	**1.23**	**154**	⇑P	**Pn**	**03 48 09.9**	**-0.2**
AMRR				⇓S	**Sn**	**03 48 28.0**	**+1.5**
JOSR	**Joseni**	**1.24**	**324**	⇓P	**Pn**	**03 48 10.5**	**+0.2**
GIRR	**Girov**	**1.24**	**357**	⇓P	**Pn**	**03 48 10.8**	**+0.5**
LEHL	**Lehliu**	**1.25**	**172**	⇑P	**Pn**	**03 48 11.7**	**+1.3**
LEHL				⇓S	**Sn**	**03 48 28.7**	**+1.6**
BIZ	**Bicaz**	**1.27**	**345**	⇑S	**Sn**	**03 48 27.1**	**-0.4**
INCR	**INCERC-Sediu C**	**1.31**	**193**	⇑S	**Sn**	**03 48 29.8**	**+1.4**
HARR	**Harsova**	**1.40**	**137**	⇓P	**Pn**	**03 48 12.9**	**+0.6**
ARR	**Arges**	**1.42**	**256**	⇓P	**Pn**	**03 48 13.9**	**+1.4**
ARR				⇓S	**Sn**	**03 48 31.4**	**+0.5**
BUC1	**Bucharest**	**1.42**	**196**	⇑P	**Pn**	**03 48 13.1**	**+0.6**
BUC1				⇓S	**Sn**	**03 48 31.9**	**+1.0**
STFAR	**Stefanesti-Arg**	**1.43**	**234**	⇓P	**Pn**	**03 48 14.0**	**+1.3**
SGRR	**Singureni**	**1.55**	**196**	⇑P	**Pn**	**03 48 14.3**	**0.0**
SGRR				⇓S	**Sn**	**03 48 34.3**	**+0.4**
TLBR	**Topalu**	**1.56**	**138**	⇓P	**Pn**	**03 48 14.9**	**+0.6**
TLBR				⇓S	**Sn**	**03 48 34.4**	**+0.3**
MDB	**Medias**	**1.60**	**286**	⇓P	**Pn**	**03 48 16.1**	**+1.3**
TLCR		**1.66**	**108**	⇑P	**Pn**	**03 48 16.6**	**+1.1**
TLCR				⇓S	**Sn**	**03 48 36.3**	**0.0**
CVDA	**Cernavoda**	**1.72**	**143**	⇓P	**Pn**	**03 48 17.2**	**+0.8**
CVDA				⇓S	**Sn**	**03 48 37.8**	**-0.1**
ICOR	**Ion Corvin**	**1.82**	**151**	⇑P	**Pn**	**03 48 18.8**	**+1.2**
ICOR				⇑S	**Sn**	**03 48 39.9**	**-0.2**
MILM	**Milestii Mici**	**1.96**	**51**	⇑P	**Pn**	**03 48 20.0**	**+0.5**
MILM	**Milestii Mici**	**1.96**	**51**	*e*P	**Pn**	**03 48 20.0**	**+0.5**
	1μm,0.1s						
MILM				*e*S	**Sn**	**03 48 41.7**	**-1.7**
	2μm,0.1s						
MILM	**Milestii Mici**	**1.96**	**51**	P	**Pn**	**03 48 19.9**	**+0.5**
MILM				S	**Sn**	**03 48 41.9**	**-1.5**
LOT	**Lotru**	**2.00**	**263**	⇑P	**Pn**	**03 48 20.5**	**+0.4**
MFTR	**Murfatlar**	**2.02**	**139**	⇓P	**Pn**	**03 48 21.0**	**+0.8**
MFTR				⇑S	**Sn**	**03 48 44.5**	**-0.3**
BURAR	**Bucovina Array**	**2.12**	**334**	⇓P	**Pn**	**03 48 23.3**	**+1.5**
BURAR				⇑S	**Sn**	**03 48 48.8**	**+1.4**
TSCT	**Constanta Port**	**2.14**	**136**	⇑P	**Pn**	**03 48 22.7**	**+0.8**
TSCT				⇓S	**Sn**	**03 48 47.1**	**-0.6**
EFOR	**EFORIE**	**2.19**	**138**	⇑P	**Pn**	**03 48 23.3**	**+0.7**
EFOR				⇑S	**Sn**	**03 48 48.7**	**-0.2**
ZIMR		**2.23**	**203**	⇑P	**Pn**	**03 48 23.8**	**+0.6**
CJR	**Cluj-Napoca**	**2.30**	**297**	⇓P	**Pn**	**03 48 25.0**	**+0.8**
PSN	**Preselentsi**	**2.35**	**151**	*i* P	**Pn**	**03 48 25.8**	**+1.0**
PSN				*i* S	**Sn**	**03 48 52.8**	**0.0**
MANR	**Mangalia**	**2.37**	**142**	⇑P	**Pn**	**03 48 25.1**	**+0.1**
MANR				⇑S	**Sn**	**03 48 53.8**	**+0.5**
PURM	**Purcari**	**2.43**	**69**	P	**Pn**	**03 48 26.4**	**+0.7**
PURM				*e*S	**Sn**	**03 48 53.7**	**-0.9**
	2μm,0.3s						
PURM	**Purcari**	**2.43**	**69**	P	**Pn**	**03 48 26.2**	**+0.5**
SZH	**Strazhitsa**	**2.49**	**190**	*i* P	**Pn**	**03 48 27.6**	**+1.0**
SZH				*i* S	**Sn**	**03 48 53.8**	**-2.3**
NEF	**NEVSHA**	**2.50**	**168**	*i* P	**Pn**	**03 48 28.0**	**+1.2**
NEF				*i* S	**Sn**	**03 48 56.7**	**+0.3**
DEV	**Deva**	**2.58**	**275**	⇓P	**Pn**	**03 48 29.6**	**+1.7**
DEV				⇓S	**Sn**	**03 49 00.5**	**+2.2**
MARR	**Marisel-Cluj**	**2.59**	**293**	⇓P	**Pn**	**03 48 29.3**	**+1.2**
MARR				⇑S	**Sn**	**03 49 00.5**	**+1.7**
PRD	**Provadia**	**2.62**	**167**	*i* P	**Pn**	**03 48 29.6**	**+1.2**
PRD				*i* S	**Sn**	**03 48 58.6**	**-0.7**
ROIA	**ROIAK**	**2.68**	**167**	*i* P	**Pn**	**03 48 30.8**	**+1.6**
ROIA				*i* S	**Sn**	**03 49 01.2**	**+0.4**
GZR	**Gura Zlata**	**2.69**	**265**	⇑P	**Pn**	**03 48 31.0**	**+1.5**
AVR	**AVREN**	**2.71**	**163**	*i* P	**Pn**	**03 48 31.2**	**+1.6**
AVR				*i* S	**Sn**	**03 49 01.9**	**+0.5**
PVL	**Pavlikeni**	**2.78**	**202**	*i* P	**Pn**	**03 48 32.0**	**+1.5**
PVL				*i* S	**Sn**	**03 49 01.9**	**-1.3**
KSV	**Kosov**	**2.80**	**339**	*e*Pn	**Pn**	**03 48 31.1**	**+0.3**
KSV				Pm		03 48 43.2	
KSV				*e*Sn	**Sn**	**03 49 03.8**	**+0.2**
KSV				Sm		03 49 04.6	
ELND	**Elena**	**2.83**	**191**	⇓P	**Pn**	**03 48 32.4**	**+1.2**
RAKU	**Rahkiv**	**2.85**	**325**	*e*Pn	**Pn**	**03 48 32.4**	**+1.0**
RAKU	**Rahkiv**	**2.85**	**325**	P	**Pn**	**03 48 33.0**	**+1.6**
KMPD	**K-Podol'skiy**	**2.85**	**358**	*e*Pn	**Pn**	**03 48 33.1**	**+1.7**
KMPD				*e*Sn	**Sn**	**03 49 06.6**	**+1.8**
NSLU	**Nyzhne Selyshc**	**2.88**	**330**	*e*Pg	Pn	03 48 38.2	+6.4
BMR	**Baia Mare**	**2.89**	**314**	⇑P	**Pn**	**03 48 32.7**	**+0.7**
DRGR		**2.90**	**293**	⇓P	**Pn**	**03 48 32.8**	**+0.7**
DRGR				⇑S	**Sn**	**03 49 07.8**	**+1.8**
DRGR		**2.90**	**293**	*e*Pn	**Pn**	**03 48 32.8**	**+0.7**
MESR	**Meseseni**	**2.90**	**301**	⇑P	**Pn**	**03 48 33.2**	**+1.2**
NDNU	**Novodnistrovsk**	**2.93**	**10**	*e*Pn	**Pn**	**03 48 32.9**	**+0.4**
NDNU				Pm		03 48 33.8	
NDNU				*e*Sn	**Sn**	**03 49 06.0**	**-0.7**
NDNU				Sm		03 49 21.9	
NDNU	**Novodnistrovsk**	**2.93**	**10**	P	**Pn**	**03 48 32.7**	**+0.2**
VALD	**Valchedram**	**3.02**	**229**	*i* P	**Pn**	**03 48 34.3**	**+0.5**
HERR	**Herculane**	**3.06**	**256**	⇑P	**Pn**	**03 48 35.3**	**+1.0**
MPEP	**Malo Peshtene**	**3.11**	**222**	*i* P	**Pn**	**03 48 36.2**	**+1.2**
SURR	**Surduc**	**3.12**	**272**	⇓P	**Pn**	**03 48 36.2**	**+1.1**
KORU	**Korolevo**	**3.40**	**317**	*e*Pn	**Pn**	**03 48 40.5**	**+1.7**
SIRR	**Siria**	**3.48**	**281**	⇑P	**Pn**	**03 48 41.5**	**+1.5**
BZS	**Buzias**	**3.48**	**270**	⇓P	**Pn**	**03 48 41.4**	**+1.4**
BZS	**Buzias**	**3.48**	**270**	*e*Pn	**Pn**	**03 48 40.3**	**+0.3**
MEZ	**Mezhgor'ye**	**3.50**	**324**	*e*Pn	**Pn**	**03 48 42.0**	**+1.8**
HORU	**Horodok**	**3.50**	**358**	*e*Pn	**Pn**	**03 48 42.1**	**+1.8**
HORU				Pm		03 48 52.9	
HORU				*e*Sn	**Sn**	**03 49 18.9**	**-1.7**
HORU				Sm		03 49 34.6	
MDVR	**Moldovita**	**3.56**	**257**	⇑P	**Pn**	**03 48 41.8**	**+0.6**
BRIU	**Brid**	**3.58**	**318**	*e*Pn	**Pn**	**03 48 43.7**	**+2.4**
BRIU	**Brid**	**3.58**	**318**	P	**Pn**	**03 48 41.9**	**+0.6**
ZAGS	**Zajecar**	**3.64**	**240**	*e*Pn	**Pn**	**03 48 41.3**	**-0.8**
BERU	**Beregovo**	**3.69**	**314**	P	**Pn**	**03 48 43.3**	**+0.5**
KUBS	**Kucevo**	**3.71**	**251**	*e*Pn	**Pn**	**03 48 42.2**	**-1.0**
KUBS				*e*Sn	**Sn**	**03 49 22.0**	**-3.8**
ZAPS	**Zavoj**	**3.73**	**231**	*e*Pn	**Pn**	**03 48 43.6**	**+0.1**
ZAPS				*e*Sn	**Sn**	**03 49 22.7**	**-3.6**
PLD	**Plovdiv**	**3.81**	**201**	*e*Sn	**Sn**	**03 49 25.0**	**-3.0**
MUKU	**Mukachevo**	**3.82**	**317**	P	**Pn**	**03 48 45.3**	**+0.8**
MORS	**Morshin**	**3.88**	**333**	*e*Pn	**Pn**	**03 48 47.8**	**+2.5**
MORS	**Morshin**	**3.88**	**333**	P	**Pn**	**03 48 47.0**	**+1.7**
VTS	**Vitosha**	**3.92**	**219**	*e*Pn	**Pn**	**03 48 47.0**	**+0.9**
VTS				*e*Sn	**Sn**	**03 49 28.6**	**-2.5**
HOLU	**Holmets**	**4.02**	**316**	*e*Pn	**Pn**	**03 48 47.9**	**+0.7**
HOLU	**Holmets**	**4.02**	**316**	P	**Pn**	**03 48 47.6**	**+0.4**
BOVS	**Bovan**	**4.05**	**241**	⇑P	**Pn**	**03 48 47.6**	**-0.1**
BOVS	**Bovan**	**4.05**	**241**	*e*Pn	**Pn**	**03 48 47.3**	**-0.5**
BOVS				*e*Sn	**Sn**	**03 49 29.6**	**-4.4**
UZHM	**Uzhgorod**	**4.13**	**316**	P	**Pn**	**03 48 49.1**	**+0.3**
STZU	**Stuzhytsa**	**4.26**	**322**	*e*Pn	**Pn**	**03 48 52.6**	**+2.0**
LUBAR	**Lubar, Ukraine**	**4.28**	**10**	P	**Pn**	**03 48 50.7**	**-0.1**
KOLS	**Kolonicke sedl**	**4.36**	**319**	*e*P	**Pn**	**03 48 53.2**	**+1.4**
BOSS	**Bosilegrad**	**4.37**	**224**	*e*Pn	**Pn**	**03 48 53.2**	**+1.1**
BARS	**Barje**	**4.49**	**231**	*e*Pn	**Pn**	**03 48 53.8**	**+0.1**
GRUS	**Gruza**	**4.56**	**248**	*e*Pn	**Pn**	**03 48 54.7**	**+0.1**
GRUS				*e*Sn	**Sn**	**03 49 43.0**	**-3.3**
TRUS	**Trudelj**	**4.63**	**253**	*e*Pn	**Pn**	**03 48 55.7**	**+0.1**
SELS	**Selova**	**4.64**	**239**	*e*Pn	**Pn**	**03 48 56.4**	**+0.6**
KWP	**Kalwaria Pacla**	**4.71**	**328**	P	**Pn**	**03 48 56.7**	**0.0**
DIVS	**Divibare**	**4.96**	**253**	*e*Pn	**Pn**	**03 48 58.4**	**-1.7**
KECS	**Kecovo**	**5.00**	**306**	*e*P	**Pn**	**03 49 01.3**	**+0.7**
KECS				*e*		03 49 08.0	
IVAS	**Ivanjica**	**5.06**	**247**	*e*Pn	**Pn**	**03 49 00.4**	**-1.2**
SEV	**Sevastopol'**	**5.15**	**101**	P	**Pn**	**03 49 09.4**	**+0.3**
SEV				Pm		03 49 03.6	
SEV				Sm		03 50 02.0	
AK13	**Malin Array Si**	**5.17**	**18**	P	**Pn**	**03 49 03.2**	**+0.3**
STHS	**Stebnicka Huta**	**5.17**	**318**	*e*P	**Pn**	**03 49 03.6**	**+0.6**
AK14	**Malin Array Si**	**5.20**	**18**	P	**Pn**	**03 49 03.3**	**0.0**
AK10	**Malin Array Si**	**5.20**	**19**	P	**Pn**	**03 49 03.4**	**+0.1**
AK09	**Malin Array Si**	**5.22**	**19**	P	**Pn**	**03 49 03.8**	**+0.1**
AK19	**Malin Array Si**	**5.27**	**17**	P	**Pn**	**03 49 03.4**	**-0.8**
MI28	**Mi28,Pidlybu**	**5.27**	**7**	P	**Pn**	**03 49 04.5**	**+0.2**
	106nm,0.6s,0.8nm						
AK18	**Malin Array Si**	**5.28**	**17**	P	**Pn**	**03 49 04.0**	**-0.4**
AK01	**Malin Array Si**	**5.28**	**18**	P	**Pn**	**03 49 04.2**	**-0.2**
KIEV	**Kiev**	**5.28**	**18**	P	**Pn**	**03 49 04.2**	**-0.2**
	19nm,1.5s,0.3nm						
AK20	**Malin Array Si**	**5.29**	**17**	P	**Pn**	**03 49 04.0**	**-0.5**
AKBB	**Malin Array Si**	**5.29**	**19**	P	**Pn**	**03 49 04.2**	**-0.4**
AK04	**Malin Array Si**	**5.30**	**18**	P	**Pn**	**03 49 03.8**	**-0.9**
AK22	**Malin Array Si**	**5.32**	**17**	P	**Pn**	**03 49 04.1**	**-0.8**
SJES	**Sjenica**	**5.33**	**245**	*e*Pn	**Pn**	**03 49 05.7**	**+0.5**
SJES				*e*Sn	**Sn**	**03 50 00.8**	**-4.5**
SIM	**Simferopol'**	**5.37**	**96**	P	**Pn**	**03 49 05.7**	**+0.1**
SIM				Pm		03 49 10.8	
SIM				Sm		03 50 11.2	
YAL	**Yalta**	**5.50**	**100**	Pm		03 49 09.1	
YLV	**Yalova**	**5.54**	**157**	P	**Pn**	**03 49 08.8**	**+0.8**
	6.8nm,1.0s,0.0nm						
RNPP5	**Staryi Chortor**	**5.54**	**355**	P	**Pn**	**03 49 07.3**	**-0.6**
MORH	**Mrgy, Hungar**	**5.56**	**278**	⇑P	**Pn**	**03 49 09.3**	**+1.1**
MORH	**Mrgy, Hungar**	**5.56**	**278**	P	**Pn**	**03 49 09.1**	**+0.9**
	2.4nm,0.8s,0.0nm						
NIE	**Niedzica**	**5.64**	**313**	P	**Pn**	**03 49 10.6**	**+1.2**
	4.9nm,0.9s,0.0nm						
RNPP8	**Varash**	**5.65**	**355**	P	**Pn**	**03 49 09.4**	**0.0**
RNPP9	**Sopachiv**	**5.72**	**356**	P	**Pn**	**03 49 10.3**	**-0.1**
EZN	**Ezine**	**5.89**	**182**	P	**Pn**	**03 49 13.7**	**+0.9**
	5.9nm,0.4s,0.1nm						
LANS	**Liptovska Anna**	**5.93**	**308**	*e*P	**Pn**	**03 49 14.2**	**+0.9**
VYHS	**Vyhne**	**5.97**	**301**	*e*P	**Pn**	**03 49 15.5**	**+1.6**
VYHS				*e*		03 49 22.6	
SUDU	**Sudak**	**5.99**	**95**	P	**Pn**	**03 49 14.0**	**-0.1**
SUDU				Pm		03 49 14.5	
SUDU				Sm		03 50 20.3	
SRO	**Srobarova**	**6.06**	**293**	*e*P	**Pn**	**03 49 16.6**	**+1.6**
OJC	**Ojcow**	**6.41**	**317**	P	**Pn**	**03 49 20.2**	**+0.4**
	6.1nm,1.1s,0.1nm						
PLTM	**Poltava**	**6.64**	**51**	P	**Pn**	**03 49 22.6**	**-0.3**
NACGM	**Naroch**	**9.20**	**1**	*e*P	Pn	03 50 03.7	+5.9
	comp=Z,10.0nm,0.9s,baz=181						

KRSC ***08*** *04:17:57.0±2.0, 49°.49N×155°.03E, h239km±16km, Ml4.3*
MOS ***08*** *04:17:56.0±1.1, 49°.91N×153°.62E, h224km, mb4.0/9, Error ellipse: s-maj=13.8km s-min=5.0km az=58.1*
IDC ***08*** *04:17:57.8±1.8, 50°.01N×153°.52E, h222km±17km, mb3.5/18, mbtmp4.1/22, Error ellipse: s-maj=15.8km s-min=9.2km az=151.0*
NEIC ***08*** *04:17:57.4±1.5, 50°.0N±0°.1×153°.5E±0°.2, h219km±8km, mb4.2/88, Error ellipse: s-maj=21.5km s-min=10.6km az=138.0*

ISC 08 04:17:55.5±0.4, **49°.97N**±0°.07×**153°.59E**±0°.05, **h200**km, **n193**, σ1§**59**/222, **mb4.2**/69, **2C-6D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.77**	**65**	*e*P	**Pn**	**04 18 33.1**	**+1.4**
SKR				*e*S	**Sn**	**04 19 02.5**	**+2.7**
SKR	**Severo-Kuril's**	**1.77**	**65**	⇓*i*PN	**Pn**	**04 18 33.2**	**+1.5**
SKR				*e*S	**Sn**	**04 19 01.1**	**+1.3**
SKR				pmax	pmax		
	comp=Z,1μm,0.7s						
SKR				smax	smax		
	comp=N,291nm,0.7s						
SKR				smax	smax		
	comp=E,286nm,0.8s						
PAU	**Pauzhetka**	**2.54**	**53**	*e*P	**Pn**	**04 18 41.1**	**+1.4**
PAU	**Pauzhetka**	**2.54**	**53**	PN	**Pn**	**04 18 41.1**	**+1.4**
KDTR	**Khodutka, Kamc**	**3.39**	**55**	*e*P	**Pn**	**04 18 49.8**	**+0.1**
KDTR				*e*S	**Sn**	**04 19 29.1**	**-3.1**
KDTR	**Khodutka, Kamc**	**3.39**	**55**	PN	**Pn**	**04 18 49.7**	**+0.1**
ASAK	**Asacha**	**3.64**	**47**	*e*P	**Pn**	**04 18 55.2**	**+2.4**
ASAK	**Asacha**	**3.64**	**47**	PN	**Pn**	**04 18 55.2**	**+2.4**
APC	**Apacha**	**3.71**	**36**	*e*P	**Pn**	**04 18 55.8**	**+2.3**
APC				*e*S	**Sn**	**04 19 41.5**	**+2.2**
APC	**Apacha**	**3.71**	**36**	PN	**Pn**	**04 18 55.8**	**+2.3**
APC				S	**Sn**	**04 19 41.4**	**+2.2**
GRL	**Gorelyy**	**3.83**	**46**	*e*P	**Pn**	**04 18 57.6**	**+2.5**
GRL				*e*S	**Sn**	**04 19 43.7**	**+1.7**
GRL	**Gorelyy**	**3.83**	**46**	PN	**Pn**	**04 18 57.6**	**+2.5**
GRL				S	**Sn**	**04 19 43.7**	**+1.7**
MTVR	**Mutnovka**	**3.83**	**47**	*e*P	**Pn**	**04 18 57.8**	**+2.5**
MTVR				*e*S	**Sn**	**04 19 42.5**	**+0.3**
MTVR	**Mutnovka**	**3.83**	**47**	PN	**Pn**	**04 18 57.7**	**+2.5**
MTVR				S	**Sn**	**04 19 42.5**	**+0.3**
RUS	**Russkaya**	**3.96**	**50**	*e*P	**Pn**	**04 18 57.8**	**+1.1**
RUS				*e*S	**Sn**	**04 19 42.9**	**-2.0**
RUS	**Russkaya**	**3.96**	**50**	PN	**Pn**	**04 18 57.8**	**+1.1**
RUS				S	**Sn**	**04 19 42.8**	**-2.0**
PEA0B	**Petropavlovsk-**	**4.06**	**38**	Pn	**Pn**	**04 19 00.1**	**+2.1**
PEA0B	**Petropavlovsk-**	**4.06**	**38**	⇓*e*PN	**Pn**	**04 18 59.8**	**+1.9**
PETK	**Petropavlovsk-**	**4.06**	**38**		**Pn**	**04 18 59.4**	**+1.4**
PETK	**Petropavlovsk-**	**4.06**	**38**	P	**Pn**	**04 19 00.3**	**+2.3**
	comp=E,23nm,0.8s,baz=201,slow=9.3,SNR=31						
PET	**Petropavlovsk**	**4.40**	**44**	Pn	**Pn**	**04 19 04.4**	**+2.2**
PET	**Petropavlovsk**	**4.40**	**44**	*e*S	**Sn**	**04 19 55.6**	**+0.8**
PET	**Petropavlovsk**	**4.40**	**44**	*e*PN	Pn	04 19 07.0	+4.8
PET				*e*S	**Sn**	**04 19 56.6**	**+1.9**
PET				smax	smax		
	comp=N,95nm,0.7s						
PET				smax	smax		
	comp=E,68nm,0.5s						
DALK	**Dalny**	**4.45**	**44**	*e*P	**Pn**	**04 19 05.4**	**+2.6**
DALK				*e*S	**Sn**	**04 19 54.9**	**-1.0**
DALK	**Dalny**	**4.45**	**44**	PN	**Pn**	**04 19 05.4**	**+2.6**
DALK				S	**Sn**	**04 19 54.8**	**-1.0**
KOK	**Koryaka**	**4.58**	**41**	*e*P	**Pn**	**04 19 08.0**	**+3.4**
KOK	**Koryaka**	**4.58**	**41**	PN	**Pn**	**04 19 07.9**	**+3.4**
UGLR	**Uglovaya**	**4.60**	**43**	*e*P	**Pn**	**04 19 07.6**	**+2.7**
UGLR				*e*S	**Sn**	**04 19 59.7**	**+0.1**
UGLR	**Uglovaya**	**4.60**	**43**	PN	**Pn**	**04 19 07.6**	**+2.7**
UGLR				S	**Sn**	**04 19 59.6**	**+0.1**
AVH	**Avacha**	**4.61**	**42**	*e*P	**Pn**	**04 19 07.7**	**+2.8**
AVH				*e*S	**Sn**	**04 19 59.8**	**+0.3**
AVH	**Avacha**	**4.61**	**42**	PN	**Pn**	**04 19 07.6**	**+2.8**
AVH				S	**Sn**	**04 19 59.8**	**+0.3**
GNL	**Ganaly**	**4.61**	**34**	*e*P	Pn	04 19 10.0	+5.0
GNL	**Ganaly**	**4.61**	**34**	PN	Pn	04 19 09.9	+5.0
SMAR	**Somma**	**4.63**	**43**	*e*P	**Pn**	**04 19 07.8**	**+2.4**
SMAR				*e*S	**Sn**	**04 20

PZH	**PanZhiHua**	**45.86**	**259**	P	**P**	**04 25 57.9**	**0.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
KURK	**Kurchatov**	**45.90**	**301**	P	**P**	**04 25 56.8**	**-0.9**
KURK	**Kurchatov**	**45.90**	**301**	‖ *e*P	**P**	**04 25 56.8**	**-0.9**
KURK				pmax	pmax		
	comp=Z,11nm,2.5s						
KURBB	**Kurchatov Arra**	**46.00**	**301**	P	**P**	**04 25 57.9**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=66,slow=8.4,SNR=16						
	comp=Z,2.6nm,0.6s						
YKA	**Yellowknife Ar**	**48.18**	**39**	P	**P**	**04 26 15.4**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=304,slow=15,SNR=6.9						
	comp=Z,1.6nm,0.8s						
YKA	**Yellowknife Ar**	**48.18**	**39**	*i* P	**P**	**04 26 16.0**	**+0.9**
YKAB2	**New Yellowknif**	**48.21**	**39**	P	**P**	**04 26 15.9**	**+0.5**
BVAR	**Borovoye Array**	**49.10**	**307**	P	**P**	**04 26 21.9**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=60,slow=8.8,SNR=6.0						
	comp=Z,1.3nm,0.3s						
BRVK	**Borovoye**	**49.14**	**308**	‖ *e*P	**P**	**04 26 22.5**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
NLWA	**Neilton Lookou**	**51.89**	**59**	P	**P**	**04 26 42.6**	**-0.7**
NLWA				IAmb	IAmb	04 26 43.6	
	comp=Z,12nm,1.4s						
PHRA	**Phrae**	**52.66**	**253**	P	**P**	**04 26 48.3**	**-0.9**
ARTI	**Arti**	**52.99**	**316**	P	**P**	**04 26 50.5**	**-0.7**
ARTI	**Arti**	**52.99**	**316**	*d* *i*P	**P**	**04 26 50.0**	**-1.1**
ARTI						04 28 49.0	
ARTI				S	**S**	**04 34 02.4**	**-2.2**
ARTI				SS	**SS**	**04 37 38.1**	**-7.7**
ARTI				pmax	pmax		
	comp=Z,15nm,2.7s						
CMAR	**Chiang Mai Arr**	**53.49**	**254**	P	**P**	**04 26 56.2**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=30,slow=7.0,SNR=5.1						
	comp=Z,0.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**53.49**	**254**	*e*P	**P**	**04 26 56.1**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PINE	**Pine Mountain**	**55.70**	**61**	P	**P**	**04 27 11.8**	**+0.7**
PINE				IAmb	IAmb	04 27 15.3	
	comp=Z,11nm,1.5s						
J05D	**Fort Rock, OR**	**55.86**	**62**	P	**P**	**04 27 13.1**	**+0.9**
J05D				IAmb	IAmb	04 27 14.3	
	comp=Z,5.0nm,0.7s						
L04D	**Klamath Falls**	**55.92**	**63**	P	**P**	**04 27 12.8**	**+0.2**
L04D				IAmb	IAmb	04 27 14.4	
	comp=Z,5.7nm,0.8s						
ABKAR	**Akbulak array**	**56.64**	**308**	P	**P**	**04 27 16.7**	**-0.7**
ABKAR				IAmb	IAmb	04 27 17.3	
	comp=Z,2.6nm,0.6s						
ABKAR	**Akbulak array**	**56.64**	**308**	P	**P**	**04 27 16.8**	**-0.7**
BMO	**Blue Mountains**	**57.05**	**58**	*e*P	**P**	**04 27 21.2**	**+0.7**
BMO	**Blue Mountains**	**57.05**	**58**	P	**P**	**04 27 21.2**	**+0.7**
BMO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GAR	**Garm**	**57.49**	**293**	P	**P**	**04 27 21.1**	**-2.5**
GAR				IAmb	IAmb	04 27 23.5	
	comp=Z,3.9nm,0.6s						
PLID	**Pearl Lake**	**57.61**	**57**	P	**P**	**04 27 24.8**	**+0.2**
PLID				IAmb	IAmb	04 27 25.9	
	comp=Z,3.4nm,0.7s						
FFC	**Flin Flon**	**58.09**	**41**	P	**P**	**04 27 27.9**	**+0.4**
FFC				IAmb	IAmb	04 28 01.5	
	comp=Z,8.4nm,1.2s						
FFC	**Flin Flon**	**58.09**	**41**	P	**P**	**04 27 27.9**	**+0.4**
FFC				pmax	pmax		
	comp=Z,8.0nm,1.3s						
BPMT	**Black Pine Rid**	**58.10**	**54**	P	**P**	**04 27 27.8**	**-0.3**
LYMT	**Lyon Mountain**	**58.36**	**53**	P	**P**	**04 27 30.7**	**+1.0**
FCC	**Fort Churchill**	**58.41**	**34**	P	**P**	**04 27 29.6**	**0.0**
FCC	**Fort Churchill**	**58.41**	**34**	P	**P**	**04 27 29.6**	**0.0**
FCC				pmax	pmax		
	comp=Z,48nm,1.2s						
SIMJ	**Simiganj**	**58.48**	**294**	P	**P**	**04 27 29.2**	**-1.4**
LRM	**Limekiln Ridge**	**59.03**	**54**	P	**P**	**04 27 34.7**	**+0.3**
PAHR	**Pah Rah Range**	**59.23**	**64**	P	**P**	**04 27 35.7**	**-0.1**
PAHR				IAmb	IAmb	04 27 37.0	
	comp=Z,4.8nm,1.1s						
DLMT	**Dillon**	**59.26**	**55**	P	**P**	**04 27 36.5**	**+0.6**
DLMT				IAmb	IAmb	04 27 53.8	
	comp=Z,7.2nm,1.5s						
PNTR	**Pine Nut**	**59.51**	**64**	P	**P**	**04 27 37.4**	**-0.4**
PNTR				IAmb	IAmb	04 27 39.7	
	comp=Z,6.3nm,0.8s						
BOZ	**Bozeman (W)**	**59.61**	**54**	P	**P**	**04 27 39.0**	**+0.7**
BOZ	**Bozeman (W)**	**59.61**	**54**	P	**P**	**04 27 39.0**	**+0.7**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YERR	**Yerington**	**59.79**	**64**	P	**P**	**04 27 40.1**	**+0.5**
WAKR	**Walker**	**59.99**	**65**	P	**P**	**04 27 41.8**	**+0.7**
WAKR				IAmb	IAmb	04 27 42.6	
	comp=Z,3.6nm,0.8s						
KVN	**Kaiserville**	**60.40**	**64**	P	**P**	**04 27 43.7**	**-0.1**
KVN				IAmb	IAmb	04 27 45.3	
	comp=Z,4.8nm,1.0s						
KVN	**Kaiserville**	**60.40**	**64**	P	**P**	**04 27 43.7**	**-0.1**
KVN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NVAR	**Mina Array Bea**	**60.70**	**64**	P	**P**	**04 27 46.4**	**+0.5**
NVAR	**Mina Array Bea**	**60.70**	**64**	P	**P**	**04 27 46.6**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=300,slow=7.5,SNR=14						
	comp=Z,1.5nm,0.6s						
FIA1	**FINESS Array S**	**61.27**	**334**	P	**P**	**04 27 47.3**	**-1.7**
FINES	**FINESS Array B**	**61.27**	**334**	P	**P**	**04 27 48.4**	**-0.6**
FINES	**FINESS Array B**	**61.27**	**334**	P	**P**	**04 27 48.3**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=30,slow=6.4,SNR=2.2						
	comp=Z,0.5nm,0.3s						
FINES	**FINESS Array B**	**61.27**	**334**	P	**P**	**04 27 48.4**	**-0.6**
MOOW	**Moose Ponds**	**61.32**	**55**	P	**P**	**04 27 49.4**	**-0.5**
SPR3	**Spring Creek 3**	**62.59**	**61**	P	**P**	**04 27 59.7**	**+1.1**
BW06	**Boulder Array**	**62.62**	**55**	P	**P**	**04 27 58.9**	**+0.3**
BW06				IAmb	IAmb	04 28 13.2	
	comp=Z,6.7nm,1.5s						
PDAR	**Pinedale Array**	**62.62**	**55**	P	**P**	**04 27 58.5**	**-0.2**
PDAR	**Pinedale Array**	**62.62**	**55**	P	**P**	**04 27 58.8**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=318,slow=1.2,SNR=14						
	comp=Z,1.0nm,0.6s						
TPNV	**Topopah Spring**	**62.90**	**64**	P	**P**	**04 28 00.2**	**-0.3**
TPNV				IAmb	IAmb	04 28 01.8	
	comp=Z,2.6nm,0.8s						
TPNV	**Topopah Spring**	**62.90**	**64**	P	**P**	**04 28 00.2**	**-0.3**
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GWY	**Greenwater Val**	**63.18**	**65**	P	**P**	**04 28 01.4**	**-0.9**
GWY				IAmb	IAmb	04 28 03.4	
	comp=Z,2.9nm,0.7s						
BSUT	**Blindstream Ca**	**63.52**	**58**	P	**P**	**04 28 04.6**	**-0.1**
GSC	**Goldstone, Bar**	**63.71**	**66**	P	**P**	**04 28 06.3**	**+0.6**
GSC				IAmb	IAmb	04 28 07.0	
	comp=Z,4.7nm,1.2s						
GSC	**Goldstone, Bar**	**63.71**	**66**	P	**P**	**04 28 06.3**	**+0.6**
GSC				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TMUT	**Trail Mountain**	**64.14**	**59**	P	**P**	**04 28 07.9**	**-0.8**
TMUT				IAmb	IAmb	04 28 10.6	
	comp=Z,3.2nm,0.9s						
MSU	**Marysvale**	**64.15**	**60**	P	**P**	**04 28 08.9**	**+0.2**
MSU	**Marysvale**	**64.15**	**60**	P	**P**	**04 28 08.9**	**+0.2**
MTPU	**Mount Pierson**	**64.47**	**61**	P	**P**	**04 28 10.4**	**-0.6**
SRU	**San Rafael Swe**	**64.65**	**59**	P	**P**	**04 28 12.3**	**+0.4**
SRU				IAmb	IAmb	04 28 13.6	
	comp=Z,3.8nm,0.8s						
SRU	**San Rafael Swe**	**64.65**	**59**	P	**P**	**04 28 12.3**	**+0.4**
SRU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PFO	**Pinyon Flats O**	**65.09**	**67**	P	**P**	**04 28 13.7**	**-1.0**
PFO	**Pinyon Flats O**	**65.09**	**67**	P	**P**	**04 28 13.7**	**-1.0**
PFO				pmax	pmax		
	comp=Z,4.0nm,1.3s						
HMU	**Henry Mountain**	**65.35**	**60**	P	**P**	**04 28 16.6**	**+0.1**
HMU				IAmb	IAmb	04 28 17.8	
	comp=Z,3.3nm,0.8s						
HFS	**Hagfors**	**65.56**	**339**	P	**P**	**04 28 16.4**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=28,slow=6.5,SNR=6.0						
	comp=Z,0.5nm,0.3s						
PV23	**Carpenter Ridg**	**65.95**	**58**	P	**P**	**04 28 20.3**	**0.0**
PV23				IAmb	IAmb	04 28 23.4	
	comp=Z,3.3nm,0.8s						
PV10	**Paradox Valley**	**65.99**	**59**	P	**P**	**04 28 21.4**	**+0.8**
PV10				IAmb	IAmb	04 28 22.2	
	comp=Z,6.3nm,1.0s						
PV14	**Lion Creek, Pa**	**66.00**	**59**	P	**P**	**04 28 19.9**	**-0.7**
PV20	**West Nyswonger**	**66.05**	**59**	P	**P**	**04 28 21.1**	**+0.2**
PV20				IAmb	IAmb	04 28 23.8	
	comp=Z,7.8nm,1.2s						
PV17	**East Wray Mesa**	**66.10**	**59**	P	**P**	**04 28 21.5**	**+0.3**
PV17				IAmb	IAmb	04 28 22.4	
	comp=Z,4.0nm,1.0s						
PV18	**Skein Mesa, Pa**	**66.15**	**59**	P	**P**	**04 28 20.8**	**-0.8**
PV18				IAmb	IAmb	04 28 22.8	
	comp=Z,8.1nm,1.2s						
PV13	**Radium Mtn., P**	**66.26**	**59**	P	**P**	**04 28 22.7**	**+0.4**
ESJX	**Sierra Juarez**	**66.53**	**68**	P	**P**	**04 28 22.9**	**-1.1**
ESJX				IAmb	IAmb	04 28 24.9	
	comp=Z,4.7nm,1.1s						
S22A	**4UR Ranch, Cre**	**67.65**	**58**	P	**P**	**04 28 31.4**	**+0.2**
OGNE	**Ogallala**	**67.85**	**52**	P	**P**	**04 28 32.2**	**+0.1**
SDCO	**Great Sand Dun**	**68.37**	**57**	P	**P**	**04 28 35.1**	**-0.5**
ECSD	**EROS Data Cent**	**68.44**	**47**	P	**P**	**04 28 34.4**	**-1.1**
ECSD				IAmb	IAmb	04 28 35.6	
	comp=Z,3.0nm,0.6s						
KIV	**Kislovodsk**	**68.79**	**314**	*e*P	**P**	**04 28 37.7**	**-0.1**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SCHQ	**Scheefferville**	**70.22**	**23**	P	**P**	**04 28 45.9**	**-0.4**
SCHQ	**Scheefferville**	**70.22**	**23**	P	**P**	**04 28 45.2**	**-1.1**
	comp=Z,5.8nm,1.0s,baz=282,slow=9.3,SNR=1.7						
	comp=Z,5.8nm,1.0s						
RTBA	**Rita Blanca**	**70.83**	**56**	P	**P**	**04 28 49.5**	**-0.9**
RTBA				IAmb	IAmb	04 28 59.4	
	comp=Z,6.0nm,1.3s						
WB0	**Warramunga Arr**	**71.48**	**199**		**P**	**04 28 53.8**	**-0.3**
WB0				IAmb	IAmb	04 29 06.0	
	comp=Z,8.5nm,1.4s						
WR0	**Warramunga Arr**	**71.63**	**199**	P	**P**	**04 28 53.6**	**-1.4**
WR0				IAmb	IAmb	04 29 10.3	
	comp=Z,7.6nm,1.5s						
WB2	**Warramunga Arr**	**71.66**	**199**	P	**P**	**04 28 54.0**	**-1.2**
WB2				IAmb	IAmb	04 29 03.5	
	comp=Z,4.4nm,1.1s						
WRA	**Warramunga Arr**	**71.66**	**199**	P	**P**	**04 28 54.0**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=15,slow=6.7,SNR=5.3						
	comp=Z,0.3nm,0.5s						
WRA	**Warramunga Arr**	**71.66**	**199**	*i* P	**P**	**04 28 53.2**	**-2.0**
EKA	**Eskdalemuir Ar**	**73.29**	**346**	P	**P**	**04 29 04.4**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=17,slow=4.6,SNR=5.1						
	comp=Z,0.6nm,0.5s						
ASAR	**Alice Springs**	**75.36**	**199**	P	**P**	**04 29 16.7**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=1.1,slow=4.7,SNR=5.0						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**75.66**	**62**	P	**P**	**04 29 19.1**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=296,slow=4.5,SNR=21						
	comp=Z,1.5nm,0.6s						
ESDC	**Sonseca Array**	**88.57**	**343**	P	**P**	**04 30 24.6**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=6.8,slow=4.4,SNR=1.5						
	comp=Z,0.2nm,0.4s						

*THE **08** 04:23:28.9, 37°.64N×20°.52E, h2km±1km, ML3.6/12, Error ellipse: s-maj=1.7km s-min=0.6km az=47.0*
*ATH **08** 04:23:29.2, 37°.66N×20°.52E, h13km±1km, ML3.4/12, Error ellipse: s-maj=2.9km s-min=0.9km az=44.0*
ISC 08 04:23:28.3±1.6, 37°.63N±0°.05×20°.54E±0°.05, h11km±9km, n62, σ0°90/85, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.22**	**81**	P	**Pb**	**04 23 34.1**	**-0.2**
KRI1				S	**Sb**	**04 23 37.7**	**+1.7**
	21μm,0.3s						
LTHK	**Lithakia**	**0.25**	**71**	P	**Pb**	**04 23 34.3**	**-0.5**
LTHK				S	**Sb**	**04 23 38.0**	**+1.2**
	25μm,0.2s						
LTHK	**Lithakia**	**0.25**	**71**	P	**Pb**	**04 23 34.3**	**-0.5**
LTHK				S	**Sg**	**04 23 37.6**	**+0.9**
LTHK				AML	AML	04 23 38.3	
	comp=E,39470μm,0.2s						
LTHK				AML	AML	04 23 38.5	
	comp=N,55385μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.48**	**22**	P	**Pb**	**04 23 38.1**	**-0.7**
RTZL				S	**Sb**	**04 23 45.1**	**-0.8**
	comp=N,12μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.49**	**4**	P	**Pb**	**04 23 38.1**	**-0.8**
PSDA				S	**Sb**	**04 23 45.6**	**-0.4**
	comp=N,11μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.49**	**4**	P	**Pb**	**04 23 38.0**	**-0.8**
PSDA				S	**Sg**	**04 23 44.8**	**+0.6**
VLS	**Valsamata**	**0.55**	**4**	P	**Pb**	**04 23 39.1**	**-0.9**
VLS				S	**Sg**	**04 23 46.8**	**+0.5**
	comp=N,8μm,0.3s						
VLS	**Valsamata**	**0.55**	**4**	P	**Pb**	**04 23 39.0**	**-1.0**
VLS				S	**Sb**	**04 23 47.1**	**-0.8**
VLS				AML	AML	04 23 50.9	
	comp=N,15579μm,0.3s						
VLS				AML	AML	04 23 51.0	
	comp=E,17458μm,0.3s						
LXR1	**Lixouri, Cepha**	**0.58**	**352**	P	**Pb**	**04 23 40.2**	**-0.2**
LXR1				S	**Sb**	**04 23 48.1**	**-0.6**
	comp=E,44μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.58**	**352**	P	**Pb**	**04 23 40.1**	**-0.3**
LXRA				S	**Sb**	**04 23 47.8**	**-0.9**
DMLN	**Damoulianata-K**	**0.62**	**348**	P	**Pb**	**04 23 40.6**	**-0.7**
DMLN				S	**Sb**	**04 23 50.6**	**+0.6**
	comp=E,25μm,0.3s						
DMLN	**Damoulianata-K**	**0.62**	**348**	P	**Pb**	**04 23 40.6**	**-0.7**
DMLN				S	**Sb**	**04 23 49.0**	**-1.1**
SMHA	**Samh**	**0.63**	**8**	P	**Pg**	**04 23 40.1**	**-0.4**
SMHA				S	**Sg**	**04 23 48.4**	**-0.3**
VSK1	**VASILIKIADES**	**0.78**	**1**	P	**Pg**	**04 23 43.0**	**-0.3**
VSK1				S	**Sb**	**04 23 54.7**	**+0.2**
	comp=E,6μm,0.5s						
FSK	**Fiskardo**	**0.83**	**1**	P	**Pg**	**04 23 43.8**	**-0.5**
FSK				S	**Sb**	**04 23 56.0**	**+0.1**
	comp=E,3μm,0.3s						
FSK	**Fiskardo**	**0.83**	**1**	P	**Pb**	**04 23 44.1**	**-0.6**
FSK				S	**Sg**	**04 23 55.2**	**0.0**
FSK				AML	AML	04 23 57.5	
	comp=N,4016μm,0.3s						
FSK				AML	AML	04 23 57.7	
	comp=E,8127μm,0.2s						
RLS	**Riolos of Patr**	**0.85**	**59**	P	**Pb**	**04 23 44.8**	**-0.2**
RLS				S	**Sb**	**04 23 57.3**	**+0.9**
	comp=E,4μm,0.4s						
RLS	**Riolos of Patr**	**0.85**	**59**	P	**Pb**	**04 23 44.8**	**-0.2**
RLS				S	**Sb**	**04 23 57.6**	**+1.1**
RLS				AML	AML	04 23 58.4	
	comp=E,7064μm,0.5s						
RLS				AML	AML	04 23 58.6	
	comp=N,9219μm,0.4s						
AMT	**Artemida-Makis**	**0.93**	**96**	P	**Pn**	**04 23 46.7**	**-0.6**
AMT				S	**Sn**	**04 24 00.4**	**-0.4**
AMT				AML	AML	04 24 03.5	
	comp=N,10880μm,0.4s						
AMT				AML	AML	04 24 05.3	
	comp=E,10288μm,0.2s						
DRO	**Drossia**	**0.98**	**70**	P	**Pg**	**04 23 46.5**	**-0.6**
DRO	**Drossia**	**0.98**	**70**	P	**Pb**	**04 23 47.3**	**0.0**
DRO				AML	AML	04 24 04.2	
	comp=E,6817μm,0.6s						
DRO				AML	AML	04 24 04.9	
	comp=N,4792μm,0.4s						
EVGI	**Lefkada island**	**0.99**	**5**	P	**Pb**	**04 23 47.0**	**-0.6**
EVGI				S	**Sb**	**04 24 01.6**	**+0.9**
	comp=N,2μm,0.4s						
EVGI	**Lefkada island**	**0.99**	**5**	P	**Pb**	**04 23 46.9**	**-0.6**
AST1	**Astakos**	**1.01**	**25**	P	**Pb**	**04 23 47.5**	**-0.3**
DRAG	**Dragano-Lefkad**	**1.05**	**1**	P	**Pb**	**04 23 48.0**	**-0.6**
DRAG	**Dragano-Lefkad**	**1.05**	**1**	P	**Pg**	**04 23 47.9**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.09**	**6**	P	**Pg**	**04 23 48.4**	**-0.9**
NYDR	**Nydri-Lefkada**	**1.09**	**6**	P	**Pg**	**04 23 47.8**	**-1.4**
LKD2	**Lefkada island**	**1.16**	**4**	P	**Pn**	**04 23 51.2**	**+0.6**
LKD2	**Lefkada island**	**1.16**	**4**	P	**Pn**	**04 23 51.2**	**+0.6**
UPR	**University Cam**	**1.18**	**56**	P	**Pn**	**04 23 51.3**	**+0.5**
ITM	**Ithomi**	**1.19**	**112**	P	**Pn**	**04 23 50.9**	**0.0**
ITM	**Ithomi**	**1.19**	**112**	P	**Pn**	**04 23 51.2**	**+0.2**
ITM				S	**Sn**	**04 24 07.0**	**-0.1**
ITM				AML	AML	04 24 13.9	
	comp=E,982μm,0.5s						
ITM				AML	AML	04 24 14.6	
	comp=N,1502μm,0.4s						
TSLK	**Tsoukalades, L**	**1.20**	**4**	P	**Pg**	**04 23 50.5**	**-0.8**
TSLK	**Tsoukalades, L**	**1.20**	**4**	P	**Pg**	**04 23 49.9**	**-1.4**
PYL	**PYLOS**	**1.20**	**127**	P	**Pn**	**04 23 51.7**	**+0.6**
PYL				S	**Sn**	**04 24 09.9**	**+2.4**
	comp=N,1μm,0.4s						
PYL	**PYLOS**	**1.20**	**127**	P	**Pn**	**04 23 51.7**	**+0.6**
PYL				S	**Sn**	**04 24 08.3**	**+0.8**
PYL				AML	AML	04 24 12.8	
	comp=N,1969μm,0.4s						
PYL				AML	AML	04 24 13.6	
	comp=E,2314μm,0.6s						
KLV	**Kalavryta, Ach**	**1.34**	**71**	P	**Pb**	**04 23 53.1**	**-0.4**
KLV	**Kalavryta, Ach**	**1.34**	**71**	P	**Pb**	**04 23 53.1**	**-0.4**
KLV				AML	AML	04 24 17.5	
	comp=N,1023μm,0.7s						
KLV				AML	AML	04 24 23.9	
	comp=E,766μm,1.0s						
EFP	**Efpalio**	**1.34**	**53**	P	**Pn**	**04 23 53.0**	**0.0**
EFP	**Efpalio**	**1.34**	**53**	P	**Pn**	**04 23 53.0**	**0.0**
EFP				AML	AML	04 24 16.3	
	comp=E,1401μm,0.3s						
EFP				AML	AML	04 24 18.6	
	comp=N,1775μm,0.7s						
ALIK	**Aliki, Aigiali**	**1.39**	**63**	P	**Pg**	**04 23 54.3**	**-0.7**
ANX	**Ano Chora**	**1.45**	**48**	P	**Pg**	**04 23 55.4**	**-0.8**
ANX	**Ano Chora**	**1.45**	**48**	P	**Pb**	**04 23 55.0**	**-0.4**
ANX				AML	AML	04 24 18.1	
	comp=E,2908μm,0.6s						
ANX				AML	AML	04 24 18.4	
	comp=N,3234μm,0.6s						
GUR	**Goura**	**1.46**	**77**	P	**Pb**	**04 23 55.3**	**-0.2**
GUR	**Goura**	**1.46**	**77**	P	**Pn**	**04 23 54.8**	**+0.1**
GUR				AML	AML	04 24 24.3	
	comp=E,1992μm,0.4s						
GUR				AML	AML	04 24 24.5	
	comp=N,2100μm,0.6s						
KALE	**Kalithea**	**1.47**	**58**	P	**Pb**	**04 23 55.4**	**-0.4**
KALE	**Kalithea**	**1.47**	**58**	P	**Pn**	**04 23 54.5**	**-0.4**
EVR	**Evrytania**	**1.63**	**37**	P	**Pb**	**04 23 57.7**	**-0.7**
EVR	**Evrytania**	**1.63**	**37**	P	**Pg**	**04 23 59.0**	**-0.5**
IGT	**Igoumenitsa**	**1.91**	**355**	P	**Pb**	**04 24 02.6**	**-0.6**
IGT	**Igoumenitsa**	**1.91**	**355**	P	**Pn**	**04 24 01.3**	**+0.4**
LOUT	**Loutraki**	**1.96**	**79**	P	**Pb**	**04 24 02.8**	**-1.2**
AGG	**Agios Georgios**	**1.98**	**45**	P	**Pn**	**04 24 02.9**	**+1.1**
AXAR	**Agios Charalam**	**2.02**	**55**	P	**Pb**	**04 24 03.9**	**-1.1**
KEK	**Kerkira**	**2.16**	**345**	P	**Pn**	**04 24 05.3**	**+1.0**
THL	**Klokotos Trika**	**2.25**	**30**	P	**Pn**	**04 24 07.0**	**+1.5**
VILL	**Villia**	**2.25**	**75**	P	**Pb**	**04 24 07.3**	**-1.8**
TYRN	**Tyrnavos**	**2.46**	**32**	P	**Pn**	**04 24 09.5**	**+1.1**
VLY	**Voula,Athens**	**2.59**	**84**	P	**Pb**	**04 24 12.3**	**-2.4**
DION	**Dionisos Attik**	**2.72**	**79**	P	**Pn**	**04 24 13.4**	**+1.4**
OHR	**Ohrid**	**3.48**	**3**	*i* Pn	**Pn**	**04 24 25.2**	**+2.7**

*IDC **08** 04:46:30.1±0.9, 51°.49N×15°.63E, h0km, mbtmp3.4/6, ML3.3/5, Error ellipse: s-maj=15.3km s-min=7.8km az=105.0*
*IPEC **08** 04:46:30.3±0.3, 51°.62N×16°.16E, h1km, ML2.7/4, Error ellipse: s-maj=3.1km s-min=1.7km az=69.0*
*DNK **08** 04:46:31.2±1.2, 51°.71N×15°.89E, h0km±54km, ML2.0*
*BGR **08** 04:46:32.2±0.4, 51°.53N×16°.09E, h1km, ML3.1/16, Error ellipse: s-maj=4.4km s-min=2.2km az=23.0*
*VIE **08** 04:46:33.3±0.9, 51°.41N×16°.00E, h0km±4km, mb2.8/13, ml2.8/14, Error ellipse: s-maj=4.8km s-min=4.2km az=52.0, Suspected Mining induced.*
*MCSM **08** 04:46:33.4±1.3, 51°N±11°×1°E±°, h10km, MLv3.2, MLv2.6*
*PRU **08** 04:46:34.0, 51°.48N×16°.06E, h0km*
ISC 08 04:46:29.0±0.6, 51°.67N±0°.03×16°.14E±0°.02, h0km, n87, σ19°16/158, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.83**	**173**	*e*Pg	**Pg**	**04 46 45.7**	**+0.8**
KSP				*e*Sg	**Sg**	**04 46 55.4**	**-0.3**
KSP	**Ksiaz**	**0.83**	**173**	*e*Pg	**Pg**	**04 46 45.7**	**+0.8**
KSP				*e*Sg	**Sg**	**04 46 55.4**	**-0.3**
KSP	**Ksiaz**	**0.83**	**173**	P	**Pg**	**04 46 45.4**	**+0.5**
CHVC	**Chvalec**	**1.08**	**183**	*e*PG	**Pg**	**04 46 50.4**	**+0.7**
CHVC				*e*SG	**Sg**	**04 47 03.2**	**-0.6**
CHVC	**Chvalec**	**1.08**	**183**	P	**Pg**	**04 46 50.3**	**+0.6**
OSTC	**Ostas**	**1.11**	**177**	*e*PG	**Pg**	**04 46 51.1**	**+0.7**
OSTC				*e*SG	**Sg**	**04 47 04.4**	**-0.4**
	comp=Z,108nm,0.4s						
OSTC	**Ostas**	**1.11**	**177**	P	**Pg**	**04 46 51.0**	**+0.7**
UPC	**Upice**	**1.17**	**184**	*e*PG	**Pg**	**04 46 52.0**	**+0.7**
UPC				*e*SG	**Sg**	**04 47 05.6**	**-0.8**
UPC	**Upice**	**1.17**	**184**	P	**Pg**	**04 46 51.6**	**+0.3**
DPC	**Dobruska-Polom**	**1.32**	**175**	*e*PG	**Pg**	**04 46 54.6**	**+0.2**
DPC				*e*SG	**Sg**	**04 47 10.3**	**-1.2**
	comp=Z,68nm,0.2s						
DPC	**Dobruska-Polom**	**1.32**	**175**	*e*Pg	**Pg**	**04 46 54.5**	**+0.1**
DPC				*e*Sg	**Sg**	**04 47 10.4**	**-1.2**
DPC	**Dobruska-Polom**	**1.32**	**175**	P	**Pg**	**04 46 54.4**	**+0.1**
PVCC	**Panska Ves**	**1.51**	**222**	*e*PG	**Pn**	**04 46 57.7**	**+0.4**
PVCC				*e*SG	**Sg**	**04 47 17.4**	**-0.1**
	comp=

KHC			*e*PG		**Pb**	**04 47 24.6**	**+0.9**
KHC			*e*SN		**Sn**	**04 47 54.8**	**-0.2**
KHC			*e*SG		**Sb**	**04 48 03.2**	**+2.1**
	comp=Z,22nm,0.4s						
KHC	**Kasperske Hory**	**3.02 214**	P		**Pn**	**04 47 18.6**	**+0.5**
MOX	**Moxa**	**3.03 252**	*e*Pn		**Pn**	**04 47 18.8**	**+0.7**
MOX			*e*Pg		**Pg**	**04 47 27.2**	**+0.2**
MOX			*e*Sg		**Sg**	**04 48 07.1**	**+0.9**
MANZ	**Manzenberg**	**3.06 238**	*e*Pn		**Pn**	**04 47 19.5**	**+0.9**
MANZ			*e*Sg		**Sg**	**04 48 07.4**	**+0.1**
CKRC	**Cesky Krumlov**	**3.08 203**	*e*PN		**Pn**	**04 47 20.3**	**+1.4**
CKRC			*e*PG		**Pb**	**04 47 26.1**	**+1.4**
CKRC	**Cesky Krumlov**	**3.08 203**	P		**Pn**	**04 47 20.0**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.14 234**	*e*Pn		**Pn**	**04 47 20.7**	**+1.0**
ROTZ			*e*Sg		**Sg**	**04 48 08.8**	**-1.1**
GEC2	**GERESS Array S**	**3.23 210**	*e*Pn		**Pn**	**04 47 21.9**	**+0.8**
GEC2			*e*Sg		**Sb**	**04 48 09.8**	**+2.6**
GERES	**GERESS Array B**	**3.23 210**	Pg		**Pn**	**04 47 22.0**	**+1.0**
	comp=Z,2.0nm,0.3s,baz=29,slow=13,SNR=26						
GERES			Lg		Lg	04 48 03.4	
	comp=Z,2.8nm,0.3s,baz=29,slow=28,SNR=2.8						
WET	**Wettzell**	**3.28 221**	*e*Pn		**Pn**	**04 47 22.6**	**+1.0**
WET			*e*Sg		**Sg**	**04 48 11.8**	**-2.4**
LANS	**Liptovska Anna**	**3.30 139**	*e*PN		**Pn**	**04 47 23.4**	**+1.5**
LANS			*e*PG		**Pg**	**04 47 32.5**	**+0.3**
LANS			*e*SG		**Sg**	**04 48 15.0**	**0.0**
MODS	**Modra-Piesok**	**3.38 167**	*e*PN		**Pn**	**04 47 24.2**	**+1.2**
MODS			*e*PG		**Pg**	**04 47 33.3**	**-0.4**
MODS			*e*SG		**Sg**	**04 48 16.0**	**-1.5**
NIE	**Niedzica**	**3.48 129**	*e*Pn		**Pn**	**04 47 26.2**	**+1.8**
NIE			*e*Pg		**Pg**	**04 47 36.7**	**+1.0**
NIE			*e*Sg		**Sg**	**04 48 21.4**	**+0.6**
BSD	**Bornholm Skovb**	**3.53 349**	*i* P		**Pn**	**04 47 26.9**	**+1.9**
BSD			*i* S		**Sn**	**04 48 05.7**	**-1.7**
BSD			IAML			04 48 11.5	
	comp=Z,1.6nm,0.2s						
CLZ	**Clausthal**	**3.59 275**	*e*Pn		**Pn**	**04 47 27.9**	**+2.1**
CLZ			*e*Sg		**Sg**	**04 48 25.7**	**+1.5**
VYHS	**Vyhne**	**3.62 150**	P		**Pn**	**04 47 27.0**	**+0.7**
VYHS	**Vyhne**	**3.62 150**	*e*PN		**Pn**	**04 47 26.8**	**+0.5**
VYHS			*e*PG		**Pg**	**04 47 38.1**	**-0.3**
VYHS			*e*SG		**Sb**	**04 48 21.9**	**+3.6**
GRF	**Grafenberg Arr**	**3.70 240**	*e*Pn		**Pn**	**04 47 28.5**	**+1.1**
GRF			*e*Sg		**Sg**	**04 48 26.6**	**-1.2**
CONA	**Conrad Observa**	**3.75 183**	*i* Pn		**Pn**	**04 47 29.2**	**+1.1**
	comp=Z,1.8nm,0.2s,SNR=12						
CONA			*e*Sg		**Sg**	**04 48 27.9**	**-1.5**
	comp=Z,30nm,0.5s						
STHS	**Stebnicka Huta**	**3.96 123**	*e*PN		**Pn**	**04 47 32.0**	**+1.0**
STHS			*e*PG		**Pg**	**04 47 45.3**	**+0.4**
STHS			*e*SG		**Sg**	**04 48 36.3**	**+0.1**
RONA	**Rosalia, Austr**	**3.97 178**	*e*Pn		**Pn**	**04 47 31.9**	**+0.7**
	comp=Z,0.8nm,0.2s						
RONA			Sg		**Sg**	**04 48 34.4**	**-2.2**
	comp=Z,8.5nm,0.3s						
MOA	**Molln**	**4.01 198**	*i* Pn		**Pn**	**04 47 32.5**	**+0.8**
	comp=Z,11nm,0.3s,SNR=26						
MOA			Sg		**Sg**	**04 48 35.6**	**-2.1**
	comp=Z,18nm,0.4s						
KECS	**Kecovo**	**4.24 137**	*e*PN		**Pn**	**04 47 37.7**	**+2.8**
KECS			*e*PG		**Pg**	**04 47 50.8**	**+0.5**
LUNU	**Lund**	**4.28 339**	*i* P		**Pn**	**04 47 36.0**	**+0.7**
LUNU			*i* S		**Sn**	**04 48 25.1**	**-0.8**
BIOA	**Bad Ischl, Aus**	**4.30 203**	*i* Pn		**Pn**	**04 47 36.4**	**+0.8**
	comp=Z,6.6nm,0.3s,SNR=9.0						
BIOA			*e*Sg		**Sg**	**04 48 47.0**	**0.0**
	comp=Z,9.5nm,0.3s						
ARSA	**Arzberg**	**4.44 185**	*i* Pn		**Pn**	**04 47 40.0**	**+2.4**
	comp=Z,2.5nm,0.3s						
BLEU	**Blekinge**	**4.65 358**	*i* P		**Pn**	**04 47 42.8**	**+2.4**
BLEU			*i* S		**Sn**	**04 48 34.4**	**-0.6**
KOLS	**Kolonicke sedl**	**4.79 122**	*e*PN		**Pn**	**04 47 43.5**	**+1.1**
KOLS			*e*PG		**Pg**	**04 47 59.2**	**-1.6**
KOLS			*e*SG		**Sg**	**04 49 02.2**	**-0.6**
LESA	**Schwarzleotal**	**4.81 209**	*i* Pn		**Pn**	**04 47 43.3**	**+0.6**
	comp=Z,0.6nm,0.2s						
KBA	**Koelnbreinsper**	**4.94 203**	*i* Pn		**Pn**	**04 47 45.8**	**+1.1**
	comp=Z,6.9nm,0.4s,SNR=8.3						
KBA			*e*Sg		**Sg**	**04 49 08.8**	**+1.1**
	comp=Z,12nm,0.5s						
DEL	**Delary**	**4.99 345**	*i* P		**Pn**	**04 47 46.5**	**+1.4**
DEL			*i* S		**Sn**	**04 48 41.9**	**-1.6**
SOKA	**Soboth**	**5.05 189**	*i* Pn		**Pn**	**04 47 46.7**	**+0.7**
	comp=Z,1.6nm,0.4s						
SOKA			*e*Sn		**Sn**	**04 48 44.6**	**-0.4**
	comp=Z,0.8nm,0.4s						
WATA	**Walderalm**	**5.26 216**	*e*Pn		**Pn**	**04 47 50.1**	**+1.2**
	comp=Z,2.4nm,0.5s						
WTTA	**Wattenberg**	**5.30 215**	*e*Pn		**Pn**	**04 47 51.0**	**+1.5**
	comp=Z,1.2nm,0.2s						
MOTA	**Moosalm**	**5.43 219**	*e*Pn		**Pn**	**04 47 50.1**	**-1.2**
	comp=Z,0.2nm,0.1s						
MOTA			*e*Sn		**Sn**	**04 48 51.6**	**-2.9**
	comp=Z,2.5nm,0.4s						
RETA	**Reutte**	**5.45 222**	*e*Pn		**Pn**	**04 47 51.9**	**+0.3**
	comp=Z,0.7nm,0.2s						
ABTA	**Abfaltersbach**	**5.47 207**	*i* Pn		**Pn**	**04 47 53.3**	**+1.5**
	comp=Z,1.3nm,0.4s						
SQTA	**Sankt Quirin**	**5.49 218**	*e*Pn		**Pn**	**04 47 53.7**	**+1.6**
	comp=Z,1.2nm,0.2s						
FABU	**Falkenberg**	**5.71 341**	*i* P		**Pn**	**04 47 55.9**	**+1.0**
FABU			*i* S		**Sn**	**04 48 58.0**	**-3.0**
FETA	**Feichten**	**5.84 219**	*e*Pn		**Pn**	**04 47 58.7**	**+1.8**
	comp=Z,1.3nm,0.6s						
DAVOX	**Davos/Dischmat**	**6.38 222**	Pn		**Pn**	**04 48 05.4**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=40,slow=16,SNR=2.7						
DAVOX			Lg		Lg	04 49 42.1	
	comp=Z,0.3nm,0.3s,baz=7.1,slow=23,SNR=1.9						
SIRR	**Siria**	**6.51 144**	P		**Pn**	**04 48 07.4**	**+1.4**
AKASG	**Malin Array Be**	**8.28 92**	Pn		**Pn**	**04 48 31.2**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=282,slow=12,SNR=5.4						
	comp=Z,0.4nm,0.4s						
HFS	**Hagfors**	**8.60 352**	Pn		**Pn**	**04 48 36.0**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=158,slow=12,SNR=2.0						
FINES	**FINESS Array B**	**11.21 25**	Pn		**Pn**	**04 49 11.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=211,slow=10,SNR=5.4						
FINES			Sn		**Sn**	**04 51 11.4**	**-4.8**
	comp=Z,0.2nm,0.3s,baz=207,slow=21,SNR=1.9						
	comp=Z,1.2nm,0.6s						
EKA	**Eskdalemuir Ar**	**12.05 295**	Pn		**Pn**	**04 49 19.8**	**-2.1**
	baz=104,slow=14						
	comp=Z,0.2nm,0.2s						
ARCES	**ARCESS Array B**	**18.46 10**	Pn		**P**	**04 50 45.4**	**-0.5**
	baz=192,slow=12,SNR=2.5						
	comp=Z,4.2nm,1.1s						

NEIC ***08*** *04:49:00.7±1.0, 63°.09N±0°.03×150°.91W±0°.07, h123km±4km, Error ellipse: s-maj=4.9km s-min=4.5km az=54.0*

IDC ***08*** *04:49:01.0±2.0, 63°.22N×150°.99W, h122km±16km, mb4.0/23, mbtmp4.3/27, MS3.0/1, Error ellipse: s-maj=18.7km s-min=11.6km az=47.0*

AEIC ***08*** *04:49:01.1±1.0, 63°.08N±0°.03×150°.89W±0°.07, h121km±3km, ML3.9, mb4.5/26(NEIC), ML4.1/246(NEIC), Error ellipse: s-maj=4.9km s-min=4.7km az=205.0*

ISC 08 04:49:00.6±0.6, 63°.08N±0°.03×150°.92W±0°.03, h124km±5km, n462, σ0.64/479, mb4.5/35, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.47**	**37**		**Pn**	**04 49 19.3**	**+0.3**
TRF	**Thorofare Moun**	**0.47**	**37**		**Sn**	**04 49 32.8**	**-0.1**
TRF				IAML		04 49 33.5	
	comp=N,4μm,0.5s						
TRF				IAML		04 49 33.8	
	comp=E,5μm,0.7s						
TRF	**Thorofare Moun**	**0.47**	**37**	P	**Pn**	**04 49 19.0**	**0.0**
	baz=216						
TRF				S	**Sn**	**04 49 33.2**	**+0.3**
	baz=216						
KTH	**Kantishna Hill**	**0.47**	**360**	Pn	**Pn**	**04 49 19.2**	**+0.2**
KTH				Sn	**Sn**	**04 49 32.3**	**-0.4**
KTH				IAML		04 49 33.2	
	comp=E,2μm,0.7s						
KTH				IAML		04 49 33.2	
	comp=N,4μm,0.8s						
PPLA	**Purkeypile**	**0.61**	**253**		**Pn**	**04 49 20.4**	**+0.5**
PPLA					**Sn**	**04 49 34.4**	**0.0**
PPLA	**Purkeypile**	**0.61**	**253**	P	**Pn**	**04 49 20.1**	**+0.2**
	baz=72						
PPLA				S	**Sn**	**04 49 34.3**	**-0.1**
	baz=72						
CAST	**Castle Rocks**	**0.63**	**303**	Pn	**Pn**	**04 49 19.7**	**-0.2**
CAST				Sn	**Sn**	**04 49 33.6**	**-0.8**
CAST				IAML		04 49 34.5	
	comp=E,3μm,0.9s						
CAST				IAML		04 49 34.6	
	comp=N,3μm,0.7s						
CAST	**Castle Rocks**	**0.63**	**303**	P	**Pn**	**04 49 19.8**	**0.0**
	baz=122						
CAST				S	**Sn**	**04 49 33.9**	**-0.5**
	baz=122						
CUT	**Chulitna**	**0.74**	**156**	Pn	**Pn**	**04 49 20.8**	**+0.1**
CUT				Sn	**Sn**	**04 49 35.9**	**+0.1**
CUT	**Chulitna**	**0.74**	**156**	P	**Pn**	**04 49 20.8**	**+0.1**
	baz=337						
CUT				S	**Sn**	**04 49 36.2**	**+0.4**
	baz=337						
WAT7	**Susitna Watana**	**0.98**	**104**		**Pn**	**04 49 22.6**	**-0.2**
WAT7					**Sn**	**04 49 39.4**	**-0.3**
RND	**Reindeer**	**0.99**	**70**	Pn	**Pn**	**04 49 23.0**	**+0.1**
RND				Sn	**Sn**	**04 49 39.1**	**-0.7**
RND				IAML		04 49 42.1	
	comp=N,3μm,0.3s						
RND				IAML		04 49 43.7	
	comp=E,3μm,0.2s						
CHUM	**Lake Minchumin**	**1.02**	**323**		**Pn**	**04 49 23.5**	**+0.4**
CHUM					**Sn**	**04 49 39.9**	**-0.2**
CHUM	**Lake Minchumin**	**1.02**	**323**	P	**Pn**	**04 49 23.6**	**+0.4**
	baz=141						
CHUM				S	**Sn**	**04 49 39.9**	**-0.2**
	baz=141						
BPAW	**Bear Paw Mtn.**	**1.02**	**358**		**Pn**	**04 49 23.2**	**+0.1**
BPAW				Sn	**Sn**	**04 49 39.5**	**-0.8**
BPAW				IAML		04 49 40.3	
	comp=N,2μm,0.8s						
BPAW				IAML		04 49 40.3	
	comp=E,1μm,0.6s						
BPAW	**Bear Paw Mtn.**	**1.02**	**358**	P	**Pn**	**04 49 23.2**	**+0.1**
	baz=178						
BPAW				S	**Sn**	**04 49 39.7**	**-0.6**
	baz=178						
MCK	**McKinley**	**1.10**	**53**		**Pn**	**04 49 24.3**	**+0.3**
MCK	**McKinley**	**1.10**	**53**	P	**Pn**	**04 49 24.3**	**+0.3**
	baz=234						
WAT1	**Susitna Watana**	**1.11**	**102**		**Pn**	**04 49 24.0**	**-0.1**
WAT1					**Sn**	**04 49 41.7**	**-0.2**
WAT1	**Susitna Watana**	**1.11**	**102**	P	**Pn**	**04 49 24.0**	**-0.1**
	baz=284						
WAT1				S	**Sn**	**04 49 41.9**	**0.0**
	baz=284						
SKT	**Skwentna**	**1.14**	**195**		**Pn**	**04 49 24.5**	**0.0**
SKT	**Skwentna**	**1.14**	**195**		**Sn**	**04 49 42.1**	**-0.3**
SKT	**Skwentna**	**1.14**	**195**	P	**Pn**	**04 49 24.3**	**-0.1**
	baz=15						
SKT				S	**Sn**	**04 49 42.1**	**-0.3**
	baz=15						
BWN	**Browne**	**1.27**	**30**		**Pn**	**04 49 26.5**	**+0.8**
BWN				IAML		04 49 45.9	
	comp=E,1μm,1.1s						
BWN				IAML		04 49 48.9	
	comp=N,1μm,0.8s						
M22K	**Willow**	**1.39**	**164**		**Pn**	**04 49 27.1**	**+0.1**
M22K	**Willow**	**1.39**	**164**	P	**Pn**	**04 49 27.1**	**+0.1**
	baz=345						
K20K	**Telida**	**1.45**	**282**		**Pn**	**04 49 27.9**	**+0.2**
K20K					**Sn**	**04 49 47.6**	**-0.8**
K20K	**Telida**	**1.45**	**282**	IAML		04 49 48.5	
	comp=E,2μm,0.9s						
K20K				IAML		04 49 48.7	
	comp=N,2μm,0.7s						
L20K	**Farewell, AK**	**1.49**	**247**		**Pn**	**04 49 28.2**	**0.0**
L20K	**Farewell, AK**	**1.49**	**247**	P	**Pn**	**04 49 28.2**	**0.0**
	baz=65						
WAT6	**Susitna Watana**	**1.54**	**108**		**Pn**	**04 49 28.7**	**-0.2**
WAT6					**Sn**	**04 49 50.0**	**-0.5**
WAT6	**Susitna Watana**	**1.54**	**108**	P	**Pn**	**04 49 28.6**	**-0.2**
	baz=290						
WAT6				S	**Sn**	**04 49 50.0**	**-0.5**
	baz=290						
M20K	**Styx River**	**1.58**	**221**		**Pn**	**04 49 29.3**	**0.0**
M20K				IAML		04 49 52.5	
	comp=N,1μm,0.5s						
M20K				IAML		04 49 53.3	
	comp=E,2μm,0.6s						
M20K	**Styx River**	**1.58**	**221**		**Sn**	**04 49 51.1**	**-0.1**
M20K	**Styx River**	**1.58**	**221**	P	**Pn**	**04 49 29.1**	**-0.3**
	baz=40						
M20K				S	**Sn**	**04 49 51.1**	**-0.1**
	baz=40						
M20K				S	**Sn**	**04 49 51.1**	**-0.1**
	baz=40						
GHO	**Glory Hole Cre**	**1.61**	**144**		**Pn**	**04 49 29.8**	**+0.2**
DHY	**Denali Highway**	**1.61**	**89**		**Pn**	**04 49 29.4**	**-0.3**
DHY	**Denali Highway**	**1.61**	**89**	P	**Pn**	**04 49 29.7**	**0.0**
	baz=272						
SUA	**Susitna One**	**1.63**	**177**		**Pn**	**04 49 30.0**	**+0.1**
SUA				IAML		04 49 54.5	
	comp=E,2μm,0.5s						
SUA				IAML		04 49 55.0	
	comp=N,2μm,0.6s						
SUA	**Susitna One**	**1.63**	**177**	P	**Pn**	**04 49 29.9**	**+0.1**
	baz=358						
STLK	**Strandline Lak**	**1.65**	**195**		**Pn**	**04 49 30.0**	**-0.1**
STLK					**Sn**	**04 49 52.6**	**+0.1**
PMR	**Palmer**	**1.71**	**150**	Pn	**Pn**	**04 49 30.4**	**-0.3**
PMR				IAML		04 50 00.3	
	comp=E,3μm,0.4s						
PMR				IAML		04 50 02.6	
	comp=N,2μm,0.3s						
PMR	**Palmer**	**1.71**	**150**	P	**Pn**	**04 49 30.5**	**-0.3**
	baz=332						
PMR	**Palmer**	**1.71**	**150**	P	**Pn**	**04 49 30.0**	**-0.7**
NEA2	**Nenana**	**1.72**	**28**		**Pn**	**04 49 30.7**	**-0.2**
NEA2				IAML		04 49 55.5	
	comp=E,620nm,0.7s						
NEA2	**Nenana**	**1.72**	**28**	P	**Pn**	**04 49 30.6**	**-0.2**
	baz=209						
SML	**Sawmill**	**1.76**	**136**	Pn	**Pn**	**04 49 31.0**	**-0.3**
SML				IAML		04 49 57.9	
	comp=N,3μm,0.5s						
SML	**Sawmill**	**1.76**	**136**		**Sn**	**04 49 54.9**	**+0.1**
SML	**Sawmill**	**1.76**	**136**	P	**Pn**	**04 49 31.0**	**-0.3**
	baz=318						
J20K	**Nowinta River**	**1.81**	**309**	Pn	**Pn**	**04 49 32.2**	**+0.3**
J20K				IAML		04 49 56.5	
	comp=N,1μm,0.8s						
J20K				IAML		04 49 56.9	
	comp=E,932nm,0.6s						
J20K	**Nowinta River**	**1.81**	**309**		**Sn**	**04 49 55.2**	**-0.6**
J20K	**Nowinta River**	**1.81**	**309**	P	**Pn**	**04 49 32.0**	**+0.1**
	baz=126						
SPCG	**Spurr Capps Gl**	**1.87**	**197**		**Pn**	**04 49 33.0**	**+0.2**
WRH	**Wood River Hil**	**1.88**	**41**		**Pn**	**04 49 32.7**	**+0.1**
WRH				IAML		04 49 57.6	
	comp=E,600nm,0.9s						
WRH				IAML		04 49 57.9	
	comp=N,703nm,0.9s						
SPCP	**Crater Peak Br**	**1.92**	**198**		**Pn**	**04 49 33.5**	**+0.1**
SPCP					**Sn**	**04 49 59.1**	**+0.8**
SPBG	**Spurr Blockage**	**1.95**	**201**		**Pn**	**04 49 34.3**	**+0.5**
MLY	**Manley**	**1.96**	**2**	Pn	**Pn**	**04 49 33.9**	**+0.2**
MLY	**Manley**	**1.96**	**2**	P	**Pn**	**04 49 33.8**	**+0.1**
	baz=182						
M23K	**Glacier View**	**1.97**	**130**		**Pn**	**04 49 33.2**	**-0.6**
M23K					**Sn**	**04 49 59.9**	**+0.5**
M23K	**Glacier View**	**1.97**	**130**	P	**Pn**	**04 49 33.2**	**-0.6**
	baz=313						
N20K	**Mount Spurr**	**1.99**	**198**	P	**Pn**	**04 49 34.0**	**-0.1**
	baz=18						
SPCR	**Spurr Chakacha**	**1.99**	**198**		**Pn**	**04 49 34.0**	**-0.1**
SPCR					**Sn**	**04 50 00.4**	**+0.6**
SPCR	**Spurr Chakacha**	**1.99**	**198**		**Pn**	**04 49 34.3**	**+0.2**
M19K	**Big River Lodg**	**2.00**	**235**		**Pn**	**04 49 33.9**	**-0.3**
M19K	**Big River Lodg**	**2.00**	**235**	IAML		04 50 03.5	
	comp=E,545nm,0.7s						
M19K				IAML		04 50 05.1	
	comp=N,577nm,0.5s						
M19K	**Big River Lodg**	**2.00**	**235**	P	**Pn**	**04 49 34.0**	**-0.3**
	baz=52						
L19K	**White Mountain**	**2.03**	**245**		**Pn**	**04 49 34.6**	**-0.1**
L19K	**White Mountain**	**2.03**	**245**	IAML		04 50 11.0	
	comp=E,474nm,0.5s						
L19K	**White Mountain**	**2.03**	**245**	P	**Pn**	**04 49 34.5**	**-0.1**
	baz=62						
KNK	**Knik Glacier**	**2.03**	**144**		**Pn**	**04 49 34.4**	**-0.3**
KNK	**Knik Glacier**	**2.03**	**144**	P	**Pn**	**04 49 34.4**	**-0.3**
	baz=327						
RC01	**Rabbit Creek A**	**2.08**	**164**	Pn	**Pn**	**04 49 34.9**	**-0.3**
RC01				IAML		04 50 02.4	
	comp=E,2μm,0.2s						
RC01				IAML		04 50 02.5	
	comp=N,2μm,0.2s						
RC01	**Rabbit Creek A**	**2.08**	**164**		**Sn**	**04 50 00.4**	**-1.3**
RC01	**Rabbit Creek A**	**2.08**	**164**	P	**Pn**	**04 49 34.7**	**-0.5**
	baz=345						
CCB	**Clear Creek Bu**	**2.09**	**40**	Pn	**Pn**	**04 49 35.2**	**0.0**
CCB				IAML		04 50 02.4	
	comp=N,508nm,1.1s						
SCM	**Sheep Creek Mo**	**2.09**	**125**		**Pn**	**04 49 34.8**	**-0.6**
SCM	**Sheep Creek Mo**	**2.09**	**125**	P	**Pn**	**04 49 34.6**	**-0.8**
	baz=309						
I21K	**Tanana**	**2.16**	**348**		**Pn**	**04 49 36.3**	**+0.2**
I23K	**Minto, Yukon-K**	**2.18**	**18**		**Pn**	**04 49 36.6**	**+0.2**
I23K					**Sn**	**04 50 03.8**	**-0.1**
I23K	**Minto, Yukon-K**	**2.18**	**18**	P	**Pn**	**04 49 36.6**	**+0.2**
	baz=199						
HDA	**Harding Lake**	**2.21**	**51**		**Pn**	**04 49 36.5**	**-0.3**
HDA				IAML		04 50 05.8	
	comp=N,1μm,0.6s						
HDA				IAML		04 50 09.7	
	comp=E,981nm,0.3s						
HDA	**Harding Lake**	**2.21**	**51**	P	**Pn**	**04 49 36.7**	**-0.2**
	baz=234						
COLA	**College**	**2.25**	**36**		**Pn**	**04 49 37.3**	**+0.1**
COLA				IAML		04 50 24.8	
	comp=E,669nm,0.5s						
COLA				IAML		04 50 26.7	
	comp=E,750nm,0.5s						
COLA	**College**	**2.25**	**36**	P	**Pn**	**04 49 37.2**	**-0.1**
J19K	**Poorman**	**2.30**	**296**		**Pn**	**04 49 38.2**	**+0.3**
J19K	**Poorman**	**2.30**	**296**		**Sn**	**04 50 05.8**	**-0.8**
J19K				IAML		04 50 07.5	
	comp=N,618nm,0.8s						
J19K				IAML		04 50 23.4	
	comp=E,529nm,0.7s						
J19K	**Poorman**	**2.30**	**296**	P	**Pn**	**04 49 38.1**	**+0.2**
	baz=112						
CAPN	**Captain Cook N**	**2.33**	**183**		**Pn**	**04 49 40.4**	**+2.1**
I20K	**Naaghedeneel**	**2.33**	**319**		**Pn**	**04 49 38.7**	**+0.5**
I20K				IAML		04 50 08.3	
	comp=N,2μm,0.7s						
I20K	**Naaghedeneel**	**2.33**	**319**	P	**Pn**	**04 49 38.8**	**+0.5**
	baz=136						
TTA	**Tatalina**	**2.33**	**268**	Pn	**Pn**	**04 49 38.4**	**0.0**
TTA				IAML		04 50 07.9	
	comp=N,545nm,1.0s						
TTA				IAML		04 50 08.1	
	comp=E,395nm,1.0s						
TTA	**Tatalina**	**2.33**	**268**		**Sn**	**04 50 07.5**	**+0.1**
TTA	**Tatalina**	**2.33**	**268**	P	**Pn**	**04 49 38.4**	**0.0**
	baz=84						
TTA	**Tatalina**	**2.33**	**268**	P	**Pn**	**04 49 38.2**	**-0.2**
M24K	**Tolsona, Glenn**	**2.40**	**112**		**Pn**	**04 49 39.4**	**+0.1**
M24K	**Tolsona, Glenn**	**2.40**	**112**	P	**Pn**	**04 49 39.5**	**+0.2**
	baz=296						
K24K	**Donnelly Dome**	**2.42**	**70**		**Pn**	**04 49 39.6**	**+0.1**
K24K	**Donnelly Dome**	**2.42**	**70**	P	**Pn**	**04 49 39.6**	**+0.1**
	baz=255						
IL31		**2.46**	**45**		**Pn**	**04 49 39.8**	**-0.1**
ILAR	**Eielson Array**	**2.46**	**45**		**Pn**	**04 49 39.9**	**0.0**
ILAR	**Eielson Array**	**2.46**	**45**	P	**Pn**	**04 49 40.1**	**+0.2**
	comp=E,297nm,0.5s,baz=226,slow=13,SNR=3347						
ILAR				S	**Sn**	**04 50 09.1**	**-1.1**
	comp=E,63nm,0.7s,baz=231,slow=22,SNR=12						
PAX	**Paxson**	**2.49**	**90**		**Pn**	**04 49 40.6**	**+0.2**
PAX					**Sn**	**04 50 10.9**	**-0.1**
PAX	**Paxson**	**2.49**	**90**	P	**Pn**	**04 49 40.6**	**+0.2**
	baz=275						
PWL	**Port Wells**	**2.54**	**150**	Pn	**Pn**	**04 49 40.6**	**-0.5**
PWL				IAML		04 50 25.8	
	comp=E,2μm,0.3s						
PWL	**Port Wells**	**2.54**	**150**	P	**Pn**	**04 49 40.6**	**-0.5**
	baz=333						
POKR	**Poker Plat Res**	**2.55**	**35**		**Pn**	**04 49 41.3**	**+0.1**
POKR	**Poker Plat Res**	**2.55**	**35**	P	**Pn**	**04 49 41.4**	**+0.2**
	baz=218						
SLKM	**Skilak Lake**	**2.61**	**172**		**Pn**	**04 49 41.8**	**-0.2**
RDT	**Redoubt**	**2.62**	**196**		**Pn**	**04 49 42.3**	**+0.2**
J18K	**Innoko River**	**2.65**	**281**	Pn	**Pn**	**04 49 42.7**	**+0.3**
J18K				IAML		04 50 16.1	
	comp=E,412nm,1.1s						
J18K	**Innoko River**	**2.65**	**281**	P	**Pn**	**04 49 42.6**	**+0.3**
	baz=96						
RDJH	**Redoubt Jeurge**	**2.66**	**201**		**Pn**	**04 49 43.1**	**+0.5**
O22K	**Cooper Landing**	**2.67**	**167**		**Pn**	**04 49 42.7**	**0.0**
O22K	**Cooper Landing**	**2.67**	**167**	P	**Pn**	**04 49 42.6**	**-0.1**
	baz=348						
NCT	**North Crescent**	**2.71**	**202**		**Pn**	**04 49 43.6**	**+0.4**
H21K	**Melozitna Rive**	**2.71**	**343**		**Pn**	**04 49 43.2**	**+0.1**
H21K	**Melozitna Rive**	**2.71**	**343**	P	**Pn**	**04 49 43.3**	**+0.1**
	baz=161						
HARP	**HAARP**	**2.74**	**102**		**Pn**	**04 49 43.8**	**+0.2**
HARP	**HAARP**	**2.74**	**102**	P	**Pn**	**04 49 43.8**	**+0.2**
	baz=287						
RDWB	**Redoubt West**	**2.76**	**200**		**Pn**	**04 49 44.4**	**+0.3**
M18K	**Stony River**	**2.79**	**237**		**Pn**	**04 49 44.0**	**-0.2**
M18K	**Stony River**	**2.79**	**237**	P	**Pn**	**04 49 44.0**	**-0.2**
	baz=53						
L18K	**Granite Mounta**	**2.80**	**255**	Pn	**Pn**	**04 49

baz=257
IVE Iliamna Volcan 3.24 199 Pn 04 49 49.9 -0.3
WACK Wrangell Chich 3.25 107 Pn 04 49 50.2 -0.2
MENT Mentasta 3.29 89 Pn 04 49 50.8 0.0
ILSW Iliamna Southw 3.29 200 Pn 04 49 51.4 +0.5
ILSW IAML 04 50 34.2
comp=N,184nm,0.7s
ILSW IAML 04 50 35.9
comp=E,202nm,0.6s
WAZA Wrangell Mount 3.29 105 Pn 04 49 50.9 -0.1
N25K Chitina, Valde 3.30 114 Pn **Pn 04 49 50.6 -0.4**
N25K IAML 04 50 42.2
comp=E,672nm,0.5s
N25K IAML 04 50 45.8
comp=N,645nm,0.6s
N25K Chitina, Valde 3.30 114 P **Pn 04 49 50.5 -0.4**
baz=299
O19K Port Alsworth 3.32 211 Pn 04 49 51.3 +0.1
O19K IAML 04 50 33.3
comp=N,901nm,0.5s
O19K Port Alsworth 3.32 211 P **Pn 04 49 51.4 +0.3**
baz=28
BRLK Bradley Lake 3.33 180 Pn 04 49 51.7 +0.3
BRLK IAML 04 50 32.0
comp=E,630nm,0.3s
BRLK IAML 04 50 41.9
comp=N,701nm,0.5s
WASW Wrangell South 3.34 107 Pn 04 49 51.3 -0.3
BRSE Bradley Lake S 3.36 178 Pn 04 49 51.5 -0.2
BRSE Bradley Lake S 3.36 178 P **Pn 04 49 51.5 -0.2**
baz=359
N18K Kilae Creek 3.37 227 Pn **Pn 04 49 52.1 +0.2**
N18K IAML 04 50 31.8
comp=E,271nm,0.8s
N18K IAML 04 50 49.3
comp=N,173nm,0.9s
N18K Kilae Creek 3.37 227 P **Pn 04 49 51.7 -0.1**
baz=42
PRP Porcupine Dome 3.39 41 Pn **Pn 04 49 52.4 +0.2**
PRP IAML 04 50 33.3
comp=N,285nm,0.6s
PRP IAML 04 50 36.5
comp=E,184nm,0.6s
PRP Porcupine Dome 3.39 41 P **Pn 04 49 51.9 -0.2**
baz=226
K17K Iditarod 3.40 267 Pn **Pn 04 49 52.5 +0.3**
K17K IAML 04 50 59.0
comp=E,201nm,0.9s
K17K IAML 04 50 59.2
comp=N,207nm,1.1s
K17K Iditarod 3.40 267 P **Pn 04 49 52.5 +0.3**
baz=81
HIN Hinchinbrook I 3.42 140 Pn 04 49 51.8 -0.7
HIN Hinchinbrook I 3.42 140 IAML 04 50 57.9
comp=N,926nm,0.7s
H19K Roundabout Mou 3.44 318 Pn **Pn 04 49 52.9 +0.2**
H19K Roundabout Mou 3.44 318 P **Pn 04 49 52.7 +0.1**
baz=133
L26K Log Cabin Wild 3.45 88 Pn 04 49 53.1 +0.2
HOM Homer 3.46 186 Pn 04 49 53.5 +0.5
HOM Homer 3.46 186 P **Pn 04 49 53.9 +0.9**
baz=5.7
M17K Holitna River 3.49 244 Pn **Pn 04 49 53.3 -0.1**
M17K IAML 04 51 08.8
comp=E,328nm,0.9s
M17K IAML 04 51 15.8
comp=N,294nm,0.8s
M17K Holitna River 3.49 244 P **Pn 04 49 52.9 -0.5**
baz=58
P23K Montague Islan 3.52 150 Pn 04 49 53.0 -0.9
P23K Montague Islan 3.52 150 P **Pn 04 49 53.0 -0.9**
baz=333
EYAK Cordova Ski Ar 3.53 134 Pn 04 49 53.5 -0.4
EYAK Cordova Ski Ar 3.53 134 P **Pn 04 49 53.5 -0.4**
baz=318
EYAK Cordova Ski Ar 3.53 134 Pn 04 49 53.3 -0.6
L17K Donlin 3.54 258 Pn 04 49 54.2 +0.1
L17K Donlin 3.54 258 P **Pn 04 49 54.2 +0.1**
baz=71
J26L Joseph Creek 3.56 63 Pn 04 49 55.0 +0.7
J26L IAML 04 50 41.2
comp=E,569nm,0.6s
J26L IAML 04 50 42.4
comp=N,540nm,0.5s
J26L Joseph Creek 3.56 63 P **Pn 04 49 54.5 +0.1**
baz=250
CNPM China Poot 3.57 183 Pn **Pn 04 49 54.9 +0.4**
CNPM IAML 04 50 46.2
comp=E,747nm,0.8s
CNPM IAML 04 50 49.7
comp=N,770nm,0.4s
G21K Allakaket 3.62 343 Pn 04 49 55.3 +0.2
P19K Oil Pt 3.62 199 Pn 04 49 55.6 +0.5
P19K Oil Pt 3.62 199 IAML 04 50 40.5
comp=N,625nm,0.4s
BMRM Bremner River 3.65 123 Pn 04 49 54.3 -1.3
BMRM Bremner River 3.65 123 P **Pn 04 49 54.5 -1.1**
baz=308
G23K Bananza Creek 3.66 6 Pn 04 49 56.2 +0.6
J17K VABM Dome 3.71 278 Pn **Pn 04 49 56.5 +0.3**
J17K IAML 04 51 12.0
comp=N,137nm,1.0s
J17K VABM Dome 3.71 278 P **Pn 04 49 56.3 +0.1**
baz=91
M26K Nabesna, AK 3.71 97 Pn **Pn 04 49 56.3 0.0**
M26K IAML 04 51 00.3
comp=E,481nm,0.6s
M26K Nabesna, AK 3.71 97 P **Pn 04 49 55.9 -0.4**
baz=284
GLB Gilahina Butte 3.71 113 Pn **Pn 04 49 56.1 -0.3**
GLB IAML 04 50 53.0
comp=N,528nm,0.4s
GLB IAML 04 50 54.7
comp=E,539nm,0.6s
O18K Koktuh Hills 3.84 214 Pn **Pn 04 49 58.4 +0.4**
O18K IAML 04 50 42.8
comp=E,175nm,1.0s
O18K IAML 04 50 43.2
comp=N,164nm,1.1s
O18K Koktuh Hills 3.84 214 P **Pn 04 49 58.2 +0.2**
baz=31
GOAT Goat Mountain 3.86 128 Pn 04 49 57.4 -1.0
H18K Honhosa River 3.87 306 Pn 04 49 58.8 +0.4
H25L Birch Creek 3.87 32 Pn 04 49 59.0 +0.6
AU22 Augustine Moun 3.91 199 Pn 04 49 59.1 +0.2
AUL Augustine Lava 3.91 199 Pn 04 49 59.5 +0.6
G24K Hadwenzic Riv 3.92 20 Pn 04 49 59.2 +0.2
N17K Nushagak Hills 3.93 232 Pn **Pn 04 49 59.6 +0.4**
N17K IAML 04 50 43.7
comp=E,115nm,1.1s
N17K IAML 04 51 18.7
comp=N,152nm,0.9s
N17K Nushagak Hills 3.93 232 P **Pn 04 49 59.1 -0.1**
baz=47
AUCH Augustine Cone 3.93 199 Pn 04 49 59.7 +0.4
VRDI Verde Repeater 3.97 115 Pn 04 49 59.1 -0.8
VRDI Verde Repeater 3.97 115 IAML 04 51 00.4
comp=N,438nm,0.5s
VRDI IAML 04 51 06.5
comp=E,277nm,1.0s
RAGM Ragged Mountai 4.02 130 Pn 04 49 59.8 -0.6
G19K Purcell Mounta 4.06 322 Pn 04 50 00.8 -0.1
I26K Coal Creek Min 4.06 53 Pn 04 50 00.6 -0.3
I26K Coal Creek Min 4.06 53 IAML 04 50 52.0
comp=E,239nm,0.8s
I26K IAML 04 50 53.8
comp=N,251nm,0.8s
K27K Chicken 4.07 73 Pn 04 50 00.7 -0.3
K27K Chicken 4.07 73 IAML 04 50 53.0
comp=E,345nm,0.6s
K27K IAML 04 50 53.9
comp=N,328nm,0.5s
MCARA McCarthy VSAT 4.07 111 Pn 04 50 01.1 +0.1
MCARA McCarthy VSAT 4.07 111 P **Pn 04 50 00.9 -0.1**
baz=298
L27K Beaver Creek, 4.13 86 Pn **Pn 04 50 01.4 -0.6**
L27K IAML 04 51 14.2
comp=N,174nm,0.6s
L27K IAML 04 51 17.7
comp=E,118nm,0.9s
L27K Beaver Creek, 4.13 86 P **Pn 04 50 01.2 -0.7**
baz=274
BCAR Beaver Creek A 4.15 86 Pn **Pn 04 50 01.6 -0.6**
COLD Coldfoot 4.17 4 Pn 04 50 02.9 +0.5
HMT Hamilton 4.20 128 Pn 04 50 02.0 -0.8
L16K Owhat River 4.21 255 Pn **Pn 04 50 03.2 +0.2**
L16K IAML 04 51 24.1
comp=E,113nm,0.8s
M27K Edge Creek, AK 4.22 96 Pn **Pn 04 50 03.9 +0.6**
M27K IAML 04 51 17.8
comp=N,326nm,0.9s
M27K IAML 04 51 18.1
comp=E,234nm,0.7s
G25K Bearman Lake 4.23 27 Pn 04 50 03.3 +0.2
P18K Big Mountain, 4.25 211 Pn **Pn 04 50 03.8 +0.3**
P18K IAML 04 50 52.4
comp=E,97nm,1.2s
FYU Fort Yukon 4.26 32 Pn **Pn 04 50 04.0 +0.5**
FYU IAML 04 50 54.0
comp=N,104nm,1.1s
FYU IAML 04 51 33.2
comp=E,109nm,0.8s
F21K Alatna River 4.29 347 Pn 04 50 04.4 +0.4
M16K Timber Creek 4.31 245 Pn **Pn 04 50 04.4 0.0**
M16K IAML 04 51 32.7
comp=E,88nm,0.8s
M16K IAML 04 51 34.1
comp=N,95nm,0.9s
CRQM Cirque 4.36 119 Pn 04 50 04.3 -0.7
BERG Berg Lake 4.37 125 Pn 04 50 04.5 -0.6
H17K Granite Mounta 4.37 299 Pn **Pn 04 50 05.9 +0.8**
H17K IAML 04 51 27.8
comp=E,81nm,1.0s
NICHA Nichawak Mount 4.37 128 Pn 04 50 04.3 -0.9
G18K Tagagawik 4.38 314 Pn 04 50 05.4 +0.3
Q19K Cape Douglas, 4.38 199 Pn 04 50 05.3 +0.1
Q19K Cape Douglas, 4.38 199 IAML 04 51 19.4
comp=N,321nm,0.9s
Q19K IAML 04 51 48.1
comp=E,463nm,0.9s
J16K Anvik River 4.39 277 Pn 04 50 05.6 +0.3
J16K IAML 04 51 12.8
comp=N,83nm,0.9s
PTPK Patty Peak 4.40 112 Pn 04 50 05.5 -0.2
O17K Koliganek Bris 4.45 225 Pn 04 50 06.3 +0.1
I17K Unalakleet 4.46 285 Pn 04 50 07.0 +0.8
I17K IAML 04 51 00.3
comp=E,76nm,0.8s
F20K Avaraart Lake 4.47 335 Pn 04 50 06.8 +0.4
F22K John River 4.47 354 Pn 04 50 06.6 +0.1
TGL Tana Glacier 4.48 118 Pn 04 50 05.8 -0.9
KHIT Khitrov Hills 4.50 123 Pn 04 50 05.8 -1.1
BALM Baldy 4.53 113 Pn 04 50 06.4 -0.9
SYI Shuyak Island 4.55 190 Pn 04 50 06.9 -0.5
SYI Shuyak Island 4.55 190 IAML 04 51 01.0
comp=N,262nm,0.3s
SYI IAML 04 51 01.1
comp=E,235nm,0.3s
N16K Nishlik Lake 4.55 238 Pn 04 50 07.4 -0.2
KIAG Kiagna River 4.58 114 Pn 04 50 06.8 -1.3
GRIN Grindle Hills 4.58 124 Pn 04 50 07.3 -0.6
EGAK Eagle 4.63 64 Pn 04 50 08.5 0.0
EGAK Eagle 4.63 64 IAML 04 51 23.1
comp=E,244nm,0.6s
F24K Squaw Lake 4.63 15 Pn 04 50 08.9 +0.3
WAX Waxell Ridge 4.65 121 Pn 04 50 07.9 -1.0
BVCY Beaver Creek 4.67 94 Pn 04 50 08.8 -0.4
P17K Kvichak River 4.73 217 Pn 04 50 10.5 +0.6
F19K Shaleruckik Mo 4.76 325 Pn **Pn 04 50 10.3 +0.1**
ISLE Juniper Island 4.76 118 Pn 04 50 09.3 -1.2
I27K Kandik River 4.77 54 Pn 04 50 10.1 -0.3
BARK Barkley Ridge 4.82 120 Pn 04 50 10.9 -0.3
SNH Sunshine Point 4.83 123 Pn 04 50 10.9 -0.4
SNH Sunshine Point 4.83 123 IAML 04 51 38.0
comp=N,333nm,0.9s
YUK2 White River 4.86 101 Pn 04 50 11.9 +0.2
KAHC Katmai Hardscr 4.88 206 Pn 04 50 11.9 -0.1
G17K Kiwalik Mounta 4.88 304 Pn 04 50 12.0 +0.1
G26K Porcupine Rive 4.92 35 Pn 04 50 11.9 -0.4
O16K Kokwok River B 4.92 228 Pn **Pn 04 50 12.5 +0.1**
O16K IAML 04 51 59.6
comp=E,65nm,0.7s
BAGL Bagley Icefiel 4.93 118 Pn 04 50 11.5 -1.1
GRNC Granite Creek 4.93 114 Pn 04 50 11.7 -1.1
GRNC Granite Creek 4.93 114 IAML 04 51 29.2
comp=N,231nm,0.8s
GRNC IAML 04 51 34.6
comp=E,121nm,1.0s
KAHG Katmai Hook Gl 4.94 203 Pn 04 50 12.7 -0.1
K15K Wolf Creek Mou 4.95 266 Pn **Pn 04 50 13.5 +0.6**
CTGM Chitina Glacie 4.99 111 Pn 04 50 13.0 -0.5
CTGM Chitina Glacie 4.99 111 IAML 04 51 34.3
comp=E,115nm,0.7s
CTGM IAML 04 51 36.2
comp=N,176nm,0.5s
E23K Chandalar 5.03 6 Pn 04 50 14.6 +0.7
YUK3 Moose Creek 5.03 100 Pn 04 50 14.3 +0.1
F25K Christian Rive 5.04 24 Pn 04 50 14.3 +0.2
E22K Anaktuvuk Pass 5.09 356 Pn 04 50 15.1 +0.5
BMAR Burnt Mountain 5.11 29 Pn **Pn 04 50 15.3 +0.3**
E24K Your Creek 5.11 10 Pn 04 50 15.8 +0.7
L15K Ungalak Mounta 5.12 259 Pn 04 50 15.1 0.0
H27K Steamboat Moun 5.12 48 Pn 04 50 14.6 -0.5
E19K Redstone River 5.13 332 Pn 04 50 15.8 +0.6
F18K Selawik 5.13 317 Pn 04 50 16.1 +0.9
YAH Yahtse 5.14 118 Pn 04 50 14.8 -0.8
MESA MESA 5.17 120 Pn 04 50 15.3 -0.7
LOGN Logan Glacier 5.20 111 Pn 04 50 15.9 -0.5
LOGN IAML 04 51 36.9
comp=E,167nm,0.8s
LOGN IAML 04 51 40.9
comp=N,157nm,0.6s
M15K Kasigluk River 5.21 247 Pn 04 50 16.3 +0.1
KAKN Katmai Knife C 5.22 205 Pn 04 50 16.3 -0.2
DAWY Dawson 5.24 74 Pn **Pn 04 50 16.7 -0.1**
DAWY IAML 04 51 52.6
comp=N,116nm,0.7s
DAWY IAML 04 51 52.9
comp=E,111nm,0.8s
H16K Elim 5.24 292 Pn 04 50 17.4 +0.7
N15K Kwethluk River 5.26 240 Pn **Pn 04 50 17.1 0.0**
N15K IAML 04 52 07.0
comp=N,82nm,1.1s
N15K IAML 04 52 10.1
comp=E,90nm,0.8s
KABU Katmai Buttres 5.28 206 Pn 04 50 17.5 0.0
P16K Nushagak River 5.32 223 Pn 04 50 18.2 +0.4
I28M Miner Creek 5.34 59 Pn **Pn 04 50 18.6 +0.4**
I28M IAML 04 51 23.1
comp=N,90nm,1.1s
I28M IAML 04 51 24.0
comp=E,96nm,1.0s
RKAV Rock Avalanche 5.34 117 Pn 04 50 17.5 -0.8
TABL Table Mountain 5.34 115 Pn 04 50 17.2 -1.2
TABL Table Mountain 5.34 115 IAML 04 51 41.8
comp=N,176nm,1.0s
TABL IAML 04 51 42.7
comp=E,192nm,0.9s
ACHA Angle Creek He 5.35 206 Pn 04 50 18.4 +0.1
ACHA Angle Creek He 5.35 206 IAML 04 51 28.9
comp=E,40nm,3.3s
ANCK Angle Creek 5.39 207 Pn 04 50 19.4 +0.5
CNTC Contact Creek 5.42 209 Pn 04 50 19.5 +0.3
F26K Sheenjek River 5.42 28 Pn 04 50 19.3 +0.1
G27K Doyon Strip 5.43 42 Pn 04 50 18.4 -0.9
G16K Koyuk River 5.50 300 Pn 04 50 20.6 +0.4
E25K Arctic Village 5.52 21 Pn 04 50 20.9 +0.4
E21K Killik River 5.53 348 Pn 04 50 21.7 +1.2
YUK8 Steele Glacier 5.53 104 Pn 04 50 20.7 -0.2
F17K Baldwin Pennin 5.56 312 Pn 04 50 21.6 +0.7
O28M Mount Upton 5.57 110 Pn 04 50 21.0 -0.5
TOLK Toolik Lake Re 5.61 5 Pn 04 50 21.9 +0.2
E20K Nigu River 5.63 340 Pn 04 50 23.3 +1.3
SAMH Samovar Hills 5.67 117 Pn 04 50 22.4 -0.2
M14K Bethel 5.72 251 Pn 04 50 23.6 +0.5
M29M Somme Creek 5.76 91 Pn 04 50 23.6 -0.2
L14K Kuka Creek 5.78 258 Pn **Pn 04 50 25.0 +1.2**
J14K Nanvaranak Lak 5.78 272 Pn **Pn 04 50 24.6 +0.6**
J29N Klondike Camp 5.80 71 Pn 04 50 24.6 +0.4
L29M L29M 5.81 84 Pn **Pn 04 50 24.2 -0.2**
O15K Ungalikthiuk R 5.83 232 Pn 04 50 25.3 +0.7
D22K Ayikyak River 5.87 354 Pn 04 50 26.8 +1.6
PCA Pinnacle 5.90 116 Pn 04 50 24.9 -0.8
D23K Nanushuk River 5.91 1 Pn **Pn 04 50 27.7 +2.0**
E18K Tukpahlearik C 5.95 321 Pn 04 50 27.8 +1.6
PLK2 Peulik 2 5.97 209 Pn 04 50 27.6 +1.1
OHAK Old Harbor 6.00 192 Pn **Pn 04 50 25.3 -1.6**
OHAK Old Harbor 6.00 192 P **Pn 04 50 25.1 -1.8**
N14K Kuskokwak Cree 6.05 243 Pn 04 50 27.9 +0.3
K29M Barlow Dome 6.05 77 Pn **Pn 04 50 27.5 -0.3**
G15K Niukluk 6.07 294 Pn 04 50 28.6 +0.8
PLK4 Peulik 4 6.10 209 Pn 04 50 29.0 +0.6
D24K Happy Valley 6.16 7 Pn 04 50 30.0 +1.0
D19K Kuna River 6.18 335 Pn 04 50 30.2 +0.8
H29M Whitestone 6.24 54 Pn 04 50 29.4 -0.8
BCPM Bancas Point 6.24 115 Pn 04 50 29.6 -0.6
YUK6 Outpost Mounta 6.29 104 Pn 04 50 30.4 -0.6
O14K Tigyukauivet M 6.31 237 Pn 04 50 31.5 +0.5
E27K Coleen River 6.41 33 Pn 04 50 32.4 0.0
YUK5 Granite Creek 6.43 102 Pn 04 50 32.4 -0.6
K13K Kusilvak Mount 6.47 266 Pn 04 50 33.5 +0.3
F28M Old Crow 6.48 41 Pn **Pn 04 50 32.9 -0.4**
M13K Dall Lake 6.48 251 Pn 04 50 34.6 +1.2
M30M Minto, Yukon 6.49 88 Pn **Pn 04 50 32.5 -1.1**
O29M Mount Kennedy 6.50 110 Pn 04 50 33.1 -0.7
PNL Peninsula 6.51 117 Pn 04 50 33.5 -0.3
PNL Peninsula 6.51 117 P **Pn 04 50 33.5 -0.3**
D25K Kavik River 6.53 14 Pn 04 50 35.1 +1.1
ANM Nome 6.57 289 Pn 04 50 35.2 +0.7
J30M Hart River 6.62 70 Pn **Pn 04 50 35.9 +0.4**
N30M Aishikik Lake 6.66 98 Pn 04 50 35.4 -0.5
G29M Pine Creek 6.67 49 Pn 04 50 36.0 0.0
I30M Mount Dempster 6.71 65 Pn **Pn 04 50 35.9 -0.7**
HYT Haines Junctio 6.72 104 Pn **Pn 04 50 36.0 -0.8**
C24K Franklin Bluff 6.72 7 Pn 04 50 37.7 +1.1
B21K Ikpikpuk River 6.73 349 Pn 04 50 36.9 +0.2
SII Sitkinak Islan 6.75 196 P **Pn 04 50 35.2 -1.9**
MAYO Mayo, Yukon 6.78 79 Pn 04 50 37.7 +0.2
C23K Itkillik River 6.78 1 Pn 04 50 38.4 +1.0
EPYK Eagle Plains 6.91 55 Pn 04 50 38.2 -1.0
C18K Utukok River 6.99 328 Pn 04 50 40.3 +0.1
F14K Arctic Creek 7.12 296 Pn 04 50 42.3 +0.3
C27K Jago River 7.17 21 Pn 04 50 43.9 +1.2
P29M Windy Craggy 7.22 113 Pn 04 50 43.5 +0.2
E28M Babbage River 7.24 35 Pn 04 50 42.9 -0.6
P30M Million Dollar 7.29 108 Pn 04 50 43.9 -0.4
G30M tAoh Zraii Nji 7.34 51 Pn 04 50 43.6 -1.3
B22K Teshekpuk Lake 7.36 353 Pn 04 50 44.9 -0.3
O30N Mendenhall 7.37 102 Pn 04 50 44.1 -1.4
D27M Malcolm River 7.37 29 Pn 04 50 46.2 +0.8
B20K Meade River 7.38 343 Pn 04 50 45.5 0.0
E29M Blow River 7.54 39 Pn 04 50 47.4 -0.3
H31M Peel River 7.66 62 Pn 04 50 48.0 -1.3
M31M Drury Creek, Y 7.66 89 Pn 04 50 49.2 -0.2
CHIR Chirikof Islan 7.67 200 P **Pn 04 50 46.9 -2.5**
M11K Mekoryuk 7.74 256 Pn **Pn 04 50 51.9 +1.5**
F30M Barrier River 7.77 48 Pn 04 50 50.0 -0.8
PLBC Pleasant Camp 7.89 111 Pn 04 50 51.8 -0.7
D28M Stokes Point 7.96 33 Pn 04 50 54.1 +0.9
WHY Whitehorse 7.96 101 Pn **Pn 04 50 53.0 -0.4**
G31M Satah River 8.02 54 Pn 04 50 52.3 -1.8
FARO Faro, Yukon 8.13 88 Pn 04 50 55.4 -0.3
SKAG Skagway 8.34 109 Pn 04 50 57.3 -1.1
SKAG Skagway 8.34 109 P **Pn 04 50 57.4 -1.0**
F31M Tsiigehtchic 8.41 51 Pn 04 50 57.6 -1.7
INK Inuvik 8.86 46 Pn **Pn 04 51 04.3 -1.1**
INK Inuvik 8.86 46 P **Pn 04 51 05.2 -0.1**
comp=E,5.2nm,0.6s,baz=240,slow=13,SNR=24
MMPY Sheldon Lake, 8.99 84 Pn **Pn 04 51 06.2 -1.1**
BESE Bessie Mountai 9.04 113 Pn 04 51 06.6 -1.4
R32K Eaglecrest 9.37 114 Pn 04 51 11.4 -0.9
JIS Juneau Island 9.42 113 Pn 04 51 11.6 -1.4
JIS Juneau Island 9.42 113 P **Pn 04 51 11.4 -1.6**
SIT Sitka 9.84 121 P **Pn 04 51 18.1 -0.6**
DLBC Dease Lake 11.20 105 P **Pn 04 51 37.1 +0.1**
comp=E,3.5nm,0.7s,baz=288,slow=8.7,SNR=12
A36M Sachs Harbour 13.13 36 Pn **Pn 04 52 00.2 -1.7**
DIB Dawson Inlet, 13.83 127 Pn **Pn 04 52 11.3 +0.2**
NIKH Nikolski High 13.83 231 P **Pn 04 52 09.5 -1.7**
GRNB Grenville Isla 14.28 121 Pn **Pn 04 52 17.1 +0.2**
BBB Bella Bella 16.27 122 LR LR 04 59 49.9
comp=E,56nm,20.1s,baz=9.5,slow=40
ATKA Atka Island 16.44 239 P 04 52 44.4 +0.1
YKA Yellowknife Ar 16.48 76 Pn **Pn 04 52 43.0 -1.2**
YKA Yellowknife Ar 16.48 76 P **Pn 04 52 44.4 +0.2**
comp=E,2.8nm,0.8s,baz=315,slow=21,SNR=17
RES Resolute Bay 22.18 36 P **P 04 53 47.3 +1.2**
RES Resolute Bay 22.18 36 P **P 04 53 47.0 +0.9**
comp=E,3.5nm,0.4s,baz=254,slow=10,SNR=32
comp=E,3.5nm,0.4s
MXC Moxie City 23.82 120 P **P 04 54 02.7 +0.8**
D08A Wollman Farm, 23.98 117 P **P 04 54 04.6 +1.3**
EUNU Eureka 24.36 22 P **P 04 54 07.5 +1.0**
BPMT Black Pine Rid 26.75 111 P **P 04 54 29.3 +0.6**
PLID Pearl Lake 26.77 116 P **P 04 54 30.4 +1.6**
LYMT Lyon Mountain 26.83 109 P **P 04 54 30.4 +1.1**
PDAR Pinedale Array 31.35 111 P **P 04 55 11.5 +2.1**
comp=E,0.4nm,0.5s,baz=326,slow=3.7,SNR=4.9
PDAR PcP **PcP 04 58 00.0 0.0**
comp=E,0.7nm,0.6s,baz=149,slow=0.6,SNR=6.4
comp=E,0.4nm,0.5s
NVAR Mina Array Bea 31.54 126 P **P 04 55 12.4 +1.3**
comp=E,0.3nm,0.6s,baz=320,slow=8.5,SNR=3.7
NVAR PcP **PcP 04 58 01.4 +0.8**
comp=E,0.7nm,0.6s,baz=276,slow=2.6,SNR=5.7
comp=E,0.3nm,0.6s
DAG Danmarks Havn 37.25 16 *i* P **P 04 55 59.0 -0.5**
DAG *i* P **P 04 55 59.0 -0.5**
DAG *i* S **P 04 56 01.2 +1.7**
SPITS Spitsbergen Ar 38.76 4 P **P 04 56 12.3 +0.1**
comp=E,6.7nm,0.5s,baz=13,slow=5.5,SNR=35
comp=E,6.7nm,0.5s
TXAR Lajitas Array 45.27 116 P **P 04 57 07.4 +1.8**
comp=E,0.5nm,0.6s,baz=325,slow=5.3,SNR=8.2
comp=E,0.5nm,0.6s
ARCES ARCESS Array B 47.64 2 P **P 04 57 23.1 -0.4**
comp=E,2.4nm,0.6s,baz=12,slow=8.1,SNR=23
ARCES PcP **PcP 04 58 51.5 +0.6**
comp=E,3.0nm,1.1s,baz=27,slow=3.0,SNR=5.3
comp=E,2.4nm,0.6s
Y52A Lilburn 50.01 93 P **P 04 57 42.7 +0.7**
Y52A IAmb IAmb 04 57 43.5
comp=Z,5.9nm,0.6s
HODGE Hodges 50.52 91 P **P 04 57 46.1 +0.3**
HODGE IAmb IAmb 04 57 46.5
comp=Z,3.8nm,0.5s
250A Grady 50.59 96 P **P 04 57 46.2 -0.1**
250A IAmb IAmb 04 58 29.1
comp=Z,11nm,1.2s
JSC Jenkinsville 50.93 90 P **P 04 57 49.1 +0.2**
JSC IAmb IAmb 04 57 58.0
comp=Z,13nm,1.4s
KSRS Korea Array 53.50 282 P **P 04 58 08.7 +0.9**
comp=Z,2.5nm,0.6s,baz=23,slow=6.6,SNR=8.0
comp=Z,2.5nm,0.6s
ULN Ulaanbaatar 53.53 305 P **P 04 58 07.3 -0.9**
ULN IAmb IAmb 04 58 09.6
comp=Z,2.5nm,0.8s
SONM Songino Array 53.80 305 P **P 04 58 10.2 +0.1**
SONM Songino Array 53.80 305 P **P 04 58 10.4 +0.4**
comp=Z,1.9nm,0.6s,baz=3.0,slow=5.7,SNR=8.9
comp=Z,1.9nm,0.6s
NB201 NORSAR Array S 55.45 10 P **P 04 58 20.8 -0.8**
NB2 NORSAR Subarra 55.45 10 P **P 04 58 20.8 -0.9**
comp=Z,0.7nm,0.6s,baz=351,slow=7.4
NOA NORSAR Array B 55.45 10 P **P 04 58 21.2 -0.5**
comp=Z,0.6nm,0.6s,baz=351,slow=7.2,SNR=6.7
comp=Z,0.6nm,0.6s
ZAA0 Zalesovo Array 55.48 324 P **P 04 58 21.4 -0.5**
ZAA0 IAmb IAmb 04 58 22.1
comp=Z,4.5nm,0.5s
ZALV Zalesovo Beam 55.48 324 P **P 04 58 21.6 -0.3**
comp=Z,4.2nm,0.5s,baz=25,slow=6.5,SNR=14
comp=Z,4.2nm,0.5s
FIA1 FINESS Array S 55.77 2 P **P 04 58 23.9 0.0**
FINES FINESS Array B 55.77 2 P **P 04 58 23.3 -0.5**
FINES FINESS Array B 55.77 2 P **P 04 58 23.2 -0.6**
comp=Z,2.6nm,0.7s,baz=1.0,slow=8.7,SNR=13
comp=Z,2.6nm,0.7s
HFS Hagfors 56.55 9 P **P 04 58 28.2 -1.2**
comp=Z,0.9nm,0.4s,baz=34,slow=5.6,SNR=18
comp=Z,0.9nm,0.4s
KONO Kongsberg 56.69 12 P **P 04 58 30.7 +0.3**
ARTI Arti 58.71 341 P **P 04 58 44.5 -0.1**
ARTI Arti 58.71 341 P **P 04 58 44.4 -0.2**
comp=Z,11nm,0.4s,baz=1.4,slow=3.7,SNR=16
comp=Z,11nm,0.4s
EKA Eskdalemuir Ar 59.28 21 P **P 04 58 48.5 0.0**
comp=Z,0.7nm,0.5s,baz=331,slow=5.6,SNR=6.0
comp=Z,0.7nm,0.5s
BRVK Borovoye 59.78 333 P **P 04 58 51.8 -0.3**
BRVK IAmb IAmb 04 58 52.9
comp=Z,3.8nm,0.6s

BVAR	**Borovoye Array**	**59.79 333**	P	**P**	**04 58 51.8**	**-0.3**
	comp=Z,6.7nm,0.4s,baz=37,slow=9.3,SNR=32					
	comp=Z,6.7nm,0.4s					
KURK	**Kurchatov**	**60.03 326**	P	**P**	**04 58 53.3**	**-0.4**
KURK			IAmb	IAmb	04 58 53.8	
	comp=Z,5.0nm,0.8s					
KURBB	**Kurchatov Arra**	**60.13 326**	P	**P**	**04 58 54.1**	**-0.4**
	comp=Z,3.3nm,0.5s,baz=28,slow=7.1,SNR=29					
	comp=Z,3.3nm,0.5s					
PABE	**Paberze**	**61.68 3**	P	**P**	**04 59 04.9**	**+0.1**
MK31	**Makanchi Array**	**62.63 322**	P	**P**	**04 59 10.6**	**-0.8**
MK31			IAmb	IAmb	04 59 11.8	
	comp=Z,5.1nm,1.4s					
MKAR	**Makanchi Array**	**62.63 322**	P	**P**	**04 59 10.5**	**-0.9**
	comp=Z,4.4nm,0.5s,baz=46,slow=7.5,SNR=52					
	comp=Z,4.4nm,0.5s					
MAKZ	**Makanchi**	**62.71 322**	P	**P**	**04 59 11.1**	**-0.8**
MAKZ			IAmb	IAmb	04 59 11.8	
	comp=Z,5.1nm,0.6s					
BELG	**Belogornoye**	**63.95 347**	P	**P**	**04 59 19.8**	**-0.1**
	comp=Z,22nm,0.6s,baz=315,slow=1.7,SNR=5.6					
	comp=Z,22nm,0.6s					
MTO3	**Montecristo**	**64.53 109**	P	**P**	**04 59 23.9**	**-0.5**
MTO3			IAmb	IAmb	04 59 48.4	
	comp=Z,4.6nm,1.1s					
AKTO	**Aktyubinsk**	**64.54 340**	P	**P**	**04 59 23.5**	**-0.3**
	comp=Z,6.2nm,0.6s,baz=13,slow=6.0,SNR=19					
	comp=Z,6.2nm,0.6s					
ABKAR	**Akbulak array**	**65.37 338**	P	**P**	**04 59 28.6**	**-0.5**
ABKAR	**Akbulak array**	**65.37 338**	P	**P**	**04 59 28.8**	**-0.4**
ABKAR			IAmb	IAmb	04 59 29.7	
	comp=Z,6.3nm,0.7s					
AKASG	**Malin Array Be**	**66.56 360**	P	**P**	**04 59 36.0**	**-0.7**
	comp=Z,4.4nm,0.5s,baz=2.3,slow=6.2,SNR=30					
	comp=Z,4.4nm,0.5s					
KBZ	**Khabaz**	**72.96 350**	P	**P**	**05 00 16.6**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=329,slow=2.7,SNR=7.9					
	comp=Z,3.4nm,0.7s					
BRTR	**Keskin Array B**	**77.47 356**	P	**P**	**05 00 42.0**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=349,slow=3.5,SNR=7.9					
	comp=Z,0.7nm,0.4s					
CMAR	**Chiang Mai Arr**	**82.44 296**	P	**P**	**05 01 08.8**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=0.8,slow=6.2,SNR=8.9					
	comp=Z,1.4nm,0.6s					
BOSA	**Boshof**	**145.43 6**	PKPbc	**PKPdf**	**05 08 22.8**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=63,slow=3.3,SNR=4.2					
QSPA	**South Pole Qui**	**152.90 180**	PKPbc	**PKPbc**	**05 08 41.0**	**-0.3**
	comp=Z,2.3nm,1.2s,baz=128,slow=2.5,SNR=6.1					

IDC 08 04:59:16.2±5.0, 2°.04S×140°.66E, h0^{km}, mb3.5/1, mbtmp3.7/2, ML3.7/1, Error ellipse: s-maj=147.8km s-min=66.5km az=97.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.83**	**199**	P	P	05 03 36.5	-1.3
	0.2nm,0.3s,baz=22,slow=12,SNR=10						
	2.0nm,0.7s						
ASAR	**Alice Springs**	**22.47**	**196**	P	P	05 04 17.6	+0.4
	1.5nm,0.8s,baz=25,slow=9.4,SNR=15						
	1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**137.93**	**287**	PKP	PKPdf	05 18 44.4	+0.5
	0.2nm,0.5s,baz=37,slow=1.1,SNR=1.8						

*FUNV **08** 05:14:18.9, 10°.76N×62°.22W, h81^{km}, MW4.0*

ISC 08 05:14:17.3±1.5, 10°.53N±0°.08×62°.35W±0°.08, h100^{km}, n14, σ2°.28/22, 3C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUMV	**Cumana_UDO**	**1.82**	**267**	⇑*iP*	**Pn**	**05 14 50.8**	**+3.2**
CUMV				*e*S	**Sn**	**05 15 12.3**	**+1.7**
PCRV	**Puerto La Cruz**	**2.28**	**261**	⇑*iP*	**Pn**	**05 14 56.3**	**+2.7**
PCRV				*e*S	**Sn**	**05 15 21.9**	**+0.6**
TACV	**Tcata**	**4.62**	**266**	*e*P	**Pn**	**05 15 26.7**	**+1.8**
TACV				*e*S	**Sn**	**05 16 18.1**	**+0.5**
LUEV	**Luepa**	**4.74**	**169**	*e*P	**Pn**	**05 15 29.2**	**+2.5**
LUEV				*e*S	**Sn**	**05 16 21.1**	**+0.5**
CACV	**CAICARA DEL OR**	**5.08**	**235**	*e*P	**Pn**	**05 15 28.9**	**-2.3**
CACV				*e*S	Sn	05 16 21.2	-7.5
BENV	**Beln**	**5.20**	**264**	*e*P	**Pn**	**05 15 35.2**	**+2.3**
BENV				*e*S	**Sn**	**05 16 31.1**	**-0.6**
BAUV	**El Baul**	**5.83**	**255**	*e*P	**Pn**	**05 15 42.8**	**+1.5**
BAUV				*e*S	**Sn**	**05 16 46.2**	**-0.7**
MAPV	**Macapo**	**6.05**	**264**	⇓*iP*	**Pn**	**05 15 45.9**	**+1.5**
MAPV				*e*S	**Sn**	**05 16 51.0**	**-1.5**
MBWH		**6.18**	**1**	*e*P	Pn	05 15 39.5	-6.7
MBFL	**Flemmings, Mon**	**6.19**	**1**	*e*P	**Pn**	**05 15 43.2**	**-3.0**
ANBD	**Bethesda, Anti**	**6.51**	**5**	*e*P	**Pn**	**05 15 48.8**	**-1.7**
TEPV	**Terepaima**	**6.76**	**266**	*e*P	**Pn**	**05 15 55.2**	**+1.2**
TEPV				*e*S	**Sn**	**05 17 07.5**	**-2.2**
ANWB	**Willy Bob**	**7.12**	**4**	*e*P	**Pn**	**05 15 56.3**	**-2.6**
SOCV	**Socops**	**8.69**	**256**	⇑*e*P	**Pn**	**05 16 21.3**	**+1.1**
SOCV				*e*S	**Sn**	**05 17 51.7**	**-4.8**

ROM 08 05:27:51.7±0.1, 42°.988N±0°.005×11°.586E±0°.006, h10^{km}, ML2.0/11, 6C-3D, Error ellipse: s-maj=0.6km s-min=0.5km az=177.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SF11	**Podere del Sol**	**0.14**	**150**	P	Pg	05 27 55.4	+0.4
SF11				S	Sg	05 27 57.7	+0.5
ARCI	**Arcidosso**	**0.16**	**211**	⇑*iP*	Pg	05 27 56.0	+0.7
ARCI				S	Sg	05 27 58.8	+1.1
ARCI				AML	AML		
	comp=E,1220μm,0.3s						
ARCI				AML	AML		
	comp=N,2140μm,1.1s						
ARCI				AML	AML		
	comp=E,1218μm,0.3s						
ARCI				AML	AML		
	comp=N,2098μm,0.3s						
SF04	**Casetta**	**0.16**	**160**	P	Pg	05 27 56.0	+0.7
SF04				S	Sg	05 27 58.4	+0.6
SF04				AML	AML		
	comp=N,4670μm,0.2s						
SF04				AML	AML		
	comp=E,3710μm,0.2s						
SF04				AML	AML		
	comp=N,4665μm,0.2s						
SF04				AML	AML		
	comp=E,3711μm,0.2s						
SF04				AML	AML		
	comp=N,4668μm,0.2s						
SF13	**Bagnolo**	**0.17**	**172**	⇑*iP*	Pb	05 27 56.2	-0.7
SF13				S	Sg	05 27 58.9	+0.9
SF01	**Poggio Pratacc**	**0.18**	**185**	⇑*iP*	Pg	05 27 56.3	+0.8
SF01				S	Sg	05 27 59.6	+1.4
SF01				AML	AML		
	comp=N,3690μm,0.2s						
SF01				AML	AML		
	comp=E,2355μm,0.2s						
SF01				AML	AML		
	comp=N,3685μm,0.2s						
SF01				AML	AML		
	comp=E,2356μm,0.2s						
SF01				AML	AML		
	comp=N,3688μm,0.2s						
SF03	**Valle Cupa**	**0.20**	**158**	⇑*iP*	Pb	05 27 56.7	-0.7
SF03				S	Sg	05 27 59.6	+0.8
MCIV	**Monte Civitell**	**0.22**	**162**	⇑*iP*	Pb	05 27 57.0	-0.7
MCIV				AML	AML		
	comp=E,1113μm,0.3s						
MCIV				AML	AML		
	comp=N,998μm,0.2s						
MCIV				AML	AML		
	comp=E,1113μm,0.2s						
MCIV				AML	AML		
	comp=N,999μm,0.2s						
SF14	**Selvena**	**0.23**	**175**	⇑*iP*	Pg	05 27 56.9	+0.4
SF14				S	Sg	05 28 00.2	+0.5
FROS	**Frosini**	**0.39**	**305**	⇓*iP*	Pg	05 27 59.7	+0.4
FROS				S	Sg	05 28 05.1	+0.7
FROS				AML	AML		
	comp=E,404μm,1.5s						
FROS				AML	AML		
	comp=N,404μm,0.4s						
FROS				AML	AML		
	comp=E,300μm,0.2s						
FROS				AML	AML		
	comp=N,303μm,0.2s						
RIBO	**Ribolla Roccas**	**0.40**	**265**	P	Pb	05 28 00.4	-0.4
RIBO				S	Sg	05 28 05.7	+0.9
RIBO	**Ribolla Roccas**	**0.40**	**265**	AML	AML		
	comp=E,724μm,0.2s						
LATE	**Laterza**	**0.41**	**157**	P	Pb	05 28 00.6	-0.4
LATE				AML	AML		
	comp=E,208μm,1.5s						
LATE				AML	AML		
	comp=N,252μm,0.6s						
LATE				AML	AML		
	comp=N,223μm,0.5s						
LATE				AML	AML		
	comp=E,206μm,0.3s						
CAFI	**Castiglion Fio**	**0.44**	**39**	P	Pg	05 28 00.4	+0.1
CAFI				S	Sg	05 28 06.8	+0.7
CAFI				AML	AML		
	comp=N,128μm,0.2s						
TRIF	**Trifonti**	**0.52**	**284**	⇓*iP*	Pb	05 28 02.7	-0.2
TRIF				S	Sb	05 28 10.2	-0.2
TRIF				AML	AML		
	comp=E,218μm,0.3s						
TRIF				AML	AML		
	comp=N,240μm,0.3s						
TRIF				AML	AML		
	comp=E,218μm,0.3s						
TRIF				AML	AML		
	comp=N,239μm,0.3s						
CSNT	**Castellina Chi**	**0.53**	**336**	P	Pg	05 28 01.8	-0.2
CSNT				S	Sg	05 28 09.2	+0.1
CSNT				AML	AML		
	comp=E,343μm,0.3s						
CSNT				AML	AML		
	comp=N,304μm,0.2s						
ATVA	**AVT- Monte Val**	**0.59**	**60**	P	Pg	05 28 03.3	+0.1
ATVA				S	Sb	05 28 11.9	-0.6
OSSC	**Osservatorio P**	**0.59**	**335**	P	Pg	05 28 03.0	-0.2
OSSC				S	Sg	05 28 11.5	+0.6
OSSC				AML	AML		
	comp=E,168μm,0.5s						
OSSC				AML	AML		
	comp=N,170μm,0.9s						
OSSC				AML	AML		
	comp=N,158μm,0.3s						
OSSC				AML	AML		
	comp=N,191μm,0.4s						
OSSC				AML	AML		
	comp=E,130μm,0.2s						
OSSC				AML	AML		
	comp=E,159μm,0.3s						
ATTE	**AVT- Monte Tez**	**0.60**	**69**	P	Pg	05 28 03.8	+0.4
ATTE				S	Sg	05 28 11.3	0.0
MAON	**Monte Argentar**	**0.65**	**211**	⇓*iP*	Pb	05 28 05.1	0.0
MAON				AML	AML		
	comp=E,106μm,1.2s						
MAON				AML	AML		
	comp=N,104μm,1.6s						
MAON				AML	AML		
	comp=N,92μm,1.3s						
ATLO	**AVT- Montelove**	**0.68**	**61**	P	Pg	05 28 04.8	-0.1
ATLO				S	Sg	05 28 14.4	+0.5
CRE	**Caprese Michel**	**0.69**	**23**	P	Pg	05 28 05.2	+0.2
CRE				AML	AML		
	comp=E,113μm,0.2s						
CRE				AML	AML		
	comp=N,185μm,0.2s						
CRE				AML	AML		
	comp=E,113μm,0.2s						
CRE				AML	AML		
	comp=N,185μm,0.2s						
MURB	**Monte Urbino**	**0.74**	**68**	P	Pb	05 28 06.5	-0.2
MURB				S	Sg	05 28 16.1	+0.4
MURB				AML	AML		
	comp=E,580μm,1.0s						
MURB				AML	AML		
	comp=N,908μm,0.3s						
MURB				AML	AML		
	comp=E,568μm,0.4s						
MURB				AML	AML		
	comp=N,908μm,0.3s						
MURB				AML	AML		
	comp=E,545μm,0.4s						
MURB				AML	AML		
	comp=E,568μm,0.4s						
MURB				AML	AML		
	comp=N,908μm,0.3s						
MURB				AML	AML		
	comp=N,908μm,0.3s						
MOMA	**Monte Martano**	**0.75**	**104**	P	Pb	05 28 06.7	-0.1
ATPI	**Pietralunga -**	**0.76**	**52**	P	Pg	05 28 06.3	0.0
ATPI				S	Sb	05 28 16.9	-0.4
ATPI				AML	AML		
	comp=E,85μm,0.5s						
ATPI				AML	AML		
	comp=N,118μm,0.4s						
ATPI				AML	AML		
	comp=E,85μm,0.5s						
ATPI				AML	AML		
	comp=N,118μm,0.4s						
ASSB	**Assisi San Ben**	**0.79**	**86**	P	Pb	05 28 07.5	0.0
ASQU	**Asqua**	**0.82**	**10**	P	Pg	05 28 07.7	+0.1
ASQU				S	Sb	05 28 19.0	-0.2
RUFI	**Rufina**	**0.85**	**356**	P	Pg	05 28 07.7	-0.4
RUFI				S	Sg	05 28 19.2	-0.1

ROM 08 05:28:40.6±0.1, 42°.996N±0°.008×11°.570E±0°.006, h8^{km}±1^{km}, ML1.9/16, 5C-4D, Error ellipse: s-maj=0.9km s-min=0.5km az=177.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SF11	**Podere del Sol**	**0.15**	**148**	P	Pg	05 28 44.5	+0.6
SF11				S	Sg	05 28 46.7	+0.6
ARCI	**Arcidosso**	**0.16**	**206**	⇑*iP*	Pg	05 28 44.9	+0.9
ARCI				S	Sg	05 28 47.8	+1.5
ARCI				AML	AML		
	comp=E,1036μm,0.2s						
ARCI				AML	AML		
	comp=N,1635μm,0.8s						
ARCI				AML	AML		
	comp=N,1592μm,0.2s						
ARCI				AML	AML		
	comp=E,1037μm,0.2s						
SF04	**Casetta**	**0.17**	**157**	P	Pg	05 28 45.0	+0.8
SF04				S	Sg	05 28 47.5	+0.8
SF04				AML	AML		
	comp=E,3770μm,1.0s						
SF04				AML	AML		
	comp=N,3940μm,0.1s						
SF04				AML	AML		
	comp=N,3935μm,0.1s						
SF04				AML	AML		
	comp=E,3241μm,0.1s						
SF04				AML	AML		
	comp=N,3943μm,0.1s						
SF13	**Bagnolo**	**0.18**	**168**	⇑*iP*	Pg	05 28 45.2	+0.9
SF13				S	Sg	05 28 47.9	+1.0
SF01	**Poggio Pratacc**	**0.18**	**181**	⇑*iP*	Pg	05 28 45.3	+0.9
SF01				S	Sg	05 28 49.0	+2.0
SF01				AML	AML		
	comp=E,1945μm,0.2s						
SF01				AML	AML		
	comp=N,3105μm,0.2s						
SF01				AML	AML		
	comp=E,1940μm,0.2s						
SF01				AML	AML		
	comp=E,1942μm,0.2s						
SF01				AML	AML		
	comp=N,3108μm,0.2s						
SF03	**Valle Cupa**	**0.21**	**156**	⇑*iP*	Pg	05 28 45.7	+0.8
SF03				S	Sg	05 28 48.6	+0.8
MCIV	**Monte Civitell**	**0.23**	**160**	⇑*iP*	Pg	05 28 46.0	+0.8
MCIV				S	Sg	05 28 49.1	+0.7
MCIV				AML	AML		
	comp=N,754μm,0.2s						
MCIV				AML	AML		
	comp=E,757μm,0.2s						
MCIV				AML	AML		
	comp=E,690μm,0.3s						
MCIV				AML	AML		
	comp=N,754μm,0.2s						
SF14	**Selvena**	**0.24**	**172**	P	Pg	05 28 45.9	+0.5
SF14				S	Sg	05 28 50.3	+1.5
FROS	**Frosini**	**0.37**	**305**	⇓*iP*	Pb	05 28 48.7	-0.8
FROS				S	Sb	05 28 54.2	-1.2
FROS				AML	AML		
	comp=E,262μm,1.5s						
FROS				AML	AML		
	comp=N,263μm,0.4s						
FROS				AML	AML		
	comp=N,263μm,0.4s						
FROS				AML	AML		
	comp=E,200μm,0.1s						
RIBO	**Ribolla Roccas**	**0.39**	**263**	⇓P	Pb	05 28 49.4	-0.3
RIBO				S	Sb	05 28 54.9	-0.8
RIBO				AML	AML		
	comp=E,589μm,0.2s						
LATE	**Laterza**	**0.42**	**156**	⇓*iP*	Pb	05 28 49.6	-0.6
LATE				AML	AML		
	comp=N,177μm,0.1s						
LATE				AML	AML		
	comp=E,143μm,0.3s						
CAFI	**Castiglion Fio**	**0.44**	**41**	P	Pg	05 28 49.4	+0.2
TRIF	**Trifonti**	**0.50**	**284**	⇓P	Pb	05 28 51.7	0.0
TRIF				S	Sb	05 28 58.2	-1.0
TRIF				AML	AML		
	comp=E,172μm,0.3s						
TRIF				AML	AML		
	comp=N,168μm,0.7s						
TRIF				AML	AML		
	comp=E,172μm,0.2s						
TRIF				AML	AML		
	comp=N,168μm,0.7s						
TRIF				AML	AML		
	comp=E,172μm,0.2s						
TRIF				AML	AML		
	comp=N,161μm,0.3s						
CSNT	**Castellina Chi**	**0.52**	**337**	P	Pg	05 28 50.8	+0.1
CSNT				S	Sg	05 28 58.4	+1.0
OSSC	**Osservatorio P**	**0.58**	**336**	P	Pg	05 28 51.9	+0.1
OSSC				S	Sb	05 29 00.8	-0.6
OSSC				AML	AML		
	comp=E,98μm,0.5s						
OSSC				AML	AML		
	comp=N,98μm,0.3s						
OSSC				AML	AML		
	comp=E,149μm,0.8s						
OSSC				AML	AML		
	comp=E,83μm,0.6s						
OSSC				AML	AML		
	comp=N,144μm,0.9s						
OSSC				AML	AML		
	comp=N,98μm,0.3s						
ATTE	**AVT- Monte Tez**	**0.61**	**70**	P	Pg	05 28 52.8	+0.4
ATTE				S	Sg	05 29 01.2	+0.9
ATTE				AML	AML		
	comp=E,120μm,1.0s						
ATTE				AML	AML		
	comp=N,126μm,0.3s						
ATTE				AML	AML		
	comp=E,105μm,0.5s						
ATTE				AML	AML		
	comp=N,125μm,0.3s						
CRE	**Caprese Michel**	**0.68**	**24**	P	Pg	05 28 54.3	+0.5
CRE				AML	AML		
	comp=E,75μm,0.8s						
CRE				AML	AML		
	comp=N,108μm,0.2s						
CRE				AML	AML		
	comp=N,108μm,0.2s						
CRE				AML	AML		
	comp=E,73μm,0.2s						
ATVO	**AVT- Monte Val**	**0.72**	**57**	P	Pg	05 28 54.7	+0.1
ATVO				S	Sb	05 29 05.7	+0.2
ATVO				AML	AML		
	comp=E,97μm,1.3s						
ATVO				AML	AML		
	comp=N,90μm,1.0s						
ATVO				AML	AML		
	comp=N,90μm,1.0s						
ATVO				AML	AML		
	comp=N,80μm,0.4s						
ATVO				AML	AML		
	comp=E,74μm,0.2s						
MURB	**Monte Urbino**	**0.75**	**69**	P	Pg	05 28 55.3	+0.3
MURB				S	Sb	05 29 06.3	0.0
MURB				AML	AML		
	comp=E,335μm,1.0s						
MURB				AML	AML		
	comp=N,562μm,0.3s						
MURB				AML	AML		
	comp=E,333μm,0.3s						
MURB				AML	AML		
	comp=E,345μm,0.3s						
MURB				AML	AML		
	comp=N,579μm,0.3s						
MURB				AML	AML		
	comp=N,562μm,0.3s						
MOMA	**Monte Martano**	**0.76**	**104**	P	Pg	05 28 55.6	+0.3
ASSB	**Assisi San Ben**	**0.80**	**86**	P	Pg	05 28 55.9	-0.1
ASQU	**Asqua**	**0.82**	**11**	P	Pb	05 28 56.7	-0.4
ASQU				S	Sb	05 29 08.0	-0.2
RUFI	**Rufina**	**0.84**	**357**	P	Pb	05 28 57.3	-0.2
RUFI				S	Sg	05 29 07.9	+0.1
SAMA	**S.Maria delle**	**1.43**	**148**	AML	AML		
	comp=E,665μm,0.1s						
SAMA				AML	AML		
	comp=N,444μm,1.3s						

*BUC **08** 05:35:40.1±0.2, 45°.70N×26°.61E, h73^{km}±2^{km}, ml3.5/38, Error ellipse: s-maj=2.1km s-min=1.2km az=24.0*
*SOF **08** 05:35:40.4, 45°.65N±0°.04×26°.55E±0°.03, h80^{km}±3^{km}, MD3.2/3*

ISC 08 05:35:40.2±1.3, 45°.71N±0°.03×26°.61E±0°.03, h75^{km}±6^{km}, n51, σ0°.59/85, 44C-28D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBR	**Spulber**	**0.11**	**69**	⇓P	**Pn**	**05 35 51.5**	**+0.4**
PLOR	**Plostina**	**0.14**	**13**	⇑P	**Pn**	**05 35 51.0**	**-0.3**
PLOR				⇑S	**Sn**	**05 35 58.2**	**-1.2**
VRI	**Vrincioaia**	**0.18**	**29**	⇑P	**Pn**	**05 35 51.3**	**-0.1**
VRI				⇓S	**Sn**	**05 35 59.3**	**-0.3**
COVR	**Voineasa-Covas**	**0.31**	**296**	⇓P	**Pn**	**05 35 52.0**	**0.0**
COVR				⇑S	**Sn**	**05 36 01.4**	**+0.6**
ODBI	**Odobesti**	**0.32**	**80**	⇓P	**Pn**	**05 35 52.3**	**+0.2**
ODBI				⇑S	**Sn**	**05 36 01.6**	**+0.9**
NEHR	**Nehoiu**	**0.36**	**218**	⇓P	**Pn**	**05 35 53.2**	**+0.9**
PANC	**Panciu**	**0.41**	**67**	⇓P	**Pn**	**05 35 53.0**	**+0.3**
PANC				⇑S	**Sn**	**05 36 03.0**	**+1.0**
GRER		**0.42**	**142**	⇓P	**Pn**	**05 35 52.8**	**0.0**
GRER				⇑S	**Sn**	**05 36 01.9**	**-0.1**
MLR	**Muntele Rosu**	**0.51**	**245**	⇑P	**Pn**	**05 35 54.1**	**+0.4**
TURR	**Turia**	**0.54**	**310**	⇓P	**Pn**	**05 35 53.9**	**0.0**
TURR				⇓S	**Sn**	**05 36 03.6**	**-0.3**
ONER	**Baraj Valea Uz**	**0.64**	**347**	⇑P	**Pn**	**05 35 54.6**	**-0.3**
ONER				⇑S	**Sn**	**05 36 05.5**	**-0.2**
GHRR		**0.66**	**58**	⇓S	**Sn**	**05 36 07.1**	**+1.1**
OZUR		**0.69**	**304**	⇓P	**Pn**	**05 35 54.9**	**-0.5**
TUDR		**0.76**	**98**	⇓P	**Pn**	**05 35 55.6**	**-0.5**
TUDR				⇑S	**Sn**	**05 36 07.6**	**-0.2**
TESR	**Tescani**	**0.80**	**2**	⇓P	**Pn**	**05 35 56.1**	**-0.5**
TESR				⇓S	**Sn**	**05 36 07.7**	**-1.1**
SLCR	**Slobozia Conac**	**0.83**	**98**	⇓P	**Pn**	**05 35 56.7**	**-0.2**
SLCR				⇑S	**Sn**	**05 36 08.4**	**-0.9**
IZVR	**Izvoarele**	**0.83**	**101**	⇑S	**Sn**	**05 36 08.2**	**-1.2**
SCHL	**Schela**	**0.89**	**103**	⇑P	**Pn**	**05 35 56.9**	**-0.7**
SCHL				⇑S	**Sn**	**05 36 09.3**	**-1.1**
DOPR	**Dopca**	**0.89**	**287**	⇓P	**Pn**	**05 35 57.6**	**-0.1**
DOPR				⇓S	**Sn**	**05 36 10.5**	**-0.1**
VARL	**Varlezi**	**0.89**	**77**	⇓P	**Pn**	**05 35 58.3**	**+0.7**
VARL				⇓S	**Sn**	**05 36 10.5**	**0.0**
SCHLR	**Schela**	**0.89**	**105**	⇑S	**Sn**	**05 36 09.8**	**-0.8**
SCHLR				⇓P	**Pn**	**05 35 57.2**	**-0.4**
NEGRR	**Negrea**	**0.91**	**100**	⇑P	**Pn**	**05 35 58.2**	**+0.4**
NEGRR				⇑S	**Sn**	**05 36 10.5**	**-0.5**
SCTR	**Scanteiesti**	**0.97**	**92**	⇑P	**Pn**	**05 35 59.1**	**+0.5**
SCTR				⇑S	**Sn**	**05 36 12.3**	**0.0**
TATR	**Tatarca**	**1.02**	**96**	⇑P	**Pn**	**05 35 59.4**	**+0.3**
TATR				⇑S	**Sn**	**05 36 13.2**	**-0.1**
VLDR	**Vladesti**	**1.04**	**82**	⇑P	**Pn**	**05 35 59.8**	**+0.4**
VLDR				⇓S	**Sn**	**05 36 13.8**	**0.0**
VOIR		**1.13**	**257**	⇑P	**Pn**	**05 36 00.5**	**-0.1**
VOIR				⇓S	**Sn**	**05 36 15.8**	**-0.1**
GIUM	**Giurgiulesti**	**1.15**	**101**	⇑P	**Pn**	**05 36 01.2**	**+0.4**
GIUM				⇑S	**Sn**	**05 36 16.1**	**0.0**
CFR	**Carcaliu**	**1.20**	**116**	⇑P	**Pn**	**05 36 01.0**	**-0.4**
CFR				⇑S	**Sn**	**05 36 16.4**	**-1.0**
AMRR	**Amara**	**1.22**	**155**	⇑P	**Pn**	**05 36 01.0**	**-0.6**
AMRR				⇑S	**Sn**	**05 36 18.2**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEHL	Lehliu	1.25	173	⇑S	Sn	05 36 19.5	+1.1
BIZ	Bicaz	1.28	344	⇓S	Sn	05 36 19.4	+0.3
HARR	Harsova	1.39	137	⇓P	Pn	05 36 03.9	+0.1
ARR	Arges	1.43	257	⇑P	Pn	05 36 04.8	+0.4
ARR				⇑S	Sn	05 36 22.6	-0.1
TLBR	Topalu	1.55	138	⇑P	Pn	05 36 06.1	+0.2
TLBR				⇑S	Sn	05 36 25.4	+0.1
TLCR		1.64	108	⇓P	Pn	05 36 07.5	+0.4
TLCR				⇑S	Sn	05 36 27.3	-0.3
MFTR	Murfatlar	2.00	139	⇓P	Pn	05 36 12.0	+0.1
MFTR				⇑S	Sn	05 36 35.4	-0.7
BURAR	Bucovina Array	2.13	334	⇑P	Pn	05 36 14.4	+0.6
BURAR				⇓S	Sn	05 36 39.8	+0.4
EFOR	EFORIE	2.18	138	⇑S	Sn	05 36 39.7	-0.6
ZIMR		2.23	204	⇑S	Sn	05 36 40.8	-0.9
VLAD	Vladila	2.32	223	⇑S	Sn	05 36 42.1	-1.7
PSN	Preselentsi	2.34	152	*i* P	Pn	05 36 16.9	+0.4
PSN				*i* S	Sn	05 36 43.9	-0.4
SZH	Strazhitsa	2.48	191	*i* P	Pn	05 36 18.8	+0.3
NEF	NEVSHA	2.49	169	*i* P	Pn	05 36 19.0	+0.4
NEF				*i* S	Sn	05 36 47.8	-0.2
MARR	Marisel-Cluj	2.61	293	⇑P	Pn	05 36 20.3	+0.1
MARR				⇑S	Sn	05 36 51.8	+0.9
PRD	Provadia	2.61	167	*i* P	Pn	05 36 20.7	+0.5
PRD				*i* S	Sn	05 36 50.4	-0.5
ROIA	ROIAK	2.67	168	*i* P	Pn	05 36 21.8	+0.8
ROIA				*i* S	Sn	05 36 53.2	+0.8
AVR	AVREN	2.70	163	*i* P	Pn	05 36 22.2	+0.8
AVR				*i* S	Sn	05 36 53.2	+0.2
DRGR		2.91	293	⇓P	Pn	05 36 24.0	-0.3
VALD	Valchedram	3.03	229	*i* P	Pn	05 36 25.2	-0.6
HERR	Herculane	3.07	256	⇑P	Pn	05 36 25.4	-0.2
MPEP	Malo Peshtene	3.12	222	*i* P	Pn	05 36 27.0	-0.1

*SJA **08** 05:38:38.2±0.7, 20°.75S×68°.92W, h106km±5km, ML3.4, MW3.5*
*GUC **08** 05:38:39.8±0.7, 20°.76S×68°.92W, h101km±4km, ML3.4*
ISC 08 05:38:41.4±1.5, 20°.76S±0°.03×69°.00W±0°.05, h91km±11km, n29, σ1§23/48, 6C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.54	238	⇑*i* P	Pn	05 38 55.8	-0.9
PB01				*i* S	Sn	05 39 08.8	+0.7
PB01				IAML		05 39 09.5	
	comp=N,2μm,0.2s						
PB01	IPOC Station P	0.54	238	*e*P	Pn	05 38 55.9	-0.9
PB01				*e*S	Sn	05 39 09.3	+1.2
PB01				IAML		05 39 09.4	
	comp=Z,1μm,0.2s						
PB08	IPOC Station P	0.63	347	*e*P	Pn	05 38 57.0	-0.9
PB08				*i* S	Sn	05 39 10.4	+0.4
PB08				IAML		05 39 10.8	
	comp=N,1μm,0.2s						
PB08	IPOC Station P	0.63	347	*e*P	Pn	05 38 56.9	-0.9
PB08				*e*S	Sn	05 39 10.7	+0.7
PB08				IAML		05 39 11.8	
	comp=Z,513nm,0.5s						
HMBC	Humberstone	0.96	300	⇑*i* P	Pn	05 38 59.9	-1.0
HMBC				*i* S	Sn	05 39 15.9	+0.5
HMBC				IAML		05 39 17.6	
	comp=E,944nm,0.4s						
HMBC	Humberstone	0.96	300	*e*P	Pn	05 38 59.9	-1.0
HMBC				*e*S	Sn	05 39 17.2	+1.8
HMBC				IAML		05 39 18.4	
	comp=Z,1μm,0.6s						
PB09	IPOC Station P	1.06	192	⇑*i* P	Pn	05 39 01.1	-0.9
PB09				*e*S	Sn	05 39 17.9	+0.3
PB09				IAML		05 39 20.6	
	comp=N,572nm,0.4s						
PB09	IPOC Station P	1.06	192	*e*P	Pn	05 39 01.2	-0.9
PB09				*e*S	Sn	05 39 19.0	+1.4
PB09				IAML		05 39 22.1	
	comp=Z,328nm,0.4s						
PATCX	Punta Patache	1.08	266	⇑*i* P	Pn	05 39 01.4	-0.8
PATCX				*i* S	Sn	05 39 18.7	+0.9
PATCX	Punta Patache	1.08	266	*e*P	Pn	05 39 01.6	-0.6
PATCX				*e*S	Sn	05 39 20.3	+2.5
PATCX				IAML		05 39 22.4	
	comp=Z,436nm,0.4s						
GO01	Chusmiza	1.10	351	*e*P	Pn	05 39 01.8	-1.1
GO01				*e*S	Sn	05 39 18.8	-0.1
GO01				IAML		05 39 21.7	
	comp=E,3μm,0.1s						
GO01	Chusmiza	1.10	351	*e*P	Pn	05 39 01.9	-1.0
GO01				*e*S	Sn	05 39 19.4	+0.6
TA01	Diego Aracena	1.12	280	⇑*i* P	Pn	05 39 01.7	-0.9
TA01				*i* S	Sn	05 39 19.1	+0.6
TA01				IAML		05 39 20.3	
	comp=E,2μm,0.1s						
TA01	Diego Aracena	1.12	280	*e*P	Pn	05 39 01.0	-1.6
TA01				*e*S	Sn	05 39 01.8	-17
TA01				IAML		05 39 02.2	
	comp=Z,236nm,0.1s						
TA02	Huaiquique	1.16	294	*e*P	Pn	05 39 02.4	-0.7
TA02	Huaiquique	1.16	294	*e*P	Pn	05 39 02.5	-0.7
TA02				IAML		05 39 22.7	
	comp=Z,671nm,0.1s						
PB11	IPOC Station P	1.17	328	⇑*i* P	Pn	05 39 02.2	-1.2
PB11				*i* S	Sn	05 39 19.7	-0.1
PB11				IAML		05 39 25.3	
	comp=E,730nm,0.3s						
PB11	IPOC Station P	1.17	328	*e*P	Pn	05 39 02.1	-1.2
PB11				*e*S	Sn	05 39 20.6	+0.9
PB11				IAML		05 39 21.8	
	comp=Z,408nm,0.2s						
LVC	Limon Verde	1.85	177	*e*P	Pn	05 39 11.0	-1.0
LVC				IAML		05 39 39.6	
	comp=Z,482nm,0.4s						
LVC	Limon Verde	1.85	177	*e*P	Pn	05 39 11.0	-1.0
LVC				*e*S	Sn	05 39 39.4	+4.1
PB04	IPOC Station P	1.90	214	*e*P	Pn	05 39 11.3	-1.2
PB04				IAML		05 39 41.9	
	comp=E,276nm,0.2s						
PB04	IPOC Station P	1.90	214	*e*P	Pn	05 39 11.7	-0.8
PB04				*e*S	Sn	05 39 36.8	+0.6
PB04				IAML		05 39 40.5	
	comp=Z,269nm,0.5s						
PB06	IPOC Station P	2.01	195	*e*P	Pn	05 39 12.6	-1.4
PB06				IAML		05 39 43.7	
	comp=N,231nm,0.3s						
PB06	IPOC Station P	2.01	195	*e*P	Pn	05 39 12.7	-1.3
PB06				*e*S	Sn	05 39 38.5	-0.2
PB06				IAML		05 39 45.2	
	comp=Z,167nm,0.3s						
PB15	IPOC Station P	2.48	190	*e*P	Pn	05 39 18.6	-1.6
PB15	IPOC Station P	2.48	190	*e*P	Pn	05 39 18.9	-1.4
PB15				*e*S	Sn	05 39 50.6	+0.7
PB15				IAML		05 39 58.0	
	comp=Z,322nm,0.2s						
YJA	Yavi	3.54	114	*e*P	Pn	05 39 33.6	-1.1
HJA	Humahuaca	4.13	127	*e*P	Pn	05 39 41.7	-0.9
LPAZ	La Paz	4.52	11	*e*P	Pn	05 39 49.1	+0.9

SJA 08 05:52:02.1±0.8, 31°.52S×69°.40W, h113km±7km, ML1.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	Leoncito	0.29	163	*i* P	Pn	05 52 19.6	+1.0
RTLS				*i* S	Sn	05 52 33.6	+2.6
ZON	Zonda	0.61	92	*i* P	Pn	05 52 20.4	+0.2
ZON				*i* S	Sn	05 52 36.2	+2.4
ZON				IAML		05 52 37.0	
	comp=Z,8.2nm,1.0s						
RTLL	Cerro Villicun	0.81	76	*i* P	Pn	05 52 22.4	+0.6
RTLL				*i* S	Sn	05 52 37.9	+1.3
ACCO	Cerro Coronel	0.98	17	*i* P	Pn	05 52 24.6	+0.9
ACCO				*i* S	Sn	05 52 41.7	+1.7
AROD	Rodeo	1.35	357	*i* P	Pn	05 52 29.2	+1.5
AROD				*i* S	Sn	05 52 49.6	+2.4
ACDV	Cuesta del Vie	1.37	10	*i* P	Pn	05 52 28.7	+0.9
ACDV				*i* S	Sn	05 52 48.7	+1.5
ACDV				IAML		05 52 49.6	
	comp=Z,5.9nm,0.7s						
AVFE	Valle Fertil	1.88	63	*i* P	Pn	05 52 35.3	+1.6
AVFE				*i* S	Sn	05 52 58.8	+0.9
AVFE				IAML		05 53 39.6	
	comp=Z,4.5nm,2.4s						
ACLC	CERRO LA CRUZ	2.97	46	*i* P	Pn	05 52 44.5	-3.5
ACLC				IAML		05 54 14.9	
	comp=Z,3.1nm,2.6s						

*IDC **08** 06:03:25.1±1.1, 11°.07S×119°.23E, h0km, mb3.9/4, mbtmp3.8/7, ML3.5/3, MS3.1/5, Error ellipse: s-maj=76.5km s-min=21.7km az=54.0*
*DJA **08** 06:03:26.6±0.4, 11°.S±4°.×11°.9E±°, h10km, M4.2/10, mb4.3/5, mB4.7/2, MLv4.1/10, Mw(mB)3.9/2*
ISC 08 06:03:26.2±0.7, 11°.41S±0°.07×119°.02E±0°.07, h10km, n33, σ1§65/29, mb4.0/4, MS3.0/3, South of Sumba

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	1.80	12	P	Pn	06 03 56.9	-0.4
WBSI				S	Sn	06 04 18.8	-1.4
BASI	Baing, Sumba	1.94	52	P	Pn	06 04 00.4	+1.2
PLAI	Plampang	2.84	334	P	Pn	06 04 11.4	-0.3
PLAI	Plampang	2.84	334	P	Pn	06 04 11.6	-0.1
MMRI	Maumere	4.20	49	P	Pn	06 04 31.5	+1.1
SRBI	Singaraja	5.00	311	P	Pn	06 04 41.0	-0.3
SOEI	Soe	5.42	73	P	Pn	06 04 49.8	+2.6
	45nm,0.9s,0.2nm						
BSSI	Bau Bau, Buton	5.43	16	P	Pn	06 04 48.3	+1.0
JAGI	Jajag, Banyuwa	5.61	301	P	Pn	06 04 50.2	+0.4
JAGI	Jajag, Banyuwa	5.61	301	P	Pn	06 04 49.7	-0.1
	24nm,1.8s,0.2nm						
BKSI	Bulukumba	6.15	10	P	Pn	06 04 58.6	+1.5
PCJI	Pacitan	8.36	292	P	Pn	06 05 25.7	-1.8
UGM	Wanagama	9.07	292	P	Pn	06 05 38.3	+1.1
UGM	Wanagama	9.07	292	P	Pn	06 05 35.3	-1.9
FITZ	Fitzroy Crossi	9.23	137	Pn	Pn	06 05 41.1	+1.7
	0.4nm,0.3s,baz=338,slow=15,SNR=17						
FITZ				Sn	Sn	06 07 17.9	-5.5
	1.8nm,0.3s,baz=183,slow=21,SNR=12						
FITZ				LR	LR	06 09 00.6	
	comp=Z,76nm,20.7s,baz=354,slow=36						
	4.1nm,0.7s						
MBWA	Marble Bar	9.72	176	P	Pn	06 05 47.1	+1.0
PSA00	Pilbara Seismi	10.13	176	P	Pn	06 05 52.8	+0.9
GIRL	Giralia	12.07	202	P	Pn	06 06 18.7	+0.4
MEEK	Meekatharra	15.15	181	P	Pn	06 07 00.4	0.0
WRA	Warramunga Arr	17.01	122	Pn	Pn	06 07 23.5	-0.9
	0.1nm,0.3s,baz=299,slow=14,SNR=7.0						
WRA				Sn	Sn	06 10 23.9	-10
	0.2nm,0.3s,baz=293,slow=25,SNR=8.0						
	0.5nm,0.6s						
MORW	Morawa	17.79	189	P	Pn	06 07 34.7	+0.7
ASAR	Alice Springs	18.69	133	P	Pn	06 07 47.3	+2.2
	0.2nm,0.3s,baz=316,slow=13,SNR=32						
ASAR				S	Sn	06 11 05.0	-9.3
	1.7nm,0.9s,baz=311,slow=23,SNR=8.1						
ASAR				LR	LR	06 14 46.6	
	comp=Z,46nm,18.8s,baz=344,slow=36						
	2.8nm,0.9s						
FORT	Forrest	21.02	158	P	P	06 08 09.9	-0.2
NWAO	Narrogin (SRO)	21.48	184	LR	LR	06 16 24.3	
	comp=Z,51nm,20.9s,baz=270,slow=36						
STKA	Stephens Creek	29.13	138	LR	LR	06 21 47.7	
	comp=Z,37nm,18.1s,baz=26,slow=38						
JOW	Kunigami	39.06	13	LR	LR	06 27 37.8	
	comp=Z,29nm,19.1s,baz=326,slow=38						
H08S2	Diego Garcia H	46.00	270	T	T	07 02 16.4	
	baz=96						
H08S3	Diego Garcia H	46.01	270	T	T	07 02 15.9	
	baz=96						
H08S1	Diego Carcia H	46.02	270	T	T	07 02 16.3	
	baz=96						
MKAR	Makanchi Array	66.60	333	P	P	06 14 16.4	-0.4
	1.1nm,0.8s,baz=158,slow=8.8,SNR=5.5						
	1.1nm,0.8s						
KURBB	Kurchatov Arra	71.13	334	P	P	06 14 44.0	-0.7
	0.5nm,0.7s,baz=146,slow=6.4,SNR=4.1						
	0.5nm,0.7s						
ZALV	Zalesovo Beam	71.29	339	P	P	06 14 44.4	-1.2
	1.0nm,0.7s,baz=123,slow=5.3,SNR=3.7						
	1.0nm,0.7s						
SNAA	Sanae	88.70	196	P	P	06 16 21.6	+2.0
	0.8nm,0.8s,baz=10,slow=3.9,SNR=3.0						
	0.8nm,0.8s						

*NEIC **08** 06:07:07.1±0.6, 23°.5S±0°.1×178°.8W±0°.2, h552km±20km, mb4.1/16, Error ellipse: s-maj=29.9km s-min=7.1km az=59.0*
*IDC **08** 06:07:12.7±3.3, 23°.75S×179°.68W, h547km±43km, mb3.1/2, mbtmp4.1/3, Error ellipse: s-maj=80.9km s-min=25.8km az=178.0*
ISC 08 06:07:08.0±0.8, 23°.5S±0°.1×179°.1W±0°.1, h550km, n31, σ1§23/31, mb4.2/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.85	170	P	P	06 08 43.8	-1.2
RAO	Raoul Island	5.85	170	P	P	06 08 48.1	+3.0
	256nm,0.3s,baz=262,slow=23,SNR=7.2						
FUTU	Fugatoga	9.17	6	P	P	06 09 16.2	-1.4
PINNC	Pines Island,	12.43	271	P	P	06 09 51.3	+0.3
DZM	Mont Dzumac	13.42	273	P	P	06 10 02.3	+0.9
DZM	Mont Dzumac	13.42	273	P	P	06 10 01.9	+0.6
	3.6nm,0.7s,baz=241,slow=24,SNR=6.5						
EIDS	Eidsvold	27.20	260	P	P	06 12 09.1	+0.9
EIDS				IAmb	IAmb	06 12 22.8	
	comp=Z,8.5nm,1.1s						
CAN	Canberra	30.08	240	P	P	06 12 33.2	+0.1
CTAO	Charters Tower	32.32	269	P	P	06 12 53.3	+0.9
CTAO				IAmb	IAmb	06 12 54.0	
	comp=Z,8.1nm,1.1s						
MCQ	Macquarie Isla	35.07	202	P	P	06 13 14.2	-0.7
COEN	Coen	36.88	278	P	P	06 13 30.8	+0.2
COEN				IAmb	IAmb	06 13 35.0	
	comp=Z,2.9nm,1.1s						
BBOO	Buckleboo	40.38	246	P	P	06 13 58.4	-0.3
BBOO				IAmb	IAmb	06 14 27.6	
	comp=Z,11nm,1.1s						
ASAR	Alice Springs	42.93	260	P	P	06 14 18.5	-0.5
ASAR	Alice Springs	42.93	260	P	P	06 14 19.0	0.0
	comp=Z,0.5nm,0.4s,baz=92,slow=7.5,SNR=9.0						
	comp=Z,0.5nm,0.4s						
WR0	Warramunga Arr	43.09	265	P	P	06 14 19.9	-0.2
WB2	Warramunga Arr	43.26	265	P	P	06 14 21.6	0.0
WB2				IAmb	IAmb	06 14 21.9	
	comp=Z,2.8nm,0.4s						
WB0	Warramunga Arr	43.27	266	P	P	06 14 21.5	-0.1
WRAB	Tennant Creek	43.27	265	P	P	06 14 20.7	-0.9
WRA	Warramunga Arr	43.27	265	P	P	06 14 21.8	+0.2
WRA	Warramunga Arr	43.27	265	P	P	06 14 21.6	0.0
	comp=Z,2.1nm,0.5s,baz=96,slow=8.4,SNR=51						
	comp=Z,2.1nm,0.5s						
KNRA	Kununurra	49.53	269	P	P	06 15 08.7	-0.3
KNRA				IAmb	IAmb	06 15 15.5	
	comp=Z,11nm,1.1s						
FITZ	Fitzroy Crossi	51.70	265	P	P	06 15 24.2	-0.6
SBA	Scott Base	54.85	184	P	P	06 15 44.9	-1.2
SBA				IAmb	IAmb	06 15 53.9	
	comp=Z,4.5nm,0.9s						
NWAO	Narrogin (SRO)	56.17	245	P	P	06 15 54.4	-1.7
NWAO				IAmb	IAmb	06 16 18.5	
	comp=Z,10.0nm,1.1s						
MORW	Morawa	57.81	249	P	P	06 16 07.4	+0.1
MORW				IAmb	IAmb	06 16 17.7	
	comp=Z,13nm,1.1s						
ARCES	ARCESS Array B	131.64	349	PKP	PKiKP	06 25 22.6	+3.7
	comp=Z,2.6nm,0.9s,baz=79,slow=1.9,SNR=4.3						
HFS	Hagfors	142.29	350	PKP	PKiKP	06 25 39.8	-1.0
	comp=Z,2.3nm,0.4s,baz=66,slow=3.6,SNR=18						
AKASG	Malin Array Be	145.06	328	PKPbc	PKiKP	06 25 47.9	+1.1
	comp=Z,0.7nm,0.3s,baz=46,slow=4.1,SNR=8.8						
BRTR	Keskin Array B	147.98	308	PKPbc	PKPab	06 25 55.2	-1.7
	comp=Z,0.6nm,0.6s,baz=46,slow=4.2,SNR=2.2						
EKA	Eskdalemuir Ar	148.04	4	PKPbc	PKPab	06 25 57.5	+1.2
	comp=Z,0.2nm,0.3s,baz=357,slow=2.4,SNR=3.5						
MMAI	Mount Meron Ar	148.29	295	PKPbc	PKPab	06 25 57.7	-0.5
	comp=Z,1.7nm,0.4s,baz=78,slow=7.8,SNR=3.7						

RSNC 08 06:24:06.4±0.0, 5°N±1°×7°5W±°, h176km±3km, M2.9, mb3.7, ML2.5, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RECRC	Villamaria, Ca	0.40	3	P	Pn	06 24 31.4	+0.3
NIZA	Niza - Manizal	0.51	349	P	Pn	06 24 31.1	0.0
NIZA				S	Sn	06 24 50.7	+0.5
PLMC	San Jos del P	0.97	291	P	Pn	06 24 33.5	-0.1
PLMC				S	Sn	06 24 54.4	-0.1
ROSC	El Rosal	1.08	75	P	Pn	06 24 35.4	+0.6
ROSC				S	Sn	06 24 57.0	+0.4
NORC	Norcasia	1.11	27	P	Pn	06 24 34.3	-0.4
NORC				S	Sn	06 24 55.2	-1.4
YOTC	Yotoco, Valle	1.13	240	P	Pn	06 24 33.6	-1.3
YOTC				S	Sn	06 24 53.8	-3.0
CBOC	Ciudad Bolivar	1.45	334	P	Pn	06 24 37.8	+0.1
CBOC				S	Sn	06 25 01.0	-1.0
HELC	Santa Helena	1.63	354	P	Pn	06 24 39.3	-0.4
HELC				S	Sn	06 25 03.6	-1.9
CHIC	Chingaza	1.63	88	P	Pn	06 24 40.0	+0.2
CHIC				S	Sn	06 25 05.1	-0.4
JAMC	Jamundi, Valle	1.86	224	P	Pn	06 24 41.2	-0.8
JAMC				S	Sn	06 25 06.7	-2.8
MALC	Bahia Malaga	2.03	255	P	Pn	06 24 44.6	+1.0
MALC				S	Sn	06 25 12.4	+0.1
PTBC	PUERTO BERRIO,	2.17	25	P	Pn	06 24 44.7	-0.4
PTBC				S	Sn	06 25 12.8	-2.4
GARC	Garzon, Huila	2.36	183	P	Pn	06 24 46.8	-0.8
DBBC	Dabeiba	2.58	341	P	Pn	06 24 50.8	+0.9
DBBC				S	Sn	06 25 24.7	+0.9
SOLC	Bahia Solano	2.62	309	P	Pn	06 24 50.5	+0.2
SOLC				S	Sn	06 25 23.9	-0.5
RUSC	La Rusia	2.63	60	P	Pn	06 24 50.6	-0.4
RUSC				S	Sn	06 25 24.5	-1.0
MACC	Macarena, Meta	2.84	148	P	Pn	06 24 52.2	-0.8
BRJC	Barrancabermej	2.89	34	P	Pn	06 24 52.8	-0.8
BRJC				S	Sn	06 25 27.8	-2.6
ZARC	Zaragoza, Cauc	2.96	10	P	Pn	06 24 54.3	-0.1
ZARC				S	Sn	06 25 30.0	-1.8
BARC	Barichara	2.97	47	P	Pn	06 24 55.6	+0.9
BARC				S	Sn	06 25 31.5	-0.9
BBAC	Balboa, Cauca	3.14	217	P	Pn	06 24 57.1	+0.3
BBAC				S	Sn	06 25 34.4	-1.7
UREC	San Jos de Ur	3.17	357	P	Pn	06 24 56.8	-0.3
UREC				S	Sn	06 25 34.3	-2.3
GR1C	Gorgona, Isla	3.19	241	P	Pn	06 24 55.2	-2.0
GR1C				S	Sn	06 25 34.0	-2.8
APAC	Apartado, Choc	3.53	340	P	Pn	06 25 03.2	+1.7
APAC				S	Sn	06 25 44.7	+0.2
PTAC	Punta Ardita,	3.53	317	P	Pn	06 25 01.1	-0.4
PTAC				S	Sn	06 25 42.4	-2.2
PAMC	Pamplona, Colo	3.83	44	P	Pn	06 25 05.8	+0.1
PAMC				S	Sn	06 25 50.8	-1.2
GCUF	Volcan Galeras	3.85	211	P	Pn	06 25 05.9	-0.2
GCUF				S	Sn	06 25 50.9	-1.7
TAMC	Tame, Arauca	4.02	62	P	Pn	06 25 09.1	+1.4
TAMC				S	Sn	06 25 52.6	-3.0
OCAC	Ocana	4.18	29	P	Pn	06 25 10.4	+0.5
OCAC				S	Sn	06 25 56.1	-3.6
SJCC	San Jacinto, C	5.30	2	P	Pn	06 25 24.5	+0.1
	6.5nm,1.6s						
SJCC				S	Sn	06 26 20.8	-4.8
	6.5nm,1.6s						
CRJC	Cerrejon, Guaj	6.88	21	P	Pn	06 25 43.9	-1.1
CRJC				S	Sn	06 26 56.5	-6.3
URIC	Uribia, Colomb	7.84	25	P	Pn	06 25 56.2	-1.5
URIC				S	Sn	06 27 17.2	-8.5

IDC 08 06:48:07.2±2.6, 4°.03N×127°.79E, h0km, mb3.3/3, mbtmp3.3/3, MS2.5/1, Error ellipse: s-maj=191.3km s-min=29.5km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	12.05	222	LR	LR	06 55 17.2	
	comp=Z,22nm,19.7s,baz=198,slow=36						
WRA	Warramunga Arr	24.68	165	P	P	06 53 29.6	-0.4
	0.8nm,0.5s,baz=345,slow=9.5,SNR=13						
	0.8nm,0.5s						
ASAR	Alice Springs	28.17	168	P	P	06 54 01.9	+0.5
	0.1nm,0.4s,baz=336,slow=9.9,SNR=1.9						
	0.1nm,0.4s						
MKAR	Makanchi Array	57.92	325	P	P	06 58 01.3	0.0
	0.2nm,0.6s,baz=125,slow=6.8,SNR=1.7						
	0.2nm,0.6s						

RSNC 08 07:16:54.4±0.5, 5°N±3°×8°3W±°, h0km, M3.8, mb4.1, mB5.2, ML2.9, Mw(mB)4.6, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	El Cacao, Vera	2.63	38	P	Pn	07 17 37.6	-0.6
CACAO				S	Sn	07 18 09.4	-1.5
BCIP	Isla Barro Col	4.70	34	P	Pn	07 18 07.5	+0.9
BCIP				S	Sn	07 19 01.6	-0.2
GR1C	Gorgona, Isla	4.87	117	P	Pn	07 18 07.5	-1.5
GR1C				S	Sn	07 19 00.6	-5.5
PTAC	Punta Ardita,	5.03	68	P	Pn	07 18 13.5	+2.4
	36nm,0.4s,3μm						
PTAC				S	Sn	07 19 07.5	-2.5
	36nm,0.4s,3μm						
MALC	Bahia Malaga	5.29	103	P	Pn	07 18 15.9	+1.1
MALC				S	Sn	07 19 15.9	-0.7
JTS	Las Juntas de	5.56	334	P	Pn	07 18 16.6	-1.9
	8.2nm,0.4s						
JTS				S	Sn	07 19 20.1	-3.0
	8.2nm,0.4s						
BBAC	Balboa, Cauca	6.15	121	P	Pn	07 18 26.3	-0.5
	3.0nm,0.6s						
JAMC	Jamundi, Valle	6.16	109	P	Pn	07 18 27.9	+1.0
	7.4nm,0.4s						
JAMC				S	Sn	07 19 36.1	-2.1
	7.4nm,0.4s						
PLMC	San Jos del P	6.20	93	P	Pn	07 18 29.3	+1.9
	5.3nm,0.4s						
PLMC				S	Sn	07 19 39.3	+0.2
	5.3nm,0.4s						
YOTC	Yotoco, Valle	6.26	101	P	Pn	07 18 29.3	+1.0
	8.3nm,0.4s						
YOTC				S	Sn	07 19 39.0	-1.7
	8.3nm,0.4s						
APAC	Apartado, Choc	6.44	66	P	Pn	07 18 35.7	+5.1
APAC				S	Sn	07 19 51.3	+6.5

*IDC **08** 07:33:37.6±0.7, 29°.46S×71°.06W, h0km, mb3.9/7, mbtmp3.9/9, ML3.7/2, MS3.2/1, Error ellipse: s-maj=23.8km s-min=18.2km az=111.0

CO06 IAML 07 34 26.9
comp=E,2μm,0.2s
CO03 El Pedregal 1.52 160 *i* P **Pn 07 34 08.7 0.0**
CO03 IAML 07 34 34.0
comp=Z,910nm,0.8s
AROD Rodeo 1.75 116 *i* P **Pn 07 34 13.2 +1.1**
GO03 Copiapo 2.03 28 *eP* **Pn 07 34 15.9 +0.2**
GO03 *i* S **Sn 07 34 41.1 +1.2**
GO03 IAML 07 34 46.9
comp=E,1μm,0.3s
GO03 Copiapo 2.03 28 *i* P **Pn 07 34 16.3 +0.5**
ACDV Cuesta del Vie 2.04 112 *i* P **Pn 07 34 17.1 +1.3**
ACDV IAML 07 34 45.3
comp=Z,357nm,0.3s
ACCO Cerro Coronel 2.26 122 *i* P **Pn 07 34 20.8 +1.7**
ACCO IAML 07 34 59.1
comp=Z,628μm,0.6s
DOCA Reserva Natura 2.45 129 *i* P **Pn 07 34 24.0 +2.2**
RTLS Leoncito 2.94 145 *i* P **Pn 07 34 30.6 +2.3**
RTLS IAML 07 35 17.0
comp=Z,1μm,0.5s
RTLL Cerro Villicun 3.10 129 *i* P **Pn 07 34 31.5 +1.2**
ZON Zonda 3.10 134 *i* P **Pn 07 34 31.4 +1.0**
ZON IAML 07 35 27.6
comp=Z,182nm,1.4s
AC01 Pan de Azucar 3.31 11 *i* P **Pn 07 34 32.8 -0.4**
AC01 IAML 07 35 24.0
comp=Z,269nm,0.6s
VA03 San Esteban 3.40 169 *i* P **Pn 07 34 35.3 +0.8**
VA03 IAML 07 35 39.9
comp=Z,293nm,0.3s
ACLC CERRO LA CRUZ 3.79 91 *i* P **Pn 07 34 40.6 +0.7**
ACLC *i* S **Sn 07 35 25.7 +2.4**
ACLC IAML 07 35 32.1
comp=Z,348nm,0.4s
MT02 Curacav 3.84 178⇑ *iP* **Pn 07 34 41.0 +0.5**
MT02 *i* S **Sn 07 35 26.0 +1.7**
MT02 IAML 07 35 50.6
comp=Z,175nm,0.4s
MT05 Renca 4.00 173 *i* P **Pn 07 34 43.2 +0.5**
MT05 *i* S **Sn 07 35 29.7 +1.4**
MT05 IAML 07 35 58.5
comp=Z,174nm,0.4s
MT04 Ro Olivares 4.11 166 *i* P **Pn 07 34 45.1 +0.9**
MT04 *i* S **Sn 07 35 32.4 +1.2**
MT04 IAML 07 35 55.1
comp=Z,119nm,0.8s
MT03 Universidad Ad 4.13 171 *i* P **Pn 07 34 45.1 +0.7**
MT03 *i* S **Sn 07 35 32.8 +1.2**
MT03 IAML 07 35 53.7
comp=Z,338nm,0.7s
MT01 Popeta 4.44 180 *i* P **Pn 07 34 49.1 +0.4**
MT01 *i* S **Sn 07 35 39.8 +0.6**
MT01 IAML 07 35 58.8
comp=Z,136nm,0.6s
GO02 Mina Guanaco 4.49 20 *i* P **Pn 07 34 49.5 -0.2**
GO02 *i* S **Sn 07 35 40.5 -0.4**
CYA Choya 4.91 80 *i* P **Pn 07 34 55.6 +0.4**
CYA *i* S **Sn 07 35 51.6 +0.9**
CYA IAML 07 35 56.8
comp=Z,234nm,0.7s
BO01 Tunca 4.97 178 *i* P **Pn 07 34 56.4 +0.4**
BO01 IAML 07 36 13.5
comp=Z,68nm,0.6s
LVC Limon Verde 7.10 18 Pn **Pn 07 35 23.9 -1.7**
comp=Z,1.2nm,0.3s,baz=156,slow=8.0,SNR=13
LVC Sn **Sn 07 36 46.5 +1.4**
comp=Z,3.1nm,0.3s,baz=231,slow=6.2,SNR=1.7
comp=Z,2.6nm,0.3s
H03N1 Juan Fernandez 7.65 236 Pn **Pn 07 35 32.2 -0.3**
baz=113,slow=19
H03N1 T T 07 43 26.6
baz=64,slow=72,SNR=1816
H03N2 Juan Fernandez 7.66 236 Pn **Pn 07 35 32.4 -0.2**
baz=113,slow=19
H03N2 T T 07 43 24.9
baz=64,slow=72,SNR=1911
H03N3 Juan Fernandez 7.67 236 Pn **Pn 07 35 32.2 -0.5**
baz=113,slow=19
H03N3 T T 07 43 07.6
baz=64,slow=72,SNR=1486
H03S3 Juan Fernandez 7.84 234 Pn **Pn 07 35 34.7 -0.4**
baz=64,slow=12
H03S1 Juan Fernandez 7.85 234 Pn **Pn 07 35 34.5 -0.8**
baz=64,slow=12
H03S2 Juan Fernandez 7.86 234 Pn **Pn 07 35 34.2 -1.1**
baz=64,slow=12
CPUP Villa Florida 12.73 79 Pn Pn 07 36 37.9 -4.3
comp=Z,0.1nm,0.3s,baz=218,slow=15,SNR=1.5
CPUP Sn **Sn 07 39 00.1 -2.4**
comp=Z,0.1nm,0.3s,baz=190,slow=17,SNR=2.3
comp=Z,0.5nm,0.3s
LPAZ La Paz 13.38 13 Pn **Pn 07 36 54.1 +2.3**
comp=Z,0.2nm,0.3s,baz=198,slow=7.2,SNR=12
SIV San Ignacio 16.33 37 Pn **P 07 37 32.4 -0.1**
baz=210,slow=10,SNR=25
ROSC El Rosal 34.18 355 LR LR 07 56 36.8
comp=Z,40nm,18.6s,baz=74,slow=40
VNA3 Neumayer Olymp 53.39 159⇑P **P 07 42 56.7 -1.8**
comp=Z,2.2nm,0.8s
VNA2 Neumayer--Watz 54.02 159⇑P **P 07 43 02.5 -0.5**
comp=Z,1.6nm,0.6s,baz=282,slow=8.9
SNAA Sanae 55.61 159⇑P **P 07 43 13.9 -0.7**
comp=Z,21nm,0.5s
SNAA Sanae 55.61 159 P **P 07 43 14.2 -0.4**
comp=Z,0.9nm,0.6s,baz=269,slow=6.7,SNR=15
comp=Z,0.9nm,0.6s
QSPA South Pole Qui 60.81 180 P **P 07 43 51.3 +0.2**
comp=Z,1.0nm,0.7s,baz=172,slow=0.7,SNR=5.4
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 66.09 329 P **P 07 44 27.6 +1.3**
comp=Z,0.3nm,0.5s,baz=159,slow=8.7,SNR=6.8
comp=Z,0.3nm,0.5s
DBIC Dimbokro 73.14 72 P **P 07 45 09.1 -0.9**
comp=Z,1.3nm,0.4s,baz=143,slow=6.3,SNR=2.6
comp=Z,1.3nm,0.4s
MAW Mawson 77.39 164 P **P 07 45 32.9 -0.6**
comp=Z,1.0nm,0.6s,baz=270,slow=4.6,SNR=2.0
comp=Z,1.0nm,0.6s
PDAR Pinedale Array 79.98 332 P **P 07 45 49.3 +0.9**
comp=Z,0.2nm,0.4s,baz=123,slow=7.8,SNR=2.4
comp=Z,0.2nm,0.4s
TORD Torodi Ar. Bea 82.05 70 P **P 07 45 58.6 -1.1**
comp=Z,1.0nm,0.6s,baz=242,slow=4.3,SNR=8.8
comp=Z,1.0nm,0.6s
KURBB Kurchatov Arra 148.99 38 PKPbc **PKiKP 07 53 27.1 -0.7**
comp=Z,2.0nm,0.2s,baz=310,slow=3.6,SNR=4.6
ZALV Zalesovo Beam 149.96 29 PKPbc **PKPbc 07 53 28.7 0.0**
comp=Z,3.1nm,0.5s,baz=319,slow=2.2,SNR=13

*NNC **08** 07:40:37.9±1.1, 49°.99N×78°.63E, h0km, mb2.7, mpv2.5, Error ellipse: s-maj=24.4km s-min=4.1km az=77.0, Suspected Mining explosion.*
*IDC **08** 07:40:39.0±1.2, 50°.03N×78°.74E, h0km, mbtmp2.6/2, ML2.0/2, Error ellipse: s-maj=14.8km s-min=7.2km az=65.0*
ISC 08 07:40:39.1±1.7, 50°.01N±0°.06×78°.6E±0°.2, h0km, n8, σ0°76/12, 6C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.62**	**357**	⇑P	**Pg**	**07 40 50.3**	**-0.7**
KURBB	11nm,0.4s			⇑S	**Sg**	**07 40 59.5**	**+0.6**
KURBB	**Kurchatov Arra**	**0.62**	**357**	Pg	**Pg**	**07 40 50.6**	**-0.3**
KURBB	1.8nm,0.3s,baz=166,slow=19,SNR=29			Lg	Lg	07 40 59.5	
KURK	**Kurchatov**	**0.71**	**2**	⇓P	**Pg**	**07 40 51.8**	**-0.9**
KURK	2.8nm,0.3s,baz=163,slow=32,SNR=13			⇑S	**Sg**	**07 41 02.3**	**+0.3**
MAKZ	**Makanchi**	**3.92**	**143**	⇑Pg	**Pb**	**07 41 50.0**	**+0.9**
MAKZ	0.3nm,0.3s			⇑Lg	Lg	07 42 36.9	
MK31	**Makanchi Array**	**4.05**	**141**	⇑Pn	**Pn**	**07 41 42.4**	**0.0**
MK31	9.4nm,0.9s,baz=323,slow=10,SNR=8.9			⇓Pg	**Pb**	**07 41 52.1**	**+0.7**
MK31	0.3nm,0.4s,baz=332,slow=15,SNR=9.4			⇓Lg	Lg	07 42 43.8	
MKAR	**Makanchi Array**	**4.05**	**141**	Pn	**Pn**	**07 41 42.5**	**0.0**
	12nm,1.1s,baz=327,slow=27,SNR=14						
	0.1nm,0.3s,baz=321,slow=14,SNR=6.3						
MKAR	0.5nm,0.3s,baz=322,slow=24,SNR=2.6			Sn	**Sn**	**07 42 29.3**	**-1.3**
MKAR	2.4nm,0.3s,baz=321,slow=31,SNR=17			Lg	Lg	07 42 44.1	
	0.3nm,0.6s						
I46RU	**ZALESOVO INFRA**	**5.52**	**42**	I	I	08 14 00.0	
	baz=221,slow=313,SNR=1.9						
ZALV	**Zalesovo Beam**	**5.52**	**42**	Pn	**Pn**	**07 42 02.7**	**+0.3**
	0.2nm,0.3s,baz=227,slow=14,SNR=2.9						
ZALV				Sn	**Sn**	**07 43 06.1**	**-0.4**
	0.2nm,0.3s,baz=224,slow=22,SNR=1.7						
ZALV				Lg	Lg	07 43 33.5	
	0.4nm,0.3s,baz=222,slow=25,SNR=2.2						
	0.8nm,0.3s						

*IDC **08** 08:00:16.6±0.7, 86°.02N×24°.32E, h0km, mb3.7/11, mbtmp3.8/15, ML4.1/4, MS3.3/22, Error ellipse: s-maj=23.7km s-min=15.0km az=57.0*
*NEIC **08** 08:00:18.2±1.2, 85°.81N±0°.08×19°.9E±°, h10km±2km, mb4.2/28, Error ellipse: s-maj=22.1km s-min=13.6km az=78.0*
*KOLA **08** 08:00:19.7, 85°.86N×28°.79E, h0km, ML2.5, Error ellipse: s-maj=241.4km s-min=49.9km az=110.0, Arctic Ocean, Gakkel ridge*
*FCIAR **08** 08:00:22.0, 85°.69N×28°.63E, h10km, station ZFI2 has station magnitude of 3.80*
ISC 08 08:00:17.4±0.6, 85°.82N±0°.06×23°.25E±0°.07, h10km, n92, σ1°53/81, mb4.2/23, MS3.3/20, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.69**	**138**	*eP*	**Pn**	**08 01 41.1**	**-0.7**
ZFI2	53nm,2.0s			*eS*	Sn	08 02 40.0	-7.0
NOR	**Nord**	**5.88**	**247**	*i* P	Pn	08 01 49.8	+5.4
NOR	**Nord**	**5.88**	**247**	*i* P	Pn	08 01 49.8	+5.4
KBS	**Kingsbay**	**7.07**	**198**		**Pn**	**08 02 01.2**	**+0.5**
KBS	**Kingsbay**	**7.07**	**198**	P	**Pn**	**08 02 01.4**	**+0.7**
KBS				S	**Sn**	**08 03 19.7**	**-1.2**
KBS	**Kingsbay**	**7.07**	**198**	*eP*	**Pn**	**08 02 03.3**	**+2.6**
KBS				*eS*	**Sn**	**08 03 18.2**	**-2.7**
KBS				IAML		08 03 25.1	
	comp=Z,10nm,0.5s						
KBS	**Kingsbay**	**7.07**	**198**	*eP*	**Pn**	**08 02 01.1**	**+0.5**
KBS				*eS*	**Sn**	**08 03 17.9**	**-3.0**
KBS	**Kingsbay**	**7.07**	**198**	*i* P	**Pn**	**08 02 01.1**	**+0.5**
KBS				*i* S	**Sn**	**08 03 18.7**	**-2.2**
SPA0	**Spitsbergen Ar**	**7.74**	**191**	*eP*	**Pn**	**08 02 11.2**	**+1.2**
SPA0				*eS*	**Sn**	**08 03 35.6**	**-1.7**
SPA0				IAML		08 03 52.3	
	comp=Z,6.7nm,0.7s						
SPA0	**Spitsbergen Ar**	**7.74**	**191**	*eP*	**Pn**	**08 02 10.6**	**+0.8**
SPA0				*eS*	**Sn**	**08 03 34.7**	**-2.7**
SPITS	**Spitsbergen Ar**	**7.74**	**191**	P	**Pn**	**08 02 11.1**	**+1.2**
SPITS				S	**Sn**	**08 03 35.2**	**-2.2**
SPITS	**Spitsbergen Ar**	**7.74**	**191**	Pn	**Pn**	**08 02 11.1**	**+1.2**
SPITS	baz=8.2,slow=14			Sn	**Sn**	**08 03 34.8**	**-2.7**
	baz=36,slow=25						
	comp=Z,4.7nm,0.3s						
SPB2	**Spitsbergen Ar**	**7.74**	**191**		**Pn**	**08 02 11.0**	**+1.1**
BRBB	**Barentsburg B**	**7.86**	**194**	P	**Pn**	**08 02 13.0**	**+1.6**
BRBB				S	**Sn**	**08 03 38.2**	**-2.0**
BRBB	**Barentsburg B**	**7.86**	**194**	*eP*	**Pn**	**08 02 13.6**	**+2.1**
BRBB				*eS*	**Sn**	**08 03 38.2**	**-2.0**
BRBA	**Barentsburg A**	**7.89**	**194**	*eP*	**Pn**	**08 02 14.1**	**+2.1**
BRBA				*eS*	**Sn**	**08 03 40.5**	**-0.6**
BRBA				IAML		08 03 44.4	
	comp=Z,6.0nm,0.5s						
HSPB	**Hornsund (broa**	**8.93**	**191**	P	**Pn**	**08 02 29.8**	**+3.6**
HSPB	**Hornsund (broa**	**8.93**	**191**	*eP*	**Pn**	**08 02 29.7**	**+3.6**
HSPB				*eS*	**Sn**	**08 04 04.8**	**-1.8**
HOPEN	**Hopen**	**9.37**	**177**	*eP*	**Pn**	**08 02 33.6**	**+1.4**
HOPEN	**Hopen**	**9.37**	**177**	*eP*	**Pn**	**08 02 33.0**	**+0.8**
HOPEN				*eS*	Sn	08 04 09.6	-7.8
DAG	**Danmarks Havn**	**10.56**	**237**	*i* P	Pn	08 02 53.5	+5.1
DAG	**Danmarks Havn**	**10.56**	**237**	*i* P	Pn	08 02 53.5	+5.1
BJO1	**Bjornoya**	**11.40**	**186**	*eP*	**Pn**	**08 03 00.7**	**+0.6**
EUNU	**Eureka**	**12.09**	**309**	Pn	**Pn**	**08 03 07.4**	**-2.0**
NEEM	**North Greenlan**	**12.18**	**273**	*eP*	**Pn**	**08 03 11.3**	**+0.4**
TULEG	**Thule**	**14.32**	**289**	Pn	**Pn**	**08 03 36.1**	**-3.7**
HAMF	**Hammerfest**	**15.27**	**179**	*eP*	**Pn**	**08 03 50.5**	**-2.2**
VADS	**Vadso**	**15.82**	**172**	*e*	Pn	08 03 46.2	-14
SUMG	**Summit**	**15.96**	**255**	Pn	**Pn**	**08 03 59.7**	**-2.3**
KEV	**Kevo**	**16.17**	**175**	Pn	**Pn**	**08 04 05.2**	**+0.9**
KEV				IAmb	IAmb	08 04 09.2	
	comp=Z,21nm,1.3s						
KEV	**Kevo**	**16.17**	**175**	*eP*	**Pn**	**08 04 05.2**	**+0.9**
ARA0	**ARCESS Array S**	**16.39**	**177**	*eP*	**Pn**	**08 04 07.8**	**+0.7**
ARCES	**ARCESS Array B**	**16.39**	**177**	Pn	**Pn**	**08 04 06.9**	**-0.2**
ARCES				IAmb	IAmb	08 04 32.5	
	comp=Z,26nm,1.4s						
ARCES	**ARCESS Array B**	**16.39**	**177**	Pn	**Pn**	**08 04 08.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=0.9,slow=11,SNR=15						
ARCES				Sn	Sn	08 06 56.9	-12
	comp=Z,0.1nm,0.3s,baz=0.9,slow=24,SNR=1.5						
ARCES				LR	LR	08 09 42.6	
	comp=Z,83nm,20.7s,baz=316,slow=34						
	comp=Z,0.8nm,0.4s						
KIF	**Kilpisjarvi**	**16.92**	**183**	*eP*	**P**	**08 04 15.8**	**0.0**
RES	**Resolute Bay**	**17.78**	**310**		**Pn**	**08 04 23.3**	**-1.1**
RES	**Resolute Bay**	**17.78**	**310**	Pn	**Pn**	**08 04 23.5**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=28,slow=8.6,SNR=18						
RES				LR	LR	08 11 14.5	
	comp=Z,70nm,19.4s,baz=34,slow=37						
	comp=Z,3.2nm,0.4s						
NRIK	**Noril'sk**	**19.32**	**105**	P	**P**	**08 04 40.8**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=18,slow=6.9,SNR=2.7						
	comp=Z,1.4nm,0.4s						
TIXI	**Tiksi**	**20.00**	**63**	P	Pn	08 04 53.6	+2.3
TIXI	**Tiksi**	**20.00**	**63**	LR	LR	08 11 53.2	
	comp=Z,38nm,19.4s,baz=346,slow=35						
A36M	**Sachs Harbour**	**21.82**	**334**	P	**P**	**08 05 08.9**	**-0.3**
A36M				IAmb	IAmb	08 05 14.9	
	comp=Z,12nm,1.0s						
B22K	**Teshekpuk Lake**	**23.99**	**357**	P	**P**	**08 05 31.1**	**-0.4**
C23K	**Itkillik River**	**24.48**	**355**	P	**P**	**08 05 36.3**	**+0.3**
C23K				IAmb	IAmb	08 05 48.8	
	comp=Z,12nm,1.3s						
FINES	**FINESS Array B**	**24.52**	**177**	LR	LR	08 14 33.9	
	comp=Z,103nm,18.1s,baz=337,slow=35						
C24K	**Franklin Bluff**	**24.58**	**353**	P	**P**	**08 05 36.7**	**-0.2**
C27K	**Jago River**	**24.62**	**349**	P	**P**	**08 05 37.3**	**0.0**
C27K				IAmb	IAmb	08 05 39.8	
	comp=Z,6.0nm,0.9s						
NC303	**NORSAR Array S**	**24.83**	**194**	P	**P**	**08 05 39.6**	**+0.3**
NC303				IAmb	IAmb	08 06 22.4	
	comp=Z,7.4nm,1.1s						
D25K	**Kavik River**	**24.96**	**351**	P	**P**	**08 05 40.5**	**+0.1**
D25K				IAmb	IAmb	08 05 42.7	
	comp=Z,5.3nm,0.9s						
D27M	**Malcolm River**	**24.96**	**347**	P	**P**	**08 05 41.3**	**+0.8**
D27M				IAmb	IAmb	08 05 42.5	
	comp=Z,5.4nm,0.8s						
D24K	**Happy Valley**	**25.15**	**353**	P	**P**	**08 05 42.9**	**+0.8**
D24K				IAmb	IAmb	08 05 43.2	
	comp=Z,7.4nm,1.2s						
D23K	**Nanushuk River**	**25.35**	**355**	P	**P**	**08 05 44.5**	**+0.6**
D23K				IAmb	IAmb	08 05 46.6	
	comp=Z,5.4nm,1.1s						
D22K	**Ayikyak River**	**25.45**	**357**	P	**P**	**08 05 45.8**	**+0.9**
E28M	**Babbage River**	**25.58**	**345**	P	**P**	**08 05 45.7**	**-0.2**
INK	**Inuvik**	**25.75**	**340**	P	**P**	**08 05 47.5**	**0.0**
E29M	**Blow River**	**25.76**	**344**		**P**	**08 05 47.6**	**0.0**
HFS	**Hagfors**	**25.89**	**191**	LR	LR	08 14 27.7	
	comp=Z,61nm,21.5s,baz=254,slow=33						
E21K	**Killik River**	**25.89**	**358**	P	**P**	**08 05 50.1**	**+1.2**
E21K				IAmb	IAmb	08 05 51.4	
	comp=Z,7.9nm,1.1s						
E25K	**Arctic Village**	**26.15**	**351**	P	**P**	**08 05 51.6**	**+0.3**
E25K				IAmb	IAmb	08 05 53.5	
	comp=Z,6.8nm,1.0s						
E24K	**Your Creek**	**26.23**	**353**	P	**P**	**08 05 51.9**	**-0.1**
E24K				IAmb	IAmb	08 06 11.4	
	comp=Z,5.3nm,1.2s						
F28M	**Old Crow**	**26.58**	**346**	P	**P**	**08 05 54.8**	**-0.3**
F24K	**Squaw Lake**	**26.78**	**352**	P	**P**	**08 05 57.0**	**0.0**
BMAR	**Burnt Mountain**	**26.84**	**350**	P	**P**	**08 05 57.6**	**+0.1**
G29M	**Pine Creek**	**27.25**	**344**	P	**P**	**08 06 00.9**	**-0.2**
G29M				IAmb	IAmb	08 06 23.8	
	comp=Z,8.8nm,1.1s						
NRS	**Narsarsuaq**	**27.73**	**256**	P	**P**	**08 06 02.1**	**-3.3**
KIRV	**Kirov**	**27.86**	**150**	LR	LR	08 19 57.9	
	comp=Z,38nm,21.4s,baz=312,slow=42						
ILAR	**Eielson Array**	**29.53**	**351**	P	**P**	**08 06 21.4**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=358,slow=9.0,SNR=5.9						
ILAR				LR	LR	08 17 03.0	
	comp=Z,33nm,21.7s,baz=324,slow=34						
	comp=Z,0.5nm,0.9s						
YAK	**Yakutsk**	**29.57**	**66**	LR	LR	08 17 53.4	
	comp=Z,38nm,20.3s,baz=344,slow=36						
ARTI	**Arti**	**30.43**	**141**	LR	LR	08 19 13.2	
	comp=Z,41nm,21.9s,baz=9.0,slow=37						
YKA	**Yellowknife Ar**	**30.90**	**323**	LR	LR	08 18 56.3	
	comp=Z,68nm,19.6s,baz=309,slow=36						
L18K	**Granite Mounta**	**32.15**	**360**	P	**P**	**08 06 44.2**	**-0.3**
MA2	**Magadan**	**33.31**	**47**	LR	LR	08 19 37.8	
	comp=Z,27nm,21.2s,baz=327,slow=35						
M16K	**Timber Creek**	**33.35**	**2**	P	**P**	**08 06 56.3**	**+1.3**
BELG	**Belogornoye**	**34.00**	**153**	LR	LR	08 23 05.6	
	comp=Z,55nm,20.1s,baz=335,slow=40						
BVAR	**Borovoye Array**	**34.42**	**128**	P	**P**	**08 07 06.2**	**+1.9**
	comp=Z,0.8nm,0.5s,baz=340,slow=8.2,SNR=4.4						
	comp=Z,0.8nm,0.5s						
VRAC	**Vranov**	**36.70**	**187**	LR	LR	08 24 42.4	
	comp=Z,88nm,18.2s,baz=300,slow=40						
KURBB	**Kurchatov Arra**	**37.30**	**120**	P	**P**	**08 07 30.4**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=352,slow=8.8,SNR=5.9						
KURBB				PcP	**PcP**	**08 09 48.4**	**+0.4**
	comp=Z,0.2nm,0.2s,baz=347,slow=3.5,SNR=4.1						
	comp=Z,0.5nm,0.6s						
MLR	**Muntele Rosu**	**40.50**	**177**	LR	LR	08 25 32.1	
	comp=Z,66nm,18.9s,baz=335,slow=37						
MKAR	**Makanchi Array**	**41.36**	**117**	LR	LR	08 27 40.8	
	comp=Z,40nm,18.6s,baz=336,slow=40						
BBB	**Bella Bella**	**41.74**	**334**	LR	LR	08 25 33.5	
	comp=Z,17nm,18.2s,baz=358,slow=36						
SONM	**Songino Array**	**42.02**	**92**	P	**P**	**08 08 09.0**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=347,slow=8.0,SNR=4.9						
	comp=Z,1.4nm,0.8s						
KLR	**Kul'dur**	**42.45**	**67**	LR	LR	08 25 07.2	
	comp=Z,33nm,18.7s,baz=42,slow=35						
KBZ	**Khabaz**	**42.52**	**159**	P	**P**	**08 08 15.4**	**+3.0**
	comp=Z,1.5nm,0.8s,baz=338,slow=7.1,SNR=4.5						
	comp=Z,1.5nm,0.8s						
AAK	**Ala-Archa**	**45.01**	**126**	LR	LR	08 29 20.2	
	comp=Z,47nm,18.0s,baz=334,slow=39						
NEW	**Newport**	**45.23**	**323**	LR	LR	08 27 21.6	
	comp=Z,74nm,19.8s,baz=50,slow=36						
GNI	**Garni**	**46.14**	**157**	LR	LR	08 31 26.3	
	comp=Z,37nm,19.4s,baz=313,slow=40						
BRTR	**Keskin Array B**	**46.33**	**169**	P	**P**	**08 08 44.9**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=2.9,slow=7.9,SNR=2.6						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**50.36**	**315**	P	**P**	**08 09 14.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=353,slow=6.4,SNR=1.9						
PDAR				LR	LR	08 29 09.7	
	comp=Z,21nm,21.6s,baz=34,slow=34						
	comp=Z,0.2nm,0.3s						
NVAR	**Mina Array Bea**	**55.10**	**323**	P	**P**	**08 09 48.7**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=14,slow=7.8,SNR=2.0						
	comp=Z,0.2nm,0.5s						
TKL	**Tuckaleechee C**	**55.85**	**290**	LR	LR	08 34 40.3	
	comp=Z,88nm,18.1s,baz=30,slow=37						
TXAR	**Lajitas Array**	**63.41**	**309**	P	**P**	**08 10 47.4**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=15,slow=3.7,SNR=1.8						
	comp=Z,0.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**70.67**	**103**	P	**P**	**08 11 33.0**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=341,slow=7.2,SNR=6.9						
	comp=Z,1.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**73.03**	**202**	P	**P**	**08 11 48.2**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=360,slow=7.7,SNR=5.4						
	comp=Z,0.7nm,0.6s						

*IDC **08** 08:04:26.8±1.3, 37°.56N×20°.75E, h0km, mb3.5/7, mbtmp3.5/10, ML3.5/2, Error ellipse: s-maj=25.4km s-min=21.5km az=98.0*
*ATH **08** 08:04:30.1, 37°.43N×20°.71E, h10km±1km, ML3.5/9, Error ellipse: s-maj=2.1km s-min=0.9km az=47.0*
*THE **08** 08:04:30.6, 37°.47N×20°.75E, h17km, ML3.6/13, Error ellipse: s-maj=0.7km s-min=0.3km az=54.0*
*TIR **08** 08:04:31.2, 37°.59N×21°.31E, h26km±4km, Md4.0, Ml3.6*
ISC 08 08:04:29.5±1.3, 37°.50N±0°.03×20°.71E±0°.04, h17km±8km, n74, σ1°03/95, mb3.5/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.18**	**27**	P	**Pb**	**08 04 35.5**	**+1.1**
KRI1	79μm,0.3s			S	**Sb**	**08 04 38.9**	**+1.2**
LTHK	**Lithakia**	**0.23**	**25**	P	**Pb**	**08 04 36.1**	**+0.9**
LTHK	121μm,0.2s			S	**Sb**	**08 04 40.2**	**+1.1**
LTHK	**Lithakia**	**0.23**	**25**	P	**Pb**	**08 04 36.1**	**+0.9**
LTHK				S	**Sb**	**08 04 40.0**	**+1.0**
LTHK				AML	AML	08 04 40.4	
LTHK				AML	AML	08 04 40.5	
RTZL	**Ratzakli, Kefa**	**0.58**	**5**	P	**Pb**	**08 04 42.0**	**+0.9**
RTZL	11μm,0.1s			S	**Sn**	**08 04 51.5**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.62**	**351**	P	**Pn**	**08 04 43.0**	**-0.5**
PSDA	11μm,0.2s			S	**Sn**	**08 04 53.1**	**0.0**
VLS	**Valsamata**	**0.68**	**352**	P	**Pb**	**08 04 43.9**	**+1.0**
VLS	9μm,0.1s			S	**Sn**	**08 04 54.2**	**-0.4**
VLS	**Valsamata**	**0.68**	**352**	P	**Pn**	**08 04 44.2**	**-0.2**
VLS				S	**Sn**	**08 04 55.3**	**+0.6**
VLS				AML	AML	08 04 56.0	
	comp=N,16894μm,0.1s						
VLS				AML	AML	08 04 56.4	
	comp=E,16933μm,0.1s						
LXR1	**Lixouri, Cepha**	**0.73**	**343**	P	**Pn**	**08 04 45.1**	**+0.1**
LXR1				S	**Sn**	**08 04 56.2**	**+0.4**
	comp=E,18μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.73**	**343**	P	**Pn**	**08 04 45.4**	**+0.4**
DMLN	**Damoulianata-K**	**0.79**	**340**	P	**Pn**	**08 04 46.0**	**+0.2**
DMLN				S	**Sn**	**08 04 57.6**	**+0.4**
	comp=E,10μm,0.4s						
DMLN	**Damoulianata-K**	**0.79**	**340**	P	**Pn**	**08 04 46.4**	**+0.6**
AMT	**Artemida-Makis**	**0.79**	**87**	P	**Pb**	**08 04 45.3**	**+0.5**
AMT				S	**Sg**	**08 04 56.5**	**+1.1**
AMT				AML	AML	08 05 01.2	
	comp=N,20287μm,0.4s						
AMT				AML	AML	08 05 02.1	
	comp=E,18985μm,0.4s						
RLS	**Riolos of Patr**	**0.82**	**47**	P	**Pg**	**08 04 45.7**	**+0.4**
RLS				S	**Sn**	**08 04 57.6**	**-0.3**
	comp=E,2μm,0.4s						
RLS	**Riolos of Patr**	**0.82**	**47**	P	**Pg**	**08 04 45.8**	**+0.4**
RLS				S	**Sn**	**08 04 58.2**	**+0.4**
RLS				AML	AML	08 05 03.2	
	comp=E,4588μm,0.6s						
RLS				AML	AML	08 05 04.3	
	comp=N,3001μm,0.3s						
DRO	**Drossia**	**0.91**	**60**	P	**Pg**	**08 04 47.3**	**+0

PYL AML AML 08 05 10.7
comp=N,2291μm,0.6s
EVGI Lefkada island 1.12 358 P **Pg** **08 04 51.1 0.0**
EVGI S **Sn** **08 05 06.5 +1.1**
comp=N,3μm,0.2s
EVGI Lefkada island 1.12 358 P **Pg** **08 04 51.6 +0.5**
UPR University Cam 1.15 47 P **Pn** **08 04 51.2 +0.4**
DRAG Dragano-Lefkad 1.19 355 P **Pg** **08 04 52.3 -0.1**
DRAG Dragano-Lefkad 1.19 355 P **Pg** **08 04 52.6 +0.2**
NYDR Nydri-Lefkada 1.21 359 P **Pg** **08 04 52.6 -0.3**
NYDR S **Sg** **08 05 08.7 0.0**
comp=N,1μm,0.3s
KLV Kalavryta, Ach 1.26 64 P **Pn** **08 04 52.2 -0.2**
KLV Kalavryta, Ach 1.26 64 P **Pn** **08 04 52.8 +0.4**
KLV S **Sg** **08 05 11.0 +0.7**
KLV AML AML 08 05 19.1
comp=N,1162μm,0.8s
KLV AML AML 08 05 21.9
comp=E,1162μm,0.5s
LKD2 Lefkada island 1.29 358 AMP
comp=N,9.6nm,0.9s,baz=338
EFP Efpalio 1.32 45 P **Pn** **08 04 53.4 +0.3**
EFP Efpalio 1.32 45 P **Pg** **08 04 54.5 -0.4**
TSLK Tsoukalades, L 1.32 358 P **Pn** **08 04 53.7 +0.5**
TSLK Tsoukalades, L 1.32 358 P **Pg** **08 04 55.2 +0.2**
ALIK Aliki, Aigiali 1.34 55 P **Pn** **08 04 53.3 -0.1**
GUR Goura 1.36 71 P **Pn** **08 04 53.9 +0.1**
KALE Kalithea 1.44 51 P **Pn** **08 04 55.0 +0.2**
ANX Ano Chora 1.45 41 P **Pb** **08 04 55.7 -0.3**
ANX Ano Chora 1.45 41 P **Pg** **08 04 56.9 -0.5**
EVR Evrytania 1.66 31 P **Pb** **08 04 58.9 -0.7**
LOUT Loutraki 1.86 74 P **Pn** **08 05 00.6 +0.1**
AGG Agios Georgios 1.98 39 P **Pb** **08 05 04.1 -1.0**
AXAR Agios Charalam 1.99 50 P **Pn** **08 05 03.1 +0.8**
IGT Igoumenitsa 2.05 352 S **Sg** **08 05 35.4 -0.1**
IGT AMP
comp=E,1.1nm,0.5s,baz=339
IGT Igoumenitsa 2.05 352 P **Pn** **08 05 04.8 +1.6**
VILL Villia 2.16 71 P **Pn** **08 05 04.6 -0.1**
THL Klokotos Trika 2.30 26 P **Pn** **08 05 08.0 +1.4**
KEK Kerkira 2.32 342 P **Pn** **08 05 09.1 +2.2**
TYRN Tyrnavos 2.51 28 P **Pn** **08 05 10.1 +0.7**
DION Dionisos Attik 2.62 76 P **Pn** **08 05 11.3 +0.4**
LSK Leskovik 2.65 358 S **Sb** **08 05 49.8 +1.1**
NEO Neokhori 2.67 47 P **Pn** **08 05 12.4 +0.7**
KZN Kozani 2.92 16 P **Pn** **08 05 17.5 +2.3**
LIT Litokhoron 2.94 28 P **Pn** **08 05 16.5 +1.0**
SCTE Santa Cesarea 3.11 326 AMP
comp=E,0.2nm,0.5s,baz=320
KBN Korca 3.12 1 AMP
comp=N,0.4nm,0.9s,baz=353
FNA Florina 3.32 9 S **Sb** **08 06 04.3 -3.7**
FNA AMP
comp=N,0.1nm,0.6s,baz=1.0
FNA Florina 3.32 9 P **Pn** **08 05 21.9 +1.2**
THE Thessaloniki 3.58 29 P **Pn** **08 05 25.4 +1.1**
THE S **Sn** **08 06 07.5 +1.3**
OHR Ohrid 3.61 1 *i* Pn **Pb** **08 05 29.2 -3.6**
IDI Anoyia 4.03 122 Pn **Pn** **08 05 31.3 +0.8**
comp=N,2.0nm,0.5s,baz=7.7,slow=17,SNR=1.3
IDI Sn **Sn** **08 06 17.5 +0.3**
comp=N,2.1nm,0.3s,baz=315,slow=23,SNR=10.0
VAY Valandovo 4.08 20 *i* Pn **Pn** **08 05 34.3 +3.3**
PEHC Pehcevo 4.59 21 *i* Pn **Pn** **08 05 39.7 +1.5**
MLR Muntele Rosu 8.89 25 Pn **Pn** **08 06 37.4 +0.1**
comp=N,0.2nm,0.3s,baz=297,slow=18,SNR=1.3
comp=N,1.1nm,0.4s
AKASG Malin Array Be 14.53 22 Pn **P** **08 08 01.1 +0.4**
comp=N,1.8nm,0.3s,baz=212,slow=9.2,SNR=14
KBZ Khabaz 17.93 63 P **Pn** **08 08 36.9 -1.0**
baz=6.7,slow=7.9,SNR=3.7
comp=N,1.9nm,0.8s
HFS Hagfors 23.09 351 P **P** **08 09 33.2 -0.9**
comp=N,0.9nm,0.5s,baz=153,slow=10.0,SNR=6.8
comp=N,0.9nm,0.5s
FINES FINESS Array B 24.20 6 P **P** **08 09 44.2 -0.6**
comp=N,0.6nm,0.4s,baz=174,slow=10,SNR=2.0
comp=N,0.6nm,0.4s
NOA NORSAR Array B 24.31 349 P **P** **08 09 45.4 -0.5**
comp=N,0.3nm,0.5s,baz=162,slow=9.4,SNR=1.9
comp=N,0.3nm,0.5s
TORD Torodi Ar. Bea 29.61 220 P **P** **08 10 34.2 +0.4**
comp=N,0.4nm,0.4s,baz=28,slow=8.7,SNR=5.7
comp=N,0.4nm,0.4s
KURBB Kurchatov Arra 42.51 53 P **P** **08 12 22.5 -1.2**
comp=N,0.3nm,0.3s,baz=272,slow=7.8,SNR=2.5
comp=N,0.3nm,0.3s
MKAR Makanchi Array 45.53 58 P **P** **08 12 47.1 -0.9**
comp=N,0.3nm,0.4s,baz=272,slow=7.8,SNR=4.5
comp=N,0.3nm,0.4s
ZALV Zalesovo Beam 46.03 48 P **P** **08 12 51.6 -0.3**
comp=N,0.7nm,0.4s,baz=276,slow=6.7,SNR=1.8
comp=N,0.7nm,0.4s

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*SOME **08** 08:09:52.2, 39°.85N×74°.43E, h10km*
*KRNET **08** 08:09:53.6±0.1, 39°.69N×74°.36E, h16km, mb3.2*
*NNC **08** 08:10:00.8±2.8, 40°.08N×74°.16E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=23.1km s-min=15.7km az=158.0
ISC 08 08:09:54.6±1.3, 39°.73N±0°.06×74°.36E±0°.03, h10km, n29, σ2°.03/50, 27C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.72**	**294**	⇑*eP*	**Pg**	**08 10 08.0**	**-0.6**
SFK				⇑*eS*	**Sb**	08 10 18.3	-1.2
SALK	**Salom-Alik**	**1.23**	**340**	⇑*eP*	**Pn**	**08 10 17.5**	**-0.5**
SALK				⇑*eS*	**Sn**	08 10 35.1	+0.4
OHH	**Osh**	**1.45**	**304**	⇑*eP*	**Pb**	**08 10 21.2**	**-0.5**
OHH				⇑*iS*	**Sg**	08 10 41.4	+0.2
ARSB	**Arslanbob**	**1.91**	**327**	⇑*iP*	**Pb**	**08 10 29.6**	**-0.1**
ARSB				⇑*eS*	**Sg**	08 10 55.7	-0.4
DRK	**Karamyk**	**2.00**	**264**	⇑*iP*	**Pb**	**08 10 30.4**	**-0.8**
DRK				⇑*eS*	**Sg**	08 10 57.2	-1.6
NRN	**Naryn**	**2.11**	**36**	⇑*iP*	**Pb**	**08 10 32.2**	**-1.0**
NRN				⇑*iS*	**Sb**	08 11 00.5	+0.9
ARLS	**Aral**	**2.13**	**359**	⇑*eP*	**Pb**	**08 10 32.6**	**-0.8**
ARLS				⇑*iS*	**Sb**	08 11 01.6	+1.6
AML	**Almayashu**	**2.46**	**348**	⇓*iP*	**Pb**	**08 10 37.6**	**-1.5**
AML				⇓*iS*	**Sb**	08 11 09.9	+0.4
BTK	**Batken**	**2.75**	**278**	⇑*iP*	**Pb**	**08 10 41.0**	**-2.9**
BTK				⇑*iS*	**Sb**	08 11 15.1	-2.5
ARK	**Arkit**	**2.76**	**319**	⇑*eP*	**Pb**	**08 10 41.4**	**-2.7**
ARK				⇑*eS*	**Sb**	08 11 15.9	-2.1
KBK	**Karagaybulak**	**2.96**	**8**	⇑*iP*	**Pb**	**08 10 44.4**	**-3.1**
KBK				⇑*iS*	**Sb**	08 11 21.5	-2.3
BOOM	**Boomskoye usch**	**3.01**	**23**	⇑*eP*	**Pn**	**08 10 44.7**	**+2.2**
BOOM				⇑*eS*	**Sb**	08 11 22.1	-3.1
TRKS	**Terek-Say**	**3.04**	**307**	⇓*eP*	**Pn**	**08 10 44.3**	**+1.4**
TRKS				⇓*eS*	**Sn**	08 11 21.4	+1.9
MRKS	**Merke**	**3.13**	**344**	Pg	**Pb**	**08 10 48.4**	**-2.1**
	2.8nm,0.3s						
MRKS				Lg	Lg	08 11 29.7	
	18nm,0.5s						
MRKS	**Merke**	**3.13**	**344**	*eP*	**Pb**	**08 10 47.9**	**-2.5**
	0.7nm,0.1s						
MRKS				*eS*	**Sb**	**08 11 28.0**	**-0.8**
	20nm,0.5s						
KDJ	**Kajisay**	**3.21**	**41**	⇓*eP*	**Pn**	**08 10 47.6**	**+2.3**
KDJ				⇓*eS*	**Sn**	**08 11 27.2**	**+3.5**
CHMS	**Chumysh**	**3.28**	**5**	⇑Pn	**Pb**	**08 10 50.5**	**-2.4**
	5.5nm,0.5s						
CHMS				⇑Lg	Lg	08 11 35.8	
	14nm,1.2s						
TKM2	**Tokmak 2**	**3.32**	**16**	⇓Pn	**Pb**	**08 10 51.3**	**-2.5**
	3.2nm,0.3s						
TKM2				⇑Lg	Lg	08 11 34.2	
	10nm,0.7s						
KST	**Kastek**	**3.52**	**19**	Pg	**Pb**	**08 10 54.8**	**-2.4**
	15nm,0.5s						
KST				Lg	Lg	08 11 40.7	
	44nm,0.6s						
KST	**Kastek**	**3.52**	**19**	*eP*	**Pb**	**08 10 54.2**	**-3.0**
	15nm,0.5s						
KST				*eS*	**Sb**	**08 11 38.8**	**-1.3**
	44nm,0.6s						
MTBS	**Maitube**	**3.74**	**24**	Pg	**Pb**	**08 11 02.9**	**+2.1**
	10nm,0.5s						
MTBS				Lg	Lg	08 11 54.2	
	11nm,0.4s						
MTBS	**Maitube**	**3.74**	**24**	*eP*	**Pb**	**08 10 58.7**	**-2.0**
	4.6nm,0.4s						
MTBS				*eS*	**Sb**	**08 11 46.5**	**+0.4**
	4.9nm,0.2s						
TNSS	**Tian-Shan**	**3.84**	**30**	Pg	**Pg**	**08 11 05.5**	**-2.6**
	7.8nm,0.6s						
TNSS				Lg	Lg	08 11 58.4	
	5.9nm,0.5s						
TNSS	**Tian-Shan**	**3.84**	**30**	*eP*	**Pb**	**08 11 01.3**	**-1.3**
	0.7nm,0.1s						
TNSS				*eS*	**Sb**	**08 11 50.9**	**+1.6**
	3.7nm,0.4s						
IUG	**Iuzhnay**	**4.08**	**308**	Pg	**Pn**	**08 11 00.6**	**+3.5**
	30nm,0.3s						
IUG				Lg	Lg	08 11 50.5	
	38nm,0.6s						
IUG	**Iuzhnay**	**4.08**	**308**	*eP*	**Pb**	**08 11 06.2**	**-0.3**
	9.4nm,0.2s						
IUG				*eS*	**Sb**	**08 11 59.3**	**+3.5**
	26nm,0.3s						
KRBS	**Karabastau**	**4.09**	**13**	Pg	**Pb**	**08 11 08.0**	**+1.4**
	4.7nm,0.4s						
KRBS				Lg	Lg	08 12 03.0	
	5.4nm,0.4s						
KRBS	**Karabastau**	**4.09**	**13**	*eP*	**Pb**	**08 11 04.4**	**-2.2**
	0.2nm,0.0s						
KRBS				*eS*	**Sb**	**08 11 56.4**	**+0.3**
	2.0nm,0.3s						
KK31	**Karatay Array**	**4.45**	**321**	⇑Pn	**Pn**	**08 11 04.4**	**+2.3**
	1.1nm,0.3s,baz=336,slow=40,SNR=19						
KK31				⇑Pg	**Pb**	**08 11 15.3**	**+2.6**
	2.2nm,0.4s,baz=136,slow=14,SNR=8.6						
KK31				⇓Lg	Lg	08 12 12.2	
	6.9nm,0.6s,baz=135,slow=28,SNR=2.6						

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*IDC **08** 08:16:09.9±0.7, 27°.92S×71°.12W, h0km, mb4.1/7,*
mbtmp4.1/11, ML3.3/2, MS3.6/16, Error ellipse:
s-maj=23.9km s-min=16.5km az=112.0
*SJA **08** 08:16:09.7±0.7, 27°.82S×71°.41W, h10km±3km, ML4.4,*
MW4.1
*GUC **08** 08:16:12.2±0.7, 27°.88S×71°.12W, h34km±2km, ML4.7*
*NEIC **08** 08:16:13.4±1.3, 27°.84S±0°.04×71°.21W±0°.07, h22km±5km,*
mb4.6/25, Error ellipse: s-maj=8.6km s-min=5.2km
az=92.0
*VAO **08** 08:16:21.3±0.7, 27°.37S×71°.01W, h49km±7km, mb4.4*
ISC 08 08:16:11.2±1.6, 27°.86S±0°.03×71°.37W±0°.05, h13km±10km,
n157, σ1°.65/171, mb4.5/15, MS3.7/11, 7C-5D, Near coast
of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.43**	**143**	Pg	**Pb**	**08 16 21.5**	**+0.8**
AC04				Sg	**Sg**	08 16 26.6	+0.8
AC04	**Llanos de Chal**	**0.43**	**143**	⇓*eP*	**Pb**	**08 16 21.4**	**+0.6**
AC04				*i* S	**Sg**	**08 16 26.6**	**+0.8**
AC04				IAML		08 16 27.5	
	comp=E,161μm,0.3s						
AC04	**Llanos de Chal**	**0.43**	**143**	*i* P	**Pb**	**08 16 21.4**	**+0.6**
AC04				IAML		08 16 31.7	
	comp=Z,17μm,0.5s						
AC06	**Mina Casimiro**	**1.03**	**61**		**Pb**	**08 16 29.9**	**-1.0**
AC06	**Mina Casimiro**	**1.03**	**61**	⇓*eP*	**Pb**	**08 16 29.9**	**-1.0**
AC06				*i* S	**Sb**	**08 16 42.0**	**-2.4**
GO03	**Copiapo**	**1.04**	**76**		**Pb**	**08 16 30.1**	**-1.0**
GO03	**Copiapo**	**1.04**	**76**	⇓*eP*	**Pb**	**08 16 30.1**	**-1.0**
GO03				*i* S	**Sb**	**08 16 41.0**	**-3.7**
GO03	**Copiapo**	**1.04**	**76**	*i* P	**Pb**	**08 16 30.2**	**-0.9**
GO03				*i* S	**Sg**	**08 16 45.3**	**+0.3**
LCO	**Las Campanas**	**1.29**	**153**	Pn	**Pb**	**08 16 35.5**	**-0.1**
LCO				Sn	**Sb**	**08 16 50.8**	**-1.4**
LCO	**Las Campanas**	**1.29**	**153**	*eP*	**Pn**	**08 16 34.8**	**-0.5**
LCO				*i* S	**Sb**	**08 16 50.8**	**-1.4**
LCO	**Las Campanas**	**1.29**	**153**	*i* P	**Pb**	**08 16 35.5**	**-0.1**
LCO				IAML		08 16 59.7	
	comp=Z,8μm,0.6s						
AC05	**El Transito**	**1.37**	**136**		**Pn**	**08 16 36.1**	**-0.1**
AC05				Sn	**Sn**	**08 16 52.0**	**-2.3**
AC05	**El Transito**	**1.37**	**136**	⇓*eP*	**Pn**	**08 16 36.1**	**-0.1**
AC05				*eS*	**Sn**	**08 16 51.9**	**-2.5**
AC05				IAML		08 16 56.4	
	comp=N,12μm,0.5s						
AC05	**El Transito**	**1.37**	**136**	*i* P	**Pn**	**08 16 36.1**	**-0.1**
AC05				IAML		08 16 57.5	
	comp=Z,7μm,0.6s						
AC01	**Pan de Azucar**	**1.84**	**22**		**Pn**	**08 16 43.0**	**+0.5**
AC01	**Pan de Azucar**	**1.84**	**22**	⇓*eP*	**Pn**	**08 16 43.0**	**+0.5**
AC01				*eS*	**Sb**	**08 17 06.9**	**-0.7**
AC01	**Pan de Azucar**	**1.84**	**22**	*i* P	**Pn**	**08 16 43.0**	**+0.5**
AC01				*i* S	**Sb**	**08 17 07.8**	**+0.2**
AC01				IAML		08 17 14.7	
	comp=Z,2μm,0.3s						
CO05	**La Serena**	**2.06**	**177**		**Pn**	**08 16 46.8**	**+1.3**
CO05	**La Serena**	**2.06**	**177**	*eP*	**Pn**	**08 16 46.4**	**+0.9**
CO05				*eS*	**Sb**	**08 17 13.5**	**-0.5**
GO04	**Tololo Observa**	**2.36**	**168**		**Pn**	**08 16 51.7**	**+1.7**
GO04	**Tololo Observa**	**2.36**	**168**	⇓*eP*	**Pn**	**08 16 51.3**	**+1.4**
GO04				*eS*	**Sb**	**08 17 21.7**	**-1.2**
GO04	**Tololo Observa**	**2.36**	**168**	*i* P	**Pn**	**08 16 51.6**	**+1.7**
GO04				*i* S	**Sb**	**08 17 22.9**	**-0.1**
CO01	**Juntas del Tor**	**2.39**	**152**		**Pb**	**08 16 52.5**	**-1.8**
CO01	**Juntas del Tor**	**2.39**	**152**	*eP*	**Pn**	**08 16 52.1**	**+1.8**
CO01				*i* S	**Sn**	**08 17 20.9**	**+1.2**
CO01				IAML		08 17 31.3	
	comp=N,3μm,0.5s						
CO01	**Juntas del Tor**	**2.39**	**152**	*i* P	**Pn**	**08 16 52.3**	**+2.0**
CO01				*i* S	**Sb**	**08 17 24.0**	**+0.2**
CO06	**Fray Jorge**	**2.82**	**185**	Pn	**Pn**	**08 16 56.3**	**+0.3**
CO06	**Fray Jorge**	**2.82**	**185**	*eP*	**Pn**	**08 16 56.2**	**+0.3**
CO03	**El Pedregal**	**3.03**	**169**	Pn	**Pn**	**08 16 59.8**	**+0.8**
CO03	**El Pedregal**	**3.03**	**169**	*eP*	**Pn**	**08 17 00.4**	**+1.4**
CO03				*eS*	**Sn**	**08 17 37.0**	**+1.8**
CO03				IAML		08 17 59.1	
	comp=E,4μm,0.9s						
CO03	**El Pedregal**	**3.03**	**169**	*i* P	**Pn**	**08 17 00.7**	**+1.7**
CO03				*i* S	**Sb**	**08 17 39.3**	**-2.7**
CO03				IAML		08 17 53.7	
	comp=Z,2μm,0.6s						
ACDV	**Cuesta del Vie**	**3.03**	**140**	*i* P	**Pb**	**08 17 02.3**	**-2.9**
ACDV				*i* S	**Sb**	**08 17 39.8**	**-2.4**
ACDV				IAML		08 17 50.1	
	comp=Z,2μm,0.8s						
GO02	**Mina Guanaco**	**3.12**	**31**		**Pn**	**08 17 01.5**	**+1.0**
GO02	**Mina Guanaco**	**3.12**	**31**	⇓*eP*	**Pn**	**08 17 01.4**	**+1.0**
GO02				*i* S	**Sn**	**08 17 39.5**	**+1.8**
GO02				IAML		08 17 59.4	
	comp=N,3μm,0.6s						
PB14	**IPOC Station P**	**3.33**	**15**	Pn	**Pn**	**08 17 03.2**	**-0.1**
PB14	**IPOC Station P**	**3.33**	**15**	⇓*eP*	**Pn**	**08 17 03.1**	**-0.2**
CO04	**Los Peladeros**	**4.19**	**175**	*eP*	**Pn**	**08 17 16.3**	**+1.2**
ZON	**Zonda**	**4.36**	**148**		**Pn**	**08 17 20.7**	**+3.5**
PB15	**IPOC Station P**	**4.94**	**21**	Pn	**Pn**	**08 17 25.5**	**+0.2**
PB15	**IPOC Station P**	**4.94**	**21**	⇑*eP*	**Pn**	**08 17 25.7**	**+0.4**
PB15				*eS*	**Sn**	**08 18 23.9**	**+1.5**
VA03	**San Esteban**	**4.94**	**172**		**Pn**	**08 17 26.6**	**+1.3**
VA01	**Torpederas**	**5.16**	**183**		**Pn**	**08 17 27.7**	**-0.4**
PEL	**Peldehue**	**5.30**	**174**	Pn	**Pn**	**08 17 31.6**	**+1.4**
PB06	**IPOC Station P**	**5.38**	**18**	Pn	**Pn**	**08 17 31.0**	**-0.3**
MT02	**Curacav**	**5.39**	**178**		**Pn**	**08 17 32.9**	**+1.6**
MT05	**Renca**	**5.54**	**175**	Pn	**Pn**	**08 17 34.5**	**+1.0**
PB04	**IPOC Station P**	**5.61**	**12**	Pn	**Pn**	**08 17 32.9**	**-1.7**
AF01	**San Pedro de A**	**5.67**	**31**		**Pn**	**08 17 36.5**	**+1.0**
LVC	**Limon Verde**	**5.68**	**24**		**Pn**	**08 17 36.0**	**+0.3**
LVC	**Limon Verde**	**5.68**	**24**	Pn	**Pn**	**08 17 36.0**	**+0.3**
	comp=N,40nm,0.4s,baz=194,slow=8.6,SNR=111						
LVC				Sn	**Sn**	**08 18 40.6**	**-0.3**
	comp=N,11nm,0.3s,baz=111,slow=4.5,SNR=4.1						
LVC				Lg	Lg	08 18 58.2	
	comp=N,26nm,0.3s,baz=217,slow=17,SNR=7.5						
LVC				LR	LR	08 19 48.8	
	comp=N,634nm,20.0s,baz=203,slow=39						
LVC	**Limon Verde**	**5.68**	**24**	*eP*	**Pn**	**08 17 35.8**	**+0.1**
MT08	**Bocatoma Ro**	**5.69**	**169**	Pn	**Pn**	**08 17 39.4**	**+3.7**
MT09	**Talagante**	**5.91**	**177**		**Pn**	**08 17 38.8**	**+0.2**
MT01	**Popeta**	**5.99**	**179**		**Pn**	**08 17 40.0**	**+0.4**
LMEL	**Las Melosas**	**6.06**	**171**		**Pn**	**08 17 42.4**	**+1.7**
BO04	**La Punta**	**6.15**	**174**		**Pn**	**08 17 42.7**	**+0.9**
PB09	**IPOC Station P**	**6.34**	**18**		**Pn**	**08 17 44.5**	**0.0**
BO01	**Tunca**	**6.52**	**178**	Pn	**Pn**	**08 17 47.7**	**+0.9**
BO02	**Sierra Bellavi**	**6.93**	**176**		**Pn**	**08 17 53.4**	**+0.8**
PB01	**IPOC Station P**	**7.00**	**15**		**Pn**	**08 17 51.5**	**-2.0**
PATCX	**Punta Patache**	**7.09**	**9**		**Pn**	**08 17 52.9**	**-1.9**
GO05	**Hualane**	**7.15**	**184**	Pn	**Pn**	**08 17 54.4**	**-1.1**
TA01	**Diego Aracena**	**7.34**	**9**	Pn	**Pn**	**08 17 55.9**	**-2.2**
HMBC	**Humberstone**	**7.67**	**10**		**Pn**	**08 18 00.5**	**-2.2**
ML02	**Panimavida**	**7.88**	**180**	Pn	**Pn**	**08 18 07.5**	**+1.9**
PB08	**IPOC Station P**	**7.94**	**15**		**Pn**	**08 18 04.8**	**-2.0**
PB11	**IPOC Station P**	**8.21**	**11**		**Pn**	**08 18 07.5**	**-2.7**
GO01	**Chusmiza**	**8.39**	**14**		**Pn**	**08 18 10.9**	**-2.1**
H03N1	**Juan Fernandez**	**8.55**	**228**	Pn	**Pn**	**08 18 15.0**	**+0.5**
	baz=112,slow=17						
H03N1				Sn	**Sn**	**08 19 47.5**	**-3.2**
H03N1				T	T	08 27 08.0	
	baz=55,slow=72,SNR=7112						
H03N2	**Juan Fernandez**	**8.56**	**228**	Pn	**Pn**	**08 18 15.0**	**+0.3**
	baz=112,slow=17						
H03N2				Sn	**Sn**	**08 19 47.5**	**-3.5**
H03N2				T	T	08 27 09.5	
	baz=55,slow=72,SNR=5756						
H03N3	**Juan Fernandez**	**8.57**	**228**	Pn	**Pn**	**08 18 14.8**	**0.0**
	baz=112,slow=17						
H03N3				Sn	**Sn**	**08 19 47.1**	**-4.1**
H03N3				T	T	08 27 10.1	
	baz=55,slow=72,SNR=6712						
VA04	**Juan Fernndez**	**8.63**	**226**		**Pn**	**08 18 15.0**	**-0.8**
BI02	**San Fabin de**	**8.78**	**179**		**Pn**	**08 18 18.4**	**+0.5**
H03S3	**Juan Fernandez**	**8.79**	**226**	Pn	**Pn**	**08 18 17.1**	**-0.7**
	baz=314,slow=78						
H03S3				Sn	**Sn**	**08 19 51.6**	**-5.1**
H03S3				T	T	08 27 22.2	
	baz=53						
H03S1	**Juan Fernandez**	**8.80**	**225**	Pn	**Pn**	**08 18 16.9**	**-1.0**
	baz=314,slow=78						
H03S1				Sn	**Sn**	**08 19 51.3**	**-5.6**
H03S1				T	T	08 27 27.6	
	baz=53						
H03S2	**Juan Fernandez**	**8.81**	**226**	Pn	**Pn**	**08 18 17.2**	**-0.9**
	baz=314,slow=78						
H03S2				Sn	**Sn**	**08 19 51.7**	**-5.4**
H03S2				T	T	08 27 29.3	
	baz=53						
PB18	**Visviri**	**10.37**	**10**	Pn	**Pn**	**08 18 40.9**	**+0.8**
LPAZ	**La Paz**	**11.90**	**15**		**Pn**	**08 19 00.8**	**-0.4**
LPAZ	**La Paz**	**11.90**	**15**	Pn	**Pn**	**08 19 00.7**	**-0.5**
	comp=N,11nm,0.4s,baz=201,slow=6.3,SNR=100						
LPAZ				LR	LR	08 23 60.0	
	comp=N,228nm,18.8s,baz=181,slow=40						
LPAZ	**La Paz**	**11.90**	**15**	*eP*	**Pn**	**08 19 00.4**	**-0.8**
PAPY	**Pozo Azul**	**12.40**	**75**	*eP*	**Pn**	**08 19 09.4**	**+1.9**
CPUP	**Villa Florida**	**12.60**	**86**		**Pn**	**08 19 09.9**	**-0.3**
CPUP	**Villa Florida**	**12.60**	**86**	Pn	**Pn**	**08 19 07.5**	**-2.7**
	comp=N,0.1nm,0.3s,baz=163,slow=9.2,SNR=2.8						
CPUP				LR	LR	08 24 52.1	
	comp=N,78nm,18.9s,baz=246,slow=42						
	comp=N,1.5nm,0.7s						
TRQA	**Tornquist**	**12.86**	**145**	Pn	**Pn**	**08 19 12.2**	**-1.5**
PLCA	**Paso Flores**	**12.86**	**177**	Pn	**Pn**	**08 19 14.2**	**+0.4**
	baz=323,slow=2.0,SNR=1.3						
PLCA				Lg	Lg	08 22 49.1	
	comp=N,0.1nm,0.3s,baz=230,slow=18,SNR=2.2						
PLCA				LR	LR	08 24 27.6	
	comp=N,310nm,20.0s,baz=3.0,slow=39						
	comp=N,0.9nm,0.9s						
PLCA	**Paso Flores**	**12.86**	**177**	*eP*	**P**	**08 19 27.9**	**+3.2**
ITQB	**Itaqui**	**13.06**	**101**	Pn	**Pn**	**08 19 17.1**	**+0.6**
MURT	**Porto Murtinho**	**13.94**	**67**	*eP*	**Pn**	**08 19 29.2**	**+0.8**
SIV	**San Ignacio**	**15.18**	**41**	Pn	**Pn**	**08 19 39.5**	**-5.9**
	comp=N,0.2nm,0.3s,baz=244,slow=8.4,SNR=25						
SIV				Sn	**Sn**	**08 22 32.8**	**-0.7**
	baz=296,slow=16,SNR=2.3						
SIV				LR	LR	08 26 31.7	
	comp=N,218nm,20.8s,baz=276,slow=41						
AMBA	**Amambai (Brazi**	**15.59**	**75**	*eP*	**P**	**08 19 53.5**	**-1.6**
CPSB	**Cacapava Do Su**	**15.88**	**103**	*eP*	**P**	**08 19 58.8**	**+0.7**
PLTB	**Pedras Altas**	**15.90**	**108**	Pn	**Pn**	**08 19 54.2**	**-0.6**
AQDB	**Aquidauana**	**16.07**	**66**	*eP*	**Pn**	**08 19 57.4**	**+0.5**
PTLB	**Pontes e Lacer**	**16.77**	**45**		**Pn**	**08 20 04.8**	**-1.1**
PTLB	**Pontes e Lacer**	**16.77**	**45**	*eP*	**Pn**	**08 20 05.2**	**-0.7**
ITAB	**Concordia**	**17.08**	**92**	P	**P**	**08 20 11.7**	**+0.2**
ITAB	**Concordia**	**17.08**	**92**	*eP*	**P**	**08 20 12.3**	**+0.9**
VILB	**Vilhena**	**18.13**	**37**	P	**Pn**	**08 20 20.9**	**-2.0**
ETMB	**Extrema**	**18.59**	**16**	P	**P**	**08 20 27.1**	**-1.1**
ETMB	**Extrema**	**18.59**	**16**	*eP*	**P**	**08 20 25.9**	**-2.3**
SALV	**Santo Antonio**	**18.77**	**54**	*eP*	**P**	**08 20 30.4**	**+0.2**
LDASE	**Londrina, Braz**	**18.79**	**81**	*eP*	**Pn**	**08 20 33.5**	**+2.5**
TER01	**Tubaro-SC**	**19.62**	**97**	*eP*	**Pn**	**08 20 41.8**	**+1.0**
CZSB	**Cruzeiro do Su**	**20.06**	**356**	P	Pn	08 20 45.8	-0.3
CZSB				IAmb	IAmb	08 20 48.9	
	comp=Z,28nm,1.0s						
CZSB	**Cruzeiro do Su**	**20.06**	**356**	*eP*	Pn	08 20 46.8	+0.7
SAML	**Samuel**	**20.33**	**24**	P	**P**	**08 20 47.6**	**+0.3**
SAML				IAmb	IAmb	08 20 49.0	
	comp=Z,16nm,0.7s						
SAML	**Samuel**	**20.33**	**24**	*eP*	**P**	**08 20 48.0**	**+0.7**
PDRB	**Porto dos Gac**	**21.20**	**43**	*eP*	**P**	**08 20 56.1**	**-0.6**
ATAH	**Atahualpa**	**21.66**	**341**	LR	LR	08 28 48.5	
	comp=Z,52nm,18.2s,baz=178,slow=35						
**

comp=Z,6.0nm,0.7s
PDAR Pinedale Array 78.58 332 P **P 08 28 14.2 +1.6**
comp=Z,0.2nm,0.4s,baz=147,slow=5.3,SNR=2.3
comp=Z,0.2nm,0.4s
MAW Mawson 78.89 164 LR LR 09 05 13.1
comp=Z,40nm,18.6s,baz=198,slow=37
TORD Torodi Ar. Bea 81.59 70 P **P 08 28 28.7 -0.6**
comp=Z,2.7nm,0.8s,baz=233,slow=5.1,SNR=15
comp=Z,2.7nm,0.8s
MDT Midelt 87.51 51 LR LR 09 07 24.8
comp=Z,76nm,18.3s,baz=294,slow=35
KEST Kesra 98.86 54 LR LR 09 15 16.2
comp=Z,58nm,21.0s,baz=340,slow=36
H11S2 WAKE ISLAND Hyl26.22 273 T T 10 54 24.2
baz=112,slow=75,SNR=33
H11S1 WAKE ISLAND Hyl26.23 273 T T 10 54 23.3
baz=112,slow=75,SNR=47
H11S3 WAKE ISLAND Hyl26.23 273 T T 10 54 26.3
baz=112,slow=75,SNR=35
KURBB Kurchatov Arra 147.81 37 PKPbc **PKPbc 08 35 54.6 -0.9**
comp=Z,0.9nm,0.2s,baz=303,slow=3.5,SNR=9.4
ZALV Zalesovo Beam 148.62 27 PKPbc **PKiKP 08 35 58.5 -0.5**
comp=Z,3.6nm,0.5s,baz=300,slow=3.3,SNR=6.9
AAK Ala-Archa 148.70 53 PKPbc **PKiKP 08 35 59.9 0.0**
comp=Z,2.7nm,0.6s,baz=268,slow=5.4,SNR=7.1
MKAR Makanchi Array 152.00 40 PKPbc **PKiKP 08 36 06.3 -0.1**
comp=Z,2.6nm,0.8s,baz=297,slow=2.3,SNR=9.9
PZH PanZhiHua 173.72 101 PKP **PKPdf 08 36 20.2 -0.9**

KRSC 08 08:20:03.7±1.3, 55°.45N×166°.27E, h38km±8km, MI3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.30**	**215**	*eP*	Pn	08 20 12.0	+0.1
BKI				*eS*	Sn	08 20 18.9	+0.4
KBTR	**Krutoberegovo**	**2.09**	**293**	*eP*	Pn	08 20 37.6	+1.5
KBTR				*eS*	Sn	08 21 03.3	+2.5
KBG	**Krutoberegovo**	**2.17**	**293**	*eP*	Pn	08 20 38.9	+1.8
KBG				*eS*	Sn	08 21 05.1	+2.5
ZLN	**Zelenaya**	**3.14**	**283**	*eP*	Pn	08 20 55.2	+4.5
BZGR	**Bezymyannyi-Gr**	**3.19**	**281**	*eP*	Pn	08 20 54.3	+2.9
BZP	**Bezymyannyi-Pe**	**3.28**	**280**	*eP*	Pn	08 20 56.7	+4.1
KLY	**Klyuchi**	**3.28**	**288**	*eP*	Pn	08 20 54.8	+2.3
BZMR	**Bezymyannaya**	**3.31**	**281**	*eP*	Pn	08 20 56.6	+3.6
TUMD	**Tumrok D**	**3.37**	**268**	*eP*	Pn	08 20 58.0	+4.4
TUMD				*eS*	Sn	08 21 37.4	+5.1
KIRR	**Kirishev**	**3.39**	**281**	*eP*	Pn	08 20 58.2	+4.0
KMNR	**Kamenistaya**	**3.44**	**278**	*eP*	Pn	08 20 59.6	+4.9
KPT	**Kopyto**	**3.46**	**281**	*eP*	Pn	08 20 59.2	+4.2
TUMR	**Tumrok**	**3.50**	**270**	*eP*	Pn	08 21 00.5	+4.9
KII	**Karymskiy**	**4.20**	**253**	*eP*	Pn	08 21 10.4	+5.2
ESO	**Esso**	**4.31**	**279**	*eP*	Pn	08 21 10.7	+4.1
SPN	**Mys Shipunski**	**4.36**	**240**	*eP*	Pn	08 21 10.2	+3.0
SPN				*eS*	Sn	08 22 01.6	+4.9
SDLR	**Sedlovina**	**4.84**	**246**	*eP*	Pn	08 21 18.7	+4.7
SMAR	**Somma**	**4.89**	**246**	*eP*	Pn	08 21 19.4	+4.6
KRER	**Koryakskii**	**4.90**	**247**	*eP*	Pn	08 21 19.7	+4.8
UGLR	**Uglovaya**	**4.91**	**246**	*eP*	Pn	08 21 19.8	+4.9
AVH	**Avacha**	**4.92**	**247**	*eP*	Pn	08 21 20.2	+5.1
KRX	**Arik**	**4.92**	**248**	*eP*	Pn	08 21 19.9	+4.7
KOK	**Koryaka**	**4.96**	**247**	*eP*	Pn	08 21 20.6	+4.9
DALK	**Dalny**	**5.03**	**244**	*eP*	Pn	08 21 20.8	+4.3
GNL	**Ganaly**	**5.16**	**253**	*eP*	Pn	08 21 23.6	+5.3
KRMR	**Karymshinskiy**	**5.46**	**245**	*eP*	Pn	08 21 26.5	+4.1
RUS	**Russkaya**	**5.49**	**240**	*eP*	Pn	08 21 27.7	+5.0
MTVR	**Mutnovka**	**5.63**	**241**	*eP*	Pn	08 21 29.2	+4.4
GRL	**Gorelyy**	**5.64**	**242**	*eP*	Pn	08 21 29.7	+4.7

*RSNC **08** 08:26:45.3±0.3, 10°.N±3°.×7°.9W±°., h59km±19km, M2.7, ML2.6*
*UPA **08** 08:26:47.3±1.0, 9°.80N×78°.80W, h38km±6km, MW4.1*
ISC 08 08:26:45.3±1.7, 9°.89N±0°.05×78°.79W±0°.03, h33km±5km, n19, σ1§71/38, 1D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHPO	**Chepo, Panama**	**0.79**	**204**	*eP*	**Pn**	**08 27 00.4**	**+0.4**
CHPO				*eS*	**Sn**	**08 27 10.0**	**-0.6**
TOTI	**Torti**	**1.07**	**154**	*eP*	**Pn**	**08 27 04.2**	**+0.2**
TOTI				*eS*	**Sn**	**08 27 17.4**	**-0.3**
UPA	**Univ. de Panam**	**1.17**	**219**	*eP*	**Pn**	**08 27 06.0**	**+0.7**
UPA				*eS*	**Sn**	**08 27 20.3**	**+0.3**
FLAM	**Flamenco Islan**	**1.22**	**217**	*eP*	**Pn**	**08 27 07.2**	**+1.2**
FLAM				*eS*	**Sn**	**08 27 21.7**	**+0.3**
BCIP	**Isla Barro Col**	**1.26**	**235**	P	**Pn**	**08 27 07.3**	**+0.8**
BCIP				S	**Sn**	**08 27 22.1**	**-0.2**
BCIP	**Isla Barro Col**	**1.26**	**235**	*eP*	**Pn**	**08 27 07.4**	**+0.8**
BCIP				*eS*	**Sn**	**08 27 22.4**	**0.0**
ZANG	**Zanguenga, Cho**	**1.41**	**229**	*eP*	**Pb**	**08 27 10.8**	**-0.3**
ZANG				*eS*	**Sb**	**08 27 28.1**	**-0.6**
UPD2	**Meteti**	**1.54**	**150**	⇓*iP*	**Pn**	**08 27 11.2**	**+0.7**
UPD2				*eS*	**Sn**	**08 27 29.9**	**+0.6**
CAPC	**Capurgana**	**1.89**	**131**	P	**Pn**	**08 27 16.2**	**+0.9**
CAPC				S	**Sn**	**08 27 37.6**	**-0.4**
CHIT3	**Chitre**	**2.51**	**220**	*eP*	**Pn**	**08 27 24.4**	**+0.7**
CHIT3				*eS*	**Sn**	**08 27 52.5**	**-0.6**
APAC	**Apartado, Choc**	**2.95**	**132**	P	**Pn**	**08 27 31.7**	**+1.9**
APAC				S	**Sn**	**08 28 03.7**	**-0.4**
GMAL	**Guarumal, Vera**	**3.21**	**229**	P	**Pn**	**08 27 34.8**	**+1.4**
GMAL				S	**Sn**	**08 28 09.3**	**-1.2**
CACAO	**El Cacao, Vera**	**3.26**	**219**	P	**Pn**	**08 27 35.0**	**+1.0**
CACAO				S	**Sn**	**08 28 10.9**	**-0.7**
SJCC	**San Jacinto, C**	**3.56**	**90**	P	**Pn**	**08 27 40.5**	**+2.2**
SJCC				S	**Sn**	**08 28 19.5**	**+0.3**
UREC	**San Jos de Ur**	**3.86**	**123**	P	**Pn**	**08 27 45.1**	**+2.7**
UREC				S	**Sn**	**08 28 20.3**	**-6.3**
BCO2	**Palmira**	**3.87**	**253**	*eP*	**Pn**	**08 27 44.6**	**+2.0**
BCO2				*eS*	**Sn**	**08 28 26.6**	**-0.4**
PRVC	**Isla de Provid**	**4.28**	**324**	P	**Pn**	**08 27 48.5**	**+0.4**
PRVC				S	**Sn**	**08 28 34.2**	**-2.8**
ARGC	**Ariguani, Magd**	**4.48**	**90**	P	**Pn**	**08 27 53.2**	**+2.3**
ARGC				S	**Sn**	**08 28 42.2**	**+0.3**
ZARC	**Zaragoza, Cauc**	**4.56**	**121**	P	**Pn**	**08 27 52.1**	**+0.1**
ZARC				S	**Sn**	**08 28 40.2**	**-3.7**

*IDC **08** 08:30:11.8±0.7, 2°.24N×127°.13E, h0km, mb4.4/15, mbtmp4.4/15, MS3.2/10, Error ellipse: s-maj=44.5km s-min=12.7km az=71.0*
*DJA **08** 08:30:16.8±0.3, 2°.N±3°.×12°.7E±°., h10km, M4.3/12, mb4.5/7, mB5.0/4, MLv4.3/12, Mw(mB)4.3/4*
*NEIC **08** 08:30:17.4±0.9, 2°.31N±0°.08×127°.20E±0°.10, h36km±10km, mb4.5/30, Error ellipse: s-maj=15.5km s-min=9.7km az=54.0*
ISC 08 08:30:18.7±0.5, 2°.28N±0°.06×127°.15E±0°.09, h53km, n75, σ1§19/70, mb4.5/31, MS3.3/10, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.51**	**172**	Pn	**Pn**	**08 30 42.7**	**-0.7**
TNTI	**Ternate**	**1.51**	**172**	P	**Pn**	**08 30 43.3**	**-0.1**
KMSI	**Cibinong**	**3.59**	**242**	P	**Pn**	**08 31 12.1**	**+0.3**
SANI	**Sanana**	**4.45**	**195**	P	**Pn**	**08 31 23.7**	**0.0**
SWI	**Sorong**	**5.16**	**127**	P	**Pn**	**08 31 34.2**	**+0.8**
	29nm,0.8s,2μm0.3nm						
LUWI	**Luwuk**	**5.48**	**233**	Pn	**Pn**	**08 31 36.9**	**-0.9**
NLAI	**Namlea**	**5.48**	**180**	P	**Pn**	**08 31 38.3**	**+0.5**
	16nm,0.5s,526nm0.2nm						
MRSI	**Marisa**	**5.50**	**251**	P	**Pn**	**08 31 40.5**	**+2.4**
	104nm,0.6s,1μm0.4nm						
APSI	**Ampana**	**6.34**	**240**	P	**Pn**	**08 31 50.9**	**+1.2**
TOLI2	**Tolitoli**	**6.47**	**260**		**Pn**	**08 31 51.3**	**-0.1**
FAKI	**Fak Fak**	**7.26**	**135**	Pn	**Pn**	**08 31 59.9**	**-2.3**
FAKI	**Fak Fak**	**7.26**	**135**	P	**Pn**	**08 32 03.9**	**+1.7**
MYLDM	**Lahad Datu**	**9.10**	**289**	Pn	**Pn**	**08 32 25.6**	**-1.8**
BATI	**Baumata**	**12.88**	**196**	LR	LR	08 39 32.2	
	comp=Z,144nm,18.0s,baz=52,slow=44						
MTN	**Manton Dam**	**15.54**	**165**	Pn	**Pn**	**08 33 53.9**	**-0.5**
KNRA	**Kununurra**	**17.91**	**175**		**P**	**08 34 24.2**	**0.0**
FITZ	**Fitzroy Crossi**	**20.30**	**184**	P	**P**	**08 34 50.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**20.30**	**184**	P	**P**	**08 34 49.9**	**-0.4**
	4.4nm,0.6s,baz=24,slow=11,SNR=13						
	4.4nm,0.6s						
TPUB	**Ta-pu**	**21.83**	**344**	P	**P**	**08 35 05.0**	**-1.8**
TPUB				IAmb	IAmb	08 35 08.7	
	comp=Z,20nm,0.8s						
SSLB	**Suanglung**	**22.21**	**345**	P	**P**	**08 35 09.5**	**-1.3**
SSLB				IAmb	IAmb	08 35 10.8	
	comp=Z,13nm,1.0s						
YOJ	**Yonaguni jima**	**22.41**	**350**	P	**P**	**08 35 14.4**	**+1.4**
WB0	**Warramunga Arr**	**23.03**	**162**	P	**P**	**08 35 18.3**	**-1.2**
WB0				IAmb	IAmb	08 35 21.1	
	comp=Z,13nm,0.8s						
PMG	**Port Moresby**	**23.07**	**120**	LR	LR	08 45 37.7	
	comp=Z,119nm,18.0s,baz=320,slow=40						
WRA	**Warramunga Arr**	**23.18**	**163**	P	**P**	**08 35 18.7**	**-2.3**
WRA	**Warramunga Arr**	**23.18**	**163**	P	**P**	**08 35 19.4**	**-1.5**
	comp=Z,12nm,0.8s,baz=341,slow=10,SNR=34						
WRA				LR	LR	08 45 31.7	
	comp=Z,83nm,19.2s,baz=28,slow=40						
	comp=Z,12nm,0.8s						
WR0	**Warramunga Arr**	**23.26**	**162**	P	**P**	**08 35 20.8**	**-0.9**
MBWA	**Marble Bar**	**24.40**	**197**	P	**P**	**08 35 32.4**	**+0.2**
PSA00	**Pilbara Seismi**	**24.76**	**196**	P	**P**	**08 35 35.9**	**+0.4**
PSA00				IAmb	IAmb	08 35 36.9	
	comp=Z,8.4nm,0.9s						
AS31	**Alice Springs**	**26.61**	**166**	P	**P**	**08 35 51.8**	**-0.5**
ASAR	**Alice Springs**	**26.61**	**166**	P	**P**	**08 35 52.4**	**0.0**
ASAR	**Alice Springs**	**26.61**	**166**	P	**P**	**08 35 51.8**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=345,slow=7.1,SNR=20						
ASAR				PcP	**PcP**	**08 39 15.9**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=354,slow=2.3,SNR=5.2						
	comp=Z,1.3nm,0.3s						
CTA	**Charters Tower**	**29.08**	**141**	LR	LR	08 49 15.8	
	comp=Z,8.9nm,19.2s,baz=286,slow=39						
JNU	**Nakatsue**	**30.88**	**6**	LR	LR	08 50 29.9	
	comp=Z,16nm,19.5s,baz=155,slow=39						
PHRA	**Phrae**	**30.91**	**303**	P	**P**	**08 36 30.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**31.98**	**302**	P	**P**	**08 36 39.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**31.98**	**302**	P	**P**	**08 36 40.0**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=121,slow=6.4,SNR=8.7						
CMAR				LR	LR	08 50 49.8	
	comp=Z,10nm,19.2s,baz=115,slow=39						
	comp=Z,1.1nm,0.3s						
CHTO	**Chiang Mai**	**32.14**	**303**	P	**P**	**08 36 41.2**	**-0.3**
CHTO				IAmb	IAmb	08 36 41.8	
	comp=Z,4.5nm,0.9s						
FORT	**Forrest**	**32.88**	**179**	P	**P**	**08 36 48.0**	**+0.2**
MORW	**Morawa**	**32.94**	**198**	P	**P**	**08 36 49.0**	**+0.7**
MORW				IAmb	IAmb	08 37 06.2	
	comp=Z,8.7nm,1.1s						
INU	**Inuyama**	**34.16**	**14**	P	**P**	**08 36 58.2**	**-0.7**
LYN	**LuoYang**	**34.90**	**339**	*eP*	**P**	**08 37 09.8**	**+4.5**
LYN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LYN				pmax	pmax		
	comp=Z,140nm,3.5s						
KSRS	**Korea Array**	**35.01**	**1**	P	**P**	**08 37 06.5**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=182,slow=10.0,SNR=5.2						
KSRS				LR	LR	08 55 40.3	
	comp=Z,9.8nm,18.9s,baz=185,slow=44						
	comp=Z,2.8nm,0.8s						
BBOO	**Buckleboo**	**35.90**	**167**	P	**P**	**08 37 13.8**	**-0.1**
BBOO				IAmb	IAmb	08 37 20.5	
	comp=Z,8.7nm,1.1s						
STKA	**Stephens Creek**	**36.63**	**159**	P	**P**	**08 37 19.7**	**-0.4**
STKA	**Stephens Creek**	**36.63**	**159**	P	**P**	**08 37 20.0**	**-0.1**
	comp=Z,10nm,0.9s,baz=327,slow=9.1,SNR=20						
STKA				LR	LR	08 55 41.6	
	comp=Z,74nm,18.1s,baz=23,slow=42						
	comp=Z,10nm,0.9s						
HNS	**HongShan**	**36.78**	**343**	⇓P	P	08 37 31.1	+10
HNS				pmax	pmax		
	comp=Z,17nm,2.3s						
LZH	**Lanzhou**	**39.96**	**330**	*eP*	**P**	**08 37 46.0**	**-2.3**
LZH				pP	pP	08 38 00.4	-0.9
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
HHC	**Hu-ho-hao-te**	**40.90**	**342**	*eP*	**P**	**08 37 56.9**	**+1.0**
HHC				sP	pP	08 38 08.9	-0.1
HHC				PcP	**PcP**	**08 39 56.8**	**+1.1**
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,73nm,4.9s						
SHL	**Shillong**	**41.08**	**307**	P	**P**	**08 37 57.0**	**-0.6**
SHL				IAmb	IAmb	08 38 01.9	
	comp=Z,6.4nm,0.9s						
BTO	**Baotou**	**41.18**	**340**	*eP*	**P**	**08 37 54.5**	**-3.7**
BTO				pmax	pmax		
	comp=Z,18nm,0.9s						
BTO				pmax	pmax		
	comp=Z,250nm,11.2s						
USRK	**Ussuriysk Ar.**	**41.97**	**5**	P	**P**	**08 38 07.1**	**+2.7**
KLR	**Kul'dur**	**46.94**	**4**	P	**P**	**08 38 44.7**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=322,slow=23,SNR=2.2						
	comp=Z,0.7nm,0.3s						
ULN	**Ulaanbaatar**	**48.62**	**342**	P	**P**	**08 38 57.1**	**-0.2**
SONM	**Songino Array**	**48.80**	**342**	P	**P**	**08 38 58.9**	**+0.2**
SONM				IAmb	IAmb	08 39 00.8	
	comp=Z,5.6nm,0.8s						
SONM	**Songino Array**	**48.80**	**342**	P	**P**	**08 38 59.4**	**+0.7**
	comp=Z,5.3nm,0.7s,baz=158,slow=8.6,SNR=17						
SONM				LR	LR	09 02 02.0	
	comp=Z,60nm,18.3s,baz=177,slow=39						
	comp=Z,5.3nm,0.7s						
MK31	**Makanchi Array**	**58.98**	**326**	P	**P**	**08 40 13.3**	**+0.4**
MK31				IAmb	IAmb	08 40 35.0	
	comp=Z,2.8nm,0.7s						
MKAR	**Makanchi Array**	**58.98**	**326**	P	**P**	**08 40 13.0**	**+0.1**
MKAR	**Makanchi Array**	**58.98**	**326**	P	**P**	**08 40 13.3**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=115,slow=7.4,SNR=21						
	comp=Z,1.2nm,0.3s						
MAKZ	**Makanchi**	**59.16**	**325**	P	**P**	**08 40 14.2**	**0.0**
MAKZ				IAmb	IAmb	08 40 35.9	
	comp=Z,3.5nm,0.8s						
ZAA0	**Zalesovo Array**	**62.06**	**333**	P	**P**	**08 40 33.0**	**-0.7**
ZAA0				IAmb	IAmb	08 40 34.5	
	comp=Z,6.3nm,1.1s						
ZALV	**Zalesovo Beam**	**62.06**	**333**	P	**P**	**08 40 33.5**	**-0.2**
ZALV	**Zalesovo Beam**	**62.06**	**333**	P	**P**	**08 40 33.9**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=124,slow=7.4,SNR=11						
	comp=Z,1.8nm,0.4s						
KURBB	**Kurchatov Arra**	**63.18**	**328**	P	**P**	**08 40 42.0**	**+0.8**
	comp=Z,5.6nm,0.7s,baz=127,slow=6.0,SNR=26						
	comp=Z,5.6nm,0.7s						
KURK	**Kurchatov**	**63.18**	**328**	P	**P**	**08 40 41.3**	**+0.1**
GAR	**Garm**	**63.21**	**313**	P	**P**	**08 40 41.8**	**-0.1**
KKAR	**Karatay Array**	**64.57**	**317**	P	**P**	**08 40 50.5**	**-0.1**
BVAR	**Borovoye Array**	**68.76**	**327**	P	**P**	**08 41 17.8**	**+0.8**
	comp=Z,5.2nm,0.6s,baz=117,slow=6.6,SNR=22						
	comp=Z,5.2nm,0.6s						
BRVK	**Borovoye**	**68.83**	**327**	P	**P**	**08 41 17.2**	**-0.2**
NRIK	**Noril'sk**	**71.93**	**346**	P	**P**	**08 41 36.9**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=161,slow=15,SNR=2.0						
	comp=Z,0.9nm,0.4s						
ABKAR	**Akbulak array**	**73.53**	**321**	P	**P**	**08 41 46.1**	**+0.1**
ABKAR	**Akbulak array**	**73.53**	**321**	P	**P**	**08 41 45.8**	**-0.2**
ABKAR				IAmb	IAmb	08 41 47.3	
	comp=Z,5.9nm,0.8s						
AKTO	**Aktyubinsk**	**75.05**	**322**	P	**P**	**08 41 55.2**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=88,slow=7.1,SNR=4.8						
	comp=Z,2.3nm,0.7s						
RAR	**Rarotonga**	**75.10**	**113**	LR	LR	09 12 16.1	
	comp=Z,96nm,19.7s,baz=276,slow=34						
BELG	**Belogornoye**	**81.81**	**322**	LR	LR	09 19 32.2	
	comp=Z,876nm,21.9s,baz=269,slow=36						
ARCES	**ARCESS Array B**	**91.95**	**340**	P	**P**	**08 43 20.9**	**-0.3**
	comp=Z,4.1nm,1.1s,baz=79,slow=4.5,SNR=3.6						
	comp=Z,4.1nm,1.1s						

IDC 08 08:33:04.3±4.3, 53°.34N×91°.11E, h0km, mbtmp3.3/3, ML2.6/3, Error ellipse: s-maj=42.9km s-min=33.4km az=24.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**3.79**	**282**	Pn	Pn	08 34 04.2	+0.2
	1.2nm,0.3s,baz=100,slow=16,SNR=9.3						
ZALV				Sn	Sn	08 34 51.0	+1.7
	0.7nm,0.3s,baz=97,slow=25,SNR=6.4						
	2.3nm,0.3s						
KURBB	**Kurchatov Arra**	**8.23**	**256**	Pn	Pn	08 35 04.3	-0.5
	0.1nm,0.3s,baz=69,slow=14,SNR=2.1						
KURBB				Sn	Sn	08 36 36.8	-1.7
	baz=67,slow=26,SNR=1.2						
KURBB				Lg	Lg	08 37 25.9	
	0.2nm,0.3s,baz=70,slow=33,SNR=7.5						
	1.3nm,0.2s						
MKAR	**Makanchi Array**	**8.66**	**224**	Pn	Pn	08 35 11.8	+0.9
	0.1nm,0.3s,baz=36,slow=14,SNR=2.1						
	0.3nm,0.4s						
I34MN	**SONGINO INFRAS**	**11.19**	**114**	I	I	09 41 30.0	
	baz=310,slow=319,SNR=1.3						

*TAP **08** 08:59:06.1, 24°.84N×122°.00E, h8km, ML2.9, B*
*JMA **08** 08:59:07.1±0.1, 24°.8N±0°.4×121°.9E±0°.3, h28km, TAIWAN REGION*
ISC 08 08:59:06.3±0.8, 24°.86N±0°.02×122°.02E±0°.02, h10km±5km, n76, σ0§64/144, 4C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.09**	**258**	⇑*iP*	**Pg**	**08 59 08.2**	**-0.5**
EGS				*i* S	**Sg**	**08 59 09.6**	**-0.7**
TWB1	**Santiao Chiao**	**0.15**	**347**	⇑P	**Pg**	**08 59 10.0**	**+0.4**
TWB1				*i* S	**Sg**	**08 59 13.0**	**+1.1**
NTC	**Toucheng**	**0.18**	**267**	*i* P	**Pg**	**08 59 10.2**	**+0.2**
NTC				S	**Sg**	**08 59 13.5**	**+0.8**
TIPB	**Shuangxi**	**0.21**	**301**	P	**Pg**	**08 59 11.1**	**+0.3**
TIPB				*eS*	**Sg**	**08 59 14.7**	**+1.0**
SXI1	**Grass Mountain**	**0.27**	**330**	⇑*iP*	**Pb**	**08 59 12.6**	**-0.7**
SXI1				*eS*	**Sb**	**08 59 17.6**	**-0.4**
ILA	**Ilan**	**0.27**	**249**	*i* P	**Pg**	**08 59 11.7**	**-0.1**
ILA				*i* S	**Sg**	**08 59 15.6**	**+0.2**
TWC	**Suao**	**0.30**	**212**	*i* P	**Pg**	**08 59 11.8**	**-0.5**
TWC				S	**Sg**	**08 59 15.3**	**-1.0**
NWF	**Wu-fen Shan**	**0.30**	**313**	P	**Pb**	**08 59 13.1**	**-0.8**
NWF				S	**Sb**	**08 59 17.9**	**-1.0**
WFSB	**Wu-fen Shan**	**0.30**	**313**	P	**Pb**	**08 59 13.3**	**-0.5**
WFSB				*eS*	**Sb**	**08 59 18.1**	**-0.8**
ESAO	**Su ao**	**0.33**	**210**	P	**Pg**	**08 59 12.6**	**-0.3**
ESAO				*eS*	**Sg**	**08 59 16.1**	**-1.2**
TWE	**Neicheng**	**0.35**	**247**	*i* P	**Pg**	**08 59 13.0**	**-0.3**
TWE				*i* S	**Sg**	**08 59 17.8**	**-0.3**
NDS	**Dongshan**	**0.36**	**231**	*eP*	**Pg**	**08 59 12.6**	**-0.8**
NDS				S	**Sg**	**08 59 17.9**	**-0.4**
FUSB	**Fushanzhiwuyua**	**0.41**	**256**	*i* P	**Pg**	**08 59 14.2**	**-0.2**
FUSB				*eS*	**Sg**	**08 59 19.6**	**-0.3**
TWA	**Mucha**	**0.42**	**286**	*eP*	**Pg**	**08 59 12.9**	**-1.6**
TWA				*eS*	**Sg**	**08 59 18.7**	**-1.3**
NHDH	**Xindian Distri**	**0.46**	**282**	*i* S	**Sg**	**08 59 22.1**	**+0.6**
ENTT	**Nioudou**	**0.47**	**242**	*i* P	**Pg**	**08 59 15.2**	**-0.4**
ENTT				S	**Sg**	**08 59 21.2**	**-0.6**
EWUT	**Wuta**	**0.47**	**208**	P	**Pg**	**08 59 15.1**	**-0.4**
EWUT				S	**Sg**	**08 59 20.9**	**-0.9**
EOS2	**EOS2**	**0.48**	**157**	*eP*	**Pb**	**08 59 16.3**	**-0.5**
EOS2				*eS*	**Sb**	**08 59 24.6**	**+0.8**
NWLT	**Wulai**	**0.48**	**260**	*eP*	**Pg**	**08 59 16.0**	**+0.3**
NWLT				*eS*	**Sg**	**08 59 21.4**	**-0.7**
YM01	**YM01**	**0.50**	**304**	*eP*	**Pb**	**08 59 17.1**	**-0.1**
YM01				*eS*	**Sg**	**08 59 23.1**	**+0.4**
TAP	**Taipei**	**0.50**	**291**	*eS*	**Sb**	**08 59 23.9**	**-0.8**
ENA	**Nanau**	**0.50**	**211**	*eP*	**Pg**	**08 59 16.4**	**+0.3**
ENA				*i* S	**Sg**	**08 59 21.9**	**-0.9**
YM08	**YM08**	**0.51**	**309**	*i* P	**Pb**	**08 59 17.1**	**-0.3**
ZUZH	**Zhuzihu**	**0.53**	**304**	P	**Pb**	**08 59 17.1**	**-0.7**
ZUZH				*eS*	**Sg**	**08 59 24.4**	**+0.9**
LATG	**Datong**	**0.56**	**234**	*i* P	**Pg**	**08 59 16.8**	**-0.4**
LATG				*eS*	**Sg**	**08 59 25.0**	**+0.4**
ANP	**Anpu**	**0.56**	**305**	*eP*	**Pb**	**08 59 19.0**	**+0.7**
ANP				*eS*	**Sb**	**08 59 26.4**	**0.0**
TWY	**Chenhua**	**0.56**	**317**	*eP*	**Pb**	**08 59 18.4**	**+0.1**
TWY				S	**Sb**	**08 59 26.8**	**+0.4**
EAHA	**Aohua**	**0.59**	**206**	P	**Pg**	**08 59 17.1**	**-0.7**
EAHA				*eS*	**Sg**	**08 59 24.6**	**-0.9**
TWS1	**Kuangyinshan**	**0.60**	**293**	*eP*	**Pb**	**08 59 18.3**	**-0.6**
TWS1				*eS*	**Sb**	**08 59 27.3**	**-0.1**
NTST	**Danshui**	**0.60**	**300**	*eP*	**Pb**	**08 59 19.5**	**+0.5**
NTST				*eS*	**Sb**	**08 59 27.4**	**-0.1**
YHNB	**Yeheng**	**0.62**	**252**	*eP*	**Pg**	**08 59 17.9**	**-0.4**
YHNB				*eS*	**Sb**	**08 59 27.9**	**-0.2**
EOS3	**EOS3**	**0.63**	**155**	*eP*	**Pb**	**08 59 19.1**	**-0.3**
EOS3				*eS*	**Sb**	**08 59 28.5**	**+0.2**
NSK	**Sanguang**	**0.63**	**253**	⇑P	**Pg**	**08 59 17.9**	**-0.7**
NSK				*eS*	**Sg**	**08 59 25.9**	**-1.0**
NNS	**Nan Shan**	**0.73**	**235**	*eP*	**Pg**	**08 59 20.4**	**0.0**
NNS				*eS*	**Sg**	**08 59 30.1**	**+0.2**
NNSB	**Datong**	**0.73**	**234**	*eP*	**Pg**	**08 59 20.4**	**+0.1**
NNSB				*eS*	**Sg**	**08 59 29.6**

Error ellipse: s-maj=10.7km s-min=8.8km az=137.8
*BJI **08** 09:02:45.3, 15°.31S×173°.41W, h9km, mb5.0/23, mB5.4/9, Ms5.1/2*
*NEIC **08** 09:02:47.0±1.8, 15°.27S±0°.07×173°.3W±0°.1, h10km±1km, mb5.0/211, Error ellipse: s-maj=14.7km s-min=9.9km az=113.0*
*GCMT **08** 09:02:57.0±0.2, 15°.32S±0°.01×173°.19W±0°.01, h12km, MW5.4/116, Moment Tensor Solution. s59,c73; s116,c173; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-0.03±.01; Mθθ0.15±.01; Mφφ-0.11±.01; Mrθ-1.20±.03; Mθφ0.07±.01; Mφr0.83±.02; Best double couple: M0 1.46500×10^17 NP1:φs124.00000°, δ90.00000°, λ-84.00000°. NP2:φs218.00000°, δ6.00000°, λ-177.00000°. Principal axes: T 1.4490, Plg44.0000°, Azm209.0000°; N 0.0330, Plg6.0000°, Azm304.0000°; P -1.4810, Plg45.0000°, Azm40.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **08** 09:02:58.6, 15°.38S×173°.14W, h125km, mb5.0/39, Tonga Islands*
ISC 08 09:02:46.4±0.3, 15°.38S±0°.04×173°.29W±0°.05, h10km, n493, σ1s62/359, mb5.0/152, MS4.2/51, 43C-16D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.07**	**45**	Pn	**Pn**	**09 03 21.2**	**0.0**
AFI	**Afiamalu**	**2.07**	**45**	P	**Pn**	**09 03 21.3**	**0.0**
FUTU	**Fugatoga**	**4.80**	**282**		**Pb**	**09 04 11.0**	**+0.4**
NIUE	**Niue**	**4.88**	**139**	Pn	**Pn**	**09 04 01.9**	**+2.0**
NIUE	**Niue**	**4.88**	**139**	P	**Pn**	**09 04 02.1**	**+2.2**
NIUE				S	**Sn**	**09 04 52.5**	**-3.9**
LKBA	**Tubou, Lakemba**	**6.01**	**241**	P	Pb	09 04 25.8	-5.4
TAVE	**Taveuni**	**6.50**	**257**	P	Pb	09 04 33.6	-6.1
DGTI	**Dogotuki**	**6.78**	**261**	P	Pb	09 04 36.9	-7.5
MSVF	**Nonsavu**	**8.63**	**253**	Pn	Pn	09 05 02.2	+11
	1.1nm,0.3s,baz=99,slow=12,SNR=21						
MSVF				LR	LR	09 07 47.0	
	comp=Z,3μm,21.7s,baz=145,slow=35						
MSVF	**Nonsavu**	**8.63**	**253**	P	Pn	09 05 03.3	+12
YSA	**Yasawairara**	**8.88**	**260**	P	Pn	09 05 06.6	+12
RAR	**Rarotonga**	**14.08**	**116**	Pn	**Pn**	**09 06 07.0**	**+1.0**
RAR	**Rarotonga**	**14.08**	**116**	Pn	**Pn**	**09 06 06.5**	**+0.5**
	4.7nm,0.3s,baz=276,slow=9.1,SNR=8.5						
RAR				Sn	Sn	09 08 31.5	-11
	1.4nm,0.3s,baz=45,slow=2.3,SNR=1.4						
	16nm,0.4s						
RAR	**Rarotonga**	**14.08**	**116**	P	**Pn**	**09 06 07.0**	**+1.0**
RAO	**Raoul Island**	**14.45**	**196**	Sn	Sn	09 08 41.8	-10
	46nm,0.3s,baz=89,slow=23,SNR=2.5						
GLKZ	**Green Lake**	**14.46**	**196**	P	**Pn**	**09 06 10.4**	**-0.8**
GLKZ				S	Sn	09 08 40.4	-11
MARNC	**Mare, Loyalty**	**18.73**	**248**	P	**Pn**	**09 07 09.3**	**+3.5**
LIFNC	**LIFOU**	**19.27**	**251**	P	**Pn**	**09 07 13.6**	**+1.3**
PINNC	**Pines Island,**	**19.58**	**246**	P	**P**	**09 07 16.0**	**+1.3**
PINNC	**Pines Island,**	**19.58**	**246**	P	**Pn**	**09 07 18.7**	**+2.7**
YATNC	**Mamie plateau,**	**19.91**	**248**	P	**Pn**	**09 07 22.4**	**+2.5**
OUENC	**Ouen Island, N**	**20.05**	**247**	P	Pn	09 07 24.0	+2.4
	0.9nm,1.0s						
DZM	**Mont Dzumac**	**20.31**	**248**	*e*P	**P**	**09 07 23.1**	**+0.3**
	375nm,1.4s						
DZM				*e*S	**S**	**09 11 01.9**	**-8.8**
	309nm,26.4s						
DZM				*e*LR	LR	09 12 10.5	
	3μm,27.1s						
DZM	**Mont Dzumac**	**20.31**	**248**	P	**P**	**09 07 24.2**	**+1.4**
DZM	**Mont Dzumac**	**20.31**	**248**	P	**P**	**09 07 23.3**	**+0.5**
	37nm,1.1s,baz=62,slow=21,SNR=8.0						
DZM				LR	LR	09 14 55.9	
	comp=Z,471nm,18.3s,baz=84,slow=36						
	37nm,1.1s						
DZM	**Mont Dzumac**	**20.31**	**248**	P	Pn	09 07 26.5	+1.7
ONTNC	**Ouen Toro**	**20.36**	**247**	P	Pn	09 07 26.2	+0.9
ONTNC	**Ouen Toro**	**20.36**	**247**	P	Pn	09 07 27.3	+2.0
NOUC	**Port Laguerre**	**20.44**	**248**	P	Pn	09 07 28.4	+2.2
KOUNC	**Koumac, New Ca**	**21.94**	**253**	P	**P**	**09 07 42.3**	**+2.1**
KOUNC	**Koumac, New Ca**	**21.94**	**253**	P	**P**	**09 07 44.0**	**+3.7**
PPT2	**Papeete2**	**22.84**	**99**	*e*P	**P**	**09 07 53.6**	**+3.6**
	43nm,23.2s						
PPT2				*e*S	**S**	**09 11 52.8**	**-6.9**
	231nm,25.8s						
PPT2				*e*LR	LR	09 13 12.6	
	1μm,27.5s						
PPT2				*e*LR	LR	09 13 20.6	
	305nm,23.8s						
OUZ	**Omahuta**	**23.00**	**208**	P	**P**	**09 07 51.1**	**-0.3**
WCZ	**Waipu Caves**	**23.27**	**206**	P	**P**	**09 07 54.4**	**+0.2**
MXZ	**Matakaoa Point**	**23.32**	**197**	P	**P**	**09 07 57.1**	**+2.5**
MXZ				IAmb	IAmb	09 08 16.6	
	comp=Z,42nm,0.8s						
MXZ	**Matakaoa Point**	**23.32**	**197**	P	**P**	**09 07 57.2**	**+2.6**
KUZ	**Kuaotunu**	**23.42**	**203**	P	**P**	**09 07 58.2**	**+2.5**
HAZ	**Te Kaha**	**23.65**	**198**	P	**P**	**09 07 59.1**	**+1.1**
HAZ				S	**S**	**09 12 09.1**	**-3.5**
PUZ	**Puketiti**	**23.81**	**197**	P	**P**	**09 08 00.5**	**+1.0**
PUZ				S	**S**	**09 12 10.6**	**-4.6**
TBI	**Tubuai**	**23.81**	**113**	*e*S	**S**	**09 12 08.8**	**-6.7**
	comp=Z,3μm,26.8s						
TBI				*e*LR	LR	09 13 48.8	
	comp=Z,2μm,27.5s						
RUGZ	**Raukumara Rang**	**23.88**	**198**	P	**P**	**09 08 03.4**	**+3.2**
RUGZ				S	**S**	**09 12 11.3**	**-5.2**
TWGZ	**Tauwhareparae**	**23.98**	**197**	P	**P**	**09 08 04.2**	**+3.0**
TGRZ	**Tauranga**	**24.11**	**201**	P	**P**	**09 08 05.4**	**+3.1**
OPRZ	**Ohinepanea**	**24.11**	**200**	P	**P**	**09 08 05.8**	**+3.4**
CNGZ	**Carnagh Statio**	**24.21**	**196**	P	**P**	**09 08 05.8**	**+2.6**
MWZ	**Matawai**	**24.26**	**198**	P	**P**	**09 08 05.8**	**+2.0**
MWZ				S	**S**	**09 12 22.6**	**0.0**
TKGZ	**Te Karaka**	**24.27**	**197**	P	**P**	**09 08 06.9**	**+3.1**
LIFZ	**Lichensteins R**	**24.32**	**200**	P	**P**	**09 08 02.6**	**-1.6**
URZ	**Urewera**	**24.32**	**199**	P	**P**	**09 08 04.0**	**-0.2**
URZ				S	**S**	**09 12 20.8**	**-2.5**
TOZ	**Tahuroa Road**	**24.38**	**202**	P	**P**	**09 08 06.9**	**+2.1**
TOZ	**Tahuroa Road**	**24.38**	**202**	P	**P**	**09 08 06.6**	**+1.8**
KARZ	**Kaharoa**	**24.38**	**200**	P	**P**	**09 08 08.4**	**+3.6**
OMRZ	**Omania**	**24.41**	**200**	P	**P**	**09 08 08.2**	**+3.1**
TARZ	**Mount Tarawera**	**24.49**	**200**	P	**P**	**09 08 09.6**	**+3.7**
RIGZ	**Rimuhau**	**24.54**	**197**	P	**P**	**09 08 08.4**	**+2.1**
RRRZ	**Republican Roa**	**24.58**	**200**	P	**P**	**09 08 07.8**	**+1.1**
MUGZ	**Murupara**	**24.62**	**199**	P	**P**	**09 08 07.4**	**+0.3**
RTZ	**Ruatahuna**	**24.68**	**198**	P	**P**	**09 08 07.3**	**-0.3**
HRRZ	**Handcock Road**	**24.70**	**200**	P	**P**	**09 08 09.0**	**+1.2**
PRGZ	**Paritu Road**	**24.71**	**197**	P	**P**	**09 08 11.2**	**+3.4**
PRGZ				S	**S**	**09 12 32.4**	**+2.7**
PRRZ	**Plateau Road**	**24.76**	**200**	P	**P**	**09 08 09.1**	**+0.8**
ALRZ	**Allen Road**	**24.84**	**200**	P	**P**	**09 08 10.3**	**+1.4**
KNZ	**Kokohu**	**24.86**	**197**	P	**P**	**09 08 11.7**	**+2.6**
KNZ				S	**S**	**09 12 34.0**	**+2.0**
TLZ	**Tolley Road**	**24.90**	**201**	P	**P**	**09 08 09.0**	**-0.6**
MHGZ	**Mahia Peninsul**	**24.91**	**196**	P	**P**	**09 08 13.4**	**+3.7**
RAHZ	**Arahi**	**24.93**	**198**	P	**P**	**09 08 12.0**	**+2.2**
WHHZ	**Waihua**	**25.03**	**198**	P	**P**	**09 08 14.5**	**+3.7**
MRHZ	**Matea Rd**	**25.06**	**199**	P	**P**	**09 08 11.2**	**+0.1**
RATZ	**Rangitukua**	**25.30**	**200**	P	**P**	**09 08 13.9**	**+0.7**
HIZ	**Hauiti**	**25.30**	**202**	P	**P**	**09 08 13.7**	**+0.5**
HIZ	**Hauiti**	**25.30**	**202**	P	**P**	**09 08 16.0**	**+2.8**
BKZ	**Black Stump Fm**	**25.34**	**199**	P	**P**	**09 08 12.2**	**-1.4**
BKZ				IAmb	IAmb	09 08 20.6	
	comp=Z,41nm,1.2s						
BKZ	**Black Stump Fm**	**25.34**	**199**	P	**P**	**09 08 12.6**	**-0.9**
BKZ	**Black Stump Fm**	**25.34**	**199**	P	**P**	**09 08 13.8**	**+0.2**
RITZ	**Rihia Road**	**25.37**	**200**	P	**P**	**09 08 16.0**	**+2.2**
MCHZ	**McNeill Hill**	**25.53**	**198**	P	**P**	**09 08 18.1**	**+2.8**
TMVZ	**Te Maari**	**25.55**	**200**	P	**P**	**09 08 16.3**	**+0.7**
WTVZ	**West Tongariro**	**25.59**	**200**	P	**P**	**09 08 17.1**	**+1.3**
NNVZ	**North Ngauruho**	**25.59**	**200**	P	**P**	**09 08 19.2**	**+3.2**
KWHZ	**Kaweka Forest**	**25.60**	**199**	P	**P**	**09 08 17.1**	**+1.2**
WNVZ	**Wahianoa**	**25.77**	**200**	P	**P**	**09 08 17.9**	**+0.2**
KAHZ	**Kahuranaki**	**25.80**	**198**	P	**P**	**09 08 24.6**	**+6.9**
KRHZ	**Kereru**	**25.82**	**199**	P	**P**	**09 08 18.7**	**+0.8**
VRZ	**Vera Road**	**25.88**	**202**	P	**P**	**09 08 21.9**	**+3.5**
PXZ	**Pawanui**	**26.02**	**197**	P	**P**	**09 08 20.7**	**+1.0**
NEZ	**North Egmont**	**26.25**	**203**	P	**P**	**09 08 26.1**	**+4.3**
HNR	**Honiara**	**26.79**	**280**	LR	LR	09 17 37.6	
	comp=Z,358nm,20.2s,baz=120,slow=33						
BFZ	**Birch Farm**	**26.81**	**198**	P	**P**	**09 08 27.2**	**+0.4**
BFZ	**Birch Farm**	**26.81**	**198**	P	**P**	**09 08 27.6**	**+0.8**
JCZ	**Jackson Bay**	**32.41**	**204**	P	**P**	**09 09 16.9**	**+0.3**
TAOE	**Nuku Hiva Isla**	**33.01**	**83**	*e*LR	LR	09 17 56.5	
	comp=Z,1μm,25.8s						
MLZ	**Mavora Lakes**	**33.75**	**204**	P	**P**	**09 09 27.6**	**-0.6**
DCZ	**Deep Cove**	**34.22**	**205**	P	**P**	**09 09 32.8**	**+0.6**
WHZ	**Wether Hill Ro**	**34.26**	**204**	P	**P**	**09 09 32.6**	**0.0**
EIDS	**Eidsvold**	**34.76**	**248**	P	**P**	**09 09 36.6**	**-0.5**
ARMA	**Armidale**	**35.45**	**239**	P	**P**	**09 09 42.8**	**-0.4**
ARMA				IAmb	IAmb	09 09 43.3	
	comp=Z,12nm,0.6s						
RKT	**Rikitea**	**36.90**	**108**	*e*S	**S**	**09 15 38.0**	**-2.5**
	comp=Z,631nm,38.5s						
RKT				*e*LR	LR	09 19 47.0	
	comp=Z,1μm,25.2s						
CTA	**Charters Tower**	**38.75**	**257**	LR	LR	09 23 54.0	
	comp=Z,24nm,20.6s,baz=88,slow=33						
CTA	**Charters Tower**	**38.75**	**257**	P	**P**	**09 10 09.8**	**-1.5**
CTAO	**Charters Tower**	**38.75**	**257**	P	**P**	**09 10 09.9**	**-1.5**
CTAO	**Charters Tower**	**38.75**	**257**	P	**P**	**09 10 09.9**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CNB	**Canberra Magne**	**38.85**	**232**	P	**P**	**09 10 11.7**	**-0.3**
	comp=Z,43nm,1.4s						
CNB	**Canberra Magne**	**38.85**	**232**	P	**P**	**09 10 12.9**	**+0.9**
H11S2	**WAKE ISLAND Hy**	**39.00**	**329**	T	T	09 51 02.6	
	baz=146,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**39.02**	**329**	T	T	09 50 58.9	
	baz=146,slow=76,SNR=34						
H11S1	**WAKE ISLAND Hy**	**39.02**	**329**	T	T	09 51 00.9	
	baz=146,slow=76,SNR=65						
PMG	**Port Moresby**	**39.04**	**274**	LR	LR	09 24 10.4	
	comp=Z,196nm,20.0s,baz=84,slow=33						
PMG	**Port Moresby**	**39.04**	**274**	*i* P	**P**	**09 10 14.0**	**+0.2**
PMG				pmax	pmax		
	comp=Z,16nm,1.0s						
CAN	**Canberra**	**39.13**	**232**	P	**P**	**09 10 13.6**	**-0.7**
CAN				IAmb	IAmb	09 10 14.7	
	comp=Z,31nm,1.2s						
CAN	**Canberra**	**39.13**	**232**	P	**P**	**09 10 13.4**	**-0.9**
	comp=Z,23nm,1.2s						
CAN	**Canberra**	**39.13**	**232**	P	**P**	**09 10 13.6**	**-0.7**
CAN				pmax	pmax		
	comp=Z,31nm,1.2s						
KIP	**Kipapa**	**39.52**	**23**	*ce*P	**P**	**09 10 18.5**	**+0.9**
KIP				pmax	pmax		
	comp=Z,21nm,1.3s						
AUSMG	**Snowy Mountain**	**39.82**	**231**	P	**P**	**09 10 19.8**	**-0.3**
H11N3	**WAKE ISLAND Hy**	**39.95**	**330**	T	T	09 53 07.4	
	baz=150,slow=76,SNR=8.1						
H11N1	**WAKE ISLAND Hy**	**39.95**	**330**	T	T	09 53 07.5	
	baz=150,slow=76,SNR=8.0						
H11N2	**WAKE ISLAND Hy**	**39.97**	**330**	T	T	09 53 08.7	
	baz=150,slow=76,SNR=7.5						
MTSU	**Mount Surprise**	**40.63**	**260**	P	**P**	**09 10 27.9**	**+0.9**
CMSA	**Cobar Meteorol**	**40.66**	**239**	P	**P**	**09 10 25.6**	**-1.5**
	comp=Z,31nm,1.4s						
CMSA	**Cobar Meteorol**	**40.66**	**239**	P	**P**	**09 10 26.2**	**-0.8**
QLP	**Quilpie**	**41.03**	**247**	P	**P**	**09 10 28.2**	**-1.9**
	comp=Z,17nm,0.7s						
QLP	**Quilpie**	**41.03**	**247**	P	**P**	**09 10 31.3**	**+1.2**
COEN	**Coen**	**42.09**	**266**	P	**P**	**09 10 39.6**	**+0.6**
COEN				IAmb	IAmb	09 10 40.5	
	comp=Z,31nm,0.9s						
COEN	**Coen**	**42.09**	**266**	P	**P**	**09 10 38.8**	**-0.2**
	comp=Z,42nm,1.1s						
COEN	**Coen**	**42.09**	**266**	P	**P**	**09 10 40.0**	**+1.0**
TOO	**Toolangi**	**42.56**	**231**	P	**P**	**09 10 42.2**	**-0.4**
TOO	**Toolangi**	**42.56**	**231**	P	**P**	**09 10 42.2**	**-0.4**
TOO				pmax	pmax		
	comp=Z,20nm,1.1s						
BRAT	**Ballarat**	**43.73**	**231**	P	**P**	**09 10 52.4**	**+0.5**
	comp=Z,23nm,1.1s						
STKA	**Stephens Creek**	**44.14**	**240**	P	**P**	**09 10 54.9**	**-0.5**
STKA	**Stephens Creek**	**44.14**	**240**	P	**P**	**09 10 54.3**	**-1.1**
	comp=Z,8.6nm,0.9s						
STKA	**Stephens Creek**	**44.14**	**240**	P	**P**	**09 10 54.2**	**-1.2**
	comp=Z,19nm,0.7s,baz=94,slow=10,SNR=40						
STKA				LR	LR	09 26 58.3	
	comp=Z,303nm,21.4s,baz=44,slow=33						
	comp=Z,19nm,0.7s						
STKA	**Stephens Creek**	**44.14**	**240**	P	**P**	**09 10 55.1**	**-0.3**
STKA	**Stephens Creek**	**44.14**	**240**	*i* P	**P**	**09 10 54.3**	**-1.1**
INKA	**Innaminka**	**44.25**	**246**	P	**P**	**09 10 56.9**	**+0.6**
	comp=Z,29nm,0.9s						
QIS	**Mount Isa**	**44.99**	**256**	P	**P**	**09 11 00.8**	**-1.6**
	comp=Z,10.0nm,1.2s						
QIS	**Mount Isa**	**44.99**	**256**	P	**P**	**09 11 02.1**	**-0.3**
ARPS	**Mount Arapiles**	**45.09**	**233**	P	**P**	**09 11 01.3**	**-1.6**
	comp=Z,25nm,1.0s						
ARPS	**Mount Arapiles**	**45.09**	**233**	P	**P**	**09 11 03.7**	**+0.8**
	comp=Z,25nm,1.0s						
HTT	**Hallett**	**46.65**	**238**	P	**P**	**09 11 14.1**	**-1.2**
	comp=Z,33nm,0.9s						
HTT	**Hallett**	**46.65**	**238**	P	**P**	**09 11 16.1**	**+0.7**
LCRK	**Leigh Creek**	**46.77**	**243**	P	**P**	**09 11 15.7**	**-0.6**
JAY	**Jayapura**	**47.09**	**281**	P	**P**	**09 11 19.2**	**+0.2**
	comp=Z,8.4nm,1.0s						
OOD	**Oodnadatta**	**48.72**	**246**	P	**P**	**09 11 31.5**	**+0.1**
BBOO	**Buckleboo**	**48.92**	**240**	P	**P**	**09 11 31.9**	**-1.0**
BBOO	**Buckleboo**	**48.92**	**240**	P	**P**	**09 11 31.9**	**-1.0**
	comp=Z,30nm,1.7s						
WR0	**Warramunga Arr**	**49.77**	**257**	P	**P**	**09 11 38.3**	**-1.3**
WR0				IAmb	IAmb	09 11 39.2	
	comp=Z,23nm,1.2s						
WB0	**Warramunga Arr**	**49.92**	**257**	P	**P**	**09 11 39.5**	**-1.3**
WB2	**Warramunga Arr**	**49.94**	**257**	P	**P**	**09 11 39.9**	**-1.0**
WRAB	**Tennant Creek**	**49.95**	**257**	P	**P**	**09 11 39.7**	**-1.2**
WRAB				IAmb	IAmb	09 11 40.4	
	comp=Z,19nm,0.7s						
WRAB	**Tennant Creek**	**49.95**	**257**	*i* P	**P**	**09 11 39.2**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,44nm,1.5s						
WRA	**Warramunga Arr**	**49.96**	**257**	P	**P**	**09 11 39.9**	**-1.1**
WRA	**Warramunga Arr**	**49.96**	**257**	P	**P**	**09 11 39.7**	**-1.4**
	comp=Z,10nm,0.4s,baz=91,slow=6.9,SNR=363						
WRA				PcP	**PcP**	**09 13 01.0**	**-0.3**
	comp=Z,4.4nm,0.6s,baz=91,slow=3.7,SNR=7.4						
WRA				LR	LR	09 30 53.0	
	comp=Z,276nm,21.0s,baz=83,slow=34						
	comp=Z,10nm,0.4s						
WRA	**Warramunga Arr**	**49.96**	**257**	P	**P**	**09 11 39.9**	**-1.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AS01	**Alice Springs**	**50.18**	**252**	P	**P**	**09 11 41.4**	**-1.3**
	comp=Z,80nm,0.9s						
AS31	**Alice Springs**	**50.22**	**252**	P	**P**	**09 11 42.0**	**-1.0**
AS31				IAmb	IAmb	09 11 43.8	
	comp=Z,13nm,0.8s						
AS31	**Alice Springs**	**50.22**	**252**	P	**P**	**09 11 41.7**	**-1.3**
	comp=Z,15nm,0.5s						
ASAR	**Alice Springs**	**50.22**	**252**	P	**P**	**09 11 42.3**	**-0.7**
ASAR	**Alice Springs**	**50.22**	**252**	P	**P**	**09 11 41.8**	**-1.2**
	comp=Z,40nm,0.7s,baz=89,slow=8.0,SNR=595						
ASAR				PcP	**PcP**	**09 13 01.6**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=93,slow=5.2,SNR=0.9						
ASAR				LR	LR	09 31 26.4	
	comp=Z,618nm,21.6s,baz=94,slow=34						
	comp=Z,40nm,0.7s						
ASAR	**Alice Springs**	**50.22**	**252**	P	**P**	**09 11 42.3**	**-0.7**
MULG	**Mulgathing**	**50.33**	**243**	P	**P**	**09 11 42.7**	**-1.0**
GUMO	**Guam**	**50.42**	**303**	LR	LR	09 30 53.4	
	comp=Z,34nm,20.3s,baz=108,slow=34						
KDU	**Kakadu**	**52.58**	**266**	P	**P**	**09 11 59.8**	**-1.0**
	comp=Z,8.0nm,0.5s						
MTN	**Manton Dam**	**53.84**	**265**	P	**P**	**09 12 08.9**	**-1.2**
MTN				IAmb	IAmb	09 12 09.7	
	comp=Z,15nm,0.8s						
MTN	**Manton Dam**	**53.84**	**265**	P	**P**	**09 12 07.3**	**-2.7**
	comp=Z,18nm,0.8s						
WRKA	**Warkurna**	**55.30**	**250**	P	**P**	**09 12 19.3**	**-1.4**
WRKA	**Warakurna**	**55.30**	**250**	P	**P**	**09 12 20.1**	**-0.6**
FORT	**Forrest**	**55.52**	**243**	P	**P**	**09 12 20.8**	**-1.3**
FORT	**Forrest**	**55.52**	**243**	P	**P**	**09 12 20.4**	**-1.7**
	comp=Z,95nm,0.7s						
FORT	**Forrest**	**55.52**	**243**	P	**P**	**09 12 21.6**	**-0.5**
KNRA	**Kununurra**	**55.68**	**261**	P	**P**	**09 12 22.4**	**-1.0**
KNRA				IAmb	IAmb	09 12 44.8	
	comp=Z,14nm,1.1s						
FITZ	**Fitzroy Crossi**	**58.32**	**258**	LR	LR	09 36 12.0	
	comp=Z,260nm,20.8s,baz=105,slow=34						
SOEI	**Soe**	**61.04**	**267**	P	**P**	**09 13 01.0**	**0.0**
SOEI	**Soe**	**61.04**	**267**	P	**P**	**09 13 01.7**	**+0.7**
SBA	**Scott Base**	**63.28**	**185**	P	**P**	**09 13 16.9**	**+2.0**
SBA	**Scott Base**	**63.28**	**185**	P	**P**	**09 13 16.9**	**+2.0**
SBA				pmax	pmax		
	comp=Z,81nm,1.4s						
PSA00	**Pilbara Seismi**	**63.32**	**253**	P	**P**	**09 13 15.5**	**-0.6**
PSA00				IAmb	IAmb	09 13 17.6	
	comp=Z,9.6nm,0.7s						
MBWA	**Marble Bar**	**63.47**	**254**	P	**P**	**09 13 16.2**	**-0.9**
KLBR	**Kellerberrin**	**64.35**	**242**	P	**P**	**09 13 22.2**	**-0.5**
	comp=Z,81nm,0.9s						
LUWI	**Luwuk**	**64.63**	**276**	P	**P**	**09 13 22.0**	**-2.9**
NWAO	**Narrogin (SRO)**	**64.72**	**241**	P	**P**	**09 13 24.4**	**-0.8**
NWAO	**Narrogin (SRO)**	**64.72**	**241**	LR	LR	09 39 28.8	
	comp=Z,222nm,21.8s,baz=38,slow=34						
NWAO	**Narrogin (SRO)**	**64.72**	**241**	P	**P**	**09 13 24.4**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,42nm,1.5s						
MORW	**Morawa**	**65.99**	**245**	P	**P**	**09 13 33.1**	**-0.3**
MORW				IAmb	IAmb	09 13 52.9	
	comp=Z,15nm,1.1s						
SHEM	**Shemya Is, Ala**	**68.70**	**352**	LR	LR	09 37 09.5	
	comp=Z,281nm,21.8s,baz=276,slow=30						
MJAR	**Matsushiro Arr**	**68.99**	**320**	P	**P**	**09 13 50.7**	**-1.5**
	comp=Z,1.3nm,0.4s,baz=142,slow=6.2,SNR=6.8						
	comp=Z,1.3nm,0.4s						
H06S1	**SOCORRO T**	**70.10**	**63**	T	T	10 30 44.4	
	SNR=2.3						
H06E1	**SOCORRO T-PHAS**	**70.14**	**63**	T	T	10 30 42.2	
	SNR=16						
CASY	**Casey**	**70.47**	**205**	P	**P**	**09 14 01.4**	**+0.6**
JOW	**Kunigami**	**70.56**	**306**	LR	LR	09 39 08.8	
	comp=Z,63nm,21.9s,baz=132,slow=31						
JNU	**Nakatsue**	**71.86**	**313**	P	**P**	**09 14 09.8**	**0.0**
JNU	**Nakatsue**	**71.86**	**313**	LR	LR	09 40 51.8	
	comp=Z,36nm,19.5s,baz=136,slow=32						
VTX	**Valle De La Tr**	**72.14**	**49**	IAmb	IAmb	09 14 13.7	
	comp=Z,23nm,1.5s						
ELS	**Elsinore Mount**	**72.17**	**46**	IAmb	IAmb	09 14 13.7	
	comp=Z,16nm,1.2s						
ESJX	**Sierra Juarez**	**72.34**	**49**	IAmb	IAmb	09 14 15.2	
	comp=Z,14nm,1.2s						
O02D	**Mt. Diablo Mer**	**72.50**	**38**		**P**	**09 14 15.3**	**+1.7**
O02D				IAmb	IAmb	09 14 16.5	
	comp=Z,20nm,1.2s						
ISA	**Isabella, Lake**	**72.56**	**44**	IAmb	IAmb	09 14 16.3	
	comp=Z,22nm,1.4s						
PETK	**Petropavlovsk-**	**72.64**	**342**	P	**P**	**09 14 13.9**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=118,slow=7.4,SNR=9.8						
PETK				LR	LR	09 42 04.0	
	comp=Z,50nm,20.4s,baz=124,slow=32						
	comp=Z,2.6nm,0.6s						
CMB	**Columbia Colle**	**72.68**	**41**	IAmb	IAmb	09 14 16.6	
	comp=Z,11nm,1.1s						
YUH	**Yuha Desert**	**72.70**	**48**	IAmb	IAmb	09 14 16.6	
	comp=Z,14nm,1.3s						
PFO	**Pinyon Flats O**	**72.83**	**47**	P	**P**	**09 14 15.6**	**-0.1**
PFO				IAmb	IAmb	09 14 17.7	
	comp=Z,16nm,1.4s						
PFO	**Pinyon Flats O**	**72.83**	**47**	LR	LR	09 38 18.0	
	comp=Z,354nm,21.0s,baz=272,slow=29						
PFO	**Pinyon Flats O**	**72.83**	**47**	*i* P	**P**	**09 14 16.4**	**+0.7**
PFO				pmax	pmax		
	comp=Z,11nm,1.1s						
LPIG	**La Paz**	**72.93**	**58**	LR	LR	09 37 57.5	
	comp=Z,196nm,21.3s,baz=244,slow=29						
GSC	**Goldstone, Bar**	**73.50**	**45**	P	**P**	**09 14 19.9**	**+0.3**
GSC				IAmb	IAmb	09 14 21.6	
	comp=Z,12nm,1.1s						
GSC	**Goldstone, Bar**	**73.50**	**45**	P	**P**	**09 14 19.9**	**+0.3**
GSC				pmax	pmax		
	comp=Z,12nm,1.1s						
YBH	**Yreka Blue Hor**	**73.52**	**37**	IAmb	IAmb	09 14 22.1	
	comp=Z,24nm,1.1s						
YBH	**Yreka Blue Hor**	**73.52**	**37**	LR	LR	09 39 16.8	
	comp=Z,264nm,20.6s,baz=246,slow=30						
YSS	**Yuzh-Sakhalins**	**73.52**	**330**	P	**P**	**09 14 19.4**	**+0.1**
YSS	**Yuzh-Sakhalins**	**73.52**	**330⇑**	*i* P	**P**	**09 14 20.4**	**+1.1**
YSS				*e*		09 14 35.2	
YSS				*e*S	**S**	**09 23 48.8**	**-0.3**
YSS				*e*SS	**SS**	**09 28

LEM	Lembang	77.74	266	LR	LR	09 48 44.0		
	comp=Z,153nm,21.0s,baz=144,slow=36							
BBB	Bella Bella	77.82	27	LR	LR	09 42 33.9		
	comp=Z,146nm,18.7s,baz=224,slow=31							
G08A	Pilot Rock	77.85	36	IAmb	IAmb	09 14 46.4		
	comp=Z,21nm,1.4s							
TCRU	Three Creeks R	78.20	44	IAmb	IAmb	09 14 49.4		
	comp=Z,16nm,1.2s							
121A	Cookes Peak, D	78.65	52	IAmb	IAmb	09 14 51.7		
	comp=Z,9.1nm,0.8s							
DUG	Dugway, Tooele	78.77	43	IAmb	IAmb	09 14 51.5		
	comp=Z,15nm,1.3s							
D08A	Wollman Farm,	78.93	34	IAmb	IAmb	09 14 53.2		
	comp=Z,18nm,1.3s							
HMU	Henry Mountain	79.03	46	IAmb	IAmb	09 14 53.4		
	comp=Z,16nm,1.3s							
TMUT	Trail Mountain	79.38	44	IAmb	IAmb	09 14 55.9		
	comp=Z,22nm,1.3s							
J18K	Innoko River	79.64	7	IAmb	IAmb	09 15 13.8		
	comp=Z,16nm,1.2s							
SRU	San Rafael Swe	79.75	45	IAmb	IAmb	09 14 57.3		
	comp=Z,21nm,1.4s							
P17A	Butcher Ranch,	79.78	44	IAmb	IAmb	09 14 57.8		
	comp=Z,20nm,1.3s							
JLU	Jordanelle	79.87	43	IAmb	IAmb	09 14 57.7		
	comp=Z,18nm,1.4s							
TCUT	Toone Canyon	80.16	43	IAmb	IAmb	09 14 59.4		
	comp=Z,16nm,0.9s							
MA2	Magadan	80.18	342	LR	LR	09 43 15.9		
	comp=Z,62nm,21.7s,baz=126,slow=30							
NJ2	Nanjing	80.24	307	*e*P	P	09 14 58.7	+1.1	
NJ2				pmax	pmax			
	comp=Z,12nm,0.7s							
NJ2				pmax	pmax			
	comp=Z,160nm,3.5s							
TXAR	Lajitas Array	80.51	56	P	P	09 14 58.9	-0.3	
TXAR	Lajitas Array	80.51	56	P	P	09 14 59.6	+0.4	
	comp=Z,1.6nm,1.0s,baz=224,slow=7.0,SNR=11							
TXAR				LR	LR	09 42 58.2		
	comp=Z,110nm,20.5s,baz=256,slow=30							
	comp=Z,1.6nm,1.0s							
KLR	Kul'dur	80.56	327	LR	LR	09 45 09.7		
	comp=Z,60nm,21.9s,baz=160,slow=32							
KLR	Kul'dur	80.56	327	*ce*P	P	09 14 59.2	+0.3	
KLR				pmax	pmax			
	comp=Z,5.0nm,1.3s							
NEW	Newport	80.63	34	LR	LR	09 42 53.1		
	comp=Z,186nm,21.1s,baz=218,slow=30							
J20K	Nowinta River	80.67	8	IAmb	IAmb	09 15 19.7		
	comp=Z,24nm,1.4s							
ANMO	Albuquerque	80.70	50	P	P	09 15 01.5	+1.2	
ANMO	Albuquerque	80.70	50	LR	LR	09 42 47.6		
	comp=Z,195nm,21.7s,baz=34,slow=30							
ANMO	Albuquerque	80.70	50	*ce*P	P	09 15 01.0	+0.7	
ANMO				pmax	pmax			
	comp=Z,2.0nm,1.0s							
RND	Reindeer	80.80	11	P	P	09 14 59.2	-0.8	
BNX	BinXian	80.99	322	⇑P	P	09 15 01.6	+0.3	
BNX				pmax	pmax			
	comp=Z,11nm,1.3s							
MCK	McKinley	81.08	11	P	P	09 15 00.7	-0.7	
CN2	Changchun	81.14	320	*e*P	P	09 15 00.4	-1.8	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
MSO	Missoula	81.60	37	IAmb	IAmb	09 15 24.5		
	comp=Z,19nm,1.4s							
DLBC	Dease Lake	81.64	21	LR	LR	09 43 09.6		
	comp=Z,182nm,19.3s,baz=242,slow=30							
TPAW	Teton Pass	81.65	41	IAmb	IAmb	09 15 07.3		
	comp=Z,12nm,1.2s							
S22A	4UR Ranch, Cre	81.67	47	IAmb	IAmb	09 15 31.6		
	comp=Z,14nm,1.3s							
SMAI	San Martin Ant	81.74	159	P	P	09 15 06.4	+1.4	
SNOW	Snow King Moun	81.76	41	IAmb	IAmb	09 15 07.9		
	comp=Z,14nm,1.2s							
LOHW	Long Hollow	81.93	41	IAmb	IAmb	09 15 26.7		
	comp=Z,14nm,1.4s							
HDA	Harding Lake	82.06	11	IAmb	IAmb	09 15 16.5		
	comp=Z,15nm,1.2s							
CCB	Clear Creek Bu	82.12	11	IAmb	IAmb	09 15 25.7		
	comp=Z,21nm,1.3s							
YHB	Horse Butte	82.14	39	IAmb	IAmb	09 15 28.4		
	comp=Z,24nm,1.4s							
PD31	Pinedale Array	82.18	42	IAmb	IAmb	09 15 27.6		
	comp=Z,17nm,1.4s							
PDAR	Pinedale Array	82.18	42	P	P	09 15 07.9	-0.1	
PDAR	Pinedale Array	82.18	42	P	P	09 15 08.2	+0.2	
	comp=Z,2.4nm,0.8s,baz=216,slow=3.4,SNR=14							
PDAR				LR	LR	09 45 55.5		
	comp=Z,132nm,19.5s,baz=225,slow=32							
	comp=Z,2.4nm,0.8s							
YMR	Madison River	82.24	40	IAmb	IAmb	09 15 25.4		
	comp=Z,14nm,1.4s							
BOZ	Bozeman (W)	82.31	39	IAmb	IAmb	09 15 28.6		
	comp=Z,15nm,1.4s							
I23K	Minto, Yukon-K	82.31	10	IAmb	IAmb	09 15 30.1		
	comp=Z,15nm,1.2s							
COLA	College	82.32	11	P	P	09 15 08.0	+0.1	
COLA				IAmb	IAmb	09 15 09.0		
	comp=Z,12nm,0.8s							
COLA	College	82.32	11	P	P	09 15 08.0	+0.1	
COLA				pmax	pmax			
	comp=Z,12nm,0.9s							
IL31		82.40	11	IAmb	IAmb	09 15 27.6		
	comp=Z,22nm,1.4s							
ILAR	Eielson Array	82.40	11	P	P	09 15 08.4	0.0	
	comp=Z,1.5nm,0.6s,baz=229,slow=6.1,SNR=42							
ILAR				LR	LR	09 44 35.1		
	comp=Z,184nm,20.4s,baz=200,slow=30							
	comp=Z,1.5nm,0.6s							
SEY	Seymchan	82.53	345	LR	LR	09 46 46.0		
	comp=Z,137nm,19.6s,baz=149,slow=32							
SEY	Seymchan	82.53	345	*i* P	P	09 15 09.9	+0.9	
SEY				pmax	pmax			
	comp=Z,4.0nm,1.0s							
J25K	Salcha River,	82.55	12	IAmb	IAmb	09 15 28.6		
	comp=Z,24nm,1.5s							
J26L	Joseph Creek	82.82	12	IAmb	IAmb	09 15 33.6		
	comp=Z,21nm,1.4s							
YNE	Yellowstone No	83.00	40	IAmb	IAmb	09 15 32.7		
	comp=Z,22nm,1.5s							
DRIO	Del Rio	83.00	57	IAmb	IAmb	09 15 38.1		
	comp=Z,9.0nm,1.2s							
MSTX	Muleshoe	83.06	52	IAmb	IAmb	09 15 32.6		
	comp=Z,26nm,1.5s							
WHN	Wuhan	83.17	304	P	P	09 15 07.3	-5.8	
PRP	Porcupine Dome	83.33	11	IAmb	IAmb	09 15 33.0		
	comp=Z,20nm,1.2s							
Q24A	Divide	83.40	47	IAmb	IAmb	09 15 34.7		
	comp=Z,22nm,1.4s							
E19K	Redstone River	83.44	6	IAmb	IAmb	09 15 36.9		
	comp=Z,7.0nm,0.8s							
RLMT	Red Lodge	83.51	40	IAmb	IAmb	09 15 42.5		
	comp=Z,12nm,1.2s							
CMIG	Matias Romero	83.77	70	LR	LR	09 43 13.9		
	comp=Z,131nm,21.2s,baz=234,slow=29							
J29N	Klondike Camp	83.98	15	IAmb	IAmb	09 15 20.2		
	comp=Z,16nm,1.2s							
K22A	Casper	84.09	43	IAmb	IAmb	09 15 37.4		
	comp=Z,23nm,1.4s							
PMSA	Palmer Station	84.15	156	LR	LR	09 43 34.2		
	comp=Z,79nm,21.2s,baz=262,slow=29							
BILL	Bilibino	84.50	352	*ce*P	P	09 15 18.8	-0.3	
BILL				pmax	pmax			
	comp=Z,21nm,2.5s							
BILL				MLR	MLR			
	comp=Z,61nm,18.0s							
E22K	Anaktuvuk Pass	84.73	8	IAmb	IAmb	09 15 43.4		
	comp=Z,12nm,1.1s							
APMT	Aspermont	84.85	54	IAmb	IAmb	09 15 51.2		
	comp=Z,20nm,1.4s							
ABTX	Abilene, Hawle	84.96	54	IAmb	IAmb	09 15 48.5		
	comp=Z,13nm,1.0s							
BRDY	Brady	84.98	56	IAmb	IAmb	09 15 44.6		
	comp=Z,11nm,1.4s							
I30M	Mount Dempster	85.06	15	IAmb	IAmb	09 15 41.8		
	comp=Z,16nm,1.2s							
H03S2	Juan Fernandez	85.12	124	T	T	10 49 47.0		
	baz=251,slow=74,SNR=8.1							
H03S1	Juan Fernandez	85.14	124	T	T	10 49 48.0		
	baz=251,slow=74,SNR=6.5							
H03S3	Juan Fernandez	85.14	124	T	T	10 49 46.4		
	baz=251,slow=74,SNR=6.1							
BMAR	Burnt Mountain	85.21	11	P	P	09 15 23.5	+0.8	
H03N2	Juan Fernandez	85.22	123	T	T	10 49 50.8		
	baz=257,slow=73,SNR=4.0							
H03N3	Juan Fernandez	85.22	123	T	T	10 49 51.8		
	baz=257,slow=73,SNR=4.3							
H03N1	Juan Fernandez	85.24	123	T	T	10 49 53.7		
	baz=257,slow=73,SNR=4.9							
D22K	Ayikyak River	85.32	7	IAmb	IAmb	09 15 42.7		
	comp=Z,15nm,1.2s							
ZEA	Zeya	85.46	329	*e*P	P	09 15 25.1	+0.9	
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.7s							
HNS	HongShan	85.53	311	⇑P	P	09 15 26.2	+1.3	
HNS				pmax	pmax			
	comp=Z,10.0nm,1.1s							
BJI	Beijing	85.53	313	P	P	09 15 26.2	+1.3	
BJI				pmax	pmax			
	comp=Z,7.0nm,1.5s							
RSSD	Black Hills	86.37	42	P	P	09 15 29.4	+0.2	
RSSD	Black Hills	86.37	42	P	P	09 15 29.4	+0.2	
RSSD				pmax	pmax			
	comp=Z,9.0nm,1.2s							
XLT	XiLinHaoTe	87.18	317	*e*P	P	09 15 34.0	+0.9	
XLT				pmax	pmax			
	comp=Z,11nm,1.9s							
MAW	Mawson	87.85	199	P	P	09 15 36.3	+0.6	
	comp=Z,19nm,0.9s,baz=139,slow=5.5,SNR=35							
MAW				LR	LR	09 52 33.9		
	comp=Z,173nm,20.0s,baz=117,slow=34							
	comp=Z,19nm,0.9s							
INK	Inuvik	88.22	14	LR	LR	09 47 11.5		
	comp=Z,209nm,21.7s,baz=234,slow=30							
INK	Inuvik	88.22	14	P	P	09 15 36.9	-0.4	
XAN	Xi'an	88.71	306	*e*P	P	09 15 41.3	+0.8	
XAN				pmax	pmax			
	comp=Z,8.0nm,1.4s							
HHC	Hu-ho-hao-te	89.09	313	*e*P	P	09 15 44.0	+1.8	
HHC				pmax	pmax			
	comp=Z,11nm,0.8s							
HHC				pmax	pmax			
	comp=Z,65nm,4.6s							
YAK	Yakutsk	89.14	337	LR	LR	09 48 56.0		
	comp=Z,44nm,21.6s,baz=126,slow=31							
YAK	Yakutsk	89.14	337	*e*P	P	09 15 42.1	+0.4	
YAK				pmax	pmax			
	comp=Z,9.0nm,0.9s							
YAK				pmax	pmax			
	comp=N,1.0nm,0.8s							
YAK				pmax	pmax			
	comp=E,5.0nm,1.5s							
PLCA	Paso Flores	89.44	132	P	P	09 15 43.6	-0.3	
	comp=E,3.7nm,1.1s,baz=306,slow=9.9,SNR=3.5							
PLCA				LR	LR	09 48 22.6		
	comp=E,35nm,21.1s,baz=255,slow=31							
	comp=E,3.7nm,1.1s							
YKA	Yellowknife Ar	90.03	23	P	P	09 15 45.3	-0.6	
	comp=E,1.3nm,0.7s,baz=238,slow=4.3,SNR=3.3							
YKA				LR	LR	09 49 26.5		
	comp=E,200nm,20.3s,baz=250,slow=31							
	comp=E,1.3nm,0.7s							
BTO	Baotou	90.11	312	*e*P	P	09 15 49.5	+2.5	
BTO				pmax	pmax			
	comp=E,26nm,1.0s							
BTO				pmax	pmax			
	comp=E,290nm,3.5s							
JTS	Las Juntas de	91.10	80	LR	LR	09 46 35.6		
	comp=E,130nm,21.4s,baz=274,slow=29							
MT01	Popeta	91.21	126	P	P	09 15 53.9	+1.6	
ELIB	Princess Elisa	92.16	185	*d*P	P	09 15 56.7	+0.6	
	comp=Z,29nm,1.1s							
PZH	PanZhiHua	92.36	297	P	P	09 15 58.9	+1.1	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,100nm,6.1s							
CMAR	Chiang Mai Arr	92.71	288	P	P	09 15 58.4	-1.0	
CMAR	Chiang Mai Arr	92.71	288	P	P	09 15 59.6	+0.2	
	comp=Z,1.2nm,0.3s,baz=101,slow=2.6,SNR=10							
CMAR				LR	LR	09 52 44.5		
	comp=Z,21nm,22.0s,baz=110,slow=32							
	comp=Z,1.2nm,0.3s							
CMAR	Chiang Mai Arr	92.71	288	*ce*P	P	09 16 00.3	+0.9	
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
TROLL	Troll, Antarti	92.78	179	⇑P	P	09 16 00.1	+1.2	
	comp=Z,499nm,0.8s							
ATAH	Atahualpa	92.81	98	LR	LR	09 47 44.7		
	comp=Z,98nm,20.9s,baz=249,slow=29							
VNA3	Neumayer Olymp	92.87	175	⇑P	P	09 15 59.8	+0.6	
	comp=Z,13nm,1.0s							
SNAA	Sanae	92.92	177	P	P	09 15 59.6	+0.2	
SNAA	Sanae	92.92	177	⇑P	P	09 15 59.7	+0.2	
	comp=Z,210nm,1.0s							
SNAA	Sanae	92.92	177	P	P	09 15 59.4	-0.1	
	comp=Z,12nm,1.1s,baz=190,slow=4.0,SNR=23							
	comp=Z,12nm,1.1s							
SNAA	Sanae	92.92	177	*ce*P	P	09 16 00.4	+0.9	
SNAA				pmax	pmax			
	comp=Z,18nm,1.0s							
LCO	Las Campanas	93.26	121	P	P	09 16 04.3	+2.1	
LCO	Las Campanas	93.26	121	P	P	09 16 04.3	+2.1	
LCO				pmax	pmax			
	comp=Z,15nm,1.2s							
LZH	Lanzhou	93.30	306	*e*P	P	09 15 58.7	-3.3	
LZH				pP	PcP	09 16 03.8	+1.2	
LZH				pmax	pmax			
	comp=Z,14nm,1.0s							
VNA2	Neumayer--Watz	93.36	175	⇑P	P	09 16 02.3	+0.9	
	comp=Z,9.8nm,0.9s,baz=186,slow=2.1							
VNA1	Neumayer--Stat	93.56	175	⇑P	P	09 16 03.3	+1.0	
	comp=Z,28nm,1.1s							
ULM	Lac du Bonnet	93.85	39	LR	LR	09 50 59.2		
	comp=Z,268nm,21.8s,baz=272,slow=31							
ULN	Ulaanbaatar	94.49	318	*ce*P	P	09 16 08.6	+1.4	
ULN				pmax	pmax			
	comp=Z,8.0nm,2.5s							
SONM	Songino Array	94.90	318	LR	LR	09 53 49.9		
	comp=Z,41nm,21.8s,baz=104,slow=32							
TIXI	Tiksi	95.01	344	*ce*P	P	09 16 11.2	+2.4	
TIXI				pmax	pmax			
	comp=Z,9.0nm,2.5s							
TKL	Tuckaleechee C	98.41	55	LR	LR	09 53 50.6		
	comp=Z,134nm,21.7s,baz=275,slow=31							
LPAZ	La Paz	99.71	110	LR	LR	09 54 51.7		
	comp=Z,38nm,18.4s,baz=334,slow=31							
ROSC	El Rosal	99.90	88	LR	LR	09 52 18.9		
	comp=Z,55nm,19.9s,baz=282,slow=30							
WMQ	Urumqi	106.94	312	Pdif	Pdif	09 17 03.5	+0.6	
MKAR	Makanchi Array	110.89	315	PKiKP	PKiKP	09 21 18.6	-1.3	
	comp=Z,0.7nm,0.6s,baz=197,slow=1.2,SNR=5.2							
KURK	Kurchatov	113.20	319	*i* PKIKP	PKiKP	09 21 25.2	+1.0	
KURK				pmax	pmax			
	comp=Z,2.0nm,1.1s							
KURBB	Kurchatov Arra	113.26	319	PKiKP	PKiKP	09 21 23.3	-1.0	
	comp=Z,0.6nm,0.3s,baz=93,slow=1.9,SNR=4.7							
KURBB				PP	PP	09 22 12.1	-2.6	
	comp=Z,0.4nm,0.4s,baz=91,slow=7.6,SNR=5.9							
KSH	Kashi	115.55	307	PKP	PKiKP	09 21 29.9	+0.7	
BVAR	Borovoye Array	117.93	322	PKP	PKPdf	09 21 32.5	-0.8	
	comp=Z,2.0nm,0.8s,baz=46,slow=4.3,SNR=5.2							
BRVK	Borovoye	117.99	322	*c i* PKIKP	PKPdf	09 21 32.1	-1.2	
BRVK				pmax	pmax			
	comp=Z,6.0nm,1.7s							
ARTI	Arti	123.49	328	PKPdf	PKPdf	09 21 43.5	-0.2	
ARTI	Arti	123.49	328	*i* PKIKP	PKPdf	09 21 43.7	-0.1	
ARTI						09 23 23.4		
ARTI						09 28 55.4		
ARCES	ARCESS Array B	124.60	352	PKP	PKPdf	09 21 44.9	-0.7	
	comp=Z,2.1nm,0.5s,baz=21,slow=1.6,SNR=18							
AKTO	Aktyubinsk	126.04	322	PKP	PKPdf	09 21 47.1	-1.7	
	comp=Z,1.9nm,0.7s,baz=30,slow=2.2,SNR=4.5							
KIRV	Kirov	126.57	334	PKP	PKPdf	09 21 48.5	-1.0	
	comp=Z,6.7nm,0.5s,baz=16,slow=3.7,SNR=4.5							
KLMR	Klimovskoe	128.81	340	*e*PKIKP	PKPdf	09 21 50.6	-3.2	
KLMR				pmax	pmax			
	comp=Z,19nm,1.5s							
BELG	Belogornoye	130.92	328	PKP	PKPdf	09 21 56.7	-1.3	
	comp=Z,6.1nm,0.4s,baz=143,slow=4.5,SNR=5.1							
FINES	FINESS Array B	131.95	348	PKP	PKPdf	09 21 58.4	-1.3	
	comp=Z,0.7nm,0.5s,baz=29,slow=4.4,SNR=4.5							
OBN	Obninsk	134.14	337	*de*PKIKP	PKPdf	09 22 04.0	0.0	
OBN				*e*		09 24 35.0		
OBN				*e*		09 29 06.2		
OBN				pmax	pmax			
	comp=Z,7.0nm,0.9s							
MNK	Minsk	137.62	342	*i* PKP	PKPdf	09 22 10.5	-0.1	
	comp=E,16nm,0.7s							
MNK				*i* PKP	PKPdf	09 22 10.5	-0.1	
	comp=N,14nm,0.7s							
MNK				*i* PKP	PKPdf	09 22 10.5	-0.1	
	comp=Z,8.0nm,0.5s,baz=31							
MNK				*i* PP	PP	09 24 57.3	+1.0	
MNK				*i* PPP	PPP	09 27 57.0		
MNK				*i* SKS	SKSdf	09 29 21.2	-0.1	
MNK				*i* SKKS	SKKSdf	09 38 56.3	-2.8	
MNK				*i* SS	SS	09 43 07.5	+3.1	
MNK				*i* SSS	SSS	09 48 14.2		
MNK				*i* LQ	LQ	10 13 26.4		
MNK				*i* LR	LR	10 20 42.9		
MNK				*i* LRM	MLR	10 22 27.6		
	comp=Z,91nm,15.3s							
MNK				*i* LRM	MLR	10 22 37.1		
	comp=N,69nm,15.3s							
MNK				*i* LRM	MLR	10 22 40.0		
	comp=E,75nm,15.9s							
MNK	Minsk	137.62	342	*i* PKIKP	PKPdf	09 22 10.5	-0.1	
MNK				*i*		09 24 57.3		
MNK				*i* PPP	PPP	09 27 56.9		
MNK				*i*		09 29 21.2		
MNK				*i* SS	SS	09 43 07.4	+3.0	
MNK				*i* SSS	SSS	09 48 14.2		
MNK				pmax	pmax			
	comp=Z,8.0nm,0.5s							
MNK				pmax	pmax			
	comp=E,16nm,0.7s							
MNK				pmax	pmax			
	comp=N,14nm,0.7s							
MNK				MLR	MLR			
	comp=Z,91nm,15.0s							
MNK				MLR	MLR			
	comp=N,69nm,15.0s							
MNK				MLR	MLR			
	comp=E,75nm,16.0s							
KIV	Kislovodsk	138.25	320	*i* PKIKP	PKPdf	09 22 10.6	-1.6	
KIV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
SHA1	Shidzhatmaz	138.39	320	*i* PKIKP	PKiKP	09 22 14.6	-0.1	
AK03	Malin Array Si	140.34	338	PKP	PKPdf	09 22 14.7	-1.0	
AKASG	Malin Array Be	140.36	338	PKP	PKPdf	09 22 15.4	-0.3	
	comp=Z,0.4nm,0.3s,baz=38,slow=2.2,SNR=11							
AKBB	Malin Array Si	140.36	338	PKP	PKPdf	09 22 14.9	-0.8	
AK04	Malin Array Si	140.37	338	PKP	PKPdf	09 22 14.6	-1.1	
AK21	Malin Array Si	140.37	338	PKP	PKPdf	09 22 15.0	-0.7	
MI28	Mi28,Pidlybu	140.73	339	PKP	PKPdf	09 22 15.1	-1.3	
RNPP5	Staryi Chortor	141.06	341	PKP	PKPdf	09 22 16.2	-0.8	
LUBAR	Lubar, Ukraine	141.54	338	PKP	PKPdf	09 22 16.7	-1.2	
ARPR	Arapgir-MALATY	143.59	317	PKPdf	PKPbc	09 22 19.5	+0.1	
CLL	Collm	143.81	353	*i* PKIKP	PKPbc	09 22 20.0	+0.6	
CLL	Collm	143.81	353	*i* PKPdf	PKPbc	09 22 20.0	+0.6	
TSUM	Tsumeb	144.01	198	PKPdf	PKPbc	09 22 21.9	+0.8	
STHS	Stebnicka Huta	144.04	344	*e*PKIKP	PKPab	09 22 19.0	-0.7	
STHS	Stebnicka Huta	144.04	344	*e*PKP	PKPab	09 22 19.0	-0.7	
MEZ	Mezhgor'ye	144.18	341	PKP	PKPbc	09 22 21.2	+0.5	
DPC	Dobruska-Polom	144.26	349	PKP	PKPbc	09 22 21.9	+1.0	
NIE	Niedzica	144.28	345	*e*PKP	PKPdf	09 22 22.7	-0.1	
NIE	Niedzica	144.28	345	PKP	PKPbc	09 22 21.9	+0.9	
BUR08	Bucovina Ar. S	144.37	338	PKPdf	PKPbc	09 22 21.9	+0.4	
BURAR	Bucovina Array	144.39	338	⇑P	PKPbc	09 22 21.7	+0.2	
BURAR	Bucovina Array	144.39	338	⇑PKIKP	PKPbc	09 22 21.7	+0.2	
BRIU	Brid	144.49	341	PKP	PKPbc	09 22 22.2	+0.6	
MUKU	Mukachevo	144.49	342	PKP	PKPbc	09 22 22.2	+0.6	
HOLU	Holmets	144.52	342	PKP	PKPbc	09 22 22.3	+0.6	
MORC	Moravsky Berou	144.58	348	*e*PKP	PKPbc	09 22 22.7	+0.7	
KORU	Korolevo	144.62	341	PKP	PKPbc	09 22 22.5	+0.5	
LANS	Liptovska Anna	144.74	345	*e*PKIKP	PKPdf	09 22 24.0	+0.4	
LANS	Liptovska Anna	144.74	345	*e*PKP	PKPdf	09 22 24.0	+0.4	
MAUC	Maruska	144.91	347	*e*PKP	PKPbc	09 22 23.7	+0.7	
ONER	Baraj Valea Uz	145.02	336	⇓P	PKPbc	09 22 23.9	+0.4	
VRAC	Vranov	145.21	349	PKPbc	PKPab	09 22 24.4	+0.3	
	comp=Z,5.0nm,0.7s,baz=61,slow=1.9,SNR=13							
VRAC	Vranov	145.21	349	*e*PKP	PKPab	09 22 24.5	+0.4	
VRAC	Vranov	145.21	349	⇓P	PKPdf	09 22 24.9	+0.5	
VRAC	Vranov	145.21	349	⇓PKIKP	PKPdf	09 22 24.9	+0.5	
CFR	Carcaliu	145.23	333	⇑P	PKPab	09 22 24.5	+0.3	
CFR	Carcaliu	145.23	333	⇑PKIKP	PKPab	09 22 24.5	+0.3	
VRI	Vrincioaia	145.27	335	⇑P	PKPbc	09 22 24.5	+0.2	
VRI	Vrincioaia	145.27	335	⇑PKIKP	PKPbc	09 22 24.5	+0.2	
PLOR	Plostina	145.32	335	⇑P	PKPbc	09 22 24.7	+0.2	
PLOR	Plostina	145.32	335	⇑PKIKP	PKPbc	09 22 24.7	+0.2	
TURR	Turia	145.40	336	⇓P	PKPdf	09 22 25.5	+0.7	
JAVC	Velka Javorina	145.42	347	*e*PKP	PKPdf	09 22 26.2	+1.4	
OZUR		145.46	336	⇓P	PKPdf	09 22 25.7	+0.8	
KRUC	Moravsky	145.49	349	*e*PKP	PKPab	09 22 25.3	+0.3	
ZVC	Zvikov	145.49	351	*e*PKP	PKPab	09 22 25.3	+0.3	
COVR	Voineasa-Covas	145.50	336	⇓P	PKPbc	09 22 24.9	-0.1	
VYHS	Vyhne	145.50	346	*e*PKIKP	PKPab	09 22 25.8	+0.6	
VYHS	Vyhne	145.50	346	*e*PKP	PKPab	09 22 25.8	+0.6	
KMBO	Kilima Mbogo	145.64	244	PKPbc	PKPdf	09 22 27.1	+0.6	
	comp=Z,13nm,0.9s,baz=82,slow=4.1,SNR=34							
HARR	Harsova	145.71	333	⇓P	PKPbc	09 22 26.1	+0.5	
HARR	Harsova	145.71	333	⇓PKIKP	PKPbc	09 22 26.1	+0.5	
DOPR	Dopca	145.72	337	⇑P	PKPab	09 22 26.3	+0.3	
NEHR	Nehoiu	145.81	335	⇑P

comp=Z,0.6nm,0.3s,baz=58,slow=5,4,SNR=9.4
BOVS Bovan 149.07 339 ⇑P **PKPbc 09 22 34.2 -0.9**
MBAR Mbarara 151.44 238*c i*PKIKP **PKiKP 09 22 43.3 +0.9**
MBAR pmax pmax
comp=Z,15nm,1.3s
ESDC Sonseca Array 154.05 19 PKPab **PKPab 09 22 57.1 -3.1**
comp=Z,0.9nm,0.9s,baz=343,slow=4.0,SNR=3.1
DBIC Dimbokro 165.73 126 PKP **PKPdf 09 22 51.4 -1.1**
comp=Z,3.4nm,0.9s,baz=126,slow=2.0,SNR=3.3
TORD Torodi Ar. Bea 174.65 114 PKP **PKPdf 09 22 55.8 -1.7**
comp=Z,2.8nm,1.1s,baz=336,slow=5.0,SNR=9.7
TORD PKPab **PKPab 09 24 30.3 -0.9**
comp=Z,1.3nm,1.1s,baz=263,slow=3.6,SNR=3.2

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*DJA **08** 09:05:25.9±0.3, 7°S±3°×10°5E±°, h10km, M4.4/12, mb4.4/4, MLv4.4/12*
*IDC **08** 09:05:51.2±25.0, 6°.20S×105°.39E, h226km±197km, mb3.6/12, mbtmp4.2/12, MS4.0/1, Error ellipse: s-maj=119.8km s-min=41.3km az=174.0*
ISC 08 09:05:28.8±1.0, **6°9S**±0°.2×**105°4E**±0°.1, **h56**km, **n40, σ1°32/27, mb4.3**/13, **Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**1.12**	**94**	P	**Pn**	**09 05 47.8**	**-0.5**
DBJI	**Dramaga**	**1.36**	**74**	P	**Pn**	**09 05 50.7**	**-0.9**
TNG	**Tangerang**	**1.42**	**58**	P	Pn	09 05 57.8	+5.4
CBJI	**Citeko**	**1.49**	**70**	P	**Pn**	**09 05 54.7**	**+1.3**
KASI	**Kota Agung**	**1.68**	**326**	P	**Pn**	**09 05 57.9**	**+2.0**
CNJI	**Cibinong**	**1.73**	**103**	P	**Pn**	**09 05 55.8**	**-0.7**
LEM	**Lembang**	**2.17**	**88**	P	**Pn**	**09 06 04.1**	**+1.4**
LWLI	**Liwa**	**2.34**	**324**	P	**Pn**	**09 06 08.0**	**+3.0**
KPJI	**Karang Pucung**	**3.49**	**97**	P	**Pn**	**09 06 23.9**	**+3.2**
UGM	**Wanagama**	**5.14**	**101**	P	**Pn**	**09 06 43.8**	**+0.4**
	120nm,2.0s						
PCJI	**Pacitan**	**5.83**	**103**	P	**Pn**	**09 06 54.4**	**+1.6**
	41nm,1.1s,0.3nm						
PWJI	**Pagerwojo**	**6.41**	**100**	P	**Pn**	**09 07 01.6**	**+0.9**
	24nm,0.8s,0.3nm						
JAGI	**Jajag, Banyuwa**	**8.78**	**101**	P	**Pn**	**09 07 34.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**26.02**	**346**	P	**P**	**09 10 57.9**	**+1.0**
	1.0nm,0.3s,baz=183,slow=9.5,SNR=4.9						
CMAR				LR	LR	09 21 50.4	
	comp=Z,14nm,19.7s,baz=150,slow=38						
	1.0nm,0.3s						
H01W3	**Cape Leeuwin H**	**28.95**	**165**	T	T	09 41 42.4	
	baz=344,slow=76,SNR=93						
H01W1	**Cape Leeuwin H**	**28.97**	**165**	T	T	09 41 43.5	
	baz=344,slow=76,SNR=100						
H01W2	**Cape Leeuwin H**	**28.97**	**165**	T	T	09 41 44.4	
	baz=344,slow=76,SNR=69						
H08S2	**Diego Garcia H**	**32.68**	**267**	T	T	09 46 12.2	
	baz=91,slow=75,SNR=113						
H08S3	**Diego Garcia H**	**32.69**	**267**	T	T	09 46 12.7	
	baz=91,slow=75,SNR=117						
H08S1	**Diego Carcia H**	**32.70**	**267**	T	T	09 46 11.1	
	baz=91,slow=75,SNR=104						
KSRS	**Korea Array**	**48.89**	**24**	P	**P**	**09 14 09.1**	**0.0**
	1.0nm,0.6s,baz=239,slow=8.4,SNR=2.9						
	1.0nm,0.6s						
SONM	**Songino Array**	**54.53**	**1**	P	**P**	**09 14 50.9**	**-0.3**
	0.4nm,0.4s,baz=181,slow=9.7,SNR=2.2						
SONM				PcP	**PcP**	**09 15 54.7**	**+0.8**
	0.8nm,0.6s,baz=202,slow=2.6,SNR=4.5						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**57.30**	**341**	P	**P**	**09 15 10.1**	**-0.9**
	0.8nm,0.5s,baz=144,slow=8.6,SNR=8.1						
	0.8nm,0.5s						
H04N2	**CROZET ISLANDS**	**60.31**	**220**	T	T	10 21 13.7	
	baz=66,slow=75,SNR=43						
H04N1	**CROZET ISLANDS**	**60.33**	**220**	T	T	10 21 12.7	
	baz=66,slow=75,SNR=37						
H04N3	**CROZET ISLANDS**	**60.33**	**220**	T	T	10 21 11.8	
	baz=66,slow=75,SNR=47						
H04S1	**CROZET ISLANDS**	**60.51**	**219**	T	T	10 21 25.0	
	baz=64,slow=76,SNR=10.0						
H04S3	**CROZET ISLANDS**	**60.52**	**219**	T	T	10 21 25.4	
	baz=64,slow=76,SNR=8.7						
H04S2	**CROZET ISLANDS**	**60.53**	**219**	T	T	10 21 27.6	
	baz=64,slow=76,SNR=9.8						
KURBB	**Kurchatov Arra**	**61.86**	**341**	P	**P**	**09 15 41.5**	**-0.7**
	0.8nm,0.2s,baz=154,slow=6.0,SNR=1.7						
	0.8nm,0.2s						
ZALV	**Zalesovo Beam**	**63.09**	**347**	P	**P**	**09 15 49.3**	**-1.0**
	1.7nm,0.5s,baz=160,slow=4.7,SNR=6.1						
	1.7nm,0.5s						
BVAR	**Borovoye Array**	**66.70**	**338**	P	**P**	**09 16 13.5**	**-0.4**
	2.4nm,0.5s,baz=140,slow=9.4,SNR=10						
	2.4nm,0.5s						
AKTO	**Aktyubinsk**	**70.28**	**330**	P	**P**	**09 16 36.7**	**+0.5**
	0.9nm,0.5s,baz=117,slow=4.6,SNR=4.1						
	0.9nm,0.5s						
NRIK	**Noril'sk**	**77.09**	**354**	P	**P**	**09 17 15.6**	**-0.2**
	1.4nm,0.4s,baz=152,slow=6.7,SNR=4.1						
	1.4nm,0.4s						
TIXI	**Tiksi**	**79.93**	**7**	P	**P**	**09 17 29.9**	**-1.4**
	2.6nm,0.6s,baz=222,slow=0.6,SNR=5.9						
	2.6nm,0.6s						
BRTR	**Keskin Array B**	**80.62**	**312**	P	**P**	**09 17 36.1**	**+0.2**
	1.5nm,0.7s,baz=134,slow=7.2,SNR=6.7						
	1.5nm,0.7s						
ARCES	**ARCESS Array B**	**92.93**	**340**	P	**P**	**09 18 35.0**	**-0.5**
	2.7nm,0.9s,baz=104,slow=7.5,SNR=4.1						
	2.7nm,0.9s						
SPITS	**Spitsbergen Ar**	**96.54**	**348**	LR	LR	10 06 37.7	
	comp=Z,77nm,21.6s,baz=280,slow=38						
KEST	**Kesra**	**98.94**	**305**	P	**P**	**09 19 04.1**	**+0.4**
	4.8nm,0.5s,baz=168,slow=3.9,SNR=5.2						
TXAR	**Lajitas Array**	**144.67**	**47**	PKP	**PKPdf**	**09 25 00.0**	**-0.1**
	0.8nm,0.5s,baz=302,slow=1.3,SNR=13						

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*IDC **08** 09:14:15.4±1.5, 37°.51N×20°.81E, h0km, mb3.5/4, mbtmp3.5/5, MS2.7/1, Error ellipse: s-maj=32.1km s-min=26.5km az=76.0*
*ATH **08** 09:14:18.3, 37°.32N×20°.78E, h10km±1km, ML3.5/15, Error ellipse: s-maj=2.2km s-min=1.0km az=46.0*
*THE **08** 09:14:19.1, 37°.40N×20°.79E, h11km, ML3.6/13, Error ellipse: s-maj=1.1km s-min=0.4km az=48.0*
ISC 08 09:14:18.4±1.1, **37°38N**±0°.03×**20°79E**±0°.03, **h17**km±7km, **n58, σ0°75/89, mb3.5**/4, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.28**	**4**	P	**Pg**	**09 14 24.7**	**+0.2**
KRI1				S	**Sg**	**09 14 28.7**	**-0.1**
	39μm,0.5s						
LTHK	**Lithakia**	**0.33**	**6**	P	**Pg**	**09 14 25.1**	**-0.3**
LTHK				S	**Sb**	**09 14 30.5**	**-0.3**
	32μm,0.5s						
LTHK	**Lithakia**	**0.33**	**6**	P	**Pg**	**09 14 25.5**	**+0.1**
LTHK				S	**Sb**	**09 14 30.6**	**-0.3**
LTHK				AML	AML	09 14 30.8	
	comp=E,49309μm,0.5s						
LTHK				AML	AML	09 14 31.0	
	comp=N,74647μm,0.5s						
RTZL	**Ratzakli, Kefa**	**0.70**	**359**	P	**Pg**	**09 14 31.6**	**-0.4**
RTZL				S	**Sb**	**09 14 42.0**	**+0.6**
	comp=N,8μm,0.6s						
AMT	**Artemida-Makis**	**0.74**	**78**	P	**Pb**	**09 14 33.4**	**+0.5**
AMT				S	**Sb**	**09 14 43.5**	**+0.7**
AMT				AML	AML	09 14 48.5	
	comp=E,18374μm,0.3s						
AMT				AML	AML	09 14 48.6	
	comp=N,16335μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.75**	**347**	P	**Pg**	**09 14 32.3**	**-0.8**
PSDA				S	**Sb**	**09 14 44.2**	**+1.2**
	comp=N,10μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.75**	**347**	P	**Pg**	**09 14 32.7**	**-0.4**
PSDA				S	**Sb**	**09 14 44.2**	**+1.2**
VLS	**Valsamata**	**0.81**	**349**	P	**Pg**	**09 14 33.5**	**-0.7**
VLS				S	**Sn**	**09 14 46.0**	**-0.7**
	comp=N,4μm,0.5s						
VLS	**Valsamata**	**0.81**	**349**	P	**Pg**	**09 14 33.5**	**-0.7**
VLS				S	**Sn**	**09 14 46.1**	**-0.7**
VLS				AML	AML	09 14 47.1	
	comp=E,9249μm,0.4s						
VLS				AML	AML	09 14 50.1	
	comp=N,8224μm,0.5s						
RLS	**Riolos of Patr**	**0.86**	**38**	P	**Pg**	**09 14 34.8**	**-0.3**
RLS				S	**Sn**	**09 14 47.8**	**-0.1**
	comp=N,1μm,0.5s						
RLS	**Riolos of Patr**	**0.86**	**38**	P	**Pg**	**09 14 34.8**	**-0.3**
RLS				S	**Sn**	**09 14 47.8**	**-0.1**
RLS				AML	AML	09 14 51.2	
	comp=E,2112μm,0.5s						
RLS				AML	AML	09 14 53.9	
	comp=N,2732μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.87**	**341**	P	**Pg**	**09 14 35.2**	**0.0**
LXRA				S	**Sn**	**09 14 49.2**	**+1.2**
PYL	**PYLOS**	**0.90**	**122**	P	**Pb**	**09 14 35.2**	**-0.3**
PYL				S	**Sn**	**09 14 49.8**	**+1.0**
	comp=N,2μm,0.3s						
PYL	**PYLOS**	**0.90**	**122**	P	**Pb**	**09 14 35.4**	**-0.1**
PYL				S	**Sb**	**09 14 46.1**	**-1.1**
PYL				AML	AML	09 14 51.5	
	comp=N,3007μm,0.3s						
PYL				AML	AML	09 14 51.5	
	comp=E,4489μm,0.3s						
DMLN	**Damoulianata-K**	**0.92**	**339**	P	**Pb**	**09 14 36.0**	**+0.1**
DMLN				S	**Sn**	**09 14 49.6**	**+0.2**
	comp=E,5μm,0.4s						
DMLN	**Damoulianata-K**	**0.92**	**339**	P	**Pn**	**09 14 37.5**	**+0.9**
DMLN				S	**Sn**	**09 14 50.8**	**+1.4**
DRO	**Drossia**	**0.93**	**52**	P	**Pb**	**09 14 35.9**	**-0.1**
DRO				S	**Sn**	**09 14 49.3**	**-0.2**
	comp=E,4μm,0.7s						
DRO	**Drossia**	**0.93**	**52**	P	**Pb**	**09 14 36.0**	**0.0**
DRO				S	**Sn**	**09 14 50.2**	**+0.7**
DRO				AML	AML	09 14 56.9	
	comp=N,6918μm,0.6s						
DRO				AML	AML	09 15 03.1	
	comp=E,8721μm,0.7s						
ITM	**Ithomi**	**0.93**	**102**	P	**Pg**	**09 14 36.7**	**+0.4**
ITM				S	**Sn**	**09 14 50.6**	**+1.1**
	comp=E,1μm,0.7s						
ITM	**Ithomi**	**0.93**	**102**	P	**Pb**	**09 14 36.2**	**+0.3**
ITM				S	**Sg**	**09 14 48.8**	**+0.2**
ITM				AML	AML	09 15 00.0	
	comp=E,2976μm,0.7s						
ITM				AML	AML	09 15 00.4	
	comp=N,2627μm,0.8s						
VSK1	**VASILIKIADES**	**1.04**	**350**	P	**Pb**	**09 14 38.2**	**+0.2**
VSK1				S	**Sn**	**09 14 54.3**	**+1.9**
	comp=N,4μm,0.5s						
FSK	**Fiskardo**	**1.09**	**350**	P	**Pb**	**09 14 38.0**	**-0.8**
FSK				S	**Sn**	**09 14 54.4**	**+0.8**
	comp=N,3μm,0.6s						
FSK	**Fiskardo**	**1.09**	**350**	P	**Pg**	**09 14 39.9**	**+0.4**
FSK				S	**Sn**	**09 14 55.7**	**+2.1**
FSK				AML	AML	09 14 57.9	
	comp=N,5445μm,0.5s						
FSK				AML	AML	09 15 00.6	
	comp=E,5459μm,0.7s						
UPR	**University Cam**	**1.20**	**41**	P	**Pg**	**09 14 41.6**	**+0.1**
UPR	**University Cam**	**1.20**	**41**	P	**Pg**	**09 14 42.0**	**+0.5**
EVGI	**Lefkada island**	**1.24**	**355**	P	**Pn**	**09 14 41.0**	**0.0**
EVGI				S	**Sg**	**09 14 58.2**	**-0.5**
	comp=E,2μm,0.4s						
EVGI	**Lefkada island**	**1.24**	**355**	P	**Pn**	**09 14 40.9**	**-0.1**
EVGI				S	**Sg**	**09 14 59.4**	**+0.7**
KLV	**Kalavryta, Ach**	**1.26**	**58**	P	**Pn**	**09 14 41.6**	**+0.3**
KLV	**Kalavryta, Ach**	**1.26**	**58**	P	**Pn**	**09 14 41.6**	**+0.3**
KLV				S	**Sn**	**09 14 58.4**	**+0.5**
KLV				AML	AML	09 15 09.6	
	comp=E,1534μm,0.8s						
KLV				AML	AML	09 15 16.9	
	comp=N,1211μm,0.7s						
DRAG	**Dragano-Lefkad**	**1.31**	**353**	P	**Pn**	**09 14 42.4**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.31**	**353**	P	**Pn**	**09 14 42.4**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.33**	**357**	P	**Pn**	**09 14 42.5**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.33**	**357**	P	**Pn**	**09 14 42.4**	**+0.2**
NYDR				S	**Sn**	**09 15 00.1**	**+0.5**
GUR	**Goura**	**1.35**	**65**	P	**Pn**	**09 14 43.2**	**+0.7**
GUR	**Goura**	**1.35**	**65**	P	**Pn**	**09 14 43.0**	**+0.5**
GUR				AML	AML	09 15 12.4	
	comp=N,2942μm,0.7s						
GUR				AML	AML	09 15 18.2	
	comp=E,2296μm,0.6s						
ALIK	**Aliki, Aigiali**	**1.36**	**49**	P	**Pb**	**09 14 43.5**	**+0.1**
EFP	**Efpalio**	**1.37**	**40**	P	**Pb**	**09 14 43.6**	**+0.1**
EFP	**Efpalio**	**1.37**	**40**	P	**Pn**	**09 14 42.6**	**0.0**
EFP				S	**Sg**	**09 15 02.6**	**+0.1**
EFP				AML	AML	09 15 09.1	
	comp=N,1897μm,0.8s						
EFP				AML	AML	09 15 11.0	
	comp=E,1445μm,0.4s						
LKD2	**Lefkada island**	**1.41**	**356**	P	**Pb**	**09 14 44.5**	**+0.2**
LKD2	**Lefkada island**	**1.41**	**356**	P	**Pb**	**09 14 44.6**	**+0.4**
LKD2				S	**Sn**	**09 15 01.8**	**+0.2**
LKD2				AML	AML	09 15 10.9	
	comp=E,3772μm,0.6s						
LKD2				AML	AML	09 15 16.4	
	comp=N,2207μm,0.6s						
TSLK	**Tsoukalades, L**	**1.45**	**356**	P	**Pn**	**09 14 44.6**	**+0.8**
TSLK	**Tsoukalades, L**	**1.45**	**356**	P	**Pb**	**09 14 45.1**	**+0.3**
TSLK				S	**Sg**	**09 15 04.1**	**-1.0**
TSLK				AML	AML	09 15 11.2	
	comp=N,4480μm,0.5s						
TSLK				AML	AML	09 15 12.3	
	comp=E,3283μm,0.9s						
KALE	**Kalithea**	**1.47**	**46**	P	**Pn**	**09 14 44.3**	**+0.2**
ANX	**Ano Chora**	**1.50**	**36**	P	**Pb**	**09 14 46.0**	**+0.1**
ANX	**Ano Chora**	**1.50**	**36**	P	**Pb**	**09 14 45.7**	**-0.2**
ANX				S	**Sn**	**09 15 04.1**	**+0.2**
ANX				AML	AML	09 15 14.5	
	comp=N,4151μm,0.6s						
ANX				AML	AML	09 15 15.9	
	comp=E,3739μm,0.6s						
EVR	**Evrytania**	**1.73**	**27**	P	**Pn**	**09 14 48.5**	**+0.7**
EVR	**Evrytania**	**1.73**	**27**	P	**Pn**	**09 14 47.9**	**+0.1**
EVR				AML	AML	09 15 22.5	
	comp=E,1651μm,0.6s						
EVR				AML	AML	09 15 22.7	
	comp=N,1532μm,0.8s						
AXAR	**Agios Charalam**	**2.02**	**46**	P	**Pn**	**09 14 53.3**	**+1.6**
AGG	**Agios Georgios**	**2.04**	**36**	P	**Pn**	**09 14 52.8**	**+0.9**
IGT	**Igoumenitsa**	**2.18**	**351**	P	**Pn**	**09 14 54.9**	**+1.0**
THL	**Klokotos Trika**	**2.38**	**23**	P	**Pn**	**09 14 58.3**	**+1.7**
DION	**Dionisos Attik**	**2.58**	**73**	P	**Pn**	**09 14 59.0**	**-0.4**
IDI	**Anoyia**	**3.91**	**121**	Pn	**Pn**	**09 15 18.1**	**+0.4**
	comp=N,10nm,1.1s,baz=224,slow=1.9,SNR=1.7						
IDI				Sn	**Sn**	**09 16 04.2**	**+0.9**
	comp=N,1.8nm,0.3s,baz=278,slow=23,SNR=6.6						
MLR	**Muntele Rosu**	**8.98**	**24**	LR	LR	09 19 44.9	
	comp=N,50nm,20.9s,baz=266,slow=37						
HFS	**Hagfors**	**23.22**	**351**	P	**P**	**09 19 22.3**	**-2.0**
	comp=N,1.0nm,0.6s,baz=161,slow=20,SNR=2.0						
	comp=N,1.0nm,0.6s						
FINES	**FINESS Array B**	**24.32**	**6**	P	**P**	**09 19 33.1**	**-1.7**
	comp=N,0.8nm,0.7s,baz=174,slow=15,SNR=1.3						
	comp=N,0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.55**	**220**	P	**P**	**09 20 22.8**	**+0.5**
	comp=N,0.5nm,0.8s,baz=27,slow=9.4,SNR=2.9						
	comp=N,0.5nm,0.8s						
MKAR	**Makanchi Array**	**45.54**	**58**	P	**P**	**09 22 36.3**	**-0.8**
	comp=N,0.6nm,0.6s,baz=270,slow=7.1,SNR=4.3						
	comp=N,0.6nm,0.6s						

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*IDC **08** 09:27:38.5±8.5, 34°.88N×22°.71E, h0km, mb3.8/3, mbtmp3.6/4, ML2.8/1, Error ellipse: s-maj=152.8km s-min=50.4km az=23.0*
*ATH **08** 09:27:45.2, 34°.93N×22°.86E, h13km±2km, ML3.1/6, Error ellipse: s-maj=3.0km s-min=1.6km az=53.0*
*THE **08** 09:27:47.5, 34°.99N×23°.03E, h13km±5km, ML3.0/3, Error ellipse: s-maj=5.9km s-min=1.0km az=232.0*
ISC 08 09:27:42.6±2.4, **34°90N**±0°.09×**22°79E**±0°.08, **h14**km±11km, **n22, σ1°24/31, mb3.6**/3, **Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.81**	**65**	P	**Pg**	**09 27 58.0**	**-0.3**
KNDR				S	**Sb**	**09 28 08.9**	**-0.2**
KNDR				AML	AML	09 28 11.1	
	comp=E,5288μm,0.5s						
KNDR				AML	AML	09 28 12.7	
	comp=N,7268μm,0.6s						
ANKY	**Antikythira Is**	**1.05**	**23**	P	**Pn**	**09 28 04.2**	**+1.4**
ANKY				S	**Sn**	**09 28 17.7**	**+0.4**
	comp=N,865nm,0.6s						
ANKY	**Antikythira Is**	**1.05**	**23**	P	**Pn**	**09 28 04.3**	**+1.4**
ANKY				S	**Sn**	**09 28 17.1**	**-0.1**
ANKY				AML	AML	09 28 18.3	
	comp=N,1795μm,0.7s						
ANKY				AML	AML	09 28 19.9	
	comp=E,1658μm,0.4s						
GVD	**Gavdhos**	**1.07**	**93**	P	**Pn**	**09 28 04.5**	**+1.4**
GVD				S	**Sb**	**09 28 17.4**	**+0.8**
	comp=E,1μm,0.4s						
GVD	**Gavdhos**	**1.07**	**93**	P	**Pn**	**09 28 04.4**	**+1.4**
GVD				S	**Sb**	**09 28 17.6**	**+1.0**
GVD				AML	AML	09 28 21.8	
	comp=N,2949μm,0.4s						
GVD				AML	AML	09 28 22.8	
	comp=E,2407μm,0.4s						
IMMV	**Iera Moni Meta**	**1.12**	**60**	P	**Pb**	**09 28 04.4**	**+0.7**
IMMV				S	**Sg**	**09 28 17.7**	**-1.2**
	comp=E,1μm,0.7s						
IMMV	**Iera Moni Meta**	**1.12**	**60**	P	**Pb**	**09 28 04.5**	**+0.7**
IMMV				S	**Sn**	**09 28 18.7**	**-0.4**
IMMV				AML	AML	09 28 22.5	
	comp=N,2064μm,0.9s						
IMMV				AML	AML	09 28 23.3	
	comp=E,2469μm,0.5s						
CHAN	**Chania**	**1.20**	**59**	P	**Pb**	**09 28 05.5**	**+0.5**
CHAN				S	**Sn**	**09 28 21.6**	**+0.8**
CHAN				AML	AML	09 28 26.0	
	comp=E,2049μm,0.5s						
CHAN				AML	AML	09 28 29.7	
	comp=N,2337μm,0.8s						
PRNS	**Prines Rethymn**	**1.48**	**71**	P	**Pn**	**09 28 08.8**	**+0.1**
IDI	**Anoyia**	**1.76**	**77**	P	**Pn**	**09 28 13.8**	**+1.1**
IDI	**Anoyia**	**1.76**	**77**	P	**Pn**	**09 28 14.0**	**+1.3**
VLI	**Veliai**	**1.82**	**4**	P	**Pb**	**09 28 16.6**	**+1.0**
VLI	**Veliai**	**1.82**	**4**	P	**Pn**	**09 28 15.2**	**+1.8**
VLI				S	**Sn**	**09 28 37.2**	**+0.9**
VLI				AML	AML	09 28 49.4	
	comp=N,427μm,0.7s						
VLI				AML	AML	09 29 01.9	
	comp=E,382μm,0.8s						
MHLO	**Agia Marina, M**	**2.21**	**36**	P	**Pn**	**09 28 20.1**	**+1.3**
MHLO	**Agia Marina, M**	**2.21**	**36**	P	**Pn**	**09 28 20.3**	**+1.5**
SNT5	**Nea Kammeni, S**	**2.60**	**54**	P	**Pn**	**09 28 24.4**	**+0.3**
ZKR	**Zakros**	**2.82**	**85**	P	**Pn**	**09 28 29.1**	**+1.9**
KARP	**Karpathos**	**3.63**	**79**	P	**Pn**	**09 28 40.2**	**+1.8**
BRTR	**Keskin Array B**	**9.89**	**58**	Pn	**Pn**	**09 30 05.3**	**+0.9**
	comp=E,0.1nm,0.3s,baz=238,slow=13,SNR=2.5						
	comp=E,0.6nm,0.8s						
FINES	**FINESS Array B**	**26.64**	**4**	P	**P**	**09 33 18.7**	**-1.8**
	comp=E,1.2nm,0.9s,baz=153,slow=29,SNR=1.5						
	comp=E,1.2nm,0.9s						
ARCES	**ARCESS Array B**	**34.72**	**2**	P	**P**	**09 34 29.9**	**-1.8**
	comp=E,1.7nm,0.8s,baz=202,slow=9.3,SNR=2.2						
	comp=E,1.7nm,0.8s						
MKAR	**Makanchi Array**	**45.53**	**56**	P	**P**	**09 36 00.3**	**-1.3**
	comp=E,0.4nm,0.5s,baz=270,slow=8.1,SNR=6.8						
	comp=E,0.4nm,0.5s						

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*IDC **08** 09:38:05.2±2.7, 5°.46S×131°.05E, h0km, mb3.7/1, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=117.3km s-min=29.5km az=78.0*
*DJA **08** 09:38:14.9±0.5, 5°S±4°×13°1E±°, h10km, M4.0/7, MLv4.0/7*
ISC 08 09:38:07.8±0.9, **6°03S**±0°.05×**131°01E**±0°.07, **h35**km, **n10, σ2°64/15, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.85**	**324**	P	**Pn**	**09 38 38.9**	**+1.8**
BNDI				S	**Sn**	**09 39 00.3**	**+1.0**
SAUI	**Saumlaki**	**1.97**	**172**	P	**Sn**	**09 38 58.0**	**-4.1**
FAKI	**Fak Fak**	**3.32**	**22**	P	**Pn**	**09 38 58.3**	**+0.9**
FAKI				S	**Sn**	**09 39 30.1**	**-5.6**
KMPI	**Kaimana, Papua**	**3.57**	**49**	P	**Pn**	**09 39 04.1**	**+3.4**
KMPI				S	**Sn**	**09 39 41.2**	**-0.5**
SWI	**Sorong**	**5.13**	**3**	P	**Pn**	**09 39 22.0**	**-0.3**
RKPI	**Ransiki, Papua**	**5.49**	**35**	P	**Pn**	**09 39 28.3**	**+1.2**
FITZ	**Fitzroy Crossi**	**13.09**	**203**	Pn	**P**	**09 41 19.4**	**-1.8**
	0.4nm,0.3s,baz=31,slow=11,SNR=16						
FITZ				Sn	**Sn**	**09 43 36.5**	**+0.6**
	0.2nm,0.3s,baz=24,slow=20,SNR=2.3						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**14.21**	**167**	Pn	**P**	**09 41 33.0**	**-0.5**
	0.2nm,0.3s,baz=352,slow=14,SNR=11						
WRA				Sn	**Sn**	**09 44 05.9**	**+2.8**
	0.3nm,0.3s,baz=343,slow=20,SNR=7.5						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**17.76**	**171**	P	P	09 42 22.3	+9.3
	0.1nm,0.3s,baz=343,slow=13,SNR=10						
ASAR				S	**Sn**	**09 45 31.8**	**+2.3**
	0.3nm,0.6s,baz=352,slow=26,SNR=4.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**67.97**	**326**	P	**P**	**09 49 03.3**	**0.0**
	0.3nm,0.4s,baz=129,slow=6.8,SNR=4.2						
	0.3nm,0.4s						

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*IDC **08** 09:56:33.0±1.5, 37°.47N×20°.79E, h0km, mb3.5/5, mbtmp3.5/6, ML0.8/1, MS3.8/1, Error ellipse: s-maj=30.2km s-min=26.4km az=81.0*
*THE **08** 09:56:36.1, 37°.34N×20°.75E, h0km±1km, ML3.6/12, Error ellipse: s-maj=2.0km s-min=0.4km az=227.0*
*ATH **08** 09:56:37.0, 37°.36N×20°.77E, h10km±1km, ML3.4/24, Error ellipse: s-maj=2.2km s-min=0.9km az=49.0*
ISC 08 09:56:34.9±1.5, **37°34N**±0°.03×**20°81E**±0°.03, **h10**km±10km, **n79, σ0°98/103, mb3.5**/5, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.32**	**1**	P	**Pb**	**09 56 42.9**	**+0.1**
KRI1				S	**Sb**	**09 56 47.6**	**-0.5**
	40μm,0.5s						
LTHK	**Lithakia**	**0.37**	**3**	P	**Pb**	**09 56 43.7**	**+0.1**
LTHK				S	**Sb**	**09 56 49.0**	**-0.4**
	22μm,0.5s						
LTHK	**Lithakia**	**0.37**	**3**	P	**Pb**	**09 56 43.8**	**+0.1**
LTHK				S	**Sb**	**09 56 49.0**	**-0.4**
LTHK				AML	AML	09 56 49.1	
	comp=E,46520μm,0.5s						
LTHK				AML	AML	09 56 49.3	
	comp=N,38

SMHA	**Samh**	**0.92**	**352**	P	**Pg**	**09 56 52.5**	**-0.2**
SMHA				S	**Sb**	**09 57 05.9**	**+0.7**
DRO	**Drossia**	**0.94**	**49**	P	**Pn**	**09 56 53.9**	**-0.3**
DRO				S	**Sn**	**09 57 08.9**	**+1.2**
	comp=E,4μm,0.4s						
DRO	**Drossia**	**0.94**	**49**	P	**Pn**	**09 56 54.3**	**+0.1**
DRO				S	**Sb**	**09 57 07.1**	**+1.3**
DRO				AML	AML	09 57 12.1	
	comp=N,7816μm,0.3s						
DRO				AML	AML	09 57 13.1	
	comp=E,8210μm,0.4s						
DMLN	**Damoulianata-K**	**0.96**	**339**	P	**Pb**	**09 56 54.0**	**+0.3**
DMLN				S	**Sn**	**09 57 08.4**	**+0.1**
	comp=E,5μm,0.4s						
DMLN	**Damoulianata-K**	**0.96**	**339**	P	**Pb**	**09 56 54.0**	**+0.3**
DMLN				S	**Sn**	**09 57 07.7**	**-0.6**
VSK1	**VASILIKIADES**	**1.09**	**350**	P	**Pb**	**09 56 55.8**	**0.0**
VSK1				S	**Sn**	**09 57 11.7**	**+0.4**
	comp=E,3μm,0.4s						
FSK	**Fiskardo**	**1.14**	**350**	P	**Pg**	**09 56 56.5**	**-0.3**
FSK				S	**Sn**	**09 57 13.4**	**+0.9**
	comp=E,2μm,0.6s						
FSK	**Fiskardo**	**1.14**	**350**	P	**Pb**	**09 56 56.7**	**+0.1**
FSK				S	**Sn**	**09 57 12.9**	**+0.4**
FSK				AML	AML	09 57 14.8	
	comp=N,3871μm,0.5s						
FSK				AML	AML	09 57 17.0	
	comp=E,4951μm,0.4s						
UPR	**University Cam**	**1.22**	**39**	P	**Pg**	**09 56 59.5**	**+1.2**
KLV	**Kalavryta, Ach**	**1.27**	**56**	P	**Pg**	**09 56 59.7**	**+0.3**
KLV	**Kalavryta, Ach**	**1.27**	**56**	P	**Pg**	**09 56 59.7**	**+0.3**
KLV				AML	AML	09 57 34.4	
	comp=E,1582μm,0.8s						
KLV				AML	AML	09 57 35.2	
	comp=N,1027μm,1.0s						
EVGI	**Lefkada island**	**1.29**	**355**	P	**Pg**	**09 56 59.8**	**+0.2**
EVGI	**Lefkada island**	**1.29**	**355**	P	**Pg**	**09 57 00.7**	**+1.1**
EVGI				S	**Sn**	**09 57 17.2**	**+1.0**
GUR	**Goura**	**1.35**	**63**	P	**Pg**	**09 57 01.3**	**+0.4**
GUR	**Goura**	**1.35**	**63**	P	**Pg**	**09 57 01.3**	**+0.4**
GUR				AML	AML	09 57 28.1	
	comp=N,3398μm,0.5s						
GUR				AML	AML	09 57 31.8	
	comp=E,2271μm,0.4s						
DRAG	**Dragano-Lefkad**	**1.36**	**352**	P	**Pg**	**09 57 01.7**	**+0.7**
DRAG	**Dragano-Lefkad**	**1.36**	**352**	P	**Pg**	**09 57 00.7**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.38**	**356**	P	**Pg**	**09 57 01.2**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.38**	**356**	P	**Pg**	**09 57 02.2**	**+0.9**
ALIK	**Aliki, Aigiali**	**1.38**	**48**	P	**Pg**	**09 57 02.8**	**+1.4**
EFP	**Efpalio**	**1.39**	**38**	P	**Pg**	**09 57 01.7**	**+0.1**
EFP	**Efpalio**	**1.39**	**38**	P	**Pg**	**09 57 01.3**	**-0.3**
EFP				AML	AML	09 57 27.5	
	comp=N,1554μm,0.6s						
EFP				AML	AML	09 57 30.6	
	comp=E,1571μm,0.7s						
LKD2	**Lefkada island**	**1.45**	**355**	P	**Pg**	**09 57 03.0**	**+0.2**
LKD2	**Lefkada island**	**1.45**	**355**	P	**Pg**	**09 57 03.2**	**+0.3**
LKD2				AML	AML	09 57 29.2	
	comp=E,3514μm,0.6s						
LKD2				AML	AML	09 57 43.4	
	comp=N,2432μm,0.5s						
KALE	**Kalithea**	**1.48**	**45**	P	**Pg**	**09 57 03.8**	**+0.3**
KALE	**Kalithea**	**1.48**	**45**	P	**Pg**	**09 57 03.3**	**-0.2**
KALE				AML	AML	09 57 34.4	
	comp=N,2082μm,0.3s						
KALE				AML	AML	09 57 38.5	
	comp=E,1796μm,0.6s						
TSLK	**Tsoukalades, L**	**1.49**	**355**	P	**Pn**	**09 57 02.1**	**+0.4**
TSLK	**Tsoukalades, L**	**1.49**	**355**	P	**Pg**	**09 57 03.2**	**-0.3**
TSLK				AML	AML	09 57 29.6	
	comp=N,3959μm,0.5s						
TSLK				AML	AML	09 57 34.0	
	comp=E,2737μm,0.5s						
ANX	**Ano Chora**	**1.53**	**35**	P	**Pg**	**09 57 04.2**	**-0.1**
ANX	**Ano Chora**	**1.53**	**35**	P	**Pg**	**09 57 04.1**	**-0.2**
ANX				AML	AML	09 57 32.8	
	comp=N,4228μm,0.6s						
ANX				AML	AML	09 57 34.2	
	comp=E,3419μm,0.6s						
EVR	**Evrytania**	**1.76**	**26**	P	**Pb**	**09 57 07.4**	**0.0**
EVR	**Evrytania**	**1.76**	**26**	P	**Pg**	**09 57 08.8**	**+0.1**
EVR				AML	AML	09 57 38.1	
	comp=E,1693μm,0.5s						
EVR				AML	AML	09 57 38.7	
	comp=N,1795μm,0.7s						
VLI	**Veliai**	**1.81**	**109**	P	**Pg**	**09 57 08.8**	**-0.8**
VLI	**Veliai**	**1.81**	**109**	P	**Pg**	**09 57 09.7**	**0.0**
VLI				AML	AML	09 57 56.4	
	comp=E,925μm,1.1s						
VLI				AML	AML	09 58 03.0	
	comp=N,820μm,0.7s						
LOUT	**Loutraki**	**1.83**	**69**	P	**Pg**	**09 57 09.2**	**-0.9**
LOUT	**Loutraki**	**1.83**	**69**	P	**Pg**	**09 57 09.4**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.97**	**31**	P	**Pb**	**09 57 10.8**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.97**	**31**	P	**Pb**	**09 57 11.3**	**+0.5**
MAKR				AML	AML	09 57 44.6	
	comp=E,2798μm,0.8s						
MAKR				AML	AML	09 57 52.0	
	comp=N,1874μm,0.7s						
AXAR	**Agios Charalam**	**2.04**	**45**	P	**Pb**	**09 57 11.2**	**-0.8**
AXAR	**Agios Charalam**	**2.04**	**45**	P	**Pb**	**09 57 11.2**	**-0.8**
AXAR				AML	AML	09 57 49.7	
	comp=E,2090μm,0.5s						
AXAR				AML	AML	09 57 54.2	
	comp=N,1806μm,0.6s						
AGG	**Agios Georgios**	**2.06**	**35**	P	**Pb**	**09 57 12.1**	**-0.4**
VIL2	**Platees**	**2.13**	**65**	P	**Pb**	**09 57 12.4**	**-1.2**
VIL2				AML	AML	09 57 56.3	
	comp=E,893μm,0.8s						
VIL2				AML	AML	09 58 01.3	
	comp=N,723μm,0.9s						
VILL	**Villia**	**2.15**	**67**	P	**Pb**	**09 57 13.3**	**-0.6**
IGT	**Igoumenitsa**	**2.22**	**350**	P	**Pn**	**09 57 13.3**	**+1.4**
IGT				AML	AML	09 58 04.8	
	comp=E,600μm,0.6s						
IGT				AML	AML	09 58 09.0	
	comp=N,460μm,0.9s						
THL	**Klokotos Trika**	**2.41**	**23**	P	**Pb**	**09 57 17.6**	**-0.8**
THL				AML	AML	09 57 56.4	
	comp=E,468μm,0.7s						
THL				AML	AML	09 57 56.7	
	comp=N,391μm,0.7s						
ANKY	**Antikythira Is**	**2.48**	**126**	P	**Pb**	**09 57 19.0**	**-0.6**
KEK	**Kerkira**	**2.50**	**342**	P	**Pn**	**09 57 16.6**	**+0.9**
KEK	**Kerkira**	**2.50**	**342**	P	**Pn**	**09 57 17.3**	**+1.7**
DION	**Dionisos Attik**	**2.58**	**72**	P	**Pb**	**09 57 19.8**	**-1.5**
DION				AML	AML	09 58 16.6	
	comp=E,433μm,0.5s						
DION				AML	AML	09 58 17.2	
	comp=N,551μm,1.0s						
TYRN	**Tyrnavos**	**2.62**	**25**	P	**Pb**	**09 57 20.0**	**-1.9**
TYRN	**Tyrnavos**	**2.62**	**25**	P	**Pn**	**09 57 19.1**	**+1.9**
TYRN				AML	AML	09 58 05.3	
	comp=E,549μm,0.8s						
TYRN				AML	AML	09 58 06.7	
	comp=N,392μm,0.7s						
NEO	**Neokhori**	**2.73**	**43**	P	**Pn**	**09 57 20.4**	**+1.6**
NEO	**Neokhori**	**2.73**	**43**	P	**Pn**	**09 57 21.3**	**+2.5**
KYMI	**Kymi, Euboea I**	**2.90**	**63**	P	**Pn**	**09 57 23.7**	**+2.5**
SCTE	**Santa Cesarea**	**3.29**	**327**	P	**Pn**	**09 57 26.6**	**+0.1**
IDI	**Anoyia**	**3.88**	**121**	Pn	**Pn**	**09 57 36.9**	**+2.3**
	comp=N,0.3nm,0.3s,baz=132,slow=10,SNR=2.2						
IDI				Sn	**Sn**	**09 58 24.8**	**+4.5**
	comp=N,3.3nm,0.3s,baz=325,slow=22,SNR=12						
	comp=N,2.9nm,0.8s						
AKASG	**Malin Array Be**	**14.65**	**22**	Pn	**P**	**10 00 08.2**	**-0.2**
	comp=N,0.4nm,0.3s,baz=213,slow=9.0,SNR=4.0						
HFS	**Hagfors**	**23.26**	**351**	P	**P**	**10 01 41.9**	**-0.4**
	comp=N,1.4nm,0.7s,baz=157,slow=12,SNR=2.3						
	comp=N,1.4nm,0.7s						
FINES	**FINESS Array B**	**24.35**	**6**	P	**P**	**10 01 51.4**	**-1.3**
	comp=N,0.5nm,0.6s,baz=214,slow=17,SNR=1.0						
	comp=N,0.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.53**	**220**	P	**P**	**10 02 39.6**	**0.0**
	comp=N,0.4nm,0.5s,baz=28,slow=10,SNR=2.7						
	comp=N,0.4nm,0.5s						
MBAR	**Mbarara**	**38.85**	**164**	LR	LR	10 22 32.8	
	comp=N,127nm,19.5s,baz=113,slow=40						
KURBB	**Kurchatov Arra**	**42.55**	**53**	P	**P**	**10 04 29.6**	**-0.9**
	comp=N,0.3nm,0.3s,baz=279,slow=9.1,SNR=2.0						
	comp=N,0.3nm,0.3s						
MKAR	**Makanchi Array**	**45.55**	**58**	P	**P**	**10 04 52.2**	**-2.5**
	comp=N,0.4nm,0.5s,baz=262,slow=7.8,SNR=4.6						
	comp=N,0.4nm,0.5s						

*IDC **08** 10:30:21.9±4.9, 6°.31N×123°.98E, h64^{km}±47^{km}, mb3.5/9, mbtmp3.7/9, Error ellipse: s-maj=41.7km s-min=15.2km az=76.0*

ISC 08 10:30:18.9±0.9, **6°.3N**±0°.1×**123°.8E**±0°.1, **h35^{km}, n10, σ0^{s}.93/11, mb3.7/9, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.92**	**66**	P	**Pn**	**10 30 49.4**	**+0.3**
	297nm,0.4s,baz=70,slow=0.4,SNR=14						
DAV				S	**Sn**	**10 31 12.2**	**+0.2**
	152nm,0.3s,baz=61,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**28.03**	**159**	P	**P**	**10 36 06.7**	**-0.2**
	1.1nm,0.7s,baz=336,slow=10,SNR=9.5						
	1.1nm,0.7s						
KSRS	**Korea Array**	**31.26**	**6**	P	**P**	**10 36 35.4**	**0.0**
	0.7nm,0.6s,baz=174,slow=7.7,SNR=2.4						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**31.34**	**162**	P	**P**	**10 36 36.9**	**+0.6**
	0.3nm,0.5s,baz=349,slow=7.7,SNR=6.6						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**41.55**	**157**	P	**P**	**10 38 03.0**	**-0.2**
	2.7nm,0.7s,baz=325,slow=8.5,SNR=6.2						
	2.7nm,0.7s						
SONM	**Songino Array**	**44.01**	**343**	P	**P**	**10 38 23.6**	**+0.5**
	0.9nm,0.9s,baz=165,slow=6.2,SNR=3.9						
	0.9nm,0.9s						
MKAR	**Makanchi Array**	**53.83**	**326**	P	**P**	**10 39 37.2**	**-1.1**
	0.2nm,0.5s,baz=136,slow=6.7,SNR=2.4						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**58.05**	**328**	P	**P**	**10 40 09.0**	**+0.6**
	0.4nm,0.3s,baz=130,slow=5.6,SNR=4.7						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**63.62**	**327**	P	**P**	**10 40 47.3**	**+1.0**
	0.7nm,0.7s,baz=139,slow=9.3,SNR=1.8						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**84.07**	**26**	P	**P**	**10 42 43.9**	**-1.9**
	0.5nm,0.8s,baz=235,slow=4.3,SNR=3.2						
	0.5nm,0.8s						

IDC 08 10:34:14.6±999.0, **35°.23N**×**8°.32E, h0^{km}, Error ellipse: s-maj=422.7km s-min=22.4km az=55.0, Tunisia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEST	**Kesra**	**0.98**	**59**	I	I	10 39 11.8	
	baz=151,slow=14,SNR=7.3						
I48TN	**KESRA INFRASON**	**1.00**	**55**	I	I	10 38 50.0	
	0.4nm,0.7s,baz=236,slow=320,SNR=9.9						
I26DE	**FREYUNG INFRAS**	**14.18**	**15**	I	I	11 57 30.0	
	baz=198,slow=329,SNR=0.8						
I43RU	**DUBNA INFRASON**	**29.05**	**33**	I	I	13 36 00.0	
	baz=234,slow=325,SNR=1.2						

*AUST **08** 10:59:09.5±0.2, 34°.5±2°.×11°.7E±°, h3^{km}, mb3.9/7, ML3.8/13, Error ellipse: s-maj=4.8km s-min=3.1km az=26.1*

*NOU **08** 10:59:09.9, 34°.33S×117°.00E, h0^{km}, mb4.0/17, Western Australia*

ISC 08 10:59:09.6±0.8, **34°.37S**±0°.04×**116°.80E**±0°.03, **h10^{km}**±5^{km}, **n43, σ1^{s}.26/48, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LM01	**Lskr Muir 01**	**0.03**	**186**	P	**Pg**	**10 59 11.3**	**-0.2**
LM01				S	**Sg**	**10 59 11.6**	**-1.2**
LM03	**Lake Muir 03**	**0.11**	**89**	P	**Pg**	**10 59 13.4**	**+1.0**
LM03				S	**Sg**	**10 59 15.3**	**+1.0**
LM04	**Lake Muir 04**	**0.13**	**284**	P	**Pg**	**10 59 13.3**	**+0.7**
LM04				S	**Sg**	**10 59 15.1**	**+0.4**
RKGY	**Rocky Gully**	**0.28**	**148**	P	**Pg**	**10 59 15.0**	**-0.3**
RKGY				S	**Sg**	**10 59 18.5**	**-0.7**
RKGY	**Rocky Gully**	**0.28**	**148**	P	**Pg**	**10 59 15.2**	**-0.1**
LM05	**Lake Muir 05**	**0.39**	**268**	P	**Pg**	**10 59 17.5**	**+0.2**
LM05				S	**Sg**	**10 59 21.8**	**-0.7**
AUALB	**St Joseph's Co**	**1.11**	**125**	P	**Pb**	**10 59 30.7**	**-0.1**
AUBUS	**Georgiana Moll**	**1.37**	**301**	P	**Pn**	**10 59 36.5**	**+1.6**
NWAO	**Narrogin (SRO)**	**1.48**	**14**	P	**Pg**	**10 59 38.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**1.48**	**14**	P	**Pg**	**10 59 38.2**	**+0.1**
MUN	**Mundaring**	**2.44**	**348**	P	**Pn**	**10 59 50.9**	**+1.4**
MUN	**Mundaring**	**2.44**	**348**	P	**Pn**	**10 59 50.9**	**+1.4**
AUMAZ	**Mazenod Senior**	**2.44**	**345**	P	**Pn**	**10 59 51.4**	**+1.8**
MTKN	**Mount Kenneth**	**2.58**	**340**	P	**Pb**	**10 59 55.0**	**-1.0**
MTKN	**Mount Kenneth**	**2.58**	**340**	P	**Pb**	**10 59 55.1**	**-0.8**
KLBR	**Kellerberrin**	**2.89**	**16**	P	**Pn**	**10 59 57.6**	**+1.9**
KLBR	**Kellerberrin**	**2.89**	**16**	P	**Pb**	**10 59 58.8**	**-2.4**
KMBL	**Kambalda**	**5.22**	**56**	P	**Pn**	**11 00 29.0**	**+1.1**
	comp=Z,0.2nmcomp=Z,30nm,2.2s						
KMBL	**Kambalda**	**5.22**	**56**	P	**Pn**	**11 00 27.4**	**-0.4**
MORW	**Morawa**	**5.33**	**353**	P	**Pn**	**11 00 30.5**	**+1.3**
	comp=Z,0.3nmcomp=Z,14nm,1.8s						
MORW	**Morawa**	**5.33**	**353**	P	**Pn**	**11 00 30.0**	**+0.8**
MEEK	**Meekatharra**	**7.87**	**12**	P	**Pn**	**11 01 04.6**	**+0.5**
MEEK	**Meekatharra**	**7.87**	**12**	P	**Pn**	**11 01 04.7**	**+0.5**
FORT	**Forrest**	**10.15**	**72**	P	**Pn**	**11 01 36.9**	**+1.4**
	comp=Z,0.1nmcomp=Z,59nm,0.6s						
FORT	**Forrest**	**10.15**	**72**	P	**Pn**	**11 01 35.3**	**-0.2**
GIRL	**Giralia**	**11.90**	**348**	P	**Pn**	**11 01 59.3**	**-0.1**
	comp=Z,103nm,1.9s						
GIRL	**Giralia**	**11.90**	**348**	P	**Pn**	**11 01 58.6**	**-0.8**
PSA00	**Pilbara Seismi**	**13.03**	**13**	P	**Pn**	**11 02 13.5**	**-1.3**
	comp=Z,7.8nm,0.5s						
PSA00	**Pilbara Seismi**	**13.03**	**13**	P	**Pn**	**11 02 13.6**	**-1.3**
PSAC1	**Pilbara Seismi**	**13.06**	**13**	P	**Pn**	**11 02 14.5**	**-0.8**
PSAD1	**Pilbara Seismi**	**13.14**	**13**	P	**Pn**	**11 02 14.3**	**-2.1**
MBWA	**Marble Bar**	**13.41**	**12**	P	**Pn**	**11 02 18.7**	**-1.4**
MBWA	**Marble Bar**	**13.41**	**12**	P	**Pn**	**11 02 18.3**	**-1.8**
WRKA	**Warakurna**	**13.64**	**50**	P	**Pn**	**11 02 21.9**	**-1.4**
	comp=Z,8.8nm,1.9s						
WRKA	**Warakurna**	**13.64**	**50**	P	**Pn**	**11 02 21.0**	**-2.3**
MULG	**Mulgathing**	**15.15**	**79**	P	**Pn**	**11 02 43.3**	**-0.5**
	comp=Z,8.6nm,2.8s						
MULG	**Mulgathing**	**15.15**	**79**	P	**Pn**	**11 02 43.7**	**-0.1**
OOD	**Oodnadatta**	**17.45**	**73**	P	**Pn**	**11 03 11.9**	**-1.3**
OOD	**Oodnadatta**	**17.45**	**73**	P	**Pn**	**11 03 12.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**18.03**	**28**	P	**Pn**	**11 03 19.9**	**-0.4**
	comp=Z,153nm,2.0s						
AS01	**Alice Springs**	**18.38**	**59**	P	**Pn**	**11 03 21.7**	**-3.1**
LCRK	**Leigh Creek**	**18.50**	**84**	P	**P**	**11 03 26.4**	**+0.4**
WB10	**Warramunga Arr**	**21.33**	**52**	P	**P**	**11 03 58.6**	**+1.7**

*IDC **08** 11:22:19.7±0.7, 37°.20N×20°.74E, h0^{km}, mb4.1/16, mbtmp4.1/22, ML3.8/4, MS3.3/19, Error ellipse: s-maj=15.6km s-min=12.6km az=159.0*

*MOS **08** 11:22:20.8±1.1, 37°.08N×20°.54E, h17^{km}, mb4.4/14, Error ellipse: s-maj=8.9km s-min=3.7km az=75.6*

*NEIC **08** 11:22:22.7±2.1, 37°.19N±0°.05×20°.55E±0°.05, h10^{km}±1^{km}, mb4.6/7, Error ellipse: s-maj=10.6km s-min=4.0km az=212.0*

*THE **08** 11:22:22.4, 37°.18N×20°.60E, h0^{km}±2^{km}, ML3.9/10, Error ellipse: s-maj=2.9km s-min=0.6km az=229.0*

*PDG **08** 11:22:22.8±0.4, 37°.19N×20°.57E, h16^{km}±5^{km}, ML4.1/13, Error ellipse: s-maj=3.3km s-min=1.2km az=90.0*

*MCSM **08** 11:22:23.0±1.7, 37°.16N±3°.×2°.1E±°, h5^{km}±12^{km}, mB5.2, mb4.4, MLv4.5, Mw(mB)4.6*

*ATH **08** 11:22:23.4, 37°.16N×20°.58E, h7^{km}±1^{km}, ML3.9/11, Error ellipse: s-maj=1.7km s-min=0.8km az=52.0*

*NAO **08** 11:22:44.0, 39°.38N×20°.11E, h10^{km}, mb4.0*

ISC 08 11:22:23.9±0.8, **37°.22N**±0°.03×**20°.58E**±0°.03, **h25^{km}**±5^{km}, **n294, σ1^{s}60/335, mb4.2/27, MS3.4/15, 25C-9D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.48**	**23**	P	**Pb**	**11 22 32.6**	**-1.2**
KRI1				S	**Sb**	**11 22 40.0**	**-0.4**
	31μm,0.5s						
LTHK	**Lithakia**	**0.53**	**23**	P	**Pb**	**11 22 33.3**	**-1.3**
LTHK				S	**Sb**	**11 22 41.7**	**-0.1**
	20μm,0.2s						
LTHK	**Lithakia**	**0.53**	**23**	P	**Pb**	**11 22 34.0**	**-0.6**
LTHK				S	**Sb**	**11 22 42.3**	**+0.5**
LTHK				AML	AML	11 22 42.8	
	comp=N,42326μm,0.2s						
LTHK				AML	AML	11 22 45.9	
	comp=E,31117μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.86**	**10**	P	**Pb**	**11 22 39.3**	**-1.0**
RTZL				S	**Sn**	**11 22 53.0**	**+0.6**
	comp=E,13μm,0.8s						
PSDA	**Pessada-Kefalo**	**0.89**	**0**	P	**Pb**	**11 22 40.4**	**-0.3**
PSDA				S	**Sn**	**11 22 52.8**	**-0.2**
	comp=E,11μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.89**	**0**	P	**Pn**	**11 22 41.3**	**+0.4**
PSDA				S	**Sn**	**11 22 54.6**	**+1.6**
AMT	**Artemida-Makis**	**0.95**	**71**	P	**Pn**	**11 22 42.0**	**+0.3**
AMT				S	**Sn**	**11 22 54.9**	**+0.3**
AMT				AML	AML	11 22 58.8	
	comp=N,44644μm,0.4s						
AMT				AML	AML	11 22 59.2	
	comp=E,53939μm,0.4s						
VLS	**Valsamata**	**0.95**	**0**	P	**Pb**	**11 22 41.1**	**-0.7**
VLS				S	**Sn**	**11 22 55.5**	**+0.9**
	comp=E,8μm,0.7s						
VLS	**Valsamata**	**0.95**	**0**	P	**Pn**	**11 22 42.4**	**+0.6**
VLS	**Valsamata**	**0.95**	**0**	P	**Pn**	**11 22 42.5**	**+0.6**
VLS				S	**Sn**	**11 22 56.2**	**+1.5**
VLS				AML	AML	11 23 03.7	
	comp=N,16011μm,0.8s						
VLS				AML	AML	11 23 05.1	
	comp=E,14006μm,0.7s						
LXRA	**Lixouri, Kepha**	**0.98**	**353**	P	**Pn**	**11 22 43.2**	**+1.0**
LXRA				S	**Sn**	**11 22 56.9**	**+1.6**
LXRA				AML	AML	11 23 04.4	
	comp=E,41018μm,0.8s						
LXRA				AML	AML	11 23 11.5	
	comp=N,41830μm,1.1s						
PYL	**PYLOS**	**0.98**	**109**	P	**Pb**	**11 22 40.5**	**-1.8**
PYL				S	**Sn**	**11 22 54.8**	**-0.6**
	comp=N,4μm,0.7s						
PYL	**PYLOS**	**0.98**	**109**	P	**Pb**	**11 22 41.0**	**-1.3**
PYL				S	**Sn**	**11 22 54.7**	**-0.6**
PYL				AML	AML	11 22 58.5	
	comp=N,6265μm,0.3s						
PYL				AML	AML	11 22 59.6	
	comp=E,7992μm,0.5s						
DMLN	**Damoulianata-K**	**1.03**	**351**	P	**Pb**	**11 22 42.7**	**-0.4**
DMLN				S	**Sn**	**11 22 58.5**	**+2.0**
	comp=E,16μm,0.6s						
DMLN	**Damoulianata-K**	**1.03**	**351**	P	**Pn**	**11 22 43.1**	**+0.3**
DMLN				S	**Sn**	**11 22 58.7**	**+2.2**
SMHA	**Samh**	**1.03**	**3**	P	**Pn**	**11 22 42.9**	**+0.1**
ITM	**Ithomi**	**1.07**	**92**	P	**Pn**	**11 22 42.0**	**-1.5**
ITM				S	**Sn**	**11 22 57.4**	**-0.2**
	comp=E,4μm,0.5s						
ITM	**Ithomi**	**1.07**	**92**	P	**Pb**	**11 22 43.4**	**-0.4**
ITM				S	**Sn**	**11 22 57.4**	**-0.2**
ITM				AML	AML	11 23 05.4	
	comp=N,6956μm,0.4s						
ITM				AML	AML	11 23 05.5	
	comp=E,8158μm,0.5s						
RLS	**Riolos of Patr**	**1.09**	**40**	P	**Pn**	**11 22 42.9**	**-0.8**
RLS				S	**Sn**	**11 23 00.3**	**+2.3**
	comp=E,3μm,0.4s						
RLS	**Riolos of Patr**	**1.09**	**40**	P	**Pb**	**11 22 44.3**	**+0.2**
RLS				S	**Sn**	**11 23 00.4**	**+2.5**
RLS				AML	AML	11 23 03.3	
	comp=N,6783μm,0.3s						
RLS				AML	AML	11 23 06.4	
	comp=E,5381μm,0.6s						
DRO	**Drossia**	**1.16**	**51**	P	**Pn**	**11 22 43.9**	**-0.7**
DRO	**Drossia**	**1.16**	**51**	P	**Pb**	**11 22 45.2**	**-0.1**
DRO				S	**Sn**	**11 23 01.6**	**+2.0**
DRO				AML	AML	11 23 06.8	
	comp=N,13171μm,0.3s						
DRO				AML	AML	11 23 18.7	
	comp=E,18150μm,0.6s						
FSK	**Fiskardo**	**1.23**	**359**	P	**Pb**	**11 22 46.2**	**-0.4**
FSK				S	**Sb**	**11 23 05.7**	**+3.6**
	comp=E,5μm,0.8s						
FSK	**Fiskardo**	**1.23**	**359**	P	**Pb**	**11 22 46.7**	**+0.1**
FSK				S	**Sb**	**11 23 04.1**	**+2.0**
FSK				AML	AML	11 23 15.7	
	comp=E,9886μm,0.6s						
FSK				AML	AML	11 23 17.1	
	comp=N,6300μm,0.4s						
EVGI	**Lefkada island**	**1.40**	**2**	P	**Pn**	**11 22 47.1**	**-0.8**
EVGI	**Lefkada island**	**1.40**	**2**	P	**Pb**	**11 22 49.5**	**+0.2**
EVGI				S	**Sb**	**11 23 07.9**	**+1.1**
UPR	**University Cam**	**1.43**	**42**	P	**Pn**	**11 22 48.7**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.46**	**360**	P	**Pb**	**11 22 49.8**	**-0.6**
DRAG	**Dragano-Lefkad**	**1.46**	**360**	P	**Pb**	**11 22 50.5**	**+0.1**
KLV	**Kalavryta, Ach**	**1.49**	**56**	P	**Pn**	**11 22 49.5**	**+0.3**
KLV	**Kalavryta, Ach**	**1.49**	**56**	P	**Pb**	**11 22 49.9**	**-1.1**
KLV				S	**Sb**	**11 23 09.7**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.49**	**4**	P	**Pb**	**11 22 50.5**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.49**	**4**	P	**Pb**	**11 22 50.8**	**-0.1**
NYDR				S	**Sb**	**11 23 10.2**	**+0.8**
LKD2	**Lefkada island**	**1.56**	**2**	P	**Pb**	**11 22 51.7**	**-0.5**
LKD2	**Lefkada island**	**1.56**	**2**	P	**Pb**	**11 22 52.3**	**+0.1**
LKD2				S	**Sb**	**11 23 12.5**	**+0.9**
GUR	**Goura**	**1.57**	**62**	P	**Pn**	**11 22 51.0**	**+0.6**
GUR	**Goura**	**1.57**	**62**	P	**Pb**	**11 22 51.2**	**-1.1**
GUR				S	**Sb**	**11 23 11.6**	**-0.3**
ALIK	**Aliki, Aigiali**	**1.59**	**49**	P	**Pn**	**11 22 51.4**	**+0.8**
EFP	**Efpalio**	**1.60**	**41**

TIR Tirane 4.16 353 P **Pn** **11 23 28.1 +2.3**
TIR Tirane 4.16 353 Pn **Pn** **11 23 26.8 +1.0**
SOH Sokhos 4.19 30 P **Pn** **11 23 28.7 +2.3**
KNT Kendrikon 4.33 24 P **Pn** **11 23 29.9 +1.7**
VAY Valandovo 4.37 20 *i* Pn **Pn** **11 23 30.3 +1.5**
VAY *i* Sn **Sn** **11 24 18.7 -0.2**
VAY Valandovo 4.37 20 P **Pn** **11 23 33.1 +4.3**
SRS Serrai 4.54 30 P **Pn** **11 23 31.9 +0.8**
MATE Matera 4.56 320 ⇓P **Pn** **11 23 32.7 +1.3**
CUC Castrocucco 4.65 308 **Pn** **11 23 33.9 +1.3**
PUK Puka 4.84 354 **Pn** **11 23 36.9 +1.6**
ULC Ulcinj 4.85 348 ⇑*i* Pn **Pn** **11 23 35.0 -0.3**
ULC *i* Sn **Sn** **11 24 29.4 -1.3**
PEHC Pehcevo 4.89 21 *i* Pn **Pn** **11 23 37.2 +1.2**
VAE Valguarnera 4.92 275 Pn **Pn** **11 23 36.8 +0.4**
comp=E,188nm,0.7s,baz=190,slow=2.9,SNR=24
VAE Sn **Sn** **11 24 32.2 -0.3**
comp=E,18nm,0.3s,baz=189,slow=21,SNR=1.6
RAFF Raffo Rosso 4.96 272 **Pn** **11 23 36.8 -0.2**
MMB Musomishta 4.97 29 P **Pn** **11 23 38.7 +1.7**
WDD Wied Dalam 5.07 256 **Pn** **11 23 38.8 +0.4**
DRME Dracevica, Mon 5.07 348 ⇑*i* Pn **Pn** **11 23 38.6 +0.2**
DRME *i* Sn **Sn** **11 24 34.9 -1.3**
BUM Brajici-Budva 5.24 346 ⇑*i* Pn **Pn** **11 23 39.5 -1.2**
BUM *i* Sn **Sn** **11 24 38.7 -1.6**
PDG Podgorica 5.30 349 *e*Pn **Pn** **11 23 38.7 -2.8**
PDG Podgorica 5.30 349 ⇑P **Pn** **11 23 42.2 +0.7**
PDG Podgorica 5.30 349 *e*Pn **Pn** **11 23 42.6 +1.1**
PDG *i* Sn **Sn** **11 24 40.7 -1.1**
PVY Plav 5.39 355 *e*Pn **Pn** **11 23 44.8 +2.0**
PVY *i* Sn **Sn** **11 24 42.4 -1.7**
HCY Herceg Novi 5.46 344 *e*Pn Pn 11 23 38.1 -5.6
HCY Herceg Novi 5.46 344 ⇑*i* Pn **Pn** **11 23 43.6 -0.1**
HCY *i* Sn **Sn** **11 24 44.7 -1.0**
CEME Cevo 5.47 347 ⇓*i* Pn **Pn** **11 23 43.9 0.0**
CEME *i* Sn **Sn** **11 24 44.5 -1.6**
KARP Karpathos 5.56 106 Pn **Pn** **11 23 46.0 +0.8**
comp=E,57nm,0.8s,comp=E,0.3nm
IVA Berane 5.67 355 ⇓*i* Pn **Pn** **11 23 47.2 +0.5**
IVA *i* Sn **Sn** **11 24 49.3 -1.7**
NKME Niksic 5.68 348 ⇑*i* Pn **Pn** **11 23 48.2 +1.4**
NKME *i* Sn **Sn** **11 24 50.0 -1.2**
KOME Kolasin 5.68 352 ⇓*i* Pn **Pn** **11 23 47.1 +0.3**
KOME *i* Sn **Sn** **11 24 49.9 -1.4**
TREB Trebinje 5.75 343 *e*Pn **Pn** **11 23 46.8 -0.9**
BRY Bratogost 5.88 345 *e*Pn **Pn** **11 23 48.0 -1.7**
BRY Bratogost 5.88 345 ⇓*i* Pn **Pn** **11 23 48.7 -1.0**
BRY *i* Sn **Sn** **11 24 54.3 -2.1**
PAOL Paolisi 6.03 311 Pn **Pn** **11 23 53.2 +1.6**
SJES Sjenica 6.05 356 *e*Pn **Pn** **11 23 52.5 +0.6**
STON Ston 6.06 340 *e*Pn **Pn** **11 23 50.8 -1.1**
UPM Unac-Piva 6.11 348 *e*Pn **Pn** **11 23 51.1 -1.7**
UPM Unac-Piva 6.11 348 ⇓*i* Pn **Pn** **11 23 53.9 +1.1**
UPM *i* Sn **Sn** **11 25 00.1 -1.9**
PLE Pljevlja 6.17 352 ⇑*i* Pn **Pn** **11 23 55.0 +1.4**
PLE *i* Sn **Sn** **11 25 01.0 -2.3**
RUDO Rudo 6.46 352 *e*Pn **Pn** **11 23 55.0 -2.4**
BOVS Bovan 6.46 7 ⇓P **Pn** **11 23 56.9 -0.6**
BBLS Lazi&#263i 6.70 353 *e*Pn **Pn** **11 24 01.5 +0.7**
HAPS Han Pijesak,BI 6.97 350 *e*Pn **Pn** **11 24 04.4 -0.1**
ELND Elena 7.00 34 ⇑P **Pn** **11 24 06.1 +1.3**
INTR Introdacqua 7.03 315 Pn **Pn** **11 24 07.1 +1.7**
CTYL Yalikoy Yolu 7.33 52 P **Pn** **11 24 09.5 +0.2**
comp=E,37nm,1.0s,comp=E,0.3nm
TEKS Tekeris 7.36 354 *e*Pn Pn 11 24 00.5 -9.4
YLV Yalova 7.62 61 P **Pn** **11 24 14.1 +0.6**
comp=E,11nm,0.8s,comp=E,314nmcomp=E,0.1nm
CAMP Campotosto 7.65 316 **Pn** **11 24 14.5 +0.5**
A050A Klekovaca 7.87 338 *e*Pn **Pn** **11 24 18.0 +1.1**
BLY Banja Luka 7.95 342 *e*Pn **Pn** **11 24 19.5 +1.7**
FRGS Fruska Gora 7.95 356 *e*Pn **Pn** **11 24 16.7 -1.2**
NRCA Norcia 8.01 317 **Pn** **11 24 18.6 -0.2**
A051A Mrakovica 8.26 342 *e*Pn **Pn** **11 24 20.3 -1.9**
GZR Gura Zlata 8.33 11 ⇑P **Pn** **11 24 23.3 +0.1**
GZR Gura Zlata 8.33 11 ⇑P **Pn** **11 24 23.3 +0.1**
VOIR 8.87 21 ⇑P **Pn** **11 24 32.0 +1.5**
VOIR 8.87 21 ⇑P **Pn** **11 24 32.0 +1.5**
VOIR 8.87 21 P **Pn** **11 24 31.2 +0.7**
comp=E,9.9nm,1.4s
MORH Mrgy, Hungar 9.10 351 P **Pn** **11 24 35.2 +1.6**
comp=E,4.9nm,0.8s
KEST Kesra 9.17 264 Pn **Pn** **11 24 34.9 +0.2**
KEST Kesra 9.17 264 Pn **Pn** **11 24 35.6 +0.8**
comp=E,1.4nm,0.3s,baz=74,slow=4.9,SNR=15
KEST Sn **Sn** **11 26 14.4 -2.8**
comp=E,1.1nm,0.3s,baz=162,slow=18,SNR=1.7
KEST LR LR 11 28 25.8
comp=E,148nm,19.1s,baz=49,slow=39
comp=E,30nm,0.9s
BOJS Bojanci 9.19 336 *e*Pn **Pn** **11 24 35.1 +0.2**
BOJS *e*Sn **Sn** **11 26 12.7 -4.8**
MLR Muntele Rosu 9.19 24 Pn **Pn** **11 24 36.3 +1.3**
MLR Muntele Rosu 9.19 24 Pn **Pn** **11 24 38.0 +3.0**
comp=E,0.4nm,0.3s,baz=319,slow=13,SNR=2.6
MLR LR LR 11 28 41.8
comp=E,178nm,20.1s,baz=205,slow=42
MLR Muntele Rosu 9.19 24 ⇑P **Pn** **11 24 36.7 +1.7**
MLR Muntele Rosu 9.19 24 ⇑P **Pn** **11 24 36.7 +1.7**
MLR Muntele Rosu 9.19 24 P **Pn** **11 24 35.6 +0.6**
comp=E,17nm,0.8s
CRES Cresnjevec Ost 9.41 338 *e*Pn **Pn** **11 24 37.3 -0.7**
BISRR Bisoca 9.50 27 P **Pn** **11 24 40.1 +0.8**
comp=E,118nm,1.1s,comp=E,3µm
SKDS Skadanscina 9.67 331 *i* Pn **Pn** **11 24 41.7 +0.2**
SKDS Skadanscina 9.67 331 *e*Pn **Pn** **11 24 41.6 +0.2**
CEY Cerknica 9.68 333 *e*Pn **Pn** **11 24 42.1 +0.5**
PLOR Plostina 9.74 26 ⇑P **Pn** **11 24 44.3 +1.8**
PLOR Plostina 9.74 26 ⇑P **Pn** **11 24 44.3 +1.8**
PLOR5 Plostina Array 9.74 26 P **Pn** **11 24 43.0 +0.5**
comp=E,11nm,0.9s
PLOR3 Plostina Array 9.74 26 P **Pn** **11 24 43.4 +0.9**
comp=E,16nm,1.0s
PDKS Podkum 9.77 336 *e*Pn **Pn** **11 24 43.4 +0.5**
VRI Vrincioaia 9.78 26 ⇑P **Pn** **11 24 45.6 +2.5**
VRI Vrincioaia 9.78 26 ⇑P **Pn** **11 24 45.6 +2.5**
VRI Vrincioaia 9.78 26 P **Pn** **11 24 44.0 +1.0**
ONER Baraj Valea Uz 10.08 24 ⇑P **Pn** **11 24 48.8 +1.6**
PERS Pernice 10.25 338 *i* Pn **Pn** **11 24 49.7 +0.3**
SOKA Soboth 10.31 338 *e*Pn **Pn** **11 24 49.4 -0.9**
comp=E,2.1nm,0.4s
SOKA *e*Sn **Sn** **11 26 38.5 -6.5**
comp=E,2.7nm,0.6s
BR105 Keskin Array S 10.52 72 P **Pn** **11 24 53.1 -0.2**
comp=E,3.4nm,0.9s
BRTR Keskin Array B 10.54 72 Pn **Pn** **11 24 51.2 -2.3**
baz=246,slow=11
RONA Rosalia, Austr 10.94 345 *e*Pn Pn 11 25 06.4 +7.5
comp=E,0.5nm,0.2s
CTI Castel Tesino 11.06 326 Pn **Pn** **11 25 00.8 +0.3**
CTI Castel Tesino 11.06 326 P **Pn** **11 25 00.8 +0.3**
KBA Koelnbreinsper 11.21 334 *e*Pn **Pn** **11 25 04.9 +2.2**
comp=E,5.2nm,0.8s
KBA *e*Sn **Sn** **11 27 01.2 -6.1**
comp=E,5.9nm,0.7s
KBA Koelnbreinsper 11.21 334 P **Pn** **11 25 04.5 +1.8**
KBA pmax pmax
comp=Z,15nm,1.1s
ABTA Abfaltersbach 11.25 330 *e*Pn **Pn** **11 25 07.5 +4.3**
comp=Z,1.0nm,0.2s
ABTA *e*Sn **Sn** **11 27 02.3 -5.7**
comp=Z,16nm,0.7s
VYHS Vyhne 11.34 354 *e*P **Pn** **11 25 08.1 +3.8**
VYHS Vyhne 11.34 354 *e*PN **Pn** **11 25 08.1 +3.8**
VYHS *e* 11 25 25.4
MODS Modra-Piesok 11.40 349 *e*P Pn 11 25 12.1 +6.9
MODS Modra-Piesok 11.40 349 *e*PN Pn 11 25 12.1 +6.9
MODS *e* 11 25 28.2
MOA Molln 11.59 338 *e*Pn **Pn** **11 25 09.4 +1.6**
comp=Z,2.2nm,0.3s
MOA *e*Sn **Sn** **11 27 09.1 -7.2**
comp=Z,1.9nm,0.3s
BIOA Bad Ischl, Aus 11.64 336 *e*Pn **Pn** **11 25 10.8 +2.2**
comp=Z,2.3nm,0.2s
LESA Schwarzleotal 11.75 333 *e*Pn **Pn** **11 25 11.8 +1.8**
comp=Z,2.2nm,0.4s
LESA *e*Sn **Sn** **11 27 15.1 -5.1**
comp=Z,7.6nm,0.6s
STNU Starunia 11.83 13 P **Pn** **11 25 12.1 +1.0**
WATA Walderalm 12.10 329 *e*Sn **Sn** **11 27 28.4 -0.6**
comp=Z,6.2nm,0.5s
FUORN Ofenpass-Fuorn 12.12 324 **Pn** **11 25 15.2 -0.1**
FETA Feichten 12.21 326 *e*Pn **Pn** **11 25 17.6 +1.2**
comp=Z,0.6nm,0.3s

MOTA Moosalm 12.30 328 *e*Pn **Pn** **11 25 20.3 +2.7**
comp=Z,2.2nm,0.5s
DAVOX Davos/Dischmat 12.42 324 Pn **Pn** **11 25 20.6 +1.4**
comp=Z,0.4nm,0.3s,baz=158,slow=18,SNR=5.4
DAVOX Sn Sn 11 27 24.0 -13
comp=Z,0.2nm,0.3s,baz=82,slow=16,SNR=1.6
comp=Z,1.8nm,0.5s
TUE Stuetta 12.46 321 Pn **Pn** **11 25 19.3 -0.5**
TUE Stuetta 12.46 321 P **Pn** **11 25 21.3 +1.5**
comp=Z,35nm,1.6s
GERES GERESS Array B 12.65 339 Pn **Pn** **11 25 22.4 +0.1**
comp=Z,0.2nm,0.3s,baz=128,slow=13,SNR=2.2
GERES Sn Sn 11 27 30.4 -12
comp=Z,0.2nm,0.3s,baz=264,slow=37,SNR=1.4
comp=Z,0.5nm,0.3s
DAVA Damuels 12.79 325 *e*Pn **P** **11 25 32.8 -2.3**
comp=Z,4.2nm,0.6s
KHC Kasperske Hory 12.95 339 *e*P **Pn** **11 25 28.4 +2.1**
KHC Kasperske Hory 12.95 339 *i* P **Pn** **11 25 28.1 +1.8**
LUBAR Lubar, Ukraine 13.71 20 P **Pn** **11 25 36.9 +0.3**
SLE Schleitheim 13.78 324 P **P** **11 25 48.1 +2.1**
EIL Elat 14.16 118 Sn Sn 11 28 02.1 -17
comp=Z,0.3nm,0.3s,baz=22,slow=22,SNR=1.4
RNPP5 Staryi Chortor 14.50 13 P **Pn** **11 25 48.6 +1.1**
MI28 Mi28,Pidlybu 14.61 18 P **Pn** **11 25 49.5 +0.6**
comp=Z,84nm,1.7s
RNPP9 Sopachiv 14.68 13 P **Pn** **11 25 50.7 +0.8**
AK06 Malin Array Si 14.72 22 P **Pn** **11 25 51.3 +0.9**
AK14 Malin Array Si 14.73 22 P **Pn** **11 25 51.3 +0.8**
AK10 Malin Array Si 14.74 22 P **Pn** **11 25 51.5 +0.8**
AK08 Malin Array Si 14.78 22 P **Pn** **11 25 51.9 +0.7**
KIEV Kiev 14.81 22 P **Pn** **11 25 52.8 +1.1**
comp=Z,30nm,1.1s
AKASG Malin Array Be 14.83 22 Pn **Pn** **11 25 49.3 -2.6**
comp=Z,0.6nm,0.3s,baz=212,slow=11,SNR=4.4
AKASG LR LR 11 32 48.5
comp=Z,184nm,18.6s,baz=206,slow=42
comp=Z,0.2nm,0.3s
AKASG Malin Array Be 14.83 22 *ce*P **Pn** **11 25 51.7 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 14.83 22 *i* P **Pn** **11 25 53.6 +1.7**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 14.83 22 P **Pn** **11 25 52.8 +0.9**
CLL Collm 15.08 341 *es*PP 11 26 09.0
CLL *i* x x 11 26 23.3
CLL *i* x x 11 26 37.2
CLL AMS AMS 14 46 00.0
comp=Z,200nm,20.4s
SHA1 Shidzhatmaz 17.98 62 *i* P **P** **11 26 33.3 +0.5**
MNK Minsk 18.00 14 *i* P **Pn** **11 26 30.1 -2.2**
comp=E,22nm,0.9s
MNK *i* P **Pn** **11 26 30.1 -2.2**
comp=N,17nm,0.9s
MNK *i* P **Pn** **11 26 30.1 -2.2**
comp=Z,7.0nm,0.6s,baz=199
MNK *i* PP **sP** **11 26 41.4 +0.3**
MNK *i* PPP PPP 11 26 49.1
MNK *i* S **Sn** **11 29 51.5 -0.6**
MNK *i* SS **SnSn** **11 30 06.5 +0.7**
MNK *i* SSS SSS 11 30 19.3
MNK *i* LQ LQ 11 31 30.0
MNK *i* LR LR 11 33 13.2
MNK *i* LRM MLR 11 34 56.4
comp=Z,151nm,12.9s
MNK *i* LRM MLR 11 36 29.2
comp=E,202nm,22.4s
MNK *i* LRM MLR 11 36 30.2
comp=N,268nm,21.4s
MNK Minsk 18.00 14 *i* P **Pn** **11 26 30.0 -2.2**
MNK *i* S **Sn** **11 29 51.4 -0.6**
MNK pmax pmax
comp=E,22nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK pmax pmax
comp=N,17nm,0.9s
MNK MLR MLR
comp=Z,151nm,13.0s
MNK MLR MLR
comp=E,202nm,22.0s
MNK MLR MLR
comp=N,268nm,21.0s
KIV Kislovodsk 18.06 61 *e*P **P** **11 26 34.7 +1.2**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 18.15 62 P **P** **11 26 35.1 +0.7**
comp=Z,1.7nm,0.5s,baz=257,slow=3.5,SNR=5.0
KBZ Khabaz 18.15 62 *ce*P **P** **11 26 34.7 +0.3**
KBZ pmax pmax
comp=Z,6.0nm,1.0s
GNI Garni 19.07 74 LR LR 11 34 07.0
comp=Z,50nm,18.7s,baz=283,slow=37
GNI Garni 19.07 74 *i* P **Pn** **11 26 45.4 -0.2**
GNI pmax pmax
comp=Z,18nm,1.0s
VORD Divnogorie 19.14 38 *e*P **P** **11 26 44.2 -1.0**
VORD pmax pmax
comp=Z,5.0nm,1.0s
VSR Storozhevoye 19.24 37 *e*P **P** **11 26 46.6 +0.4**
VSR pmax pmax
comp=Z,5.0nm,0.9s
ESDC Sonseca Array 19.37 285 P **P** **11 26 47.0 -0.8**
comp=Z,1.8nm,0.8s,baz=84,slow=10,SNR=2.2
ESDC LR LR 11 33 21.2
comp=Z,80nm,18.2s,baz=28,slow=34
TAM Tamanrasset 19.38 226 P **Pn** **11 26 51.4 +2.1**
TAM pmax pmax
comp=Z,6.0nm,1.1s
PAB San Pablo 19.66 284 P **Pn** **11 26 53.5 +0.9**
OBN Obninsk 20.95 26 P **P** **11 27 03.8 -1.0**
comp=Z,11nm,0.3s,baz=301,slow=22,SNR=1.4
OBN LR LR 11 36 53.3
comp=Z,64nm,19.3s,baz=181,slow=42
comp=Z,11nm,0.3s
OBN Obninsk 20.95 26 ⇓*e*P **P** **11 27 06.1 +1.3**
OBN *e* 11 27 25.7
OBN *e*S Sn 11 31 04.0 +0.7
OBN pmax pmax
comp=Z,28nm,1.2s
OBN MLR MLR
comp=Z,164nm,14.0s
MDT Midelt 21.07 265 P **P** **11 27 07.0 +0.5**
comp=Z,12nm,0.8s,baz=87,slow=12,SNR=19
comp=Z,12nm,0.8s
AKT Akhty 21.38 70 *e*P **P** **11 27 10.6 +0.9**
AKT *e* 11 27 30.7
AKT *e*S **S** **11 31 08.3 +2.4**
AKT pmax pmax
comp=Z,22nm,1.2s
PBRG Braganca 21.53 291 *e*P **P** **11 27 13.3 +2.1**
PBRG A A 11 27 17.0
comp=Z,63nm,1.8s
VSU Vasula 21.63 9 *i* P **P** **11 27 13.4 +1.3**
VSU pmax pmax
comp=Z,20nm,0.9s
MVO Moncorvo 21.72 289 *e*P **P** **11 27 13.9 +0.6**
MVO A A 11 27 15.3
comp=Z,71nm,2.1s
MOS Moscow 21.82 26 *e*P **P** **11 27 12.0 -2.1**
MOS *e* 11 27 49.9
MOS pmax pmax
comp=Z,35nm,0.7s
PMRV Marv??o 22.02 284 *e*P **P** **11 27 16.7 +0.2**
PMRV A A 11 27 20.2
comp=Z,39nm,1.7s
PCBR Castelo Branco 22.07 285 *e*P **P** **11 27 17.6 +0.6**
MTE Manteigas 22.11 287 *e*P **P** **11 27 17.6 +0.1**
PESTR Estremoz 22.21 283 *e*P **P** **11 27 19.3 +0.7**
PESTR A A 11 27 22.1
comp=Z,34nm,1.7s
PBEJ Beja 22.51 281 *e*P **P** **11 27 22.2 +0.4**
PBDV Barranco-do-Ve 22.67 279 *e*P **P** **11 27 23.2 -0.3**
PMTG Montargil 22.69 284 *e*P **P** **11 27 23.1 -0.6**
PMTG A A 11 27 28.3
comp=Z,34nm,2.1s
PCVE Castro Verde 22.70 280 *e*P **P** **11 27 23.4 -0.4**
MESJ Messejana 22.82 280 *e*P **P** **11 27 27.2 +2.2**
PCAS Casmilo, Conde 22.85 286 *e*P **P** **11 27 24.8 -0.5**
HFS Hagfors 23.35 351 P **P** **11 27 29.7 -0.5**
comp=Z,3.9nm,0.6s,baz=159,slow=13,SNR=11
comp=Z,3.9nm,0.6s
NORES NORESS Array B 24.22 349 P **P** **11 27 42.0 +3.5**
EKA Eskdalemuir Ar 24.24 326 P **P** **11 27 38.8 +0.1**
comp=Z,3.7nm,0.7s,baz=137,slow=7.1,SNR=8.7
comp=Z,3.7nm,0.7s
BELG Belogornoye 24.26 43 LR LR 11 37 11.3
comp=Z,68nm,18.1s,baz=115,slow=37
BELG Belogornoye 24.26 43 *i* P **P** **11 27 40.0 +1.1**
BELG pmax pmax
comp=Z,7.0nm,1.5s
FINES FINESS Array B 24.49 6 P **P** **11 27 40.3 -0.6**
comp=Z,1.8nm,0.6s,baz=173,slow=11,SNR=7.0
comp=Z,1.8nm,0.6s
FINES FINESS Array B 24.49 6 *i* P **P** **11 27 41.0 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.7s
NB2 NORSAR Subarra 24.56 349 P **P** **11 27 41.4 -0.2**
comp=Z,8.1nm,1.2s,baz=162,slow=11
NOA NORSAR Array B 24.56 349 P **P** **11 27 41.6 -0.1**
comp=Z,1.5nm,0.7s,baz=158,slow=8.9,SNR=11
NOA LR LR 11 38 07.0
comp=Z,63nm,19.7s,baz=265,slow=38
comp=Z,1.5nm,0.7s
RAYN Ar Rayn 25.38 116 P **P** **11 27 50.7 +1.4**
KLMR Klimovskoe 26.51 21 *e*P **P** **11 27 54.9 -4.3**
KLMR pmax pmax
comp=Z,19nm,2.0s
TORD Torodi Ar. Bea 29.32 220 P **P** **11 28 25.5 +0.8**
comp=Z,1.9nm,0.7s,baz=28,slow=10,SNR=13
TORD LR LR 11 39 24.6
comp=Z,33nm,21.1s,baz=5.5,slow=35
comp=Z,1.9nm,0.7s
ARTI Arti 31.64 41 *c i*P **P** **11 28 43.5 -1.3**
ARTI S **S** **11 33 51.6 -0.8**
ARTI pmax pmax
comp=Z,9.0nm,1.0s
ARCES ARCESS Array B 32.48 3 P **P** **11 28 51.8 -0.3**
comp=Z,3.1nm,0.9s,baz=193,slow=12,SNR=5.7
ARCES LR LR 11 42 20.9
comp=Z,72nm,18.4s,baz=182,slow=37
comp=Z,3.1nm,0.9s
FURI Furi 32.62 145 LR LR 11 44 55.1
comp=Z,46nm,18.1s,baz=106,slow=42
BRVK Borovoye 37.64 49 *i* P **P** **11 29 35.6 -1.1**
BRVK pmax pmax
comp=Z,1.0nm,1.0s
BVAR Borovoye Array 37.70 49 P **P** **11 29 36.0 -1.3**
comp=Z,0.9nm,0.7s,baz=255,slow=4.5,SNR=3.9
comp=Z,0.9nm,0.7s
BVAR Borovoye Array 37.70 49 P **P** **11 29 36.0 -1.3**
KKAR Karatay Array 38.15 65 P **P** **11 29 40.9 -0.2**
DBIC Dimbokro 38.23 224 P **P** **11 29 41.5 -0.6**
comp=Z,3.2nm,0.8s,baz=20,slow=8.1,SNR=4.6
DBIC LR LR 11 45 57.6
comp=Z,49nm,18.5s,baz=300,slow=37
comp=Z,3.2nm,0.8s
SPITS Spitsbergen Ar 41.10 359 P **P** **11 30 04.5 -0.8**
comp=Z,18nm,1.0s,baz=176,slow=4.3,SNR=1.1
comp=Z,18nm,1.0s
KURBB Kurchatov Arra 42.76 53 P **P** **11 30 17.9 -1.3**
comp=Z,2.4nm,0.7s,baz=283,slow=8.5,SNR=19
comp=Z,2.4nm,0.7s
KURK Kurchatov 42.81 53 *i* P **P** **11 30 19.3 -0.3**
KURK pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 45.77 58 P **P** **11 30 43.1 -0.2**
MK31 IAmb IAmb 11 30 59.5
comp=Z,9.5nm,1.4s
MK31 Makanchi Array 45.77 58 P **P** **11 30 43.1 -0.2**
MK31 pmax pmax
comp=Z,9.0nm,1.5s
MKAR Makanchi Array 45.77 58 P **P** **11 30 42.2 -1.1**
comp=Z,0.6nm,0.4s,baz=273,slow=6.8,SNR=5.5
comp=Z,0.6nm,0.4s
MKAR Makanchi Array 45.77 58 *ce*P **P** **11 30 42.7 -0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
ZAA0 Zalesovo Array 46.30 47 P **P** **11 30 47.1 -0.3**
ZAA0 IAmb IAmb 11 30 54.8
comp=Z,8.5nm,1.4s
ZALV Zalesovo Beam 46.30 47 P **P** **11 30 45.9 -1.5**
comp=Z,1.2nm,0.4s,baz=274,slow=8.8,SNR=6.7
comp=Z,1.2nm,0.4s
ZALV Zalesovo Beam 46.30 47 *i* P **P** **11 30 47.0 -0.3**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
NRIK Noril'sk 47.63 26 LR LR 11 51 59.5
comp=Z,61nm,18.3s,baz=320,slow=37
SONM Songino Array 61.03 50 P **P** **11 32 34.7 -0.8**
comp=Z,0.5nm,0.6s,baz=300,slow=11,SNR=4.1
comp=Z,0.5nm,0.6s
YAK Yakutsk 65.92 29 LR LR 12 02 54.3
comp=Z,41nm,18.0s,baz=312,slow=37
RCBR Riachuelo 67.80 244 LR LR 12 02 32.6
comp=Z,22nm,18.8s,baz=75,slow=36
ZEA Zeya 69.60 37 *i* P **P** **11 33 32.7 +1.9**
CMAR Chiang Mai Arr 69.98 82 P **P** **11 33 32.9 -0.8**
comp=Z,1.2nm,0.6s,baz=303,slow=8.0,SNR=9.4
comp=Z,1.2nm,0.6s
CMAR Chiang Mai Arr 69.98 82 *i* P **P** **11 33 33.4 -0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
BILL Bilibino 71.94 13 *i* P **P** **11 33 47.0 +2.3**
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL MLR MLR
comp=Z,51nm,16.0s
KLR Kul'dur 74.58 39 *i* P **P** **11 34 01.4 +0.8**
KLR pmax pmax
comp=Z,2.0nm,1.2s
WHN Wuhan 74.97 63 P P 11 33 58.1 -5.1
MA2 Magadan 75.15 24 LR LR 12 13 09.6
comp=Z,33nm,19.0s,baz=336,slow=41
KSRS Korea Array 79.90 50 LR LR 12 16 00.4
comp=Z,14nm,19.2s,baz=340,slow=40
BDFB Brasilia 83.15 245 LR LR 12 11 08.0
comp=Z,37nm,20.4s,baz=166,slow=35
ERM Erimo 85.33 39 *ce*P **P** **11 35 00.5 +1.6**
TGY Tagaytay City 89.62 73 LR LR 12 19 32.6
comp=Z,279nm,21.9s,baz=315,slow=38
ASAR Alice Springs 122.02 97 PKP **PKPdf** **11 41 15.5 -1.0**
comp=Z,0.1nm,0.7s,baz=320,slow=2.0,SNR=1.3

IDC 08 11:51:19.2±1.3, 46°51S×96°18E, h0km, mb3.9/5, mbtmp3.9/5, MS3.7/18, Error ellipse: s-maj=47.8km s-min=23.7km az=122.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**17.83**	**56**	T	T	12 13 35.4	
baz=224,slow=73,SNR=87							
H01W3	**Cape Leeuwin H**	**17.84**	**56**	T	T	12 13 38.0	
baz=224,slow=73,SNR=184							
H01W1	**Cape Leeuwin H**	**17.85**	**56**	T	T	12 13 36.8	
baz=224,slow=73,SNR=103							
NWAO	**Narrogin (SRO)**	**21.04**	**57**	LR	LR	12 02 16.0	
comp=Z,175nm,20.1s,baz=210,slow=31							
FITZ	**Fitzroy Crossi**	**37.31**	**50**	LR	LR	12 11 21.5	
comp=Z,63nm,21.4s,baz=218,slow=32							
STKA	**Stephens Creek**	**37.57**	**84**	LR	LR	12 11 07.4	
comp=Z,108nm,19.0s,baz=205,slow=32							
ASAR	**Alice Springs**	**37.85**	**66**	P	P	11 58 37.7	0.0
1.3nm,0.8s,baz=218,slow=7.2,SNR=13							
ASAR				LR	LR	12 11 51.8	
comp=Z,118nm,21.6s,baz=228,slow=33							
1.3nm,0.8s							
WRA	**Warramunga Arr**	**40.87**	**63**	P	P	11 59 02.7	-0.2
2.4nm,0.8s,baz=222,slow=7.8,SNR=16							
WRA				LR	LR	12 14 00.9	
comp=Z,190nm,19.9s,baz=223,slow=33							
2.4nm,0.8s							
QSPA	**South Pole Qui**	**43.64**	**180**	P	P	11 59 25.0	-0.1
0.7nm,0.9s,baz=315,slow=2.9,SNR=1.8							
QSPA				LR	LR	12 16 32.3	
comp=Z,154nm,18.3s,baz=298,slow=35							
0.7nm,0.9s							
H08S2	**Diego Garcia H**	**43.74**	**325**	T	T	12 45 54.3	
baz=156,slow=76,SNR=16							
H08S1	**Diego Carcia H**	**43.74**	**325**	T	T	12 45 56.4	
baz=156,slow=76,SNR=16							
H08S3	**Diego Garcia H**	**43.76**	**325**	T	T	12 45 56.2	
baz=156,slow=76,SNR=25							
CTA	**Charters Tower**	**48.42**	**74**	LR	LR	12 18 60.0	
comp=Z,6.1nm,19.0s,baz=272,slow=34							
SNAA	**Sanae**	**49.33**	**204**	P	P	12 00 09.5	-0.1
0.8nm,0.2s,baz=131,slow=20,SNR=4.3							
SNAA				LR	LR	12 18 43.4	
comp=Z,49nm,18.3s,baz=11,slow=33							
0.8nm,0.2s							
PMG	**Port Moresby**	**56.87**	**66**	LR	LR	12 23 58.8	
comp=Z,69nm,18.5s,baz=155,slow=34							

BOSA	**Boshof**	**57.12**	**262**	LR	LR	12 20 08.5	
	comp=Z,60nm,21.1s,baz=197,slow=30						
SUR	**Sutherland**	**57.79**	**255**	LR	LR	12 21 43.6	
	comp=Z,70nm,18.0s,baz=146,slow=32						
LBTB	**Lobatse**	**59.18**	**265**	LR	LR	12 22 07.4	
	comp=Z,48nm,19.6s,baz=141,slow=31						
CMAR	**Chiang Mai Arr**	**64.70**	**3**	P	P	12 01 58.9	0.0
	0.6nm,0.3s,baz=196,slow=6.3,SNR=5.9						
CMAR				LR	LR	12 25 50.2	
	comp=Z,34nm,20.3s,baz=190,slow=32						
	0.6nm,0.3s						
HNR	**Honiara**	**65.23**	**77**	LR	LR	12 29 04.8	
	comp=Z,68nm,18.2s,baz=210,slow=35						
KMBO	**Kilima Mbogo**	**68.25**	**293**	LR	LR	12 25 25.1	
	comp=Z,27nm,18.2s,baz=90,slow=30						
MBAR	**Mbarara**	**72.87**	**288**	LR	LR	12 30 33.1	
	comp=Z,36nm,19.3s,baz=150,slow=32						
PLCA	**Paso Flores**	**92.34**	**190**	LR	LR	12 45 23.7	
	comp=Z,38nm,18.2s,baz=158,slow=35						
EIL	**Elat**	**93.83**	**310**	LR	LR	12 40 12.2	
	comp=Z,27nm,18.6s,baz=251,slow=31						
SONM	**Songino Array**	**94.38**	**7**	LR	LR	12 49 05.7	
	comp=Z,26nm,18.0s,baz=346,slow=37						

*NEIC **08** 11:57:31.0±1.4, 18°.58S±0°.06×70°.6W±0°.1, h45km±16km, mb4.0/4, Error ellipse: s-maj=16.5km s-min=7.9km az=95.0*
*IDC **08** 11:57:31.1±3.1, 18°.51S×70°.27W, h54km±27km, mb3.5/8, mbtmp3.8/10, ML4.0/2, MS2.8/1, Error ellipse: s-maj=28.2km s-min=16.7km az=90.0*
*GUC **08** 11:57:32.0±0.7, 18°.62S×70°.52W, h39km±2km, ML4.0*
*VAO **08** 11:57:35.7±1.0, 18°.51S×70°.13W, h94km±12km, mb3.8*
ISC 08 11:57:30.0±1.0, 18°.60S±0°.04×70°.58W±0°.09, h46km±9km, n74, σ1°.47/69, mb3.8/8, 3C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**0.32**	**44**		**Pn**	**11 57 39.8**	**+0.8**
AP01	**Chacalluta**	**0.32**	**44**	⇑*i*P	**Pn**	**11 57 39.7**	**+0.8**
AP01				*i* S	**Sn**	**11 57 45.7**	**+0.4**
AP01				IAML		11 57 47.9	
	comp=N,41μm,0.3s						
PX02	**IPOC Station P**	**0.51**	**135**	⇓*i*P	**Pn**	**11 57 41.0**	**-0.2**
PX02				*i* S	**Sn**	**11 57 49.1**	**-0.1**
PB11	**IPOC Station P**	**1.45**	**143**	Pn	**Pn**	**11 57 55.4**	**+1.5**
PB11	**IPOC Station P**	**1.45**	**143**	*e*P	**Pn**	**11 57 55.0**	**+1.2**
PB11				*i* S	**Sn**	**11 58 13.6**	**+1.8**
PB11				IAML		11 58 16.2	
	comp=N,3μm,0.3s						
PB18	**Visviri**	**1.45**	**46**	Pn	**Pn**	**11 57 56.4**	**+2.1**
PB18	**Visviri**	**1.45**	**46**	⇓*i*P	**Pn**	**11 57 56.6**	**+2.4**
PB18				*i* S	**Sn**	**11 58 15.7**	**+3.3**
PB18				IAML		11 58 23.1	
	comp=E,3μm,0.4s						
GO01	**Chusmiza**	**1.68**	**129**	Pn	**Pn**	**11 57 59.2**	**+1.8**
GO01	**Chusmiza**	**1.68**	**129**	⇓*i*P	**Pn**	**11 57 59.2**	**+1.8**
GO01				*i* S	**Sn**	**11 58 20.3**	**+2.2**
GO01				IAML		11 58 23.8	
	comp=E,3μm,0.1s						
TA02	**Huaiquique**	**1.71**	**166**		**Pn**	**11 57 59.0**	**+1.6**
HMBC	**Humberstone**	**1.79**	**159**		**Pn**	**11 57 59.9**	**+1.3**
TA01	**Diego Aracena**	**1.99**	**169**	Pn	**Pn**	**11 58 03.1**	**+1.9**
TA01	**Diego Aracena**	**1.99**	**169**	*e*P	**Pn**	**11 58 02.9**	**+1.7**
TA01				*i* S	**Sn**	**11 58 26.0**	**+1.1**
TA01				IAML		11 58 36.0	
	comp=E,894nm,0.4s						
PB08	**IPOC Station P**	**2.04**	**139**	Pn	**Pn**	**11 58 04.1**	**+1.9**
PB08	**IPOC Station P**	**2.04**	**139**	*e*P	**Pn**	**11 58 04.1**	**+1.9**
PB08				*e*S	**Sn**	**11 58 28.7**	**+2.1**
PATCX	**Punta Patache**	**2.24**	**170**		**Pn**	**11 58 06.4**	**+1.7**
PB01	**IPOC Station P**	**2.64**	**157**		**Pn**	**11 58 11.5**	**+1.4**
PB01	**IPOC Station P**	**2.64**	**157**	⇓*i*P	**Pn**	**11 58 11.6**	**+1.4**
PB01				IAML		11 58 58.1	
	comp=E,515nm,0.4s						
LPAZ	**La Paz**	**3.28**	**46**	Pn	Pn	11 58 23.2	+3.8
LPAZ	**La Paz**	**3.28**	**46**	P	Pn	11 58 23.3	+3.9
	comp=E,16nm,0.3s,baz=226,slow=3.2,SNR=30						
LPAZ	**La Paz**	**3.28**	**46**	*e*P	**Pn**	**11 58 20.7**	**+1.2**
PB09	**IPOC Station P**	**3.42**	**159**		**Pn**	**11 58 22.9**	**+2.0**
PB09	**IPOC Station P**	**3.42**	**159**	*e*P	**Pn**	**11 58 23.1**	**+2.1**
PB09				IAML		11 59 23.5	
	comp=E,384nm,0.7s						
PB04	**IPOC Station P**	**3.73**	**174**		**Pn**	**11 58 26.0**	**+0.7**
PB04	**IPOC Station P**	**3.73**	**174**	*e*P	**Pn**	**11 58 26.6**	**+1.3**
PB06	**IPOC Station P**	**4.19**	**167**	Pn	**Pn**	**11 58 32.5**	**+0.9**
LVC	**Limon Verde**	**4.28**	**159**	Pn	**Pn**	**11 58 34.7**	**+1.7**
LVC	**Limon Verde**	**4.28**	**159**	P	**Pn**	**11 58 34.8**	**+1.8**
	comp=E,3.2nm,0.3s,baz=4.9,slow=8.5,SNR=28						
LVC				S	**Sn**	**11 59 22.3**	**+0.4**
	comp=E,39nm,0.4s,baz=283,slow=7.5,SNR=3.1						
LVC				LR	LR	12 00 18.5	
	comp=E,123nm,19.5s,baz=314,slow=39						
	comp=E,8.4nm,0.2s						
LVC	**Limon Verde**	**4.28**	**159**	*e*P	**Pn**	**11 58 34.9**	**+1.8**
LVC	**Limon Verde**	**4.28**	**159**	*e*P	Pn	11 58 38.2	+5.2
PB15	**IPOC Station P**	**4.70**	**167**	Pn	**Pn**	**11 58 39.7**	**+1.1**
PB14	**IPOC Station P**	**6.00**	**178**		**Pn**	**11 58 56.1**	**-0.4**
AC01	**Pan de Azucar**	**7.51**	**180**	Pn	**Pn**	**11 59 15.3**	**-1.7**
SIV	**San Ignacio**	**9.44**	**75**	P	**Pn**	**11 59 42.3**	**-1.2**
	comp=E,0.4nm,0.3s,baz=262,slow=9.8,SNR=42						
	comp=E,10nm,0.5s						
BBSD	**Serra de San D**	**9.59**	**83**	*e*P	**Pn**	**11 59 44.8**	**-0.8**
ETMB	**Extrema**	**9.70**	**26**	Pn	**Pn**	**11 59 48.0**	**+1.0**
ETMB	**Extrema**	**9.70**	**26**	*e*P	**Pn**	**11 59 48.2**	**+1.1**
LCO	**Las Campanas**	**10.36**	**181**	Pn	**Pn**	**11 59 57.2**	**+0.9**
PTLB	**Pontes e Lacer**	**11.38**	**76**	Pn	**Pn**	**12 00 09.6**	**-0.5**
PTLB	**Pontes e Lacer**	**11.38**	**76**	*e*P	**Pn**	**12 00 09.3**	**-0.8**
VILB	**Vilhena**	**11.46**	**62**	Pn	**Pn**	**12 00 11.3**	**+0.2**
VILB	**Vilhena**	**11.46**	**62**	*e*P	**Pn**	**12 00 10.7**	**-0.4**
SAML	**Samuel**	**11.98**	**38**	Pn	**Pn**	**12 00 17.0**	**-1.2**
BDQN	**Bodoquena, MS**	**13.17**	**100**	*e*P	**Pn**	**12 00 32.7**	**-1.7**
PDRB	**Porto dos Gac**	**15.06**	**64**	*e*P	**Pn**	**12 00 59.2**	**-0.8**
H03N1	**Juan Fernandez**	**16.56**	**205**	T	T	12 18 38.6	
	baz=30,slow=73,SNR=130						
H03N2	**Juan Fernandez**	**16.56**	**205**	T	T	12 18 42.4	
	baz=30,slow=73,SNR=115						
H03N3	**Juan Fernandez**	**16.57**	**205**	T	T	12 18 43.4	
	baz=30,slow=73,SNR=110						
ITTB	**Itaituba**	**20.26**	**48**	*e*P	**P**	**12 01 59.9**	**-1.9**
TRQA	**Tornquist**	**20.79**	**161**	P	**P**	**12 02 08.2**	**+0.9**
TRQA				IAmb	IAmb	12 02 08.9	
	comp=Z,6.3nm,0.8s						
BDFB	**Brasilia**	**21.76**	**86**	P	**P**	**12 02 14.5**	**-3.5**
	comp=Z,1.6nm,0.4s,baz=102,slow=8.4,SNR=2.1						
	comp=Z,1.6nm,0.4s						
PLCA	**Paso Flores**	**22.06**	**180**	P	**P**	**12 02 22.3**	**+1.3**
PLCA				IAmb	IAmb	12 02 30.5	
	comp=Z,7.3nm,1.3s						
PLCA	**Paso Flores**	**22.06**	**180**	P	**P**	**12 02 22.1**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=34,slow=8.6,SNR=3.5						
	comp=Z,1.5nm,0.8s						
BOAV	**Boa Vista**	**23.09**	**26**	P	**P**	**12 02 32.9**	**+0.9**
BAUV	**El Baul**	**27.48**	**5**	P	**P**	**12 03 10.5**	**-1.6**
TXAR	**Lajitas Array**	**57.37**	**326**	P	**P**	**12 07 14.1**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=154,slow=8.4,SNR=4.0						
	comp=Z,0.4nm,0.7s						
SNAA	**Sanae**	**65.52**	**161**	⇑P	**P**	**12 08 08.7**	**+0.4**
	comp=Z,26nm,0.6s						
SNAA	**Sanae**	**65.52**	**161**	P	**P**	**12 08 08.9**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=258,slow=7.3,SNR=8.8						
	comp=Z,1.2nm,0.6s						
TROLL	**Troll, Antarti**	**67.23**	**161**	⇑P	**P**	**12 08 19.2**	**-0.2**
	comp=Z,27nm,0.3s						
PDAR	**Pinedale Array**	**70.83**	**331**	P	**P**	**12 08 41.8**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=131,slow=7.6,SNR=2.3						
	comp=Z,0.1nm,0.4s						
QSPA	**South Pole Qui**	**71.57**	**180**	P	**P**	**12 08 47.6**	**+1.3**
	comp=Z,1.5nm,0.6s,baz=176,slow=1.1,SNR=16						
	comp=Z,1.5nm,0.6s						
NVAR	**Mina Array Bea**	**72.25**	**322**	P	**P**	**12 08 52.1**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=170,slow=8.4,SNR=3.9						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.90**	**72**	P	**P**	**12 09 21.3**	**-2.3**
	comp=Z,1.1nm,0.9s,baz=258,slow=5.1,SNR=5.7						
	comp=Z,1.1nm,0.9s						
H11S2	**WAKE ISLAND Hyl**	**25.90**	**280**	T	T	14 35 18.7	
	baz=100,slow=75,SNR=90						
H11S1	**WAKE ISLAND Hyl**	**25.91**	**280**	T	T	14 35 21.7	
	baz=100,slow=75,SNR=80						
H11N3	**WAKE ISLAND Hyl**	**25.91**	**281**	T	T	14 35 25.6	
	baz=99,slow=74,SNR=9.6						
H11S3	**WAKE ISLAND Hyl**	**25.92**	**280**	T	T	14 35 22.5	
	baz=100,slow=75,SNR=70						
H11N2	**WAKE ISLAND Hyl**	**25.93**	**281**	T	T	14 35 28.8	
	baz=99,slow=74,SNR=16						
H11N1	**WAKE ISLAND Hyl**	**25.93**	**281**	T	T	14 35 28.2	
	baz=99,slow=74,SNR=3.6						
ASAR	**Alice Springs**	**131.67**	**211**	PKP	**PKPdf**	**12 16 38.6**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=121,slow=1.7,SNR=9.6						
WRA	**Warramunga Arr**	**134.56**	**214**	PKP	**PKPdf**	**12 16 44.4**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=144,slow=1.8,SNR=9.9						
ZALV	**Zalesovo Beam**	**139.95**	**22**	PKP	**PKPdf**	**12 16 53.2**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=245,slow=2.1,SNR=4.4						
MKAR	**Makanchi Array**	**144.12**	**32**	PKP	PKPbc	12 16 59.0	+0.1
	comp=Z,0.5nm,0.6s,baz=7.6,slow=2.6,SNR=3.0						
SONM	**Songino Array**	**150.74**	**4**	PKPbc	**PKPbc**	**12 17 17.6**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=346,slow=3.0,SNR=3.2						

*SOME **08** 12:29:42.6, 42°.55N×79°.22E, h10km*
*NNC **08** 12:29:43.9±1.2, 42°.61N×79°.27E, h0km, mb3.8, mpv3.8, Error ellipse: s-maj=8.2km s-min=4.2km az=155.0*
*KRNET **08** 12:29:43.4±0.1, 42°.60N×79°.23E, h13km, mb3.2*
ISC 08 12:29:43.8±1.1, 42°.60N±0°.04×79°.26E±0°.04, h10km, n71, σ1°.76/126, 15C-28D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.57**	**343**	P	**Pg**	**12 29 54.5**	**-0.4**
	30nm,0.2s						
UZB				S	**Sb**	**12 30 03.2**	**-1.2**
	151nm,0.1s						
UZB	**Uzynbulak**	**0.57**	**343**	*e*P	**Pg**	**12 29 54.5**	**-0.4**
	36nm,0.2s						
UZB				*e*S	**Sb**	**12 30 03.2**	**-1.2**
	149nm,0.2s						
UZB	**Uzynbulak**	**0.57**	**343**	*e*P	**Pg**	**12 29 54.5**	**-0.4**
UZB				*e*S	**Sb**	**12 30 03.1**	**-1.2**
SHLS	**Shalkode**	**0.58**	**15**	P	**Pn**	**12 29 57.5**	**-0.7**
	68nm,0.1s						
SHLS				S	**Sn**	**12 30 08.2**	**+0.4**
	190nm,0.3s						
SHLS	**Shalkode**	**0.58**	**15**	*e*P	**Pn**	**12 29 57.5**	**-0.7**
	68nm,0.1s						
SHLS				*e*S	**Sn**	**12 30 08.2**	**+0.4**
	190nm,0.3s						
SHLS	**Shalkode**	**0.58**	**15**	*e*P	**Pn**	**12 29 57.5**	**-0.7**
SHLS				*e*S	**Sn**	**12 30 08.2**	**+0.4**
PRZ	**Przheval'sk**	**0.64**	**260**	⇓*i*P	**Pg**	**12 29 55.9**	**-0.4**
PRZ				⇓*i*S	**Sb**	**12 30 04.7**	**-1.6**
PDGK	**Podgornoye**	**0.75**	**13**	P	**Pg**	**12 29 57.6**	**-0.7**
	47nm,0.1s						
PDGK				S	**Sg**	**12 30 08.2**	**+0.2**
	36nm,0.3s						
SATY	**Saty**	**0.78**	**307**	P	**Pb**	**12 29 58.5**	**-1.0**
	15nm,0.1s						
SATY				S	**Sb**	**12 30 09.9**	**-0.2**
	372nm,0.1s						
SATY	**Saty**	**0.78**	**307**	*e*P	**Pb**	**12 29 58.5**	**-1.0**
	15nm,0.1s						
SATY				*e*S	**Sb**	**12 30 09.9**	**-0.2**
	372nm,0.1s						
ZHN	**Zhinishke**	**0.83**	**314**	P	**Pg**	**12 29 59.3**	**-0.5**
	24nm,0.1s						
ZHN				S	**Sb**	**12 30 10.9**	**-0.7**
	208nm,0.1s						
ZHN	**Zhinishke**	**0.83**	**314**	*e*P	**Pg**	**12 29 59.3**	**-0.5**
	24nm,0.1s						
ZHN				*e*S	**Sb**	**12 30 10.9**	**-0.7**
	333nm,0.2s						
ZHN	**Zhinishke**	**0.83**	**314**	*e*P	**Pg**	**12 29 59.3**	**-0.5**
ZHN				*e*S	**Sb**	**12 30 11.0**	**-0.7**
KPKS	**Kokpek**	**0.96**	**334**	P	**Pg**	**12 30 01.6**	**-0.7**
	16nm,0.1s						
KPKS				S	**Sb**	**12 30 15.0**	**-0.5**
	126nm,0.2s						
KPKS	**Kokpek**	**0.96**	**334**	*e*P	**Pg**	**12 30 01.6**	**-0.7**
	16nm,0.1s						
KPKS				*e*S	**Sb**	**12 30 15.0**	**-0.5**
	178nm,0.2s						
KPKS	**Kokpek**	**0.96**	**334**	*e*P	**Pg**	**12 30 01.6**	**-0.7**
KPKS				*e*S	**Sb**	**12 30 15.0**	**-0.5**
KURS	**Kuram**	**1.19**	**319**	P	**Pb**	**12 30 05.9**	**-0.6**
	10nm,0.3s						
KURS				S	**Sn**	**12 30 22.2**	**-0.7**
	23nm,0.3s						
KURS	**Kuram**	**1.19**	**319**	*e*P	**Pb**	**12 30 05.9**	**-0.6**
	10nm,0.3s						
KURS				*e*S	**Sn**	**12 30 22.2**	**-0.7**
	23nm,0.3s						
KURS	**Kuram**	**1.19**	**319**	*e*P	**Pb**	**12 30 05.9**	**-0.6**
KURS				*e*S	**Sn**	**12 30 22.1**	**-0.7**
BLB	**Baldybastay**	**1.60**	**340**	P	**Pb**	**12 30 13.2**	**-0.3**
	281nm,0.2s						
BLB				S	**Sg**	**12 30 35.0**	**-0.2**
	508nm,0.3s						
KDJ	**Kajisay**	**1.61**	**254**	⇑*i*P	**Pb**	**12 30 13.1**	**-0.6**
KDJ				⇑*i*S	**Sg**	**12 30 35.5**	**0.0**
MDOK	**Medeo**	**1.72**	**290**	⇓P	**Pb**	**12 30 14.7**	**-0.8**
	10nm,0.5s						
MDOK				Pg	**Pb**	**12 30 15.0**	**-0.5**
	9.8nm,0.1s						
MDOK				⇓S	**Sb**	**12 30 37.1**	**-0.1**
	18nm,0.6s						
MDOK				Lg	Lg	12 30 38.7	
	26nm,0.4s						
MDOK	**Medeo**	**1.72**	**290**	*e*P	**Pb**	**12 30 15.0**	**-0.5**
	9.8nm,0.1s						
MDOK				*e*S	**Sg**	**12 30 38.7**	**-0.3**
	26nm,0.4s						
MDOK	**Medeo**	**1.72**	**290**	*e*P	**Pb**	**12 30 15.0**	**-0.5**
MDOK				*e*S	**Sg**	**12 30 38.7**	**-0.3**
TNSS	**Tian-Shan**	**1.75**	**285**	P	**Pb**	**12 30 15.7**	**-0.6**
	31nm,0.2s						
TNSS				S	**Sg**	**12 30 39.7**	**-0.5**
	16nm,0.4s						
TNSS	**Tian-Shan**	**1.75**	**285**	*e*P	**Pb**	**12 30 15.7**	**-0.6**
	31nm,0.2s						
TNSS				*e*S	**Sg**	**12 30 39.7**	**-0.5**
	16nm,0.4s						
DJR	**Jarkent**	**1.77**	**12**	P	**Pb**	**12 30 15.9**	**-0.6**
	24nm,0.2s						
DJR				S	**Sg**	**12 30 40.2**	**-0.6**
	50nm,0.2s						
DJR	**Jarkent**	**1.77**	**12**	*e*P	**Pb**	**12 30 15.9**	**-0.6**
	24nm,0.2s						
DJR				*e*S	**Sg**	**12 30 40.2**	**-0.6**
	50nm,0.2s						
KNDC	**Almaty**	**1.79**	**291**	⇑P	**Pg**	**12 30 17.7**	**-0.4**
	19nm,0.3s						
KNDC				⇑S	**Sg**	**12 30 45.0**	**+3.6**
	61nm,0.8s						
ARXS	**Arharly**	**1.92**	**328**	Pg	**Pb**	**12 30 18.9**	**0.0**
	30nm,0.2s						
ARXS				Lg	Lg	12 30 44.9	
	207nm,0.3s						
ARXS	**Arharly**	**1.92**	**328**	*e*P	**Pb**	**12 30 18.9**	**0.0**
	30nm,0.2s						
ARXS				*e*S	**Sg**	**12 30 44.9**	**-0.6**
	207nm,0.3s						
CHKK	**Chushkaly**	**2.08**	**308**	Pg	**Pb**	**12 30 21.4**	**-0.2**
	16nm,0.3s						
CHKK				Lg	Lg	12 30 49.4	
	139nm,0.3s						
CHKK	**Chushkaly**	**2.08**	**308**	*e*P	**Pb**	**12 30 21.4**	**-0.2**
	16nm,0.3s						
CHKK				*e*S	**Sg**	**12 30 49.4**	**-1.1**
	139nm,0.3s						
CHKK	**Chushkaly**	**2.08**	**308**	*e*P	**Pb**	**12 30 21.4**	**-0.2**
CHKK				*e*S	**Sg**	**12 30 49.4**	**-1.1**
MTBS	**Maitube**	**2.15**	**285**	Pg	**Pb**	**12 30 22.6**	**-0.1**
	29nm,0.2s						
MTBS				Lg	Lg	12 30 51.8	
	46nm,0.4s						
MTBS	**Maitube**	**2.15**	**285**	*e*P	**Pb**	**12 30 22.6**	**-0.1**
	29nm,0.2s						
MTBS				*e*S	**Sg**	**12 30 51.8**	**-0.9**
	46nm,0.4s						
KTBS	**Karatobe**	**2.19**	**301**	Pg	**Pb**	**12 30 23.4**	**0.0**
	57nm,0.2s						
KTBS				Lg	Lg	12 30 52.8	
	142nm,0.2s						
KTBS	**Karatobe**	**2.19**	**301**	*e*P	**Pb**	**12 30 23.4**	**0.0**
	57nm,0.2s						
KTBS				*e*S	**Sg**	**12 30 52.8**	**-1.2**
	142nm,0.2s						
ULHL	**Ulahol**	**2.26**	**262**	⇓*i*P	**Pb**	**12 30 23.9**	**-0.9**
ULHL				⇓*i*S	**Sg**	**12 30 54.0**	**-2.4**
BOOM	**Boomskoye usch**	**2.45**	**269**	⇓*i*P	**Pb**	**12 30 26.7**	**-1.4**
BOOM				⇓*i*S	**Sb**	**12 30 58.3**	**-0.1**
KST	**Kastek**	**2.46**	**281**	Pg	**Pb**	**12 30 28.0**	**-0.2**
	34nm,0.2s						
KST				Lg	Lg	12 31 01.4	
	34nm,0.5s						
KST	**Kastek**	**2.46**	**281**	*e*P	**Pb**	**12 30 28.0**	**-0.2**
	34nm,0.2s						
KST				*e*S	**Sg**	**12 31 01.4**	**-1.5**
	34nm,0.5s						
TDK	**Taldyqorghan**	**2.48**	**346**	Pg	**Pb**	**12 30 28.6**	**+0.2**
	34nm,0.2s						
TDK				Lg	Lg	12 31 01.5	
	115nm,0.3s						
TDK	**Taldyqorghan**	**2.48**	**346**	*e*P	**Pb**	**12 30 28.6**	**+0.2**
	34nm,0.2s						
TDK				*e*S	**Sg**	**12 31 01.5**	**-1.9**
	115nm,0.3s						
KUU	**Kurty**	**2.49**	**302**	Pg	**Pb**	**12 30 28.5**	**-0.2**
	5.7nm,0.1s						
KUU				Lg	Lg	12 31 01.4	
	90nm,0.2s						
KUU	**Kurty**	**2.49**	**302**	*e*P	**Pb**	**12 30 28.5**	**-0.2**
	5.7nm,0.1s						
KUU				*e*S	**Sg**	**12 31 01.4**	**-2.4**
	90nm,0.2s						
KAPS	**Kapalarasan**	**2.69**	**2**	Pg	**Pb**	**12 30 32.0**	**0.0**
	10.0nm,0.1s						
KAPS				Lg	Lg	12 31 08.4	
	80nm,0.1s						
KAPS	**Kapalarasan**	**2.69**	**2**	*e*P	**Pb**	**12 30 32.0**	**0.0**
	10.0nm,0.1s						
KAPS				*e*S	**Sg**	**12 31 08.4**	**-1.6**
	80nm,0.1s						
NRN	**Naryn**	**2.69**	**245**	⇓*i*P	**Pb**	**12 30 30.2**	**-2.0**
NRN				⇓*i*S	**Sb**	**12 31 05.0**	**-0.4**
TKM2	**Tokmak 2**	**2.71**	**278**	⇓Pg	**Pb**	**12 30 31.3**	**-1.2**
	7.5nm,0.5s						
TKM2				⇑Lg	Lg	12 31 08.9	
	33nm,0.7s						
TKM2	**Tokmak 2**	**2.71**	**278**	⇓*i*P	**Pb**	**12 30 30.3**	**-2.2**
TKM2				⇓*i*S	**Sb**	**12 31 04.8**	**-1.1**
KRBS	**Karabastau**	**2.84**	**294**	Pg	**Pb**	**12 30 34.3**	**-0.3**
	15nm,0.2s						
KRBS				Lg	Lg	12 31 10.4	
	23nm,0.3s						
KRBS	**Karabastau**	**2.84**	**294**	*e*P	**Pb**	**12 30 34.3**	**-0.3**
	15nm,0.2s						
KRBS				*e*S	**Sb**	**12 31 10.4**	**+0.9**
	23nm,0.3s						
KBK	**Karagaybulak**	**3.18**	**272**	⇓*i*P	**Pb**	**12 30 37.1**	**-3.3**
KBK				⇓*i*S	**Sb**	**12 31 16.0**	**-3.3**
CHMS	**Chumysh**	**3.34**	**278**	⇑Pg	**Pb**	**12 30 43.0**	**-0.1**
	1.9nm,0.3s						
CHMS				⇓Lg	Lg	12 31 28.5	
	6.9nm,0.7s						
CHMS	**Chumysh**	**3.34**	**278**	⇓*i*P	**Pb**	**12 30 39.5**	**-3.6**
CHMS				⇓*i*S	**Sb**	**12 31 19.4**	**-4.4**
FRU1	**Bishkek**	**3.42**	**275**	⇑*i*P	**Pb**	**12 30 40.4**	**-4.0**
FRU1				⇑*i*S	**Sb**	**12 31 21.3**	**-4.7**
SGDS	**Sogindy**	**3.50**	**286**	Pg	**Pb**	**12 30 46.6**	**+0.8**
	5.8nm,0.2s						
SGDS				Lg	Lg	12 31 32.5	
	13nm,0.2s						
UCH	**Uchtor**	**3.53**	**266**	⇑*i*P	**Pn**	**12 30 41.6**	**+2.5**
UCH				⇑*i*S	**Sb**	**12 31 24.6**	**-5.1**
USP	**Ospenovka**	**3.56**	**282**	⇓*i*P	**Pn**	**12 30 42.0**	**+3.0**
USP				⇓*i*S	**Sn**	**12 31 24.7**	**+3.6**
ARLS	**Aral**	**3.74**	**260**	⇑*i*P	**Pn**	**12 30 44.0**	**+2.4**
ARLS				⇑*i*S	**Sn**	**12 31 29.1**	**+3.3**
EKS2	**Erkin-Say**	**4.04**	**273**	⇓*e*P	**Pn**	**12 30 48.9**	**+3.1**
EKS2				⇓*i*S	**Sn**	**12 31 36.5**	**+3.2**
AML	**Almayashu**	**4.15**	**265**	⇑*e*P	**Pn**	**12 30 50.4**	**+2.9**
AML				⇑*i*S	**Sn**	**12 31 39.4**	**+3.2**
MRKS	**Merke**	**4.45**	**274**	Pg	**Pb**	**12 31 03.4**	**+1.4**
	3.3nm,0.2s						
MRKS				Lg	Lg	12 32 01.3	
	5.4nm,0.3s						
MRKS	**Merke**	**4.45**	**274**	*e*P	**Pb**	**12 31 03.4**	**+1.4**
	3.3nm,0.2s						
MRKS				*e*S	**Sg**	**12 32 01.3**	**-5.3**
	5.4nm,0.3s						
BTLS	**Baital**	**4.49**	**305**	Pg	**Pb**	**12 31 04.7**	**+2.0**
	2.7nm,0.2s						
BTLS				Lg	Lg	12 32 03.2	
	4.4nm,0.3s						
BTLS	**Baital**	**4.49**	**305**	*e*P	**Pb**	**12 31 04.7**	**+2.0**
	2.7nm,0.2s						
BTLS				*e*S	**Sg**	**12 32 03.2**	**-4.7**
	4.4nm,0.3s						
MAKZ	**Makanchi**	**4.63**	**24**	⇓Pn	**Pn**	**12 30 54.5**	**+0.7**
	2.9nm,0.6s						
MAKZ				⇓Lg	Lg	12 32 14.6	
	3.8nm,1.1s						
MK31	**Makanchi Array**	**4.72**	**26**	Pn	**Pn**	**12 30 57.5**	**+2.5

VAF	**Ylistaro**	**2.63**	**252**	PG	**Pb**	**12 31 46.0**	**-0.7**
VAF				MSG		12 32 16.8	
	comp=Z,2.3nm,0.2s						
VAF				SG	**Sb**	**12 32 19.6**	**+0.1**
TOF	**Tornio**	**2.69**	**324**	SB	**Sn**	**12 32 17.7**	**+1.3**
TOF				MSG		12 32 17.8	
	comp=Z,0.7nm,0.2s						
FIA0	**FINESS Array S**	**2.70**	**202**	PG	**Pb**	**12 31 47.3**	**-0.6**
	baz=20						
FIA0				MSG		12 32 19.9	
	comp=Z,1.6nm,0.2s						
FIA0				SG	**Sb**	**12 32 21.7**	**+0.2**
FINES	**FINESS Array B**	**2.70**	**202**	Pn	**Pb**	**12 31 46.9**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=26,slow=16,SNR=9.3						
FINES				Sn	**Sb**	**12 32 20.7**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=23,slow=25,SNR=36						
	comp=Z,0.9nm,0.5s						
RNF	**Rovaniemi**	**2.81**	**342**	PG	**Pb**	**12 31 49.9**	**0.0**
RNF				SG	**Sb**	**12 32 24.5**	**-0.3**
UMAU	**Umeaa**	**3.31**	**272**	PN	**Pn**	**12 31 52.4**	**+0.7**
	baz=88						
ERTU	**Ertsjaerv**	**3.62**	**319**	PN	**Pn**	**12 31 58.5**	**+2.5**
KLF	**Kolari**	**3.73**	**334**	SN	**Sn**	**12 32 42.1**	**+0.1**
NUR	**Nurmijarvi**	**3.83**	**207**	SB	**Sb**	**12 32 53.1**	**-0.9**
RAJF	**Raja-Jooseppi**	**4.54**	**1**	PB	**Pb**	**12 32 15.5**	**-3.8**
ARCES	**ARCESS Array B**	**5.70**	**351**	Pn	**Pn**	**12 32 26.1**	**+1.5**
	baz=169,slow=15,SNR=1.4						
ARCES				Sn	**Sn**	**12 33 31.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=168,slow=25,SNR=5.1						
ARCES				Lg	Lg	12 33 55.2	
	comp=Z,0.1nm,0.3s,baz=172,slow=34,SNR=2.7						
	comp=Z,1.1nm,0.9s						
VSVD	**Vaisvydziai**	**8.28**	**197**	*e*P	Pb	12 33 29.1	+6.4
I43RU	**DUBNA INFRASON**	**8.52**	**144**	I	I	13 21 50.0	
	baz=337,slow=308,SNR=4.8						
PABE	**Paberze**	**8.74**	**196**	*e*P	**Pg**	**12 33 44.0**	**-1.9**

*ATH **08** 12:36:55.4, 37.°60N×20.°87E, $h10^{km}\pm4^{km}$, ML3.0/2, Error ellipse: s-maj=5.0km s-min=1.5km az=14.0*
*THE **08** 12:36:55.9, 37.°63N×20.°87E, $h10^{km}\pm1^{km}$, ML2.5/6, Error ellipse: s-maj=1.8km s-min=0.8km az=234.0*

ISC 08 12:36:55.7±1.2, 37.°62N±0.°05×20.°87E±0.°05, $h10^{km}\pm6^{km}$, n19, σ0°65/29, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.06**	**318**	P	**Pg**	**12 36 57.8**	**0.0**
KRI1				S	**Sg**	**12 36 59.6**	**+0.3**
LTHK	**Lithakia**	**0.10**	**345**	P	**Pg**	**12 36 57.9**	**-0.3**
LTHK				S	**Sg**	**12 36 59.8**	**-0.2**
	26μm,0.4s						
LTHK	**Lithakia**	**0.10**	**345**	P	**Pg**	**12 36 57.9**	**-0.3**
LTHK				S	**Sg**	**12 36 59.8**	**-0.2**
LTHK				AML	AML	12 37 00.2	
	comp=N,67965μm,0.3s						
LTHK				AML	AML	12 37 04.7	
	comp=E,36192μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.46**	**351**	P	**Pg**	**12 37 04.5**	**-0.3**
RTZL				S	**Sg**	**12 37 11.5**	**+0.6**
	comp=E,935nm,0.1s						
PSDA	**Pessada-Kefalo**	**0.55**	**336**	P	**Pg**	**12 37 05.6**	**-0.7**
PSDA				S	**Sg**	**12 37 14.1**	**+0.7**
	comp=E,935nm,0.4s						
PSDA	**Pessada-Kefalo**	**0.55**	**336**	P	**Pg**	**12 37 05.6**	**-0.7**
PSDA				S	**Sg**	**12 37 14.4**	**+0.9**
VLS	**Valsamata**	**0.60**	**339**	P	**Pg**	**12 37 06.2**	**-1.1**
VLS				S	**Sg**	**12 37 15.6**	**+0.3**
	comp=E,765nm,0.1s						
VLS	**Valsamata**	**0.60**	**339**	P	**Pg**	**12 37 06.3**	**-1.1**
VLS				S	**Sg**	**12 37 16.1**	**+0.8**
VLS				AML	AML	12 37 16.5	
	comp=E,1587μm,0.2s						
VLS				AML	AML	12 37 16.7	
	comp=N,1441μm,0.2s						
RLS	**Riolos of Patr**	**0.65**	**47**	P	**Pg**	**12 37 07.2**	**-1.0**
RLS				S	**Sg**	**12 37 17.4**	**+0.7**
	comp=N,422nm,0.5s						
RLS	**Riolos of Patr**	**0.65**	**47**	P	**Pg**	**12 37 07.5**	**-0.7**
AMT	**Artemida-Makis**	**0.67**	**97**	P	**Pg**	**12 37 08.7**	**0.0**
DMLN	**Damoulianata-K**	**0.73**	**328**	P	**Pg**	**12 37 09.2**	**-0.6**
DRO	**Drossia**	**0.75**	**63**	P	**Pg**	**12 37 09.5**	**-0.6**
FSK	**Fiskardo**	**0.88**	**344**	P	**Pg**	**12 37 11.8**	**-0.7**
FSK				S	**Sb**	**12 37 25.3**	**+0.6**
	comp=N,265nm,0.7s						
ITM	**Ithomi**	**0.95**	**117**	P	**Pg**	**12 37 13.4**	**-0.5**
PYL	**PYLOS**	**1.00**	**136**	P	**Pn**	**12 37 15.7**	**-0.1**
PYL	**PYLOS**	**1.00**	**136**	P	**Pg**	**12 37 14.5**	**-0.4**
EVGI	**Lefkada island**	**1.02**	**351**	P	**Pg**	**12 37 15.3**	**+0.1**
KLV	**Kalavryta, Ach**	**1.10**	**67**	P	**Pg**	**12 37 16.5**	**-0.3**

IDC 08 12:51:48.8±8.8, 1.°91N×125.°65E, $h10^{km}$, mb3.5/3, mbtmp3.5/3, MS2.8/1, Error ellipse: s-maj=179.9km s-min=136.2km az=70.0, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.32**	**159**	P	P	12 56 59.3	+0.5
	0.3nm,0.3s,baz=336,slow=11,SNR=13						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**26.66**	**163**	P	P	12 57 31.2	+1.6
	0.2nm,0.5s,baz=351,slow=7.8,SNR=4.6						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**36.85**	**157**	P	P	12 58 56.9	-2.1
	1.2nm,0.6s,baz=342,slow=9.6,SNR=4.0						
	1.2nm,0.6s						
ASAJ	**Asahikawa**	**44.64**	**17**	LR	LR	13 18 20.1	
	comp=Z,12nm,20.4s,baz=71,slow=36						

*THE **08** 12:54:50.6, 37.°43N×20.°64E, $h2^{km}\pm6^{km}$, ML2.9/4, Error ellipse: s-maj=6.8km s-min=1.4km az=213.0*
*ATH **08** 12:54:50.7, 37.°47N×20.°60E, $h13^{km}\pm6^{km}$, ML2.7/2, Error ellipse: s-maj=7.2km s-min=1.6km az=18.0*

ISC 08 12:54:49.8±2.1, 37.°41N±0.°07×20.°61E±0.°08, $h7^{km}\pm15^{km}$, n15, σ0°46/22, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.30**	**33**	P	**Pg**	**12 54 55.5**	**-0.2**
KRI1				S	**Sg**	**12 55 00.1**	**+0.4**
LTHK	**Lithakia**	**0.35**	**31**	P	**Pg**	**12 54 56.4**	**-0.2**
LTHK				S	**Sg**	**12 55 01.4**	**+0.2**
	2μm,0.2s						
LTHK	**Lithakia**	**0.35**	**31**	P	**Pg**	**12 54 56.3**	**-0.3**
LTHK				S	**Sg**	**12 55 01.2**	**0.0**
LTHK				AML	AML	12 55 02.0	
	comp=N,4150μm,0.3s						
LTHK				AML	AML	12 55 02.3	
	comp=E,4141μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.70**	**358**	P	**Pb**	**12 55 04.3**	**-0.1**
PSDA				S	**Sg**	**12 55 12.7**	**+0.2**
	comp=E,1μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.70**	**358**	P	**Pg**	**12 55 03.9**	**+0.6**
VLS	**Valsamata**	**0.77**	**359**	P	**Pg**	**12 55 04.8**	**+0.3**
VLS				S	**Sg**	**12 55 14.6**	**+0.1**
	comp=E,882nm,0.4s						
VLS	**Valsamata**	**0.77**	**359**	P	**Pg**	**12 55 04.6**	**+0.1**
VLS				S	**Sg**	**12 55 13.5**	**-1.0**
VLS				AML	AML	12 55 15.4	
	comp=E,1685μm,0.2s						
VLS				AML	AML	12 55 15.8	
	comp=N,1331μm,0.2s						
DMLN	**Damoulianata-K**	**0.85**	**347**	P	**Pg**	**12 55 06.5**	**+0.4**
DMLN				S	**Sb**	**12 55 17.6**	**-0.9**
	comp=N,1μm,0.6s						
AMT	**Artemida-Makis**	**0.88**	**82**	P	**Pb**	**12 55 07.9**	**+0.5**
RLS	**Riolos of Patr**	**0.94**	**46**	P	**Pg**	**12 55 07.6**	**-0.2**
PYL	**PYLOS**	**1.04**	**119**	P	**Pg**	**12 55 09.1**	**-0.6**
PYL	**PYLOS**	**1.04**	**119**	P	**Pg**	**12 55 09.7**	**0.0**
ITM	**Ithomi**	**1.07**	**102**	P	**Pg**	**12 55 10.7**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.30**	**3**	P	**Pg**	**12 55 15.0**	**+0.2**
KLV	**Kalavryta, Ach**	**1.37**	**62**	P	**Pn**	**12 55 15.8**	**+0.3**

IDC 08 13:18:31.6±999.0, 35.°23N×8.°41E, $h0^{km}$, Error ellipse: s-maj=453.4km s-min=20.8km az=52.0, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**0.94**	**52**	I	I	13 23 22.5	
	0.1nm,0.6s,baz=232,slow=323,SNR=7.5						
I26DE	**FREYUNG INFRAS**	**14.17**	**14**	I	I	14 42 40.0	
	baz=198,slow=332,SNR=0.9						
I43RU	**DUBNA INFRASON**	**29.00**	**33**	I	I	16 17 40.0	
	baz=234,slow=325,SNR=2.9						

*THE **08** 13:28:49.5, 37.°67N×20.°87E, $h13^{km}\pm1^{km}$, ML2.6/5, Error ellipse: s-maj=2.1km s-min=1.0km az=228.0*
*ATH **08** 13:28:49.2, 37.°66N×20.°88E, $h13^{km}\pm2^{km}$, ML2.5/2, Error ellipse: s-maj=2.9km s-min=1.4km az=352.0*

ISC 08 13:28:49.4±1.3, 37.°68N±0.°07×20.°89E±0.°04, $h13^{km}\pm7^{km}$, n15, σ0°47/24, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.05**	**305**	P	**Pg**	**13 28 51.6**	**-0.2**
LTHK				S	**Sg**	**13 28 53.5**	**-0.1**
	11μm,0.2s						
LTHK	**Lithakia**	**0.05**	**305**	P	**Pg**	**13 28 51.6**	**-0.2**
LTHK				S	**Sg**	**13 28 53.5**	**-0.1**
LTHK				AML	AML	13 28 53.7	
	comp=E,25534μm,0.2s						
LTHK				AML	AML	13 28 53.9	
	comp=N,12417μm,0.2s						
KRI1	**kERI**	**0.06**	**253**	P	**Pg**	**13 28 52.0**	**+0.1**
KRI1				S	**Sg**	**13 28 54.1**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.41**	**347**	P	**Pg**	**13 28 57.8**	**+0.3**
RTZL				S	**Sb**	**13 29 04.5**	**0.0**
	comp=N,2μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.50**	**331**	P	**Pg**	**13 28 58.8**	**-0.3**
PSDA				S	**Sg**	**13 29 06.4**	**+0.7**
	comp=N,935nm,0.4s						
PSDA	**Pessada-Kefalo**	**0.50**	**331**	P	**Pg**	**13 28 58.9**	**-0.3**
VLS	**Valsamata**	**0.55**	**335**	P	**Pb**	**13 29 01.2**	**+0.3**
VLS				S	**Sg**	**13 29 07.9**	**+0.4**
	comp=N,345nm,0.4s						
VLS	**Valsamata**	**0.55**	**335**	P	**Pg**	**13 28 59.1**	**-1.1**
VLS				S	**Sg**	**13 29 08.3**	**+0.8**
VLS				AML	AML	13 29 08.5	
	comp=E,913μm,0.6s						
VLS				AML	AML	13 29 09.7	
	comp=N,459μm,0.2s						
RLS	**Riolos of Patr**	**0.59**	**50**	P	**Pg**	**13 29 00.5**	**-0.5**
RLS				S	**Sb**	**13 29 10.6**	**+0.7**
	comp=N,642nm,0.4s						
RLS	**Riolos of Patr**	**0.59**	**50**	P	**Pg**	**13 29 00.4**	**-0.6**
RLS				S	**Sg**	**13 29 09.3**	**+0.4**
AMT	**Artemida-Makis**	**0.67**	**103**	P	**Pg**	**13 29 02.3**	**0.0**
DRO	**Drossia**	**0.70**	**67**	P	**Pg**	**13 29 03.1**	**0.0**
KLV	**Kalavryta, Ach**	**1.06**	**70**	P	**Pb**	**13 29 09.4**	**-0.2**
KLV	**Kalavryta, Ach**	**1.06**	**70**	P	**Pg**	**13 29 09.9**	**+0.1**
ANX	**Ano Chora**	**1.22**	**41**	P	**Pn**	**13 29 11.8**	**-0.4**

*IDC **08** 13:39:36.8±0.7, 57.°69S×147.°22W, $h0^{km}$, mb4.2/8, mbtmp4.2/8, MS4.5/33, Error ellipse: s-maj=29.1km s-min=20.3km az=14.0*
*GCMT **08** 13:39:42.0±0.2, 57.°89S±0.°01×147.°12W±0.°02, $h15^{km}\pm1^{km}$, MW5.2/122, Moment Tensor Solution. s74,c102; s122,c187; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}=-1.06±.16; $M_{\theta\theta}$5.77±.19; $M_{\phi\phi}$-4.71±.14; $M_{r\theta}$-0.64±.29; $M_{\theta\phi}$5.34±.14; $M_{\phi r}$-0.53±.27; Best double couple: $M_0$7.52100×10^{16} NP1:ϕ_s202.00000°, δ88.00000°, λ175.00000°. NP2:ϕ_s292.00000°, δ85.00000°, λ2.00000°. Principal axes: T 8.0810, Plg5.0000°, Azm157.0000°; N -1.1200, Plg84.0000°, Azm3.0000°; P -6.9610, Plg2.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 08 13:39:38.1±0.8, 57.°7S±0.°2×147.°2W±0.°2, $h10^{km}$, n64, σ0°53/19, mb4.5/11, MS4.6/34, 5C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**29.38**	**280**	LR	LR	13 55 40.5	
	comp=Z,1μm,18.1s,baz=132,slow=33						
URZ	**Urewera**	**30.27**	**294**	LR	LR	13 55 50.2	
	comp=Z,730nm,19.2s,baz=154,slow=32						
QSPA	**South Pole Qui**	**32.49**	**180**	P	**P**	**13 46 09.0**	**+0.5**
	2.2nm,0.9s,baz=60,slow=0.8,SNR=8.1						
QSPA				LR	LR	13 57 25.9	
	comp=Z,2μm,19.4s,baz=64,slow=33						
	2.2nm,0.9s						
TBI	**Tubuai**	**34.31**	**356**	*e*LR	LR	13 55 35.6	
	2μm,24.2s						
TBI				*e*LR	LR	13 55 39.8	
	3μm,20.2s						
RAO	**Raoul Island**	**35.54**	**310**	LR	LR	13 57 41.9	
	comp=Z,609nm,20.6s,baz=150,slow=30						
RKT	**Rikitea**	**35.62**	**20**	*e*S	S	13 52 22.0	+10
	699nm,30.8s						
RKT				*e*LQ	LQ	13 54 48.0	
	936nm,23.2s						
RKT				*e*LR	LR	13 56 19.6	
	4μm,26.2s						
RAR	**Rarotonga**	**37.55**	**341**	LR	LR	13 58 54.2	
	comp=Z,1μm,18.2s,baz=182,slow=31						
PMSA	**Palmer Station**	**37.87**	**136**	LR	LR	13 59 10.9	
	comp=Z,949nm,18.8s,baz=232,slow=31						
PPT2	**Papeete2**	**40.04**	**356**	*e*S	S	13 53 32.3	+13
	110nm,22.2s						
PPT2				*e*LR	LR	13 58 15.4	
	1μm,22.8s						
PPT2				*e*LR	LR	13 58 16.3	
	1μm,24.0s						
PPT	**Papeete**	**40.06**	**356**	LR	LR	13 59 07.5	
	comp=Z,762nm,21.5s,baz=151,slow=29						
RPN	**Rapa Nui**	**40.47**	**57**	LR	LR	13 59 53.2	
	comp=Z,477nm,20.3s,baz=204,slow=30						
MSVF	**Nonsavu**	**47.45**	**312**	LR	LR	14 03 43.7	
	comp=Z,749nm,21.8s,baz=164,slow=30						
VNA3	**Neumayer Olymp**	**47.96**	**163**	⇑P	**P**	**13 48 15.6**	**-0.6**
	comp=Z,7.0nm,0.8s						
SNAA	**Sanae**	**48.57**	**166**	⇑P	**P**	**13 48 20.5**	**-0.5**
	comp=Z,64nm,0.6s						
SNAA	**Sanae**	**48.57**	**166**	P	**P**	**13 48 20.5**	**-0.5**
	comp=Z,6.8nm,0.8s,baz=205,slow=7.9,SNR=27						
SNAA				LR	LR	14 07 12.8	
	comp=Z,323nm,19.1s,baz=194,slow=34						
	comp=Z,6.8nm,0.8s						
VNA2	**Neumayer--Watz**	**48.60**	**164**	⇑P	**P**	**13 48 20.7**	**-0.4**
	comp=Z,7.0nm,0.7s,baz=203,slow=7.8						
VNA1	**Neumayer--Stat**	**48.71**	**163**	⇑P	**P**	**13 48 21.8**	**-0.1**
	comp=Z,15nm,1.0s						
DZM	**Mont Dzumac**	**48.77**	**297**	*e*LR	LR	14 02 28.2	
	comp=Z,1μm,28.7s						
TROLL	**Troll, Antarti**	**48.91**	**168**	⇑P	**P**	**13 48 23.9**	**+0.2**
	comp=Z,207nm,0.9s						
TAOE	**Nuku Hiva Isla**	**48.99**	**9**	*e*LR	LR	14 02 32.8	
	comp=Z,1μm,25.0s						
PLCA	**Paso Flores**	**50.02**	**105**	P	**P**	**13 48 33.1**	**+0.6**
	comp=Z,2.6nm,1.0s,baz=216,slow=14,SNR=3.2						
PLCA				LR	LR	14 04 39.0	
	comp=Z,352nm,19.1s,baz=222,slow=30						
	comp=Z,2.6nm,1.0s						
H03S2	**Juan Fernandez**	**50.72**	**93**	T	T	14 43 20.2	
	baz=218,slow=74,SNR=76						
H03S1	**Juan Fernandez**	**50.73**	**93**	T	T	14 43 21.5	
	baz=218,slow=74,SNR=76						
H03S3	**Juan Fernandez**	**50.74**	**93**	T	T	14 43 20.7	
	baz=218,slow=74,SNR=86						
H03N3	**Juan Fernandez**	**51.01**	**92**	T	T	14 43 49.6	
	baz=221,slow=72,SNR=49						
H03N2	**Juan Fernandez**	**51.02**	**92**	T	T	14 43 42.6	
	baz=221,slow=72,SNR=92						
H03N1	**Juan Fernandez**	**51.03**	**92**	T	T	14 43 43.2	
	baz=221,slow=72,SNR=52						
MAW	**Mawson**	**53.09**	**194**	P	**P**	**13 48 55.0**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=275,slow=11,SNR=2.8						
MAW				LR	LR	14 09 38.7	
	comp=Z,584nm,18.2s,baz=154,slow=34						
	comp=Z,1.6nm,0.9s						
CTA	**Charters Tower**	**60.73**	**279**	LR	LR	14 12 02.0	
	comp=Z,34nm,19.9s,baz=128,slow=32						
ASAR	**Alice Springs**	**64.45**	**266**	P	**P**	**13 50 14.1**	**-0.5**
	comp=Z,4.1nm,1.0s,baz=150,slow=7.4,SNR=7.4						
ASAR				LR	LR	14 16 07.2	
	comp=Z,441nm,18.2s,baz=28,slow=34						
	comp=Z,4.1nm,1.0s						
LVC	**Limon Verde**	**64.96**	**93**	LR	LR	14 10 55.6	
	comp=Z,207nm,21.7s,baz=212,slow=29						
H01W1	**Cape Leeuwin H**	**65.57**	**243**	T	T	15 02 16.4	
	baz=144,slow=76,SNR=12						
H01W2	**Cape Leeuwin H**	**65.57**	**243**	T	T	15 02 17.1	
	baz=144,slow=76,SNR=11						
H01W3	**Cape Leeuwin H**	**65.58**	**243**	T	T	15 02 17.7	
	baz=144,slow=76,SNR=13						
NWAO	**Narrogin (SRO)**	**65.66**	**247**	LR	LR	14 11 51.6	
	comp=Z,551nm,20.8s,baz=84,slow=30						
WRA	**Warramunga Arr**	**67.24**	**269**	P	**P**	**13 50 32.5**	**-0.1**
	comp=Z,3.6nm,1.0s,baz=144,slow=5.6,SNR=5.2						
WRA				LR	LR	14 16 42.1	
	comp=Z,601nm,19.8s,baz=157,slow=33						
	comp=Z,3.6nm,1.0s						
CPUP	**Villa Florida**	**68.09**	**105**	P	**P**	**13 50 36.6**	**-1.2**
	comp=Z,2.7nm,0.9s,baz=86,slow=3.0,SNR=3.1						
CPUP				LR	LR	14 15 43.6	
	comp=Z,133nm,19.2s,baz=216,slow=32						
	comp=Z,2.7nm,0.9s						
PMG	**Port Moresby**	**69.17**	**286**	LR	LR	14 15 45.3	
	comp=Z,314nm,22.0s,baz=143,slow=31						
NNA	**Nana**	**69.45**	**80**	LR	LR	14 15 12.8	
	comp=Z,97nm,19.1s,baz=203,slow=31						
LPAZ	**La Paz**	**70.54**	**90**	P	**P**	**13 50 54.0**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=212,slow=2.1,SNR=9.0						
LPAZ				LR	LR	14 14 48.2	
	comp=Z,149nm,21.0s,baz=204,slow=30						
	comp=Z,1.0nm,0.4s						
ATAH	**Atahualpa**	**72.72**	**76**	LR	LR	14 15 34.8	
	comp=Z,534nm,19.4s,baz=225,slow=30						
BATI	**Baumata**	**81.01**	**265**	LR	LR	14 26 02.0	
	comp=Z,606nm,18.2s,baz=171,slow=34						
BDFB	**Brasilia**	**81.76**	**106**	LR	LR	14 24 54.2	
	comp=Z,372nm,18.3s,baz=159,slow=33						
JTS	**Las Juntas de**	**84.44**	**61**	LR	LR	14 22 12.9	
	comp=Z,165nm,18.2s,baz=196,slow=30						
ROSC	**El Rosal**	**85.00**	**73**	LR	LR	14 23 57.6	
	comp=Z,341nm,18.3s,baz=94,slow=31						
CMIG	**Matias Romero**	**86.09**	**49**	LR	LR	14 22 34.2	
	comp=Z,164nm,18.5s,baz=208,slow=30						
KAPI	**Kappang**	**87.45**	**265**	LR	LR	14 28 50.5	
	comp=Z,523nm,20.2s,baz=151,slow=34						
SUR	**Sutherland**	**89.74**	**170**	LR	LR	14 28 41.4	
	comp=Z,502nm,20.3s,baz=154,slow=33						
SDV	**Santo Domingo**	**90.33**	**74**	LR	LR	14 28 08.6	
	comp=Z,159nm,19.1s,baz=227,slow=32						
LEM	**Lembang**	**92.31**	**254**	LR	LR	14 28 11.2	
	comp=Z,201nm,20.9s,baz=160,slow=32						
PCRV	**Puerto La Cruz**	**94.55**	**78**	LR	LR	14 30 35.7	
	comp=Z,604nm,18.8s,slow=32						
LBTB	**Lobatse**	**97.43**	**173**	LR	LR	14 34 31.3	
	comp=Z,684nm,18.9s,baz=163,slow=34						
NVAR	**Mina Bray Bea**	**98.75**	**23**	LR	LR	14 30 49.4	
	comp=Z,111nm,18.0s,baz=241,slow=31						
H10S3	**ASCENSION HYDR**	**103.22**	**132**	T	T	15 49 23.0	
	baz=15,slow=74,SNR=26						
H10S2	**ASCENSION HYDR**	**103.22**	**132**	T	T	15 49 20.4	
	baz=205,slow=74,SNR=29						
H10N3	**ASCENSION HYDR**	**104.29**	**131**	T	T	15 50 47.9	
	baz=204,slow=75,SNR=33						
H10N1	**ASCENSION HYDR**	**104.29**	**131**	T	T	15 50 58.1	
	baz=204,slow=75,SNR=40						
H10N2	**ASCENSION HYDR**	**104.31**	**131**	T	T	15 50 49.3	
	baz=204,slow=75,SNR=32						
ILAR	**Eielson Array**	**122.10**	**0**	PKP	**PKiKP**	**13 58 32.2**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=254,slow=2.6,SNR=6.1						
MKAR	**Makanchi Array**	**148.50**	**272**	PKPbc	**PKPbc**	**13 59 24.3**	**+0.3**
	comp=Z,7.7nm,0.8s,baz=104,slow=5.1,SNR=25						
ESDC	**Sonseca Array**	**150.28**	**111**	PKPbc	**PKiKP**	**13 59 29.9**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=229,slow=1.7,SNR=11						
ZALV	**Zalesovo Beam**	**151.13**	**285**	PKPbc	**PKPbc**	**13 59 30.3**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=97,slow=6.0,SNR=1.6						
KURBB	**Kurchatov Arra**	**152.76**	**275**	PKPbc	**PKPbc**	**13 59 33.9**	**0.0**
	comp=Z,2.0nm,0.9s,baz=119,slow=2.1,SNR=13						
BVAR	**Borovoye Array**	**158.34**	**274**	PKPab	**PKPab**	**14 00 08.5**	**-0.3**
	comp=Z,2.2nm,1.1s,baz=113,slow=3.9,SNR=4.4						

*IDC **08** 13:40:11.3±0.4, 2.°91S×119.°26E, $h0^{km}$, mb4.5/24, mbtmp4.5/26, ML4.4/2, MS4.3/43, Error ellipse: s-maj=20.9km s-min=10.2km az=70.0*
*MOS **08** 13:40:11.3±1.2, 2.°82S×119.°42E, $h12^{km}$, mb5.0/35, MS4.3/6, Error ellipse: s-maj=10.4km s-min=5.3km az=118.6*
*NEIC **08** 13:40:14.3±2.8, 2.°93S±0.°05×119.°42E±0.°05, $h10^{km}\pm1^{km}$, mb5.2/70, Mww5.0/9, Error ellipse: s-maj=10.0km s-min=5.1km az=225.0*
*GCMT **08** 13:40:14.3±0.2, 2.°81S±0.°01×119.°52E±0.°01, $h12^{km}$, MW5.0/124, Moment Tensor Solution. s48,c65; s124,c200; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.56±.09; $M_{\theta\theta}$1.43±.07; $M_{\phi\phi}$-0.87±.09; $M_{r\theta}$1.66±.22; $M_{\theta\phi}$3.49±.06; $M_{\phi r}$0.52±.22; Best double couple: $M_0$4.00500×10^{16} NP1:ϕ_s99.00000°, δ86.00000°, λ22.00000°. NP2:ϕ_s8.00000°, δ68.00000°, λ175.00000°. Principal axes: T 4.4970, Plg18.0000°, Azm325.0000°; N -0.9880, Plg68.0000°, Azm110.0000°; P -3.5140, Plg12.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **08** 13:40:14.8±0.1, 3.°S±1.°×11.°9E±.°, $h10^{km}$, M5.2/78, mb5.2/78, mB5.7/56, MLv5.3/29, Mw4.9/112, Mw(mB)5.2/56, MwMwp4.8/13, Mwp5.1/13*

ISC 08 13:40:13.6±0.2, 2.°86S±0.°03×119.°47E±0.°04, $h10^{km}$, n407, σ2°01/397, mb5.0/122, MS4.3/67, 16C-2D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.40**	**118**	P	**Pg**	**13 40 20.6**	**-0.8**
SPSI	**Sidrap Palu**	**1.14**	**165**	P	**Pb**	**13 40 33.3**	**-2.1**
BNSI	**Bone**	**1.66**	**158**	P	**Pn**	**13 40 42.9**	**+0.1**
KAPI	**Kappang**	**2.16**	**173**	Pn

comp=Z,458nm,1.2s,comp=Z,6µmcomp=Z,4µm
BATI Baumata 8.41 151 Pn **Pn 13 42 19.7 +4.1**
comp=Z,4.2nm,0.3s,baz=338,slow=5.7,SNR=16
BATI LR LR 13 45 57.1
comp=Z,6µm,20.0s,baz=358,slow=41
BATI Baumata 8.41 151 P **Pn 13 42 19.2 +3.6**
comp=Z,158nm,1.2s,comp=Z,3µmcomp=Z,3µm
STKI Sintang 8.50 290 P **Pn 13 42 16.8 -0.1**
comp=Z,106nm,0.9s
TNTI Ternate 8.68 66 Pn **Pn 13 42 19.6 +0.3**
TNTI Ternate 8.68 66 P **Pn 13 42 21.6 +2.3**
TNTI Ternate 8.68 66 P **Pn 13 42 20.4 +1.1**
comp=Z,111nm,0.9s,comp=Z,1µm
AAI Ambon 8.75 96 P Pn 13 42 25.4 +5.1
comp=Z,379nm,1.6s,comp=Z,6µm
SBUM Sibu 8.96 306 Pn **Pn 13 42 22.8 -0.4**
SBUM Sibu 8.96 306 P **Pn 13 42 24.1 +0.9**
PWJI Pagerwojo 9.20 236 P **Pn 13 42 28.4 +2.0**
UWJI Ujung Watu 9.20 247 P **Pn 13 42 30.3 +3.8**
comp=Z,102nm,1.3s,comp=Z,1µm
KKM Kota Kinabalu 9.42 340 **Pn 13 42 32.0 +2.5**
KKM Kota Kinabalu 9.42 340 P **Pn 13 42 33.6 +4.0**
MSAI Masohi 9.46 93 P **Pn 13 42 33.2 +3.2**
comp=Z,85nm,1.2s,comp=Z,2µm
PCJI Pacitan 9.81 237 P Pn 13 42 39.7 +4.9
comp=Z,159nm,1.4s
SMRI Semarang 9.91 245 P **Pn 13 42 38.9 +2.6**
KSM Kuching 10.12 295 **Pn 13 42 39.1 0.0**
KSM Kuching 10.12 295 P **Pn 13 42 41.7 +2.6**
UGM Wanagama 10.22 240 P **Pn 13 42 44.2 +3.6**
BNDI Bandanaira 10.54 99 P **Pn 13 42 47.7 +2.8**
BNDI Bandanaira 10.54 99 P **Pn 13 42 48.5 +3.6**
KPJI Karang Pucung 11.40 247 P **Pn 13 42 59.8 +3.2**
comp=Z,50nm,1.5s
SWI Sorong 11.95 81 P **Pn 13 43 06.5 +2.4**
comp=Z,54nm,0.7s,comp=Z,966nm
LEM Lembang 12.45 251 Pn **Pn 13 43 12.3 +1.1**
comp=Z,11nm,0.3s,baz=7.4,slow=20,SNR=6.8
LEM LR LR 13 48 27.6
comp=Z,4µm,18.5s,baz=35,slow=41
LEM Lembang 12.45 251 P **Pn 13 43 13.7 +2.5**
comp=Z,55nm,1.1s,comp=Z,2µm
BBJI Bungbulang 12.63 248 P **Pn 13 43 17.3 +3.8**
FAKI Fak Fak 12.76 91 **Pn 13 43 15.7 +0.4**
FAKI Fak Fak 12.76 91 P **Pn 13 43 18.3 +3.0**
FAKI Fak Fak 12.76 91 P **Pn 13 43 16.9 +1.6**
comp=Z,99nm,1.7s,comp=Z,2µm
CNJI Cibinong 13.06 250 P **Pn 13 43 21.0 +1.6**
comp=Z,130nm,1.4s,comp=Z,2µm
PPBI Pangkal Pinang 13.34 273 P **Pn 13 43 24.1 +0.9**
SKJI Sukabumi 13.51 252 P **Pn 13 43 28.7 +3.2**
comp=Z,474nm,1.6s
PMBI Palembang 14.68 269 P **P 13 43 46.2 -1.6**
RKPI Ransiki, Papua 14.76 85 P **P 13 43 47.1 -1.5**
comp=Z,102nm,1.5s,comp=Z,6µm
DRS Darwin Rock St 14.78 131 P **Pn 13 43 45.0 +2.1**
KASI Kota Agung 15.17 259 P **P 13 43 50.8 -2.4**
MTN Manton Dam 15.22 131 **Pn 13 43 48.5 -0.3**
MTN IAmb IAmb 13 43 51.5
comp=Z,121nm,1.2s
MTN Manton Dam 15.22 131 P **Pn 13 43 48.0 -0.8**
comp=Z,85nm,1.3s
MTN Manton Dam 15.22 131 P **Pn 13 43 49.3 +0.5**
TPRI Tanjung Pinang 15.40 284 P **Pn 13 43 51.9 +0.7**
comp=Z,98nm,1.1s
LWLI Liwa 15.52 262 P **P 13 43 55.0 -2.3**
comp=Z,387nm,1.3s,comp=Z,6µm
KNRA Kununurra 15.69 145 **Pn 13 43 54.4 -0.4**
KNRA Kununurra 15.69 145 P **Pn 13 43 53.3 -1.5**
KDU Kakadu 16.16 128 P **Pn 13 43 59.4 -1.5**
KDU Kakadu 16.16 128 P **Pn 13 44 01.6 +0.7**
BTDF Bukit Timah Da 16.24 285 P **P 13 44 05.8 +0.6**
MYKOM Kota Tinggi 16.28 286 Pn **Pn 13 44 02.3 -0.3**
MYKOM IAmb IAmb 13 44 09.6
comp=Z,322nm,1.6s
MYKOM Kota Tinggi 16.28 286 P **P 13 44 06.1 +0.5**
FITZ Fitzroy Crossi 16.31 159 Pn **Pn 13 44 03.5 +0.6**
FITZ Fitzroy Crossi 16.31 159 P **Pn 13 44 03.8 +0.9**
comp=Z,2µm,1.3s
FITZ Fitzroy Crossi 16.31 159 Pn **Pn 13 44 02.4 -0.5**
comp=Z,0.4nm,0.3s,baz=350,slow=12,SNR=25
FITZ LR LR 13 51 19.6
comp=Z,2µm,19.2s,baz=328,slow=41
comp=Z,22nm,1.0s
FITZ Fitzroy Crossi 16.31 159 P **Pn 13 44 04.3 +1.4**
MBWA Marble Bar 18.20 179 **Pn 13 44 25.3 -1.2**
MBWA Marble Bar 18.20 179 P **P 13 44 27.8 +1.1**
comp=Z,100nm,1.5s
MBWA Marble Bar 18.20 179 P **P 13 44 29.2 +2.5**
PSAC1 Pilbara Seismi 18.57 179 P **Pn 13 44 32.1 +1.1**
comp=Z,82nm,1.0s
PSA00 Pilbara Seismi 18.61 179 P **P 13 44 30.8 -0.5**
PSA00 Pilbara Seismi 18.61 179 P **Pn 13 44 32.8 +1.3**
comp=Z,69nm,1.0s
PSA00 Pilbara Seismi 18.61 179 P **Pn 13 44 34.4 +2.9**
BKNI Bangkinang 18.69 279 P **Pn 13 44 33.9 +1.3**
BKNI IAmb IAmb 13 44 38.9
comp=Z,350nm,1.1s
BKNI Bangkinang 18.69 279 P **Pn 13 44 35.0 +2.4**
BKNI Bangkinang 18.69 279 P **Pn 13 44 34.1 +1.5**
comp=Z,222nm,1.0s,comp=Z,4µm
PDSI Padang 19.10 275 P **Pn 13 44 38.5 +1.0**
comp=Z,100nm,1.2s,comp=Z,9µm
IPM Ipoh 19.82 292 P **Pn 13 44 45.4 -0.8**
IPM Ipoh 19.82 292 P **Pn 13 44 46.6 +0.4**
SISI Saibi 20.42 274 P **P 13 44 51.1 -0.1**
comp=Z,439nm,1.2s,comp=Z,5µm
KULM Kulim 20.47 293 P **P 13 44 51.7 0.0**
KULM IAmb IAmb 13 44 55.2
comp=Z,220nm,1.2s
KULM Kulim 20.47 293 P Pn 13 44 53.0 -0.8
GENI Genyem 20.68 90 P **P 13 44 56.0 +2.1**
GENI Genyem 20.68 90 P **P 13 44 56.1 +2.1**
comp=Z,208nm,1.2s,comp=Z,4µm
JAY Jayapura 21.21 90 P **P 13 45 01.7 +1.9**
comp=Z,74nm,1.6s
RPSI Rantau Prapat 21.27 285 P **P 13 45 01.4 +1.1**
PSI Prapat 21.29 285 P **P 13 45 03.8 +3.0**
PSI Prapat 21.29 285 P **P 13 45 01.4 +0.6**
PSI pmax pmax
comp=Z,499nm,1.5s
PBSI Pulau Batu 21.36 277 P **P 13 45 02.9 +1.5**
TABU Tabubil 21.83 97 P **P 13 45 08.5 +2.1**
WB0 Warramunga Arr 22.25 140 IAmb IAmb 13 45 12.2
comp=Z,187nm,1.1s
GSI Gunungsitoli 22.27 280 P **P 13 45 12.0 +0.8**
GSI Gunungsitoli 22.27 280 P **P 13 45 14.0 +2.8**
GSI Gunungsitoli 22.27 280 P **P 13 45 11.6 +0.4**
comp=Z,256nm,2.1s,comp=Z,4µm
WRA Warramunga Arr 22.34 141 P **P 13 45 09.3 -2.5**
WRA Warramunga Arr 22.34 141 P **P 13 45 10.4 -1.4**
comp=Z,105nm,1.0s,baz=318,slow=11,SNR=62
WRA LR LR 13 55 21.8
comp=Z,1µm,18.5s,baz=340,slow=41
WRA Warramunga Arr 22.34 141 *e*P **P 13 45 09.5 -2.4**
WRAB Tennant Creek 22.34 141 P **P 13 45 11.8 -0.1**
WRAB Tennant Creek 22.34 141 *i* P **P 13 45 11.4 -0.5**
WRAB pmax pmax
comp=Z,238nm,1.3s
SRIT Nakonsritamara 22.84 300 P **P 13 45 20.6 +3.4**
SURA Surathani 23.10 301 P **P 13 45 22.4 +2.5**
WRKA Warakurna 23.64 160 P **P 13 45 25.8 +0.5**
comp=Z,51nm,1.0s
WRKA Warakurna 23.64 160 P **P 13 45 25.7 +0.5**
MEEK Meekatharra 23.66 182 P **P 13 45 25.5 +0.1**
comp=Z,259nm,1.0s
MEEK Meekatharra 23.66 182 P **P 13 45 25.9 +0.5**
SNSI Sinabang, Aceh 23.72 283 P **P 13 45 27.6 +1.5**
comp=Z,259nm,1.6s,comp=Z,5µm
QIZ Qiongzhong 23.72 337 P **P 13 45 28.0 +2.0**
QIZ S **S 13 49 44.1 +2.8**
QIZ sS **sS 13 49 54.0 +6.8**
QIZ LR LR
comp=Z,490nm,12.2s
QIZ LR LR
comp=Z,420nm,13.5s
QIZ LR LR
comp=Z,670nm,14.2s
MLSI Meulaboh, Aceh 24.11 287 P **P 13 45 30.2 +0.4**
comp=Z,225nm,1.2s,comp=Z,2µm
AS31 Alice Springs 24.96 147 P **P 13 45 38.3 +0.8**
AS31 Alice Springs 24.96 147 P **P 13 45 38.3 +0.8**
comp=Z,18nm,0.9s
ASAR Alice Springs 24.96 147 P **P 13 45 37.7 +0.3**
ASAR **PcP 13 49 12.7 -0.3**
ASAR Alice Springs 24.96 147 P **P 13 45 38.2 +0.7**
comp=Z,43nm,0.9s,baz=321,slow=7.6,SNR=169
ASAR LR LR 13 56 13.8
comp=Z,1µm,19.8s,baz=312,slow=38
comp=Z,43nm,0.9s
AS01 Alice Springs 24.98 147 P **P 13 45 39.1 +1.4**
COEN Coen 25.88 117 P **P 13 45 45.6 -0.3**
COEN Coen 25.88 117 P **P 13 45 45.2 -0.7**
comp=Z,35nm,1.1s
YULB Yu-li 26.15 4 P **P 13 45 49.5 +1.3**
YULB Yu-li 26.15 4 P **P 13 45 51.0 +2.8**
MORW Morawa 26.27 187 P **P 13 45 50.2 +0.9**
MORW IAmb IAmb 13 45 51.6
comp=Z,51nm,1.2s
MORW Morawa 26.27 187 P **P 13 45 50.9 +1.6**
comp=Z,37nm,2.3s
MORW Morawa 26.27 187 P **P 13 45 51.9 +2.6**
QIS Mount Isa 26.36 133 P **P 13 45 50.1 -0.1**
comp=Z,66nm,1.3s
SRDT SRDT 26.44 311 P **P 13 45 54.2 +3.3**
YHNB Yeheng 27.42 4 P **P 13 45 59.9 +0.2**
YHNB Yeheng 27.42 4 P **P 13 46 01.2 +1.5**
MANU Manus Island 27.88 89 P **P 13 46 05.8 +1.9**
MANU IAmb IAmb 13 46 38.3
comp=Z,73nm,1.6s
PMG Port Moresby 28.27 105 LR LR 14 00 36.8
comp=Z,328nm,18.7s,baz=282,slow=43
PMG Port Moresby 28.27 105 *ce*P **P 13 46 06.3 -1.1**
PMG pmax pmax
comp=Z,73nm,0.9s
KMBL Kambalda 28.45 176 P **P 13 46 10.0 +1.2**
comp=Z,44nm,1.0s
KMBL Kambalda 28.45 176 P **P 13 46 09.8 +1.0**
SLVN Son La 28.46 328 P **P 13 46 08.8 -0.3**
SLVN Son La 28.46 328 P **P 13 46 11.4 +2.3**
KLBR Kellerberrin 28.63 183 P **P 13 46 10.2 -0.2**
comp=Z,35nm,1.0s
MTSU Mount Surprise 28.70 124 P **P 13 46 12.1 +0.9**
comp=Z,8.3nm,0.9s
MTSU Mount Surprise 28.70 124 P **P 13 46 13.4 +2.2**
FORT Forrest 28.94 165 P **P 13 46 15.4 +2.3**
comp=Z,41nm,1.0s
FORT Forrest 28.94 165 P **P 13 46 15.6 +2.5**
OOD Oodnadatta 29.24 150 P **P 13 46 17.8 +1.9**
CMAR Chiang Mai Arr 29.28 317 P **P 13 46 16.8 +0.5**
CMAR Chiang Mai Arr 29.28 317 P **P 13 46 16.1 -0.2**
comp=Z,5.5nm,1.0s,baz=142,slow=6.8,SNR=27
CMAR LR LR 14 00 50.8
comp=Z,882nm,18.1s,baz=130,slow=42
comp=Z,5.5nm,1.0s
CMAR Chiang Mai Arr 29.28 317 *i* P **P 13 46 17.7 +1.4**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 29.52 318 P **P 13 46 19.1 +0.6**
CHTO Chiang Mai 29.52 318 P **P 13 46 19.1 +0.6**
CHTO pmax pmax
comp=Z,38nm,1.6s
NWAO Narrogin (SRO) 29.99 184 LR LR 14 00 13.1
comp=Z,326nm,18.1s,baz=326,slow=40
MULG Mulgathing 30.58 155 P **P 13 46 27.8 +0.1**
JOW Kunigami 30.71 16 LR LR 13 58 08.1
comp=Z,647nm,21.8s,baz=198,slow=35
CTA Charters Tower 31.25 125 LR LR 13 59 40.0
comp=Z,50nm,20.2s,baz=298,slow=37
CTAO Charters Tower 31.25 125 P **P 13 46 33.1 -0.7**
CTAO IAmb IAmb 13 46 35.7
comp=Z,24nm,1.0s
CTAO Charters Tower 31.25 125 P **P 13 46 33.1 -0.7**
CTAO pmax pmax
comp=Z,24nm,1.0s
GYA Guiyang 31.66 338 ⇓P **P 13 46 39.0 +1.6**
GYA S **S 13 51 50.8 +3.8**
GYA pmax pmax
comp=Z,16nm,1.3s
GYA pmax pmax
comp=Z,170nm,4.0s
GYA LR LR
comp=Z,510nm,24.0s
GYA LR LR
comp=Z,300nm,23.1s
GYA LR LR
comp=Z,850nm,20.3s
RKGY Rocky Gully 31.68 184 P **P 13 46 38.6 +1.2**
comp=Z,67nm,0.9s
RKGY Rocky Gully 31.68 184 P **P 13 46 40.3 +3.0**
INKA Innaminka 32.02 143 P **P 13 46 42.2 +1.8**
KMI Kunming 32.20 331 ⇑P **P 13 46 44.7 +2.4**
KMI pP sP 13 46 51.2 +3.7
KMI S **S 13 52 02.0 +6.3**
KMI pmax pmax
comp=Z,19nm,1.1s
KMI pmax pmax
comp=Z,260nm,4.2s
KMI LR LR
comp=Z,300nm,18.9s
KMI LR LR
comp=Z,440nm,21.6s
KMI LR LR
comp=Z,420nm,21.3s
LCRK Leigh Creek 32.68 149 P **P 13 46 48.4 +2.2**
QLP Quilpie 33.47 137 P **P 13 46 54.5 +1.3**
comp=Z,104nm,1.6s
QLP Quilpie 33.47 137 P **P 13 46 55.2 +2.0**
WHN Wuhan 33.57 352 P **P 13 46 57.3 +3.4**
WHN S **S 13 52 23.1 +6.8**
WHN pmax pmax
comp=Z,86nm,1.2s
WHN LR LR
comp=Z,2µm,15.6s
BBOO Buckleboo 33.62 154 P **P 13 46 55.0 +0.7**
BBOO IAmb IAmb 13 46 55.6
comp=Z,38nm,1.2s
BBOO Buckleboo 33.62 154 P **P 13 46 55.2 +0.8**
comp=Z,30nm,1.2s
BBOO Buckleboo 33.62 154 P **P 13 46 55.5 +1.1**
PZH PanZhiHua 33.85 331 P **P 13 46 57.9 +1.3**
PZH pP **sP 13 47 05.6 +3.8**
PZH S **S 13 52 22.0 +1.0**
PZH pmax pmax
comp=Z,30nm,1.1s
PZH pmax pmax
comp=Z,190nm,4.7s
PZH LR LR
comp=Z,360nm,16.8s
PZH LR LR
comp=Z,720nm,19.0s
PZH LR LR
comp=Z,360nm,14.9s
ENH Enshi 34.30 345 P **P 13 46 59.5 -0.8**
ENH IAmb IAmb 13 47 21.8
comp=Z,39nm,1.2s
ENH Enshi 34.30 345 P **P 13 47 02.6 +2.3**
NJ2 Nanjing 34.72 359 ⇓P **P 13 47 07.0 +3.1**
NJ2 pmax pmax
comp=Z,36nm,1.1s
NJ2 pmax pmax
comp=Z,180nm,5.1s
HTT Hallett 35.44 151 P **P 13 47 10.9 +0.7**
comp=Z,22nm,1.5s
HTT Hallett 35.44 151 P **P 13 47 12.0 +1.8**
STKA Stephens Creek 35.59 147 P **P 13 47 12.8 +1.3**
comp=Z,3.3nm,0.8s
STKA Stephens Creek 35.59 147 P **P 13 47 11.2 -0.3**
comp=Z,11nm,0.8s,baz=315,slow=9.3,SNR=14
STKA LR LR 14 03 17.9
comp=Z,804nm,18.4s,baz=318,slow=39
comp=Z,11nm,0.8s
STKA Stephens Creek 35.59 147 P **P 13 47 13.0 +1.5**
STKA Stephens Creek 35.59 147 *c i*P **P 13 47 11.8 +0.3**
CD2 Chengdu 36.77 337 P **P 13 47 22.7 +1.1**
CD2 S **S 13 53 08.5 +2.8**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,130nm,4.2s
CD2 LR LR
comp=Z,580nm,20.9s
CD2 LR LR
comp=Z,520nm,20.1s
BRDH Bariadhala 37.17 314 LR LR 14 04 42.6
comp=Z,891nm,20.7s,baz=128,slow=40
JNU Nakatsue 37.37 16 LR LR 14 02 19.3
comp=Z,310nm,21.5s,baz=198,slow=35
CMSA Cobar Meteorol 37.74 142 P **P 13 47 30.6 +0.8**
comp=Z,30nm,1.8s
CMSA Cobar Meteorol 37.74 142 P **P 13 47 30.9 +1.1**
LYN LuoYang 37.79 351 P **P 13 47 32.8 +2.7**
LYN pP sP 13 47 44.4 +9.0
LYN sP pP 13 47 51.0 +17
LYN PP **PP 13 48 58.2 +1.7**
LYN S **S 13 53 19.9 -1.0**
LYN pmax pmax
comp=Z,26nm,1.7s
LYN pmax pmax
comp=Z,290nm,4.6s
LYN LR LR
comp=Z,440nm,13.7s
LYN LR LR
comp=Z,350nm,14.0s
LYN LR LR
comp=Z,710nm,19.2s
AULRC Lightning Ridg 37.83 137 P **P 13 47 32.1 +1.5**
XAN Xi'an 38.02 346 P **P 13 47 33.0 +0.8**
XAN pP sP 13 47 40.6 +3.2
XAN S **S 13 53 24.8 +0.2**
XAN pmax pmax
comp=Z,20nm,1.1s
XAN LR LR
comp=Z,560nm,17.8s
XAN LR LR
comp=Z,510nm,16.7s
XAN LR LR
comp=Z,890nm,17.2s
TIA Tai'an 38.93 357 P **P 13 47 39.8 +0.1**
TIA S **S 13 53 41.7 +3.5**
TIA pmax pmax
comp=Z,15nm,0.8s
TIA pmax pmax
comp=Z,220nm,4.5s
TIA LR LR
comp=Z,350nm,14.1s
TIA LR LR
comp=Z,460nm,14.4s
TIA LR LR
comp=Z,390nm,17.2s
ARPS Mount Arapiles 39.54 151 P **P 13 47 45.5 +0.7**
comp=Z,26nm,0.7s
ARPS Mount Arapiles 39.54 151 P **P 13 47 45.8 +0.9**
AUDCS Dubbo College 40.05 140 P **P 13 47 50.9 +1.7**
HNS HongShan 40.29 354 ⇑P **P 13 47 52.2 +1.2**
HNS S **S 13 53 59.6 +1.0**
HNS pmax pmax
comp=Z,34nm,1.6s
HNS LR LR
comp=Z,440nm,20.4s
HNS LR LR
comp=Z,370nm,18.0s
HNS LR LR
comp=Z,640nm,18.4s
JHJ Hachijo jima 2 40.61 27 LR LR 14 02 50.9
comp=Z,225nm,20.8s,baz=232,slow=33
HNR Honiara 40.74 101 P **P 13 47 55.1 -0.1**
HNR Honiara 40.74 101 P **P 13 47 56.1 +0.9**
comp=Z,38nm,0.8s,baz=166,slow=3.0,SNR=7.1
HNR LR LR 14 07 32.4
comp=Z,181nm,21.0s,baz=269,slow=40
comp=Z,38nm,0.8s
HNR Honiara 40.74 101 P **P 13 47 56.1 +0.9**
AUPHS Peel High Scho 40.84 137 P **P 13 47 57.5 +1.8**
KSRS Korea Array 40.87 10 P **P 13 47 55.7 0.0**
comp=Z,3.4nm,1.0s,baz=200,slow=32,SNR=4.0
KSRS LR LR 14 05 42.4
comp=Z,332nm,20.3s,baz=195,slow=37
comp=Z,3.4nm,1.0s
YNG Young 41.28 143 P **P 13 48 01.1 +1.8**
comp=Z,195nm,1.7s
YNG Young 41.28 143 P **P 13 48 01.4 +2.0**
LZH Lanzhou 41.40 341 *e*P P 13 47 50.4 -10
LZH pP sP 13 48 06.4 +0.7
LZH S **S 13 54 18.8 +3.3**
LZH SS **SnSn 13 57 34.7 +5.9**
LZH LR LR
comp=N,660nm,20.6s
LZH LR LR
comp=E,450nm,20.6s
LZH LR LR
comp=Z,850nm,20.3s
DL2 Dalian 41.60 3 *e*P **P 13 48 04.8 +3.0**
DL2 S **S 13 54 18.1 +0.1**
DL2 pmax pmax
comp=Z,51nm,0.9s
DL2 LR LR
comp=Z,550nm,17.7s
DL2 LR LR
comp=Z,440nm,19.3s
DL2 LR LR
comp=Z,590nm,17.4s
LSA Lhasa 42.22 322 IAmb IAmb 13 48 17.1
comp=Z,90nm,1.6s
LSA Lhasa 42.22 322 P **P 13 48 08.8 +1.2**
LSA S **S 13 54 20.9 -7.5**
LSA LR LR
comp=Z,190nm,21.6s
LSA LR LR
comp=Z,400nm,16.3s
CAN Canberra 42.34 143 P **P 13 48 08.9 +0.9**
CAN IAmb IAmb 13 48 11.3
comp=Z,45nm,1.1s
CAN Canberra 42.34 143 P **P 13 48 10.7 +2.6**
comp=Z,46nm,2.7s
CAN Canberra 42.34 143 P **P 13 48 08.9 +0.9**
CAN pmax pmax
comp=Z,45nm,1.1s
BJT Baijiatuau 42.77 356 IAmb IAmb 13 48 14.9
comp=Z,146nm,1.7s
BJT Baijiatuau 42.77 356 P **P 13 48 13.8 +2.5**
BJI Beijing 42.79 356 P **P 13 48 12.8 +1.3**
BJI pmax pmax
comp=Z,20nm,1.3s
BJI LR LR
comp=Z,180nm,18.3s
BJI LR LR
comp=Z,180nm,18.2s
BJI LR LR
comp=Z,270nm,20.2s
MJAR Matsushiro Arr 42.91 22 P **P 13 48 12.1 -0.5**
comp=Z,1.9nm,1.0s,baz=202,slow=34,SNR=2.5
MJAR LR LR 14 05 38.1
comp=Z,221nm,21.7s,baz=212,slow=36
comp=Z,1.9nm,1.0s
HHC Hu-ho-hao-te 44.09 351 *e*P **P 13 48 22.8 +0.7**
HHC pmax pmax
comp=Z,16nm,1.4s
HHC pmax pmax
comp=Z,120nm,4.5s
HHC LR LR
comp=Z,300nm,18.7s
HHC LR LR
comp=Z,210nm,18.5s
HHC LR LR
comp=Z,410nm,20.2s
BTO Baotou 44.11 350 *e*P **P 13 48 24.5 +2.2**
BTO pP sP 13 48 37.0 +9.4
BTO sP pP 13 48 42.3 +16
BTO PP **PcP 13 50 09.5 +2.1**
BTO S **S 13 54 54.9 -0.2**
BTO sS sS 13 55 15.8 +15
BTO SS **SS 13 58 07.2 -5.6**
BTO pmax pmax
comp=Z,63nm,1.4s
BTO pmax pmax
comp=Z,330nm,4.9s
BTO LR LR
comp=Z,540nm,22.9s
BTO LR LR
comp=Z,840nm,16.9s
BTO LR LR
comp=Z,600nm,17.5s
HYB Hyderabad 45.10 298 *e*P **P 13 48 30.4 -0.2**
HYB IVmB_BB 13 48 32.7
comp=Z,1µm,1.1s
GOMU GeErMu 45.16 332 P **P 13 48 32.3 +1.2**
GOMU PcP **PcP 13 50 11.9 +0.4**
GOMU S **S 13 55 14.3 +3.2**
GOMU pmax pmax
comp=Z,12nm,1.2s
GOMU pmax pmax
comp=Z,210nm,5.6s
GOMU LR LR
comp=Z,430nm,17.6s
GOMU LR LR
comp=Z,670nm,18.4s

GOMU LR LR
comp=Z,630nm,20.6s
GTA Gaotai 45.78 339 ⇑P **P 13 48 36.9 +1.2**
GTA S **S 13 55 20.9 +1.4**
GTA pmax pmax
comp=Z,20nm,1.4s
GTA pmax pmax
comp=Z,240nm,5.0s
GTA LR LR
comp=Z,150nm,18.7s
GTA LR LR
comp=Z,540nm,18.4s
GTA LR LR
comp=Z,380nm,20.6s
XLT XiLinHaoTe 46.64 357 *e*P **P 13 48 42.4 +0.1**
XLT S **S 13 55 28.9 -2.7**
XLT pmax pmax
comp=Z,25nm,1.2s
XLT LR LR
comp=Z,230nm,18.3s
XLT LR LR
comp=Z,250nm,20.7s
MDJ Mudanjiang 48.12 10 P **P 13 48 55.2 +1.5**
MDJ pmax pmax
comp=Z,35nm,1.7s
USRK Ussuriysk Ar. 48.17 12 P **P 13 48 54.0 0.0**
comp=Z,3.7nm,0.9s,baz=202,slow=8.2,SNR=4.2
USRK LR LR 14 08 06.1
comp=Z,162nm,21.9s,baz=197,slow=35
comp=Z,3.7nm,0.9s
DZM Mont Dzumac 49.41 117 *e*LR LR 14 03 17.1
comp=Z,636nm,22.8s
DZM Mont Dzumac 49.41 117 P **P 13 49 01.9 -2.3**
DZM IAmb IAmb 13 49 06.8
comp=Z,36nm,1.2s
DZM Mont Dzumac 49.41 117 P **P 13 49 05.8 +1.7**
YATNC Mamie plateau, 49.81 117 P **P 13 49 09.7 +2.6**
OUENC Ouen Island, N 49.86 117 P **P 13 49 09.0 +1.6**
ASAJ Asahikawa 51.15 21 P **P 13 49 16.4 -0.4**
comp=Z,3.0nm,0.8s,baz=147,slow=34,SNR=1.4
ASAJ LR LR 14 11 27.6
comp=Z,161nm,21.1s,baz=218,slow=37
comp=Z,3.0nm,0.8s
ULN Ulaanbaatar 51.67 349 P **P 13 49 21.2 +0.4**
ULN IAmb IAmb 13 49 32.0
comp=Z,78nm,1.5s
ULN Ulaanbaatar 51.67 349 *ce*P **P 13 49 21.3 +0.4**
ULN pmax pmax
comp=Z,61nm,1.7s
SONM Songino Array 51.76 349 P **P 13 49 21.7 +0.2**
SONM IAmb IAmb 13 49 31.8
comp=Z,28nm,1.1s
SONM Songino Array 51.76 349 P **P 13 49 21.7 +0.2**
comp=Z,11nm,0.8s,baz=166,slow=8.7,SNR=50
SONM LR LR 14 14 33.5
comp=Z,239nm,19.0s,baz=150,slow=40
comp=Z,11nm,0.8s
KLR Kul'dur 52.96 10 P **P 13 49 30.7 +0.5**
comp=Z,1.5nm,0.6s,baz=203,slow=7.8,SNR=6.7
KLR LR LR 14 14 47.4
comp=Z,132nm,18.4s,baz=197,slow=39
comp=Z,1.5nm,0.6s
KLR Kul'dur 52.96 10 *e*P **P 13 49 29.4 -0.8**
KLR pmax pmax
comp=Z,12nm,1.7s
HEH HeiHe 53.34 6 *e*P **P 13 49 32.5 -0.5**
HEH pmax pmax
comp=Z,37nm,1.5s
YSS Yuzh-Sakhalins 53.67 20 *e*P **P 13 49 32.5 -2.9**
YSS *e*S **S 13 57 02.3 -7.0**
YSS pmax pmax
comp=Z,10.0nm,1.3s
YSS MLR MLR
comp=Z,200nm,16.0s
WMQ Urumqi 54.52 332 ⇑P **P 13 49 42.6 +0.8**
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ pmax pmax
comp=Z,280nm,3.7s
WMQ LR LR
comp=Z,440nm,14.3s
WMQ LR LR
comp=Z,330nm,18.3s
WMQ LR LR
comp=Z,250nm,23.7s
ZAK Zakamensk 54.83 347 *e*P **P 13 49 43.6 -0.4**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
CIT Chita 54.90 356 *e*P **P 13 49 45.8 +1.4**
IRK Irkutsk 56.38 349 *e*P **P 13 49 56.2 +1.2**
IRK pmax pmax
comp=Z,97nm,2.2s
MOY Mondy 56.55 346 *e*P **P 13 49 57.0 +0.7**
MOY pmax pmax
comp=Z,53nm,2.2s
NIL Nilore 56.69 314 P **P 13 49 55.7 -1.9**
NIL IAmb IAmb 13 49 60.0
comp=Z,34nm,1.1s
NIL Nilore 56.69 314 P **P 13 49 58.4 +0.8**
ZEA Zeya 56.77 6 *e*P **P 13 49 59.6 +1.9**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA MLR MLR
comp=Z,200nm,16.0s
WUS Wushi 57.13 325 IAmb IAmb 13 50 02.9
comp=Z,38nm,1.2s
KSH Kashi 58.06 321 P **P 13 50 07.9 +0.6**
KSH S **S 13 58 10.6 +2.2**
KSH pmax pmax
comp=Z,44nm,0.8s
KSH pmax pmax
comp=Z,220nm,3.5s
KSH LR LR
comp=Z,290nm,21.0s
KSH LR LR
comp=Z,270nm,19.6s
KSH LR LR
comp=Z,370nm,22.7s
SHLS Shalkode 58.26 326 *e*P **P 13 50 05.6 -3.0**
comp=Z,14nm,0.9s
SHLS Shalkode 58.26 326 *e*P **P 13 50 05.6 -3.0**
SHLS pmax pmax
comp=Z,13nm,0.9s
UZB Uzynbulak 58.50 326 *e*P **P 13 50 08.7 -1.6**
comp=Z,20nm,1.5s
UZB Uzynbulak 58.50 326 *e*P **P 13 50 08.6 -1.6**
UZB pmax pmax
comp=Z,20nm,1.5s
ZSN Zaisan 58.56 333 *e*P **P 13 50 09.6 -1.0**
ZSN Zaisan 58.56 333 *e*P **P 13 50 09.5 -1.0**
SATY Saty 58.78 326 *e*P **P 13 50 11.0 -1.3**
comp=Z,23nm,1.6s
SATY Saty 58.78 326 *e*P **P 13 50 11.0 -1.3**
SATY pmax pmax
comp=Z,23nm,1.6s
ZHN Zhinishke 58.84 326 *e*P **P 13 50 11.4 -1.3**
comp=Z,9.3nm,1.5s
ZHN Zhinishke 58.84 326 *e*P **P 13 50 11.3 -1.3**
ZHN pmax pmax
comp=Z,9.0nm,1.5s
KPKS Kokpek 58.89 326 *e*P **P 13 50 11.7 -1.3**
comp=Z,18nm,1.4s
KPKS Kokpek 58.89 326 *e*P **P 13 50 11.6 -1.3**
KPKS pmax pmax
comp=Z,18nm,1.4s
NRN Naryn 59.18 323 IAmb IAmb 13 50 18.9
comp=Z,13nm,0.8s
MSVF Nonsavu 59.26 109 *i*P **P 13 50 17.3 +1.4**
MSVF pmax pmax
comp=Z,22nm,1.0s
MK31 Makanchi Array 59.28 331 IAmb IAmb 13 50 26.8
comp=Z,17nm,0.9s
MK31 Makanchi Array 59.28 331 *ce*P **P 13 50 15.3 -0.2**
MKAR Makanchi Array 59.28 331 P **P 13 50 15.2 -0.3**
comp=Z,14nm,0.6s,baz=135,slow=7.4,SNR=48
MKAR LR LR 14 18 47.4
comp=Z,171nm,20.4s,baz=128,slow=39
comp=Z,14nm,0.6s
MKAR Makanchi Array 59.28 331 *i*P **P 13 50 16.1 +0.6**
MKAR pmax pmax
comp=Z,16nm,0.6s
MDOK Medeo 59.62 325 *e*P **P 13 50 16.4 -1.7**
MDOK Medeo 59.62 325 *e*P **P 13 50 16.4 -1.7**
TDK Taldyqorghan 60.04 327 *e*P **P 13 50 19.5 -1.3**
TDK Taldyqorghan 60.04 327 *e*P **P 13 50 19.4 -1.3**
CHKK Chushkaly 60.09 326 *e*P **P 13 50 19.6 -1.6**
CHKK Chushkaly 60.09 326 *e*P **P 13 50 19.5 -1.6**
KBL Kabul 60.18 313 P **P 13 50 20.8 -1.4**
KBL IAmb IAmb 13 50 25.0
comp=Z,26nm,0.8s
KBL Kabul 60.18 313 P **P 13 50 20.8 -1.4**
KBL pmax pmax
comp=Z,26nm,0.8s
BOD Bodaibo 60.64 357 *e*P **P 13 50 23.0 -1.6**
BOD pmax pmax
comp=Z,23nm,1.6s
DRK Karamyk 60.71 319 IAmb IAmb 13 50 29.8
comp=Z,22nm,0.9s
AAK Ala-Archa 60.79 323 P **P 13 50 26.9 +0.7**
AAK IAmb IAmb 13 50 30.3
comp=Z,16nm,0.9s
AAK Ala-Archa 60.79 323 LR LR 14 21 19.3
comp=Z,297nm,21.9s,baz=130,slow=41
AAK Ala-Archa 60.79 323 *ce*P **P 13 50 26.3 +0.1**
AAK pmax pmax
comp=Z,12nm,0.9s
ARSB Arslanbob 60.96 321 IAmb IAmb 13 50 39.2
comp=Z,21nm,1.4s
RPZ Rata Peaks 61.05 140 LR LR 14 18 09.8
comp=Z,366nm,18.8s,baz=312,slow=37
SGDS Sogindy 61.19 324 *e*P **P 13 50 27.5 -1.3**
comp=Z,12nm,1.4s
SGDS Sogindy 61.19 324 *e*P **P 13 50 27.4 -1.3**
SGDS pmax pmax
comp=Z,11nm,1.4s
SIMJ Simiganj 62.16 317 P **P 13 50 33.8 -1.6**
SIMJ IAmb IAmb 13 50 44.4
comp=Z,32nm,1.2s
BTLS Baital 62.48 325 *e*P **P 13 50 35.8 -1.5**
BTLS Baital 62.48 325 *e*P **P 13 50 35.7 -1.5**
SEM Semipalatinsk 62.80 333 *e*P **P 13 50 38.0 -1.7**
SEM Semipalatinsk 62.80 333 *e*P **P 13 50 37.9 -1.7**
DZA Taraz 62.85 322 *e*P **P 13 50 38.5 -1.4**
DZA Taraz 62.85 322 *e*P **P 13 50 38.5 -1.4**
URZ Urewera 63.17 132 LR LR 14 21 06.8
comp=Z,238nm,18.8s,baz=25,slow=39
RTZ Ruatahuna 63.19 132 P **P 13 50 42.1 -0.2**
IUG Iuzhnay 63.26 321 *e*P **P 13 50 41.2 -1.5**
comp=Z,8.9nm,1.0s
IUG Iuzhnay 63.26 321 *e*P **P 13 50 41.2 -1.5**
IUG pmax pmax
comp=Z,9.0nm,1.0s
KKAR Karatay Array 63.47 322 P **P 13 50 44.2 +0.2**
KKAR Karatay Array 63.47 322 P **P 13 50 44.2 +0.2**
ZAA0 Zalesovo Array 63.53 338 IAmb IAmb 13 50 54.3
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 63.53 338 P **P 13 50 42.7 -1.3**
ZALV Zalesovo Beam 63.53 338 P **P 13 50 42.9 -1.2**
comp=Z,6.0nm,0.6s,baz=137,slow=5.7,SNR=17
ZALV LR LR 14 21 06.9
comp=Z,145nm,18.6s,baz=130,slow=39
comp=Z,6.0nm,0.6s
KURBB Kurchatov Arra 63.74 332 P **P 13 50 44.8 -0.7**
comp=Z,4.9nm,0.7s,baz=140,slow=5.7,SNR=27
KURBB LR LR 14 22 32.7
comp=Z,207nm,19.4s,baz=168,slow=40
comp=Z,4.9nm,0.7s
KURK Kurchatov 63.76 332 P **P 13 50 44.9 -0.8**
KURK IAmb IAmb 13 50 55.9
comp=Z,24nm,1.1s
KURK Kurchatov 63.76 332 *ce*P **P 13 50 45.0 -0.7**
KURK pmax pmax
comp=Z,20nm,1.0s
BRLS Borolday 63.85 322 *e*P **P 13 50 44.8 -1.7**
comp=Z,7.2nm,1.3s
BRLS Borolday 63.85 322 *e*P **P 13 50 44.7 -1.7**
BRLS pmax pmax
comp=Z,7.0nm,1.3s
PETK Petropavlovsk- 64.31 24 P **P 13 50 50.6 +1.4**
comp=Z,6.9nm,1.0s,baz=321,slow=25,SNR=2.7
comp=Z,6.9nm,1.0s
WSAR Wadi Sarin 64.64 297 LR LR 14 19 45.7
comp=Z,169nm,21.3s,baz=122,slow=37
RAO Raoul Island 64.81 121 LR LR 14 19 09.5
comp=Z,248nm,19.1s,baz=51,slow=36
YAK Yakutsk 65.18 5 *e*P **P 13 50 54.8 +0.1**
YAK *e* 13 51 28.1
YAK *e* 13 53 17.1
YAK *e*S **S 13 59 32.6 -4.9**
YAK *e*SS sS 13 59 52.7 +8.7
YAK *e* 14 00 45.9
YAK *e*SS **SS 14 03 45.1 -5.2**
YAK pmax pmax
comp=Z,18nm,1.3s
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=E,9.0nm,1.6s
YAK pmax pmax
comp=Z,71nm,2.4s
YAK pmax pmax
comp=N,69nm,3.8s
YAK pmax pmax
comp=E,80nm,2.4s
YAK smax smax
comp=N,118nm,5.1s
YAK smax smax
comp=E,84nm,4.8s
BRZS Berezniki 66.19 329 *e*P **P 13 51 00.6 -0.9**
BRZS Berezniki 66.19 329 *e*P **P 13 51 00.6 -0.9**
BVAR Borovoye Array 69.16 331 P **P 13 51 19.0 -1.2**
comp=E,3.4nm,0.8s,baz=130,slow=8.0,SNR=11
BVAR LR LR 14 25 58.2
comp=E,233nm,18.8s,baz=124,slow=40
comp=E,3.4nm,0.8s
BVAR Borovoye Array 69.16 331 P **P 13 51 19.0 -1.2**
BRVK Borovoye 69.23 331 P **P 13 51 20.0 -0.7**
BRVK Borovoye 69.23 331 *ce*P **P 13 51 20.1 -0.5**
BRVK pmax pmax
comp=Z,12nm,1.7s
ABKAR Akbulak array 72.87 324 P **P 13 51 41.2 -1.6**
ABKAR Akbulak array 72.87 324 IAmb IAmb 13 51 53.9
comp=Z,23nm,1.3s
AKTO Aktyubinsk 74.50 324 LR LR 14 29 43.7
comp=Z,237nm,19.1s,baz=104,slow=40
TIXI Tiksi 74.62 3 *ce*P **P 13 51 50.6 -2.0**
TIXI pmax pmax
comp=Z,30nm,1.7s
MAW Mawson 75.14 199 P **P 13 51 53.6 -2.1**
comp=Z,12nm,0.9s,baz=65,slow=7.7,SNR=16
comp=Z,12nm,0.9s
NRIK Noril'sk 75.25 349 IAmb IAmb 13 52 05.2
comp=Z,30nm,1.6s
NRIK Noril'sk 75.25 349 P **P 13 51 54.5 -1.8**
comp=Z,1.3nm,0.4s,baz=144,slow=6.9,SNR=5.5
NRIK LR LR 14 28 48.4
comp=Z,191nm,18.9s,baz=148,slow=39
comp=Z,1.3nm,0.4s
NRIK Noril'sk 75.25 349 *ce*P **P 13 51 55.0 -1.3**
RAYN Ar Rayn 76.49 295 P **P 13 52 00.5 -3.9**
RAYN IAmb IAmb 13 52 24.0
comp=Z,23nm,1.5s
RAYN Ar Rayn 76.49 295 P **P 13 52 00.5 -3.9**
RAYN pmax pmax
comp=Z,23nm,1.5s
ARTI Arti 76.85 330 P **P 13 52 04.7 -1.0**
ARTI Arti 76.85 330 LR LR 14 28 43.7
comp=Z,164nm,19.8s,baz=158,slow=38
ARTI Arti 76.85 330 *c i*P **P 13 52 03.6 -2.1**
ARTI S **S 14 01 51.3 -2.0**
ARTI pmax pmax
comp=Z,3.0nm,0.7s
BILL Bilibino 77.80 16 *i*P **P 13 52 11.1 +0.3**
BILL pmax pmax
comp=Z,26nm,2.1s
BILL MLR MLR
comp=Z,99nm,20.0s
MAK Makhachkala 78.85 315 *e*P **P 13 52 14.2 -2.9**
MAK *e*S **S 14 02 10.2 -5.2**
MAK *e*SS **SS 14 07 16.2 -4.2**
MAK MLR MLR
comp=Z,150nm,18.0s
GNI Garni 80.22 311 LR LR 14 34 25.9
comp=Z,75nm,20.8s,baz=101,slow=41
BELG Belogornoye 81.28 324 LR LR 14 34 40.3
comp=Z,159nm,18.6s,baz=91,slow=40
KMBO Kilima Mbogo 82.17 269 P **P 13 52 34.0 -1.9**
comp=Z,1.1nm,0.2s,baz=54,slow=8.1,SNR=4.3
comp=Z,1.1nm,0.2s
KMBO Kilima Mbogo 82.17 269 P **P 13 52 34.0 -1.9**
KBZ Khabaz 82.30 315 P **P 13 52 34.0 -1.6**
comp=Z,2.2nm,0.8s,baz=159,slow=1.3,SNR=5.1
KBZ LR LR 14 37 58.4
comp=Z,77nm,18.7s,baz=110,slow=42
comp=Z,2.2nm,0.8s
KBZ Khabaz 82.30 315 *ce*P **P 13 52 36.5 +0.9**
KBZ pmax pmax
comp=Z,4.0nm,1.0s
KVAR Kislovodsk Arr 82.48 315 LR LR 14 36 06.3
comp=Z,68nm,18.4s,baz=332,slow=41
KIV Kislovodsk 82.49 315 *e*P **P 13 52 37.2 +0.5**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,108nm,19.0s
SOC Sochi 84.54 314 *e*P **P 13 52 44.1 -3.1**
SOC *e* 13 56 00.5
SOC *e*PPP PPP 13 57 51.5
SOC *e*S **SKSac 14 03 06.1 -5.3**
SOC *e*SS **SS 14 08 43.5 -1.7**
SOC *e*SSS SSS 14 12 13.5
ASF Jabal al Asfar 85.22 302 LR LR 14 34 05.5
comp=Z,229nm,21.6s,baz=333,slow=38
MMAI Mount Meron Ar 86.57 303 P **P 13 52 56.0 -1.6**
comp=Z,0.3nm,0.2s,baz=123,slow=48,SNR=1.5
MMAI LR LR 14 37 11.1
comp=Z,117nm,18.9s,baz=72,slow=40
comp=Z,0.3nm,0.2s
QSPA South Pole Qui 87.10 180 P **P 13 52 59.2 -0.3**
QSPA IAmb IAmb 13 53 39.0
comp=Z,23nm,1.5s
QSPA South Pole Qui 87.10 180 P **P 13 52 57.8 -1.7**
comp=Z,3.2nm,0.8s,baz=285,slow=1.3,SNR=12
QSPA LR LR 14 32 40.8
comp=Z,165nm,18.1s,baz=338,slow=36
comp=Z,3.2nm,0.8s
OBN Obninsk 88.26 325 LR LR 14 37 26.2
comp=Z,224nm,21.8s,baz=161,slow=39
OBN Obninsk 88.26 325 ⇑*e*P **P 13 53 05.0 -0.1**
OBN pmax pmax
comp=Z,4.0nm,0.9s
H17K Granite Mounta 88.59 25 P **P 13 53 05.5 -1.1**
H17K IAmb IAmb 13 54 00.0
comp=Z,30nm,1.8s
BRTR Keskin Array B 88.60 310 *i*P **P 13 53 08.3 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BR105 Keskin Array S 88.61 310 P **P 13 53 07.5 +0.1**
comp=Z,2.4nm,1.4s
BR106 Keskin Array S 88.61 310 P **P 13 53 07.5 +0.1**
comp=Z,3.0nm,1.1s
MBAR Mbarara 88.70 269 *i*P **P 13 53 06.7 -1.7**
MBAR pmax pmax
comp=Z,6.0nm,1.5s
TBI Tubuai 89.86 113 *e*LR LR 14 21 54.5
comp=Z,1μm,26.8s
PPT2 Papeete2 90.06 108 *e*LR LR 14 21 59.2
comp=Z,189nm,29.8s
PPT2 *e*LR LR 14 22 02.0
comp=Z,227nm,28.2s
H19K Roundabout Mou 90.12 24 P **P 13 53 12.8 -0.9**
H19K IAmb IAmb 13 54 46.5
comp=Z,34nm,1.8s
AKASG Malin Array Be 92.34 320 P **P 13 53 22.1 -2.2**
comp=Z,0.2nm,0.3s,baz=83,slow=2.9,SNR=1.6
AKASG LR LR 14 43 12.4
comp=Z,110nm,18.2s,baz=98,slow=41
comp=Z,0.2nm,0.3s
AKBB Malin Array Si 92.34 320 *i*P **P 13 53 23.0 -1.3**
AKBB pmax pmax
comp=Z,2.0nm,1.1s
AK03 Malin Array Si 92.35 320 P **P 13 53 25.1 +0.8**
MI30 MI30,Zelenitsa 93.00 321 P **P 13 53 29.2 +1.8**
comp=Z,9.9nm,0.8s,comp=Z,2μm
I23K Minto, Yukon-K 93.06 25 P **P 13 53 26.7 -0.6**
MNK Minsk 93.23 324 *i* LRM MLR 14 36 49.0
comp=N,266nm,19.8s
MNK Minsk 93.23 324 *i*P **P 13 53 25.4 -2.8**
MNK *i* 13 57 09.2
MNK *i* PPP PPP 13 59 09.3
MNK *i*S **SKSac 14 03 58.2 -4.4**
MNK *i*PS **PS 14 05 53.7 +4.4**
MNK *i*SS **SS 14 10 49.7 -1.1**
MNK *i*SSS SSS 14 14 29.9
MNK pmax pmax
comp=Z,9.0nm,0.6s
MNK pmax pmax
comp=N,20nm,0.8s
MNK MLR MLR
comp=E,197nm,20.0s
MNK MLR MLR
comp=Z,153nm,17.0s
MNK MLR MLR
comp=N,266nm,20.0s
MNK Minsk 93.23 324 *i*P **P 13 53 25.5 -2.8**
comp=N,20nm,0.8s
MNK Minsk 93.23 324 *i*P **P 13 53 25.5 -2.8**
comp=Z,9.0nm,0.6s,baz=90
MNK Minsk 93.23 324 *i*P **P 13 53 25.5 -2.8**
comp=E,40nm,0.8s
MNK Minsk 93.23 324 *i* PP PP 13 57 09.3 -2.5
MNK Minsk 93.23 324 *i* PPP PPP 13 59 09.3
MNK Minsk 93.23 324 *i*S **SKSac 14 03 58.2 -4.4**
MNK Minsk 93.23 324 *i*PS PS 14 05 53.8 +4.5
MNK Minsk 93.23 324 *i*SS SS 14 10 49.7 -1.1
MNK Minsk 93.23 324 *i*SSS SSS 14 14 30.0
MNK Minsk 93.23 324 *i*LQ LQ 14 29 55.0
MNK Minsk 93.23 324 *i*LR LR 14 35 07.6
MNK Minsk 93.23 324 *i*LRM MLR 14 36 31.8
comp=E,197nm,20.4s
MNK Minsk 93.23 324 *i* LRM MLR 14 36 49.0
comp=Z,153nm,16.7s
LUBAR Lubar, Ukraine 93.27 320 P **P 13 53 29.4 +0.8**
MI28 Mi28,Pidlybu 93.33 321 P **P 13 53 29.7 +0.8**
FINES FINESS Array B 94.12 331 P **P 13 53 29.8 -2.4**
comp=Z,0.8nm,0.7s,baz=173,slow=34,SNR=1.7
comp=Z,0.8nm,0.7s
ILAR Eielson Array 94.12 25 P **P 13 53 30.8 -1.5**
comp=Z,0.8nm,1.1s,baz=237,slow=6.3,SNR=2.9
comp=Z,0.8nm,1.1s
SNAA Sanae 97.00 196 LR LR 14 35 46.5
comp=Z,157nm,19.7s,baz=189,slow=34
SNAA Sanae 97.00 196 *i*P **P 13 53 44.4 -1.0**
SNAA pmax pmax
comp=Z,1.0nm,0.9s
HFS Hagfors 100.30 331 P **Pdif 13 53 59.8 -0.4**
comp=Z,0.6nm,0.4s,baz=357,slow=2.9,SNR=2.1
RKT Rikitea 103.14 114 *e*LR LR 14 28 05.6
comp=Z,497nm,25.8s
NVAR Mina Array Bea 116.67 48 PKP **PKPdf 13 58 58.0 -0.9**
comp=Z,0.1nm,0.4s,baz=251,slow=5.6,SNR=1.4
TORD Torodi Ar. Bea 117.68 283 PKP **PKPdf 13 58 59.6 -1.5**
comp=Z,1.3nm,0.7s,baz=33,slow=1.9,SNR=7.1
PDAR Pinedale Array 121.05 40 PKP **PKiKP 13 59 07.8 +0.5**
comp=Z,0.3nm,0.6s,baz=202,slow=0.8,SNR=2.5
PDAR PKKPbc **PKKPab 14 09 09.0 -2.1**
comp=Z,0.5nm,0.8s,baz=108,slow=4.8,SNR=4.5
DBIC Dimbokro 124.41 276 PKP **PKPdf 13 59 13.4 -0.8**
comp=Z,2.9nm,0.7s,baz=98,slow=3.0,SNR=4.2
LCO Las Campanas 146.85 164 **PKPbc 13 59 57.9 +0.7**
LCO Las Campanas 146.85 164 PKP2 **PKPbc 13 59 57.9 +0.7**
CPUP Villa Florida 150.82 186 PKPbc **PKPbc 14 00 07.2 0.0**
comp=Z,6.4nm,0.8s,baz=119,slow=1.2,SNR=9.7
PB14 IPOC Station P 151.05 161 **PKPbc 14 00 08.6 +0.4**
LPAZ La Paz 159.55 159 PKPab **PKPab 14 00 52.6 +0.3**
comp=Z,9.1nm,1.0s,baz=139,slow=3.0,SNR=13

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*IDC **08** 13:44:17.2±4.0, 5.52S×148.33E, h107km±35km, mb3.5/5, mbtmp3.9/7, Error ellipse: s-maj=43.1km s-min=28.2km az=117.0*

ISC 08 13:44:16.4±1.2, 5.5S±0.1×148.4E±0.3, h100km, n8, σ0=97/9, mb3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PMG	**Port Moresby**	**4.10**	**197**	P		**Pn**	**13 45 18.3**	**+1.3**
38nm,0.3s,baz=31,slow=5.9,SNR=52								
PMG				S		**Sn**	**13 46 03.1**	**-0.8**
64nm,0.7s,baz=302,slow=1.9,SNR=8.5								
WRA	**Warramunga Arr**	**19.84**	**222**	P		**P**	**13 48 39.7**	**+0.2**
2.0nm,0.4s,baz=46,slow=11,SNR=16								
ASAR	**Alice Springs**	**22.85**	**216**	P		**P**	**13 49 11.4**	**0.0**
1.3nm,0.5s,baz=48,slow=9.4,SNR=8.1								
1.3nm,0.5s								
FITZ	**Fitzroy Crossi**	**25.52**	**239**	P		**P**	**13 49 35.2**	**-0.6**
3.3nm,0.8s,baz=45,slow=8.9,SNR=6.4								
3.3nm,0.8s								

MKAR Makanchi Array 77.97 320 P **P** 13 56 04.3 +0.6
0.3nm,0.5s,baz=92,slow=5.1,SNR=1.7
0.3nm,0.5s
ILAR Eielson Array 84.45 23 P **P** 13 56 38.0 +0.3
0.3nm,0.6s,baz=248,slow=4.8,SNR=5.2
0.3nm,0.6s
QSPA South Pole Qui 84.50 180 P **P** 13 56 37.4 -0.6
0.8nm,0.6s,baz=329,slow=5.9,SNR=5.8
0.8nm,0.6s
TORD Torodi Ar. Bea 146.28 285 PKPbc **PKPdf** 14 03 43.8 -1.4
0.2nm,0.4s,baz=64,slow=3.5,SNR=2.4

*BER **08** 13:47:34.6±1.8, 71°.03N×7°.30W, h10km, mb(Pn)3.6, ML3.4, Confirmed Earthquake*

ISC 08 13:47:32.2±1.0, 71°.12N±0°.08×7°.26W±0°.06, h20km, n17, σ2s14/24, 4D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.36**	**249**	⇓*i*P		**Pb**	**13 47 40.3**	**+0.4**
JNE				*e*S		**Sb**	**13 47 46.0**	**+0.8**
JNE				IAML			13 47 47.3	
	comp=Z,4μm,0.1s							
JNW	**Jan Mayen West**	**0.39**	**256**	⇓*i*P		**Pb**	**13 47 41.0**	**+0.6**
JNW				*e*S		**Sb**	**13 47 47.2**	**+1.2**
JNW				IAML			13 47 47.3	
	comp=Z,6μm,0.2s							
JMIC	**Jan Mayen**	**0.43**	**252**	⇓*i*P		**Pb**	**13 47 41.2**	**+0.1**
JMIC				*e*S		**Sb**	**13 47 47.5**	**+0.5**
JMIC				IAML			13 47 48.0	
	comp=Z,3μm,0.4s							
JMI	**Jan Mayen**	**0.52**	**248**	⇓*i*P		**Pb**	**13 47 42.7**	**+0.1**
JMI				*e*S		**Sb**	**13 47 50.2**	**+0.6**
JMI				IAML			13 47 52.3	
	comp=Z,2μm,0.2s							
DBG	**Daneborg**	**5.01**	**316**	*i*P		**Pn**	**13 48 47.4**	**+1.3**
DBG				*e*S		**Sn**	**13 49 40.8**	**-2.4**
DBG	**Daneborg**	**5.01**	**316**	*i*P		**Pn**	**13 48 47.4**	**+1.3**
DBG				*i*S		Sn	13 49 33.0	-10
DAG	**Danmarks Havn**	**6.48**	**336**	*i*P		**Pn**	**13 49 07.9**	**+1.7**
DAG				*i*S		**Sn**	**13 50 16.2**	**-3.2**
DAG	**Danmarks Havn**	**6.48**	**336**	*i*P		**Pn**	**13 49 07.9**	**+1.7**
DAG				*i*S		**Sn**	**13 50 16.2**	**-3.2**
STEI	**Steigen**	**8.48**	**101**	*e*P		**Pn**	**13 49 31.9**	**-1.8**
HSPB	**Hornsund (broa**	**8.53**	**36**	*e*P		**Pn**	**13 49 37.4**	**+3.0**
KONS	**Konsvik**	**8.68**	**112**	*e*P		**Pn**	**13 49 34.1**	**-2.3**
KBS	**Kingsbay**	**9.20**	**23**	*e*P		**Pn**	**13 49 46.9**	**+3.4**
KBS				IAML			13 49 48.0	
	comp=Z,2.7nm,0.3s							
KBS	**Kingsbay**	**9.20**	**23**	*i*P		**Pn**	**13 49 45.5**	**+2.0**
SPA0	**Spitsbergen Ar**	**9.35**	**31**	*e*P		**Pn**	**13 49 49.5**	**+3.9**
SPA0				IAML			13 49 52.8	
	comp=Z,4.4nm,0.9s							
KIF	**Kilpisjarvi**	**9.76**	**89**	*e*P		**Pn**	**13 49 50.4**	**-0.8**
NSS	**Namsos**	**9.78**	**123**	*e*P		**Pn**	**13 49 49.8**	**-1.7**
NOR	**Nord**	**10.74**	**353**	*e*P		**Pn**	**13 50 07.0**	**+2.5**

UPP 08 13:50:59.2±0.0, 59°.84N×17°.51E, h0km, ML1.6, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UPP	**Uppsala**	**0.06**	**69**	P		Pg	13 51 00.5	+0.2
UPP				S		Sg	13 51 01.7	+0.6
BACU	**Backbrunna**	**0.20**	**275**	P		Pg	13 51 03.2	+0.2
BACU				S		Sg	13 51 06.2	+0.5
FLYU	**Flymyra**	**0.35**	**32**	P		Pg	13 51 05.9	+0.1
OSTU	**Oestervaala**	**0.44**	**335**	P		Pg	13 51 07.5	0.0
NRTU	**Norrtaelje**	**0.59**	**105**	P		Pg	13 51 10.5	0.0
FORU	**Forsmark**	**0.65**	**31**	P		Pg	13 51 11.5	0.0
GRAU	**Graesoe**	**0.72**	**45**	P		Pg	13 51 12.7	-0.2
ESKU	**Eskilstuna**	**0.83**	**224**	P		Pg	13 51 14.8	-0.3
NYNU	**Nynaeshamn**	**0.87**	**163**	P		Pg	13 51 15.5	-0.4
IGGU	**Iggoen**	**1.04**	**355**	P		Pg	13 51 18.8	-0.4
FALU	**Falun**	**1.07**	**309**	P		Pg	13 51 19.3	-0.4
NRAU	**Nora**	**1.28**	**259**	P		Pg	13 51 23.0	-0.7
AAL	**Aland**	**1.29**	**74**	P		Pg	13 51 22.3	-1.7
VIKU	**Vikbolandet**	**1.40**	**198**	P		Pn	13 51 25.2	-0.8
ASKU	**Askersund**	**1.67**	**237**	P		Pn	13 51 29.8	+0.2

TAP 08 13:54:41.6, 24°.52N×121°.85E, h21km, ML1.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.06**	**358**	*e*P		Pb	13 54 45.6	+0.1
ESAO				*e*S		Sb	13 54 49.0	+0.8
EWUT	**Wuta**	**0.09**	**222**	*i*P		Pb	13 54 46.0	+0.3
EWUT				*e*S		Sb	13 54 49.0	+0.5
TWC	**Suao**	**0.09**	**2**	*e*P		Pb	13 54 46.2	+0.4
TWC				*e*S		Sb	13 54 49.6	+1.0
ENA	**Nanau**	**0.13**	**228**	P		Pb	13 54 46.7	-0.9
ENA				*e*S		Sb	13 54 49.6	-2.3
ENTT	**Nioudou**	**0.28**	**296**	*i*P		Pb	13 54 48.8	+0.6
ENTT				*i*S		Sb	13 54 53.7	+1.0
LATG	**Datong**	**0.29**	**274**	*e*P		Pb	13 54 48.5	+0.1
FUSB	**Fushanzhiwuyua**	**0.34**	**316**	P		Pb	13 54 49.3	+0.4
FUSB				*e*S		Sb	13 54 55.5	+1.5
EOS2	**EOS2**	**0.36**	**105**	*e*P		Pb	13 54 49.9	+0.7
EOS2				*e*S		Sn	13 54 56.2	-1.7
NWLT	**Wulai**	**0.41**	**310**	*e*P		Pb	13 54 50.6	+0.5
NWLT				*e*S		Sb	13 54 56.9	+1.1
NACB	**Ninganchiao**	**0.41**	**214**	*e*S		Sb	13 54 57.2	+1.4
TIPB	**Shuangxi**	**0.46**	**358**	*e*P		Pb	13 54 51.6	+0.6
TIPB				*e*S		Sb	13 54 58.2	+1.0

JMA 08 13:55:29.6±0.2, 25°.0N±0°.7×123°.5E±0°.3, h27km, MV1.0/8, NW OFF ISHIGAKIJIMA IS, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.70**	**165**	*e*P		Pb	13 55 42.8	-0.5
IRIF				*e*S		Sb	13 55 52.5	0.0
YOJ	**Yonaguni jima**	**0.73**	**221**	*e*P		Pb	13 55 43.3	-0.4
YOJ				*e*S		Sb	13 55 52.8	-0.5
JYNG	**Yonagunijimaku**	**0.78**	**224**	*e*S		Sb	13 55 54.6	0.0
JISG	**Ishigakijimahi**	**0.83**	**121**	*e*P		Pb	13 55 45.0	-0.4
JISG				*e*S		Sb	13 55 55.7	-0.4
JIJ	**Ishigaki jima**	**0.85**	**139**	*e*S		Sb	13 55 55.9	-1.0
JKRS	**Kuro-shima**	**0.89**	**151**	*e*S		Sn	13 55 58.1	-0.2

*IDC **08** 13:56:52.1±1.1, 2°.96S×119°.37E, h0km, mb3.6/5, mbtmp3.7/8, ML3.5/3, Error ellipse: s-maj=78.0km s-min=15.7km az=67.0*
*DJA **08** 13:56:54.4±0.3, 3°.5±2°×11°.9E±°, h10km, M4.2/13, mb4.5/3, MLv4.1/13*

ISC 08 13:56:53.7±0.9, 2°.92S±0°.06×119°.40E±0°.08, h10km, n19, σ1s14/23, mb3.6/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.44**	**107**	P		**Pg**	**13 57 01.2**	**-1.0**
TTSI				S		**Sg**	**13 57 07.9**	**-0.1**
SPSI	**Sidrap Palu**	**1.10**	**161**	P		**Pb**	**13 57 13.5**	**-1.4**
SPSI				S		**Sn**	**13 57 32.6**	**+2.1**
BNSI	**Bone**	**1.63**	**154**	P		**Pn**	**13 57 23.4**	**+0.9**
BNSI				S		**Sg**	**13 57 47.4**	**+1.1**
KAPI	**Kappang**	**2.11**	**170**	Pn		**Pn**	**13 57 27.9**	**-1.2**
KAPI	34nm,0.3s,baz=334,slow=12,SNR=34				Sn	**Sn**	**13 57 57.1**	**+1.7**
	68nm,0.3s,baz=16,slow=20,SNR=11 65nm,0.3s							
BKSI	**Bulukumba**	**2.50**	**163**	P		**Pn**	**13 57 35.7**	**+1.4**
APSI	**Ampana**	**3.00**	**48**	P		**Pn**	**13 57 41.7**	**+0.3**
MPSI	**Mapaga**	**3.27**	**9**	P		**Pn**	**13 57 45.1**	**+0.1**
BSSI	**Bau Bau, Buton**	**3.38**	**161**	P		**Pn**	**13 57 48.3**	**+1.7**
LUWI	**Luwuk**	**3.85**	**61**	P		**Pn**	**13 57 53.4**	**+0.4**
BBSI	**Bau Bau**	**4.06**	**129**	P		**Pn**	**13 57 57.3**	**+1.4**
MRSI	**Marisa**	**4.22**	**37**	P		**Pn**	**13 57 58.3**	**+0.2**
WBSI	**Waikabubak, Su**	**6.68**	**180**	P		**Pn**	**13 58 32.7**	**+0.7**
	22nm,0.7s,0.1nm							
BATI	**Baumata**	**8.39**	**150**	Pn		**Pn**	**13 58 53.8**	**-1.6**
	3.5nm,0.3s,baz=308,slow=12,SNR=1.8 6.7nm,0.3s							
FITZ	**Fitzroy Crossi**	**16.28**	**158**	Pn		**Pn**	**14 00 41.7**	**-0.9**
	baz=341,slow=18,SNR=1.5 1.4nm,1.0s							
WRA	**Warramunga Arr**	**22.34**	**140**	P		**P**	**14 01 50.9**	**-1.0**
	1.9nm,0.9s,baz=315,slow=11,SNR=10 1.9nm,0.9s							
ASAR	**Alice Springs**	**24.95**	**147**	P		**P**	**14 02 18.0**	**+0.6**
	0.7nm,0.8s,baz=327,slow=9.1,SNR=8.4 0.7nm,0.8s							
SONM	**Songino Array**	**51.81**	**349**	P		**P**	**14 06 01.9**	**0.0**
	1.0nm,0.6s,baz=169,slow=9.2,SNR=3.9 1.0nm,0.6s							
MKAR	**Makanchi Array**	**59.30**	**331**	P		**P**	**14 06 56.2**	**+0.5**
	1.1nm,0.7s,baz=144,slow=7.0,SNR=4.8 1.1nm,0.7s							
KURBB	**Kurchatov Arra**	**63.76**	**332**	P		**P**	**14 07 25.7**	**0.0**
	0.2nm,0.4s,baz=146,slow=5.1,SNR=2.0 0.2nm,0.4s							

*SJA **08** 14:04:36.0, 21°.87S×67°.35W, h218km, ML2.9*
*SCB **08** 14:04:37.6±1.4, 21°.86S×67°.30W, h182km±18km, ML2.6/3, Error ellipse: s-maj=10.8km s-min=5.3km az=0.0*

ISC 08 14:04:38.2±1.3, 21°.89S±0°.06×67°.34W±0°.05, h178km, n21, σ0s90/24, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.63**	**243**	*i*P		**Pn**	**14 05 12.2**	**+0.6**
LVC	**Limon Verde**	**1.63**	**243**	Pg		**Pn**	**14 05 12.9**	**+1.3**
MOCB	**Mochara**	**1.70**	**68**	Pg		**Pn**	**14 05 12.5**	**0.0**
MOCB				Sg		**Sn**	**14 05 38.0**	**-0.9**
MOCB				IAML			14 05 38.8	
	64nm,0.4s							
YJA	**Yavi**	**1.71**	**100**	*i*P		**Pn**	**14 05 13.2**	**+0.6**
PB09	**IPOC Station P**	**1.77**	**273**	*i*P		**Pn**	**14 05 13.6**	**+0.6**
PB01	**IPOC Station P**	**2.17**	**292**	*i*P		**Pn**	**14 05 17.2**	**0.0**
PB01	**IPOC Station P**	**2.17**	**292**	Pg		**Pn**	**14 05 17.8**	**+0.7**
PB01				Sg		**Sn**	**14 05 48.2**	**+0.9**
PB01				IAML			14 05 48.8	
	31nm,0.3s							
HJA	**Humahuaca**	**2.21**	**127**	*i*P		**Pn**	**14 05 18.8**	**+0.9**
PB06	**IPOC Station P**	**2.23**	**248**	*i*P		**Pn**	**14 05 18.0**	**+0.2**
PB15	**IPOC Station P**	**2.37**	**236**	*i*P		**Pn**	**14 05 21.4**	**+1.9**
PB08	**IPOC Station P**	**2.43**	**315**	*i*P		**Pn**	**14 05 21.0**	**+0.6**
PB08	**IPOC Station P**	**2.43**	**315**	Pg		**Pn**	**14 05 21.3**	**+0.9**
PB04	**IPOC Station P**	**2.65**	**260**	*i*P		**Pn**	**14 05 22.8**	**+0.1**
PB04	**IPOC Station P**	**2.65**	**260**	Pg		**Pn**	**14 05 23.4**	**+0.7**
PB04				Sg		**Sn**	**14 05 56.7**	**-0.5**
PB04				IAML			14 06 03.2	
	7.4nm,0.2s							
GO01	**Chusmiza**	**2.81**	**321**	*i*P		**Pn**	**14 05 25.5**	**+0.5**
HMBC	**Humberstone**	**2.87**	**303**	Pg		**Pn**	**14 05 25.1**	**-0.2**
TA01	**Diego Aracena**	**2.96**	**296**	*i*P		**Pn**	**14 05 25.8**	**-0.5**
PB11	**IPOC Station P**	**3.03**	**314**	*i*P		**Pn**	**14 05 26.3**	**-1.0**
PB11	**IPOC Station P**	**3.03**	**314**	Pg		**Pn**	**14 05 26.9**	**-0.4**
GO02	**Mina Guanaco**	**3.86**	**212**	*i*P		**Pn**	**14 05 37.7**	**-0.1**
AC01	**Pan de Azucar**	**5.19**	**214**	*i*P		**Pn**	**14 05 52.5**	**-2.0**

*GII **08** 14:21:41.4±0.2, 33°.51N±0°.07×35°.68E±0°.01, h0km, confirmed*
*GRAL **08** 14:21:43.2±0.3, 33°.47N×35°.68E, h0km±17km, MD2.9*

ISC 08 14:21:43.1±1.3, 33°.49N±0°.02×35°.70E±0°.05, h0km, n14, σ0s73/16, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
QRWL	**Qaraoun**	**0.06**	**345**	*e*P		**Pg**	**14 21 44.6**	**+0.3**
RCY	**Rachaya**	**0.11**	**86**	*e*P		**Pg**	**14 21 45.5**	**+0.3**
SHBL	**Chebaa**	**0.15**	**166**	*e*P		**Pg**	**14 21 45.5**	**-0.3**
SHBL				*e*S		**Sg**	**14 21 47.3**	**-0.4**
NATI	**Neve Ativ**	**0.23**	**172**	P		**Pg**	**14 21 47.1**	**-0.3**
NATI	**Neve Ativ**	**0.23**	**172**	S		**Sg**	**14 21 51.6**	**+1.2**
DQRL	**Deir Qamar**	**0.24**	**333**	*e*P		**Pg**	**14 21 47.7**	**0.0**
DQRL				*e*S		**Sg**	**14 21 51.1**	**+0.3**
GEM	**Giv'at Ha'Em**	**0.28**	**186**	P		**Pg**	**14 21 48.3**	**-0.1**
GEM	**Giv'at Ha'Em**	**0.28**	**186**	S		**Sg**	**14 21 53.6**	**+1.6**
KSHT	**Keshet**	**0.52**	**170**	P		**Pg**	**14 21 53.3**	**+0.3**
KSHT	**Keshet**	**0.52**	**170**	S		**Sb**	**14 22 02.6**	**-0.4**
MMC7	**Mount Meron ar**	**0.53**	**209**	P		**Pg**	**14 21 53.1**	**-0.2**
HWQ	**Hawqa**	**0.81**	**15**	*e*P		**Pg**	**14 21 58.1**	**-0.5**
BEIL	**Beino**	**1.12**	**21**	*e*P		**Pg**	**14 22 03.9**	**-0.8**
HMDT	**Nahal Hemdat**	**1.24**	**187**	P		**Pg**	**14 22 05.8**	**-1.1**

IDC 08 14:22:31.1±4.0, 18°.05S×178°.31W, h565km±33km, mb2.8/2, mbtmp3.7/3, Error ellipse: s-maj=233.2km s-min=55.9km az=165.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.48**	**275**	P		P	14 23 50.5	-0.1
	7.2nm,0.6s,baz=90,slow=20,SNR=5.8							
WRA	**Warramunga Arr**	**44.70**	**260**	P		P	14 29 54.4	-0.4
	0.3nm,0.6s,baz=98,slow=6.6,SNR=7.5 0.3nm,0.6s							
ASAR	**Alice Springs**	**44.84**	**254**	P		P	14 29 56.0	+0.1
	1.7nm,0.6s,baz=88,slow=8.5,SNR=59 1.7nm,0.6s							
TORD	**Torodi Ar. Bea**	**175.13**	**180**	PKP		PKPdf	14 41 36.5	-0.9
	0.2nm,0.4s,baz=162,slow=0.6,SNR=1.8							

*GUC **08** 14:45:29.2±0.7, 43°.17S×74°.25W, h26km±6km, ML3.7*
*IDC **08** 14:45:34.5±2.2, 41°.81S×74°.53W, h0km, mb4.0/3, mbtmp3.9/4, ML3.3/1, MS3.8/1, Error ellipse: s-maj=52.4km s-min=21.7km az=144.0*

ISC 08 14:45:29.7±2.1, 43°.14S±0°.03×74°.08W±0°.07, h14km±13km, n28, σ0s98/37, mb3.9/3, 2C-2D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**0.31**	**86**	⇓*i*P		**Pb**	**14 45 37.8**	**+0.8**
GO07				*i*S		**Sn**	**14 45 43.9**	**-2.2**
GO07				IAML			14 45 45.4	
	comp=E,16μm,0.4s							
LL07	**Hotel Espejo d**	**0.54**	**56**	⇓*i*P		**Pb**	**14 45 41.6**	**+0.7**
LL07				*i*S		**Sn**	**14 45 50.9**	**-0.9**
LL07				IAML			14 45 51.7	
	comp=N,11μm,0.6s							
LL06	**Loncomilla**	**0.98**	**20**	*i*P		**Pb**	**14 45 47.9**	**-0.5**
LL06				*i*S		**Sg**	**14 46 02.0**	**+0.6**
LL06				IAML			14 46 09.8	
	comp=N,2μm,0.5s							
RMBA	**Ra^{d}l Marn B**	**1.14**	**132**	⇑*i*P		**Pn**	**14 45 49.5**	**-1.6**
RMBA				*i*S		**Sb**	**14 46 05.2**	**-0.5**
RMBA				IAML			14 46 08.4	
	comp=N,3μm,0.3s							
GLCR	**Glaciar**	**1.21**	**73**	*i*P		**Pn**	**14 45 51.6**	**-0.6**
GLCR				*i*S		**Sg**	**14 46 08.9**	**+0.3**
GLCR				⇑*e*			14 46 11.7	
VNTQ	**Ventisquero**	**1.22**	**78**	*e*P		**Pn**	**14 45 51.5**	**-0.8**
TBIO	**Turbio**	**1.26**	**81**	*e*P		**Pn**	**14 45 52.5**	**-0.4**
PDRA	**Piedra**	**1.31**	**78**	*i*P		**Pn**	**14 45 53.2**	**-0.4**
PDRA				*e*S		**Sg**	**14 46 11.6**	**-0.2**
LL01	**San Ignacio de**	**1.45**	**59**	*e*P		**Pn**	**14 45 55.4**	**0.0**
LL01				*e*S		**Sb**	**14 46 14.1**	**-0.4**
LJUN	**La Junta**	**1.46**	**127**	*i*P		**Pn**	**14 45 54.8**	**-0.7**
LJUN				*i*S		**Sb**	**14 46 14.6**	**-0.3**
LJUN				IAML			14 46 16.7	
	comp=E,704nm,0.2s							
PHPI	**Puyuhuapi**	**1.61**	**138**	*i*P		**Pn**	**14 45 57.5**	**-0.2**
PHPI				*i*S		**Sb**	**14 46 19.1**	**-0.4**
PHPI				IAML			14 46 25.6	
	comp=N,2μm,0.2s							
LL02	**Futaleuf**	**1.64**	**93**	*e*P		**Pn**	**14 45 58.4**	**+0.4**
LL02				*e*S		**Sb**	**14 46 20.8**	**+0.7**
MGDN	**Magdalena**	**1.71**	**151**	*i*P		**Pn**	**14 45 57.8**	**-1.3**
MGDN				*i*S		**Sn**	**14 46 19.6**	**-1.1**
LL05	**Los Muermos**	**1.79**	**15**	*e*P		**Pn**	**14 45 59.0**	**-1.1**
LL05				*e*S		**Sn**	**14 46 23.1**	**+0.5**
LL05				IAML			14 46 31.7	
	comp=E,548nm,0.4s							
USPA	**Uspallante**	**1.95**	**159**	*e*P		**Pn**	**14 46 01.5**	**-0.7**
USPA				*i*S		**Sn**	**14 46 26.5**	**0.0**
LL03	**Petrohue**	**2.36**	**33**	*i*P		**Pn**	**14 46 07.8**	**-0.1**
LL04	**Puerto Octay**	**2.55**	**30**	*i*P		**Pn**	**14 46 09.9**	**-0.7**
LL04				IAML			14 46 48.3	
	comp=E,318nm,0.3s							
CYQE	**Coyhaique**	**2.81**	**149**	*e*P		**Pn**	**14 46 13.9**	**-0.3**
CYQE				IAML			14 47 00.3	
	comp=N,341nm,0.4s							
COYC	**Coyhaique**	**2.83**	**150**	*e*P		**Pn**	**14 46 14.9**	**+0.5**
COYC				*e*S		**Sn**	**14 46 49.8**	**+1.5**
COYC				IAML			14 47 00.0	
	comp=E,122nm,0.7s							
LR04	**Corral**	**3.29**	**9**	IAML			14 47 12.4	
	comp=N,234nm,0.3s							
PLCA	**Paso Flores**	**3.57**	**49**	Pn		**Pn**	**14 46 25.1**	**+0.5**
	comp=N,0.7nm,0.3s,baz=249,slow=14,SNR=11							
PLCA				Pg		**Pb**	**14 46 31.2**	**-1.3**
	comp=N,1.6nm,0.3s,baz=246,slow=14,SNR=14							
PLCA				Lg		Lg	14 47 17.9	
	comp=N,0.5nm,0.3s,baz=233,slow=15,SNR=1.4 comp=N,3.0nm,0.4s							
H03S1	**Juan Fernandez**	**10.02**	**336**	T		T	14 57 59.0	
	baz=160,slow=74,SNR=6.4							
H03S2	**Juan Fernandez**	**10.03**	**336**	T		T	14 57 58.9	
	baz=160,slow=74,SNR=5.6							
H03S3	**Juan Fernandez**	**10.04**	**336**	T		T	14 58 02.4	
	baz=160,slow=74,SNR=5.7							
CPUP	**Villa Florida**	**21.63**	**45**	P		**P**	**14 50 17.9**	**-1.5**
	comp=N,2.6nm,0.7s,baz=212,slow=10,SNR=4.5 comp=N,2.6nm,0.7s							
BDFB	**Brasilia**	**35.31**	**47**	P		**P**	**14 52 26.9**	**+2.4**
	comp=N,2.4nm,0.4s,baz=207,slow=6.8,SNR=4.2 comp=N,2.4nm,0.4s							
QSPA	**South Pole Qui**	**47.11**	**180**	P		P	14 54 18.4	+17
	comp=N,1.2nm,1.0s,baz=149,slow=5.9,SNR=3.0 comp=N,1.2nm,1.0s							
MDP	**Montagnes des**	**51.79**	**28**	LR		LR	15 19 20.3	
	comp=N,106nm,20.7s,baz=99,slow=40							

*IDC **08** 14:46:11.5±0.7, 11°.53N×139°.04E, h0km, mb4.3/16, mbtmp4.3/16, MS3.7/21, Error ellipse: s-maj=28.0km s-min=14.2km az=81.0*
*NEIC **08** 14:46:13.9±2.4, 11°.4N±0°.1×138°.4E±0°.2, h10km±2km, mb4.8/37, Error ellipse: s-maj=25.6km s-min=18.5km az=101.0*
*DJA **08** 14:46:27.1±1.2, 11°.N±6°×13°.9E±°, h125km±11km, M4.5/25, mB5.1/12, mb4.8/25, Mw(mB)4.4/12*

ISC 08 14:46:16.6±0.4, 11°.47N±0°.05×138°.80E±0°.06, h35km, n111, σ2s36/95, mb4.7/43, MS3.8/21, 1C, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.29**	**70**	Pn		**Pn**	**14 47 46.7**	**-0.2**
	5.1nm,0.3s,baz=281,slow=3.6,SNR=3.3							
GUMO				Sn		**Sn**	**14 48 53.8**	**-3.8**
	4.6nm,0.3s,baz=180,slow=20,SNR=0.9							
GUMO				LR		LR	14 49 52.2	
	comp=Z,1μm,21.1s,baz=222,slow=36							
DAV	**Davao City (W)**	**13.76**	**253**	LR		LR	14 53 50.3	
	comp=Z,375nm,21.3s,baz=87,slow=33							
JAY	**Jayapura**	**14.02**	**172**	LR		LR	14 54 10.2	
	comp=Z,251nm,19.0s,baz=316,slow=34							
JAY	**Jayapura**	**14.02**	**172**	P		**Pn**	**14 49 36.4**	**+3.5**
	21nm,0.6s							
GENI	**Genyem**	**14.04**	**174**	P		**P**	**14 49 37.3**	**-3.1**
	62nm,0.8s,1μm							
SWI	**Sorong**	**14.36**	**212**	P		**Pn**	**14 49 38.8**	**+1.3**
TNTI	**Ternate**	**15.55**	**228**	Pn		**Pn**	**14 49 48.4**	**-5.0**
TNTI	**Ternate**	**15.55**	**228**	P		**P**	**14 49 57.5**	**+0.2**
	31nm,0.5s,660nm							
FAKI	**Fak Fak**	**15.71**	**205**	P		**P**	**14 50 00.4**	**+1.3**
FAKI	**Fak Fak**	**15.71**	**205**	P		**P**	**14 50 01.4**	**+2.3**
	69nm,1.1s,749nm							
MANU	**Manus Island**	**15.90**	**147**			**P**	**14 50 02.8**	**+1.6**
JMZ	**Minamidaito 2**	**15.97**	**334**			**Pn**	**14 49 59.9**	**+1.3**
JMZ				IAmb		IAmb	14 50 03.9	
	comp=Z,126nm,1.3s							
MSAI	**Masohi**	**17.70**	**214**	P		**P**	**14 50 23.9**	**+2.9**
	comp=Z,68nm,0.9s,comp=Z,958nm							
BNDI	**Bandanaira**	**18.19**	**210**	P		**P**	**14 50 28.7**	**+2.2**
	comp=Z,54nm,0.9s							
JOW	**Kunigami**	**18.21**	**329**	P		**Pn**	**14 50 29.4**	**+2.7**
	comp=Z,4.1nm,0.7s,baz=116,slow=19,SNR=1.5							
JOW				LR		LR	14 55 55.8	
	comp=Z,207nm,19.4s,baz=122,slow=32							
AAI	**Ambon**	**18.39**	**216**	P		**Pn**	**14 50 30.7**	**+1.8**
	comp=Z,47nm,0.5s							
SANI	**Sanana**	**18.51**	**224**	P		**P**	**14 50 28.7**	**-1.4**
NLAI	**Namlea**	**18.68**	**219**	P		**Pn**	**14 50 34.3**	**+1.8**
YOJ	**Yonaguni jima**	**19.78**	**313**	P		**P**	**14 50 40.6**	**-3.2**
YOJ				IAmb		IAmb	14 50 48.5	
	comp=Z,46nm,1.2s							
PATS	**Pohnpei**	**19.80**	**102**	P		**Pn**	**14 50 45.2**	**-0.7**
MRSI	**Marisa**	**19.99**	**238**	P		**Pn**	**14 50 49.3**	**+1.2**
LUWI	**Luwuk**	**20.21**	**233**	P		**P**	**14 50 45.6**	**-3.0**
LUWI	**Luwuk**	**20.21**	**233**	P		**P**	**14 50 49.3**	**+0.7**
	comp=Z,138nm,1.0s							
YULB	**Yu-li**	**20.45**	**308**	P		**P**	**14 50 46.7**	**-4.5**
YULB				IAmb		IAmb	14 51 01.1	
	comp=Z,91nm,1.7s							
TOLI2	**Tolitoli**	**20.64**	**241**	P		**P**	**14 50 48.7**	**-4.6**
TOLI2				IAmb		IAmb	14 51 00.8	
	comp=Z,112nm,1.5s							
APSI	**Ampana**	**21.02**	**235**	P		**P**	**14 51 02.3**	**+4.9**
JHJ	**Hachijo jima 2**	**21.57**	**2**	LR		LR	14 57 42.9	
	comp=Z,231nm,19

	comp=E,220nm,19.2s					
XAN			LR	LR		
	comp=Z,310nm,20.6s					
PSA00	**Pilbara Seismi**	**37.75 210**	P	**P**	**14 53 28.1**	**-1.2**
PSA00			IAmb	IAmb	14 53 30.3	
	comp=Z,17nm,1.1s					
HHC	**Hu-ho-hao-te**	**37.82 326**	*e*P	**P**	**14 53 32.7**	**+2.8**
HHC			pmax	pmax		
	comp=Z,9.0nm,0.5s					
HHC			pmax	pmax		
	comp=Z,81nm,4.0s					
HHC			LR	LR		
	comp=N,150nm,17.7s					
HHC			LR	LR		
	comp=E,110nm,16.0s					
HHC			LR	LR		
	comp=Z,150nm,18.5s					
PHRA	**Phrae**	**37.85 285**	P	**P**	**14 53 27.6**	**-2.8**
PZH	**PanZhiHua**	**37.93 299**	P	**P**	**14 53 33.6**	**+2.5**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.8s					
PZH			pmax	pmax		
	comp=Z,100nm,7.0s					
KLR	**Kul'dur**	**38.09 353**	LR	LR	15 06 33.3	
	comp=Z,96nm,20.1s,baz=142,slow=32					
KULM	**Kulim**	**38.21 264**	P	P	14 53 28.8	-4.6
KULM			IAmb	IAmb	14 53 34.5	
	comp=Z,7.6nm,0.7s					
BTO	**Baotou**	**38.53 324**	*e*P	**P**	**14 53 39.8**	**+3.9**
BTO			sP	pwP	14 54 02.3	+11
BTO			pmax	pmax		
	comp=Z,20nm,0.5s					
BTO			pmax	pmax		
	comp=Z,210nm,12.4s					
CM31	**Chiang Mai Arr**	**39.06 285**	P	**P**	**14 53 37.8**	**-2.7**
CM31			IAmb	IAmb	14 53 44.4	
	comp=Z,19nm,0.9s					
CMAR	**Chiang Mai Arr**	**39.06 285**	P	**P**	**14 53 37.8**	**-2.7**
CMAR	**Chiang Mai Arr**	**39.06 285**	P	**P**	**14 53 42.8**	**+2.2**
	comp=Z,10nm,0.9s,baz=92,slow=6.4,SNR=70					
CMAR			LR	LR	15 08 11.4	
	comp=Z,96nm,21.5s,baz=105,slow=34					
	comp=Z,10nm,0.9s					
CHTO	**Chiang Mai**	**39.09 286**	P	**P**	**14 53 38.0**	**-2.8**
HEH	**HeiHe**	**39.79 349**	*e*P	**P**	**14 53 47.4**	**+1.3**
HEH			pmax	pmax		
	comp=Z,10.0nm,0.9s					
LZH	**Lanzhou**	**39.94 314**	*e*P	**P**	**14 53 48.6**	**+0.8**
LZH			sP	pwP	14 54 02.9	-0.3
LZH			pmax	pmax		
	comp=Z,17nm,1.1s					
LZH			LR	LR		
	comp=N,160nm,17.2s					
LZH			LR	LR		
	comp=E,220nm,15.5s					
LZH			LR	LR		
	comp=Z,240nm,20.6s					
RPSI	**Rantau Prapat**	**40.47 261**	P	P	14 53 47.8	-4.5
RPSI			IAmb	IAmb	14 53 53.4	
	comp=Z,13nm,0.9s					
DZM	**Mont Dzumac**	**42.97 141**	LR	LR	15 11 36.7	
	comp=Z,116nm,18.0s,baz=28,slow=36					
STKA	**Stephens Creek**	**43.19 177**	P	**P**	**14 54 15.9**	**+1.8**
	comp=Z,2.9nm,0.7s,baz=356,slow=9.4,SNR=8.2					
STKA			LR	LR	15 13 22.3	
	comp=Z,175nm,18.1s,baz=24,slow=38					
	comp=Z,2.9nm,0.7s					
FORT	**Forrest**	**43.26 194**	P	**P**	**14 54 12.8**	**-2.0**
GTA	**Gaotai**	**44.34 316**	P	**P**	**14 54 25.4**	**+1.8**
GTA			pmax	pmax		
	comp=Z,9.0nm,1.1s					
ULN	**Ulaanbaatar**	**44.98 330**	P	**P**	**14 54 27.9**	**-0.6**
SONM	**Songino Array**	**45.28 329**	P	**P**	**14 54 29.9**	**-1.0**
SONM			IAmb	IAmb	14 54 54.3	
	comp=Z,13nm,1.8s					
SONM	**Songino Array**	**45.28 329**	P	**P**	**14 54 32.4**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=138,slow=8.2,SNR=8.8					
	comp=Z,1.4nm,0.5s					
GOMU	**GeErMu**	**46.63 309**	P	**P**	**14 54 43.4**	**+1.3**
GOMU			pP	pwP	14 55 06.9	+10
NWAO	**Narrogin (SRO)**	**48.71 204**	LR	LR	15 18 04.2	
	comp=Z,33nm,18.3s,baz=238,slow=39					
YAK	**Yakutsk**	**50.91 354**	P	**P**	**14 55 13.8**	**-0.1**
WMQ	**Urumqi**	**54.42 316**	*e*P	**P**	**14 55 43.0**	**+2.6**
WMQ			pmax	pmax		
	comp=Z,17nm,1.1s					
MKAR	**Makanchi Array**	**58.99 318**	P	**P**	**14 56 14.0**	**+1.2**
MKAR	**Makanchi Array**	**58.99 318**	P	**P**	**14 56 14.4**	**+1.7**
	comp=Z,6.5nm,0.8s,baz=102,slow=9.4,SNR=25					
	comp=Z,6.5nm,0.8s					
ZAA0	**Zalesovo Array**	**59.99 326**	P	**P**	**14 56 17.2**	**-2.3**
ZAA0			IAmb	IAmb	14 56 21.3	
	comp=Z,5.3nm,0.9s					
ZALV	**Zalesovo Beam**	**59.99 326**	P	**P**	**14 56 18.1**	**-1.4**
ZALV	**Zalesovo Beam**	**59.99 326**	P	**P**	**14 56 20.6**	**+1.1**
	comp=Z,3.0nm,0.6s,baz=101,slow=6.3,SNR=12					
ZALV			LR	LR	15 22 51.8	
	comp=Z,111nm,19.5s,baz=347,slow=37					
	comp=Z,3.0nm,0.6s					
URZ	**Urewera**	**61.08 146**	LR	LR	15 22 14.6	
	comp=Z,161nm,18.2s,baz=187,slow=36					
KSH	**Kashi**	**61.87 309**	P	**P**	**14 56 37.3**	**+4.6**
KSH			pmax	pmax		
	comp=Z,7.0nm,0.7s					
KURK	**Kurchatov**	**62.45 322**	P	**P**	**14 56 35.7**	**-0.5**
KURK			IAmb	IAmb	14 56 38.4	
	comp=Z,11nm,0.8s					
KURBB	**Kurchatov Arra**	**62.48 321**	P	**P**	**14 56 37.0**	**+0.6**
	comp=Z,5.3nm,0.8s,baz=106,slow=6.8,SNR=30					
	comp=Z,5.3nm,0.8s					
NIL	**Nilore**	**63.42 302**	P	**P**	**14 56 43.2**	**+0.1**
GAR	**Garm**	**66.17 308**	IAmb	IAmb	14 57 03.7	
	comp=Z,13nm,0.9s					
NRIK	**Noril'sk**	**66.26 342**	P	**P**	**14 57 00.6**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=119,slow=5.3,SNR=4.5					
	comp=Z,2.4nm,0.8s					
SIMJ	**Simiganj**	**67.17 307**	P	**P**	**14 57 05.5**	**-1.9**
SIMJ			IAmb	IAmb	14 57 09.9	
	comp=Z,7.5nm,0.9s					
BVAR	**Borovoye Array**	**67.95 323**	P	**P**	**14 57 13.0**	**+1.1**
	comp=Z,4.6nm,0.8s,baz=107,slow=7.8,SNR=17					
	comp=Z,4.6nm,0.8s					
BRVK	**Borovoye**	**68.02 323**	P	**P**	**14 57 11.7**	**-0.6**
BRVK			IAmb	IAmb	14 57 14.4	
	comp=Z,4.8nm,0.9s					
ILAR	**Eielson Array**	**73.01 26**	P	**P**	**14 57 42.7**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=249,slow=5.7,SNR=14					
	comp=Z,0.5nm,0.6s					
ABKAR	**Akbulak array**	**74.13 318**	P	**P**	**14 57 49.5**	**+0.1**
F28M	**Old Crow**	**76.16 23**	P	**P**	**14 58 03.2**	**+2.4**
F28M			IAmb	IAmb	14 59 40.7	
	comp=Z,18nm,1.7s					
KBZ	**Khabaz**	**86.39 314**	P	**P**	**14 58 55.8**	**+0.3**
	comp=Z,2.3nm,0.9s,baz=56,slow=8.3,SNR=5.1					
	comp=Z,2.3nm,0.9s					
ARCES	**ARCESS Array B**	**87.21 341**	P	**P**	**14 58 59.0**	**0.0**
	comp=Z,1.5nm,0.6s,baz=359,slow=4.9,SNR=4.5					
	comp=Z,1.5nm,0.6s					
YKA	**Yellowknife Ar**	**87.42 26**	LR	LR	15 37 02.2	
	comp=Z,56nm,20.6s,baz=298,slow=35					
FINES	**FINESS Array B**	**90.50 334**	P	**P**	**14 59 13.8**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=12,slow=7.3,SNR=2.9					
	comp=Z,1.3nm,0.8s					
NEW	**Newport**	**90.70 40**	LR	LR	15 32 29.9	
	comp=Z,64nm,19.5s,baz=3.0,slow=31					
MNK	**Minsk**	**92.50 327**	*i* P	**P**	**14 59 22.5**	**-1.5**
	comp=E,6.0nm,0.7s					
MNK			*i* P	**P**	**14 59 22.5**	**-1.5**
	comp=N,11nm,0.9s					
MNK			*i* P	**P**	**14 59 22.5**	**-1.5**
	comp=Z,5.0nm,0.6s,baz=66					
MNK			*i* pP	**sP**	**14 59 37.2**	**+0.7**
MNK			*i* PP	**PP**	**15 03 04.8**	**-0.2**
MNK			*i* PPP	PPP	15 05 04.6	
MNK			*i* S	**SKSac**	**15 09 51.5**	**-3.4**
MNK			*i* sS	**SKKSac**	**15 10 17.6**	**+5.0**
MNK			*i* PS	**PS**	**15 11 42.5**	**+1.8**
MNK			*i* SS	**SS**	**15 16 38.8**	**+2.0**
MNK			*i* SSS	SSS	15 20 18.6	
MNK			*i* LQ	LQ	15 35 54.9	
MNK			*i* LR	LR	15 42 03.1	
MNK			*i* LRM	MLR	15 43 43.5	
	comp=Z,183nm,19.9s					
MNK			*i* LRM	MLR	15 44 42.8	
	comp=N,230nm,21.6s					
MNK			*i* LRM	MLR	15 45 07.6	
	comp=E,225nm,19.9s					
NVAR	**Mina Array Bea**	**92.84 50**	P	**P**	**14 59 25.7**	**-0.6**
	comp=E,0.3nm,0.5s,baz=289,slow=4.8,SNR=2.0					
	comp=E,0.3nm,0.5s					
PFO	**Pinyon Flats O**	**95.70 54**	LR	LR	15 37 48.2	
	comp=E,46nm,18.9s,baz=258,slow=32					
LPAZ	**La Paz**	**153.43 103**	PKPbc	**PKPbc**	**15 06 11.5**	**-1.5**
	comp=E,2.8nm,0.4s,baz=333,slow=2.9,SNR=5.8					

DJA 08 14:58:09.8±0.7, 8°S±6°×11°7E±°, h11km±6km, M3.8/13, mb3.8/2, MLv3.8/13, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.10**	**117**	P		Pb		14 58 30.7	-0.1
PLAI				S		Sn		14 58 46.0	-0.3
SRBI	**Singaraja**	**1.58**	**278**	P		Pn		14 58 37.9	+0.2
SRBI				S		Sb		14 58 59.1	+0.1
DNP	**Denpasar**	**1.60**	**257**	P		Pn		14 58 38.4	+0.3
ABJI	**Asem Bagus**	**2.58**	**281**	P		Pn		14 58 52.1	+0.5
JAGI	**Jajag, Banyuwa**	**2.61**	**267**	P		Pn		14 58 51.7	-0.3
WBSI	**Waikabubak, Su**	**2.88**	**117**	P		Pn		14 58 55.8	0.0
KMMI	**Kalianget**	**3.07**	**294**	P		Pn		14 58 59.8	+1.5
GMJI	**Gumukmas**	**3.31**	**271**	P		Pn		14 59 01.0	-0.6
BSSI	**Bau Bau, Buton**	**4.26**	**60**	P		Pn		14 59 13.6	-1.1
BKSI	**Bulukumba**	**4.45**	**48**	P		Pn		14 59 15.7	-1.6
BNSI	**Bone**	**5.10**	**40**	P		Pn		14 59 28.2	+2.0

*SJA **08** 15:00:35.0, 21°.29S×70°.04W, h10km, ML3.6*
*GUC **08** 15:00:38.4±0.8, 21°.31S×69°.98W, h35km±3km, ML3.3*

ISC 08 15:00:36.6±1.4, 21°29S±0°03×70°03W±0°05, h23km±15km, n22, σ0°58/32, 1C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.56**	**64**	⇑P	*i*	**Pn**		**15 00 48.8**	**-0.5**
PB01				S	*i*	**Sn**		**15 00 56.9**	**-1.0**
PB01					IAML			15 00 57.2	
	comp=N,15μm,0.2s								
PB01	**IPOC Station P**	**0.56**	**64**	P	*i*	**Pb**		**15 00 48.0**	**+0.2**
TA01	**Diego Aracena**	**0.74**	**349**	⇓P	*i*	**Pn**		**15 00 51.5**	**-0.1**
TA01				S	*i*	**Sn**		**15 01 02.1**	**+0.1**
TA01					IAML			15 01 05.0	
	comp=N,1μm,0.4s								
TA01	**Diego Aracena**	**0.74**	**349**	P	*i*	**Pb**		**15 00 50.8**	**0.0**
PB09	**IPOC Station P**	**0.89**	**125**	⇓P	*i*	**Pn**		**15 00 53.6**	**-0.2**
PB09				S	*e*	**Sb**		**15 01 05.2**	**+0.3**
PB09					IAML			15 01 05.9	
	comp=E,2μm,0.4s								
PB09	**IPOC Station P**	**0.89**	**125**	P	*i*	**Pb**		**15 00 52.9**	**-0.5**
TA02	**Huaiquique**	**1.02**	**354**	P	*e*	**Pn**		**15 00 55.5**	**0.0**
TA02				S	*e*	**Sb**		**15 01 08.5**	**0.0**
PB04	**IPOC Station P**	**1.04**	**186**	P	*e*	**Pn**		**15 00 55.9**	**-0.2**
PB04				S	*e*	**Sn**		**15 01 09.8**	**-0.2**
PB04					IAML			15 01 18.3	
	comp=E,646nm,0.3s								
PB04	**IPOC Station P**	**1.04**	**186**	P	*i*	**Pn**		**15 00 55.8**	**-0.2**
PB08	**IPOC Station P**	**1.41**	**36**	P	*e*	**Pn**		**15 01 01.1**	**-0.1**
PB08				S	*e*	**Sn**		**15 01 18.5**	**-0.6**
PB08					IAML			15 01 20.4	
	comp=E,905nm,0.4s								
PB08	**IPOC Station P**	**1.41**	**36**	P	*i*	**Pn**		**15 01 00.7**	**-0.5**
PB06	**IPOC Station P**	**1.47**	**163**	P	*e*	**Pn**		**15 01 01.4**	**-0.5**
PB06				S	*i*	**Sb**		**15 01 21.2**	**-0.5**
PB06					IAML			15 01 24.6	
	comp=E,291nm,0.2s								
PB06	**IPOC Station P**	**1.47**	**163**	P	*i*	**Pn**		**15 01 01.6**	**-0.2**
PB11	**IPOC Station P**	**1.56**	**13**	⇓P	*i*	**Pn**		**15 01 03.0**	**-0.1**
PB11				S	*i*	**Sn**		**15 01 23.6**	**+0.9**
PB11					IAML			15 01 25.3	
	comp=N,889nm,0.3s								
PB11	**IPOC Station P**	**1.56**	**13**	P	*i*	**Pn**		**15 01 02.7**	**-0.4**
LVC	**Limon Verde**	**1.67**	**142**	P	*e*	**Pn**		**15 01 05.5**	**+0.6**
LVC				S	*e*	**Sn**		**15 01 25.7**	**0.0**
LVC					IAML			15 01 28.9	
	comp=N,890nm,0.4s								
LVC	**Limon Verde**	**1.67**	**142**	P	*i*	**Pn**		**15 01 05.1**	**+0.3**
GO01	**Chusmiza**	**1.79**	**26**	P	*e*	**Pn**		**15 01 07.3**	**+0.7**
GO01				S	*e*	**Sn**		**15 01 29.1**	**+0.2**
GO01	**Chusmiza**	**1.79**	**26**	P	*i*	**Pn**		**15 01 06.9**	**+0.3**
PB15	**IPOC Station P**	**1.98**	**165**	P	*e*	**Pn**		**15 01 09.6**	**+0.7**
PB15	**IPOC Station P**	**1.98**	**165**	P	*i*	**Pn**		**15 01 09.5**	**+0.7**
AF01	**San Pedro de A**	**2.38**	**134**	P	*e*	**Pn**		**15 01 16.4**	**+1.9**

*IDC **08** 15:01:04.1±0.9, 37°.43N×70°.25E, h0km, mb4.1/18, mbtmp4.2/24, ML3.9/6, MS3.6/3, Error ellipse: s-maj=17.1km s-min=12.7km az=156.0*
*NNC **08** 15:01:06.6±3.3, 37°.74N×69°.81E, h6km±18km, mb4.5, mpv4.5, Error ellipse: s-maj=26.8km s-min=16.8km az=173.0*
*BJI **08** 15:01:07.5, 37°.72N×69°.98E, h32km, mb4.5/18, mB4.9/8, ML4.1/3, Ms3.8/7, Ms7 3.7/7*
*MOS **08** 15:01:07.1±1.3, 37°.68N×70°.19E, h17km, mb4.4/15, Error ellipse: s-maj=7.0km s-min=3.5km az=74.2*
*NEIC **08** 15:01:07.8±1.9, 37°.66N±0°.03×70°.23E±0°.04, h15km±4km, mb4.6/37, Error ellipse: s-maj=5.0km s-min=3.4km az=220.0*

ISC 08 15:01:10.1±0.4, 37°66N±0°.04×70°14E±0°.04, h30km, n213, σ1°98/228, mb4.4/46, MS3.7/3, 12C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIMJ	**Simiganj**	**1.34**	**318**	Pn		**Pn**		**15 01 32.4**	**-0.5**
SIMJ				Sn		**Sn**		**15 01 48.9**	**-0.9**
GAR	**Garm**	**1.34**	**6**	Pn		**Pn**		**15 01 32.5**	**-0.5**
DRK	**Karamyk**	**2.23**	**35**			**Pn**		**15 01 47.1**	**+1.8**
DRK	**Karamyk**	**2.23**	**35**	PN		**Pn**		**15 01 47.1**	**+1.8**
BTK	**Batken**	**2.45**	**12**	Pn		**Pn**		**15 01 50.5**	**+2.4**
BTK	**Batken**	**2.45**	**12**	PN		**Pn**		**15 01 50.6**	**+2.4**
KBL	**Kabul**	**3.24**	**196**			**Pn**		**15 02 02.0**	**+2.9**
KBL	**Kabul**	**3.24**	**196**	PN		**Pn**		**15 02 02.0**	**+2.9**
ARSB	**Arslanbob**	**4.27**	**30**	Pn		**Pn**		**15 02 12.6**	**-0.6**
ARSB	**Arslanbob**	**4.27**	**30**	PN		**Pn**		**15 02 12.6**	**-0.6**
IUG	**Iuzhnay**	**4.48**	**359**	*e*P		**Pn**		**15 02 17.2**	**+1.2**
IUG				*e*S		**Sn**		**15 03 09.0**	**+1.8**
IUG	**Iuzhnay**	**4.48**	**359**	*e*PN		**Pn**		**15 02 17.2**	**+1.2**
IUG				*e*S		**Sn**		**15 03 09.0**	**+1.8**
NIL	**Nilore**	**4.74**	**147**			**Pn**		**15 02 20.8**	**+1.3**
NIL	**Nilore**	**4.74**	**147**	PN		**Pn**		**15 02 20.8**	**+1.3**
KSH	**Kashi**	**4.93**	**66**	Pn		**Pn**		**15 02 19.2**	**-3.0**
KSH				Sn		**Sn**		**15 03 14.7**	**-3.6**
KSH				smax		smax			
	comp=N,300nm,0.6s								
KSH				smax		smax			
	comp=E,450nm,0.8s								
AML	**Almayashu**	**5.23**	**30**	P		**Pn**		**15 02 28.0**	**+1.4**
	SNR=97								
DZA	**Taraz**	**5.30**	**9**	*e*Pn		**Pn**		**15 02 28.1**	**+0.8**
DZA	**Taraz**	**5.30**	**9**	*e*PN		**Pn**		**15 02 28.0**	**+0.8**
BRLS	**Borolday**	**5.37**	**358**	*e*P		Pn		15 02 25.4	-2.8
BRLS				*e*S		**Sn**		**15 03 24.6**	**-4.4**
BRLS	**Borolday**	**5.37**	**358**	*e*PN		Pn		15 02 25.4	-2.8
KK31	**Karatay Array**	**5.44**	**3**	Pn		**Pn**		**15 02 30.1**	**+0.8**
	7.3nm,0.5s,baz=184,slow=13,SNR=114								
KK31				Pg		**Pb**		**15 02 45.6**	**+1.2**
	38nm,0.6s,baz=172,slow=14,SNR=8.9								
KK31				⇑Lg		Lg		15 03 56.7	
	109nm,0.7s,baz=184,slow=29,SNR=6.4								
KK31	**Karatay Array**	**5.44**	**3**	*e*PN		**Pn**		**15 02 30.0**	**+0.8**
KK31				*e*				15 02 48.9	
KKAR	**Karatay Array**	**5.44**	**3**	Pn		**Pn**		**15 02 28.8**	**-0.4**
KKAR	**Karatay Array**	**5.44**	**3**	Pn		**Pn**		**15 02 29.0**	**-0.2**
KKAR	**Karatay Array**	**5.44**	**3**	PN		**Pn**		**15 02 29.0**	**-0.2**
UCH	**Uchtor**	**5.66**	**35**	P		**Pn**		**15 02 34.7**	**+2.1**
	SNR=5.5								
EKS2	**Erkin-Say**	**5.72**	**28**	P		**Pn**		**15 02 35.7**	**+2.6**
	SNR=17								
NRN	**Naryn**	**5.89**	**48**	Pn		**Pn**		**15 02 35.9**	**+0.3**
NRN	**Naryn**	**5.89**	**48**	PN		**Pn**		**15 02 35.9**	**+0.3**
AAK	**Ala-Archa**	**5.98**	**32**	Pn		**Pn**		**15 02 37.1**	**+0.4**
AAK	**Ala-Archa**	**5.98**	**32**	Pn		**Pn**		**15 02 39.0**	**+2.3**
	23nm,0.3s,baz=202,slow=5.3,SNR=221								
AAK				Sn		**Sn**		**15 03 40.4**	**-3.9**
	baz=185,slow=23								
AAK				Lg		Lg		15 04 12.4	
	baz=263,slow=23								
	44nm,0.3s								
AAK	**Ala-Archa**	**5.98**	**32**	*d*PN		**Pn**		**15 02 38.0**	**+1.3**
FRU1	**Bishkek**	**6.18**	**32**			**Pn**		**15 02 39.2**	**-0.1**
FRU1	**Bishkek**	**6.18**	**32**	PN		**Pn**		**15 02 39.3**	**-0.1**
KBK	**Karagaybulak**	**6.20**	**35**	P		**Pn**		**15 02 43.9**	**+4.1**
	SNR=27								
JMU	**Jammu**	**6.29**	**140**	*e*S		**Sn**		**15 03 53.0**	**+1.5**
CHMS	**Chumysh**	**6.39**	**32**	P		**Pn**		**15 02 43.6**	**+1.4**
	SNR=65								
CHMS	**Chumysh**	**6.39**	**32**	⇑Pn		**Pn**		**15 02 42.6**	**+0.4**
	65nm,0.5s								
CHMS				⇑Sn		**Sn**		**15 03 57.1**	**+3.0**
	21nm,0.6s								
CHMS				⇓Lg		Lg		15 04 29.2	
	52nm,0.8s								
CHMS	**Chumysh**	**6.39**	**32**	PN		**Pn**		**15 02 42.5**	**+0.4**
CHMS				S		**Sn**		**15 03 57.1**	**+3.0**
USP	**Ospenovka**	**6.51**	**29**	P		**Pn**		**15 02 45.0**	**+1.1**
	SNR=142								
ULHL	**Ulahol**	**6.55**	**44**	P		**Pn**		**15 02 45.9**	**+1.3**
	SNR=12								
BOOM	**Boomskoye usch**	**6.56**	**41**	Pn		**Pn**		**15 02 44.7**	**+0.1**
BOOM	**Boomskoye usch**	**6.56**	**41**	PN		**Pn**		**15 02 44.7**	**+0.1**
TKM2	**Tokmak 2**	**6.71**	**37**	P		**Pn**		**15 02 48.4**	**+1.7**
	SNR=32								
TKM2	**Tokmak 2**	**6.71**	**37**	⇓Pn		**Pn**		**15 02 48.2**	**+1.4**
	20nm,0.4s								
TKM2				⇓Sn		**Sn**		**15 04 07.8**	**+5.7**
	12nm,0.7s								
TKM2	**Tokmak 2**	**6.71**	**37**	*i* PN		**Pn**		**15 02 48.1**	**+1.4**
TKM2				pmax		pmax			
	comp=Z,20nm,0.4s								
SGDS	**Sogindy**	**6.72**	**29**	*e*P		**Pn**		**15 02 47.3**	**+0.6**
SGDS				*e*S		**Sn**		**15 04 03.3**	**+1.1**
SGDS	**Sogindy**	**6.72**	**29**	*e*PN		**Pn**		**15 02 47.3**	**+0.6**
SGDS				*e*S		**Sn**		**15 04 03.3**	**+1.1**
THN	**Thein Dam**	**6.93**	**137**	*e*P		**Pn**		**15 02 52.8**	**+3.1**
THN				*e*S		**Sn**		**15 04 08.2**	**+0.7**
THN				IAML				15 04 27.6	
	comp=E,104nm,0.6s								
THN				IAML				15 04 47.8	
	comp=N,96nm,0.3s								
KDJ	**Kajisay**	**7.01**	**48**	Pn		**Pn**		**15 02 50.3**	**-0.6**
KDJ	**Kajisay**	**7.01**	**48**	PN		**Pn**		**15 02 50.3**	**-0.6**
TARG	**Taragay, Kyrgy**	**7.17**	**53**	Pn		**Pn**		**15 02 53.5**	**+0.2**
TARG	**Taragay, Kyrgy**	**7.17**	**53**	PN		**Pn**		**15 02 53.5**	**+0.2**
HRA	**Herat**	**7.19**	**245**	Pn		**Pn**		**15 02 52.9**	**-0.4**
DHRM	**DHARAMSHALA**	**7.39**	**135**	*e*P		**Pn**		**15 02 58.6**	**+2.5**
DHRM				*e*S		**Sn**		**15 04 22.8**	**+3.6**
DHRM				IAML				15 04 28.6	
	comp=E,237nm,0.4s								
DHRM				IAML				15 04 30.4	
	comp=E,169nm,0.5s								
TNSS	**Tian-Shan**	**7.47**	**42**	*e*Pn		**Pn**		**15 02 58.3**	**+1.0**
TNSS	**Tian-Shan**	**7.47**	**42**	*e*P		**Pn**		**15 02 58.3**	**+1.0**
AAA	**Alma-Ata**	**7.57**	**41**	*e*Pn		**Pn**		**15 03 00.5**	**+2.0**
AAA	**Alma-Ata**	**7.57**	**41**	*e*P		**Pn**		**15 03 00.4**	**+2.0**
MDOK	**Medeo**	**7.61**	**42**	⇓Pn		**Pn**		**15 03 00.7**	**+1.6**
	comp=E,20nm,0.5s								
MDOK				⇓Sn		**Sn**		**15 04 29.3**	**+5.0**
	comp=E,26nm,1.1s								
MDOK	**Medeo**	**7.61**	**42**	*e*Pn		**Pn**		**15 03 01.1**	**+2.0**
MDOK	**Medeo**	**7.61**	**42**	P		**Pn**		**15 03 00.7**	**+1.6**
MDOK				S		**Sn**		**15 04 29.3**	**+5.0**
WUS	**Wushi**	**7.86**	**60**	Pn		**Pn**		**15 03 01.9**	**-0.6**
BTLS	**Baital**	**7.93**	**20**	*e*Pn		**Pn**		**15 03 04.5**	**+1.1**
BTLS				*e*Pg		Pb		15 03 33.8	+7.0
BTLS	**Baital**	**7.93**	**20**	*e*P		**Pn**		**15 03 04.4**	**+1.1**
PRZ	**Przheval'sk**	**7.95**	**50**	Pn		**Pn**		**15 03 01.7**	**-2.1**
PRZ	**Przheval'sk**	**7.95**	**50**	P		**Pn**		**15 03 01.7**	**-2.1**
BHK	**Bhakra**	**8.10**	**138**	*ex*		x		15 03 09.4	
BHK				*ex*		x		15 04 36.1	
SATY	**Saty**	**8.29**	**47**	*e*Pn		**Pn**		**15 03 11.0**	**+2.6**
SATY	**Saty**	**8.29**	**47**	*e*P		**Pn**		**15 03 11.0**	**+2.6**
KPKS	**Kokpek**	**8.71**	**46**	*e*Pn		**Pn**		**15 03 14.2**	**+0.2**
KPKS	**Kokpek**	**8.71**	**46**	*e*P		**Pn**		**15 03 14.2**	**+0.2**
UZB	**Uzynbulak**	**8.71**	**48**	*e*Pn		**Pn**		**15 03 14.4**	**+0.3**
UZB	**Uzynbulak**	**8.71**	**48**	*e*P		**Pn**		**15 03 14.4**	**+0.3**
SMLA	**Simla**	**8.72**	**136**	*e*P		**Pn**		**15 03 15.3**	**+1.1**
SMLA				*e*S		**Sn**		**15 04 51.9**	**+0.4**
SMLA				IAML				15 04 57.4	
	comp=E,79nm,0.8s								
SMLA				IAML				15 04 57.8	
	comp=E,55nm,0.5s								
SHLS	**Shalkode**	**8.98**	**49**	*e*Pn		**Pn**		**15 03 21.4**	**+3.6**
SHLS	**Shalkode**	**8.98**	**49**	*e*P		**Pn**		**15 03 21.4**	**+3.6**
KLP	**Kalpa**	**9.05**	**130**	*e*P		**Pn**		**15 03 21.1**	**+2.1**
KLP				*e*S		**Sn**		**15 04 57.7**	**-2.4**
KLP				IAML			

MAK	Makhachkala	18.04	294	eP	Pn	15 05 16.8	-1.6
MAK				eS	Sn	15 08 38.6	0.0
MAK				pmax	pmax		
comp=Z,155nm,1.0s							
ZAA0	Zalesovo Array	19.17	27	⇓P	P	15 05 29.8	-1.2
comp=Z,2.3nm,0.7s							
ZAA0	Zalesovo Array	19.17	27	P	P	15 05 27.1	-3.8
ZAA0				IAmb	IAmb	15 05 34.2	
comp=Z,17nm,0.7s							
ZALV	Zalesovo Beam	19.17	27	P	P	15 05 29.4	-1.5
comp=Z,2.1nm,0.3s,baz=212,slow=10,SNR=55							
comp=Z,18nm,0.6s							
ZALV	Zalesovo Beam	19.17	27	eP	P	15 05 29.7	-1.3
ZALV				pmax	pmax		
comp=Z,2.0nm,0.3s							
GOMU	GeErMu	19.77	87	P	P	15 05 37.1	-1.0
GOMU				pmax	pmax		
comp=Z,4.0nm,1.0s							
ARTI	Arti	20.32	341		P	15 05 43.3	-0.3
ARTI				IAmb	IAmb	15 05 48.3	
comp=Z,19nm,0.8s							
ARTI	Arti	20.32	341	P	P	15 05 43.8	+0.2
comp=Z,20nm,0.8s,baz=172,slow=5.7,SNR=10							
comp=Z,20nm,0.8s							
ARTI	Arti	20.32	341	c iP	P	15 05 44.4	+0.9
ARTI						15 05 59.1	
ARTI				S	S	15 09 33.6	+4.0
ARTI				SS	SnSn	15 09 52.3	+4.1
ARTI				pmax	pmax		
comp=Z,19nm,0.8s							
KBZ	Khabaz	21.48	295	P	P	15 05 55.9	-0.2
comp=Z,1.8nm,0.6s,baz=164,slow=13,SNR=4.4							
comp=Z,1.8nm,0.6s							
KBZ	Khabaz	21.48	295	i P	P	15 05 57.7	+1.7
KBZ				pmax	pmax		
comp=Z,7.0nm,0.9s							
BELG	Belogornoye	21.56	320	P	P	15 05 56.1	-0.7
comp=Z,47nm,0.9s,baz=146,slow=1.8,SNR=8.5							
comp=Z,47nm,0.9s							
BELG	Belogornoye	21.56	320	i P	P	15 05 58.3	+1.5
BELG				pmax	pmax		
comp=Z,8.0nm,0.9s							
SHA1	Shidzhatmaz	21.65	295	i P	P	15 05 59.2	+1.0
KIV	Kislovodsk	21.66	296	P	P	15 05 56.9	-1.2
KIV	Kislovodsk	21.66	296	eP	P	15 06 01.1	+3.0
KIV				eS	S	15 10 01.7	+5.4
KIV				pmax	pmax		
comp=Z,12nm,1.0s							
GTA	Gaotai	23.23	76	P	P	15 06 15.7	+0.8
GTA				pmax	pmax		
comp=Z,9.0nm,1.1s							
RAYN	Ar Rayn	25.37	243	P	P	15 06 34.9	+0.2
RAYN	Ar Rayn	25.37	243	P	P	15 06 34.9	+0.2
RAYN				pmax	pmax		
comp=Z,4.0nm,0.7s							
VSR	Storozhevoye	25.71	312	eP	P	15 06 39.4	+1.9
VSR				pmax	pmax		
comp=Z,8.0nm,0.9s							
MOY	Mondy	25.80	47	eP	P	15 06 40.2	+1.8
MOY				pmax	pmax		
comp=Z,17nm,1.5s							
SONM	Songino Array	28.26	57	P	P	15 07 00.1	-0.6
comp=Z,0.9nm,0.5s,baz=270,slow=8.8,SNR=6.1							
SONM				LR	LR	15 19 15.6	
comp=Z,136nm,20.8s,baz=198,slow=38							
comp=Z,0.9nm,0.5s							
SONM	Songino Array	28.26	57	eP	P	15 07 00.8	+0.1
SONM				pmax	pmax		
comp=Z,1.0nm,0.5s							
BRTR	Keskin Array B	28.45	286	P	P	15 07 03.3	+0.9
comp=Z,0.2nm,0.3s,baz=106,slow=8.6,SNR=2.4							
comp=Z,0.2nm,0.3s							
OBN	Obninsk	28.61	318⇑	eP	P	15 07 06.9	+3.4
OBN				e		15 07 53.9	
OBN				pmax	pmax		
comp=Z,3.0nm,0.8s							
OBN				MLR	MLR		
comp=Z,205nm,21.0s							
PZH	PanZhiHua	28.86	103	P	P	15 07 07.0	+0.8
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,100nm,6.5s							
KLMR	Klimovskoe	30.13	330	eP	P	15 07 18.7	+1.8
KLMR				pmax	pmax		
comp=Z,19nm,1.5s							
XAN	Xi'an	31.49	85	eP	P	15 07 30.7	+1.4
AKASG	Malin Array Be	31.69	308	P	P	15 07 31.6	+0.9
comp=Z,0.7nm,0.5s,baz=83,slow=6.9,SNR=11							
comp=Z,0.7nm,0.5s							
AKASG	Malin Array Be	31.69	308	eP	P	15 07 34.3	+3.5
AKASG				pmax	pmax		
comp=Z,2.0nm,0.5s							
AKBB	Malin Array Si	31.69	308	P	P	15 07 30.6	-0.2
AKBB	Malin Array Si	31.69	308	i P	P	15 07 33.4	+2.6
AKBB				pmax	pmax		
comp=Z,2.0nm,0.9s							
KIEV	Kiev	31.70	308	P	P	15 07 30.5	-0.3
KIEV	Kiev	31.70	308	P	P	15 07 30.5	-0.3
KIEV				pmax	pmax		
comp=Z,3.0nm,0.7s							
ELL	Elmali	31.89	281	P	P	15 07 33.2	+0.4
ELL	Elmali	31.89	281	P	P	15 07 33.2	+0.4
ELL				pmax	pmax		
comp=Z,14nm,0.6s							
HHC	Hu-ho-hao-te	32.02	71	eP	P	15 07 34.4	+0.5
HHC				pmax	pmax		
comp=Z,8.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,87nm,6.2s							
PHRA	Phrae	32.48	118	P	P	15 07 37.8	-0.2
NRIK	Noril'sk	33.12	11	P	P	15 07 41.5	-1.6
NRIK				IAmb	IAmb	15 07 47.6	
comp=Z,9.6nm,1.1s							
NRIK	Noril'sk	33.12	11	i P	P	15 07 43.9	+0.9
NRIK				pmax	pmax		
comp=Z,9.0nm,1.1s							
VSU	Vasula	34.85	321	i P	P	15 07 58.0	-0.2
VSU				pmax	pmax		
comp=Z,5.0nm,1.0s							
LVZ	Lovozero	36.13	338	P	P	15 08 07.8	-1.4
LVZ	Lovozero	36.13	338	P	P	15 08 07.8	-1.4
LVZ				pmax	pmax		
comp=Z,74nm,1.5s							
FIA1	FINESS Array S	36.14	325	P	P	15 08 08.1	-1.1
FINES	FINESS Array B	36.14	325	P	P	15 08 08.4	-0.9
comp=Z,1.5nm,0.5s,baz=119,slow=12,SNR=9.9							
comp=Z,1.5nm,0.5s							
FINES	FINESS Array B	36.14	325	eP	P	15 08 09.5	+0.3
FINES				pmax	pmax		
comp=Z,3.0nm,0.7s							
VYHS	Vyhne	38.34	303	eP	P	15 08 31.6	+3.4
VYHS	Vyhne	38.34	303	eP	P	15 08 31.5	+3.4
KEV	Kevo	39.47	338	P	P	15 08 36.6	-0.6
KEV	Kevo	39.47	338	P	P	15 08 36.6	-0.6
KEV				pmax	pmax		
comp=Z,41nm,1.5s							
ARCES	ARCESS Array B	39.81	337	P	P	15 08 40.0	-0.2
comp=Z,3.8nm,0.7s,baz=102,slow=7.5,SNR=17							
comp=Z,3.8nm,0.7s							
ARCES	ARCESS Array B	39.81	337	P	P	15 08 40.0	-0.2
NJ2	Nanjing	40.00	83	eP	P	15 08 43.4	+1.2
NJ2				pmax	pmax		
comp=Z,8.0nm,0.6s							
NJ2				pmax	pmax		
comp=Z,150nm,3.6s							
HFS	Hagfors	41.73	321	P	P	15 08 56.4	+0.3
comp=Z,4.2nm,0.5s,baz=98,slow=11,SNR=7.3							
comp=Z,4.2nm,0.5s							
HEH	HeiHe	42.10	54	eP	P	15 08 59.1	-0.1
HEH				pmax	pmax		
comp=Z,10.0nm,0.6s							
NC303	NORSAR Array S	42.98	323	P	P	15 09 05.2	-1.0
NC303				IAmb	IAmb	15 09 35.8	
comp=Z,17nm,1.4s							
NB201	NORSAR Array S	43.01	322	P	P	15 09 05.0	-1.4
NB201				IAmb	IAmb	15 09 20.0	
comp=Z,18nm,1.4s							
NB2	NORSAR Subarra	43.04	322	P	P	15 09 06.9	+0.1
comp=Z,3.5nm,0.7s,baz=96,slow=8.6							
NB2	NORSAR Subarra	43.04	322	P	P	15 09 10.8	+4.0
NOA	NORSAR Array B	43.04	322	P	P	15 09 06.9	+0.1
comp=Z,2.8nm,0.7s,baz=96,slow=8.0,SNR=13							
comp=Z,2.8nm,0.7s							
NBO00	NORSAR Array S	43.25	322	P	P	15 09 07.4	-1.1
NBO00				IAmb	IAmb	15 09 39.2	
comp=Z,13nm,1.2s							
NC204	NORSAR Array S	43.28	323	P	P	15 09 07.9	-0.9
NC204				IAmb	IAmb	15 09 47.9	
comp=Z,21nm,1.4s							
YAK	Yakutsk	43.43	36	P	P	15 09 08.0	-1.7
YAK				IAmb	IAmb	15 09 13.1	
comp=Z,11nm,0.8s							
GSI	Gunungsitoli	44.12	139	P	P	15 09 14.5	-1.4
TIXI	Tiksi	44.96	23	P	P	15 09 21.3	-0.6
TIXI	Tiksi	44.96	23	P	P	15 09 21.6	-0.4
comp=Z,9.6nm,0.8s,baz=287,slow=5.2,SNR=14							
comp=Z,9.6nm,0.8s							
TIXI	Tiksi	44.96	23	P	P	15 09 21.3	-0.6
TIXI				pmax	pmax		
comp=Z,10.0nm,0.8s							
KSAR	Wonju Array Be	45.13	72	P	P	15 09 21.9	-1.9
SPITS	Spitsbergen Ar	46.21	347	P	P	15 09 31.1	-0.6
comp=Z,2.5nm,0.6s,baz=85,slow=9.3,SNR=1.2							
comp=Z,2.5nm,0.6s							
KBS	Kingsbay	47.33	347	P	P	15 09 40.5	0.0
KBS	Kingsbay	47.33	347	P	P	15 09 40.5	0.0
KBS				pmax	pmax		
comp=Z,62nm,1.5s							
BILL	Bilibino	57.87	26	P	P	15 10 58.7	+0.1
BILL				IAmb	IAmb	15 11 03.0	
comp=Z,3.4nm,0.7s							
BILL	Bilibino	57.87	26	i P	P	15 10 58.8	+0.2
BILL				pmax	pmax		
comp=Z,3.0nm,0.8s							
TORD	Torodi Ar. Bea	65.07	268	P	P	15 11 47.0	-1.1
comp=Z,1.0nm,0.6s,baz=39,slow=5.8,SNR=7.0							
comp=Z,1.0nm,0.6s							
E18K	Tukpahlearik C	68.45	19	P	P	15 12 09.0	+0.2
D23K	Nanushuk River	69.48	15	P	P	15 12 15.3	+0.1
D23K				IAmb	IAmb	15 12 40.4	
comp=Z,7.1nm,1.4s							
E22K	Anaktuvuk Pass	69.94	15	P	P	15 12 18.2	+0.2
E22K				IAmb	IAmb	15 12 25.9	
comp=Z,7.4nm,1.5s							
TOLK	Toolik Lake Re	69.97	14	P	P	15 12 18.6	+0.3
IMAR	Indian Mountai	71.27	17	P	P	15 12 25.5	-0.6
BMAR	Burnt Mountain	71.97	13	P	P	15 12 31.3	+0.9
INK	Inuvik	72.87	9	P	P	15 12 36.1	+0.5
comp=Z,1.8nm,0.5s,baz=290,slow=4.6,SNR=9.0							
comp=Z,1.8nm,0.5s							
G30M	tAoh Zraii Nji	73.75	10	P	P	15 12 41.3	+0.4
G30M				IAmb	IAmb	15 12 52.0	
comp=Z,8.1nm,1.4s							
CAST	Castle Rocks	73.80	18	P	P	15 12 41.6	+0.3
ILAR	Eielson Array	73.85	16	P	P	15 12 40.7	-0.8
comp=Z,0.8nm,0.9s,baz=324,slow=4.8,SNR=5.8							
comp=Z,0.8nm,0.9s							
ILAR	Eielson Array	73.85	16	eP	P	15 12 41.4	-0.1
ILAR				pmax	pmax		
comp=Z,1.0nm,0.9s							
I30M	Mount Dempster	75.37	11	P	P	15 12 50.6	+0.1
JAY	Jayapura	76.27	104	LR	LR	15 51 19.1	
comp=Z,55nm,18.0s,baz=303,slow=40							
M24K	Tolsona, Glenn	76.34	17	P	P	15 12 56.4	+0.4
BCAR	Beaver Creek A	76.41	14	P	P	15 12 56.8	+0.4
K29M	Barlow Dome	76.47	12	P	P	15 12 57.1	+0.4
K29M				IAmb	IAmb	15 13 01.2	
comp=Z,8.1nm,1.4s							
YKA	Yellowknife Ar	80.12	2	P	P	15 13 17.3	+0.6
comp=Z,1.0nm,0.6s,baz=306,slow=9.3,SNR=5.6							
comp=Z,1.0nm,0.6s							
YKA	Yellowknife Ar	80.12	2	i P	P	15 13 20.9	+4.2
YKA				pmax	pmax		
comp=Z,1.0nm,0.5s							
WRA	Warramunga Arr	83.18	121	P	P	15 13 31.0	-2.5
comp=Z,0.3nm,0.7s,baz=322,slow=5.0,SNR=1.8							
comp=Z,0.3nm,0.7s							
ASAR	Alice Springs	85.48	124	P	P	15 13 43.0	-2.2
comp=Z,0.3nm,0.5s,baz=302,slow=5.1,SNR=9.3							
comp=Z,0.3nm,0.5s							
ASAR	Alice Springs	85.48	124	P	P	15 13 43.0	-2.2

*TIR **08** 15:01:53.7, 37.°35N×21.°23E, h10km±1km, Md3.6, Ml3.7*
*ATH **08** 15:02:11.8, 37.°45N×20.°51E, h6km±2km, ML3.3/19, Error ellipse: s-maj=2.5km s-min=0.9km az=48.0*
*THE **08** 15:02:12.0, 37.°45N×20.°57E, h7km±11km, ML3.4/8, Error ellipse: s-maj=11.2km s-min=1.1km az=61.0*

ISC 08 15:02:11.8±1.7, 37.°45N±0.°06×20.°54E±0.°06, h9km±9km, n47, σ0°58/63, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.31	46	P	Pg	15 02 18.0	+0.1
KRI1				S	Sg	15 02 21.9	-0.1
LTHK	Lithakia	0.35	42	P	Pg	15 02 18.6	-0.1
LTHK				S	Sg	15 02 23.1	-0.3
26μm,0.4s							
LTHK	Lithakia	0.35	42	P	Pg	15 02 18.8	+0.1
LTHK				S	Sg	15 02 23.1	-0.3
LTHK				AML	AML	15 02 23.5	
comp=E,34512μm,0.3s							
LTHK				AML	AML	15 02 23.5	
comp=N,66998μm,0.5s							
RTZL	Ratzakli, Kefa	0.65	16	P	Pg	15 02 23.8	-0.6
RTZL				S	Sg	15 02 33.5	+0.6
comp=N,5μm,0.1s							
PSDA	Pessada-Kefalo	0.67	3	P	Pg	15 02 24.3	-0.3
PSDA				S	Sg	15 02 34.0	+0.7
comp=N,4μm,0.2s							
PSDA	Pessada-Kefalo	0.67	3	P	Pg	15 02 24.6	0.0
PSDA				S	Sg	15 02 33.8	+0.4
VLS	Valsamata	0.73	3	P	Pg	15 02 25.3	-0.5
VLS				S	Sb	15 02 36.2	-0.6
comp=N,3μm,0.3s							
VLS	Valsamata	0.73	3	P	Pg	15 02 25.6	-0.2
VLS				S	Sg	15 02 35.8	+0.5
VLS				AML	AML	15 02 36.5	
comp=N,7174μm,0.3s							
VLS				AML	AML	15 02 40.8	
comp=E,4989μm,0.3s							
LXRA	Lixouri, Kepha	0.75	354	P	Pg	15 02 26.2	-0.1
DMLN	Damoulianata-K	0.80	350	P	Pg	15 02 26.8	-0.4
DMLN				S	Sb	15 02 39.0	+0.2
comp=E,9μm,0.6s							
SMHA	Samh	0.81	6	P	Pg	15 02 25.9	-1.4
SMHA				S	Sg	15 02 37.0	-0.8
AMT	Artemida-Makis	0.93	85	P	Pg	15 02 29.6	-0.1
AMT				S	Sb	15 02 42.5	-0.1
AMT				AML	AML	15 02 46.4	
comp=N,6781μm,0.3s							
AMT				AML	AML	15 02 48.2	
comp=E,9196μm,0.5s							
RLS	Riolos of Patr	0.95	50	P	Pg	15 02 29.3	-0.8
RLS				S	Sb	15 02 43.1	-0.1
comp=E,2μm,0.3s							
RLS	Riolos of Patr	0.95	50	P	Pg	15 02 29.4	-0.7
RLS				S	Sg	15 02 42.5	0.0
RLS				AML	AML	15 02 45.0	
comp=E,2909μm,0.4s							
RLS				AML	AML	15 02 45.1	
comp=N,3797μm,0.3s							
VSK1	VASILIKIADES	0.96	1	P	Pg	15 02 29.6	-0.6
VSK1				S	Sb	15 02 43.9	+0.5
FSK	Fiskardo	1.01	1	P	Pg	15 02 30.3	-0.9
FSK				S	Sb	15 02 45.3	+0.5
comp=N,3μm,0.5s							
FSK	Fiskardo	1.01	1	P	Pg	15 02 30.3	-0.9
FSK				S	Sg	15 02 44.5	+0.2
FSK				AML	AML	15 02 48.5	
comp=E,5207μm,0.6s							
FSK				AML	AML	15 02 49.0	
comp=N,6348μm,0.5s							
DRO	Drossia	1.05	61	P	Pg	15 02 31.3	-0.8
DRO				S	Sn	15 02 47.4	-0.2
DRO				AML	AML	15 02 54.7	
comp=N,3722μm,0.6s							
DRO				AML	AML	15 02 55.3	
comp=E,4218μm,0.4s							
PYL	PYLOS	1.11	120	P	Pb	15 02 33.1	0.0
PYL				S	Sn	15 02 48.9	0.0
PYL				AML	AML	15 02 51.2	
comp=N,4079μm,0.4s							
PYL				AML	AML	15 02 51.4	
comp=E,4160μm,0.5s							
ITM	Ithomi	1.14	103	P	Pg	15 02 33.3	-0.3
ITM				S	Sn	15 02 49.3	-0.3
ITM				AML	AML	15 02 53.7	
comp=E,2401μm,0.6s							
ITM				AML	AML	15 02 53.8	
comp=N,1507μm,0.3s							
EVGI	Lefkada island	1.17	4	P	Pn	15 02 35.3	+0.9
EVGI				S	Sn	15 02 51.1	+0.6
comp=N,1μm,0.2s							
EVGI	Lefkada island	1.17	4	P	Pg	15 02 33.3	-1.0
EVGI				S	Sn	15 02 50.6	+0.1
DRAG	Dragano-Lefkad	1.23	1	P	Pg	15 02 34.2	-1.3
NYDR	Nydri-Lefkada	1.27	6	P	Pn	15 02 34.5	-1.2
LKD2	Lefkada island	1.34	4	P	Pn	15 02 22.5	-14
LKD2				AMP			
comp=E,6.5nm,0.7s,baz=343							
LKD2	Lefkada island	1.34	4	P	Pn	15 02 35.7	-1.0
LKD2				AML	AML	15 03 00.9	
comp=E,4217μm,0.6s							
LKD2				AML	AML	15 03 04.7	
comp=N,1820μm,0.5s							
TSLK	Tsoukalades, L	1.38	4	P	Pn	15 02 36.9	-0.3
KLV	Kalavryta, Ach	1.41	65	P	Pn	15 02 37.7	+0.1
KLV				AML	AML	15 03 06.7	
comp=N,752μm,0.7s							
KLV				AML	AML	15 03 12.9	
comp=E,617μm,0.7s							
GUR	Goura	1.51	71	P	Pn	15 02 38.9	-0.2
GUR				AML	AML	15 03 05.9	
comp=N,1130μm,0.5s							
GUR				AML	AML	15 03 08.9	
comp=E,1010μm,0.7s							
KALE	Kalithea	1.58	53	P	Pn	15 02 39.5	-0.5
KALE				AML	AML	15 03 09.4	
comp=N,1380μm,0.4s							
KALE				AML	AML	15 03 11.6	
comp=E,986μm,0.3s							
ANX	Ano Chora	1.58	43	P	Pn	15 02 39.6	-0.4
ANX				AML	AML	15 03 07.3	
comp=N,2561μm,0.6s							
ANX				AML	AML	15 03 09.7	
comp=E,2875μm,0.5s							
MAKR	Makrakomi, Fth	2.00	38	P	Pn	15 02 46.1	+0.3
MAKR				AML	AML	15 03 23.5	
comp=E,1658μm,0.6s							
MAKR				AML	AML	15 03 24.0	
comp=N,1278μm,0.7s							
LOUT	Loutraki	2.00	74	P	Pn	15 02 46.5	+0.7
IGT	Igoumenitsa	2.09	356	P	Pn	15 02 35.1	-12
IGT				AMP			
comp=N,1.2nm,0.4s,baz=343							
IGT	Igoumenitsa	2.09	356	P	Pn	15 02 47.0	0.0
IGT				AML	AML	15 03 25.8	
comp=E,792μm,0.5s							
IGT				AML	AML	15 03 26.9	
comp=N,613μm,0.4s							
AXAR	Agios Charalam	2.13	51	P	Pn	15 02 47.1	-0.4
AXAR				AML	AML	15 03 25.4	
comp=N,1619μm,0.6s							
AXAR				AML	AML	15 03 28.1	
comp=E,966μm,0.6s							
VIL2	Platees	2.29	70	P	Pn	15 02 50.3	+0.5
VIL2				AML	AML	15 03 44.3	
comp=N,260μm,0.6s							
VIL2				AML	AML	15 03 46.6	
comp=E,402μm,1.0s							
THL	Klokotos Trika	2.41	28	P	Pn	15 02 52.3	+1.0
THL				AML	AML	15 03 36.3	
comp=N,252μm,0.9s							
THL				AML	AML	15 03 39.1	
comp=E,313μm,0.7s							
SRN	Sarande	2.46	350	AMP			
comp=N,0.3nm,0.5s,baz=340							
TYRN	Tyrnavos	2.62	30	P	Pn	15 02 55.0	+0.7
DION	Dionisos Attik	2.76	76	P	Pn	15 02 56.4	+0.2
NEO	Neokhori	2.81	48	P	Pn	15 02 57.1	+0.2
NEO				AML	AML	15 03 38.5	
comp=N,334μm,0.4s							
NEO				AML	AML	15 03 41.7	
comp=E,253μm,0.9s							
SCTE	Santa Cesarea	3.08	329	P	Pn	15 02 52.9	-7.7
AOS2	Alonissos-2	3.10	56	P	Pn	15 03 00.9	0.0
FNA	Florina	3.39	11	P	Pn	15 02 52.1	-13
OHR	Ohrid	3.66	3	i Pn	Pb	15 03 17.6	+0.8
HORT	Hortiatis	3.72	32	P	Pn	15 03 09.6	+0.1

*SJA **08** 15:02:17.0, 27.°76S×71.°39W, h10km, ML3.7*
*GUC **08** 15:02:18.6±0.9, 27.°85S×71.°16W, h34km±3km, ML3.9*

ISC 08 15:02:17.8±1.4, 27.°86S±0.°04×71.°20W±0.°07, h24km±13km, n27, σ1°68/32, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	Llanos de Chal	0.36	162⇑	iP	Pb	15 02 26.7	+0.9
AC04				i S	Sn	15 02 31.7	-2.3
AC04	Llanos de Chal	0.36	162	i P	Pb	15 02 25.9	+0.1
GO03	Copiapo	0.90	73	⇓iP	Pb	15 02 35.2	+0.5
GO03				eS	Sn	15 02 45.5	-1.7
GO03	Copiapo	0.90	73	i P	Pn	15 02 34.7	-0.3
AC06	Mina Casimiro	0.90	57	eP	Pn	15 02 34.4	-0.6
AC06				i S	Sn	15 02 46.2	-1.1
LCO	Las Campanas	1.23	159	i P	Pn	15 02 40.4	+0.6
LCO				i S	Sn	15 02 55.9	+0.1
LCO	Las Campanas	1.23	159	i P	Pn	15 02 39.9	+0.2
AC01	Pan de Azucar	1.79	18⇑	iP	Pn	15 02 48.1	+0.9
AC01				i S	Sn	15 03 09.3	+0.2
AC01	Pan de Azucar	1.79	18	i P	Pn	15 02 47.4	+0.3
CO05	La Serena	2.05	181	i P	Pb	15 02 53.1	-1.3
CO05				i S	Sb	15 03 18.9	-0.6
CO05				IAML		15 03 22.2	
comp=E,762nm,0.4s							
CO01	Juntas del Tor	2.32	156	eS	Sb	15 03 25.8	-1.8
GO04	Tololo Observa	2.33	171	⇓iP	Pn	15 02 56.7	+1.8
GO04				i S	Sb	15 03 26.0	-1.8
GO04	Tololo Observa	2.33	171	i P	Pn	15 02 56.1	+1.2
AROD	Rodeo	2.75	147	i P	Pb	15 03 05.4	-1.2
CO06	Fray Jorge	2.83	188	eP	Pn	15 03 01.4	-0.2
ACDV	Cuesta del Vie	2.94	142	i P	Pb	15 03 08.8	-0.8
CO03	El Pedregal	3.00	172	eP	Pn	15 03 05.8	+1.8
CO03				eS	Sn	15 03 42.2	+2.8
CO03				IAML		15 03 56.9	
comp=E,344nm,0.7s							
CO03	El Pedregal	3.00	172	i P	Pn	15 03 06.2	+2.2
GO02	Mina Guanaco	3.05	29	eP	Pn	15 03 06.4	+1.6
GO02				IAML		15 04 02.0	
comp=E,270nm,0.7s							
GO02	Mina Guanaco	3.05	29	i P	Pn	15 03 06.6	+1.8
ACCO	Cerro Coronel	3.30	146	i P	Pb	15 03 14.0	-1.8
DOCA	Reserva Natura	3.59	150	i P	Pn	15 03 16.4	+4.0
ACLC	CERRO LA CRUZ	4.05	114	i P	Pn	15 03 22.6	+4.2
CO04	Los Peladeros	4.18	177	eP	Pn	15 03 21.6	+1.3
RTLS	Leoncito	4.26	158	i P	Pn	15 03 26.4	+4.9
AVFE	Valle Fertil	4.30	131	i P	Pn	15 03 25.5	+3.7
CYA	Choya	4.80	98	i P	Pn	15 03 31.9	+3.2

*IDC **08** 15:05:55.9±1.0, 57.°72S×147.°16W, h0km, mb4.0/6, mbtmp3.9/6, MS4.1/27, Error ellipse: s-maj=38.0km s-min=27.9km az=38.0*
*GCMT **08** 15:06:01.0±0.3, 57.°91S±0.°02×147.°35W±0.°03, h29km±1km, MW5.0/71, Moment Tensor Solution. s22,c23; s71,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}~0.07±.19; $M_{\theta\theta}$2.52±.18; $M_{\phi\phi}$-2.46±.16; $M_{r\theta}$0.95±.28; $M_{\theta\phi}$2.09±.14; $M_{\phi r}$~0.37±.23; Best double couple: $M_0$3.40600×10^{16} NP1:ϕ_s115.00000°, δ90.00000°, λ17.00000°.

993nm,25.2s
RKT Rikitea 35.72 19 *e*S **S 15 18 33.3 +0.4**
299nm,41.8s
RKT *e*LR LR 15 22 29.2
1μm,26.0s
RAR Rarotonga 37.66 341 LR LR 15 25 21.0
comp=Z,399nm,18.0s,baz=160,slow=31
PMSA Palmer Station 37.78 136 LR LR 15 24 32.9
comp=Z,226nm,18.8s,baz=262,slow=30
PPT2 Papeete2 40.16 356 *e*LR LR 15 24 28.2
369nm,23.8s
PPT2 *e*LR LR 15 24 33.1
405nm,22.5s
RPN Rapa Nui 40.52 57 LR LR 15 26 11.4
comp=Z,102nm,21.7s,baz=220,slow=30
VNA3 Neumayer Olymp 47.85 163 ⇑P **P 15 14 34.9 -0.1**
comp=Z,2.9nm,0.8s
SNAA Sanae 48.46 166 ⇑P **P 15 14 39.5 -0.1**
comp=Z,33nm,0.7s
SNAA Sanae 48.46 166 P **P 15 14 39.6 -0.1**
comp=Z,1.5nm,0.7s,baz=236,slow=10,SNR=7.7
SNAA LR LR 15 32 57.1
comp=Z,65nm,19.1s,baz=192,slow=33
comp=Z,1.5nm,0.7s
VNA2 Neumayer--Watz 48.48 164 ⇑P **P 15 14 39.7 -0.1**
comp=Z,2.2nm,0.7s,baz=209,slow=7.3
VNA1 Neumayer--Stat 48.59 163 ⇑P **P 15 14 39.8 -0.8**
comp=Z,2.8nm,0.6s
TROLL Troll, Antarti 48.80 168 ⇑P **P 15 14 42.4 0.0**
comp=Z,70nm,0.9s
DZM Mont Dzumac 48.84 297 *e*LR LR 15 28 33.1
comp=Z,220nm,26.5s
TAOE Nuku Hiva Isla 49.10 9 *e*LR LR 15 28 37.0
comp=Z,373nm,28.0s
PLCA Paso Flores 49.97 105 LR LR 15 30 57.0
comp=Z,113nm,19.2s,baz=230,slow=30
H03S2 Juan Fernandez 50.70 93 T T 16 09 45.8
baz=218,slow=74,SNR=36
H03S1 Juan Fernandez 50.71 93 T T 16 09 47.1
baz=218,slow=74,SNR=40
H03S3 Juan Fernandez 50.72 93 T T 16 09 45.7
baz=218,slow=74,SNR=42
H03N3 Juan Fernandez 50.99 92 T T 16 10 01.8
baz=221,slow=72,SNR=43
H03N2 Juan Fernandez 51.00 92 T T 16 10 00.7
baz=221,slow=72,SNR=57
H03N1 Juan Fernandez 51.01 92 T T 16 09 58.0
baz=221,slow=72,SNR=40
STKA Stephens Creek 53.82 266 P **P 15 15 21.1 +0.7**
comp=Z,1.5nm,0.8s,baz=121,slow=7.8,SNR=4.6
comp=Z,1.5nm,0.8s
CTA Charters Tower 60.77 279 LR LR 15 38 39.5
comp=Z,8.9nm,19.7s,baz=116,slow=32
ASAR Alice Springs 64.45 266 P **P 15 16 33.6 -0.6**
comp=Z,1.1nm,0.8s,baz=142,slow=6.2,SNR=9.8
ASAR LR LR 15 42 16.1
comp=Z,64nm,18.1s,baz=144,slow=34
comp=Z,1.1nm,0.8s
LVC Limon Verde 64.94 93 LR LR 15 36 38.8
comp=Z,90nm,21.8s,baz=341,slow=28
H01W1 Cape Leeuwin H 65.53 243 T T 16 28 32.0
baz=144,slow=76,SNR=9.9
H01W2 Cape Leeuwin H 65.53 243 T T 16 28 32.5
baz=144,slow=76,SNR=8.7
H01W3 Cape Leeuwin H 65.55 243 T T 16 28 33.1
baz=144,slow=76,SNR=8.9
NWAO Narrogin (SRO) 65.62 247 LR LR 15 37 59.2
comp=Z,164nm,21.9s,baz=265,slow=29
WRA Warramunga Arr 67.25 269 P **P 15 16 51.6 -0.6**
comp=Z,1.0nm,0.8s,baz=149,slow=5.8,SNR=5.9
WRA LR LR 15 42 50.0
comp=Z,163nm,20.5s,baz=353,slow=33
comp=Z,1.0nm,0.8s
CPUP Villa Florida 68.04 105 LR LR 15 43 43.3
comp=Z,68nm,18.2s,baz=30,slow=33
LPAZ La Paz 70.53 90 LR LR 15 41 34.1
comp=Z,73nm,20.8s,baz=70,slow=30
ATAH Atahualpa 72.73 76 LR LR 15 41 55.2
comp=Z,166nm,19.4s,baz=259,slow=30
FITZ Fitzroy Crossi 73.41 262 LR LR 15 45 28.5
comp=Z,215nm,21.2s,baz=152,slow=32
BATI Baumata 81.01 265 LR LR 15 50 20.3
comp=Z,214nm,21.8s,baz=174,slow=33
BDFB Brasilia 81.71 106 LR LR 15 51 22.6
comp=Z,106nm,18.3s,baz=170,slow=33
JTS Las Juntas de 84.49 61 LR LR 15 48 52.1
comp=Z,99nm,18.2s,baz=236,slow=30
ROSC El Rosal 85.02 73 LR LR 15 50 18.9
comp=Z,96nm,19.1s,baz=258,slow=31
KAPI Kappang 87.45 265 LR LR 15 54 58.5
comp=Z,135nm,20.4s,baz=153,slow=34
SUR Sutherland 89.63 170 LR LR 15 54 40.9
comp=Z,117nm,20.9s,baz=152,slow=33
SDV Santo Domingo 90.35 74 LR LR 15 54 16.7
comp=Z,96nm,18.3s,baz=46,slow=32
BOSA Boshof 93.72 173 LR LR 15 57 04.2
comp=Z,175nm,20.6s,baz=202,slow=33
PFO Pinyon Flats O 94.63 25 LR LR 15 52 39.9
comp=Z,72nm,19.9s,baz=156,slow=30
MDP Montagnes des 96.70 91 LR LR 15 57 20.4
comp=Z,55nm,18.8s,baz=168,slow=32
LBTB Lobatse 97.31 173 LR LR 15 59 22.5
comp=Z,198nm,20.8s,baz=175,slow=33
NVAR Mina Array Bea 98.86 23 P **P 15 19 38.1 +0.6**
comp=Z,0.1nm,0.3s,baz=241,slow=11,SNR=2.2
NVAR LR LR 15 53 59.7
comp=Z,79nm,21.2s,baz=122,slow=29
comp=Z,0.1nm,0.3s
ILAR Eielson Array 122.22 0 PKP **PKPdf 15 24 50.0 -1.0**
comp=Z,0.4nm,0.8s,baz=224,slow=2.5,SNR=4.6
MKAR Makanchi Array 148.52 271 PKPbc **PKPbc 15 25 43.8 +0.2**
comp=Z,3.9nm,0.9s,baz=96,slow=6.1,SNR=12
ESDC Sonseca Array 150.23 111 PKPbc **PKPbc 15 25 47.4 -0.7**
comp=Z,0.7nm,0.7s,baz=194,slow=1.2,SNR=4.9
KURBB Kurchatov Arra 152.79 275 PKPbc **PKPbc 15 25 53.1 -0.5**
comp=Z,0.4nm,0.3s,baz=131,slow=2.2,SNR=6.3

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*JMA **08** 15:13:49.9±0.1,33°.9N±0°.2×135°.5E±0°.2, h48km, MV3.0/38, CENTRAL WAKAYAMA PREF*
JMA Felt I J1 at CENTRAL WAKAYAMA PREF .
ISC 08 15:13:50.0±1.5,33°.87N±0°.07×135°.42E±0°.04, h47km±8km, n18, σ0°64/25, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWM	**Minabe**	**0.06**	**253**	P	**Pn**	**15 13 57.4**	**+0.1**
JWM				S	**Sn**	**15 14 02.7**	**+0.3**
JTNC	**Tanabenakahech**	**0.16**	**107**	P	**Pn**	**15 13 57.7**	**-0.1**
JTNC				S	**Sn**	**15 14 03.2**	**-0.1**
JWY	**Kouya**	**0.38**	**22**	*i* P	**Pn**	**15 13 59.6**	**-0.1**
JWY				S	**Sn**	**15 14 06.3**	**-0.3**
JAWN	**Awajishima-nag**	**0.75**	**325**	P	**Pn**	**15 14 04.4**	**+0.1**
JAWN				S	**Sn**	**15 14 14.9**	**+0.2**
JKN2	**Miekihoku**	**0.80**	**62**	*i* P	**Pn**	**15 14 04.4**	**-0.5**
JKN2				S	**Sn**	**15 14 14.8**	**-0.9**
JAI	**Aioi**	**0.81**	**265**	*i* P	**Pn**	**15 14 05.1**	**0.0**
JHE	**Heguri**	**0.81**	**15**	*i* P	**Pn**	**15 14 04.7**	**-0.4**
JHE				S	**Sn**	**15 14 15.6**	**-0.6**
TSUJ	**Tsu 2**	**1.18**	**44**	*i* P	**Pn**	**15 14 09.3**	**-0.7**
JIE	**Ise**	**1.19**	**63**	*i* P	**Pn**	**15 14 09.7**	**-0.5**
JIE				S	**Sn**	**15 14 25.5**	**+0.3**
JKS	**Kasai**	**1.21**	**337**	P	**Pn**	**15 14 10.3**	**-0.2**
JMN	**Monobe**	**1.29**	**264**	P	**Pn**	**15 14 11.4**	**-0.2**
JMN	**Monobe**	**1.29**	**264**	*i* P	**Pn**	**15 14 11.4**	**-0.2**
JMN				S	**Sn**	**15 14 27.2**	**-0.6**
JJS	**Sakaide**	**1.34**	**293**	*i* P	**Pn**	**15 14 12.1**	**-0.1**
INU	**Inuyama**	**1.98**	**41**	P	**Pn**	**15 14 21.7**	**+0.7**
JGF	**Kuroka**	**2.35**	**42**	P	**Pn**	**15 14 26.1**	**-0.1**
JSG	**Sagara**	**2.43**	**70**	P	Pn	15 14 34.4	+7.3
MAJO	**Matsushiro**	**3.51**	**40**	P	**Pn**	**15 14 44.2**	**+2.1**
JNU	**Nakatsue**	**3.87**	**260**	P	**Pn**	**15 14 47.4**	**+0.4**

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*IDC **08** 15:25:11.2±1.1, 12°.61S×45°.32E, h0km, mb4.2/5, mbtmp4.3/7, ML4.3/2, MS3.3/4, Error ellipse: s-maj=33.0km s-min=30.3km az=79.0*
*NEIC **08** 15:25:12.6±1.7, 12°.74S±0°.02×45°.5E±0°.1, h10km±2km, mb4.3/7, Error ellipse: s-maj=23.3km s-min=3.7km az=84.0*
ISC 08 15:25:12.1±0.6,**12°.58S**±0°.07×**45°.43E**±0°.09,**h10**km,**n26,** σ2°02/25,**mb4.4**/8,**2C,Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**6.19**	**164**	Pn	**Pn**	**15 26 42.3**	**-1.4**
	3.3nm,0.3s,baz=338,slow=12,SNR=33						
OPO				LR	LR	15 29 11.8	
	comp=Z,166nm,19.1s,baz=172,slow=39						
	52nm,0.3s						
ABPO	**Ambohimpanom**	**6.63**	**165**		**Pn**	**15 26 47.9**	**-1.9**
VOI	**Vohitsoka**	**9.36**	**172**	Pn	**Pn**	**15 27 24.9**	**-2.4**
FOMA	**Nahampoana Res**	**12.41**	**173**	Pn	**Pn**	**15 28 06.7**	**-2.2**
KIBK	**Kibwezi**	**12.53**	**324**		**Pn**	**15 28 12.8**	**+2.1**
MSEY	**Mahe Island**	**12.66**	**52**	Pn	**Pn**	**15 28 12.3**	**-0.1**
RER	**Riviere de l'E**	**13.04**	**132**	Pn	**Pn**	**15 28 12.9**	**-4.7**
KMBO	**Kilima Mbogo**	**13.97**	**324**	Pn	**Pn**	**15 28 29.6**	**-0.9**
	0.3nm,0.3s,baz=82,slow=23,SNR=1.7						
KMBO				Sn	**Sn**	**15 31 01.4**	**-4.6**
	0.2nm,0.3s,baz=50,slow=22,SNR=1.9						
	1.2nm,0.5s						
LSZ	**Lusaka**	**16.95**	**259**	P	**Pn**	**15 29 09.9**	**+0.2**
MBAR	**Mbarara**	**18.82**	**308**	LR	LR	15 36 21.5	
	comp=Z,85nm,19.8s,baz=84,slow=36						
POGA	**Pongola**	**19.52**	**219**	P	**P**	**15 29 38.5**	**-1.2**
POGA				IAmb	IAmb	15 29 50.5	
	comp=Z,7.4nm,0.8s						
LBTB	**Lobatse**	**22.45**	**234**	P	**P**	**15 30 10.5**	**-1.0**
LBTB				IAmb	IAmb	15 30 14.8	
	comp=Z,8.7nm,0.9s						
BOSA	**Boshof**	**24.66**	**227**	P	**P**	**15 30 32.7**	**-0.6**
BOSA				IAmb	IAmb	15 30 46.7	
	comp=Z,9.0nm,1.2s						
BOSA	**Boshof**	**24.66**	**227**	P	**P**	**15 30 33.1**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=51,slow=8.0,SNR=8.5						
	comp=Z,2.6nm,0.6s						
SUR	**Sutherland**	**29.96**	**225**	P	**P**	**15 31 20.8**	**-0.2**
GNI	**Garni**	**52.47**	**359**	LR	LR	15 57 05.4	
	comp=Z,39nm,18.1s,baz=337,slow=36						
MAW	**Mawson**	**56.16**	**172**	P	**P**	**15 34 51.8**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=348,slow=5.8,SNR=6.0						
MAW				LR	LR	15 52 56.9	
	comp=Z,34nm,21.5s,baz=323,slow=30						
	comp=Z,1.1nm,0.7s						
ABKAR	**Akbulak array**	**62.89**	**11**	P	**P**	**15 35 41.2**	**+2.9**
ABKAR				IAmb	IAmb	15 35 42.7	
	comp=Z,2.3nm,0.8s						
TROLL	**Troll, Antarti**	**64.66**	**194**	⇑P	**P**	**15 35 51.8**	**+1.9**
	comp=Z,192nm,0.8s						
VNA3	**Neumayer Olymp**	**67.33**	**197**	⇑P	**P**	**15 36 08.0**	**+1.1**
	comp=Z,1.8nm,0.7s						
QSPA	**South Pole Qui**	**77.51**	**180**	P	**P**	**15 37 08.9**	**+1.0**
QSPA				IAmb	IAmb	15 37 12.0	
	comp=Z,5.7nm,1.0s						
QSPA	**South Pole Qui**	**77.51**	**180**	P	**P**	**15 37 09.3**	**+1.4**
	comp=Z,5.0nm,1.0s,baz=242,slow=2.6,SNR=9.6						
	comp=Z,5.0nm,1.0s						
ASAR	**Alice Springs**	**83.67**	**113**	P	**P**	**15 37 43.0**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=263,slow=4.8,SNR=47						
	comp=Z,1.6nm,0.7s						
WRA	**Warramunga Arr**	**84.78**	**109**	P	**P**	**15 37 48.8**	**+1.4**
	comp=Z,3.4nm,1.1s,baz=260,slow=3.3,SNR=12						
	comp=Z,3.4nm,1.1s						
PDAR	**Pinedale Array**	**142.94**	**329**	PKP	**PKiKP**	**15 44 48.8**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=63,slow=1.6,SNR=3.9						
NVAR	**Mina Array Bea**	**150.47**	**333**	PKPbc	**PKPbc**	**15 45 04.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=98,slow=1.8,SNR=2.0						

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*IDC **08** 15:40:39.8±3.0, 15°.05S×177°.75W, h377km±26km, mb3.2/5, mbtmp3.9/6, Error ellipse: s-maj=32.6km s-min=30.7km az=111.0*
ISC 08 15:40:38.7±1.2,**15°.0S**±0°.2×**177°.7W**±0°.2,**h372**km,**n7,** σ0°90/8,**mb3.5**/5,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.94**	**236**	P	**Pn**	**15 41 59.4**	**+0.6**
	17nm,0.4s,baz=58,slow=12,SNR=19						
WRA	**Warramunga Arr**	**45.94**	**257**	P	**P**	**15 48 25.4**	**-0.9**
	0.3nm,0.6s,baz=82,slow=6.2,SNR=6.3						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**46.34**	**252**	P	**P**	**15 48 29.1**	**-0.3**
	6.1nm,0.5s,baz=84,slow=8.4,SNR=126						
ASAR				PcP	**PcP**	**15 49 58.1**	**+0.4**
	0.3nm,0.5s,baz=99,slow=4.1,SNR=2.4						
	6.1nm,0.5s						
QSPA	**South Pole Qui**	**75.03**	**180**	P	**P**	**15 51 41.0**	**+0.7**
	0.8nm,0.7s,baz=7.4,slow=2.6,SNR=8.1						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**82.91**	**13**	P	**P**	**15 52 22.3**	**0.0**
	0.3nm,0.6s,baz=220,slow=6.9,SNR=4.1						
	0.3nm,0.6s						
MAW	**Mawson**	**86.82**	**200**	P	**P**	**15 52 40.4**	**-1.2**
	0.8nm,0.6s,baz=130,slow=5.2,SNR=1.8						
	0.8nm,0.6s						
MMAI	**Mount Meron Ar**	**145.09**	**307**	PKPbc	**PKPab**	**15 59 34.6**	**+0.8**
	0.7nm,0.4s,baz=58,slow=4.6,SNR=2.7						

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*IDC **08** 16:07:51.1±0.8, 57°.76S×67°.02W, h0km, mb4.4/10, mbtmp4.3/13, ML3.6/3, MS3.8/27, Error ellipse: s-maj=41.7km s-min=13.7km az=82.0*
*NEIC **08** 16:07:54.1±1.5, 57°.55S±0°.02×66°.0W±0°.2, h10km±1km, mb4.9/51, Error ellipse: s-maj=16.3km s-min=3.0km az=257.0*
*GCMT **08** 16:07:55.1±0.6, 57°.48S±0°.04×66°.22W±0°.06, h23km±1km, MW5.0/65, Moment Tensor Solution. s25,c27; s65,c82; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.58±.25; Mθθ-0.68±.14; Mφφ-2.90±.17; Mrθ-0.78±.17; Mφθ0.66±.10; Mφr-0.26±.24; Best double couple: M0 3.40900×10^16 NP1:φs176.00000°, δ46.00000°, λ105.00000°. NP2: φs334.00000°, δ46.00000°, λ75.00000°. Principal axes: T 3.7390, Plg79.0000°, Azm163.0000°; N -0.6620, Plg11.0000°, Azm345.0000°; P -3.0790, Plg0.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*GUC **08** 16:08:01.0, 56°.87S×65°.87W, h10km, ML4.8*
*VAO **08** 16:08:11.3±4.2, 57°.10S×66°.05W, h121km±26km, mb4.7*
ISC 08 16:07:53.7±0.4,**57°.61S**±0°.05×**66°.34W**±0°.10,**h10**km,**n167,** σ1°24/150,**mb4.9**/34,**MS3.9**/25,**2C-2D,Drake Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MG01	**Puerto William**	**2.78**	**344**	P	**Pn**	**16 08 38.3**	**+0.2**
MG01				Sn	**Sn**	**16 09 11.8**	**0.0**
MG01	**Puerto William**	**2.78**	**344**	*e*P	**Pn**	**16 08 39.3**	**+1.1**
MG01				*e*S	**Sn**	**16 09 11.5**	**-0.3**
MG01				IAML		16 09 22.5	
	comp=N,6μm,0.8s						
MG01				IVMs_BB	IVMs_BB	16 10 05.2	
	comp=Z,6μm,4.3s						
USHA	**Ushuaia**	**3.02**	**336**	Pn	**Pn**	**16 08 41.2**	**-0.3**
	comp=Z,14nm,0.3s,baz=84,slow=0.4,SNR=30						
USHA				Sn	**Sn**	**16 09 17.1**	**-0.6**
	comp=Z,91nm,0.3s,baz=231,slow=19,SNR=10.0						
	comp=Z,107nm,0.7s						
MG03	**Isla Dawson**	**4.43**	**327**	Pn	**Pn**	**16 09 02.1**	**+1.2**
MG03				Sn	**Sn**	**16 09 52.0**	**-0.5**
MG03	**Isla Dawson**	**4.43**	**327**	*e*P	**Pn**	**16 09 02.3**	**+1.4**
MG02	**Cerro Sombrero**	**5.12**	**340**		**Pn**	**16 09 11.0**	**+0.7**
MG02				Sn	**Sn**	**16 10 08.2**	**-1.1**
MG02	**Cerro Sombrero**	**5.12**	**340**	*e*P	**Pn**	**16 09 11.9**	**+1.7**
MG02				*e*S	**Sn**	**16 10 07.8**	**-1.5**
GO10	**Punta Arenas**	**5.21**	**327**	Pn	**Pn**	**16 09 13.6**	**+2.0**
MG04	**Isla Riesco**	**5.63**	**326**	Pn	**Pn**	**16 09 18.5**	**+1.2**
MG04				Sn	**Sn**	**16 10 22.2**	**+0.3**
GO09	**Cerro Castillo**	**7.25**	**329**		**Pn**	**16 09 39.6**	**+0.1**
GO09				Sn	**Sn**	**16 10 57.8**	**-4.1**
GO09	**Cerro Castillo**	**7.25**	**329**	*e*P	**Pn**	**16 09 40.1**	**+0.5**
GO09				*e*S	**Sn**	**16 10 58.4**	**-3.5**
PMSA	**Palmer Station**	**7.27**	**172**	Pn	**Pn**	**16 09 39.3**	**-0.5**
PMSA	**Palmer Station**	**7.27**	**172**	Pn	Pn	16 09 35.4	-4.3
	comp=Z,1.0nm,0.3s,baz=329,slow=19,SNR=5.7						
PMSA				LR	LR	16 11 45.5	
	comp=Z,358nm,21.9s,baz=328,slow=33						
	comp=Z,4.8nm,0.6s						
EFI	**East Falkland**	**7.64**	**42**	Pn	**Pn**	**16 09 43.0**	**-1.9**
GO08	**Villa O'Higgin**	**9.89**	**335**	Pn	**Pn**	**16 10 16.6**	**+0.8**
SMAI	**San Martin Ant**	**10.56**	**182**		**Pn**	**16 10 27.1**	**+2.2**
LL02	**Futaleuf**	**14.85**	**344**	Pn	**Pn**	**16 11 24.2**	**+0.7**
LL01	**San Ignacio de**	**15.73**	**343**		**Pn**	**16 11 34.2**	**-1.0**
PLCA	**Paso Flores**	**17.11**	**349**		**Pn**	**16 11 51.3**	**-1.5**
PLCA	**Paso Flores**	**17.11**	**349**	P	**Pn**	**16 11 51.3**	**-1.5**
	baz=102,slow=20,SNR=2.7						
PLCA				LR	LR	16 17 57.1	
	comp=Z,141nm,20.1s,baz=174,slow=35						
	comp=Z,3.2nm,1.0s						
PLCA	**Paso Flores**	**17.11**	**349**	*e*P	**P**	**16 11 56.7**	**+2.2**
LR05	**Currie**	**17.78**	**346**	P	**Pn**	**16 12 00.4**	**-0.6**
GO06	**Curarrehue**	**18.35**	**347**		**Pn**	**16 12 07.1**	**-1.1**
TRQA	**Tornquist**	**19.78**	**10**	P	**P**	**16 12 23.0**	**-0.8**
BI02	**San Fabin de**	**21.21**	**349**	P	**P**	**16 12 38.1**	**-1.3**
GO05	**Hualane**	**22.92**	**348**	P	**P**	**16 12 56.4**	**-1.2**
GO05				IAmb	IAmb	16 13 00.3	
	comp=Z,71nm,1.0s						
BELA	**Belgrano 2**	**22.99**	**163**	P	**P**	**16 12 57.5**	**-0.5**
BELA				IAmb	IAmb	16 13 17.8	
	comp=Z,73nm,1.3s						
BO02	**Sierra Bellavi**	**23.02**	**351**	P	**P**	**16 12 57.1**	**-1.6**
BO02				IAmb	IAmb	16 13 02.2	
	comp=Z,87nm,1.4s						
BO01	**Tunca**	**23.45**	**350**	P	**P**	**16 13 01.5**	**-1.5**
BO04	**La Punta**	**23.80**	**351**	P	**P**	**16 13 04.9**	**-1.6**
MT01	**Popeta**	**23.98**	**350**	P	**P**	**16 13 07.7**	**-0.5**
MT01				IAmb	IAmb	16 13 20.3	
	comp=Z,56nm,1.4s						
MT09	**Talagante**	**24.05**	**350**	P	**P**	**16 13 08.3**	**-0.6**
MT03	**Universidad Ad**	**24.29**	**352**	P	**P**	**16 13 10.9**	**-0.2**
MT08	**Bocatoma Ro**	**24.30**	**353**	P	**P**	**16 13 11.0**	**-0.3**
MT16	**CCHEN**	**24.35**	**351**	P	**P**	**16 13 11.2**	**-0.4**
MT02	**Curacav**	**24.57**	**350**	P	**P**	**16 13 12.8**	**-0.8**
MT02				IAmb	IAmb	16 13 40.8	
	comp=Z,41nm,1.1s						
PEL	**Peldehue**	**24.65**	**351**	P	**P**	**16 13 14.0**	**-0.3**
PEL				IAmb	IAmb	16 13 41.7	
	comp=Z,36nm,1.0s						
VA03	**San Esteban**	**25.02**	**352**	P	**P**	**16 13 17.6**	**-0.1**
ZON	**Zonda**	**26.11**	**355**	P	**P**	**16 13 27.8**	**+0.2**
ZON				IAmb	IAmb	16 13 31.3	
	comp=Z,32nm,1.3s						
VNA3	**Neumayer Olymp**	**26.73**	**143**	⇑P	**P**	**16 13 33.5**	**+0.7**
	comp=Z,7.4nm,0.9s						
CO03	**El Pedregal**	**26.94**	**352**	P	**P**	**16 13 35.0**	**-0.1**
CO03				IAmb	IAmb	16 13 37.8	
	comp=Z,41nm,0.9s						
GO04	**Tololo Observa**	**27.61**	**352**	P	**P**	**16 13 41.4**	**+0.1**
GO04				IAmb	IAmb	16 13 42.9	
	comp=Z,36nm,1.2s						
CO01	**Juntas del Tor**	**27.75**	**353**	P	**P**	**16 13 42.6**	**+0.1**
CO01				IAmb	IAmb	16 13 52.6	
	comp=Z,21nm,0.7s						
CPSB	**Cacapava Do Su**	**28.64**	**24**	*e*P	**P**	**16 13 50.9**	**+0.7**
SNAA	**Sanae**	**28.90**	**144**	P	**P**	**16 13 52.5**	**+0.3**
SNAA				IAmb	IAmb	16 14 01.9	
	comp=Z,20nm,1.3s						
SNAA	**Sanae**	**28.90**	**144**	⇑P	**P**	**16 13 52.8**	**+0.7**
	comp=Z,65nm,1.0s						
SNAA	**Sanae**	**28.90**	**144**	P	**P**	**16 13 52.9**	**+0.7**
	comp=Z,3.0nm,0.9s,baz=283,slow=7.6,SNR=7.6						
SNAA				LR	LR	16 23 12.9	
	comp=Z,92nm,20.8s,baz=286,slow=32						
	comp=Z,3.0nm,0.9s						
AC04	**Llanos de Chal**	**29.58**	**352**	P	**P**	**16 13 58.5**	**-0.1**
AC06	**Mina Casimiro**	**30.37**	**353**	P	**P**	**16 14 05.7**	**+0.1**
AC06				IAmb	IAmb	16 14 08.5	
	comp=Z,12nm,0.8s						
CPUP	**Villa Florida**	**31.91**	**15**	P	**P**	**16 14 20.2**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=180,slow=13,SNR=4.0						
CPUP				LR	LR	16 28 05.6	
	comp=Z,197nm,20.1s,baz=194,slow=38						
	comp=Z,2.7nm,0.8s						
CPUP	**Villa Florida**	**31.91**	**15**	*e*P	**P**	**16 14 20.7**	**+1.6**
ITAB	**Concordia**	**31.98**	**24**	*e*P	**P**	**16 14 22.5**	**+2.8**
GO02	**Mina Guanaco**	**32.51**	**355**	P	**P**	**16 14 24.3**	**-0.4**
GO02				IAmb	IAmb	16 14 34.3	
	comp=Z,12nm,0.7s						
QSPA	**South Pole Qui**	**32.62**	**180**	P	**P**	**16 14 25.7**	**+0.5**
QSPA				IAmb	IAmb	16 14 27.2	
	comp=Z,23nm,1.1s						
QSPA	**South Pole Qui**	**32.62**	**180**	P	**P**	**16 14 23.3**	**-2.0**
	comp=Z,11nm,1.0s,baz=152,slow=3.4,SNR=32						
QSPA				LR	LR	16 26 33.1	
	comp=Z,103nm,21.7s,baz=156,slow=34						
	comp=Z,11nm,1.0s						
PB14	**IPOC Station P**	**33.09**	**353**	IAmb	IAmb	16 14 33.1	
	comp=Z,20nm,1.0s						
SJPY	**San Joaquin**	**33.41**	**17**	*e*P	**P**	**16 14 32.4**	**+0.1**
PTGB	**Pitanga**	**34.43**	**23**	*e*P	**P**	**16 14 42.1**	**+0.8**
LVC	**Limon Verde**	**35.01**	**356**	LR	LR	16 29 39.3	
	comp=Z,203nm,19.9s,baz=192,slow=37						
FDPY	**Filadelfia**	**35.60**	**10**	*e*P	**P**	**16 14 53.2**	**+2.0**
PB01	**IPOC Station P**	**36.60**	**355**	IAmb	IAmb	16 15 02.2	
	comp=Z,21nm,1.3s						
ELIB	**Princess Elisa**	**36.71**	**149**	*d*P	**P**	**16 15 00.8**	**+0.4**
	comp=Z,6.9nm,0.6s						
ELIB				*d*PP	**PnPn**	**16 16 23.4**	**-0.1**
BDQN	**Bodoquena, MS**	**37.78**	**15**	*e*P	**P**	**16 15 10.1**	**+0.3**
PB11	**IPOC Station P**	**37.88**	**355**	IAmb	IAmb	16 15 16.1	
	comp=Z,18nm,1.1s						
AQDB	**Aquidauana**	**37.90**	**16**	P	**P**	**16 15 09.9**	**-1.0**
AQDB	**Aquidauana**	**37.90**	**16**	*e*P	**P**	**16 15 12.3**	**+1.5**
GO01	**Chusmiza**	**37.95**	**356**	P	**P**	**16 15 11.1**	**-0.8**
GO01				IAmb	IAmb	16 15 14.6	
	comp=Z,39nm,1.5s						
RPRD	**Ribas do Rio P**	**38.23**	**19**	*e*P	**P**	**16 15 14.7**	**+1.1**
BBSD	**Serra de San D**	**40.59**	**8**	*e*P	**P**	**16 15 33.7**	**+0.4**
LPAZ	**La Paz**	**41.27**	**357**	P	**P**	**16 15 38.7**	**-1.0**
LPAZ	**La Paz**	**41.27**	**357**	P	**P**	**16 15 39.1**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=170,slow=7.6,SNR=13						
LPAZ				LR	LR	16 34 55.8	
	comp=Z,122nm,21.2s,baz=162,slow=39						
	comp=Z,3.3nm,0.7s						
LPAZ	**La Paz**	**41.27**	**357**	*e*P	**P**	**16 15 41.1**	**+1.4**
PTLB	**Pontes e Lacer**	**42.44**	**10**	P	**P**	**16 15 48.1**	**-0.4**
PTLB	**Pontes e Lacer**	**42.44**	**10**	*e*P	**P**	**16 15 49.1**	**+0.6**
RIB01	**Linhares ES**	**42.76**	**37**	*e*P	**P**	**16 15 54.5**	**+3.4**
RPN	**Rapa Nui**	**42.85**	**297**	LR	LR	16 30 19.2	
	comp=Z,62nm,18.9s,baz=162,slow=32						
ARAG	**Araguaiana, MT**	**43.24**	**21**	*e*P	**P**	**16 15 57.1**	**+2.1**
BDFB	**Brasilia**	**44.10**	**26**	P	**P**	**16 16 01.3**	**-0.

H10S2	ASCENSION HYDR	62.61	61	T	T	17 26 45.1	
	baz=207,slow=74,SNR=4.7						
MDP	Montagnes des	63.49	15	LR	LR	16 46 47.4	
	comp=Z,236nm,19.9s,baz=222,slow=37						
H10N3	ASCENSION HYDR	63.66	60	T	T	17 28 08.5	
	baz=206,slow=74,SNR=3.8						
H10N1	ASCENSION HYDR	63.66	60	T	T	17 28 04.7	
	baz=206,slow=74,SNR=3.5						
H10N2	ASCENSION HYDR	63.68	60	T	T	17 28 02.1	
	baz=206						
BAUV	El Baul	66.34	358	P	P	16 18 41.9	-0.3
BOSA	Boshof	67.15	107	LR	LR	16 43 57.5	
	comp=Z,75nm,18.7s,baz=199,slow=32						
LBTB	Lobatse	70.25	106	LR	LR	16 43 15.6	
	comp=Z,97nm,22.0s,baz=215,slow=30						
URZ	Urewera	70.71	228	LR	LR	16 43 18.1	
	comp=Z,151nm,20.8s,baz=211,slow=30						
PPT2	Papeete2	71.72	266	eLR	LR	16 41 04.1	
	comp=Z,103nm,26.2s						
PPT2				eLR	LR	16 41 04.4	
	comp=Z,215nm,26.8s						
RAR	Rarotonga	74.15	256	LR	LR	16 44 31.0	
	comp=Z,85nm,20.1s,baz=73,slow=30						
MTO3	Montecristo	74.23	337	IAmb	IAmb	16 19 33.2	
	comp=Z,9.4nm,0.8s						
SJG	San Juan	75.44	0	LR	LR	16 56 19.9	
	comp=Z,61nm,18.1s,baz=187,slow=38						
DBIC	Dimbokro	80.91	62	LR	LR	16 48 39.1	
	comp=Z,41nm,21.7s,baz=260,slow=30						
BBTS	Babate	82.86	48	LR	LR	16 58 17.6	
	comp=Z,42nm,18.9s,baz=140,slow=36						
DZM	Mont Dzumac	89.26	228	eLR	LR	16 49 20.5	
	comp=Z,250nm,33.5s						
DZM	Mont Dzumac	89.26	228	LR	LR	16 56 07.1	
	comp=Z,88nm,18.4s,baz=45,slow=33						
TORD	Torodi Ar. Bea	89.68	65	P	P	16 20 51.4	-0.4
	comp=Z,0.6nm,0.6s,baz=220,slow=3.9,SNR=4.4						
TORD				LR	LR	16 53 22.0	
	comp=Z,49nm,20.5s,baz=166,slow=30						
	comp=Z,0.6nm,0.6s						
NWAO	Narrogin (SRO)	89.76	183	LR	LR	16 57 56.6	
	comp=Z,23nm,20.2s,baz=260,slow=34						
TX31	Lajitas Ar. Si	92.12	328	P	P	16 21 03.4	+0.5
TX31				IAmb	IAmb	16 21 08.9	
	comp=Z,12nm,1.6s						
TXAR	Lajitas Array	92.12	328	P	P	16 21 00.0	-2.9
	comp=Z,1.2nm,1.1s,baz=118,slow=9.3,SNR=3.7						
	comp=Z,1.2nm,1.1s						
BRDY	Brady	92.73	332	P	P	16 21 05.6	+0.1
BRDY				IAmb	IAmb	16 21 15.0	
	comp=Z,3.9nm,1.1s						
MBAR	Mbarara	93.30	96	LR	LR	16 58 32.0	
	comp=Z,89nm,19.1s,baz=227,slow=32						
MNHN	Monahans	93.76	329	P	P	16 21 11.4	+1.0
KMBO	Kilima Mbogo	96.31	102	LR	LR	17 02 30.2	
	comp=Z,39nm,18.6s,baz=90,slow=34						
ASAR	Alice Springs	97.27	199	P	P	16 21 23.5	-3.2
	comp=Z,0.4nm,0.9s,baz=166,slow=3.9,SNR=3.4						
ASAR				LR	LR	17 00 16.8	
	comp=Z,30nm,20.9s,baz=126,slow=32						
	comp=Z,0.4nm,0.9s						
WRA	Warramunga Arr	100.83	200	P	Pdif	16 21 38.7	-4.0
	comp=Z,1.1nm,1.0s,baz=165,slow=3.7,SNR=4.5						
BRTR	Keskin Array B	127.48	73	PKP	PKPdf	16 26 57.5	-0.7
	comp=Z,0.2nm,0.4s,baz=236,slow=1.5,SNR=1.8						
E29M	Blow River	136.03	330		PKPdf	16 27 13.7	+0.5
IL31		136.35	322		PKPdf	16 27 14.8	+1.0
ILAR	Eielson Array	136.35	322		PKPdf	16 27 14.4	+0.5
ILAR	Eielson Array	136.35	322	PKP	PKPdf	16 27 14.7	+0.8
	comp=Z,2.3nm,0.8s,baz=184,slow=1.9,SNR=20						
CMAR	Chiang Mai Arr	139.41	158	PKP	PKPdf	16 27 21.5	+0.5
	comp=Z,1.6nm,0.9s,baz=220,slow=3.6,SNR=6.7						
TOLK	Toolik Lake Re	139.55	326		PKPdf	16 27 20.5	+0.8
H18K	Honhosa River	140.53	318	PKPdf	PKPdf	16 27 22.7	+1.2
G19K	Purcell Mounta	140.61	320	PKPdf	PKPdf	16 27 22.9	+1.3
B21K	Ikpikpuk River	141.60	326	PKPdf	PKPdf	16 27 22.7	-0.6
C18K	Utukok River	143.22	322	PKPdf	PKPdf	16 27 26.1	-0.2
SPITS	Spitsbergen Ar	144.16	20	PKP	PKPbc	16 27 26.1	+0.2
	comp=Z,9.2nm,0.9s,baz=180,slow=11,SNR=2.2						
SHL	Shillong	144.41	145	PKPdf	PKPab	16 27 28.2	+0.1
LVZ	Lovozero	144.98	40	PKPdf	PKPab	16 27 28.7	-0.1
TPUB	Ta-pu	145.35	191		PKPbc	16 27 31.2	0.0
SIMJ	Simiganj	145.50	104		PKPdf	16 27 30.3	-1.1
SSLB	Suanglung	145.80	192		PKPdf	16 27 31.5	-0.7
GAR	Garm	146.43	105		PKPdf	16 27 31.8	-1.1
BTK	Batken	147.47	104	PKPdf	PKPdf	16 27 33.5	-1.0
BTK				PKPbc	pPKPdf	16 27 36.6	0.0
DRK	Karamyk	147.56	106		PKPbc	16 27 38.0	+0.3
ABKAR	Abkulak array	147.71	81		PKPdf	16 27 33.6	-0.9
ABKAR	Abkulak array	147.71	81		PKPdf	16 27 33.4	-1.1
PZH	PanZhiHua	147.78	160	PKPbc	PKPdf	16 27 36.1	+0.5
LSA	Lhasa	148.00	141	PKPdf	PKPdf	16 27 36.2	0.0
KKAR	Karatay Array	149.48	100		PKPbc	16 27 41.6	-0.6
KKAR	Karatay Array	149.48	100		PKPbc	16 27 41.4	-0.7
ARSB	Arslanbob	149.52	105		PKPbc	16 27 41.0	-1.5
KSH	Kashi	149.72	110	PKPbc	PKPbc	16 27 42.9	-0.1
ARTI	Arti	150.57	68		PKPdf	16 27 39.2	+0.3
AAK	Ala-Archa	151.25	104		PKPbc	16 27 46.5	-0.1
FRU1	Bishkek	151.44	104	PKPdf	PKPdf	16 27 40.6	-0.2
BVAR	Borovoye Array	155.28	82	PKP	PKPdf	16 27 44.5	-1.4
	comp=Z,0.5nm,0.5s,baz=152,slow=4.3,SNR=5.1						
KURBB	Kurchatov Arra	158.45	94	PKPab	PKPab	16 28 24.4	-0.5
	comp=Z,5.4nm,0.2s,baz=233,slow=4.5,SNR=5.5						
GTA	Gaotai	159.68	148	ePKP	PKPdf	16 27 51.8	-0.2
GTA				sPKP		16 28 02.2	
GTA				PKPab	pPKPab	16 28 32.8	+0.1
GTA				PP	PP	16 32 16.7	+4.5

SKHL ***08*** *16:08:40.5±0.2, 43°.40N×145°.80E, h91km±2km, mb4.2/3, msha5.1/3*
JMA ***08*** *16:08:40.3±0.2, 43°.3N±0°.5×145°.8E±0°.9, h89km±1km, MV2.7/39, OFF NEMURO PENINSULA*

ISC 08 16:08:40.2±1.7, 43°.33N±0°.07×145°.84E±0°.05, h88km±10km, n16, σ0s33/31, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.07	294	P	Pn	16 08 52.8	+0.2
NEM2				S	Sn	16 09 02.2	+0.3
NMR	Nemuro--Hokkai	0.09	294	*i* P	Pn	16 08 52.9	+0.2
NMR				*i* S	Sn	16 09 02.1	+0.2
JKHN	Kushirohamanak	0.56	243	P	Pn	16 08 55.5	+0.3
JKHN				*e*S	Sn	16 09 06.3	0.0
YUK	Yuzh-Kuril'sk	0.70	1	*i* P	Pn	16 08 56.4	-0.1
YUK				AMB	AMB	16 08 57.1	
	250nm,0.3s						
YUK				*i* S	Sn	16 09 08.1	-0.6
YUK				A	A	16 09 10.9	
	250nm,0.2s						
YUK				A	A	16 09 10.9	
	420nm,0.2s						
JNSB	Nemuroshibetsu	0.75	306	P	Pn	16 08 57.1	+0.1
JNSB				*e*S	Sn	16 09 09.9	+0.3
AKK	Akkeshi	0.79	247	*e*P	Pn	16 08 57.4	-0.1
AKK				*e*S	Sn	16 09 10.1	-0.3
JRA	Rausu	0.80	320	P	Pn	16 08 57.7	+0.2
JRA				S	Sn	16 09 10.7	+0.2
JNK	Nakash	0.85	288	P	Pn	16 08 57.8	-0.3
JNK				S	Sn	16 09 10.9	-0.7
SHO	Shikotan	0.90	53	*i* P	Pn	16 08 58.5	-0.1
SHO				AMB	AMB	16 08 59.7	
	90nm,0.2s						
SHO				*i* S	Sn	16 09 12.0	-0.4
SHO				A	A	16 09 13.4	
	360nm,0.3s						
SHO				A	A	16 09 13.4	
	250nm,0.3s						
JAK	Akkeshi	0.90	248	P	Pn	16 08 58.6	0.0
JAK				S	Sn	16 09 12.2	-0.2
JAR	Ashorobuto	1.51	269	*e*P	Pn	16 09 06.2	+0.3
JAR				*e*S	Sn	16 09 25.7	+0.2
JOB	Onbets	1.53	254	*e*P	Pn	16 09 06.4	+0.2
JTKR	Abashiri--Toko	1.54	295	P	Pn	16 09 06.6	+0.3
JTKR				*e*S	Sn	16 09 25.5	-0.6
JMP	Maruseppu	1.92	291	*e*P	Pn	16 09 11.7	+0.4
JMP				*e*S	Sn	16 09 35.0	0.0
JCH	Churui	1.95	249	*e*P	Pn	16 09 11.7	0.0
JCH				*e*S	Sn	16 09 35.2	-0.5
KUR	Kuril'sk	2.39	37	*e*P	Pn	16 09 17.9	+0.4
KUR				AMB	AMB	16 09 19.2	
	10.0nm,0.4s						
KUR				*i* S	Sn	16 09 46.0	-0.1
KUR				A	A	16 09 49.5	
	50nm,0.2s						
KUR				A	A	16 09 49.5	
	40nm,0.2s						

NEIC ***08*** *16:10:30.8±1.9, 7°.67S±0°.10×127°.72E±0°.06, h150km±16km, mb4.2/6, Error ellipse: s-maj=14.2km s-min=8.2km az=170.0*

ISC 08 16:10:30.0±0.8, 7°.58S±0°.08×127°.63E±0°.05, h162km, n36, σ1s89/41, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	3.66	97	Pn	Pn	16 11 25.1	-1.1
SAUI				Sn	Sn	16 12 07.0	-2.9
SOEI	Soe	3.96	237	Pn	Pn	16 11 31.3	+1.0
SOEI				Sn	Sn	16 12 12.1	-5.2
MMRI	Maumere	5.44	259	Pn	Pn	16 11 50.0	+0.5
MMRI				Sn	Sn	16 12 52.9	+1.2
DRS	Darwin Rock St	5.80	147	P	Pn	16 11 56.0	+1.8
MTN	Manton Dam	6.27	147	Pn	Pn	16 12 01.1	+0.7
MTN				Sn	Sn	16 13 07.9	-3.5
MTN	Manton Dam	6.27	147	P	Pn	16 12 02.3	+1.9
FAKI	Fak Fak	6.53	45	Pn	Pn	16 12 04.5	+0.6
FAKI				Sn	Sn	16 13 15.8	-1.8
KDU	Kakadu	6.96	137	P	Pn	16 12 11.0	+1.3
KNRA	Kununurra	8.12	172	Pn	Pn	16 12 25.2	+0.2
FITZ	Fitzroy Crossi	10.63	190	Pn	Pn	16 12 56.0	-2.2
WB0	Warramunga Arr	13.78	152	Pn	Pn	16 13 37.5	-1.3
WRA	Warramunga Arr	13.91	153	Pn	Pn	16 13 39.3	-1.1
WB2	Warramunga Arr	13.91	153	Pn	Pn	16 13 39.1	-1.3
WR0	Warramunga Arr	14.01	152	Pn	Pn	16 13 40.9	-0.9
PSA00	Pilbara Seismi	15.81	208		Pn	16 14 04.2	+0.2
PSA00				IAmb	IAmb	16 14 37.8	
	comp=Z,13nm,1.4s						
COEN	Coen	16.53	114	P	P	16 14 12.1	-0.3
COEN				IAmb	IAmb	16 14 34.0	
	comp=Z,16nm,1.5s						
COEN	Coen	16.53	114	P	Pn	16 14 14.8	+2.0
AS31	Alice Springs	17.09	160		P	16 14 16.9	-1.8
AS31				IAmb	IAmb	16 14 23.4	
	comp=Z,4.3nm,0.3s						
ASAR	Alice Springs	17.09	160		P	16 14 16.8	-1.8
AS01	Alice Springs	17.11	160	P	Pn	16 14 20.9	+1.2
QIS	Mount Isa	17.34	139	P	Pn	16 14 24.1	+1.6
WRKA	Warakurna	17.37	178	P	Pn	16 14 23.7	+0.9
MTSU	Mount Surprise	19.34	124	P	Pn	16 14 45.8	-0.2
MEEK	Meekatharra	20.80	203	P	P	16 15 01.4	+2.6
OOD	Oodnadatta	21.51	160	P	P	16 15 07.6	+1.3
FORT	Forrest	23.09	179	P	P	16 15 22.3	+0.8
FORT				IAmb	IAmb	16 16 04.5	
	comp=Z,17nm,1.1s						
FORT	Forrest	23.09	179	P	P	16 15 23.0	+1.5
MULG	Mulgathing	23.38	166	P	P	16 15 25.5	+1.3
INKA	Innaminka	23.59	150	P	P	16 15 29.1	+3.0
MORW	Morawa	24.00	206	P	P	16 15 31.2	+1.3
MORW	Morawa	24.00	206	P	P	16 15 31.6	+1.7
LCRK	Leigh Creek	24.82	158	P	P	16 15 40.4	+3.1
BBOO	Buckleboo	26.30	164	P	P	16 15 52.1	+1.5
STKA	Stephens Creek	27.46	154	P	P	16 16 00.7	-0.3
HTT	Hallett	27.77	159	P	P	16 16 06.0	+2.2
CMSA	Cobar Meteorol	29.19	147	P	P	16 16 18.1	+1.7

MOS ***08*** *16:12:32.5±1.2, 44°.52N×145°.52E, h23km, mb4.1/5, Error ellipse: s-maj=17.5km s-min=11.2km az=101.7*
JMA ***08*** *16:12:32.6±0.2, 44°.6N±0°.5×145°.8E±0°.8, h20km±1km, MV3.8/31, NEAR KUNASHIRI ISLAND*
NIED ***08*** *16:12:32.6, 44°.59N×145°.75E, h20km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}=5.65; $M_{\theta\theta}$=0.31; $M_{\phi\phi}$=-5.34; $M_{r\theta}$=1.30; $M_{\theta\phi}$=0.19; $M_{\phi r}$=1.42; Fault plane solution: M_0=5.81000×10^14^ NP1: ϕ_s=170.00000°, δ=53.00000°, λ=76.00000°. NP2: ϕ_s=13.00000°, δ=39.00000°, λ=108.00000°.*
SKHL ***08*** *16:12:33.3±0.1, 44°.60N×145°.70E, h16km±2km, mb4.5/3*

ISC 08 16:12:33.2±0.6, 44°.55N±0°.03×145°.69E±0°.03, h22km±6km, n28, σ1s25/45, mb3.8/5, 2C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	0.53	166	*i* P	Pb	16 12 43.9	0.0
YUK				AMB	AMB	16 12 44.7	
	300nm,0.2s						
YUK				*e*S	Sb	16 12 51.3	+0.2
YUK				A	A	16 12 54.1	
	4μm,0.3s						
YUK				A	A	16 12 54.1	
	4μm,0.3s						
YUK	Yuzh-Kuril'sk	0.53	166	*d* iPN	Pb	16 12 43.8	-0.1
YUK				*e*S	Sb	16 12 50.5	-0.6
YUK				pmax	pmax		
	comp=Z,565nm,0.2s						
YUK				pmax	pmax		
	comp=E,165nm,0.1s						
YUK				smax	smax		
	comp=N,4μm,0.2s						
YUK				smax	smax		
	comp=E,5μm,0.1s						
RUSJ	Misakicho	0.55	215	⇑ iPN	Pb	16 12 44.3	+0.2
RUSJ				*i* S	Sb	16 12 51.9	+0.3
JRA	Rausu	0.74	214	*i* P	Pb	16 12 47.4	+0.1
JRA				S	Sb	16 12 57.9	+0.9
JNSB	Nemuroshibetsu	0.92	213	*i* P	Pb	16 12 50.5	+0.1
JNSB				S	Sn	16 13 03.5	+0.2
SHO	Shikotan	1.07	129	*i* P	Pb	16 12 52.8	-0.1
SHO				AMB	AMB	16 12 53.2	
	comp=E,340nm,0.3s						
SHO				*i* S	Sn	16 13 07.2	+0.3
SHO				A	A	16 13 08.7	
	comp=E,3μm,0.6s						
SHO				A	A	16 13 08.7	
	comp=E,4μm,0.6s						
SHO	Shikotan	1.07	129	⇓ *i* iPN	Pb	16 12 52.8	-0.1
SHO				*i* S	Sn	16 13 06.9	0.0
SHO				pmax	pmax		
	comp=E,132nm,0.2s						
SHO				pmax	pmax		
	comp=Z,452nm,0.2s						
SHO				smax	smax		
	comp=N,5μm,0.5s						
SHO				smax	smax		
	comp=E,5μm,0.3s						
NMR	Nemuro--Hokkai	1.18	179	*i* P	Pn	16 12 54.2	-0.2
NMR				*i* S	Sb	16 13 09.8	0.0
NMR	Nemuro--Hokkai	1.18	179	⇑ *i* iPN	Pn	16 12 54.2	-0.2
NMR				*i* S	Sb	16 13 09.9	+0.1
NEM2	Nemuro 2	1.19	178	*i* P	Pn	16 12 54.2	-0.3
NEM2				S	Sb	16 13 10.0	+0.1
JNK	Nakash	1.19	216	*i* P	Pn	16 12 54.7	+0.1
JNK				*e*S	Sn	16 13 10.9	+0.9
JTKR	Abashiri--Toko	1.41	246	P	Pb	16 12 57.9	-0.7
JTKR				S	Sb	16 13 16.6	+0.4
JKHN	Kushirohamanak	1.52	195	P	Pn	16 12 59.6	+0.6
JKHN				*e*S	Sb	16 13 19.4	0.0
KUR	Kuril'sk	1.69	66	*e*P	Pb	16 13 01.9	-1.6
KUR				AMB	AMB	16 13 06.5	
	comp=E,50nm,0.3s						
KUR				*e*S	Sb	16 13 23.4	-1.0
KUR				A	A	16 13 37.0	
	comp=E,260nm,0.3s						
KUR				A	A	16 13 37.0	
	comp=E,210nm,0.3s						
KUR	Kuril'sk	1.69	66	*e*PN	Pb	16 13 02.6	-0.9
KUR				*e*S	Sb	16 13 26.3	+1.9
KUR				pmax	pmax		
	comp=Z,69nm,0.6s						
KUR				smax	smax		
	comp=N,255nm,0.3s						
KUR				smax	smax		
	comp=E,122nm,0.2s						
JAK	Akkeshi	1.71	205	P	Pn	16 13 02.1	+0.5
JAK				*e*S	Sb	16 13 24.7	-0.3
YSS	Yuzh-Sakhalins	3.16	320	*e*P	Pn	16 13 23.0	+1.5
YSS				AMB	AMB	16 13 24.9	
	comp=E,10.0nm,0.4s						
YSS				*e*S	Sn	16 13 58.7	+0.2
YSS				A	A	16 14 00.3	
	comp=E,40nm,0.5s						
YSS				A	A	16 14 00.3	
	comp=E,40nm,0.5s						
YSS	Yuzh-Sakhalins	3.16	320	*e*PN	Pn	16 13 23.0	+1.5
YSS				*e*S	Sn	16 13 58.3	-0.2
YSS				pmax	pmax		
	comp=Z,10.0nm,0.4s						
YSS				smax	smax		
	comp=N,40nm,0.5s						
YSS				smax	smax		
	comp=E,40nm,0.5s						
TEY	Ternei	6.48	277	*e*PN	Pb	16 14 23.8	-1.4
MSHR	Mys Shultsa	10.73	264	*i* PN	Pn	16 15 04.9	-0.5
MSHR				pmax	pmax		
	comp=Z,182nm,1.4s						
ZEA	Zeya	15.13	314	*e*P	P	16 16 21.5	+11
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BILL	Bilibino	25.90	18	*e*P	P	16 18 06.5	+3.4
BILL	Bilibino	25.90	18	*i* P	P	16 18 06.5	+3.4
BILL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ULN	Ulaanbaatar	26.75	291	*i* P	P	16 18 12.2	+1.0
ULN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NRIK	Noril'sk	38.04	331	*i* P	P	16 19 48.7	-0.6
NRIK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ILAR	Eielson Array	41.47	37	*e*P	P	16 20 19.9	+2.0
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KURK	Kurchatov	44.21	303	*i* P	P	16 20 39.0	-1.3
KURK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KIV	Kislovodsk	68.44	311	*e*P	P	16 23 29.4	-3.9
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						

BER ***08*** *16:20:28.4±3.0, 79°.96N×0°.26E, h10km, mb(Pn)4.0, ML3.4(NAO), Confirmed Earthquake*
IDC ***08*** *16:20:30.6±2.5, 79°.60N×0°.25E, h0km, mb3.8/2, mbtmp3.8/6, ML3.2/4, Error ellipse: s-maj=34.8km s-min=31.8km az=142.0*
DNK ***08*** *16:20:30.9±4.4, 79°.85N×0°.84E, h36km±38km, ML2.9*
FCIAR ***08*** *16:20:33.5, 79°.92N×2°.70E, h10km, station ZFI2 has station magnitude of 4.00 station OMEGA has station magnitude of 3.70*
KOLA ***08*** *16:20:34.5, 79°.80N×3°.08E, h0km, ML2.5, Error ellipse: s-maj=40.1km s-min=21.2km az=30.0, Greenland sea, Knipovich ridge, north*

ISC 08 16:20:27.9±0.8, 79°.89N±0°.07×0°.54E±0°.05, h10km, n47, σ2s84/66, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	2.32	109	Pn	Pn	16 21 05.2	-0.8
KBS				Sn	Sn	16 21 30.9	-3.6
KBS	Kingsbay	2.32	109	P	Pn	16 21 05.0	-0.9
KBS				S	Sn	16 21 27.5	-7.0
KBS	Kingsbay	2.32	109	*e*P	Pn	16 21 05.1	-0.8
KBS				*e*S	Sn	16 21 30.8	-3.6
KBS				IAML		16 21 34.2	
	comp=Z,45nm,0.3s						
KBS	Kingsbay	2.32	109	*e*P	Pn	16 21 05.0	-0.9
KBS				*e*S	Sn	16 21 29.6	-4.9
KBS	Kingsbay	2.32	109	*i* P	Pn	16 21 05.1	-0.9
KBS				*i* S	Sn	16 21 30.7	-3.7
BRBB	Barentsburg B	3.18	118	Pn	Pn	16 21 18.8	+1.0
BRBB				Sn	Sn	16 21 53.7	-1.9
BRBB	Barentsburg B	3.18	118	P	Pn	16 21 18.7	+1.0
BRBB				S	Sn	16 21 51.5	-4.1
BRBB	Barentsburg B	3.18	118	*e*P	Pn	16 21 19.6	+1.8
BRBB				*e*S	Sn	16 21 52.8	-2.9
BRBA	Barentsburg A	3.20	118	Pn	Pn	16 21 19.7	+1.6
BRBA				Sn	Sn	16 21 53.3	-2.9
BRBA	Barentsburg A	3.20	118	*e*P	Pn	16 21 20.1	+2.0
BRBA				*e*S	Sn	16 21 54.2	-2.0
BRBA				IAML		16 21 59.2	
	comp=Z,27nm,0.2s						
NOR	Nord	3.26	310	Pn	Pn	16 21 17.1	-1.8
NOR	Nord	3.26	310	*i* P	Pn	16 21 17.0	-1.9
NOR	Nord	3.26	310	*i* P	Pn	16 21 17.0	-1.9
SPA0	Spitsbergen Ar	3.47	112	Pn	Pn	16 21 22.3	+0.5
	baz=320,slow=7.4						
SPA0				Sn	Sn	16 21 59.8	-3.1
	baz=315,slow=14						
SPA0	Spitsbergen Ar	3.47	112	Pn	Pn	16 21 22.3	+0.5
	baz=320,slow=7.4						
SPA0				Sn	Sn	16 21 59.8	-3.1
	baz=315,slow=14						
SPA0	Spitsbergen Ar	3.47	112	*e*P	Pn	16 21 21.7	-0.1
SPA0				*e*S	Sn	16 21 59.0	-3.9
SPITS	Spitsbergen Ar	3.47	112	P	Pn	16 21 21.9	0.0
SPITS				S	Sn	16 21 59.9	-3.1
SPITS	Spitsbergen Ar	3.47	112	Pn	Pn	16 21 22.3	+0.5
	baz=304,slow=3.3						
SPITS				Sn	Sn	16 22 00.7	-2.2
	baz=306,slow=12						
	comp=Z,14nm,0.2s						
HSPB	Hornsund (broa	4.17	126	Pn	Pn	16 21 32.0	+0.6
HSPB				Sn	Sn	16 22 16.5	-3.6
HSPB	Hornsund (broa	4.17	126	P	Pn	16 21 31.8	+0.4
HSPB				S	Sn	16 22 14.9	-5.1
HSPB	Hornsund (broa	4.17	126	*e*P	Pn	16 21 32.3	+0.9
HSPB				*e*S	Sn	16 22 16.9	-3.2
HSPB				IAML		16 22 20.1	
	comp=Z,21nm,0.3s						
DAG	Danmarks Havn	4.97	241	*i* P	Pn	16 21 41.5	-0.9
DAG				*i* S	Sn	16 22 33.8	-5.9
DAG				IAML		16 22 37.5	
	comp=Z,42nm,0.3s						
DAG	Danmarks Havn	4.97	241	*i* P	Pn	16 21 41.5	-0.9
DAG				*i* S	Sn	16 22 33.8	-5.9
DAG				IAML		16 22 37.5	
	comp=Z,42nm,0.3s						
HOPEN	Hopen	6.00	112	*e*S	Sn	16 23 01.2	-4.0
HOPEN	Hopen	6.00	112	P	Pn	16 21 56.9	+0.3
HOPEN				*e*S	Sn	16 22 59.4	-5.8
BJO1	Bjornoya	6.74	134	*e*P	Pn	16 22 07.3	+0.7
BJO1				S	Sn	16 23 18.1	-5.3
DBG	Daneborg	7.21	230	Pn	Pn	16 22 12.8	-0.3
DBG				Sn	Sn	16 23 26.3	-8.7
DBG	Daneborg	7.21	230	*e*P	Pn	16 22 13.2	0.0
DBG				*e*S	Sn	16 23 25.7	-9.3
DBG				IAML		16 23 30.9	
	comp=Z,38nm,0.4s						
DBG	Daneborg	7.21	230	*e*P	Pn	16 22 13.2	0.0
DBG				*e*S	Sn	16 23 25.7	-9.3
DBG				IAML	

comp=Z,1.7nm,0.8s
NRIK Noril'sk 22.57 67 P P 16 25 34.2 +6.5
comp=Z,2.6nm,0.9s,baz=353,slow=11,SNR=5.1
comp=Z,2.6nm,0.9s
TORD Torodi Ar. Bea 66.76 179 P P 16 31 21.1 +2.1
comp=Z,0.8nm,0.7s,baz=8.1,slow=6.8,SNR=4.7
comp=Z,0.8nm,0.7s

IDC 08 16:22:15.9±2.5, 5°.03N×126°.57E, h0km, mb3.3/4, mbtmp3.3/4, MS3.8/1, Error ellipse: s-maj=153.0km s-min=28.1km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.00**	**182**	P	P	16 27 23.1	+0.7
	1.2nm,0.7s,baz=11,slow=12,SNR=2.0						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**25.96**	**163**	P	P	16 27 51.6	+1.2
	0.2nm,0.7s,baz=340,slow=9.7,SNR=2.5						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**29.40**	**166**	P	P	16 28 19.9	-1.3
	0.1nm,0.3s,baz=344,slow=7.4,SNR=8.8						
	0.1nm,0.3s						
MSVF	**Nonsavu**	**55.60**	**115**	LR	LR	16 56 14.4	
	comp=Z,78nm,18.1s,baz=152,slow=37						
MKAR	**Makanchi Array**	**56.41**	**325**	P	P	16 31 59.2	0.0
	0.5nm,0.8s,baz=105,slow=8.0,SNR=2.1						
	0.5nm,0.8s						

IDC 08 16:51:39.9±7.0, 7°.14S×130°.26E, h233km±7km, mb3.0/2, mbtmp3.2/4, Error ellipse: s-maj=114.3km s-min=27.3km az=69.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.33**	**163**	P	Pn	16 54 39.9	-0.5
	0.2nm,0.7s,baz=346,slow=14,SNR=4.9						
WRA				S	S	16 57 00.8	-7.3
	0.1nm,0.3s,baz=0.0,slow=6.2,SNR=1.6						
ASAR	**Alice Springs**	**16.80**	**168**	P	Pn	16 55 22.0	-0.3
	0.2nm,0.8s,baz=343,slow=9.6,SNR=5.8						
ASAR				S	S	16 58 24.2	+0.1
	0.3nm,0.9s,baz=329,slow=14,SNR=2.3						
STKA	**Stephens Creek**	**26.79**	**158**	P	P	16 56 58.2	-0.4
	0.6nm,0.5s,baz=328,slow=19,SNR=1.4						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**68.48**	**327**	P	P	17 02 17.0	0.0
	0.2nm,0.4s,baz=123,slow=6.0,SNR=4.5						
	0.2nm,0.4s						

*THE **08** 17:08:51.7, 37°.31N×20°.60E, h0km±2km, ML3.4/10, Error ellipse: s-maj=2.7km s-min=0.6km az=229.0*
*ATH **08** 17:08:51.5, 37°.30N×20°.57E, h6km±1km, ML3.2/20, Error ellipse: s-maj=2.6km s-min=1.1km az=47.0*
*TIR **08** 17:08:54.0, 37°.62N×20°.18E, h14km±1km, Md3.7, Ml3.4*
ISC 08 17:08:51.6±1.5, 37°.31N±0°.04×20°.60E±0°.05, h5km±11km, n61, σ0°.83/80, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.40**	**26**	P	**Pg**	**17 08 59.6**	**+0.3**
KRI1				S	**Sg**	**17 09 05.5**	**+1.0**
LTHK	**Lithakia**	**0.45**	**25**	P	**Pg**	**17 09 00.3**	**+0.1**
LTHK				S	**Sg**	**17 09 06.7**	**+0.6**
	6μm,0.3s						
LTHK	**Lithakia**	**0.45**	**25**	P	**Pg**	**17 09 00.4**	**+0.1**
LTHK				S	**Sg**	**17 09 06.3**	**+0.3**
LTHK				AML	AML	17 09 07.0	
	comp=E,11914μm,0.4s						
LTHK				AML	AML	17 09 07.6	
	comp=N,11720μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.78**	**10**	P	**Pg**	**17 09 06.3**	**-0.4**
RTZL				S	**Sb**	**17 09 17.9**	**-0.7**
	comp=N,4μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.81**	**359**	P	**Pg**	**17 09 06.8**	**-0.4**
PSDA				S	**Sb**	**17 09 18.8**	**-0.6**
	comp=N,3μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.81**	**359**	P	**Pg**	**17 09 07.0**	**-0.2**
VLS	**Valsamata**	**0.87**	**359**	P	**Pg**	**17 09 07.8**	**-0.6**
VLS				S	**Sb**	**17 09 21.3**	**+0.1**
	comp=N,2μm,0.4s						
VLS	**Valsamata**	**0.87**	**359**	P	**Pg**	**17 09 07.8**	**-0.6**
VLS				S	**Sg**	**17 09 19.2**	**-0.5**
VLS				AML	AML	17 09 22.4	
	comp=E,4213μm,0.2s						
VLS				AML	AML	17 09 25.3	
	comp=N,4631μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.90**	**352**	P	**Pg**	**17 09 09.1**	**+0.1**
LXRA				S	**Sg**	**17 09 20.8**	**+0.1**
AMT	**Artemida-Makis**	**0.91**	**75**	P	**Pg**	**17 09 08.9**	**-0.2**
AMT				S	**Sb**	**17 09 22.4**	**+0.1**
AMT				AML	AML	17 09 25.5	
	comp=N,24131μm,0.4s						
AMT				AML	AML	17 09 26.6	
	comp=E,20586μm,0.4s						
DMLN	**Damoulianata-K**	**0.95**	**349**	P	**Pb**	**17 09 10.4**	**-0.2**
DMLN				S	**Sb**	**17 09 23.8**	**+0.3**
	comp=E,6μm,0.6s						
DMLN	**Damoulianata-K**	**0.95**	**349**	P	**Pg**	**17 09 09.1**	**-0.8**
DMLN				S	**Sg**	**17 09 22.4**	**+0.2**
PYL	**PYLOS**	**1.00**	**114**	P	**Pg**	**17 09 10.2**	**-0.6**
PYL				S	**Sb**	**17 09 26.3**	**+1.4**
	comp=E,622nm,0.5s						
PYL	**PYLOS**	**1.00**	**114**	P	**Pg**	**17 09 10.3**	**-0.6**
PYL				AML	AML	17 09 27.6	
	comp=E,1275μm,0.4s						
PYL				AML	AML	17 09 28.4	
	comp=N,1117μm,0.4s						
RLS	**Riolos of Patr**	**1.02**	**42**	P	**Pg**	**17 09 10.2**	**-1.0**
RLS	**Riolos of Patr**	**1.02**	**42**	P	**Pg**	**17 09 10.1**	**-1.0**
RLS				AML	AML	17 09 30.7	
	comp=E,1699μm,0.4s						
RLS				AML	AML	17 09 33.2	
	comp=N,1509μm,0.5s						
ITM	**Ithomi**	**1.06**	**96**	P	**Pg**	**17 09 11.6**	**-0.5**
ITM				S	**Sb**	**17 09 27.8**	**+1.0**
	comp=N,825nm,0.4s						
ITM	**Ithomi**	**1.06**	**96**	P	**Pg**	**17 09 11.1**	**-1.0**
ITM				S	**Sg**	**17 09 25.5**	**-0.4**
ITM				AML	AML	17 09 29.5	
	comp=N,1709μm,0.4s						
ITM				AML	AML	17 09 40.8	
	comp=E,1616μm,0.7s						
DRO	**Drossia**	**1.09**	**53**	P	**Pg**	**17 09 11.6**	**-1.0**
DRO				S	**Sb**	**17 09 28.2**	**+0.6**
	comp=E,3μm,0.4s						
DRO	**Drossia**	**1.09**	**53**	P	**Pg**	**17 09 11.7**	**-0.9**
DRO				S	**Sb**	**17 09 28.4**	**+0.8**
DRO				AML	AML	17 09 35.7	
	comp=N,5815μm,0.4s						
DRO				AML	AML	17 09 43.0	
	comp=E,5045μm,0.4s						
VSK1	**VASILIKIADES**	**1.10**	**358**	P	**Pg**	**17 09 12.1**	**-0.7**
FSK	**Fiskardo**	**1.15**	**358**	P	**Pg**	**17 09 13.9**	**+0.1**
FSK				S	**Sn**	**17 09 30.6**	**0.0**
	comp=E,2μm,0.6s						
FSK	**Fiskardo**	**1.15**	**358**	P	**Pg**	**17 09 12.4**	**-1.4**
FSK				S	**Sg**	**17 09 28.8**	**+0.1**
FSK				AML	AML	17 09 33.8	
	comp=E,4755μm,0.6s						
FSK				AML	AML	17 09 34.4	
	comp=N,2206μm,0.5s						
EVGI	**Lefkada island**	**1.31**	**2**	P	**Pn**	**17 09 15.7**	**-0.9**
EVGI	**Lefkada island**	**1.31**	**2**	P	**Pn**	**17 09 15.6**	**-1.1**
DRAG	**Dragano-Lefkad**	**1.38**	**359**	P	**Pn**	**17 09 17.0**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.38**	**359**	P	**Pn**	**17 09 16.4**	**-1.1**
NYDR	**Nydri-Lefkada**	**1.41**	**3**	P	**Pn**	**17 09 17.8**	**-0.1**
NYDR				S	**Sg**	**17 09 38.6**	**+1.7**
	comp=N,832nm,0.7s						
NYDR	**Nydri-Lefkada**	**1.41**	**3**	P	**Pn**	**17 09 17.0**	**-0.9**
NYDR				S	**Sb**	**17 09 34.6**	**-2.0**
KLV	**Kalavryta, Ach**	**1.43**	**59**	P	**Pn**	**17 09 17.6**	**-0.7**
KLV	**Kalavryta, Ach**	**1.43**	**59**	P	**Pn**	**17 09 17.4**	**-1.0**
KLV				AML	AML	17 09 47.0	
	comp=E,765μm,0.6s						
KLV				AML	AML	17 09 56.9	
	comp=N,751μm,0.7s						
LKD2	**Lefkada island**	**1.48**	**2**	P	**Pn**	**17 09 17.5**	**-1.5**
LKD2				AMP			
	comp=E,3.1nm,0.7s,baz=17						
LKD2	**Lefkada island**	**1.48**	**2**	P	**Pb**	**17 09 19.5**	**-0.2**
LKD2	**Lefkada island**	**1.48**	**2**	P	**Pn**	**17 09 18.8**	**-0.2**
LKD2				AML	AML	17 09 50.1	
	comp=N,2362μm,0.5s						
LKD2				AML	AML	17 09 50.1	
	comp=E,2284μm,0.6s						
TSLK	**Tsoukalades, L**	**1.52**	**2**	P	**Pn**	**17 09 18.8**	**-0.7**
TSLK				AML	AML	17 09 45.8	
	comp=E,2545μm,0.3s						
TSLK				AML	AML	17 09 46.4	
	comp=N,3102μm,0.4s						
GUR	**Goura**	**1.52**	**65**	P	**Pn**	**17 09 18.9**	**-0.7**
GUR	**Goura**	**1.52**	**65**	P	**Pn**	**17 09 19.0**	**-0.5**
GUR				AML	AML	17 09 53.5	
	comp=E,2064μm,0.5s						
GUR				AML	AML	17 09 53.7	
	comp=N,2548μm,0.5s						
EFP	**Efpalio**	**1.52**	**42**	P	**Pn**	**17 09 18.8**	**-0.7**
EFP				AML	AML	17 09 52.4	
	comp=E,973μm,0.7s						
EFP				AML	AML	17 09 58.0	
	comp=N,832μm,0.7s						
KALE	**Kalithea**	**1.63**	**48**	P	**Pn**	**17 09 20.4**	**-0.6**
KALE				AML	AML	17 09 52.0	
	comp=E,1145μm,0.6s						
KALE				AML	AML	17 09 52.9	
	comp=N,927μm,0.4s						
ANX	**Ano Chora**	**1.66**	**39**	P	**Pn**	**17 09 21.3**	**-0.1**
ANX				AML	AML	17 09 50.5	
	comp=N,1433μm,0.5s						
ANX				AML	AML	17 09 56.7	
	comp=E,1460μm,0.6s						
EVR	**Evrytania**	**1.87**	**30**	P	**Pn**	**17 09 24.8**	**+0.5**
EVR				AML	AML	17 09 59.4	
	comp=E,521μm,0.5s						
EVR				AML	AML	17 10 10.4	
	comp=N,615μm,0.5s						
VLI	**Veliai**	**1.96**	**107**	P	**Pn**	**17 09 26.2**	**+0.7**
VLI				AML	AML	17 10 05.6	
	comp=E,405μm,0.8s						
VLI				AML	AML	17 10 22.2	
	comp=N,442μm,1.0s						
AXAR	**Agios Charalam**	**2.18**	**47**	P	**Pn**	**17 09 29.1**	**+0.5**
AXAR				AML	AML	17 10 10.2	
	comp=E,920μm,0.5s						
AXAR				AML	AML	17 10 16.1	
	comp=N,1553μm,0.8s						
IGT	**Igoumenitsa**	**2.23**	**355**	P	**Pn**	**17 09 29.7**	**+0.4**
IGT				AMP			
	comp=E,0.8nm,0.6s,baz=3.0						
IGT	**Igoumenitsa**	**2.23**	**355**	P	**Pn**	**17 09 29.1**	**-0.2**
IGT				AML	AML	17 10 10.7	
	comp=E,554μm,0.4s						
IGT				AML	AML	17 10 13.4	
	comp=N,410μm,0.5s						
VIL2	**Platees**	**2.30**	**66**	P	**Pn**	**17 09 29.8**	**-0.4**
VIL2				AML	AML	17 10 15.0	
	comp=N,389μm,0.7s						
VIL2				AML	AML	17 10 16.6	
	comp=E,882μm,0.7s						
THL	**Klokotos Trika**	**2.52**	**26**	P	**Pn**	**17 09 34.0**	**+0.9**
VLY	**Voula,Athens**	**2.59**	**77**	P	**Pn**	**17 09 33.6**	**-0.7**
ANKY	**Antikythira Is**	**2.60**	**123**	P	**Pn**	**17 09 34.0**	**-0.3**
SRN	**Sarande**	**2.61**	**350**	P	**Pn**	**17 09 35.0**	**+0.5**
SRN				AMP			
	comp=E,0.3nm,1.0s,baz=357						
TYRN	**Tyrnavos**	**2.72**	**28**	P	**Pn**	**17 09 36.3**	**+0.3**
DION	**Dionisos Attik**	**2.75**	**73**	P	**Pn**	**17 09 36.6**	**+0.2**
LSK	**Leskovik**	**2.84**	**360**	AMP			
	comp=E,0.9nm,0.7s,baz=7.0						
NEO	**Neokhori**	**2.87**	**45**	P	**Pn**	**17 09 38.2**	**+0.1**
KYMI	**Kymi, Euboea I**	**3.07**	**63**	P	**Pn**	**17 09 40.8**	**0.0**
NEST	**Nestorio**	**3.12**	**6**	P	**Pn**	**17 09 43.7**	**+2.1**
AOS2	**Alonissos-2**	**3.15**	**53**	P	**Pn**	**17 09 42.0**	**+0.2**
SCTE	**Santa Cesarea**	**3.23**	**330**	P	**Pn**	**17 09 43.1**	**+0.2**
FNA	**Florina**	**3.53**	**10**	P	**Pn**	**17 09 49.8**	**+2.7**
OHR	**Ohrid**	**3.81**	**2**	*i* Pn	**Pn**	**17 09 52.8**	**+1.9**
NOCI	**Noci**	**4.44**	**323**	P	**Pn**	**17 10 00.0**	**+0.4**

*NEIC **08** 17:16:49.3±1.0, 33°.79N±0°.01×116°.16W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=355.0*
PAS 08 17:16:50.0±1.1, 33°.78N±0°.02×116°.13W±0°.02, h8km±4km, ML3.2/260, ML3.0/42(NEIC), Error ellipse: s-maj=3.5km s-min=1.5km az=133.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTW	**Cottonwood Mou**	**0.24**	**115**		Pg	17 16 55.0	+0.1
CTW					Sg	17 16 58.7	+0.6
PMD	**Palm Desert**	**0.24**	**237**		Pg	17 16 54.7	-0.2
PMD					Sg	17 16 58.0	-0.2
BELC	**Belle Mtn. Jos**	**0.25**	**27**		Pg	17 16 55.0	-0.1
BELC					Sg	17 16 58.7	+0.3
EW2	**E Wide Canyon**	**0.28**	**305**		Pg	17 16 55.6	-0.1
XPFO	**Pinon Flat**	**0.32**	**238**		Pg	17 16 55.9	-0.4
XPFO					Sg	17 17 00.3	-0.3
PFO	**Pinyon Flats O**	**0.32**	**238**		Pg	17 16 55.9	-0.5
PFO				IAML		17 17 00.5	
	2μm,0.4s						
PFO				IAML		17 17 00.8	
	2μm,0.4s						
TPC	**Twentynine Pal**	**0.33**	**12**		Pg	17 16 56.4	-0.3
HAY	**Hayfield**	**0.38**	**101**		Pg	17 16 58.1	+0.6
HAY					Sg	17 17 03.8	+1.2
GVDA	**Garner Valley**	**0.46**	**256**		Pg	17 16 58.7	-0.3
GVDA					Sg	17 17 04.8	-0.4
DNR	**Dunn Ranch,Anz**	**0.47**	**243**		Sg	17 17 05.4	+0.2
FRD	**Ford Ranch, An**	**0.48**	**234**		Pg	17 16 59.2	-0.3
FRD					Sg	17 17 05.6	-0.1
BZNA	**Buzz No.'s Pla**	**0.53**	**237**		Sg	17 17 07.2	0.0
BOMB	**Bombay Beach**	**0.53**	**141**		Pg	17 17 00.5	+0.1
GTM	**Goat Mountain**	**0.55**	**340**		Pg	17 17 00.4	-0.2
GTM					Sg	17 17 08.1	+0.3
FRK	**Frink**	**0.56**	**132**		Pg	17 17 00.5	-0.3
BORC	**Borrego Spring**	**0.56**	**205**		Pg	17 17 00.7	-0.3
BORC					Sg	17 17 08.2	-0.1
SLH	**Sleepy Hollow**	**0.59**	**190**		Pg	17 17 01.3	-0.2
SLH					Sg	17 17 09.3	+0.1
POB	**Polly Butte**	**0.66**	**262**		Pg	17 17 02.5	-0.4
POB					Sg	17 17 11.0	-0.6
ERRC	**Elmore Ranch**	**0.71**	**158**		Sb	17 17 14.6	+0.1
BBSC	**Beaumont Base**	**0.72**	**282**		Pn	17 17 13.3	+6.7
MATG	**Mataguay Scout**	**0.72**	**217**		Pg	17 17 03.5	-0.4
MATG					Sg	17 17 13.2	-0.1
HMTC	**Hemet**	**0.73**	**265**		Sg	17 17 12.9	-0.6
DGR	**Domenigoni Val**	**0.74**	**260**		Sg	17 17 13.4	-0.6
PLM	**Palomar**	**0.74**	**235**		Sg	17 17 13.7	-0.3
BACC	**Bachelor Mtn.**	**0.77**	**258**		Pg	17 17 04.2	-0.7
BACC					Sg	17 17 14.3	-0.7
BBRC	**Big Bear Solar**	**0.81**	**307**		Pg	17 17 05.0	-0.7
CFT	**Crafton Hills**	**0.85**	**288**		Sg	17 17 17.7	+0.2
PEC	**Perris**	**0.86**	**278**		Sg	17 17 17.3	-0.6
SUP	**Superstition M**	**0.86**	**162**		Pg	17 17 05.5	-1.1
SUP					Sg	17 17 17.0	-0.8
SVD	**Seven Oaks Dam**	**0.87**	**292**		Pg	17 17 05.8	-0.9
WEMD	**Westmorland, C**	**0.87**	**148**		Sg	17 17 18.6	+0.5
SLVP	**Salvation Pass**	**0.88**	**128**		Pg	17 17 05.5	-1.4
SWSC	**Sam W. Stewart**	**0.88**	**161**		Pg	17 17 05.7	-1.3
CRR	**Carrizo Plain**	**0.90**	**171**		Pg	17 17 06.2	-1.2
CRR					Sg	17 17 19.0	-0.1
MURC	**Murrieta**	**0.90**	**259**		Pg	17 17 06.5	-0.9
IRM	**Iron Mountain**	**0.90**	**65**		Pg	17 17 06.8	-0.6
MONP2	**Monument Peak**	**0.92**	**195**		Sg	17 17 19.1	-0.5
COK2	**Cook Ranch 2**	**0.99**	**160**		Pg	17 17 07.5	-1.5
COK2					Sg	17 17 21.1	-0.7
RSBC	**Riverside Bore**	**1.01**	**281**		Sg	17 17 21.2	-1.4
RSBC	**Riverside Bore**	**1.01**	**281**		Sg	17 17 21.5	-1.1
DPP	**Dos Picos Cty**	**1.03**	**221**		Pg	17 17 08.8	-1.1
RVR	**Riverside**	**1.05**	**282**		Pg	17 17 09.3	-1.0
RVR					Sg	17 17 23.0	-1.0
DANC	**Danby, Needles**	**1.06**	**36**		Pg	17 17 09.8	-0.6
HEC	**Hector,Ludlow**	**1.06**	**351**		Pg	17 17 09.7	-0.7
HEC					Sg	17 17 24.0	-0.2
GMRC	**Granite Mounta**	**1.08**	**21**		Pg	17 17 09.9	-0.9
GMRC					Sg	17 17 24.0	-0.8
ELS	**Elsinore Mount**	**1.09**	**263**	Sg	Sg	17 17 23.6	-1.4
GOMC	**Green Oak Ranc**	**1.11**	**236**		Pg	17 17 09.8	-1.5
GORC					Sg	17 17 24.1	-1.6
CSP	**Cedar Springs**	**1.14**	**297**		Pg	17 17 10.8	-1.1
YUH	**Yuha Desert**	**1.14**	**171**		Pg	17 17 11.1	-0.8
BAR	**Barrett**	**1.19**	**203**		Pg	17 17 10.9	-1.9
CPE	**Camp Elliot**	**1.20**	**223**		Pb	17 17 11.4	-1.7
CPE					Sg	17 17 27.1	-1.6
MLSC	**Mira Loma**	**1.21**	**281**		Sg	17 17 27.4	-1.6
SS2	**San Sevaine**	**1.21**	**291**		Pb	17 17 12.1	-1.1
SDRC	**San Diego Road**	**1.24**	**213**		Pn	17 17 11.9	-1.8
SDRC					Sb	17 17 28.4	-1.5
TKX	**Tecate**	**1.27**	**198**		Pn	17 17 13.2	-1.0
TKX				IAML		17 17 30.2	
	comp=N,339nm,0.3s						
TKX				IAML		17 17 54.1	
	comp=E,428nm,0.1s						
GLA	**Glamis**	**1.31**	**123**		Pn	17 17 14.3	-0.4
BLYC	**Blythe**	**1.34**	**91**		Pn	17 17 14.8	-0.2
BLYC				IAML		17 17 34.3	
	comp=N,400nm,0.5s						
BLYC				IAML		17 17 36.4	
	comp=E,209nm,0.4s						
CBX	**Cerro Bola**	**1.53**	**197**	Pg	Pn	17 17 17.6	-0.1
GSC	**Goldstone, Bar**	**1.62**	**340**		Pn	17 17 18.2	-0.8
GSC				IAML		17 17 42.8	
	comp=N,135nm,0.5s						
GSC				IAML		17 17 48.2	
	comp=E,169nm,0.5s						
PASC	**Pasadena Art C**	**1.75**	**283**		Pn	17 17 20.2	-0.5
PASC				IAML		17 17 46.1	
	comp=N,164nm,0.5s						
PASC				IAML		17 17 47.4	
	comp=E,112nm,0.4s						
ESJX	**Sierra Juarez**	**1.78**	**175**		Pn	17 17 21.7	+0.4
ESJX				IAML		17 17 41.3	
	comp=E,184nm,0.1s						
ESJX				IAML		17 17 48.0	
	comp=N,105nm,0.3s						
CCAC	**Calif City Air**	**2.07**	**312**		Pn	17 17 24.8	-0.4
CCAC				IAML		17 18 02.2	
	comp=N,104nm,0.8s						
CCAC				IAML		17 18 12.6	
	comp=E,108nm,1.2s						
V12A	**Nelson**	**2.21**	**28**		Pn	17 17 27.0	-0.1
W13A	**Hualapai Mount**	**2.28**	**54**		Pn	17 17 27.5	-0.7
W13A				IAML		17 18 02.9	
	comp=E,65nm,0.4s						
VTX	**Valle De La Tr**	**2.40**	**173**		Pb	17 17 33.4	-0.1
VTX				IAML		17 18 07.1	
	comp=E,62nm,0.3s						
GWY	**Greenwater Val**	**2.44**	**350**	Pn	Pn	17 17 28.9	-1.5
GWY				IAML		17 18 08.1	
	comp=E,96nm,0.3s						
GWY				IAML		17 18 09.7	
	comp=N,108nm,0.4s						
Y14A	**Wickenburg**	**2.61**	**86**		Pn	17 17 31.1	-1.5
ISA	**Isabella, Lake**	**2.69**	**315**	Pg	Pb	17 17 37.9	-0.6
SHPR	**Sheep Range**	**2.83**	**16**		Pn	17 17 34.8	-1.0
BCW	**Bitter Crk WRg**	**2.95**	**294**		Pn	17 17 36.9	-0.5
BCW				IAML		17 18 23.4	
	comp=N,77nm,0.6s						
TPNV	**Topopah Spring**	**3.16**	**358**		Pn	17 17 38.6	-1.7
TPNV				IAML		17 18 31.8	
	comp=N,40nm,0.5s						
TPNV				IAML		17 18 33.5	
	comp=N,63nm,0.5s						
PRN	**Pahroc Range**	**3.73**	**13**		Pn	17 17 47.3	-0.7
DSP	**Deep Springs**	**3.88**	**338**	Pn	Pn	17 17 49.0	-1.0
U15A	**North Rim**	**4.11**	**49**	Pn	Pn	17 17 52.8	-0.6
KNB	**Kanab**	**4.21**	**39**		Pn	17 17 54.0	-0.7
X18A	**Snowflake**	**5.18**	**80**	Pn	Pn	17 18 07.5	-0.5

*IDC **08** 17:22:51.9±5.2, 36°.14N×70°.53E, h170km±45km, mb3.2/9, mbtmp3.7/14, Error ellipse: s-maj=36.4km s-min=25.3km az=27.0*
*NNC **08** 17:22:60.0±8.5, 37°.05N×70°.53E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=66.3km s-min=59.2km az=165.0*
ISC 08 17:22:56.5±1.2, 36°.5N±0°.1×70°.6E±0°.1, h204km, n25, σ1°.82/28, mb3.4/8, 5C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.13**	**22**	P	**Pn**	**17 24 26.8**	**+0.9**
	SNR=58						
KK31	**Karatay Array**	**6.61**	**360**	⇑P	**Pn**	**17 24 31.8**	**+0.2**
	3.0nm,0.2s,baz=180,slow=13,SNR=54						
KK31				⇓S	**S**	**17 25 42.7**	**-4.2**
	3.9nm,0.3s,baz=188,slow=22,SNR=6.6						
EKS2	**Erkin-Say**	**6.64**	**21**	P	**Pn**	**17 24 33.3**	**+1.1**
	SNR=8.5						
AAK	**Ala-Archa**	**6.85**	**25**	P	**Pn**	**17 24 36.3**	**+1.5**
	SNR=9.9						
AAK	**Ala-Archa**	**6.85**	**25**	P	**Pn**	**17 24 35.9**	**+1.0**
	6.2nm,0.3s,baz=187,slow=6.1,SNR=30						
AAK				S	**S**	**17 25 51.7**	**-1.1**
	9.4nm,0.5s,baz=338,slow=19,SNR=15						
KBK	**Karagaybulak**	**7.03**	**27**	P	**Pn**	**17 24 38.9**	**+1.8**
	SNR=7.5						
ULHL	**Ulahol**	**7.23**	**36**	P	Pn	17 24 28.5	-11
	SNR=8.2						
CHMS	**Chumysh**	**7.25**	**25**	P	**Pn**	**17 24 41.5**	**+1.5**
	SNR=8.3						
CHMS	**Chumysh**	**7.25**	**25**	⇑P	**Pn**	**17 24 39.6**	**-0.5**
	3.4nm,0.3s						
CHMS				⇑S	**S**	**17 25 58.2**	**-4.0**
	11nm,0.9s						
USP	**Ospenovka**	**7.41**	**23**	P	**Pn**	**17 24 43.3**	**+1.3**
	SNR=6.1						
TKM2	**Tokmak 2**	**7.50**	**30**	P	**Pn**	**17 24 45.2**	**+1.9**
	SNR=26						
TKM2	**Tokmak 2**	**7.50**	**30**	⇑P	**Pn**	**17 24 44.7**	**+1.4**
	16nm,0.5s						
TKM2				⇑S	**S**	**17 26 06.0**	**-2.3**
	5.7nm,0.8s						
MKAR	**Makanchi Array**	**13.50**	**37**	P	**P**	**17 26 01.8**	**-0.7**
	1.3nm,0.8s,baz=220,slow=15,SNR=11						
KURBB	**Kurchatov Arra**	**15.25**	**20**	P	**P**	**17 26 23.6**	**+2.0**
	0.3nm,0.6s,baz=212,slow=8.5,SNR=3.8						
BVAR	**Borovoye Array**	**16.54**	**360**	P	**Pn**	**17 26 37.8**	**+0.9**
	0.7nm,0.4s,baz=165,slow=11,SNR=4.0						
AKTO	**Aktyubinsk**	**16.62**	**331**	P	**Pn**	**17 26 38.0**	**+0.1**
	2.1nm,0.4s,baz=148,slow=8.4,SNR=11						
ZALV	**Zalesovo Beam**	**20.07**	**25**	P	**P**	**17 27 15.4**	**+1.3**
	1.9nm,0.4s,baz=224,slow=10,SNR=6.8						
	1.9nm,0.4s						
ARTI	**Arti**	**21.54**	**341**	P	**P**	**17 27 31.4**	**+1.9**
	3.0nm,0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.08**	**110**	P	Pn	17 32 16.3	+0.2
SRBI	**Singaraja**	**1.56**	**283**	P	Pn	17 32 22.5	-0.2
JAGI	**Jajag, Banyuwa**	**2.57**	**269**	P	Pn	17 32 36.4	-0.2
ABJI	**Asem Bagus**	**2.57**	**284**	P	Pn	17 32 35.9	-0.7
WBSI	**Waikabubak, Su**	**2.87**	**115**	P	Pn	17 32 40.8	+0.1
KMMI	**Kalianget**	**3.09**	**297**	P	Pn	17 32 44.9	+1.2
GMJI	**Gumukmas**	**3.28**	**273**	P	Pn	17 32 46.9	+0.6
BSSI	**Bau Bau, Buton**	**4.36**	**59**	P	Pn	17 32 59.5	-1.7
BKSI	**Bulukumba**	**4.57**	**47**	P	Pn	17 33 03.4	-0.7
BNSI	**Bone**	**5.23**	**40**	P	Pn	17 33 15.4	+2.3

*AEIC **08** 17:53:00.1±3.0, 55°.7N±0°.1×150°.0W±0°.1, h10km±8km, Error ellipse: s-maj=17.3km s-min=10.6km az=160.0*
NEIC 08 17:52:57.7±2.3, 55°.98N±0°.09×150°.04W±0°.09, h10km±2km, ML3.2/38, ML3.1(AEIC), Error ellipse: s-maj=15.1km s-min=8.0km az=172.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.18**	**306**	Pn	Pn	17 53 33.7	-0.3
OHAK	**Old Harbor**	**2.18**	**306**		Sn	17 53 59.6	-1.4
SII	**Sitkinak Islan**	**2.38**	**286**	Pn	Pn	17 53 36.5	-0.3
SII				IAML		17 54 14.8	
	comp=N,174nm,1.1s						
SII	**Sitkinak Islan**	**2.38**	**286**		Sn	17 54 04.2	-1.8
R18K	**Karluk**	**2.90**	**305**		Pn	17 53 44.5	+0.7
R18K					Sn	17 54 18.1	-0.6
R18K	**Karluk**	**2.90**	**305**	IAML		17 54 46.9	
	comp=N,106nm,0.7s						
R18K				IAML		17 54 50.2	
	comp=E,81nm,0.4s						
SYI	**Shuyak Island**	**2.93**	**335**	Pn	Pn	17 53 44.7	+0.5
SYI				IAML		17 54 36.0	
	comp=E,44nm,0.9s						
SYI	**Shuyak Island**	**2.93**	**335**		Sn	17 54 20.5	+1.1
CHIR	**Chirikof Islan**	**3.15**	**269**		Sn	17 54 21.5	-3.3
KAHG	**Katmai Hook Gl**	**3.51**	**318**		Pn	17 53 54.0	+1.6
Q19K	**Cape Douglas,**	**3.54**	**328**	Pn	Pn	17 53 54.1	+1.4
KAKN	**Katmai Knife C**	**3.59**	**312**		Pn	17 53 54.5	+1.1
CNPM	**China Poot**	**3.61**	**350**	Pn	Pn	17 53 52.8	-0.9
CNPM				IAML		17 54 53.9	
	comp=E,38nm,0.7s						
ACHA	**Angle Creek He**	**3.65**	**310**		Pn	17 53 55.4	+1.2
ANCK	**Angle Creek**	**3.71**	**309**		Pn	17 53 56.4	+1.3
KAHC	**Katmai Hardscr**	**3.79**	**317**		Pn	17 53 57.5	+1.3
KAHC					Sn	17 54 41.7	+0.7
BRLK	**Bradley Lake**	**3.82**	**354**	Pn	Pn	17 53 55.7	-0.8
BRLK				IAML		17 54 43.8	
	comp=N,24nm,1.1s						
BRLK				IAML		17 55 26.9	
	comp=E,23nm,1.1s						
PLK4	**Peulik 4**	**3.84**	**298**		Pn	17 53 58.1	+1.1
PLK4	**Peulik 4**	**3.84**	**298**	IAML		17 55 06.7	
	comp=N,49nm,0.7s						
PLK4				IAML		17 55 06.8	
	comp=E,57nm,0.8s						
CNTC	**Contact Creek**	**3.92**	**308**		Pn	17 53 58.8	+0.7
PLK1	**Peulik 1**	**4.04**	**300**		Pn	17 54 00.7	+1.2
P19K	**Oil Pt**	**4.06**	**336**	Pn	Pn	17 54 01.8	+2.0
PLBL	**Peulik Blue Cr**	**4.10**	**298**		Pn	17 54 01.8	+1.4
ILSW	**Iliamna Southw**	**4.34**	**339**	Pn	Pn	17 54 03.7	0.0
ILSW				IAML		17 55 18.5	
	comp=N,23nm,1.1s						
ILSW				IAML		17 55 33.3	
	comp=E,26nm,1.0s						
P18K	**Big Mountain,**	**4.41**	**323**	Pn	Pn	17 54 04.0	-0.7
CHGN	**Chignik**	**4.69**	**277**	Pn	Pn	17 54 08.5	0.0
CHGN				IAML		17 55 23.9	
	comp=N,41nm,0.6s						
P17K	**Kvichak River**	**4.71**	**316**		Pn	17 54 10.1	+1.3
O18K	**Koktuh Hills**	**4.76**	**327**	Pn	Pn	17 54 07.6	-1.9
O18K				IAML		17 55 06.1	
	comp=N,23nm,1.2s						
O18K				IAML		17 55 42.1	
	comp=E,24nm,0.8s						
O19K	**Port Alsworth**	**4.79**	**334**	Pn	Pn	17 54 09.1	-0.8
HIN	**Hinchinbrook I**	**4.81**	**21**		Pn	17 54 08.5	-1.6
EYAK	**Cordova Ski Ar**	**5.11**	**25**	Pn	Pn	17 54 14.0	-0.2
RC01	**Rabbit Creek A**	**5.12**	**2**	Pn	Pn	17 54 12.1	-2.4
RC01				IAML		17 55 42.1	
	comp=E,14nm,0.6s						
RC01				IAML		17 55 51.2	
	comp=N,17nm,1.1s						
FID	**Port Fidalgo**	**5.13**	**20**	Pn	Pn	17 54 12.6	-2.1
FID				IAML		17 55 31.7	
	comp=N,18nm,1.0s						
FID				IAML		17 55 41.3	
	comp=E,27nm,1.2s						
N19K	**Bonanza Creek**	**5.38**	**336**	Pn	Pn	17 54 18.8	+0.8
N19K				IAML		17 55 41.0	
	comp=E,7.9nm,1.1s						
O16K	**Kokwok River B**	**5.62**	**313**	Pn	Pn	17 54 21.1	-0.2
N18K	**Kilae Creek**	**5.63**	**329**	Pn	Pn	17 54 21.0	-0.4
GHO	**Glory Hole Cre**	**5.84**	**5**	Pn	Pn	17 54 25.1	+0.8
SML	**Sawmill**	**5.91**	**8**	Pn	Pn	17 54 25.4	+0.1
N17K	**Nushagak Hills**	**5.91**	**323**	Pn	Pn	17 54 24.1	-1.2
SKT	**Skwentna**	**6.07**	**353**	Pn	Pn	17 54 25.9	-1.4
M20K	**Styx River**	**6.13**	**346**	Pn	Pn	17 54 25.9	-2.4
YAH	**Yahtse**	**6.21**	**42**	Pn	Pn	17 54 29.7	+0.2
GLB	**Gilahina Butte**	**6.36**	**28**	Pn	Pn	17 54 30.9	-0.6
N16K	**Nishlik Lake**	**6.44**	**318**		Pn	17 54 33.7	+1.2
GRNC	**Granite Creek**	**6.46**	**39**	Pn	Pn	17 54 31.6	-1.3
TABL	**Table Mountain**	**6.49**	**43**	Pn	Pn	17 54 31.4	-1.9
M17K	**Holitna River**	**6.66**	**328**		Pn	17 54 35.9	+0.4
L19K	**White Mountain**	**6.69**	**340**	Pn	Pn	17 54 35.7	-0.3
CTGM	**Chitina Glacie**	**6.76**	**39**	Pn	Pn	17 54 35.9	-1.2
N15K	**Kwethluk River**	**6.78**	**312**		Pn	17 54 38.5	+1.3
LOGN	**Logan Glacier**	**6.79**	**41**	Pn	Pn	17 54 36.8	-0.6
BCPM	**Bancas Point**	**6.82**	**50**	Pn	Pn	17 54 36.7	-1.0
O14K	**Tigyukauivet M**	**6.86**	**303**	Pn	Pn	17 54 37.3	-0.9
M16K	**Timber Creek**	**6.88**	**321**	Pn	Pn	17 54 39.2	+0.7
L18K	**Granite Mounta**	**7.13**	**334**	Pn	Pn	17 54 41.1	-0.8
DHY	**Denali Highway**	**7.24**	**10**	Pn	Pn	17 54 44.3	+0.7
O29M	**Mount Kennedy**	**7.45**	**50**	Pn	Pn	17 54 45.9	-0.6
P29M	**Windy Craggy**	**7.52**	**56**	Pn	Pn	17 54 45.9	-1.4
CAST	**Castle Rocks**	**7.53**	**353**	Pn	Pn	17 54 46.4	-1.1
L16K	**Owhat River**	**7.54**	**323**	Pn	Pn	17 54 45.9	-1.6
K20K	**Telida**	**7.67**	**346**	Pn	Pn	17 54 50.1	+0.7
M14K	**Bethel**	**7.88**	**312**	Pn	Pn	17 54 53.1	+1.0
K17K	**Iditarod**	**7.96**	**331**	Pn	Pn	17 54 52.1	-1.2
BPAW	**Bear Paw Mtn.**	**8.16**	**357**	Pn	Pn	17 54 55.0	-1.1
J20K	**Nowinta River**	**8.47**	**348**	Pn	Pn	17 54 57.5	-2.8
L14K	**Kuka Creek**	**8.49**	**314**	Pn	Pn	17 55 00.2	-0.4
K15K	**Wolf Creek Mou**	**8.64**	**322**	Pn	Pn	17 55 03.1	+0.4
J17K	**VABM Dome**	**8.72**	**332**	Pn	Pn	17 55 01.9	-1.8
M29M	**Somme Creek**	**8.78**	**38**	Pn	Pn	17 55 04.3	-0.4
J16K	**Anvik River**	**9.05**	**328**	Pn	Pn	17 55 07.9	-0.4
MLY	**Manley**	**9.09**	**358**	Pn	Pn	17 55 07.5	-1.3
I23K	**Minto, Yukon-K**	**9.20**	**2**	Pn	Pn	17 55 10.6	+0.3
N31M	**Braeburn, Yuko**	**9.23**	**47**	Pn	Pn	17 55 10.6	-0.2
L29M	**L29M**	**9.35**	**35**	Pn	Pn	17 55 12.2	-0.2
J14K	**Nanvaranak Lak**	**9.66**	**320**	Pn	Pn	17 55 18.5	+2.0
H21K	**Melozitna Rive**	**9.80**	**353**	Pn	Pn	17 55 18.3	-0.3
I26K	**Coal Creek Min**	**9.94**	**17**	Pn	Pn	17 55 19.4	-1.1
H24K	**Noodor Dome**	**9.94**	**5**	Pn	Pn	17 55 20.1	-0.4
H18K	**Honhosa River**	**10.06**	**340**	Pn	Pn	17 55 21.4	-0.7

*IDC **08** 18:06:03.5±0.9, 5°.07S×129°.98E, h0km, mb3.9/10, mbtmp4.0/14, ML3.9/4, MS3.0/6, Error ellipse: s-maj=34.3km s-min=17.7km az=85.0*
*DJA **08** 18:06:09.6±0.6, 5°.5±.2°×13°.0E±°.1, h21km±5km, M4.4/15, mb4.6/7, mB5.0/3, MLv4.2/15, Mw(mB)4.3/3*
ISC 08 18:06:07.3±0.6, 5°.18S±0°.04×129°.90E±0°.06, h28km, n36, σ1§99/38, mb4.0/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.65**	**0**	P	Pb	18 06 19.2	-0.9
BNDI	**Bandanaira**	**0.65**	**0**	P	Pb	18 06 19.0	-1.1
MSAI	**Masohi**	**2.06**	**332**	P	Pn	18 06 40.1	0.0
AAI	**Ambon**	**2.26**	**311**	P	Pn	18 06 42.0	-0.8
SAUI	**Saumlaki**	**3.11**	**154**	P	Pb	18 07 02.1	0.0
SAUI	**Saumlaki**	**3.11**	**154**	P	Pb	18 07 02.0	0.0
SAUI				S	Sb	18 07 40.5	+0.9
FAKI	**Fak Fak**	**3.24**	**46**	P	Pn	18 06 58.2	+1.9
FAKI	**Fak Fak**	**3.24**	**46**	P	Pn	18 06 57.8	+1.5
FAKI				S	Sn	18 07 34.6	+0.6
NLAI	**Namlea**	**3.39**	**304**	P	Pn	18 06 58.7	+0.3
KMPI	**Kaimana, Papua**	**4.08**	**68**	P	Pn	18 07 10.4	+2.6
SWI	**Sorong**	**4.50**	**18**	P	Pn	18 07 14.5	+0.9
SWI				S	Sn	18 08 03.3	-1.7
SANI	**Sanana**	**4.99**	**308**	P	Pn	18 07 23.1	+2.7
SANI	**Sanana**	**4.99**	**308**	P	Pn	18 07 21.7	+1.3
RKPI	**Ransiki, Papua**	**5.61**	**50**	P	Pn	18 07 30.4	+1.5
SOEI	**Soe**	**7.20**	**231**	P	Pn	18 07 59.2	+8.3
DRS	**Darwin Rock St**	**7.28**	**172**	P	Pn	18 07 58.6	+6.8
BATI	**Baumata**	**7.95**	**231**	Pn	Pn	18 08 04.2	+3.1
	1.8nm,0.3s,baz=63,slow=9.0,SNR=1.9						
BATI				LR	LR	18 10 52.7	
	comp=Z,96nm,18.7s,baz=98,slow=36 6.1nm,0.4s						
BATI	**Baumata**	**7.95**	**231**	P	Pn	18 08 06.2	+5.1
	13nm,1.0s						
LUWI	**Luwuk**	**8.22**	**300**	P	Pn	18 08 09.0	+4.2
LUWI	**Luwuk**	**8.22**	**300**	P	Pn	18 08 07.3	+2.5
	93nm,0.8s,706nm						
BKSI	**Bulukumba**	**9.74**	**269**	P	Pn	18 08 28.6	+3.0
KAPI	**Kappang**	**10.11**	**270**	Pn	Pn	18 08 34.9	+4.2
	1.4nm,0.3s,baz=80,slow=12,SNR=5.6						
KAPI				Sn	Sn	18 10 21.7	-1.6
	0.6nm,0.3s,baz=90,slow=19,SNR=1.8						
KAPI				LR	LR	18 12 24.0	
	comp=Z,129nm,18.1s,baz=85,slow=37						
FITZ	**Fitzroy Crossi**	**13.50**	**198**	Pn	Pn	18 09 17.2	+0.1
	0.3nm,0.3s,baz=20,slow=11,SNR=8.7						
FITZ				Sn	Sn	18 11 43.0	-3.3
	0.2nm,0.3s,baz=106,slow=20,SNR=1.3						
FITZ				LR	LR	18 15 19.1	
	comp=Z,55nm,18.5s,baz=11,slow=41 4.3nm,0.8s						
WRA	**Warramunga Arr**	**15.30**	**164**	Pn	Pn	18 09 40.5	-1.0
	0.6nm,0.3s,baz=341,slow=13,SNR=19						
WRA				Sn	Sn	18 12 18.1	-12
	baz=81,slow=30 2.5nm,0.6s						
ASAR	**Alice Springs**	**18.78**	**169**	P	Pn	18 10 26.8	+1.7
	0.4nm,0.3s,baz=344,slow=9.7,SNR=47						
ASAR				S	Sn	18 13 49.5	-5.1
	0.6nm,0.8s,baz=354,slow=24,SNR=3.2						
ASAR				LR	LR	18 18 32.4	
	comp=Z,52nm,19.0s,baz=347,slow=40 2.6nm,0.7s						
STKA	**Stephens Creek**	**28.73**	**159**	P	P	18 12 02.5	+0.1
	0.5nm,0.4s,baz=257,slow=10,SNR=2.5 0.5nm,0.4s						
JNU	**Nakatsue**	**38.10**	**1**	LR	LR	18 30 28.6	
	comp=Z,18nm,18.9s,baz=10.0,slow=39						
CMAR	**Chiang Mai Arr**	**38.51**	**308**	P	P	18 13 27.7	+0.2
	0.3nm,0.7s,baz=175,slow=17,SNR=2.5						
CMAR				LR	LR	18 29 58.3	
	comp=Z,9.4nm,21.1s,baz=160,slow=37 0.3nm,0.7s						
MJAR	**Matsushiro Arr**	**42.22**	**10**	P	P	18 13 57.2	-0.8
	2.9nm,0.8s,baz=185,slow=8.8,SNR=4.6 2.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**49.19**	**2**	P	P	18 14 52.3	-0.5
	1.5nm,0.8s,baz=204,slow=8.0,SNR=2.2 1.5nm,0.8s						
PETK	**Petropavlovsk-**	**62.63**	**18**	P	P	18 16 28.8	-0.3
	7.8nm,1.0s,baz=242,slow=3.1,SNR=2.7 7.8nm,1.0s						
MKAR	**Makanchi Array**	**66.66**	**326**	P	P	18 16 56.4	+0.8
	0.5nm,0.7s,baz=123,slow=5.6,SNR=2.7 0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**69.92**	**334**	P	P	18 17 15.6	-0.1
	0.3nm,0.3s,baz=123,slow=5.3,SNR=1.2 0.3nm,0.3s						
SEY	**Seymchan**	**70.04**	**11**	P	P	18 17 17.8	+1.5
	1.7nm,0.7s,baz=240,slow=20,SNR=1.8 1.7nm,0.7s						
KURBB	**Kurchatov Arra**	**70.92**	**328**	P	P	18 17 21.4	-0.5
	0.6nm,0.2s,baz=123,slow=4.9,SNR=2.6 0.6nm,0.2s						
BVAR	**Borovoye Array**	**76.48**	**328**	P	P	18 17 54.2	-0.4
	0.2nm,0.3s,baz=122,slow=7.4,SNR=5.8 0.2nm,0.3s						

*REY **08** 18:06:23.0, 68°.08N×18°.12W, h10km*
*IDC **08** 18:06:23.4±0.8, 68°.07N×18°.63W, h0km, mb3.9/14, mbtmp3.9/20, ML3.1/5, MS3.8/61, Error ellipse: s-maj=19.5km s-min=17.1km az=39.0*
*GCMT **08** 18:06:25.0±0.3, 68°.34N±0°.05×18°.25W±0°.07, h12km, MW4.6/76, Moment Tensor Solution. s11,c11; s76,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.89±.05; $M_{\theta\theta}$-0.01±.06; $M_{\phi\phi}$0.89±.04; $M_{r\theta}$0.40±.25; $M_{\theta\phi}$0.19±.04; $M_{\phi r}$-0.24±.20; Best double couple: $M_0$1.01900×10^{16} NP1:ϕ_s349.00000°, δ54.00000°, λ-118.00000°. NP2: ϕ_s212.00000°, δ44.00000°, λ-57.00000°. Principal axes: T 0.9490, Plg5.0000°, Azm99.0000°; N 0.1390, Plg23.0000°, Azm7.0000°; P -1.0880, Plg67.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
*DNK **08** 18:06:32.9±0.3, 68°.37N×19°.01W, h18km*
ISC 08 18:06:23.8±2.0, 67°.87N±0°.05×18°.76W±0°.06, h8km±13km, n82, σ1§69/49, mb3.9/15, MS3.8/55, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**1.36**	**167**	P	Pb	18 06 48.8	-0.7
IGRI				S	Sg	18 07 08.6	+1.1
ILEI	**Leirhofn**	**1.71**	**148**	P	Pn	18 06 52.5	-1.3
ISIG	**Siglufjorour**	**1.75**	**182**	P	Pb	18 06 54.6	-1.4
ISIG				S	Sg	18 07 20.6	+0.9
IHRN	**Hraun**	**1.85**	**198**	P	Pb	18 06 57.8	+0.1
IHRN				S	Sg	18 07 23.6	+0.6
IHED	**Heoinshofoi**	**1.88**	**162**	P	Pn	18 06 55.8	-0.3
IHLA	**Hella**	**1.94**	**176**	P	Pb	18 06 58.0	-1.3
IHLA				S	Sg	18 07 25.2	-0.8
IGIL	**Gilhagi**	**2.03**	**151**	P	Pn	18 06 57.2	-1.0
IGIL				S	Sn	18 07 24.0	+0.2
SCO	**Scoresbysund**	**2.86**	**338**	*i* P	Pn	18 07 10.6	+1.0
BORG	**Borgarnes**	**3.30**	**199**	Pn	Pb	18 07 18.4	-4.0
	146nm,0.6s,baz=2.4,slow=6.2,SNR=85						
BORG				Sn	Sb	18 07 59.2	-3.5
	2.3nm,0.3s,baz=12,slow=18,SNR=1.3						
BORG				LR	LR	18 08 34.2	
	comp=Z,895nm,18.5s,baz=353,slow=37						
JMIC	**Jan Mayen**	**4.78**	**44**	LR	LR	18 08 49.3	
	comp=Z,490nm,19.2s,baz=266,slow=32						
SUMG	**Summit**	**8.14**	**314**	*i* P	Pn	18 08 23.0	+0.6
DAG	**Danmarks Havn**	**8.95**	**0**	*i* P	Pn	18 08 32.0	-1.1
DAG				*i* P	Pn	18 08 32.0	-1.1
SFJD	**Kangerlussuaq**	**12.19**	**281**	LR	LR	18 14 08.4	
	comp=Z,144nm,19.9s,baz=69,slow=38						
NOA	**NORSAR Array B**	**14.49**	**104**	Pn	Pn	18 09 48.1	-0.7
	baz=312,slow=12,SNR=4.7						
NOA				LR	LR	18 14 31.9	
	comp=Z,217nm,21.4s,baz=315,slow=34 0.5nm,0.8s						
EKA	**Eskdalemuir Ar**	**14.53**	**142**	Pn	Pn	18 09 51.0	+1.6
	baz=333,slow=12 1.2nm,0.7s						
ARCES	**ARCESS Array B**	**15.90**	**64**	Pn	Pn	18 10 07.3	-0.2
	baz=281,slow=11,SNR=2.7						
ARCES				LR	LR	18 14 48.1	
	comp=Z,289nm,20.0s,baz=281,slow=32 4.2nm,1.0s						
HFS	**Hagfors**	**16.01**	**103**	Pn	Pn	18 10 08.7	-0.2
	0.1nm,0.3s,baz=321,slow=11,SNR=3.3						
HFS				LR	LR	18 15 18.7	
	comp=Z,268nm,21.7s,baz=290,slow=33 2.2nm,0.9s						
FINES	**FINESS Array B**	**19.83**	**87**	P	Pn	18 10 55.2	-0.8
	0.3nm,0.3s,baz=322,slow=9.8,SNR=15						
FINES				LR	LR	18 17 56.6	
	comp=Z,590nm,18.0s,baz=291,slow=35 9.3nm,0.9s						
FRB	**Frobisher Bay**	**20.34**	**282**	LR	LR	18 18 05.5	
	comp=Z,319nm,21.5s,baz=82,slow=34						
RES	**Resolute Bay**	**23.61**	**320**	LR	LR	18 20 46.6	
	comp=Z,368nm,18.1s,baz=47,slow=37						
DPC	**Dobruska-Polom**	**24.60**	**118**	*eP*	P	18 11 46.4	+2.3
KHC	**Kasperske Hory**	**24.76**	**123**	*eP*	P	18 11 48.8	+3.3
GERES	**GERESS Array B**	**25.05**	**123**	P	P	18 11 49.8	+1.7
	3.2nm,0.8s,baz=320,slow=8.9,SNR=11						
GERES				LR	LR	18 21 21.0	
	comp=Z,110nm,20.6s,baz=312,slow=36 3.2nm,0.8s						
CKRC	**Cesky Krumlov**	**25.26**	**122**	*eP*	P	18 11 52.3	+2.3
MNK	**Minsk**	**25.39**	**98**	*i* P	P	18 11 49.7	-1.3
	comp=E,7.0nm,0.8s						
MNK				*i* P	P	18 11 49.7	-1.3
	comp=N,13nm,0.9s						
MNK				*i* P	P	18 11 49.7	-1.3
	comp=Z,18nm,0.8s,baz=320						
MNK				*i* PP	PnPn	18 12 24.5	-1.1
MNK				*i* PPP	PPP	18 12 33.1	
MNK				*i* S	S	18 16 13.6	-3.7
MNK				*i* SS	SnSn	18 17 06.8	-1.9
MNK				*i* SSS	SSS	18 17 21.4	
MNK				*i* LR	LR	18 20 22.7	
MNK				*i* LRM	MLR	18 21 48.8	
	comp=E,137nm,15.7s						
MNK				*i* LRM	MLR	18 21 49.8	
	comp=N,165nm,15.4s						
MNK				*i* LRM	MLR	18 21 51.7	
	comp=Z,227nm,13.6s						
VRAC	**Vranov**	**25.58**	**119**	LR	LR	18 21 02.2	
	comp=Z,148nm,21.2s,baz=314,slow=34						
SCHQ	**Schefferville**	**25.67**	**264**	LR	LR	18 21 33.7	
	comp=Z,371nm,19.5s,baz=42,slow=35						
DAVOX	**Davos/Dischmat**	**25.73**	**131**	LR	LR	18 21 44.9	
	comp=Z,371nm,18.5s,baz=270,slow=36						
VYHS	**Vyhne**	**27.04**	**117**	*eP*	P	18 12 09.0	+2.9
KOLS	**Kolonicke sedl**	**27.85**	**112**	*eP*	P	18 12 13.7	+0.4
OBN	**Obninsk**	**28.20**	**89**	LR	LR	18 23 07.4	
	comp=Z,435nm,18.1s,baz=354,slow=36						
AKASG	**Malin Array Be**	**28.90**	**102**	P	P	18 12 21.9	-0.6
	comp=Z,1.3nm,0.7s,baz=331,slow=9.3,SNR=6.6						
AKASG				LR	LR	18 23 23.4	
	comp=Z,180nm,21.5s,baz=322,slow=35 comp=Z,1.3nm,0.7s						
ESDC	**Sonseca Array**	**29.40**	**156**	P	P	18 12 29.3	+2.1
	comp=Z,1.8nm,1.1s,baz=346,slow=9.8,SNR=4.6						
ESDC				LR	LR	18 22 24.9	
	comp=Z,139nm,21.5s,baz=326,slow=32 comp=Z,1.8nm,1.1s						
KIRV	**Kirov**	**30.44**	**74**	LR	LR	18 23 49.7	
	comp=Z,127nm,18.1s,baz=296,slow=34						
MLR	**Muntele Rosu**	**32.09**	**111**	LR	LR	18 26 46.7	
	comp=Z,234nm,18.0s,baz=318,slow=38						
NRIK	**Noril'sk**	**34.17**	**37**	LR	LR	18 28 08.1	
	comp=Z,130nm,19.7s,baz=333,slow=38						
BELG	**Belogornoye**	**34.48**	**83**	LR	LR	18 26 17.1	
	comp=Z,164nm,18.6s,baz=317,slow=35						
ARTI	**Arti**	**35.31**	**70**	LR	LR	18 26 42.8	
	comp=Z,344nm,18.3s,baz=306,slow=35						
VAE	**Valguarnera**	**35.61**	**132**	LR	LR	18 27 03.2	
	comp=Z,131nm,20.6s,baz=328,slow=35						
KEST	**Kesra**	**35.91**	**139**	LR	LR	18 27 32.6	
	comp=Z,181nm,18.8s,baz=355,slow=35						
MDT	**Midelt**	**36.05**	**160**	LR	LR	18 27 36.3	
	comp=Z,76nm,20.1s,baz=340,slow=35						
YKA	**Yellowknife Ar**	**36.71**	**309**	LR	LR	18 27 46.8	
	comp=Z,126nm,20.6s,baz=46,slow=35						
SADO	**Sadowa**	**38.47**	**264**	LR	LR	18 28 31.0	
	comp=Z,199nm,20.5s,baz=144,slow=34						
KVAR	**Kislovodsk Arr**	**39.57**	**95**	LR	LR	18 30 19.6	
	comp=Z,148nm,19.6s,baz=291,slow=36						
KBZ	**Khabaz**	**39.84**	**95**	P	P	18 13 58.7	+1.6
	comp=Z,1.5nm,0.9s,baz=328,slow=19,SNR=3.8						
KBZ				LR	LR	18 30 51.1	
	comp=Z,186nm,18.5s,baz=330,slow=37 comp=Z,1.5nm,0.9s						
BRTR	**Keskin Array B**	**39.88**	**108**	P	P	18 13 59.7	+1.9
	comp=Z,0.6nm,0.8s,baz=329,slow=11,SNR=3.0 comp=Z,0.6nm,0.8s						
AKTO	**Aktyubinsk**	**39.92**	**76**	LR	LR	18 29 32.6	
	comp=Z,164nm,19.2s,baz=316,slow=35						
ULM	**Lac du Bonnet**	**40.20**	**284**	LR	LR	18 30 18.7	
	comp=Z,287nm,18.6s,baz=34,slow=36						
BVAR	**Borovoye Array**	**42.19**	**64**	P	P	18 14 15.2	-1.3
	comp=Z,0.7nm,0.6s,baz=317,slow=9.6,SNR=3.4						
BVAR				LR	LR	18 29 23.8	
	comp=Z,32nm,20.2s,baz=312,slow=33 comp=Z,0.7nm,0.6s						
ILAR	**Eielson Array**	**42.62**	**330**	P	P	18 14 17.9	-1.8
	comp=Z,0.4nm,0.7s,baz=30,slow=7.5,SNR=2.1						
ILAR				LR	LR	18 35 43.9	
	comp=Z,86nm,18.4s,baz=32,slow=42 comp=Z,0.4nm,0.7s						
GNI	**Garni**	**43.62**	**96**	LR	LR	18 33 18.1	
	comp=Z,221nm,18.5s,baz=333,slow=37						
DLBC	**Dease Lake**	**44.38**	**316**	LR	LR	18 33 21.5	
	comp=Z,180nm,18.5s,baz=61,slow=37						
ZALV	**Zalesovo Beam**	**46.06**	**53**	P	P	18 14 46.4	-1.0
	comp=Z,0.7nm,0.5s,baz=327,slow=7.6,SNR=3.8						
ZALV				LR	LR	18 37 07.8	
	comp=Z,34nm,18.6s,baz=46,slow=40 comp=Z,0.7nm,0.5s						
MMAI	**Mount Meron Ar**	**46.51**	**110**	LR	LR	18 36 23.8	
	comp=Z,59nm,19.7s,baz=252,slow=39						
KURBB	**Kurchatov Arra**	**46.94**	**60**	P	P	18 14 54.0	-0.3
	comp=Z,1.8nm,0.9s,baz=331,slow=7.5,S

ML3.7/50,ML3.6(AEIC),Error ellipse: s-maj=14.1km s-min=10.0km az=158.0
*AEIC **08** 18:17:04.8±2.0,55°.96N±0°.10×150°.0W±0°.1,h12km±8km, Error ellipse: s-maj=15.1km s-min=10.4km az=153.0*
ISC 08 18:17:01.7±1.2,56°.07N±0°.09×150°.05W±0°.06,h10km, n139,σ1§23/131,mb3.7/5,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.13**	**304**		**Pn**	**18 17 35.1**	**-2.1**
OHAK	**Old Harbor**	**2.13**	**304**		**Sn**	**18 18 02.1**	**-1.7**
SII	**Sitkinak Islan**	**2.36**	**284**		**Sn**	**18 18 06.5**	**-2.9**
SII	**Sitkinak Islan**	**2.36**	**284**	Pn	**Pn**	**18 17 38.7**	**-1.7**
SII				IAML		18 18 19.7	
	comp=E,344nm,0.5s						
SYI	**Shuyak Island**	**2.85**	**335**	IAML		18 18 31.1	
	comp=E,208nm,1.9s						
SYI	**Shuyak Island**	**2.85**	**335**		**Pn**	**18 17 46.7**	**-0.4**
SYI					**Sn**	**18 18 21.6**	**+0.1**
R18K	**Karluk**	**2.85**	**304**		**Pn**	**18 17 46.8**	**-0.4**
R18K					**Sn**	**18 18 18.2**	**-3.3**
CHIR	**Chirikof Islan**	**3.14**	**268**	Pn	**Pn**	**18 17 51.4**	**+0.2**
CHIR				IAML		18 18 44.2	
	comp=N,230nm,2.3s						
CHIR				IAML		18 19 47.6	
	comp=E,216nm,3.2s						
KAHG	**Katmai Hook Gl**	**3.45**	**317**		**Pn**	**18 17 56.2**	**+0.8**
Q19K	**Cape Douglas,**	**3.46**	**327**		**Pn**	**18 17 55.8**	**+0.2**
CNPM	**China Poot**	**3.53**	**350**		**Pn**	**18 17 55.6**	**-0.9**
CNPM					**Sn**	**18 18 37.8**	**-0.5**
KAKN	**Katmai Knife C**	**3.53**	**311**		**Pn**	**18 17 56.5**	**-0.1**
ACHA	**Angle Creek He**	**3.59**	**309**		**Pn**	**18 17 57.3**	**-0.1**
KABU	**Katmai Buttres**	**3.60**	**310**		**Pn**	**18 17 58.2**	**+0.6**
ANCK	**Angle Creek**	**3.66**	**308**		**Pn**	**18 17 58.6**	**+0.2**
BRSE	**Bradley Lake S**	**3.70**	**355**		**Pn**	**18 17 58.0**	**-0.9**
BRSE					**Sn**	**18 18 41.2**	**-1.4**
KAHC	**Katmai Hardscr**	**3.73**	**316**		**Pn**	**18 17 59.6**	**+0.2**
BRLK	**Bradley Lake**	**3.73**	**353**		**Pn**	**18 17 58.0**	**-1.3**
BRLK					**Sn**	**18 18 43.1**	**-0.2**
BRLK	**Bradley Lake**	**3.73**	**353**	IAML		18 18 50.2	
	comp=N,110nm,3.3s						
BRLK				IAML		18 18 55.2	
	comp=E,121nm,2.8s						
PLK4	**Peulik 4**	**3.80**	**297**		**Pn**	**18 17 59.7**	**-0.7**
PLK4	**Peulik 4**	**3.80**	**297**	IAML		18 19 02.8	
	comp=E,124nm,1.1s						
PLK4				IAML		18 19 08.4	
	comp=N,112nm,0.8s						
CNTC	**Contact Creek**	**3.87**	**307**		**Pn**	**18 18 00.8**	**-0.4**
P19K	**Oil Pt**	**3.98**	**336**		**Pn**	**18 18 03.0**	**+0.3**
PLK1	**Peulik 1**	**3.99**	**299**		**Pn**	**18 18 03.1**	**+0.3**
PLBL	**Peulik Blue Cr**	**4.06**	**297**		**Pn**	**18 18 03.6**	**-0.2**
P23K	**Montague Islan**	**4.18**	**19**		**Pn**	**18 18 04.9**	**-0.6**
ILS	**Iliamna Low So**	**4.22**	**339**		**Pn**	**18 18 06.1**	**0.0**
ILSW	**Iliamna Southw**	**4.26**	**339**		**Pn**	**18 18 05.8**	**-0.8**
ILSW	**Iliamna Southw**	**4.26**	**339**	IAML		18 18 42.8	
	comp=N,71nm,3.9s						
ILSW				IAML		18 19 07.8	
	comp=E,80nm,1.1s						
IVE	**Iliamna Volcan**	**4.26**	**340**		**Pn**	**18 18 06.1**	**-0.6**
P18K	**Big Mountain,**	**4.34**	**322**		**Pn**	**18 18 07.1**	**-0.5**
Q16K	**King Salmon**	**4.43**	**309**		**Pn**	**18 18 08.8**	**-0.1**
SLKM	**Skilak Lake**	**4.45**	**359**		**Pn**	**18 18 08.4**	**-0.8**
RDSO	**Redoubt South**	**4.62**	**343**		**Pn**	**18 18 10.6**	**-1.1**
P17K	**Kvichak River**	**4.65**	**315**		**Pn**	**18 18 12.2**	**+0.3**
REF	**Redoubt East F**	**4.65**	**344**		**Pn**	**18 18 11.0**	**-1.1**
CHGN	**Chignik**	**4.68**	**276**	Pn	**Pn**	**18 18 10.5**	**-1.7**
CHGN				IAML		18 19 02.5	
	comp=N,54nm,2.7s						
CHGN				IAML		18 19 06.5	
	comp=E,64nm,0.6s						
O18K	**Koktuh Hills**	**4.69**	**326**		**Pn**	**18 18 12.4**	**0.0**
O18K	**Koktuh Hills**	**4.69**	**326**	IAML		18 19 20.3	
	comp=E,54nm,3.1s						
O18K				IAML		18 19 57.5	
	comp=N,59nm,3.3s						
RDT	**Redoubt**	**4.69**	**346**		**Pn**	**18 18 11.6**	**-0.8**
O19K	**Port Alsworth**	**4.72**	**333**		**Pn**	**18 18 12.7**	**-0.1**
HIN	**Hinchinbrook I**	**4.73**	**22**		**Pn**	**18 18 12.1**	**-0.9**
NCT	**North Crescent**	**4.76**	**343**		**Pn**	**18 18 12.9**	**-0.5**
PWL	**Port Wells**	**4.89**	**10**		**Pn**	**18 18 13.9**	**-1.3**
PWL	**Port Wells**	**4.89**	**10**	IAML		18 19 48.6	
	comp=N,69nm,3.7s						
KAIM	**Kayak Island**	**4.89**	**35**	Pn	**Pn**	**18 18 13.8**	**-1.5**
EYAK	**Cordova Ski Ar**	**5.03**	**25**		**Pn**	**18 18 16.0**	**-1.1**
RC01	**Rabbit Creek A**	**5.04**	**2**	Pn	**Pn**	**18 18 15.8**	**-1.5**
RC01				IAML		18 19 14.3	
	comp=N,55nm,3.9s						
RC01				IAML		18 21 21.9	
	comp=E,54nm,4.0s						
FID	**Port Fidalgo**	**5.06**	**20**	Pn	**Pn**	**18 18 16.8**	**-0.7**
FID				IAML		18 19 37.5	
	comp=N,84nm,3.3s						
FID				IAML		18 21 27.7	
	comp=E,70nm,3.5s						
GLI	**Glacier Island**	**5.07**	**17**		**Pn**	**18 18 17.0**	**-0.6**
GLI	**Glacier Island**	**5.07**	**17**	IAML		18 19 18.3	
	comp=E,71nm,3.3s						
GLI				IAML		18 21 07.7	
	comp=N,73nm,3.9s						
P16K	**Nushagak River**	**5.21**	**308**		**Pn**	**18 18 19.3**	**-0.2**
O17K	**Koliganek Bris**	**5.28**	**318**		**Pn**	**18 18 20.4**	**-0.1**
N19K	**Bonanza Creek**	**5.30**	**336**		**Pn**	**18 18 20.7**	**-0.2**
N19K	**Bonanza Creek**	**5.30**	**336**	IAML		18 19 23.0	
	comp=E,31nm,4.2s						
N19K				IAML		18 20 42.2	
	comp=N,41nm,3.5s						
KNK	**Knik Glacier**	**5.42**	**8**	Pn	**Pn**	**18 18 20.9**	**-1.7**
KNK				IAML		18 21 15.2	
	comp=E,58nm,3.3s						
KNK				IAML		18 21 26.9	
	comp=N,40nm,3.9s						
SUA	**Susitna One**	**5.42**	**356**	IAML		18 20 14.7	
	comp=N,62nm,3.4s						
BERG	**Berg Lake**	**5.48**	**35**	Pn	**Pn**	**18 18 22.2**	**-1.1**
N18K	**Kilae Creek**	**5.55**	**329**		**Pn**	**18 18 23.9**	**-0.4**
O16K	**Kokwok River B**	**5.56**	**313**		**Pn**	**18 18 24.2**	**-0.2**
SNH	**Sunshine Point**	**5.62**	**40**	Pn	**Pn**	**18 18 23.8**	**-1.5**
KHIT	**Khitrov Hills**	**5.67**	**36**		**Pn**	**18 18 24.8**	**-1.1**
BMRM	**Bremner River**	**5.68**	**28**		**Pn**	**18 18 25.2**	**-0.9**
GHO	**Glory Hole Cre**	**5.75**	**5**		**Pn**	**18 18 26.4**	**-0.7**
WAX	**Waxell Ridge**	**5.81**	**38**		**Pn**	**18 18 26.6**	**-1.3**
N17K	**Nushagak Hills**	**5.84**	**323**		**Pn**	**18 18 27.2**	**-1.0**
KLU	**Klutina**	**5.85**	**20**		**Pn**	**18 18 28.1**	**-0.3**
CRQM	**Cirque**	**5.94**	**35**		**Pn**	**18 18 28.4**	**-1.4**
MESA	**MESA**	**5.95**	**43**	Pn	**Pn**	**18 18 29.2**	**-0.6**
SCM	**Sheep Creek Mo**	**5.95**	**13**	Pn	**Pn**	**18 18 29.5**	**-0.3**
SKT	**Skwentna**	**5.98**	**353**	Pn	**Pn**	**18 18 28.6**	**-1.6**
TGL	**Tana Glacier**	**6.04**	**36**		**Pn**	**18 18 29.7**	**-1.4**
M20K	**Styx River**	**6.05**	**346**	Pn	**Pn**	**18 18 28.7**	**-2.5**
ISLE	**Juniper Island**	**6.09**	**39**		**Pn**	**18 18 33.7**	**+1.9**
BAGL	**Bagley Icefiel**	**6.10**	**40**		**Pn**	**18 18 30.2**	**-1.6**
O15K	**Ungalikthiuk R**	**6.11**	**305**		**Pn**	**18 18 31.6**	**-0.3**
YAH	**Yahtse**	**6.15**	**42**		**Pn**	**18 18 31.4**	**-1.3**
M18K	**Stony River**	**6.21**	**333**		**Pn**	**18 18 32.3**	**-1.0**
VRDI	**Verde Repeater**	**6.21**	**31**		**Pn**	**18 18 32.8**	**-0.8**
N25K	**Chitina, Valde**	**6.23**	**25**		**Pn**	**18 18 33.3**	**-0.4**
RKAV	**Rock Avalanche**	**6.26**	**44**		**Pn**	**18 18 32.4**	**-1.7**
M19K	**Big River Lodg**	**6.27**	**341**	Pn	**Pn**	**18 18 31.5**	**-2.6**
GLB	**Gilahina Butte**	**6.29**	**28**		**Pn**	**18 18 33.8**	**-0.6**
KIAG	**Kiagna River**	**6.32**	**36**		**Pn**	**18 18 33.2**	**-1.8**
N16K	**Nishlik Lake**	**6.38**	**317**		**Pn**	**18 18 35.6**	**+0.1**
M24K	**Tolsona, Glenn**	**6.38**	**17**		**Pn**	**18 18 36.6**	**+0.9**
GRNC	**Granite Creek**	**6.39**	**40**		**Pn**	**18 18 34.4**	**-1.6**
BALM	**Baldy**	**6.41**	**36**		**Pn**	**18 18 34.6**	**-1.5**
TABL	**Table Mountain**	**6.42**	**43**		**Pn**	**18 18 35.0**	**-1.4**
MCARA	**McCarthy VSAT**	**6.46**	**32**		**Pn**	**18 18 36.1**	**-0.7**
PTPK	**Patty Peak**	**6.48**	**35**		**Pn**	**18 18 36.0**	**-1.2**
M17K	**Holitna River**	**6.58**	**327**		**Pn**	**18 18 37.8**	**-0.6**
L19K	**White Mountain**	**6.61**	**340**	Pn	**Pn**	**18 18 37.8**	**-1.1**
CTGM	**Chitina Glacie**	**6.70**	**39**		**Pn**	**18 18 38.7**	**-1.5**
N15K	**Kwethluk River**	**6.72**	**312**		**Pn**	**18 18 40.6**	**+0.3**
LOGN	**Logan Glacier**	**6.73**	**41**		**Pn**	**18 18 39.0**	**-1.6**
PNL	**Peninsula**	**6.73**	**53**		**Pn**	**18 18 37.7**	**-2.8**
BCPM	**Bancas Point**	**6.76**	**51**		**Pn**	**18 18 39.0**	**-1.9**
M16K	**Timber Creek**	**6.81**	**321**		**Pn**	**18 18 41.6**	**0.0**
O14K	**Tigyukauivet M**	**6.81**	**303**	Pn	**Pn**	**18 18 41.4**	**-0.1**
HARP	**HAARP**	**6.83**	**20**		**Pn**	**18 18 41.8**	**0.0**
O28M	**Mount Upton**	**7.00**	**44**		**Pn**	**18 18 43.0**	**-1.4**
L18K	**Granite Mounta**	**7.05**	**334**	Pn	**Pn**	**18 18 43.0**	**-1.8**
DHY	**Denali Highway**	**7.16**	**10**	Pn	**Pn**	**18 18 46.6**	**+0.1**
M15K	**Kasigluk River**	**7.26**	**314**		**Pn**	**18 18 47.6**	**-0.1**
M26K	**Nabesna, AK**	**7.31**	**27**	Pn	**Pn**	**18 18 49.4**	**+1.0**
O29M	**Mount Kennedy**	**7.40**	**50**		**Pn**	**18 18 47.5**	**-2.2**
L16K	**Owhat River**	**7.47**	**323**		**Pn**	**18 18 50.2**	**-0.3**
P29M	**Windy Craggy**	**7.47**	**56**		**Pn**	**18 18 48.3**	**-2.4**
KTH	**Kantishna Hill**	**7.52**	**357**	Pn	**Pn**	**18 18 50.2**	**-1.2**
M27K	**Edge Creek, AK**	**7.57**	**30**	Pn	**Pn**	**18 18 52.4**	**+0.3**
K20K	**Telida**	**7.59**	**346**	Pn	**Pn**	**18 18 50.1**	**-2.1**
MENT	**Mentasta**	**7.60**	**22**	Pn	**Pn**	**18 18 54.2**	**+1.8**
M14K	**Bethel**	**7.81**	**312**	Pn	**Pn**	**18 18 55.3**	**+0.1**
K17K	**Iditarod**	**7.88**	**331**	Pn	**Pn**	**18 18 55.4**	**-0.8**
BPAW	**Bear Paw Mtn.**	**8.07**	**357**	Pn	**Pn**	**18 18 58.3**	**-0.5**
J16K	**Innoko River**	**8.14**	**338**	Pn	**Pn**	**18 18 57.7**	**-2.1**
L15K	**Ungalak Mounta**	**8.16**	**318**		**Pn**	**18 19 00.1**	**0.0**
BCAR	**Beaver Creek A**	**8.17**	**27**	Pn	**Pn**	**18 18 59.9**	**-0.3**
M13K	**Dall Lake**	**8.25**	**307**	Pn	**Pn**	**18 19 01.5**	**+0.3**
J19K	**Poorman**	**8.42**	**343**	Pn	**Pn**	**18 19 02.1**	**-1.5**
K15K	**Wolf Creek Mou**	**8.58**	**321**	Pn	**Pn**	**18 19 04.3**	**-1.4**
IL31		**8.87**	**9**		**Pn**	**18 19 11.3**	**+1.6**
ILAR	**Eielson Array**	**8.87**	**9**	Pn	**Pn**	**18 19 11.2**	**+1.4**
	comp=N,0.3nm,0.3s,baz=188,slow=13,SNR=10						
ILAR				Sn	**Sn**	**18 20 46.9**	**-2.7**
	comp=N,0.3nm,0.3s,baz=190,slow=16,SNR=4.7						
	comp=N,0.7nm,0.4s						
H18K	**Honhosa River**	**9.98**	**339**	Pn	**Pn**	**18 19 25.9**	**+1.0**
H17K	**Granite Mounta**	**10.12**	**335**	Pn	**Pn**	**18 19 28.4**	**+1.5**
DLBC	**Dease Lake**	**11.09**	**69**	Pn	**Pn**	**18 19 38.7**	**-1.6**
	comp=N,0.3nm,0.3s,baz=342,slow=20,SNR=1.5						
	comp=N,0.6nm,0.3s						
INK	**Inuvik**	**14.42**	**25**		**Pn**	**18 20 26.1**	**+0.6**
INK	**Inuvik**	**14.42**	**25**	Pn	**Pn**	**18 20 26.0**	**+0.4**
	baz=209,slow=9.9,SNR=4.5						
	comp=N,3.5nm,1.1s						
FRB	**Frobisher Bay**	**38.88**	**44**	LR	LR	18 40 52.7	
	comp=N,118nm,18.1s,baz=151,slow=37						
SADO	**Sadowa**	**44.62**	**73**	LR	LR	18 42 05.0	
	comp=N,58nm,18.0s,baz=66,slow=34						
H11S1	**WAKE ISLAND Hy**	**49.55**	**239**	T	T	19 19 56.6	
	baz=29						
H11S2	**WAKE ISLAND Hy**	**49.56**	**239**	T	T	19 20 08.9	
	baz=29						
H11S3	**WAKE ISLAND Hy**	**49.56**	**239**	T	T	19 20 05.8	
	baz=29						
SONM	**Songino Array**	**58.45**	**310**	P	**P**	**18 26 57.5**	**+0.1**
	comp=N,0.6nm,0.9s,baz=56,slow=7.7,SNR=3.4						
	comp=N,0.6nm,0.9s						
BVAR	**Borovoye Array**	**66.30**	**335**	P	**P**	**18 27 50.8**	**+1.1**
	comp=N,0.2nm,0.4s,baz=36,slow=5.4,SNR=2.6						
	comp=N,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**66.30**	**329**	P	**P**	**18 27 51.9**	**+2.2**
	comp=N,0.1nm,0.3s,baz=26,slow=6.4,SNR=2.7						
	comp=N,0.1nm,0.3s						
MKAR	**Makanchi Array**	**68.52**	**324**	P	**P**	**18 28 04.5**	**+0.6**
	comp=N,0.6nm,0.9s,baz=31,slow=5.9,SNR=2.4						
	comp=N,0.6nm,0.9s						
AKASG	**Malin Array Be**	**73.60**	**0**	P	**P**	**18 28 36.1**	**+1.5**
	comp=N,0.1nm,0.2s,baz=356,slow=5.1,SNR=1.8						
	comp=N,0.1nm,0.2s						

IDC 08 18:17:19.8±999.0,54°.10N×1°.42E,h0km,Error ellipse: s-maj=528.9km s-min=176.8km az=107.0,North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**9.29**	**119**	I	I	19 12 30.0	
	0.1nm,0.6s,baz=309,slow=322,SNR=1.1						
I43RU	**DUBNA INFRASON**	**20.35**	**68**	I	I	20 20 30.5	
	baz=277,slow=325,SNR=2.5						
I31KZ	**AKTYUBINSK INF**	**34.07**	**73**	I	I	21 45 20.0	
	baz=300,slow=317,SNR=0.6						

KRSC 08 18:27:52.6±1.8,54°.54N×158°.65E,h292km±18km,MI3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.69**	**137**	*eP*	Pn	18 28 32.1	+1.1
GNL	**Ganaly**	**0.95**	**207**	*eP*	Pn	18 28 32.8	+0.7
KRX	**Arik**	**1.19**	**180**	*eP*	Pn	18 28 34.7	+1.3
SDLR	**Sedlovina**	**1.28**	**174**	*eP*	Pn	18 28 35.2	+1.5
AVH	**Avacha**	**1.28**	**178**	*eP*	Pn	18 28 35.7	+1.9
SMAR	**Somma**	**1.29**	**176**	*eP*	Pn	18 28 35.6	+1.6
ESO	**Esso**	**1.39**	**1**	*eP*	Pn	18 28 33.7	-0.4
NLC	**Nalytchevo**	**1.44**	**163**	*eP*	Pn	18 28 35.4	+0.9
NLC				*eS*	S	18 29 07.7	-0.2
DALK	**Dalny**	**1.52**	**178**	*eP*	Pn	18 28 36.0	+0.9
DALK				*eS*	S	18 29 08.6	-0.2
PET	**Petropavlovsk**	**1.52**	**180**	*eP*	Pn	18 28 36.0	+0.9
SPN	**Mys Shipunski**	**1.66**	**150**	*eP*	Pn	18 28 36.8	+0.7
SPN				*eS*	S	18 29 10.1	-0.6
BZP	**Bezymyannyi-Pe**	**1.75**	**37**	*eP*	Pn	18 28 38.4	+1.6
KRMR	**Karymshinskiy**	**1.75**	**191**	*eP*	Pn	18 28 37.0	+0.3
BZMR	**Bezymyannaya**	**1.75**	**36**	*eP*	Pn	18 28 38.3	+1.5
MTVR	**Mutnovka**	**2.08**	**188**	*eP*	Pn	18 28 41.7	+2.1
MTVR				*eS*	S	18 29 18.1	+1.2
RUS	**Russkaya**	**2.12**	**182**	*eP*	Pn	18 28 39.9	+0.3
RUS				*eS*	S	18 29 15.3	-1.7
ASAK	**Asacha**	**2.21**	**192**	*eP*	Pn	18 28 39.9	-0.7
KDTR	**Khodutka, Kamc**	**2.76**	**187**	*eP*	Pn	18 28 46.2	+0.8
KDTR				*eS*	S	18 29 26.2	-1.4
KBTR	**Krutoberegovo**	**2.90**	**53**	*eP*	Pn	18 28 47.5	+0.8
KBTR				*eS*	S	18 29 28.2	-1.6

*SOME **08** 18:34:24.3,38°.52N×74°.28E,h10km*
*NNC **08** 18:34:53.1±5.6,39°.55N×74°.66E,h0km,mb3.4,mpv3.0, Error ellipse: s-maj=57.5km s-min=45.5km az=126.0*
ISC 08 18:34:28.5±3.8,38°.8N±0°.2×74°.20E±0°.07,h10km,n9, σ2§63/15,3C-3D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**4.25**	**5**	⇑Pn	**Pg**	**18 35 50.5**	**+0.7**
	3.4nm,0.5s						
CHMS				⇑Lg	Lg	18 36 40.9	
	5.4nm,0.8s						
TKM2	**Tokmak 2**	**4.28**	**14**	⇑Pn	**Pb**	**18 35 46.8**	**+2.8**
	3.2nm,0.3s						
TKM2				⇓Lg	Lg	18 36 43.5	
	7.5nm,0.8s						
KST	**Kastek**	**4.47**	**17**	*eP*	**Pb**	**18 35 50.1**	**+2.9**
	3.1nm,0.4s						
KST				*eS*	**Sg**	**18 36 51.4**	**-0.7**
	3.1nm,0.2s						
IUG	**Iuzhnay**	**4.63**	**318**	*eP*	**Pg**	**18 35 54.2**	**-3.1**
	4.1nm,0.4s						
IUG				*eS*	**Sg**	**18 36 58.1**	**+0.8**
	14nm,0.5s						
MTBS	**Maitube**	**4.67**	**20**	*eP*	**Pg**	**18 35 54.5**	**-3.5**
	1.5nm,0.1s						
MTBS				*eS*	**Sg**	**18 36 58.6**	**+0.1**
	5.3nm,0.1s						
TNSS	**Tian-Shan**	**4.74**	**25**	*eP*	**Pb**	**18 35 55.0**	**+3.0**
	0.9nm,0.1s						
TNSS				*eS*	**Sg**	**18 36 59.3**	**-1.5**
	4.6nm,0.6s						
MDOK	**Medeo**	**4.89**	**25**	*eP*	**Pb**	**18 35 57.5**	**+3.1**
	1.3nm,0.1s						
MDOK				*eS*	**Sg**	**18 37 03.8**	**-1.7**
	9.1nm,0.6s						
KK31	**Karatay Array**	**5.15**	**328**	⇓Pn	**Pg**	**18 36 04.7**	**-2.5**
	0.5nm,0.4s,baz=133,slow=12,SNR=13						
KK31				⇓Lg	Lg	18 37 24.9	
	2.2nm,0.6s,baz=130,slow=28,SNR=4.4						
CHKK	**Chushkaly**	**5.50**	**22**	*eP*	**Pg**	**18 36 10.1**	**-3.6**
	2.5nm,0.1s						
CHKK				*eS*	**Sg**	**18 37 25.6**	**+0.7**
	3.6nm,0.2s						

*IDC **08** 18:42:52.9±0.6,2°.81S×119°.59E,h0km,mb4.2/12, mbtmp4.3/14,ML4.0/2,MS3.6/27,Error ellipse: s-maj=37.7km s-min=12.1km az=69.0*
*NEIC **08** 18:42:54.1±1.6,2°.82S±0°.07×119°.5E±0°.1,h10km±1km, mb4.6/40,Error ellipse: s-maj=19.8km s-min=8.8km az=62.0*
*DJA **08** 18:42:54.9±0.2,3°S±2°×11°9E±°,h10km,M4.5/25, mb4.7/25,mB5.0/9,MLv4.7/24,Mw(mB)4.3/9*
ISC 08 18:42:53.7±0.4,2°.87S±0°.04×119°.41E±0°.06,h10km,n127, σ1§52/105,mb4.6/38,MS3.6/25,1D,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.44**	**113**	P	Pg	18 42 58.0	-4.4
TTSI				S	**Sg**	**18 43 08.4**	**+0.2**
SPSI	**Sidrap Palu**	**1.14**	**162**	P	**Pb**	**18 43 13.5**	**-2.1**
BNSI	**Bone**	**1.67**	**155**	P	**Pn**	**18 43 24.4**	**+1.4**
BNSI				S	**Sg**	**18 43 48.2**	**+0.7**
KAPI	**Kappang**	**2.16**	**171**	Pn	**Pn**	**18 43 29.9**	**+0.1**
KAPI	**Kappang**	**2.16**	**171**	Pn	**Pn**	**18 43 30.9**	**+1.2**
	166nm,0.3s,baz=342,slow=11,SNR=30						
KAPI				Sn	**Sn**	**18 43 58.5**	**+2.0**
	237nm,0.3s,baz=68,slow=19,SNR=4.4						
	661nm,0.5s						
BKSI	**Bulukumba**	**2.54**	**164**	P	**Pn**	**18 43 36.7**	**+1.7**
BKSI				S	**Sn**	**18 44 08.2**	**+2.3**
APSI	**Ampana**	**2.96**	**49**	P	**Pn**	**18 43 43.8**	**+2.9**
BKB	**Balikpapan**	**2.98**	**302**	Pn	**Pn**	**18 43 41.6**	**+0.5**
BKB	**Balikpapan**	**2.98**	**302**	P	**Pn**	**18 43 42.4**	**+1.3**
MPSI	**Mapaga**	**3.22**	**9**	P	**Pn**	**18 43 45.3**	**+0.9**
SMKI	**Samarinda**	**3.26**	**318**	P	**Pn**	**18 43 46.1**	**+1.1**
BSSI	**Bau Bau, Buton**	**3.42**	**162**	P	**Pn**	**18 43 50.9**	**+3.7**
LUWI	**Luwuk**	**3.82**	**62**	Pn	Pn	18 43 48.6	-4.0
LUWI	**Luwuk**	**3.82**	**62**	P	**Pn**	**18 43 53.8**	**+1.2**
BBSI	**Bau Bau**	**4.08**	**130**	P	**Pn**	**18 43 58.5**	**+2.2**
MRSI	**Marisa**	**4.18**	**37**	P	**Pn**	**18 43 58.9**	**+1.3**
TOLI2	**Tolitoli**	**4.19**	**19**		Pn	18 43 52.6	-5.0
KMSI	**Cibinong**	**5.71**	**53**	P	**Pn**	**18 44 21.0**	**+2.4**
PLAI	**Plampang**	**6.14**	**195**	P	**Pn**	**18 44 24.7**	**+0.2**
	34nm,1.1s,0.3nm						
MMRI	**Maumere**	**6.38**	**154**	Pn	**Pn**	**18 44 26.7**	**-1.2**
MMRI	**Maumere**	**6.38**	**154**	P	**Pn**	**18 44 30.1**	**+2.2**
	61nm,0.8s,0.2nm						
SANI	**Sanana**	**6.62**	**83**	P	**Pn**	**18 44 29.6**	**-1.6**
SRBI	**Singaraja**	**6.66**	**219**	P	**Pn**	**18 44 30.1**	**-1.5**
WBSI	**Waikabubak, Su**	**6.73**	**180**	P	**Pn**	**18 44 32.7**	**0.0**
	66nm,1.1s,666nm0.3nm						
KMMI	**Kalianget**	**6.83**	**232**	P	**Pn**	**18 44 35.3**	**+1.3**
	24nm,0.8s,0.3nm						
JAGI	**Jajag, Banyuwa**	**7.64**	**223**	Pn	**Pn**	**18 44 44.6**	**-0.5**
JAGI	**Jajag, Banyuwa**	**7.64**	**223**	P	**Pn**	**18 44 44.8**	**-0.3**
	32nm,0.9s,0.2nm						
NLAI	**Namlea**	**7.69**	**93**	P	**Pn**	**18 44 50.5**	**+4.7**
	28nm,0.9s,0.1nm						
MYLDM	**Lahad Datu**	**8.05**	**354**		**Pn**	**18 44 50.6**	**-0.2**
SOEI	**Soe**	**8.37**	**145**	Pn	**Pn**	**18 44 54.3**	**-1.0**
SOEI	**Soe**	**8.37**	**145**	P	**Pn**	**18 44 58.8**	**+3.5**
	106nm,1.1s,1μm						
BATI	**Baumata**	**8.42**	**150**	Pn	Pn	18 45 01.5	+5.5
	2.3nm,0.3s,baz=11,slow=13,SNR=5.6						
BATI				LR	LR	18 48 15.9	
	comp=Z,861nm,21.9s,baz=326,slow=38						
TNTI	**Ternate**	**8.74**	**66**	Pn	Pn	18 44 56.7	-3.5
TNTI	**Ternate**	**8.74**	**66**	P	**Pn**	**18 44 59.5**	**-0.7**
	26nm,0.9s						
SBUM	**Sibu**	**8.92**	**306**	Pn	**Pn**	**18 45 01.1**	**-1.7**
KKM	**Kota Kinabalu**	**9.41**	**340**	Pn	**Pn**	**18 45 08.8**	**-0.8**
MSAI	**Masohi**	**9.51**	**93**	P	**Pn**	**18 45 14.2**	**+3.3**
	17nm,0.8s,323nm						
BNDI	**Bandanaira**	**10.60**	**99**	P	**Pn**	**18 45 28.8**	**+3.0**
DAV	**Davao City (W)**	**11.64**	**32**	LR	LR	18 50 58.3	
	comp=Z,371nm,19.2s,baz=230,slow=42						
SWI	**Sorong**	**12.01**	**81**	P	**Pn**	**18 45 46.6**	**+1.5**
	16nm,0.8s						
FAKI	**Fak Fak**	**12.82**	**91**	Pn	Pn	18 45 51.6	-4.6
FAKI	**Fak Fak**	**12.82**	**91**	P	**Pn**	**18 45 57.5**	**+1.3**
	16nm,1.0s,297nm						
MTN	**Manton Dam**	**15.25**	**131**	Pn	**Pn**	**18 46 27.8**	**-1.6**

comp=Z,9.0nm,0.9s
SONM Songino Array 51.77 349 P **P 18 52 00.5 -1.2**
SONM IAmb IAmb 18 52 05.4
comp=Z,9.1nm,1.2s
SONM Songino Array 51.77 349 P **P 18 52 02.5 +0.8**
comp=Z,3.4nm,0.5s,baz=168,slow=7.9,SNR=23
SONM LR LR 19 16 41.1
comp=Z,55nm,18.8s,baz=50,slow=39
comp=Z,3.4nm,0.5s
KLR Kul'dur 52.98 10 LR LR 19 17 00.3
comp=Z,17nm,19.1s,baz=191,slow=39
HEH HeiHe 53.36 6 *e*P **P 18 52 14.3 +1.1**
HEH pmax pmax
comp=Z,7.0nm,0.8s
WMQ Urumqi 54.51 332 *e*P **P 18 52 22.9 +1.1**
WMQ sP sP 18 52 34.8 +7.8
WMQ pmax pmax
comp=Z,8.0nm,0.7s
NIL Nilore 56.66 314 P **P 18 52 37.3 -0.2**
NIL IAmb IAmb 18 52 51.2
comp=Z,5.9nm,0.8s
WUS Wushi 57.11 325 P **P 18 52 40.4 -0.3**
KSH Kashi 58.03 321 P **P 18 52 48.4 +1.2**
KSH pP sP 18 52 55.5 +3.1
KSH pmax pmax
comp=Z,10.0nm,0.9s
NRN Naryn 59.15 323 IAmb IAmb 18 52 58.9
comp=Z,6.6nm,1.0s
MK31 Makanchi Array 59.27 331 P **P 18 52 56.3 +0.8**
MKAR Makanchi Array 59.27 331 P **P 18 52 55.6 0.0**
MKAR Makanchi Array 59.27 331 P **P 18 52 56.3 +0.7**
comp=Z,8.2nm,0.8s,baz=135,slow=6.9,SNR=29
comp=Z,8.2nm,0.8s
KBL Kabul 60.15 313 P **P 18 53 01.6 -0.5**
AAK Ala-Archa 60.77 323 P **P 18 53 06.5 +0.4**
AAK IAmb IAmb 18 53 10.3
comp=Z,5.6nm,1.0s
AAK Ala-Archa 60.77 323 LR LR 19 24 08.7
comp=Z,56nm,18.2s,baz=142,slow=41
BTK Batken 61.63 319 IAmb IAmb 18 53 15.9
comp=Z,5.6nm,1.1s
SIMJ Simiganj 62.13 317 P **P 18 53 16.0 +0.6**
SIMJ IAmb IAmb 18 53 18.6
comp=Z,4.9nm,1.0s
URZ Urewera 63.20 132 LR LR 19 23 18.6
comp=Z,206nm,18.1s,baz=66,slow=38
KKAR Karatay Array 63.45 322 P **P 18 53 25.1 +1.1**
KKAR Karatay Array 63.45 322 pP 18 53 27.4 -0.3
ZAA0 Zalesovo Array 63.52 338 IAmb IAmb 18 53 26.3
comp=Z,3.6nm,0.8s
ZALV Zalesovo Beam 63.52 338 P **P 18 53 23.4 -0.7**
ZALV Zalesovo Beam 63.52 338 P **P 18 53 24.2 +0.1**
comp=Z,2.4nm,0.7s,baz=126,slow=7.4,SNR=11
comp=Z,2.4nm,0.7s
KURBB Kurchatov Arra 63.73 332 P **P 18 53 25.8 +0.2**
comp=Z,1.7nm,0.8s,baz=140,slow=6.1,SNR=6.1
comp=Z,1.7nm,0.8s
KURK Kurchatov 63.75 332 P **P 18 53 25.6 -0.1**
BVAR Borovoye Array 69.15 331 P **P 18 54 00.4 +0.2**
comp=Z,1.1nm,0.7s,baz=143,slow=8.3,SNR=2.3
BVAR LR LR 19 27 30.6
comp=Z,49nm,18.6s,baz=121,slow=39
comp=Z,1.1nm,0.7s
ABKAR Abkulak array 72.85 324 P **P 18 54 22.7 -0.1**
ABKAR Abkulak array 72.85 324 IAmb IAmb 18 54 25.7
comp=Z,3.2nm,1.1s
TIXI Tiksi 74.64 3 P **P 18 54 30.9 -2.0**
TIXI IAmb IAmb 18 54 33.8
comp=Z,3.9nm,0.8s
TIXI Tiksi 74.64 3 LR LR 19 34 10.4
comp=Z,31nm,18.3s,baz=190,slow=41
MAW Mawson 75.11 199 P **P 18 54 36.7 +1.1**
comp=Z,3.4nm,0.9s,baz=43,slow=9.1,SNR=7.2
comp=Z,3.4nm,0.9s
ARTI Arti 76.84 330 LR LR 19 30 34.1
comp=Z,58nm,19.0s,baz=252,slow=37
BELG Belogornoye 81.26 324 LR LR 19 36 38.4
comp=Z,45nm,18.0s,baz=147,slow=40
KIRV Kirov 82.15 330 LR LR 19 35 20.6
comp=Z,70nm,18.2s,baz=162,slow=38
QSPA South Pole Qui 87.08 180 P **P 18 55 41.3 +1.7**
QSPA IAmb IAmb 18 56 02.5
comp=Z,8.7nm,1.4s
BOSA Boshof 92.29 241 LR LR 19 31 38.0
comp=Z,76nm,20.9s,baz=62,slow=32
AKASG Malin Array Be 92.32 320 LR LR 19 45 57.6
comp=Z,45nm,18.1s,baz=52,slow=41
MNK Minsk 93.21 324 *i* P **P 18 56 06.9 -1.5**
comp=E,8.0nm,0.8s
MNK *i* P **P 18 56 06.9 -1.5**
comp=N,8.0nm,0.8s
MNK *i* P **P 18 56 06.9 -1.5**
comp=Z,4.0nm,0.9s,baz=90
MNK *i* PP **PP 18 59 49.9 -1.8**
MNK *i* PPP PPP 19 01 46.3
MNK *i* S **SKSac 19 06 40.7 -1.9**
MNK *i* PS **PS 19 08 28.0 -1.1**
MNK *i* SS **SS 19 13 30.2 -0.4**
MNK *i* SSS SSS 19 17 10.3
MNK *i* LQ LQ 19 32 33.6
MNK *i* LR LR 19 36 23.1
MNK *i* LRM MLR 19 37 57.8
comp=E,91nm,17.6s
MNK *i* LRM MLR 19 38 29.3
comp=Z,116nm,16.0s
MNK *i* LRM MLR 19 38 37.9
comp=N,65nm,12.7s
ILAR Eielson Array 94.16 25 P **P 18 56 13.7 +1.2**
comp=N,0.2nm,0.7s,baz=273,slow=6.1,SNR=2.0
comp=N,0.2nm,0.7s
SUR Sutherland 95.73 237 LR LR 19 33 29.5
comp=N,25nm,19.9s,baz=104,slow=32
BCAR Beaver Creek A 96.54 27 P **P 18 56 22.7 -0.8**
KOLS Kolonicke sedl 96.85 319 *e*PDIFF P 18 56 31.8 +6.6
STHS Stebnicka Huta 97.49 319 *e*PDIFF Pdif 18 56 37.2 +9.1
H29M Whitestone 97.54 24 P **P 18 56 28.6 +0.7**
TORD Torodi Ar. Bea 117.63 283 PKP **PKiKP 19 01 43.1 +1.9**
comp=N,0.4nm,0.8s,baz=96,slow=5.2,SNR=2.2

*NSSP **08** 19:12:20.9,38.°50N×43.°15E,h10km,Ms3.6*
*AFAD **08** 19:12:23.2±0.0,38.°46N×43.°03E,h20km±1km,MW3.8*
*TEH **08** 19:12:23.5,38.°49N×43.°04E,h13km±15km,ML3.4*
*ISK **08** 19:12:23.4,38.°49N×43.°00E,h5km,ML3.7/27*
*IDC **08** 19:12:24.0±1.0,38.°38N×43.°57E,h0km,mb3.7/8,*
mbtmp3.6/15,ML3.3/6,MS3.1/5,Error ellipse:
s-maj=16.9km s-min=12.6km az=149.0
*AZER **08** 19:12:41.3,38.°90N×44.°46E,h3km,ml3.0*
ISC 08 19:12:23.7±0.8,38.°49N±0.°02×43.°08E±0.°02,h18km±2km,
n140,σ2°28/167,mb3.7/7,2C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKDM	**Akdamar-Van**	**0.17**	**206**	Pg	**Pb**	**19 12 27.7**	**-0.1**
AKDM	**Akdamar-Van**	**0.17**	**206**	Pg	**Pb**	**19 12 27.6**	**-0.2**
GEVA	**Gevas**	**0.17**	**185**	P	**Pb**	**19 12 27.9**	**+0.1**
GEVA	**Gevas**	**0.17**	**185**	Pg	**Pb**	**19 12 27.8**	**+0.1**
TVAN	**Van**	**0.26**	**81**	P	**Pg**	**19 12 29.9**	**+0.1**
TVAN				S	**Sb**	**19 12 35.0**	**+1.0**
TVAN				*i* AML	AML	19 12 36.0	
comp=N,2μm,0.5s							
TVAN	**Van**	**0.26**	**81**	Pg	**Pg**	**19 12 29.8**	**+0.1**
VANB	**Van**	**0.27**	**66**	Pg	**Pg**	**19 12 29.8**	**-0.1**
VANB				Sg	**Sb**	**19 12 35.2**	**+1.1**
VANB	**Van**	**0.27**	**66**	Pg	**Pg**	**19 12 29.7**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.42**	**319**	P	**Pg**	**19 12 32.2**	**-0.3**
ADCV				S	**Sg**	**19 12 38.7**	**+0.2**
ADCV				*i* AML	AML	19 12 39.0	
comp=N,2μm,0.5s							
ADCV				*i* AML	AML	19 12 39.0	
comp=E,1μm,0.5s							
ADCV	**BITLIS_Adilcev**	**0.42**	**319**	Pg	**Pg**	**19 12 32.2**	**-0.3**
ERCV	**ERCIS-VAN**	**0.57**	**21**	Pg	**Pg**	**19 12 35.2**	**+0.1**
ERCV				Sg	**Sb**	**19 12 43.9**	**+0.9**
ERCV	**ERCIS-VAN**	**0.57**	**21**	Pg	**Pg**	**19 12 35.1**	**-0.1**
VMUR	**Van-Muradiye**	**0.63**	**38**	P	**Pg**	**19 12 36.6**	**+0.3**
VMUR				S	**Sn**	**19 12 46.7**	**-0.9**
VMUR				*i* AML	AML	19 12 47.0	
comp=E,7μm,0.8s							
VMUR	**Van-Muradiye**	**0.63**	**38**	Pg	**Pg**	**19 12 36.6**	**+0.3**
PERV	**Siirt/Pervari-**	**0.69**	**218**	P	**Pb**	**19 12 36.3**	**-0.8**
OZAP	**Van, Ozalp-Mer**	**0.74**	**76**	P	**Pb**	**19 12 38.0**	**-0.1**
BLIS	**Bitlis-Merkez**	**0.76**	**265**	P	**Pb**	**19 12 37.2**	**-1.3**
BLIS				S	**Sb**	**19 12 46.9**	**-1.6**
BLIS				*i* AML	AML	19 12 49.0	
comp=N,9μm,0.4s							
BLIS	**Bitlis-Merkez**	**0.76**	**265**	Pg	**Pb**	**19 12 37.1**	**-1.3**
MLAZ	**Malazgirt-MUS**	**0.77**	**328**	Pg	**Pb**	**19 12 38.2**	**-0.5**
MLAZ				Sg	**Sb**	**19 12 48.8**	**-0.1**
MLAZ	**Malazgirt-MUS**	**0.77**	**328**	Pg	**Pb**	**19 12 37.8**	**-0.9**
GURO	**Guroymak-BITLI**	**0.82**	**275**	Pg	**Pb**	**19 12 38.4**	**-1.1**
GURO				Sg	**Sb**	**19 12 49.2**	**-1.0**
GURO	**Guroymak-BITLI**	**0.82**	**275**	Pg	**Pb**	**19 12 38.2**	**-1.3**
DORK	**Agr/Tutak/Do**	**0.93**	**346**	P	**Pb**	**19 12 40.6**	**-0.7**
DORK				S	**Sb**	**19 12 52.7**	**-0.7**
DORK				*i* AML	AML	19 12 55.0	
comp=E,2μm,0.6s							
SRTM	**Siirt_Merkez**	**1.03**	**242**	P	**Pb**	**19 12 43.1**	**0.0**
SRTM	**Siirt_Merkez**	**1.03**	**242**	Pg	**Pb**	**19 12 43.1**	**0.0**
HAKT	**HAKKARI**	**1.05**	**152**	P	**Pb**	**19 12 43.1**	**-0.4**
HAKT	**HAKKARI**	**1.05**	**152**	Pg	**Pb**	**19 12 43.0**	**-0.4**
AGRB	**Hanur-Agry**	**1.09**	**357**	Pn	**Pb**	**19 12 43.7**	**-0.3**
AGRB	**Hanur-Agry**	**1.09**	**357**	Pg	**Pb**	**19 12 43.8**	**-0.3**
SIRN	**Sırnak**	**1.12**	**208**	P	**Pn**	**19 12 44.6**	**+0.1**
SIRN				S	**Sg**	**19 13 00.9**	**+0.9**
SIRN				*i* AML	AML	19 13 05.0	
comp=N,3μm,0.6s							
SIRN	**Sırnak**	**1.12**	**208**	Pg	**Pn**	**19 12 44.6**	**+0.1**
DYDN	**Diyadin**	**1.16**	**24**	P	**Pb**	**19 12 45.6**	**+0.3**
DYDN	**Diyadin**	**1.16**	**24**	Pg	**Pb**	**19 12 45.5**	**+0.3**
MUSM	**Mu-Merkez**	**1.25**	**281**	P	**Pn**	**19 12 45.7**	**-0.6**
MUSM				S	**Sb**	**19 13 02.3**	**-0.3**
MUSM				*i* AML	AML	19 13 04.0	
comp=E,838nm,0.6s							
MUSM	**Mu-Merkez**	**1.25**	**281**	Pg	**Pn**	**19 12 45.0**	**-1.3**
CUKT	**Cukurca**	**1.31**	**161**	P	**Pb**	**19 12 48.2**	**+0.4**
CUKT	**Cukurca**	**1.31**	**161**	Pn	**Pb**	**19 12 48.7**	**+1.0**
CUKT	**Cukurca**	**1.31**	**161**	Pg	**Pb**	**19 12 48.4**	**+0.7**
YOVA	**Hakkari_Yksek**	**1.31**	**133**	P	**Pn**	**19 12 48.0**	**+0.7**
KOTA	**Agri, Merkez-K**	**1.32**	**4**	P	**Pb**	**19 12 47.9**	**-0.1**
VRTB	**Varto-Mus**	**1.43**	**298**	P	**Pn**	**19 12 49.5**	**+0.6**
VRTB	**Varto-Mus**	**1.43**	**298**	Pn	**Pb**	**19 12 49.8**	**-0.1**
EATA	**Eleskirt**	**1.45**	**342**	P	**Pb**	**19 12 50.5**	**+0.2**
MAKU	**Maku**	**1.52**	**55**	Pg	**Pb**	**19 12 51.3**	**-0.1**
BTMN	**Batman**	**1.54**	**248**	P	**Pb**	**19 12 52.3**	**+0.6**
BTMN				S	**Sn**	**19 13 09.7**	**-0.2**
BTMN				*i* AML	AML	19 13 14.0	
comp=N,1μm,0.4s							
IGDI	**IGDIR**	**1.58**	**29**	P	**Pb**	**19 12 52.2**	**-0.2**
IGDI				S	**Sg**	**19 13 14.6**	**-0.2**
IGDI				*i* AML	AML	19 13 18.0	
comp=N,383nm,0.9s							
SLHN	**Bingol, Solhan**	**1.67**	**287**	P	**Pb**	**19 12 53.9**	**-0.1**
MIDY	**Mardin/Midyat-**	**1.71**	**231**	P	**Pb**	**19 12 54.6**	**0.0**
MIDY				S	**Sb**	**19 13 17.0**	**+1.2**
MIDY				*i* AML	AML	19 13 18.0	
comp=E,1μm,0.4s							
MIDY				*i* AML	AML	19 13 21.0	
comp=N,1μm,0.4s							
VNNZ	**Vanand**	**1.71**	**20**	*e*P	**Pb**	**19 12 55.0**	**+0.3**
VNNZ				*e*S	**Sg**	**19 13 18.8**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.75**	**31**	Pn	**Pb**	**19 12 55.7**	**+0.5**
KOPR	**Koprukoy-ERZUR**	**1.78**	**328**	Pn	**Pb**	**19 12 55.1**	**-0.7**
KARO	**Karliova-Bingo**	**1.78**	**298**	Pn	**Pb**	**19 12 55.1**	**-0.8**
HOMI	**Horasan**	**1.80**	**330**	P	**Pb**	**19 12 56.8**	**+0.5**
METS	**Metsamor**	**1.83**	**25**	*e*P	**Pb**	**19 12 56.8**	**+0.1**
METS				*e*S	**Sg**	**19 13 22.6**	**-0.3**
HYR	**Heyderabad**	**1.85**	**48**	P	**Pg**	**19 12 58.6**	**-0.7**
HYR				S	**Sn**	**19 13 10.5**	**-7.0**
EJDE	**Erzurum, Palan**	**1.93**	**315**	P	**Pb**	**19 12 58.5**	**+0.1**
DIGO	**Kars**	**1.94**	**7**	P	**Pb**	**19 12 57.5**	**-1.1**
BNGB	**Bingl**	**1.94**	**286**	Pn	**Pn**	**19 12 57.1**	**+1.3**
ERZM	**Erzurum**	**1.94**	**317**	P	**Pn**	**19 12 59.0**	**+0.4**
ERZM				S	**Sb**	**19 13 22.6**	**0.0**
NRKZ	**NAREK**	**1.95**	**39**	*e*P	**Pb**	**19 12 58.0**	**-0.6**
NRKZ				*e*S	**Sb**	**19 13 24.6**	**+2.0**
ARUZ	**Aruch**	**1.96**	**23**	*e*P	**Pb**	**19 12 58.1**	**-0.8**
ARUZ				*e*S	**Sb**	**19 13 24.6**	**+1.7**
ECAT	**Cat-ERZURUM**	**1.98**	**305**	P	**Pb**	**19 12 58.9**	**-0.4**
EDAM	**Erzurum-Paland**	**1.99**	**316**	Pn	**Pn**	**19 12 57.9**	**+1.3**
ETEKE	**Tekederesi - E**	**1.99**	**312**	P	**Pb**	**19 13 00.0**	**+0.5**
NAX	**Nakhchivan**	**2.01**	**69**	P	**Pn**	**19 12 57.9**	**+1.2**
NAX				S	Sn	19 13 09.4	-12
IMRD	**Marand**	**2.07**	**83**	Pn	**Pb**	**19 13 00.3**	**-0.5**
AKDA	**Akdag**	**2.09**	**321**	P	**Pb**	**19 13 02.2**	**+1.0**
GNI	**Garni**	**2.10**	**37**	Pn	**Pb**	**19 13 00.5**	**-0.9**
GNI	**Garni**	**2.10**	**37**	⇑*i*P	**Pb**	**19 13 00.2**	**-1.2**
GNI				⇑*i*S	**Sb**	**19 13 28.3**	**+1.1**
GNI	**Garni**	**2.10**	**37**	Pn	**Pb**	**19 13 00.5**	**-0.9**
10nm,0.3s,baz=226,slow=6.0,SNR=29							
GNI				Sn	**Sn**	**19 13 22.3**	**-1.6**
18nm,0.3s,baz=27,slow=23,SNR=11							
HANI	**Diyarbakir_Han**	**2.10**	**269**	P	**Pb**	**19 13 01.1**	**-0.2**
HANI				S	**Sb**	**19 13 27.9**	**+0.8**
HANI				*i* AML	AML	19 13 36.0	
comp=E,326nm,0.6s							
HANI				*i* AML	AML	19 13 40.0	
comp=N,437nm,1.5s							
AMBZ	**Amberd**	**2.11**	**25**	*e*P	**Pb**	**19 13 00.3**	**-1.2**
AMBZ				*e*S	**Sb**	**19 13 27.1**	**-0.2**
SBZ	**Shahbuz**	**2.13**	**64**	P	**Pn**	**19 13 00.5**	**+2.0**
SBZ				S	Sn	19 13 13.9	-11
KARS	**Kars**	**2.14**	**0**	Pn	**Pn**	**19 13 00.3**	**+1.7**
SENK	**Senkaya-Erzuru**	**2.15**	**345**	Pn	**Pn**	**19 13 00.5**	**+1.8**
YEDI	**Yedisu-Bingol**	**2.19**	**296**	Pn	**Pn**	**19 13 00.7**	**+1.4**
KAPZ	**Kaputan**	**2.22**	**34**	*e*P	**Pb**	**19 13 01.9**	**-1.4**
KAPZ				*e*S	**Sb**	**19 13 30.7**	**+0.1**
EAK	**Akyaka**	**2.23**	**10**	P	**Pg**	**19 13 05.2**	**-1.3**
EMRE	**Erzurum,Aziziy**	**2.24**	**314**	P	**Pb**	**19 13 03.9**	**+0.1**
MAZI	**Mazidag**	**2.32**	**245**	Pn	**Pn**	**19 13 02.0**	**+1.0**
ORD	**Ordubad**	**2.33**	**78**	P	**Pb**	**19 13 04.2**	**-0.9**
ORD				S	**Sn**	**19 13 21.0**	**-8.2**
DYBB	**Diyarbakir**	**2.37**	**258**	Pn	**Pn**	**19 13 03.4**	**+1.7**
GOLE	**Ardahan-G¶le**	**2.38**	**351**	P	**Pb**	**19 13 06.9**	**+0.9**
DIYA	**Diyarbakir**	**2.40**	**257**	P	**Pn**	**19 13 04.4**	**+2.4**
DIYA				S	**Sb**	**19 13 36.5**	**+1.0**
DIYA				*i* AML	AML	19 14 06.0	
comp=E,414nm,1.3s							
IAZR	**Azarshahr**	**2.43**	**109**	Pn	**Pb**	**19 13 05.6**	**-1.3**
KRIK	**Erzurum-spir**	**2.49**	**319**	P	**Pb**	**19 13 08.8**	**+0.9**
KOPT	**Kop Dagi**	**2.52**	**308**	P	**Pb**	**19 13 09.7**	**+1.2**
KOVA	**Elazig, Kovanc**	**2.57**	**276**	P	**Pb**	**19 13 08.0**	**-1.2**
MAHB	**Mahabad**	**2.70**	**129**	Pn	**Pb**	**19 13 09.6**	**-2.0**
ERZN	**Erzincan**	**2.83**	**294**	Pn	**Pn**	**19 13 09.9**	**+1.8**
PTK	**Pertek**	**2.91**	**279**	Pn	**Pn**	**19 13 11.1**	**+1.9**
AKH	**Akhalkalaki**	**2.94**	**6**	Pn	**Pn**	**19 13 12.2**	**+2.6**
SVRC	**Sivrice-ELAZID**	**2.96**	**269**	Pn	**Pn**	**19 13 11.7**	**+1.8**
BAYT	**Aydıntepe-Bayb**	**2.96**	**311**	Pn	**Pn**	**19 13 11.9**	**+2.0**
GDB	**GEDABAY**	**3.04**	**42**	P	**Pb**	**19 13 17.7**	**+0.4**
GDB				S	**Sn**	**19 13 44.9**	**-2.2**
QZX	**Qazax, Azerbai**	**3.12**	**34**	P	**Pb**	**19 13 19.6**	**+1.1**
QZX				S	**Sn**	**19 13 49.3**	**+0.6**
IHRS	**Heris**	**3.12**	**92**	Pn	**Pn**	**19 13 15.1**	**+2.9**
BCA	**Borcka**	**3.16**	**340**	Pn	**Pn**	**19 13 15.0**	**+2.5**
CHOM	**Cayeli-Rize**	**3.16**	**326**	Pn	**Pn**	**19 13 14.8**	**+2.3**
BATM	**Batumi**	**3.29**	**342**	Pn	**Pn**	**19 13 16.9**	**+2.7**
QRD	**Qoradiz**	**3.45**	**72**	P	**Pn**	**19 13 20.0**	**+3.6**
QRD				S	**Sn**	**19 13 49.8**	**-7.0**
IHSH	**Hashtrud**	**3.52**	**108**	Pn	**Pn**	**19 13 20.9**	**+3.2**
URFA	**Urfa**	**3.52**	**254**	Pn	**Pn**	**19 13 19.8**	**+2.3**
AGDM	**Agdam**	**3.52**	**61**	P	**Pn**	**19 13 20.7**	**+3.3**
AGDM				S	**Sn**	**19 13 52.0**	**-6.7**
KTUT	**Trabzon**	**3.57**	**315**	Pn	**Pn**	**19 13 20.6**	**+2.5**
ISRB	**Sarab**	**3.68**	**99**	Pn	**Pn**	**19 13 23.1**	**+3.3**
BLQ	**Beylaqan**	**3.70**	**69**	P	**Pn**	**19 13 23.7**	**+3.9**
BLQ				S	**Sn**	**19 13 55.9**	**-7.1**
GRMI	**Germi**	**3.79**	**84**	Pn	**Pn**	**19 13 24.5**	**+3.3**
YRD	**Yardimli**	**4.06**	**82**	P	**Pn**	**19 13 28.8**	**+3.7**
YRD				S	**Sn**	**19 14 06.1**	**-6.2**
LRK	**Lerik**	**4.13**	**86**	P	Pn	19 13 30.8	+4.8
LRK				S	**Sn**	**19 14 08.4**	**-5.4**
SEKA	**Sheki**	**4.18**	**48**	P	**Pb**	**19 13 32.6**	**-4.0**
SEKA				S	**Sn**	**19 14 11.7**	**-3.2**
GLBA	**Clilabad**	**4.22**	**78**	P	**Pb**	**19 13 30.8**	**+3.8**
GLBA				S	**Sn**	**19 14 09.2**	**-6.6**
QBL	**Gabala**	**4.42**	**55**	P	**Pn**	**19 13 33.9**	**+4.1**
QBL				S	**Sn**	**19 14 14.8**	**-5.9**
LKRN	**Lenkeran, Azer**	**4.47**	**85**	P	**Pn**	**19 13 34.9**	**+4.4**
LKRN				S	**Sn**	**19 14 16.7**	**-5.3**
ASTR	**Astara**	**4.48**	**87**	P	Pn	19 13 35.5	+4.8
ASTR				S	**Sn**	**19 14 17.2**	**-5.0**
IDHR	**Dehrash**	**4.62**	**144**	Pn	**Pn**	**19 13 36.0**	**+3.2**
ILIN	**Lien**	**4.74**	**138**	Pn	**Pn**	**19 13 38.7**	**+4.3**
GLG1	**Gilan-e-Gharb**	**4.93**	**151**	Pn	**Pn**	**19 13 39.9**	**+3.0**
IGHG	**Ghaleghazi**	**5.01**	**145**	Pn	**Pn**	**19 13 40.7**	**+2.5**
KBZ	**Khabaz**	**5.24**	**359**	Pn	Pb	19 13 49.1	-5.5
1.7nm,0.9s,baz=161,slow=12,SNR=3.9							
KBZ				LR	LR	19 15 35.3	
comp=Z,53nm,20.8s,baz=178,slow=36							
ILBA	**Ilam Banvizeh**	**5.47**	**151**	Pn	**Pn**	**19 13 46.5**	**+2.1**
JIR1	**Jirandeh**	**5.63**	**106**	Pn	**Pn**	**19 13 50.3**	**+3.8**
BRTR	**Keskin Array B**	**7.44**	**283**	Pn	Pn	19 14 20.8	+9.3
0.1nm,0.3s,baz=117,slow=15,SNR=3.1							
0.3nm,0.5s							
ASF	**Jabal al Asfar**	**8.07**	**221**	Pn	Pn	19 14 25.8	+5.7
0.2nm,0.3s,baz=73,slow=0.2,SNR=7.9							
ASF				Lg	Lg	19 16 45.5	
0.2nm,0.3s,baz=14,slow=0.2,SNR=8.2							
1.2nm,0.4s							
MMAI	**Mount Meron Ar**	**8.29**	**231**	Pn	Pn	19 14 28.3	+5.3
1.0nm,0.3s,baz=62,slow=13,SNR=3.7							
MMAI				LR	LR	19 18 03.6	
comp=Z,158nm,18.1s,baz=250,slow=40							
0.5nm,0.4s							
EIL	**Elat**	**11.07**	**220**	LR	LR	19 19 50.2	
comp=Z,92nm,19.6s,baz=67,slow=40							
AKASG	**Malin Array Be**	**15.67**	**326**	Pn	**P**	**19 16 09.3**	**+2.0**
0.4nm,0.3s,baz=135,slow=13,SNR=4.3							
0.5nm,0.5s							
AKTO	**Aktyubinsk**	**15.98**	**37**	Pn	**Pn**	**19 16 06.0**	**-1.3**
0.1nm,0.3s,baz=221,slow=13,SNR=3.6							
0.9nm,0.7s							
VYHS	**Vyhne**	**20.15**	**308**	*e*PN	Pn	19 17 03.2	+4.5
WSAR	**Wadi Sarin**	**20.18**	**134**	P	**P**	**19 16 56.8**	**-0.5**
0.2nm,0.3s,baz=315,slow=8.6,SNR=4.4							
4.1nm,1.1s							
ARTI	**Arti**	**20.60**	**25**	P	**P**	**19 17 02.4**	**+0.9**
4.5nm,1.1s,baz=217,slow=20,SNR=4.0							
4.5nm,1.1s							
MODS	**Modra-Piesok**	**21.09**	**306**	*e*PN	P	19 17 18.2	+11
BVAR	**Borovoye Array**	**23.78**	**43**	P	**P**	**19 17 35.3**	**+0.3**
0.5nm,0.6s,baz=241,slow=20,SNR=1.6							
0.5nm,0.6s							
KURBB	**Kurchatov Arra**	**27.75**	**53**	P	**P**	**19 18 12.3**	**+1.3**
0.4nm,0.4s,baz=262,slow=9.2,SNR=5.0							
0.4nm,0.4s							
HFS	**Hagfors**	**28.50**	**329**	P	P	19 18 23.8	+6.3
1.6nm,0.9s,baz=119,slow=15,SNR=2.4							
1.6nm,0.9s							
MKAR	**Makanchi Array**	**29.76**	**61**	P	**P**	**19 18 30.1**	**+1.1**
0.9nm,0.8s,baz=261,slow=9.2,SNR=5.0							
MKAR				LR	LR	19 32 15.7	
comp=Z,51nm,18.2s,baz=337,slow=40							
0.9nm,0.8s							
ZALV	**Zalesovo Beam**	**32.22**	**48**	P	**P**	**19 18 51.7**	**+1.2**
0.4nm,0.3s,baz=264,slow=4.3,SNR=2.1							
0.4nm,0.3s							
EKA	**Eskdalemuir Ar**	**35.03**	**314**	P	P	19 19 22.1	+7.1
1.8nm,0.8s,baz=110,slow=8.4,SNR=2.6							
1.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**52.19**	**96**	P	**P**	**19 21 33.9**	**+0.4**
0.3nm,0.3s,baz=312,slow=7.2,SNR=2.2							
0.3nm,0.3s							
MJAR	**Matsushiro Arr**	**71.89**	**58**	LR	LR	20 00 35.6	
comp=Z,21nm,19.6s,baz=27,slow=40							

*IDC **08** 19:18:34.9±1.1,35.°49S×179.°70W,h0km,mb4.0/4,*
mbtmp4.1/5,ML4.2/1,MS3.5/4,Error ellipse: s-maj=32.6km
s-min=31.4km az=32.0
*NEIC **08** 19:18:38.7±1.5,35.°8S±0.°1×180.°0E±0.°2,h10km±1km,*
mb4.5/11,Error ellipse: s-maj=27.9km s-min=17.9km
az=126.0
*NOU **08** 19:18:42.0,35.°98S×179.°67W,h92km,ML4.1/8,East of*
North Island, N.Z.
ISC 08 19:18:41.3±0.9,35.°88S±0.°10×179.°6W±0.°1,h49km,n51,
σ1°82/47,mb4.4/10,MS3.7/3,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.36**	**224**		**Pn**	**19 19 16.5**	**-1.0**
MXZ	**Matakaoa Point**	**2.36**	**224**	P	**Pn**	**19 19 17.6**	**+0.1**
URZ	**Urewera**	**3.52**	**227**	Pn	**Pn**	**19 19 33.2**	**-0.3**
20nm,0.3s,baz=36,slow=1.7,SNR=66							
URZ				Sn	**Sn**	**19 20 16.6**	**+2.7**
32nm,0.3s,baz=18,slow=20,SNR=11							
40nm,0.3s							
URZ	**Urewera**	**3.52**	**227**	P	**Pn**	**19 19 33.6**	**+0.1**
RTZ	**Ruatahuna**	**3.84**	**224**		**Pn**	**19 19 37.5**	**-0.5**
KUZ	**Kuaotunu**	**3.85**	**256**	P	**Pn**	**19 19 38.2**	**+0.3**
TOZ	**Tahuroa Road**	**4.32**	**243**		**Pn**	**19 19 44.3**	**-0.1**
BKZ	**Black Stump Fm**	**4.50**	**222**		**Pn**	**19 19 46.6**	**-0.3**
BKZ	**Black Stump Fm**	**4.50**	**222**	P	**Pn**	**19 19 46.6**	**-0.3**
OUZ	**Omahuta**	**5.56**	**275**	P	**Pn**	**19 20 01.8**	**+0.4**
BFZ	**Birch Farm**	**5.79**	**213**	Pn	**Pn**	**19 20 01.5**	**-3.1**
BFZ	**Birch Farm**	**5.79**	**213**	P	**Pn**	**19 20 03.0**	**-1.6**
MRZ	**Mangatainoka R**	**6.08**	**212**	Pn	**Pn**

*IDC **08** 19:23:36.8±0.6,50°.04N×18°.78E,h0km,mb3.5/5, mbtmp3.6/16,ML3.3/10,Error ellipse: s-maj=9.1km s-min=6.5km az=153.0*

*NEIC **08** 19:23:36.4±0.9,50°.19N±0°.02×18°.74E±0°.09,h5km±2km, mb3.9/3,Error ellipse: s-maj=10.3km s-min=3.1km az=69.0*

*IPEC **08** 19:23:37.0±0.1,50°.20N×18°.74E,h1km,ML3.9/5,Error ellipse: s-maj=1.6km s-min=0.8km az=2.0*

*MCSM **08** 19:23:37.5±0.3,50°.N±2°×1°.9E±°,h4km±3km,mb4.0,mb3.8, ML4.9,MLv4.2,MLv3.9*

*BGR **08** 19:23:37.7±0.3,50°.16N×18°.70E,h1km,ML4.3/20,Error ellipse: s-maj=6.7km s-min=4.4km az=178.0*

*LDG **08** 19:23:42.0±0.3,50°.45N×18°.46E,h1km,Ml4.1/33,Error ellipse: s-maj=8.2km s-min=4.2km az=167.0,Suspected Mining induced.*

*DNK **08** 19:23:43.3±2.4,50°.62N×18°.85E,h30km,ML3.2*

ISC 08 19:23:35.7±0.5,50°.20N±0°.02×18°.62E±0°.02,h0km,n264, σ2°.93/353,mb3.4/5,14C-14D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.30**	**246**	*e*PG	**Pb**	**19 23 45.2**	**+1.3**
RAC				*e*SG	**Sb**	19 23 51.2	+1.9
OKC	**Ostrava-Krasne**	**0.48**	**220**	*e*PG	**Pb**	**19 23 47.7**	**+0.8**
OKC				*e*SG	**Sb**	19 23 55.0	+0.5
	comp=Z,2μm,0.6s						
OKC	**Ostrava-Krasne**	**0.48**	**220**	*e*Pg	**Pb**	**19 23 47.7**	**+0.8**
OKC				*e*Sg	**Sb**	19 23 55.0	+0.5
OKC	**Ostrava-Krasne**	**0.48**	**220**	P	**Pb**	**19 23 47.3**	**+0.4**
OJC	**Ojcow**	**0.76**	**88**	*i* Pg	**Pg**	**19 23 50.1**	**-0.2**
OJC				*i* Sg	**Sg**	19 23 59.4	-0.6
OJC	**Ojcow**	**0.76**	**88**	Pg	**Pg**	**19 23 49.6**	**-0.6**
OJC	**Ojcow**	**0.76**	**88**	*e*Pg	**Pg**	**19 23 50.2**	**0.0**
OJC				*e*Sg	**Sg**	19 23 59.5	-0.6
OJC	**Ojcow**	**0.76**	**88**	P	**Pg**	**19 23 50.0**	**-0.2**
ANAC	**Anensky vrch**	**0.81**	**261**	*e*Pg	**Pn**	**19 23 53.9**	**-0.5**
	baz=82						
ANAC				*e*Sg	**Sb**	**19 24 05.1**	**+1.0**
	2μm,0.3s,baz=82						
MORC	**Moravsky Berou**	**0.81**	**239**	Pg	**Pb**	**19 23 53.1**	**+0.4**
MORC	**Moravsky Berou**	**0.81**	**239**	*e*Pg	**Pb**	**19 23 53.7**	**+1.0**
	baz=61						
MORC				*e*Sg	**Sb**	**19 24 04.6**	**+0.3**
	2μm,0.2s,baz=61						
MORC	**Moravsky Berou**	**0.81**	**239**	⇑P	**Pn**	**19 23 53.8**	**-0.7**
MORC				⇓S	**Sb**	19 24 05.1	+0.9
MORC	**Moravsky Berou**	**0.81**	**239**	*e*Pg	**Pn**	19 23 53.9	-0.5
MORC				*e*Sg	**Sb**	19 24 05.4	+1.2
MORC	**Moravsky Berou**	**0.81**	**239**	P	**Pn**	19 23 53.8	-0.7
MORC				S	**Sb**	19 24 05.3	+1.0
KRLC	**Kraliky**	**1.19**	**264**	P	**Pn**	19 23 59.9	+0.3
LANS	**Liptovska Anna**	**1.19**	**152**	*e*PG	**Pb**	**19 23 59.1**	**0.0**
LANS				*e*SG	**Sn**	19 24 16.1	-0.4
LANS				*e*LG	Lg	19 24 24.3	
NIE	**Niedzica**	**1.34**	**125**	*e*Pg	**Pn**	**19 24 01.6**	**-0.1**
NIE				*e*Sg	**Sn**	19 24 19.9	-0.4
NIE	**Niedzica**	**1.34**	**125**	P	**Pb**	**19 24 01.8**	**0.0**
DPC	**Dobruska-Polom**	**1.48**	**277**	*e*PG	**Pb**	**19 24 05.4**	**+1.3**
DPC				*e*SG	**Sn**	**19 24 26.5**	**+2.8**
	comp=Z,993nm,0.3s						
DPC	**Dobruska-Polom**	**1.48**	**277**	*e*Pn	**Pb**	**19 24 05.4**	**+1.3**
DPC				*e*Pg	**Pg**	19 24 06.2	+2.2
DPC				*e*Sg	**Sn**	19 24 27.3	+3.6
DPC	**Dobruska-Polom**	**1.48**	**277**	P	**Pb**	19 24 05.1	+1.0
DPC				S	**Sn**	19 24 26.4	+2.8
JAVC	**Velka Javorina**	**1.48**	**205**	*e*Pg	**Pb**	**19 24 04.6**	**+0.5**
	baz=27						
JAVC	**Velka Javorina**	**1.48**	**205**	*e*PG	**Pb**	**19 24 04.7**	**+0.6**
OSTC	**Ostas**	**1.58**	**284**	*e*PG	**Pg**	**19 24 07.4**	**+1.5**
OSTC				*e*SG	**Sg**	**19 24 29.2**	**+2.9**
	comp=Z,538nm,0.6s						
OSTC	**Ostas**	**1.58**	**284**	P	**Pg**	**19 24 06.5**	**+0.6**
VRAC	**Vranov**	**1.59**	**236**	Pn	**Pg**	**19 24 06.3**	**+0.1**
	12nm,0.3s,baz=63,slow=16,SNR=51						
VRAC				Lg	Lg	19 24 27.8	
	292nm,0.3s,baz=135,slow=20,SNR=23						
VRAC	**Vranov**	**1.59**	**236**	*e*Pn	**Pg**	**19 24 06.8**	**+0.7**
	baz=57						
VRAC				*e*Sg	**Sg**	**19 24 28.6**	**+1.9**
	1μm,0.4s,baz=57						
VRAC	**Vranov**	**1.59**	**236**	*e*PN	**Pg**	**19 24 06.9**	**+0.8**
VRAC				*e*SG	**Sg**	19 24 28.7	+2.0
VRAC	**Vranov**	**1.59**	**236**	⇓P	**Pg**	19 24 06.2	+0.1
VRAC				⇑S	**Sg**	19 24 27.8	+1.1
KSP	**Ksiaz**	**1.61**	**294**	*e*Pn	**Pb**	19 24 06.3	0.0
KSP				*e*Pg	**Pg**	19 24 08.8	+2.2
KSP				*e*Sg	**Sg**	19 24 31.2	+3.7
KSP	**Ksiaz**	**1.61**	**294**	*e*Pn	**Pg**	19 24 07.1	+0.5
KSP				*e*Pg	**Pg**	19 24 08.9	+2.2
KSP	**Ksiaz**	**1.61**	**294**	P	**Pb**	19 24 06.3	0.0
KSP				Sn	**Sg**	19 24 30.2	+2.7
CHVC	**Chvalec**	**1.68**	**284**	*e*PG	**Pg**	19 24 08.0	+0.1
CHVC	**Chvalec**	**1.68**	**284**	P	**Pb**	19 24 07.8	+0.3
UPC	**Upice**	**1.69**	**281**	*e*PG	**Pg**	19 24 08.9	+0.8
UPC				*e*SG	**Sg**	**19 24 33.4**	**+3.3**
	comp=Z,471nm,0.5s						
UPC	**Upice**	**1.69**	**281**	P	**Pb**	**19 24 07.8**	**+0.1**
VYHS	**Vyhne**	**1.72**	**175**	P	**Pn**	19 24 06.8	0.0
VYHS	**Vyhne**	**1.72**	**175**	*e*PG	**Pn**	19 24 06.8	0.0
VYHS				*e*SG	**Sg**	19 24 32.0	+1.2
KRUC	**Moravsky**	**1.84**	**232**	*e*Pn	**Pb**	19 24 10.3	+0.1
	baz=52						
KRUC				*e*Sg	**Sg**	**19 24 36.3**	**+1.5**
	656nm,0.4s,baz=52						
STHS	**Stebnicka Huta**	**1.88**	**114**	*e*PN	**Pn**	19 24 07.6	-1.4
STHS				*e*SG	**Sg**	19 24 36.4	+0.5
STHS				*e*LG	Lg	19 24 44.5	
MODS	**Modra-Piesok**	**2.03**	**206**	P	**Pn**	19 24 12.1	+0.9
MODS	**Modra-Piesok**	**2.03**	**206**	*e*PN	**Pn**	19 24 12.1	+0.9
MODS				*e*PG	**Pg**	19 24 16.8	+2.2
MODS				*e*SN	**Sn**	19 24 37.5	+0.3
MODS				*e*LG	Lg	19 24 52.4	
KECS	**Kecovo**	**2.11**	**144**	P	**Pn**	19 24 11.9	-0.4
KECS	**Kecovo**	**2.11**	**144**	*e*PN	**Pn**	19 24 11.8	-0.5
KECS				*e*PG	**Pg**	19 24 16.3	+0.2
KECS				*e*SN	**Sn**	19 24 39.9	+0.7
KECS				*e*LG	Lg	19 24 52.3	
PSZ	**Piszkesteto**	**2.44**	**159**	Pn	**Pn**	19 24 16.2	-0.6
PSZ	**Piszkesteto**	**2.44**	**159**	*e*P	**Pn**	19 24 16.6	-0.2
PSZ	**Piszkesteto**	**2.44**	**159**	⇑P	**Pn**	19 24 16.8	0.0
PSZ	**Piszkesteto**	**2.44**	**159**	P	**Pn**	19 24 17.1	+0.3
GOPC	**GO Pecny, Ondr**	**2.48**	**265**	*e*SG	**Sg**	**19 24 55.8**	**+0.4**
	comp=Z,868nm,0.9s						
PVCC	**Panska Ves**	**2.61**	**279**	*e*PN	**Pn**	**19 24 20.8**	**+1.7**
PVCC				*e*PG	**Pg**	19 24 26.7	+1.0
PVCC	**Panska Ves**	**2.61**	**279**	P	**Pn**	19 24 20.0	+0.9
PRU	**Pruhonice**	**2.63**	**267**	*e*SG	**Sg**	**19 25 00.6**	**+0.4**
	comp=Z,440nm,0.7s						
PRU	**Pruhonice**	**2.63**	**267**	P	**Pn**	**19 24 20.1**	**+0.7**
KOLS	**Kolonicke sedl**	**2.70**	**117**	*e*PN	**Pn**	**19 24 19.6**	**-0.7**
KOLS				*e*PG	**Pb**	**19 24 25.8**	**+1.0**
KOLS				*e*LG	Lg	19 25 18.9	
KWP	**Kalwaria Pacla**	**2.71**	**101**		**Pn**	**19 24 19.4**	**-1.1**
KWP	**Kalwaria Pacla**	**2.71**	**101**	P	**Pn**	**19 24 21.0**	**+0.6**
BUD	**Budapest**	**2.74**	**174**	P	**Pn**	**19 24 21.2**	**+0.4**
SOP	**Sopron**	**2.87**	**209**	P	**Pn**	**19 24 23.8**	**+1.2**
UZHM	**Uzhgorod**	**2.87**	**122**	P	**Pn**	**19 24 23.7**	**+1.0**
CONA	**Conrad Observa**	**2.91**	**220**	*e*Pn	**Pn**	**19 24 24.2**	**+0.9**
	2.7nm,0.3s,SNR=11						
CONA				*e*Pg	**Pg**	**19 24 32.1**	**+0.7**
	20nm,0.3s						
CONA				*e*Sn	**Sn**	**19 25 01.6**	**+2.6**
	81nm,0.3s						
CONA				*e*Sg	**Sg**	**19 25 09.9**	**+0.8**
	153nm,0.4s						
RONA	**Rosalia, Austr**	**2.94**	**212**	*e*Pn	**Pn**	**19 24 24.7**	**+1.1**
	14nm,0.4s,SNR=34						
RONA				*e*Pg	**Pg**	**19 24 33.7**	**+1.8**
	43nm,0.4s						
RONA				*e*Sn	**Sn**	**19 25 01.9**	**+2.3**
	57nm,0.3s						
HOLU	**Holmets**	**2.98**	**123**	P	**Pn**	**19 24 23.2**	**-1.0**
BRG	**Berggiesshubel**	**3.06**	**284**	Pn	**Pn**	**19 24 28.0**	**+2.8**
BRG				Pg	**Pg**	**19 24 35.8**	**+1.6**
BRG				Sg	**Sg**	**19 25 16.2**	**+2.4**
BRG				Amp		19 25 19.2	
	comp=Z,225nm,0.5s						
BRG	**Berggiesshubel**	**3.06**	**284**	*e*Pn	**Pn**	**19 24 28.0**	**+2.8**
BRG				*e*Pg	**Pg**	**19 24 35.6**	**+1.4**
BRG				*e*Sg	**Sg**	**19 25 16.1**	**+2.4**
CKRC	**Cesky Krumlov**	**3.13**	**245**	*e*PN	**Pn**	**19 24 28.6**	**+2.3**
CKRC	**Cesky Krumlov**	**3.13**	**245**	P	**Pn**	**19 24 27.6**	**+1.3**
GKP	**Gorka Klasztor**	**3.19**	**345**	*e*Pg	**Pn**	**19 24 29.1**	**+2.1**
GKP				*e*Sg	**Sn**	**19 25 07.8**	**+2.1**
GKP	**Gorka Klasztor**	**3.19**	**345**	*e*P	**Pn**	**19 24 26.9**	**-0.1**
MUKU	**Mukachevo**	**3.19**	**122**	P	**Pn**	**19 24 27.8**	**+0.8**
SHIU	**Shidnytsya**	**3.23**	**106**	P	**Pn**	**19 24 28.6**	**+0.9**
BERU	**Beregovo**	**3.30**	**125**	P	**Pn**	**19 24 29.3**	**+0.8**
FBE	**Freiberg**	**3.43**	**284**	*e*Sg	**Sg**	**19 25 27.8**	**+2.0**
BRIU	**Brid**	**3.44**	**121**	P	**Pn**	**19 24 31.4**	**+1.0**
KHC	**Kasperske Hory**	**3.44**	**254**	Pn	**Pn**	**19 24 31.3**	**+0.7**
KHC	**Kasperske Hory**	**3.44**	**254**	*e*PN	**Pn**	**19 24 32.3**	**+1.7**
KHC				*e*PG	**Pg**	**19 24 41.8**	**+0.2**
KHC				*e*SG	**Sg**	**19 25 27.4**	**+1.1**
	comp=Z,600nm,0.5s						
KHC	**Kasperske Hory**	**3.44**	**254**	P	**Pn**	**19 24 32.0**	**+1.4**
GEC2	**GERESS Array S**	**3.48**	**249**		**Pn**	**19 24 32.8**	**+1.7**
GEC2	**GERESS Array S**	**3.48**	**249**	*e*Pg	**Pg**	**19 24 43.0**	**+0.6**
GEC2				*e*Sg	**Sg**	**19 25 28.7**	**+1.4**
GERES	**GERESS Array B**	**3.48**	**249**	Pn	**Pn**	**19 24 32.6**	**+1.5**
	comp=Z,1.7nm,0.3s,baz=58,slow=15,SNR=15						
GERES				Lg	Lg	19 25 27.6	
	comp=Z,98nm,0.3s,baz=62,slow=29,SNR=12						
	comp=Z,2.6nm,0.3s						
LVV	**L'vov**	**3.51**	**94**	P	**Pn**	**19 24 32.9**	**+1.4**
MORS	**Morshin**	**3.59**	**105**	P	**Pn**	**19 24 31.6**	**-1.0**
ARSA	**Arzberg**	**3.60**	**216**	*i* Pn	**Pn**	**19 24 34.2**	**+1.5**
	comp=Z,3.3nm,0.3s,SNR=6.1						
ARSA				*e*Sg	**Sg**	**19 25 36.7**	**+5.6**
	comp=Z,90nm,0.6s						
KORU	**Korolevo**	**3.60**	**123**	P	**Pn**	**19 24 33.5**	**+0.8**
MOA	**Molln**	**3.71**	**232**	*e*Pn	**Pn**	**19 24 35.3**	**+1.1**
	comp=Z,0.8nm,0.2s						
MOA				*e*Sg	**Sg**	**19 25 34.1**	**-0.6**
	comp=Z,218nm,0.7s						
CLL	**Collm**	**3.73**	**289**	Pn	**Pn**	**19 24 35.3**	**+0.8**
CLL	**Collm**	**3.73**	**289**	*e*Pn	**Pn**	**19 24 37.7**	**+3.2**
CLL				*e*Pg	**Pg**	**19 24 48.6**	**+1.4**
CLL				*e*Sg	**Sg**	**19 25 39.4**	**+4.0**
CLL	**Collm**	**3.73**	**289**	*e*Pn	**Pn**	**19 24 38.0**	**+3.5**
CLL				*e*Pg	**Pg**	**19 24 48.0**	**+0.9**
CLL				*e*Sg	**Sg**	**19 25 39.0**	**+3.5**
	comp=Z,260nm,0.6s						
RUE	**Ruedersdorf**	**3.79**	**309**	*e*Pg	**Pg**	**19 24 50.5**	**+2.2**
RUE				*e*Sg	**Sg**	**19 25 41.4**	**+4.0**
RUE	**Ruedersdorf**	**3.79**	**309**	P	**Pn**	**19 24 37.2**	**+1.9**
WET	**Wettzell**	**3.87**	**256**	*e*Sg	**Sg**	**19 25 39.8**	**-0.3**
BEHE	**Becsehely**	**3.93**	**199**	Pn	**Pn**	**19 24 38.4**	**+1.1**
BEHE	**Becsehely**	**3.93**	**199**	P	**Pn**	**19 24 38.2**	**+0.9**
TANN	**Tannenbergstha**	**3.95**	**275**	*e*Sg	**Sg**	**19 25 45.3**	**+2.8**
NKC	**Novy Kostel**	**3.96**	**273**	P	**Pn**	**19 24 40.1**	**+2.4**
MORH	**Mrgy, Hungar**	**3.99**	**180**	⇑P	**Pn**	**19 24 38.0**	**-0.1**
MORH	**Mrgy, Hungar**	**3.99**	**180**	P	**Pn**	**19 24 38.5**	**+0.4**
WERD	**Werda**	**4.05**	**276**	*e*Sg	**Sg**	**19 25 46.4**	**+0.7**
BMR	**Baia Mare**	**4.09**	**126**	⇓P	**Pn**	**19 24 39.2**	**-0.3**
STNU	**Starunia**	**4.12**	**109**	P	**Pn**	**19 24 41.5**	**+1.7**
BIOA	**Bad Ischl, Aus**	**4.13**	**234**	*e*Pn	**Pn**	**19 24 42.4**	**+2.3**
	comp=Z,4.5nm,0.3s						
BIOA				Sg	**Sg**	**19 25 45.0**	**-3.3**
	comp=Z,297nm,0.6s						
KOVH	**Kovagotottos**	**4.13**	**185**	P	**Pn**	**19 24 40.7**	**+0.7**
PLN	**Plauen**	**4.15**	**276**	*e*Sg	**Sg**	**19 25 48.7**	**-0.1**
ROTZ	**Rotzenmuhle**	**4.16**	**266**	*e*Sg	**Sg**	**19 25 51.3**	**+2.1**
MANZ	**Manzenberg**	**4.20**	**270**	*e*Sg	**Sg**	**19 25 49.2**	**-1.1**
RAKU	**Rahkiv**	**4.25**	**119**	P	**Pn**	**19 24 41.0**	**-0.6**
SOKA	**Soboth**	**4.26**	**215**	*e*Pn	**Pn**	**19 24 44.0**	**+2.1**
	comp=Z,1.5nm,0.3s						
SOKA				Sg	**Sg**	**19 25 56.0**	**+3.5**
	comp=Z,18nm,0.6s						
GROS	**Grobnik**	**4.28**	**210**	*i* Pn	**Pn**	**19 24 43.0**	**+0.9**
DRGR		**4.37**	**140**	⇑P	**Pn**	**19 24 43.4**	**+0.1**
DRGR		**4.37**	**140**	P	**Pn**	**19 24 43.4**	**+0.1**
SIRR	**Siria**	**4.43**	**152**	⇑P	**Pn**	**19 24 44.3**	**+0.1**
SIRR	**Siria**	**4.43**	**152**	P	**Pn**	**19 24 44.1**	**-0.1**
NEUB	**Neuenburg**	**4.46**	**286**	*e*Sg	**Sg**	**19 26 02.7**	**+3.7**
MOX	**Moxa**	**4.50**	**278**	*e*Sg	**Sg**	**19 26 03.8**	**+3.7**
OBKA	**Obir**	**4.58**	**218**	*i* Pn	**Pn**	**19 24 48.1**	**+1.7**
	comp=Z,1.1nm,0.2s,SNR=4.7						
OBKA				*i* Sn	**Sn**	**19 25 41.8**	**+1.5**
	comp=Z,20nm,0.4s						
KSV	**Kosov**	**4.63**	**112**	P	**Pn**	**19 24 48.1**	**+1.3**
MARR	**Marisel-Cluj**	**4.63**	**138**	⇓P	**Pn**	**19 24 46.6**	**-0.4**
KBA	**Koelnbreinsper**	**4.69**	**230**	*i* Pn	**Pn**	**19 24 50.4**	**+2.6**
	comp=Z,2.0nm,0.3s						
KBA				*i* Sn	**Sn**	**19 25 44.2**	**+1.2**
	comp=Z,43nm,0.5s						
KBA				Sg	**Sg**	**19 26 07.3**	**+1.1**
	comp=Z,81nm,0.4s						
RNPP5	**Staryi Chortor**	**4.73**	**75**	P	**Pn**	**19 24 50.0**	**+1.8**
RNPP8	**Varash**	**4.73**	**73**	P	**Pn**	**19 24 49.8**	**+1.6**
SUW	**Suwalki**	**4.74**	**35**		**Pn**	**19 24 48.6**	**+0.3**
SUW	**Suwalki**	**4.74**	**35**	*e*P	**Pn**	**19 24 45.8**	**-2.5**
RNPP9	**Sopachiv**	**4.77**	**73**	P	**Pn**	**19 24 50.2**	**+1.5**
GRA1	**Grafenberg Arr**	**4.80**	**267**		**Pn**	**19 24 50.5**	**+1.3**
GRF	**Grafenberg Arr**	**4.80**	**267**	*e*Sg	**Sg**	**19 26 10.7**	**+0.9**
GRFO	**Grafenberg**	**4.80**	**267**		**Pn**	**19 24 49.9**	**+0.6**
LESA	**Schwarzleotal**	**4.81**	**237**	*e*Pn	**Pn**	**19 24 52.8**	**+3.4**
	comp=Z,1.5nm,0.2s						
LESA				*e*Sg	**Sg**	**19 26 10.2**	**+0.2**
	comp=Z,297nm,0.7s						
CJR	**Cluj-Napoca**	**4.81**	**135**	P	**Pn**	**19 24 50.2**	**+0.8**
MYKA	**Terra Mystica**	**4.87**	**225**	*e*Pn	**Pn**	**19 24 52.3**	**+2.1**
	comp=Z,0.6nm,0.2s						
MYKA				*e*Sg	**Sg**	**19 26 13.1**	**+1.0**
	comp=Z,33nm,0.6s						
ARCR	**ARCALIA**	**4.92**	**127**	⇓P	**Pn**	**19 24 50.1**	**-0.8**
BZS	**Buzias**	**5.01**	**155**	⇓P	**Pn**	**19 24 52.3**	**+0.1**
SURR	**Surduc**	**5.04**	**151**	⇑P	**Pn**	**19 24 52.8**	**+0.4**
BUR08	**Bucovina Ar. S**	**5.04**	**118**	Pn	**Pn**	**19 24 52.5**	**-0.1**
CRNS	**Crni Vrh**	**5.05**	**217**	*i* Pn	**Pn**	**19 24 54.6**	**+1.9**
PRED	**Cave del Predi**	**5.05**	**224**		**Pn**	**19 24 54.3**	**+1.6**
BURAR	**Bucovina Array**	**5.07**	**118**	Pn	**Pn**	**19 24 52.8**	**-0.1**
BURAR	**Bucovina Array**	**5.07**	**118**	⇓P	**Pn**	**19 24 52.9**	**-0.1**
BURAR	**Bucovina Array**	**5.07**	**118**	P	**Pn**	**19 24 53.1**	**+0.2**
FLTG	**Flechtingen**	**5.10**	**298**	*e*Sg	**Sg**	**19 26 22.5**	**+3.1**
FUR	**Furstenfeldbru**	**5.23**	**250**	*e*Sg	**Sg**	**19 26 25.0**	**+1.5**
GBRS	**Gornja Briga**	**5.33**	**210**	*e*Pn	**Pn**	**19 24 57.8**	**+1.3**
ABTA	**Abfaltersbach**	**5.33**	**232**	*e*Pn	**Pn**	**19 24 59.7**	**+3.1**
	comp=Z,0.7nm,0.3s						
ABTA				*i* Sn	**Sn**	**19 25 59.7**	**+1.0**
	comp=Z,10nm,0.5s						
ABTA				*e*Sg	**Sg**	**19 26 29.5**	**+2.6**
	comp=Z,78nm,0.6s						
BSD	**Bornholm Skovb**	**5.41**	**337**	*e*P	**Pn**	**19 24 57.6**	**+0.1**
BSD	**Bornholm Skovb**	**5.41**	**337**	*i* P	**Pn**	**19 24 58.0**	**+0.5**
BSD				*i* S	**Sn**	**19 25 56.7**	**-3.6**
BSD				IAML		19 26 01.9	
	comp=Z,21nm,0.8s						
RGN	**Rugen**	**5.42**	**325**	Pn	**Pn**	**19 24 58.9**	**+1.2**
WATA	**Walderalm**	**5.47**	**241**	*i* Pn	**Pn**	**19 25 02.6**	**+4.1**
	comp=Z,1.2nm,0.2s						
WATA				*e*Sn	**Sn**	**19 26 03.0**	**+0.8**
	comp=Z,16nm,0.3s						
WATA				*e*Sg	**Sg**	**19 26 32.7**	**+1.4**
	comp=Z,104nm,0.4s						
WTTA	**Wattenberg**	**5.47**	**240**	*e*Pn	**Pn**	**19 25 00.6**	**+2.0**
	comp=Z,1.1nm,0.3s						
WTTA				*i* Sn	**Sn**	**19 26 03.7**	**+1.3**
	comp=Z,32nm,0.4s						
WTTA				*e*Sg	**Sg**	**19 26 35.2**	**+3.8**
	comp=Z,107nm,0.4s						
MOTA	**Moosalm**	**5.73**	**243**	*e*Pn	**Pn**	**19 25 05.9**	**+3.8**
	comp=Z,0.7nm,0.2s						
MOTA				*e*Pg	**Pg**	**19 25 28.4**	**+3.0**
	comp=Z,9.3nm,0.4s						
MOTA				*e*Sn	**Sn**	**19 26 09.4**	**+0.7**
	comp=Z,46nm,0.7s						
MOTA				*e*Sg	**Sg**	**19 26 40.4**	**+0.7**
	comp=Z,99nm,0.4s						
SQTA	**Sankt Quirin**	**5.74**	**241**	*e*Pn	**Pn**	**19 25 05.6**	**+3.4**
	comp=Z,0.6nm,0.2s						
SQTA				*e*Sn	**Sn**	**19 26 10.1**	**+1.3**
	comp=Z,20nm,0.3s						
MDVR	**Moldovita**	**5.82**	**158**	⇑P	**Pn**	**19 25 03.4**	**+0.2**
MDVR	**Moldovita**	**5.82**	**158**	P	**Pn**	**19 25 03.7**	**+0.5**
	comp=Z,11nm,0.7s,comp=Z,0.1nm						
RETA	**Reutte**	**5.85**	**245**	*e*Pn	**Pn**	**19 25 08.0**	**+4.3**
	comp=Z,2.4nm,0.3s						
RETA				*i* Sn	**Sn**	**19 26 14.2**	**+2.6**
	comp=Z,6.6nm,0.3s						
LOT	**Lotru**	**5.89**	**142**	⇓P	**Pn**	**19 25 04.2**	**-0.1**
HERR	**Herculane**	**5.91**	**153**	⇓P	**Pn**	**19 25 04.4**	**-0.1**
FETA	**Feichten**	**6.12**	**242**	*e*Pn	**Pn**	**19 25 08.9**	**+1.4**
	comp=Z,1.2nm,0.4s						
FETA				*e*Sn	**Sn**	**19 26 19.9**	**+1.6**
	comp=Z,4.7nm,0.4s						
DOPR	**Dopca**	**6.21**	**130**	⇑P	**Pn**	**19 25 08.3**	**-0.3**
PABE	**Paberze**	**6.22**	**29**		**Pn**	**19 25 08.2**	**-0.4**
PABE	**Paberze**	**6.22**	**29**	*e*P	**Pn**	**19 25 06.4**	**-2.2**
CTI	**Castel Tesino**	**6.25**	**231**	Pn	**Pn**	**19 25 10.2**	**+1.0**
LUNU	**Lund**	**6.27**	**332**	*i* P	**Pn**	**19 25 08.8**	**-0.6**
ARR	**Arges**	**6.31**	**138**	P	**Pn**	**19 25 10.8**	**+0.8**
	comp=Z,9.0nm,0.6s,comp=Z,0.1nm						
OZUR		**6.32**	**128**	⇑P	**Pn**	**19 25 09.5**	**-0.6**
BLEU	**Blekinge**	**6.34**	**346**	*i* P	**Pn**	**19 25 09.4**	**-0.9**
VOIR		**6.44**	**135**	⇑P	**Pn**	**19 25 12.4**	**+0.6**
VOIR		**6.44**	**135**	P	**Pn**	**19 25 12.8**	**+1.0**
	comp=Z,10nm,0.9s,comp=Z,10nm,0.9s,comp=Z,0.0nm						
	comp=Z,0.0nm						
DAVA	**Damuels**	**6.47**	**247**	*e*Pn	**Pn**	**19 25 15.4**	**+3.1**
	comp=Z,2.2nm,0.3s						
DAVA				*e*Sn	**Sn**	**19 26 27.8**	**+0.9**
	comp=Z,20nm,0.5s						
TESR	**Tescani**	**6.50**	**122**	⇓P	**Pn**	**19 25 13.8**	**+1.2**
TESR	**Tescani**	**6.50**	**122**	P	**Pn**	**19 25 13.7**	**+1.2**
	comp=Z,10.0nm,0.9s,comp=Z,10.0nm,0.9s,comp=Z,0.1nm						
	comp=Z,0.1nm						
FUORN	**Ofenpass-Fuorn**	**6.61**	**240**	Pn	**Pn**	**19 25 14.7**	**+0.3**
AK20	**Malin Array Si**	**6.66**	**81**	P	**Pn**	**19 25 16.1**	**+1.4**
AK19	**Malin Array Si**	**6.66**	**82**	P	**Pn**	**19 25 16.1**	**+1.4**
AK21	**Malin Array Si**	**6.68**	**81**	P	**Pn**	**19 25 16.4**	**+1.5**
AK17	**Malin Array Si**	**6.69**	**82**	P	**Pn**	**19 25 16.5**	**+1.4**
AK18	**Malin Array Si**	**6.70**	**82**	P	**Pn**	**19 25 16.5**	**+1.3**
TEOL	**Teolo**	**6.74**	**227**	Pn	**Pn**	**19 25 16.3**	**+0.5**
DAVOX	**Davos/Dischmat**	**6.74**	**243**	Pn	**Pn**	**19 25 17.8**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=61,slow=10,SNR=21						
DAVOX				Sn	**Sn**	**19 26 35.7**	**+2.2**
	comp=Z,2.7nm,0.3s,baz=0.0,slow=20,SNR=5.0						
DAVOX				Lg	Lg	19 27 13.0	
	comp=Z,3.6nm,0.3s,baz=144,slow=19,SNR=3.4						
	comp=Z,5.3nm,0.5s						
KIEV	**Kiev**	**6.78**	**82**	Pn	**Pn**	**19 25 15.0**	**-1.4**
KIEV	**Kiev**	**6.78**	**82**	⇑P	**Pn**	**19 25 18.4**	**+2.0**
AK01	**Malin Array Si**	**6.79**	**82**	P	**Pn**	**19 25 17.4**	**+1.0**
AKASG	**Malin Array Be**	**6.79**	**82**	Pn	**Pn**	**19 25 14.9**	**-1.6**
AKASG	**Malin Array Be**	**6.79**	**82**	Pn	**Pn**	**19 25 13.6**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=264,slow=13,SNR=3.7						
AKASG				Sn	**Sn**	**19 26 27.9**	**-6.6**

comp=E,12nm,0.6s
SMRF Simiane la Rot 10.85 240 *e*Pn **Pn 19 26 15.5 +3.3**
SMRF *e*Sn **Sn 19 28 12.0 -2.2**
comp=E,1.2nm,0.3s
HYF Humbligny 10.95 261 *e*Sg 19 29 22.7
comp=E,51nm,0.4s
RAF Rauma 10.99 8 *e*P **Pn 19 26 13.2 -0.7**
BGF Bois d'Agland 11.10 257 *e*Sg 19 29 28.9
comp=E,13nm,0.5s
NC602 NORSAR Array S 11.28 342 Pn 19 26 16.9 -1.0
KHAM Kharkiv 11.33 84 P **Pn 19 26 19.8 +1.1**
NAO01 NORSAR Array S 11.52 341 Pn 19 26 19.5 -1.7
TCF Toulx Ste Croi 11.62 257 *e*P Pn 19 26 30.5 +7.9
TCF *e*Sg 19 29 43.6
comp=E,1.6nm,0.3s
NB2 NORSAR Subarra 11.63 342 Pn **Pn 19 26 21.3 -1.4**
comp=Z,6.8nm,1.2s,baz=156,slow=14
NOA NORSAR Array B 11.63 342 Pn **Pn 19 26 20.4 -2.4**
comp=Z,0.1nm,0.3s,baz=155,slow=12,SNR=24
NOA Sn **Sn 19 28 28.4 -4.7**
comp=Z,0.1nm,0.3s,baz=156,slow=21,SNR=4.0
comp=Z,1.3nm,0.6s
LASF Ste Croix 11.76 244 *e*P Pn 19 26 34.0 +9.3
LASF *e*Sn **Sn 19 28 33.2 -3.4**
comp=Z,9.9nm,0.5s
OBN Obninsk 11.95 59 Sn Sn 19 28 29.2 -12
comp=Z,3.3nm,0.3s,baz=229,slow=20,SNR=2.1
OBN Lg Lg 19 29 51.0
comp=Z,2.9nm,0.3s,baz=246,slow=20,SNR=4.2
FINES FINESS Array B 12.01 17 Pn **Pn 19 26 25.2 -2.7**
FINES FINESS Array B 12.01 17 Pn **Pn 19 26 25.4 -2.4**
comp=Z,1.1nm,0.3s,baz=191,slow=11,SNR=34
FINES Sn Sn 19 28 30.0 -12
comp=Z,1.0nm,0.3s,baz=202,slow=22,SNR=6.5
FINES Lg Lg 19 29 59.4
comp=Z,0.4nm,0.3s,baz=203,slow=24,SNR=5.4
comp=Z,4.8nm,0.6s
FIA1 FINESS Array S 12.01 17 Pn 19 26 24.6 -3.4
KEF Keuruu 12.48 14 *e*P **Pn 19 26 31.8 -2.5**
VAF Ylistaro 13.06 8 *e*P **Pn 19 26 39.8 -2.4**
MTLF Montolieu 13.15 245 *e*Pn Pn 19 26 48.7 +5.0
MTLF *e*Sn **Sn 19 29 06.0 -4.6**
comp=Z,1.6nm,0.5s
EKA Eskdalemuir Ar 14.12 300 Pn **Pn 19 26 59.7 +3.0**
baz=106,slow=13
comp=Z,0.4nm,0.4s
JOF Joensuu 14.50 24 *e*P **Pn 19 26 59.2 -2.6**
BR106 Keskin Array S 14.88 129 P **Pn 19 27 08.3 +0.9**
comp=Z,2.5nm,1.0s,comp=Z,2.5nm,1.0s
BR105 Keskin Array S 14.89 129 P **Pn 19 27 08.4 +0.9**
comp=Z,2.7nm,1.0s,comp=Z,2.6nm,1.0s
BRTR Keskin Array B 14.90 129 Pn **Pn 19 27 06.0 -1.6**
comp=Z,0.1nm,0.3s,baz=324,slow=14,SNR=1.9
comp=Z,0.4nm,0.8s
BR104 Keskin Array S 14.91 129 P **Pn 19 27 08.7 +0.9**
comp=Z,2.7nm,1.0s
IDI Anoyia 15.59 161 Pn **Pn 19 27 16.1 -0.7**
IDI IAmb IAmb 19 27 20.1
comp=Z,5.7nm,0.9s
IDI Anoyia 15.59 161 Pn **Pn 19 27 13.3 -3.5**
comp=Z,8.8nm,1.1s,baz=285,slow=12,SNR=3.2
BELG Belogornoye 18.22 72 Lg Lg 19 33 11.4
comp=Z,0.5nm,0.3s,baz=299,slow=17,SNR=4.1
LVZ Lovozero 19.45 18 P **P 19 28 01.7 -1.7**
LVZ IAmb IAmb 19 28 11.6
comp=Z,19nm,1.0s
ARCES ARCESS Array B 19.67 7 Pn **P 19 28 03.6 -2.3**
comp=Z,0.4nm,0.3s,baz=191,slow=13,SNR=13
ARCES Sn S 19 31 31.5 -17
comp=Z,0.1nm,0.3s,baz=193,slow=23,SNR=2.7
comp=Z,2.8nm,0.5s
BVAR Borovoye Array 31.70 65 P **P 19 30 01.7 +1.0**
comp=Z,0.5nm,0.5s,baz=311,slow=5.3,SNR=4.4
comp=Z,0.5nm,0.5s
KURBB Kurchatov Arra 37.27 66 P **P 19 30 49.6 +0.8**
comp=Z,0.2nm,0.3s,baz=309,slow=9.3,SNR=2.4
comp=Z,0.2nm,0.3s
TORD Torodi Ar. Bea 39.46 206 P **P 19 31 08.0 +0.4**
comp=Z,0.7nm,0.9s,baz=5.8,slow=11,SNR=3.7
comp=Z,0.7nm,0.9s
MKAR Makanchi Array 41.19 69 P **P 19 31 22.3 +0.6**
comp=Z,0.5nm,0.7s,baz=311,slow=5.9,SNR=5.6
comp=Z,0.5nm,0.7s
SONM Songino Array 54.34 56 P **P 19 33 05.6 +1.7**
comp=Z,0.5nm,0.7s,baz=292,slow=7.6,SNR=4.3
comp=Z,0.5nm,0.7s

*TIR **08** 19:27:32.4, 37.°56N×20.°30E, h0km±1km, Md3.6, Ml3.6*
*THE **08** 19:27:36.7, 37.°60N×20.°47E, h2km±29km, ML3.3/7, Error ellipse: s-maj=29.5km s-min=0.6km az=0.0*
*ATH **08** 19:27:37.3, 37.°64N×20.°52E, h12km±2km, ML3.3/8, Error ellipse: s-maj=3.9km s-min=1.1km az=40.0*
*IDC **08** 19:27:37.9±1.3, 37.°65N×20.°67E, h0km, mb3.7/11, mbtmp3.6/13, ML3.2/1, MS3.1/3, Error ellipse: s-maj=25.9km s-min=21.5km az=81.0*
ISC 08 19:27:38.4±1.4, 37.°66N±0.°04×20.°56E±0.°04, h6km±8km, n53, σ1§18/66, mb3.6/11, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.20**	**89**	P	**Pg**	**19 27 42.3**	**-0.2**
KRI1				S	**Sg**	**19 27 47.0**	**+1.8**
LTHK	**Lithakia**	**0.23**	**77**	P	**Pg**	**19 27 42.5**	**-0.4**
LTHK				S	**Sg**	**19 27 47.2**	**+1.4**
15μm,0.6s							
LTHK	**Lithakia**	**0.23**	**77**	P	**Pg**	**19 27 42.6**	**-0.2**
LTHK				S	**Sg**	**19 27 46.1**	**+0.3**
LTHK				AML	AML	19 27 49.2	
comp=E,32130μm,0.4s							
LTHK				AML	AML	19 27 51.3	
comp=N,22801μm,0.5s							
RTZL	**Ratzakli, Kefa**	**0.45**	**22**	P	**Pg**	**19 27 46.5**	**-0.6**
RTZL				S	**Sb**	**19 27 54.5**	**-1.3**
comp=N,8μm,0.6s							
PSDA	**Pessada-Kefalo**	**0.46**	**2**	P	**Pg**	**19 27 46.4**	**-0.8**
PSDA				S	**Sg**	**19 27 54.2**	**+1.0**
comp=N,4μm,0.5s							
PSDA	**Pessada-Kefalo**	**0.46**	**2**	P	**Pg**	**19 27 46.3**	**-1.0**
VLS	**Valsamata**	**0.52**	**3**	P	**Pg**	**19 27 47.6**	**-0.9**
VLS				S	**Sb**	**19 27 56.5**	**-1.3**
comp=N,3μm,0.4s							
VLS	**Valsamata**	**0.52**	**3**	P	**Pg**	**19 27 47.4**	**-1.1**
VLS				S	**Sg**	**19 27 55.7**	**+0.5**
VLS				AML	AML	19 27 56.6	
comp=E,6962μm,0.3s							
VLS				AML	AML	19 27 59.9	
comp=N,7995μm,0.5s							
LXR1	**Lixouri, Cepha**	**0.55**	**350**	P	**Pg**	**19 27 48.5**	**-0.5**
LXRA	**Lixouri, Kepha**	**0.55**	**350**	P	**Pg**	**19 27 48.0**	**-1.0**
LXRA				S	**Sg**	**19 27 56.6**	**+0.4**
SMHA	**Samh**	**0.60**	**7**	P	**Pg**	**19 27 48.6**	**-1.3**
SMHA				S	**Sg**	**19 27 57.6**	**-0.1**
DMLN	**Damoulianata-K**	**0.60**	**346**	P	**Pg**	**19 27 49.1**	**-0.8**
DMLN	**Damoulianata-K**	**0.60**	**346**	P	**Pg**	**19 27 49.2**	**-0.8**
VSK1	**VASILIKIADES**	**0.75**	**0**	P	**Pg**	**19 27 51.7**	**-1.2**
VSK1				S	**Sb**	**19 28 04.1**	**-0.4**
FSK	**Fiskardo**	**0.80**	**0**	P	**Pg**	**19 27 52.5**	**-1.3**
FSK				S	**Sb**	**19 28 05.6**	**-0.3**
comp=N,2μm,0.6s							
FSK	**Fiskardo**	**0.80**	**0**	P	**Pg**	**19 27 52.3**	**-1.5**
FSK				S	**Sg**	**19 28 04.3**	**+0.1**
FSK				AML	AML	19 28 12.5	
comp=N,3266μm,0.6s							
FSK				AML	AML	19 28 15.6	
comp=E,4470μm,0.5s							
RLS	**Riolos of Patr**	**0.82**	**61**	P	**Pg**	**19 27 53.6**	**-0.6**
RLS				S	**Sb**	**19 28 07.0**	**+0.5**
comp=E,2μm,0.7s							
RLS	**Riolos of Patr**	**0.82**	**61**	P	**Pg**	**19 27 53.3**	**-0.9**
RLS				S	**Sg**	**19 28 05.7**	**+0.8**
RLS				AML	AML	19 28 10.4	
comp=N,3138μm,0.4s							
RLS				AML	AML	19 28 11.2	
comp=E,3220μm,0.5s							
AMT	**Artemida-Makis**	**0.92**	**97**	P	**Pg**	**19 27 54.5**	**-1.6**
AMT				AML	AML	19 28 17.0	
comp=N,9034μm,0.5s							
AMT				AML	AML	19 28 20.0	
comp=E,10461μm,0.6s							
DRO	**Drossia**	**0.96**	**72**	P	**Pg**	**19 27 55.6**	**-1.2**
DRO	**Drossia**	**0.96**	**72**	P	**Pg**	**19 27 55.3**	**-1.5**
DRO				AML	AML	19 28 24.3	
comp=E,4890μm,0.5s							
DRO				AML	AML	19 28 28.8	
comp=N,3793μm,0.5s							
EVGI	**Lefkada island**	**0.96**	**4**	P	**Pg**	**19 27 55.5**	**-1.5**
EVGI				S	**Sb**	**19 28 10.7**	**+0.1**
comp=N,1μm,0.3s							
EVGI	**Lefkada island**	**0.96**	**4**	P	**Pg**	**19 27 55.5**	**-1.5**
DRAG	**Dragano-Lefkad**	**1.02**	**1**	P	**Pg**	**19 27 56.3**	**-1.8**
NYDR	**Nydri-Lefkada**	**1.06**	**6**	P	**Pg**	**19 27 57.2**	**-1.6**
LKD2	**Lefkada island**	**1.13**	**4**	P	**Pg**	**19 27 57.6**	**-2.6**
LKD2				AMP			
comp=E,5.4nm,0.7s,baz=12							
ITM	**Ithomi**	**1.19**	**113**	P	**Pg**	**19 27 59.7**	**-1.5**
ITM				AML	AML	19 28 30.3	
comp=N,1548μm,0.6s							
ITM				AML	AML	19 28 38.0	
comp=E,1664μm,0.9s							
PYL	**PYLOS**	**1.21**	**129**	P	**Pg**	**19 28 00.3**	**-1.3**
PYL	**PYLOS**	**1.21**	**129**	P	**Pg**	**19 27 59.9**	**-1.7**
PYL				AML	AML	19 28 20.4	
comp=N,1466μm,0.6s							
PYL				AML	AML	19 28 22.7	
comp=E,1895μm,0.8s							
IGT	**Igoumenitsa**	**1.88**	**355**	P	**Pn**	**19 28 10.2**	**-0.9**
IGT				AMP			
comp=E,1.0nm,0.5s,baz=0.0							
SRN	**Sarande**	**2.26**	**349**	P	**Pn**	**19 28 16.6**	**+0.2**
SRN				AMP			
comp=E,0.6nm,0.7s,baz=355							
LSK	**Leskovik**	**2.49**	**1**	AMP			
comp=E,1.6nm,0.7s,baz=4.0							
NEST	**Nestorio**	**2.78**	**8**	P	**Pn**	**19 28 24.5**	**+0.9**
SCTE	**Santa Cesarea**	**2.91**	**327**	P	**Pn**	**19 28 24.3**	**-1.1**
FNA	**Florina**	**3.19**	**11**	P	**Pn**	**19 28 30.5**	**+1.4**
OHR	**Ohrid**	**3.45**	**3**	*i* Pn	**Pn**	**19 28 33.9**	**+1.1**
NOCI	**Noci**	**4.14**	**320**	P	**Pn**	**19 28 41.6**	**-0.6**
IDI	**Anoyia**	**4.21**	**123**	Pn	**Pn**	**19 28 42.2**	**-1.1**
comp=E,1.5nm,0.4s,baz=358,slow=14,SNR=3.1							
IDI				Sn	**Sn**	**19 29 31.2**	**-1.7**
comp=E,0.8nm,0.3s,baz=302,slow=19,SNR=2.0							
VAE	**Valguarnera**	**4.89**	**270**	Sn	**Sn**	**19 29 53.1**	**+3.6**
comp=E,1.2nm,0.3s,baz=108,slow=20,SNR=2.1							
MLR	**Muntele Rosu**	**8.80**	**26**	Pn	**Pn**	**19 29 48.7**	**+2.3**
comp=E,0.1nm,0.3s,baz=157,slow=15,SNR=2.9							
MLR				LR	LR	19 34 15.9	
comp=E,76nm,18.2s,baz=258,slow=45							
comp=E,3.1nm,1.0s							
BRTR	**Keskin Array B**	**10.43**	**75**	LR	LR	19 34 16.6	
comp=E,40nm,18.3s,baz=324,slow=38							
HFS	**Hagfors**	**22.92**	**351**	P	**P**	**19 32 43.0**	**+0.1**
comp=E,2.6nm,0.8s,baz=166,slow=14,SNR=4.1							
comp=E,2.6nm,0.8s							
FINES	**FINESS Array B**	**24.06**	**7**	P	**P**	**19 32 54.1**	**0.0**
comp=E,0.9nm,0.5s,baz=180,slow=18,SNR=6.2							
comp=E,0.9nm,0.5s							
NOA	**NORSAR Array B**	**24.13**	**349**	P	**P**	**19 32 55.1**	**+0.1**
comp=E,0.4nm,0.7s,baz=156,slow=12,SNR=1.5							
comp=E,0.4nm,0.7s							
AKTO	**Aktyubinsk**	**29.47**	**52**	P	**P**	**19 33 42.5**	**-0.5**
comp=E,1.2nm,0.7s,baz=248,slow=5.4,SNR=4.0							
comp=E,1.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**29.65**	**220**	P	**P**	**19 33 46.0**	**+1.2**
comp=E,0.2nm,0.4s,baz=17,slow=10,SNR=1.9							
comp=E,0.2nm,0.4s							
ARTI	**Arti**	**31.32**	**41**	P	**P**	**19 33 59.2**	**-0.1**
comp=E,1.4nm,0.4s,baz=204,slow=20,SNR=2.1							
comp=E,1.4nm,0.4s							
BVAR	**Borovoye Array**	**37.43**	**49**	P	**P**	**19 34 52.4**	**+0.1**
comp=E,0.3nm,0.5s,baz=272,slow=6.8,SNR=2.2							
comp=E,0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**42.52**	**53**	P	**P**	**19 35 34.4**	**-0.1**
comp=E,0.5nm,0.5s,baz=282,slow=8.9,SNR=4.0							
comp=E,0.5nm,0.5s							
MKAR	**Makanchi Array**	**45.55**	**58**	P	**P**	**19 35 58.6**	**-0.4**
comp=E,0.3nm,0.5s,baz=278,slow=6.6,SNR=5.7							
comp=E,0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**46.02**	**48**	P	**P**	**19 36 02.0**	**-0.5**
comp=E,0.9nm,0.5s,baz=277,slow=8.7,SNR=4.5							
comp=E,0.9nm,0.5s							
CMAR	**Chiang Mai Arr**	**69.93**	**82**	P	**P**	**19 38 51.0**	**+0.1**
comp=E,0.5nm,0.7s,baz=300,slow=9.0,SNR=4.4							
comp=E,0.5nm,0.7s							
YKA	**Yellowknife Ar**	**73.89**	**340**	LR	LR	20 14 01.7	
comp=E,34nm,18.2s,baz=346,slow=38							

*NEIC **08** 19:37:58.7±0.3, 36.°699N±0.°008×97.°67W±0.°01, h7km±4km, ML2.1/45, ML2.5/47, Error ellipse: s-maj=1.4km s-min=1.1km az=91.0*
NEIC 08 19:37:58.4±0.3, 36.°700N±0.°009×97.°67W±0.°01, h2km±1km, Error ellipse: s-maj=1.4km s-min=1.3km az=155.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.22**	**315**		Pg	19 38 03.4	+0.8
GC02					Sg	19 38 06.6	+1.2
CROK	**Carrier**	**0.32**	**233**		Pg	19 38 05.2	+0.6
CROK					Sg	19 38 09.8	+1.1
KAN13	**South Haven SW**	**0.35**	**26**		Pg	19 38 06.0	+0.9
KAN13					Sg	19 38 11.0	+1.3
KAN13				IAML		19 38 11.1	
comp=N,212nm,0.3s							
KAN13				IAML		19 38 14.4	
comp=E,162nm,0.3s							
KAN14	**Manchester OK**	**0.35**	**317**		Pg	19 38 05.9	+0.7
KAN14					Sg	19 38 10.8	+1.1
KAN14				IAML		19 38 15.8	
comp=E,172nm,0.1s							
KAN17	**Caldwell West**	**0.35**	**347**		Pg	19 38 05.7	+0.5
KAN17				IAML		19 38 12.9	
comp=N,169nm,0.2s							
BLOK	**Blackwell**	**0.37**	**80**	Sg	Sg	19 38 11.3	+1.0
KAN09	**Caldwell North**	**0.44**	**5**		Pg	19 38 07.6	+0.8
KAN09					Sg	19 38 13.7	+1.2
KAN09				IAML		19 38 13.9	
comp=N,208nm,0.2s							
KAN01	**Argonia South**	**0.46**	**351**		Pg	19 38 07.2	0.0
KAN10	**Anthony SW Sta**	**0.54**	**321**		Pg	19 38 09.5	+0.6
KAN10					Sg	19 38 17.0	+1.1
KS21	**Milan North St**	**0.59**	**0**		Pg	19 38 10.3	+0.6
KS21					Sg	19 38 18.4	+1.1
KS21				IAML		19 38 18.6	
comp=N,112nm,0.3s							
KS21				IAML		19 38 21.4	
comp=N,120nm,0.1s							
OK048	**Pawnee Station**	**0.65**	**116**		Pg	19 38 11.4	+0.5
OK048					Sg	19 38 20.2	+0.9
KAN12	**Harper NE Stat**	**0.65**	**336**		Pb	19 38 12.0	-0.5
OK051	**E0350 and S346**	**0.70**	**106**		Pg	19 38 12.2	+0.4
OK051				IAML		19 38 26.9	
comp=N,100nm,0.2s							
OK051				IAML		19 38 30.0	
comp=N,86nm,0.2s							
QUOK	**Quay**	**0.94**	**124**		Pg	19 38 16.6	+0.2
QUOK					Sg	19 38 29.1	+0.5
QUOK				IAML		19 38 34.8	
comp=N,65nm,0.5s							
QUOK				IAML		19 38 35.2	
comp=E,57nm,0.2s							
T35A	**Sooner Cattle**	**0.95**	**77**		Pg	19 38 17.0	+0.3
T35A					Sg	19 38 29.4	+0.4
T35A				IAML		19 38 31.3	
comp=E,46nm,0.1s							
OK052	**Battle Ridge R**	**0.99**	**135**		Pg	19 38 17.6	+0.2
OK052					Sb	19 38 31.6	-0.3
OK052				IAML		19 38 36.8	
comp=E,56nm,0.3s							
OK052				IAML		19 38 37.4	
comp=E,50nm,0.2s							
OK031	**S. Brethren Rd**	**1.00**	**138**		Pg	19 38 17.8	+0.2
OK031					Sb	19 38 31.6	-0.5
OK031				IAML		19 38 36.4	
comp=E,41nm,0.3s							
OK031				IAML		19 38 40.1	
comp=E,35nm,0.2s							
DEOK	**Depew**	**1.27**	**132**		Pg	19 38 22.4	-0.4
DEOK					Sb	19 38 40.2	+0.1
DEOK				IAML		19 38 44.2	
comp=E,41nm,0.1s							
DEOK				IAML		19 38 44.2	
comp=N,37nm,0.2s							
W35A	**Tecumseh**	**1.67**	**157**		Pn	19 38 29.2	+0.5
RLO	**Rose Lookout**	**2.20**	**103**		Pn	19 38 37.4	+1.4

*TIR **08** 20:01:52.5, 41.°47N×19.°54E, h25km, Md3.0, Ml2.9*

*RHSSO **08** 20:01:54.6±0.7, 41.°42N×19.°30E, h7km±2km, ML2.8/6*
*BEO **08** 20:01:54.0±0.4, 41.°43N×19.°53E, h10km±2km, ML2.5/15*
*PDG **08** 20:01:54.2±0.1, 41.°47N×19.°56E, h17km, ML2.7/13, Error ellipse: s-maj=0.1km s-min=0.3km az=0.0*
ISC 08 20:01:53.1±1.0, 41.°44N±0.°02×19.°54E±0.°02, h15km±9km, n66, σ1§32/102, 17C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.26**	**111**	P	**Pb**	**20 01 59.4**	**-0.1**
TIR				AMP			
comp=E,22nm,0.2s,baz=116							
TIR	**Tirane**	**0.26**	**111**	*e*Pg	**Pb**	**20 01 59.7**	**+0.2**
TIR				*e*Sg	**Sb**	**20 02 04.2**	**+0.4**
ULC	**Ulcinj**	**0.56**	**337**	⇓*i*Pg	**Pb**	**20 02 04.5**	**-0.2**
ULC				*i* Sg	**Sb**	**20 02 13.6**	**+1.0**
PUK	**Puka**	**0.66**	**24**	P	**Pg**	**20 02 05.2**	**-0.7**
PUK				AMP			
comp=E,1.2nm,0.3s,baz=24							
DRME	**Dracevica, Mon**	**0.79**	**340**	⇑*i*Pg	**Pb**	**20 02 08.7**	**+0.2**
DRME				*i* Sg	**Sn**	**20 02 21.1**	**-0.1**
VLO	**Vlora**	**0.97**	**182**	P	**Pb**	**20 02 11.2**	**-0.4**
BUM	**Brajici-Budva**	**0.98**	**331**	⇑*i*Pg	**Pn**	**20 02 12.4**	**0.0**
BUM				*i* Sg	**Sn**	**20 02 27.6**	**+1.5**
BCI	**Bajram Curri**	**1.00**	**23**	AMP			
comp=E,1.1nm,0.7s,baz=23							
OHR	**Ohrid**	**1.01**	**109**	*e*Pg	**Pg**	**20 02 12.5**	**-0.1**
OHR				*e*Sg	**Sg**	**20 02 25.9**	**+0.1**
OHR	**Ohrid**	**1.01**	**109**	*i* Pg	**Pn**	**20 02 12.6**	**-0.1**
OHR				*i* Sg	**Sn**	**20 02 28.2**	**+1.6**
PDG	**Podgorica**	**1.01**	**348**	*e*Pg	**Pn**	**20 02 12.7**	**0.0**
PDG				*e*Sg	**Sn**	**20 02 26.6**	**0.0**
PDG	**Podgorica**	**1.01**	**348**	*e*Pg	**Pb**	**20 02 12.0**	**-0.2**
PDG				*e*Sg	**Sn**	**20 02 26.8**	**+0.2**
PDG	**Podgorica**	**1.01**	**348**	⇓*i*Pg	**Pn**	**20 02 12.7**	**0.0**
PDG				*i* Sg	**Sn**	**20 02 28.3**	**+1.7**
PVY	**Plav**	**1.19**	**15**	⇑*i*Pg	**Pg**	**20 02 15.7**	**-0.4**
PVY				*i* Sg	**Sn**	**20 02 33.9**	**+2.6**
CEME	**Cevo**	**1.20**	**337**	⇓*i*Pg	**Pg**	**20 02 16.3**	**+0.1**
CEME				*i* Sg	**Sg**	**20 02 34.3**	**+2.5**
KBN	**Korca**	**1.25**	**131**	P	**Pn**	**20 02 16.1**	**0.0**
KBN				AMP			
comp=E,0.9nm,0.6s,baz=131							
HCY	**Herceg Novi**	**1.27**	**322**	*e*Pg	**Pb**	**20 02 16.8**	**+0.1**
HCY				*e*Sg	**Sb**	**20 02 32.4**	**-0.4**
HCY	**Herceg Novi**	**1.27**	**322**	⇑*i*Pg	**Pg**	**20 02 17.6**	**0.0**
HCY				*i* Sg	**Sg**	**20 02 36.7**	**+2.5**
NKME	**Niksic**	**1.39**	**342**	⇓*i*Pg	**Pg**	**20 02 19.7**	**-0.2**
NKME				*i* Sg	**Sg**	**20 02 39.6**	**+1.5**
KOME	**Kolasin**	**1.41**	**359**	⇓*i*Pg	**Pg**	**20 02 20.2**	**0.0**
KOME				*i* Sg	**Sg**	**20 02 40.0**	**+1.5**
IVA	**Berane**	**1.45**	**10**	⇓*i*Pg	**Pg**	**20 02 20.3**	**-0.7**
IVA				*i* Sg	**Sg**	**20 02 40.8**	**+0.9**
LSK	**Leskovik**	**1.52**	**148**	P	**Pg**	**20 02 21.6**	**-0.8**
LSK				AMP			
comp=N,0.6nm,0.8s,baz=148							
FNA	**Florina**	**1.54**	**115**	*e*Pg	**Pb**	**20 02 21.8**	**+0.5**
FNA				*e*Sg	**Sg**	**20 02 43.3**	**+0.7**
NEST	**Nestorio**	**1.54**	**131**	P	**Pb**	**20 02 21.6**	**+0.3**
NEST				AMP			
comp=E,0.5nm,0.4s,baz=132							
TREB	**Trebinje**	**1.55**	**326**	*e*Pg	**Pb**	**20 02 21.5**	**0.0**
TREB				*e*Sg	**Sg**	**20 02 43.8**	**+0.7**
TREB	**Trebinje**	**1.55**	**326**	*e*Pg	**Pn**	**20 02 20.4**	**+0.3**
TREB				*e*Sg	**Sb**	**20 02 41.1**	**+0.2**
SCTE	**Santa Cesarea**	**1.59**	**211**	P	**Pb**	**20 02 22.4**	**+0.2**
SCTE				AMP			
comp=N,0.2nm,0.5s,baz=211							
BRY	**Bratogost**	**1.64**	**333**	⇑*i*Pn	**Pg**	**20 02 23.6**	**-1.0**
BRY				*e*Sn	**Sb**	**20 02 44.1**	**+0.6**
BRY	**Bratogost**	**1.64**	**333**	⇓*i*Pn	**Pb**	**20 02 23.2**	**+0.2**
BRY				*i* Sn	**Sg**	**20 02 45.6**	**-0.2**
UPM	**Unac-Piva**	**1.82**	**345**	*e*Pn	**Pb**	**20 02 26.7**	**+0.5**
UPM				*e*Sn	**Sb**	**20 02 49.4**	**+0.5**
UPM	**Unac-Piva**	**1.82**	**345**	⇑*i*Pn	**Pb**	**20 02 25.6**	**-0.6**
UPM				*i* Sn	**Sg**	**20 02 50.2**	**-1.5**
SJES	**Sjenica**	**1.84**	**10**	*e*Pg	**Pg**	**20 02 27.4**	**-1.1**
SJES				*e*Sg	**Sg**	**20 02 52.3**	**-0.2**
SJES	**Sjenica**	**1.84**	**10**	⇑*i*Pn	**Pb**	**20 02 27.2**	**+0.6**
SJES				*e*Sn	**Sg**	**20 02 51.8**	**-0.7**
PLE	**Pljevlja**	**1.89**	**357**	⇑*i*Pn	**Pb**	**20 02 26.7**	**-0.6**
PLE				*i* Sn	**Sb**	**20 02 51.5**	**+0.7**
STON	**Ston**	**1.98**	**317**	*e*Pn	**Pn**	**20 02 26.7**	**+0.8**
STON				*e*Sn	**Sn**	**20 02 51.2**	**+0.8**
STON	**Ston**	**1.98**	**317**	*e*Pn	**Pn**	**20 02 26.4**	**+0.5**
STON				*e*Sn	**Sn**	**20 02 50.4**	**0.0**
NOCI	**Noci**	**1.98**	**252**	P	**Pb**	**20 02 28.2**	**-0.6**
SELS	**Selova**	**2.13**	**33**	*e*Pn	**Pb**	**20 02 30.1**	**-1.2**
SELS				*e*Sn	**Sn**	**20 02 55.4**	**+1.2**
RUDO	**Rudo**	**2.18**	**357**	*e*Pn	**Pb**	**20 02 31.6**	**-0.6**
RUDO				*e*Sn	**Sb**	**20 02 59.2**	**+0.3**
BARS	**Barje**	**2.18**	**50**	*e*Pn	**Pb**	**20 02 30.7**	**-1.5**
BARS				*e*Sn	**Sn**	**20 02 57.3**	**+1.8**
IVAS	**Ivanjica**	**2.18**	**12**	*e*Pn	**Pb**	**20 02 30.5**	**-1.7**
IVAS				*e*Sn	**Sb**	**20 02 58.4**	**-0.7**
MATE	**Matera**	**2.29**	**251**	⇓P	Pn	20 02 19.5	-11
BBLS	**Lazi&#263i**	**2.42**	**358**	*e*Pn	**Pb**	**20 02 35.2**	**-1.2**
BBLS				*e*Sn	**Sb**	**20 03 04.7**	**-1.4**
BBLS	**Lazi&#263i**	**2.42**	**358**	⇑*i*Pn	**Pb**	**20 02 35.8**	**-0.6**
BBLS				*e*Sn	**Sb**	**20 03 04.9**	**-1.2**
BOSS	**Bosilegrad**	**2.43**	**63**	*e*Pn	**Pn**	**20 02 33.7**	**+1.4**
GRUS	**Gruza**	**2.59**	**19**	*e*Pn	**Pn**	**20 02 36.5**	**+2.0**
DIVS	**Divibare**	**2.67**	**7**	*e*Pn	**Pn**	**20 02 37.0**	**+1.3**
HAPS	**Han Pijesak,BI**	**2.68**	**351**	⇑*i*Pn	**Pn**	**20 02 37.5**	**+1.8**
HAPS				*e*Sn	**Sb**	**20 03 10.8**	**-2.6**
BOVS	**Bovan**	**2.71**	**35**	*e*Pn	**Pn**	**20 02 38.4**	**+2.3**
BOVS				*e*Sn	**Sn**	**20 03 10.2**	**+1.6**
BOVS	**B

EYUL				eS	Sn	20 16 23.3	-1.9
LYUB	Lan-yu	1.46	232	⇑ i P	Pn	20 16 07.3	+0.1
LYUB				eS	Sn	20 16 23.8	-1.3
SHUL	Shoufeng	1.46	307	eP	Pn	20 16 06.9	-0.3
SHUL				eS	Sn	20 16 24.2	-0.9
LAY	Lan-yu	1.47	234	P	Pn	20 16 07.2	-0.1
LAY				eS	Sn	20 16 24.1	-1.1
TWF1	Yuli	1.48	288	⇑ P	Pn	20 16 07.2	-0.3
TWF1				eS	Sn	20 16 23.9	-1.8
TEYL	Yanliau Villag	1.49	311	eP	Pn	20 16 08.3	+0.8
TEYL				eS	Sn	20 16 25.3	-0.4
EHYH	Wanrong	1.49	294	eP	Pn	20 16 07.7	+0.1
EHYH				eS	Sn	20 16 25.9	0.0
YULB	Yu-li	1.50	289	P	Pn	20 16 07.6	-0.1
YULB	Yu-li	1.50	289	⇓ P	Pn	20 16 07.4	-0.3
YULB				eS	Sn	20 16 24.7	-1.3
ECS	Chishang	1.50	278	eP	Pn	20 16 08.0	+0.3
ECS				eS	Sn	20 16 25.5	-0.6
EGFH	Guangfu	1.50	301	eP	Pn	20 16 07.9	+0.1
EGFH				eS	Sn	20 16 25.2	-0.9
EHY	Hungye	1.52	294	P	Pn	20 16 08.2	+0.3
EHY				eS	Sn	20 16 25.7	-0.7
EHD	Haiduan	1.52	280	eP	Pn	20 16 07.8	-0.2
EHD				eS	Sn	20 16 25.2	-1.4
JYNG	Yonagunijimaku	1.54	4	eP	Pn	20 16 08.9	+0.6
JYNG				eS	Sn	20 16 27.4	+0.2
WARBT	Fenglin Townsh	1.56	302	i P	Pn	20 16 08.4	-0.1
WARBT				S	Sn	20 16 25.9	-1.6
YOJ	Yonaguni jima	1.56	6	P	Pn	20 16 09.4	+0.9
YOJ	Yonaguni jima	1.56	6	eP	Pn	20 16 09.3	+0.7
YOJ				eS	Sn	20 16 27.8	+0.3
YOJ	Yonaguni jima	1.56	6	eP	Pn	20 16 09.2	+0.7
YOJ				eS	Sn	20 16 28.2	+0.7
TTN	Taitung	1.56	265	eS	Sn	20 16 27.2	-0.4
LONT	Longtian	1.57	270	eP	Pn	20 16 09.2	+0.5
LONT				eS	Sn	20 16 27.9	+0.1
ESL	Shilin	1.57	305	eP	Pn	20 16 08.1	-0.7
ESL				eS	Sn	20 16 26.0	-1.9
EOS2	EOS2	1.61	340	eP	Pn	20 16 10.2	+1.1
EOS2				eS	Sn	20 16 29.1	+0.6
TWGBT	Beinan	1.62	267	P	Pn	20 16 10.1	+0.7
TWGBT	Beinan	1.62	267	P	Pn	20 16 09.9	+0.6
TWGBT				eS	Sn	20 16 28.8	-0.3
ETM	Tongmen	1.62	311	eP	Pn	20 16 08.8	-0.6
TWG	Pinlang	1.63	267	eP	Pn	20 16 09.8	+0.3
TWG				eS	Sn	20 16 28.8	-0.4
TWD	Chiawan	1.63	316	eP	Pn	20 16 08.9	-0.7
IRIF	Iriomote-Funau	1.65	30	eP	Pn	20 16 10.0	+0.3
IRIF				eS	Sn	20 16 28.7	-1.0
ETL	Fush Village	1.67	319	eP	Pn	20 16 09.9	-0.2
ELDTW	Lidau	1.70	280	P	Pn	20 16 10.4	-0.1
ELDTW				eS	Sn	20 16 29.4	-1.7
NACB	Ninganchiao	1.70	318	P	Pn	20 16 09.9	-0.6
NACB	Ninganchiao	1.70	318	i P	Pn	20 16 10.1	-0.3
NACB				eS	Sn	20 16 29.0	-2.0
JKRS	Kuro-shima	1.71	39	P	Pn	20 16 11.1	+0.5
JKRS				eS	Sn	20 16 30.7	-0.6
LXIB	Xiulin Townshi	1.71	311	eP	Pn	20 16 10.4	-0.4
ECL	Taimali	1.76	260	⇑ P	Pn	20 16 11.5	+0.2
ECL				eS	Sn	20 16 31.1	-1.4
VWDT	VWDT	1.77	299	⇑ P	Pn	20 16 12.0	+0.6
VWDT				eS	Sn	20 16 32.1	-0.7
ETLH	Xiulin Townshi	1.80	317	eP	Pn	20 16 11.8	-0.1
ETLH				eS	Sn	20 16 32.3	-1.2
EWUT	Wuta	1.82	328	eP	Pn	20 16 12.6	+0.6
EWUT				eS	Sn	20 16 33.7	-0.1
ENA	Nanau	1.82	327	eP	Pn	20 16 12.5	+0.4
ENA				eS	Sn	20 16 33.6	-0.4
OWD	Renai	1.85	305	i P	Pn	20 16 12.9	+0.2
OWD				i S	Sn	20 16 33.4	-1.4
TAW	Tawu	1.87	254	eP	Pn	20 16 13.6	+0.9
TAW				eS	Sn	20 16 35.4	+0.2
TAWH	Dawu Township	1.88	253	eP	Pn	20 16 14.1	+1.1
TAWH				eS	Sn	20 16 35.7	+0.2
JIJ	Ishigaki jima	1.89	39	P	Pn	20 16 13.0	0.0
JIJ				eS	Sn	20 16 34.1	-1.5
ESAO	Su ao	1.90	332	eS	Sn	20 16 35.6	-0.3
WHF	Hehuan Shan	1.90	311	eP	Pn	20 16 13.7	+0.1
EAST	Anshuo	1.91	255	eP	Pn	20 16 14.2	+0.9
EAST				eS	Sn	20 16 35.9	-0.2
WUSB	Renai	1.91	305	P	Pn	20 16 13.9	+0.4
STYH	Taoyuan	1.92	278	eP	Pn	20 16 14.1	+0.7
STYH				eS	Sn	20 16 34.7	-1.6
TWC	Suao	1.92	332	eP	Pn	20 16 14.5	+1.0
TWC				eS	Sn	20 16 36.0	-0.5
SSLB	Suanglung	1.94	297	P	Pn	20 16 14.4	+0.6
SSLB	Suanglung	1.94	297	eP	Pn	20 16 14.1	+0.4
SSLB				eS	Sn	20 16 36.1	-0.9
ALS	Alishan	1.96	288	eP	Pn	20 16 15.6	+1.2
ALS				eS	Sn	20 16 36.9	-1.0
FUSS	Fushou	1.98	313	eP	Pn	20 16 15.2	+0.6
FUSS				eS	Sn	20 16 37.5	-0.8
WHYT	Xinyi Township	1.98	294	eP	Pn	20 16 15.5	+1.1
WHYT				eS	Sn	20 16 37.7	-0.4
SLIU	Shizi	2.00	250	eP	Pn	20 16 15.1	+0.5
NDS	Dongshan	2.00	330	eP	Pn	20 16 15.7	+1.0
NDS				eS	Sn	20 16 38.4	-0.1
SLGT	Liugui	2.02	273	eP	Pn	20 16 16.1	+1.3
NNSB	Datong	2.02	319	P	Pn	20 16 15.2	+0.3
NNSB				eS	Sn	20 16 38.1	-1.0
NNSH	Datong	2.02	319	eP	Pn	20 16 15.4	+0.5
NNSH				eS	Sn	20 16 38.7	-0.4
LATG	Datong	2.02	324	⇓ i P	Pn	20 16 15.3	+0.3
LATG				eS	Sn	20 16 38.0	-1.0
SMLT	Sun Moon Lake	2.03	299	eP	Pn	20 16 15.8	+0.8
TWT	Tachien	2.03	312	eP	Pn	20 16 15.9	+0.7
NNS	Nan Shan	2.03	319	eP	Pn	20 16 15.5	+0.3
NNS				eS	Sn	20 16 39.0	-0.5
SSD	Sandimen	2.04	266	eP	Pn	20 16 15.7	+0.6
SSD				eS	Sn	20 16 38.9	-0.5
TDCB	Techi	2.04	312	eP	Pn	20 16 15.9	+0.6
TSEB	Hengchuen, Pin	2.05	241	eP	Pn	20 16 14.1	-1.1
TSEB				eS	Sn	20 16 38.3	-1.3
MASBT	Mashibuluo	2.05	262	eP	Pn	20 16 16.1	+0.8
TPUB	Ta-pu	2.07	281	P	Pn	20 16 17.5	+1.9
TPUB	Ta-pu	2.07	281	eP	Pn	20 16 17.5	+1.9
TYC	Yuchr	2.07	299	eP	Pn	20 16 16.6	+1.0
WTP	Ta-pu	2.07	280	eP	Pn	20 16 17.3	+1.6
DPDB	Guoxing	2.08	303	eP	Pn	20 16 16.7	+0.9
SGST	Jiashian	2.08	275	eP	Pn	20 16 17.0	+1.2
ENT	Nioudou	2.08	326	P	Pn	20 16 16.4	+0.8
CHN5	Tsauling	2.10	290	eP	Pn	20 16 17.8	+1.8
CHN5				eS	Sn	20 16 41.7	+0.7
TWKBT	Hengchun	2.10	243	P	Pn	20 16 17.2	+1.2
TWKBT				eS	Sn	20 16 40.4	-0.4
EGS		2.10	337	eP	Pn	20 16 17.2	+1.3
TWE	Neicheng	2.10	330	eP	Pn	20 16 17.1	+1.1
TWE				eS	Sn	20 16 40.2	-0.7
TWK1	Hengchun	2.10	243	eP	Pn	20 16 17.1	+1.1
TWK1				eS	Sn	20 16 40.9	-0.1
WCS	Beigang Elemen	2.11	303	eP	Pn	20 16 16.9	+0.8
CHN4	Tsaushan	2.11	283	eP	Pn	20 16 18.0	+1.9
SCZT	Fangliau	2.11	256	eP	Pn	20 16 17.2	+1.1
WCKO	Fanlu	2.12	285	eP	Pn	20 16 18.0	+1.8
HEN	Hengchun	2.13	246	eP	Pn	20 16 18.2	+1.8
HEN				eS	Sn	20 16 41.8	+0.1
WJS	Zhushan	2.14	296	eP	Pn	20 16 18.2	+1.6
CHN1	Nanshi	2.14	278	eP	Pn	20 16 19.0	+2.4
JISG	Ishigakijimahi	2.15	39	eP	Pn	20 16 16.6	-0.2
JISG				S	Sn	20 16 40.9	-1.3
SCST	Cishan	2.16	270	eP	Pn	20 16 19.3	+2.6
FUSB	Fushanzhiwuyua	2.17	329	P	Pn	20 16 17.9	+0.9
FUSB				S	Sn	20 16 42.5	-0.2
SNST	Tainan City	2.17	279	eP	Pn	20 16 19.1	+2.1
TWK	Hsinying	2.19	280	eP	Pn	20 16 19.3	+2.0
WNT	Mingjian	2.20	297	eP	Pn	20 16 18.9	+1.6
WHP	Taichung City	2.21	309	eP	Pn	20 16 19.8	+2.2
YHNB	Yeheng	2.21	323	P	Pn	20 16 18.6	+1.1
YHNB	Yeheng	2.21	323	P	Pn	20 16 18.2	+0.6
YHNB				eS	Sn	20 16 42.6	-1.1
NSK	Sanguang	2.22	323	P	Pn	20 16 18.5	+0.8
NSK				eS	Sn	20 16 42.6	-1.4
TWM1	Shoushan	2.23	268	eP	Pn	20 16 19.8	+2.1
NWLT	Wulai	2.23	327	eP	Pn	20 16 18.1	+0.3
NWLT				eS	Sn	20 16 43.6	-0.5
WGK	Gukeng	2.23	291	eP	Pn	20 16 19.2	+1.5
TWB1	Santiao Chiao	2.23	340	eP	Pn	20 16 18.8	+1.0
TIPB	Shuangxi	2.26	336	eP	Pn	20 16 19.6	+1.4
TIPB				eS	Sn	20 16 44.5	-0.4
WWF	Wufeng	2.27	300	eP	Pn	20 16 20.3	+2.1
WYL	Yuanlin Townsh	2.32	297	eP	Pn	20 16 22.0	+3.0
NFF	Wufeng Townshi	2.33	318	eP	Pn	20 16 21.1	+1.9
NFF				eS	Sn	20 16 47.4	+0.7
TCU	Taichung	2.34	302	eP	Pn	20 16 22.1	+2.9
TWP	Hsiaoliuchiu	2.35	257	eP	Pn	20 16 21.7	+2.3
SXI1	Grass Mountain	2.35	338	eP	Pn	20 16 19.7	+0.2
SXI1				eS	Sn	20 16 46.5	-0.7
TWA	Mucha	2.36	331	eP	Pn	20 16 19.3	-0.3
TWA				eS	Sn	20 16 46.2	-1.2
WFSB	Wu-fen Shan	2.36	336	eP	Pn	20 16 21.3	+1.7
WFSB				eS	Sn	20 16 47.4	0.0
TWQ1	Liyutan	2.38	308	eP	Pn	20 16 21.9	+2.2
WSSB	Gushan	2.39	264	eP	Pn	20 16 22.6	+2.7
ICHU	Yijhu	2.40	281	eP	Pn	20 16 21.2	+1.2
WCHH	Zhanghua	2.40	300	eP	Pn	20 16 21.6	+1.6
WCH1	Changhua City	2.40	299	eP	Pn	20 16 22.5	+2.4
TATO	Taipei	2.40	329	P	Pn	20 16 21.2	+1.1
TATO	Taipei	2.40	329	eP	Pn	20 16 20.6	+0.5
TATO				eS	Sn	20 16 49.2	+0.9
NSTT	Nanjuang	2.40	316	eP	Pn	20 16 22.0	+1.9
NSTT				eS	Sn	20 16 48.3	-0.1
KSHI	Guanxi Townshi	2.41	321	eP	Pn	20 16 22.1	+2.0
KSHI				eS	Sn	20 16 49.8	+1.4
LIOB	Emei	2.41	317	eP	Pn	20 16 22.3	+2.1
NJD	Zhudong	2.43	319	eP	Pn	20 16 22.5	+2.1
JTJ	Tarama	2.43	44	P	Pn	20 16 20.9	+0.4
JTJ				S	Sn	20 16 48.5	-0.6
TAP	Taipei	2.45	331	eP	Pn	20 16 23.3	+2.5
CHN8	Yiju	2.46	281	eP	Pn	20 16 22.6	+1.8
YM01	YM01	2.52	333	eP	Pn	20 16 23.4	+1.6
YM01				eS	Sn	20 16 50.8	-0.3
ZUZH	Zhuzihu	2.54	333	eP	Pn	20 16 22.9	+0.9
ZUZH				S	Sn	20 16 51.7	-0.1
TWS1	Kuangyinshan	2.54	330	eP	Pn	20 16 22.9	+0.9
TWS1				eS	Sn	20 16 51.5	-0.2
YM08	YM08	2.54	334	eP	Pn	20 16 24.2	+2.1
NCUH	Zhongli	2.55	324	eP	Pn	20 16 24.0	+1.9
ANP	Anpu	2.57	332	eP	Pn	20 16 24.0	+1.5
JIRB	Irabujima	2.87	48	eP	Pn	20 16 26.8	+0.2
JIRB				S	Sn	20 16 59.2	-0.8
JMJ2	Miyako jima3	2.93	51	eP	Pn	20 16 27.4	+0.1
JMJ2				eS	Sn	20 17 00.6	-0.7
WDGT	Dungji	2.94	278	eP	Pn	20 16 29.1	+1.6
JMJ	Miyako jima 2	2.95	49	eP	Pn	20 16 27.6	0.0
JIKM	Ikemajima	2.99	47	eP	Pn	20 16 28.3	+0.1
JIKM				eS	Sn	20 17 02.2	-0.6
JOGS	Gusukube	3.00	51	eP	Pn	20 16 28.9	+0.7
JOGS				eS	Sn	20 17 02.9	-0.1
PHUB	P'eng-hu	3.06	282	eP	Pn	20 16 30.9	+1.7
PHUB				eS	Sn	20 17 04.0	-0.6
PNG	Penghu	3.09	283	eP	Pn	20 16 30.5	+1.0
VCHM	Qimei	3.15	276	eP	Pn	20 16 32.3	+1.9
VWUC	VWUC	3.73	305	eP	Pn	20 16 39.5	+1.1
VWUC				eS	Sn	20 17 19.3	-1.8
PTMZ	Houxiangcun	4.01	303	eP	Pn	20 16 43.2	+1.0
PTMZ				eS	Sn	20 17 25.9	-2.0
MATB	Ma-tsu	4.17	321	eP	Pn	20 16 45.3	+0.9
MATB				eS	Sn	20 17 29.2	-2.7
KNMB	Chin-men Tao	4.36	292	eP	Pn	20 16 46.8	-0.3
XPSS	Dashiqiu	4.67	330	eP	Pn	20 16 51.6	+0.3
XPSS				eS	Sn	20 17 40.5	-3.8
SXFK	Yanhouchang	5.87	307	eP	Pn	20 17 07.7	0.0
VDOS	Pratas Island	6.08	250	eP	Pn	20 17 12.9	+2.2
JOW	Kunigami	6.30	51	eP	Pn	20 17 13.0	-0.7

*KEA **08** 20:24:07.2, 45°.66N×123°.74E, h3km, ML3.9/1*
IDC 08 20:24:37.9±2.7, 45°.29N×124°.70E, h0km, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=35.5km s-min=20.3km az=18.0, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HYSN	Hyesan	4.65	146	Pg	Pn	20 25 49.8	+0.3
HYSN				Sg	Sg	20 27 05.8	-1.6
HYSN				AML	AML		
	comp=N,182nm,0.4s						
HYSN				AML	AML		
	comp=E,265nm,0.4s						
HYSN				AML	AML		
	comp=Z,33nm,0.6s						
USRK	Ussuriysk Ar.	5.31	99	Pn	Pn	20 25 58.1	-0.3
	comp=Z,0.3nm,0.3s,baz=279,slow=13,SNR=6.7						
USRK				Pg	Pb	20 26 15.5	+4.0
	comp=Z,1.3nm,0.3s,baz=288,slow=16,SNR=12						
USRK				Lg	Lg	20 27 25.8	
	comp=Z,2.3nm,0.3s,baz=283,slow=32,SNR=6.9						
	comp=Z,0.5nm,0.3s						
PYS	Pyongsong	6.10	171	Sg	Sg	20 27 46.1	-7.6
KSRS	Korea Array	8.20	162	Pg	Pg	20 27 09.3	-5.6
	comp=Z,0.3nm,0.3s,baz=342,slow=18,SNR=1.7						
KSRS				Lg	Lg	20 28 57.3	
	comp=Z,1.2nm,0.3s,baz=345,slow=32,SNR=9.9						
SONM	Songino Array	12.85	288	Pn	Pn	20 27 41.4	-0.5
	comp=Z,0.1nm,0.3s,baz=92,slow=13,SNR=1.8						
SONM				Lg	Lg	20 31 26.4	
	comp=Z,0.1nm,0.3s,baz=96,slow=23,SNR=3.8						
	comp=Z,0.2nm,0.6s						

DJA 08 20:39:36.8±0.3, 3°S±3°×11°9E±°, h10km, M3.8/13, mb3.9/1, MLv3.7/13, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.37	118	P	Pg	20 39 42.8	-1.4
SPSI	Sidrap Palu	1.12	166	P	Pb	20 39 55.7	-2.6
BNSI	Bone	1.64	158	P	Pn	20 40 05.7	0.0
BKSI	Bulukumba	2.52	166	P	Pn	20 40 18.8	+1.0
BKB	Balikpapan	3.04	302	P	Pn	20 40 25.0	-0.1
MPSI	Mapaga	3.21	7	P	Pn	20 40 27.4	0.0
BSSI	Bau Bau, Buton	3.40	163	P	Pn	20 40 32.1	+2.1
LUWI	Luwuk	3.75	61	P	Pn	20 40 34.8	+0.1
BBSI	Bau Bau	4.03	130	P	Pn	20 40 40.1	+1.5
WBSI	Waikabubak, Su	6.73	181	P	Pn	20 41 15.9	+0.1

*ATH **08** 20:48:16.2, 37°.49N×20°.47E, h10km±2km, ML3.0/2, Error ellipse: s-maj=4.0km s-min=1.4km az=33.0*
*IDC **08** 20:48:32.4±1.5, 37°.24N×20°.57E, h0km, mb3.5/8, mbtmp3.4/9, ML3.4/1, MS3.0/2, Error ellipse: s-maj=33.8km s-min=25.2km az=126.0*
ISC 08 20:48:16.2±2.2, 37°.5N±0°.1×20°.48E±0°.09, h15km, n27, σ0°.64/20, mb3.4/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.36	52	P	Pg	20 48 23.5	0.0
LTHK				S	Sg	20 48 28.6	0.0
LTHK				AML	AML	20 48 29.3	
	comp=N,12764μm,0.2s						
LTHK				AML	AML	20 48 29.6	
	comp=E,10679μm,0.3s						
PSDA	Pessada-Kefalo	0.63	7	P	Pg	20 48 28.1	-0.5
VLS	Valsamata	0.69	7	P	Pg	20 48 29.1	-0.6
VLS				S	Sg	20 48 39.0	0.0
VLS				AML	AML	20 48 44.1	
	comp=E,1612μm,0.2s						
VLS				AML	AML	20 48 44.1	
	comp=N,2118μm,0.3s						
LXRA	Lixouri, Kepha	0.71	357	P	Pg	20 48 30.2	+0.1
LXRA				S	Sg	20 48 39.7	+0.2
DMLN	Damoulianata-K	0.76	354	P	Pg	20 48 30.7	-0.2
SMHA	Samh	0.78	10	P	Pg	20 48 30.5	-0.8
RLS	Riolos of Patr	0.97	54	P	Pb	20 48 34.0	-0.6
FSK	Fiskardo	0.97	4	P	Pb	20 48 34.3	-0.5
AMT	Artemida-Makis	0.98	87	P	Pb	20 48 34.9	+0.1
DRO	Drossia	1.08	64	P	Pb	20 48 36.0	-0.6
EVGI	Lefkada island	1.14	7	P	Pb	20 48 37.3	-0.3
ITM	Ithomi	1.19	104	P	Pn	20 48 38.0	-0.4
DRAG	Dragano-Lefkad	1.20	3	P	Pn	20 48 38.1	-0.3
NYDR	Nydri-Lefkada	1.24	8	P	Pn	20 48 39.1	+0.2
KLV	Kalavryta, Ach	1.44	67	P	Pn	20 48 42.1	+0.4
GUR	Goura	1.54	73	P	Pn	20 48 43.7	+0.5
OHR	Ohrid	3.63	4	i Pn	Pg	20 49 27.6	+2.0
KEST	Kesra	9.12	262	LR	LR	20 54 15.1	
	comp=N,101nm,20.2s,baz=345,slow=37						
AKASG	Malin Array Be	14.61	23	Pn	P	20 52 02.0	+13
	comp=N,0.2nm,0.3s,baz=214,slow=10,SNR=1.5						
AKASG				LR	LR	20 58 18.1	
	comp=N,49nm,18.3s,baz=272,slow=40						
	comp=N,0.1nm,0.3s						
HFS	Hagfors	23.08	351	P	P	20 53 41.4	+20
	comp=N,1.5nm,0.8s,baz=168,slow=7.4,SNR=2.1						
	comp=N,1.5nm,0.8s						
EKA	Eskdalemuir Ar	23.98	326	P	P	20 53 50.5	+21
	comp=N,1.6nm,0.8s,baz=128,slow=8.1,SNR=2.1						
	comp=N,1.6nm,0.8s						
FINES	FINESS Array B	24.24	7	P	P	20 53 52.6	+20
	comp=N,1.2nm,0.8s,baz=172,slow=11,SNR=1.4						
	comp=N,1.2nm,0.8s						
NOA	NORSAR Array B	24.29	349	P	P	20 53 54.4	+22
	comp=N,0.3nm,0.6s,baz=158,slow=9.1,SNR=4.0						
	comp=N,0.3nm,0.6s						
TORD	Torodi Ar. Bea	29.48	220	P	P	20 54 36.8	+17
	comp=N,0.3nm,0.6s,baz=26,slow=9.8,SNR=3.3						
	comp=N,0.3nm,0.6s						
KURBB	Kurchatov Arra	42.67	53	P	P	20 56 30.8	+19
	comp=N,0.3nm,0.7s,baz=280,slow=9.0,SNR=2.5						
	comp=N,0.3nm,0.7s						
MKAR	Makanchi Array	45.69	58	P	P	20 56 55.8	+19
	comp=N,0.2nm,0.6s,baz=288,slow=7.0,SNR=1.4						
	comp=N,0.2nm,0.6s						
ZALV	Zalesovo Beam	46.18	48	P	P	20 56 59.5	+20
	comp=N,0.6nm,0.4s,baz=268,slow=11,SNR=2.1						
	comp=N,0.6nm,0.4s						

KRSC 08 20:56:45.0±1.2, 56°.96N×163°.13E, h14km±7km, MI3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	Krutoberegovo	0.75	198	eP	Pg	20 56 59.0	-0.4
KBG				eS	Sg	20 57 09.0	-0.3
KBTR	Krutoberegovo	0.77	193	eP	Pg	20 56 59.8	-0.2
KBTR				eS	Sg	20 57 09.1	-1.1
SMKR	Semkarok	0.99	248	eP	Pb	20 57 03.3	-0.6
SRKR	Sorokina	1.12	255	eS	Sb	20 57 19.3	-1.3
KLY	Klyuchi	1.51	246	eP	Pn	20 57 10.3	-1.3
KLY				eS	Sn	20 57 28.5	-2.6
CIRR	Tsirk	1.57	238	eP	Pb	20 57 13.4	-0.4
CIRR				eS	Sb	20 57 34.3	+0.8
ZLN	Zelenaya	1.60	235	eP	Pb	20 57 13.7	-0.6
KRSR	Krestovskiy	1.60	243	eP	Pn	20 57 13.1	+0.2
KRSR				eS	Sn	20 57 33.8	+0.4
BZGR	Bezymyannyi-Gr	1.69	234	eP	Pn	20 57 15.0	+0.8
BZWR	Bezymyannyi-We	1.77	237	eS	Sb	20 57 39.7	+0.4
BZP	Bezymyannyi-Pe	1.78	235	eP	Pn	20 57 16.0	+0.6
BZMR	Bezymyannaya	1.79	236	eP	Pn	20 57 16.2	+0.7
KIRR	Kirishev	1.85	238	eP	Pn	20 57 17.0	+0.6
KIRR				eS	Sb	20 57 40.6	-1.0
KPT	Kopyto	1.90	239	eP	Pb	20 57 18.3	-1.1
KPT				eS	Sb	20 57 43.0	+0.1
SRDR	Sredinnyy	1.99	252	eP	Pn	20 57 19.3	+1.1
SRDR				eS	Sn	20 57 44.2	+1.2
KMNR	Kamenistaya	2.01	234	eP	Pb	20 57 20.4	-0.9
KMNR				eS	Sb	20 57 46.1	-0.2
KOZ	Kozyrevsk	2.02	245	eP	Pb	20 57 20.3	-1.1
KOZ				eS	Sb	20 57 46.1	-0.2
TUMD	Tumrok D	2.33	222	eP	Pb	20 57 25.5	-1.3
TUMD				eS	Sb	20 57 53.7	-1.7
TUMR	Tumrok	2.37	226	eP	Pn	20 57 25.4	+1.9
ESO	Esso	2.67	249	eP	Pn	20 57 29.7	+2.2

*IDC **08** 21:00:15.8±1.1, 25°.73N×129°.11E, h0km, mb3.7/5, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=39.4km s-min=17.7km az=74.0*
*JMA **08** 21:00:17.8±0.2, 25°.7N±1°.0×128°.9E±0°.8, h51km, MV3.3/15, NEAR OKINAWAJIMA ISLAND*
ISC 08 21:00:19.6±0.9, 25°.68N±0°.06×128°.86E±0°.04, h35km, n20, σ1°.44/31, mb3.7/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	Tamagusuku3	1.07	296	i P	Pn	21 00 37.1	-1.0
JJT3				S	Sn	21 00 50.6	-1.1
JNTH	Nagotoyohara	1.12	318	P	Pn	21 00 37.3	-1.5
JNTH				eS	Sn	21 00 52.1	-0.9
JOW	Kunigami	1.26	336	Pn	Pn	21 00 39.9	-0.8
	131nm,0.3s,baz=152,slow=14,SNR=344						
JOW				Sn	Sn	21 00 54.2	-2.2
	39nm,0.3s,baz=144,slow=19,SNR=9.9						
JOW	Kunigami	1.26	336	i P	Pn	21 00 39.9	-0.8
JOW				eS	Sn	21 00 55.5	-0.9
JYRO	Yoronjima	1.38	345	i P	Pn	21 00 41.7	-0.7
JYRO				eS	Sn	21 00 57.2	-2.3
JIH	Iheya	1.56	330	P	Pn	21 00 44.4	-0.5
JIH				eS	Sn	21 01 03.7	-0.2
JOKE	Okinoerabujima	1.69	351	i P	Pn	21 00 46.3	-0.3
JOKE				eS	Sn	21 01 06.7	-0.4

LXRA				S	Sb	21 03 57.9	-0.5
DMLN	**Damoulianata-K**	**0.68**	**359**	P	Pb	21 03 49.3	-0.6
DMLN				S	Sb	21 03 59.4	-0.1
SMHA	**Samh**	**0.72**	**17**	P	Pg	21 03 49.3	-0.5
SMHA				S	Sb	21 04 00.5	-0.1
FSK	**Fiskardo**	**0.91**	**9**	P	Pg	21 03 53.0	-0.3
FSK				S	Sb	21 04 06.4	+0.3
FSK				AML	AML	21 04 13.5	
	comp=N,1889μm,0.8s						
FSK				AML	AML	21 04 17.9	
	comp=E,2554μm,0.8s						
RLS	**Riolos of Patr**	**0.99**	**59**	P	Pb	21 03 55.0	-0.2
RLS				S	Sn	21 04 09.9	-0.2
	comp=E,860nm,0.5s						
RLS	**Riolos of Patr**	**0.99**	**59**	P	Pg	21 03 54.7	-0.2
RLS				AML	AML	21 04 15.3	
	comp=E,1705μm,0.5s						
RLS				AML	AML	21 04 15.9	
	comp=N,1845μm,0.6s						
AMT	**Artemida-Makis**	**1.05**	**91**	P	Pg	21 03 55.9	-0.2
AMT				AML	AML	21 04 20.4	
	comp=E,10187μm,1.0s						
AMT				AML	AML	21 04 21.5	
	comp=N,11175μm,0.6s						
EVGI	**Lefkada island**	**1.08**	**11**	P	Pb	21 03 56.8	0.0
EVGI	**Lefkada island**	**1.08**	**11**	P	Pb	21 03 56.3	-0.4
DRO	**Drossia**	**1.12**	**69**	P	Pg	21 03 56.9	-0.5
DRO				AML	AML	21 04 21.1	
	comp=E,4163μm,0.8s						
DRO				AML	AML	21 04 21.5	
	comp=N,3760μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.14**	**8**	P	Pb	21 03 57.3	-0.4
NYDR	**Nydri-Lefkada**	**1.18**	**12**	P	Pb	21 03 58.1	-0.3
PYL	**PYLOS**	**1.27**	**121**	P	Pg	21 03 59.7	-0.5
PYL	**PYLOS**	**1.27**	**121**	P	Pg	21 03 59.3	-0.9
PYL				AML	AML	21 04 22.2	
	comp=N,2966μm,0.5s						
PYL				AML	AML	21 04 22.3	
	comp=E,3296μm,0.6s						
ITM	**Ithomi**	**1.29**	**107**	P	Pg	21 03 59.8	-0.7
ITM				AML	AML	21 04 32.8	
	comp=N,1559μm,0.5s						
ITM				AML	AML	21 04 33.0	
	comp=E,1775μm,0.7s						
EFP	**Efpalio**	**1.48**	**54**	P	Pg	21 04 03.7	-0.6
GNI	**Garni**	**19.13**	**75**	LR	LR	21 16 26.4	
	comp=E,31nm,21.0s,baz=310,slow=40						
HFS	**Hagfors**	**23.00**	**351**	P	P	21 08 38.1	-2.6
	comp=E,1.2nm,0.9s,baz=162,slow=11,SNR=2.5						
	comp=E,1.2nm,0.9s						
FINES	**FINESS Array B**	**24.18**	**7**	P	P	21 08 51.5	-0.7
	comp=E,0.6nm,0.6s,baz=165,slow=12,SNR=3.5						
	comp=E,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.48**	**219**	P	P	21 09 40.9	+0.6
	comp=E,0.2nm,0.6s,baz=18,slow=11,SNR=2.1						
	comp=E,0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**42.69**	**53**	P	P	21 11 34.4	+1.5
	comp=E,0.2nm,0.5s,baz=282,slow=8.7,SNR=1.9						
	comp=E,0.2nm,0.5s						
MKAR	**Makanchi Array**	**45.72**	**58**	P	P	21 11 59.6	+2.4
	comp=E,0.2nm,0.4s,baz=280,slow=8.2,SNR=1.9						
	comp=E,0.2nm,0.4s						

IDC ***08*** *21:06:59.8±0.5, 34°.45S×116°.83E, h0km, mb4.6/15, mbtmp4.6/15, MS4.5/45, Error ellipse: s-maj=19.1km s-min=8.4km az=152.0*

AUST ***08*** *21:07:00.0±0.3, 34°S±2°×11°7E±°, h3km±1km, ML5.4/5, Mw5.2/75, Error ellipse: s-maj=5.0km s-min=2.9km az=28.4, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr-0.16; Mθθ3.61; Mφφ-3.46; Mrθ-2.46; Mθφ-1.70; Mφr4.92; Fault plane solution: M0 6.75812×10^16 NP1:φs240.25864°, δ35.57363°, λ-178.54720°. NP2: φs149.07689°, δ89.15490°, λ-54.43509°. Principal axes: T 6.4878, Plg34.3821°, Azm209.1870°; N 0.5116, Plg35.5605°, Azm328.4727°; P -6.9994, Plg35.8431°, Azm89.5645°;*

BJI ***08*** *21:07:00.4, 34°.30S×116°.50E, h7km, mb4.7/47, mB5.2/15, Ms4.9/29, Ms7 4.6/33*

NEIC ***08*** *21:07:01.3±2.0, 34°.35S±0°.03×116°.8E±0°.1, h10km±1km, mb5.0/55, Ms_20 4.7/56, Mww5.2/12, Error ellipse: s-maj=15.8km s-min=3.8km az=283.0*

NOU ***08*** *21:07:01.3, 34°.29S×117°.03E, h0km, mb5.2/47, Western Australia*

NEIC ***08*** *21:07:01.8, 33°.85S×117°.50E, h12km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^16 Nm; Mrr-0.90; Mθθ5.09; Mφφ-4.20; Mrθ0.75; Mθφ-2.26; Mφr5.50; Fault plane solution: M0 7.17000×10^16 NP1: φs144.30000°, δ71.70000°, λ-32.27000°. NP2: φs245.52000°, δ59.54000°, λ-158.64000°. Principal axes: T 5.6863, Plg8.0000°, Azm197.0000°; N 2.9739, Plg53.0000°, Azm298.0000°; P -8.6602, Plg35.0000°, Azm102.0000°;*

NEIC ***08*** *21:07:01.8, 34°.35S×116°.89E, h12km*

GCMT ***08*** *21:07:02.3±0.2, 34°.39S±0°.01×116°.81E±0°.01, h14km, MW5.1/128, Moment Tensor Solution. s59, c89; s128, c205; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.65±.12; Mθθ5.58±.13; Mφφ-4.93±.12; Mrθ-0.54±.20; Mθφ-3.08±.09; Mφr-0.13±.21; Best double couple: M0 6.11500×10^16 NP1:φs240.00000°, δ89.00000°, λ175.00000°. NP2:φs330.00000°, δ85.00000°, λ1.00000°. Principal axes: T 6.4490, Plg4.0000°, Azm195.0000°; N -0.6730, Plg85.0000°, Azm53.0000°; P -5.7800, Plg3.0000°, Azm285.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 21:07:01.0±0.6, 34°.37S±0°.03×116°.88E±0°.03, h10km±3km, n283, σ2s22/253, mb5.0/73, MS4.6/77, 9C-6D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LM03	**Lake Muir 03**	**0.04**	**86**	⇓P	Pg	21 07 03.0	+0.1
LM03				S	Sg	21 07 05.1	+0.8
LM04	**Lake Muir 04**	**0.19**	**280**	P	Pg	21 07 03.1	-2.0
LM04				S	Sg	21 07 05.3	-2.5
RKGY	**Rocky Gully**	**0.25**	**161**	P	Pg	21 07 04.9	-1.2
RKGY				S	Sg	21 07 08.5	-1.1
RKGY	**Rocky Gully**	**0.25**	**161**	P	Pg	21 07 05.0	-1.2
LM05	**Lake Muir 05**	**0.46**	**268**	⇓P	Pg	21 07 07.3	-2.7
LM05				S	Sg	21 07 12.5	-3.4
I04AU	**SHANNON INFRAS**	**0.48**	**242**	Pg	Pg	21 07 07.5	-3.0
	baz=61,slow=34						
I04AU				Lg	Lg	21 07 13.0	
	baz=53,slow=42						
AUALB	**St Joseph's Co**	**1.05**	**127**	P	Pg	21 07 20.4	-0.8
AUALB	**St Joseph's Co**	**1.05**	**127**	S	Sb	21 07 35.7	+0.5
AUALB	**St Joseph's Co**	**1.05**	**127**	P	Pg	21 07 20.7	-0.6
AUBUS	**Georgiana Moll**	**1.43**	**299**	⇓P	Pn	21 07 26.2	-0.9
AUBUS	**Georgiana Moll**	**1.43**	**299**	S	Sn	21 07 45.5	-0.5
NWAO	**Narrogin (SRO)**	**1.47**	**12**		Pn	21 07 27.4	-0.3
NWAO				Sn	Sn	21 07 46.9	-0.1
NWAO	**Narrogin (SRO)**	**1.47**	**12**	P	Pn	21 07 27.5	-0.1
NWAO	**Narrogin (SRO)**	**1.47**	**12**	S	Sb	21 07 47.7	+0.4
NWAO	**Narrogin (SRO)**	**1.47**	**12**	LR	LR	21 07 50.4	
	comp=Z,6μm,18.1s,baz=191,slow=33						
NWAO	**Narrogin (SRO)**	**1.47**	**12**	P	Pn	21 07 28.2	+0.5
AUHAR	**St Anne's Scho**	**1.52**	**327**	P	Pn	21 07 27.8	-0.5
AUHAR	**St Anne's Scho**	**1.52**	**327**	S	Sn	21 07 47.4	-0.8
AUHAR	**St Anne's Scho**	**1.52**	**327**	P	Pn	21 07 28.3	0.0
MUN	**Mundaring**	**2.45**	**347**	P	Pn	21 07 40.6	-0.5
MUN	**Mundaring**	**2.45**	**347**	S	Sb	21 08 13.8	-1.7
MUN	**Mundaring**	**2.45**	**347**	P	Pn	21 07 40.8	-0.3
AUMAZ	**Mazenod Senior**	**2.46**	**343**	P	Pn	21 07 41.0	-0.2
CARL	**Carlisle**	**2.51**	**341**	P	Pn	21 07 43.3	+1.3
MTKN	**Mount Kenneth**	**2.60**	**339**	⇑P	Pn	21 07 44.7	+1.5
MTKN				S	Sb	21 08 18.8	-1.0
MTKN	**Mount Kenneth**	**2.60**	**339**	P	Pn	21 07 44.7	+1.5
KLBR	**Kellerberrin**	**2.87**	**15**	S	Sb	21 08 26.6	-0.9
KLBR	**Kellerberrin**	**2.87**	**15**	⇑P	Pn	21 07 47.3	+0.4
KLBR	**Kellerberrin**	**2.87**	**15**	P	Pn	21 07 49.5	+2.6
KMBL	**Kambalda**	**5.17**	**56**	P	Pn	21 08 17.9	-0.6
KMBL	**Kambalda**	**5.17**	**56**	P	Pn	21 08 18.1	-0.4
MORW	**Morawa**	**5.33**	**352**	Pn	Pn	21 08 19.8	-1.0
MORW	**Morawa**	**5.33**	**352**	P	Pn	21 08 19.7	-1.2
MORW	**Morawa**	**5.33**	**352**	S	Sn	21 09 19.0	-3.4
MORW	**Morawa**	**5.33**	**352**	P	Pn	21 08 19.6	-1.2
MEEK	**Meekatharra**	**7.85**	**11**	P	Pn	21 08 54.2	-1.2
MEEK	**Meekatharra**	**7.85**	**11**	P	Pn	21 08 54.3	-1.2
FORT	**Forrest**	**10.09**	**72**	Pn	Pn	21 09 24.6	-1.5
FORT	**Forrest**	**10.09**	**72**	P	Pn	21 09 24.8	-1.2
FORT	**Forrest**	**10.09**	**72**	S	Sn	21 11 17.4	-2.0
FORT	**Forrest**	**10.09**	**72**	P	Pn	21 09 25.0	-1.1
GIRL	**Giralia**	**11.91**	**348**	Pn	Pn	21 09 48.4	-2.7
GIRL	**Giralia**	**11.91**	**348**	P	Pn	21 09 48.0	-3.1
GIRL	**Giralia**	**11.91**	**348**	P	Pn	21 09 48.3	-2.7
PSA00	**Pilbara Seismi**	**13.02**	**12**	Pn	Pn	21 10 00.5	-5.6
PSA00	**Pilbara Seismi**	**13.02**	**12**		Pn	21 10 01.2	-4.9
PSA00	**Pilbara Seismi**	**13.02**	**12**	P	Pn	21 10 01.9	-4.3
PSA00	**Pilbara Seismi**	**13.02**	**12**	P	Pn	21 10 02.6	-3.5
PSAC1	**Pilbara Seismi**	**13.05**	**12**	P	Pn	21 10 02.1	-4.4
MBWA	**Marble Bar**	**13.40**	**12**	Pn	Pn	21 10 05.8	-5.6
MBWA	**Marble Bar**	**13.40**	**12**	P	Pn	21 10 06.5	-4.8
MBWA	**Marble Bar**	**13.40**	**12**	P	Pn	21 10 07.5	-3.9
WRKA	**Warakurna**	**13.59**	**50**	P	Pn	21 10 10.2	-3.9
WRKA	**Warakurna**	**13.59**	**50**	P	Pn	21 10 10.9	-3.1
MULG	**Mulgathing**	**15.09**	**79**	P	Pn	21 10 31.1	-3.3
MULG	**Mulgathing**	**15.09**	**79**	P	Pn	21 10 31.7	-2.6
BBOO	**Buckleboo**	**16.06**	**90**	Pn	Pn	21 10 44.4	-2.7
BBOO	**Buckleboo**	**16.06**	**90**	P	Pn	21 10 43.8	-3.3
BBOO	**Buckleboo**	**16.06**	**90**	P	Pn	21 10 45.1	-2.0
KELC	**Kelly Hill Cav**	**16.46**	**101**	P	Pn	21 10 51.8	-0.2
WHYH	**Whyalla**	**17.28**	**91**	P	Pn	21 11 02.6	+0.2
	71nm,0.5s						
OOD	**Oodnadatta**	**17.39**	**73**	P	Pn	21 10 59.9	-3.9
OOD	**Oodnadatta**	**17.39**	**73**	S	Sn	21 14 07.3	-10
OOD	**Oodnadatta**	**17.39**	**73**	P	Pn	21 11 01.5	-2.3
NAPP	**Napperby**	**17.73**	**92**	P	Pn	21 11 07.4	-0.6
FITZ	**Fitzroy Crossi**	**18.00**	**28**	Pn	Pn	21 11 05.9	-5.5
FITZ	**Fitzroy Crossi**	**18.00**	**28**	P	Pn	21 11 06.0	-5.4
FITZ	**Fitzroy Crossi**	**18.00**	**28**	P	Pn	21 11 06.5	-4.9
	46nm,0.6s,baz=205,slow=12,SNR=82						
FITZ				S	Sn	21 14 17.2	-15
	52nm,0.6s,baz=253,slow=17,SNR=2.7						
FITZ				Lg	Lg	21 16 25.5	
	7.4nm,0.3s,baz=129,slow=23,SNR=1.6						
FITZ				LR	LR	21 18 37.7	
	comp=Z,5μm,19.9s,baz=216,slow=39						
YAPP	**Yappala Statio**	**18.13**	**88**	P	Pn	21 11 10.7	-2.3
ASAR	**Alice Springs**	**18.29**	**59**	P	Pn	21 11 09.6	-5.4
ASAR	**Alice Springs**	**18.29**	**59**	P	Pn	21 11 10.7	-4.4
	30nm,0.5s,baz=226,slow=11,SNR=267						
ASAR				S	Sn	21 14 25.0	-14
	29nm,0.6s,baz=236,slow=22,SNR=5.4						
ASAR				Lg	Lg	21 16 26.9	
	5.5nm,0.3s,baz=237,slow=25,SNR=4.4						
ASAR				LR	LR	21 17 58.3	
	comp=Z,2μm,21.2s,baz=230,slow=36						
AS31	**Alice Springs**	**18.29**	**59**	P	Pn	21 11 10.2	-4.9
AS31	**Alice Springs**	**18.29**	**59**	P	Pn	21 11 10.4	-4.7
AS01	**Alice Springs**	**18.32**	**59**	P	Pn	21 11 11.3	-4.2
HTT	**Hallett**	**18.32**	**93**	P	Pn	21 11 14.3	-1.1
HTT	**Hallett**	**18.32**	**93**	P	Pn	21 11 14.9	-0.6
LCRK	**Leigh Creek**	**18.43**	**84**	P	P	21 11 16.1	-0.6
SDAN	**Sedan**	**18.53**	**97**	P	P	21 11 16.5	-1.2
MGBR	**Mount Gambier**	**19.44**	**107**	P	P	21 11 24.8	-2.9
ARPS	**Mount Arapiles**	**20.43**	**104**	P	Pn	21 11 39.8	-0.8
STKA	**Stephens Creek**	**20.84**	**90**	P	P	21 11 42.4	-0.6
STKA	**Stephens Creek**	**20.84**	**90**	P	P	21 11 43.9	+0.9
	30nm,0.7s,baz=258,slow=13,SNR=43						
STKA				S	S	21 15 33.5	-2.0
	11nm,0.7s,baz=304,slow=13,SNR=2.0						
STKA				Lg	Lg	21 17 48.1	
	1.3nm,0.3s,baz=302,slow=19,SNR=1.3						
	30nm,0.7s						
STKA	**Stephens Creek**	**20.84**	**90**	P	P	21 11 43.9	+0.9
WRA	**Warramunga Arr**	**21.12**	**52**	P	P	21 11 45.1	-1.0
WRA	**Warramunga Arr**	**21.12**	**52**	P	P	21 11 45.5	-0.6
	31nm,0.8s,baz=225,slow=13,SNR=175						
WRA				S	S	21 15 33.6	-7.6
	23nm,0.7s,baz=222,slow=22,SNR=6.7						
WRA				Lg	Lg	21 17 54.3	
	1.9nm,0.3s,baz=224,slow=30,SNR=5.9						
WRA				LR	LR	21 20 03.0	
	comp=Z,4μm,19.0s,baz=231,slow=37						
	31nm,0.8s						
WB2	**Warramunga Arr**	**21.13**	**52**	P	P	21 11 45.1	-1.0
WB2				IAmb	IAmb	21 11 47.8	
	comp=Z,114nm,1.4s						
WRAB	**Tennant Creek**	**21.13**	**52**	P	P	21 11 45.3	-0.9
WRAB				IAmb	IAmb	21 11 47.2	
	comp=Z,61nm,1.1s						
WR0	**Warramunga Arr**	**21.24**	**52**	P	P	21 11 46.8	-0.6
WB0	**Warramunga Arr**	**21.28**	**51**	P	P	21 11 47.2	-0.6
INKA	**Innaminka**	**21.46**	**79**	P	P	21 11 50.2	+0.5
KNRA	**Kununurra**	**21.47**	**33**	P	P	21 11 48.9	-0.9
TOO	**Toolangi**	**23.34**	**106**	P	P	21 12 11.9	+2.3
BASI	**Baing, Sumba**	**24.28**	**9**	P	P	21 12 21.0	+2.4
	comp=Z,193nm,1.1s,comp=Z,4μm						
CMSA	**Cobar Meteorol**	**24.31**	**91**	P	P	21 12 20.3	+1.4
QIS	**Mount Isa**	**24.34**	**61**	P	P	21 12 19.6	+0.3
QLP	**Quilpie**	**24.77**	**79**	P	P	21 12 25.0	+1.9
BATI	**Baumata**	**24.84**	**16**	LR	LR	21 23 40.9	
	comp=Z,2μm,19.7s,baz=216,slow=40						
BATI	**Baumata**	**24.84**	**16**	P	P	21 12 25.7	+1.9
	comp=Z,107nm,1.2s,comp=Z,1μm						
MTN	**Manton Dam**	**25.04**	**35**	P	P	21 12 25.6	+0.1
MTN	**Manton Dam**	**25.04**	**35**	P	P	21 12 26.5	+1.0
DRS	**Darwin Rock St**	**25.29**	**34**	P	P	21 12 28.8	+1.0
	comp=Z,56nm,0.9s						
SOEI	**Soe**	**25.42**	**17**	P	P	21 12 28.4	-0.7
SOEI				IAmb	IAmb	21 12 52.1	
	comp=Z,41nm,0.8s						
SOEI				IAMs_20	IAMs_20	21 23 52.6	
	comp=Z,3μm,19.0s						
SOEI	**Soe**	**25.42**	**17**	P	P	21 12 30.0	+0.9
SOEI	**Soe**	**25.42**	**17**	P	P	21 12 32.7	+3.6
	comp=Z,59nm,1.0s,comp=Z,1μm						
KDU	**Kakadu**	**25.82**	**37**	P	P	21 12 33.2	+0.6
JAGI	**Jajag, Banyuwa**	**25.90**	**354**	P	P	21 12 32.9	-0.5
JAGI				IAMs_20	IAMs_20	21 23 11.0	
	comp=Z,2μm,19.0s						
JAGI	**Jajag, Banyuwa**	**25.90**	**354**	P	P	21 12 35.2	+1.9
JAGI	**Jajag, Banyuwa**	**25.90**	**354**	P	P	21 12 34.7	+1.4
	comp=Z,64nm,1.0s						
MMRI	**Maumere**	**26.08**	**12**	P	P	21 12 35.5	+0.5
MMRI	**Maumere**	**26.08**	**12**	P	P	21 12 36.4	+1.4
MMRI	**Maumere**	**26.08**	**12**	P	P	21 12 36.4	+1.4
	comp=Z,104nm,0.9s						
SRBI	**Singaraja**	**26.20**	**356**	P	P	21 12 38.0	+1.9
	comp=Z,50nm,1.2s						
CAN	**Canberra**	**26.32**	**101**	IAMs_20	IAMs_20	21 22 04.1	
	comp=Z,1μm,20.0s						
LEM	**Lembang**	**28.71**	**341**	LR	LR	21 25 05.0	
	comp=Z,720nm,19.8s,baz=172,slow=38						
BBSI	**Bau Bau**	**29.22**	**12**	P	P	21 13 05.2	+2.1
	comp=Z,68nm,1.1s						
MTSU	**Mount Surprise**	**29.32**	**64**	P	P	21 13 05.9	+1.9
KAPI	**Kappang**	**29.33**	**6**	LR	LR	21 25 44.9	
	comp=Z,911nm,18.7s,baz=202,slow=38						
SAUI	**Saumlaki**	**29.43**	**30**	IAMs_20	IAMs_20	21 23 19.0	
	comp=Z,2μm,21.0s						
CTA	**Charters Tower**	**29.62**	**69**	LR	LR	21 25 58.9	
	comp=Z,108nm,18.0s,baz=238,slow=38						
CTA	**Charters Tower**	**29.62**	**69**	P	P	21 13 08.3	+1.6
CTAO	**Charters Tower**	**29.62**	**69**	P	P	21 13 07.1	+0.4
CTAO				IAmb	IAmb	21 13 53.5	
	comp=Z,22nm,1.0s						
CTAO				IAMs_20	IAMs_20	21 23 02.4	
	comp=Z,3μm,19.0s						
CTAO	**Charters Tower**	**29.62**	**69**	P	P	21 13 08.4	+1.7
SPSI	**Sidrap Palu**	**30.37**	**6**	P	P	21 13 15.3	+2.0
	comp=Z,75nm,1.2s,comp=Z,809nm						
EIDS	**Eidsvold**	**30.87**	**82**	P	P	21 13 19.3	+1.6
EIDS				IAmb	IAmb	21 13 55.4	
	comp=Z,73nm,1.9s						
BNDI	**Bandanaira**	**32.07**	**25**	P	P	21 13 30.6	+2.3
	comp=Z,124nm,1.2s						
BNDI	**Bandanaira**	**32.07**	**25**	P	P	21 13 29.8	+1.5
CASY	**Casey**	**32.17**	**185**	IAMs_20	IAMs_20	21 23 12.8	
	comp=Z,2μm,19.0s						
AAI	**Ambon**	**32.29**	**22**	P	P	21 13 32.2	+1.9
	comp=Z,72nm,1.3s,comp=Z,1μm						
NLAI	**Namlea**	**32.40**	**19**	P	P	21 13 32.8	+1.6
	comp=Z,17nm,0.6s						
BKB	**Balikpapan**	**32.94**	**0**	IAMs_20	IAMs_20	21 29 21.7	
	comp=Z,2μm,18.0s						
SANI	**Sanana**	**33.26**	**17**	P	P	21 13 39.9	+1.2
SANI	**Sanana**	**33.26**	**17**	P	P	21 13 39.3	+0.6
	comp=Z,92nm,1.1s,comp=Z,693nm						
LUWI	**Luwuk**	**33.61**	**11**	P	P	21 13 43.0	+1.2
LUWI	**Luwuk**	**33.61**	**11**	P	P	21 13 43.0	+1.2
LUWI	**Luwuk**	**33.61**	**11**	P	P	21 13 43.5	+1.7
FAKI	**Fak Fak**	**34.41**	**28**	P	P	21 13 49.0	+0.3
FAKI				IAmb	IAmb	21 13 51.4	
	comp=Z,37nm,1.1s						
FAKI				IAMs_20	IAMs_20	21 29 01.1	
	comp=Z,900nm,18.0s						
FAKI	**Fak Fak**	**34.41**	**28**	P	P	21 13 51.3	+2.5
FAKI	**Fak Fak**	**34.41**	**28**	P	P	21 13 50.0	+1.2
	comp=Z,40nm,1.4s,comp=Z,521nm						
STKI	**Sintang**	**34.63**	**350**	P	P	21 13 52.8	+2.2
	comp=Z,43nm,1.2s						
MPSI	**Mapaga**	**34.64**	**5**	P	P	21 13 52.5	+1.8
	comp=Z,25nm,1.2s,comp=Z,449nm						
MRSI	**Marisa**	**34.99**	**9**	P	P	21 13 54.5	+0.8
KMSI	**Cibinong**	**35.40**	**12**	P	P	21 13 58.9	+1.7
TOLI2	**Tolitoli**	**35.48**	**7**	P	P	21 13 57.3	-0.6
TOLI2				IAmb	IAmb	21 14 01.7	
	comp=Z,17nm,0.9s						
TOLI2	**Tolitoli**	**35.48**	**7**	P	P	21 13 59.4	+1.4
SWI	**Sorong**	**35.95**	**25**	P	P	21 14 03.6	+1.6
	comp=Z,32nm,1.3s						
KSM	**Kuching**	**36.19**	**349**	P	P	21 14 07.1	+3.1
	comp=Z,23nm,1.2s						
RKPI	**Ransiki, Papua**	**36.47**	**30**	P	P	21 14 07.3	+0.9
	comp=Z,64nm,1.0s						
SBUM	**Sibu**	**36.89**	**352**	P	P	21 14 09.4	-0.5
SBUM	**Sibu**	**36.89**	**352**	P	P	21 14 11.7	+1.7
PMG	**Port Moresby**	**37.24**	**55**	P	P	21 14 13.6	+0.6
	comp=Z,3.5nm,0.5s,baz=240,slow=11,SNR=1.7						
PMG				LR	LR	21 29 05.9	
	comp=Z,1μm,21.7s,baz=202,slow=36						
	comp=Z,3.5nm,0.5s						
GENI	**Genyem**	**38.35**	**40**	P	P	21 14 23.0	+0.6
GENI	**Genyem**	**38.35**	**40**	P	P	21 14 24.1	+1.7
	comp=Z,26nm,0.5s						
JAY	**Jayapura**	**38.70**	**40**	LR	LR	21 31 56.5	
	comp=Z,2μm,18.8s,baz=188,slow=39						
MYLDM	**Lahad Datu**	**39.37**	**3**	P	P	21 14 30.4	-0.5
MYLDM				IAmb	IAmb	21 14 45.7	
	comp=Z,54nm,1.2s						
MYLDM				IAMs_20	IAMs_20	21 33 29.0	
	comp=Z,1μm,19.0s						
MYLDM	**Lahad Datu**	**39.37**	**3**	P	P	21 14 32.2	+1.3
KKM	**Kota Kinabalu**	**40.20**	**359**	IAMs_20	IAMs_20	21 31 16.1	
	comp=Z,646nm,22.0s						
IPM	**Ipoh**	**41.43**	**336**	P	P	21 14 49.0	+1.0
DAV	**Davao City (W)**	**42.03**	**13**	IAMs_20	IAMs_20	21 34 40.8	
	comp=Z,650nm,20.0s						
DAV	**Davao City (W)**	**42.03**	**13**	LR	LR	21 35 10.1	
	comp=Z,574nm,18.3s,baz=208,slow=40						
KULM	**Kulim**	**42.32**	**336**	P	P	21 14 56.3	+1.0
RPZ	**Rata Peaks**	**42.44**	**119**	LR	LR	21 28 39.0	
	comp=Z,666nm,21.9s,baz=261,slow=31						
KOUNC	**Koumac, New Ca**	**43.89**	**84**	P	P	21 15 08.2	+0.2
KOUNC				IAmb	IAmb	21 15 11.7	
	comp=Z,43nm,1.4s						
KOUNC				IAMs_20	IAMs_20	21 32 11.4	
	comp=Z,1μm,20.0s						
KOUNC	**Koumac, New Ca**	**43.89**	**84**	P	P	21 15 08.9	+0.9
DZM	**Mont Dzumac**	**44.96**	**88**	eS	S	21 21 52.0	-3.3
	comp=Z,460nm,26.2s						
DZM				eLR	LR	21 27 52.3	
	comp=Z,2μm,25.8s						
DZM	**Mont Dzumac**	**44.96**	**88**	LR	LR	21 33 13.2	
	comp=Z,899nm,19.1s,baz=268,slow=35						
MAW	**Mawson**	**45.14**	**206**	LR	LR	21 29 41.7	
	comp=Z,725nm,21.9s,baz=60,slow=30						
HIZ	**Hauiti**	**46.17**	**113**	IAMs_20	IAMs_20	21 31 38.4	
	comp=Z,1μm,20.0s						
HNR	**Honiara**	**46.55**	**68**	LR	LR	21 33 54.6	
	comp=Z,2μm,18.5s,baz=238,slow=35						
BKZ	**Black Stump Fm**	**47.26**	**114**	IAMs_20	IAMs_20	21 31 33.1	
	comp=Z,1μm,20.0s						
RTZ	**Ruatahuna**	**47.76**	**113**	P	P	21 15 39.0	+0.5
RTZ				IAMs_20	IAMs_20	21 31 59.5	
	comp=Z,1μm,21.0s						
URZ	**Urewera**	**47.95**	**113**	LR	LR	21 32 37.6	
	comp=Z,1μm,21.0s,baz=12,slow=32						
SBA	**Scott Base**	**48.54**	**168**	P	P	21 15 44.5	+0.7
SBA	**Scott Base**	**48.54**	**168**	IAMs_20	IAMs_20	21 33 11.6	
	comp=Z,650nm,18.0s						
QIZ	**Qiongzhong**	**53.52**	**352**	IAMs_20	IAMs_20	21 37 11.0	
	comp=Z,411nm,22.0s						
QIZ	**Qiongzhong**	**53.52**	**352**	P	P	21 16 21.2	-0.7
QIZ				S	S	21 23 59.6

NJ2	**Nanjing**	**66.10**	**2**	*e*P	**P**	**21 17 51.2 +3.0**
NJ2				pmax	pmax	
	comp=Z,9.0nm,1.0s					
NJ2				pmax	pmax	
	comp=Z,260nm,3.6s					
CD2	**Chengdu**	**66.10**	**348**	P	**P**	**21 17 50.5 +2.1**
CD2				S	**S**	**21 26 42.9 +6.1**
CD2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
CD2				LR	LR	
	comp=Z,350nm,17.6s					
CD2				LR	LR	
	comp=Z,340nm,18.1s					
SNAA	**Sanae**	**66.21**	**197**	P	**P**	**21 17 48.4 -0.3**
SNAA				IAmb	IAmb	21 17 51.0
	comp=Z,18nm,1.0s					
SNAA	**Sanae**	**66.21**	**197**	⇑P	**P**	**21 17 48.5 -0.3**
	comp=Z,235nm,0.7s					
SNAA	**Sanae**	**66.21**	**197**	P	**P**	**21 17 48.7 0.0**
	comp=Z,14nm,0.8s,baz=126,slow=8.4,SNR=55					
SNAA				LR	LR	21 43 26.5
	comp=Z,936nm,21.6s,baz=154,slow=33					
	comp=Z,14nm,0.8s					
BELA	**Belgrano 2**	**66.70**	**186**	P	**P**	**21 17 50.8 -0.9**
BELA				IAmb	IAmb	21 18 26.8
	comp=Z,7.7nm,0.7s					
VNA2	**Neumayer--Watz**	**67.81**	**197**	⇑P	**P**	**21 17 58.8 0.0**
	comp=Z,9.5nm,0.6s,baz=131,slow=6.2					
VNA3	**Neumayer Olymp**	**68.14**	**196**	⇑P	**P**	**21 18 00.6 -0.3**
	comp=Z,11nm,0.8s					
LSA	**Lhasa**	**68.20**	**336**	P	**P**	**21 18 01.9 -0.4**
LSA				IAmb	IAmb	21 18 41.1
	comp=Z,6.1nm,0.9s					
VNA1	**Neumayer--Stat**	**68.21**	**197**	⇑P	**P**	**21 18 01.5 +0.2**
	comp=Z,9.9nm,1.0s					
JNU	**Nakatsue**	**68.41**	**13**	LR	LR	21 49 22.5
	comp=Z,152nm,21.8s,baz=186,slow=37					
XAN	**Xi'an**	**68.46**	**353**	P	**P**	**21 18 04.7 +1.4**
XAN				pP	sP	21 18 09.3 +1.7
XAN				S	**S**	**21 27 09.2 +4.1**
XAN				pmax	pmax	
	comp=Z,20nm,1.3s					
XAN				LR	LR	
	comp=Z,460nm,20.8s					
XAN				LR	LR	
	comp=Z,370nm,16.7s					
XAN				LR	LR	
	comp=Z,810nm,20.6s					
JHJ	**Hachijo jima 2**	**70.50**	**20**	LR	LR	21 48 04.4
	comp=Z,198nm,21.1s,baz=238,slow=35					
LZH	**Lanzhou**	**71.14**	**349**	*e*P	**P**	**21 18 22.9 +3.0**
LZH				pP	sP	21 18 27.5 +3.2
LZH				S	**S**	**21 27 40.3 +3.5**
LZH				SS	**SS**	**21 32 06.4 -4.7**
LZH				pmax	pmax	
	comp=Z,14nm,1.0s					
LZH				LR	LR	
	comp=Z,270nm,17.2s					
LZH				LR	LR	
	comp=Z,260nm,17.2s					
LZH				LR	LR	
	comp=Z,440nm,20.6s					
HNS	**HongShan**	**71.43**	**358**	⇑P	**P**	**21 18 22.7 +1.3**
HNS				S	**S**	**21 27 43.4 +3.7**
HNS				pmax	pmax	
	comp=Z,11nm,1.2s					
HNS				LR	LR	
	comp=Z,260nm,20.8s					
HNS				LR	LR	
	comp=Z,310nm,20.4s					
RAR	**Rarotonga**	**73.05**	**104**	LR	LR	21 44 52.3
	comp=Z,289nm,21.8s,baz=261,slow=31					
GOMU	**GeErMu**	**73.16**	**341**	P	**P**	**21 18 33.8 +1.5**
GOMU				pP	sP	21 18 38.6 +2.0
GOMU				PcP	**PcP**	**21 18 50.6 +1.8**
GOMU				S	**S**	**21 28 01.8 +1.4**
GOMU				SS	**SS**	**21 32 46.1 +3.6**
GOMU				pmax	pmax	
	comp=Z,5.0nm,1.2s					
GOMU				pmax	pmax	
	comp=Z,190nm,5.4s					
GOMU				LR	LR	
	comp=Z,340nm,17.7s					
GOMU				LR	LR	
	comp=Z,250nm,17.0s					
GOMU				LR	LR	
	comp=Z,590nm,17.9s					
MJAR	**Matsushiro Arr**	**73.30**	**18**	P	**P**	**21 18 33.0 +0.4**
	comp=Z,6.6nm,1.1s,baz=195,slow=7.1,SNR=8.2					
	comp=Z,6.6nm,1.1s					
BTO	**Baotou**	**74.87**	**355**	*e*P	**P**	**21 18 41.9 +0.1**
BTO				pP	**sP**	**21 18 46.7 +0.5**
BTO				sP	**pP**	**21 18 49.0 +4.0**
BTO				S	**S**	**21 28 21.1 +2.2**
BTO				pmax	pmax	
	comp=Z,14nm,0.6s					
BTO				pmax	pmax	
	comp=Z,250nm,5.6s					
BTO				LR	LR	
	comp=Z,550nm,11.9s					
BTO				LR	LR	
	comp=Z,550nm,20.9s					
BTO				LR	LR	
	comp=Z,570nm,20.2s					
HHC	**Hu-ho-hao-te**	**75.01**	**356**	*e*P	**P**	**21 18 44.8 +2.2**
HHC				pmax	pmax	
	comp=Z,8.0nm,1.0s					
HHC				pmax	pmax	
	comp=Z,110nm,4.2s					
GTA	**Gaotai**	**75.09**	**346**	*e*P	**P**	**21 18 44.4 +1.2**
GTA				pP	sP	21 18 49.1 +1.6
GTA				S	**S**	**21 28 24.4 +3.0**
GTA				pmax	pmax	
	comp=Z,6.0nm,1.3s					
GTA				LR	LR	
	comp=Z,150nm,17.3s					
GTA				LR	LR	
	comp=Z,270nm,19.8s					
GTA				LR	LR	
	comp=Z,290nm,21.7s					
BOSA	**Boshof**	**75.69**	**245**	P	**P**	**21 18 47.0 -0.1**
	comp=Z,3.3nm,0.7s,baz=146,slow=5.1,SNR=9.0					
BOSA				LR	LR	21 46 02.6
	comp=Z,284nm,18.9s,baz=130,slow=31					
	comp=Z,3.3nm,0.7s					
SUR	**Sutherland**	**76.96**	**240**	LR	LR	21 48 07.7
	comp=Z,133nm,18.6s,baz=130,slow=32					
LBTB	**Lobatse**	**77.32**	**248**	LR	LR	21 47 03.1
	comp=Z,308nm,19.1s,baz=117,slow=31					
XLT	**XiLinHaoTe**	**77.90**	**359**	*e*P	**P**	**21 19 00.8 +1.9**
XLT				pmax	pmax	
	comp=Z,14nm,1.1s					
CN2	**Changchun**	**78.19**	**6**	*e*P	**P**	**21 19 02.3 +1.9**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.6s					
USRK	**Ussuriysk Ar.**	**79.40**	**11**	P	**P**	**21 19 07.3 +0.3**
	comp=Z,2.4nm,0.7s,baz=206,slow=4.5,SNR=6.2					
	comp=Z,2.4nm,0.7s					
KIBK	**Kibwezi**	**79.46**	**274**	IAms_20	IAms_20	21 48 24.5
	comp=Z,498nm,19.0s					
WSAR	**Wadi Sarin**	**79.63**	**307**	LR	LR	21 52 38.1
	comp=Z,262nm,18.0s,baz=158,slow=34					
TBI	**Tubuai**	**80.04**	**111**	*e*LR	LR	21 44 01.4
	comp=Z,2μm,28.2s					
TBI				*e*LR	LR	21 44 04.4
	comp=Z,1μm,29.0s					
LSZ	**Lusaka**	**80.48**	**258**	P	**P**	**21 19 14.2 +0.3**
KMBO	**Kilima Mbogo**	**80.80**	**275**	IAms_20	IAms_20	21 47 32.1
	comp=Z,580nm,22.0s					
KMBO	**Kilima Mbogo**	**80.80**	**275**	P	**P**	**21 19 17.7 +2.0**
	comp=Z,0.5nm,0.3s,baz=62,slow=17,SNR=2.1					
KMBO				LR	LR	21 47 56.4
	comp=Z,533nm,21.9s,baz=94,slow=30					
	comp=Z,0.5nm,0.3s					
PMSA	**Palmer Station**	**81.18**	**180**	LR	LR	21 53 59.5
	comp=Z,464nm,19.3s,baz=179,slow=35					
WMQ	**Urumqi**	**82.24**	**339**	*e*P	**P**	**21 19 24.6 +2.2**
WMQ				pmax	pmax	
	comp=Z,12nm,1.3s					
WMQ				LR	LR	
	comp=Z,190nm,21.9s					
ULN	**Ulaanbaatar**	**82.34**	**353**	P	**P**	**21 19 22.5 -0.4**
ULN				IAmb	IAmb	21 20 31.5
	comp=Z,11nm,1.4s					
SONM	**Songino Array**	**82.37**	**353**	P	**P**	**21 19 23.8 +0.8**
SONM				IAmb	IAmb	21 19 26.1
	comp=Z,21nm,1.6s					
SONM	**Songino Array**	**82.37**	**353**	P	**P**	**21 19 23.9 +0.8**
	comp=Z,2.6nm,0.6s,baz=169,slow=5.2,SNR=20					
SONM				LR	LR	21 59 05.9
	comp=Z,116nm,19.3s,baz=169,slow=38					
	comp=Z,2.6nm,0.6s					
PPT2	**Papeete2**	**83.11**	**106**	*e*S	**S**	**21 29 46.9 -0.9**
	comp=Z,105nm,30.5s					
PPT2				*e*SS	**SS**	**21 35 06.4 -5.1**
	comp=Z,94nm,29.0s					
PPT2	**Papeete2**	**83.11**	**106**	*e*LR	LR	21 45 30.0
	comp=Z,436nm,24.2s					
PPT2				*e*LR	LR	21 45 31.1
	comp=Z,388nm,35.8s					
PPT	**Papeete**	**83.12**	**106**	LR	LR	21 47 59.0
	comp=Z,214nm,21.6s,baz=194,slow=30					
ATD	**Arta Tunnel**	**83.60**	**289**	LR	LR	21 49 20.0
	comp=Z,22nm,21.9s,baz=144,slow=30					
HEH	**HeiHe**	**84.77**	**7**	*e*P	**P**	**21 19 30.4 -4.7**
GAR	**Garm**	**84.78**	**325**	P	**P**	**21 19 34.9 -0.7**
GAR				IAmb	IAmb	21 19 37.9
	comp=Z,14nm,1.1s					
LODK	**Lodwar**	**84.92**	**278**	IAms_20	IAms_20	21 50 34.5
	comp=Z,254nm,20.0s					
SIMJ	**Simiganj**	**85.13**	**324**	P	**P**	**21 19 36.2 -1.2**
SIMJ				IAmb	IAmb	21 20 20.6
	comp=Z,18nm,1.8s					
FURI	**Furi**	**85.36**	**284**	IAms_20	IAms_20	21 53 29.3
	comp=Z,339nm,18.0s					
FURI	**Furi**	**85.36**	**284**	LR	LR	21 53 23.9
	comp=Z,231nm,18.3s,baz=124,slow=33					
BTK	**Batken**	**85.39**	**326**	P	**P**	**21 19 38.8 +0.2**
BTK				IAmb	IAmb	21 20 05.9
	comp=Z,11nm,1.4s					
HRA	**Herat**	**85.41**	**317**	P	**P**	**21 19 38.9 -0.1**
ARSB	**Arslanbob**	**85.45**	**328**	P	**P**	**21 19 38.5 -0.4**
AAK	**Ala-Archa**	**85.89**	**330**	P	**P**	**21 19 41.0 -0.1**
AAK	**Ala-Archa**	**85.89**	**330**	LR	LR	21 58 34.4
	comp=Z,74nm,21.8s,baz=143,slow=36					
FRU1	**Bishkek**	**85.98**	**330**	P	**P**	**21 19 40.8 -0.7**
FRU1				IAmb	IAmb	21 19 44.4
	comp=Z,7.5nm,0.8s					
MBAR	**Mbarara**	**86.47**	**272**	LR	LR	21 52 49.3
	comp=Z,303nm,18.8s,baz=128,slow=32					
MKAR	**Makanchi Array**	**86.58**	**337**	P	**P**	**21 19 44.6 +0.3**
	comp=Z,1.0nm,0.7s,baz=158,slow=6.6,SNR=7.7					
MKAR				LR	LR	22 01 41.1
	comp=Z,161nm,20.8s,baz=138,slow=38					
	comp=Z,1.0nm,0.7s					
KKAR	**Karatay Array**	**87.97**	**328**	P	**P**	**21 19 50.5 -0.5**
RKT	**Rikitea**	**91.02**	**119**	*e*LR	LR	21 49 06.1
	comp=Z,1μm,25.5s					
KURBB	**Kurchatov Arra**	**91.14**	**337**	P	**P**	**21 20 06.2 +0.6**
	comp=Z,4.7nm,0.8s,baz=156,slow=4.1,SNR=21					
KURBB				LR	LR	22 06 59.7
	comp=Z,85nm,18.0s,baz=164,slow=40					
	comp=Z,4.7nm,0.8s					
KURK	**Kurchatov**	**91.20**	**337**	P	**P**	**21 20 05.9 0.0**
KURK				IAmb	IAmb	21 20 09.2
	comp=Z,9.8nm,1.1s					
ZALV	**Zalesovo Beam**	**92.23**	**342**	P	**P**	**21 20 11.5 +0.8**
	comp=Z,0.6nm,0.3s,baz=169,slow=3.0,SNR=4.6					
ZALV				LR	LR	22 02 33.4
	comp=Z,83nm,21.8s,baz=60,slow=36					
	comp=Z,0.6nm,0.3s					
PETK	**Petropavlovsk-**	**94.07**	**23**	LR	LR	22 01 43.0
	comp=Z,160nm,21.8s,baz=206,slow=35					
TAOE	**Nuku Hiva Isla**	**95.60**	**105**	*e*LR	LR	21 51 16.8
	comp=Z,281nm,22.6s					
BVAR	**Borovoye Array**	**95.96**	**334**	P	**P**	**21 20 28.0 +0.2**
	comp=Z,0.9nm,0.7s,baz=120,slow=8.8,SNR=4.7					
BVAR				LR	LR	22 09 29.4
	comp=Z,75nm,18.2s,baz=127,slow=39					
	comp=Z,0.9nm,0.7s					
MA2	**Magadan**	**97.72**	**17**	LR	LR	22 04 52.0
	comp=Z,71nm,21.5s,baz=274,slow=36					
AKTO	**Aktyubinsk**	**99.12**	**326**	LR	LR	22 09 29.6
	comp=Z,57nm,18.0s,baz=214,slow=38					
GNI	**Garni**	**99.58**	**312**	LR	LR	22 04 47.0
	comp=Z,97nm,18.9s,baz=121,slow=35					
ISP	**Isparta**	**107.55**	**304**	IAms_20	IAms_20	22 09 04.3
	comp=Z,327nm,20.0s					
AK14	**Malin Array Si**	**114.38**	**316**	P	**Pdif**	**21 21 50.1 +0.1**
AK04	**Malin Array Si**	**114.38**	**316**	P	**Pdif**	**21 21 50.1 +0.1**
AK18	**Malin Array Si**	**114.44**	**316**	P	**Pdif**	**21 21 50.3 +0.1**
MNK	**Minsk**	**116.61**	**319**	*i* P	**Pdif**	**21 21 58.7 -1.1**
	comp=E,9.0nm,1.1s					
MNK				*i* P	**Pdif**	**21 21 58.7 -1.1**
	comp=N,8.0nm,1.0s					
MNK				*i* P	**Pdif**	**21 21 58.7 -1.1**
	comp=Z,3.0nm,0.8s,baz=112					
MNK				*i* PKP	**PKPdf**	**21 25 43.7 -1.1**
MNK				*i* PP	**PP**	**21 26 51.6 -1.3**
MNK				*i* PPP	PPP	21 29 19.4
MNK				*i* SKS	**SKSdf**	**21 32 55.8 -0.8**
MNK				*i* PS	**PS**	**21 36 34.7 -0.5**
MNK				*i* SS	**SS**	**21 42 59.5 +0.8**
MNK				*i* SSS	SSS	21 47 18.9
MNK				*i* LQ	LQ	22 10 42.1
MNK				*i* LR	LR	22 15 47.2
MNK				*i* LRM	MLR	22 18 12.5
	comp=Z,158nm,17.2s					
MNK				*i* LRM	MLR	22 18 19.2
	comp=N,131nm,15.6s					
MNK				*i* LRM	MLR	22 18 31.6
	comp=E,88nm,15.1s					
TORD	**Torodi Ar. Bea**	**118.03**	**267**	PKP	**PKPdf**	**21 25 48.4 -0.3**
	comp=E,0.3nm,0.6s,baz=130,slow=3.2,SNR=2.4					
PSZ	**Piszkesteto**	**118.91**	**310**	IAms_20	IAms_20	22 10 36.3
	comp=Z,264nm,19.0s					
VYHS	**Vyhne**	**119.77**	**311**	*e*PKP	**PKiKP**	**21 25 56.5 +5.3**
FINES	**FINESS Array B**	**119.89**	**326**	PKP	**PKiKP**	**21 25 51.3 +0.4**
	comp=Z,1.6nm,0.9s,baz=92,slow=4.2,SNR=5.7					
MODS	**Modra-Piesok**	**120.72**	**310**	*e*PKP	**PKiKP**	**21 26 00.2 +7.2**
ILAR	**Eielson Array**	**123.11**	**31**	PKP	**PKPdf**	**21 25 57.0 -0.1**
	comp=Z,0.4nm,0.5s,baz=276,slow=3.1,SNR=5.2					
PDAR	**Pinedale Array**	**143.13**	**63**	PKP	**PKPdf**	**21 26 34.2 -1.3**
	comp=Z,0.8nm,0.8s,baz=284,slow=7.3,SNR=7.2					
S22A	**4UR Ranch, Cre**	**144.74**	**72**	PKPdf	**PKPdf**	**21 26 38.8 +0.3**
TXAR	**Lajitas Array**	**145.36**	**87**	PKPbc	**PKPbc**	**21 26 38.5 -1.0**
	comp=Z,3.6nm,0.9s,baz=198,slow=6.6,SNR=7.0					
DRIO	**Del Rio**	**147.91**	**88**		**PKPbc**	**21 26 47.7 +1.0**
ROSC	**El Rosal**	**148.83**	**158**	PKPbc	**PKPbc**	**21 26 50.2 +0.2**
	comp=Z,10nm,0.5s,baz=238,slow=13,SNR=1.5					
APMT	**Aspermont**	**149.36**	**81**		**PKPdf**	**21 26 47.1 +1.0**
ULM	**Lac du Bonnet**	**151.34**	**46**	PKPbc	**PKPbc**	**21 26 54.7 +0.2**
	comp=Z,4.6nm,0.7s,baz=324,slow=4.0,SNR=4.5					

*IDC **08** 21:07:55.1±1.4, 37.°57N×20.°66E, h0km, mb3.6/6, mbtmp3.5/8, ML2.7/2, Error ellipse: s-maj=36.7km s-min=22.7km az=146.0*
*ATH **08** 21:07:57.0, 37.°52N×20.°33E, h7km±3km, ML3.4/8, Error ellipse: s-maj=3.8km s-min=1.2km az=42.0*
*THE **08** 21:07:57.7, 37.°53N×20.°40E, h6km±4km, ML3.5/6, Error ellipse: s-maj=4.6km s-min=1.0km az=32.0*
ISC 08 21:07:58.0±1.1, 37.°58N±0.°04×20.°47E±0.°04, h18km±5km, n37, σ1§10/49, mb3.6/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.29**	**74**	P	**Pb**	**21 08 04.7**	**0.0**
KRI1				S	**Sb**	**21 08 10.0**	**+0.9**
LTHK	**Lithakia**	**0.32**	**66**	P	**Pb**	**21 08 05.0**	**-0.2**
LTHK				S	**Sb**	**21 08 10.3**	**+0.2**
	16μm,0.4s						
LTHK	**Lithakia**	**0.32**	**66**	P	**Pb**	**21 08 05.0**	**-0.2**
LTHK				AML	AML	21 08 11.3	
	comp=E,39825μm,0.4s						
LTHK				S	**S**	**21 08 11.3**	**+1.6**
LTHK				AML	AML	21 08 12.7	
	comp=N,21848μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.54**	**10**	P	**Pb**	**21 08 09.1**	**+0.1**
PSDA				S	**Sb**	**21 08 18.3**	**+1.9**
	comp=N,5μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.54**	**10**	P	**Pb**	**21 08 09.0**	**0.0**
PSDA				S	**Sb**	**21 08 17.4**	**+1.0**
RTZL	**Ratzakli, Kefa**	**0.55**	**26**	P	**Pb**	**21 08 09.4**	**+0.3**
RTZL				S	**Sn**	**21 08 19.0**	**-0.7**
	comp=N,6μm,0.4s						
VLS	**Valsamata**	**0.60**	**9**	P	**Pb**	**21 08 10.2**	**+0.1**
VLS				S	**Sb**	**21 08 19.4**	**+1.2**
	comp=N,3μm,0.3s						
VLS	**Valsamata**	**0.60**	**9**	P	**Pb**	**21 08 10.0**	**-0.1**
VLS				S	**Sb**	**21 08 19.6**	**+1.3**
VLS				AML	AML	21 08 25.8	
	comp=N,6968μm,0.5s						
VLS				AML	AML	21 08 27.4	
	comp=E,7494μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.62**	**358**	P	**Pb**	**21 08 10.2**	**-0.1**
DMLN	**Damoulianata-K**	**0.66**	**354**	P	**Pb**	**21 08 11.6**	**+0.6**
DMLN				S	**Sb**	**21 08 20.8**	**+0.9**
	comp=E,7μm,0.5s						
DMLN	**Damoulianata-K**	**0.66**	**354**	P	**Pb**	**21 08 10.8**	**-0.3**
SMHA	**Samh**	**0.68**	**12**	P	**Pg**	**21 08 10.8**	**-0.7**
SMHA				S	**Sb**	**21 08 21.5**	**+0.9**
FSK	**Fiskardo**	**0.88**	**5**	P	**Pg**	**21 08 14.8**	**-0.4**
FSK				S	**Sn**	**21 08 28.1**	**+0.3**
FSK				AML	AML	21 08 35.9	
	comp=E,4802μm,0.6s						
FSK				AML	AML	21 08 37.0	
	comp=N,4473μm,0.7s						
RLS	**Riolos of Patr**	**0.92**	**59**	P	**Pg**	**21 08 15.8**	**-0.2**
RLS				S	**Sn**	**21 08 31.1**	**+2.2**
	comp=N,1μm,0.8s						
RLS	**Riolos of Patr**	**0.92**	**59**	P	**Pn**	**21 08 16.2**	**+0.1**
RLS				AML	AML	21 08 36.6	
	comp=N,2945μm,0.8s						
RLS				AML	AML	21 08 38.5	
	comp=E,2637μm,0.7s						
AMT	**Artemida-Makis**	**0.99**	**92**	P	**Pn**	**21 08 17.7**	**+0.7**
AMT				AML	AML	21 08 37.8	
	comp=N,10835μm,0.6s						
AMT				AML	AML	21 08 39.5	
	comp=E,8888μm,0.4s						
EVGI	**Lefkada island**	**1.05**	**8**	P	**Pg**	**21 08 17.9**	**-0.5**
EVGI	**Lefkada island**	**1.05**	**8**	P	**Pn**	**21 08 17.8**	**-0.1**
DRO	**Drossia**	**1.05**	**69**	P	**Pg**	**21 08 19.5**	**+1.1**
DRO	**Drossia**	**1.05**	**69**	P	**Pg**	**21 08 18.9**	**+0.5**
DRO				AML	AML	21 08 43.4	
	comp=E,4840μm,0.6s						
DRO				AML	AML	21 08 45.8	
	comp=N,4810μm,0.4s						
DRAG	**Dragano-Lefkad**	**1.10**	**4**	P	**Pg**	**21 08 18.8**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.15**	**9**	P	**Pg**	**21 08 19.6**	**-0.6**
PYL	**PYLOS**	**1.23**	**124**	P	**Pb**	**21 08 20.5**	**-0.1**
PYL	**PYLOS**	**1.23**	**124**	P	**Pb**	**21 08 20.5**	**-0.1**
PYL				AML	AML	21 08 43.1	
	comp=E,1147μm,0.5s						
PYL				AML	AML	21 08 44.9	
	comp=N,1070μm,0.6s						
ITM	**Ithomi**	**1.23**	**109**	P	**Pg**	**21 08 21.4**	**-0.4**
ITM	**Ithomi**	**1.23**	**109**	P	**Pg**	**21 08 21.1**	**-0.7**
ITM				AML	AML	21 08 45.8	
	comp=E,1648μm,0.7s						
ITM				AML	AML	21 08 46.9	
	comp=N,1356μm,0.4s						
OHR	**Ohrid**	**3.54**	**4**	*i* Pn	**Pb**	**21 08 58.1**	**-1.9**
VAY	**Valandovo**	**4.08**	**23**	*i* Pn	**Pb**	**21 09 05.9**	**-3.3**
PEHC	**Pehcevo**	**4.59**	**23**	*i* Pn	**Pn**	**21 09 09.8**	**+3.1**
KEST	**Kesra**	**9.13**	**262**	Pn	**Pn**	**21 10 10.2**	**+1.3**
	comp=N,0.1nm,0.3s,baz=44,slow=8.9,SNR=2.3						
	comp=N,1.5nm,0.7s						
BRTR	**Keskin Array B**	**10.52**	**74**	Pn	**Pn**	**21 10 27.9**	**-0.2**
	baz=259,slow=11,SNR=1.7						
	comp=N,0.1nm,0.3s						
HFS	**Hagfors**	**22.98**	**351**	P	**P**	**21 13 01.6**	**+0.2**
	comp=N,1.3nm,0.8s,baz=141,slow=9.3,SNR=4.6						
	comp=N,1.3nm,0.8s						
FINES	**FINESS Array B**	**24.14**	**7**	P	**P**	**21 13 12.2**	**-0.5**
	comp=N,0.8nm,0.6s,baz=168,slow=9.8,SNR=5.3						
	comp=N,0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.54**	**219**	P	**P**	**21 14 02.2**	**+0.5**
	comp=N,0.2nm,0.7s,baz=27,slow=10,SNR=2.5						
	comp=N,0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**42.62**	**53**	P	**P**	**21 15 52.5**	**-0.5**
	comp=N,0.4nm,0.2s,baz=277,slow=8.8,SNR=2.0						
	comp=N,0.4nm,0.2s						
MKAR	**Makanchi Array**	**45.65**	**58**	P	**P**	**21 16 16.4**	**-1.0**
	comp=N,0.6nm,0.8s,baz=274,slow=7.0,SNR=5.8						
	comp=N,0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**46.12**	**48**	P	**P**	**21 16 19.4**	**-1.6**
	comp=N,0.5nm,0.3s,baz=272,slow=8.8,SNR=1.7						
	comp=N,0.5nm,0.3s						

*AEIC **08** 21:09:58.1±1.8, 54.°17N±0.°08×164.°22W±0.°08, h25km±7km, Error ellipse: s-maj=12.7km s-min=2.6km az=151.0*
NEIC 08 21:09:58.5±1.3, 54.°20N±0.°05×164.°22W±0.°04, h35km±2km, ML2.5(AEIC), **Error ellipse: s-maj=9.6km s-min=3.1km az=336.0, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.35**	**322**		Pn	21 10 06.8	-0.3
WESE					Sn	21 10 13.3	+0.2
WECS	**Westdahl Cape**	**0.47**	**316**		Pn	21 10 08.6	-0.1
WECS					Sn	21 10 16.5	+0.7
ISLZ	**Isanotski Laza**	**0.61**	**29**		Pn	21 10 10.2	-0.5
ISLZ					Sn	21 10 19.4	+0.1
ISNN	**Isanotski Nort**	**0.69**	**22**		Pn	21 10 12.1	+0.3
ISNN					Sn	21 10 22.9	+1.7
FALS	**False Pass**	**0.81**	**35**		Pn	21 10 13.2	-0.1
FALS					Sn	21 10 24.6	+0.4
AKSA	**Akutan Strait**	**0.87**	**266**		Pn	21 10 13.9	-0.4
AHB	**Akutan Harbor**	**0.94**	**266**		Pn	21 10 15.0	-0.2
AKGG	**Akutan Green G**	**1.04**	**271**		Pn	21 10 16.6	0.0
LVA	**Lava Point**	**1.07**	**269**	Pn	Pn	21 10 16.5	-0.5
LVA				Sn	Sn	21 10 31.4	+0.8
UNV	**Unalaska Valle**	**1.39**	**256**		Pn	21 10 20.8	-0.6
UNV				Sn	Sn	21 10 39.0	+0.4
MTBL	**Makushin Table**	**1.47**	**262**		Pn	21 10 23.0	+0.5
MTBL					Sn	21 10 41.9	+1.4
MAPS	**Pakushin South**	**1.65**	**257**		Pn	21 10 24.9	-0.1
MAPS					Sn	21 10 46.3	+1.3
CHGN	**Chignik**	**3.93**	**55**	Pn	Pn	21 10 55.8	-0.5

*IDC **08** 21:17:36.7±4.5, 8.°34S×125.°73E, h114km±58km, mb3.4/5, mbtmp4.1/8, Error ellipse: s-maj=53.5km s-min=28.1km az=17.0*
*DJA **08** 21:17:47.4±0.4, 9.°S±3.°×12.°5E±.°, h10km, M4.0/10, mb4.3/3, mB5.6/1, MLv3.9/10, Mw(mB)5.1/1*
ISC 08 21:17:30.7±0.9, 7.°95S±0.°09×125.°9E±0.°1, h35km, n16, σ1§47/15, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.43**	**222**	P	**Pn**	**21 18 09.9**	**+1.9**
BATI	**Baumata**	**3.16**	**225**	P	**Pn**	**21 18 19.7**	**+1.7**
	431nm,0.4s,baz=100,slow=2.4,SNR=83						
BATI				S	**Sn**	**21 18 53.1**	**-1.4**
	250nm,0.5s,baz=328,slow=21,SNR=19						
BATI	**Baumata**	**3.16**	**225**	P	**Pn**	**21 18 19.5**	**+1.5**
MMRI	**Maumere**	**3.71**	**259**	P	**Pn**	**21 18 27.6**	**+2.1

*BJI **08** 21:28:05.6, 24.′05N×122.′63E, h26km, mb4.2/12, mB4.2/3, ML3.7/3, Ms4.2/2, Ms7 3.9/3*
*NIED **08** 21:28:06.6, 24.′00N×122.′65E, h31km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.06; $M_{\theta\theta}$-1.13; $M_{\phi\phi}$0.07; $M_{r\theta}$1.45; $M_{\theta\phi}$0.12; $M_{\phi r}$0.75; Fault plane solution: $M_0$1.96000×10^{15} NP1:ϕ_s70.00000°, δ74.00000°, λ75.00000°. NP2:ϕ_s295.00000°, δ22.00000°, λ133.00000°.*
*ASIES **08** 21:28:06.5, 24.′00N×122.′69E, h32km, ML4.5, Mw4.1, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}1.30; $M_{\theta\theta}$-1.25; $M_{\phi\phi}$-0.05; $M_{r\theta}$0.83; $M_{\theta\phi}$0.01; $M_{\phi r}$0.56; Fault plane solution: $M_0$1.62128×10^{22} NP1:ϕ_s71.41000°, δ64.12000°, λ73.95000°. NP2:ϕ_s284.80000°, δ30.16000°, λ119.68000°. Principal axes: T Plg66.9310°, Azm311.4760°; N Plg14.4050°, Azm78.5670°; P Plg17.6220°, Azm173.2470°;*
*TAP **08** 21:28:06.8, 24.′01N×122.′68E, h33km, ML4.5, C*
*JMA **08** 21:28:06.6±0.2, 24.′0N±0.′9×122.′7E±0.′7, h31km, MD4.3/15, MV4.3/15, NW OFF ISHIGAKIJIMA IS*
JMA Felt I J1 at NW OFF ISHIGAKIJIMA IS .
*NEIC **08** 21:28:07.4±1.6, 23.′96N±0.′05×122.′74E±0.′05, h33km±1km, mb4.3/54, Mwr4.1/27, Error ellipse: s-maj=8.9km s-min=4.4km az=133.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.99; $M_{\theta\theta}$-1.47; $M_{\phi\phi}$0.48; $M_{r\theta}$1.29; $M_{\theta\phi}$0.13; $M_{\phi r}$0.79; Fault plane solution: $M_0$2.00000×10^{15} NP1:ϕ_s66.09000°, δ73.01000°, λ65.37000°. NP2:ϕ_s303.57000°, δ29.62000°, λ143.74000°. Principal axes: T 1.9547, Plg55.0000°, Azm305.0000°; N 0.0829, Plg23.0000°, Azm74.0000°; P -2.0376, Plg24.0000°, Azm175.0000°;*
*NEIC **08** 21:28:07.1, 23.′96N×122.′74E, h31km*
ISC 08 21:28:05.2±1.1, 23.′94N±0.′02×122.′69E±0.′02, h24km±8km, n300, σ1§04/395, mb4.3/50, 15C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.39**	**298**	‖	*i*	P	**Pn**	**21 28 15.0**	**0.0**
EOS4						S	**Sn**	**21 28 20.8**	**-0.7**
EOS3	**EOS3**	**0.49**	**315**	‖	*i*	P	**Pn**	**21 28 16.7**	**+0.1**
EOS3						eS	**Sn**	**21 28 24.0**	**-0.2**
JYNG	**Yonagunijimaku**	**0.56**	**24**			P	**Pn**	**21 28 17.3**	**-0.4**
JYNG						eS	**Sb**	**21 28 24.1**	**-0.1**
JYNG	**Yonagunijimaku**	**0.56**	**24**			A	A	21 28 17.3	
	comp=E,51nm,0.4s,comp=N,59nm,0.4s								
YOJ	**Yonaguni jima**	**0.60**	**29**				**Pn**	**21 28 18.1**	**-0.1**
YOJ						Sn	**Sn**	**21 28 26.0**	**-1.1**
YOJ	**Yonaguni jima**	**0.60**	**29**			P	**Pn**	**21 28 18.1**	**-0.1**
YOJ	**Yonaguni jima**	**0.60**	**29**			P	**Pn**	**21 28 18.0**	**-0.1**
YOJ						S	**Sb**	**21 28 25.6**	**+0.5**
YOJ	**Yonaguni jima**	**0.60**	**29**			A	A	21 28 18.0	
	comp=E,30nm,1.3s,comp=N,32nm,1.1s								
YOJ	**Yonaguni jima**	**0.60**	**29**	‖	*i*	P	**Pn**	**21 28 18.1**	**-0.1**
YOJ					*i*	S	**Sb**	**21 28 25.7**	**+0.5**
EOS2	**EOS2**	**0.64**	**319**			P	**Pn**	**21 28 19.2**	**+0.5**
EOS2						eS	**Sn**	**21 28 28.8**	**+0.8**
EAHA	**Aohua**	**0.96**	**294**		*i*	P	**Pn**	**21 28 23.9**	**+0.8**
EAHA						eS	**Sn**	**21 28 37.2**	**+1.2**
EWUT	**Wuta**	**0.98**	**301**	⇑		P	**Pn**	**21 28 23.8**	**+0.4**
EWUT						eS	**Sn**	**21 28 37.6**	**+1.1**
HWA	**Hwalien**	**1.00**	**272**	‖		P	**Pn**	**21 28 24.3**	**+0.6**
HWA						S	**Sn**	**21 28 37.5**	**+0.5**
ENA	**Nanau**	**1.00**	**299**	⇑	*i*	P	**Pn**	**21 28 24.2**	**+0.5**
ESAO	**Su ao**	**1.00**	**309**	⇑	*e*	P	**Pn**	**21 28 24.2**	**+0.4**
ESAO						eS	**Sn**	**21 28 37.5**	**+0.4**
ETL	**Fush Village**	**1.00**	**283**		*e*	P	**Pn**	**21 28 24.4**	**+0.6**
ETL						eS	**Sb**	**21 28 36.9**	**+0.1**
TEYL	**Yanliau Villag**	**1.01**	**266**		*e*	P	**Pn**	**21 28 24.9**	**+1.0**
TEYL						eS	**Sn**	**21 28 37.6**	**+0.4**
TWD	**Chiawan**	**1.01**	**278**	⇑		P	**Pb**	**21 28 24.0**	**-0.1**
TWD						eS	**Sb**	**21 28 36.9**	**-0.2**
TWC	**Suao**	**1.02**	**311**	⇑	*i*	P	**Pn**	**21 28 24.3**	**+0.3**
TWC						eS	**Sb**	**21 28 37.4**	**+0.1**
HATJ	**Hateruma jima**	**1.02**	**83**			P	**Pn**	**21 28 25.8**	**+1.7**
HATJ						S	**Sn**	**21 28 40.5**	**+2.9**
HATJ	**Hateruma jima**	**1.02**	**83**			A	A	21 28 25.8	
	comp=E,12nm,3.2s,comp=N,12nm,1.2s								
IRIF	**Iriomote-Funau**	**1.03**	**67**			P	**Pn**	**21 28 25.0**	**+0.9**
IRIF						S	**Sn**	**21 28 40.2**	**+2.5**
IRIF	**Iriomote-Funau**	**1.03**	**67**			A	A	21 28 25.0	
	comp=E,19nm,0.5s,comp=N,37nm,1.1s								
NACB	**Ninganchiao**	**1.03**	**283**				**Pb**	**21 28 24.5**	**+0.1**
NACB	**Ninganchiao**	**1.03**	**283**			P	**Pn**	**21 28 24.4**	**+0.2**
NACB	**Ninganchiao**	**1.03**	**283**	⇑	*i*	P	**Pb**	**21 28 24.4**	**+0.2**
NACB						eS	**Sb**	**21 28 37.4**	**-0.2**
SHUL	**Shoufeng**	**1.05**	**262**		*e*	P	**Pb**	**21 28 24.7**	**0.0**
SHUL						eS	**Sb**	**21 28 38.5**	**+0.5**
TEGC	**Jichi Village**	**1.08**	**258**		*e*	P	**Pb**	**21 28 25.3**	**0.0**
TEGC						eS	**Sb**	**21 28 39.4**	**+0.4**
ETM	**Tongmen**	**1.10**	**272**			P	**Pn**	**21 28 25.0**	**-0.1**
ETM						eS	**Sb**	**21 28 38.8**	**-0.7**
NDS	**Dongshan**	**1.13**	**308**		*e*	P	**Pb**	**21 28 26.5**	**+0.3**
EGS		**1.14**	**323**	‖		P	**Pb**	**21 28 26.2**	**0.0**
ETLH	**Xiulin Townshi**	**1.14**	**284**		*i*	P	**Pb**	**21 28 26.2**	**-0.2**
ESL	**Shilin**	**1.16**	**264**		*e*	P	**Pn**	**21 28 25.6**	**-0.3**
ESL						eS	**Sb**	**21 28 41.2**	**-0.1**
LXIB	**Xiulin Townshi**	**1.18**	**274**		*e*	P	**Pn**	**21 28 26.3**	**0.0**
EGFH	**Guangfu**	**1.19**	**257**		*e*	P	**Pb**	**21 28 27.0**	**-0.2**
EGFH						eS	**Sn**	**21 28 41.7**	**-0.1**
ILA	**Ilan**	**1.19**	**314**		*e*	P	**Pb**	**21 28 27.4**	**+0.2**
WARBT	**Fenglin Townsh**	**1.22**	**260**		*i*	P	**Pn**	**21 28 26.8**	**0.0**
WARBT						eS	**Sn**	**21 28 42.0**	**-0.5**
TWE	**Neicheng**	**1.22**	**310**		*e*	P	**Pb**	**21 28 27.8**	**+0.2**
LATG	**Datong**	**1.22**	**299**		*i*	P	**Pb**	**21 28 27.6**	**-0.2**
LATG						eS	**Sb**	**21 28 44.7**	**+1.6**
JKRS	**Kuro-shima**	**1.24**	**76**			P	**Pb**	**21 28 28.5**	**+0.6**
JKRS						S	**Sb**	**21 28 45.6**	**+2.1**
JKRS	**Kuro-shima**	**1.24**	**76**			A	A	21 28 28.5	
	comp=E,16nm,1.3s,comp=N,14nm,2.3s								
ENTT	**Nioudou**	**1.25**	**304**		*e*	P	**Pb**	**21 28 28.1**	**0.0**
TWB1	**Santiao Chiao**	**1.25**	**329**			P	**Pb**	**21 28 27.6**	**-0.5**
HGSD	**Ruisui**	**1.25**	**249**		*e*	P	**Pn**	**21 28 27.1**	**0.0**
HGSD						eS	**Sn**	**21 28 42.6**	**-0.5**
NNSB	**Datong**	**1.29**	**292**			P	**Pb**	**21 28 28.6**	**-0.4**
NNSH	**Datong**	**1.29**	**292**	⇑	*e*	P	**Pn**	**21 28 28.3**	**+0.4**
ECBN	**Changbin**	**1.30**	**242**		*e*	P	**Pn**	**21 28 28.5**	**+0.7**
ECBN						eS	**Sn**	**21 28 44.0**	**-0.4**
TIPB	**Shuangxi**	**1.30**	**323**			P	**Pb**	**21 28 28.7**	**-0.3**
FUSB	**Fushanzhiwuyua**	**1.30**	**309**		*e*	P	**Pb**	**21 28 29.2**	**+0.2**
NNS	**Nan Shan**	**1.31**	**293**		*e*	P	**Pn**	**21 28 28.7**	**+0.6**
EHYH	**Wanrong**	**1.31**	**251**		*e*	P	**Pn**	**21 28 28.8**	**+0.8**
EHYH						eS	**Sn**	**21 28 45.1**	**+0.3**
WHF	**Hehuan Shan**	**1.32**	**279**	⇑		P	**Pn**	**21 28 29.0**	**+0.4**
WHF						eS	**Sn**	**21 28 45.0**	**-0.6**
EHY	**Hungye**	**1.33**	**251**			P	**Pn**	**21 28 28.7**	**+0.4**
EHY						eS	**Sn**	**21 28 44.9**	**-0.3**
FUSS	**Fushou**	**1.36**	**283**		*e*	P	**Pn**	**21 28 29.5**	**+0.6**
NWLT	**Wulai**	**1.37**	**308**		*e*	P	**Pb**	**21 28 30.1**	**-0.2**
SXI1	**Grass Mountain**	**1.37**	**327**		*e*	P	**Pb**	**21 28 29.7**	**-0.6**
JIJ	**Ishigaki jima**	**1.39**	**72**			P	**Pb**	**21 28 30.5**	**0.0**
JIJ						S	**Sb**	**21 28 48.0**	**+0.1**
JIJ	**Ishigaki jima**	**1.39**	**72**			A	A	21 28 30.5	
	comp=E,4.0nm,0.4s,comp=N,5.0nm,2.0s								
OWD	**Renai**	**1.39**	**271**	⇑		P	**Pn**	**21 28 29.7**	**+0.5**
OWD						S	**Sn**	**21 28 46.8**	**-0.1**
EYUL	**Yuli**	**1.39**	**245**		*e*	P	**Pn**	**21 28 29.8**	**+0.7**
EYUL						S	**Sn**	**21 28 47.3**	**+0.6**
YULB	**Yu-li**	**1.39**	**247**			P	**Pn**	**21 28 29.9**	**+0.8**
YULB						Sn	**Sn**	**21 28 47.7**	**+0.9**
YULB	**Yu-li**	**1.39**	**247**			P	**Pn**	**21 28 29.9**	**+0.8**
YULB	**Yu-li**	**1.39**	**247**		*e*	P	**Pn**	**21 28 29.5**	**+0.4**
YULB						S	**Sn**	**21 28 46.9**	**+0.1**
NWF	**Wu-fen Shan**	**1.40**	**324**			P	**Pb**	**21 28 30.1**	**-0.7**
NWF						eS	**Sn**	**21 28 47.6**	**+0.4**
WFSB	**Wu-fen Shan**	**1.40**	**324**			P	**Pb**	**21 28 30.1**	**-0.7**
CHKH	**Chenggong**	**1.40**	**238**		*e*	P	**Pn**	**21 28 29.3**	**0.0**
CHKH						eS	**Sn**	**21 28 45.6**	**-1.4**
YHNB	**Yeheng**	**1.41**	**301**				**Pb**	**21 28 30.7**	**-0.2**
YHNB	**Yeheng**	**1.41**	**301**			P	**Pb**	**21 28 30.7**	**-0.2**
YHNB	**Yeheng**	**1.41**	**301**	⇑	*i*	P	**Pb**	**21 28 30.5**	**-0.4**
YHNB						eS	**Sb**	**21 28 48.6**	**+0.1**
TWF1	**Yuli**	**1.41**	**246**	‖	*e*	P	**Pn**	**21 28 30.0**	**+0.6**
TWF1						S	**Sn**	**21 28 47.4**	**+0.2**
TWT	**Tachien**	**1.42**	**283**			P	**Pb**	**21 28 30.9**	**-0.3**
NSK	**Sanguang**	**1.42**	**301**	⇑	*i*	P	**Pb**	**21 28 30.8**	**-0.4**
NSK						eS	**Sb**	**21 28 48.8**	**-0.2**
VWDT	**VWDT**	**1.43**	**263**			P	**Pn**	**21 28 30.4**	**+0.8**
VWDT						S	**Sn**	**21 28 48.0**	**+0.2**
TDCB	**Techi**	**1.44**	**283**			P	**Pb**	**21 28 30.9**	**-0.5**
WUSB	**Renai**	**1.44**	**272**			P	**Pn**	**21 28 30.8**	**+0.8**
WUSB						eS	**Sn**	**21 28 48.1**	**-0.1**
TWA	**Mucha**	**1.45**	**316**		*e*	P	**Pn**	**21 28 29.2**	**-0.8**
TWA						eS	**Sn**	**21 28 48.5**	**+0.3**
CHKT	**Chengkung**	**1.48**	**236**		*e*	P	**Pn**	**21 28 30.2**	**-0.2**
CHKT						S	**Sn**	**21 28 47.7**	**-1.2**
FULB	**Fuli**	**1.48**	**240**		*e*	P	**Pn**	**21 28 30.6**	**+0.2**
FULB						eS	**Sn**	**21 28 48.5**	**-0.4**
NHY	**Taipei**	**1.50**	**317**		*e*	P	**Pb**	**21 28 32.1**	**-0.3**
TATO	**Taipei**	**1.51**	**313**				**Pb**	**21 28 32.6**	**0.0**
TATO	**Taipei**	**1.51**	**313**			P	**Pb**	**21 28 32.7**	**+0.1**
TATO	**Taipei**	**1.51**	**313**		*e*	P	**Pb**	**21 28 32.3**	**-0.3**
TATO						eS	**Sn**	**21 28 50.3**	**+0.7**
TAP	**Taipei**	**1.54**	**316**		*e*	P	**Pb**	**21 28 32.5**	**-0.6**
EHD	**Haiduan**	**1.57**	**240**			P	**Pn**	**21 28 32.2**	**+0.5**
EHD						eS	**Sn**	**21 28 51.0**	**-0.4**
YM01	**YM01**	**1.58**	**320**			P	**Pb**	**21 28 32.8**	**-1.1**
ECS	**Chishang**	**1.59**	**239**		*e*	P	**Pn**	**21 28 33.0**	**+1.1**
ECS						eS	**Sn**	**21 28 52.4**	**+0.7**
NFF	**Wufeng Townshi**	**1.60**	**296**		*e*	P	**Pb**	**21 28 33.5**	**-0.6**
EDH	**Donghe**	**1.60**	**233**		*e*	P	**Pn**	**21 28 31.9**	**-0.1**
EDH						S	**Sn**	**21 28 50.5**	**-1.3**
SSLB	**Suanglung**	**1.60**	**265**				**Pn**	**21 28 33.1**	**+1.1**
SSLB						Sn	**Sn**	**21 28 53.1**	**+1.2**
SSLB	**Suanglung**	**1.60**	**265**			P	**Pn**	**21 28 33.0**	**+0.9**
SSLB	**Suanglung**	**1.60**	**265**		*e*	P	**Pn**	**21 28 32.9**	**+0.9**
SSLB						eS	**Sn**	**21 28 52.0**	**+0.1**
YM08	**YM08**	**1.60**	**321**			P	**Pn**	**21 28 32.6**	**+0.6**
ZUZH	**Zhuzihu**	**1.61**	**320**		*e*	P	**Pn**	**21 28 32.7**	**+0.5**
JISG	**Ishigakijimahi**	**1.61**	**66**			P	**Pb**	**21 28 33.3**	**-1.0**
JISG						S	**Sb**	**21 28 52.8**	**-1.4**
JISG	**Ishigakijimahi**	**1.61**	**66**			A	A	21 28 33.3	
	comp=E,12nm,0.6s,comp=N,10.0nm,0.8s								
KSHI	**Guanxi Townshi**	**1.62**	**301**		*e*	P	**Pb**	**21 28 34.2**	**-0.2**
DPDB	**Guoxing**	**1.62**	**274**	‖	*e*	P	**Pb**	**21 28 33.7**	**-0.8**
WHP	**Taichung City**	**1.63**	**282**		*e*	P	**Pb**	**21 28 34.1**	**-0.6**
WCS	**Beigang Elemen**	**1.64**	**275**		*e*	P	**Pn**	**21 28 33.7**	**+1.3**
ANP	**Anpu**	**1.64**	**320**		*e*	P	**Pb**	**21 28 33.8**	**-1.1**
TWS1	**Kuangyinshan**	**1.64**	**315**		*e*	P	**Pn**	**21 28 33.4**	**+0.9**
SMLT	**Sun Moon Lake**	**1.64**	**268**			P	**Pn**	**21 28 34.0**	**+1.3**
SMLT						eS	**Sn**	**21 28 53.9**	**+0.8**
NTY	**Taoyuan**	**1.66**	**310**		*e*	P	**Pn**	**21 28 33.8**	**+1.1**
TWY	**Chenhua**	**1.66**	**323**		*e*	P	**Pb**	**21 28 34.5**	**-0.8**
NJD	**Zhudong**	**1.67**	**299**		*e*	P	**Pb**	**21 28 34.3**	**-1.0**
NTST	**Danshui**	**1.67**	**317**		*e*	P	**Pn**	**21 28 33.9**	**+0.9**
TYC	**Yuchr**	**1.68**	**269**			P	**Pn**	**21 28 34.4**	**+1.2**
LIOB	**Emei**	**1.69**	**295**		*e*	P	**Pb**	**21 28 35.4**	**-0.2**
LDUT	**Ludao**	**1.69**	**222**		*e*	P	**Pn**	**21 28 33.1**	**-0.1**
LDUT						eS	**Sn**	**21 28 52.2**	**-1.9**
NSTT	**Nanjuang**	**1.69**	**294**			P	**Pb**	**21 28 35.0**	**-0.7**
WHYT	**Xinyi Township**	**1.70**	**262**			P	**Pb**	**21 28 35.0**	**-0.9**
ELDTW	**Lidau**	**1.71**	**245**			P	**Pn**	**21 28 34.1**	**+0.5**
ELDTW						eS	**Sn**	**21 28 54.2**	**-0.5**
NCU	**National Centr**	**1.72**	**307**		*e*	P	**Pn**	**21 28 34.3**	**+0.7**
NCUH	**Zhongli**	**1.72**	**307**		*e*	P	**Pb**	**21 28 35.1**	**-1.0**
HSN1	**Hsinchu**	**1.74**	**299**		*e*	P	**Pn**	**21 28 35.1**	**+1.1**
LONT	**Longtian**	**1.77**	**235**			P	**Pn**	**21 28 35.0**	**+0.8**
LONT						eS	**Sn**	**21 28 56.4**	**+0.4**
SBCB	**Hsinchu**	**1.78**	**299**		*e*	P	**Pb**	**21 28 36.2**	**-0.9**
PCYT	**Pengchaiyu**	**1.78**	**342**		*e*	P	**Pn**	**21 28 35.1**	**+0.7**
ALS	**Alishan**	**1.78**	**257**			P	**Pn**	**21 28 36.2**	**+1.4**
ALS						eS	**Sn**	**21 28 57.3**	**+0.5**
HSN	**Hsinchu**	**1.79**	**299**		*e*	P	**Pn**	**21 28 36.0**	**+1.3**
TWQ1	**Liyutan**	**1.80**	**283**	⇑		P	**Pb**	**21 28 37.2**	**-0.4**
TWQ1						eS	**Sb**	**21 28 57.4**	**+0.4**
WJS	**Zhushan**	**1.80**	**267**		*e*	P	**Pb**	**21 28 37.6**	**0.0**
WJS						eS	**Sb**	**21 29 00.2**	**+0.4**
NSY	**Sanyi**	**1.83**	**285**	⇑		P	**Pb**	**21 28 37.7**	**-0.3**
NSY						eS	**Sb**	**21 28 59.4**	**-1.1**
NMLH	**Miaoli**	**1.84**	**289**		*e*	P	**Pb**	**21 28 37.6**	**-0.6**
NMLH						eS	**Sb**	**21 29 00.8**	**0.0**
WNT	**Mingjian**	**1.84**	**269**		*e*	P	**Pb**	**21 28 38.0**	**-0.3**
WNT						eS	**Sb**	**21 29 00.9**	**0.0**
WNT1	**Nantou City**	**1.84**	**269**		*e*	P	**Pb**	**21 28 37.8**	**-0.5**
WNT1						eS	**Sb**	**21 29 01.1**	**+0.1**
TTN	**Taitung**	**1.85**	**231**		*e*	P	**Pn**	**21 28 35.8**	**+0.4**
TWGBT	**Beinan**	**1.86**	**233**			P	**Pn**	**21 28 36.2**	**+0.7**
TWGBT	**Beinan**	**1.86**	**233**			P	**Pn**	**21 28 35.9**	**+0.4**
TWGBT						eS	**Sn**	**21 28 57.3**	**-1.0**
TCU	**Taichung**	**1.86**	**277**		*e*	P	**Pb**	**21 28 37.7**	**-0.8**
TWG	**Pinlang**	**1.86**	**234**				**Pn**	**21 28 36.3**	**+0.7**
TWG						Sn	**Sn**	**21 28 58.3**	**0.0**
TWG	**Pinlang**	**1.86**	**234**		*e*	P	**Pn**	**21 28 36.1**	**+0.5**
TWG						eS	**Sn**	**21 28 57.4**	**-0.9**
STYH	**Taoyuan**	**1.92**	**247**		*e*	P	**Pn**	**21 28 37.9**	**+1.5**
STYH						eS	**Sn**	**21 29 00.5**	**+0.8**
WDJ	**Dajia District**	**1.92**	**283**		*e*	P	**Pn**	**21 28 37.9**	**+1.5**
WDJ						eS	**Sb**	**21 29 02.4**	**-0.7**
WYL	**Yuanlin Townsh**	**1.94**	**271**		*e*	P	**Pb**	**21 28 38.6**	**-1.3**
WCHH	**Zhanghua**	**1.96**	**275**		*e*	P	**Pb**	**21 28 39.6**	**-0.6**
WCHH						eS	**Sb**	**21 29 03.9**	**-0.3**
JTJ	**Tarama**	**1.96**	**69**			P	**Pb**	**21 28 38.6**	**-1.7**
JTJ						S	**Sb**	**21 29 02.8**	**-1.5**
JTJ	**Tarama**	**1.96**	**69**			A	A	21 28 38.6	
	comp=E,7.0nm,1.9s,comp=N,7.0nm,2.1s								
WCH1	**Changhua City**	**1.97**	**274**		*e*	P	**Pb**	**21 28 39.5**	**-0.9**
WCH1						eS	**Sb**	**21 29 03.2**	**-1.3**
WGK	**Gukeng**	**1.97**	**263**		*e*	P	**Pb**	**21 28 39.6**	**-0.8**
WGK						eS	**Sb**	**21 29 03.8**	**-0.7**
WCKO	**Fanlu**	**1.98**	**256**		*e*	P	**Pb**	**21 28 40.0**	**-0.6**
WCKO						eS	**Sb**	**21 29 04.6**	**-0.3**
WDL	**Douliou City**	**1.99**	**264**		*e*	P	**Pb**	**21 28 39.8**	**-0.9**
WDL						eS	**Sb**	**21 29 05.2**	**+0.2**
WDLH	**Douliu**	**1.99**	**263**		*e*	P	**Pb**	**21 28 39.7**	**-1.0**
WDLH						eS	**Sb**	**21 29 04.9**	**-0.2**
TPUB	**Ta-pu**	**2.00**	**252**				**Pb**	**21 28 39.8**	**-1.2**
TPUB	**Ta-pu**	**2.00**	**252**			P	**Pb**	**21 28 40.0**	**-0.9**
TPUB	**Ta-pu**	**2.00**	**252**			P	**Pb**	**21 28 39.9**	**-0.9**
TPUB						eS	**Sn**	**21 29 03.8**	**+2.0**
CHN4	**Tsaushan**	**2.01**	**254**			P	**Pb**	**21 28 40.3**	**-0.8**
CHN4						eS	**Sb**	**21 29 04.7**	**-1.2**
WTP	**Ta-pu**	**2.03**	**251**		*e*	P	**Pb**	**21 28 40.1**	**-1.4**
WTP						eS	**Sb**	**21 29 05.4**	**-0.9**
CHN2	**Minshiung**	**2.07**	**259**		*e*	P	**Pb**	**21 28 41.3**	**-0.9**
CHN2						eS	**Sb**	**21 29 07.2**	**-0.3**
ECL	**Taimali**	**2.08**	**231**			P	**Pb**	**21 28 38.7**	**+0.1**
SLGT	**Liugui**	**2.10**	**244**		*e*	P	**Pb**	**21 28 40.7**	**+1.7**
SLGT						eS	**Sb**	**21 29 06.9**	**-1.5**
SGST	**Jiashian**	**2.12**	**247**			P	**Pb**	**21 28 41.6**	**-1.4**
SGST						eS	**Sb**	**21 29 07.2**	**-1.6**
CHN1	**Nanshi**	**2.12**	**250**			P	**Pb**	**21 28 42.1**	**-1.0**
CHN1						S	**Sb**	**21 29 08.1**	**-0.9**
CHY	**Chiayi**	**2.13**	**259**		*e*	P	**Pb**	**21 28 41.7**	**-1.4**
CHY						eS	**Sb**	**21 29 08.0**	**-1.0**
WTK	**Tuku**	**2.13**	**264**			P	**Pb**	**21 28 42.1**	**-0.9**
WTK						eS	**Sb**	**21 29 08.6**	**-0.4**
TWK	**Hsinying**	**2.13**	**252**			P	**Pb**	**21 28 41.7**	**-1.5**
TWK						S	**Sb**	**21 29 08.1**	**-1.2**
SNST	**Tainan City**	**2.14**	**251**		*e*	P	**Pb**	**21 28 42.1**	**-1.2**
SNST						eS	**Sb**	**21 29 08.2**	**-1.3**
LAY	**Lan-yu**	**2.16**	**209**			P	**Pn**	**21 28 39.3**	**-0.5**
LYUB	**Lan-yu**	**2.18**	**208**		*e*	P	**Pn**	**21 28 39.3**	**-0.7**
LYUB						eS	**Sn**	**21 29 03.6**	**-2.7**
WTCT	**Ta-ch'eng**	**2.21**	**269**		*e*	S	**Sb**	**21 29 09.6**	**-1.8**
SSD	**Sandimen**	**2.24**	**238**		*e*	P	**Pn**	**21 28 42.5**	**+1.8**
SCST	**Cishan**	**2.28**	**243**		*e*	P	**Pb**	**21 28 44.1**	**-1.6**
SCST						eS	**Sb**	**21 29 13.4**	**+0.1**
TAW	**Tawu**	**2.28**	**227**		*e*	P	**Pn**	**21 28 42.1**	**+0.8**
WSF	**Szhu**	**2.28**	**263**		*e*	P	**Pn**	**21 28 43.5**	**+2.1**
WSF						eS	**Sb**	**21 29 12.8**	**-0.8**
ICHU	**Yijhu**	**2.29**	**256**		*e*	P	**Pb**	**21 28 44.0**	**-1.8**
ICHU						eS	**Sn**	**21 29 11.4**	**+2.5**
EAST	**Anshuo**	**2.30**	**228**		*e*	P	**Pn**	**21 28 42.4**	**+0.8**
WSL	**Shuilin Townsh**	**2.30**	**260**		*e*	P	**Pn**	**21 28 43.8**	**+2.2**
WSL						eS	**Sb**	**21 29 12.3**	**-1.7**
TAWH	**Dawu Township**	**2.30**	**227**		*e*	P	**Pn**	**21 28 42.1**	**+0.5**
TAWH						eS	**Sn**	**21 29 08.9**	**-0.3**
CHN3	**Shinhua**	**2.30**	**249**		*e*	S	**Sb**	**21 29 14.5**	**+0.3**
MASBT	**Mashibuluo**	**2.31**	**236**		*e*	P	**Pn**	**21 28 43.2**	**+1.4**
MASBT						eS	**Sn**	**21 29 10.6**	**+1.1**
SSHA	**Shanhua**	**2.35**	**251**		*e*	S	**Sb**	**21 29 14.4**	**-1.1**
CHN8	**Yiju**	**2.35**	**256**		*e*	P	**Pn**	**21 28 43.9**	**+1.6**
CHN8						S	**Sn**	**21 29 13.3**	**+2.9**
SCLT	**Jiali**	**2.42**	**252**			S	**Sb**	**21 29 15.4**	**-2.0**
SLIU	**Shizi**	**2.45**	**226**		*e*	P	**Pn**	**21 28 44.5**	**+0.8**
SCZT	**Fangliau**	**2.46**	**231**		*e*	P	**Pn**	**21 28 45.5**	**+1.6**
SCZT						eS	**Sn**	**21 29 14.9**	**+1.6**
SNJT	**Kaohsiung City**	**2.47**	**242**		*e*	S	**Sb**	**21 29 19.1**	**+0.2**
TSCK	**Chigu Township**	**2.52**	**252**		*e*	P	**Pn**	**21 28 47.1**	**+2.4**
TSCK						eS	**Sn**	**21 29 17.2**	**+2.7**
JMJ	**Miyako jima 2**	**2.53**	**69**			P	**Pb**	**21 28 47.3**	**-2.6**
JMJ	**Miyako jima 2**	**2.53**	**69**		*e*	P	**Pb**	**21 28 47.1**	**-2.8**
JMJ						S	**Sn**	**21 29 16.2**	**+1.5**
WSSB	**Gushan**	**2.58**	**241**		*e*	P	**Pb**	**21 28 49.1**	**-1.8**
WSSB						eS	**Sb**	**21 29 21.6**	**-0.6**
TSEB	**Hengchuen, Pin**	**2.62**	**220**		*e*	P	**Pn**	**21 28 47.1**	**+1.1**
HEN	**Hengchun**	**2.64**	**224**		*e*	P	**Pn**	**21 28 48.5**	**+2.3**
HEN						eS	**Sn**	**21 29 19.4**	**+1.9**
TWKBT	**Hengchun**	**2.64**	**221**		*e*	P	**Pn**	**21 28 47.7**	**+1.4**
TWKBT						eS	**Sn**	**21 29 18.3**	**+0.8**
TWK1	**Hengchun**	**2.64**	**222**		*e*	P	**Pn**	**21 28 47.9**	**+1.6**
TWK1						S	**Sn**	**21 29 19.0**	**+1.4**
TWP	**Hsiaoliuchiu**	**2.67**	**234**		*e*	P	**Pb**	**21 28 52.2**	**-0.1**
WDGT	**Dungji**	**2.86**	**257**		*e*	P	**Pn**	**21 28 51.2**

E22K IAmb IAmb 21 38 52.7
comp=Z,4.5nm,0.9s
C23K Itkillik River 66.63 22 P **P 21 38 53.9 +0.6**
C23K IAmb IAmb 21 38 54.0
comp=Z,1.8nm,0.9s
D23K Nanushuk River 66.69 23 P **P 21 38 54.9 +1.2**
D23K IAmb IAmb 21 38 55.6
comp=Z,2.5nm,0.8s
KBZ Khabaz 66.71 309 P **P 21 38 54.8 +0.5**
comp=Z,1.3nm,0.8s,baz=103,slow=4.0,SNR=2.8
comp=Z,1.3nm,0.8s
CAST Castle Rocks 66.76 29 P **P 21 38 55.1 +0.8**
CAST IAmb IAmb 21 39 01.6
comp=Z,5.2nm,1.1s
TOLK Toolik Lake Re 67.13 23 P **P 21 38 56.6 0.0**
TOLK IAmb IAmb 21 38 58.2
comp=Z,2.5nm,0.8s
MLY Manley 67.13 27 P **P 21 38 57.4 +0.7**
MLY IAmb IAmb 21 38 58.7
comp=Z,3.7nm,1.0s
BPAW Bear Paw Mtn. 67.15 28 P **P 21 38 56.8 0.0**
E23K Chandalar 67.19 24 P **P 21 38 56.5 -0.5**
E23K IAmb IAmb 21 39 01.1
comp=Z,2.7nm,0.8s
G23K Bananza Creek 67.20 26 P **P 21 38 57.9 +0.8**
G23K IAmb IAmb 21 38 59.0
comp=Z,2.2nm,0.8s
C24K Franklin Bluff 67.30 22 P **P 21 38 57.6 +0.1**
C24K IAmb IAmb 21 39 01.3
comp=Z,3.1nm,0.9s
D24K Happy Valley 67.33 23 P **P 21 38 58.4 +0.6**
D24K IAmb IAmb 21 39 01.8
comp=Z,2.6nm,0.8s
H23K Yukon River 67.52 26 P **P 21 39 00.2 +1.1**
H23K IAmb IAmb 21 39 01.2
comp=Z,3.5nm,0.8s
E24K Your Creek 67.60 24 P **P 21 39 00.1 +0.5**
E24K IAmb IAmb 21 39 02.4
comp=Z,2.2nm,0.9s
NEA2 Nenana 67.91 28 P **P 21 39 01.9 +0.4**
NEA2 IAmb IAmb 21 39 03.0
comp=Z,3.4nm,0.9s
F24K Squaw Lake 67.91 25 P **P 21 39 02.0 +0.5**
D25K Kavik River 68.17 22 P **P 21 39 03.6 +0.5**
D25K IAmb IAmb 21 39 05.8
comp=Z,4.7nm,1.1s
ILAR Eielson Array 68.80 27 P **P 21 39 07.1 0.0**
comp=Z,0.2nm,0.5s,baz=268,slow=5.0,SNR=5.7
comp=Z,0.2nm,0.5s
SPITS Spitsbergen Ar 70.02 348 P **P 21 39 13.3 -1.2**
comp=Z,10nm,1.0s,baz=75,slow=12,SNR=1.2
comp=Z,10nm,1.0s
ARCES ARCESS Array B 70.28 338 P **P 21 39 15.5 -0.7**
comp=Z,1.6nm,0.6s,baz=69,slow=4.9,SNR=1.8
comp=Z,1.6nm,0.6s
FINES FINESS Array B 72.35 330 P **P 21 39 28.1 -0.7**
comp=Z,1.3nm,0.5s,baz=58,slow=5.1,SNR=22
comp=Z,1.3nm,0.5s
MNK Minsk 73.56 323 *i* LRM MLR 22 15 34.6
comp=N,77nm,16.1s
MNK Minsk 73.56 323 *i* P **P 21 39 33.7 -2.4**
comp=E,7.0nm,0.8s
MNK Minsk 73.56 323 *i* P **P 21 39 33.7 -2.4**
comp=N,4.0nm,0.8s
MNK Minsk 73.56 323 *i* P **P 21 39 33.7 -2.4**
comp=Z,3.0nm,0.6s,baz=72
MNK Minsk 73.56 323 *i* pP pP 21 39 59.2 +16
MNK Minsk 73.56 323 *i* PP PP 21 42 18.4 -1.5
MNK Minsk 73.56 323 *i* PPP PPP 21 44 03.5
MNK Minsk 73.56 323 *i* S S 21 48 55.6 -9.0
MNK Minsk 73.56 323 *i* sS sS 21 49 39.9 +24
MNK Minsk 73.56 323 *i* SS SS 21 53 40.8 -6.2
MNK Minsk 73.56 323 *i* SSS SSS 21 57 02.3
MNK Minsk 73.56 323 *i* LQ LQ 22 08 07.6
MNK Minsk 73.56 323 *i* LR LR 22 12 41.4
MNK Minsk 73.56 323 *i* LRM MLR 22 15 29.8
comp=E,127nm,19.6s
MNK Minsk 73.56 323 *i* LRM MLR 22 15 31.7
comp=Z,139nm,20.0s
AKASG Malin Array Be 73.97 319 P **P 21 39 37.4 -1.2**
comp=Z,0.6nm,0.5s,baz=61,slow=6.6,SNR=5.4
comp=Z,0.6nm,0.5s
BRTR Keskin Array B 74.43 307 P **P 21 39 41.3 -0.3**
BRTR Keskin Array B 74.43 307 P **P 21 39 42.0 +0.3**
comp=Z,2.2nm,0.8s,baz=116,slow=5.3,SNR=8.2
comp=Z,2.2nm,0.8s
MMAI Mount Meron Ar 75.22 300 P **P 21 39 47.2 +0.9**
comp=Z,0.6nm,0.5s,baz=48,slow=11,SNR=2.0
comp=Z,0.6nm,0.5s
HFS Hagfors 78.45 331 P **P 21 40 02.9 -1.0**
comp=Z,2.6nm,0.7s,baz=97,slow=7.6,SNR=7.6
comp=Z,2.6nm,0.7s
NC405 NORSAR Array S 78.83 332 P **P 21 40 05.0 -1.0**
NC303 NORSAR Array S 78.92 333 P **P 21 40 05.5 -1.0**
NB2 NORSAR Subarra 79.08 333 P **P 21 40 05.7 -1.7**
comp=Z,0.9nm,0.5s,baz=58,slow=5.6
NOA NORSAR Array B 79.08 333 P **P 21 40 06.1 -1.3**
comp=Z,1.2nm,0.6s,baz=56,slow=5.7,SNR=13
comp=Z,1.2nm,0.6s
KMBO Kilima Mbogo 86.28 267 P **P 21 40 47.5 +1.6**
comp=Z,2.5nm,0.9s,baz=60,slow=9.8,SNR=5.4
comp=Z,2.5nm,0.9s

*IDC **08** 21:33:06.4±1.6,2°.70S×119°.69E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=169.2km s-min=21.6km az=60.0*
*DJA **08** 21:33:07.1±0.3,3°.S±2°×11°.9E± °, h10km, M4.0/14, mb4.1/2, MLv3.9/14*
ISC 08 21:33:06.9±0.8,**2°.94S**±0°.05×**119°.45E**±0°.06,**h10**km,**n19,**
σ1§04/22,mb3.6/5,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.39**	**106**	P	**Pg**	**21 33 13.5**	**-1.1**
TTSI				S	**Sg**	**21 33 19.7**	**0.0**
SPSI	**Sidrap Palu**	**1.07**	**163**	P	**Pb**	**21 33 26.1**	**-1.5**
SPSI				S	**Sn**	**21 33 43.4**	**+0.4**
BNSI	**Bone**	**1.60**	**156**	P	**Pn**	**21 33 35.9**	**+0.6**
BNSI				S	**Sg**	**21 33 58.9**	**+0.5**
BKSI	**Bulukumba**	**2.46**	**164**	P	**Pn**	**21 33 48.0**	**+0.8**
APSI	**Ampana**	**2.98**	**48**	P	**Pn**	**21 33 56.3**	**+2.0**
BKB	**Balikpapan**	**3.04**	**303**	P	**Pn**	**21 33 55.1**	**-0.1**
MPSI	**Mapaga**	**3.28**	**8**	P	**Pn**	**21 33 57.6**	**-0.9**
BSSI	**Bau Bau, Buton**	**3.35**	**162**	P	**Pn**	**21 34 00.6**	**+1.2**
LUWI	**Luwuk**	**3.82**	**61**	P	**Pn**	**21 34 05.1**	**-0.8**
BBSI	**Bau Bau**	**4.02**	**129**	P	**Pn**	**21 34 09.3**	**+0.7**
MRSI	**Marisa**	**4.21**	**36**	P	**Pn**	**21 34 10.9**	**-0.3**
MTKI	**Muara Teweh, K**	**4.96**	**293**	P	**Pn**	**21 34 22.7**	**+1.1**
PLAI	**Plampang**	**6.08**	**196**	P	**Pn**	**21 34 37.1**	**+0.1**
	21nm,1.4s,0.1nm						
WBSI	**Waikabubak, Su**	**6.66**	**180**	P	**Pn**	**21 34 44.4**	**-0.6**
WRA	**Warramunga Arr**	**22.30**	**140**	P	**P**	**21 38 04.7**	**-0.1**
	0.7nm,0.8s,baz=316,slow=11,SNR=5.7						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**24.90**	**147**	P	**P**	**21 38 32.9**	**+2.5**
	0.9nm,0.9s,baz=330,slow=11,SNR=5.0						
	0.9nm,0.9s						
SONM	**Songino Array**	**51.84**	**349**	P	**P**	**21 42 15.0**	**-0.4**
	0.5nm,0.6s,baz=167,slow=7.8,SNR=4.2						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**59.34**	**331**	P	**P**	**21 43 09.5**	**+0.2**
	0.6nm,0.7s,baz=142,slow=8.6,SNR=4.3						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**63.80**	**332**	P	**P**	**21 43 39.7**	**+0.4**
	0.3nm,0.3s,baz=142,slow=5.7,SNR=2.2						
	0.3nm,0.3s						

*THE **08** 21:35:33.1,37°.45N×20°.73E, h0km±3km, ML2.8/4, Error ellipse: s-maj=4.2km s-min=1.1km az=206.0*
*ATH **08** 21:35:34.0,37°.45N×20°.73E, h7km±1km, ML2.5/18, Error ellipse: s-maj=1.9km s-min=0.9km az=46.0*
ISC 08 21:35:33.9±1.4,**37°.47N**±0°.05×**20.74E**±0°.04,**h11**km±7km,
n34,σ0§55/62,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.20**	**17**	P	**Pg**	**21 35 38.2**	**0.0**
KRI1				S	**Sg**	**21 35 41.2**	**+0.1**
LTHK	**Lithakia**	**0.25**	**18**	P	**Pg**	**21 35 38.8**	**-0.2**
LTHK				S	**Sg**	**21 35 42.4**	**-0.1**
	19μm,0.3s						
LTHK	**Lithakia**	**0.25**	**18**	P	**Pg**	**21 35 38.8**	**-0.2**
LTHK				S	**Sg**	**21 35 42.6**	**+0.1**
LTHK				AML	AML	21 35 42.8	
	comp=E,20232μm,0.3s						
LTHK				AML	AML	21 35 42.9	
	comp=N,50709μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.60**	**2**	P	**Pg**	**21 35 44.7**	**-0.9**
RTZL				S	**Sg**	**21 35 53.9**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.65**	**349**	P	**Pg**	**21 35 45.6**	**-1.0**
PSDA				S	**Sb**	**21 35 56.2**	**-0.3**
	comp=N,800nm,0.3s						
PSDA	**Pessada-Kefalo**	**0.65**	**349**	P	**Pg**	**21 35 45.9**	**-0.7**
PSDA				S	**Sb**	**21 35 56.1**	**-0.3**
VLS	**Valsamata**	**0.71**	**350**	P	**Pg**	**21 35 46.6**	**-1.1**
VLS				S	**Sb**	**21 35 57.9**	**-0.4**
	comp=N,532nm,0.1s						
VLS	**Valsamata**	**0.71**	**350**	P	**Pg**	**21 35 46.6**	**-1.1**
VLS				S	**Sg**	**21 35 57.3**	**+0.2**
VLS				AML	AML	21 35 58.3	
	comp=N,852μm,0.2s						
VLS				AML	AML	21 35 58.7	
	comp=E,1240μm,0.1s						
LXRA	**Lixouri, Kepha**	**0.77**	**342**	P	**Pb**	**21 35 49.8**	**+0.5**
LXRA				S	**Sb**	**21 36 00.5**	**+0.8**
LXRA				AML	AML	21 36 04.3	
	comp=N,2427μm,0.3s						
LXRA				AML	AML	21 36 05.8	
	comp=E,1782μm,0.5s						
AMT	**Artemida-Makis**	**0.77**	**85**	P	**Pg**	**21 35 48.7**	**-0.2**
AMT				S	**Sb**	**21 36 00.4**	**+0.5**
AMT				AML	AML	21 36 06.7	
	comp=N,1444μm,0.4s						
AMT				AML	AML	21 36 07.8	
	comp=E,1671μm,0.3s						
DMLN	**Damoulianata-K**	**0.82**	**339**	P	**Pg**	**21 35 48.8**	**-0.9**
DMLN				S	**Sb**	**21 36 01.9**	**+0.6**
DMLN	**Damoulianata-K**	**0.82**	**339**	P	**Pg**	**21 35 48.9**	**-0.9**
DMLN				S	**Sb**	**21 36 02.4**	**+1.1**
RLS	**Riolos of Patr**	**0.82**	**44**	P	**Pg**	**21 35 48.8**	**-0.9**
RLS				S	**Sb**	**21 36 01.6**	**+0.3**
	comp=E,190nm,0.3s						
RLS	**Riolos of Patr**	**0.82**	**44**	P	**Pg**	**21 35 48.9**	**-0.9**
RLS				S	**Sb**	**21 36 01.4**	**+0.1**
RLS				AML	AML	21 36 02.6	
	comp=N,399μm,0.1s						
RLS				AML	AML	21 36 06.4	
	comp=E,390μm,0.5s						
DRO	**Drossia**	**0.91**	**58**	P	**Pg**	**21 35 50.7**	**-0.7**
DRO				S	**Sn**	**21 36 05.0**	**-0.7**
DRO				AML	AML	21 36 09.6	
	comp=N,530μm,0.5s						
DRO				AML	AML	21 36 14.5	
	comp=E,538μm,0.4s						
PYL	**PYLOS**	**0.98**	**126**	P	**Pg**	**21 35 52.3**	**-0.6**
PYL				S	**Sb**	**21 36 06.3**	**+0.3**
PYL				AML	AML	21 36 12.6	
	comp=E,154μm,0.3s						
PYL				AML	AML	21 36 14.9	
	comp=N,120μm,0.3s						
ITM	**Ithomi**	**0.99**	**107**	P	**Pg**	**21 35 52.6**	**-0.3**
ITM				S	**Sb**	**21 36 06.7**	**+0.6**
ITM				AML	AML	21 36 14.2	
	comp=N,193μm,0.3s						
ITM				AML	AML	21 36 17.6	
	comp=E,252μm,0.4s						
FSK	**Fiskardo**	**0.99**	**352**	P	**Pn**	**21 35 53.9**	**0.0**
FSK				S	**Sb**	**21 36 07.1**	**+0.8**
FSK				AML	AML	21 36 09.4	
	comp=E,474μm,0.2s						
FSK				AML	AML	21 36 09.8	
	comp=N,676μm,0.6s						
EVGI	**Lefkada island**	**1.15**	**357**	P	**Pg**	**21 35 56.1**	**+0.1**
EVGI				S	**Sg**	**21 36 11.5**	**+0.5**
DRAG	**Dragano-Lefkad**	**1.22**	**354**	P	**Pn**	**21 35 56.8**	**-0.1**
DRAG				S	**Sn**	**21 36 14.0**	**+0.6**
NYDR	**Nydri-Lefkada**	**1.24**	**358**	P	**Pn**	**21 35 56.9**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.24**	**358**	P	**Pn**	**21 35 57.0**	**-0.3**
NYDR				S	**Sb**	**21 36 13.4**	**+0.1**
KLV	**Kalavryta, Ach**	**1.25**	**63**	P	**Pg**	**21 35 58.3**	**+0.3**
KLV				S	**Sn**	**21 36 14.4**	**0.0**
KLV				AML	AML	21 36 23.4	
	comp=N,93μm,0.7s						
KLV				AML	AML	21 36 28.4	
	comp=E,76μm,0.7s						
LKD2	**Lefkada island**	**1.32**	**357**	P	**Pn**	**21 35 58.4**	**0.0**
LKD2				S	**Sg**	**21 36 16.7**	**+0.4**
LKD2				AML	AML	21 36 21.0	
	comp=E,342μm,0.3s						
LKD2				AML	AML	21 36 22.8	
	comp=N,232μm,0.4s						
EFP	**Efpalio**	**1.32**	**44**	P	**Pn**	**21 35 57.5**	**-0.9**
EFP				S	**Sn**	**21 36 16.1**	**0.0**
EFP				AML	AML	21 36 23.8	
	comp=N,154μm,0.3s						
EFP				AML	AML	21 36 29.3	
	comp=E,208μm,0.8s						
GUR	**Goura**	**1.35**	**69**	P	**Pn**	**21 35 58.8**	**-0.1**
GUR	**Goura**	**1.35**	**69**	P	**Pn**	**21 35 58.1**	**-0.7**
GUR				AML	AML	21 36 26.7	
	comp=N,244μm,0.4s						
GUR				AML	AML	21 36 32.6	
	comp=E,262μm,0.5s						
TSLK	**Tsoukalades, L**	**1.35**	**357**	P	**Pb**	**21 35 59.6**	**+0.3**
TSLK	**Tsoukalades, L**	**1.35**	**357**	P	**Pn**	**21 35 58.8**	**+0.1**
TSLK				S	**Sg**	**21 36 17.6**	**+0.1**
TSLK				AML	AML	21 36 21.9	
	comp=N,313μm,0.5s						
TSLK				AML	AML	21 36 25.9	
	comp=E,222μm,0.7s						
KALE	**Kalithea**	**1.44**	**50**	P	**Pn**	**21 35 59.8**	**-0.2**
KALE	**Kalithea**	**1.44**	**50**	P	**Pn**	**21 35 59.5**	**-0.5**
KALE				S	**Sn**	**21 36 18.6**	**-0.3**
KALE				AML	AML	21 36 26.6	
	comp=N,271μm,0.7s						
KALE				AML	AML	21 36 28.2	
	comp=E,217μm,0.5s						
ANX	**Ano Chora**	**1.46**	**39**	P	**Pn**	**21 36 00.0**	**-0.3**
ANX	**Ano Chora**	**1.46**	**39**	P	**Pn**	**21 35 59.9**	**-0.3**
ANX				S	**Sn**	**21 36 19.0**	**-0.5**
ANX				AML	AML	21 36 25.9	
	comp=E,356μm,0.5s						
ANX				AML	AML	21 36 29.6	
	comp=N,281μm,0.6s						
EVR	**Evrytania**	**1.67**	**30**	P	**Pn**	**21 36 03.0**	**-0.2**
EVR				S	**Sn**	**21 36 25.2**	**+0.5**
EVR				AML	AML	21 36 56.7	
	comp=E,84μm,0.7s						
EVR				AML	AML	21 36 58.0	
	comp=N,90μm,1.0s						

*TAP **08** 21:45:52.5,24°.48N×122°.61E, h84km, ML2.6, C*
*JMA **08** 21:45:52.6±0.1,24°.N±2°×122°.6E±0°.5, h82km±1km, MV1.8/12, NW OFF ISHIGAKIJIMA IS*
ISC 08 21:45:52.3±1.4,**24°.45N**±0°.05×**122°.61E**±0°.03,**h87**km±8km,
n49,σ0§61/91,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS3	**EOS3**	**0.31**	**238**	*e*P	**Pn**	**21 46 06.2**	**+1.0**
JYNG	**Yonagunijimaku**	**0.31**	**90**	P	**Pn**	**21 46 05.4**	**0.0**
JYNG				S	**Sn**	**21 46 14.7**	**-0.4**
EOS2	**EOS2**	**0.34**	**265**	*e*P	**Pn**	**21 46 05.8**	**+0.3**
EOS2				*e*S	**Sn**	**21 46 16.2**	**+1.0**
YOJ	**Yonaguni jima**	**0.37**	**88**	*e*P	**Pn**	**21 46 05.8**	**0.0**
YOJ				S	**Sn**	**21 46 15.0**	**-0.8**
YOJ	**Yonaguni jima**	**0.37**	**88**	*e*P	**Pn**	**21 46 05.8**	**0.0**
YOJ				*e*S	**Sn**	**21 46 14.9**	**-0.9**
EOS4	**EOS4**	**0.42**	**219**	*e*P	**Pn**	**21 46 06.5**	**+0.8**
EOS4				*e*S	**Sn**	**21 46 16.6**	**+1.0**
TWC	**Suao**	**0.71**	**283**	*e*P	**Pn**	**21 46 08.6**	**0.0**
TWC				*e*S	**Sn**	**21 46 19.5**	**-1.2**
ENA	**Nanau**	**0.79**	**269**	*e*P	**Pn**	**21 46 09.5**	**+0.1**
ENA				*e*S	**Sn**	**21 46 22.4**	**+0.1**
TWE	**Neicheng**	**0.90**	**288**	*e*P	**Pn**	**21 46 11.1**	**+0.4**
TWE				*e*S	**Sn**	**21 46 23.8**	**-0.5**
SXI1	**Grass Mountain**	**0.92**	**314**	*e*S	**Sn**	**21 46 24.6**	**-0.4**
NACB	**Ninganchiao**	**0.96**	**254**	*e*P	**Pn**	**21 46 11.0**	**-0.3**
NACB				*e*S	**Sn**	**21 46 24.9**	**-0.7**
ENTT	**Nioudou**	**0.97**	**282**	*e*P	**Pn**	**21 46 12.2**	**+0.8**
ENTT				*e*S	**Sn**	**21 46 25.7**	**0.0**
FUSB	**Fushanzhiwuyua**	**0.98**	**289**	*e*P	**Pn**	**21 46 12.0**	**+0.4**
FUSB				*e*S	**Sn**	**21 46 25.6**	**-0.5**
LATG	**Datong**	**0.99**	**275**	P	**Pn**	**21 46 12.4**	**+0.6**
LATG				S	**Sn**	**21 46 26.3**	**0.0**
TWD	**Chiawan**	**0.99**	**248**	*e*P	**Pn**	**21 46 11.2**	**-0.5**
TWD				S	**Sn**	**21 46 25.7**	**-0.5**
IRIF	**Iriomote-Funau**	**1.03**	**96**	P	**Pn**	**21 46 12.3**	**+0.2**
IRIF				S	**Sn**	**21 46 26.9**	**-0.2**
ETLH	**Xiulin Townshi**	**1.05**	**257**	*e*P	**Pn**	**21 46 12.5**	**-0.1**
ETLH				*e*S	**Sn**	**21 46 26.7**	**-0.9**
NWLT	**Wulai**	**1.06**	**288**	*e*P	**Pn**	**21 46 12.8**	**+0.3**
NWLT				*e*S	**Sn**	**21 46 26.8**	**-0.8**
TEYL	**Yanliau Villag**	**1.09**	**238**	P	**Pn**	**21 46 13.5**	**+0.7**
TEYL				S	**Sn**	**21 46 28.6**	**+0.4**
ETM	**Tongmen**	**1.12**	**245**	*e*P	**Pn**	**21 46 13.1**	**-0.2**
ETM				*e*S	**Sn**	**21 46 28.3**	**-0.7**
YHNB	**Yeheng**	**1.14**	**281**	*e*P	**Pn**	**21 46 13.5**	**-0.1**
YHNB				*e*S	**Sn**	**21 46 28.9**	**-0.6**
NSK	**Sanguang**	**1.16**	**281**	P	**Pn**	**21 46 14.4**	**+0.7**
NSK				S	**Sn**	**21 46 29.8**	**-0.1**
SHUL	**Shoufeng**	**1.16**	**236**	*e*P	**Pn**	**21 46 13.7**	**0.0**
SHUL				*e*S	**Sn**	**21 46 29.5**	**-0.3**
LXIB	**Xiulin Townshi**	**1.17**	**249**	P	**Pn**	**21 46 13.8**	**-0.2**
LXIB				S	**Sn**	**21 46 29.3**	**-0.9**
YM01	**YM01**	**1.17**	**307**	*e*P	**Pn**	**21 46 13.6**	**-0.3**
YM01				*e*S	**Sn**	**21 46 29.2**	**-0.9**
ZUZH	**Zhuzihu**	**1.20**	**307**	*e*P	**Pn**	**21 46 13.9**	**-0.3**
TEGC	**Jichi Village**	**1.22**	**233**	*e*P	**Pn**	**21 46 14.5**	**+0.1**
TEGC				*e*S	**Sn**	**21 46 30.8**	**-0.3**
ESL	**Shilin**	**1.24**	**240**	*e*P	**Pn**	**21 46 14.7**	**0.0**
ESL				*e*S	**Sn**	**21 46 31.1**	**-0.5**
WHF	**Hehuan Shan**	**1.26**	**256**	*e*P	**Pn**	**21 46 15.1**	**-0.2**
WHF				S	**Sn**	**21 46 32.0**	**-0.6**
JKRS	**Kuro-shima**	**1.30**	**99**	P	**Pn**	**21 46 16.1**	**+0.7**
JKRS				*e*S	**Sn**	**21 46 33.3**	**+0.6**
EGFH	**Guangfu**	**1.33**	**234**	*e*P	**Pn**	**21 46 15.5**	**-0.3**
EGFH				*e*S	**Sn**	**21 46 32.6**	**-0.8**
WARBT	**Fenglin Townsh**	**1.33**	**237**	P	**Pn**	**21 46 15.8**	**-0.1**
WARBT				S	**Sn**	**21 46 32.5**	**-1.0**
TDCB	**Techi**	**1.33**	**262**	S	**Sn**	**21 46 33.6**	**-0.2**
NFF	**Wufeng Townshi**	**1.37**	**278**	*e*P	**Pn**	**21 46 16.6**	**+0.3**
NFF				*e*S	**Sn**	**21 46 34.2**	**-0.2**
OWD	**Renai**	**1.40**	**250**	*e*P	**Pn**	**21 46 17.1**	**+0.3**
OWD				*e*S	**Sn**	**21 46 34.5**	**-0.7**
JIJ	**Ishigaki jima**	**1.40**	**93**	P	**Pn**	**21 46 16.7**	**0.0**
JIJ				*e*S	**Sn**	**21 46 34.5**	**-0.6**
WUSB	**Renai**	**1.43**	**252**	*e*P	**Pn**	**21 46 17.6**	**+0.4**
WUSB				*e*S	**Sn**	**21 46 35.8**	**-0.2**
HGSD	**Ruisui**	**1.44**	**229**	*e*P	**Pn**	**21 46 17.0**	**-0.2**
HGSD				*e*S	**Sn**	**21 46 36.2**	**+0.3**
LIOB	**Emei**	**1.46**	**278**	*e*P	**Pn**	**21 46 18.1**	**+0.7**
LIOB				*e*S	**Sn**	**21 46 37.3**	**+0.8**
WHP	**Taichung City**	**1.52**	**264**	*e*P	**Pn**	**21 46 19.8**	**+1.5**
WHP				*e*S	**Sn**	**21 46 38.5**	**+0.6**
JISG	**Ishigakijimahi**	**1.56**	**85**	P	**Pn**	**21 46 18.7**	**0.0**
JISG				*e*S	**Sn**	**21 46 38.6**	**0.0**
YULB	**Yu-li**	**1.59**	**229**	*e*P	**Pn**	**21 46 19.1**	**0.0**
TWF1	**Yuli**	**1.62**	**228**	*e*P	**Pn**	**21 46 19.6**	**0.0**
SSLB	**Suanglung**	**1.65**	**247**	*e*P	**Pn**	**21 46 20.2**	**+0.4**
SSLB				*e*S	**Sn**	**21 46 40.7**	**0.0**
WHYT	**Xinyi Township**	**1.77**	**245**	*e*P	**Pn**	**21 46 22.5**	**+1.0**
WHYT				*e*S	**Sn**	**21 46 45.0**	**+1.4**
EDH	**Donghe**	**1.89**	**219**	*e*P	**Pn**	**21 46 22.5**	**-0.6**
EDH				*e*S	**Sn**	**21 46 45.0**	**-1.4**
JTJ	**Tarama**	**1.92**	**84**	*e*P	**Pn**	**21 46 23.8**	**+0.5**
ELDTW	**Lidau**	**1.92**	**230**	*e*P	**Pn**	**21 46 23.2**	**-0.4**
ELDTW				*e*S	**Sn**	**21 46 46.0**	**-1.3**
STYH	**Taoyuan**	**2.10**	**233**	*e*P	**Pn**	**21 46 27.0**	**+1.2**
STYH				*e*S	**Sn**	**21 46 52.0**	**+0.6**

*MOS **08** 21:51:37.7±0.8,38°.65N×142°.27E, h48km, mb4.6/32, Error ellipse: s-maj=8.2km s-min=4.9km az=102.7*
*NIED **08** 21:51:38.9,38°.66N×142°.15E, h41km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr3.26; Mθθ-0.45; Mφφ-2.82; Mrθ1.57; Mθφ-1.14; Mφr2.67; Fault plane solution: M0 4.50000×10^15 NP1:φs28.00000°, δ67.00000°, λ95.00000°. NP2:φs196.00000°, δ24.00000°, λ79.00000°.*
*JMA **08** 21:51:38.9±0.1,38°.7N±0°.2×142°.2E±0°.6, h41km±1km, MD4.3/39, MV4.6/39, E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
*BJI **08** 21:51:39.0,38°.70N×142°.20E, h60km, mb4.7/26, mB4.8/3, Ms4.3/4, Ms7 4.1/3*
*IDC **08** 21:51:40.0±1.7,38°.65N×142°.26E, h53km±14km, mb4.1/21, mbtmp4.3/28, ML3.8/7, MS3.6/8, Error ellipse: s-maj=16.2km s-min=9.1km az=105.0*
*NEIC **08** 21:51:40.5,38°.68N×141°.95E, h42km*
*NEIC **08** 21:51:40.2±1.1,38°.66N±0°.06×141°.98E±0°.10, h40km±6km, mb4.5/135, Mwr4.3/19, Error ellipse: s-maj=11.7km s-min=7.1km az=114.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr0.42; Mθθ-0.50; Mφφ0.08; Mrθ1.66; Mθφ-0.00; Mφr2.93; Fault plane solution: Ms3.39000×10^15 NP1:φs274.96000°, δ4.85000°, λ154.51000°. NP2:φs30.37000°, δ87.92000°, λ85.62000°. Principal axes: T 3.5576, Plg47.0000°, Azm296.0000°; N -0.3548, Plg4.0000°, Azm31.0000°; P -3.2028, Plg43.0000°, Azm125.0000°;*
ISC 08 21:51:39.2±0.5,**38°.65N**±0°.04×**142°.20E**±0°.04,**h43**km±3km,
n331,σ1§40/324,mb4.5/124,MS4.0/7,20C-16D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.59**	**286**	⇓*i*P	**Pn**	**21 51 50.4**	**-0.9**
JKMT				⇓*e*S	**Sn**	**21 51 58.3**	**-1.6**
JKMT	**Kesennumamotoy**	**0.59**	**286**	A	A	21 51 50.4	
	comp=E,27nm,0.6s,comp=N,14nm,1.3s						
OFUJ	**Ofunato**	**0.60**	**316**	⇓P	**Pn**	**21 51 50.5**	**-0.9**
OFUJ				⇓*e*S	**Sn**	**21 51 58.7**	**-1.4**
OFUJ	**Ofunato**	**0.60**	**316**	A	A	21 51 50.5	
	comp=E,32nm,0.9s,comp=N,25nm,0.9s						
JIKH	**Ishinomakikobu**	**0.67**	**240**	⇓*i*P	**Pn**	**21 51 51.4**	**-0.9**
JIKH				⇓S	**Sn**	**21 52 00.2**	**-1.5**
JIKH	**Ishinomakikobu**	**0.67**	**240**	A	A	21 51 51.4	
	comp=E,49nm,1.1s,comp=N,39nm,3.9s						
JIO	**Ouri**	**0.70**	**254**	⇓P	**Pn**	**21 51 51.7**	**-1.0**
JIO				⇓*e*S	**Sn**	**21 52 00.4**	**-1.9**
JIO	**Ouri**	**0.70**	**254**	A	A	21 51 51.7	
	comp=E,28nm,0.5s,comp=N,23nm,2.5s						
JMK	**Ichinoseki**	**0.83**	**292**	⇓P	**Pn**	**21 51 53.6**	**-0.8**
JMK				⇓*e*S	**Sn**	**21 52 04.0**	**-1.5**
JMK	**Ichinoseki**	**0.83**	**292**	A	A	21 51 53.6	
	comp=E,9.0nm,1.1s,comp=N,9.0nm,0.8s						
MIYJ	**Miyakonagasawa**	**0.97**	**342**	A	A	21 51 56.0	
	comp=E,11nm,0.5s,comp=N

JYA Atsumi 1.95 269 A A 21 52 10.0
comp=E,7.0nm,0.5s,comp=N,7.0nm,1.7s
JAH Hinai 1.96 322 A A 21 52 10.2
comp=E,5.0nm,2.7s,comp=N,4.0nm,3.2s
JTM Tenmabayashi 2.31 338 **Pn** **21 52 15.6 +0.9**
JSD Sado 3.16 260 Pn **Pn** **21 52 25.5 -0.9**
JSD Sado 3.16 260 P **Pn** 21 52 26.1 -0.3
ERM Erimo 3.44 12 **Pn** 21 52 32.3 +2.1
ERM **Sn** 21 53 12.4 +2.7
ERM Erimo 3.44 12 *i* P **Pn** **21 52 31.7 +1.5**
MJAR Matsushiro Arr 3.81 238 P **Pn** **21 52 36.6 +1.3**
comp=N,4.7nm,0.3s,baz=38,slow=12,SNR=107
MJAR S **Sn** **21 53 22.7 +3.9**
comp=N,29nm,0.6s,baz=49,slow=14,SNR=4.7
MJAR LR LR 21 54 25.3
comp=N,624nm,19.3s,baz=96,slow=43
comp=N,51nm,0.5s
MAJO Matsushiro 3.81 238 Pn **Pn** **21 52 35.8 +0.5**
MAJO Matsushiro 3.81 238 P **Pn** **21 52 37.2 +1.9**
MAJO Matsushiro 3.81 238 P **Pn** 21 52 35.8 +0.5
MJB9 Matsu-Tunnel 3.81 238 **Pn** **21 52 36.8 +1.4**
JGF Kuroka 4.92 233 Pn **Pn** **21 52 50.9 +0.2**
JGF Kuroka 4.92 233 P **Pn** 21 52 53.3 +2.6
INU Inuyama 5.30 233 Pn **Pn** **21 52 56.2 +0.4**
INU Inuyama 5.30 233 P **Pn** 21 52 58.1 +2.3
NMR Nemuro--Hokkai 5.42 28 *e*P **Pn** 21 52 55.9 -1.5
NMR *e*S **Sn** 21 53 53.0 -5.4
JKA Kamikawa-asahi 5.47 3 Pn **Pn** **21 52 59.8 +1.7**
ASAJ Asahikawa 5.47 3 P **Pn** 21 52 58.4 +0.3
comp=N,2.3nm,0.3s,baz=210,slow=7.6,SNR=13
ASAJ S **Sn** **21 54 00.2 +0.4**
comp=N,25nm,0.6s,baz=198,slow=20,SNR=4.1
comp=N,11nm,0.6s
ASAJ Asahikawa 5.47 3 P **Pn** **21 52 59.8 +1.7**
JHJ Hachijo jima 2 5.86 200 P **Pn** **21 53 05.7 +2.3**
comp=N,29nm,0.3s,baz=66,slow=20,SNR=5.1
JHJ S **Sn** **21 54 06.1 -3.2**
comp=N,117nm,0.3s,baz=71,slow=24,SNR=1.6
comp=N,75nm,0.3s
RUSJ Misakicho 5.91 22 *e*P **Pn** **21 53 03.5 -0.6**
RUSJ *e*S **Sn** **21 54 06.5 -4.1**
SHO Shikotan 6.27 32 P **Pn** **21 53 07.1 -2.0**
SHO *e*S Sn 21 54 12.9 -6.5
SHO smax smax
comp=N,34nm,0.2s
SHO smax smax
comp=E,139nm,0.2s
TEY Ternei 7.63 329 *e*P **Pn** **21 53 31.7 +4.0**
KUR Kuril'sk 7.81 31 P **Pn** **21 53 32.5 +2.3**
KUR *e*S **Sn** **21 54 52.2 -5.1**
KUR smax smax
comp=E,144nm,0.7s
KUR smax smax
comp=N,75nm,0.5s
YSS Yuzh-Sakhalins 8.31 3 Pn **Pn** **21 53 38.2 +1.2**
YSS Yuzh-Sakhalins 8.31 3 *e*P **Pn** **21 53 37.6 +0.6**
YSS *e*S **Sn** **21 55 09.8 +0.3**
YSS pmax pmax
comp=Z,20nm,0.7s
USA0B Ussuriysk Arra 9.46 309 Pn **Pn** **21 53 54.3 +1.5**
USA0B Ussuriysk Arra 9.46 309 P **Pn** **21 53 54.3 +1.5**
USRK Ussuriysk Ar. 9.46 309 P **Pn** **21 53 54.1 +1.2**
comp=Z,2.4nm,0.3s,baz=129,slow=16,SNR=40
USRK LR LR 21 57 20.8
comp=Z,278nm,19.5s,baz=148,slow=36
comp=Z,30nm,0.6s
JNU Nakatsue 10.71 242 Pn **Pn** **21 54 10.2 +0.2**
JNU Nakatsue 10.71 242 P **Pn** **21 54 11.2 +1.2**
comp=Z,0.5nm,0.3s,baz=45,slow=5.7,SNR=6.6
JNU LR LR 21 58 43.6
comp=Z,306nm,18.3s,baz=49,slow=39
comp=Z,7.5nm,0.6s
KSRS Korea Array 11.33 268 P **Pn** **21 54 21.1 +2.8**
comp=Z,0.6nm,0.3s,baz=81,slow=14,SNR=13
KSRS LR LR 21 58 15.6
comp=Z,215nm,20.5s,baz=100,slow=35
comp=Z,8.1nm,0.8s
KS19 Wonju Array Si 11.36 269 **Pn** **21 54 20.2 +1.4**
KLR Kul'dur 12.97 328 P **Pn** **21 54 40.5 -0.2**
comp=Z,0.2nm,0.3s,baz=130,slow=15,SNR=4.3
comp=Z,1.1nm,0.6s
KLR Kul'dur 12.97 328*ce*P Pn 21 54 45.7 +4.9
KLR pmax pmax
comp=Z,11nm,1.3s
ZEA Zeya 18.24 331 *e*P **P** **21 55 48.2 -0.5**
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=N,20nm,1.1s
ZEA pmax pmax
comp=Z,20nm,1.1s
XLT XiLinHaoTe 20.28 293 *e*P **P** **21 56 07.8 -3.4**
XLT pmax pmax
comp=Z,12nm,0.9s
MA2 Magadan 21.65 12 P **P** **21 56 27.0 +1.4**
comp=Z,16nm,1.0s,baz=182,slow=18,SNR=2.0
comp=Z,16nm,1.0s
LYN LuoYang 24.17 269 P **P** **21 56 51.2 -0.1**
LYN pmax pmax
comp=Z,37nm,0.5s
LYN pmax pmax
comp=Z,160nm,4.1s
YAK Yakutsk 24.65 346 *e*P **P** **21 56 55.0 -0.4**
YAK *e**PP **pP** **21 57 09.5 +2.7**
YAK *e* 21 57 28.9
YAK *e* 22 00 30.9
YAK *e*S **S** **22 01 12.6 -1.0**
YAK *e*SS **SnSn** **22 02 04.3 +2.2**
YAK *e* 22 07 51.6
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,14nm,1.6s
YAK pmax pmax
comp=E,5.0nm,2.2s
YAK pmax pmax
comp=Z,88nm,3.9s
YAK pmax pmax
comp=N,69nm,3.2s
YAK pmax pmax
comp=E,91nm,3.5s
YAK smax smax
comp=N,183nm,4.6s
YAK smax smax
comp=E,50nm,4.3s
SEY Seymchan 25.09 11 *i* P **P** **21 56 59.8 +0.4**
SEY pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 27.01 301 P **P** **21 57 16.0 -1.2**
ULN Ulaanbaatar 27.01 301*ce*P **P** **21 57 18.2 +1.1**
ULN pmax pmax
comp=Z,12nm,2.5s
SONM Songino Array 27.45 301 P **P** **21 57 21.1 0.0**
comp=Z,1.0nm,0.5s,baz=111,slow=9.0,SNR=10
SONM PcP **PcP** **22 00 38.7 0.0**
comp=Z,0.4nm,0.5s,baz=112,slow=2.4,SNR=2.3
comp=Z,1.0nm,0.5s
ENH Enshi 28.13 263 P **P** **21 57 25.6 -1.5**
H11N2 WAKE ISLAND Hy 28.49 124 T T 22 27 57.4
baz=316,slow=75,SNR=568
H11N1 WAKE ISLAND Hy 28.50 124 T T 22 27 48.5
baz=316,slow=75,SNR=649
H11N3 WAKE ISLAND Hy 28.51 124 T T 22 27 49.2
baz=316,slow=75,SNR=771
HKPS Hong Kong Po S 29.02 244 P **P** **21 57 31.9 -3.2**
H11S1 WAKE ISLAND Hy 29.26 126 T T 22 28 47.3
baz=318,slow=76,SNR=319
H11S3 WAKE ISLAND Hy 29.26 126 T T 22 28 50.4
baz=318,slow=76,SNR=172
H11S2 WAKE ISLAND Hy 29.28 126 T T 22 28 47.2
baz=318,slow=76,SNR=279
ZAK Zakamensk 29.80 306 *e*P **P** **21 57 41.2 -0.6**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 32.30 17 *i* P **P** **21 58 03.5 -0.1**
BILL pmax pmax
comp=Z,37nm,2.6s
GTA Gaotai 32.72 285 *e*P **P** **21 58 07.6 -0.1**
GTA pmax pmax
comp=Z,4.0nm,1.2s
TIXI Tiksi 33.77 352 P **P** **21 58 15.6 -0.7**
TIXI Tiksi 33.77 352*ce*P **P** **21 58 15.7 -0.6**
TIXI pmax pmax
comp=Z,8.0nm,2.5s
QIZ Qiongzhong 34.18 244 P **P** **21 58 20.7 +0.3**
KMI Kunming 35.84 260 ⇑P **P** **21 58 32.1 -2.9**
KMI pmax pmax
comp=Z,8.0nm,1.0s
GOMU GeErMu 37.39 281 P **P** **21 58 48.2 -0.1**
GOMU pmax pmax
comp=Z,22nm,0.8s
ZAA0 Zalesovo Array 41.31 311 P **P** **21 59 20.0 -0.2**
ZAA0 IAmb IAmb 21 59 20.7
comp=Z,5.1nm,0.7s
ZALV Zalesovo Beam 41.31 311 P **P** **21 59 20.2 0.0**
comp=Z,4.6nm,0.5s,baz=87,slow=8.2,SNR=19
ZALV PcP **PcP** **22 01 17.7 -0.4**
comp=Z,1.6nm,0.5s,baz=101,slow=5.2,SNR=3.7
comp=Z,4.6nm,0.5s
ZALV Zalesovo Beam 41.31 311 *i* P **P** **21 59 20.1 -0.2**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
PHRA Phrae 41.53 253 P **P** **21 59 22.7 +0.2**
F17K Baldwin Pennin 42.01 30 P **P** **21 59 27.6 +1.8**
F17K IAmb IAmb 21 59 45.9
comp=Z,10nm,1.1s
NRIK Noril'sk 42.07 334 P **P** **21 59 26.3 0.0**
NRIK Noril'sk 42.07 334 P **P** **21 59 26.3 0.0**
NRIK pmax pmax
comp=Z,4.0nm,1.1s
M16K Timber Creek 42.22 38 P **P** **21 59 29.3 +1.6**
M16K IAmb IAmb 21 59 31.1
comp=Z,7.7nm,1.1s
H17K Granite Mounta 42.26 32 P **P** **21 59 29.5 +1.6**
CHTO Chiang Mai 42.31 255 P **P** **21 59 28.9 0.0**
CHTO Chiang Mai 42.31 255 P **P** **21 59 28.9 0.0**
CHTO pmax pmax
comp=Z,3.0nm,0.9s
FAKI Fak Fak 42.37 195 P **P** **21 59 30.2 +0.9**
FAKI IAmb IAmb 21 59 44.9
comp=Z,5.9nm,0.9s
J17K VABM Dome 42.40 35 P **P** **21 59 29.9 +0.8**
J17K IAmb IAmb 21 59 49.1
comp=Z,8.9nm,1.1s
E18K Tukpahlearik C 42.48 29 P **P** **21 59 31.3 +1.7**
E18K IAmb IAmb 21 59 43.8
comp=Z,10nm,1.1s
CMAR Chiang Mai Arr 42.52 254 P **P** **21 59 30.7 +0.1**
comp=Z,0.6nm,0.3s,baz=46,slow=8.3,SNR=5.6
comp=Z,0.6nm,0.3s
CMAR Chiang Mai Arr 42.52 254 *i* P **P** **21 59 31.5 +0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
C18K Utukok River 42.56 27 P **P** **21 59 31.8 +1.5**
C18K IAmb IAmb 21 59 43.6
comp=Z,6.7nm,1.1s
K17K Iditarod 42.68 36 P **P** **21 59 33.4 +2.0**
K17K IAmb IAmb 21 59 51.0
comp=Z,8.9nm,1.1s
G18K Tagagawik 42.94 31 P **P** **21 59 34.9 +1.4**
H18K Honhosa River 42.95 32 P **P** **21 59 35.3 +1.8**
H18K IAmb IAmb 21 59 51.5
comp=Z,7.8nm,1.1s
M17K Holitna River 42.98 38 P **P** **21 59 36.4 +2.6**
N17K Nushagak Hills 43.06 39 P **P** **21 59 36.2 +1.8**
C19K Lookout Ridge 43.23 26 P **P** **21 59 38.0 +2.2**
LUWI Luwuk 43.36 209 P **P** **21 59 37.7 +0.4**
L18K Granite Mounta 43.39 37 P **P** **21 59 39.0 +1.9**
F19K Shaleruckik Mo 43.45 30 P **P** **21 59 38.8 +1.3**
G19K Purcell Mounta 43.61 31 P **P** **21 59 40.5 +1.7**
G19K IAmb IAmb 21 59 58.0
comp=Z,5.5nm,1.0s
D19K Kuna River 43.62 27 P **P** **21 59 40.4 +1.5**
D19K IAmb IAmb 21 59 57.7
comp=Z,13nm,1.1s
N18K Kilae Creek 43.70 39 P **P** **21 59 42.0 +2.3**
E19K Redstone River 43.76 29 P **P** **21 59 41.9 +1.9**
E19K IAmb IAmb 21 59 57.0
comp=Z,9.3nm,0.9s
H19K Roundabout Mou 43.79 32 P **P** **21 59 42.1 +1.9**
H19K IAmb IAmb 21 59 56.0
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 43.81 301 P **P** **21 59 40.5 -0.2**
MK31 Makanchi Array 43.81 301*ce*P **P** **21 59 40.9 +0.2**
MKAR Makanchi Array 43.81 301 P **P** **21 59 40.4 -0.3**
comp=Z,5.6nm,0.7s,baz=84,slow=8.5,SNR=30
MKAR PcP **PcP** **22 01 26.4 -0.3**
comp=Z,0.5nm,0.6s,baz=70,slow=4.7,SNR=1.7
comp=Z,5.6nm,0.7s
J19K Poorman 43.99 34 P **P** **21 59 43.3 +1.4**
J19K IAmb IAmb 22 00 01.7
comp=Z,6.2nm,1.1s
MAKZ Makanchi 44.02 301 P **P** **21 59 42.4 0.0**
MAKZ IAmb IAmb 21 59 46.1
comp=Z,6.4nm,0.9s
MAKZ Makanchi 44.02 301 P **P** **21 59 42.4 0.0**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
L19K White Mountain 44.24 37 P **P** **21 59 46.2 +2.3**
B20K Meade River 44.27 25 P **P** **21 59 45.6 +1.6**
B20K IAmb IAmb 21 59 46.6
comp=Z,13nm,1.1s
M19K Big River Lodg 44.45 37 P **P** **21 59 46.9 +1.2**
K20K Telida 44.65 35 P **P** **21 59 48.9 +1.7**
K20K IAmb IAmb 22 00 06.8
comp=Z,7.3nm,1.1s
J20K Nowinta River 44.65 34 P **P** **21 59 48.9 +1.8**
Q19K Cape Douglas, 44.86 41 P **P** **21 59 50.5 +1.6**
B21K Ikpikpuk River 45.06 26 P **P** **21 59 52.2 +1.9**
B21K IAmb IAmb 21 59 52.6
comp=Z,5.3nm,0.8s
G21K Allakaket 45.09 31 P **P** **21 59 52.4 +1.7**
E21K Killik River 45.12 28 P **P** **21 59 52.3 +1.4**
E21K IAmb IAmb 22 00 07.7
comp=Z,6.1nm,1.1s
H21K Melozitna Rive 45.31 32 P **P** **21 59 54.3 +1.9**
KURK Kurchatov 45.45 307 P **P** **21 59 53.4 -0.3**
KURK Kurchatov 45.45 307*ce*P **P** **21 59 53.3 -0.3**
KURK pmax pmax
comp=Z,24nm,0.8s
KURBB Kurchatov Arra 45.52 307 P **P** **21 59 53.9 -0.3**
comp=Z,18nm,0.6s,baz=82,slow=8.2,SNR=91
KURBB PcP **PcP** **22 01 32.0 -0.4**
comp=Z,0.4nm,0.4s,baz=79,slow=4.3,SNR=3.9
comp=Z,18nm,0.6s
CAST Castle Rocks 45.54 35 P **P** **21 59 56.0 +1.8**
B22K Teshekpuk Lake 45.58 25 P **P** **21 59 55.6 +1.2**
B22K IAmb IAmb 22 00 04.2
comp=Z,4.5nm,1.0s
D22K Ayikyak River 45.64 27 P **P** **21 59 56.7 +1.7**
D22K IAmb IAmb 22 00 10.9
comp=Z,4.8nm,0.9s
E22K Anaktuvuk Pass 45.89 28 P **P** **21 59 58.7 +1.8**
E22K IAmb IAmb 22 00 16.7
comp=Z,9.2nm,1.0s
MLY Manley 46.15 33 P **P** **22 00 00.8 +1.7**
MLY IAmb IAmb 22 00 14.8
comp=Z,6.3nm,1.2s
BRLK Bradley Lake 46.22 40 P **P** **22 00 03.3 +3.6**
D23K Nanushuk River 46.37 27 P **P** **22 00 02.7 +2.0**
D23K IAmb IAmb 22 00 17.3
comp=Z,4.5nm,1.1s
C23K Itkillik River 46.48 26 P **P** **22 00 03.3 +1.8**
C23K IAmb IAmb 22 00 04.2
comp=Z,7.7nm,1.0s
G23K Bananza Creek 46.49 30 P **P** **22 00 03.1 +1.4**
H23K Yukon River 46.66 32 P **P** **22 00 04.9 +1.8**
H23K IAmb IAmb 22 00 21.0
comp=Z,4.1nm,1.1s
E23K Chandalar 46.70 29 P **P** **22 00 05.4 +2.0**
E23K IAmb IAmb 22 00 19.4
comp=Z,8.0nm,0.9s
TOLK Toolik Lake Re 46.75 28 P **P** **22 00 05.5 +1.8**
GHO Glory Hole Cre 47.05 37 P **P** **22 00 07.0 +0.8**
GHO IAmb IAmb 22 00 08.9
comp=Z,4.4nm,0.9s
D24K Happy Valley 47.05 27 P **P** **22 00 07.8 +1.8**
D24K IAmb IAmb 22 00 21.6
comp=Z,6.0nm,0.9s
C24K Franklin Bluff 47.13 26 P **P** **22 00 08.3 +1.7**
E24K Your Creek 47.13 29 P **P** **22 00 08.7 +2.0**
E24K IAmb IAmb 22 00 22.6
comp=Z,3.0nm,0.8s
KNK Knik Glacier 47.30 38 P **P** **22 00 10.2 +2.1**
F24K Squaw Lake 47.34 29 P **P** **22 00 09.9 +1.6**
H24K Noodor Dome 47.35 32 P **P** **22 00 10.2 +1.7**
G24K Hadweenzic Riv 47.50 31 P **P** **22 00 11.6 +2.0**
POKR Poker Plat Res 47.55 33 P **P** **22 00 12.0 +2.1**
IL31 47.80 33 P **P** **22 00 13.2 +1.3**
ILAR Eielson Array 47.80 33 P **P** **22 00 12.7 +0.8**
comp=Z,1.2nm,0.6s,baz=265,slow=5.8,SNR=16
comp=Z,1.2nm,0.6s
IL03 Eielson Array 47.81 33 P **P** **22 00 13.3 +1.3**
D25K Kavik River 47.93 27 P **P** **22 00 14.5 +1.6**
D25K IAmb IAmb 22 00 15.8
comp=Z,3.2nm,0.8s
F25K Christian Rive 48.21 29 P **P** **22 00 17.0 +2.0**
TARG Taragay, Kyrgy 48.26 295 P **P** **22 00 16.3 0.0**
TARG IAmb IAmb 22 00 20.2
comp=Z,5.3nm,0.7s
TARG Taragay, Kyrgy 48.26 295 P **P** **22 00 16.3 0.0**
TARG pmax pmax
comp=Z,5.0nm,0.7s
PRP Porcupine Dome 48.34 32 P **P** **22 00 17.8 +1.6**
PRP IAmb IAmb 22 00 32.7
comp=Z,6.7nm,1.2s
KDJ Kajisay 48.58 296 P **P** **22 00 18.7 +0.3**
KDJ Kajisay 48.58 296 P **P** **22 00 18.7 +0.3**
KDJ pmax pmax
comp=Z,9.0nm,0.8s
BMAR Burnt Mountain 48.62 30 P **P** **22 00 20.4 +2.1**
F26K Sheenjek River 48.77 29 IAmb IAmb 22 00 36.4
comp=Z,6.8nm,1.1s
C27K Jago River 48.87 27 P **P** **22 00 22.5 +2.4**
C27K IAmb IAmb 22 00 41.7
comp=Z,5.4nm,1.1s
SCRK Sand Creek 49.12 34 P **P** **22 00 23.3 +1.1**
J26L Joseph Creek 49.25 33 P **P** **22 00 24.7 +1.6**
BOOM Boomskoye usch 49.33 297 P **P** **22 00 24.8 +0.6**
BOOM IAmb IAmb 22 00 33.6
comp=Z,2.8nm,0.8s
BOOM Boomskoye usch 49.33 297 P **P** **22 00 24.8 +0.6**
BOOM pmax pmax
comp=Z,3.0nm,0.8s
E27K Coleen River 49.71 28 P **P** **22 00 28.5 +2.0**
K27K Chicken 49.95 34 P **P** **22 00 29.9 +1.6**
K27K IAmb IAmb 22 00 31.4
comp=Z,4.0nm,1.0s
BVAR Borovoye Array 49.96 311 P **P** **22 00 28.4 -0.2**
comp=Z,4.0nm,0.5s,baz=68,slow=7.9,SNR=36
BVAR PcP **PcP** **22 01 47.9 -0.3**
comp=Z,2.8nm,0.5s,baz=82,slow=3.1,SNR=7.1
comp=Z,4.0nm,0.5s
BRVK Borovoye 50.02 312 P **P** **22 00 29.1 0.0**
BRVK Borovoye 50.02 312*ce*P **P** **22 00 28.9 -0.1**
BRVK pmax pmax
comp=Z,4.0nm,0.7s
KULM Kulim 50.17 239 P **P** **22 00 31.1 +0.5**
AAK Ala-Archa 50.29 297 P **P** **22 00 32.0 +0.5**
AAK IAmb IAmb 22 00 35.5
comp=Z,2.8nm,0.8s
AAK Ala-Archa 50.29 297 LR LR 22 24 57.0
comp=Z,43nm,18.9s,baz=82,slow=40
AAK Ala-Archa 50.29 297*ce*P **P** **22 00 32.1 +0.6**
AAK pmax pmax
comp=Z,3.0nm,0.9s
KSH Kashi 50.33 293 P **P** **22 00 35.7 +3.9**
KSH pP sP 22 00 52.4 +3.5
KSH pmax pmax
comp=Z,4.0nm,0.8s
F28M Old Crow 50.41 29 P **P** **22 00 33.6 +1.7**
E28M Babbage River 50.43 28 P **P** **22 00 33.8 +1.9**
IPM Ipoh 50.52 238 P **P** **22 00 32.8 -0.5**
HNR Honiara 50.61 157 LR LR 22 20 20.7
comp=Z,42nm,21.2s,baz=29,slow=34
I28M Miner Creek 50.66 32 P **P** **22 00 36.2 +2.3**
I28M IAmb IAmb 22 00 41.4
comp=Z,3.9nm,1.0s
E29M Blow River 51.05 28 P **P** **22 00 39.3 +2.7**
E29M IAmb IAmb 22 00 53.0
comp=Z,2.8nm,0.9s
H29M Whitestone 51.19 31 P **P** **22 00 39.4 +1.8**
G29M Pine Creek 51.22 30 P **P** **22 00 39.9 +2.0**
G29M IAmb IAmb 22 00 54.2
comp=Z,6.0nm,1.0s
ARSB Arslanbob 51.80 296 P **P** **22 00 43.3 +0.5**
ARSB Arslanbob 51.80 296 P **P** **22 00 43.3 +0.5**
ARSB pmax pmax
comp=Z,2.0nm,0.8s
M29M Somme Creek 51.83 36 P **P** **22 00 44.7 +2.1**
M29M IAmb IAmb 22 00 55.2
comp=Z,4.7nm,1.1s
G30M tAoh Zraii Nji 51.90 30 P **P** **22 00 44.5 +1.4**
I30M Mount Dempster 52.17 32 P **P** **22 00 47.4 +2.2**
I30M IAmb IAmb 22 01 05.1
comp=Z,5.5nm,0.8s
COEN Coen 52.34 179 P **P** **22 00 47.1 +0.4**
COEN IAmb IAmb 22 00 50.6
comp=Z,3.8nm,0.9s
M30M Minto, Yukon 52.56 35 P **P** **22 00 49.7 +1.8**
INK Inuvik 52.67 28 P **P** **22 00 49.2 +0.6**
INK Inuvik 52.67 28 P **P** **22 00 49.2 +0.6**
INK pmax pmax
comp=Z,3.0nm,1.0s
G31M Satah River 52.67 30 P **P** **22 00 49.6 +1.0**
KKAR Karatay Array 52.87 299 P **P** **22 00 49.7 -0.9**
KKAR IAmb IAmb 22 00 51.0
comp=Z,3.0nm,0.9s
KKAR Karatay Array 52.87 299 P **P** **22 00 49.7 -0.9**
KKAR pmax pmax
comp=Z,3.0nm,1.0s
H31M Peel River 52.88 31 P **P** **22 00 52.2 +1.9**
H31M IAmb IAmb 22 01 06.6
comp=Z,8.7nm,1.1s
SVE Sverdlovsk 54.36 318 *e*P **P** **22 01 01.7 +0.5**
SVE pmax pmax
comp=Z,15nm,0.9s
A36M Sachs Harbour 54.53 22 P **P** **22 01 04.5 +2.3**
A36M IAmb IAmb 22 01 22.1
comp=Z,4.7nm,0.9s
GAR Garm 54.58 295 IAmb IAmb 22 01 06.6
comp=Z,4.5nm,0.8s
NIL Nilore 54.72 288 P **P** **22 01 04.3 +0.2**
NIL Nilore 54.72 288 P **P** **22 01 04.4 +0.2**
NIL pmax pmax
comp=Z,13nm,0.5s
GSI Gunungsitoli 55.17 239 P **P** **22 01 08.5 +1.0**
SIMJ Simiganj 55.66 295 P **P** **22 01 10.9 -0.2**
SIMJ IAmb IAmb 22 01 13.1
comp=Z,5.9nm,0.9s
ARTI Arti 55.68 318 P **P** **22 01 10.4 -0.4**
ARTI Arti 55.68 318 LR LR 22 27 00.4
comp=Z,155nm,18.7s,baz=86,slow=38
ARTI Arti 55.68 318*c i*P **P** **22 01 10.3 -0.4**
ARTI *PP **sP** **22 01 26.6 -1.4**
ARTI S **S** **22 08 52.1 -1.6**
ARTI SS **SS** **22 12 37.7 -1.1**
ARTI pmax pmax
comp=Z,8.0nm,0.6s
MLOA Mauna Loa Obse 56.57 91 P **P** **22 01 20.7 +2.6**
WB0 Warramunga Arr 58.57 189 P **P** **22 01 31.1 -0.4**
WB2 Warramunga Arr 58.74 189 P **P** **22 01 32.4 -0.3**
WB2 IAmb IAmb 22 01 46.4
comp=Z,5.6nm,0.9s
WRA Warramunga Arr 58.75 189 P **P** **22 01 32.4 -0.3**
comp=Z,2.2nm,0.5s,baz=6.3,slow=6.7,SNR=32
comp=Z,2.2nm,0.5s
KIRV Kirov 59.34 323*ce*P **P** **22 01 36.6 +0.2**
RES Resolute Bay 60.88 15 P **P** **22 01 47.1 +0.3**
RES IAmb IAmb 22 02 06.2
comp=Z,2.0nm,0.9s
RES Resolute Bay 60.88 15 P **P** **22 01 47.1 +0.3**
RES pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 62.47 189 P **P** **22 01 58.1 +0.1**
comp=Z,0.5nm,0.6s,baz=15,slow=6.6,SNR=7.1
comp=Z,0.5nm,0.6s
ARCES ARCESS Array B 62.71 339 P **P** **22 01 58.9 -0.3**
comp=Z,2.7nm,0.8s,baz=52,slow=7.9,SNR=8.2
comp=Z,2.7nm,0.8s
BELG Belogornoye 63.05 317 LR LR 22 31 40.9
comp=Z,84nm,19.2s,baz=57,slow=38
OBN Obninsk 67.18 323⇑*e*P **P** **22 02 28.6 +0.2**
OBN *e*PPP PPP 22 06 32.5
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,84nm,16.0s
FINES FINESS Array B 67.68 332 P **P** **22 02 30.9 -0.5**
comp=Z,5.2nm,0.7s,baz=44,slow=9.0,SNR=24
comp=Z,5.2nm,0.7s
FINES FINESS Array B 67.68 332 *i* P **P** **22 02 31.2 -0.2**
FINES pmax pmax
comp=Z,5.0nm,0.7s
PINE Pine Mountain 68.82 50 P **P** **22 02 41.0 +1.8**
PINE IAmb IAmb 22 02 55.5

comp=Z,3.4nm,0.9s
KMRM Mail Ridge 69.06 55 P P 22 02 42.0 +1.4
SUMG Summit 69.07 0 P P 22 02 40.4 -0.1
SUMG IAmb IAmb 22 02 49.9
comp=Z,4.3nm,1.0s
SUMG Summit 69.07 0 P P 22 02 40.4 -0.1
SUMG pmax pmax
comp=Z,4.0nm,1.0s
VSU Vasula 69.38 330*ce***P P 22 02 42.6 +0.5**
VSU pmax pmax
comp=Z,10.0nm,1.3s
KIV Kislovodsk 70.33 311 P **P 22 02 48.3 0.0**
KIV Kislovodsk 70.33 311 *e***P P 22 02 47.8 -0.5**
KIV pmax pmax
comp=Z,15nm,1.0s
KBZ Khabaz 70.33 311 P **P 22 02 48.4 +0.2**
comp=Z,6.2nm,0.9s,baz=84,slow=3.7,SNR=14
comp=Z,6.2nm,0.9s
KBZ Khabaz 70.33 311*ce***P P 22 02 48.1 -0.1**
SHA1 Shidzhatmaz 70.47 311*ce***P P 22 02 49.0 -0.4**
MNK Minsk 71.51 326 *i* P **P 22 02 53.4 -1.8**
comp=E,14nm,0.5s
MNK *i* P **P 22 02 53.4 -1.8**
comp=N,17nm,0.8s
MNK *i* P **P 22 02 53.4 -1.8**
comp=Z,19nm,0.7s,baz=49
MNK *i* pP **sP 22 03 12.1 -0.5**
MNK *i* PP **PP 22 05 33.0 -0.7**
MNK *i* PPP PPP 22 07 16.8
MNK *i* S **S 22 12 08.0 -2.5**
MNK *i* sS sS 22 12 40.4 +8.8
MNK *i* SS **SS 22 16 45.6 +0.5**
MNK *i* SSS SSS 22 20 05.5
MNK *i* LQ LQ 22 29 35.6
MNK *i* LR LR 22 35 19.0
MNK *i* LRM MLR 22 36 32.6
comp=N,50nm,11.3s
MNK *i* LRM MLR 22 36 32.6
comp=Z,101nm,13.1s
MNK *i* LRM MLR 22 36 37.5
comp=E,40nm,11.0s
MNK Minsk 71.51 326 *i* P **P 22 02 53.4 -1.8**
MNK *i* *PP **sP 22 03 12.1 -0.5**
MNK *i* 22 05 32.9
MNK *i* PPP PPP 22 07 16.7
MNK *i* S **S 22 12 08.0 -2.5**
MNK *i* *SS sS 22 12 40.3 +8.7
MNK *i* SS **SS 22 16 45.6 +0.5**
MNK pmax pmax
comp=E,14nm,0.5s
MNK pmax pmax
comp=N,17nm,0.8s
MNK pmax pmax
comp=Z,19nm,0.7s
MNK MLR MLR
comp=N,50nm,11.0s
MNK MLR MLR
comp=Z,101nm,13.0s
MNK MLR MLR
comp=E,40nm,11.0s
NACGM Naroch 71.72 327 *e***P P 22 02 56.7 +0.3**
comp=E,478nm,1.1s
HFS Hagfors 72.88 336 P **P 22 03 02.9 -0.4**
comp=E,3.5nm,0.6s,baz=46,slow=6.4,SNR=26
comp=E,3.5nm,0.6s
NB2 NORSAR Subarra 72.94 337 P **P 22 03 03.3 -0.4**
comp=Z,3.2nm,0.7s,baz=36,slow=6.2
NB2 NORSAR Subarra 72.94 337 P **P 22 03 03.5 -0.2**
NOA NORSAR Array B 72.94 337 P **P 22 03 03.5 -0.2**
comp=Z,3.3nm,0.9s,baz=38,slow=6.1,SNR=12
comp=Z,3.3nm,0.9s
AKASG Malin Array Be 73.40 322 P **P 22 03 06.2 -0.3**
comp=Z,3.6nm,0.5s,baz=47,slow=6.0,SNR=32
comp=Z,3.6nm,0.5s
AKASG Malin Array Be 73.40 322*ce***P P 22 03 06.1 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKBB Malin Array Si 73.41 322 P **P 22 03 06.3 -0.2**
AKBB IAmb IAmb 22 03 06.8
comp=Z,6.8nm,0.8s
AKBB Malin Array Si 73.41 322*ce***P P 22 03 04.9 -1.6**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
KIEV Kiev 73.42 322 P **P 22 03 06.1 -0.5**
KIEV IAmb IAmb 22 03 06.8
comp=Z,6.1nm,0.8s
KIEV Kiev 73.42 322 P **P 22 03 06.1 -0.5**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
AK05 Malin Array Si 73.47 322 P **P 22 03 06.4 -0.5**
AK05 IAmb IAmb 22 03 06.8
comp=Z,5.2nm,0.6s
NVAR Mina Array Bea 73.53 54 P **P 22 03 07.8 0.0**
comp=Z,0.5nm,0.7s,baz=253,slow=6.2,SNR=3.6
comp=Z,0.5nm,0.7s
GURO Gurovymak-BITLI 73.88 307 P **P 22 03 09.4 -0.4**
GURO IAmb IAmb 22 03 11.1
comp=Z,5.0nm,1.1s
FXWY Fox Creek 74.71 46 P **P 22 03 16.6 +2.0**
BEL Belsk 76.44 327 *e***P P 22 03 24.5 +0.5**
GKP Gorka Klasztor 76.84 330 *e***P P 22 03 26.1 -0.1**
KWP Kalwaria Pacla 77.18 325 *e***P P 22 03 28.6 +0.4**
BUR08 Bucovina Ar. S 77.42 322 IAmb IAmb 22 03 30.7
comp=Z,2.4nm,0.7s
BNN Bunyan 77.50 310 P **P 22 03 30.1 -0.3**
KOLS Kolonicke sedl 77.88 324 *e***P P 22 03 30.8 -1.4**
KOLS Kolonicke sedl 77.88 324 *e***P P 22 03 30.8 -1.4**
STHS Stebnicka Huta 78.00 325 *e***P P 22 03 31.2 -1.6**
STHS Stebnicka Huta 78.00 325 *e***P P 22 03 31.2 -1.6**
OJC Ojcow 78.05 326 *e***P P 22 03 33.4 +0.3**
BR131 Keskin Array S 78.25 312 P **P 22 03 34.6 +0.1**
BR131 Keskin Array S 78.25 312 P **P 22 03 34.6 +0.1**
BR131 pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 78.25 312 P **P 22 03 34.7 +0.1**
BRTR Keskin Array B 78.25 312 P **P 22 03 34.4 -0.2**
comp=Z,1.2nm,0.4s,baz=83,slow=4.5,SNR=21
comp=Z,1.2nm,0.4s
BRTR Keskin Array B 78.25 312*ce***P P 22 03 34.7 +0.1**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
NIE Niedzica 78.42 326 *e***P P 22 03 36.5 +1.3**
LANS Liptovska Anna 78.98 326 *e***P P 22 03 39.3 +0.9**
LANS Liptovska Anna 78.98 326 *e***P P 22 03 39.2 +0.9**
KSP Ksiaz 79.06 328 *e***P P 22 03 39.2 +0.6**
MORC Moravsky Berou 79.35 327 P **P 22 03 40.7 +0.4**
MORC IAmb IAmb 22 03 41.6
comp=Z,5.2nm,0.9s
MORC Moravsky Berou 79.35 327 P **P 22 03 40.7 +0.4**
MORC pmax pmax
comp=Z,5.0nm,0.9s
DPC Dobruska-Polom 79.42 328 *e***P P 22 03 41.7 +1.0**
VYHS Vyhne 79.75 326 *e***P P 22 03 42.3 -0.2**
VYHS Vyhne 79.75 326 *e***P P 22 03 42.3 -0.2**
CLL Collm 80.01 330 IAmb IAmb 22 03 44.5
comp=Z,7.0nm,0.8s
CLL Collm 80.01 330⇑ *i***P P 22 03 43.7 -0.1**
CLL *e**PP **sP 22 04 01.0 -0.3**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 80.01 330⇑ *i***P P 22 03 43.7 -0.1**
comp=Z,7.0nm,0.8s
CLL *es*P **sP 22 04 01.0 -0.3**
CLL AMS AMS 22 22 00.0
comp=Z,200nm,19.5s
SRO Srobarova 80.49 325 *e***P P 22 03 47.6 +1.2**
SRO Srobarova 80.49 325 *e***P P 22 03 47.6 +1.2**
MODS Modra-Piesok 80.53 326 *e***P P 22 03 47.4 +0.7**
MODS Modra-Piesok 80.53 326 *e***P P 22 03 47.4 +0.7**
RAYN Ar Rayn 80.62 292 P **P 22 03 47.4 -0.2**
RAYN IAmb IAmb 22 03 47.6
comp=Z,2.3nm,0.6s
RAYN Ar Rayn 80.62 292 P **P 22 03 47.4 -0.2**
RAYN pmax pmax
comp=Z,2.0nm,0.6s
ZVC Zvikov 81.00 329 *e***P P 22 03 49.7 +0.5**
RONA Rosalia, Austr 81.47 326 *i* P **P 22 03 52.5 +0.8**
comp=Z,4.6nm,0.7s,SNR=5.3
CONA Conrad Observa 81.48 327 *e***P P 22 03 52.6 +0.7**
comp=Z,4.3nm,0.8s
KHC Kasperske Hory 81.49 329 P **P 22 03 52.3 +0.5**
KHC IAmb IAmb 22 03 53.1
comp=Z,4.3nm,0.8s
KHC Kasperske Hory 81.49 329 *e***P P 22 03 52.4 +0.5**
KHC Kasperske Hory 81.49 329*ce***P P 22 03 51.4 -0.4**
KHC pmax pmax
comp=Z,21nm,2.5s
MMAI Mount Meron Ar 81.54 306 P **P 22 03 52.5 +0.1**
comp=Z,2.1nm,0.6s,baz=47,slow=7.3,SNR=7.3
comp=Z,2.1nm,0.6s
GEC2 GERESS Array S 81.67 329 P **P 22 03 52.5 -0.3**
GERES GERESS Array B 81.67 329 P **P 22 03 52.9 +0.1**
comp=Z,1.1nm,0.6s,baz=20,slow=4.3,SNR=5.3
comp=Z,1.1nm,0.6s
EKA Eskdalemuir Ar 81.82 341 P **P 22 03 52.9 -0.5**
comp=Z,2.1nm,0.8s,baz=54,slow=5.7,SNR=2.5
comp=Z,2.1nm,0.8s
ARSA Arzberg 82.15 327 *e*PcP **P 22 03 56.5 +1.2**
comp=Z,2.8nm,0.8s
BIOA Bad Ischl, Aus 82.60 328 *e***P P 22 03 57.9 +0.3**
comp=Z,2.8nm,0.8s
SOKA Soboth 82.80 326 *i* P **P 22 03 58.8 0.0**
comp=Z,4.3nm,0.8s,SNR=6.2
OBKA Obir 83.14 327 *e***P P 22 04 00.2 -0.3**
comp=Z,3.4nm,0.9s
KBA Koelnbreinsper 83.21 328 *e*PcP **P 22 04 01.4 +0.4**
comp=Z,3.4nm,0.7s
LESA Schwarzleotal 83.21 328 *e*PcP **P 22 04 01.0 +0.1**
comp=Z,9.6nm,1.4s
MYKA Terra Mystica 83.44 327 P **P 22 04 01.8 -0.3**
comp=Z,3.6nm,0.6s
PRED Cave del Predi 83.62 327 IAmb IAmb 22 04 02.7
comp=Z,3.8nm,0.9s
ABTA Abfaltersbach 83.82 328 *e***P P 22 04 03.6 -0.4**
comp=Z,3.8nm,1.1s
MOTA Moosalm 83.92 329 *e*PcP **P 22 04 04.5 -0.1**
comp=Z,5.1nm,1.2s
RETA Reutte 83.94 329 PcP **P 22 04 04.8 +0.2**
comp=Z,7.8nm,1.2s,SNR=4.9
LIT Litokhoron 84.18 318 P **P 22 04 06.1 +0.2**
LIT Litokhoron 84.18 318 P **P 22 04 06.1 +0.2**
LIT pmax pmax
comp=Z,7.0nm,0.8s
BFO Black Forest 84.20 331 P **P 22 04 05.9 0.0**
BFO Black Forest 84.20 331 P **P 22 04 05.9 0.0**
BFO pmax pmax
comp=Z,8.0nm,1.1s
FETA Feichten 84.33 329 *e*PcP **P 22 04 06.3 -0.4**
comp=Z,4.2nm,1.1s
DAVA Damuels 84.45 330 P **P 22 04 05.0 -2.3**
comp=Z,8.7nm,1.5s
FUORN Ofenpass-Fuorn 84.84 329 **P 22 04 09.9 +0.5**
FW07 Weatherford 89.76 47 P **P 22 04 34.7 +1.6**
TORD Torodi Ar. Bea 116.62 316 PKP **PKPdf 22 10 17.7 -1.3**
comp=Z,0.2nm,0.5s,baz=23,slow=0.7,SNR=1.5
QSPA South Pole Qui 128.39 180 PKP **PKPdf 22 10 38.9 -1.1**
comp=Z,0.6nm,0.5s,baz=288,slow=2.5,SNR=6.6
SNAA Sanae 142.47 197 PKhKP PKPpre 22 11 00.9
comp=Z,0.8nm,0.7s,baz=202,slow=4.2,SNR=6.2
LPAZ La Paz 145.33 58 PKPbc **PKPbc 22 11 12.5 -0.8**
comp=Z,1.1nm,0.5s,baz=336,slow=2.7,SNR=4.9
H03N2 Juan Fernandez 146.54 94 T T 00 55 50.8
baz=297
H03N3 Juan Fernandez 146.55 94 T T 00 55 51.2
baz=297
H03N1 Juan Fernandez 146.56 94 T T 00 55 52.3
baz=297

*IDC **08** 22:02:08.2±2.7, 43°.36N×105°.27W, h0km, mb4.3/1, mbtmp4.1/3, ML3.7/2, MS3.9/1, Error ellipse: s-maj=65.3km s-min=8.7km az=155.0*
*NEIC **08** 22:02:09.2±1.8, 43°.74N±0°.02×105°.34W±0°.03, h0km±1km, ML3.4/80, Error ellipse: s-maj=4.2km s-min=2.8km az=265.0*
ISC 08 22:02:09.2±1.0, **43°.74N**±0°.06×**105°.29W**±0°.05, **h0**km, **n28**, σ1§**21**/17, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.99**	**67**	Pg	**Pb**	**22 02 29.6**	**+0.2**
K22A	**Casper**	**1.41**	**220**	Pg	**Pb**	**22 02 35.7**	**-0.8**
K22A				IAML		22 02 58.0	
comp=E,506nm,0.3s							
N23A	**Red Feather La**	**2.88**	**190**	Pn	**Pn**	**22 02 57.9**	**+1.3**
LAO	**LASA Array**	**3.03**	**348**	Pn	**Pn**	**22 02 56.0**	**-2.4**
LAO				IAML		22 03 46.8	
comp=E,176nm,0.8s							
LAO				IAML		22 03 55.1	
comp=E,185nm,0.7s							
RLMT	**Red Lodge**	**3.17**	**297**	Pn	**Pn**	**22 03 01.7**	**+1.2**
BRIGG	**Briggsdale**	**3.23**	**167**		**Pn**	**22 03 01.8**	**+0.5**
BRIGG				IAML		22 04 45.8	
comp=E,75nm,2.1s							
PD31	**Pinedale Array**	**3.26**	**254**		**Pn**	**22 03 03.5**	**+1.6**
PDAR	**Pinedale Array**	**3.26**	**254**		**Pn**	**22 03 03.2**	**+1.4**
PDAR	**Pinedale Array**	**3.26**	**254**	Pn	**Pn**	**22 03 03.5**	**+1.6**
comp=E,3.6nm,0.3s,baz=69,slow=16,SNR=83							
PDAR				Lg	Lg	22 03 47.5	
comp=E,18nm,0.3s,baz=71,slow=24,SNR=21							
PDAR				LR	LR	22 03 55.3	
comp=E,19nm,21.8s,baz=358,slow=34							
comp=E,3.4nm,0.3s							
YNE	**Yellowstone No**	**3.61**	**292**		**Pn**	**22 03 07.7**	**+1.1**
YNE				IAML		22 04 03.4	
comp=E,64nm,0.3s							
YNE				IAML		22 04 06.9	
comp=N,93nm,0.4s							
YMP	**Mirror Lake Pl**	**3.64**	**288**	Pn	**Pn**	**22 03 07.7**	**+0.7**
YMP				IAML		22 04 13.6	
comp=E,112nm,0.9s							
YMP				IAML		22 04 14.4	
comp=N,86nm,0.7s							
OGNE	**Ogallala**	**3.69**	**138**	Pn	**Pn**	**22 03 07.5**	**0.0**
OGNE				IAML		22 04 13.2	
comp=N,95nm,1.1s							
OGNE				IAML		22 04 17.2	
comp=N,72nm,1.2s							
H17A	**Grant Village**	**3.87**	**282**		**Pn**	**22 03 09.5**	**-0.6**
FLWY	**Flagg Ranch**	**3.92**	**277**	IAML		22 04 28.2	
comp=N,66nm,1.9s							
FLWY				IAML		22 04 28.2	
comp=N,67nm,2.5s							
SNOW	**Snow King Moun**	**3.98**	**268**	Pn	**Pb**	**22 03 19.4**	**-0.9**
SNOW				IAML		22 04 28.7	
comp=N,57nm,1.3s							
SNOW				IAML		22 04 30.5	
comp=N,50nm,1.1s							
TPAW	**Teton Pass**	**4.12**	**269**	IAML		22 04 36.5	
comp=N,37nm,0.9s							
YMR	**Madison River**	**4.18**	**285**	IAML		22 04 31.4	
comp=N,77nm,0.9s							
YMR				IAML		22 04 42.0	
comp=E,48nm,1.1s							
O20A	**White River Ci**	**4.22**	**212**	Pn	**Pn**	**22 03 15.5**	**+0.6**
O20A				IAML		22 04 33.4	
comp=E,59nm,1.0s							
O20A				IAML		22 05 03.2	
comp=N,63nm,2.1s							
AHID	**Auburn Hatcher**	**4.35**	**259**	IAML		22 04 33.2	
comp=N,51nm,0.8s							
AHID				IAML		22 04 47.4	
comp=N,42nm,0.9s							
YHL	**Hebgen Lake**	**4.37**	**287**	IAML		22 04 40.8	
comp=E,43nm,1.9s							
YHL				IAML		22 04 42.0	
comp=N,33nm,1.4s							
RDMU	**Red Mountain**	**4.48**	**227**	IAML		22 04 38.0	
comp=E,32nm,2.0s							
RDMU				IAML		22 04 39.2	
comp=N,30nm,0.8s							
HWUT	**Hardware Ranch**	**5.09**	**247**	IAML		22 04 51.0	
comp=N,23nm,1.1s							
HWUT				IAML		22 05 01.0	
comp=N,29nm,2.1s							
BSUT	**Blindstream Ca**	**5.17**	**234**	IAML		22 05 01.9	
comp=E,17nm,0.9s							
I10CA	**LAC DU BONNET**	**9.05**	**41**	I	I	22 59 50.0	
baz=221,slow=343,SNR=3.2							
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn	**Pn**	**22 04 23.0**	**+0.5**
comp=E,3.3nm,0.3s,baz=230,slow=11,SNR=18							
ULM				Lg	Lg	22 06 57.2	
comp=E,0.5nm,0.3s,baz=147,slow=19,SNR=2.9							
comp=E,5.6nm,0.3s							
ARCES	**ARCESS Array B**	**61.42**	**18**	P	**P**	**22 12 27.2**	**+0.5**
comp=E,3.6nm,1.0s,baz=327,slow=7.6,SNR=1.8							
comp=E,3.6nm,1.0s							
MMAI	**Mount Meron Ar**	**95.61**	**32**	LR	LR	23 04 31.0	
comp=E,108nm,18.4s,baz=252,slow=39							
EIL	**Elat**	**98.38**	**34**	LR	LR	23 06 37.5	
comp=E,47nm,18.7s,baz=262,slow=39							

AFAD 08 22:06:32.1±0.0, **38°.98N**×**31°.70E**, **h2**km±1km, **ML1.4, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTIK	**Konya-Celtik**	**0.07**	**318**	P	Pg	22 06 33.7	+0.2
UCKU	**Afyonkarahisar**	**0.40**	**212**	P	Pg	22 06 40.6	+0.8
UCKU				S	Sg	22 06 46.9	+1.7
BYAT	**Afyon-Bayat**	**0.56**	**267**	P	Pb	22 06 43.7	-0.9
KDHN	**Kadinhani**	**0.56**	**144**	P	Pb	22 06 44.2	-0.5
KDHN				S	Sb	22 06 51.9	-1.3
KURO	**Afyon-Bolvadin**	**0.64**	**248**	P	Pg	22 06 45.1	+0.6
KURO				S	Sg	22 06 53.2	+0.4
YVAC	**Isparta, Yalva**	**0.79**	**207**	P	Pg	22 06 46.8	-0.5
SGAZ	**Eskisehir, Sey**	**0.86**	**310**	P	Pg	22 06 49.0	+0.4
SGAZ				S	Sg	22 06 57.3	-2.5
SGAZ				*i* AML	AML	22 07 04.0	
comp=E,13nm,0.3s							

*NIC **08** 22:07:42.8, 35°.01N×33°.92E, h50km±1km, MI2.3/10*
*GII **08** 22:07:42.8±0.3, 34°.93N±0°.02×33°.962E±0°.007, h30km, Mws2.4, confirmed*
*GRAL **08** 22:07:43.8±0.3, 34°.82N×34°.24E, h0km±3km, MD3.0*
*ISK **08** 22:07:44.9, 35°.26N×33°.72E, h20km, ML2.2/18*
*AFAD **08** 22:07:46.1±0.0, 35°.39N×34°.15E, h54km±3km, ML2.1*
ISC 08 22:07:42.4±1.2, **34°.99N**±0°.02×**33°.99E**±0°.03, **h52**km±6km, **n109**, σ0§**82**/134, **2C-4D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAR1C	**Paralimni Civi**	**0.04**	**342**	P	**Pn**	**22 07 50.4**	**+0.1**
PAR1C				S	**Sn**	**22 07 56.8**	**+0.9**
PARAL	**Paralimni**	**0.04**	**90**⇑ *i* P		**Pn**	**22 07 50.5**	**+0.2**
PARAL				S	**Sn**	**22 07 56.8**	**+0.9**
PARAL				AML	AML	22 07 56.9	
2.0nm,0.3s							
PARAL				AML	AML	22 07 60.0	
1.0nm,0.5s							
MVOU	**Mavrovouni**	**0.30**	**274**⇑ *i* P		**Pn**	**22 07 51.2**	**-0.4**
MVOU				S	**Sn**	**22 07 57.8**	**-0.5**
MVOU				AML	AML	22 07 58.3	
1.6nm,0.2s							
MVOU				AML	AML	22 07 59.9	
1.2nm,0.2s							
LAR1C	**Larnaka City C**	**0.32**	**257**	P	**Pn**	**22 07 51.7**	**-0.1**
LAR1C				S	**Sn**	**22 07 58.6**	**+0.1**
AKIN	**Akıncılar- Kıb**	**0.43**	**273**	Pg	**Pn**	**22 07 52.4**	**-0.6**
AKIN				Sg	**Sn**	**22 07 57.9**	**-2.7**
ATHAL	**Athalassa**	**0.51**	**287**	P	**Pn**	**22 07 53.8**	**-0.1**
ATHAL				S	**Sn**	**22 08 03.2**	**+1.0**
ATHAL				AML	AML	22 08 08.8	
1.3nm,0.3s							
ATHAL				AML	AML	22 08 09.7	
1.1nm,0.3s							
CSS	**Mathiatis**	**0.54**	**267**	Pg	**Pn**	**22 07 53.6**	**-0.7**
CSS				Sg	**Sn**	**22 08 01.4**	**-1.5**
CSS	**Mathiatis**	**0.54**	**267**	P	**Pn**	**22 07 53.7**	**-0.7**
CSS	**Mathiatis**	**0.54**	**267**	P	**Pn**	**22 07 53.5**	**-0.7**
CSS	**Mathiatis**	**0.54**	**267**⇓ *i* P		**Pn**	**22 07 53.7**	**-0.7**
CSS				S	**Sn**	**22 08 01.8**	**-1.1**
CSS				AML	AML	22 08 03.7	
0.9nm,0.5s							
CSS				AML	AML	22 08 04.5	
0.6nm,0.5s							
EREN	**Erenkoy**	**0.56**	**15**	P	**Pn**	**22 07 55.4**	**+0.9**
EREN	**Erenkoy**	**0.56**	**15**	Pg	**Pn**	**22 07 54.9**	**+0.5**
ASGA	**Asgata**	**0.65**	**251**⇓ *e* P		**Pn**	**22 07 55.3**	**-0.2**
ASGA				S	**Sn**	**22 08 05.2**	**+0.1**
ASGA				AML	AML	22 08 08.7	
0.5nm,0.5s							
ASGA				AML	AML	22 08 10.3	
0.4nm,0.3s							
TROD	**Troodos**	**0.93**	**267**⇓ *e* P		**Pn**	**22 07 59.5**	**+0.1**
TROD				S	**Sn**	**22 08 14.0**	**+2.2**
TROD				AML	AML	22 08 18.5	
0.1nm,0.3s							
TROD				AML	AML	22 08 20.6	
0.2nm,0.4s							
APOL	**The Sanctuary**	**0.98**	**251**⇓ *i* P		**Pn**	**22 07 59.8**	**-0.1**
APOL				S	**Sn**	**22 08 12.1**	**-0.7**
APOL				AML	AML	22 08 15.3	
0.2nm,0.2s							
APOL				AML	AML	22 08 18.8	
0.2nm,0.1s							
ALFC	**Alefka**	**1.15**	**278**	P	**Pn**	**22 08 01.8**	**-0.4**
ALFC				S	**Sn**	**22 08 16.6**	**-0.4**
ALFC				AML	AML	22 08 21.2	
0.2nm,0.4s							
ALFC				AML	AML	22 08 21.6	
0.1nm,0.2s							
NATA	**Nata**	**1.19**	**260**	P	**Pn**	**22 08 03.2**	**+0.5**
NATA				S	**Sn**	**22 08 18.0**	**+0.2**
NATA				AML	AML	22 08 29.4	
0.1nm,0.5s							
NATA				AML	AML	22 08 30.3	
0.3nm,0.6s							
TISA	**Tisan-Mersin**	**1.19**	**348**	Pg	**Pn**	**22 08 02.8**	**0.0**
AKK2	**Akkuyu-Mersin**	**1.20**	**343**	Pg	**Pn**	**22 08 02.7**	**-0.1**
AKK1	**Akkuyu-Mersin**	**1.21**	**342**	Pg	**Pn**	**22 08 02.8**	**-0.1**
AKKU	**Akkuyu-Mersin**	**1.22**	**343**	Pg	**Pn**	**22 08 03.1**	**0.0**
KARG	**Kargicak-Mersi**	**1.23**	**349**	Pg	**Pn**	**22 08 03.4**	**+0.1**
YESI	**Yesilovacik-Me**	**1.23**	**347**	Pg	**Pn**	**22 08 03.3**	**0.0**
GULN	**MERSIN_Gulnar**	**1.24**	**343**	P	**Pn**	**22 08 03.4**	**0.0**
GULN				S	**Sn**	**22 08 18.7**	**-0.4**
YORU	**Yoruktepe-Mers**	**1.25**	**338**	Pg	**Pn**	**22 08 03.4**	**-0.2**
IKL	**Isikli**	**1.27**	**349**	Pg	**Pn**	**22 08 03.9**	**+0.1**
OREN	**Orenkoy-Mersin**	**1.29**	**340**	Pg	**Pn**	**22 08 03.9**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.35**	**328**	Pg	**Pn**	**22 08 04.6**	**-0.3**
AKMS	**Akamas**	**1.36**	**271**	P	**Pn**	**22 08 05.5**	**+0.5**
AKMS				S	**Sn**	**22 08 21.9**	**-0.1**
AKMS				AML	AML	22 08 27.5	
0.1nm,0.2s							
AKMS				AML	AML	22 08 33.3	
0.1nm,0.5s							
KEBE	**Keben-Mersin**	**1.47**	**351**	Pn	**Pn**	**22 08 06.9**	**+0.3**
KIZK	**Mersin**	**1.49**	**5**	P	**Pn**	**22 08 07.3**	**+0.6**
KIZK	**Mersin**	**1.49**	**5**	Pn	**Pn**	**22 08 07.8**	**+1.0**
BERE	**Bereket-Mersin**	**1.49**	**335**	Pn	**Pn**	**22 08 06.7**	**-0.2**
TEVE	**Tevekalti-Mers**	**1.51**	**343**	Pn	**Pn**	**22 08 06.9**	**-0.2**
BHL	**Bhannes**	**1.75**	**128**	*e* P	**Pn**	**22 08 09.8**	**-0.7**
BHL				*e*S	**Sn**	**22 08 29.4**	**-2.3**
HWQ	**Hawqa**	**1.76**	**113**	*e* P	**Pn**	**22 08 10.4**	**-0.3**
DQRL	**Deir Qamar**	**1.83**	**134**	*e* P	**Pn**	**22 08 11.2**	**-0.4**
GAZI	**Gazipasa**	**1.84**	**313**	P	**Pn**	**22 08 11.1**	**-0.5**
GAZI				S	**Sn**	**22 08 31.4**	**-2.3**
GAZI	**Gazipasa**	**1.84**	**313**	Pn	**Pn**	**22 08 11.7**	**+0.1**
BEIL	**Beino**	**1.86**	**103**	*e* P	**Pn**	**22 08 12.2**	**+0.3**
ERMK	**Ermenek**	**1.86**	**332**	P	**Pn**	**22 08 13.6**	**+1.5**
ERMK				S	**Sn**	**22 08 33.3**	**-1.2**
ERMK				*i* AML	AML	22 08 37.0	
comp=E,26nm,0.8s							
MERS	**Mersin**	**1.92**	**13**	Pn	**Pn**	**22 08 13.9**	**+1.2**
ZAHL	**Zahle**	**1.93**	**125**	*e* P	**Pn**	**22 08 13.0**	**+0.1**
ZAHL				*e*S	**Sn**	**22 08 34.5**	**-1.7**
RCY	**Rachaya**	**2.14**	**134**	*e* P	**Pn**	**22 08 15.8**	**0.0**
RCY				*e*S	**Sn**	**22 08 39.4**	**-1.7**
HNTI	**Hanita**	**2.14**	**152**	P	**Pn**	**22 08 17.0**	**+1.3**
HNTI	**Hanita**	**2.14**	**152**	S	**Sn**	**22 08 41.1**	**0.0**
HNTI	**Hanita**	**2.14**	**152**	P	**Pn**	**22 08 15.8**	**+0.1**
SHBL	**Chebaa**	**2.19**	**138**	*e* P	**Pn**	**22 08 16.6**	**0.0**
NATI	**Neve Ativ**	**2.25**	**140**	P	**Pn**	**22 08 17.9**	**+0.7**
NATI				S	**Sn**	**22 08 43.4**	**-0.4**
NATI	**Neve Ativ**	**2.25**	**140**	S	**Sn**	**22 08 43.2**	**-0.6**
NATI	**Neve Ativ**	**2.25**	**140**	P	**Pn**	**22 08 17.4**	**+0.2**
GEM	**Giv'at Ha'Em**	**2.26**	**142**	S	**Sn**	**22 08 43.9**	**0.0**
GEM	**Giv'at Ha'Em**	**2.26**	**142**	P	**Pn**	**22 08 17.3**	**+0.1**
GEM	**Giv'at Ha'Em**	**2.26**	**142**	P	**Pn**	**22 08 17.7**	**+0.4**
MMC1	**Mount Meron ar**	**2.28**	**149**	P	**Pn**	**22 08 17.8**	**+0.1**
MMA0B	**Mount Meron ar**	**2.30**	**149**	S	**Sn**	**22 08 44.7**	**-0.2**
MMA0B	**Mount Meron ar**	**2.30**	**149**	P	**Pn**	**22 08 17.8**	**-0.1**
MMA3	**Mount Meron ar**	**2.30**	**149**	P	**Pn**	**22 08 17.7**	**-0.2**
MMA2	**Mount Meron ar**	**2.30**	**149**	P	**Pn**	**22 08 17.7**	**-0.3**
MMB1	**Mount Meron ar**	**2.30**	**149**	P	**Pn**	**22 08 17.9**	**0.0**
KKBE	**Karaman, Kazim**	**2.38**	**339**	P	**Pn**	**22 08 21.2**	**+2.1**
KKBE				S	**Sn**	**22 08 47.8**	**+0.7**
KERG	**Konya-Eregli**	**2.42**	**3**	P	**Pn**	**22 08 21.7**	**+2.1**
KERG				S	**Sn**	**22 08 47.1**	**-0.9**
RHAN	**Hatay/Reyhanl**	**2.47**	**59**	P	**Pn**	**22 08 20.4**	**+0.2**
RHAN				S	**Sn**	**22 08 47.2**	**-2.0**
RHAN				*i* AML	AML	22 08 50.0	

comp=N,13nm,0.2s
RHAN *i* AML AML 22 08 51.0
comp=E,9.6nm,0.2s
OFRI `Ofer 2.51 160 P **Pn 22 08 21.0 +0.3**
OFRI `Ofer 2.51 160 S **Sn 22 08 49.7 -0.4**
OFRI `Ofer 2.51 160 P **Pn 22 08 20.1 -0.7**
KSHT Keshet 2.51 142 S **Sn 22 08 50.7 +0.4**
KSHT Keshet 2.51 142 P **Pn 22 08 21.1 +0.2**
HASA Hatay-Hassa-Ha 2.68 48 P **Pn 22 08 23.3 +0.2**
HASA S **Sn 22 08 52.9 -1.4**
HASA *i* AML AML 22 08 59.0
comp=E,15nm,0.2s
HASA *i* AML AML 22 09 03.0
comp=N,14nm,0.3s
SHMJ Saham 2.70 146 P **Pn 22 08 24.6 +1.2**
MMLI Mount Malkishu 2.81 155 P **Pn 22 08 25.1 +0.1**
MMLI Mount Malkishu 2.81 155 S **Sn 22 08 57.5 -0.1**
SLTI Sal'it 2.88 162 P **Pn 22 08 28.3 +2.4**
SLTI Sal'it 2.88 162 P **Pn 22 08 26.0 +0.1**
SLTI Sal'it 2.88 162 S **Sn 22 08 59.4 +0.1**
QRNJ Al-Qirein 2.96 153 P **Pn 22 08 28.4 +1.5**
HMDT Nahal Hemdat 3.02 154 P **Pn 22 08 28.7 +0.9**
HMDT Nahal Hemdat 3.02 154 S **Sn 22 09 02.8 +0.1**
KUZU Kuzuini 3.07 54 P **Pn 22 08 28.5 +0.1**
KAMA Osmaniye 3.08 44 P **Pn 22 08 29.1 +0.5**
SALP Salfit 3.08 161 P **Pn 22 08 29.1 +0.4**
SALP Salfit 3.08 161 P **Pn 22 08 28.8 +0.2**
SALP Salfit 3.08 161 S **Sn 22 09 04.3 0.0**
UJAP Al Uja 3.27 158 P **Pn 22 08 31.3 +0.1**
UJAP Al Uja 3.27 158 S **Sn 22 09 08.8 0.0**
AMAZ Amatzia 3.54 167 P **Pn 22 08 35.2 +0.4**
AMAZ Amatzia 3.54 167 S **Sn 22 09 15.6 +0.1**
DSI Dead Sea 3.61 161 P **Pn 22 08 35.7 -0.1**
DSI Dead Sea 3.61 161 S **Sn 22 09 16.7 -0.4**
YTIR Yattir 3.74 165 S **Sn 22 09 20.6 0.0**
YTIR Yattir 3.74 165 P **Pn 22 08 37.9 +0.2**
MSBI Mazada 3.85 162 P **Pn 22 08 39.2 +0.1**
MSBI Mazada 3.85 162 S **Sn 22 09 22.7 -0.3**
GHAJ Ghor Haditha 3.91 160 P **Pn 22 08 40.0 +0.1**
GHAJ Ghor Haditha 3.91 160 S **Sn 22 09 24.7 +0.2**
KZIT Kziot 4.09 175 P **Pn 22 08 42.7 +0.2**
KZIT Kziot 4.09 175 S **Sn 22 09 27.7 -1.4**
PRNI Paran 4.71 169 P **Pn 22 08 52.1 +1.2**
PRNI Paran 4.71 169 S **Sn 22 09 44.3 +0.1**
PRNI Paran 4.71 169 P **Pn 22 08 51.1 +0.2**
KRMI Paran Flat 4.90 173 P **Pn 22 08 53.9 +0.3**
KRMI Paran Flat 4.90 173 S **Sn 22 09 48.9 -0.1**
HRFI Mount Harif 5.02 170 P **Pn 22 08 56.8 +1.6**
HRFI Mount Harif 5.02 170 P **Pn 22 08 55.7 +0.4**
HRFI Mount Harif 5.02 170 S **Sn 22 09 51.3 -0.7**
MBRI Mt Berech 5.24 171 P **Pn 22 08 58.6 +0.3**
MBRI Mt Berech 5.24 171 S **Sn 22 09 57.5 0.0**
EIL Elat 5.37 171 P **Pn 22 09 00.5 +0.5**
EIL Elat 5.37 171 S **Sn 22 10 00.7 +0.2**

*TEH **08** 22:08:17.9, 32.°74N×47.°54E, h12km±716km, ML2.5*
*ISN **08** 22:08:18.3±0.7, 32.°73N×47.°61E, h29km±4km, ML2.7*
ISC 08 22:08:18.7±3.8, 32.°73N±0.°07×47.°61E±0.°07, h13km±29km, n8, σ9°68/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDOB	**Doab**	**1.16**	**24**	Pg	**Pn**	**22 08 40.0**	**-0.8**
IDOB				Sg	**Sn**	**22 08 57.2**	**+0.5**
IBDR	**Badra**	**1.46**	**286**	*e*Pg	**Pn**	**22 08 45.0**	**+0.2**
IBDR				*e*Sg	**Sb**	**22 09 04.0**	**-0.2**
IBDR				AML	AML	22 09 08.1	
	comp=E,71nm,0.2s						
IBDR				AML	AML	22 09 16.2	
	comp=N,72nm,0.6s						
ILBA	**Ilam Banvizeh**	**1.48**	**308**	Pg	**Pn**	**22 08 44.5**	**-0.6**
RAFI	**Al-Rafai**	**1.61**	**232**	*e*Pg	**Pn**	**22 08 47.0**	**+0.2**
RAFI				*e*Sg	**Sb**	**22 09 09.0**	**+0.4**
RAFI				AML	AML	22 09 18.7	
	comp=N,157nm,0.6s						
RAFI				AML	AML	22 09 19.0	
	comp=E,192nm,0.6s						
KCHF	**Cheshme Sefid,**	**1.61**	**343**	Pg	**Pn**	**22 08 47.4**	**+0.3**
KCHF				Sg	**Sb**	**22 09 10.1**	**+1.2**
HSAM	**Samen**	**1.70**	**29**	Pg	**Pb**	**22 08 49.9**	**-0.1**
IGHG	**Ghaleghazi**	**1.82**	**332**	Pg	**Pb**	**22 08 51.8**	**-0.2**
BHD	**Baghdad**	**2.76**	**282**	*e*Pn	**Pn**	**22 09 03.0**	**+0.3**
BHD				*e*Sn	**Sn**	**22 09 35.0**	**-0.9**

*ATH **08** 22:23:04.0, 37.°60N×20.°48E, h6km±2km, ML3.6/11, Error ellipse: s-maj=3.7km s-min=1.1km az=36.0*
*THE **08** 22:23:05.0, 37.°65N×20.°53E, h12km±1km, ML3.7/8, Error ellipse: s-maj=1.9km s-min=0.6km az=53.0*
ISC 08 22:23:03.7±1.7, 37.°61N±0.°06×20.°46E±0.°06, h12km±10km, n49, σ9°98/64, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.29**	**79**	P	**Pg**	**22 23 09.9**	**+0.3**
KRI1				S	**Sg**	**22 23 13.4**	**-0.1**
LTHK	**Lithakia**	**0.31**	**71**	P	**Pg**	**22 23 10.2**	**+0.1**
LTHK				S	**Sg**	**22 23 13.8**	**-0.5**
	43μm,0.2s						
LTHK	**Lithakia**	**0.31**	**71**	P	**Pg**	**22 23 10.1**	**0.0**
LTHK				S	**Sg**	**22 23 13.9**	**-0.4**
LTHK				AML	AML	22 23 14.0	
	comp=E,56739μm,0.1s						
LTHK				AML	AML	22 23 14.3	
	comp=N,84241μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.51**	**11**	P	**Pg**	**22 23 13.7**	**-0.1**
PSDA				S	**Sg**	**22 23 21.2**	**+0.6**
	comp=N,13μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.51**	**11**	P	**Pg**	**22 23 13.9**	**+0.1**
PSDA				S	**Sg**	**22 23 21.1**	**+0.6**
RTZL	**Ratzakli, Kefa**	**0.53**	**28**	P	**Pg**	**22 23 13.8**	**-0.2**
RTZL				S	**Sg**	**22 23 20.9**	**-0.1**
	comp=N,14μm,0.2s						
VLS	**Valsamata**	**0.58**	**10**	P	**Pg**	**22 23 14.7**	**-0.3**
VLS				S	**Sg**	**22 23 23.0**	**+0.4**
	comp=N,10μm,0.3s						
VLS	**Valsamata**	**0.58**	**10**	P	**Pg**	**22 23 14.9**	**-0.1**
VLS				S	**Sg**	**22 23 23.2**	**+0.5**
VLS				AML	AML	22 23 25.6	
	comp=N,14166μm,0.2s						
VLS				AML	AML	22 23 26.4	
	comp=E,24011μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.59**	**358**	P	**Pg**	**22 23 16.0**	**+0.8**
LXRA				S	**Sb**	**22 23 24.2**	**-0.1**
DMLN	**Damoulianata-K**	**0.63**	**354**	P	**Pg**	**22 23 16.9**	**+0.9**
DMLN				S	**Sb**	**22 23 26.3**	**+0.7**
	comp=E,17μm,0.5s						
DMLN	**Damoulianata-K**	**0.63**	**354**	P	**Pg**	**22 23 16.5**	**+0.4**
SMHA	**Samh**	**0.66**	**13**	P	**Pg**	**22 23 15.7**	**-0.8**
SMHA				S	**Sg**	**22 23 24.9**	**-0.2**
VSK1	**VASILIKIADES**	**0.80**	**6**	P	**Pg**	**22 23 19.1**	**-0.2**
VSK1				S	**Sb**	**22 23 30.8**	**+0.3**
FSK	**Fiskardo**	**0.85**	**5**	P	**Pg**	**22 23 19.8**	**-0.4**
FSK				S	**Sb**	**22 23 32.4**	**+0.5**
	comp=E,4μm,0.2s						
FSK	**Fiskardo**	**0.85**	**5**	P	**Pg**	**22 23 19.6**	**-0.6**
FSK				S	**Sb**	**22 23 32.1**	**+0.1**
FSK				AML	AML	22 23 33.7	
	comp=E,11105μm,0.2s						
FSK				AML	AML	22 23 34.8	
	comp=N,6684μm,0.4s						
RLS	**Riolos of Patr**	**0.91**	**60**	P	**Pg**	**22 23 20.6**	**-0.7**
RLS				S	**Sb**	**22 23 33.6**	**0.0**
	comp=N,4μm,0.5s						
RLS	**Riolos of Patr**	**0.91**	**60**	P	**Pg**	**22 23 20.7**	**-0.6**
RLS				AML	AML	22 23 34.0	
	comp=N,6739μm,0.5s						
RLS				AML	AML	22 23 34.3	
	comp=E,9246μm,0.5s						
AMT	**Artemida-Makis**	**0.99**	**94**	P	**Pg**	**22 23 22.5**	**-0.4**
AMT				AML	AML	22 23 42.0	
	comp=N,11891μm,0.3s						
AMT				AML	AML	22 23 45.5	
	comp=E,10038μm,0.3s						
EVGI	**Lefkada island**	**1.02**	**9**	P	**Pg**	**22 23 22.8**	**-0.6**
EVGI				S	**Sb**	**22 23 37.5**	**+0.7**
	comp=E,3μm,0.1s						
EVGI	**Lefkada island**	**1.02**	**9**	P	**Pg**	**22 23 22.8**	**-0.6**
DRO	**Drossia**	**1.05**	**70**	P	**Pg**	**22 23 23.4**	**-0.5**
DRO	**Drossia**	**1.05**	**70**	P	**Pg**	**22 23 22.8**	**-1.1**
DRO				AML	AML	22 23 39.6	
	comp=E,5812μm,0.5s						
DRO				AML	AML	22 23 40.9	
	comp=N,6487μm,0.8s						
DRAG	**Dragano-Lefkad**	**1.08**	**5**	P	**Pg**	**22 23 23.7**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.08**	**5**	P	**Pg**	**22 23 23.6**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.12**	**9**	P	**Pg**	**22 23 24.2**	**-1.0**
NYDR	**Nydri-Lefkada**	**1.12**	**9**	P	**Pg**	**22 23 24.3**	**-1.0**
TSLK	**Tsoukalades, L**	**1.22**	**7**	P	**Pb**	**22 23 26.2**	**-0.6**
ITM	**Ithomi**	**1.24**	**110**	P	**Pb**	**22 23 27.4**	**+0.3**
ITM	**Ithomi**	**1.24**	**110**	P	**Pb**	**22 23 26.8**	**-0.3**
ITM				AML	AML	22 23 58.4	
	comp=E,1538μm,0.4s						
ITM				AML	AML	22 24 01.4	
	comp=N,1306μm,1.0s						
PYL	**PYLOS**	**1.24**	**124**	P	**Pn**	**22 23 27.6**	**+0.6**
PYL	**PYLOS**	**1.24**	**124**	P	**Pn**	**22 23 26.3**	**-0.7**
PYL				AML	AML	22 23 48.6	
	comp=N,1431μm,0.5s						
PYL				AML	AML	22 23 49.4	
	comp=E,3039μm,0.7s						
EFP	**Efpalio**	**1.40**	**54**	P	**Pn**	**22 23 28.9**	**-0.3**
EFP				AML	AML	22 23 59.9	
	comp=N,2373μm,0.5s						
EFP				AML	AML	22 24 03.0	
	comp=E,2473μm,1.0s						
KLV	**Kalavryta, Ach**	**1.41**	**71**	P	**Pn**	**22 23 29.2**	**-0.1**
ANX	**Ano Chora**	**1.51**	**49**	P	**Pn**	**22 23 31.2**	**+0.4**
ANX				AML	AML	22 24 01.5	
	comp=E,4242μm,0.6s						
ANX				AML	AML	22 24 04.9	
	comp=N,4253μm,0.5s						
GUR	**Goura**	**1.52**	**77**	P	**Pn**	**22 23 31.1**	**+0.1**
GUR				AML	AML	22 24 04.2	
	comp=E,1617μm,0.6s						
GUR				AML	AML	22 24 05.8	
	comp=N,2413μm,0.7s						
OHR	**Ohrid**	**3.51**	**4**	*i* Pn	**Pn**	**22 24 02.5**	**+4.3**
PDG	**Podgorica**	**4.91**	**349**	*e*Pn	**Pn**	**22 24 17.3**	**0.0**
TREB	**Trebinje**	**5.35**	**343**	*e*Pn	**Pn**	**22 24 22.9**	**-0.6**
SJES	**Sjenica**	**5.66**	**356**	*e*Pn	**Pn**	**22 24 26.6**	**-1.2**
STON	**Ston**	**5.67**	**339**	*e*Pn	**Pn**	**22 24 27.0**	**-0.7**
RUDO	**Rudo**	**6.06**	**352**	*e*Pn	Pn	22 24 28.8	-4.4
BBLS	**Lazi&#263i**	**6.30**	**353**	*e*Pn	**Pn**	**22 24 40.0**	**+3.4**
HAPS	**Han Pijesak,Bl**	**6.57**	**350**	*e*Pn	**Pn**	**22 24 39.7**	**-0.6**
A050A	**Klekovaca**	**7.48**	**338**	*e*Pn	**Pn**	**22 24 53.6**	**+0.9**
BLY	**Banja Luka**	**7.55**	**342**	*e*Pn	**Pn**	**22 24 54.6**	**+1.0**
A051A	**Mrakovica**	**7.87**	**341**	*e*Pn	**Pn**	**22 24 57.0**	**-1.0**
CRES	**Cresnjevec Ost**	**9.02**	**337**	*e*Pn	**Pn**	**22 25 12.9**	**-0.9**
CEY	**Cerknica**	**9.29**	**333**	*e*Pn	**Pn**	**22 25 16.3**	**-1.2**
OBKA	**Obir**	**9.92**	**336**	*e*Pn	**Pn**	**22 25 23.7**	**-2.5**

IDC 08 22:24:40.9±1.5, 37.°81N×20.°69E, h0km, mb3.5/5, mbtmp3.5/6, ML2.6/1, MS4.0/1, Error ellipse: s-maj=44.3km s-min=24.7km az=136.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEST	**Kesra**	**9.34**	**261**	Pn	Pn	22 26 55.9	-0.9
	0.1nm,0.3s,baz=62,slow=18,SNR=2.3						
	2.8nm,1.2s						
ASF	**Jabal al Asfar**	**14.42**	**108**	LR	LR	22 34 53.2	
	comp=Z,692nm,21.5s,baz=332,slow=42						
FINES	**FINESS Array B**	**23.90**	**6**	P	P	22 29 55.7	-0.3
	0.9nm,0.8s,baz=179,slow=8.3,SNR=1.4						
	0.9nm,0.8s						
NOA	**NORSAR Array B**	**24.01**	**349**	P	P	22 29 57.6	+0.5
	0.5nm,0.8s,baz=158,slow=11,SNR=3.3						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.83**	**220**	P	P	22 30 50.1	+0.3
	0.3nm,0.7s,baz=22,slow=10,SNR=3.0						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**45.38**	**58**	P	P	22 33 00.5	-0.5
	1.0nm,1.0s,baz=284,slow=8.0,SNR=2.4						
	1.0nm,1.0s						
ZALV	**Zalesovo Beam**	**45.84**	**48**	P	P	22 33 04.5	+0.1
	0.8nm,0.4s,baz=280,slow=6.7,SNR=4.6						
	0.8nm,0.4s						

*GUC **08** 22:27:45.6±0.9, 32.°75S×71.°24W, h55km±2km, ML2.8*
*SJA **08** 22:27:46.0, 32.°89S×71.°19W, h14km, ML2.5*
ISC 08 22:27:47.5±1.2, 32.°81S±0.°03×71.°25W±0.°04, h34km±2km, n28, σ1°11/41, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.26**	**128**	⇑*i*P	**Pb**	**22 27 55.4**	**+0.3**
ROCH				*i* S	**Sb**	**22 28 01.9**	**+1.6**
VA01	**Torpederas**	**0.39**	**238**	⇓*i*P	**Pb**	**22 27 56.3**	**-0.2**
VA01				*i* S	**Sn**	**22 28 04.0**	**+1.0**
VA01				IAML		22 28 04.6	
	comp=N,2μm,0.1s						
VA01	**Torpederas**	**0.39**	**238**	*i* P	**Pb**	**22 27 55.6**	**-0.9**
MT02	**Curacav**	**0.45**	**168**	⇑*i*P	**Pb**	**22 27 57.0**	**-0.4**
MT02				*i* S	**Sb**	**22 28 04.7**	**+0.4**
MT02	**Curacav**	**0.45**	**168**	*i* P	**Pb**	**22 27 56.3**	**-1.2**
PEL	**Peldehue**	**0.58**	**125**	*i* P	**Pn**	**22 27 58.6**	**-0.7**
PEL				*i* S	**Sn**	**22 28 08.0**	**+0.4**
PEL				IAML		22 28 08.8	
	comp=E,1μm,0.2s						
VA03	**San Esteban**	**0.59**	**85**	⇓*i*P	**Pn**	**22 27 58.6**	**-0.9**
VA03				*i* S	**Sb**	**22 28 07.9**	**-0.2**
VA03				IAML		22 28 09.2	
	comp=E,1μm,0.1s						
VA03	**San Esteban**	**0.59**	**85**	*i* P	**Pn**	**22 27 57.8**	**-1.7**
MT05	**Renca**	**0.72**	**143**	*i* P	**Pn**	**22 28 00.3**	**-1.0**
MT10	**Hacienda Santa**	**0.75**	**128**	*i* P	**Pn**	**22 28 01.3**	**-0.5**
MT10				*i* S	**Sn**	**22 28 12.6**	**+0.4**
MT10				IAML		22 28 13.5	
	comp=E,708nm,0.4s						
CO04	**Los Peladeros**	**0.80**	**17**	⇓*i*P	**Pn**	**22 28 00.5**	**-2.1**
CO04				*i* S	**Sn**	**22 28 10.9**	**-2.7**
MT14	**Cerro Calıın**	**0.83**	**134**	*e*P	**Pn**	**22 28 02.1**	**-0.8**
MT14				*i* S	**Sn**	**22 28 14.5**	**+0.5**
MT16	**CCHEN**	**0.86**	**135**	*e*P	**Pn**	**22 28 02.6**	**-0.7**
MT16				*i* S	**Sn**	**22 28 15.2**	**+0.4**
VA05	**Santo Domingo**	**0.90**	**200**	*e*P	**Pn**	**22 28 03.1**	**-0.5**
VA05				*e*S	**Sb**	**22 28 16.7**	**+0.4**
VA05				IAML		22 28 17.6	
	comp=E,393nm,0.4s						
MT03	**Universidad Ad**	**0.92**	**138**	*e*P	**Pn**	**22 28 03.7**	**-0.4**
MT03				*e*S	**Sn**	**22 28 16.6**	**+0.4**
MT03				IAML		22 28 17.3	
	comp=N,315nm,0.2s						
MT03	**Universidad Ad**	**0.92**	**138**	*i* P	**Pn**	**22 28 03.1**	**-1.0**
MT09	**Talagante**	**0.98**	**167**	*e*P	**Pn**	**22 28 04.8**	**-0.2**
MT01	**Popeta**	**1.05**	**180**	*i* P	**Pn**	**22 28 05.1**	**-0.7**
MT12	**Pirque**	**1.09**	**148**	*e*P	**Pn**	**22 28 05.8**	**-0.6**
MT12				*e*S	**Sn**	**22 28 20.7**	**+0.4**
MT12				IAML		22 28 23.8	
	comp=N,178nm,0.2s						
MT04	**Ro Olivares**	**1.10**	**123**	⇓*i*P	**Pn**	**22 28 06.0**	**-0.8**
MT04				*i* S	**Sn**	**22 28 20.8**	**-0.2**
MT04	**Ro Olivares**	**1.10**	**123**	*i* P	**Pn**	**22 28 05.4**	**-1.4**
MT08	**Bocatoma Ro**	**1.21**	**122**	*e*P	**Pn**	**22 28 06.5**	**-1.7**
BO01	**Tunca**	**1.58**	**175**	*i* P	**Pn**	**22 28 12.9**	**-0.2**
RTLS	**Leoncito**	**1.94**	**59**	*i* P	**Pn**	**22 28 19.8**	**+1.5**
BO02	**Sierra Bellavi**	**2.01**	**169**	*i* P	**Pn**	**22 28 19.1**	**0.0**
DOCA	**Reserva Natura**	**2.62**	**45**	*i* P	**Pn**	**22 28 28.1**	**+0.3**
ACCO	**Cerro Coronel**	**2.90**	**41**	*i* P	**Pn**	**22 28 33.5**	**+1.9**
AROD	**Rodeo**	**3.04**	**30**	*i* P	**Pn**	**22 28 36.0**	**+2.5**

*IDC **08** 22:31:34.7±15.0, 37.°14N×19.°72E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=307.4km s-min=43.9km az=32.0*
*ATH **08** 22:31:41.7, 37.°63N×20.°52E, h13km±2km, ML3.6/9, Error ellipse: s-maj=3.8km s-min=1.0km az=44.0*
*THE **08** 22:31:41.7, 37.°62N×20.°52E, h12km, ML3.6/9, Error ellipse: s-maj=1.4km s-min=0.6km az=41.0*
ISC 08 22:31:42.2±1.3, 37.°67N±0.°06×20.°55E±0.°05, h17km±6km, n39, σ1°34/60, mb3.6/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.21**	**92**	P	**Pb**	**22 31 47.0**	**-0.6**
KRI1				S	**Sb**	**22 31 50.9**	**-0.3**
LTHK	**Lithakia**	**0.23**	**80**	P	**Pg**	**22 31 47.2**	**-0.3**
LTHK				S	**Sg**	**22 31 50.9**	**-0.3**
	23μm,0.3s						
LTHK	**Lithakia**	**0.23**	**80**	P	**Pg**	**22 31 47.1**	**-0.3**
LTHK				S	**Sg**	**22 31 50.8**	**-0.3**
LTHK				AML	AML	22 31 51.1	
	comp=E,38807μm,0.3s						
LTHK				AML	AML	22 31 51.6	
	comp=N,48305μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.44**	**23**	P	**Pg**	**22 31 51.2**	**0.0**
RTZL				S	**Sb**	**22 31 58.6**	**+0.8**
	comp=N,10μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.45**	**4**	P	**Pb**	**22 31 51.4**	**-0.1**
PSDA				S	**Sb**	**22 31 58.5**	**+0.6**
	comp=N,13μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.45**	**4**	P	**Pg**	**22 31 51.0**	**-0.2**
PSDA				S	**Sb**	**22 31 58.3**	**+0.5**
VLS	**Valsamata**	**0.51**	**4**	P	**Pg**	**22 31 52.1**	**-0.3**
VLS				S	**Sb**	**22 32 00.4**	**+0.7**
	comp=N,8μm,0.2s						
VLS	**Valsamata**	**0.51**	**4**	P	**Pg**	**22 31 51.9**	**-0.5**
VLS				S	**Sb**	**22 32 00.2**	**+0.5**
VLS				AML	AML	22 32 04.1	
	comp=E,22119μm,0.3s						
VLS				AML	AML	22 32 05.6	
	comp=N,11915μm,0.3s						
LXR1	**Lixouri, Cepha**	**0.54**	**351**	P	**Pb**	**22 31 53.3**	**+0.2**
LXR1				S	**Sb**	**22 32 02.2**	**+1.7**
LXRA	**Lixouri, Kepha**	**0.54**	**351**	P	**Pg**	**22 31 52.9**	**0.0**
LXRA				S	**Sb**	**22 32 00.9**	**+0.3**
LXRA				AML	AML	22 32 07.5	
	comp=E,45566μm,0.3s						
LXRA				AML	AML	22 32 11.2	
	comp=N,42032μm,0.4s						
DMLN	**Damoulianata-K**	**0.58**	**346**	P	**Pb**	**22 31 54.0**	**+0.1**
DMLN				S	**Sb**	**22 32 03.7**	**+1.7**
	comp=N,29μm,0.3s						
DMLN	**Damoulianata-K**	**0.58**	**346**	P	**Pg**	**22 31 53.7**	**-0.1**
DMLN				S	**Sb**	**22 32 02.6**	**+0.7**
SMHA	**Samh**	**0.59**	**8**	P	**Pg**	**22 31 52.9**	**-0.9**
SMHA				S	**Sb**	**22 32 02.5**	**+0.6**
VSK1	**VASILIKIADES**	**0.74**	**1**	P	**Pg**	**22 31 56.3**	**-0.3**
VSK1				S	**Sn**	**22 32 08.4**	**-0.3**
FSK	**Fiskardo**	**0.79**	**1**	P	**Pg**	**22 31 57.0**	**-0.6**
FSK				S	**Sn**	**22 32 09.9**	**0.0**
	comp=N,3μm,0.3s						
FSK	**Fiskardo**	**0.79**	**1**	P	**Pg**	**22 31 56.7**	**-0.9**
FSK				S	**Sb**	**22 32 08.8**	**+1.0**
FSK				AML	AML	22 32 14.8	
	comp=N,4674μm,0.3s						
FSK				AML	AML	22 32 19.7	
	comp=E,6405μm,0.8s						
RLS	**Riolos of Patr**	**0.82**	**62**	P	**Pg**	**22 31 58.0**	**-0.2**
RLS				S	**Sn**	**22 32 10.7**	**0.0**
	comp=E,4μm,0.4s						
RLS	**Riolos of Patr**	**0.82**	**62**	P	**Pb**	**22 31 57.8**	**-0.2**
RLS				AML	AML	22 32 11.5	
	comp=E,8391μm,0.5s						
RLS				AML	AML	22 32 11.7	
	comp=N,9382μm,0.4s						
AMT	**Artemida-Makis**	**0.93**	**98**	P	**Pg**	**22 31 60.0**	**-0.3**
AMT				AML	AML	22 32 16.7	
	comp=N,11333μm,0.3s						
AMT				AML	AML	22 32 19.9	
	comp=E,9696μm,0.2s						
EVGI	**Lefkada island**	**0.95**	**5**	P	**Pb**	**22 32 00.2**	**0.0**
EVGI				S	**Sn**	**22 32 15.3**	**+1.4**
	comp=E,3μm,0.3s						
EVGI	**Lefkada island**	**0.95**	**5**	P	**Pb**	**22 31 59.9**	**-0.3**
DRO	**Drossia**	**0.96**	**73**	P	**Pg**	**22 32 00.5**	**-0.3**
DRO				S	**Sn**	**22 32 15.4**	**+1.2**
	comp=E,3μm,0.5s						
DRO	**Drossia**	**0.96**	**73**	P	**Pb**	**22 32 00.0**	**-0.4**
DRO				AML	AML	22 32 17.4	
	comp=E,6611μm,0.5s						
DRO				AML	AML	22 32 27.8	
	comp=N,6097μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.01**	**1**	P	**Pb**	**22 32 01.1**	**-0.1**
DRAG	**Dragano-Lefkad**	**1.01**	**1**	P	**Pb**	**22 32 00.8**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.05**	**6**	P	**Pb**	**22 32 01.7**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.05**	**6**	P	**Pb**	**22 32 01.6**	**-0.2**
TSLK	**Tsoukalades, L**	**1.16**	**4**	P	**Pb**	**22 32 03.7**	**0.0**
ITM	**Ithomi**	**1.20**	**114**	P	**Pb**	**22 32 04.1**	**-0.4**
ITM				AML	AML	22 32 30.6	
	comp=N,1951μm,0.6s						
ITM				AML	AML	22 32 33.5	
	comp=E,1118μm,1.0s						
PYL	**PYLOS**	**1.23**	**129**	P	**Pn**	**22 32 04.2**	**-0.3**
PYL				AML	AML	22 32 26.0	
	comp=N,2017μm,0.4s						
PYL				AML	AML	22 32 26.8	
	comp=E,2915μm,0.5s						
SOKA	**Soboth**	**9.89**	**337**	*e*Pn	**Pn**	**22 34 03.4**	**-0.1**
SOKA				*e*Sn	**Sn**	**22 35 48.1**	**-5.9**
	comp=E,0.8nm,0.4s						
OBKA	**Obir**	**9.89**	**335**	*i* Pn	**Pn**	**22 34 05.9**	**+2.4**
	comp=E,0.9nm,0.4s						
OBKA				*i* Sn	**Sn**	**22 35 53.2**	**-0.9**
	comp=E,3.4nm,0.4s						
KBA	**Koelnbreinsper**	**10.80**	**333**	*e*Sn	**Sn**	**22 36 11.2**	**-5.4**
	comp=E,1.7nm,0.6s						
FINES	**FINESS Array B**	**24.05**	**7**	P	**P**	**22 36 56.3**	**+0.3**
	comp=E,1.4nm,0.8s,baz=181,slow=8.8,SNR=2.2						
	comp=E,1.4nm,0.8s						
NOA	**NORSAR Array B**	**24.12**	**349**	P	**P**	**22 36 55.5**	**-1.3**
	comp=E,0.2nm,0.8s,baz=162,slow=8.7,SNR=1.3						
	comp=E,0.2nm,0.8s						
ARCES	**ARCESS Array B**	**32.04**	**3**	P	**P**	**22 38 07.9**	**+0.4**
	comp=E,1.0nm,0.7s,baz=185,slow=8.6,SNR=1.2						
	comp=E,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**42.52**	**53**	P	**P**	**22 39 38.4**	**+2.0**
	comp=E,0.7nm,0.2s,baz=284,slow=7.6,SNR=2.4						
	comp=E,0.7nm,0.2s						
MKAR	**Makanchi Array**	**45.55**	**58**	P	**P**	**22 40 02.7**	**+1.8**
	comp=E,0.2nm,0.5s,baz=275,slow=8.3,SNR=4.3						
	comp=E,0.2n

QSPA IAmb IAmb 22 47 28.9
comp=Z,3.2nm,0.8s
QSPA South Pole Qui 75.12 180 P P 22 47 27.8 +0.9
comp=Z,2.8nm,0.7s,baz=63,slow=2.3,SNR=16
comp=Z,2.8nm,0.7s
O16K Kokwok River B 75.95 10 P P 22 47 31.2 -0.2
O16K IAmb IAmb 22 47 41.8
comp=Z,2.7nm,0.9s
O18K Koktuh Hills 76.72 11 P P 22 47 36.1 +0.5
NVAR Mina Array Bea 76.86 44 P P 22 47 39.5 +2.3
comp=Z,0.4nm,0.6s,baz=230,slow=7.0,SNR=2.7
comp=Z,0.4nm,0.6s
M16K Timber Creek 77.16 9 P P 22 47 39.5 +1.4
ILSW Iliamna Southw 77.25 12 P P 22 47 39.0 +0.3
N18K Kilae Creek 77.36 11 P P 22 47 39.6 +0.4
N18K IAmb IAmb 22 47 58.9
comp=Z,6.1nm,1.1s
N19K Bonanza Creek 77.74 11 P P 22 47 41.8 +0.4
M17K Holitna River 77.77 10 P P 22 47 43.2 +1.9
K15K Wolf Creek Mou 78.01 8 P P 22 47 44.3 +1.6
SPU Mount Spurr 78.57 12 P P 22 47 46.4 +0.6
L18K Granite Mounta 78.66 10 P P 22 47 48.1 +1.9
K17K Iditarod 78.87 9 P P 22 47 49.0 +1.6
K17K IAmb IAmb 22 48 06.6
comp=Z,4.3nm,1.1s
J16K Anvik River 79.09 8 P P 22 47 50.1 +1.7
J16K IAmb IAmb 22 47 54.8
comp=Z,2.7nm,1.1s
PWL Port Wells 79.11 14 P P 22 47 48.4 -0.2
J17K VABM Dome 79.41 8 P P 22 47 51.9 +1.7
J17K IAmb IAmb 22 47 52.6
comp=Z,5.5nm,1.0s
GHO Glory Hole Cre 79.77 13 P P 22 47 52.7 +0.5
J18K Innoko River 79.83 9 P P 22 47 53.4 +1.0
SIT Sitka 79.89 22 P P 22 47 50.9 -1.9
K20K Telida 80.17 11 P P 22 47 55.4 +1.1
SCM Sheep Creek Mo 80.19 14 P P 22 47 54.5 0.0
YAH Yahtse 80.41 17 P P 22 47 58.2 +2.3
J19K Poorman 80.50 10 P P 22 47 57.0 +1.1
J19K IAmb IAmb 22 48 16.8
comp=Z,4.4nm,1.1s
CAST Castle Rocks 80.59 11 P P 22 47 56.6 +0.1
CAST IAmb IAmb 22 47 56.9
comp=Z,3.6nm,1.2s
TABL Table Mountain 80.65 17 P P 22 47 57.8 +0.7
N25K Chitina, Valde 80.67 15 P P 22 47 57.6 +0.6
GLB Gilahina Butte 80.74 16 P P 22 47 58.0 +0.6
J20K Nowinta River 80.91 10 P P 22 47 59.1 +1.0
J20K IAmb IAmb 22 48 09.9
comp=Z,2.4nm,1.1s
LOGN Logan Glacier 81.00 17 P P 22 47 59.6 +0.8
H18K Honhosa River 81.17 8 P P 22 47 59.6 +0.1
H18K IAmb IAmb 22 48 16.8
comp=Z,5.4nm,1.1s
DHY Denali Highway 81.27 13 P P 22 48 00.5 +0.3
DHY IAmb IAmb 22 48 03.9
comp=Z,2.4nm,1.1s
BPAW Bear Paw Mtn. 81.42 12 P P 22 48 01.2 +0.4
G18K Tagagawik 81.84 8 P P 22 48 03.8 +0.9
G18K IAmb IAmb 22 48 04.4
comp=Z,3.0nm,0.9s
M27K Edge Creek, AK 82.01 16 P P 22 48 05.1 +1.1
F17K Baldwin Pennin 82.05 7 P P 22 48 05.3 +1.4
F17K IAmb IAmb 22 48 13.5
comp=Z,5.2nm,1.1s
I21K Tanana 82.21 11 P P 22 48 05.8 +1.0
G19K Purcell Mounta 82.29 8 P P 22 48 06.4 +1.2
G19K IAmb IAmb 22 48 07.1
comp=Z,4.2nm,1.1s
WRH Wood River Hil 82.33 13 P P 22 48 05.9 +0.5
WRH IAmb IAmb 22 48 06.9
comp=Z,2.6nm,0.6s
RIDG Independent Ri 82.42 14 P P 22 48 06.5 +0.5
RIDG IAmb IAmb 22 48 07.5
comp=Z,2.2nm,1.0s
O30N Mendenhall 82.44 19 P P 22 48 06.9 +0.7
O30N IAmb IAmb 22 48 07.5
comp=Z,4.8nm,0.9s
H21K Melozitna Rive 82.50 10 P P 22 48 07.4 +1.1
HDA Harding Lake 82.52 13 P P 22 48 07.0 +0.6
HDA IAmb IAmb 22 48 07.9
comp=Z,3.5nm,1.0s
CCB Clear Creek Bu 82.55 13 P P 22 48 07.2 +0.7
L27K Beaver Creek, 82.60 16 P P 22 48 07.7 +0.7
BCAR Beaver Creek A 82.62 16 P P 22 48 08.1 +1.1
IMAR Indian Mountai 82.65 10 P P 22 48 08.1 +1.0
SCRK Sand Creek 82.83 14 P P 22 48 08.7 +0.6
SCRK IAmb IAmb 22 48 09.2
comp=Z,2.6nm,0.7s
F19K Shaleruckik Mo 82.85 8 P P 22 48 08.7 +0.7
IL31 82.85 13 P P 22 48 08.7 +0.7
ILAR Eielson Array 82.85 13 P P 22 47 08.7 -0.3
ILAR Eielson Array 82.85 13 P P 22 48 08.3 +0.3
comp=Z,1.6nm,0.5s,baz=220,slow=5.7,SNR=28
comp=Z,1.6nm,0.5s
M29M Somme Creek 83.03 17 P P 22 48 10.0 +0.9
M29M IAmb IAmb 22 48 13.5
comp=Z,3.8nm,1.1s
POKR Poker Plat Res 83.04 12 P P 22 48 08.6 -0.4
POKR IAmb IAmb 22 48 11.7
comp=Z,3.2nm,0.8s
J25K Salcha River, 83.05 13 P P 22 48 09.9 +0.8
J25K IAmb IAmb 22 48 10.4
comp=Z,3.1nm,0.6s
E18K Tukpahlearik C 83.07 7 P P 22 48 09.8 +0.6
E18K IAmb IAmb 22 48 10.0
comp=Z,4.0nm,1.1s
G21K Allakaket 83.18 10 P P 22 48 10.4 +0.7
G21K IAmb IAmb 22 48 11.5
comp=Z,2.8nm,0.8s
H23K Yukon River 83.24 11 P P 22 48 10.8 +0.7
F20K Avaraart Lake 83.33 9 P P 22 48 10.8 +0.3
F20K IAmb IAmb 22 48 13.4
comp=Z,2.1nm,0.9s
K27K Chicken 83.34 15 P P 22 48 11.3 +0.7
J26L Joseph Creek 83.37 14 P P 22 48 12.3 +1.4
C16K Lisburne Hills 83.45 5 P P 22 48 11.4 +0.4
C16K IAmb IAmb 22 48 13.2
comp=Z,6.3nm,1.1s
E19K Redstone River 83.51 8 P P 22 48 12.6 +1.2
E19K IAmb IAmb 22 48 12.9
comp=Z,3.9nm,0.9s
M30M Minto, Yukon 83.62 18 P P 22 48 13.3 +1.2
M30M IAmb IAmb 22 48 13.6
comp=Z,2.7nm,0.7s
L29M L29M 83.65 17 P P 22 48 13.3 +1.1
L29M IAmb IAmb 22 48 14.2
comp=Z,3.4nm,0.8s
PRP Porcupine Dome 83.79 13 P P 22 48 14.1 +1.1
PRP IAmb IAmb 22 48 15.5
comp=Z,3.1nm,0.9s
DAWY Dawson 84.06 16 P P 22 48 15.0 +0.7
DAWY IAmb IAmb 22 48 15.9
comp=Z,3.0nm,0.9s
I26K Coal Creek Min 84.14 14 P P 22 48 15.7 +1.1
EGAK Eagle 84.18 15 P P 22 48 15.8 +1.0
EGAK IAmb IAmb 22 48 28.5
comp=Z,2.9nm,1.1s
D19K Kuna River 84.38 7 P P 22 48 16.6 +0.9
D19K IAmb IAmb 22 48 32.8
comp=Z,2.9nm,1.1s
K29M Barlow Dome 84.39 17 P P 22 48 17.1 +1.1
J29N Klondike Camp 84.68 16 P P 22 48 16.5 -0.9
PDAR Pinedale Array 84.77 43 P P 22 48 19.5 +1.0
PDAR Pinedale Array 84.77 43 P P 22 48 19.2 +0.7
comp=Z,0.3nm,0.6s,baz=192,slow=4.1,SNR=3.6
comp=Z,0.3nm,0.6s
E22K Anaktuvuk Pass 84.93 9 P P 22 48 18.8 +0.3
E22K IAmb IAmb 22 48 20.8
comp=Z,2.7nm,1.1s
I28M Miner Creek 85.03 15 P P 22 48 19.8 +0.7
J30M Hart River 85.29 17 P P 22 48 22.0 +1.6
MMPY Sheldon Lake, 85.37 20 P P 22 48 22.2 +1.4
YNE Yellowstone No 85.46 41 P P 22 48 21.1 -0.8
YNE IAmb IAmb 22 48 21.7
comp=Z,2.9nm,0.7s
D22K Ayikyak River 85.47 9 P P 22 48 22.1 +1.0
BMAR Burnt Mountain 85.62 12 P P 22 48 23.1 +1.2
G27K Doyon Strip 85.73 14 P P 22 48 23.3 +0.9
I30M Mount Dempster 85.78 16 P P 22 48 23.2 +0.4
D23K Nanushuk River 85.86 9 P P 22 48 23.8 +0.9
B21K Ikpikpuk River 85.89 8 P P 22 48 23.6 +0.5
F26K Sheenjek River 85.94 12 P P 22 48 24.5 +1.1
E25K Arctic Village 86.02 12 P P 22 48 24.5 +0.7
H29M Whitestone 86.04 15 P P 22 48 24.3 +0.5
C23K Itkillik River 86.66 9 P P 22 48 27.6 +0.9
C23K IAmb IAmb 22 48 29.3
comp=Z,2.1nm,0.9s
G29M Pine Creek 86.67 15 P P 22 48 27.8 +0.9
F28M Old Crow 86.80 14 P P 22 48 28.3 +0.8
F28M IAmb IAmb 22 48 29.5
comp=Z,1.9nm,0.9s
MAW Mawson 86.87 200 P P 22 48 28.8 +0.8
comp=Z,2.8nm,0.5s,baz=127,slow=4.7,SNR=12
comp=Z,2.8nm,0.5s
G30M tAoh Zraii Nji 87.17 15 P P 22 48 29.5 +0.2
ARCES ARCESS Array B 123.49 350 PKP PKPdf 22 54 37.9 +0.1
comp=Z,3.6nm,0.9s,baz=7.8,slow=1.7,SNR=9.8
GERES GERESS Array B 144.87 347 PKP PKPdf 22 55 18.5 +0.3
comp=Z,1.3nm,0.7s,baz=26,slow=3.4,SNR=5.3
MMAI Mount Meron Ar 144.94 307 PKP PKPab 22 55 20.3 +1.0
comp=Z,2.9nm,0.5s,baz=61,slow=5.8,SNR=15
CONA Conrad Observa 145.20 344 *e*PKP **PKPab 22 55 20.4 +0.6**
comp=Z,0.4nm,0.3s
MOA Molln 145.68 346 *e*PKP **PKPab 22 55 21.6 0.0**
comp=Z,1.1nm,0.4s
SOKA Soboth 146.57 344 *e*PKP **PKPbc 22 55 23.3 0.0**
comp=Z,0.2nm,0.3s
KBA Koelnbreinsper 146.62 346 *e*PKP **PKPbc 22 55 23.6 +0.1**
comp=Z,0.8nm,0.3s
RETA Reutte 146.76 349 *e*PKP **PKPbc 22 55 24.3 +0.5**
comp=Z,0.7nm,0.3s
WTTA Wattenberg 146.81 348 *e*PKP **PKPbc 22 55 24.4 +0.4**
comp=Z,1.4nm,0.4s
MOTA Moosalm 146.83 349 *e*PKP **PKPbc 22 55 24.6 +0.5**
comp=Z,0.4nm,0.3s
SQTA Sankt Quirin 146.93 349 *e*PKP **PKPbc 22 55 24.9 +0.7**
comp=Z,0.5nm,0.3s
DAVA Damuels 147.10 350 *e*PKiKP **PKPbc 22 55 25.9 +1.1**
comp=Z,0.8nm,0.3s
ABTA Abfaltersbach 147.12 347 *e*PKP **PKPbc 22 55 24.7 -0.1**
comp=Z,1.8nm,0.6s
DAVOX Davos/Dischmat 147.59 350 PKPbc **PKPbc 22 55 27.0 +0.8**
comp=Z,3.0nm,0.7s,baz=312,slow=0.9,SNR=5.8

IDC 08 22:36:43.0±10.0, 14°.48S×166°.01E, h178km±111km, mb3.8/3, mbtmp4.2/4, Error ellipse: s-maj=208.8km s-min=68.3km az=76.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.56**	**177**	P	Pn	22 38 30.9	+0.3
	5.1nm,0.8s,baz=348,slow=20,SNR=1.8						
DZM				S	Sn	22 39 55.7	0.0
	5.9nm,0.9s,baz=68,slow=19,SNR=2.7						
STKA	**Stephens Creek**	**28.24**	**228**	P	P	22 42 19.6	+0.1
	2.8nm,0.4s,baz=37,slow=10,SNR=11						
	2.8nm,0.4s						
WRA	**Warramunga Arr**	**30.71**	**255**	P	P	22 42 41.4	-0.1
	1.4nm,0.5s,baz=85,slow=8.3,SNR=18						
	1.4nm,0.5s						
ASAR	**Alice Springs**	**31.63**	**248**	P	P	22 42 49.4	-0.1
	1.6nm,0.4s,baz=80,slow=8.9,SNR=24						
	1.6nm,0.4s						

*IDC **08** 22:37:44.1±5.1, 14°.63N×51°.96E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=114.6km s-min=32.3km az=22.0*
*OMAN **08** 22:37:51.8±0.9, 15°.30N×52°.17E, h11km±44km, mb3.7/12, ml3.2/5, Error ellipse: s-maj=84.5km s-min=5.2km az=28.0*
ISC 08 22:37:49.1±1.3, 15°.13N±0°.09×52°.18E±0°.09, h10km, n28, σ1°62/44, mb3.7/7, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**2.45**	**26**	P	**Pn**	**22 38 30.0**	**+0.7**
	SNR=132						
ABTO				S	**Sb**	**22 39 02.8**	**-0.8**
RBK	**Rabkut**	**3.05**	**39**	P	**Pn**	**22 38 38.7**	**+1.2**
	SNR=15						
RBK				S	**Sn**	**22 39 15.7**	**+1.5**
WHFO	**Wadi Hawf**	**3.16**	**29**	P	**Pn**	**22 38 40.3**	**+1.4**
	SNR=7.7						
WHFO				S	**Sn**	**22 39 19.8**	**+3.1**
DMTO	**DMTO**	**3.69**	**46**	P	**Pn**	**22 38 46.2**	**0.0**
	SNR=45						
DMTO				S	**Sn**	**22 39 32.1**	**+2.3**
DOK	**Doka**	**3.93**	**28**	P	**Pn**	**22 38 50.6**	**+1.1**
	SNR=56						
DOK				S	**Sn**	**22 39 38.4**	**+2.6**
MZR	**Muzera**	**7.92**	**9**	P	**Pn**	**22 39 44.9**	**+0.5**
	SNR=6.3						
MZR				S	**Sn**	**22 41 13.2**	**-1.0**
MHTO	**MHTO**	**8.01**	**43**	P	**Pn**	**22 39 45.5**	**-0.1**
	SNR=8.5						
MHTO				S	**Sn**	**22 41 13.6**	**-2.7**
MZWR	**Madinat Zayed**	**8.73**	**10**	P	**Pn**	**22 39 56.6**	**+1.1**
MZWR				S	**Sn**	**22 41 31.2**	**-2.8**
BSY	**Bisya**	**8.93**	**31**	P	**Pn**	**22 39 59.6**	**+1.3**
JMDO	**Jabal Madar**	**9.12**	**37**	P	**Pn**	**22 40 00.5**	**-0.4**
JMDO				S	**Sn**	**22 41 42.8**	**-0.9**
ALNE	**Al Ain**	**9.49**	**20**	P	**Pn**	**22 40 07.6**	**+1.7**
ALNE				S	**Sn**	**22 41 48.9**	**-3.8**
SMDO	**Samad**	**9.64**	**34**	P	**Pn**	**22 40 07.5**	**-0.5**
SMDO				S	**Sn**	**22 41 55.3**	**-1.1**
AJN	**Ajban**	**9.74**	**15**	P	**Pn**	**22 40 11.4**	**+2.1**
AJN				S	**Sn**	**22 41 59.7**	**+0.8**
JLN	**Jalan Bani Buh**	**9.78**	**43**	P	**Pn**	**22 40 09.9**	**+0.1**
JLN				S	**Sn**	**22 42 01.2**	**+1.5**
WBK	**Wadi Bani Khal**	**9.82**	**40**	P	**Pn**	**22 40 10.6**	**+0.1**
WBK				S	**Sn**	**22 41 59.9**	**-1.1**
SOHO	**SOHO**	**9.85**	**24**	P	**Pn**	**22 40 12.3**	**+1.5**
SOHO				S	**Sn**	**22 41 58.9**	**-2.5**
ASUD	**Al Ashush, Dub**	**9.89**	**17**	P	**Pn**	**22 40 13.8**	**+2.3**
	SNR=19						
ASUD				S	**Sn**	**22 42 00.7**	**-1.9**
BIDO	**Bidbid**	**10.05**	**33**	P	**Pn**	**22 40 13.7**	**+0.1**
FAQ	**Al Faqa, Dubai**	**10.08**	**18**	P	**Pn**	**22 40 16.6**	**+2.6**
ASHO	**Ashiyiah**	**10.18**	**20**	P	**Pn**	**22 40 16.2**	**+0.9**
UOSS	**Minazif**	**10.47**	**21**	P	**Pn**	**22 40 20.3**	**+1.0**
AKASG	**Malin Array Be**	**40.03**	**337**	P	**P**	**22 45 24.3**	**+0.1**
	0.8nm,0.6s,baz=148,slow=8.4,SNR=6.4						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**40.31**	**32**	P	**P**	**22 45 27.5**	**+0.9**
	0.5nm,0.7s,baz=218,slow=9.2,SNR=4.7						
	0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.80**	**79**	P	**P**	**22 46 02.4**	**-1.1**
	0.6nm,0.4s,baz=269,slow=8.7,SNR=4.7						
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**46.37**	**26**	P	**P**	**22 46 15.9**	**+0.5**
	0.3nm,0.3s,baz=242,slow=6.1,SNR=1.9						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**49.89**	**344**	P	**P**	**22 46 41.7**	**-0.8**
	1.2nm,0.7s,baz=138,slow=11,SNR=4.2						
	1.2nm,0.7s						
HFS	**Hagfors**	**52.92**	**337**	P	**P**	**22 47 04.4**	**-0.8**
	0.5nm,0.6s,baz=137,slow=7.5,SNR=1.5						
	0.5nm,0.6s						
SONM	**Songino Array**	**55.09**	**42**	P	**P**	**22 47 22.1**	**+0.6**
	0.3nm,0.4s,baz=238,slow=8.2,SNR=2.2						
	0.3nm,0.4s						

IDC 08 22:43:54.6±670.0, 63°.21N×152°.10W, h0km, Error ellipse: s-maj=316.5km s-min=58.1km az=49.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I53US	**FAIRBANKS INFR**	**2.51**	**46**	I	I	22 57 40.0	
	0.2nm,0.5s,baz=229,slow=334,SNR=2.1						
I56US	**NEWPORT INFRAS**	**24.31**	**112**	I	I	01 12 40.0	
	baz=316,slow=321,SNR=4.5						
I10CA	**LAC DU BONNET**	**32.27**	**87**	I	I	02 04 40.0	
	baz=319,slow=323,SNR=1.1						

*IDC **08** 22:44:34.8±1.1, 16°.26S×173°.79W, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=43.0km s-min=25.6km az=123.0*
ISC 08 22:44:48.4±1.0, 16°.4S±0°.2×173°.9W±0°.3, h111km, n10, σ0°39/7, mb3.5/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.21**	**198**	P	**P**	**22 49 45.3**	**-0.4**
	8.5nm,0.5s,baz=356,slow=4.4,SNR=9.5						
	8.5nm,0.5s						
H11S2	**WAKE ISLAND Hy**	**39.53**	**330**	T	T	23 34 21.2	
	baz=145,slow=74						
H11S3	**WAKE ISLAND Hy**	**39.55**	**330**	T	T	23 34 22.4	
	baz=145						
H11S1	**WAKE ISLAND Hy**	**39.55**	**330**	T	T	23 34 05.8	
	baz=145,slow=74						
WRA	**Warramunga Arr**	**49.16**	**258**	P	**P**	**22 53 25.5**	**0.0**
	0.2nm,0.5s,baz=90,slow=7.3,SNR=1.9						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**49.36**	**253**	P	**P**	**22 53 27.2**	**+0.2**
	0.9nm,0.5s,baz=89,slow=8.2,SNR=21						
	0.9nm,0.5s						
QSPA	**South Pole Qui**	**73.70**	**180**	P	**P**	**22 56 10.3**	**+0.3**
	0.4nm,0.7s,baz=67,slow=3.7,SNR=1.4						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**83.29**	**42**	P	**P**	**22 57 03.0**	**-0.2**
	0.8nm,0.8s,baz=228,slow=2.3,SNR=4.4						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**83.46**	**11**	P	**P**	**22 57 03.5**	**+0.3**
	0.2nm,0.4s,baz=208,slow=5.3,SNR=4.7						
	0.2nm,0.4s						
BRTR	**Keskin Array B**	**146.57**	**320**	PKPbc	**PKPab**	**23 04 18.2**	**-0.4**
	0.8nm,0.8s,baz=80,slow=2.2,SNR=5.1						

ROM 08 22:45:51.1±0.1, 42°.976N±0°.004×11°.603E±0°.006, h11km±1km, ML1.6/10, 4C-1D, Error ellipse: s-maj=0.5km s-min=0.2km az=271.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SF11	**Podere del Sol**	**0.12**	**153**	P	Pb	22 45 54.9	-0.6
SF11				S	Sg	22 45 56.9	+0.5
SF04	**Casetta**	**0.15**	**163**	P	Pb	22 45 55.4	-0.5
SF04				S	Sg	22 45 57.7	+0.7
SF04				AML	AML		
	comp=E,2410μm,0.1s						
SF04				AML	AML		
	comp=N,2265μm,0.1s						
SF04				AML	AML		
	comp=E,2408μm,0.1s						
SF04				AML	AML		
	comp=N,2265μm,0.1s						
ARCI	**Arcidosso**	**0.16**	**217**	⇑*i*P	Pg	22 45 55.3	+0.6
ARCI				S	Sg	22 45 58.3	+1.0
ARCI				AML	AML		
	comp=E,463μm,0.4s						
ARCI				AML	AML		
	comp=N,706μm,1.0s						
ARCI				AML	AML		
	comp=N,706μm,1.0s						
ARCI				AML	AML		
	comp=E,392μm,0.1s						
ARCI				AML	AML		
	comp=N,683μm,0.3s						
SF13	**Bagnolo**	**0.16**	**176**	P	Pb	22 45 55.6	-0.5
SF13				S	Sg	22 45 58.2	+0.9
SF01	**Poggio Pratacc**	**0.17**	**190**	P	Pb	22 45 55.6	-0.7
SF01				S	Sg	22 45 58.4	+0.9
SF01				AML	AML		
	comp=E,876μm,0.2s						
SF01				AML	AML		
	comp=N,1735μm,0.2s						
SF01				AML	AML		
	comp=N,1734μm,0.2s						
SF01				AML	AML		
	comp=E,876μm,0.2s						
SF03	**Valle Cupa**	**0.18**	**161**	P	Pb	22 45 56.0	-0.5
SF03				S	Sg	22 45 58.9	+0.9
MCIV	**Monte Civitell**	**0.20**	**165**	⇓*i*P	Pb	22 45 56.4	-0.5
MCIV				S	Sg	22 45 59.5	+1.0
MCIV				AML	AML		
	comp=N,312μm,0.7s						
MCIV				AML	AML		
	comp=E,320μm,0.3s						
MCIV				AML	AML		
	comp=E,320μm,0.3s						
SF14	**Selvena**	**0.22**	**178**	⇑*i*P	Pg	22 45 56.3	+0.5
SF14				S	Sg	22 45 59.4	+0.5
MGAB	**Montegabbione**	**0.38**	**99**	P	Pg	22 45 59.0	+0.3
MGAB				S	Sg	22 46 04.4	+0.7
MGAB				AML	AML		
	comp=E,79μm,0.4s						
MGAB				AML	AML		
	comp=N,82μm,0.9s						
MGAB				AML	AML		
	comp=E,79μm,1.6s						
MGAB				AML	AML		
	comp=N,86μm,0.2s						
LATE	**Laterza**	**0.39**	**158**	P	Pb	22 46 00.1	+0.1
LATE				AML	AML		
	comp=E,60μm,1.3s						
LATE				AML	AML		
	comp=N,72μm,1.5s						
LATE				AML	AML		
	comp=N,72μm,0.5s						
LATE				AML	AML		
	comp=E,60μm,0.7s						
FROS	**Frosini**	**0.40**	**306**	P	Pg	22 45 59.2	+0.1
FROS				S	Sg	22 46 04.7	+0.2
FROS				AML	AML		
	comp=E,81μm,0.5s						
FROS				AML	AML		
	comp=N,105μm,1.4s						
FROS				AML	AML		
	comp=N,105μm,0.6s						
FROS				AML	AML		
	comp=E,81μm,1.5s						
FROS				AML	AML		
	comp=N,91μm,0.2s						
FROS				AML	AML		
	comp=E,76μm,0.2s						
RIBO	**Ribolla Roccas**	**0.41**	**266**	⇑*i*P	Pb	22 45 59.8	-0.5
RIBO				S	Sb	22 46 05.9	-0.7
RIBO				AML	AML		
	comp=E,88μm,0.2s						
CAFI	**Castiglion Fio**	**0.44**	**37**	⇑*i*P	Pg	22 45 59.8	0.0
CAFI				S	Sg	22 46 06.1	+0.4
CAFI				AML	AML		
	comp=N,34μm,0.8s						
CAFI				AML	AML		
	comp=E,41μm,0.6s						
CAFI				AML	AML		
	comp=N,34μm,0.8s						
CSNT	**Castellina Chi**	**0.55**	**335**	P	Pg	22 46 01.2	-0.5
CSNT				S	Sg	22 46 09.0	0.0
CSNT				AML	AML		
	comp=N,48μm,0.1s						
CSNT				AML	AML		
	comp=E,44μm,1.6s						
CSNT				AML	AML		
	comp=E,44μm,0.4s						
CSNT				AML	AML		
	comp=N,48μm,0.1s						
CSNT				AML	AML		
	comp=E,41μm,0.3s						
ATTE	**AVT- Monte Tez**	**0.59**	**68**	P	Pg	22 46 02.5	-0.1
ATTE				S	Sg	22 46 10.4	-0.1
ATTE				AML	AML		
	comp=E,61μm,0.9s						
ATTE				AML	AML		
	comp=N,68μm,1.6s						
ATTE				AML	AML		
	comp=E,61μm,1.1s						
ATMI	**Monte Miggiano**	**0.60**	**53**	P	Pb	22 46 03.5	-0.2
ATMI				S	Sb	22 46 11.7	-0.6
ATMI				AML	AML		
	comp=E,115μm,0.5s						
ATMI				AML	AML		
	comp=N,143μm,0.4s						
ATMI				AML	AML		
	comp=E,115μm,1.5s						
ATMI				AML	AML		
	comp=E,107μm,0.3s						
CRE	**Caprese Michel**	**0.69**	**21**	P	Pg	22 46 04.8	+0.3
ASQU	**Asqua**	**0.83**	**9**	P	Pg	22 46 07.3	+0.1
ASQU				S	Sb	22 46 18.9	+0.1
RUFI	**Rufina**	**0.87**	**356**	P	Pg	22 46 07.3	-0.5

*NAO **08** 22:45:48.9, 36°.88N×23°.68E, h10km, mb4.2*
*IDC **08** 22:45:59.4±0.8, 37°.77N×20°.53E, h0km, mb3.9/16, mbtmp3.8/31, ML3.5/11, MS3.7/32, Error ellipse: s-maj=15.1km s-min=13.0km az=20.0*
*ATH **08** 22:45:59.5, 37°.56N×20°.46E, h7km±1km, ML4.3/15,*

Manual Solution by D.Makaris This location: 2020/09/17 14:24:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km

MOS ***08*** *22:46:00.8±1.2, 37°.73N×20°.24E, h18km, mb4.3/15, Error ellipse: s-maj=7.1km s-min=3.3km az=72.7*

BEO ***08*** *22:46:01.3±2.2, 37°.46N×20°.19E, h47km±4km, ML4.1/15*

MCSM ***08*** *22:46:01.4±0.7, 38°.N±°×2°.0E±°, h9km±4km, mB4.3, mb4.3, MLv4.4, Mw(mB)3.4*

MED_RC ***08*** *22:46:01.0±0.2, 37°.67N×20°.42E, h18km±1km, MW4.5/29, Moment Tensor Solution. Mantle waves: s29,c45; Duration: 1s0 Moment tensor: Scale 1016Nm; Mrr-0.09±.04; Mθθ0.77±.04; Mφφ-0.68±.03; Mrθ-0.24±.05; Mrφ0.19±.03; Mθφ0.02±.05; Best double couple: M0 0.78000×1016 NP1:φs308.00000°, δ84.00000°, λ13.00000°. NP2:φs217.00000°, δ77.00000°, λ173.00000°. Principal axes: T 0.8500, Plg14.0000°, Azm173.0000°; N -0.1500, Plg75.0000°, Azm333.0000°; P -0.7000, Plg5.0000°, Azm82.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

THE ***08*** *22:46:01.1, 37°.63N×20°.52E, h11km±1km, ML4.2/9 Error ellipse: s-maj=2.4km s-min=0.8km az=50.0*

NEIC ***08*** *22:46:02.8, 37°.77N×20°.39E, h10km*

PDG ***08*** *22:46:02.5±0.8, 37°.68N×20°.51E, h10km±1km, ML4.4/13, Error ellipse: s-maj=0.9km s-min=1.9km az=0.0*

NEIC ***08*** *22:46:03.7±1.7, 37°.77N±0°.07×20°.39E±0°.07, h17km±3km, mb4.5/21, Mwr4.4/19, Error ellipse: s-maj=10.3km s-min=8.3km az=189.0, Moment Tensor Solution. Moment tensor: Scale 1015Nm; Mrr-2.43; Mθθ-0.87; Mφφ3.30; Mrθ1.95; Mθφ-4.15; Mrφ1.36; Fault plane solution: M0 5.63000×1015 NP1:φs290.46000°, δ62.75000°, λ-150.84000°. NP2:φs186.13000°, δ64.33000°, λ-30.53000°. Principal axes: T 5.8639, Plg1.0000°, Azm239.0000°; N -0.5093, Plg51.0000°, Azm330.0000°; P -5.3546, Plg39.0000°, Azm148.0000°;*

ISC 08 22:46:01.2±0.9, 37°.65N±0°.03×20°.48E±0°.03, h10km±5km, n381, σ1s78/423, mb4.2/38, MS3.8/26, 24C-15D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.27**	**87**	P	**Pg**	**22 46 05.9**	**-0.8**
KRI1				S	**Sg**	**22 46 10.1**	**-0.3**
	173µm,0.5s						
LTHK	**Lithakia**	**0.29**	**78**	P	**Pg**	**22 46 06.3**	**-0.8**
LTHK				S	**Sg**	**22 46 10.5**	**-0.5**
	130µm,0.4s						
LTHK	**Lithakia**	**0.29**	**78**	P	**Pg**	**22 46 06.2**	**-0.9**
LTHK				S	**Sg**	**22 46 10.2**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.47**	**10**	P	**Pg**	**22 46 10.2**	**-0.2**
PSDA				S	**Sb**	**22 46 17.7**	**-0.9**
	33µm,0.4s						
PSDA	**Pessada-Kefalo**	**0.47**	**10**	P	**Pg**	**22 46 10.3**	**-0.1**
PSDA				S	**Sb**	**22 46 17.9**	**-0.7**
RTZL	**Ratzakli, Kefa**	**0.49**	**29**	P	**Pg**	**22 46 10.2**	**-0.5**
RTZL				S	**Sg**	**22 46 17.6**	**+0.5**
	46µm,0.6s						
VLS	**Valsamata**	**0.54**	**10**	P	**Pg**	**22 46 11.1**	**-0.5**
VLS				S	**Sg**	**22 46 19.4**	**+0.7**
	30µm,0.3s						
VLS	**Valsamata**	**0.54**	**10**	P	**Pg**	**22 46 11.1**	**-0.5**
VLS				S	**Sg**	**22 46 19.4**	**+0.7**
VLS	**Valsamata**	**0.54**	**10**	P	**Pg**	**22 46 11.3**	**-0.3**
VLS				S	**Sb**	**22 46 19.8**	**-0.7**
LXR1	**Lixouri, Cepha**	**0.55**	**357**	P	**Pg**	**22 46 12.2**	**+0.3**
LXR1				S	**Sb**	**22 46 22.0**	**+1.1**
LXRA	**Lixouri, Kepha**	**0.55**	**357**	P	**Pg**	**22 46 12.1**	**+0.2**
LXRA				S	**Sb**	**22 46 21.0**	**+0.2**
DMLN	**Damoulianata-K**	**0.59**	**352**	P	**Pg**	**22 46 12.6**	**-0.1**
DMLN				S	**Sb**	**22 46 22.7**	**+0.6**
	38µm,0.6s						
DMLN	**Damoulianata-K**	**0.59**	**352**	P	**Pg**	**22 46 12.6**	**-0.1**
DMLN				S	**Sb**	**22 46 22.8**	**+0.7**
VSK1	**VASILIKIADES**	**0.76**	**5**	P	**Pg**	**22 46 15.3**	**-0.6**
VSK1				S	**Sb**	**22 46 27.3**	**+0.3**
FSK	**Fiskardo**	**0.81**	**5**	P	**Pg**	**22 46 16.1**	**-0.7**
FSK				S	**Sb**	**22 46 28.7**	**+0.3**
	18µm,0.4s						
FSK	**Fiskardo**	**0.81**	**5**	P	**Pg**	**22 46 16.2**	**-0.7**
FSK				S	**Sb**	**22 46 28.3**	**-0.1**
RLS	**Riolos of Patr**	**0.88**	**62**	P	**Pg**	**22 46 16.7**	**-1.5**
RLS				S	**Sg**	**22 46 29.8**	**0.0**
	13µm,0.7s						
RLS	**Riolos of Patr**	**0.88**	**62**	P	**Pg**	**22 46 16.9**	**-1.3**
RLS				S	**Sb**	**22 46 30.3**	**-0.2**
EVGI	**Lefkada island**	**0.98**	**8**	P	**Pg**	**22 46 19.1**	**-1.0**
EVGI				S	**Sn**	**22 46 34.5**	**-0.4**
	9µm,0.3s						
EVGI	**Lefkada island**	**0.98**	**8**	P	**Pg**	**22 46 19.3**	**-0.8**
EVGI				S	**Sn**	**22 46 34.3**	**-0.6**
AMT	**Artemida-Makis**	**0.99**	**96**	P	**Pg**	**22 46 18.9**	**-1.3**
DRO	**Drossia**	**1.02**	**72**	P	**Pg**	**22 46 19.8**	**-1.1**
DRO	**Drossia**	**1.02**	**72**	P	**Pg**	**22 46 19.7**	**-1.2**
DRO				S	**Sg**	**22 46 33.9**	**-0.3**
DRAG	**Dragano-Lefkad**	**1.04**	**4**	P	**Pg**	**22 46 20.0**	**-1.1**
DRAG	**Dragano-Lefkad**	**1.04**	**4**	P	**Pg**	**22 46 20.3**	**-0.8**
DRAG				S	**Sn**	**22 46 36.4**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.08**	**9**	P	**Pg**	**22 46 20.8**	**-1.1**
NYDR	**Nydri-Lefkada**	**1.08**	**9**	P	**Pg**	**22 46 21.1**	**-0.8**
NYDR				S	**Sn**	**22 46 38.1**	**+0.8**
LKD2	**Lefkada island**	**1.15**	**7**	P	**Pn**	**22 46 23.3**	**0.0**
TSLK	**Tsoukalades, L**	**1.18**	**7**	P	**Pb**	**22 46 22.5**	**-1.2**
TSLK	**Tsoukalades, L**	**1.18**	**7**	P	**Pb**	**22 46 23.4**	**-0.3**
TSLK				S	**Sn**	**22 46 41.0**	**+1.1**
UPR	**University Cam**	**1.22**	**58**	P	**Pn**	**22 46 24.2**	**0.0**
ITM	**Ithomi**	**1.25**	**112**	P	**Pn**	**22 46 24.1**	**-0.5**
ITM	**Ithomi**	**1.25**	**112**	P	**Pn**	**22 46 23.3**	**-1.4**
PYL	**PYLOS**	**1.26**	**126**	P	**Pn**	**22 46 23.9**	**-0.9**
PYL	**PYLOS**	**1.26**	**126**	P	**Pn**	**22 46 23.5**	**-1.3**
PYL				S	**Sb**	**22 46 39.0**	**-2.2**
EFP	**Efpalio**	**1.37**	**55**	P	**Pn**	**22 46 25.3**	**-1.0**
KLV	**Kalavryta, Ach**	**1.38**	**73**	P	**Pn**	**22 46 25.4**	**-1.2**
ANX	**Ano Chora**	**1.48**	**50**	P	**Pn**	**22 46 27.6**	**-0.3**
GUR	**Goura**	**1.51**	**78**	P	**Pn**	**22 46 28.1**	**-0.2**
KALE	**Kalithea**	**1.51**	**60**	P	**Pn**	**22 46 27.5**	**-0.8**
EVR	**Evrytania**	**1.64**	**39**	P	**Pn**	**22 46 30.5**	**+0.3**
IGT	**Igoumenitsa**	**1.89**	**357**	P	**Pb**	**22 46 35.1**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.89**	**43**	P	**Pn**	**22 46 33.2**	**-0.2**
AGG	**Agios Georgios**	**2.00**	**46**		**Pb**	**22 46 36.5**	**-1.2**
AGG	**Agios Georgios**	**2.00**	**46**	P	**Pb**	**22 46 36.5**	**-1.2**
JAN	**Janina**	**2.03**	**8**	P	**Pb**	**22 46 38.0**	**-0.1**
KEK	**Kerkira**	**2.13**	**346**		**Pn**	**22 46 36.8**	**0.0**
ATH	**Athens Observa**	**2.59**	**82**	P	**Pb**	**22 46 47.1**	**-0.5**
KZN	**Kozani**	**2.84**	**20**	P	**Pn**	**22 46 48.3**	**+1.7**
SCTE	**Santa Cesarea**	**2.88**	**328**		**Pn**	**22 46 47.0**	**-0.1**
LIT	**Litokhoron**	**2.91**	**32**		**Pn**	**22 46 48.5**	**+1.0**
LIT	**Litokhoron**	**2.91**	**32**	P	**Pn**	**22 46 48.5**	**+1.0**
FNA	**Florina**	**3.21**	**12**		**Pn**	**22 46 52.8**	**+1.1**
FNA	**Florina**	**3.21**	**12**	*e*Pn	**Pn**	**22 46 52.7**	**+1.1**
FNA				*e*Sn	**Sn**	**22 47 29.5**	**-0.5**
FNA	**Florina**	**3.21**	**12**	P	**Pn**	**22 46 52.8**	**+1.1**
TIP	**Timpagrande**	**3.30**	**299**		**Pn**	**22 46 52.8**	**0.0**
TIP	**Timpagrande**	**3.30**	**299**	Pn	**Pn**	**22 46 52.9**	**0.0**
PAIG	**Paliouri**	**3.38**	**47**	P	**Pn**	**22 46 56.5**	**+2.5**
OHR	**Ohrid**	**3.47**	**4**	*e*Pn	**Pn**	**22 46 56.1**	**+0.9**
OHR	**Ohrid**	**3.47**	**4**	*i* Pn	**Pn**	**22 46 57.1**	**+1.8**
OHR	**Ohrid**	**3.47**	**4**	P	**Pn**	**22 46 57.0**	**+1.8**
THE	**Thessaloniki**	**3.55**	**32**	P	**Pn**	**22 46 58.8**	**+2.5**
CEL	**Celeste**	**3.67**	**281**		**Pn**	**22 46 58.2**	**+0.2**
CEL	**Celeste**	**3.67**	**281**	Pn	**Pn**	**22 46 57.8**	**-0.2**
TIR	**Tirane**	**3.73**	**353**		**Pn**	**22 46 58.1**	**-0.5**
TIR	**Tirane**	**3.73**	**353**	*e*Pn	**Pn**	**22 46 58.7**	**0.0**
TIR	**Tirane**	**3.73**	**353**	P	**Pn**	**22 46 58.2**	**-0.5**
TIR	**Tirane**	**3.73**	**353**	Pn	**Pn**	**22 46 58.5**	**-0.2**
OUR	**Ouranopolis**	**3.83**	**44**	P	**Pn**	**22 47 02.9**	**+2.8**
SOH	**Sokhos**	**3.88**	**34**	P	**Pn**	**22 47 02.7**	**+1.9**
KNT	**Kendrikon**	**3.98**	**27**	P	**Pn**	**22 47 03.7**	**+1.5**
VAY	**Valandovo**	**4.01**	**23**	*e*Pn	**Pn**	**22 47 03.4**	**+0.8**
VAY	**Valandovo**	**4.01**	**23**	*i* Pn	**Pn**	**22 47 04.5**	**+1.9**
VAY	**Valandovo**	**4.01**	**23**	P	**Pn**	**22 47 06.0**	**+3.4**
SRS	**Serrai**	**4.22**	**34**	*e*Pn	**Pn**	**22 47 06.3**	**+0.8**
SRS				*e*Sn	**Sn**	**22 47 53.7**	**-1.2**
SRS	**Serrai**	**4.22**	**34**	P	**Pn**	**22 47 06.1**	**+0.6**
IDI	**Anoyia**	**4.27**	**122**		**Pn**	**22 47 10.2**	**+4.0**
IDI	**Anoyia**	**4.27**	**122**	Pn	**Pn**	**22 47 06.2**	**0.0**
	4.0nm,0.4s,baz=243,slow=8.1,SNR=17						
IDI				Sn	**Sn**	**22 47 56.6**	**+0.6**
	23nm,0.3s,baz=307,slow=21,SNR=13						
CUC	**Castrocucco**	**4.33**	**304**		**Pn**	**22 47 06.9**	**-0.2**
PUK	**Puka**	**4.41**	**354**		**Pn**	**22 47 08.4**	**+0.1**
ULC	**Ulcinj**	**4.41**	**348**	⇓*i*Pn	**Pn**	**22 47 07.8**	**-0.4**
ULC				*i* Sn	**Sn**	**22 47 59.4**	**-0.2**
PEHC	**Pehcevo**	**4.53**	**24**	*i* Pn	**Pn**	**22 47 09.9**	**+0.1**
DRME	**Dracevica, Mon**	**4.64**	**348**	⇑*i*Pn	**Pn**	**22 47 11.3**	**0.0**
DRME				*i* Sn	**Sn**	**22 48 05.0**	**-0.2**
MMB	**Musomishta**	**4.64**	**32**	*i* P	**Pn**	**22 47 12.3**	**+1.0**
KKB	**Krupnik**	**4.66**	**25**	*i* P	**Pn**	**22 47 12.4**	**+0.8**
BUM	**Brajici-Budva**	**4.80**	**346**	*e*Pn	**Pn**	**22 47 13.0**	**-0.6**
BUM				*e*Sn	**Sn**	**22 48 08.8**	**-0.5**
VAE	**Valguarnera**	**4.82**	**270**	Pn	**Pn**	**22 47 14.3**	**+0.5**
	8.5nm,0.6s,baz=156,slow=22,SNR=2.2						
VAE				Sn	**Sn**	**22 48 08.9**	**-0.8**
	11nm,0.3s,baz=94,slow=13,SNR=6.0						
PDG	**Podgorica**	**4.87**	**349**	Pn	**Pn**	**22 47 14.0**	**-0.4**
PDG	**Podgorica**	**4.87**	**349**	*e*Pn	**Pn**	**22 47 13.2**	**-1.2**
PDG				*e*Sn	**Sn**	**22 48 06.3**	**-4.4**
PDG	**Podgorica**	**4.87**	**349**	*e*Pn	**Pn**	**22 47 13.5**	**-0.9**
PDG	**Podgorica**	**4.87**	**349**	*e*Pn	**Pn**	**22 47 14.6**	**+0.2**
PDG				*i* Sn	**Sn**	**22 48 10.5**	**-0.2**
RAFF	**Raffo Rosso**	**4.88**	**267**		**Pn**	**22 47 14.1**	**-0.5**
PVY	**Plav**	**4.96**	**356**	*e*Pn	**Pn**	**22 47 17.8**	**+2.1**
PVY				*e*Sn	**Sn**	**22 48 12.5**	**-0.6**
HCY	**Herceg Novi**	**5.03**	**343**	*e*Pn	**Pn**	**22 47 14.7**	**-1.9**
HCY	**Herceg Novi**	**5.03**	**343**	⇑*i*Pn	**Pn**	**22 47 15.0**	**-1.6**
HCY				*i* Sn	**Sn**	**22 48 14.5**	**-0.2**
CEME	**Cevo**	**5.04**	**347**	⇓*i*Pn	**Pn**	**22 47 15.8**	**-1.0**
CEME				*i* Sn	**Sn**	**22 48 14.7**	**-0.3**
EZN	**Ezine**	**5.06**	**63**	Pn	**Pn**	**22 47 17.6**	**+0.5**
	32nm,0.9s,0.2nm						
BOSS	**Bosilegrad**	**5.08**	**17**	*e*Pn	**Pn**	**22 47 17.6**	**+0.3**
WDD	**Wied Dalam**	**5.11**	**251**		**Pn**	**22 47 19.2**	**+1.5**
RZN	**Rozhen**	**5.21**	**38**	*i* P	**Pn**	**22 47 20.3**	**+1.0**
IVA	**Berane**	**5.24**	**355**	⇑*i*Pn	**Pn**	**22 47 19.7**	**+0.2**
IVA				*i* Sn	**Sn**	**22 48 19.3**	**-0.7**
NKME	**Niksic**	**5.24**	**348**	⇓*i*Pn	**Pn**	**22 47 19.0**	**-0.6**
NKME				*i* Sn	**Sn**	**22 48 19.1**	**-1.0**
KOME	**Kolasin**	**5.25**	**352**	⇑*i*Pn	**Pn**	**22 47 20.5**	**+0.8**
KOME				*i* Sn	**Sn**	**22 48 19.5**	**-0.8**
BARS	**Barje**	**5.26**	**11**	*e*Pn	**Pn**	**22 47 19.7**	**-0.1**
TREB	**Trebinje**	**5.32**	**343**	*e*Pn	**Pn**	**22 47 18.9**	**-1.7**
TREB				*e*Sn	**Sn**	**22 48 17.5**	**-4.4**
TREB	**Trebinje**	**5.32**	**343**	*e*Pn	**Pn**	**22 47 18.7**	**-1.9**
PLNA	**Plana**	**5.33**	**24**	*i* P	**Pn**	**22 47 21.7**	**+0.9**
VTS	**Vitosha**	**5.39**	**22**	*i* P	**Pn**	**22 47 22.4**	**+0.6**
VTS	**Vitosha**	**5.39**	**22**	*e*Pn	**Pn**	**22 47 22.4**	**+0.6**
VTS				*e*Sn	**Sn**	**22 48 22.0**	**-2.0**
ALN	**Alexandroupoli**	**5.40**	**51**		**Pn**	**22 47 23.2**	**+1.5**
ALN	**Alexandroupoli**	**5.40**	**51**	P	**Pn**	**22 47 23.2**	**+1.5**
BRY	**Bratogost**	**5.45**	**345**	*e*Pn	**Pn**	**22 47 20.2**	**-2.4**
BRY	**Bratogost**	**5.45**	**345**	⇑*i*Pn	**Pn**	**22 47 20.5**	**-2.1**
BRY				*i* Sn	**Sn**	**22 48 24.0**	**-1.4**
KDZ	**Kurdzhali**	**5.47**	**42**	P	**Pn**	**22 47 24.1**	**+1.4**
SELS	**Selova**	**5.59**	**5**	*e*Pn	**Pn**	**22 47 23.6**	**-0.7**
SJES	**Sjenica**	**5.62**	**356**	*e*Pn	**Pn**	**22 47 24.7**	**-0.1**
SJES				*e*Sn	**Sn**	**22 48 25.5**	**-4.0**
SJES	**Sjenica**	**5.62**	**356**	*e*Pn	**Pn**	**22 47 24.8**	**-0.1**
STON	**Ston**	**5.63**	**339**	*e*Pn	**Pn**	**22 47 23.4**	**-1.5**
STON				*e*Sn	**Sn**	**22 48 24.2**	**-5.4**
STON	**Ston**	**5.63**	**339**	*e*Pn	**Pn**	**22 47 23.0**	**-1.9**
UPM	**Unac-Piva**	**5.68**	**348**	*e*Pn	**Pn**	**22 47 25.0**	**-0.7**
UPM	**Unac-Piva**	**5.68**	**348**	*e*Pn	**Pn**	**22 47 26.5**	**+0.8**
UPM				*e*Sn	**Sn**	**22 48 29.6**	**-1.4**
PAOL	**Paolisi**	**5.69**	**308**		**Pn**	**22 47 27.8**	**+2.0**
PLE	**Pljevlja**	**5.74**	**352**	⇑*i*Pn	**Pn**	**22 47 27.4**	**+1.0**
PLE				*i* Sn	**Sn**	**22 48 31.2**	**-1.1**
KARP	**Karpathos**	**5.77**	**109**		**Pn**	**22 47 30.2**	**+3.3**
KARP	**Karpathos**	**5.77**	**109**	*e*P	**Pn**	**22 47 31.0**	**+4.1**
KARP	**Karpathos**	**5.77**	**109**	P	Pb	22 47 36.1	-5.8
KARP	**Karpathos**	**5.77**	**109**	Pn	**Pn**	**22 47 27.7**	**+0.8**
	53nm,0.7s,0.4nm						
ZAPS	**Zavoj**	**5.86**	**16**	*e*Pn	**Pn**	**22 47 28.7**	**+0.7**
IVAS	**Ivanjica**	**5.93**	**358**	*e*Pn	**Pn**	**22 47 28.0**	**-1.0**
RUDO	**Rudo**	**6.02**	**352**	*e*Pn	**Pn**	**22 47 28.1**	**-2.2**
BOVS	**Bovan**	**6.05**	**8**	*e*Pn	**Pn**	**22 47 29.6**	**-1.1**
MPEP	**Malo Peshtene**	**6.22**	**23**	*i* P	**Pn**	**22 47 34.5**	**+1.5**
GRUS	**Gruza**	**6.24**	**2**	*e*Pn	**Pn**	**22 47 32.2**	**-1.0**
BBLS	**Lazi&#263i**	**6.26**	**353**	*e*Pn	**Pn**	**22 47 32.1**	**-1.5**
BBLS				*e*Sn	**Sn**	**22 48 39.9**	**-5.4**
BBLS	**Lazi&#263i**	**6.26**	**353**	*e*Pn	**Pn**	**22 47 31.5**	**-2.1**
ZAGS	**Zajecar**	**6.30**	**12**	*e*Pn	**Pn**	**22 47 33.2**	**-0.9**
VALD	**Valchedram**	**6.44**	**20**	*e*P	Pn	22 47 42.6	+6.6
DIVS	**Divibare**	**6.45**	**357**	*e*Pn	**Pn**	**22 47 34.5**	**-1.8**
HAPS	**Han Pijesak,BI**	**6.53**	**350**	*e*Pn	**Pn**	**22 47 36.0**	**-1.4**
TRUS	**Trudelj**	**6.57**	**360**	*e*Pn	**Pn**	**22 47 36.6**	**-1.2**
INTR	**Introdacqua**	**6.67**	**313**		**Pn**	**22 47 40.5**	**+1.2**
TEKS	**Tekeris**	**6.93**	**354**	*e*Pn	**Pn**	**22 47 41.0**	**-1.8**
TEKS	**Tekeris**	**6.93**	**354**	*e*Pn	**Pn**	**22 47 39.2**	**-3.6**
HERR	**Herculane**	**7.37**	**11**	⇑P	**Pn**	**22 47 47.1**	**-1.6**
AKAS	**Kas**	**7.45**	**98**	Pn	**Pn**	**22 47 52.0**	**+2.0**
A050A	**Klekovaca**	**7.45**	**338**	*e*Pn	**Pn**	**22 47 49.7**	**-0.2**
BLY	**Banja Luka**	**7.51**	**342**	*e*Pn	**Pn**	**22 47 48.4**	**-2.3**
BLY	**Banja Luka**	**7.51**	**342**	*e*Pn	**Pn**	**22 47 50.2**	**-0.5**
FRGS	**Fruska Gora**	**7.52**	**356**	*e*Pn	Pn	22 47 43.4	-7.4
ELL	**Elmali**	**7.58**	**94**		**Pn**	**22 47 55.2**	**+3.4**
ELL	**Elmali**	**7.58**	**94**	P	**Pn**	**22 47 55.2**	**+3.4**
NRCA	**Norcia**	**7.65**	**315**		**Pn**	**22 47 53.1**	**+0.4**
GUMA	**Gualdo di Mace**	**7.68**	**317**		**Pn**	**22 47 53.4**	**+0.4**
FDMO	**Fiordimonte**	**7.79**	**316**		**Pn**	**22 47 55.5**	**+0.9**
A051A	**Mrakovica**	**7.83**	**341**	*e*Pn	**Pn**	**22 47 53.5**	**-1.6**
GZR	**Gura Zlata**	**7.93**	**12**	⇓P	**Pn**	**22 47 59.0**	**+2.5**
GZR	**Gura Zlata**	**7.93**	**12**	⇓P	**Pn**	**22 47 59.0**	**+2.5**
BZS	**Buzias**	**8.01**	**6**	*e*Pn	**Pn**	**22 47 55.8**	**-1.7**
BZS	**Buzias**	**8.01**	**6**	⇑P	**Pn**	**22 47 55.3**	**-2.2**
BZS	**Buzias**	**8.01**	**6**	⇑P	**Pn**	**22 47 55.3**	**-2.2**
SURR	**Surduc**	**8.19**	**8**	⇑P	**Pn**	**22 48 00.3**	**+0.3**
VOIR		**8.50**	**22**	⇓P	**Pn**	**22 48 03.4**	**-0.9**
VOIR		**8.50**	**22**	⇓P	**Pn**	**22 48 03.4**	**-0.9**
VOIR		**8.50**	**22**	Pn	**Pn**	**22 48 04.2**	**-0.2**
	4.4nm,0.6s						
SIRR	**Siria**	**8.66**	**5**	⇑P	**Pn**	**22 48 06.8**	**+0.3**
MORH	**Mrgy, Hungar**	**8.67**	**352**	⇓P	**Pn**	**22 48 04.4**	**-2.1**
MORH	**Mrgy, Hungar**	**8.67**	**352**	Pn	**Pn**	**22 48 05.0**	**-1.5**
	5.3nm,1.0s						
ISR	**Istrita**	**8.74**	**29**	Pn	**Pn**	**22 48 08.1**	**+0.5**
	23nm,0.9s						
BOJS	**Bojanci**	**8.77**	**335**	*i* Pn	**Pn**	**22 48 07.2**	**-0.7**
MLR	**Muntele Rosu**	**8.84**	**26**		**Pn**	**22 48 10.1**	**+1.1**
MLR	**Muntele Rosu**	**8.84**	**26**	Pn	**Pn**	**22 48 10.3**	**+1.3**
	0.6nm,0.3s,baz=233,slow=4.1,SNR=15						
MLR				LR	LR	22 52 48.9	
	comp=Z,465nm,18.1s,baz=202,slow=47						
	9.6nm,0.7s						
MLR	**Muntele Rosu**	**8.84**	**26**	⇑P	**Pn**	**22 48 10.9**	**+1.9**
MLR	**Muntele Rosu**	**8.84**	**26**	⇑P	**Pn**	**22 48 10.9**	**+1.9**
MLR	**Muntele Rosu**	**8.84**	**26**	Pn	**Pn**	**22 48 09.1**	**+0.1**
	28nm,1.2s						
NEHR	**Nehoiu**	**8.91**	**27**	⇑P	**Pn**	**22 48 12.5**	**+2.6**
PTJ	**Puntijarka**	**8.91**	**339**	P	**Pn**	**22 48 08.5**	**-1.5**
GBRS	**Gornja Briga**	**8.94**	**333**	*i* Pn	**Pn**	**22 48 10.1**	**-0.3**
GBRS				*e*Sn	**Sn**	**22 49 44.7**	**-6.4**
CRES	**Cresnjevec Ost**	**8.99**	**337**	*i* Pn	**Pn**	**22 48 09.9**	**-1.1**
CRES	**Cresnjevec Ost**	**8.99**	**337**	*e*Pn	**Pn**	**22 48 09.4**	**-1.6**
KEST	**Kesra**	**9.14**	**261**	Pn	**Pn**	**22 48 14.1**	**+1.0**
KEST	**Kesra**	**9.14**	**261**	Pn	**Pn**	**22 48 14.8**	**+1.6**
	0.1nm,0.3s,baz=106,slow=7.7,SNR=2.1						
KEST				Sn	**Sn**	**22 49 53.8**	**-2.4**
	0.2nm,0.3s,baz=98,slow=23,SNR=0.8						
KEST				LR	LR	22 53 02.5	
	comp=Z,242nm,18.2s,baz=62,slow=46						
	1.9nm,0.6s						
BISRR	**Bisoca**	**9.17**	**29**	Pn	**Pn**	**22 48 13.6**	**+0.1**
	58nm,0.9s						
BEHE	**Becsehely**	**9.23**	**344**	Pn	**Pn**	**22 48 12.3**	**-2.0**
SKDS	**Skadanscina**	**9.25**	**331**	*e*Pn	**Pn**	**22 48 12.4**	**-2.2**
CEY	**Cerknica**	**9.26**	**333**	*e*Pn	**Pn**	**22 48 13.9**	**-0.8**
PLOR	**Plostina**	**9.40**	**27**	⇑P	**Pn**	**22 48 19.5**	**+2.8**
PLOR	**Plostina**	**9.40**	**27**	⇑P	**Pn**	**22 48 19.5**	**+2.8**
PLOR3	**Plostina Array**	**9.40**	**27**	Pn	**Pn**	**22 48 16.8**	**+0.1**
	24nm,1.3s						
PLOR5	**Plostina Array**	**9.40**	**27**	Pn	**Pn**	**22 48 16.8**	**+0.1**
	14nm,0.9s						
VRI	**Vrincioaia**	**9.44**	**28**	⇓P	**Pn**	**22 48 17.4**	**+0.2**
VRI	**Vrincioaia**	**9.44**	**28**	⇓P	**Pn**	**22 48 17.4**	**+0.2**
VRI	**Vrincioaia**	**9.44**	**28**	Pn	**Pn**	**22 48 17.4**	**+0.2**
	11nm,0.7s,137nm						
MPLH	**Magyarpolny**	**9.76**	**348**	Pn	**Pn**	**22 48 20.2**	**-1.3**
	17nm,0.8s						
SABO	**M.te Sabotino**	**9.78**	**331**		**Pn**	**22 48 21.2**	**-0.6**
ZCCA	**Zocca**	**9.81**	**316**	Pn	**Pn**	**22 48 22.6**	**+0.3**
PERS	**Pernice**	**9.82**	**338**	*e*Pn	**Pn**	**22 48 20.7**	**-1.7**
ANTO	**Ankara**	**9.87**	**73**	Pn	**Pn**	**22 48 23.2**	**0.0**
	3.3nm,1.3s						
SOKA	**Soboth**	**9.88**	**338**	*i* Pn	**Pn**	**22 48 21.9**	**-1.4**
	6.1nm,0.6s,SNR=9.0						
SOKA				*e*Sn	**Sn**	**22 50 06.7**	**-7.6**
	11nm,0.7s						
OBKA	**Obir**	**9.89**	**335**	*i* Pn	**Pn**	**22 48 22.7**	**-0.6**
	4.0nm,0.3s,SNR=8.8						
OBKA				*e*Sn	**Sn**	**22 50 09.1**	**-5.2**
	32nm,0.7s						
OBKA	**Obir**	**9.89**	**335**	*e*Pn	**Pn**	**22 48 22.5**	**-0.8**
TESR	**Tescani**	**9.97**	**25**	P	**Pn**	**22 48 24.5**	**+0.1**
	11nm,1.7s						
TEOL	**Teolo**	**10.14**	**322**	Pn	**Pn**	**22 48 25.8**	**-1.0**
PRED	**Cave del Predi**	**10.18**	**332**	Pn	**Pn**	**22 48 26.7**	**-0.6**
ARSA	**Arzberg**	**10.27**	**341**	*i* Pn	**Pn**	**22 48 27.6**	**-0.9**
	2.3nm,0.4s						
BRTR	**Keskin Array B**	**10.50**	**75**	Pn	**Pn**	**22 48 32.6**	**+0.8**
	baz=254,slow=13,SNR=2.2						
BRTR				LR	LR	22 52 50.4	
	comp=Z,329nm,21.6s,baz=272,slow=39						
	0.6nm,0.7s						
RONA	**Rosalia, Austr**	**10.50**	**344**	*i* Pn	**Pn**	**22 48 33.0**	**+1.3**
	1.1nm,0.4s						
BURAR	**Bucovina Array**	**10.55**	**18**	Pn	**Pn**	**22 48 32.9**	**+0.5**
BURAR	**Bucovina Array**	**10.55**	**18**	⇓P	**Pn**	**22 48 34.4**	**+1.9**
BURAR	**Bucovina Array**	**10.55**	**18**	⇓P	**Pn**	**22 48 34.4**	**+1.9**
BUR08	**Bucovina Ar. S**	**10.57**	**18**		**Pn**	**22 48 32.5**	**-0.2**
CTI	**Castel Tesino**	**10.66**	**325**		**Pn**	**22 48 33.6**	**-0.4**
CTI	**Castel Tesino**	**10.66**	**325**	P	**Pn**	**22 48 33.6**	**-0.4**
CSS	**Mathiatis**	**10.71**	**101**

SOC	**Sochi**	**15.76**	**62**	*e*P	**Pn**	**22 49 43.6**	**+0.6**
SOC				*e*		22 52 40.7	
SOC				MLR	MLR		
comp=Z,99nm,15.0s							
WLF	**Walferdange**	**15.83**	**324**	*d*P	**P**	**22 49 50.5**	**+2.7**
SUW	**Suwalki**	**16.47**	**6**		**Pn**	**22 49 50.5**	**-1.7**
SUW				IAmb	IAmb	22 50 00.4	
comp=Z,39nm,1.0s							
SUW	**Suwalki**	**16.47**	**6**	P	**Pn**	**22 49 50.5**	**-1.7**
SUW				pmax	pmax		
comp=Z,39nm,1.0s							
GURO	**Guroymak-BITLI**	**16.99**	**80**		**Pn**	**22 49 59.6**	**+0.6**
MNK	**Minsk**	**17.61**	**14**	*i* P	**Pn**	**22 50 04.0**	**-2.4**
comp=E,9.0nm,0.8s							
MNK				*i* P	**Pn**	**22 50 04.0**	**-2.4**
comp=N,6.0nm,0.7s,baz=200							
MNK				*i* P	**Pn**	**22 50 04.0**	**-2.4**
comp=Z,10.0nm,0.7s							
MNK				*i* PP	**pwP**	**22 50 14.2**	**+1.1**
MNK				*i* PPP	PPP	22 50 21.9	
MNK				*i* S	**Sn**	**22 53 19.2**	**-3.1**
MNK				*i* SS	**SnSn**	**22 53 34.1**	**-1.7**
MNK				*i* SSS	SSS	22 53 46.9	
MNK				*i* LQ	LQ	22 55 34.2	
MNK				*i* LR	LR	22 56 49.2	
MNK				*i* LRM	MLR	22 57 50.2	
comp=N,188nm,13.1s							
MNK				*i* LRM	MLR	22 57 53.8	
comp=E,151nm,13.6s							
MNK				*i* LRM	MLR	22 57 56.7	
comp=Z,172nm,13.4s							
MNK	**Minsk**	**17.61**	**14**	*i* P	**Pn**	**22 50 04.0**	**-2.4**
MNK				*i* S	**Sn**	**22 53 19.2**	**-3.1**
MNK				pmax	pmax		
comp=E,9.0nm,0.8s							
MNK				pmax	pmax		
comp=Z,10.0nm,0.7s							
MNK				pmax	pmax		
comp=N,6.0nm,0.7s							
MNK				MLR	MLR		
comp=N,188nm,13.0s							
MNK				MLR	MLR		
comp=E,151nm,14.0s							
MNK				MLR	MLR		
comp=Z,172nm,13.0s							
NACGM	**Naroch**	**17.79**	**12**	*e*P	**Pn**	**22 50 05.5**	**-3.1**
SHA1	**Shidzhatmaz**	**17.86**	**63**	*i* P	**P**	**22 50 11.6**	**+1.0**
KIV	**Kislovodsk**	**17.93**	**62**	*e*P	**P**	**22 50 12.4**	**+1.2**
KIV				pmax	pmax		
comp=Z,3.0nm,1.0s							
KIV				MLR	MLR		
comp=Z,44nm,14.0s							
KVAR	**Kislovodsk Arr**	**17.94**	**62**	P	**Pn**	**22 50 09.3**	**-1.4**
baz=234,slow=17							
comp=Z,1.4nm,0.8s							
PABE	**Paberze**	**18.02**	**6**	Pn	**Pn**	**22 50 09.7**	**-1.7**
PABE				IAmb	IAmb	22 50 10.5	
comp=Z,45nm,0.7s							
PABE	**Paberze**	**18.02**	**6**	*e*P	**Pn**	**22 50 10.3**	**-1.2**
KBZ	**Khabaz**	**18.03**	**63**	P	**P**	**22 50 12.2**	**+0.1**
comp=Z,0.1nm,0.3s,baz=317,slow=20,SNR=1.5							
KBZ				S	**S**	**22 53 46.2**	**+7.4**
comp=Z,1.1nm,0.8s,baz=228,slow=8.0,SNR=1.8							
comp=Z,0.6nm,0.7s							
KBZ	**Khabaz**	**18.03**	**63**	*i* P	**P**	**22 50 13.7**	**+1.6**
KBZ				pmax	pmax		
comp=Z,4.0nm,0.9s							
VSR	**Storozhevoye**	**18.95**	**38**	*e*P	**Pn**	**22 50 23.6**	**+0.7**
VSR				pmax	pmax		
comp=Z,5.0nm,0.8s							
GNI	**Garni**	**19.04**	**75**	P	**P**	**22 50 23.8**	**+0.3**
comp=Z,0.1nm,0.3s,baz=338,slow=21,SNR=1.3							
comp=Z,2.1nm,0.8s							
GNI	**Garni**	**19.04**	**75**	*i* P	**Pn**	**22 50 25.4**	**+1.2**
GNI				pmax	pmax		
comp=Z,5.0nm,0.9s							
ESDC	**Sonseca Array**	**19.18**	**284**	P	**Pn**	**22 50 25.6**	**-0.2**
comp=Z,0.8nm,0.9s,baz=84,slow=11,SNR=4.5							
ESDC				LR	LR	22 58 09.9	
comp=Z,229nm,19.0s,baz=56,slow=38							
LPSR	**Galich'ya Gora**	**19.74**	**35**	*e*P	**Pn**	**22 50 32.3**	**0.0**
LPSR				pmax	pmax		
comp=Z,20nm,0.8s							
OBN	**Obninsk**	**20.61**	**27**	P	**P**	**22 50 40.1**	**-0.1**
comp=Z,5.0nm,0.4s,baz=157,slow=15,SNR=1.3							
OBN				LR	LR	22 58 40.2	
comp=Z,332nm,18.4s,baz=186,slow=37							
comp=Z,5.0nm,0.4s							
OBN	**Obninsk**	**20.61**	**27⇓**	*e*P	Pn	22 50 42.2	-0.3
OBN				*e*		22 51 04.7	
OBN				pmax	pmax		
comp=Z,26nm,1.7s							
OBN				MLR	MLR		
comp=Z,299nm,16.0s							
MTSE	**Matsula**	**21.19**	**5**	*e*P	**P**	**22 50 46.5**	**0.0**
VSU	**Vasula**	**21.23**	**9**	*ce*P	**P**	**22 50 47.0**	**+0.1**
VSU				pmax	pmax		
comp=Z,39nm,0.7s							
MAK	**Makhachkala**	**21.24**	**67**	*e*P	**P**	**22 50 45.2**	**-2.0**
MAK				*e*S	**S**	**22 54 41.7**	**-1.4**
MAK				MLR	MLR		
comp=Z,123nm,13.0s							
AKT	**Akhty**	**21.32**	**71**	*e*P	**P**	**22 50 50.5**	**+2.3**
AKT				*e*PPP	PPP	22 51 17.8	
AKT				pmax	pmax		
comp=Z,19nm,1.2s							
MOS	**Moscow**	**21.48**	**27**	*e*P	**P**	**22 50 49.5**	**-0.1**
MOS				*e*		22 51 15.2	
MOS				*e*S	**S**	**22 54 46.6**	**-0.9**
ARBE	**Arbavere**	**22.09**	**7**	*e*P	**P**	**22 50 57.7**	**+1.5**
HFS	**Hagfors**	**22.92**	**351**	P	**P**	**22 51 03.7**	**-1.3**
comp=Z,3.9nm,0.6s,baz=163,slow=11,SNR=25							
HFS				LR	LR	23 02 45.9	
comp=Z,176nm,18.4s,baz=174,slow=44							
comp=Z,3.9nm,0.6s							
RAF	**Rauma**	**23.41**	**2**	*e*P	**P**	**22 51 08.6**	**-1.4**
NC602	**NORSAR Array S**	**23.79**	**349**	P	**P**	**22 51 13.1**	**-0.6**
NC602				IAmb	IAmb	22 51 21.5	
comp=Z,20nm,1.4s							
NORES	**NORESS Array B**	**23.79**	**349**	P	**P**	**22 51 13.5**	**-0.2**
EKA	**Eskdalemuir Ar**	**23.84**	**325**	P	**P**	**22 51 12.2**	**-2.0**
comp=Z,1.9nm,0.6s,baz=133,slow=7.2,SNR=7.8							
comp=Z,1.9nm,0.6s							
ESK	**Eskdalemuir**	**23.85**	**325**	P	**P**	**22 51 14.6**	**+0.3**
ESK	**Eskdalemuir**	**23.85**	**325**	P	**P**	**22 51 14.6**	**+0.3**
ESK				pmax	pmax		
comp=Z,34nm,1.2s							
NAO01	**NORSAR Array S**	**24.00**	**348**	P	**P**	**22 51 14.4**	**-1.3**
NAO01				IAmb	IAmb	22 51 37.5	
comp=Z,27nm,1.4s							
BELG	**Belogornoye**	**24.01**	**43**	*i* P	**P**	**22 51 17.4**	**+1.6**
BELG				pmax	pmax		
comp=Z,4.0nm,0.8s							
FINES	**FINESS Array B**	**24.08**	**7**	P	**P**	**22 51 14.6**	**-1.8**
comp=Z,1.7nm,0.4s,baz=169,slow=9.6,SNR=31							
FINES				LR	LR	23 01 57.1	
comp=Z,347nm,20.1s,baz=190,slow=40							
comp=Z,1.7nm,0.4s							
FINES	**FINESS Array B**	**24.08**	**7**	*ce*P	**P**	**22 51 15.3**	**-1.1**
FINES				pmax	pmax		
comp=Z,6.0nm,0.7s							
FIA1	**FINESS Array S**	**24.08**	**7**	P	**P**	**22 51 14.7**	**-1.7**
NC405	**NORSAR Array S**	**24.13**	**350**	P	**P**	**22 51 16.3**	**-0.6**
NB201	**NORSAR Array S**	**24.13**	**349**	P	**P**	**22 51 16.3**	**-0.7**
NB201				IAmb	IAmb	22 51 41.4	
comp=Z,17nm,1.1s							
NB2	**NORSAR Subarra**	**24.13**	**349**	P	**P**	**22 51 15.9**	**-1.0**
comp=Z,7.5nm,1.2s,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**24.13**	**349**	P	**P**	**22 51 16.0**	**-1.0**
comp=Z,0.3nm,0.4s,baz=163,slow=10,SNR=8.9							
NOA				LR	LR	23 03 04.2	
comp=Z,127nm,19.3s,baz=170,slow=43							
comp=Z,0.3nm,0.4s							
NOA	**NORSAR Array B**	**24.13**	**349**	P	**P**	**22 51 16.0**	**-1.0**
NBO00	**NORSAR Array S**	**24.19**	**348**	P	**P**	**22 51 17.4**	**-0.1**
NBO00				IAmb	IAmb	22 51 54.7	
comp=Z,15nm,1.1s							
NC303	**NORSAR Array S**	**24.28**	**349**	P	**P**	**22 51 17.9**	**-0.5**
NC303				IAmb	IAmb	22 51 33.9	
comp=Z,23nm,1.4s							
NC204	**NORSAR Array S**	**24.42**	**349**	P	**P**	**22 51 19.1**	**-0.5**
NC204				IAmb	IAmb	22 51 37.4	
comp=Z,24nm,1.4s							
VAF	**Ylistaro**	**25.46**	**2**	*e*P	**P**	**22 51 28.1**	**-0.8**
RAYN	**Ar Rayn**	**25.64**	**116**	P	**P**	**22 51 33.0**	**+2.0**
RAYN	**Ar Rayn**	**25.64**	**116**	P	**P**	**22 51 33.0**	**+2.0**
RAYN				pmax	pmax		
comp=Z,3.0nm,1.0s							
KLMR	**Klimovskoe**	**26.14**	**21**	*e*P	**P**	**22 51 37.7**	**+2.5**
KLMR				pmax	pmax		
comp=Z,21nm,1.9s							
KIRV	**Kirov**	**28.12**	**33**	LR	LR	23 02 17.7	
comp=Z,126nm,21.7s,baz=237,slow=35							
TORD	**Torodi Ar. Bea**	**29.60**	**219**	P	**P**	**22 52 07.1**	**+0.6**
comp=Z,0.4nm,0.6s,baz=34,slow=9.4,SNR=5.6							
comp=Z,0.4nm,0.6s							
ARTI	**Arti**	**31.37**	**41**	*d i* P	**P**	**22 52 23.2**	**+1.4**
ARTI				S	**S**	**22 57 32.4**	**+3.5**
ARTI				SS	**SnSn**	**22 59 14.4**	**+2.1**
ARTI				pmax	pmax		
comp=Z,14nm,2.9s							
ARTI				MLR	MLR		
comp=Z,143nm,11.0s							
ARCES	**ARCESS Array B**	**32.06**	**3**	P	**P**	**22 52 26.0**	**-1.7**
comp=Z,1.1nm,0.7s,baz=188,slow=11,SNR=9.1							
comp=Z,1.1nm,0.7s							
SVE	**Sverdlovsk**	**32.69**	**41**	*e*P	**P**	**22 52 34.4**	**+1.0**
FURI	**Furi**	**33.02**	**145**	LR	LR	23 06 51.3	
comp=Z,122nm,20.8s,baz=332,slow=38							
BRVK	**Borovoye**	**37.43**	**49**	P	**P**	**22 53 15.0**	**+0.8**
BRVK	**Borovoye**	**37.43**	**49**	*ce*P	**P**	**22 53 16.8**	**+2.6**
BRVK				pmax	pmax		
comp=Z,3.0nm,1.0s							
BVAR	**Borovoye Array**	**37.49**	**49**	P	**P**	**22 53 13.6**	**-1.1**
comp=Z,1.9nm,0.7s,baz=269,slow=5.8,SNR=2.1							
comp=Z,1.9nm,0.7s							
KKAR	**Karatay Array**	**38.04**	**66**	P	**P**	**22 53 21.1**	**+1.5**
KKAR	**Karatay Array**	**38.04**	**66**	P	**P**	**22 53 21.1**	**+1.5**
KKAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
MBAR	**Mbarara**	**39.23**	**164**	LR	LR	23 10 16.2	
comp=Z,113nm,21.2s,baz=338,slow=37							
BBTS	**Babate**	**39.96**	**245**	LR	LR	23 12 33.2	
comp=Z,157nm,18.8s,baz=298,slow=40							
SPITS	**Spitsbergen Ar**	**40.67**	**359**	LR	LR	23 12 58.4	
comp=Z,201nm,18.6s,baz=142,slow=40							
AAK	**Ala-Archa**	**41.01**	**66**	LR	LR	23 14 24.8	
comp=Z,79nm,21.1s,baz=279,slow=42							
AAK	**Ala-Archa**	**41.01**	**66**	*i* P	**P**	**22 53 46.1**	**+1.6**
AAK				pmax	pmax		
comp=Z,7.0nm,2.8s							
KMBO	**Kilima Mbogo**	**41.59**	**154**	LR	LR	23 11 14.4	
comp=Z,62nm,20.6s,baz=314,slow=36							
KURBB	**Kurchatov Arra**	**42.57**	**53**	P	**P**	**22 53 55.0**	**-2.0**
comp=Z,0.7nm,0.2s,baz=279,slow=8.3,SNR=2.2							
comp=Z,0.7nm,0.2s							
KURK	**Kurchatov**	**42.62**	**53**	*ce*P	**P**	**22 54 00.2**	**+2.8**
KURK				pmax	pmax		
comp=Z,4.0nm,1.3s							
MK31	**Makanchi Array**	**45.61**	**58**		**P**	**22 54 23.5**	**+2.1**
MK31				IAmb	IAmb	22 54 40.0	
comp=Z,8.1nm,1.5s							
MK31	**Makanchi Array**	**45.61**	**58**	P	**P**	**22 54 23.5**	**+2.1**
MK31				pmax	pmax		
comp=Z,8.0nm,1.5s							
MKAR	**Makanchi Array**	**45.61**	**58**	P	**P**	**22 54 19.2**	**-2.2**
comp=Z,0.6nm,0.5s,baz=274,slow=7.2,SNR=10							
comp=Z,0.6nm,0.5s							
MKAR	**Makanchi Array**	**45.61**	**58**	*ce*P	**P**	**22 54 21.2**	**-0.3**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
ZAA0	**Zalesovo Array**	**46.07**	**48**		**P**	**22 54 26.1**	**+1.2**
ZAA0				IAmb	IAmb	22 54 30.4	
comp=Z,3.9nm,0.7s							
ZALV	**Zalesovo Beam**	**46.07**	**48**	P	**P**	**22 54 23.3**	**-1.6**
comp=Z,4.8nm,0.7s,baz=273,slow=8.5,SNR=9.6							
ZALV				LR	LR	23 17 15.0	
comp=Z,51nm,18.2s,baz=30,slow=41							
comp=Z,4.8nm,0.7s							
ZALV	**Zalesovo Beam**	**46.07**	**48**	P	**P**	**22 54 24.3**	**-0.6**
SFJD	**Kangerlussuaq**	**48.67**	**330**	LR	LR	23 17 25.9	
comp=Z,96nm,18.3s,baz=113,slow=39							
SONM	**Songino Array**	**60.82**	**50**	P	**P**	**22 56 11.6**	**-2.0**
comp=Z,0.3nm,0.5s,baz=299,slow=9.0,SNR=2.3							
comp=Z,0.3nm,0.5s							
ULN	**Ulaanbaatar**	**61.21**	**50**	*ce*P	**P**	**22 56 15.0**	**-1.2**
ULN				pmax	pmax		
comp=Z,5.0nm,2.5s							
BOSA	**Boshof**	**66.07**	**175**	LR	LR	23 27 54.2	
comp=Z,46nm,18.4s,baz=8.0,slow=38							
HHC	**Hu-ho-hao-te**	**67.36**	**55**	*e*P	**P**	**22 57 00.5**	**+3.9**
HHC				pmax	pmax		
comp=Z,7.0nm,0.5s							
HHC				pmax	pmax		
comp=Z,52nm,4.4s							
PZH	**PanZhiHua**	**67.79**	**73**	P	**P**	**22 57 01.6**	**+2.1**
PZH				pmax	pmax		
comp=Z,10.0nm,0.6s							
PZH				pmax	pmax		
comp=Z,100nm,4.3s							
RCBR	**Riachuelo**	**67.92**	**243**	LR	LR	23 25 51.5	
comp=Z,30nm,20.2s,baz=58,slow=35							
SUR	**Sutherland**	**69.67**	**180**	LR	LR	23 29 50.9	
comp=Z,65nm,18.6s,baz=357,slow=38							
CMAR	**Chiang Mai Arr**	**70.00**	**82**	P	**P**	**22 57 11.3**	**-1.9**
comp=Z,0.7nm,0.3s,baz=311,slow=7.6,SNR=6.1							
CMAR				LR	LR	23 33 47.3	
comp=Z,18nm,18.3s,baz=300,slow=41							
comp=Z,0.7nm,0.3s							
CMAR	**Chiang Mai Arr**	**70.00**	**82**	*ce*P	**P**	**22 57 12.3**	**-0.9**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
BILL	**Bilibino**	**71.54**	**13**	*i* P	**P**	**22 57 21.7**	**-0.1**
BILL				pmax	pmax		
comp=Z,23nm,2.2s							
ILAR	**Eielson Array**	**77.43**	**354**	P	**P**	**22 57 56.1**	**0.0**
comp=Z,0.3nm,0.9s,baz=345,slow=3.2,SNR=2.7							
comp=Z,0.3nm,0.9s							
USRK	**Ussuriysk Ar.**	**77.69**	**43**	P	**P**	**22 57 59.1**	**+1.2**
comp=Z,1.1nm,0.6s,baz=337,slow=7.0,SNR=1.8							
comp=Z,1.1nm,0.6s							
KSRS	**Korea Array**	**79.69**	**51**	P	**P**	**22 58 09.9**	**+0.8**
comp=Z,1.6nm,0.6s,baz=314,slow=5.0,SNR=4.4							
comp=Z,1.6nm,0.6s							
PETK	**Petropavlovsk-**	**82.30**	**24**	LR	LR	23 39 37.3	
comp=Z,82nm,18.0s,baz=110,slow=39							
ASAJ	**Asahikawa**	**83.23**	**38**	LR	LR	23 39 36.8	
comp=Z,61nm,18.9s,baz=7.5,slow=39							
PDAR	**Pinedale Array**	**87.96**	**326**	LR	LR	23 39 15.4	
comp=Z,50nm,18.0s,baz=24,slow=36							
ANMO	**Albuquerque**	**92.58**	**319**	LR	LR	23 41 32.1	
comp=Z,59nm,18.0s,baz=192,slow=36							
YBH	**Yreka Blue Hor**	**94.14**	**333**	LR	LR	23 43 42.2	
comp=Z,39nm,18.2s,baz=1.0,slow=37							
NVAR	**Mina Array Bea**	**95.30**	**329**	LR	LR	23 42 32.3	
comp=Z,60nm,21.3s,baz=86,slow=36							
PFO	**Pinyon Flats O**	**98.56**	**325**	LR	LR	23 45 49.5	
comp=Z,75nm,18.5s,baz=74,slow=36							
WRA	**Warramunga Arr**	**120.55**	**93**	PKP	**PKiKP**	**23 04 54.0**	**+0.6**
comp=Z,0.3nm,0.7s,baz=318,slow=3.1,SNR=3.1							
ASAR	**Alice Springs**	**122.15**	**96**	PKP	**PKiKP**	**23 04 57.2**	**+0.7**
comp=Z,0.2nm,0.3s,baz=318,slow=1.2,SNR=2.0							

*FUNV **08** 23:01:59.1, 10°.58N×62°.25W, h20km, MW3.5*
*TRN **08** 23:02:00.1, 10°.85N×61°.99W, h83km, MD2.9, North of the Paria peninsula.*

ISC 08 23:01:55.4±1.5, 10°.72N±0°.05×62°.19W±0°.05, h104km±15km, n13, σ2°.04/22, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSKH	**Kent House, Po**	**0.65**	**93**	*e*S	**Sn**	**23 02 24.5**	**-1.4**
PSGH	**Port of Spain**	**0.67**	**95**	*e*P	**Pn**	**23 02 14.2**	**+1.3**
PSGH				*e*S	**Sn**	**23 02 24.7**	**-1.4**
TRN	**Trinidad (W)**	**0.77**	**95**	*e*P	**Pn**	**23 02 15.1**	**+1.3**
TRN				*e*S	**Sn**	**23 02 26.6**	**-1.2**
TBH	**Brigand Hill**	**1.13**	**102**	*e*P	**Pn**	**23 02 20.2**	**+2.7**
GRFF	**Grenada Fort F**	**1.40**	**18**	*e*P	**Pn**	**23 02 21.2**	**+0.6**
GRFF				*e*S	**Sn**	**23 02 37.9**	**-1.9**
GRSS	**Sisters**	**1.67**	**20**	*e*P	**Pn**	**23 02 25.9**	**+1.9**
GRSS				*e*S	**Sn**	**23 02 45.1**	**-0.6**
TOSP	**Speyside**	**1.72**	**70**	*e*P	**Pn**	**23 02 25.9**	**+1.2**
TOSP				*e*S	**Sn**	**23 02 43.8**	**-3.1**
GCMP	**Grenada, Carri**	**1.91**	**23**	*e*P	**Pn**	**23 02 28.0**	**+0.9**
GCMP				*e*S	**Sn**	**23 02 50.1**	**-1.0**
PCRV	**Puerto La Cruz**	**2.47**	**258**	*e*P	**Pn**	**23 02 35.7**	**+1.4**
PCRV				*e*S	**Sn**	**23 03 03.2**	**-0.8**
LUEV	**Luepa**	**4.89**	**171**	*e*P	**Pn**	**23 03 08.8**	**+1.8**
LUEV				*e*S	**Sn**	**23 03 59.7**	**-2.8**
CACV	**CAICARA DEL OR**	**5.32**	**234**	*e*P	Pn	23 03 08.4	-4.1
CACV				*e*S	Sn	23 04 01.2	-11
BENV	**Beln**	**5.38**	**262**	*e*P	**Pn**	**23 03 16.4**	**+3.0**
BENV				*e*S	**Sn**	**23 04 12.2**	**-2.0**
BAUV	**El Baul**	**6.03**	**254**	*e*P	**Pn**	**23 03 23.1**	**+0.8**
BAUV				*e*S	**Sn**	**23 04 26.6**	**-3.3**

*NIED **08** 23:05:32.9, 40°.72N×142°.66E, h22km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.66; Mθθ0.11; Mφφ-1.76; Mrθ-1.11; Mφθ-0.35; Mφr1.25; Fault plane solution: M0 2.39000×10^15 NP1: φs341.00000°, δ67.00000°, λ64.00000°. NP2: φs212.00000°, δ34.00000°, λ136.00000°.*
*JMA **08** 23:05:32.9±0.2, 40°.7N±0°.5×14°.3E±°, h22km, MD4.1/36, MV4.2/36, E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .
*MOS **08** 23:05:33.2±0.9, 40°.68N×142°.74E, h45km, mb4.6/23, Error ellipse: s-maj=8.4km s-min=5.5km az=89.9*
*IDC **08** 23:05:36.0±1.6, 40°.69N×142°.65E, h52km±13km, mb3.9/24, mbtmp4.1/31, ML3.5/7, MS3.3/12, Error ellipse: s-maj=15.7km s-min=9.2km az=107.0*
*NEIC **08** 23:05:36.7±1.2, 40°.73N±0°.06×142°.55E±0°.09, h46km±6km, mb4.5/84, Error ellipse: s-maj=11.5km s-min=6.3km az=131.0*

ISC 08 23:05:34.6±0.5, 40°.66N±0°.04×142°.73E±0°.04, h38km±1km, n225, σ1$38/231, mb4.4/83, MS3.7/6, 8C-10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.91**	**240**	*i* P	**Pn**	**23 05 49.2**	**-1.5**
JKEN	**Kujiedanarisaw**	**0.91**	**240**	A	A	23 05 49.2	
comp=E,7.0nm,0.6s,comp=N,7.0nm,1.4s							
JANG	**Nango**	**0.97**	**253**	⇓P	**Pn**	**23 05 50.3**	**-1.3**
JTH	**Tanohata**	**0.98**	**223**	⇓P	**Pn**	**23 05 50.8**	**-1.0**
JARK	**Aomorirokkasho**	**1.09**	**289**	⇓P	**Pn**	**23 05 51.4**	**-1.9**
JARK				⇓*e*S	**Sn**	**23 06 03.3**	**-3.8**
JARK	**Aomorirokkasho**	**1.09**	**289**	A	A	23 05 51.4	
comp=E,6.0nm,0.7s,comp=N,5.0nm,1.0s							
JAHD	**Aomorihigashid**	**1.22**	**300**	A	A	23 05 53.5	
comp=E,11nm,0.4s,comp=N,13nm,0.5s							
JTM	**Tenmabayashi**	**1.27**	**276**	Pn	**Pn**	**23 05 54.9**	**-0.9**
JTM	**Tenmabayashi**	**1.27**	**276**	⇓P	**Pn**	**23 05 54.4**	**-1.3**
JTM	**Tenmabayashi**	**1.27**	**276**	A	A	23 05 54.4	
comp=E,3.0nm,1.9s,comp=N,4.0nm,3.5s							
ERM	**Erimo**	**1.39**	**13**	Pn	**Pn**	**23 05 57.9**	**+0.5**
ERM	**Erimo**	**1.39**	**13**	*i* P	**Pn**	**23 05 57.3**	**0.0**
JEM	**Erimo**	**1.39**	**13**	P	**Pn**	**23 05 56.9**	**-0.4**
JOT	**Ohata**	**1.46**	**300**	⇓P	**Pn**	**23 05 56.6**	**-1.8**
JOT	**Ohata**	**1.46**	**300**	A	A	23 05 56.6	
comp=E,5.0nm,1.0s,comp=N,5.0nm,1.3s							
JNBK	**Urakawa-nobuka**	**1.61**	**1**	P	**Pn**	**23 06 00.4**	**-0.1**
JNBK	**Urakawa-nobuka**	**1.61**	**1**	A	A	23 06 00.4	
comp=E,5.0nm,0.5s,comp=N,6.0nm,0.4s							
JOM	**Ohasama**	**1.62**	**223**	P	**Pn**	**23 06 00.9**	**+0.3**
JOM	**Ohasama**	**1.62**	**223**	A	A	23 06 00.9	
comp=E,3.0nm,5.0s,comp=N,3.0nm,0.5s							
JAH	**Hinai**	**1.67**	**254**	⇓P	**Pn**	**23 06 01.4**	**+0.2**
JAH				⇓S	**Sn**	**23 06 22.1**	**+0.7**
JKB	**Kayabe**	**1.77**	**314**	P	**Pn**	**23 06 01.0**	**-1.6**
JKB				S	**Sn**	**23 06 20.8**	**-3.0**
JSI2	**Shiura 2**	**1.80**	**283**	A	A	23 06 02.6	
comp=E,6.0nm,1.0s,comp=N,8.0nm,0.8s							
JSR	**Shiriuchi**	**1.95**	**297**	P	**Pn**	**23 06 04.7**	**-0.4**
JSR				S	**Sn**	**23 06 27.6**	**-0.7**
JNTW	**Noshirotokiwa**	**2.00**	**260**	A	A	23 06 05.7	
comp=E,13nm,1.3s,comp=N,9.0nm,1.1s							
JCH	**Churui**	**2.00**	**13**	P	**Pn**	**23 06 05.7**	**-0.1**
JCH				S	**Sn**	**23 06 29.1**	**-0.5**
JRG	**Rokugo**	**2.05**	**233**	A	A	23 06 06.9	
comp=E,6.0nm,0.7s,comp=N,5.0nm,5.0s							
JIW	**Iwasaki**	**2.08**	**269**	P	**Pn**	**23 06 07.4**	**+0.5**
JMM	**Marumori**	**3.17**	**209**		**Pn**	**23 06 23.6**	**+1.7**
ASAJ	**Asahikawa**	**3.45**	**358**	P	**Pn**	**23 06 26.2**	**+0.5**
comp=N,7.1nm,0.3s,baz=214,slow=12,SNR=25							
ASAJ				S	**Sn**	**23 07 06.9**	**+1.6**
comp=N,41nm,0.5s,baz=81,slow=33,SNR=1.7							
ASAJ				LR	LR	23 08 07.5	
comp=N,163nm,21.5s,baz=226,slow=44							
comp=N,40nm,0.4s							
JKA	**Kamikawa-asahi**	**3.45**	**358**	Pn	**Pn**	**23 06 26.4**	**+0.7**
NMR	**Nemuro--Hokkai**	**3.50**	**39**	*e*P	**Pn**	**23 06 25.0**	**-1.4**
NMR				*e*S	**Sn**	**23 07 02.0**	**-4.6**
RUSJ	**Misakicho**	**3.91**	**28**	*e*P	**Pn**	**23 06 32.4**	**+0.4**
RUSJ				*e*S	**Sn**	**23 07 16.7**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**4.09**	**34**	*e*P	**Pn**	**23 06 33.8**	**-0.6**
YUK				*e*S	**Sn**	**23 07 18.3**	**-2.7**
YUK				pmax	pmax		
comp=Z,247nm,0.3s							
YUK				pmax	pmax		
comp=N,61nm,0.1s							
YUK				pmax	pmax		
comp=E,55nm,0.1s							
YUK				smax	smax		
comp=N,753nm,0.4s							
YUK				smax	smax		
comp=E,378nm,0.4s							
JSD	**Sado**	**4.35**	**234**		**Pn**	**23

PETK	**Petropavlovsk-**	**16.07**	**34**	LR	LR	23 15 44.0	
	comp=Z,68nm,20.4s,baz=228,slow=38						
ZEA	**Zeya**	**16.73**	**327**	*e*P	P	23 09 38.9	+11
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
JOW	**Kunigami**	**18.27**	**225**	P	**P**	**23 09 44.6**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=69,slow=14,SNR=2.2						
	comp=Z,4.7nm,0.7s						
MA2	**Magadan**	**19.59**	**12**	*i* P	**Pn**	**23 10 02.1**	**+1.4**
MA2				pmax	pmax		
	comp=Z,109nm,2.0s						
TIA	**Tai'an**	**20.52**	**266**	P	**P**	**23 10 08.8**	**-0.7**
TIA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NJ2	**Nanjing**	**21.02**	**253**	*e*P	**P**	**23 10 13.9**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SEY	**Seymchan**	**23.03**	**11**	P	**P**	**23 10 36.0**	**-0.1**
	comp=Z,1.8nm,0.2s,baz=260,slow=19,SNR=1.6						
	comp=Z,1.8nm,0.2s						
SEY	**Seymchan**	**23.03**	**11**	P	**P**	**23 10 36.0**	**-0.1**
HHC	**Hu-ho-hao-te**	**23.55**	**281**	*e*P	**P**	**23 10 39.5**	**-2.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,100nm,5.2s						
ULN	**Ulaanbaatar**	**26.37**	**298**	*ce*P	**P**	**23 11 06.4**	**-0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**26.81**	**298**	P	**P**	**23 11 10.3**	**-0.8**
SONM	**Songino Array**	**26.81**	**298**	P	**P**	**23 11 10.7**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=85,slow=9.0,SNR=9.2						
SONM				PcP	**PcP**	**23 14 33.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=102,slow=2.8,SNR=1.4						
	comp=Z,1.2nm,0.6s						
XAN	**Xi'an**	**27.56**	**267**	*e*P	**P**	**23 11 19.2**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**29.35**	**128**	T	T	23 42 31.1	
	baz=320,slow=75,SNR=84						
H11N1	**WAKE ISLAND Hy**	**29.36**	**128**	T	T	23 42 31.2	
	baz=320,slow=75,SNR=76						
H11N3	**WAKE ISLAND Hy**	**29.37**	**128**	T	T	23 42 32.4	
	baz=320,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hy**	**30.18**	**130**	T	T	23 44 25.3	
	baz=324,slow=76,SNR=32						
H11S3	**WAKE ISLAND Hy**	**30.19**	**130**	T	T	23 44 27.7	
	baz=324,slow=76,SNR=31						
H11S2	**WAKE ISLAND Hy**	**30.20**	**130**	T	T	23 44 25.9	
	baz=324,slow=76,SNR=22						
BILL	**Bilibino**	**30.26**	**17**	*i* P	**P**	**23 11 42.3**	**+0.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LZH	**Lanzhou**	**30.66**	**274**	*e*P	P	23 11 38.0	-7.5
LZH				pP	pP	23 11 48.8	-7.0
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
DAV	**Davao City (W)**	**36.80**	**209**	LR	LR	23 28 08.6	
	comp=Z,26nm,19.4s,baz=347,slow=37						
WMQ	**Urumqi**	**40.24**	**293**	*e*P	**P**	**23 13 07.5**	**0.0**
WMQ				pP	pP	23 13 18.4	+0.4
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ZAA0	**Zalesovo Array**	**40.32**	**309**	P	**P**	**23 13 06.9**	**-1.1**
ZAA0				IAmb	IAmb	23 13 07.7	
	comp=Z,4.4nm,0.7s						
ZALV	**Zalesovo Beam**	**40.32**	**309**	P	**P**	**23 13 07.3**	**-0.7**
ZALV	**Zalesovo Beam**	**40.32**	**309**	P	**P**	**23 13 07.5**	**-0.5**
	comp=Z,4.1nm,0.5s,baz=92,slow=8.2,SNR=17						
ZALV				ScP	**ScP**	**23 18 57.5**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=88,slow=4.7,SNR=2.8						
	comp=Z,4.1nm,0.5s						
H19K	**Roundabout Mou**	**41.87**	**33**	P	**P**	**23 13 22.3**	**+1.7**
IMAR	**Indian Mountai**	**43.02**	**32**	P	**P**	**23 13 31.2**	**+1.3**
B21K	**Ikpikpuk River**	**43.08**	**27**	P	**P**	**23 13 32.2**	**+1.9**
B21K				IAmb	IAmb	23 13 46.1	
	comp=Z,14nm,1.2s						
G21K	**Allakaket**	**43.16**	**32**	P	**P**	**23 13 32.3**	**+1.3**
G21K				IAmb	IAmb	23 13 49.9	
	comp=Z,7.1nm,0.9s						
MK31	**Makanchi Array**	**43.16**	**299**	P	**P**	**23 13 30.8**	**-0.5**
MK31				IAmb	IAmb	23 13 33.0	
	comp=Z,8.2nm,1.4s						
MK31	**Makanchi Array**	**43.16**	**299**	*ce*P	**P**	**23 13 30.9**	**-0.5**
MKAR	**Makanchi Array**	**43.16**	**299**	P	**P**	**23 13 30.6**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=84,slow=9.8,SNR=28						
MKAR				PcP	**PcP**	**23 15 19.1**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=74,slow=3.6,SNR=1.4						
	comp=Z,2.3nm,0.6s						
F21K	**Alatna River**	**43.22**	**31**	P	**P**	**23 13 30.9**	**-0.7**
CHTO	**Chiang Mai**	**43.26**	**253**	P	**P**	**23 13 32.7**	**+0.2**
CHTO	**Chiang Mai**	**43.26**	**253**	P	**P**	**23 13 32.7**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAKZ	**Makanchi**	**43.36**	**299**	P	**P**	**23 13 32.4**	**-0.6**
MAKZ	**Makanchi**	**43.36**	**299**	P	**P**	**23 13 32.4**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
H21K	**Melozitna Rive**	**43.39**	**33**	P	**P**	**23 13 34.1**	**+1.1**
H21K				IAmb	IAmb	23 13 50.7	
	comp=Z,7.4nm,1.2s						
CMAR	**Chiang Mai Arr**	**43.49**	**253**	P	**P**	**23 13 33.8**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=41,slow=8.4,SNR=2.8						
	comp=Z,1.1nm,0.3s						
B22K	**Teshekpuk Lake**	**43.59**	**26**	P	**P**	**23 13 35.6**	**+1.1**
B22K				IAmb	IAmb	23 13 47.1	
	comp=Z,12nm,1.4s						
CAST	**Castle Rocks**	**43.67**	**36**	P	**P**	**23 13 36.8**	**+1.6**
D22K	**Ayikyak River**	**43.67**	**28**	P	**P**	**23 13 37.0**	**+1.8**
I21K	**Tanana**	**43.72**	**34**	P	**P**	**23 13 36.5**	**+0.9**
I21K				IAmb	IAmb	23 14 01.9	
	comp=Z,19nm,1.5s						
E22K	**Anaktuvuk Pass**	**43.93**	**29**	P	**P**	**23 13 37.9**	**+0.6**
E22K				IAmb	IAmb	23 14 12.4	
	comp=Z,7.5nm,1.1s						
KTH	**Kantishna Hill**	**44.19**	**36**	P	**P**	**23 13 41.0**	**+1.5**
MLY	**Manley**	**44.25**	**34**	P	**P**	**23 13 41.5**	**+1.6**
CNPM	**China Poot**	**44.28**	**42**	P	**P**	**23 13 42.3**	**+2.1**
FAKI	**Fak Fak**	**44.42**	**195**	P	**P**	**23 13 42.7**	**+1.0**
FAKI				IAmb	IAmb	23 13 43.7	
	comp=Z,8.3nm,0.8s						
C23K	**Itkillik River**	**44.49**	**27**	P	**P**	**23 13 43.0**	**+1.4**
G23K	**Bananza Creek**	**44.55**	**32**	P	**P**	**23 13 43.4**	**+1.1**
KURK	**Kurchatov**	**44.59**	**305**	P	**P**	**23 13 42.1**	**-0.5**
KURK				IAmb	IAmb	23 13 56.6	
	comp=Z,6.5nm,0.6s						
KURK	**Kurchatov**	**44.59**	**305**	*ce*P	**P**	**23 13 42.2**	**-0.5**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KURBB	**Kurchatov Arra**	**44.66**	**305**	P	**P**	**23 13 42.4**	**-0.9**
	comp=Z,2.1nm,0.5s,baz=79,slow=9.0,SNR=14						
	comp=Z,2.1nm,0.5s						
H23K	**Yukon River**	**44.74**	**33**	P	**P**	**23 13 45.8**	**+2.0**
H23K				IAmb	IAmb	23 14 01.5	
	comp=Z,7.4nm,1.1s						
NEA2	**Nenana**	**44.97**	**35**	P	**P**	**23 13 46.8**	**+1.2**
NEA2				IAmb	IAmb	23 14 04.2	
	comp=Z,3.8nm,0.6s						
E24K	**Your Creek**	**45.17**	**30**	P	**P**	**23 13 48.0**	**+0.8**
E24K				IAmb	IAmb	23 14 05.0	
	comp=Z,6.0nm,1.1s						
GHO	**Glory Hole Cre**	**45.21**	**39**	P	**P**	**23 13 48.4**	**+0.8**
F24K	**Squaw Lake**	**45.40**	**30**	P	**P**	**23 13 49.8**	**+0.8**
WRH	**Wood River Hil**	**45.40**	**35**	P	**P**	**23 13 50.3**	**+1.3**
WRH				IAmb	IAmb	23 14 14.8	
	comp=Z,7.9nm,1.3s						
H24K	**Noodor Dome**	**45.43**	**33**	P	**P**	**23 13 49.9**	**+0.7**
H24K				IAmb	IAmb	23 14 13.5	
	comp=Z,13nm,1.4s						
SML	**Sawmill**	**45.49**	**38**	P	**P**	**23 13 51.0**	**+1.1**
SML	**Sawmill**	**45.49**	**38**	P	**P**	**23 13 50.9**	**+1.1**
SML				pmax	pmax		
	comp=Z,29nm,1.5s						
G24K	**Hadweenzic Riv**	**45.57**	**32**	P	**P**	**23 13 51.8**	**+1.5**
G24K				IAmb	IAmb	23 14 09.6	
	comp=Z,7.6nm,1.1s						
ILAR	**Eielson Array**	**45.90**	**34**	P	**P**	**23 13 53.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=263,slow=5.9,SNR=5.1						
	comp=Z,0.4nm,0.6s						
D25K	**Kavik River**	**45.95**	**28**	P	**P**	**23 13 53.8**	**+0.4**
F25K	**Christian Rive**	**46.26**	**30**	P	**P**	**23 13 57.6**	**+1.8**
E25K	**Arctic Village**	**46.27**	**30**	P	**P**	**23 13 57.6**	**+1.8**
PRP	**Porcupine Dome**	**46.42**	**33**	P	**P**	**23 13 58.5**	**+1.3**
PRP				IAmb	IAmb	23 14 16.4	
	comp=Z,5.2nm,0.9s						
HIN	**Hinchinbrook I**	**46.54**	**40**	P	**P**	**23 13 58.7**	**+0.7**
BMAR	**Burnt Mountain**	**46.67**	**30**	P	**P**	**23 14 00.9**	**+1.9**
F26K	**Sheenjek River**	**46.82**	**30**	P	**P**	**23 14 02.3**	**+2.2**
F26K				IAmb	IAmb	23 14 19.6	
	comp=Z,4.8nm,0.8s						
C27K	**Jago River**	**46.89**	**27**	P	**P**	**23 14 01.9**	**+1.3**
C27K				IAmb	IAmb	23 14 19.2	
	comp=Z,7.1nm,1.1s						
SCRK	**Sand Creek**	**47.23**	**35**	P	**P**	**23 14 04.3**	**+0.7**
SCRK				IAmb	IAmb	23 14 19.9	
	comp=Z,5.0nm,1.1s						
E27K	**Coleen River**	**47.74**	**29**	P	**P**	**23 14 08.6**	**+1.3**
E27K				IAmb	IAmb	23 14 27.3	
	comp=Z,5.9nm,1.2s						
G27K	**Doyon Strip**	**47.86**	**31**	P	**P**	**23 14 09.9**	**+1.6**
G27K				IAmb	IAmb	23 14 27.3	
	comp=Z,3.7nm,1.1s						
BCAR	**Beaver Creek A**	**48.34**	**36**	P	**P**	**23 14 13.7**	**+1.7**
F28M	**Old Crow**	**48.46**	**30**	P	**P**	**23 14 15.1**	**+2.2**
F28M				IAmb	IAmb	23 14 32.5	
	comp=Z,6.1nm,0.9s						
E28M	**Babbage River**	**48.46**	**29**	P	**P**	**23 14 14.0**	**+1.2**
E28M				IAmb	IAmb	23 14 31.4	
	comp=Z,2.2nm,0.7s						
I28M	**Miner Creek**	**48.74**	**33**	P	**P**	**23 14 16.9**	**+1.7**
I28M				IAmb	IAmb	23 14 52.4	
	comp=Z,7.1nm,1.2s						
BOOM	**Boomskoye usch**	**48.81**	**295**	P	**P**	**23 14 15.1**	**-1.0**
BOOM				IAmb	IAmb	23 14 30.4	
	comp=Z,5.5nm,0.9s						
BOOM	**Boomskoye usch**	**48.81**	**295**	P	**P**	**23 14 15.1**	**-1.0**
BOOM				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BVAR	**Borovoye Array**	**48.95**	**310**	P	**P**	**23 14 16.4**	**-0.5**
	comp=Z,3.3nm,0.4s,baz=74,slow=7.8,SNR=27						
	comp=Z,3.3nm,0.4s						
BRVK	**Borovoye**	**49.01**	**310**	P	**P**	**23 14 16.9**	**-0.4**
BRVK				IAmb	IAmb	23 14 27.1	
	comp=Z,3.5nm,0.9s						
BRVK	**Borovoye**	**49.01**	**310**	*ce*P	**P**	**23 14 16.7**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
E29M	**Blow River**	**49.09**	**29**	P	**P**	**23 14 19.7**	**+2.0**
E29M				IAmb	IAmb	23 14 37.4	
	comp=Z,4.0nm,0.8s						
H29M	**Whitestone**	**49.25**	**32**	P	**P**	**23 14 20.7**	**+1.8**
H29M				IAmb	IAmb	23 15 01.0	
	comp=Z,6.1nm,1.3s						
G29M	**Pine Creek**	**49.27**	**31**	P	**P**	**23 14 20.9**	**+1.8**
AAK	**Ala-Archa**	**49.75**	**296**	LR	LR	23 36 19.1	
	comp=Z,45nm,19.9s,baz=2.5,slow=37						
G30M	**tAoh Zraii Nji**	**49.96**	**30**	P	**P**	**23 14 25.7**	**+1.3**
G30M				IAmb	IAmb	23 14 42.7	
	comp=Z,5.8nm,0.9s						
L29M	**L29M**	**49.96**	**36**	P	**P**	**23 14 26.1**	**+1.7**
L29M				IAmb	IAmb	23 14 40.6	
	comp=Z,7.0nm,1.0s						
K29M	**Barlow Dome**	**50.07**	**35**	P	**P**	**23 14 26.6**	**+1.3**
K29M				IAmb	IAmb	23 14 42.6	
	comp=Z,6.2nm,1.2s						
I30M	**Mount Dempster**	**50.25**	**33**	P	**P**	**23 14 28.2**	**+1.5**
I30M				IAmb	IAmb	23 14 44.1	
	comp=Z,6.1nm,0.9s						
INK	**Inuvik**	**50.70**	**29**	P	**P**	**23 14 31.0**	**+1.2**
INK				IAmb	IAmb	23 14 48.6	
	comp=Z,7.4nm,1.1s						
INK	**Inuvik**	**50.70**	**29**	P	**P**	**23 14 30.4**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=306,slow=6.2,SNR=10						
	comp=Z,0.9nm,0.5s						
INK	**Inuvik**	**50.70**	**29**	P	**P**	**23 14 31.0**	**+1.2**
INK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
G31M	**Satah River**	**50.72**	**30**	P	**P**	**23 14 31.0**	**+1.0**
G31M				IAmb	IAmb	23 14 54.9	
	comp=Z,5.8nm,1.2s						
HYT	**Haines Junctio**	**50.80**	**38**	P	**P**	**23 14 33.0**	**+2.2**
H31M	**Peel River**	**50.95**	**32**	P	**P**	**23 14 33.6**	**+1.8**
P29M	**Windy Craggy**	**51.00**	**40**	P	**P**	**23 14 34.5**	**+2.2**
ARSB	**Arslanbob**	**51.30**	**295**	P	**P**	**23 14 34.6**	**-0.4**
ARSB	**Arslanbob**	**51.30**	**295**	P	**P**	**23 14 34.6**	**-0.4**
ARSB				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KKAR	**Karatay Array**	**52.26**	**298**	P	**P**	**23 14 41.2**	**-0.7**
KKAR	**Karatay Array**	**52.26**	**298**	P	**P**	**23 14 41.2**	**-0.7**
A36M	**Sachs Harbour**	**52.52**	**23**	P	**P**	**23 14 44.5**	**+1.2**
A36M				IAmb	IAmb	23 15 01.9	
	comp=Z,5.2nm,0.8s						
SVE	**Sverdlovsk**	**53.15**	**317**	*e*P	**P**	**23 14 48.3**	**0.0**
SVE				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MTN	**Manton Dam**	**54.31**	**194**	P	**P**	**23 14 58.1**	**+1.0**
COEN	**Coen**	**54.34**	**179**	P	**P**	**23 14 58.6**	**+1.2**
ARTI	**Arti**	**54.47**	**317**	P	**P**	**23 14 57.3**	**-0.7**
ARTI	**Arti**	**54.47**	**317**	P	**P**	**23 14 57.2**	**-0.7**
	comp=Z,4.6nm,0.7s,baz=94,slow=5.9,SNR=6.6						
ARTI				LR	LR	23 40 40.3	
	comp=Z,55nm,18.5s,baz=294,slow=39						
	comp=Z,4.6nm,0.7s						
ARTI	**Arti**	**54.47**	**317**	*e*P	**P**	**23 14 57.4**	**-0.5**
ARTI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SIMJ	**Simiganj**	**55.20**	**294**	P	**P**	**23 15 02.8**	**-0.8**
SIMJ				IAmb	IAmb	23 15 16.0	
	comp=Z,2.8nm,0.8s						
ABKAR	**Akbulak array**	**56.43**	**309**	P	**P**	**23 15 11.4**	**-0.7**
AKTO	**Aktyubinsk**	**57.06**	**311**	P	**P**	**23 15 15.6**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=71,slow=12,SNR=5.2						
	comp=Z,1.7nm,0.8s						
RES	**Resolute Bay**	**58.83**	**15**	P	**P**	**23 15 28.5**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=299,slow=5.0,SNR=5.4						
	comp=Z,0.6nm,0.4s						
WB0	**Warramunga Arr**	**60.62**	**189**	P	**P**	**23 15 41.4**	**-0.1**
WB0				IAmb	IAmb	23 15 55.5	
	comp=Z,3.2nm,0.7s						
WR0	**Warramunga Arr**	**60.79**	**189**	P	**P**	**23 15 42.6**	**-0.1**
WB2	**Warramunga Arr**	**60.80**	**189**	P	**P**	**23 15 42.6**	**-0.1**
WRA	**Warramunga Arr**	**60.80**	**189**	P	**P**	**23 15 42.8**	**0.0**
WRA	**Warramunga Arr**	**60.80**	**189**	P	**P**	**23 15 42.3**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=8.6,slow=7.0,SNR=14						
	comp=Z,1.8nm,0.7s						
WRA	**Warramunga Arr**	**60.80**	**189**	*i* P	**P**	**23 15 42.5**	**-0.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**60.97**	**339**	P	**P**	**23 15 42.9**	**-0.5**
	comp=Z,2.7nm,0.9s,baz=52,slow=7.4,SNR=3.5						
	comp=Z,2.7nm,0.9s						
BELG	**Belogornoye**	**61.87**	**316**	P	**P**	**23 15 48.9**	**-0.8**
	comp=Z,4.9nm,0.6s,baz=90,slow=4.0,SNR=1.7						
	comp=Z,4.9nm,0.6s						
ASAR	**Alice Springs**	**64.53**	**189**	P	**P**	**23 16 08.2**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=11,slow=5.9,SNR=20						
ASAR				LR	LR	23 44 50.7	
	comp=Z,42nm,18.7s,baz=305,slow=36						
	comp=Z,1.9nm,0.8s						
OBN	**Obninsk**	**65.82**	**323**	*e*P	**P**	**23 16 16.0**	**+0.4**
OBN				*e*		23 16 45.3	
OBN				*e*		23 18 43.0	
OBN				*e*S	**S**	**23 25 04.8**	**+5.5**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**66.09**	**332**	P	**P**	**23 16 16.4**	**-0.9**
	comp=Z,4.2nm,0.7s,baz=43,slow=8.0,SNR=25						
	comp=Z,4.2nm,0.7s						
VSR	**Storozhevoye**	**66.89**	**318**	*e*P	**P**	**23 16 20.6**	**-2.0**
VSR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AKT	**Akhty**	**67.76**	**306**	*e*P	P	23 16 36.3	+7.9
AKT				pmax	pmax		
	comp=Z,11nm,1.1s						
KIV	**Kislovodsk**	**69.32**	**311**	P	**P**	**23 16 38.0**	**0.0**
KIV	**Kislovodsk**	**69.32**	**311**	*e*P	**P**	**23 16 38.1**	**0.0**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KBZ	**Khabaz**	**69.33**	**310**	P	**P**	**23 16 37.7**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=108,slow=10.0,SNR=7.9						
	comp=Z,2.1nm,0.7s						
KBZ	**Khabaz**	**69.33**	**310**	*ce*P	**P**	**23 16 37.9**	**-0.1**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MNK	**Minsk**	**70.07**	**326**	*i* P	**P**	**23 16 40.6**	**-1.8**
	comp=E,11nm,1.2s						
MNK				*i* P	**P**	**23 16 40.6**	**-1.8**
	comp=N,7.0nm,1.0s						
MNK				*i* P	**P**	**23 16 40.6**	**-1.8**
	comp=Z,3.0nm,0.8s,baz=47						
MNK				*i* pP	**pP**	**23 16 52.5**	**-0.8**
MNK				*i* PP	**PP**	**23 19 15.7**	**-1.4**
MNK				*i* PPP	PPP	23 20 58.0	
MNK				*i* S	**S**	**23 25 49.0**	**-1.2**
MNK				*i* sS	**sS**	**23 26 09.4**	**+0.6**
MNK				*i* SS	**SS**	**23 30 20.0**	**+0.8**
MNK				*i* SSS	SSS	23 33 38.4	
MNK				*i* LQ	LQ	23 41 24.5	
MNK				*i* LR	LR	23 47 19.2	
MNK				*i* LRM	MLR	23 48 07.0	
	comp=E,58nm,16.9s						
MNK				*i* LRM	MLR	23 48 23.3	
	comp=N,64nm,14.2s						
MNK				*i* LRM	MLR	23 48 25.2	
	comp=Z,53nm,13.0s						
MNK	**Minsk**	**70.07**	**326**	*i* P	**P**	**23 16 40.5**	**-1.8**
MNK				*i* *PP	**pP**	**23 16 52.5**	**-0.8**
MNK				*i*		23 17 02.2	
MNK				*i*		23 19 15.6	
MNK				*i* PPP	PPP	23 20 58.0	
MNK				*i* S	**S**	**23 25 49.0**	**-1.2**
MNK				*i* *SS	**sS**	**23 26 09.4**	**+0.6**
MNK				*i*		23 26 39.4	
MNK				*i* SS	**SS**	**23 30 20.0**	**+0.8**
MNK				pmax	pmax		
	comp=N,7.0nm,1.0s						
MNK				pmax	pmax		
	comp=E,11nm,1.2s						
MNK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MNK				MLR	MLR		
	comp=E,58nm,17.0s						
MNK				MLR	MLR		
	comp=N,64nm,14.0s						
MNK				MLR	MLR		
	comp=Z,53nm,13.0s						
HFS	**Hagfors**	**71.21**	**336**	P	**P**	**23 16 48.3**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=43,slow=6.7,SNR=12						
	comp=Z,1.1nm,0.4s						
NB2	**NORSAR Subarra**	**71.24**	**337**	P	**P**	**23 16 48.4**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**71.24**	**337**	P	**P**	**23 16 48.8**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=38,slow=6.1,SNR=8.0						
	comp=Z,1.3nm,0.8s						
NVAR	**Mina Array Bea**	**72.02**	**55**	P	**P**	**23 16 55.0**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=283,slow=5.5,SNR=2.0						
	comp=Z,0.2nm,0.5s						
AKASG	**Malin Array Be**	**72.06**	**322**	P	**P**	**23 16 53.0**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=42,slow=6.1,SNR=5.8						
	comp=Z,0.5nm,0.5s						
AKASG	**Malin Array Be**	**72.06**	**322**	*ce*P	**P**	**23 16 54.0**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
DSP	**Deep Springs**	**72.88**	**55**	P	**P**	**23 17 00.5**	**+1.0**
FRB	**Frobisher Bay**	**73.01**	**14**	LR	LR	23 52 15.5	
	comp=Z,69nm,18.1s,baz=117,slow=38						
GURO	**Guroymak-BITLI**	**73.02**	**306**	P	**P**	**23 17 00.8**	**+0.2**
MOOW	**Moose Ponds**	**73.11**	**47**	P	**P**	**23 17 01.7**	**+0.5**
MORW	**Morawa**	**73.67**	**204**	P	**P**	**23 17 03.9**	**-0.2**
MARD	**Mardin**	**74.56**	**306**	P	**P**	**23 17 10.1**	**+0.5**
BUR08	**Bucovina Ar. S**	**76.09**	**322**	P	**P**	**23 17 18.3**	**+0.1**
BURAR	**Bucovina Array**	**76.10**	**322**	P	**P**	**23 17 18.4**	**+0.1**
BURAR	**Bucovina Array**	**76.10**	**322**	P	**P**	**23 17 18.4**	**+0.1**
BURAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SRU	**San Rafael Swe**	**76.27**	**50**	P	**P**	**23 17 18.8**	**-0.7**
SRU				IAmb	IAmb	23 17 31.2	
	comp=Z,8.2nm,1.0s						
SRU	**San Rafael Swe**	**76.27**	**50**	P	**P**	**23 17 18.8**	**-0.7**
SRU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BNN	**Bunyan**	**76.53**	**310**	P	**P**	**23 17 20.9**	**0.0**
BRTR	**Keskin Array B**	**77.22**	**312**	P	**P**	**23 17 24.7**	**-0.1**
BRTR	**Keskin Array B**	**77.22**	**312**	P	**P**	**23 17 24.4**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=60,slow=5.8,SNR=2.6						
	comp=Z,0.5nm,0.6s						
BRTR	**Keskin Array B**	**77.22**	**312**	P	**P**	**23 17 24.7**	**-0.1**
LANS	**Liptovska Anna**	**77.55**	**326**	*e*P	**P**	**23 17 27.5**	**+1.2**
LANS	**Liptovska Anna**	**77.55**	**326**	*e*P	**P**	**23 17 27.5**	**+1.2**
VYHS	**Vyhne**	**78.32**	**326**	*e*P	**P**	**23 17 31.1**	**+0.5**
VYHS	**Vyhne**	**78.32**	**326**	*e*P	**P**	**23 17 31.0**	**+0.5**
CLL	**Collm**	**78.46**	**330**	*e*P	**P**	**23 17 31.0**	**-0.2**
CLL	**Collm**	**78.46**	**330**	*e*P	**P**	**23 17 31.0**	**-0.2**
MODS	**Modra-Piesok**	**79.07**	**326**	*e*P	**P**	**23 17 38.0**	**+3.3**
MODS	**Modra-Piesok**	**79.07**	**326**	*e*P	**P**	**23 17 38.0**	**+3.3**
RAYN	**Ar Rayn**	**80.23**	**292**	P	**P**	**23 17 40.9**	**-0.5**
RAYN	**Ar Rayn**	**80.23**	**292**	P	**P**	**23 17 40.9**	**-0.5**
RAYN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ECSD	**EROS Data Cent**	**80.44**	**39**	P	**P**	**23 17 41.7**	**-0.6**
ECSD				IAmb	IAmb	23 17 45.5	
	comp=Z,9.2nm,1.4s						
MMAI	**Mount Meron Ar**	**80.70**	**306**	P	**P**	**23 17 43.6**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=50,slow=9.1,SNR=5.2						
	comp=Z,1.5nm,0.6s						

ILON			SN	Sn	00 01 01.2	-14
ILON			Trac		00 01 29.5	
comp=Z,28nm,0.7s						

*NEIC **09** 00:04:21.9±2.3, 16°.15S±0°.05×173°.32W±0°.06, h126km±7km, mb4.4/21, Error ellipse: s-maj=11.2km s-min=2.4km az=48.0*
*IDC **09** 00:04:29.5±4.4, 16°.23S×173°.94W, h170km±36km, mb3.7/9, mbtmp4.2/11, Error ellipse: s-maj=27.2km s-min=22.4km az=129.0*
ISC 09 00:04:20.5±0.5,**16°.16S**±0°.07×**173°.42W**±0°.07,**h100**km, **n51**,σ1§**67**/50,**mb4.4**/18,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.74**	**36**	Pn	**Pn**	**00 05 04.2**	**+1.3**
AFI				Sn	**Sn**	**00 05 35.0**	**-0.5**
NIUE	**Niue**	**4.42**	**132**	Pn	**Pn**	**00 05 26.7**	**+1.3**
NIUE				Sn	**Sn**	**00 06 13.8**	**-1.9**
FUTU	**Fugatoga**	**4.89**	**291**		**Pn**	**00 05 34.4**	**+2.7**
MSVF	**Nonsavu**	**8.31**	**258**	Pn	**Pn**	**00 06 21.7**	**+3.4**
MSVF	**Nonsavu**	**8.31**	**258**	P	**Pn**	**00 06 22.2**	**+3.9**
59nm,1.0s,baz=96,slow=12,SNR=15							
DZM	**Mont Dzumac**	**19.90**	**250**	P	**P**	**00 08 44.5**	**+0.1**
DZM				IAmb	IAmb	00 08 49.7	
comp=Z,22nm,0.9s							
DZM	**Mont Dzumac**	**19.90**	**250**	P	**P**	**00 08 42.3**	**-2.0**
comp=Z,7.9nm,0.8s,baz=77,slow=16,SNR=4.5							
RTZ	**Ruatahuna**	**23.91**	**199**	P	**P**	**00 09 26.1**	**+0.9**
RTZ				IAmb	IAmb	00 09 39.3	
comp=Z,11nm,0.8s							
THZ	**Tophouse**	**28.11**	**202**	P	**P**	**00 10 03.3**	**+0.4**
LTZ	**Lake Taylor**	**29.23**	**202**	P	**P**	**00 10 12.8**	**0.0**
LTZ				IAmb	IAmb	00 10 23.6	
comp=Z,4.7nm,0.7s							
H11S2	**WAKE ISLAND Hy**	**39.60**	**330**	T	T	00 52 56.6	
baz=146,slow=76,SNR=8.7							
H11S3	**WAKE ISLAND Hy**	**39.61**	**330**	T	T	00 52 56.9	
baz=146,slow=76,SNR=8.9							
H11S1	**WAKE ISLAND Hy**	**39.62**	**330**	T	T	00 52 58.6	
baz=146,slow=76,SNR=7.4							
STKA	**Stephens Creek**	**43.65**	**241**	P	**P**	**00 12 13.8**	**-1.6**
STKA	**Stephens Creek**	**43.65**	**241**	P	**P**	**00 12 13.2**	**-2.1**
comp=Z,3.2nm,0.5s,baz=85,slow=10,SNR=9.1							
comp=Z,3.2nm,0.5s							
BBOO	**Buckleboo**	**48.42**	**240**	P	**P**	**00 12 50.6**	**-2.2**
BBOO				IAmb	IAmb	00 13 01.0	
comp=Z,8.6nm,1.1s							
WR0	**Warramunga Arr**	**49.46**	**257**	P	**P**	**00 12 59.8**	**-1.2**
WB0	**Warramunga Arr**	**49.62**	**258**	P	**P**	**00 13 00.1**	**-2.0**
WB0				IAmb	IAmb	00 13 01.4	
comp=Z,7.8nm,1.1s							
WB2	**Warramunga Arr**	**49.64**	**257**	P	**P**	**00 13 00.2**	**-2.2**
WRA	**Warramunga Arr**	**49.65**	**257**	P	**P**	**00 13 00.7**	**-1.8**
WRA	**Warramunga Arr**	**49.65**	**257**	P	P	00 12 59.7	-2.7
comp=Z,1.4nm,0.4s,baz=94,slow=6.8,SNR=33							
WRA				PcP	**PcP**	**00 14 21.6**	**-0.8**
comp=Z,0.3nm,0.6s,baz=96,slow=6.0,SNR=1.7							
comp=Z,1.4nm,0.4s							
AS31	**Alice Springs**	**49.86**	**253**	P	**P**	**00 13 02.0**	**-1.9**
ASAR	**Alice Springs**	**49.86**	**253**	P	P	00 13 01.3	-2.7
comp=Z,3.3nm,0.5s,baz=88,slow=8.5,SNR=54							
ASAR				PcP	**PcP**	**00 14 21.9**	**-1.3**
comp=Z,1.0nm,0.8s,baz=95,slow=5.6,SNR=4.4							
comp=Z,3.3nm,0.5s							
KNRA	**Kununurra**	**55.43**	**262**	P	**P**	**00 13 44.0**	**-1.0**
KNRA				IAmb	IAmb	00 13 44.5	
comp=Z,4.5nm,0.6s							
FITZ	**Fitzroy Crossi**	**58.03**	**259**	P	**P**	**00 14 02.5**	**-1.0**
SOEI	**Soe**	**60.87**	**268**	P	**P**	**00 14 23.5**	**+0.3**
PSA00	**Pilbara Seismi**	**62.97**	**254**	P	**P**	**00 14 35.3**	**-1.7**
PSA00				IAmb	IAmb	00 14 53.5	
comp=Z,4.9nm,0.9s							
MBWA	**Marble Bar**	**63.13**	**254**	P	**P**	**00 14 36.3**	**-1.9**
MBWA				IAmb	IAmb	00 14 46.9	
comp=Z,7.2nm,1.1s							
SFX	**San Felipe**	**73.25**	**50**	P	**P**	**00 15 39.4**	**-1.6**
QSPA	**South Pole Qui**	**73.89**	**180**	P	**P**	**00 15 45.6**	**+1.2**
QSPA				IAmb	IAmb	00 15 46.9	
comp=Z,3.6nm,1.1s							
QSPA	**South Pole Qui**	**73.89**	**180**	P	**P**	**00 15 45.6**	**+1.2**
comp=Z,1.4nm,0.9s,baz=50,slow=1.4,SNR=5.8							
comp=Z,1.4nm,0.9s							
K04D	**Chiloquin, OR**	**75.33**	**37**	P	P	00 15 48.3	-4.8
C03A	**Quillayute Air**	**77.27**	**31**	P	**P**	**00 16 00.8**	**-2.9**
C03A				IAmb	IAmb	00 16 14.9	
comp=Z,14nm,1.1s							
M17K	**Holitna River**	**78.34**	**8**	P	**P**	**00 16 08.7**	**-0.7**
M17K				IAmb	IAmb	00 16 17.2	
comp=Z,8.4nm,1.1s							
PDAR	**Pinedale Array**	**82.84**	**42**	P	**P**	**00 16 35.7**	**+1.5**
comp=Z,0.3nm,0.3s,baz=198,slow=11,SNR=1.8							
comp=Z,0.3nm,0.3s							
ILAR	**Eielson Array**	**83.19**	**11**	P	**P**	**00 16 36.0**	**+0.9**
comp=Z,0.2nm,0.6s,baz=231,slow=5.3,SNR=4.6							
comp=Z,0.2nm,0.6s							
MAW	**Mawson**	**87.07**	**199**	P	**P**	**00 16 53.3**	**-1.4**
comp=Z,1.2nm,0.5s,baz=169,slow=5.2,SNR=4.6							
comp=Z,1.2nm,0.5s							
PLCA	**Paso Flores**	**89.02**	**132**	P	**P**	**00 17 06.5**	**+1.9**
comp=Z,2.6nm,1.0s,baz=248,slow=0.9,SNR=3.0							
comp=Z,2.6nm,1.0s							
SNAA	**Sanae**	**92.16**	**177**	P	**P**	**00 17 19.1**	**+0.6**
comp=Z,1.9nm,1.1s,baz=154,slow=5.3,SNR=3.8							
comp=Z,1.9nm,1.1s							
BDFB	**Brasilia**	**117.54**	**118**	PKP	**PKiKP**	**00 22 58.6**	**+2.9**
comp=Z,1.7nm,0.7s,baz=148,slow=7.3,SNR=3.0							
ARCES	**ARCESS Array B**	**125.35**	**352**	PKP	**PKPdf**	**00 23 08.6**	**-0.5**
comp=Z,4.4nm,1.1s,baz=325,slow=5.9,SNR=4.4							
KMBO	**Kilima Mbogo**	**145.18**	**243**	PKP	**PKPbc**	**00 23 48.0**	**+0.5**
comp=Z,3.1nm,0.8s,baz=30,slow=2.0,SNR=8.8							
BRTR	**Keskin Array B**	**146.72**	**320**	PKPbc	**PKPdf**	**00 23 51.5**	**+2.0**
comp=Z,1.8nm,0.8s,baz=111,slow=1.7,SNR=12							
GERES	**GERESS Array B**	**146.88**	**351**	PKPbc	**PKPdf**	**00 23 51.4**	**+2.0**
comp=Z,1.0nm,0.7s,baz=27,slow=1.5,SNR=4.3							
CONA	**Conrad Observa**	**147.40**	**348**	*i* PKP	**PKPbc**	**00 23 54.0**	**+1.2**
comp=Z,1.7nm,0.6s							
KBA	**Koelnbreinsper**	**148.66**	**351**	*e*PKP	**PKPbc**	**00 23 56.8**	**+0.5**
comp=Z,0.8nm,0.4s							
WTTA	**Wattenberg**	**148.70**	**353**	*e*PKP	**PKPbc**	**00 23 57.3**	**+0.9**
comp=Z,2.6nm,0.5s							
SOKA	**Soboth**	**148.76**	**349**	*e*PKP	**PKPbc**	**00 23 56.6**	**+0.2**
comp=Z,1.1nm,0.6s							
DAVA	**Damuels**	**148.84**	**356**	*e*PKP	**PKPbc**	**00 23 57.8**	**+1.0**
comp=Z,1.0nm,0.4s							
MMAI	**Mount Meron Ar**	**149.02**	**308**	PKP	**PKPdf**	**00 23 52.2**	**-1.2**
comp=Z,0.6nm,0.5s,baz=76,slow=0.6,SNR=1.7							
MMAI				PKPbc	**PKPbc**	**00 23 57.6**	**+0.1**
comp=Z,1.7nm,0.7s,baz=94,slow=6.8,SNR=4.4							
ABTA	**Abfaltersbach**	**149.10**	**352**	*e*PKP	**PKPbc**	**00 23 57.8**	**+0.5**
comp=Z,1.5nm,0.6s							

IDC 09 00:37:13.5±2.2,**35°.48S**×**179°.56W**,**h0**km,**mb3.7**/3, **mbtmp3.7**/4,**ML3.5**/1,**Error ellipse: s-maj=49.4km s-min=38.3km az=63.0**,**East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**3.85**	**223**	Pn	Pn	00 38 13.0	-0.9
3.6nm,0.3s,baz=129,slow=4.2,SNR=18							
URZ				Sn	Sn	00 38 56.5	-3.3
4.0nm,0.3s,baz=15,slow=18,SNR=5.8							
14nm,0.4s							
ASAR	**Alice Springs**	**41.80**	**273**	P	P	00 45 05.2	+0.2
0.4nm,0.5s,baz=112,slow=7.9,SNR=2.7							
0.4nm,0.5s							
WRA	**Warramunga Arr**	**43.25**	**278**	P	P	00 45 16.7	-0.1
0.6nm,0.5s,baz=119,slow=7.7,SNR=12							
0.6nm,0.5s							
QSPA	**South Pole Qui**	**54.65**	**180**	P	P	00 46 43.8	-0.1
2.0nm,1.3s,baz=24,slow=20,SNR=1.3							
2.0nm,1.3s							
FINES	**FINESS Array B**	**149.35**	**336**	PKPbc	PKPbc	00 57 03.0	-0.4
0.8nm,0.7s,baz=26,slow=16,SNR=1.7							

*NEIC **09** 00:41:11.5±2.7, 30°.72N±0°.06×142°.4E±0°.1, h10km±1km, mb4.4/6, Error ellipse: s-maj=17.0km s-min=10.6km az=273.0*
*IDC **09** 00:41:13.7±1.1, 30°.36N×140°.89E, h0km, mb3.8/8, mbtmp3.8/10, ML3.1/2, MS2.5/2, Error ellipse: s-maj=36.7km s-min=17.6km az=83.0*
ISC 09 00:41:18.9±0.8,**30°.37N**±0°.08×**140°.9E**±0°.2,**h35**km,**n23**, σ1§**42**/21,**mb4.2**/12,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.89**	**342**	Pn	**Pn**	**00 42 01.8**	**-0.7**
JHJ	**Hachijo jima 2**	**2.91**	**341**	Pn	**Pn**	**00 42 00.8**	**-1.9**
9.4nm,0.3s,baz=144,slow=13,SNR=1.5							
JHJ				Sn	**Sn**	**00 42 38.2**	**+1.8**
17nm,0.3s,baz=244,slow=23,SNR=1.4							
74nm,0.5s							
JCJ	**Chichijima**	**3.45**	**161**	Pn	**Pn**	**00 42 09.5**	**-0.7**
MJAR	**Matsushiro Arr**	**6.56**	**341**	Pn	**Pn**	**00 42 52.0**	**-1.0**
0.4nm,0.3s,baz=161,slow=12,SNR=9.9							
MJAR				LR	LR	00 45 50.8	
comp=Z,53nm,18.4s,baz=241,slow=42							
2.0nm,0.4s							
MAJO	**Matsushiro**	**6.56**	**341**	Pn	**Pn**	**00 42 52.2**	**-0.8**
MJB9	**Matsu-Tunnel**	**6.56**	**341**		**Pn**	**00 42 53.5**	**+0.5**
JMM	**Marumori**	**7.48**	**359**	Pn	Pn	00 42 58.3	-7.3
KSRS	**Korea Array**	**12.88**	**307**	LR	LR	00 48 16.0	
comp=Z,15nm,18.4s,baz=305,slow=33							
PETK	**Petropavlovsk-**	**25.82**	**24**	P	**P**	**00 46 45.3**	**-1.5**
8.0nm,1.0s,baz=211,slow=5.0,SNR=2.8							
8.0nm,1.0s							
SONM	**Songino Array**	**31.62**	**313**	P	**P**	**00 47 38.5**	**-0.1**
0.2nm,0.3s,baz=28,slow=6.5,SNR=1.8							
0.2nm,0.3s							
MK31	**Makanchi Array**	**47.57**	**307**	P	**P**	**00 49 51.9**	**+0.8**
MK31				IAmb	IAmb	00 50 25.0	
comp=Z,6.0nm,1.4s							
MKAR	**Makanchi Array**	**47.57**	**307**	P	**P**	**00 49 53.2**	**+2.1**
MKAR	**Makanchi Array**	**47.57**	**307**	P	**P**	**00 49 52.7**	**+1.6**
comp=Z,0.3nm,0.4s,baz=93,slow=8.2,SNR=4.5							
comp=Z,0.3nm,0.4s							
MAKZ	**Makanchi**	**47.78**	**307**	P	**P**	**00 49 54.8**	**+2.1**
MAKZ				IAmb	IAmb	00 49 59.0	
comp=Z,8.2nm,1.4s							
KURBB	**Kurchatov Arra**	**49.98**	**313**	P	**P**	**00 50 08.3**	**-1.2**
comp=Z,0.5nm,0.2s,baz=90,slow=7.4,SNR=2.3							
comp=Z,0.5nm,0.2s							
WB0	**Warramunga Arr**	**50.23**	**188**	P	**P**	**00 50 11.6**	**-0.1**
WB0				IAmb	IAmb	00 50 26.0	
comp=Z,4.0nm,1.2s							
WB2	**Warramunga Arr**	**50.41**	**188**	P	**P**	**00 50 12.6**	**-0.4**
WB2				IAmb	IAmb	00 50 29.2	
comp=Z,7.3nm,1.2s							
WRA	**Warramunga Arr**	**50.41**	**188**	P	**P**	**00 50 11.4**	**-1.6**
WRA	**Warramunga Arr**	**50.41**	**188**	P	**P**	**00 50 12.4**	**-0.7**
comp=Z,1.1nm,0.5s,baz=5.6,slow=7.5,SNR=16							
comp=Z,1.1nm,0.5s							
SUA	**Susitna One**	**53.54**	**34**	P	P	00 50 23.6	-12
ASAR	**Alice Springs**	**54.14**	**188**	P	**P**	**00 50 41.5**	**+0.8**
comp=Z,0.3nm,0.4s,baz=8.8,slow=11,SNR=4.8							
comp=Z,0.3nm,0.4s							
ILAR	**Eielson Array**	**55.42**	**30**	P	**P**	**00 50 51.5**	**+2.0**
comp=Z,0.4nm,0.8s,baz=265,slow=6.2,SNR=2.7							
comp=Z,0.4nm,0.8s							
FINES	**FINESS Array B**	**74.53**	**333**	P	**P**	**00 52 52.0**	**-1.7**
comp=Z,0.7nm,0.6s,baz=39,slow=7.1,SNR=1.7							
comp=Z,0.7nm,0.6s							

*TAP **09** 00:54:56.3, 24°.75N×122°.41E, h15km±1km, ML2.7, C*
*JMA **09** 00:54:57.6±0.2, 24°.6N±0°.9×122°.4E±0°.3, h7km±4km, MV2.2/10, TAIWAN REGION*
ISC 09 00:54:56.9±1.0,**24°.73N**±0°.03×**122°.40E**±0°.02,**h11**km±9km, **n47**,σ0§**42**/72,**2C-1D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.34**	**207**	*i* P	**Pb**	**00 55 04.7**	**-0.3**
EOS2				*i* S	**Sb**	**00 55 10.9**	**+0.6**
EGS		**0.44**	**286**	P	**Pg**	**00 55 05.8**	**+0.2**
EOS3	**EOS3**	**0.44**	**190**	P	**Pb**	**00 55 06.6**	**0.0**
TWB1	**Santiao Chiao**	**0.47**	**307**	⇑*i*P	**Pg**	**00 55 05.9**	**-0.2**
TWB1				*i* S	**Sg**	**00 55 11.8**	**-0.6**
TWC	**Suao**	**0.52**	**257**	⇑*i*P	**Pg**	**00 55 06.5**	**-0.5**
TWC				*i* S	**Sb**	**00 55 16.1**	**+0.7**
ESAO	**Su ao**	**0.53**	**254**	P	**Pg**	**00 55 07.0**	**-0.3**
ESAO				S	**Sb**	**00 55 16.3**	**+0.5**
JYNG	**Yonagunijimaku**	**0.57**	**119**	P	**Pg**	**00 55 08.0**	**+0.1**
JYNG				*e*S	**Sg**	**00 55 15.7**	**+0.2**
TIPB	**Shuangxi**	**0.58**	**295**	P	**Pg**	**00 55 08.1**	**-0.1**
TIPB				S	**Sg**	**00 55 16.1**	**+0.2**
SXI1	**Grass Mountain**	**0.60**	**308**	*i* P	**Pg**	**00 55 09.1**	**+0.4**
SXI1				*i* S	**Sg**	**00 55 17.7**	**+1.1**
EOS4	**EOS4**	**0.61**	**187**	P	**Pb**	**00 55 09.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.61**	**115**	*e*P	**Pb**	**00 55 09.3**	**+0.4**
YOJ				*e*S	**Sg**	**00 55 16.9**	**-0.1**
YOJ	**Yonaguni jima**	**0.61**	**115**	⇓*i*P	**Pb**	**00 55 09.3**	**-0.4**
YOJ				*i* S	**Sg**	**00 55 17.2**	**+0.2**
NDS	**Dongshan**	**0.63**	**262**	P	**Pg**	**00 55 09.3**	**+0.1**
NDS				S	**Sb**	**00 55 18.2**	**-0.5**
EWUT	**Wuta**	**0.63**	**244**	P	**Pg**	**00 55 09.2**	**0.0**
EWUT				S	**Sb**	**00 55 19.5**	**+0.7**
NWF	**Wu-fen Shan**	**0.66**	**302**	*e*P	**Pb**	**00 55 10.8**	**+0.3**
WFSB	**Wu-fen Shan**	**0.66**	**302**	*e*P	**Pb**	**00 55 10.8**	**+0.3**
ENA	**Nanau**	**0.67**	**244**	*i* P	**Pb**	**00 55 10.2**	**-0.5**
ENA				*i* S	**Sg**	**00 55 18.8**	**+0.1**
EAHA	**Aohua**	**0.72**	**237**	*e*S	**Sb**	**00 55 21.3**	**0.0**
FUSB	**Fushanzhiwuyua**	**0.74**	**273**	P	**Pg**	**00 55 11.0**	**-0.3**
FUSB				S	**Sb**	**00 55 22.0**	**0.0**
ENTT	**Nioudou**	**0.76**	**264**	P	**Pg**	**00 55 11.0**	**-0.8**
LATG	**Datong**	**0.82**	**257**	P	**Pg**	**00 55 12.7**	**-0.1**
LATG				S	**Sb**	**00 55 24.2**	**-0.1**
NWLT	**Wulai**	**0.82**	**274**	P	**Pg**	**00 55 12.4**	**-0.4**
NWLT				S	**Sg**	**00 55 23.6**	**+0.1**
YM01	**YM01**	**0.86**	**299**	*e*P	**Pb**	**00 55 14.2**	**+0.2**
YM01				S	**Sg**	**00 55 25.6**	**+0.7**
YM08	**YM08**	**0.87**	**302**	*e*P	**Pb**	**00 55 14.5**	**+0.5**
YM08				*e*S	**Sg**	**00 55 24.8**	**-0.3**
ZUZH	**Zhuzihu**	**0.89**	**299**	*e*P	**Pn**	**00 55 15.3**	**-0.2**
NACB	**Ninganchiao**	**0.92**	**233**	*e*P	**Pb**	**00 55 14.5**	**-0.3**
NACB				*e*S	**Sb**	**00 55 27.3**	**+0.3**
YHNB	**Yeheng**	**0.93**	**267**	*e*P	**Pg**	**00 55 14.9**	**0.0**
NSK	**Sanguang**	**0.95**	**267**	P	**Pg**	**00 55 14.6**	**-0.7**
PCYT	**Pengchaiyu**	**0.95**	**342**	*e*P	**Pg**	**00 55 14.5**	**-0.8**
NNSB	**Datong**	**0.97**	**253**	P	**Pg**	**00 55 15.4**	**-0.3**
NNSB				*e*S	**Sb**	**00 55 28.8**	**0.0**
NNS	**Nan Shan**	**0.98**	**253**	P	**Pg**	**00 55 15.6**	**-0.2**
NNS				S	**Sn**	**00 55 29.9**	**-0.7**
ETLH	**Xiulin Townshi**	**0.98**	**239**	*e*P	**Pb**	**00 55 16.1**	**+0.1**
ETLH				*e*S	**Sb**	**00 55 29.3**	**+0.3**
LXIB	**Xiulin Townshi**	**1.14**	**232**	*e*P	**Pn**	**00 55 19.4**	**+0.4**
NFF	**Wufeng Townshi**	**1.17**	**266**	P	**Pg**	**00 55 19.6**	**+0.1**
WHF	**Hehuan Shan**	**1.19**	**241**	P	**Pb**	**00 55 19.3**	**-0.3**
WHF				*e*S	**Sn**	**00 55 36.3**	**+0.1**
TWT	**Tachien**	**1.21**	**247**	*e*P	**Pg**	**00 55 21.2**	**+0.9**
TDCB	**Techi**	**1.23**	**248**	*e*P	**Pg**	**00 55 21.4**	**+0.9**
IRIF	**Iriomote-Funau**	**1.27**	**108**	P	**Pb**	**00 55 21.0**	**+0.1**
IRIF				*e*S	**Sb**	**00 55 37.2**	**0.0**
NSTT	**Nanjuang**	**1.28**	**266**	*e*P	**Pn**	**00 55 20.6**	**0.0**
OWD	**Renai**	**1.35**	**236**	*e*P	**Pb**	**00 55 22.0**	**-0.4**
WARBT	**Fenglin Townsh**	**1.36**	**223**	*e*P	**Pb**	**00 55 21.9**	**-0.6**
WUSB	**Renai**	**1.38**	**238**	*e*P	**Pb**	**00 55 22.8**	**0.0**
WHP	**Taichung City**	**1.40**	**252**	P	**Pg**	**00 55 24.1**	**+0.3**
WHP				S	**Sg**	**00 55 42.1**	**+0.1**
VWDT	**VWDT**	**1.50**	**230**	*e*P	**Pb**	**00 55 24.8**	**0.0**
SSLB	**Suanglung**	**1.62**	**235**	*e*P	**Pn**	**00 55 24.7**	**-0.7**
JIJ	**Ishigaki jima**	**1.63**	**102**	*e*P	**Pb**	**00 55 27.0**	**0.0**
JIJ				*e*S	**Sn**	**00 55 46.6**	**+0.1**
JISG	**Ishigakijimahi**	**1.74**	**94**	*e*S	**Sb**	**00 55 51.2**	**+0.4**

*ATH **09** 01:06:15.7, 37°.44N×20°.36E, h8km±3km, ML3.4/5, Error ellipse: s-maj=3.8km s-min=1.4km az=23.0*
*IDC **09** 01:06:16.2±0.9, 37°.51N×20°.59E, h0km, mb3.7/14, mbtmp3.6/23, ML3.5/5, MS2.6/1, Error ellipse: s-maj=18.1km s-min=13.7km az=171.0*
*THE **09** 01:06:18.0, 37°.53N×20°.42E, h0km±4km, ML3.5/9, Error ellipse: s-maj=4.6km s-min=0.9km az=235.0*
ISC 09 01:06:17.1±1.2,**37°.51N**±0°.03×**20°.45E**±0°.03,**h10**km±8km, **n72**,σ1§**75**/92,**mb3.7**/13,**14C-4D**,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.33**	**63**	P	**Pb**	**01 06 24.5**	**-0.6**
KRI1				S	**Sg**	**01 06 29.2**	**+1.1**
23μm,0.7s							
LTHK	**Lithakia**	**0.37**	**57**	P	**Pb**	**01 06 24.8**	**-0.9**
LTHK				S	**Sg**	**01 06 30.3**	**+1.0**
22μm,0.6s							
LTHK	**Lithakia**	**0.37**	**57**	P	**Pb**	**01 06 24.8**	**-0.9**
LTHK				S	**Sg**	**01 06 30.2**	**+1.0**
LTHK				AML	AML	01 06 31.6	
comp=E,55089μm,0.5s							
LTHK				AML	AML	01 06 33.2	
comp=N,18916μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.61**	**10**	P	**Pb**	**01 06 29.5**	**-0.4**
PSDA				S	**Sb**	**01 06 37.9**	**-0.7**
comp=N,5μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.61**	**10**	P	**Pg**	**01 06 28.5**	**-0.5**
PSDA				S	**Sb**	**01 06 37.7**	**-0.9**
RTZL	**Ratzakli, Kefa**	**0.62**	**24**	P	**Pg**	**01 06 29.1**	**-0.1**
RTZL				S	**Sb**	**01 06 38.7**	**-0.1**
comp=N,7μm,0.8s							
VLS	**Valsamata**	**0.68**	**10**	P	**Pb**	**01 06 30.5**	**-0.5**
VLS				S	**Sg**	**01 06 39.0**	**-0.1**
comp=N,4μm,0.4s							
VLS	**Valsamata**	**0.68**	**10**	P	**Pb**	**01 06 30.3**	**-0.7**
VLS				S	**Sb**	**01 06 39.9**	**-0.5**
VLS				AML	AML	01 06 40.9	
comp=E,6074μm,0.1s							
VLS				AML	AML	01 06 46.9	
comp=N,8141μm,0.4s							
LXRA	**Lixouri, Kepha**	**0.69**	**359**	P	**Pb**	**01 06 30.7**	**-0.6**
DMLN	**Damoulianata-K**	**0.73**	**355**	P	**Pb**	**01 06 31.8**	**-0.2**
DMLN				S	**Sb**	**01 06 41.8**	**-0.2**
comp=N,13μm,0.4s							
DMLN	**Damoulianata-K**	**0.73**	**355**	P	**Pb**	**01 06 31.4**	**-0.5**
FSK	**Fiskardo**	**0.95**	**5**	P	**Pg**	**01 06 34.8**	**-0.7**
RLS	**Riolos of Patr**	**0.97**	**56**	P	**Pb**	**01 06 35.9**	**-0.2**
RLS				S	**Sn**	**01 06 51.4**	**+0.6**
comp=N,2μm,0.6s							
RLS	**Riolos of Patr**	**0.97**	**56**	P	**Pg**	**01 06 35.5**	**-0.4**
RLS				S	**Sn**	**01 06 51.0**	**+0.3**
DRO	**Drossia**	**1.09**	**66**	P	**Pb**	**01 06 38.4**	**+0.3**
DRO				S	**Sb**	**01 06 53.4**	**+0.9**
DRO				AML	AML	01 07 00.5	
comp=N,5852μm,0.5s							
DRO				AML	AML	01 07 13.1	
comp=E,4407μm,0.6s							
EVGI	**Lefkada island**	**1.12**	**8**	P	**Pb**	**01 06 38.4**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.18**	**5**	P	**Pb**	**01 06 39.2**	**-0.4**
PYL	**PYLOS**	**1.20**	**120**	P	**Pn**	**01 06 41.0**	**+1.0**
PYL				S	**Sn**	**01 06 59.3**	**+3.0**
comp=E,702nm,0.6s							
PYL	**PYLOS**	**1.20**	**120**	P	**Pg**	**01 06 37.5**	**-2.7**
PYL				S	**Sg**	**01 06 55.3**	**-0.5**
PYL				AML	AML	01 07 04.0	
comp=N,1122μm,0.4s							
PYL				AML	AML	01 07 04.2	
comp=E,1329μm,0.6s							
ITM	**Ithomi**	**1.22**	**105**	P	**Pn**	**01 06 41.6**	**+1.3**
ITM				S	**Sn**	**01 07 00.7**	**+3.8**
comp=E,888nm,0.9s							
ITM	**Ithomi**	**1.22**	**105**	P	**Pg**	**01 06 38.3**	**-2.3**
ITM				AML	AML	01 07 08.2	
comp=E,1919μm,1.1s							
ITM				AML	AML	01 07 12.1	
comp=N,1625μm,0.7s							
EFP	**Efpalio**	**1.47**	**51**	P	**Pn**	**01 06 43.5**	**-0.2**
TIP	**Timpagrande**	**3.34**	**301**	⇑P	**Pn**	**01 07 05.4**	**-4.1**
OHR	**Ohrid**	**3.61**	**4**	*i* Pn	**Pn**	**01 07 16.2**	**+3.1**
OHR				*i* Sn	**Sn**	**01 07 56.3**	**+0.5**
TIR	**Tirane**	**3.86**	**353**	⇑P	**Pn**	**01 07 18.7**	**+2.2**
VAY	**Valandovo**	**4.15**	**23**	*i* Pn	**Pn**	**01 07 21.7**	**+1.2**
IDI	**Anoyia**	**4.21**	**120**	Pn	**Pn**	**01 07 21.5**	**0.0**
comp=N,8.9nm,0.9s,baz=36,slow=12,SNR=1.3							
IDI				Sn	**Sn**	**01 08 10.9**	**+0.1**
comp=N,1.3nm,0.3s,baz=312,slow=21,SNR=1.7							
MATE	**Matera**	**4.28**	**318**	⇑P	**Pn**	**01 07 21.4**	**-0.9**
PEHC	**Pehcevo**	**4.66**	**23**	*i* Pn	**Pn**	**01 07 28.7**	**+1.0**
VAE	**Valguarnera**	**4.80**	**271**	Pn	**Pn**	**01 07 33.1**	**+3.6**
comp=N,13nm,0.7s,baz=84,slow=9.1,SNR=6.1							
VAE				Sn	**Sn**	**01 08 25.3**	**+0.1**

KSRS	Korea Array	79.80	50	P	P	01 18	25.8	+0.2
	comp=N,0.9nm,0.6s,baz=297,slow=5.2,SNR=2.2							
	comp=N,0.9nm,0.6s							

*RSNC **09** 01:13:28.2±0.0, 10°N±10°×7°0W±1°0, h4km±9km, M2.5, mb3.5, mB4.4, ML2.2, Mw(mB)3.5*
*FUNV **09** 01:13:28.3, 9°83N×69°92W, h5km, MW3.1*
ISC 09 01:13:26.4±1.3, 9°90N±0°04×69°93W±0°03, h9km±11km, n17, σ1°52/34, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEPV	Terepaima	0.73	85	eP	Pg	01 13 41.0	+0.5
TEPV				eS	Sg	01 13 50.1	0.0
SDV	Santo Domingo	1.23	215	P	Pn	01 13 49.5	-0.4
SDV				S	Sb	01 14 05.6	-0.3
MAPV	Macapo	1.45	93	eP	Pg	01 13 54.6	+0.3
MAPV				eS	Sg	01 14 14.2	+1.0
JACV	Jacura	1.60	42	eP	Pg	01 13 57.6	+0.5
JACV				eS	Sg	01 14 19.6	+1.7
SOCV	Socops	1.85	210	eP	Pb	01 14 00.3	-0.2
SOCV				eS	Sn	01 14 22.9	+0.9
BAUV	El Baul	2.09	117	eP	Pb	01 14 03.6	-1.0
BAUV				eS	Sb	01 14 29.3	-1.4
BENV	Beln	2.30	88	eP	Pb	01 14 06.8	-1.3
BENV				eS	Sb	01 14 35.0	-1.7
URIC	Uribia, Colomb	2.71	312	P	Pn	01 14 09.1	-1.0
URIC				S	Sn	01 14 43.2	+0.2
TACV	Tcata	2.87	85	eP	Pn	01 14 13.7	+1.3
TACV				eS	Sn	01 14 47.9	+0.7
CAPV	Capacho	3.11	230	eP	Pn	01 14 16.7	+0.8
CAPV				eS	Sn	01 14 53.0	-0.3
CRJC	Cerrejon, Guaj	3.11	291	P	Pn	01 14 15.8	0.0
CRJC				S	Sn	01 14 51.7	-1.5
OCAC	Ocana	3.73	244	P	Pn	01 14 24.6	+0.2
OCAC				S	Sn	01 15 11.0	+2.3
PAMC	Pamplona, Colo	3.74	227	P	Pn	01 14 27.8	+3.0
PAMC				S	Sn	01 15 11.2	+2.0
TAMC	Tame, Arauca	3.91	208	P	Pg	01 14 39.9	-1.4
TAMC				S	Sn	01 15 16.1	+3.3
CACV	CAICARA DEL OR	4.08	124	eP	Pb	01 14 36.8	-1.6
CACV				eS	Sb	01 15 26.5	-1.3
SJCC	San Jacinto, C	5.17	270	P	Pn	01 14 46.6	+2.4
	9.9nm,1.5s						
SJCC				S	Sn	01 15 45.7	+1.6
	9.9nm,1.5s						
PTBC	PUERTO BERRIO,	5.59	234	P	Pn	01 14 49.5	-0.3
PTBC				S	Sn	01 15 51.8	-2.5

*IDC **09** 01:14:16.6±2.5, 45°09N×22°16E, h0km, mbtmp3.2/5, ML2.9/4, Error ellipse: s-maj=39.5km s-min=8.5km az=16.0*
*BUC **09** 01:14:18.4±0.2, 45°11N×22°29E, h4km±1km, ml3.7/40, Error ellipse: s-maj=1.9km s-min=1.2km az=62.0*
*BEO **09** 01:14:18.3±0.3, 45°06N×22°30E, h15km±1km, ML3.3/27*
*PDG **09** 01:14:18.0±0.5, 45°09N×22°25E, h18km, ML3.7/13, Error ellipse: s-maj=0.5km s-min=0.9km az=0.0*
*PRU **09** 01:14:23.5, 45°26N×22°15E, h10km*
ISC 09 01:14:18.0±0.9, 45°08N±0°01×22°28E±0°02, h17km±6km, n132, σ1°37/202, 35C-35D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HERR	Herculane	0.23	154	↑P	Pg	01 14 23.4	+0.2
HERR				↑S	Sg	01 14 26.9	+0.1
DJES	Djerdap	0.45	157	↓P	Pg	01 14 26.9	-0.3
DJES				↓S	Sg	01 14 33.2	-0.1
DJES	Djerdap	0.45	157	ePg	Pg	01 14 26.8	-0.3
DJES				eSg	Sg	01 14 33.1	-0.2
GZR	Gura Zlata	0.47	49	↑P	Pg	01 14 26.8	-0.8
GZR				↑S	Sg	01 14 33.1	-0.8
MDVR	Moldovita	0.50	233	↑P	Pb	01 14 28.7	+0.3
MDVR				↓S	Sb	01 14 36.0	+0.6
MDVR	Moldovita	0.50	233	ePg	Pb	01 14 28.7	+0.3
MDVR				eSg	Sb	01 14 35.9	+0.5
RMGR	Halanga-Turnu	0.51	145	↑P	Pb	01 14 28.8	+0.3
RMGR				↑S	Sb	01 14 36.5	+0.8
VRSS	Vrsac	0.68	274	ePg	Pg	01 14 31.8	+0.5
VRSS				eSg	Sb	01 14 41.2	+0.8
SURR	Surduc	0.68	351	↑P	Pb	01 14 31.0	-0.4
SURR				↓S	Sg	01 14 40.1	-0.2
BZS	Buzias	0.71	319	↓P	Pb	01 14 31.9	0.0
BZS				↓S	Sb	01 14 40.7	-0.6
BZS	Buzias	0.71	319	ePg	Pb	01 14 31.8	-0.1
BZS				eSg	Sb	01 14 40.9	-0.5
SRE	Strehaia	0.78	122	↓P	Pn	01 14 34.1	-0.2
SRE				↓S	Sn	01 14 45.2	-0.4
KUBS	Kucevo	0.80	213	ePg	Pb	01 14 32.4	-1.0
KUBS				eSg	Sb	01 14 43.0	-0.9
BANR	Banloc	0.86	291	↓P	Pn	01 14 35.7	+0.4
DEV	Deva	0.91	29	↑P	Pb	01 14 35.1	-0.3
DEV				↓S	Sg	01 14 47.8	0.0
PUNG	Punghina	0.93	150	↑P	Pg	01 14 36.1	0.0
PUNG				↑S	Sg	01 14 48.9	+0.6
PUNG	Punghina	0.93	150	ePg	Pb	01 14 36.0	+0.3
PUNG				eSg	Sg	01 14 48.4	+0.1
TIM	Timisoara	0.99	312	↑P	Pg	01 14 38.1	+0.9
TIM				↑S	Sn	01 14 51.3	+0.6
SVIS	Svilajnac	1.11	223	ePg	Pg	01 14 39.5	0.0
SVIS				eSg	Sn	01 14 53.7	-0.1
SIRR	Siria	1.26	340	↑P	Pb	01 14 41.3	0.0
ZAGS	Zajecar	1.27	181	ePg	Pn	01 14 41.1	+0.1
ZAGS				eSg	Sn	01 14 58.4	+0.8
AVAS	Avala Beograd	1.31	253	ePg	Pb	01 14 42.4	+0.2
AVAS				eSg	Sg	01 15 00.6	+0.2
BOVS	Bovan	1.50	196	ePg	Pn	01 14 44.5	+0.3
BOVS				eSg	Sb	01 15 04.3	0.0
TNR	Turnu Rosu	1.52	67	↑P	Pb	01 14 45.8	+0.1
TRUS	Trudelj	1.59	238	ePn	Pb	01 14 46.4	-0.5
TRUS				eSn	Sb	01 15 06.2	-0.5
GRUS	Gruza	1.64	224	ePn	Pb	01 14 47.2	-0.5
GRUS				eSn	Sn	01 15 07.3	+0.7
ARR	Arges	1.69	79	↓P	Pb	01 14 48.4	-0.3
ARR				↓S	Sb	01 15 10.0	+0.3
MARR	Marisel-Cluj	1.70	20	↓P	Pb	01 14 48.9	0.0
MARR				↓S	Sb	01 15 10.5	+0.5
DRGR		1.73	10	↑S	Sb	01 15 11.9	+0.9
DRGR		1.73	10	ePn	Pn	01 14 47.6	+0.1
DRGR				eSn	Sn	01 15 10.0	+0.7
FRGS	Fruska Gora	1.75	273	ePn	Pn	01 14 47.6	0.0
FRGS				eSn	Sn	01 15 10.2	+0.7
FRGS	Fruska Gora	1.75	273	ePn	Pn	01 14 45.6	-2.0
MDB	Medias	1.82	54	↑P	Pb	01 14 50.4	-0.4
ZAPS	Zavoj	1.83	172	ePn	Pn	01 14 49.2	+0.5
ZAPS				eSn	Sn	01 15 10.3	-1.2
ZAPS				eSn	Sb	01 15 11.0	-2.6
VLAD	Vladila	1.87	125	↓S	Sg	01 15 17.6	-0.6
CJR	Cluj-Napoca	1.87	29	↑P	Pn	01 14 50.1	+0.7
CJR				↑S	Sb	01 15 15.3	+0.4
CBBR	Cluj-Babes-Bol	1.91	27	↑P	Pn	01 14 51.1	+1.3
DIVS	Divibare	1.91	240	ePn	Pn	01 14 50.6	+0.8
DIVS				eSn	Sn	01 15 14.3	+0.8
VOIR		1.99	79	↑P	Pb	01 14 53.3	-0.5
VOIR				↑S	Sb	01 15 19.2	+0.8
TEKS	Tekeris	2.03	256	ePn	Pn	01 14 51.8	+0.4
TEKS				eSn	Sn	01 15 16.1	-0.3
TEKS	Tekeris	2.03	256	ePn	Pn	01 14 50.6	-0.8
BORR	Bors	2.04	351	↑P	Pn	01 14 52.8	+1.3
SELS	Selova	2.04	204	ePn	Pn	01 14 52.4	+0.8
SELS				eSn	Sn	01 15 17.2	+0.5
MESR	Meseseni	2.12	13	↓P	Pn	01 14 53.3	+0.6
TGMR	Targu Mures	2.13	47	↑S	Sb	01 15 22.0	-0.5
IVAS	Ivanjica	2.14	226	ePn	Pn	01 14 53.3	+0.3
IVAS				eSn	Sn	01 15 19.1	-0.2
BARS	Barje	2.29	189	ePn	Pn	01 14 55.7	+0.7
BARS				eSn	Sn	01 15 23.2	+0.4
DOPR	Dopca	2.36	67	↓S	Sb	01 15 28.5	-0.5
BBLS	Lazi&#263i	2.39	240	ePn	Pn	01 14 57.6	+1.2
BBLS				eSn	Sn	01 15 26.0	+0.7
BBLS	Lazi&#263i	2.39	240	ePn	Pn	01 14 57.8	+1.4
SJES	Sjenica	2.46	223	ePn	Pn	01 14 58.4	+0.9
SJES	Sjenica	2.46	223	ePn	Pn	01 14 58.4	+0.9
ARCR	ARCALIA	2.47	35	↓S	Sb	01 15 30.1	-2.0
RUDO	Rudo	2.55	236	ePn	Pn	01 14 58.6	0.0
HAPS	Han Pijesak,Bl	2.58	248	ePn	Pn	01 14 59.7	+0.6
BOSS	Bosilegrad	2.59	177	ePn	Pn	01 15 00.1	+0.9
BOSS				eSn	Sn	01 15 29.7	-0.6
MLR	Muntele Rosu	2.62	80	↓P	Pb	01 15 02.6	-2.0
MLR				↑S	Sn	01 15 33.1	+1.9
MLR	Muntele Rosu	2.62	80	Pn	Pn	01 15 02.2	+2.5
	45nm,0.6s,baz=277,slow=6.0						
MLR				Pg	Pb	01 15 06.2	+1.6
	baz=280,slow=11						
MLR				Lg	Lg	01 15 41.3	
	13nm,0.3s,baz=216,slow=22,SNR=11						
OZUR		2.67	66	↑P	Pn	01 15 02.0	+1.8
PLE	Pljevlja	2.72	231	↑iPn	Pn	01 15 01.7	+0.7
PLE				i Sn	Sn	01 15 35.4	+1.9
IVA	Berane	2.80	219	↑iPn	Pn	01 15 03.4	+1.3
IVA				i Sn	Sn	01 15 37.8	+2.3
TURR	Turia	2.80	68	↓P	Pn	01 15 04.2	+2.2
KOME	Kolasin	2.99	223	↓iPn	Pn	01 15 06.0	+1.2
KOME				i Sn	Sn	01 15 42.0	+1.7
PVY	Plav	3.00	215	↑iPn	Pn	01 15 06.1	+1.2
PVY				i Sn	Sn	01 15 42.4	+1.9
ISR	Istrita	3.02	88	↓P	Pn	01 15 06.8	+1.7
UPM	Unac-Piva	3.07	233	ePn	Pn	01 15 06.2	+0.3
UPM	Unac-Piva	3.07	233	↑iPn	Pn	01 15 07.1	+1.2
UPM				i Sn	Sn	01 15 44.0	+1.7
ONER	Baraj Valea Uz	3.15	65	↑P	Pn	01 15 09.1	+2.3
PLOR	Plostina	3.17	74	↓P	Pn	01 15 09.3	+2.1
SPBR	Spulber	3.22	76	↓P	Pn	01 15 09.0	+1.2
VRI	Vrincioaia	3.23	74	↓P	Pn	01 15 09.8	+1.9
BURAR	Bucovina Array	3.25	38	↓P	Pn	01 15 09.8	+1.5
NKME	Niksic	3.33	227	↓iPn	Pn	01 15 10.6	+1.2
NKME				i Sn	Sn	01 15 50.0	+1.3
PEHC	Pehcevo	3.33	172	i Pn	Pn	01 15 09.3	-0.1
PEHC				i Sn	Sn	01 15 48.9	+0.1
TESR	Tescani	3.38	63	↓P	Pn	01 15 11.9	+1.9
PDG	Podgorica	3.44	221	↑P	Pn	01 15 12.5	+1.7
PDG	Podgorica	3.44	221	ePn	Pn	01 15 11.6	+0.8
PDG	Podgorica	3.44	221	ePn	Pn	01 15 11.7	+0.9
PDG	Podgorica	3.44	221	↓iPn	Pn	01 15 12.2	+1.4
PDG				i Sn	Sn	01 15 53.1	+2.0
PLD	Plovdiv	3.44	148	ePn	Pn	01 15 09.9	-0.9
PLD				eSn	Sn	01 15 50.4	-0.8
BRY	Bratogost	3.47	232	ePn	Pn	01 15 11.3	0.0
BRY	Bratogost	3.47	232	↑iPn	Pn	01 15 12.4	+1.1
BRY				i Sn	Sn	01 15 53.2	+1.1
CEME	Cevo	3.51	225	↓iPn	Pn	01 15 13.8	+1.9
CEME				i Sn	Sn	01 15 54.6	+1.5
KECS	Kecovo	3.62	341	ePN	Pn	01 15 14.6	+1.4
KECS				eSN	Sn	01 15 54.9	-0.6
BLY	Banja Luka	3.63	267	ePn	Pn	01 15 14.4	+0.9
BLY				eSn	Sn	01 15 56.5	+0.6
BLY	Banja Luka	3.63	267	ePn	Pn	01 15 13.8	+0.3
DRME	Dracevica, Mon	3.66	219	↑iPn	Pn	01 15 15.5	+1.6
DRME				i Sn	Sn	01 15 57.8	+1.1
TREB	Trebinje	3.69	232	ePn	Pn	01 15 15.8	+1.5
TREB	Trebinje	3.69	232	ePn	Pn	01 15 15.3	+1.0
BUM	Brajici-Budva	3.71	223	↑iPn	Pn	01 15 15.9	+1.3
BUM				eSn	Sn	01 15 59.7	+1.8
VAY	Valandovo	3.77	177	eSn	Sn	01 15 59.1	-0.1
VAY	Valandovo	3.77	177	i Pn	Pn	01 15 16.4	+1.1
VAY				i Sn	Sn	01 16 00.2	+1.0
HCY	Herceg Novi	3.80	227	ePn	Pn	01 15 16.9	+1.1
HCY	Herceg Novi	3.80	227	↓iPn	Pn	01 15 18.4	+2.6
HCY				eSn	Sn	01 16 01.4	+1.3
A051A	Mrakovica	3.81	271	ePn	Pn	01 15 16.3	+0.4
ULC	Ulcinj	3.82	216	↓iPn	Pn	01 15 18.2	+2.2
ULC				eSn	Sn	01 16 01.5	+0.9
KOLS	Kolonicke sedl	3.85	360	ePN	Pn	01 15 17.5	+1.0
KOLS				ePG	Pg	01 15 33.3	+1.5
KOLS				eSG	Sg	01 16 20.0	-1.6
SRO	Srobarova	3.87	316	ePN	Pn	01 15 18.4	+1.7
SRO				eSN	Sn	01 16 02.0	+0.3
STON	Ston	3.97	238	ePn	Pn	01 15 19.7	+1.6
STON	Ston	3.97	238	ePn	Pn	01 15 20.3	+2.2
ICOR	Ion Corvin	4.06	102	↑P	Pn	01 15 20.3	+1.0
SRS	Serrai	4.08	166	ePn	Pn	01 15 19.9	+0.3
A050A	Klekovaca	4.13	264	ePn	Pn	01 15 21.8	+1.4
VYHS	Vyhne	4.15	327	ePN	Pn	01 15 21.5	+0.9
VYHS				eSN	Sn	01 16 07.7	-1.0
VLDR	Vladesti	4.16	77	↓P	Pn	01 15 22.7	+2.1
STHS	Stebnicka Huta	4.39	351	ePN	Pn	01 15 24.7	+0.8
LANS	Liptovska Anna	4.50	336	ePN	Pn	01 15 27.0	+1.6
TLCR		4.63	86	↓P	Pn	01 15 28.7	+1.6
MODS	Modra-Piesok	4.76	316	ePN	Pn	01 15 31.3	+2.4
MODS				eSN	Sn	01 16 20.4	-3.3
CRES	Cresnjevec Ost	4.86	281	ePn	Pn	01 15 31.4	+1.1
RONA	Rosalia, Austr	4.89	304	i Pn	Pn	01 15 32.3	+1.5
	0.6nm,0.1s						
JAVC	Velka Javorina	4.92	322	ePN	Pn	01 15 32.7	+1.5
ARSA	Arzberg	5.17	297	ePn	Pn	01 15 36.6	+2.0
	3.7nm,0.3s						
CONA	Conrad Observa	5.26	305	i Pn	Pn	01 15 38.2	+2.3
	0.7nm,0.2s						
CONA				eSn	Sn	01 16 38.5	+2.2
	7.2nm,0.7s						
SOKA	Soboth	5.30	290	ePn	Pn	01 15 38.0	+1.5
	2.2nm,0.4s						
SOKA				eSn	Sn	01 16 35.9	-1.3
	1.2nm,0.3s						
CEY	Cerknica	5.56	280	ePn	Pn	01 15 33.6	-6.4
OBKA	Obir	5.59	288	eSn	Sn	01 16 43.8	-0.5
	1.9nm,0.3s						
OBKA	Obir	5.59	288	ePn	Pn	01 15 41.4	+1.0
KRUC	Moravsky	5.65	317	ePN	Pn	01 15 41.7	+0.5
KRUC				eSN	Sn	01 16 43.8	-1.9
MORC	Moravsky Berou	5.69	327	ePN	Pn	01 15 42.3	+0.6
MORC				eSN	Sn	01 16 45.0	-1.6
VRAC	Vranov	5.73	320	Pn	Pn	01 15 42.1	-0.1
	0.1nm,0.3s,baz=143,slow=15,SNR=1.7						
VRAC				Sn	Sn	01 16 46.1	-1.6
	1.0nm,0.3s,baz=143,slow=20,SNR=5.5						
	1.0nm,0.4s						
VRAC	Vranov	5.73	320	ePN	Pn	01 15 42.2	-0.1
VRAC				eSN	Sn	01 16 46.1	-1.6
SKDS	Skadanscina	5.84	277	ePn	Pn	01 15 48.3	+4.4
MOA	Molln	6.18	299	i Pn	Pn	01 15 51.9	+3.4
	0.4nm,0.2s						
KRLC	Kraliky	6.22	325	ePN	Pn	01 15 53.9	+4.8
BIOA	Bad Ischl, Aus	6.52	297	ePn	Pn	01 15 58.6	+5.5
	1.6nm,0.4s						
DPC	Dobruska-Polom	6.62	325	ePN	Pn	01 15 59.3	+4.7
GERES	GERESS Array B	6.97	306	Pn	Pn	01 15 58.9	-0.4
	0.1nm,0.3s,baz=116,slow=15,SNR=2.2						
GERES				Sn	Sn	01 17 18.2	-0.1
	0.4nm,0.3s,baz=115,slow=27,SNR=1.6						
	0.4nm,0.3s						
KHC	Kasperske Hory	7.18	307	ePN	Pn	01 16 06.1	+3.9
KHC				ex	x	01 16 12.5	
KHC				eSN	Sn	01 17 22.1	-1.3
AKASG	Malin Array Be	7.31	37	Pn	Pn	01 16 05.1	+1.3
	0.4nm,0.3s,baz=229,slow=16,SNR=1.2						
AKASG				Pg	Pb	01 16 26.9	+2.6
	0.9nm,0.3s,baz=229,slow=16,SNR=3.7						
AKASG				Sn	Sn	01 17 22.3	-4.0
	0.6nm,0.3s,baz=213,slow=12,SNR=1.3						
AKASG				Lg	Lg	01 18 03.0	
	0.3nm,0.3s,baz=226,slow=28,SNR=1.3						
	0.1nm,0.3s						
NACGM	Naroch	10.25	15	eP	Pn	01 16 45.3	+1.2
	comp=Z,1.0nm,0.3s,baz=199						
FINES	FINESS Array B	16.54	6	Pn	Pn	01 18 05.0	-3.9
	comp=Z,0.1nm,0.3s,baz=190,slow=5.6,SNR=1.4						
	comp=Z,1.4nm,1.0s						

*SJA **09** 01:23:11.3±0.7, 20°73S×67°74W, h200km±9km, ML2.7, MW3.1*
*SCB **09** 01:23:14.5±1.2, 20°65S×67°65W, h147km±16km, ML2.5/2, MW2.8, Error ellipse: s-maj=6.1km s-min=2.9km az=0.0*
ISC 09 01:23:12.5±1.8, 20°72S±0°05×67°66W±0°04, h182km±16km, n24, σ1°02/37, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	IPOC Station P	1.51	292	eP	Pn	01 23 45.6	+0.5
PB08				eS	Sn	01 24 12.3	+2.0
PB08	IPOC Station P	1.51	292	Pg	Pn	01 23 45.2	0.0
PB01	IPOC Station P	1.74	259	eP	Pn	01 23 46.9	-0.2
PB01				eS	Sn	01 24 12.9	-0.9
PB01				IAML		01 24 14.7	
	comp=Z,38nm,0.1s						
PB01	IPOC Station P	1.74	259	Pg	Pn	01 23 46.9	-0.2
PB01				Sg	Sn	01 24 12.5	-1.3
PB01				IAML		01 24 13.2	
	comp=Z,37nm,0.3s						
GO01	Chusmiza	1.78	306	eP	Pn	01 23 48.3	+0.3
GO01	Chusmiza	1.78	306	Pg	Pn	01 23 48.2	+0.3
PB09	IPOC Station P	1.82	234	eP	Pn	01 23 49.1	+1.1
PB09				eS	Sn	01 24 15.4	-0.2
PB09				IAML		01 24 17.2	
	comp=Z,21nm,0.2s						
PB09	IPOC Station P	1.82	234	Pg	Pn	01 23 49.3	+1.3
MOCB	Mochara	1.96	106	Pg	Pn	01 23 50.1	+0.3
MOCB				Sg	Sn	01 24 17.6	-1.1
MOCB				IAML		01 24 22.3	
	comp=Z,21nm,0.9s						
PB11	IPOC Station P	2.10	297	eP	Pn	01 23 50.8	-0.2
PB11				IAML		01 24 23.7	
	comp=Z,15nm,0.2s						
PB11	IPOC Station P	2.10	297	Pg	Pn	01 23 51.0	0.0
LVC	Limon Verde	2.21	211	eP	Pn	01 23 53.0	+0.6
LVC				eS	Sn	01 24 23.9	+0.4
TA02	Huaiquique	2.36	280	eP	Pn	01 23 53.6	0.0
TA02				eS	Sn	01 24 24.7	-0.9
TA02				IAML		01 24 26.0	
	comp=Z,107nm,0.1s						
TA01	Diego Aracena	2.36	273	eP	Pn	01 23 53.2	-0.6
TA01				eS	Sn	01 24 24.5	-1.3
TA01				IAML		01 24 25.7	
	comp=Z,19nm,0.2s						
YJA	Yavi	2.47	126	eP	Pn	01 23 56.0	+0.5
YJA				eS	Sn	01 24 28.3	-0.5
PB06	IPOC Station P	2.66	222	eP	Pn	01 23 58.1	+0.8
PB06				eS	Sn	01 24 31.0	-1.3
PB06				IAML		01 24 34.6	
	comp=Z,20nm,0.1s						
PB04	IPOC Station P	2.82	235	eP	Pn	01 24 00.9	+1.7
PB04				eS	Sn	01 24 33.8	-1.9
PB04				IAML		01 24 37.5	
	comp=Z,32nm,0.1s						
PB15	IPOC Station P	3.00	214	eP	Pn	01 24 02.5	+1.1
PB15				eS	Sn	01 24 40.2	+0.6
PB15	IPOC Station P	3.00	214	Pg	Pn	01 24 03.7	+2.3
HJA	Humahuaca	3.24	140	eP	Pn	01 24 05.6	+1.0
HJA				eS	Sn	01 24 30.6	-15
HJA				IAML		01 24 36.3	
	comp=Z,8.2nm,2.8s						
AOEA	Aiquile	3.41	43	Pg	Pn	01 24 06.8	+0.2
LPAZ	La Paz	4.43	354	Pg	Pn	01 24 21.2	+1.4
ALOL	LOMAS DE OLMED	4.60	133	eP	Pn	01 24 20.9	-0.5
GO02	Mina Guanaco	4.77	202	eP	Pn	01 24 23.4	-0.4
GO02				eS	Sn	01 25 18.9	-0.9

*IPEC **09** 01:31:59.0±0.2, 51°59N×16°27E, h1km, ML2.2/4, Error ellipse: s-maj=2.6km s-min=1.3km az=63.0*
*IDC **09** 01:32:00.9±1.3, 51°50N×16°07E, h0km, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=30.4km s-min=10.5km az=132.0*
*PRU **09** 01:32:01.8, 51°48N×16°16E, h0km*
*VIE **09** 01:32:01.9±0.6, 51°42N×15°98E, h0km, mb2.6/7, ml2.6/6, Error ellipse: s-maj=4.9km s-min=3.6km az=59.0, Suspected Mining induced.*
ISC 09 01:31:58.5±0.8, 51°61N±0°03×16°15E±0°02, h0km, n43, σ0°97/81, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.78	173	ePg	Pg	01 32 13.6	+0.3
KSP				eSg	Sg	01 32 23.0	-0.4
CHVC	Chvalec	1.03	183	ePG	Pg	01 32 18.6	+0.4
CHVC				eSG	Sg	01 32 31.2	-0.3
	comp=Z,47nm,0.5s						
OSTC	Ostas	1.06	178	ePG	Pg	01 32 19.1	+0.3
OSTC				eSG	Sg	01 32 32.1	-0.4
UPC	Upice	1.11	185	ePG	Pg	01 32 19.9	+0.1
UPC				eSG	Sg	01 32 33.7	-0.5
DPC	Dobruska-Polom	1.27	175	ePG	Pg	01 32 22.5	-0.3
DPC				eSG	Sg	01 32 37.9	-1.3
	comp=Z,23nm,0.4s						
PIVO	Bartosovice	1.45	170	ePg	Pn	01 32 25.4	-0.6
	baz=353						
PIVO				eSg	Sg	01 32 43.3	-1.8
	baz=353						
PVCC	Panska Ves	1.48	223	ePG	Pb	01 32 27.0	+0.2
PVCC				eSG	Sn	01 32 46.6	+0.3
BRG	Berggiesshubel	1.57	243	Pg	Pg	01 32 28.9	+0.2
BRG				Sg	Sg	01 32 49.7	+0.7
BRG				Amp		01 32 50.6	
	comp=Z,75nm,0.4s						
KRLC	Kraliky	1.59	165	ePG	Pn	01 32 27.6	-0.4
KRLC				eSG	Sn	01 32 48.1	-1.1
	comp=Z,22nm,0.3s						
GOPC	GO Pecny, Ondr	1.91	208	ePG	Pb	01 32 33.9	-0.3
PRU	Pruhonice	1.92	213	ePG	Pb	01 32 34.1	-0.3
PRU				eSG	Sb	01 32 59.1	+0.2
	comp=Z,17nm,0.4s						
HSKC	Hora Svate Kat	1.99	241	ePG	Pb	01 32 35.5	-0.1
HSKC				eSG	Sb	01 33 01.5	+0.6
	comp=Z,36nm,0.6s						
CLL	Collm	1.99	262	i Pn	Pn	01 32 33.4	-0.1
	comp=Z,5.0nm,0.4s						
CLL				i Pg	Pg	01 32 36.6	-0.1
CLL				i x	x	01 32 40.6	
CLL				i Sg	Sg	01 33 03.7	+1.2
	comp=Z,25nm,0.5s						
MORC	Moravsky Berou	2.04	154	ePn	Pn

	comp=Z,12nm,0.5s						
BIOA	**Bad Ischl, Aus**	**4.25**	**204**	*e*Pn	**Pn**	**01 33 04.8**	**+0.3**
	comp=Z,2.6nm,0.3s						
BIOA				*i* Sg	**Sg**	**01 34 15.1**	**+0.1**
	comp=Z,9.2nm,0.4s						
LUNU	**Lund**	**4.34**	**339**	*i* P	**Pn**	**01 33 06.9**	**+1.3**
LUNU				*i* S	**Sn**	**01 33 57.1**	**+0.3**
BLEU	**Blekinge**	**4.70**	**358**	*i* P	**Pn**	**01 33 10.6**	**-0.1**
BLEU				*i* S	**Sn**	**01 34 03.7**	**-2.1**
KOLS	**Kolonicke sedl**	**4.75**	**122**	*e*PN	**Pn**	**01 33 12.1**	**+0.7**
KOLS				*e*PG	**Pg**	**01 33 31.4**	**+1.8**
LESA	**Schwarzleotal**	**4.76**	**210**	*e*Pn	**Pn**	**01 33 11.8**	**+0.1**
	comp=Z,0.6nm,0.2s						
KBA	**Koelnbreinsper**	**4.90**	**203**	*i* Pn	**Pn**	**01 33 14.2**	**+0.7**
	comp=Z,2.7nm,0.5s,SNR=5.5						
SQTA	**Sankt Quirin**	**5.45**	**218**	*e*Pn	**Pn**	**01 33 22.8**	**+1.7**
	comp=Z,1.0nm,0.2s						
AKASG	**Malin Array Be**	**8.27**	**91**	Pn	**Pn**	**01 33 59.0**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=279,slow=12,SNR=4.1						
AKASG				Sn	Sn	01 35 21.8	-12
	comp=Z,0.2nm,0.3s,baz=277,slow=21,SNR=1.4						
	comp=Z,0.1nm,0.2s						
FINES	**FINESS Array B**	**11.26**	**25**	Pn	**Pn**	**01 34 39.5**	**-0.9**
	baz=207,slow=11,SNR=1.3						
	comp=Z,0.8nm,0.7s						

IDC ***09*** *01:35:11.9±1.7, 60°.54S×26°.12W, h0km, mb4.1/4, mbtmp4.1/4, MS3.1/2, Error ellipse: s-maj=68.2km s-min=27.5km az=15.0*

NEIC ***09*** *01:35:13.3±1.3, 60°.7S±0°.1×26°.1W±0°.3, h10km±1km, mb4.4/11, Error ellipse: s-maj=23.2km s-min=22.4km az=110.0*

ISC 09 01:35:14.4±0.6, 61°.2S±0°.1×26°.0W±0°.1, h35km, n34, σ2.75/28, mb4.2/9, 8C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**11.90**	**150**	⇑P	**Pn**	**01 38 04.1**	**+2.8**
	comp=Z,23nm,0.3s						
VNA1				⇓S	**Sn**	**01 40 09.6**	**-3.0**
	comp=Z,2.2nm,0.8s						
VNA3	**Neumayer Olymp**	**12.02**	**154**	⇑P	**Pn**	**01 38 05.1**	**+2.2**
	comp=Z,8.3nm,0.3s						
VNA3				⇑S	**Sn**	**01 40 08.7**	**-6.7**
	comp=Z,0.0nm,0.1s						
VNA2	**Neumayer--Watz**	**12.30**	**150**	⇑P	**Pn**	**01 38 08.7**	**+2.0**
	comp=Z,3.7nm,0.4s,baz=306,slow=15						
VNA2				⇑S	**Sn**	**01 40 17.0**	**-5.3**
	comp=Z,0.1nm,0.2s,baz=251,slow=2.2						
SNAA	**Sanae**	**13.90**	**149**	Pn	**Pn**	**01 38 31.1**	**+2.5**
SNAA	**Sanae**	**13.90**	**149**	⇑P	**Pn**	**01 38 30.8**	**+2.2**
	comp=Z,43nm,0.6s						
SNAA				⇑S	**Sn**	**01 40 57.4**	**-4.1**
	comp=Z,7.1nm,0.4s						
SNAA	**Sanae**	**13.90**	**149**	LR	LR	01 42 51.0	
	comp=Z,68nm,19.6s,baz=12,slow=32						
TROLL	**Troll, Antarti**	**15.49**	**146**	⇑P	**P**	**01 38 55.8**	**+1.7**
	comp=Z,191nm,0.8s						
BELA	**Belgrano 2**	**17.02**	**186**	Pn	**P**	**01 39 16.2**	**+5.3**
QSPA	**South Pole Qui**	**29.07**	**180**	P	P	01 41 18.0	+6.7
QSPA				IAmb	IAmb	01 41 28.7	
	comp=Z,4.7nm,1.1s						
QSPA	**South Pole Qui**	**29.07**	**180**	LR	LR	01 52 22.1	
	comp=Z,47nm,21.8s,baz=180,slow=35						
TRQA	**Tornquist**	**32.15**	**299**	P	**P**	**01 41 37.4**	**-1.1**
TRQA				IAmb	IAmb	01 41 50.3	
	comp=Z,12nm,1.2s						
PLTB	**Pedras Altas**	**34.50**	**316**	P	**P**	**01 41 57.3**	**-1.6**
ITQB	**Itaqui**	**37.45**	**313**	P	**P**	**01 42 22.1**	**-2.1**
CPUP	**Villa Florida**	**40.75**	**314**	P	**P**	**01 42 49.9**	**-1.9**
CPUP				IAmb	IAmb	01 42 49.9	
	comp=Z,5.2nm,1.0s						
CPUP	**Villa Florida**	**40.75**	**314**	P	**P**	**01 42 49.8**	**-1.9**
	comp=Z,2.2nm,0.4s,baz=149,slow=6.7,SNR=8.6						
	comp=Z,2.2nm,0.4s						
CO01	**Juntas del Tor**	**42.53**	**297**	P	**P**	**01 43 06.6**	**+0.1**
CO01				IAmb	IAmb	01 43 43.6	
	comp=Z,10nm,1.4s						
H04S2	**CROZET ISLANDS**	**45.10**	**109**	T	T	02 32 54.2	
	baz=223,slow=75,SNR=14						
H04S3	**CROZET ISLANDS**	**45.11**	**109**	T	T	02 32 55.2	
	baz=223,slow=75,SNR=12						
H04S1	**CROZET ISLANDS**	**45.12**	**109**	T	T	02 32 47.6	
	baz=223,slow=75,SNR=13						
GO02	**Mina Guanaco**	**46.52**	**301**	P	**P**	**01 43 38.3**	**-0.3**
GO02				IAmb	IAmb	01 44 10.1	
	comp=Z,7.8nm,1.3s						
BOSA	**Boshof**	**46.89**	**70**	P	**P**	**01 43 41.4**	**+0.1**
	comp=Z,2.7nm,1.0s,baz=202,slow=11,SNR=1.7						
	comp=Z,2.7nm,1.0s						
PB01	**IPOC Station P**	**50.15**	**303**	P	**P**	**01 44 05.6**	**-0.7**
PB01				IAmb	IAmb	01 44 13.6	
	comp=Z,14nm,1.5s						
H10S2	**ASCENSION HYDR**	**52.78**	**14**	T	T	02 41 22.3	
	baz=33,slow=74,SNR=17						
H10S3	**ASCENSION HYDR**	**52.78**	**14**	T	T	02 41 20.5	
	baz=187,slow=74,SNR=17						
H10N1	**ASCENSION HYDR**	**53.90**	**14**	T	T	02 42 47.9	
	baz=185,slow=72,SNR=6.6						
H10N3	**ASCENSION HYDR**	**53.90**	**14**	T	T	02 42 45.1	
	baz=185,slow=72,SNR=10						
LPAZ	**La Paz**	**53.91**	**307**	P	**P**	**01 44 34.5**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=65,slow=8.4,SNR=7.2						
	comp=Z,1.0nm,0.4s						
H10N2	**ASCENSION HYDR**	**53.91**	**14**	T	T	02 42 46.0	
	baz=185,slow=72,SNR=8.2						
TORD	**Torodi Ar. Bea**	**77.26**	**28**	P	**P**	**01 47 05.3**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=197,slow=6.2,SNR=12						
	comp=Z,0.9nm,0.6s						
H31M	**Peel River**	**149.29**	**310**		**PKiKP**	**01 54 59.3**	**+0.5**
J30M	**Hart River**	**149.50**	**307**		**PKPab**	**01 55 01.1**	**-2.4**
G31M	**Satah River**	**149.73**	**312**		**PKiKP**	**01 55 01.0**	**+1.4**
SONM	**Songino Array**	**150.06**	**94**	PKPbc	**PKiKP**	**01 55 01.9**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=241,slow=2.6,SNR=1.9						
SONM				PKPab	**pPKPbc**	**01 55 10.8**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=232,slow=2.5,SNR=3.7						
ILAR	**Eielson Array**	**153.75**	**304**	PKPbc	**PKiKP**	**01 55 10.4**	**+2.4**
	comp=Z,0.5nm,0.7s,baz=93,slow=0.3,SNR=5.5						

BER ***09*** *01:49:35.7±6.3, 71°.70N×11°.63W, h10km, mb(Pn)5.6, MS6.5, MW6.8(USGS)*

MOS ***09*** *01:49:36.9±0.8, 71°.59N×11°.37W, h10km, mb6.4/114, MS6.5/61, Error ellipse: s-maj=9.3km s-min=3.3km az=100.1*

IDC ***09*** *01:49:38.5±0.3, 71°.60N×11°.37W, h0km, mb5.3/33, mbtmp5.4/39, ML5.4/7, MS6.4/89, Error ellipse: s-maj=8.1km s-min=6.7km az=18.0*

DNK ***09*** *01:49:38.4±4.9, 71°.78N×11°.49W, h30km, mb6.8, ML4.2*

BJI ***09*** *01:49:38.2, 71°.50N×11°.42W, h10km, mb5.7/85, mB6.7/82, Ms7.0/97, Ms7 6.8/94*

NEIC ***09*** *01:49:40.2, 71°.62N×11°.26W, h10km*

NEIC ***09*** *01:49:40.0±1.9, 71°.63N±0°.06×11°.2W±0°.2, h10km±1km, mb6.2/968, Ms_20 6.4/1094, Mwb6.7/128, Mww6.7/81, Error ellipse: s-maj=10.8km s-min=10.3km az=181.0, Moment Tensor Solution. Moment tensor: Scale 10^{19}Nm; M_{rr}0.02; $M_{\theta\theta}$0.75; $M_{\phi\phi}$-0.77; $M_{r\theta}$-0.06; $M_{r\phi}$1.07; $M_{\theta r}$0.08; Fault plane solution: $M_0$1.31000×10^{19} NP1: ϕ_s197.85000°, δ86.67000°, λ-177.37000°. NP2: ϕ_s107.70000°, δ87.38000°, λ-3.33000°. Principal axes: T 1.2999, Plg0.0000°, Azm153.0000°; N 0.0272, Plg86.0000°, Azm250.0000°; P -1.3272, Plg4.0000°, Azm63.0000°;*

IPGP ***09*** *01:49:40.0, 71°.62N×11°.24W, h21km, Mw6.8, Fault plane solution: NP1:ϕ_s111.00000°, δ80.00000°, λ-6.00000°. NP2:ϕ_s202.00000°, δ84.00000°, λ-169.00000°.*

NEIC ***09*** *01:49:40.2, 71°.62N×11°.26W, h12km*

NEIC ***09*** *01:49:40.2, 71°.82N×10°.94W, h12km, Moment Tensor Solution. Duration: 12s5 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.06; $M_{\theta\theta}$0.93; $M_{\phi\phi}$-0.88; $M_{r\theta}$-0.40; $M_{\theta\phi}$1.20; $M_{\phi r}$0.26; Fault plane solution: $M_0$1.58000×10^{19} NP1: ϕ_s107.81000°, δ85.66000°, λ-17.00000°. NP2: ϕ_s199.13000°, δ73.05000°, λ-175.47000°. Principal axes: T 1.5687, Plg9.0000°, Azm155.0000°; N 0.0164, Plg72.0000°, Azm274.0000°; P -1.5851, Plg15.0000°, Azm62.0000°;*

FCIAR ***09*** *01:49:42.0, 71°.51N×10°.92W, h10km, station KLMR has station magnitude of 7.27 station SVZ has station magnitude of 6.20*

BGR ***09*** *01:49:46.9, 71°.15N×10°.58W, h10km, mb6.7, Ms6.4*

GCMT ***09*** *01:49:47.0±0.0, 71°.51N×10°.81W, h15km, MW6.8/174, Moment Tensor Solution. s168,c429; s174,c795; Duration: 6s2 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.06±.01; $M_{\theta\theta}$1.31±.01; $M_{\phi\phi}$-1.25±.01; $M_{r\theta}$-0.35±.02; $M_{\theta\phi}$1.44±.01; $M_{\phi r}$0.55±.02; Best double couple: $M_0$2.03200×10^{19} NP1:ϕ_s110.00000°, δ80.00000°, λ-15.00000°. NP2:ϕ_s202.00000°, δ76.00000°, λ-169.00000°. Principal axes: T 1.9610, Plg3.0000°, Azm156.0000°; N 0.1380, Plg72.0000°, Azm255.0000°; P -2.1030, Plg18.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

REY ***09*** *01:49:54.8, 71°.51N×11°.40W, h10km*

ISC 09 01:49:40.3±0.3, 71°.55N±0°.02×11°.38W±0°.02, h9km±1km, h9km:pP-P, n2626, σ1°98/2484, mb6.2/722, MS6.4/690, 280C-90D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.06**	**125**	*e*P	**Pg**	**01 49 56.7**	**-3.8**
JMI				*e*S	**Sg**	**01 50 10.3**	**-4.0**
JMIC	**Jan Mayen**	**1.08**	**120**	*e*P	**Pg**	**01 49 57.0**	**-4.1**
JMIC	**Jan Mayen**	**1.08**	**120**	Pn	**Pg**	**01 49 57.1**	**-3.9**
	10μm,0.3s,baz=211,slow=2.1,SNR=2145						
JMIC	**Jan Mayen**	**1.08**	**120**	*i* P	**Pg**	**01 49 56.8**	**-4.3**
JNW	**Jan Mayen West**	**1.08**	**117**	*e*P	**Pg**	**01 49 57.2**	**-3.9**
JNE	**Jan Mayen East**	**1.14**	**118**	*e*P	**Pb**	**01 49 57.8**	**-4.3**
SCO	**Scoresbysund**	**3.62**	**258**	Pn	**Pn**	**01 50 32.8**	**-3.6**
SCO	**Scoresbysund**	**3.62**	**258**	*i* P	**Pn**	**01 50 32.7**	**-3.6**
SCO				*i* S	Sn	01 51 09.8	-9.2
SCO				IAML		01 51 16.4	
	comp=Z,672nm,0.2s						
SCO	**Scoresbysund**	**3.62**	**258**	⇓P	**Pn**	**01 50 32.2**	**-4.1**
SCO	**Scoresbysund**	**3.62**	**258**	P	**Pn**	**01 50 32.8**	**-3.6**
SCO	**Scoresbysund**	**3.62**	**258**	*i* P	**Pn**	**01 50 32.7**	**-3.6**
SCO				*i* S	Sn	01 51 09.8	-9.2
SCO				IAML		01 51 16.4	
	comp=Z,672nm,0.2s						
DBG	**Daneborg**	**3.80**	**321**	⇑*i*P	**Pn**	**01 50 34.7**	**-4.2**
DBG				*i* S	Sn	01 51 14.5	-9.2
DBG				IAML		01 51 35.6	
	comp=Z,16μm,1.6s						
DBG	**Daneborg**	**3.80**	**321**	⇑P	**Pn**	**01 50 34.3**	**-4.6**
DBG	**Daneborg**	**3.80**	**321**	*i* P	**Pn**	**01 50 34.4**	**-4.6**
DBG				IAML		01 51 35.6	
	comp=Z,16μm,1.6s						
ILEI	**Leirhofn**	**5.48**	**202**	P	**Pn**	**01 50 57.6**	**-4.3**
IGRI	**Grimsey**	**5.56**	**209**	P	**Pn**	**01 51 00.6**	**-2.5**
DAG	**Danmarks Havn**	**5.61**	**343**	⇑*i*P	**Pn**	**01 50 59.9**	**-3.8**
DAG				*i* S	Sn	01 51 57.6	-10
DAG				IAML		01 52 03.2	
	comp=Z,1μm,0.4s						
DAG	**Danmarks Havn**	**5.61**	**343**	P	Pn	01 50 56.0	-7.7
DAG	**Danmarks Havn**	**5.61**	**343**	⇑P	**Pn**	**01 50 59.5**	**-4.2**
DAG	**Danmarks Havn**	**5.61**	**343**	*i* P	**Pn**	**01 50 59.9**	**-3.8**
DAG				*i* S	Sn	01 51 57.6	-10
DAG				IAML		01 52 03.2	
	comp=Z,1μm,0.4s						
IHED	**Heoinshofoi**	**5.89**	**204**	P	**Pn**	**01 51 04.0**	**-3.6**
IDIM	**Dimmadalss**	**5.96**	**202**	P	**Pn**	**01 51 04.5**	**-4.1**
ISKI	**Skildingahlsh**	**6.06**	**203**	P	**Pn**	**01 51 06.2**	**-3.7**
IHLA	**Hella**	**6.17**	**208**	P	**Pn**	**01 51 08.9**	**-2.5**
IKVO	**Krokottuvotn**	**6.19**	**202**	P	**Pn**	**01 51 08.8**	**-2.9**
IREN	**Reynihlio**	**6.26**	**201**	P	**Pn**	**01 51 10.0**	**-2.6**
SOEG	**Soedalen**	**7.65**	**254**	*i* P	**Pn**	**01 51 31.9**	**+0.3**
SOEG				*i* S	**Sn**	**01 52 54.1**	**-4.1**
SOEG				IAML		01 52 59.4	
	comp=Z,32nm,0.4s						
SOEG	**Soedalen**	**7.65**	**254**	*i* P	**Pn**	**01 51 31.9**	**+0.3**
SOEG				*i* S	**Sn**	**01 52 54.1**	**-4.1**
SOEG				IAML		01 52 59.4	
	comp=Z,32nm,0.4s						
BORG	**Borgarnes**	**7.76**	**213**	Pn	**Pn**	**01 51 33.0**	**-0.1**
BORG	**Borgarnes**	**7.76**	**213**	*e*P	**Pn**	**01 51 34.6**	**+1.4**
BORG	**Borgarnes**	**7.76**	**213**	Pn	**Pn**	**01 51 34.6**	**+1.4**
	comp=Z,24nm,0.3s,baz=10,slow=6.5,SNR=101						
BORG				Sn	**Sn**	**01 53 02.2**	**+1.2**
	baz=37,slow=20						
BORG				LR	LR	01 54 02.2	
	comp=Z,515μm,18.3s,baz=27,slow=34						
	comp=Z,688nm,0.8s						
BORG	**Borgarnes**	**7.76**	**213**	⇓P	**Pn**	**01 51 34.8**	**+1.6**
SUMG	**Summit**	**8.38**	**290**	Pn	**Pn**	**01 51 40.4**	**-1.6**
SUMG	**Summit**	**8.38**	**290**	*i* P	**Pn**	**01 51 40.0**	**-2.0**
SUMG				*i* S	**Sn**	**01 53 09.7**	**-7.1**
SUMG				IAML		01 53 16.1	
	comp=Z,139nm,0.3s						
SUMG	**Summit**	**8.38**	**290**	P	**Pn**	**01 51 38.5**	**-3.5**
SUMG	**Summit**	**8.38**	**290**	⇑P	**Pn**	**01 51 40.4**	**-1.6**
SUMG	**Summit**	**8.38**	**290**	P	**Pn**	**01 51 40.4**	**-1.6**
SUMG	**Summit**	**8.38**	**290**	*i* P	**Pn**	**01 51 40.0**	**-2.0**
SUMG				*i* S	**Sn**	**01 53 09.7**	**-7.1**
SUMG				IAML		01 53 16.1	
	comp=Z,139nm,0.3s						
HSPB	**Hornsund (broa**	**9.03**	**41**	*e*P	**Pn**	**01 51 46.8**	**-3.6**
HSPB				*e*S	Sn	01 53 19.2	-13
HSPB	**Hornsund (broa**	**9.03**	**41**	*e*P	**Pn**	**01 51 46.9**	**-3.6**
LOF	**Lofoten**	**9.21**	**100**	*e*P	**Pn**	**01 51 50.8**	**-2.3**
LOF				IAML		01 52 02.0	
	comp=Z,726nm,0.3s						
LOF				IVMs_BB	IVMs_BB	01 54 15.5	
	comp=Z,223μm,16.1s						
BJO1	**Bjornoya**	**9.28**	**57**	*e*P	**Pn**	**01 51 53.6**	**-0.4**
BJO1	**Bjornoya**	**9.28**	**57**	*e*P	**Pn**	**01 51 52.8**	**-1.2**
BJO1				*e*S	**Sn**	**01 53 29.7**	**-8.6**
KBS	**Kingsbay**	**9.39**	**28**	Pn	**Pn**	**01 51 52.5**	**-3.0**
KBS	**Kingsbay**	**9.39**	**28**	*e*P	**Pn**	**01 51 52.1**	**-3.4**
KBS				*e*S	Sn	01 53 27.7	-13
KBS	**Kingsbay**	**9.39**	**28**	⇓P	**Pn**	**01 51 52.0**	**-3.4**
KBS	**Kingsbay**	**9.39**	**28**	*e*P	**Pn**	**01 51 52.2**	**-3.3**
KBS				*e*S	Sn	01 53 30.0	-11
KBS	**Kingsbay**	**9.39**	**28**	*ce*P	**Pn**	**01 51 52.5**	**-3.0**
KBS				pmax	pmax		
	comp=Z,1μm,0.8s						
KBS	**Kingsbay**	**9.39**	**28**	*i* P	**Pn**	**01 51 53.3**	**-2.2**
KBS				*i* S	Sn	01 53 31.3	-10
SOFL	**Sornfelli, Far**	**9.68**	**168**	*e*P	**Pn**	**01 51 58.2**	**-1.3**
SOFL				IAmb	IAmb	01 52 04.6	
	comp=Z,7μm,1.1s						
SOFL				IAMs_20	IAMs_20	01 54 40.7	
	comp=Z,1469μm,19.1s						
SPB3	**Spitsbergen Ar**	**9.70**	**35**	Pn	**Pn**	**01 51 58.0**	**-1.8**
SPA0	**Spitsbergen Ar**	**9.71**	**35**	Pn	**Pn**	**01 51 58.2**	**-1.7**
SPA0				Sn	**Sn**	**01 53 44.1**	**-4.6**
	baz=243,slow=22						
SPA0	**Spitsbergen Ar**	**9.71**	**35**	⇑*i*P	**Pn**	**01 51 58.1**	**-1.7**
SPA0				*e*S	**Sn**	**01 53 40.3**	**-8.4**
SPITS	**Spitsbergen Ar**	**9.71**	**35**	Pn	**Pn**	**01 51 58.5**	**-1.3**
	baz=223,slow=15						
SPITS				Sn	**Sn**	**01 53 43.4**	**-5.3**
	baz=187,slow=12						
SPITS				LR	LR	01 54 57.2	
	comp=Z,419μm,19.4s,baz=205,slow=33						
	comp=Z,1μm,0.6s						
SPB2	**Spitsbergen Ar**	**9.71**	**35**		**Pn**	**01 51 57.8**	**-2.0**
ICESG	**Greenland Ices**	**9.79**	**269**	*i* P	**Pn**	**01 51 58.1**	**-3.2**
ICESG				*i* S	**Sn**	**01 53 43.2**	**-8.2**
ICESG				IAML		01 53 43.3	
	comp=Z,27nm,0.3s						
ICESG	**Greenland Ices**	**9.79**	**269**	⇑P	**Pn**	**01 51 58.4**	**-3.0**
ICESG	**Greenland Ices**	**9.79**	**269**	*i* P	**Pn**	**01 51 58.1**	**-3.2**
ICESG				*i* S	**Sn**	**01 53 43.2**	**-8.2**
ICESG				IAML		01 53 43.3	
	comp=Z,27nm,0.3s						
STEI	**Steigen**	**9.86**	**99**	*e*P	**Pn**	**01 51 59.2**	**-2.7**
KONS	**Konsvik**	**10.07**	**108**	*e*P	**Pn**	**01 52 03.5**	**-1.3**
STOK	**Stokkvaagen**	**10.15**	**109**	*e*P	**Pn**	**01 52 03.6**	**-2.3**
STOK				*e*S	Sn	01 53 48.3	-11
NOR	**Nord**	**10.18**	**356**	⇑*i*P	**Pn**	**01 52 02.3**	**-3.9**
NOR				*i* S	Sn	01 53 47.1	-13
NOR				IAML		01 54 04.1	
	comp=Z,495nm,0.2s						
NOR	**Nord**	**10.18**	**356**	⇑P	**Pn**	**01 52 01.6**	**-4.7**
NOR	**Nord**	**10.18**	**356**	P	**Pn**	**01 52 02.0**	**-4.2**
NOR				pmax	pmax		
	comp=Z,3μm,0.8s						
FAUS	**Fauske**	**10.19**	**101**	*e*P	**Pn**	**01 52 04.4**	**-2.0**
FAUS				IAML		01 52 10.7	
	comp=Z,915nm,0.4s						
FAUS				*e*S	**Sn**	**01 53 52.5**	**-8.1**
TRO	**Tromso**	**10.20**	**86**	*e*P	**Pn**	**01 52 05.2**	**-1.3**
TRO	**Tromso**	**10.20**	**86**	P	**Pn**	**01 52 04.7**	**-1.8**
I37NO	**I37NO**	**10.34**	**89**	Pn	**Pn**	**01 52 08.4**	**-0.1**
I37NO				I	I	02 46 10.0	
	baz=296,slow=323,SNR=0.9						
JETT	**Jettan, Norway**	**10.70**	**85**	Pn	**Pn**	**01 52 11.7**	**-1.8**
HOPEN	**Hopen**	**11.00**	**47**	*e*P	**Pn**	**01 52 14.8**	**-2.7**
HOPEN				IAML		01 52 22.7	
	comp=Z,2μm,0.4s						
HOPEN				IVMs_BB	IVMs_BB	01 55 40.4	
	comp=Z,258μm,13.9s						
HOPEN	**Hopen**	**11.00**	**47**	*e*P	**Pn**	**01 52 15.6**	**-1.8**
HOPEN				*e*S	Sn	01 54 09.7	-11
KIF	**Kilpisjarvi**	**11.07**	**88**	*e*P	**Pn**	**01 52 16.3**	**-2.2**
NSS	**Namsos**	**11.14**	**118**	*e*P	**Pn**	**01 52 16.4**	**-3.0**
ANGG	**Ammassalik, Gr**	**11.20**	**251**	Pn	**Pn**	**01 52 21.1**	**+0.9**
ANGG	**Ammassalik, Gr**	**11.20**	**251**	*i* P	**Pn**	**01 52 19.0**	**-1.3**
ANGG				*i* S	**Sn**	**01 54 24.0**	**-1.4**
ANGG				IAML		01 54 26.7	
	comp=Z,3.3nm,0.2s						
ANGG	**Ammassalik, Gr**	**11.20**	**251**	⇓P	**Pn**	**01 52 21.1**	**+0.9**
ANGG	**Ammassalik, Gr**	**11.20**	**251**	*i* P	**Pn**	**01 52 19.0**	**-1.3**
ANGG				*i* S	**Sn**	**01 54 24.0**	**-1.4**
ANGG				IAML		01 54 26.7	
	comp=Z,3.3nm,0.2s						
HAMF	**Hammerfest**	**11.30**	**78**	*e*P	**Pn**	**01 52 19.9**	**-1.7**
MOL	**Molde**	**11.57**	**132**	*e*P	**Pn**	**01 52 22.0**	**-3.4**
ISOG	**Isortoq, Green**	**11.65**	**253**	*i* P	**Pn**	**01 52 26.6**	**+0.2**
ISOG				*i* S	**Sn**	**01 54 33.1**	**-3.4**
ISOG				IAML		01 55 30.6	
	comp=Z,6.4nm,0.3s						
ISOG	**Isortoq, Green**	**11.65**	**253**	⇓P	**Pn**	**01 52 27.2**	**+0.8**
ISOG	**Isortoq, Green**	**11.65**	**253**	*i* P	**Pn**	**01 52 26.6**	**+0.2**
ISOG				*i* S	**Sn**	**01 54 33.1**	**-3.4**
ISOG				IAML		01 55 30.6	
	comp=Z,6.4nm,0.3s						
TBLU	**Trondheim**	**11.68**	**125**	*e*P	**Pn**	**01 52 22.4**	**-4.4**
AKN	**Aaknes**	**11.79**	**134**	Pn	**Pn**	**01 52 24.2**	**-4.0**
AKN				Sn	Sn	01 54 29.1	-11
KTK1	**Kautokeino**	**11.85**	**86**	*e*P	**Pn**	**01 52 28.8**	**-0.3**
FOO	**Floro**	**11.87**	**139**	*e*P	**Pn**	**01 52 27.1**	**-2.3**
FOO				IAML		01 52 31.2	
	comp=Z,714nm,0.2s						
NEEM	**North Greenlan**	**11.88**	**317**	*i* P	Pn	01 52 22.4	-7.3
NEEM				*i* S	Sn	01 54 25.0	-17
NEEM				IAML		01 54 37.1	
	comp=Z,128nm,0.3s						
NEEM	**North Greenlan**	**11.88**	**317**	*i* P	Pn	01 52 22.4	-7.3
NEEM				*i* S	Sn	01 54 25.0	-17
NEEM				IAML		01 54 37.1	
	comp=Z,128nm,0.3s						
LRW	**Lerwick**	**12.17**	**155**	*e*P	**Pn**	**01 52 32.6**	**-0.9**
LRW				IAmb	IAmb	01 52 35.3	
	comp=Z,1μm,0.7s						
LRW				IAMs_20	IAMs_20	01 55 45.7	
	comp=Z,877μm,22.6s						
LRW	**Lerwick**	**12.17**	**155**	*e*P	**Pn**	**01 52 33.0**	**-0.4**
LRW	**Lerwick**	**12.17**	**155**	⇑P	**Pn**	**01 52 31.0**	**-2.5**
HEF	**Hetta**	**12.28**	**88**	*e*P	**Pn**	**01 52 34.3**	**-0.7**
SUE	**Sulen**	**12.30**	**141**	*e*P	**Pn**	**01 52 33.1**	**-2.2**
SUE				IVMs_BB	IVMs_BB	02 00 29.5	
	comp=Z,182μm,12.6s						
ARA0	**ARCESS Array S**	**12.32**	**82**	⇑Pn	**Pn**	**01 52 34.3**	**-1.3**
	baz=288,slow=12						
ARCES	**ARCESS Array B**	**12.32**	**82**	Pn	**Pn**	**01 52 33.4**	**-2.2**
ARCES	**ARCESS Array B**	**12.32**	**82**	Pn	**Pn**	**01 52 34.4**	**-1.2**
	comp=Z,68nm,0.3s,baz=288,slow=11,SNR=946						
ARCES				Sn	**Sn**	**01 54 49.4**	**-3.4**
	baz=312,slow=31						
ARCES				LR	LR	01 56 35.1	
	comp=Z,378μm,21.1s,baz=298,slow=34						
DOMB	**Dombas**	**12.39**	**130**	*e*P	**Pn**	**01 52 32.7**	**-3.9**
HYA	**Hoyanger**	**12.50**	**137**	*e*P	**Pn**	**01 52 35.6**	**-2.4**
KEV	**Kevo**	**12.70**	**80**	Pn	**Pn**	**01 52 38.7**	**-1.9**
KEV	**Kevo**	**12.70**	**80**	*e*P	**Pn**	**01 52 39.5**	**-1.1**
KEV	**Kevo**	**12.70**	**80**	⇑P	**Pn**	**01 52 38.7**	**-1.9**
KEV	**Kevo**	**12.70**	**80**	P	**Pn**	**01 52 38.7**	**-1.9**
BER	**Bergen**	**13.04**	**141**	*e*P	**Pn**	**01 52 42.2**	**-3.1**
BER				IVMs_BB	IVMs_BB	01 56 19.0	
	comp=Z,114μm,22.0s						
BER	**Bergen**	**13.04**	**141**	P	**Pn**	**01 52 43.5**	**-1.8**
BER				pmax	pmax		
	comp=Z,4μm,1.0s					

MCD Coleburn Disti 14.42 162 *e*P **Pn 01 53 02.9 -1.4**
MCD IAmb IAmb 01 53 07.2
comp=Z,39μm,2.7s
KPL Plockton 14.47 167 *e*P **Pn 01 53 04.4 -0.5**
KPL IAmb IAmb 01 53 08.7
comp=Z,14μm,2.1s
KPL IAMs_20 IAMs_20 01 57 53.7
comp=Z,904μm,15.9s
KPL Plockton 14.47 167 *e*P **Pn 01 53 04.0 -0.9**
KONO Kongsberg 14.62 134 Pn **Pn 01 53 06.6 -0.4**
KONO Kongsberg 14.62 134 *e*P **Pn 01 53 03.4 -3.6**
KONO Kongsberg 14.62 134 ⇑P **Pn 01 53 03.7 -3.3**
KONO Kongsberg 14.62 134 *ce*P **Pn 01 53 03.9 -3.1**
KONO pmax pmax
comp=Z,2μm,1.7s
OSL Oslo 14.63 131 *e*P **Pn 01 53 03.6 -3.5**
DRUM Mains of Drumt 15.16 161 *e*P **Pn 01 53 13.2 -1.1**
DRUM IAmb IAmb 01 53 17.0
comp=Z,10μm,1.6s
DRUM IAMs_20 IAMs_20 01 57 14.3
comp=Z,641μm,26.5s
DRUM Mains of Drumt 15.16 161 *e*P **Pn 01 53 13.4 -0.8**
HFS Hagfors 15.20 126 P **Pn 01 53 11.6 -3.1**
baz=328,slow=12
HFS P P 01 53 12.2 -7.6
baz=328,slow=12
HFS Hagfors 15.20 126 Pn **Pn 01 53 12.4 -2.3**
comp=Z,14nm,0.3s,baz=320,slow=11,SNR=218
HFS Sn **Sn 01 55 53.9 -8.9**
comp=Z,16nm,0.3s,baz=338,slow=23,SNR=1.9
HFS LR LR 01 58 25.5
comp=Z,310μm,21.8s,baz=329,slow=35
comp=Z,561nm,0.9s
SNART Snartemo 15.30 140 *e*P **Pn 01 53 13.7 -2.4**
VAF Ylistaro 15.42 106 *e*P **Pn 01 53 17.9 +0.4**
INVG Invergeldie, C 15.49 165 *e*P **Pn 01 53 17.7 -0.9**
INVG IAmb IAmb 01 53 27.5
comp=Z,3μm,1.6s
INVG IAMs_20 IAMs_20 01 58 01.4
comp=Z,298μm,18.8s
LAWE Loch Awe, Argy 15.56 167 *e*P **Pn 01 53 19.1 -0.4**
LAWE IAmb IAmb 01 53 23.4
comp=Z,6μm,1.7s
LAWE IAMs_20 IAMs_20 01 58 43.9
comp=Z,887μm,15.5s
HOMB Homborsund 15.63 138 *e*P **Pn 01 53 17.5 -2.8**
APA0 Apatity Array 15.67 83 P **Pn 01 53 18.8 -2.1**
baz=315,slow=9.3
APA Apatity 15.82 82 ⇓*i*P **Pn 01 53 20.5 -2.3**
APA *i* 01 56 16.2
APA pmax pmax
comp=Z,809nm,1.1s
ZFI2 Zemlya Franca- 15.86 30 *e*P **Pn 01 53 23.0 -0.2**
comp=Z,2μm,2.0s
ZFI2 *e*S Sn 01 56 07.8 -11
OMEGA Omega 15.87 30 *e*P **Pn 01 53 23.0 -0.3**
comp=Z,1μm,1.7s
OMEGA *e*S Sn 01 56 08.0 -11
TULEG Thule 15.91 314 Pn Pn 01 53 15.2 -8.7
TULEG Thule 15.91 314 *i*P Pn 01 53 15.2 -8.6
TULEG *i*S Sn 01 55 57.7 -22
TULEG IAML 01 56 07.0
comp=Z,35nm,0.3s
TULEG Thule 15.91 314 *i*P Pn 01 53 15.2 -8.6
TULEG *i*S Sn 01 55 57.7 -22
TULEG IAML 01 56 07.0
comp=Z,35nm,0.3s
LVZ Lovozero 16.03 80 P **Pn 01 53 22.3 -3.3**
LVZ Lovozero 16.03 80 ⇓P **Pn 01 53 22.1 -3.5**
LVZ Lovozero 16.03 80 *de*P **Pn 01 53 22.3 -3.3**
LVZ pmax pmax
comp=Z,7μm,1.7s
LVZ MLR MLR
comp=Z,176μm,16.0s
EDI Edinburgh 16.07 163 *e*P **Pn 01 53 24.7 -1.3**
EDI IAmb IAmb 01 53 35.7
comp=Z,39μm,2.8s
EDI IAMs_20 IAMs_20 01 57 41.6
comp=Z,630μm,29.7s
EDI Edinburgh 16.07 163 *e*P **Pn 01 53 25.0 -1.1**
EDI Edinburgh 16.07 163 P **Pn 01 53 25.3 -0.8**
EDI pmax pmax
comp=Z,3μm,2.1s
PGBU Glenifferbraes 16.07 166 *e*P **Pn 01 53 25.9 -0.2**
PGBU IAmb IAmb 01 53 33.5
comp=Z,21μm,2.1s
PGBU IAMs_20 IAMs_20 01 59 07.7
comp=Z,711μm,15.0s
ESY Stoneypath 16.13 162 *e*P **Pn 01 53 25.7 -1.2**
NUUK Nuuk 16.57 264 *i*P Pn 01 53 25.3 -7.0
NUUK *i*S **Sn 01 56 27.2 -8.9**
NUUK IAML 01 56 46.5
comp=Z,3.3nm,0.3s
NUUK Nuuk 16.57 264 ⇑P **Pn 01 53 28.1 -4.2**
NUUK Nuuk 16.57 264 *i*P Pn 01 53 25.3 -7.0
NUUK *i*S **Sn 01 56 27.2 -8.9**
NUUK IAML 01 56 46.5
comp=Z,3.3nm,0.3s
IDGL Inch Island, C 16.62 172 P **Pn 01 53 33.8 +0.7**
IDGL Inch Island, C 16.62 172 *e*P **Pn 01 53 33.5 +0.4**
EKA Eskdalemuir Ar 16.66 163 P **Pn 01 53 33.2 -0.3**
EKA Eskdalemuir Ar 16.66 163 Pn **Pn 01 53 32.1 -1.5**
baz=356,slow=13
EKA Sn **Sn 01 56 30.8 -7.5**
baz=348,slow=23
comp=Z,76nm,0.6s
ESK Eskdalemuir 16.67 164 P **Pn 01 53 32.3 -1.4**
ESK Eskdalemuir 16.67 164 *e*P **Pn 01 53 32.6 -1.1**
ESK Eskdalemuir 16.67 164 ⇑P **Pn 01 53 32.6 -1.1**
ESK Eskdalemuir 16.67 164 P **Pn 01 53 32.3 -1.4**
ESK pmax pmax
comp=Z,831nm,1.1s
CLGH Cloghs, Cushen 16.68 169 *e*P **Pn 01 53 33.8 -0.1**
CLGH IAMs_20 IAMs_20 01 59 10.6
comp=Z,730μm,17.0s
RAF Rauma 16.70 112 *e*P **Pn 01 53 33.4 -0.7**
KEF Keuruu 16.75 106 *e*P **Pn 01 53 34.8 +0.1**
NEWG New Galloway 16.78 166 *e*P **Pn 01 53 34.8 -0.3**
NEWG IAmb IAmb 01 53 38.8
comp=Z,23μm,2.8s
NEWG IAMs_20 IAMs_20 01 59 38.0
comp=Z,796μm,14.9s
NRS Narsarsuaq 16.86 249 P **Pn 01 53 34.6 -1.5**
NRS Narsarsuaq 16.86 249 ⇓P **Pn 01 53 34.8 -1.4**
NRS Narsarsuaq 16.86 249 P **Pn 01 53 34.6 -1.5**
NRS pmax pmax
comp=Z,2μm,1.5s
NRS Narsarsuaq 16.86 249 *i*P **Pn 01 53 34.2 -1.9**
NRS IAML 01 56 37.1
comp=Z,1.5nm,0.3s
NRS *i*S **Sn 01 56 40.5 -2.7**
OVD Ostervraa, Den 16.87 137 *i*P **Pn 01 53 33.0 -3.2**
OVD *i*S **S 01 56 50.5 -3.6**
OVD IAML 01 57 21.3
comp=Z,31nm,0.3s
OVD Ostervraa, Den 16.87 137 *i*P **Pn 01 53 33.0 -3.2**
OVD *i*S **S 01 56 50.5 -3.6**
OVD IAML 01 57 21.3
comp=Z,31nm,0.3s
GAL1 Galloway 16.99 167 *e*P **Pn 01 53 37.3 -0.5**
GAL1 IAmb IAmb 01 53 47.9
comp=Z,28μm,2.6s
GAL1 IAMs_20 IAMs_20 01 59 36.6
comp=Z,691μm,15.2s
EDMD Edmundbyers 17.27 161 *e*P **Pn 01 53 39.5 -1.8**
EDMD IAmb IAmb 01 53 52.4
comp=Z,2μm,0.9s
EDMD IAMs_20 IAMs_20 01 58 13.3
comp=Z,527μm,31.3s
EDMD Edmundbyers 17.27 161 *e*P **Pn 01 53 40.0 -1.3**
KESW Keswick, Cumbr 17.40 164 *e*P **Pn 01 53 42.1 -0.8**
KESW IAmb IAmb 01 53 51.1
comp=Z,4μm,1.0s
KESW IAMs_20 IAMs_20 01 58 21.0
comp=Z,547μm,27.3s
MUD Monsted U'grnd 17.45 139 *i*P **Pn 01 53 40.6 -2.8**
MUD *i*S **Sn 01 56 58.1 +0.6**
MUD Monsted U'grnd 17.45 139 ⇑P **Pn 01 53 40.8 -2.7**
MUD Monsted U'grnd 17.45 139 P **Pn 01 53 41.3 -2.2**
MUD pmax pmax
comp=Z,2μm,1.7s
MUD Monsted U'grnd 17.45 139 *i*P **Pn 01 53 40.6 -2.8**
MUD *i*S **Sn 01 56 58.1 +0.6**
IOMK Kirk Michael 17.61 167 *e*P **Pn 01 53 44.6 -0.8**
IOMK IAmb IAmb 01 53 50.3
comp=Z,12μm,1.7s
IOMK IAMs_20 IAMs_20 02 00 04.0
comp=Z,1227μm,14.8s
IVI Ivigtut 17.66 253 *i*P **Pn 01 53 43.4 -2.6**
IVI IAmb IAmb 01 53 54.0
comp=Z,1μm,1.1s
IVI *i*S **Sn 01 56 54.2 -8.2**
IVI Ivigtut 17.66 253 *i*P **Pn 01 53 43.4 -2.6**
IVI IAmb IAmb 01 53 54.0
comp=Z,1μm,1.1s
IVI *i*S **Sn 01 56 54.2 -8.2**
FIA0 FINESS Array S 17.67 106 P **Pn 01 53 44.2 -2.0**
baz=330,slow=12
FIA1 FINESS Array S 17.67 106 P **Pn 01 53 43.9 -2.3**
FINES FINESS Array B 17.67 106 P **Pn 01 53 44.8 -1.4**
comp=Z,81nm,0.3s,baz=342,slow=3.1,SNR=827
FINES S **Sn 01 56 54.1 -8.7**
comp=Z,164nm,1.0s,baz=17,slow=22,SNR=1.9
FINES LR LR 01 59 40.1
comp=Z,279μm,19.2s,baz=322,slow=34
comp=Z,229nm,0.3s
WIM Isle of Man 17.71 167 *e*P **Pn 01 53 46.1 -0.7**
ILTH Belurgan, Co L 17.72 170 P **Pn 01 53 46.6 -0.3**
GDLE Glaisdale, N Y 17.79 159 *e*P **Pn 01 53 47.0 -0.7**
MEF Metsahovi 18.13 110 *e*P **Pn 01 53 50.9 -0.9**
HPK Haverah Park 18.16 161 *e*P **Pn 01 53 51.4 -1.0**
HPK IAmb IAmb 01 54 02.7
comp=Z,4μm,1.5s
HPK IAMs_20 IAMs_20 01 58 54.6
comp=Z,446μm,28.5s
JOF Joensuu 18.20 97 *e*P **Pn 01 53 50.0 -2.7**
IGLA Glengowla, Co 18.22 176 P **Pn 01 53 52.8 -0.2**
IGLA Glengowla, Co 18.22 176 *e*P **Pn 01 53 52.7 -0.2**
SSRD Sdr. Stenderup 18.45 140 *i*P **P 01 53 53.1 -2.7**
SSRD *i*S **Sn 01 57 23.2 +1.4**
SSRD IAML 01 57 28.2
comp=Z,5.4nm,0.3s
SSRD Sdr. Stenderup 18.45 140 *i*P **P 01 53 53.1 -2.7**
SSRD *i*S **Sn 01 57 23.2 +1.4**
SSRD IAML 01 57 28.2
comp=Z,5.4nm,0.3s
WPS Cemaes, Angles 18.47 167 *e*P **P 01 53 54.9 -1.1**
WPS IAmb IAmb 01 54 08.2
comp=Z,6μm,1.8s
WPS IAMs_20 IAMs_20 02 00 39.0
comp=Z,531μm,14.9s
WME Myndd Eilian 18.48 167 *e*P **P 01 53 54.9 -1.3**
WLF1 Llynfaes 18.58 167 *e*P **P 01 53 56.0 -1.3**
WLF1 IAmb IAmb 01 54 15.7
comp=Z,7μm,1.5s
WLF1 IAMs_20 IAMs_20 02 00 50.4
comp=Z,992μm,14.8s
EUNU Eureka 18.59 328 P **P 01 53 50.9 -6.4**
EUNU IAmb IAmb 01 53 59.2
comp=Z,5μm,1.9s
LBWR Ladybower, Pea 18.70 162 *e*P **P 01 53 57.5 -1.0**
LBWR IAmb IAmb 01 54 08.9
comp=Z,3μm,1.1s
LBWR IAMs_20 IAMs_20 01 59 10.6
comp=Z,459μm,27.5s
YLL Llanberis 18.75 166 *e*P **P 01 53 57.9 -1.2**
LMK Market Rasen 18.80 159 *e*P **P 01 53 59.0 -0.6**
LMK IAmb IAmb 01 54 01.4
comp=Z,1μm,1.3s
LMK IAMs_20 IAMs_20 02 01 12.0
comp=Z,343μm,13.6s
COP Copenhagen 18.87 135 *i*P **P 01 53 58.1 -2.2**
COP *i*S **Sn 01 57 22.4 -9.3**
COP IAML 01 57 38.1
comp=Z,11nm,0.2s
COP Copenhagen 18.87 135 P **P 01 53 59.4 -0.9**
COP Copenhagen 18.87 135 *i*P **P 01 53 58.1 -2.2**
COP *i*S **Sn 01 57 22.4 -9.3**
COP IAML 01 57 38.1
comp=Z,11nm,0.2s
STNC Stoke 18.96 163 *e*P **P 01 54 00.6 -0.8**
STNC IAMs_20 IAMs_20 01 59 18.6
comp=Z,467μm,26.6s
FOEL Foel Wylfa 19.07 165 *e*P **P 01 54 01.2 -1.5**
FOEL IAMs_20 IAMs_20 02 01 07.4
comp=Z,438μm,14.2s
LLW Llanuwychllyn 19.08 166 *e*P **P 01 54 02.0 -0.7**
MTSE Matsula 19.19 114 *e*P **P 01 54 03.3 -0.5**
ARBE Arbavere 19.24 110 *e*P **P 01 54 03.7 -0.6**
IWEX Carrickbyrne, 19.35 171 P **P 01 54 05.6 -0.1**
IWEX Carrickbyrne, 19.35 171 *e*P **P 01 54 05.3 -0.4**
CWF Charnwood Fore 19.40 161 *e*P **P 01 54 05.5 -0.7**
CWF IAMs_20 IAMs_20 01 59 30.8
comp=Z,425μm,28.4s
HLM1 Long Mynd 19.47 164 *e*P **P 01 54 06.5 -0.5**
HLM1 IAMs_20 IAMs_20 01 59 33.9
comp=Z,477μm,27.4s
WACR West Acre 19.63 158 *e*P **P 01 54 07.7 -1.0**
WACR IAmb IAmb 01 54 21.2
comp=Z,3μm,1.0s
WACR IAMs_20 IAMs_20 02 02 02.7
comp=Z,384μm,13.3s
SLIT Slitere, Latvi 19.67 118 *e*P **P 01 54 08.9 -0.2**
SLIT Slitere, Latvi 19.67 118 ⇑P **P 01 54 06.8 -2.2**
VAL Valentia 19.69 178 P **P 01 54 09.2 -0.1**
VAL Valentia 19.69 178 P **P 01 54 07.0 -2.3**
VAL Valentia 19.69 178 ⇑P **P 01 54 09.1 -0.2**
RSBS Rosebush, Pemb 19.89 168 *e*P **P 01 54 10.8 -0.8**
RSBS IAmb IAmb 01 54 20.0
comp=Z,6μm,2.2s
RSBS IAMs_20 IAMs_20 02 01 25.1
comp=Z,565μm,15.7s
BSD Bornholm Skovb 19.96 132 *i*P **P 01 54 09.1 -3.3**
BSD IAmb IAmb 01 54 18.9
comp=Z,8μm,1.8s
BSD *i*S **S 01 57 51.3 -5.2**
BSD IAML 01 58 20.1
comp=Z,5.3nm,0.3s
BSD Bornholm Skovb 19.96 132 *e*P **P 01 54 11.7 -0.6**
BSD Bornholm Skovb 19.96 132 ⇑P **P 01 54 10.8 -1.5**
BSD Bornholm Skovb 19.96 132 P **P 01 54 11.1 -1.2**
BSD pmax pmax
comp=Z,2μm,1.8s
BSD Bornholm Skovb 19.96 132 *i*P **P 01 54 09.1 -3.3**
BSD IAmb IAmb 01 54 18.9
comp=Z,8μm,1.8s
BSD *i*S **S 01 57 51.3 -5.2**
BSD IAML 01 58 20.1
comp=Z,5.3nm,0.3s
MCH1 Michaelchurch 19.98 165 *e*P **P 01 54 11.8 -0.6**
MCH1 IAmb IAmb 01 54 29.9
comp=Z,13μm,2.5s
MCH1 IAMs_20 IAMs_20 02 01 43.9
comp=Z,394μm,14.2s
MCH1 Michaelchurch 19.98 165 ⇑P **P 01 54 11.9 -0.6**
BSEG Bad Segeberg 20.04 140 P **P 01 54 13.0 -0.2**
BSEG pmax pmax
comp=Z,3μm,1.7s
BSEG Bad Segeberg 20.04 140 *e*P **P 01 54 13.0 -0.2**
comp=Z,11μm,1.9s,baz=343,slow=10
RGN Rugen 20.12 135 P **P 01 54 13.8 -0.2**
RGN IAMs_20 IAMs_20 02 03 08.4
comp=Z,155μm,19.0s
RGN Rugen 20.12 135 ⇑P **P 01 54 13.7 -0.2**
RGN Rugen 20.12 135 *e*P **P 01 54 13.9 -0.2**
comp=Z,10μm,1.4s,baz=343,slow=10
MONM Monmouth 20.15 164 *e*P **P 01 54 13.4 -1.0**
MONM IAMs_20 IAMs_20 02 01 49.9
comp=Z,434μm,14.6s
VSU Vasula 20.26 110 ⇑P **P 01 54 14.3 -1.2**
VSU Vasula 20.26 110 *ce*P **P 01 54 14.3 -1.2**
VSU pmax pmax
comp=Z,5μm,1.7s
VSU MLR MLR
comp=Z,178μm,17.0s
STRD Stroud 20.27 163 *e*P **P 01 54 15.3 -0.3**
STRD IAmb IAmb 01 54 26.9
comp=Z,17μm,2.2s
STRD IAMs_20 IAMs_20 02 01 55.1
comp=Z,409μm,14.5s
PUL Pulkovo 20.29 104 *de*P **P 01 54 15.9 +0.1**
PUL pmax pmax
comp=Z,2μm,1.3s
PUL MLR MLR
comp=Z,215μm,17.0s
ELMS Elmsett, Ipswi 20.29 158 *e*P **P 01 54 14.3 -1.5**
ELMS IAmb IAmb 01 54 25.9
comp=Z,2μm,1.1s
ELMS IAMs_20 IAMs_20 02 02 12.0
comp=Z,287μm,13.3s
OLDB Oldbury-Upon-S 20.35 164 *e*P **P 01 54 15.9 -0.5**
OLDB IAMs_20 IAMs_20 02 01 56.9
comp=Z,442μm,14.6s
SWN1 Swindon 20.56 163 *e*P **P 01 54 18.2 -0.6**
SWN1 IAmb IAmb 01 54 20.9
comp=Z,3μm,1.4s
SWN1 IAMs_20 IAMs_20 02 02 20.1
comp=Z,429μm,13.0s
WOL Wolverton 20.82 162 *e*P **P 01 54 21.1 -0.5**
WOL IAMs_20 IAMs_20 02 01 13.8
comp=Z,342μm,20.2s
HTL Hartland 20.86 168 *e*P **P 01 54 21.1 -0.9**
HTL IAMs_20 IAMs_20 02 02 04.2
comp=Z,563μm,15.6s
PBUR Paburge 20.95 120 *e*P **P 01 54 22.3 -0.7**
IBBN Ibbenburen 21.10 146 ⇑P **P 01 54 23.8 -0.8**
IBBN Ibbenburen 21.10 146 *e*P **P 01 54 23.9 -0.8**
comp=Z,2μm,1.4s,baz=343,slow=10
GORT1 Trebel 21.14 140 *e*P **P 01 54 24.8 -0.1**
comp=Z,22μm,1.9s,baz=343,slow=10
ELSH Elham, Standar 21.24 158 *e*P **P 01 54 24.3 -1.8**
ELSH IAmb IAmb 01 54 35.4
comp=Z,2μm,1.1s
ELSH IAMs_20 IAMs_20 02 02 42.7
comp=Z,346μm,13.5s
SBD Saint Breward 21.27 168 *e*P **P 01 54 26.1 -0.4**
NRDL Niedersach Rie 21.36 142 *e*P **P 01 54 27.5 +0.1**
comp=Z,5μm,1.3s,baz=343,slow=10
HMNX Herstmonceux 21.42 159 *e*P **P 01 54 27.3 -0.8**
HMNX IAMs_20 IAMs_20 02 03 18.1
comp=Z,308μm,13.5s
VSVD Vaisvydziai 21.55 118 *e*P **P 01 54 29.3 -0.1**
CCA1 Carnmenellis 21.62 169 *e*P **P 01 54 29.4 -0.8**
CCA1 IAmb IAmb 01 54 42.5
comp=Z,3μm,1.5s
CCA1 IAMs_20 IAMs_20 02 02 38.2
comp=Z,520μm,15.6s
FLTG Flechtingen 21.74 140 ⇑P **P 01 54 30.6 -0.9**
FLTG Flechtingen 21.74 140 *e*P **P 01 54 30.8 -0.7**
comp=Z,15μm,2.0s,baz=343,slow=10
BUG Bochum--Univer 21.85 147 P **P 01 54 32.4 -0.2**
BUG pmax pmax
comp=Z,2μm,1.5s
BUG Bochum--Univer 21.85 147 *e*P **P 01 54 32.5 -0.2**
comp=Z,9μm,1.8s,baz=343,slow=10
PABE Paberze 21.97 118 P **P 01 54 32.7 -1.3**
PABE IAMs_20 IAMs_20 02 02 09.0
comp=Z,151μm,18.0s
PABE Paberze 21.97 118 *e*P **P 01 54 33.9 -0.1**
UCC Uccle 22.01 153 P **P 01 54 33.2 -1.2**
UCC Uccle 22.01 153 P **P 01 54 33.2 -1.2**
UCC pmax pmax
comp=Z,563nm,1.7s
UCC MLR MLR
comp=Z,28μm,19.0s
UCC Uccle 22.01 153 *d*P **P 01 54 33.2 -1.2**
UCC *d*S **S 01 58 36.6 -0.3**
CLZ Clausthal 22.04 142 *e*P **P 01 54 34.3 -0.4**
comp=Z,5μm,1.6s,baz=343,slow=10
RUE Ruedersdorf 22.14 136 *e*P **P 01 54 35.3 -0.5**
RUE Ruedersdorf 22.14 136 ⇑P **P 01 54 35.4 -0.4**
RUE Ruedersdorf 22.14 136 *e*P **P 01 54 35.6 -0.2**
comp=Z,10μm,1.4s,baz=343,slow=10
FRB Frobisher Bay 22.21 279 LR LR 02 02 42.9
comp=Z,64μm,19.2s,baz=44,slow=35
FRB Frobisher Bay 22.21 279 P **P 01 54 36.3 -0.1**
FRB pmax pmax
comp=Z,410nm,1.4s
GKP Gorka Klasztor 22.21 130 *e*P **P 01 54 36.2 -0.3**
GKP *e*S **S 01 58 41.2 +0.5**
GKP *e*L L 02 01 10.4
comp=Z,218μm,28.6s
GKP Gorka Klasztor 22.21 130 *e*P **P 01 54 36.2 -0.3**
GKP Gorka Klasztor 22.21 130 P **P 01 54 36.5 0.0**
BEBN Eben Emael 22.21 151 *bP* **P 01 54 36.0 -0.6**
comp=Z,2μm,1.3s
BEBN *d*S **S 01 58 41.7 +0.9**
GTTG Gottingen 22.24 143 *e*P **P 01 54 36.8 -0.1**
comp=Z,3μm,1.2s,baz=343,slow=10
KASTN Kahler Asten 22.28 146 *e*P **P 01 54 37.0 -0.3**
comp=Z,3μm,1.2s,baz=343,slow=10
KLMR Klimovskoe 22.34 92 *e*P **P 01 54 36.9 -1.0**
comp=Z,11μm,1.4s
KLMR Klimovskoe 22.34 92 *d*/*i*P **P 01 54 36.6 -1.3**
KLMR S **S 01 58 37.7 -5.5**
KLMR pmax pmax
comp=Z,16μm,1.4s
BSTI Sart Tilman 22.40 151 *d*P **P 01 54 37.9 -0.7**
comp=Z,218nm,1.3s
MEM Membach 22.45 150 P **P 01 54 38.5 -0.6**
MEM pmax pmax
comp=Z,2μm,1.2s
MEM Membach 22.45 150 *bP* **P 01 54 38.3 -0.8**
comp=Z,936nm,1.0s
MEM *d*S Sn 01 58 56.9 -0.9
BTNL Ternell 22.49 150 *d*P **P 01 54 38.4 -1.1**
comp=Z,897nm,1.3s
BTNL *d*S Sn 01 58 56.1 -2.7
BCLA Clavier 22.52 151 *d*P **P 01 54 39.0 -0.9**
comp=Z,694nm,0.0s
BCLA *d*S Sn 01 58 56.7 -2.9
BGES Gesves 22.52 152 *bP* **P 01 54 39.9 0.0**
BGES *d*S Sn 01 58 54.3 -5.3
BMRD Maredsous 22.55 152 *bP* **P 01 54 39.0 -1.2**
comp=Z,731nm,1.0s
BMRD *d*S Sn 01 58 57.5 -2.8
RES Resolute Bay 22.57 317 P **P 01 54 38.6 -1.6**
RES IAmb IAmb 01 54 52.1
comp=Z,958nm,1.1s
RES Resolute Bay 22.57 317 LR LR 02 03 20.3
comp=Z,79μm,20.1s,baz=62,slow=36
RES Resolute Bay 22.57 317 ⇑P **P 01 54 37.5 -2.7**
RES Resolute Bay 22.57 317 P **P 01 54 38.6 -1.6**
RES pmax pmax
comp=Z,958nm,1.2s
RES MLR MLR
comp=Z,264μm,18.0s
BHOU Houvegnez 22.69 150 *bP* **P 01 54 41.0 -0.7**
BHOU *d*S **S 01 58 51.3 +1.4**
DOU Dourbes 22.73 153 *bP* **P 01 54 40.5 -1.6**
comp=Z,579nm,1.5s
DOU *d*S **S 01 58 50.6 +0.2**
RCHB Rochefort 22.77 152 *bP* **P 01 54 41.0 -1.5**
comp=Z,436nm,1.6s
RCHB *d*S **S 01 58 49.8 -1.2**
JSA Saint Aubin 22.84 164 *e*P **P 01 54 41.8 -1.3**
JSA IAmb IAmb 01 54 53.1
comp=Z,6μm,1.5s
JSA IAMs_20 IAMs_20 02 03 26.7
comp=Z,338μm,15.4s
JSA Saint Aubin 22.84 164 ⇑P **P 01 54 42.2 -1.0**
NEUB Neuenburg 22.91 141 *e*P **P 01 54 43.2 -0.9**
comp=Z,5μm,1.4s,baz=343,slow=10
UBBA Unterbreizbach 22.94 144 *e*P **P 01 54 43.9 -0.3**
comp=Z,15μm,2.2s,baz=343,slow=10
SUW Suwalki 23.07 121 *e*P **P 01 54 44.0 -1.6**
SUW *e*S **S 01 58 54.5 -1.9**
SUW *e*L L 02 02 35.5
comp=Z,225μm,21.9s
SUW Suwalki 23.07 121 *e*P **P 01 54 45.5 -0.1**
SUW Suwalki 23.07 121 ⇑P **P 01 54 42.8 -2.8**
SUW Suwalki 23.07 121 P **P 01 54 43.8 -1.8**
CLL Collm 23.07 139 IAMs_20 IAMs_20 02 03 01.0
comp=Z,146μm,20.0s
CLL Collm 23.07 139 P **P 01 54 44.8 -0.9**
CLL pmax pmax
comp=Z,2μm,1.8s
CLL Collm 23.07 139 *e*P **P 01 54 44.8 -0.9**
comp=Z,4μm,1.3s,baz=343,slow=10
CLL Collm 23.07 139 ⇑*i*P **P 01 54 44.9 -0.7**
comp=Z,10μm,2.3s
CLL *e*Plp 01 54 48.0
comp=Z,23μm,33.5s
CLL *e*Pmax 01 54 48.0
CLL *i* x x 01 54 53.6
comp=Z,4μm,1.4s
CLL *e*PP **PnPn 01 55 12.0 +1.5**
CLL *e*S **S 01 58 57.0 +0.5**
comp=N,81μm,35.1s
CLL *e*S **S 01 58 57.0 +0.5**
comp=E,203μm,38.8s
CLL L L 02 03 00.0
comp=N,122μm,21.0s
CLL L L 02 03 00.0
comp=E,148μm,20.7s

CLL L L 02 03 00.0
comp=Z,144μm,19.6s
CLL AMS AMS 02 05 00.0
CLL Collm 23.07 139 P **P 01 54 45.0 -0.7**
comp=Z,2μm,1.8s,comp=Z,54μm
TNS Taunus Mts 23.23 146 P **P 01 54 46.8 -0.6**
TNS pmax pmax
comp=Z,1μm,1.1s
TNS Taunus Mts 23.23 146 *e*P **P 01 54 46.8 -0.6**
comp=Z,4μm,1.6s,baz=343,slow=10
NACGM Naroch 23.30 116 *e*P **P 01 54 46.1 -1.8**
comp=E,5157μm,6.6s
WLF Walferdange 23.39 150 P **P 01 54 46.3 -2.5**
WLF Walferdange 23.39 150 ⇑P **P 01 54 48.5 -0.4**
WLF Walferdange 23.39 150 P **P 01 54 48.8 -0.1**
WLF pmax pmax
comp=Z,1μm,1.4s
WLF Walferdange 23.39 150 *e*P **P 01 54 48.3 -0.6**
comp=Z,5μm,1.9s,baz=343,slow=10
WLF Walferdange 23.39 150 *d*P **P 01 54 47.8 -1.1**
comp=Z,564nm,1.2s
MOX Moxa 23.42 141 P **P 01 54 48.6 -0.6**
MOX pmax pmax
comp=Z,2μm,1.8s
MOX Moxa 23.42 141 *e*P **P 01 54 48.7 -0.6**
comp=Z,2μm,1.2s,baz=343,slow=10
MOX *e*L L 02 03 22.9
comp=Z,137μm,19.8s
ROSF Rostrenen 23.59 166 ⇑P **P 01 54 50.0 -1.0**
ROSF Rostrenen 23.59 166 P **P 01 54 50.4 -0.5**
ROSF pmax pmax
comp=Z,1μm,1.3s
PLN Plauen 23.68 141 *e*P **P 01 54 50.5 -1.2**
comp=Z,3μm,1.2s,baz=343,slow=10
BRG Berggiesshubel 23.68 138 *i* P **P 01 54 50.9 -0.9**
BRG Amp 01 54 57.2
comp=Z,3μm,1.6s
BRG Berggiesshubel 23.68 138 *i* P **P 01 54 50.9 -0.9**
BRG 01 55 20.7
BRG 01 55 33.7
BRG S **S 01 59 10.0 +3.6**
BRG pmax pmax
comp=Z,3μm,1.6s
BRG pmax pmax
comp=Z,961nm,1.3s
BRG smax smax
comp=E,82μm,15.0s
BRG MLR MLR
comp=Z,238μm,13.3s
BRG MLR MLR
comp=N,135μm,13.2s
BRG Berggiesshubel 23.68 138 *e*P **P 01 54 50.9 -0.9**
comp=N,3μm,1.6s,baz=343,slow=10
PRGR Permogore 23.70 85 P **P 01 54 46.3 -5.5**
TANN Tannenbergstha 23.81 140 *e*P **P 01 54 52.8 -0.3**
comp=N,3μm,1.3s,baz=343,slow=10
HSKC Hora Svate Kat 23.83 139 *e*P **P 01 54 53.1 -0.1**
HSKC *e*S **S 01 59 10.2 +1.4**
HSKC AMS AMS 02 06 00.0
comp=N,231μm,13.8s
MNK Minsk 23.96 115 *i* P **P 01 54 54.2 -0.3**
comp=E,446nm,0.6s
MNK *i* P **P 01 54 54.2 -0.3**
comp=N,543nm,0.6s
MNK *i* P **P 01 54 54.2 -0.3**
comp=Z,794nm,0.5s,baz=331
MNK *i* PP pwP 01 55 22.7 +23
MNK *i* PPP PPP 01 55 30.6
MNK *i* S **S 01 59 12.2 +1.4**
MNK *i* SS **SnSn 01 59 53.5 +3.4**
MNK *i* SSS SSS 02 00 07.0
MNK *i* LQ LQ 02 01 54.1
MNK *i* LR LR 02 02 52.2
MNK *i* LRM MLR 02 04 49.7
comp=N,52μm,10.9s
MNK *i* LRM MLR 02 04 56.9
comp=E,61μm,10.6s
MNK *i* LRM MLR 02 05 06.3
comp=Z,63μm,13.6s
MNK Minsk 23.96 115 *i* P **P 01 54 54.1 -0.3**
MNK *i* PPP PPP 01 55 30.5
MNK *i* S **S 01 59 12.1 +1.4**
MNK *i* SS **SnSn 01 59 53.5 +3.4**
MNK *i* SSS SSS 02 00 07.0
MNK pmax pmax
comp=N,543nm,0.6s
MNK pmax pmax
comp=E,446nm,0.6s
MNK pmax pmax
comp=Z,794nm,0.5s
MNK MLR MLR
comp=N,52μm,11.0s
MNK MLR MLR
comp=E,61μm,11.0s
MNK MLR MLR
comp=Z,63μm,14.0s
NKC Novy Kostel 23.98 140 *e*P **P 01 54 54.3 -0.3**
NKC *e*S **S 01 59 12.3 +1.2**
NKC AMS AMS 02 07 20.0
comp=Z,263μm,12.5s
NKC Novy Kostel 23.98 140 P **P 01 54 54.5 -0.1**
NKC pmax pmax
comp=Z,2μm,1.5s
MANZ Manzenberg 24.14 141 *e*P **P 01 54 55.6 -0.6**
comp=Z,775nm,1.8s,baz=343,slow=10
PVCC Panska Ves 24.14 137 *e*P **P 01 54 55.7 -0.5**
PVCC *e*S **S 01 59 16.9 +3.2**
PVCC AMS AMS 02 07 00.0
comp=Z,200μm,13.2s
PVCC Panska Ves 24.14 137 P **P 01 54 55.7 -0.5**
PVCC pmax pmax
comp=Z,2μm,2.2s
KSP Ksiaz 24.23 134 *e*P **P 01 54 56.9 -0.1**
KSP *e*S **S 01 59 18.8 +3.6**
KSP *e*L L 02 01 30.2
comp=Z,207μm,33.3s
KSP Ksiaz 24.23 134 ⇑P **P 01 54 56.9 -0.1**
KSP Ksiaz 24.23 134 P **P 01 54 57.1 0.0**
KSP pmax pmax
comp=Z,4μm,1.4s
KSP Ksiaz 24.23 134 P **P 01 54 57.0 0.0**
comp=Z,4μm,1.4s,comp=Z,103μm
GRA1 Grafenberg Arr 24.25 143 IAMs_20 IAMs_20 02 04 49.2
comp=Z,153μm,19.0s
GRF Grafenberg Arr 24.25 143 P **P 01 54 57.4 +0.2**
GRF Grafenberg Arr 24.25 143 *e*P **P 01 54 56.3 -0.8**
comp=Z,9μm,1.7s,baz=343,slow=10
GRF *e*L L 02 04 19.3
comp=Z,143μm,20.4s
GRFO Grafenberg 24.25 143 P **P 01 54 57.4 +0.2**
GRFO IAMs_20 IAMs_20 02 04 49.2
comp=Z,158μm,19.0s
GRFO Grafenberg 24.25 143 P **P 01 54 57.4 +0.2**
GRFO pmax pmax
comp=Z,10μm,1.7s
GRFO MLR MLR
comp=Z,158μm,19.0s
ROTZ Rotzenmuhle 24.37 141 *e*P **P 01 54 58.2 -0.1**
comp=Z,402nm,1.2s,baz=343,slow=10
BEL Belsk 24.40 127 *e*P **P 01 54 59.0 +0.4**
BEL *e*S **S 01 59 18.6 +0.7**
BEL *e*L L 02 02 13.1
comp=Z,832μm,31.1s
BEL Belsk 24.40 127 ⇓P **P 01 54 58.5 0.0**
BEL Belsk 24.40 127 P **P 01 54 58.7 +0.2**
CHVC Chvalec 24.42 135 *e*P **P 01 54 58.9 +0.2**
CHVC AMS AMS 02 07 00.0
comp=Z,225μm,12.9s
CLF Chambon-Foret 24.45 158 ⇑P **P 01 54 58.5 -0.5**
OSTC Ostas 24.48 135 *e*S **S 01 59 20.9 +1.6**
OSTC AMS AMS 02 07 00.0
comp=Z,221μm,13.1s
UPC Upice 24.48 135 *e*P **P 01 54 59.1 -0.2**
UPC *e*S **S 01 59 20.5 +1.3**
UPC AMS AMS 02 07 00.0
comp=Z,232μm,12.8s
UPC Upice 24.48 135 P **P 01 54 59.2 -0.1**
UPC pmax pmax
comp=Z,2μm,2.9s
GRB1 Grafenberg Arr 24.62 142 P **P 01 55 00.8 +0.3**
GRB1 pmax pmax
comp=Z,4μm,1.7s
PRU Pruhonice 24.65 137 *e*P **P 01 55 00.9 +0.2**
PRU *e*pP **sP 01 55 04.2 +0.6**
PRU *e*S **S 01 59 22.8 +0.9**

PRU AMS AMS 02 07 30.0
comp=Z,180μm,13.0s
PRU Pruhonice 24.65 137 P **P 01 55 01.0 +0.2**
PRU pmax pmax
comp=Z,2μm,2.4s
DPC Dobruska-Polom 24.70 135 *e*P **P 01 55 01.4 +0.1**
DPC *e*pP **sP 01 55 04.4 +0.3**
DPC AMS AMS 02 07 10.0
comp=Z,171μm,13.2s
DPC Dobruska-Polom 24.70 135 P **P 01 55 01.7 +0.4**
DPC pmax pmax
comp=Z,2μm,2.7s
DPC Dobruska-Polom 24.70 135 P **P 01 55 01.4 +0.1**
comp=Z,2μm,2.7s,comp=Z,73μm
STU Stuttgart 24.76 146 IAMs_20 IAMs_20 02 04 05.8
comp=Z,172μm,22.0s
STU Stuttgart 24.76 146 *e*P **P 01 55 01.7 0.0**
STU Stuttgart 24.76 146 ⇑P **P 01 55 01.8 0.0**
STU Stuttgart 24.76 146 P **P 01 55 01.9 +0.1**
STU pmax pmax
comp=Z,1μm,2.2s
STU Stuttgart 24.76 146 *e*P **P 01 55 01.2 -0.6**
comp=Z,14μm,1.9s,baz=343,slow=10
GOPC GO Pecny, Ondr 24.77 137 *e*P **P 01 55 02.1 +0.2**
GOPC AMS AMS 02 07 30.0
comp=Z,240μm,13.0s
SVZ Severnaya Zeml 24.79 24 *e*P **P 01 54 59.9 -1.9**
comp=Z,584nm,1.1s
SVZ *e*S **S 01 59 18.2 -5.5**
I43RU DUBNA INFRASON 24.91 101 P **P 01 55 05.0 +2.0**
baz=301,slow=12,SNR=1.0
ECH Echery 24.95 150 ⇑P **P 01 55 03.5 0.0**
ECH Echery 24.95 150 P **P 01 55 03.9 +0.3**
ECH pmax pmax
comp=Z,2μm,2.0s
BFO Black Forest 25.04 148 P **P 01 55 04.3 0.0**
BFO IAMs_20 IAMs_20 02 04 26.2
comp=Z,156μm,20.0s
BFO Black Forest 25.04 148 ⇑P **P 01 55 04.2 -0.1**
BFO Black Forest 25.04 148 P **P 01 55 04.3 0.0**
BFO pmax pmax
comp=Z,4μm,1.6s
BFO MLR MLR
comp=Z,156μm,20.0s
BFO Black Forest 25.04 148 *e*P **P 01 55 03.6 -0.7**
comp=Z,7μm,2.0s,baz=343,slow=10
KRLC Kraliky 25.06 134 *e*P **P 01 55 04.9 +0.3**
KRLC AMS AMS 02 07 20.0
comp=Z,179μm,12.8s
KRLC Kraliky 25.06 134 P **P 01 55 04.9 +0.3**
KRLC pmax pmax
comp=Z,2μm,1.6s
ZVC Zvikov 25.09 138 *e*P **P 01 55 05.2 +0.4**
ZVC *e*S **S 01 59 31.0 +2.0**
ZVC AMS AMS 02 08 00.0
comp=Z,147μm,13.1s
WET Wettzell 25.10 141 *e*P **P 01 55 05.2 +0.3**
comp=Z,4μm,1.8s,baz=343,slow=10
KHC Kasperske Hory 25.26 139 IAMs_20 IAMs_20 02 04 17.7
comp=Z,98μm,19.0s
KHC Kasperske Hory 25.26 139 *e*P **P 01 55 07.1 +0.8**
KHC *e*pP **sP 01 55 10.1 +1.0**
KHC *e*S **S 01 59 34.7 +3.0**
KHC AMS AMS 02 07 50.0
comp=Z,251μm,13.7s
KHC Kasperske Hory 25.26 139 ⇑P **P 01 55 06.5 +0.2**
KHC Kasperske Hory 25.26 139 *ce*P **P 01 55 06.7 +0.4**
KHC pmax pmax
comp=Z,1μm,1.0s
KHC Kasperske Hory 25.26 139 P **P 01 55 06.7 +0.4**
comp=Z,1μm,1.7s,comp=Z,44μm
RAC Raciborz 25.38 132 *e*P **P 01 55 07.5 +0.1**
RAC *e*S **S 01 59 35.2 +1.6**
RAC AMS AMS 02 06 08.0
comp=Z,236nm,15.5s
LOR Lormes 25.39 155 ⇑P **P 01 55 06.9 -0.7**
LOR Lormes 25.39 155 P **P 01 55 06.8 -0.7**
LOR pmax pmax
comp=Z,1μm,2.8s
TREC Trest 25.51 137 *e*P **P 01 55 08.7 +0.1**
TREC *e*S **S 01 59 37.9 +2.2**
TREC AMS AMS 02 07 50.0
comp=Z,301μm,13.1s
MORC Moravsky Berou 25.52 133 ⇑*i* P **P 01 55 08.5 -0.1**
MORC *e*S **S 01 59 39.2 +3.3**
MORC Moravsky Berou 25.52 133 ⇑P **P 01 55 08.7 0.0**
MORC Moravsky Berou 25.52 133 ⇑P **P 01 55 08.3 -0.3**
MORC Moravsky Berou 25.52 133 P **P 01 55 08.6 -0.1**
GEC2 GERESS Array S 25.55 140 *e*P **P 01 55 09.9 +0.8**
comp=Z,3μm,1.1s,baz=343,slow=10
GERES GERESS Array B 25.55 140 P **P 01 55 09.6 +0.5**
comp=Z,485nm,1.1s,baz=343,slow=8.8,SNR=286
GERES S **S 01 59 39.7 +3.1**
comp=Z,3.1nm,0.8s,baz=305,slow=33,SNR=1.1
GERES LR LR 02 04 47.6
comp=Z,104μm,19.2s,baz=338,slow=36
MFF Saint Martin d 25.59 162 ⇑P **P 01 55 08.8 -0.4**
OKC Ostrava-Krasne 25.60 132 *e*P **P 01 55 09.3 -0.1**
OKC *e*pP **sP 01 55 13.5 +1.3**
OKC AMS AMS 02 07 00.0
comp=Z,243μm,13.6s
OKC Ostrava-Krasne 25.60 132 P **P 01 55 09.1 -0.3**
SLE Schleitheim 25.61 148 P **P 01 55 09.4 -0.1**
SLE pmax pmax
comp=Z,2μm,1.5s
OJC Ojcow 25.64 130 *e*P **P 01 55 09.4 -0.4**
OJC *e*S **S 01 59 43.9 +6.1**
OJC *e*L L 02 02 42.9
comp=Z,152μm,32.4s
OJC Ojcow 25.64 130 ⇑P **P 01 55 09.4 -0.4**
OJC Ojcow 25.64 130 P **P 01 55 09.1 -0.7**
OJC Ojcow 25.64 130 P **P 01 55 09.7 -0.1**
comp=Z,2μm,1.3s,comp=Z,56μm
CKRC Cesky Krumlov 25.70 139 *e*P **P 01 55 10.6 +0.2**
CKRC AMS AMS 02 08 00.0
comp=Z,156μm,14.4s
FUR Furstenfeldbru 25.72 144 *e*P **P 01 55 11.0 +0.5**
comp=Z,3μm,1.1s,baz=343,slow=10
VRAC Vranov 25.74 135 LR LR 02 04 57.3
comp=Z,132μm,19.5s,baz=335,slow=36
VRAC Vranov 25.74 135 ⇑*i* P **P 01 55 10.8 +0.1**
VRAC *e*S **S 01 59 41.8 +2.5**
VRAC Vranov 25.74 135 P **P 01 55 10.8 +0.1**
MOS Moscow 25.85 102 *κ i* P **P 01 55 11.9 +0.3**
MOS *e*PPP PPP 01 55 57.0
MOS *i* S **S 01 59 36.3 -4.6**
MOS pmax pmax
comp=E,525nm,1.5s
MOS pmax pmax
comp=N,1μm,1.4s
MOS pmax pmax
comp=N,21μm,5.0s
MOS pmax pmax
comp=E,14μm,5.0s
MOS pmax pmax
comp=Z,20μm,5.0s
MOS pmax pmax
comp=Z,2μm,1.4s
MOS smax smax
comp=N,77μm,9.0s
MOS MLR MLR
comp=N,217μm,16.0s
MOS MLR MLR
comp=Z,282μm,16.0s
KRUC Moravsky 25.93 135 ⇑*i* P **P 01 55 12.5 +0.1**
KRUC *e*S **S 01 59 43.5 +1.2**
KRUC Moravsky 25.93 135 P **P 01 55 12.5 +0.1**
KRUC pmax pmax
comp=Z,1μm,1.4s
MAUC Maruska 25.97 133 *e*P **P 01 55 12.9 +0.1**
MAUC *e*S **S 01 59 45.7 +2.7**
UBR Ueberruh 25.97 146 *e*P **P 01 55 13.4 +0.6**
comp=Z,1μm,1.2s,baz=343,slow=10
OBN Obninsk 26.05 104 P **P 01 55 12.3 -1.0**
OBN IAMs_20 IAMs_20 02 04 21.1
comp=Z,164μm,21.0s
OBN Obninsk 26.05 104 LR LR 02 04 41.9
comp=Z,175μm,18.2s,baz=328,slow=35
OBN Obninsk 26.05 104 ⇑P **P 01 55 13.1 -0.2**
OBN Obninsk 26.05 104 ⇓P **P 01 55 12.5 -0.9**
OBN Obninsk 26.05 104 *de*P **P 01 55 12.4 -0.9**
OBN *e* 01 55 54.1
OBN *i* S **S 01 59 36.3 -7.7**
OBN *e*SS **SnSn 02 00 43.7 +2.7**
OBN pmax pmax

comp=Z,3μm,1.6s
OBN MLR MLR
comp=Z,152μm,14.0s
OBN Obninsk 26.05 104 P **P 01 55 12.7 -0.6**
comp=Z,2μm,1.5s,comp=Z,37μm
RNPP9 Sopachiv 26.14 121 P **P 01 55 13.2 -1.0**
RNPP8 Varash 26.20 121 P **P 01 55 13.9 -0.8**
RETA Reutte 26.28 145 *i* P **P 01 55 16.0 +0.3**
comp=Z,185nm,0.8s,SNR=83
DAVA Damuels 26.31 146 *i* P **P 01 55 16.3 +0.2**
comp=Z,61nm,1.3s,SNR=114
DAVA Damuels 26.31 146 ⇑P **P 01 55 16.2 +0.2**
JAVC Velka Javorina 26.41 134 ⇑*i* P **P 01 55 17.5 +0.7**
JAVC *e*S **S 01 59 51.0 +1.0**
MOTA Moosalm 26.48 144 *e*P **P 01 55 17.8 +0.3**
comp=Z,281nm,1.2s
NIE Niedzica 26.51 130 *e*P **P 01 55 18.7 +1.1**
NIE *e*S **S 01 59 59.9 +8.4**
NIE *e*L L 02 03 03.9
comp=Z,174μm,30.8s
NIE Niedzica 26.51 130 P **P 01 55 18.2 +0.6**
NIE Niedzica 26.51 130 P **P 01 55 18.6 +1.0**
comp=Z,872nm,1.4s,comp=Z,19μm
LANS Liptovska Anna 26.56 131 *e*P **P 01 55 18.6 +0.5**
WATA Walderalm 26.58 144 *i* P **P 01 55 18.9 +0.5**
comp=Z,232nm,0.8s,SNR=129
MOA Molln 26.62 139 *i* P **P 01 55 18.5 -0.1**
comp=Z,117nm,1.1s,SNR=115
SQTA Sankt Quirin 26.62 144 *i* P **P 01 55 19.2 +0.5**
comp=Z,195nm,0.9s,SNR=198
BIOA Bad Ischl, Aus 26.64 140 *i* P **P 01 55 18.9 +0.1**
comp=Z,185nm,0.9s,SNR=172
WTTA Wattenberg 26.66 144 *i* P **P 01 55 19.7 +0.5**
comp=Z,255nm,0.9s,SNR=192
WTTA Wattenberg 26.66 144 P **P 01 55 19.6 +0.5**
LESA Schwarzleotal 26.70 142 *e*P **P 01 55 19.8 +0.3**
comp=Z,140nm,0.9s
FETA Feichten 26.72 145 *i* P **P 01 55 20.0 +0.2**
comp=Z,18nm,1.0s,SNR=70
STHS Stebnicka Huta 26.74 129 *e*P **P 01 55 19.1 -0.6**
MODS Modra-Piesok 26.77 135 *e*P **P 01 55 20.7 +0.7**
MODS *e*S **S 01 59 58.8 +3.1**
MODS *e*L L 02 03 16.0
DAVOX Davos/Dischmat 26.80 146 LR LR 02 05 52.9
comp=Z,190μm,21.2s,baz=338,slow=36
CONA Conrad Observa 26.88 137 *i* P **P 01 55 21.3 +0.3**
comp=Z,176nm,0.8s,SNR=202
KWP Kalwaria Pacla 26.91 126 *e*P **P 01 55 21.1 -0.2**
KWP *e*S S 02 00 09.1 +11
KWP *e*L L 02 03 45.0
comp=Z,230μm,31.1s
KWP Kalwaria Pacla 26.91 126 ⇑P **P 01 55 20.8 -0.5**
KWP Kalwaria Pacla 26.91 126 P **P 01 55 21.1 -0.2**
KWP Kalwaria Pacla 26.91 126 P **P 01 55 21.7 +0.4**
comp=Z,3μm,1.6s,comp=Z,41μm
TUE Stuetta 27.01 147 ⇑P **P 01 55 22.7 +0.3**
TUE Stuetta 27.01 147 P **P 01 55 22.7 +0.3**
comp=Z,4μm,1.3s,comp=Z,85μm
VYHS Vyhne 27.02 133 *e*P **P 01 55 22.4 +0.2**
VYHS *e*S S 02 00 12.1 +13
VYHS *e*L L 02 03 25.0
FUORN Ofenpass-Fuorn 27.02 146 IAmb IAmb 01 56 01.9
comp=Z,774nm,1.3s
FUORN IAMs_20 IAMs_20 02 06 10.7
comp=Z,124μm,20.0s
MI28 Mi28,Pidlybu 27.06 119 P **P 01 55 22.0 -0.6**
comp=Z,14μm,0.9s,comp=Z,251μm
LVV L'vov 27.09 124 P **P 01 55 22.8 0.0**
KBA Koelnbreinsper 27.17 141 *i* P **P 01 55 24.4 +0.6**
comp=Z,72nm,0.9s,SNR=126
KBA Koelnbreinsper 27.17 141 ⇑P **P 01 55 24.2 +0.4**
KBA Koelnbreinsper 27.17 141 P **P 01 55 24.3 +0.6**
RONA Rosalia, Austr 27.19 137 *i* P **P 01 55 24.3 +0.4**
comp=Z,294nm,0.8s,SNR=234
KIRV Kirov 27.27 86 LR LR 02 05 22.7
comp=Z,204μm,18.3s,baz=322,slow=35
KIRV Kirov 27.27 86 *ce*P **P 01 55 22.8 -1.5**
SOP Sopron 27.27 136 P **P 01 55 24.7 +0.3**
SOP pmax pmax
comp=Z,697nm,1.8s
ABTA Abfaltersbach 27.32 143 *i* P **P 01 55 25.7 +0.6**
comp=Z,48nm,0.7s,SNR=50
KECS Kecovo 27.42 130 *e*P **P 01 55 26.1 +0.3**
SSB Saint Sauveur 27.44 155 ⇑P **P 01 55 25.6 -0.4**
SSB Saint Sauveur 27.44 155 P **P 01 55 25.8 -0.2**
KOLS Kolonicke sedl 27.45 128 *e*P **P 01 55 26.2 +0.1**
ARSA Arzberg 27.45 138 *i* P **P 01 55 26.5 +0.4**
comp=Z,182nm,0.9s,SNR=112
ARSA Arzberg 27.45 138 ⇑P **P 01 55 26.3 +0.2**
SHIU Shidnytsya 27.46 126 P **P 01 55 26.4 +0.2**
SRO Srobarova 27.54 134 P **P 01 55 28.0 +1.2**
SRO Srobarova 27.54 134 *e*P **P 01 55 27.5 +0.7**
MI29 MI29, Kamyanyy 27.57 119 P **P 01 55 26.1 -1.1**
comp=Z,6μm,1.5s,comp=Z,152μm
AK23 Malin Array Si 27.62 117 P **P 01 55 25.9 -1.7**
MYKA Terra Mystica 27.65 141 *i* P **P 01 55 28.4 +0.4**
comp=Z,60nm,0.8s,SNR=38
AKASG Malin Array Be 27.71 117 P **P 01 55 27.3 -1.1**
comp=Z,36nm,0.5s,baz=335,slow=9.3,SNR=72
AKASG S **S 02 00 10.4 +0.2**
comp=Z,1.8nm,0.5s,baz=277,slow=17,SNR=1.5
AKASG LR LR 02 05 41.2
comp=Z,115μm,18.7s,baz=332,slow=35
comp=Z,36nm,0.5s
AKASG Malin Array Be 27.71 117 *ce*P **P 01 55 27.0 -1.3**
AKASG pmax pmax
comp=Z,36nm,0.5s
AKBB Malin Array Si 27.71 117 *ce*P **P 01 55 26.8 -1.5**
AKBB pmax pmax
comp=Z,599nm,1.0s
AKBB Malin Array Si 27.71 117 P **P 01 55 26.8 -1.5**
KIEV Kiev 27.71 117 P **P 01 55 27.0 -1.4**
KIEV Kiev 27.71 117 IAMs_20 IAMs_20 02 05 30.6
comp=Z,121μm,18.0s
KIEV Kiev 27.71 117 *i* P **P 01 55 27.0 -1.4**
SNR=309
KIEV Kiev 27.71 117 ⇑P **P 01 55 27.2 -1.1**
KIEV Kiev 27.71 117 ⇑P **P 01 55 26.9 -1.4**
KIEV Kiev 27.71 117 P **P 01 55 27.2 -1.1**
KIEV Kiev 27.71 117 P **P 01 55 27.1 -1.2**
comp=Z,5μm,1.4s,comp=Z,75μm
AK11 Malin Array Si 27.71 117 P **P 01 55 26.8 -1.6**
AK01 Malin Array Si 27.71 117 P **P 01 55 26.8 -1.6**
UZHM Uzhgorod 27.73 128 P **P 01 55 28.3 -0.3**
PSZ Piszkesteto 27.81 132 P **P 01 55 29.6 +0.2**
PSZ Piszkesteto 27.81 132 *e*P **P 01 55 29.7 +0.4**
PSZ Piszkesteto 27.81 132 ⇑P **P 01 55 29.8 +0.4**
PSZ Piszkesteto 27.81 132 ⇑P **P 01 55 29.6 +0.2**
PSZ Piszkesteto 27.81 132 P **P 01 55 29.8 +0.4**
PTCC Patocco-Chiusa 27.81 142 ⇑P **P 01 55 29.4 0.0**
PRED Cave del Predi 27.82 141 IAMs_20 IAMs_20 02 06 11.6
comp=Z,117μm,19.0s
CTI Castel Tesino 27.83 144 IAMs_20 IAMs_20 02 06 05.0
comp=Z,104μm,20.0s
HOLU Holmets 27.85 128 P **P 01 55 29.6 0.0**
SOKA Soboth 27.89 139 *i* P **P 01 55 30.4 +0.3**
comp=Z,195nm,0.9s,SNR=150
OBKA Obir 27.95 140 *i* P **P 01 55 30.8 +0.1**
comp=Z,87nm,0.8s,SNR=76
OBKA Obir 27.95 140 ⇑*i* P **P 01 55 30.8 +0.1**
BNI Bardonecchia 27.96 152 ⇑P **P 01 55 31.4 +0.6**
BNI Bardonecchia 27.96 152 P **P 01 55 31.3 +0.5**
BNI pmax pmax
comp=Z,3μm,1.6s
MPLH Magyarpolny 27.97 135 P **P 01 55 31.1 +0.4**
comp=Z,3μm,1.3s,comp=Z,49μm
ORIF Oris-en-Rattie 27.98 153 P **P 01 55 31.0 +0.1**
ORIF pmax pmax
comp=Z,983nm,1.3s
MUKU Mukachevo 28.00 127 P **P 01 55 30.6 -0.3**
LUBAR Lubar, Ukraine 28.00 120 P **P 01 55 29.9 -1.1**
BUD Budapest 28.01 133 P **P 01 55 31.6 +0.5**
BUD pmax pmax
comp=Z,816nm,1.6s
CADS Cadrg 28.06 141 *i* P **P 01 55 30.8 -0.8**
MEZ Mezhgor'ye 28.15 126 P **P 01 55 32.6 +0.2**
BRIU Brid 28.19 127 P **P 01 55 32.7 +0.1**
BERU Beregovo 28.19 128 P **P 01 55 32.6 -0.1**
STNU Starunia 28.23 125 P **P 01 55 32.8 -0.2**
SABO M.te Sabotino 28.27 142 IAMs_20 IAMs_20 02 06 37.5
comp=Z,105μm,20.0s
HORU Horodok 28.28 122 P **P 01 55 32.8 -0.7**
KORU Korolevo 28.38 127 P **P 01 55 34.6 +0.2**
LJU Ljubljana 28.39 140 *i* P **P 01 55 34.3 -0.2**
LJU *e* 01 55 45.2

LJU e 01 56 19.6
LJU eS **S** **02 00 24.1 +2.9**
LJU Ljubljana 28.39 140 P **P** **01 55 34.9 +0.4**
LJU pmax pmax
comp=Z,891nm,2.0s
TRSU Trosnyk 28.40 127 P **P** **01 55 34.6 +0.1**
SCHQ Schefferville 28.64 264 P **P** **01 55 36.0 -0.7**
SCHQ Schefferville 28.64 264 P **P** **01 55 35.6 -1.0**
comp=Z,24nm,0.8s,baz=33,slow=8.7,SNR=15
SCHQ S **S** **02 00 25.9 +1.0**
comp=Z,6.6nm,0.9s,baz=84,slow=15,SNR=1.4
SCHQ LR LR 02 05 52.7
comp=Z,90μm,21.9s,baz=36,slow=34
comp=Z,24nm,0.8s
SCHQ Schefferville 28.64 264 ⇑P **P** **01 55 35.9 -0.7**
CEY Cerknica 28.66 141 ⇑iP **P** **01 55 36.5 -0.5**
SKDS Skadanscina 28.77 141 ⇑iP **P** **01 55 37.1 -0.8**
RAKU Rahkiv 28.77 126 P **P** **01 55 36.4 -1.5**
CRES Cresnjevec Ost 28.79 139 ⇑iP **P** **01 55 37.7 -0.4**
PTJ Puntijarka 28.82 138 P **P** **01 55 38.0 -0.5**
RUSF Rustrel 28.88 154 ⇑P **P** **01 55 41.9 +3.0**
ZAG Zagreb 28.90 138 P **P** **01 55 39.4 +0.4**
BMR Baia Mare 28.92 127 P **P** **01 55 39.3 +0.1**
LPSR Galich'ya Gora 28.93 104 eP **P** **01 55 39.3 +0.1**
LPSR e 01 55 41.1
LPSR eS **S** **02 00 23.8 -5.6**
LPSR pmax pmax
comp=Z,940nm,1.0s
LPSR smax smax
comp=E,185μm,18.2s
LPSR MLR MLR
comp=Z,114μm,15.0s
BORR Bors 29.04 130 ⇓P **P** **01 55 40.6 +0.4**
BOJS Bojanci 29.06 140 iP **P** **01 55 39.9 -0.5**
BOJS e 01 55 50.8
BOJS iS **S** **02 00 33.5 +1.9**
MTLF Montolieu 29.06 159 ⇑P **P** **01 55 40.4 0.0**
KOVH Kovagotottos 29.12 135 ⇑P **P** **01 55 40.9 0.0**
MORH Mrgy, Hungar 29.12 134 ⇑P **P** **01 55 41.0 0.0**
MORH Mrgy, Hungar 29.12 134 P **P** **01 55 40.9 0.0**
comp=Z,393nm,1.2s,comp=Z,10μm
MESR Meseseni 29.27 128 ⇑P **P** **01 55 42.2 -0.1**
BURAR Bucovina Array 29.42 125 ⇑P **P** **01 55 43.5 -0.2**
BURAR Bucovina Array 29.42 125 P **P** **01 55 43.5 -0.2**
VLC Villacollemand 29.43 147 ⇑P **P** **01 55 44.5 +0.8**
DRGR 29.55 129 ⇑P **P** **01 55 44.9 +0.1**
DRGR 29.55 129 P **P** **01 55 45.0 +0.1**
ARCR ARCALIA 29.69 126 ⇑P **P** **01 55 46.5 +0.5**
CEST Esterri de Car 29.69 161 IAmb IAmb 01 55 59.2
comp=Z,394nm,1.0s
NRIK Noril'sk 29.69 45 P **P** **01 55 45.1 -0.7**
NRIK IAmb IAmb 01 56 46.0
comp=Z,680nm,1.2s
NRIK Noril'sk 29.69 45 P **P** **01 55 45.4 -0.4**
comp=Z,90nm,1.0s,baz=319,slow=5.5,SNR=61
NRIK S **S** **02 00 42.0 +0.9**
comp=Z,9.7nm,0.8s,baz=1.3,slow=6.4,SNR=1.1
NRIK LR LR 02 08 44.6
comp=Z,81μm,20.0s,baz=333,slow=39
comp=Z,90nm,1.0s
NRIK Noril'sk 29.69 45 *ce*P **P** **01 55 45.1 -0.7**
NRIK pmax pmax
comp=Z,175nm,1.1s
NRIK MLR MLR
comp=Z,103μm,23.0s
PGAV Gavieira, Arco 29.70 175 eP **P** **01 55 46.8 +0.6**
PGAV A A 01 55 59.1
comp=Z,923nm,1.4s
PGAV eS **S** **02 00 45.4 +3.5**
PGAV eLR LR 02 03 39.3
PGAV A A 02 06 50.0
comp=Z,174μm,20.0s
MARR Marisel-Cluj 29.76 128 ⇑P **P** **01 55 47.0 +0.3**
ECAL Calabor 29.77 173 P **P** **01 55 46.2 -0.7**
SIRR Siria 29.78 130 ⇑P **P** **01 55 47.6 +0.8**
SORM Soroca 29.79 120 ⇑P **P** **01 55 45.9 -1.0**
SORM Soroca 29.79 120 P **P** **01 55 45.8 -1.0**
SORM Soroca 29.79 120 P **P** **01 55 46.0 -0.8**
comp=Z,1μm,1.1s,comp=Z,23μm
VORR Voronezh 29.82 105 eP **P** **01 55 46.8 -0.3**
VORR e 01 55 48.3
VORR eS **S** **02 00 40.0 -3.4**
VORR pmax pmax
comp=Z,720nm,1.4s
VORR smax smax
comp=E,91μm,13.6s
VORR MLR MLR
comp=Z,94μm,12.0s
PRIJ Prijedor 29.87 138 ⇑iP **P** **01 55 48.0 +0.4**
A051A Mrakovica 29.88 138 ⇑iP **P** **01 55 47.6 -0.2**
PBRG Braganca 29.91 173 eP **P** **01 55 48.3 +0.3**
PBRG A A 01 56 01.5
comp=Z,699nm,1.7s
PBRG eLQ LQ 01 56 49.6
PCAB Cabril 29.96 175 eP **P** **01 55 48.4 -0.1**
PCAB A A 01 55 59.9
comp=Z,564nm,1.2s
EJON La Jonquera 30.02 159 P **P** **01 55 48.4 -0.6**
BLY Banja Luka 30.19 137 ⇑iP **P** **01 55 50.6 +0.1**
BLY Banja Luka 30.19 137 ⇑P **P** **01 55 50.5 +0.1**
OSSC Osservatorio P 30.20 146 IAmb IAmb 01 56 21.6
comp=Z,648nm,1.3s
VSR Storozhevoye 30.20 105 eP **P** **01 55 48.9 -1.6**
VSR e 01 55 52.0
VSR eS **S** **02 00 45.7 -3.7**
VSR pmax pmax
comp=Z,2μm,1.8s
VSR smax smax
comp=E,157μm,15.7s
VSR MLR MLR
comp=Z,129μm,15.0s
PLTM Poltava 30.23 112 P **P** **01 55 49.7 -1.0**
POLO Lamas de Olo 30.30 175 eP **P** **01 55 51.9 +0.3**
POLO A A 01 56 03.9
comp=Z,524nm,1.3s
POLO eLQ LQ 01 56 52.9
A050A Klekovaca 30.30 138 ⇑iP **P** **01 55 52.3 +0.8**
BAL3X Bal3x, Balta 30.31 119 P **P** **01 55 51.7 +0.2**
SURR Surduc 30.37 130 ⇑P **P** **01 55 52.5 +0.4**
BZS Buzias 30.38 131 ⇑P **P** **01 55 52.7 +0.6**
BZS Buzias 30.38 131 ⇑P **P** **01 55 52.4 +0.3**
BZS Buzias 30.38 131 P **P** **01 55 52.7 +0.6**
FRGS Fruska Gora 30.39 134 ⇑iP **P** **01 55 52.1 -0.1**
KHAM Kharkiv 30.39 110 P **P** **01 55 50.9 -1.3**
PVRL Vila Real 30.40 175 eP **P** **01 55 53.1 +0.7**
PVRL A A 01 56 04.8
comp=Z,1μm,1.7s
PVRL eLQ LQ 01 56 53.1
DOB Doboj 30.40 136 eP **P** **01 55 52.2 -0.1**
IAS Iasi 30.43 122 P **P** **01 55 52.7 +0.2**
IAS pmax pmax
comp=Z,152nm,1.5s
DEV Deva 30.44 129 ⇓P **P** **01 55 53.5 +0.8**
DEV Deva 30.44 129 P **P** **01 55 53.4 +0.8**
VORD Divnogorie 30.46 105 eP **P** **01 55 51.6 -1.1**
VORD e 01 55 53.9
VORD eS **S** **02 00 47.6 -5.8**
VORD pmax pmax
comp=Z,770nm,1.5s
VORD smax smax
comp=N,8μm,9.5s
VORD MLR MLR
comp=Z,59μm,14.0s
PTO Porto 30.52 176 eP **P** **01 55 54.3 +1.0**
PTO A A 01 56 05.8
comp=Z,1μm,1.4s
MVO Moncorvo 30.54 174 eP **P** **01 55 54.1 +0.5**
MVO A A 01 56 05.2
comp=Z,872nm,1.3s
MVO eLQ LQ 01 56 56.7
MVO eS **S** **02 01 01.4 +6.4**
MVO eLR LR 02 03 58.9
MVO A A 02 07 14.6
comp=Z,197μm,20.0s
A36M Sachs Harbour 30.59 326 IAmb IAmb 01 56 47.0
comp=Z,306nm,0.9s
A36M Sachs Harbour 30.59 326 P **P** **01 55 53.2 -0.5**
baz=35,SNR=74
A36M S **S** **02 00 56.3 +1.1**
baz=35
PGF Pioggiola 30.77 150 ⇑P **P** **01 55 55.0 -0.7**
PGF Pioggiola 30.77 150 P **P** **01 55 56.1 +0.4**
PGF pmax pmax
comp=Z,360nm,2.1s

TESR Tescani 30.82 124 ⇑P **P** **01 55 55.9 -0.1**
TESR Tescani 30.82 124 P **P** **01 55 56.1 +0.1**
comp=Z,1μm,2.3s,comp=Z,25μm
BEO Beograd 30.87 133 P **P** **01 55 57.4 +1.0**
BEO pmax pmax
comp=Z,149nm,1.2s
GZR Gura Zlata 30.87 130 ⇓P **P** **01 55 57.3 +0.8**
GZR Gura Zlata 30.87 130 P **P** **01 55 57.3 +0.8**
TEKS Tekeris 30.90 134 ⇑iP **P** **01 55 56.9 +0.2**
KIS Kishinev 30.95 121 ⇓P **P** **01 55 56.9 -0.2**
KIS Kishinev 30.95 121 P **P** **01 55 56.9 -0.2**
PVIS Viseu 30.96 175 eP **P** **01 55 57.9 +0.6**
PVIS eLQ LQ 01 57 01.6
FDMO Fiordimonte 31.00 144 IAmb IAmb 01 56 14.6
comp=Z,604nm,1.2s
VRH Novokhopyorsk 31.00 102 eP **P** **01 55 56.5 -1.0**
VRH e 01 55 59.2
VRH eS **S** **02 00 59.0 -3.0**
VRH pmax pmax
comp=Z,1μm,2.0s
VRH smax smax
comp=N,88μm,16.4s
VRH MLR MLR
comp=Z,292μm,16.0s
MDVR Moldovita 31.19 131 ⇑P **P** **01 56 00.1 +0.8**
HAPS Han Pijesak,Bl 31.21 135 ⇑iP **P** **01 56 00.2 +0.6**
HERR Herculane 31.26 130 ⇑P **P** **01 56 00.7 +0.8**
MTE Manteigas 31.28 174 eP **P** **01 56 00.7 +0.5**
MTE A A 01 56 12.6
comp=Z,1μm,1.4s
MTE eLQ LQ 01 57 05.7
MTE eS **S** **02 01 12.3 +5.6**
MTE eLR LR 02 04 15.0
MTE A A 02 07 48.7
comp=Z,190μm,18.0s
MTE Manteigas 31.28 174 ⇑P **P** **01 56 00.5 +0.3**
COVR Voineasa-Covas 31.32 125 ⇑P **P** **01 56 01.5 +1.0**
ARR Arges 31.36 127 ⇓P **P** **01 56 01.6 +0.8**
VOIR 31.40 127 P **P** **01 56 01.2 0.0**
comp=Z,305nm,1.6s,comp=Z,10μm
PLOR3 Plostina Array 31.43 124 P **P** **01 56 01.9 +0.5**
comp=Z,642nm,1.3s,comp=Z,18μm
PLOR Plostina 31.43 124 ⇑P **P** **01 56 01.9 +0.5**
PLOR Plostina 31.43 124 P **P** **01 56 01.9 +0.5**
GHRR 31.44 123 ⇑P **P** **01 56 01.7 +0.3**
VRI Vrincioaia 31.44 124 P **P** **01 56 01.7 +0.2**
VRI Vrincioaia 31.44 124 P **P** **01 56 02.0 +0.5**
comp=Z,487nm,1.4s,comp=Z,5μm
COI Coimbra 31.45 176 IAmb IAmb 01 56 14.1
comp=Z,505nm,1.2s
COI Coimbra 31.45 176 eP **P** **01 56 02.8 +1.2**
COI A A 01 56 14.9
comp=Z,779nm,1.8s
COI eLQ LQ 01 57 07.8
COI Coimbra 31.45 176 ⇓P **P** **01 56 03.6 +2.0**
DJES Djerdap 31.49 130 ⇓P **P** **01 56 02.5 +0.5**
BBLS Lazi&#263i 31.52 135 ⇑iP **P** **01 56 02.8 +0.5**
MLR Muntele Rosu 31.58 125 LR LR 02 09 31.2
comp=Z,448μm,18.5s,baz=340,slow=38
MLR Muntele Rosu 31.58 125 ⇑P **P** **01 56 03.4 +0.5**
MLR Muntele Rosu 31.58 125 P **P** **01 56 03.4 +0.5**
MLR Muntele Rosu 31.58 125 P **P** **01 56 03.3 +0.4**
comp=Z,501nm,1.4s,comp=Z,12μm
UCM Universidad Co 31.58 168 P **P** **01 56 02.8 0.0**
PCAS Casmilo, Conde 31.60 176 eP **P** **01 56 03.5 +0.6**
PCAS A A 01 56 15.5
comp=Z,1μm,1.6s
PCAS eLQ LQ 01 57 08.7
PURM Purcari 31.67 120 P **P** **01 56 02.9 -0.6**
comp=Z,678nm,1.4s,comp=Z,14μm
BISRR Bisoca 31.73 124 ⇓P **P** **01 56 04.8 +0.8**
NEHR Nehoiu 31.73 125 ⇑P **P** **01 56 04.6 +0.5**
RUDO Rudo 31.75 135 eP **P** **01 56 03.9 -0.3**
BELG Belogornoye 31.83 95 LR LR 02 08 06.2
comp=Z,282μm,18.8s,baz=332,slow=35
BELG Belogornoye 31.83 95 *d*iP **P** **01 56 03.3 -1.5**
BELG pmax pmax
comp=Z,53nm,1.2s
BELG MLR MLR
comp=Z,42μm,17.0s
PCBR Castelo Branco 31.84 174 eP **P** **01 56 05.1 +0.1**
PCBR A A 01 56 17.5
comp=Z,780nm,1.8s
PCBR eLQ LQ 01 57 10.1
ARTI Arti 31.89 81 P **P** **01 56 05.0 -0.2**
ARTI Arti 31.89 81 LR LR 02 08 22.2
comp=Z,221μm,20.4s,baz=324,slow=35
ARTI Arti 31.89 81 ⇓P **P** **01 56 05.1 -0.2**
ARTI Arti 31.89 81 *d*iP **P** **01 56 05.1 -0.2**
ARTI 01 58 55.5
ARTI S **S** **02 01 18.0 +2.3**
ARTI SS **SnSn** **02 03 03.2 -0.1**
ARTI pmax pmax
comp=Z,569nm,1.1s
ARTI pmax pmax
comp=Z,4μm,7.2s
ARTI MLR MLR
comp=Z,217μm,20.0s
SCTR Scanteiesti 31.95 123 ⇓P **P** **01 56 05.7 -0.2**
PLE Pljevlja 32.02 135 ⇑iP **P** **01 56 07.2 +0.4**
UPM Unac-Piva 32.04 136 ⇑iP **P** **01 56 07.0 0.0**
UPM Unac-Piva 32.04 136 ⇑iP **P** **01 56 06.7 -0.3**
ISR Istrita 32.08 125 P **P** **01 56 07.8 +0.6**
comp=Z,588nm,1.4s,comp=Z,17μm
STON Ston 32.09 138 ⇑iP **P** **01 56 05.9 -1.3**
SCHLR Schela 32.09 123 ⇑P **P** **01 56 07.1 -0.1**
PSBE So Bento 32.13 176 eP **P** **01 56 08.3 +0.7**
PSBE A A 01 56 20.5
comp=Z,2μm,1.5s
PSBE eLQ LQ 01 57 22.1
INTR Introdacqua 32.15 143 IAmb IAmb 01 56 18.9
comp=Z,331nm,1.1s
INTR IAMs_20 IAMs_20 02 09 50.2
comp=Z,92μm,19.0s
ESDC Sonseca Array 32.17 169 P **P** **01 56 07.9 -0.1**
comp=Z,46nm,1.0s,baz=356,slow=9.4,SNR=127
ESDC LR LR 02 09 19.1
comp=Z,132μm,18.3s,baz=342,slow=37
comp=Z,46nm,1.0s
SJES Sjenica 32.22 135 ⇑iP **P** **01 56 09.2 +0.7**
SVE Sverdlovsk 32.23 79 *c*iP **P** **01 56 08.1 -0.2**
SVE *i*S **S** **02 01 22.5 +1.4**
SVE pmax pmax
comp=Z,609nm,1.6s
SVE MLR MLR
comp=Z,124μm,20.0s
BRY Bratogost 32.24 137 ⇑iP **P** **01 56 08.2 -0.5**
BRY Bratogost 32.24 137 ⇑iP **P** **01 56 08.2 -0.5**
PMRV Marv??o 32.26 174 eP **P** **01 56 09.0 +0.3**
PMRV A A 01 56 21.1
comp=Z,2μm,1.2s
PMRV eLQ LQ 01 57 18.8
PMRV eS **S** **02 01 24.7 +2.9**
PMRV eSS **SnSn** **02 03 21.8 +9.1**
PMRV eLR LR 02 04 18.6
PMRV A A 02 08 27.8
comp=Z,190μm,18.0s
PAB San Pablo 32.27 170 P **P** **01 56 09.1 +0.2**
PAB San Pablo 32.27 170 ⇑P **P** **01 56 09.1 +0.2**
PAB San Pablo 32.27 170 P **P** **01 56 09.1 +0.2**
PAB pmax pmax
comp=Z,776nm,1.5s
PAB MLR MLR
comp=Z,252μm,18.0s
TREB Trebinje 32.38 137 eP **P** **01 56 08.9 -0.8**
CFR Carcaliu 32.45 123 ⇓P **P** **01 56 09.9 -0.4**
CFR Carcaliu 32.45 123 P **P** **01 56 09.8 -0.4**
NKME Niksic 32.46 136 ⇑iP **P** **01 56 10.2 -0.3**
ECHE Chera 32.47 165 P **P** **01 56 10.3 -0.3**
KOME Kolasin 32.51 135 ⇑iP **P** **01 56 11.1 +0.1**
IVA Berane 32.57 135 ⇑iP **P** **01 56 12.1 +0.6**
C36M Paulatuk 32.57 323 IAmb IAmb 01 56 25.7
comp=Z,556nm,1.4s
C36M IAMs_20 IAMs_20 02 10 19.0
comp=Z,78μm,20.0s
C36M Paulatuk 32.57 323 P **P** **01 56 10.7 -0.5**
baz=33,SNR=65
C36M S **S** **02 01 27.7 +1.6**
baz=33
PMTG Montargil 32.59 175 eP **P** **01 56 11.4 -0.2**
PMTG A A 01 56 23.7
comp=Z,1μm,1.5s
PMTG eLQ LQ 01 57 23.7
ETOS Mallorca 32.66 160 P **P** **01 56 12.1 -0.1**

CEME Cevo 32.66 136 ⇑iP **P** **01 56 12.0 -0.3**
HCY Herceg Novi 32.67 137 ⇑iP **P** **01 56 10.9 -1.4**
HCY Herceg Novi 32.67 137 ⇑iP **P** **01 56 11.3 -1.0**
PMAFR Mafra 32.68 177 P **P** **01 56 11.3 -1.1**
MAHO Mahon 32.70 157 P **P** **01 56 13.1 +0.6**
MAHO Mahon 32.70 157 ⇑P **P** **01 56 12.9 +0.4**
AMRR Amara 32.76 124 ⇑P **P** **01 56 12.4 -0.7**
AMRR Amara 32.76 124 P **P** **01 56 12.3 -0.7**
PESTR Estremoz 32.81 175 P **P** **01 56 13.4 -0.2**
PESTR Estremoz 32.81 175 eP **P** **01 56 13.7 +0.1**
PESTR A A 01 56 25.6
comp=Z,1μm,1.3s
PESTR eLQ LQ 01 57 26.6
PESTR Estremoz 32.81 175 P **P** **01 56 13.3 -0.3**
PESTR S **S** **02 01 32.8 +2.4**
PESTR Estremoz 32.81 175 ⇑P **P** **01 56 13.4 -0.2**
PDG Podgorica 32.85 136 IAMs_20 IAMs_20 02 11 51.5
comp=Z,71μm,20.0s
PDG Podgorica 32.85 136 ⇑iP **P** **01 56 13.5 -0.4**
PDG Podgorica 32.85 136 ⇑P **P** **01 56 13.5 -0.4**
PDG Podgorica 32.85 136 ⇑P **P** **01 56 13.4 -0.4**
PDG Podgorica 32.85 136 ⇑iP **P** **01 56 13.4 -0.4**
PVY Plav 32.85 135 ⇑iP **P** **01 56 14.8 +0.8**
PACT Alcochete 32.88 176 eP **P** **01 56 14.1 0.0**
PACT A A 01 56 25.5
comp=Z,1μm,1.3s
PACT eLQ LQ 01 57 27.5
BUM Brajici-Budva 32.90 136 ⇑iP **P** **01 56 12.7 -1.6**
LIS Lisbon 32.92 177 eP **P** **01 56 17.4 +2.9**
LIS A A 01 56 25.8
comp=Z,986nm,1.3s
LIS eLQ LQ 01 57 26.9
LIS Lisbon 32.92 177 eP **P** **01 56 14.8 +0.3**
LIS eS **S** **02 01 33.5 +1.5**
LIS IAMs_20 IAMs_20 02 07 44.9
comp=E,255μm,17.2s
LIS Lisbon 32.92 177 eP **P** **01 56 14.8 +0.3**
LIS eS **S** **02 01 33.5 +1.5**
EBAD Badajoz 32.94 174 P **P** **01 56 14.3 -0.4**
EBAD S **S** **02 01 31.4 -1.0**
DRME Dracevica, Mon 33.07 136 ⇑iP **P** **01 56 15.4 -0.4**
EVO Evora 33.13 175 eP **P** **01 56 15.6 -0.8**
EVO A A 01 56 28.3
comp=E,519nm,1.7s
EVO eLQ LQ 01 57 26.3
EVO Evora 33.13 175 P **P** **01 56 15.8 -0.5**
EVO S **S** **02 01 33.9 -1.4**
PAOL Paolisi 33.22 143 IAMs_20 IAMs_20 02 10 43.6
comp=Z,92μm,18.0s
EIBI Ibiza 33.23 162 P **P** **01 56 17.4 +0.1**
ULC Ulcinj 33.29 136 ⇑iP **P** **01 56 16.9 -0.9**
ICOR Ion Corvin 33.34 124 ⇓P **P** **01 56 17.5 -0.6**
PUK Puka 33.36 135 IAMs_20 IAMs_20 02 11 01.0
comp=Z,93μm,18.0s
MRVN Minervino Murg 33.52 141 ⇑P **P** **01 56 19.0 -0.7**
PBAR Barrancos 33.52 174 eP **P** **01 56 20.1 +0.4**
PBAR A A 01 56 31.9
comp=Z,942nm,1.7s
PBAR eLQ LQ 01 57 35.5
PBEJ Beja 33.64 175 eP **P** **01 56 21.2 +0.4**
PBEJ A A 01 56 33.4
comp=Z,1μm,1.5s
PGRA Graciosa 33.67 204 eLQ LQ 02 04 11.2
PGRA eLR LR 02 05 07.5
comp=Z,45μm,18.0s
VSL Villasalto 33.81 150 ⇑P **P** **01 56 22.1 -0.2**
MESJ Messejana 33.82 176 eP **P** **01 56 22.7 +0.4**
MESJ A A 01 56 35.0
comp=Z,1μm,1.6s
MESJ eLQ LQ 01 57 31.4
MESJ Messejana 33.82 176 eP **P** **01 56 22.7 +0.4**
MESJ eS **S** **02 01 47.4 +1.4**
MESJ IAMs_20 IAMs_20 02 08 40.4
comp=E,235μm,15.2s
MESJ Messejana 33.82 176 ⇑P **P** **01 56 22.6 +0.2**
MESJ Messejana 33.82 176 eP **P** **01 56 22.7 +0.4**
MESJ eS **S** **02 01 47.4 +1.4**
MANR Mangalia 33.83 123 ⇓P **P** **01 56 22.5 +0.1**
PAGU Agualva, Azore 33.83 202 eP **P** **01 56 23.0 +0.5**
comp=E,1μm,2.0s
PAGU eLQ LQ 02 04 07.0
PAGU eLR LR 02 05 11.3
comp=E,54μm,16.0s
PSBA Serra de Santa 33.85 203 eP **P** **01 56 25.3 +2.7**
comp=E,1μm,1.6s
PSCM Serra do Cume 33.89 202 eP **P** **01 56 26.3 +3.3**
comp=E,662nm,1.3s
FCC Fort Churchill 33.89 292 P **P** **01 56 22.1 -0.6**
FCC IAMs_20 IAMs_20 02 10 07.2
comp=Z,56μm,18.0s
FCC Fort Churchill 33.89 292 P **P** **01 56 22.1 -0.6**
FCC pmax pmax
comp=Z,240nm,1.4s
FCC MLR MLR
comp=Z,56μm,18.0s
ROSA Rosais 34.01 204 eP **P** **01 56 26.7 +2.7**
comp=Z,669nm,1.7s
ROSA eLQ LQ 02 04 15.3
ROSA eLR LR 02 04 50.8
comp=Z,31μm,18.0s
MATE Matera 34.02 140 eP **P** **01 56 23.7 -0.2**
MATE Matera 34.02 140 ⇑P **P** **01 56 23.4 -0.6**
TIR Tirane 34.02 136 IAMs_20 IAMs_20 02 12 46.4
comp=Z,94μm,19.0s
TIR Tirane 34.02 136 P **P** **01 56 23.8 -0.2**
TIR Tirane 34.02 136 ⇑P **P** **01 56 23.5 -0.5**
TIR Tirane 34.02 136 P **P** **01 56 23.8 -0.2**
TIR pmax pmax
comp=Z,867nm,1.1s
TIR Tirane 34.02 136 P **P** **01 56 23.8 -0.2**
comp=Z,883nm,1.1s,comp=Z,19μm
PCVE Castro Verde 34.03 175 eP **P** **01 56 24.3 +0.1**
PCVE A A 01 56 36.0
comp=Z,604nm,1.3s
PCVE eLQ LQ 01 57 34.2
PMAN Manadas 34.08 204 eP **P** **01 56 29.0 +4.4**
comp=Z,657nm,1.2s
PTEO Sao Teotonio 34.10 176 eP **P** **01 56 25.1 +0.3**
PTEO A A 01 56 37.2
comp=Z,879nm,1.8s
PCED Cedros 34.16 205 eP **P** **01 56 27.9 +2.6**
comp=Z,793nm,2.1s
CALA Caldeira 34.21 205 eP **P** **01 56 27.6 +1.8**
comp=Z,772nm,1.7s
CALA eLQ LQ 02 04 23.7
CALA eLR LR 02 05 58.1
comp=Z,42μm,16.0s
PICO Pico 34.25 204 eP **P** **01 56 27.0 +0.8**
comp=Z,2μm,1.8s
PICO eLQ LQ 02 04 19.5
PICO eLR LR 02 04 59.1
comp=Z,30μm,18.0s
PPNO Prainha do Nor 34.26 204 eP **P** **01 56 29.4 +3.2**
comp=Z,802nm,2.0s
PVAQ Vaqueiros 34.27 175 IAmb IAmb 01 56 38.0
comp=Z,316nm,1.4s
PVAQ Vaqueiros 34.27 175 eP **P** **01 56 26.7 +0.5**
PVAQ A A 01 56 38.7
comp=Z,568nm,1.6s
PVAQ eLQ LQ 01 57 45.1
PVAQ eS **S** **02 01 55.0 +2.1**
PVAQ eSS **SS** **02 04 28.6 +7.7**
PVAQ eLR LR 02 06 03.7
PVAQ A A 02 08 54.5
comp=Z,146μm,18.0s
PVAQ Vaqueiros 34.27 175 ⇑P **P** **01 56 26.4 +0.1**
PID Ribeirinha 34.27 204 eP **P** **01 56 30.3 +4.0**
comp=Z,747nm,1.8s
PCAN Candelaria 34.30 204 eP P 01 56 31.8 +5.3
comp=Z,852nm,1.6s
PEHC Pehcevo 34.31 132 iP **P** **01 56 25.7 -1.0**
MORF Marmelete 34.34 176 IAmb IAmb 01 56 39.1
comp=Z,492nm,1.1s
MORF Marmelete 34.34 176 eP **P** **01 56 27.7 +0.8**
MORF A A 01 56 39.1
comp=Z,827nm,1.4s
MORF eLQ LQ 01 57 43.9
MORF Marmelete 34.34 176 eP **P** **01 56 27.1 +0.2**
MORF eS **S** **02 01 55.6 +1.4**
MORF IAMs_20 IAMs_20 02 08 44.4
comp=E,227μm,16.7s
MORF Marmelete 34.34 176 ⇑P **P** **01 56 26.8 -0.1**
MORF Marmelete 34.34 176 eP **P** **01 56 27.1 +0.2**
MORF eS **S** **02 01 55.6 +1.4**

PBDV	**Barranco-do-Ve**	**34.42 175**	*e*P	**P**	**01 56 28.1**	**+0.5**
PBDV			A	A	01 56 40.4	
	comp=E,1μm,1.6s					
PBDV			*e*LQ	LQ	01 57 44.1	
CART	**Cartagena**	**34.45 165**	IAmb	IAmb	01 56 40.3	
	comp=Z,332nm,1.1s					
CART	**Cartagena**	**34.45 165**	P	**P**	**01 56 28.0**	**+0.2**
CART			S	**S**	**02 01 59.8**	**+4.0**
CART	**Cartagena**	**34.45 165**	⇑P	**P**	**01 56 28.2**	**+0.4**
OHR	**Ohrid**	**34.45 135**	*i* P	**P**	**01 56 28.3**	**+0.4**
OHR	**Ohrid**	**34.45 135**	P	**P**	**01 56 28.0**	**+0.1**
OHR			pmax	pmax		
	comp=Z,931nm,1.1s					
CUC	**Castrocucco**	**34.47 142**	IAmb	IAmb	01 56 50.1	
	comp=Z,486nm,1.3s					
CUC	**Castrocucco**	**34.47 142**	⇑P	**P**	**01 56 27.0**	**-1.1**
PFVI	**Vila Bisbo**	**34.51 176**	IAmb	IAmb	01 56 40.5	
	comp=Z,533nm,1.2s					
PFVI	**Vila Bisbo**	**34.51 176**	*e*P	**P**	**01 56 28.5**	**+0.2**
PFVI			A	A	01 56 40.6	
	comp=Z,889nm,1.6s					
PFVI			*e*LQ	LQ	01 57 44.7	
BART	**Pico Bartolome**	**34.58 199**	*e*P	**P**	**01 56 32.1**	**+3.0**
	comp=Z,664nm,1.5s					
BART			*e*LQ	LQ	02 04 16.7	
BART			*e*LR	LR	02 05 13.9	
	comp=Z,75μm,20.0s					
PSET	**Sete Cidades**	**34.60 200**	*e*P	**P**	**01 56 32.8**	**+3.7**
	comp=Z,1μm,2.0s					
PSET			*e*LR	LR	02 05 08.7	
	comp=Z,69μm,20.0s					
PGRON	**Lagoa das Cont**	**34.61 200**	*e*P	**P**	**01 56 31.6**	**+2.3**
	comp=Z,540nm,1.6s					
CMLA	**Cha da Macela**	**34.63 200**	*e*P	**P**	**01 56 32.4**	**+3.0**
	comp=Z,795nm,2.1s					
CMLA			*e*LQ	LQ	02 04 23.7	
CMLA			*e*LR	LR	02 05 54.8	
	comp=Z,78μm,20.0s					
VAY	**Valandovo**	**34.66 132**	*i* P	**P**	**01 56 29.5**	**-0.1**
VAY	**Valandovo**	**34.66 132**	P	**P**	**01 56 29.5**	**-0.1**
VAY			pmax	pmax		
	comp=Z,534nm,1.4s					
TIXI	**Tiksi**	**34.76 21**	P	**P**	**01 56 30.5**	**+0.4**
TIXI			IAmb	IAmb	01 56 44.6	
	comp=Z,602nm,1.6s					
TIXI	**Tiksi**	**34.76 21**	LR	LR	02 11 11.3	
	comp=Z,27μm,18.1s,baz=0.5,slow=37					
TIXI	**Tiksi**	**34.76 21**	⇑P	**P**	**01 56 30.3**	**+0.2**
TIXI	**Tiksi**	**34.76 21**	*ce*P	**P**	**01 56 30.3**	**+0.2**
TIXI			pmax	pmax		
	comp=Z,144nm,1.7s					
TIXI			MLR	MLR		
	comp=Z,25μm,16.0s					
KNT	**Kendrikon**	**34.89 132**	P	**P**	**01 56 31.6**	**0.0**
FNA	**Florina**	**34.90 134**	P	**P**	**01 56 31.1**	**-0.6**
FNA	**Florina**	**34.90 134**	⇑P	**P**	**01 56 31.1**	**-0.6**
FNA	**Florina**	**34.90 134**	P	**P**	**01 56 30.7**	**-1.0**
FNA			pmax	pmax		
	comp=Z,1μm,1.0s					
NVR	**Nevrokopi**	**34.94 131**	P	**P**	**01 56 32.3**	**+0.2**
EMAL	**Malaga-Limoner**	**35.04 170**	P	**P**	**01 56 32.0**	**-0.9**
EMAL			S	**S**	**02 02 07.2**	**+2.3**
SRS	**Serrai**	**35.10 131**	P	**P**	**01 56 32.9**	**-0.5**
SRS	**Serrai**	**35.10 131**	P	**P**	**01 56 32.9**	**-0.5**
SRS			pmax	pmax		
	comp=Z,696nm,1.3s					
D28M	**Stokes Point**	**35.16 331**	P	**P**	**01 56 33.5**	**-0.1**
	baz=26,SNR=44					
D28M			S	**S**	**02 02 08.9**	**+2.8**
	baz=26					
NEST	**Nestorio**	**35.17 135**	P	**P**	**01 56 33.5**	**-0.7**
EDRB	**Edirne**	**35.19 127**	P	**P**	**01 56 33.1**	**-1.1**
INK	**Inuvik**	**35.22 327**	IAmb	IAmb	01 56 48.8	
	comp=Z,843nm,1.6s					
INK			IAMs_20	IAMs_20	02 13 33.6	
	comp=Z,49μm,18.0s					
INK	**Inuvik**	**35.22 327**	LR	LR	02 13 46.0	
	comp=Z,44μm,19.4s,baz=20,slow=41					
INK	**Inuvik**	**35.22 327**	P	**P**	**01 56 33.1**	**-1.0**
	baz=28,SNR=175					
INK			S	**S**	**02 02 05.2**	**-1.8**
	baz=28					
INK	**Inuvik**	**35.22 327**	⇑P	**P**	**01 56 32.8**	**-1.3**
SFS	**San Fernando**	**35.25 173**	P	**P**	**01 56 35.7**	**+1.0**
GBN	**Guysborough**	**35.26 250**	IAmb	IAmb	01 57 04.6	
	comp=Z,665nm,1.8s					
SOH	**Sokhos**	**35.32 132**	P	**P**	**01 56 35.2**	**-0.2**
LSK	**Leskovik**	**35.33 135**	P	**P**	**01 56 35.4**	**-0.1**
PSMN	**Pico do Norte,**	**35.34 199**	*e*P	**P**	**01 56 36.6**	**+1.1**
	comp=Z,527nm,1.6s					
PSMN			*e*LQ	LQ	02 04 27.9	
PSMN			*e*LR	LR	02 04 48.0	
	comp=Z,89μm,20.0s					
PSMA	**Santa Maria**	**35.35 199**	*e*P	**P**	**01 56 36.6**	**+1.0**
	comp=Z,752nm,1.4s					
PENT	**Pentalofos**	**35.40 135**	P	**P**	**01 56 35.8**	**-0.3**
THE	**Thessaloniki**	**35.41 132**	P	**P**	**01 56 35.9**	**-0.1**
ANN	**Anapa**	**35.41 112**	*e*P	**P**	**01 56 35.2**	**-0.8**
ANN			*e**PP	**pP**	**01 56 38.2**	**+0.1**
ANN			*e*		01 57 52.0	
ANN			*e*PPP	PPP	01 58 07.5	
ANN			*e*		01 59 05.9	
ANN			*e*S	**S**	**02 02 10.6**	**+0.2**
ANN			*e*SSS	SSS	02 04 52.2	
ANN			pmax	pmax		
	comp=E,122nm,0.9s					
ANN			pmax	pmax		
	comp=Z,2μm,1.4s					
ANN			pmax	pmax		
	comp=N,69nm,0.8s					
ANN			MLR	MLR		
	comp=E,64μm,14.0s					
ANN			MLR	MLR		
	comp=N,148μm,15.0s					
ANN			MLR	MLR		
	comp=Z,144μm,15.0s					
KAVA	**Kavala**	**35.44 130**	P	**P**	**01 56 36.2**	**-0.1**
KZN	**Kozani**	**35.44 134**	P	**P**	**01 56 34.4**	**-2.0**
TIP	**Timpagrande**	**35.44 141**	⇑P	**P**	**01 56 35.8**	**-0.6**
TIP	**Timpagrande**	**35.44 141**	P	**P**	**01 56 36.0**	**-0.4**
	comp=Z,535nm,1.3s,comp=Z,11μm					
SRN	**Sarande**	**35.45 136**	P	**P**	**01 56 36.0**	**-0.4**
HORT	**Hortiatis**	**35.48 132**	P	**P**	**01 56 36.8**	**+0.1**
KOKK	**Kokkinochori,**	**35.48 131**	P	**P**	**01 56 36.3**	**-0.4**
ERBR	**Yeremizino-Bor**	**35.49 108**	*e*P	**P**	**01 56 37.0**	**+0.2**
ERBR			*e**PP	**sP**	**01 56 39.7**	**+0.1**
ERBR			*e*		01 57 54.1	
ERBR			*e*		01 59 01.6	
ERBR			*e*S	**S**	**02 02 13.0**	**+1.3**
ERBR			*e*SS	**SnSn**	**02 04 29.8**	**-1.2**
ERBR			*e*SSS	SSS	02 04 52.3	
ERBR			*e*		02 06 57.8	
ERBR			pmax	pmax		
	comp=N,840nm,1.7s					
ERBR			pmax	pmax		
	comp=Z,3μm,1.5s					
ERBR			pmax	pmax		
	comp=E,762nm,1.7s					
ERBR			MLR	MLR		
	comp=E,165μm,12.0s					
ERBR			MLR	MLR		
	comp=N,252μm,12.0s					
ERBR			MLR	MLR		
	comp=Z,105μm,13.0s					
C26K	**Camden Bay**	**35.53 334**	P	**P**	**01 56 37.1**	**+0.4**
	baz=23					
C26K			S	**S**	**02 02 14.1**	**+2.3**
	baz=23					
KEK	**Kerkira**	**35.57 137**	IAMs_20	IAMs_20	02 12 46.4	
	comp=Z,68μm,19.0s					
KEK	**Kerkira**	**35.57 137**	P	**P**	**01 56 37.2**	**-0.2**
KEK	**Kerkira**	**35.57 137**	⇑P	**P**	**01 56 37.1**	**-0.3**
D27M	**Malcolm River**	**35.58 332**	IAmb	IAmb	01 56 46.6	
	comp=Z,383nm,1.5s					
D27M	**Malcolm River**	**35.58 332**	P	**P**	**01 56 37.2**	**-0.2**
	baz=25					
D27M			S	**S**	**02 02 14.6**	**+1.8**
	baz=25					
A21K	**Barrow**	**35.60 342**	P	**P**	**01 56 37.4**	**+0.1**
	baz=18					
A21K			S	**S**	**02 02 15.3**	**+2.5**
	baz=18					
A21K			S	**S**	**02 02 15.3**	**+2.5**
	baz=18					
C27K	**Jago River**	**35.63 334**	IAmb	IAmb	01 56 58.0	
	comp=Z,669nm,1.8s					
C27K	**Jago River**	**35.63 334**	P	**P**	**01 56 37.3**	**-0.3**
	baz=24					
C27K			S	**S**	**02 02 10.8**	**-2.6**
	baz=24					
A22K	**Sinclair Lake**	**35.73 341**	P	**P**	**01 56 38.4**	**-0.1**
	baz=19					
A22K			S	**S**	**02 02 14.4**	**-0.5**
	baz=19					
LIT	**Litokhoron**	**35.80 133**	P	**P**	**01 56 38.8**	**-0.7**
LIT	**Litokhoron**	**35.80 133**	⇑P	**P**	**01 56 37.1**	**-2.4**
LIT	**Litokhoron**	**35.80 133**	P	**P**	**01 56 39.0**	**-0.5**
JAN	**Janina**	**35.85 135**	P	**P**	**01 56 39.9**	**0.0**
CEU	**Ceuta**	**35.85 172**	P	**P**	**01 56 40.0**	**+0.1**
THAS	**Thassos island**	**35.86 130**	P	**P**	**01 56 38.6**	**-1.3**
IGT	**Igoumenitsa**	**35.86 136**	P	**P**	**01 56 39.4**	**-0.5**
IGT	**Igoumenitsa**	**35.86 136**	P	**P**	**01 56 39.5**	**-0.5**
IGT			pmax	pmax		
	comp=Z,1μm,1.2s					
E29M	**Blow River**	**35.88 329**	IAmb	IAmb	01 56 41.1	
	comp=Z,730nm,1.5s					
E29M	**Blow River**	**35.88 329**	P	**P**	**01 56 39.4**	**-0.4**
	baz=26					
E29M			S	**S**	**02 02 16.4**	**-0.7**
	baz=26					
ALN	**Alexandroupoli**	**35.91 128**	P	**P**	**01 56 39.6**	**-0.7**
ALN	**Alexandroupoli**	**35.91 128**	⇓P	**P**	**01 56 40.5**	**+0.1**
ALN	**Alexandroupoli**	**35.91 128**	P	**P**	**01 56 40.2**	**-0.1**
OUR	**Ouranopolis**	**35.94 131**	P	**P**	**01 56 39.7**	**-0.9**
OUR	**Ouranopolis**	**35.94 131**	P	**P**	**01 56 40.5**	**-0.1**
E28M	**Babbage River**	**35.94 331**	IAmb	IAmb	01 56 41.7	
	comp=Z,389nm,1.3s					
E28M	**Babbage River**	**35.94 331**	P	**P**	**01 56 40.0**	**-0.3**
	baz=25,SNR=171					
E28M			S	**S**	**02 02 19.1**	**+0.9**
	baz=25					
LDAQ	**Lac Daran**	**35.97 262**	IAmb	IAmb	01 56 56.2	
	comp=Z,679nm,1.9s					
EARB	**Arib**	**36.00 161**	P	**P**	**01 56 41.0**	**-0.2**
F31M	**Tsiigehtchic**	**36.02 326**	IAMs_20	IAMs_20	02 11 59.0	
	comp=Z,68μm,19.0s					
F31M	**Tsiigehtchic**	**36.02 326**	P	**P**	**01 56 40.1**	**-0.9**
	baz=27,SNR=156					
F31M			S	**S**	**02 02 18.5**	**-0.9**
	baz=27					
ENEZ	**Enez**	**36.09 128**	P	**P**	**01 56 40.9**	**-1.0**
ATKJ	**Tikjda**	**36.09 159**	P	**P**	**01 56 41.6**	**-0.5**
CAEH	**'Ain El Ouahch**	**36.10 155**	P	**P**	**01 56 43.1**	**+1.0**
TYRN	**Tyrnavos**	**36.12 134**	P	**P**	**01 56 40.9**	**-1.2**
CEL	**Celeste**	**36.16 142**	IAmb	IAmb	01 56 58.7	
	comp=Z,450nm,1.1s					
CEL	**Celeste**	**36.16 142**	⇑P	**P**	**01 56 40.2**	**-2.4**
SMTH	**Samothraki Isl**	**36.18 129**	P	**P**	**01 56 42.1**	**-0.6**
LRSO	**Larissa Observ**	**36.19 133**	P	**P**	**01 56 41.7**	**-1.0**
B22K	**Teshekpuk Lake**	**36.19 339**	P	**P**	**01 56 42.3**	**-0.1**
	baz=19					
B22K			S	**S**	**02 02 22.5**	**+0.6**
	baz=19					
DFRA	**Djebel Bou Aff**	**36.20 156**	P	**P**	**01 56 43.5**	**+0.4**
THL	**Kłokotos Trika**	**36.21 134**	P	**P**	**01 56 41.2**	**-1.7**
C24K	**Franklin Bluff**	**36.21 336**	P	**P**	**01 56 42.9**	**+0.2**
	baz=21					
C24K			S	**S**	**02 02 24.1**	**+1.9**
	baz=21					
F30M	**Barrier River**	**36.23 328**	P	**P**	**01 56 42.0**	**-0.8**
	baz=26,SNR=86					
F30M			S	**S**	**02 02 22.3**	**-0.3**
	baz=26					
PAIG	**Paliouri**	**36.25 132**	P	**P**	**01 56 42.6**	**-0.7**
PAIG	**Paliouri**	**36.25 132**	P	**P**	**01 56 46.0**	**+2.7**
D25K	**Kavik River**	**36.28 335**	IAmb	IAmb	01 56 57.9	
	comp=Z,676nm,1.4s					
D25K	**Kavik River**	**36.28 335**	P	**P**	**01 56 43.3**	**0.0**
	baz=22					
D25K			S	**S**	**02 02 25.4**	**+2.0**
	baz=22					
YKA	**Yellowknife Ar**	**36.32 310**	P	**P**	**01 56 42.3**	**-1.3**
	comp=Z,165nm,0.9s,baz=32,slow=8.9,SNR=96					
YKA			LR	LR	02 11 20.7	
	comp=Z,67μm,19.8s,baz=28,slow=36					
	comp=Z,165nm,0.9s					
YKA	**Yellowknife Ar**	**36.32 310**	*i* P	**P**	**01 56 42.7**	**-0.9**
YKA			pmax	pmax		
	comp=Z,166nm,0.9s					
C23K	**Itkillik River**	**36.34 338**	P	**P**	**01 56 44.2**	**+0.4**
	baz=20,SNR=144					
C23K			S	**S**	**02 02 25.9**	**+1.7**
	baz=20					
CKFL	**Kef-Lekhel**	**36.46 155**	P	**P**	**01 56 45.3**	**+0.1**
SET	**Setif**	**36.48 157**	P	**P**	**01 56 47.0**	**+1.6**
ISK	**Istanbul-Kandi**	**36.52 125**	P	**P**	**01 56 45.4**	**-0.2**
ISK	**Istanbul-Kandi**	**36.52 125**	P	**P**	**01 56 46.0**	**+0.4**
LABN	**Labinsk**	**36.54 109**	*e*P	**P**	**01 56 46.4**	**+0.7**
LABN			*e**PP	**sP**	**01 56 49.3**	**+0.7**
LABN			*e*		01 58 12.0	
LABN			*e*PPP	PPP	01 58 26.0	
LABN			*e*S	**S**	**02 02 28.4**	**+0.7**
LABN			pmax	pmax		
	comp=E,519nm,1.3s					
LABN			pmax	pmax		
	comp=N,213nm,1.2s					
LABN			pmax	pmax		
	comp=Z,3μm,1.2s					
LABN			MLR	MLR		
	comp=N,266μm,13.0s					
LABN			MLR	MLR		
	comp=Z,210μm,12.0s					
LABN			MLR	MLR		
	comp=E,269μm,12.0s					
CASM	**Ain Smara**	**36.57 155**	P	**P**	**01 56 46.2**	**+0.1**
WMELI	**Melilla**	**36.57 168**	P	**P**	**01 56 45.1**	**-0.9**
WMELI			S	**S**	**02 02 33.8**	**+5.6**
G31M	**Satah River**	**36.58 326**	IAmb	IAmb	01 56 46.4	
	comp=Z,582nm,1.1s					
G31M			IAMs_20	IAMs_20	02 12 14.7	
	comp=Z,73μm,20.0s					
G31M	**Satah River**	**36.58 326**	P	**P**	**01 56 44.7**	**-1.1**
	baz=26,SNR=213					
G31M			S	**S**	**02 02 26.7**	**-1.2**
	baz=26					
TSLK	**Tsoukalades, L**	**36.61 136**	P	**P**	**01 56 46.1**	**-0.2**
PVLZ	**Pen de Vlez**	**36.63 170**	P	**P**	**01 56 45.9**	**-0.6**
PVLZ			S	**S**	**02 02 31.3**	**+2.1**
VAE	**Valguarnera**	**36.63 145**	LR	LR	02 13 22.1	
	comp=Z,161μm,18.4s,baz=6.0,slow=39					
E27K	**Coleen River**	**36.64 331**	IAmb	IAmb	01 57 00.9	
	comp=Z,920nm,1.7s					
E27K	**Coleen River**	**36.64 331**	P	**P**	**01 56 46.1**	**-0.3**
	baz=24					
E27K			S	**S**	**02 02 28.5**	**-0.4**
	baz=24					
LIA	**Limnos Island**	**36.64 130**	P	**P**	**01 56 46.2**	**-0.4**
LKD2	**Lefkada island**	**36.64 136**	P	**P**	**01 56 47.7**	**+1.0**
OJGS	**Djebel Guires**	**36.67 163**	P	**P**	**01 56 47.0**	**0.0**
CKHR	**Kef el Ahmar**	**36.68 157**	P	P	01 57 00.4	+13
NYDR	**Nydri-Lefkada**	**36.72 136**	P	**P**	**01 56 46.9**	**-0.4**
NEO	**Neokhori**	**36.73 133**	P	**P**	**01 56 46.3**	**-1.1**
CHAS	**Isla Isabel II**	**36.73 168**	P	**P**	**01 56 46.9**	**-0.5**
D24K	**Happy Valley**	**36.76 336**	IAmb	IAmb	01 57 02.0	
	comp=Z,1μm,1.6s					
D24K			IAMs_20	IAMs_20	02 12 41.2	
	comp=Z,52μm,20.0s					
D24K	**Happy Valley**	**36.76 336**	P	**P**	**01 56 47.5**	**+0.2**
	baz=21					
D24K			S	**S**	**02 02 33.7**	**+3.1**
	baz=21					
MAKR	**Makrakomi, Fth**	**36.76 134**	P	**P**	**01 56 47.5**	**-0.2**
EVR	**Evrytania**	**36.78 135**	P	**P**	**01 56 49.1**	**+1.2**
AGG	**Agios Georgios**	**36.80 134**	P	**P**	**01 56 47.2**	**-0.8**
AGG	**Agios Georgios**	**36.80 134**	⇓P	**P**	**01 56 48.3**	**+0.3**
EVGI	**Lefkada island**	**36.80 136**	P	**P**	**01 56 47.6**	**-0.4**
AKTO	**Aktyubinsk**	**36.83 87**	LR	LR	02 11 16.2	
	comp=Z,204μm,19.1s,baz=334,slow=35					
AKTO	**Aktyubinsk**	**36.83 87**	P	**P**	**01 56 47.4**	**-0.7**
GOF	**Gofitskoye**	**36.87 106**	*c i* P	**P**	**01 56 48.5**	**0.0**
GOF			*e*S	**S**	**02 02 34.7**	**+2.0**
G30M	**tAoh Zraii Nji**	**36.87 327**	IAmb	IAmb	01 56 57.9	
	comp=Z,1μm,1.9s					
G30M	**tAoh Zraii Nji**	**36.87 327**	P	**P**	**01 56 47.3**	**-1.0**
	baz=26					
G30M			S	**S**	**02 02 34.1**	**+1.6**
	baz=26					
EDC	**Edincik**	**36.89 126**	P	**P**	**01 56 48.9**	**+0.2**
F28M	**Old Crow**	**36.90 330**	IAMs_20	IAMs_20	02 13 08.9	
	comp=Z,79μm,22.0s					
F28M	**Old Crow**	**36.90 330**	P	**P**	**01 56 47.6**	**-0.9**
	baz=24,SNR=134					
F28M			S	**S**	**02 02 32.8**	**0.0**
	baz=24					
B20K	**Meade River**	**36.91 341**	IAmb	IAmb	01 56 59.2	
	comp=Z,730nm,1.8s					
B20K	**Meade River**	**36.91 341**	P	**P**	**01 56 48.6**	**0.0**
	baz=17					
B20K			S	**S**	**02 02 36.3**	**+3.4**
	baz=17					
FSK	**Fiskardo**	**36.94 136**	P	**P**	**01 56 48.6**	**-0.5**
AFDJ	**Sidi Ladjel**	**36.95 161**	P	**P**	**01 56 49.5**	**+0.1**
EZN	**Ezine**	**36.99 128**	P	**P**	**01 56 48.4**	**-1.2**
EZN	**Ezine**	**36.99 128**	P	**P**	**01 56 48.8**	**-0.8**
EZN	**Ezine**	**36.99 128**	P	**P**	**01 56 49.0**	**-0.6**
	comp=Z,490nm,1.2s,comp=Z,9μm					
EZN			pP	**sP**	**01 56 53.1**	**+0.7**
	comp=Z,490nm,1.2s,comp=Z,9μm					
B21K	**Ikpikpuk River**	**37.01 340**	IAMs_20	IAMs_20	02 11 15.7	
	comp=Z,68μm,20.0s					
B21K	**Ikpikpuk River**	**37.01 340**	P	**P**	**01 56 49.6**	**+0.2**
	baz=18					
B21K			S	**S**	**02 02 37.9**	**+3.5**
	baz=18					
AOS	**Alonnisos**	**37.02 132**	P	**P**	**01 56 49.3**	**-0.5**
BZK	**Bozkurt**	**37.03 118**	⇓P	**P**	**01 56 50.2**	**+0.2**
BZK	**Bozkurt**	**37.03 118**	⇑P	**P**	**01 56 50.5**	**+0.6**
BZK	**Bozkurt**	**37.03 118**	P	**P**	**01 56 50.7**	**+0.8**
	comp=Z,1μm,1.2s,comp=Z,21μm					
YLV	**Yalova**	**37.07 124**	P	**P**	**01 56 50.6**	**+0.2**
	comp=Z,420nm,1.7s,comp=Z,13μm					
ABSD	**Ouled Sidi Bra**	**37.10 159**	P	**P**	**01 56 50.0**	**-0.6**
A19K	**Wainwright**	**37.10 343**	P	**P**	**01 56 50.0**	**-0.2**
	baz=15,SNR=5.9					
A19K			S	**S**	**02 02 40.0**	**+4.3**
	baz=15					
ANX	**Ano Chora**	**37.11 135**	P	**P**	**01 56 50.6**	**-0.1**
AXAR	**Agios Charalam**	**37.12 134**	P	**P**	**01 56 49.9**	**-0.8**
D23K	**Nanushuk River**	**37.17 337**	IAmb	IAmb	01 57 01.7	
	comp=Z,1μm,1.7s					
D23K			IAMs_20	IAMs_20	02 12 05.0	
	comp=Z,75μm,20.0s					
D23K	**Nanushuk River**	**37.17 337**	P	**P**	**01 56 51.4**	**+0.6**
	baz=20					
D23K			S	**S**	**02 02 41.4**	**+4.5**
	baz=20					
SOC	**Sochi**	**37.20 111**	*c i* P	**P**	**01 56 50.2**	**-1.1**
SOC			*e*		01 58 15.2	
SOC			*e*S	**S**	**02 02 38.1**	**+0.3**
SOC			*e*SS	**SnSn**	**02 05 15.0**	**+2.8**
SOC			pmax	pmax		
	comp=Z,338nm,1.3s					
SOC			MLR	MLR		
	comp=Z,132μm,18.0s					
VLS	**Valsamata**	**37.21 136**	P	**P**	**01 56 51.4**	**-0.1**
G29M	**Pine Creek**	**37.24 328**	IAmb	IAmb	01 56 52.1	
	comp=Z,633nm,1.1s					
G29M			IAMs_20	IAMs_20	02 13 58.9	
	comp=Z,65μm,21.0s					
G29M	**Pine Creek**	**37.24 328**	P	**P**	**01 56 50.6**	**-0.8**
	baz=25					
G29M			S	**S**	**02 02 38.5**	**+0.5**
	baz=25					
EFP	**Efpalio**	**37.27 135**	P	**P**	**01 56 52.3**	**+0.4**
PSDA	**Pessada-Kefalo**	**37.27 136**	P	**P**	**01 56 51.7**	**-0.3**
G65A	**Princeton**	**37.28 256**	P	**P**	**01 56 50.4**	**-1.6**
E25K	**Arctic Village**	**37.28 334**	IAmb	IAmb	01 57 01.9	
	comp=Z,628nm,1.6s					
E25K	**Arctic Village**	**37.28 334**	P	**P**	**01 56 51.5**	**-0.3**
	baz=22,SNR=77					
E25K			S	**S**	**02 02 41.7**	**+3.0**
	baz=22					
TOLK	**Toolik Lake Re**	**37.34 336**	IAmb	IAmb	01 57 02.8	
	comp=Z,863nm,1.6s					
TOLK	**Toolik Lake Re**	**37.34 336**	P	**P**	**01 56 52.3**	**0.0**
	baz=20,SNR=74					
TOLK			S	**S**	**02 02 42.1**	**+2.5**
	baz=20					
TOLK			S	**S**	**02 02 42.1**	**+2.5**
	baz=20					
RTZL	**Ratzakli, Kefa**	**37.35 136**	P	**P**	**01 56 52.4**	**-0.2**
KALE	**Kalithea**	**37.35 134**	P	**P**	**01 56 52.3**	**-0.5**
AXS	**Araxos**	**37.37 135**	P	**P**	**01 56 49.4**	**-3.4**
EADEB	**Ain Deheb**	**37.39 162**	P	**P**	**01 56 52.0**	**-1.1**
VSLR	**Vesyoloye**	**37.40 110**	*d i* P	**P**	**01 56 54.7**	**+1.6**
SIGR	**SIGRI**	**37.45 129**	P	**P**	**01 56 53.6**	**+0.1**
C21K	**Knifeblade Rid**	**37.47 339**	P	**P**	**01 56 54.1**	**+0.7**
	baz=18					
C21K			S	**S**	**02 02 43.9**	**+2.4**
	baz=18					
F26K	**Sheenjek River**	**37.48 333**	IAmb	IAmb	01 57 03.9	
	comp=Z,484nm,1.6s					
F26K			IAMs_20	IAMs_20	02 14 44.2	
	comp=Z,72μm,22.0s					
F26K	**Sheenjek River**	**37.48 333**	P	**P**	**01 56 53.2**	**-0.3**
	baz=22					
F26K			S	**S**	**02 02 43.3**	**+1.7**
	baz=22					
KEST	**Kesra**	**37.49 152**	IAmb	IAmb	01 57 11.5	
	comp=Z,813nm,1.5s					
KEST	**Kesra**	**37.49 152**	P	**P**	**01 56 53.9**	**-0.1**
	comp=Z,85nm,1.1s,baz=346,slow=3.6,SNR=70					
KEST			PP	**PP**	**01 58 18.3**	**-1.0**
	comp=Z,66nm,1.2s,baz=1.2,slow=12,SNR=0.9					
KEST			S	**S**	**02 02 45.7**	**+3.2**
	comp=Z,3.3nm,0.9s,baz=239,slow=18,SNR=1.4					
KEST			LR	LR	02 11 43.4	
	comp=Z,153μm,21.4s,baz=346,slow=35					
	comp=Z,85nm,1.1s					
D22K	**Ayikyak River**	**37.49 338**	IAmb	IAmb	01 57 22.1	
	comp=Z,647nm,1.6s					
D22K			IAMs_20	IAMs_20	02 12 02.3	
	comp=Z,85μm,20.0s					
D22K	**Ayikyak River**	**37.49 338**	P	**P**	**01 56 53.6**	**0.0**
	baz=19					
D22K			S	**S**	**02 02 42.0**	**+0.1**
	baz=19					
EPYK	**Eagle Plains**	**37.51 327**	P	**P**	**01 56 52.6**	**-1.1**
	baz=25,SNR=79					
EPYK			S	**S**	**02 02 41.6**	**-0.6**
	baz=25					
RLS	**Riolos of Patr**	**37.52 135**	P	**P**	**01 56 54.2**	**+0.1**
PRK	**Paraskevi**	**37.52 129**	P	**P**	**01 56 53.9**	**-0.2**
KYMI	**Kymi, Euboea I**	**37.58 132**	P	**P**	**01 56 53.8**	**-0.8**
H31M	**Peel River**	**37.60 325**	IAmb	IAmb	01 58 16.0	
	comp=Z,986nm,1.7s					
H31M			IAMs_20	IAMs_20	02 12 34.7	
	comp=Z,62μm,22.0s					
H31M	**Peel River**	**37.60 325**	P	**P**	**01 56 53.4**	**-1.1**
	baz=26,SNR=76					
H31M			S	**S**	**02 02 43.8**	**+0.2**
	baz=26					
MDUB	**Mudurnu**	**37.65 122**	⇑P	**P**	**01 56 55.8**	**+0.6**
DIKM	**Dikmen**	**37.68 117**	P	**P**	**01 56 56.0**	**+0.6**
	comp=Z,331nm,1.4s,comp=Z,13μm					
DIKM			pP	**sP**	**01 56 58.7**	**+0.4**
	comp=Z,331nm,1.4s,comp=Z,13μm					
DRO	**Drossia**	**37.68 135**	P	**P**	**01

KIV			MLR	MLR		
	comp=Z,62µm,16.0s					
KIV	**Kislovodsk**	**37.75 107**	P	**P**	**01 56 56.6**	**+0.5**
	comp=Z,666nm,1.4s,comp=Z,11µm					
CBBAR	**Babar**	**37.76 155**	P	**P**	**01 56 56.7**	**+0.4**
PKME	**Peaks-Kenny Pk**	**37.76 258**	IAmb	IAmb	01 57 10.5	
	comp=Z,524nm,1.4s					
PKME	**Peaks-Kenny Pk**	**37.76 258**	⇑P	**P**	**01 56 56.6**	**+0.6**
BMAR	**Burnt Mountain**	**37.78 333**	P	**P**	**01 56 55.8**	**-0.3**
F25K	**Christian Rive**	**37.79 333**	IAmb	IAmb	01 57 10.8	
	comp=Z,622nm,1.6s					
F25K			IAMs_20	IAMs_20	02 12 45.4	
	comp=Z,55µm,22.0s					
F25K	**Christian Rive**	**37.79 333**	P	**P**	**01 56 56.0**	**-0.1**
	baz=22					
F25K			S	**S**	**02 02 50.1**	**+3.7**
	baz=22					
VLDQ	**Val d'Or**	**37.80 268**	IAmb	IAmb	01 57 11.4	
	comp=Z,582nm,1.8s					
GUR	**Goura**	**37.84 134**	P	**P**	**01 56 56.1**	**-0.8**
VILL	**Villia**	**37.84 133**	P	**P**	**01 56 56.0**	**-0.9**
DKL	**Dikili**	**37.85 128**	⇑P	**P**	**01 56 57.2**	**+0.3**
E23K	**Chandalar**	**37.89 336**	IAmb	IAmb	01 57 11.5	
	comp=Z,1µm,1.6s					
E23K	**Chandalar**	**37.89 336**	P	**P**	**01 56 56.7**	**-0.3**
	baz=20					
E23K			S	**S**	**02 02 48.2**	**+0.1**
	baz=20					
G27K	**Doyon Strip**	**37.92 331**	P	**P**	**01 56 56.8**	**-0.4**
	baz=23					
G27K			S	**S**	**02 02 50.6**	**+2.2**
	baz=23					
H29M	**Whitestone**	**37.93 328**	P	**P**	**01 56 56.0**	**-1.3**
H29M			IAmb	IAmb	01 57 13.9	
	comp=Z,423nm,1.2s					
H29M			IAMs_20	IAMs_20	02 14 17.2	
	comp=Z,81µm,21.0s					
H29M	**Whitestone**	**37.93 328**	P	**P**	**01 56 56.3**	**-0.9**
	baz=24,SNR=139					
H29M			S	**S**	**02 02 49.3**	**+0.8**
	baz=24					
SHA1	**Shidzhatmaz**	**37.94 107**	*ce*P	**P**	**01 56 58.4**	**+0.5**
B18K	**Kokolik River**	**37.98 343**	P	**P**	**01 56 57.9**	**+0.2**
	baz=15					
B18K			S	**S**	**02 02 50.3**	**+1.1**
	baz=15					
KBZ	**Khabaz**	**38.02 107**	P	**P**	**01 56 59.3**	**+1.0**
	comp=Z,98nm,0.8s,baz=353,slow=5.9,SNR=69					
KBZ			PP	**PnPn**	**01 58 28.0**	**+1.8**
	comp=Z,204nm,0.9s,baz=355,slow=8.9,SNR=4.2					
KBZ			S	**S**	**02 02 47.4**	**-2.9**
	comp=Z,18nm,1.1s,baz=89,slow=22,SNR=1.0					
KBZ			LR	LR	02 12 27.1	
	comp=Z,82µm,18.4s,baz=304,slow=36					
	comp=Z,98nm,0.8s					
KBZ	**Khabaz**	**38.02 107**	*ce*P	**P**	**01 56 58.8**	**+0.5**
KBZ			pmax	pmax		
	comp=Z,853nm,1.3s					
C19K	**Lookout Ridge**	**38.02 342**	IAmb	IAmb	01 57 13.9	
	comp=Z,927nm,1.7s					
C19K			IAMs_20	IAMs_20	02 12 35.4	
	comp=Z,54µm,19.0s					
C19K	**Lookout Ridge**	**38.02 342**	P	**P**	**01 56 58.3**	**+0.2**
	baz=16,SNR=41					
C19K			S	**S**	**02 02 52.7**	**+2.8**
	baz=16					
E21K	**Killik River**	**38.06 339**	IAmb	IAmb	01 57 08.6	
	comp=Z,594nm,1.4s					
E21K	**Killik River**	**38.06 339**	P	**P**	**01 56 58.0**	**-0.4**
	baz=18					
E21K			S	**S**	**02 02 51.7**	**+1.2**
	baz=18					
DION	**Dionisos Attik**	**38.07 132**	P	**P**	**01 56 57.7**	**-1.1**
PTL	**Penteli**	**38.08 132**	P	**P**	**01 56 58.5**	**-0.4**
E22K	**Anaktuvuk Pass**	**38.10 337**	IAmb	IAmb	01 57 15.7	
	comp=Z,673nm,1.8s					
E22K			IAMs_20	IAMs_20	02 12 45.3	
	comp=Z,60µm,20.0s					
E22K	**Anaktuvuk Pass**	**38.10 337**	P	**P**	**01 56 58.1**	**-0.6**
	baz=19,SNR=82					
E22K			S	**S**	**02 02 52.7**	**+1.6**
	baz=19					
D20K	**Etivluk River**	**38.10 340**	P	**P**	**01 56 58.8**	**0.0**
	baz=17					
D20K			S	**S**	**02 02 52.7**	**+1.6**
	baz=17					
G26K	**Porcupine Rive**	**38.11 332**	P	**P**	**01 56 59.1**	**+0.3**
	baz=22					
G26K			S	**S**	**02 02 53.6**	**+2.4**
	baz=22					
ATH	**Athens Observa**	**38.12 133**	P	**P**	**01 56 59.0**	**-0.1**
F24K	**Squaw Lake**	**38.17 335**	IAMs_20	IAMs_20	02 15 18.3	
	comp=Z,64µm,20.0s					
F24K	**Squaw Lake**	**38.17 335**	P	**P**	**01 56 59.3**	**0.0**
	baz=21					
F24K			S	**S**	**02 02 54.8**	**+2.6**
	baz=21					
ADJF	**Tadmit**	**38.18 160**	P	**P**	**01 57 00.1**	**+0.3**
G62A	**West of Eustis**	**38.19 259**	IAMs_20	IAMs_20	02 11 30.3	
	comp=Z,53µm,21.0s					
KARY	**Karystos**	**38.23 132**	P	**P**	**01 56 59.9**	**-0.2**
IFR	**Ifrane**	**38.24 172**	P	**P**	**01 56 59.5**	**-0.9**
IFR			S	**S**	**02 02 52.6**	**-1.5**
VLY	**Voula,Athens**	**38.25 133**	P	**P**	**01 56 59.9**	**-0.4**
WDD	**Wied Dalam**	**38.25 145**	IAmb	IAmb	01 57 14.3	
	comp=Z,873nm,1.4s					
CHOS	**Chios island**	**38.29 130**	P	**P**	**01 56 59.6**	**-1.0**
AVE	**Averroes**	**38.37 175**	IAmb	IAmb	01 57 13.6	
	comp=Z,546nm,1.4s					
AVE	**Averroes**	**38.37 175**	P	**P**	**01 57 01.0**	**-0.3**
AVE			S	**S**	**02 02 58.8**	**+3.1**
AVE	**Averroes**	**38.37 175**	⇑P	**P**	**01 57 01.1**	**-0.2**
BRVK	**Borovoye**	**38.40 74**	P	**P**	**01 57 01.6**	**+0.2**
BRVK			IAmb	IAmb	01 57 12.6	
	comp=Z,485nm,1.1s					
BRVK	**Borovoye**	**38.40 74**	P	**P**	**01 57 01.4**	**+0.1**
BRVK			P	**P**	**01 57 01.4**	**+0.1**
BRVK			P	**P**	**01 57 01.4**	**+0.1**
BRVK	**Borovoye**	**38.40 74**	⇓P	**P**	**01 57 01.5**	**+0.2**
BRVK	**Borovoye**	**38.40 74**	*de*P	**P**	**01 57 01.5**	**+0.2**
BRVK			pmax	pmax		
	comp=Z,995nm,2.5s					
BRVK			MLR	MLR		
	comp=Z,95µm,15.0s					
H27K	**Steamboat Moun**	**38.43 330**	P	**P**	**01 57 01.4**	**-0.2**
	baz=23,SNR=116					
H27K			S	**S**	**02 02 57.7**	**+1.6**
	baz=23					
NCK	**Nalchik**	**38.45 107**	*e*P	**P**	**01 57 02.7**	**+0.8**
NCK			pmax	pmax		
	comp=Z,547nm,1.4s					
BVA0	**Borovoye Array**	**38.46 74**	*i* P	**P**	**01 57 01.9**	**0.0**
BVAR	**Borovoye Array**	**38.46 74**	P	**P**	**01 57 02.1**	**+0.2**
	comp=Z,214nm,0.9s,baz=324,slow=7.3,SNR=194					
BVAR			PP	**PP**	**01 58 29.4**	**-0.1**
	comp=Z,278nm,0.9s,baz=337,slow=12,SNR=2.9					
BVAR			S	**S**	**02 02 57.0**	**+0.2**
	comp=Z,13nm,1.0s,baz=313,slow=11,SNR=1.9					
BVAR			LR	LR	02 15 03.7	
	comp=Z,96µm,18.1s,baz=326,slow=40					
	comp=Z,214nm,0.9s					
ITM	**Ithomi**	**38.47 135**	P	**P**	**01 57 01.5**	**-0.6**
D19K	**Kuna River**	**38.47 341**	P	**P**	**01 57 01.6**	**-0.2**
	baz=16					
D19K			S	**S**	**02 02 57.9**	**+1.2**
	baz=16					
AB31	**Akbulak array**	**38.47 86**	*i* P	**P**	**01 57 01.4**	**-0.6**
ABKAR	**Akbulak array**	**38.47 86**	P	**P**	**01 57 01.5**	**-0.5**
ABKAR			IAmb	IAmb	01 57 10.5	
	comp=Z,576nm,1.3s					
ABKAR	**Akbulak array**	**38.47 86**	⇓P	**P**	**01 57 01.5**	**-0.5**
E20K	**Nigu River**	**38.49 340**	P	**P**	**01 57 01.9**	**-0.1**
	baz=17					
E20K			S	**S**	**02 02 58.8**	**+1.7**
	baz=17					
I30M	**Mount Dempster**	**38.49 326**	IAmb	IAmb	01 57 02.6	
	comp=Z,406nm,1.1s					
I30M			IAMs_20	IAMs_20	02 13 13.2	
	comp=Z,85µm,22.0s					
I30M	**Mount Dempster**	**38.49 326**	P	**P**	**01 57 01.0**	**-1.2**
	baz=25,SNR=364					
I30M			S	**S**	**02 02 57.6**	**+0.3**
	baz=25					
BLCB	**Balcova**	**38.53 128**	P	**P**	**01 57 02.9**	**+0.3**
TRQ	**Mont Tremblant**	**38.56 264**	IAMs_20	IAMs_20	02 11 35.0	
	comp=Z,55µm,21.0s					
KLMT	**Kalamata**	**38.61 135**	P	P	01 57 15.1	+12

PMPST	**Porto Santo, M**	**38.62 187**	*e*P	**P**	**01 57 06.4**	**+3.0**
PMPST			A	A	01 57 18.9	
	comp=Z,857nm,2.1s					
C18K	**Utukok River**	**38.62 343**	IAmb	IAmb	01 57 12.5	
	comp=Z,901nm,1.6s					
C18K	**Utukok River**	**38.62 343**	P	**P**	**01 57 03.2**	**+0.1**
	baz=15					
C18K			S	**S**	**02 03 01.3**	**+2.2**
	baz=15					
G25K	**Bearman Lake**	**38.62 333**	P	**P**	**01 57 04.1**	**+1.0**
	baz=21					
G25K			S	**S**	**02 03 03.5**	**+4.6**
	baz=21					
PMPS	**Porto Santo**	**38.64 187**	*e*P	**P**	**01 57 03.8**	**+0.2**
PMPS			A	A	01 57 19.3	
	comp=Z,1µm,1.5s					
ANTO	**Ankara**	**38.64 121**	P	**P**	**01 57 03.5**	**-0.1**
ANTO			IAmb	IAmb	01 57 14.0	
	comp=Z,1µm,1.8s					
ANTO	**Ankara**	**38.64 121**	P	**P**	**01 57 04.8**	**+1.2**
ANTO			P	**P**	**01 57 04.8**	**+1.2**
ANTO			P	**P**	**01 57 04.8**	**+1.2**
ANTO	**Ankara**	**38.64 121**	⇑P	**P**	**01 57 04.5**	**+0.8**
ANTO	**Ankara**	**38.64 121**	⇑P	**P**	**01 57 04.3**	**+0.8**
ANTO	**Ankara**	**38.64 121**	P	**P**	**01 57 04.4**	**+0.8**
ANTO	**Ankara**	**38.64 121**	P	**P**	**01 57 04.4**	**+0.8**
	comp=Z,162nm,1.3s,comp=Z,6µm					
BR231	**Keskin MP Arra**	**38.66 121**	IAmb	IAmb	01 57 14.1	
	comp=Z,704nm,1.6s					
FYU	**Fort Yukon**	**38.69 333**	IAMs_20	IAMs_20	02 14 06.1	
	comp=Z,53µm,22.0s					
PYL	**PYLOS**	**38.70 136**	P	**P**	**01 57 03.1**	**-0.9**
F22K	**John River**	**38.74 337**	P	**P**	**01 57 03.6**	**-0.5**
	baz=19					
F22K			S	**S**	**02 03 02.3**	**+1.6**
	baz=19					
COLD	**Coldfoot**	**38.75 336**	P	**P**	**01 57 03.7**	**-0.5**
	baz=19,SNR=35					
COLD			S	**S**	**02 03 03.8**	**+3.0**
	baz=19					
KULA	**Kula-Manisa**	**38.82 126**	P	**P**	**01 57 05.6**	**+0.5**
G24K	**Hadweenzic Riv**	**38.88 334**	IAmb	IAmb	01 57 20.6	
	comp=Z,754nm,1.6s					
G24K	**Hadweenzic Riv**	**38.88 334**	P	**P**	**01 57 06.0**	**+0.7**
	baz=20					
G24K			S	**S**	**02 03 06.3**	**+3.5**
	baz=20					
I28M	**Miner Creek**	**38.90 329**	IAMs_20	IAMs_20	02 14 57.8	
	comp=Z,65µm,21.0s					
I28M	**Miner Creek**	**38.90 329**	P	**P**	**01 57 04.2**	**-1.3**
	baz=23,SNR=97					
I28M			S	**S**	**02 03 03.0**	**-0.2**
	baz=23					
H62A	**Milan**	**38.96 259**	IAMs_20	IAMs_20	02 11 53.8	
	comp=Z,47µm,20.0s					
MDT	**Midelt**	**38.96 171**	LR	LR	02 14 25.0	
	comp=Z,80µm,18.5s,baz=358,slow=38					
C17K	**DeLong Mountai**	**38.97 344**	P	**P**	**01 57 06.0**	**0.0**
	baz=14					
C17K			S	**S**	**02 03 06.3**	**+2.1**
	baz=14					
BR106	**Keskin Array S**	**39.00 120**	P	**P**	**01 57 07.3**	**+0.6**
	comp=Z,249nm,1.2s,comp=Z,2µm					
PMAR	**Madeira**	**39.00 187**	*e*P	**P**	**01 57 07.3**	**+0.5**
PMAR			A	A	01 57 27.7	
	comp=Z,1µm,1.5s					
BR131	**Keskin Array S**	**39.01 120**	IAmb	IAmb	01 57 17.0	
	comp=Z,409nm,1.1s					
BR131	**Keskin Array S**	**39.01 120**	*c i*P	**P**	**01 57 07.3**	**+0.5**
BRTR	**Keskin Array B**	**39.01 120**	P	**P**	**01 57 07.5**	**+0.7**
BRTR	**Keskin Array B**	**39.01 120**	P	**P**	**01 57 07.0**	**+0.2**
	comp=Z,51nm,0.8s,baz=340,slow=6.1,SNR=64					
BRTR			PP	**PP**	**01 58 36.8**	**+0.8**
	comp=Z,40nm,1.0s,baz=340,slow=3.7,SNR=2.6					
BRTR			S	**S**	**02 03 06.1**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=21,slow=32,SNR=1.3					
BRTR			LR	LR	02 14 26.1	
	comp=Z,79µm,19.5s,baz=340,slow=38					
	comp=Z,51nm,0.8s					
BRTR	**Keskin Array B**	**39.01 120**	*ce*P	**P**	**01 57 07.5**	**+0.7**
BRTR			pmax	pmax		
	comp=Z,51nm,0.8s					
BR105	**Keskin Array S**	**39.01 120**	P	**P**	**01 57 07.5**	**+0.7**
	comp=Z,304nm,1.2s,comp=Z,3µm					
I27K	**Kandik River**	**39.02 330**	P	**P**	**01 57 06.2**	**-0.4**
	baz=23,SNR=205					
I27K			S	**S**	**02 03 09.7**	**+4.6**
	baz=23					
I27K			S	**S**	**02 03 09.7**	**+4.6**
	baz=23					
H25L	**Birch Creek**	**39.05 333**	P	**P**	**01 57 07.5**	**+0.9**
	baz=21					
H25L			S	**S**	**02 03 09.9**	**+4.5**
	baz=21					
J30M	**Hart River**	**39.08 326**	IAMs_20	IAMs_20	02 13 31.7	
	comp=Z,73µm,22.0s					
J30M	**Hart River**	**39.08 326**	P	**P**	**01 57 06.3**	**-0.8**
	baz=24,SNR=177					
J30M			S	**S**	**02 03 06.0**	**-0.1**
	baz=24					
SMG	**Samos**	**39.12 129**	P	**P**	**01 57 07.3**	**-0.3**
VLI	**Veliai**	**39.14 134**	P	**P**	**01 57 06.6**	**-1.1**
F21K	**Alatna River**	**39.17 338**	IAMs_20	IAMs_20	02 13 17.8	
	comp=Z,54µm,21.0s					
F21K	**Alatna River**	**39.17 338**	P	**P**	**01 57 07.3**	**-0.4**
	baz=18					
F21K			S	**S**	**02 03 10.1**	**+2.9**
	baz=18					
G22K	**Bettles**	**39.21 336**	P	**P**	**01 57 07.8**	**-0.2**
	baz=19					
G22K			S	**S**	**02 03 10.5**	**+2.7**
	baz=19					
G23K	**Bananza Creek**	**39.22 335**	IAMs_20	IAMs_20	02 15 50.0	
	comp=Z,54µm,21.0s					
G23K	**Bananza Creek**	**39.22 335**	P	**P**	**01 57 08.1**	**-0.1**
	baz=19					
G23K			S	**S**	**02 03 10.5**	**+2.5**
	baz=19					
I63A	**Otisfield**	**39.25 258**	IAMs_20	IAMs_20	02 12 03.5	
	comp=Z,55µm,22.0s					
C16K	**Lisburne Hills**	**39.35 345**	IAmb	IAmb	01 57 18.4	
	comp=Z,575nm,1.3s					
C16K	**Lisburne Hills**	**39.35 345**	P	**P**	**01 57 08.8**	**-0.3**
	baz=13					
C16K			S	**S**	**02 03 10.1**	**+0.3**
	baz=13					
RDOG	**Red Dog Mine**	**39.36 344**	IAmb	IAmb	01 57 18.2	
	comp=Z,463nm,1.2s					
RDOG			IAMs_20	IAMs_20	02 13 23.4	
	comp=Z,74µm,21.0s					
RDOG	**Red Dog Mine**	**39.36 344**	P	**P**	**01 57 08.9**	**-0.3**
	baz=14,SNR=52					
RDOG			S	**S**	**02 03 12.3**	**+2.3**
	baz=14					
E19K	**Redstone River**	**39.37 340**	IAMs_20	IAMs_20	02 12 51.0	
	comp=Z,56µm,21.0s					
E19K	**Redstone River**	**39.37 340**	P	**P**	**01 57 09.1**	**-0.3**
	baz=16					
E19K			S	**S**	**02 03 11.8**	**+1.5**
	baz=16					
APE	**Apeiranthos**	**39.41 131**	*e*P	**P**	**01 57 09.0**	**-1.1**
APE	**Apeiranthos**	**39.41 131**	⇑P	**P**	**01 57 09.5**	**-0.6**
APE	**Apeiranthos**	**39.41 131**	⇑P	**P**	**01 57 09.3**	**-0.7**
APE	**Apeiranthos**	**39.41 131**	P	**P**	**01 57 09.4**	**-0.6**
LBNH	**Lisbon**	**39.50 260**	⇑P	**P**	**01 57 11.6**	**+0.8**
J29N	**Klondike Camp**	**39.52 327**	P	**P**	**01 57 10.4**	**-0.3**
	baz=24,SNR=57					
J29N			S	**S**	**02 03 14.6**	**+2.0**
	baz=24					
I26K	**Coal Creek Min**	**39.55 331**	IAmb	IAmb	01 57 12.7	
	comp=Z,596nm,1.2s					
I26K	**Coal Creek Min**	**39.55 331**	P	**P**	**01 57 11.0**	**+0.2**
	baz=22					
I26K			S	**S**	**02 03 16.8**	**+4.0**
	baz=22					
I26K			S	**S**	**02 03 16.8**	**+4.0**
	baz=22					
KTUT	**Trabzon**	**39.59 112**	⇓P	**P**	**01 57 10.9**	**-0.5**
BATM	**Batumi**	**39.60 110**	⇓P	**P**	**01 57 12.3**	**+0.7**
BATM	**Batumi**	**39.60 110**	P	**P**	**01 57 12.2**	**+0.7**
F20K	**Avaraart Lake**	**39.60 339**	IAmb	IAmb	01 57 21.6	
	comp=Z,613nm,1.4s					
F20K			IAMs_20	IAMs_20	02 13 11.0	
	comp=Z,54µm,20.0s					
F20K	**Avaraart Lake**	**39.60 339**	P	**P**	**01 57 11.1**	**-0.2**
	baz=17,SNR=115					
F20K			S	**S**	**02 03 15.1**	**+1.5**

	baz=17					
FFC	**Flin Flon**	**39.63 295**	P	**P**	**01 57 11.4**	**-0.2**
FFC			IAmb	IAmb	01 57 25.1	
	comp=Z,695nm,1.1s					
FFC	**Flin Flon**	**39.63 295**	IAMs_20	IAMs_20	02 13 41.7	
	comp=Z,54µm,18.0s					
FFC	**Flin Flon**	**39.63 295**	⇑P	**P**	**01 57 11.4**	**-0.2**
FFC	**Flin Flon**	**39.63 295**	P	**P**	**01 57 11.4**	**-0.2**
FFC			pmax	pmax		
	comp=Z,695nm,1.1s					
FFC			MLR	MLR		
	comp=Z,54µm,18.0s					
I62A	**Tamworth**	**39.65 259**	IAMs_20	IAMs_20	02 12 25.0	
	comp=Z,46µm,20.0s					
GUDG	**Gudauri**	**39.65 106**	P	**P**	**01 57 15.4**	**+3.2**
VT1	**Waterbury**	**39.68 261**	IAMs_20	IAMs_20	02 12 21.0	
	comp=Z,56µm,20.0s					
PRP	**Porcupine Dome**	**39.71 332**	P	**P**	**01 57 12.9**	**+0.6**
PRP			IAMs_20	IAMs_20	02 14 55.2	
	comp=Z,50µm,21.0s					
PRP	**Porcupine Dome**	**39.71 332**	P	**P**	**01 57 12.9**	**+0.6**
	baz=21,SNR=230					
PRP			S	**S**	**02 03 17.5**	**+1.9**
	baz=21					
EGAK	**Eagle**	**39.72 329**	IAMs_20	IAMs_20	02 14 39.5	
	comp=Z,61µm,21.0s					
EGAK	**Eagle**	**39.72 329**	P	**P**	**01 57 11.3**	**-0.9**
	baz=22,SNR=87					
EGAK			S	**S**	**02 03 17.6**	**+2.2**
	baz=22					
EGAK	**Eagle**	**39.72 329**	⇑P	**P**	**01 57 11.1**	**-1.1**
D17K	**Noatak River**	**39.72 344**	P	**P**	**01 57 12.2**	**-0.1**
	baz=14,SNR=79					
D17K			S	**S**	**02 03 16.0**	**+0.7**
	baz=14					
BCA	**Borcka**	**39.72 110**	⇓P	**P**	**01 57 12.9**	**+0.3**
H24K	**Noodor Dome**	**39.75 334**	IAmb	IAmb	01 57 24.8	
	comp=Z,673nm,1.7s					
H24K			IAMs_20	IAMs_20	02 15 32.2	
	comp=Z,45µm,20.0s					
H24K	**Noodor Dome**	**39.75 334**	P	**P**	**01 57 13.1**	**+0.5**
	baz=20,SNR=106					
H24K			S	**S**	**02 03 20.6**	**+4.6**
	baz=20					
H24K			S	**S**	**02 03 20.6**	**+4.6**
	baz=20					
E18K	**Tukpahlearik C**	**39.76 342**	IAMs_20	IAMs_20	02 15 07.0	
	comp=Z,62µm,18.0s					
E18K	**Tukpahlearik C**	**39.76 342**	P	**P**	**01 57 12.5**	**-0.1**
	baz=15					
E18K			S	**S**	**02 03 18.4**	**+2.5**
	baz=15					
G21K	**Allakaket**	**39.85 337**	IAMs_20	IAMs_20	02 14 08.7	
	comp=Z,60µm,21.0s					
G21K	**Allakaket**	**39.85 337**	P	**P**	**01 57 12.9**	**-0.4**
	baz=18					
G21K			S	**S**	**02 03 21.4**	**+4.0**
	baz=18					
BODT	**Bodrum**	**39.85 129**	P	**P**	**01 57 13.4**	**-0.3**
WBO	**Williamsburg**	**39.88 264**	IAmb	IAmb	01 57 29.1	
	comp=Z,633nm,1.5s					
WBO			IAMs_20	IAMs_20	02 12 37.8	
	comp=Z,53µm,20.0s					
MAYO	**Mayo, Yukon**	**39.89 325**	P	**P**	**01 57 13.4**	**-0.4**
	baz=24,SNR=11					
MAYO			S	**S**	**02 03 19.8**	**+1.7**
	baz=24					
CMBO	**Columbo, Santo**	**39.95 131**	P	**P**	**01 57 12.9**	**-1.6**
ISP	**Isparta**	**39.95 125**	*e*P	**P**	**01 57 17.8**	**+3.1**
ISP	**Isparta**	**39.95 125**	⇑P	**P**	**01 57 14.8**	**+0.1**
ISP	**Isparta**	**39.95 125**	*ce*P	**P**	**01 57 14.6**	**0.0**
ISP			pmax	pmax		
	comp=Z,491nm,2.5s					
K29M	**Barlow Dome**	**39.96 326**	P	**P**	**01 57 14.5**	**+0.1**
	baz=23,SNR=210					
K29M			S	**S**	**02 03 20.3**	**+1.0**
	baz=23					
H23K	**Yukon River**	**39.99 335**	P	**P**	**01 57 15.3**	**+0.7**
	baz=19					
H23K			S	**S**	**02 03 25.4**	**+5.8**
	baz=19					
H23K			S	**S**	**02 03 25.4**	**+5.8**
	baz=19					
LONY	**Lake Ozonia**	**40.00 263**	⇓P	**P**	**01 57 14.9**	**+0.1**
YER	**Yerkesik**	**40.03 128**	P	**P**	**01 57 15.2**	**0.0**
YER	**Yerkesik**	**40.03 128**	P	**P**	**01 57 15.5**	**+0.3**
THR8	**Santorini-Mono**	**40.03 131**	P	**P**	**01 57 12.7**	**-2.4**
ANKY	**Antikythira Is**	**40.03 134**	P	**P**	**01 57 14.7**	**-0.5**
F19K	**Shaleruckik Mo**	**40.03 340**	P	**P**	**01 57 13.8**	**-1.0**
	baz=16,SNR=39					
F19K			S	**S**	**02 03 21.5**	**+1.4**
	baz=16					
DAWY	**Dawson**	**40.08 327**	P	**P**	**01 57 14.7**	**-0.7**
	baz=23,SNR=106					
DAWY			S	**S**	**02 03 23.4**	**+2.5**
	baz=23					
MAK	**Makhachkala**	**40.14 103**	*e*P	**P**	**01 57 15.9**	**0.0**
MAK			*e*		01 58 47.3	
MAK			*e*S	**S**	**02 03 23.3**	**+1.2**
MAK			*e*SS	**SS**	**02 06 16.3**	**-2.9**
MAK			pmax	pmax		
	comp=Z,13µm,5.3s					
MAK			pmax	pmax		
	comp=Z,1µm,1.4s					
MAK			MLR	MLR		
	comp=N,236µm,16.0s					
MAK			MLR	MLR		
	comp=Z,96µm,15.0s					
MAK			MLR	MLR		
	comp=E,164µm,15.0s					
H22K	**Ishtalitna Cre**	**40.17 336**	P	**P**	**01 57 16.8**	**+0.7**
	baz=18					
H22K			S	**S**	**02 03 26.2**	**+3.9**
	baz=18					
H22K			S	**S**	**02 03 26.2**	**+3.9**
	baz=18					
E17K	**Hotham Inlet**	**40.21 343**	P	**P**	**01 57 15.7**	**-0.5**
	baz=14,SNR=31					
E17K			S	**S**	**02 03 23.6**	**+0.9**
	baz=14					
DAT	**Datca**	**40.23 129**	P	**P**	**01 57 16.6**	**-0.4**
NISR	**Nisiros**	**40.23 129**	P	**P**	**01 57 15.6**	**-1.2**
TGTN	**Hyland Airport**	**40.27 319**	P	**P**	**01 57 17.7**	**+0.7**
	baz=26,SNR=43					
TGTN			S	**S**	**02 03 29.4**	**+5.5**
	baz=26					
BCK	**Bucak**	**40.31 125**	P	**P**	**01 57 18.1**	**+0.5**
J26L	**Joseph Creek**	**40.36 330**	IAmb	IAmb	01 57 32.4	
	comp=Z,574nm,1.4s					
J26L	**Joseph Creek**	**40.36 330**	P	**P**	**01 57 17.6**	**-0.1**
	baz=21,SNR=168					
J26L			S	**S**	**02 03 29.2**	**+4.0**
	baz=21					
J26L			S	**S**	**02 03 29.2**	**+4.0**
	baz=21					
POKR	**Poker Plat Res**	**40.37 333**	P	**P**	**01 57 18.2**	**+0.6**
	baz=20,SNR=42					
POKR			S	**S**	**02 03 29.2**	**+4.1**
	baz=20					
POKR			S	**S**	**02 03 29.2**	**+4.1**
	baz=20					
IMAR	**Indian Mountai**	**40.39 337**	P	**P**	**01 57 17.2**	**-0.6**
BNN	**Bunyan**	**40.44 118**	P	**P**	**01 57 19.4**	**+0.7**
BNN	**Bunyan**	**40.44 118**	⇑P	**P**	**01 57 19.5**	**+0.9**
F18K	**Selawik**	**40.46 341**	P	**P**	**01 57 17.6**	**-0.8**
	baz=15,SNR=24					
F18K			S	**S**	**02 03 27.8**	**+1.4**
	baz=15					
J25K	**Salcha River,**	**40.54 331**	IAMs_20	IAMs_20	02 14 49.0	
	comp=Z,60µm,22.0s					
J25K	**Salcha River,**	**40.54 331

H21K Melozitna Rive 40.58 337 IAmb IAmb 01 57 30.6
comp=Z,629nm,1.4s
H21K IAMs_20 IAMs_20 02 15 13.0
comp=Z,52µm,20.0s
H21K Melozitna Rive 40.58 337 P **P** **01 57 19.9 +0.5**
baz=18,SNR=94
H21K S **S** **02 03 33.1 +4.7**
baz=18
H21K S **S** **02 03 33.1 +4.7**
baz=18
KOTAN Kotaneelee Air 40.61 315 P **P** **01 57 19.8 +0.2**
baz=27,SNR=54
KOTAN S **S** **02 03 31.5 +2.7**
baz=27
I23K Minto, Yukon-K 40.61 334 IAMs_20 IAMs_20 02 15 58.9
comp=Z,55µm,20.0s
I23K Minto, Yukon-K 40.61 334 P **P** **01 57 19.9 +0.3**
baz=19,SNR=104
I23K S **S** **02 03 33.3 +4.6**
baz=19
I23K S **S** **02 03 33.3 +4.6**
baz=19
ILAR Eielson Array 40.61 333 P **P** **01 57 19.8 +0.1**
comp=Z,98nm,1.0s,baz=15,slow=6.8,SNR=360
ILAR S **S** **02 03 28.6 -0.2**
comp=Z,0.8nm,1.0s,baz=36,slow=0.2,SNR=1.2
ILAR LR LR 02 17 48.6
comp=Z,15µm,18.6s,baz=25,slow=42
comp=Z,98nm,1.0s
G19K Purcell Mounta 40.62 339 IAmb IAmb 01 57 51.5
comp=Z,581nm,1.2s
G19K IAMs_20 IAMs_20 02 13 52.2
comp=Z,55µm,20.0s
G19K Purcell Mounta 40.62 339 P **P** **01 57 19.7 -0.1**
baz=16
G19K S **S** **02 03 32.0 +3.0**
baz=16
BILL Bilibino 40.65 1 IAMs_20 IAMs_20 02 14 13.6
comp=Z,42µm,19.0s
BILL Bilibino 40.65 1*ce*P **P** **01 57 19.4 -0.6**
BILL pmax pmax
comp=Z,400nm,2.5s
BILL MLR MLR
comp=Z,41µm,17.0s
COLA College 40.66 333 P **P** **01 57 20.2 +0.1**
COLA College 40.66 333 IAMs_20 IAMs_20 02 14 53.2
comp=Z,50µm,22.0s
COLA College 40.66 333 P **P** **01 57 20.4 +0.4**
baz=20
COLA S **S** **02 03 34.5 +5.1**
baz=20
COLA College 40.66 333 P **P** **01 57 19.6 -0.4**
COLA College 40.66 333 ⇑P **P** **01 57 20.1 +0.1**
COLA College 40.66 333*c i*P **P** **01 57 20.0 0.0**
COLA pmax pmax
comp=Z,413nm,1.2s
FARO Faro, Yukon 40.66 322 P **P** **01 57 20.7 +0.6**
baz=24,SNR=67
FARO S **S** **02 03 32.5 +2.9**
baz=24
TIO Tiouine 40.74 175 P **P** **01 57 20.6 -0.7**
TIO S **S** **02 03 34.0 +2.5**
L29M L29M 40.74 326 P **P** **01 57 20.3 -0.5**
L29M L29M 40.74 326 P **P** **01 57 20.6 -0.3**
baz=23,SNR=80
L29M S **S** **02 03 32.5 +1.6**
baz=23
F17K Baldwin Pennin 40.77 342 IAmb IAmb 01 57 49.8
comp=Z,1µm,2.0s
F17K IAMs_20 IAMs_20 02 15 57.0
comp=Z,51µm,20.0s
F17K Baldwin Pennin 40.77 342 P **P** **01 57 20.5 -0.4**
baz=14,SNR=24
F17K S **S** **02 03 33.2 +2.1**
baz=14
PRNS Prines Rethymn 40.79 133 P **P** **01 57 19.4 -2.0**
ELL Elmali 40.81 126 ⇑P **P** **01 57 22.4 +0.7**
ELL Elmali 40.81 126 P **P** **01 57 22.2 +0.5**
ELL pmax pmax
comp=Z,2µm,1.2s
ACCN Adirondack Com 40.82 261 IAMs_20 IAMs_20 02 12 54.9
comp=Z,55µm,21.0s
ARG Arkhangelos 40.86 128 P **P** **01 57 20.6 -1.4**
M31M Drury Creek, Y 40.89 323 P **P** **01 57 22.6 +0.5**
baz=24,SNR=54
M31M S **S** **02 03 37.9 +4.9**
baz=24
KARS Kars 40.91 109 ⇓P **P** **01 57 24.2 +1.7**
MLY Manley 40.91 335 P **P** **01 57 22.3 +0.2**
baz=18,SNR=48
MLY S **S** **02 03 38.6 +5.3**
baz=18
SCRK Sand Creek 40.92 330 P **P** **01 57 22.1 -0.3**
SCRK IAMs_20 IAMs_20 02 15 41.2
comp=Z,45µm,19.0s
SCRK Sand Creek 40.92 330 P **P** **01 57 22.2 -0.2**
baz=21,SNR=78
SCRK S **S** **02 03 35.9 +2.3**
baz=21
I21K Tanana 40.93 336 IAMs_20 IAMs_20 02 14 57.3
comp=Z,56µm,20.0s
I21K Tanana 40.93 336 P **P** **01 57 22.7 +0.4**
baz=18,SNR=39
I21K S **S** **02 03 37.4 +3.9**
baz=18
I21K S **S** **02 03 37.4 +3.9**
baz=18
HRV Adam Dziewonsk 40.95 258 P **P** **01 57 20.1 -2.6**
HRV Adam Dziewonsk 40.95 258 ⇑P **P** **01 57 23.6 +0.9**
HRV Adam Dziewonsk 40.95 258 P **P** **01 57 20.1 -2.6**
HRV pmax pmax
comp=Z,157nm,1.0s
HRV MLR MLR
comp=Z,39µm,20.0s
IDI Anoyia 40.96 132 P **P** **01 57 20.7 -2.2**
IDI IAmb IAmb 01 57 37.4
comp=Z,456nm,1.1s
IDI Anoyia 40.96 132 P **P** **01 57 20.2 -2.7**
IDI Anoyia 40.96 132 P **P** **01 57 19.6 -3.3**
IDI Anoyia 40.96 132 LR LR 02 16 00.3
comp=Z,71µm,19.0s,baz=340,slow=39
HDA Harding Lake 40.97 332 P **P** **01 57 22.4 -0.2**
baz=20,SNR=124
HDA S **S** **02 03 36.3 +2.2**
baz=20
M30M Minto, Yukon 40.99 325 IAmb IAmb 01 57 24.6
comp=Z,406nm,1.1s
M30M IAMs_20 IAMs_20 02 15 30.4
comp=Z,68µm,22.0s
M30M Minto, Yukon 40.99 325 P **P** **01 57 23.0 +0.1**
baz=23,SNR=123
M30M S **S** **02 03 38.0 +3.4**
baz=23
H20K Anotleneega Mo 41.00 338 P **P** **01 57 23.1 +0.2**
baz=17,SNR=50
H20K S **S** **02 03 37.9 +3.3**
baz=17
J59A Piesco 41.01 262 P **P** **01 57 22.1 -1.1**
G18K Tagagawik 41.04 340 P **P** **01 57 23.1 -0.1**
baz=15,SNR=25
G18K S **S** **02 03 37.5 +2.4**
baz=15
DELO Deloro Mine 41.05 266 IAMs_20 IAMs_20 02 13 10.8
comp=Z,42µm,19.0s
WRH Wood River Hil 41.07 333 IAmb IAmb 01 57 34.0
comp=Z,536nm,1.6s
NEA2 Nenana 41.10 334 IAmb IAmb 01 57 25.3
comp=Z,418nm,1.2s
NEA2 IAMs_20 IAMs_20 02 14 43.8
comp=Z,48µm,22.0s
NEA2 Nenana 41.10 334 P **P** **01 57 23.5 -0.1**
baz=19,SNR=121
NEA2 S **S** **02 03 38.0 +2.0**
baz=19
TMBK Timbaki Herakl 41.13 133 P **P** **01 57 23.6 -0.6**
H19K Roundabout Mou 41.15 339 IAmb IAmb 01 57 38.9
comp=Z,695nm,1.9s
H19K IAMs_20 IAMs_20 02 14 19.9
comp=Z,58µm,20.0s
H19K Roundabout Mou 41.15 339 P **P** **01 57 24.1 0.0**
baz=16,SNR=24
H19K S **S** **02 03 39.1 +2.4**
baz=16
GVD Gavdhos 41.20 134 P **P** **01 57 23.4 -1.4**
KARP Karpathos 41.26 130 P **P** **01 57 22.3 -3.0**
KARP Karpathos 41.26 130 P **P** **01 57 22.4 -2.9**
KARP Karpathos 41.26 130 ⇑P **P** **01 57 21.5 -3.8**

RIDG Independent Ri 41.28 331 P **P** **01 57 25.4 +0.2**
baz=20,SNR=73
RIDG S **S** **02 03 42.4 +3.6**
baz=20
SADO Sadowa 41.31 267 LR LR 02 13 47.3
comp=Z,45µm,18.7s,baz=34,slow=35
L61B Northampton 41.35 259 P **P** **01 57 26.0 0.0**
baz=25,SNR=28
L61B S **S** **02 03 43.9 +3.6**
baz=25
K24K Donnelly Dome 41.36 331 P **P** **01 57 25.9 0.0**
baz=20,SNR=43
K24K S **S** **02 03 41.6 +1.6**
baz=20
K24K S **S** **02 03 41.6 +1.6**
baz=20
PECO Prince Edward 41.38 265 IAMs_20 IAMs_20 02 13 11.5
comp=Z,52µm,22.0s
TRY Troy 41.41 260 IAMs_20 IAMs_20 02 13 12.5
comp=Z,61µm,21.0s
BCAR Beaver Creek A 41.41 328 P **P** **01 57 25.1 -1.3**
M29M Somme Creek 41.42 326 IAMs_20 IAMs_20 02 15 30.6
comp=Z,62µm,21.0s
M29M Somme Creek 41.42 326 P **P** **01 57 27.0 +0.5**
baz=22,SNR=90
M29M S **S** **02 03 44.3 +3.3**
baz=22
L27K Beaver Creek, 41.42 328 IAmb IAmb 01 57 28.4
comp=Z,401nm,1.1s
L27K IAMs_20 IAMs_20 02 15 28.7
comp=Z,70µm,21.0s
L27K Beaver Creek, 41.42 328 P **P** **01 57 26.8 +0.4**
baz=21,SNR=222
L27K S **S** **02 03 43.6 +2.6**
baz=21
ZKR Zakros 41.44 131 P **P** **01 57 23.9 -2.9**
M65A Busby, Falmout 41.53 257 IAMs_20 IAMs_20 02 12 53.8
comp=Z,50µm,22.0s
M65A Busby, Falmout 41.53 257 S **S** **02 03 48.2 +5.4**
baz=24
E46A Sault Ste Mari 41.53 273 P **P** **01 57 27.8 +0.4**
E46A IAmb IAmb 01 57 42.2
comp=Z,631nm,1.2s
J57A Williamstown 41.53 263 IAMs_20 IAMs_20 02 13 27.6
comp=Z,43µm,20.0s
AKT Akhty 41.55 104 *e*P **P** **01 57 28.0 +0.2**
AKT *e* 01 59 03.3
AKT *e* 01 59 25.1
AKT *e*PPP PPP 01 59 32.2
AKT *e*S **S** **02 03 43.6 +0.2**
AKT *e*SS **SS** **02 06 41.0 -6.7**
AKT *e* 02 07 22.9
AKT pmax pmax
comp=Z,6µm,3.9s
AKT pmax pmax
comp=Z,997nm,1.1s
AKT pmax pmax
comp=E,477nm,0.8s
AKT pmax pmax
comp=N,925nm,1.2s
BWN Browne 41.55 334 IAmb IAmb 01 57 52.7
comp=Z,578nm,1.2s
N32M Quiet Lake 41.60 322 P **P** **01 57 27.9 +0.1**
baz=24
N32M S **S** **02 03 47.3 +3.7**
baz=24
I20K Naaghedeneel 41.62 337 IAmb IAmb 01 57 39.3
comp=Z,421nm,1.2s
I20K IAMs_20 IAMs_20 02 14 46.4
comp=Z,56µm,21.0s
I20K Naaghedeneel 41.62 337 P **P** **01 57 28.6 +0.8**
baz=17,SNR=16
I20K S **S** **02 03 48.6 +5.0**
baz=17
G17K Kiwalik Mounta 41.63 341 P **P** **01 57 27.9 -0.2**
baz=14,SNR=12
G17K S **S** **02 03 47.2 +3.4**
baz=14
WTLY Watson Lake, Y 41.66 318 P **P** **01 57 28.8 +0.3**
baz=25,SNR=66
WTLY S **S** **02 03 46.5 +1.9**
baz=25
L26K Log Cabin Wild 41.71 329 P **P** **01 57 29.0 +0.3**
baz=21,SNR=77
L26K S **S** **02 03 48.0 +2.9**
baz=21
L26K S **S** **02 03 48.0 +2.9**
baz=21
LIRD Liard River Hi 41.71 316 P **P** **01 57 29.2 +0.4**
baz=26
LIRD S **S** **02 03 49.0 +3.8**
baz=26
ULM Lac du Bonnet 41.72 286 P **P** **01 57 28.4 -0.5**
comp=Z,84nm,0.9s,baz=32,slow=8.4,SNR=49
ULM S **S** **02 03 45.2 -0.3**
comp=Z,7.4nm,0.9s,baz=305,slow=13,SNR=1.8
ULM LR LR 02 14 45.5
comp=Z,29µm,19.2s,baz=28,slow=36
comp=Z,84nm,0.9s
ULM Lac du Bonnet 41.72 286 ⇑P **P** **01 57 28.3 -0.7**
ULM Lac du Bonnet 41.72 286*c i*P **P** **01 57 28.2 -0.7**
H18K Honhosa River 41.73 340 IAmb IAmb 01 57 39.7
comp=Z,696nm,1.6s
H18K IAMs_20 IAMs_20 02 15 33.1
comp=Z,47µm,20.0s
H18K Honhosa River 41.73 340 P **P** **01 57 29.0 +0.2**
baz=15,SNR=18
H18K S **S** **02 03 47.3 +2.0**
baz=15
F15K North Star Dit 41.81 344 IAmb IAmb 01 57 48.0
comp=Z,885nm,1.5s
F15K IAMs_20 IAMs_20 02 14 51.3
comp=Z,71µm,20.0s
F15K North Star Dit 41.81 344 P **P** **01 57 29.7 +0.2**
baz=12,SNR=17
F15K S **S** **02 03 50.1 +3.5**
baz=12
N31M Braeburn, Yuko 41.81 324 P **P** **01 57 29.6 0.0**
baz=23,SNR=67
N31M S **S** **02 03 49.7 +3.0**
baz=23
BPAW Bear Paw Mtn. 41.83 335 IAmb IAmb 01 57 40.1
comp=Z,1µm,2.0s
BPAW Bear Paw Mtn. 41.83 335 P **P** **01 57 29.5 -0.3**
baz=18,SNR=74
BPAW S **S** **02 03 49.7 +2.7**
baz=18
GNI Garni 41.85 107 P **P** **01 57 31.2 +0.9**
GNI Garni 41.85 107 P **P** **01 57 31.3 +0.9**
GNI Garni 41.85 107 LR LR 02 14 58.3
comp=Z,57µm,18.1s,baz=341,slow=36
GNI Garni 41.85 107 P **P** **01 57 31.8 +1.5**
GNI P **P** **01 57 31.8 +1.5**
GNI P **P** **01 57 31.8 +1.5**
GNI Garni 41.85 107 ⇑P **P** **01 57 31.2 +0.9**
GNI Garni 41.85 107*ce*P **P** **01 57 31.1 +0.8**
GNI pmax pmax
comp=Z,624nm,1.7s
MENT Mentasta 41.85 330 IAMs_20 IAMs_20 02 16 51.9
comp=Z,48µm,21.0s
MENT Mentasta 41.85 330 P **P** **01 57 29.8 -0.1**
BVCY Beaver Creek 41.87 327 P **P** **01 57 30.6 +0.5**
baz=22,SNR=44
BVCY S **S** **02 03 51.5 +3.9**
baz=22
MCK McKinley 41.90 333 P **P** **01 57 30.1 -0.2**
baz=19,SNR=131
MCK S **S** **02 03 49.5 +1.6**
baz=19
ZAA0 Zalesovo Array 41.90 62 P **P** **01 57 29.8 -0.5**
ZALV Zalesovo Beam 41.90 62 P **P** **01 57 29.9 -0.5**
comp=Z,86nm,1.0s,baz=331,slow=9.0,SNR=74
ZALV PP **PP** **01 59 03.4 -3.5**
comp=Z,52nm,1.0s,baz=324,slow=8.9,SNR=3.1
ZALV S **S** **02 03 45.5 -2.6**
comp=Z,3.8nm,1.0s,baz=238,slow=31,SNR=1.0
ZALV LR LR 02 17 07.6
comp=Z,85µm,21.6s,baz=332,slow=39
comp=Z,86nm,1.0s
G16K Koyuk River 41.90 342 IAMs_20 IAMs_20 02 16 31.9
comp=Z,56µm,19.0s
G16K Koyuk River 41.90 342 P **P** **01 57 30.5 +0.2**
baz=13
G16K S **S** **02 03 51.6 +3.7**
baz=13
GCSA Galena City Sc 41.95 339 P **P** **01 57 31.1 +0.5**
baz=16,SNR=19

GCSA S **S** **02 03 53.4 +4.8**
baz=16
TOAD Toad River Com 42.02 315 P **P** **01 57 31.6 +0.2**
baz=26,SNR=232
TOAD S **S** **02 03 53.0 +3.1**
baz=26
N30M Aishikik Lake 42.08 324 IAmb IAmb 01 57 33.9
comp=Z,879nm,1.8s
N30M IAMs_20 IAMs_20 02 17 38.2
comp=Z,38µm,18.0s
N30M Aishikik Lake 42.08 324 P **P** **01 57 32.2 +0.4**
baz=22,SNR=40
N30M S **S** **02 03 56.1 +5.3**
baz=22
M27K Edge Creek, AK 42.09 328 IAMs_20 IAMs_20 02 15 48.3
comp=Z,71µm,21.0s
M27K Edge Creek, AK 42.09 328 P **P** **01 57 32.3 +0.3**
baz=21,SNR=29
M27K S **S** **02 03 55.4 +4.3**
baz=21
M27K S **S** **02 03 55.4 +4.3**
baz=21
PAX Paxson 42.10 331 P **P** **01 57 31.8 -0.2**
baz=20,SNR=76
PAX S **S** **02 03 53.3 +2.2**
baz=20
H17K Granite Mounta 42.10 341 IAmb IAmb 01 57 41.5
comp=Z,873nm,1.8s
H17K Granite Mounta 42.10 341 P **P** **01 57 32.0 +0.1**
baz=14,SNR=30
H17K S **S** **02 03 54.6 +3.7**
baz=14
M63A Gales Ferry 42.11 258 IAMs_20 IAMs_20 02 13 01.1
comp=Z,54µm,22.0s
J20K Nowinta River 42.17 337 IAmb IAmb 01 57 43.5
comp=Z,867nm,1.6s
J20K IAMs_20 IAMs_20 02 15 24.0
comp=Z,55µm,21.0s
J20K Nowinta River 42.17 337 P **P** **01 57 32.8 +0.3**
baz=17,SNR=54
J20K S **S** **02 03 56.6 +4.7**
baz=17
J20K S **S** **02 03 56.6 +4.7**
baz=17
F14K Arctic Creek 42.18 345 P **P** **01 57 32.7 +0.2**
baz=12
F14K S **S** **02 03 55.2 +3.2**
baz=12
RND Reindeer 42.19 333 IAMs_20 IAMs_20 02 16 12.8
comp=Z,57µm,22.0s
CHUM Lake Minchumin 42.22 335 P **P** **01 57 32.8 -0.1**
baz=17,SNR=40
CHUM S **S** **02 03 54.9 +2.4**
baz=17
TNA Tin City 42.23 346 P **P** **01 57 32.9 0.0**
baz=11,SNR=6.6
TNA S **S** **02 03 56.3 +3.6**
baz=11
TNA Tin City 42.23 346 ⇑P **P** **01 57 32.6 -0.2**
J55A Hilton 42.24 265 IAMs_20 IAMs_20 02 13 48.2
comp=Z,48µm,22.0s
M26K Nabesna, AK 42.24 329 IAMs_20 IAMs_20 02 16 55.1
comp=Z,55µm,20.0s
M26K Nabesna, AK 42.24 329 P **P** **01 57 33.8 +0.6**
baz=21,SNR=124
M26K S **S** **02 03 57.3 +4.2**
baz=21
M26K S **S** **02 03 57.3 +4.2**
baz=21
KSCT Kent School, K 42.26 260 IAmb IAmb 01 57 49.0
comp=Z,877nm,1.1s
DHY Denali Highway 42.29 332 IAmb IAmb 01 57 49.1
comp=Z,469nm,1.4s
DHY Denali Highway 42.29 332 P **P** **01 57 33.2 -0.4**
baz=19,SNR=57
DHY S **S** **02 03 55.6 +1.6**
baz=19
K57A Scipio Center 42.31 263 IAMs_20 IAMs_20 02 13 51.2
comp=Z,51µm,21.0s
KTH Kantishna Hill 42.34 334 IAmb IAmb 01 58 13.8
comp=Z,551nm,1.6s
TRF Thorofare Moun 42.35 334 P **P** **01 57 33.4 -0.8**
baz=18,SNR=29
TRF S **S** **02 03 55.3 +0.4**
baz=18
GAZ Gaziantep 42.39 117 P **P** **01 57 35.6 +1.0**
GAZ Gaziantep 42.39 117 ⇑P **P** **01 57 35.7 +1.0**
YUK3 Moose Creek 42.39 327 P **P** **01 57 34.8 +0.2**
baz=21,SNR=37
YUK3 S **S** **02 03 58.6 +2.9**
baz=21
EYMN Ely 42.40 281 P **P** **01 57 34.0 -0.4**
EYMN Ely 42.40 281 ⇑P **P** **01 57 34.1 -0.4**
WHY Whitehorse 42.40 322 P **P** **01 57 34.3 -0.2**
baz=23,SNR=56
WHY S **S** **02 04 00.1 +4.5**
baz=23
P33M Teslin, Yukon 42.41 321 P **P** **01 57 34.5 0.0**
baz=24,SNR=55
P33M S **S** **02 03 59.5 +3.9**
baz=24
G15K Niukluk 42.45 343 P **P** **01 57 35.3 +0.5**
baz=12
G15K S **S** **02 03 58.1 +2.1**
baz=12
YUK4 Talbot Arm 42.47 325 P **P** **01 57 34.6 -0.6**
baz=22,SNR=27
YUK4 S **S** **02 03 59.8 +3.0**
baz=22
GURO Guroymak-BITLI 42.51 111 ⇑P **P** **01 57 36.4 +0.8**
J19K Poorman 42.53 338 IAmb IAmb 01 57 46.3
comp=Z,620nm,1.6s
J19K IAMs_20 IAMs_20 02 15 14.5
comp=Z,56µm,22.0s
J19K Poorman 42.53 338 P **P** **01 57 35.7 +0.3**
baz=16,SNR=64
J19K S **S** **02 04 00.9 +3.7**
baz=16
J19K S **S** **02 04 00.9 +3.7**
baz=16
O30N Mendenhall 42.53 323 IAMs_20 IAMs_20 02 16 46.1
comp=Z,65µm,19.0s
O30N Mendenhall 42.53 323 P **P** **01 57 35.4 -0.2**
baz=23,SNR=42
O30N S **S** **02 03 59.8 +2.4**
baz=23
HARP HAARP 42.59 330 P **P** **01 57 36.5 +0.6**
baz=20,SNR=60
HARP S **S** **02 04 00.8 +2.7**
baz=20
BINY Binghamton 42.62 262 IAmb IAmb 01 57 52.1
comp=Z,620nm,1.5s
BINY Binghamton 42.62 262 ⇑P **P** **01 57 37.4 +1.0**
CAST Castle Rocks 42.63 335 IAmb IAmb 01 57 50.2
comp=Z,497nm,1.4s
CAST IAMs_20 IAMs_20 02 16 50.3
comp=Z,53µm,21.0s
CAST Castle Rocks 42.63 335 P **P** **01 57 35.6 -0.6**
baz=17,SNR=101
CAST S **S** **02 04 00.4 +1.6**
baz=17
H16K Elim 42.63 342 P **P** **01 57 36.2 0.0**
baz=13,SNR=8.5
H16K S **S** **02 04 03.1 +4.5**
baz=13
WAT1 Susitna Watana 42.70 333 P **P** **01 57 36.2 -0.7**
baz=18
WAT1 S **S** **02 04 01.0 +1.2**
baz=18
YUK8 Steele Glacier 42.73 326 P **P** **01 57 37.5 +0.2**
baz=21,SNR=18
YUK8 S **S** **02 04 04.1 +3.4**
baz=21
HYT Haines Junctio 42.75 324 P **P** **01 57 37.6 +0.3**
baz=22,SNR=50
HYT S **S** **02 04 05.0 +4.3**
baz=22
R33M Jennings River 42.78 319 P **P** **01 57 38.1 +0.5**
R33M Jennings River 42.78 319 P **P** **01 57 38.1 +0.5**
baz=24,SNR=62
R33M S **S** **02 04 07.4 +6.3**
baz=24
YUK6 Outpost Mounta 42.80 325 P **P** **01 57 38.3 +0.4**
baz=22,SNR=27
YUK6 S **S** **02 04 05.4 +3.8**
baz=22
WAT6 Susitna Watana 42.81 332 P **P** **01 57 37.5 -0.4**
baz=19,SNR=96

WAT6				S	S	02 04 05.4	+3.7
	baz=19						
K20K	Telida	42.95	336	IAmb	IAmb	01 57 53.3	
K20K	comp=Z,487nm,1.4s			IAMs_20	IAMs_20	02 16 07.6	
	comp=Z,55µm,20.0s						
K20K	Telida	42.95	336	P	P	01 57 38.9	+0.1
	baz=16,SNR=53						
K20K				S	S	02 04 06.5	+3.0
	baz=16						
K20K				S	S	02 04 06.5	+3.0
	baz=16						
KURK	Kurchatov	42.97	69	P	P	01 57 38.6	-0.4
KURK				IAmb	IAmb	01 57 50.0	
	comp=Z,884nm,1.3s						
KURK	Kurchatov	42.97	69	P	P	01 57 38.6	-0.4
KURK				P	P	01 57 38.6	-0.4
KURK				P	P	01 57 38.6	-0.4
KURK	Kurchatov	42.97	69	*e*P	P	01 57 38.5	-0.6
KURK				pmax	pmax		
	comp=Z,857nm,2.5s						
KURK				MLR	MLR		
	comp=Z,136µm,15.0s						
ANM	Nome	43.00	344	IAmb	IAmb	01 57 57.5	
	comp=Z,758nm,1.6s						
ANM	Nome	43.00	344	P	P	01 57 39.2	+0.1
	baz=12						
ANM				S	S	02 04 07.4	+3.4
	baz=12						
KURBB	Kurchatov Arra	43.02	69	P	P	01 57 39.0	-0.5
	comp=Z,145nm,0.8s,baz=332,slow=7.5,SNR=162						
KURBB				PP	PP	01 59 18.4	-0.6
	comp=Z,232nm,1.1s,baz=330,slow=9.8,SNR=9.8						
KURBB				S	S	02 04 03.3	-1.4
	comp=Z,4.4nm,1.1s,baz=303,slow=18,SNR=1.1						
KURBB				LR	LR	02 19 10.7	
	comp=Z,139µm,18.6s,baz=330,slow=41						
	comp=Z,145nm,0.8s						
KURBB	Kurchatov Arra	43.02	69	P	P	01 57 37.9	-1.6
TRNY	Table Rock, Ra	43.02	260	IAMs_20	IAMs_20	02 14 20.2	
	comp=Z,59µm,19.0s						
M24K	Tolsona, Glenn	43.02	331	P	P	01 57 39.7	+0.2
	baz=19,SNR=17						
M24K				S	S	02 04 07.8	+3.2
	baz=19						
PPLA	Purkeypile	43.15	335	P	P	01 57 39.9	-0.7
	baz=17,SNR=20						
PPLA				S	S	02 04 06.7	+0.1
	baz=17						
P32M	Atlin	43.16	321	P	P	01 57 40.3	-0.3
	baz=23,SNR=8.9						
P32M				S	S	02 04 09.8	+3.2
	baz=23						
J18K	Innoko River	43.17	338	IAMs_20	IAMs_20	02 15 34.4	
	comp=Z,62µm,21.0s						
J18K	Innoko River	43.17	338	P	P	01 57 40.7	+0.1
	baz=15,SNR=53						
J18K				S	S	02 04 09.6	+3.0
	baz=15						
L56A	Greenwood	43.17	264	IAmb	IAmb	01 57 56.5	
	comp=Z,456nm,1.3s						
L56A				IAMs_20	IAMs_20	02 14 17.1	
	comp=Z,58µm,21.0s						
MCARA	McCarthy VSAT	43.20	328	IAMs_20	IAMs_20	02 16 35.5	
	comp=Z,60µm,20.0s						
MCARA	McCarthy VSAT	43.20	328	P	P	01 57 40.6	-0.2
	baz=20,SNR=18						
MCARA				S	S	02 04 09.3	+2.2
	baz=20						
ODNJ	Ogdensburg	43.20	260	IAMs_20	IAMs_20	02 14 16.9	
	comp=Z,62µm,21.0s						
I17K	Unalakleet	43.21	341	IAmb	IAmb	01 57 50.7	
	comp=Z,1µm,1.6s						
I17K	Unalakleet	43.21	341	P	P	01 57 41.3	+0.4
	baz=14,SNR=22						
I17K				S	S	02 04 09.2	+2.1
	baz=14						
I49A	Point Hope	43.23	270	IAmb	IAmb	01 57 56.4	
	comp=Z,382nm,1.1s						
N25K	Chitina, Valde	43.25	329	IAMs_20	IAMs_20	02 16 50.8	
	comp=Z,50µm,19.0s						
N25K	Chitina, Valde	43.25	329	P	P	01 57 41.4	+0.1
	baz=20,SNR=57						
N25K				S	S	02 04 10.4	+2.4
	baz=20						
GLB	Gilahina Butte	43.27	329	IAMs_20	IAMs_20	02 17 27.5	
	comp=Z,62µm,19.0s						
O28M	Mount Upton	43.28	326	P	P	01 57 41.8	-0.1
	baz=21,SNR=7.8						
O28M				S	S	02 04 10.7	+1.8
	baz=21						
COWI	Conover	43.30	277	IAMs_20	IAMs_20	02 16 46.7	
	comp=Z,39µm,20.0s						
COWI	Conover	43.30	277	⇑P	P	01 57 41.8	-0.1
P30M	Million Dollar	43.30	324	P	P	01 57 41.7	0.0
	baz=22						
P30M				S	S	02 04 12.3	+3.6
	baz=22						
CTGM	Chitina Glacie	43.30	327	IAMs_20	IAMs_20	02 17 16.4	
	comp=Z,62µm,20.0s						
CTG	Chitna Glacier	43.30	327	P	P	01 57 41.7	-0.2
	baz=21,SNR=20						
CTG				S	S	02 04 11.6	+2.7
	baz=21						
CUT	Chulitna	43.35	334	IAmb	IAmb	01 58 42.9	
	comp=Z,721nm,1.4s						
CUT	Chulitna	43.35	334	P	P	01 57 40.6	-1.4
	baz=18,SNR=14						
CUT				S	S	02 04 08.3	-0.9
	baz=18						
LOGN	Logan Glacier	43.38	327	IAmb	IAmb	01 57 57.2	
	comp=Z,601nm,1.7s						
LOGN				IAMs_20	IAMs_20	02 17 20.4	
	comp=Z,55µm,20.0s						
CSS	Mathiatis	43.40	123	P	P	01 57 41.6	-1.1
CSS	Mathiatis	43.40	123	⇑P	P	01 57 41.9	-0.9
CSS	Mathiatis	43.40	123	P	P	01 57 42.6	-0.1
	comp=Z,1µm,1.6s,comp=Z,22µm						
VRDI	Verde Repeater	43.42	328	IAMs_20	IAMs_20	02 16 43.3	
	comp=Z,56µm,21.0s						
O29M	Mount Kennedy	43.43	325	P	P	01 57 42.7	-0.2
	baz=22,SNR=19						
O29M				S	S	02 04 13.3	+2.6
	baz=22						
MACI	Morro de la Ar	43.44	187	P	P	01 57 44.0	+0.7
MACI				IAmb	IAmb	01 57 59.1	
	comp=Z,635nm,1.5s						
AGMN	Agassiz Nation	43.44	285	P	P	01 57 42.6	-0.3
AGMN				IAmb	IAmb	01 57 58.0	
	comp=Z,607nm,1.4s						
AGMN	Agassiz Nation	43.44	285	⇑P	P	01 57 42.8	-0.3
Q32M	Nakina River	43.45	320	IAmb	IAmb	01 57 45.0	
	comp=Z,461nm,1.4s						
Q32M				IAMs_20	IAMs_20	02 17 05.5	
	comp=Z,59µm,19.0s						
Q32M	Nakina River	43.45	320	P	P	01 57 44.1	+1.0
	baz=23,SNR=56						
Q32M				S	S	02 04 14.2	+3.1
	baz=23						
DLBC	Dease Lake	43.45	318	P	P	01 57 43.8	+0.7
	baz=24,SNR=41						
DLBC				S	S	02 04 14.4	+3.3
	baz=24						
SCM	Sheep Creek Mo	43.46	331	P	P	01 57 42.9	-0.1
	baz=19,SNR=40						
SCM				S	S	02 04 12.8	+1.7
	baz=19						
J17K	VABM Dome	43.51	340	IAmb	IAmb	01 57 58.2	
	comp=Z,524nm,1.4s						
J17K				IAMs_20	IAMs_20	02 16 01.3	
	comp=Z,51µm,20.0s						
J17K	VABM Dome	43.51	340	P	P	01 57 43.5	+0.2
	baz=14,SNR=21						
J17K				S	S	02 04 13.7	+2.2
	baz=14						
J17K				S	S	02 04 13.7	+2.2
	baz=14						
BRNJ	Basking Ridge	43.55	260	IAmb	IAmb	01 57 59.5	
	comp=Z,518nm,1.2s						
M23K	Glacier View	43.56	332	P	P	01 57 43.4	-0.4
	baz=18,SNR=23						
M23K				S	S	02 04 11.5	-0.9
	baz=18						
KLU	Klutina	43.57	330	IAMs_20	IAMs_20	02 18 02.2	
	comp=Z,42µm,20.0s						
KLU	Klutina	43.57	330	P	P	01 57 43.5	-0.4
	baz=19,SNR=31						
KLU				S	S	02 04 15.0	+2.4
	baz=19						
GRNC	Granite Creek	43.59	327	IAMs_20	IAMs_20	02 17 02.1	
	comp=Z,64µm,20.0s						
SKAG	Skagway	43.60	322	IAMs_20	IAMs_20	02 17 38.4	
	comp=Z,71µm,22.0s						
SKAG	Skagway	43.60	322	P	P	01 57 44.1	0.0
	baz=22,SNR=55						
SKAG				S	S	02 04 16.8	+4.0
	baz=22						
SKAG	Skagway	43.60	322	P	P	01 57 43.9	-0.1
SKAG	Skagway	43.60	322	⇑P	P	01 57 44.0	0.0
TTA	Tatalina	43.60	337	IAMs_20	IAMs_20	02 16 08.9	
	comp=Z,52µm,21.0s						
TTA	Tatalina	43.60	337	P	P	01 57 44.1	-0.1
	baz=15,SNR=26						
TTA				S	S	02 04 16.6	+3.5
	baz=15						
TTA	Tatalina	43.60	337	P	P	01 57 43.8	-0.4
TTA	Tatalina	43.60	337	⇑P	P	01 57 43.9	-0.3
E38A	The Farm, Brul	43.61	280	P	P	01 57 44.1	-0.2
SML	Sawmill	43.64	332	IAmb	IAmb	01 57 45.5	
	comp=Z,384nm,1.2s						
SML				IAMs_20	IAMs_20	02 16 23.0	
	comp=Z,52µm,22.0s						
SML	Sawmill	43.64	332	P	P	01 57 44.0	-0.4
	baz=18,SNR=42						
SML				S	S	02 04 12.8	-0.8
	baz=18						
SEM	Semipalatinsk	43.72	68	*e*P	P	01 57 45.1	-0.4
	comp=Z,338nm,1.4s						
SEM				*e*S	S	02 04 15.6	+0.1
SEM				LR	LR	02 16 06.8	
	comp=Z,27µm,15.2s						
SEM	Semipalatinsk	43.72	68	*e*P	P	01 57 45.0	-0.4
SEM				*e*S	S	02 04 15.5	+0.1
SEM				pmax	pmax		
	comp=Z,338nm,1.4s						
SEM				MLR	MLR		
	comp=Z,27µm,15.0s						
TGL	Tana Glacier	43.76	328	IAmb	IAmb	01 58 04.3	
	comp=Z,355nm,1.2s						
TGL				IAMs_20	IAMs_20	02 16 53.4	
	comp=Z,63µm,20.0s						
GHO	Glory Hole Cre	43.76	332	IAMs_20	IAMs_20	02 18 20.3	
	comp=Z,39µm,19.0s						
M57A	Sunshine Farm,	43.76	263	IAmb	IAmb	01 58 01.3	
	comp=Z,352nm,1.2s						
M57A				IAMs_20	IAMs_20	02 14 47.7	
	comp=Z,54µm,20.0s						
TABL	Table Mountain	43.76	327	IAMs_20	IAMs_20	02 17 05.5	
	comp=Z,61µm,19.0s						
L20K	Farewell, AK	43.77	336	P	P	01 57 44.5	-0.9
	baz=16,SNR=16						
L20K				S	S	02 04 13.8	-1.7
	baz=16						
L20K				S	S	02 04 13.8	-1.7
	baz=16						
J16K	Anvik River	43.79	340	IAmb	IAmb	01 57 59.7	
	comp=Z,426nm,1.0s						
J16K	Anvik River	43.79	340	P	P	01 57 45.9	+0.4
	baz=14,SNR=40						
J16K				S	S	02 04 18.1	+2.5
	baz=14						
PLBC	Pleasant Camp	43.80	323	P	P	01 57 46.3	+0.6
	baz=22,SNR=26						
PLBC				S	S	02 04 17.8	+1.9
	baz=22						
CRQE	Cirque	43.80	328	P	P	01 57 45.3	-0.6
	baz=20,SNR=37						
CRQE				S	S	02 04 15.6	-0.6
	baz=20						
CRQM	Cirque	43.81	328	IAmb	IAmb	01 57 47.0	
	comp=Z,468nm,1.1s						
CRQM				IAMs_20	IAMs_20	02 16 55.6	
	comp=Z,61µm,21.0s						
BMRM	Bremner River	43.85	329	P	P	01 57 45.7	-0.4
	baz=19,SNR=30						
BMRM				S	S	02 04 17.4	+0.6
	baz=19						
LUPA	Lehigh Univers	43.88	261	IAmb	IAmb	01 58 02.2	
	comp=Z,526nm,1.4s						
LUPA				IAMs_20	IAMs_20	02 14 48.9	
	comp=Z,52µm,20.0s						
P29M	Windy Craggy	43.90	324	IAmb	IAmb	01 58 02.7	
	comp=Z,820nm,1.9s						
P29M	Windy Craggy	43.90	324	P	P	01 57 46.9	+0.4
	baz=22,SNR=17						
P29M				S	S	02 04 22.0	+4.6
	baz=22						
PINM	Pinnacle	43.93	326	P	P	01 57 46.3	-0.5
	baz=21						
PINM				S	S	02 04 20.8	+2.9
	baz=21						
SKT	Skwentna	43.94	334	IAMs_20	IAMs_20	02 16 45.8	
	comp=Z,50µm,22.0s						
SKT	Skwentna	43.94	334	P	P	01 57 45.3	-1.5
	baz=17,SNR=62						
SKT				S	S	02 04 15.8	-2.0
	baz=17						
YAH	Yahtse	43.94	327	IAmb	IAmb	01 57 48.7	
	comp=Z,317nm,1.0s						
BCPM	Bancas Point	43.95	325	IAMs_20	IAMs_20	02 17 26.5	
	comp=Z,60µm,20.0s						
M22K	Willow	43.95	333	P	P	01 57 45.7	-1.2
	baz=18,SNR=9.8						
M22K				S	S	02 04 15.3	-2.7
	baz=18						
ERPA	Erie	43.96	266	IAmb	IAmb	01 58 02.5	
	comp=Z,497nm,1.5s						
ERPA				IAMs_20	IAMs_20	02 15 07.8	
	comp=Z,36µm,19.0s						
ERPA	Erie	43.96	266	⇓P	P	01 57 47.9	+0.7
PMR	Palmer	43.96	332	IAmb	IAmb	01 58 32.0	
	comp=Z,436nm,1.6s						
PMR				IAMs_20	IAMs_20	02 18 35.6	
	comp=Z,39µm,20.0s						
PMR	Palmer	43.96	332	P	P	01 57 46.3	-0.6
	baz=18,SNR=11						
PMR				S	S	02 04 14.0	-4.2
	baz=18						
PMR	Palmer	43.96	332	P	P	01 57 46.1	-0.8
YAK	Yakutsk	44.01	25	P	P	01 57 45.6	-1.7
YAK				IAmb	IAmb	01 57 59.5	
	comp=Z,571nm,1.1s						
YAK	Yakutsk	44.01	25	*e*P	P	01 57 46.6	-0.7
YAK				*e**PP	pwP	01 57 51.6	-0.6
YAK				*e*		01 59 33.9	
YAK				*e*S	S	02 04 15.7	-3.1
YAK				*e*SSS	SSS	02 07 39.4	
YAK				pmax	pmax		
	comp=Z,61nm,1.1s						
YAK				pmax	pmax		
	comp=N,46nm,1.1s						
YAK				pmax	pmax		
	comp=E,13nm,1.0s						
YAK				smax	smax		
	comp=N,560nm,3.0s						
YAK				smax	smax		
	comp=E,10µm,11.4s						
YAK				MLR	MLR		
	comp=Z,35µm,17.0s						
YAK				MLR	MLR		
	comp=N,21µm,20.0s						
YAK				MLR	MLR		
	comp=E,18µm,18.0s						
KNK	Knik Glacier	44.03	332	IAmb	IAmb	01 58 27.0	
	comp=Z,501nm,1.4s						
KNK				IAMs_20	IAMs_20	02 16 46.5	
	comp=Z,51µm,21.0s						
KNK	Knik Glacier	44.03	332	P	P	01 57 47.5	-0.1
	baz=18,SNR=18						
KNK				S	S	02 04 18.1	-1.2
	baz=18						
WAX	Waxell Ridge	44.05	328	IAmb	IAmb	01 57 49.5	
	comp=Z,432nm,1.3s						
K17K	Iditarod	44.08	339	IAmb	IAmb	01 57 57.4	
	comp=Z,451nm,1.5s						
K17K				IAMs_20	IAMs_20	02 16 01.5	
	comp=Z,62µm,21.0s						
K17K	Iditarod	44.08	339	P	P	01 57 48.0	+0.1
	baz=14,SNR=16						
K17K				S	S	02 04 22.6	+2.6
	baz=14						
N58A	Sunbury	44.08	262	IAmb	IAmb	01 58 03.6	
	comp=Z,325nm,1.1s						
MESA	MESA	44.15	327	IAmb	IAmb	01 57 50.5	
	comp=Z,344nm,1.0s						
MESA	MESA	44.15	327	P	P	01 57 49.1	+0.4
	baz=20,SNR=15						
MESA				S	S	02 04 24.7	+3.3
	baz=20						
S34M	Telegraph Cree	44.17	318	P	P	01 57 49.6	+1.0
	baz=23,SNR=48						
S34M				S	S	02 04 27.1	+5.8
	baz=23						
PNL	Peninsula	44.17	325	P	P	01 57 48.4	-0.3
	baz=21						
PNL				S	S	02 04 23.5	+2.1
	baz=21						
L19K	White Mountain	44.18	336	IAMs_20	IAMs_20	02 17 06.3	
	comp=Z,47µm,21.0s						
L19K	White Mountain	44.18	336	P	P	01 57 48.1	-0.7
	baz=16,SNR=32						
L19K				S	S	02 04 22.7	+1.2
	baz=16						
L19K				S	S	02 04 22.7	+1.2
	baz=16						
K50A	Casco	44.21	269	IAmb	IAmb	01 58 04.0	
	comp=Z,458nm,1.2s						
I45A	Fountain	44.22	273	IAmb	IAmb	01 58 04.5	
	comp=Z,421nm,1.1s						
BERG	Berg Lake	44.25	328	IAmb	IAmb	01 58 04.2	
	comp=Z,789nm,1.3s						
BERG				IAMs_20	IAMs_20	02 18 10.3	
	comp=Z,59µm,20.0s						
M20K	Styx River	44.25	335	IAmb	IAmb	01 58 07.6	
	comp=Z,452nm,1.2s						
M20K				IAMs_20	IAMs_20	02 17 50.0	
	comp=Z,62µm,20.0s						
M20K	Styx River	44.25	335	P	P	01 57 47.9	-1.5
	baz=16						
M20K				S	S	02 04 19.7	-2.8
	baz=16						
M20K				S	S	02 04 19.7	-2.8
	baz=16						
GAMB	Gambell	44.27	348	P	P	01 57 48.6	-0.7
	baz=8.7,SNR=7.6						
GAMB				S	S	02 04 26.1	+3.5
	baz=8.7						
GAMB	Gambell	44.27	348	⇑P	P	01 57 49.0	-0.4
SUA	Susitna One	44.32	333	IAmb	IAmb	01 58 03.9	
	comp=Z,510nm,1.2s						
SUA	Susitna One	44.32	333	P	P	01 57 49.3	-0.7
	baz=17,SNR=61						
SUA				S	S	02 04 21.0	-2.6
	baz=17						
H43A	Windswept, Lux	44.32	275	IAmb	IAmb	01 58 04.0	
	comp=Z,314nm,1.1s						
GLI	Glacier Island	44.33	331	P	P	01 57 49.8	-0.2
	baz=18,SNR=8.7						
GLI				S	S	02 04 25.4	+1.8
	baz=18						
FID	Port Fidalgo	44.36	330	IAMs_20	IAMs_20	02 18 26.2	
	comp=Z,38µm,20.0s						
L18K	Granite Mounta	44.38	338	IAMs_20	IAMs_20	02 16 32.3	
	comp=Z,58µm,20.0s						
L18K	Granite Mounta	44.38	338	P	P	01 57 50.2	-0.1
	baz=15,SNR=21						
L18K				S	S	02 04 27.0	+2.8
	baz=15						
L18K				S	S	02 04 27.0	+2.8
	baz=15						
G40A	Rib Lake	44.38	278	IAmb	IAmb	01 58 04.8	
	comp=Z,416nm,1.2s						
HMT	Hamilton	44.39	329	IAmb	IAmb	01 57 52.4	
	comp=Z,633nm,1.2s						
M19K	Big River Lodg	44.39	336	IAMs_20	IAMs_20	02 17 22.9	
	comp=Z,59µm,21.0s						
M19K	Big River Lodg	44.39	336	P	P	01 57 49.3	-1.1
	baz=16						
M19K				S	S	02 04 25.8	+1.3
	baz=16						
M19K				S	S	02 04 25.8	+1.3
	baz=16						
RAGM	Ragged Mountai	44.41	329	IAMs_20	IAMs_20	02 17 27.7	
	comp=Z,57µm,20.0s						
BGLC	Bering Glacier	44.43	328	P	P	01 57 51.6	+0.9
	baz=20						
BGLC				S	S	02 04 28.3	+3.4
	baz=20						
EYAK	Cordova Ski Ar	44.44	330	P	P	01 57 50.9	+0.1
	baz=19,SNR=9.7						
EYAK				S	S	02 04 29.0	+4.0
	baz=19						
EYAK	Cordova Ski Ar	44.44	330	P	P	01 57 49.7	-1.0
ALLY	Alegheny Colle	44.44	266	IAMs_20	IAMs_20	02 15 05.4	
	comp=Z,42µm,21.0s						
J47A	Sunmer	44.49	272	IAmb	IAmb	01 58 07.1	
	comp=Z,703nm,1.6s						
JIS	Juneau Island	44.51	321	P	P	01 57 51.5	+0.2
RC01	Rabbit Creek A	44.53	333	IAmb	IAmb	01 57 52.8	
	comp=Z,326nm,1.0s						
RC01	Rabbit Creek A	44.53	333	P	P	01 57 51.5	-0.1
	baz=17,SNR=56						
RC01				S	S	02 04 26.3	-0.2
	baz=17						
R32K	Eaglecrest	44.54	321	P	P	01 57 52.2	+0.6
	baz=22,SNR=19						
R32K				S	S	02 04 31.4	+4.8
	baz=22						
R32K				S	S	02 04 31.4	+4.8
	baz=22						
PWL	Port Wells	44.54	332	IAmb	IAmb	01 57 53.2	
	comp=Z,365nm,1.0s						
PWL				IAMs_20	IAMs_20	02 17 02.0	
	comp=Z,48µm,22.0s						
PWL	Port Wells	44.54	332	P	P	01 57 51.9	+0.3
	baz=18,SNR=32						
PWL				S	S	02 04 26.4	-0.4
	baz=18						
WUPA	West Chester U	44.56	261	IAMs_20	IAMs_20	02 15 17.9	
	comp=Z,35µm,19.0s						
SUCK	Suckling Hills	44.56	328	IAMs_20	IAMs_20	02 18 37.6	
	comp=Z,57µm,20.0s						
BEIL	Beino	44.57	120	*e*P	P	01 57 51.6	-0.6
J14K	Nanvaranak Lak	44.61	342	IAmb	IAmb	01 58 06.7	
	comp=Z,598nm,1.8s						
J14K				IAMs_20	IAMs_20	02 17 11.3	
	comp=Z,62µm,20.0s						
J14K	Nanvaranak Lak	44.61	342	P	P	01 57 51.7	-0.3
	baz=12,SNR=5.9						
J14K				S	S	02 04 32.4	+4.8
	baz=12						
SSPA	Standing Stone	44.64	263	P	P	01 57 52.8	+0.2
SSPA				IAmb	IAmb	01 58 08.1	
	comp=Z,445nm,1.2s						
SSPA	Standing Stone	44.64	263	IAMs_20	IAMs_20	02 15 12.9	
	comp=Z,55µm,20.0s						
SSPA	Standing Stone	44.64	263	⇑P	P	01 57 53.1	+0.4
L17K	Donlin	44.65	339	P	P	01 57 52.3	-0.2
	baz=14,SNR=30						
L17K				S	S	02 04 32.0	+3.8
	baz=14						
R31K	City Hall, Gus	44.65	322	P	P	01 57 52.5	0.0
	baz=22						
R31K				S	S	02 04 30.2	+2.0
	baz=22						
HIN	Hinchinbrook I	44.70	330	IAmb	IAmb	01 58 07.5	
	comp=Z,680nm,1.6s						
HIN				IAMs_20	IAMs_20	02 18 22.2	
	comp=Z,51µm,22.0s						
MVL	Millersville	44.73	261	IAmb	IAmb	01 58 08.8	
	comp=Z,294nm,1.2s						
MVL				IAMs_20	IAMs_20	02 15 17.4	
	comp=Z,54µm,22.0s						
HWQ	Hawqa	44.75	120	*e*P	P	01 57 54.0	+0.2
N20K	Mount Spurr	44.78	334	P	P	01 57 51.8	-1.8
	baz=16,SNR=9.5						
N20K				S	S	02 04 28.2	-2.0
	baz=16						
SPCR	Spurr Chakacha	44.78	334	P	P	01 57 51.7	-1.9
	baz=16						
SPCR				S	S	02 04 26.1	-4.1
	baz=16						
KAIM	Kayak Island	44.81	329	IAMs_20	IAMs_20	02 16 50.0	
	comp=Z,42µm,18.0s						
KAIM	Kayak Island	44.81	329	P	P	01 57 53.3	-0.5
	baz=19						
KAIM				S	S	02 04 33.4	+2.9
	baz=19						
T35M	Bob Quinn	44.84	317	P	P	01 57 55.0	+0.9
	baz=23,SNR=26						
T35M				S	S	02 04 37.4	+6.3
	baz=23						
K15K	Wolf Creek Mou	44.85	341	P	P	01 57 54.8	+0.7
	baz=13,SNR=24						

K15K			S	S	02 04 35.0	+3.9
	baz=13					
M52A	**Chesterland**	**44.92 267**	IAmb	IAmb	01 58 10.3	
	comp=Z,463nm,1.1s					
M52A			IAMs_20	IAMs_20	02 15 47.1	
	comp=Z,40µm,19.0s					
AAM	**Ann Arbor**	**44.97 270**	IAmb	IAmb	01 58 10.6	
	comp=Z,396nm,1.2s					
AAM	**Ann Arbor**	**44.97 270**	⇓P	P	**01 57 56.4**	**+1.2**
M18K	**Stony River**	**44.98 337**	P	P	**01 57 54.5**	**-0.5**
	baz=15,SNR=36					
M18K			S	S	**02 04 33.9**	**+1.0**
	baz=15					
MDND	**Maddock**	**44.99 288**	IAMs_20	IAMs_20	02 15 28.8	
	comp=Z,40µm,20.0s					
BHL	**Bhannes**	**45.02 121**	*e*P	P	**01 57 54.8**	**-1.1**
CAPN	**Captain Cook N**	**45.05 333**	IAMs_20	IAMs_20	02 17 30.1	
	comp=Z,49µm,22.0s					
CAPN	**Captain Cook N**	**45.05 333**	P	P	**01 57 56.0**	**+0.4**
	baz=17,SNR=6.8					
CAPN			S	S	**02 04 35.2**	**+1.4**
	baz=17					
O22K	**Cooper Landing**	**45.11 332**	IAMs_20	IAMs_20	02 19 11.0	
	comp=Z,37µm,18.0s					
O22K	**Cooper Landing**	**45.11 332**	P	P	**01 57 55.9**	**-0.3**
	baz=17,SNR=8.1					
O22K			S	S	**02 04 35.8**	**+0.9**
	baz=17					
ZAHL	**Zahle**	**45.13 120**	*e*P	P	**01 57 57.1**	**+0.4**
S31K	**Pelican**	**45.17 322**	IAmb	IAmb	01 57 58.3	
	comp=Z,241nm,1.0s					
S31K	**Pelican**	**45.17 322**	P	P	**01 57 56.6**	**0.0**
	baz=22,SNR=18					
S31K			S	S	**02 04 38.5**	**+2.8**
	baz=22					
S31K			S	S	**02 04 38.5**	**+2.8**
	baz=22					
DQRL	**Deir Qamar**	**45.19 121**	*e*P	P	**01 57 56.9**	**-0.3**
L16K	**Owhat River**	**45.20 339**	IAmb	IAmb	01 58 11.7	
	comp=Z,445nm,1.5s					
L16K			IAMs_20	IAMs_20	02 17 33.9	
	comp=Z,51µm,20.0s					
L16K	**Owhat River**	**45.20 339**	P	P	**01 57 57.0**	**+0.2**
	baz=14					
L16K			S	S	**02 04 37.8**	**+1.7**
	baz=14					
I42A	**Draeger Farm,**	**45.20 276**	IAmb	IAmb	01 58 11.8	
	comp=Z,346nm,1.1s					
P23K	**Montague Islan**	**45.22 331**	P	P	**01 57 56.9**	**-0.1**
	baz=18,SNR=10					
P23K			S	S	**02 04 36.7**	**+0.2**
	baz=18					
P23K			S	S	**02 04 36.7**	**+0.2**
	baz=18					
SPMN	**Marine on St.**	**45.23 280**	IAmb	IAmb	01 58 07.9	
	comp=Z,307nm,1.1s					
M17K	**Holitna River**	**45.26 338**	IAmb	IAmb	01 58 12.2	
	comp=Z,262nm,1.1s					
M17K			IAMs_20	IAMs_20	02 16 59.7	
	comp=Z,49µm,20.0s					
M17K	**Holitna River**	**45.26 338**	P	P	**01 57 57.5**	**+0.2**
	baz=14,SNR=32					
M17K			S	S	**02 04 38.3**	**+1.2**
	baz=14					
S32K	**Killisnoo**	**45.30 320**	IAmb	IAmb	01 58 35.2	
	comp=Z,431nm,1.9s					
S32K	**Killisnoo**	**45.30 320**	P	P	**01 57 58.1**	**+0.5**
	baz=22,SNR=6.4					
S32K			S	S	**02 04 41.7**	**+4.1**
	baz=22					
S32K			S	S	**02 04 41.7**	**+4.1**
	baz=22					
SEY	**Seymchan**	**45.33 10**	LR	LR	02 15 37.4	
	comp=Z,41µm,20.8s,baz=348,slow=34					
SEY	**Seymchan**	**45.33 10**	*ce*P	P	**01 57 57.9**	**+0.1**
SEY			pmax	pmax		
	comp=Z,55nm,1.3s					
SEY			MLR	MLR		
	comp=Z,24µm,17.0s					
SVW2	**Sparrevohn**	**45.33 336**	P	P	**01 57 58.1**	**+0.2**
QRWL	**Qaraoun**	**45.37 121**	*e*P	P	**01 57 58.2**	**-0.4**
BOD	**Bodaibo**	**45.40 38**	*e*P	P	**01 57 56.8**	**-1.7**
BOD			pmax	pmax		
	comp=Z,538nm,1.7s					
N53A	**Lisbon**	**45.42 266**	IAmb	IAmb	01 58 14.2	
	comp=Z,379nm,1.3s					
N53A			IAMs_20	IAMs_20	02 15 54.4	
	comp=Z,37µm,18.0s					
SDMD	**Soldier's Deli**	**45.42 262**	IAmb	IAmb	01 58 14.2	
	comp=Z,281nm,1.2s					
SEW	**Seward**	**45.43 332**	P	P	**01 57 58.5**	**-0.2**
	baz=17,SNR=13					
SEW			S	S	**02 04 39.7**	**+0.3**
	baz=17					
L15K	**Ungalak Mounta**	**45.45 341**	P	P	**01 57 59.4**	**+0.6**
	baz=13,SNR=26					
L15K			S	S	**02 04 44.0**	**+4.2**
	baz=13					
RCY	**Rachaya**	**45.45 121**	*e*P	P	**01 57 59.5**	**+0.2**
N19K	**Bonanza Creek**	**45.46 336**	IAmb	IAmb	01 57 59.7	
	comp=Z,254nm,1.2s					
N19K			IAMs_20	IAMs_20	02 18 17.0	
	comp=Z,57µm,22.0s					
N19K	**Bonanza Creek**	**45.46 336**	P	P	**01 57 58.0**	**-1.1**
	baz=15,SNR=25					
N19K			S	S	**02 04 39.2**	**-0.9**
	baz=15					
N19K			S	S	**02 04 39.2**	**-0.9**
	baz=15					
K13K	**Kusilvak Mount**	**45.52 343**	P	P	**01 57 59.1**	**-0.3**
	baz=12,SNR=6.7					
K13K			S	S	**02 04 46.6**	**+5.9**
	baz=12					
SHBL	**Chebaa**	**45.57 121**	*e*P	P	**01 58 00.6**	**+0.3**
T33K	**Petersburg**	**45.57 319**	P	P	**01 58 00.5**	**+0.7**
	baz=22					
T33K			S	S	**02 04 46.0**	**+4.5**
	baz=22					
M50A	**Fremont**	**45.58 269**	IAmb	IAmb	01 58 15.5	
	comp=Z,622nm,1.6s					
Q23K	**Middleton Isla**	**45.59 330**	S	S	**02 04 46.0**	**+4.1**
	baz=18					
GEM	**Giv'at Ha'Em**	**45.68 121**	⇑P	P	**01 58 01.2**	**+0.3**
P57A	**Homestead Farm**	**45.73 263**	IAMs_20	IAMs_20	02 15 57.7	
	comp=Z,48µm,19.0s					
I40A	**Norwalk**	**45.74 277**	IAmb	IAmb	01 58 16.7	
	comp=Z,589nm,1.5s					
F33A	**5 Mile Ranch,**	**45.77 284**	IAmb	IAmb	01 58 12.0	
	comp=Z,335nm,1.0s					
N18K	**Kilae Creek**	**45.77 336**	IAmb	IAmb	01 58 16.6	
	comp=Z,486nm,1.6s					
N18K			IAMs_20	IAMs_20	02 18 05.1	
	comp=Z,41µm,21.0s					
N18K	**Kilae Creek**	**45.77 336**	P	P	**01 58 00.8**	**-0.6**
	baz=15,SNR=20					
N18K			S	S	**02 04 44.4**	**0.0**
	baz=15					
N18K			S	S	**02 04 44.4**	**0.0**
	baz=15					
U35K	**Hyder**	**45.77 316**	IAMs_20	IAMs_20	02 20 42.2	
	comp=Z,53µm,19.0s					
U35K	**Hyder**	**45.77 316**	P	P	**01 58 01.7**	**+0.3**
	baz=23,SNR=5.1					
U35K			S	S	**02 04 47.6**	**+3.2**
	baz=23					
MMAI	**Mount Meron Ar**	**45.79 121**	P	P	**01 58 02.1**	**+0.2**
	comp=Z,80nm,0.8s,baz=358,slow=8.3,SNR=55					
MMAI			PP	PP	**01 59 48.5**	**-0.4**
	comp=Z,95nm,1.1s,baz=350,slow=9.3,SNR=4.4					
MMAI			S	S	**02 04 48.5**	**+3.1**
	comp=Z,0.3nm,0.4s,baz=31,slow=17,SNR=0.9					
MMAI			LR	LR	02 19 07.0	
	comp=Z,56µm,19.6s,baz=190,slow=39					
	comp=Z,80nm,0.8s					
DGMT	**Dagmar**	**45.80 292**	⇑P	P	**01 58 02.2**	**+0.3**
M16K	**Timber Creek**	**45.81 339**	IAMs_20	IAMs_20	02 17 15.1	
	comp=Z,64µm,21.0s					
M16K	**Timber Creek**	**45.81 339**	P	P	**01 58 02.2**	**+0.6**
	baz=14,SNR=28					
M16K			S	S	**02 04 47.5**	**+2.6**
	baz=14					
WRAK	**Wrangell Islan**	**45.81 318**	P	P	**01 58 01.5**	**-0.2**
	baz=22,SNR=5.7					
WRAK			S	S	**02 04 50.0**	**+5.0**
	baz=22					
SIT	**Sitka**	**45.83 321**	P	P	**01 58 02.0**	**+0.1**
	baz=22					
SIT			S	S	**02 04 48.7**	**+3.4**
	baz=22					
O54A	**Avella**	**45.84 266**	IAmb	IAmb	01 58 17.8	
	comp=Z,707nm,1.6s					
O54A			IAMs_20	IAMs_20	02 16 10.6	
	comp=Z,46µm,20.0s					
L14K	**Kuka Creek**	**45.90 341**	IAmb	IAmb	01 58 16.4	
	comp=Z,367nm,1.1s					
L14K	**Kuka Creek**	**45.90 341**	P	P	**01 58 02.5**	**+0.1**
	baz=12,SNR=33					
L14K			S	S	**02 04 50.4**	**+4.1**
	baz=12					
O20K	**Slope Mountain**	**45.91 334**	P	P	**01 58 00.7**	**-1.9**
	baz=16					
O20K			S	S	**02 04 45.6**	**-1.0**
	baz=16					
O20K			S	S	**02 04 45.6**	**-1.0**
	baz=16					
BRSE	**Bradley Lake S**	**45.97 333**	P	P	**01 58 01.6**	**-1.4**
	baz=17,SNR=16					
BRSE			S	S	**02 04 46.8**	**-0.6**
	baz=17					
O19K	**Port Alsworth**	**46.03 335**	IAmb	IAmb	01 58 29.0	
	comp=Z,249nm,1.4s					
O19K			IAMs_20	IAMs_20	02 18 45.2	
	comp=Z,49µm,21.0s					
O19K	**Port Alsworth**	**46.03 335**	P	P	**01 58 02.1**	**-1.3**
	baz=15,SNR=5.4					
O19K			S	S	**02 04 48.0**	**-0.2**
	baz=15					
O19K			S	S	**02 04 48.0**	**-0.2**
	baz=15					
ILSW	**Iliamna Southw**	**46.08 334**	IAMs_20	IAMs_20	02 18 04.4	
	comp=Z,51µm,22.0s					
N17K	**Nushagak Hills**	**46.08 337**	IAmb	IAmb	01 58 18.9	
	comp=Z,575nm,1.6s					
N17K			IAMs_20	IAMs_20	02 17 54.3	
	comp=Z,49µm,20.0s					
N17K	**Nushagak Hills**	**46.08 337**	P	P	**01 58 04.4**	**+0.6**
	baz=14,SNR=26					
N17K			S	S	**02 04 50.4**	**+1.5**
	baz=14					
MCWV	**Mont Chateau**	**46.15 265**	IAMs_20	IAMs_20	02 16 09.8	
	comp=Z,45µm,22.0s					
MCWV	**Mont Chateau**	**46.15 265**	⇓P	P	**01 58 05.4**	**+0.8**
HOM	**Homer**	**46.18 333**	IAMs_20	IAMs_20	02 19 29.3	
	comp=Z,38µm,20.0s					
HOM	**Homer**	**46.18 333**	P	P	**01 58 02.9**	**-1.7**
	baz=16					
HOM			S	S	**02 04 52.0**	**+1.7**
	baz=16					
CNPM	**China Poot**	**46.25 333**	IAmb	IAmb	01 58 24.3	
	comp=Z,391nm,1.2s					
U33K	**Whale Pass**	**46.26 319**	IAmb	IAmb	01 58 07.5	
	comp=Z,675nm,1.7s					
U33K	**Whale Pass**	**46.26 319**	P	P	**01 58 05.8**	**+0.6**
	baz=22,SNR=12					
U33K			S	S	**02 04 56.3**	**+4.9**
	baz=22					
U33K			S	S	**02 04 56.3**	**+4.9**
	baz=22					
N16K	**Nishlik Lake**	**46.32 338**	P	P	**01 58 06.5**	**+0.8**
	baz=14,SNR=15					
N16K			S	S	**02 04 56.5**	**+4.1**
	baz=14					
M15K	**Kasigluk River**	**46.32 340**	P	P	**01 58 06.2**	**+0.5**
	baz=13,SNR=22					
M15K			S	S	**02 04 56.5**	**+4.2**
	baz=13					
O52A	**Adamsville**	**46.37 267**	IAmb	IAmb	01 58 21.5	
	comp=Z,372nm,1.2s					
O52A			IAMs_20	IAMs_20	02 16 40.4	
	comp=Z,39µm,19.0s					
N49A	**Columbus Grove**	**46.38 270**	IAmb	IAmb	01 58 20.2	
	comp=Z,298nm,0.9s					
M14K	**Bethel**	**46.41 341**	P	P	**01 58 07.0**	**+0.6**
	baz=12,SNR=19					
M14K			S	S	**02 04 57.1**	**+3.7**
	baz=12					
P19K	**Oil Pt**	**46.41 334**	IAMs_20	IAMs_20	02 18 15.2	
	comp=Z,54µm,22.0s					
P19K	**Oil Pt**	**46.41 334**	P	P	**01 58 04.7**	**-1.7**
	baz=16					
P19K			S	S	**02 04 53.7**	**0.0**
	baz=16					
L44A	**Lake County Fo**	**46.43 274**	IAMs_20	IAMs_20	02 17 27.7	
	comp=Z,32µm,18.0s					
L44A	**Lake County Fo**	**46.43 274**	P	P	**01 58 07.0**	**+0.3**
	baz=25,SNR=12					
L44A			S	S	**02 04 55.9**	**+1.7**
	baz=25					
E28A	**Huff**	**46.46 288**	IAmb	IAmb	01 58 21.9	
	comp=Z,407nm,1.2s					
O18K	**Koktuh Hills**	**46.48 336**	IAmb	IAmb	01 59 33.5	
	comp=Z,274nm,1.6s					
O18K			IAMs_20	IAMs_20	02 18 47.0	
	comp=Z,56µm,21.0s					
O18K	**Koktuh Hills**	**46.48 336**	P	P	**01 58 05.8**	**-1.2**
	baz=15,SNR=7.6					
O18K			S	S	**02 04 52.2**	**-2.5**
	baz=15					
O18K			S	S	**02 04 52.2**	**-2.5**
	baz=15					
JFWS	**Jewell Farm**	**46.51 276**	⇑P	P	**01 58 07.7**	**+0.3**
I37A	**Lemond, Waseca**	**46.51 280**	IAMs_20	IAMs_20	02 15 25.5	
	comp=Z,40µm,22.0s					
ACSO	**Alum Creek Sta**	**46.62 268**	IAmb	IAmb	01 58 23.4	
	comp=Z,310nm,1.1s					
ACSO	**Alum Creek Sta**	**46.62 268**	⇓P	P	**01 58 08.4**	**+0.1**
SALP	**Salfit**	**46.63 122**	⇑P	P	**01 58 08.8**	**+0.3**
V35K	**Ketchikan**	**46.66 317**	P	P	**01 58 08.8**	**+0.4**
	baz=22					
V35K			S	S	**02 05 03.1**	**+5.8**
	baz=22					
V35K			S	S	**02 05 03.1**	**+5.8**
	baz=22					
CBN	**Corbin Frederi**	**46.69 261**	IAmb	IAmb	01 58 24.4	
	comp=Z,380nm,1.4s					
N15K	**Kwethluk River**	**46.77 339**	IAmb	IAmb	01 58 19.2	
	comp=Z,287nm,1.2s					
N15K			IAMs_20	IAMs_20	02 17 43.6	
	comp=Z,41µm,21.0s					
N15K	**Kwethluk River**	**46.77 339**	P	P	**01 58 09.8**	**+0.6**
	baz=13,SNR=16					
N15K			S	S	**02 05 03.5**	**+4.7**
	baz=13					
P53A	**Whipple**	**46.80 266**	IAmb	IAmb	01 58 25.2	
	comp=Z,331nm,1.2s					
O17K	**Koliganek Bris**	**46.80 337**	P	P	**01 58 09.6**	**+0.2**
	baz=14,SNR=18					
O17K			S	S	**02 05 01.7**	**+2.5**
	baz=14					
CRAG	**Craig**	**46.86 318**	IAmb	IAmb	01 58 39.7	
	comp=Z,280nm,1.5s					
CRAG			IAMs_20	IAMs_20	02 19 02.7	
	comp=Z,52µm,20.0s					
CRAG	**Craig**	**46.86 318**	P	P	**01 58 10.2**	**+0.3**
	baz=22					
CRAG			S	S	**02 05 05.2**	**+5.2**
	baz=22					
CRAG	**Craig**	**46.86 318**	P	P	**01 58 11.6**	**+1.7**
CRAG	**Craig**	**46.86 318**	⇑P	P	**01 58 10.5**	**+0.6**
M13K	**Dall Lake**	**46.88 341**	P	P	**01 58 10.4**	**+0.3**
	baz=12,SNR=7.0					
M13K			S	S	**02 05 03.0**	**+2.7**
	baz=12					
N47A	**Urbana**	**46.90 271**	IAmb	IAmb	01 58 25.4	
	comp=Z,426nm,1.5s					
P18K	**Big Mountain,**	**46.93 336**	IAmb	IAmb	01 58 10.8	
	comp=Z,317nm,1.3s					
P18K			IAMs_20	IAMs_20	02 19 10.9	
	comp=Z,43µm,21.0s					
P18K	**Big Mountain,**	**46.93 336**	P	P	**01 58 09.0**	**-1.5**
	baz=15,SNR=17					
P18K			S	S	**02 05 03.4**	**+2.3**
	baz=15					
ASF	**Jabal al Asfar**	**46.99 120**	LR	LR	02 20 22.6	
	comp=Z,33µm,18.1s,baz=339,slow=39					
AMAZ	**Amatzia**	**47.06 123**	⇑P	P	**01 58 12.3**	**+0.4**
R58B	**Mineral**	**47.07 262**	IAmb	IAmb	01 58 29.3	
	comp=Z,205nm,1.4s					
R58B			IAMs_20	IAMs_20	02 16 48.4	
	comp=Z,58µm,20.0s					
Q54A	**Coxs Mills**	**47.08 265**	IAMs_20	IAMs_20	02 16 48.3	
	comp=Z,49µm,20.0s					
O16K	**Kokwok River B**	**47.10 338**	IAmb	IAmb	01 58 21.4	
	comp=Z,226nm,1.2s					
O16K			IAMs_20	IAMs_20	02 18 17.3	
	comp=Z,54µm,20.0s					
O16K	**Kokwok River B**	**47.10 338**	P	P	**01 58 12.1**	**+0.3**
	baz=14,SNR=13					
O16K			S	S	**02 05 08.9**	**+5.5**
	baz=14					
BRLS	**Borolday**	**47.14 81**	*e*P	P	**01 58 13.9**	**+1.5**
	comp=Z,180nm,1.6s					
BRLS	**Borolday**	**47.14 81**	*e*P	P	**01 58 13.9**	**+1.5**
BRLS			pmax	pmax		
	comp=Z,180nm,1.6s					
Q19K	**Cape Douglas,**	**47.17 334**	IAMs_20	IAMs_20	02 18 48.2	
	comp=Z,55µm,22.0s					
Q19K	**Cape Douglas,**	**47.17 334**	P	P	**01 58 11.8**	**-0.6**
	baz=15					
Q19K			S	S	**02 05 01.8**	**-2.7**
	baz=15					
Q19K			S	S	**02 05 01.8**	**-2.7**
	baz=15					
M11K	**Mekoryuk**	**47.19 343**	P	P	**01 58 11.9**	**-0.5**
	baz=10					
M11K			S	S	**02 05 08.1**	**+3.5**
	baz=10					
N14K	**Kuskokwak Cree**	**47.19 340**	P	P	**01 58 12.8**	**+0.3**
	baz=12,SNR=14					
N14K			S	S	**02 05 09.6**	**+4.9**
	baz=12					
P17K	**Kvichak River**	**47.28 336**	P	P	**01 58 12.8**	**-0.4**
	baz=14,SNR=8.4					
P17K			S	S	**02 05 06.8**	**+0.9**
	baz=14					
P17K			S	S	**02 05 06.8**	**+0.9**
	baz=14					
KK31	**Karatay Array**	**47.29 81**	*i* P	P	**01 58 13.0**	**-0.5**
KKAR	**Karatay Array**	**47.29 81**	⇓P	P	**01 58 13.8**	**+0.3**
KKAR	**Karatay Array**	**47.29 81**	P	P	**01 58 13.8**	**+0.3**
O48B	**Farmland**	**47.29 270**	IAmb	IAmb	01 58 27.0	
	comp=Z,274nm,0.9s					
O48B	**Farmland**	**47.29 270**	P	P	**01 58 13.6**	**0.0**
	baz=24,SNR=32					
O48B			S	S	**02 05 07.7**	**+1.1**
	baz=24					
RUBB	**Prince Rupert**	**47.30 316**	IAmb	IAmb	01 58 24.8	
	comp=Z,389nm,1.6s					
SYI	**Shuyak Island**	**47.30 333**	IAMs_20	IAMs_20	02 19 56.8	
	comp=Z,41µm,20.0s					
Q20K	**Shuyak Island**	**47.30 333**	P	P	**01 58 12.7**	**-0.6**
	baz=16,SNR=6.7					
Q20K			S	S	**02 05 04.2**	**-2.1**
	baz=16					
MSBI	**Mazada**	**47.39 122**	⇑P	P	**01 58 14.7**	**+0.4**
GHAJ	**Ghor Haditha**	**47.45 122**	IAmb	IAmb	01 58 37.1	
	comp=Z,307nm,1.2s					
MAKZ	**Makanchi**	**47.46 69**	P	P	**01 58 14.2**	**-0.6**
MAKZ	**Makanchi**	**47.46 69**	⇓P	P	**01 58 14.4**	**-0.4**
MAKZ	**Makanchi**	**47.46 69**	P	P	**01 58 14.2**	**-0.6**
MAKZ			pmax	pmax		
	comp=Z,1µm,1.7s					
MAKZ			MLR	MLR		
	comp=Z,116µm,20.0s					
KZIT	**Kziot**	**47.52 123**	⇑P	P	**01 58 15.2**	**-0.2**
Q52A	**Bidwell**	**47.55 267**	IAmb	IAmb	01 58 30.6	
	comp=Z,417nm,1.6s					
MK31	**Makanchi Array**	**47.56 68**	*i* P	P	**01 58 14.8**	**-0.8**
MKAR	**Makanchi Array**	**47.56 68**	P	P	**01 58 15.2**	**-0.4**
	comp=Z,121nm,0.8s,baz=340,slow=6.4,SNR=130					
MKAR			PP	PP	**02 00 08.0**	**+1.3**
	comp=Z,74nm,0.9s,baz=340,slow=6.6,SNR=4.0					
MKAR			S	S	**02 05 09.4**	**-1.0**
	comp=Z,3.8nm,1.0s,baz=267,slow=21,SNR=1.3					
MKAR			LR	LR	02 21 44.8	
	comp=Z,100µm,19.0s,baz=319,slow=40					
	comp=Z,121nm,0.8s					
MKAR	**Makanchi Array**	**47.56 68**	*ce*P	P	**01 58 15.1**	**-0.5**
MKAR			pmax	pmax		
	comp=Z,122nm,0.8s					
S57A	**Dark Hollow, R**	**47.60 263**	IAmb	IAmb	01 58 36.0	
	comp=Z,397nm,1.7s					
S57A			IAMs_20	IAMs_20	02 17 06.2	
	comp=Z,57µm,20.0s					
Q18K	**Katmai Hardscr**	**47.62 335**	P	P	**01 58 15.2**	**-0.8**
	baz=15					
Q18K			S	S	**02 05 09.5**	**-1.6**
	baz=15					
P16K	**Nushagak River**	**47.63 337**	P	P	**01 58 15.9**	**0.0**
	baz=14,SNR=6.3					
P16K			S	S	**02 05 14.5**	**+3.5**
	baz=14					
P16K			S	S	**02 05 14.5**	**+3.5**
	baz=14					
GRNB	**Grenville Isla**	**47.67 315**	IAmb	IAmb	01 58 18.6	
	comp=Z,319nm,1.3s					
O15K	**Ungalikthiuk R**	**47.71 339**	P	P	**01 58 16.9**	**+0.4**
	baz=13,SNR=14					
O15K			S	S	**02 05 15.8**	**+3.6**
	baz=13					
ZSN	**Zaisan**	**47.73 66**	*e*P	P	**01 58 16.8**	**-0.1**
	comp=Z,114nm,0.9s					
ZSN			*e*S	S	**02 05 12.9**	**+0.2**
ZSN	**Zaisan**	**47.73 66**	*e*P	P	**01 58 16.8**	**-0.1**
ZSN			*e*S	S	**02 05 12.9**	**+0.2**
ZSN			pmax	pmax		
	comp=Z,114nm,0.9s					
DZA	**Taraz**	**47.73 80**	*e*P	P	**01 58 17.1**	**0.0**
	comp=Z,116nm,1.4s					
DZA	**Taraz**	**47.73 80**	*e*P	P	**01 58 17.0**	**0.0**
DZA			pmax	pmax		
	comp=Z,116nm,1.4s					
ECSD	**EROS Data Cent**	**47.76 283**	IAMs_20	IAMs_20	02 18 01.6	
	comp=Z,34µm,18.0s					
ECSD	**EROS Data Cent**	**47.76 283**	IAmb	IAmb	01 58 32.3	
	comp=Z,368nm,1.4s					
ECSD	**EROS Data Cent**	**47.76 283**	⇑P	P	**01 58 16.8**	**-0.5**
O14K	**Tigyukauivet M**	**47.80 340**	IAMs_20	IAMs_20	02 19 02.7	
	comp=Z,35µm,20.0s					
O14K	**Tigyukauivet M**	**47.80 340**	P	P	**01 58 17.4**	**+0.2**
	baz=12,SNR=8.0					
O14K			S	S	**02 05 16.4**	**+3.1**
	baz=12					
SFIN	**Lafayette**	**47.80 272**	IAMs_20	IAMs_20	02 18 11.1	
	comp=Z,33µm,20.0s					
Q16K	**King Salmon**	**47.81 336**	P	P	**01 58 15.5**	**-1.8**
	baz=14					
Q16K			S	S	**02 05 13.8**	**+0.3**
	baz=14					
EGMT	**Eagleton**	**47.82 296**	IAMs_20	IAMs_20	02 17 53.4	
	comp=Z,34µm,18.0s					
EGMT	**Eagleton**	**47.82 296**	⇑P	P	**01 58 17.4**	**-0.3**
Q51A	**Peebles**	**47.84 268**	IAMs_20	IAMs_20	02 17 36.3	
	comp=Z,34µm,19.0s					
T59A	**Double "B" Far**	**47.88 261**	IAmb	IAmb	01 58 35.4	
	comp=Z,184nm,1.2s					
T59A			IAMs_20	IAMs_20	02 17 09.8	
	comp=Z,33µm,20.0s					
IUG	**Iuzhnay**	**48.00 82**	*e*P	P	**01 58 19.4**	**+0.2**
	comp=Z,217nm,1.6s					
IUG			*e*S	S	**02 05 17.7**	**+0.8**
IUG	**Iuzhnay**	**48.00 82**	*e*P	P	**01 58 19.3**	**+0.2**
IUG			*e*S	S	**02 05 17.6**	**+0.8**
IUG			pmax	pmax		
	comp=Z,217nm,1.6s					
LAO	**LASA Array**	**48.01 293**	⇑P	P	**01 58 19.5**	**+0.4**
TDK	**Taldyqorghan**	**48.02 73**	*e*P	P	**01 58 19.3**	**+0.1**
	comp=Z,205nm,1.1s					
TDK			*e*S	S	**02 05 17.7**	**+0.8**
TDK			LR	LR	02 18 50.8	
	comp=Z,58µm,15.1s					
TDK	**Taldyqorghan**	**48.02 73**	*e*P	P	**01 58 19.2**	**+0.1**
TDK			*e*S	S	**02 05 17.6**	**+0.8**
TDK			pmax	pmax		
	comp=Z,205nm,1.1s					
TDK			MLR	MLR		
	comp=Z,58µm,15.0s					
P48A	**Milroy**	**48.10 270**	IAmb	IAmb	01 58 32.5	
	comp=Z,224nm,0.9s					
Q17K	**Contact Creek**	**48.11 336**	P	P	**01 58 19.4**	**-0.5**
	baz=14					
Q17K			S	S	**02 05 16.8**	**-1.3**
	baz=14					
KDAK	**Kodiak Island**	**48.13 333**	P	P	**01 58 18.5**	**-1.3**
KDAK			IAmb	IAmb	01 58 27.9	
	comp=Z,251nm,1.1s					
KDAK	**Kodiak Island**	**48.13 333**	IAMs_20	IAMs_20	02 20 24.6	
	comp=Z,48µm,21.0s					
KDAK	**Kodiak Island**	**48.13 333**	LR	LR	02 20 43.8	
	comp=Z,34µm,19.5s,baz=234,slow=39					
KDAK	**Kodiak Island**	**48.13 333**	P	P	**01 58 18.7**	**-1.1**
	baz=15					
KDAK			S	S	**02 05 15.6**	**-2.5**

	baz=15						
KDAK	**Kodiak Island**	**48.13**	**333**	⇓P	**P**	**01 58 19.4**	**-0.3**
KDAK	**Kodiak Island**	**48.13**	**333**	P	**P**	**01 58 18.5**	**-1.3**
KDAK				pmax	pmax		
	comp=Z,251nm,1.1s						
KDAK				MLR	MLR		
	comp=Z,48µm,21.0s						
MOY	**Mondy**	**48.23**	**51**	*e*P	**P**	**01 58 21.3**	**+0.5**
MOY				*e*		02 00 15.2	
MOY				pmax	pmax		
	comp=Z,1µm,3.7s						
S54A	**Dingess, Beckl**	**48.31**	**265**	IAmb	IAmb	01 58 38.6	
	comp=Z,437nm,1.7s						
S54A				IAMs_20	IAMs_20	02 17 36.9	
	comp=Z,48µm,20.0s						
SCIA	**State Center**	**48.35**	**279**	IAMs_20	IAMs_20	02 16 33.4	
	comp=Z,43µm,20.0s						
SCIA	**State Center**	**48.35**	**279**	⇑P	**P**	**01 58 21.9**	**+0.1**
USP	**Ospenovka**	**48.38**	**77**	P	**P**	**01 58 22.4**	**+0.3**
	SNR=68						
KUU	**Kurty**	**48.39**	**75**	*e*P	**P**	**01 58 22.1**	**0.0**
	comp=Z,179nm,1.6s						
KUU				*e*S	**S**	**02 05 22.1**	**0.0**
KUU				LR	LR	02 18 56.0	
	comp=Z,43µm,14.1s						
KUU	**Kurty**	**48.39**	**75**	*e*P	**P**	**01 58 22.0**	**0.0**
KUU				*e*S	**S**	**02 05 22.9**	**+0.8**
KUU				pmax	pmax		
	comp=Z,179nm,1.6s						
KUU				MLR	MLR		
	comp=Z,43µm,14.0s						
T57A	**Hurt**	**48.39**	**263**	IAmb	IAmb	01 58 39.7	
	comp=Z,439nm,1.7s						
IRK	**Irkutsk**	**48.48**	**48**	*e*P	**P**	**01 58 21.9**	**-0.8**
IRK				*e*		02 00 13.5	
IRK				*e*S	**S**	**02 05 26.6**	**+3.3**
IRK				pmax	pmax		
	comp=Z,2µm,1.0s						
P46A	**Rosedale**	**48.53**	**272**	IAmb	IAmb	01 58 32.5	
	comp=Z,233nm,0.8s						
P46A				IAMs_20	IAMs_20	02 18 42.4	
	comp=Z,32µm,18.0s						
ARXS	**Arharly**	**48.55**	**74**	*e*P	**P**	**01 58 23.7**	**+0.3**
BLA	**Blacksburg**	**48.57**	**264**	IAMs_20	IAMs_20	02 17 24.8	
	comp=Z,47µm,22.0s						
BLA	**Blacksburg**	**48.57**	**264**	⇑P	**P**	**01 58 24.3**	**+0.8**
MA2	**Magadan**	**48.57**	**12**	P	**P**	**01 58 22.4**	**-0.8**
MA2	**Magadan**	**48.57**	**12**	LR	LR	02 18 22.5	
	comp=Z,28µm,19.3s,baz=352,slow=36						
MA2	**Magadan**	**48.57**	**12**	P	**P**	**01 58 23.9**	**+0.7**
MA2	**Magadan**	**48.57**	**12**	⇑P	**P**	**01 58 23.1**	**-0.1**
MA2	**Magadan**	**48.57**	**12**	*ce*P	**P**	**01 58 22.3**	**-0.8**
MA2				pmax	pmax		
	comp=Z,110nm,1.3s						
MA2				MLR	MLR		
	comp=Z,29µm,19.0s						
R18K	**Karluk**	**48.60**	**334**	P	**P**	**01 58 24.5**	**+1.1**
	baz=15						
R18K				S	**S**	**02 05 24.1**	**-0.6**
	baz=15						
R18K				S	**S**	**02 05 24.1**	**-0.6**
	baz=15						
CHKK	**Chushkaly**	**48.62**	**75**	*e*P	**P**	**01 58 24.0**	**+0.1**
CHKK	**Chushkaly**	**48.62**	**75**	*e*P	**P**	**01 58 23.9**	**+0.1**
N41A	**Harden Midland**	**48.70**	**276**	IAmb	IAmb	01 58 39.0	
	comp=Z,322nm,1.2s						
CHMS	**Chumysh**	**48.70**	**77**	P	**P**	**01 58 25.4**	**+0.9**
	SNR=68						
EKS2	**Erkin-Say**	**48.71**	**78**	P	**P**	**01 58 25.5**	**+0.9**
	SNR=75						
OHAK	**Old Harbor**	**48.77**	**334**	IAmb	IAmb	01 58 46.2	
	comp=Z,330nm,1.2s						
OHAK				IAMs_20	IAMs_20	02 20 32.6	
	comp=Z,37µm,18.0s						
OHAK	**Old Harbor**	**48.77**	**334**	P	**P**	**01 58 24.0**	**-0.7**
	baz=15,SNR=11						
OHAK				S	**S**	**02 05 27.5**	**+0.5**
	baz=15						
OHAK	**Old Harbor**	**48.77**	**334**	P	**P**	**01 58 24.6**	**-0.1**
PLK4	**Peulik 4**	**48.79**	**336**	IAMs_20	IAMs_20	02 20 09.2	
	comp=Z,42µm,22.0s						
R17L	**Mt. Peulik Vol**	**48.79**	**336**	P	**P**	**01 58 23.8**	**-1.2**
	baz=14						
R17L				S	**S**	**02 05 25.6**	**-1.9**
	baz=14						
BBB	**Bella Bella**	**48.79**	**313**	IAmb	IAmb	01 58 35.8	
	comp=Z,558nm,1.7s						
BBB				IAMs_20	IAMs_20	02 20 53.2	
	comp=Z,37µm,19.0s						
BBB	**Bella Bella**	**48.79**	**313**	LR	LR	02 21 03.9	
	comp=Z,37µm,18.2s,baz=26,slow=39						
BBB	**Bella Bella**	**48.79**	**313**	⇑P	**P**	**01 58 24.6**	**-0.3**
R50A	**Paris**	**48.83**	**268**	IAmb	IAmb	01 58 38.9	
	comp=Z,303nm,0.9s						
R50A				IAMs_20	IAMs_20	02 17 49.5	
	comp=Z,34µm,20.0s						
EIL	**Elat**	**48.84**	**123**	LR	LR	02 20 38.2	
	comp=Z,45µm,20.5s,baz=352,slow=38						
EIL	**Elat**	**48.84**	**123**	⇑P	**P**	**01 58 25.5**	**-0.1**
AAK	**Ala-Archa**	**48.95**	**77**	P	**P**	**01 58 27.6**	**+1.0**
	SNR=81						
AAK	**Ala-Archa**	**48.95**	**77**	P	**P**	**01 58 27.4**	**+0.8**
AAK	**Ala-Archa**	**48.95**	**77**	*i* P	**P**	**01 58 27.4**	**+0.8**
	SNR=172						
AAK	**Ala-Archa**	**48.95**	**77**	LR	LR	02 20 24.7	
	comp=Z,29µm,18.9s,baz=329,slow=38						
AAK	**Ala-Archa**	**48.95**	**77**	P	**P**	**01 58 27.1**	**+0.5**
AAK				P	**P**	**01 58 27.1**	**+0.5**
AAK				P	**P**	**01 58 27.1**	**+0.5**
AAK	**Ala-Archa**	**48.95**	**77**	⇓P	**P**	**01 58 27.4**	**+0.8**
AAK	**Ala-Archa**	**48.95**	**77**	*de*P	**P**	**01 58 27.1**	**+0.5**
AAK				pmax	pmax		
	comp=Z,587nm,2.5s						
AAK				MLR	MLR		
	comp=Z,80µm,16.0s						
R16K	**Pilot Point**	**49.01**	**337**	IAMs_20	IAMs_20	02 19 10.8	
	comp=Z,39µm,21.0s						
R16K	**Pilot Point**	**49.01**	**337**	P	**P**	**01 58 26.5**	**-0.1**
	baz=14						
R16K				S	**S**	**02 05 30.0**	**-0.4**
	baz=14						
R16K				S	**S**	**02 05 30.0**	**-0.4**
	baz=14						
TKM2	**Tokmak 2**	**49.04**	**76**	P	**P**	**01 58 28.2**	**+0.9**
	SNR=170						
TKM2	**Tokmak 2**	**49.04**	**76**	*i* P	**P**	**01 58 27.6**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,338nm,1.4s						
KBK	**Karagaybulak**	**49.08**	**77**	P	**P**	**01 58 28.5**	**+1.0**
	SNR=79						
AML	**Almayashu**	**49.16**	**78**	P	**P**	**01 58 29.8**	**+1.4**
	SNR=162						
S51A	**Beattyville**	**49.18**	**267**	IAmb	IAmb	01 58 41.6	
	comp=Z,161nm,0.9s						
S51A				IAMs_20	IAMs_20	02 18 26.9	
	comp=Z,30µm,19.0s						
AAA	**Alma-Ata**	**49.18**	**75**	*e*P	**P**	**01 58 28.5**	**+0.3**
	comp=Z,171nm,1.3s						
AAA				LR	LR	02 19 25.9	
	comp=Z,57µm,13.8s						
AAA	**Alma-Ata**	**49.18**	**75**	*e*P	**P**	**01 58 28.5**	**+0.3**
AAA				pmax	pmax		
	comp=Z,171nm,1.3s						
AAA				MLR	MLR		
	comp=Z,57µm,14.0s						
MDOK	**Medeo**	**49.27**	**75**	*e*P	**P**	**01 58 29.2**	**+0.2**
MDOK				*e*S	**S**	**02 05 35.4**	**+0.6**
MDOK				LR	LR	02 19 31.1	
	comp=Z,32µm,14.4s						
MDOK	**Medeo**	**49.27**	**75**	*e*P	**P**	**01 58 29.1**	**+0.2**
MDOK				*e*S	**S**	**02 05 35.4**	**+0.6**
MDOK				MLR	MLR		
	comp=Z,32µm,14.0s						
L34A	**Svendsen Farm,**	**49.29**	**281**	IAMs_20	IAMs_20	02 18 29.1	
	comp=Z,42µm,20.0s						
UCH	**Uchtor**	**49.33**	**78**	P	**P**	**01 58 31.4**	**+1.6**
	SNR=22						
U56A	**King**	**49.35**	**263**	IAmb	IAmb	01 58 47.6	
	comp=Z,356nm,1.5s						
U56A				IAMs_20	IAMs_20	02 18 00.5	
	comp=Z,57µm,22.0s						
TNSS	**Tian-Shan**	**49.35**	**75**	*e*P	**P**	**01 58 29.7**	**-0.2**
TNSS	**Tian-Shan**	**49.35**	**75**	*e*P	**P**	**01 58 29.7**	**-0.2**
V58A	**Windy Hill, Pi**	**49.45**	**262**	IAmb	IAmb	01 58 43.7	
	comp=Z,316nm,0.9s						
V58A				IAMs_20	IAMs_20	02 18 09.4	
	comp=Z,48µm,21.0s						
KPKS	**Kokpek**	**49.49**	**73**	*e*P	**P**	**01 58 31.0**	**+0.4**
	comp=Z,367nm,1.5s						
KPKS				*e*S	**S**	**02 05 39.0**	**+1.1**
KPKS	**Kokpek**	**49.49**	**73**	*e*P	**P**	**01 58 31.0**	**+0.4**
KPKS				*e*S	**S**	**02 05 38.9**	**+1.1**
KPKS				pmax	pmax		
	comp=Z,367nm,1.5s						
WCI	**Wyandotte Cave**	**49.50**	**270**	P	**P**	**01 58 30.4**	**-0.2**
WCI	**Wyandotte Cave**	**49.50**	**270**	⇑P	**P**	**01 58 30.9**	**+0.3**
WCI	**Wyandotte Cave**	**49.50**	**270**	P	**P**	**01 58 30.4**	**-0.2**
WCI				pmax	pmax		
	comp=Z,1µm,2.0s						
SII	**Sitkinak Islan**	**49.54**	**334**	IAmb	IAmb	01 58 40.5	
	comp=Z,439nm,1.4s						
SII				IAMs_20	IAMs_20	02 20 33.9	
	comp=Z,36µm,20.0s						
SII	**Sitkinak Islan**	**49.54**	**334**	P	**P**	**01 58 29.6**	**-1.0**
	baz=14						
SII				S	**S**	**02 05 38.3**	**+0.3**
	baz=14						
SII	**Sitkinak Islan**	**49.54**	**334**	P	**P**	**01 58 31.9**	**+1.2**
OLIL	**Olney**	**49.62**	**272**	IAmb	IAmb	01 58 44.2	
	comp=Z,297nm,1.1s						
U54A	**Nelsons Funny**	**49.64**	**265**	IAmb	IAmb	01 58 50.0	
	comp=Z,686nm,1.8s						
U54A				IAMs_20	IAMs_20	02 18 29.2	
	comp=Z,48µm,18.0s						
NEW	**Newport**	**49.65**	**302**	IAMs_20	IAMs_20	02 18 25.3	
	comp=Z,48µm,20.0s						
NEW	**Newport**	**49.65**	**302**	IAmb	IAmb	01 58 44.2	
	comp=Z,330nm,1.5s						
NEW	**Newport**	**49.65**	**302**	LR	LR	02 18 46.8	
	comp=Z,46µm,20.6s,baz=26,slow=35						
NEW	**Newport**	**49.65**	**302**	⇑P	**P**	**01 58 31.0**	**-0.6**
NEW	**Newport**	**49.65**	**302**	P	**P**	**01 58 31.1**	**-0.6**
RSSD	**Black Hills**	**49.68**	**289**	P	**P**	**01 58 31.9**	**-0.3**
RSSD				IAmb	IAmb	01 58 47.4	
	comp=Z,337nm,1.4s						
RSSD	**Black Hills**	**49.68**	**289**	IAMs_20	IAMs_20	02 18 17.0	
	comp=Z,44µm,22.0s						
RSSD	**Black Hills**	**49.68**	**289**	⇑P	**P**	**01 58 31.6**	**-0.6**
RSSD	**Black Hills**	**49.68**	**289**	P	**P**	**01 58 31.9**	**-0.3**
RSSD				pmax	pmax		
	comp=Z,337nm,1.4s						
ZHN	**Zhinishke**	**49.69**	**74**	*e*P	**P**	**01 58 32.3**	**+0.2**
	comp=Z,222nm,1.4s						
ZHN				*e*S	**S**	**02 05 41.3**	**+0.7**
ZHN	**Zhinishke**	**49.69**	**74**	*e*P	**P**	**01 58 32.3**	**+0.2**
ZHN				*e*S	**S**	**02 05 41.3**	**+0.7**
ZHN				pmax	pmax		
	comp=Z,222nm,1.4s						
TAM	**Tamanrasset**	**49.74**	**159**	IAmb	IAmb	01 58 47.2	
	comp=Z,280nm,1.2s						
TAM	**Tamanrasset**	**49.74**	**159**	⇑P	**P**	**01 58 33.3**	**+0.6**
TAM	**Tamanrasset**	**49.74**	**159**	P	**P**	**01 58 32.9**	**+0.2**
TAM				pmax	pmax		
	comp=Z,217nm,1.3s						
Q44A	**Meyer Farm, Va**	**49.75**	**273**	IAmb	IAmb	01 58 45.8	
	comp=Z,347nm,1.0s						
SATY	**Saty**	**49.78**	**74**	*e*P	**P**	**01 58 33.1**	**+0.2**
	comp=Z,322nm,1.6s						
SATY	**Saty**	**49.78**	**74**	*e*P	**P**	**01 58 33.0**	**+0.2**
SATY				pmax	pmax		
	comp=Z,322nm,1.6s						
W59A	**Clinton**	**49.82**	**261**	IAMs_20	IAMs_20	02 18 20.1	
	comp=Z,31µm,20.0s						
ULHL	**Ulahol**	**49.85**	**76**	P	**P**	**01 58 34.5**	**+1.0**
	SNR=18						
UZB	**Uzynbulak**	**49.88**	**73**	*e*P	**P**	**01 58 33.7**	**+0.1**
	comp=Z,263nm,1.6s						
UZB				*e*S	**S**	**02 05 43.7**	**+0.3**
UZB	**Uzynbulak**	**49.88**	**73**	*e*P	**P**	**01 58 33.7**	**+0.1**
UZB				*e*S	**S**	**02 05 43.7**	**+0.3**
UZB				pmax	pmax		
	comp=Z,263nm,1.6s						
ZAK	**Zakamensk**	**49.97**	**49**	*e*P	**P**	**01 58 34.0**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,148nm,1.8s						
SHLS	**Shalkode**	**50.01**	**73**	*e*P	**P**	**01 58 35.9**	**+1.3**
	comp=Z,239nm,1.0s						
SHLS	**Shalkode**	**50.01**	**73**	*e*P	**P**	**01 58 35.8**	**+1.3**
SHLS				pmax	pmax		
	comp=Z,239nm,1.0s						
N35A	**Tabor**	**50.06**	**280**	IAmb	IAmb	01 58 52.1	
	comp=Z,410nm,1.1s						
N35A				IAMs_20	IAMs_20	02 18 11.6	
	comp=Z,32µm,20.0s						
V55A	**Taylorsville**	**50.06**	**264**	IAmb	IAmb	01 58 54.4	
	comp=Z,488nm,1.6s						
V55A				IAMs_20	IAMs_20	02 18 33.5	
	comp=Z,46µm,22.0s						
MSO	**Missoula**	**50.09**	**299**	IAmb	IAmb	01 58 45.3	
	comp=Z,501nm,1.1s						
MSO				IAMs_20	IAMs_20	02 22 47.2	
	comp=Z,42µm,20.0s						
MSO	**Missoula**	**50.09**	**299**	⇑P	**P**	**01 58 34.4**	**-0.7**
CBB	**Campbell River**	**50.13**	**310**	IAmb	IAmb	01 58 37.1	
	comp=Z,345nm,1.1s						
CBB				IAMs_20	IAMs_20	02 20 10.8	
	comp=Z,41µm,21.0s						
T50A	**Nancy**	**50.14**	**268**	IAMs_20	IAMs_20	02 18 41.4	
	comp=Z,32µm,18.0s						
P40A	**Paris**	**50.15**	**276**	IAMs_20	IAMs_20	02 19 37.0	
	comp=Z,38µm,21.0s						
B08A	**Colville Reser**	**50.15**	**304**	IAmb	IAmb	01 58 49.0	
	comp=Z,652nm,1.5s						
TZTN	**Tazewell**	**50.17**	**267**	IAmb	IAmb	01 58 51.0	
	comp=Z,317nm,1.2s						
TZTN				IAMs_20	IAMs_20	02 19 50.1	
	comp=Z,36µm,18.0s						
TZTN	**Tazewell**	**50.17**	**267**	⇑P	**P**	**01 58 36.0**	**+0.3**
USIN	**University of**	**50.18**	**271**	IAmb	IAmb	01 58 48.4	
	comp=Z,476nm,1.1s						
HOLB	**Holberg**	**50.23**	**312**	IAMs_20	IAMs_20	02 21 38.3	
	comp=Z,30µm,19.0s						
RLMT	**Red Lodge**	**50.32**	**294**	IAmb	IAmb	01 58 52.4	
	comp=Z,433nm,1.6s						
RLMT				IAMs_20	IAMs_20	02 20 02.6	
	comp=Z,39µm,18.0s						
RLMT	**Red Lodge**	**50.32**	**294**	⇑P	**P**	**01 58 36.7**	**-0.3**
W57A	**Gilead**	**50.32**	**262**	IAmb	IAmb	01 58 56.1	
	comp=Z,574nm,1.9s						
W57A				IAMs_20	IAMs_20	02 18 47.3	
	comp=Z,50µm,20.0s						
BGNE	**Belgrade**	**50.35**	**283**	IAMs_20	IAMs_20	02 20 02.0	
	comp=Z,30µm,20.0s						
CHGN	**Chignik**	**50.35**	**337**	P	**P**	**01 58 34.9**	**-1.9**
	baz=13,SNR=11						
CHGN				S	**S**	**02 05 48.7**	**-0.5**
	baz=13						
SLM	**Saint Louis**	**50.38**	**274**	IAmb	IAmb	01 58 51.6	
	comp=Z,549nm,1.4s						
CHIR	**Chirikof Islan**	**50.45**	**335**	IAMs_20	IAMs_20	02 20 53.1	
	comp=Z,39µm,22.0s						
CHIR	**Chirikof Islan**	**50.45**	**335**	P	**P**	**01 58 37.0**	**-0.5**
	baz=14						
CHIR				S	**S**	**02 05 51.6**	**+0.9**
	baz=14						
S14K	**Fog Glacier**	**50.51**	**338**	P	**P**	**01 58 36.6**	**-1.5**
	baz=12						
S14K				S	**S**	**02 05 52.0**	**+0.3**
	baz=12						
NRN	**Naryn**	**50.51**	**77**	IAMs_20	IAMs_20	02 20 52.1	
	comp=Z,47µm,20.0s						
P38A	**Dawn**	**50.53**	**278**	IAmb	IAmb	01 58 55.3	
	comp=Z,858nm,2.0s						
BOZ	**Bozeman (W)**	**50.56**	**297**	IAMs_20	IAMs_20	02 20 27.9	
	comp=Z,37µm,20.0s						
BOZ	**Bozeman (W)**	**50.56**	**297**	⇑P	**P**	**01 58 37.9**	**-0.9**
YNE	**Yellowstone No**	**50.64**	**295**	IAmb	IAmb	01 58 54.7	
	comp=Z,404nm,1.5s						
X58A	**Rowland**	**50.67**	**262**	IAMs_20	IAMs_20	02 18 56.5	
	comp=Z,33µm,19.0s						
SPIA	**Saint Paul Isl**	**50.71**	**345**	P	**P**	**01 58 38.8**	**-0.6**
	baz=8.4						
SPIA				S	**S**	**02 05 54.8**	**+0.6**
	baz=8.4						
V53A	**Saluda**	**50.74**	**265**	IAmb	IAmb	01 58 53.4	
	comp=Z,269nm,1.0s						
CIT	**Chita**	**50.76**	**41**	*e*P	**P**	**01 58 40.0**	**0.0**
CIT				*e*		02 00 03.4	
CIT				*e*		02 00 40.4	
CIT				*e*		02 01 42.4	
CIT				*e*		02 06 03.4	
CIT				pmax	pmax		
	comp=Z,2µm,3.6s						
KMSC	**Kings Mountain**	**50.76**	**264**	IAmb	IAmb	01 58 53.4	
	comp=Z,228nm,1.0s						
Y60A	**Bolivia**	**50.82**	**260**	IAmb	IAmb	01 58 53.5	
	comp=Z,399nm,1.0s						
Y60A				IAMs_20	IAMs_20	02 18 57.7	
	comp=Z,40µm,21.0s						
SIMJ	**Simiganj**	**50.85**	**85**	P	**P**	**01 58 41.2**	**+0.2**
SIMJ				IAmb	IAmb	01 58 51.1	
	comp=Z,362nm,1.2s						
T47A	**Sharon Grove**	**50.90**	**270**	IAmb	IAmb	01 58 55.5	
	comp=Z,598nm,1.6s						
SIUC	**Southern Illin**	**50.90**	**273**	IAmb	IAmb	01 58 54.4	
	comp=Z,438nm,0.9s						
U49A	**Red Boiling Sp**	**50.91**	**269**	IAMs_20	IAMs_20	02 19 14.6	
	comp=Z,40µm,20.0s						
YMP	**Mirror Lake Pl**	**50.92**	**295**	IAmb	IAmb	01 58 57.2	
	comp=Z,395nm,1.3s						
S44A	**Carbondale**	**50.93**	**273**	IAmb	IAmb	01 58 54.6	
	comp=Z,390nm,0.9s						
BIRD	**Birdtown, Kers**	**50.94**	**263**	IAmb	IAmb	01 59 00.9	
	comp=Z,546nm,1.8s						
BIRD				IAMs_20	IAMs_20	02 18 55.6	
	comp=Z,45µm,20.0s						
PGC	**Sidney**	**50.94**	**308**	IAMs_20	IAMs_20	02 20 08.2	
	comp=Z,35µm,21.0s						
CLRS	**Cowichan Lake**	**50.95**	**308**	IAmb	IAmb	01 58 51.6	
	comp=Z,336nm,1.2s						
CLRS				IAMs_20	IAMs_20	02 20 10.5	
	comp=Z,47µm,19.0s						
FVM	**French Village**	**51.04**	**274**	IAmb	IAmb	01 58 56.4	
	comp=Z,301nm,1.3s						
DLMT	**Dillon**	**51.05**	**297**	IAmb	IAmb	01 58 54.8	
	comp=Z,268nm,1.3s						
DLMT				IAMs_20	IAMs_20	02 23 12.8	
	comp=Z,40µm,20.0s						
TKL	**Tuckaleechee C**	**51.05**	**266**	IAmb	IAmb	01 58 59.5	
	comp=Z,682nm,1.8s						
TKL	**Tuckaleechee C**	**51.05**	**266**	LR	LR	02 19 31.4	
	comp=Z,31µm,18.2s,baz=26,slow=35						
YHL	**Hebgen Lake**	**51.12**	**296**	IAmb	IAmb	01 58 54.0	
	comp=Z,472nm,1.2s						
LKWY	**Lake**	**51.16**	**295**	IAmb	IAmb	01 59 23.4	
	comp=Z,312nm,1.4s						
PAULI	**Pauline**	**51.20**	**264**	IAMs_20	IAMs_20	02 19 18.6	
	comp=Z,49µm,21.0s						
YHB	**Horse Butte**	**51.21**	**296**	IAmb	IAmb	01 58 59.2	
	comp=Z,374nm,1.3s						
YHB				IAMs_20	IAMs_20	02 23 30.2	
	comp=Z,48µm,19.0s						
P08K	**Saint George I**	**51.22**	**345**	IAMs_20	IAMs_20	02 20 32.0	
	comp=Z,45µm,21.0s						
P08K	**Saint George I**	**51.22**	**345**	P	**P**	**01 58 42.6**	**-0.7**
	baz=8.6						
P08K				S	**S**	**02 06 00.1**	**-1.2**
	baz=8.6						
P08K				S	**S**	**02 06 00.1**	**-1.2**
	baz=8.6						
YMR	**Madison River**	**51.22**	**296**	IAmb	IAmb	01 59 26.3	
	comp=Z,349nm,1.5s						
YMR				IAMs_20	IAMs_20	02 23 19.4	
	comp=Z,45µm,20.0s						
CCM	**Cathedral Cave**	**51.23**	**275**	P	**P**	**01 58 42.7**	**-1.0**
CCM				IAmb	IAmb	01 58 56.0	
	comp=Z,218nm,0.9s						
CCM	**Cathedral Cave**	**51.23**	**275**	IAMs_20	IAMs_20	02 20 43.9	
	comp=Z,32µm,20.0s						
CCM	**Cathedral Cave**	**51.23**	**275**	P	**P**	**01 58 42.7**	**-1.0**
CCM				pmax	pmax		
	comp=Z,218nm,1.0s						
CCM				MLR	MLR		
	comp=Z,32µm,20.0s						
D08A	**Wollman Farm,**	**51.23**	**303**	IAMs_20	IAMs_20	02 19 34.3	
	comp=Z,36µm,19.0s						
R40A	**Maddies Statio**	**51.34**	**276**	IAmb	IAmb	01 58 58.2	
	comp=Z,342nm,1.2s						
T45A	**Paducah**	**51.36**	**272**	IAmb	IAmb	01 58 57.3	
	comp=Z,311nm,0.9s						
H17A	**Grant Village**	**51.36**	**295**	IAmb	IAmb	01 59 01.3	
	comp=Z,463nm,1.3s						
Y58A	**Scranton**	**51.37**	**262**	IAmb	IAmb	01 58 57.8	
	comp=Z,268nm,1.0s						
S12K	**Black Hills**	**51.37**	**339**	IAmb	IAmb	01 58 54.4	
	comp=Z,346nm,1.5s						
S12K	**Black Hills**	**51.37**	**339**	P	**P**	**01 58 43.4**	**-1.1**
	baz=11						
S12K				S	**S**	**02 06 06.2**	**+2.7**
	baz=11						
YFT	**Old Faithful**	**51.38**	**295**	IAmb	IAmb	01 59 01.5	
	comp=Z,334nm,1.2s						
BG3	**Lake Jocassee**	**51.40**	**265**	IAmb	IAmb	01 58 58.3	
	comp=Z,346nm,1.0s						
CGM3	**Cape Girardeau**	**51.42**	**273**	IAmb	IAmb	01 58 59.3	
	comp=Z,525nm,1.4s						
CLTN	**Cedars of Leba**	**51.47**	**269**	IAmb	IAmb	01 58 58.2	
	comp=Z,306nm,1.1s						
CLTN				IAMs_20	IAMs_20	02 19 32.4	
	comp=Z,32µm,21.0s						
CPCT	**Cooper Cave**	**51.48**	**267**	IAMs_20	IAMs_20	02 19 14.9	
	comp=Z,32µm,21.0s						
Y57A	**Sumter**	**51.49**	**262**	IAmb	IAmb	01 59 02.7	
	comp=Z,314nm,1.5s						
Y57A				IAMs_20	IAMs_20	02 18 09.4	
	comp=Z,45µm,22.0s						
B04A	**Port Angeles**	**51.50**	**307**	IAMs_20	IAMs_20	02 23 36.1	
	comp=Z,36µm,19.0s						
LTY	**Liberty**	**51.51**	**305**	IAMs_20	IAMs_20	02 20 38.6	
	comp=Z,37µm,20.0s						
JSC	**Jenkinsville**	**51.52**	**263**	IAmb	IAmb	01 59 04.2	
	comp=Z,868nm,1.8s						
E09A	**Wood Farm, Sta**	**51.53**	**302**	IAMs_20	IAMs_20	02 19 32.1	
	comp=Z,37µm,22.0s						
W52A	**Murphy**	**51.62**	**266**	IAmb	IAmb	01 59 05.9	
	comp=Z,658nm,1.7s						
W52A				IAMs_20	IAMs_20	02 19 21.6	
	comp=Z,34µm,20.0s						
ZEA	**Zeya**	**51.64**	**30**	*e*P	**P**	**01 58 47.2**	**+0.7**
ZEA				*e*S	**S**	**02 06 11.2**	**+4.0**
ZEA				pmax	pmax		
	comp=E,800nm,4.1s						
ZEA				pmax	pmax		
	comp=N,2µm,3.6s						
ZEA				pmax	pmax		
	comp=Z,4µm,4.0s						
ZEA				pmax	pmax		
	comp=E,50nm,0.9s						
ZEA				pmax	pmax		
	comp=N,80nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,180nm,1.2s						
ZEA				smax	smax		
	comp=N,7µm,14.2s						
ZEA				smax	smax		
	comp=E,14µ

	comp=Z,377nm,1.6s					
WVT			MLR	MLR		
	comp=Z,23μm,19.0s					
D05A	**Enumclaw**	**51.92 306**	IAMs_20	IAMs_20	02 20 44.3	
	comp=Z,33μm,20.0s					
CHNA	**Chernabura Isl**	**51.93 337**	P	**P**	**01 58 47.2**	**-1.4**
	baz=12					
CHNA			S	**S**	**02 06 09.7**	**-1.4**
	baz=12					
CHNA	**Chernabura Isl**	**51.93 337**	P	**P**	**01 58 48.5**	**-0.2**
E07A	**Sunnyside**	**51.94 304**	IAmb	IAmb	01 59 01.5	
	comp=Z,421nm,1.4s					
E07A			IAMs_20	IAMs_20	02 19 37.0	
	comp=Z,36μm,21.0s					
CNBA	**Chernabura Isl**	**51.95 337**	IAMs_20	IAMs_20	02 22 08.1	
	comp=Z,50μm,20.0s					
V48A	**Smith Brothers**	**51.95 269**	IAmb	IAmb	01 59 01.4	
	comp=Z,196nm,0.9s					
V48A			IAMs_20	IAMs_20	02 21 10.1	
	comp=Z,35μm,18.0s					
W50A	**Signal Mountai**	**51.97 268**	IAmb	IAmb	01 59 02.2	
	comp=Z,411nm,1.0s					
OGNE	**Ogallala**	**51.97 286**	IAMs_20	IAMs_20	02 20 39.7	
	comp=Z,33μm,22.0s					
OGNE	**Ogallala**	**51.97 286**	⇑P	**P**	**01 58 48.8**	**-0.5**
KSU1	**Kansas State U**	**51.97 280**	IAmb	IAmb	01 59 01.2	
	comp=Z,318nm,1.1s					
KSU1			IAMs_20	IAMs_20	02 18 58.1	
	comp=Z,51μm,22.0s					
KSU1	**Kansas State U**	**51.97 280**	⇑P	**P**	**01 58 48.1**	**-1.1**
MOOW	**Moose Ponds**	**52.00 295**	IAMs_20	IAMs_20	02 21 29.1	
	comp=Z,29μm,20.0s					
HAWA	**Hanford**	**52.01 303**	IAmb	IAmb	01 59 02.9	
	comp=Z,671nm,1.8s					
HAWA	**Hanford**	**52.01 303**	⇑P	**P**	**01 58 49.0**	**-0.5**
PARMO	**Parma**	**52.04 273**	IAmb	IAmb	01 59 02.6	
	comp=Z,404nm,1.0s					
PARMO			IAMs_20	IAMs_20	02 20 52.2	
	comp=Z,32μm,20.0s					
MXC	**Moxie City**	**52.04 304**	IAMs_20	IAMs_20	02 19 39.6	
	comp=Z,49μm,21.0s					
UTMT	**University of**	**52.05 272**	IAmb	IAmb	01 59 04.6	
	comp=Z,483nm,1.1s					
LOHW	**Long Hollow**	**52.09 295**	IAMs_20	IAMs_20	02 21 20.3	
	comp=Z,32μm,18.0s					
PBMO	**Poplar Bluff**	**52.15 273**	IAmb	IAmb	01 59 04.5	
	comp=Z,334nm,1.2s					
FXWY	**Fox Creek**	**52.19 295**	IAmb	IAmb	01 59 15.1	
	comp=Z,368nm,1.7s					
FXWY			IAMs_20	IAMs_20	02 20 56.9	
	comp=Z,33μm,19.0s					
NLWA	**Neilton Lookou**	**52.21 307**	IAmb	IAmb	01 59 08.8	
	comp=Z,651nm,1.8s					
NLWA			IAMs_20	IAMs_20	02 20 59.9	
	comp=Z,42μm,19.0s					
NLWA	**Neilton Lookou**	**52.21 307**	⇑P	**P**	**01 58 51.0**	**+0.1**
S39A	**Bolivar**	**52.23 276**	IAmb	IAmb	01 59 05.2	
	comp=Z,576nm,1.3s					
S39A			IAMs_20	IAMs_20	02 20 52.1	
	comp=Z,37μm,19.0s					
PVMO	**Portageville**	**52.25 272**	IAMs_20	IAMs_20	02 20 49.8	
	comp=Z,30μm,18.0s					
KSH	**Kashi**	**52.25 78**	P	**P**	**01 58 54.1**	**+2.6**
KSH			sP	pwP	01 59 01.2	+4.6
KSH			PP	PP	02 00 58.5	+8.9
KSH			S	**S**	**02 06 12.4**	**-3.8**
KSH			SS	**SS**	**02 09 58.2**	**+5.1**
KSH			pmax	pmax		
	comp=Z,120nm,1.2s					
KSH			pmax	pmax		
	comp=Z,11μm,6.1s					
KSH			LR	LR		
	comp=Z,81μm,18.9s					
KSH			LR	LR		
	comp=Z,103μm,18.2s					
KSH			LR	LR		
	comp=Z,84μm,19.6s					
PLID	**Pearl Lake**	**52.26 300**	IAMs_20	IAMs_20	02 20 59.6	
	comp=Z,37μm,20.0s					
NHSC	**New Hope**	**52.27 262**	IAMs_20	IAMs_20	02 19 55.9	
	comp=Z,39μm,19.0s					
NHSC	**New Hope**	**52.27 262**	⇑P	**P**	**01 58 51.9**	**+0.4**
SNOW	**Snow King Moun**	**52.27 295**	IAmb	IAmb	01 59 15.8	
	comp=Z,424nm,1.7s					
SNOW			IAMs_20	IAMs_20	02 21 26.2	
	comp=Z,29μm,19.0s					
LON	**Longmire**	**52.28 305**	IAMs_20	IAMs_20	02 21 05.8	
	comp=Z,34μm,19.0s					
TPAW	**Teton Pass**	**52.30 295**	IAMs_20	IAMs_20	02 21 01.0	
	comp=Z,34μm,20.0s					
CSU	**Charleston Sou**	**52.35 262**	IAMs_20	IAMs_20	02 19 57.9	
	comp=Z,43μm,20.0s					
FALS	**False Pass**	**52.35 340**	P	**P**	**01 58 50.0**	**-1.8**
	baz=11					
FALS			S	**S**	**02 06 19.8**	**+2.9**
	baz=11					
X51A	**Calhoun**	**52.40 267**	IAmb	IAmb	01 59 05.5	
	comp=Z,405nm,1.0s					
X51A			IAMs_20	IAMs_20	02 20 26.3	
	comp=Z,28μm,19.0s					
WISH	**Wishkah**	**52.44 307**	IAmb	IAmb	01 59 04.1	
	comp=Z,458nm,1.4s					
BW06	**Boulder Array**	**52.56 293**	⇑P	**P**	**01 58 51.6**	**-2.2**
PD31	**Pinedale Array**	**52.56 293**	IAmb	IAmb	01 59 08.1	
	comp=Z,338nm,1.3s					
PDAR	**Pinedale Array**	**52.56 293**	P	**P**	**01 58 53.0**	**-0.8**
	comp=Z,31nm,1.0s,baz=38,slow=5.6,SNR=143					
PDAR			S	**S**	**02 06 18.1**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=32,slow=32,SNR=14					
PDAR			LR	LR	02 21 16.1	
	comp=Z,21μm,20.9s,baz=13,slow=36					
PDAR			PKPPKP		02 29 16.1	
	comp=Z,0.7nm,0.8s,baz=207,slow=3.0,SNR=5.2					
	comp=Z,31nm,1.0s					
PEBM	**Pemiscott Bayo**	**52.58 272**	IAMs_20	IAMs_20	02 21 08.5	
	comp=Z,28μm,19.0s					
F07A	**Phinny Hill Vi**	**52.58 304**	IAmb	IAmb	01 59 07.7	
	comp=Z,532nm,1.3s					
F07A			IAMs_20	IAMs_20	02 19 45.8	
	comp=Z,51μm,22.0s					
FPAL	**Fort Paine**	**52.67 268**	IAmb	IAmb	01 59 06.8	
	comp=Z,228nm,0.9s					
GNAR	**Gosnell**	**52.76 273**	IAmb	IAmb	01 59 07.5	
	comp=Z,511nm,1.2s					
GNAR			IAMs_20	IAMs_20	02 21 14.4	
	comp=Z,29μm,18.0s					
BMO	**Blue Mountains**	**52.83 301**	IAMs_20	IAMs_20	02 23 54.7	
	comp=Z,39μm,22.0s					
BMO	**Blue Mountains**	**52.83 301**	⇑P	**P**	**01 58 54.2**	**-1.5**
G08A	**Pilot Rock**	**52.88 302**	IAmb	IAmb	01 58 57.5	
	comp=Z,420nm,1.4s					
G08A			IAMs_20	IAMs_20	02 20 35.8	
	comp=Z,34μm,21.0s					
KBD	**Kabd**	**52.92 110**	P	**P**	**01 58 56.8**	**+0.5**
AHID	**Auburn Hatcher**	**53.01 295**	IAMs_20	IAMs_20	02 22 11.7	
	comp=Z,33μm,18.0s					
GOGA	**Godfrey**	**53.03 265**	IAMs_20	IAMs_20	02 20 14.8	
	comp=Z,36μm,20.0s					
GOGA	**Godfrey**	**53.03 265**	IAmb	IAmb	01 59 09.9	
	comp=Z,246nm,1.1s					
GOGA	**Godfrey**	**53.03 265**	⇑P	**P**	**01 58 56.8**	**-0.2**
PLAL	**Pickwick Lake**	**53.05 270**	IAmb	IAmb	01 59 13.8	
	comp=Z,489nm,1.8s					
PLAL			IAMs_20	IAMs_20	02 21 54.1	
	comp=Z,35μm,18.0s					
SONM	**Songino Array**	**53.09 48**	P	**P**	**01 58 57.0**	**-0.5**
	comp=Z,10nm,0.8s,baz=336,slow=7.2,SNR=36					
SONM			S	**S**	**02 06 26.6**	**-0.9**
	comp=Z,4.2nm,1.1s,baz=339,slow=7.9,SNR=1.5					
SONM			LR	LR	02 24 05.5	
	comp=Z,39μm,21.4s,baz=340,slow=39					
SONM			PKPPKP		02 29 16.4	
	comp=Z,0.8nm,0.8s,baz=151,slow=3.3,SNR=4.4					
	comp=Z,10nm,0.8s					
F04A	**Amboy**	**53.20 306**	IAmb	IAmb	01 59 27.1	
	comp=Z,722nm,1.5s					
F04A			IAMs_20	IAMs_20	02 23 12.0	
	comp=Z,34μm,19.0s					
N23A	**Red Feather La**	**53.20 289**	P	**P**	**01 58 58.4**	**-0.2**
	baz=23,SNR=83					
N23A			S	**S**	**02 06 28.6**	**-0.8**
	baz=23					
X48A	**Hartselle**	**53.21 269**	IAmb	IAmb	01 59 09.9	
	comp=Z,199nm,1.0s					
X48A			IAMs_20	IAMs_20	02 20 34.4	
	comp=Z,40μm,19.0s					
F04D	**Rainier, OR**	**53.21 306**	IAmb	IAmb	01 59 26.8	
	comp=Z,428nm,1.3s					
CBKS	**Cedar Bluff**	**53.21 283**	IAMs_20	IAMs_20	02 20 52.8	
	comp=Z,45μm,19.0s					
CBKS	**Cedar Bluff**	**53.21 283**	⇑P	**P**	**01 58 57.4**	**-1.1**
ULN	**Ulaanbaatar**	**53.22 48**	P	**P**	**01 58 58.4**	**-0.2**
ULN			IAmb	IAmb	01 59 10.7	
	comp=Z,293nm,0.9s					
ULN	**Ulaanbaatar**	**53.22 48**	P	**P**	**01 58 58.2**	**-0.4**
ULN			P	**P**	**01 58 58.2**	**-0.4**
ULN			P	**P**	**01 58 58.2**	**-0.4**
ULN	**Ulaanbaatar**	**53.22 48**	⇑P	**P**	**01 58 58.4**	**-0.2**
ULN	**Ulaanbaatar**	**53.22 48**	*c*eP	**P**	**01 58 58.1**	**-0.4**
ULN			pmax	pmax		
	comp=Z,226nm,1.7s					
HLID	**Hailey**	**53.22 298**	IAMs_20	IAMs_20	02 21 20.1	
	comp=Z,40μm,20.0s					
HLID	**Hailey**	**53.22 298**	⇑P	**P**	**01 58 57.9**	**-0.8**
R32A	**Long Quarter,**	**53.25 282**	IAmb	IAmb	01 59 10.5	
	comp=Z,229nm,1.0s					
R32A			IAMs_20	IAMs_20	02 21 21.9	
	comp=Z,32μm,18.0s					
LVA	**Lava Point**	**53.31 342**	IAMs_20	IAMs_20	02 22 44.6	
	comp=Z,45μm,20.0s					
HBAR	**Harrisburg**	**53.34 273**	IAMs_20	IAMs_20	02 21 32.7	
	comp=Z,27μm,19.0s					
G06A	**Carlson Farm,**	**53.37 304**	IAMs_20	IAMs_20	02 21 46.9	
	comp=Z,42μm,19.0s					
F03A	**Seaside**	**53.49 306**	IAMs_20	IAMs_20	02 21 34.8	
	comp=Z,31μm,20.0s					
FCAR	**Ozark Folk Cen**	**53.50 274**	IAmb	IAmb	01 59 12.6	
	comp=Z,220nm,0.9s					
MET	**Memphis--Engin**	**53.51 272**	IAMs_20	IAMs_20	02 21 38.2	
	comp=Z,26μm,19.0s					
G05A	**Wamic**	**53.55 304**	IAMs_20	IAMs_20	02 20 15.4	
	comp=Z,35μm,22.0s					
Y49A	**Blount Mountai**	**53.55 268**	IAmb	IAmb	01 59 12.3	
	comp=Z,202nm,1.0s					
Y49A			IAMs_20	IAMs_20	02 20 36.6	
	comp=Z,28μm,19.0s					
HOOD	**Mount Hood Mea**	**53.56 305**	IAmb	IAmb	01 59 14.4	
	comp=Z,437nm,1.2s					
HOOD			IAMs_20	IAMs_20	02 22 27.8	
	comp=Z,37μm,20.0s					
257A	**Skidaway Islan**	**53.58 262**	IAMs_20	IAMs_20	02 20 26.7	
	comp=Z,35μm,20.0s					
154A	**Montrose**	**53.65 264**	IAmb	IAmb	01 59 15.6	
	comp=Z,405nm,1.0s					
UNV	**Unalaska Valle**	**53.67 342**	P	**P**	**01 58 59.7**	**-1.8**
	baz=9.5					
UNV			S	**S**	**02 06 37.3**	**+2.4**
	baz=9.5					
UNV	**Unalaska Valle**	**53.67 342**	P	**P**	**01 59 02.0**	**+0.5**
U38A	**Gravette**	**53.71 277**	IAmb	IAmb	01 59 13.3	
	comp=Z,264nm,1.1s					
U38A			IAMs_20	IAMs_20	02 21 47.3	
	comp=Z,32μm,20.0s					
HHAR	**Hobbs**	**53.72 276**	IAmb	IAmb	01 59 17.3	
	comp=Z,314nm,1.6s					
HHAR			IAMs_20	IAMs_20	02 21 45.5	
	comp=Z,28μm,20.0s					
MFID	**Camas Ranch**	**53.75 299**	IAMs_20	IAMs_20	02 21 12.2	
	comp=Z,47μm,21.0s					
KSCO	**Kaye Shedlock'**	**53.92 285**	IAmb	IAmb	01 59 16.5	
	comp=Z,374nm,1.1s					
KSCO			IAMs_20	IAMs_20	02 22 07.5	
	comp=Z,31μm,18.0s					
NKL	**Nikolayevsk**	**54.03 20**	*e*P	P	01 59 10.2	+6.0
NKL			*e*S	**S**	**02 06 36.4**	**-3.4**
NKL			pmax	pmax		
	comp=E,239nm,1.2s					
NKL			pmax	pmax		
	comp=N,62nm,1.1s					
NKL			pmax	pmax		
	comp=Z,600nm,1.4s					
NKL			smax	smax		
	comp=E,945nm,6.4s					
NKL			smax	smax		
	comp=N,416nm,5.5s					
NKL			MLR	MLR		
	comp=N,29μm,13.0s					
NKL			MLR	MLR		
	comp=E,70μm,15.0s					
NKL			MLR	MLR		
	comp=Z,92μm,15.0s					
KAN12	**Harper NE Stat**	**54.06 281**	IAmb	IAmb	01 59 18.4	
	comp=Z,497nm,1.6s					
KAN09	**Caldwell North**	**54.09 280**	IAmb	IAmb	01 59 16.7	
	comp=Z,256nm,1.0s					
ISCO	**Idaho Springs**	**54.11 288**	IAMs_20	IAMs_20	02 21 08.2	
	comp=Z,43μm,21.0s					
152A	**Waverly Hall**	**54.11 266**	IAmb	IAmb	01 59 17.6	
	comp=Z,182nm,1.0s					
152A			IAMs_20	IAMs_20	02 21 14.5	
	comp=Z,44μm,19.0s					
KAN01	**Argonia South**	**54.12 280**	IAmb	IAmb	01 59 16.9	
	comp=Z,196nm,1.0s					
I07A	**Izee**	**54.14 302**	IAmb	IAmb	01 59 25.0	
	comp=Z,422nm,1.7s					
I07A			IAMs_20	IAMs_20	02 22 13.3	
	comp=Z,31μm,18.0s					
KAN13	**South Haven SW**	**54.16 280**	IAmb	IAmb	01 59 17.3	
	comp=Z,263nm,1.0s					
RLO	**Rose Lookout**	**54.16 277**	IAMs_20	IAMs_20	02 22 05.3	
	comp=Z,27μm,20.0s					
HEBO	**Mount Hebo**	**54.21 306**	IAmb	IAmb	01 59 07.7	
	comp=Z,386nm,1.2s					
HEBO			IAMs_20	IAMs_20	02 22 39.8	
	comp=Z,37μm,21.0s					
HWUT	**Hardware Ranch**	**54.21 295**	IAmb	IAmb	01 59 20.8	
	comp=Z,217nm,1.2s					
HWUT			IAMs_20	IAMs_20	02 22 49.5	
	comp=Z,39μm,19.0s					
HWUT	**Hardware Ranch**	**54.21 295**	⇓P	**P**	**01 59 02.9**	**-3.1**
KAN17	**Caldwell West**	**54.22 280**	IAmb	IAmb	01 59 17.7	
	comp=Z,285nm,1.1s					
H04A	**Detroit Lake**	**54.30 305**	IAmb	IAmb	01 59 17.4	
	comp=Z,288nm,1.3s					
H04A			IAMs_20	IAMs_20	02 22 41.2	
	comp=Z,45μm,21.0s					
BLOK	**Blackwell**	**54.31 280**	IAmb	IAmb	01 59 20.3	
	comp=Z,418nm,1.3s					
KAN14	**Manchester OK**	**54.36 280**	IAmb	IAmb	01 59 18.7	
	comp=Z,267nm,1.0s					
I05D	**Terrebonne, OR**	**54.39 304**	IAmb	IAmb	01 59 36.7	
	comp=Z,774nm,2.0s					
I05D			IAMs_20	IAMs_20	02 22 28.8	
	comp=Z,30μm,19.0s					
HVU	**Hansel Valley**	**54.40 296**	IAMs_20	IAMs_20	02 25 19.4	
	comp=Z,41μm,20.0s					
LRAL	**Lakeview Retre**	**54.50 268**	IAMs_20	IAMs_20	02 21 16.5	
	comp=Z,25μm,19.0s					
LRAL	**Lakeview Retre**	**54.50 268**	⇑P	**P**	**01 59 06.4**	**-1.5**
OK048	**Pawnee Station**	**54.54 279**	IAmb	IAmb	01 59 20.2	
	comp=Z,364nm,1.0s					
RDMU	**Red Mountain**	**54.58 292**	IAMs_20	IAMs_20	02 22 21.4	
	comp=Z,35μm,20.0s					
O20A	**White River Ci**	**54.59 291**	IAMs_20	IAMs_20	02 21 29.7	
	comp=Z,39μm,21.0s					
HIA	**Hailar**	**54.61 37**	P	**P**	**01 59 09.7**	**+1.2**
HIA			IAmb	IAmb	01 59 27.9	
	comp=Z,353nm,1.4s					
HIA	**Hailar**	**54.61 37**	P	**P**	**01 59 10.3**	**+1.8**
	comp=Z,195nm,1.4s					
HIA	**Hailar**	**54.61 37**	P	**P**	**01 59 09.7**	**+1.2**
HIA			pmax	pmax		
	comp=Z,353nm,1.4s					
HIA			MLR	MLR		
	comp=Z,69μm,22.0s					
TCUT	**Toone Canyon**	**54.61 294**	IAmb	IAmb	01 59 24.0	
	comp=Z,273nm,1.1s					
TCUT			IAMs_20	IAMs_20	02 22 25.2	
	comp=Z,29μm,19.0s					
KBL	**Kabul**	**54.63 87**	P	**P**	**01 59 09.0**	**-0.1**
KBL	**Kabul**	**54.63 87**	P	**P**	**01 59 09.3**	**+0.2**
	SNR=119					
KBL			P	**P**	**01 59 09.3**	**+0.2**
	SNR=119					
KBL			P	**P**	**01 59 09.3**	**+0.2**
	SNR=119					
KBL	**Kabul**	**54.63 87**	P	**P**	**01 59 09.0**	**-0.1**
KBL			pmax	pmax		
	comp=Z,117nm,1.1s					
COR	**Corvallis**	**54.68 306**	P	**P**	**01 59 09.3**	**+0.3**
COR	**Corvallis**	**54.68 306**	IAMs_20	IAMs_20	02 25 53.3	
	comp=Z,30μm,19.0s					
COR	**Corvallis**	**54.68 306**	⇑P	**P**	**01 59 09.6**	**+0.6**
COR	**Corvallis**	**54.68 306**	P	**P**	**01 59 09.3**	**+0.3**
COR			pmax	pmax		
	comp=Z,2μm,2.0s					
COR			MLR	MLR		
	comp=Z,30μm,19.0s					
Z47A	**Carrollton**	**54.69 269**	IAmb	IAmb	01 59 20.0	
	comp=Z,168nm,0.9s					
Z47A			IAMs_20	IAMs_20	02 21 31.5	
	comp=Z,28μm,19.0s					
KBU	**Kabul Universi**	**54.69 86**	P	**P**	**01 59 09.6**	**+0.1**
QUOK	**Quay**	**54.69 279**	IAmb	IAmb	01 59 23.1	
	comp=Z,326nm,1.3s					
Q24A	**Divide**	**54.74 288**	IAmb	IAmb	01 59 24.3	
	comp=Z,205nm,1.2s					
Q24A	**Divide**	**54.74 288**	P	**P**	**01 59 09.0**	**-0.9**
	baz=23,SNR=37					
Q24A			S	**S**	**02 06 51.8**	**+1.5**
	baz=23					
SPUT	**South Promonto**	**54.74 295**	IAmb	IAmb	01 59 24.9	
	comp=Z,350nm,1.5s					
NIKH	**Nikolski High**	**54.76 344**	P	**P**	**01 59 07.3**	**-2.2**
	baz=8.5					
NIKH			S	**S**	**02 06 49.4**	**-0.2**
	baz=8.5					
CROK	**Carrier**	**54.78 280**	IAmb	IAmb	01 59 23.7	
	comp=Z,226nm,1.0s					
CROK			IAMs_20	IAMs_20	02 20 56.6	
	comp=Z,37μm,22.0s					
PINE	**Pine Mountain**	**54.80 303**	IAmb	IAmb	01 59 39.1	
	comp=Z,518nm,1.9s					
PINE			IAMs_20	IAMs_20	02 21 25.5	
	comp=Z,41μm,21.0s					
OK052	**Battle Ridge R**	**54.88 279**	IAMs_20	IAMs_20	02 20 25.3	
	comp=Z,35μm,22.0s					
DEOK	**Depew**	**54.93 278**	IAmb	IAmb	01 59 24.5	
	comp=Z,381nm,1.4s					
DEOK			IAMs_20	IAMs_20	02 20 28.4	
	comp=Z,46μm,21.0s					
OK031	**S. Brethren Rd**	**54.93 279**	IAMs_20	IAMs_20	02 20 26.5	
	comp=Z,32μm,22.0s					
BUCK	**Buck Mountain**	**54.96 305**	IAmb	IAmb	01 59 40.8	
	comp=Z,380nm,1.4s					
BUCK			IAMs_20	IAMs_20	02 23 08.7	
	comp=Z,30μm,19.0s					
BSUT	**Blindstream Ca**	**54.96 293**	IAmb	IAmb	01 59 27.0	
	comp=Z,515nm,1.5s					
NOKA	**Waynoka**	**54.96 281**	IAmb	IAmb	01 59 23.4	
	comp=Z,350nm,1.0s					
NOKA			IAMs_20	IAMs_20	02 22 17.2	
	comp=Z,42μm,20.0s					
HEH	**HeiHe**	**55.03 31**	*e*P	**P**	**01 59 11.4**	**-0.1**
HEH			pP	**sP**	**01 59 15.2**	**+0.6**
HEH			S	**S**	**02 06 50.6**	**-2.8**
HEH			pmax	pmax		
	comp=Z,21nm,0.8s					
HEH			pmax	pmax		
	comp=Z,7μm,4.3s					
HEH			LR	LR		
	comp=Z,11μm,16.2s					
HEH			LR	LR		
	comp=Z,67μm,17.4s					
HEH			LR	LR		
	comp=Z,41μm,15.9s					
456A	**Hilliard**	**55.05 262**	IAmb	IAmb	01 59 26.2	
	comp=Z,289nm,1.2s					
JLU	**Jordanelle**	**55.10 294**	IAMs_20	IAMs_20	02 23 50.2	
	comp=Z,34μm,18.0s					
CTU	**Camp Tracy**	**55.11 294**	IAmb	IAmb	01 59 31.3	
	comp=Z,255nm,1.4s					
CTU			IAMs_20	IAMs_20	02 21 18.2	
	comp=Z,38μm,20.0s					
I04A	**Tendick Farm,**	**55.18 305**	IAmb	IAmb	01 59 28.6	
	comp=Z,197nm,1.2s					
I04A			IAMs_20	IAMs_20	02 23 17.7	
	comp=Z,43μm,20.0s					
MIAR	**Mount Ida**	**55.20 275**	IAmb	IAmb	01 59 25.3	
	comp=Z,236nm,1.1s					
MIAR	**Mount Ida**	**55.20 275**	⇑P	**P**	**01 59 12.4**	**-0.5**
CCAR	**Cane Creek**	**55.20 273**	IAMs_20	IAMs_20	02 23 09.0	
	comp=Z,28μm,20.0s					
BGU	**Big Grassy Mou**	**55.26 295**	IAmb	IAmb	01 59 28.8	
	comp=Z,337nm,1.4s					
I02E	**Swisshome, OR**	**55.26 306**	IAmb	IAmb	01 59 24.3	
	comp=Z,506nm,1.5s					
352A	**Blakely**	**55.28 266**	IAMs_20	IAMs_20	02 21 35.2	
	comp=Z,40μm,19.0s					
J05D	**Fort Rock, OR**	**55.35 303**	IAmb	IAmb	01 59 44.5	
	comp=Z,428nm,1.4s					
J05D			IAMs_20	IAMs_20	02 21 52.1	
	comp=Z,37μm,20.0s					
PEA0B	**Petropavlovsk-**	**55.40 8**	*c i*P	**P**	**01 59 13.7**	**-0.5**
PETK	**Petropavlovsk-**	**55.40 8**	P	**P**	**01 59 13.0**	**-1.1**
	comp=Z,7.1nm,0.8s,baz=93,slow=21,SNR=2.7					
PETK			LR	LR	02 22 33.9	
	comp=Z,33μm,20.0s,baz=348,slow=36					
	comp=Z,7.1nm,0.8s					
WVOR	**Wild Horse Val**	**55.44 301**	IAMs_20	IAMs_20	02 22 01.6	
	comp=Z,32μm,22.0s					
WVOR	**Wild Horse Val**	**55.44 301**	⇑P	**P**	**01 59 13.4**	**-1.3**
WVOR	**Wild Horse Val**	**55.44 301**	P	**P**	**01 59 13.4**	**-1.3**
146A	**Union**	**55.52 270**	IAmb	IAmb	01 59 30.6	
	comp=Z,257nm,1.1s					
PET	**Petropavlovsk**	**55.53 7**	IAMs_20	IAMs_20	02 21 48.4	
	comp=Z,37μm,20.0s					
PET	**Petropavlovsk**	**55.53 7**	*e*P	**P**	**01 59 14.1**	**-0.9**
PET			*e*S	**S**	**02 06 55.7**	**-4.1**
PET			*e*SS	**SS**	**02 10 42.9**	**-0.8**
PET			pmax	pmax		
	comp=Z,2μm,12.3s					
PET			pmax	pmax		
	comp=Z,2μm,14.6s					
PET			pmax	pmax		
	comp=Z,126nm,1.3s					
PET			smax	smax		
	comp=E,14μm,20.5s					
PET			smax	smax		
	comp=N,5μm,15.1s					
PET			MLR	MLR		
	comp=Z,15μm,20.0s					
J04A	**Umpqua Nationa**	**55.62 304**	IAMs_20	IAMs_20	02 23 21.3	
	comp=Z,38μm,20.0s					
OKCSW	**OKLAHOMA CITY**	**55.62 279**	IAmb	IAmb	01 59 27.9	
	comp=Z,271nm,1.0s					
ELIS	**Ellis County**	**55.64 281**	IAMs_20	IAMs_20	02 21 25.1	
	comp=Z,34μm,22.0s					
P18A	**Preston Nutter**	**55.65 292**	IAmb	IAmb	01 59 31.6	
	comp=Z,573nm,1.6s					
P18A			IAMs_20	IAMs_20	02 23 28.7	
	comp=Z,34μm,19.0s					
W35A	**Tecumseh**	**55.68 278**	IAMs_20	IAMs_20	02 21 01.4	
	comp=Z,33μm,22.0s					
MPU	**Maple Canyon**	**55.70 294**	IAmb	IAmb	01 59 31.2	
	comp=Z,445nm,1.8s					
MPU			IAMs_20	IAMs_20	02 23 38.9	
	comp=Z,27μm,18.0s					
X37A	**Clayton**	**55.73 277**	IAmb	IAmb	01 59 28.8	
	comp=Z,233nm,1.1s					
X37A			IAMs_20	IAMs_20	02 23 00.6	
	comp=Z,29μm,19.0s					
FNO	**Franklin**	**55.75 279**	IAMs_20	IAMs_20	02 21 05.2	
	comp=Z,34μm,22.0s					
WLAR	**White Oak Lake**	**55.84 274**	IAmb	IAmb	01 59 30.0	
	comp=Z,163nm,1.0s					
WLAR			IAMs_20	IAMs_20	02 23 42.8	
	comp=Z,25μm,18.0s					
GRNR	**Gornyy**	**55.86 24**	*e*P	**P**	**01 59 17.2**	**-0.3**
GRNR			MLR	MLR		
	comp=E,10μm,16.0s					
GRNR			MLR	MLR		

SDCO	Great Sand Dun	55.97	287	⇑P	P	01 59 17.8	-1.0
DBO	Dodson Butte	56.03	305	IAmb	IAmb	01 59 48.4	
	comp=Z,408nm,1.6s						
ELK	Elko	56.06	297	IAMs_20	IAMs_20	02 26 21.3	
	comp=Z,29µm,21.0s						
ELK	Elko	56.06	297	⇑P	P	01 59 19.0	-0.3
ELK	Elko	56.06	297	P	P	01 59 19.2	-0.1
K04D	Chiloquin, OR	56.10	304	IAmb	IAmb	01 59 47.1	
	comp=Z,156nm,0.9s						
K04D				IAMs_20	IAMs_20	02 21 51.0	
	comp=Z,36µm,22.0s						
Z41A	Richland Creek	56.14	274	IAmb	IAmb	01 59 30.9	
	comp=Z,219nm,1.1s						
J01E	Myrtle Point	56.17	306	IAmb	IAmb	01 59 30.7	
	comp=Z,351nm,1.2s						
J01E				IAMs_20	IAMs_20	02 27 17.7	
	comp=Z,29µm,20.0s						
T25A	Trinidad	56.19	286	P	P	01 59 19.4	-0.9
	baz=22,SNR=25						
T25A				S	S	02 07 10.8	+1.2
	baz=22						
SRU	San Rafael Swe	56.21	292	IAmb	IAmb	01 59 32.6	
	comp=Z,274nm,1.2s						
TMUT	Trail Mountain	56.24	293	IAmb	IAmb	01 59 39.0	
	comp=Z,597nm,1.9s						
BRAL	Brewton	56.24	267	IAMs_20	IAMs_20	02 23 01.7	
	comp=Z,35µm,19.0s						
553A	Crawfordville	56.31	264	IAmb	IAmb	01 59 35.0	
	comp=Z,214nm,1.2s						
RTBA	Rita Blanca	56.33	284	IAmb	IAmb	01 59 33.1	
	comp=Z,237nm,1.0s						
451A	Vernon	56.34	266	IAmb	IAmb	01 59 37.1	
	comp=Z,448nm,1.4s						
451A				IAMs_20	IAMs_20	02 22 18.4	
	comp=Z,34µm,19.0s						
S22A	4UR Ranch, Cre	56.37	289	IAMs_20	IAMs_20	02 22 44.0	
	comp=Z,29µm,21.0s						
S22A	4UR Ranch, Cre	56.37	289	P	P	01 59 21.4	-0.3
	baz=22,SNR=95						
S22A				S	S	02 07 15.5	+3.5
	baz=22						
VBMS	Vicksburg	56.37	271	IAmb	IAmb	01 59 33.3	
	comp=Z,360nm,0.9s						
VBMS				IAMs_20	IAMs_20	02 24 00.1	
	comp=Z,26µm,21.0s						
VBMS	Vicksburg	56.37	271	⇑P	P	01 59 20.7	-0.6
ADK	Adak	56.43	349	P	P	01 59 20.3	-1.2
ADK				IAmb	IAmb	01 59 30.2	
	comp=Z,253nm,1.2s						
ADK	Adak	56.43	349	IAMs_20	IAMs_20	02 21 23.6	
	comp=Z,42µm,22.0s						
ADK	Adak	56.43	349	P	P	01 59 21.1	-0.4
ADK	Adak	56.43	349	P	P	01 59 20.3	-1.2
ADK				pmax	pmax		
	comp=Z,253nm,1.3s						
HUMO	Hull Mountain	56.43	305	⇑P	P	01 59 20.9	-0.9
656A	Willston	56.48	262	IAmb	IAmb	01 59 36.2	
	comp=Z,266nm,1.1s						
656A				IAMs_20	IAMs_20	02 22 15.3	
	comp=Z,42µm,21.0s						
X34A	Smith Ranch, M	56.49	279	IAMs_20	IAMs_20	02 21 37.8	
	comp=Z,38µm,21.0s						
K02D	Willamette Mer	56.53	305	IAmb	IAmb	01 59 33.4	
	comp=Z,463nm,1.3s						
Q16A	Castle Valley	56.58	293	IAmb	IAmb	01 59 40.2	
	comp=Z,337nm,1.4s						
Q16A				IAMs_20	IAMs_20	02 26 49.3	
	comp=Z,30µm,20.0s						
L04D	Klamath Falls	56.62	304	IAmb	IAmb	01 59 33.4	
	comp=Z,364nm,1.5s						
L04D				IAMs_20	IAMs_20	02 23 45.9	
	comp=Z,33µm,20.0s						
WMOK	Wichita Mounta	56.66	280	IAMs_20	IAMs_20	02 23 12.3	
	comp=Z,33µm,21.0s						
WMOK	Wichita Mounta	56.66	280	IAmb	IAmb	01 59 36.1	
	comp=Z,174nm,1.1s						
WMOK	Wichita Mounta	56.66	280	⇑P	P	01 59 22.8	-0.7
KLR	Kul'dur	56.71	28	LR	LR	02 24 44.8	
	comp=Z,34µm,18.9s,baz=344,slow=37						
KLR	Kul'dur	56.71	28	eP	P	01 59 23.7	+0.2
KLR				pmax	pmax		
	comp=Z,68nm,1.4s						
SAKB	Bahrain	56.77	108	P	P	01 59 24.2	-0.1
NIL	Nilore	56.79	83	P	P	01 59 24.1	-0.3
NIL				IAmb	IAmb	01 59 46.1	
	comp=Z,391nm,1.1s						
NIL	Nilore	56.79	83	P	P	01 59 24.0	-0.3
NIL				P	P	01 59 24.0	-0.3
NIL	Nilore	56.79	83	P	P	01 59 24.1	-0.3
NIL				pmax	pmax		
	comp=Z,391nm,1.1s						
NIL				MLR	MLR		
	comp=Z,104µm,20.0s						
346A	Big Creek Wild	56.80	270	IAMs_20	IAMs_20	02 22 48.6	
	comp=Z,24µm,19.0s						
Z38A	Mt. Pleasant	56.83	276	IAmb	IAmb	01 59 37.4	
	comp=Z,286nm,1.1s						
Z38A				IAMs_20	IAMs_20	02 24 11.9	
	comp=Z,31µm,20.0s						
LOOK	Love County	56.85	278	IAmb	IAmb	01 59 37.6	
	comp=Z,309nm,0.9s						
LOOK				IAMs_20	IAMs_20	02 25 15.2	
	comp=Z,36µm,20.0s						
BMN	Battle Mountai	56.91	299	IAMs_20	IAMs_20	02 23 02.6	
	comp=Z,39µm,21.0s						
BBTS	Babate	56.95	186	LR	LR	02 20 38.2	
	comp=Z,27µm,20.8s,baz=248,slow=33						
SACV	Santiago Islan	57.04	194	P	P	01 59 26.9	+0.7
SACV				IAmb	IAmb	01 59 46.3	
	comp=Z,234nm,1.1s						
L02F	Cave Junction	57.05	305	IAmb	IAmb	01 59 55.4	
	comp=Z,406nm,1.5s						
L02F				IAMs_20	IAMs_20	02 24 16.0	
	comp=Z,32µm,20.0s						
KBO	Bosley Butte	57.13	305	IAmb	IAmb	01 59 37.6	
	comp=Z,392nm,1.5s						
KBO				IAMs_20	IAMs_20	02 28 01.3	
	comp=Z,36µm,20.0s						
YBH	Yreka Blue Hor	57.19	304	LR	LR	02 22 57.7	
	comp=Z,51µm,21.9s,baz=9.0,slow=35						
TCRU	Three Creeks R	57.23	294	IAmb	IAmb	01 59 45.5	
	comp=Z,374nm,1.5s						
TCRU				IAMs_20	IAMs_20	02 24 48.6	
	comp=Z,35µm,19.0s						
DWPF	Disney Wildern	57.30	261	P	P	01 59 26.9	-1.0
DWPF				IAmb	IAmb	01 59 42.0	
	comp=Z,419nm,1.4s						
DWPF	Disney Wildern	57.30	261	IAMs_20	IAMs_20	02 23 17.2	
	comp=Z,34µm,20.0s						
DWPF	Disney Wildern	57.30	261	⇑P	P	01 59 27.6	-0.3
HMU	Henry Mountain	57.36	292	IAmb	IAmb	01 59 45.1	
	comp=Z,223nm,1.2s						
MVCO	Mesa Verde	57.36	290	IAMs_20	IAMs_20	02 23 11.5	
	comp=Z,39µm,22.0s						
MVCO	Mesa Verde	57.36	290	⇑P	P	01 59 28.6	0.0
SPR3	Spring Creek 3	57.42	296	IAmb	IAmb	01 59 47.7	
	comp=Z,250nm,1.3s						
SPR3				IAMs_20	IAMs_20	02 24 39.4	
	comp=Z,32µm,18.0s						
AMTX	Amarillo	57.43	283	IAMs_20	IAMs_20	02 28 52.5	
	comp=Z,30µm,18.0s						
AMTX	Amarillo	57.43	283	⇓P	P	01 59 29.1	+0.1
Z35A	Perchaven, San	57.48	278	IAmb	IAmb	01 59 41.5	
	comp=Z,290nm,1.1s						
Z35A				IAMs_20	IAMs_20	02 21 58.0	
	comp=Z,32µm,22.0s						
Q12A	Willow Creek R	57.52	296	IAmb	IAmb	01 59 47.2	
	comp=Z,313nm,1.5s						
Q12A				IAMs_20	IAMs_20	02 24 49.1	
	comp=Z,32µm,20.0s						
RAYN	Ar Rayn	57.59	114	P	P	01 59 30.3	+0.2
RAYN	Ar Rayn	57.59	114	IAMs_20	IAMs_20	02 26 33.6	
	comp=Z,38µm,20.0s						
RAYN	Ar Rayn	57.59	114	i P	P	01 59 30.5	+0.4
	SNR=205						
RAYN	Ar Rayn	57.59	114	P	P	01 59 30.4	+0.2
RAYN	Ar Rayn	57.59	114	⇑P	P	01 59 30.3	+0.2
RAYN	Ar Rayn	57.59	114	P	P	01 59 30.3	+0.2
RAYN				pmax	pmax		
	comp=Z,603nm,1.2s						
RAYN				MLR	MLR		
	comp=Z,38µm,20.0s						
MTPU	Mount Pierson	57.69	293	IAmb	IAmb	01 59 48.8	
	comp=Z,247nm,1.3s						
MTPU				IAMs_20	IAMs_20	02 25 03.6	
	comp=Z,32µm,19.0s						
KRMB	Red Mountain	57.70	305	IAmb	IAmb	01 59 42.7	
	comp=Z,358nm,1.3s						
KRMB				IAMs_20	IAMs_20	02 21 59.2	
	comp=Z,46µm,22.0s						
HATC	Hat Creek Radi	57.71	303	IAmb	IAmb	02 00 14.9	
	comp=Z,462nm,1.4s						
HATC				IAMs_20	IAMs_20	02 23 43.7	
	comp=Z,28µm,21.0s						
PSUT	Pine Spring	57.71	295	IAmb	IAmb	01 59 44.6	
	comp=Z,249nm,1.1s						
FW06	Azle	57.91	278	IAmb	IAmb	01 59 48.6	
	comp=Z,262nm,1.2s						
FW06				IAMs_20	IAMs_20	02 22 21.3	
	comp=Z,33µm,22.0s						
FW03	Perrin-Whitt E	58.01	279	IAmb	IAmb	01 59 45.3	
	comp=Z,220nm,1.0s						
SMRA	Abu-Samra	58.02	109	P	P	01 59 32.6	-0.4
	SNR=61						
KRPM	Rodgers	58.07	305	IAmb	IAmb	01 59 44.5	
	comp=Z,621nm,1.7s						
KRPM				IAMs_20	IAMs_20	02 26 45.0	
	comp=Z,30µm,19.0s						
TRNA	Turayna	58.15	108	P	P	01 59 34.1	+0.1
	SNR=72						
FW16	Waxahatchie	58.15	277	IAmb	IAmb	01 59 50.2	
	comp=Z,374nm,1.4s						
PAHR	Pah Rah Range	58.18	300	IAMs_20	IAMs_20	02 24 02.2	
	comp=Z,29µm,21.0s						
UGL	Uglegorsk	58.20	20	eP	P	01 59 40.4	+6.4
UGL				pmax	pmax		
	comp=Z,280nm,1.0s						
UGL				pmax	pmax		
	comp=Z,4µm,5.5s						
UGL				pmax	pmax		
	comp=E,1µm,4.0s						
UGL				MLR	MLR		
	comp=N,29µm,15.0s						
UGL				MLR	MLR		
	comp=Z,30µm,15.0s						
FW07	Weatherford	58.23	278	IAmb	IAmb	02 00 09.3	
	comp=Z,173nm,1.1s						
FW07				IAMs_20	IAMs_20	02 22 31.8	
	comp=Z,29µm,22.0s						
237A	Washetta, Mont	58.25	276	IAmb	IAmb	01 59 46.9	
	comp=Z,178nm,1.0s						
237A				IAMs_20	IAMs_20	02 26 07.5	
	comp=Z,29µm,21.0s						
KHMM	Horse Mountain	58.26	304	IAmb	IAmb	01 59 45.5	
	comp=Z,306nm,1.4s						
PLPT	Palo Pinto	58.29	279	IAmb	IAmb	01 59 52.1	
	comp=Z,448nm,1.6s						
DKNS	Dickens	58.32	281	IAmb	IAmb	01 59 49.8	
	comp=Z,438nm,1.7s						
545A	Edgard	58.38	270	IAMs_20	IAMs_20	02 21 39.1	
	comp=Z,41µm,21.0s						
Q09A	Carvers	58.38	298	IAmb	IAmb	01 59 48.3	
	comp=Z,187nm,0.9s						
R11B	Troy Canyon, C	58.38	296	IAmb	IAmb	01 59 48.3	
	comp=Z,186nm,1.1s						
R11B				IAMs_20	IAMs_20	02 28 12.7	
	comp=Z,31µm,18.0s						
R11B	Troy Canyon, C	58.38	296	P	P	01 59 35.4	-0.3
	baz=21,SNR=94						
R11B				S	S	02 07 41.5	+3.2
	baz=21						
APMT	Aspermont	58.39	281	IAmb	IAmb	01 59 48.1	
	comp=Z,192nm,0.9s						
JCC	Jacoby Creek,	58.39	305	IAMs_20	IAMs_20	02 23 16.4	
	comp=Z,27µm,21.0s						
SHME	Shamm	58.43	103	i P	P	01 59 35.8	-0.1
	SNR=30						
SHME	Shamm	58.43	103	P	P	01 59 35.8	-0.1
	SNR=56						
SHME				P	P	01 59 35.8	-0.1
	SNR=56						
SHME				P	P	01 59 35.8	-0.1
	SNR=56						
KVN	Kaiserville	58.44	299	IAmb	IAmb	01 59 48.6	
	comp=Z,168nm,1.0s						
KVN				IAMs_20	IAMs_20	02 23 50.1	
	comp=Z,39µm,21.0s						
FW13	Cleburne	58.44	278	IAmb	IAmb	01 59 48.1	
	comp=Z,218nm,1.0s						
JRN	Qarnain Island	58.45	106	P	P	01 59 36.2	+0.1
	SNR=48						
JRN				P	P	01 59 36.2	+0.1
	SNR=48						
441A	DeRidder	58.58	273	IAmb	IAmb	01 59 52.1	
	comp=Z,310nm,1.2s						
MSTX	Muleshoe	58.62	283	IAmb	IAmb	01 59 54.0	
	comp=Z,188nm,1.2s						
O02D	Mt. Diablo Mer	58.66	303	IAmb	IAmb	01 59 47.6	
	comp=Z,417nm,1.8s						
MPK	Martis Peak	58.74	301	IAMs_20	IAMs_20	02 23 39.1	
	comp=Z,34µm,21.0s						
UMQ	Umm Al-Quwin	58.77	103	i P	P	01 59 40.4	+2.1
	SNR=38						
UMQ	Umm Al-Quwin	58.77	103	P	P	01 59 39.6	+1.4
	SNR=30						
UMQ				P	P	01 59 39.6	+1.4
	SNR=30						
UMQ				P	P	01 59 39.6	+1.4
	SNR=30						
WHTX	Lake Whitney,	58.78	278	IAmb	IAmb	02 00 07.0	
	comp=Z,336nm,1.5s						
KMPM	Mount Pierce	58.79	305	IAmb	IAmb	01 59 49.3	
	comp=Z,382nm,1.7s						
KMPM				IAMs_20	IAMs_20	02 23 18.0	
	comp=Z,35µm,21.0s						
YERR	Yerington	58.81	300	IAmb	IAmb	01 59 56.1	
	comp=Z,221nm,1.2s						
YERR				IAMs_20	IAMs_20	02 25 18.0	
	comp=Z,31µm,19.0s						
PNTR	Pine Nut	58.82	300	IAmb	IAmb	02 00 13.0	
	comp=Z,487nm,1.8s						
PNTR				IAMs_20	IAMs_20	02 25 18.0	
	comp=Z,32µm,20.0s						
KNB	Kanab	58.82	294	IAmb	IAmb	01 59 56.6	
	comp=Z,366nm,1.4s						
ANMO	Albuquerque	58.84	287	P	P	01 59 38.5	-0.5
ANMO	Albuquerque	58.84	287	IAMs_20	IAMs_20	02 25 20.5	
	comp=Z,31µm,18.0s						
ANMO	Albuquerque	58.84	287	LR	LR	02 25 32.1	
	comp=Z,25µm,18.1s,baz=196,slow=37						
ANMO	Albuquerque	58.84	287	P	P	01 59 38.5	-0.5
ANMO				pmax	pmax		
	comp=Z,78nm,1.0s						
ANMO				MLR	MLR		
	comp=Z,31µm,18.0s						
KMRM	Mail Ridge	58.86	304	IAmb	IAmb	01 59 49.9	
	comp=Z,238nm,1.4s						
ABTX	Abilene, Hawle	58.89	280	IAmb	IAmb	01 59 51.5	
	comp=Z,282nm,1.0s						
ORV	Oroville	58.90	302	IAMs_20	IAMs_20	02 24 24.1	
	comp=Z,37µm,20.0s						
TORD	Torodi Ar. Bea	58.91	165	P	P	01 59 38.2	-1.1
	comp=Z,165nm,0.8s,baz=344,slow=9.7,SNR=165						
TORD				S	S	02 07 44.6	-0.6
	comp=Z,1.9nm,1.0s,baz=258,slow=28,SNR=1.1						
TORD				LR	LR	02 24 36.0	
	comp=Z,101µm,20.8s,baz=2.5,slow=36						
TORD				PKPPKP	P'P'df	02 29 15.8	+5.8
	comp=Z,1.7nm,1.2s,baz=176,slow=3.9,SNR=4.3						
	comp=Z,165nm,0.8s						
SLWR	Sila	58.92	108	P	P	01 59 39.0	-0.3
SLWR				P	P	01 59 39.0	-0.3
LCMT	Little Creek M	58.95	294	IAmb	IAmb	01 59 56.9	
	comp=Z,177nm,1.1s						
LCMT				IAMs_20	IAMs_20	02 25 17.9	
	comp=Z,36µm,20.0s						
XLT	XiLinHaoTe	59.00	42	eP	P	01 59 39.7	-0.1
XLT				sP	pwP	01 59 48.8	+4.0
XLT				S	S	02 07 44.7	-1.3
XLT				pmax	pmax		
	comp=Z,22nm,1.0s						
XLT				pmax	pmax		
	comp=Z,5µm,4.6s						
XLT				LR	LR		
	comp=Z,156µm,19.1s						
XLT				LR	LR		
	comp=Z,62µm,25.5s						
DHRM	DHARAMSHALA	59.05	81	eP	P	01 59 41.0	+0.6
DHRM				i x	x	02 07 53.4	
POST	Post	59.06	282	IAmb	IAmb	01 59 52.5	
	comp=Z,160nm,0.9s						
EMB	Emerald Bay	59.06	301	IAMs_20	IAMs_20	02 23 58.5	
	comp=Z,23µm,20.0s						
MASF	Masafi	59.07	103	P	P	01 59 41.1	+0.7
	SNR=244						
MASF				P	P	01 59 41.1	+0.7
	SNR=244						
MASF				P	P	01 59 41.1	+0.7
	SNR=244						
NVAR	Mina Array Bea	59.07	299	P	P	01 59 39.8	-0.8
	comp=Z,9.3nm,1.0s,baz=27,slow=4.9,SNR=58						
NVAR				S	S	02 07 46.8	-0.5
	comp=Z,0.2nm,0.5s,baz=0.3,slow=18,SNR=1.5						
NVAR				LR	LR	02 25 02.6	
	comp=Z,37µm,19.8s,baz=16,slow=36						
NVAR				PKPPKP	P'P'df	02 29 12.3	-5.2
	comp=Z,1.3nm,0.9s,baz=177,slow=4.1,SNR=4.5						
	comp=Z,9.3nm,1.0s						
MSFE	Esma-Masafi	59.08	103	i P	P	01 59 41.1	+0.6
	SNR=50						
S11A	Rachel	59.08	296	IAMs_20	IAMs_20	02 28 35.3	
	comp=Z,25µm,21.0s						
TPH	Tonopah	59.10	298	IAmb	IAmb	02 00 04.0	
	comp=Z,317nm,1.2s						
PRN	Pahroc Range	59.11	296	IAmb	IAmb	02 00 09.2	
	comp=Z,312nm,1.4s						
JASK	Jask - Hormozg	59.13	101	P	P	01 59 42.2	+1.3
	SNR=56						
MDH	Madha	59.18	103	i P	P	01 59 41.1	-0.1
	SNR=32						
MDH	Madha	59.18	103	P	P	01 59 41.3	+0.2
	SNR=84						
MDH				P	P	01 59 41.3	+0.2
	SNR=84						
MDH				P	P	01 59 41.3	+0.2
	SNR=84						
U15A	North Rim	59.22	293	IAMs_20	IAMs_20	02 28 35.0	
	comp=Z,26µm,20.0s						
NAZ	Nazwa, Dubai	59.27	104	i P	P	01 59 41.5	-0.3
	SNR=119						
NAZ	Nazwa, Dubai	59.27	104	P	P	01 59 42.0	+0.2
	SNR=237						
NAZ				P	P	01 59 42.0	+0.2
	SNR=237						
LHV	Little Huntoon	59.30	299	IAMs_20	IAMs_20	02 27 46.8	
	comp=Z,31µm,18.0s						
WAKR	Walker	59.32	300	IAmb	IAmb	02 00 06.4	
	comp=Z,532nm,1.9s						
GTA	Gaotai	59.32	57	⇓P	P	01 59 41.6	-0.5
GTA				sP	pwP	01 59 49.5	+2.3
GTA				S	S	02 07 52.5	+2.1
GTA				SS	SS	02 11 48.2	+4.0
GTA				pmax	pmax		
	comp=Z,41nm,1.7s						
GTA				pmax	pmax		
	comp=Z,2µm,8.1s						
GTA				LR	LR		
	comp=Z,52µm,16.0s						
GTA				LR	LR		
	comp=Z,30µm,15.3s						
GTA				LR	LR		
	comp=Z,60µm,16.7s						
AFDM	Forest Hills D	59.32	301	IAMs_20	IAMs_20	02 25 43.4	
	comp=Z,28µm,21.0s						
KCPM	Cahto Peak	59.33	304	IAmb	IAmb	01 59 53.1	
	comp=Z,402nm,1.7s						
GHWR	Ruwais	59.38	107	P	P	01 59 42.4	-0.1
GHWR				P	P	01 59 42.4	-0.1
GHWR				P	P	01 59 42.4	-0.1
BNX	BinXian	59.41	32	⇓P	P	01 59 41.8	-0.7
BNX				pP	sP	01 59 45.6	0.0
BNX				S	S	02 07 51.2	+0.2
BNX				sS	sS	02 07 57.9	+3.4
BNX				pmax	pmax		
	comp=Z,170nm,1.1s						
BNX				pmax	pmax		
	comp=Z,5µm,4.3s						
BNX				LR	LR		
	comp=Z,16µm,15.7s						
BNX				LR	LR		
	comp=Z,44µm,17.9s						
BNX				LR	LR		
	comp=Z,36µm,18.8s						
AJN	Ajban	59.46	104	i P	P	01 59 42.6	-0.5
	SNR=41						
AJN	Ajban	59.46	104	P	P	01 59 43.0	-0.1
	SNR=124						
AJN				P	P	01 59 43.0	-0.1
	SNR=124						
AJN				P	P	01 59 43.0	-0.1
	SNR=124						
FAQ	Al Faqa, Dubai	59.48	104	i P	P	01 59 42.6	-0.6
	SNR=35						
FAQ	Al Faqa, Dubai	59.48	104	P	P	01 59 43.1	-0.1
	SNR=116						
FAQ				P	P	01 59 43.1	-0.1
	SNR=116						
FAQ				P	P	01 59 43.1	-0.1
	SNR=116						
UOSS	Minazif	59.48	103	P	P	01 59 42.9	-0.3
UOSS	Minazif	59.48	103	i P	P	01 59 43.1	-0.1
	SNR=73						
UOSS				i P	pP	01 59 43.7	-1.7
	SNR=130						
UOSS	Minazif	59.48	103	P	P	01 59 43.2	-0.1
UOSS				P	P	01 59 43.2	-0.1
UOSS				P	P	01 59 43.2	-0.1
ASUD	Al Ashush, Dub	59.51	104	i P	P	01 59 44.0	+0.6
	SNR=38						
ASUD	Al Ashush, Dub	59.51	104	P	P	01 59 43.8	+0.4
	SNR=95						
ASUD				P	P	01 59 43.8	+0.4
	SNR=95						
ASUD				P	P	01 59 43.8	+0.4
	SNR=95						
HATD	Hatta, Dubai	59.57	103	i P	P	01 59 43.6	-0.3
	SNR=74						
HATD	Hatta, Dubai	59.57	103	P	P	01 59 44.4	+0.5
	SNR=286						
HATD				P	P	01 59 44.4	+0.5
	SNR=286						
HATD				P	P	01 59 44.4	+0.5
	SNR=286						
ASHO	Ashiyiah	59.68	103	i P	P	01 59 44.2	-0.5
	SNR=79						
ASHO	Ashiyiah	59.68	103	P	P	01 59 45.1	+0.4
	SNR=222						
ASHO				P	P	01 59 45.1	+0.4
	SNR=222						
WUAZ	Wupatki	59.79	292	IAmb	IAmb	02 00 02.2	
	comp=Z,246nm,1.2s						
WUAZ				IAMs_20	IAMs_20	02 22 40.3	
	comp=Z,37µm,22.0s						
WUAZ	Wupatki	59.79	292	⇑P	P	01 59 44.8	-0.7
Y22D	IRIS PASSCAL I	59.79	287	IAmb	IAmb	02 00 42.7	
	comp=Z,372nm,1.2s						
Y22D				IAMs_20	IAMs_20	02 23 02.7	
	comp=Z,29µm,20.0s						
Y22D	IRIS PASSCAL I	59.79	287	P	P	01 59 45.5	0.0
	baz=21						
Y22D				S	S	02 07 58.0	+1.3
	baz=21						
HOPS	Hopland Field	59.85	303	IAmb	IAmb	01 59 56.8	
	comp=Z,522nm,1.8s						
HOPS				IAMs_20	IAMs_20	02 24 59.1	
	comp=Z,39µm,21.0s						
BHK	Bhakra	59.85	81	eP	P	01 59 45.7	-0.1
TPNV	Topopah Spring	59.88	296	IAmb	IAmb	02 00 11.4	
	comp=Z,182nm,1.3s						
TPNV				IAMs_20	IAMs_20	02 29 30.3	
	comp=Z,36µm,19.0s						
TPNV	Topopah Spring	59.88	296	⇑P	P	01 59 45.2	-0.8
BRDY	Brady	59.92	279	IAmb	IAmb	01 59 58.3	
	comp=Z,149nm,1.0s						
435B	Jarrell	59.94	277	P	P	01 59 45.7	-0.7
	baz=21						
435B				S	S	02 07 58.6	+0.3
	baz=21						
DSP	Deep Springs	59.97	298	IAMs_20	IAMs_20	02 25 26.7	
	comp=Z,38µm,20.0s						
SHPR	Sheep Range	59.98	295	IAmb	IAmb	02 00 04.4	
	comp=Z,225nm,1.7s						
CMB	Columbia Colle	60.02	300	IAMs_20	IAMs_20	02 23 03.8	
	comp=Z,28µm,22.0s						
GRAC	Grapevine Rang	60.15	297	IAmb	IAmb	02 00 15.4	
	comp=Z,480nm,1.9s						
GRAC				IAMs_20	IAMs_20	02 25 10.4	
	comp=Z,36µm,22.0s						
HKT	Hockley	60.16	275	P	P	01 59 47.9	+0.1
HKT	Hockley	60.16	275	IAMs_

HKT	**Hockley**	**60.16**	**275**	P	**P**	**01 59 47.9**	**+0.1**
HKT				pmax	pmax		
	comp=Z,665nm,2.0s						
HKT				MLR	MLR		
	comp=Z,35μm,19.0s						
ALNE	**Al Ain**	**60.17**	**104**	*i* P	**P**	**01 59 47.9**	**-0.1**
	SNR=92						
ALNE	**Al Ain**	**60.17**	**104**	P	**P**	**01 59 48.4**	**+0.4**
	SNR=228						
ALNE				P	**P**	**01 59 48.4**	**+0.4**
	SNR=228						
ALNE				P	**P**	**01 59 48.4**	**+0.4**
	SNR=228						
ODSA	**Odessa**	**60.26**	**282**	IAmb	IAmb	02 00 02.6	
	comp=Z,340nm,1.2s						
X18A	**Snowflake**	**60.29**	**290**	IAMs_20	IAMs_20	02 25 43.5	
	comp=Z,22μm,19.0s						
SOHO	**SOHO**	**60.34**	**103**	*i* P	**P**	**01 59 48.5**	**-0.6**
	SNR=176						
SOHO	**SOHO**	**60.34**	**103**	P	**P**	**01 59 49.0**	**-0.1**
SOHO				P	**P**	**01 59 49.0**	**-0.1**
SOHO				P	**P**	**01 59 49.0**	**-0.1**
SMLA	**Simla**	**60.36**	**81**	*e*P	**P**	**01 59 49.3**	**+0.1**
SMLA				*e*x	x	02 03 30.5	
SMLA				*i* x	x	02 08 01.5	
YSS	**Yuzh-Sakhalins**	**60.38**	**20**	P	**P**	**01 59 48.3**	**-0.8**
YSS				IAmb	IAmb	02 00 02.9	
	comp=Z,290nm,1.1s						
YSS	**Yuzh-Sakhalins**	**60.38**	**20**	P	**P**	**01 59 50.1**	**+1.0**
YSS	**Yuzh-Sakhalins**	**60.38**	**20⇑**	*e*P	**P**	**01 59 48.0**	**-1.1**
YSS				*e*S	**S**	**02 07 58.9**	**-4.5**
YSS				*e*PS		02 08 20.6	
YSS				pmax	pmax		
	comp=Z,1μm,4.8s						
YSS				pmax	pmax		
	comp=N,600nm,3.9s						
YSS				pmax	pmax		
	comp=E,200nm,3.6s						
YSS				pmax	pmax		
	comp=Z,110nm,1.2s						
YSS				smax	smax		
	comp=N,4μm,10.8s						
MZR	**Muzera**	**60.46**	**107**	*i* P	**P**	**01 59 49.5**	**-0.5**
	SNR=97						
MZR	**Muzera**	**60.46**	**107**	P	**P**	**01 59 50.0**	**0.0**
	SNR=231						
MZR				P	**P**	**01 59 50.0**	**0.0**
	SNR=231						
MCCM	**Marconi Confer**	**60.59**	**303**	IAmb	IAmb	02 00 02.6	
	comp=Z,290nm,1.2s						
MCCM				IAMs_20	IAMs_20	02 25 12.9	
	comp=Z,32μm,21.0s						
MCCM	**Marconi Confer**	**60.59**	**303**	⇑P	**P**	**01 59 51.0**	**+0.3**
V12A	**Nelson**	**60.61**	**295**	IAmb	IAmb	02 00 08.4	
	comp=Z,181nm,1.4s						
V12A				IAMs_20	IAMs_20	02 26 46.9	
	comp=Z,30μm,20.0s						
NGCH	**Negor - Chabah**	**60.64**	**98**	P	**P**	**01 59 52.2**	**+1.0**
	SNR=33						
BTO	**Baotou**	**60.77**	**48**	*e*P	**P**	**01 59 50.1**	**-2.0**
BTO				PP	**PP**	**02 02 06.0**	**+0.6**
BTO				S	**S**	**02 08 06.6**	**-2.3**
BTO				pmax	pmax		
	comp=Z,29nm,0.6s						
BTO				pmax	pmax		
	comp=Z,5μm,8.1s						
BTO				LR	LR		
	comp=Z,47μm,15.9s						
BTO				LR	LR		
	comp=Z,84μm,14.4s						
BTO				LR	LR		
	comp=Z,44μm,20.0s						
X16A	**Lo Mia Camp, P**	**60.83**	**291**	IAMs_20	IAMs_20	02 23 26.0	
	comp=Z,26μm,21.0s						
MDJ	**Mudanjiang**	**60.87**	**31**	IAmb	IAmb	02 00 04.8	
	comp=Z,195nm,1.1s						
MDJ				IAMs_20	IAMs_20	02 26 10.7	
	comp=Z,34μm,20.0s						
MDJ	**Mudanjiang**	**60.87**	**31**	P	**P**	**01 59 53.5**	**+1.0**
MDJ				pP	pwP	01 59 56.7	-0.8
MDJ				sP	sP	01 59 58.0	+2.4
MDJ				PP	**PP**	**02 02 06.1**	**+0.1**
MDJ				PcS	**PcS**	**02 04 39.2**	**+0.6**
MDJ				S	**S**	**02 08 08.7**	**-1.1**
MDJ				ScS	**ScS**	**02 09 44.9**	**+1.8**
MDJ				SS	**SS**	**02 12 05.0**	**-2.8**
MDJ				pmax	pmax		
	comp=Z,85nm,2.2s						
MDJ				LR	LR		
	comp=Z,21μm,20.3s						
MDJ				LR	LR		
	comp=Z,37μm,15.9s						
MDJ				LR	LR		
	comp=Z,34μm,20.2s						
MDJ	**Mudanjiang**	**60.87**	**31**	P	**P**	**01 59 55.3**	**+2.8**
	comp=Z,238nm,1.8s						
HHC	**Hu-ho-hao-te**	**60.90**	**47**	*e*P	**P**	**01 59 53.0**	**+0.1**
HHC				sP	pwP	02 00 02.5	+4.5
HHC				S	**S**	**02 08 05.1**	**-5.5**
HHC				ScS	**ScS**	**02 09 46.6**	**+2.8**
HHC				pmax	pmax		
	comp=Z,90nm,1.4s						
HHC				LR	LR		
	comp=Z,50μm,17.1s						
HHC				LR	LR		
	comp=Z,29μm,16.0s						
HHC				LR	LR		
	comp=Z,59μm,17.6s						
W13A	**Hualapai Mount**	**60.92**	**294**	IAMs_20	IAMs_20	02 27 06.1	
	comp=Z,35μm,21.0s						
JCT	**Junction City**	**60.92**	**279**	IAmb	IAmb	02 00 10.4	
	comp=Z,333nm,1.4s						
JCT				IAMs_20	IAMs_20	02 24 17.1	
	comp=Z,33μm,21.0s						
JCT	**Junction City**	**60.92**	**279**	⇑P	**P**	**01 59 52.2**	**-0.9**
OZNA	**Ozona**	**60.93**	**281**	IAmb	IAmb	02 00 05.7	
	comp=Z,221nm,0.9s						
CN2	**Changchun**	**60.94**	**35**	*e*P	**P**	**01 59 51.0**	**-2.0**
CN2				PP	**PP**	**02 02 05.8**	**-0.9**
CN2				pmax	pmax		
	comp=Z,6μm,6.5s						
CN2				LR	LR		
	comp=Z,42μm,18.0s						
CN2				LR	LR		
	comp=Z,32μm,18.0s						
CN2				LR	LR		
	comp=Z,41μm,18.6s						
GOMU	**GeErMu**	**60.95**	**63**	P	**P**	**01 59 54.2**	**+0.6**
GOMU				S	**S**	**02 08 09.3**	**-2.5**
GOMU				ScS	SKKSac	02 09 44.6	-0.1
GOMU				SS	**SS**	**02 12 07.2**	**-3.1**
GOMU				pmax	pmax		
	comp=Z,630nm,1.0s						
GOMU				pmax	pmax		
	comp=Z,12μm,6.4s						
GOMU				LR	LR		
	comp=Z,97μm,20.4s						
GOMU				LR	LR		
	comp=Z,107μm,17.5s						
GOMU				LR	LR		
	comp=Z,160μm,20.7s						
ARQ	**Araqi**	**61.09**	**103**	P	**P**	**01 59 54.5**	**+0.2**
	SNR=200						
ARQ				P	**P**	**01 59 54.5**	**+0.2**
	SNR=200						
HOQ	**Hoqain**	**61.10**	**102**	P	**P**	**01 59 54.4**	**+0.1**
	SNR=226						
HOQ				P	**P**	**01 59 54.4**	**+0.1**
	SNR=226						
HOQ				P	**P**	**01 59 54.4**	**+0.1**
	SNR=226						
ANWB	**Willy Bob**	**61.35**	**237**	*e*	**P**	**01 59 53.4**	**-2.6**
PECS	**Pecos**	**61.37**	**283**	IAmb	IAmb	02 00 25.7	
	comp=Z,366nm,1.6s						
DDI	**Dehra Dun**	**61.38**	**80**	*e*P	**P**	**01 59 56.9**	**+0.6**
DDI				*i* x	x	02 08 13.6	
BIDO	**Bidbid**	**61.41**	**102**	P	**P**	**01 59 56.8**	**+0.4**
	SNR=424						
BIDO				P	**P**	**01 59 56.8**	**+0.4**
	SNR=424						
121A	**Cookes Peak, D**	**61.49**	**287**	IAmb	IAmb	02 00 14.2	
	comp=Z,322nm,1.4s						
121A				IAMs_20	IAMs_20	02 27 27.6	
	comp=Z,30μm,20.0s						
121A	**Cookes Peak, D**	**61.49**	**287**	P	**P**	**01 59 57.0**	**-0.2**
	baz=21,SNR=59						
121A				S	**S**	**02 08 20.1**	**+1.7**
	baz=21						
SAO	**San Andreas Ge**	**61.50**	**301**	IAmb	IAmb	02 00 07.9	
	comp=Z,305nm,1.8s						
SAO				IAMs_20	IAMs_20	02 25 49.0	
	comp=Z,34μm,20.0s						
TEY	**Ternei**	**61.51**	**25⇑**	*e*P	P	02 00 02.2	+5.4
TEY						02 08 17.3	
TEY				pmax	pmax		
	comp=E,10.0nm,1.0s						
TEY				pmax	pmax		
	comp=Z,50nm,0.9s						
MNTX	**Cornudas Mount**	**61.53**	**285**	⇑P	**P**	**01 59 56.2**	**-1.0**
BBGB	**Big Mountain B**	**61.56**	**300**	IAMs_20	IAMs_20	02 28 16.7	
	comp=Z,31μm,20.0s						
GSC	**Goldstone, Bar**	**61.57**	**296**	IAmb	IAmb	02 00 22.9	
	comp=Z,335nm,2.0s						
GSC				IAMs_20	IAMs_20	02 27 02.2	
	comp=Z,38μm,20.0s						
HNDO	**Hondo**	**61.64**	**278**	IAmb	IAmb	02 00 10.6	
	comp=Z,132nm,1.0s						
USA0B	**Ussuriysk Arra**	**61.65**	**29**	IAmb	IAmb	02 00 10.8	
	comp=Z,192nm,1.2s						
USRK	**Ussuriysk Ar.**	**61.65**	**29**	P	**P**	**01 59 57.0**	**-0.8**
	comp=Z,25nm,0.9s,baz=331,slow=8.2,SNR=16						
USRK				S	**S**	**02 08 19.0**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=340,slow=28,SNR=2.1						
USRK				LR	LR	02 26 00.2	
	comp=Z,24μm,18.1s,baz=346,slow=35						
	comp=Z,25nm,0.9s						
USRK	**Ussuriysk Ar.**	**61.65**	**29**	P	**P**	**01 59 57.0**	**-0.8**
ISA	**Isabella, Lake**	**61.71**	**298**	IAmb	IAmb	02 00 15.8	
	comp=Z,264nm,1.4s						
Y14A	**Wickenburg**	**61.74**	**292**	IAMs_20	IAMs_20	02 23 43.0	
	comp=Z,37μm,22.0s						
735A	**Kenedy**	**61.80**	**277**	IAmb	IAmb	02 00 12.3	
	comp=Z,133nm,1.0s						
735A				IAMs_20	IAMs_20	02 26 22.5	
	comp=Z,26μm,21.0s						
EPT	**El Paso**	**61.81**	**286**	IAmb	IAmb	02 00 25.9	
	comp=Z,243nm,1.3s						
EPT				IAMs_20	IAMs_20	02 26 36.0	
	comp=Z,27μm,19.0s						
SMDO	**Samad**	**61.82**	**102**	P	**P**	**01 59 59.5**	**+0.2**
	SNR=250						
SMDO				P	**P**	**01 59 59.5**	**+0.2**
	SNR=250						
SMDO				P	**P**	**01 59 59.5**	**+0.2**
	SNR=250						
WSAR	**Wadi Sarin**	**61.83**	**101**	LR	LR	02 27 38.5	
	comp=Z,37μm,20.1s,baz=356,slow=37						
PMPB	**Monarch Peak**	**61.84**	**300**	IAMs_20	IAMs_20	02 25 18.0	
	comp=Z,26μm,21.0s						
BSY	**Bisya**	**61.85**	**103**	P	**P**	**01 59 59.5**	**+0.1**
	SNR=645						
BSY				P	**P**	**01 59 59.5**	**+0.1**
	SNR=645						
BSY				P	**P**	**01 59 59.5**	**+0.1**
	SNR=645						
GCPR	**Guaynabo City**	**61.92**	**242**	IAmb	IAmb	02 00 13.8	
	comp=Z,267nm,1.2s						
ANBD	**Bethesda, Anti**	**61.94**	**237**	*e*	**P**	**01 59 57.5**	**-2.5**
CAMR	**Camarioca**	**62.00**	**259**	IAMs_20	IAMs_20	02 25 02.6	
	comp=Z,22μm,20.0s						
HUMP	**Col San Antoni**	**62.01**	**241**	IAmb	IAmb	02 00 12.5	
	comp=Z,154nm,1.1s						
CCAC	**Calif City Air**	**62.06**	**297**	IAMs_20	IAMs_20	02 26 57.0	
	comp=Z,38μm,21.0s						
AOPR	**Arecibo Observ**	**62.07**	**242**	*e*	P	02 00 06.6	+5.6
SJG	**San Juan**	**62.12**	**242**	LR	LR	02 24 13.1	
	comp=Z,6μm,20.4s,baz=16,slow=33						
SJG	**San Juan**	**62.12**	**242**	P	**P**	**02 00 04.9**	**+3.7**
SJG	**San Juan**	**62.12**	**242**	*e*	**P**	**01 59 57.4**	**-3.9**
UUPR	**Utuado, UPR, P**	**62.15**	**242**	IAmb	IAmb	02 00 14.0	
	comp=Z,152nm,1.0s						
VHRN	**Van Horn**	**62.26**	**284**	IAmb	IAmb	02 00 16.4	
	comp=Z,218nm,1.3s						
CELP	**Cerrillos**	**62.28**	**242**	IAmb	IAmb	02 00 21.8	
	comp=Z,201nm,1.2s						
JASL	**Jaisalmer**	**62.28**	**88**	*e*P	**P**	**02 00 02.4**	**+0.1**
JASL				IAmb	IAmb	02 00 15.3	
	comp=Z,333nm,0.7s						
OBIP	**Obispado Ponce**	**62.31**	**242**	IAmb	IAmb	02 00 30.7	
	comp=Z,366nm,1.6s						
MBFL	**Flemmings, Mon**	**62.34**	**237**	*e*	P	02 00 09.0	+6.3
MBWH		**62.34**	**237**	*e*	**P**	**01 59 58.4**	**-4.4**
BLYC	**Blythe**	**62.36**	**294**	IAMs_20	IAMs_20	02 27 34.3	
	comp=Z,29μm,19.0s						
NMDO	**Nuevo Mundo**	**62.38**	**251**	IAmb	IAmb	02 00 16.8	
	comp=Z,247nm,1.2s						
NMDO				IAMs_20	IAMs_20	02 24 34.2	
	comp=Z,18μm,20.0s						
JMDO	**Jabal Madar**	**62.48**	**102**	P	**P**	**02 00 03.6**	**-0.1**
	SNR=235						
JMDO				P	**P**	**02 00 03.6**	**-0.1**
	SNR=235						
SNY	**Shenyang**	**62.51**	**37**	⇓P	**P**	**02 00 02.9**	**-0.6**
SNY				S	**S**	**02 08 35.8**	**+5.2**
SNY				pmax	pmax		
	comp=Z,22nm,1.1s						
SNY				pmax	pmax		
	comp=Z,510nm,3.8s						
SNY				LR	LR		
	comp=Z,17μm,20.4s						
SNY				LR	LR		
	comp=Z,21μm,19.8s						
SNY				LR	LR		
	comp=Z,27μm,21.2s						
MLPR	**Magueyes Islan**	**62.51**	**242**	IAmb	IAmb	02 00 16.9	
	comp=Z,250nm,1.1s						
WBK	**Wadi Bani Khal**	**62.53**	**101**	P	**P**	**02 00 04.5**	**+0.5**
	SNR=88						
KUR	**Kuril'sk**	**62.59**	**16**	*e*P	**P**	**02 00 05.1**	**+1.1**
KUR				*e*		02 02 23.2	
KUR				*e*PPP	PPP	02 03 47.6	
KUR				*e*S	**S**	**02 08 31.8**	**+0.3**
KUR				*e*		02 10 00.8	
KUR				*e*SS	**SS**	**02 12 40.9**	**+6.2**
KUR				pmax	pmax		
	comp=Z,3μm,8.8s						
KUR				MLR	MLR		
	comp=Z,23μm,17.0s						
KUR				MLR	MLR		
	comp=E,15μm,18.0s						
KUR				MLR	MLR		
	comp=N,3μm,13.0s						
TUC	**Tucson**	**62.60**	**290**	P	**P**	**02 00 04.4**	**-0.1**
TUC				IAmb	IAmb	02 00 21.7	
	comp=Z,280nm,1.6s						
TUC	**Tucson**	**62.60**	**290**	P	**P**	**02 00 04.4**	**-0.1**
TUC				pmax	pmax		
	comp=Z,280nm,1.6s						
TUC				MLR	MLR		
	comp=Z,21μm,21.0s						
NDI	**New Delhi**	**62.65**	**81**	*e*P	**P**	**02 00 05.0**	**+0.3**
NDI				IAmb	IAmb	02 00 14.2	
	comp=Z,641nm,1.1s						
BCW	**Bitter Crk WRg**	**62.65**	**298**	IAMs_20	IAMs_20	02 26 01.6	
	comp=Z,32μm,22.0s						
BJI	**Beijing**	**62.71**	**43**	P	**P**	**02 00 04.8**	**-0.2**
BJI				S	**S**	**02 08 33.4**	**+0.2**
BJI				pmax	pmax		
	comp=Z,100nm,1.1s						
BJI				pmax	pmax		
	comp=Z,3μm,4.5s						
BJI				LR	LR		
	comp=Z,18μm,17.1s						
BJI				LR	LR		
	comp=Z,74μm,18.0s						
BJI				LR	LR		
	comp=Z,56μm,19.8s						
BJT	**Baijiatuau**	**62.73**	**43**	IAmb	IAmb	02 00 16.6	
	comp=Z,225nm,1.1s						
BJT	**Baijiatuau**	**62.73**	**43**	P	**P**	**02 00 08.7**	**+3.6**
	comp=Z,242nm,1.4s						
SOR	**Soroa**	**62.76**	**260**	IAmb	IAmb	02 00 19.5	
	comp=Z,317nm,1.4s						
SDDR	**Presa de Saban**	**62.77**	**247**	⇓P	**P**	**02 00 06.0**	**+0.4**
SDDR	**Presa de Saban**	**62.77**	**247**	*e*	**P**	**02 00 05.3**	**-0.3**
833A	**Chaparral WMA,**	**62.80**	**278**	IAmb	IAmb	02 00 24.6	
	comp=Z,227nm,1.2s						
833A				IAMs_20	IAMs_20	02 25 24.8	
	comp=Z,23μm,21.0s						
833A	**Chaparral WMA,**	**62.80**	**278**	P	**P**	**02 00 05.1**	**-0.6**
	baz=21,SNR=22						
833A				S	**S**	**02 08 36.9**	**+2.3**
	baz=21						
BISR	**Bishrakh**	**62.82**	**81**	*e*P	**P**	**02 00 07.0**	**+1.2**
BISR				IAmb	IAmb	02 00 15.3	
	comp=Z,334nm,2.2s						
BISR				*i* x	x	02 08 32.1	
LGTI	**Lohaghat**	**62.88**	**78**	*e*P	**P**	**02 00 05.1**	**-1.1**
LGTI				IAmb	IAmb	02 00 16.6	
	comp=Z,335nm,0.4s						
LGTI				*i* x	x	02 08 34.2	
KUDL	**Kundal**	**62.92**	**82**	*e*P	**P**	**02 00 06.4**	**0.0**
KUDL				*i* x	x	02 08 34.2	
SONA	**Sohna**	**63.01**	**82**	*e*P	**P**	**02 00 07.1**	**+0.1**
SONA				IAmb	IAmb	02 00 16.6	
	comp=Z,958nm,1.8s						
SONA				*i* x	x	02 08 36.2	
PASC	**Pasadena Art C**	**63.02**	**297**	IAmb	IAmb	02 00 24.2	
	comp=Z,279nm,1.6s						
PASC				IAMs_20	IAMs_20	02 27 54.6	
	comp=Z,35μm,20.0s						
KVTX	**Kingsville**	**63.05**	**276**	IAmb	IAmb	02 00 23.3	
	comp=Z,291nm,1.1s						
KVTX				IAMs_20	IAMs_20	02 25 56.5	
	comp=Z,28μm,20.0s						
TBG	**Guadaloupe-3**	**63.05**	**236**	*e*	**P**	**02 00 07.2**	**-0.2**
TDBA	**Terre de Bas,**	**63.05**	**236**	IAMs_20	IAMs_20	02 25 40.3	
	comp=Z,36μm,20.0s						
PFO	**Pinyon Flats O**	**63.05**	**295**	P	**P**	**02 00 07.4**	**-0.1**
PFO	**Pinyon Flats O**	**63.05**	**295**	IAMs_20	IAMs_20	02 28 40.5	
	comp=Z,24μm,18.0s						
PFO	**Pinyon Flats O**	**63.05**	**295**	P	**P**	**02 00 07.4**	**-0.1**
PFO				pmax	pmax		
	comp=Z,143nm,1.4s						
PFO				MLR	MLR		
	comp=Z,24μm,18.0s						
JLN	**Jalan Bani Buh**	**63.09**	**101**	P	**P**	**02 00 07.8**	**+0.1**
	SNR=152						
MSHR	**Mys Shultsa**	**63.10**	**30***c*	*e*P	**P**	**02 00 07.5**	**0.0**
MSHR				pmax	pmax		
	comp=Z,167nm,1.2s						
MSHR				MLR	MLR		
	comp=Z,24μm,17.0s						
GLA	**Glamis**	**63.10**	**294**	IAmb	IAmb	02 00 25.2	
	comp=Z,366nm,1.5s						
GLA				IAMs_20	IAMs_20	02 28 16.0	
	comp=Z,28μm,18.0s						
ASAJ	**Asahikawa**	**63.16**	**21**	LR	LR	02 29 52.0	
	comp=Z,11μm,18.2s,baz=8.5,slow=38						
TX31	**Lajitas Ar. Si**	**63.20**	**282**	IAmb	IAmb	02 00 58.1	
	comp=Z,445nm,2.0s						
TXAR	**Lajitas Array**	**63.20**	**282**	P	**P**	**02 00 08.0**	**-0.5**
	comp=Z,23nm,0.9s,baz=51,slow=5.0,SNR=166						
TXAR				S	**S**	**02 08 34.5**	**-5.3**
	comp=Z,0.7nm,0.2s,baz=357,slow=14,SNR=21						
TXAR				LR	LR	02 26 39.7	
	comp=Z,20μm,20.6s,baz=9.0,slow=35						
TXAR				PKPPKP		02 29 05.1	
	comp=Z,0.7nm,1.0s,baz=169,slow=2.6,SNR=4.4						
TXAR				PKP2ab		02 29 18.7	
	comp=Z,6.3nm,1.1s,baz=180,slow=3.8,SNR=10						
	comp=Z,23nm,0.9s						
ELS	**Elsinore Mount**	**63.30**	**296**	IAMs_20	IAMs_20	02 28 41.9	
	comp=Z,30μm,20.0s						
CHIV	**Chivirico**	**63.36**	**253**	IAmb	IAmb	02 00 23.4	
	comp=Z,351nm,1.4s						
CHIV				IAMs_20	IAMs_20	02 25 36.1	
	comp=Z,19μm,20.0s						
LZH	**Lanzhou**	**63.51**	**55**	⇓P	**P**	**02 00 10.4**	**-0.2**
LZH				pP	sP	02 00 14.3	+0.7
LZH				sP	pwP	02 00 17.5	+1.8
LZH				PP	**PP**	**02 02 36.6**	**+6.9**
LZH				S	**S**	**02 08 45.5**	**+1.8**
LZH				SS	**SS**	**02 12 55.8**	**+5.9**
LZH				pmax	pmax		
	comp=Z,36nm,1.6s						
LZH				pmax	pmax		
	comp=Z,8μm,4.5s						
LZH				LR	LR		
	comp=Z,60μm,17.2s						
LZH				LR	LR		
	comp=Z,88μm,16.1s						
LZH				LR	LR		
	comp=Z,47μm,15.1s						
YUK	**Yuzh-Kuril'sk**	**63.59**	**18**	*e*P	P	02 00 05.4	-5.3
YUK				*e*S	**S**	**02 08 39.3**	**-4.7**
YUK				pmax	pmax		
	comp=E,129nm,1.2s						
YUK				pmax	pmax		
	comp=Z,395nm,1.2s						
YUK				pmax	pmax		
	comp=N,225nm,1.0s						
YUK				MLR	MLR		
	comp=Z,2μm,15.0s						
YUK				MLR	MLR		
	comp=N,12μm,16.0s						
MHTO	**MHTO**	**63.74**	**103**	P	**P**	**02 00 11.4**	**-0.6**
	SNR=296						
MHTO				P	**P**	**02 00 11.4**	**-0.6**
	SNR=296						
MHTO				P	**P**	**02 00 11.4**	**-0.6**
	SNR=296						
YUH	**Yuha Desert**	**63.80**	**294**	IAmb	IAmb	02 00 30.0	
	comp=Z,284nm,1.7s						
YUH				IAMs_20	IAMs_20	02 28 49.3	
	comp=Z,31μm,19.0s						
CPBX	**Cerro Prieto**	**63.84**	**294**	IAMs_20	IAMs_20	02 29 18.3	
	comp=Z,29μm,22.0s						
ILAM	**Ilet Lapin Mar**	**63.88**	**235**	*e*	**P**	**02 00 16.4**	**+3.5**
AJM	**Ajmer**	**63.88**	**85**	*e*P	**P**	**02 00 12.7**	**-0.2**
AJM				*i* x	x	02 08 52.6	
FDF	**Fort de France**	**63.99**	**235**	⇑P	**P**	**02 00 14.2**	**+0.4**
TIY	**Taiyuan**	**64.09**	**47**	*e*P	**P**	**02 00 18.1**	**+3.8**
TIY				S	**S**	**02 08 55.2**	**+4.5**
TIY				SS	**SS**	**02 13 05.2**	**+6.5**
TIY				pmax	pmax		
	comp=Z,62nm,1.0s						
TIY				pmax	pmax		
	comp=Z,4μm,3.6s						
TIY				LR	LR		
	comp=Z,12μm,18.6s						
TIY				LR	LR		
	comp=Z,49μm,17.9s						
TIY				LR	LR		
	comp=Z,31μm,22.0s						
PIX	**Pinacate**	**64.10**	**292**	IAmb	IAmb	02 00 31.1	
	comp=Z,340nm,1.6s						
PIX				IAMs_20	IAMs_20	02 28 31.3	
	comp=Z,29μm,20.0s						
BIM	**Bigot**	**64.18**	**235**	*e*	**P**	**02 00 14.1**	**-0.9**
SNCC	**San Nicolas Is**	**64.27**	**298**	IAMs_20	IAMs_20	02 27 28.5	
	comp=Z,31μm,21.0s						
CBX	**Cerro Bola**	**64.33**	**295**	IAmb	IAmb	02 00 50.5	
	comp=Z,224nm,1.5s						
CBX				IAMs_20	IAMs_20	02 28 49.3	
	comp=Z,24μm,20.0s						
SUJ	**Sinuiju**	**64.35**	**36**	P	**P**	**02 00 16.6**	**+0.8**
SUJ				S	**S**	**02 08 53.3**	**-0.2**
SUJ				AmB			
	comp=Z,7μm,3.2s						
SUJ				AMS	AMS		
	comp=Z,840nm,4.7s						
DQM	**DQM**	**64.60**	**104**	P	**P**	**02 00 17.1**	**-0.6**
	SNR=80						
SLBI	**Saint Lucia, B**	**64.62**	**235**	*e*	**P**	**02 00 16.4**	**-1.4**
SLAC	**Saint Lucia, A**	**64.72**	**235**	*e*	P	02 00 11.7	-6.8
DOK	**Doka**	**64.78**	**107**	P	**P**	**02 00 19.0**	**+0.1**
	SNR=238						
DOK				P	**P**	**02 00 19.0**	**+0.1**
	SNR=238						
DOK				P	**P**	**02 00 19.0**	**+0.1**
	SNR=238						
HNS	**HongShan**	**64.92**	**45**	⇓P	**P**	**02 00 19.6**	**+0.1**
HNS				S	**S**	**02 09 02.1**	**+1.5**
HNS				SS	**SS**	**02 13 14.1**	**+2.8**
HNS				pmax	pmax		
	comp=Z,73nm,2.0s						
HNS				LR	LR		
	comp=Z,32μm,19.2s						
HNS				LR	LR		
	comp=Z,107μm,20.4s						
HNS				LR	LR		
	comp=Z,46μm,19.4s						
DBIC	**Dimbokro**	**64.94**	**173**	P	**P**	**02 00 18.7**	**-1.1**
	comp=Z,20nm,1.1s,baz=359,slow=8.3,SNR=12						
DBIC				S	**S**	**02 09 01.6**	**+0.3**
	comp=Z,4.8nm,1.1s,baz=290,slow=11,SNR=2.2						
DBIC				LR	LR	02 29 07.1	
	comp=Z,61μm,20.1s,baz=352,slow=36						
	comp=Z,20nm,1.1s						

VTX	**Valle De La Tr**	**64.94**	**294**	IAmb	IAmb	02 00 37.8
	comp=Z,307nm,1.7s					
DL2	**Dalian**	**64.95**	**39**	P	**P**	**02 00 22.7 +3.0**
DL2				sP	**pwP**	**02 00 29.2 +4.5**
DL2				PP	**PP**	**02 02 43.5 +1.5**
DL2				S	**S**	**02 09 02.5 +1.5**
DL2				pmax	pmax	
	comp=Z,200nm,1.3s					
DL2				pmax	pmax	
	comp=Z,7μm,4.5s					
DL2				LR	LR	
	comp=Z,24μm,17.7s					
DL2				LR	LR	
	comp=Z,90μm,18.1s					
DL2				LR	LR	
	comp=Z,82μm,17.2s					
SFX	**San Felipe**	**65.00**	**293**	IAMs_20	IAMs_20	02 28 25.1
	comp=Z,21μm,21.0s					
BRCI	**Bahraich**	**65.05**	**78**	*e*P	**P**	**02 00 21.7 +1.2**
BRCI				*i* x	x	02 09 02.8
BBGH	**Gun Hill**	**65.10**	**233**	IAMs_20	IAMs_20	02 22 46.0
	comp=Z,25μm,22.0s					
BBGH	**Gun Hill**	**65.10**	**233**	*e*	**P**	**02 00 22.7 +1.8**
ERM	**Erimo**	**65.30**	**21**	P	**P**	**02 00 19.4 -2.6**
ERM	**Erimo**	**65.30**	**21**	P	**P**	**02 00 23.6 +1.7**
ERM	**Erimo**	**65.30**	**21**	*ce*P	**P**	**02 00 22.0 +0.1**
ERM				pmax	pmax	
	comp=Z,126nm,1.3s					
WHFO	**Wadi Hawf**	**65.33**	**108**	P	**P**	**02 00 21.5 -1.0**
	SNR=131					
WHFO				P	**P**	**02 00 21.5 -1.0**
	SNR=131					
WHFO				P	**P**	**02 00 21.5 -1.0**
	SNR=131					
SVB	**Belmont**	**65.42**	**235**	*e*	**P**	**02 00 25.4 +2.4**
PYAG	**Pyongyang**	**65.60**	**36**	P	**P**	**02 00 24.6 +0.7**
PYAG				S	**S**	**02 09 08.8 -0.2**
PYAG				AmB		
	comp=Z,5μm,3.1s					
ABTO	**Aybut**	**65.72**	**109**	P	**P**	**02 00 25.0 -0.1**
	SNR=326					
ABTO				P	**P**	**02 00 25.0 -0.1**
	SNR=326					
ABTO				P	**P**	**02 00 25.0 -0.1**
	SNR=326					
HSIG		**65.72**	**289**	IAMs_20	IAMs_20	02 31 57.7
	comp=Z,21μm,21.0s					
RBK	**Rabkut**	**65.86**	**108**	P	**P**	**02 00 25.4 -0.5**
	SNR=68					
RBK				P	**P**	**02 00 25.4 -0.5**
	SNR=68					
RBK				P	**P**	**02 00 25.4 -0.5**
	SNR=68					
DMTO	**DMTO**	**65.88**	**107**	P	**P**	**02 00 25.8 -0.2**
	SNR=14					
DMTO				P	**P**	**02 00 25.8 -0.2**
	SNR=14					
DMTO				P	**P**	**02 00 25.8 -0.2**
	SNR=14					
LSA	**Lhasa**	**65.97**	**68**	P	**P**	**02 00 27.8 +0.8**
LSA	**Lhasa**	**65.97**	**68**	*i* P	**P**	**02 00 27.3 +0.2**
	SNR=76					
LSA	**Lhasa**	**65.97**	**68**	P	**P**	**02 00 27.8 +0.8**
LSA				pmax	pmax	
	comp=Z,342nm,1.1s					
LSA				MLR	MLR	
	comp=Z,48μm,22.0s					
HPIG		**66.06**	**283**	IAMs_20	IAMs_20	02 29 57.7
	comp=Z,26μm,18.0s					
JHNI	**Jhansi**	**66.06**	**82**	*e*P	**P**	**02 00 26.4 -0.6**
JHNI				IAmb	IAmb	02 00 36.1
	comp=Z,286nm,1.1s					
JHNI				*i* x	x	02 09 15.1
ACRG	**Accra**	**66.20**	**168**	P	**P**	**02 00 27.1 -1.0**
GCMP	**Grenada, Carri**	**66.21**	**235**	*e*	**P**	**02 00 28.2 +0.1**
JTM	**Tenmabayashi**	**66.27**	**23**	P	**P**	**02 00 30.0 +1.8**
GRD1	**Great Renaissa**	**66.59**	**129**	*e*P	**P**	**02 00 30.4 -0.2**
TIA	**Tai'an**	**66.59**	**44**	P	**P**	**02 00 33.9 +3.5**
TIA				S	**S**	**02 09 22.8 +1.6**
TIA				pmax	pmax	
	comp=Z,330nm,1.3s					
TIA				pmax	pmax	
	comp=Z,6μm,8.6s					
TIA				LR	LR	
	comp=Z,53μm,24.5s					
TIA				LR	LR	
	comp=Z,140μm,18.6s					
TIA				LR	LR	
	comp=Z,94μm,24.5s					
XAN	**Xi'an**	**66.75**	**51**	⇓P	**P**	**02 00 30.7 -0.8**
XAN				S	**S**	**02 09 23.9 +0.7**
XAN				pmax	pmax	
	comp=Z,310nm,1.4s					
XAN				pmax	pmax	
	comp=Z,7μm,4.9s					
XAN				LR	LR	
	comp=Z,183μm,19.4s					
XAN				LR	LR	
	comp=Z,65μm,18.4s					
XAN				LR	LR	
	comp=Z,230μm,20.2s					
TEIG	**Tepich**	**66.82**	**264**	P	**P**	**02 00 31.2 -0.7**
TEIG				IAmb	IAmb	02 00 45.7
	comp=Z,318nm,1.5s					
TEIG				IAMs_20	IAMs_20	02 28 35.2
	comp=Z,35μm,22.0s					
TEIG	**Tepich**	**66.82**	**264**	LR	LR	02 28 46.4
	comp=Z,33μm,21.5s,baz=22,slow=35					
LYN	**LuoYang**	**67.12**	**48**	P	**P**	**02 00 32.6 -1.1**
LYN				PP	**PP**	**02 03 03.5 +2.4**
LYN				S	**S**	**02 09 29.9 +2.3**
LYN				pmax	pmax	
	comp=Z,79nm,1.8s					
LYN				pmax	pmax	
	comp=Z,7μm,5.8s					
LYN				LR	LR	
	comp=Z,81μm,19.9s					
LYN				LR	LR	
	comp=Z,34μm,16.5s					
LYN				LR	LR	
	comp=Z,84μm,19.9s					
TOSP	**Speyside**	**67.12**	**234**	*e*	P	02 00 43.6 +10
ALBI	**Allahabad**	**67.23**	**79**	*e*P	**P**	**02 00 33.8 -0.7**
ALBI				*i* x	x	02 09 27.3
INCN	**Inchon**	**67.29**	**35**	P	P	02 00 39.9 +5.1
GTK	**Tadong**	**67.44**	**72**	*e*P	**P**	**02 00 35.7 -0.3**
GTK				IAmb	IAmb	02 01 04.7
	comp=Z,797nm,1.5s					
GTK				*i* x	x	02 09 33.5
TEND	**Ethiopian Broa**	**67.49**	**123**	*e*P	**P**	**02 00 36.7 +0.4**
KSRS	**Korea Array**	**67.55**	**34**	P	**P**	**02 00 37.4 +1.0**
	comp=Z,8.8nm,0.8s,baz=344,slow=5.5,SNR=7.0					
KSRS				PP	**PP**	**02 03 07.1 +2.5**
	comp=Z,2.6nm,0.8s,baz=355,slow=13,SNR=3.1					
KSRS				PKP2bc		02 29 02.5
	comp=Z,2.2nm,0.9s,baz=149,slow=12,SNR=4.1					
KSRS				LR	LR	02 32 03.5
	comp=Z,39μm,18.6s,baz=315,slow=38					
DESE	**Dese**	**67.78**	**125**	*e*P	**P**	**02 00 39.2 +0.8**
BHPL	**Bhopal**	**67.79**	**83**	*e*P	**P**	**02 00 36.9 -1.3**
BHPL				IAmb	IAmb	02 00 41.8
	comp=Z,103nm,1.2s					
BHPL				*i* x	x	02 09 36.3
TRN	**Trinidad (W)**	**67.97**	**234**	*e*	**P**	**02 00 38.5 -0.8**
ATD	**Arta Tunnel**	**68.24**	**121**	LR	LR	02 31 41.3
	comp=Z,602nm,18.5s,baz=352,slow=37					
CD2	**Chengdu**	**68.39**	**57**	P	**P**	**02 00 41.1 -0.8**
CD2				PP	**PP**	**02 03 16.8 +4.6**
CD2				S	**S**	**02 09 43.8 +0.8**
CD2				SS	**SS**	**02 14 06.5 +0.9**
CD2				pmax	pmax	
	comp=Z,80nm,1.1s					
CD2				pmax	pmax	
	comp=Z,2μm,4.0s					
CD2				LR	LR	
	comp=Z,41μm,20.3s					
CD2				LR	LR	
	comp=Z,46μm,17.1s					
CD2				LR	LR	
	comp=Z,49μm,21.6s					
TJN	**Taejon**	**68.49**	**35**	P	**P**	**02 00 44.5 +2.2**
JSD	**Sado**	**68.61**	**25**	IAmb	IAmb	02 00 56.5
	comp=Z,185nm,1.2s					
JSD	**Sado**	**68.61**	**25**	P	**P**	**02 00 45.9 +2.8**
ZIRO	**ZIRO**	**68.81**	**67**	*e*P	**P**	**02 00 44.7 0.0**
ZIRO				IAmb	IAmb	02 00 55.6
	comp=Z,376nm,0.8s					
ZIRO				*ex*	x	02 03 16.3
ZIRO				*i* x	x	02 09 51.8
ZAIG	**Zacatecas**	**68.98**	**279**	IAMs_20	IAMs_20	02 29 25.5
	comp=Z,30μm,22.0s					
JMM	**Marumori**	**69.11**	**23**	P	**P**	**02 00 50.6 +4.4**
ANKE	**Ethiopia-Afar**	**69.26**	**125**	*e*P	**P**	**02 00 48.8 +1.0**
PCRV	**Puerto La Cruz**	**69.27**	**238**	LR	LR	02 25 31.5
	comp=Z,10μm,21.1s,slow=31					
WLRA	**Wolmera**	**69.47**	**126**	*e*P	**P**	**02 00 50.7 +1.6**
LKP	**Lekhapani**	**69.57**	**65**	*e*P	**P**	**02 00 51.3 +2.1**
LKP				*ex*	x	02 03 30.7
LKP				*i* x	x	02 09 55.8
FURI	**Furi**	**69.66**	**126**	IAMs_20	IAMs_20	02 36 38.9
	comp=Z,25μm,19.0s					
FURI	**Furi**	**69.66**	**126**	LR	LR	02 35 48.6
	comp=Z,14μm,18.1s,baz=347,slow=40					
FURI	**Furi**	**69.66**	**126**	*e*P	**P**	**02 00 51.3 +1.2**
FURI				IAMs_20	IAMs_20	02 27 15.5
	comp=Z,26μm,19.8s					
BOK	**Bokaro**	**69.91**	**75**	*e*P	**P**	**02 00 50.6 -0.7**
BOK				IAmb	IAmb	02 00 55.2
	comp=Z,108nm,1.0s					
BOK				*i* x	x	02 09 54.8
AKL	**Akola**	**70.03**	**85**	*e*P	**P**	**02 00 53.0 +1.0**
SHL	**Shillong**	**70.07**	**69**	P	**P**	**02 00 51.7 -0.8**
	SNR=122					
SHL	**Shillong**	**70.07**	**69**	*e*P	**P**	**02 00 51.1 -1.4**
SHL				*i* x	x	02 09 54.8
MAJO	**Matsushiro**	**70.07**	**26**	IAMs_20	IAMs_20	02 37 00.4
	comp=Z,21μm,20.0s					
MAJO	**Matsushiro**	**70.07**	**26**	P	**P**	**02 00 55.0 +2.8**
	comp=Z,213nm,1.3s					
MJAR	**Matushiro Arr**	**70.07**	**26**	P	**P**	**02 00 51.7 -0.5**
	comp=Z,22nm,0.8s,baz=352,slow=5.5,SNR=22					
	comp=Z,22nm,0.8s					
MOKO	**MOKOCHONG**	**70.14**	**67**	*e*P	**P**	**02 00 53.0 +0.2**
MOKO				IAmb	IAmb	02 01 01.2
	comp=Z,718nm,1.3s					
MOKO				*ex*	x	02 03 25.2
MOKO				*i* x	x	02 10 06.0
LPIG	**La Paz**	**70.14**	**286**	LR	LR	02 31 52.2
	comp=Z,20μm,18.3s,baz=25,slow=36					
SLBS	**Sierra La Lagu**	**70.42**	**286**	P	**P**	**02 00 54.3 -0.2**
SLBS	**Sierra La Lagu**	**70.42**	**286**	IAMs_20	IAMs_20	02 32 14.1
	comp=Z,32μm,22.0s					
PETF	**Flores**	**70.43**	**265**	IAmb	IAmb	02 01 07.8
	comp=Z,176nm,1.1s					
ENH	**Enshi**	**70.48**	**52**	P	**P**	**02 00 52.7 -2.0**
ENH	**Enshi**	**70.48**	**52**	P	**P**	**02 00 58.2 +3.4**
KOHI	**KOHIMA**	**70.58**	**67**	*e*P	**P**	**02 00 55.1 -0.5**
KOHI				*ex*	x	02 03 34.8
KOHI				*i* x	x	02 09 59.9
JGF	**Kuroka**	**70.88**	**27**	P	**P**	**02 01 00.5 +3.4**
NJ2	**Nanjing**	**70.97**	**43**	⇓P	**P**	**02 01 00.6 +2.9**
NJ2				sP	**pwP**	**02 01 08.0 +5.2**
NJ2				S	**S**	**02 10 15.8 +2.6**
NJ2				pmax	pmax	
	comp=Z,56nm,1.6s					
NJ2				pmax	pmax	
	comp=Z,5μm,3.8s					
NJ2				LR	LR	
	comp=Z,44μm,21.8s					
NJ2				LR	LR	
	comp=Z,27μm,19.0s					
NJ2				LR	LR	
	comp=Z,44μm,20.6s					
POO	**Poona**	**71.06**	**88**	*e*P	**P**	**02 00 57.8 -0.6**
POO				*i* x	x	02 10 06.9
JHSG	**JHARSUGUGA**	**71.17**	**78**	*e*P	**P**	**02 00 57.9 -1.1**
MDP	**Montagnes des**	**71.21**	**224**	LR	LR	02 25 01.7
	comp=Z,14μm,21.6s,baz=30,slow=30					
IMP	**Imphal**	**71.37**	**68**	*e*P	**P**	**02 01 00.5 +0.2**
IMP				*i* x	x	02 10 14.1
WHN	**Wuhan**	**71.40**	**48**	P	**P**	**02 01 03.1 +2.8**
WHN				sP	**pwP**	**02 01 09.6 +4.2**
WHN				PP	**PP**	**02 03 40.4 +2.3**
WHN				S	**S**	**02 10 15.8 -2.4**
WHN				pmax	pmax	
	comp=Z,260nm,1.1s					
WHN				pmax	pmax	
	comp=Z,11μm,5.1s					
WHN				LR	LR	
	comp=Z,25μm,13.7s					
WHN				LR	LR	
	comp=Z,143μm,15.9s					
WHN				LR	LR	
	comp=Z,281μm,20.8s					
CCIG	**Comitan**	**71.75**	**267**	IAmb	IAmb	02 01 43.7
	comp=Z,193nm,1.4s					
CCIG				IAMs_20	IAMs_20	02 32 13.5
	comp=Z,29μm,22.0s					
PZH	**PanZhiHua**	**72.02**	**60**	P	**P**	**02 01 03.5 -0.7**
PZH				sP	**pwP**	**02 01 13.7 +4.3**
PZH				S	**S**	**02 10 24.8 -0.9**
PZH				ScS	**SKSac**	**02 11 07.2 -1.1**
PZH				pmax	pmax	
	comp=Z,30nm,1.4s					
PZH				pmax	pmax	
	comp=Z,4μm,4.3s					
PZH				LR	LR	
	comp=Z,56μm,25.0s					
PZH				LR	LR	
	comp=Z,56μm,26.0s					
PZH				LR	LR	
	comp=Z,80μm,30.9s					
AZL	**Aizawl**	**72.03**	**69**	*e*P	**P**	**02 01 04.2 -0.1**
AZL				IAmb	IAmb	02 01 14.6
	comp=Z,312nm,1.2s					
AZL				*ex*	x	02 03 47.9
AZL				*i* x	x	02 10 22.2
BELO	**BELONIA**	**72.12**	**70**	*e*P	**P**	**02 01 06.3 +1.6**
BELO				*ex*	x	02 03 48.5
BELO				*i* x	x	02 10 20.2
SDV	**Santo Domingo**	**72.16**	**243**	P	**P**	**02 01 04.7 -0.6**
SDV				IAmb	IAmb	02 01 49.2
	comp=Z,209nm,1.4s					
SDV	**Santo Domingo**	**72.16**	**243**	LR	LR	02 29 22.8
	comp=Z,4μm,21.2s,baz=20,slow=33					
SDV	**Santo Domingo**	**72.16**	**243**	*e*P	**P**	**02 01 04.8 -0.5**
JMN	**Monobe**	**72.19**	**30**	P	P	02 01 10.4 +5.3
JNU	**Nakatsue**	**72.29**	**33**	P	**P**	**02 01 06.7 +1.0**
	comp=Z,16nm,0.9s,baz=33,slow=2.4,SNR=3.5					
JNU				S	**S**	**02 10 27.3 -1.2**
	comp=Z,3.5nm,0.3s,baz=43,slow=21,SNR=1.8					
JNU				LR	LR	02 33 20.7
	comp=Z,23μm,21.1s,baz=342,slow=36					
	comp=Z,16nm,0.9s					
JNU	**Nakatsue**	**72.29**	**33**	P	**P**	**02 01 09.7 +4.0**
TGUH	**Tegucigalpa,Un**	**72.30**	**261**	IAmb	IAmb	02 01 20.8
	comp=Z,176nm,1.1s					
TGUH				IAMs_20	IAMs_20	02 30 12.3
	comp=Z,22μm,21.0s					
KAD	**Karad**	**72.31**	**89**	*e*P	**P**	**02 01 07.3 +1.3**
KAD				IAmb	IAmb	02 01 15.7
	comp=Z,227nm,0.7s					
KAD				*i* x	x	02 10 32.7
SSE	**Sheshan**	**72.40**	**42**	P	**P**	**02 01 08.6 +2.3**
SSE				PP	**PP**	**02 03 48.7 +2.1**
SSE				S	**S**	**02 10 29.9 +0.3**
SSE				pmax	pmax	
	comp=Z,110nm,1.0s					
SSE				pmax	pmax	
	comp=Z,2μm,4.4s					
TNCH	**TengChong**	**72.51**	**63**	*e*P	**P**	**02 01 08.1 +0.8**
TNCH				pP	pwP	02 01 11.6 -0.8
TNCH				sP	sP	02 01 14.5 +4.2
TNCH				PP	**PP**	**02 03 54.7 +6.7**
TNCH				S	**S**	**02 10 30.0 -1.5**
TNCH				SS	**SS**	**02 15 09.5 +0.1**
TNCH				pmax	pmax	
	comp=Z,390nm,1.4s					
TNCH				LR	LR	
	comp=Z,11μm,21.9s					
TNCH				LR	LR	
	comp=Z,14μm,17.7s					
TNCH				LR	LR	
	comp=Z,103μm,27.7s					
BRDH	**Bariadhala**	**72.72**	**70**	S	**S**	**02 10 37.0 +3.5**
	comp=Z,116nm,0.3s,baz=256,slow=23,SNR=1.3					
BRDH				LR	LR	02 38 29.4
	comp=Z,44μm,18.6s,baz=342,slow=40					
ESPN	**Las Esperanzas**	**73.12**	**258**	IAmb	IAmb	02 01 22.6
	comp=Z,184nm,1.2s					
CNSH	**ChangSha**	**73.33**	**50**	P	**P**	**02 01 09.9 -1.9**
CNSH				S	**S**	**02 10 37.7 -2.6**
CNSH				pmax	pmax	
	comp=Z,5μm,6.2s					
CNSH				LR	LR	
	comp=Z,35μm,17.3s					
CNSH				LR	LR	
	comp=Z,23μm,15.1s					
CNSH				LR	LR	
	comp=Z,51μm,17.8s					
GYA	**Guiyang**	**73.39**	**56**	P	**P**	**02 01 12.2 -0.2**
GYA				PP	**PP**	**02 03 56.4 +1.0**
GYA				S	**S**	**02 10 39.9 -1.4**
GYA				SKS	**SKSac**	**02 11 13.6 -5.0**
GYA				SS	**SS**	**02 15 23.2 +0.6**
GYA				pmax	pmax	
	comp=Z,63nm,0.5s					
GYA				pmax	pmax	
	comp=Z,6μm,6.2s					
GYA				LR	LR	
	comp=Z,41μm,26.2s					
GYA				LR	LR	
	comp=Z,46μm,18.8s					
GYA				LR	LR	
	comp=Z,79μm,26.0s					
HYB	**Hyderabad**	**73.60**	**84**	*e*P	**P**	**02 01 12.8 -0.8**
HYB				IVmB_BB		02 01 23.0
	comp=Z,7μm,3.5s					
HYB				*e*PP	**PP**	**02 03 55.5 -1.8**
HYB				*e*S	**S**	**02 10 44.7 +1.0**
HYB				*e*SS	**SS**	**02 15 26.7 +0.7**
HYB				IVMs_BB	IVMs_BB	02 38 38.7
	comp=Z,13μm,15.0s					
KMI	**Kunming**	**73.60**	**60**	⇓P	**P**	**02 01 12.5 -1.3**
KMI				PP	**PP**	**02 03 58.8 +1.5**
KMI				S	**SKiKP**	**02 10 36.9 -6.5**
KMI				SKS	**SKSac**	**02 11 18.3 -2.2**
KMI				SS	**SS**	**02 15 26.1 0.0**
KMI				pmax	pmax	
	comp=Z,84nm,1.5s					
KMI				pmax	pmax	
	comp=Z,1μm,3.9s					
KMI				LR	LR	
	comp=Z,67μm,24.8s					
KMI				LR	LR	
	comp=Z,30μm,22.4s					
KMI				LR	LR	
	comp=Z,105μm,28.4s					
ACON	**Acoyapa**	**73.61**	**258**	IAmb	IAmb	02 01 26.7
	comp=Z,303nm,1.2s					
MGAN	**Managua**	**73.77**	**259**	IAMs_20	IAMs_20	02 37 21.5
	comp=Z,16μm,18.0s					
GOA	**Goa**	**73.90**	**90**	*e*P	**P**	**02 01 15.3 0.0**
GOA				IAmb	IAmb	02 01 24.4
	comp=Z,170nm,1.0s					
GOA				*i* x	x	02 10 39.2
LODK	**Lodwar**	**74.09**	**131**	IAMs_20	IAMs_20	02 38 25.8
	comp=Z,24μm,18.0s					
LODK	**Lodwar**	**74.09**	**131**	P	**P**	**02 01 17.4 +0.9**
	SNR=252					
LODK	**Lodwar**	**74.09**	**131**	*e*P	**P**	**02 01 17.3 +0.8**
SOCE	**Pocosol**	**74.93**	**257**	IAmb	IAmb	02 01 33.2
	comp=Z,144nm,1.1s					
JTS	**Las Juntas de**	**75.12**	**258**	LR	LR	02 34 55.7
	comp=Z,8μm,20.4s,baz=358,slow=36					
HDC	**Heredia**	**75.13**	**257**	*e*P	**P**	**02 01 23.6 +0.9**
GULI	**GuiLin**	**75.46**	**53**	P	**P**	**02 01 24.1 -0.2**
GULI				S	**S**	**02 11 01.2 -3.1**
GULI				pmax	pmax	
	comp=Z,100nm,1.0s					
GULI				LR	LR	
	comp=Z,30μm,18.4s					
GULI				LR	LR	
	comp=Z,46μm,19.5s					
GULI				LR	LR	
	comp=Z,53μm,15.2s					
BOAV	**Boa Vista**	**75.67**	**231**	*e*P	**P**	**02 01 25.2 -0.3**
MNGI	**Mangalore**	**76.61**	**89**	*i* x	x	02 01 39.5
MBAR	**Mbarara**	**76.92**	**136**	P	**P**	**02 01 32.7 -0.2**
MBAR	**Mbarara**	**76.92**	**136**	P	**P**	**02 01 33.2 +0.3**
MBAR	**Mbarara**	**76.92**	**136**	*ce*P	**P**	**02 01 34.0 +1.2**
MBAR				pmax	pmax	
	comp=Z,177nm,2.5s					
ROSC	**El Rosal**	**77.07**	**246**	IAmb	IAmb	02 02 07.3
	comp=Z,454nm,1.4s					
ROSC	**El Rosal**	**77.07**	**246**	P	**P**	**02 01 34.5 +0.5**
	comp=Z,24nm,0.8s,baz=36,slow=7.9,SNR=8.9					
ROSC				PKPPKP	**P'P'df**	**02 28 44.2 +1.6**
	comp=Z,3.6nm,0.3s,baz=155,slow=5.5,SNR=1.6					
ROSC				LR	LR	02 33 23.6
	comp=Z,8μm,20.7s,baz=20,slow=34					
	comp=Z,24nm,0.8s					
SLVN	**Son La**	**77.52**	**60**	IAmb	IAmb	02 01 46.7
	comp=Z,211nm,1.0s					
TMAB	**Tom-Au,PA,Br**	**77.52**	**218**	*e*P	**P**	**02 01 36.4 +0.4**
QZH	**Quanzhou**	**77.77**	**45**	P	**P**	**02 01 38.0 +0.7**
QZH				PP	**PP**	**02 04 30.3 -1.9**
QZH				S	**S**	**02 11 33.2 +3.7**
QZH				pmax	pmax	
	comp=Z,280nm,1.2s					
QZH				pmax	pmax	
	comp=Z,4μm,5.6s					
QZH				LR	LR	
	comp=Z,43μm,18.9s					
QZH				LR	LR	
	comp=Z,84μm,19.9s					
QZH				LR	LR	
	comp=Z,46μm,19.6s					
JOW	**Kunigami**	**77.95**	**36**	P	**P**	**02 01 38.2 -0.1**
	comp=Z,22nm,0.7s,baz=329,slow=6.2,SNR=9.7					
JOW				LR	LR	02 39 50.3
	comp=Z,26μm,19.0s,baz=7.0,slow=39					
	comp=Z,22nm,0.7s					
JOW	**Kunigami**	**77.95**	**36**	P	**P**	**02 01 41.4 +3.1**
	comp=Z,428nm,1.4s					
MDRS	**Chennai**	**78.22**	**84**	*e*P	**P**	**02 01 40.0 +0.1**
MDRS				*ex*	x	02 04 29.1
MDRS				*i* x	x	02 11 29.8
PAYA	**Payao**	**78.26**	**64**	P	**P**	**02 01 40.4 +0.2**
CHTO	**Chiang Mai**	**78.51**	**65**	P	**P**	**02 01 40.4 -1.2**
CHTO				IAmb	IAmb	02 01 49.2
	comp=Z,339nm,1.2s					
CHTO	**Chiang Mai**	**78.51**	**65**	P	**P**	**02 01 40.4 -1.2**
CHTO				pmax	pmax	
	comp=Z,339nm,1.3s					
YHNB	**Yeheng**	**78.65**	**43**	P	P	02 01 48.0 +5.7
MHMT	**Maesarieng**	**78.82**	**66**	P	**P**	**02 01 47.1 +3.9**
CMAR	**Chiang Mai Arr**	**78.85**	**65**	P	**P**	**02 01 43.0 -0.4**
	comp=Z,34nm,1.0s,baz=320,slow=6.5,SNR=53					
CMAR				PP	**PP**	**02 04 42.4 +0.9**
	comp=Z,18nm,1.0s,baz=331,slow=9.4,SNR=4.9					
CMAR				S	**S**	**02 11 39.8 -1.6**
	comp=Z,2.6nm,0.3s,baz=353,slow=6.4,SNR=2.5					
CMAR				LR	LR	02 42 38.7
	comp=Z,23μm,20.4s,baz=325,slow=40					
	comp=Z,34nm,1.0s					
CMAR	**Chiang Mai Arr**	**78.85**	**65**	P	**P**	**02 01 43.0 -0.4**
RCBR	**Riachuelo**	**78.89**	**205**	P	**P**	**02 01 44.3 +0.7**
	comp=Z,4.5nm,1.1s,baz=51,slow=21,SNR=2.2					
RCBR				S	**S**	**02 11 42.1 +0.4**
	comp=Z,4.3nm,1.0s,baz=102,slow=21,SNR=2.3					
RCBR				LR	LR	02 28 28.7
	comp=Z,9μm,21.5s,baz=13,slow=30					
	comp=Z,4.5nm,1.1s					
RCBR	**Riachuelo**	**78.89**	**205**	*e*P	**P**	**02 01 45.2 +1.6**
SALM	**Salem**	**78.90**	**87**	*e*P	**P**	**02 01 46.1 +2.5**
SALM				*i* x	x	02 11 44.2
KMBO	**Kilima Mbogo**	**78.94**	**130**	P	**P**	**02 01 44.9 +0.8**
KMBO				IAmb	IAmb	02 01 55.5
	comp=Z,339nm,1.4s					
KMBO	**Kilima Mbogo**	**78.94**	**130**	*i* P	**P**	**02 01 45.3 +1.1**
	SNR=82					
KMBO	**Kilima Mbogo**	**78.94**	**130**	P	**P**	**02 01 44.2 +0.1**
	comp=Z,4.9nm,1.0s,baz=340,slow=6.2,SNR=20					
KMBO				S	**S**	**02 11 47.1 +4.4**
	comp=Z,0.8nm,0.4s,baz=37,slow=20,SNR=1.4					
KMBO				LR	LR	02 41 12.1
	comp=Z,19μm,18.1s,baz=338,slow=39					
	comp=Z,4.9nm,1.0s					
KMBO	**Kilima Mbogo**	**78.94**	**130**	*ce*P	**P**	**02 01 43.5 -0.6**
KMBO				pmax	pmax	
	comp=Z,18nm,1.1s					
NACB	**Ninganchiao**	**79.18**	**43**	P	**P**	**02 01 48.4 +3.3**
PHRA	**Phrae**	**79.18**	**64**	P	**P**	**02 01 44.7 -0.5**
HKPS	**Hong Kong Po S**	**79.28**	**50**	P	P	02 01 52.1 +6.4
SSLB	**Suanglung**	**79.41**	**44**	P	**P**	**02 01 50.2 +3.7**
	comp=Z,562nm,1.3s					

JMZ Minamidaito 2 79.48 34 P **P 02 01 49.3 +2.6**
TPUB Ta-pu 79.81 44 P **P 02 01 52.8 +4.2**
comp=Z,423nm,1.2s
YULB Yu-li 79.87 43 P P 02 01 54.0 +5.1
comp=Z,205nm,1.2s
JCJ Chichijima 79.91 24 P **P 02 01 53.7 +4.6**
KOD Kodaikanal 80.00 88 *e*P **P 02 01 51.9 +1.9**
MIDW Midway 80.03 347 IAMs_20 IAMs_20 02 34 05.4
comp=Z,20μm,22.0s
KIBK Kibwezi 80.30 130 IAmb IAmb 02 02 02.8
comp=Z,255nm,1.2s
KIBK Kibwezi 80.30 130 P **P 02 01 50.1 -1.2**
KIBK Kibwezi 80.30 130 P **P 02 01 53.5 +2.2**
SNR=90
TWGBT Beinan 80.38 44 P P 02 01 56.7 +5.1
PHIT Phitsanulok 80.48 64 P **P 02 01 52.5 +0.3**
MACA Manacapuru-AM 81.06 230 *e*P **P 02 01 55.3 0.0**
ITTB Itaituba 81.06 225 *e*P **P 02 01 55.3 0.0**
NBCA Caruaru-PE 81.27 205 *e*P **P 02 01 57.8 +1.4**
QIZ Qiongzhong 81.31 55 P **P 02 01 55.5 -1.2**
QIZ PP **PP 02 04 59.3 -2.5**
QIZ S **S 02 12 07.5 +0.3**
QIZ SS **SS 02 17 20.2 -1.8**
QIZ pmax pmax
comp=Z,82nm,1.2s
QIZ pmax pmax
comp=Z,2μm,6.7s
QIZ LR LR
comp=Z,25μm,16.7s
QIZ LR LR
comp=Z,38μm,15.2s
QIZ LR LR
comp=Z,33μm,17.7s
TRD Trivandrum 81.46 89 *e*P **P 02 01 58.5 +1.0**
TRD IAmb IAmb 02 02 07.9
comp=Z,641nm,1.7s
TRD *i* x x 02 12 02.2
PRPB Paraua pebas 81.56 219 *e*P **P 02 01 57.8 -0.2**
PANO Nakornpanom 81.70 60 P **P 02 02 00.7 +2.0**
UTHA Uthaitani 81.74 66 P **P 02 01 58.9 -0.1**
TEFE Tefe 82.39 234 *e*P **P 02 02 01.2 -1.1**
OTAV Otavalo 82.65 248 P **P 02 02 04.3 0.0**
OTAV Otavalo 82.65 248 P **P 02 02 04.3 0.0**
OTAV pmax pmax
comp=Z,512nm,1.4s
OTAV MLR MLR
comp=Z,7μm,22.0s
OTAV Otavalo 82.65 248 *e*P **P 02 02 04.5 +0.3**
NBAN Anadia - AL 82.73 205 *e*P **P 02 02 04.9 +0.9**
SRDT SRDT 82.80 66 P P 02 02 09.7 +5.2
PBA Port Blair 83.44 73 *e*P **P 02 02 10.4 +2.6**
PBA IAmb IAmb 02 02 18.0
comp=Z,635nm,1.3s
PBA *i* x x 02 12 38.6
NAYO Nakonayok 83.47 64 P **P 02 02 12.0 +4.0**
NAYO Nakonayok 83.47 64 P **P 02 02 07.8 -0.1**
NPGB Novo Progresso 83.57 224 *e*P **P 02 02 07.3 -1.1**
SMTB Santa Maria do 83.75 216 *e*P **P 02 02 09.6 +0.2**
KEKH Kekaha 84.19 331 IAMs_20 IAMs_20 02 37 00.4
comp=Z,16μm,22.0s
NBLA Lagarto - SE 84.23 206 *e*P **P 02 02 11.6 -0.2**
TBTG Tabatinga, AM 84.43 239 *e*P **P 02 02 12.7 -0.1**
KIP Kipapa 84.47 329 IAMs_20 IAMs_20 02 36 52.9
comp=Z,16μm,22.0s
KIP Kipapa 84.47 329 P **P 02 02 15.2 +2.2**
KIP Kipapa 84.47 329 P **P 02 02 15.3 +2.2**
KIP Kipapa 84.47 329 *ce*P **P 02 02 13.7 +0.7**
KIP pmax pmax
comp=Z,88nm,1.7s
HON Honolulu 84.56 329 IAMs_20 IAMs_20 02 36 32.5
comp=Z,17μm,22.0s
KHLH Kahului Airpor 84.72 327 IAMs_20 IAMs_20 02 40 27.5
comp=Z,14μm,20.0s
HLK Haleakala 84.82 327 IAMs_20 IAMs_20 02 40 19.2
comp=Z,17μm,18.0s
SZP Santa 85.33 45 P **P 02 02 21.7 +4.3**
HPAH Hawaii Prepara 85.44 327 IAMs_20 IAMs_20 02 36 41.6
comp=Z,21μm,22.0s
POHA Pohakuloa 85.67 326 P **P 02 02 18.9 -0.5**
POHA IAMs_20 IAMs_20 02 36 57.9
comp=Z,21μm,21.0s
HUH Hualalai 85.80 327 IAMs_20 IAMs_20 02 40 37.2
comp=Z,15μm,20.0s
HMH Humu'ula Sheep 85.82 326 IAMs_20 IAMs_20 02 36 50.7
comp=Z,21μm,22.0s
JOKA Jonika Flow 85.90 326 IAMs_20 IAMs_20 02 37 04.8
comp=Z,18μm,22.0s
MLH Mauna Loa 85.91 326 IAMs_20 IAMs_20 02 36 53.1
comp=Z,21μm,22.0s
HATHI Halema'uma'u T 85.95 326 IAMs_20 IAMs_20 02 36 43.3
comp=Z,21μm,22.0s
UWE Uwekahuna 85.96 326 IAMs_20 IAMs_20 02 36 43.5
comp=Z,21μm,22.0s
BYL Byron's Ledge 85.96 326 IAMs_20 IAMs_20 02 37 04.6
comp=Z,20μm,22.0s
STCH Steam Cracks 85.97 326 IAMs_20 IAMs_20 02 36 43.7
comp=Z,20μm,22.0s
PUH Pauahi 85.99 326 IAMs_20 IAMs_20 02 37 06.4
comp=Z,18μm,22.0s
HLP Hilina Pali 86.09 326 IAMs_20 IAMs_20 02 36 57.8
comp=Z,22μm,22.0s
KHU Kahuku 86.19 326 IAMs_20 IAMs_20 02 37 01.5
comp=Z,20μm,22.0s
KSMZ Kasama 86.31 138 *i* P P 02 02 27.2 +4.9
KSMZ *i* S **S 02 12 54.6 -3.0**
KSMZ *i* S **SKKSac 02 12 58.5 +2.2**
KSMZ *i* 02 30 46.5
SDBA SAO DESIDERIO 86.74 213 *e*P **P 02 02 23.1 -1.2**
GDU01 Guandu, BA 87.17 207 *e*P **P 02 02 26.8 +0.4**
MSEY Mahe Island 87.25 113 *i* P **P 02 02 28.9 +2.0**
SNR=5.9
SAML Samuel 87.25 231 P **P 02 02 26.1 -0.6**
SAML IAMs_20 IAMs_20 02 40 09.8
comp=Z,12μm,19.0s
SAML Samuel 87.25 231 P **P 02 02 26.1 -0.6**
SAML pmax pmax
comp=Z,94nm,1.1s
SAML MLR MLR
comp=Z,12μm,19.0s
SAML Samuel 87.25 231 *e*P **P 02 02 26.7 0.0**
CLDB Colider 87.38 223 *e*P **P 02 02 26.7 -0.7**
SNDB Serra Nova Dou 87.50 219 *e*P **P 02 02 27.6 -0.4**
SURA Surathani 87.86 67 P P 02 02 36.7 +6.9
CMBY CAMPBELL BAY 88.19 73 *e*P **P 02 02 32.3 +0.9**
CMBY IAmb IAmb 02 02 38.8
comp=Z,217nm,0.6s
PDRB Porto dos Gac 88.30 224 *e*P **P 02 02 31.5 -0.3**
SRIT Nakonsritamara 88.39 67 P P 02 02 38.4 +6.1
CZSB Cruzeiro do Su 88.58 240 IAmb IAmb 02 02 42.9
comp=Z,179nm,1.3s
CZSB Cruzeiro do Su 88.58 240 *e*P **P 02 02 31.2 -1.9**
TGY Tagaytay City 88.77 46 LR LR 02 45 47.7
comp=Z,34μm,21.7s,baz=135,slow=38
CMC01 Camacan, BA 88.78 207 *e*P **P 02 02 33.7 -0.2**
ETMB Extrema 88.84 234 *e*P **P 02 02 33.2 -1.2**
JANB Januaria 89.23 212 *e*P **P 02 02 35.4 -0.7**
ATAH Atahualpa 89.63 246 LR LR 02 40 36.2
comp=Z,3μm,21.7s,baz=18,slow=34
GUA01 Guaratinga, BA 90.02 207 *e*P **P 02 02 39.9 +0.2**
VILB Vilhena 90.39 227 IAmb IAmb 02 02 52.8
comp=Z,174nm,1.2s
VILB Vilhena 90.39 227 *e*P **P 02 02 40.7 -0.8**
BDFB Brasilia 90.45 215 P **P 02 02 41.6 -0.3**
comp=Z,2.5nm,0.8s,baz=83,slow=14,SNR=2.7
BDFB S **SKSac 02 13 16.7 +3.6**
comp=Z,2.4nm,0.7s,baz=62,slow=15,SNR=2.4
BDFB LR LR 02 36 34.7
comp=Z,20μm,22.0s,baz=18,slow=31
comp=Z,2.5nm,0.8s
LSZ Lusaka 90.65 142 P **P 02 02 41.9 -1.0**
LSZ IAmb IAmb 02 02 55.1
comp=Z,266nm,1.9s
LSZ Lusaka 90.65 142 P **P 02 02 41.9 -1.0**
LSZ pmax pmax
comp=Z,266nm,1.9s
JOHN Johnston Islan 90.69 339 IAMs_20 IAMs_20 02 42 45.1
comp=Z,16μm,19.0s
LHMI Lhok Sumawe 90.80 71 P **P 02 02 45.6 +2.0**
comp=Z,162nm,1.7s,comp=Z,6μmcomp=Z,11μm
ARAG Araguaiana, MT 91.24 219 *e*P **P 02 02 46.1 +0.7**
NAN01 Guarapari, ES 91.31 207 *e*P **P 02 02 46.0 +0.3**
MLSI Meulaboh, Aceh 91.54 72 P **P 02 02 49.9 +2.9**
comp=Z,168nm,1.4s,comp=Z,4μm
KULM Kulim 91.84 67 IAmb IAmb 02 02 58.6
comp=Z,143nm,1.4s
KULM Kulim 91.84 67 P P 02 02 54.3 +5.9
comp=Z,83nm,2.2s
SALV Santo Antonio 92.23 222 *e*P **P 02 02 51.4 +1.4**
DIAM Diamantina, MG 92.30 211 *e*P **P 02 02 50.8 +0.4**
SJMB Sao Joao De Ma 92.31 208 *e*P **P 02 02 50.8 +0.5**
PTLB Pontes e Lacer 92.55 226 *e*P **P 02 02 51.5 0.0**
IPM Ipoh 92.72 67 IAmb IAmb 02 03 02.4
comp=Z,135nm,1.1s
IPM Ipoh 92.72 67 P P 02 02 58.1 +5.6
IPMB Ipameri, GO 92.77 215 *e*P **P 02 02 52.3 -0.2**
PMNB Patos De Minas 93.00 213 *e*P **P 02 02 54.4 +0.8**
SNSI Sinabang, Aceh 93.28 72 P **P 02 02 56.2 +1.2**
SIV San Ignacio 93.52 227 P **P 02 02 55.8 -0.2**
comp=Z,17nm,1.0s,baz=36,slow=7.4,SNR=9.8
SIV LR LR 02 37 33.6
comp=Z,12μm,20.7s,baz=41,slow=31
comp=Z,17nm,1.0s
GUMO Guam 93.56 23 LR LR 02 45 36.1
comp=Z,4μm,21.5s,baz=358,slow=36
NNA Nana 93.80 243 LR LR 02 48 18.0
comp=Z,4μm,18.2s,baz=13,slow=38
BBSD Serra de San D 94.57 227 *e*P **P 02 03 00.2 -0.6**
ITRB Iturama 94.85 217 *e*P **P 02 03 02.8 +0.8**
GRTLG Ghanzi 95.35 150 *i* P **P 02 03 03.6 -0.8**
KKM Kota Kinabalu 95.39 52 P P 02 03 10.3 +5.4
SOOWA Sowa 95.43 145 *i* P **P 02 03 05.9 +1.1**
LPAZ La Paz 95.54 234 P **P 02 03 06.3 +0.3**
comp=Z,1.9nm,1.0s,baz=6.4,slow=5.3,SNR=5.2
LPAZ PP **PP 02 06 59.0 +1.9**
comp=Z,11nm,1.2s,baz=18,slow=10,SNR=3.0
LPAZ LR LR 02 43 33.6
comp=Z,4μm,19.7s,baz=18,slow=34
comp=Z,1.9nm,1.0s
LPAZ La Paz 95.54 234 *e*P **P 02 03 06.3 +0.3**
MATP Matopo 95.72 143 LR LR 02 49 26.3
comp=Z,22μm,21.4s,baz=352,slow=38
CKGRV CKGRV 95.81 147 *i* P **P 02 03 08.9 +2.4**
BB19B Bebedouro 95.84 215 *e*P **P 02 03 07.0 +0.5**
MYKOM Kota Tinggi 96.10 65 P P 02 03 14.9 +6.9
comp=Z,67nm,1.4s
BROLN Tlhalogang 96.16 144 *i* P **P 02 03 08.1 0.0**
RPRD Ribas do Rio P 96.26 219 *e*P **P 02 03 09.3 +0.9**
DAV Davao City (W) 96.61 43 LR LR 02 51 15.7
comp=Z,23μm,20.2s,baz=338,slow=38
DAV Davao City (W) 96.61 43 P P 02 03 16.0 +5.7
AQDB Aquidauana 96.67 221 IAmb IAmb 02 03 21.8
comp=Z,71nm,1.1s
AQDB Aquidauana 96.67 221 *e*P **P 02 03 10.3 0.0**
BKNI Bangkinang 96.67 69 PP **PP 02 07 05.1 +0.4**
KOOLE Kule 96.79 151 *i* P **P 02 03 10.9 -0.1**
MYLDM Lahad Datu 96.80 50 P P 02 03 16.3 +5.2
BDQN Bodoquena, MS 96.86 222 *e*P **P 02 03 11.0 -0.2**
KGCAE Kacgae 96.97 149 *i* P **P 02 03 10.9 -0.8**
RCLB Rio Claro- Sao 96.98 213 *e*P **P 02 03 12.8 +1.1**
VAO Valinhos 97.45 213 IAMs_20 IAMs_20 02 42 45.7
comp=Z,18μm,21.0s
MREMI Moremi 97.61 144 *i* P Pdif 02 03 15.5 +0.8
SBUM Sibu 97.80 57 P Pdif 02 03 22.0 +6.3
LPHEP Lephephe 98.09 146 *i* P Pdif 02 03 18.6 +1.8
SPB Sao Paulo 98.11 213 *e*P **P 02 03 16.6 -0.1**
OPO Ambohidratompo 98.19 125 LR LR 02 49 17.1
comp=Z,16μm,20.6s,baz=184,slow=36
MURT Porto Murtinho 98.22 223 *e*P Pdif 02 03 17.9 +0.6
KSM Kuching 98.22 59 P Pdif 02 03 23.7 +6.1
AMBA Amambai (Brazi 98.89 220 *e*P **P 02 03 21.2 +0.9**
GO01 Chusmiza 99.05 234 IAMs_20 IAMs_20 02 45 32.7
comp=Z,13μm,22.0s
PB08 IPOC Station P 99.49 234 IAMs_20 IAMs_20 02 45 45.4
comp=Z,12μm,22.0s
PB08 IPOC Station P 99.49 234 PP **PP 02 07 31.6 +4.4**
LBTB Lobatse 99.66 146 LR LR 02 50 53.3
comp=Z,29μm,20.5s,baz=354,slow=37
PB09 IPOC Station P 101.10 233 IAMs_20 IAMs_20 02 44 53.0
comp=Z,10μm,20.0s
LVC Limon Verde 101.80 233 P **Pdif 02 03 34.1 +0.5**
comp=Z,2.6nm,0.9s,baz=71,slow=5.5,SNR=2.1
CPUP Villa Florida 102.68 221 P **Pdif 02 03 38.0 +1.0**
comp=Z,1.1nm,0.6s,baz=20,slow=3.4,SNR=1.8
BOSA Boshof 103.12 147 Pdiff **Pdif 02 03 39.9 +0.8**
comp=Z,1.9nm,1.0s,baz=0.0,slow=4.0,SNR=1.9
BOSA PP **PP 02 07 56.3 +2.0**
comp=Z,12nm,1.2s,baz=3.3,slow=11,SNR=2.2
SANI Sanana 105.53 45 PP **PP 02 08 15.8 +4.1**
SANI Sanana 105.53 45 P **Pdif 02 03 54.8 +4.7**
AC01 Pan de Azucar 105.61 233 IAMs_20 IAMs_20 02 50 52.3
comp=Z,10μm,20.0s
TARA Tarawa 107.17 356 IAMs_20 IAMs_20 02 47 51.3
comp=Z,11μm,22.0s
FAKI Fak Fak 107.70 38 IAMs_20 IAMs_20 02 54 31.5
comp=Z,16μm,22.0s
CO01 Juntas del Tor 109.14 232 IAMs_20 IAMs_20 02 51 29.8
comp=Z,13μm,20.0s
TAOE Nuku Hiva Isla 110.00 305 *e*P **Pdif 02 04 01.1 -8.9**
comp=Z,228nm,29.2s
TAOE Nuku Hiva Isla 110.00 305 *e*PP **PP 02 08 44.2 -0.4**
comp=Z,1μm,39.2s
TAOE Nuku Hiva Isla 110.00 305 *e*SS SS 02 24 08.7 -0.7
comp=Z,12μm,34.2s
TAOE Nuku Hiva Isla 110.00 305 *e*LQ LQ 02 35 15.8
comp=Z,49μm,49.0s
TAOE *e*LR LR 02 40 35.0
comp=Z,23μm,36.0s
TAOE Nuku Hiva Isla 110.00 305 IAMs_20 IAMs_20 02 50 06.9
comp=Z,10μm,21.0s
CO06 Fray Jorge 110.19 233 IAMs_20 IAMs_20 02 49 33.7
comp=Z,10μm,21.0s
ZON Zonda 110.28 230 IAMs_20 IAMs_20 02 48 24.3
comp=Z,11μm,22.0s
MMRI Maumere 111.01 50 IAMs_20 IAMs_20 03 04 15.8
comp=Z,9μm,20.0s
VA03 San Esteban 111.91 231 IAMs_20 IAMs_20 03 04 42.2
comp=Z,9μm,18.0s
PEL Peldehue 112.30 231 IAMs_20 IAMs_20 02 57 55.6
comp=Z,11μm,20.0s
MT08 Bocatoma Ro 112.42 231 IAMs_20 IAMs_20 02 53 27.0
comp=Z,12μm,20.0s
VA01 Torpederas 112.43 232 IAMs_20 IAMs_20 02 53 24.9
comp=Z,10μm,19.0s
MT02 Curacav 112.52 232 IAMs_20 IAMs_20 02 57 55.6
comp=Z,9μm,21.0s
MT16 CCHEN 112.53 231 IAMs_20 IAMs_20 02 55 53.8
comp=Z,9μm,20.0s
MT05 Renca 112.55 231 IAMs_20 IAMs_20 02 57 49.3
comp=Z,9μm,21.0s
SOEI Soe 112.58 48 PP **PP 02 08 59.9 -3.2**
MT03 Universidad Ad 112.59 231 IAMs_20 IAMs_20 02 52 17.4
comp=Z,10μm,22.0s
LMEL Las Melosas 112.85 231 IAMs_20 IAMs_20 03 05 20.3
comp=Z,13μm,20.0s
BO04 La Punta 113.09 231 IAMs_20 IAMs_20 03 02 11.5
comp=Z,9μm,19.0s
BO01 Tunca 113.59 231 IAMs_20 IAMs_20 02 58 53.8
comp=Z,9μm,20.0s
BO02 Sierra Bellavi 113.89 231 IAMs_20 IAMs_20 02 52 09.9
comp=Z,9μm,20.0s
ML02 Panimavida 114.97 231 IAMs_20 IAMs_20 02 52 18.5
comp=Z,14μm,22.0s
BI02 San Fabin de 115.80 231 IAMs_20 IAMs_20 02 56 09.1
comp=Z,12μm,21.0s
BI05 Punta Hualpn 116.35 232 IAMs_20 IAMs_20 02 57 30.8
comp=Z,8μm,20.0s
PMOR Pomariorio Ree 117.85 311 *e*LR LR 02 44 19.1
comp=Z,17μm,21.5s
VAH Vaihoa 118.01 311 *e*LR LR 02 44 21.7
comp=Z,21μm,21.5s
GO06 Currarrehue 118.62 230 IAMs_20 IAMs_20 03 01 03.7
comp=Z,11μm,20.0s
LR03 Panguipulli 118.88 230 IAMs_20 IAMs_20 03 01 23.6
comp=Z,11μm,21.0s
LR05 Currie 119.36 230 IAMs_20 IAMs_20 03 07 31.4
comp=Z,9μm,20.0s
LR04 Corral 119.38 231 IAMs_20 IAMs_20 03 01 48.8
comp=Z,11μm,20.0s
PLCA Paso Flores 119.48 229 PKP **PKPdf 02 08 28.0 -1.1**
comp=Z,2.4nm,1.0s,baz=281,slow=1.6,SNR=1.8
PLCA Paso Flores 119.48 229 PKIKP **PKPdf 02 08 28.0 -1.1**
LL04 Puerto Octay 120.10 230 IAMs_20 IAMs_20 02 58 42.0
comp=Z,9μm,20.0s
LL03 Petrohue 120.31 230 IAMs_20 IAMs_20 03 01 39.7
comp=Z,8μm,20.0s
COEN Coen 120.42 29 IAMs_20 IAMs_20 03 07 14.6
comp=Z,9μm,22.0s
PPT2 Papeete2 120.74 312 *e*PP **PP 02 09 58.2 -1.9**
comp=Z,1μm,30.2s
PPT2 Papeete2 120.74 312 *e*SS SS 02 26 32.2 +1.9
comp=Z,57μm,31.2s
PPT2 Papeete2 120.74 312 *e*LQ LQ 02 40 25.7
comp=Z,24μm,35.8s
PPT2 *e*LR LR 02 45 32.0
comp=Z,24μm,26.8s
PPT2 *e*LR LR 02 45 34.4
comp=Z,35μm,26.5s
PAE Paea 120.81 312 *e*LR LR 02 45 36.5
comp=Z,6μm,26.1s
LL05 Los Muermos 120.83 231 IAMs_20 IAMs_20 02 58 34.3
comp=Z,10μm,20.0s
AFI Afiamalu 121.18 338 IAMs_20 IAMs_20 02 59 58.3
comp=Z,8μm,19.0s
RKT Rikitea 122.16 295 *e*PP **PP 02 10 11.6 +1.8**
comp=Z,4μm,30.0s
RKT Rikitea 122.16 295 *e*SS SS 02 26 47.3 -1.2
comp=Z,42μm,36.5s
RKT Rikitea 122.16 295 *e*LQ LQ 02 40 58.3
comp=Z,144μm,34.5s
RKT *e*LR LR 02 46 14.2
comp=Z,106μm,25.0s
FUTU Fugatoga 122.22 345 IAMs_20 IAMs_20 02 58 45.8
comp=Z,9μm,20.0s
MBWA Marble Bar 122.38 56 IAMs_20 IAMs_20 03 06 40.5
comp=Z,10μm,20.0s
PTCN Pitcairn Islan 122.56 289 IAMs_20 IAMs_20 03 01 10.8
comp=Z,9μm,19.0s
PSA00 Pilbara Seismi 122.81 56 **PKPdf 02 08 33.7 -2.3**
WRAB Tennant Creek 124.67 40 IAMs_20 IAMs_20 03 12 45.5
comp=Z,7μm,21.0s
WRA Warramunga Arr 124.68 40 **PKPdf 02 08 37.6 -2.0**
WRA Warramunga Arr 124.68 40 PKP **PKPdf 02 08 37.9 -1.7**
comp=Z,11nm,1.0s,baz=326,slow=2.3,SNR=25
WRA PP **PP 02 10 28.6 +1.9**
comp=Z,6.8nm,1.2s,baz=344,slow=3.9,SNR=1.2
MSVF Nonsavu 125.90 349 IAMs_20 IAMs_20 02 58 23.3
comp=Z,7μm,21.0s
TBI Tubuai 126.25 310 *e*PP **PP 02 10 40.6 +3.4**
comp=Z,10μm,30.0s
TBI Tubuai 126.25 310 *e*SS SS 02 27 35.1 -4.9
comp=Z,202μm,36.5s
TBI Tubuai 126.25 310 *e*LQ LQ 02 42 48.5
comp=Z,91μm,37.5s
TBI *e*LR LR 02 48 08.0
comp=Z,122μm,28.2s
TBI *e*LR LR 02 48 11.9
comp=Z,26μm,31.2s
RAR Rarotonga 126.44 323 IAMs_20 IAMs_20 02 57 34.6
comp=Z,10μm,22.0s
CTAO Charters Tower 126.90 27 IAMs_20 IAMs_20 03 10 53.3
comp=Z,10μm,22.0s
ASAR Alice Springs 128.20 42 **PKPdf 02 08 44.5 -1.8**
ASAR Alice Springs 128.20 42 PKP **PKPdf 02 08 45.2 -1.0**
comp=Z,9.5nm,0.8s,baz=359,slow=1.7,SNR=25
ASAR PP **PP 02 10 52.2 +2.2**
comp=Z,5.0nm,0.9s,baz=281,slow=1.2,SNR=2.6
DZM Mont Dzumac 130.49 3 *e*P **PKiKP 02 08 57.5 +5.9**
comp=Z,103nm,1.2s
DZM Mont Dzumac 130.49 3 *e*PP **PP 02 11 00.0 -4.9**
comp=Z,3μm,26.6s
DZM Mont Dzumac 130.49 3 *e*SS SS 02 28 33.6 +1.3
comp=Z,21μm,31.1s
DZM Mont Dzumac 130.49 3 *e*LQ LQ 02 44 18.7
comp=Z,64μm,35.1s
DZM *e*LR LR 02 50 04.3
comp=Z,20μm,25.9s
DZM Mont Dzumac 130.49 3 PKP **PKiKP 02 08 51.3 -0.3**
comp=Z,5.3nm,0.9s,baz=312,slow=5.7,SNR=2.1
EIDS Eidsvold 132.74 22 IAMs_20 IAMs_20 03 13 54.7
comp=Z,10μm,22.0s
RAO Raoul Island 137.01 343 IAMs_20 IAMs_20 03 08 12.4
comp=Z,10μm,22.0s
STKA Stephens Creek 137.69 35 PKhKP PKPpre 02 08 57.8
comp=Z,5.6nm,0.8s,baz=309,slow=7.5,SNR=7.4
STKA PKP **PKPdf 02 09 02.7 -1.1**
comp=Z,5.6nm,0.7s,baz=312,slow=8.2,SNR=7.2
STKA PP **PP 02 11 50.2 -0.5**
comp=Z,2.1nm,0.7s,baz=318,slow=10,SNR=1.7
VNA1 Neumayer--Stat 141.98 178 ⇑PKPdf **PKPdf 02 09 06.0 -4.4**
comp=Z,4.3nm,1.3s
VNA2 Neumayer--Watz 142.26 178 ⇑PKPdf **PKPdf 02 09 06.5 -4.4**
comp=Z,1.0nm,0.7s,baz=359,slow=5.0
VNA2 ⇑PP **PP 02 12 16.8 -2.0**
comp=Z,134μm,0.0s,baz=140,slow=2.8
VNA3 Neumayer Olymp 142.56 179 ⇑PKPdf **PKPdf 02 09 06.6 -4.9**
comp=Z,1.1nm,0.6s
VNA3 ⇑PP **PP 02 12 26.4 +5.8**
comp=Z,573nm,3.2s
NVL N'lazarevskaya 142.88 168 *e*PKIKP **PKPdf 02 09 13.5 +1.6**
NVL *e*PPP PPP 02 15 37.0
NVL *e* 02 16 23.3
NVL pmax pmax
comp=Z,116nm,1.8s
SNAA Sanae 143.09 176 ⇑PKPdf PKPab 02 09 08.1 +0.2
comp=Z,109nm,0.9s
SNAA ⇑PP **PP 02 12 29.8 +6.0**
comp=Z,49μm,4.8s
SNAA Sanae 143.09 176 PKP PKPbc 02 09 10.7 +1.3
comp=Z,4.0nm,0.7s,baz=2.5,slow=4.5,SNR=16
SNAA PP **PP 02 12 23.8 0.0**
comp=Z,13nm,1.1s,baz=11,slow=8.0,SNR=1.8
OUZ Omahuta 143.51 353 IAMs_20 IAMs_20 03 07 25.4
comp=Z,9μm,22.0s
TROLL Troll, Antarti 143.61 173 ⇑PKPdf PKPbc 02 09 11.4 +0.5
comp=Z,275nm,0.7s
TROLL ⇑PP **PP 02 12 32.5 +5.4**
comp=Z,2.2nm,0.1s
ELIB Princess Elisa 144.99 162 *d*PKPdf PKPbc 02 09 14.8 -0.4
ELIB *d*PKP **PKiKP 02 09 25.8 +6.1**
URZ Urewera 146.36 348 PKPbc **PKPdf 02 09 18.5 -0.5**
comp=Z,12nm,0.8s,baz=83,slow=8.4,SNR=3.1
URZ PP **PP 02 12 42.9 -0.2**
comp=Z,7.8nm,1.0s,baz=268,slow=19,SNR=1.1
BKZ Black Stump Fm 147.30 349 IAMs_20 IAMs_20 03 16 23.7
comp=Z,7μm,21.0s
MAW Mawson 147.40 137 PKPbc **PKPbc 02 09 21.9 -0.4**
comp=Z,36nm,0.8s,baz=306,slow=6.4,SNR=20
MAW PP **PP 02 12 50.2 +0.8**
comp=Z,7.4nm,1.0s,baz=273,slow=8.8,SNR=1.8
MRZ Mangatainoka R 148.84 350 IAMs_20 IAMs_20 03 08 35.5
comp=Z,8μm,22.0s
QRZ Quartz Range 149.14 354 IAMs_20 IAMs_20 03 05 41.3
comp=Z,7μm,22.0s
TAU Tasmania Unive 149.43 32 **PKiKP 02 09 30.5 +1.0**
TAU Tasmania Unive 149.43 32 PKP2 **PKiKP 02 09 30.5 +1.0**
NNZ Nelson 149.50 353 IAMs_20 IAMs_20 03 10 49.9
comp=Z,8μm,22.0s
INZ Inchbonnie 151.07 356 IAMs_20 IAMs_20 03 29 34.3
comp=Z,7μm,19.0s
CTZ Chatham Island 151.19 337 IAMs_20 IAMs_20 03 16 08.2
comp=Z,7μm,19.0s
GVZ Greta Valley S 151.26 353 IAMs_20 IAMs_20 03 33 13.5
comp=Z,8μm,22.0s
OXZ Oxford 151.65 355 IAMs_20 IAMs_20 03 27 58.8
comp=Z,7μm,21.0s
RPZ Rata Peaks 152.06 356 **PKPab 02 09 41.2 -3.0**
ODZ Otahua Downs 153.40 357 IAMs_20 IAMs_20 03 31 03.0
comp=Z,7μm,20.0s
QSPA South Pole Qui 161.50 180 PKP **PKPdf 02 09 38.6 -0.8**
comp=Z,6.2nm,1.1s,baz=299,slow=1.6,SNR=8.5
QSPA PKPab **PKPab 02 10 23.6 -0.7**
comp=Z,27nm,1.0s,baz=178,slow=2.1,SNR=3.7
QSPA PP **PP 02 14 12.7 +4.0**
comp=Z,15nm,1.1s,baz=212,slow=6.5,SNR=2.9
SBA Scott Base 173.64 176 **PKPab 02 11 19.8 +2.2**
SBA Scott Base 173.64 176 PKP2 **PKPab 02 11 19.8 +2.2**

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*ATH **09** 01:58:01.8, 37.°33N×20.°63E, h12km±1km, ML3.8/8,*
Manual Solution by F.Gkika This location: 2020/09/23
13:09:43 ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 1
km; Longitude uncertainty: 1 km
*THE **09** 01:58:03.0, 37.°36N×20.°63E, h0km±3km, ML3.6/13, Error*
ellipse: s-maj=3.7km s-min=0.7km az=228.0
ISC 09 01:58:02.8±1.4, 37.°36N±0.°04×20.°65E±0.°05, h9km±9km,
n44, σ0.°71/69, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.33**	**23**	P	**Pg**	**01 58 09.4**	**0.0**
KRI1				S	**Sg**	**01 58 15.2**	**+1.3**
20μm,0.4s							
LTHK	**Lithakia**	**0.38**	**23**	P	**Pg**	**01 58 10.0**	**-0.3**
LTHK				S	**Sg**	**01 58 16.0**	**+0.6**
33μm,0.3s							
LTHK	**Lithakia**	**0.38**	**23**	P	**Pg**	**01 58 10.1**	**-0.3**

LTHK				S	Sg	01 58 15.7	+0.2
RTZL	**Ratzakli, Kefa**	**0.72**	**8**	P	Pg	01 58 16.4	-0.4
RTZL				S	Sb	01 58 27.3	-0.4
8μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.76**	**356**	P	Pg	01 58 17.4	0.0
PSDA				S	Sb	01 58 28.8	+0.2
6μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.76**	**356**	P	Pg	01 58 17.2	-0.3
PSDA				S	Sg	01 58 27.8	+0.4
VLS	**Valsamata**	**0.82**	**357**	P	Pg	01 58 18.2	-0.5
VLS				S	Sb	01 58 30.2	-0.3
4μm,0.4s							
VLS	**Valsamata**	**0.82**	**357**	P	Pg	01 58 17.9	-0.8
VLS				S	Sb	01 58 30.2	-0.3
LXRA	**Lixouri, Kepha**	**0.86**	**349**	P	Pg	01 58 19.2	-0.2
LXRA				S	Sg	01 58 30.6	+0.1
AMT	**Artemida-Makis**	**0.86**	**78**	P	Pg	01 58 18.9	-0.5
AMT				S	Sg	01 58 30.6	0.0
LXR1	**Lixouri, Cepha**	**0.86**	**349**	P	Pg	01 58 19.4	0.0
LXR1				S	Sb	01 58 32.6	+1.1
22μm,0.4s							
SMHA	**Samh**	**0.89**	**360**	P	Pg	01 58 18.5	-1.5
SMHA				S	Sg	01 58 31.9	+0.2
DMLN	**Damoulianata-K**	**0.91**	**346**	P	Pg	01 58 20.0	-0.3
DMLN				S	Sb	01 58 33.8	+0.8
7μm,0.6s							
DMLN	**Damoulianata-K**	**0.91**	**346**	P	Pg	01 58 19.9	-0.4
RLS	**Riolos of Patr**	**0.95**	**42**	P	Pg	01 58 20.3	-0.9
RLS				S	Sb	01 58 35.0	+0.8
1μm,0.6s							
RLS	**Riolos of Patr**	**0.95**	**42**	P	Pg	01 58 20.0	-1.2
PYL	**PYLOS**	**0.99**	**117**	P	Pg	01 58 21.5	-0.3
PYL				S	Sn	01 58 37.4	+0.5
PYL	**PYLOS**	**0.99**	**117**	P	Pg	01 58 21.4	-0.3
PYL				S	Sg	01 58 34.4	-0.1
DRO	**Drossia**	**1.03**	**54**	P	Pg	01 58 22.0	-0.6
DRO				S	Sn	01 58 38.7	+0.6
2μm,0.3s							
DRO	**Drossia**	**1.03**	**54**	P	Pg	01 58 20.8	-1.8
DRO				S	Sg	01 58 35.9	-0.1
ITM	**Ithomi**	**1.03**	**99**	P	Pg	01 58 22.1	-0.6
ITM				S	Sb	01 58 37.6	+1.1
1μm,0.7s							
ITM	**Ithomi**	**1.03**	**99**	P	Pg	01 58 22.1	-0.6
ITM				S	Sg	01 58 36.2	+0.1
VSK1	**VASILIKIADES**	**1.05**	**356**	P	Pg	01 58 22.4	-0.7
VSK1				S	Sb	01 58 37.9	+0.7
4μm,0.4s							
FSK	**Fiskardo**	**1.10**	**356**	P	Pg	01 58 23.3	-0.7
FSK				S	Sn	01 58 39.7	-0.1
3μm,0.6s							
FSK	**Fiskardo**	**1.10**	**356**	P	Pg	01 58 23.1	-0.9
FSK				S	Sg	01 58 38.4	0.0
AST1	**Astakos**	**1.23**	**16**	P	Pg	01 58 25.5	-1.0
AST1				S	Sn	01 58 43.7	+0.7
2μm,0.5s							
EVGI	**Lefkada island**	**1.26**	**0**	P	Pn	01 58 25.5	-1.2
EVGI				S	Sb	01 58 43.6	+0.4
DRAG	**Dragano-Lefkad**	**1.33**	**357**	P	Pn	01 58 26.9	-0.6
NYDR	**Nydri-Lefkada**	**1.36**	**2**	P	Pn	01 58 27.5	-0.4
KLV	**Kalavryta, Ach**	**1.37**	**60**	P	Pn	01 58 27.3	-0.9
LKD2	**Lefkada island**	**1.43**	**0**	P	Pn	01 58 27.8	-1.2
EFP	**Efpalio**	**1.46**	**42**	P	Pn	01 58 28.6	-0.8
GUR	**Goura**	**1.46**	**66**	P	Pn	01 58 29.0	-0.5
TSLK	**Tsoukalades, L**	**1.47**	**0**	P	Pn	01 58 29.3	-0.1
KALE	**Kalithea**	**1.57**	**48**	P	Pn	01 58 30.1	-0.8
ANX	**Ano Chora**	**1.59**	**39**	P	Pn	01 58 31.3	0.0
VLI	**Veliai**	**1.94**	**109**	P	Pb	01 58 39.0	+0.7
MAKR	**Makrakomi, Fth**	**2.02**	**35**	P	Pn	01 58 36.8	-0.4
AXAR	**Agios Charalam**	**2.12**	**48**	P	Pn	01 58 38.6	+0.1
IGT	**Igoumenitsa**	**2.19**	**354**	P	Pn	01 58 39.8	+0.4
KEK	**Kerkira**	**2.45**	**344**	P	Pn	01 58 41.9	-1.1
TYRN	**Tyrnavos**	**2.66**	**27**	P	Pn	01 58 45.7	-0.1
DION	**Dionisos Attik**	**2.70**	**74**	P	Pn	01 58 45.1	-1.4
SCTE	**Santa Cesarea**	**3.21**	**328**	P	Pn	01 58 52.2	-1.1

*JMA **09** 02:00:01.0±0.2, 44°.6N±0°.9×14°.6E±°, h21km±1km, MV2.6/14, NEAR KUNASHIRI ISLAND*
*SKHL **09** 02:00:01.1±0.3, 44°.60N×145°.70E, h12km±2km, mb3.6/2*
ISC 09 02:00:01.2±2.3, **44°.6N**±0°.1×**145°.74E**±0°.06, **h18**km±6km, **n10**, σ0s**47**/14, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.53**	**171**	*e*P	**Pg**	**02 00 12.0**	**+0.1**
YUK				AMB	AMB	02 00 12.5	
30nm,0.3s							
YUK				*e*S	**Sb**	**02 00 19.9**	**+0.7**
YUK				A	A	02 00 20.7	
140nm,0.3s							
YUK				A	A	02 00 20.7	
230nm,0.3s							
JRA	**Rausu**	**0.77**	**216**	*e*S	**Sb**	**02 00 25.9**	**-0.1**
JNSB	**Nemuroshibetsu**	**0.95**	**214**	*e*P	**Pb**	**02 00 18.8**	**-0.3**
JNSB				S	**Sb**	**02 00 32.0**	**+0.7**
SHO	**Shikotan**	**1.04**	**131**	*e*P	**Pb**	**02 00 20.6**	**-0.1**
SHO				AMB	AMB	02 00 21.1	
20nm,0.3s							
SHO				*e*S	**Sg**	**02 00 35.4**	**+0.3**
SHO				A	A	02 00 36.1	
220nm,0.5s							
SHO				A	A	02 00 36.1	
160nm,0.5s							
SHO	**Shikotan**	**1.04**	**131**	*e*P	P	02 00 20.4	+8.0
NMR	**Nemuro--Hokkai**	**1.19**	**181**	*e*P	**Pn**	**02 00 22.5**	**-0.4**
NMR				*e*S	**Sb**	**02 00 38.6**	**+0.4**
NMR	**Nemuro--Hokkai**	**1.19**	**181**	*e*P	P	02 00 22.0	+7.0
NEM2	**Nemuro 2**	**1.20**	**180**	*e*P	**Pn**	**02 00 22.2**	**-0.8**
NEM2				*e*S	**Sb**	**02 00 38.5**	**+0.1**
JNK	**Nakash**	**1.22**	**217**	*e*S	**Sb**	**02 00 39.1**	**-0.1**
JTKR	**Abashiri--Toko**	**1.44**	**247**	*e*P	**Pn**	**02 00 26.5**	**+0.2**
JTKR				S	**Sn**	**02 00 45.0**	**+0.1**

*BER **09** 02:04:37.7±1.3, 71°.36N×11°.91W, h29km±52km, mb(Pn)3.9, Confirmed Earthquake*
ISC 09 02:04:33.3±1.0, **71°.59N**±0°.07×**11°.81W**±0°.06, **h11**km, **n11**, σ2s**13**/17, **Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.20**	**122**	*e*P	**Pn**	**02 04 56.5**	**+0.6**
JMI				*e*S	**Sb**	**02 05 09.8**	**-1.5**
JMI				IAML		02 05 15.6	
comp=Z,112nm,0.4s							
JMIC	**Jan Mayen**	**1.23**	**118**	*e*P	**Pn**	**02 04 56.5**	**+0.2**
JMIC				*e*S	**Sb**	**02 05 10.6**	**-1.6**
JMIC				IAML		02 05 11.9	
comp=Z,232nm,0.4s							
JNW	**Jan Mayen West**	**1.23**	**116**	*e*P	**Pg**	**02 04 56.8**	**0.0**
JNW				*e*S	**Sb**	**02 05 10.7**	**-1.5**
JNW				IAML		02 05 12.2	
comp=Z,188nm,0.2s							
JNE	**Jan Mayen East**	**1.28**	**116**	*e*P	**Pn**	**02 04 57.3**	**+0.2**
JNE				*e*S	**Sb**	**02 05 11.8**	**-2.1**
JNE				IAML		02 05 16.5	
comp=Z,170nm,0.3s							
SCO	**Scoresbysund**	**3.49**	**256**	*i* P	**Pn**	**02 05 29.0**	**+1.6**
SCO				*i* S	**Sn**	**02 06 06.9**	**-1.7**
DBG	**Daneborg**	**3.69**	**322**	*i* S	**Sn**	**02 06 10.0**	**-3.5**
DAG	**Danmarks Havn**	**5.53**	**343**	*e*P	**Pn**	**02 05 57.2**	**+1.8**
DAG				*e*S	**Sn**	**02 06 55.2**	**-3.6**
HSPB	**Hornsund (broa**	**9.09**	**41**	*e*P	**Pn**	**02 06 46.3**	**+2.2**
SPA0	**Spitsbergen Ar**	**9.75**	**35**	*e*P	**Pn**	**02 06 56.0**	**+2.8**
STOK	**Stokkvaagen**	**10.29**	**108**	*e*P	**Pn**	**02 07 02.4**	**+1.7**
TRO	**Tromso**	**10.33**	**86**	*e*	**Pn**	**02 07 02.4**	**+1.3**

*IDC **09** 02:07:34.5±0.9, 14°.65N×55°.74E, h0km, mb3.8/13, mbtmp3.8/14, ML2.6/1, Error ellipse: s-maj=23.4km s-min=21.2km az=124.0*
*NEIC **09** 02:07:40.0±2.6, 15°.00N±0°.07×55°.5E±0°.1, h10km±2km, mb4.1/6, Error ellipse: s-maj=23.8km s-min=11.6km az=93.0*
ISC 09 02:07:38.1±0.8, **14°.7N**±0°.1×**55°.7E**±0°.1, **h22**km, **n30**, σ1s**58**/26, **mb4.0**/24, **Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**8.90**	**18**	Pn	**Pn**	**02 09 45.5**	**0.0**
0.1nm,0.3s,baz=108,slow=13,SNR=1.9							
3.4nm,0.7s							
RAYN	**Ar Rayn**	**13.00**	**314**	Pn	**Pn**	**02 10 39.8**	**-1.9**
MMAI	**Mount Meron Ar**	**25.90**	**318**	P	**P**	**02 13 10.6**	**+1.8**
0.8nm,0.7s,baz=122,slow=16,SNR=2.1							
0.8nm,0.7s							
MK31	**Makanchi Array**	**38.92**	**29**	P	**P**	**02 15 05.2**	**+2.9**
MK31				IAmb	IAmb	02 15 20.6	
comp=Z,3.7nm,1.4s							
MKAR	**Makanchi Array**	**38.92**	**29**	P	**P**	**02 15 01.5**	**-0.8**
comp=Z,0.6nm,0.7s,baz=240,slow=12,SNR=2.5							
comp=Z,0.6nm,0.7s							
BVAR	**Borovoye Array**	**39.94**	**14**	P	**P**	**02 15 11.2**	**+0.5**
comp=Z,0.4nm,0.5s,baz=205,slow=6.4,SNR=2.6							
comp=Z,0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**40.29**	**22**	P	**P**	**02 15 13.7**	**+0.2**
comp=Z,0.3nm,0.5s,baz=221,slow=8.1,SNR=4.2							
comp=Z,0.3nm,0.5s							
PUK	**Puka**	**41.14**	**319**	P	**P**	**02 15 21.0**	**+0.2**
PUK				IAmb	IAmb	02 15 33.0	
comp=Z,5.7nm,1.0s							
CMAR	**Chiang Mai Arr**	**41.54**	**79**	P	**P**	**02 15 25.4**	**+1.0**
comp=Z,1.1nm,0.2s,baz=277,slow=9.0,SNR=1.5							
comp=Z,1.1nm,0.2s							
ZALV	**Zalesovo Beam**	**45.29**	**24**	P	**P**	**02 15 54.8**	**+0.7**
comp=Z,1.4nm,0.6s,baz=237,slow=8.1,SNR=5.7							
comp=Z,1.4nm,0.6s							
ARSA	**Arzberg**	**46.48**	**323**	*i* Pn	**P**	**02 15 58.9**	**-4.7**
comp=Z,0.7nm,0.4s							
SOKA	**Soboth**	**46.48**	**322**	*i* Pn	P	02 15 57.6	-6.1
comp=Z,0.1nm,0.2s							
OBKA	**Obir**	**46.69**	**321**	*i* P	**P**	**02 16 05.7**	**+0.4**
comp=Z,0.7nm,0.4s							
MYKA	**Terra Mystica**	**47.29**	**321**	*i* P	**P**	**02 16 11.7**	**+1.6**
comp=Z,2.2nm,0.5s							
TAM	**Tamanrasset**	**47.99**	**287**	P	**P**	**02 16 17.8**	**+1.8**
TAM				IAmb	IAmb	02 16 32.1	
comp=Z,0.5nm,0.9s							
LESA	**Schwarzleotal**	**48.25**	**322**	*e*Pn	**P**	**02 16 18.2**	**+0.7**
comp=Z,0.6nm,0.3s							
WTTA	**Wattenberg**	**48.81**	**321**	*e*Pn	**P**	**02 16 23.3**	**+1.4**
comp=Z,0.4nm,0.3s							
MOTA	**Moosalm**	**49.17**	**321**	*i* Pn	**P**	**02 16 25.6**	**+1.0**
comp=Z,1.2nm,0.4s							
FETA	**Feichten**	**49.26**	**320**	*e*Pn	**P**	**02 16 26.4**	**+1.0**
comp=Z,1.3nm,0.7s							
FINES	**FINESS Array B**	**51.26**	**342**	P	**P**	**02 16 40.1**	**+0.1**
comp=Z,0.8nm,0.7s,baz=116,slow=13,SNR=3.3							
comp=Z,0.8nm,0.7s							
BOSA	**Boshof**	**52.19**	**214**	P	**P**	**02 16 46.7**	**-0.9**
comp=Z,4.7nm,1.1s,baz=342,slow=9.6,SNR=3.4							
comp=Z,4.7nm,1.1s							
TORD	**Torodi Ar. Bea**	**52.33**	**275**	P	**P**	**02 16 48.7**	**-0.1**
comp=Z,1.2nm,1.1s,baz=79,slow=8.6,SNR=4.6							
comp=Z,1.2nm,1.1s							
SONM	**Songino Array**	**53.16**	**41**	P	**P**	**02 16 52.6**	**-1.9**
comp=Z,0.1nm,0.3s,baz=235,slow=5.1,SNR=1.6							
comp=Z,0.1nm,0.3s							
HFS	**Hagfors**	**54.64**	**336**	P	**P**	**02 17 04.5**	**-0.5**
comp=Z,1.7nm,1.0s,baz=151,slow=3.3,SNR=1.8							
comp=Z,1.7nm,1.0s							
H01W3	**Cape Leeuwin H**	**74.19**	**133**	T	T	03 40 00.9	
baz=302,slow=75,SNR=10							
H01W2	**Cape Leeuwin H**	**74.20**	**133**	T	T	03 40 00.8	
baz=302,slow=75,SNR=7.0							
H01W1	**Cape Leeuwin H**	**74.21**	**133**	T	T	03 40 02.4	
baz=302,slow=75,SNR=6.7							
WRA	**Warramunga Arr**	**84.63**	**112**	P	**P**	**02 20 09.6**	**-1.0**
comp=Z,1.9nm,1.1s,baz=301,slow=3.8,SNR=4.6							
comp=Z,1.9nm,1.1s							
ASAR	**Alice Springs**	**85.39**	**116**	P	**P**	**02 20 14.1**	**-0.3**
comp=Z,0.8nm,0.8s,baz=291,slow=6.1,SNR=4.7							
comp=Z,0.8nm,0.8s							
NVAR	**Mina Array Bea**	**126.82**	**354**	PKP	**PKiKP**	**02 26 42.1**	**+0.8**
comp=Z,0.6nm,0.8s,baz=159,slow=1.3,SNR=4.2							

*BER **09** 02:10:09.9±0.4, 71°.56N×10°.71W, h0km±391km, mb(Pn)3.6, Confirmed Earthquake*
*DNK **09** 02:10:10.5±0.9, 71°.66N×12°.34W, h0km±13km, ML1.6*
ISC 09 02:10:05.3±1.1, **71°.54N**±0°.07×**11°.28W**±0°.06, **h10**km, **n7**, σ1s**58**/14, **Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.03**	**126**	*e*P	**Pn**	**02 10 26.9**	**+1.2**
JMI				*e*S	**Sb**	**02 10 39.2**	**+0.5**
JMI				IAML		02 10 39.6	
comp=Z,122nm,0.4s							
JNW	**Jan Mayen West**	**1.05**	**118**	*e*P	**Pn**	**02 10 27.0**	**+0.9**
JNW				*e*S	**Sb**	**02 10 39.6**	**+0.2**
JNW				IAML		02 10 42.5	
comp=Z,166nm,0.2s							
JMIC	**Jan Mayen**	**1.05**	**121**	*e*P	**Pn**	**02 10 27.0**	**+0.9**
JMIC				*e*S	**Sb**	**02 10 39.5**	**+0.1**
JMIC				IAML		02 10 40.7	
comp=Z,185nm,0.3s							
JNE	**Jan Mayen East**	**1.11**	**118**	*e*P	**Pn**	**02 10 27.6**	**+0.7**
JNE				*e*S	**Sg**	**02 10 40.3**	**-0.6**
JNE				IAML		02 10 42.7	
comp=Z,207nm,0.1s							
SCO	**Scoresbysund**	**3.65**	**258**	*i* P	**Pn**	**02 11 03.0**	**+1.3**
SCO				*i* S	**Sn**	**02 11 42.9**	**-1.8**
SCO				IAML		02 11 44.7	
comp=Z,0.7nm,0.2s							
DBG	**Daneborg**	**3.83**	**321**	*i* P	**Pn**	**02 11 05.7**	**+1.5**
DBG				*i* S	**Sn**	**02 11 46.9**	**-2.3**
DBG				IAML		02 11 48.1	
comp=Z,4.8nm,0.4s							
DAG	**Danmarks Havn**	**5.63**	**342**	*i* P	**Pn**	**02 11 31.0**	**+2.2**
DAG				*i* S	**Sn**	**02 12 30.9**	**-2.5**
DAG				IAML		02 12 33.2	
comp=Z,4.2nm,0.2s							

*IDC **09** 02:10:14.1±3.1, 26°.06N×124°.66E, h206km±35km, mb3.3/7, mbtmp3.8/10, Error ellipse: s-maj=42.9km s-min=20.0km az=62.0*
*JMA **09** 02:10:15.4±0.3, 26°N±2°×12°4E±°, h171km, MV4.1/25, EAST CHINA SEA REGION*
ISC 09 02:10:14.2±0.7, **26°.00N**±0°.09×**124°.55E**±0°.06, **h210**km±9km, **n38**, σ1s**18**/51, **mb3.5**/7, **Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**1.25**	**149**	S	**Sn**	**02 11 11.9**	**-0.1**
JIRB	**Irabujima**	**1.30**	**154**	P	**Pn**	**02 10 47.6**	**+0.5**
JIRB				S	**Sn**	**02 11 12.0**	**-0.8**
JTJ	**Tarama**	**1.36**	**174**	*i* P	**Pn**	**02 10 48.6**	**+0.9**
JTJ				S	**Sn**	**02 11 12.7**	**-1.1**
JISG	**Ishigakijimahi**	**1.43**	**189**	*i* P	**Pn**	**02 10 48.7**	**+0.5**
JISG				S	**Sn**	**02 11 13.0**	**-1.6**
JMJ2	**Miyako jima3**	**1.44**	**151**	P	**Pn**	**02 10 49.9**	**+1.5**
JMJ2				S	**Sn**	**02 11 15.0**	**+0.2**
JOGS	**Gusukube**	**1.46**	**148**	*i* P	**Pn**	**02 10 50.3**	**+1.8**
JOGS				S	**Sn**	**02 11 15.6**	**+0.5**
JIJ	**Ishigaki jima**	**1.68**	**193**	*e*P	**Pn**	**02 10 50.4**	**0.0**
JIJ				S	**Sn**	**02 11 16.1**	**-2.5**
IRIF	**Iriomote-Funau**	**1.82**	**204**	*i* P	**Pn**	**02 10 51.7**	**0.0**
IRIF				S	**Sn**	**02 11 19.5**	**-1.4**
JKRS	**Kuro-shima**	**1.83**	**196**	*i* P	**Pn**	**02 10 52.1**	**+0.3**
JKRS				S	**Sn**	**02 11 19.2**	**-1.8**
JKE	**Kume jima 2**	**2.04**	**80**	*i* P	**Pn**	**02 10 54.6**	**+0.8**
HATJ	**Hateruma jima**	**2.05**	**199**	P	**Pn**	**02 10 54.2**	**+0.1**
HATJ				S	**Sn**	**02 11 23.4**	**-1.7**
YOJ	**Yonaguni jima**	**2.07**	**223**	P	**Pn**	**02 10 54.5**	**+0.3**
YOJ	**Yonaguni jima**	**2.07**	**223**	P	**Pn**	**02 10 54.5**	**+0.3**
JYNG	**Yonagunijimaku**	**2.12**	**224**	P	**Pn**	**02 10 54.6**	**-0.1**
JAGN	**Aguni-jima**	**2.49**	**76**	P	**Pn**	**02 10 59.1**	**+0.6**
JAGN				S	**Sn**	**02 11 31.7**	**-1.4**
JJT3	**Tamagusuku3**	**2.91**	**87**	P	**Pn**	**02 11 04.8**	**+1.4**
JJT3				S	**Sn**	**02 11 41.7**	**-0.1**
TATO	**Taipei**	**2.95**	**250**	P	**Pn**	**02 11 05.6**	**+1.8**
JNTH	**Nagotoyohara**	**3.16**	**80**	P	**Pn**	**02 11 06.8**	**+0.6**
YHNB	**Yeheng**	**3.16**	**246**	P	**Pn**	**02 11 07.9**	**+1.5**
NACB	**Ninganchiao**	**3.24**	**236**	P	**Pn**	**02 11 06.4**	**-0.8**
JOW	**Kunigami**	**3.44**	**75**	P	**Pn**	**02 11 09.6**	**+0.1**
34nm,0.3s,baz=189,slow=13,SNR=36							
JOW				S	**Sn**	**02 11 49.1**	**-3.8**
106nm,0.3s,baz=318,slow=28,SNR=3.5							
JOW	**Kunigami**	**3.44**	**75**	P	**Pn**	**02 11 09.8**	**+0.3**
JOW				*e*S	**Sn**	**02 11 50.0**	**-3.0**
JYRO	**Yoronjima**	**3.64**	**73**	*i* P	**Pn**	**02 11 12.1**	**+0.1**
JOKE	**Okinoerabujima**	**3.84**	**69**	P	**Pn**	**02 11 14.2**	**-0.2**
YULB	**Yu-li**	**3.94**	**229**	P	**Pn**	**02 11 14.3**	**-1.3**
SSLB	**Suanglung**	**3.94**	**237**	P	**Pn**	**02 11 16.4**	**+0.7**
JTK	**Tokunoshima**	**4.31**	**65**	P	**Pn**	**02 11 20.0**	**-0.1**
TPUB	**Ta-pu**	**4.47**	**234**	P	**Pn**	**02 11 22.2**	**0.0**
TWGBT	**Beinan**	**4.48**	**226**	P	**Pn**	**02 11 21.9**	**-0.4**
KSRS	**Korea Array**	**11.77**	**13**	P	**Pn**	**02 12 56.3**	**+0.5**
1.6nm,0.7s,baz=225,slow=13,SNR=2.3							
MJAR	**Matsushiro Arr**	**15.69**	**45**	P	**Pn**	**02 13 44.5**	**+0.2**
1.0nm,0.3s,baz=296,slow=21,SNR=1.4							
SONM	**Songino Array**	**26.05**	**331**	P	**P**	**02 15 28.6**	**+0.3**
0.4nm,0.6s,baz=158,slow=9.3,SNR=2.4							
0.4nm,0.6s							
MKAR	**Makanchi Array**	**39.24**	**313**	P	**P**	**02 17 22.7**	**+0.4**
0.6nm,0.4s,baz=102,slow=10.0,SNR=14							
0.6nm,0.4s							
ZALV	**Zalesovo Beam**	**40.46**	**324**	P	**P**	**02 17 31.8**	**-0.4**
1.6nm,0.4s,baz=104,slow=8.6,SNR=5.8							
1.6nm,0.4s							
KURBB	**Kurchatov Arra**	**42.76**	**318**	P	**P**	**02 17 51.1**	**+0.2**
0.3nm,0.4s,baz=108,slow=9.7,SNR=2.6							
0.3nm,0.4s							
WRA	**Warramunga Arr**	**46.65**	**167**	P	**P**	**02 18 22.3**	**+0.5**
0.5nm,0.9s,baz=350,slow=8.7,SNR=3.7							
0.5nm,0.9s							
FINES	**FINESS Array B**	**71.41**	**330**	P	**P**	**02 21 11.8**	**+0.5**
0.5nm,0.3s,baz=61,slow=5.1,SNR=11							
0.5nm,0.3s							
HFS	**Hagfors**	**77.46**	**331**	P	**P**	**02 21 45.9**	**-0.2**
2.9nm,1.0s,baz=88,slow=7.7,SNR=5.1							
2.9nm,1.0s							

*IDC **09** 02:19:05.9±1.6, 37°.93N×20°.92E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=53.3km s-min=27.5km az=116.0*
*ATH **09** 02:19:05.7, 37°.57N×20°.38E, h6km±2km, ML3.0/11, Error ellipse: s-maj=2.5km s-min=0.9km az=31.0*
*THE **09** 02:19:06.1, 37°.58N×20°.40E, h5km±2km, ML3.2/10, Error ellipse: s-maj=2.6km s-min=1.0km az=49.0*
ISC 09 02:19:04.6±1.7, **37°.54N**±0°.05×**20°.34E**±0°.06, **h12**km±9km, **n29**, σ0s**58**/51, **mb3.3**/4, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.40**	**72**	P	**Pg**	**02 19 12.8**	**+0.3**
KRI1				S	**Sg**	**02 19 18.1**	**+0.3**
16μm,0.2s							
LTHK	**Lithakia**	**0.43**	**66**	P	**Pg**	**02 19 13.1**	**0.0**
LTHK				S	**Sg**	**02 19 18.6**	**-0.2**
12μm,0.2s							
LTHK	**Lithakia**	**0.43**	**66**	P	**Pg**	**02 19 13.0**	**-0.1**
LTHK				S	**Sg**	**02 19 18.1**	**-0.7**
LTHK				AML	AML	02 19 19.0	
comp=E,28609μm,0.3s							
LTHK				AML	AML	02 19 19.6	
comp=N,17734μm,0.1s							
PSDA	**Pessada-Kefalo**	**0.61**	**18**	P	**Pg**	**02 19 16.1**	**-0.3**
PSDA				S	**Sg**	**02 19 24.4**	**0.0**
comp=N,2μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.61**	**18**	P	**Pg**	**02 19 16.3**	**-0.1**
PSDA				S	**Sg**	**02 19 24.1**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.64**	**32**	P	**Pg**	**02 19 16.4**	**-0.6**
RTZL				S	**Sg**	**02 19 25.2**	**-0.2**
comp=N,2μm,0.3s							
LXRA	**Lixouri, Kepha**	**0.67**	**6**	P	**Pg**	**02 19 17.5**	**0.0**
LXRA				S	**Sb**	**02 19 27.0**	**-0.2**
LXRA				AML	AML	02 19 32.2	
comp=E,4717μm,0.3s							
LXRA				AML	AML	02 19 36.9	
comp=N,4048μm,0.3s							
LXR1	**Lixouri, Cepha**	**0.67**	**7**	P	**Pb**	**02 19 19.0**	**+0.9**
LXR1				S	**Sb**	**02 19 27.3**	**0.0**
comp=N,5μm,0.4s							
VLS	**Valsamata**	**0.67**	**17**	P	**Pg**	**02 19 17.2**	**-0.3**
VLS				S	**Sg**	**02 19 26.1**	**-0.3**
comp=N,1μm,0.3s							
VLS	**Valsamata**	**0.67**	**17**	P	**Pg**	**02 19 17.3**	**-0.3**
VLS				S	**Sg**	**02 19 26.0**	**-0.3**
VLS				AML	AML	02 19 33.7	
comp=N,2695μm,0.3s							
VLS				AML	AML	02 19 34.6	
comp=E,1852μm,0.3s							
DMLN	**Damoulianata-K**	**0.70**	**2**	P	**Pg**	**02 19 17.8**	**-0.4**
DMLN				S	**Sb**	**02 19 28.8**	**+0.5**
comp=E,2μm,0.6s							
DMLN	**Damoulianata-K**	**0.70**	**2**	P	**Pg**	**02 19 18.2**	**+0.1**
DMLN				S	**Sg**	**02 19 27.9**	**+0.5**
SMHA	**Samh**	**0.75**	**19**	P	**Pg**	**02 19 18.8**	**-0.4**
SMHA				S	**Sg**	**02 19 28.3**	**-0.7**
SMHA				AML	AML	02 19 33.4	
comp=N,9430μm,0.5s							
SMHA				AML	AML	02 19 36.7	
comp=E,6015μm,0.5s							
VSK1	**VASILIKIADES**	**0.89**	**11**	P	**Pg**	**02 19 21.1**	**-0.6**
VSK1				S	**Sb**	**02 19 34.4**	**+0.7**
comp=E,2μm,0.5s							
FSK	**Fiskardo**	**0.94**	**11**	P	**Pg**	**02 19 22.5**	**-0.1**
FSK				S	**Sg**	**02 19 34.8**	**-0.1**
FSK				AML

ISC 09 02:25:45.0±0.5, 47°29S±0°.09×13°.28W±0°.10, h10km, n47, σ0°99/42, mb4.5/20, 5C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**23.56**	**176**	⇑P	**P**	**02 30 55.1**	**0.0**
	comp=Z,4.7nm,1.0s						
VNA2	**Neumayer--Watz**	**23.88**	**175**	⇑P	**P**	**02 30 58.2**	**0.0**
	comp=Z,2.7nm,0.7s,baz=351,slow=9.6						
VNA3	**Neumayer Olymp**	**24.09**	**177**	⇑P	**P**	**02 31 00.2**	**-0.1**
	comp=Z,3.0nm,0.7s						
SNAA	**Sanae**	**24.95**	**172**	P	**P**	**02 31 06.9**	**-1.2**
SNAA				IAmb	IAmb	02 31 11.7	
	comp=Z,27nm,1.5s						
SNAA	**Sanae**	**24.95**	**172**	⇑P	**P**	**02 31 08.5**	**+0.4**
	comp=Z,86nm,1.1s						
SNAA	**Sanae**	**24.95**	**172**	P	**P**	**02 31 09.4**	**+1.3**
	comp=Z,9.2nm,1.2s,baz=2.3,slow=11,SNR=9.5						
	comp=Z,9.2nm,1.2s						
TROLL	**Troll, Antarti**	**25.87**	**169**	⇑P	**P**	**02 31 17.8**	**+1.3**
	comp=Z,2.1nm,0.1s						
BELA	**Belgrano 2**	**31.79**	**188**	P	**P**	**02 32 08.3**	**-0.7**
BOSA	**Boshof**	**35.20**	**72**	P	**P**	**02 32 39.5**	**+0.2**
BOSA	**Boshof**	**35.20**	**72**	P	**P**	**02 32 39.7**	**+0.3**
	comp=Z,5.1nm,1.1s,baz=195,slow=19,SNR=2.7						
	comp=Z,5.1nm,1.1s						
TSUM	**Tsumeb**	**37.66**	**53**	P	**P**	**02 33 00.3**	**-0.1**
LBTB	**Lobatse**	**37.92**	**68**	P	**P**	**02 33 00.8**	**-1.8**
H10S2	**ASCENSION HYDR**	**38.22**	**358**	T	T	03 14 07.4	
	baz=42,slow=74,SNR=5.2						
H10S3	**ASCENSION HYDR**	**38.22**	**358**	T	T	03 13 52.6	
	baz=178,slow=74,SNR=6.4						
CPUP	**Villa Florida**	**40.33**	**285**	P	**P**	**02 33 23.2**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=191,slow=10,SNR=2.0						
	comp=Z,2.3nm,0.8s						
MAW	**Mawson**	**42.35**	**146**	P	**P**	**02 33 39.1**	**+0.5**
	comp=Z,3.9nm,1.1s,baz=224,slow=4.2,SNR=6.4						
	comp=Z,3.9nm,1.1s						
BDFB	**Brasilia**	**42.67**	**306**	P	**P**	**02 33 41.9**	**-0.1**
BDFB				IAmb	IAmb	02 33 43.9	
	comp=Z,52nm,2.0s						
BDFB	**Brasilia**	**42.67**	**306**	P	**P**	**02 33 41.7**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=176,slow=19,SNR=2.6						
	comp=Z,2.2nm,0.7s						
QSPA	**South Pole Qui**	**42.97**	**180**	P	**P**	**02 33 45.0**	**+1.1**
QSPA				IAmb	IAmb	02 33 46.3	
	comp=Z,38nm,1.6s						
QSPA	**South Pole Qui**	**42.97**	**180**	P	**P**	**02 33 44.3**	**+0.4**
	comp=Z,6.9nm,1.1s,baz=219,slow=3.6,SNR=13						
	comp=Z,6.9nm,1.1s						
H04S2	**CROZET ISLANDS**	**43.20**	**115**	T	T	03 20 26.1	
	baz=245,slow=75,SNR=206						
H04S3	**CROZET ISLANDS**	**43.21**	**114**	T	T	03 20 27.5	
	baz=245,slow=75,SNR=134						
H04S1	**CROZET ISLANDS**	**43.22**	**115**	T	T	03 20 27.0	
	baz=245,slow=75,SNR=180						
MT09	**Talagante**	**44.90**	**266**	P	**P**	**02 33 59.2**	**-0.7**
CO03	**El Pedregal**	**46.44**	**269**	P	**P**	**02 34 12.5**	**+0.4**
CO03				IAmb	IAmb	02 35 12.5	
	comp=Z,17nm,1.4s						
GO04	**Tololo Observa**	**46.93**	**270**	P	**P**	**02 34 15.5**	**-0.5**
GO02	**Mina Guanaco**	**49.31**	**276**	P	**P**	**02 34 35.6**	**+1.1**
PB09	**IPOC Station P**	**51.35**	**280**	P	**P**	**02 34 49.1**	**-0.7**
PB01	**IPOC Station P**	**52.03**	**280**	P	**P**	**02 34 52.3**	**-2.6**
PB01				IAmb	IAmb	02 35 02.2	
	comp=Z,30nm,1.4s						
GO01	**Chusmiza**	**52.80**	**282**	P	**P**	**02 35 01.9**	**+0.9**
PB11	**IPOC Station P**	**53.04**	**281**	P	**P**	**02 35 02.4**	**0.0**
PB11				IAmb	IAmb	02 35 09.1	
	comp=Z,21nm,1.1s						
DBIC	**Dimbokro**	**54.24**	**10**	P	**P**	**02 35 11.2**	**+0.2**
	comp=Z,4.5nm,1.1s,baz=165,slow=5.0,SNR=1.8						
	comp=Z,4.5nm,1.1s						
LPAZ	**La Paz**	**54.51**	**285**	P	**P**	**02 35 12.3**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=188,slow=4.0,SNR=3.6						
	comp=Z,0.9nm,0.8s						
SAML	**Samuel**	**56.88**	**296**	P	**P**	**02 35 30.1**	**+0.1**
SAML				IAmb	IAmb	02 35 36.7	
	comp=Z,12nm,1.2s						
ETMB	**Extrema**	**58.10**	**292**	P	**P**	**02 35 38.1**	**-0.5**
ETMB				IAmb	IAmb	02 35 39.8	
	comp=Z,12nm,1.4s						
TORD	**Torodi Ar. Bea**	**61.64**	**17**	P	**P**	**02 36 02.8**	**-0.1**
	comp=Z,2.6nm,1.1s,baz=179,slow=2.0,SNR=7.1						
	comp=Z,2.6nm,1.1s						
TAM	**Tamanrasset**	**71.79**	**18**	P	**P**	**02 37 08.6**	**+0.9**
TAM				IAmb	IAmb	02 37 16.1	
	comp=Z,12nm,1.6s						
OTAV	**Otavalo**	**73.57**	**289**	P	**P**	**02 37 20.6**	**+1.7**
OTAV				IAmb	IAmb	02 37 36.4	
	comp=Z,12nm,1.4s						
RUSC	**La Rusia**	**74.58**	**297**	P	**P**	**02 37 24.2**	**-0.6**
ESDC	**Sonseca Array**	**86.98**	**7**	P	**P**	**02 38 31.7**	**+1.8**
	comp=Z,3.0nm,1.0s,baz=177,slow=4.0,SNR=7.6						
	comp=Z,3.0nm,1.0s						
BVAR	**Borovoye Array**	**122.58**	**45**	PKP	**PKPdf**	**02 44 39.6**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=278,slow=5.5,SNR=2.2						
PDAR	**Pinedale Array**	**123.39**	**299**	PKP	**PKPdf**	**02 44 40.1**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=76,slow=3.8,SNR=3.5						
KURBB	**Kurchatov Arra**	**125.34**	**51**	PKP	**PKPdf**	**02 44 44.4**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=223,slow=3.4,SNR=2.6						
NVAR	**Mina Array Bea**	**126.30**	**290**	PKP	**PKPdf**	**02 44 46.2**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=156,slow=4.6,SNR=2.1						
SONM	**Songino Array**	**140.21**	**66**	PKP	**PKPdf**	**02 45 12.2**	**-1.2**
	comp=Z,0.2nm,0.2s,baz=252,slow=4.1,SNR=1.7						
ILAR	**Eielson Array**	**149.66**	**322**	PKPbc	**PKPbc**	**02 45 33.5**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=18,slow=0.9,SNR=21						
KSRS	**Korea Array**	**149.98**	**95**	PKPbc	**PKPbc**	**02 45 34.7**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=243,slow=4.0,SNR=2.3						

*NAO **09** 02:38:56.2±3.5, 71°.47N×11°.67W, ML2.8*
*BER **09** 02:39:00.7±0.4, 71°.54N×11°.05W, h0km±520km, mb(Pn)3.9, ML2.8(NAO), Confirmed Earthquake*
*DNK **09** 02:39:03.0±3.9, 71°.69N×12°.49W, h11km±52km, ML1.6*

ISC 09 02:38:52.5±0.8, 71°30N±0°.07×12°.69W±0°.04, h13km, n24, σ2°23/33, 1D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.34**	**104**	Pg	**Pg**	**02 39 18.6**	**+0.4**
JMI				Lg	Lg	02 39 31.6	
JMI	**Jan Mayen**	**1.34**	**104**	*e*P	**Pg**	**02 39 18.6**	**+0.4**
JMI				*e*S	**Sb**	**02 39 31.7**	**-2.7**
JMI				IAML		02 39 37.2	
	comp=Z,156nm,0.4s						
JMIC	**Jan Mayen**	**1.40**	**101**	Pg	**Pb**	**02 39 18.6**	**+0.2**
JMIC				Lg	Lg	02 39 32.2	
JMIC	**Jan Mayen**	**1.40**	**101**	*i*P	**Pb**	**02 39 18.7**	**+0.4**
JMIC				*e*S	**Sn**	**02 39 32.2**	**-3.6**
JMIC				IAML		02 39 33.8	
	comp=Z,269nm,0.4s						
JNW	**Jan Mayen West**	**1.41**	**99**	*e*P	**Pb**	**02 39 19.1**	**+0.5**
JNW				*e*S	**Sn**	**02 39 32.3**	**-3.9**
JNW				IAML		02 39 34.9	
	comp=Z,296nm,0.2s						
JNE	**Jan Mayen East**	**1.46**	**100**	*e*P	**Pb**	**02 39 19.5**	**+0.1**
JNE				*e*S	**Sn**	**02 39 33.1**	**-4.3**
JNE				IAML		02 39 37.5	
	comp=Z,227nm,0.2s						
SCO	**Scoresbysund**	**3.15**	**259**	*i*P	**Pg**	**02 39 53.0**	**+0.2**
SCO				*i*S	**Sg**	**02 40 31.9**	**-1.8**
SCO				IAML		02 40 33.5	
	comp=Z,1.4nm,0.2s						
DBG	**Daneborg**	**3.76**	**327**	Pn	**Pb**	**02 39 55.2**	**-3.2**
DBG				Sn	**Sn**	**02 40 33.5**	**-0.4**
DBG	**Daneborg**	**3.76**	**327**	*e*P	**Pb**	**02 39 55.6**	**-2.9**
DBG				*e*S	**Sn**	**02 40 34.7**	**+0.8**
DBG	**Daneborg**	**3.76**	**327**	*i*P	**Pb**	**02 39 56.4**	**-2.1**
DBG				*i*S	**Sn**	**02 40 35.0**	**+1.0**
DBG				IAML		02 40 36.5	
	comp=Z,12nm,0.2s						
DAG	**Danmarks Havn**	**5.74**	**346**	*e*P	**Pn**	**02 40 20.7**	**+3.5**
DAG				*e*S	**Sn**	**02 41 19.8**	**-2.9**
DAG	**Danmarks Havn**	**5.74**	**346**	*i*P	**Pn**	**02 40 20.6**	**+3.4**
DAG				*i*S	**Sn**	**02 41 20.7**	**-2.0**
DAG				IAML		02 41 22.7	
	comp=Z,2.6nm,0.2s						
SUMG	**Summit**	**8.07**	**291**	*i*P	Pb	02 41 01.0	-11
HSPB	**Hornsund (broa**	**9.49**	**40**	Pn	**Pn**	**02 41 09.3**	**+0.8**
HSPB	**Hornsund (broa**	**9.49**	**40**	*e*P	**Pn**	**02 41 09.3**	**+0.8**
BRBB	**Barentsburg B**	**9.72**	**34**	Pn	**Pn**	**02 41 12.6**	**+0.9**
KBS	**Kingsbay**	**9.81**	**28**	*e*P	**Pn**	**02 41 14.4**	**+1.6**
KBS				IAML		02 42 50.0	
	comp=Z,4.4nm,0.6s						
KBS				*e*		02 42 53.3	
SPA0	**Spitsbergen Ar**	**10.15**	**35**	Pn	**Pn**	**02 41 19.2**	**+1.6**
	baz=234,slow=14						
SPA0	**Spitsbergen Ar**	**10.15**	**35**	P	**Pn**	**02 41 19.2**	**+1.6**
	baz=234,slow=14						
NOR	**Nord**	**10.40**	**357**	Pn	**Pn**	**02 41 23.1**	**+2.2**
NOR	**Nord**	**10.40**	**357**	*e*P	**Pn**	**02 41 23.0**	**+2.1**
NOR				*e*S	Sn	02 43 06.7	-10
STOK	**Stokkvaagen**	**10.48**	**106**	*e*P	**Pn**	**02 41 24.5**	**+2.4**
ARA0	**ARCESS Array S**	**12.78**	**80**	Pn	**Pn**	**02 41 55.0**	**+1.4**
	baz=287,slow=12						
ARA0	**ARCESS Array S**	**12.78**	**80**	P	**Pn**	**02 41 55.0**	**+1.4**
	baz=287,slow=12						

*IDC **09** 02:42:00.8±2.1, 2°.33S×122°.87E, h0km, mb4.2/4, mbtmp4.3/6, ML4.3/2, Error ellipse: s-maj=47.6km s-min=38.4km az=37.0*
*NEIC **09** 02:42:04±1.4, 2°.42S±0°.05×122°.78E±0°.08, h10km±1km, mb4.4/9, Error ellipse: s-maj=14.3km s-min=9.2km az=264.0*
*DJA **09** 02:42:06.7±2.1, 2°.S±2°.×12°.3E±°, h36km±46km, M4.4/15, mb4.5/3, mB5.5/1, MLv4.4/15, Mw(mB)5.0/1*

ISC 09 02:42:06.9±0.7, 2°.45S±0°.05×122°.84E±0°.06, h35km, n33, σ1°40/37, mb4.5/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.40**	**357**		**Pn**	**02 42 28.4**	**-1.6**
LUWI				Sn	**Sn**	**02 42 47.1**	**-0.2**
LUWI	**Luwuk**	**1.40**	**357**	P	**Pn**	**02 42 29.1**	**-0.9**
LUWI				S	**Sn**	**02 42 47.5**	**+0.2**
APSI	**Ampana**	**1.94**	**322**	P	**Pn**	**02 42 40.0**	**+2.6**
BBSI	**Bau Bau**	**3.03**	**185**	P	**Pn**	**02 42 52.4**	**+0.1**
SANI	**Sanana**	**3.17**	**83**	P	**Pn**	**02 42 51.7**	**-2.6**
SANI				S	**Sn**	**02 43 27.7**	**-3.2**
KMSI	**Cibinong**	**3.21**	**21**	P	Pn	02 43 09.8	+15
BNSI	**Bone**	**3.35**	**235**	P	**Pn**	**02 42 55.4**	**-1.3**
SPSI	**Sidrap Palu**	**3.42**	**244**	P	**Pn**	**02 42 57.3**	**-0.4**
BKSI	**Bulukumba**	**3.94**	**224**	P	**Pn**	**02 43 04.5**	**-0.3**
KAPI	**Kappang**	**4.00**	**230**	Pn	**Pn**	**02 43 04.5**	**-1.2**
	16nm,0.3s,baz=146,slow=20,SNR=7.5						
KAPI				Sn	**Sn**	**02 43 50.3**	**-1.0**
	12nm,0.3s,baz=4.8,slow=9.7,SNR=6.5						
	32nm,0.3s						
MPSI	**Mapaga**	**4.04**	**313**	P	**Pn**	**02 43 04.9**	**-1.4**
TOLI2	**Tolitoli**	**4.10**	**330**	Pn	**Pn**	**02 43 07.2**	**+0.1**
BSSI	**Bau Bau, Buton**	**4.35**	**213**	P	**Pn**	**02 43 09.1**	**-1.5**
TNTI	**Ternate**	**5.54**	**55**		**Pn**	**02 43 27.0**	**+0.1**
TNTI	**Ternate**	**5.54**	**55**	P	Pn	02 43 32.9	+6.0
BKB	**Balikpapan**	**6.06**	**281**	Pn	**Pn**	**02 43 34.0**	**0.0**
SOEI	**Soe**	**7.39**	**169**		**Pn**	**02 43 55.6**	**+3.1**
SOEI	**Soe**	**7.39**	**169**	P	**Pn**	**02 43 54.9**	**+2.4**
BATI	**Baumata**	**7.75**	**174**	Pn	**Pn**	**02 43 56.0**	**-1.3**
	4.2nm,0.3s,baz=141,slow=19,SNR=1.4						
	18nm,0.4s						
FAKI	**Fak Fak**	**9.41**	**93**	Pn	**Pn**	**02 44 22.7**	**+2.7**
FITZ	**Fitzroy Crossi**	**15.79**	**170**	P	**P**	**02 45 50.0**	**-0.1**
WB0	**Warramunga Arr**	**20.58**	**148**	P	**P**	**02 46 43.0**	**+0.1**
WB0				IAmb	IAmb	02 46 47.5	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**20.70**	**148**	P	**P**	**02 46 43.1**	**-1.1**
	comp=Z,3.6nm,0.7s,baz=335,slow=9.8,SNR=17						
WRA				PcP	**PcP**	**02 50 53.6**	**0.0**
	comp=Z,0.4nm,1.1s,baz=335,slow=1.7,SNR=1.0						
	comp=Z,3.6nm,0.7s						
WR0	**Warramunga Arr**	**20.82**	**148**	P	**P**	**02 46 45.7**	**+0.2**
WR0				IAmb	IAmb	02 46 49.7	
	comp=Z,8.2nm,0.7s						
COEN	**Coen**	**23.11**	**121**	P	**P**	**02 47 09.2**	**-0.8**
COEN				IAmb	IAmb	02 47 39.5	
	comp=Z,25nm,1.4s						
AS31	**Alice Springs**	**23.65**	**154**		**P**	**02 47 15.9**	**+0.6**
ASAR	**Alice Springs**	**23.65**	**154**	P	**P**	**02 47 15.7**	**+0.4**
	comp=Z,6.0nm,0.6s,baz=332,slow=8.5,SNR=70						
ASAR				PcP	**PcP**	**02 50 59.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=337,slow=1.8,SNR=6.7						
	comp=Z,6.0nm,0.6s						
BBOO	**Buckleboo**	**32.65**	**159**	P	**P**	**02 48 35.8**	**+0.1**
STKA	**Stephens Creek**	**34.19**	**151**	P	**P**	**02 48 49.7**	**+0.6**
STKA	**Stephens Creek**	**34.19**	**151**	P	**P**	**02 48 48.9**	**-0.2**
	comp=Z,5.4nm,0.7s,baz=319,slow=9.2,SNR=15						
	comp=Z,5.4nm,0.7s						
CAN	**Canberra**	**40.73**	**146**	P	**P**	**02 49 46.2**	**+1.7**
QSPA	**South Pole Qui**	**87.50**	**180**	P	**P**	**02 54 50.6**	**-0.2**
QSPA				IAmb	IAmb	02 54 54.9	
	comp=Z,6.7nm,1.5s						
QSPA	**South Pole Qui**	**87.50**	**180**	P	**P**	**02 54 50.4**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=340,slow=0.7,SNR=9.4						
	comp=Z,1.1nm,0.8s						

*BER **09** 02:44:03.2±0.6, 71°.45N×9°.69W, h2km±215km, mb(Pn)3.9, ML2.5, Confirmed Earthquake*

ISC 09 02:43:60.0±1.5, 71°.4N±0°.1×10°.4W±0°.1, h10km, n12, σ1°80/17, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**0.72**	**129**	*e*P	**Pb**	**02 44 14.9**	**+0.4**
JMI				*e*S	**Sg**	**02 44 23.4**	**+0.2**
JMI				IAML		02 44 27.5	
	comp=Z,134nm,0.4s						
JNW	**Jan Mayen West**	**0.74**	**118**	*e*P	**Pb**	**02 44 14.7**	**-0.2**
JNW				*e*S	**Sg**	**02 44 23.1**	**-0.8**
JNW				IAML		02 44 25.0	
	comp=Z,154nm,0.2s						
JMIC	**Jan Mayen**	**0.74**	**121**	*e*P	**Pb**	**02 44 14.7**	**-0.2**
JMIC				*e*S	**Sg**	**02 44 23.2**	**-0.7**
JMIC				IAML		02 44 28.0	
	comp=Z,125nm,0.5s						
JNE	**Jan Mayen East**	**0.80**	**119**	*e*P	**Pg**	**02 44 15.2**	**-0.1**
JNE				*e*S	**Sg**	**02 44 24.1**	**-1.6**
JNE				IAML		02 44 25.4	
	comp=Z,249nm,0.2s						
DBG	**Daneborg**	**4.12**	**320**	*e*S	**Sn**	**02 45 48.4**	**-2.7**
DAG	**Danmarks Havn**	**5.86**	**341**	*e*P	**Pn**	**02 45 28.7**	**+2.0**
DAG				*e*S	**Sn**	**02 46 30.8**	**-3.0**
DAG	**Danmarks Havn**	**5.86**	**341**	*i*P	**Pn**	**02 45 28.5**	**+1.8**
HSPB	**Hornsund (broa**	**8.96**	**40**	*e*P	**Pn**	**02 46 10.4**	**+1.3**
HSPB				IAML		02 46 13.0	
	comp=Z,3.5nm,0.9s						
BRBB	**Barentsburg B**	**9.25**	**33**	*e*P	**Pn**	**02 46 14.3**	**+1.2**
KBS	**Kingsbay**	**9.40**	**27**	*e*P	**Pn**	**02 46 16.9**	**+1.8**
KBS				IAML		02 46 19.6	
	comp=Z,6.4nm,0.8s						
SPA0	**Spitsbergen Ar**	**9.68**	**34**	*e*P	**Pn**	**02 46 21.5**	**+2.5**
NOR	**Nord**	**10.37**	**355**	*e*P	**Pn**	**02 46 30.7**	**+2.3**

*DNK **09** 02:52:25.5±3.6, 71°.45N×11°.54W, h36km±44km, ML1.2*
*BER **09** 02:52:26.0±0.3, 71°.50N×11°.06W, h0km±431km, mb(Pn)3.9, Confirmed Earthquake*

ISC 09 02:52:20.2±0.9, 71°.63N±0°.06×11°.39W±0°.05, h10km, n17, σ3°23/27, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.11**	**128**	*e*P	**Pn**	**02 52 43.6**	**+1.8**
JMI				*e*S	**Sn**	**02 52 56.5**	**-0.6**
JMI				IAML		02 53 02.0	
	comp=Z,208nm,0.4s						
JNW	**Jan Mayen West**	**1.13**	**121**	*e*P	**Pn**	**02 52 44.2**	**+2.1**
JNW				*e*S	**Sn**	**02 52 57.0**	**-0.5**
JNW				IAML		02 52 60.0	
	comp=Z,338nm,0.2s						
JMIC	**Jan Mayen**	**1.13**	**123**	*e*P	**Pn**	**02 52 43.8**	**+1.7**
JMIC				*e*S	**Sn**	**02 52 57.1**	**-0.5**
JMIC				IAML		02 52 58.6	
	comp=Z,226nm,0.1s						
JMIC	**Jan Mayen**	**1.13**	**123**	*i*P	**Pn**	**02 52 42.6**	**+0.5**
JNE	**Jan Mayen East**	**1.19**	**121**	*e*P	**Pn**	**02 52 44.6**	**+1.8**
JNE				*e*S	**Sg**	**02 52 58.1**	**-0.3**
JNE				IAML		02 53 02.5	
	comp=Z,306nm,0.2s						
SCO	**Scoresbysund**	**3.63**	**257**	*i*P	**Pn**	**02 53 16.8**	**+0.5**
SCO				*i*S	**Sn**	**02 53 55.2**	**-3.9**
SCO				IAML		02 54 01.0	
	comp=Z,1.5nm,0.3s						
DBG	**Daneborg**	**3.74**	**320**	*e*P	**Pn**	**02 53 21.1**	**+3.2**
DBG				*e*S	**Sn**	**02 54 00.1**	**-1.8**
DBG	**Daneborg**	**3.74**	**320**	*i*P	**Pn**	**02 53 21.1**	**+3.2**
DBG				*i*S	**Sn**	**02 53 60.0**	**-1.8**
DAG	**Danmarks Havn**	**5.53**	**342**	*e*P	**Pn**	**02 53 45.8**	**+3.3**
DAG				*e*	**S**	**02 54 43.1**	**-2.8**
DAG				*e*S	**S**	**02 54 43.1**	**-2.8**
DAG	**Danmarks Havn**	**5.53**	**342**	*i*P	**Pn**	**02 53 44.2**	**+1.8**
DAG				*i*S	**Sn**	**02 54 45.8**	**-0.2**
SUMG	**Summit**	**8.35**	**289**	*i*P	Pn	02 54 26.8	+5.4
HSPB	**Hornsund (broa**	**8.97**	**41**	*e*P	**Pn**	**02 54 34.2**	**+4.8**
KBS	**Kingsbay**	**9.32**	**28**	*e*P	**Pn**	**02 54 38.4**	**+4.0**
KBS				*e*S	**Sn**	**02 56 15.1**	**-3.9**
KBS				IAML		02 56 16.4	
	comp=Z,4.0nm,0.7s						
SPA0	**Spitsbergen Ar**	**9.64**	**35**	*e*P	Pn	02 54 44.1	+5.4
STEI	**Steigen**	**9.88**	**99**	*e*P	Pn	02 54 46.9	+5.0
NOR	**Nord**	**10.09**	**356**	*e*P	**Pn**	**02 54 48.7**	**+3.8**
NOR				*e*S	**Sn**	**02 56 31.5**	**-6.5**
STOK	**Stokkvaagen**	**10.18**	**109**	*e*P	**Pn**	**02 54 49.8**	**+3.6**
STOK				*e*S	**Sn**	**02 56 34.1**	**-6.1**
STOK				IAML		02 56 46.4	
	comp=Z,1.6nm,1.0s						

*IDC **09** 02:56:42.7±5.5, 23°.94S×176°.87W, h118km±46km, mb3.2/3, mbtmp3.8/4, Error ellipse: s-maj=49.3km s-min=42.5km az=69.0*

ISC 09 02:56:42.3±1.8, 23°.9S±0°.2×176°.8W±0°.4, h120km, n6, σ0°39/6, mb3.4/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.82**	**321**	P	**Pn**	**02 58 33.6**	**+0.1**
	36nm,0.9s,baz=151,slow=17,SNR=13						
ASAR	**Alice Springs**	**44.93**	**260**	P	**P**	**03 04 45.9**	**+0.4**
	0.2nm,0.3s,baz=87,slow=7.5,SNR=1.2						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**45.34**	**265**	P	**P**	**03 04 48.2**	**-0.5**
	0.4nm,0.6s,baz=98,slow=8.5,SNR=9.1						
	0.4nm,0.6s						
QSPA	**South Pole Qui**	**66.17**	**180**	P	**P**	**03 07 16.8**	**0.0**
	0.9nm,1.0s,baz=38,slow=15,SNR=1.6						
	0.9nm,1.0s						
AKASG	**Malin Array Be**	**146.53**	**330**	PKPbc	**PKPbc**	**03 16 09.2**	**-0.2**
	0.2nm,0.3s,baz=45,slow=2.5,SNR=2.5						
MMAI	**Mount Meron Ar**	**150.38**	**295**	PKPbc	**PKiKP**	**03 16 20.9**	**+0.1**
	0.5nm,0.4s,baz=66,slow=7.1,SNR=1.7						

IDC 09 02:58:59.7±6.8, 20°.26S×172°.64W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=313.0km s-min=40.0km az=144.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**49.46**	**256**	P	P	03 07 52.0	-0.2
	2.4nm,0.9s,baz=94,slow=7.7,SNR=11						
	2.4nm,0.9s						
WRA	**Warramunga Arr**	**49.61**	**261**	P	P	03 07 53.5	+0.2
	0.4nm,0.4s,baz=98,slow=8.6,SNR=15						
	0.4nm,0.4s						
H03S2	**Juan Fernandez**	**81.94**	**123**	T	T	04 40 42.9	
	baz=245,slow=74,SNR=50						
H03S1	**Juan Fernandez**	**81.96**	**123**	T	T	04 40 41.2	
	baz=245,slow=74,SNR=49						
H03S3	**Juan Fernandez**	**81.96**	**123**	T	T	04 40 41.1	
	baz=245,slow=74,SNR=59						
H03N2	**Juan Fernandez**	**82.07**	**123**	T	T	04 40 35.5	
	baz=251,slow=73,SNR=20						
H03N3	**Juan Fernandez**	**82.07**	**123**	T	T	04 40 47.1	
	baz=251,slow=73,SNR=35						
H03N1	**Juan Fernandez**	**82.08**	**123**	T	T	04 40 35.0	
	baz=251,slow=73,SNR=24						
ILAR	**Eielson Array**	**87.05**	**11**	P	P	03 11 47.3	+0.6
	0.2nm,0.7s,baz=223,slow=6.1,SNR=1.5						
	0.2nm,0.7s						
BRTR	**Keskin Array B**	**150.27**	**316**	PKPbc	PKPbc	03 18 51.8	-1.5
	0.6nm,0.8s,baz=31,slow=3.4,SNR=2.3						

*BER **09** 03:07:03.1±0.4, 71°.03N×11°.22W, h0km, mb(Pn)3.4, ML2.2, Confirmed Earthquake*
*DNK **09** 03:07:05.0±1.5, 71°.70N×12°.58W, h0km±27km, ML1.0*

ISC 09 03:06:57.2±1.0, 71°57N±0°.08×11°.31W±0°.07, h10km, n8, σ2°54/13, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.05**	**127**	*e*S	**Sn**	**03 07 32.2**	**-0.4**
JMI				IAML		03 07 32.9	
	comp=Z,59nm,0.5s						
JNW	**Jan Mayen West**	**1.07**	**119**	*e*P	**Pn**	**03 07 20.0**	**+1.7**
JNW				*e*S	**Sn**	**03 07 32.7**	**-0.5**
JNW				IAML		03 07 34.4	
	comp=Z,80nm,0.3s						
JMIC	**Jan Mayen**	**1.08**	**122**	*e*P	**Pn**	**03 07 20.0**	**+1.7**
JMIC				*e*S	**Sb**	**03 07 32.4**	**+0

comp=E,6871μm,0.3s
VLS AML AML 03 41 34.5
comp=N,8079μm,0.3s
LXRA Lixouri, Kepha 0.81 353 P **Pg 03 41 19.1 +0.1**
LXRA S **Sg 03 41 30.0 +0.4**
LXRA AML AML 03 41 35.2
comp=E,17577μm,0.6s
LXRA AML AML 03 41 40.6
comp=N,24423μm,0.6s
LXR1 Lixouri, Cepha 0.81 353 P **Pg 03 41 19.3 +0.2**
LXR1 S **Sb 03 41 32.0 +1.4**
comp=N,21μm,0.5s
DMLN Damoulianata-K 0.85 350 P **Pg 03 41 19.9 0.0**
DMLN S **Sb 03 41 32.5 +0.6**
DMLN Damoulianata-K 0.85 350 P **Pg 03 41 19.9 0.0**
DMLN S **Sg 03 41 31.4 +0.3**
SMHA Samh 0.86 4 P **Pg 03 41 19.4 -0.6**
SMHA S **Sg 03 41 31.3 +0.1**
SMHA AML AML 03 41 34.9
comp=N,35316μm,0.4s
SMHA AML AML 03 41 35.0
comp=E,29248μm,0.5s
AMT Artemida-Makis 0.92 81 P **Pb 03 41 21.3 -0.2**
AMT S **Sb 03 41 34.1 +0.3**
AMT AML AML 03 41 41.7
comp=E,15642μm,0.4s
AMT AML AML 03 41 42.8
comp=N,20805μm,0.4s
RLS Riolos of Patr 0.97 47 P **Pg 03 41 21.5 -0.7**
RLS S **Sb 03 41 35.5 +0.2**
comp=N,1μm,0.4s
RLS Riolos of Patr 0.97 47 P **Pg 03 41 21.8 -0.4**
RLS S **Sb 03 41 35.7 +0.4**
RLS AML AML 03 41 40.1
comp=N,1993μm,0.6s
RLS AML AML 03 41 41.9
comp=E,2333μm,0.4s
VSK1 VASILIKIADES 1.01 0 P **Pg 03 41 22.4 -0.5**
VSK1 S **Sn 03 41 38.1 +0.1**
FSK Fiskardo 1.06 360 P **Pg 03 41 23.1 -0.8**
FSK S **Sb 03 41 38.7 +0.9**
comp=E,3μm,0.4s
FSK Fiskardo 1.06 360 P **Pg 03 41 23.1 -0.8**
FSK S **Sb 03 41 37.9 +0.1**
FSK AML AML 03 41 40.5
comp=N,5292μm,0.2s
FSK AML AML 03 41 44.6
comp=E,6366μm,0.6s
PYL PYLOS 1.07 118 P **Pg 03 41 23.5 -0.4**
PYL S **Sn 03 41 40.5 +1.2**
comp=E,2μm,0.5s
PYL PYLOS 1.07 118 P **Pg 03 41 23.5 -0.4**
PYL S **Sb 03 41 38.6 +0.6**
PYL AML AML 03 41 41.1
comp=N,4419μm,0.5s
PYL AML AML 03 41 41.2
comp=E,4746μm,0.5s
DRO Drossia 1.07 58 P **Pg 03 41 23.4 -0.6**
DRO S **Sb 03 41 38.8 +0.8**
comp=E,3μm,0.4s
DRO Drossia 1.07 58 P **Pg 03 41 23.3 -0.7**
DRO S **Sn 03 41 39.1 -0.3**
DRO AML AML 03 41 49.0
comp=N,4268μm,0.5s
DRO AML AML 03 41 49.3
comp=E,6803μm,0.5s
ITM Ithomi 1.11 101 P **Pg 03 41 24.4 -0.4**
ITM S **Sn 03 41 40.7 +0.4**
comp=E,2μm,0.7s
ITM Ithomi 1.11 101 P **Pg 03 41 24.4 -0.4**
ITM S **Sb 03 41 39.8 +0.6**
ITM AML AML 03 41 44.2
comp=E,4440μm,0.8s
ITM AML AML 03 41 45.4
comp=N,3186μm,0.6s
EVGI Lefkada island 1.23 3 P **Pg 03 41 26.4 -0.6**
EVGI S **Sn 03 41 43.4 +0.1**
DRAG Dragano-Lefkad 1.29 0 P **Pg 03 41 27.2 -1.0**
DRAG S **Sb 03 41 44.5 +0.2**
NYDR Nydri-Lefkada 1.32 5 P **Pn 03 41 27.3 -0.6**
NYDR S **Sn 03 41 46.2 +0.7**
KLV Kalavryta, Ach 1.42 62 P **Pn 03 41 29.5 +0.2**
EFP Efpalio 1.48 45 P **Pn 03 41 30.1 0.0**
GUR Goura 1.51 69 P **Pn 03 41 31.0 +0.3**
ANX Ano Chora 1.61 41 P **Pn 03 41 32.1 +0.1**
VLI Veliai 2.02 109 P **Pb 03 41 39.5 -0.7**
VLI S **Sn 03 42 03.9 +1.2**
comp=N,372nm,0.8s
OHR Ohrid 3.71 3 *i* Pn **Pn 03 42 04.6 +3.7**
IDI Anoyia 4.08 120 Pn **Pn 03 42 06.1 +0.2**
comp=N,4.3nm,0.6s,baz=216,slow=20,SNR=1.7
IDI Sn **Sn 03 42 52.5 -1.2**
comp=N,1.2nm,0.3s,baz=14,slow=22,SNR=3.8
PEHC Pehcevo 4.74 22 *i* Pn **Pn 03 42 14.8 -0.2**
VAE Valguarnera 4.90 273 Pn **Pn 03 42 19.1 +2.0**
comp=N,5.4nm,0.6s,baz=121,slow=8.8,SNR=4.1
VAE Sn **Sn 03 43 12.0 -1.8**
comp=N,1.9nm,0.3s,baz=64,slow=17,SNR=1.8
PDG Podgorica 5.13 349 *e*Pn **Pn 03 42 19.3 -0.9**
HCY Herceg Novi 5.29 343 *e*Pn **Pn 03 42 23.3 +0.8**
TREB Trebinje 5.58 343 *e*Pn **Pn 03 42 24.8 -1.6**
SJES Sjenica 5.88 356 *e*Pn **Pn 03 42 26.5 -4.1**
STON Ston 5.89 339 *e*Pn **Pn 03 42 29.0 -1.7**
RUDO Rudo 6.28 352 *e*Pn **Pn 03 42 34.8 -1.3**
BBLS Lazi&#263i 6.52 353 *e*Pn **Pn 03 42 39.6 +0.1**
HAPS Han Pijesak,BI 6.79 350 *e*Pn **Pn 03 42 43.0 -0.2**
A050A Klekovaca 7.71 338 *e*Pn **Pn 03 42 56.3 +0.6**
BLY Banja Luka 7.78 342 *e*Pn **Pn 03 42 57.1 +0.5**
A051A Mrakovica 8.09 341 *e*Pn **Pn 03 42 58.6 -2.4**
MLR Muntele Rosu 9.04 25 Pn **Pn 03 43 14.6 +0.6**
comp=N,0.1nm,0.3s,baz=165,slow=16,SNR=1.5
comp=N,0.7nm,0.5s
KEST Kesra 9.18 263 Pn **Pn 03 43 15.4 -0.5**
comp=N,0.2nm,0.3s,baz=158,slow=18,SNR=1.8
comp=N,1.0nm,0.5s
CRES Cresnjevec Ost 9.25 337 *e*Pn **Pn 03 43 15.9 -0.9**
SKDS Skadanscina 9.51 331 *e*Pn Pn 03 43 28.6 +8.2
CEY Cerknica 9.52 333 *e*Pn **Pn 03 43 20.1 -0.4**
SOKA Soboth 10.14 338 *e*Pn **Pn 03 43 31.4 +2.3**
comp=N,1.4nm,0.4s
OBKA Obir 10.14 336 *e*Pn **Pn 03 43 31.8 +2.6**
comp=N,0.9nm,0.3s
OBKA Obir 10.14 336 *e*Pn **Pn 03 43 30.5 +1.4**
LESA Schwarzleotal 11.59 332 *e*Pn **Pn 03 43 51.9 +3.0**
comp=N,1.9nm,0.5s
DAVOX Davos/Dischmat 12.27 323 Pn **Pn 03 43 58.1 -0.3**
comp=N,0.1nm,0.3s,baz=180,slow=14,SNR=2.0
comp=N,0.3nm,0.3s
EIL Elat 14.25 119 Pn **Pn 03 44 25.2 -0.1**
comp=N,0.2nm,0.3s,baz=306,slow=22,SNR=2.0
comp=N,1.4nm,0.5s
AKASG Malin Array Be 14.67 22 Pn **Pn 03 44 31.0 +0.1**
comp=N,0.1nm,0.3s,baz=212,slow=9.1,SNR=2.0
comp=N,0.1nm,0.3s
ESDC Sonseca Array 19.31 284 P **Pn 03 45 30.4 +0.7**
comp=N,0.1nm,0.3s,baz=75,slow=11,SNR=1.8
comp=N,0.7nm,0.9s
MDT Midelt 21.07 265 P **P 03 45 48.7 +0.9**
comp=N,1.4nm,0.8s,baz=68,slow=11,SNR=2.5
comp=N,1.4nm,0.8s
HFS Hagfors 23.18 351 P **P 03 46 09.3 -0.6**
comp=N,0.8nm,0.6s,baz=152,slow=10,SNR=5.4
comp=N,0.8nm,0.6s
EKA Eskdalemuir Ar 24.09 326 P **P 03 46 18.4 -0.5**
comp=N,4.9nm,1.1s,baz=129,slow=12,SNR=1.1
comp=N,4.9nm,1.1s
FINES FINESS Array B 24.32 6 P **P 03 46 20.9 0.0**
comp=N,0.6nm,0.6s,baz=180,slow=15,SNR=3.6
comp=N,0.6nm,0.6s
NOA NORSAR Array B 24.39 349 P **P 03 46 20.2 -1.5**
comp=N,0.2nm,0.6s,baz=164,slow=11,SNR=1.3
comp=N,0.2nm,0.6s
TORD Torodi Ar. Bea 29.45 220 P **P 03 47 07.6 +0.2**
comp=N,0.4nm,0.5s,baz=30,slow=9.7,SNR=5.6
comp=N,0.4nm,0.5s
BVAR Borovoye Array 37.60 49 P **P 03 48 17.4 -0.5**
comp=N,0.2nm,0.4s,baz=328,slow=5.2,SNR=1.7
comp=N,0.2nm,0.4s
KURBB Kurchatov Arra 42.67 53 P **P 03 48 59.3 -0.7**
comp=N,1.0nm,0.2s,baz=278,slow=8.9,SNR=1.8
comp=N,1.0nm,0.2s
MKAR Makanchi Array 45.69 58 P **P 03 49 23.1 -1.3**
comp=N,0.2nm,0.4s,baz=268,slow=6.8,SNR=1.3
comp=N,0.2nm,0.4s
ZALV Zalesovo Beam 46.19 48 P **P 03 49 28.9 +0.7**
comp=N,0.4nm,0.3s,baz=266,slow=4.3,SNR=1.3
comp=N,0.4nm,0.3s

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*BER **09** 03:48:21.3±0.3, 71°.47N×10°.35W, h3km±999km, ML2.7, Confirmed Earthquake*
ISC 09 03:48:19.3±1.3, 71°.78N±0°.08×9°.0W±0°.2, h10km, n6, σ1s35/9, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.78**	**166**	*e*P	**Pb**	**03 48 35.6**	**+0.7**
JMIC	**Jan Mayen**	**0.82**	**168**	*e*P	**Pb**	**03 48 35.5**	**0.0**
JNE	**Jan Mayen East**	**0.83**	**164**	*e*P	**Pb**	**03 48 36.3**	**+0.5**
JNE				*e*S	**Sb**	**03 48 47.2**	**+0.3**
JNE				IAML		03 48 49.2	
JMI	**Jan Mayen**	**0.86**	**174**	*e*P	**Pg**	**03 48 35.6**	**-0.3**
JMI				*e*S	**Sg**	**03 48 45.8**	**-1.3**
JMI				IAML		03 48 46.2	
DAG	**Danmarks Havn**	**5.65**	**337**	*i* P	**Pn**	**03 49 44.3**	**+1.2**
DAG				*e*S	**Sn**	**03 50 45.5**	**-2.4**
NUUK	**Nuuk**	**17.34**	**266**	*i* S	**S**	**03 55 43.1**	**+0.9**
NUUK				IAML		03 55 46.5	

comp=Z,2.0nm,0.3s

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*SJA **09** 04:04:20.8±0.7, 20°.51S×66°.59W, h253km±6km, ML4.0, MW3.8*
*IDC **09** 04:04:22.6±0.8, 20°.57S×66°.66W, h228km±12km, mb3.2/3, mbtmp4.0/9, Error ellipse: s-maj=20.5km s-min=9.7km az=106.0*
*SCB **09** 04:04:23.3±1.3, 20°.61S×66°.68W, h235km±11km, ML4.1/3, MW3.6, Error ellipse: s-maj=6.1km s-min=3.9km az=0.0*
ISC 09 04:04:23.2±0.8, 20°.63S±0°.04×66°.70W±0°.04, h240km±7km, n41, σ1s33/62, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.17**	**122**	Pg	**Pn**	**04 04 59.0**	**+0.3**
MOCB				Sg	**S**	**04 05 25.2**	**-1.3**
MOCB				IAML		04 05 27.1	
YJA	**Yavi**	**1.89**	**145**	*e*P	**Pn**	**04 05 04.4**	**+0.1**
YJA				*e*S	**S**	**04 05 36.2**	**-0.4**
SOEO	**Opoqueri**	**2.34**	**331**	Pg	**Pn**	**04 05 09.4**	**+0.6**
PB08	**IPOC Station P**	**2.36**	**282**	*e*P	**Pn**	**04 05 08.9**	**+0.2**
PB08				*e*S	**S**	**04 05 45.8**	**+1.4**
PB08				IAML		04 05 46.7	
PB08	**IPOC Station P**	**2.36**	**282**	Pg	**Pn**	**04 05 09.4**	**+0.7**
GO01	**Chusmiza**	**2.54**	**292**	*e*P	**Pn**	**04 05 10.3**	**-0.4**
GO01				*e*S	**S**	**04 05 52.5**	**+4.6**
GO01	**Chusmiza**	**2.54**	**292**	Pg	**Pn**	**04 05 11.1**	**+0.5**
PB01	**IPOC Station P**	**2.64**	**261**	*e*P	**Pn**	**04 05 11.1**	**-0.2**
PB01				*e*S	**S**	**04 05 47.9**	**-1.2**
PB01				IAML		04 05 50.3	
PB01	**IPOC Station P**	**2.64**	**261**	Pg	**Pn**	**04 05 11.3**	**0.0**
PB09	**IPOC Station P**	**2.64**	**244**	*e*P	**Pn**	**04 05 12.0**	**+0.7**
PB09				*e*S	**S**	**04 05 49.5**	**+0.2**
PB09				IAML		04 05 51.4	
PB09	**IPOC Station P**	**2.64**	**244**	Pg	**Pn**	**04 05 12.2**	**+0.8**
PB09				Sg	**S**	**04 05 49.0**	**-0.3**
PB09				IAML		04 05 50.9	
AOEA	**Aiquile**	**2.80**	**30**	Pg	**Pn**	**04 05 12.9**	**-0.4**
HJA	**Humahuaca**	**2.83**	**155**	*e*P	**Pn**	**04 05 13.9**	**+0.3**
HJA				*e*S	**S**	**04 05 53.7**	**+0.4**
HJA				IAML		04 05 58.8	
LVC	**Limon Verde**	**2.85**	**226**	P	**Pn**	**04 05 13.5**	**-0.3**
comp=Z,21nm,0.2s,baz=18,slow=6.9,SNR=88							
LVC				S	**S**	**04 05 52.5**	**-1.1**
comp=Z,26nm,0.3s,baz=275,slow=20,SNR=15							
LVC	**Limon Verde**	**2.85**	**226**	*e*P	**Pn**	**04 05 13.8**	**0.0**
LVC				*e*S	**S**	**04 05 54.1**	**+0.5**
PB11	**IPOC Station P**	**2.91**	**287**	*e*P	**Pn**	**04 05 13.6**	**-0.7**
PB11				*e*S	**S**	**04 05 52.9**	**-1.6**
PB11				IAML		04 05 56.3	
PB11	**IPOC Station P**	**2.91**	**287**	Pg	**Pn**	**04 05 14.2**	**-0.1**
PB11				Sg	**S**	**04 05 52.7**	**-1.8**
PB11				IAML		04 05 55.6	
SOTI	**Planta Incahua**	**2.96**	**75**	Pg	**Pn**	**04 05 14.6**	**-0.2**
TA02	**Huaiquique**	**3.24**	**276**	*e*P	**Pn**	**04 05 17.2**	**-0.5**
TA02				*e*S	**S**	**04 05 58.5**	**-2.2**
TA01	**Diego Aracena**	**3.27**	**271**	*e*P	**Pn**	**04 05 17.2**	**-0.8**
TA01				*e*S	**S**	**04 05 58.5**	**-2.7**
TA01				IAML		04 05 59.4	
PB06	**IPOC Station P**	**3.38**	**232**	*e*P	**Pn**	**04 05 20.0**	**+0.5**
PB06				*e*S	**S**	**04 06 02.5**	**-1.4**
PB06				IAML		04 06 10.0	
PB04	**IPOC Station P**	**3.63**	**242**	*e*P	**Pn**	**04 05 22.6**	**+0.2**
PB04				*e*S	**S**	**04 06 06.8**	**-2.4**
PB04				IAML		04 06 08.6	
PB15	**IPOC Station P**	**3.63**	**225**	*e*P	**Pn**	**04 05 23.1**	**+0.6**
PB15				*e*S	**S**	**04 06 08.0**	**-1.3**
PB15	**IPOC Station P**	**3.63**	**225**	Pg	**Pn**	**04 05 23.4**	**+1.0**
AZAP	**Zapla**	**3.88**	**157**	*e*P	**Pn**	**04 05 25.0**	**-0.4**
AZAP				*e*S	**S**	**04 06 12.5**	**-2.1**
AZAP				IAML		04 06 13.2	
ALOL	**LOMAS DE OLMED**	**4.04**	**142**	*e*P	**Pn**	**04 05 26.1**	**-0.9**
AP01	**Chacalluta**	**4.11**	**303**	*e*P	**Pn**	**04 05 26.5**	**-1.4**
AP01				IAML		04 06 19.5	
SLA	**San Lorenzo**	**4.21**	**165**	*e*P	**Pn**	**04 05 29.8**	**+0.5**
SLA				*e*S	**S**	**04 06 22.0**	**+0.3**
BBOD	**La Paz, Gloria**	**4.36**	**335**	Pg	**Pn**	**04 05 32.7**	**+1.2**
LPAZ	**La Paz**	**4.53**	**342**	P	**Pn**	**04 05 33.8**	**+0.2**
comp=Z,27nm,0.3s,baz=133,slow=4.0,SNR=190							
LPAZ				S	**S**	**04 06 27.1**	**-2.3**
comp=Z,38nm,0.9s,baz=272,slow=19,SNR=12							
LPAZ	**La Paz**	**4.53**	**342**	*e*P	**Pn**	**04 05 34.2**	**+0.6**
LPAZ	**La Paz**	**4.53**	**342**	Pg	**Pn**	**04 05 34.4**	**+0.8**
GO02	**Mina Guanaco**	**5.24**	**210**	*e*P	**Pn**	**04 05 40.8**	**-1.1**
GO02				*e*S	**S**	**04 06 41.3**	**-3.2**
SIV	**San Ignacio**	**7.06**	**50**	P	**Pn**	**04 06 02.7**	**-1.9**
comp=Z,49nm,0.7s,baz=236,slow=9.6,SNR=230							
CPUP	**Villa Florida**	**10.30**	**125**	P	**Pn**	**04 06 45.1**	**-0.5**
comp=Z,1.8nm,0.7s,baz=317,slow=13,SNR=4.7							
NNA	**Nana**	**12.98**	**310**	P	**Pn**	**04 07 19.5**	**+0.1**
comp=Z,4.9nm,0.3s,baz=136,slow=11,SNR=2.4							
BDFB	**Brasília**	**18.43**	**77**	P	**P**	**04 08 22.3**	**+1.0**
comp=Z,1.5nm,0.6s,baz=192,slow=0.7,SNR=3.5							
PLCA	**Paso Flores**	**20.30**	**188**	P	**P**	**04 08 43.2**	**+2.1**
comp=Z,3.5nm,0.6s,baz=13,slow=11,SNR=17							
comp=Z,3.5nm,0.6s							
QSPA	**South Pole Qui**	**69.56**	**180**	P	**P**	**04 15 07.1**	**+1.1**
comp=Z,0.4nm,0.4s,baz=143,slow=5.1,SNR=2.3							
comp=Z,0.4nm,0.4s							
TORD	**Torodi Ar. Bea**	**75.12**	**70**	P	**P**	**04 15 38.1**	**-1.4**
comp=Z,0.2nm,0.3s,baz=245,slow=5.4,SNR=5.4							
comp=Z,0.2nm,0.3s							
WRA	**Warramunga Arr**	**134.72**	**208**	PKP	**PKPdf**	**04 23 14.9**	**+0.9**
comp=Z,0.2nm,0.7s,baz=149,slow=1.8,SNR=4.7							

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*NAO **09** 04:06:40.6±3.1, 71°.44N×11°.16W, ML3.3*
*BER **09** 04:06:41.9±1.9, 71°.40N×11°.31W, h13km±33km, mb(Pn)4.0, ML3.3(NAO), Confirmed Earthquake*
*DNK **09** 04:06:43.1±2.3, 71°.51N×11°.01W, h39km±668km, ML1.7*
ISC 09 04:06:42.2±2.1, 71°.51N±0°.08×11°.11W±0°.06, h27km±22km, n27, σ2s28/36, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**0.97**	**126**	Pg	**Pn**	**04 06 59.6**	**-0.2**
JMI				Lg	Lg	04 07 11.1	
JMI	**Jan Mayen**	**0.97**	**126**	*e*P	**Pn**	**04 06 59.6**	**-0.2**
JMI				*e*S	**Sb**	**04 07 11.2**	**-1.3**
JMI				IAML		04 07 12.6	
comp=Z,281nm,0.3s							
JNW	**Jan Mayen West**	**0.99**	**118**	*e*P	**Pn**	**04 06 59.5**	**-0.7**
JNW				*e*S	**Sb**	**04 07 11.9**	**-1.4**
JNW				IAML		04 07 13.2	
comp=Z,313nm,0.2s							
JMIC	**Jan Mayen**	**0.99**	**121**	Pg	**Pn**	**04 06 59.6**	**-0.6**
JMIC				Lg	Lg	04 07 11.8	
JMIC	**Jan Mayen**	**0.99**	**121**	*e*P	**Pn**	**04 06 59.6**	**-0.6**
JMIC				*e*S	**Sb**	**04 07 12.2**	**-1.1**
JMIC				IAML		04 07 13.1	
comp=Z,263nm,0.3s							
JMIC	**Jan Mayen**	**0.99**	**121**	*i* P	**Pn**	**04 06 59.6**	**-0.6**
JMIC				*e*S	**Sb**	**04 07 12.0**	**-1.3**
JNE	**Jan Mayen East**	**1.05**	**119**	*e*P	**Pn**	**04 07 00.3**	**-0.7**
JNE				*e*S	**Sb**	**04 07 13.4**	**-1.5**
JNE				IAML		04 07 15.4	
comp=Z,332nm,0.2s							
SCO	**Scoresbysund**	**3.69**	**259**	*i* P	**Pn**	**04 07 38.7**	**+1.4**
SCO				*e*S	**Sn**	**04 08 16.7**	**-3.1**
SCO				IAML		04 08 19.7	
comp=Z,1.4nm,0.2s							
DBG	**Daneborg**	**3.89**	**321**	Pn	**Pn**	**04 07 40.8**	**+0.8**
DBG				Sn	**Sn**	**04 08 22.1**	**-2.5**
DBG	**Daneborg**	**3.89**	**321**	Pn	**Pn**	**04 07 40.8**	**+0.8**
DBG				Sn	**Sn**	**04 08 22.1**	**-2.5**
DBG	**Daneborg**	**3.89**	**321**	*i* S	**Sn**	**04 08 20.6**	**-4.1**
DBG				IAML		04 08 24.1	
comp=Z,8.0nm,0.2s							
DAG	**Danmarks Havn**	**5.67**	**342**	*i* P	**Pn**	**04 08 05.0**	**+0.6**
DAG				*i* S	**Sn**	**04 09 03.3**	**-5.2**
DAG				IAML		04 09 06.2	
comp=Z,4.5nm,0.3s							
BRBB	**Barentsburg B**	**9.26**	**33**	Pn	**Pn**	**04 08 56.1**	**+2.5**
BRBB	**Barentsburg B**	**9.26**	**33**	Pn	**Pn**	**04 08 56.1**	**+2.5**
KBS	**Kingsbay**	**9.39**	**28**	Pn	**Pn**	**04 08 56.3**	**+1.0**
KBS	**Kingsbay**	**9.39**	**28**	Pn	**Pn**	**04 08 56.3**	**+1.0**
SPA0	**Spitsbergen Ar**	**9.69**	**34**	Pn	**Pn**	**04 09 01.9**	**+2.5**
baz=232,slow=14							
SPA0	**Spitsbergen Ar**	**9.69**	**34**	Pn	**Pn**	**04 09 01.9**	**+2.5**
baz=232,slow=14							
TRO	**Tromso**	**10.12**	**86**	Pn	**Pn**	**04 09 07.7**	**+2.4**
NOR	**Nord**	**10.22**	**355**	Pn	**Pn**	**04 09 08.6**	**+1.9**
NOR	**Nord**	**10.22**	**355**	Pn	**Pn**	**04 09 08.6**	**+1.9**
JETT	**Jettan, Norway**	**10.62**	**85**	Pn	**Pn**	**04 09 15.4**	**+3.2**
JETT	**Jettan, Norway**	**10.62**	**85**	Pn	**Pn**	**04 09 15.4**	**+3.2**
KIF	**Kilpisjarvi**	**10.99**	**88**	Pn	**Pn**	**04 09 20.1**	**+2.9**
KIF	**Kilpisjarvi**	**10.99**	**88**	Pn	**Pn**	**04 09 20.1**	**+2.9**
ARA0	**ARCESS Array S**	**12.24**	**82**	Pn	**Pn**	**04 09 36.5**	**+2.1**
baz=287,slow=12							
ARA0	**ARCESS Array S**	**12.24**	**82**	Pn	**Pn**	**04 09 36.5**	**+2.1**
baz=287,slow=12							

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*IDC **09** 04:11:58.2±2.0, 37°.48N×20°.61E, h0km, mb3.7/9, mbtmp3.6/14, ML3.6/5, Error ellipse: s-maj=34.6km s-min=22.4km az=23.0*
*ATH **09** 04:12:02.5, 37°.47N×20°.53E, h8km±1km, ML3.5/10, Error ellipse: s-maj=2.0km s-min=0.7km az=45.0*
*THE **09** 04:12:02.7, 37°.48N×20°.55E, h6km±8km, ML3.6/12, Error ellipse: s-maj=8.3km s-min=0.5km az=49.0*
ISC 09 04:11:59.4±1.3, 37°.39N±0°.04×20°.39E±0°.04, h10km±8km, n71, σ1s45/98, mb3.7/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.44**	**52**	P	**Pg**	**04 12 08.5**	**+0.5**
KRI1				S	**Sg**	**04 12 12.4**	**-1.3**
19μm,0.2s							
LTHK	**Lithakia**	**0.48**	**48**	P	**Pg**	**04 12 09.1**	**+0.4**
LTHK				S	**Sg**	**04 12 13.3**	**-1.8**
18μm,0.3s							
LTHK	**Lithakia**	**0.48**	**48**	P	**Pg**	**04 12 09.1**	**+0.4**
LTHK				S	**Sg**	**04 12 13.5**	**-1.6**
LTHK				AML	AML	04 12 13.8	
comp=N,43610μm,0.5s							
LTHK				AML	AML	04 12 13.9	
comp=E,25032μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.74**	**12**	P	**Pb**	**04 12 14.9**	**+0.6**
PSDA				S	**Sb**	**04 12 24.6**	**+0.1**
comp=E,7μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.74**	**12**	P	**Pb**	**04 12 14.8**	**+0.4**
PSDA				S	**Sg**	**04 12 24.1**	**+0.8**
RTZL	**Ratzakli, Kefa**	**0.75**	**24**	P	**Pg**	**04 12 14.2**	**+0.3**
RTZL				S	**Sg**	**04 12 23.4**	**-0.2**
comp=E,10μm,0.3s							
VLS	**Valsamata**	**0.80**	**12**	P	**Pg**	**04 12 15.8**	**+0.9**
VLS				S	**Sb**	**04 12 26.6**	**+0.3**
comp=E,4μm,0.4s							
VLS	**Valsamata**	**0.80**	**12**	P	**Pg**	**04 12 15.6**	**+0.7**
VLS				S	**Sg**	**04 12 25.8**	**+0.5**
VLS				AML	AML	04 12 30.6	
comp=E,6908μm,0.2s							
VLS				AML	AML	04 12 34.4	
comp=N,7570μm,0.3s							
LXRA	**Lixouri, Kepha**	**0.81**	**3**	P	**Pb**	**04 12 16.6**	**+1.1**
LXRA				S	**Sb**	**04 12 26.6**	**+0.1**
LXRA				AML	AML	04 12 34.7	
comp=E,22070μm,0.7s							
LXRA				AML	AML	04 12 39.6	
comp=N,21529μm,0.5s							
DMLN	**Damoulianata-K**	**0.84**	**359**	P	**Pb**	**04 12 17.3**	**+1.1**
DMLN				S	**Sb**	**04 12 28.2**	**+0.6**
comp=N,8μm,0.6s							
DMLN	**Damoulianata-K**	**0.84**	**359**	P	**Pb**	**04 12 17.5**	**+1.3**
DMLN				S	**Sb**	**04 12 27.9**	**+0.3**
SMHA	**Samh**	**0.88**	**14**	P	**Pg**	**04 12 17.0**	**+0.6**
SMHA				S	**Sg**	**04 12 28.0**	**+0.1**
SMHA				AML	AML	04 12 33.7	
comp=N,31360μm,0.3s							
SMHA				AML	AML	04 12 34.6	
comp=E,20558μm,0.4s							
VSK1	**VASILIKIADES**	**1.02**	**8**	P	**Pg**	**04 12 19.8**	**+0.7**
VSK1				S	**Sb**	**04 12 33.6**	**+0.8**
comp=E,4μm,0.8s							
AMT	**Artemida-Makis**	**1.06**	**82**	P	**Pg**	**04 12 20.1**	**+0.3**
AMT				S	**Sg**	**04 12 33.1**	**-0.5**
AMT				AML	AML	04 12 41.6	
comp=E,11832μm,0.3s							
AMT				AML	AML	04 12 41.7	
comp=N,9083μm,0.4s							
FSK	**Fiskardo**	**1.07**	**7**	P	**Pg**	**04 12 20.5**	**+0.4**
FSK				S	**Sb**	**04 12 35.4**	**+1.2**
comp=N,3μm,0.7s							
FSK	**Fiskardo**	**1.07**	**7**	P	**Pg**	**04 12 20.8**	**+0.7**
FSK				S	**Sb**	**04 12 34.5**	**+0.3**
FSK				AML	AML	04 12 39.2	
comp=N,8590μm,1.2s							
FSK				AML	AML	04 12 40.3	
comp=E,4798μm,0.2s							
RLS	**Riolos of Patr**	**1.08**	**52**	P	**Pg**	**04 12 19.8**	**-0.5**
RLS				S	**Sg**	**04 12 33.7**	**-0.7**
comp=E,1μm,0.5s							
RLS	**Riolos of Patr**	**1.08**	**52**	P	**Pg**	**04 12 20.5**	**+0.2**
RLS				S	**Sg**	**04 12 33.4**	**-1.0**
RLS				AML	AML	04 12 40.2	
comp=N,3149μm,0.3s							
RLS				AML	AML	04 12 41.9	
comp=E,2763μm,0.6s							
DRO	**Drossia**	**1.19**	**62**	P	**Pg**	**04 12 22.3**	**0.0**
DRO				S	**Sg**	**04 12 37.3**	**-0.5**
comp=E,3μm,0.4s							
DRO	**Drossia**	**1.19**	**62**	P	**Pg**	**04 12 22.2**	**-0.1**
DRO				S	**Sg**	**04 12 36.4**	**-1.4**
DRO				AML	AML	04 12 44.9	
comp=N,6680μm,0.3s							
DRO				AML	AML	04 12 49.4	
comp=E,4468μm,0.6s							
PYL	**PYLOS**	**1.19**	**114**	P	**Pb**	**04 12 23.5**	**+1.4**
PYL				S	**Sn**	**04 12 40.1**	**+1.7**
comp=E,1μm,0.5s							
PYL	**PYLOS**	**1.19**	**114**	P	**Pb**	**04 12 23.3**	**+1.2**
PYL				S	**Sg**	**04 12 38.9**	**+1.1**
PYL				AML	AML	04 12 41.3	
comp=E,3471μm,0.5s							
PYL				AML	AML	04 12 46.5	
comp=N,1426μm,0.5s							
EVGI	**Lefkada island**	**1.25**	**10**	P	**Pg**	**04 12 24.0**	**+0.6**
EVGI				S	**Sb**	**04 12 39.6**	**+0.5**
ITM	**Ithomi**	**1.25**	**99**	P	**Pn**	**04 12 24.0**	**+1.1**
ITM				S	**Sb**	**04 12 40.0**	**+0.8**
comp=N,905nm,0.5s		

EFP	Efpalio	1.58	49	P	Pn	04 12 28.6	+1.1
GUR	Goura	1.65	70	P	Pn	04 12 29.5	+1.0
ANX	Ano Chora	1.71	45	P	Pn	04 12 29.8	+0.5
OHR	Ohrid	3.73	5	*i* Pn	Pn	04 13 00.6	+3.6
IDI	Anoyia	4.20	119	Pn	Pn	04 13 05.9	+2.3
	comp=E,2.8nm,0.3s,baz=310,slow=14,SNR=17						
IDI				Sn	Sn	04 13 53.4	+0.7
	comp=E,2.4nm,0.3s,baz=146,slow=22,SNR=9.8						
VAY	Valandovo	4.27	23	*i* Pn	Pn	04 13 07.5	+3.0
VAE	Valguarnera	4.75	273	Pn	Pb	04 13 20.0	-2.9
	comp=E,0.8nm,0.3s,baz=192,slow=20,SNR=1.9						
VAE				Sn	Sn	04 14 09.6	+3.2
	comp=E,0.8nm,0.3s,baz=315,slow=9.0,SNR=1.5						
PEHC	Pehcevo	4.79	23	*i* Pn	Pn	04 13 14.3	+2.6
PDG	Podgorica	5.11	351	*e*Pn	Pn	04 13 16.9	+1.0
HCY	Herceg Novi	5.25	345	*e*Pn	Pn	04 13 18.9	+0.9
TREB	Trebinje	5.54	344	*e*Pn	Pn	04 13 22.8	+0.9
BRY	Bratogost	5.68	346	*e*Pn	Pn	04 13 23.4	-0.6
STON	Ston	5.85	340	*e*Pn	Pn	04 13 27.0	+0.9
SJES	Sjenica	5.87	357	*e*Pn	Pn	04 13 28.9	+2.4
UPM	Unac-Piva	5.91	349	*e*Pn	Pn	04 13 28.4	+1.2
RUDO	Rudo	6.27	353	*e*Pn	Pn	04 13 32.2	+0.3
BBLS	Lazi&#263i	6.51	354	*e*Pn	Pn	04 13 37.6	+2.3
HAPS	Han Pijesak,BI	6.78	351	*e*Pn	Pn	04 13 39.8	+0.9
TEKS	Tekeris	7.18	355	*e*Pn	Pn	04 13 41.9	-2.5
A050A	Klekovaca	7.66	339	*e*Pn	Pn	04 13 52.8	+1.8
BLY	Banja Luka	7.74	343	*e*Pn	Pn	04 13 53.3	+1.3
FRGS	Fruska Gora	7.77	357	*e*Pn	Pn	04 13 51.7	-0.8
A051A	Mrakovica	8.05	342	*e*Pn	Pn	04 13 55.5	-0.9
MLR	Muntele Rosu	9.10	26	Pn	Pn	04 14 10.2	-0.7
	comp=E,0.1nm,0.3s,baz=110,slow=12,SNR=1.4						
	comp=E,1.0nm,0.6s						
CRES	Cresnjevec Ost	9.20	338	*e*Pn	Pn	04 14 13.2	+1.1
SKDS	Skadanscina	9.44	332	*e*Pn	Pn	04 14 17.2	+1.8
CEY	Cerknica	9.46	334	*e*Pn	Pn	04 14 17.9	+2.3
OBKA	Obir	10.09	336	*e*Pn	Pn	04 14 27.4	+3.0
	comp=E,0.5nm,0.3s						
OBKA				*i* Sn	Sn	04 16 15.7	-1.9
	comp=E,1.6nm,0.4s						
OBKA	Obir	10.09	336	*e*Pn	Pn	04 14 25.4	+1.0
SOKA	Soboth	10.09	339	*i* Pn	Pn	04 14 26.5	+2.0
	comp=E,0.9nm,0.3s						
MOA	Molln	11.38	339	*e*Pn	Pn	04 14 46.9	+5.0
	comp=E,1.0nm,0.3s						
LESA	Schwarzleotal	11.52	333	*i* Pn	Pn	04 14 48.6	+4.6
	comp=E,0.7nm,0.3s						
MMAI	Mount Meron Ar	13.03	105	Pn	Pn	04 15 02.9	-1.8
	comp=E,0.7nm,0.3s,baz=318,slow=54,SNR=1.8						
	comp=E,0.4nm,0.3s						
EIL	Elat	14.37	118	Pn	Pn	04 15 21.6	-1.3
	comp=E,0.5nm,0.3s,baz=351,slow=2.0,SNR=4.5						
	comp=E,2.2nm,0.4s						
AKASG	Malin Array Be	14.73	23	Pn	Pn	04 15 26.1	-1.5
	comp=E,0.1nm,0.3s,baz=211,slow=8.7,SNR=1.7						
	comp=E,0.2nm,0.3s						
ESDC	Sonseca Array	19.17	284	P	P	04 16 25.0	+1.9
	comp=E,0.1nm,0.3s,baz=84,slow=13,SNR=1.9						
	comp=E,0.9nm,1.0s						
HFS	Hagfors	23.16	351	P	P	04 17 04.4	-1.3
	comp=E,0.8nm,0.3s,baz=156,slow=11,SNR=16						
	comp=E,0.8nm,0.3s						
EKA	Eskdalemuir Ar	24.01	326	P	P	04 17 15.5	+1.4
	comp=E,0.4nm,0.4s,baz=140,slow=10.0,SNR=1.6						
	comp=E,0.4nm,0.4s						
FINES	FINESS Array B	24.34	7	P	P	04 17 17.2	+0.2
	comp=E,0.7nm,0.4s,baz=176,slow=11,SNR=16						
	comp=E,0.7nm,0.4s						
NOA	NORSAR Array B	24.37	349	P	P	04 17 17.9	+0.5
	comp=E,0.3nm,0.7s,baz=160,slow=8.8,SNR=4.0						
	comp=E,0.3nm,0.7s						
ARCES	ARCESS Array B	32.32	3	P	P	04 18 26.6	-1.6
	comp=E,2.2nm,1.0s,baz=185,slow=9.6,SNR=1.4						
	comp=E,2.2nm,1.0s						
SPITS	Spitsbergen Ar	40.93	359	P	P	04 19 41.0	-0.5
	comp=E,8.5nm,0.9s,baz=144,slow=12,SNR=1.3						
	comp=E,8.5nm,0.9s						
KURBB	Kurchatov Arra	42.79	53	P	P	04 19 56.0	-1.0
	comp=E,0.3nm,0.3s,baz=276,slow=8.5,SNR=2.3						
	comp=E,0.3nm,0.3s						
MKAR	Makanchi Array	45.81	58	P	P	04 20 20.7	-0.6
	comp=E,0.4nm,0.4s,baz=267,slow=6.9,SNR=3.3						
	comp=E,0.4nm,0.4s						
ZALV	Zalesovo Beam	46.30	48	P	P	04 20 22.3	-2.7
	comp=E,0.5nm,0.4s,baz=294,slow=11,SNR=1.6						
	comp=E,0.5nm,0.4s						

*NEIC **09** 04:12:23.4±1.1, 35°.22N±0°.01×118°.85W±0°.02, h20km±7km, Error ellipse: s-maj=2.3km s-min=1.5km az=111.0*

PAS 09 04:12:24.1±1.4, 35°.23N±0°.01×118°.88W±0°.02, h14km±7km, ML3.0/101, ML2.6/62(NEIC), Error ellipse: s-maj=2.4km s-min=1.7km az=114.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARVC	Arvin	0.11	159		Pg	04 12 27.4	+0.1
ARVC					Sb	04 12 30.1	-0.4
MAGC	SCE Magundon P	0.14	344		Pg	04 12 28.0	+0.2
TEJ	El Tejon	0.15	89		Pg	04 12 27.8	-0.2
BAKC	Calstate	0.22	302		Pb	04 12 33.7	+3.8
THC	Tehachapi Micr	0.36	151		Pg	04 12 31.0	-0.6
THC					Sg	04 12 36.0	-0.6
MPI	Mount Pinos, F	0.47	208		Pg	04 12 32.8	-0.7
MPI					Sg	04 12 39.6	-0.3
BCW	Bitter Crk WRg	0.53	237		Pg	04 12 34.1	-0.4
BCW				Sg	Sg	04 12 42.0	+0.5
ISA	Isabella, Lake	0.55	37		Pg	04 12 34.2	-0.7
ISA				Sg	Sg	04 12 41.3	-0.8
ISA				IAML		04 12 42.3	
	comp=N,612nm,0.2s						
WASM	Alta Sierra Ca	0.57	27		Pg	04 12 34.6	-0.8
WASM					Sg	04 12 42.3	-0.8
BTPC	Burnt Peak	0.60	155		Pg	04 12 35.3	-0.5
BTPC					Sg	04 12 43.5	-0.3
OSI	Osito Audit: C	0.62	168		Pg	04 12 35.6	-0.7
OSI					Sg	04 12 44.2	-0.3
TPO	Tropico Hills	0.64	123		Pg	04 12 35.8	-0.7
VES	Vestal, Richgr	0.64	345		Pg	04 12 35.7	-0.8
VES					Sg	04 12 44.6	-0.4
WHFM	Hanning Flat	0.64	42		Pg	04 12 35.8	-0.8
WHFM					Sg	04 12 44.0	-1.0
WBSM	Bird Springs	0.68	63		Sg	04 12 45.5	-0.9
CRGC	Crocker Grade	0.69	272		Pg	04 12 37.4	-0.3
CRGC					Sb	04 12 47.6	0.0
WORM	Onyx Ranch	0.70	48		Sg	04 12 46.1	-0.9
CCAC	Calif City Air	0.71	96		Pg	04 12 37.1	-0.8
CCAC	Calif City Air	0.71	96		Sg	04 12 46.3	-1.0
ALPC	Antelope	0.72	139		Pg	04 12 37.5	-0.5
ALPC					Sg	04 12 47.7	+0.2
LEOC	Leona Valley	0.76	141		Sg	04 12 48.1	-0.7
CARC	Carrizo Plain	0.80	276		Pn	04 12 50.3	+9.3
EDW2	Edwards Air Fo	0.80	115		Pn	04 12 50.0	+8.9
PKM	Mcpherson Peak	0.84	247		Pg	04 12 39.3	-1.1
DTP	Desert Tortois	0.84	87		Pg	04 12 39.5	-1.0
DTP					Pn	04 12 50.9	+9.3
WRVM	Rose V. Centra	1.12	46		Pb	04 12 44.5	-0.8
PASC	Pasadena Art C	1.20	151	IAML		04 13 03.1	
	comp=E,110nm,0.8s						
PASC				IAML		04 13 03.7	
	comp=N,90nm,0.5s						
TSCN	Private Proper	1.24	285		Pn	04 12 46.7	-0.4
CWC	Cottonwood Cre	1.37	28		Pn	04 12 48.9	-0.1
MPMC	Manual Prospec	1.40	53		Pn	04 12 49.7	+0.3
CGO	Cerro Gordo	1.58	33		Pn	04 12 52.2	+0.1
GSC	Goldstone, Bar	1.70	87		Pn	04 12 52.5	-0.8
GSC				IAML		04 13 21.4	
	comp=N,100nm,0.5s						
FRI	Friant	1.89	339		Pn	04 12 56.1	+0.2
ELS	Elsinore Mount	1.98	142		Pn	04 12 56.4	-0.8
ELS				IAML		04 13 27.7	
	comp=N,31nm,0.7s						
GWY	Greenwater Val	2.04	61		Pn	04 12 57.6	-0.5
GWY				IAML		04 13 34.5	
	comp=E,38nm,0.9s						
GWY				IAML		04 13 35.4	
	comp=N,40nm,0.5s						
PCCM	Crazy Canyon	2.05	295		Pn	04 12 56.9	-1.3
GRAC	Grapevine Rang	2.15	34		Pn	04 13 00.8	+1.2
GRAC				IAML		04 13 36.7	
	comp=N,45nm,0.5s						
GRAC				IAML		04 13 46.5	
	comp=E,54nm,0.7s						
BBGB	Big Mountain B	2.21	308		Pn	04 12 59.9	-0.6
DSP	Deep Springs	2.26	19		Pn	04 13 02.2	+1.2
DSP				IAML		04 13 37.4	
	comp=N,54nm,0.5s						
DSP				IAML		04 13 37.9	
	comp=E,26nm,0.6s						
BSGM	Shirttail Gulc	2.27	302		Pn	04 13 00.2	-1.0
OMMB	Old Mammoth Mi	2.38	358		Pn	04 13 05.0	+1.9
PFO	Pinyon Flats O	2.57	128		Pn	04 13 04.7	-0.7
PFO				IAML		04 13 50.0	
	comp=E,18nm,1.2s						
TPC	Twentynine Pal	2.58	115		Pn	04 13 05.1	-0.4
TPNV	Topopah Spring	2.73	50		Pn	04 13 09.3	+1.5
TPNV				IAML		04 13 55.6	
	comp=E,16nm,0.5s						
TPNV				IAML		04 13 58.5	
	comp=E,15nm,1.3s						
SHPR	Sheep Range	3.28	66		Pn	04 13 15.9	+0.8
WAKR	Walker	3.30	352		Pb	04 13 19.5	-3.1
WAKR				IAML		04 14 14.9	
	comp=N,17nm,0.8s						
WAKR				IAML		04 14 16.6	
	comp=E,20nm,0.8s						
V12A	Nelson	3.32	80		Pn	04 13 15.1	-0.7
V12A				IAML		04 14 14.2	
	comp=N,11nm,1.7s						
S11A	Rachel	3.49	45	IAML		04 14 27.5	
	comp=N,20nm,0.7s						
YERR	Yerington	3.76	356		Pn	04 13 25.2	+3.3
YERR				IAML		04 14 32.1	
	comp=N,9.9nm,0.7s						
KVN	Kaiserville	3.87	9	IAML		04 14 29.0	
	comp=N,5.9nm,0.7s						
KVN				IAML		04 14 29.1	
	comp=E,8.0nm,0.7s						
R11B	Troy Canyon, C	4.08	39		Pn	04 13 30.3	+4.0
PSUT	Pine Spring	5.21	49	IAML		04 15 31.0	
	comp=N,4.9nm,4.5s						
PSUT				IAML		04 17 11.2	
	comp=E,4.8nm,4.8s						
SPR3	Spring Creek 3	5.23	43	IAML		04 15 11.7	
	comp=N,4.4nm,4.9s						
SPR3				IAML		04 15 18.4	
	comp=E,5.9nm,4.0s						

*NOU **09** 04:29:45.4, 39°.21S×176°.98E, h15km, MLv3.9/9, North Island, New Zealand*
*WEL **09** 04:29:46.9±0.2, 39°.S±2°.×17°.7E±°, h27km±2km, M3.8/64, ML4.1/65, MLv3.8/64, Error ellipse: s-maj=2.4km s-min=1.9km az=135.7, confirmed*

ISC 09 04:29:47.5±1.2, 39°.19S±0°.02×176°.89E±0°.02, h41km, n124, σ1§17/154, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARHZ	Aropaoanui	0.11	134	P	Pn	04 29 53.5	-0.7
ARHZ				S	Sn	04 29 59.1	+0.1
NMHZ	Naumai	0.11	323	P	Pn	04 29 53.1	-1.3
NMHZ				S	Sn	04 29 58.1	-1.1
WHHZ	Waihua	0.29	67	P	Pn	04 29 55.2	-0.4
WHHZ				S	Sn	04 30 02.3	+0.9
MCHZ	McNeill Hill	0.30	211	P	Pn	04 29 55.5	-0.3
MCHZ				S	Sn	04 30 02.6	+0.9
RAHZ	Arahi	0.31	29	P	Pn	04 29 55.0	-0.9
RAHZ				S	Sn	04 30 01.2	-0.7
BKZ	Black Stump Fm	0.31	274	P	Pn	04 29 54.6	-1.4
BKZ				S	Sn	04 30 00.4	-1.6
BKZ	Black Stump Fm	0.31	274	P	Pn	04 29 54.5	-1.5
MTHZ	Maungataniwha	0.34	353	P	Pn	04 29 54.9	-1.4
MTHZ				S	Sn	04 30 00.9	-1.5
KWHZ	Kaweka Forest	0.43	237	P	Pn	04 29 56.7	-0.8
KWHZ				S	Sn	04 30 04.6	+0.1
CKHZ	Cape Kidnapper	0.49	163	P	Pn	04 29 58.7	+0.5
CKHZ				S	Sn	04 30 08.4	+2.7
MRHZ	Matea Rd	0.51	313	P	Pn	04 29 57.4	-1.1
MRHZ				S	Sn	04 30 05.2	-1.0
SNGZ	Shannon Statio	0.53	41	P	Pn	04 29 58.6	-0.1
SNGZ				S	Sn	04 30 08.2	+1.5
RTZ	Ruatahuna	0.58	7	P	Pn	04 29 58.5	-0.8
KAHZ	Kahuranaki	0.61	181	P	Pn	04 30 00.2	+0.4
KAHZ				S	Sn	04 30 11.3	+2.9
KRHZ	Kereru	0.61	222	P	Pn	04 29 59.5	-0.3
KRHZ				S	Sn	04 30 09.7	+1.2
KNZ	Kokohu	0.63	75	P	Pn	04 29 59.7	-0.3
HATZ	Hinemaiaia	0.69	295	P	Pn	04 30 00.4	-0.4
HATZ				S	Sn	04 30 10.2	-0.3
MUGZ	Murupara	0.72	352	P	Pn	04 30 00.6	-0.5
ALRZ	Allen Road	0.76	325	P	Pn	04 30 01.2	-0.5
MHGZ	Mahia Peninsul	0.79	88	P	Pn	04 30 02.1	-0.1
PRRZ	Plateau Road	0.79	330	P	Pn	04 30 01.7	-0.5
RAGZ	Rawiri	0.80	31	P	Pn	04 30 02.5	+0.1
PRGZ	Paritu Road	0.81	71	P	Pn	04 30 02.2	-0.3
RIGZ	Rimuhau	0.83	55	P	Pn	04 30 02.7	-0.1
RITZ	Rihia Road	0.83	284	P	Pn	04 30 02.8	0.0
PXZ	Pawanui	0.84	182	P	Pn	04 30 02.4	-0.4
WPRZ	Whakapapatarin	0.88	319	P	Pn	04 30 02.8	-0.6
WHTZ	Whakaora	0.90	305	P	Pn	04 30 03.7	+0.1
RRRZ	Republican Roa	0.90	341	P	Pn	04 30 03.2	-0.4
MOVZ	Moawhango	0.91	256	P	Pn	04 30 04.0	+0.1
MOVZ				S	Sn	04 30 16.1	+0.2
ETVZ	East Tongariro	0.92	273	P	Pn	04 30 04.0	0.0
ETVZ				S	Sn	04 30 17.2	+1.0
TMVZ	Te Maari	0.93	274	P	Pn	04 30 04.1	-0.1
TMVZ				S	Sn	04 30 16.8	+0.5
HRRZ	Handcock Road	0.93	329	P	Pn	04 30 03.7	-0.4
HRRZ				S	Sn	04 30 16.7	+0.4
RATZ	Rangitukua	0.93	290	P	Pn	04 30 03.9	-0.2
URZ	Urewera	0.94	10	P	Pn	04 30 03.6	-0.6
URZ				S	Sn	04 30 16.1	-0.3
URZ	Urewera	0.94	10	P	Pn	04 30 03.6	-0.6
WPHZ	Waipukurau	0.94	202	P	Pn	04 30 04.1	-0.2
WPHZ				S	Sn	04 30 18.0	+1.4
NTVZ	North Tongarir	0.95	275	P	Pn	04 30 04.5	0.0
NTVZ				S	Sn	04 30 16.9	0.0
OTVZ	Oturere	0.96	271	P	Pn	04 30 04.6	0.0
OTVZ				S	Sn	04 30 17.8	+0.7
KATZ	Kakaramea	0.96	282	P	Pn	04 30 04.3	-0.3
KATZ				S	Sn	04 30 17.5	+0.4
TUVZ	Tukino	0.97	265	P	Pn	04 30 05.0	+0.3
SNVZ	South Ngauruho	0.97	270	P	Pn	04 30 05.0	+0.1
SNVZ				S	Sn	04 30 18.4	+0.9
KRVZ	Karewarewa	0.98	275	P	Pn	04 30 04.6	-0.2
KRVZ				S	Sn	04 30 18.2	+0.7
MWZ	Matawai	0.99	30	P	Pn	04 30 04.7	-0.2
MWZ				S	Sn	04 30 18.9	+1.3
NNVZ	North Ngauruho	1.00	273	P	Pn	04 30 05.2	+0.1
NNVZ				S	Sn	04 30 19.5	+1.4
TARZ	Mount Tarawera	1.00	342	P	Pn	04 30 04.9	-0.2
NGZ	Ngauruhoe	1.00	270	P	Pn	04 30 05.4	+0.1
NGZ				S	Sn	04 30 19.6	+1.4
HSRZ	Hossack Road	1.01	330	P	Pn	04 30 04.9	-0.3
WNVZ	Wahianoa	1.02	262	P	Pn	04 30 05.5	+0.1
WNVZ				S	Sn	04 30 19.7	+1.2
WTVZ	West Tongariro	1.02	274	P	Pn	04 30 05.4	+0.1
WHVZ	Whangaehu Hut	1.02	264	P	Pn	04 30 05.5	0.0
WHVZ				S	Sn	04 30 19.8	+1.1
WATZ	Wairara	1.02	298	P	Pn	04 30 04.7	-0.7
HLRZ	Highlands Stat	1.03	335	P	Pn	04 30 06.3	+0.9
GRRZ	Galatos Road	1.04	324	P	Pn	04 30 05.4	-0.2
MAVZ	Matarangi	1.04	265	P	Pn	04 30 05.7	-0.1
FWVZ	Far West T-bar	1.04	266	P	Pn	04 30 05.7	-0.1
COVZ	Chateau Observ	1.05	269	P	Pn	04 30 05.7	-0.1
TRVZ	Turoa	1.05	264	P	Pn	04 30 06.0	0.0
TKGZ	Te Karaka	1.06	45	P	Pn	04 30 05.6	-0.1
EDRZ	Edgecumbe	1.09	354	P	Pn	04 30 05.9	-0.4
KUTZ	Kaahu Road	1.09	310	P	Pn	04 30 05.7	-0.5
PRHZ	Porangahau	1.09	190	P	Pn	04 30 05.7	-0.7
MKRZ	Makatiti	1.10	342	P	Pn	04 30 08.2	+1.7
MTVZ	Mangateitei	1.12	259	P	Pn	04 30 06.9	+0.2
TSZ	Takapari Road	1.13	219	P	Pn	04 30 06.2	-0.7
TWVZ	Taurewa	1.14	275	P	Pn	04 30 06.6	-0.4
UTU	Utuhina	1.15	331	P	Pn	04 30 06.9	-0.2
OMRZ	Omania	1.16	339	P	Pn	04 30 06.8	-0.4
MARZ	Manawahe	1.21	352	P	Pn	04 30 08.2	+0.3
NGRZ	Ngongotaha	1.22	333	P	Pn	04 30 09.3	+1.2
DVHZ	Dannevirke	1.24	207	P	Pn	04 30 07.5	-0.9
KARZ	Kaharoa	1.27	336	P	Pn	04 30 08.3	-0.4
ANWZ	Angora Road	1.31	194	P	Pn	04 30 08.6	-0.7
TWGZ	Tauwhareparae	1.32	40	P	Pn	04 30 09.5	+0.1
WHRZ	Whale Island	1.33	3	P	Pn	04 30 09.3	-0.3
TLZ	Tolley Road	1.36	309	P	Pn	04 30 09.3	-0.8
RUGZ	Raukumara Rang	1.37	27	P	Pn	04 30 09.9	-0.3
OPRZ	Ohinepanea	1.37	349	P	Pn	04 30 09.8	-0.2
POWZ	Post Office Ro	1.48	215	P	Pn	04 30 11.2	-0.4
TGRZ	Tauranga	1.54	341	P	Pn	04 30 17.1	+4.6
PUZ	Puketiti	1.54	44	P	Pn	04 30 11.7	-0.8
BFZ	Birch Farm	1.57	198	P	Pn	04 30 11.6	-1.3
BFZ	Birch Farm	1.57	198	P	Pn	04 30 11.6	-1.3
WAZ	Wanganui	1.58	248	P	Pn	04 30 13.9	+0.9
OHWZ	Ohakea	1.59	230	P	Pn	04 30 15.3	+2.3
HAZ	Te Kaha	1.59	26	P	Pn	04 30 12.2	-0.9
VRZ	Vera Road	1.66	272	P	Pn	04 30 14.3	+0.3
WIZ	White Island	1.68	8	P	Pn	04 30 13.6	-0.6
HIZ	Hauiti	1.73	292	P	Pn	04 30 14.7	-0.4
HIZ	Hauiti	1.73	292	P	Pn	04 30 14.6	-0.4
MRZ	Mangatainoka R	1.79	214	P	Pn	04 30 14.3	-1.5
TOZ	Tahuroa Road	1.82	323	P	Pn	04 30 15.6	-0.7
MXZ	Matakaoa Point	1.97	35	P	Pn	04 30 18.0	-0.3
MXZ	Matakaoa Point	1.97	35	P	Pn	04 30 18.2	-0.1
HOWZ	Holdsworth Sta	2.01	211	P	Pn	04 30 16.9	-2.0
TMWZ	Te Maipa	2.06	202	P	Pn	04 30 17.8	-1.9
OGWZ	Otaki Gorge	2.10	219	P	Pn	04 30 18.4	-1.7
PREZ	Palmer Road	2.13	265	P	Pn	04 30 21.8	+1.2
NEZ	North Egmont	2.17	267	P	Pn	04 30 23.0	+1.8
MTW	Mount Morrison	2.24	208	P	Pn	04 30 19.6	-2.5
KHEZ	Kahui Hut	2.24	266	P	Pn	04 30 23.8	+1.7
KHEZ	Kahui Hut	2.24	266	P	Pn	04 30 23.4	+1.3
PKE	Pukeiti	2.26	269	P	Pn	04 30 23.5	+1.1
KIW	Kapiti Island	2.26	222	P	Pn	04 30 20.6	-1.8
NBEZ	Newall Road No	2.35	267	P	Pn	04 30 25.0	+1.4
CAW	Cannon Point	2.37	216	P	Pn	04 30 21.5	-2.4
TRWZ	Traveller	2.39	202	P	Pn	04 30 21.7	-2.5
PAWZ	Paruwai Farm	2.46	207	P	Pn	04 30 22.6	-2.6
MKAZ	Moumakai	2.49	326	P	Pn	04 30 25.2	-0.2
MSWZ	Moikau Station	2.56	209	P	Pn	04 30 23.4	-3.0
PLWZ	Palliser	2.69	207	P	Pn	04 30 25.0	-3.2
SNZO	South Karori	2.70	218	P	Pn	04 30 29.2	+0.8
AWAZ	Awhitu Peninsu	2.77	319	P	Pn	04 30 29.2	0.0
DUWZ	D'Urville Isla	2.79	234	P	Pn	04 30 28.6	-1.1
TCW	Tory Channel	2.85	224	P	Pn	04 30 27.9	-2.5
MBAZ	Motutapu North	2.88	326	P	Pn	04 30 31.5	+0.6
QRZ	Quartz Range	3.73	243	P	Pn	04 30 43.0	+0.5
QRZ	Quartz Range	3.73	243	P	Pn	04 30 43.6	+1.1
WCZ	Waipu Caves	3.82	327	P	Pn	04 30 44.8	+1.0
MRNZ	Matariki Terra	3.86	234	P	Pn	04 30 42.1	-2.2
THZ	Tophouse	3.98	229	P	Pn	04 30 43.5	-2.5
OUZ	Omahuta	4.76	325	P	Pn	04 30 57.6	+1.0
OUZ	Omahuta	4.76	325	P	Pn	04 30 57.3	+0.7
TMZ	Timaru	6.80	218	P	Pn	04 31 21.7	-3.0

*BER **09** 04:32:05.6±0.6, 71°.48N×10°.72W, h0km±728km, mb(Pn)3.5, ML2.2, Confirmed Earthquake*

ISC 09 04:32:04.0±1.8, 71°.7N±0°.2×10°.3W±0°.4, h10km, n5, σ1§18/10, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	Jan Mayen West	0.93	139	*e*P	Pg	04 32 21.9	+0.1
JNW				*e*S	Sg	04 32 34.6	+0.7
JNW				IAML		04 32 35.7	
	comp=Z,80nm,0.2s						
JMIC	Jan Mayen	0.95	142	*e*P	Pg	04 32 22.3	+0.1
JMIC				*e*S	Sg	04 32 33.9	-0.5
JMIC				IAML		04 32 40.5	
	comp=Z,46nm,0.4s						
JMI	Jan Mayen	0.95	148	*e*P	Pg	04 32 22.2	-0.1
JMI				*e*S	Sg	04 32 33.8	-0.9
JNE	Jan Mayen East	0.99	139	*e*P	Pg	04 32 23.0	+0.1
JNE				*e*S	Sg	04 32 35.0	-0.6
JNE				IAML		04 32 41.7	
	comp=Z,119nm,0.4s						
DAG	Danmarks Havn	5.54	340	*i* P	Pn	04 33 27.8	+1.5
DAG				*i* S	Sn	04 34 27.6	-2.3

*NOU **09** 04:44:47.1, 15°.09S×178°.56E, h174km, MLv4.6/5, Fiji Islands*
*IDC **09** 04:45:04.6±1.6, 15°.53S×179°.99W, h0km, mb3.7/4, mbtmp3.7/5, ML5.4/1, MS3.3/1, Error ellipse: s-maj=52.3km s-min=27.1km az=129.0*

ISC 09 04:45:08.7±1.0, 15°.67S±0°.10×179°.8W±0°.1, h35km, n10, σ1§94/10, mb3.8/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGTI	Dogotuki	0.80	218	P	Pn	04 45 20.5	-3.0
TAVE	Taveuni	1.05	188	P	Pn	04 45 25.4	-1.5
FUTU	Fugatoga	2.07	50	P	Pn	04 45 39.2	-1.8

KRI1 S **Sb** **04 48 04.7 -0.4**
17μm,0.6s
LTHK Lithakia 0.36 53 P **Pb** **04 48 00.4 -0.3**
LTHK S **Sb** **04 48 06.1 -0.2**
16μm,0.4s
LTHK Lithakia 0.36 53 P **Pb** **04 48 00.2 -0.6**
LTHK S **Sb** **04 48 06.0 -0.2**
LTHK AML AML 04 48 07.1
comp=E,35234μm,0.4s
LTHK AML AML 04 48 07.2
comp=N,26727μm,0.3s
PSDA Pessada-Kefalo 0.63 8 P **Pb** **04 48 05.2 -0.1**
PSDA S **Sb** **04 48 15.2 +1.3**
comp=N,6μm,0.4s
PSDA Pessada-Kefalo 0.63 8 P **Pg** **04 48 05.0 0.0**
PSDA S **Sg** **04 48 13.4 +0.1**
RTZL Ratzakli, Kefa 0.63 22 P **Pg** **04 48 04.9 -0.1**
RTZL S **Sb** **04 48 15.3 +1.3**
comp=N,5μm,0.7s
VLS Valsamata 0.69 8 P **Pb** **04 48 06.3 -0.1**
VLS S **Sb** **04 48 16.7 +0.9**
comp=N,5μm,0.6s
VLS Valsamata 0.69 8 P **Pb** **04 48 06.1 -0.3**
VLS S **Sb** **04 48 16.6 +0.8**
VLS AML AML 04 48 20.8
comp=E,10197μm,0.6s
VLS AML AML 04 48 20.9
comp=N,10000μm,0.7s
DMLN Damoulianata-K 0.75 354 P **Pb** **04 48 07.3 -0.1**
DMLN S **Sb** **04 48 18.7 +1.2**
comp=N,11μm,0.9s
DMLN Damoulianata-K 0.75 354 P **Pb** **04 48 07.2 -0.2**
SMHA Samh 0.77 10 P **Pg** **04 48 07.2 -0.5**
SMHA S **Sb** **04 48 18.4 +0.3**
VSK1 VASILIKIADES 0.92 4 P **Pb** **04 48 10.6 +0.3**
VSK1 S **Sn** **04 48 24.8 +0.8**
RLS Riolos of Patr 0.97 54 P **Pg** **04 48 11.1 -0.3**
RLS S **Sb** **04 48 25.7 +2.0**
comp=N,1μm,0.8s
RLS Riolos of Patr 0.97 54 P **Pg** **04 48 11.0 -0.4**
RLS S **Sn** **04 48 25.8 +0.6**
RLS AML AML 04 48 32.1
comp=E,2427μm,0.9s
RLS AML AML 04 48 34.6
comp=N,2428μm,0.6s
FSK Fiskardo 0.97 4 P **Pg** **04 48 10.9 -0.5**
FSK S **Sn** **04 48 27.0 +1.8**
comp=N,3μm,0.8s
FSK Fiskardo 0.97 4 P **Pg** **04 48 10.2 -1.2**
FSK S **Sg** **04 48 24.2 +0.1**
FSK AML AML 04 48 31.2
comp=N,6634μm,0.8s
FSK AML AML 04 48 33.7
comp=E,4742μm,0.3s
AMT Artemida-Makis 0.98 87 P **Pb** **04 48 11.8 +0.5**
AMT S **Sn** **04 48 26.9 +1.3**
AMT AML AML 04 48 36.1
comp=E,11802μm,0.6s
AMT AML AML 04 48 37.2
comp=N,12238μm,0.5s
DRO Drossia 1.08 64 P **Pn** **04 48 14.0 +0.7**
DRO S **Sn** **04 48 29.3 +1.2**
comp=N,2μm,0.7s
DRO Drossia 1.08 64 P **Pn** **04 48 13.9 +0.6**
DRO S **Sn** **04 48 29.2 +1.2**
DRO AML AML 04 48 39.3
comp=E,4338μm,0.5s
DRO AML AML 04 48 40.6
comp=N,5035μm,0.8s
EVGI Lefkada island 1.14 7 P **Pg** **04 48 13.9 -0.7**
PYL PYLOS 1.17 120 P **Pn** **04 48 15.1 +0.6**
PYL S **Sn** **04 48 33.2 +3.0**
comp=N,2μm,0.6s
PYL PYLOS 1.17 120 P **Pb** **04 48 14.7 +0.1**
PYL S **Sn** **04 48 30.7 +0.5**
PYL AML AML 04 48 34.8
comp=E,3939μm,0.7s
PYL AML AML 04 48 37.4
comp=N,2766μm,0.5s
DRAG Dragano-Lefkad 1.19 4 P **Pg** **04 48 14.7 -0.9**
ITM Ithomi 1.20 105 P **Pn** **04 48 16.1 +1.2**
ITM S **Sn** **04 48 32.0 +1.1**
comp=N,908nm,0.8s
ITM Ithomi 1.20 105 P **Pb** **04 48 15.2 +0.2**
ITM AML AML 04 48 38.6
comp=E,1908μm,0.9s
ITM AML AML 04 48 39.6
comp=N,1713μm,0.6s
NYDR Nydri-Lefkada 1.23 8 P **Pg** **04 48 15.4 -1.0**
KLV Kalavryta, Ach 1.44 67 P **Pn** **04 48 18.9 +0.7**
KLV AML AML 04 48 50.1
comp=E,924μm,0.8s
KLV AML AML 04 48 52.6
comp=N,1230μm,0.5s
EFP Efpalio 1.47 50 P **Pn** **04 48 19.5 +0.9**
GUR Goura 1.55 73 P **Pb** **04 48 21.3 +0.3**
GUR AML AML 04 48 55.5
comp=E,1748μm,0.6s
GUR AML AML 04 48 55.7
comp=N,3419μm,0.5s
ANX Ano Chora 1.59 46 P **Pn** **04 48 20.9 +0.6**
ANX AML AML 04 48 51.5
comp=N,3977μm,0.6s
ANX AML AML 04 48 55.0
comp=E,3086μm,0.6s
KALE Kalithea 1.59 55 P **Pn** **04 48 20.7 +0.3**
DION Dionisos Attik 2.80 77 P **Pn** **04 48 38.5 +1.5**
IDI Anoyia 4.19 120 Pn **Pb** **04 49 01.2 -4.8**
comp=E,0.3nm,0.3s,baz=33,slow=23,SNR=1.5
IDI Sn **Sn** **04 49 46.5 +1.8**
comp=E,1.8nm,0.3s,baz=144,slow=24,SNR=9.6
PEHC Pehcevo 4.67 23 *i* Pn **Pn** **04 49 04.1 +1.4**
MLR Muntele Rosu 8.98 25 Pn **Pn** **04 50 01.2 -0.7**
comp=E,0.1nm,0.3s,baz=163,slow=18,SNR=1.9
comp=E,1.1nm,0.6s
OBKA Obir 10.03 336 *e*Pn Pn 04 50 22.7 +6.6
comp=E,1.0nm,0.4s
OBKA *i* Sn **Sn** **04 52 06.0 -2.4**
comp=E,5.6nm,0.6s
SOKA Soboth 10.03 338 *i* Pn **Pn** **04 50 20.3 +4.2**
comp=E,0.4nm,0.2s
SOKA *e*Sn **Sn** **04 52 01.7 -6.7**
comp=E,0.7nm,0.5s
DAVOX Davos/Dischmat 12.15 323 Pn **Pn** **04 50 46.2 +0.9**
comp=E,0.1nm,0.3s,baz=337,slow=22,SNR=1.2
DAVOX Sn **Sn** **04 52 58.2 -2.4**
comp=E,0.1nm,0.3s,baz=166,slow=23,SNR=2.5
comp=E,0.8nm,0.6s
AKASG Malin Array Be 14.61 23 Pn **Pn** **04 51 17.9 -0.8**
comp=E,0.3nm,0.3s,baz=210,slow=11,SNR=1.8
comp=E,0.2nm,0.5s
ESDC Sonseca Array 19.22 284 P **Pn** **04 52 17.6 +0.5**
comp=E,0.1nm,0.3s,baz=76,slow=11,SNR=2.9
comp=E,1.1nm,0.9s
HFS Hagfors 23.07 351 P **P** **04 52 57.6 +0.2**
comp=E,0.7nm,0.4s,baz=158,slow=12,SNR=8.9
comp=E,0.7nm,0.4s
BELG Belogornoye 24.12 43 P **P** **04 53 06.7 -1.0**
comp=E,4.5nm,0.5s,baz=252,slow=6.4,SNR=3.3
comp=E,4.5nm,0.5s
FINES FINESS Array B 24.23 7 P **P** **04 53 08.1 -0.5**
comp=E,1.3nm,0.6s,baz=172,slow=11,SNR=6.6
comp=E,1.3nm,0.6s
NOA NORSAR Array B 24.28 349 P **P** **04 53 09.9 +0.7**
comp=E,0.5nm,0.8s,baz=142,slow=14,SNR=1.8
comp=E,0.5nm,0.8s
TORD Torodi Ar. Bea 29.48 220 P **P** **04 53 57.9 +1.8**
comp=E,0.4nm,0.6s,baz=31,slow=10.0,SNR=2.8
comp=E,0.4nm,0.6s
KURBB Kurchatov Arra 42.67 53 P **P** **04 55 48.1 -0.4**
comp=E,0.3nm,0.3s,baz=285,slow=11,SNR=2.1
comp=E,0.3nm,0.3s
MKAR Makanchi Array 45.70 58 P **P** **04 56 11.6 -1.2**
comp=E,0.2nm,0.4s,baz=263,slow=7.1,SNR=1.9
comp=E,0.2nm,0.4s
ZALV Zalesovo Beam 46.18 48 P **P** **04 56 15.4 -1.1**
comp=E,0.9nm,0.3s,baz=352,slow=30,SNR=3.1
comp=E,0.9nm,0.3s

IDC 09 05:12:13.3±626.0, 62°.39N×152°.65W, h0km, Error ellipse: s-maj=286.1km s-min=66.6km az=43.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I53US	**FAIRBANKS INFR**	**3.28**	**38**	I	I	05 31 00.0	
	0.5nm,0.6s,baz=224,slow=336,SNR=4.0						
I56US	**NEWPORT INFRAS**	**24.26**	**109**	I	I	07 40 13.3	
	baz=318,slow=319						
I18DK	**QAANAAQ INFRAS**	**28.92**	**27**	I	I	08 11 55.1	
	baz=282,slow=339,SNR=0.7						

*NAO **09** 05:21:20.4±2.8, 71°.48N×11°.29W, ML3.5*
*BER **09** 05:21:24.0±0.5, 71°.52N×10°.94W, h3km±546km, mb(Pn)4.2, ML3.5(NAO), Confirmed Earthquake*
*DNK **09** 05:21:25.4±3.2, 71°.67N×13°.40W, h0km±44km, ML1.6*

ISC 09 05:21:18.5±0.9, 71°.51N±0°.06×11°.63W±0°.05, h10km, n29, σ2°.76/42, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.11**	**121**	Pg	**Pn**	**05 21 40.4**	**+0.4**
JMI				Lg	Lg	05 21 52.8	
JMI	**Jan Mayen**	**1.11**	**121**	*e*P	**Pn**	**05 21 40.4**	**+0.4**
JMI				*e*S	**Sg**	**05 21 52.4**	**-1.7**
JMI				IAML		05 21 54.0	
	comp=Z,538nm,0.4s						
JMIC	**Jan Mayen**	**1.14**	**116**	Pg	**Pg**	**05 21 40.7**	**+0.3**
JMIC				Lg	Lg	05 21 53.4	
JMIC	**Jan Mayen**	**1.14**	**116**	*e*P	**Pg**	**05 21 40.7**	**+0.3**
JMIC				*e*S	**Sb**	**05 21 53.3**	**-1.8**
JMIC				IAML		05 21 54.7	
	comp=Z,724nm,0.4s						
JNW	**Jan Mayen West**	**1.14**	**114**	*e*P	**Pb**	**05 21 40.5**	**+0.1**
JNW				*e*S	**Sb**	**05 21 52.8**	**-2.4**
JNW				IAML		05 21 55.5	
	comp=Z,704nm,0.3s						
JNE	**Jan Mayen East**	**1.20**	**114**	*e*P	**Pg**	**05 21 41.9**	**+0.4**
JNE				*e*S	**Sb**	**05 21 54.0**	**-2.7**
JNE				IAML		05 21 59.2	
	comp=Z,497nm,0.3s						
SCO	**Scoresbysund**	**3.53**	**258**	*i* P	**Pn**	**05 22 15.3**	**+2.0**
SCO				*i* S	**Sn**	**05 22 49.3**	**-5.7**
SCO				IAML		05 22 59.0	
	comp=Z,1.0nm,0.2s						
DBG	**Daneborg**	**3.78**	**322**	Pn	**Pn**	**05 22 20.1**	**+3.4**
DBG				Sn	**Sn**	**05 22 59.5**	**-1.8**
DBG	**Daneborg**	**3.78**	**322**	*e*P	**Pn**	**05 22 19.8**	**+3.0**
DBG				*e*S	**Sn**	**05 22 59.4**	**-1.8**
DBG	**Daneborg**	**3.78**	**322**	*i* P	**Pn**	**05 22 18.9**	**+2.2**
DBG				*i* S	**Sn**	**05 22 57.0**	**-4.3**
DBG				IAML		05 23 04.5	
	comp=Z,5.5nm,0.2s						
DAG	**Danmarks Havn**	**5.62**	**343**	*e*P	**Pn**	**05 22 44.2**	**+2.3**
DAG				*e*S	**Sn**	**05 23 43.6**	**-2.9**
DAG	**Danmarks Havn**	**5.62**	**343**	*i* P	**Pn**	**05 22 43.4**	**+1.4**
DAG				*i* S	**Sn**	**05 23 43.0**	**-3.5**
DAG				IAML		05 23 45.6	
	comp=Z,6.5nm,0.3s						
HSPB	**Hornsund (broa**	**9.11**	**41**	Pn	**Pn**	**05 23 31.9**	**+2.1**
HSPB	**Hornsund (broa**	**9.11**	**41**	*e*P	**Pn**	**05 23 32.0**	**+2.3**
BRBB	**Barentsburg B**	**9.35**	**34**	Pn	**Pn**	**05 23 37.0**	**+3.9**
KBS	**Kingsbay**	**9.46**	**28**	Pn	**Pn**	**05 23 36.2**	**+1.6**
KBS				Sn	**Sn**	**05 25 16.1**	**-4.7**
KBS	**Kingsbay**	**9.46**	**28**	*e*P	**Pn**	**05 23 36.2**	**+1.6**
SPA0	**Spitsbergen Ar**	**9.78**	**35**	Pn	**Pn**	**05 23 41.8**	**+2.8**
	baz=223,slow=16						
SPA0	**Spitsbergen Ar**	**9.78**	**35**	Pn	**Pn**	**05 23 41.8**	**+2.8**
	baz=223,slow=16						
NOR	**Nord**	**10.21**	**356**	Pn	**Pn**	**05 23 47.0**	**+2.2**
NOR				Sn	**Sn**	**05 25 34.7**	**-4.4**
NOR	**Nord**	**10.21**	**356**	*e*P	**Pn**	**05 23 46.7**	**+2.0**
NOR				*e*S	**Sn**	**05 25 34.4**	**-4.7**
JETT	**Jettan, Norway**	**10.79**	**85**	Pn	**Pn**	**05 23 55.0**	**+2.2**
JETT	**Jettan, Norway**	**10.79**	**85**	Pn	**Pn**	**05 23 55.0**	**+2.2**
KIF	**Kilpisjarvi**	**11.16**	**87**	Pn	**Pn**	**05 24 00.8**	**+3.0**
KIF	**Kilpisjarvi**	**11.16**	**87**	Pn	**Pn**	**05 24 00.8**	**+3.0**
AKN	**Aaknes**	**11.82**	**133**	Pn	**Pn**	**05 24 09.2**	**+2.3**
AKN	**Aaknes**	**11.82**	**133**	Pn	**Pn**	**05 24 09.2**	**+2.3**
ARA0	**ARCESS Array S**	**12.41**	**81**	Pn	**Pn**	**05 24 16.7**	**+1.8**
	baz=290,slow=11						
ARA0	**ARCESS Array S**	**12.41**	**81**	Pn	**Pn**	**05 24 16.7**	**+1.8**
	baz=290,slow=11						

NEIC 09 05:25:34.2±0.3, 36°.844N±0°.009×97°.699W±0°.009, h5km±3km, mb_Lg2.4/19, ML2.8/45, Error ellipse: s-maj=1.5km s-min=0.6km az=216.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.13**	**274**	Pg	Pg	05 25 37.4	+0.5
GC02				Sg	Sg	05 25 39.5	+0.9
KAN17	**Caldwell West**	**0.21**	**345**		Pg	05 25 38.9	+0.6
KAN17				Sg	Sg	05 25 42.2	+1.1
KAN17				IAML		05 25 42.3	
	comp=N,1μm,0.2s						
KAN17				IAML		05 25 42.3	
	comp=E,2μm,0.4s						
KAN14	**Manchester OK**	**0.24**	**298**		Pg	05 25 39.5	+0.6
KAN14				Sg	Sg	05 25 42.8	+0.7
KAN14				IAML		05 25 43.1	
	comp=N,2μm,0.2s						
KAN14				IAML		05 25 43.1	
	comp=E,1μm,0.2s						
KAN13	**South Haven SW**	**0.24**	**46**		Pg	05 25 39.7	+0.7
KAN13				Sg	Sg	05 25 43.2	+1.0
KAN13				IAML		05 25 43.4	
	comp=E,2μm,0.3s						
KAN09	**Caldwell North**	**0.30**	**13**		Pg	05 25 40.6	+0.5
KAN09				Sg	Sg	05 25 44.9	+0.9
KAN09				IAML		05 25 45.2	
	comp=E,2μm,0.3s						
KAN09				IAML		05 25 48.1	
	comp=N,1μm,0.2s						
KAN01	**Argonia South**	**0.31**	**351**		Pg	05 25 40.9	+0.6
KAN01				Sg	Sg	05 25 45.4	+1.0
KAN01				IAML		05 25 45.6	
	comp=E,1μm,0.4s						
KAN01				IAML		05 25 45.6	
	comp=N,661nm,0.1s						
BLOK	**Blackwell**	**0.40**	**102**		Pg	05 25 42.2	+0.4
CROK	**Carrier**	**0.41**	**214**		Pg	05 25 42.5	+0.4
CROK				Sg	Sg	05 25 48.3	+0.8
CROK				IAML		05 25 50.3	
	comp=N,1μm,0.4s						
KAN08	**Anthony NE Sta**	**0.44**	**330**		Pg	05 25 43.3	+0.6
KS21	**Milan North St**	**0.44**	**4**		Pg	05 25 43.1	+0.3
KAN12	**Harper NE Stat**	**0.51**	**332**		Pg	05 25 44.5	+0.4
KAN12				IAML		05 25 55.6	
	comp=E,958nm,0.4s						
KAN12				IAML		05 25 59.6	
	comp=N,623nm,0.3s						
OK048	**Pawnee Station**	**0.74**	**125**		Pg	05 25 48.5	+0.1
OK048				IAML		05 26 00.6	
	comp=N,303nm,0.4s						
OK051	**E0350 and S346**	**0.77**	**116**		Pg	05 25 49.0	0.0
OK051				IAML		05 26 06.5	
	comp=N,348nm,0.2s						
T35A	**Sooner Cattle**	**0.95**	**85**		Pg	05 25 52.5	0.0
NOKA	**Waynoka**	**1.01**	**258**		Pg	05 25 53.4	-0.2
NOKA				IAML		05 26 16.2	
	comp=N,267nm,0.3s						
NOKA				IAML		05 26 23.4	
	comp=E,205nm,0.3s						
QUOK	**Quay**	**1.04**	**130**		Pg	05 25 53.9	-0.3
OK052	**Battle Ridge R**	**1.11**	**139**		Pg	05 25 55.4	-0.1
OK031	**S. Brethren Rd**	**1.13**	**142**		Pg	05 25 55.6	-0.2
OK031				IAML		05 26 11.7	
	comp=E,296nm,0.1s						
DEOK	**Depew**	**1.39**	**135**		Pn	05 25 59.9	-0.3
CSTR	**Hydro, Custer**	**1.44**	**214**		Pn	05 26 01.2	+0.3
OKCSW	**OKLAHOMA CITY**	**1.45**	**172**		Pn	05 26 01.1	0.0
ELIS	**Ellis County**	**1.59**	**241**		Pb	05 26 03.5	-0.5
FNO	**Franklin**	**1.60**	**171**		Pn	05 26 03.4	+0.2
R32A	**Long Quarter,**	**1.77**	**333**		Pn	05 26 06.3	+0.8
TUL3	**Leonard**	**1.80**	**121**	IAmb_Lg		05 26 33.1	
	comp=Z,17nm,0.9s						
W35A	**Tecumseh**	**1.81**	**158**		Pn	05 26 06.5	+0.4
RLO	**Rose Lookout**	**2.26**	**107**		Pn	05 26 12.9	+0.7
WMOK	**Wichita Mounta**	**2.28**	**203**		Pn	05 26 12.7	+0.2
CBKS	**Cedar Bluff**	**2.54**	**321**		Pn	05 26 17.2	+1.1
HHAR	**Hobbs**	**3.08**	**99**		Pn	05 26 24.1	+0.6
HHAR				IAmb_Lg		05 27 18.5	
	comp=Z,12nm,0.9s						
AMTX	**Amarillo**	**3.78**	**240**	IAmb_Lg		05 27 34.6	
	comp=Z,7.7nm,0.8s						
MIAR	**Mount Ida**	**4.06**	**123**	IAmb_Lg		05 27 45.2	
	comp=Z,13nm,0.8s						
DKNS	**Dickens**	**4.12**	**221**	IAmb_Lg		05 27 47.2	
	comp=Z,7.2nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.46**	**301**	IAmb_Lg		05 28 04.7	
	comp=Z,10nm,0.8s						
R40A	**Maddies Statio**	**4.55**	**70**	IAmb_Lg		05 28 01.7	
	comp=Z,12nm,1.2s						
BGNE	**Belgrade**	**4.57**	**356**	IAmb_Lg		05 28 06.9	
	comp=Z,16nm,0.8s						
T45A	**Paducah**	**7.25**	**86**	IAmb_Lg		05 29 24.7	
	comp=Z,5.0nm,0.8s						

IDC 09 05:26:55.6±3.4, 19°.77N×122°.13E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=288.9km s-min=21.9km az=62.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.24**	**162**	P	P	05 34 42.2	-0.5
	1.4nm,0.7s,baz=343,slow=9.0,SNR=7.8						
	1.4nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**42.03**	**84**	T	T	06 19 37.8	
	baz=279,slow=75,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**42.04**	**84**	T	T	06 19 39.2	
	baz=279,slow=75,SNR=9.0						
H11S2	**WAKE ISLAND Hy**	**42.05**	**84**	T	T	06 19 39.5	
	baz=279,slow=75,SNR=8.9						
MKAR	**Makanchi Array**	**42.17**	**319**	P	P	05 34 50.3	+0.3
	0.8nm,0.5s,baz=110,slow=9.0,SNR=8.6						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**44.68**	**165**	P	P	05 35 10.7	+0.2
	1.0nm,0.8s,baz=344,slow=7.0,SNR=10						
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**46.08**	**322**	P	P	05 35 20.6	-0.7
	0.2nm,0.3s,baz=120,slow=7.0,SNR=3.1						
	0.2nm,0.3s						

*NAO **09** 05:45:23.3±3.5, 71°.38N×12°.23W, ML3.5*
*IDC **09** 05:45:24.9±3.6, 71°.52N×12°.43W, h0km, mb3.7/1, mbtmp3.9/4, ML2.8/2, MS3.7/1, Error ellipse: s-maj=72.5km s-min=35.0km az=123.0*
*BER **09** 05:45:25.2±3.4, 71°.38N×12°.40W, h10km, mb(Pn)4.1, ML3.5(NAO), Confirmed Earthquake*
*DNK **09** 05:45:28.1±4.7, 71°.35N×12°.39W, h36km±71km, ML2.1*

ISC 09 05:45:24.2±1.8, 71°.58N±0°.06×12°.24W±0°.04, h15km±13km, n31, σ2°.96/45, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.31**	**118**	Pg	**Pg**	**05 45 48.1**	**-1.4**
JMI				Lg	Lg	05 46 02.4	
JMI	**Jan Mayen**	**1.31**	**118**	*e*P	**Pg**	**05 45 48.4**	**-1.1**
JMI				*e*S	**Sb**	**05 46 02.5**	**-2.6**
JMI				IAML		05 46 04.3	
	comp=Z,359nm,0.4s						
JMIC	**Jan Mayen**	**1.35**	**115**	Pg	**Pb**	**05 45 48.1**	**-1.1**
JMIC				Lg	Lg	05 46 03.3	
JMIC	**Jan Mayen**	**1.35**	**115**	*e*P	**Pb**	**05 45 48.1**	**-1.1**
JMIC				*e*S	**Sb**	**05 46 03.3**	**-2.9**
JMIC				IAML		05 46 04.8	
	comp=Z,275nm,0.5s						
JMIC	**Jan Mayen**	**1.35**	**115**	LR	LR	05 46 28.1	
	comp=Z,417nm,21.5s,baz=261,slow=46						
JMIC	**Jan Mayen**	**1.35**	**115**	*i* P	**Pn**	**05 45 47.9**	**-0.6**
JMIC				*i* S	**Sb**	**05 46 03.4**	**-2.7**
JNW	**Jan Mayen West**	**1.35**	**113**	*e*P	**Pb**	**05 45 48.2**	**-1.0**
JNW				*e*S	**Sb**	**05 46 03.8**	**-2.5**
JNW				IAML		05 46 06.8	
	comp=Z,301nm,0.2s						
JNE	**Jan Mayen East**	**1.41**	**113**	*e*P	**Pn**	**05 45 48.9**	**-0.4**
JNE				*e*S	**Sn**	**05 46 05.0**	**-2.5**
JNE				IAML		05 46 07.8	
	comp=Z,275nm,0.2s						
SCO	**Scoresbysund**	**3.36**	**255**	*i* P	**Pn**	**05 46 15.0**	**-1.1**
SCO				*i* S	**Sn**	**05 46 51.1**	**-4.4**
SCO				IAML		05 46 54.5	
	comp=Z,3.8nm,0.2s						
SCO	**Scoresbysund**	**3.36**	**255**	*i* P	**Pn**	**05 46 15.0**	**-1.1**
SCO				*i* S	**Sn**	**05 46 51.1**	**-4.4**
SCO				IAML		05 46 54.5	
	comp=Z,3.8nm,0.2s						
DBG	**Daneborg**	**3.60**	**323**	Pn	**Pn**	**05 46 21.2**	**+1.7**
DBG				Sn	**Sn**	**05 47 00.5**	**-1.2**
DBG	**Daneborg**	**3.60**	**323**	*i* P	**Pn**	**05 46 20.9**	**+1.4**
DBG				*i* S	**Sn**	**05 47 00.0**	**-1.7**
DBG				IAML		05 47 05.0	
	comp=Z,7.9nm,0.3s						
DBG	**Daneborg**	**3.60**	**323**	*i* P	**Pn**	**05 46 20.9**	**+1.4**
DBG				*i* S	**Sn**	**05 47 00.0**	**-1.7**
DBG				IAML		05 47 05.0	
	comp=Z,7.9nm,0.3s						
DAG	**Danmarks Havn**	**5.50**	**344**	*i* P	**Pn**	**05 46 47.9**	**+2.5**
DAG				*i* S	**Sn**	**05 47 45.8**	**-2.5**
DAG				IAML		05 47 49.6	
	comp=Z,26nm,0.2s						
DAG	**Danmarks Havn**	**5.50**	**344**	*i* P	**Pn**	**05 46 47.9**	**+2.5**
DAG				*i* S	**Sn**	**05 47 45.8**	**-2.5**
DAG				IAML		05 47 49.6	
	comp=Z,26nm,0.2s						
SUMG	**Summit**	**8.11**	**289**	*i* P	Pn	05 47 25.7	+4.1
SUMG	**Summit**	**8.11**	**289**	*e*P	**Pn**	**05 47 23.9**	**+2.3**
HSPB	**Hornsund (broa**	**9.18**	**41**	Pn	**Pn**	**05 47 39.1**	**+3.3**
HSPB	**Hornsund (broa**	**9.18**	**41**	*e*P	**Pn**	**05 47 39.0**	**+3.2**
BRBB	**Barentsburg B**	**9.40**	**34**	Pn	Pn	05 47 44.0	+5.1
KBS	**Kingsbay**	**9.49**	**29**	Pn	**Pn**	**05 47 42.8**	**+2.7**
KBS				Sn	**Sn**	**05 49 21.9**	**-4.4**
KBS	**Kingsbay**	**9.49**	**29**	*e*P	**Pn**	**05 47 43.0**	**+2.8**
KBS				*i* S	**Sn**	**05 49 21.4**	**-4.9**
KBS				*e*		05 49 23.2	
KBS				IAML		05 49 30.8	
	comp=Z,4.7nm,0.7s						
KBS	**Kingsbay**	**9.49**	**29**	*i* P	**Pn**	**05 47 42.7**	**+2.7**
KBS				*i* S	**Sn**	**05 49 21.4**	**-4.9**
SPA0	**Spitsbergen Ar**	**9.83**	**35**	Pn	**Pn**	**05 47 48.8**	**+3.9**
	baz=232,slow=11						
SPITS	**Spitsbergen Ar**	**9.83**	**35**	Pn	**Pn**	**05 47 48.4**	**+3.6**
	comp=Z,3.7nm,0.4s,baz=239,slow=11,SNR=22						
NOR	**Nord**	**10.12**	**356**	Pn	**Pn**	**05 47 50.9**	**+2.2**
NOR				Sn	**Sn**	**05 49 36.6**	**-5.1**
NOR	**Nord**	**10.12**	**356**	*i* P	**Pn**	**05 47 51.0**	**+2.2**
NOR				*i* S	**Sn**	**05 49 36.6**	**-5.1**
NOR				*e*		05 49 40.0	
NOR				IAML		05 49 47.0	
	comp=Z,3.5nm,0.3s						
STOK	**Stokkvaagen**	**10.43**	**108**	*e*P	**Pn**	**05 47 54.5**	**+1.6**
ARCES	**ARCESS Array B**	**12.59**	**81**	Pn	**Pn**	**05 48 26.0**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=293,slow=12,SNR=1.8						
	comp=Z,3.1nm,1.0s						
FINES	**FINESS Array B**	**17.95**	**105**	P	**P**	**05 49 36.6**	**+3.2**
	comp=Z,0.1nm,0.3s,baz=324,slow=14,SNR=4.4						
FINES				LR	LR	05 55 04.8	
	comp=Z,221nm,18.4s,baz=213,slow=32						
	comp=Z,2.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**59.02**	**164**	P	**P**	**05 55 25.7**	**+2.5**
	comp=Z,0.8nm,0.9s,baz=4.6,slow=7.2,SNR=4.7						
	comp=Z,0.8nm,0.9s						

*BER **09** 05:56:52.2±2.4, 71°.42N×12°.39W, h10km, mb(Pn)3.9, ML2.4(DNK), Confirmed Earthquake*
*DNK **09** 05:56:53.7±1.9, 71°.59N×13°.34W, h0km±29km, ML2.4*

ISC 09 05:56:45.2±1.0, 71°.16N±0°.07×13°.31W±0°.03, h10km, n14, σ2°.27/21, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.51**	**97**	*e*P	**Pg**	**05 57 15.6**	**+1.5**
JMI				*e*S	**Sn**	**05 57 31.4**	**-0.6**
JMI				IAML		05 57 34.4	
	comp=Z,74nm,0.5s						
JMIC	**Jan Mayen**	**1.58**	**94**	*e*P	**Pg**	**05 57 15.3**	**-0.1**
JMIC				*e*S	**Sn**	**05 57 30.6**	**-2.9**
JMIC				IAML		05 57 32.0	
	comp=Z,91nm,0.5s						
JNW	**Jan Mayen West**	**1.60**	**93**	*e*P	**Pg**	**05 57 15.4**	**-0.3**
JNW				*e*S	**Sn**	**05 57 31.1**	**-2.9**
JNW				IAML		05 57 33.9	
	comp=Z,88nm,0.6s			

SCO IAML 05 59 47.5
comp=Z,88nm,3.6s
SCO Scoresbysund 2.93 261 *i* P **Pg 05 57 41.0 -0.3**
SCO *i* S **Sg 05 58 18.9 -0.3**
SCO IAML 05 59 47.5
comp=Z,88nm,3.6s
DBG Daneborg 3.77 330 *i* S **Sn 05 58 27.0 -0.5**
DBG IAML 05 58 29.7
comp=Z,18nm,0.6s
DBG Daneborg 3.77 330 *i* S **Sn 05 58 27.0 -0.5**
DBG IAML 05 58 29.7
comp=Z,18nm,0.6s
DAG Danmarks Havn 5.83 348 *i* P **Pn 05 58 14.4 +3.0**
DAG *i* S **Sn 05 59 13.9 -4.2**
DAG IAML 05 59 17.1
comp=Z,13nm,0.3s
DAG Danmarks Havn 5.83 348 *i* P **Pn 05 58 14.4 +3.0**
DAG *i* S **Sn 05 59 13.9 -4.2**
DAG IAML 05 59 17.1
comp=Z,13nm,0.3s
HSPB Hornsund (broa 9.72 40 *eP* **Pn 05 59 06.5 +1.7**
HSPB IAML 05 59 16.4
comp=Z,3.4nm,0.8s
KBS Kingsbay 10.03 28 *eP* **Pn 05 59 10.4 +1.4**
KBS IAML 05 59 14.1
comp=Z,3.2nm,1.0s
KBS Kingsbay 10.03 28 *i* P **Pn 05 59 10.4 +1.4**
NOR Nord 10.53 357 *i* P **Pn 05 59 17.6 +1.8**
NOR *i* S Sn 06 01 01.1 -12
NOR IAML 06 01 12.9
comp=Z,3.8nm,0.5s

NEIC ***09*** *05:57:04.5±3.4, 32°.35N±0°.02×115°.23W±0°.02, h10km±2km, Error ellipse: s-maj=3.1km s-min=2.9km az=340.0*
ECX ***09*** *05:57:05.0±0.5, 32°.40N×115°.24W, h10km, MD3.3, ML3.5, Fault plane solution: NP1φs43.00000°, δ68.00000°, λ-122.00000°.*
PAS ***09*** *05:57:06.0±3.2, 32°.38N±0°.02×115°.24W±0°.02, h12km±3km, ML3.3/193, ML3.3/28(NEIC), Error ellipse: s-maj=2.4km s-min=2.2km az=171.0*
MEX ***09*** *05:57:06.4±1.1, 32°.39N×115°.28W, h5km±5km, MD3.4*
ISC 09 05:57:05.8±0.8, 32°.38N±0°.02×115°.26W±0°.02, h15km±4km, n102, σ1§07/136, 14C-13D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.05**	**318**		**Pg**	**05 57 08.0**	**-0.7**
CPBX					**Sg**	**05 57 10.1**	**-0.6**
CPBX	**Cerro Prieto**	**0.05**	**318**	⇓*i*P	**Pg**	**05 57 08.0**	**-0.7**
CPBX				*e*S	**Sg**	**05 57 10.0**	**-0.6**
CPBX				⇑*e*		05 57 13.1	
CPBX				IAML		05 57 13.1	
	comp=N,84μm,0.4s						
MBIG	**Mexicali**	**0.06**	**65**	*e*P	**Pg**	**05 57 08.0**	**-0.7**
MBIG				*i* S	**Sg**	**05 57 09.9**	**-0.8**
MBIG	**Mexicali**	**0.06**	**65**	⇓*i*P	**Pg**	**05 57 06.9**	**-1.9**
MDOC	**Michoacɨn de**	**0.09**	**332**	⇓*i*P	**Pg**	**05 57 12.2**	**+3.0**
MDOC				*e*S	**Sg**	**05 57 14.6**	**+3.4**
SALX	**Saltillo**	**0.12**	**70**	⇑*i*P	**Pg**	**05 57 08.6**	**-0.8**
SALX				*e*S	**Sb**	**05 57 12.2**	**-0.3**
CTLX	**Tlaxcala, TLX**	**0.14**	**48**	⇑*i*P	**Pg**	**05 57 09.1**	**-0.5**
CTLX				*i* S	**Sb**	**05 57 12.8**	**-0.1**
AGSX	**Ej. Aguas Cali**	**0.14**	**143**	⇑*i*P	**Pg**	**05 57 09.4**	**-0.3**
AGSX				*e*S	**Sg**	**05 57 12.3**	**+0.1**
AGSX				⇑*e*		05 57 15.1	
AGSX				IAML		05 57 15.1	
	comp=E,21μm,0.3s						
GUVIX	**Guadalupe Vict**	**0.18**	**116**	⇑*e*P	**Pg**	**05 57 10.1**	**-0.1**
GUVIX				*e*S	**Sb**	**05 57 13.5**	**-0.6**
GUVIX				⇓*e*		05 57 14.2	
GUVIX				IAML		05 57 14.2	
	comp=E,27μm,0.1s						
RHX	**Rio Hardy**	**0.25**	**184**	⇑*i*P	**Pg**	**05 57 11.1**	**-0.2**
PESCX	**Ej. Pescaderos**	**0.26**	**78**		**Pg**	**05 57 11.1**	**-0.4**
PESCX					**Sb**	**05 57 15.7**	**-0.7**
PESCX	**Ej. Pescaderos**	**0.26**	**78**	⇑*e*P	**Pg**	**05 57 11.1**	**-0.4**
PESCX				*e*S	**Sg**	**05 57 15.4**	**+0.2**
YUCAX	**Ej. Yucatɨn**	**0.27**	**33**	⇓*i*P	**Pg**	**05 57 11.6**	**0.0**
YUCAX				*i* S	**Sb**	**05 57 16.7**	**0.0**
UABX	**UABC, Campus M**	**0.29**	**329**		**Pb**	**05 57 12.7**	**0.0**
UABX					**Sb**	**05 57 17.7**	**+0.3**
JARAX	**Ej. Heriberto**	**0.31**	**300**	⇓*i*P	**Pg**	**05 57 12.4**	**+0.1**
JARAX				*e*S	**Sb**	**05 57 17.7**	**-0.2**
JARAX				⇑*e*		05 57 32.2	
JARAX				IAML		05 57 32.2	
	comp=N,4μm,0.4s						
5054	**Holtville Bond**	**0.32**	**349**		**Pb**	**05 57 12.9**	**-0.2**
5054					**Sb**	**05 57 19.0**	**+0.9**
RITX	**Riito Sonora**	**0.34**	**130**	⇑*i*P	**Pg**	**05 57 13.0**	**+0.2**
RITX				*e*S	**Sb**	**05 57 18.5**	**-0.1**
RITX				IAML		05 57 25.5	
	comp=E,12μm,0.3s						
RITX				⇑*e*		05 57 25.5	
5053	**Calexico**	**0.35**	**326**		**Pb**	**05 57 13.6**	**-0.1**
5053					**Sb**	**05 57 19.9**	**+0.9**
EMSC	**East Mesa**	**0.43**	**33**		**Pg**	**05 57 14.4**	**0.0**
EMSC					**Sb**	**05 57 21.2**	**-0.1**
CEA0	**Mexicali**	**0.44**	**308**	*e*P	**Pg**	**05 57 14.7**	**+0.1**
CEA0				*e*S	**Sb**	**05 57 21.7**	**+0.1**
DREC	**Desert Rsrch C**	**0.45**	**340**		**Pb**	**05 57 15.5**	**+0.1**
COA	**Coachella**	**0.49**	**14**		**Pg**	**05 57 15.7**	**-0.1**
COA					**Sb**	**05 57 23.7**	**+0.4**
SNR	**Schaffner Ranc**	**0.50**	**343**		**Pb**	**05 57 16.1**	**-0.2**
ALAMX	**Rancho Alamar**	**0.53**	**225**	*e*P	**Pb**	**05 57 16.8**	**0.0**
ALAMX				*e*S	**Sb**	**05 57 26.0**	**+1.7**
WESC	**Westside Schoo**	**0.55**	**314**		**Pg**	**05 57 16.7**	**0.0**
WESC	**Westside Schoo**	**0.55**	**314**	⇓*i*P	**Pg**	**05 57 16.7**	**0.0**
IMPE	**Imperial**	**0.58**	**334**		**Pb**	**05 57 17.5**	**-0.1**
EDOMX	**El Doctor, EDO**	**0.61**	**134**	⇑*e*P	**Pg**	**05 57 17.4**	**-0.4**
COK2	**Cook Ranch 2**	**0.61**	**320**		**Pg**	**05 57 17.7**	**-0.2**
COK2					**Sb**	**05 57 27.6**	**+1.0**
YUH2	**Yuha Desert**	**0.62**	**296**	⇓*i*P	**Pg**	**05 57 17.8**	**-0.2**
YUH	**Yuha Desert**	**0.62**	**296**		**Pg**	**05 57 17.7**	**-0.2**
YUH					**Sg**	**05 57 26.1**	**0.0**
ESJX	**Sierra Juarez**	**0.69**	**237**		**Pb**	**05 57 19.8**	**+0.2**
ESJX					**Sb**	**05 57 29.8**	**+0.7**
WEMD	**Westmorland, C**	**0.71**	**338**		**Pg**	**05 57 19.0**	**-0.7**
SWSC	**Sam W. Stewart**	**0.72**	**321**		**Pg**	**05 57 18.9**	**-1.0**
SWSC					**Sg**	**05 57 29.2**	**-0.3**
SWSC	**Sam W. Stewart**	**0.72**	**321**	⇓*i*P	**Pg**	**05 57 18.9**	**-1.0**
RMX	**La Rumorosa**	**0.72**	**288**		**Pg**	**05 57 19.0**	**-1.0**
RMX					**Sg**	**05 57 28.8**	**-0.8**
RMX	**La Rumorosa**	**0.72**	**288**	⇓*i*P	**Pg**	**05 57 19.0**	**-1.0**
RMX				IAML		05 57 30.9	
	comp=N,923nm,0.6s						
GLA	**Glamis**	**0.76**	**29**		**Pg**	**05 57 19.4**	**-1.4**
GLA					**Sg**	**05 57 29.9**	**-1.0**
IKP	**In-Ko-Pah, Jac**	**0.76**	**291**		**Pg**	**05 57 20.5**	**-0.3**
IKP					**Sb**	**05 57 31.3**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**0.76**	**291**	⇓*i*P	**Pg**	**05 57 20.5**	**-0.3**
CRR	**Carrizo Plain**	**0.78**	**310**		**Pg**	**05 57 20.2**	**-0.8**
CLI2	**Calipatria 2**	**0.78**	**340**		**Pg**	**05 57 20.2**	**-1.0**
CLI2					**Sg**	**05 57 31.1**	**-0.4**
SJX	**San Joaquin**	**0.85**	**224**	⇓*e*P	**Pb**	**05 57 19.8**	**-2.5**
SLVP	**Salvation Pass**	**0.86**	**358**		**Pb**	**05 57 20.7**	**-1.1**
ERRC	**Elmore Ranch**	**0.87**	**327**		**Pb**	**05 57 21.7**	**-0.9**
ERRC					**Sn**	**05 57 35.8**	**-0.1**
ECBX	**El Chinero**	**0.92**	**169**	⇑*e*P	**Pb**	**05 57 22.5**	**-1.0**
FRK	**Frink**	**1.07**	**343**		**Pb**	**05 57 23.6**	**-2.4**
VTX	**Valle De La Tr**	**1.08**	**204**		**Pb**	**05 57 25.8**	**-0.4**
VTX				IAML		05 57 42.6	
	comp=N,448nm,0.4s						
VTX				IAML		05 57 43.5	
	comp=E,562nm,0.7s						
MONP2	**Monument Peak**	**1.10**	**298**		**Pb**	**05 57 23.8**	**-2.9**
TKX	**Tecate**	**1.15**	**280**		**Pn**	**05 57 27.2**	**-0.2**
TKX	**Tecate**	**1.15**	**280**		**Sb**	**05 57 41.2**	**-1.0**
TKX	**Tecate**	**1.15**	**280**	IAML		05 57 45.9	
	comp=E,441nm,0.2s						
TKX				IAML		05 57 46.8	
	comp=N,482nm,0.3s						
SLH	**Sleepy Hollow**	**1.16**	**314**		**Pn**	**05 57 25.6**	**-2.0**
CBX	**Cerro Bola**	**1.19**	**267**	Pg	**Pn**	**05 57 27.7**	**-0.3**
CBX				IAML		05 57 48.7	
	comp=N,806nm,0.9s						
CBX	**Cerro Bola**	**1.19**	**267**	*e*P	**Pn**	**05 57 27.4**	**-0.6**
CBX	**Cerro Bola**	**1.19**	**267**	*e*P	**Pn**	**05 57 27.1**	**-0.9**
TJIG	**Tijuana**	**1.19**	**273**	*e*P	**Pn**	**05 57 27.7**	**-0.3**
TJIG				*e*S	**Sb**	**05 57 43.6**	**+0.2**
BAR	**Barrett**	**1.23**	**284**		**Pn**	**05 57 27.6**	**-0.9**
BAR					**Sg**	**05 57 45.6**	**+0.1**
BAR	**Barrett**	**1.23**	**284**	⇓*e*P	**Pn**	**05 57 27.5**	**-0.9**
DUZA	**Dulzura**	**1.30**	**280**		**Pn**	**05 57 28.8**	**-0.6**
DUZA					**Sg**	**05 57 47.5**	**-0.3**
BORC	**Borrego Spring**	**1.31**	**313**		**Pn**	**05 57 27.7**	**-2.0**
JUEM	**Julian Eagle M**	**1.32**	**302**		**Pn**	**05 57 28.6**	**-1.3**
SPIG	**San Pedro Mart**	**1.34**	**187**	*e*P	**Pn**	**05 57 29.6**	**-0.7**
SPIG				*e*S	**Sn**	**05 57 48.3**	**+0.3**
SFX	**San Felipe**	**1.39**	**165**		**Pb**	**05 57 31.2**	**-0.2**
SFX				IAML		05 57 51.9	
	comp=N,394nm,0.5s						
SFX				IAML		05 57 53.0	
	comp=E,402nm,0.3s						
SFX	**San Felipe**	**1.39**	**165**	*e*P	**Pb**	**05 57 31.2**	**-0.2**
SFX				*i* S	**Sb**	**05 57 49.5**	**+0.6**
SFX	**San Felipe**	**1.39**	**165**	⇑*e*P	**Pb**	**05 57 31.6**	**+0.2**
MATG	**Mataguay Scout**	**1.42**	**305**		**Pn**	**05 57 29.9**	**-1.4**
OLP	**Otay Lakes Par**	**1.43**	**280**		**Pb**	**05 57 32.1**	**0.0**
EML	**El Monte Cty P**	**1.43**	**291**		**Pn**	**05 57 30.2**	**-1.0**
EML					**Sg**	**05 57 51.2**	**-0.7**
BLYC	**Blythe**	**1.50**	**24**		**Pn**	**05 57 32.4**	**+0.2**
BLYC				IAML		05 58 09.3	
	comp=E,344nm,0.7s						
BLYC				IAML		05 58 09.5	
	comp=N,306nm,0.5s						
TJX	**Tijuana**	**1.52**	**275**		**Pn**	**05 57 32.9**	**+0.4**
TJX				IAML		05 57 56.6	
	comp=N,560nm,1.1s						
TJX				IAML		05 58 05.9	
	comp=E,694nm,0.8s						
DPP	**Dos Picos Cty**	**1.54**	**294**		**Pn**	**05 57 32.2**	**-0.6**
FRD	**Ford Ranch, An**	**1.58**	**315**		**Pn**	**05 57 31.8**	**-1.6**
FRD	**Ford Ranch, An**	**1.58**	**315**		**Pn**	**05 57 31.8**	**-1.6**
CPE	**Camp Elliot**	**1.63**	**289**		**Pn**	**05 57 33.5**	**-0.6**
CPE	**Camp Elliot**	**1.63**	**289**	IAML		05 57 58.4	
	comp=N,261nm,0.5s						
CRY	**Cary Ranch**	**1.71**	**314**		**Pn**	**05 57 33.7**	**-1.5**
TPC	**Twentynine Pal**	**1.84**	**339**		**Pg**	**05 57 40.8**	**-0.4**
DGR	**Domotigoni Val**	**1.94**	**311**		**Pn**	**05 57 36.9**	**-1.3**
ELS	**Elsinore Mount**	**2.21**	**305**		**Pn**	**05 57 41.0**	**-1.1**
CLTC	**Calectric**	**2.42**	**315**		**Pb**	**05 57 50.3**	**+1.1**
Y14A	**Wickenburg**	**2.45**	**50**	Pn	**Pn**	**05 57 44.9**	**-0.5**
W13A	**Hualapai Mount**	**2.94**	**23**		**Pn**	**05 57 52.1**	**-0.1**
PASC	**Pasadena Art C**	**3.03**	**307**		**Pn**	**05 57 55.4**	**+2.2**
LAPR	**La Primavera**	**3.14**	**126**	*e*P	**Pb**	**05 57 59.7**	**-1.6**
V12A	**Nelson**	**3.35**	**6**		**Pn**	**05 57 58.3**	**+0.5**
X16A	**Lo Mia Camp, P**	**3.79**	**57**	Pn	**Pn**	**05 58 03.9**	**+0.1**
TUC	**Tucson**	**3.79**	**90**	*e*P	**Pn**	**05 58 02.9**	**-0.9**
GWY	**Greenwater Val**	**3.97**	**343**		**Pn**	**05 58 06.6**	**+0.3**
SHPR	**Sheep Range**	**4.12**	**1**		**Pn**	**05 58 08.2**	**-0.1**
WUAZ	**Wupatki**	**4.50**	**45**		**Pn**	**05 58 14.0**	**+0.4**
U15A	**North Rim**	**4.72**	**31**		**Pn**	**05 58 16.5**	**-0.3**
LCMT	**Little Creek M**	**4.91**	**19**		**Pn**	**05 58 18.5**	**-0.7**
GRAC	**Grapevine Rang**	**4.92**	**340**		**Pn**	**05 58 19.0**	**-0.3**
X18A	**Snowflake**	**4.93**	**63**		**Pn**	**05 58 19.2**	**-0.3**
KNB	**Kanab**	**5.04**	**23**	Pn	**Pn**	**05 58 21.6**	**+0.5**
R11B	**Troy Canyon, C**	**5.96**	**358**		**Pn**	**05 58 33.6**	**-0.1**
PSUT	**Pine Spring**	**6.25**	**10**		**Pn**	**05 58 39.8**	**+2.1**
121A	**Cookes Peak, D**	**6.32**	**87**	Pn	**Pn**	**05 58 37.8**	**-0.9**
121A	**Cookes Peak, D**	**6.32**	**87**	*i* P	**Pn**	**05 58 38.0**	**-0.7**
121A				*e*S	**Sn**	**05 59 56.5**	**+5.8**
SPR3	**Spring Creek 3**	**6.65**	**6**		**Pn**	**05 58 43.7**	**+0.4**
MVCO	**Mesa Verde**	**7.36**	**47**	Pn	**Pn**	**05 58 53.1**	**+0.2**

NEIC ***09*** *06:06:31.3±1.5, 12°.29N±0°.07×144°.7E±0°.1, h10km±1km, mb4.5/20, Error ellipse: s-maj=24.5km s-min=10.2km az=283.0*
IDC ***09*** *06:06:36.3±0.7, 12°.40N×144°.60E, h51km±7km, mb3.7/10, mbtmp4.0/10, Error ellipse: s-maj=25.9km s-min=6.5km az=103.0*
ISC 09 06:06:33.0±0.5, 12°.24N±0°.07×144°.7E±0°.1, h29km, n37, σ1§26/42, mb4.4/20, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.35**	**7**	Pn	**Pn**	**06 06 56.1**	**+0.1**
GUMO	**Guam**	**1.35**	**7**	P	**Pn**	**06 06 55.7**	**-0.3**
	140nm,0.3s,baz=170,slow=10,SNR=5.5						
GUMO				S	**Sn**	**06 07 12.2**	**-0.9**
	588nm,0.7s,baz=33,slow=21,SNR=20						
PATS	**Pohnpei**	**14.46**	**111**	Pn	**Pn**	**06 09 54.9**	**-1.0**
SSLB	**Suanglung**	**25.28**	**300**	P	**P**	**06 11 58.0**	**+0.9**
SSLB				IAmb	IAmb	06 11 58.6	
	comp=Z,11nm,0.9s						
JKA	**Kamikawa-asahi**	**31.82**	**357**	P	**P**	**06 12 54.9**	**-0.2**
WB0	**Warramunga Arr**	**33.38**	**198**	P	**P**	**06 13 09.4**	**+0.3**
WB0				IAmb	IAmb	06 13 10.8	
	comp=Z,4.7nm,0.8s						
WRA	**Warramunga Arr**	**33.56**	**198**	P	**P**	**06 13 11.4**	**+0.7**
	comp=Z,5.9nm,0.7s,baz=21,slow=9.8,SNR=51						
WRA				pP	**pwP**	**06 13 26.0**	**-2.8**
	comp=Z,3.5nm,0.7s,baz=22,slow=9.7,SNR=12						
	comp=Z,5.9nm,0.7s						
AS31	**Alice Springs**	**37.21**	**196**	P	**P**	**06 13 43.5**	**+1.4**
ASAR	**Alice Springs**	**37.21**	**196**	P	**P**	**06 13 42.8**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=15,slow=10,SNR=26						
ASAR				pP	**pwP**	**06 13 57.6**	**-2.6**
	comp=Z,1.0nm,0.6s,baz=21,slow=11,SNR=5.0						
ASAR				PcP	**PcP**	**06 16 03.5**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=24,slow=2.6,SNR=2.5						
	comp=Z,1.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.45**	**284**	P	**P**	**06 14 42.6**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=83,slow=7.0,SNR=4.4						
	comp=Z,0.9nm,0.3s						
BBOO	**Buckleboo**	**45.55**	**190**	P	**P**	**06 14 51.0**	**+0.7**
BBOO				IAmb	IAmb	06 15 13.1	
	comp=Z,6.1nm,1.1s						
SONM	**Songino Array**	**47.73**	**326**	P	**P**	**06 15 08.2**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=134,slow=8.3,SNR=1.9						
	comp=Z,0.2nm,0.4s						
MK31	**Makanchi Array**	**62.34**	**317**	P	**P**	**06 16 51.7**	**-1.3**
MKAR	**Makanchi Array**	**62.34**	**317**	P	**P**	**06 16 53.1**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=86,slow=9.1,SNR=6.4						
MKAR				pP	**pwP**	**06 17 07.6**	**-2.5**
	comp=Z,0.5nm,0.6s,baz=106,slow=6.1,SNR=3.2						
	comp=Z,0.6nm,0.5s						
M17K	**Holitna River**	**64.23**	**27**	P	**P**	**06 17 06.7**	**+1.5**
N19K	**Bonanza Creek**	**65.35**	**28**	P	**P**	**06 17 13.5**	**+1.0**
J18K	**Innoko River**	**65.36**	**25**	P	**P**	**06 17 14.0**	**+1.5**
KURK	**Kurchatov**	**65.50**	**320**	P	**P**	**06 17 13.1**	**-0.5**
KURK				IAmb	IAmb	06 17 20.6	
	comp=Z,1.9nm,0.8s						
KURBB	**Kurchatov Arra**	**65.54**	**320**	P	**P**	**06 17 12.9**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=102,slow=6.9,SNR=7.6						
	comp=Z,0.7nm,0.5s						
G19K	**Purcell Mounta**	**66.31**	**22**	P	**P**	**06 17 19.2**	**+0.7**
G19K				IAmb	IAmb	06 17 22.0	
	comp=Z,5.3nm,1.1s						
K20K	**Telida**	**66.42**	**26**	P	**P**	**06 17 19.9**	**+0.5**
K20K				IAmb	IAmb	06 17 21.5	
	comp=Z,3.9nm,0.9s						
CAST	**Castle Rocks**	**67.28**	**26**	P	**P**	**06 17 25.6**	**+0.8**
B20K	**Meade River**	**67.97**	**18**	P	**P**	**06 17 29.4**	**+0.5**
MLY	**Manley**	**68.36**	**24**	P	**P**	**06 17 31.5**	**-0.1**
I23K	**Minto, Yukon-K**	**68.95**	**24**	P	**P**	**06 17 35.8**	**+0.6**
ILAR	**Eielson Array**	**69.86**	**25**	P	**P**	**06 17 39.9**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=249,slow=6.0,SNR=18						
	comp=Z,0.6nm,0.6s						
D24K	**Happy Valley**	**70.35**	**20**	P	**P**	**06 17 44.5**	**+0.7**
D24K				IAmb	IAmb	06 17 45.8	
	comp=Z,4.6nm,0.8s						
J25K	**Salcha River,**	**70.45**	**25**	P	**P**	**06 17 43.6**	**-1.0**
BVAR	**Borovoye Array**	**70.87**	**322**	P	**P**	**06 17 46.7**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=88,slow=7.5,SNR=2.4						
	comp=Z,0.5nm,0.4s						
PINE	**Pine Mountain**	**84.76**	**46**	P	**P**	**06 19 07.1**	**+2.1**
RES	**Resolute Bay**	**85.90**	**13**	P	**P**	**06 19 11.0**	**+1.3**
RES				IAmb	IAmb	06 19 28.0	
	comp=Z,3.5nm,1.1s						
NEW	**Newport**	**86.35**	**42**	P	**P**	**06 19 14.3**	**+1.6**
NEW				IAmb	IAmb	06 19 15.2	
	comp=Z,3.3nm,0.8s						
NVAR	**Mina Array Bea**	**87.90**	**51**	P	**P**	**06 19 22.4**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=279,slow=4.5,SNR=5.4						
NVAR				pP	**pwP**	**06 19 36.6**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=264,slow=6.3,SNR=2.7						
	comp=Z,0.6nm,0.6s						
PLID	**Pearl Lake**	**87.90**	**44**	P	**P**	**06 19 20.9**	**+0.5**
PLID				IAmb	IAmb	06 19 22.6	
	comp=Z,2.6nm,0.9s						
FINES	**FINESS Array B**	**92.31**	**335**	P	**P**	**06 19 38.6**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=72,slow=6.2,SNR=6.2						
	comp=Z,0.8nm,0.5s						
DBIC	**Dimbokro**	**144.37**	**300**	PKP	PKPbc	06 26 06.7	+0.8
	comp=Z,3.2nm,0.6s,baz=85,slow=3.0,SNR=7.0						
LPAZ	**La Paz**	**147.96**	**101**	PKPbc	**PKiKP**	**06 26 19.1**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=335,slow=2.1,SNR=6.6						

IDC ***09*** *06:17:22.6±0.6, 42°.56S×15°.74W, h0km, mb4.4/13, mbtmp4.4/13, MS4.3/38, Error ellipse: s-maj=19.6km s-min=17.6km az=98.0*
NEIC ***09*** *06:17:23.5±2.7, 42°.57S±0°.10×15°.6W±0°.1, h10km±1km, mb4.9/30, Error ellipse: s-maj=20.5km s-min=11.4km az=133.0*
ISC 09 06:17:23.3±0.4, 42°.54S±0°.07×15°.69W±0°.09, h10km, n107, σ1§52/75, mb4.8/28, MS4.3/39, 8C-2D, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**6.04**	**27**	Pn	**Pn**	**06 18 50.2**	**-2.4**
HOPE	**Hope Point**	**18.05**	**222**	Pn	**Pn**	**06 21 32.2**	**-1.8**
HOPE				IAmb	IAmb	06 21 37.7	
	comp=Z,98nm,1.3s						
VNA2	**Neumayer--Watz**	**28.77**	**174**	⇑P	**P**	**06 23 21.3**	**+0.6**
	comp=Z,6.8nm,0.6s,baz=345,slow=10						
VNA2				⇑PcP	**PcP**	**06 26 28.9**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=302,slow=9.2						
VNA3	**Neumayer Olymp**	**28.94**	**176**	⇑P	**P**	**06 23 22.0**	**-0.2**
	comp=Z,9.6nm,0.7s						
VNA3				⇑PcP	**PcP**	**06 26 30.4**	**-0.4**
	comp=Z,2.9nm,1.0s						
SNAA	**Sanae**	**29.89**	**172**	P	**P**	**06 23 30.1**	**-0.6**
SNAA	**Sanae**	**29.89**	**172**	⇑P	**P**	**06 23 29.4**	**-1.3**
	comp=Z,33nm,1.0s						
SNAA				⇑PcP	**PcP**	**06 26 32.2**	**-1.1**
	comp=Z,65nm,1.1s						
SNAA	**Sanae**	**29.89**	**172**	P	**P**	**06 23 30.5**	**-0.3**
	comp=Z,2.5nm,1.1s,baz=347,slow=9.7,SNR=4.9						
SNAA				LR	LR	06 32 10.1	
	comp=Z,277nm,21.8s,baz=16,slow=30						
	comp=Z,2.5nm,1.1s						
SUR	**Sutherland**	**30.49**	**83**	LR	LR	06 34 15.3	
	comp=Z,740nm,18.1s,baz=231,slow=33						
TROLL	**Troll, Antarti**	**30.86**	**169**	⇑P	**P**	**06 23 40.6**	**+1.2**
	comp=Z,330nm,0.8s						
TROLL				⇑PcP	**PcP**	**06 26 35.8**	**-0.1**
	comp=Z,144nm,1.1s						
H10S2	**ASCENSION HYDR**	**33.45**	**2**	T	T	06 59 21.2	
	baz=182,slow=74,SNR=52						
H10S3	**ASCENSION HYDR**	**33.46**	**2**	T	T	06 59 21.6	
	baz=38,slow=74,SNR=52						
H10N1	**ASCENSION HYDR**	**34.56**	**2**	T	T	07 00 50.2	
	baz=179,slow=74,SNR=6.7						
H10N3	**ASCENSION HYDR**	**34.57**	**2**	T	T	07 00 51.6	
	baz=179,slow=74,SNR=35						
H10N2	**ASCENSION HYDR**	**34.58**	**2**	T	T	07 00 50.9	
	baz=179,slow=74,SNR=16						
ELIB	**Princess Elisa**	**35.02**	**160**	*d*P	**P**	**06 24 17.0**	**+1.4**
	comp=Z,20nm,1.0s						
ELIB				*d*PcP	**PcP**	**06 26 46.5**	**-0.9**
ITQB	**Itaqui**	**35.15**	**278**	P	**P**	**06 24 16.8**	**-0.3**
TRQA	**Tornquist**	**35.25**	**261**	P	**P**	**06 24 18.7**	**+0.7**
TRQA				IAmb	IAmb	06 24 19.1	
	comp=Z,27nm,1.4s						
BOSA	**Boshof**	**35.73**	**81**	P	**P**	**06 24 23.6**	**+1.4**
BOSA				IAmb	IAmb	06 24 31.3	
	comp=Z,20nm,1.2s						
BOSA	**Boshof**	**35.73**	**81**	P	**P**	**06 24 24.4**	**+2.1**
	comp=Z,7.4nm,1.0s,baz=238,slow=8.9,SNR=8.0						
BOSA				LR	LR	06 37 09.3	
	comp=Z,393nm,18.7s,baz=232,slow=33						
	comp=Z,7.4nm,1.0s						
BELA	**Belgrano 2**	**36.28**	**187**	P	**P**	**06 24 26.1**	**-0.2**
BELA				IAmb	IAmb	06 24 27.6	
	comp=Z,21nm,1.3s						
SMAI	**San Martin Ant**	**37.14**	**209**	P	**P**	**06 24 33.2**	**-0.5**
SMAI				IAmb	IAmb	06 24 44.7	
	comp=Z,27nm,1.4s						
CPUP	**Villa Florida**	**37.55**	**282**	P	**P**	**06 24 40.0**	**+2.3**
CPUP				IAmb	IAmb	06 24 41.9	
	comp=Z,24nm,1.4s						
CPUP	**Villa Florida**	**37.55**	**282**	P	**P**	**06 24 36.2**	**-1.5**
	comp=Z,3.2nm,0.8s,baz=121,slow=5.9,SNR=4.9						
CPUP				LR	LR	06 38 50.8	
	comp

BBTS Babate 56.92 359 LR LR 06 47 25.3
comp=Z,247nm,18.1s,baz=119,slow=32
TORD Torodi Ar. Bea 57.66 20 P **P 06 27 14.1 +0.3**
comp=Z,3.3nm,1.0s,baz=204,slow=3.4,SNR=14
TORD LR LR 06 46 51.4
comp=Z,59nm,19.2s,baz=145,slow=31
comp=Z,3.3nm,1.0s
MDP Montagnes des 58.07 315 LR LR 06 49 56.1
comp=Z,421nm,19.1s,baz=136,slow=34
MBAR Mbarara 58.90 58 LR LR 06 50 06.7
comp=Z,708nm,19.4s,baz=227,slow=33
SBA Scott Base 59.88 181 P **P 06 27 28.1 -0.4**
SBA IAmb IAmb 06 27 31.1
comp=Z,15nm,1.3s
NNA Nana 60.80 281 LR LR 06 53 23.4
comp=Z,462nm,19.8s,baz=126,slow=36
TBTG Tabatinga, AM 61.33 293 P **P 06 27 39.5 +0.2**
KMBO Kilima Mbogo 62.71 64 LR LR 06 52 36.1
comp=Z,471nm,19.9s,baz=258,slow=34
ATAH Atahualpa 65.20 284 LR LR 06 56 30.1
comp=Z,177nm,20.4s,baz=151,slow=36
TAM Tamanrasset 67.89 21 P **P 06 28 21.1 -0.9**
PCRV Puerto La Cruz 68.92 307 LR LR 06 56 38.8
comp=Z,192nm,18.3s,slow=34
ROSC El Rosal 70.92 296 LR LR 06 58 26.5
comp=Z,742nm,18.6s,baz=146,slow=35
FURI Furi 71.21 58 LR LR 06 57 49.9
comp=Z,405nm,19.3s,baz=192,slow=34
SDV Santo Domingo 71.57 301 LR LR 06 58 18.1
comp=Z,357nm,20.2s,baz=103,slow=34
RPN Rapa Nui 74.72 247 LR LR 06 55 40.5
comp=Z,129nm,21.5s,baz=124,slow=31
ATD Arta Tunnel 75.85 60 LR LR 07 01 26.2
comp=Z,12nm,18.5s,baz=160,slow=35
SJG San Juan 76.15 311 LR LR 07 00 17.3
comp=Z,55nm,21.9s,baz=128,slow=34
KEST Kesra 81.18 20 P **P 06 29 40.8 +1.9**
comp=Z,4.2nm,0.9s,baz=162,slow=3.2,SNR=3.9
KEST LR LR 07 03 27.4
comp=Z,103nm,18.7s,baz=283,slow=34
comp=Z,4.2nm,0.9s
JTS Las Juntas de 82.07 292 LR LR 07 06 26.9
comp=Z,251nm,19.4s,baz=112,slow=36
ESDC Sonseca Array 82.52 9 P **P 06 29 47.3 +1.5**
comp=Z,0.9nm,0.8s,baz=205,slow=5.3,SNR=2.8
comp=Z,0.9nm,0.8s
EIL Elat 85.63 42 LR LR 07 04 42.5
comp=Z,126nm,21.6s,baz=249,slow=33
MMAI Mount Meron Ar 88.58 41 LR LR 07 07 38.8
comp=Z,68nm,19.5s,baz=254,slow=34
TEIG Tepich 91.37 296 LR LR 07 13 20.6
comp=Z,124nm,19.6s,baz=103,slow=37
DAVOX Davos/Dischmat 91.78 17 P **P 06 30 33.0 +2.1**
comp=Z,1.2nm,0.4s,baz=170,slow=6.1,SNR=4.6
comp=Z,1.2nm,0.4s
BRTR Keskin Array B 93.28 36 P **P 06 30 40.4 +2.4**
comp=Z,0.9nm,0.8s,baz=187,slow=8.7,SNR=6.2
comp=Z,0.9nm,0.8s
NWAO Narrogin (SRO) 93.38 142 LR LR 07 04 24.2
comp=Z,124nm,20.9s,baz=172,slow=30
CMIG Matias Romero 93.69 290 LR LR 07 09 46.6
comp=Z,108nm,20.6s,baz=146,slow=34
WSAR Wadi Sarin 94.62 63 LR LR 07 11 52.8
comp=Z,147nm,19.2s,baz=219,slow=34
VRAC Vranov 95.75 21 LR LR 07 12 26.2
comp=Z,66nm,18.1s,baz=228,slow=34
TKL Tuckaleechee C 99.57 310 LR LR 07 13 17.2
comp=Z,106nm,20.2s,baz=132,slow=34
CMAR Chiang Mai Arr 120.29 92 PKP **PKiKP 06 36 15.1 +0.1**
comp=Z,1.2nm,0.3s,baz=260,slow=3.6,SNR=4.7
KURBB Kurchatov Arra 123.63 50 PKP **PKiKP 06 36 20.7 +0.2**
comp=Z,0.6nm,0.8s,baz=236,slow=3.3,SNR=4.7
WMQ Urumqi 126.06 61 *e*PKP **PKiKP 06 36 25.5 -0.2**
PZH PanZhiHua 127.16 86 PKP **PKPdf 06 36 26.7 -1.3**
HHC Hu-ho-hao-te 141.10 74 *e*P **PKPdf 06 36 47.1 -6.5**
NJ2 Nanjing 142.75 91 *e*P **PKPdf 06 36 56.4 -0.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
C23K Itkillik River 144.37 335 PKPdf **PKPdf 06 36 56.7 -1.7**
E24K Your Creek 144.38 332 **PKPdf 06 36 56.6 -1.9**
TOLK Toolik Lake Re 144.53 333 PKPdf **PKPdf 06 36 57.0 -1.7**
D23K Nanushuk River 144.77 334 **PKPdf 06 36 57.8 -1.3**
ILAR Eielson Array 144.81 326 PKP **PKPdf 06 36 57.8 -1.5**
comp=Z,6.3nm,1.0s,baz=90,slow=1.9,SNR=40
H24K Noodor Dome 144.91 328 **PKPdf 06 36 58.1 -1.3**
B22K Teshekpuk Lake 144.98 337 **PKPdf 06 36 58.5 -0.9**
COLA College 145.18 326 **PKPdf 06 36 58.7 -1.1**
XLT XiLinHaoTe 145.22 71 *e*PKPbc **PKiKP 06 37 02.3 -2.3**
G23K Bananza Creek 145.43 330 **PKPab 06 36 59.9 -0.7**
DHY Denali Highway 145.44 323 **PKPab 06 37 00.2 -0.6**
H23K Yukon River 145.56 328 **PKPab 06 37 00.8 -0.2**
I21K Tanana 146.74 328 **PKPbc 06 37 03.0 -1.3**
KSRS Korea Array 151.81 88 PKPab **PKPab 06 37 27.2 +0.3**
comp=Z,4.0nm,1.0s,baz=153,slow=1.1,SNR=5.7
MJAR Matsushiro Arr 159.04 98 PKPab **PKPab 06 37 59.4 +1.4**
comp=Z,6.3nm,0.9s,baz=234,slow=5.3,SNR=10

*BER **09** 06:24:18.0±0.5, 71°.38N×11°.00W, h0km±552km, mb(Pn)3.6, ML2.4, Confirmed Earthquake*
*DNK **09** 06:24:18.2±2.2, 71°.53N×10°.89W, h38km±999km, ML1.4*
ISC 09 06:24:15.2±2.0, 71°.57N±0°.07×11°.06W±0°.08, h15km±17km, n10, σ2s11/19, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**0.99**	**129**	*e*P		**Pb**	**06 24 34.8**	**+0.8**
JMI				*e*S		**Sg**	**06 24 46.4**	**-0.9**
JMI				IAML			06 24 47.6	
	comp=Z,86nm,0.3s							
JNW	**Jan Mayen West**	**1.01**	**121**	*e*P		**Pb**	**06 24 34.7**	**+0.4**
JNW				*e*S		**Sb**	**06 24 47.7**	**+0.4**
JNW				IAML			06 24 48.3	
	comp=Z,89nm,0.2s							
JMIC	**Jan Mayen**	**1.01**	**124**	*e*P		**Pb**	**06 24 35.2**	**+0.8**
JMIC				*e*S		**Sg**	**06 24 47.1**	**-0.9**
JMIC				IAML			06 24 47.9	
	comp=Z,71nm,0.2s							
JMIC	**Jan Mayen**	**1.01**	**124**	*i* P		**Pg**	**06 24 34.2**	**-0.6**
JMIC				*i* S		**Sg**	**06 24 46.8**	**-1.2**
JNE	**Jan Mayen East**	**1.07**	**122**	*e*P		**Pg**	**06 24 35.5**	**-0.3**
JNE				*e*S		**Sg**	**06 24 48.7**	**-1.0**
JNE				IAML			06 24 53.2	
	comp=Z,149nm,0.3s							
SCO	**Scoresbysund**	**3.72**	**258**	*i* P		**Pn**	**06 25 13.9**	**+2.0**
SCO				*i* S		**Sn**	**06 25 52.8**	**-2.5**
SCO				IAML			06 25 55.0	
	comp=Z,0.6nm,0.7s							
DBG	**Daneborg**	**3.85**	**320**	*e*S		**Sn**	**06 25 57.2**	**-1.4**
DBG	**Daneborg**	**3.85**	**320**	*i* P		**Pn**	**06 25 15.7**	**+2.0**
DBG				*i* S		**Sn**	**06 25 56.2**	**-2.3**
DBG				IAML			06 26 10.4	
	comp=Z,4.2nm,0.2s							
DAG	**Danmarks Havn**	**5.62**	**342**	*e*P		**Pn**	**06 25 41.2**	**+3.2**
DAG				*e*S		**Sn**	**06 26 40.1**	**-2.0**
DAG	**Danmarks Havn**	**5.62**	**342**	*i* P		**Pn**	**06 25 40.4**	**+2.4**
DAG				*i* S		**Sn**	**06 26 37.7**	**-4.4**
DAG				IAML			06 26 45.0	
	comp=Z,1.9nm,0.2s							

*IDC **09** 06:25:00.2±8.7, 6°.14S×129°.06E, h202km±88km, mb3.3/2, mbtmp3.9/5, MS2.9/1, Error ellipse: s-maj=95.2km s-min=24.4km az=50.0*
ISC 09 06:25:05.2±1.4, 6°.6S±0°.1×128°.7E±0°.1, h250km, n6, σ1s97/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.12**	**234**	P		**Pn**	**06 26 37.0**	**+2.1**
	85nm,0.4s,baz=224,slow=1.6,SNR=9.5							
BATI				S		**S**	**06 27 45.4**	**-1.2**
	26nm,0.3s,baz=270,slow=15,SNR=2.2							
FITZ	**Fitzroy Crossi**	**11.78**	**194**	P		**P**	**06 27 49.9**	**+0.4**
	1.8nm,0.3s,baz=30,slow=12,SNR=2.8							
FITZ				S		**S**	**06 29 54.8**	**-3.0**
	0.9nm,0.5s,baz=79,slow=12,SNR=1.6							
FITZ				LR		LR	06 32 43.3	
	comp=Z,55nm,19.6s,baz=266,slow=38							
WRA	**Warramunga Arr**	**14.32**	**158**	P		**P**	**06 28 18.6**	**+0.9**
	1.1nm,0.5s,baz=337,slow=13,SNR=16							
ASAR	**Alice Springs**	**17.66**	**164**	P		**P**	**06 28 56.2**	**+1.9**
	1.9nm,0.4s,baz=344,slow=11,SNR=32							
ASAR				S		**S**	**06 32 04.1**	**-0.6**
	0.4nm,0.9s,baz=344,slow=20,SNR=4.8							
MKAR	**Makanchi Array**	**67.21**	**327**	P		**P**	**06 35 31.9**	**-0.9**
	0.5nm,0.5s,baz=116,slow=7.8,SNR=8.4							
	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**71.52**	**329**	P		**P**	**06 35 57.1**	**-1.8**
	0.4nm,0.4s,baz=128,slow=5.3,SNR=6.9							
	0.4nm,0.4s							

*IDC **09** 06:29:23.5±1.4, 37°.81N×20°.99E, h0km, mb3.5/6, mbtmp3.5/7, ML1.2/1, Error ellipse: s-maj=30.4km s-min=25.2km az=87.0*
*THE **09** 06:29:23.1, 37°.42N×20°.43E, h0km±4km, ML3.4/9, Error ellipse: s-maj=5.4km s-min=1.0km az=234.0*
*ATH **09** 06:29:23.7, 37°.44N×20°.52E, h7km±2km, ML3.3/8, Error ellipse: s-maj=4.1km s-min=1.5km az=51.0*
ISC 09 06:29:24.5±1.4, 37°.46N±0°.04×20°.58E±0°.05, h10km±8km, n36, σ1s49/51, mb3.5/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.27**	**43**	P		**Pg**	**06 29 30.5**	**+0.4**
KRI1				S		**Sb**	**06 29 36.3**	**+0.2**
	13μm,0.5s							
LTHK	**Lithakia**	**0.32**	**39**	P		**Pg**	**06 29 31.2**	**+0.3**
LTHK				S		**Sb**	**06 29 37.4**	**0.0**
	9μm,0.4s							
LTHK	**Lithakia**	**0.32**	**39**	P		**Pg**	**06 29 31.0**	**+0.1**
LTHK				S		**Sg**	**06 29 35.9**	**+0.8**
LTHK				AML		AML	06 29 37.8	
	comp=N,15265μm,0.4s							
LTHK				AML		AML	06 29 37.9	
	comp=E,15704μm,0.2s							
RTZL	**Ratzakli, Kefa**	**0.63**	**14**	P		**Pg**	**06 29 36.3**	**-0.4**
RTZL				S		**Sb**	**06 29 47.5**	**+1.1**
PSDA	**Pessada-Kefalo**	**0.65**	**0**	P		**Pg**	**06 29 37.0**	**-0.1**
PSDA				S		**Sb**	**06 29 47.0**	**0.0**
	comp=E,4μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.65**	**0**	P		**Pg**	**06 29 36.8**	**-0.3**
PSDA				S		**Sg**	**06 29 46.1**	**+0.5**
VLS	**Valsamata**	**0.71**	**0**	P		**Pg**	**06 29 36.9**	**-1.4**
VLS				S		**Sg**	**06 29 48.4**	**+0.8**
	comp=E,3μm,0.6s							
VLS	**Valsamata**	**0.71**	**0**	P		**Pg**	**06 29 36.7**	**-1.6**
VLS				S		**Sg**	**06 29 47.5**	**-0.2**
VLS				AML		AML	06 29 51.6	
	comp=E,7105μm,0.3s							
VLS				AML		AML	06 29 51.6	
	comp=N,5692μm,0.6s							
LXRA	**Lixouri, Kepha**	**0.74**	**351**	P		**Pg**	**06 29 37.8**	**-1.1**
LXRA				S		**Sg**	**06 29 47.7**	**-0.9**
SMHA	**Samh**	**0.79**	**4**	P		**Pg**	**06 29 39.4**	**-0.3**
SMHA				S		**Sg**	**06 29 50.0**	**0.0**
DMLN	**Damoulianata-K**	**0.79**	**348**	P		**Pb**	**06 29 40.0**	**-0.4**
DMLN				S		**Sb**	**06 29 51.3**	**+0.2**
	comp=N,4μm,0.6s							
DMLN	**Damoulianata-K**	**0.79**	**348**	P		**Pg**	**06 29 39.7**	**-0.1**
AMT	**Artemida-Makis**	**0.90**	**85**	P		**Pg**	**06 29 41.6**	**-0.3**
AMT				AML		AML	06 30 04.6	
	comp=N,13210μm,0.5s							
AMT				AML		AML	06 30 04.8	
	comp=E,10958μm,0.3s							
RLS	**Riolos of Patr**	**0.92**	**49**	P		**Pg**	**06 29 41.8**	**-0.4**
RLS				S		**Sn**	**06 29 58.8**	**+2.1**
	comp=E,1μm,0.6s							
RLS	**Riolos of Patr**	**0.92**	**49**	P		**Pg**	**06 29 41.6**	**-0.6**
RLS				AML		AML	06 30 00.2	
	comp=N,2666μm,0.6s							
RLS				AML		AML	06 30 02.4	
	comp=E,2064μm,0.3s							
FSK	**Fiskardo**	**0.99**	**359**	P		**Pg**	**06 29 42.5**	**-1.2**
FSK				S		**Sb**	**06 29 58.4**	**+1.5**
	comp=E,1μm,0.7s							
FSK	**Fiskardo**	**0.99**	**359**	P		**Pg**	**06 29 41.9**	**-1.7**
FSK				AML		AML	06 30 04.5	
	comp=E,2454μm,0.6s							
FSK				AML		AML	06 30 05.6	
	comp=N,1782μm,0.6s							
DRO	**Drossia**	**1.02**	**61**	P		**Pg**	**06 29 43.9**	**-0.2**
DRO				AML		AML	06 30 10.2	
	comp=E,3765μm,0.3s							
DRO				AML		AML	06 30 13.5	
	comp=N,4539μm,0.5s							
PYL	**PYLOS**	**1.09**	**121**	P		**Pg**	**06 29 44.4**	**-1.0**
PYL				S		**Sn**	**06 30 02.8**	**+2.0**
	comp=N,2μm,0.2s							
PYL	**PYLOS**	**1.09**	**121**	P		**Pg**	**06 29 44.5**	**-1.0**
PYL				AML		AML	06 30 02.9	
	comp=E,1020μm,0.4s							
PYL				AML		AML	06 30 03.6	
	comp=N,4128μm,0.3s							
ITM	**Ithomi**	**1.11**	**104**	P		**Pg**	**06 29 45.3**	**-0.5**
ITM				S		**Sn**	**06 30 04.4**	**+3.0**
	comp=N,785nm,0.4s							
ITM	**Ithomi**	**1.11**	**104**	P		**Pg**	**06 29 45.2**	**-0.7**
ITM				AML		AML	06 30 04.9	
	comp=N,1654μm,0.5s							
ITM				AML		AML	06 30 05.7	
	comp=E,1478μm,0.4s							
EVGI	**Lefkada island**	**1.16**	**3**	P		**Pg**	**06 29 45.2**	**-1.5**
DRAG	**Dragano-Lefkad**	**1.22**	**360**	P		**Pg**	**06 29 47.4**	**-0.5**
KLV	**Kalavryta, Ach**	**1.37**	**65**	P		**Pn**	**06 29 49.7**	**0.0**
EFP	**Efpalio**	**1.42**	**47**	P		**Pn**	**06 29 50.5**	**+0.1**
GUR	**Goura**	**1.47**	**71**	P		**Pn**	**06 29 51.0**	**-0.2**
IGT	**Igoumenitsa**	**2.08**	**355**	P		**Pn**	**06 29 59.5**	**+0.1**
OHR	**Ohrid**	**3.65**	**3**	*i* Pn		**Pn**	**06 30 24.2**	**+3.2**
IDI	**Anoyia**	**4.10**	**121**	Pn		**Pn**	**06 30 27.0**	**-0.2**
	comp=E,0.7nm,0.3s,baz=310,slow=16,SNR=1.4							
IDI				Sn		**Sn**	**06 31 14.2**	**-1.0**
	comp=E,2.5nm,0.3s,baz=308,slow=16,SNR=6.9							
	comp=E,2.5nm,0.4s							
HFS	**Hagfors**	**23.11**	**351**	P		**P**	**06 34 27.5**	**-2.8**
	comp=E,0.9nm,0.6s,baz=153,slow=9.7,SNR=2.2							
	comp=E,0.9nm,0.6s							
FINES	**FINESS Array B**	**24.25**	**6**	P		**P**	**06 34 38.6**	**-2.7**
	comp=E,2.1nm,1.0s,baz=170,slow=9.3,SNR=2.0							
	comp=E,2.1nm,1.0s							
TORD	**Torodi Ar. Bea**	**29.51**	**220**	P		**P**	**06 35 33.7**	**+4.7**
	comp=E,0.2nm,0.5s,baz=25,slow=8.5,SNR=1.4							
	comp=E,0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**42.62**	**53**	P		**P**	06 37 16.6	-4.0
	comp=E,0.2nm,0.5s,baz=282,slow=8.4,SNR=2.1							
	comp=E,0.2nm,0.5s							
MKAR	**Makanchi Array**	**45.64**	**58**	P		**P**	**06 37 42.0**	**-3.0**
	comp=E,0.4nm,0.7s,baz=271,slow=8.5,SNR=2.4							
	comp=E,0.4nm,0.7s							
ZALV	**Zalesovo Beam**	**46.13**	**48**	P		**P**	**06 37 46.1**	**-2.7**
	comp=E,0.6nm,0.5s,baz=282,slow=7.2,SNR=1.5							
	comp=E,0.6nm,0.5s							

NEIC 09 06:42:46.9±2.0, 42°.06N±0°.05×126°.07W±0°.10, h10km±2km, ML2.8/74, Error ellipse: s-maj=12.4km s-min=7.7km az=262.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.38**	**83**			Pn	06 43 11.8	-0.5
KBO					Sn	Sg	06 43 31.2	-0.1
KBO					IAML		06 43 37.5	
	comp=E,73nm,1.7s							
KSXB	**Camp Six Broad**	**1.65**	**97**		Pn	Pn	06 43 15.5	-0.5
KSXB					Sn	Sn	06 43 37.2	-0.2
KRMB	**Red Mountain**	**1.70**	**107**			Pn	06 43 15.6	-1.2
KRMB					Sn	Sn	06 43 38.2	-0.4
KRPM	**Rodgers**	**1.78**	**120**		Pn	Pn	06 43 16.9	-0.9
KRPM					Sn	Sn	06 43 39.7	-0.7
KRPM					IAML		06 43 40.6	
	comp=E,76nm,1.4s							
KRPM					IAML		06 43 41.2	
	comp=N,51nm,0.5s							
L02F	**Cave Junction**	**1.86**	**87**			Pn	06 43 17.7	-1.1
K02D	**Willamette Mer**	**1.89**	**69**			Pn	06 43 18.5	-0.8
K02D					Sn	Sn	06 43 42.6	-0.6
J01E	**Myrtle Point**	**1.93**	**54**			Pn	06 43 18.8	-0.9
J01E					Sn	Sn	06 43 42.0	-2.0
J01E					IAML		06 43 45.6	
	comp=E,91nm,0.4s							
JCC	**Jacoby Creek,**	**1.97**	**128**		Pn	Pn	06 43 19.4	-0.9
JCC					Sn	Sn	06 43 43.2	-1.7
KHMM	**Horse Mountain**	**2.12**	**123**			Pn	06 43 20.5	-2.0
KHMM					IAML		06 43 49.1	
	comp=E,48nm,0.2s							
KHMM					IAML		06 43 49.2	
	comp=N,56nm,0.3s							
KMPM	**Mount Pierce**	**2.20**	**137**		Pn	Pn	06 43 22.8	-0.8
KMPM					IAML		06 43 52.4	
	comp=N,69nm,0.6s							
KMPM					IAML		06 43 55.2	
	comp=E,78nm,0.5s							
DBO	**Dodson Butte**	**2.34**	**62**			Pn	06 43 25.2	-0.3
DBO					IAML		06 43 58.9	
	comp=E,29nm,0.5s							
DBO					IAML		06 44 07.1	
	comp=N,26nm,1.8s							
HUMO	**Hull Mountain**	**2.37**	**76**		Pn	Pn	06 43 25.6	-0.2
YBH	**Yreka Blue Hor**	**2.53**	**96**			Pn	06 43 28.6	+0.6
KMRM	**Mail Ridge**	**2.56**	**135**		Pn	Pn	06 43 27.5	-0.9
KMRM					IAML		06 44 01.7	
	comp=E,44nm,0.6s							
KMRM					IAML		06 44 13.5	
	comp=N,34nm,0.7s							
I02E	**Swisshome, OR**	**2.62**	**38**		Pn	Pn	06 43 28.4	-0.8
I02E					IAML		06 44 02.5	
	comp=N,53nm,0.9s							
I02E					IAML		06 44 06.1	
	comp=E,49nm,0.9s							
L04D	**Klamath Falls**	**2.80**	**85**			Pn	06 43 32.6	+0.7
L04D					IAML		06 44 47.5	
	comp=E,20nm,3.5s							
KCPM	**Cahto Peak**	**3.02**	**141**			Pn	06 43 34.1	-0.8
KCPM					IAML		06 44 11.2	
	comp=N,37nm,0.5s							
O02D	**Mt. Diablo Mer**	**3.11**	**126**		Pn	Pn	06 43 35.6	-0.4
BUCK	**Buck Mountain**	**3.11**	**45**			Pn	06 43 35.7	-0.4
BUCK					IAML		06 44 27.9	
	comp=E,23nm,1.7s							
BUCK					IAML		06 44 57.7	
	comp=N,17nm,4.1s							
J04A	**Umpqua Nationa**	**3.15**	**67**			Pn	06 43 37.4	+0.6
I04A	**Tendick Farm,**	**3.20**	**56**		Pn	Pn	06 43 37.6	+0.3
I04A					IAML		06 44 18.7	
	comp=N,23nm,1.1s							
I04A					IAML		06 44 20.2	
	comp=E,29nm,1.2s							
COR	**Corvallis**	**3.24**	**38**			Pn	06 43 38.2	+0.5
COR					IAML		06 44 20.2	
	comp=E,36nm,0.7s							
K04D	**Chiloquin, OR**	**3.25**	**78**			Pn	06 43 36.9	-1.1
K04D					IAML		06 44 41.0	
	comp=E,28nm,1.7s							
HEBO	**Mount Hebo**	**3.58**	**27**		Pn	Pn	06 43 42.3	-0.2
J05D	**Fort Rock, OR**	**3.77**	**69**		Pn	Pn	06 43 45.2	0.0
J05D					IAML		06 45 09.2	
	comp=E,12nm,4.0s							
J05D					IAML		06 45 47.4	
	comp=N,11nm,4.1s							
HOPS	**Hopland Field**	**3.82**	**142**		Pn	Pn	06 43 45.9	+0.2
H04A	**Detroit Lake**	**3.86**	**46**			Pn	06 43 46.5	+0.2
H04A					IAML		06 44 39.4	
	comp=E,21nm,0.4s							
PINE	**Pine Mountain**	**4.15**	**64**		Pn	Pn	06 43 51.0	+0.6
PINE					IAML		06 44 56.8	
	comp=N,12nm,4.7s							
PINE					IAML		06 44 57.1	
	comp=E,8.1nm,3.8s							
HOOD	**Mount Hood Mea**	**4.57**	**43**		Pn	Pn	06 43 56.2	0.0
HOOD					IAML		06 44 54.7	
	comp=N,12nm,0.8s							
HOOD					IAML		06 45 34.9	
	comp=E,13nm,1.2s							
F04A	**Amboy**	**4.69**	**33**		Pn	Pn	06 43 57.0	-0.6
F04A					IAML		06 44 55.4	
	comp=N,9.8nm,0.6s							
G05A	**Wamic**	**4.69**	**46**		Pn	Pn	06 43 58.2	+0.5
AFDM	**Forest Hills D**	**4.97**	**127**		Pn	Pn	06 44 02.8	+1.2
AFDM					IAML		06 45 05.1	
	comp=E,6.0nm,0.6s							
I07A	**Izee**	**5.22**	**65**		Pn	Pn	06 44 05.4	+0.3
I07A					IAML		06 45 27.1	
	comp=N,8.2nm,4.6s							
I07A					IAML		06 46 45.1	
	comp=E,8.1nm,4.2s							
PAHR	**Pah Rah Range**	**5.58**	**113**		Pn	Pn	06 44 11.3	+1.2
LON	**Longmire**	**5.60**	**32**			Pn	06 44 11.0	+0.8
J08A	**Circle Bar Ran**	**5.75**	**74**		Pn	Pn	06 44 11.9	-0.4
PNTR	**Pine Nut**	**5.75**	**119**		Pn	Pn	06 44 13.8	+1.4
YERR	**Yerington**	**6.04**	**118**			Pn	06 44 17.8	+1.4
G08A	**Pilot Rock**	**6.08**	**55**		Pn	Pn	06 44 17.9	+1.0
WAKR	**Walker**	**6.19**	**123**		Pn	Pn	06 44 20.8	+2.3
LTY	**Liberty**	**6.47**	**35**		Pn	Pn	06 44 23.4	+1.2
KVN	**Kaiserville**	**6.77**	**114**		Pn	Pn	06 44 26.3	-0.2
CLRS	**Cowichan Lake**	**6.90**	**11**		Pn	Pn	06 44 28.4	+0.4
LHV	**Little Huntoon**	**6.93**	**121**		Pn	Pn	06 44 30.7	+2.3
BMO	**Blue Mountains**	**6.96**	**63**		Pn	Pn	06 44 29.4	+0.4
B08A	**Colville Reser**	**7.89**	**35**		Pn	Pn	06 44 42.0	+0.3

*IDC **09** 06:51:29.0±1.9, 12°.40N×141°.87E, h0km, mb4.1/7, mbtmp4.1/7, MS3.7/3, Error ellipse: s-maj=70.0km s-min=20.1km az=77.0*
ISC 09 06:51:33.7±1.8, 12°.4N±0°.2×141°.9E±0°.4, h33km, n10, σ0s61/7, mb4.1/7, MS3.6/3, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.00**	**193**	P		**P**	**06 58 05.5**	**-0.4**
	1.6nm,0.7s,baz=13,slow=9.5,SNR=15							
	1.6nm,0.7s							
FITZ	**Fitzroy Crossi**	**34.30**	**208**	LR		LR	07 14 12.3	
	comp=Z,102nm,19.3s,baz=208,slow=40							
ASAR	**Alice Springs**	**36.70**	**192**	P		**P**	**06 58 37.9**	**+0.1**
	0.3nm,0.4s,baz=19,slow=12,SNR=8.9							
	0.3nm,0.4s							
CMAR	**Chiang Mai Arr**	**41.78**	**284**	P		**P**	**06 59 20.3**	**-0.1**
	1.7nm,0.4s,baz=90,slow=6.2,SNR=6.7							
	1.7nm,0.4s							
STKA	**Stephens Creek**	**44.03**	**180**	P		**P**	**06 59 38.7**	**+0.3**
	0.8nm,0.4s,baz=344,slow=6.7,SNR=3.3							
	0.8nm,0.4s							
BRDH	**Bariadhala**	**48.81**	**289**	LR		LR	07 22 42.9	
	comp=Z,150nm,18.6s,baz=186,slow=38							
MKAR	**Makanchi Array**	**60.36**	**317**	LR		LR	07 29 40.7	
	comp=Z,32nm,20.2s,baz=232,slow=38							
KURBB	**Kurchatov Arra**	**63.68**	**321**	P		**P**	**07 02 02.3**	**+0.5**
	1.6nm,0.7s,baz=104,slow=7.2,SNR=13							
	1.6nm,0.7s							
BVAR	**Borovoye Array**	**69.08**	**322**	P		**P**	**07 02 37.0**	**+0.6**
	0.9nm,0.4s,baz=109,slow=8.0,SNR=4.3							
	0.9nm,0.4s							
FINES	**FINESS Array B**	**91.00**	**334**	P		**P**	**07 04 33.6**	**-0.7**
	2.2nm,1.0s,baz=53,slow=7.1,SNR=1.8							
	2.2nm,1.0s							

*JMA **09** 06:59:17.1±0.2, 24°.7N±0°.

NWF Wu-fen Shan 0.32 332 ⇑P Pn 06 59 30.9 +0.1
NWF S Sn 06 59 40.4 -0.8
WFSB Wu-fen Shan 0.32 332 ⇑P Pn 06 59 30.9 +0.2
WFSB eS Sn 06 59 40.5 -0.4
FUSB Fushanzhiwuyua 0.33 266 ⇑i P Pn 06 59 31.2 +0.4
FUSB eS Sn 06 59 40.4 -0.8
EWUT Wuta 0.37 205 ⇑i P Pn 06 59 31.4 +0.5
EWUT i S Sn 06 59 41.8 +0.4
ENTT Nioudou 0.38 247 ⇑i P Pn 06 59 31.7 +0.7
ENTT eS Sn 06 59 42.1 +0.6
TWA Mucha 0.38 301 ⇑eP Pn 06 59 29.2 -1.8
ENA Nanau 0.40 208 ⇑i P Pn 06 59 31.5 +0.4
ENA S Sn 06 59 42.2 +0.4
NWLT Wulai 0.41 269 ⇑i P Pn 06 59 31.4 +0.2
NWLT i S Sn 06 59 41.3 -0.6
NHDH Xindian Distri 0.42 295 i P Pn 06 59 31.6 +0.4
NHDH i S Sn 06 59 41.9 -0.1
NHY Taipei 0.43 306 eP Pn 06 59 31.9 +0.6
NHY eS Sn 06 59 42.0 -0.1
EOS2 EOS2 0.45 145 eP Pn 06 59 32.2 +0.9
LATG Datong 0.46 237 ⇑i P Pn 06 59 32.2 +0.6
LATG i S Sn 06 59 43.2 +0.5
TATO Taipei 0.46 295 P Pn 06 59 31.6 +0.1
TAP Taipei 0.47 302 P Pn 06 59 32.0 +0.4
TAP i S Sn 06 59 42.2 -0.4
EAHA Aohua 0.49 203 eP Pn 06 59 31.8 +0.1
EAHA S Sn 06 59 43.3 +0.4
YM01 YM01 0.50 316 ⇑i P Pn 06 59 32.0 +0.2
YM01 i S Sn 06 59 42.5 -0.6
YM08 YM08 0.52 321 P Pn 06 59 31.9 -0.1
YM08 eS Sn 06 59 42.0 -1.3
ZUZH Zhuzihu 0.52 316 eP Pn 06 59 32.2 +0.1
ZUZH eS Sn 06 59 42.8 -0.7
YHNB Yeheng 0.53 258 P Pn 06 59 32.2 +0.1
YHNB Yeheng 0.53 258 ⇑i P Pn 06 59 32.3 +0.1
YHNB eS Sn 06 59 42.6 -1.0
NSK Sanguang 0.55 259 ⇑i P Pn 06 59 32.3 0.0
NSK S Sn 06 59 42.9 -0.9
ANP Anpu 0.56 316 eP Pn 06 59 32.8 +0.4
ANP eS Sn 06 59 43.6 -0.4
TWS1 Kuangyinshan 0.57 303 ⇑i P Pn 06 59 32.0 -0.4
TWS1 eS Sn 06 59 43.9 -0.1
TWY Chenhua 0.58 327 eP Pn 06 59 32.8 +0.3
TWY eS Sn 06 59 44.2 +0.1
NTST Danshui 0.59 310 i P Pn 06 59 33.1 +0.6
NTST eS Sn 06 59 45.7 +1.4
EOS3 EOS3 0.60 146 eP Pn 06 59 33.6 +1.1
NNSB Datong 0.62 235 ⇑i P Pn 06 59 33.4 +0.4
NNSB i S Sn 06 59 44.9 -0.2
NNS Nan Shan 0.63 237 ⇑i P Pn 06 59 33.4 +0.3
NNS eS Sn 06 59 44.8 -0.3
NACB Ninganchiao 0.69 208 P Pn 06 59 32.9 -0.6
NACB Ninganchiao 0.69 208 ⇑i P Pn 06 59 33.0 -0.4
NACB eS Sn 06 59 45.3 -0.6
ETL Fush Village 0.69 205 eP Pn 06 59 33.2 -0.3
ETL eS Sn 06 59 45.0 -0.9
KSHI Guanxi Townshi 0.70 269 ⇑P Pn 06 59 34.1 +0.5
KSHI i S Sn 06 59 47.0 +0.9
ETLH Xiulin Townshi 0.71 216 ⇑i P Pn 06 59 33.7 -0.1
ETLH eS Sn 06 59 46.2 -0.3
NCUH Zhongli 0.72 285 ⇑P Pn 06 59 34.2 +0.5
NCUH i S Sn 06 59 46.7 +0.4
EOS4 EOS4 0.74 153 eP Pn 06 59 33.8 +0.2
EOS4 eS Sn 06 59 45.5 -0.6
NFF Wufeng Townshi 0.77 259 ⇑P Pn 06 59 34.4 +0.1
NFF eS Sn 06 59 46.6 -0.8
TWD Chiawan 0.77 205 eP Pn 06 59 33.8 -0.4
TWD eS Sn 06 59 46.4 -0.9
FUSS Fushou 0.83 230 ⇑P Pn 06 59 35.9 +0.7
FUSS S Sn 06 59 49.0 +0.1
PCYT Pengchaiyu 0.85 8 eP Pn 06 59 35.6 +0.6
PCYT eS Sn 06 59 49.6 +0.9
LIOB Emei 0.86 261 ⇑i P Pn 06 59 35.4 +0.3
LIOB i S Sn 06 59 48.4 -0.5
HWA Hwalien 0.86 201 eP Pn 06 59 35.2 0.0
HWA eS Sn 06 59 49.8 +0.8
NSTT Nanjuang 0.87 260 ⇑i P Pn 06 59 35.4 +0.1
NSTT S Sn 06 59 48.5 -0.6
SBCB Hsinchu 0.87 271 eP Pn 06 59 35.9 +0.6
SBCB i S Sn 06 59 49.1 -0.1
TWT Tachien 0.88 233 ⇑i P Pn 06 59 36.6 +1.0
TWT eS Sn 06 59 49.9 +0.3
HSN Hsinchu 0.89 271 i P Pn 06 59 35.4 -0.1
HSN i S Sn 06 59 48.7 -0.7
WHF Hehuan Shan 0.89 224 ⇓i P Pn 06 59 36.2 +0.2
WHF eS Sn 06 59 48.8 -0.4
TDCB Techi 0.89 234 ⇑i P Pn 06 59 36.4 +0.7
TDCB S Sn 06 59 49.8 0.0
LXIB Xiulin Townshi 0.90 213 ⇑i P Pn 06 59 35.2 -0.6
LXIB eS Sn 06 59 49.9 -0.1
ETM Tongmen 0.92 207 eP Pn 06 59 35.0 -0.8
ETM eS Sn 06 59 50.1 +0.1
JYNG Yonagunijimaku 0.97 110 P Pn 06 59 36.6 +0.3
JYNG eS Sn 06 59 50.8 -0.1
TEYL Yanliau Villag 0.97 199 eP Pn 06 59 37.4 +1.0
YOJ Yonaguni jima 1.02 108 P Pn 06 59 37.2 +0.3
YOJ Yonaguni jima 1.02 108 P Pn 06 59 37.3 +0.3
YOJ eS Sn 06 59 51.7 -0.2
YOJ Yonaguni jima 1.02 108 ⇓P Pn 06 59 37.2 +0.3
YOJ eS Sn 06 59 51.9 -0.1
WHP Taichung City 1.04 241 ⇑i P Pn 06 59 38.0 +0.8
WHP S Sn 06 59 53.1 +0.4
SHUL Shoufeng 1.05 200 eP Pn 06 59 37.5 +0.2
SHUL i S Sn 06 59 52.6 -0.1
ESL Shilin 1.07 206 eP Pn 06 59 36.5 -1.0
ESL eS Sn 06 59 51.9 -1.3
NMLH Miaoli 1.08 257 eP Pn 06 59 38.0 +0.4
NMLH eS Sn 06 59 53.6 +0.3
OWD Renai 1.09 221 ⇑P Pn 06 59 38.2 +0.4
OWD eS Sn 06 59 53.2 -0.3
WUSB Renai 1.09 224 ⇑i P Pn 06 59 38.5 +0.6
WUSB S Sn 06 59 53.8 +0.1
TEGC Jichi Village 1.13 199 eP Pn 06 59 38.3 0.0
NSY Sanyi 1.14 251 eP Pn 06 59 39.1 +0.8
NSY S Sn 06 59 54.7 +0.2
WARBT Fenglin Townsh 1.18 206 P Pn 06 59 37.6 -1.3
WARBT eS Sn 06 59 53.8 -1.6
WCS Beigang Elemen 1.19 233 P Pn 06 59 39.7 +0.8
WCS eS Sn 06 59 56.1 +0.6
EGFH Guangfu 1.21 203 eP Pn 06 59 39.0 -0.1
EGFH eS Sn 06 59 54.4 -1.6
VWDT VWDT 1.26 216 eP Pn 06 59 40.3 +0.6
VWDT S Sn 06 59 57.6 +0.6
WDJ Dajia District 1.27 250 eP Pn 06 59 40.4 +0.5
WDJ S Sn 06 59 57.5 +0.4
SMLT Sun Moon Lake 1.31 227 eP Pn 06 59 41.2 +0.7
SMLT eS Sn 06 59 59.6 +1.3
TCU Taichung 1.32 242 eP Pn 06 59 41.0 +0.5
TCU eS Sn 06 59 58.3 -0.1
TYC Yuchr 1.33 229 eP Pn 06 59 41.1 +0.6
TYC eS Sn 06 59 59.3 +0.9
SSLB Suanglung 1.34 223 P Pn 06 59 41.5 +0.7
SSLB Suanglung 1.34 223 ⇑P Pn 06 59 41.5 +0.7
SSLB i S Sn 06 59 59.7 +0.8
HGSD Ruisui 1.37 200 eP Pn 06 59 41.3 +0.1
HGSD eS Sn 06 59 59.7 +0.3
EHY Hungye 1.40 204 eP Pn 06 59 40.3 -1.1
EHY eS Sn 06 59 59.6 -0.4
EHYH Wanrong 1.40 203 eP Pn 06 59 41.7 +0.3
EHYH eS Sn 07 00 00.1 +0.1
WCHH Zhanghua 1.45 241 i P Pn 06 59 42.5 +0.5
WCHH eS Sn 07 00 01.4 +0.3
WCH1 Changhua City 1.46 241 eP Pn 06 59 42.5 +0.3
WCH1 eS Sn 07 00 01.8 +0.4
WNT Mingjian 1.46 232 eP Pn 06 59 43.0 +0.8
WNT eS Sn 07 00 02.0 +0.5
WJS Zhushan 1.47 230 eP Pn 06 59 43.4 +1.1
WJS S Sn 07 00 01.9 +0.4
WHYT Xinyi Township 1.47 223 eP Pn 06 59 43.4 +1.0
WHYT eS Sn 07 00 02.9 +1.1
YULB Yu-li 1.51 203 P Pn 06 59 42.4 -0.4
YULB Yu-li 1.51 203 eP Pn 06 59 41.5 -1.3
YULB eS Sn 06 59 59.7 -2.8
ECBN Changbin 1.53 197 P Pn 06 59 43.1 0.0
ECBN S Sn 07 00 02.1 -0.8
EYUL Yuli 1.54 202 eP Pn 06 59 44.0 +0.7
TWF1 Yuli 1.54 203 eP Pn 06 59 42.2 -1.1
TWF1 eS Sn 07 00 03.0 -0.3
ALS Alishan 1.64 220 eP Pn 06 59 45.8 +1.0
ALS eS Sn 07 00 07.7 +1.7
CHN5 Tsauling 1.66 225 i P Pn 06 59 45.6 +0.8
CHN5 eS Sn 07 00 06.3 +0.4
CHKH Chenggong 1.66 198 eP Pn 06 59 44.5 -0.3
CHKH eS Sn 07 00 06.0 0.0
WGK Gukeng 1.67 229 eP Pn 06 59 45.5 +0.7
WGK eS Sn 07 00 07.1 +1.0
IRIF Iriomote-Funau 1.68 105 eP Pn 06 59 45.1 +0.1
WDLH Douliu 1.69 230 P Pn 06 59 44.9 -0.2
WDLH eS Sn 07 00 07.2 +0.7
FULB Fuli 1.69 201 eP Pn 06 59 45.2 0.0
FULB S Sn 07 00 07.3 +0.7
CHKT Chengkung 1.76 198 i P Pn 06 59 45.6 -0.4
CHKT eS Sn 07 00 06.2 -2.0
EHD Haiduan 1.76 203 eP Pn 06 59 46.2 +0.1
EHD eS Sn 07 00 08.5 +0.2
WTK Tuku 1.79 233 eP Pn 06 59 47.0 +0.5
WTK eS Sn 07 00 09.7 +0.7
ELDTW Lidau 1.80 208 eP Pn 06 59 47.1 +0.4
ELDTW eS Sn 07 00 08.7 -0.7
ECS Chishang 1.81 202 eP Pn 06 59 47.5 +0.9
WCKO Fanlu 1.82 223 eP Pn 06 59 48.6 +1.8
WCKO S Sn 07 00 10.5 +1.0
HATJ Hateruma jima 1.84 113 eP Pn 06 59 48.0 +1.0
CHN4 Tsaushan 1.89 221 eP Pn 06 59 48.4 +0.7
CHY Chiayi 1.89 228 eP Pn 06 59 48.5 +0.8
CHY S Sn 07 00 11.8 +0.6
TPUB Ta-pu 1.91 219 P Pn 06 59 48.9 +0.9
TPUB Ta-pu 1.91 219 eP Pn 06 59 48.9 +0.9
STYH Taoyuan 1.93 214 eP Pn 06 59 49.8 +1.6
STYH eS Sn 07 00 13.6 +1.4
WSF Szhu 1.95 234 eP Pn 06 59 48.3 -0.1
WSF eS Sn 07 00 12.9 +0.5
JKRS Kuro-shima 1.96 106 eS Sn 07 00 13.2 +0.5
WTP Ta-pu 1.96 219 eP Pn 06 59 49.7 +1.1
WTP eS Sn 07 00 12.2 -0.6
LONT Longtian 2.01 202 eP Pn 06 59 48.7 -0.6
TWK Hsinying 2.02 222 eP Pn 06 59 49.9 +0.5
TWK eS Sn 07 00 13.8 -0.4
JIJ Ishigaki jima 2.04 101 eP Pn 06 59 50.2 +0.5
JIJ eS Sn 07 00 13.8 -0.9
SNST Tainan City 2.05 221 eP Pn 06 59 50.4 +0.7
SNST eS Sn 07 00 15.2 +0.3
CHN1 Nanshi 2.06 219 eP Pn 06 59 51.0 +1.1
CHN1 i S Sn 07 00 15.9 +0.8
ICHU Yijhu 2.08 227 eP Pn 06 59 50.8 +0.6
ICHU eS Sn 07 00 16.0 +0.4
SGST Jiashian 2.10 217 eP Pn 06 59 50.6 +0.1
SGST S Sn 07 00 16.2 -0.1
TWG Pinlang 2.11 202 eP Pn 06 59 50.5 -0.1
TWG S Sn 07 00 15.1 -1.3
TWGBT Beinan 2.11 202 P Pn 06 59 53.2 +2.6
TWGBT Beinan 2.11 202 eP Pn 06 59 50.1 -0.6
TWGBT eS Sn 07 00 14.6 -1.9
SLGT Liugui 2.15 214 eP Pn 06 59 51.7 +0.7
SLGT S Sn 07 00 19.0 +1.8
LDUT Ludao 2.15 192 eP Pn 06 59 49.9 -1.1
LDUT S Sn 07 00 14.7 -2.5
JISG Ishigakijimahi 2.16 95 eP Pn 06 59 52.1 +0.9
JISG eS Sn 07 00 17.8 +0.3
MATB Ma-tsu 2.26 307 eP Pn 06 59 52.2 -0.3
SCLT Jiali 2.27 225 eP Pn 06 59 51.9 -0.8
SCLT eS Sn 07 00 21.4 +1.4
VWUC VWUC 2.28 276 eP Pn 06 59 52.3 -0.5
SCST Cishan 2.31 215 eP Pn 06 59 54.5 +1.2
SCST eS Sn 07 00 22.9 +1.8
MASBT Mashibuluo 2.48 209 eP Pn 06 59 56.9 +1.5
MASBT i S Sn 07 00 25.8 +0.8
PNG Penghu 2.50 241 eP Pn 06 59 55.2 -0.5
PHUB P'eng-hu 2.51 240 eP Pn 06 59 54.7 -1.1
PHUB eS Sn 07 00 23.3 -2.6
PTMZ Houxiangcun 2.58 276 eP Pn 06 59 56.4 -0.3
WDGT Dungji 2.58 234 eP Pn 06 59 56.9 0.0
WDGT eS Sn 07 00 26.5 -1.1
EAST Anshuo 2.59 203 eP Pn 06 59 57.6 +0.6
TAWH Dawu Township 2.62 202 eP Pn 06 59 58.7 +1.3
TAWH eS Sn 07 00 27.5 -0.9
XPSS Dashiqiu 2.66 324 eP Pn 06 59 57.7 -0.1
SCZT Fangliau 2.69 207 eP Pn 06 59 59.3 +1.0
SLIU Shizi 2.77 203 eP Pn 07 00 00.7 +1.4
VCHM Qimei 2.79 236 eP Pn 06 59 59.6 0.0
VCHM eS Sn 07 00 30.8 -1.6
LYUB Lan-yu 2.79 187 eP Pn 06 59 58.1 -1.5
MHZQ Yeshan 2.94 297 eP Pn 07 00 01.2 -0.5
KNM Kinmen 3.22 264 eP Pn 07 00 06.0 +0.7
KNMB Chin-men Tao 3.25 265 eP Pn 07 00 05.0 -0.8

*IDC **09** 06:59:36.8±2.2, 17°.63S×178°.76W, h613km±19km, mb3.0/6, mbtmp3.9/8, Error ellipse: s-maj=95.1km s-min=17.1km az=151.0*
ISC 09 06:59:35.5±1.6, **17°.7S**±0°.6×**178°.6W**±0°.4, **h600**km, **n12**, σ0s**79**/14, **mb3.6/6, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.19**	**269**	P	**P**	**07 00 57.5**	**+1.6**
	14nm,0.7s,baz=115,slow=11,SNR=7.3						
DZM	**Mont Dzumac**	**14.71**	**250**	P	**P**	**07 02 41.5**	**+0.3**
	4.3nm,1.0s,baz=105,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**44.48**	**259**	P	**P**	**07 06 54.5**	**-0.8**
	0.4nm,0.4s,baz=96,slow=6.8,SNR=19						
WRA				PcP	**PcP**	**07 08 24.9**	**-0.4**
	0.3nm,0.4s,baz=89,slow=3.8,SNR=6.2						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**07 06 56.1**	**-0.5**
	1.3nm,0.4s,baz=87,slow=9.2,SNR=34						
ASAR				PcP	**PcP**	**07 08 25.2**	**-0.7**
	0.7nm,0.6s,baz=104,slow=3.9,SNR=6.4						
	1.3nm,0.4s						
NVAR	**Mina Array Bea**	**79.41**	**44**	P	**P**	**07 10 41.5**	**+0.6**
	0.8nm,0.7s,baz=222,slow=9.2,SNR=6.4						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**85.74**	**13**	P	**P**	**07 11 11.3**	**-0.4**
	0.6nm,0.4s,baz=222,slow=4.9,SNR=7.3						
	0.6nm,0.4s						
TXAR	**Lajitas Array**	**86.05**	**58**	P	**P**	**07 11 14.6**	**+0.5**
	0.9nm,0.7s,baz=220,slow=5.7,SNR=5.5						
	0.9nm,0.7s						
PDAR	**Pinedale Array**	**87.34**	**44**	P	**P**	**07 11 20.3**	**+0.2**
	0.7nm,0.7s,baz=223,slow=3.5,SNR=7.9						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**116.57**	**321**	PKP	**PKPdf**	**07 17 11.2**	**-0.9**
	0.7nm,0.5s,baz=96,slow=2.9,SNR=2.7						
ARCES	**ARCESS Array B**	**126.09**	**350**	PKP	**PKPdf**	**07 17 28.9**	**-1.0**
	12nm,1.3s,baz=81,slow=1.6,SNR=5.0						
BRTR	**Keskin Array B**	**144.51**	**315**	PKP	**PKPdf**	**07 18 05.0**	**0.0**
	0.8nm,0.6s,baz=35,slow=4.5,SNR=4.5						
GERES	**GERESS Array B**	**147.37**	**345**	PKPbc	**PKPbc**	**07 18 12.8**	**0.0**
	0.7nm,0.2s,baz=353,slow=5.6,SNR=4.8						

*NEIC **09** 07:05:16.2±1.5, 54°.77N±0°.06×158°.85W±0°.07, h17km±6km, mb3.9/7, ML3.9/32, ML3.7(AEIC), Error ellipse: s-maj=9.4km s-min=5.3km az=165.0*
*IDC **09** 07:05:17.4±1.4, 55°.48N×160°.45W, h0km, mb3.9/8, mbtmp3.8/9, ML3.1/1, MS3.7/1, Error ellipse: s-maj=27.0km s-min=24.6km az=123.0*
*AEIC **09** 07:05:18.1±1.7, 54°.82N±0°.06×158°.89W±0°.08, h12km±6km, Error ellipse: s-maj=10.2km s-min=5.5km az=152.0*
ISC 09 07:05:16.8±1.3, **54°.79N**±0°.06×**158°.82W**±0°.04, **h30**km±9km, **n176**, σ1s**38**/180, **mb4.0**/11, **South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.45**	**274**	Pg	Pb	07 05 21.1	-5.2
CHNA	**Chernabura Isl**	**0.45**	**275**	P	**Pb**	**07 05 26.3**	**-0.1**
	baz=96						
CHNA				S	**Sb**	**07 05 31.9**	**-0.9**
	baz=96						
CHNA	**Chernabura Isl**	**0.45**	**275**	P	Pb	07 05 20.8	-5.5
VNKR	**Veniaminof 5**	**1.28**	**346**		**Pn**	**07 05 38.4**	**-0.3**
VNSG	**Veniaminof 6**	**1.34**	**354**		**Sb**	**07 05 59.5**	**+1.2**
VNHG	**Veniaminof 1**	**1.45**	**352**		**Pn**	**07 05 41.8**	**+0.8**
VNHG					**Sb**	**07 06 00.8**	**-0.3**
VNSS	**Veniaminof 8**	**1.48**	**346**		**Pn**	**07 05 42.4**	**+0.8**
VNNF	**Veniaminof 3**	**1.52**	**350**		**Pn**	**07 05 43.1**	**+1.0**
CHGN	**Chignik**	**1.53**	**9**		**Pn**	**07 05 41.9**	**-0.1**
CHGN				IAML		07 06 06.3	
	comp=N,2μm,0.3s						
CHGN	**Chignik**	**1.53**	**9**		**Sn**	**07 06 02.2**	**+1.3**
CHGN	**Chignik**	**1.53**	**9**	P	**Pn**	**07 05 42.6**	**+0.6**
	baz=190						
CHGN				S	**Sn**	**07 06 02.2**	**+1.3**
	baz=190						
S14K	**Fog Glacier**	**1.55**	**345**	P	**Pn**	**07 05 43.9**	**+1.4**
	baz=165						
VNFG	**Fog Glacier, M**	**1.55**	**345**		**Pn**	**07 05 43.9**	**+1.4**
VNFG					**Sb**	**07 06 04.3**	**+0.1**
VNFG	**Fog Glacier, M**	**1.55**	**345**		**Pn**	**07 05 43.8**	**+1.4**
VNFG	**Fog Glacier, M**	**1.55**	**345**	P	**Pn**	**07 05 44.1**	**+1.6**
	baz=165						
PS1A	**Pavlof South-1**	**1.79**	**292**		**Pn**	**07 05 46.1**	**+0.5**
PS1A					**Sn**	**07 06 08.6**	**+1.1**
PVV	**Pavlof Volcano**	**1.80**	**290**		**Pn**	**07 05 46.0**	**+0.2**
PVV					**Sn**	**07 06 08.9**	**+1.2**
PS4A	**Pavlof South-4**	**1.83**	**289**		**Pn**	**07 05 46.7**	**+0.5**
PS4A					**Sn**	**07 06 09.3**	**+0.9**
HAG	**Hague Volcano**	**1.85**	**288**		**Pn**	**07 05 47.4**	**+0.9**
PN7A	**Pavlof North-7**	**1.94**	**291**		**Pn**	**07 05 48.4**	**+0.7**
PN7A					**Sn**	**07 06 12.2**	**+1.2**
ANPB	**Aniakchak Plen**	**2.04**	**8**		**Pn**	**07 05 50.6**	**+1.5**
S12K	**Black Hills**	**2.07**	**298**		**Pn**	**07 05 49.0**	**-0.5**
S12K	**Black Hills**	**2.07**	**298**		**Sn**	**07 06 14.4**	**+0.1**
S12K	**Black Hills**	**2.07**	**298**	P	**Pn**	**07 05 50.1**	**+0.7**
	baz=115						
S12K				S	**Sn**	**07 06 14.4**	**+0.1**
	baz=115						
CHIR	**Chirikof Islan**	**2.10**	**59**		**Pn**	**07 05 50.2**	**+0.3**
CHIR				IAML		07 06 31.3	
	comp=N,750nm,1.0s						
CHIR				IAML		07 06 31.3	
	comp=E,920nm,0.7s						
CHIR	**Chirikof Islan**	**2.10**	**59**	P	**Pn**	**07 05 51.7**	**+1.8**
AZAC	**Aniakchak**	**2.13**	**9**		**Pn**	**07 05 52.1**	**+1.6**
ANNE	**Aniakchak Nort**	**2.17**	**11**		**Pn**	**07 05 52.4**	**+1.5**
FALS	**False Pass**	**2.66**	**273**	P	Pn	07 05 49.9	-7.7
ISLZ	**Isanotski Laza**	**2.83**	**271**		**Pn**	**07 06 01.3**	**+1.3**
R16K	**Pilot Point**	**2.87**	**14**		**Pn**	**07 06 01.9**	**+1.5**
R16K	**Pilot Point**	**2.87**	**14**	IAML		07 06 49.7	
	comp=E,411nm,1.1s						
R16K				IAML		07 07 16.5	
	comp=N,374nm,1.8s						
R16K	**Pilot Point**	**2.87**	**14**	P	**Pn**	**07 06 01.7**	**+1.3**
	baz=195						
R17L	**Mt. Peulik Vol**	**3.16**	**25**	P	**Pn**	**07 06 06.8**	**+2.4**
	baz=207						
PLK4	**Peulik 4**	**3.16**	**25**	Pn	**Pn**	**07 06 06.4**	**+1.8**
PLK4				IAML		07 06 51.6	
	comp=N,461nm,0.7s						
PLK4				IAML		07 06 52.0	
	comp=E,414nm,0.9s						
SII	**Sitkinak Islan**	**3.17**	**54**		**Pn**	**07 06 05.9**	**+1.3**
SII				IAML		07 07 19.5	
	comp=E,407nm,1.0s						
SII	**Sitkinak Islan**	**3.17**	**54**	P	**Pn**	**07 06 07.7**	**+3.1**
PLK1	**Peulik 1**	**3.26**	**21**		**Pn**	**07 06 07.6**	**+1.8**
PLK5	**Peulik 5**	**3.39**	**18**		**Pn**	**07 06 09.4**	**+1.8**
KJL	**Kejulik**	**3.73**	**28**		**Pn**	**07 06 14.0**	**+1.6**
Q17K	**Contact Creek**	**3.84**	**24**	P	**Pn**	**07 06 15.4**	**+1.5**
	baz=206						
CNTC	**Contact Creek**	**3.84**	**24**		**Pn**	**07 06 15.4**	**+1.5**
ANCK	**Angle Creek**	**3.88**	**27**		**Pn**	**07 06 16.2**	**+1.7**
ACHA	**Angle Creek He**	**3.94**	**28**		**Pn**	**07 06 16.6**	**+1.4**
OHAK	**Old Harbor**	**3.95**	**50**		**Pn**	**07 06 15.8**	**+0.6**
OHAK				IAML		07 07 46.0	
	comp=E,77nm,1.4s						
OHAK	**Old Harbor**	**3.95**	**50**	P	**Pn**	**07 06 16.5**	**+1.2**
	baz=234						
OHAK	**Old Harbor**	**3.95**	**50**	P	**Pn**	**07 06 16.4**	**+1.2**
KABU	**Katmai Buttres**	**4.00**	**28**		**Pn**	**07 06 17.4**	**+1.4**
KELA	**Mount Kelaz**	**4.03**	**24**		**Pn**	**07 06 17.7**	**+1.2**
Q16K	**King Salmon**	**4.07**	**16**		**Pn**	**07 06 18.6**	**+1.6**
Q16K	**King Salmon**	**4.07**	**16**	P	**Pn**	**07 06 18.6**	**+1.6**
	baz=198						
KAKN	**Katmai Knife C**	**4.08**	**29**		**Pn**	**07 06 19.6**	**+2.4**
AHB	**Akutan Harbor**	**4.14**	**263**		**Pn**	**07 06 19.7**	**+1.8**
ZRO	**Akutan Zero**	**4.24**	**263**		**Pn**	**07 06 19.8**	**+0.5**
AKMO	**Akutan Morgan**	**4.26**	**263**		**Pn**	**07 06 19.9**	**+0.4**
P16K	**Nushagak River**	**4.27**	**6**		**Pn**	**07 06 20.9**	**+1.2**
P16K	**Nushagak River**	**4.27**	**6**	P	**Pn**	**07 06 22.5**	**+2.8**
	baz=187						
KAHG	**Katmai Hook Gl**	**4.40**	**31**		**Pn**	**07 06 22.8**	**+1.3**
KAHC	**Katmai Hardscr**	**4.40**	**27**		**Pn**	**07 06 23.1**	**+1.5**
Q18K	**Katmai Hardscr**	**4.40**	**27**	P	**Pn**	**07 06 23.1**	**+1.5**
	baz=210						
O15K	**Ungalikthiuk R**	**4.43**	**353**		**Pn**	**07 06 22.8**	**+0.9**
O15K	**Ungalikthiuk R**	**4.43**	**353**	P	**Pn**	**07 06 22.8**	**+0.9**
	baz=173						
KDAK	**Kodiak Island**	**4.59**	**47**		**Pn**	**07 06 24.7**	**+0.7**
KDAK				IAML		07 07 33.8	
	comp=E,88nm,3.7s						
KDAK				IAML		07 07 54.4	
	comp=E,83nm,1.5s						
KDAK	**Kodiak Island**	**4.59**	**47**	Pn	**Pn**	**07 06 25.0**	**+0.9**
	comp=E,2.3nm,0.3s,baz=79,slow=7.1,SNR=27						
KDAK				Sn	**Sn**	**07 07 14.4**	**-1.9**
	comp=E,1.7nm,0.3s,baz=299,slow=18,SNR=1.2						
UNV	**Unalaska Valle**	**4.60**	**261**		**Pn**	**07 06 23.9**	**-0.3**
P17K	**Kvichak River**	**4.60**	**15**		**Pn**	**07 06 25.6**	**+1.3**
P17K	**Kvichak River**	**4.60**	**15**	P	**Pn**	**07 06 25.5**	**+1.3**
	baz=198						
O14K	**Tigyukauivet M**	**4.67**	**344**		**Pn**	**07 06 25.6**	**+0.5**
O14K				IAML		07 07 48.3	
	comp=N,66nm,1.4s						
O14K				IAML		07 07 59.9	
	comp=E,80nm,1.2s						
O14K	**Tigyukauivet M**	**4.67**	**344**	P	**Pn**	**07 06 25.9**	**+0.7**
	baz=163						
MSW	**Makushin Switc**	**4.74**	**263**		**Pn**	**07 06 27.0**	**+0.8**
O16K	**Kokwok River B**	**4.83**	**4**		**Pn**	**07 06 27.9**	**+0.5**
O16K	**Kokwok River B**	**4.83**	**4**	P	**Pn**	**07 06 29.1**	**+1.7**
	baz=185						
P18K	**Big Mountain,**	**5.01**	**22**	Pn	**Pn**	**07 06 30.4**	**+0.5**
P18K				IAML		07 07 35.5	
	comp=E,37nm,3.7s						
Q19K	**Cape Douglas,**	**5.03**	**32**	Pn	**Pn**	**07 06 32.4**	**+2.3**
O17K	**Koliganek Bris**	**5.08**	**10**		**Pn**	**07 06 31.9**	**+1.1**
O17K	**Koliganek Bris**	**5.08**	**10**	P	**Pn**	**07 06 31.9**	**+1.1**
	baz=192						
SYI	**Shuyak Island**	**5.21**	**40**	Pn	**Pn**	**07 06 33.7**	**+1.1**
SYI				IAML		07 08 03.4	
	comp=E,90nm,2.4s						
SYI				IAML		07 08 54.7	
	comp=N,78nm,2.9s						
N14K	**Kuskokwak Cree**	**5.37**	**344**		**Pn**	**07 06 36.2**	**+1.4**
N14K	**Kuskokwak Cree**	**5.37**	**344**	P	**Pn**	**07 06 36.2**	**+1.4**
	baz=162						
N15K	**Kwethluk River**	**5.43**	**353**	Pn	**Pn**	**07 06 36.5**	**+0.8**
N15K	**Kwethluk River**	**5.43**	**353**	P	**Pn**	**07 06 37.0**	**+1.3**
	baz=172						
O18K	**Koktuh Hills**	**5.44**	**20**		**Pn**	**07 06 36.6**	**+0.8**
N16K	**Nishlik Lake**	**5.70**	**0**		**Pn**	**07 06 40.7**	**+1.4**
N16K	**Nishlik Lake**	**5.70**	**0**	P	**Pn**	**07 06 41.3**	**+2.0**
	baz=181						
P19K	**Oil Pt**	**5.74**	**30**	Pn	**Pn**	**07 06 40.9**	**+1.0**
N17K	**Nushagak Hills**	**5.82**	**8**	Pn	**Pn**	**07 06 41.2**	**+0.2**
N17K	**Nushagak Hills**	**5.82**	**8**	P	**Pn**	**07 06 43.6**	**+2.6**
	baz=190						
O19K	**Port Alsworth**	**5.94**	**22**		**P

M17K	**Holitna River**	6.67	6	P		Pn	07 06 54.8	+2.1
	baz=187							
M11K	**Mekoryuk**	6.87	328		Pn	Pn	07 06 54.8	-0.4
L14K	**Kuka Creek**	6.88	344			Pn	07 06 56.2	+0.7
M18K	**Stony River**	6.90	12			Pn	07 06 57.3	+1.5
M18K	**Stony River**	6.90	12	P		Pn	07 06 57.3	+1.5
	baz=195							
L16K	**Owhat River**	6.95	357			Pn	07 06 56.4	0.0
L16K	**Owhat River**	6.95	357	P		Pn	07 06 58.2	+1.8
	baz=177							
L15K	**Ungalak Mounta**	7.05	350			Pn	07 06 57.9	+0.2
L15K	**Ungalak Mounta**	7.05	350	P		Pn	07 06 58.5	+0.8
	baz=168							
L17K	**Donlin**	7.37	2			Pn	07 07 02.7	+0.5
L17K	**Donlin**	7.37	2	P		Pn	07 07 03.5	+1.3
	baz=183							
M19K	**Big River Lodg**	7.50	16			Pn	07 07 05.7	+1.6
L18K	**Granite Mounta**	7.53	8			Pn	07 07 04.1	-0.3
L18K	**Granite Mounta**	7.53	8	P		Pn	07 07 05.8	+1.4
	baz=190							
K15K	**Wolf Creek Mou**	7.66	350			Pn	07 07 06.9	+0.7
L19K	**White Mountain**	7.70	14			Pn	07 07 08.3	+1.6
M20K	**Styx River**	7.71	20			Pn	07 07 09.4	+2.4
K13K	**Kusilvak Mount**	7.79	339			Pn	07 07 07.8	-0.2
SUA	**Susitna One**	7.93	29			Pn	07 07 10.8	+0.8
RC01	**Rabbit Creek A**	7.95	34	Pn		Pn	07 07 11.9	+1.8
K17K	**Iditarod**	7.95	2			Pn	07 07 10.5	+0.3
L20K	**Farewell, AK**	8.12	16			Pn	07 07 15.1	+2.5
PWL	**Port Wells**	8.26	38	Pn		Pn	07 07 15.0	+0.6
TTA	**Tatalina**	8.29	9	P		Pn	07 07 16.4	+1.5
J14K	**Nanvaranak Lak**	8.35	345			Pn	07 07 15.9	+0.4
J16K	**Anvik River**	8.57	355			Pn	07 07 19.7	+1.1
J17K	**VABM Dome**	8.63	359			Pn	07 07 19.6	+0.1
HIN	**Hinchinbrook I**	8.67	45			Pn	07 07 21.4	+1.4
GHO	**Glory Hole Cre**	8.72	33			Pn	07 07 22.6	+1.9
FID	**Port Fidalgo**	8.89	43			Pn	07 07 23.0	0.0
EYAK	**Cordova Ski Ar**	9.06	45			Pn	07 07 26.7	+1.3
EYAK	**Cordova Ski Ar**	9.06	45	P		Pn	07 07 26.6	+1.2
I17K	**Unalakleet**	9.17	355			Pn	07 07 27.2	+0.3
CAST	**Castle Rocks**	9.31	19			Pn	07 07 29.5	+0.7
J19K	**Poorman**	9.37	9			Pn	07 07 29.9	+0.3
KLU	**Klutina**	9.56	40			Pn	07 07 34.1	+1.9
J20K	**Nowinta River**	9.71	12			Pn	07 07 34.3	+0.1
H17K	**Granite Mounta**	10.19	357			Pn	07 07 41.0	+0.1
H19K	**Roundabout Mou**	10.83	5			Pn	07 07 49.1	-0.5
G18K	**Tagagawik**	11.14	0	Pn		Pn	07 07 57.0	+3.2
PNL	**Peninsula**	11.58	57	P		Pn	07 08 03.3	+3.4
ILAR	**Eielson Array**	11.65	26	Pn		Pn	07 07 58.1	-2.7
	comp=N,0.1nm,0.3s,baz=220,slow=13,SNR=12							
ILAR				Sn		Sn	07 09 59.6	-10
	comp=N,0.1nm,0.3s,baz=218,slow=10,SNR=1.5							
	comp=N,0.7nm,0.7s							
F20K	**Avaraart Lake**	12.39	6	Pn		Pn	07 08 11.8	+0.9
E19K	**Redstone River**	12.73	3			Pn	07 08 16.4	+0.8
EGAK	**Eagle**	13.33	34	Pn		Pn	07 08 23.5	-0.2
DAWY	**Dawson**	13.51	39	Pn		Pn	07 08 27.6	+1.4
SKAG	**Skagway**	13.55	60	P		Pn	07 08 31.4	+4.7
E22K	**Anaktuvuk Pass**	13.79	11	Pn		Pn	07 08 32.4	+2.4
K29M	**Barlow Dome**	14.09	41	Pn		Pn	07 08 34.9	+0.8
I28M	**Miner Creek**	14.16	34	Pn		Pn	07 08 34.8	-0.4
J30M	**Hart River**	14.91	40	Pn		Pn	07 08 48.2	+2.9
F28M	**Old Crow**	15.66	27	Pn		Pn	07 08 54.7	-0.3
H31M	**Peel River**	16.26	38			Pn	07 09 03.3	+0.6
H31M				IAmb		IAmb	07 09 24.7	
	comp=Z,9.1nm,1.1s							
INK	**Inuvik**	17.92	31	P		Pn	07 09 22.2	-1.2
INK				IAmb		IAmb	07 09 54.5	
	comp=Z,3.4nm,0.8s							
INK	**Inuvik**	17.92	31	P		Pn	07 09 23.0	-0.4
	comp=Z,1.7nm,0.4s,baz=239,slow=11,SNR=22							
INK				S		Sn	07 12 39.0	-3.1
	comp=Z,0.2nm,0.4s,baz=127,slow=32,SNR=0.9							
A36M	**Sachs Harbour**	22.35	27	P		P	07 10 10.3	-1.5
A36M				IAmb		IAmb	07 10 37.2	
	comp=Z,5.7nm,1.1s							
PET	**Petropavlovsk**	24.84	284	P		P	07 10 36.8	+0.7
HUMO	**Hull Mountain**	26.32	103	P		P	07 10 49.0	-0.7
HUMO				IAmb		IAmb	07 10 51.5	
	comp=Z,5.4nm,1.2s							
J04A	**Umpqua Nationa**	26.39	101	P		P	07 10 50.0	-0.6
J04A				IAmb		IAmb	07 11 02.6	
	comp=Z,7.5nm,0.8s							
PDAR	**Pinedale Array**	33.92	90	P		P	07 12 09.8	+13
	comp=Z,0.3nm,0.6s,baz=327,slow=6.5,SNR=2.9							
	comp=Z,0.3nm,0.6s							
TXAR	**Lajitas Array**	46.66	100	P		P	07 13 56.0	+13
	comp=Z,0.8nm,0.7s,baz=316,slow=5.1,SNR=4.9							
	comp=Z,0.8nm,0.7s							
JNU	**Nakatsue**	52.61	276	LR		LR	07 36 48.2	
	comp=Z,87nm,21.1s,baz=220,slow=37							
ARCES	**ARCESS Array B**	55.94	358	P		P	07 14 51.6	+0.2
	comp=Z,5.0nm,1.1s,baz=17,slow=6.6,SNR=4.8							
	comp=Z,5.0nm,1.1s							
FINES	**FINESS Array B**	64.04	357	P		P	07 15 46.8	-0.2
	comp=Z,0.7nm,0.6s,baz=22,slow=9.2,SNR=5.6							
	comp=Z,0.7nm,0.6s							
NOA	**NORSAR Array B**	64.24	5	P		P	07 15 48.6	+0.1
	comp=Z,1.3nm,1.0s,baz=347,slow=3.7,SNR=2.5							
	comp=Z,1.3nm,1.0s							
BVAR	**Borovoye Array**	65.09	330	P		P	07 15 54.2	+0.1
	comp=Z,0.4nm,0.5s,baz=60,slow=5.7,SNR=2.6							
	comp=Z,0.4nm,0.5s							
HFS	**Hagfors**	65.27	4	P		P	07 15 55.6	+0.5
	comp=Z,1.4nm,0.6s,baz=46,slow=4.2,SNR=3.0							
	comp=Z,1.4nm,0.6s							
AKASG	**Malin Array Be**	74.66	355	P		P	07 16 52.9	0.0
	comp=Z,0.6nm,0.4s,baz=11,slow=6.0,SNR=6.1							
	comp=Z,0.6nm,0.4s							

UCR ***09*** *07:27:57.5±1.0, 8°.51N×82°.79W, h44km±3km, MW4.0, Fault plane solution: NP1:φs112.01000°, δ60.22000°, λ19.30000°.*
UPA ***09*** *07:27:58.4±1.1, 8°.50N×82°.80W, h30km±4km, MW3.7*
CATAC ***09*** *07:27:59.7±0.4, 8°.64N×82°.93W, h22km±4km, ML4.1*
ISC 09 07:27:58.2±1.0, 8°.48N±0°.03×82°.80W±0°.02, h33km±2km, n70, σ0s93/96, 13C-15D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPPC	**Paso Canoas**	0.07	323	⇑eP	Pb	07 28 03.9	0.0
LPPC				eS	Sb	07 28 09.6	+1.8
CDITO	**Canoas**	0.12	322	⇓iP	Pb	07 28 04.2	0.0
CDITO				i S	Sb	07 28 10.0	+1.7
CDITO				IAML		07 28 18.1	
	comp=Z,6μm,1.0s						
NELY	**Ciudad Neily**	0.23	319	⇓eP	Pn	07 28 05.0	+0.2
NELY				eS	Sb	07 28 11.3	+1.5
PTPM	**Petroterminale**	0.28	196	eP	Pb	07 28 06.3	+0.4
PTPM				eS	Sb	07 28 11.7	+0.7
MLIR3	**Monte Lirio, C**	0.31	355	i P	Pb	07 28 06.3	-0.1
MLIR3				eS	Sn	07 28 12.2	+0.7
BRU2	**Volcan**	0.33	19	⇓iP	Pb	07 28 06.1	-0.4
BRU2				i S	Sb	07 28 13.1	+0.8
BRU2				IAML		07 28 14.9	
	comp=Z,12μm,1.0s						
BRU2	**Volcan**	0.33	19	⇓iP	Pb	07 28 06.2	-0.4
BRU2				eS	Sb	07 28 12.6	+0.4
BRU2	**Volcan**	0.33	19	⇓eP	Pb	07 28 06.1	-0.4
BRU2				eS	Sb	07 28 13.1	+0.8
DVD	**David**	0.35	97	⇑iP	Pb	07 28 06.2	-0.4
DVD				eS	Sb	07 28 12.2	-0.1
BCO2	**Palmira**	0.36	48	i P	Pb	07 28 06.6	-0.3
BCO2				eS	Sb	07 28 13.0	+0.1
PTAR3	**Potrerillos Ar**	0.37	54	i P	Pb	07 28 06.7	-0.3
PTAR3				eS	Sb	07 28 13.5	+0.5
VITO	**San Vito**	0.38	333	⇑eP	Pb	07 28 06.7	-0.5
LOCO3	**Loma Colorada,**	0.38	100	eS	Sb	07 28 13.4	+0.2
PEDE3	**Pedregal, Chir**	0.38	104	i P	Pb	07 28 06.7	-0.4
PEDE3				eS	Sb	07 28 13.4	+0.2
LNBQ3	**Los Naranjos,**	0.47	49	⇓iP	Pb	07 28 07.5	-1.1
LNBQ3				eS	Sb	07 28 15.4	-0.2
PTJ1	**Puerto Jimnez**	0.50	277	⇓iP	Pb	07 28 08.2	-0.7
PTJ1				IAML		07 28 08.5	
	comp=Z,41μm,1.0s						
PTJ1				i S	Sn	07 28 17.7	+1.2
PTJ1	**Puerto Jimnez**	0.50	277	i P	Pb	07 28 08.4	-0.5
PTJ1				eS	Sn	07 28 17.2	+0.7
PTJ1	**Puerto Jimnez**	0.50	277	⇓eP	Pb	07 28 08.2	-0.7
PTJ1				eS	Sn	07 28 17.8	+1.2
JIME	**Puerto Jimenez**	0.53	277	⇓eP	Pb	07 28 08.4	-0.8
PIRO	**Carate, Puerto**	0.54	262	⇓iP	Pb	07 28 08.4	-1.0
PIRO				i S	Sn	07 28 18.7	+1.3
PIRO				IAML		07 28 20.3	
	comp=Z,11μm,1.0s						
PIRO	**Carate, Puerto**	0.54	262	i P	Pb	07 28 08.4	-1.0
PIRO				eS	Sb	07 28 16.3	-0.8
PIRO	**Carate, Puerto**	0.54	262	⇓eP	Pb	07 28 08.5	-1.0
EDP2	**Potrero Grande**	0.65	325	eP	Pn	07 28 09.9	-1.3
CHGR2	**Aguacate**	0.79	55	i P	Pn	07 28 11.4	-1.7
CHGR2				eS	Sn	07 28 23.4	-0.4
BURE	**Buenos Aires**	0.87	322	eP	Pn	07 28 12.8	-1.4
DRK0	**Durika**	0.90	331	⇑iP	Pn	07 28 12.7	-2.0
DRK0				IAML		07 28 27.8	
	comp=Z,13μm,1.0s						
DRK0	**Durika**	0.90	331	eP	Pn	07 28 13.0	-1.7
DRK0				eS	Sn	07 28 25.4	-1.2
DRK0	**Durika**	0.90	331	⇑eP	Pn	07 28 12.7	-2.0
CNI2	**El Empalme, Bo**	0.99	19	⇓iP	Pn	07 28 14.7	-1.2
CNI2				eS	Sn	07 28 28.7	-0.1
OCHAL	**Ojochal**	1.04	306	⇑iP	Pn	07 28 14.7	-1.8
OCHAL				IAML		07 28 35.3	
	comp=Z,3μm,1.0s						
RGM0	**Gandoca**	1.12	10	⇓iP	Pn	07 28 17.8	+0.2
RGM0				i S	Sb	07 28 34.7	+1.2
RGM0				IAML		07 28 43.5	
	comp=Z,3μm,1.0s						
RGM0	**Gandoca**	1.12	10	⇑iP	Pn	07 28 18.1	+0.5
RGM0				i S	Sb	07 28 35.2	+1.8
RGM0	**Gandoca**	1.12	10	⇓eP	Pn	07 28 17.9	+0.2
BRIBI	**Bribri**	1.14	357	eP	Pn	07 28 18.1	+0.2
ZELE	**Perez Zeledon**	1.26	315	eP	Pn	07 28 18.4	-1.2
BUS1	**Rivas**	1.42	319	⇑eP	Pn	07 28 20.6	-1.6
MESA3	**La Mesa, Verag**	1.63	101	i P	Pn	07 28 24.4	-0.2
MESA3				eS	Sn	07 28 45.0	+0.6
TURIB	**Turrialba**	1.67	328	eP	Pn	07 28 24.3	-0.9
RAZU	**San Marcos de**	1.69	314	eP	Pn	07 28 24.4	-1.1
VINA	**Juan Vinas**	1.69	326	eP	Pn	07 28 24.8	-0.8
GMAL	**Guarumal, Vera**	1.71	115	eP	Pn	07 28 24.3	-1.3
LCR2	**La Lucha 2**	1.73	317	⇑iP	Pn	07 28 24.8	-1.4
LCR2				IAML		07 28 26.0	
	comp=Z,900nm,1.0s						
LCR2	**La Lucha 2**	1.73	317	⇑eP	Pn	07 28 24.8	-1.4
ABE2	**San Pablo**	1.74	315	eP	Pn	07 28 25.2	-1.2
PCAYA	**Pacayas**	1.75	325	eP	Pn	07 28 25.8	-0.6
LCOCO	**El Coco**	1.76	335	eP	Pn	07 28 26.2	-0.3
RAFA	**San Farael, Vo**	1.78	326	⇑iP	Pn	07 28 26.2	-0.8
RAFA				IAML		07 28 27.6	
	comp=Z,4μm,1.0s						
RAFA	**San Farael, Vo**	1.78	326	eP	Pn	07 28 26.1	-0.8
VICA	**Volcano Irazu**	1.82	325	eP	Pn	07 28 26.8	-0.8
TRIO	**Tres Rios**	1.84	320	eP	Pn	07 28 26.8	-0.9
ACOS	**Acosta**	1.88	314	eP	Pn	07 28 27.3	-0.9
CVIMO	**Finca Echandi**	1.91	324	⇑eP	Pn	07 28 27.9	-0.7
LUPE	**Guadalupe**	1.92	320	eP	Pn	07 28 27.9	-0.8
SANTA	**Santa Ana**	1.99	317	eP	Pn	07 28 28.8	-0.9
HDC	**Heredia**	2.00	319	⇑iP	Pn	07 28 29.3	-0.5
HDC				IAML		07 29 06.5	
	comp=Z,1μm,1.0s						
HDC	**Heredia**	2.00	319	eP	Pn	07 28 28.9	-0.8
BELE	**Belen**	2.02	317	eP	Pn	07 28 29.5	-0.6
TCS1	**Tacares**	2.15	316	i P	Pn	07 28 31.5	-0.4
TCS1				IAML		07 29 06.6	
	comp=Z,8μm,1.0s						
TCS1	**Tacares**	2.15	316	eP	Pn	07 28 31.4	-0.4
CACAO	**El Cacao, Vera**	2.23	120	eP	Pn	07 28 33.3	+0.5
CACAO				eS	Sn	07 29 00.6	+1.4
CBL1	**Cabuya**	2.52	296	eP	Pn	07 28 35.7	-1.2
SOCE	**Pocosol**	2.61	317	⇓iP	Pn	07 28 38.2	+0.1
SOCE				IAML		07 28 40.9	
	comp=Z,3μm,1.0s						
VACR	**Volcan Arenal**	2.71	317	eP	Pn	07 28 39.7	+0.1
COVE	**Coope Vega, Sa**	2.73	325	i P	Pn	07 28 40.1	+0.3
COVE				IAML		07 29 44.5	
	comp=Z,250nm,1.0s						
CEDE	**Laguna Cedeo**	2.74	317	eP	Pn	07 28 40.2	+0.2
JTS	**Las Juntas de**	2.79	310	eP	Pn	07 28 40.8	+0.3
JTS				eS	Sn	07 29 13.8	+0.7
JTS	**Las Juntas de**	2.79	310	eP	Pn	07 28 39.8	-0.8
BCIP	**Isla Barro Col**	3.00	77	eP	Pn	07 28 42.8	-0.7
ACON	**Acoyapa**	4.18	326	i P	Pn	07 28 59.7	-0.1
ACON				IAML		07 29 00.3	
	comp=Z,130nm,1.0s						
ACON	**Acoyapa**	4.18	326	eP	Pn	07 28 59.2	-0.6

IDC ***09*** *07:39:14.9±0.4, 42°.66S×16°.19W, h0km, mb4.9/19, mbtmp4.8/19, MS5.2/8, Error ellipse: s-maj=15.0km s-min=14.8km az=7.0*
MOS ***09*** *07:39:15.1±0.9, 42°.62S×16°.18W, h10km, mb5.5/23, MS5.5/5, Error ellipse: s-maj=12.6km s-min=10.2km az=69.5*
NEIC ***09*** *07:39:16.7±1.8, 42°.60S±0°.09×16°.2W±0°.1, h10km±1km, mb5.5/84, Ms_20 5.4/749, Error ellipse: s-maj=15.3km s-min=13.7km az=170.0*
GCMT ***09*** *07:39:18.7±0.1, 42°.79S±0°.01×15°.95W±0°.01, h12km, MW5.6/161, Moment Tensor Solution. s104, c171; s161, c337; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr~3.03±.04; Mθθ0.06±.04; Mφφ2.97±.03; Mrθ0.08±.12; Mθφ~0.01±.03; Mφr~0.24±.10; Best double couple: M=3.01100×10^17 NP1:φs358.00000°, δ47.00000°, λ~92.00000°. NP2:φs181.00000°, δ43.00000°, λ~88.00000°. Principal axes: T 2.9800, Plg2.0000°, Azm90.0000°; N 0.0620, Plg2.0000°, Azm360.0000°; P -3.0420, Plg87.0000°, Azm236.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 07:39:16.5±0.2, 42°.58S±0°.05×16°.14W±0°.05, h10km, n719, σ1s46/412, mb5.3/109, MS5.4/378, 13C-12D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	6.24	29	Pn	Pn	07 40 48.5	-0.2
SHEL	**Horse Pasture**	27.99	22	P	P	07 45 08.2	+0.7
SHEL	**Horse Pasture**	27.99	22	P	P	07 45 08.2	+0.7
SHEL				pmax	pmax		
	comp=Z,493nm,1.9s						
VNA1	**Neumayer--Stat**	28.42	174	⇑P	P	07 45 11.7	+0.9
	comp=Z,14nm,1.2s						
VNA2	**Neumayer--Watz**	28.75	174	⇑P	P	07 45 14.2	+0.4
	comp=Z,8.9nm,0.5s,baz=346,slow=9.7						
VNA3	**Neumayer Olymp**	28.92	176	⇑P	P	07 45 15.4	+0.1
	comp=Z,12nm,0.6s						
EFI	**East Falkland**	29.57	237	P	P	07 45 22.1	+0.8
EFI	**East Falkland**	29.57	237	IAMs_20	IAMs_20	07 54 30.5	
	comp=Z,10μm,20.0s						
EFI	**East Falkland**	29.57	237	⇑eP	P	07 45 21.2	0.0
EFI				pmax	pmax		
	comp=Z,280nm,3.5s						
SNAA	**Sanae**	29.89	172	P	P	07 45 23.0	-1.0
SNAA	**Sanae**	29.89	172	eP	P	07 45 23.5	-0.6
SNAA	**Sanae**	29.89	172	⇑P	P	07 45 23.8	-0.2
	comp=Z,61nm,1.1s						
SNAA	**Sanae**	29.89	172	P	P	07 45 23.1	-0.8
	comp=Z,6.8nm,1.1s,baz=341,slow=11,SNR=14						
SNAA				PcP	PcP	07 48 26.2	-0.3
	comp=Z,7.0nm,1.0s,baz=6.9,slow=5.1,SNR=4.4						
SNAA				LR	LR	07 54 16.3	
	comp=Z,2μm,20.9s,baz=357,slow=30						
	comp=Z,6.8nm,1.1s						
SNAA	**Sanae**	29.89	172	d iP	P	07 45 23.4	-0.6
SNAA				pmax	pmax		
	comp=Z,35nm,1.3s						
MATJ	**Matjiesfontein**	30.23	84	eP	P	07 45 26.1	-1.3
MATJ				IAmb	IAmb	07 45 35.2	
	comp=Z,184nm,1.5s						
SUR	**Sutherland**	30.83	83	P	P	07 45 32.2	-0.6
SUR				IAmb	IAmb	07 45 40.0	
	comp=Z,63nm,1.3s						
SUR	**Sutherland**	30.83	83	IAMs_20	IAMs_20	07 56 08.4	
	comp=Z,8μm,18.0s						
TROLL	**Troll, Antarti**	30.88	169	⇑P	P	07 45 33.4	+0.7
	comp=Z,494nm,0.9s						
FRAZ	**Fraserburg**	31.49	83	eP	P	07 45 38.7	+0.2
FRAZ				IAmb	IAmb	07 45 55.3	
	comp=Z,114nm,1.8s						
PLTB	**Pedras Altas**	31.51	278	P	P	07 45 36.8	-1.8
PLTB	**Pedras Altas**	31.51	278	eP	P	07 45 40.3	+1.7
NVL	**N'lazarevskaya**	31.55	163	eP	P	07 45 37.9	-0.5
NVL				eS	S	07 50 47.7	+1.2
NVL				pmax	pmax		
	comp=Z,94nm,1.3s						
NVL				MLR	MLR		
	comp=Z,1μm,16.0s						
CPSB	**Cacapava Do Su**	32.10	280	eP	P	07 45 45.5	+1.7
BSCB	**Bom Sucesso**	32.23	303	eP	P	07 45 46.6	+1.5
BRAK	**Brakfontein**	32.66	84	eP	P	07 45 48.4	-0.3
BRAK				IAmb	IAmb	07 45 52.4	
	comp=Z,89nm,1.3s						
ROOI	**Rooidraai Farm**	32.79	85	eP	P	07 45 50.4	+0.6
ROOI				IAmb	IAmb	07 45 53.1	
	comp=Z,110nm,1.5s						
GUA01	**Guaratinga, BA**	32.87	315	eP	P	07 45 49.4	-1.1
ALKP	**Alkanpan, Nort**	33.15	80	eP	P	07 45 53.0	-0.1
UPI	**Upington**	33.31	77	eP	P	07 45 54.0	-0.5
UPI				IAmb	IAmb	07 45 57.9	
	comp=Z,107nm,2.1s						
H10S2	**ASCENSION HYDR**	33.52	3	T	T	08 21 20.3	
	baz=182,slow=74,SNR=130						
H10S3	**ASCENSION HYDR**	33.52	3	T	T	08 21 20.8	
	baz=38,slow=74,SNR=154						
DIAM	**Diamantina, MG**	33.63	308	eP	P	07 45 57.7	+0.3
FRTB	**Fartura**	33.67	294	eP	P	07 45 59.1	+1.4
SOE	**Somerset East**	34.16	87	P	P	07 46 01.4	-0.5
SOE				IAmb	IAmb	07 46 05.6	
	comp=Z,60nm,1.3s						
PTGB	**Pitanga**	34.48	290	eP	P	07 46 05.7	+1.0
H10N1	**ASCENSION HYDR**	34.63	3	T	T	08 22 49.8	
	baz=189,slow=78,SNR=16						
H10N3	**ASCENSION HYDR**	34.63	3	T	T	08 22 48.9	
	baz=189,slow=78,SNR=109						
H10N2	**ASCENSION HYDR**	34.64	3	T	T	08 22 48.3	
	baz=189,slow=78,SNR=64						
PMSA	**Palmer Station**	34.78	214	P	P	07 46 06.7	0.0
PMSA				IAmb	IAmb	07 46 35.5	
	comp=Z,142nm,1.6s						
PSAL	**Palomas, Salto**	34.80	275	eP	P	07 46 08.6	+1.3
ITQB	**Itaqui**	34.82	278	P	P	07 46 07.8	+0.3
ITQB				IAMs_20	IAMs_20	07 57 42.9	
	comp=Z,7μm,22.0s						
ITQB	**Itaqui**	34.82	278	eP	P	07 46 09.1	+1.6
TRQA	**Tornquist**	34.91	262	P	P	07 46 08.5	+0.3
TRQA				IAmb	IAmb	07 46 20.9	
	comp=Z,90nm,1.4s						
TRQA	**Tornquist**	34.91	262	P	P	07 46 08.5	+0.3
TRQA				pmax	pmax		
	comp=Z,90nm,1.4s						
ELIB	**Princess Elisa**	35.09	160	dP	P	07 46 09.9	+0.4
	comp=Z,50nm,1.2s						
GDU01	**Guandu, BA**	35.17	318	eP	P	07 46 10.7	+0.2
HVD	**Gariep Dam**	35.17	84	eP	P	07 46 10.5	-0.2
HVD				IAmb	IAmb	07 46 19.3	
	comp=Z,226nm,1.3s						
BOSA	**Boshof**	36.07	81	P	P	07 46 18.0	-0.4
BOSA				IAmb	IAmb	07 46 21.3	
	comp=Z,110nm,1.4s						
BOSA	**Boshof**	36.07	81	eP	P	07 46 16.0	-2.4
BOSA	**Boshof**	36.07	81	P	P	07 46 17.9	-0.4
	comp=Z,41nm,1.1s,baz=236,slow=12,SNR=20						
BOSA				PcP	PcP	07 48 44.4	-0.1
	comp=Z,6.4nm,1.0s,baz=186,slow=4.7,SNR=3.4						
	comp=Z,41nm,1.1s						
BELA	**Belgrano 2**	36.20	187	P	P	07 46 18.1	-0.7
BELA				IAmb	IAmb	07 46 20.8	
	comp=Z,136nm,1.6s						
IPMB	**Ipameri, GO**	36.62	302	eP	P	07 46 24.0	+0.9
NBLA	**Lagarto - SE**	36.70	323	eP	P	07 46 24.0	+0.4
ITRB	**Iturama**	36.74	298	eP	P	07 46 26.2	+2.2
TSUM	**Tsumeb**	36.78	61	P	P	07 46 23.9	-0.7
TSUM	**Tsumeb**	36.78	61	eP	P	07 46 22.1	-2.4
SMAI	**San Martin Ant**	36.93	209	P	P	07 46 24.9	-0.2
SMAI				IAmb	IAmb	07 46 27.4	
	comp=Z,125nm,1.7s						
SWZ	**Schweizer**	36.94	79	eP	P	07 46 24.2	-1.6
SWZ				IAmb	IAmb	07 46 28.4	
	comp=Z,71nm,1.3s						
SJPY	**San Joaquin**	37.15	285	eP	P	07 46 28.6	+1.1
CPUP	**Villa Florida**	37.23	282	P	P	07 46 28.6	+0.5
CPUP	**Villa Florida**	37.23	282	P	P	07 46 28.1	0.0
	comp=Z,12nm,0.9s,baz=130,slow=13,SNR=11						
	comp=Z,12nm,0.9s						
CPUP	**Villa Florida**	37.23	282	P	P	07 46 28.6	+0.5
CPUP				pmax	pmax		
	comp=Z,31nm,1.0s						
NBAN	**Anadia - AL**	37.23	326	eP	P	07 46 27.3	-0.9
AMBA	**Amambai (Brazi**	37.68	289	eP	P	07 46 34.1	+2.1
MG04	**Isla Riesco**	37.79	235	P	P	07 46 32.3	-0.3
BDFB	**

comp=Z,5µm,20.0s
POGA Pongola 41.50 84 P **P 07 47 01.9 -1.9**
POGA Pongola 41.50 84 *e*P **P 07 46 59.8 -4.1**
POGA IAmb IAmb 07 47 07.0
comp=Z,37nm,1.3s
DULL Dullstroom, Mp 41.52 81 *e*P **P 07 47 04.3 +0.1**
DULL IAmb IAmb 07 47 07.7
comp=Z,82nm,1.2s
BI02 San Fabin de 42.24 259 P **P 07 47 09.3 -0.5**
LR04 Corral 42.46 254 IAMs_20 IAMs_20 08 02 04.8
comp=Z,5µm,21.0s
HOED Hoedspruit, Li 42.64 80 *e*P **P 07 47 10.3 -2.8**
HOED IAmb IAmb 07 47 16.3
comp=Z,72nm,1.2s
BO02 Sierra Bellavi 42.72 262 P **P 07 47 12.8 -0.9**
BO02 IAMs_20 IAMs_20 08 01 50.7
comp=Z,6µm,22.0s
ZON Zonda 42.73 267 P **P 07 47 13.8 -0.1**
ZON IAmb IAmb 07 47 15.2
comp=Z,124nm,1.9s
ZON Zonda 42.73 267 P **P 07 47 13.8 -0.1**
ZON pmax pmax
comp=Z,124nm,1.9s
ML02 Panimavida 42.74 260 IAMs_20 IAMs_20 08 02 54.3
comp=Z,5µm,20.0s
MT08 Bocatoma Ro 42.79 264 P **P 07 47 13.2 -1.3**
MT08 IAmb IAmb 07 47 26.7
comp=Z,142nm,1.9s
SALV Santo Antonio 42.98 296 *e*P **P 07 47 17.5 +1.5**
BO01 Tunca 43.12 262 IAMs_20 IAMs_20 08 02 37.4
comp=Z,5µm,21.0s
SNDB Serra Nova Dou 43.12 304 *e*P **P 07 47 17.8 +0.7**
MT03 Universidad Ad 43.12 263 P **P 07 47 17.3 +0.2**
MT03 IAmb IAmb 07 47 28.7
comp=Z,181nm,1.7s
MT03 IAMs_20 IAMs_20 08 02 40.5
comp=Z,6µm,21.0s
MT16 CCHEN 43.16 264 IAMs_20 IAMs_20 08 02 18.6
comp=Z,6µm,22.0s
MUSN Musina, Limpop 43.17 77 *e*P **P 07 47 17.4 -0.1**
MUSN IAmb IAmb 07 47 20.6
comp=Z,91nm,1.3s
MT05 Renca 43.34 263 IAMs_20 IAMs_20 08 02 47.2
comp=Z,6µm,22.0s
MT09 Talagante 43.34 263 IAMs_20 IAMs_20 08 02 44.2
comp=Z,6µm,21.0s
PEL Peldehue 43.42 264 IAMs_20 IAMs_20 08 02 49.2
comp=Z,5µm,21.0s
PEL Peldehue 43.42 264 P **P 07 47 19.8 +0.4**
PEL pmax pmax
comp=Z,94nm,2.2s
GO05 Hualane 43.45 261 IAMs_20 IAMs_20 08 03 07.2
comp=Z,5µm,20.0s
SMTB Santa Maria do 43.46 311 *e*P **P 07 47 20.8 +0.9**
MT01 Popeta 43.49 263 IAMs_20 IAMs_20 08 02 39.2
comp=Z,5µm,22.0s
VA03 San Esteban 43.51 264 IAMs_20 IAMs_20 08 02 20.6
comp=Z,5µm,22.0s
MOPA Mopani 43.52 80 *e*P **P 07 47 19.7 -0.6**
MOPA IAmb IAmb 07 47 23.4
comp=Z,105nm,1.1s
BI05 Punta Hualpn 43.59 258 IAMs_20 IAMs_20 08 03 06.8
comp=Z,4µm,20.0s
BLWY Bulawayo 43.65 73 *e*P **P 07 47 19.7 -1.8**
MT02 Curacav 43.70 263 IAMs_20 IAMs_20 08 02 34.7
comp=Z,5µm,22.0s
VA05 Santo Domingo 43.86 263 IAMs_20 IAMs_20 08 02 49.9
comp=Z,5µm,22.0s
PTLB Pontes e Lacer 45.62 293 *e*P **P 07 47 37.0 0.0**
GO03 Copiapo 45.97 271 IAMs_20 IAMs_20 08 04 36.9
comp=Z,4µm,21.0s
AC06 Mina Casimiro 46.19 271 IAMs_20 IAMs_20 08 05 57.7
comp=Z,4µm,19.0s
KRI Karoi 46.57 71 *e*P **P 07 47 43.9 -0.8**
LSZ Lusaka 46.65 68 *e*P **P 07 47 44.7 -0.7**
LSZ IAmb IAmb 07 47 49.0
comp=Z,54nm,1.4s
LSZ Lusaka 46.65 68 P **P 07 47 45.8 +0.4**
LSZ P **P 07 47 45.8 +0.4**
LSZ S **S 07 54 36.5 +1.6**
LSZ S **S 07 54 36.5 +1.6**
LSZ Lusaka 46.65 68 P **P 07 47 47.0 +1.6**
CLDB Colider 46.77 301 *e*P **P 07 47 46.5 +0.4**
PDRB Porto dos Gac 46.81 299 *e*P **P 07 47 47.1 +0.6**
GO02 Mina Guanaco 46.87 274 IAMs_20 IAMs_20 08 05 11.8
comp=Z,5µm,21.0s
PRPB Parauapebas 46.91 311 *e*P **P 07 47 47.6 +0.4**
AC01 Pan de Azucar 47.05 272 IAMs_20 IAMs_20 08 04 51.5
comp=Z,5µm,22.0s
AF01 San Pedro de A 47.14 278 IAMs_20 IAMs_20 08 06 00.0
comp=Z,5µm,20.0s
H04S2 CROZET ISLANDS 47.16 120 T T 08 38 47.6
baz=250,slow=76,SNR=136
H04S3 CROZET ISLANDS 47.17 120 T T 08 38 49.0
baz=250,slow=76,SNR=147
H04S1 CROZET ISLANDS 47.18 120 T T 08 39 02.1
baz=250,slow=76,SNR=104
MAW Mawson 47.42 149 P **P 07 47 50.6 +0.1**
comp=Z,13nm,0.9s,baz=240,slow=8.2,SNR=22
comp=Z,13nm,0.9s
QSPA South Pole Qui 47.68 180 P **P 07 47 53.9 +1.0**
QSPA South Pole Qui 47.68 180 P **P 07 47 53.1 +0.2**
comp=Z,47nm,1.2s,baz=210,slow=3.1,SNR=53
comp=Z,47nm,1.2s
PB14 IPOC Station P 47.78 274 IAMs_20 IAMs_20 08 05 37.9
comp=Z,5µm,22.0s
LVC Limon Verde 47.88 277 IAMs_20 IAMs_20 08 05 54.7
comp=Z,4µm,22.0s
VILB Vilhena 48.12 294 P **P 07 47 57.6 +1.0**
VILB IAMs_20 IAMs_20 08 05 27.1
comp=Z,5µm,22.0s
VILB Vilhena 48.12 294 *e*P **P 07 47 57.7 +1.0**
PB04 IPOC Station P 48.96 277 IAMs_20 IAMs_20 08 06 39.2
comp=Z,3µm,20.0s
NPGB Novo Progresso 49.45 304 *e*P **P 07 48 07.7 +0.8**
PB08 IPOC Station P 49.59 280 P **P 07 48 08.4 0.0**
PB08 IAmb IAmb 07 48 10.2
comp=Z,97nm,1.4s
GO01 Chusmiza 49.91 280 IAMs_20 IAMs_20 08 07 59.5
comp=Z,4µm,21.0s
HMBC Humberstone 50.03 279 IAMs_20 IAMs_20 08 07 25.1
comp=Z,4µm,22.0s
TA01 Diego Aracena 50.07 278 P **P 07 48 11.8 +0.3**
TA01 IAmb IAmb 07 48 16.5
comp=Z,61nm,1.1s
DBIC Dimbokro 50.08 15 P **P 07 48 11.0 -0.6**
DBIC IAmb IAmb 07 48 13.1
comp=Z,122nm,1.6s
DBIC Dimbokro 50.08 15 *e*P **P 07 48 11.4 -0.2**
DBIC Dimbokro 50.08 15 P **P 07 48 12.1 +0.5**
comp=Z,18nm,1.1s,baz=178,slow=9.9,SNR=16
comp=Z,18nm,1.1s
LPAZ La Paz 51.34 284 P **P 07 48 20.3 -1.5**
LPAZ La Paz 51.34 284 P **P 07 48 21.1 -0.8**
comp=Z,16nm,1.4s,baz=123,slow=5.5,SNR=9.6
comp=Z,16nm,1.4s
LPAZ La Paz 51.34 284 *e*P **P 07 48 20.2 -1.7**
AP01 Chacalluta 51.57 281 IAMs_20 IAMs_20 08 10 56.6
comp=Z,3µm,18.0s
ITTB Itaituba 51.79 306 *e*P **P 07 48 25.6 +1.1**
SAML Samuel 53.02 295 P **P 07 48 33.0 -0.6**
SAML Samuel 53.02 295 P **P 07 48 33.1 -0.6**
SAML pmax pmax
comp=Z,43nm,1.1s
SAML Samuel 53.02 295 *e*P **P 07 48 34.2 +0.5**
ETMB Extrema 54.45 292 P **P 07 48 44.0 -0.2**
ETMB IAmb IAmb 07 48 55.4
comp=Z,47nm,1.3s
ETMB IAMs_20 IAMs_20 08 09 50.5
comp=Z,3µm,20.0s
ETMB Extrema 54.45 292 *e*P **P 07 48 43.5 -0.7**
MACA Manacapuru-AM 55.77 302 P **P 07 48 53.4 -0.3**
MACA Manacapuru-AM 55.77 302 *e*P **P 07 48 54.0 +0.4**
VOI Vohitsoka 55.80 89 IAMs_20 IAMs_20 08 08 45.2
comp=Z,3µm,19.0s
TORD Torodi Ar. Bea 57.83 21 P **P 07 49 08.0 -0.2**
comp=Z,18nm,1.2s,baz=193,slow=6.0,SNR=53
comp=Z,18nm,1.2s
MDP Montagnes des 57.87 316 LR LR 08 11 49.9
comp=Z,4µm,19.3s,baz=146,slow=34
MBAR Mbarara 59.21 58 P **P 07 49 19.2 +1.0**
MBAR IAmb IAmb 07 49 38.9
comp=Z,81nm,1.9s
MBAR Mbarara 59.21 58 P **P 07 49 18.6 +0.4**
MBAR P **P 07 49 18.6 +0.4**
MBAR S **S 07 57 31.0 +4.7**
MBAR S **S 07 57 31.0 +4.7**
MBAR Mbarara 59.21 58 *de*P **P 07 49 17.3 -0.9**
MBAR pmax pmax
comp=Z,55nm,2.5s
SBA Scott Base 59.83 181 P **P 07 49 22.4 +1.0**
SBA Scott Base 59.83 181 P **P 07 49 22.4 +1.0**
SBA pmax pmax
comp=Z,123nm,1.7s
BOAV Boa Vista 60.04 306 P **P 07 49 23.8 +0.2**
BOAV IAmb IAmb 07 49 25.5
comp=Z,76nm,2.0s
CZSB Cruzeiro do Su 60.43 288 P **P 07 49 24.6 -1.8**
CZSB IAMs_20 IAMs_20 08 15 08.9
comp=Z,3µm,19.0s
CZSB Cruzeiro do Su 60.43 288 *e*P **P 07 49 25.0 -1.4**
NNA Nana 60.48 281 ‖ *e*P **P 07 49 27.3 +0.6**
NNA pmax pmax
comp=Z,65nm,1.5s
NNA MLR MLR
comp=Z,7µm,20.0s
TBTG Tabatinga, AM 61.03 293 P **P 07 49 28.9 -1.5**
TBTG IAmb IAmb 07 49 37.9
comp=Z,71nm,1.2s
TBTG Tabatinga, AM 61.03 293 *e*P **P 07 49 29.7 -0.8**
KIBK Kibwezi 62.67 66 P **P 07 49 43.2 +1.6**
KIBK IAmb IAmb 07 50 01.1
comp=Z,43nm,1.9s
KIBK Kibwezi 62.67 66 P **P 07 49 42.8 +1.2**
KIBK S S 07 58 20.8 +11
KMBO Kilima Mbogo 63.03 64 P **P 07 49 45.0 +0.9**
KMBO Kilima Mbogo 63.03 64 P **P 07 49 46.4 +2.2**
comp=Z,0.8nm,0.3s,baz=190,slow=4.1,SNR=8.6
comp=Z,0.8nm,0.3s
KMBO Kilima Mbogo 63.03 64 P **P 07 49 44.7 +0.5**
KMBO P **P 07 49 44.7 +0.5**
KMBO Kilima Mbogo 63.03 64 *de*P **P 07 49 46.0 +1.8**
SBV Sambava 63.42 84 P **P 07 49 44.2 -2.3**
LODK Lodwar 65.23 59 P **P 07 49 59.5 +1.2**
LODK Lodwar 65.23 59 P **P 07 49 59.6 +1.2**
SNR=5.3
TAM Tamanrasset 68.05 22 P **P 07 50 16.9 +0.6**
TAM IAmb IAmb 07 50 18.9
comp=Z,52nm,1.7s
TAM Tamanrasset 68.05 22 P **P 07 50 16.9 +0.6**
TAM pmax pmax
comp=Z,52nm,1.7s
PCRV Puerto La Cruz 68.68 308 LR LR 08 18 23.4
comp=Z,2µm,19.1s,slow=34
COHC Cochancay 68.74 287 P **P 07 50 20.1 -0.6**
BAUV El Baul 69.75 304 P **P 07 50 26.4 -0.4**
OTAV Otavalo 70.09 290 P **P 07 50 30.2 +0.6**
OTAV Otavalo 70.09 290 P **P 07 50 30.2 +0.6**
OTAV pmax pmax
comp=Z,115nm,1.9s
OTAV MLR MLR
comp=Z,4µm,20.0s
OTAV Otavalo 70.09 290 *e*P **P 07 50 30.2 +0.6**
ROSC El Rosal 70.64 296 P **P 07 50 32.2 -0.6**
ROSC IAmb IAmb 07 50 34.5
comp=Z,79nm,1.4s
ROSC El Rosal 70.64 296 P **P 07 50 33.2 +0.4**
comp=Z,8.8nm,0.7s,baz=136,slow=4.4,SNR=15
ROSC LR LR 08 20 19.9
comp=Z,7µm,18.5s,baz=177,slow=35
comp=Z,8.8nm,0.7s
GRD1 Great Renaissa 71.04 54 *e*P **P 07 50 35.3 +0.4**
SDV Santo Domingo 71.31 302 P **P 07 50 35.7 -1.0**
SDV IAmb IAmb 07 50 38.0
comp=Z,55nm,1.4s
TDBA Terre de Bas, 71.62 314 IAMs_20 IAMs_20 08 19 46.6
comp=Z,2µm,20.0s
ANKE Ethiopia-Afar 72.72 59 *e*P **P 07 50 46.2 +0.9**
HATO Hato, Curacao 72.83 305 IAMs_20 IAMs_20 08 20 26.7
comp=Z,2µm,21.0s
MSEY Mahe Island 73.34 81 IAMs_20 IAMs_20 08 21 11.4
comp=Z,2µm,19.0s
DESE Dese 73.83 58 *e*P **P 07 50 54.7 +2.9**
HARA HARA 74.76 62 *e*P **P 07 50 52.7 -4.5**
TEND Ethiopian Broa 75.20 58 *e*P **P 07 51 03.7 +4.3**
MDT Midelt 75.77 10 P **P 07 51 03.6 +1.3**
comp=Z,4.3nm,0.9s,baz=205,slow=6.1,SNR=6.7
comp=Z,4.3nm,0.9s
AVE Averroes 75.94 8 IAMs_20 IAMs_20 08 20 19.6
comp=Z,2µm,21.0s
BCIP Isla Barro Col 77.50 295 IAMs_20 IAMs_20 08 25 21.2
comp=Z,2µm,19.0s
SDDR Presa de Saban 79.55 308 P **P 07 51 23.2 -0.4**
SDDR IAmb IAmb 07 51 24.8
comp=Z,143nm,1.8s
PVAQ Vaqueiros 79.98 7 P **P 07 51 26.8 +1.3**
PVAQ IAmb IAmb 07 51 30.4
comp=Z,109nm,1.8s
PVAQ Vaqueiros 79.98 7 *e*P **P 07 51 24.9 -0.6**
PVAQ A A 07 51 31.1
comp=Z,101nm,1.9s
LCR2 La Lucha 2 80.73 292 P **P 07 51 30.9 +0.5**
LCR2 IAmb IAmb 07 51 32.5
comp=Z,128nm,1.9s
PBAR Barrancos 80.80 7 *e*P **P 07 51 31.6 +1.7**
PBAR A A 07 51 33.8
comp=Z,64nm,1.6s
HDC Heredia 80.99 292 IAMs_20 IAMs_20 08 26 06.0
comp=Z,2µm,21.0s
EVO Evora 81.07 6 *e*P **P 07 51 33.3 +2.0**
EVO A A 07 51 35.2
comp=Z,62nm,1.8s
KEST Kesra 81.35 21 P **P 07 51 33.9 +0.9**
KEST Kesra 81.35 21 P **P 07 51 34.4 +1.4**
comp=Z,26nm,1.1s,baz=205,slow=7.2,SNR=13
comp=Z,26nm,1.1s
PESTR Estremoz 81.44 7 P **P 07 51 34.6 +1.3**
PESTR IAmb IAmb 07 51 43.8
comp=Z,60nm,1.5s
PMTG Montargil 81.59 6 *e*P **P 07 51 36.4 +2.3**
PMTG A A 07 51 44.4
comp=Z,53nm,1.4s
SOCE Pocosol 81.61 292 P **P 07 51 34.2 -0.7**
SOCE IAmb IAmb 07 54 19.2
comp=Z,106nm,1.6s
JTS Las Juntas de 81.77 292 P **P 07 51 35.7 0.0**
JTS Las Juntas de 81.77 292 IAMs_20 IAMs_20 08 27 57.7
comp=Z,2µm,19.0s
JTS Las Juntas de 81.77 292 *d i*P **P 07 51 35.7 0.0**
JTS pmax pmax
comp=Z,79nm,1.8s
JTS MLR MLR
comp=Z,2µm,20.0s
PMRV Marv??o 82.02 7 *e*P **P 07 51 37.9 +1.6**
PMRV A A 07 51 42.1
comp=Z,67nm,1.9s
ESDC Sonseca Array 82.62 9 P **P 07 51 40.5 +0.9**
comp=Z,13nm,1.2s,baz=206,slow=5.6,SNR=24
comp=Z,13nm,1.2s
ESBB Sonseca Array 82.62 9 P **P 07 51 40.8 +1.3**
ESBB IAmb IAmb 07 51 42.1
comp=Z,46nm,1.6s
ESPN Las Esperanzas 82.69 294 P **P 07 51 40.5 +0.1**
ESPN IAMs_20 IAMs_20 08 28 08.1
comp=Z,2µm,18.0s
WDD Wied Dalam 82.92 25 P **P 07 51 40.3 -0.8**
WDD IAmb IAmb 07 51 43.5
comp=Z,63nm,1.3s
NMDO Nuevo Mundo 82.95 306 IAMs_20 IAMs_20 08 25 49.9
comp=Z,1µm,22.0s
MTE Manteigas 82.97 7 *e*P **P 07 51 43.2 +1.9**
ACON Acoyapa 83.12 293 P **P 07 51 41.6 -1.1**
PVIS Viseu 83.25 6 *e*P **P 07 51 44.2 +1.4**
CHIV Chivirico 83.36 305 P **P 07 51 43.0 -0.8**
CHIV IAmb IAmb 07 51 45.2
comp=Z,107nm,1.6s
CHIV IAMs_20 IAMs_20 08 25 51.0
comp=Z,871nm,21.0s
CEL Celeste 85.58 25 P **P 07 51 55.4 +0.7**
CEL Celeste 85.58 25 P **P 07 51 54.7 +0.1**
comp=Z,11nm,1.5s
TGUH Tegucigalpa,Un 86.04 293 P **P 07 51 57.2 -0.3**
IDI Anoyia 86.10 33 P **P 07 51 58.2 +0.9**
comp=Z,7.7nm,0.8s,baz=204,slow=19,SNR=2.2
comp=Z,7.7nm,0.8s
CEST Esterri de Car 86.23 13 P **P 07 51 58.6 +0.8**
CEST IAmb IAmb 07 52 00.8
comp=Z,92nm,1.6s
RAYN Ar Rayn 86.88 54 P **P 07 52 01.8 +0.3**
RAYN IAmb IAmb 07 52 04.7
comp=Z,59nm,1.6s
RAYN Ar Rayn 86.88 54 P **P 07 52 03.0 +1.5**
RAYN S **S 08 02 44.6 +4.9**
RAYN Ar Rayn 86.88 54 P **P 07 52 01.8 +0.3**
RAYN pmax pmax
comp=Z,59nm,1.6s
RAYN MLR MLR
comp=Z,2µm,19.0s
SNET Serv Nac Est T 87.12 291 IAMs_20 IAMs_20 08 30 43.3
comp=Z,1µm,21.0s
KARP Karpathos 87.24 34 P **P 07 52 02.3 -0.6**
comp=Z,50nm,1.7s,comp=Z,990nm
ABTO Aybut 87.26 64 P **P 07 52 03.7 +0.3**
SNR=10
ABTO P **P 07 52 03.7 +0.3**
SNR=10
GHAJ Ghor Haditha 87.53 42 IAMs_20 IAMs_20 08 27 06.7
comp=Z,2µm,21.0s
MTO3 Montecristo 87.70 292 P **P 07 52 04.9 -0.9**
MTO3 IAmb IAmb 07 52 06.7
comp=Z,34nm,1.6s
ESQI Esquipulas 87.80 292 IAMs_20 IAMs_20 08 30 46.6
comp=Z,2µm,20.0s
RBK Rabkut 87.97 64 P **P 07 52 07.2 +0.4**
RBK P **P 07 52 07.2 +0.4**
WHFO Wadi Hawf 87.97 63 P **P 07 52 07.8 +0.9**
SNR=10.0
WHFO P **P 07 52 07.8 +0.9**
SNR=10.0
INTR Introdacqua 88.46 22 P **P 07 52 09.3 +0.8**
INTR IAmb IAmb 07 52 10.0
comp=Z,22nm,1.1s
DMTO DMTO 88.61 64 P **P 07 52 10.2 +0.5**
CESX Cesi 88.66 21 IAMs_20 IAMs_20 08 27 36.3
comp=Z,1µm,20.0s
CAMR Camarioca 88.71 303 IAMs_20 IAMs_20 08 31 39.7
comp=Z,2µm,19.0s
DOK Doka 88.71 63 P **P 07 52 10.9 +0.6**
SNR=5.4
DOK P **P 07 52 10.9 +0.6**
SNR=5.4
FDMO Fiordimonte 89.19 21 P **P 07 52 11.7 -0.3**
FDMO IAmb IAmb 07 52 13.1
comp=Z,26nm,1.3s
SSB Saint Sauveur 89.40 14 P **P 07 52 13.4 +0.5**
SSB Saint Sauveur 89.40 14 P **P 07 52 13.4 +0.5**
SSB pmax pmax
comp=Z,174nm,2.6s
SOR Soroa 89.53 302 IAMs_20 IAMs_20 08 33 08.4
comp=Z,1µm,20.0s
BNI Bardonecchia 89.60 16 P **P 07 52 14.7 +0.8**
BNI IAmb IAmb 07 52 16.7
comp=Z,55nm,1.8s
BNI IAMs_20 IAMs_20 08 28 54.0
comp=Z,2µm,20.0s
BNI Bardonecchia 89.60 16 P **P 07 52 14.7 +0.8**
BNI pmax pmax
comp=Z,55nm,1.8s
KAAM Kaadhehdhoo 89.69 89 P **P 07 52 12.3 -2.7**
PETF Flores 89.82 293 P **P 07 52 14.4 -1.0**
HUEH Huehuetenango 89.82 291 IAMs_20 IAMs_20 08 29 58.0
comp=Z,1µm,22.0s
H01W2 Cape Leeuwin H 90.49 141 T T 09 33 47.1
baz=214,slow=75,SNR=22
H01W1 Cape Leeuwin H 90.50 141 T T 09 33 43.0
baz=214,slow=75,SNR=25
H01W3 Cape Leeuwin H 90.50 141 T T 09 33 41.6
baz=214,slow=75,SNR=19
SMRA Abu-Samra 91.03 57 P **P 07 52 22.1 +1.2**
060A Indiantown 91.05 307 IAMs_20 IAMs_20 08 32 04.5
comp=Z,1µm,22.0s
SLWR Sila 91.07 58 P **P 07 52 22.5 +1.4**
SLWR P **P 07 52 22.5 +1.4**
TEIG Tepich 91.08 297 P **P 07 52 21.0 -0.3**
TEIG Tepich 91.08 297 LR LR 08 33 53.5
comp=Z,1µm,20.9s,baz=112,slow=36
TRNA Turayna 91.26 57 P **P 07 52 23.3 +1.3**
MZR Muzera 91.43 60 P **P 07 52 23.9 +1.0**
SNR=6.1
MZR P **P 07 52 23.9 +1.0**
SNR=6.1
TUE Stuetta 91.52 17 P **P 07 52 22.0 -0.9**
TUE IAmb IAmb 07 52 24.6
comp=Z,46nm,1.9s
TUE Stuetta 91.52 17 P **P 07 52 22.0 -0.9**
comp=Z,33nm,1.2s
CTI Castel Tesino 91.65 19 P **P 07 52 24.0 +0.6**
CTI IAmb IAmb 07 52 25.7
comp=Z,40nm,1.4s
CTI Castel Tesino 91.65 19 P **P 07 52 24.0 +0.6**
CTI pmax pmax
comp=Z,40nm,1.4s
GHWR Ruwais 91.74 59 P **P 07 52 25.3 +1.1**
GHWR P **P 07 52 25.3 +1.1**
FUORN Ofenpass-Fuorn 91.86 18 P **P 07 52 25.1 +0.5**
DQM DQM 91.90 65 P **P 07 52 25.6 +0.5**
SNR=6.3
DQM P **P 07 52 25.6 +0.5**
SNR=6.3
DAVOX Davos/Dischmat 91.93 18 P **P 07 52 25.2 +0.4**
comp=Z,7.8nm,1.0s,baz=220,slow=13,SNR=6.7
comp=Z,7.8nm,1.0s
MZWR Madinat Zayed 92.23 60 P **P 07 52 27.5 +0.9**
MZWR P **P 07 52 27.5 +0.9**
UMZA Um Al Zommool 92.31 61 P **P 07 52 27.5 +0.6**
UMZA P **P 07 52 27.5 +0.6**
FETA Feichten 92.35 18 *i* P **P 07 52 27.7 +1.0**
comp=Z,6.4nm,1.4s
DAVA Damuels 92.41 17 *i* P **P 07 52 27.9 +1.0**
comp=Z,13nm,1.2s
JRN Qarnain Island 92.43 58 P **P 07 52 28.4 +1.0**
DWPF Disney Wildern 92.48 307 IAMs_20 IAMs_20 08 32 15.4
comp=Z,1µm,21.0s
ABTA Abfaltersbach 92.51 19 *i* P **P 07 52 28.8 +1.5**
comp=Z,26nm,1.5s,SNR=7.5
SQTA Sankt Quirin 92.64 18 *e*P **P 07 52 28.9 +0.9**
comp=Z,21nm,1.5s
MYKA Terra Mystica 92.68 20 *e*P **P 07 52 30.0 +1.8**
comp=Z,4.5nm,1.0s
MOTA Moosalm 92.74 18 *e*P **P 07 52 29.1 +0.6**
comp=Z,13nm,1.6s
WTTA Wattenberg 92.78 19 *i* P **P 07 52 29.7 +1.0**
comp=Z,20nm,1.4s,SNR=5.7
RETA Reutte 92.79 18 *e*P **P 07 52 28.5 -0.2**
comp=Z,7.9nm,1.2s
OBKA Obir 92.80 21 *e*P **P 07 52 30.3 +1.5**
comp=Z,12nm,1.4s
WATA Walderalm 92.84 18 *e*P **P 07 52 29.7 +0.8**
comp=Z,10nm,1.1s
MHTO MHTO 92.93 64 P **P 07 52 27.7 -2.1**
MHTO P **P 07 52 27.7 -2.1**
KBA Koelnbreinsper 93.02 20 *e*P **P 07 52 30.8 +1.0**
comp=Z,4.7nm,1.1s
GAZ Gaziantep 93.07 40 IAMs_20 IAMs_20 08 36 05.4
comp=Z,1µm,18.0s
SOKA Soboth 93.08 21 *e*PcP **PcP 07 52 33.4 +2.8**
comp=Z,20nm,1.0s
LESA Schwarzleotal 93.18 19 *e*P **P 07 52 31.1 +0.7**
comp=Z,3.1nm,0.7s
ANTO Ankara 93.27 36 P **P 07 52 31.4 +0.3**
ANTO P **P 07 52 31.4 +0.3**
BR105 Keskin Array S 93.50 36 P **P 07 52 32.4 +0.2**
comp=Z,7.5nm,1.2s,comp=Z,106nm
BR104 Keskin Array S 93.50 36 P **P 07 52 33.1 +0.9**
comp=Z,8.0nm,1.2s,comp=Z,82nm
AJN Ajban 93.51 60 P **P 07 52 33.0 +0.6**
AJN P **P 07 52 33.0 +0.6**
BR106 Keskin Array S 93.52 36 P **P 07 52 33.4 +1.1**
comp=Z,8.6nm,1.5s,comp=Z,105nm
BR131 Keskin Array S 93.52 36 P **P 07 52 32.5 +0.2**
BR131 IAmb IAmb 07 52 34.9
comp=Z,37nm,1.4s
BR131 Keskin Array S 93.52 36 *de*P **P 07 52 32.8 +0.5**
BRTR Keskin Array B 93.52 36 P **P 07 52 32.8 +0.5**
BRTR Keskin Array B 93.52 36 P **P 07 52 33.0 +0.8**
comp=Z,7.5nm,1.1s,baz=188,slow=5.5,SNR=22
comp=Z,7.5nm,1.1s
BRTR Keskin Array B 93.52 36 *i* P **P 07 52 33.5 +1.2**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
NWAO Narrogin (SRO) 93.55 142 IAMs_20 IAMs_20 08 41 41.9
comp=Z,1µm,20.0s
ARQ Araqi 93.63 62 P **P 07 52 33.9 +0.8**
SNR=8.9
ARQ P **P 07 52 33.9 +0.8**
SNR=8.9
ALNE Al Ain 93.64 61 P **P 07 52 34.6 +1.5**

SNR=7.7
ALNE P **P** **07 52 34.6 +1.5**
SNR=7.7
BSY Bisya 93.65 62 P **P** **07 52 33.9 +0.7**
SNR=9.9
BSY P **P** **07 52 33.9 +0.7**
SNR=9.9
MORH Mrgy, Hungar 93.67 23 P **P** **07 52 33.1 +0.5**
comp=Z,10nm,1.7s
RKT Rikitea 93.71 234 *e*S **S** **08 03 41.7 -1.2**
comp=Z,729nm,28.0s
RKT *e*SS **SS** **08 09 57.8 -2.1**
comp=Z,2μm,30.8s
RKT *e*LQ LQ 08 18 42.6
comp=Z,4μm,26.0s
RKT *e*LR LR 08 22 38.3
comp=Z,9μm,34.5s
ARSA Arzberg 93.74 21 *e*P **P** **07 52 34.1 +1.1**
comp=Z,8.0nm,1.2s
FAQ Al Faqa, Dubai 94.02 60 P **P** **07 52 34.8 0.0**
HMDM Hanimaadhoo 94.03 85 IAMs_20 IAMs_20 08 28 12.4
comp=Z,2μm,20.0s
656A Willston 94.06 307 IAMs_20 IAMs_20 08 41 20.2
comp=Z,1μm,20.0s
SOHO SOHO 94.20 61 P **P** **07 52 36.2 +0.6**
SOHO P **P** **07 52 36.2 +0.6**
MPLH Magyarpolny 94.22 22 P **P** **07 52 35.9 +0.8**
comp=Z,33nm,1.5s
NAZ Nazwa, Dubai 94.24 60 P **P** **07 52 36.9 +1.1**
SNR=6.9
NAZ P **P** **07 52 36.9 +1.1**
SNR=6.9
ASHO Ashiyiah 94.28 60 P **P** **07 52 36.8 +0.8**
SNR=8.9
ASHO P **P** **07 52 36.8 +0.8**
SNR=8.9
HOQ Hoqain 94.31 62 P **P** **07 52 36.8 +0.6**
SNR=12
HOQ P **P** **07 52 36.8 +0.6**
SNR=12
RONA Rosalia, Austr 94.36 21 *i* P **P** **07 52 37.7 +1.9**
comp=Z,15nm,1.2s,SNR=5.3
HATD Hatta, Dubai 94.43 60 P **P** **07 52 37.1 +0.4**
SNR=5.6
HATD P **P** **07 52 37.1 +0.4**
SNR=5.6
SMDO Samad 94.43 63 P **P** **07 52 37.4 +0.5**
SNR=5.6
SMDO P **P** **07 52 37.4 +0.5**
SNR=5.6
UOSS Minazif 94.56 60 P **P** **07 52 37.7 +0.4**
UOSS P **P** **07 52 37.7 +0.4**
UMQ Umm Al-Quwin 94.62 59 P **P** **07 52 38.5 +1.0**
JLN Jalan Bani Buh 94.70 64 P **P** **07 52 37.7 -0.3**
JLN P **P** **07 52 37.7 -0.3**
456A Hilliard 94.75 308 IAMs_20 IAMs_20 08 34 24.5
comp=Z,1μm,20.0s
MASF Masafi 94.83 60 P **P** **07 52 38.4 -0.1**
MASF P **P** **07 52 38.4 -0.1**
KHC Kasperske Hory 94.99 19⇑ *e*P **P** **07 52 39.4 +0.7**
KHC pmax pmax
comp=Z,5.0nm,1.2s
257A Skidaway Islan 95.10 309 IAMs_20 IAMs_20 08 35 26.7
comp=Z,1μm,20.0s
SHME Shamm 95.30 59 P **P** **07 52 41.1 +0.5**
SHME P **P** **07 52 41.1 +0.5**
CSU Charleston Sou 95.31 311 IAMs_20 IAMs_20 08 35 54.2
comp=Z,1μm,21.0s
MLR Muntele Rosu 95.37 28 P **P** **07 52 41.0 +0.3**
comp=Z,9.6nm,1.1s,baz=176,slow=13,SNR=7.8
comp=Z,9.6nm,1.1s
MLR Muntele Rosu 95.37 28 P **P** **07 52 41.0 +0.3**
MLR Muntele Rosu 95.37 28 P **P** **07 52 40.9 +0.3**
comp=Z,15nm,1.5s
Y58A Scranton 95.77 312 IAMs_20 IAMs_20 08 30 10.4
comp=Z,1μm,21.0s
VYHS Vyhne 95.79 23 *e*PP PP 07 56 45.5 +11
VYHS *e*PDIFF 08 08 21.0
VRI Vrincioaia 95.97 29 P **P** **07 52 42.8 -0.4**
VRI Vrincioaia 95.97 29 P **P** **07 52 42.8 -0.4**
W59A Clinton 96.04 313 IAMs_20 IAMs_20 08 30 07.7
comp=Z,1μm,20.0s
X58A Rowland 96.07 312 IAMs_20 IAMs_20 08 33 57.4
comp=Z,1μm,20.0s
TIGA Tifton 96.19 307 IAMs_20 IAMs_20 08 36 42.6
comp=Z,1μm,21.0s
Y57A Sumter 96.25 311 IAMs_20 IAMs_20 08 30 27.2
comp=Z,1μm,21.0s
TLIG Tlapa 96.27 288 IAMs_20 IAMs_20 08 37 09.0
comp=Z,1μm,20.0s
GURO Guroymak-BITLI 96.49 42 IAMs_20 IAMs_20 08 40 39.1
comp=Z,1μm,19.0s
LANS Liptovska Anna 96.56 23 *e*PP PP 07 56 50.5 +10
BIRD Birdtown, Kers 96.75 312 IAMs_20 IAMs_20 08 36 54.5
comp=Z,1μm,21.0s
154A Montrose 96.76 309 IAMs_20 IAMs_20 08 38 07.7
comp=Z,1μm,19.0s
V58A Windy Hill, Pi 96.87 313 IAMs_20 IAMs_20 08 30 10.7
comp=Z,1μm,21.0s
451A Vernon 96.88 306 IAMs_20 IAMs_20 08 38 41.8
comp=Z,1μm,19.0s
CLL Collm 96.89 18 *e*SS SS 08 10 45.0 -0.8
MUKU Mukachevo 96.89 25 P **P** **07 52 48.5 +1.2**
JSC Jenkinsville 96.93 311 IAMs_20 IAMs_20 08 31 00.2
comp=Z,1μm,21.0s
T59A Double "B" Far 96.93 315 IAMs_20 IAMs_20 08 45 18.1
comp=Z,1μm,22.0s
352A Blakely 97.00 307 IAMs_20 IAMs_20 08 34 21.2
comp=Z,2μm,22.0s
HODGE Hodges 97.45 310 IAMs_20 IAMs_20 08 34 02.1
comp=Z,1μm,20.0s
P61A Hammonton 97.59 318 IAMs_20 IAMs_20 08 30 00.6
comp=Z,1μm,20.0s
KMSC Kings Mountain 97.60 311 IAMs_20 IAMs_20 08 31 16.0
comp=Z,1μm,21.0s
PAULI Pauline 97.64 311 IAMs_20 IAMs_20 08 31 19.9
comp=Z,1μm,21.0s
152A Waverly Hall 97.74 308 IAMs_20 IAMs_20 08 40 06.6
comp=Z,1μm,19.0s
R58B Mineral 97.85 315 IAMs_20 IAMs_20 08 38 42.4
comp=Z,1μm,22.0s
T57A Hurt 97.85 314 IAMs_20 IAMs_20 08 30 44.4
comp=Z,1μm,21.0s
UNM Universidad Na 97.89 289 IAMs_20 IAMs_20 08 32 32.7
comp=Z,1μm,21.0s
U56A King 97.97 313 IAMs_20 IAMs_20 08 43 37.7
comp=Z,1μm,20.0s
BRAL Brewton 98.06 305 IAMs_20 IAMs_20 08 37 38.1
comp=Z,1μm,21.0s
Y52A Lilburn 98.22 309 IAMs_20 IAMs_20 08 32 50.3
comp=Z,1μm,22.0s
S57A Dark Hollow, R 98.26 315 IAMs_20 IAMs_20 08 44 14.3
comp=Z,1μm,22.0s
TRNY Table Rock, Ra 98.45 320 IAMs_20 IAMs_20 08 33 48.3
comp=Z,1μm,21.0s
LUPA Lehigh Univers 98.59 319 IAMs_20 IAMs_20 08 29 18.9
comp=Z,1μm,21.0s
MVL Millersville 98.61 318 IAMs_20 IAMs_20 08 30 42.6
comp=Z,1μm,20.0s
BLA Blacksburg 98.63 313 IAMs_20 IAMs_20 08 31 24.1
comp=Z,1μm,20.0s
V53A Saluda 98.81 311 IAMs_20 IAMs_20 08 31 55.0
comp=Z,1μm,21.0s
U54A Nelsons Funny 98.88 312 IAMs_20 IAMs_20 08 31 30.9
comp=Z,1μm,21.0s
W52A Murphy 99.02 310 IAMs_20 IAMs_20 08 38 29.7
comp=Z,1μm,21.0s
P57A Homestead Farm 99.06 316 IAMs_20 IAMs_20 08 30 36.5
comp=Z,1μm,19.0s
GNI Garni 99.06 43⇓ *e*P **Pdif** **07 52 57.1 -0.4**
GNI pmax pmax
comp=Z,4.0nm,1.0s
R55A Marlinton 99.26 314 IAMs_20 IAMs_20 08 42 33.8
comp=Z,1μm,20.0s
ANN Anapa 99.28 35 *e*P **Pdif** **07 52 55.6 -2.5**
ANN *e*PP **pP** **07 52 58.9 -1.5**
ANN *e* 07 57 00.5
ANN *e* 08 03 36.6
ANN pmax pmax
comp=Z,49nm,1.3s
SOC Sochi 99.32 38 *e*P **Pdif** **07 52 55.6 -2.7**
SOC *e* 07 56 58.9
SOC *e*PPP PPP 07 59 07.2
SOC *e*S **SKSac** **08 03 36.9 +0.6**
SOC *e*SS **SS** **08 11 14.4 -5.9**
SOC *e*SSS SSS 08 15 14.6
SOC MLR MLR
comp=Z,405nm,20.0s
LRAL Lakeview Retre 99.34 306 IAMs_20 IAMs_20 08 34 49.2
comp=Z,1μm,22.0s
TKL Tuckaleechee C 99.34 310 LR LR 08 35 21.5
comp=Z,795nm,20.2s,baz=147,slow=34
MOIG Morelia 99.53 288 IAMs_20 IAMs_20 08 38 11.4
comp=Z,1μm,20.0s
S54A Dingess, Beckl 99.54 313 IAMs_20 IAMs_20 08 31 21.3
comp=Z,1μm,21.0s
Y49A Blount Mountai 99.58 307 IAMs_20 IAMs_20 08 40 44.3
comp=Z,1μm,20.0s
CPCT Cooper Cave 99.62 310 IAMs_20 IAMs_20 08 39 04.4
comp=Z,1μm,21.0s
346A Big Creek Wild 99.68 304 IAMs_20 IAMs_20 08 35 11.1
comp=Z,1μm,20.0s
Z47A Carrollton 100.09 306 IAMs_20 IAMs_20 08 35 34.0
comp=Z,2μm,22.0s
146A Union 100.30 305 IAMs_20 IAMs_20 08 36 54.4
comp=Z,1μm,20.0s
KBZ Khabaz 100.89 39 PP **PP** **07 57 12.9 -1.0**
comp=Z,0.5nm,0.4s,baz=195,slow=5.3,SNR=5.6
VBMS Vicksburg 100.90 304 IAMs_20 IAMs_20 08 46 52.3
comp=Z,1μm,21.0s
Q52A Bidwell 100.90 313 IAMs_20 IAMs_20 08 47 28.2
comp=Z,1μm,21.0s
T50A Nancy 100.92 311 IAMs_20 IAMs_20 08 39 42.7
comp=Z,1μm,22.0s
KIV Kislovodsk 100.97 39 *e*P **Pdif** **07 53 04.9 -0.9**
KIV *e* 07 57 13.2
KIV *e*SS SS 08 11 44.0 +0.5
KIV pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 100.97 27 *i* P **Pdif** **07 53 07.1 +1.6**
U49A Red Boiling Sp 101.09 310 IAMs_20 IAMs_20 08 33 35.3
comp=Z,1μm,21.0s
CLTN Cedars of Leba 101.11 309 IAMs_20 IAMs_20 08 40 59.7
comp=Z,1μm,19.0s
V48A Smith Brothers 101.14 309 IAMs_20 IAMs_20 08 40 17.7
comp=Z,1μm,21.0s
CAN Canberra 101.29 168 IAMs_20 IAMs_20 08 37 36.2
comp=Z,1μm,18.0s
PLAL Pickwick Lake 101.34 307 IAMs_20 IAMs_20 08 34 58.0
comp=Z,1μm,22.0s
Y45A Yeager Farm, C 101.44 306 IAMs_20 IAMs_20 08 38 18.7
comp=Z,1μm,20.0s
N53A Lisbon 101.49 316 IAMs_20 IAMs_20 08 31 52.8
comp=Z,1μm,21.0s
R50A Paris 101.53 312 IAMs_20 IAMs_20 08 33 13.0
comp=Z,1μm,22.0s
TBI Tubuai 101.54 223 *e*S **Sdif** **08 04 45.9 -3.8**
comp=Z,981nm,28.8s
TBI *e*SS **SS** **08 11 53.7 +4.0**
comp=Z,1μm,27.8s
TBI Tubuai 101.54 223 *e*LQ LQ 08 21 56.8
comp=Z,4μm,36.8s
TBI *e*LR LR 08 26 11.4
comp=Z,2μm,24.8s
TBI *e*LR LR 08 26 19.7
comp=Z,9μm,28.2s
J55A Hilton 101.80 319 IAMs_20 IAMs_20 08 42 58.8
comp=Z,988nm,20.0s
WVT Waverly 102.00 308 IAMs_20 IAMs_20 08 36 11.4
comp=Z,1μm,22.0s
R49A Shelbyville 102.01 311 IAMs_20 IAMs_20 08 43 10.5
comp=Z,1μm,21.0s
ERPA Erie 102.02 317 IAMs_20 IAMs_20 08 33 02.7
comp=Z,1μm,21.0s
T47A Sharon Grove 102.18 309 IAMs_20 IAMs_20 08 41 08.1
comp=Z,1μm,21.0s
ACSO Alum Creek Sta 102.20 314 IAMs_20 IAMs_20 08 32 56.6
comp=Z,1μm,20.0s
N51A Ashland 102.37 315 IAMs_20 IAMs_20 08 46 28.2
comp=Z,1μm,21.0s
MAK Makhachkala 102.54 42 *e*P **Pdif** **07 53 11.2 -1.4**
MAK *e* 07 57 27.0
MAK *e*PPP PPP 07 59 40.1
MAK *e* 08 03 47.1
MAK pmax pmax
comp=Z,248nm,1.4s
WCI Wyandotte Cave 102.59 311 IAMs_20 IAMs_20 08 36 36.9
comp=Z,1μm,20.0s
O49A Covington 102.89 313 IAMs_20 IAMs_20 08 33 24.0
comp=Z,1μm,20.0s
GLAT Glass 102.94 307 IAMs_20 IAMs_20 08 46 48.4
comp=Z,889nm,19.0s
LNXT Lenox 102.95 307 IAMs_20 IAMs_20 08 39 49.5
comp=Z,947nm,20.0s
Z41A Richland Creek 103.01 303 IAMs_20 IAMs_20 08 39 22.2
comp=Z,1μm,20.0s
M50A Fremont 103.07 315 IAMs_20 IAMs_20 08 48 44.7
comp=Z,1μm,20.0s
T45A Paducah 103.09 308 IAMs_20 IAMs_20 08 36 53.1
comp=Z,1μm,21.0s
GNAR Gosnell 103.17 307 IAMs_20 IAMs_20 08 36 26.3
comp=Z,1μm,22.0s
PEBM Pemiscott Bayo 103.18 307 IAMs_20 IAMs_20 08 35 52.5
comp=Z,1μm,22.0s
USIN University of 103.18 310 IAMs_20 IAMs_20 08 41 48.6
comp=Z,1μm,20.0s
HBAR Harrisburg 103.27 306 IAMs_20 IAMs_20 08 36 43.0
comp=Z,1μm,21.0s
PVMO Portageville 103.29 307 IAMs_20 IAMs_20 08 39 50.5
comp=Z,1μm,20.0s
N49A Columbus Grove 103.33 314 IAMs_20 IAMs_20 08 47 49.6
comp=Z,1μm,22.0s
BLO Bloomington 103.38 311 IAMs_20 IAMs_20 08 34 14.8
comp=Z,1μm,21.0s
O48B Farmland 103.39 313 IAMs_20 IAMs_20 08 33 52.0
comp=Z,1μm,21.0s
WLAR White Oak Lake 103.49 303 IAMs_20 IAMs_20 08 38 26.1
comp=Z,1μm,20.0s
UALR University of 103.75 305 IAMs_20 IAMs_20 08 40 03.9
comp=Z,1μm,20.0s
NACGM Naroch 103.77 24 *e*Pdif **Pdif** **07 53 18.7 +0.9**
comp=Z,9.0nm,1.1s,baz=211
K50A Casco 103.84 316 IAMs_20 IAMs_20 08 31 43.9
comp=Z,1μm,20.0s
CGM3 Cape Girardeau 103.87 308 IAMs_20 IAMs_20 08 39 32.8
comp=Z,877nm,18.0s
SIUC Southern Illin 103.89 309 IAMs_20 IAMs_20 08 36 53.6
comp=Z,1μm,21.0s
S44A Carbondale 103.90 309 IAMs_20 IAMs_20 08 35 48.8
comp=Z,1μm,22.0s
LCAR Lake Charles 103.91 306 IAMs_20 IAMs_20 08 38 43.1
comp=Z,965nm,19.0s
OLIL Olney 103.96 310 IAMs_20 IAMs_20 08 42 24.1
comp=Z,1μm,21.0s
PBMO Poplar Bluff 103.96 307 IAMs_20 IAMs_20 08 37 18.4
comp=Z,1μm,22.0s
P46A Rosedale 104.07 311 IAMs_20 IAMs_20 08 50 13.0
comp=Z,1μm,21.0s
N47A Urbana 104.11 313 IAMs_20 IAMs_20 08 49 37.3
comp=Z,974nm,20.0s
L48A N Adams 104.19 314 IAMs_20 IAMs_20 08 39 13.2
comp=Z,1μm,20.0s
FCAR Ozark Folk Cen 104.37 306 IAMs_20 IAMs_20 08 37 10.2
comp=Z,1μm,22.0s
Z38A Mt. Pleasant 104.37 302 IAMs_20 IAMs_20 08 44 20.4
comp=Z,989nm,21.0s
Q44A Meyer Farm, Va 104.59 310 IAMs_20 IAMs_20 08 42 48.0
comp=Z,1μm,20.0s
I49A Point Hope 104.77 317 IAMs_20 IAMs_20 08 34 49.6
comp=Z,1μm,20.0s
FVM French Village 104.78 308 IAMs_20 IAMs_20 08 37 51.9
comp=Z,1μm,22.0s
SLM Saint Louis 105.11 309 IAMs_20 IAMs_20 08 38 53.7
comp=Z,1μm,21.0s
MGMO Mountain Grove 105.30 306 IAMs_20 IAMs_20 08 37 18.9
comp=Z,1μm,21.0s
CCM Cathedral Cave 105.30 308 IAMs_20 IAMs_20 08 40 29.9
comp=Z,1μm,20.0s
HHAR Hobbs 105.73 305 IAMs_20 IAMs_20 08 40 30.1
comp=Z,1μm,20.0s
M44A Midewin, Midew 105.75 312 IAMs_20 IAMs_20 08 43 21.5
comp=Z,1μm,20.0s
Z35A Perchaven, San 105.85 301 IAMs_20 IAMs_20 08 46 22.5
comp=Z,1μm,20.0s
HQIL Hanson Quary C 105.92 312 IAMs_20 IAMs_20 08 37 16.2
comp=Z,1μm,21.0s
R40A Maddies Statio 106.06 307 IAMs_20 IAMs_20 08 41 11.9
comp=Z,1μm,22.0s
U38A Gravette 106.10 305 IAMs_20 IAMs_20 08 39 58.0
comp=Z,914nm,20.0s
S39A Bolivar 106.29 306 IAMs_20 IAMs_20 08 38 10.9
comp=Z,1μm,21.0s
PPT2 Papeete2 106.37 226 *e*S **Sdif** **08 05 35.8 +5.4**
comp=Z,322nm,25.5s
PPT2 *e*SS **SS** **08 12 58.2 +1.6**
comp=Z,505nm,25.5s
PPT2 Papeete2 106.37 226 *e*LQ LQ 08 23 58.3
comp=Z,1μm,30.2s
PPT2 *e*LR LR 08 28 30.1
comp=Z,2μm,25.8s
PPT2 *e*LR LR 08 28 31.9
comp=Z,1μm,27.8s
I45A Fountain 106.59 315 IAMs_20 IAMs_20 08 46 56.9
comp=Z,1μm,20.0s
P40A Paris 106.75 308 IAMs_20 IAMs_20 08 48 59.3
comp=Z,967nm,20.0s
K43A Burlington 106.80 313 IAMs_20 IAMs_20 08 44 12.4
comp=Z,1μm,20.0s
L42A Oliver, Polo 107.06 312 IAMs_20 IAMs_20 08 46 35.2
comp=Z,1μm,21.0s
OK031 S. Brethren Rd 107.29 303 IAMs_20 IAMs_20 08 42 14.5
comp=Z,1μm,20.0s
P38A Dawn 107.68 308 IAMs_20 IAMs_20 08 41 40.8
comp=Z,1μm,21.0s
H43A Windswept, Lux 107.70 315 IAMs_20 IAMs_20 08 51 06.0
comp=Z,974nm,20.0s
T35A Sooner Cattle 107.71 304 IAMs_20 IAMs_20 08 41 23.6
comp=Z,1μm,22.0s
TAOE Nuku Hiva Isla 107.76 239 *e*S **Sdif** **08 05 35.4 -6.8**
comp=Z,191nm,29.8s
TAOE *e*SS **SS** **08 13 16.5 +0.3**
comp=Z,350nm,28.5s
TAOE Nuku Hiva Isla 107.76 239 *e*LR LR 08 29 05.3
comp=Z,1μm,21.6s
I42A Draeger Farm, 107.91 313 IAMs_20 IAMs_20 08 48 04.8
comp=Z,1μm,20.0s
L40A Anamosa 107.96 311 IAMs_20 IAMs_20 08 36 52.1
comp=Z,1μm,22.0s
JFWS Jewell Farm 107.99 312 IAMs_20 IAMs_20 08 36 52.8
comp=Z,1μm,22.0s
ASAR Alice Springs 108.52 151 PKiKP **PKiKP** **07 57 45.0 -0.7**
comp=Z,0.1nm,0.4s,baz=194,slow=0.8,SNR=2.6
F42A Maple Grove Fa 108.76 315 IAMs_20 IAMs_20 08 47 41.0
comp=Z,1μm,21.0s
I40A Norwalk 108.83 313 IAMs_20 IAMs_20 08 37 05.2
comp=Z,1μm,21.0s
COWI Conover 109.50 315 IAMs_20 IAMs_20 08 36 17.9
comp=Z,1μm,21.0s
G40A Rib Lake 109.52 314 IAMs_20 IAMs_20 08 45 51.2
comp=Z,1μm,21.0s
R32A Long Quarter, 110.01 304 IAMs_20 IAMs_20 08 42 53.6
comp=Z,1μm,21.0s
CBKS Cedar Bluff 110.88 304 IAMs_20 IAMs_20 08 43 19.7
comp=Z,1μm,21.0s
NIL Nilore 111.43 64 IAMs_20 IAMs_20 08 44 01.6
comp=Z,1μm,21.0s
EYMN Ely 111.93 315 IAMs_20 IAMs_20 08 37 38.1
comp=Z,997nm,20.0s
ECSD EROS Data Cent 112.07 310 IAMs_20 IAMs_20 08 39 38.0
comp=Z,977nm,20.0s
WRA Warramunga Arr 112.09 150 PKiKP **PKiKP** **07 57 51.4 -1.1**
comp=Z,1.6nm,1.1s,baz=224,slow=1.7,SNR=4.6
WRA PP **PP** **07 58 37.1 +1.8**
comp=Z,2.0nm,1.2s,baz=200,slow=6.9,SNR=5.9
KLMR Klimovskoe 112.58 26 P **Pdif** **07 53 52.9 -3.9**
KLMR *e* 07 58 40.0
KLMR pmax pmax
comp=Z,18nm,2.0s
Y22D IRIS PASSCAL I 112.60 296 IAMs_20 IAMs_20 08 46 19.3
comp=Z,977nm,20.0s
KSCO Kaye Shedlock' 112.79 302 IAMs_20 IAMs_20 08 45 10.2
comp=Z,945nm,20.0s
T25A Trinidad 112.80 300 IAMs_20 IAMs_20 08 46 20.4
comp=Z,925nm,21.0s
ANMO Albuquerque 112.81 297 IAMs_20 IAMs_20 08 45 15.0
comp=Z,1μm,20.0s
F33A 5 Mile Ranch, 113.19 311 IAMs_20 IAMs_20 08 39 46.4
comp=Z,1μm,21.0s
OGNE Ogallala 113.58 304 IAMs_20 IAMs_20 08 43 58.0
comp=Z,1μm,22.0s
SUSD Miller 113.84 309 IAMs_20 IAMs_20 08 40 32.9
comp=Z,1μm,22.0s
TUC Tucson 114.16 292 IAMs_20 IAMs_20 08 46 33.6
comp=Z,974nm,19.0s
Q24A Divide 114.34 301 IAMs_20 IAMs_20 08 46 10.4
comp=Z,787nm,20.0s
BRIGG Briggsdale 114.77 303 IAMs_20 IAMs_20 08 45 33.5
comp=Z,855nm,20.0s
X18A Snowflake 114.89 295 IAMs_20 IAMs_20 08 46 55.0
comp=Z,835nm,20.0s
ISCO Idaho Springs 115.12 302 IAMs_20 IAMs_20 08 45 12.9
comp=Z,1μm,22.0s
CTAO Charters Tower 115.56 162 IAMs_20 IAMs_20 08 57 30.9
comp=Z,1μm,22.0s
DZM Mont Dzumac 115.63 183 *e*LR LR 08 32 51.9
comp=Z,1μm,26.9s
X16A Lo Mia Camp, P 115.83 294 IAMs_20 IAMs_20 08 50 32.8
comp=Z,822nm,19.0s
N23A Red Feather La 115.96 303 IAMs_20 IAMs_20 08 44 44.0
comp=Z,969nm,22.0s
APA Apatity 116.02 19⇓ *i*PKIKP PKiKP 07 58 07.2 +8.9
APA pmax pmax
comp=Z,6.0nm,1.1s
E28A Huff 116.08 310 IAMs_20 IAMs_20 08 46 15.1
comp=Z,938nm,21.0s
MDND Maddock 116.21 312 IAMs_20 IAMs_20 08 56 38.3
comp=Z,915nm,21.0s
WUAZ Wupatki 116.41 295 IAMs_20 IAMs_20 08 50 02.3
comp=Z,766nm,20.0s
SOEI Soe 116.59 135 IAMs_20 IAMs_20 08 56 33.8
comp=Z,1μm,19.0s
Y14A Wickenburg 116.62 293 IAMs_20 IAMs_20 08 47 57.7
comp=Z,944nm,21.0s
ARTI Arti 116.79 37 IAMs_20 IAMs_20 08 53 49.9
comp=Z,933nm,21.0s
O20A White River Ci 116.97 301 IAMs_20 IAMs_20 08 43 07.0
comp=Z,863nm,22.0s
K22A Casper 117.31 304 IAMs_20 IAMs_20 08 46 17.6
comp=Z,1μm,22.0s
HMU Henry Mountain 117.36 297 IAMs_20 IAMs_20 08 48 57.3
comp=Z,823nm,19.0s
AAK Ala-Archa 117.45 56 IAMs_20 IAMs_20 08 49 35.5
comp=Z,1μm,21.0s
AAK Ala-Archa 117.45 56⇓ *i*PKIKP **PKPdf** **07 58 01.5 -0.6**
BLYC Blythe 117.55 292 IAMs_20 IAMs_20 08 45 42.4
comp=Z,924nm,21.0s
FRU1 Bishkek 117.63 56 IAMs_20 IAMs_20 08 49 43.2
comp=Z,1μm,21.0s
P18A Preston Nutter 117.97 299 IAMs_20 IAMs_20 08 51 40.5
comp=Z,979nm,20.0s
PKCU Pink Cliffs 118.12 296 IAMs_20 IAMs_20 08 48 29.4
comp=Z,872nm,20.0s
Q16A Castle Valley 118.18 298 IAMs_20 IAMs_20 08 49 23.0
comp=Z,810nm,20.0s
P17A Butcher Ranch, 118.21 299 IAMs_20 IAMs_20 08 53 20.7
comp=Z,782nm,20.0s
MTPU Mount Pierson 118.36 297 IAMs_20 IAMs_20 08 49 29.9
comp=Z,1μm,20.0s
BSUT Blindstream Ca 118.80 300 IAMs_20 IAMs_20 08 49 11.4
comp=Z,765nm,20.0s
TCRU Three Creeks R 118.85 297 IAMs_20 IAMs_20 08 48 45.7
comp=Z,1μm,20.0s
TARG Taragay, Kyrgy 119.02 59 IAMs_20 IAMs_20 08 52 15.1
comp=Z,930nm,19.0s
MPU Maple Canyon 119.08 299 IAMs_20 IAMs_20 08 52 46.8
comp=Z,838nm,20.0s
DGMT Dagmar 119.11 310 IAMs_20 IAMs_20 08 43 31.1
comp=Z,1μm,22.0s
SBUM Sibu 119.12 116 IAMs_20 IAMs_20 08 55 01.3
comp=Z,1μm,21.0s
PDAR Pinedale Array 119.24 303 PKP **PKPdf** **07 58 04.6 -1.1**
comp=Z,0.9nm,0.9s,baz=60,slow=4.3,SNR=6.5
PDAR PP **PP** **07 59 29.7 +2.7**
comp=Z,1.6nm,1.2s,baz=129,slow=6.6,SNR=4.3
BKB Balikpapan 119.29 123 IAMs_20 IAMs_20 08 55 59.7
comp=Z,1μm,20.0s
TCUT Toone Canyon 119.53 300 IAMs_20 IAMs_20 08 50 56.6
comp=Z,805nm,21.0s
PRZ Przheval'sk 119.80 58 IAMs_20 IAMs_20 08 51 24.8
comp=Z,907nm,20.0s
HWUT Hardware Ranch 119.89 301 IAMs_20 IAMs_20 08 49 28.1
comp=Z,729nm,20.0s
DUG Dugway, Tooele 119.94 299 IAMs_20 IAMs_20 08 51 21.6
comp=Z,721nm,19.0s
GSC Goldstone, Bar 119.97 292 IAMs_20 IAMs_20 08 52 22.6
comp=Z,819nm,21.0s
AHID Auburn Hatcher 120.20 302 IAMs_20 IAMs_20 08 51 43.4
comp=Z,749nm,20.0s
LOHW Long Hollow 120.34 303 IAMs_20 IAMs_20 08 48 51.9
comp=Z,884nm,21.0s
TPAW Teton Pass 120.49 303 IAMs_20 IAMs_20 08 47 29.0
comp=Z,1μm,22.0s
FXWY Fox Creek 120.61 303 IAMs_20 IAMs_20 08 49 00.2

comp=Z,788nm,21.0s
CMAR Chiang Mai Arr 120.62 93 PKP **PKiKP 07 58 08.9 +0.1**
comp=Z,1.6nm,0.3s,baz=243,slow=4.0,SNR=12
CMAR Chiang Mai Arr 120.62 93 PKIKP **PKiKP 07 58 09.0 +0.1**
BVAR Borovoye Array 120.68 45 PKP **PKPdf 07 58 07.2 -0.6**
comp=Z,0.8nm,0.7s,baz=258,slow=4.3,SNR=5.3
BVAR PP **PP 07 59 38.4 +2.0**
comp=Z,1.4nm,0.9s,baz=232,slow=7.3,SNR=4.2
BVAR PKKPbc **PKKPbc 08 08 19.4 +6.7**
comp=Z,2.0nm,1.1s,baz=126,slow=2.0,SNR=4.0
YNE Yellowstone No 120.70 305 IAMs_20 IAMs_20 09 01 23.3
comp=Z,1μm,20.0s
HVU Hansel Valley 120.75 300 IAMs_20 IAMs_20 08 51 33.9
comp=Z,909nm,20.0s
R11B Troy Canyon, C 120.78 295 IAMs_20 IAMs_20 08 51 03.0
comp=Z,1μm,21.0s
FFC Flin Flon 121.20 317 IAMs_20 IAMs_20 08 58 36.1
comp=Z,1μm,20.0s
ISA Isabella, Lake 121.31 291 IAMs_20 IAMs_20 08 53 43.1
comp=Z,857nm,20.0s
MPSI Mapaga 122.38 125 PKP **PKPdf 07 58 12.3 0.0**
MPSI PKP **PKiKP 07 58 12.9 +0.4**
NVAR Mina Array Bea 122.65 294 PKP **PKiKP 07 58 12.8 +0.3**
comp=Z,0.4nm,0.4s,baz=120,slow=5.3,SNR=8.6
NVAR PKKPbc **PKKPbc 08 08 06.7 +1.5**
comp=Z,0.2nm,0.3s,baz=248,slow=4.0,SNR=4.0
HLID Hailey 122.70 301 IAMs_20 IAMs_20 08 50 19.2
comp=Z,960nm,22.0s
KVN Kaiserville 122.83 295 IAMs_20 IAMs_20 08 53 01.9
comp=Z,770nm,19.0s
BMN Battle Mountai 122.95 297 IAMs_20 IAMs_20 08 46 36.9
comp=Z,899nm,21.0s
MFID Camas Ranch 123.52 301 IAMs_20 IAMs_20 08 51 00.0
comp=Z,911nm,22.0s
YERR Yerington 123.56 294 IAMs_20 IAMs_20 08 53 18.3
comp=Z,772nm,20.0s
KURBB Kurchatov Arra 123.92 50 PKP **PKPdf 07 58 13.7 -0.4**
comp=Z,1.9nm,0.9s,baz=252,slow=2.9,SNR=14
KURBB PP **PP 07 59 55.5 -2.9**
comp=Z,0.3nm,0.3s,baz=254,slow=6.3,SNR=4.2
KURBB PKKPbc **PKKPbc 08 08 00.0 -0.1**
comp=Z,0.6nm,0.5s,baz=72,slow=3.1,SNR=4.2
KURK Kurchatov 124.01 50 *c i*PKIKP **PKPdf 07 58 14.3 +0.1**
PAHR Pah Rah Range 124.02 295 IAMs_20 IAMs_20 08 51 12.5
comp=Z,1μm,22.0s
MAKZ Makanchi 124.17 55 IAMs_20 IAMs_20 08 55 17.1
comp=Z,798nm,20.0s
MPK Martis Peak 124.25 294 IAMs_20 IAMs_20 08 51 47.6
comp=Z,931nm,22.0s
MK31 Makanchi Array 124.35 55 ⇑*i*PKIKP **PKiKP 07 58 16.0 +0.6**
MKAR Makanchi Array 124.35 55 PKP **PKPdf 07 58 13.8 -1.2**
comp=Z,1.0nm,0.8s,baz=232,slow=1.6,SNR=6.0
WVOR Wild Horse Val 124.86 298 IAMs_20 IAMs_20 08 54 12.4
comp=Z,790nm,18.0s
J08A Circle Bar Ran 125.19 299 IAMs_20 IAMs_20 08 53 34.2
comp=Z,741nm,20.0s
ORV Oroville 125.37 294 IAMs_20 IAMs_20 08 54 05.1
comp=Z,742nm,21.0s
HATC Hat Creek Radi 125.95 295 IAMs_20 IAMs_20 08 57 16.4
comp=Z,722nm,20.0s
WMQ Urumqi 126.37 61 *e*PKP **PKiKP 07 58 20.5 +1.0**
WMQ LR LR
comp=Z,550nm,17.3s
WMQ LR LR
comp=Z,700nm,22.7s
WMQ LR LR
comp=Z,890nm,21.3s
E09A Wood Farm, Sta 126.42 303 IAMs_20 IAMs_20 08 52 32.5
comp=Z,858nm,20.0s
O02D Mt. Diablo Mer 126.54 294 IAMs_20 IAMs_20 08 52 47.0
comp=Z,1μm,22.0s
NEW Newport 126.55 305 IAMs_20 IAMs_20 09 04 25.0
comp=Z,693nm,20.0s
KCPM Cahto Peak 126.84 293 IAMs_20 IAMs_20 09 01 43.2
comp=Z,947nm,21.0s
PINE Pine Mountain 126.98 299 IAMs_20 IAMs_20 08 53 41.6
comp=Z,900nm,21.0s
K04D Chiloquin, OR 126.98 297 IAMs_20 IAMs_20 08 53 35.7
comp=Z,691nm,20.0s
C09A Chrisman Ranch 127.05 304 IAMs_20 IAMs_20 08 48 57.3
comp=Z,852nm,22.0s
D08A Wollman Farm, 127.13 303 IAMs_20 IAMs_20 08 52 41.5
comp=Z,902nm,19.0s
HAWA Hanford 127.23 302 IAMs_20 IAMs_20 08 53 03.0
comp=Z,892nm,19.0s
F07A Phinny Hill Vi 127.26 302 IAMs_20 IAMs_20 08 52 00.9
comp=Z,991nm,21.0s
G06A Carlson Farm, 127.42 301 IAMs_20 IAMs_20 08 51 04.2
comp=Z,957nm,21.0s
KMI Kunming 127.45 89 ⇑PKP **PKPdf 07 58 22.1 +0.2**
KMI SS SS 08 17 30.2 -3.2
KMI LR LR
comp=Z,640nm,18.4s
KMI LR LR
comp=Z,330nm,19.9s
KMI LR LR
comp=Z,490nm,19.2s
J04A Umpqua Nationa 127.49 298 IAMs_20 IAMs_20 08 51 50.2
comp=Z,837nm,22.0s
KHMM Horse Mountain 127.50 294 IAMs_20 IAMs_20 08 53 00.5
comp=Z,999nm,22.0s
PZH PanZhiHua 127.50 87 PKP **PKPdf 07 58 22.0 +0.1**
KMPM Mount Pierce 127.55 294 IAMs_20 IAMs_20 08 52 02.9
comp=Z,771nm,21.0s
GOMU GeErMu 127.60 72 PKP **PKiKP 07 58 22.7 +0.1**
GOMU sPKP 07 58 28.1
GOMU SS SS 08 17 38.7 +3.3
GOMU LR LR
comp=Z,950nm,21.0s
GOMU LR LR
comp=Z,580nm,20.9s
GOMU LR LR
comp=Z,2μm,21.8s
KRMB Red Mountain 127.91 295 IAMs_20 IAMs_20 08 52 38.5
comp=Z,884nm,22.0s
I04A Tendick Farm, 127.93 298 IAMs_20 IAMs_20 08 54 45.9
comp=Z,913nm,20.0s
L02F Cave Junction 127.96 296 IAMs_20 IAMs_20 08 52 03.6
comp=Z,729nm,21.0s
KSXB Camp Six Broad 128.03 295 IAMs_20 IAMs_20 08 55 46.5
comp=Z,757nm,21.0s
H04A Detroit Lake 128.18 299 IAMs_20 IAMs_20 08 51 58.2
comp=Z,906nm,20.0s
K02D Willamette Mer 128.27 296 IAMs_20 IAMs_20 08 53 21.0
comp=Z,688nm,20.0s
LTY Liberty 128.30 303 IAMs_20 IAMs_20 08 51 34.3
comp=Z,850nm,21.0s
BUCK Buck Mountain 128.48 298 IAMs_20 IAMs_20 08 54 17.4
comp=Z,913nm,21.0s
J01E Myrtle Point 128.65 297 IAMs_20 IAMs_20 08 52 20.0
comp=Z,935nm,20.0s
ZALV Zalesovo Beam 128.81 48 PKP **PKPdf 07 58 22.6 -0.7**
comp=Z,1.3nm,0.7s,baz=248,slow=2.7,SNR=5.1
F04A Amboy 128.85 301 IAMs_20 IAMs_20 08 56 02.0
comp=Z,703nm,20.0s
COR Corvallis 128.85 299 IAMs_20 IAMs_20 08 54 15.2
comp=Z,715nm,20.0s
QIZ Qiongzhong 128.98 100 PKP **PKPdf 07 58 23.6 -1.1**
QIZ PP **PP 08 00 31.6 -0.7**
QIZ SS SS 08 17 53.2 +1.4
QIZ LR LR
comp=Z,670nm,16.5s
QIZ LR LR
comp=Z,880nm,17.1s
QIZ LR LR
comp=Z,1μm,17.2s
I02E Swisshome, OR 129.00 298 IAMs_20 IAMs_20 09 05 33.3
comp=Z,882nm,22.0s
G03D McMinnville, O 129.09 299 IAMs_20 IAMs_20 08 53 34.5
comp=Z,840nm,20.0s
F04D Rainier, OR 129.29 301 IAMs_20 IAMs_20 09 05 58.6
comp=Z,781nm,22.0s
HEBO Mount Hebo 129.41 299 IAMs_20 IAMs_20 08 57 07.9
comp=Z,792nm,20.0s
F03A Seaside 129.58 300 IAMs_20 IAMs_20 08 52 08.2
comp=Z,880nm,22.0s
NLWA Neilton Lookou 130.35 302 IAMs_20 IAMs_20 08 52 35.6
comp=Z,883nm,20.0s
YKA Yellowknife Ar 130.36 323 PKP **PKPdf 07 58 24.6 -1.3**
comp=Z,6.2nm,1.1s,baz=96,slow=1.9,SNR=4.2
PGC Sidney 130.56 304 IAMs_20 IAMs_20 09 06 47.3
comp=Z,968nm,22.0s
CLRS Cowichan Lake 131.05 304 IAMs_20 IAMs_20 08 51 35.0
comp=Z,823nm,21.0s
GYA Guiyang 131.11 90 PKP **PKiKP 07 58 29.8 +0.1**
GYA PP **PP 08 00 46.6 +0.2**
GYA PKS **PKSdf 08 02 04.8 -0.6**
GYA SKS **SKSac 08 05 36.1 -2.9**
GYA SKKS **SKKSac 08 07 40.1 -2.7**
GYA AMB AMB
comp=Z,210nm,6.4s
GYA LR LR
comp=Z,540nm,16.5s
GYA LR LR
comp=Z,470nm,15.0s
GYA LR LR
comp=Z,550nm,17.2s
CD2 Chengdu 131.38 83 PKP **PKPdf 07 58 29.4 +0.4**
CBB Campbell River 132.23 305 IAMs_20 IAMs_20 08 51 29.1
comp=Z,803nm,22.0s
GTA Gaotai 132.59 71 PKP **PKPdf 07 58 31.3 +0.2**
GTA LR LR
comp=Z,250nm,21.8s
GTA LR LR
comp=Z,680nm,21.4s
GTA LR LR
comp=Z,710nm,23.3s
NRIK Noril'sk 133.82 29 PKP **PKPdf 07 58 31.8 -0.6**
comp=Z,1.8nm,0.6s,baz=245,slow=5.9,SNR=6.7
LZH Lanzhou 133.98 77 *e*PKP **PKPdf 07 58 34.2 +0.3**
LZH PP **PP 08 01 07.4 +2.6**
LZH PKS **PKSdf 08 02 05.2 -5.2**
LZH SKKS 08 08 02.7
LZH LR LR
comp=Z,440nm,16.1s
LZH LR LR
comp=Z,430nm,15.1s
LZH LR LR
comp=Z,400nm,15.8s
C36M Paulatuk 135.31 331 IAMs_20 IAMs_20 09 08 28.3
comp=Z,879nm,21.0s
WTLY Watson Lake, Y 136.55 318 IAMs_20 IAMs_20 09 07 56.8
comp=E,707nm,20.0s
XAN Xi'an 136.72 82 PKP **PKPdf 07 58 39.3 +0.4**
XAN PP **PP 08 01 20.0 -2.0**
XAN PKS **PKSdf 08 02 13.8 -1.4**
XAN SS SS 08 19 25.3 -0.6
XAN LR LR
comp=E,320nm,22.4s
XAN LR LR
comp=E,890nm,19.0s
XAN LR LR
comp=E,1μm,18.6s
R33M Jennings River 137.55 317 IAMs_20 IAMs_20 08 54 54.3
comp=Z,778nm,22.0s
P33M Teslin, Yukon 138.56 318 IAMs_20 IAMs_20 08 55 01.9
comp=Z,719nm,21.0s
ZAK Zakamensk 138.61 57 *e*PKHKP PKPpre 07 58 32.1
ZAK pmax pmax
comp=Z,7.0nm,1.3s
H31M Peel River 139.30 326 IAMs_20 IAMs_20 08 57 23.9
comp=Z,776nm,20.0s
M31M Drury Creek, Y 139.41 321 IAMs_20 IAMs_20 09 09 03.1
comp=Z,801nm,21.0s
LYN LuoYang 139.56 84 PKP **PKPdf 07 58 44.0 -0.1**
LYN PP PP 08 01 47.6 +8.1
LYN LR LR
comp=Z,510nm,21.0s
LYN LR LR
comp=Z,530nm,16.5s
LYN LR LR
comp=Z,1μm,16.1s
SONM Songino Array 139.98 62 PKP **PKPdf 07 58 43.7 -0.9**
comp=Z,3.3nm,1.0s,baz=209,slow=2.6,SNR=14
N31M Braeburn, Yuko 140.06 319 IAMs_20 IAMs_20 08 54 12.5
comp=Z,879nm,22.0s
MAYO Mayo, Yukon 140.07 323 IAMs_20 IAMs_20 09 04 57.6
comp=Z,684nm,20.0s
I30M Mount Dempster 140.18 325 IAMs_20 IAMs_20 09 11 07.4
comp=Z,738nm,20.0s
EPYK Eagle Plains 140.21 327 IAMs_20 IAMs_20 08 58 32.0
comp=Z,711nm,20.0s
BTO Baotou 140.26 74 *e*PKP **PKPdf 07 58 44.9 -0.4**
BTO PP PP 08 01 52.2 +8.3
BTO LR LR
comp=Z,980nm,13.6s
BTO LR LR
comp=Z,1μm,16.6s
BTO LR LR
comp=Z,2μm,21.2s
E29M Blow River 140.37 330 IAMs_20 IAMs_20 08 55 16.0
comp=Z,748nm,21.0s
ULN Ulaanbaatar 140.42 62 *de*PKIKP **PKPdf 07 58 44.4 -1.0**
M30M Minto, Yukon 140.52 321 IAMs_20 IAMs_20 08 56 16.6
comp=Z,695nm,20.0s
G29M Pine Creek 140.66 328 IAMs_20 IAMs_20 09 04 03.6
comp=Z,777nm,21.0s
E28M Babbage River 140.92 331 IAMs_20 IAMs_20 08 55 45.5
comp=Z,723nm,20.0s
F28M Old Crow 141.25 329 IAMs_20 IAMs_20 09 06 47.2
comp=Z,890nm,22.0s
D27M Malcolm River 141.28 332 IAMs_20 IAMs_20 08 56 04.9
comp=Z,667nm,22.0s
HHC Hu-ho-hao-te 141.44 74 *e*PKP **PKPdf 07 58 42.9 -4.5**
DAWY Dawson 141.59 324 IAMs_20 IAMs_20 09 11 54.6
comp=Z,719nm,22.0s
I28M Miner Creek 141.64 326 IAMs_20 IAMs_20 09 09 15.8
comp=Z,776nm,20.0s
E27K Coleen River 141.76 331 IAMs_20 IAMs_20 09 14 22.6
comp=Z,644nm,21.0s
G27K Doyon Strip 142.09 328 IAMs_20 IAMs_20 08 59 16.6
comp=Z,733nm,20.0s
C27K Jago River 142.11 333 IAMs_20 IAMs_20 08 55 01.7
comp=Z,817nm,22.0s
EGAK Eagle 142.25 325 IAMs_20 IAMs_20 09 01 12.1
comp=Z,741nm,20.0s
HNS HongShan 142.42 81 ⇑PKP **PKPdf 07 58 44.2 -4.9**
HNS PP **PP 08 02 04.4 +7.5**
HNS SS SS 08 20 27.1 -5.6
HNS LR LR
comp=Z,630nm,19.6s
HNS LR LR
comp=Z,650nm,21.8s
CTGM Chitina Glacie 142.76 319 IAMs_20 IAMs_20 09 11 41.0
comp=Z,720nm,20.0s
K27K Chicken 142.76 324 IAMs_20 IAMs_20 08 59 47.5
comp=Z,802nm,20.0s
F26K Sheenjek River 142.82 330 IAMs_20 IAMs_20 08 55 23.8
comp=Z,654nm,21.0s
M27K Edge Creek, AK 142.90 321 IAMs_20 IAMs_20 09 09 39.3
comp=Z,809nm,21.0s
I26K Coal Creek Min 142.99 326 IAMs_20 IAMs_20 08 58 58.5
comp=Z,663nm,20.0s
NJ2 Nanjing 143.08 91 *e*PKP **PKPdf 07 58 50.8 +0.3**
D25K Kavik River 143.10 333 IAMs_20 IAMs_20 08 55 29.8
comp=Z,731nm,22.0s
E25K Arctic Village 143.21 331 IAMs_20 IAMs_20 08 55 28.0
comp=Z,716nm,21.0s
J26L Joseph Creek 143.32 325 IAMs_20 IAMs_20 09 02 02.3
comp=Z,773nm,21.0s
F25K Christian Rive 143.40 330 IAMs_20 IAMs_20 09 08 07.1
comp=Z,790nm,20.0s
FYU Fort Yukon 143.53 329 IAMs_20 IAMs_20 09 10 24.5
comp=Z,764nm,19.0s
MENT Mentasta 143.66 322 IAMs_20 IAMs_20 09 16 13.3
comp=Z,783nm,21.0s
TIA Tai'an 143.70 84 PKP PKPab 07 58 47.8 -0.4
GLB Gilahina Butte 143.91 320 IAMs_20 IAMs_20 08 59 58.3
comp=Z,871nm,22.0s
PRP Porcupine Dome 143.91 327 IAMs_20 IAMs_20 09 10 38.8
comp=Z,674nm,20.0s
D24K Happy Valley 143.97 333 IAMs_20 IAMs_20 09 09 42.0
comp=Z,748nm,21.0s
J25K Salcha River, 144.06 325 IAMs_20 IAMs_20 09 01 19.9
comp=Z,879nm,22.0s
F24K Squaw Lake 144.24 331 IAMs_20 IAMs_20 09 15 58.1
comp=Z,756nm,21.0s
E24K Your Creek 144.26 332 PKPbc 07 58 50.0 +0.2
E24K IAMs_20 IAMs_20 08 56 02.6
comp=Z,858nm,22.0s
C23K Itkillik River 144.27 335 PKPdf PKPbc 07 58 49.8 +0.2
G24K Hadweenzic Riv 144.35 329 IAMs_20 IAMs_20 09 11 32.3
comp=Z,685nm,22.0s
BJI Beijing 144.46 78 PKP PKPbc 07 58 51.1 -0.1
BJI pPKP pPKPdf 07 58 55.1 +0.1
IL31 144.66 326 **PKPab 07 58 50.8 -0.1**
ILAR Eielson Array 144.66 326 PKP **PKPab 07 58 50.4 -0.5**
comp=Z,32nm,1.1s,baz=62,slow=1.8,SNR=135
ILAR PKKPab 08 06 36.9
comp=Z,2.3nm,1.0s,baz=124,slow=1.6,SNR=12
D23K Nanushuk River 144.66 334 IAMs_20 IAMs_20 09 01 33.1
comp=Z,713nm,19.0s
E23K Chandalar 144.66 332 IAMs_20 IAMs_20 09 09 23.2
comp=Z,770nm,21.0s
H24K Noodor Dome 144.76 328 IAMs_20 IAMs_20 09 01 11.2
comp=Z,714nm,21.0s
POKR Poker Plat Res 144.79 327 IAMs_20 IAMs_20 09 09 17.0
comp=Z,764nm,20.0s
KLU Klutina 144.91 320 **PKPab 07 58 52.0 0.0**
COLA College 145.03 326 *d i*PKIKP **PKPbc 07 58 51.5 -0.7**
COLA MLR MLR
comp=Z,658nm,20.0s
CCB Clear Creek Bu 145.07 326 IAMs_20 IAMs_20 09 03 40.4
comp=Z,733nm,20.0s
WRH Wood River Hil 145.24 326 **PKPbc 07 58 52.5 -0.4**
CIT Chita 145.24 57 *e*PKIKP **PKPbc 07 58 53.4 0.0**
CIT *e* 07 58 59.6
CIT pmax pmax
comp=Z,357nm,1.9s
G23K Bananza Creek 145.30 330 **PKPab 07 58 53.2 -0.1**
G23K IAMs_20 IAMs_20 09 11 12.2
comp=Z,684nm,19.0s
E22K Anaktuvuk Pass 145.38 333 IAMs_20 IAMs_20 09 16 59.3
comp=Z,647nm,21.0s
H23K Yukon River 145.42 328 **PKPab 07 58 53.8 0.0**
H23K IAMs_20 IAMs_20 09 01 32.5
comp=Z,717nm,22.0s
BOD Bodaibo 145.52 46 *e*PKP2 **PKPdf 07 58 52.5 -1.4**
BOD pmax pmax
comp=Z,160nm,1.5s
XLT XiLinHaoTe 145.55 71 *e*PKPbc **PKPab 07 58 55.5 +0.5**
XLT LR LR
comp=Z,510nm,17.2s
XLT LR LR
comp=Z,640nm,20.2s
B21K Ikpikpuk River 145.60 336 IAMs_20 IAMs_20 09 10 12.0
comp=Z,813nm,21.0s
MLY Manley 146.15 327 IAMs_20 IAMs_20 09 02 53.0
comp=Z,640nm,22.0s
TIXI Tiksi 146.21 19 ⇑*e*PKP2 **PKPdf 07 58 55.1 +0.5**
TIXI pmax pmax
comp=Z,69nm,2.5s
F21K Alatna River 146.35 332 IAMs_20 IAMs_20 08 55 37.1
comp=Z,712nm,22.0s
PMR Palmer 146.40 321 IAMs_20 IAMs_20 09 06 48.8
comp=Z,844nm,22.0s
I21K Tanana 146.60 328 IAMs_20 IAMs_20 09 03 08.6
comp=Z,761nm,20.0s
G21K Allakaket 146.66 330 IAMs_20 IAMs_20 09 12 15.1
comp=Z,733nm,22.0s
H21K Melozitna Rive 146.74 329 IAMs_20 IAMs_20 09 06 21.3
comp=Z,700nm,22.0s
RC01 Rabbit Creek A 146.79 320 **PKPbc 07 58 57.7 -0.1**
IMAR Indian Mountai 146.97 330 PKPdf **PKPdf 07 58 56.8 +0.7**
F20K Avaraart Lake 147.21 332 IAMs_20 IAMs_20 09 13 56.7
comp=Z,796nm,22.0s
E19K Redstone River 147.53 333 IAMs_20 IAMs_20 09 18 04.9
comp=Z,782nm,22.0s
I20K Naaghedeneel 147.72 328 IAMs_20 IAMs_20 09 00 25.4
comp=Z,724nm,21.0s
J20K Nowinta River 147.83 327 IAMs_20 IAMs_20 09 03 25.3
comp=Z,713nm,21.0s
DL2 Dalian 148.04 82 PKPbc **PKPbc 07 59 01.8 -0.1**
DL2 LR LR
comp=Z,1μm,17.5s
DL2 LR LR
comp=Z,2μm,18.0s
DL2 LR LR
comp=Z,1μm,16.9s
E18K Tukpahlearik C 148.64 334 IAMs_20 IAMs_20 08 57 19.4
comp=Z,826nm,22.0s
HIA Hailar 148.95 62 IAMs_20 IAMs_20 09 06 36.2
comp=Z,722nm,20.0s
J18K Innoko River 149.16 326 IAMs_20 IAMs_20 09 04 26.4
comp=Z,693nm,21.0s
C16K Lisburne Hills 149.53 338 IAMs_20 IAMs_20 09 13 12.7
comp=Z,597nm,21.0s
H17K Granite Mounta 149.74 330 IAMs_20 IAMs_20 09 03 43.5
comp=Z,710nm,20.0s
YAK Yakutsk 151.96 34 IAMs_20 IAMs_20 09 14 46.5
comp=Z,725nm,20.0s
YAK Yakutsk 151.96 34 *e*PKIKP **PKPbc 07 59 10.0 -0.6**
YAK pmax pmax
comp=Z,29nm,1.4s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,8.0nm,1.5s
CN2 Changchun 152.13 74 *e*P **PKPbc 07 59 11.6 -0.1**
CN2 pmax pmax
comp=Z,30nm,1.2s
KSRS Korea Array 152.15 88 PKPbc **PKPbc 07 59 11.7 -0.2**
comp=Z,4.8nm,0.8s,baz=254,slow=2.3,SNR=10
HEH HeiHe 153.94 60 *e*PKPbc **PKPdf 07 59 06.4 -1.0**
BILL Bilibino 154.45 358 ⇑*e*PKIKP **PKPdf 07 59 07.2 -0.4**
MJAR Matsushiro Arr 159.37 98 PKP **PKPdf 07 59 14.0 -0.9**
comp=Z,4.3nm,1.1s,baz=254,slow=1.9,SNR=7.8
MJAR PKPab **PKPab 07 59 52.3 -0.4**
comp=Z,20nm,1.2s,baz=242,slow=3.2,SNR=14

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*SJA **09** 07:44:50.4±0.6, 22.°69S×67.°63W, h183km±5km, ML3.5, MW3.5*
*NEIC **09** 07:44:51.7±2.1, 22.°72S±0.°07×67.°7W±0.°1, h170km±8km, mb4.5/6, Error ellipse: s-maj=19.2km s-min=9.6km az=104.0*
*SCB **09** 07:44:53.2±1.5, 22.°69S×67.°64W, h140km±21km, ML3.5/3, MW4.0, Error ellipse: s-maj=8.6km s-min=5.1km az=0.0*
*GUC **09** 07:44:53.0±0.7, 22.°68S×67.°69W, h168km±5km, ML3.8*
ISC 09 07:44:51.4±0.7, 22.°70S±0.°03×67.°68W±0.°03, h175km±6km, n81, σ1°906/105, mb4.5/3, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**0.53**	**241**		**Pn**	**07 45 15.6**	**-0.5**
AF01	**San Pedro de A**	**0.53**	**241**	*e*P	**Pn**	**07 45 16.3**	**+0.2**
AF01				*i* S	**Sn**	**07 45 34.5**	**-0.6**
AF01	**San Pedro de A**	**0.53**	**241**	*e*P	**Pn**	**07 45 15.8**	**-0.3**
AF01				IAML		07 45 49.0	
comp=Z,326nm,0.6s							
LVC	**Limon Verde**	**1.14**	**274**	Pn	**Pn**	**07 45 20.1**	**-0.1**
LVC	**Limon Verde**	**1.14**	**274**	*e*P	**Pn**	**07 45 19.9**	**-0.3**
LVC				*i* S	**Sn**	**07 45 41.2**	**-1.1**
LVC				IAML		07 45 42.6	
comp=Z,948nm,0.4s							
LVC	**Limon Verde**	**1.14**	**274**	*e*P	**Pn**	**07 45 20.4**	**+0.2**
PB09	**IPOC Station P**	**1.70**	**301**		**Pn**	**07 45 25.4**	**+0.2**
PB09	**IPOC Station P**	**1.70**	**301**	*e*P	**Pn**	**07 45 26.1**	**+0.8**
PB09				*i* S	**Sn**	**07 45 51.2**	**-0.1**
PB09	**IPOC Station P**	**1.70**	**301**	*e*P	**Pn**	**07 45 26.0**	**+0.8**
PB09				*e*S	**Sn**	**07 45 53.7**	**+2.4**
PB09				IAML		07 45 53.9	
comp=Z,106nm,0.2s							
PB09	**IPOC Station P**	**1.70**	**301**	Pg	**Pn**	**07 45 26.3**	**+1.1**
PB15	**IPOC Station P**	**1.73**	**253**		**Pn**	**07 45 26.1**	**+0.6**
PB15	**IPOC Station P**	**1.73**	**253**	*e*P	**Pn**	**07 45 26.1**	**+0.6**
PB15				*i* S	**Sn**	**07 45 51.7**	**-0.1**
PB15	**IPOC Station P**	**1.73**	**253**	*e*P	**Pn**	**07 45 26.1**	**+0.6**
PB15				*e*S	**Sn**	**07 45 52.9**	**+1.0**
PB15	**IPOC Station P**	**1.73**	**253**	Pg	**Pn**	**07 45 26.3**	**+0.8**
PB06	**IPOC Station P**	**1.75**	**269**	Pn	**Pn**	**07 45 25.8**	**+0.1**
PB06	**IPOC Station P**	**1.75**	**269**	*e*P	**Pn**	**07 45 26.0**	**+0.3**
PB06				*i* S	**Sn**	**07 45 51.5**	**-0.6**
PB06				IAML		07 45 55.5	
comp=E,345nm,0.4s							
PB06	**IPOC Station P**	**1.75**	**269**	*e*P	**Pn**	**07 45 26.2**	**+0.5**
PB06				*e*S	**Sn**	**07 45 53.8**	**+1.7**
PB06				IAML		07 45 56.7	
comp=Z,191nm,0.1s							
YJA	**Yavi**	**2.07**	**76**	*e*P	**Pn**	**07 45 29.7**	**+0.3**
YJA				*e*S	**Sn**	**07 45 58.5**	**-0.2**
HJA	**Humahuaca**	**2.15**	**104**	*e*P	**Pn**	**07 45 30.6**	**+0.3**
PB04	**IPOC Station P**	**2.31**	**279**		**Pn**	**07 45 31.8**	**0.0**
PB04	**IPOC Station P**	**2.31**	**279**	*e*P	**Pn**	**07 45 32.1**	**+0.2**
PB04				*i* S	**Sn**	**07 46 01.6**	**-1.6**
PB04				IAML		07 46 05.4	
comp=N,495nm,0.3s							
PB04	**IPOC Station P**	**2.31**	**279**	*e*P	**Pn**	**07 45 31.7**	**-0.2**
PB04				IAML		07 46 06.9	
comp=Z,238nm,0.4s							
PB01	**IPOC Station P**	**2.35**	**314**	Pn	**Pn**	**07 45 31.8**	**-0.5**
PB01	**IPOC Station P**	**2.35**	**314**	*e*P	**Pn**	**07 45 32.4**	**+0.1**
PB01				*i* S	**Sn**	**07 46 02.7**	**-1.2**
PB01				IAML		07 46 04.4	
comp=E,469nm,0.3s							
PB01	**IPOC Station P**	**2.35**	**314**	*e*P	**Pn**	**07 45 32.4**	**+0.1**
PB01				*e*S	**Sn**	**07 46 04.2**	**+0.2**
PB01				IAML		07 46 04.5	

comp=Z,163nm,0.3s
PB01 IPOC Station P 2.35 314 Pg **Pn 07 45 32.6 +0.3**
PB01 Sg **Sn 07 46 02.4 -1.5**
PB01 IAML 07 46 03.9
comp=Z,279nm,0.2s
MOCB Mochara 2.38 53 Pg **Pn 07 45 33.4 +0.5**
MOCB Sg **Sn 07 46 03.5 -1.5**
MOCB IAML 07 46 07.6
comp=Z,112nm,0.4s
SLA San Lorenzo 2.83 136 *e*P **Pn 07 45 39.3 +1.3**
SLA *e*P 07 45 39.6
AZAP Zapla 2.84 123 *e*P **Pn 07 45 38.1 0.0**
AZAP *e*S **Sn 07 46 10.8 -3.6**
AZAP IAML 07 46 19.2
comp=Z,92nm,0.5s
PB08 IPOC Station P 2.89 331 **Pn 07 45 39.5 +0.5**
PB08 IPOC Station P 2.89 331 *e*P **Pn 07 45 39.9 +1.0**
PB08 *i* S **Sn 07 46 15.7 -0.1**
PB08 IAML 07 46 19.4
comp=E,244nm,0.4s
PB08 IPOC Station P 2.89 331 *e*P **Pn 07 45 39.6 +0.7**
PB08 *e*S **Sn 07 46 16.6 +0.8**
PB08 IAML 07 46 18.6
comp=Z,87nm,0.3s
PB08 IPOC Station P 2.89 331 Pg **Pn 07 45 40.3 +1.3**
PB08 Sg **Sn 07 46 15.4 -0.5**
PB08 IAML 07 46 17.5
comp=Z,139nm,0.2s
PATCX Punta Patache 2.96 309 **Pn 07 45 38.9 -0.6**
AOVT TarijaAcel 2.99 68 Pg **Pn 07 45 40.2 +0.2**
GO02 Mina Guanaco 3.01 215 Pn **Pn 07 45 40.8 +0.5**
GO02 Mina Guanaco 3.01 215 *e*P **Pn 07 45 41.0 +0.7**
GO02 *e*S **Sn 07 46 18.2 -0.2**
TA01 Diego Aracena 3.15 312 **Pn 07 45 40.5 -1.2**
TA01 Diego Aracena 3.15 312 *e*P **Pn 07 45 41.1 -0.6**
TA01 *i* S **Sn 07 46 18.8 -2.1**
TA01 Diego Aracena 3.15 312 *e*P **Pn 07 45 40.9 -0.8**
TA01 IAML 07 46 22.6
comp=Z,75nm,0.3s
PB14 IPOC Station P 3.15 232 Pn **Pn 07 45 41.8 -0.2**
PB14 IPOC Station P 3.15 232 *e*P **Pn 07 45 41.4 -0.6**
PB14 *i* S **Sn 07 46 19.6 -1.8**
PB14 IPOC Station P 3.15 232 *e*P **Pn 07 45 42.4 +0.3**
PB14 *e*S **Sn 07 46 20.0 -1.5**
PB14 IAML 07 46 22.1
comp=Z,118nm,0.2s
HMBC Humberstone 3.17 319 **Pn 07 45 40.6 -1.4**
HMBC Humberstone 3.17 319 *e*P **Pn 07 45 41.1 -0.9**
TA02 Huaiquique 3.32 316 **Pn 07 45 42.3 -1.6**
TA02 Huaiquique 3.32 316 *e*S **Sn 07 46 24.0 -0.7**
TA02 IAML 07 46 28.6
comp=Z,85nm,0.1s
GO01 Chusmiza 3.33 335 **Pn 07 45 44.7 +0.3**
GO01 Chusmiza 3.33 335 *e*P **Pn 07 45 44.8 +0.3**
GO01 *i* S **Sn 07 46 24.1 -1.6**
GO01 Chusmiza 3.33 335 *e*P **Pn 07 45 44.7 +0.3**
GO01 *e*S **Sn 07 46 27.1 +1.5**
GO01 Chusmiza 3.33 335 Pg **Pn 07 45 45.0 +0.5**
PB11 IPOC Station P 3.46 327 Pn **Pn 07 45 44.6 -1.2**
PB11 IPOC Station P 3.46 327 *e*P **Pn 07 45 45.1 -0.6**
PB11 *i* S **Sn 07 46 25.7 -2.3**
PB11 IPOC Station P 3.46 327 *e*P **Pn 07 45 44.9 -0.9**
PB11 *e*S **Sn 07 46 26.5 -1.5**
PB11 IAML 07 46 27.5
comp=Z,94nm,0.7s
ALOL LOMAS DE OLMED 3.58 109 *e*P **Pn 07 45 46.8 -0.2**
FSA Cafayete 3.73 156 *e*P **Pn 07 45 50.4 +1.2**
SOEO Opoqueri 4.12 357 Pg **Pn 07 45 56.3 +1.9**
AC01 Pan de Azucar 4.34 217 Pn **Pn 07 45 55.8 -1.1**
AC01 Pan de Azucar 4.34 217 *e*P **Pn 07 45 56.5 -0.4**
AC01 *e*S Sn 07 46 35.0 -13
AC01 IAML 07 46 46.4
comp=Z,45nm,0.2s
AHML Horco Molle 4.59 153 *e*P **Pn 07 46 01.7 +1.7**
AHML *e*S Sn 07 47 10.2 +16
AHML IAML 07 47 16.4
comp=Z,37nm,1.6s
SOTI Planta Incahua 4.71 53 Pg **Pn 07 46 02.1 +0.3**
AOEA Aiquile 5.04 27 Pg **Pn 07 46 06.5 +0.3**
GO03 Copiapo 5.40 205 Pn **Pn 07 46 09.4 -1.1**
BBOD La Paz, Gloria 6.09 352 Pg **Pn 07 46 22.2 +2.0**
LPAZ La Paz 6.39 356 Pn **Pn 07 46 24.7 +0.5**
LPAZ La Paz 6.39 356 Pg **Pn 07 46 25.9 +1.7**
AC05 El Transito 6.54 200 Pn **Pn 07 46 24.2 -1.5**
LCO Las Campanas 6.85 203 Pn **Pn 07 46 28.0 -1.9**
MT02 Curacav 10.96 195 Pn **Pn 07 47 21.7 -1.8**
VILB Vilhena 12.02 38 Pn **Pn 07 47 36.1 -1.3**
ITAB Concordia 14.80 111 **P 07 48 14.0 +0.2**
TRQA Tornquist 16.07 164 **P 07 48 28.4 +0.6**
TRQA IAmb IAmb 07 48 33.6
comp=Z,24nm,1.4s
VAO Valinhos 19.09 95 P **P 07 49 01.0 0.0**
BDFB Brasilia 19.84 73 P **P 07 49 09.5 +0.3**
BDFB IAmb IAmb 07 49 34.9
comp=Z,20nm,1.4s
PMSA Palmer Station 42.13 178 P **P 07 52 26.5 +0.4**
PMSA IAmb IAmb 07 52 27.4
comp=Z,14nm,0.8s
VNA2 Neumayer--Watz 59.15 161 ⇑P P 07 54 41.1 +7.8
comp=Z,0.6nm,0.4s,baz=326,slow=9.9
TROLL Troll, Antarti 62.49 161 ⇑P P 07 55 02.3 +6.3
comp=Z,77nm,0.8s
QSPA South Pole Qui 67.50 180 P **P 07 55 30.1 +1.7**
QSPA IAmb IAmb 07 55 45.6
comp=Z,9.6nm,1.1s
WMQ Urumqi 150.73 38 *e*PKPbc **PKPdf 08 04 18.0 +0.7**
WMQ LR LR
comp=N,880nm,18.5s
WMQ LR LR
comp=E,1μm,19.5s
WMQ LR LR
comp=Z,820nm,17.3s
HHC Hu-ho-hao-te 161.89 2 *e*P **PKPdf 08 04 32.1 +0.2**
PZH PanZhiHua 169.66 66 PKP **PKPdf 08 04 37.5 -1.2**

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*AEIC **09** 07:45:27.1±3.3, 56°.45N±0°.05×168°.76W±0°.08, h10km±6km, Error ellipse: s-maj=9.3km s-min=4.1km az=216.0*
NEIC 09 07:45:27.0±2.2, 56°.58N±0°.04×168°.64W±0°.07, h10km±1km, ML3.3(AEIC), **Error ellipse: s-maj=7.5km s-min=4.8km az=46.0, Pribilof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P08K	**Saint George I**	**0.50**	**273**		Pg	07 45 37.0	+0.2
P08K					Sb	07 45 44.8	-0.4
SPIA	**Saint Paul Isl**	**1.07**	**305**		Pg	07 45 47.1	-0.4
SPIA					Sn	07 46 02.8	-0.1
AKGG	**Akutan Green G**	**2.82**	**147**		Pn	07 46 12.0	-0.2
LVA	**Lava Point**	**2.84**	**147**	Pn	Pn	07 46 11.6	-0.8
MTBL	**Makushin Table**	**2.85**	**156**		Pn	07 46 11.7	-0.9
AKRB	**Akutan Reef Bi**	**2.86**	**148**		Pn	07 46 12.5	-0.2
MSW	**Makushin Switc**	**2.87**	**157**		Pn	07 46 12.1	-0.8
MAPS	**Pakushin South**	**2.94**	**160**		Pn	07 46 12.6	-1.2
UNV	**Unalaska Valle**	**3.00**	**155**		Pn	07 46 13.3	-1.2
UNV					Sn	07 46 50.5	0.0
S12K	**Black Hills**	**3.79**	**101**	Pn	Pn	07 46 24.5	-0.9
PN7A	**Pavlof North-7**	**3.90**	**104**		Pn	07 46 28.1	+1.1
M11K	**Mekoryuk**	**4.03**	**18**		Pn	07 46 28.1	-0.5
M13K	**Dall Lake**	**4.74**	**34**	Pn	Pn	07 46 38.0	-0.5
O14K	**Tigyukauivet M**	**4.76**	**53**	Pn	Pn	07 46 38.3	-0.5
M14K	**Bethel**	**5.45**	**37**	Pn	Pn	07 46 47.0	-1.1
ATKA	**Atka Island**	**5.45**	**219**	Pn	Pn	07 46 48.6	+0.4
CHGN	**Chignik**	**5.68**	**89**	Pn	Pn	07 46 51.6	+0.2
L14K	**Kuka Creek**	**5.68**	**30**	Pn	Pn	07 46 50.3	-1.1
K13K	**Kusilvak Mount**	**5.75**	**19**	Pn	Pn	07 46 54.0	+1.7
N15K	**Kwethluk River**	**5.76**	**48**	Pn	Pn	07 46 51.6	-0.9
O16K	**Kokwok River B**	**6.36**	**57**	Pn	Pn	07 47 00.6	-0.1
J14K	**Nanvaranak Lak**	**6.70**	**20**	Pn	Pn	07 47 06.2	+0.8
M16K	**Timber Creek**	**6.72**	**44**	Pn	Pn	07 47 07.3	+1.8
PLK4	**Peulik 4**	**6.78**	**76**	Pn	Pn	07 47 07.1	+0.6
K15K	**Wolf Creek Mou**	**6.78**	**29**	Pn	Pn	07 47 07.4	+0.9
L16K	**Owhat River**	**6.98**	**39**	Pn	Pn	07 47 08.4	-0.7
ACHA	**Angle Creek He**	**7.38**	**72**	Pn	Pn	07 47 13.5	-1.3
M17K	**Holitna River**	**7.54**	**45**	Pn	Pn	07 47 17.4	+0.5
O18K	**Koktuh Hills**	**7.81**	**60**	Pn	Pn	07 47 21.1	+0.4
K17K	**Iditarod**	**8.07**	**36**	Pn	Pn	07 47 25.7	+1.5
L18K	**Granite Mounta**	**8.31**	**42**	Pn	Pn	07 47 29.2	+1.8
N19K	**Bonanza Creek**	**8.50**	**54**	Pn	Pn	07 47 30.0	-0.1
ILSW	**Iliamna Southw**	**8.85**	**61**	Pn	Pn	07 47 35.2	+0.3
L19K	**White Mountain**	**8.99**	**46**	Pn	Pn	07 47 37.2	+0.4
M19K	**Big River Lodg**	**9.03**	**48**	Pn	Pn	07 47 39.4	+2.0
M20K	**Styx River**	**9.55**	**50**	Pn	Pn	07 47 44.8	+0.3
K20K	**Telida**	**9.96**	**41**	Pn	Pn	07 47 50.0	0.0
J20K	**Nowinta River**	**10.44**	**37**	Pn	Pn	07 47 57.3	+0.7
IL31		**13.39**	**43**	Pn	Pn	07 48 32.9	-3.8
ILAR	**Eielson Array**	**13.39**	**43**	Pn	Pn	07 48 33.4	-3.5

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*MOS **09** 07:54:50.8±0.8, 42°.70S×16°.02W, h10km, mb5.6/32, MS5.3/6, Error ellipse: s-maj=11.5km s-min=9.8km az=57.9*
*IDC **09** 07:54:50.4±0.4, 42°.66S×16°.01W, h0km, mb4.8/25, mbtmp4.8/25, MS5.3/34, Error ellipse: s-maj=15.5km s-min=10.5km az=1.0*
*NEIC **09** 07:54:52.7, 42°.69S×16°.03W, h12km, Moment Tensor Solution. Duration: 3#4 Moment tensor: Scale 10^{17}Nm; M_{rr}=3.02; $M_{\theta\theta}$=0.52; $M_{\phi\phi}$=3.53; $M_{r\theta}$=3.09; $M_{\theta\phi}$=-0.75; $M_{\phi r}$=1.35; Fault plane solution: M_0=4.72000×10^{17} NP1: ϕ_s=317.88000°, δ=68.07000°, λ=-119.39000°. NP2: ϕ_s=194.34000°, δ=36.07000°, λ=-39.36000°. Principal axes: T 4.2825, Plg18.0000°, Azm69.0000°; N 0.8773, Plg27.0000°, Azm330.0000°; P -5.1598, Plg57.0000°, Azm189.0000°;*
*NEIC **09** 07:54:52.6±1.7, 42°.71S±0°.09×16°.0W±0°.1, h10km±1km, mb5.5/112, Ms_20 5.5/177, Mww5.7/17 Error ellipse: s-maj=16.3km s-min=14.3km az=128.0*
*NEIC **09** 07:54:52.7, 42°.69S×16°.03W, h12km*
*GCMT **09** 07:54:54.6±0.1, 42°.91S±0°.01×15°.95W±0°.01, h12km, MW5.7/164, Moment Tensor Solution. s107,c163; s164,c360; Duration: 1#7 Moment tensor: Scale 10^{17} Nm; M_{rr}=4.28±.04; $M_{\theta\theta}$=0.32±.04; $M_{\phi\phi}$=3.96±.04; $M_{r\theta}$=0.87±.17; $M_{\theta\phi}$=0.78±.04; $M_{\phi r}$=0.39±.13; Best double couple: M_0=4.30200×10^{17} NP1:ϕ_s=159.00000°, δ=50.00000°, λ=-102.00000°. NP2:ϕ_s=358.00000°, δ=42.00000°, λ=-76.00000°. Principal axes: T 4.1580, Plg4.0000°, Azm258.0000°; N 0.2910, Plg9.0000°, Azm167.0000°; P -4.4460, Plg80.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **09** 07:54:54.2, 42°.70S×16°.00W, h20km, mB5.8/21, Ms5.8/54, Ms7 5.6/54*
ISC 09 07:54:52.4±0.2, 42°.61S±0°.05×16°.05W±0°.05, h10km, n848, σ1#41/808, mb5.4/141, MS5.5/143, 20C-13D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**6.23**	**29**	Pn	**Pn**	**07 56 26.3**	**+1.9**
HOPE	**Hope Point**	**17.82**	**222**		**Pn**	**07 58 59.0**	**-1.2**
HOPE	**Hope Point**	**17.82**	**222**	P	**Pn**	**07 58 59.0**	**-1.2**
HOPE				pmax	pmax		
comp=Z,351nm,1.8s
ORCD Orcadas 25.08 214 IAMs_20 IAMs_20 08 07 10.1
comp=Z,17μm,19.0s
SHEL Horse Pasture 27.99 22 P **P 08 00 41.9 -1.6**
SHEL Horse Pasture 27.99 22 P **P 08 00 41.9 -1.6**
VNA1 Neumayer--Stat 28.39 175 ⇑P **P 08 00 46.3 -0.1**
comp=Z,21nm,1.0s
VNA2 Neumayer--Watz 28.72 174 ⇑P **P 08 00 48.7 -0.7**
comp=Z,7.8nm,0.6s,baz=344,slow=9.3
VNA3 Neumayer Olymp 28.89 176 ⇑P **P 08 00 49.7 -1.2**
comp=Z,22nm,0.9s
EFI East Falkland 29.62 237 IAMs_20 IAMs_20 08 10 06.2
comp=Z,15μm,22.0s
EFI East Falkland 29.62 237⇑*e*P **P 08 00 54.9 -2.7**
EFI pmax pmax
comp=Z,156nm,3.0s
SNAA Sanae 29.86 172 P **P 08 00 58.4 -1.3**
SNAA Sanae 29.86 172 *e*P **P 08 00 55.2 -4.4**
SNAA Sanae 29.86 172 ⇑P **P 08 00 58.1 -1.6**
comp=Z,102nm,1.2s
SNAA Sanae 29.86 172 P **P 08 00 58.3 -1.3**
comp=Z,9.8nm,1.1s,baz=340,slow=11,SNR=18
SNAA LR LR 08 09 51.4
comp=Z,4μm,20.9s,baz=356,slow=30
comp=Z,9.8nm,1.1s
SNAA Sanae 29.86 172*c i*P **P 08 00 59.0 -0.6**
SNAA pmax pmax
comp=Z,48nm,1.4s
SUR Sutherland 30.77 83 P **P 08 01 07.9 -0.3**
SUR IAmb IAmb 08 01 11.5
comp=Z,71nm,1.4s
SUR Sutherland 30.77 83 IAMs_20 IAMs_20 08 11 25.9
comp=Z,11μm,18.0s
SUR Sutherland 30.77 83 *e*P **P 08 01 07.3 -0.8**
SUR IAmb IAmb 08 01 14.9
comp=Z,118nm,1.6s
SUR Sutherland 30.77 83 P **P 08 01 08.5 +0.3**
comp=Z,14nm,1.0s,baz=223,slow=6.8,SNR=5.3
SUR LR LR 08 11 26.7
comp=Z,10μm,18.3s,baz=237,slow=32
comp=Z,14nm,1.0s
SUR Sutherland 30.77 83 P **P 08 01 10.0 +1.8**
SUR P **P 08 01 10.0 +1.8**
TROLL Troll, Antarti 30.84 169 ⇑P **P 08 01 08.7 +0.3**
comp=Z,2μm,0.9s
FRAZ Fraserburg 31.43 83 *e*P **P 08 01 17.0 +3.0**
FRAZ IAmb IAmb 08 01 21.2
comp=Z,123nm,1.6s
NVL N'lazarevskaya 31.50 163 *e*P **P 08 01 12.9 -1.1**
NVL *e*S **S 08 06 27.3 +5.5**
NVL pmax pmax
comp=Z,94nm,1.2s
NVL MLR MLR
comp=Z,1μm,16.0s
PLTB Pedras Altas 31.58 278 P **P 08 01 15.6 +0.4**
PLTB IAmb IAmb 08 01 18.4
comp=Z,99nm,1.5s
PLTB Pedras Altas 31.58 278 *e*P **P 08 01 17.3 +2.2**
SJMB Sao Joao De Ma 31.95 310 *e*P **P 08 01 18.9 +0.4**
CPSB Cacapava Do Su 32.17 280 *e*P **P 08 01 22.5 +2.2**
BSCB Bom Sucesso 32.30 303 *e*P **P 08 01 23.8 +2.1**
BRAK Brakfontein 32.59 84 *e*P **P 08 01 23.0 -1.1**
BRAK IAmb IAmb 08 01 31.3
comp=Z,234nm,1.7s
ROOI Rooidraai Farm 32.72 85 *e*P **P 08 01 24.7 -0.5**
ROOI IAmb IAmb 08 01 32.0
comp=Z,154nm,1.4s
GUA01 Guaratinga, BA 32.93 315 *e*P **P 08 01 28.7 +1.6**
ITAB Concordia 33.04 286 P **P 08 01 29.4 +1.5**
ITAB IAmb IAmb 08 01 33.2
comp=Z,127nm,1.8s
ITAB Concordia 33.04 286 *e*P **P 08 01 29.5 +1.5**
UPI Upington 33.25 77 *e*P **P 08 01 29.2 -0.7**
UPI IAmb IAmb 08 01 35.0
comp=Z,1μm,4.3s
H10S2 ASCENSION HYDR 33.54 3 T T 08 37 10.1
baz=181,slow=74,SNR=83
H10S3 ASCENSION HYDR 33.54 2 T T 08 37 10.5
baz=39,slow=74,SNR=100
DIAM Diamantina, MG 33.70 307 *e*P **P 08 01 35.8 +1.9**
FRTB Fartura 33.74 294 *e*P **P 08 01 35.7 +1.5**
SOE Somerset East 34.09 87 P **P 08 01 36.7 -0.5**
SOE IAMs_20 IAMs_20 08 13 23.2
comp=Z,10μm,20.0s
GRHM Grahamstown, E 34.43 89 P **P 08 01 38.9 -1.2**
PTGB Pitanga 34.56 289 *e*P **P 08 01 42.2 +0.9**
BB19B Bebedouro 34.64 298 *e*P **P 08 01 43.6 +1.6**
H10N1 ASCENSION HYDR 34.65 3 T T 08 38 33.7
baz=179,slow=73,SNR=20
H10N3 ASCENSION HYDR 34.65 3 T T 08 38 40.6
baz=179,slow=73,SNR=103
H10N2 ASCENSION HYDR 34.67 3 T T 08 38 41.4
baz=179,slow=73,SNR=37
PMSA Palmer Station 34.80 214 P **P 08 01 41.8 -1.0**
PMSA IAmb IAmb 08 01 45.3
comp=Z,95nm,1.4s
PMSA Palmer Station 34.80 214 LR LR 08 13 19.0
comp=Z,4μm,21.9s,baz=80,slow=32
PMSA Palmer Station 34.80 214 *e*P **P 08 01 42.1 -0.8**
PSAL Palomas, Salto 34.87 275 *e*P **P 08 01 45.4 +1.6**
ITQB Itaqui 34.89 278 P **P 08 01 44.7 +0.7**
ITQB IAMs_20 IAMs_20 08 13 09.1
comp=Z,8μm,22.0s
ITQB Itaqui 34.89 278 *e*P **P 08 01 46.2 +2.3**
TRQA Tornquist 34.97 262 P **P 08 01 44.9 +0.2**
TRQA Tornquist 34.97 262 P **P 08 01 44.9 +0.2**
TRQA pmax pmax
comp=Z,64nm,1.4s
ELIB Princess Elisa 35.04 160 *d*P **P 08 01 45.0 0.0**
comp=Z,79nm,1.1s
HVD Gariep Dam 35.11 84 *e*P **P 08 01 46.5 +0.5**
HVD IAmb IAmb 08 01 53.3
comp=Z,384nm,1.5s
PMNB Patos De Minas 35.18 304 *e*P **P 08 01 48.0 +1.4**
GDU01 Guandu, BA 35.23 318 *e*P **P 08 01 47.9 +0.8**
MG01 Puerto William 35.35 231 IAMs_20 IAMs_20 08 14 15.9
comp=Z,6μm,20.0s
USHA Ushuaia 35.82 232 LR LR 08 14 52.3
comp=Z,6μm,20.8s,baz=79,slow=34
BOSA Boshof 36.01 81 P **P 08 01 53.3 -0.5**
BOSA IAmb IAmb 08 02 00.3
comp=Z,130nm,1.3s
BOSA Boshof 36.01 81 *e*P **P 08 01 52.9 -0.9**
BOSA IAmb IAmb 08 01 60.0
comp=Z,130nm,1.3s
BOSA Boshof 36.01 81 P **P 08 01 53.1 -0.7**
comp=Z,53nm,1.1s,baz=236,slow=10,SNR=31
BOSA PcP **PcP 08 04 19.2 -1.0**
comp=Z,19nm,1.1s,baz=252,slow=4.8,SNR=5.1
BOSA LR LR 08 14 28.5
comp=Z,5μm,18.1s,baz=238,slow=33
comp=Z,53nm,1.1s
BOSA Boshof 36.01 81 P **P 08 01 53.3 -0.5**
BOSA pmax pmax
comp=Z,130nm,1.3s
BELA Belgrano 2 36.18 187 P **P 08 01 53.7 -0.9**
BELA IAmb IAmb 08 02 02.2
comp=Z,100nm,1.3s
JANB Januaria 36.64 310 *e*P **P 08 02 01.0 +1.8**
IPMB Ipameri, GO 36.70 302 *e*P **P 08 02 01.8 +2.2**
TSUM Tsumeb 36.73 61 P **P 08 01 58.7 -1.3**
TSUM IAmb IAmb 08 02 06.3
comp=Z,169nm,2.0s
TSUM Tsumeb 36.73 61 *e*P **P 08 01 58.3 -1.8**
TSUM IAmb IAmb 08 02 06.0
comp=Z,173nm,2.0s
NBLA Lagarto - SE 36.76 323 *e*P **P 08 02 02.0 +1.9**
ITRB Iturama 36.81 298 *e*P **P 08 02 02.8 +2.2**
SWZ Schweizer 36.88 79 *e*P **P 08 02 00.9 -0.4**
SWZ IAmb IAmb 08 02 07.4
comp=Z,198nm,1.7s
SMAI San Martin Ant 36.94 209 P **P 08 02 01.0 -0.1**
MG03 Isla Dawson 37.07 233 IAMs_20 IAMs_20 08 18 10.4
comp=Z,6μm,18.0s
SJPY San Joaquin 37.23 285 *e*P **P 08 02 05.7 +1.6**
NBAN Anadia - AL 37.29 326 *e*P **P 08 02 05.3 +0.7**
CPUP Villa Florida 37.30 282 P **P 08 02 05.0 +0.3**
CPUP Villa Florida 37.30 282 P **P 08 02 05.5 +0.9**
comp=Z,33nm,1.0s,baz=115,slow=9.9,SNR=22
CPUP PcP **PcP 08 04 23.1 -0.8**
comp=Z,6.3nm,1.0s,baz=146,slow=5.7,SNR=3.3
CPUP LR LR 08 16 12.0
comp=Z,5μm,18.6s,baz=132,slow=34
comp=Z,33nm,1.0s
CPUP Villa Florida 37.30 282 *e*P **P 08 02 06.0 +1.3**
AMBA Amambai (Brazi 37.75 289 *e*P **P 08 02 10.6 +2.0**
BDFB Brasilia 38.36 305 P **P 08 02 14.9 +1.1**
BDFB Brasilia 38.36 305 P **P 08 02 14.0 +0.2**
comp=Z,5.2nm,0.8s,baz=120,slow=8.5,SNR=4.7
BDFB LR LR 08 14 52.6
comp=Z,4μm,21.9s,baz=140,slow=31
comp=Z,5.2nm,0.8s
BDFB Brasilia 38.36 305 P **P 08 02 14.9 +1.1**
BDFB pmax pmax
comp=Z,76nm,1.4s
LBTB Lobatse 38.36 76 P **P 08 02 12.7 -1.1**
LBTB IAmb IAmb 08 02 20.5
comp=Z,131nm,1.5s
LBTB Lobatse 38.36 76 *e*P **P 08 02 13.8 0.0**
LBTB IAmb IAmb 08 02 20.2
comp=Z,183nm,1.6s
LBTB Lobatse 38.36 76 P **P 08 02 13.2 -0.6**
comp=Z,29nm,1.1s,baz=228,slow=12,SNR=19
LBTB LR LR 08 14 47.9
comp=Z,10μm,21.7s,baz=230,slow=31
comp=Z,29nm,1.1s
RPRD Ribas do Rio P 38.50 293 *e*P **P 08 02 16.1 +1.3**
PRYS Parys 38.50 80 *e*P **P 08 02 14.6 -0.4**
PRYS IAmb IAmb 08 02 16.9
comp=Z,163nm,1.2s
GO09 Cerro Castillo 38.54 237 IAMs_20 IAMs_20 08 15 05.2
comp=Z,8μm,22.0s
MRCO Marico , North 38.66 78 *e*P **P 08 02 15.9 -0.3**
KDWAN Kaudwane 38.71 73 *i*P **P 08 02 17.8 +1.1**
WDLM Western Deep L 38.83 80 *e*P **P 08 02 16.9 -0.9**
WDLM IAmb IAmb 08 02 24.4
comp=Z,357nm,1.6s
QNGWA Qangwa 38.87 65 *i*P **P 08 02 17.7 -0.4**
SDBA SAO DESIDERIO 39.13 312 *e*P **P 08 02 19.2 -1.0**
GO08 Villa O'Higgin 39.23 241 P **P 08 02 20.2 -0.5**
GO08 IAMs_20 IAMs_20 08 15 17.9
comp=Z,7μm,22.0s
HRAO HartRAO 39.34 79 *e*P **P 08 02 21.6 -0.4**
CKGRV CKGRV 39.37 70 *i*P **P 08 02 22.1 -0.1**
AY03 Cochrane 39.55 243 P **P 08 02 24.2 +0.9**
NYAT Nyati, Northwe 39.56 78 *e*P **P 08 02 23.4 -0.4**
NYAT IAmb IAmb 08 02 26.2
comp=Z,149nm,1.2s
LPHEP Lephephe 39.57 75 *i*P **P 08 02 25.9 +2.0**
NHAM Northam, North 39.65 78 *e*P **P 08 02 24.1 -0.5**
NHAM IAmb IAmb 08 02 31.0
comp=Z,228nm,2.0s
COYC Coyhaique 39.66 246 P **P 08 02 24.3 0.0**
AQDB Aquidauana 39.87 291 P **P 08 02 27.4 +1.1**
AQDB IAMs_20 IAMs_20 08 15 53.7
comp=Z,5μm,21.0s
AQDB Aquidauana 39.87 291 *e*P **P 08 02 28.2 +2.0**
MTLB Matlabas, Limp 40.14 76 *e*P **P 08 02 28.0 -0.7**
MTLB IAmb IAmb 08 02 30.7
comp=Z,108nm,1.2s
PLCA Paso Flores 40.16 254 P **P 08 02 28.6 0.0**
PLCA Paso Flores 40.16 254 P **P 08 02 28.5 -0.2**
comp=Z,16nm,1.1s,baz=112,slow=8.5,SNR=12
comp=Z,16nm,1.1s
PLCA Paso Flores 40.16 254 P **P 08 02 28.6 0.0**
PLCA pmax pmax
comp=Z,56nm,1.4s
PLCA Paso Flores 40.16 254 *e*P **P 08 02 29.2 +0.6**
LL02 Futaleuf 40.23 249 IAMs_20 IAMs_20 08 16 32.7
comp=Z,8μm,20.0s
MURT Porto Murtinho 40.41 288 *e*P **P 08 02 30.6 -0.2**
BDQN Bodoquena, MS 40.61 290 *e*P **P 08 02 33.7 +1.2**
RCBR Riachuelo 40.63 329 P **P 08 02 33.7 +1.1**
RCBR Riachuelo 40.63 329 LR LR 08 14 57.6
comp=Z,1μm,21.6s,baz=156,slow=30
RCBR Riachuelo 40.63 329 P **P 08 02 33.7 +1.1**
RCBR pmax pmax
comp=Z,79nm,2.0s
RCBR Riachuelo 40.63 329 *e*P **P 08 02 33.8 +1.1**
LEPH Lephalale, Lim 40.65 77 *e*P **P 08 02 32.5 -0.3**
LEPH IAmb IAmb 08 02 38.5
comp=Z,93nm,1.2s
ARAG Araguaiana, MT 40.67 300 *e*P **P 08 02 34.1 +1.2**
MREMI Moremi 41.20 75 *i*P **P 08 02 38.1 +0.7**
WTBG Waterberg Wild 41.21 78 *e*P **P 08 02 36.7 -0.9**
WTBG IAmb IAmb 08 02 38.5
comp=Z,48nm,1.1s
GO06 Curarrehue 41.25 255 P **P 08 02 37.4 -0.3**
GO06 IAMs_20 IAMs_20 08 18 07.1
comp=Z,5μm,18.0s
LL03 Petrohue 41.32 252 IAMs_20 IAMs_20 08 17 12.9
comp=Z,8μm,20.0s
LR05 Currie 41.38 254 IAMs_20 IAMs_20 08 16 44.5
comp=Z,7μm,22.0s
LL04 Puerto Octay 41.41 253 IAMs_20 IAMs_20 08 16 54.2
comp=Z,8μm,22.0s
POGA Pongola 41.44 84 P **P 08 02 38.6 -0.6**
POGA Pongola 41.44 84 *e*P **P 08 02 38.1 -1.2**
POGA IAmb IAmb 08 02 45.9
comp=Z,80nm,1.4s
DULL Dullstroom, Mp 41.46 81 *e*P **P 08 02 40.0 +0.3**
DULL IAmb IAmb 08 02 46.6
comp=Z,105nm,1.2s
LL07 Hotel Espejo d 41.47 249 IAMs_20 IAMs_20 08 16 50.7
comp=Z,7μm,20.0s
GO07 Milladeo Hill, 41.50 249 IAMs_20 IAMs_20 08 15 54.5
comp=Z,8μm,21.0s
PANT Pantanal (Braz 41.51 292 *e*P **P 08 02 41.0 +1.1**
CRAIL Swartwater, Li 41.62 76 *e*P **P 08 02 40.0 -0.9**
CRAIL IAmb IAmb 08 02 42.0
comp=Z,3μm,1.6s
FDPY Filadelfia 41.67 285 *e*P **P 08 02 43.0 +1.9**
LL05 Los Muermos 41.98 251 IAMs_20 IAMs_20 08 17 52.1
comp=Z,5μm,20.0s
LR04 Corral 42.52 254 IAMs_20 IAMs_20 08 17 20.7

comp=Z,8µm,21.0s
HOED Hoedspruit, Li 42.58 80 *e*P **P 08 02 47.9 -0.8**
HOED IAmb IAmb 08 02 55.3
comp=Z,138nm,1.4s
BO02 Sierra Bellavi 42.78 262 P **P 08 02 49.5 -0.6**
BO02 IAMs_20 IAMs_20 08 17 28.1
comp=Z,8µm,22.0s
ZON Zonda 42.80 267 P **P 08 02 49.8 -0.5**
ZON Zonda 42.80 267 P **P 08 02 49.8 -0.5**
ZON pmax pmax
comp=Z,90nm,1.5s
ML02 Panimavida 42.80 260 IAMs_20 IAMs_20 08 18 32.6
comp=Z,6µm,20.0s
MT08 Bocatoma Ro 42.85 264 P **P 08 02 52.4 +1.5**
MT08 IAMs_20 IAMs_20 08 17 44.1
comp=Z,8µm,22.0s
SALV Santo Antonio 43.06 296 *e*P **P 08 02 53.9 +1.4**
MUSN Musina, Limpop 43.11 77 *e*P **P 08 02 52.5 -0.4**
MUSN IAmb IAmb 08 02 59.5
comp=Z,293nm,1.8s
BO01 Tunca 43.19 262 IAMs_20 IAMs_20 08 17 39.9
comp=Z,8µm,22.0s
MT03 Universidad Ad 43.19 263 IAMs_20 IAMs_20 08 18 05.1
comp=Z,7µm,21.0s
SNDB Serra Nova Dou 43.19 304 *e*P **P 08 02 54.4 +0.8**
MT16 CCHEN 43.23 264 P **P 08 02 54.1 +0.3**
MT16 IAMs_20 IAMs_20 08 17 56.2
comp=Z,7µm,22.0s
MATP Matopo 43.33 74 P **P 08 02 55.2 +0.4**
comp=Z,6.9nm,0.9s,baz=230,slow=10.0,SNR=22
MATP PcP **PcP 08 04 43.2 -0.3**
comp=Z,8.2nm,1.1s,baz=216,slow=2.6,SNR=3.9
MATP LR LR 08 18 24.4
comp=Z,5µm,18.8s,baz=236,slow=33
comp=Z,6.9nm,0.9s
MT05 Renca 43.41 263 IAMs_20 IAMs_20 08 18 12.8
comp=Z,7µm,21.0s
MOPA Mopani 43.46 79 *e*P **P 08 02 56.0 +0.3**
MOPA IAmb IAmb 08 02 57.9
comp=Z,218nm,1.2s
PEL Peldehue 43.49 264 IAMs_20 IAMs_20 08 18 15.8
comp=Z,6µm,22.0s
PEL Peldehue 43.49 264 P **P 08 02 56.9 +1.0**
PEL pmax pmax
comp=Z,102nm,1.4s
GO05 Hualane 43.52 261 IAMs_20 IAMs_20 08 18 43.6
comp=Z,6µm,20.0s
SMTB Santa Maria do 43.53 311 *e*P **P 08 02 57.5 +1.2**
MT01 Popeta 43.55 263 P **P 08 02 56.1 -0.3**
VA03 San Esteban 43.57 264 IAMs_20 IAMs_20 08 17 58.3
comp=Z,6µm,22.0s
BLWY Bulawayo 43.59 73⇓*i*P **P 08 02 55.9 -1.1**
BLWY IAmb IAmb 08 02 57.7
comp=Z,482nm,1.6s
BI05 Punta Hualpn 43.65 258 IAMs_20 IAMs_20 08 18 19.9
comp=Z,7µm,22.0s
MT02 Curacav 43.76 263 IAMs_20 IAMs_20 08 18 23.2
comp=Z,6µm,22.0s
VA05 Santo Domingo 43.92 263 P **P 08 02 59.0 -0.3**
VA05 IAmb IAmb 08 03 00.7
comp=Z,107nm,1.4s
VA05 IAMs_20 IAMs_20 08 18 37.4
comp=Z,7µm,21.0s
VA01 Torpederas 44.25 263 IAMs_20 IAMs_20 08 18 38.5
comp=Z,7µm,22.0s
CO03 El Pedregal 44.64 267 P **P 08 03 06.2 +1.0**
CO03 IAmb IAmb 08 03 11.0
comp=Z,102nm,1.4s
CO01 Juntas del Tor 44.65 268 P **P 08 03 06.7 +1.2**
CO01 IAmb IAmb 08 03 12.6
comp=Z,53nm,1.1s
AC05 El Transito 45.38 269 P **P 08 03 12.4 +1.1**
AC05 IAmb IAmb 08 03 17.3
comp=Z,85nm,1.2s
CO06 Fray Jorge 45.42 266 IAMs_20 IAMs_20 08 20 00.9
comp=Z,6µm,20.0s
BBSD Serra de San D 45.50 290 *e*P **P 08 03 13.0 +0.9**
LCO Las Campanas 45.61 269 P **P 08 03 13.4 +0.3**
LCO IAmb IAmb 08 03 15.2
comp=Z,100nm,1.4s
LCO Las Campanas 45.61 269 P **P 08 03 13.5 +0.3**
LCO pmax pmax
comp=Z,100nm,1.4s
PTLB Pontes e Lacer 45.69 293 IAMs_20 IAMs_20 08 20 05.2
comp=Z,4µm,19.0s
PTLB Pontes e Lacer 45.69 293 *e*P **P 08 03 13.9 +0.4**
GO03 Copiapo 46.03 271 IAMs_20 IAMs_20 08 19 50.5
comp=Z,5µm,22.0s
AC06 Mina Casimiro 46.25 271 P **P 08 03 18.8 +0.8**
AC06 IAmb IAmb 08 03 30.5
comp=Z,65nm,1.5s
AC06 IAMs_20 IAMs_20 08 20 30.4
comp=Z,5µm,19.0s
AC04 Llanos de Chal 46.32 270 IAMs_20 IAMs_20 08 20 34.0
comp=Z,6µm,19.0s
KRI Karoi 46.51 71 *e*P **P 08 03 20.3 0.0**
LSZ Lusaka 46.60 68 P **P 08 03 20.8 -0.1**
LSZ Lusaka 46.60 68 *e*P **P 08 03 19.9 -1.0**
LSZ IAmb IAmb 08 03 28.1
comp=Z,276nm,1.9s
LSZ Lusaka 46.60 68 P **P 08 03 21.8 +0.9**
LSZ P **P 08 03 21.8 +0.9**
LSZ Lusaka 46.60 68 P **P 08 03 20.8 -0.1**
LSZ pmax pmax
comp=Z,157nm,1.8s
SIV San Ignacio 46.64 291 P **P 08 03 21.1 0.0**
comp=Z,5.6nm,0.9s,baz=132,slow=8.5,SNR=25
SIV LR LR 08 20 04.9
comp=Z,4µm,21.7s,baz=148,slow=32
comp=Z,5.6nm,0.9s
CLDB Colider 46.84 301 *e*P **P 08 03 24.4 +1.7**
PDRB Porto dos Gac 46.88 299 *e*P **P 08 03 23.3 +0.3**
GO02 Mina Guanaco 46.94 274 P **P 08 03 24.4 +0.7**
GO02 IAMs_20 IAMs_20 08 20 37.7
comp=Z,6µm,21.0s
PRPB Parauapebas 46.98 311 *e*P **P 08 03 25.2 +1.5**
H04S2 CROZET ISLANDS 47.09 120 T T 08 54 27.1
baz=250,slow=75,SNR=229
H04S3 CROZET ISLANDS 47.09 120 T T 08 54 28.7
baz=250,slow=75,SNR=244
H04S1 CROZET ISLANDS 47.11 120 T T 08 54 25.0
baz=250,slow=75,SNR=249
AF01 San Pedro de A 47.21 277 IAMs_20 IAMs_20 08 20 55.2
comp=Z,5µm,22.0s
CRZF Crozet Islands 47.22 119 IAMs_20 IAMs_20 08 18 00.2
comp=Z,6µm,20.0s
MAW Mawson 47.36 149 P **P 08 03 25.3 -0.8**
comp=Z,18nm,1.1s
MAW Mawson 47.36 149 P **P 08 03 25.2 -0.8**
comp=Z,64nm,1.0s,baz=266,slow=9.7,SNR=65
MAW LR LR 08 19 24.9
comp=Z,2µm,21.7s,baz=270,slow=31
comp=Z,64nm,1.0s
QSPA South Pole Qui 47.65 180 P **P 08 03 28.6 0.0**
QSPA South Pole Qui 47.65 180 P **P 08 03 28.6 0.0**
comp=Z,57nm,0.9s,baz=214,slow=5.8,SNR=66
QSPA LR LR 08 21 20.2
comp=Z,3µm,19.2s,baz=202,slow=33
comp=Z,57nm,0.9s
PB14 IPOC Station P 47.85 274 P **P 08 03 30.6 -0.2**
PB14 IAmb IAmb 08 03 32.8
comp=Z,105nm,1.6s
PB14 IPOC Station P 47.85 274 P **P 08 03 30.2 -0.7**
LVC Limon Verde 47.95 277 IAMs_20 IAMs_20 08 21 32.9
comp=Z,4µm,22.0s
LVC Limon Verde 47.95 277 P **P 08 03 32.3 +0.6**
comp=Z,5.8nm,0.8s,baz=119,slow=11,SNR=4.1
LVC LR LR 08 22 06.1
comp=Z,3µm,21.8s,baz=146,slow=34
comp=Z,5.8nm,0.8s
LVC Limon Verde 47.95 277 *e*P **P 08 03 31.8 +0.2**
PB15 IPOC Station P 48.00 276 P **P 08 03 32.0 +0.1**
VILB Vilhena 48.19 294 *e*P **P 08 03 34.1 +0.9**
PB06 IPOC Station P 48.38 277 P **P 08 03 35.9 +1.2**
PB09 IPOC Station P 48.69 278 IAMs_20 IAMs_20 08 22 46.5
comp=Z,4µm,20.0s
PB04 IPOC Station P 49.03 277 P **P 08 03 40.4 +0.7**
TMAB Tom-Au,PA,Br 49.23 316 *e*P **P 08 03 41.6 +0.5**
PB01 IPOC Station P 49.34 278 P **P 08 03 41.9 -0.1**
PB01 IAmb IAmb 08 03 47.9
comp=Z,60nm,1.1s
NPGB Novo Progresso 49.52 304 *e*P **P 08 03 42.3 -1.0**
PB08 IPOC Station P 49.66 280 P **P 08 03 44.6 -0.2**
PB08 IAmb IAmb 08 03 50.8
comp=Z,64nm,1.0s
PB08 IPOC Station P 49.66 280 P **P 08 03 43.3 -1.5**

PATCX Punta Patache 49.96 278 P **P 08 03 46.6 -0.2**
GO01 Chusmiza 49.98 280 P **P 08 03 46.9 -0.5**
GO01 IAMs_20 IAMs_20 08 23 25.9
comp=Z,3µm,20.0s
DBIC Dimbokro 50.09 15 P **P 08 03 47.2 -0.4**
DBIC Dimbokro 50.09 15 *e*P **P 08 03 47.3 -0.2**
DBIC Dimbokro 50.09 15 P **P 08 03 47.4 -0.2**
comp=Z,16nm,1.0s,baz=176,slow=9.0,SNR=13
DBIC LR LR 08 19 43.4
comp=Z,3µm,21.4s,baz=172,slow=30
comp=Z,16nm,1.0s
TA02 Huaiquique 50.29 279 P **P 08 03 48.4 -0.7**
TA02 IAmb IAmb 08 03 54.6
comp=Z,41nm,1.0s
LPAZ La Paz 51.41 284 P **P 08 03 57.6 -0.7**
LPAZ La Paz 51.41 284 P **P 08 03 56.8 -1.5**
comp=Z,24nm,1.3s,baz=134,slow=5.5,SNR=17
LPAZ LR LR 08 25 02.8
comp=Z,9µm,20.1s,baz=124,slow=35
LPAZ PKKP **PKKPdf 08 26 09.4 -5.6**
comp=Z,0.3nm,0.4s,baz=6.5,slow=6.3,SNR=6.7
comp=Z,24nm,1.3s
LPAZ La Paz 51.41 284 P **P 08 03 57.7 -0.7**
LPAZ pmax pmax
comp=Z,22nm,1.3s
LPAZ La Paz 51.41 284 *e*P **P 08 03 56.9 -1.4**
PB18 Visviri 51.53 282 P **P 08 03 59.1 0.0**
PB18 IAmb IAmb 08 04 17.2
comp=Z,152nm,1.7s
ITTB Itaituba 51.86 306 *e*P **P 08 04 00.7 -0.3**
SAML Samuel 53.10 295 P **P 08 04 11.0 +0.8**
SAML IAmb IAmb 08 04 12.8
comp=Z,63nm,1.3s
SAML Samuel 53.10 295 P **P 08 04 11.0 +0.8**
SAML pmax pmax
comp=Z,63nm,1.3s
SAML Samuel 53.10 295 *e*P **P 08 04 09.6 -0.6**
FOMA Nahampoana Res 54.05 92 IAMs_20 IAMs_20 08 22 15.2
comp=Z,5µm,20.0s
FOMA Nahampoana Res 54.05 92 P **P 08 04 17.9 +0.9**
ETMB Extrema 54.52 292 P **P 08 04 20.2 -0.4**
ETMB IAmb IAmb 08 04 22.4
comp=Z,67nm,1.4s
ETMB Extrema 54.52 292 *e*P **P 08 04 19.1 -1.5**
VOI Vohitsoka 55.73 89 IAMs_20 IAMs_20 08 24 11.4
comp=Z,5µm,20.0s
MACA Manacapuru-AM 55.84 302 *e*P **P 08 04 30.4 +0.3**
BBTS Babate 56.98 359 LR LR 08 23 43.2
comp=Z,2µm,21.6s,baz=56,slow=30
ABPO Ambohimpanom 57.82 87 P **P 08 04 44.6 +0.2**
ABPO Ambohimpanom 57.82 87 P **P 08 04 44.6 +0.2**
ABPO pmax pmax
comp=Z,42nm,1.5s
TORD Torodi Ar. Bea 57.83 21 P **P 08 04 42.9 -1.2**
comp=Z,9.7nm,0.9s,baz=191,slow=4.8,SNR=44
TORD PKiKP **PKiKP 08 12 05.6 +3.8**
comp=Z,0.9nm,0.9s,baz=222,slow=2.0,SNR=3.8
TORD LR LR 08 24 01.1
comp=Z,3µm,21.5s,baz=184,slow=30
comp=Z,9.7nm,0.9s
MDP Montagnes des 57.94 316 LR LR 08 27 18.4
comp=Z,3µm,19.4s,baz=154,slow=34
OPO Ambohidratompo 58.07 86 P **P 08 04 46.5 +0.4**
comp=Z,6.6nm,1.0s,baz=214,slow=8.9,SNR=5.2
OPO LR LR 08 24 35.6
comp=Z,2µm,21.4s,baz=348,slow=31
comp=Z,6.6nm,1.0s
MBAR Mbarara 59.17 58 P **P 08 04 54.7 +0.8**
MBAR Mbarara 59.17 58 LR LR 08 27 55.7
comp=Z,16µm,18.5s,baz=216,slow=34
MBAR Mbarara 59.17 58 P **P 08 04 55.5 +1.7**
MBAR P **P 08 04 55.5 +1.7**
MBAR Mbarara 59.17 58*d i*P **P 08 04 54.6 +0.8**
MBAR pmax pmax
comp=Z,94nm,1.8s
SBA Scott Base 59.80 181 P **P 08 04 56.8 -0.3**
SBA Scott Base 59.80 181 P **P 08 04 56.8 -0.3**
SBA pmax pmax
comp=Z,293nm,2.0s
BOAV Boa Vista 60.11 306 P **P 08 05 00.9 +0.8**
BOAV IAmb IAmb 08 05 07.3
comp=Z,69nm,1.9s
BOAV Boa Vista 60.11 306 *e*P **P 08 05 00.7 +0.7**
CZSB Cruzeiro do Su 60.51 288 P **P 08 05 02.3 -0.5**
CZSB IAmb IAmb 08 05 03.1
comp=Z,94nm,1.8s
CZSB Cruzeiro do Su 60.51 288 *e*P **P 08 05 02.4 -0.5**
NNA Nana 60.55 281 IAMs_20 IAMs_20 08 30 41.3
comp=Z,4µm,20.0s
NNA Nana 60.55 281 P **P 08 05 04.6 +1.4**
comp=Z,2.9nm,0.3s,baz=134,slow=5.5,SNR=3.9
comp=Z,2.9nm,0.3s
NNA Nana 60.55 281⇓*e*P **P 08 05 04.2 +1.0**
NNA pmax pmax
comp=Z,69nm,1.5s
NNA MLR MLR
comp=Z,7µm,19.0s
TBTG Tabatinga, AM 61.10 293 P **P 08 05 06.0 -0.9**
TBTG IAmb IAmb 08 05 07.8
comp=Z,62nm,1.2s
TBTG Tabatinga, AM 61.10 293 *e*P **P 08 05 07.0 +0.1**
KIBK Kibwezi 62.62 66 P **P 08 05 17.3 +0.2**
KIBK Kibwezi 62.62 66 P **P 08 05 19.8 +2.6**
SNR=9.4
RER Riviere de l'E 62.79 94 P **P 08 05 17.9 -0.4**
KMBO Kilima Mbogo 62.98 64 P **P 08 05 20.2 +0.4**
KMBO IAmb IAmb 08 05 30.1
comp=Z,74nm,1.9s
KMBO Kilima Mbogo 62.98 64 P **P 08 05 20.1 +0.3**
comp=Z,0.9nm,0.3s,baz=225,slow=7.1,SNR=11
KMBO LR LR 08 30 06.1
comp=Z,10µm,20.1s,baz=193,slow=34
comp=Z,0.9nm,0.3s
KMBO Kilima Mbogo 62.98 64 P **P 08 05 22.9 +3.1**
KMBO P **P 08 05 22.9 +3.1**
KMBO Kilima Mbogo 62.98 64 P **P 08 05 20.2 +0.4**
KMBO pmax pmax
comp=Z,74nm,1.9s
CASY Casey 63.97 159 P **P 08 05 24.4 -0.9**
CASY Casey 63.97 159 IAMs_20 IAMs_20 08 30 45.0
comp=Z,4µm,19.0s
ATAH Atahualpa 64.96 284 P **P 08 05 34.3 +1.3**
comp=Z,7.5nm,1.0s,baz=134,slow=8.1,SNR=12
comp=Z,7.5nm,1.0s
LODK Lodwar 65.19 59 P **P 08 05 34.3 +0.3**
LODK IAmb IAmb 08 05 43.4
comp=Z,71nm,1.9s
LODK Lodwar 65.19 59 P **P 08 05 36.1 +2.1**
SNR=11
LODK Lodwar 65.19 59 *e*P **P 08 05 35.2 +1.2**
TAM Tamanrasset 68.05 21 P **P 08 05 52.9 +0.7**
TAM IAmb IAmb 08 06 00.8
comp=Z,54nm,1.6s
TAM Tamanrasset 68.05 21 P **P 08 05 52.9 +0.7**
TAM pmax pmax
comp=Z,54nm,1.6s
PCRV Puerto La Cruz 68.75 308 LR LR 08 34 58.5
comp=Z,1µm,18.8s,slow=35
COHC Cochancay 68.82 287 P **P 08 05 57.4 +0.3**
ROCAM Rodrigues Isla 69.25 98 IAMs_20 IAMs_20 08 27 53.8
comp=Z,4µm,22.0s
DILA Dilla 69.35 60 *e*P **P 08 06 03.3 +2.7**
BAUV El Baul 69.82 304 P **P 08 06 02.9 -0.3**
OTAV Otavalo 70.17 290 P **P 08 06 06.7 +0.7**
OTAV IAmb IAmb 08 06 10.2
comp=Z,67nm,1.8s
OTAV Otavalo 70.17 290 P **P 08 06 06.7 +0.7**
OTAV pmax pmax
comp=Z,67nm,1.8s
OTAV Otavalo 70.17 290 *e*P **P 08 06 05.7 -0.3**
EOSO Osorio 70.33 0 P **P 08 06 05.8 -0.3**
ROSC El Rosal 70.71 296 P **P 08 06 08.5 -0.7**
ROSC El Rosal 70.71 296 P **P 08 06 09.3 +0.1**
comp=Z,3.7nm,0.3s,baz=150,slow=8.1,SNR=13
ROSC LR LR 08 35 38.3
comp=Z,6µm,19.6s,baz=178,slow=35
comp=Z,3.7nm,0.3s
SDV Santo Domingo 71.38 302 P **P 08 06 12.6 -0.4**
SDV IAmb IAmb 08 06 15.1
comp=Z,82nm,1.6s
SDV Santo Domingo 71.38 302 LR LR 08 35 49.0
comp=Z,2µm,19.9s,baz=148,slow=34
SDV Santo Domingo 71.38 302 *e*P **P 08 06 14.2 +1.2**
FURI Furi 71.48 58 LR LR 08 35 29.4
comp=Z,9µm,18.9s,baz=212,slow=34
FURI Furi 71.48 58 *e*P **P 08 06 17.3 +3.5**

WLRA Wolmera 71.65 58 *e*P **P 08 06 17.8 +3.0**
ANKE Ethiopia-Afar 72.68 59 *e*P P 08 06 26.8 +5.8
MSEY Mahe Island 73.28 81 P **P 08 06 25.7 +1.4**
MSEY Mahe Island 73.28 81 IAMs_20 IAMs_20 08 36 38.2
comp=Z,3µm,19.0s
MSEY Mahe Island 73.28 81 P **P 08 06 25.7 +1.4**
MSEY pmax pmax
comp=Z,30nm,1.1s
TIO Tiouine 73.62 8 P **P 08 06 26.0 +0.1**
DESE Dese 73.78 58 *e*P **P 08 06 31.0 +3.6**
RPN Rapa Nui 74.44 247 LR LR 08 33 51.3
comp=Z,2µm,20.9s,baz=126,slow=31
MDT Midelt 75.79 10 LR LR 08 35 48.8
comp=Z,1µm,20.1s,baz=196,slow=32
SJG San Juan 76.00 311 LR LR 08 38 46.1
comp=Z,429nm,20.2s,baz=141,slow=35
GCPR Guaynabo City 76.12 311 P **P 08 06 40.2 -0.2**
GCPR IAmb IAmb 08 06 41.9
comp=Z,51nm,1.1s
ATD Arta Tunnel 76.12 60 LR LR 08 37 21.5
comp=Z,260nm,21.7s,baz=196,slow=34
IFR Ifrane 76.42 9 P **P 08 06 41.1 -1.0**
CHAS Isla Isabel II 78.41 11 P **P 08 06 51.8 -1.1**
BRU2 Volcan 79.23 293 P **P 08 06 57.3 -0.8**
BRU2 IAmb IAmb 08 07 14.4
comp=Z,77nm,1.6s
SDDR Presa de Saban 79.61 308 P **P 08 06 58.9 -1.0**
SDDR IAmb IAmb 08 07 12.2
comp=Z,122nm,1.9s
PVAQ Vaqueiros 80.00 7 P **P 08 07 01.7 +0.2**
PVAQ IAmb IAmb 08 07 15.0
comp=Z,94nm,1.5s
PVAQ Vaqueiros 80.00 7 *e*P **P 08 07 03.2 +1.7**
PVAQ A A 08 07 15.6
comp=Z,114nm,1.7s
PCVE Castro Verde 80.19 6 *e*P **P 08 07 05.5 +2.9**
PCVE A A 08 08 26.8
comp=Z,55nm,1.9s
MESJ Messejana 80.39 6 *e*P **P 08 07 05.0 +1.4**
PBEJ Beja 80.60 7 *e*P **P 08 07 05.8 +1.0**
PBEJ A A 08 07 18.1
comp=Z,78nm,1.8s
LCR2 La Lucha 2 80.81 292 P **P 08 07 06.3 -0.4**
LCR2 IAmb IAmb 08 07 09.5
comp=Z,42nm,1.2s
PBAR Barrancos 80.82 7 *e*P **P 08 07 07.0 +1.1**
PBAR A A 08 07 15.1
comp=Z,72nm,1.6s
HDC Heredia 81.07 292 *e*P **P 08 07 08.8 +0.8**
KEST Kesra 81.35 21 P **P 08 07 09.5 +0.6**
KEST IAmb IAmb 08 07 25.0
comp=Z,97nm,1.4s
KEST Kesra 81.35 21 P **P 08 07 09.8 +0.8**
comp=Z,19nm,1.0s,baz=235,slow=2.7,SNR=14
KEST LR LR 08 39 10.5
comp=Z,3µm,20.9s,baz=202,slow=33
comp=Z,19nm,1.0s
PESTR Estremoz 81.46 7 P **P 08 07 08.6 -0.7**
PESTR Estremoz 81.46 7 *e*P **P 08 07 10.7 +1.4**
PESTR A A 08 07 19.1
comp=Z,70nm,1.8s
PMTG Montargil 81.61 6 *e*P **P 08 07 11.1 +1.0**
PMTG A A 08 07 24.4
comp=Z,84nm,1.5s
JTS Las Juntas de 81.85 292 P **P 08 07 12.0 0.0**
JTS IAmb IAmb 08 07 14.6
comp=Z,125nm,1.9s
JTS Las Juntas de 81.85 292*ce*P **P 08 07 12.7 +0.7**
JTS pmax pmax
comp=Z,61nm,1.7s
JTS MLR MLR
comp=Z,2µm,20.0s
PCAS Casmilo, Conde 82.56 6 *e*P **P 08 07 16.5 +1.4**
PCAS A A 08 07 28.9
comp=Z,180nm,1.7s
ESDC Sonseca Array 82.63 9 P **P 08 07 15.3 -0.2**
comp=Z,6.5nm,1.1s,baz=187,slow=5.9,SNR=16
comp=Z,6.5nm,1.1s
ESBB Sonseca Array 82.63 9 P **P 08 07 15.9 +0.4**
ESBB IAmb IAmb 08 07 24.1
comp=Z,65nm,1.5s
ESPN Las Esperanzas 82.77 294 P **P 08 07 15.7 -1.0**
MTE Manteigas 82.98 7 *e*P **P 08 07 19.5 +2.1**
ACON Acoyapa 83.19 293 P **P 08 07 17.9 -1.1**
CHIV Chivirico 83.44 305 P **P 08 07 19.8 -0.3**
CHIV IAmb IAmb 08 07 22.2
comp=Z,78nm,1.5s
POLO Lamas de Olo 83.93 6 *e*P **P 08 07 24.6 +2.3**
DGAR Diego Garcia 83.94 94⇑*e*P **P 08 07 24.3 +1.4**
DGAR pmax pmax
comp=Z,235nm,1.3s
VAE Valguarnera 84.40 24 LR LR 08 40 35.1
comp=Z,2µm,19.5s,baz=135,slow=32
PBRG Braganca 84.45 7 *e*P **P 08 07 26.1 +1.3**
PBRG A A 08 07 29.5
comp=Z,79nm,2.0s
PGAV Gavieira, Arco 84.48 6 *e*P **P 08 07 25.8 +0.8**
VSL Villasalto 84.92 19 IAMs_20 IAMs_20 08 43 17.3
comp=Z,2µm,18.0s
CRIN San Cristobal 85.00 292 IAMs_20 IAMs_20 08 44 14.6
comp=Z,2µm,21.0s
CEL Celeste 85.57 25 P **P 08 07 31.1 +0.6**
CEL IAmb IAmb 08 07 43.0
comp=Z,37nm,1.4s
CEL Celeste 85.57 25 P **P 08 07 30.9 +0.4**
comp=Z,15nm,1.6s,comp=Z,680nm
TGUH Tegucigalpa,Un 86.11 293 P **P 08 07 32.2 -1.7**
TGUH IAmb IAmb 08 07 35.5
comp=Z,57nm,1.2s
TIP Timpagrande 86.68 25 P **P 08 07 35.9 -0.1**
TIP Timpagrande 86.68 25 P **P 08 07 35.3 -0.7**
comp=Z,18nm,1.2s,comp=Z,581nm
RAYN Ar Rayn 86.84 54 P **P 08 07 38.2 +1.0**
RAYN Ar Rayn 86.84 54 *i* P **P 08 07 39.0 +1.8**
SNR=14
RAYN Ar Rayn 86.84 54 P **P 08 07 38.6 +1.4**
RAYN Ar Rayn 86.84 54 P **P 08 07 38.2 +1.0**
RAYN pmax pmax
comp=Z,71nm,1.4s
ABTO Aybut 87.21 63 P **P 08 07 40.2 +1.1**
SNR=16
ABTO P **P 08 07 40.2 +1.1**
SNR=16
KARP Karpathos 87.23 34 P **P 08 07 39.6 +0.9**
KARP Karpathos 87.23 34 P **P 08 07 40.5 +1.8**
comp=Z,58nm,1.6s,comp=Z,1µm
PAOL Paolisi 87.73 23 P **P 08 07 41.0 0.0**
PAOL IAmb IAmb 08 07 48.0
comp=Z,19nm,1.0s
MTO3 Montecristo 87.78 292 P **P 08 07 40.7 -1.4**
MTO3 IAmb IAmb 08 07 53.1
comp=Z,43nm,1.8s
RBK Rabkut 87.92 64 P **P 08 07 44.0 +1.5**
SNR=10
RBK P **P 08 07 44.0 +1.5**
SNR=10
WHFO Wadi Hawf 87.93 63 P **P 08 07 44.3 +1.7**
SNR=16
WHFO P **P 08 07 44.3 +1.7**
SNR=16
INTR Introdacqua 88.46 22 P **P 08 07 44.5 0.0**
INTR IAmb IAmb 08 07 51.2
comp=Z,32nm,1.2s
DMTO DMTO 88.56 64 P **P 08 07 46.2 +0.7**
CESX Cesi 88.66 21 IAMs_20 IAMs_20 08 42 40.0
comp=Z,2µm,21.0s
DOK Doka 88.66 63 P **P 08 07 48.0 +2.0**
SNR=11
DOK P **P 08 07 48.0 +2.0**
SNR=11
CAMR Camarioca 88.78 303 P **P 08 07 47.0 +0.6**
CAMR IAmb IAmb 08 07 54.7
comp=Z,169nm,1.3s
CAMP Campotosto 88.81 21 P **P 08 07 47.3 +1.1**
CAMP IAmb IAmb 08 07 55.1
comp=Z,64nm,1.9s
CAMP IAMs_20 IAMs_20 08 44 24.0
comp=Z,1µm,20.0s
MMAI Mount Meron Ar 88.81 41 P **P 08 07 46.1 -0.3**
comp=Z,0.6nm,0.3s,baz=203,slow=9.4,SNR=7.5
comp=Z,0.6nm,0.3s
FDMO Fiordimonte 89.19 21 IAMs_20 IAMs_20 08 43 51.0
comp=Z,2µm,21.0s
GUMA Gualdo di Mace 89.28 21 IAMs_20 IAMs_20 08 43 45.4
comp=Z,2µm,20.0s
SSB Saint Sauveur 89.41 14 P **P 08 07 49.5 +0.6**

SSB IAmb IAmb 08 08 02.2
comp=Z,46nm,1.4s
SSB Saint Sauveur 89.41 14 P **P 08 07 49.5 +0.6**
SSB pmax pmax
comp=Z,46nm,1.4s
CSS Mathiatis 89.43 39 P **P 08 07 49.5 +0.4**
CSS Mathiatis 89.43 39 P **P 08 07 50.4 +1.2**
comp=Z,40nm,1.7s,comp=Z,916nm
SOR Soroa 89.61 302 P **P 08 07 49.4 -0.9**
SOR IAmb IAmb 08 08 02.7
comp=Z,68nm,1.5s
SOR Soroa 89.61 302 P **P 08 07 49.4 -0.9**
SOR pmax pmax
comp=Z,68nm,1.5s
KAAM Kaadhehdhoo 89.63 89 P **P 08 07 49.8 -0.9**
FNA Florina 89.64 27 P **P 08 07 50.4 +0.3**
FNA Florina 89.64 27 P **P 08 07 50.4 +0.3**
FNA pmax pmax
comp=Z,28nm,1.4s
PETF Flores 89.89 293 P **P 08 07 51.4 -0.4**
PETF IAmb IAmb 08 07 53.1
comp=Z,47nm,1.6s
PRMA PARMA 90.12 18 IAMs_20 IAMs_20 08 43 11.7
comp=Z,2µm,22.0s
H01W2 Cape Leeuwin H 90.42 141 T T 09 49 11.3
baz=214,slow=76,SNR=37
H01W3 Cape Leeuwin H 90.44 141 T T 09 49 12.3
baz=214,slow=76,SNR=43
H01W1 Cape Leeuwin H 90.44 141 T T 09 49 12.2
baz=214,slow=76,SNR=40
ISP Isparta 90.57 35 IAMs_20 IAMs_20 08 54 26.9
comp=Z,1µm,18.0s
ISP Isparta 90.57 35⇑ *e*P **P 08 07 53.7 -0.9**
ISP pmax pmax
comp=Z,17nm,0.7s
SMRA Abu-Samra 90.98 57 P **P 08 07 56.9 +0.3**
SLWR Sila 91.03 58 P **P 08 07 57.2 +0.3**
SLWR P **P 08 07 57.2 +0.3**
TEIG Tepich 91.16 297 P **P 08 07 56.4 -1.2**
TRNA Turayna 91.22 57 P **P 08 07 58.4 +0.7**
MZR Muzera 91.39 60 *i* P **P 08 07 59.8 +1.2**
SNR=11
MZR Muzera 91.39 60 P **P 08 08 00.1 +1.4**
SNR=10
MZR P **P 08 08 00.1 +1.4**
SNR=10
TUE Stuetta 91.52 17 P **P 08 07 58.8 -0.1**
TUE IAmb IAmb 08 08 06.6
comp=Z,48nm,1.8s
TUE Stuetta 91.52 17 P **P 08 07 57.5 -1.4**
comp=Z,54nm,1.6s
CTI Castel Tesino 91.65 19 P **P 08 07 59.4 0.0**
CTI IAmb IAmb 08 08 07.5
comp=Z,31nm,1.1s
CTI Castel Tesino 91.65 19 P **P 08 07 59.4 0.0**
CTI pmax pmax
comp=Z,31nm,1.1s
GHWR Ruwais 91.69 59 P **P 08 08 01.1 +1.2**
GHWR P **P 08 08 01.1 +1.2**
SAKB Bahrain 91.71 56 P **P 08 08 00.2 +0.3**
DQM DQM 91.85 65 P **P 08 08 02.1 +1.3**
SNR=12
DQM P **P 08 08 02.1 +1.3**
SNR=12
FUORN Ofenpass-Fuorn 91.86 18 P **P 08 08 01.0 +0.4**
FUORN IAmb IAmb 08 08 14.6
comp=Z,32nm,1.7s
FUORN IAMs_20 IAMs_20 08 47 02.8
comp=Z,1µm,19.0s
CEY Cerknica 92.06 21 *i* P **P 08 08 01.9 +0.8**
SABO M.te Sabotino 92.07 20 P **P 08 08 01.8 +0.6**
SABO IAmb IAmb 08 08 15.9
comp=Z,33nm,1.3s
MZWR Madinat Zayed 92.19 59 P **P 08 08 03.7 +1.5**
MZWR P **P 08 08 03.7 +1.5**
UMZA Um Al Zommool 92.26 61 P **P 08 08 03.9 +1.3**
UMZA P **P 08 08 03.9 +1.3**
FETA Feichten 92.35 18 *e*P **P 08 08 02.9 +0.3**
comp=Z,7.5nm,1.3s
JRN Qarnain Island 92.38 58 P **P 08 08 03.8 +0.7**
JRN P **P 08 08 03.8 +0.7**
CRES Cresnjevec Ost 92.41 21 *i* P **P 08 08 03.6 +0.8**
PRED Cave del Predi 92.49 20 P **P 08 08 03.5 +0.3**
PRED IAmb IAmb 08 08 18.6
comp=Z,24nm,1.6s
ABTA Abfaltersbach 92.51 19 *e*P **P 08 08 04.4 +1.1**
comp=Z,10.0nm,1.3s
SQTA Sankt Quirin 92.65 18 *e*P **P 08 08 04.6 +0.6**
comp=Z,9.3nm,0.9s
MYKA Terra Mystica 92.68 20 *e*PcP **PcP 08 08 07.3 +2.5**
comp=Z,9.2nm,1.1s
MOTA Moosalm 92.74 18 *e*P **P 08 08 04.4 0.0**
comp=Z,8.5nm,1.0s
WTTA Wattenberg 92.79 18 *e*P **P 08 08 05.3 +0.6**
comp=Z,16nm,1.4s
RETA Reutte 92.80 18 *e*P **P 08 08 04.8 +0.3**
comp=Z,7.2nm,1.3s
OBKA Obir 92.80 21 *e*P **P 08 08 06.5 +1.8**
comp=Z,16nm,1.6s
WATA Walderalm 92.84 18 *e*P **P 08 08 05.2 +0.3**
comp=Z,12nm,1.2s
MHTO MHTO 92.88 64 P **P 08 08 05.8 +0.2**
SNR=10.0
MHTO P **P 08 08 05.8 +0.2**
SNR=10.0
KBA Koelnbreinsper 93.03 20 *e*P **P 08 08 06.5 +0.7**
comp=Z,6.9nm,1.2s
KBA Koelnbreinsper 93.03 20 P **P 08 08 05.8 0.0**
SOKA Soboth 93.08 21 *e*P **P 08 08 07.9 +1.9**
comp=Z,2.7nm,0.5s
LESA Schwarzleotal 93.19 19 *e*P **P 08 08 06.6 +0.2**
comp=Z,4.3nm,1.0s
ANTO Ankara 93.25 35 P **P 08 08 08.2 +1.3**
ANTO P **P 08 08 08.2 +1.3**
AJN Ajban 93.46 60 P **P 08 08 08.8 +0.7**
AJN P **P 08 08 08.8 +0.7**
BR105 Keskin Array S 93.48 36 P **P 08 08 08.8 +0.7**
comp=Z,18nm,1.6s,comp=Z,171nm
BR104 Keskin Array S 93.48 36 P **P 08 08 08.1 0.0**
comp=Z,9.9nm,1.2s,comp=Z,117nm
NWAO Narrogin (SRO) 93.49 142 LR LR 08 42 13.9
comp=Z,1µm,20.1s,baz=170,slow=30
BR106 Keskin Array S 93.50 36 P **P 08 08 08.2 +0.1**
comp=Z,15nm,1.5s,comp=Z,151nm
BR131 Keskin Array S 93.50 36 P **P 08 08 08.2 +0.1**
BR131 Keskin Array S 93.50 36 *de*P **P 08 08 08.6 +0.5**
BRTR Keskin Array B 93.50 36 P **P 08 08 08.6 +0.5**
BRTR Keskin Array B 93.50 36 P **P 08 08 08.4 +0.3**
comp=Z,4.6nm,0.8s,baz=186,slow=6.9,SNR=20
BRTR LR LR 08 49 04.2
comp=Z,2µm,20.4s,baz=170,slow=35
comp=Z,4.6nm,0.8s
BRTR Keskin Array B 93.50 36 *i* P **P 08 08 09.5 +1.4**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
ARQ Araqi 93.58 61 P **P 08 08 09.4 +0.6**
SNR=16
ARQ P **P 08 08 09.4 +0.6**
SNR=16
ALNE Al Ain 93.59 60 *i* P **P 08 08 09.9 +1.1**
SNR=6.6
ALNE Al Ain 93.59 60 P **P 08 08 10.1 +1.3**
SNR=15
ALNE P **P 08 08 10.1 +1.3**
SNR=15
BSY Bisya 93.61 62 P **P 08 08 09.8 +0.9**
SNR=20
BSY P **P 08 08 09.8 +0.9**
SNR=20
MORH Mrgy, Hungar 93.66 23 P **P 08 08 07.4 -1.1**
comp=Z,11nm,1.6s
BIOA Bad Ischl, Aus 93.67 20 *e*P **P 08 08 08.9 +0.3**
comp=Z,2.6nm,0.6s
ASUD Al Ashush, Dub 93.73 60 P **P 08 08 10.4 +1.0**
ASUD P **P 08 08 10.4 +1.0**
ARSA Arzberg 93.74 21 *e*P **P 08 08 09.7 +0.8**
comp=Z,8.0nm,1.5s
RKT Rikitea 93.75 234 *e*LR LR 08 38 14.0
comp=Z,12µm,35.0s
MUN Mundaring 93.81 141 P **P 08 08 07.8 -2.0**
comp=Z,34nm,1.8s
JMDO Jabal Madar 93.94 63 P **P 08 08 11.2 +0.7**
JMDO P **P 08 08 11.2 +0.7**
HMDM Hanimaadhoo 93.97 85 P **P 08 08 10.9 +0.2**
MOA Molln 93.97 20 *e*P **P 08 08 10.8 +0.9**
comp=Z,8.5nm,0.9s

FAQ Al Faqa, Dubai 93.98 60 *i* P **P 08 08 11.1 +0.6**
SNR=6.7
FAQ Al Faqa, Dubai 93.98 60 P **P 08 08 11.3 +0.8**
SNR=6.5
FAQ P **P 08 08 11.3 +0.8**
SNR=6.5
SOHO SOHO 94.15 61 *i* P **P 08 08 11.5 +0.2**
SNR=15
SOHO SOHO 94.15 61 P **P 08 08 11.8 +0.5**
SOHO P **P 08 08 11.8 +0.5**
NAZ Nazwa, Dubai 94.19 60 P **P 08 08 12.0 +0.5**
NAZ Nazwa, Dubai 94.19 60 P **P 08 08 11.8 +0.3**
SNR=10
NAZ P **P 08 08 11.8 +0.3**
SNR=10
MPLH Magyarpolny 94.22 22 P **P 08 08 11.1 +0.1**
comp=Z,43nm,1.4s
ASHO Ashiyiah 94.23 60 *i* P **P 08 08 12.1 +0.3**
SNR=9.2
ASHO Ashiyiah 94.23 60 P **P 08 08 12.0 +0.3**
SNR=13
ASHO P **P 08 08 12.0 +0.3**
SNR=13
RCHB Rochefort 94.24 14 *d*P **P 08 08 12.0 +1.0**
HOQ Hoqain 94.27 62 P **P 08 08 13.0 +1.1**
SNR=20
HOQ P **P 08 08 13.0 +1.1**
SNR=20
BMRD Maredsous 94.30 13 *d*P **P 08 08 14.1 +2.8**
RONA Rosalia, Austr 94.36 21 *e*P **P 08 08 13.3 +1.5**
comp=Z,10nm,1.0s
HATD Hatta, Dubai 94.38 60 *i* P **P 08 08 12.6 +0.2**
SNR=8.5
HATD Hatta, Dubai 94.38 60 P **P 08 08 13.2 +0.8**
SNR=9.6
HATD P **P 08 08 13.2 +0.8**
SNR=9.6
SMDO Samad 94.38 63 P **P 08 08 12.5 0.0**
SNR=9.9
SMDO P **P 08 08 12.5 0.0**
SNR=9.9
CONA Conrad Observa 94.46 21 *e*P **P 08 08 13.6 +1.4**
comp=Z,8.1nm,1.5s
UOSS Minazif 94.51 60 P **P 08 08 10.7 -2.2**
UOSS IAmb IAmb 08 08 20.5
comp=Z,24nm,1.3s
UOSS Minazif 94.51 60 *i* P **P 08 08 12.7 -0.3**
SNR=5.8
UOSS Minazif 94.51 60 P **P 08 08 13.2 +0.2**
UOSS P **P 08 08 13.2 +0.2**
JLN Jalan Bani Buh 94.65 64 P **P 08 08 14.1 +0.4**
SNR=7.5
JLN P **P 08 08 14.1 +0.4**
SNR=7.5
BIDO Bidbid 94.76 62 P **P 08 08 14.6 +0.4**
SNR=6.8
BIDO P **P 08 08 14.6 +0.4**
SNR=6.8
GERES GERESS Array B 94.76 19 P **P 08 08 13.6 0.0**
comp=Z,0.5nm,0.3s,baz=202,slow=7.0,SNR=1.6
comp=Z,0.5nm,0.3s
MSFE Esma-Masafi 94.78 60 P **P 08 08 13.9 -0.3**
MASF Masafi 94.78 60 P **P 08 08 13.6 -0.6**
MASF P **P 08 08 13.6 -0.6**
MDH Madha 94.82 60 P **P 08 08 13.8 -0.6**
KHC Kasperske Hory 95.00 19 IAMs_20 IAMs_20 08 47 25.6
comp=Z,1µm,20.0s
KHC Kasperske Hory 95.00 19 *e*P **P 08 08 14.5 -0.1**
KHC Kasperske Hory 95.00 19⇑ *e*P **P 08 08 14.3 -0.3**
KHC pmax pmax
comp=Z,38nm,1.7s
KHC Kasperske Hory 95.00 19 P **P 08 08 13.4 -1.2**
comp=Z,13nm,2.0s
VOIR 95.01 28 P **P 08 08 13.5 -1.3**
comp=Z,7.4nm,2.0s,comp=Z,323nm
ARPR Arapgir-MALATY 95.11 39 IAMs_20 IAMs_20 08 58 59.6
comp=Z,1µm,19.0s
SHME Shamm 95.25 59 P **P 08 08 16.1 -0.2**
SHME P **P 08 08 16.1 -0.2**
MLR Muntele Rosu 95.36 28 P **P 08 08 16.4 -0.1**
MLR IAmb IAmb 08 08 24.1
comp=Z,35nm,1.3s
MLR Muntele Rosu 95.36 28 P **P 08 08 16.4 -0.1**
MLR pmax pmax
comp=Z,35nm,1.3s
MLR Muntele Rosu 95.36 28 P **P 08 08 16.0 -0.5**
KRUC Moravsky 95.64 21 *e*PP **PP 08 12 06.4 -3.1**
JAVC Velka Javorina 95.79 22 *e*P **P 08 08 18.9 +0.6**
VRAC Vranov 95.92 21 *e*PP **PP 08 12 10.9 -0.8**
MORW Morawa 96.15 139 IAMs_20 IAMs_20 08 43 30.2
comp=Z,1µm,20.0s
MORW Morawa 96.15 139 P **P 08 08 23.1 +2.5**
JASK Jask - Hormozg 96.22 61 P **P 08 08 22.0 +1.2**
MORC Moravsky Berou 96.60 21 *e*P **P 08 08 22.5 +0.6**
MORC *e*PP **PP 08 12 14.4 -2.5**
BRG Berggiesshubel 96.70 19 *e*P **P 08 08 18.3 -4.0**
BRG Amp 08 08 19.6
comp=Z,1.5nm,0.5s
BRG PP **PP 08 12 15.1 -2.6**
BRG Amp 08 12 19.2
comp=Z,3.2nm,0.9s
BRG Berggiesshubel 96.70 19 *e*P **P 08 08 18.3 -4.0**
BRG 08 12 15.0
BRG pmax pmax
comp=Z,2.0nm,0.5s
BRG pmax pmax
comp=Z,3.0nm,0.9s
BURAR Bucovina Array 96.96 27 P **P 08 08 24.7 +1.0**
BUR08 Bucovina Ar. S 96.98 27 P **P 08 08 23.5 -0.3**
BUR08 IAmb IAmb 08 08 31.3
comp=Z,11nm,1.1s
GNI Garni 99.04 43 P **Pdif 08 08 34.0 +0.7**
GNI P **Pdif 08 08 34.0 +0.7**
ANN Anapa 99.26 35 *e*P **Pdif 08 08 32.0 -1.9**
ANN *e**PP **pP 08 08 35.1 -1.1**
ANN *e* 08 12 34.9
ANN *e* 08 19 14.7
ANN pmax pmax
comp=Z,22nm,0.7s
SHA1 Shidzhatmaz 100.76 39⇓ *e*P **Pdif 08 08 39.1 -1.9**
KBZ Khabaz 100.87 39 P **Pdif 08 08 41.1 +0.1**
comp=Z,0.7nm,0.5s,baz=222,slow=6.6,SNR=2.0
KBZ PP **PP 08 12 49.5 -0.1**
comp=Z,2.6nm,1.1s,baz=229,slow=8.4,SNR=6.1
KIV Kislovodsk 100.94 39 IAMs_20 IAMs_20 08 50 56.0
comp=Z,1µm,21.0s
KIV Kislovodsk 100.94 39 *e*P **Pdif 08 08 41.7 +0.1**
KIV *e* 08 12 49.6
KIV *e*SS SS 08 27 20.4 +1.3
KIV pmax pmax
comp=Z,5.0nm,1.1s
AKASG Malin Array Be 100.96 27 PP **PP 08 12 53.3 +3.0**
comp=Z,0.2nm,0.4s,baz=218,slow=7.7,SNR=4.3
TBI Tubuai 101.56 223 *e*LR LR 08 41 46.1
comp=Z,4µm,30.8s
TBI *e*LR LR 08 41 56.2
comp=Z,16µm,29.0s
ALLY Alegheny Colle 101.82 316 IAMs_20 IAMs_20 08 44 33.2
comp=Z,1µm,21.0s
MAK Makhachkala 102.51 42 *e*P **Pdif 08 08 40.0 -8.4**
MAK *i* 08 13 06.5
MAK *e*S **SKSac 08 19 23.4 -4.3**
MAK *e*PS **PS 08 22 08.8 +0.5**
MAK *e*SS **SS 08 27 37.8 -2.8**
MAK pmax pmax
comp=Z,237nm,0.9s
STKA Stephens Creek 103.09 161 PKiKP **PKiKP 08 13 11.9 +0.6**
comp=Z,0.9nm,0.7s,baz=194,slow=8.8,SNR=3.8
O48B Farmland 103.45 313 IAMs_20 IAMs_20 08 41 53.4
comp=Z,1µm,21.0s
MNK Minsk 103.76 25 *i* P **Pdif 08 08 49.1 -4.5**
comp=E,10.0nm,0.7s
MNK *i* P **Pdif 08 08 49.1 -4.5**
comp=N,13nm,0.7s
MNK *i* P **Pdif 08 08 49.1 -4.5**
comp=Z,12nm,0.7s,baz=212
MNK *i* PP PP 08 13 02.6 -8.5
MNK *i* PPP PPP 08 15 50.5
MNK *i* S **Sdif 08 20 34.9 -7.5**
MNK *i* SS **SS 08 27 50.8 -6.6**
MNK *i* SSS SSS 08 31 46.9
MNK *i* LQ LQ 08 49 07.0
MNK *i* LR LR 08 52 08.7
MNK *i* LRM MLR 08 56 13.3
comp=Z,747nm,18.2s

MNK *i* LRM MLR 08 56 17.9
comp=E,407nm,16.0s
MNK *i* LRM MLR 08 56 35.5
comp=N,375nm,14.3s
MNK Minsk 103.76 25 *i* P **Pdif 08 08 49.1 -4.5**
MNK *i* S **Sdif 08 20 34.8 -7.5**
MNK *i* SS **SS 08 27 50.8 -6.6**
MNK pmax pmax
comp=Z,12nm,0.7s
MNK pmax pmax
comp=N,13nm,0.7s
MNK pmax pmax
comp=E,10.0nm,0.7s
MNK MLR MLR
comp=Z,747nm,18.0s
MNK MLR MLR
comp=E,407nm,16.0s
MNK MLR MLR
comp=N,375nm,14.0s
NACGM Naroch 103.77 24 *e*Pdif **Pdif 08 08 55.5 +1.8**
comp=Z,7.0nm,0.8s,baz=211
L48A N Adams 104.25 314 IAMs_20 IAMs_20 08 48 05.7
comp=Z,1µm,22.0s
MBWA Marble Bar 104.59 138 IAMs_20 IAMs_20 08 49 35.7
comp=Z,3µm,19.0s
HFS Hagfors 105.25 15 PP **PP 08 13 21.4 -0.8**
comp=Z,4.7nm,1.0s,baz=248,slow=1.6,SNR=5.6
PPT2 Papeete2 106.40 226 *e*LR LR 08 44 07.6
comp=Z,2µm,27.2s
PPT2 *e*LR LR 08 44 08.0
comp=Z,3µm,25.5s
TXAR Lajitas Array 107.57 294 PP **PP 08 13 39.9 -0.1**
comp=Z,0.4nm,0.8s,baz=144,slow=7.8,SNR=4.1
OK051 E0350 and S346 107.71 303 IAMs_20 IAMs_20 08 44 28.1
comp=Z,898nm,18.0s
TAOE Nuku Hiva Isla 107.81 239 *e*LR LR 08 44 40.8
comp=Z,3µm,32.1s
ASAR Alice Springs 108.47 151 PKiKP **PKiKP 08 13 18.8 -2.8**
comp=Z,0.7nm,0.9s,baz=188,slow=1.4,SNR=4.9
ASAR PP **PP 08 13 42.4 -2.8**
comp=Z,1.0nm,1.0s,baz=198,slow=8.0,SNR=4.3
ELIS Ellis County 109.04 302 IAMs_20 IAMs_20 08 53 02.2
comp=Z,1µm,19.0s
BKNI Bangkinang 109.88 109 IAMs_20 IAMs_20 08 47 54.9
comp=Z,2µm,22.0s
PMBI Palembang 110.10 114 IAMs_20 IAMs_20 08 49 35.3
comp=Z,2µm,20.0s
WRA Warramunga Arr 112.03 150 PKiKP **PKiKP 08 13 25.9 -2.3**
comp=Z,1.4nm,1.0s,baz=225,slow=2.3,SNR=5.4
WRA PP **PP 08 14 12.4 +1.5**
comp=Z,1.3nm,1.1s,baz=200,slow=6.5,SNR=5.6
WRA PKKPbc **PKKPbc 08 24 24.7 +6.1**
comp=Z,1.9nm,1.1s,baz=26,slow=3.9,SNR=6.4
WRA Warramunga Arr 112.03 150 *i* PKiKP **PKiKP 08 13 26.0 -2.3**
WRAB Tennant Creek 112.05 150⇑ *i* PKiKP **PKiKP 08 13 27.2 -1.1**
WRAB MLR MLR
comp=Z,760nm,19.0s
IPM Ipoh 112.79 106 IAMs_20 IAMs_20 08 53 44.4
comp=Z,1µm,20.0s
ANMO Albuquerque 112.89 297⇑ *i* PKiKP **PKiKP 08 13 28.6 -1.0**
ANMO MLR MLR
comp=Z,491nm,20.0s
KNRA Kununurra 113.58 143 IAMs_20 IAMs_20 08 51 51.6
comp=Z,851nm,20.0s
S22A 4UR Ranch, Cre 114.78 299 P **PKiKP 08 13 34.5 +1.3**
baz=126
DZM Mont Dzumac 115.61 183 *e*LR LR 08 48 54.1
comp=Z,2µm,25.3s
APA Apatity 116.02 19⇓ *i* PKiKP PKiKP 08 13 46.9 +13
APA *i* 08 14 37.0
APA pmax pmax
comp=Z,6.0nm,1.0s
N23A Red Feather La 116.03 302 P **PKiKP 08 13 37.0 +1.5**
baz=125
MMRI Maumere 116.38 133 IAMs_20 IAMs_20 08 52 20.7
comp=Z,749nm,21.0s
KSH Kashi 116.59 60 PKP **PKiKP 08 13 42.1 +5.6**
KSH PP **PP 08 14 46.0 +1.5**
KSH AMB AMB
comp=Z,260nm,7.0s
KSH LR LR
comp=Z,1µm,19.9s
KSH LR LR
comp=Z,1µm,19.2s
KSH LR LR
comp=Z,1µm,20.6s
ARTI Arti 116.77 37 IAMs_20 IAMs_20 09 06 43.6
comp=Z,1µm,20.0s
MTN Manton Dam 117.14 144 IAMs_20 IAMs_20 08 57 25.7
comp=Z,1µm,20.0s
AAK Ala-Archa 117.41 56⇓ *i* PKiKP **PKPdf 08 13 37.1 -0.9**
PFO Pinyon Flats O 118.88 290⇓ *i* PKiKP **PKPdf 08 13 40.1 -0.9**
SBUM Sibu 119.05 116 IAMs_20 IAMs_20 08 54 49.0
comp=Z,1µm,22.0s
BKB Balikpapan 119.22 123 IAMs_20 IAMs_20 08 56 00.3
comp=Z,1µm,21.0s
PDAR Pinedale Array 119.31 303 PKP **PKPdf 08 13 39.5 -2.3**
comp=Z,1.4nm,0.9s,baz=114,slow=6.4,SNR=8.2
PDAR PP **PP 08 15 03.8 +0.3**
comp=Z,3.3nm,1.3s,baz=122,slow=7.3,SNR=5.6
SHL Shillong 119.66 81 P **PKPdf 08 13 40.9 -1.9**
CMAR Chiang Mai Arr 120.55 93 PKP **PKPdf 08 13 43.0 -1.6**
comp=Z,1.9nm,0.4s,baz=229,slow=3.2,SNR=13
CMAR Chiang Mai Arr 120.55 93 PKiKP **PKPdf 08 13 43.0 -1.6**
S11A Rachel 120.59 295 IAMs_20 IAMs_20 08 53 25.5
comp=Z,734nm,19.0s
BRVK Borovoye 120.62 44⇑ *i* PKiKP **PKiKP 08 13 45.0 +1.3**
BVAR Borovoye Array 120.65 44 PKP **PKPdf 08 13 42.3 -1.3**
comp=Z,1.1nm,0.6s,baz=242,slow=2.8,SNR=5.0
YNE Yellowstone No 120.77 305 IAMs_20 IAMs_20 09 01 42.1
comp=Z,1µm,20.0s
CHTO Chiang Mai 120.78 92 IAMs_20 IAMs_20 08 56 52.2
comp=Z,1µm,20.0s
R11B Troy Canyon, C 120.86 295 P **PKiKP 08 13 46.0 +1.1**
baz=122
LSA Lhasa 121.50 77 P **PKPdf 08 13 45.1 -1.5**
Q09A Carvers 122.18 295 IAMs_20 IAMs_20 09 05 03.4
comp=Z,1µm,22.0s
NVAR Mina Array Bea 122.72 294 PKP **PKPdf 08 13 47.5 -0.9**
comp=Z,0.9nm,0.7s,baz=98,slow=3.7,SNR=6.0
NVAR PKKPbc **PKKPbc 08 23 41.3 +0.4**
comp=Z,0.6nm,0.7s,baz=291,slow=4.6,SNR=4.0
BMN Battle Mountai 123.02 297 IAMs_20 IAMs_20 08 50 38.7
comp=Z,865nm,21.0s
TULEG Thule 123.44 347 IAMs_20 IAMs_20 09 14 11.0
comp=Z,900nm,20.0s
TOLI2 Tolitoli 123.46 125 IAMs_20 IAMs_20 08 57 14.2
comp=Z,823nm,22.0s
KURBB Kurchatov Arra 123.89 50 PKP **PKPdf 08 13 48.3 -1.6**
comp=Z,3.3nm,0.8s,baz=240,slow=2.3,SNR=15
KURK Kurchatov 123.98 50 P **PKPdf 08 13 49.9 -0.2**
KURK Kurchatov 123.98 50 *c* *i* PKiKP **PKPdf 08 13 49.8 -0.3**
MK31 Makanchi Array 124.31 55⇑ *i* PKiKP **PKPdf 08 13 50.7 -0.2**
MKAR Makanchi Array 124.31 55 PKP **PKPdf 08 13 49.5 -1.4**
comp=Z,2.7nm,0.8s,baz=234,slow=1.6,SNR=11
KKM Kota Kinabalu 124.36 117 IAMs_20 IAMs_20 09 00 41.8
comp=Z,1µm,20.0s
WMQ Urumqi 126.33 61 *e*PKP **PKiKP 08 13 56.5 +1.1**
WMQ LR LR
comp=Z,710nm,21.7s
WMQ LR LR
comp=Z,700nm,17.3s
WMQ LR LR
comp=Z,940nm,23.9s
KMI Kunming 127.38 89 ⇓PKP **PKiKP 08 14 02.7 +4.4**
KMI LR LR
comp=Z,740nm,18.9s
KMI LR LR
comp=Z,470nm,18.9s
KMI LR LR
comp=Z,760nm,19.4s
PZH PanZhiHua 127.44 87 PKP **PKPdf 08 13 56.6 -1.1**
PZH PP **PP 08 16 00.7 +2.4**
PZH AMB AMB
comp=Z,170nm,6.7s
PZH LR LR
comp=Z,810nm,19.1s
PZH LR LR
comp=Z,580nm,19.2s
PZH LR LR
comp=Z,710nm,20.6s
GOMU GeErMu 127.54 72 PKP **PKiKP 08 13 58.3 -0.1**
GOMU SKKS 08 22 55.8
GOMU SS **SS 08 33 11.5 +0.8**
GOMU LR LR
comp=Z,1µm,20.8s
GOMU LR LR

	comp=Z,470nm,20.9s						
GOMU				LR	LR		
	comp=Z,2μm,20.9s						
ZALV	**Zalesovo Beam**	**128.78**	**48**	PKP	**PKPdf**	**08 13 57.6**	**-1.6**
	comp=Z,1.6nm,0.6s,baz=255,slow=2.8,SNR=6.3						
QIZ	**Qiongzhong**	**128.91**	**100**	PKP	**PKPdf**	**08 14 00.7**	**+0.2**
QIZ				PP	**PP**	**08 16 06.6**	**-1.1**
QIZ				SS	SS	08 33 27.6	+0.8
QIZ				LR	LR		
	comp=Z,720nm,19.6s						
QIZ				LR	LR		
	comp=Z,910nm,16.7s						
QIZ				LR	LR		
	comp=Z,1μm,17.1s						
YKA	**Yellowknife Ar**	**130.42**	**323**	PKP	**PKPdf**	**08 14 00.9**	**-1.1**
	comp=Z,9.8nm,1.0s,baz=104,slow=2.0,SNR=5.6						
CD2	**Chengdu**	**131.32**	**83**	PKP	**PKPdf**	**08 14 04.9**	**+0.1**
CD2				LR	LR		
	comp=Z,500nm,18.4s						
CD2				LR	LR		
	comp=Z,600nm,17.1s						
CD2				LR	LR		
	comp=Z,410nm,16.5s						
GTA	**Gaotai**	**132.53**	**71**	*e*PKP	**PKPdf**	**08 14 06.8**	**-0.2**
GTA				AMB	AMB		
	comp=Z,200nm,9.1s						
GTA				LR	LR		
	comp=Z,740nm,19.6s						
GTA				LR	LR		
	comp=Z,1μm,18.5s						
GTA				LR	LR		
	comp=Z,1μm,19.3s						
NRIK	**Noril'sk**	**133.81**	**29**	PKP	**PKPdf**	**08 14 07.2**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=303,slow=2.4,SNR=7.3						
LZH	**Lanzhou**	**133.92**	**77**	*e*PKP	**PKPdf**	**08 14 09.8**	**+0.1**
LZH				sPKP		08 14 22.9	
LZH				PP	**PP**	**08 16 46.0**	**+5.7**
LZH				PKS	**PKSdf**	**08 17 39.5**	**-6.7**
LZH				SS	SS	08 34 29.3	+0.9
LZH				AMB	AMB		
	comp=Z,330nm,5.7s						
LZH				LR	LR		
	comp=Z,550nm,15.8s						
LZH				LR	LR		
	comp=Z,500nm,15.8s						
LZH				LR	LR		
	comp=Z,670nm,14.4s						
KOTAN	**Kotaneelee Air**	**134.28**	**318**	P	**PKiKP**	**08 14 10.5**	**-0.2**
	baz=101						
TOAD	**Toad River Com**	**134.61**	**316**	P	**PKiKP**	**08 14 11.0**	**-0.5**
	baz=102						
C36M	**Paulatuk**	**135.37**	**331**	P	**PKiKP**	**08 14 13.0**	**+0.3**
	baz=92						
A36M	**Sachs Harbour**	**135.77**	**335**	IAMs_20	IAMs_20	08 55 41.9	
	comp=Z,701nm,20.0s						
A36M	**Sachs Harbour**	**135.77**	**335**	P	**PKiKP**	**08 14 14.3**	**+0.9**
	baz=88						
TGTN	**Hyland Airport**	**136.54**	**320**	P	**PKiKP**	**08 14 16.1**	**+0.7**
	baz=97						
U35K	**Hyder**	**136.58**	**312**	P	**PKiKP**	**08 14 16.2**	**+0.7**
	baz=101						
WTLY	**Watson Lake, Y**	**136.62**	**318**	P	**PKiKP**	**08 14 16.4**	**+0.8**
	baz=98						
XAN	**Xi'an**	**136.65**	**82**	PKP	**PKPdf**	**08 14 14.8**	**+0.1**
XAN				SS	SS	08 34 56.1	-5.0
XAN				LR	LR		
	comp=Z,1μm,18.7s						
XAN				LR	LR		
	comp=Z,1μm,16.0s						
XAN				LR	LR		
	comp=Z,2μm,22.0s						
T35M	**Bob Quinn**	**136.90**	**313**	P	**PKiKP**	**08 14 17.1**	**+0.9**
	baz=100						
DLBC	**Dease Lake**	**137.01**	**315**	P	**PKiKP**	**08 14 17.8**	**+1.3**
	baz=98						
V35K	**Ketchikan**	**137.35**	**310**	P	**PKiKP**	**08 14 18.1**	**+1.0**
	baz=101						
MOY	**Mondy**	**137.46**	**55**	*e*PKIKP	**PKPdf**	**08 14 15.6**	**-0.1**
MOY				pmax	pmax		
	comp=Z,55nm,3.4s						
S34M	**Telegraph Cree**	**137.51**	**314**	P	**PKiKP**	**08 14 18.6**	**+1.2**
	baz=98						
R33M	**Jennings River**	**137.62**	**316**	P	**PKiKP**	**08 14 19.1**	**+1.4**
	baz=97						
WRAK	**Wrangell Islan**	**137.95**	**312**	P	**PKiKP**	**08 14 19.5**	**+1.2**
	baz=99						
CRAG	**Craig**	**138.23**	**310**	P	**PKiKP**	**08 14 19.8**	**+0.9**
	baz=99						
Q32M	**Nakina River**	**138.24**	**316**	P	**PKiKP**	**08 14 19.5**	**+0.4**
	baz=96						
U33K	**Whale Pass**	**138.33**	**311**	P	**PKiKP**	**08 14 19.9**	**+0.9**
	baz=99						
ZAK	**Zakamensk**	**138.56**	**57**	*e*PKHKP	PKPpre	08 14 08.3	
ZAK				pmax	pmax		
	comp=Z,15nm,1.4s						
P33M	**Teslin, Yukon**	**138.63**	**318**	P	**PKiKP**	**08 14 20.6**	**+0.9**
	baz=94						
N32M	**Quiet Lake**	**138.81**	**319**	P	**PKiKP**	**08 14 20.4**	**+0.3**
	baz=93						
INK	**Inuvik**	**138.83**	**330**	P	**PKiKP**	**08 14 21.1**	**+1.4**
	baz=84						
FARO	**Faro, Yukon**	**138.98**	**321**	P	**PKiKP**	**08 14 21.4**	**+1.0**
	baz=92						
F31M	**Tsiigehtchic**	**138.99**	**329**	P	**PKiKP**	**08 14 21.2**	**+1.2**
	baz=85						
P32M	**Atlin**	**139.03**	**317**	P	**PKiKP**	**08 14 21.3**	**+0.8**
	baz=94						
S32K	**Killisnoo**	**139.29**	**313**	P	**PKiKP**	**08 14 21.9**	**+0.9**
	baz=96						
R32K	**Eaglecrest**	**139.34**	**315**	P	**PKiKP**	**08 14 22.6**	**+1.4**
	baz=95						
H31M	**Peel River**	**139.35**	**326**	P	**PKiKP**	**08 14 22.0**	**+1.1**
	baz=86						
M31M	**Drury Creek, Y**	**139.47**	**321**	P	**PKiKP**	**08 14 22.0**	**+0.7**
	baz=91						
LYN	**LuoYang**	**139.49**	**84**	PKP	**PKiKP**	**08 14 25.4**	**+3.2**
LYN				LR	LR		
	comp=Z,760nm,17.9s						
LYN				LR	LR		
	comp=Z,880nm,15.5s						
LYN				LR	LR		
	comp=Z,1μm,17.9s						
SIT	**Sitka**	**139.66**	**313**	P	**PKiKP**	**08 14 22.8**	**+1.0**
	baz=96						
WHY	**Whitehorse**	**139.67**	**318**	P	**PKiKP**	**08 14 22.8**	**+0.9**
	baz=92						
F30M	**Barrier River**	**139.76**	**329**	P	**PKiKP**	**08 14 22.9**	**+1.2**
	baz=83						
SKAG	**Skagway**	**139.84**	**316**	P	**PKiKP**	**08 14 23.3**	**+1.2**
	baz=93						
SSLB	**Suanglung**	**139.92**	**104**	IAMs_20	IAMs_20	09 05 45.5	
	comp=Z,1μm,22.0s						
SONM	**Songino Array**	**139.93**	**62**	PKhKP	PKPpre	08 14 11.8	
	comp=Z,3.5nm,1.0s,baz=230,slow=2.7,SNR=5.8						
G30M	**tAoh Zrail Nji**	**140.00**	**328**	P	**PKiKP**	**08 14 23.2**	**+0.9**
	baz=83						
N31M	**Braeburn, Yuko**	**140.12**	**319**	P	**PKiKP**	**08 14 23.7**	**+1.0**
	baz=90						
BTO	**Baotou**	**140.20**	**74**	*e*PKP	**PKPdf**	**08 14 20.9**	**-0.2**
BTO				PP	**PP**	**08 17 20.5**	**+1.0**
BTO				SS	SS	08 35 46.6	+3.6
BTO				LR	LR		
	comp=Z,1μm,17.8s						
BTO				LR	LR		
	comp=Z,2μm,17.2s						
BTO				LR	LR		
	comp=Z,2μm,20.2s						
S31K	**Pelican**	**140.22**	**314**	P	**PKiKP**	**08 14 24.0**	**+1.1**
	baz=94						
I30M	**Mount Dempster**	**140.24**	**325**	P	**PKiKP**	**08 14 24.0**	**+1.0**
	baz=85						
EPYK	**Eagle Plains**	**140.27**	**327**	P	**PKiKP**	**08 14 24.6**	**+1.7**
	baz=84						
O30N	**Mendenhall**	**140.27**	**318**	P	**PKiKP**	**08 14 24.0**	**+1.0**
	baz=91						
J30M	**Hart River**	**140.27**	**324**	P	**PKiKP**	**08 14 24.2**	**+1.2**
	baz=86						
ULN	**Ulaanbaatar**	**140.37**	**62⇑**	*e*PKIKP	**PKPdf**	**08 14 20.8**	**-0.4**
PLBC	**Pleasant Camp**	**140.37**	**316**	P	**PKiKP**	**08 14 23.9**	**+0.8**
	baz=92						
E29M	**Blow River**	**140.43**	**330**	P	**PKiKP**	**08 14 23.5**	**+0.4**
	baz=80						
D28M	**Stokes Point**	**140.54**	**332**	P	**PKiKP**	**08 14 24.2**	**+0.9**
	baz=78						
M30M	**Minto, Yukon**	**140.59**	**321**	P	**PKiKP**	**08 14 24.3**	**+0.7**
	baz=88						
P30M	**Million Dollar**	**140.69**	**317**	P	**PKiKP**	**08 14 24.4**	**+0.5**
	baz=91						
G29M	**Pine Creek**	**140.71**	**328**	P	**PKiKP**	**08 14 24.4**	**+0.7**
	baz=82						
N30M	**Aishikik Lake**	**140.75**	**319**	P	**PKiKP**	**08 14 24.2**	**+0.2**
	baz=89						
TIY	**Taiyuan**	**140.83**	**79**	PKP	**PKPdf**	**08 14 22.5**	**+0.2**
TIY				PP	**PP**	**08 17 30.4**	**+7.1**
TIY				SKS	**SKSdf**	**08 21 32.4**	**-0.1**
TIY				SS	**SS**	**08 35 51.6**	**+1.3**
TIY				AMB	AMB		
	comp=Z,230nm,4.8s						
TIY				LR	LR		
	comp=Z,640nm,17.9s						
TIY				LR	LR		
	comp=Z,620nm,19.2s						
TIY				LR	LR		
	comp=Z,730nm,21.3s						
K29M	**Barlow Dome**	**140.85**	**323**	P	**PKiKP**	**08 14 24.8**	**+0.6**
	baz=86						
H29M	**Whitestone**	**140.95**	**327**	P	**PKiKP**	**08 14 25.0**	**+0.8**
	baz=82						
HYT	**Haines Junctio**	**140.96**	**318**	P	**PKiKP**	**08 14 25.0**	**+0.5**
	baz=90						
E28M	**Babbage River**	**140.98**	**331**	P	**PKiKP**	**08 14 24.8**	**+0.6**
	baz=78						
P29M	**Windy Craggy**	**141.08**	**317**	P	**PKiKP**	**08 14 25.3**	**+0.6**
	baz=91						
J29N	**Klondike Camp**	**141.10**	**324**	P	**PKiKP**	**08 14 25.7**	**+1.1**
	baz=84						
L29M	**L29M**	**141.17**	**322**	P	**PKiKP**	**08 14 25.6**	**+0.8**
	baz=86						
F28M	**Old Crow**	**141.30**	**329**	P	**PKiKP**	**08 14 25.3**	**+0.4**
	baz=79						
D27M	**Malcolm River**	**141.34**	**332**	P	**PKiKP**	**08 14 25.8**	**+0.8**
	baz=76						
M29M	**Somme Creek**	**141.37**	**321**	P	**PKiKP**	**08 14 25.6**	**+0.3**
	baz=87						
HHC	**Hu-ho-hao-te**	**141.38**	**74**	*e*PKP	**PKPdf**	**08 14 20.2**	**-3.0**
HHC				SS	SS	08 35 51.0	-5.8
HHC				LR	LR		
	comp=Z,590nm,17.6s						
HHC				LR	LR		
	comp=Z,740nm,17.1s						
HHC				LR	LR		
	comp=Z,1μm,19.1s						
YUK6	**Outpost Mounta**	**141.38**	**319**	P	**PKiKP**	**08 14 25.6**	**+0.1**
	baz=89						
O29M	**Mount Kennedy**	**141.50**	**318**	P	**PKiKP**	**08 14 26.6**	**+0.9**
	baz=89						
YUK4	**Talbot Arm**	**141.51**	**319**	P	**PKiKP**	**08 14 26.1**	**+0.4**
	baz=88						
DAWY	**Dawson**	**141.65**	**324**	P	**PKiKP**	**08 14 26.5**	**+0.8**
	baz=84						
I28M	**Miner Creek**	**141.70**	**326**	P	**PKiKP**	**08 14 26.4**	**+0.5**
	baz=82						
E27K	**Coleen River**	**141.81**	**331**	IAMs_20	IAMs_20	09 14 34.8	
	comp=Z,629nm,20.0s						
E27K	**Coleen River**	**141.81**	**331**	P	**PKiKP**	**08 14 26.8**	**+0.8**
	baz=76						
PNL	**Peninsula**	**141.92**	**317**	P	**PKiKP**	**08 14 27.1**	**+0.8**
	baz=89						
YUK8	**Steele Glacier**	**142.05**	**319**	P	**PKiKP**	**08 14 27.6**	**+0.7**
	baz=87						
G27K	**Doyon Strip**	**142.15**	**328**	P	**PKiKP**	**08 14 27.7**	**+1.0**
	baz=78						
C27K	**Jago River**	**142.16**	**333**	P	**PKiKP**	**08 14 27.7**	**+1.1**
	baz=72						
H27K	**Steamboat Moun**	**142.21**	**327**	P	**PKiKP**	**08 14 27.8**	**+0.9**
	baz=79						
O28M	**Mount Upton**	**142.28**	**318**	P	**PKiKP**	**08 14 28.4**	**+1.0**
	baz=87						
EGAK	**Eagle**	**142.31**	**325**	P	**PKiKP**	**08 14 28.1**	**+1.1**
	baz=81						
PINM	**Pinnacle**	**142.34**	**317**	P	**PKiKP**	**08 14 28.0**	**+0.6**
	baz=88						
YUK3	**Moose Creek**	**142.35**	**320**	P	**PKiKP**	**08 14 28.0**	**+0.5**
	baz=86						
HNS	**HongShan**	**142.35**	**81**	⇑PKP	**PKPdf**	**08 14 19.6**	**-5.3**
HNS				PP	PP	08 17 40.6	+8.1
HNS				LR	LR		
	comp=Z,610nm,19.6s						
HNS				LR	LR		
	comp=Z,690nm,20.0s						
HNS				LR	LR		
	comp=Z,850nm,19.2s						
I27K	**Kandik River**	**142.37**	**326**	P	**PKiKP**	**08 14 27.4**	**+0.2**
	baz=80						
C26K	**Camden Bay**	**142.47**	**334**	P	**PKiKP**	**08 14 28.1**	**+0.9**
	baz=71						
BVCY	**Beaver Creek**	**142.48**	**321**	P	**PKiKP**	**08 14 28.3**	**+0.8**
	baz=84						
K27K	**Chicken**	**142.82**	**324**	P	**PKiKP**	**08 14 28.7**	**+0.6**
	baz=81						
CTG	**Chitna Glacier**	**142.83**	**319**	P	**PKiKP**	**08 14 29.0**	**+0.6**
	baz=86						
L27K	**Beaver Creek,**	**142.85**	**322**	P	**PKiKP**	**08 14 28.6**	**+0.4**
	baz=83						
F26K	**Sheenjek River**	**142.87**	**330**	P	**PKiKP**	**08 14 28.8**	**+0.7**
	baz=74						
G26K	**Porcupine Rive**	**142.93**	**329**	P	**PKiKP**	**08 14 29.3**	**+1.1**
	baz=76						
M27K	**Edge Creek, AK**	**142.96**	**321**	P	**PKiKP**	**08 14 28.5**	**-0.1**
	baz=84						
NJ2	**Nanjing**	**143.01**	**91**	*e*PKP	**PKPdf**	**08 14 26.2**	**-0.1**
I26K	**Coal Creek Min**	**143.05**	**326**	P	**PKiKP**	**08 14 28.8**	**+0.3**
	baz=78						
D25K	**Kavik River**	**143.15**	**333**	P	**PKiKP**	**08 14 28.6**	**-0.1**
	baz=70						
MESA	**MESA**	**143.19**	**317**	P	**PKiKP**	**08 14 29.3**	**+0.1**
	baz=86						
E25K	**Arctic Village**	**143.26**	**331**	P	**PKiKP**	**08 14 29.4**	**+0.5**
	baz=72						
J26L	**Joseph Creek**	**143.38**	**325**	P	**PKiKP**	**08 14 29.7**	**+0.3**
	baz=79,SNR=22						
F25K	**Christian Rive**	**143.45**	**330**	P	**PKiKP**	**08 14 30.3**	**+1.0**
	baz=73						
M26K	**Nabesna, AK**	**143.47**	**321**	P	**PKiKP**	**08 14 29.7**	**+0.2**
	baz=82						
L26K	**Log Cabin Wild**	**143.54**	**322**	P	**PKiKP**	**08 14 29.7**	**+0.1**
	baz=81						
FYU	**Fort Yukon**	**143.59**	**329**	IAMs_20	IAMs_20	09 10 23.7	
	comp=Z,773nm,22.0s						
MCARA	**McCarthy VSAT**	**143.61**	**320**	P	**PKiKP**	**08 14 30.2**	**+0.4**
	baz=84						
TIA	**Tai'an**	**143.63**	**84**	PKP	PKPab	08 14 23.6	-0.3
TIA				PP	**PP**	**08 17 38.7**	**-1.6**
TIA				LR	LR		
	comp=Z,580nm,22.6s						
TIA				LR	LR		
	comp=Z,870nm,20.0s						
TIA				LR	LR		
	comp=Z,1μm,21.6s						
SCRK	**Sand Creek**	**143.66**	**324**	P	**PKiKP**	**08 14 30.3**	**+0.3**
	baz=79,SNR=9.1						
CRQE	**Cirque**	**143.70**	**319**	P	**PKiKP**	**08 14 30.2**	**+0.1**
	baz=85						
C24K	**Franklin Bluff**	**143.76**	**334**	P	**PKiKP**	**08 14 30.3**	**+0.5**
	baz=67						
BGLC	**Bering Glacier**	**143.85**	**317**	P	**PKiKP**	**08 14 30.6**	**+0.4**
	baz=85						
G25K	**Bearman Lake**	**143.86**	**329**	P	**PKiKP**	**08 14 30.6**	**+0.5**
	baz=73						
H25L	**Birch Creek**	**143.89**	**328**	P	**PKiKP**	**08 14 30.9**	**+0.7**
	baz=74						
PRP	**Porcupine Dome**	**143.97**	**327**	P	**PKiKP**	**08 14 30.8**	**+0.2**
	baz=76,SNR=20						
D24K	**Happy Valley**	**144.03**	**333**	P	**PKiKP**	**08 14 31.1**	**+0.7**
	baz=67						
RIDG	**Independent Ri**	**144.08**	**324**	PKPdf	PKPbc	08 14 25.1	-0.2
RIDG	**Independent Ri**	**144.08**	**324**	P	**PKiKP**	**08 14 31.3**	**+0.6**
	baz=79,SNR=26						
J25K	**Salcha River,**	**144.12**	**325**	P	**PKiKP**	**08 14 31.3**	**+0.5**
	baz=77,SNR=27						
F24K	**Squaw Lake**	**144.29**	**331**	P	**PKiKP**	**08 14 32.0**	**+1.0**
	baz=70						
E24K	**Your Creek**	**144.31**	**332**	P	**PKiKP**	**08 14 32.0**	**+0.8**
	baz=69,SNR=18						
C23K	**Itkillik River**	**144.32**	**335**	P	**PKiKP**	**08 14 31.7**	**+0.8**
	baz=64						
N25K	**Chitina, Valde**	**144.33**	**320**	P	**PKiKP**	**08 14 32.3**	**+1.0**
	baz=82						
BJI	**Beijing**	**144.40**	**78**	PKP	**PKPab**	**08 14 26.5**	**-0.1**
BJI				pPKP	**PKiKP**	**08 14 32.6**	**+0.5**
BJI				sPKP		08 14 37.9	
BJI				LR	LR		
	comp=Z,400nm,19.8s						
BJI				LR	LR		
	comp=Z,370nm,20.3s						
BJI				LR	LR		
	comp=Z,660nm,18.9s						
G24K	**Hadweenzic Riv**	**144.40**	**329**	P	**PKiKP**	**08 14 31.3**	**0.0**
	baz=72						
BMRM	**Bremner River**	**144.42**	**319**	P	**PKiKP**	**08 14 31.5**	**0.0**
	baz=83						
KAIM	**Kayak Island**	**144.44**	**317**	P	**PKiKP**	**08 14 31.7**	**+0.2**
	baz=84						
HARP	**HAARP**	**144.47**	**322**	P	**PKiKP**	**08 14 32.0**	**+0.5**
	baz=80						
K24K	**Donnelly Dome**	**144.47**	**324**	P	**PKiKP**	**08 14 32.0**	**+0.4**
	baz=78,SNR=16						
TOLK	**Toolik Lake Re**	**144.47**	**333**	P	**PKiKP**	**08 14 31.7**	**+0.3**
	baz=67,SNR=38						
PAX	**Paxson**	**144.50**	**323**	P	**PKiKP**	**08 14 32.0**	**+0.3**
	baz=79,SNR=7.3						
D23K	**Nanushuk River**	**144.71**	**334**	P	**PKiKP**	**08 14 32.8**	**+0.9**
	baz=66						
E23K	**Chandalar**	**144.71**	**332**	P	**PKiKP**	**08 14 32.1**	**+0.1**
	baz=68,SNR=14						
ILAR	**Eielson Array**	**144.72**	**326**	PKP	**PKPab**	**08 14 26.1**	**-0.9**
	comp=Z,30nm,0.8s,baz=84,slow=1.7,SNR=157						
H24K	**Noodor Dome**	**144.82**	**328**	P	**PKiKP**	**08 14 32.8**	**+0.6**
	baz=73,SNR=48						
HDA	**Harding Lake**	**144.83**	**325**	P	**PKiKP**	**08 14 32.6**	**+0.4**
	baz=76,SNR=38						
POKR	**Poker Plat Res**	**144.85**	**327**	PKPdf	**PKPab**	**08 14 26.7**	**-0.8**
POKR	**Poker Plat Res**	**144.85**	**327**	P	**PKiKP**	**08 14 32.8**	**+0.5**
	baz=74,SNR=32						
B22K	**Teshekpuk Lake**	**144.94**	**336**	P	**PKiKP**	**08 14 33.7**	**+1.5**
	baz=60						
KLU	**Klutina**	**144.97**	**320**	P	**PKiKP**	**08 14 33.8**	**+1.1**
	baz=81,SNR=19						
M24K	**Tolsona, Glenn**	**144.99**	**321**	P	**PKiKP**	**08 14 34.1**	**+1.5**
	baz=80						
EYAK	**Cordova Ski Ar**	**145.03**	**318**	P	**PKiKP**	**08 14 34.2**	**+1.5**
	baz=82						
A22K	**Sinclair Lake**	**145.04**	**338**	P	**PKiKP**	**08 14 33.9**	**+1.5**
	baz=58						
COLA	**College**	**145.09**	**326**	P	**PKiKP**	**08 14 34.0**	**+1.3**
	baz=74						
COLA	**College**	**145.09**	**326**	*d i*PKIKP	**PKPbc**	**08 14 27.5**	**-0.8**
COLA				MLR	MLR		
	comp=Z,433nm,18.0s						
CCB	**Clear Creek Bu**	**145.13**	**326**		**PKPbc**	**08 14 27.2**	**-1.3**
CIT	**Chita**	**145.20**	**57**	*e*PKIKP	**PKPab**	**08 14 29.4**	**+0.1**
CIT				pmax	pmax		
	comp=Z,460nm,2.2s						
COLD	**Coldfoot**	**145.23**	**331**	P	**PKiKP**	**08 14 34.8**	**+1.9**
	baz=68						
A21K	**Barrow**	**145.31**	**339**	P	**PKiKP**	**08 14 34.9**	**+1.9**
	baz=56						
DHY	**Denali Highway**	**145.33**	**323**		**PKPbc**	**08 14 29.0**	**-0.5**
DHY	**Denali Highway**	**145.33**	**323**	P	**PKiKP**	**08 14 34.7**	**+1.2**
	baz=77,SNR=46						
G23K	**Bananza Creek**	**145.36**	**330**	P	**PKiKP**	**08 14 34.8**	**+1.5**
	baz=69						
D22K	**Ayikyak River**	**145.40**	**334**	P	**PKiKP**	**08 14 34.9**	**+1.6**
	baz=63						
HIN	**Hinchinbrook I**	**145.42**	**318**		**PKPdf**	**08 14 29.5**	**-0.1**
E22K	**Anaktuvuk Pass**	**145.44**	**333**	P	**PKiKP**	**08 14 34.8**	**+1.4**
	baz=65,SNR=22						
Q23K	**Middleton Isla**	**145.47**	**317**	P	**PKiKP**	**08 14 34.6**	**+1.0**
	baz=84						
H23K	**Yukon River**	**145.48**	**328**		**PKPdf**	**08 14 28.8**	**-0.8**
H23K	**Yukon River**	**145.48**	**328**	P	**PKiKP**	**08 14 34.9**	**+1.4**
	baz=71						
BOD	**Bodaibo**	**145.49**	**46**	*e*PKIKP	**PKPdf**	**08 14 28.3**	**-1.4**
BOD				pmax	pmax		
	comp=Z,207nm,2.0s						
XLT	**XiLinHaoTe**	**145.50**	**71**	*e*PKPbc	**PKPdf**	**08 14 30.4**	**+0.1**
XLT				PP	PP	08 17 59.4	+8.0
XLT				LR	LR		
	comp=Z,830nm,19.2s						
XLT				LR	LR		
	comp=Z,960nm,21.1s						
SCM	**Sheep Creek Mo**	**145.57**	**321**	P	**PKiKP**	**08 14 34.9**	**+0.9**
	baz=79,SNR=14						
WAT6	**Susitna Watana**	**145.61**	**322**	P	**PKiKP**	**08 14 34.9**	**+0.8**
	baz=78,SNR=30						
I23K	**Minto, Yukon-K**	**145.62**	**327**	P	**PKiKP**	**08 14 34.6**	**+0.8**
	baz=72,SNR=28						
GLI	**Glacier Island**	**145.63**	**319**	P	**PKiKP**	**08 14 34.5**	**+0.6**
	baz=81						
B21K	**Ikpikpuk River**	**145.65**	**336**		**PKPdf**	**08 14 29.5**	**-0.2**
B21K	**Ikpikpuk River**	**145.65**	**336**	P	**PKiKP**	**08 14 34.8**	**+1.1**
	baz=60						
NEA2	**Nenana**	**145.67**	**326**	P	**PKiKP**	**08 14 34.7**	**+0.8**
	baz=73,SNR=21						
M23K	**Glacier View**	**145.76**	**321**	P	**PKiKP**	**08 14 35.0**	**+0.8**
	baz=79,SNR=9.5						
G22K	**Bettles**	**145.82**	**331**	P	**PKiKP**	**08 14 35.4**	**+1.3**
	baz=67						
F22K	**John River**	**145.83**	**332**	P	**PKiKP**	**08 14 35.4**	**+1.2**
	baz=66						
MCK	**McKinley**	**145.85**	**324**	P	**PKiKP**	**08 14 35.4**	**+1.0**
	baz=75,SNR=9.5						
WAT1	**Susitna Watana**	**145.91**	**323**	P	**PKiKP**	**08 14 35.9**	**+1.3**
	baz=76						
P23K	**Montague Islan**	**145.92**	**318**	P	**PKiKP**	**08 14 35.4**	**+0.9**
	baz=82						
C21K	**Knifeblade Rid**	**145.94**	**335**	P	**PKiKP**	**08 14 35.8**	**+1.4**
	baz=60						
E21K	**Killik River**	**146.02**	**334**	P	**PKiKP**	**08 14 35.8**	**+1.2**
	baz=62						
SML	**Sawmill**	**146.04**	**321**	P	**PKPbc**	**08 14 31.6**	**+0.1**
	baz=78,SNR=10						
H22K	**Ishtalitna Cre**	**146.16**	**329**	P	**PKPbc**	**08 14 31.4**	**-0.3**
	baz=69,SNR=12						
KNK	**Knik Glacier**	**146.18**	**320**	P	**PKPdf**	**08 14 31.2**	**+0.4**
	baz=78,SNR=10						
B20K	**Meade River**	**146.20**	**337**	P	**PKPbc**	**08 14 31.5**	**-0.2**
	baz=56						
MLY	**Manley**	**146.21**	**327**	P	**PKPdf**	**08 14 31.3**	**+0.4**
	baz=71,SNR=16						
TIXI	**Tiksi**	**146.22**	**19⇑**	*e*PKP2	**PKPdf**	**08 14 30.1**	**-0.5**
PWL	**Port Wells**	**146.23**	**319**	P	**PKPbc**	**08 14 31.8**	**-0.3**
	baz=79						
F21K	**Alatna River**	**146.41**	**332**		**PKPdf**	**08 14 31.7**	**+0.6**
F21K	**Alatna River**	**146.41**	**332**	P	**PKPbc**	**08 14 32.2**	**-0.3**
	baz=64						
PMR	**Palmer**	**146.46**	**321**	P	**PKPbc**	**08 14 32.0**	**-0.6**
	baz=78,SNR=10						
TRF	**Thorofare Moun**	**146.51**	**324**	P	**PKPdf**	**08 14 31.6**	**0.0**
	baz=74,SNR=18						
BPAW	**Bear Paw Mtn.**	**146.61**	**326**	P	**PKPdf**	**08 14 32.1**	**+0.6**
	baz=72,SNR=37						
I21K	**Tanana**	**146.65**	**328**	P	**PKPbc**	**08 14 32.5**	**-0.7**
	baz=69						
G21K	**Allakaket**	**146.71**	**330**		**PKPdf**	**08 14 32.1**	**+0.5**
G21K	**Allakaket**	**146.71**	**330**	P	**PKPbc**	**08 14 32.7**	**-0.6**
	baz

baz=77
BRSE Bradley Lake S 147.62 318 P **PKPbc 08 14 35.3 -0.8**
baz=79
H20K Anotleneega Mo 147.65 329 P **PKPbc 08 14 35.4 -0.6**
baz=65,SNR=6.4
I20K Naaghedeneel 147.78 328 P **PKPbc 08 14 36.1 -0.1**
baz=67
J20K Nowinta River 147.89 327 P **PKPbc 08 14 35.9 -0.8**
baz=68,SNR=20
B18K Kokolik River 147.89 338 P **PKPbc 08 14 36.4 -0.1**
baz=51
DL2 Dalian 147.97 82 PKPbc **PKPdf 08 14 32.9 -1.6**
DL2 LR LR
comp=Z,540nm,20.4s
DL2 LR LR
comp=Z,660nm,18.0s
DL2 LR LR
comp=Z,1μm,20.0s
N20K Mount Spurr 147.99 321 P **PKPbc 08 14 36.5 -0.7**
baz=75,SNR=21
SPCR Spurr Chakacha 147.99 321 P **PKPbc 08 14 36.1 -1.0**
baz=75,SNR=13
F19K Shaleruckik Mo 148.08 332 P **PKPbc 08 14 36.3 -0.7**
baz=60,SNR=9.0
HOM Homer 148.09 318 P **PKPbc 08 14 36.1 -1.2**
baz=78
K20K Telida 148.16 325 P **PKPbc 08 14 36.4 -1.0**
baz=69,SNR=8.8
C18K Utukok River 148.16 337 P **PKPbc 08 14 37.0 -0.3**
baz=53
G19K Purcell Mounta 148.18 331 P **PKPbc 08 14 36.8 -0.6**
baz=62
M20K Styx River 148.23 322 P **PKPbc 08 14 36.9 -0.9**
baz=73
H19K Roundabout Mou 148.23 330 P **PKPbc 08 14 37.2 -0.2**
baz=63
L20K Farewell, AK 148.37 324 P **PKPbc 08 14 37.1 -0.9**
baz=71,SNR=11
O20K Slope Mountain 148.47 319 P **PKPbc 08 14 37.9 -0.4**
baz=76
J19K Poorman 148.56 327 P **PKPbc 08 14 38.2 -0.2**
baz=67,SNR=15
Q20K Shuyak Island 148.68 316 P **PKPbc 08 14 38.9 +0.1**
baz=79
E18K Tukpahlearik C 148.70 334 P **PKPbc 08 14 38.7 +0.1**
baz=56
GCSA Galena City Sc 148.74 329 P **PKPbc 08 14 39.0 +0.2**
baz=64
M19K Big River Lodg 148.79 323 P **PKPbc 08 14 39.0 -0.1**
baz=71
F18K Selawik 148.84 333 P **PKPbc 08 14 39.1 +0.1**
baz=58
C17K DeLong Mountai 148.84 337 P **PKPbc 08 14 38.6 -0.4**
baz=51
G18K Tagagawik 148.86 331 P **PKPbc 08 14 38.9 -0.2**
baz=60
P19K Oil Pt 148.88 318 P **PKPbc 08 14 38.9 -0.5**
baz=76
L19K White Mountain 148.90 323 P **PKPbc 08 14 38.4 -1.0**
baz=70,SNR=12
KDAK Kodiak Island 148.94 314 P **PKPbc 08 14 39.0 -0.5**
baz=80
RDOG Red Dog Mine 149.03 336 P **PKPbc 08 14 38.5 -1.0**
baz=52
H18K Honhosa River 149.11 330 P **PKPbc 08 14 39.4 -0.4**
baz=62
TTA Tatalina 149.13 325 P **PKPbc 08 14 39.7 -0.3**
baz=68,SNR=14
N19K Bonanza Creek 149.17 321 P **PKPbc 08 14 39.3 -0.8**
baz=73
J18K Innoko River 149.22 326 P **PKPbc 08 14 39.7 -0.4**
baz=66
Q19K Cape Douglas, 149.25 317 P **PKPbc 08 14 39.7 -0.6**
baz=77
O19K Port Alsworth 149.26 319 P **PKPbc 08 14 39.5 -0.7**
baz=74
E17K Hotham Inlet 149.28 334 P **PKPbc 08 14 39.3 -0.8**
baz=54
D17K Noatak River 149.30 336 P **PKPbc 08 14 39.4 -0.8**
baz=52
OHAK Old Harbor 149.41 313 P **PKPbc 08 14 40.1 -0.6**
baz=80
F17K Baldwin Pennin 149.46 333 P **PKPbc 08 14 40.8 +0.3**
baz=56
M18K Stony River 149.57 322 P **PKPbc 08 14 41.0 0.0**
baz=70
C16K Lisburne Hills 149.58 338 P **PKiKP 08 14 41.6 -0.3**
baz=48
L18K Granite Mounta 149.69 324 P **PKPbc 08 14 41.5 +0.3**
baz=68,SNR=13
G17K Kiwalik Mounta 149.77 331 P **PKPbc 08 14 41.9 +0.5**
baz=58
O18K Koktuh Hills 149.79 319 P **PKPbc 08 14 41.0 -0.6**
baz=74
H17K Granite Mounta 149.79 330 P **PKPbc 08 14 41.5 0.0**
baz=60
N18K Kilae Creek 149.87 321 P **PKPbc 08 14 41.7 0.0**
baz=72
P18K Big Mountain, 149.93 318 P **PKPbc 08 14 42.1 +0.1**
baz=74,SNR=10.0
R18K Karluk 149.96 314 P **PKPbc 08 14 42.4 +0.4**
baz=78
SII Sitkinak Islan 150.01 312 P **PKPbc 08 14 42.3 +0.1**
baz=80
Q18K Katmai Hardscr 150.01 317 P **PKPbc 08 14 41.4 -0.9**
baz=76,SNR=13
K17K Iditarod 150.18 325 P **PKiKP 08 14 43.0 -0.3**
baz=65
J17K VABM Dome 150.21 327 P **PKiKP 08 14 43.0 -0.2**
baz=63,SNR=8.5
M17K Holitna River 150.33 323 P **PKiKP 08 14 43.8 +0.2**
baz=69,SNR=9.5
L17K Donlin 150.42 324 P **PKiKP 08 14 43.9 +0.1**
baz=66,SNR=6.3
G16K Koyuk River 150.43 332 P **PKiKP 08 14 44.6 +0.9**
baz=56
N17K Nushagak Hills 150.52 321 P **PKiKP 08 14 45.0 +0.9**
baz=70,SNR=14
Q17K Contact Creek 150.55 316 P **PKiKP 08 14 44.8 +0.5**
baz=76,SNR=12
P17K Kvichak River 150.58 318 P **PKiKP 08 14 44.3 +0.1**
baz=74
I17K Unalakleet 150.61 329 P **PKiKP 08 14 45.2 +1.1**
baz=61
O17K Koliganek Bris 150.72 319 P **PKiKP 08 14 45.3 +0.9**
baz=72,SNR=11
H16K Elim 150.80 331 P **PKiKP 08 14 45.1 +0.7**
baz=57
Q16K King Salmon 150.83 317 P **PKiKP 08 14 45.0 +0.4**
baz=74
J16K Anvik River 150.87 327 P **PKiKP 08 14 45.9 +1.2**
baz=62
CHIR Chirikof Islan 150.92 311 P **PKiKP 08 14 45.8 +0.8**
baz=80
R17L Mt. Peulik Vol 150.95 315 P **PKiKP 08 14 45.9 +0.9**
baz=76
F15K North Star Dit 151.02 334 P **PKiKP 08 14 46.0 +1.1**
baz=53
L16K Owhat River 151.10 324 P **PKiKP 08 14 45.0 -0.1**
baz=66,SNR=7.1
M16K Timber Creek 151.15 323 P **PKiKP 08 14 46.7 +1.3**
baz=67
G15K Niukluk 151.24 332 P **PKiKP 08 14 46.5 +1.1**
baz=54
O16K Kokwok River B 151.26 319 P **PKiKP 08 14 46.6 +1.0**
baz=71
N16K Nishlik Lake 151.27 321 P **PKiKP 08 14 46.5 +0.9**
baz=69
P16K Nushagak River 151.39 318 P **PKiKP 08 14 46.1 +0.3**
baz=72
R16K Pilot Point 151.60 315 P **PKPbc 08 14 45.6 -0.3**
baz=75
F14K Arctic Creek 151.71 334 P **PKiKP 08 14 46.4 0.0**
baz=51
K15K Wolf Creek Mou 151.71 326 P **PKiKP 08 14 46.6 +0.1**
baz=62
YAK Yakutsk 151.94 34 *e*PKIKP **PKPbc 08 14 45.1 -1.4**
YAK *e* 08 18 33.7
YAK *e*SS SS 08 37 58.6 +3.9
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,24nm,1.0s
YAK pmax pmax
comp=N,38nm,2.0s
YAK pmax pmax

comp=E,52nm,1.7s
ANM Nome 151.95 332 P **PKiKP 08 14 48.0 +1.2**
baz=53
L15K Ungalak Mounta 151.98 325 P **PKiKP 08 14 48.4 +1.4**
baz=63
N15K Kwethluk River 152.00 321 P **PKiKP 08 14 47.5 +0.4**
baz=68
M15K Kasigluk River 152.06 323 P **PKiKP 08 14 48.2 +1.1**
baz=66
CN2 Changchun 152.08 74 PKPbc **PKPdf 08 14 42.4 +1.6**
CN2 LR LR
comp=E,200nm,10.0s
CN2 LR LR
comp=E,300nm,10.0s
CN2 LR LR
comp=E,300nm,11.0s
KSRS Korea Array 152.08 88 PKPbc **PKPbc 08 14 46.8 -0.8**
comp=E,9.5nm,0.9s,baz=252,slow=2.9,SNR=12
TNA Tin City 152.16 335 P **PKiKP 08 14 48.4 +1.2**
baz=48
O15K Ungalikthiuk R 152.24 319 P **PKiKP 08 14 48.3 +0.7**
baz=70
J14K Nanvaranak Lak 152.30 328 P **PKiKP 08 14 48.9 +1.3**
baz=59
CHGN Chignik 152.36 313 P **PKiKP 08 14 48.7 +0.8**
baz=76
M14K Bethel 152.60 323 P **PKiKP 08 14 49.6 +1.3**
baz=64
L14K Kuka Creek 152.65 325 P **PKiKP 08 14 49.7 +1.3**
baz=62
N14K Kuskokwak Cree 152.83 321 P **PKiKP 08 14 49.9 +1.2**
baz=66
O14K Tigyukauivet M 152.90 320 P **PKiKP 08 14 50.5 +1.5**
baz=68
BNX BinXian 153.75 71 ⇑PKPbc **PKPbc 08 14 49.6 -1.5**
HEH HeiHe 153.89 60 PKPbc **PKPbc 08 14 50.9 -0.3**
HEH LR LR
comp=N,850nm,17.5s
HEH LR LR
comp=E,920nm,17.5s
HEH LR LR
comp=Z,2μm,20.6s
S12K Black Hills 154.49 313 P **PKiKP 08 14 52.7 +0.3**
baz=74
GAMB Gambell 154.57 335 P **PKiKP 08 14 54.0 +1.7**
baz=45
M11K Mekoryuk 154.62 325 P **PKiKP 08 14 53.9 +1.5**
baz=59
MJAR Matsushiro Arr 159.30 98 PKP **PKPdf 08 14 49.4 -1.3**
comp=Z,5.4nm,1.1s,baz=241,slow=1.9,SNR=6.4
MJAR PKPab **PKPab 08 15 28.1 -0.1**
comp=Z,18nm,1.1s,baz=244,slow=3.3,SNR=11

*NEIC **09** 07:57:38.0±1.6, 42°.6S±0°.1×15°.8W±0°.2, h10km±1km, mb5.0/14, Error ellipse: s-maj=23.3km s-min=17.1km az=125.0*
*IDC **09** 07:57:37.1±0.7, 42°.57S×16°.01W, h0km, mb4.3/11, mbtmp4.3/11, Error ellipse: s-maj=24.8km s-min=20.4km az=91.0*
ISC 09 07:57:37.8±0.5, 42°.57S±0°.08×15°.88W±0°.10, h10km, n52, σ1s41/39, mb4.5/19, 4C, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TRIS	**Tristan da Cun**	**6.14**	**28**	Pn	**Pn**		**07 59 04.2**	**-4.3**
ORCD	**Orcadas**	**25.19**	**214**	P	**P**		**08 03 01.7**	**-1.4**
SHEL	**Horse Pasture**	**27.91**	**21**	P	**P**		**08 03 25.8**	**-2.2**
VNA2	**Neumayer--Watz**	**28.75**	**174**	⇑P	**P**		**08 03 31.6**	**-3.5**
	comp=Z,0.5nm,0.5s,baz=347,slow=10.0							
VNA3	**Neumayer Olymp**	**28.92**	**176**	⇑P	**P**		**08 03 35.5**	**-1.1**
	comp=Z,4.2nm,0.7s							
SNAA	**Sanae**	**29.88**	**172**	⇑P	**P**		**08 03 44.4**	**-0.8**
	comp=Z,52nm,0.9s							
SNAA	**Sanae**	**29.88**	**172**	P	**P**		**08 03 47.6**	**+2.4**
	comp=Z,6.1nm,1.3s,baz=329,slow=13,SNR=5.2							
	comp=Z,6.1nm,1.3s							
TROLL	**Troll, Antarti**	**30.86**	**169**	⇑P	**P**		**08 03 52.1**	**-1.8**
	comp=Z,184nm,0.7s							
ITAB	**Concordia**	**33.15**	**286**	P	**P**		**08 04 13.8**	**-0.5**
ITAB				IAmb	IAmb		08 04 40.4	
	comp=Z,17nm,1.2s							
H10S2	**ASCENSION HYDR**	**33.49**	**2**	T	T		08 40 04.9	
	baz=182							
H10S3	**ASCENSION HYDR**	**33.50**	**2**	T	T		08 39 58.1	
	baz=38							
H10N1	**ASCENSION HYDR**	**34.60**	**2**	T	T		08 41 29.2	
	baz=180							
H10N3	**ASCENSION HYDR**	**34.61**	**2**	T	T		08 41 35.1	
	baz=180							
H10N2	**ASCENSION HYDR**	**34.62**	**2**	T	T		08 41 24.4	
	baz=180							
PMSA	**Palmer Station**	**34.91**	**214**	P	**P**		**08 04 28.4**	**-0.7**
PMSA				IAmb	IAmb		08 04 53.4	
	comp=Z,28nm,1.1s							
CPUP	**Villa Florida**	**37.41**	**282**	P	**P**		**08 04 50.7**	**-0.3**
CPUP	**Villa Florida**	**37.41**	**282**	P	**P**		**08 04 51.0**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=127,slow=11,SNR=2.1							
	comp=Z,3.5nm,0.8s							
LBTB	**Lobatse**	**38.22**	**76**	P	**P**		**08 04 58.0**	**0.0**
PLCA	**Paso Flores**	**40.29**	**253**	P	**P**		**08 05 15.1**	**-0.1**
	comp=Z,3.7nm,1.1s,baz=113,slow=13,SNR=1.9							
	comp=Z,3.7nm,1.1s							
LC02	**Puerto Saavedr**	**43.06**	**255**	P	**P**		**08 05 37.2**	**-0.4**
SIV	**San Ignacio**	**46.74**	**290**	P	**P**		**08 06 07.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=121,slow=5.9,SNR=1.6							
	comp=Z,0.3nm,0.3s							
H04S2	**CROZET ISLANDS**	**47.00**	**120**	T	T		08 57 24.6	
	baz=250							
H04S3	**CROZET ISLANDS**	**47.00**	**120**	T	T		08 57 25.0	
	baz=250							
H04S1	**CROZET ISLANDS**	**47.02**	**120**	T	T		08 57 23.7	
	baz=250							
MAW	**Mawson**	**47.33**	**149**	P	**P**		**08 06 11.7**	**+0.5**
	comp=Z,6.7nm,1.1s,baz=275,slow=11,SNR=2.9							
	comp=Z,6.7nm,1.1s							
QSPA	**South Pole Qui**	**47.69**	**180**	P	**P**		**08 06 14.6**	**+0.3**
QSPA				IAmb	IAmb		08 06 31.2	
	comp=Z,26nm,1.1s							
QSPA	**South Pole Qui**	**47.69**	**180**	P	**P**		**08 06 14.6**	**+0.3**
	comp=Z,8.9nm,1.0s,baz=216,slow=5.1,SNR=3.3							
	comp=Z,8.9nm,1.0s							
PB08	**IPOC Station P**	**49.77**	**279**	P	**P**		**08 06 30.4**	**-0.7**
PB08				IAmb	IAmb		08 06 50.6	
	comp=Z,17nm,1.1s							
DBIC	**Dimbokro**	**50.02**	**14**	P	**P**		**08 06 33.3**	**+0.9**
	comp=Z,5.6nm,1.0s,baz=188,slow=7.1,SNR=2.9							
	comp=Z,5.6nm,1.0s							
GO01	**Chusmiza**	**50.10**	**280**	P	**P**		**08 06 32.8**	**-0.9**
GO01				IAmb	IAmb		08 06 53.5	
	comp=Z,12nm,1.1s							
MACA	**Manacapuru-AM**	**55.92**	**302**	P	**P**		**08 07 16.3**	**+0.2**
MACA				IAmb	IAmb		08 07 45.3	
	comp=Z,13nm,1.0s							
TORD	**Torodi Ar. Bea**	**57.74**	**20**	P	**P**		**08 07 29.9**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=193,slow=7.9,SNR=3.7							
	comp=Z,2.5nm,0.9s							
ROSC	**El Rosal**	**70.80**	**296**	P	**P**		**08 08 56.2**	**+1.1**
ROSC				IAmb	IAmb		08 09 21.9	
	comp=Z,12nm,1.1s							
KEST	**Kesra**	**81.26**	**21**	P	**P**		**08 09 55.8**	**+1.9**
	comp=Z,4.2nm,0.9s,baz=244,slow=9.5,SNR=2.8							
	comp=Z,4.2nm,0.9s							
ESDC	**Sonseca Array**	**82.57**	**9**	P	**P**		**08 10 01.8**	**+1.2**
	comp=Z,2.2nm,1.1s,baz=201,slow=5.8,SNR=4.7							
	comp=Z,2.2nm,1.1s							
H01W2	**Cape Leeuwin H**	**90.38**	**141**	T	T		09 52 24.3	
	baz=213							
H01W1	**Cape Leeuwin H**	**90.39**	**141**	T	T		09 52 08.8	
	baz=213							
H01W3	**Cape Leeuwin H**	**90.39**	**141**	T	T		09 52 14.8	
	baz=213							
BRTR	**Keskin Array B**	**93.39**	**36**	P	**P**		**08 10 55.7**	**+2.6**
	comp=Z,0.8nm,0.6s,baz=208,slow=6.1,SNR=3.2							
	comp=Z,0.8nm,0.6s							
VSVD	**Vaisvydziai**	**103.80**	**22**	*e*P	**PKiKP**		**08 15 58.8**	**+1.8**
J25K	**Salcha River,**	**144.16**	**325**	PKPdf	PKPbc		08 17 11.4	+0.5
F24K	**Squaw Lake**	**144.32**	**331**	PKPdf	**PKPdf**		**08 17 12.6**	**-0.3**
ILAR	**Eielson Array**	**144.75**	**326**	PKP	**PKPab**		**08 17 12.7**	**+0.1**
	comp=Z,5.8nm,0.8s,baz=63,slow=1.6,SNR=11							
H24K	**Noodor Dome**	**144.85**	**328**		**PKPdf**		**08 17 13.9**	**0.0**
HDA	**Harding Lake**	**144.87**	**325**		PKPbc		08 17 13.3	+0.2
COLA	**College**	**145.12**	**326**		**PKPbc**		**08 17 13.5**	**-0.3**
CCB	**Clear Creek Bu**	**145.17**	**326**		**PKPbc**		**08 17 13.8**	**-0.2**
WRH	**Wood River Hil**	**145.34**	**326**		**PKPbc**		**08 17 14.7**	**+0.1**
DHY	**Denali Highway**	**145.38**	**323**		**PKPbc**		**08 17 15.1**	**+0.2**
G23K	**Bananza Creek**	**145.38**	**330**	PKPbc	**PKPab**		**08 17 15.6**	**+0.7**
KSRS	**Korea Array**	**151.95**	**88**	PKPab	**PKPab**		**08 17 41.3**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=234,slow=1.8,SNR=4.4							
MJAR	**Matsushiro Arr**	**159.18**	**98**	PKPab	**PKPab**		**08 18 14.1**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=251,slow=3.1,SNR=2.1							

*NAO **09** 08:06:04.7±3.6, 71°.41N×12°.13W, ML4.1*
*BER **09** 08:06:05.5±3.3, 71°.11N×12°.95W, h24km±49km, mb(Pn)4.2, Confirmed Earthquake*
*NEIC **09** 08:06:07.0±2.1, 71°.47N±0°.08×12°.2W±0°.2, h10km±2km, mb4.2/18, Error ellipse: s-maj=14.1km s-min=12.2km az=173.0*
*IDC **09** 08:06:08.9±1.4, 71°.38N×11°.02W, h0km, mb3.6/3, mbtmp3.9/7, ML3.3/4, MS3.5/3, Error ellipse: s-maj=27.0km s-min=18.6km az=32.0*
*DNK **09** 08:06:10.4±2.3, 71°.65N×13°.13W, h16km±32km, ML1.4*
ISC 09 08:06:06.4±0.6, 71°.57N±0°.05×12°.13W±0°.05, h11km, n59, σ2s37/66, mb4.1/11, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.27**	**119**	Pg	**Pn**		**08 06 29.1**	**-1.0**
JMI				Lg	Lg		08 06 43.5	
JMI	**Jan Mayen**	**1.27**	**119**	*e*P	**Pn**		**08 06 29.0**	**-1.0**
JMI				*e*S	**Sb**		**08 06 44.4**	**-2.2**
JMI				IAML			08 06 50.8	
	comp=Z,210nm,0.5s							
JMIC	**Jan Mayen**	**1.31**	**115**	Pg	**Pn**		**08 06 28.6**	**-1.9**
JMIC				Lg	Lg		08 06 44.4	
JMIC	**Jan Mayen**	**1.31**	**115**	*e*P	**Pn**		**08 06 29.2**	**-1.3**
JMIC				*e*S	**Sb**		**08 06 44.7**	**-2.9**
JMIC				IAML			08 06 46.4	
	comp=Z,214nm,0.4s							
JMIC	**Jan Mayen**	**1.31**	**115**	Pn	**Pn**		**08 06 27.7**	**-2.8**
	comp=Z,18nm,0.3s,baz=253,slow=2.3,SNR=6.0							
JMIC				Sn	**Sb**		**08 06 44.3**	**-3.3**
	comp=Z,90nm,0.3s,baz=240,slow=5.7,SNR=16							
JNW	**Jan Mayen West**	**1.31**	**113**	*e*P	**Pn**		**08 06 29.2**	**-1.3**
JNW				*e*S	**Sb**		**08 06 45.3**	**-2.4**
JNW				IAML			08 06 49.4	
	comp=Z,205nm,0.5s							
JNE	**Jan Mayen East**	**1.37**	**113**	*e*S	**Sb**		**08 06 46.4**	**-2.9**
JNE				IAML			08 06 49.7	
	comp=Z,250nm,0.6s							
SCO	**Scoresbysund**	**3.39**	**256**	Pn	**Pn**		**08 06 56.5**	**-2.6**
SCO	**Scoresbysund**	**3.39**	**256**	*i* P	**Pn**		**08 06 56.8**	**-2.3**
SCO				*i* S	**Sn**		**08 07 34.7**	**-4.4**
SCO				IAML			08 07 36.0	
	comp=Z,1.5nm,0.4s							
DBG	**Daneborg**	**3.64**	**323**	Pn	**Pn**		**08 07 03.1**	**+0.6**
DBG				Sn	**Sn**		**08 07 41.2**	**-4.1**
DBG	**Daneborg**	**3.64**	**323**	*e*P	**Pn**		**08 07 02.6**	**+0.1**
DBG				*e*S	**Sn**		**08 07 42.0**	**-3.4**
DBG	**Daneborg**	**3.64**	**323**	*i* P	**Pn**		**08 07 02.5**	**-0.1**
DBG				*i* S	**Sn**		**08 07 40.6**	**-4.7**
DAG	**Danmarks Havn**	**5.52**	**344**	*e*P	**Pn**		**08 07 29.0**	**+0.7**
DAG				*e*S	**Sn**		**08 08 28.9**	**-2.8**
DAG	**Danmarks Havn**	**5.52**	**344**	*i* P	**Pn**		**08 07 28.7**	**+0.4**
DAG				*i* S	**Sn**		**08 08 26.4**	**-5.3**
DAG				IAML			08 08 31.2	
	comp=Z,4.2nm,0.2s							
BORG	**Borgarnes**	**7.65**	**211**	Pn	**Pn**		**08 07 57.4**	**-0.1**
BORG	**Borgarnes**	**7.65**	**211**	Pn	Pn		08 08 02.9	+5.4
	comp=Z,0.9nm,0.3s,baz=24,slow=7.3,SNR=1.7							
	comp=Z,21nm,1.0s							
SUMG	**Summit**	**8.15**	**290**	Pn	**Pn**		**08 08 06.2**	**+1.5**
HSPB	**Hornsund (broa**	**9.17**	**41**	Pn	**Pn**		**08 08 19.6**	**+1.4**
HSPB	**Hornsund (broa**	**9.17**	**41**	*e*P	**Pn**		**08 08 19.4**	**+1.1**
HSPB				IAML			08 08 20.3	
	comp=Z,4.8nm,1.0s							
BRBA	**Barentsburg A**	**9.38**	**35**	*e*P	**Pn**		**08 08 23.6**	**+2.5**
BRBB	**Barentsburg B**	**9.39**	**34**	*e*P	**Pn**		**08 08 24.6**	**+3.3**
KBS	**Kingsbay**	**9.49**	**29**	Pn	**Pn**		**08 08 24.5**	**+1.9**
KBS	**Kingsbay**	**9.49**	**29**	Pn	**Pn**		**08 08 24.0**	**+1.4**
KBS	**Kingsbay**	**9.49**	**29**	*e*P	**Pn**		**08 08 24.8**	**+2.2**
KBS				IAML			08 08 33.1	
	comp=Z,9.0nm,0.7s							
KBS				*e*S	**Sn**		**08 10 05.3**	**-3.7**
SPA0	**Spitsbergen Ar**	**9.83**	**35**	Pn	**Pn**		**08 08 30.2**	**+2.9**
	baz=225,slow=16							
SPA0	**Spitsbergen Ar**	**9.83**	**35**	*e*P	**Pn**		**08 08 27.9**	**+0.6**
SPITS	**Spitsbergen Ar**	**9.83**	**35**	Pn	**Pn**		**08 08 30.2**	**+2.9**
	baz=230,slow=13							
	comp=Z,5.5nm,0.4s							
SPB2	**Spitsbergen Ar**	**9.83**	**35**	Pn	**Pn**		**08 08 29.4**	**+2.1**
NOR	**Nord**	**10.14**	**356**	Pn	**Pn**		**08 08 32.5**	**+0.9**
NOR	**Nord**	**10.14**	**356**	*e*P	**Pn**		**08 08 32.6**	**+1.1**
NOR				*e*S	**Sn**		**08 10 19.5**	**-5.5**
ARCES	**ARCESS Array B**	**12.55**	**81**	Pn	**Pn**		**08 09 04.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=281,slow=9.7,SNR=1.5							
	comp=Z,3.7nm,1.0s							
NOA	**NORSAR Array B**	**13.99**	**127**	LR	LR		08 13 50.5	
	comp=Z,51nm,18.1s,baz=205,slow=34							
SFJD	**Kangerlussuaq**	**14.16**	**270**	Pn	**Pn**		**08 09 26.0**	**-0.5**
SFJD	**Kangerlussuaq**	**14.16**	**270**	P	**Pn**		**08 09 26.0**	**-0.5**
KONO	**Kongsberg**	**14.81**	**133**	Pn	**Pn**		**08 09 35.4**	**0.0**
HFS	**Hagfors**	**15.40**	**125**	Pn	**Pn**		**08 09 44.0**	**+0.7**
	baz=312,slow=13							
TULEG	**Thule**	**15.72**	**314**	Pn	**Pn**		**08 09 47.7**	**+0.4**
TULEG				IAmb	IAmb		08 09 54.4	
	comp=Z,20nm,1.0s							
FIA1	**FINESS Array S**	**17.91**	**105**	Pn	**Pn**		**08 10 13.8**	**-1.2**
FIA1				IAmb	IAmb		08 10 24.7	
	comp=Z,25nm,1.2s							
FINES	**FINESS Array B**	**17.91**	**105**	P	**P**		**08 10 15.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=335,slow=9.6,SNR=3.6							
	comp=Z,2.4nm,0.8s							
EUNU	**Eureka**	**18.45**	**328**	P	**P**		**08 10 21.2**	**-0.3**
RES	**Resolute Bay**	**22.39**	**316**	LR	LR		08 18 45.6	
	comp=Z,85nm,20.6s,baz=14,slow=33							
BFO	**Black Forest**	**25.18**	**147**	P	**P**		**08 11 31.1**	**-0.3**
BFO				IAmb	IAmb		08 11 43.6	
	comp=Z,6.1nm,1.0s							
KHC	**Kasperske Hory**	**25.43**	**138**	P	**P**		**08 11 33.7**	**+0.1**
KHC				IAmb	IAmb		08 11 39.6	
	comp=Z,9.0nm,1.5s							
GEC2	**GERESS Array S**	**25.73**	**138**	P	**P**		**08 11 36.4**	**0.0**
AKASG	**Malin Array Be**	**27.93**	**116**	P	**P**		**08 11 58.0**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=333,slow=9.4,SNR=4.1							
	comp=Z,0.3nm,0.3s							
ARTI	**Arti**	**32.12**	**80**	P	**P**		**08 12 34.9**	**+1.8**
E29M	**Blow River**	**35.73**	**329**	P	**P**		**08 13 07.8**	**+3.5**
E29M				IAmb	IAmb		08 13 35.5	
	comp=Z,4.0nm,1.4s							
E28M	**Babbage River**	**35.80**	**330**	P	**P**		**08 13 09.3**	**+4.3**
F28M	**Old Crow**	**36.76**	**330**	P	**P**		**08 13 15.5**	**+2.3**
F28M				IAmb	IAmb		08 13 47.5	
	comp=Z,7.0nm,1.4s							
G29M	**Pine Creek**	**37.09**	**328**	P	**P**		**08 13 18.9**	**+2.9**
G29M				IAmb	IAmb		08 13 33.1	
	comp=Z,6.1nm,1.4s							
G27K	**Doyon Strip**	**37.78**	**330**	P	**P**		**08 13 24.6**	**+2.7**
G27K				IAmb	IAmb		08 13 44.4	
	comp=Z,3.9nm,1.4s							
I30M	**Mount Dempster**	**38.34**	**326**	P	**P**		**08 13 28.1**	**+1.3**
I30M				IAmb	IAmb		08 13 48.5	
	comp=Z,7.2nm,1.4s							
I28M	**Miner Creek**	**38.75**	**328**	P	**P**		**08 13 31.1**	**+1.0**
J30M	**Hart River**	**38.92**	**325**	P	**P**		**08 13 33.7**	**+2.2**
EGAK	**Eagle**	**39.58**	**329**	P	**P**		**08 13 38.3**	**+1.4**
EGAK				IAmb	IAmb		08 14 02.4	
	comp=Z,6.7nm,1.4s							
K29M	**Barlow Dome**	**39.81**	**326**	P	**P**		**08 13 41.8**	**+2.8**
ILAR	**Eielson Array**	**40.48**	**332**	P	P		08 13 51.4	+7.0
	comp=Z,0.6nm,0.8s,baz=19,slow=8.7,SNR=5.9							
	comp=Z,0.6nm,0.8s							
SADO	**Sadowa**	**41.07**	**266**	LR	LR		08 31 02.8	
	comp=Z,374nm,21.0s,baz=144,slow=36							
TORD	**Torodi Ar. Bea**	**58.99**	**164**	P	**P**		**08 16 07.0**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=345,slow=8.2,SNR=4.2							
	comp=Z,0.6nm,0.6s							

HEL 09 08:08:55.1±0.5, 67°.79N×20°.16E, h0km, ML0.8, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.74**	**69**	PG	Pg		08 09 08.4	-0.9
LANU				SG	Sg		08 09 17.4	-1.5
PAJU	**Pajala**	**1.38**	**123**	PG	Pg		08 09 19.5	-2.0
	baz=302							
PAJU				SG	Sg		08 09 38.3	-1.1
HEF	**Hetta**	**1.45**	**63**	MSG			08 09 38.6	

comp=Z,0.5nm,0.2s
HEF SG Sg 08 09 40.6 -1.1
ERTU Ertsjaerv 1.48 147 PN Pn 08 09 22.4 -0.5
KLF Kolari 1.57 109 MSG 08 09 42.0
comp=Z,0.6nm,0.2s
KLF SN Sg 08 09 47.2 +1.8
KTK1 Kautokeino 1.67 42 SN Sn 08 09 48.0 +0.2
TOF Tornio 2.38 134 MSG 08 10 05.6
comp=Z,0.4nm,0.2s
TOF SG Sb 08 10 09.6 +1.0
RNF Rovaniemi 2.57 115 SG Sb 08 10 14.8 +0.7
KMNF Kaamanen 2.87 59 SG Sb 08 10 21.8 -0.8
KEV Kevo 3.18 49 SB Sb 08 10 29.4 -2.1

*IDC **09** 08:16:49.8±0.9, 42°.69S×16°.03W, h0km, mb4.3/7, mbtmp4.3/7, MS4.4/10, Error ellipse: s-maj=30.0km s-min=21.8km az=89.0*
*GCMT **09** 08:16:52.3±0.4, 43°.29S±0°.05×16°.04W±0°.04, h22km±1km, MW5.1/70, Moment Tensor Solution. s15,c16; s70,c92; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.95±.52; Mθθ0.35±.33; Mφφ4.59±.34; Mrθ-2.37±.59; Mφθ-0.82±.19; Mφr1.50±.48; Best double couple: M0 5.55500×10^16 NP1:φs150.00000°, δ59.00000°, λ-110.00000°. NP2: φs5.00000°, δ36.00000°, λ-61.00000°. Principal axes: T 5.1360, Plg12.0000°, Azm255.0000°; N 0.8330, Plg17.0000°, Azm161.0000°; P -5.9740, Plg69.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 08:16:53.3±1.2, 42°.6S±0°.1×15°.9W±0°.1, h10km±1km, mb4.4/20 Error ellipse: s-maj=21.4km s-min=18.2km az=164.0*
ISC 09 08:16:52.3±0.5, 42°.65S±0°.09×15°.87W±0°.10, h10km, n50, σ1§50/32, mb4.3/18, MS4.4/10, 4C, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**28.67**	**174**	⇑P	**P**	**08 22 45.8**	**-3.1**
	comp=Z,2.5nm,0.7s,baz=352,slow=11						
VNA3	**Neumayer Olymp**	**28.84**	**176**	⇑P	**P**	**08 22 47.0**	**-3.4**
	comp=Z,1.6nm,0.6s						
SNAA	**Sanae**	**29.80**	**172**	P	**P**	**08 22 59.5**	**+0.5**
SNAA	**Sanae**	**29.80**	**172**	⇑P	**P**	**08 22 59.0**	**0.0**
	comp=Z,14nm,0.9s						
SNAA	**Sanae**	**29.80**	**172**	P	**P**	**08 22 59.2**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=318,slow=9.2,SNR=3.0						
SNAA				LR	LR	08 32 27.7	
	comp=Z,407nm,18.9s,baz=12,slow=32						
	comp=Z,1.0nm,0.9s						
SUR	**Sutherland**	**30.64**	**83**	LR	LR	08 32 57.9	
	comp=Z,882nm,18.2s,baz=256,slow=32						
TROLL	**Troll, Antarti**	**30.78**	**169**	⇑P	**P**	**08 23 07.8**	**0.0**
	comp=Z,257nm,0.9s						
ESPZ	**Base Esperanza**	**31.47**	**215**	P	**P**	**08 23 14.3**	**+0.6**
PLTB	**Pedras Altas**	**31.72**	**277**	P	**P**	**08 23 16.6**	**+0.3**
SPB	**Sao Paulo**	**32.29**	**296**	P	**P**	**08 23 21.0**	**-0.3**
H10S2	**ASCENSION HYDR**	**33.57**	**2**	T	T	08 59 02.5	
	baz=181,slow=74,SNR=15						
H10S3	**ASCENSION HYDR**	**33.58**	**2**	T	T	08 59 05.1	
	baz=39,slow=74,SNR=17						
H10N1	**ASCENSION HYDR**	**34.68**	**2**	T	T	09 00 29.9	
	baz=179						
H10N3	**ASCENSION HYDR**	**34.69**	**2**	T	T	09 00 36.9	
	baz=179						
H10N2	**ASCENSION HYDR**	**34.70**	**2**	T	T	09 00 30.8	
	baz=179						
PMSA	**Palmer Station**	**34.84**	**214**	LR	LR	08 35 06.3	
	comp=Z,405nm,21.2s,baz=48,slow=32						
BOSA	**Boshof**	**35.88**	**81**	P	**P**	**08 23 52.7**	**+0.1**
BOSA				IAmb	IAmb	08 23 54.8	
	comp=Z,12nm,1.1s						
BOSA	**Boshof**	**35.88**	**81**	P	**P**	**08 23 53.5**	**+0.9**
	comp=Z,9.6nm,1.2s,baz=219,slow=6.5,SNR=5.1						
BOSA				LR	LR	08 34 38.7	
	comp=Z,441nm,20.1s,baz=255,slow=30						
	comp=Z,9.6nm,1.2s						
BELA	**Belgrano 2**	**36.15**	**187**	P	**P**	**08 23 55.4**	**+1.1**
BELA				IAmb	IAmb	08 24 02.9	
	comp=Z,6.9nm,1.1s						
SMAI	**San Martin Ant**	**36.97**	**209**	P	**P**	**08 24 02.6**	**+1.3**
SMAI				IAmb	IAmb	08 24 15.0	
	comp=Z,4.6nm,1.1s						
CPUP	**Villa Florida**	**37.44**	**282**	P	**P**	**08 24 04.5**	**-1.2**
	comp=Z,4.7nm,1.1s,baz=132,slow=12,SNR=3.6						
CPUP				LR	LR	08 37 20.1	
	comp=Z,670nm,18.3s,baz=152,slow=33						
	comp=Z,4.7nm,1.1s						
LBTB	**Lobatse**	**38.23**	**76**	P	**P**	**08 24 13.3**	**+0.7**
LBTB				IAmb	IAmb	08 24 22.2	
	comp=Z,7.4nm,1.1s						
LBTB	**Lobatse**	**38.23**	**76**	LR	LR	08 36 35.1	
	comp=Z,973nm,19.7s,baz=230,slow=31						
BDFB	**Brasilia**	**38.49**	**305**	LR	LR	08 36 26.8	
	comp=Z,721nm,19.1s,baz=196,slow=31						
GO09	**Cerro Castillo**	**38.63**	**237**	P	**P**	**08 24 14.4**	**-1.1**
GO09				IAmb	IAmb	08 24 36.9	
	comp=Z,10nm,1.1s						
AQDB	**Aquidauana**	**40.01**	**291**	P	**P**	**08 24 28.1**	**+0.7**
PLCA	**Paso Flores**	**40.28**	**254**	LR	LR	08 40 55.2	
	comp=Z,334nm,18.0s,baz=77,slow=36						
H04S2	**CROZET ISLANDS**	**46.95**	**120**	T	T	09 16 25.9	
	baz=250,slow=75,SNR=17						
H04S3	**CROZET ISLANDS**	**46.96**	**120**	T	T	09 16 20.7	
	baz=250,slow=75,SNR=15						
H04S1	**CROZET ISLANDS**	**46.97**	**120**	T	T	09 16 16.4	
	baz=250,slow=75,SNR=16						
GO02	**Mina Guanaco**	**47.08**	**274**	P	**P**	**08 25 24.7**	**0.0**
MAW	**Mawson**	**47.26**	**149**	P	**P**	**08 25 23.7**	**-1.5**
	comp=Z,4.6nm,0.9s,baz=253,slow=19,SNR=12						
	comp=Z,4.6nm,0.9s						
QSPA	**South Pole Qui**	**47.61**	**180**	P	**P**	**08 25 29.2**	**+1.0**
QSPA	**South Pole Qui**	**47.61**	**180**	P	**P**	**08 25 26.3**	**-1.8**
	comp=Z,2.6nm,0.8s,baz=220,slow=4.9,SNR=12						
	comp=Z,2.6nm,0.8s						
PB08	**IPOC Station P**	**49.80**	**280**	P	**P**	**08 25 45.9**	**+0.1**
PB08				IAmb	IAmb	08 25 56.8	
	comp=Z,8.3nm,1.1s						
DBIC	**Dimbokro**	**50.10**	**14**	LR	LR	08 41 30.8	
	comp=Z,341nm,21.7s,baz=149,slow=30						
GO01	**Chusmiza**	**50.13**	**280**	P	**P**	**08 25 50.4**	**+2.0**
GO01				IAmb	IAmb	08 25 51.9	
	comp=Z,2.9nm,0.9s						
LPAZ	**La Paz**	**51.55**	**284**	P	**P**	**08 26 01.1**	**+1.7**
SAML	**Samuel**	**53.24**	**295**	P	**P**	**08 26 11.0**	**-0.2**
SAML				IAmb	IAmb	08 26 17.5	
	comp=Z,4.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**57.82**	**20**	P	**P**	**08 26 42.9**	**-1.0**
	comp=Z,2.3nm,1.0s,baz=204,slow=5.2,SNR=9.3						
	comp=Z,2.3nm,1.0s						
MBAR	**Mbarara**	**59.08**	**58**	P	**P**	**08 26 53.7**	**+0.6**
MBAR				IAmb	IAmb	08 27 13.6	
	comp=Z,4.9nm,1.1s						
MBAR	**Mbarara**	**59.08**	**58**	LR	LR	08 50 04.0	
	comp=Z,994nm,18.3s,baz=212,slow=34						
SBA	**Scott Base**	**59.76**	**181**	P	**P**	**08 26 59.6**	**+2.8**
TAM	**Tamanrasset**	**68.04**	**21**	P	**P**	**08 27 52.9**	**+0.9**
TAM				IAmb	IAmb	08 27 57.4	
	comp=Z,1.2nm,0.4s						
KEST	**Kesra**	**81.34**	**21**	P	**P**	**08 29 09.2**	**+0.4**
	comp=Z,15nm,1.3s,baz=166,slow=8.3,SNR=3.1						
	comp=Z,15nm,1.3s						
H01W2	**Cape Leeuwin H**	**90.31**	**141**	T	T	10 11 13.8	
	baz=214,slow=76,SNR=6.2						
H01W3	**Cape Leeuwin H**	**90.32**	**141**	T	T	10 11 15.4	
	baz=214,slow=76,SNR=5.3						
H01W1	**Cape Leeuwin H**	**90.32**	**141**	T	T	10 11 14.9	
	baz=214,slow=76,SNR=4.4						
SONM	**Songino Array**	**139.83**	**62**	PKP	**PKPdf**	**08 36 17.3**	**-2.8**
	comp=Z,0.4nm,0.4s,baz=240,slow=1.2,SNR=2.5						
ILAR	**Eielson Array**	**144.83**	**326**	PKP	**PKPab**	**08 36 25.4**	**-2.0**
	comp=Z,2.4nm,0.8s,baz=102,slow=1.5,SNR=13						

IDC 09 08:18:15.0±2.0, 42°.72S×16°.27W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=107.8km s-min=31.4km az=90.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**33.66**	**3**	T	T	09 00 32.2	
	baz=181						
H10S3	**ASCENSION HYDR**	**33.66**	**3**	T	T	09 00 32.9	
	baz=39						
H10N1	**ASCENSION HYDR**	**34.77**	**3**	T	T	09 01 50.2	
	baz=180						
H10N3	**ASCENSION HYDR**	**34.77**	**3**	T	T	09 01 57.3	
	baz=180						
H10N2	**ASCENSION HYDR**	**34.79**	**3**	T	T	09 02 00.9	
	baz=180						
H04S2	**CROZET ISLANDS**	**47.18**	**120**	T	T	09 17 47.7	
	baz=251						
H04S3	**CROZET ISLANDS**	**47.18**	**120**	T	T	09 17 45.7	
	baz=251						
H04S1	**CROZET ISLANDS**	**47.19**	**120**	T	T	09 17 47.7	
	baz=251						
MAW	**Mawson**	**47.35**	**149**	P	P	08 26 50.0	-0.1
	3.3nm,0.9s,baz=283,slow=13,SNR=4.8						
	3.3nm,0.9s						
QSPA	**South Pole Qui**	**47.54**	**180**	P	P	08 26 51.9	-0.1
	1.6nm,1.0s,baz=167,slow=5.2,SNR=1.3						
	1.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**57.99**	**21**	P	P	08 28 09.4	0.0
	1.4nm,0.9s,baz=186,slow=5.0,SNR=4.6						
	1.4nm,0.9s						
H01W2	**Cape Leeuwin H**	**90.44**	**141**	T	T	10 12 36.7	
	baz=214						
H01W1	**Cape Leeuwin H**	**90.45**	**141**	T	T	10 12 42.4	
	baz=214						
H01W3	**Cape Leeuwin H**	**90.45**	**141**	T	T	10 12 46.6	
	baz=214						
ILAR	**Eielson Array**	**144.72**	**326**	PKP	PKPbc	08 37 51.9	+0.3
	1.0nm,0.9s,baz=94,slow=2.3,SNR=2.6						

*IDC **09** 08:20:36.5±2.5, 37°.51N×20°.11E, h0km, mb3.7/10, mbtmp3.7/14, ML3.6/3, MS4.5/1, Error ellipse: s-maj=44.4km s-min=20.5km az=38.0*
*NEIC **09** 08:20:37.3±2.4, 37°.44N±0°.08×20°.16E±0°.07, h10km±1km, mb4.4/7, Error ellipse: s-maj=13.7km s-min=9.6km az=192.0*
*ATH **09** 08:20:39.6, 37°.63N×20°.52E, h13km±2km, ML4.0/20, Manual Solution by F.Gkika This location: 2020/09/23 13:12:37 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **09** 08:20:40.0, 37°.61N×20°.51E, h7km±1km, ML3.9/13, Error ellipse: s-maj=2.2km s-min=0.5km az=33.0*
*NAO **09** 08:20:57.3, 37°.74N×20°.70E, h10km, mb3.8*
ISC 09 08:20:39.0±1.3, 37°.61N±0°.04×20°.44E±0°.04, h11km±7km, n106, σ1§35/126, mb3.8/12, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.30**	**80**	P	**Pg**	**08 20 45.2**	**+0.1**
KRI1				S	**Sg**	**08 20 49.1**	**-0.1**
	64μm,0.4s						
LTHK	**Lithakia**	**0.33**	**73**	P	**Pg**	**08 20 45.5**	**-0.1**
LTHK				S	**Sg**	**08 20 49.2**	**-0.8**
	43μm,0.4s						
LTHK	**Lithakia**	**0.33**	**73**	P	**Pg**	**08 20 45.2**	**-0.4**
LTHK				S	**Sg**	**08 20 49.1**	**-0.9**
PSDA	**Pessada-Kefalo**	**0.51**	**13**	P	**Pg**	**08 20 49.4**	**+0.4**
PSDA				S	**Sg**	**08 20 56.8**	**+0.9**
	26μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.51**	**13**	P	**Pg**	**08 20 49.5**	**+0.4**
PSDA				S	**Sg**	**08 20 56.2**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.53**	**29**	P	**Pg**	**08 20 49.4**	**0.0**
RTZL				S	**Sg**	**08 20 56.8**	**+0.3**
	35μm,0.4s						
VLS	**Valsamata**	**0.58**	**12**	P	**Pg**	**08 20 50.5**	**+0.2**
VLS				S	**Sg**	**08 20 58.8**	**+0.9**
	20μm,0.3s						
VLS	**Valsamata**	**0.58**	**12**	P	**Pg**	**08 20 50.4**	**+0.1**
VLS				S	**Sg**	**08 20 58.1**	**+0.2**
LXRA	**Lixouri, Kepha**	**0.59**	**360**	P	**Pg**	**08 20 51.1**	**+0.6**
LXRA				S	**Sg**	**08 20 58.5**	**+0.3**
LXR1	**Lixouri, Cepha**	**0.59**	**360**	P	**Pg**	**08 20 51.5**	**+1.0**
LXR1				S	**Sb**	**08 21 00.9**	**+1.3**
	60μm,0.4s						
DMLN	**Damoulianata-K**	**0.63**	**355**	P	**Pg**	**08 20 52.0**	**+0.8**
DMLN				S	**Sb**	**08 21 01.7**	**+0.9**
	36μm,0.5s						
DMLN	**Damoulianata-K**	**0.63**	**355**	P	**Pg**	**08 20 51.9**	**+0.6**
DMLN				S	**Sg**	**08 21 00.6**	**+1.1**
SMHA	**Samh**	**0.66**	**14**	P	**Pg**	**08 20 51.3**	**-0.5**
SMHA				S	**Sg**	**08 21 00.2**	**-0.2**
VSK1	**VASILIKIADES**	**0.80**	**7**	P	**Pg**	**08 20 54.5**	**0.0**
VSK1				S	**Sb**	**08 21 06.4**	**+0.6**
	13μm,0.5s						
FSK	**Fiskardo**	**0.85**	**6**	P	**Pg**	**08 20 55.1**	**-0.4**
FSK				S	**Sb**	**08 21 08.1**	**+0.9**
	7μm,0.5s						
FSK	**Fiskardo**	**0.85**	**6**	P	**Pg**	**08 20 55.0**	**-0.4**
FSK				S	**Sg**	**08 21 06.6**	**+0.1**
RLS	**Riolos of Patr**	**0.93**	**61**	P	**Pg**	**08 20 56.1**	**-0.8**
RLS				S	**Sb**	**08 21 09.4**	**0.0**
	6μm,0.6s						
RLS	**Riolos of Patr**	**0.93**	**61**	P	**Pg**	**08 20 56.1**	**-0.8**
RLS				S	**Sg**	**08 21 07.9**	**-1.1**
AMT	**Artemida-Makis**	**1.01**	**94**	P	**Pg**	**08 20 57.9**	**-0.6**
EVGI	**Lefkada island**	**1.02**	**9**	P	**Pg**	**08 20 58.1**	**-0.6**
EVGI				S	**Sg**	**08 21 11.4**	**-0.6**
DRO	**Drossia**	**1.06**	**71**	P	**Pg**	**08 20 58.5**	**-0.9**
DRO				S	**Sn**	**08 21 13.6**	**-1.0**
	7μm,0.5s						
DRO	**Drossia**	**1.06**	**71**	P	**Pg**	**08 20 58.2**	**-1.2**
DRO				S	**Sb**	**08 21 12.7**	**-0.6**
DRAG	**Dragano-Lefkad**	**1.08**	**6**	P	**Pg**	**08 20 59.1**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.12**	**10**	P	**Pb**	**08 20 59.6**	**-0.8**
LKD2	**Lefkada island**	**1.19**	**8**	P	**Pb**	**08 21 01.5**	**-0.1**
TSLK	**Tsoukalades, L**	**1.22**	**8**	P	**Pn**	**08 21 01.6**	**-0.5**
UPR	**University Cam**	**1.26**	**57**	P	**Pb**	**08 21 02.6**	**-0.1**
ITM	**Ithomi**	**1.26**	**110**	P	**Pb**	**08 21 02.4**	**-0.4**
ITM				S	**Sn**	**08 21 19.8**	**+0.3**
	2μm,0.6s						
ITM	**Ithomi**	**1.26**	**110**	P	**Pb**	**08 21 02.2**	**-0.5**
PYL	**PYLOS**	**1.26**	**124**	P	**Pb**	**08 21 02.7**	**0.0**
PYL				S	**Sn**	**08 21 20.0**	**+0.5**
	3μm,0.9s						
PYL	**PYLOS**	**1.26**	**124**	P	**Pb**	**08 21 02.7**	**0.0**
EFP	**Efpalio**	**1.41**	**54**	P	**Pn**	**08 21 04.1**	**-0.6**
KLV	**Kalavryta, Ach**	**1.42**	**72**	P	**Pn**	**08 21 04.4**	**-0.4**
GUR	**Goura**	**1.54**	**77**	P	**Pn**	**08 21 06.5**	**0.0**
KALE	**Kalithea**	**1.55**	**59**	P	**Pn**	**08 21 06.4**	**-0.2**
IGT	**Igoumenitsa**	**1.92**	**357**	P	**Pn**	**08 21 13.1**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.93**	**43**	P	**Pn**	**08 21 13.1**	**+1.3**
LOUT	**Loutraki**	**2.04**	**79**	P	**Pb**	**08 21 14.7**	**-1.4**
AGG	**Agios Georgios**	**2.05**	**46**		**Pb**	**08 21 15.4**	**-0.8**
AXAR	**Agios Charalam**	**2.09**	**56**	P	**Pb**	**08 21 16.1**	**-0.9**
KEK	**Kerkira**	**2.16**	**347**		**Pn**	**08 21 14.2**	**-0.7**
VIL2	**Platees**	**2.31**	**74**	P	**Pb**	**08 21 18.9**	**-1.8**
TYRN	**Tyrnavos**	**2.52**	**33**	P	**Pn**	**08 21 22.1**	**+2.2**
VLY	**Voula,Athens**	**2.67**	**84**	P	**Pn**	**08 21 23.7**	**+1.8**
DION	**Dionisos Attik**	**2.80**	**79**	P	**Pn**	**08 21 25.0**	**+1.2**
SCTE	**Santa Cesarea**	**2.90**	**329**		**Pn**	**08 21 25.4**	**+0.3**
SCTE	**Santa Cesarea**	**2.90**	**329**	P	**Pn**	**08 21 25.9**	**+0.8**
LIT	**Litokhoron**	**2.96**	**32**		**Pn**	**08 21 27.9**	**+2.0**
KARY	**Karystos**	**3.19**	**81**	P	**Pn**	**08 21 30.8**	**+1.7**
FNA	**Florina**	**3.25**	**13**		**Pn**	**08 21 31.3**	**+1.4**
TIP	**Timpagrande**	**3.29**	**300**		**Pn**	**08 21 29.2**	**-1.4**
OHR	**Ohrid**	**3.51**	**4**	*i* Pn	**Pn**	**08 21 37.0**	**+3.5**
CEL	**Celeste**	**3.65**	**282**	Pn	Pn	08 21 31.4	-4.1
TIR	**Tirane**	**3.76**	**353**	Pn	**Pn**	**08 21 37.9**	**+1.0**
IDI	**Anoyia**	**4.27**	**122**	Pn	**Pn**	**08 21 45.2**	**+1.2**
IDI	**Anoyia**	**4.27**	**122**	Pn	**Pn**	**08 21 47.3**	**+3.3**
	2.6nm,0.3s,baz=297,slow=11,SNR=6.3						
IDI				Sn	**Sn**	**08 22 36.6**	**+2.7**
	5.5nm,0.3s,baz=311,slow=19,SNR=7.0						
CUC	**Castrocucco**	**4.33**	**305**		Pn	08 21 38.9	-5.8
PUK	**Puka**	**4.45**	**355**		**Pn**	**08 21 47.5**	**+1.1**
PDG	**Podgorica**	**4.90**	**350**		**Pn**	**08 21 50.8**	**-1.7**
PDG	**Podgorica**	**4.90**	**350**	*e*Pn	**Pn**	**08 21 51.8**	**-0.7**
TREB	**Trebinje**	**5.34**	**343**	*e*Pn	**Pn**	**08 21 58.7**	**0.0**
ALN	**Alexandroupoli**	**5.45**	**51**	Pn	**Pn**	**08 22 02.2**	**+2.1**
BRY	**Bratogost**	**5.48**	**345**	*e*Pn	**Pn**	**08 22 00.7**	**0.0**
SJES	**Sjenica**	**5.66**	**357**	*e*Pn	**Pn**	**08 22 04.1**	**+1.0**
STON	**Ston**	**5.66**	**339**	*e*Pn	**Pn**	**08 22 03.0**	**+0.1**
UPM	**Unac-Piva**	**5.71**	**349**	*e*Pn	**Pn**	**08 22 03.8**	**0.0**
KARP	**Karpathos**	**5.79**	**109**	Pn	**Pn**	**08 22 03.7**	**-1.1**
RUDO	**Rudo**	**6.05**	**353**	*e*Pn	**Pn**	**08 22 09.9**	**+1.4**
BBLS	**Lazi&#263i**	**6.30**	**353**	*e*Pn	**Pn**	**08 22 12.1**	**+0.3**
HAPS	**Han Pijesak,Bl**	**6.57**	**351**	*e*Pn	Pn	08 22 10.8	-4.8
INTR	**Introdacqua**	**6.68**	**313**	Pn	**Pn**	**08 22 14.3**	**-2.8**
CAMP	**Campotosto**	**7.30**	**315**		Pn	08 22 22.0	-3.6
A050A	**Klekovaca**	**7.47**	**338**	*e*Pn	**Pn**	**08 22 29.5**	**+1.5**
NRCA	**Norcia**	**7.66**	**315**		**Pn**	**08 22 28.3**	**-2.2**
A051A	**Mrakovica**	**7.86**	**341**	*e*Pn	**Pn**	**08 22 32.6**	**-0.6**
MLR	**Muntele Rosu**	**8.88**	**26**	Pn	**Pn**	**08 22 52.1**	**+4.7**
	0.3nm,0.3s,baz=176,slow=18,SNR=3.7						
	5.7nm,0.9s						
CRES	**Cresnjevec Ost**	**9.01**	**337**	*e*Pn	**Pn**	**08 22 49.0**	**0.0**
SKDS	**Skadanscina**	**9.27**	**331**	*e*Pn	**Pn**	**08 22 52.5**	**-0.1**
CEY	**Cerknica**	**9.28**	**333**	*e*Pn	**Pn**	**08 22 51.9**	**-0.8**
SABO	**M.te Sabotino**	**9.79**	**331**		**Pn**	**08 22 57.3**	**-2.5**
SOKA	**Soboth**	**9.91**	**338**	*e*Pn	**Pn**	**08 23 01.5**	**+0.1**
	1.4nm,0.2s						
SOKA				*e*Sn	**Sn**	**08 24 47.7**	**-4.8**
	2.9nm,0.4s						
OBKA	**Obir**	**9.91**	**336**	*e*Pn	**Pn**	**08 23 04.2**	**+2.8**
	1.8nm,0.3s						
OBKA				*e*Sn	**Sn**	**08 24 52.0**	**-0.6**
	20nm,0.9s						
OBKA	**Obir**	**9.91**	**336**	*e*Pn	**Pn**	**08 23 02.7**	**+1.3**
TEOL	**Teolo**	**10.15**	**322**	Pn	**Pn**	**08 23 01.9**	**-2.8**
PRED	**Cave del Predi**	**10.20**	**332**	Pn	**Pn**	**08 23 04.2**	**-1.1**
BRTR	**Keskin Array B**	**10.53**	**74**	Pn	Pn	08 23 16.6	+6.6
	0.1nm,0.3s,baz=270,slow=13,SNR=2.1						
	0.6nm,0.5s						
KBA	**Koelnbreinsper**	**10.81**	**333**	*e*Sn	**Sn**	**08 25 11.7**	**-3.2**
	2.7nm,0.5s						
LESA	**Schwarzleotal**	**11.35**	**332**	*i* Pn	**Pn**	**08 23 24.1**	**+3.0**
	3.8nm,0.4s						
AKASG	**Malin Array Be**	**14.51**	**23**	Pn	**Pn**	**08 24 04.1**	**-0.1**
	0.4nm,0.3s,baz=212,slow=11,SNR=2.8						
	0.2nm,0.3s						
SUW	**Suwalki**	**16.51**	**6**	Pn	**Pn**	**08 24 30.0**	**-0.4**
SUW				IAmb	IAmb	08 24 37.2	
	comp=Z,28nm,1.0s						
PABE	**Paberze**	**18.06**	**6**		**Pn**	**08 24 49.3**	**-0.3**
PABE				IAmb	IAmb	08 24 56.8	
	comp=Z,27nm,1.2s						
HFS	**Hagfors**	**22.95**	**351**	P	**P**	**08 25 43.0**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=190,slow=5.9,SNR=7.9						
	comp=Z,1.7nm,0.6s						
EKA	**Eskdalemuir Ar**	**23.86**	**326**	P	**P**	**08 25 51.5**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=131,slow=8.6,SNR=1.6						
	comp=Z,0.5nm,0.4s						
FINES	**FINESS Array B**	**24.12**	**7**	P	**P**	**08 25 54.7**	**+0.3**
	comp=Z,4.9nm,1.1s,baz=179,slow=9.6,SNR=8.4						
	comp=Z,4.9nm,1.1s						
FIA1	**FINESS Array S**	**24.12**	**7**	P	**P**	**08 25 56.1**	**+1.6**
NC405	**NORSAR Array S**	**24.16**	**350**	P	**P**	**08 25 55.0**	**+0.1**
NC405				IAmb	IAmb	08 26 23.1	
	comp=Z,13nm,1.2s						
NB2	**NORSAR Subarra**	**24.16**	**349**	P	**P**	**08 25 56.3**	**+1.3**
	comp=Z,1.9nm,1.0s,baz=161,slow=9.3						
NOA	**NORSAR Array B**	**24.16**	**349**	P	**P**	**08 25 55.2**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=165,slow=12,SNR=2.1						
	comp=Z,0.6nm,0.8s						
NC303	**NORSAR Array S**	**24.31**	**349**	P	**P**	**08 25 57.2**	**+0.9**
NC303				IAmb	IAmb	08 26 02.1	
	comp=Z,10nm,1.0s						
ARCES	**ARCESS Array B**	**32.10**	**3**	P	**P**	**08 27 05.5**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=186,slow=8.5,SNR=4.3						
	comp=Z,2.9nm,0.9s						
BVAR	**Borovoye Array**	**37.53**	**49**	P	**P**	**08 27 55.8**	**+2.9**
	comp=Z,0.7nm,0.5s,baz=244,slow=5.6,SNR=2.7						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**42.62**	**53**	P	**P**	**08 28 35.3**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=285,slow=7.6,SNR=2.4						
	comp=Z,0.5nm,0.3s						
MKAR	**Makanchi Array**	**45.65**	**58**	P	**P**	**08 29 01.1**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=305,slow=5.1,SNR=3.4						
	comp=Z,0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**46.12**	**48**	P	**P**	**08 29 02.9**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=264,slow=7.1,SNR=5.5						
	comp=Z,1.1nm,0.5s						
SFJD	**Kangerlussuaq**	**48.69**	**330**	LR	LR	08 50 21.1	
	comp=Z,432nm,19.0s,baz=161,slow=37						
SONM	**Songino Array**	**60.87**	**50**	P	**P**	**08 30 51.8**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=269,slow=6.9,SNR=1.6						
	comp=Z,0.2nm,0.4s						

*AEIC **09** 08:23:33.3±1.9, 54°.43N±0°.01×161°.50W±0°.06, h44km±9km, Error ellipse: s-maj=5.5km s-min=1.3km az=77.0*
NEIC 09 08:23:33.6±1.2, 54°.37N±0°.06×161°.50W±0°.06, h33km±13km, ML3.1/14, ML2.9(AEIC), Error ellipse: s-maj=8.5km s-min=4.8km az=168.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAG	**Hague Volcano**	**0.98**	**346**		Pn	08 23 50.4	-0.7
HAG					Sn	08 24 04.0	+0.2
PS4A	**Pavlof South-4**	**1.00**	**348**	

53nm,0.4s,baz=223,slow=22,SNR=1.4
JHJ2 Mitsune 2.12 55 *e*P **Pn 08 24 57.7 +2.0**
JIE Ise 2.62 341 *e*P **Pn 08 25 00.9 +1.7**
JWY Kouya 2.92 322 *e*P **Pn 08 25 03.1 +1.4**
JAI Aioi 3.34 305 *e*P **Pn 08 25 06.2 +1.0**
JAI S **S 08 25 58.3 -0.3**
JOD2 Odawara 2 3.52 18 P **Pn 08 25 08.8 +2.1**
JMN Monobe 3.72 300 *e*P **Pn 08 25 09.9 +1.3**
BSO1 Boso 1 3.84 44 *e*S **S 08 26 03.8 -2.1**
JWT Wachi 3.88 330 P **Pn 08 25 10.9 +0.9**
JRY Ryogami san 4.20 13 P **Pn 08 25 14.2 +1.2**
JRY *e*S **S 08 26 13.2 +0.2**
MJAR Matsushiro Arr 4.63 5 P **Pn 08 25 17.6 +0.3**
10nm,0.6s,baz=186,slow=10,SNR=24
MJAR S **S 08 26 19.3 -1.5**
3.1nm,0.8s,baz=190,slow=19,SNR=4.7
JNU Nakatsue 5.92 284 P **Pn 08 25 31.4 +0.5**
12nm,0.8s,baz=89,slow=8.6,SNR=4.3
CBIJ Chichi jima 6.17 140 P **Pn 08 25 32.9 -0.8**
CBIJ *e*S **S 08 26 47.3 -3.4**
KSRS Korea Array 9.79 307 P **Pn 08 26 13.9 -0.6**
5.1nm,0.7s,baz=121,slow=11,SNR=12
USRK Ussuriysk Ar. 13.07 341 P **Pn 08 26 50.1 -2.3**
2.0nm,0.5s,baz=150,slow=9.7,SNR=4.5
SONM Songino Array 28.58 313 P **P 08 29 20.4 0.0**
1.3nm,0.6s,baz=123,slow=8.4,SNR=6.6
1.3nm,0.6s
MKAR Makanchi Array 44.47 306 P **P 08 31 32.6 +0.1**
2.2nm,0.6s,baz=88,slow=10,SNR=17
2.2nm,0.6s
KURBB Kurchatov Arra 46.93 311 P **P 08 31 50.7 -0.7**
1.1nm,0.6s,baz=90,slow=7.4,SNR=9.6
1.1nm,0.6s
WRA Warramunga Arr 51.67 184 P **P 08 32 28.7 +1.6**
0.4nm,0.3s,baz=360,slow=7.6,SNR=19
0.4nm,0.3s
BVAR Borovoye Array 51.90 315 P **P 08 32 27.7 -0.7**
0.4nm,0.3s,baz=79,slow=7.5,SNR=3.1
0.4nm,0.3s
ILAR Eielson Array 55.43 30 P **P 08 32 54.5 +1.1**
0.6nm,0.6s,baz=273,slow=7.3,SNR=9.4
0.6nm,0.6s

*SOME **09** 08:25:17.1, 44°.73N×81°.95E, h10km*
*NNC **09** 08:25:19.4±0.5, 44°.71N×81°.81E, h0km, mb3.9, mpv3.6,*
Error ellipse: s-maj=7.3km s-min=1.3km az=121.0,
Suspected Mining explosion.
ISC 09 08:25:16.1±1.5, 44°.69N±0°.06×82°.11E±0°.08, h0km, n20,
σ0s99/32, 1C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.70**	**259**	*e*P	**Pb**	**08 25 48.8**	**+0.5**
DJR	14nm,0.2s			*e*S	**Sg**	**08 26 11.8**	**+1.1**
KAPS	**Kapalarasan**	**2.05**	**288**	*e*P	**Pb**	**08 25 54.1**	**0.0**
KAPS	13nm,0.2s 7.8nm,0.2s			*e*S	**Sb**	**08 26 20.8**	**+0.6**
MK31	**Makanchi Array**	**2.11**	**3**	⇓Pn	**Pb**	**08 25 56.2**	**+0.9**
MK31	36nm,0.2s 6.2nm,0.4s,baz=185,slow=15,SNR=195			⇓Sn	**Sg**	**08 26 23.9**	**-0.1**
MAKZ	**Makanchi**	**2.13**	**357**	⇑Pn	**Pb**	**08 25 55.9**	**+0.4**
MAKZ	1.4nm,0.2s,baz=199,slow=3.8,SNR=17 3.5nm,0.3s			⇓Sn	**Sg**	**08 26 23.6**	**-0.7**
PDGK	**Podgornoye**	**2.33**	**235**	Pg	**Pb**	**08 25 58.8**	**-0.2**
PDGK	4.8nm,0.3s 6.0nm,0.3s			Lg	Lg	08 26 28.7	
SHLS	**Shalkode**	**2.45**	**232**	Pg	**Pn**	**08 25 58.2**	**+0.8**
SHLS	5.2nm,0.4s 23nm,0.2s			Lg	Lg	08 26 26.9	
SHLS	**Shalkode**	**2.45**	**232**	*e*P	**Pn**	**08 25 57.5**	**+0.1**
SHLS	34nm,0.3s 23nm,0.2s			*e*S	**Sn**	**08 26 26.6**	**-1.5**
BLB	**Baldybastay**	**2.67**	**259**	Pg	**Pb**	**08 26 04.9**	**+0.1**
BLB	34nm,0.2s 20nm,0.2s			Lg	Lg	08 26 38.7	
UZB	**Uzynbulak**	**2.71**	**237**	Pg	**Pb**	**08 26 05.8**	**+0.3**
UZB	8.0nm,0.2s 5.6nm,0.5s			Lg	Lg	08 26 40.7	
UZB	**Uzynbulak**	**2.71**	**237**	*e*P	**Pb**	**08 26 05.8**	**+0.3**
UZB	8.0nm,0.2s 5.6nm,0.5s			*e*S	**Sb**	**08 26 40.7**	**+1.3**
KPKS	**Kokpek**	**2.76**	**245**	Pg	**Pb**	**08 26 06.3**	**0.0**
KPKS	15nm,0.2s 15nm,0.2s			Lg	Lg	08 26 41.7	
KPKS	**Kokpek**	**2.76**	**245**	*e*P	**Pb**	**08 26 06.3**	**0.0**
KPKS	15nm,0.2s 15nm,0.2s			*e*S	**Sb**	**08 26 41.7**	**+1.1**
ZHN	**Zhinishke**	**3.06**	**242**	Pg	**Pb**	**08 26 12.2**	**+0.7**
ZHN	5.3nm,0.1s 24nm,0.2s			Lg	Lg	08 26 51.6	
ZHN	**Zhinishke**	**3.06**	**242**	*e*P	**Pb**	**08 26 12.2**	**+0.7**
ZHN	5.3nm,0.1s 24nm,0.2s			*e*S	**Sb**	**08 26 51.5**	**+2.2**
KURS	**Kuram**	**3.08**	**249**	*e*P	**Pb**	**08 26 11.8**	**0.0**
KURS	4.4nm,0.4s 3.7nm,0.4s			*e*S	**Sb**	**08 26 51.1**	**+1.1**
ARXS	**Arharly**	**3.11**	**263**	*e*P	**Pb**	**08 26 11.7**	**-0.5**
ARXS	5.0nm,0.2s 12nm,0.4s			*e*S	**Sb**	**08 26 51.2**	**+0.6**
SATY	**Saty**	**3.13**	**240**	Pg	**Pb**	**08 26 12.5**	**-0.3**
SATY	3.8nm,0.2s 16nm,0.2s			Lg	Lg	08 26 53.0	
SATY	**Saty**	**3.13**	**240**	*e*P	**Pb**	**08 26 12.5**	**-0.3**
SATY	3.8nm,0.2s 16nm,0.2s			*e*S	**Sb**	**08 26 53.0**	**+1.4**
TNSS	**Tian-Shan**	**4.08**	**248**	*e*P	**Pg**	**08 26 32.5**	**-1.9**
TNSS	3.6nm,0.4s 1.3nm,0.3s			*e*S	**Sg**	**08 27 26.4**	**-0.9**
DGS	**Degeres**	**4.80**	**255**	Pg	**Pb**	**08 26 43.4**	**+2.3**
DGS	2.1nm,0.4s 5.8nm,0.3s			Lg	Lg	08 27 46.1	

*SOME **09** 08:31:37.1, 43°.92N×83°.72E, h0km*
*NNC **09** 08:31:37.3±1.0, 43°.89N×83°.82E, h0km, mb3.8, mpv3.6,*
Error ellipse: s-maj=8.8km s-min=3.4km az=134.0
ISC 09 08:31:35.4±1.8, 43°.82N±0°.08×83°.81E±0°.08, h10km, n30,
σ1s75/44, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.94**	**281**	Pg	**Pg**	**08 32 31.8**	**+0.1**
DJR	14nm,0.3s 49nm,0.3s			Lg	Lg	08 33 10.8	
DJR	**Jarkent**	**2.94**	**281**	*e*P	**Pg**	**08 32 31.8**	**+0.1**
DJR	14nm,0.3s 49nm,0.3s			*e*S	**Sg**	**08 33 10.8**	**+1.1**
MK31	**Makanchi Array**	**3.16**	**341**	⇑Pn	**Pn**	**08 32 26.4**	**+1.2**
MK31	0.2nm,0.2s,baz=158,slow=13,SNR=116 1.5nm,0.2s,baz=142,slow=16,SNR=6.7			⇓Pg	**Pg**	**08 32 34.5**	**-1.5**
MK31	11nm,0.3s,baz=165,slow=30,SNR=9.1			⇑Lg	Lg	08 33 16.1	
SHLS	**Shalkode**	**3.23**	**260**	Pg	**Pb**	**08 32 31.0**	**-1.9**
SHLS	49nm,0.3s 50nm,0.3s			Lg	Lg	08 33 09.3	
SHLS	**Shalkode**	**3.23**	**260**	*e*P	**Pn**	**08 32 30.6**	**+4.3**
SHLS	25nm,0.2s 50nm,0.3s			*e*S	**Sb**	**08 33 09.4**	**-2.9**
MAKZ	**Makanchi**	**3.26**	**337**	⇓Pn	**Pn**	**08 32 28.0**	**+1.5**
MAKZ	0.8nm,0.5s 7.5nm,0.9s			⇑Pg	**Pg**	**08 32 36.1**	**-1.7**
MAKZ	9.2nm,0.5s			⇑Lg	Lg	08 33 19.1	
KAPS	**Kapalarasan**	**3.50**	**296**	Pg	**Pg**	**08 32 42.4**	**0.0**
KAPS	6.6nm,0.1s 47nm,0.1s			Lg	Lg	08 33 29.3	
KAPS	**Kapalarasan**	**3.50**	**296**	*e*P	**Pg**	**08 32 42.5**	**0.0**
KAPS	6.6nm,0.1s 47nm,0.1s			*e*S	**Sg**	**08 33 29.3**	**+1.5**
UZB	**Uzynbulak**	**3.54**	**261**	Pg	**Pg**	**08 32 42.8**	**-0.5**
UZB	14nm,0.4s 17nm,0.3s			Lg	Lg	08 33 29.7	
UZB	**Uzynbulak**	**3.54**	**261**	*e*P	**Pg**	**08 32 42.8**	**-0.5**
UZB	14nm,0.4s 17nm,0.3s			*e*S	**Sg**	**08 33 29.7**	**+0.5**
ZSN	**Zaisan**	**3.71**	**11**	Pg	**Pb**	**08 32 42.8**	**+1.9**
ZSN	9.4nm,0.3s 18nm,0.4s			Lg	Lg	08 33 30.5	
ZSN	**Zaisan**	**3.71**	**11**	*e*P	**Pb**	**08 32 42.8**	**+1.9**
ZSN	9.4nm,0.3s 18nm,0.4s			*e*S	**Sg**	**08 33 30.5**	**-3.9**
KPKS	**Kokpek**	**3.73**	**266**	Pg	**Pg**	**08 32 45.5**	**-1.4**
KPKS	9.7nm,0.1s 30nm,0.3s			Lg	Lg	08 33 34.8	
KPKS	**Kokpek**	**3.73**	**266**	*e*P	**Pg**	**08 32 45.5**	**-1.4**
KPKS	9.7nm,0.1s 30nm,0.3s			*e*S	**Sg**	**08 33 34.8**	**-0.5**
BLB	**Baldybastay**	**3.86**	**276**	Pg	**Pg**	**08 32 48.3**	**-0.9**
BLB	55nm,0.4s 43nm,0.6s			Lg	Lg	08 33 39.8	
ZHN	**Zhinishke**	**3.96**	**262**	Pg	**Pg**	**08 32 51.1**	**-0.1**
ZHN	2.8nm,0.1s 34nm,0.2s			Lg	Lg	08 33 44.3	
ZHN	**Zhinishke**	**3.96**	**262**	*e*P	**Pg**	**08 32 51.1**	**-0.1**
ZHN	2.8nm,0.1s 34nm,0.2s			*e*S	**Sg**	**08 33 44.3**	**+1.8**
SATY	**Saty**	**4.00**	**261**	Pg	**Pg**	**08 32 51.3**	**-0.8**
SATY	4.7nm,0.2s 11nm,0.1s			Lg	Lg	08 33 44.8	
SATY	**Saty**	**4.00**	**261**	*e*P	**Pg**	**08 32 51.3**	**-0.8**
SATY	4.7nm,0.2s 11nm,0.1s			*e*S	**Sg**	**08 33 44.8**	**+0.8**
KURS	**Kuram**	**4.10**	**267**	Pg	**Pg**	**08 32 51.9**	**-2.1**
KURS	5.9nm,0.7s 7.3nm,0.4s			Lg	Lg	08 33 45.6	
KURS	**Kuram**	**4.10**	**267**	*e*P	**Pg**	**08 32 51.9**	**-2.1**
KURS	5.9nm,0.7s 7.3nm,0.4s			*e*S	**Sg**	**08 33 45.6**	**-1.5**
ARXS	**Arharly**	**4.33**	**277**	Pg	**Pg**	**08 32 57.6**	**-0.7**
ARXS	6.5nm,0.4s 19nm,0.3s			Lg	Lg	08 33 55.7	
ARXS	**Arharly**	**4.33**	**277**	*e*P	**Pg**	**08 32 57.6**	**-0.7**
ARXS	6.5nm,0.4s 19nm,0.3s			*e*S	**Sg**	**08 33 55.5**	**+1.1**
CHKK	**Chushkaly**	**4.93**	**273**	Pg	**Pg**	**08 33 08.3**	**-1.5**
CHKK	2.7nm,0.1s 15nm,0.2s			Lg	Lg	08 34 13.8	
MDOK	**Medeo**	**4.96**	**265**	Pg	**Pg**	**08 33 08.3**	**-2.0**
MDOK	2.3nm,0.5s 6.4nm,0.4s			Lg	Lg	08 34 14.0	
MDOK	**Medeo**	**4.96**	**265**	*e*P	**Pg**	**08 33 08.0**	**-2.3**
MDOK	2.5nm,0.4s 3.0nm,0.4s			*e*S	**Sg**	**08 34 13.4**	**-1.2**
MTBS	**Maitube**	**5.41**	**265**	Pg	**Pg**	**08 33 16.8**	**-2.2**
MTBS	2.2nm,0.3s 4.8nm,0.3s			Lg	Lg	08 34 28.6	
KST	**Kastek**	**5.76**	**265**	Pg	**Pg**	**08 33 22.9**	**-2.8**
KST	2.1nm,0.5s 4.1nm,0.6s			Lg	Lg	08 34 38.8	
KRBS	**Karabastau**	**5.89**	**272**	Pg	**Pg**	**08 33 25.8**	**-2.3**
KRBS	2.1nm,0.7s 4.0nm,0.4s			Lg	Lg	08 34 44.3	
KRBS	**Karabastau**	**5.89**	**272**	*e*P	**Pg**	**08 33 25.8**	**-2.3**
KRBS	2.0nm,0.5s 4.0nm,0.3s			*e*S	**Sg**	**08 34 44.3**	**-0.1**

*IDC **09** 08:45:11.1±1.6, 9°.47S×151°.55E, h0km, mb3.5/5,*
mbtmp3.5/7, ML2.6/2, Error ellipse: s-maj=50.2km
s-min=26.4km az=118.0
ISC 09 08:45:15.0±1.3, 9°.5S±0°.2×151°.5E±0°.2, h24km, n8, σ0s21/8,
mb3.8/5, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.24**	**271**	Pn	**Pn**	**08 46 18.1**	**-0.1**
WRA	**Warramunga Arr**	**19.52**	**236**	P	**Pn**	**08 49 42.2**	**0.0**
ASAR	**Alice Springs**	**21.91**	**228**	P	**P**	**08 50 06.7**	**0.0**
STKA	**Stephens Creek**	**24.08**	**201**	P	**P**	**08 50 28.8**	**+0.1**
SONM	**Songino Array**	**69.62**	**329**	P	**P**	**08 56 22.7**	**+0.3**
MKAR	**Makanchi Array**	**83.00**	**320**	P	**P**	**08 57 38.2**	**-0.1**
ILAR	**Eielson Array**	**86.98**	**22**	P	**P**	**08 57 57.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**150.14**	**280**	PKPbc	**PKPbc**	**09 05 04.7**	**-0.2**

*JMA **09** 08:58:00.5±0.2, 23°.3N±0°.8×123°.0E±0°.5, h61km, MV2.7/13,*
NEAR ISHIGAKIJIMA ISLAND
*TAP **09** 08:58:01.7, 23°.34N×122°.99E, h54km±1km, ML3.3, D*
ISC 09 08:57:59.8±1.3, 23°.29N±0°.03×123°.00E±0°.03, h22km±6km,
n97, σ1s25/171, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**1.03**	**323**	*e*P	**Pn**	**08 58 19.2**	**+0.6**
EOS4				S	**Sb**	**08 58 31.9**	**+0.1**
HATJ	**Hateruma jima**	**1.06**	**44**	P	**Pn**	**08 58 19.5**	**+0.1**
HATJ				S	**Sb**	**08 58 33.1**	**+0.2**
JYNG	**Yonagunijimaku**	**1.16**	**358**	*e*P	**Pn**	**08 58 21.0**	**+0.3**
JYNG				*e*S	**Sb**	**08 58 35.9**	**+0.2**
YOJ	**Yonaguni jima**	**1.17**	**1**	*e*P	**Pn**	**08 58 20.9**	**0.0**
YOJ				*e*S	**Sb**	**08 58 36.0**	**+0.1**
YOJ	**Yonaguni jima**	**1.17**	**1**	*i* P	**Pn**	**08 58 21.0**	**+0.2**
YOJ				*i* S	**Sb**	**08 58 35.8**	**-0.1**
EOS3	**EOS3**	**1.17**	**328**	P	**Pn**	**08 58 21.6**	**+0.9**
EOS3				*e*S	**Sb**	**08 58 36.3**	**+0.4**
IRIF	**Iriomote-Funau**	**1.24**	**33**	P	**Pn**	**08 58 22.0**	**+0.3**
IRIF				*e*S	**Sn**	**08 58 37.6**	**-0.3**
JKRS	**Kuro-shima**	**1.32**	**44**	*e*P	**Pn**	**08 58 23.4**	**+0.4**
JKRS				*e*S	**Sn**	**08 58 39.4**	**-0.6**
EOS2	**EOS2**	**1.32**	**328**	*e*P	**Pn**	**08 58 24.1**	**+1.2**
EOS2				*e*S	**Sn**	**08 58 40.6**	**+0.8**
TEGC	**Jichi Village**	**1.40**	**288**	*e*P	**Pn**	**08 58 25.4**	**+1.3**
SHUL	**Shoufeng**	**1.41**	**291**	*e*P	**Pn**	**08 58 24.3**	**+0.2**
SHUL				*e*S	**Sn**	**08 58 41.3**	**-0.7**
ECBN	**Changbin**	**1.42**	**271**	*e*P	**Pn**	**08 58 24.3**	**0.0**
ECBN				S	**Sn**	**08 58 40.4**	**-2.0**
HGSD	**Ruisui**	**1.46**	**278**	P	**Pn**	**08 58 24.5**	**-0.4**
HGSD				*e*S	**Sn**	**08 58 41.4**	**-2.0**
CHKH	**Chenggong**	**1.48**	**266**	*e*P	**Pn**	**08 58 25.0**	**-0.1**
CHKH				*e*S	**Sn**	**08 58 41.9**	**-1.9**
EGFH	**Guangfu**	**1.49**	**285**	*e*P	**Pn**	**08 58 25.2**	**0.0**
EGFH				*e*S	**Sn**	**08 58 42.7**	**-1.4**
JIJ	**Ishigaki jima**	**1.50**	**44**	P	**Pn**	**08 58 25.3**	**-0.1**
JIJ				*e*S	**Sn**	**08 58 43.0**	**-1.2**
TWD	**Chiawan**	**1.51**	**302**	P	**Pn**	**08 58 25.6**	**+0.1**
TWD				*e*S	**Sn**	**08 58 41.9**	**-2.6**
CHKT	**Chengkung**	**1.51**	**263**	*e*P	**Pn**	**08 58 26.2**	**+0.6**
CHKT				*e*S	**Sn**	**08 58 42.0**	**-2.6**
ESL	**Shilin**	**1.53**	**290**	P	**Pn**	**08 58 25.2**	**-0.5**
ESL				S	**Sn**	**08 58 42.1**	**-2.9**
ETM	**Tongmen**	**1.54**	**296**	*e*P	**Pn**	**08 58 25.1**	**-0.8**
ETM				*e*S	**Sn**	**08 58 43.5**	**-1.7**
LDUT	**Ludao**	**1.54**	**247**	*e*P	**Pn**	**08 58 25.9**	**0.0**
LDUT				*e*S	**Sn**	**08 58 43.1**	**-2.1**
WARBT	**Fenglin Townsh**	**1.54**	**286**	P	**Pn**	**08 58 25.6**	**-0.4**
WARBT				*e*S	**Sn**	**08 58 43.2**	**-2.1**
EYUL	**Yuli**	**1.54**	**272**	P	**Pn**	**08 58 26.2**	**+0.1**
EYUL				*e*S	**Sn**	**08 58 44.5**	**-0.9**
EAHA	**Aohua**	**1.55**	**312**	*e*P	**Pn**	**08 58 26.9**	**+0.8**
EAHA				*e*S	**Sn**	**08 58 44.5**	**-1.0**
EHY	**Hungye**	**1.55**	**278**	*e*P	**Pn**	**08 58 26.2**	**0.0**
EHY				S	**Sn**	**08 58 44.7**	**-1.0**
NACB	**Ninganchiao**	**1.56**	**305**	P	**Pn**	**08 58 26.0**	**-0.2**
NACB				S	**Sn**	**08 58 43.2**	**-2.5**
TWF1	**Yuli**	**1.56**	**273**	*i* P	**Pn**	**08 58 26.5**	**+0.2**
TWF1				S	**Sn**	**08 58 44.9**	**-1.0**
YULB	**Yu-li**	**1.57**	**274**	P	**Pn**	**08 58 26.5**	**+0.2**
YULB				S	**Sn**	**08 58 45.0**	**-1.0**
FULB	**Fuli**	**1.57**	**267**	*e*P	**Pn**	**08 58 26.2**	**-0.2**
FULB				S	**Sn**	**08 58 44.1**	**-1.9**
EWUT	**Wuta**	**1.60**	**316**	*e*P	**Pn**	**08 58 27.4**	**+0.6**
EWUT				*e*S	**Sn**	**08 58 46.5**	**-0.4**
ENA	**Nanau**	**1.61**	**315**	*e*P	**Pn**	**08 58 28.3**	**+1.3**
LXIB	**Xiulin Townshi**	**1.62**	**297**	*e*P	**Pn**	**08 58 27.4**	**+0.1**
LXIB				S	**Sn**	**08 58 46.7**	**-0.9**
ETLH	**Xiulin Townshi**	**1.66**	**304**	*e*P	**Pn**	**08 58 28.5**	**+0.8**
ETLH				*e*S	**Sn**	**08 58 47.2**	**-1.2**
TWC	**Suao**	**1.68**	**322**	*e*P	**Pn**	**08 58 28.0**	**+0.1**
TWC				*e*S	**Sn**	**08 58 47.3**	**-1.5**
LONT	**Longtian**	**1.76**	**258**	*e*P	**Pn**	**08 58 29.6**	**+0.6**
JISG	**Ishigakijimahi**	**1.76**	**43**	*e*P	**Pn**	**08 58 28.9**	**-0.2**
JISG				*e*S	**Sn**	**08 58 49.7**	**-1.1**
VWDT	**VWDT**	**1.77**	**286**	P	**Pn**	**08 58 29.4**	**+0.4**
VWDT				*e*S	**Sn**	**08 58 48.7**	**-2.2**
NDS	**Dongshan**	**1.78**	**319**	*e*P	**Pn**	**08 58 30.2**	**+0.9**
NDS				*e*S	**Sn**	**08 58 50.4**	**-0.8**
OWD	**Renai**	**1.80**	**292**	*e*P	**Pn**	**08 58 30.0**	**+0.4**
OWD				*e*S	**Sn**	**08 58 50.4**	**-1.4**
WHF	**Hehuan Shan**	**1.80**	**299**	P	**Pn**	**08 58 30.5**	**+0.5**
WHF				*e*S	**Sn**	**08 58 50.8**	**-1.6**
ELDTW	**Lidau**	**1.82**	**267**	*e*P	**Pn**	**08 58 29.9**	**-0.1**
LAY	**Lan-yu**	**1.83**	**227**	*e*P	**Pn**	**08 58 30.0**	**0.0**
LAY				*e*S	**Sn**	**08 58 52.0**	**-0.4**
TWGBT	**Beinan**	**1.83**	**255**	P	**Pn**	**08 58 30.2**	**+0.3**
TWGBT				*e*S	**Sn**	**08 58 51.8**	**-0.6**
LATG	**Datong**	**1.83**	**313**	*e*P	**Pn**	**08 58 30.9**	**+0.9**
LATG				*e*S	**Sn**	**08 58 51.2**	**-1.5**
LYUB	**Lan-yu**	**1.83**	**226**	*e*P	**Pn**	**08 58 30.1**	**+0.2**
LYUB				*e*S	**Sn**	**08 58 51.6**	**-0.8**
TWG	**Pinlang**	**1.83**	**256**	*e*P	**Pn**	**08 58 30.8**	**+0.8**
TWG				*e*S	**Sn**	**08 58 51.8**	**-0.8**
WUSB	**Renai**	**1.86**	**292**	P	**Pn**	**08 58 31.3**	**+0.8**
WUSB				S	**Sn**	**08 58 52.8**	**-0.6**
NNSB	**Datong**	**1.86**	**308**	P	**Pn**	**08 58 31.0**	**+0.5**
NNSB				S	**Sn**	**08 58 51.7**	**-1.8**
NNSH	**Datong**	**1.86**	**308**	*e*P	**Pn**	**08 58 31.2**	**+0.7**
NNSH				*e*S	**Sn**	**08 58 52.8**	**-0.7**
FUSS	**Fushou**	**1.87**	**301**	*e*P	**Pn**	**08 58 31.4**	**+0.7**
FUSS				*e*S	**Sn**	**08 58 52.6**	**-1.2**
ENTT	**Nioudou**	**1.88**	**316**	*e*P	**Pn**	**08 58 31.5**	**+0.9**
ENTT				*e*S	**Sn**	**08 58 53.0**	**-0.6**
NNS	**Nan Shan**	**1.88**	**308**	*e*P	**Pn**	**08 58 31.0**	**+0.3**
NNS				*e*S	**Sn**	**08 58 52.4**	**-1.4**
TWT	**Tachien**	**1.92**	**300**	*e*P	**Pn**	**08 58 32.1**	**+0.7**
TWT				*e*S	**Sn**	**08 58 54.3**	**-0.8**
TDCB	**Techi**	**1.94**	**300**	*e*P	**Pn**	**08 58 32.0**	**+0.5**
TDCB				*e*S	**Sn**	**08 58 54.2**	**-1.2**
SSLB	**Suanglung**	**1.94**	**285**	*e*P	**Pn**	**08 58 32.0**	**+0.5**
SSLB				*e*S	**Sn**	**08 58 54.0**	**-1.2**
TWB1	**Santiao Chiao**	**1.94**	**332**	*e*P	**Pn**	**08 58 33.4**	**+1.9**
FUSB	**Fushanzhiwuyua**	**1.95**	**319**	*e*P	**Pn**	**08 58 33.2**	**+1.6**
FUSB				S	**Sn**	**08 58 55.3**	**-0.3**
TIPB	**Shuangxi**	**1.99**	**328**	*e*P	**Pn**	**08 58 33.4**	**+1.2**
TIPB				*e*S	**Sn**	**08 58 55.5**	**-0.9**
ECL	**Taimali**	**2.01**	**250**	*e*P	**Pn**	**08 58 33.0**	**+0.7**
ECL				*e*S	**Sn**	**08 58 55.4**	**-1.4**
WHYT	**Xinyi Township**	**2.01**	**282**	*e*P	**Pn**	**08 58 33.8**	**+1.3**
SMLT	**Sun Moon Lake**	**2.01**	**287**	*e*P	**Pn**	**08 58 33.7**	**+1.1**
SMLT				*e*S	**Sn**	**08 58 56.7**	**-0.4**
NWLT	**Wulai**	**2.01**	**318**	*e*P	**Pn**	**08 58 33.4**	**+0.9**
NWLT				*e*S	**Sn**	**08 58 56.4**	**-0.7**
YHNB	**Yeheng**	**2.02**	**313**	*e*P	**Pn**	**08 58 33.7**	**+1.1**
YHNB				*e*S	**Sn**	**08 58 57.0**	**-0.4**
ALS	**Alishan**	**2.03**	**277**	*e*P	**Pn**	**08 58 34.4**	**+1.5**
ALS				*e*S	**Sn**	**08 58 57.7**	**0.0**
TYC	**Yuchr**	**2.06**	**288**	*e*P	**Pn**	**08 58 34.0**	**+1.0**
JTJ	**Tarama**	**2.06**	**49**	*e*P	**Pn**	**08 58 33.7**	**+0.6**
JTJ				*e*S	**Sn**	**08 58 58.4**	**+0.3**
WCS	**Beigang Elemen**	**2.06**	**292**	*e*P	**Pn**	**08 58 34.4**	**+1.3**
SXI1	**Grass Mountain**	**2.07**	**331**	P	**Pn**	**08 58 34.0**	**+0.7**
SXI1				*e*S	**Sn**	**08 58 56.4**	**-2.1**
WHP	**Taichung City**	**2.12**	**298**	*e*P	**Pn**	**08 58 36.4**	**+2.3**
CHN5	**Tsauling**	**2.15**	**279**	*e*P	**Pn**	**08 58 36.4**	**+2.0**
TAWH	**Dawu Township**	**2.16**	**244**	*e*P	**Pn**	**08 58 35.5**	**+1.0**
TAWH				*e*S	**Sn**	**08 59 00.6**	**-0.1**
NFF	**Wufeng Townshi**	**2.18**	**308**	*e*P	**Pn**	**08 58 37.3**	**+2.5**
TPUB	**Ta-pu**	**2.18**	**271**	*e*P	**Pn**	**08 58 35.6**	**+0.9**
TPUB				*e*S	**Sn**	**08 59 01.9**	**+0.8**
EAST	**Anshuo**	**2.18**	**246**	*e*P	**Pn**	**08 58 36.1**	**+1.3**
EAST				*e*S	**Sn**	**08 58 59.8**	**-1.3**
SLGT	**Liugui**	**2.18**	**263**	*e*P	**Pn**	**08 58 36.4**	**+1.6**
WTP	**Ta-pu**	**2.19**	**269**	P	**Pn**	**08 58 37.2**	**+2.2**
WNT	**Mingjian**	**2.20**	**286**	*e*P	**Pn**	**08 58 36.9**	**+1.8**
CHN4	**Tsaushan**	**2.21**	**272**	*e*P	**Pn**	**08 58 37.4**	**+2.2**
CHN4				*e*S	**Sn**	**08 59 03.0**	**+1.1**
KSHI	**Guanxi Townshi**	**2.23**	**312**	*e*P	**Pn**	**08 58 37.5**	**+2.1**
KSHI				*e*S	**Sn**	**08 59 03.6**	**+1.3**
SGST	**Jiashian**	**2.23**	**265**	*e*P	**Pn**	**08 58 37.3**	**+1.8**
TSMG	**Majia**	**2.24**	**255**	*e*P	**Pn**	**08 58 38.1**	**+2.5**
SSD	**Sandimen**	**2.25**	**256**	*e*P	**Pn**	**08 58 37.5**	**+1.8**
LIOB	**Emei**	**2.26**	**307**	*e*P	**Pn**	**08 58 38.4**	**+2.5**
LIOB				*e*S	**Sn**	**08 59 03.7**	**+0.6**
NSTT	**Nanjuang**	**2.26**	**307**	*e*P	**Pn**	**08 58 37.8**	**+1.9**
NSTT				*e*S	**Sn**	**08 59 03.3**	**+0.2**
CHN1	**Nanshi**	**2.27**	**268**	*e*P	**Pn**	**08 58 38.7**	**+2.6**
MASBT	**Mashibuluo**	**2.28**	**253**	*e*P	**Pn**	**08 58 37.3**	**+1.1**
MASBT				*e*S	**Sn**	**08 59 02.6**	**-1.0**
ZUZH	**Zhuzihu**	**2.29**	**325**	*e*P	**Pn**	**08 58 37.0**	**+0.7**
ZUZH				*e*S	**Sn**	**08 59 03.5**	**-0.3**
WDLH	**Douliu**	**2.29**	**280**	*e*P	**Pn**	**08 58 38.1**	**+1.8**
TWQ1	**Liyutan**	**2.29**	**298**	*e*P	**Pn**	**08 58 38.4**	**+2.0**
SLIU	**Shizi**	**2.29**	**243**	*e*P	**Pn**	**08 58 37.6**	**+1.3**
SNST	**Tainan City**	**2.30**	**269**	*e*P	**Pn**	**08 58 39.3**	**+2.9**
SCZT	**Fangliau**	**2.38**	**248**	*e*P	**Pn**	**08 58 39.3**	**+1.9**
SCZT				*e*S	**Sn**	**08 59 07.0**	**+1.1**
VWUC	**VWUC**	**3.66**	**298**

baz=164
RUF SG **Sg** **09 03 19.3 -0.4**
RUF MSG 09 03 20.1
comp=Z,6.8nm,0.2s
VJF Virojoki 0.94 252 PG **Pn** **09 03 19.8 -0.5**
baz=60
VJF MSG 09 03 30.8
comp=Z,16nm,0.2s
VJF SB **Sb** **09 03 31.9 0.0**
FIA0 FINESS Array S 1.70 292 PG **Pb** **09 03 31.7 -0.3**
baz=111
FIA0 MSG 09 03 51.2
comp=Z,4.3nm,0.2s
FIA0 SG **Sb** **09 03 53.2 -0.7**
FINES FINESS Array B 1.70 292 Pg **Pb** **09 03 31.6 -0.3**
comp=Z,0.5nm,0.3s,baz=101,slow=16,SNR=15
FINES Lg Lg 09 03 53.8
comp=Z,1.0nm,0.3s,baz=102,slow=29,SNR=20
PVF Pernaja 1.74 262 PG **Pg** **09 03 33.1 -0.2**
PVF MSG 09 03 53.5
comp=Z,4.8nm,0.2s
PVF SN **Sg** **09 03 58.1 +2.2**
KAF Kangasniemi 1.94 312 PG **Pg** **09 03 36.8 -0.2**
baz=126
KAF MSG 09 03 57.9
comp=Z,5.5nm,0.2s
KAF SN **Sg** **09 04 01.7 -0.4**
ARBE Arbavere 2.20 232 SN **Sn** **09 04 04.8 -0.7**
JOF Joensuu 2.28 23 *eP* **Pg** **09 03 43.3 -0.3**
JOF Joensuu 2.28 23 PG **Pg** **09 03 43.3 -0.3**
baz=207
JOF SG **Sg** **09 04 11.8 -1.2**
SUF Sumiainen 2.42 322 PG **Pb** **09 03 44.7 +0.5**
baz=143
SUF MSG 09 04 11.9
comp=Z,1.3nm,0.2s
SUF SG **Sb** **09 04 15.4 +0.8**
KEF Keuruu 2.53 304 *eP* **Pb** **09 03 46.3 +0.3**
KEF Keuruu 2.53 304 PG **Pb** **09 03 46.0 0.0**
KEF MSG 09 04 15.0
comp=Z,1.6nm,0.2s
KEF SG **Sb** **09 04 18.2 +0.5**
MEF Metsahovi 2.53 258 *eP* Pn 09 03 36.8 -5.4
MEF Metsahovi 2.53 258 PB **Pb** **09 03 45.5 -0.6**
baz=67
MEF MSG 09 04 16.3
comp=Z,2.0nm,0.2s
MEF SB **Sb** **09 04 17.2 -0.5**
NIF Nilsia 2.66 345 PG **Pb** **09 03 48.2 -0.1**
baz=164
NIF SG **Sb** **09 04 21.8 +0.4**
KPF Kankaanpaa 3.65 289 PB **Pb** **09 04 03.7 -1.4**
baz=102
VAF Ylistaro 3.85 308 *eP* **Pb** **09 04 05.2 -3.4**
VAF Ylistaro 3.85 308 PB **Pb** **09 04 05.2 -3.4**
I43RU DUBNA INFRASON 5.81 132 I I 09 38 00.0
baz=324,slow=310,SNR=1.8
ARCES ARCESS Array B 8.87 351 Pn **Pn** **09 05 11.8 +2.6**
baz=175,slow=12,SNR=2.2
comp=Z,3.1nm,1.0s

*NEIC **09** 09:07:06.1±1.4, 31°.4S±0°.1×177°.9W±0°.2, h10km±2km, mb4.6/11, Error ellipse: s-maj=25.4km s-min=19.6km az=86.0*
*IDC **09** 09:07:17.6±2.1, 31°.93S×179°.81W, h0km, mb4.2/3, mbtmp4.1/4, ML3.4/1, Error ellipse: s-maj=52.8km s-min=30.7km az=56.0*
ISC 09 09:07:06.4±1.1,**31°.47S**±0°.08×**178°.2W**±0°.2,**h10**km,**n27,**
σ1§**62**/20,**mb4.6**/9,**2C, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.22**	**6**		**Pn**	**09 07 41.6**	**-1.7**
URZ	**Urewera**	**7.80**	**208**	Pn	**Pn**	**09 08 59.0**	**-0.8**
	0.8nm,0.3s,baz=56,slow=3.6,SNR=1.4						
URZ				Sn	**Sn**	**09 10 24.9**	**-3.3**
	1.0nm,0.3s,baz=212,slow=11,SNR=3.4						
	2.7nm,0.3s						
MSVF	**Nonsavu**	**14.10**	**345**	Pn	**Pn**	**09 10 24.6**	**-1.7**
ONTNC	**Ouen Toro**	**16.45**	**300**	Pn	**Pn**	**09 10 59.3**	**+1.9**
ONTNC				IAmb	IAmb	09 10 59.9	
	comp=Z,21nm,0.9s						
DZM	**Mont Dzumac**	**16.60**	**301**	Pn	**Pn**	**09 11 00.8**	**+1.4**
DZM				IAmb	IAmb	09 11 01.7	
	comp=Z,14nm,1.1s						
CTAO	**Charters Tower**	**33.83**	**281**	P	**P**	**09 13 49.3**	**+0.3**
CTAO				IAmb	IAmb	09 13 52.1	
	comp=Z,19nm,1.4s						
AS31	**Alice Springs**	**42.91**	**268**	P	**P**	**09 15 06.0**	**+0.6**
ASAR	**Alice Springs**	**42.91**	**268**	P	**P**	**09 15 06.0**	**+0.6**
ASAR	**Alice Springs**	**42.91**	**268**	P	**P**	**09 15 06.6**	**+1.2**
	comp=Z,1.6nm,0.8s,baz=107,slow=7.6,SNR=9.2						
	comp=Z,1.6nm,0.8s						
WB2	**Warramunga Arr**	**43.98**	**273**	P	**P**	**09 15 15.3**	**+1.2**
WB2				IAmb	IAmb	09 15 29.4	
	comp=Z,7.3nm,0.6s						
WRAB	**Tennant Creek**	**43.99**	**273**	P	**P**	**09 15 14.3**	**+0.2**
WRAB				IAmb	IAmb	09 15 29.4	
	comp=Z,6.9nm,0.7s						
WRA	**Warramunga Arr**	**43.99**	**273**	P	**P**	**09 15 14.9**	**+0.8**
WRA	**Warramunga Arr**	**43.99**	**273**	P	**P**	**09 15 15.9**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=111,slow=8.0,SNR=41						
	comp=Z,1.2nm,0.3s						
WB0	**Warramunga Arr**	**44.02**	**274**	P	**P**	**09 15 16.1**	**+1.7**
WB0				IAmb	IAmb	09 15 29.7	
	comp=Z,7.1nm,0.7s						
MTN	**Manton Dam**	**50.01**	**280**	P	**P**	**09 16 02.8**	**+1.6**
NWAO	**Narrogin (SRO)**	**53.88**	**250**	P	**P**	**09 16 28.9**	**-1.0**
QSPA	**South Pole Qui**	**58.64**	**180**	P	**P**	**09 17 04.0**	**+0.4**
QSPA				IAmb	IAmb	09 17 13.6	
	comp=Z,4.2nm,0.7s						
QSPA	**South Pole Qui**	**58.64**	**180**	P	P	09 17 12.7	+9.1
	comp=Z,3.5nm,0.6s,baz=336,slow=0.9,SNR=26						
	comp=Z,3.5nm,0.6s						
VNA3	**Neumayer Olymp**	**77.25**	**176**	⇑P	**P**	**09 19 02.5**	**+2.2**
	comp=Z,3.2nm,0.8s						
VNA2	**Neumayer--Watz**	**77.68**	**177**	⇑P	**P**	**09 19 04.5**	**+1.8**
	comp=Z,1.1nm,0.6s,baz=229,slow=3.3						
H03S2	**Juan Fernandez**	**80.00**	**123**	T	T	10 47 59.8	
	baz=239						
H03S1	**Juan Fernandez**	**80.01**	**123**	T	T	10 48 10.3	
	baz=239						
H03S3	**Juan Fernandez**	**80.02**	**123**	T	T	10 48 14.2	
	baz=239						
H03N3	**Juan Fernandez**	**80.20**	**123**	T	T	10 48 15.3	
	baz=240						
H03N2	**Juan Fernandez**	**80.20**	**123**	T	T	10 48 19.2	
	baz=240						
H03N1	**Juan Fernandez**	**80.22**	**123**	T	T	10 48 19.8	
	baz=240						
FINES	**FINESS Array B**	**146.09**	**339**	PKPbc	PKiKP	09 26 58.9	+10
	comp=Z,2.2nm,0.5s,baz=25,slow=4.6,SNR=3.8						

*IDC **09** 09:09:26.4±2.2, 30°.61S×68°.95W, h87km±21km, mb3.2/1, mbtmp3.8/5, Error ellipse: s-maj=31.6km s-min=17.2km az=95.0*
*NEIC **09** 09:09:26.9±2.6, 30°.74S±0°.05×68°.97W±0°.09, h148km±8km, mb4.3/7, Error ellipse: s-maj=12.1km s-min=7.4km az=71.0*
*SJA **09** 09:09:27.9±0.8, 30°.68S×68°.84W, h115km±3km, ML3.9, MW3.7*
ISC 09 09:09:25.9±0.6,**30°.69S**±0°.04×**68°.85W**±0°.04,**h138**km±6km,
n96,σ1§**80**/120,**mb4.2**/5,**San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACCO	**Cerro Coronel**	**0.21**	**298**	*eP*	**Pn**	**09 09 45.1**	**-0.2**
ACCO				*eS*	**Sn**	**09 09 57.7**	**-2.1**
DOCA	**Reserva Natura**	**0.33**	**217**	*eP*	Pn	09 09 40.0	-5.6
DOCA				*eP*		09 09 45.5	
DOCA				*eS*	**Sn**	**09 09 59.6**	**-1.0**
ACDV	**Cuesta del Vie**	**0.56**	**335**	*eP*	**Pn**	**09 09 46.9**	**+0.4**
ACDV				*eS*	**Sn**	**09 10 01.0**	**-1.2**
ACDV				IAML		09 10 01.3	
	comp=Z,4μm,0.6s						
RTLL	**Cerro Villicun**	**0.72**	**154**	*eP*	Pn	09 09 40.0	-7.3
RTLL				*eP*		09 09 47.5	
RTLL				*eS*	**Sn**	**09 10 01.6**	**-2.1**
AROD	**Rodeo**	**0.75**	**314**	*eP*	**Pn**	**09 09 48.7**	**+0.8**
ZON	**Zonda**	**0.87**	**170**	Pn	**Pn**	**09 09 49.1**	**+0.5**
ZON				Sn	**Sn**	**09 10 04.4**	**-1.4**
ZON	**Zonda**	**0.87**	**170**	*eP*	**Pn**	**09 09 49.0**	**+0.5**
ZON				*eS*	**Sn**	**09 10 03.9**	**-1.9**
ZON				IAML		09 10 05.3	
	comp=Z,2μm,0.4s						
SJA	**San Juan**	**0.88**	**164**	*eP*	**Pn**	**09 09 49.4**	**+0.9**
SJA				*eS*	**Sn**	**09 10 04.8**	**-1.1**
SJA				IAML		09 10 08.1	
	comp=Z,2μm,0.1s						
RTLS	**Leoncito**	**1.17**	**199**	*eP*	**Pn**	**09 09 52.8**	**+1.2**
RTLS				*eS*	**Sn**	**09 10 11.4**	**+0.3**
RTLS				IAML		09 10 11.8	
	comp=Z,3μm,0.6s						
AVFE	**Valle Fertil**	**1.20**	**89**	*eP*	**Pn**	**09 09 52.7**	**+1.1**
AVFE				*eS*	**Sn**	**09 10 10.8**	**-0.2**
AVFE				IAML		09 10 11.9	
	comp=Z,2μm,0.6s						
RTCV	**Cerro Valdivia**	**1.20**	**167**	*eP*	**Pn**	**09 09 52.8**	**+1.2**
RTCV				*eS*	**Sn**	**09 10 10.8**	**-0.4**
CO01	**Juntas del Tor**	**1.29**	**303**		**Pn**	**09 09 55.0**	**+2.3**
CO01				Sn	**Sn**	**09 10 14.2**	**+1.3**
CO01	**Juntas del Tor**	**1.29**	**303**	*eP*	**Pn**	**09 09 54.8**	**+2.2**
CO01				*eS*	**Sn**	**09 10 14.2**	**+1.3**
CO01				IAML		09 10 16.1	
	comp=Z,809nm,0.5s						
CO03	**El Pedregal**	**1.59**	**264**		**Pn**	**09 09 57.1**	**+1.4**
CO03	**El Pedregal**	**1.59**	**264**	*eP*	**Pn**	**09 09 57.4**	**+1.7**
CO03				*eS*	**Sn**	**09 10 19.4**	**+0.9**
CO03				IAML		09 10 20.9	
	comp=Z,890nm,0.2s						
GO04	**Tololo Observa**	**1.76**	**286**		**Pn**	**09 09 59.6**	**+1.9**
GO04	**Tololo Observa**	**1.76**	**286**	*eP*	**Pn**	**09 09 58.8**	**+1.0**
GO04				*eS*	**Sn**	**09 10 23.3**	**+1.2**
ACHE	**Chepes**	**1.94**	**105**	*eP*	**Pn**	**09 10 01.7**	**+2.0**
ACLC	**CERRO LA CRUZ**	**2.07**	**53**	*eP*	**Pn**	**09 10 03.2**	**+1.8**
ACLC				*eS*	**Sn**	**09 10 29.6**	**+1.1**
ACLC				IAML		09 10 32.0	
	comp=Z,573nm,0.2s						
CO05	**La Serena**	**2.20**	**290**		**Pn**	**09 10 04.2**	**+1.4**
AC05	**El Transito**	**2.22**	**326**		**Pn**	**09 10 05.9**	**+2.7**
LCO	**Las Campanas**	**2.32**	**316**		**Pn**	**09 10 06.2**	**+1.7**
LCO	**Las Campanas**	**2.32**	**316**	*eP*	**Pn**	**09 10 06.3**	**+1.8**
LCO				*eS*	**Sn**	**09 10 34.9**	**+0.8**
LCO				IAML		09 10 37.7	
	comp=Z,1μm,0.3s						
CO06	**Fray Jorge**	**2.40**	**270**		**Pn**	**09 10 05.5**	**+0.3**
VA03	**San Esteban**	**2.53**	**215**		**Pn**	**09 10 08.9**	**+2.0**
VA03	**San Esteban**	**2.53**	**215**	*eP*	**Pn**	**09 10 08.9**	**+2.0**
VA03				*eS*	**Sn**	**09 10 40.8**	**+2.3**
VA03				IAML		09 10 48.9	
	comp=Z,218nm,0.4s						
PEL	**Peldehue**	**2.91**	**212**	Pn	**Pn**	**09 10 13.4**	**+1.8**
PEL	**Peldehue**	**2.91**	**212**	*eP*	**Pn**	**09 10 13.6**	**+2.0**
PEL				*eS*	**Sn**	**09 10 48.7**	**+1.7**
MT04	**Ro Olivares**	**2.92**	**202**	*eP*	**Pn**	**09 10 15.2**	**+3.2**
MT04				*eS*	**Sn**	**09 10 47.5**	**-0.2**
MT08	**Bocatoma Ro**	**2.92**	**200**		**Pn**	**09 10 14.7**	**+2.6**
MT08	**Bocatoma Ro**	**2.92**	**200**	*eP*	**Pn**	**09 10 15.0**	**+3.0**
ROC1	**El Roble**	**2.94**	**218**	*eP*	**Pn**	**09 10 13.2**	**+1.0**
ROC1				*eS*	**Sn**	**09 10 48.1**	**+0.2**
MT16	**CCHEN**	**3.08**	**207**		**Pn**	**09 10 16.0**	**+2.1**
MT03	**Universidad Ad**	**3.13**	**206**		**Pn**	**09 10 16.9**	**+2.3**
MT03	**Universidad Ad**	**3.13**	**206**	*eP*	**Pn**	**09 10 17.1**	**+2.4**
MT03				*eS*	**Sn**	**09 10 55.2**	**+2.9**
MT03				IAML		09 10 56.4	
	comp=Z,323nm,0.2s						
MT05	**Renca**	**3.14**	**210**	Pn	**Pn**	**09 10 16.4**	**+1.8**
MT05	**Renca**	**3.14**	**210**	*eP*	**Pn**	**09 10 16.7**	**+2.1**
MT05				*eS*	**Sn**	**09 10 54.0**	**+1.7**
MT05				IAML		09 10 55.6	
	comp=Z,260nm,0.3s						
AC04	**Llanos de Chal**	**3.14**	**321**	Pn	**Pn**	**09 10 16.1**	**+1.4**
AC04	**Llanos de Chal**	**3.14**	**321**	*eP*	**Pn**	**09 10 16.3**	**+1.6**
AC04				*eS*	Sn	09 10 39.6	-13
AC04				IAML		09 11 00.0	
	comp=Z,270nm,0.9s						
MRA	**San Martin**	**3.18**	**124**	*eP*	**Pn**	**09 10 17.4**	**+2.2**
MRA				*eS*	**Sn**	**09 10 54.0**	**+0.6**
MT02	**Curacav**	**3.22**	**217**		**Pn**	**09 10 16.3**	**+0.7**
MT02	**Curacav**	**3.22**	**217**	*eP*	**Pn**	**09 10 16.5**	**+0.9**
MT02				*eS*	**Sn**	**09 10 56.2**	**+2.1**
GO03	**Copiapo**	**3.31**	**338**		**Pn**	**09 10 18.9**	**+2.0**
GO03	**Copiapo**	**3.31**	**338**	*eP*	**Pn**	**09 10 19.0**	**+2.0**
LMEL	**Las Melosas**	**3.35**	**200**		**Pn**	**09 10 20.4**	**+3.0**
LMEL	**Las Melosas**	**3.35**	**200**	*eP*	**Pn**	**09 10 20.5**	**+3.0**
CYA	**Choya**	**3.47**	**51**	*eP*	**Pn**	**09 10 20.5**	**+1.6**
AC06	**Mina Casimiro**	**3.57**	**338**	Pn	**Pn**	**09 10 21.7**	**+1.4**
MT09	**Talagante**	**3.58**	**210**		**Pn**	**09 10 21.2**	**+0.8**
BO04	**La Punta**	**3.62**	**204**		**Pn**	**09 10 22.4**	**+1.6**
MT01	**Popeta**	**3.77**	**212**		**Pn**	**09 10 23.1**	**+0.4**
VA05	**Santo Domingo**	**3.78**	**218**		**Pn**	**09 10 23.1**	**+0.2**
BO01	**Tunca**	**4.15**	**206**	Pn	**Pn**	**09 10 27.3**	**-0.5**
BO01	**Tunca**	**4.15**	**206**	*eP*	**Pn**	**09 10 28.1**	**+0.3**
BO01				IAML		09 11 19.6	
	comp=Z,48nm,0.3s						
BO02	**Sierra Bellavi**	**4.41**	**201**	Pn	**Pn**	**09 10 31.6**	**+0.4**
AC01	**Pan de Azucar**	**4.78**	**341**	Pn	**Pn**	**09 10 37.8**	**+1.6**
AHML	**Horco Molle**	**4.96**	**39**	*eP*	**Pn**	**09 10 40.0**	**+1.3**
GO05	**Hualame**	**5.03**	**210**		**Pn**	**09 10 39.0**	**-0.5**
ML02	**Panimavida**	**5.50**	**202**	Pn	**Pn**	**09 10 45.1**	**-0.7**
GO02	**Mina Guanaco**	**5.54**	**353**	Pn	**Pn**	**09 10 48.2**	**+1.6**
PB14	**IPOC Station P**	**6.19**	**347**	Pn	**Pn**	**09 10 55.6**	**+0.2**
BI02	**San Fabin de**	**6.29**	**198**	Pn	**Pn**	**09 10 57.1**	**+0.6**
PB15	**IPOC Station P**	**7.47**	**356**		**Pn**	**09 11 13.3**	**+0.9**
AF01	**San Pedro de A**	**7.73**	**5**	Pn	**Pn**	**09 11 16.9**	**+0.9**
PB06	**IPOC Station P**	**7.97**	**355**	Pn	**Pn**	**09 11 20.4**	**+1.2**
LVC	**Limon Verde**	**8.04**	**360**	P	**Pn**	**09 11 20.6**	**+0.3**
	comp=Z,7.4nm,0.2s,baz=154,slow=10,SNR=25						
LVC				S	**Sn**	**09 12 46.6**	**-3.3**
	comp=Z,5.2nm,0.5s,baz=353,slow=22,SNR=2.0						
PB04	**IPOC Station P**	**8.40**	**352**	Pn	**Pn**	**09 11 23.5**	**-1.4**
PB09	**IPOC Station P**	**8.86**	**358**		**Pn**	**09 11 31.6**	**+0.5**
GO06	**Curarrehue**	**9.13**	**193**		**Pn**	**09 11 33.9**	**-0.7**
TRQA	**Tornquist**	**9.29**	**144**	Pn	**Pn**	**09 11 37.7**	**+1.2**
PB01	**IPOC Station P**	**9.62**	**356**	Pn	**Pn**	**09 11 40.0**	**-1.2**
LR05	**Currie**	**9.86**	**194**	Pn	**Pn**	**09 11 42.7**	**-1.5**
PATCX	**Punta Patache**	**9.89**	**353**	Pn	**Pn**	**09 11 43.5**	**-1.3**
LR04	**Corral**	**9.90**	**201**	Pn	**Pn**	**09 11 42.2**	**-2.5**
PLCA	**Paso Flores**	**10.12**	**187**	Pn	**Pn**	**09 11 47.0**	**-0.6**
PLCA	**Paso Flores**	**10.12**	**187**	P	**Pn**	**09 11 48.1**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=360,slow=10,SNR=11						
PLCA				S	**Sn**	**09 13 45.5**	**+6.0**
	comp=Z,1.2nm,1.0s,baz=131,slow=5.2,SNR=1.3						
TA01	**Diego Aracena**	**10.15**	**353**	Pn	**Pn**	**09 11 46.8**	**-1.3**
HMBC	**Humberstone**	**10.41**	**355**	Pn	**Pn**	**09 11 50.1**	**-1.6**
TA02	**Huaiquique**	**10.44**	**353**	Pn	**Pn**	**09 11 49.9**	**-2.0**
PB08	**IPOC Station P**	**10.50**	**358**	Pn	**Pn**	**09 11 53.1**	**-0.1**
LL04	**Puerto Octay**	**10.60**	**195**	Pn	**Pn**	**09 11 51.9**	**-2.1**
ITQB	**Itaqui**	**10.63**	**88**	Pn	**Pn**	**09 11 56.2**	**+1.7**
GO01	**Chusmiza**	**10.97**	**358**	Pn	**Pn**	**09 11 59.2**	**-0.4**
CPUP	**Villa Florida**	**11.02**	**70**	Pn	**Pn**	**09 12 00.8**	**+1.2**
CPUP	**Villa Florida**	**11.02**	**70**	P	**Pn**	**09 12 00.5**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=28,slow=20,SNR=1.8						
CPUP				S	**Sn**	**09 14 07.6**	**+6.3**
	comp=Z,1.3nm,0.4s,baz=335,slow=19,SNR=1.4						
LPAZ	**La Paz**	**14.35**	**3**	P	**P**	**09 12 46.8**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=172,slow=7.2,SNR=13						
GO08	**Villa O'Higgin**	**17.98**	**188**	P	**Pn**	**09 13 25.7**	**-1.2**
GO09	**Cerro Castillo**	**20.73**	**186**	P	**P**	**09 13 53.7**	**-1.5**
GO09				IAmb	IAmb	09 14 05.7	
	comp=Z,27nm,1.4s						
MACA	**Manacapuru-AM**	**28.44**	**17**	P	**P**	**09 15 08.3**	**+0.5**
MACA				IAmb	IAmb	09 15 10.2	
	comp=Z,8.7nm,1.2s						
BOAV	**Boa Vista**	**33.84**	**15**	P	**P**	**09 15 53.9**	**-1.3**
BOAV				IAmb	IAmb	09 16 09.0	
	comp=Z,6.1nm,1.3s						
PMSA	**Palmer Station**	**34.24**	**176**	P	**P**	**09 15 56.7**	**-1.4**
SNAA	**Sanae**	**53.66**	**159**	P	**P**	**09 18 33.5**	**+0.7**
SNAA				IAmb	IAmb	09 18 54.9	
	comp=Z,4.8nm,1.4s						
QSPA	**South Pole Qui**	**59.54**	**180**	P	**P**	**09 19 14.0**	**-0.5**
QSPA				IAmb	IAmb	09 19 56.6	
	comp=Z,5.0nm,1.4s						
TXAR	**Lajitas Array**	**68.28**	**328**	P	P	09 20 18.4	+6.4
	comp=Z,0.4nm,0.7s,baz=145,slow=6.5,SNR=2.4						
	comp=Z,0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**149.99**	**32**	PKPbc	**PKPab**	**09 29 05.8**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=322,slow=4.1,SNR=5.4						
MKAR	**Makanchi Array**	**152.54**	**46**	PKPbc	**PKPab**	**09 29 11.5**	**-5.1**
	comp=Z,0.5nm,0.6s,baz=318,slow=1.9,SNR=3.8						

*BER **09** 09:20:31.5±2.4, 71°.47N×10°.64W, h10km, mb(Pn)4.1, ML2.5, Confirmed Earthquake*
*DNK **09** 09:20:37.6±2.9, 71°.71N×11°.41W, h29km±41km, ML1.4*
ISC 09 09:20:29.2±1.1,**71°.45N**±0°.09×**10°.89W**±0°.07,**h10**km,**n12,**
σ1§**73**/18,**1D, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**0.88**	**126**	*eP*	**Pg**	**09 20 46.7**	**+0.6**
JMI				*eS*	**Sg**	**09 20 56.9**	**-0.6**
JMI				IAML		09 20 57.4	
	comp=Z,188nm,0.5s						
JNW	**Jan Mayen West**	**0.90**	**117**	*eP*	**Pg**	**09 20 46.6**	**0.0**
JNW				*eS*	**Sg**	**09 20 57.5**	**-0.8**
JNW				IAML		09 20 59.4	
	comp=Z,426nm,0.1s						
JMIC	**Jan Mayen**	**0.90**	**120**	*eP*	**Pg**	**09 20 46.5**	**-0.1**
JMIC				*eS*	**Sg**	**09 20 57.4**	**-0.9**
JMIC				IAML		09 20 59.9	
	comp=Z,118nm,0.3s						
JNE	**Jan Mayen East**	**0.96**	**118**	*eP*	**Pg**	**09 20 47.3**	**-0.3**
JNE				*eS*	**Sg**	**09 20 57.9**	**-2.2**
JNE				IAML		09 20 59.8	
	comp=Z,338nm,0.3s						
SCO	**Scoresbysund**	**3.75**	**260**	*i* S	**Sn**	**09 22 11.0**	**-0.2**
SCO				IAML		09 22 18.5	
	comp=Z,1.0nm,0.2s						
DBG	**Daneborg**	**3.98**	**320**	*eP*	**Pn**	**09 21 31.7**	**+1.6**
DBG				*eS*	**Sn**	**09 22 14.2**	**-2.5**
DBG	**Daneborg**	**3.98**	**320**	*i* P	**Pn**	**09 21 31.5**	**+1.4**
DBG				*i* S	**Sn**	**09 22 13.3**	**-3.4**
DBG				IAML		09 22 17.3	
	comp=Z,5.1nm,0.2s						
DAG	**Danmarks Havn**	**5.75**	**342**	⇓*i*P	**Pn**	**09 21 56.2**	**+1.8**
DAG				*eS*	Sn	09 22 54.3	-6.0
DAG	**Danmarks Havn**	**5.75**	**342**	*i* P	**Pn**	**09 21 55.0**	**+0.6**
DAG				*i* S	Sn	09 22 51.8	-8.6
DAG				IAML		09 23 01.0	
	comp=Z,2.4nm,0.2s						
HSPB	**Hornsund (broa**	**9.00**	**40**	*eP*	**Pn**	**09 22 39.4**	**+0.5**
KBS	**Kingsbay**	**9.40**	**27**	*eP*	**Pn**	**09 22 46.6**	**+2.1**
KBS				*eS*	Sn	09 24 17.7	-12
KBS				IAML		09 24 22.8	
	comp=Z,5.7nm,0.6s						
SPA0	**Spitsbergen Ar**	**9.70**	**34**	*eP*	**Pn**	**09 22 51.3**	**+2.8**

*IDC **09** 09:20:27.4±0.4, 8°.79N×82°.99W, h0km, mb4.9/29, mbtmp4.9/34, ML4.4/5, MS4.9/56, Error ellipse: s-maj=12.3km s-min=9.7km az=59.0*
*MOS **09** 09:20:29.5±1.0, 8°.69N×83°.22W, h21km, mb5.5/40, MS4.8/6, Error ellipse: s-maj=8.5km s-min=5.0km az=110.5*
*NEIC **09** 09:20:31.0±2.2, 8°.72N±0°.01×83°.26W±0°.05, h10km±1km, mb5.2/654, Ms_20 5.0/226, Mwr5.3/23, Mww5.4/25, Error ellipse: s-maj=7.7km s-min=2.7km az=84.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.78; $M_{\theta\theta}$-0.42; $M_{\phi\phi}$-0.35; $M_{r\theta}$0.43; $M_{\theta\phi}$0.38; $M_{\phi r}$-0.48; Fault plane solution: $M_0$1.01000×10^{17} NP1: ϕ_s135.94000°, δ65.02000°, λ92.96000°. NP2: ϕ_s308.96000°, δ25.14000°, λ83.68000°. Principal axes: T 1.0156, Plg70.0000°, Azm52.0000°; N -0.0149, Plg3.0000°, Azm315.0000°; P -1.0007, Plg20.0000°, Azm224.0000°;*
*RSNC **09** 09:20:31.8±0.4, 9°N±2°×8°3W±°, h8km±3km, M5.1, mb5.3, mB5.6, ML4.7, Mw(mB)5.0, MwMwp5.3, Mwp5.5*
*NEIC **09** 09:20:31.7, 8°.65N×82°.94W, h30km, Moment Tensor Solution. Duration: 2±3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.50; $M_{\theta\theta}$-0.82; $M_{\phi\phi}$-0.67; $M_{r\theta}$0.22; $M_{\theta\phi}$0.84; $M_{\phi r}$-0.42; Fault plane solution: $M_0$1.61000×10^{17} NP1: ϕ_s138.48000°, δ53.33000°, λ97.35000°. NP2: ϕ_s306.30000°, δ37.30000°, λ80.25000°. Principal axes: T 1.5744, Plg80.0000°, Azm80.0000°; N 0.0777, Plg6.0000°, Azm314.0000°; P -1.6521, Plg8.0000°, Azm223.0000°;*
*NEIC **09** 09:20:31.7, 8°.75N×83°.24W, h30km*
*NEIC **09** 09:20:31.7, 8°.73N×83°.24W, h10km*
*CATAC **09** 09:20:31.5±0.2, 8°.65N×83°.25W, h7km±2km, MB5.9, mb5.9, ML5.8*
*BJI **09** 09:20:31.0, 8°.60N×83°.30W, h20km, mB5.5/2, Ms5.7/31, Ms7 5.4/30*
*UCR **09** 09:20:31.0±1.2, 8°.59N×83°.26W, h26km±2km, MW5.9, Fault plane solution: NP1:ϕ_s290.65000°, δ52.97000°, λ74.90000°.*
*UPA **09** 09:20:32.6±3.2, 8°.57N×83°.23W, h30km, MW5.9*
*GCMT **09** 09:20:34.0±0.1, 8°.63N±0°.01×83°.27W±0°.01, h31km, MW5.5/138, Moment Tensor Solution. s124, c215; s138, c251; Duration: 1±3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.85±.03; $M_{\theta\theta}$-1.06±.02; $M_{\phi\phi}$-0.78±.02; $M_{r\theta}$0.01±.03; $M_{\theta\phi}$1.00±.01; $M_{\phi r}$-0.57±.03; Best double couple: $M_0$1.97600×10^{17} NP1:ϕ_s143.00000°, δ52.00000°, λ106.00000°. NP2:ϕ_s299.00000°, δ41.00000°, λ71.00000°. Principal axes: T 1.9830, Plg76.0000°, Azm107.0000°; N -0.0090, Plg12.0000°, Azm314.0000°; P -1.9700, Plg6.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 09 09:20:31.9±0.6,**8°.61N**±0°.02×**83°.24W**±0°.02,**h28**km±4km,
n1409,σ1§**32**/1137,**mb5.2**/398,**MS5.0**/179,**36C-91D,**
Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	**0.10**	**220**	⇑*i*P	**Pb**	**09 20 35.6**	**-1.3**
**PTJ1

PEDE3 **Pedregal, Chir** 0.84 106 *eP* Pn 09 20 46.3 -1.6
LOMA3 **Las Lomas, Chi** 0.86 102 *eP* Pn 09 20 46.7 -1.5
ZELE **Perez Zeledon** 0.89 328⇓*eP* Pn 09 20 47.1 -1.5
BUS1 **Rivas** 1.06 332⇓*eP* Pn 09 20 49.8 -1.7
BRIBI **Bribri** 1.07 21⇓*eP* Pn 09 20 51.4 +0.2
CNI2 **El Empalme, Bo** 1.10 43 *eP* Pn 09 20 50.5 -1.1
CNI2 *eS* Sn 09 21 06.0 +0.1
CHGR2 **Aguacate** 1.13 73 *eP* Pn 09 20 50.3 -1.6
CHGR2 *eS* Sn 09 21 06.0 -0.6
RGM0 **Gandoca** 1.15 33 Pn 09 20 52.6 +0.3
RGM0 **Gandoca** 1.15 33⇓*iP* Pn 09 20 52.5 +0.3
RGM0 *i* S Sb 09 21 11.5 +3.7
RGM0 IAML 09 21 27.4
comp=Z,290µm,1.0s
RGM0 **Gandoca** 1.15 33⇓*eP* Pb 09 20 52.9 -0.4
RGM0 *eS* Sb 09 21 11.7 +3.9
RGM0 **Gandoca** 1.15 33⇓*eP* Pn 09 20 52.7 +0.4
LLNJ **Naranjito** 1.21 315⇑*eP* Pn 09 20 51.8 -1.3
RAZU **San Marcos de** 1.30 323⇓*eP* Pn 09 20 53.2 -1.2
ABE2 **San Pablo** 1.35 323 *eP* Pn 09 20 53.9 -1.3
LCR2 **La Lucha 2** 1.35 326 Pn 09 20 54.3 -1.0
LCR2 Sn Sn 09 21 11.7 -0.7
LCR2 **La Lucha 2** 1.35 326⇓*iP* Pn 09 20 53.9 -1.3
LCR2 *i* S Sn 09 21 12.4 0.0
LCR2 IAML 09 21 15.9
comp=Z,99µm,1.0s
LCR2 **La Lucha 2** 1.35 326⇓*eP* Pn 09 20 54.0 -1.3
REPA **Paraso** 1.36 333⇓*eP* Pn 09 20 54.3 -1.0
TURIB **Turrialba** 1.36 341⇓*eP* Pn 09 20 54.1 -1.1
VINA **Juan Vinas** 1.37 338⇓*eP* Pn 09 20 54.4 -1.0
PCAYA **Pacayas** 1.41 336⇓*eP* Pn 09 20 55.3 -0.8
RVSTA **Santa Teresita** 1.41 343⇓*eP* Pn 09 20 55.4 -0.6
RVSTA *eS* Sb 09 21 14.6 -0.8
TAGO **Cartago** 1.42 331⇓*eP* Pn 09 20 56.1 0.0
VTCV **VTCV, Calle Va** 1.44 340⇓*eP* Pn 09 20 55.8 -0.7
RAFA **San Farael, Vo** 1.45 337⇓*iP* Pn 09 20 55.9 -0.8
RAFA IAML 09 21 25.2
comp=Z,570µm,1.0s
RAFA **San Farael, Vo** 1.45 337⇓*eP* Pn 09 20 55.8 -0.9
TAAN **Batan** 1.47 356⇓*eP* Pn 09 20 56.7 +0.1
CVTV **Tajo** 1.47 340⇓*eP* Pn 09 20 56.3 -0.7
CVTQ **Turrialba Volc** 1.48 339⇓*eP* Pn 09 20 56.3 -0.8
VTLA **Turrialba Volc** 1.48 339⇓*eP* Pn 09 20 56.4 -0.7
TRIO **Tres Rios** 1.48 330⇓*eP* Pn 09 20 56.0 -1.0
VTR0 **Volcan Turrial** 1.49 340⇓*eP* Pn 09 20 56.6 -0.7
VICA **Volcano Irazu** 1.49 336⇓*eP* Pn 09 20 56.4 -0.9
ACOS **Acosta** 1.49 322⇓*eP* Pn 09 20 55.9 -1.1
CVTR **Volcan Turrial** 1.49 340⇓*eP* Pn 09 20 56.4 -0.9
LCOCO **El Coco** 1.49 348⇓*eP* Pn 09 20 57.1 +0.1
IRES **Siquirres** 1.50 350⇓*eP* Pn 09 20 57.0 0.0
AMPA **Desamparados** 1.51 327⇓*eP* Pn 09 20 56.2 -1.2
RVLA **Villa Bonita** 1.52 347⇓*eP* Pn 09 20 57.3 -0.1
SJS3 **Mercedes San J** 1.54 329⇓*eP* Pn 09 20 57.2 -0.6
SJS **Escuela Geolog** 1.54 329⇓*eP* Pn 09 20 57.0 -0.7
CORON **Coronado** 1.55 331⇓*eP* Pn 09 20 57.4 -0.4
LUPE **Guadalupe** 1.55 329⇓*eP* Pn 09 20 57.2 -0.7
MEXI **Barrio Mexico** 1.56 328⇓*eP* Pn 09 20 57.3 -0.8
CVIMO **Finca Echandi** 1.56 334⇓*eP* Pn 09 20 57.5 -0.6
DOMI **Santo Domingo** 1.60 328 *eP* Pn 09 20 58.5 -0.1
SANTA **Santa Ana** 1.61 325⇓*eP* Pn 09 20 57.6 -1.0
HDC **Heredia** 1.63 328 Pn 09 20 58.2 -0.7
HDC **Heredia** 1.63 328⇓*iP* Pn 09 20 58.8 -0.1
HDC IAML 09 21 26.1
comp=Z,180µm,1.0s
HDC **Heredia** 1.63 328 *eP* Pn 09 20 58.5 -0.5
HDC **Heredia** 1.63 328⇓*eP* Pn 09 20 58.4 -0.5
BELE **Belen** 1.65 325⇓*eP* Pn 09 20 58.4 -0.8
BITO **Garabito Jaco** 1.69 306 *eP* Pn 09 20 58.9 -0.8
TCS1 **Tacares** 1.77 324⇓*iP* Pn 09 21 00.8 0.0
TCS1 IAML 09 21 29.3
comp=Z,860µm,1.0s
TCS1 **Tacares** 1.77 324⇓*eP* Pn 09 21 00.6 -0.2
GREC **Grecia** 1.79 324⇓*eP* Pn 09 21 01.1 -0.1
SARCI **Sarchi** 1.83 323 *eP* Pn 09 21 03.0 +1.3
VPS6 **Volcano Poas** 1.85 328⇓*eP* Pn 09 21 01.9 -0.3
NARAN **Naranjo de Ala** 1.85 323⇓*eP* Pn 09 21 03.1 +1.0
SRA1 **San Ramn** 1.91 320⇓*eP* Pn 09 21 02.4 -0.4
ZARE **Zarcero** 1.93 324⇓*eP* Pn 09 21 04.2 +1.1
ARZA **Esparza** 1.97 314 *eP* Pn 09 21 03.0 -0.5
SARA **Sarapiqu** 1.98 337⇓*eP* Pn 09 21 03.7 0.0
CBL1 **Cabuya** 2.07 298 *eP* Pn 09 21 03.5 -1.4
MESA3 **La Mesa, Verag** 2.08 103 *eP* Pn 09 21 05.3 +0.3
ITAL **Pital** 2.09 331 *eP* Pn 09 21 05.5 +0.3
RSUS3 **Rio de Jesus,** 2.15 107 *eP* Pn 09 21 06.6 +0.6
RSUS3 *eS* Sn 09 21 33.5 +1.8
GMAL **Guarumal, Vera** 2.16 113 P Pn 09 21 05.4 -0.7
GMAL S Sn 09 21 33.7 +1.8
GMAL **Guarumal, Vera** 2.16 113 *eP* Pn 09 21 06.3 +0.2
GMAL *eS* Sb 09 21 35.5 -1.2
SOCE **Pocosol** 2.22 322 Pn 09 21 07.3 +0.3
SOCE **Pocosol** 2.22 322⇓*iP* Pn 09 21 07.5 +0.4
SOCE IAML 09 21 44.0
comp=Z,55µm,1.0s
SOCE **Pocosol** 2.22 322⇓*eP* Pn 09 21 07.3 +0.3
STIA3 **Santiago, Vera** 2.30 103 *eP* Pn 09 21 08.7 +0.6
MTEVE **Monteverde** 2.31 317⇑*eP* Pn 09 21 09.2 +0.9
FORC **Fortuna** 2.32 323 *eP* Pn 09 21 08.2 -0.1
ARE1 **Arenal 1** 2.35 322⇓*eP* Pn 09 21 09.4 +0.7
CEDE **Laguna Cedeo** 2.36 322 *eP* Pn 09 21 09.2 +0.3
JUNT **Juntas** 2.37 314 *eP* Pn 09 21 08.4 -0.6
JTS **Las Juntas de** 2.38 315 Pn 09 21 08.6 -0.6
JTS **Las Juntas de** 2.38 315 Pn Pn 09 21 10.3 +1.2
comp=Z,197nm,0.3s,baz=326,slow=19,SNR=389
JTS Sn Sb 09 21 40.5 -2.5
comp=Z,1µm,0.3s,baz=289,slow=19,SNR=11
JTS LR LR 09 21 41.5
comp=Z,5µm,18.6s,baz=86,slow=30
comp=Z,1µm,0.3s
JTS **Las Juntas de** 2.38 315 P Pn 09 21 08.9 -0.2
JTS S Sb 09 21 42.2 -0.8
JTS **Las Juntas de** 2.38 315*c iP* Pn 09 21 08.5 -0.6
JTS pmax pmax
comp=Z,2µm,1.0s
JTS **Las Juntas de** 2.38 315 *eP* Pn 09 21 10.5 +1.4
JTS *eS* Sb 09 21 42.6 -0.4
JTS **Las Juntas de** 2.38 315⇑*eP* Pn 09 21 08.5 -0.7
COVE **Coope Vega, Sa** 2.39 331⇓*iP* Pn 09 21 09.5 +0.2
COVE IAML 09 21 59.6
comp=Z,67µm,1.0s
CALO3 **Calobre, Verag** 2.39 97 *eP* Pn 09 21 10.2 +0.9
MARI3 **Mariato, Verag** 2.42 113 *eP* Pn 09 21 10.6 +0.9
MARI3 *eS* Sb 09 21 42.3 -2.0
CRIS3 **El Cristo, Coc** 2.62 98 *eP* Pn 09 21 13.3 +0.8
CACAO **El Cacao, Vera** 2.67 118 P Pn 09 21 13.2 +0.1
CACAO S Sn 09 21 46.6 +2.0
CACAO **El Cacao, Vera** 2.67 118 *eP* Pn 09 21 13.4 +0.2
CACAO *eS* Sn 09 21 46.9 +2.3
CUI **Cuipilapa** 2.78 317 *eP* Pn 09 21 14.3 -0.4
COLC **Colonia** 2.81 317 *eP* Pn 09 21 15.2 0.0
LCHIL **Los Chiles** 2.81 329 *eP* Pn 09 21 15.7 +0.5
CHIT3 **Chitre** 2.87 103 *eP* Pn 09 21 17.1 +1.2
ALIBA **Liberia Airpor** 3.01 311 *eP* Pn 09 21 19.5 +1.7
TOSI3 **Tonosi** 3.02 113 *eP* Pn 09 21 20.7 +2.8
PCRI3 **Pocri, Los San** 3.23 107 *eP* Pn 09 21 23.2 +2.4
ACHO3 **Achotines, Los** 3.26 111 *eP* Pn 09 21 22.2 +0.9
ZANG **Zanguenga, Cho** 3.35 84 *eP* Pn 09 21 23.6 +1.1
ZANG **Zanguenga, Cho** 3.35 84⇑*eP* Pn 09 21 22.8 +0.3
PEDA3 **Pedasi** 3.36 109 *eP* Pn 09 21 24.0 +1.3
LCRUZ **La Cruz** 3.40 316 *eP* Pn 09 21 25.7 +2.5
BCIP **Isla Barro Col** 3.40 80 Pn Pn 09 21 23.5 +0.2
BCIP **Isla Barro Col** 3.40 80 P Pn 09 21 23.8 +0.6
BCIP S Sn 09 22 01.8 -0.9
BCIP **Isla Barro Col** 3.40 80⇓*iP* Pn 09 21 23.4 +0.2
BCIP IAML 09 22 35.3
comp=Z,8µm,1.0s
BCIP **Isla Barro Col** 3.40 80 P Pn 09 21 23.5 +0.2
BCIP **Isla Barro Col** 3.40 80 *eP* Pn 09 21 23.9 +0.7
BCIP **Isla Barro Col** 3.40 80⇓*eP* Pn 09 21 22.4 -0.8
CARN **Rivas** 3.41 319 *i P* Pn 09 21 25.8 +2.5
CARN IAML 09 22 21.4
comp=Z,12µm,1.0s
FRIJ **El Hiral** 3.52 80 *eP* Pn 09 21 25.7 +0.8
ARRA3 **Arraijan, Pana** 3.56 84⇓*eP* Pn 09 21 26.8 +1.5
TABO3 **Taboga, Panama** 3.65 87 *eP* Pn 09 21 28.1 +1.5
FLAM **Flamenco Islan** 3.67 85 *eP* Pn 09 21 30.7 +3.8
UPA **Univ. de Panam** 3.68 84 *eP* Pn 09 21 28.1 +1.1
ESPN **Las Esperanzas** 3.71 344 Pn 09 21 27.1 -0.4
ESPN **Las Esperanzas** 3.71 344 *i P* Pn 09 21 27.8 +0.4
ESPN IAML 09 22 40.2
comp=Z,13µm,1.0s
ESPN **Las Esperanzas** 3.71 344⇓*eP* Pn 09 21 27.2 -0.3

CONN **Concepcion** 3.76 321⇓*iP* Pn 09 21 29.3 +1.1
CONN IAML 09 21 51.1
comp=Z,91µm,1.0s
MORN **Al O del Volca** 3.76 321 *i* P Pn 09 21 30.0 +1.8
MORN IAML 09 21 55.9
comp=Z,820nm,1.0s
ACON **Acoyapa** 3.84 330 Pn Pn 09 21 29.3 0.0
ACON **Acoyapa** 3.84 330 P Pn 09 21 30.1 +0.9
ACON **Acoyapa** 3.84 330 *i P* Pn 09 21 30.8 +1.6
ACON IAML 09 22 44.7
comp=Z,8µm,1.0s
ACON **Acoyapa** 3.84 330⇓*eP* Pn 09 21 28.6 -0.7
NADN **Granada** 4.16 319 *i P* Pn 09 21 35.5 +1.9
NADN IAML 09 23 26.5
comp=Z,4µm,1.0s
CNTA3 **Canitas, Panam** 4.34 82 *eP* Pn 09 21 37.6 +1.5
NANN **Nandasmo** 4.36 320⇓*iP* Pn 09 21 39.3 +2.9
NANN IAML 09 23 11.7
comp=Z,37µm,1.0s
SABN **Sabanita** 4.39 319 *i P* Pn 09 21 39.4 +2.5
SABN IAML 09 22 14.8
comp=Z,10µm,1.0s
WILN **Americas 2** 4.57 321 *i P* Pn 09 21 41.2 +2.0
WILN IAML 09 23 42.1
comp=Z,2µm,1.0s
UNAN **Cigeo UNAN** 4.58 320⇓*iP* Pn 09 21 41.2 +1.7
UNAN IAML 09 22 10.3
comp=Z,20µm,1.0s
MGAN **Managua** 4.59 320 Pn 09 21 40.9 +1.3
MGAN **Managua** 4.59 320⇓*iP* Pn 09 21 41.7 +2.1
MGAN IAML 09 22 10.9
comp=Z,3µm,1.0s
MGAN **Managua** 4.59 320⇓*eP* Pn 09 21 41.4 +1.8
R4DEC **Barrio San Lui** 4.59 320⇑*iP* Pn 09 21 41.7 +2.1
R4DEC IAML 09 22 10.9
comp=Z,3µm,1.0s
TISN **Laguna Tiscapa** 4.60 320 *i P* Pn 09 21 40.2 +0.4
TISN IAML 09 22 09.1
comp=Z,170nm,1.0s
APQ2 **Apoyeque** 4.68 320 *i P* Pn 09 21 42.7 +1.9
APQ2 IAML 09 23 22.0
comp=Z,3µm,1.0s
COPN **Copaltepe** 4.84 317⇓*iP* Pn 09 21 43.9 +0.9
COPN IAML 09 22 06.6
comp=Z,2µm,1.0s
TOTI **Torti** 4.88 86 *eP* Pn 09 21 45.7 +2.1
MOM2 **El Cardon** 4.96 320 *i P* Pn 09 21 46.4 +1.7
MOM2 IAML 09 22 11.1
comp=Z,3µm,1.0s
MOMN **Momotombo** 4.98 320⇓*iP* Pn 09 21 46.6 +1.7
MOMN IAML 09 22 18.2
comp=Z,100nm,1.0s
LEVN **Ruinas Leon Vi** 5.02 319 *i P* Pn 09 21 47.5 +2.0
LEVN IAML 09 22 17.4
comp=Z,2µm,1.0s
PRVC **Isla de Provid** 5.08 21 P Pn 09 21 44.7 -1.6
PRVC **Isla de Provid** 5.08 21 *i P* Pn 09 21 44.9 -1.4
PRVC IAmb IAmb 09 22 12.2
comp=Z,360nm,1.0s
PRVC IVmB_BB 09 22 22.9
comp=Z,5µm,1.0s
PRVC IAML 09 23 02.1
comp=Z,970nm,1.0s
PRVC **Isla de Provid** 5.08 21 *eP* Pn 09 21 45.2 -1.0
CNGA **Al SSO del Vol** 5.14 319 *i P* Pn 09 21 49.7 +2.4
CNGA IVmB_BB 09 22 02.0
comp=Z,11µm,1.0s
CNGA IAML 09 22 02.1
comp=Z,1µm,1.0s
UPD2 **Meteti** 5.17 90 *eP* Pn 09 21 50.1 +2.6
PLRN **Geotermica Pol** 5.25 319 *i P* Pn 09 21 50.3 +1.6
PLRN IAmb IAmb 09 22 09.1
comp=Z,230nm,0.5s
PLRN IAML 09 22 17.4
comp=Z,460nm,1.0s
PLRN IVmB_BB 09 22 24.6
comp=Z,4µm,1.0s
LIMN **Finca el Limon** 5.38 325⇑*iP* Pn 09 21 51.2 +0.6
LIMN IAmb IAmb 09 22 05.3
comp=Z,2µm,0.6s
LIMN IAML 09 22 24.0
comp=Z,3µm,1.0s
LIMN IVmB_BB 09 22 24.0
comp=Z,18µm,1.0s
PKGN **Cerro Pekin** 5.46 318⇑*iP* Pn 09 21 53.4 +1.9
PKGN IAML 09 22 01.3
comp=Z,3µm,1.0s
PKGN IVmB_BB 09 22 01.3
comp=Z,26µm,1.0s
PKGN IAmb IAmb 09 22 01.7
comp=Z,3µm,0.8s
CRIN **San Cristobal** 5.53 318 Pn 09 21 53.9 +1.4
CRIN **San Cristobal** 5.53 318 P Pn 09 21 54.2 +1.7
comp=Z,3µm,0.8s,comp=Z,23µm
CRIN **San Cristobal** 5.53 318⇑*iP* Pn 09 21 54.2 +1.7
CRIN IAML 09 22 15.8
comp=Z,3µm,1.0s
CRIN IAmb IAmb 09 22 15.9
comp=Z,3µm,0.8s
CRIN IVmB_BB 09 22 19.4
comp=Z,23µm,1.0s
CRIN **San Cristobal** 5.53 318⇑*eP* Pn 09 21 53.7 +1.2
PTAC **Punta Ardita,** 5.57 105 P Pn 09 21 53.4 +0.3
comp=Z,335nm,0.9s,comp=Z,5µm
PTAC **Punta Ardita,** 5.57 105 *eP* Pn 09 21 53.8 +0.7
RCVN **Varillal2** 5.73 330 *i P* Pn 09 21 56.4 +1.0
RCVN IAmb IAmb 09 22 18.3
comp=Z,44µm,0.8s
RCVN IVmB_BB 09 22 28.1
comp=Z,290µm,1.0s
RCVN IAML 09 23 36.4
comp=Z,74µm,1.0s
RNCC **Cayo Roncador,** 5.82 32 P Pn 09 21 59.7 +3.3
comp=Z,1µm,0.8s,comp=Z,14µm
CAPC **Capurgana** 5.82 89 P Pn 09 21 58.8 +2.3
comp=Z,332nm,0.8s,comp=Z,5µmcomp=Z,20µm
CSGN **Cosiguina Volc** 6.07 316 *i P* Pn 09 22 01.1 +1.1
CSGN IAML 09 22 10.4
comp=Z,300nm,1.0s
CSGN IVmB_BB 09 22 10.4
comp=Z,2µm,1.0s
CSGN IAmb IAmb 09 22 10.7
comp=Z,260nm,0.9s
SOLC **Bahia Solano** 6.25 112 P Pn 09 22 02.1 -0.3
SERC **Banco Serrana,** 6.30 26 P Pn 09 22 02.1 -1.0
comp=Z,326nm,0.7s,comp=Z,6µmcomp=Z,2µm
YUSH **Yuscaran** 6.38 327 *i P* Pn 09 22 05.6 +1.4
CNCH **Conchagua** 6.47 316⇑*iP* Pn 09 22 06.9 +1.4
CNCH IAmb IAmb 09 22 17.4
comp=Z,770nm,0.6s
CNCH IVmB_BB 09 22 47.4
comp=Z,9µm,1.0s
CNCH IAML 09 22 47.5
comp=Z,1µm,1.0s
LCND **La Caada** 6.53 316 *i P* Pn 09 22 08.0 +1.8
LCND IAmb IAmb 09 22 22.4
comp=Z,210nm,0.7s
LCND IVmB_BB 09 22 41.8
comp=Z,6µm,1.0s
LCND IAML 09 22 47.9
comp=Z,360nm,1.0s
APAC **Apartado, Choc** 6.63 96 P Pn 09 22 10.8 +3.2
comp=Z,333nm,1.0s,comp=Z,8µmcomp=Z,19µm
TGUH **Tegucigalpa,Un** 6.70 324 Pn Pn 09 22 10.3 +1.6
TGUH **Tegucigalpa,Un** 6.70 324 P Pn 09 22 11.4 +2.7
comp=Z,1µm,0.7s,comp=Z,14µmcomp=Z,9µm
TGUH **Tegucigalpa,Un** 6.70 324 *i P* Pn 09 22 10.9 +2.2
TGUH IAmb IAmb 09 22 36.2
comp=Z,1µm,0.7s
TGUH IAML 09 22 48.8
comp=Z,2µm,1.0s
TGUH IVmB_BB 09 22 48.9
comp=Z,14µm,1.0s
RANC **El Ranchito** 6.89 314⇑*iP* Pn 09 22 13.9 +2.5
RANC IAML 09 22 20.7
comp=Z,1µm,1.0s
RANC IVmB_BB 09 22 20.7
comp=Z,9µm,1.0s
RANC IAmb IAmb 09 22 21.1
comp=Z,1µm,0.7s
DBBC **Dabeiba** 7.14 102 P Pn 09 22 17.6 +2.9
GR1C **Gorgona, Isla** 7.52 138 P Pn 09 22 21.1 +1.3
CBOC **Ciudad Bolivar** 7.67 110 P Pn 09 22 23.4 +1.3
comp=Z,82nm,1.0s,comp=Z,1µmcomp=Z,13µm
UREC **San Jos de Ur** 7.67 96 P Pn 09 22 23.0 +1.0
comp=Z,137nm,0.7s,comp=Z,2µmcomp=Z,15µm

UREC **San Jos de Ur** 7.67 96 *eP* Pn 09 22 24.0 +2.0
SNET **Serv Nac Est T** 7.75 311 Pn 09 22 24.6 +1.5
HELC **Santa Helena** 8.01 107 P Pn 09 22 27.3 +0.3
comp=Z,70nm,0.8s,comp=Z,2µmcomp=Z,10µm
SJCC **San Jacinto, C** 8.05 80 P Pn 09 22 28.5 +1.2
comp=Z,515nm,0.8s,comp=Z,4µmcomp=Z,22µm
TUMC **Tumaco** 8.10 146 P Pn 09 22 32.5 +4.6
comp=Z,328nm,1.0s
YOTC **Yotoco, Valle** 8.25 123 P Pn 09 22 29.4 -0.6
MTO3 **Montecristo** 8.31 314 Pn 09 22 32.2 +1.3
ZARC **Zaragoza, Cauc** 8.37 97 P Pn 09 22 33.2 +1.6
comp=Z,163nm,0.8s,comp=Z,2µmcomp=Z,11µm
ESQI **Esquipulas** 8.41 315 Pn 09 22 34.0 +1.8
JAMC **Jamundi, Valle** 8.45 129 P Pn 09 22 34.7 +1.9
comp=Z,76nm,0.8s,comp=Z,1µmcomp=Z,9µm
GUY2C **Guyana, Caldas** 8.51 113 P Pn 09 22 36.7 +2.8
comp=Z,168nm,0.7s,comp=Z,2µmcomp=Z,7µm
NORC **Norcasia** 8.84 110 P Pn 09 22 45.9 +7.9
BBAC **Balboa, Cauca** 8.86 137 P Pn 09 22 40.2 +1.8
comp=Z,125nm,0.9s,comp=Z,2µmcomp=Z,8µm
PTBC **PUERTO BERRIO,** 8.95 103 P Pn 09 22 42.3 +2.9
comp=Z,74nm,1.0s,comp=Z,1µm
ARGC **Ariguani, Magd** 8.96 81 P Pn 09 22 41.6 +1.9
comp=Z,221nm,1.1s,comp=Z,2µmcomp=Z,14µm
ORTC **Ortega, Tolima** 9.21 120 P Pn 09 22 45.1 +1.9
comp=Z,96nm,1.3s,comp=Z,2µmcomp=Z,5µm
CMBC **Cumbal** 9.34 144 P Pn 09 22 48.4 +3.2
comp=Z,150nm,1.5s
CRUC **La Cruz** 9.39 138 P Pn 09 22 50.2 +4.4
GCUF **Volcan Galeras** 9.40 141 P Pn 09 22 47.9 +1.8
comp=Z,129nm,1.0s,comp=Z,2µm
PAC1 **Pacto, Paraso** 9.40 152 P Pn 09 22 47.1 +1.3
comp=Z,55nm,1.1s,comp=Z,2µm
TULM **Tulcn-Chalpat** 9.54 145 P Pn 09 22 51.8 +3.8
comp=Z,171nm,0.9s,comp=Z,2µm
BRJC **Barrancabermej** 9.55 99 P Pn 09 22 53.0 +5.3
CUSE **Cuicocha Este** 9.56 149 P Pn 09 22 50.6 +2.4
comp=Z,109nm,0.9s,comp=Z,2µm
SPBC **San Pablo de B** 9.56 107 P Pn 09 22 51.1 +3.2
comp=Z,77nm,1.9s,comp=Z,2µmcomp=Z,9µm
OTAV **Otavalo** 9.59 150 Pn Pn 09 22 51.0 +2.2
OTAV **Otavalo** 9.59 150 P Pn 09 22 50.9 +2.2
comp=Z,51nm,1.4s,comp=Z,1µmcomp=Z,7µm
OTAV **Otavalo** 9.59 150 *eP* Pn 09 22 50.0 +1.3
OTAV **Otavalo** 9.59 150 *eP* Pn 09 22 46.9 -1.8
ROSC **El Rosal** 9.62 112 Pn Pn 09 22 52.8 +3.8
ROSC **El Rosal** 9.62 112 Pn Pn 09 22 51.4 +2.4
comp=Z,2.9nm,0.3s,baz=304,slow=10,SNR=43
ROSC LR LR 09 26 14.2
comp=Z,7µm,19.8s,baz=332,slow=37
ROSC **El Rosal** 9.62 112 P Pn 09 22 53.0 +4.0
comp=Z,142nm,1.6s,comp=Z,2µmcomp=Z,7µm
ROSC **El Rosal** 9.62 112 P Pn 09 22 52.8 +3.8
PRAC **Prado** 9.62 120 P Pn 09 22 50.3 +1.5
comp=Z,94nm,2.1s,comp=Z,2µm
OCAC **Ocana** 9.82 91 P Pn 09 22 52.7 +1.1
comp=Z,195nm,0.7s,comp=Z,2µmcomp=Z,11µm
BONI **La Bonita** 9.90 145 P Pn 09 22 57.5 +4.7
comp=Z,178nm,0.9s,comp=Z,2µm
CVER **Cruz Verde, Cu** 9.97 113 P Pn 09 22 57.9 +4.0
comp=Z,174nm,0.8s,comp=Z,3µmcomp=Z,89µm
GARC **Garzon, Huila** 10.01 129 P Pn 09 22 55.5 +1.3
comp=Z,82nm,1.2s,comp=Z,2µm
RTAL **Retalhuleu** 10.15 306 Pn Pn 09 22 57.9 +1.8
BARC **Barichara** 10.17 101 P Pn 09 23 01.7 +5.3
CHIC **Chingaza** 10.24 112 P Pn 09 23 00.4 +2.9
comp=Z,94nm,1.0s,comp=Z,3µmcomp=Z,8µm
FLOC **Florencia** 10.29 132 P Pn 09 22 59.7 +1.9
comp=Z,119nm,1.2s,comp=Z,2µmcomp=Z,5µm
URMC **La Uribe, Meta** 10.30 121 P Pn 09 23 00.1 +2.1
comp=Z,72nm,0.9s
RUSC **La Rusia** 10.43 104 P Pn 09 22 58.9 -1.3
comp=Z,122nm,1.3s,comp=Z,1µmcomp=Z,8µm
HUEH **Huehuetenango** 10.47 310 Pn 09 23 02.8 +2.2
CRJC **Cerrejon, Guaj** 10.48 76 P Pn 09 23 00.7 +0.1
comp=Z,131nm,0.9s,comp=Z,5µm
PETF **Flores** 10.48 323 Pn 09 23 02.7 +2.2
VILC **Villavicencio,** 10.48 115 P Pn 09 23 04.9 +4.2
comp=Z,179nm,0.6s,comp=Z,2µmcomp=Z,728nm
PAMC **Pamplona, Colo** 10.51 96 P Pn 09 23 04.1 +2.7
MTDJ **Mount Denham** 11.04 30 Pn Pn 09 23 08.3 0.0
MTDJ **Mount Denham** 11.04 30 *iP* Pn 09 23 08.7 +0.4
MTDJ **Mount Denham** 11.04 30 P Pn 09 23 07.7 -0.6
comp=Z,327nm,0.8s,comp=Z,3µmcomp=Z,13µm
STH **Stony Hill** 11.29 33 *iP* Pn 09 23 11.1 -0.5
MACC **Macarena, Meta** 11.34 124 P Pn 09 23 14.3 +2.0
comp=Z,71nm,0.9s,comp=Z,2µm
TAMC **Tame, Arauca** 11.55 100 P Pn 09 23 17.6 +2.4
comp=Z,90nm,0.9s,comp=Z,2µmcomp=Z,8µm
CCIG **Comitan** 11.55 312 Pn 09 23 16.7 +1.4
CBCY **The Bluff, Cay** 11.56 17 *iP* Pn 09 23 15.3 +0.1
COHC **Cochancay** 11.70 160 Pn 09 23 20.7 +3.5
COHC **Cochancay** 11.70 160 P Pn 09 23 19.0 +1.8
comp=Z,20nm,1.6s,comp=Z,461nm
PTGC **Puerto Gaitan,** 11.87 111 P Pn 09 23 22.6 +3.0
comp=Z,77nm,0.7s,comp=Z,3µm
PTLC **Puerto Leguiza** 11.88 135 P Pn 09 23 23.4 +3.8
SDV **Santo Domingo** 12.46 88 Pn Pn 09 23 29.3 +1.5
comp=Z,1.3nm,0.3s,baz=264,slow=11,SNR=12
SDV Sn Sn 09 25 49.3 +3.4
comp=Z,1.5nm,0.3s,baz=303,slow=20,SNR=0.9
SDV LR LR 09 28 54.5
comp=Z,6µm,20.1s,baz=271,slow=42
SDV **Santo Domingo** 12.46 88 P Pn 09 23 29.2 +1.5
comp=Z,73nm,0.8s,comp=Z,2µmcomp=Z,9µm
SDV **Santo Domingo** 12.46 88 *eP* Pn 09 23 28.4 +0.6
TEIG **Tepich** 12.53 338 Pn 09 23 30.4 +1.9
TEIG **Tepich** 12.53 338 Pn Pn 09 23 31.0 +2.5
comp=Z,1.1nm,0.3s,baz=158,slow=18,SNR=8.2
TEIG Sn Sn 09 25 52.1 +4.9
comp=Z,0.4nm,0.3s,baz=66,slow=21,SNR=1.2
TEIG LR LR 09 28 33.8
comp=Z,7µm,18.1s,baz=154,slow=39
TEIG **Tepich** 12.53 338 P Pn 09 23 27.3 -1.2
comp=Z,111nm,0.9s,comp=Z,4µmcomp=Z,11µm
LMGC **Las Mercedes** 12.88 27 *iP* Pn 09 23 33.5 +0.2
CHIV **Chivirico** 13.08 30 Pn 09 23 35.6 -0.4
CHIV **Chivirico** 13.08 30 *iP* Pn 09 23 34.7 -1.4
MARVS **Santiago de Cu** 13.36 31 *iP* Pn 09 23 40.2 +0.3
RCC **Rio Carpintero** 13.46 32 *iP* Pn 09 23 40.3 -0.9
GTBY **Guantanamo Bay** 13.72 34 Pn 09 23 45.4 +0.6
GTBY **Guantanamo Bay** 13.72 34 *iP* Pn 09 23 45.0 +0.2
GTBY **Guantanamo Bay** 13.72 34 *iP* Pn 09 23 43.9 -0.9
PINC **Pinares de May** 13.82 31 *iP* Pn 09 23 46.3 +0.1
HLGC **Holguin** 14.03 29 *iP* Pn 09 23 49.9 +0.8
SOR **Soroa** 14.10 1 Pn 09 23 50.4 +0.5
SOR **Soroa** 14.10 1 *iP* Pn 09 23 53.3 +3.3
SOR **Soroa** 14.10 1 P Pn 09 23 50.4 +0.5
QMBU **Quimbuelo** 14.11 34 *iP* Pn 09 23 49.3 -0.8
CMIG **Matias Romero** 14.13 308 Pn Pn 09 23 51.3 +0.9
comp=Z,3.3nm,0.3s,baz=156,slow=11,SNR=23
comp=Z,24nm,0.8s
NMDO **Nuevo Mundo** 14.30 33 *iP* Pn 09 23 54.3 +1.5
MOAC **Moa** 14.40 33 *iP* Pn 09 23 56.9 +2.9
MASC **Masc** 14.42 36 *iP* P 09 23 58.2 -2.7
CAMR **Camarioca** 14.48 7 *iP* P 09 24 00.2 -1.3
HATO **Hato, Curacao** 14.48 75 Pn Pn 09 23 56.8 +1.6
BAUV **El Baul** 15.02 88 Pn 09 24 02.2 -0.4
SDDR **Presa de Saban** 15.51 47 Pn Pn 09 24 10.0 +1.1
SDDR IAmb IAmb 09 24 17.8
comp=Z,141nm,1.1s
SDDR **Presa de Saban** 15.51 47⇓*iP* P 09 24 11.1 -2.0
SDDR **Presa de Saban** 15.51 47 P P 09 24 11.7 -1.4
comp=Z,224nm,0.9s,comp=Z,4µmcomp=Z,10µm
ATAH **Atahualpa** 16.37 163 Pn P 09 24 22.3 -0.8
comp=Z,0.2nm,0.3s,baz=1.2,slow=5.9,SNR=9.7
ATAH LR LR 09 29 55.2
comp=Z,10µm,20.2s,baz=339,slow=34
comp=Z,30nm,1.0s
061Z **Ochoppi** 17.30 7 P P 09 24 32.7 -0.1
061Z IAmb IAmb 09 24 38.1
comp=Z,163nm,1.1s
TLIG **Tlapa** 17.37 302 P P 09 24 34.4 +0.6
CRPR **Cabo Rojo, PR** 18.25 58 P P 09 24 44.4 +1.1
MLPR **Magueyes Islan** 18.28 58 P Pn 09 24 45.0 +1.2
MLPR IAmb IAmb 09 24 47.8
comp=Z,160nm,1.4s
TBTG **Tabatinga, AM** 18.39 133 P Pn 09 24 46.5 +1.4
TBTG IAmb IAmb 09 24 49.9
comp=Z,172nm,1.1s
TBTG **Tabatinga, AM** 18.39 133 P P 09 24 45.0 0.0
comp=Z,164nm,1.1s,comp=Z,2µm
TBTG **Tabatinga, AM** 18.39 133 *eP* P 09 24 45.0 0.0
PCRV **Puerto La Cruz** 18.42 84 P P 09 24 43.2 -2.1
comp=Z,0.9nm,0.3s,baz=246,slow=7.3,SNR=14

PCRV LR LR 09 33 36.6
comp=Z,5µm,20.1s,slow=43
comp=Z,21nm,0.8s
OBIP Obispado Ponce 18.68 58 P Pn 09 24 49.4 +0.8
UUPR Utuado, UPR, P 18.69 57 P Pn 09 24 49.6 +0.9
UUPR IAmb IAmb 09 24 54.1
comp=Z,96nm,0.8s
AOPR Arecibo Observ 18.71 57 P Pn 09 24 49.6 +0.7
AOPR Arecibo Observ 18.71 57 *e* **Pn 09 24 51.5 +2.6**
CELP Cerrillos 18.72 58 P Pn 09 24 50.2 +1.1
IGPR InterUniversit 19.07 59 P Pn 09 24 54.2 +0.9
IGPR IAmb IAmb 09 25 02.7
comp=Z,312nm,1.8s
SJG San Juan 19.10 59 P Pn 09 24 53.7 0.0
SJG IAmb IAmb 09 24 56.9
comp=Z,106nm,0.9s
SJG San Juan 19.10 59 P P 09 24 50.5 -2.2
comp=Z,2.8nm,0.3s,baz=246,slow=8.6,SNR=21
SJG S **Sn 09 28 20.2 -6.8**
comp=Z,9.9nm,0.3s,baz=35,slow=21,SNR=4.1
SJG LR LR 09 31 32.8
comp=Z,5µm,20.3s,baz=237,slow=35
comp=Z,47nm,0.8s
SJG San Juan 19.10 59 P P 09 24 51.5 -1.2
comp=Z,66nm,1.0s,comp=Z,3µmcomp=Z,4µm
SJG San Juan 19.10 59 P Pn 09 24 53.7 0.0
SJG pmax pmax
comp=Z,106nm,1.0s
PDPR Patillas Dam, 19.17 59 P Pn 09 24 54.5 0.0
GCPR Guaynabo City 19.25 58 P Pn 09 24 55.5 0.0
CZSB Cruzeiro do Su 19.33 147 P Pn 09 24 56.5 -0.1
CZSB IAmb IAmb 09 25 01.1
comp=Z,138nm,1.0s
CZSB Cruzeiro do Su 19.33 147 P P 09 24 52.2 -3.1
CZSB Cruzeiro do Su 19.33 147 *eP* **Pn 09 24 56.4 -0.1**
HUMP Col San Antoni 19.37 59 P Pn 09 24 56.3 -0.6
HUMP IAmb IAmb 09 25 08.2
comp=Z,104nm,0.8s
DWPF Disney Wildern 19.47 5 P Pn 09 24 58.8 +0.8
JRQG Juriquilla Cam 20.51 308 P P 09 25 09.2 +0.9
MOIG Morelia 20.57 304 P Pn 09 25 10.8 -0.6
656A Willston 20.66 2 P P 09 25 10.8 +1.2
656A IAmb IAmb 09 25 15.2
comp=Z,128nm,1.2s
656A IAMs_20 IAMs_20 09 32 45.6
comp=Z,5µm,20.0s
NNA Nana 21.43 163 P P 09 25 19.1 +1.0
NNA IAmb IAmb 09 25 20.9
comp=Z,125nm,1.1s
NNA Nana 21.43 163 P P 09 25 18.6 +0.4
comp=Z,67nm,1.0s,baz=346,slow=9.7,SNR=17
comp=Z,67nm,1.0s
NNA Nana 21.43 163*c iP* **P 09 25 18.5 +0.4**
NNA pmax pmax
comp=Z,224nm,1.3s
553A Crawfordville 21.49 357 P P 09 25 19.8 +1.2
553A IAmb IAmb 09 25 27.3
comp=Z,98nm,0.9s
553A IAMs_20 IAMs_20 09 33 18.7
comp=Z,6µm,20.0s
GRHS Sauteurs 21.54 79 *e* **P 09 25 21.6 +2.4**
TRN Trinidad (W) 21.62 83 *e* **P 09 25 16.1 -4.0**
SMRT St. Maarten 21.72 62 P **P 09 25 22.3 +1.1**
GCMP Grenada, Carri 21.78 78 *e* **P 09 25 24.0 +2.2**
456A Hilliard 22.03 3 P P 09 25 24.1 -0.2
456A IAMs_20 IAMs_20 09 33 28.9
comp=Z,4µm,21.0s
MBFL Flemmings, Mon 22.03 66 *e* **P 09 25 23.9 -0.6**
SVB Belmont 22.07 76 *e* **P 09 25 20.9 -4.0**
GDHS Morne Mazeau, 22.29 68 P **P 09 25 28.2 +0.8**
CBE Ff, Capester 22.38 69 P P 09 25 29.0 +0.7
FDF Fort de France 22.46 72 P P 09 25 31.6 +2.4
FDF pmax pmax
comp=Z,143nm,1.2s
SLBI Saint Lucia, B 22.47 74 *e* **P 09 25 25.9 -3.3**
BIM Bigot 22.48 73 *e* **P 09 25 31.0 +1.5**
TOSP Speyside 22.52 81 *e* P 09 25 41.3 +12
SLAC Saint Lucia, A 22.52 75 *e* **P 09 25 30.6 +0.8**
ANBD Bethesda, Anti 22.53 66 *e* **P 09 25 29.1 -0.8**
TIGA Tifton 22.71 359 P P 09 25 32.3 +0.7
TIGA IAmb IAmb 09 25 48.6
comp=Z,115nm,1.2s
TIGA IAMs_20 IAMs_20 09 34 29.0
comp=Z,5µm,20.0s
BRAL Brewton 22.72 352 P P 09 25 31.9 +0.2
ILAM Ilet Lapin Mar 22.73 72 *e* **P 09 25 33.0 +1.0**
352A Blakely 22.80 356 P P 09 25 32.7 +0.1
352A IAmb IAmb 09 25 43.8
comp=Z,69nm,0.8s
352A IAMs_20 IAMs_20 09 34 30.4
comp=Z,4µm,20.0s
ZAIG Zacatecas 23.29 309 P P 09 25 38.9 +0.8
ZAIG IAmb IAmb 09 25 43.4
comp=Z,132nm,1.6s
257A Skidaway Islan 23.34 5 IAMs_20 IAMs_20 09 34 49.6
comp=Z,5µm,20.0s
346A Big Creek Wild 23.39 346 P P 09 25 38.2 -0.4
250A Grady 23.42 354 P P 09 25 39.9 +1.0
BOAV Boa Vista 23.43 104 P P 09 25 38.8 -0.4
BOAV IAmb IAmb 09 25 52.2
comp=Z,181nm,2.0s
BOAV Boa Vista 23.43 104 *eP* **P 09 25 38.6 -0.5**
BBGH Gun Hill 23.68 77 IAMs_20 IAMs_20 09 31 12.5
comp=Z,5µm,18.0s
BBGH Gun Hill 23.68 77 *e* **P 09 25 41.8 +0.3**
154A Montrose 23.88 0 IAMs_20 IAMs_20 09 35 06.0
comp=Z,4µm,20.0s
441A DeRidder 23.91 338 P P 09 25 43.6 +0.1
152A Waverly Hall 23.98 357 P P 09 25 44.7 +0.5
152A IAmb IAmb 09 25 53.7
comp=Z,54nm,0.9s
152A IAMs_20 IAMs_20 09 35 36.5
comp=Z,5µm,19.0s
HKT Hockley 24.29 333 P P 09 25 47.2 +0.2
HKT IAmb IAmb 09 25 48.4
comp=Z,198nm,2.0s
HKT Hockley 24.29 333*c iP* **P 09 25 46.5 -0.5**
HKT pmax pmax
comp=Z,90nm,2.0s
CSU Charleston Sou 24.43 6 P P 09 25 48.7 +0.4
VBMS Vicksburg 24.44 345 P P 09 25 48.8 +0.3
NHSC New Hope 24.54 6 IAMs_20 IAMs_20 09 35 07.4
comp=Z,5µm,20.0s
LRAL Lakeview Retre 24.55 352 IAmb IAmb 09 26 10.9
comp=Z,55nm,0.9s
GOGA Godfrey 24.68 360 IAmb IAmb 09 25 53.4
comp=Z,106nm,1.1s
GOGA Godfrey 24.68 360 IAMs_20 IAMs_20 09 35 58.1
comp=Z,5µm,18.0s
GOGA Godfrey 24.68 360 P P 09 25 51.2 +0.6
GOGA pmax pmax
comp=Z,112nm,1.2s
MLDN Muldoon 24.73 330 P P 09 25 51.2 +0.1
MLDN IAmb IAmb 09 26 11.5
comp=Z,50nm,0.9s
833A Chaparral WMA, 24.83 324 IAmb IAmb 09 26 24.3
comp=Z,33nm,0.8s
833A Chaparral WMA, 24.83 324 P **P 09 25 50.5 -1.5**
baz=139
ETMB Extrema 24.95 137 P P 09 25 52.6 -0.7
ETMB IAmb IAmb 09 25 54.7
comp=Z,112nm,1.2s
ETMB Extrema 24.95 137 *eP* **P 09 25 52.5 -0.7**
Y52A Lilburn 25.14 358 IAMs_20 IAMs_20 09 35 44.3
comp=Z,5µm,20.0s
Y49A Blount Mountai 25.29 354 P P 09 25 55.8 -0.4
Y49A IAmb IAmb 09 26 25.9
comp=Z,33nm,0.9s
MACA Manacapuru-AM 25.35 117 P P 09 25 56.9 0.0
MACA IAmb IAmb 09 26 19.8
comp=Z,120nm,1.2s
MACA Manacapuru-AM 25.35 117 *eP* **P 09 25 57.0 +0.2**
NATX Nacogdoches 25.36 337 P P 09 25 56.6 -0.2
NATX IAmb IAmb 09 26 01.0
comp=Z,41nm,0.9s
Y58A Scranton 25.39 7 IAMs_20 IAMs_20 09 35 43.9
comp=Z,4µm,21.0s
Y57A Sumter 25.42 6 P P 09 25 58.0 +0.7
Y57A IAmb IAmb 09 26 20.0
comp=Z,61nm,0.8s
Y57A IAMs_20 IAMs_20 09 35 43.7
comp=Z,5µm,20.0s
HODGE Hodges 25.51 2 IAmb IAmb 09 26 10.4
comp=Z,72nm,0.8s
JSC Jenkinsville 25.61 4 P P 09 25 59.1 +0.1
JSC pmax pmax
comp=Z,86nm,0.8s
435B Jarrell 25.81 331 P P 09 26 00.4 -0.5
435B PcP **PcP 09 29 30.8 +0.6**
435B Jarrell 25.81 331 P P 09 25 59.7 -1.1
baz=146
X51A Calhoun 25.87 357 IAmb IAmb 09 26 10.7
comp=Z,54nm,0.8s
X51A IAMs_20 IAMs_20 09 37 01.7
comp=Z,5µm,18.0s
X48A Hartselle 25.95 353 IAmb IAmb 09 26 12.0
comp=Z,32nm,0.8s
X58A Rowland 26.07 7 P P 09 26 03.8 +0.7
X58A IAMs_20 IAMs_20 09 36 03.9
comp=Z,5µm,21.0s
PAULI Pauline 26.12 3 IAmb IAmb 09 26 21.8
comp=Z,74nm,1.0s
BG3 Lake Jocassee 26.26 1 P P 09 26 05.8 +0.8
BG3 IAmb IAmb 09 26 22.6
comp=Z,62nm,0.9s
W52A Murphy 26.36 359 IAmb IAmb 09 26 15.5
comp=Z,32nm,0.9s
W52A IAMs_20 IAMs_20 09 36 31.7
comp=Z,5µm,19.0s
KMSC Kings Mountain 26.46 4 IAmb IAmb 09 26 18.9
comp=Z,69nm,1.1s
KMSC IAMs_20 IAMs_20 09 36 05.3
comp=Z,5µm,21.0s
SAML Samuel 26.52 131 *eP* **P 09 26 06.0 -1.5**
W50A Signal Mountai 26.53 356 IAmb IAmb 09 26 27.6
comp=Z,60nm,0.8s
W50A IAMs_20 IAMs_20 09 36 25.1
comp=Z,4µm,22.0s
WLAR White Oak Lake 26.56 341 P P 09 26 06.8 -0.8
W57A Gilead 26.58 6 P P 09 26 07.5 -0.4
W57A IAmb IAmb 09 26 10.5
comp=Z,101nm,1.1s
W57A IAMs_20 IAMs_20 09 37 33.6
comp=Z,5µm,18.0s
PLAL Pickwick Lake 26.62 351 P P 09 26 07.2 -0.9
JCT Junction City 26.70 327 P P 09 26 07.5 -1.6
JCT IAmb IAmb 09 26 32.0
comp=Z,37nm,0.9s
JCT PcP **PcP 09 29 31.9 -0.4**
JCT Junction City 26.70 327 P P 09 26 10.7 +1.7
CPCT Cooper Cave 26.74 358 IAmb IAmb 09 26 29.4
comp=Z,41nm,0.9s
W59A Clinton 26.79 9 P P 09 26 09.7 0.0
W59A IAmb IAmb 09 26 29.5
comp=Z,51nm,0.9s
Z38A Mt. Pleasant 26.82 338 P P 09 26 10.5 +0.5
Z38A IAmb IAmb 09 26 32.0
comp=Z,44nm,0.9s
BRDY Brady 26.92 329 P **P 09 26 11.5 +0.5**
BRDY **PcP 09 29 32.8 0.0**
TKL Tuckaleechee C 26.92 359 IAmb IAmb 09 26 40.0
comp=Z,46nm,1.1s
TKL Tuckaleechee C 26.92 359 LR LR 09 37 29.1
comp=Z,5µm,18.6s,baz=176,slow=38
V53A Saluda 26.93 1 IAmb IAmb 09 26 37.6
comp=Z,33nm,0.9s
V53A IAMs_20 IAMs_20 09 36 50.8
comp=Z,4µm,20.0s
V55A Taylorsville 27.18 4 P P 09 26 13.8 +0.6
V55A IAmb IAmb 09 26 15.6
comp=Z,55nm,1.3s
V55A IAMs_20 IAMs_20 09 36 27.2
comp=Z,5µm,21.0s
V48A Smith Brothers 27.20 354 IAmb IAmb 09 26 22.5
comp=Z,30nm,0.8s
V58A Windy Hill, Pi 27.32 7 IAmb IAmb 09 26 23.2
comp=Z,69nm,0.8s
V58A IAMs_20 IAMs_20 09 37 41.0
comp=Z,5µm,19.0s
UALR University of 27.35 344 IAmb IAmb 09 26 18.6
comp=Z,62nm,1.1s
MIAR Mount Ida 27.50 341 IAmb IAmb 09 26 20.6
comp=Z,30nm,0.9s
MIAR Mount Ida 27.50 341 P P 09 26 15.6 -0.5
MIAR pmax pmax
comp=Z,37nm,1.2s
WVT Waverly 27.71 352 P P 09 26 16.8 -1.1
WVT Waverly 27.71 352 P P 09 26 16.8 -1.1
WVT pmax pmax
comp=Z,18nm,1.0s
V61A Roper 27.73 12 IAMs_20 IAMs_20 09 36 51.0
comp=Z,4µm,21.0s
U56A King 27.73 5 P P 09 26 18.4 +0.3
U56A IAMs_20 IAMs_20 09 38 18.9
comp=Z,4µm,18.0s
OZNA Ozona 27.77 325 P P 09 26 17.9 -0.8
OZNA IAmb IAmb 09 27 02.8
comp=Z,48nm,1.6s
TZTN Tazewell 27.80 359 IAmb IAmb 09 26 40.2
comp=Z,34nm,0.9s
TZTN IAMs_20 IAMs_20 09 38 03.8
comp=Z,5µm,18.0s
U54A Nelsons Funny 27.81 2 IAmb IAmb 09 26 39.7
comp=Z,48nm,0.9s
U54A IAMs_20 IAMs_20 09 36 57.0
comp=Z,4µm,21.0s
WHAR Wooly Hollow 27.82 344 IAmb IAmb 09 26 22.3
comp=Z,44nm,0.9s
PLPT Palo Pinto 27.83 332 IAmb IAmb 09 26 41.4
comp=Z,54nm,1.1s
U49A Red Boiling Sp 27.87 356 IAmb IAmb 09 26 28.2
comp=Z,32nm,0.8s
U49A IAMs_20 IAMs_20 09 38 15.5
comp=Z,3µm,18.0s
FW03 Perrin-Whitt E 27.91 333 IAmb IAmb 09 26 38.9
comp=Z,26nm,0.9s
TXAR Lajitas Array 28.16 320 P P 09 26 21.4 -0.8
comp=Z,1.3nm,0.8s,baz=143,slow=9.1,SNR=7.1
TXAR PcP **PcP 09 29 37.0 +1.1**
comp=Z,2.5nm,0.8s,baz=146,slow=2.9,SNR=4.7
TXAR LR LR 09 38 33.4
comp=Z,410nm,21.7s,baz=121,slow=38
comp=Z,1.3nm,0.8s
TX31 Lajitas Ar. Si 28.16 320 P P 09 26 21.8 -0.3
LCAR Lake Charles 28.27 346 P P 09 26 22.1 -0.9
T50A Nancy 28.32 357 IAMs_20 IAMs_20 09 37 43.4
comp=Z,5µm,20.0s
LOOK Love County 28.33 335 IAmb IAmb 09 26 35.5
comp=Z,31nm,0.8s
FCAR Ozark Folk Cen 28.34 345 IAmb IAmb 09 26 27.2
comp=Z,44nm,1.1s
T47A Sharon Grove 28.46 353 IAmb IAmb 09 26 35.6
comp=Z,28nm,1.0s
T57A Hurt 28.49 7 IAMs_20 IAMs_20 09 38 07.0
comp=Z,5µm,19.0s
BLA Blacksburg 28.58 5 IAmb IAmb 09 26 35.4
comp=Z,54nm,0.8s
BLA IAMs_20 IAMs_20 09 37 20.5
comp=Z,4µm,22.0s
T59A Double "B" Far 28.70 10 P P 09 26 27.1 +0.4
PBMO Poplar Bluff 28.79 348 IAmb IAmb 09 26 35.2
comp=Z,31nm,0.9s
S51A Beattyville 28.90 359 IAmb IAmb 09 26 37.4
comp=Z,45nm,0.9s
S51A IAMs_20 IAMs_20 09 38 10.8
comp=Z,4µm,19.0s
LPAZ La Paz 28.91 149 P P 09 26 29.9 +0.4
LPAZ La Paz 28.91 149 P P 09 26 29.4 -0.1
comp=Z,15nm,0.9s,baz=335,slow=9.2,SNR=45
LPAZ LR LR 09 39 11.6
comp=Z,3µm,21.6s,baz=303,slow=39
comp=Z,15nm,0.9s
LPAZ La Paz 28.91 149 P P 09 26 29.9 +0.4
LPAZ pmax pmax
comp=Z,19nm,1.0s
LPAZ La Paz 28.91 149 *eP* **P 09 26 29.6 +0.1**
S54A Dingess, Beckl 29.11 3 IAmb IAmb 09 26 50.0
comp=Z,32nm,0.9s
S54A IAMs_20 IAMs_20 09 38 38.4
comp=Z,4µm,19.0s
CGM3 Cape Girardeau 29.14 349 IAmb IAmb 09 26 38.6
comp=Z,64nm,0.9s
W35A Tecumseh 29.22 337 P 09 26 30.9 -0.6
W35A IAmb IAmb 09 27 16.1
comp=Z,59nm,1.7s
BBSR BB Station 29.23 33 IAMs_20 IAMs_20 09 36 58.5
comp=Z,2µm,20.0s
S57A Dark Hollow, R 29.27 7 IAMs_20 IAMs_20 09 38 39.9
comp=Z,3µm,19.0s
S44A Carbondale 29.46 350 IAmb IAmb 09 26 41.9
comp=Z,44nm,1.0s
SIUC Southern Illin 29.47 350 IAmb IAmb 09 26 42.0
comp=Z,46nm,0.9s
U38A Gravette 29.50 342 IAmb IAmb 09 26 34.9
comp=Z,46nm,1.5s
R50A Paris 29.55 358 IAmb IAmb 09 26 43.1
comp=Z,32nm,0.9s
R50A IAMs_20 IAMs_20 09 38 59.1
comp=Z,5µm,18.0s
MGMO Mountain Grove 29.57 345 IAmb IAmb 09 26 43.0
comp=Z,55nm,0.8s
R49A Shelbyville 29.60 357 IAmb IAmb 09 26 43.5
comp=Z,62nm,0.9s
R49A IAMs_20 IAMs_20 09 38 33.3
comp=Z,4µm,20.0s
WCI Wyandotte Cave 29.61 355 P P 09 26 34.3 -0.5
WCI IAmb IAmb 09 26 49.3
comp=Z,51nm,0.8s
WCI Wyandotte Cave 29.61 355 IAMs_20 IAMs_20 09 39 27.7
comp=Z,3µm,18.0s
WCI Wyandotte Cave 29.61 355 P P 09 26 34.3 -0.5
WCI pmax pmax
comp=Z,51nm,0.9s
WCI MLR MLR
comp=Z,3µm,18.0s
R58B Mineral 29.62 9 P P 09 26 34.2 -0.7
R58B IAmb IAmb 09 26 37.3
comp=Z,69nm,1.4s
POST Post 29.62 328 P P 09 26 34.1 -1.0
SLBS Sierra La Lagu 29.63 304 P P 09 26 37.2 +2.0
SLBS IAmb IAmb 09 26 47.0
comp=Z,39nm,1.1s
WMOK Wichita Mounta 29.66 334 P P 09 26 35.5 +0.2
WMOK pmax pmax
comp=Z,13nm,0.9s
OK031 S. Brethren Rd 29.91 338 IAmb IAmb 09 26 47.8
comp=Z,26nm,0.8s
CBN Corbin Frederi 29.93 9 IAmb IAmb 09 26 47.6
comp=Z,66nm,1.1s
OK052 Battle Ridge R 29.93 338 P P 09 26 37.3 -0.4
OK052 IAmb IAmb 09 26 38.8
comp=Z,23nm,0.8s
SSFO Shawnee State 29.95 0 IAmb IAmb 09 26 47.3
comp=Z,59nm,1.0s
FVM French Village 29.95 349 IAmb IAmb 09 26 38.4
comp=Z,84nm,1.7s
CCM Cathedral Cave 30.19 347 P P 09 26 38.7 -1.3
CCM Cathedral Cave 30.19 347 P P 09 26 38.7 -1.3
CCM pmax pmax
comp=Z,95nm,0.9s
CCM MLR MLR
comp=Z,2µm,20.0s
Q52A Bidwell 30.23 2 IAMs_20 IAMs_20 09 38 23.1
comp=Z,4µm,21.0s
Q51A Peebles 30.28 360 P P 09 26 40.8 +0.1
Q51A IAMs_20 IAMs_20 09 38 46.4
comp=Z,4µm,20.0s
ITTB Itaituba 30.31 114 *eP* **P 09 26 41.0 -0.3**
OLIL Olney 30.31 352 IAmb IAmb 09 26 48.9
comp=Z,46nm,0.8s
Q54A Coxs Mills 30.32 4 IAMs_20 IAMs_20 09 38 25.4
comp=Z,4µm,21.0s
S39A Bolivar 30.35 344 IAmb IAmb 09 26 45.6
comp=Z,54nm,1.0s
R61A Willards 30.43 12 IAMs_20 IAMs_20 09 39 40.6
comp=Z,4µm,20.0s
SLM Saint Louis 30.55 349 P P 09 26 42.0 -1.1
SLM Saint Louis 30.55 349 P P 09 26 42.0 -1.1
SLM pmax pmax
comp=Z,96nm,0.8s
BLO Bloomington 30.57 355 IAmb IAmb 09 26 51.5
comp=Z,48nm,0.8s
MDP Montagnes des 30.57 95 LR LR 09 39 37.6
comp=Z,5µm,19.6s,baz=286,slow=38
Q44A Meyer Farm, Va 30.60 351 IAmb IAmb 09 26 51.7
comp=Z,41nm,0.9s
T35A Sooner Cattle 30.64 339 IAmb IAmb 09 26 44.8
comp=Z,22nm,1.0s
R40A Maddies Statio 30.65 346 IAmb IAmb 09 26 53.6
comp=Z,29nm,0.9s
P48A Milroy 30.78 357 P P 09 26 44.3 -0.8
P48A IAmb IAmb 09 26 53.3
comp=Z,47nm,0.9s
P48A IAMs_20 IAMs_20 09 39 18.5
comp=Z,4µm,20.0s
P53A Whipple 30.79 3 IAMs_20 IAMs_20 09 39 48.8
comp=Z,4µm,19.0s
ELIS Ellis County 31.05 334 IAmb IAmb 09 27 09.2
comp=Z,24nm,0.8s
P46A Rosedale 31.08 354 IAmb IAmb 09 26 56.0
comp=Z,38nm,0.8s
P46A IAMs_20 IAMs_20 09 40 49.4
comp=Z,2µm,18.0s
KAN13 South Haven SW 31.09 338 IAmb IAmb 09 27 44.4
comp=Z,30nm,0.8s
P57A Homestead Farm 31.09 8 P P 09 26 48.5 +0.6
P57A IAMs_20 IAMs_20 09 39 32.0
comp=Z,4µm,20.0s
AMTX Amarillo 31.14 330 P P 09 26 48.4 -0.1
AMTX PcP **PcP 09 29 43.9 +0.5**
SDMD Soldier's Deli 31.20 10 IAmb IAmb 09 26 60.0
comp=Z,20nm,0.8s
GO01 Chusmiza 31.32 154 P P 09 26 52.2 +1.5
VILB Vilhena 31.35 133 P P 09 26 50.5 0.0
VILB Vilhena 31.35 133 *eP* **P 09 26 49.7 -0.8**
O52A Adamsville 31.39 2 IAmb IAmb 09 27 11.8
comp=Z,36nm,1.0s
O49A Covington 31.46 358 IAmb IAmb 09 26 59.1
comp=Z,39nm,0.9s
O49A IAMs_20 IAMs_20 09 39 40.5
comp=Z,4µm,20.0s
TA02 Huaiquique 31.47 156 P P 09 26 52.4 +1.0
ACSO Alum Creek Sta 31.49 0 IAMs_20 IAMs_20 09 39 34.3
comp=Z,4µm,20.0s
O54A Avella 31.54 4 IAmb IAmb 09 27 05.7
comp=Z,46nm,0.9s
O48B Farmland 31.56 357 P P 09 26 51.3 -0.7
baz=176
TA01 Diego Aracena 31.71 156 IAmb IAmb 09 26 56.5
comp=Z,46nm,1.1s
PB08 IPOC Station P 31.76 154 IAmb IAmb 09 26 57.5
comp=Z,26nm,1.0s
P40A Paris 31.78 347 P P 09 26 52.7 -1.3
SFIN Lafayette 31.82 354 P P 09 26 53.5 -0.8
SFIN IAmb IAmb 09 27 02.6
comp=Z,33nm,0.7s
SFIN IAMs_20 IAMs_20 09 40 40.1
comp=Z,2µm,18.0s
P61A Hammonton 31.84 12 IAMs_20 IAMs_20 09 40 30.8
comp=Z,3µm,19.0s
NPGB Novo Progresso 31.85 118 *eP* **P 09 26 53.8 -1.1**
WUPA West Chester U 31.92 11 IAmb IAmb 09 27 15.6
comp=Z,33nm,1.1s
PATCX Punta Patache 31.95 156 P P 09 26 56.6 +0.8
N53A Lisbon 32.13 3 IAMs_20 IAMs_20 09 39 34.4
comp=Z,4µm,21.0s
N51A Ashland 32.18 1 P P 09 26 57.6 +0.1
N51A IAmb IAmb 09 27 06.2
comp=Z,50nm,0.9s
N51A IAMs_20 IAMs_20 09 40 04.7
comp=Z,4µm,20.0s
N49A Columbus Grove 32.19 359 P P 09 26 56.7 -0.8
N49A IAmb IAmb 09 27 05.5
comp=Z,44nm,0.9s
N49A IAMs_20 IAMs_20 09 40 12.8
comp=Z,4µm,19.0s
N47A Urbana 32.21 357 P P 09 26 56.9 -0.8
N47A IAmb IAmb 09 27 10.1
comp=Z,30nm,0.8s
N47A IAMs_20 IAMs_20 09 40 41.3
comp=Z,4µm,18.0s
SSPA Standing Stone 32.24 8 P P 09 26 58.2 +0.2
SSPA Standing Stone 32.24 8 IAMs_20 IAMs_20 09 40 06.4
comp=Z,5µm,20.0s
PB01 IPOC Station P 32.42 156 IAmb IAmb 09 27 02.8
comp=Z,48nm,1.2s
LUPA Lehigh Univers 32.61 11 P P 09 27 01.5 +0.3
N58A Sunbury 32.61 9 P P 09 27 01.4 +0.1
KSU1 Kansas State U 32.64 341 IAmb IAmb 09 27 13.4
comp=Z,30nm,0.7s
M50A Fremont 32.66 0 IAMs_20 IAMs_20 09 39 59.3
comp=Z,5µm,21.0s
R32A Long Quarter, 32.79 337 P P 09 27 02.7 -0.2
R32A IAmb IAmb 09 27 14.5
comp=Z,26nm,0.9s
M52A Chesterland 32.84 3 IAMs_20 IAMs_20 09 41 02.0
comp=Z,3µm,18.0s
SIV San Ignacio 32.85 138 P P 09 27 03.0 -0.7

comp=Z,42nm,0.9s,baz=310,slow=9.1,SNR=121
SIV LR LR 09 41 44.7
comp=Z,2µm,18.1s,baz=330,slow=39
comp=Z,42nm,0.9s
RTBA Rita Blanca 32.89 330 P **P 09 27 03.3 -0.7**
RTBA IAmb IAmb 09 27 14.4
comp=Z,21nm,0.8s
M44A Midewin, Midew 32.92 353 IAmb IAmb 09 27 08.0
comp=Z,69nm,1.4s
121A Cookes Peak, D 32.92 320 P **P 09 27 04.2 -0.1**
121A IAmb IAmb 09 27 17.7
comp=Z,22nm,0.8s
121A Cookes Peak, D 32.92 320 P **P 09 27 04.1 -0.2**
baz=131
PDRB Porto dos Gac 33.15 127 *eP* **P 09 27 04.6 -1.6**
PB09 IPOC Station P 33.20 156 P **P 09 27 08.6 +1.8**
L48A N Adams 33.21 358 P **P 09 27 06.3 -0.2**
ODNJ Ogdensburg 33.23 12 IAmb IAmb 09 27 18.4
comp=Z,27nm,1.0s
N62A Caumsett State 33.33 14 IAMs_20 IAMs_20 09 41 59.5
comp=Z,3µm,18.0s
L46A Eue Claire 33.37 356 IAMs_20 IAMs_20 09 41 19.2
comp=Z,3µm,19.0s
Y22D IRIS PASSCAL I 33.42 323 P **P 09 27 08.6 0.0**
baz=134
KSPA Keystone Colle 33.47 10 P **P 09 27 09.3 +0.5**
CLDB Colider 33.47 125 *eP* **P 09 27 07.6 -1.5**
L44A Lake County Fo 33.68 354 P **P 09 27 10.8 +0.2**
baz=172
ANMO Albuquerque 33.76 324 P **P 09 27 11.5 -0.1**
ANMO Albuquerque 33.76 324 LR LR 09 44 48.9
comp=Z,631nm,18.8s,baz=293,slow=43
ANMO Albuquerque 33.76 324⇑ *iP* **P 09 27 12.7 +1.1**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
PTLB Pontes e Lacer 33.79 135 P **P 09 27 11.4 -0.4**
PTLB IAmb IAmb 09 27 12.7
comp=Z,39nm,1.1s
PTLB Pontes e Lacer 33.79 135 *eP* **P 09 27 11.0 -0.8**
PB06 IPOC Station P 33.88 157 IAmb IAmb 09 27 15.5
comp=Z,48nm,1.0s
N35A Tabor 33.95 343 P **P 09 27 12.1 -0.9**
BBSD Serra de San D 34.02 139 *eP* **P 09 27 13.0 -0.9**
K50A Casco 34.03 1 IAMs_20 IAMs_20 09 41 21.6
comp=Z,4µm,20.0s
LVC Limon Verde 34.06 156 P **P 09 27 15.9 +1.4**
LVC IAmb IAmb 09 27 18.8
comp=Z,58nm,1.2s
LVC Limon Verde 34.06 156 P **P 09 27 15.3 +0.8**
comp=Z,32nm,1.1s,baz=336,slow=7.4,SNR=17
LVC LR LR 09 42 30.3
comp=Z,1µm,19.2s,baz=319,slow=39
comp=Z,32nm,1.1s
LVC Limon Verde 34.06 156 *eP* **P 09 27 16.3 +1.8**
L59A Walton 34.21 11 IAMs_20 IAMs_20 09 41 43.7
comp=Z,3µm,19.0s
T25A Trinidad 34.28 329 P **P 09 27 17.1 +1.0**
baz=141
SCIA State Center 34.31 347 P **P 09 27 14.8 -1.3**
PB15 IPOC Station P 34.38 157 IAmb IAmb 09 27 20.1
comp=Z,29nm,1.0s
M65A Busby, Falmout 34.66 17 IAMs_20 IAMs_20 09 40 56.5
comp=Z,2µm,19.0s
AF01 San Pedro de A 34.66 155 P **P 09 27 20.7 +1.1**
MEDO Medina 34.67 6 IAmb IAmb 09 27 21.4
comp=Z,25nm,1.2s
JFWS Jewell Farm 34.72 351 IAmb IAmb 09 27 29.5
comp=Z,48nm,0.8s
TUC Tucson 34.76 317 P **P 09 27 20.5 +0.3**
TUC IAmb IAmb 09 27 24.4
comp=Z,72nm,2.0s
TUC PcP **PcP 09 29 54.0 +0.5**
TUC Tucson 34.76 317 P **P 09 27 20.5 +0.3**
TUC 09 29 54.0
TUC pmax pmax
comp=Z,73nm,2.0s
TUC MLR MLR
comp=Z,2µm,20.0s
KSCO Kaye Shedlock' 34.91 333 P **P 09 27 21.0 -0.5**
KSCO IAmb IAmb 09 28 04.4
comp=Z,34nm,1.3s
L64A Middleborough 34.95 16 IAMs_20 IAMs_20 09 41 53.2
comp=Z,2µm,19.0s
L61B Northampton 34.96 14 IAmb IAmb 09 27 23.6
comp=Z,33nm,1.1s
L61B IAMs_20 IAMs_20 09 42 56.5
comp=Z,2µm,18.0s
L61B Northampton 34.96 14 P **P 09 27 22.1 +0.5**
baz=198
TRY Troy 35.01 12 IAMs_20 IAMs_20 09 41 18.7
comp=Z,4µm,21.0s
BGNE Belgrade 35.23 340 IAmb IAmb 09 27 28.1
comp=Z,68nm,1.0s
WES Weston 35.23 15 IAMs_20 IAMs_20 09 43 26.8
comp=Z,3µm,18.0s
K62A Royalston 35.27 14 IAmb IAmb 09 27 27.3
comp=Z,91nm,1.4s
K62A IAMs_20 IAMs_20 09 43 13.7
comp=Z,3µm,19.0s
HRV Adam Dziewonsk 35.29 15 IAMs_20 IAMs_20 09 40 22.2
comp=Z,2µm,21.0s
PB14 IPOC Station P 35.33 160 IAmb IAmb 09 27 28.2
comp=Z,47nm,1.0s
I45A Fountain 35.38 356 IAMs_20 IAMs_20 09 42 55.4
comp=Z,4µm,18.0s
I42A Draeger Farm, 35.49 353 P **P 09 27 25.1 -1.1**
I42A IAmb IAmb 09 27 35.3
comp=Z,45nm,0.9s
J59A Piesco 35.55 11 IAmb IAmb 09 27 47.1
comp=Z,42nm,1.0s
J59A IAMs_20 IAMs_20 09 42 34.9
comp=Z,3µm,20.0s
PECO Prince Edward 35.60 8 IAmb IAmb 09 27 42.3
comp=Z,42nm,0.9s
ACCN Adirondack Com 35.63 12 IAmb IAmb 09 27 29.8
comp=Z,50nm,1.2s
I40A Norwalk 35.73 351 IAmb IAmb 09 27 35.4
comp=Z,53nm,0.9s
J61A Chester 35.84 13 IAmb IAmb 09 27 41.6
comp=Z,48nm,0.9s
J61A IAMs_20 IAMs_20 09 43 32.8
comp=Z,2µm,18.0s
H43A Windswept, Lux 35.94 354 IAMs_20 IAMs_20 09 42 59.0
comp=Z,2µm,19.0s
S22A 4UR Ranch, Cre 35.99 327 P **P 09 27 30.9 -0.1**
baz=138
Q24A Divide 36.06 330 P **P 09 27 31.3 -0.2**
Q24A Divide 36.06 330 P **P 09 27 30.9 -0.7**
baz=141
DELO Deloro Mine 36.10 7 IAmb IAmb 09 27 51.2
comp=Z,56nm,1.4s
GO02 Mina Guanaco 36.11 159 IAmb IAmb 09 27 35.2
comp=Z,102nm,1.6s
SADO Sadowa 36.20 5 IAmb IAmb 09 27 33.1
comp=Z,44nm,1.1s
SADO Sadowa 36.20 5 LR LR 09 42 09.6
comp=Z,3µm,21.5s,baz=212,slow=36
HNH Hanover 36.24 13 IAmb IAmb 09 27 44.9
comp=Z,38nm,0.8s
HNH IAMs_20 IAMs_20 09 43 45.4
comp=Z,2µm,18.0s
PRPB Paraiapebas 36.42 113 *eP* **P 09 27 33.6 -1.0**
X16A Lo Mia Camp, P 36.47 319 P **P 09 27 35.6 +0.6**
MVCO Mesa Verde 36.53 325 P **P 09 27 34.8 -0.7**
MVCO PcP **PcP 09 29 59.8 +0.9**
SALV Santo Antonio 36.57 132 *eP* **P 09 27 34.8 -1.0**
I62A Tamworth 36.63 14 IAMs_20 IAMs_20 09 43 17.6
comp=Z,2µm,19.0s
LONY Lake Ozonia 36.65 10 P **P 09 27 36.4 +0.2**
LONY IAmb IAmb 09 27 37.8
comp=Z,124nm,1.7s
LONY IAMs_20 IAMs_20 09 43 27.1
comp=Z,3µm,18.0s
AC01 Pan de Azucar 36.67 161 P **P 09 27 37.2 +0.7**
AC01 IAmb IAmb 09 27 39.0
comp=Z,52nm,1.3s
TMAB Tom-Au,PA,Br 36.69 106 *eP* **P 09 27 37.8 +0.9**
VT1 Waterbury 36.73 13 IAmb IAmb 09 27 48.7
comp=Z,68nm,1.1s
VT1 IAMs_20 IAMs_20 09 42 08.1
comp=Z,3µm,20.0s
LBNH Lisbon 36.83 14 IAmb IAmb 09 27 50.0
comp=Z,54nm,0.9s
LBNH IAMs_20 IAMs_20 09 43 37.0
comp=Z,2µm,18.0s
ECSD EROS Data Cent 36.88 344 IAmb IAmb 09 27 47.0
comp=Z,64nm,1.0s

WBO Williamsburg 36.90 9 IAmb IAmb 09 27 40.5
comp=Z,67nm,1.2s
ISCO Idaho Springs 36.93 331 P **P 09 27 39.0 0.0**
BRIGG Briggsdale 36.95 333 P **P 09 27 38.9 -0.1**
I63A Otisfield 36.98 15 IAMs_20 IAMs_20 09 41 13.1
comp=Z,2µm,22.0s
G40A Rib Lake 37.01 352 IAmb IAmb 09 27 49.6
comp=Z,33nm,1.0s
FRNY Flat Rock 37.04 11 IAmb IAmb 09 27 51.0
comp=Z,114nm,1.9s
WUAZ Wupatki 37.12 320 P **P 09 27 41.0 +0.6**
WUAZ **PcP 09 30 02.4 +1.8**
Y14A Wickenburg 37.22 317 P **P 09 27 41.2 0.0**
F42A Maple Grove Fa 37.25 354 IAMs_20 IAMs_20 09 43 55.8
comp=Z,2µm,18.0s
H62A Milan 37.33 14 IAmb IAmb 09 27 44.4
comp=Z,128nm,1.6s
H62A IAMs_20 IAMs_20 09 42 36.2
comp=Z,2µm,20.0s
MNTQ Montreal, Queb 37.68 11 IAmb IAmb 09 27 46.5
comp=Z,115nm,1.6s
WVL Waterville 37.71 16 IAmb IAmb 09 27 58.0
comp=Z,38nm,1.0s
WVL IAMs_20 IAMs_20 09 44 24.2
comp=Z,3µm,19.0s
SNDB Serra Nova Dou 37.77 122 *eP* **P 09 27 45.1 -1.0**
VTX Valle De La Tr 37.82 311 P **P 09 27 47.4 +1.1**
VTX IAmb IAmb 09 27 57.3
comp=Z,29nm,1.0s
AC06 Mina Casimiro 37.88 161 IAmb IAmb 09 27 49.3
comp=Z,121nm,1.9s
N23A Red Feather La 37.95 332 P **P 09 27 47.3 -0.2**
baz=142
GLA Glamis 37.98 314 IAmb IAmb 09 27 56.9
comp=Z,34nm,0.8s
G62A West of Eustis 38.09 15 IAMs_20 IAMs_20 09 41 58.3
comp=Z,2µm,22.0s
GO03 Copiapo 38.13 161 IAmb IAmb 09 27 51.6
comp=Z,50nm,1.2s
BLYC Blythe 38.15 316 P **P 09 27 50.1 +1.0**
BLYC IAmb IAmb 09 27 59.4
comp=Z,33nm,1.0s
TRQ Mont Tremblant 38.21 10 P **P 09 27 48.7 -0.7**
TRQ IAmb IAmb 09 28 08.8
comp=Z,35nm,0.8s
ESJX Sierra Juarez 38.24 312 P **P 09 27 49.2 -0.8**
ESJX IAmb IAmb 09 28 00.7
comp=Z,29nm,0.9s
FDPY Filadelfia 38.26 144 *eP* **P 09 27 50.3 +0.3**
PKME Peaks-Kenny Pk 38.45 16 IAmb IAmb 09 28 03.8
comp=Z,58nm,0.9s
PKME IAMs_20 IAMs_20 09 45 14.0
comp=Z,3µm,20.0s
EMMW East Machias 38.48 18 IAMs_20 IAMs_20 09 42 57.6
comp=Z,3µm,20.0s
W13A Hualapai Mount 38.49 318 P **P 09 27 53.5 +1.4**
YUH Yuha Desert 38.55 313 P **P 09 27 53.5 +1.0**
G65A Princeton 38.89 18 IAMs_20 IAMs_20 09 42 50.6
comp=Z,3µm,20.0s
BDQN Bodoquena, MS 38.90 138 *eP* **P 09 27 53.9 -1.5**
CBX Cerro Bola 38.92 312 P **P 09 27 57.0 +1.3**
CBX IAmb IAmb 09 28 07.1
comp=Z,52nm,1.3s
MURT Porto Murtinho 39.21 140 *eP* **P 09 27 56.6 -1.5**
F64A Sherman 39.26 16 IAmb IAmb 09 28 10.4
comp=Z,37nm,0.8s
AC05 El Transito 39.28 162 IAmb IAmb 09 28 01.4
comp=Z,61nm,0.9s
LCO Las Campanas 39.31 163 P **P 09 28 00.0 +0.9**
LCO IAmb IAmb 09 28 01.6
comp=Z,42nm,1.2s
LCO Las Campanas 39.31 163 P **P 09 28 00.0 +0.9**
LCO pmax pmax
comp=Z,43nm,1.2s
ARAG Araguaiana, MT 39.40 128 *eP* **P 09 27 58.1 -1.6**
PFO Pinyon Flats O 39.44 314 P **P 09 28 01.2 +1.3**
PFO Pinyon Flats O 39.44 314 LR LR 09 45 03.3
comp=Z,1µm,19.5s,baz=130,slow=37
PFO Pinyon Flats O 39.44 314 *ceP* **P 09 28 00.9 +0.9**
PFO pmax pmax
comp=Z,99nm,2.7s
V12A Nelson 39.49 318 P **P 09 28 01.9 +1.6**
SMTB Santa Maria do 39.53 115 *eP* **P 09 28 00.2 -0.6**
AQDB Aquidauana 39.61 137 P **P 09 28 00.9 -0.5**
AQDB Aquidauana 39.61 137 *eP* **P 09 28 00.9 -0.5**
VLDQ Val d'Or 39.67 6 P **P 09 28 00.8 -0.6**
RSSD Black Hills 39.74 336 P **P 09 28 03.6 +1.2**
RSSD IAmb IAmb 09 28 05.1
comp=Z,106nm,1.9s
RSSD PcP **PcP 09 30 08.8 +0.2**
RSSD Black Hills 39.74 336 P **P 09 28 03.8 +1.4**
RSSD pmax pmax
comp=Z,105nm,1.9s
EYMN Ely 39.82 351 P **P 09 28 01.7 -1.1**
LMN Caledonia Moun 40.35 20 P **P 09 28 06.8 -0.5**
LMN IAmb IAmb 09 28 19.4
comp=Z,51nm,1.2s
GO04 Tololo Observa 40.38 163 IAmb IAmb 09 28 10.4
comp=Z,38nm,0.9s
CO01 Juntas del Tor 40.40 162 P **P 09 28 09.4 +1.3**
LDAQ Lac Daran 40.51 12 P **P 09 28 07.9 -0.7**
LDAQ IAmb IAmb 09 28 19.7
comp=Z,44nm,0.8s
CO06 Fray Jorge 40.62 165 IAmb IAmb 09 28 11.9
comp=Z,45nm,0.9s
PAPY Pozo Azul 40.66 144 *eP* **P 09 28 10.4 +0.4**
E28A Huff 40.67 341 IAmb IAmb 09 28 20.6
comp=Z,64nm,0.8s
AGMN Agassiz Nation 40.97 347 IAmb IAmb 09 28 19.3
comp=Z,64nm,0.9s
RPRD Ribas do Rio P 40.98 135 *eP* **P 09 28 12.0 -0.8**
CO03 El Pedregal 41.03 163 IAmb IAmb 09 28 15.7
comp=Z,59nm,1.1s
PDAR Pinedale Array 41.12 330 P **P 09 28 12.3 -1.6**
comp=Z,0.8nm,0.6s,baz=137,slow=9.8,SNR=11
PDAR PcP **PcP 09 30 13.0 -0.1**
comp=Z,5.1nm,0.9s,baz=141,slow=5.7,SNR=7.5
PDAR LR LR 09 47 35.6
comp=Z,492nm,21.2s,baz=117,slow=40
SPR3 Spring Creek 3 41.14 322 P **P 09 28 13.8 -0.5**
S11A Rachel 41.20 320 P **P 09 28 15.5 +1.0**
CCAC Calif City Air 41.34 315 IAmb IAmb 09 28 27.4
comp=Z,83nm,1.1s
R11B Troy Canyon, C 41.51 321 P **P 09 28 17.8 +0.6**
baz=127,SNR=8.7
AMBA Amambai (Brazi 41.80 139 *eP* **P 09 28 18.5 -1.0**
GRAC Grapevine Rang 41.88 318 IAmb IAmb 09 28 31.6
comp=Z,128nm,1.8s
H03N2 Juan Fernandez 42.02 175 T T 10 12 57.2
baz=354,slow=76,SNR=44
H03N1 Juan Fernandez 42.02 175 T T 10 12 58.2
baz=354,slow=76,SNR=71
H03N3 Juan Fernandez 42.04 175 T T 10 12 56.6
baz=354,slow=76,SNR=70
SNOW Snow King Moun 42.22 330 P **P 09 28 22.4 -0.5**
LOHW Long Hollow 42.26 330 P **P 09 28 22.8 -0.4**
ZON Zonda 42.29 161 IAmb IAmb 09 28 26.1
comp=Z,61nm,1.5s
TPH Tonopah 42.40 319 IAmb IAmb 09 28 35.2
comp=Z,68nm,0.8s
BDFB Brasilia 42.40 125 P **P 09 28 24.8 +0.2**
BDFB IAmb IAmb 09 28 26.5
comp=Z,50nm,1.1s
BDFB Brasilia 42.40 125 P **P 09 28 22.7 -1.9**
comp=Z,31nm,1.0s,baz=292,slow=9.6,SNR=16
BDFB LR LR 09 46 37.5
comp=Z,2µm,19.5s,baz=312,slow=37
comp=Z,31nm,1.0s
BDFB Brasilia 42.40 125 P **P 09 28 24.8 +0.2**
BDFB pmax pmax
comp=Z,50nm,1.1s
FXWY Fox Creek 42.48 330 P **P 09 28 24.6 -0.5**
SJPY San Joaquin 42.61 142 *eP* **P 09 28 25.2 -0.8**
FLWY Flagg Ranch 42.65 331 P **P 09 28 25.8 -0.6**
ELK Elko 42.79 324 P **P 09 28 28.0 +0.4**
ULM Lac du Bonnet 42.82 348 P **P 09 28 24.8 -2.5**
comp=Z,32nm,1.0s,baz=167,slow=8.0,SNR=12
ULM LR LR 09 47 31.1
comp=Z,926nm,19.2s,baz=164,slow=38
comp=Z,32nm,1.0s
ULM Lac du Bonnet 42.82 348‖ *eP* **P 09 28 25.0 -2.3**
VA01 Torpederas 42.85 166 IAmb IAmb 09 28 29.8
comp=Z,60nm,0.9s
LKWY Lake 42.87 331 IAMs_20 IAMs_20 09 48 33.6
comp=Z,2µm,22.0s
VA03 San Esteban 42.89 164 IAmb IAmb 09 28 30.8

comp=Z,54nm,0.9s
CPUP Villa Florida 42.90 145 P **P 09 28 27.4 -0.9**
comp=Z,7.8nm,1.0s,baz=327,slow=11,SNR=8.2
CPUP LR LR 09 48 50.2
comp=Z,1µm,18.2s,baz=324,slow=40
comp=Z,7.8nm,1.0s
CPUP Villa Florida 42.90 145 *eP* **P 09 28 28.4 +0.1**
ITRB Iturama 42.90 131 *eP* **P 09 28 28.6 +0.1**
NV11 Mina Array Sit 43.20 319 IAmb IAmb 09 28 41.9
comp=Z,30nm,1.0s
PEL Peldehue 43.21 165 IAmb IAmb 09 28 33.0
comp=Z,36nm,1.2s
YMR Madison River 43.21 331 P **P 09 28 31.2 +0.2**
NVAR Mina Array Bea 43.30 319 P **P 09 28 32.6 +0.9**
comp=Z,4.6nm,0.7s,baz=134,slow=7.3,SNR=37
NVAR PcP **PcP 09 30 20.9 +0.5**
comp=Z,3.4nm,0.8s,baz=134,slow=5.2,SNR=3.4
NVAR LR LR 09 48 08.2
comp=Z,1µm,19.5s,baz=88,slow=38
comp=Z,4.6nm,0.7s
OMMB Old Mammoth Mi 43.31 317 IAmb IAmb 09 28 42.9
comp=Z,60nm,1.8s
LHV Little Huntoon 43.33 319 IAmb IAmb 09 28 43.2
comp=Z,30nm,1.0s
SDBA SAO DESIDERIO 43.45 118 *eP* **P 09 28 32.2 -0.8**
DGMT Dagmar 43.48 340 IAmb IAmb 09 28 44.0
comp=Z,57nm,0.8s
IPMB Ipameri, GO 43.53 128 *eP* **P 09 28 32.4 -1.2**
MT03 Universidad Ad 43.59 165 IAmb IAmb 09 28 37.1
comp=Z,50nm,0.9s
RPN Rapa Nui 43.62 215 LR LR 09 42 24.4
comp=Z,2µm,19.0s,baz=75,slow=30
MT09 Talagante 43.73 165 IAmb IAmb 09 28 37.2
comp=Z,64nm,1.2s
BMN Battle Mountai 43.78 322 IAmb IAmb 09 28 46.2
comp=Z,43nm,0.9s
LMEL Las Melosas 44.00 164 IAmb IAmb 09 28 40.0
comp=Z,41nm,0.9s
BO04 La Punta 44.03 165 IAmb IAmb 09 28 40.2
comp=Z,58nm,1.1s
WAKR Walker 44.08 318 P **P 09 28 39.7 +1.7**
WAKR IAmb IAmb 09 28 47.2
comp=Z,38nm,1.2s
HLID Hailey 44.18 327 P **P 09 28 38.5 -0.1**
BO01 Tunca 44.29 166 IAmb IAmb 09 28 41.5
comp=Z,51nm,1.3s
PNTR Pine Nut 44.51 319 IAmb IAmb 09 28 55.6
comp=Z,17nm,0.7s
SAO San Andreas Ge 44.55 315 P **P 09 28 42.7 +1.1**
SAO IAmb IAmb 09 28 54.0
comp=Z,30nm,0.9s
SAO San Andreas Ge 44.55 315 P **P 09 28 42.7 +1.1**
SAO pmax pmax
comp=Z,30nm,1.0s
SAO MLR MLR
comp=Z,1µm,20.0s
GO05 Hualane 44.69 167 IAmb IAmb 09 28 44.2
comp=Z,40nm,0.9s
LDASE Londrina, Braz 44.70 136 *eP* **P 09 28 41.8 -1.1**
PAHR Pah Rah Range 44.71 320 IAmb IAmb 09 28 59.6
comp=Z,47nm,1.7s
BO02 Sierra Bellavi 44.75 165 IAmb IAmb 09 28 56.6
comp=Z,18nm,0.8s
PTGB Pitanga 44.96 138 *eP* **P 09 28 43.5 -1.6**
BB19B Bebedouro 45.09 131 *eP* **P 09 28 45.1 -0.9**
JANB Januaria 45.19 121 *eP* **P 09 28 45.9 -1.1**
PMNB Patos De Minas 45.23 127 *eP* **P 09 28 47.2 -0.1**
LYMT Lyon Mountain 45.54 332 P **P 09 28 49.2 -0.4**
WVOR Wild Horse Val 45.83 323 P **P 09 28 51.4 -0.4**
ITQB Itaqui 45.88 147 P **P 09 28 52.1 0.0**
ITQB Itaqui 45.88 147 *eP* **P 09 28 52.1 0.0**
ORV Oroville 46.00 318 IAmb IAmb 09 29 02.6
comp=Z,36nm,1.1s
MSO Missoula 46.21 331 IAMs_20 IAMs_20 09 50 25.2
comp=Z,1µm,21.0s
J08A Circle Bar Ran 46.30 324 P **P 09 28 54.9 -0.5**
BI02 San Fabin de 46.42 167 IAmb IAmb 09 28 59.9
comp=Z,18nm,0.8s
PSAL Palomas, Salto 46.49 149 *eP* **P 09 28 57.3 +0.4**
RCLB Rio Claro- Sao 46.64 132 *eP* **P 09 28 57.7 -0.6**
HATC Hat Creek Radi 46.65 320 IAmb IAmb 09 30 41.9
comp=Z,29nm,0.8s
ITAB Concordia 46.67 141 *eP* **P 09 28 57.2 -1.2**
O02D Mt. Diablo Mer 47.17 318 IAmb IAmb 09 29 10.6
comp=Z,20nm,0.9s
F10A Beach Ranch, E 47.28 328 IAmb IAmb 09 29 23.3
comp=Z,20nm,0.9s
DIAM Diamantina, MG 47.33 125 *eP* **P 09 29 03.3 -0.5**
I07A Izee 47.33 325 P **P 09 29 03.3 -0.3**
VAO Valinhos 47.41 132 *eP* **P 09 29 04.0 -0.3**
SCHQ Schefferville 47.92 13 P **P 09 29 06.2 -1.6**
SCHQ Schefferville 47.92 13 P **P 09 29 06.2 -1.6**
comp=Z,27nm,0.9s,baz=180,slow=6.2,SNR=13
SCHQ LR LR 09 50 25.7
comp=Z,2µm,18.8s,baz=199,slow=38
comp=Z,27nm,0.9s
YBH Yreka Blue Hor 47.93 320 P **P 09 29 07.5 -0.7**
YBH Yreka Blue Hor 47.93 320 LR LR 09 52 27.6
comp=Z,526nm,19.7s,baz=128,slow=40
YBH Yreka Blue Hor 47.93 320 P **P 09 29 07.5 -0.7**
YBH pmax pmax
comp=Z,8.0nm,0.8s
YBH MLR MLR
comp=Z,700nm,21.0s
PINE Pine Mountain 47.99 323 IAmb IAmb 09 29 18.9
comp=Z,29nm,0.9s
E09A Wood Farm, Sta 48.11 328 IAmb IAmb 09 29 28.8
comp=Z,18nm,1.0s
KHMM Horse Mountain 48.14 319 IAmb IAmb 09 29 19.2
comp=Z,30nm,0.8s
CPSB Cacapava Do Su 48.21 145 *eP* **P 09 29 09.6 -0.7**
FFC Flin Flon 48.36 346 P **P 09 29 10.0 -1.2**
FFC Flin Flon 48.36 346 *eP* **P 09 29 09.0 -2.2**
I05D Terrebonne, OR 48.55 324 IAmb IAmb 09 29 22.7
comp=Z,28nm,0.9s
F07A Phinny Hill Vi 48.68 326 IAmb IAmb 09 29 20.5
comp=Z,25nm,1.2s
GDU01 Guandu, BA 48.69 117 *eP* **P 09 29 14.4 +0.2**
KSXB Camp Six Broad 48.73 320 IAmb IAmb 09 29 26.0
comp=Z,22nm,0.9s
NEW Newport 48.76 330 LR LR 09 54 18.1
comp=Z,653nm,18.6s,baz=134,slow=42
NEW Newport 48.76 330 P **P 09 29 13.7 -0.7**
HAWA Hanford 48.77 327 P **P 09 29 13.2 -1.3**
MAJ01 Sao Joao Batis 48.79 138 *eP* **P 09 29 14.6 -0.2**
I04A Tendick Farm, 48.87 323 IAmb IAmb 09 29 24.6
comp=Z,17nm,0.8s
C09A Chrisman Ranch 49.02 329 IAmb IAmb 09 30 49.9
comp=Z,16nm,0.8s
PLTB Pedras Altas 49.14 146 P **P 09 29 18.2 +0.8**
PLTB IAmb IAmb 09 29 19.0
comp=Z,50nm,1.1s
PLTB Pedras Altas 49.14 146 *eP* **P 09 29 18.4 +0.9**
GO06 Curarrehue 49.18 168 IAmb IAmb 09 29 19.4
comp=Z,21nm,0.9s
NBLA Lagarto - SE 49.23 113 *eP* **P 09 29 16.8 -1.6**
H04A Detroit Lake 49.24 324 IAmb IAmb 09 29 27.4
comp=Z,20nm,0.8s
HOOD Mount Hood Mea 49.30 325 IAmb IAmb 09 29 32.5
comp=Z,34nm,0.8s
RCBR Riachuelo 49.33 105 P **P 09 29 19.5 +0.3**
RCBR IAmb IAmb 09 29 20.4
comp=Z,39nm,1.1s
RCBR Riachuelo 49.33 105 IAMs_20 IAMs_20 09 51 34.7
comp=Z,2µm,20.0s
RCBR Riachuelo 49.33 105 LR LR 09 52 05.4
comp=Z,836nm,18.1s,baz=302,slow=39
RCBR Riachuelo 49.33 105 P **P 09 29 19.5 +0.3**
RCBR pmax pmax
comp=Z,39nm,1.2s
RCBR MLR MLR
comp=Z,2µm,20.0s
RCBR Riachuelo 49.33 105 *eP* **P 09 29 20.1 +0.9**
CMC01 Camacan, BA 49.43 119 *eP* **P 09 29 19.5 -0.5**
BUCK Buck Mountain 49.44 323 IAmb IAmb 09 29 28.4
comp=Z,35nm,1.0s
J01E Myrtle Point 49.46 321 IAmb IAmb 09 29 29.8
comp=Z,42nm,1.0s
TER01 Tubaro-SC 49.48 140 *eP* **P 09 29 20.1 0.0**
SJMB Sao Joao De Ma 49.57 123 *eP* **P 09 29 20.6 -0.4**
GUA01 Guaratinga, BA 49.73 120 *eP* **P 09 29 21.9 -0.3**
NBCA Caruaru-PE 49.94 108 *eP* **P 09 29 24.4 +0.5**
NBAN Anadia - AL 50.16 110 *eP* **P 09 29 25.7 +0.1**
LON Longmire 50.23 326 P **P 09 29 26.7 +1.0**
LON Longmire 50.23 326 P **P 09 29 26.7 +1.0**
LON pmax pmax

comp=Z,9.0nm,0.9s
PLCA Paso Flores 50.48 168 P **P 09 29 27.3 -0.2**
PLCA Paso Flores 50.48 168 P **P 09 29 27.3 -0.2**
comp=Z,47nm,0.8s,baz=343,slow=8.9,SNR=82
comp=Z,47nm,0.8s
PLCA Paso Flores 50.48 168 *e*P **P 09 29 27.9 +0.3**
TRQA Tornquist 50.49 158 P **P 09 29 27.8 +0.1**
TRQA IAmb IAmb 09 29 29.1
comp=Z,47nm,1.2s
TRQA Tornquist 50.49 158 P **P 09 29 27.8 +0.1**
TRQA pmax pmax
comp=Z,47nm,1.3s
RIB01 Linhares ES 50.52 124 *e*P **P 09 29 29.2 +1.1**
D05A Enumclaw 50.59 326 IAmb IAmb 09 29 39.6
comp=Z,25nm,0.9s
F03A Seaside 50.75 324 P **P 09 29 29.2 -0.3**
F03A IAmb IAmb 09 29 41.6
comp=Z,51nm,1.0s
CAM01 Campos-RJ 50.78 127 *e*P **P 09 29 31.0 +0.9**
ALF01 Guarapari-ES 50.90 125 *e*P **P 09 29 31.0 +0.1**
WISH Wishkah 51.54 325 IAmb IAmb 09 30 00.8
comp=Z,24nm,1.1s
NLWA Neilton Lookou 51.75 326 IAmb IAmb 09 29 46.1
comp=Z,20nm,0.9s
NLWA IAMs_20 IAMs_20 09 54 55.9
comp=Z,1μm,20.0s
B04A Port Angeles 51.94 327 IAmb IAmb 09 29 58.7
comp=Z,20nm,0.9s
LL02 Futaleuf 52.59 170 P **P 09 29 43.4 +0.2**
LLLB Lillooet 52.64 330 P **P 09 29 44.0 +0.4**
OZB Mount Ozzard 53.54 327 P **P 09 29 50.3 0.0**
OZB IAmb IAmb 09 30 01.2
comp=Z,29nm,0.8s
CBB Campbell River 54.08 328 IAmb IAmb 09 30 05.1
comp=Z,16nm,0.9s
FRB Frobisher Bay 56.04 8 LR LR 09 54 59.5
comp=Z,2μm,18.6s,baz=198,slow=37
AY03 Cochrane 56.42 171 IAmb IAmb 09 30 13.6
comp=Z,24nm,1.1s
BBB Bella Bella 56.72 329 LR LR 09 56 51.5
comp=Z,724nm,21.6s,baz=108,slow=38
YKA Yellowknife Ar 58.41 344 P **P 09 30 23.4 -1.4**
comp=Z,9.8nm,0.9s,baz=143,slow=6.7,SNR=9.7
comp=Z,9.8nm,0.9s
YKA Yellowknife Ar 58.41 344 P **P 09 30 24.4 -0.4**
TAOE Nuku Hiva Isla 59.29 254 *e*P **P 09 30 36.6 +4.7**
comp=Z,136nm,24.2s
TAOE *e*S **S 09 38 37.2 -1.7**
comp=Z,450nm,27.2s
TAOE *e*SS **SS 09 42 36.7 +2.6**
comp=Z,386nm,28.9s
TAOE *e*LQ LQ 09 45 30.4
comp=Z,2μm,30.1s
TAOE *e*LR LR 09 47 58.1
comp=Z,842nm,23.9s
TOAD Toad River Com 59.39 336 P **P 09 30 32.6 +0.8**
baz=130
RKT Rikitea 59.62 237 *e*S **S 09 38 41.6 -1.2**
RKT comp=Z,2μm,30.8s *e*SS **SS 09 42 37.7 -1.2**
comp=Z,2μm,31.2s
RKT *e*LR LR 09 48 08.8
comp=Z,7μm,24.2s
KOTAN Kotaneelee Air 59.77 338 P **P 09 30 34.1 -0.2**
baz=132
LIRD Liard River Hi 60.09 336 P **P 09 30 36.6 +0.1**
baz=129
V35K Ketchikan 60.17 330 P **P 09 30 37.5 +0.5**
baz=122
T35M Bob Quinn 60.42 333 P **P 09 30 39.5 +0.6**
baz=124
CRAG Craig 60.98 330 P **P 09 30 43.1 +0.5**
baz=120
WRAK Wrangell Islan 61.09 331 P **P 09 30 43.9 +0.6**
baz=121
DLBC Dease Lake 61.14 334 P **P 09 30 43.8 0.0**
DLBC IAmb IAmb 09 31 11.9
comp=Z,31nm,1.3s
DLBC Dease Lake 61.14 334 LR LR 10 01 37.1
comp=Z,1μm,19.2s,baz=108,slow=40
DLBC Dease Lake 61.14 334 P **P 09 30 44.9 +1.1**
baz=125
U33K Whale Pass 61.30 331 P **P 09 30 45.0 +0.3**
baz=120
S34M Telegraph Cree 61.33 333 P **P 09 30 44.4 -0.5**
baz=123
T33K Petersburg 61.58 332 P **P 09 30 46.6 -0.1**
baz=121
WTLY Watson Lake, Y 61.61 336 P **P 09 30 46.1 -0.8**
baz=127
WRGLY Wrigley 61.67 341 IAmb IAmb 09 30 54.9
comp=Z,28nm,0.9s
WRGLY Wrigley 61.67 341 P **P 09 30 47.1 0.0**
baz=134
R33M Jennings River 62.09 335 P **P 09 30 49.9 -0.4**
baz=124
TGTN Hyland Airport 62.26 337 P **P 09 30 50.8 -0.4**
baz=128
SFJD Kangerlussuaq 62.34 14 LR LR 09 57 38.9
comp=Z,2μm,21.1s,baz=224,slow=36
Q32M Nakina River 62.41 334 P **P 09 30 52.0 -0.5**
baz=123
S32K Killisnoo 62.68 332 P **P 09 30 54.0 0.0**
baz=120
SIT Sitka 62.83 331 P **P 09 30 54.8 -0.2**
baz=119
DY2G Dye2 63.04 16 *i* P P 09 30 51.6 -5.0
DY2G IAmb IAmb 09 30 56.1
comp=Z,149nm,1.6s
R32K Eaglecrest 63.05 332 P **P 09 30 56.2 -0.3**
baz=120
P33M Teslin, Yukon 63.32 335 IAmb IAmb 09 31 09.1
comp=Z,14nm,1.1s
P33M Teslin, Yukon 63.32 335 P **P 09 30 58.1 -0.3**
baz=123
P32M Atlin 63.37 334 P **P 09 30 59.0 +0.3**
baz=121
S31K Pelican 63.69 332 P **P 09 31 01.0 +0.3**
baz=118
EFI East Falkland 63.84 163⇑ *e*P **P 09 31 04.3 +2.6**
EFI pmax pmax
comp=Z,30nm,1.1s
N32M Quiet Lake 63.94 336 IAmb IAmb 09 31 21.6
comp=Z,19nm,0.9s
N32M Quiet Lake 63.94 336 P **P 09 31 02.1 -0.2**
baz=123
SKAG Skagway 64.01 333 P **P 09 31 02.9 0.0**
baz=120
WHY Whitehorse 64.42 335 P **P 09 31 05.3 -0.3**
baz=121
PLBC Pleasant Camp 64.47 333 P **P 09 31 06.7 +0.8**
baz=119
FARO Faro, Yukon 64.63 337 P **P 09 31 06.8 -0.1**
FARO Faro, Yukon 64.63 337 P **P 09 31 07.1 +0.2**
baz=123
O30N Mendenhall 64.99 334 IAmb IAmb 09 31 19.6
comp=Z,22nm,1.1s
O30N Mendenhall 64.99 334 P **P 09 31 09.3 0.0**
baz=120
M31M Drury Creek, Y 65.03 336 P **P 09 31 09.7 +0.2**
baz=122
P30M Million Dollar 65.06 334 P **P 09 31 10.1 +0.4**
baz=118
P29M Windy Craggy 65.17 333 IAmb IAmb 09 31 19.3
comp=Z,24nm,0.8s
P29M Windy Craggy 65.17 333 P **P 09 31 10.7 +0.3**
baz=118
N31M Braeburn, Yuko 65.22 335 P **P 09 31 10.5 -0.3**
baz=120
BBTS Babate 65.42 78 LR LR 10 00 02.9
comp=Z,267nm,19.4s,baz=156,slow=36
NUUG Nuugaatsiaq 65.56 10 *i* P **P 09 31 09.4 -3.2**
NUUG IAmb IAmb 09 31 20.8
comp=Z,54nm,1.0s
HYT Haines Junctio 65.63 334 P **P 09 31 13.2 -0.3**
baz=118
N30M Aishikik Lake 65.75 335 IAmb IAmb 09 31 34.5
comp=Z,20nm,1.2s
N30M Aishikik Lake 65.75 335 P **P 09 31 14.1 -0.2**
baz=119
O29M Mount Kennedy 65.85 333 P **P 09 31 14.9 -0.1**
baz=117
PNL Peninsula 65.94 333 P **P 09 31 15.7 +0.3**
baz=116
YUK6 Outpost Mounta 66.05 334 P **P 09 31 16.3 -0.1**
baz=117
C36M Paulatuk 66.14 345 P **P 09 31 16.6 +0.1**
baz=135
M30M Minto, Yukon 66.18 336 IAmb IAmb 09 31 27.6
comp=Z,19nm,0.9s
M30M Minto, Yukon 66.18 336 P **P 09 31 17.3 +0.3**
baz=120
MAYO Mayo, Yukon 66.34 337 P **P 09 31 18.1 +0.2**
baz=121
YUK4 Talbot Arm 66.36 334 P **P 09 31 18.3 0.0**
baz=117
RES Resolute Bay 66.37 357 LR LR 10 01 28.5
comp=Z,2μm,18.1s,baz=172,slow=37
PINM Pinnacle 66.51 333 P **P 09 31 19.4 +0.2**
baz=115
ICESG Greenland Ices 66.67 16 *i* P **P 09 31 16.9 -3.4**
ICESG IAmb IAmb 09 31 20.1
comp=Z,89nm,1.1s
O28M Mount Upton 66.78 333 P **P 09 31 20.8 -0.3**
baz=116
M29M Somme Creek 66.80 335 IAmb IAmb 09 31 32.1
comp=Z,22nm,1.1s
M29M Somme Creek 66.80 335 P **P 09 31 20.6 -0.3**
baz=118
YUK8 Steele Glacier 66.82 334 P **P 09 31 21.1 -0.2**
baz=116
H31M Peel River 66.95 340 IAmb IAmb 09 31 33.0
comp=Z,26nm,1.1s
H31M Peel River 66.95 340 P **P 09 31 21.3 -0.5**
baz=123,SNR=6.6
L29M L29M 66.97 336 IAmb IAmb 09 32 00.9
comp=Z,22nm,0.8s
L29M IAMs_20 IAMs_20 10 03 08.1
comp=Z,930nm,19.0s
L29M L29M 66.97 336 P **P 09 31 21.9 -0.1**
baz=118
J30M Hart River 67.01 338 IAmb IAmb 09 31 29.2
comp=Z,18nm,1.0s
J30M Hart River 67.01 338 P **P 09 31 21.8 -0.6**
baz=121
K29M Barlow Dome 67.09 337 P **P 09 31 22.2 -0.6**
K29M IAmb IAmb 09 31 26.1
comp=Z,22nm,1.2s
K29M Barlow Dome 67.09 337 P **P 09 31 21.9 -0.9**
baz=119
MESA MESA 67.32 332 P **P 09 31 23.4 -1.1**
baz=114
YUK3 Moose Creek 67.33 334 P **P 09 31 23.6 -1.0**
baz=116
I30M Mount Dempster 67.36 339 P **P 09 31 24.0 -0.5**
baz=121,SNR=47
CTG Chitna Glacier 67.37 333 P **P 09 31 24.4 -0.3**
baz=114
J29N Klondike Camp 67.66 337 P **P 09 31 26.2 -0.2**
baz=119
F31M Tsiigehtchic 67.67 341 P **P 09 31 26.1 -0.1**
baz=124,SNR=7.7
BVCY Beaver Creek 67.78 335 P **P 09 31 27.3 +0.2**
baz=116
BGLC Bering Glacier 67.91 332 P **P 09 31 27.8 -0.1**
baz=112
DAWY Dawson 67.92 337 IAmb IAmb 09 31 38.2
comp=Z,19nm,1.1s
DAWY Dawson 67.92 337 P **P 09 31 27.4 -0.6**
baz=118
CRQE Cirque 68.07 333 P **P 09 31 29.1 0.0**
baz=113
EPYK Eagle Plains 68.08 340 P **P 09 31 29.3 +0.4**
baz=121,SNR=5.8
INK Inuvik 68.10 342 LR LR 10 04 19.5
comp=Z,2μm,18.2s,baz=111,slow=39
INK Inuvik 68.10 342 P **P 09 31 28.8 -0.1**
baz=125,SNR=14
INK Inuvik 68.10 342 P **P 09 31 28.2 -0.7**
M27K Edge Creek, AK 68.18 335 IAmb IAmb 09 31 53.0
comp=Z,13nm,1.0s
M27K Edge Creek, AK 68.18 335 P **P 09 31 29.4 -0.4**
baz=114
G30M tAoh Zraii Nji 68.23 340 IAmb IAmb 09 31 41.9
comp=Z,20nm,0.8s
G30M tAoh Zraii Nji 68.23 340 P **P 09 31 29.6 -0.2**
baz=122
A36M Sachs Harbour 68.28 347 P **P 09 31 28.8 -1.2**
baz=135
MCARA McCarthy VSAT 68.28 333 P **P 09 31 30.8 +0.6**
MCARA McCarthy VSAT 68.28 333 P **P 09 31 30.6 +0.3**
baz=113
KAIM Kayak Island 68.37 332 P **P 09 31 30.3 -0.5**
baz=111
F30M Barrier River 68.42 341 P **P 09 31 31.0 0.0**
baz=122
BCAR Beaver Creek A 68.44 335 P **P 09 31 31.3 0.0**
L27K Beaver Creek, 68.46 335 IAmb IAmb 09 31 37.0
comp=Z,25nm,1.1s
L27K IAMs_20 IAMs_20 10 01 10.3
comp=Z,650nm,18.0s
L27K Beaver Creek, 68.46 335 P **P 09 31 30.9 -0.5**
baz=115,SNR=14
H29M Whitestone 68.58 339 IAmb IAmb 09 31 41.0
comp=Z,16nm,0.8s
H29M Whitestone 68.58 339 P **P 09 31 31.9 -0.1**
baz=119
M26K Nabesna, AK 68.68 334 IAMs_20 IAMs_20 10 04 31.1
comp=Z,882nm,20.0s
M26K Nabesna, AK 68.68 334 P **P 09 31 32.4 -0.3**
baz=114
I28M Miner Creek 68.78 338 IAmb IAmb 09 32 08.5
comp=Z,13nm,0.9s
I28M Miner Creek 68.78 338 P **P 09 31 33.3 -0.1**
baz=118,SNR=9.3
G29M Pine Creek 68.80 340 P **P 09 31 33.5 +0.1**
baz=120,SNR=20
BMRM Bremner River 68.84 333 P **P 09 31 33.7 -0.1**
baz=111
EGAK Eagle 68.93 337 P **P 09 31 34.1 -0.1**
EGAK IAmb IAmb 09 31 41.2
comp=Z,17nm,0.9s
EGAK Eagle 68.93 337 P **P 09 31 33.8 -0.4**
baz=116,SNR=11
K27K Chicken 68.97 336 IAmb IAmb 09 32 01.6
comp=Z,12nm,0.9s
K27K Chicken 68.97 336 P **P 09 31 34.5 0.0**
baz=115
N25K Chitina, Valde 69.07 333 IAmb IAmb 09 31 36.3
comp=Z,32nm,1.3s
N25K Chitina, Valde 69.07 333 P **P 09 31 35.3 +0.1**
baz=112
L26K Log Cabin Wild 69.08 335 P **P 09 31 35.6 +0.4**
baz=113
Q23K Middleton Isla 69.12 331 P **P 09 31 34.8 -0.6**
baz=109
MENT Mentasta 69.20 335 IAmb IAmb 09 31 48.1
comp=Z,12nm,0.9s
EYAK Cordova Ski Ar 69.21 332 P **P 09 31 36.2 +0.2**
baz=110
SUMG Summit 69.31 13 P **P 09 31 34.6 -2.3**
SUMG Summit 69.31 13 *i* P **P 09 31 35.0 -1.9**
SUMG IAmb IAmb 09 31 44.8
comp=Z,111nm,0.9s
I27K Kandik River 69.47 338 P **P 09 31 38.0 +0.4**
baz=116,SNR=40
E29M Blow River 69.51 341 IAmb IAmb 09 31 49.7
comp=Z,27nm,1.1s
E29M Blow River 69.51 341 P **P 09 31 37.5 -0.2**
baz=120
HARP HAARP 69.61 334 P **P 09 31 38.5 +0.1**
baz=111
KLU Klutina 69.62 333 P **P 09 31 38.6 0.0**
baz=110
H27K Steamboat Moun 69.71 338 P **P 09 31 39.2 +0.1**
baz=116,SNR=15
SCRK Sand Creek 69.72 336 P **P 09 31 39.6 +0.4**
baz=113,SNR=7.3
J26L Joseph Creek 69.75 336 IAmb IAmb 09 31 53.8
comp=Z,26nm,0.9s
J26L IAMs_20 IAMs_20 10 06 36.5
comp=Z,799nm,18.0s
J26L Joseph Creek 69.75 336 P **P 09 31 39.1 -0.3**
baz=114,SNR=16
F28M Old Crow 69.77 340 IAmb IAmb 09 31 49.6
comp=Z,26nm,0.8s
F28M Old Crow 69.77 340 P **P 09 31 39.2 -0.2**
baz=118,SNR=16
P23K Montague Islan 69.81 331 P **P 09 31 39.6 -0.1**
baz=108
I26K Coal Creek Min 69.92 337 IAmb IAmb 09 31 48.8
comp=Z,23nm,0.8s
I26K Coal Creek Min 69.92 337 P **P 09 31 40.3 -0.1**
baz=114
GLI Glacier Island 69.95 332 P **P 09 31 40.5 -0.1**
baz=109
M24K Tolsona, Glenn 69.95 334 P **P 09 31 41.0 +0.3**
baz=110
PAX Paxson 69.95 335 P **P 09 31 40.4 -0.3**
baz=111
RIDG Independent Ri 69.97 335 P **P 09 31 40.9 +0.1**
RIDG Independent Ri 69.97 335 P **P 09 31 40.9 +0.1**
baz=112,SNR=20
G27K Doyon Strip 70.02 339 P **P 09 31 41.0 0.0**
baz=116
E28M Babbage River 70.14 341 IAmb IAmb 09 31 50.3
comp=Z,28nm,0.8s
E28M Babbage River 70.14 341 P **P 09 31 40.9 -0.7**
baz=119
D28M Stokes Point 70.25 342 P **P 09 31 42.1 -0.1**
baz=120
SCM Sheep Creek Mo 70.37 333 IAmb IAmb 09 31 58.3
comp=Z,32nm,1.0s
SCM Sheep Creek Mo 70.37 333 P **P 09 31 42.2 -1.1**
baz=109
K24K Donnelly Dome 70.38 335 P **P 09 31 42.5 -0.7**
baz=111
BORG Borgarnes 70.48 24 LR LR 09 59 59.4
comp=Z,1μm,19.5s,baz=233,slow=34
PPT2 Papeete2 70.50 248 *e*P P 09 31 49.9 +5.1
comp=Z,238nm,25.0s
PPT2 *e*S **S 09 41 02.9 +6.1**
comp=Z,493nm,31.5s
PPT2 *e*SS **SS 09 45 33.8 +5.2**
comp=Z,532nm,28.8s
PPT2 *e*LR LR 09 53 08.4
comp=Z,594nm,21.5s
PPT2 *e*LR LR 09 53 14.0
comp=Z,567nm,23.0s
PWL Port Wells 70.52 332 P **P 09 31 43.7 -0.3**
baz=108
J25K Salcha River, 70.52 336 IAmb IAmb 09 31 52.7
comp=Z,28nm,0.9s
J25K Salcha River, 70.52 336 P **P 09 31 44.2 +0.2**
baz=112,SNR=23
M23K Glacier View 70.53 333 P **P 09 31 43.9 -0.3**
baz=109
E27K Coleen River 70.62 340 IAmb IAmb 09 31 52.9
comp=Z,21nm,0.8s
E27K IAMs_20 IAMs_20 10 05 59.1
comp=Z,912nm,19.0s
E27K Coleen River 70.62 340 P **P 09 31 44.5 -0.1**
baz=117,SNR=12
KNK Knik Glacier 70.74 332 IAmb IAmb 09 32 05.7
comp=Z,28nm,0.9s
KNK Knik Glacier 70.74 332 P **P 09 31 44.8 -0.7**
baz=108
WAT6 Susitna Watana 70.80 334 P **P 09 31 45.7 -0.3**
baz=109
DHY Denali Highway 70.80 334 IAmb IAmb 09 32 29.9
comp=Z,19nm,1.2s
DHY Denali Highway 70.80 334 P **P 09 31 45.6 -0.3**
baz=110
SML Sawmill 70.81 333 IAmb IAmb 09 32 00.2
comp=Z,39nm,1.2s
SML Sawmill 70.81 333 P **P 09 31 46.0 +0.1**
baz=108
SEW Seward 70.82 331 P **P 09 31 45.0 -0.8**
baz=107
NEEM North Greenlan 70.83 7 *i* P **P 09 31 44.4 -1.7**
NEEM IAmb IAmb 09 31 54.4
comp=Z,104nm,0.8s
G26K Porcupine Rive 70.84 339 P **P 09 31 46.0 +0.2**
baz=114,SNR=9.0
D27M Malcolm River 70.90 341 IAmb IAmb 09 31 54.7
comp=Z,23nm,0.8s
D27M IAMs_20 IAMs_20 10 06 02.6
comp=Z,850nm,19.0s
D27M Malcolm River 70.90 341 P **P 09 31 46.0 -0.3**
baz=118
PRP Porcupine Dome 70.92 337 IAmb IAmb 09 31 54.9
comp=Z,13nm,1.0s
PRP Porcupine Dome 70.92 337 P **P 09 31 46.0 -0.6**
baz=112,SNR=10
GHO Glory Hole Cre 71.07 333 IAmb IAmb 09 31 57.0
comp=Z,36nm,1.0s
HDA Harding Lake 71.08 336 P **P 09 31 47.2 -0.2**
baz=110,SNR=24
PMR Palmer 71.11 333 P **P 09 31 47.1 -0.5**
baz=107
IL31 71.18 336 IAmb IAmb 09 31 56.1
comp=Z,26nm,0.8s
ILAR Eielson Array 71.18 336 P **P 09 31 47.5 -0.5**
comp=Z,9.0nm,0.8s,baz=113,slow=4.5,SNR=80
ILAR LR LR 10 07 21.8
comp=Z,729nm,19.1s,baz=99,slow=40
comp=Z,9.0nm,0.8s
FYU Fort Yukon 71.21 338 IAmb IAmb 09 31 58.6
comp=Z,52nm,1.6s
WAT1 Susitna Watana 71.23 334 P **P 09 31 48.1 -0.3**
baz=108
RC01 Rabbit Creek A 71.24 332 P **P 09 31 48.6 +0.2**
baz=107
F26K Sheenjek River 71.27 339 P **P 09 31 48.6 +0.1**
F26K IAmb IAmb 09 31 58.1
comp=Z,25nm,0.9s
F26K Sheenjek River 71.27 339 P **P 09 31 48.8 +0.2**
baz=114,SNR=12
H25L Birch Creek 71.31 338 P **P 09 31 49.1 +0.4**
baz=112,SNR=12
BMAR Burnt Mountain 71.32 339 P **P 09 31 48.8 -0.1**
BRSE Bradley Lake S 71.34 330 P **P 09 31 49.3 +0.2**
baz=105
EUNU Eureka 71.45 359 IAmb IAmb 09 31 56.6
comp=Z,20nm,1.2s
POKR Poker Plat Res 71.52 336 IAmb IAmb 09 31 59.1
comp=Z,19nm,0.8s
POKR IAMs_20 IAMs_20 10 08 34.2
comp=Z,932nm,20.0s
POKR Poker Plat Res 71.52 336 P **P 09 31 50.4 +0.3**
baz=110
RND Reindeer 71.54 334 P **P 09 31 49.8 -0.5**
WRH Wood River Hil 71.57 336 IAmb IAmb 09 31 59.3
comp=Z,22nm,0.9s
M22K Willow 71.60 333 IAMs_20 IAMs_20 10 06 47.6
comp=Z,986nm,20.0s
M22K Willow 71.60 333 P **P 09 31 50.9 +0.3**
baz=106
COLA College 71.61 336 P **P 09 31 50.3 -0.3**
baz=110
COLA College 71.61 336‖ *e*P **P 09 31 50.5 0.0**
COLA pmax pmax
comp=Z,25nm,0.8s
G25K Bearman Lake 71.61 338 P **P 09 31 50.8 +0.3**
baz=112,SNR=6.6
MCK McKinley 71.68 335 P **P 09 31 51.0 -0.1**
baz=108
MCK McKinley 71.68 335 P **P 09 31 50.1 -1.0**
F25K Christian Rive 71.76 339 IAmb IAmb 09 32 01.4
comp=Z,23nm,0.8s
F25K Christian Rive 71.76 339 P **P 09 31 52.1 +0.6**
baz=113,SNR=12
HOM Homer 71.76 330 P **P 09 31 51.5 -0.1**
baz=104
KDAK Kodiak Island 71.79 328 LR LR 10 04 48.2
comp=Z,440nm,20.5s,baz=291,slow=37
KDAK Kodiak Island 71.79 328 P **P 09 31 51.2 -0.6**
baz=103
SUA Susitna One 71.81 332 IAmb IAmb 09 32 06.3
comp=Z,22nm,0.9s
SUA Susitna One 71.81 332 P **P 09 31 52.3 +0.2**
baz=106
CAPN Captain Cook N 71.81 331 P **P 09 31 50.8 -1.1**
baz=105
CUT Chulitna 71.86 333 P **P 09 31 51.4 -0.7**
baz=107
Q20K Shuyak Island 71.88 329 P **P 09 31 51.4 -0.9**
baz=104
E25K Arctic Village 71.94 340 P **P 09 31 52.8 +0.2**
E25K Arctic Village 71.94 340 P **P 09 31 52.8 +0.2**
baz=113,SNR=26
C27K Jago River 71.94 341 IAmb IAmb 09 32 01.4
comp=Z,20nm,0.8s
C27K Jago River 71.94 341 P **P 09 31 52.3 -0.2**
baz=115
H24K Noodor Dome 71.94 337 IAmb IAmb 09 32 01.2
comp=Z,22nm,0.9s
H24K IAMs_20 IAMs_20 10 04 49.4
comp=Z,1μm,20.0s
H24K Noodor Dome 71.94 337 P **P 09 31 52.8 +0.1**
baz=110,SNR=7.5
NEA2 Nenana 72.01 336 P **P 09 31 52.9 -0.1**
NEA2 IAmb IAmb 09 32 01.9
comp=Z,32nm,0.8s

NEA2	Nenana	72.01	336	P	P	09 31 52.5 -0.5
	baz=108,SNR=8.2					
OHAK	Old Harbor	72.04	327	P	P	09 31 53.4 +0.1
	baz=102					
TBI	Tubuai	72.08	242	eP	P	09 31 55.9 +1.8
	comp=Z,815nm,27.8s					
TBI				eS	S	09 41 15.0 +0.3
	comp=Z,2µm,28.2s					
TBI				eLQ	LQ	09 50 49.1
	comp=Z,2µm,35.5s					
TBI				eLR	LR	09 53 57.6
	comp=Z,2µm,24.8s					
G24K	Hadweenzic Riv	72.09	338	IAmb	IAmb	09 32 02.5
	comp=Z,25nm,0.9s					
G24K	Hadweenzic Riv	72.09	338	P	P	09 31 53.0 -0.5
	baz=111,SNR=7.9					
TRF	Thorofare Moun	72.17	334	P	P	09 31 54.3 +0.1
	baz=107					
I23K	Minto, Yukon-K	72.30	336	IAmb	IAmb	09 32 03.3
	comp=Z,35nm,0.9s					
I23K	Minto, Yukon-K	72.30	336	P	P	09 31 54.9 +0.2
	baz=108,SNR=8.7					
SKT	Skwentna	72.31	333	IAmb	IAmb	09 32 07.2
	comp=Z,29nm,1.0s					
SKT	Skwentna	72.31	333	P	P	09 31 54.7 -0.2
	baz=105					
SPU	Mount Spurr	72.34	332	IAmb	IAmb	09 32 04.7
	comp=Z,18nm,1.1s					
O20K	Slope Mountain	72.35	331	P	P	09 31 55.6 +0.4
	baz=104					
SII	Sitkinak Islan	72.38	327	P	P	09 31 55.8 +0.4
	baz=101					
N20K	Mount Spurr	72.42	332	P	P	09 31 55.1 -0.5
	baz=104					
SPCR	Spurr Chakacha	72.42	332	P	P	09 31 54.8 -0.9
	baz=104					
C26K	Camden Bay	72.44	341	P	P	09 31 55.8 +0.3
	baz=114					
KTH	Kantishna Hill	72.47	334	IAmb	IAmb	09 32 05.2
	comp=Z,32nm,0.9s					
F24K	Squaw Lake	72.53	339	IAmb	IAmb	09 32 25.0
	comp=Z,14nm,1.0s					
F24K	Squaw Lake	72.53	339	P	P	09 31 56.5 +0.3
	baz=110					
P19K	Oil Pt	72.54	330	P	P	09 31 56.2 -0.2
	baz=103					
ILSW	Iliamna Southw	72.58	330	IAmb	IAmb	09 32 09.7
	comp=Z,26nm,1.0s					
MORF	Marmelete	72.58	54	P	P	09 31 58.3 +1.3
MORF	Marmelete	72.58	54	eP	P	09 31 58.3 +1.3
MORF				A	A	09 32 01.4
	comp=Z,111nm,1.8s					
MORF	Marmelete	72.58	54	eP	P	09 31 58.1 +1.1
MORF				IAmb	IAmb	09 31 59.9
	comp=Z,75nm,1.3s					
MORF	Marmelete	72.58	54	eP	P	09 31 58.1 +1.1
H23K	Yukon River	72.59	337	IAmb	IAmb	09 32 05.0
	comp=Z,19nm,0.9s					
H23K				IAMs_20	IAMs_20	10 06 28.4
	comp=Z,989nm,20.0s					
H23K	Yukon River	72.59	337	P	P	09 31 56.4 -0.1
	baz=108					
Q19K	Cape Douglas,	72.59	329	P	P	09 31 56.2 -0.4
	baz=102					
BPAW	Bear Paw Mtn.	72.66	335	IAmb	IAmb	09 32 05.8
	comp=Z,24nm,0.8s					
BPAW	Bear Paw Mtn.	72.66	335	P	P	09 31 56.6 -0.3
	baz=106,SNR=12					
D25K	Kavik River	72.67	341	IAMs_20	IAMs_20	10 07 22.5
	comp=Z,910nm,20.0s					
D25K	Kavik River	72.67	341	P	P	09 31 56.8 -0.1
	baz=112					
R18K	Karluk	72.73	328	P	P	09 31 57.3 -0.1
	baz=101					
MLY	Manley	72.82	336	P	P	09 31 57.5 -0.4
MLY	Manley	72.82	336	P	P	09 31 57.8 -0.2
	baz=107,SNR=19					
PCAS	Casmilo, Conde	72.83	51	eP	P	09 31 59.9 +1.5
PPLA	Purkeypile	72.85	333	P	P	09 31 57.7 -0.5
	baz=105					
CAST	Castle Rocks	72.94	334	IAmb	IAmb	09 32 07.7
	comp=Z,20nm,1.0s					
CAST	Castle Rocks	72.94	334	P	P	09 31 58.4 -0.2
	baz=105					
E24K	Your Creek	72.94	339	P	P	09 31 59.0 +0.4
	baz=110					
MESJ	Messejana	72.94	53	eP	P	09 31 59.4 +0.3
MESJ	Messejana	72.94	53	eP	P	09 32 00.1 +1.0
MESJ				IAmb	IAmb	09 32 04.2
	comp=Z,15nm,1.0s					
MESJ	Messejana	72.94	53	eP	P	09 32 00.1 +1.0
PMTG	Montargil	72.99	52	eP	P	09 32 00.1 +0.7
PMTG				A	A	09 32 03.0
	comp=Z,62nm,1.8s					
M20K	Styx River	73.02	332	IAmb	IAmb	09 32 07.9
	comp=Z,13nm,0.8s					
M20K	Styx River	73.02	332	P	P	09 31 58.6 -0.6
	baz=104					
CHIR	Chirikof Islan	73.04	326	P	P	09 31 58.1 -1.2
	baz=100					
G23K	Bananza Creek	73.05	338	IAmb	IAmb	09 32 09.6
	comp=Z,36nm,0.9s					
G23K	Bananza Creek	73.05	338	P	P	09 31 59.4 +0.2
	baz=108,SNR=18					
PCVE	Castro Verde	73.08	53	eP	P	09 32 00.0 +0.1
PCVE				A	A	09 33 04.9
	comp=Z,61nm,2.3s					
PGAV	Gavieira, Arco	73.12	49	eP	P	09 32 00.9 +0.7
EVO	Evora	73.14	52	eP	P	09 31 59.8 -0.4
EVO				A	A	09 32 04.3
	comp=Z,37nm,1.3s					
PBDV	Barranco-do-Ve	73.15	54	eP	P	09 32 01.5 +1.1
CHUM	Lake Minchumin	73.16	334	P	P	09 31 59.8 0.0
	baz=105					
O19K	Port Alsworth	73.20	330	IAmb	IAmb	09 32 13.3
	comp=Z,15nm,0.8s					
O19K	Port Alsworth	73.20	330	P	P	09 31 59.8 -0.3
	baz=102					
Q18K	Katmai Hardscr	73.23	329	P	P	09 32 00.0 -0.5
	baz=101					
PBEJ	Beja	73.23	53	eP	P	09 32 01.7 +0.9
PBEJ				A	A	09 32 04.1
	comp=Z,43nm,2.3s					
COLD	Coldfoot	73.28	338	P	P	09 32 00.8 +0.3
	baz=108,SNR=12					
PVAQ	Vaqueiros	73.33	54	eP	P	09 32 01.1 -0.3
H22K	Ishtalitna Cre	73.33	337	P	P	09 32 00.2 -0.6
	baz=107					
PVIS	Viseu	73.33	50	eP	P	09 32 02.0 +0.6
E23K	Chandalar	73.33	339	P	P	09 32 01.2 +0.2
	baz=109					
I21K	Tanana	73.37	336	IAmb	IAmb	09 32 19.4
	comp=Z,20nm,0.8s					
I21K	Tanana	73.37	336	P	P	09 32 00.8 -0.2
	baz=106					
N19K	Bonanza Creek	73.41	331	IAmb	IAmb	09 32 10.7
	comp=Z,27nm,0.9s					
N19K	Bonanza Creek	73.41	331	P	P	09 32 00.7 -0.8
	baz=102					
D24K	Happy Valley	73.43	340	P	P	09 32 00.9 -0.5
D24K				IAmb	IAmb	09 32 21.4
	comp=Z,18nm,0.9s					
D24K	Happy Valley	73.43	340	P	P	09 32 00.7 -0.6
	baz=110					
POLQ	Lamas de Olo	73.44	49	eP	P	09 32 02.7 +0.6
PESTR	Estremoz	73.48	52	eP	P	09 32 02.7 +0.4
PESTR				A	A	09 32 06.2
	comp=Z,73nm,1.9s					
P18K	Big Mountain,	73.48	329	P	P	09 32 00.6 -1.3
	baz=101					
L20K	Farewell, AK	73.50	333	P	P	09 32 01.3 -0.7
	baz=103,SNR=8.5					
TOLK	Toolik Lake Re	73.51	340	P	P	09 32 02.0 +0.1
TOLK				IAmb	IAmb	09 32 10.3
	comp=Z,17nm,0.8s					
TOLK	Toolik Lake Re	73.51	340	P	P	09 32 02.1 +0.1
	baz=109,SNR=6.1					
O18K	Koktuh Hills	73.56	330	IAmb	IAmb	09 32 11.6
	comp=Z,22nm,0.8s					
O18K	Koktuh Hills	73.56	330	P	P	09 32 02.1 -0.3
	baz=101					
MTE	Manteigas	73.58	50	eP	P	09 32 06.5 +3.6
C24K	Franklin Bluff	73.58	341	IAmb	IAmb	09 32 13.5
	comp=Z,37nm,1.0s					
C24K	Franklin Bluff	73.58	341	P	P	09 32 02.1 -0.2
	baz=110					
M19K	Big River Lodg	73.60	332	IAmb	IAmb	09 32 11.6
	comp=Z,17nm,0.9s					
M19K	Big River Lodg	73.60	332	P	P	09 32 02.4 -0.1
	baz=103					
PCBR	Castelo Branco	73.61	51	eP	P	09 32 02.4 -0.6
Q17K	Contact Creek	73.61	328	P	P	09 32 02.6 -0.2
	baz=100					
PMRV	Marv??o	73.66	52	eP	P	09 32 04.2 +0.9
G22K	Bettles	73.68	338	P	P	09 32 03.6 +0.8
	baz=107					
R17L	Mt. Peulik Vol	73.75	328	P	P	09 32 03.2 -0.3
	baz=100					
K20K	Telida	73.79	334	IAmb	IAmb	09 32 12.8
	comp=Z,23nm,0.9s					
K20K	Telida	73.79	334	P	P	09 32 03.2 -0.4
	baz=103					
H21K	Melozitna Rive	73.83	336	P	P	09 32 03.1 -0.7
	baz=105					
L19K	White Mountain	73.88	332	IAmb	IAmb	09 32 12.8
	comp=Z,13nm,0.8s					
L19K	White Mountain	73.88	332	P	P	09 32 03.5 -0.7
	baz=102					
PBAR	Barrancos	73.89	53	eP	P	09 32 04.8 +0.1
PBAR				A	A	09 32 07.0
	comp=Z,53nm,1.5s					
D23K	Nanushuk River	74.00	340	IAmb	IAmb	09 32 13.8
	comp=Z,30nm,1.0s					
D23K	Nanushuk River	74.00	340	P	P	09 32 04.7 0.0
	baz=105					
MVO	Moncorvo	74.00	50	eP	P	09 32 04.5 -0.9
MVO				A	A	09 32 09.1
	comp=Z,51nm,2.1s					
J20K	Nowinta River	74.01	334	IAmb	IAmb	09 32 14.3
	comp=Z,26nm,1.0s					
J20K	Nowinta River	74.01	334	P	P	09 32 03.9 -1.0
	baz=104					
N18K	Kilae Creek	74.06	331	IAmb	IAmb	09 32 14.5
	comp=Z,23nm,0.9s					
N18K	Kilae Creek	74.06	331	P	P	09 32 04.8 -0.5
	baz=101					
P17K	Kvichak River	74.06	329	P	P	09 32 04.8 -0.4
	baz=100					
Q16K	King Salmon	74.08	329	P	P	09 32 05.4 +0.1
	baz=100					
F22K	John River	74.09	338	P	P	09 32 05.8 +0.4
	baz=106					
E22K	Anaktuvuk Pass	74.14	339	IAmb	IAmb	09 32 14.1
	comp=Z,18nm,0.8s					
E22K	Anaktuvuk Pass	74.14	339	P	P	09 32 05.7 0.0
	baz=107					
M18K	Stony River	74.19	332	P	P	09 32 05.3 -0.7
	baz=101					
C23K	Itkillik River	74.25	341	P	P	09 32 06.4 +0.3
	baz=108					
PBRG	Braganca	74.25	49	eP	P	09 32 06.3 -0.5
PBRG				A	A	09 32 08.8
	comp=Z,83nm,1.7s					
IMAR	Indian Mountai	74.29	336	P	P	09 32 05.8 -0.7
I20K	Naaghedeneel	74.30	335	IAmb	IAmb	09 32 16.4
	comp=Z,42nm,1.1s					
I20K	Naaghedeneel	74.30	335	P	P	09 32 06.1 -0.3
	baz=103					
G21K	Allakaket	74.33	337	P	P	09 32 06.8 +0.1
	baz=105					
O17K	Koliganek Bris	74.49	330	P	P	09 32 07.0 -0.7
	baz=100					
F21K	Alatna River	74.50	338	P	P	09 32 07.6 -0.2
	baz=105,SNR=15					
TTA	Tatalina	74.56	333	IAmb	IAmb	09 32 17.1
	comp=Z,17nm,1.0s					
TTA	Tatalina	74.56	333	P	P	09 32 07.4 -0.8
	baz=102					
PMSA	Palmer Station	74.59	172	LR	LR	09 59 09.2
	comp=Z,264nm,20.7s,baz=337,slow=31					
J19K	Poorman	74.60	334	P	P	09 32 07.5 -0.9
	baz=102					
H20K	Anotleneega Mo	74.62	336	P	P	09 32 07.9 -0.5
	baz=103					
CHGN	Chignik	74.66	326	P	P	09 32 08.5 -0.3
	baz=98					
N17K	Nushagak Hills	74.66	330	IAmb	IAmb	09 32 18.2
	comp=Z,20nm,0.9s					
N17K	Nushagak Hills	74.66	330	P	P	09 32 08.4 -0.4
	baz=100					
D22K	Ayikyak River	74.66	339	IAmb	IAmb	09 32 22.0
	comp=Z,24nm,0.8s					
D22K	Ayikyak River	74.66	339	P	P	09 32 08.7 +0.1
	baz=106					
L18K	Granite Mounta	74.73	332	P	P	09 32 09.0 -0.1
	baz=101					
P16K	Nushagak River	74.82	329	P	P	09 32 09.1 -0.6
	baz=99					
M17K	Holitna River	74.93	331	IAmb	IAmb	09 32 19.9
	comp=Z,26nm,0.9s					
M17K	Holitna River	74.93	331	P	P	09 32 10.0 -0.2
	baz=100					
O16K	Kokwok River B	74.96	329	P	P	09 32 09.7 -0.7
	baz=99					
J18K	Innoko River	74.97	334	P	P	09 32 09.7 -0.8
	baz=101					
E21K	Killik River	75.00	339	IAmb	IAmb	09 32 19.8
	comp=Z,20nm,0.9s					
E21K	Killik River	75.00	339	P	P	09 32 10.5 -0.1
	baz=105					
CHNA	Chernabura Isl	75.15	324	P	P	09 32 11.3 -0.3
	baz=96					
H19K	Roundabout Mou	75.27	336	IAmb	IAmb	09 32 21.9
	comp=Z,35nm,0.8s					
H19K	Roundabout Mou	75.27	336	P	P	09 32 12.2 +0.1
	baz=102					
S14K	Fog Glacier	75.29	326	P	P	09 32 11.9 -0.7
	baz=97					
GCSA	Galena City Sc	75.29	335	P	P	09 32 12.2 0.0
	baz=101					
F20K	Avaraart Lake	75.31	337	IAmb	IAmb	09 32 22.3
	comp=Z,17nm,1.0s					
F20K	Avaraart Lake	75.31	337	P	P	09 32 12.1 -0.2
	baz=103					
B22K	Teshekpuk Lake	75.32	341	P	P	09 32 11.9 -0.4
	baz=106					
N16K	Nishlik Lake	75.43	330	P	P	09 32 13.1 -0.1
	baz=98					
L17K	Donlin	75.45	332	P	P	09 32 13.0 -0.2
	baz=99					
C21K	Knifeblade Rid	75.47	339	P	P	09 32 14.1 +0.9
	baz=104					
B21K	Ikpikpuk River	75.52	340	IAmb	IAmb	09 32 22.7
	comp=Z,25nm,0.8s					
B21K	Ikpikpuk River	75.52	340	P	P	09 32 13.9 +0.4
	baz=105					
K17K	Iditarod	75.55	333	IAmb	IAmb	09 32 23.5
	comp=Z,25nm,0.9s					
K17K				IAMs_20	IAMs_20	10 08 27.9
	comp=Z,900nm,19.0s					
K17K	Iditarod	75.55	333	P	P	09 32 13.0 -0.8
	baz=99					
M16K	Timber Creek	75.60	331	P	P	09 32 13.5 -0.6
	baz=98					
G19K	Purcell Mounta	75.65	336	IAmb	IAmb	09 32 23.0
	comp=Z,22nm,0.8s					
G19K	Purcell Mounta	75.65	336	P	P	09 32 14.1 -0.3
	baz=101					
E20K	Nigu River	75.75	338	P	P	09 32 15.3 +0.3
	baz=103					
O15K	Ungalikthiuk R	75.78	329	P	P	09 32 15.2 +0.1
	baz=97					
MDT	Midelt	75.85	58	LR	LR	10 00 39.6
	comp=Z,468nm,20.7s,baz=320,slow=32					
L16K	Owhat River	75.94	332	IAmb	IAmb	09 32 26.2
	comp=Z,26nm,0.8s					
L16K	Owhat River	75.94	332	P	P	09 32 16.1 0.0
	baz=98					
DAG	Danmarks Havn	75.96	12	iP	P	09 32 13.0 -2.9
DAG				IAmb	IAmb	09 32 22.6
	comp=Z,36nm,0.9s					
E19K	Redstone River	75.97	338	IAmb	IAmb	09 32 25.6
	comp=Z,22nm,0.8s					
E19K	Redstone River	75.97	338	P	P	09 32 16.2 +0.1
	baz=102					
H18K	Honhosa River	75.99	335	IAmb	IAmb	09 32 26.2
	comp=Z,29nm,0.9s					
H18K	Honhosa River	75.99	335	P	P	09 32 16.8 +0.5
	baz=100					
A22K	Sinclair Lake	75.99	341	P	P	09 32 16.3 +0.2
	baz=104					
D20K	Etivluk River	76.01	339	P	P	09 32 16.5 +0.2
	baz=102					
J17K	VABM Dome	76.01	333	IAmb	IAmb	09 32 26.4
	comp=Z,30nm,0.9s					
J17K	VABM Dome	76.01	333	P	P	09 32 16.2 -0.2
	baz=99					
PAB	San Pablo	76.01	51	P	P	09 32 17.3 +0.3
PAB				IAmb	IAmb	09 32 19.4
	comp=Z,55nm,1.4s					
PAB	San Pablo	76.01	51	P	P	09 32 17.3 +0.3
PAB				pmax	pmax	
	comp=Z,55nm,1.5s					
N15K	Kwethluk River	76.04	330	P	P	09 32 17.3 +0.6
	baz=97					
F19K	Shaleruckik Mo	76.06	337	IAmb	IAmb	09 32 26.2
	comp=Z,30nm,0.8s					
F19K	Shaleruckik Mo	76.06	337	P	P	09 32 16.8 +0.2
	baz=101					
G18K	Tagagawik	76.24	336	IAmb	IAmb	09 32 27.9
	comp=Z,27nm,0.8s					
G18K	Tagagawik	76.24	336	P	P	09 32 17.9 +0.3
	baz=100					
ESDC	Sonseca Array	76.31	51	P	P	09 32 17.5 -1.2
	comp=Z,20nm,1.0s,baz=278,slow=5.4,SNR=38					
ESDC				LR	LR	10 03 14.5
	comp=Z,647nm,18.6s,baz=269,slow=34					
	comp=Z,20nm,1.0s					
ESBB	Sonseca Array	76.31	51	IAmb	IAmb	09 32 20.9
	comp=Z,34nm,1.1s					
M15K	Kasigluk River	76.39	330	P	P	09 32 18.7 +0.1
	baz=97					
B20K	Meade River	76.47	340	P	P	09 32 19.3 +0.4
	baz=102					
D19K	Kuna River	76.50	339	P	P	09 32 19.1 0.0
D19K	Kuna River	76.50	339	P	P	09 32 19.4 +0.3
	baz=101					
O14K	Tigyukauivet M	76.52	329	P	P	09 32 18.8 -0.6
	baz=96					
A21K	Barrow	76.59	341	P	P	09 32 20.6 +1.1
	baz=103					
H17K	Granite Mounta	76.60	335	P	P	09 32 19.8 0.0
	baz=98					
S12K	Black Hills	76.64	325	P	P	09 32 20.3 +0.2
	baz=94					
J16K	Anvik River	76.67	333	P	P	09 32 20.4 +0.2
	baz=97					
F18K	Selawik	76.75	336	P	P	09 32 21.0 +0.4
	baz=99,SNR=7.6					
I17K	Unalakleet	76.79	334	P	P	09 32 21.0 +0.2
	baz=98					
N14K	Kuskokwak Cree	76.80	330	P	P	09 32 20.9 0.0
	baz=96					
L15K	Ungalak Mounta	76.89	331	P	P	09 32 21.5 +0.1
	baz=96					
JMIC	Jan Mayen	76.94	19	LR	LR	10 06 35.6
	comp=Z,387nm,19.2s,baz=258,slow=36					
K15K	Wolf Creek Mou	76.98	332	IAmb	IAmb	09 32 33.5
	comp=Z,25nm,0.8s					
K15K	Wolf Creek Mou	76.98	332	P	P	09 32 22.4 +0.4
	baz=96					
G17K	Kiwalik Mounta	76.99	335	P	P	09 32 22.2 +0.3
	baz=98					
M14K	Bethel	77.02	330	P	P	09 32 22.0 -0.1
	baz=96					
C19K	Lookout Ridge	77.14	339	IAmb	IAmb	09 32 32.1
	comp=Z,31nm,0.9s					
C19K	Lookout Ridge	77.14	339	P	P	09 32 22.9 +0.1
	baz=100					
E18K	Tukpahlearik C	77.25	337	IAmb	IAmb	09 32 32.0
	comp=Z,18nm,0.9s					
E18K	Tukpahlearik C	77.25	337	P	P	09 32 23.8 +0.5
	baz=98					
EKA	Eskdalemuir Ar	77.32	35	P	P	09 32 23.3 -0.7
	comp=Z,10nm,1.0s,baz=269,slow=4.2,SNR=5.5					
	comp=Z,10nm,1.0s					
FALS	False Pass	77.36	324	P	P	09 32 24.7 +0.6
	baz=93					
F17K	Baldwin Pennin	77.36	336	P	P	09 32 24.8 +0.9
	baz=98					
SMAI	San Martin Ant	77.41	174	P	P	09 32 25.0 +1.0
L14K	Kuka Creek	77.43	331	P	P	09 32 25.0 +0.6
	baz=95					
H16K	Elim	77.55	334	P	P	09 32 24.9 -0.2
	baz=96					
DBIC	Dimbokro	77.58	85	P	P	09 32 26.0 -0.2
DBIC	Dimbokro	77.58	85	P	P	09 32 25.8 -0.5
	comp=Z,51nm,0.9s,baz=277,slow=5.3,SNR=43					
DBIC				LR	LR	10 05 02.5
	comp=Z,280nm,20.2s,baz=267,slow=35					
	comp=Z,51nm,0.9s					
DBIC	Dimbokro	77.58	85	P	P	09 32 26.0 -0.2
DBIC				pmax	pmax	
	comp=Z,70nm,1.0s					
C18K	Utukok River	77.64	338	P	P	09 32 25.8 +0.2
	baz=98					
E17K	Hotham Inlet	77.67	337	P	P	09 32 26.4 +0.7
	baz=97					
M13K	Dall Lake	77.68	330	P	P	09 32 26.5 +0.7
	baz=94					
G16K	Koyuk River	77.69	335	P	P	09 32 26.0 +0.2
	baz=96					
A19K	Wainwright	77.83	340	P	P	09 32 26.2 -0.3
	baz=98					
J14K	Nanvaranak Lak	77.96	332	P	P	09 32 27.5 +0.1
	baz=95					
B18K	Kokolik River	77.96	339	P	P	09 32 27.5 +0.2
	baz=98					
NOR	Nord	78.17	8	iP	P	09 32 27.8 -0.5
NOR				IAmb	IAmb	09 32 28.7
	comp=Z,78nm,1.7s					
RDOG	Red Dog Mine	78.20	338	IAmb	IAmb	09 32 40.2
	comp=Z,41nm,1.0s					
RDOG	Red Dog Mine	78.20	338	P	P	09 32 28.7 0.0
	baz=96					
D17K	Noatak River	78.22	337	P	P	09 32 28.5 -0.3
	baz=96					
C17K	DeLong Mountai	78.34	338	P	P	09 32 29.6 +0.1
	baz=96					
G15K	Niukluk	78.35	335	P	P	09 32 29.4 -0.1
	baz=95					
K13K	Kusilvak Mount	78.41	331	P	P	09 32 29.1 -0.8
	baz=94					
F15K	North Star Dit	78.66	335	P	P	09 32 30.3 -0.9
	baz=94					
ANM	Nome	78.89	334	P	P	09 32 31.4 -1.2
	baz=93					
M11K	Mekoryuk	79.09	330	P	P	09 32 33.4 -0.3
	baz=92					
C16K	Lisburne Hills	79.12	338	P	P	09 32 33.7 0.0
	baz=94					
UNV	Unalaska Valle	79.13	323	P	P	09 32 33.9 -0.1
	baz=90					
F14K	Arctic Creek	79.35	335	P	P	09 32 35.4 +0.5
	baz=93					
TNA	Tin City	80.01	335	P	P	09 32 38.6 0.0
	baz=91					
NIKH	Nikolski High	80.55	322	P	P	09 32 41.4 -0.3
	baz=88					
RAR	Rarotonga	80.72	247	LR	LR	10 00 22.7
	comp=Z,789nm,19.2s,baz=47,slow=30					
P08K	Saint George I	80.84	326	P	P	09 32 43.7 +0.6
	baz=88					
SPIA	Saint Paul Isl	81.21	327	P	P	09 32 46.1 +1.0
	baz=88					
GAMB	Gambell	81.66	333	P	P	09 32 48.4 +1.0
	baz=88					
KBS	Kingsbay	82.60	11⇑	eP	P	09 32 53.9 +1.8
KBS				pmax	pmax	
	comp=Z,135nm,2.5s					
KBS	Kingsbay	82.60	11	iP	P	09 32 53.5 +1.4
TORD	Torodi Ar. Bea	83.18	78	P	P	09 32 55.4 -1.0
TORD				IAmb	IAmb	09 33 14.0
	comp=Z,47nm,1.9s					
TORD	Torodi Ar. Bea	83.18	78	P	P	09 32 54.9 -1.5
	comp=Z,3.6nm,0.8s,baz=313,slow=4.1,SNR=22					
TORD				LR	LR	10 09 32.8
	comp=Z,491nm,20.4s,baz=300,slow=36					
	comp=Z,3.6nm,0.8s					
SPITS	Spitsbergen Ar	83.59	12	LR	LR	10 11 34.9
	comp=Z,2µm,19.7s,baz=232,slow=37					
ECH	Echery	83.91	42	P	P	09 32 59.7 +0.2
ECH				IAmb	IAmb	09 33 00.9
	comp=Z,20nm,1.3s					
ECH	Echery	83.91	42	P	P	09 32 59.7 +0.2
ECH				pmax	pmax	
	comp=Z,20nm,1.3s					
NC204	NORSAR Array S	84.44	29	P	P	09 33 01.5 -0.5
NC204				IAmb	IAmb	09 33 02.8
	comp=Z,21nm,1.1s					
SSRD	Sdr. Stenderup	84.60	35	iP	P	09 33 02.8 +0.1
SSRD				IAmb	IAmb	09 33 13.1
	comp=Z,54nm,0.6s					

OVD	**Ostervraa, Den**	**84.68**	**33**	*i* P	**P**	**09 33 04.9**	**+1.8**
OVD				IAmb	IAmb	09 33 11.8	
	comp=Z,34nm,0.7s						
NB2	**NORSAR Subarra**	**84.69**	**29**	P	**P**	**09 33 01.9**	**-1.2**
	comp=Z,252nm,2.5s,baz=279,slow=5.1						
NB2	**NORSAR Subarra**	**84.69**	**29**	P	**P**	**09 33 01.9**	**-1.2**
	baz=279,slow=5.1						
NOA	**NORSAR Array B**	**84.69**	**29**	P	**P**	**09 33 02.0**	**-1.2**
	comp=Z,7.7nm,0.9s,baz=277,slow=4.9,SNR=16						
NOA				LR	LR	10 11 01.8	
	comp=Z,474nm,18.2s,baz=285,slow=36						
	comp=Z,7.7nm,0.9s						
NOA	**NORSAR Array B**	**84.69**	**29**	P	**P**	**09 33 02.0**	**-1.2**
NB201	**NORSAR Array S**	**84.72**	**29**	P	**P**	**09 33 03.2**	**-0.2**
ADK	**Adak**	**85.42**	**322**	P	**P**	**09 33 07.3**	**+0.4**
ADK	**Adak**	**85.42**	**322**	P	**P**	**09 33 07.3**	**+0.4**
ADK				pmax	pmax		
	comp=Z,168nm,1.0s						
TUE	**Stuetta**	**85.60**	**44**	P	**P**	**09 33 07.9**	**-0.4**
TUE				IAmb	IAmb	09 33 16.2	
	comp=Z,11nm,0.8s						
TUE	**Stuetta**	**85.60**	**44**	P	**P**	**09 33 07.6**	**-0.7**
	comp=Z,111nm,2.8s						
DAVA	**Damuels**	**85.85**	**43**	*i* P	**P**	**09 33 09.6**	**+0.2**
	comp=Z,22nm,1.0s,SNR=6.1						
DAVOX	**Davos/Dischmat**	**85.92**	**43**	P	**P**	**09 33 08.6**	**-1.2**
	comp=Z,7.8nm,1.0s,baz=312,slow=7.1,SNR=7.2						
DAVOX				LR	LR	10 06 15.0	
	comp=Z,919nm,19.8s,baz=280,slow=32						
	comp=Z,7.8nm,1.0s						
HFS	**Hagfors**	**86.04**	**30**	P	**P**	**09 33 08.6**	**-1.3**
	comp=Z,8.8nm,0.8s,baz=242,slow=2.9,SNR=14						
HFS				LR	LR	10 09 00.6	
	comp=Z,628nm,19.8s,baz=302,slow=34						
	comp=Z,8.8nm,0.8s						
COP	**Copenhagen**	**86.14**	**34**	*i* P	**P**	**09 33 09.1**	**-1.4**
COP				IAmb	IAmb	09 33 11.2	
	comp=Z,48nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**86.20**	**44**	IAmb	IAmb	09 33 14.7	
	comp=Z,18nm,1.4s						
RETA	**Reutte**	**86.41**	**43**	*i* P	**P**	**09 33 12.9**	**+0.8**
	comp=Z,20nm,1.4s,SNR=5.5						
FETA	**Feichten**	**86.46**	**43**	*e*P	**P**	**09 33 13.3**	**+0.8**
	comp=Z,16nm,1.1s						
MOTA	**Moosalm**	**86.66**	**43**	*e*P	**P**	**09 33 14.0**	**+0.6**
	comp=Z,13nm,1.4s						
SQTA	**Sankt Quirin**	**86.75**	**43**	*e*P	**P**	**09 33 14.6**	**+0.7**
	comp=Z,9.6nm,1.0s						
WATA	**Walderalm**	**86.98**	**43**	*e*P	**P**	**09 33 15.6**	**+0.6**
	comp=Z,15nm,1.3s						
WTTA	**Wattenberg**	**87.03**	**43**	*e*P	**P**	**09 33 16.3**	**+1.0**
	comp=Z,12nm,1.4s						
KEST	**Kesra**	**87.12**	**54**	P	**P**	**09 33 15.1**	**-0.7**
	comp=Z,8.2nm,1.1s,baz=262,slow=7.1,SNR=3.0						
KEST				LR	LR	10 07 44.3	
	comp=Z,353nm,20.5s,baz=310,slow=33						
	comp=Z,8.2nm,1.1s						
CLL	**Collm**	**87.23**	**39**	P	**P**	**09 33 14.9**	**-1.0**
CLL				IAmb	IAmb	09 33 17.6	
	comp=Z,23nm,1.1s						
CLL	**Collm**	**87.23**	**39**	P	**P**	**09 33 14.9**	**-1.0**
CLL				pmax	pmax		
	comp=Z,23nm,1.1s						
CLL	**Collm**	**87.23**	**39**	*i* P	**P**	**09 33 14.8**	**-1.1**
	comp=Z,46nm,1.4s						
CLL				*e*SS	SS	09 49 55.0	+17
CLL				L	L	10 13 00.0	
	comp=Z,500nm,21.8s						
CLL	**Collm**	**87.23**	**39**	P	**P**	**09 33 14.1**	**-1.8**
	comp=Z,22nm,1.4s						
CTI	**Castel Tesino**	**87.24**	**44**	P	**P**	**09 33 16.0**	**-0.2**
CTI	**Castel Tesino**	**87.24**	**44**	P	**P**	**09 33 16.0**	**-0.2**
CTI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TEOL	**Teolo**	**87.37**	**45**	P	**P**	**09 33 17.4**	**+0.6**
TEOL				IAmb	IAmb	09 33 18.2	
	comp=Z,25nm,1.0s						
BSD	**Bornholm Skovb**	**87.64**	**35**	*i* P	**P**	**09 33 17.1**	**-0.7**
BSD				IAmb	IAmb	09 33 29.7	
	comp=Z,16nm,1.1s						
LESA	**Schwarzleotal**	**87.70**	**43**	*e*P	**P**	**09 33 18.8**	**+0.4**
	comp=Z,16nm,1.3s						
ABTA	**Abfaltersbach**	**87.71**	**43**	*i* P	**P**	**09 33 18.0**	**-0.5**
	comp=Z,24nm,1.2s,SNR=8.7						
BRG	**Berggiesshubel**	**87.89**	**39**	*e*P	**P**	**09 33 18.7**	**-0.4**
BRG				Amp		09 33 21.0	
	comp=Z,56nm,1.6s						
BRG	**Berggiesshubel**	**87.89**	**39**	P	P	09 33 30.7	+12
BRG				Amp		09 33 34.2	
	comp=Z,6.4nm,0.9s						
BRG	**Berggiesshubel**	**87.89**	**39**	*e*P	**P**	**09 33 18.7**	**-0.4**
BRG						09 33 30.7	
BRG				pmax	pmax		
	comp=Z,56nm,1.6s						
KHC	**Kasperske Hory**	**87.99**	**41**	*e*P	**P**	**09 33 19.5**	**-0.2**
KHC	**Kasperske Hory**	**87.99**	**41**⇓	*e*P	**P**	**09 33 19.3**	**-0.4**
KHC				pmax	pmax		
	comp=Z,62nm,1.7s						
KHC	**Kasperske Hory**	**87.99**	**41**	P	**P**	**09 33 18.6**	**-1.1**
	comp=Z,20nm,2.4s						
GEC2	**GERESS Array S**	**88.12**	**41**	IAmb	IAmb	09 33 22.0	
	comp=Z,22nm,1.2s						
GERES	**GERESS Array B**	**88.12**	**41**	P	**P**	**09 33 19.0**	**-1.4**
	comp=Z,7.1nm,1.0s,baz=302,slow=3.0,SNR=12						
GERES				LR	LR	10 06 55.1	
	comp=Z,1μm,21.6s,baz=276,slow=32						
	comp=Z,7.1nm,1.0s						
KBA	**Koelnbreinsper**	**88.22**	**43**	*i* P	**P**	**09 33 20.5**	**-0.4**
	comp=Z,31nm,1.4s,SNR=9.5						
KBA	**Koelnbreinsper**	**88.22**	**43**	P	**P**	**09 33 19.6**	**-1.4**
BIOA	**Bad Ischl, Aus**	**88.30**	**42**	*e*P	**P**	**09 33 22.0**	**+0.8**
	comp=Z,24nm,1.4s						
ARCES	**ARCESS Array B**	**88.42**	**19**	P	**P**	**09 33 19.2**	**-2.0**
	comp=Z,8.4nm,0.9s,baz=293,slow=3.7,SNR=10						
ARCES				LR	LR	10 12 54.3	
	comp=Z,245nm,18.7s,baz=298,slow=36						
	comp=Z,8.4nm,0.9s						
ARCES	**ARCESS Array B**	**88.42**	**19**	P	**P**	**09 33 20.8**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,61nm,1.5s						
MYKA	**Terra Mystica**	**88.50**	**43**	*e*P	**P**	**09 33 23.1**	**+0.9**
	comp=Z,19nm,1.1s						
CADS	**Cadrg**	**88.64**	**44**	*i* P	**P**	**09 33 21.9**	**-0.9**
MOA	**Molln**	**88.68**	**42**	*e*P	**P**	**09 33 22.9**	**-0.1**
	comp=Z,12nm,1.1s						
FDMO	**Fiordimonte**	**88.78**	**47**	IAmb	IAmb	09 33 24.6	
	comp=Z,15nm,1.2s						
OBKA	**Obir**	**89.14**	**43**	*e*P	**P**	**09 33 25.3**	**+0.1**
	comp=Z,13nm,1.4s						
CEY	**Cerknica**	**89.21**	**44**	*i* P	**P**	**09 33 24.7**	**-0.7**
LJU	**Ljubljana**	**89.21**	**44**	*i* P	**P**	**09 33 24.6**	**-0.8**
KSP	**Ksiaz**	**89.35**	**39**	*e*P	**P**	**09 33 27.0**	**+1.0**
KSP	**Ksiaz**	**89.35**	**39**	P	**P**	**09 33 24.5**	**-1.5**
KSP	**Ksiaz**	**89.35**	**39**	P	**P**	**09 33 24.5**	**-1.5**
	comp=Z,16nm,2.6s						
SOKA	**Soboth**	**89.43**	**43**	*i* P	**P**	**09 33 25.4**	**-1.1**
	comp=Z,10nm,1.3s,SNR=5.2						
DPC	**Dobruska-Polom**	**89.48**	**39**	*e*P	**P**	**09 33 27.9**	**+1.2**
DPC	**Dobruska-Polom**	**89.48**	**39**	P	**P**	**09 33 25.9**	**-0.8**
DPC	**Dobruska-Polom**	**89.48**	**39**	P	**P**	**09 33 25.9**	**-0.8**
	comp=Z,17nm,1.5s						
BILL	**Bilibino**	**89.56**	**339**⇑	*e*P	**P**	**09 33 26.6**	**0.0**
BILL				pmax	pmax		
	comp=Z,50nm,1.6s						
ARSA	**Arzberg**	**89.64**	**42**	*e*P	**P**	**09 33 26.5**	**-1.0**
	comp=Z,7.8nm,1.2s						
CONA	**Conrad Observa**	**89.72**	**42**	*e*P	**P**	**09 33 27.0**	**-0.9**
	comp=Z,7.7nm,1.0s						
KRUC	**Moravsky**	**89.81**	**40**	*e*P	**P**	**09 33 26.9**	**-1.3**
VRAC	**Vranov**	**89.89**	**40**	P	**P**	**09 33 27.3**	**-1.3**
	comp=Z,4.2nm,0.7s,baz=272,slow=5.8,SNR=9.8						
VRAC				LR	LR	10 08 23.3	
	comp=Z,2μm,21.2s,baz=293,slow=32						
	comp=Z,4.2nm,0.7s						
VRAC	**Vranov**	**89.89**	**40**	*e*P	**P**	**09 33 27.8**	**-0.8**
RONA	**Rosalia, Austr**	**90.05**	**42**	*e*P	**P**	**09 33 28.7**	**-0.7**
	comp=Z,9.0nm,0.8s						
MORC	**Moravsky Berou**	**90.38**	**40**	IAmb	IAmb	09 33 33.3	
	comp=Z,49nm,1.9s						
MORC	**Moravsky Berou**	**90.38**	**40**	*e*P	**P**	**09 33 30.0**	**-0.9**
MODS	**Modra-Piesok**	**90.54**	**41**	*e*P	**P**	**09 33 31.5**	**-0.1**
JAVC	**Velka Javorina**	**90.68**	**40**	*e*P	**P**	**09 33 32.4**	**+0.1**
VAE	**Valguarnera**	**90.83**	**52**	LR	LR	10 08 31.5	
	comp=Z,1μm,21.5s,baz=326,slow=32						
MPLH	**Magyarpolny**	**91.00**	**42**	P	**P**	**09 33 32.4**	**-1.3**
	comp=Z,30nm,2.0s						
FINES	**FINESS Array B**	**91.53**	**27**	P	**P**	**09 33 34.2**	**-1.6**
	comp=Z,7.9nm,0.9s,baz=273,slow=2.6,SNR=13						
FINES				LR	LR	10 09 53.8	
	comp=Z,687nm,21.4s,baz=296,slow=32						
	comp=Z,7.9nm,0.9s						
FINES	**FINESS Array B**	**91.53**	**27**	*i* P	**P**	**09 33 35.7**	**-0.2**
FINES				pmax	pmax		
	comp=Z,8.0nm,1.0s						
OJC	**Ojcow**	**91.68**	**39**	*e*P	**P**	**09 33 38.0**	**+1.1**
OJC	**Ojcow**	**91.68**	**39**	P	**P**	**09 33 36.9**	**+0.1**
OJC	**Ojcow**	**91.68**	**39**	P	**P**	**09 33 36.9**	**+0.1**
	comp=Z,13nm,1.4s						
LANS	**Liptovska Anna**	**91.75**	**40**	*e*P	**P**	**09 33 39.2**	**+1.9**
CEL	**Celeste**	**91.82**	**51**	IAms_20	IAms_20	10 08 22.3	
	comp=Z,508nm,21.0s						
APA	**Apatity**	**91.88**	**20**⇓	*i* P	**P**	**09 33 38.5**	**+1.1**
APA				*i*		09 33 43.3	
APA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MORH	**Mrgy, Hungar**	**91.97**	**43**	P	**P**	**09 33 37.4**	**-0.8**
	comp=Z,8.4nm,2.5s						
LVZ	**Lovozero**	**92.14**	**20**⇑	*e*P	**P**	**09 33 38.9**	**+0.2**
LVZ				pmax	pmax		
	comp=Z,23nm,1.3s						
NIE	**Niedzica**	**92.20**	**39**	*e*P	**P**	**09 33 41.8**	**+2.4**
TIP	**Timpagrande**	**92.28**	**50**	IAms_20	IAms_20	10 12 48.3	
	comp=Z,680nm,20.0s						
PSZ	**Piszkesteto**	**92.35**	**41**	P	**P**	**09 33 42.4**	**+2.3**
STHS	**Stebnicka Huta**	**92.80**	**39**	*e*P	**P**	**09 33 46.2**	**+4.1**
VNA3	**Neumayer Olymp**	**92.88**	**162**⇑	P	**P**	**09 33 40.7**	**-1.2**
	comp=Z,12nm,0.8s						
VSU	**Vasula**	**92.92**	**30**⇑	*e*P	**P**	**09 33 41.7**	**-0.7**
VSU				pmax	pmax		
	comp=Z,17nm,1.1s						
VNA1	**Neumayer--Stat**	**93.14**	**161**⇑	P	**P**	**09 33 40.6**	**-2.5**
	comp=Z,15nm,0.9s						
PDG	**Podgorica**	**93.34**	**46**	IAms_20	IAms_20	10 12 00.1	
	comp=Z,648nm,19.0s						
VNA2	**Neumayer--Watz**	**93.50**	**161**⇑	P	**P**	**09 33 43.0**	**-1.7**
	comp=Z,9.4nm,0.8s,baz=303,slow=5.6						
KOLS	**Kolonicke sedl**	**93.58**	**40**	*e*P	**P**	**09 33 46.9**	**+1.2**
HOLU	**Holmets**	**93.78**	**40**	P	**P**	**09 33 46.8**	**+0.3**
NACGM	**Naroch**	**94.25**	**33**	*e*P	**P**	**09 33 48.5**	**-0.1**
	comp=Z,12nm,0.9s,baz=292						
MORS	**Morshin**	**94.54**	**39**	P	**P**	**09 33 47.9**	**-2.1**
MORS	**Morshin**	**94.54**	**39**	P	**P**	**09 33 47.9**	**-2.1**
RNPP9	**Sopachiv**	**94.99**	**36**	P	**P**	**09 33 50.6**	**-1.4**
MNK	**Minsk**	**94.99**	**33**	*i* P	**P**	**09 33 50.1**	**-1.9**
	comp=E,5.0nm,0.7s						
MNK				*i* P	**P**	**09 33 50.1**	**-1.9**
	comp=N,7.0nm,0.8s						
MNK				*i* P	**P**	**09 33 50.1**	**-1.9**
	comp=Z,15nm,0.7s,baz=292						
MNK				*i* PP	**PP**	**09 37 38.7**	**-2.2**
MNK				*i* PPP	PPP	09 39 40.4	
MNK				*i* SKS		09 43 42.5	
MNK				*i* S	**SKSac**	**09 44 25.4**	**-0.4**
MNK				*i* PS	PS	09 47 13.2	+49
MNK				*i* SS	SS	09 51 15.0	-14
MNK				*i* SSS	SSS	09 55 12.4	
MNK				*i* LQ	LQ	10 07 22.7	
MNK				*i* LR	LR	10 10 03.0	
MNK				*i* LRM	MLR	10 11 56.1	
	comp=N,260nm,15.9s						
MNK				*i* LRM	MLR	10 12 12.3	
	comp=Z,638nm,19.3s						
MNK				*i* LRM	MLR	10 13 25.1	
	comp=E,195nm,18.5s						
MNK	**Minsk**	**94.99**	**33**	*i* P	**P**	**09 33 50.1**	**-1.9**
MNK				*i*		09 37 38.7	
MNK				*i* PPP	PPP	09 39 40.3	
MNK				*i* S	**SKSac**	**09 44 25.4**	**-0.4**
MNK				*i* SSS	SSS	09 55 12.4	
MNK				pmax	pmax		
	comp=E,5.0nm,0.7s						
MNK				pmax	pmax		
	comp=Z,15nm,0.7s						
MNK				pmax	pmax		
	comp=N,7.0nm,0.8s						
RNPP8	**Varash**	**94.99**	**37**	P	**P**	**09 33 51.4**	**-0.7**
RNPP5	**Staryi Chortor**	**95.05**	**37**	P	**P**	**09 33 51.4**	**-0.9**
SNAA	**Sanae**	**95.11**	**162**⇑	P	**P**	**09 33 50.9**	**-1.3**
	comp=Z,126nm,0.9s						
SNAA	**Sanae**	**95.11**	**162**	P	**P**	**09 33 51.0**	**-1.1**
	comp=Z,9.1nm,1.0s,baz=275,slow=4.0,SNR=21						
SNAA				LR	LR	10 16 52.8	
	comp=Z,106nm,18.4s,baz=346,slow=36						
	comp=Z,9.1nm,1.0s						
SNAA	**Sanae**	**95.11**	**162**	*de*P	**P**	**09 33 51.2**	**-1.0**
SNAA				pmax	pmax		
	comp=Z,14nm,1.1s						
MI28	**Mi28,Pidlybu**	**96.20**	**36**	P	**P**	**09 33 56.3**	**-1.3**
	comp=Z,95nm,1.4s						
VOIR		**96.48**	**42**	P	**P**	**09 33 58.4**	**-0.7**
VOIR		**96.48**	**42**	P	**P**	**09 33 58.4**	**-0.7**
	comp=Z,4.9nm,1.5s						
LUBAR	**Lubar, Ukraine**	**96.63**	**37**	P	**P**	**09 33 57.9**	**-1.7**
TROLL	**Troll, Antarti**	**96.82**	**162**⇑	P	**P**	**09 33 59.5**	**-0.6**
	comp=Z,424nm,0.8s						
MLR	**Muntele Rosu**	**97.05**	**42**	P	**P**	**09 34 00.7**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=252,slow=12,SNR=6.7						
	comp=Z,2.2nm,0.6s						
MLR	**Muntele Rosu**	**97.05**	**42**	P	**P**	**09 34 01.8**	**0.0**
SEY	**Seymchan**	**97.07**	**338**⇑	*e*P	**P**	**09 34 01.1**	**-0.2**
SEY				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TIXI	**Tiksi**	**97.13**	**350**⇓	*e*P	**P**	**09 34 00.5**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KIEV	**Kiev**	**97.20**	**36**	P	**P**	**09 34 00.4**	**-1.7**
KIEV	**Kiev**	**97.20**	**36**	P	**P**	**09 34 00.4**	**-1.7**
AKASG	**Malin Array Be**	**97.20**	**36**	P	**P**	**09 33 59.8**	**-2.3**
	comp=Z,0.3nm,0.4s,baz=290,slow=3.4,SNR=4.7						
AKASG				LR	LR	10 15 47.7	
	comp=Z,970nm,19.7s,baz=294,slow=34						
	comp=Z,0.3nm,0.4s						
AKBB	**Malin Array Si**	**97.20**	**36**⇑	*e*P	Pdif	09 34 03.7	+1.5
KLMR	**Klimovskoe**	**97.59**	**25**	*e*P	**P**	**09 34 01.6**	**-2.1**
KLMR				*e*		09 38 03.4	
KLMR				pmax	pmax		
	comp=Z,43nm,1.7s						
QSPA	**South Pole Qui**	**98.61**	**180**		Pdif	09 34 08.3	+0.1
QSPA	**South Pole Qui**	**98.61**	**180**	P	**P**	**09 34 07.8**	**-0.4**
	comp=Z,5.4nm,1.0s,baz=154,slow=1.3,SNR=16						
QSPA				LR	LR	10 11 54.9	
	comp=Z,240nm,19.0s,baz=142,slow=31						
	comp=Z,5.4nm,1.0s						
ELIB	**Princess Elisa**	**103.26**	**162**	*d*PP	**PKiKP**	**09 38 44.3**	**-3.6**
TARA	**Tarawa**	**103.47**	**273**	IAms_20	IAms_20	10 15 42.5	
	comp=Z,414nm,20.0s						
ANTO	**Ankara**	**103.83**	**45**	IAms_20	IAms_20	10 20 47.3	
	comp=Z,351nm,18.0s						
ANN	**Anapa**	**104.75**	**39**	*e*P	**Pdif**	**09 34 25.7**	**-10**
GNI	**Garni**	**111.77**	**41**	IAms_20	IAms_20	10 23 12.8	
	comp=Z,374nm,21.0s						
DZM	**Mont Dzumac**	**111.97**	**250**	*e*LR	LR	10 12 25.6	
	comp=Z,251nm,23.8s						
ERM	**Erimo**	**114.14**	**324**⇑	*i*PKIKP	PKPdf	09 39 12.0	+2.9
HEH	**HeiHe**	**115.59**	**339**	PKP	**PKiKP**	**09 39 06.9**	**-4.7**
HEH				LR	LR		
	comp=Z,460nm,16.9s						
HEH				LR	LR		
	comp=Z,320nm,15.6s						
HEH				LR	LR		
	comp=Z,690nm,16.4s						
ZALV	**Zalesovo Beam**	**116.86**	**8**	PKP	**PKPdf**	**09 39 12.3**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=11,slow=1.5,SNR=3.8						
LODK	**Lodwar**	**117.62**	**82**	IAms_20	IAms_20	10 26 19.5	
	comp=Z,379nm,22.0s						
KURK	**Kurchatov**	**118.85**	**13**	PKIKP	**PKPdf**	**09 39 17.2**	**-0.7**
KURBB	**Kurchatov Arra**	**118.92**	**13**	PKP	**PKPdf**	**09 39 17.2**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=332,slow=2.0,SNR=2.2						
FURI	**Furi**	**119.58**	**75**	IAms_20	IAms_20	10 28 04.8	
	comp=Z,340nm,21.0s						
KMBO	**Kilima Mbogo**	**120.30**	**86**	IAms_20	IAms_20	10 27 10.8	
	comp=Z,480nm,21.0s						
MJAR	**Matsushiro Arr**	**120.58**	**322**	PKP	**PKPdf**	**09 39 20.3**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=29,slow=0.8,SNR=3.2						
KIBK	**Kibwezi**	**121.27**	**88**	IAms_20	IAms_20	10 27 02.6	
	comp=Z,406nm,22.0s						
ULN	**Ulaanbaatar**	**123.03**	**352**	IAms_20	IAms_20	10 39 25.2	
	comp=Z,436nm,19.0s						
ULN	**Ulaanbaatar**	**123.03**	**352**⇑	*i*PKIKP	**PKiKP**	**09 39 26.7**	**+0.2**
SONM	**Songino Array**	**123.15**	**352**	PKP	**PKPdf**	**09 39 25.4**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=21,slow=0.9,SNR=8.1						
MKAR	**Makanchi Array**	**123.35**	**12**	PKP	**PKPdf**	**09 39 25.9**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=358,slow=3.8,SNR=2.9						
MKAR	**Makanchi Array**	**123.35**	**12**	PKIKP	**PKPdf**	**09 39 26.0**	**-0.7**
XLT	**XiLinHaoTe**	**124.87**	**343**	*e*PKP	**PKPdf**	**09 39 28.3**	**-1.5**
KSRS	**Korea Array**	**125.68**	**330**	PKP	**PKPdf**	**09 39 30.9**	**-0.5**
	comp=Z,11nm,0.9s,baz=30,slow=1.3,SNR=23						
KSAR	**Wonju Array Be**	**125.71**	**330**	PKPdf	**PKPdf**	**09 39 30.7**	**-0.7**
KSAR	**Wonju Array Be**	**125.71**	**330**	PKIKP	**PKPdf**	**09 39 30.7**	**-0.7**
WMQ	**Urumqi**	**127.17**	**8**	*e*PKP	**PKiKP**	**09 39 39.2**	**+4.5**
WMQ				LR	LR		
	comp=Z,930nm,19.7s						
WMQ				LR	LR		
	comp=Z,500nm,18.1s						
WMQ				LR	LR		
	comp=Z,920nm,22.7s						
DL2	**Dalian**	**127.37**	**336**	PKP	**PKPdf**	**09 39 26.9**	**-7.7**
DL2				LR	LR		
	comp=N,560nm,14.4s						
DL2				LR	LR		
	comp=E,490nm,13.1s						
DL2				LR	LR		
	comp=Z,750nm,16.9s						
KSH	**Kashi**	**128.38**	**21**	PKP	**PKiKP**	**09 39 38.1**	**+0.8**
KSH				LR	LR		
	comp=Z,690nm,21.3s						
KSH				LR	LR		
	comp=Z,560nm,19.2s						
KSH				LR	LR		
	comp=Z,440nm,19.6s						
HHC	**Hu-ho-hao-te**	**128.93**	**346**	*e*PKP	**PKPdf**	**09 39 35.5**	**-2.2**
HHC				LR	LR		
	comp=Z,670nm,19.5s						
HHC				LR	LR		
	comp=Z,210nm,16.2s						
HHC				LR	LR		
	comp=Z,1μm,18.3s						
BTO	**Baotou**	**129.52**	**347**	*e*PKP	**PKPdf**	**09 39 34.9**	**-3.9**
BTO				PP	**PP**	**09 41 53.1**	**+5.7**
BTO				LR	LR		
	comp=Z,450nm,9.7s						
BTO				LR	LR		
	comp=Z,670nm,15.0s						
BTO				LR	LR		
	comp=Z,730nm,24.1s						
HNS	**HongShan**	**131.24**	**341**⇑	PKP	**PKPdf**	**09 39 41.2**	**-0.8**
HNS				LR	LR		
	comp=Z,720nm,23.5s						
HNS				LR	LR		
	comp=Z,690nm,18.0s						
GTA	**Gaotai**	**132.14**	**357**	*e*PKP	**PKiKP**	**09 39 44.8**	**-0.1**
GTA				sPKP		09 39 55.3	
GTA				LR	LR		
	comp=Z,460nm,21.8s						
GTA				LR	LR		
	comp=Z,330nm,18.5s						
GTA				LR	LR		
	comp=Z,740nm,20.0s						
STKA	**Stephens Creek**	**132.44**	**234**		**PKPdf**	**09 39 44.2**	**-0.2**
STKA	**Stephens Creek**	**132.44**	**234**	PKP	**PKPdf**	**09 39 44.9**	**+0.5**
	comp=Z,4.2nm,1.0s,baz=144,slow=3.7,SNR=5.3						
NJ2	**Nanjing**	**134.39**	**333**	*e*PKP	**PKiKP**	**09 39 49.2**	**-0.2**
LZH	**Lanzhou**	**135.04**	**352**	*e*PKP	**PKPdf**	**09 39 46.6**	**-2.8**
LZH				sPKP		09 39 58.9	
LZH				LR	LR		
	comp=Z,440nm,14.8s						
LZH				LR	LR		
	comp=Z,330nm,15.1s						
LZH				LR	LR		
	comp=Z,470nm,14.4s						
GOMU	**GeErMu**	**135.39**	**2**	PKP	**PKPdf**	**09 39 50.7**	**+0.4**
XAN	**Xi'an**	**136.04**	**345**	PKP	**PKPdf**	**09 39 50.5**	**-0.7**
XAN				LR	LR		
	comp=Z,980nm,19.3s						
XAN				LR	LR		
	comp=Z,480nm,18.8s						
XAN				LR	LR		
	comp=Z,950nm,20.1s						
SSLB	**Suanglung**	**140.05**	**324**		**PKPdf**	**09 39 57.9**	**-0.9**
ASAR	**Alice Springs**	**141.46**	**243**	PKhKP	PKPpre	09 39 55.7	
	comp=Z,4.5nm,0.8s,baz=119,slow=3.1,SNR=33						
WRA	**Warramunga Arr**	**141.98**	**249**	PKhKP	PKPpre	09 39 56.2	
	comp=Z,15nm,1.1s,baz=105,slow=3.1,SNR=45						
GULI	**GuiLin**	**143.79**	**339**	PKP	PKPbc	09 40 04.0	+1.1
PZH	**PanZhiHua**	**144.76**	**352**	PKP	**PKPab**	**09 40 04.8**	**-1.2**
PZH				PP	**PP**	**09 43 28.9**	**+6.4**
PZH				AMB	AMB		
	comp=Z,230nm,11.9s						
PZH				LR	LR		
	comp=Z,310nm,23.5s						
PZH				LR	LR		
	comp=Z,200nm,21.1s						
PZH				LR	LR		
	comp=Z,430nm,25.5s						
SHL	**Shillong**	**145.69**	**8**	PKPdf	**PKPdf**	**09 40 06.7**	**-2.2**
SHL	**Shillong**	**145.69**	**8**	PKIKP	**PKPdf**	**09 40 06.7**	**-2.2**
KMI	**Kunming**	**145.97**	**350**⇑	PKPbc	**PKPdf**	**09 40 07.8**	**-1.7**
KMI				LR	LR		
	comp=Z,360nm,17.4s						
KMI				LR	LR		
	comp=Z,170nm,15.4s						
KMI				LR	LR		
	comp=Z,460nm,19.2s						
MTN	**Man

PVF				MSG		09 26 36.2	
	comp=Z,40nm,0.2s						
PVF				SG	Sg	09 26 39.7	+2.0
SUF	**Sumiainen**	**2.32**	**315**	PG	**Pg**	**09 26 17.9**	**-0.3**
	baz=128						
SUF				MSG		09 26 46.3	
	comp=Z,2.4nm,0.2s						
SUF				SG	Sg	09 26 49.6	+1.3
NIF	**Nilsia**	**2.43**	**339**	PG	**Pb**	**09 26 18.8**	**+0.5**
	baz=155						
NIF				SG	Sb	09 26 50.7	+2.0
KEF	**Keuruu**	**2.54**	**296**	*eP*	**Pb**	**09 26 20.2**	**0.0**
KEF	**Keuruu**	**2.54**	**296**	PB	**Pb**	**09 26 20.3**	**+0.1**
KEF				MSG		09 26 52.5	
	comp=Z,3.6nm,0.2s						
KEF				SB	Sb	09 26 53.1	+1.1
NUR	**Nurmijarvi**	**2.58**	**258**	PG	**Pb**	**09 26 22.0**	**+1.3**
NUR				MSG		09 26 53.0	
	comp=Z,4.3nm,0.2s						
HEL1	**Helsinki**	**2.58**	**250**	SG	**Sg**	**09 26 56.9**	**+0.3**
MEF	**Metsahovi**	**2.79**	**253**	*eP*	**Pb**	**09 26 24.6**	**+0.2**
MEF	**Metsahovi**	**2.79**	**253**	PB	**Pb**	**09 26 24.6**	**+0.2**
MEF				SN	Sb	09 26 57.2	-1.8
MEF				MSG		09 26 59.0	
	comp=Z,7.2nm,0.2s						
RMF	**Romuvaara**	**3.09**	**2**	PB	**Pb**	**09 26 29.0**	**-0.5**
RMF				MSG		09 27 07.3	
	comp=Z,2.2nm,0.2s						
KPF	**Kankaanpaa**	**3.75**	**284**	PB	**Pb**	**09 26 38.5**	**-2.2**
VAF	**Ylistaro**	**3.83**	**303**	*eP*	**Pb**	**09 26 38.5**	**-3.6**
VAF	**Ylistaro**	**3.83**	**303**	PG	**Pg**	**09 26 46.2**	**-0.9**
VAF				SG	Sg	09 27 36.6	-0.1
MTSE	**Matsula**	**3.85**	**233**	*eP*	**Pb**	**09 26 41.2**	**-1.3**
MTSE	**Matsula**	**3.85**	**233**	SG	**Sg**	**09 27 36.8**	**-0.5**
RAF	**Rauma**	**3.88**	**272**	*eP*	**Pn**	**09 26 38.5**	**+4.0**
RAF	**Rauma**	**3.88**	**272**	PN	**Pn**	**09 26 38.5**	**+4.0**
RAF				SG	Sg	09 27 37.3	-0.9
OUF	**Merijarvi**	**3.97**	**327**	PG	**Pg**	**09 26 48.9**	**-0.9**
I43RU	**DUBNA INFRASON**	**5.88**	**136**	I	I	10 00 20.0	
	baz=328,slow=309,SNR=2.4						
HFS	**Hagfors**	**7.95**	**270**	Pn	**Pn**	**09 27 32.4**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=82,slow=12,SNR=1.8						
HFS				Sn	Sn	09 28 58.7	-2.4
	comp=Z,0.3nm,0.3s,baz=82,slow=29,SNR=2.3						
HFS				Lg	Lg	09 29 41.1	
	comp=Z,0.3nm,0.3s,baz=80,slow=26,SNR=2.0						
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**8.61**	**350**	Pn	**Pn**	**09 27 42.2**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=162,slow=12,SNR=5.2						
ARCES				Sn	Sn	09 29 12.9	-4.2
	comp=Z,0.1nm,0.3s,baz=169,slow=24,SNR=1.7						
ARCES				Lg	Lg	09 29 56.0	
	comp=Z,0.1nm,0.3s,baz=170,slow=31,SNR=1.7						
	comp=Z,2.5nm,0.9s						

UPA ***09*** *09:30:22.4±1.7, 8°.66N×83°.17W, h0km±5km, MW4.0*
UCR ***09*** *09:30:22.6±0.9, 8°.59N×83°.25W, h28km±2km, MW4.0,*
Fault plane solution: NP1:φs:253.61000°, δ60.22000°, λ54.82000°.
CATAC ***09*** *09:30:23.4±0.3, 8°.66N×83°.23W, h5km±3km, ML3.6*
ISC 09 09:30:23.0±0.9, 8°.60N±0°.03×83°.24W±0°.02, h30km±6km, n51, σ0§83/79, 1C-26D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIME	**Puerto Jimenez**	**0.11**	**233**	⇑*eP*	**Pb**	**09 30 27.6**	**-0.8**
JIME				*eS*	**Sb**	**09 30 32.1**	**+0.2**
PIRO	**Carate, Puerto**	**0.22**	**206**	⇓*iP*	**Pb**	**09 30 28.6**	**-0.8**
PIRO				*i S*	**Sb**	**09 30 34.0**	**+0.2**
PIRO				IAML		09 30 35.6	
	comp=Z,22μm,1.0s						
PIRO	**Carate, Puerto**	**0.22**	**206**	⇓*eP*	**Pb**	**09 30 28.7**	**-0.7**
PIRO				*eS*	**Sb**	**09 30 34.7**	**+0.9**
PIRO	**Carate, Puerto**	**0.22**	**206**	⇓*eP*	**Pb**	**09 30 28.6**	**-0.8**
NELY	**Ciudad Neily**	**0.29**	**81**	⇓*eP*	**Pb**	**09 30 29.8**	**-0.5**
NELY				*eS*	**Sb**	**09 30 35.6**	**+0.4**
VITO	**San Vito**	**0.34**	**51**	⇓*eP*	**Pb**	**09 30 30.8**	**-0.3**
VITO				*eS*	**Sn**	**09 30 37.6**	**-0.3**
CDITO	**Canoas**	**0.36**	**95**	⇓*iP*	**Pb**	**09 30 30.4**	**-0.9**
CDITO				*i S*	**Sb**	**09 30 36.9**	**0.0**
CDITO				IAML		09 30 45.2	
	comp=Z,3μm,1.0s						
LPPC	**Paso Canoas**	**0.40**	**100**	⇓*eP*	**Pb**	**09 30 31.1**	**-0.7**
EDP2	**Potrero Grande**	**0.41**	**8**	⇓*eP*	**Pb**	**09 30 31.6**	**-0.4**
MLIR3	**Monte Lirio, C**	**0.45**	**65**	⇓*eP*	**Pb**	**09 30 32.5**	**-0.2**
MLIR3				*eS*	**Sb**	**09 30 38.6**	**-0.7**
PTPM	**Petroterminale**	**0.53**	**138**	*eP*	**Pn**	**09 30 33.9**	**-0.7**
PTPM				*eS*	**Sn**	**09 30 44.1**	**+1.5**
BRU2	**Volcan**	**0.57**	**71**	⇓*iP*	**Pb**	**09 30 34.0**	**-0.7**
BRU2				*i* S	**Sb**	**09 30 42.9**	**+0.3**
BRU2				IAML		09 30 47.1	
	comp=Z,2μm,1.0s						
BRU2	**Volcan**	**0.57**	**71**	⇓*iP*	**Pb**	**09 30 34.1**	**-0.6**
BRU2				*i* S	**Sb**	**09 30 43.2**	**+0.5**
BRU2	**Volcan**	**0.57**	**71**	⇓*eP*	**Pb**	**09 30 34.0**	**-0.6**
BRU2				*eS*	**Sb**	**09 30 43.0**	**+0.3**
BURE	**Buenos Aires**	**0.57**	**350**	⇓*eP*	**Pb**	**09 30 34.1**	**-0.6**
BURE				*eS*	**Sb**	**09 30 42.7**	**+0.1**
OCHAL	**Ojochal**	**0.64**	**321**	*i P*	**Pb**	**09 30 34.4**	**-1.2**
OCHAL				*i S*	**Sb**	**09 30 43.9**	**-0.4**
OCHAL				IAML		09 30 45.2	
	comp=Z,1μm,1.0s						
DRK0	**Durika**	**0.65**	**359**	⇓*iP*	**Pb**	**09 30 34.9**	**-1.1**
DRK0				IAML		09 30 35.3	
	comp=Z,18μm,1.0s						
DRK0				*i* S	**Sb**	**09 30 44.6**	**-0.4**
DRK0	**Durika**	**0.65**	**359**	⇓*eP*	**Pb**	**09 30 35.1**	**-1.0**
DRK0				*eS*	**Sb**	**09 30 45.3**	**+0.3**
DRK0	**Durika**	**0.65**	**359**	⇓*eP*	**Pb**	**09 30 35.0**	**-1.1**
BCO2	**Palmira**	**0.71**	**81**	⇓*iP*	**Pb**	**09 30 36.3**	**-0.7**
BCO2				*eS*	**Sn**	**09 30 47.8**	**+0.6**
PTAR3	**Potrerillos Ar**	**0.74**	**83**	⇓*eP*	**Pb**	**09 30 36.8**	**-0.6**
PTAR3				*eS*	**Sn**	**09 30 47.9**	**+0.1**
DVD	**David**	**0.80**	**102**	*eP*	**Pb**	**09 30 37.6**	**-0.7**
DVD				*eS*	**Sn**	**09 30 49.7**	**+0.7**
LNBQ3	**Los Naranjos,**	**0.81**	**77**	⇓*eP*	**Pn**	**09 30 37.3**	**-1.2**
LNBQ3				*eS*	**Sb**	**09 30 48.7**	**-0.6**
LOCO3	**Loma Colorada,**	**0.83**	**103**	*eP*	**Pn**	**09 30 38.2**	**-0.5**
LOCO3				*eS*	**Sn**	**09 30 52.0**	**+2.1**
PEDE3	**Pedregal, Chir**	**0.83**	**105**	*eP*	**Pn**	**09 30 38.3**	**-0.5**
PEDE3				*eS*	**Sn**	**09 30 50.3**	**+0.3**
LOMA3	**Las Lomas, Chi**	**0.85**	**102**	*eP*	**Pn**	**09 30 38.9**	**-0.1**
LOMA3				*eS*	**Sn**	**09 30 51.0**	**+0.5**
ZELE	**Perez Zeledon**	**0.89**	**329**	*eP*	**Pn**	**09 30 38.9**	**-0.7**
BUS1	**Rivas**	**1.07**	**332**	⇓*eP*	**Pn**	**09 30 41.5**	**-0.9**
BRIBI	**Bribri**	**1.08**	**21**	⇓*eP*	**Pb**	**09 30 43.0**	**-0.1**
CNI2	**El Empalme, Bo**	**1.11**	**43**	⇓*eP*	**Pn**	**09 30 42.1**	**-0.4**
CNI2				*eS*	**Sb**	**09 30 57.7**	**-0.1**
CHGR2	**Aguacate**	**1.13**	**73**	*eP*	**Pn**	**09 30 42.9**	**+0.1**
CHGR2				*eS*	**Sb**	**09 30 59.0**	**+0.7**
RGM0	**Gandoca**	**1.16**	**32**	*i P*	**Pb**	**09 30 44.5**	**+0.1**
RGM0				*i S*	**Sb**	**09 30 59.2**	**+0.1**
RGM0				IAML		09 31 11.5	
	comp=Z,1μm,1.0s						
RGM0	**Gandoca**	**1.16**	**32**	*eP*	**Pb**	**09 30 44.5**	**+0.1**
RGM0	**Gandoca**	**1.16**	**32**	⇓*eP*	**Pb**	**09 30 44.5**	**+0.1**
LLNJ	**Naranjito**	**1.21**	**315**	*eP*	**Pn**	**09 30 43.7**	**-0.3**
LCR2	**La Lucha 2**	**1.36**	**326**	*i P*	**Pn**	**09 30 45.9**	**-0.3**
LCR2				*i S*	**Sb**	**09 31 05.2**	**+0.1**
LCR2				IAML		09 31 06.9	
	comp=Z,300nm,1.0s						
LCR2	**La Lucha 2**	**1.36**	**326**	*eP*	**Pn**	**09 30 45.7**	**-0.5**
REPA	**Paraso**	**1.37**	**333**	*eP*	**Pn**	**09 30 45.8**	**-0.4**
PCAYA	**Pacayas**	**1.42**	**337**	*eP*	**Pn**	**09 30 46.9**	**-0.1**
RAFA	**San Farael, Vo**	**1.46**	**337**	*i P*	**Pb**	**09 30 50.2**	**+0.5**
RAFA				IAML		09 31 15.5	
	comp=Z,3μm,1.0s						
TAAN	**Batan**	**1.48**	**356**	⇓*eP*	**Pn**	**09 30 48.3**	**+0.8**
LCOCO	**El Coco**	**1.50**	**348**	*eP*	**Pn**	**09 30 48.5**	**+0.5**
RVLA	**Villa Bonita**	**1.54**	**347**	⇓*eP*	**Pn**	**09 30 49.0**	**+0.6**
HDC	**Heredia**	**1.64**	**328**	*i P*	**Pb**	**09 30 51.7**	**-0.9**
HDC				*i S*	**Sb**	**09 31 13.8**	**+0.9**
HDC				IAML		09 31 18.1	
	comp=Z,460nm,1.0s						
MESA3	**La Mesa, Verag**	**2.08**	**102**	*eP*	**Pb**	**09 30 58.4**	**-1.7**
GMAL	**Guarumal, Vera**	**2.15**	**113**	⇓*eP*	**Pn**	**09 30 57.8**	**+1.0**
SOCE	**Pocosol**	**2.23**	**322**	*i P*	**Pb**	**09 31 01.7**	**-1.0**
SOCE				IAML		09 31 35.4	
	comp=Z,440nm,1.0s						
JTS	**Las Juntas de**	**2.38**	**315**	*eP*	**Pn**	**09 31 02.2**	**+2.2**
JTS				*eS*	**Sb**	**09 31 33.3**	**-0.9**
JTS	**Las Juntas de**	**2.38**	**315**	*eP*	**Pn**	**09 31 00.6**	**+0.5**
CALO3	**Calobre, Verag**	**2.39**	**97**	*eP*	**Pb**	**09 31 02.9**	**-2.5**
CACAO	**El Cacao, Vera**	**2.67**	**118**	*eP*	**Pn**	**09 31 05.8**	**+1.9**

THE ***09*** *09:36:49.7, 37°.34N×20°.67E, h10km±3km, ML3.5/8, Error ellipse: s-maj=3.2km s-min=0.9km az=256.0*
IDC ***09*** *09:36:49.7±2.9, 37°.70N×21°.09E, h0km, mb3.5/4, mbtmp3.5/6, ML4.0/2, MS3.1/1, Error ellipse: s-maj=51.9km s-min=32.7km az=173.0*
ATH ***09*** *09:36:50.3, 37°.38N×20°.75E, h17km±1km, ML3.4/10, Error ellipse: s-maj=2.8km s-min=1.0km az=55.0*
ISC 09 09:36:49.5±1.3, 37°.39N±0°.04×20.75E±0°.05, h13km±8km, n37, σ1§16/50, mb3.5/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.28**	**12**	P	**Pg**	**09 36 56.1**	**+0.6**
KRI1				S	**Sb**	**09 37 01.4**	**+0.3**
	10μm,0.4s						
LTHK	**Lithakia**	**0.33**	**13**	P	**Pg**	**09 36 57.0**	**+0.6**
LTHK				S	**Sb**	**09 37 02.6**	**+0.1**
	10μm,0.4s						
LTHK	**Lithakia**	**0.33**	**13**	P	**Pg**	**09 36 56.8**	**+0.5**
LTHK				S	**Sb**	**09 37 02.6**	**+0.1**
LTHK				AML	AML	09 37 03.5	
	comp=E,12614μm,0.2s						
LTHK				AML	AML	09 37 04.8	
	comp=N,25132μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.69**	**2**	P	**Pb**	**09 37 03.8**	**+0.4**
RTZL				S	**Sb**	**09 37 14.8**	**+2.0**
	comp=N,3μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.74**	**350**	P	**Pb**	**09 37 04.5**	**+0.3**
PSDA				S	**Sn**	**09 37 16.3**	**-0.4**
	comp=N,3μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.74**	**350**	P	**Pg**	**09 37 04.3**	**+0.4**
AMT	**Artemida-Makis**	**0.78**	**79**	P	**Pb**	**09 37 05.1**	**+0.1**
AMT				AML	AML	09 37 22.1	
	comp=N,17919μm,0.2s						
AMT				AML	AML	09 37 26.3	
	comp=E,17514μm,0.3s						
VLS	**Valsamata**	**0.80**	**351**	P	**Pg**	**09 37 04.9**	**-0.2**
VLS				S	**Sg**	**09 37 16.1**	**+0.5**
VLS				AML	AML	09 37 21.8	
	comp=E,3748μm,0.4s						
VLS				AML	AML	09 37 23.6	
	comp=N,4331μm,0.4s						
SMHA	**Samh**	**0.87**	**355**	P	**Pg**	**09 37 06.2**	**-0.2**
SMHA				S	**Sb**	**09 37 18.7**	**+0.7**
RLS	**Riolos of Patr**	**0.88**	**40**	P	**Pg**	**09 37 06.9**	**+0.3**
RLS				S	**Sn**	**09 37 21.0**	**+0.7**
	comp=N,1μm,0.6s						
RLS	**Riolos of Patr**	**0.88**	**40**	P	**Pg**	**09 37 06.7**	**+0.1**
RLS				S	**Sg**	**09 37 17.5**	**-0.7**
RLS				AML	AML	09 37 24.8	
	comp=N,2536μm,0.3s						
RLS				AML	AML	09 37 25.5	
	comp=E,2934μm,0.5s						
DMLN	**Damoulianata-K**	**0.90**	**341**	P	**Pb**	**09 37 07.4**	**+0.4**
PYL	**PYLOS**	**0.93**	**121**	P	**Pg**	**09 37 07.5**	**-0.1**
PYL				S	**Sn**	**09 37 22.9**	**+1.4**
	comp=E,4μm,0.5s						
PYL	**PYLOS**	**0.93**	**121**	P	**Pg**	**09 37 07.3**	**-0.3**
PYL				S	**Sg**	**09 37 19.9**	**+0.1**
PYL				AML	AML	09 37 23.2	
	comp=N,6767μm,0.4s						
PYL				AML	AML	09 37 23.8	
	comp=E,8389μm,0.6s						
DRO	**Drossia**	**0.95**	**53**	P	**Pg**	**09 37 07.9**	**-0.1**
DRO				S	**Sn**	**09 37 24.3**	**+2.3**
	comp=E,4μm,0.4s						
DRO	**Drossia**	**0.95**	**53**	P	**Pb**	**09 37 08.2**	**+0.3**
DRO				AML	AML	09 37 31.3	
	comp=E,6130μm,0.6s						
DRO				AML	AML	09 37 32.1	
	comp=N,8302μm,0.5s						
ITM	**Ithomi**	**0.96**	**102**	P	**Pg**	**09 37 08.1**	**-0.1**
ITM				S	**Sn**	**09 37 24.0**	**+1.7**
	comp=N,2μm,0.4s						
ITM	**Ithomi**	**0.96**	**102**	P	**Pg**	**09 37 08.1**	**-0.1**
ITM				S	**Sg**	**09 37 20.3**	**-0.5**
ITM				AML	AML	09 37 28.6	
	comp=E,4275μm,0.4s						
ITM				AML	AML	09 37 29.5	
	comp=N,3832μm,0.5s						
KLV	**Kalavryta, Ach**	**1.29**	**59**	P	**Pn**	**09 37 12.5**	**-0.8**
KLV				AML	AML	09 37 38.0	
	comp=E,902μm,0.6s						
KLV				AML	AML	09 37 42.0	
	comp=N,609μm,0.6s						
GUR	**Goura**	**1.38**	**66**	P	**Pn**	**09 37 13.4**	**-1.2**
GUR				AML	AML	09 37 41.8	
	comp=N,2898μm,0.4s						
GUR				AML	AML	09 37 49.4	
	comp=E,2293μm,0.5s						
EFP	**Efpalio**	**1.39**	**41**	P	**Pn**	**09 37 12.9**	**-1.7**
KALE	**Kalithea**	**1.49**	**47**	P	**Pn**	**09 37 16.5**	**+0.4**
KALE				AML	AML	09 37 47.3	
	comp=N,3590μm,0.6s						
KALE				AML	AML	09 37 48.7	
	comp=E,2208μm,0.3s						
ANX	**Ano Chora**	**1.52**	**37**	P	**Pn**	**09 37 15.7**	**-0.8**
LOUT	**Loutraki**	**1.87**	**71**	P	**Pb**	**09 37 22.8**	**-0.7**
AXAR	**Agios Charalam**	**2.04**	**47**	P	**Pn**	**09 37 24.3**	**+0.7**
VIL2	**Platees**	**2.16**	**67**	P	**Pn**	**09 37 26.8**	**+1.5**
TYRN	**Tyrnavos**	**2.60**	**26**	P	**Pn**	**09 37 33.3**	**+2.1**
DION	**Dionisos Attik**	**2.62**	**74**	P	**Pn**	**09 37 32.7**	**+1.2**
OHR	**Ohrid**	**3.72**	**1**	*i* Pn	**Pb**	**09 37 51.8**	**-3.3**
IDI	**Anoyia**	**3.95**	**121**	Sn	**Sn**	**09 38 35.4**	**-0.6**
	comp=E,2.1nm,0.3s,baz=33,slow=18,SNR=2.2						
MLR	**Muntele Rosu**	**8.99**	**24**	Pn	**Pn**	**09 38 55.8**	**-3.3**
	comp=E,0.3nm,0.3s,baz=327,slow=20,SNR=1.3						
	comp=E,1.1nm,0.4s						
ESDC	**Sonseca Array**	**19.45**	**284**	P	**Pn**	**09 41 19.2**	**+2.1**
	comp=E,0.1nm,0.3s,baz=97,slow=10,SNR=2.4						
	comp=E,0.8nm,0.8s						
HFS	**Hagfors**	**23.21**	**351**	P	**P**	**09 41 55.5**	**-0.4**
	comp=E,1.6nm,0.7s,baz=158,slow=16,SNR=3.1						
	comp=E,1.6nm,0.7s						
FINES	**FINESS Array B**	**24.31**	**6**	P	**P**	**09 42 06.8**	**+0.3**
	comp=E,1.1nm,0.8s,baz=177,slow=12,SNR=1.9						
	comp=E,1.1nm,0.8s						
NOA	**NORSAR Array B**	**24.43**	**349**	LR	LR	09 52 59.2	
	comp=E,49nm,21.0s,baz=280,slow=40						
KURBB	**Kurchatov Arra**	**42.56**	**53**	P	**P**	**09 44 43.4**	**-1.3**
	comp=E,0.3nm,0.3s,baz=286,slow=8.2,SNR=2.0						
	comp=E,0.3nm,0.3s						
MKAR	**Makanchi Array**	**45.57**	**58**	P	**P**	**09 45 08.2**	**-0.8**
	comp=E,0.2nm,0.3s,baz=266,slow=9.8,SNR=1.8						
	comp=E,0.2nm,0.3s						

THE ***09*** *09:38:57.0, 37°.46N×20°.47E, h1km±2km, ML3.6/8, Error ellipse: s-maj=2.8km s-min=0.8km az=218.0*
ATH ***09*** *09:38:57.3, 37°.47N×20°.46E, h9km±1km, ML3.5/15, Error ellipse: s-maj=2.2km s-min=1.0km az=40.0*
IDC ***09*** *09:38:59.6±3.9, 38°.05N×21°.27E, h0km, mb3.7/5, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=73.5km s-min=24.7km az=61.0*
ISC 09 09:38:56.4±1.5, 37°.51N±0°.04×20°.47E±0°.05, h12km±10km, n39, σ1§01/62, mb3.7/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.32**	**61**	P	**Pb**	**09 39 03.6**	**-0.5**
KRI1				S	**Sb**	**09 39 08.3**	**-0.9**
	54μm,0.3s						
LTHK	**Lithakia**	**0.35**	**55**	P	**Pb**	**09 39 04.2**	**-0.5**
LTHK				S	**Sb**	**09 39 09.7**	**-0.5**
	60μm,0.3s						
LTHK	**Lithakia**	**0.35**	**55**	P	**Pb**	**09 39 04.4**	**-0.3**
LTHK				S	**Sb**	**09 39 09.7**	**-0.5**
LTHK				AML	AML	09 39 10.1	
LTHK				AML	AML	09 39 10.3	
	comp=N,76207μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.61**	**9**	P	**Pb**	**09 39 09.6**	**+0.5**
PSDA				S	**Sb**	**09 39 19.1**	**+1.5**
RTZL	**Ratzakli, Kefa**	**0.61**	**23**	P	**Pb**	**09 39 09.4**	**+0.2**
RTZL				S	**Sb**	**09 39 18.8**	**+1.0**
	comp=N,5μm,0.4s						
VLS	**Valsamata**	**0.67**	**8**	P	**Pb**	**09 39 10.3**	**+0.1**
VLS				S	**Sb**	**09 39 20.4**	**+0.8**
	comp=N,3μm,0.4s						
VLS	**Valsamata**	**0.67**	**8**	P	**Pb**	**09 39 10.3**	**+0.1**
VLS				S	**Sb**	**09 39 20.3**	**+0.8**
VLS				AML	AML	09 39 23.8	
	comp=E,4553μm,0.3s						
VLS				AML	AML	09 39 25.1	
	comp=N,7428μm,0.6s						
LXRA	**Lixouri, Kepha**	**0.69**	**358**	P	**Pb**	**09 39 11.5**	**+1.1**
LXRA				S	**Sn**	**09 39 21.4**	**-1.3**
DMLN	**Damoulianata-K**	**0.73**	**354**	P	**Pb**	**09 39 11.3**	**+0.1**
DMLN				S	**Sn**	**09 39 23.8**	**0.0**
	comp=N,8μm,0.6s						
DMLN	**Damoulianata-K**	**0.73**	**354**	P	**Pb**	**09 39 11.2**	**0.0**
DMLN				S	**Sn**	**09 39 23.2**	**-0.6**
FSK	**Fiskardo**	**0.95**	**4**	P	**Pn**	**09 39 16.2**	**+0.6**
FSK				S	**Sn**	**09 39 29.7**	**+0.5**
FSK				AML	AML	09 39 37.9	
	comp=N,4412μm,1.0s						
FSK				AML	AML	09 39 41.0	
	comp=E,4499μm,0.6s						
RLS	**Riolos of Patr**	**0.96**	**55**	P	**Pb**	**09 39 15.3**	**+0.2**
RLS				S	**Sn**	**09 39 30.5**	**+1.1**
	comp=E,2μm,0.4s						
RLS	**Riolos of Patr**	**0.96**	**55**	P	**Pb**	**09 39 15.4**	**+0.4**
RLS				S	**Sn**	**09 39 29.8**	**+0.4**
RLS				AML	AML	09 39 34.1	
	comp=N,4157μm,0.6s						
RLS				AML	AML	09 39 35.4	
	comp=E,3645μm,0.5s						
AMT	**Artemida-Makis**	**0.99**	**88**	P	**Pb**	**09 39 15.9**	**+0.4**
AMT				S	**Sb**	**09 39 29.7**	**+1.2**
AMT				AML	AML	09 39 35.5	
	comp=N,13751μm,0.3s						
AMT				AML	AML	09 39 36.2	
	comp=E,17793μm,0.4s						
DRO	**Drossia**	**1.08**	**65**	P	**Pn**	**09 39 18.1**	**+0.7**
DRO	**Drossia**	**1.08**	**65**	P	**Pb**	**09 39 17.4**	**+0.3**
DRO				S	**Sn**	**09 39 32.4**	**0.0**
DRO				AML	AML	09 39 39.8	
	comp=E,8654μm,0.6s						
DRO				AML	AML	09 39 41.5	
	comp=N,6628μm,0.6s						
EVGI	**Lefkada island**	**1.12**	**8**	P	**Pn**	**09 39 18.1**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.18**	**4**	P	**Pn**	**09 39 19.0**	**+0.2**
PYL	**PYLOS**	**1.19**	**121**	P	**Pg**	**09 39 18.6**	**-0.6**
PYL	**PYLOS**	**1.19**	**121**	P	**Pg**	**09 39 18.6**	**-0.6**
PYL				S	**Sg**	**09 39 34.5**	**-0.2**
PYL				AML	AML	09 39 37.6	
	comp=E,3304μm,0.6s						
PYL				AML	AML	09 39 40.6	
	comp=N,2226μm,0.7s						
ITM	**Ithomi**	**1.21**	**105**	P	**Pg**	**09 39 19.7**	**+0.1**
ITM				S	**Sb**	**09 39 36.5**	**+1.7**
	comp=N,2μm,0.7s						
ITM	**Ithomi**	**1.21**	**105**	P	**Pg**	**09 39 19.8**	**+0.1**
ITM				S	**Sb**	**09 39 35.8**	**+1.0**
ITM				AML	AML	09 39 42.1	
	comp=E,3012μm,0.8s						
ITM				AML	AML	09 39 44.6	
	comp=N,3006μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.22**	**9**	P	**Pn**	**09 39 19.7**	**+0.5**
NYDR				S	**Sn**	**09 39 35.5**	**-0.2**
LKD2	**Lefkada island**	**1.29**	**7**	P	**Pn**	**09 39 21.5**	**+1.2**
LKD2				AML	AML	09 39 46.2	
	comp=E,4069μm,0.6s						
LKD2				AML	AML	09 39 46.8	
	comp=N,3524μm,0.7s						
UPR	**University Cam**	**1.30**	**53**	P	**Pn**	**09 39 21.8**	**+1.4**
TSLK	**Tsoukalades, L**	**1.32**	**6**	P	**Pn**	**09 39 22.0**	**+1.2**
TSLK				S	**Sn**	**09 39 42.2**	**+3.9**
	comp=N,2μm,0.6s						
TSLK	**Tsoukalades, L**	**1.32**	**6**	P	**Pn**	**09 39 22.0**	**+1.2**
TSLK				S	**Sn**	**09 39 39.3**	**+1.0**
TSLK				AML	AML	09 39 47.0	
	comp=N,4132μm,0.5s						
TSLK				AML	AML	09 39 47.6	
	comp=E,3399μm,0.6s						
KLV	**Kalavryta, Ach**	**1.44**	**68**	P	**Pg**	**09 39 24.2**	**+0.1**
KLV				AML	AML	09 39 55.6	
	comp=N,1548μm,0.8s						
KLV				AML	AML	09 39 57.0	
	comp=E,1480μm,0.9s						
EFP	**Efpalio**	**1.46**	**51**	P	**Pg**	**09 39 24.4**	**-0.1**
EFP				S	**Sn**	**09 39 42.9**	**+1.2**
EFP				AML	AML	09 39 50.1	
	comp=E,2433μm,0.9s						
EFP				AML	AML	09 39 58.4	
	comp=N,1633μm,0.6s						
GUR	**Goura**	**1.55**	**73**	P	**Pg**	**09 39 25.6**	**-0.5**
GUR				AML	AML	09 39 55.6	
	comp=E,3326μm,0.4s						
GUR				AML	AML	09 39 59.9	
	comp=N,3065μm,0.6s						
ANX	**Ano Chora**	**1.58**	**46**	P	**Pb**	**09 39 25.4**	**-0.2**
ANX				S	**Sb**	**09 39 45.4**	**-0.1**
ANX				AML	AML	09 39 56.0	
	comp=E,4183μm,0.5s						
ANX				AML	AML	09 39 57.7	
	comp=N,3879μm,0.6s						
EVR	**Evrytania**	**1.76**	**36**	P	**Pb**	**09 39 28.4**	**-0.3**
EVR

MTBS	**Maitube**	**2.70**	**59**	Pg		**Pb**	**10 01 13.7**	**+0.3**
	3.3nm,0.5s							
MTBS				Lg		Lg	10 01 51.6	
	5.3nm,0.4s							
TNSS	**Tian-Shan**	**3.00**	**64**	*e*P		**Pb**	**10 01 19.2**	**+0.6**
	2.3nm,0.4s							
TNSS				*e*S		**Sg**	**10 01 58.7**	**-2.6**
	3.1nm,0.7s							
MDOK	**Medeo**	**3.12**	**62**	Pg		**Pb**	**10 01 20.8**	**+0.3**
	3.7nm,0.4s							
MDOK				Lg		Lg	10 02 04.3	
	5.6nm,0.8s							
MDOK	**Medeo**	**3.12**	**62**	*e*P		**Pb**	**10 01 20.9**	**+0.3**
	3.7nm,0.5s							
MDOK				*e*S		**Sb**	**10 02 01.5**	**+2.8**
	5.0nm,0.8s							

*CATAC **09** 10:11:34.6±0.6, 8°.65N×83°.26W, h17km±6km, ML2.7*
*UPA **09** 10:11:35.7±1.4, 8°.66N×83°.25W, h17km±10km, ML3.1*
ISC 09 10:11:34.9±1.7,**8°.65N**±0°.03×**83°.26W**±0°.03,**h15**km±15km,
n14,σ1§**01/26,3D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	**Carate, Puerto**	**0.26**	**197**	*i* P	**Pb**	**10 11 41.2**	**-0.2**
PIRO				*i* S	**Sb**	**10 11 46.7**	**+1.1**
PIRO				IAML		10 11 48.0	
	comp=Z,2μm,1.0s						
PIRO	**Carate, Puerto**	**0.26**	**197**	*e*P	**Pb**	**10 11 41.3**	**0.0**
PIRO				*e*S	**Sb**	**10 11 47.1**	**+1.5**
CDITO	**Canoas**	**0.39**	**102**	*i* P	**Pb**	**10 11 43.3**	**-0.3**
CDITO				*i* S	**Sb**	**10 11 50.3**	**+0.8**
CDITO				IAML		10 11 53.4	
	comp=Z,510nm,1.0s						
MLIR3	**Monte Lirio, C**	**0.45**	**72**	*e*P	**Pb**	**10 11 45.4**	**+0.7**
MLIR3				*e*S	**Sb**	**10 11 54.1**	**+2.7**
BRU2	**Volcan**	**0.58**	**76**	*i* P	**Pb**	**10 11 46.8**	**-0.1**
BRU2				*i* S	**Sb**	**10 11 55.9**	**+0.8**
BRU2				IAML		10 11 58.5	
	comp=Z,320nm,1.0s						
BRU2	**Volcan**	**0.58**	**76⇓**	*e*P	**Pb**	**10 11 47.0**	**0.0**
BRU2				AMP		10 11 47.1	
	comp=Z,978nm,0.2s						
BRU2				*e*S	**Sn**	**10 11 56.8**	**-1.4**
OCHAL	**Ojochal**	**0.58**	**319**	*i* P	**Pb**	**10 11 46.8**	**-0.1**
OCHAL				*i* S	**Sb**	**10 11 55.8**	**+0.8**
OCHAL				IAML		10 11 57.2	
	comp=Z,340nm,1.0s						
PTPM	**Petroterminale**	**0.58**	**140**	*e*P	**Pb**	**10 11 46.6**	**-0.3**
PTPM				*e*S	**Sb**	**10 11 56.5**	**+1.5**
DRK0	**Durika**	**0.61**	**2**	*i* P	**Pb**	**10 11 47.4**	**0.0**
DRK0				*i* S	**Sb**	**10 11 56.9**	**+1.1**
DRK0				IAML		10 11 57.5	
	comp=Z,2μm,1.0s						
DRK0	**Durika**	**0.61**	**2⇓**	*e*P	**Pb**	**10 11 47.6**	**+0.2**
DRK0				*e*S	**Sb**	**10 11 57.1**	**+1.3**
BCO2	**Palmira**	**0.73**	**85⇓**	*i* P	**Pb**	**10 11 49.1**	**-0.3**
BCO2				AMP		10 11 49.4	
	comp=Z,993nm,0.1s						
BCO2				*e*S	**Sb**	**10 12 00.1**	**+0.8**
PTAR3	**Potrerillos Ar**	**0.76**	**87**	*e*P	**Pg**	**10 11 49.6**	**-0.2**
PTAR3				*e*S	**Sb**	**10 12 00.8**	**+0.7**
CNI2	**El Empalme, Bo**	**1.09**	**45**	*e*P	**Pb**	**10 11 54.9**	**-0.6**
LCR2	**La Lucha 2**	**1.31**	**326**	*i* P	**Pn**	**10 11 58.3**	**-0.6**
LCR2				IAML		10 12 19.3	
	comp=Z,74nm,1.0s						

*IDC **09** 10:12:53.4±0.6, 1°.81N×126°.45E, h0km, mb4.3/18,*
mbtmp4.2/19, ML4.2/1, MS4.2/1, Error ellipse:
s-maj=40.9km s-min=12.5km az=73.0
*NEIC **09** 10:13:01.0±1.4, 1°.84N±0°.08×126°.53E±0°.07, h57km±7km,*
mb4.7/83, Error ellipse: s-maj=13.1km s-min=7.9km
az=215.0
*DJA **09** 10:13:02.7±0.3, 2°.N±4°×12°.7E±°, h64km±8km, M4.5/6,*
mb4.6/6, mB5.5/3, MLv4.5/6, Mw(mB)4.9/3
ISC 09 10:13:00.2±0.4,**1°.84N**±0°.05×**126°.62E**±0°.05,**h47**km,**n168,**
σ1§**53**/169,**mb4.7/72,MS4.6/4,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.30**	**145**	Pn	**Pn**	**10 13 24.6**	**+2.7**
TNTI				Sn	**Sn**	**10 13 40.2**	**+1.9**
TNTI	**Ternate**	**1.30**	**145**	P	**Pn**	**10 13 25.0**	**+3.0**
TNTI	**Ternate**	**1.30**	**145**	P	**Pn**	**10 13 24.3**	**+2.3**
LBMI	**Labuha**	**2.62**	**160**	P	**Pn**	**10 13 42.8**	**+2.8**
KMSI	**Cibinong**	**2.92**	**244**	P	**Pn**	**10 13 45.9**	**+1.7**
SANI	**Sanana**	**3.92**	**189**	P	**Pn**	**10 13 56.8**	**-1.1**
LUWI	**Luwuk**	**4.80**	**233**	Pn	**Pn**	**10 14 11.2**	**+1.3**
LUWI	**Luwuk**	**4.80**	**233**	P	**Pn**	**10 14 13.3**	**+3.4**
LUWI	**Luwuk**	**4.80**	**233**	P	**Pn**	**10 14 12.6**	**+2.7**
LUWI				S	**Sn**	**10 15 09.0**	**+4.7**
NLAI	**Namlea**	**5.07**	**175**	P	**Pn**	**10 14 13.0**	**-0.7**
MSAI	**Masohi**	**5.65**	**156**	P	**Pn**	**10 14 23.1**	**+1.4**
	23nm,0.7s,2μm0.2nm						
TOLI2	**Tolitoli**	**5.88**	**263**	Pn	**Pn**	**10 14 25.6**	**+0.8**
MPSI	**Mapaga**	**6.88**	**258**	P	**Pn**	**10 14 41.1**	**+2.5**
FAKI	**Fak Fak**	**7.35**	**130**	Pn	**Pn**	**10 14 44.6**	**-0.5**
FAKI	**Fak Fak**	**7.35**	**130**	P	**Pn**	**10 14 49.7**	**+4.6**
FAKI	**Fak Fak**	**7.35**	**130**	P	**Pn**	**10 14 48.0**	**+2.9**
MYLDM	**Lahad Datu**	**8.75**	**292**	Pn	**Pn**	**10 15 03.5**	**-0.7**
MYLDM	**Lahad Datu**	**8.75**	**292**	P	**Pn**	**10 15 08.8**	**+4.6**
SPSI	**Sidrap Palu**	**8.95**	**230**	P	**Pn**	**10 15 08.1**	**+1.1**
BNSI	**Bone**	**8.99**	**226**	P	**Pn**	**10 15 07.0**	**-0.5**
BKSI	**Bulukumba**	**9.63**	**222**	P	**Pn**	**10 15 16.4**	**+0.1**
KAPI	**Kappang**	**9.67**	**225**	Pn	**Pn**	**10 15 16.3**	**-0.5**
BSSI	**Bau Bau, Buton**	**10.02**	**218**	P	**Pn**	**10 15 22.9**	**+1.3**
KKM	**Kota Kinabalu**	**11.18**	**292**	Pn	**Pn**	**10 15 39.4**	**+1.8**
SOEI	**Soe**	**11.76**	**191**	Pn	**Pn**	**10 15 41.9**	**-3.6**
PLAI	**Plampang**	**13.79**	**220**	P	**Pn**	**10 16 16.4**	**+3.3**
SBUM	**Sibu**	**14.40**	**273**	Pn	**Pn**	**10 16 19.0**	**-2.4**
JAY	**Jayapura**	**14.73**	**107**	P	**P**	**10 16 32.8**	**+1.8**
MTN	**Manton Dam**	**15.27**	**163**	Pn	**Pn**	**10 16 31.6**	**-1.1**
KMMI	**Kalianget**	**15.41**	**235**	P	**P**	**10 16 39.0**	**+0.6**
KSM	**Kuching**	**16.31**	**269**	Pn	**Pn**	**10 16 45.0**	**-1.1**
GMJI	**Gumukmas**	**16.54**	**232**	P	**P**	**10 16 54.2**	**+3.2**
PWJI	**Pagerwojo**	**17.73**	**236**	P	**P**	**10 17 05.3**	**+1.2**
	20nm,0.6s						
PCJI	**Pacitan**	**18.34**	**237**	P	**P**	**10 17 10.7**	**-0.2**
	53nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.84**	**183**	P	**P**	**10 17 26.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.84**	**183**	P	**P**	**10 17 26.4**	**-0.8**
	0.6nm,0.3s,baz=355,slow=8.1,SNR=12						
	2.0nm,0.6s						
KPJI	**Karang Pucung**	**19.86**	**242**	P	**P**	**10 17 25.5**	**-2.1**
YULB	**Yu-li**	**22.03**	**347**	P	**P**	**10 17 48.0**	**-2.9**
TPUB	**Ta-pu**	**22.11**	**345**	P	**P**	**10 17 49.3**	**-2.4**
TPUB				IAmb	IAmb	10 18 08.4	
	comp=Z,56nm,1.4s						
TPUB	**Ta-pu**	**22.11**	**345**	P	**P**	**10 17 52.1**	**+0.4**
SSLB	**Suanglung**	**22.49**	**346**	P	**P**	**10 17 54.5**	**-1.4**
SSLB				IAmb	IAmb	10 18 32.6	
	comp=Z,28nm,1.3s						
COEN	**Coen**	**22.71**	**134**	P	**P**	**10 17 56.5**	**-1.7**
COEN	**Coen**	**22.71**	**134**	P	**P**	**10 17 57.5**	**-0.7**
	comp=Z,7.9nm,1.0s						
NACB	**Ninganchiao**	**22.72**	**348**	P	**P**	**10 17 56.8**	**-1.4**
MYKOM	**Kota Tinggi**	**22.76**	**270**	P	**P**	**10 17 56.9**	**-1.9**
WB0	**Warramunga Arr**	**22.79**	**161**	P	**P**	**10 17 57.5**	**-1.5**
WB0				IAmb	IAmb	10 17 58.3	
	comp=Z,18nm,0.6s						
WRAB	**Tennant Creek**	**22.93**	**161**	P	**P**	**10 17 59.0**	**-1.5**
WRAB				IAmb	IAmb	10 18 01.7	
	comp=Z,18nm,0.6s						
WRA	**Warramunga Arr**	**22.94**	**161**	P	**P**	**10 17 58.2**	**-2.3**
WRA	**Warramunga Arr**	**22.94**	**161**	P	**P**	**10 17 59.0**	**-1.6**
	comp=Z,15nm,0.5s,baz=339,slow=11,SNR=113						
WRA				S	**S**	**10 22 02.4**	**-4.9**
	comp=Z,2.4nm,0.9s,baz=332,slow=20,SNR=8.2						
	comp=Z,15nm,0.5s						
WB2	**Warramunga Arr**	**22.94**	**161**	P	**P**	**10 17 59.1**	**-1.5**
WB2				IAmb	IAmb	10 18 01.5	
	comp=Z,20nm,0.6s						
WR0	**Warramunga Arr**	**23.02**	**161**	P	**P**	**10 17 59.9**	**-1.5**
WR0				IAmb	IAmb	10 18 03.6	
	comp=Z,14nm,0.5s						
MBWA	**Marble Bar**	**23.84**	**196**	P	**P**	**10 18 07.5**	**-1.6**
QIS	**Mount Isa**	**25.64**	**151**	P	**P**	**10 18 25.1**	**-0.6**
	comp=Z,8.0nm,0.5s						
AS31	**Alice Springs**	**26.33**	**165**	P	**P**	**10 18 31.0**	**-0.9**
ASAR	**Alice Springs**	**26.33**	**165**	P	**P**	**10 18 31.0**	**-0.9**
ASAR	**Alice Springs**	**26.33**	**165**	P	**P**	**10 18 30.8**	**-1.1**
	comp=Z,2.1nm,0.4s,baz=347,slow=7.8,SNR=54						
ASAR				PcP	**PcP**	**10 21 56.5**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=353,slow=2.1,SNR=3.0						
	comp=Z,2.1nm,0.4s						
AS01	**Alice Springs**	**26.34**	**165**	P	**P**	**10 18 30.4**	**-1.6**
	comp=Z,9.4nm,1.0s						
WRKA	**Warakurna**	**26.77**	**177**	P	**P**	**10 18 34.9**	**-0.9**
	comp=Z,14nm,0.9s						
CTAO	**Charters Tower**	**29.09**	**139**	P	**P**	**10 18 55.3**	**-1.3**
MEEK	**Meekatharra**	**29.35**	**195**	P	**P**	**10 18 58.9**	**+0.1**
	comp=Z,18nm,2.2s						
PHRA	**Phrae**	**30.71**	**304**	P	**P**	**10 19 09.0**	**-2.0**
OOD	**Oodnadatta**	**30.73**	**164**	P	**P**	**10 19 09.3**	**-1.7**
	comp=Z,6.0nm,1.3s						
NJ2	**Nanjing**	**30.93**	**347**	*e*P	**P**	**10 19 14.4**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.76**	**303**	P	**P**	**10 19 20.4**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=133,slow=6.4,SNR=1.7						
	comp=Z,0.4nm,0.3s						
MORW	**Morawa**	**32.37**	**197**	P	**P**	**10 19 23.3**	**-2.0**
MORW				IAmb	IAmb	10 19 54.4	
	comp=Z,16nm,1.2s						
INKA	**Innaminka**	**32.40**	**156**	P	**P**	**10 19 25.3**	**-0.4**
	comp=Z,10nm,2.2s						
FORT	**Forrest**	**32.47**	**178**	P	**P**	**10 19 25.3**	**-1.0**
FORT	**Forrest**	**32.47**	**178**	P	**P**	**10 19 25.5**	**-0.7**
MULG	**Mulgathing**	**32.73**	**168**	P	**P**	**10 19 28.4**	**-0.1**
KMBL	**Kambalda**	**33.33**	**187**	P	**P**	**10 19 33.8**	**0.0**
LCRK	**Leigh Creek**	**33.96**	**162**	P	**P**	**10 19 39.0**	**-0.3**
PZH	**PanZhiHua**	**34.23**	**318**	P	**P**	**10 19 44.2**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,40nm,3.9s						
KLBR	**Kellerberrin**	**34.30**	**193**	P	**P**	**10 19 42.0**	**-0.2**
KSRS	**Korea Array**	**35.46**	**2**	P	**P**	**10 19 52.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=190,slow=11,SNR=2.3						
	comp=Z,0.7nm,0.6s						
BBOO	**Buckleboo**	**35.60**	**166**	P	**P**	**10 19 52.8**	**-0.6**
BBOO				IAmb	IAmb	10 19 56.1	
	comp=Z,20nm,1.5s						
BBOO	**Buckleboo**	**35.60**	**166**	P	**P**	**10 19 52.2**	**-1.2**
NWAO	**Narrogin (SRO)**	**35.70**	**194**	LR	LR	10 36 10.9	
	comp=Z,329nm,18.7s,baz=84,slow=39						
EIDS	**Eidsvold**	**35.96**	**140**	P	**P**	**10 19 56.7**	**+0.1**
XAN	**Xi'an**	**36.05**	**335**	P	P	10 19 50.6	-6.7
XAN				pP	pP	10 20 05.6	-3.5
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MJAR	**Matsushiro Arr**	**36.15**	**16**	P	**P**	**10 19 58.8**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=189,slow=10,SNR=2.0						
	comp=Z,1.2nm,0.7s						
STKA	**Stephens Creek**	**36.42**	**158**	P	**P**	**10 20 00.1**	**-0.4**
STKA	**Stephens Creek**	**36.42**	**158**	P	**P**	**10 19 60.0**	**-0.4**
	comp=Z,3.0nm,0.3s,baz=330,slow=9.1,SNR=8.3						
	comp=Z,3.0nm,0.3s						
STKA	**Stephens Creek**	**36.42**	**158**	P	**P**	**10 20 00.0**	**-0.4**
HTT	**Hallett**	**36.96**	**163**	P	**P**	**10 20 04.6**	**-0.4**
CMSA	**Cobar Meteorol**	**37.82**	**153**	P	**P**	**10 20 12.2**	**-0.1**
ARMA	**Armidale**	**39.98**	**145**	P	**P**	**10 20 30.5**	**0.0**
ARMA				IAmb	IAmb	10 20 31.8	
	comp=Z,16nm,1.2s						
ARMA	**Armidale**	**39.98**	**145**	P	**P**	**10 20 29.6**	**-0.9**
LZH	**Lanzhou**	**40.07**	**331**	*e*P	P	10 20 38.8	+7.5
LZH				pP	sP	10 20 53.4	+4.7
LZH				sP	pwP	10 21 00.4	+14
LZH				pmax	pmax		
	comp=Z,20nm,1.4s						
LZH				LR	LR		
	comp=N,490nm,16.1s						
LZH				LR	LR		
	comp=E,300nm,15.1s						
LZH				LR	LR		
	comp=Z,500nm,15.1s						
ARPS	**Mount Arapiles**	**40.94**	**161**	P	**P**	**10 20 38.5**	**+0.2**
	comp=Z,13nm,0.7s						
HHC	**Hu-ho-hao-te**	**41.15**	**343**	*e*P	**P**	**10 20 43.0**	**+3.0**
HHC				pP	sP	10 21 01.5	+4.2
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,140nm,6.0s						
HHC				LR	LR		
	comp=N,690nm,19.9s						
HHC				LR	LR		
	comp=E,210nm,17.6s						
HHC				LR	LR		
	comp=Z,1μm,18.3s						
CAN	**Canberra**	**42.49**	**153**	P	**P**	**10 20 51.6**	**+0.6**
CAN				IAmb	IAmb	10 21 11.9	
	comp=Z,33nm,1.5s						
HEH	**HeiHe**	**48.24**	**1**	*e*P	**P**	**10 21 33.2**	**-3.0**
SONM	**Songino Array**	**49.04**	**342**	P	**P**	**10 21 42.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=155,slow=8.2,SNR=5.6						
	comp=Z,0.9nm,0.6s						
WMQ	**Urumqi**	**54.20**	**326**	*e*P	**P**	**10 22 23.5**	**+2.3**
WMQ				LR	LR		
	comp=N,830nm,22.3s						
WMQ				LR	LR		
	comp=E,440nm,18.3s						
WMQ				LR	LR		
	comp=Z,860nm,20.9s						
MK31	**Makanchi Array**	**59.04**	**326**	P	**P**	**10 22 54.6**	**-0.8**
MK31				IAmb	IAmb	10 22 56.5	
	comp=Z,2.5nm,0.5s						
MKAR	**Makanchi Array**	**59.04**	**326**	P	**P**	**10 22 54.7**	**-0.8**
MKAR	**Makanchi Array**	**59.04**	**326**	P	**P**	**10 22 54.3**	**-1.1**
	comp=Z,2.8nm,0.4s,baz=120,slow=7.6,SNR=37						
	comp=Z,2.8nm,0.4s						
TARG	**Taragay, Kyrgy**	**59.08**	**319**	P	**P**	**10 22 53.8**	**-2.5**
MAKZ	**Makanchi**	**59.22**	**326**	P	**P**	**10 22 55.5**	**-1.2**
MAKZ				IAmb	IAmb	10 22 58.0	
	comp=Z,3.4nm,0.6s						
KSH	**Kashi**	**59.30**	**316**	P	**P**	**10 23 00.4**	**+2.9**
MIDW	**Midway**	**59.46**	**58**	P	**P**	**10 22 58.8**	**+0.2**
KDJ	**Kajisay**	**59.68**	**319**	P	**P**	**10 22 59.6**	**-0.5**
KDJ				IAmb	IAmb	10 23 01.6	
	comp=Z,3.9nm,0.8s						
LBZ	**Lake Benmore**	**60.20**	**145**	P	**P**	**10 23 03.4**	**0.0**
THZ	**Tophouse**	**60.30**	**141**	P	**P**	**10 23 04.0**	**-0.2**
BKZ	**Black Stump Fm**	**61.27**	**137**	P	**P**	**10 23 10.1**	**-0.8**
RAO	**Raoul Island**	**61.34**	**125**	P	**P**	**10 23 11.0**	**-0.5**
ARSB	**Arslanbob**	**62.14**	**317**	P	**P**	**10 23 15.4**	**-1.4**
ZALV	**Zalesovo Beam**	**62.21**	**334**	P	**P**	**10 23 15.3**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=144,slow=7.1,SNR=3.3						
	comp=Z,0.7nm,0.3s						
KURBB	**Kurchatov Arra**	**63.26**	**328**	P	**P**	**10 23 22.9**	**-1.1**
	comp=Z,2.8nm,0.5s,baz=129,slow=6.1,SNR=16						
	comp=Z,2.8nm,0.5s						
KURK	**Kurchatov**	**63.27**	**328**	P	**P**	**10 23 23.5**	**-0.5**
KKAR	**Karatay Array**	**64.53**	**318**	P	**P**	**10 23 31.6**	**-0.9**
BVAR	**Borovoye Array**	**68.83**	**327**	P	**P**	**10 23 58.2**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=69,slow=4.9,SNR=3.5						
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**68.91**	**327**	P	**P**	**10 23 59.2**	**-0.9**
NRIK	**Noril'sk**	**72.22**	**346**	P	**P**	**10 24 20.4**	**+0.4**
	comp=Z,3.1nm,0.5s,baz=136,slow=6.4,SNR=6.6						
	comp=Z,3.1nm,0.5s						
ABKAR	**Akbulak array**	**73.53**	**321**	P	**P**	**10 24 27.3**	**-0.9**
AKTO	**Aktyubinsk**	**75.06**	**322**	P	**P**	**10 24 36.0**	**-1.0**
	comp=Z,2.7nm,0.6s,baz=107,slow=7.8,SNR=7.5						
	comp=Z,2.7nm,0.6s						
MAW	**Mawson**	**81.96**	**200**	P	**P**	**10 25 15.2**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=76,slow=7.1,SNR=2.3						
	comp=Z,1.0nm,0.8s						
C19K	**Lookout Ridge**	**82.54**	**20**	P	**P**	**10 25 17.0**	**-0.8**
F19K	**Shaleruckik Mo**	**82.67**	**23**	P	**P**	**10 25 18.1**	**-0.3**
F19K				IAmb	IAmb	10 25 57.1	
	comp=Z,13nm,1.5s						
G19K	**Purcell Mounta**	**82.79**	**23**	P	**P**	**10 25 18.3**	**-0.7**
G19K				IAmb	IAmb	10 25 31.3	
	comp=Z,10nm,1.1s						
D19K	**Kuna River**	**82.91**	**21**	P	**P**	**10 25 19.5**	**-0.2**
D19K				IAmb	IAmb	10 25 56.8	
	comp=Z,18nm,1.5s						
H19K	**Roundabout Mou**	**82.92**	**24**	P	**P**	**10 25 19.6**	**-0.1**
H19K				IAmb	IAmb	10 26 03.5	
	comp=Z,19nm,1.4s						
O19K	**Port Alsworth**	**82.97**	**30**	P	**P**	**10 25 18.5**	**-1.5**
E19K	**Redstone River**	**83.01**	**22**	P	**P**	**10 25 18.7**	**-1.5**
E19K				IAmb	IAmb	10 25 26.9	
	comp=Z,9.1nm,1.1s						
KBZ	**Khabaz**	**84.19**	**314**	P	**P**	**10 25 26.0**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=162,slow=3.2,SNR=3.9						
	comp=Z,1.2nm,0.6s						
G21K	**Allakaket**	**84.28**	**23**	P	**P**	**10 25 25.9**	**-0.8**
G21K				IAmb	IAmb	10 25 42.7	
	comp=Z,8.9nm,1.4s						
B21K	**Ikpikpuk River**	**84.37**	**20**	P	**P**	**10 25 27.4**	**+0.3**
B21K				IAmb	IAmb	10 25 38.1	
	comp=Z,9.7nm,1.2s						
E21K	**Killik River**	**84.40**	**21**	P	**P**	**10 25 27.4**	**+0.1**
E21K				IAmb	IAmb	10 25 32.4	
	comp=Z,11nm,1.5s						
CNPM	**China Poot**	**84.43**	**30**	P	**P**	**10 25 27.2**	**-0.4**
SKT	**Skwentna**	**84.54**	**28**	P	**P**	**10 25 28.5**	**+0.4**
SKT				IAmb	IAmb	10 25 37.9	
	comp=Z,12nm,1.4s						
BRLK	**Bradley Lake**	**84.63**	**30**	P	**P**	**10 25 28.7**	**+0.1**
SUA	**Susitna One**	**84.86**	**29**	P	**P**	**10 25 29.6**	**-0.3**
B22K	**Teshekpuk Lake**	**84.89**	**20**	P	**P**	**10 25 29.2**	**-0.5**
B22K				IAmb	IAmb	10 25 46.4	
	comp=Z,11nm,1.4s						
E22K	**Anaktuvuk Pass**	**85.15**	**22**	P	**P**	**10 25 30.6**	**-0.5**
RC01	**Rabbit Creek A**	**85.31**	**29**	P	**P**	**10 25 31.4**	**-0.6**
RC01				IAmb	IAmb	10 25 59.5	
	comp=Z,9.6nm,1.1s						
D23K	**Nanushuk River**	**85.66**	**21**	P	**P**	**10 25 32.9**	**-0.7**
D23K				IAmb	IAmb	10 26 08.3	
	comp=Z,8.1nm,1.4s						
C23K	**Itkillik River**	**85.78**	**20**	P	**P**	**10 25 33.0**	**-1.1**
C23K				IAmb	IAmb	10 25 58.1	
	comp=Z,7.2nm,1.4s						
H23K	**Yukon River**	**85.80**	**24**	P	**P**	**10 25 34.4**	**0.0**
I23K	**Minto, Yukon-K**	**85.82**	**25**	P	**P**	**10 25 33.5**	**-0.9**
I23K				IAmb	IAmb	10 25 40.6	
	comp=Z,9.5nm,1.4s						
RND	**Reindeer**	**85.90**	**27**	P	**P**	**10 25 34.2**	**-0.8**
RND				IAmb	IAmb	10 26 01.1	
	comp=Z,12nm,1.5s						
KNK	**Knik Glacier**	**85.95**	**29**	P	**P**	**10 25 35.5**	**+0.2**
TOLK	**Toolik Lake Re**	**86.03**	**21**	P	**P**	**10 25 35.7**	**+0.2**
TOLK				IAmb	IAmb	10 25 45.7	
	comp=Z,10nm,1.5s						
CCB	**Clear Creek Bu**	**86.44**	**25**	P	**P**	**10 25 37.2**	**-0.3**
CCB				IAmb	IAmb	10 25 38.1	
	comp=Z,5.7nm,1.3s						
H24K	**Noodor Dome**	**86.48**	**24**	P	**P**	**10 25 37.7**	**-0.1**
F24K	**Squaw Lake**	**86.58**	**23**	P	**P**	**10 25 37.2**	**-1.0**
F24K				IAmb	IAmb	10 26 13.8	
	comp=Z,5.5nm,1.5s						
G24K	**Hadweenzic Riv**	**86.69**	**23**	P	**P**	**10 25 38.4**	**-0.4**
G24K				IAmb	IAmb	10 25 54.3	
	comp=Z,10.0nm,1.5s						
ILAR	**Eielson Array**	**86.84**	**25**	P	**P**	**10 25 38.7**	**-0.8**
FYU	**Fort Yukon**	**87.58**	**24**	P	**P**	**10 25 43.6**	**+0.6**
RIDG	**Independent Ri**	**87.71**	**26**	P	**P**	**10 25 43.9**	**+0.2**
RIDG				IAmb	IAmb	10 26 08.4	
	comp=Z,5.7nm,1.1s						
BMAR	**Burnt Mountain**	**87.85**	**23**	P	**P**	**10 25 45.4**	**+1.0**
C27K	**Jago River**	**88.17**	**21**	P	**P**	**10 25 46.8**	**+1.0**
C27K				IAmb	IAmb	10 26 19.1	
	comp=Z,6.6nm,1.4s						
J26L	**Joseph Creek**	**88.27**	**26**	P	**P**	**10 25 46.4**	**-0.1**
J26L				IAmb	IAmb	10 26 00.0	
	comp=Z,5.8nm,1.4s						
K27K	**Chicken**	**88.93**	**26**	P	**P**	**10 25 48.1**	**-1.3**
K27K				IAmb	IAmb	10 26 11.3	
	comp=Z,3.4nm,1.2s						
L27K	**Beaver Creek,**	**89.08**	**27**	P	**P**	**10 25 48.6**	**-1.6**
BCAR	**Beaver Creek A**	**89.10**	**27**	P	**P**	**10 25 50.8**	**+0.5**
D27M	**Malcolm River**	**89.15**	**21**	P	**P**	**10 25 50.0**	**-0.5**
F28M	**Old Crow**	**89.65**	**22**	P	**P**	**10 25 51.6**	**-1.2**
F28M				IAmb	IAmb	10 25 58.9	
	comp=Z,7.0nm,1.5s						
E28M	**Babbage River**	**89.71**	**21**	P	**P**	**10 25 52.1**	**-0.9**
I28M	**Miner Creek**	**89.77**	**25**	P	**P**	**10 25 52.7**	**-0.8**
I28M				IAmb	IAmb	10 26 02.7	
	comp=Z,4.6nm,1.3s						
K29M	**Barlow Dome**	**90.95**	**26**	P	**P**	**10 25 58.5**	**-0.6**
G30M	**tAoh Zraii Nji**	**91.12**	**23**	P	**P**	**10 25 59.5**	**-0.2**
G30M				IAmb	IAmb	10 26 32.9	
	comp=Z,5.3nm,1.3s						
QSPA	**South Pole Qui**	**91.76**	**180**	P	**P**	**10 26 02.3**	**-0.4**
QSPA				IAmb	IAmb	10 26 10.5	
	comp=Z,3.1nm,1.1s						
QSPA	**South Pole Qui**	**91.76

SNR=12
MDH Madha 4.17 185 P Pn 10 14 54.6 -0.3
SNR=12
MDH S **Sn 10 15 45.0 +1.3**
IDAH Dahanechah 4.24 39 Pn **Pn 10 14 56.5 +0.5**
IRAM Ramesheh 4.39 303 Pn **Pn 10 15 00.7 +2.7**
KAZ2 Kazeron-Fars-I 4.39 273 Pn **Pn 10 15 00.6 +2.6**
AFRZ Afriz 4.41 26 Pn **Pn 10 14 58.9 +0.6**
TNSJ Nastanj 4.48 359 Pn **Pn 10 15 00.6 +1.4**
ANAR Anarak 4.49 326 Pn **Pn 10 15 01.5 +2.1**
UOSS Minazif 4.53 186 *i* P **Pn 10 14 58.7 -1.1**
SNR=16
UOSS Minazif 4.53 186 P **Pn 10 14 59.9 +0.1**
UOSS S **Sn 10 15 53.7 +1.1**
NAZ Nazwa, Dubai 4.56 192 *i* P **Pn 10 14 59.3 -0.9**
SNR=20
NAZ Nazwa, Dubai 4.56 192 P **Pn 10 15 00.8 +0.6**
SNR=20
NAZ P **Pn 10 15 00.8 +0.6**
NAZ S **Sn 10 15 55.7 +2.4**
NAZ S **Sn 10 15 55.7 +2.4**
HATD Hatta, Dubai 4.66 186 *i* P **Pn 10 15 01.3 -0.3**
SNR=14
HATD Hatta, Dubai 4.66 186 P **Pn 10 15 01.9 +0.4**
SNR=14
HATD S **Sn 10 15 57.5 +1.8**
SNR=5.5
KLNJ Kolanjah 4.68 290 Pn **Pn 10 15 04.4 +2.3**
AHBU AHRAM 4.76 264 Pn **Pn 10 15 05.7 +2.7**
ASHO Ashiyiah 4.80 187 *i* P **Pn 10 15 03.9 +0.3**
SNR=28
ASHO Ashiyiah 4.80 187 P **Pn 10 15 04.4 +0.8**
SNR=28
ASHO S **Sn 10 16 01.9 +2.5**
SNR=6.2
FAQ Al Faqa, Dubai 4.81 192 *i* P **Pn 10 15 03.8 +0.1**
SNR=15
FAQ Al Faqa, Dubai 4.81 192 P **Pn 10 15 04.9 +1.2**
SNR=15
FAQ S **Sn 10 16 02.0 +2.5**
SNR=5.8
IGAR Gharneh 4.95 307 Pn **Pn 10 15 08.2 +2.4**
ASUD Al Ashush, Dub 4.98 195 *i* P **Pn 10 15 05.8 -0.1**
SNR=45
ASUD Al Ashush, Dub 4.98 195 P **Pn 10 15 07.6 +1.6**
SNR=45
ASUD S **Sn 10 16 05.9 +2.3**
SNR=8.1
IZEF Zefreh 5.07 313 Pn **Pn 10 15 09.9 +2.5**
CHBR Chabahar 5.12 138 Pn **Pn 10 15 08.2 +0.3**
AJN Ajban 5.12 198 *i* P **Pn 10 15 08.2 +0.2**
SNR=16
AJN Ajban 5.12 198 P **Pn 10 15 09.1 +1.1**
SNR=16
AJN S **Sn 10 16 08.2 +1.0**
IBRJ Brojen 5.28 299 Pn **Pn 10 15 13.1 +2.8**
SOHO SOHO 5.32 182 P **Pn 10 15 10.1 -0.5**
SOHO SOHO 5.32 182 P **Pn 10 15 11.1 +0.5**
TAPT Tabas- Tapeh t 5.41 4 Pn **Pn 10 15 13.3 +1.3**
SRVN Saravan 5.43 111 Pn **Pn 10 15 13.0 +0.7**
ALNE Al Ain 5.46 189 *i* P **Pn 10 15 12.9 +0.2**
SNR=11
ALNE Al Ain 5.46 189 P **Pn 10 15 13.2 +0.5**
SNR=11
ALNE S **Sn 10 16 16.6 +1.0**
JRN Qarnain Island 5.67 218 P **Pn 10 15 15.7 +0.3**
SNR=7.7
JRN S **Sn 10 16 21.6 +1.0**
NGCH Negor - Chabah 5.69 135 Pn **Pn 10 15 16.7 +1.0**
NGCH Negor - Chabah 5.69 135 P **Pn 10 15 16.4 +0.7**
JHBN Jahan bin 5.87 299 Pn **Pn 10 15 21.1 +2.6**
HOQ Hoqain 5.89 175 P **Pn 10 15 18.0 -0.5**
IPIR Pirpir 5.92 304 Pn **Pn 10 15 22.2 +3.0**
KRSH Karshahi 5.93 320 Pn **Pn 10 15 21.7 +2.5**
BIDO Bidbid 6.06 167 P **Pn 10 15 20.1 -0.8**
BIDO S **Sn 10 16 30.0 -0.3**
ARQ Araqi 6.11 182 P **Pn 10 15 22.1 +0.5**
SNR=7.2
ARQ S **Sn 10 16 33.5 +1.9**
ISFB Sefidab 6.17 323 Pn **Pn 10 15 24.3 +2.0**
MZWR Madinat Zayed 6.22 205 P **Pn 10 15 23.0 0.0**
MZWR S **Sn 10 16 33.4 -0.9**
WSAR Wadi Sarin 6.45 164 Pn **Pn 10 15 25.9 -0.3**
5.9nm,0.3s,baz=2.8,slow=11,SNR=36
WSAR Sn **Sn 10 16 37.4 -2.4**
7.6nm,0.3s,baz=268,slow=23,SNR=14
17nm,0.4s
GHWR Ruwais 6.46 213 P **Pn 10 15 26.0 -0.3**
SMDO Samad 6.50 169 P **Pn 10 15 27.1 +0.1**
BSY Bisya 6.72 176 P **Pn 10 15 30.3 +0.5**
BSY S **Sn 10 16 49.2 +2.7**
TRNA Turayna 6.79 227 P **Pn 10 15 30.2 -0.7**
SNR=24
UMZA Um Al Zommool 6.87 192 P **Pn 10 15 32.0 0.0**
UMZA P **Pn 10 15 32.0 0.0**
SLWR Sila 7.00 221 P **Pn 10 15 33.1 -0.6**
SLWR S **Sn 10 16 51.6 -1.8**
SMRA Abu-Samra 7.04 229 P **Pn 10 15 33.9 -0.4**
SNR=6.6
SMRA S **Sn 10 16 53.8 -0.6**
SNR=6.7
MZR Muzera 7.06 205 P **Pn 10 15 33.1 -1.5**
MZR Muzera 7.06 205 P **Pn 10 15 34.4 -0.2**
SNR=8.7
WBK Wadi Bani Khal 7.13 163 P **Pn 10 15 36.0 +0.4**
JMDO Jabal Madar 7.19 170 P **Pn 10 15 36.9 +0.6**
JLN Jalan Bani Buh 7.69 161 P **Pn 10 15 42.9 -0.4**
SNR=8.7
JLN S **Sn 10 17 10.0 -0.5**
SNR=6.1
KBD Kabd 7.87 270 P **Pn 10 15 46.2 +0.6**
KBD S **Sn 10 17 12.8 -2.0**
BDRS Dareh Seyedi 8.02 306 Pn **Pn 10 15 50.4 +2.4**
MHTO MHTO 8.53 172 P **Pn 10 15 55.1 +0.4**
SNR=17
DQM DQM 9.53 175 P **Pn 10 16 09.4 +0.9**
IDHR Dehrash 10.18 303 Pn **Pn 10 16 19.7 +2.2**
DOK Doka 11.06 193 P **Pn 10 16 27.7 -1.7**
DOK P **Pn 10 16 27.7 -1.7**
RAYN Ar Rayn 11.64 242 P **Pn 10 16 36.0 -1.5**
WHFO Wadi Hawf 11.81 194 P **Pn 10 16 38.3 -1.5**
SNR=12
WHFO P **Pn 10 16 38.3 -1.5**
SNR=12
DMTO DMTO 11.81 188 P **Pn 10 16 37.3 -2.5**
ABTO Aybut 12.46 195 P **Pn 10 16 46.3 -2.4**
SNR=9.1
MMAI Mount Meron Ar 18.54 286 P **Pn 10 18 09.4 +1.2**
0.6nm,0.3s,baz=99,slow=18,SNR=1.6
2.0nm,0.6s
EIL Elat 18.92 276 P **Pn 10 18 12.9 +0.2**
0.3nm,0.3s,baz=211,slow=21,SNR=3.2
5.2nm,0.7s
AKTO Aktyubinsk 20.96 2 P Pn 10 18 35.6 -1.1
2.7nm,0.7s,baz=176,slow=8.5,SNR=6.4
2.7nm,0.7s
BRTR Keskin Array B 21.51 305 P **P 10 18 41.9 +1.6**
5.9nm,0.9s,baz=126,slow=12,SNR=19
5.9nm,0.9s
BVAR Borovoye Array 25.59 19 P **P 10 19 21.9 +1.6**
3.9nm,0.8s,baz=201,slow=7.8,SNR=12
3.9nm,0.8s
MKAR Makanchi Array 26.36 42 P **P 10 19 29.0 +1.6**
1.5nm,0.8s,baz=232,slow=9.2,SNR=6.7
1.5nm,0.8s
KURBB Kurchatov Arra 26.75 32 P **P 10 19 32.6 +1.8**
0.9nm,0.7s,baz=232,slow=9.8,SNR=7.3
0.9nm,0.7s
AKASG Malin Array Be 29.57 324 P **P 10 19 56.5 +0.5**
1.8nm,0.8s,baz=109,slow=9.2,SNR=1.7
1.8nm,0.8s
ZALV Zalesovo Beam 31.85 32 P **P 10 20 16.6 +0.5**
0.5nm,0.3s,baz=241,slow=12,SNR=4.0
0.5nm,0.3s
KOLS Kolonicke sedl 32.61 316 *e*P **P 10 20 25.4 +2.5**
GTA Gaotai 36.62 63 *e*P **P 10 21 01.1 +3.3**
GTA pP sP 10 21 05.9 +2.5
GTA pmax pmax
comp=Z,6.0nm,1.0s
FINES FINESS Array B 37.83 336 P **P 10 21 07.8 +0.3**
comp=Z,1.8nm,0.8s,baz=124,slow=7.4,SNR=4.8
comp=Z,1.8nm,0.8s
GERES GERESS Array B 37.93 313 P **P 10 21 08.9 +0.1**
comp=Z,0.6nm,0.2s,baz=94,slow=5.4,SNR=3.7
comp=Z,0.6nm,0.2s
NOA NORSAR Array B 43.52 330 P **P 10 21 57.0 +2.4**
comp=Z,1.1nm,0.9s,baz=122,slow=7.8,SNR=2.5
comp=Z,1.1nm,0.9s
TORD Torodi Ar. Bea 53.29 265 P **P 10 23 08.9 -1.7**
comp=Z,2.1nm,0.7s,baz=61,slow=7.8,SNR=14
comp=Z,2.1nm,0.7s
KSRS Korea Array 58.68 62 P **P 10 23 49.1 +0.2**
comp=Z,1.8nm,0.7s,baz=266,slow=6.0,SNR=6.7
comp=Z,1.8nm,0.7s
BOSA Boshof 65.11 210 P **P 10 24 31.0 -1.3**
comp=Z,0.9nm,0.5s,baz=14,slow=10,SNR=4.2
comp=Z,0.9nm,0.5s

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*IDC **09** 10:16:09.9±1.5, 12°.12S×167°.32E, h0km, mb4.3/7, mbtmp4.3/7, Error ellipse: s-maj=62.4km s-min=22.6km az=133.0*

ISC 09 10:16:23.4±1.7, 12°.1S±0°.3×167°.1E±0°.4, h100km, n9, σ0°76/11, mb4.2/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.61**	**226**	P	**P**	**10 22 28.9**	**+0.8**
	2.0nm,0.6s,baz=31,slow=12,SNR=4.3						
	2.0nm,0.6s						
WRA	**Warramunga Arr**	**32.36**	**252**	P	**P**	**10 22 43.2**	**-0.4**
	1.7nm,0.7s,baz=82,slow=9.2,SNR=7.3						
WRA				PcP	**PcP**	**10 25 29.2**	**-0.1**
	0.3nm,0.6s,baz=77,slow=3.5,SNR=2.5						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**33.50**	**245**	P	**P**	**10 22 53.1**	**-0.4**
	2.9nm,0.8s,baz=73,slow=9.5,SNR=19						
ASAR				PcP	**PcP**	**10 25 32.3**	**-0.2**
	0.2nm,0.4s,baz=58,slow=2.2,SNR=2.6						
	2.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.37**	**256**	P	**P**	**10 23 51.9**	**+0.1**
	1.9nm,0.3s,baz=87,slow=6.4,SNR=15						
	1.9nm,0.3s						
USRK	**Ussuriysk Ar.**	**64.45**	**333**	P	**P**	**10 26 49.9**	**+0.7**
	1.0nm,0.7s,baz=130,slow=5.0,SNR=4.3						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**84.09**	**18**	P	**P**	**10 28 43.4**	**+0.6**
	2.3nm,0.6s,baz=242,slow=5.0,SNR=27						
	2.3nm,0.6s						
MKAR	**Makanchi Array**	**95.16**	**317**	P	**P**	**10 29 35.0**	**-0.6**
	1.9nm,0.7s,baz=94,slow=6.9,SNR=11						
	1.9nm,0.7s						
ARCES	**ARCESS Array B**	**117.66**	**346**	PKP	**PKiKP**	**10 34 57.0**	**-0.3**
	4.9nm,1.1s,baz=62,slow=2.4,SNR=9.9						
FINES	**FINESS Array B**	**123.20**	**339**	PKP	**PKiKP**	**10 35 06.8**	**-1.5**
	0.9nm,0.8s,baz=12,slow=2.0,SNR=3.4						

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*AEIC **09** 10:16:51.7±1.6, 53°.48N±0°.08×165°.25W±0°.08, h41km±9km, Error ellipse: s-maj=11.1km s-min=7.0km az=170.0*

NEIC 09 10:16:50.5±1.2, 53°.4N±0°.1×165°.23W±0°.07, h27km±16km, mb3.6/8, ML3.2/6, ML3.0(AEIC), Error ellipse: s-maj=16.6km s-min=5.6km az=175.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.78**	**339**		Pb	10 17 05.4	0.0
AKSA					Sb	10 17 15.8	+0.3
AHB	**Akutan Harbor**	**0.79**	**334**		Pn	10 17 05.8	0.0
AHB					Sn	10 17 17.0	+0.3
AKBBA	**Akutan Broad B**	**0.80**	**329**		Pn	10 17 06.1	0.0
AKBBA					Sn	10 17 17.0	-0.1
ZRO	**Akutan Zero**	**0.81**	**327**		Pn	10 17 06.1	-0.1
ZRO					Sn	10 17 17.5	+0.1
AKMO	**Akutan Morgan**	**0.82**	**326**		Pb	10 17 06.1	-0.1
AKMO					Sn	10 17 17.3	-0.3
AKV	**Akutan Volcano**	**0.84**	**329**		Pn	10 17 06.7	+0.1
AKV					Sn	10 17 18.0	0.0
AKRB	**Akutan Reef Bi**	**0.87**	**326**		Pn	10 17 07.3	+0.2
AKRB					Sn	10 17 18.8	-0.1
UNV	**Unalaska Valle**	**0.87**	**300**		Pn	10 17 07.1	+0.1
LVA	**Lava Point**	**0.89**	**328**		Pb	10 17 07.3	+0.1
LVA				IAML		10 17 32.5	
	comp=N,483nm,0.6s						
AKGG	**Akutan Green G**	**0.91**	**330**		Pb	10 17 07.6	0.0
AKGG					Sb	10 17 19.4	+0.1
MTBL	**Makushin Table**	**1.03**	**304**		Pb	10 17 09.7	+0.1
MGOD	**Makushin Gods**	**1.05**	**292**		Pb	10 17 09.9	-0.1
MSW	**Makushin Switc**	**1.05**	**299**		Pb	10 17 09.9	-0.1
MAPS	**Pakushin South**	**1.09**	**292**		Pb	10 17 10.4	-0.3
WESE	**West Dahl East**	**1.13**	**19**		Pn	10 17 10.7	+0.1
WEBT	**Westdahl Beart**	**1.21**	**13**		Pn	10 17 12.2	+0.5
ISLZ	**Isanotski Laza**	**1.59**	**34**		Pn	10 17 16.7	-0.2
ISNN	**Isanotski Nort**	**1.66**	**30**		Pn	10 17 18.4	+0.6
FALS	**False Pass**	**1.80**	**36**		Pn	10 17 19.7	0.0
PS1A	**Pavlof South-1**	**2.86**	**44**		Pn	10 17 36.4	+2.0
S12K	**Black Hills**	**2.94**	**38**	Pn	Pn	10 17 35.3	-0.2
S12K				IAML		10 18 12.1	
	comp=E,78nm,1.6s						
S12K				IAML		10 18 19.9	
	comp=N,70nm,2.4s						
CHGN	**Chignik**	**4.89**	**51**	Pn	Pn	10 18 02.5	+0.4
CHGN				IAML		10 21 12.7	
	comp=N,34nm,3.2s						
N15K	**Kwethluk River**	**7.33**	**21**	Pn	Pn	10 18 35.0	-0.8
O16K	**Kokwok River B**	**7.34**	**30**	Pn	Pn	10 18 34.5	-1.4
P18K	**Big Mountain,**	**8.16**	**39**	Pn	Pn	10 18 45.8	-1.3
M16K	**Timber Creek**	**8.35**	**21**	Pn	Pn	10 18 48.2	-1.4
N17K	**Nushagak Hills**	**8.37**	**28**	Pn	Pn	10 18 49.3	-0.6
KDAK	**Kodiak Island**	**8.39**	**54**	Pn	Pn	10 18 49.4	-0.8
Q19K	**Cape Douglas,**	**8.50**	**45**	Pn	Pn	10 18 51.5	-0.2
N18K	**Kilae Creek**	**8.88**	**31**	Pn	Pn	10 18 58.2	+1.3
M19K	**Big River Lodg**	**10.29**	**30**	Pn	Pn	10 19 13.9	-2.3
L19K	**White Mountain**	**10.37**	**28**	Pn	Pn	10 19 15.2	-2.2
RC01	**Rabbit Creek A**	**11.36**	**41**	Pn	Pn	10 19 32.7	+1.9
K20K	**Telida**	**11.54**	**26**	Pn	Pn	10 19 35.7	+2.4
HIN	**Hinchinbrook I**	**12.37**	**48**	Pn	Pn	10 19 44.2	-0.4
SCM	**Sheep Creek Mo**	**12.73**	**41**	Pn	Pn	10 19 49.1	-0.6
KLU	**Klutina**	**13.13**	**44**	Pn	Pn	10 19 54.0	-1.1
M24K	**Tolsona, Glenn**	**13.34**	**42**	Pn	Pn	10 19 55.8	-2.1
BWN	**Browne**	**13.48**	**31**	Pn	Pn	10 20 00.1	+0.4
N25K	**Chitina, Valde**	**13.74**	**45**	Pn	Pn	10 20 01.8	-1.6
GLB	**Gilahina Butte**	**14.01**	**46**	Pn	Pn	10 20 05.2	-1.8
VRDI	**Verde Repeater**	**14.07**	**48**	Pn	Pn	10 20 07.3	-0.7
FYU	**Fort Yukon**	**16.43**	**29**	Pn	Pn	10 20 37.5	-1.4
FYU				IAmb	IAmb	10 20 48.9	
	comp=Z,6.3nm,1.3s						
L29M	**L29M**	**17.11**	**45**	Pn	Pn	10 20 46.6	-0.9
H29M	**Whitestone**	**18.42**	**35**	P	P	10 21 02.9	-0.4
P33M	**Teslin, Yukon**	**18.85**	**56**	P	P	10 21 07.5	-0.7
P33M				IAmb	IAmb	10 21 17.4	
	comp=Z,7.6nm,1.2s						
FARO	**Faro, Yukon**	**18.95**	**50**	P	P	10 21 09.5	+0.3
FARO				IAmb	IAmb	10 21 33.0	
	comp=Z,5.7nm,1.4s						
G30M	**tAoh Zraii Nji**	**19.55**	**35**	P	P	10 21 16.0	+0.2
H31M	**Peel River**	**19.68**	**39**	P	P	10 21 17.2	0.0
H31M				IAmb	IAmb	10 21 45.2	
	comp=Z,4.0nm,1.3s						
INK	**Inuvik**	**21.10**	**33**	P	P	10 21 31.1	-1.4

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*NEIC **09** 10:20:34.7±2.3, 10°.22N±0°.06×126°.09E±0°.04, h10km±1km, mb4.7/109, Error ellipse: s-maj=11.6km s-min=4.3km az=147.0*

*IDC **09** 10:20:35.1±0.5, 10°.35N×126°.09E, h0km, mb4.2/21, mbtmp4.2/22, ML4.0/1, Error ellipse: s-maj=26.8km s-min=11.7km az=76.0*

ISC 09 10:20:34.5±0.3, 10°.21N±0°.05×126°.11E±0°.07, h10km, n158, σ1°44/158, mb4.7/72, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.17**	**190**	Pn	**Pn**	**10 21 23.4**	**-1.1**
DAV	**Davao City (W)**	**3.17**	**190**	Pn	**Pn**	**10 21 25.9**	**+1.5**
	15nm,0.3s,baz=33,slow=15,SNR=1.2						
	92nm,0.4s						
MYLDM	**Lahad Datu**	**9.04**	**237**		**Pn**	**10 22 42.9**	**-2.4**
TNTI	**Ternate**	**9.46**	**172**	Pn	**Pn**	**10 22 50.0**	**-1.0**
TOLI2	**Tolitoli**	**10.48**	**211**	Pn	**Pn**	**10 23 03.2**	**-1.6**
KKM	**Kota Kinabalu**	**10.63**	**248**	Pn	**Pn**	**10 23 05.8**	**-1.3**
LUWI	**Luwuk**	**11.66**	**197**	Pn	**Pn**	**10 23 19.7**	**-1.4**
TWG	**Pinlang**	**13.43**	**340**	Pn	**Pn**	**10 23 42.1**	**-3.2**
YULB	**Yu-li**	**13.89**	**341**	Pn	**Pn**	**10 23 48.6**	**-2.9**
TPUB	**Ta-pu**	**14.03**	**339**	Pn	**Pn**	**10 23 50.2**	**-3.3**
SSLB	**Suanglung**	**14.37**	**341**	Pn	**Pn**	**10 23 56.8**	**-1.4**
FAKI	**Fak Fak**	**14.41**	**155**	Pn	**Pn**	**10 23 57.8**	**-0.9**
NACB	**Ninganchiao**	**14.54**	**343**	Pn	**Pn**	**10 23 58.2**	**-2.1**
BKB	**Balikpapan**	**14.63**	**219**	Pn	**Pn**	**10 23 57.2**	**-4.5**
YHNB	**Yeheng**	**15.07**	**343**	Pn	**Pn**	**10 24 04.6**	**-3.0**
YHNB				IAmb	IAmb	10 24 07.7	
	comp=Z,27nm,1.0s						
SBUM	**Sibu**	**15.80**	**242**	Pn	**Pn**	**10 24 15.8**	**-1.4**
JMZ	**Minamidaito 2**	**16.26**	**17**	Pn	**Pn**	**10 24 20.5**	**-2.6**
JMZ				IAmb	IAmb	10 24 37.2	
	comp=Z,104nm,1.1s						
JOW	**Kunigami**	**16.66**	**7**	Pn	**Pn**	**10 24 25.8**	**-2.4**
JOW				IAmb	IAmb	10 24 50.5	
	comp=Z,73nm,1.4s						
SOEI	**Soe**	**19.92**	**185**	P	**P**	**10 25 06.1**	**-0.6**
SOEI				IAmb	IAmb	10 25 34.9	
	comp=Z,26nm,0.7s						
JCJ	**Chichijima**	**22.63**	**40**	P	**P**	**10 25 34.6**	**-1.2**
SMRI	**Semarang**	**23.18**	**223**	P	**P**	**10 25 41.6**	**0.0**
SMRI				IAmb	IAmb	10 25 55.3	
	comp=Z,64nm,1.2s						
JNU	**Nakatsue**	**23.22**	**10**	P	**P**	**10 25 40.6**	**-1.3**
JNU				IAmb	IAmb	10 25 44.3	
	comp=Z,28nm,1.1s						
JHJ2	**Mitsune**	**26.05**	**27**	P	**P**	**10 26 07.3**	**-0.8**
PHRA	**Phrae**	**26.36**	**291**	P	**P**	**10 26 10.7**	**-0.4**
KSAR	**Wonju Array Be**	**27.16**	**3**	P	**P**	**10 26 16.1**	**-2.0**
KSRS	**Korea Array**	**27.17**	**3**	P	**P**	**10 26 19.6**	**+1.4**
	comp=Z,2.7nm,0.8s,baz=178,slow=10.0,SNR=7.5						
	comp=Z,2.7nm,0.8s						
KS19	**Wonju Array Si**	**27.22**	**3**	P	**P**	**10 26 18.6**	**0.0**
CMAR	**Chiang Mai Arr**	**27.54**	**290**	P	**P**	**10 26 24.6**	**+2.9**
	comp=Z,2.5nm,0.6s,baz=100,slow=7.4,SNR=14						
	comp=Z,2.5nm,0.6s						
RPSI	**Rantau Prapat**	**28.00**	**256**	P	**P**	**10 26 23.8**	**-2.1**
FITZ	**Fitzroy Crossi**	**28.14**	**181**	P	**P**	**10 26 26.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**28.14**	**181**	P	**P**	**10 26 31.1**	**+4.1**
	comp=Z,3.6nm,0.5s,baz=8.1,slow=12,SNR=9.2						
	comp=Z,3.6nm,0.5s						
PMG	**Port Moresby**	**28.61**	**132**	P	**P**	**10 26 31.4**	**0.0**
PMG				IAmb	IAmb	10 26 42.3	
	comp=Z,13nm,0.9s						
JMM	**Marumori**	**30.54**	**23**	P	**P**	**10 26 46.5**	**-1.7**
WB0	**Warramunga Arr**	**30.89**	**165**	P	**P**	**10 26 50.5**	**-0.9**
WRAB	**Tennant Creek**	**31.04**	**165**	P	**P**	**10 26 50.4**	**-2.3**
WRA	**Warramunga Arr**	**31.04**	**165**	P	**P**	**10 26 51.5**	**-1.3**
WRA	**Warramunga Arr**	**31.04**	**165**	P	**P**	**10 26 55.9**	**+3.1**
	comp=Z,0.5nm,0.5s,baz=343,slow=8.1,SNR=6.8						
WRA				PcP	**PcP**	**10 29 51.3**	**+2.6**
	comp=Z,0.3nm,0.6s,baz=338,slow=3.2,SNR=2.7						
	comp=Z,0.5nm,0.5s						
WB2	**Warramunga Arr**	**31.05**	**165**	P	**P**	**10 26 50.3**	**-2.5**
WR0	**Warramunga Arr**	**31.11**	**165**	P	**P**	**10 26 51.6**	**-1.8**
MBWA	**Marble Bar**	**31.80**	**191**	P	**P**	**10 26 58.5**	**-0.9**
MBWA				IAmb	IAmb	10 27 20.2	
	comp=Z,21nm,1.4s						
PATS	**Pohnpei**	**32.02**	**93**	P	**P**	**10 26 59.8**	**-1.6**
USA0B	**Ussuriysk Arra**	**34.24**	**8**	P	**P**	**10 27 19.5**	**-1.1**
USRK	**Ussuriysk Ar.**	**34.24**	**8**	P	**P**	**10 27 21.9**	**+1.4**
	comp=Z,4.8nm,0.8s,baz=188,slow=8.4,SNR=9.2						
	comp=Z,4.8nm,0.8s						
AS31	**Alice Springs**	**34.52**	**167**	P	**P**	**10 27 23.0**	**-0.3**
ASAR	**Alice Springs**	**34.52**	**167**	P	**P**	**10 27 24.1**	**+0.8**
ASAR	**Alice Springs**	**34.52**	**167**	P	**P**	**10 27 26.9**	**+3.6**
	comp=Z,0.5nm,0.4s,baz=351,slow=7.0,SNR=16						
ASAR				PcP	**PcP**	**10 30 00.8**	**+2.6**
	comp=Z,0.4nm,0.5s,baz=336,slow=2.9,SNR=4.2						
	comp=Z,0.5nm,0.4s						
SHL	**Shillong**	**35.83**	**300**	P	**P**	**10 27 35.3**	**+0.6**
SHL				IAmb	IAmb	10 27 36.6	
	comp=Z,6.4nm,0.7s						
MORW	**Morawa**	**40.24**	**194**	P	**P**	**10 28 11.3**	**-0.4**
MORW				IAmb	IAmb	10 28 34.4	
	comp=Z,18nm,1.2s						
H11N1	**WAKE ISLAND Hy**	**40.42**	**72**	T	T	11 11 28.5	
	baz=265,slow=74,SNR=19						
H11N2	**WAKE ISLAND Hy**	**40.43**	**72**	T	T	11 11 32.1	
	baz=265,slow=74,SNR=22						
H11N3	**WAKE ISLAND Hy**	**40.44**	**72**	T	T	11 11 39.4	
	baz=265,slow=74,SNR=18						
FORT	**Forrest**	**40.80**	**177**	P	**P**	**10 28 16.4**	**+0.2**
FORT				IAmb	IAmb	10 28 29.2	
	comp=Z,20nm,1.0s						
ULN	**Ulaanbaatar**	**40.82**	**340**	P	**P**	**10 28 15.4**	**-1.1**
SONM	**Songino Array**	**41.02**	**340**	P	**P**	**10 28 17.1**	**-0.9**
SONM	**Songino Array**	**41.02**	**340**	P	**P**	**10 28 19.4**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=156,slow=9.4,SNR=8.7						
SONM				PcP	**PcP**	**10 30 19.9**	**+2.0**
	comp=Z,1.1nm,0.4s,baz=144,slow=1.9,SNR=5.4						
	comp=Z,1.5nm,0.5s						
BBOO	**Buckleboo**	**43.82**	**168**	P	**P**	**10 28 39.7**	**-1.2**
BBOO				IAmb	IAmb	10 28 55.7	
	comp=Z,20nm,1.2s						
STKA	**Stephens Creek**	**44.40**	**161**	P	**P**	**10 28 44.2**	**-1.3**
STKA	**Stephens Creek**	**44.40**	**161**	P	**P**	**10 28 48.4**	**+2.9**
	comp=Z,0.7nm,0.3s,baz=335,slow=8.6,SNR=4.0						
	comp=Z,0.7nm,0.3s						
TARA	**Tarawa**	**47.34**	**98**	P	**P**	**10 29 08.4**	**-0.7**
PEA0B	**Petropavlovsk-**	**49.76**	**24**	P	**P**	**10 29 26.4**	**-0.7**
PETK	**Petropavlovsk-**	**49.76**	**24**	P	**P**	**10 29 28.8**	**+1.7**
	comp=Z,2.0nm,0.5s,baz=220,slow=2.5,SNR=6.8						
	comp=Z,2.0nm,0.5s						
MK31	**Makanchi Array**	**51.98**	**323**	P	**P**	**10 29 44.1**	**+0.2**
MK31				IAmb	IAmb	10 29 46.6	
	comp=Z,6.4nm,0.9s						
MKAR	**Makanchi Array**	**51.98**	**323**	P	**P**	**10 29 43.0**	**-1.0**
MKAR	**Makanchi Array**	**51.98**	**323**	P	**P**	**10 29 45.7**	**+1.8**
	comp=Z,6.8nm,0.8s,baz=123,slow=8.1,SNR=32						
	comp=Z,6.8nm,0.8s						
MAKZ	**Makanchi**	**52.17**	**323**	P	**P**	**10 29 43.6**	**-1.8**
MAKZ				IAmb	IAmb	10 29 57.7	
	comp=Z,7.4nm,1.1s						
TARG	**Taragay, Kyrgy**	**52.63**	**315**	P	**P**	**10 29 48.3**	**-1.1**
ZAA0	**Zalesovo Array**	**54.60**	**331**	P	**P**	**10 30 01.4**	**-1.7**
ZALV	**Zalesovo Beam**	**54.60**	**331**	P	**P**	**10 30 04.1**	**+1.0**
	comp=Z,1.9nm,0.4s,baz=117,slow=7.4,SNR=11						
	comp=Z,1.9nm,0.4s						
ARSB	**Arslanbob**	**55.89**	**313**	P	**P**	**10 30 10.5**	**-2.3**
KURK	**Kurchatov**	**56.02**	**326**	P	**P**	**10 30 12.2**	**-1.2**
KURK				IAmb	IAmb	10 30 25.1	
	comp=Z,9.8nm,0.9s						
KURBB	**Kurchatov Arra**	**56.03**	**325**	P	**P**	**10 30 14.9**	**+1.5**
	comp=Z,4.4nm,0.5s,baz=123,slow=6.9,SNR=16						
	comp=Z,4.4nm,0.5s						
KKAR	**Karatay Array**	**58.18**	**315**	P	**P**	**10 30 29.8**	**+1.0**
TIXI	**Tiksi**	**61.41**	**1**	P	**P**	**10 30 51.7**	**+1.2**
TIXI				IAmb	IAmb	10 30 52.5	
	comp=Z,8.3nm,1.4s						
BVAR	**Borovoye Array**	**61.62**

M20K	Styx River	76.70	29	P	P	10 32 27.2	+1.4
M20K				IAmb	IAmb	10 32 37.2	
comp=Z,7.5nm,1.1s							
IMAR	Indian Mountai	76.72	24	P	P	10 32 25.3	-0.4
B21K	Ikpikpuk River	76.75	21	P	P	10 32 23.9	-1.9
KDAK	Kodiak Island	76.80	33	P	P	10 32 26.1	-0.2
E21K	Killik River	76.86	22	P	P	10 32 26.9	+0.4
E21K				IAmb	IAmb	10 32 32.1	
comp=Z,7.5nm,1.1s							
G21K	Allakaket	76.86	24	P	P	10 32 26.9	+0.4
G21K				IAmb	IAmb	10 32 29.9	
comp=Z,7.0nm,1.1s							
H21K	Melozitna Rive	77.08	25	P	P	10 32 29.1	+1.3
H21K				IAmb	IAmb	10 32 30.8	
comp=Z,5.3nm,1.0s							
CASY	Casey	77.14	186	P	P	10 32 28.3	+0.3
CASY				IAmb	IAmb	10 32 35.4	
comp=Z,20nm,1.4s							
B22K	Teshekpuk Lake	77.24	20	P	P	10 32 28.2	-0.4
B22K				IAmb	IAmb	10 32 32.1	
comp=Z,8.3nm,1.1s							
CAST	Castle Rocks	77.27	27	P	P	10 32 29.2	+0.3
CAST				IAmb	IAmb	10 32 40.4	
comp=Z,10nm,1.4s							
D22K	Ayikyak River	77.37	22	P	P	10 32 30.8	+1.5
D22K				IAmb	IAmb	10 32 34.7	
comp=Z,9.7nm,1.4s							
I21K	Tanana	77.40	25	P	P	10 32 31.1	+1.5
I21K				IAmb	IAmb	10 32 43.0	
comp=Z,8.1nm,0.9s							
E22K	Anaktuvuk Pass	77.64	22	P	P	10 32 32.2	+1.3
E22K				IAmb	IAmb	10 32 34.4	
comp=Z,6.1nm,1.2s							
BRLK	Bradley Lake	77.73	31	P	P	10 32 31.3	-0.2
BRLK				IAmb	IAmb	10 32 40.2	
comp=Z,14nm,1.1s							
BPAW	Bear Paw Mtn.	77.78	26	P	P	10 32 31.3	-0.4
BPAW				IAmb	IAmb	10 32 45.2	
comp=Z,8.6nm,1.1s							
SUA	Susitna One	77.82	29	P	P	10 32 33.0	+0.8
MLY	Manley	77.92	26	P	P	10 32 33.7	+1.1
MLY				IAmb	IAmb	10 32 45.2	
comp=Z,3.3nm,0.7s							
D23K	Nanushuk River	78.10	21	P	P	10 32 33.2	-0.2
D23K				IAmb	IAmb	10 32 46.8	
comp=Z,4.0nm,0.8s							
C23K	Itkillik River	78.16	21	P	P	10 32 34.2	+0.5
C23K				IAmb	IAmb	10 32 46.6	
comp=Z,9.6nm,0.7s							
G23K	Bananza Creek	78.26	24	P	P	10 32 35.4	+0.9
G23K				IAmb	IAmb	10 32 42.5	
comp=Z,7.1nm,1.4s							
H23K	Yukon River	78.44	25	P	P	10 32 36.5	+1.1
I23K	Minto, Yukon-K	78.50	25	P	P	10 32 34.8	-0.9
I23K				IAmb	IAmb	10 32 48.9	
comp=Z,3.0nm,0.6s							
NEA2	Nenana	78.62	26	P	P	10 32 37.7	+1.3
NEA2				IAmb	IAmb	10 32 49.2	
comp=Z,4.2nm,0.8s							
E24K	Your Creek	78.88	22	P	P	10 32 37.6	-0.2
PWL	Port Wells	78.99	30	P	P	10 32 37.5	-1.0
WRH	Wood River Hil	79.05	26	P	P	10 32 38.5	-0.2
F24K	Squaw Lake	79.11	23	P	P	10 32 38.8	-0.3
F24K				IAmb	IAmb	10 32 52.3	
comp=Z,4.6nm,0.8s							
H24K	Noodor Dome	79.12	25	P	P	10 32 39.4	+0.2
H24K				IAmb	IAmb	10 32 42.8	
comp=Z,7.6nm,1.2s							
CCB	Clear Creek Bu	79.17	26	P	P	10 32 40.8	+1.4
ILAR	Eielson Array	79.56	26	P	P	10 32 42.1	+0.6
comp=Z,0.6nm,0.8s,baz=227,slow=5.0,SNR=5.2							
comp=Z,0.6nm,0.8s							
GLI	Glacier Island	79.60	30	P	P	10 32 42.6	+0.8
F25K	Christian Rive	79.97	23	P	P	10 32 43.8	0.0
KLU	Klutina	80.14	29	P	P	10 32 45.5	+0.7
KLU				IAmb	IAmb	10 33 10.8	
comp=Z,24nm,1.5s							
J25K	Salcha River,	80.22	26	P	P	10 32 45.7	+0.5
BMAR	Burnt Mountain	80.38	23	P	P	10 32 45.7	-0.2
RIDG	Independent Ri	80.50	27	P	P	10 32 46.4	-0.3
RIDG				IAmb	IAmb	10 32 49.0	
comp=Z,16nm,1.3s							
SCRK	Sand Creek	80.86	27	P	P	10 32 48.6	-0.1
I26K	Coal Creek Min	81.11	25	P	P	10 32 51.3	+1.5
I26K				IAmb	IAmb	10 32 58.1	
comp=Z,8.4nm,1.4s							
L27K	Beaver Creek,	81.91	27	P	P	10 32 54.0	-0.2
L27K				IAmb	IAmb	10 32 59.1	
comp=Z,7.5nm,1.4s							
BCAR	Beaver Creek A	81.93	27	P	P	10 32 54.2	-0.1
H29M	Whitestone	82.96	24	P	P	10 33 00.9	+1.4
G29M	Pine Creek	82.98	23	P	P	10 33 01.4	+1.7
G29M				IAmb	IAmb	10 33 26.4	
comp=Z,12nm,1.3s							
G30M	tAoh Zraii Nji	83.67	23	P	P	10 33 04.3	+1.0
G30M				IAmb	IAmb	10 33 08.5	
comp=Z,8.2nm,1.4s							
SPITS	Spitsbergen Ar	84.04	349	P	P	10 33 06.6	+1.7
comp=Z,19nm,0.7s,baz=77,slow=8.8,SNR=12							
ARCES	ARCESS Array B	84.19	340	P	P	10 33 07.4	+1.6
comp=Z,1.7nm,0.5s,baz=77,slow=5.2,SNR=14							
comp=Z,1.7nm,0.5s							
M30M	Minto, Yukon	84.27	28	P	P	10 33 07.1	+0.7
F31M	Tsiigehtchic	84.52	22	P	P	10 33 07.7	+0.2
F31M				IAmb	IAmb	10 33 10.0	
comp=Z,7.8nm,1.4s							
KBS	Kingsbay	84.55	350	P	P	10 33 07.4	-0.1
H31M	Peel River	84.65	24	P	P	10 33 09.3	+1.0
H31M				IAmb	IAmb	10 33 31.7	
comp=Z,7.6nm,1.1s							
BRTR	Keskin Array B	85.44	309	P	P	10 33 13.7	+0.7
comp=Z,0.8nm,0.5s,baz=106,slow=5.4,SNR=4.9							
comp=Z,0.8nm,0.5s							
FIA1	FINESS Array S	85.86	332	P	P	10 33 13.2	-1.1
FINES	FINESS Array B	85.86	332	P	P	10 33 13.8	-0.5
FINES	FINESS Array B	85.86	332	P	P	10 33 15.1	+0.8
comp=Z,1.5nm,0.4s,baz=85,slow=4.2,SNR=18							
comp=Z,1.5nm,0.4s							
FARO	Faro, Yukon	85.91	27	P	P	10 33 15.2	+0.5
FARO				IAmb	IAmb	10 33 28.1	
comp=Z,5.6nm,0.7s							
A36M	Sachs Harbour	86.02	17	P	P	10 33 15.4	+0.6
A36M				IAmb	IAmb	10 33 20.6	
comp=Z,8.6nm,0.8s							
AKASG	Malin Array Be	86.51	321	P	P	10 33 18.4	+0.6
AKASG	Malin Array Be	86.51	321	P	P	10 33 18.3	+0.6
comp=Z,1.0nm,0.5s,baz=62,slow=4.8,SNR=6.1							
comp=Z,1.0nm,0.5s							
AKBB	Malin Array Si	86.51	321	P	P	10 33 17.4	-0.3
AKBB				IAmb	IAmb	10 33 19.8	
comp=Z,4.5nm,0.8s							
C36M	Paulatuk	87.35	20	P	P	10 33 20.9	-0.5
U33K	Whale Pass	87.54	33	P	P	10 33 22.1	-0.5
SBA	Scott Base	90.80	172	P	P	10 33 38.1	+0.7
NOA	NORSAR Array B	92.74	334	P	P	10 33 48.9	+2.0
comp=Z,0.3nm,0.6s,baz=67,slow=5.0,SNR=1.7							
comp=Z,0.3nm,0.6s							
TORD	Torodi Ar. Bea	120.14	292	PKP	PKiKP	10 39 27.7	+0.9
comp=Z,0.4nm,0.8s,baz=1.4,slow=2.8,SNR=2.5							
PLCA	Paso Flores	146.22	157	PKPbc	PKiKP	10 40 19.1	+0.2
comp=Z,2.8nm,0.9s,baz=190,slow=6.1,SNR=5.5							

*STR **09** 10:26:10.4±0.3, 43°N±3°×±°, h5km, MLv2.3/15, Error ellipse: s-maj=0.0km s-min=0.0km az=2.1, preliminary*
*MDD **09** 10:26:10.9±0.3, 42°.79N×0°.52E, h11km, mb_Lg2.5/7, Error ellipse: s-maj=2.4km s-min=1.3km az=11.0*
*MRB **09** 10:26:10.5±0.3, 42°.76N×0°.51E, h4km±4km, ML1.3/13, Error ellipse: s-maj=1.2km s-min=0.8km az=196.0*

ISC 09 10:26:10.4±0.9,**42°.78N**±0°.02×**0°.52E**±0°.01,**h9**km±7km,**n54,**
σ0§67/94,**1C, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELF	Melles	0.20	62	Pg	Pg	10 26 14.6	-0.1
MELF				Sg	Sg	10 26 17.6	0.0
CARA	Val d'Aran	0.23	108	P	Pg	10 26 15.1	-0.2
CARA				S	Sg	10 26 18.6	+0.1
41nm,0.1s							
ECHI	Chisagues Biel	0.26	244	P	Pg	10 26 15.6	-0.3
ECHI				S	Sg	10 26 19.3	-0.1
84nm,0.1s							
ECHI	Chisagues Biel	0.26	244	⇑Pg	Pg	10 26 15.8	0.0
ECHI				Sg	Sg	10 26 19.5	+0.1
ECHI	Chisagues Biel	0.26	244	Pg	Pg	10 26 15.7	0.0
ECHI				Sg	Sg	10 26 19.4	0.0
VIEF	Viey	0.38	286	Pg	Pg	10 26 17.3	-0.6
VIEF				Sg	Sg	10 26 22.5	-0.4
LABF	Labassere	0.42	310	Pg	Pg	10 26 18.2	-0.5
LABF				Sg	Sg	10 26 23.9	-0.5
MLS	Moulis	0.46	67	P	Pg	10 26 19.5	+0.1
MLS				S	Sg	10 26 26.1	+0.6
11nm,0.1s							
MLS	Moulis	0.46	67	Pg	Pg	10 26 18.7	-0.7
MLS				Sg	Sg	10 26 24.8	-0.7
CTRE	Tremp	0.49	157	P	Pg	10 26 19.5	-0.5
CTRE				S	Sg	10 26 26.4	-0.1
16nm,0.2s							
SALF	Salau	0.49	92	Pg	Pg	10 26 19.7	-0.4
SALF				Sg	Sg	10 26 26.3	-0.3
PYLO	Lourdes	0.52	308	P	Pg	10 26 20.8	+0.1
PYLO				S	Sg	10 26 27.9	+0.4
6.1nm,0.1s							
PYLO	Lourdes	0.52	308	Sg	Sg	10 26 26.7	-0.8
CEST	Esterri de Car	0.57	108	P	Pg	10 26 21.1	-0.5
CEST				S	Sg	10 26 29.1	0.0
11nm,0.1s							
CSOR	Sort	0.61	131	P	Pg	10 26 21.8	-0.4
CSOR				S	Sg	10 26 30.0	-0.2
16nm,0.2s							
CANF	Canfranc	0.76	269	Pg	Pg	10 26 24.5	-0.7
CANF				Sg	Sg	10 26 35.2	+0.1
PAND	Andorre	0.80	108	P	Pg	10 26 25.4	-0.5
PAND				S	Sg	10 26 36.9	+0.5
18nm,0.1s							
PAND	Andorre	0.80	108	Pn	Pb	10 26 27.6	+0.9
PAND				Sg	Sg	10 26 36.8	+0.5
CORG	Organya	0.81	133	P	Pg	10 26 25.4	-0.5
CORG				S	Sg	10 26 36.4	-0.1
ARBS	La Rabassa	0.83	113	P	Pg	10 26 26.1	-0.4
ARBS				S	Sg	10 26 37.0	-0.3
17nm,0.4s							
ATE	Arette	0.94	289	P	Pg	10 26 27.9	-0.8
ATE				S	Sg	10 26 41.3	+0.3
12nm,0.2s							
ATE	Arette	0.94	289	Pg	Pg	10 26 27.9	-0.8
ATE				Sg	Sg	10 26 40.2	-0.7
CRAS	Crastes	0.95	9	Pg	Pg	10 26 28.4	-0.4
CRAS				Sg	Sg	10 26 41.1	-0.1
DUNF	Dun	0.98	75	Pg	Pg	10 26 28.8	-0.5
DUNF				Sg	Sg	10 26 42.6	+0.5
CLLI	Llivia	1.12	105	P	Pg	10 26 31.2	-0.7
CLLI				S	Sg	10 26 46.3	-0.1
EMIR	Miracle	1.14	139	Sg	Sn	10 26 48.9	+0.5
EMIR				Sn	Sn	10 26 48.9	+0.5
CARF	Carcanieres	1.17	93	Pg	Pg	10 26 31.6	-1.4
CARF				Sg	Sg	10 26 47.6	-0.6
FNEB	Nbias	1.18	83	Sg	Sg	10 26 47.8	-0.6
VALC	Valcebollere	1.20	109	Pg	Pg	10 26 32.2	-1.2
ESAC	San Caprasio	1.28	215	Sg	Sg	10 26 49.0	-2.8
CBRU	Bruguera	1.32	111	P	Pn	10 26 34.6	-0.7
CBRU				S	Sg	10 26 52.7	-0.4
EORO	Oroz-Betelu	1.35	275	Sg	Sn	10 26 54.8	+1.2
MTLF	Montolieu	1.37	65	Sg	Sb	10 26 53.2	-0.5
MTLF	Montolieu	1.37	65	Pg	Pn	10 26 35.8	+0.1
OSSF	Osses	1.39	291	Pg	Pb	10 26 36.8	+0.3
OSSF				Sg	Sb	10 26 54.6	+0.1
CORI	Orista	1.39	125	P	Pn	10 26 35.5	-0.5
CORI				S	Sb	10 26 54.0	-0.5
EPOB	Poblet	1.48	163	P	Pn	10 26 37.4	0.0
EPOB				S	Sn	10 26 56.8	-0.1
EPOB	Poblet	1.48	163	Pg	Pn	10 26 38.3	+0.9
EPOB				*i* Vmb_Lg		10 26 40.0	
EPOB				Sg	Sn	10 26 57.9	+0.9
FILF	Fillols	1.52	98	S	Sn	10 26 55.7	-2.2
FILF	Fillols	1.52	98	Pg	Pn	10 26 38.0	+0.1
FILF				Sg	Sn	10 26 56.8	-1.0
EALK	Alkurruntz	1.55	287	Pg	Pb	10 26 39.6	+0.3
EALK				Sg	Sn	10 26 59.2	+0.6
EALK				*i* Vmb_Lg		10 27 17.0	
EALK	Alkurruntz	1.55	287	Sn	Sn	10 26 59.3	+0.7
EALK	Alkurruntz	1.55	287	Pg	Pb	10 26 39.3	-0.1
MONQ	Montcuq	1.66	17	Pg	Pb	10 26 41.0	-0.2
MONQ				Sn	Sn	10 27 01.9	+0.7
CBEU	Beuda	1.68	107	P	Pn	10 26 40.4	+0.4
CBEU				S	Sn	10 27 02.9	+1.2
CFON	Fontmartina	1.75	125	P	Pn	10 26 41.0	0.0
CFON				S	Sn	10 27 03.9	+0.4
SJAF	Saint Jean de	1.77	99	S	Sn	10 27 04.7	+0.8
2.1nm,0.1s							
EJON	La Jonquera	1.78	100	Pg	Pn	10 26 41.8	+0.3
EJON				Sg	Sb	10 27 06.3	+0.6
EJON				*i* Vmb_Lg		10 27 36.0	
ERTA	Horta de San J	1.83	184	P	Pn	10 26 41.8	-0.3
ERTA				S	Sn	10 27 05.7	+0.4
3.2nm,0.2s							
ERTA	Horta de San J	1.83	184	*i* Vmb_Lg		10 26 43.9	
ERTA				Pg	Pb	10 26 44.7	+0.7
ERTA				Sg	Sb	10 27 07.8	+0.8
CCAS	Cassa de la Se	1.98	116	P	Pn	10 26 44.0	-0.1
CCAS				S	Sn	10 27 10.0	+0.9
1.0nm,0.3s							
CPAL	Palau Saverder	2.01	103	S	Sn	10 27 10.5	+0.7
CMAS	Mas de Barbera	2.06	184	S	Sn	10 27 10.4	-0.6
ETOR	Torete	2.74	225	Sn	Sn	10 27 28.6	+0.6

*IDC **09** 10:32:03.7±0.8, 0°.45S×125°.67E, h0km, mb4.0/10, mbtmp4.0/11, ML3.5/1, Error ellipse: s-maj=39.5km s-min=16.1km az=73.0*
*NEIC **09** 10:32:05.2±1.9, 0°.40S±0°.07×125°.97E±0°.06, h10km±1km, mb4.4/20, Error ellipse: s-maj=11.6km s-min=9.7km az=149.0*
*DJA **09** 10:32:08.1±3.0, 0°S±4°×12°6E±°, h11km±26km, M4.0/10, mb4.2/2, mB5.5/1, MLv3.9/10, Mw(mB)5.0/1*

ISC 09 10:32:05.0±0.5,**0°.39S**±0°.04×**125°.94E**±0°.06,**h10**km,**n49,**
σ1§16/51,**mb4.1**/17,**Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	Sanana	1.65	178	P	Pg	10 32 37.1	+0.3
SANI				S	Sg	10 32 58.8	+0.6
TNTI	Ternate	1.83	51		Pn	10 32 34.9	-1.7
TNTI	Ternate	1.83	51	P	Pg	10 32 40.3	+0.1
KMSI	Cibinong	2.18	296	P	Pn	10 32 42.2	+0.8
NLAI	Namlea	3.06	158	P	Pn	10 32 55.2	+1.7
LUWI	Luwuk	3.23	258	Pn	Pn	10 32 54.5	-1.4
LUWI	Luwuk	3.23	258	P	Pn	10 32 58.1	+2.2
MSAI	Masohi	4.19	135	P	Pn	10 33 12.7	+3.6
TOLI2	Tolitoli	5.37	286	Pn	Pn	10 33 24.0	-1.3
FAKI	Fak Fak	6.79	112	Pn	Pn	10 33 43.1	-1.7
SPSI	Sidrap Palu	7.12	240	P	Pn	10 33 51.8	+2.5
MMRI	Maumere	8.98	204	Pn	Pn	10 34 14.0	-1.0
SAUI	Saumlaki	9.24	145	Pn	Pn	10 34 17.3	-1.2
MYLDM	Lahad Datu	9.27	307	Pn	Pn	10 34 17.3	-1.5
SBUM	Sibu	14.01	282	Pn	Pn	10 35 22.9	-0.8
KNRA	Kununurra	15.44	170	Pn	Pn	10 35 43.6	+0.4
FITZ	Fitzroy Crossi	17.60	181		Pn	10 36 10.7	+0.1
FITZ				IAmb	IAmb	10 36 45.0	
comp=Z,81nm,1.1s							
FITZ	Fitzroy Crossi	17.60	181	P	Pn	10 36 10.4	-0.2
comp=Z,0.1nm,0.3s,baz=6.0,slow=8.2,SNR=5.8							
comp=Z,2.3nm,0.7s							
WB0	Warramunga Arr	20.96	157	P	P	10 36 47.5	-0.9
WB0				IAmb	IAmb	10 36 53.5	
comp=Z,6.0nm,0.9s							
WRAB	Tennant Creek	21.10	158	P	P	10 36 50.0	+0.1
WRAB				IAmb	IAmb	10 36 54.6	
comp=Z,6.7nm,1.1s							
WRA	Warramunga Arr	21.10	158	P	P	10 36 49.7	-0.2
WRA	Warramunga Arr	21.10	158	P	P	10 36 49.8	-0.2
comp=Z,2.2nm,0.7s,baz=336,slow=11,SNR=16							
comp=Z,2.2nm,0.7s							
WB2	Warramunga Arr	21.11	158	P	P	10 36 49.7	-0.3
WR0	Warramunga Arr	21.20	157	P	P	10 36 50.7	-0.3
WR0				IAmb	IAmb	10 36 56.1	
comp=Z,7.1nm,1.2s							
AS31	Alice Springs	24.39	162	P	P	10 37 23.8	0.0
ASAR	Alice Springs	24.40	162	P	P	10 37 23.5	-0.3
ASAR	Alice Springs	24.40	162	P	P	10 37 24.6	+0.8
comp=Z,2.0nm,0.8s,baz=340,slow=9.7,SNR=20							
ASAR				PcP	PcP	10 41 03.3	+0.1
comp=Z,0.3nm,0.8s,baz=0.0,slow=3.0,SNR=4.1							
comp=Z,2.0nm,0.8s							
CMAR	Chiang Mai Arr	32.48	307	P	P	10 38 35.0	-1.0
comp=Z,0.5nm,0.3s,baz=128,slow=9.4,SNR=4.8							
comp=Z,0.5nm,0.3s							
STKA	Stephens Creek	34.64	156	P	P	10 38 52.3	-2.4
KSRS	Korea Array	37.70	3	P	P	10 39 21.6	+0.9
comp=Z,2.0nm,0.6s,baz=179,slow=9.8,SNR=11							
comp=Z,2.0nm,0.6s							
KS19	Wonju Array Si	37.74	3	P	P	10 39 22.2	+1.1
KS19				IAmb	IAmb	10 40 00.6	
comp=Z,25nm,1.5s							
LSA	Lhasa	44.67	315	P	P	10 40 20.3	+1.5
LSA				IAmb	IAmb	10 40 21.3	
comp=Z,6.3nm,0.6s							
USA0B	Ussuriysk Arra	44.72	6	P	P	10 40 19.4	+1.0
USRK	Ussuriysk Ar.	44.72	6	P	P	10 40 19.0	+0.5
comp=Z,1.3nm,0.6s,baz=191,slow=7.2,SNR=5.7							
comp=Z,1.3nm,0.6s							
SONM	Songino Array	50.95	343	P	P	10 41 06.9	0.0
comp=Z,1.2nm,0.6s,baz=156,slow=8.1,SNR=5.6							
comp=Z,1.2nm,0.6s							
PEA0B	Petropavlovsk-	59.52	22	P	P	10 42 07.7	-0.8
PETK	Petropavlovsk-	59.52	22	P	P	10 42 10.1	+1.6
comp=Z,2.3nm,0.6s,baz=189,slow=4.7,SNR=5.3							
comp=Z,2.3nm,0.6s							
MK31	Makanchi Array	60.51	327	P	P	10 42 14.8	-0.6
MK31				IAmb	IAmb	10 42 15.8	
comp=Z,3.3nm,1.2s							
MKAR	Makanchi Array	60.51	327	P	P	10 42 14.9	-0.6
comp=Z,1.4nm,0.4s,baz=122,slow=7.8,SNR=20							
comp=Z,1.4nm,0.4s							
KURBB	Kurchatov Arra	64.80	329	P	P	10 42 43.3	-0.6
comp=Z,2.0nm,0.7s,baz=126,slow=6.0,SNR=18							
comp=Z,2.0nm,0.7s							
KURK	Kurchatov	64.80	329	P	P	10 42 43.5	-0.4
KURK				IAmb	IAmb	10 42 44.4	
comp=Z,4.7nm,0.6s							
KKAR	Karatay Array	65.73	319	P	P	10 42 49.8	-0.5
BVAR	Borovoye Array	70.35	328	P	P	10 43 18.7	-0.3
comp=Z,0.7nm,0.4s,baz=148,slow=7.3,SNR=2.8							
comp=Z,0.7nm,0.4s							
ABKAR	Akbulak array	74.85	322	P	P	10 43 45.4	-0.5
L18K	Granite Mounta	84.46	27	P	P	10 44 37.8	0.0
J18K	Innoko River	84.70	26	P	P	10 44 38.9	-0.2
IMAR	Indian Mountai	86.40	24	P	P	10 44 47.5	+0.1
QSPA	South Pole Qui	89.55	180	P	P	10 45 03.0	+0.4
QSPA				IAmb	IAmb	10 45 11.1	
comp=Z,3.1nm,1.3s							
FARO	Faro, Yukon	95.34	28	P	P	10 45 30.6	+1.3

*BER **09** 10:32:55.4±0.4, 71°.53N×10°.48W, h18km±899km, mb(Pn)3.7, ML2.6, Confirmed Earthquake*

ISC 09 10:32:51.0±1.4,**71°.5N**±0°.2×**10°.4W**±0°.2,**h10**km,**n6,**
σ1§58/11,**Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	Jan Mayen West	0.82	128	*e*P	Pn	10 33 08.8	+0.2
JNW				*e*S	Sb	10 33 19.0	+0.5
JNW				IAML		10 33 22.5	
comp=Z,142nm,0.4s							
JMI	Jan Mayen	0.82	138	*e*P	Pn	10 33 08.9	+0.3
JMI				*e*S	Sb	10 33 18.9	+0.4
JMI				IAML		10 33 19.2	
comp=Z,269nm,0.3s							
JMIC	Jan Mayen	0.83	131	*e*P	Pn	10 33 09.4	+0.6
JMIC				*e*S	Sb	10 33 19.3	+0.6
JMIC				IAML		10 33 21.6	
comp=Z,120nm,0.3s							
JNE	Jan Mayen East	0.88	128	*e*S	Sb	10 33 20.1	0.0
JNE				IAML		10 33 22.3	
comp=Z,240nm,0.6s							
DBG	Daneborg	4.01	318	*i* P	Pn	10 33 53.3	+1.0
DBG				*i* S	Sn	10 34 37.4	-1.8
DAG	Danmarks Havn	5.71	341	*i* P	Pn	10 34 18.0	+2.3
DAG				*e*S	Sn	10 35 18.1	-3.0

*AEIC **09** 10:34:05.7±2.6, 52°.2N±0°.2×175°.8W±0°.1, h246km±6km, Error ellipse: s-maj=33.4km s-min=9.4km az=165.0*

NEIC 09 10:34:05.6±0.6,**52°.7N**±0°.3×**175°.8W**±0°.2,**h230**km±9km,
mb4.0/10,**ML3.0**(AEIC),**Error ellipse: s-maj=40.6km**
s-min=9.1km az=165.0,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	Great Sitkin T	0.58	194	Pn	Pn	10 34 36.5	0.0
GSMY	Great Sitkin M	0.63	192		Pn	10 34 36.7	0.0
GSMY					S	10 35 00.9	-0.1
GSCK	Great Sitkin C	0.68	197		Pn	10 34 37.0	+0.1
ADK	Adak	0.93	214		Pn	10 34 37.9	-0.3
ADK					S	10 35 03.1	-0.3
KOWE	Korovin West	1.01	106		Pn	10 34 39.4	+0.7
KIRH	Kanaga Island	1.08	226		Pn	10 34 39.0	-0.1
ATKA	Atka Island	1.10	114		Pn	10 34 39.0	-0.1
ATKA					S	10 35 06.4	+1.2
KICM	Kanaga Island	1.11	229		S	10 35 05.1	-0.3
KOFP	Korovin Flat P	1.13	109		Pn	10 34 40.1	+0.7
KIWB	Kanaga Island	1.14	226		Pn	10 34 39.2	-0.2
TAFP	Tanaga Falls P	1.52	241		Pn	10 34 42.1	-0.1
NIKH	Nikolski High	4.25	83	Pn	Pn	10 35 10.4	-1.0
N18K	Kilae Creek	13.55	46	Pn	Pn	10 37 08.4	-0.2
SKT	Skwentna	16.01	45	P	P	10 37 37.0	-0.5
SKT				IAmb	IAmb	10 37 59.2	
comp=Z,12nm,1.4s							
J20K	Nowinta River	16.09	36	P	P	10 37 38.1	-0.2
KNK	Knik Glacier	17.16	49	P	P	10 37 49.0	-1.1
E19K	Redstone River	17.38	24	P	P	10 37 52.3	-0.1
E19K				IAmb	IAmb	10 38 00.5	
comp=Z,5.9nm,1.2s							
G21K	Allakaket	17.75	30	P	P	10 37 57.4	+1.0
IL31	

AMT	**Artemida-Makis**	**0.70**	**85**	P	**Pb**	**10 36 04.1**	**-1.0**
AMT				S	**Sb**	**10 36 15.6**	**+1.0**
AMT				AML	AML	10 36 19.7	
	comp=E,51863μm,0.3s						
AMT				AML	AML	10 36 22.0	
	comp=N,58175μm,0.3s						
VLS	**Valsamata**	**0.73**	**345**	P	**Pb**	**10 36 04.0**	**-1.6**
VLS				S	**Sb**	**10 36 15.7**	**+0.3**
	comp=N,7μm,0.5s						
VLS	**Valsamata**	**0.73**	**345**	P	**Pb**	**10 36 04.0**	**-1.6**
VLS				S	**Sn**	**10 36 16.5**	**-1.3**
VLS				AML	AML	10 36 21.3	
	comp=N,14461μm,0.4s						
VLS				AML	AML	10 36 21.6	
	comp=E,11875μm,0.5s						
RLS	**Riolos of Patr**	**0.78**	**41**	P	**Pb**	**10 36 05.2**	**-1.1**
RLS				S	**Sb**	**10 36 17.9**	**+1.3**
	comp=E,6μm,0.4s						
RLS	**Riolos of Patr**	**0.78**	**41**	P	**Pb**	**10 36 05.4**	**-0.9**
RLS				S	**Sn**	**10 36 18.3**	**-0.5**
RLS				AML	AML	10 36 19.7	
	comp=N,9790μm,0.3s						
RLS				AML	AML	10 36 20.5	
	comp=E,15556μm,0.4s						
LXR1	**Lixouri, Cepha**	**0.79**	**337**	P	**Pb**	**10 36 05.3**	**-1.3**
LXR1				S	**Sn**	**10 36 18.2**	**-1.0**
	comp=E,28μm,0.7s						
LXRA	**Lixouri, Kepha**	**0.79**	**337**	P	**Pb**	**10 36 05.4**	**-1.2**
LXRA				S	**Sb**	**10 36 17.7**	**+0.6**
DMLN	**Damoulianata-K**	**0.85**	**335**	P	**Pb**	**10 36 06.0**	**-1.6**
DMLN				S	**Sg**	**10 36 16.9**	**-2.0**
	comp=E,10μm,0.6s						
DMLN	**Damoulianata-K**	**0.85**	**335**	P	**Pb**	**10 36 06.0**	**-1.6**
DRO	**Drossia**	**0.85**	**55**	P	**Pb**	**10 36 06.5**	**-1.1**
DRO				S	**Sn**	**10 36 20.5**	**-0.2**
	comp=E,13μm,0.3s						
DRO	**Drossia**	**0.85**	**55**	P	**Pb**	**10 36 06.7**	**-0.9**
DRO				S	**Sb**	**10 36 19.8**	**+1.0**
DRO				AML	AML	10 36 22.0	
	comp=N,21340μm,0.3s						
DRO				AML	AML	10 36 23.1	
	comp=E,28510μm,0.4s						
ITM	**Ithomi**	**0.92**	**108**	P	**Pg**	**10 36 07.2**	**-1.9**
ITM				S	**Sb**	**10 36 21.7**	**+0.8**
	comp=E,8μm,0.5s						
ITM	**Ithomi**	**0.92**	**108**	P	**Pg**	**10 36 07.0**	**-2.1**
ITM				S	**Sb**	**10 36 21.5**	**+0.7**
ITM				AML	AML	10 36 24.0	
	comp=E,17768μm,0.6s						
ITM				AML	AML	10 36 26.8	
	comp=N,12311μm,0.4s						
PYL	**PYLOS**	**0.93**	**128**	P	**Pg**	**10 36 06.8**	**-2.4**
PYL				S	**Sb**	**10 36 20.7**	**-0.3**
	comp=N,8μm,0.3s						
PYL	**PYLOS**	**0.93**	**128**	P	**Pg**	**10 36 06.8**	**-2.4**
PYL				S	**Sg**	**10 36 19.8**	**-1.6**
PYL				AML	AML	10 36 22.5	
	comp=N,14054μm,0.4s						
PYL				AML	AML	10 36 22.7	
	comp=E,18586μm,0.3s						
VSK1	**VASILIKIADES**	**0.96**	**348**	P	**Pb**	**10 36 08.4**	**-1.1**
VSK1				S	**Sg**	**10 36 20.2**	**-2.3**
FSK	**Fiskardo**	**1.01**	**348**	P	**Pb**	**10 36 09.1**	**-1.2**
FSK				S	**Sg**	**10 36 22.1**	**-1.9**
	comp=E,5μm,0.5s						
FSK	**Fiskardo**	**1.01**	**348**	P	**Pb**	**10 36 09.2**	**-1.2**
FSK				AML	AML	10 36 30.0	
	comp=E,10303μm,0.6s						
FSK				AML	AML	10 36 30.7	
	comp=N,7404μm,0.5s						
UPR	**University Cam**	**1.11**	**43**	P	**Pn**	**10 36 12.7**	**+0.6**
EVGI	**Lefkada island**	**1.16**	**353**	P	**Pb**	**10 36 11.9**	**-1.0**
KLV	**Kalavryta, Ach**	**1.20**	**61**	P	**Pg**	**10 36 12.3**	**-2.0**
KLV				S	**Sn**	**10 36 30.5**	**+1.2**
KLV				AML	AML	10 36 37.7	
	comp=N,2129μm,0.5s						
KLV				AML	AML	10 36 42.2	
	comp=E,2361μm,0.3s						
DRAG	**Dragano-Lefkad**	**1.23**	**351**	P	**Pb**	**10 36 13.0**	**-1.1**
NYDR	**Nydri-Lefkada**	**1.25**	**355**	P	**Pn**	**10 36 13.4**	**-0.6**
EFP	**Efpalio**	**1.28**	**41**	P	**Pn**	**10 36 13.9**	**-0.5**
EFP				S	**Sn**	**10 36 32.0**	**+0.8**
EFP				AML	AML	10 36 39.0	
	comp=N,5714μm,0.4s						
EFP				AML	AML	10 36 39.9	
	comp=E,4334μm,0.6s						
GUR	**Goura**	**1.29**	**68**	P	**Pn**	**10 36 13.8**	**-0.8**
GUR				AML	AML	10 36 41.3	
	comp=E,6613μm,0.4s						
GUR				AML	AML	10 36 42.9	
	comp=N,6585μm,0.4s						
LKD2	**Lefkada island**	**1.32**	**354**	P	**Pn**	**10 36 13.9**	**-1.1**
LKD2				AML	AML	10 36 42.3	
	comp=E,10079μm,0.5s						
LKD2				AML	AML	10 36 44.0	
	comp=N,6121μm,0.6s						
TSLK	**Tsoukalades, L**	**1.36**	**354**	P	**Pg**	**10 36 15.5**	**-1.9**
ANX	**Ano Chora**	**1.42**	**37**	P	**Pg**	**10 36 16.7**	**-1.8**
ANX				AML	AML	10 36 43.6	
	comp=E,8545μm,0.5s						
ANX				AML	AML	10 36 43.9	
	comp=N,7145μm,0.8s						
EVR	**Evrytania**	**1.64**	**28**	P	**Pn**	**10 36 19.6**	**+0.2**
EVR				AML	AML	10 36 49.5	
	comp=E,6692μm,0.6s						
EVR				AML	AML	10 36 49.9	
	comp=N,5719μm,0.8s						
VLI	**Veliai**	**1.85**	**113**	P	**Pn**	**10 36 21.2**	**-1.0**
VLI				S	**Sn**	**10 36 44.2**	**-1.0**
VLI				AML	AML	10 37 01.4	
	comp=N,2790μm,1.0s						
VLI				AML	AML	10 37 03.8	
	comp=E,2449μm,0.9s						
AGG	**Agios Georgios**	**1.95**	**37**		**Pn**	**10 36 23.4**	**-0.3**
IGT	**Igoumenitsa**	**2.10**	**349**	*e*Pn	**Pn**	**10 36 24.5**	**-1.1**
KEK	**Kerkira**	**2.38**	**341**	Pn	**Pn**	**10 36 28.5**	**-1.1**
VLY	**Voula,Athens**	**2.39**	**80**	P	**Pn**	**10 36 29.4**	**-0.2**
LIT	**Litokhoron**	**2.93**	**26**	Pn	**Pn**	**10 36 37.3**	**+0.2**
SCTE	**Santa Cesarea**	**3.19**	**325**	Pn	**Pn**	**10 36 41.0**	**+0.3**
FNA	**Florina**	**3.34**	**7**		**Pn**	**10 36 43.6**	**+0.8**
FNA	**Florina**	**3.34**	**7**	*e*Pn	**Pn**	**10 36 44.2**	**+1.4**
FNA				*e*Sn	**Sn**	**10 37 25.6**	**+3.5**
TIP	**Timpagrande**	**3.63**	**299**	Pn	**Pn**	**10 36 46.7**	**-0.1**
OHR	**Ohrid**	**3.64**	**360**	*e*Pn	**Pn**	**10 36 47.9**	**+1.0**
OHR	**Ohrid**	**3.64**	**360**	*i* Pg	**Pn**	**10 36 49.4**	**+2.6**
IDI	**Anoyia**	**3.94**	**122**	Pn	**Pn**	**10 36 51.3**	**+0.3**
IDI	**Anoyia**	**3.94**	**122**	Pn	**Pn**	**10 36 49.4**	**-1.6**
	comp=E,7.3nm,0.9s,baz=87,slow=21,SNR=1.5						
IDI				Sn	**Sn**	**10 37 36.4**	**-0.5**
	comp=E,3.9nm,0.3s,baz=299,slow=20,SNR=6.0						
IDI				LR	LR	10 38 03.4	
	comp=E,96nm,20.1s,baz=295,slow=35						
TIR	**Tirane**	**3.94**	**349**	Pn	**Pn**	**10 36 50.4**	**-0.6**
CEL	**Celeste**	**3.98**	**283**		**Pn**	**10 36 50.1**	**-1.5**
SRS	**Serrai**	**4.23**	**30**	*e*Pn	**Pn**	**10 36 56.2**	**+1.3**
PUK	**Puka**	**4.62**	**351**		**Pn**	**10 37 01.0**	**+0.5**
CUC	**Castrocucco**	**4.66**	**304**	Pn	**Pn**	**10 36 58.9**	**-2.1**
PDG	**Podgorica**	**5.10**	**347**	Pn	**Pn**	**10 37 05.8**	**-1.0**
VAE	**Valguarnera**	**5.10**	**272**	Pn	**Pn**	**10 37 09.1**	**+2.1**
	comp=E,23nm,0.3s,baz=148,slow=9.6,SNR=5.0						
VAE				Sn	**Sn**	**10 38 11.0**	**+5.3**
	comp=E,4.8nm,0.3s,baz=31,slow=18,SNR=1.6						
	comp=E,39nm,0.3s						
RAFF	**Raffo Rosso**	**5.16**	**269**	Pn	**Pn**	**10 37 07.2**	**-0.5**
BOSS	**Bosilegrad**	**5.18**	**14**	*e*Pn	**Pn**	**10 37 08.7**	**+0.7**
ALN	**Alexandroupoli**	**5.31**	**48**	Pn	**Pn**	**10 37 09.8**	**+0.1**
WDD	**Wied Dalam**	**5.32**	**254**	Pn	**Pn**	**10 37 10.2**	**+0.2**
BARS	**Barje**	**5.39**	**8**	*e*Pn	**Pn**	**10 37 11.7**	**+0.7**
KARP	**Karpathos**	**5.45**	**109**	Pn	**Pn**	**10 37 13.0**	**+1.2**
VTS	**Vitosha**	**5.46**	**19**	*e*Pn	**Pn**	**10 37 12.9**	**+0.8**
SJES	**Sjenica**	**5.82**	**354**	*e*Pn	**Pn**	**10 37 15.0**	**-1.9**
SJES				*e*Sn	**Sn**	**10 38 21.5**	**-1.9**
STON	**Ston**	**5.90**	**337**	*e*Pn	**Pn**	**10 37 16.3**	**-1.6**
ZAPS	**Zavoj**	**5.96**	**13**	*e*Pn	**Pn**	**10 37 19.7**	**+0.9**
PAOL	**Paolisi**	**6.02**	**308**	Pn	**Pn**	**10 37 17.8**	**-1.8**
IVAS	**Ivanjica**	**6.12**	**355**	*e*Pn	**Pn**	**10 37 20.5**	**-0.5**
IVAS				*e*Sn	**Sn**	**10 38 29.2**	**-1.5**
BOVS	**Bovan**	**6.20**	**6**	*e*Pn	**Pn**	**10 37 21.3**	**-0.6**
GRUS	**Gruza**	**6.41**	**359**	*e*Pn	**Pn**	**10 37 24.0**	**-0.9**
ZAGS	**Zajecar**	**6.43**	**9**	*e*Pn	**Pn**	**10 37 25.2**	**+0.1**
BBLS	**Lazi&#263i**	**6.48**	**351**	*e*Pn	**Pn**	**10 37 22.8**	**-3.1**
BBLS				*e*Sn	**Sn**	**10 38 36.6**	**-3.0**
DIVS	**Divibare**	**6.65**	**355**	*e*Pn	**Pn**	**10 37 26.6**	**-1.7**
DIVS				*e*Sn	**Sn**	**10 38 40.4**	**-3.4**
INTR	**Introdacqua**	**7.00**	**313**	Pn	**Pn**	**10 37 34.3**	**+1.2**
CAMP	**Campotosto**	**7.62**	**314**	Pn	**Pn**	**10 37 41.7**	**+0.1**
NRCA	**Norcia**	**7.97**	**315**		**Pn**	**10 37 46.0**	**-0.4**
FDMO	**Fiordimonte**	**8.12**	**316**		**Pn**	**10 37 48.0**	**-0.3**
MLR	**Muntele Rosu**	**8.88**	**24**	Pn	**Pn**	**10 37 59.7**	**+0.7**
	comp=E,0.3nm,0.3s,baz=319,slow=22,SNR=1.5						
	comp=E,2.6nm,0.7s						
BURAR	**Bucovina Array**	**10.64**	**16**	Pn	**Pn**	**10 38 22.4**	**-0.6**
BUR08	**Bucovina Ar. S**	**10.66**	**16**	Pn	**Pn**	**10 38 23.8**	**+0.5**
GERES	**GERESS Array B**	**12.49**	**338**	Pn	**Pn**	**10 38 48.2**	**-0.1**
	comp=E,0.1nm,0.3s,baz=165,slow=12,SNR=1.3						
	comp=E,0.5nm,0.3s						
AKASG	**Malin Array Be**	**14.53**	**22**	Pn	**Pn**	**10 39 13.2**	**-2.7**
	comp=E,0.2nm,0.3s,baz=212,slow=12,SNR=1.3						
KARS	**Kars**	**17.56**	**73**		**P**	**10 39 57.8**	**+1.4**
HFS	**Hagfors**	**23.14**	**351**	P	**P**	**10 40 54.2**	**-2.3**
	comp=E,1.0nm,0.5s,baz=174,slow=14,SNR=5.9						
	comp=E,1.0nm,0.5s						
NC602	**NORSAR Array S**	**24.02**	**349**	P	**P**	**10 41 06.2**	**+1.1**
NC602				IAmb	IAmb	10 41 34.6	
	comp=Z,20nm,1.4s						
EKA	**Eskdalemuir Ar**	**24.15**	**325**	P	**P**	**10 41 06.1**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=120,slow=12,SNR=1.6						
	comp=Z,0.9nm,0.6s						
FINES	**FINESS Array B**	**24.22**	**6**	P	**P**	**10 41 05.5**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=156,slow=10,SNR=5.5						
	comp=Z,1.0nm,0.6s						
FIA1	**FINESS Array S**	**24.22**	**6**	P	**P**	**10 41 08.0**	**+1.1**
FIA1				IAmb	IAmb	10 41 42.4	
	comp=Z,34nm,1.5s						
NAO01	**NORSAR Array S**	**24.23**	**348**	P	**P**	**10 41 06.7**	**-0.3**
NAO01				IAmb	IAmb	10 41 40.8	
	comp=Z,28nm,1.5s						
NOA	**NORSAR Array B**	**24.36**	**349**	P	**P**	**10 41 07.5**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=157,slow=9.1,SNR=2.7						
	comp=Z,0.7nm,0.8s						
NBO00	**NORSAR Array S**	**24.42**	**348**	P	**P**	**10 41 09.7**	**+0.9**
NBO00				IAmb	IAmb	10 41 16.4	
	comp=Z,17nm,1.4s						
RAYN	**Ar Rayn**	**25.31**	**116**	P	**P**	**10 41 20.0**	**+2.8**
TORD	**Torodi Ar. Bea**	**29.64**	**220**	P	**P**	**10 41 55.6**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=28,slow=10,SNR=6.8						
	comp=Z,0.8nm,0.6s						
ABKAR	**Akbulak array**	**30.45**	**55**	P	**P**	**10 42 05.5**	**+2.6**
ARCES	**ARCESS Array B**	**32.23**	**3**	P	**P**	**10 42 18.2**	**-0.1**
	comp=Z,5.3nm,1.1s,baz=197,slow=12,SNR=2.5						
	comp=Z,5.3nm,1.1s						
UOSS	**Minazif**	**32.54**	**102**	P	**P**	**10 42 23.3**	**+1.7**
UOSS				IAmb	IAmb	10 43 02.6	
	comp=Z,4.1nm,0.9s						
BRVK	**Borovoye**	**37.33**	**49**	P	**P**	**10 43 05.2**	**+2.6**
BVAR	**Borovoye Array**	**37.39**	**49**	P	**P**	**10 43 02.9**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=284,slow=5.8,SNR=2.4						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**42.46**	**53**	P	**P**	**10 43 43.3**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=276,slow=8.4,SNR=1.8						
	comp=Z,0.4nm,0.4s						
MK31	**Makanchi Array**	**45.47**	**58**	P	**P**	**10 44 09.6**	**+0.1**
MKAR	**Makanchi Array**	**45.47**	**58**	P	**P**	**10 44 06.9**	**-2.6**
	comp=Z,0.3nm,0.4s,baz=272,slow=7.3,SNR=4.9						
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**45.99**	**48**	P	**P**	**10 44 11.4**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=263,slow=7.1,SNR=2.0						
	comp=Z,0.7nm,0.3s						
TULEG	**Thule**	**53.84**	**343**	P	**P**	**10 45 13.9**	**+1.2**
TRNY	**Table Rock, Ra**	**69.87**	**307**	P	**P**	**10 47 00.9**	**-0.2**
E29M	**Blow River**	**73.26**	**352**	P	**P**	**10 47 21.8**	**+0.6**
F31M	**Tsiigehtchic**	**73.64**	**350**	P	**P**	**10 47 24.1**	**+0.7**
F31M				IAmb	IAmb	10 48 03.5	
	comp=Z,6.4nm,1.4s						
D23K	**Nanushuk River**	**73.69**	**357**	P	**P**	**10 47 24.9**	**+1.2**
D23K				IAmb	IAmb	10 47 33.0	
	comp=Z,2.9nm,1.2s						
I30M	**Mount Dempster**	**76.10**	**350**	P	**P**	**10 47 38.6**	**+0.8**
I30M				IAmb	IAmb	10 48 02.7	
	comp=Z,4.6nm,1.4s						

TAP 09 10:40:35.0,24°.52N×121°.60E,h7km,ML1.6,4C-2D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LATG	**Datong**	**0.07**	**285**	⇓*i* P	Pg	10 40 36.8	-0.1
LATG				*i* S	Sg	10 40 38.1	-0.2
ENTT	**Nioudou**	**0.12**	**347**	*i* P	Pg	10 40 37.7	0.0
ENTT				*i* S	Sg	10 40 39.7	+0.1
NDS	**Dongshan**	**0.16**	**43**	P	Pg	10 40 38.2	-0.1
NDS				*e*S	Sg	10 40 40.7	+0.1
ENA	**Nanau**	**0.16**	**124**	*i* P	Pg	10 40 38.4	+0.1
ENA				*e*S	Sg	10 40 42.5	+2.0
EWUT	**Wuta**	**0.18**	**114**	⇑*i* P	Pg	10 40 38.7	0.0
EWUT				S	Sg	10 40 41.4	+0.2
TWE	**Neicheng**	**0.21**	**18**	P	Pg	10 40 39.2	-0.1
TWE				S	Sg	10 40 43.0	+0.8
NNSB	**Datong**	**0.21**	**245**	⇑*i* P	Pg	10 40 39.2	-0.2
NNSB				*e*S	Sg	10 40 42.0	-0.3
NNSH	**Datong**	**0.21**	**245**	P	Pg	10 40 39.0	-0.4
NNSH				S	Sg	10 40 42.4	+0.2
NNS	**Nan Shan**	**0.22**	**249**	*i* P	Pg	10 40 39.1	-0.3
NNS				S	Sg	10 40 42.1	-0.2
EAHA	**Aohua**	**0.23**	**145**	*e*P	Pg	10 40 39.8	+0.2
EAHA				*e*S	Sg	10 40 43.1	+0.4
ESAO	**Su ao**	**0.23**	**76**	P	Pg	10 40 39.4	-0.2
ESAO				*e*S	Sg	10 40 42.5	-0.3
FUSB	**Fushanzhiwuyua**	**0.24**	**358**	P	Pg	10 40 39.8	0.0
FUSB				S	Sg	10 40 43.0	-0.1
TWC	**Suao**	**0.25**	**68**	⇓*i* P	Pg	10 40 40.0	+0.1
TWC				*e*S	Sg	10 40 43.3	+0.1
YHNB	**Yeheng**	**0.25**	**307**	⇑*i* P	Pg	10 40 40.2	+0.1
YHNB				*i* S	Sg	10 40 43.5	0.0
NSK	**Sanguang**	**0.27**	**306**	*i* P	Pg	10 40 40.3	0.0
NSK				S	Sg	10 40 43.6	-0.4
NWLT	**Wulai**	**0.27**	**342**	*i* P	Pg	10 40 40.5	+0.1
NWLT				*i* S	Sg	10 40 44.0	0.0
ETLH	**Xiulin Townshi**	**0.33**	**199**	*e*P	Pg	10 40 41.4	-0.1
ETLH				*e*S	Sg	10 40 46.0	+0.2
NACB	**Ninganchiao**	**0.34**	**180**	⇑P	Pg	10 40 41.7	0.0
NACB				*e*S	Sg	10 40 45.8	-0.4
ETL	**Fush Village**	**0.36**	**176**	*e*P	Pg	10 40 42.6	+0.6
FUSS	**Fushou**	**0.42**	**230**	*e*P	Pg	10 40 42.6	-0.7
FUSS				*e*S	Sb	10 40 50.8	-0.8
TWD	**Chiawan**	**0.44**	**180**	*e*P	Pg	10 40 44.1	+0.6
TWD				*e*S	Sg	10 40 50.2	+1.0
NFF	**Wufeng Townshi**	**0.45**	**285**	*e*P	Pg	10 40 44.5	+0.7
NFF				*e*S	Sg	10 40 49.6	-0.1
KSHI	**Guanxi Townshi**	**0.46**	**304**	*e*P	Pg	10 40 43.9	-0.1
TATO	**Taipei**	**0.47**	**348**	*e*P	Pg	10 40 44.2	+0.1
TATO				*e*S	Sg	10 40 50.8	+0.6
TDCB	**Techi**	**0.48**	**237**	*e*P	Pb	10 40 45.2	-0.7
WHF	**Hehuan Shan**	**0.48**	**219**	P	Pg	10 40 44.1	-0.3
WHF				S	Sg	10 40 51.9	+1.3
TIPB	**Shuangxi**	**0.50**	**25**	P	Pg	10 40 45.0	+0.3
TIPB				*e*S	Sg	10 40 51.4	+0.2
LXIB	**Xiulin Townshi**	**0.52**	**199**	*e*P	Pb	10 40 46.2	-0.4
LXIB				*e*S	Sb	10 40 53.9	-0.6
LIOB	**Emei**	**0.54**	**284**	P	Pb	10 40 46.2	-0.7
LIOB				*e*S	Sg	10 40 53.2	+0.5
NSTT	**Nanjuang**	**0.55**	**282**	P	Pg	10 40 45.9	+0.2
NSTT				*e*S	Sg	10 40 53.3	+0.3
EOS2	**EOS2**	**0.59**	**100**	*e*P	Pg	10 40 46.4	0.0
EOS2				*e*S	Sb	10 40 56.5	+0.4
WHP	**Taichung City**	**0.64**	**248**	P	Pg	10 40 47.6	+0.2
WHP				*e*S	Sg	10 40 55.1	-0.6
OWD	**Renai**	**0.68**	**214**	*e*P	Pg	10 40 47.4	-0.8
WUSB	**Renai**	**0.68**	**220**	*i* P	Pg	10 40 47.4	-0.8
WUSB				*e*S	Sg	10 40 56.9	-0.2
EOS3	**EOS3**	**0.70**	**109**	*e*P	Pg	10 40 48.5	+0.1
ESL	**Shilin**	**0.72**	**192**	*e*P	Pb	10 40 49.4	-0.5
WARBT	**Fenglin Townsh**	**0.82**	**194**	*e*P	Pg	10 40 50.7	-0.1
VWDT	**VWDT**	**0.87**	**209**	P	Pg	10 40 51.5	-0.2
YULB	**Yu-li**	**1.15**	**194**	*e*P	Pg	10 40 56.6	-0.6

JMA 09 10:40:52.1±0.3,25°.N±1°.×123°.6E±0°.6,h30km,MV1.9/8, NW OFF ISHIGAKIJIMA IS,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.72**	**173**	*e*S	Sb	10 41 15.9	+0.1
JISG	**Ishigakijimahi**	**0.77**	**127**	*e*P	Pn	10 41 06.4	-0.5
JISG				*e*S	Sb	10 41 17.0	-0.1
YOJ	**Yonaguni jima**	**0.82**	**224**	*e*S	Sb	10 41 18.2	-0.4
JIJ	**Ishigaki jima**	**0.83**	**146**	*e*P	Pn	10 41 07.2	-0.5
JIJ				*e*S	Sb	10 41 18.5	-0.3
JKRS	**Kuro-shima**	**0.88**	**157**	*e*P	Pn	10 41 08.3	-0.2
JKRS				*e*S	Sn	10 41 19.5	-0.7
HATJ	**Hateruma jima**	**1.01**	**171**	*e*S	Sn	10 41 23.5	+0.2

*IDC **09** 10:41:31.1±1.4,37°.33N×20°.58E,h0km,mb3.6/6, mbtmp3.5/10,ML4.0/2,Error ellipse: s-maj=30.8km s-min=22.4km az=114.0*
*ATH **09** 10:41:33.8,37°.39N×20°.78E,h8km±1km,ML3.5/17,Error ellipse: s-maj=1.7km s-min=0.7km az=49.0*
*THE **09** 10:41:34.4,37°.40N×20°.82E,h11km±2km,ML3.5/12,Error ellipse: s-maj=2.8km s-min=0.7km az=50.0*
ISC 09 10:41:33.6±1.2,37°.37N±0°.04×20.78E±0°.04,h13km±7km, n46,σ0°73/74,mb3.6/6,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.29**	**6**	P	**Pg**	**10 41 39.8**	**+0.2**
KRI1				S	**Sg**	**10 41 44.3**	**+0.6**
	22μm,0.4s						
LTHK	**Lithakia**	**0.34**	**8**	P	**Pg**	**10 41 40.5**	**0.0**
LTHK				S	**Sg**	**10 41 45.2**	**+0.1**
	17μm,0.3s						
LTHK	**Lithakia**	**0.34**	**8**	P	**Pg**	**10 41 40.4**	**0.0**
LTHK				S	**Sg**	**10 41 45.0**	**-0.2**
LTHK				AML	AML	10 41 47.1	
	comp=E,29309μm,0.3s						
LTHK				AML	AML	10 41 48.6	
	comp=N,37182μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.70**	**360**	P	**Pg**	**10 41 46.8**	**-0.4**
RTZL				S	**Sb**	**10 41 57.4**	**+0.2**
	comp=N,5μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.76**	**348**	P	**Pg**	**10 41 48.0**	**-0.2**
PSDA				S	**Sb**	**10 42 00.1**	**+1.3**
	comp=N,6μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.76**	**348**	P	**Pg**	**10 41 47.9**	**-0.4**
PSDA				S	**Sg**	**10 41 56.9**	**-1.3**
AMT	**Artemida-Makis**	**0.76**	**78**	P	**Pg**	**10 41 48.7**	**+0.4**
AMT				S	**Sg**	**10 41 57.9**	**-0.3**
AMT				AML	AML	10 42 03.4	
	comp=E,16760μm,0.4s						
AMT				AML	AML	10 42 05.7	
	comp=N,18542μm,0.4s						
VLS	**Valsamata**	**0.82**	**349**	P	**Pg**	**10 41 48.8**	**-0.6**
VLS				S	**Sb**	**10 42 01.6**	**+1.0**
	comp=N,3μm,0.5s						
VLS	**Valsamata**	**0.82**	**349**	P	**Pg**	**10 41 48.8**	**-0.6**
VLS				S	**Sg**	**10 41 59.9**	**-0.2**
VLS				AML	AML	10 42 06.2	
	comp=E,6584μm,0.4s						
VLS				AML	AML	10 42 06.3	
	comp=N,6585μm,0.6s						
LXR1	**Lixouri, Cepha**	**0.87**	**342**	P	**Pb**	**10 41 50.9**	**+0.4**
LXR1				S	**Sb**	**10 42 03.2**	**+1.2**
	comp=N,12μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.87**	**342**	P	**Pg**	**10 41 50.4**	**0.0**
LXRA				S	**Sg**	**10 42 01.3**	**-0.5**
LXRA				AML	AML	10 42 10.3	
	comp=E,14032μm,0.6s						
LXRA				AML	AML	10 42 14.1	
	comp=N,18420μm,0.5s						
RLS	**Riolos of Patr**	**0.87**	**38**	P	**Pg**	**10 41 49.4**	**-1.1**
RLS				S	**Sg**	**10 42 02.1**	**+0.2**
	comp=N,2μm,0.4s						
RLS	**Riolos of Patr**	**0.87**	**38**	P	**Pg**	**10 41 49.5**	**-1.1**
RLS				S	**Sg**	**10 42 01.7**	**-0.3**
RLS				AML	AML	10 42 03.8	
	comp=N,3984μm,0.3s						
RLS				AML	AML	10 42 04.7	
	comp=E,4054μm,0.4s						
PYL	**PYLOS**	**0.91**	**122**	P	**Pg**	**10 41 50.8**	**-0.3**
PYL				S	**Sn**	**10 42 05.2**	**+0.3**
	comp=E,2μm,0.6s						
PYL	**PYLOS**	**0.91**	**122**	P	**Pg**	**10 41 50.7**	**-0.3**
PYL				S	**Sb**	**10 42 03.7**	**+0.6**
PYL				AML	AML	10 42 06.4	
	comp=N,3743μm,0.6s						
PYL				AML	AML	10 42 08.9	
	comp=E,4905μm,0.6s						
DMLN	**Damoulianata-K**	**0.92**	**340**	P	**Pg**	**10 41 51.3**	**-0.1**
DMLN				S	**Sn**	**10 42 06.0**	**+0.6**
	comp=E,6μm,0.5s						
DMLN	**Damoulianata-K**	**0.92**	**340**	P	**Pg**	**10 41 51.3**	**-0.1**

comp=E,5.8nm,0.8s,baz=357,slow=22,SNR=1.5
MLR Muntele Rosu 8.99 24 Pn **Pn 10 43 45.3 +2.2**
comp=E,0.4nm,0.3s,baz=200,slow=18,SNR=1.9
comp=E,1.2nm,0.4s
BRTR Keskin Array B 10.34 73 Pn Pn 10 44 06.9 +5.2
comp=E,0.2nm,0.3s,baz=243,slow=13,SNR=1.3
AKASG Malin Array Be 14.63 22 Pn **Pn 10 45 00.6 +0.5**
comp=E,0.8nm,0.3s,baz=212,slow=10,SNR=1.5
comp=E,0.2nm,0.2s
HFS Hagfors 23.23 351 P **P 10 46 39.1 -1.1**
comp=E,1.7nm,0.7s,baz=141,slow=9.3,SNR=2.1
comp=E,1.7nm,0.7s
FINES FINESS Array B 24.32 6 P **P 10 46 51.0 +0.3**
comp=E,1.5nm,0.8s,baz=185,slow=14,SNR=1.8
comp=E,1.5nm,0.8s
TORD Torodi Ar. Bea 29.54 220 P **P 10 47 36.7 -1.3**
comp=E,0.4nm,0.5s,baz=33,slow=9.7,SNR=3.6
comp=E,0.4nm,0.5s
KURBB Kurchatov Arra 42.55 53 P **P 10 49 29.3 +0.6**
comp=E,0.6nm,0.6s,baz=284,slow=8.5,SNR=1.8
comp=E,0.6nm,0.6s
MKAR Makanchi Array 45.55 58 P **P 10 49 52.8 -0.2**
comp=E,0.3nm,0.6s,baz=278,slow=7.7,SNR=1.7
comp=E,0.3nm,0.6s
ZALV Zalesovo Beam 46.08 48 P **P 10 49 57.2 +0.3**
comp=E,0.6nm,0.5s,baz=297,slow=9.5,SNR=2.0
comp=E,0.6nm,0.5s

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*UPP **09** 10:59:31.3±2.7, 64°.42N×31°.54E, h0km, ML1.9*
*HEL **09** 10:59:36.7±0.2, 64°.67N×30°.77E, h0km, ML2.0, Explosion*
*KOLA **09** 10:59:36.8, 64°.67N×30°.77E, h0km, ML2.1, Kostomuksha, Karelia*
*IDC **09** 10:59:37.0±2.9, 64°.64N×31°.33E, h0km, mbtmp2.9/4, ML2.0/4, Error ellipse: s-maj=40.8km s-min=10.0km az=105.0*
ISC 09 10:59:36.2±0.9,**64°.75N**±0°.03×**30°.84E**±0°.04,**h0**km,**n46**, σ1°.59/66,**Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.66**	**217**	PG	**Pg**	**10 59 46.8**	**-2.1**
	baz=38						
RMF				MSG		10 59 55.1	
	comp=Z,30nm,0.2s						
KU6	**Riekki**	**1.34**	**343**	PG	**Pg**	**11 00 01.6**	**-0.3**
	baz=169						
KU6				MSG		11 00 19.2	
	comp=Z,12nm,0.2s						
KU6				SG	**Sn**	**11 00 21.0**	**+0.3**
OLKF	**Oulanka, Finla**	**1.69**	**340**	PG	**Pn**	**11 00 07.6**	**+0.7**
OLKF				MSG		11 00 29.1	
	comp=Z,10.0nm,0.2s						
OLKF				SN	**Sg**	**11 00 33.1**	**+2.8**
JOF	**Joensuu**	**1.85**	**173**	*e*P	**Pb**	**11 00 10.8**	**-0.1**
JOF	**Joensuu**	**1.85**	**173**	PG	**Pn**	**11 00 08.3**	**-0.9**
NIF	**Nilsia**	**1.91**	**226**	PG	**Pn**	**11 00 09.0**	**-0.9**
	baz=41						
RANF	**Ranua**	**2.12**	**309**	PG	**Pn**	**11 00 13.8**	**+1.0**
RANF				SG	**Sb**	**11 00 42.1**	**-0.1**
OUL	**Oulu**	**2.13**	**281**	PB	**Pn**	**11 00 13.6**	**+0.6**
OUL				SB	**Sn**	**11 00 40.1**	**0.0**
OBF4	**Vikkela, Lumij**	**2.46**	**274**	PB	**Pn**	**11 00 17.9**	**+0.5**
OBF4				MSG		11 00 48.7	
	comp=Z,10nm,0.2s						
OUF	**Merijarvi**	**2.67**	**264**	PN	**Pn**	**11 00 20.2**	**-0.1**
	baz=76						
OUF				MSG		11 00 54.2	
	comp=Z,17nm,0.2s						
OUF				SB	**Sn**	**11 00 55.1**	**+1.9**
RNF	**Rovaniemi**	**2.73**	**315**	PN	**Pn**	**11 00 22.3**	**+1.0**
	baz=136						
RNF				SG	**Sg**	**11 01 02.6**	**-1.3**
OBF0	**Syolatti, Pyha**	**2.85**	**268**	PN	**Pn**	**11 00 23.0**	**+0.1**
	baz=81						
OBF0				MSG		11 00 59.9	
	comp=Z,6.0nm,0.2s						
SUF	**Sumiainen**	**2.92**	**228**	PB	**Pn**	**11 00 24.6**	**+0.8**
	baz=49						
SUF				MSG		11 01 00.1	
	comp=Z,3.0nm,0.2s						
APA0	**Apatity Array**	**3.00**	**16**	P	**Pn**	**11 00 26.1**	**+1.2**
APA0				S	**Sn**	**11 01 03.0**	**+1.6**
TOF	**Tornio**	**3.03**	**299**	PB	**Pn**	**11 00 28.3**	**+2.9**
TOF				MSG		11 01 06.1	
	comp=Z,2.3nm,0.2s						
TOF				SG	**Sb**	**11 01 07.8**	**-0.7**
VRF	**Varrio**	**3.05**	**351**	PN	**Pn**	**11 00 27.1**	**+1.4**
VRF				MSG		11 01 08.7	
	comp=Z,2.8nm,0.2s						
KALU	**Kalix**	**3.33**	**293**	PN	**Pn**	**11 00 30.4**	**+0.9**
KALU				SB	**Sb**	**11 01 14.8**	**-2.3**
KAF	**Kangasniemi**	**3.34**	**220**	PB	**Pn**	**11 00 30.5**	**+0.9**
RUF	**Ruokolahti**	**3.45**	**195**	PN	**Pn**	**11 00 30.7**	**-0.3**
LVZ	**Lovozero**	**3.52**	**24**	P	**Pn**	**11 00 33.1**	**+1.1**
LVZ				S	**Sn**	**11 01 15.4**	**+1.2**
KEF	**Keuruu**	**3.73**	**229**	*e*P	**Pn**	**11 00 35.7**	**+0.8**
KEF	**Keuruu**	**3.73**	**229**	PN	**Pn**	**11 00 35.8**	**+0.8**
KEF				SB	**Sn**	**11 01 23.1**	**+3.6**
KLF	**Kolari**	**3.76**	**315**	PN	**Pn**	**11 00 36.5**	**+1.2**
RAJF	**Raja-Jooseppi**	**3.87**	**346**	PN	**Pn**	**11 00 38.7**	**+1.8**
PAJU	**Pajala**	**3.91**	**309**	P	**Pn**	**11 00 37.9**	**+0.5**
PAJU	**Pajala**	**3.91**	**309**	PN	**Pn**	**11 00 38.9**	**+1.5**
PAJU				SG	**Sg**	**11 01 38.5**	**-3.0**
FIA0	**FINESS Array S**	**3.96**	**215**	SG	**Sb**	**11 01 37.9**	**+2.7**
FINES	**FINESS Array B**	**3.96**	**215**	Pn	**Pn**	**11 00 38.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=32,slow=13,SNR=5.5						
FINES				Lg	Lg	11 01 40.2	
	comp=Z,1.3nm,0.3s,baz=32,slow=26,SNR=11						
	comp=Z,0.8nm,0.6s						
SJUU	**Sjulsmark**	**3.98**	**285**	P	**Pn**	**11 00 38.4**	**+0.1**
SJUU				S	**Sn**	**11 01 27.9**	**+2.4**
VAF	**Ylistaro**	**4.00**	**248**	*e*P	**Pn**	**11 00 38.3**	**-0.3**
VAF	**Ylistaro**	**4.00**	**248**	PN	**Pn**	**11 00 39.6**	**+1.0**
ERTU	**Ertsjaerv**	**4.01**	**301**	P	**Pn**	**11 00 39.1**	**+0.2**
ERTU				S	**Sn**	**11 01 30.7**	**+4.2**
ERTU	**Ertsjaerv**	**4.01**	**301**	PN	**Pn**	**11 00 39.8**	**+1.0**
HARU	**Harads**	**4.35**	**293**	P	**Pn**	**11 00 44.0**	**+0.5**
HARU				S	**Sn**	**11 01 39.1**	**+4.3**
ODEU	**Stanfors**	**4.38**	**270**	P	**Pn**	**11 00 42.2**	**-1.6**
UMAU	**Umeaa**	**4.51**	**263**	P	**Pn**	**11 00 43.8**	**-1.8**
UMAU	**Umeaa**	**4.51**	**263**	PN	**Pn**	**11 00 44.1**	**-1.4**
	baz=76						
HEF	**Hetta**	**4.66**	**325**	PN	**Pn**	**11 00 48.9**	**+1.3**
	baz=139						
HEF				SG	**Sg**	**11 02 01.7**	**-3.8**
TERR	**Teriberka**	**4.77**	**19**	P	**Pn**	**11 00 50.0**	**+0.8**
TERR				S	**Sn**	**11 01 45.0**	**-0.2**
PRVG	**Vayda Guba**	**5.05**	**5**	P	**Pn**	**11 00 53.6**	**+0.6**
PRVG				S	**Sn**	**11 01 51.3**	**-0.6**
ARCES	**ARCESS Array B**	**5.23**	**339**	Pn	**Pn**	**11 00 55.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=150,slow=17,SNR=31						
ARCES				Sn	**Sn**	**11 01 56.3**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=154,slow=25,SNR=2.2						
ARCES				Lg	Lg	11 02 20.1	
	comp=Z,0.3nm,0.3s,baz=153,slow=28,SNR=5.4						
	comp=Z,0.5nm,0.3s						
VADS	**Vadso**	**5.42**	**355**	P	**Pn**	**11 00 58.5**	**+0.4**
VADS				S	**Sn**	**11 02 00.0**	**-1.2**
MEF	**Metsahovi**	**5.44**	**216**	*e*P	**Pn**	**11 00 59.6**	**+1.2**
RAF	**Rauma**	**5.58**	**232**	*e*P	**Pn**	**11 00 59.6**	**-0.8**
HFS	**Hagfors**	**9.18**	**248**	Pn	**Pn**	**11 01 50.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=46,slow=12,SNR=2.6						
	comp=Z,1.3nm,0.7s						
NOA	**NORSAR Array B**	**9.68**	**256**	Pn	**Pn**	**11 01 57.0**	**+0.5**
	baz=63,slow=16,SNR=1.6						
	comp=Z,0.1nm,0.3s						

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*IDC **09** 11:09:51.7±1.3, 20°.00S×178°.20W, h593km±15km, mb3.7/15, mbtmp4.6/17, Error ellipse: s-maj=14.6km s-min=12.6km az=146.0*
*NOU **09** 11:09:51.9, 19°.91S×178°.11W, h602km, mb4.4/48, Fiji Islands Region*
*NEIC **09** 11:09:51.9±2.4, 19°.88S±0°.04×178°.2W±0°.1, h591km±5km, mb4.5/150, Error ellipse: s-maj=14.5km s-min=5.3km az=92.0*
ISC 09 11:09:51.9±0.3,**19°.94S**±0°.07×**178°.15W**±0°.06,**h600**km, **n550**, σ0°.76/543,**mb4.5**/98,**10C-1D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**1.81**	**339**	P	**P**	**11 11 05.9**	**+0.3**
TAVE	**Taveuni**	**3.62**	**332**	P	**P**	**11 11 15.4**	**+0.4**
DGTI	**Dogotuki**	**4.14**	**331**	P	**P**	**11 11 18.2**	**-0.3**
MSVF	**Nonsavu**	**4.22**	**301**	P	**P**	**11 11 19.5**	**+0.5**
	169nm,0.4s,baz=236,slow=22,SNR=416						
MSVF	**Nonsavu**	**4.22**	**301**	P	**P**	**11 11 19.7**	**+0.6**
YSA	**Yasawairara**	**5.18**	**308**	P	**P**	**11 11 25.9**	**-0.4**
FUTU	**Fugatoga**	**5.60**	**0**	P	**P**	**11 11 30.6**	**+0.8**
NIUE	**Niue**	**7.80**	**85**	P	**P**	**11 11 48.7**	**-0.7**
NIUE	**Niue**	**7.80**	**85**	P	**P**	**11 11 48.6**	**-0.7**
AFI	**Afiamalu**	**8.55**	**46**	P	**P**	**11 11 55.0**	**-1.7**
FUNA	**Funafuti**	**11.63**	**347**	P	**P**	**11 12 25.5**	**-1.6**
FUNA	**Funafuti**	**11.63**	**347**	P	**P**	**11 12 26.3**	**-0.8**
DVP	**Devils Point**	**13.13**	**277**	P	**P**	**11 12 42.0**	**-0.1**
PINNC	**Pines Island,**	**13.69**	**256**	P	**P**	**11 12 46.4**	**-1.4**
PINNC	**Pines Island,**	**13.69**	**256**	P	**P**	**11 12 46.8**	**-1.0**
LIFNC	**LIFOU**	**13.73**	**264**	P	**P**	**11 12 47.3**	**-0.9**
YATNC	**Mamie plateau,**	**14.13**	**259**	P	**P**	**11 12 53.9**	**+1.8**
DZM	**Mont Dzumac**	**14.55**	**259**	P	**P**	**11 12 54.7**	**-1.4**
DZM	**Mont Dzumac**	**14.55**	**259**	P	**P**	**11 12 57.2**	**+1.1**
KOUNC	**Koumac, New Ca**	**16.50**	**265**	P	**P**	**11 13 15.3**	**+1.4**
KOUNC	**Koumac, New Ca**	**16.50**	**265**	P	**P**	**11 13 16.1**	**+2.2**
OUZ	**Omahuta**	**16.88**	**204**	P	**P**	**11 13 16.9**	**-0.2**
LUES	**Luesalemba Tem**	**17.91**	**299**	P	**P**	**11 13 26.4**	**-0.5**
URZ	**Urewera**	**18.72**	**192**	P	**P**	**11 13 32.2**	**-1.6**
	4.6nm,0.3s,baz=341,slow=2.4,SNR=13						
URZ	**Urewera**	**18.72**	**192**	P	**P**	**11 13 32.7**	**-1.1**
BKZ	**Black Stump Fm**	**19.71**	**192**	P	**P**	**11 13 42.7**	**-0.2**
TATA	**Tatamba Isabel**	**24.23**	**295**	P	**P**	**11 14 23.1**	**-0.4**
PPT	**Papeete**	**27.14**	**90**	P	**P**	**11 14 49.7**	**+0.6**
	17nm,0.5s,baz=229,slow=19,SNR=5.3						
	17nm,0.5s						
PPTF	**Pamatai, Papee**	**27.15**	**90**	P	**P**	**11 14 49.9**	**+0.7**
ARMA	**Armidale**	**29.19**	**243**	P	**P**	**11 15 07.8**	**+0.9**
ARMA				IAmb	IAmb	11 15 26.2	
	comp=Z,16nm,1.4s						
ARMA	**Armidale**	**29.19**	**243**	P	**P**	**11 15 08.7**	**+1.8**
CTAO	**Charters Tower**	**33.41**	**264**	P	**P**	**11 15 43.1**	**+0.3**
CTAO				IAmb	IAmb	11 16 24.0	
	comp=Z,16nm,1.4s						
CTAO	**Charters Tower**	**33.41**	**264**	P	**P**	**11 15 42.6**	**-0.2**
CMSA	**Cobar Meteorol**	**34.41**	**243**	P	**P**	**11 15 50.8**	**-0.1**
COEN	**Coen**	**37.41**	**273**	P	**P**	**11 16 16.3**	**+0.5**
COEN				IAmb	IAmb	11 16 25.1	
	comp=Z,14nm,1.2s						
COEN	**Coen**	**37.41**	**273**	P	**P**	**11 16 16.3**	**+0.5**
STKA	**Stephens Creek**	**37.91**	**243**	P	**P**	**11 16 20.1**	**+0.4**
STKA	**Stephens Creek**	**37.91**	**243**	P	**P**	**11 16 19.6**	**0.0**
	comp=Z,2.0nm,0.7s,baz=93,slow=13,SNR=3.9						
	comp=Z,2.0nm,0.7s						
HTT	**Hallett**	**40.37**	**242**	P	**P**	**11 16 39.8**	**+0.4**
LCRK	**Leigh Creek**	**40.63**	**246**	P	**P**	**11 16 42.0**	**+0.6**
BBOO	**Buckleboo**	**42.68**	**243**	P	**P**	**11 16 57.5**	**+0.1**
BBOO				IAmb	IAmb	11 17 18.7	
	comp=Z,23nm,1.5s						
BBOO	**Buckleboo**	**42.68**	**243**	P	**P**	**11 16 57.8**	**+0.3**
OOD	**Oodnadatta**	**42.74**	**250**	P	**P**	**11 16 59.4**	**+1.4**
MULG	**Mulgathing**	**44.21**	**247**	P	**P**	**11 17 09.1**	**-0.3**
WR0	**Warramunga Arr**	**44.35**	**262**	P	**P**	**11 17 09.9**	**-0.7**
WR0				IAmb	IAmb	11 17 11.3	
	comp=Z,9.3nm,1.2s						
AS01	**Alice Springs**	**44.47**	**256**	P	**P**	**11 17 11.4**	**-0.1**
AS31	**Alice Springs**	**44.52**	**256**	P	**P**	**11 17 11.4**	**-0.4**
ASAR	**Alice Springs**	**44.52**	**256**	P	**P**	**11 17 11.5**	**-0.4**
	comp=Z,8.0nm,0.7s,baz=91,slow=7.6,SNR=174						
ASAR				PcP	**PcP**	**11 18 41.9**	**0.0**
	comp=Z,2.3nm,0.6s,baz=99,slow=4.2,SNR=9.9						
ASAR				ScP	**ScP**	**11 21 40.2**	**+2.7**
	comp=Z,0.7nm,0.6s,baz=102,slow=4.7,SNR=6.0						
	comp=Z,8.0nm,0.7s						
WB0	**Warramunga Arr**	**44.52**	**262**	P	**P**	**11 17 11.1**	**-0.8**
WB0				IAmb	IAmb	11 17 11.7	
	comp=Z,7.5nm,0.4s						
WB2	**Warramunga Arr**	**44.53**	**262**	P	**P**	**11 17 11.2**	**-0.9**
WB2				IAmb	IAmb	11 17 11.9	
	comp=Z,15nm,1.3s						
WRAB	**Tennant Creek**	**44.54**	**262**	P	**P**	**11 17 11.3**	**-0.8**
WRAB				IAmb	IAmb	11 17 11.8	
	comp=Z,13nm,1.3s						
WRA	**Warramunga Arr**	**44.54**	**262**	P	**P**	**11 17 11.3**	**-0.8**
WRA	**Warramunga Arr**	**44.54**	**262**	P	**P**	**11 17 11.1**	**-1.0**
	comp=Z,2.8nm,0.3s,baz=97,slow=7.1,SNR=209						
WRA				PcP	**PcP**	**11 18 41.5**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=92,slow=3.8,SNR=4.1						
	comp=Z,2.8nm,0.3s						
MLH	**Mauna Loa**	**45.09**	**31**	P	**P**	**11 17 17.4**	**+1.0**
HMH	**Humu'ula Sheep**	**45.14**	**31**	P	**P**	**11 17 17.9**	**+1.0**
DHH	**Diamond Head**	**45.53**	**27**	P	**P**	**11 17 20.0**	**+0.6**
KIP	**Kipapa**	**45.58**	**27**	P	**P**	**11 17 20.1**	**+0.3**
MTN	**Manton Dam**	**49.02**	**270**	P	**P**	**11 17 45.0**	**-0.7**
MTN				IAmb	IAmb	11 17 46.1	
	comp=Z,9.9nm,0.6s						
MTN	**Manton Dam**	**49.02**	**270**	P	**P**	**11 17 45.7**	**0.0**
FORT	**Forrest**	**49.39**	**246**	P	**P**	**11 17 47.3**	**-0.9**
FORT				IAmb	IAmb	11 17 57.1	
	comp=Z,17nm,1.1s						
FORT	**Forrest**	**49.39**	**246**	P	**P**	**11 17 48.1**	**-0.1**
WRKA	**Warakurna**	**49.49**	**254**	P	**P**	**11 17 49.0**	**-0.1**
KNRA	**Kununurra**	**50.56**	**266**	P	**P**	**11 17 56.4**	**-0.6**
KNRA				IAmb	IAmb	11 18 21.9	
	comp=Z,16nm,1.4s						
FAKI	**Fak Fak**	**51.24**	**283**	P	**P**	**11 18 01.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**52.97**	**262**	P	**P**	**11 18 14.1**	**0.0**
SOEI	**Soe**	**56.35**	**271**	P	**P**	**11 18 38.8**	**+0.9**
SOEI				IAmb	IAmb	11 18 39.9	
	comp=Z,20nm,0.8s						
MBWA	**Marble Bar**	**57.84**	**257**	P	**P**	**11 18 46.9**	**-1.0**
MBWA	**Marble Bar**	**57.84**	**257**	P	**P**	**11 18 47.2**	**-0.7**
MEEK	**Meekatharra**	**57.97**	**251**	P	**P**	**11 18 48.1**	**-0.6**
SBA	**Scott Base**	**58.42**	**184**	P	**P**	**11 18 52.9**	**+2.2**
RKGY	**Rocky Gully**	**58.59**	**241**	P	**P**	**11 18 52.6**	**-0.1**
GIRL	**Giralia**	**62.57**	**254**	P	**P**	**11 19 18.7**	**-0.3**
PLAI	**Plampang**	**62.73**	**270**	P	**P**	**11 19 19.8**	**-0.4**
JHJ2	**Mitsune**	**66.29**	**322**	P	**P**	**11 19 42.8**	**+0.7**
MYLDM	**Lahad Datu**	**67.06**	**285**	P	**P**	**11 19 47.0**	**-0.2**
JMM	**Marumori**	**69.25**	**326**	P	**P**	**11 20 00.1**	**+0.1**
KKM	**Kota Kinabalu**	**69.48**	**285**	P	**P**	**11 20 02.3**	**+0.3**
JGF	**Kuroka**	**69.49**	**322**	P	**P**	**11 20 01.8**	**+0.2**
JGF				IAmb	IAmb	11 20 22.1	
	comp=Z,37nm,1.4s						
MJAR	**Matsushiro Arr**	**69.68**	**324**	P	**P**	**11 20 02.3**	**-0.3**
	comp=Z,7.8nm,0.6s,baz=164,slow=5.8,SNR=23						
	comp=Z,7.8nm,0.6s						
MAJO	**Matsushiro**	**69.68**	**324**	P	**P**	**11 20 02.7**	**+0.1**
MAJO				IAmb	IAmb	11 20 03.2	
	comp=Z,12nm,0.6s						
MAJO	**Matsushiro**	**69.68**	**324**	P	**P**	**11 20 02.9**	**+0.3**
MJB9	**Matsu-Tunnel**	**69.68**	**324**	P	**P**	**11 20 03.7**	**+1.1**
MJB9				IAmb	IAmb	11 20 04.2	
	comp=Z,12nm,0.6s						
JOW	**Kunigami**	**69.70**	**310**	P	**P**	**11 20 03.0**	**0.0**
QSPA	**South Pole Qui**	**70.13**	**180**	P	**P**	**11 20 05.8**	**+0.8**
QSPA				IAmb	IAmb	11 20 06.6	
	comp=Z,6.7nm,0.8s						
QSPA	**South Pole Qui**	**70.13**	**180**	P	**P**	**11 20 05.4**	**+0.4**
	comp=Z,7.2nm,0.9s,baz=21,slow=0.3,SNR=47						
	comp=Z,7.2nm,0.9s						
JMN	**Monobe**	**70.27**	**319**	P	**P**	**11 20 07.1**	**+0.9**
JTM	**Tenmabayashi**	**71.32**	**328**	P	**P**	**11 20 13.1**	**+1.0**
JNU	**Nakatsue**	**71.78**	**317**	P	**P**	**11 20 15.0**	**0.0**
JNU				IAmb	IAmb	11 20 19.4	
	comp=Z,44nm,1.5s						
ATKA	**Atka Island**	**71.91**	**3**	P	**P**	**11 20 15.1**	**-0.2**
YULB	**Yu-li**	**73.08**	**303**	P	**P**	**11 20 21.8**	**-0.9**
YULB				IAmb	IAmb	11 20 35.9	
	comp=Z,40nm,1.5s						
JKA	**Kamikawa-asahi**	**73.17**	**332**	P	**P**	**11 20 24.6**	**+1.9**
NACB	**Ninganchiao**	**73.25**	**304**	P	**P**	**11 20 23.1**	**-0.5**
NACB				IAmb	IAmb	11 20 23.7	
	comp=Z,20nm,0.8s						
SSLB	**Suanglung**	**73.55**	**303**	P	**P**	**11 20 24.4**	**-0.9**
SSLB				IAmb	IAmb	11 20 32.8	
	comp=Z,34nm,1.3s						
SSLB	**Suanglung**	**73.55**	**303**	P	**P**	**11 20 25.2**	**-0.1**
TPUB	**Ta-pu**	**73.56**	**303**	P	**P**	**11 20 24.4**	**-0.9**
UNV	**Unalaska Valle**	**74.16**	**7**	P	**P**	**11 20 28.4**	**+0.4**
	baz=191						
UNV	**Unalaska Valle**	**74.16**	**7**	P	**P**	**11 20 27.5**	**-0.5**
YSS	**Yuzh-Sakhalins**	**75.33**	**333**	P	**P**	**11 20 36.1**	**+1.3**
PEA0B	**Petropavlovsk-**	**75.69**	**345**	P	**P**	**11 20 37.4**	**+0.8**
PETK	**Petropavlovsk-**	**75.69**	**345**	P	**P**	**11 20 36.9**	**+0.3**
	comp=Z,8.8nm,0.7s,baz=119,slow=6.9,SNR=6.9						
	comp=Z,8.8nm,0.7s						
CHNA	**Chernabura Isl**	**76.14**	**11**	P	**P**	**11 20 39.9**	**+0.9**
	baz=198						
KSRS	**Korea Array**	**76.38**	**319**	P	**P**	**11 20 41.9**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=127,slow=6.0,SNR=9.0						
	comp=Z,1.7nm,0.6s						
KSAR	**Wonju Array Be**	**76.39**	**319**	P	**P**	**11 20 42.1**	**+1.3**
KS19	**Wonju Array Si**	**76.44**	**319**	P	**P**	**11 20 41.2**	**+0.1**
KS19				IAmb	IAmb	11 20 46.3	
	comp=Z,49nm,1.4s						
SDPT	**Sand Point**	**76.48**	**10**	P	**P**	**11 20 39.3**	**-1.5**
S12K	**Black Hills**	**76.57**	**9**	P	**P**	**11 20 41.3**	**-0.1**
S12K	**Black Hills**	**76.57**	**9**	P	**P**	**11 20 42.0**	**+0.6**
	baz=196						
SPIA	**Saint Paul Isl**	**77.10**	**4**	P	**P**	**11 20 44.9**	**+0.7**
	baz=188						
CHGN	**Chignik**	**77.75**	**11**	P	**P**	**11 20 48.2**	**+0.5**
CHGN				IAmb	IAmb	11 21 20.1	
	comp=Z,33nm,1.1s						
CHGN	**Chignik**	**77.75**	**11**	P	**P**	**11 20 47.5**	**-0.2**
	baz=199						
CHIR	**Chirikof Islan**	**77.84**	**13**	P	**P**	**11 20 48.6**	**+0.4**
CHIR	**Chirikof Islan**	**77.84**	**13**	P	**P**	**11 20 48.5**	**+0.4**
	baz=202						
USRK	**Ussuriysk Ar.**	**78.42**	**326**	P	**P**	**11 20 53.0**	**+1.4**
	comp=Z,7.3nm,0.7s,baz=90,slow=2.9,SNR=17						
	comp=Z,7.3nm,0.7s						
USA0B	**Ussuriysk Arra**	**78.42**	**326**	P	**P**	**11 20 52.9**	**+1.3**
USA0B				IAmb	IAmb	11 20 54.3	
	comp=Z,13nm,1.0s						
ELS	**Elsinore Mount**	**78.65**	**48**	P	**P**	**11 20 51.8**	**-1.4**
SII	**Sitkinak Islan**	**78.83**	**13**	P	**P**	**11 20 53.9**	**+0.4**
SII	**Sitkinak Islan**	**78.83**	**13**	P	**P**	**11 20 53.4**	**-0.1**
	baz=203						
O02D	**Mt. Diablo Mer**	**78.94**	**40**	P	**P**	**11 20 56.4**	**+1.8**
ISA	**Isabella, Lake**	**79.04**	**46**	P	**P**	**11 20 56.5**	**+1.2**
R16K	**Pilot Point**	**79.10**	**11**	P	**P**	**11 20 55.0**	**+0.2**
R16K	**Pilot Point**	**79.10**	**11**	P	**P**	**11 20 54.9**	**0.0**
	baz=200						
YUH	**Yuha Desert**	**79.17**	**49**	P	**P**	**11 20 56.6**	**+0.7**
SMAI	**San Martin Ant**	**79.18**	**159**	P	**P**	**11 20 56.7**	**+1.4**
SMAI				IAmb	IAmb	11 20 57.4	
	comp=Z,14nm,1.0s						
AFDM	**Forest Hills D**	**79.31**	**42**	P	**P**	**11 20 57.5**	**+1.0**
R17L	**Mt. Peulik Vol**	**79.39**	**12**	P	**P**	**11 20 56.3**	**-0.1**
	baz=201						
OHAK	**Old Harbor**	**79.64**	**13**	P	**P**	**11 20 58.4**	**+0.8**
	baz=204						
OHAK	**Old Harbor**	**79.64**	**13**	P	**P**	**11 20 58.3**	**+0.6**
L02F	**Cave Junction**	**79.68**	**38**	P	**P**	**11 21 00.1**	**+1.8**
L02F				IAmb	IAmb	11 21 00.2	
	comp=Z,6.1nm,0.7s						
R18K	**Karluk**	**79.71**	**13**	P	**P**	**11 20 58.3**	**+0.3**
	baz=202						
YBH	**Yreka Blue Hor**	**79.94**	**39**	P	**P**	**11 21 01.6**	**+1.8**
WAKR	**Walker**	**80.03**	**43**	P	**P**	**11 21 02.0**	**+1.6**
Q17K	**Contact Creek**	**80.07**	**12**	P	**P**	**11 21 00.2**	**+0.1**
	baz=201						
MPK	**Martis Peak**	**80.11**	**42**	P	**P**	**11 21 01.0**	**0.0**
MPK				IAmb	IAmb	11 21 01.6	
	comp=Z,30nm,0.9s						
O14K	**Tigyukauivet M**	**80.11**	**9**	P	**P**	**11 21 00.4**	**+0.3**
	baz=196						
HATC	**Hat Creek Radi**	**80.13**	**40**	P	**P**	**11 21 01.6**	**+0.8**
HATC				IAmb	IAmb	11 21 03.0	
	comp=Z,14nm,1.0s						
BELA	**Belgrano 2**	**80.13**	**173**	P	**P**	**11 20 60.0**	**-0.2**
O15K	**Ungalikthiuk R**	**80.25**	**9**	P	**P**	**11 21 01.0**	**+0.1**
	baz=197						
KDAK	**Kodiak Island**	**80.31**	**14**	P	**P**	**11 21 01.2**	**0.0**
	baz=204						
Q16K	**King Salmon**	**80.31**	**11**	P	**P**	**11 21 01.8**	**+0.7**
	baz=200						
DSP	**Deep Springs**	**80.33**	**45**	P	**P**	**11 21 03.6**	**+1.8**
P16K	**Nushagak River**	**80.41**	**10**	P	**P**	**11 21 01.9**	**+0.2**
	baz=199						
YERR	**Yerington**	**80.43**	**43**	P	**P**	**11 21 01.9**	**-0.6**
L04D	**Klamath Falls**	**80.48**	**39**	P	**P**	**11 21 01.5**	**-1.1**
L04D				IAmb	IAmb	11 21 05.5	
	comp=Z,14nm,1.2s						
LHV	**Little Huntoon**	**80.48**	**44**	P	**P**	**11 21 02.9**	**+0.3**
Q18K	**Katmai Hardscr**	**80.60**	**12**	P	**P**	**11 21 03.0**	**+0.1**
	baz=202,S

K13K IAmb IAmb 11 21 51.8
comp=Z,28nm,1.2s
K13K Kusilvak Mount 82.30 6 P P 11 21 11.4 +0.1
baz=193
N18K Kilae Creek 82.33 11 P P 11 21 11.6 +0.1
baz=201
O20K Slope Mountain 82.40 13 P P 11 21 11.9 0.0
baz=204
L15K Ungalak Mounta 82.42 8 P P 11 21 12.4 +0.5
baz=196
R11B Troy Canyon, C 82.45 45 P P 11 21 11.9 -0.9
baz=237
BRLK Bradley Lake 82.48 14 P P 11 21 12.6 +0.3
BRLK IAmb IAmb 11 21 20.3
comp=Z,13nm,0.9s
BRSE Bradley Lake S 82.49 14 P P 11 21 12.7 +0.4
baz=206
BMN Battle Mountai 82.53 42 P P 11 21 14.4 +1.2
BMN IAmb IAmb 11 21 15.3
comp=Z,5.7nm,0.9s
N19K Bonanza Creek 82.71 11 P P 11 21 13.0 -0.5
N19K IAmb IAmb 11 21 13.9
comp=Z,10.0nm,0.8s
N19K Bonanza Creek 82.71 11 P P 11 21 13.5 0.0
baz=202
L16K Owhat River 82.73 9 P P 11 21 13.5 +0.1
baz=198
M17K Holitna River 82.75 10 P P 11 21 13.9 +0.4
baz=200
WVOR Wild Horse Val 82.79 40 P P 11 21 15.8 +1.5
WVOR IAmb IAmb 11 21 16.8
comp=Z,7.2nm,1.1s
IPM Ipoh 82.92 277 P P 11 21 14.9 -0.7
IPM IAmb IAmb 11 21 16.8
comp=Z,15nm,0.6s
K15K Wolf Creek Mou 83.01 8 P P 11 21 15.4 +0.6
baz=196
M18K Stony River 83.10 11 P P 11 21 15.7 +0.5
baz=201
SEW Seward 83.11 14 P P 11 21 16.1 +0.8
baz=207
J14K Nanvaranak Lak 83.21 7 P P 11 21 16.2 +0.5
baz=194
I07A Izee 83.23 38 P P 11 21 15.5 -1.1
Q23K Middleton Isla 83.26 16 P P 11 21 16.5 +0.4
baz=210
L17K Donlin 83.31 9 P P 11 21 16.8 +0.5
baz=199
CAPN Captain Cook N 83.33 13 P P 11 21 17.2 +0.8
baz=205
O22K Cooper Landing 83.38 14 P P 11 21 17.2 +0.5
baz=207
J08A Circle Bar Ran 83.42 39 P P 11 21 18.6 +1.1
P23K Montague Islan 83.50 15 P P 11 21 17.9 +0.6
baz=209
GNW Green Mountain 83.51 34 P P 11 21 18.2 +0.6
N20K Mount Spurr 83.51 12 P P 11 21 17.5 +0.1
baz=204
SPCR Spurr Chakacha 83.51 12 P P 11 21 17.3 -0.1
baz=204
SPU Mount Spurr 83.52 12 P P 11 21 16.9 -0.6
SPU IAmb IAmb 11 21 17.4
comp=Z,8.0nm,1.0s
LON Longmire 83.54 35 P P 11 21 18.8 +0.8
KULM Kulim 83.56 278 P P 11 21 18.4 -0.2
KULM IAmb IAmb 11 21 32.6
comp=Z,18nm,1.2s
GAMB Gambell 83.59 3 P P 11 21 18.1 +0.5
baz=186
L18K Granite Mounta 83.64 10 P P 11 21 18.3 +0.3
baz=200
M19K Big River Lodg 83.74 11 P P 11 21 18.2 -0.2
M19K IAmb IAmb 11 21 19.1
comp=Z,7.1nm,0.7s
M19K Big River Lodg 83.74 11 P P 11 21 18.6 +0.2
baz=202
K17K Iditarod 83.86 9 P P 11 21 19.1 +0.1
baz=199
L19K White Mountain 83.91 11 P P 11 21 19.4 0.0
L19K IAmb IAmb 11 21 20.9
comp=Z,8.5nm,0.8s
L19K White Mountain 83.91 11 P P 11 21 19.2 -0.2
baz=202
RC01 Rabbit Creek A 83.92 13 P P 11 21 18.4 -0.9
RC01 IAmb IAmb 11 21 20.2
comp=Z,22nm,1.1s
RC01 Rabbit Creek A 83.92 13 P P 11 21 18.5 -0.9
baz=207
M20K Styx River 83.95 12 P P 11 21 18.4 -1.2
baz=204
PWL Port Wells 84.03 14 P P 11 21 20.1 +0.1
PWL Port Wells 84.03 14 P P 11 21 19.1 -0.8
baz=208
SUA Susitna One 84.05 13 P P 11 21 19.9 -0.3
SUA IAmb IAmb 11 21 21.1
comp=Z,16nm,0.8s
SUA Susitna One 84.05 13 P P 11 21 19.0 -1.1
baz=206
J16K Anvik River 84.08 8 P P 11 21 19.5 -0.7
baz=196
KAIM Kayak Island 84.19 16 P P 11 21 20.5 -0.2
baz=212
G08A Pilot Rock 84.26 38 P P 11 21 22.9 +1.4
CRAG Craig 84.26 24 P P 11 21 20.8 -0.3
baz=222
GLI Glacier Island 84.34 15 P P 11 21 21.0 -0.5
baz=209
SKT Skwentna 84.35 12 P P 11 21 20.5 -1.0
baz=205
L20K Farewell, AK 84.36 11 P P 11 21 21.7 +0.1
baz=203
EYAK Cordova Ski Ar 84.38 15 P P 11 21 22.2 +0.6
baz=210
EYAK Cordova Ski Ar 84.38 15 P P 11 21 21.3 -0.3
J17K VABM Dome 84.40 8 P P 11 21 22.2 +0.6
baz=198
TTA Tatalina 84.42 10 P P 11 21 21.5 -0.4
baz=201
M22K Willow 84.44 13 P P 11 21 21.9 +0.1
M22K Willow 84.44 13 P P 11 21 22.3 +0.4
baz=206
KNK Knik Glacier 84.50 14 P P 11 21 22.0 -0.3
baz=208
PMR Palmer 84.51 13 P P 11 21 22.1 -0.1
PMR IAmb IAmb 11 21 23.2
comp=Z,20nm,1.4s
PMR Palmer 84.51 13 P P 11 21 22.1 -0.1
baz=207
HAWA Hanford 84.58 36 P P 11 21 22.5 -0.5
GHO Glory Hole Cre 84.71 13 P P 11 21 23.5 +0.2
U33K Whale Pass 84.74 23 P P 11 21 24.0 +0.6
baz=222
J18K Innoko River 84.81 9 P P 11 21 24.3 +0.6
baz=200
SML Sawmill 84.87 14 P P 11 21 24.9 +0.8
baz=208
CUT Chulitna 84.99 13 P P 11 21 24.0 -0.5
baz=206
M23K Glacier View 85.00 14 P P 11 21 24.5 -0.2
baz=208
BMRM Bremner River 85.03 16 P P 11 21 24.7 -0.1
baz=211
SCM Sheep Creek Mo 85.12 14 P P 11 21 25.6 +0.3
baz=209
K20K Telida 85.14 11 P P 11 21 25.8 +0.5
baz=203
LYN LuoYang 85.30 309 P P 11 21 27.9 +1.2
LYN pmax pmax
comp=Z,21nm,0.9s
PNL Peninsula 85.39 19 P P 11 21 26.3 -0.3
baz=216
J19K Poorman 85.48 10 P P 11 21 26.7 -0.2
baz=201
PINM Pinnacle 85.49 18 P P 11 21 26.8 -0.3
baz=215
CAST Castle Rocks 85.56 11 P P 11 21 26.1 -1.2
CAST IAmb IAmb 11 21 27.4
comp=Z,16nm,1.2s
CAST Castle Rocks 85.56 11 P P 11 21 27.3 0.0
baz=204,SNR=5.8
N25K Chitina, Valde 85.58 15 P P 11 21 28.0 +0.5
N25K IAmb IAmb 11 21 28.3
comp=Z,6.3nm,0.6s
N25K Chitina, Valde 85.58 15 P P 11 21 28.1 +0.6
baz=211
TNA Tin City 85.59 4 P P 11 21 28.2 +1.0
baz=190

F14K Arctic Creek 85.62 5 P P 11 21 28.2 +0.7
baz=191
M24K Tolsona, Glenn 85.63 14 P P 11 21 27.6 -0.1
baz=210
F10A Beach Ranch, E 85.64 38 IAmb IAmb 11 21 30.3
comp=Z,9.3nm,0.9s
WAT6 Susitna Watana 85.69 14 P P 11 21 28.2 +0.1
baz=208
WAT1 Susitna Watana 85.73 13 P P 11 21 27.7 -0.4
baz=208
H17K Granite Mounta 85.76 8 P P 11 21 28.2 +0.1
baz=197
MCARA McCarthy VSAT 85.79 16 P P 11 21 28.4 0.0
baz=213
B08A Colville Reser 85.85 35 IAmb IAmb 11 21 30.3
comp=Z,4.1nm,0.8s
PLID Pearl Lake 85.86 39 P P 11 21 30.4 +0.9
P29M Windy Craggy 85.87 19 P P 11 21 28.6 -0.2
baz=218
J20K Nowinta River 85.89 10 P P 11 21 29.2 +0.4
baz=202
CTG Chitna Glacier 85.90 17 P P 11 21 29.4 +0.3
baz=214
G16K Koyuk River 85.92 7 P P 11 21 29.6 +0.7
baz=195
TRF Thorofare Moun 85.93 12 P P 11 21 29.2 0.0
baz=206
CHUM Lake Minchumin 85.94 11 P P 11 21 29.7 +0.7
baz=204
GCSA Galena City Sc 85.99 9 P P 11 21 30.0 +0.8
baz=200
F15K North Star Dit 86.00 6 P P 11 21 30.0 +0.8
baz=193
O28M Mount Upton 86.06 18 P P 11 21 30.6 +0.5
baz=215
HARP HAARP 86.13 15 P P 11 21 30.8 +0.8
baz=211
PLBC Pleasant Camp 86.17 20 P P 11 21 30.8 +0.6
baz=219
H18K Honhosa River 86.17 8 P P 11 21 30.5 +0.4
baz=198
DHY Denali Highway 86.21 13 P P 11 21 30.7 +0.2
baz=209
BPAW Bear Paw Mtn. 86.38 12 P P 11 21 31.8 +0.6
baz=205
I20K Naaghideneel 86.41 10 P P 11 21 31.7 +0.5
baz=202
MCK McKinley 86.46 13 P P 11 21 31.8 +0.3
baz=207
T35M Bob Quinn 86.46 24 P P 11 21 31.6 -0.1
baz=224
P30M Million Dollar 86.50 19 P P 11 21 31.5 -0.4
baz=218
SKAG Skagway 86.50 20 P P 11 21 30.5 -1.3
baz=220
PAX Paxson 86.55 14 P P 11 21 30.8 -1.2
baz=210
YUK8 Steele Glacier 86.60 17 P P 11 21 31.7 -0.8
baz=216
M26K Nabesna, AK 86.66 16 P P 11 21 31.9 -0.6
baz=213
YUK6 Outpost Mounta 86.73 18 P P 11 21 32.4 -0.7
baz=217
H19K Roundabout Mou 86.79 9 P P 11 21 33.1 +0.1
baz=200
S34M Telegraph Cree 86.81 23 P P 11 21 32.7 -0.5
baz=224
YUK3 Moose Creek 86.81 17 P P 11 21 32.1 -1.3
baz=215
G18K Tagagawik 86.84 8 P P 11 21 33.3 0.0
baz=198
TXAR Lajitas Array 86.87 57 P P 11 21 36.5 +2.1
comp=Z,0.8nm,0.7s,baz=238,slow=7.2,SNR=4.0
comp=Z,0.8nm,0.7s
HYT Haines Junctio 86.89 19 P P 11 21 33.2 -0.6
baz=218
M27K Edge Creek, AK 86.91 16 P P 11 21 33.4 -0.4
baz=214
YUK4 Talbot Arm 86.97 18 P P 11 21 34.4 +0.2
baz=217
H20K Anotleneega Mo 86.99 9 P P 11 21 34.5 +0.4
baz=202
F17K Baldwin Pennin 87.05 7 P P 11 21 34.3 +0.1
baz=196
L26K Log Cabin Wild 87.10 15 P P 11 21 34.4 -0.1
baz=212
P32M Atlin 87.14 21 P P 11 21 34.0 -0.9
baz=221
Q32M Nakina River 87.16 22 P P 11 21 34.0 -1.2
baz=222
ELIB Princess Elisa 87.18 187 *d*P **P 11 21 35.0 -0.2**
comp=Z,1.3nm,0.7s
I21K Tanana 87.19 11 IAmb IAmb 11 21 35.7
comp=Z,9.0nm,0.7s
I21K Tanana 87.19 11 P P 11 21 34.9 0.0
baz=204
K24K Donnelly Dome 87.20 14 P P 11 21 35.1 +0.1
baz=210
NEA2 Nenana 87.20 12 P **P 11 21 34.5 -0.5**
NEA2 IAmb IAmb 11 21 35.5
comp=Z,6.5nm,0.8s
NEA2 Nenana 87.20 12 P P 11 21 34.4 -0.5
baz=207,SNR=5.6
BVCY Beaver Creek 87.22 16 P P 11 21 34.1 -1.1
baz=215
MLY Manley 87.27 11 P **P 11 21 34.9 -0.4**
MLY IAmb IAmb 11 21 35.4
comp=Z,7.1nm,0.6s
MLY Manley 87.27 11 P P 11 21 34.8 -0.6
baz=206,SNR=6.2
O30N Mendenhall 87.28 19 P P 11 21 34.9 -0.6
baz=219
G19K Purcell Mounta 87.28 8 P P 11 21 34.7 -0.7
baz=200
WRH Wood River Hil 87.29 13 P P 11 21 35.2 -0.1
RIDG Independent Ri 87.35 14 P P 11 21 35.6 -0.2
baz=211
XLT XiLinHaoTe 87.43 319 *e*P **P 11 21 36.7 0.0**
XLT pmax pmax
comp=Z,15nm,0.9s
XLT pmax pmax
comp=Z,69nm,4.4s
HDA Harding Lake 87.47 13 P P 11 21 36.2 0.0
HDA Harding Lake 87.47 13 P P 11 21 36.2 0.0
baz=209,SNR=15
H21K Melozitna Rive 87.48 10 P P 11 21 36.6 +0.4
H21K IAmb IAmb 11 21 37.8
comp=Z,4.6nm,0.8s
H21K Melozitna Rive 87.48 10 P P 11 21 36.5 +0.2
baz=204
CCB Clear Creek Bu 87.50 13 P P 11 21 35.9 -0.4
L27K Beaver Creek, 87.51 16 P P 11 21 36.8 +0.3
baz=214
N30M Aishikik Lake 87.51 18 P P 11 21 36.6 0.0
baz=218
WHY Whitehorse 87.57 20 P P 11 21 36.6 -0.4
baz=220
DLBC Dease Lake 87.59 23 P P 11 21 36.2 -0.9
baz=224
E17K Hothams Inlet 87.61 6 P P 11 21 36.4 -0.4
baz=195
I23K Minto, Yukon-K 87.64 12 IAmb IAmb 11 21 37.4
comp=Z,5.0nm,0.6s
I23K Minto, Yukon-K 87.64 12 P P 11 21 37.1 +0.1
baz=207,SNR=5.5
XAN Xi'an 87.68 307 P P 11 21 39.4 +1.4
XAN pP PcP 11 21 47.8 +8.5
XAN pmax pmax
comp=Z,22nm,0.9s
COLA College 87.69 12 P P 11 21 36.9 -0.3
COLA College 87.69 12 P P 11 21 37.2 0.0
baz=208
COLA College 87.69 12 P P 11 21 36.9 -0.3
SCRK Sand Creek 87.75 14 P P 11 21 38.2 +0.5
SCRK IAmb IAmb 11 21 38.5
comp=Z,2.9nm,0.8s
SCRK Sand Creek 87.75 14 P P 11 21 37.9 +0.2
baz=212
IL31 87.80 13 P P 11 21 37.2 -0.5
IL31 IAmb IAmb 11 21 37.7
comp=Z,5.3nm,0.6s
ILAR Eielson Array 87.80 13 P P 11 21 37.2 -0.5
comp=Z,3.4nm,0.4s,baz=215,slow=5.1,SNR=48
comp=Z,3.4nm,0.4s
IL03 Eielson Array 87.81 13 P P 11 21 37.6 -0.2
F19K Shaleruckik Mo 87.84 8 P P 11 21 38.6 +0.7
baz=199
M29M Somme Creek 87.90 17 IAmb IAmb 11 21 40.0

comp=Z,8.2nm,0.7s
M29M Somme Creek 87.90 17 P P 11 21 38.8 +0.4
baz=217,SNR=5.8
P33M Teslin, Yukon 87.91 21 P P 11 21 38.9 +0.4
baz=222
N31M Braeburn, Yuko 87.93 19 P P 11 21 38.7 +0.2
baz=219
H22K Ishtalitna Cre 87.94 11 P P 11 21 38.8 +0.3
baz=205,SNR=8.3
J25K Salcha River, 87.99 14 P P 11 21 38.9 +0.2
J25K IAmb IAmb 11 21 39.5
comp=Z,6.0nm,0.7s
J25K Salcha River, 87.99 14 P P 11 21 39.1 +0.4
baz=211,SNR=6.3
POKR Poker Plat Res 87.99 12 P P 11 21 37.9 -0.8
baz=209
DLMT Dillon 88.05 40 P P 11 21 40.9 +1.3
DLMT IAmb IAmb 11 21 42.0
comp=Z,9.1nm,1.3s
E18K Tukpahlearik C 88.07 7 P P 11 21 38.1 -0.9
baz=196
D17K Noatak River 88.09 6 P P 11 21 39.3 +0.3
baz=194
S22A 4UR Ranch, Cre 88.15 49 P P 11 21 38.0 -2.5
baz=243
G21K Allakaket 88.16 10 P P 11 21 38.8 -0.6
baz=203
H23K Yukon River 88.21 11 P P 11 21 38.6 -1.1
baz=207
K27K Chicken 88.25 15 IAmb IAmb 11 21 42.2
comp=Z,9.6nm,1.1s
K27K Chicken 88.25 15 P P 11 21 40.4 +0.5
baz=214
TROLL Troll, Antarti 88.29 180 ⇑P **P 11 21 40.0 -0.3**
comp=Z,82nm,0.7s
J26L Joseph Creek 88.30 14 IAmb IAmb 11 21 41.9
comp=Z,9.0nm,0.8s
J26L Joseph Creek 88.30 14 P P 11 21 40.5 +0.2
baz=212,SNR=8.8
F20K Avaraart Lake 88.33 9 P P 11 21 39.7 -0.4
baz=201
RDOG Red Dog Mine 88.45 6 P P 11 21 39.7 -1.0
baz=194
C16K Lisburne Hills 88.46 5 P P 11 21 41.1 +0.4
baz=192
M30M Minto, Yukon 88.48 18 P P 11 21 41.6 +0.5
M30M IAmb IAmb 11 21 42.4
comp=Z,9.2nm,0.8s
M30M Minto, Yukon 88.48 18 P P 11 21 41.5 +0.5
baz=218,SNR=6.0
E19K Redstone River 88.51 8 P P 11 21 41.5 +0.5
E19K IAmb IAmb 11 21 42.2
comp=Z,11nm,0.8s
E19K Redstone River 88.51 8 P P 11 21 41.7 +0.7
baz=200,SNR=5.0
N32M Quiet Lake 88.52 20 P P 11 21 41.9 +0.6
baz=222
L29M L29M 88.53 17 P P 11 21 42.5 +1.2
L29M L29M 88.53 17 P P 11 21 41.6 +0.3
baz=217,SNR=8.0
H24K Noodor Dome 88.54 12 P P 11 21 41.6 +0.3
baz=208
YHL Hebgen Lake 88.65 41 IAmb IAmb 11 21 45.4
comp=Z,5.9nm,1.1s
PD31 Pinedale Array 88.65 43 P P 11 21 43.2 +0.6
PDAR Pinedale Array 88.65 43 P P 11 21 43.4 +0.8
comp=Z,1.4nm,0.6s,baz=196,slow=3.0,SNR=18
comp=Z,1.4nm,0.6s
VNA3 Neumayer Olymp 88.71 176 ⇑P **P 11 21 41.2 -0.9**
comp=Z,6.2nm,0.6s
PRP Porcupine Dome 88.74 13 P P 11 21 42.0 -0.3
baz=210
BOZ Bozeman (W) 88.75 40 IAmb IAmb 11 21 45.6
comp=Z,7.8nm,1.4s
F21K Alatna River 88.81 9 P P 11 21 42.7 +0.2
baz=203
C17K DeLong Mountai 88.83 5 P P 11 21 42.9 +0.4
baz=194
G22K Bettles 88.86 10 P P 11 21 42.4 -0.2
baz=205
HHC Hu-ho-hao-te 88.86 314 *e*P **P 11 21 43.2 -0.2**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,79nm,5.4s
M31M Drury Creek, Y 88.90 19 P P 11 21 43.0 0.0
baz=220
G23K Bananza Creek 88.92 11 P P 11 21 42.8 -0.2
baz=206
DAWY Dawson 88.96 16 IAmb IAmb 11 21 45.1
comp=Z,6.3nm,0.8s
DAWY Dawson 88.96 16 P P 11 21 43.1 -0.1
baz=216,SNR=6.5
I26K Coal Creek Min 89.08 14 P P 11 21 43.4 -0.3
baz=213
EGAK Eagle 89.10 15 IAmb IAmb 11 21 45.0
comp=Z,8.9nm,0.8s
EGAK Eagle 89.10 15 P P 11 21 43.6 -0.2
baz=214,SNR=7.2
VNA2 Neumayer--Watz 89.15 177 ⇑P **P 11 21 43.0 -1.1**
comp=Z,4.8nm,0.7s,baz=220,slow=5.5
C18K Utukok River 89.19 6 P P 11 21 44.1 -0.2
baz=196
WTLY Watson Lake, Y 89.23 22 P P 11 21 44.2 -0.4
baz=225
FARO Faro, Yukon 89.25 19 P P 11 21 44.5 -0.1
baz=221
K29M Barlow Dome 89.28 17 IAmb IAmb 11 21 46.1
comp=Z,6.1nm,0.7s
K29M Barlow Dome 89.28 17 P P 11 21 45.1 +0.2
baz=218
F22K John River 89.28 10 P P 11 21 44.1 -0.5
baz=204
H25L Birch Creek 89.33 13 P P 11 21 44.1 -0.7
baz=210
COLD Coldfoot 89.35 11 P P 11 21 45.1 +0.2
baz=206,SNR=5.4
G24K Hadweenzic Riv 89.38 12 P P 11 21 44.8 -0.3
baz=209
D19K Kuna River 89.38 7 P P 11 21 44.7 -0.4
baz=199
E20K Nigu River 89.40 8 P P 11 21 44.5 -0.7
baz=200
MAYO Mayo, Yukon 89.53 17 P P 11 21 46.2 +0.4
baz=219
J29N Klondike Camp 89.58 16 P P 11 21 46.3 +0.2
baz=217
T25A Trinidad 89.61 50 P P 11 21 45.1 -2.1
baz=244
I27K Kandik River 89.68 14 P P 11 21 47.0 +0.5
baz=214
TOAD Toad River Com 89.69 24 P P 11 21 46.8 0.0
baz=228
G25K Bearman Lake 89.70 12 P P 11 21 47.3 +0.8
baz=210
LIRD Liard River Hi 89.74 24 P P 11 21 47.3 +0.4
baz=228
D20K Etivluk River 89.77 8 P P 11 21 46.4 -0.5
baz=200
C19K Lookout Ridge 89.80 7 P P 11 21 46.7 -0.3
baz=197
CMAR Chiang Mai Arr 89.80 290 P P 11 21 49.0 +0.9
CMAR Chiang Mai Arr 89.80 290 P P 11 21 49.6 +1.5
comp=Z,1.7nm,0.4s,baz=120,slow=2.2,SNR=17
comp=Z,1.7nm,0.4s
B18K Kokolik River 89.82 6 P P 11 21 46.6 -0.4
baz=195
E21K Killik River 89.87 9 P P 11 21 47.3 0.0
E21K IAmb IAmb 11 21 48.8
comp=Z,14nm,1.4s
E21K Killik River 89.87 9 P P 11 21 47.6 +0.3
baz=203
Q24A Divide 89.88 48 P P 11 21 47.9 -0.5
baz=244
E22K Anaktuvuk Pass 89.91 10 P P 11 21 47.5 -0.1
baz=205
I28M Miner Creek 89.95 15 IAmb IAmb 11 21 48.7
comp=Z,5.4nm,0.8s
I28M Miner Creek 89.95 15 P P 11 21 48.4 +0.5
baz=216
F24K Squaw Lake 90.02 11 P P 11 21 48.8 +0.7
baz=208
J30M Hart River 90.18 17 P P 11 21 49.2 +0.2
baz=219
E23K Chandalar 90.20 10 P P 11 21 49.6 +0.6
baz=207
H27K Steamboat Moun 90.22 14 P P 11 21 50.3 +1.3
baz=214

PZH	PanZhiHua	90.33	298	P	P	11 21 52.1	+1.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,40nm,3.9s						
G26K	Porcupine Rive	90.33	13	P	P	11 21 49.8	+0.4
	baz=212						
TGTN	Hyland Airport	90.40	21	P	P	11 21 50.3	+0.3
	baz=226						
E24K	Your Creek	90.41	11	P	P	11 21 50.3	+0.4
	baz=208						
C21K	Knifeblade Rid	90.42	8	P	P	11 21 49.9	+0.1
	baz=202						
D22K	Ayikyak River	90.46	9	P	P	11 21 50.6	+0.5
	baz=204						
F25K	Christian Rive	90.51	12	P	P	11 21 51.0	+0.6
	baz=210						
I30M	Mount Dempster	90.67	16	P	P	11 21 51.7	+0.4
	baz=219						
G27K	Doyon Strip	90.67	14	P	P	11 21 51.5	+0.4
	baz=214						
A19K	Wainwright	90.71	6	P	P	11 21 51.9	+0.8
	baz=196						
TOLK	Toolik Lake Re	90.73	10	P	P	11 21 51.1	-0.3
	baz=207						
D23K	Nanushuk River	90.84	10	P	P	11 21 51.6	-0.2
	baz=206						
B21K	Ikpikpuk River	90.88	8	P	P	11 21 52.0	+0.1
	baz=202						
F26K	Sheenjek River	90.89	12	P	P	11 21 52.0	-0.1
	baz=212						
B20K	Meade River	90.93	7	P	P	11 21 52.4	+0.2
	baz=200						
H29M	Whitestone	90.95	15	P	P	11 21 52.9	+0.5
	baz=217						
E25K	Arctic Village	90.98	12	P	P	11 21 52.5	0.0
	baz=210						
D24K	Happy Valley	91.31	10	P	P	11 21 54.5	+0.6
	baz=207						
EPYK	Eagle Plains	91.48	15	P	P	11 21 54.7	-0.1
	baz=218						
G29M	Pine Creek	91.59	15	P	P	11 21 55.1	-0.2
	baz=217						
C23K	Itkillik River	91.64	9	P	P	11 21 55.5	+0.1
	baz=206						
H31M	Peel River	91.66	17	P	P	11 21 55.5	-0.2
	baz=221						
B22K	Teshekpuk Lake	91.71	8	P	P	11 21 55.3	-0.4
	baz=203						
F28M	Old Crow	91.73	14	P	P	11 21 55.9	-0.1
	baz=216						
E27K	Coleen River	91.83	13	P	P	11 21 56.9	+0.5
	baz=214						
C24K	Franklin Bluff	91.84	10	P	P	11 21 56.8	+0.5
	baz=208						
D25K	Kavik River	91.88	11	P	P	11 21 56.9	+0.3
	baz=210						
G30M	tAoh Zraii Nji	92.09	15	P	P	11 21 57.6	-0.1
	baz=219						
A22K	Sinclair Lake	92.12	7	P	P	11 21 58.4	+0.8
	baz=202						
435B	Jarrell	92.28	58	P	P	11 21 58.3	-1.1
	baz=248						
E28M	Babbage River	92.61	13	P	P	11 22 00.3	+0.3
E28M				IAmb	IAmb	11 22 00.8	
	comp=Z,2.5nm,0.8s						
E28M	Babbage River	92.61	13	P	P	11 22 00.7	+0.7
	baz=216						
C27K	Jago River	92.62	11	P	P	11 22 00.7	+0.7
	baz=212						
C26K	Camden Bay	92.65	11	P	P	11 22 00.6	+0.6
	baz=211						
F30M	Barrier River	92.68	15	P	P	11 22 00.7	+0.4
	baz=219						
D27M	Malcolm River	92.84	12	P	P	11 22 01.6	+0.5
	baz=215						
F31M	Tsiigehtchic	93.06	16	P	P	11 22 02.2	+0.2
	baz=221						
D28M	Stokes Point	93.37	13	P	P	11 22 03.7	+0.4
	baz=217						
INK	Inuvik	93.77	15	P	P	11 22 05.7	+0.6
	baz=221						
SONM	Songino Array	95.24	319	P	P	11 22 12.4	-0.1
	comp=Z,0.3nm,0.5s,baz=150,slow=3.2,SNR=1.9						
	comp=Z,0.3nm,0.5s						
C36M	Paulatuk	96.96	17	Pdiff	P	11 22 19.9	+0.4
	baz=230						
A36M	Sachs Harbour	98.37	15	Pdiff	P	11 22 25.8	0.0
	baz=229						
O48B	Farmland	104.82	52	Pdiff	Pdif	11 22 54.6	-0.6
	baz=256						
L61B	Northampton	114.43	52	P	PKPdf	11 27 23.7	-1.0
	baz=265						
BVAR	Borovoye Array	118.56	320	PKP	PKPdf	11 27 31.6	-0.7
	comp=Z,2.7nm,0.4s,baz=111,slow=1.0,SNR=14						
ARCES	ARCESS Array B	128.35	350	PKP	PKPdf	11 27 50.3	-0.3
	comp=Z,0.9nm,0.4s,baz=50,slow=1.0,SNR=20						
FINES	FINESS Array B	135.20	344	PKhKP	PKPpre	11 27 59.5	
	comp=Z,1.3nm,0.5s,baz=108,slow=6.2,SNR=10.0						
NB2	NORSAR Subarra	138.41	353	PKP	PKPpre	11 28 02.5	
	comp=Z,3.8nm,0.5s,baz=10,slow=3.2						
NOA	NORSAR Array B	138.41	353	PKhKP	PKPpre	11 28 01.1	
	comp=Z,0.6nm,0.6s,baz=339,slow=3.9,SNR=3.8						
HFS	Hagfors	138.97	351	PKhKP	PKPpre	11 28 03.2	
	comp=Z,3.0nm,0.4s,baz=68,slow=4.0,SNR=20						
AKASG	Malin Array Be	142.46	331	PKhKP	PKPpre	11 28 13.3	
	comp=Z,4.4nm,0.4s,baz=44,slow=4.5,SNR=39						
ARPR	Arapgir-MALATY	143.28	309		PKPdf	11 28 18.4	-0.8
LODK	Lodwar	143.43	248	PKPbc	PKPab	11 28 17.2	-1.5
SHEL	Horse Pasture	143.55	168	PKPbc	PKPab	11 28 18.9	-0.1
EKA	Eskdalemuir Ar	144.46	5	PKP	PKPdf	11 28 19.4	-1.1
	comp=Z,4.1nm,0.7s,baz=334,slow=2.9,SNR=8.2						
GAZ	Gaziantep	144.77	307	PKPbc	PKPab	11 28 22.9	-0.3
BNN	Bunyan	145.17	310		PKPbc	11 28 23.9	+0.3
ILGA	Ilgaz	145.70	315	PKPbc	PKPab	11 28 26.0	-1.0
KWP	Kalwaria Pacla	146.02	336		PKPbc	11 28 25.7	+0.2
BR131	Keskin Array S	146.36	313		PKPbc	11 28 26.4	-0.5
BRTR	Keskin Array B	146.36	313		PKPbc	11 28 26.4	-0.5
BRTR	Keskin Array B	146.36	313	PKPbc	PKPbc	11 28 26.6	-0.4
	comp=Z,4.2nm,0.6s,baz=135,slow=4.0,SNR=15						
BUR08	Bucovina Ar. S	146.49	331		PKPbc	11 28 27.3	+0.4
BURAR	Bucovina Array	146.51	331		PKPbc	11 28 27.5	+0.5
OJC	Ojcow	146.59	339	PKPbc	PKPbc	11 28 27.4	+0.4
KOLS	Kolonicke sedl	146.75	335	*e*PKP	PKPbc	11 28 28.2	+0.7
KOLS				*e*		11 28 31.2	
STHS	Stebnicka Huta	146.75	337	*e*PKP	PKPbc	11 28 27.3	-0.2
STHS				*e*		11 28 31.0	
ANTO	Ankara	146.87	314	PKPbc	PKPbc	11 28 28.5	+0.3
OSTC	Ostas	147.40	343⇑	*e*PKP	PKiKP	11 28 30.2	-0.5
MMAI	Mount Meron Ar	147.41	300	PKPbc	PKPbc	11 28 30.0	+0.1
	comp=Z,7.5nm,0.6s,baz=66,slow=4.9,SNR=10						
CLL	Collm	147.49	347		PKPbc	11 28 29.5	+0.3
CLL	Collm	147.49	347	*i* PKPbc	PKPbc	11 28 29.6	+0.3
	comp=Z,17nm,0.6s						
CLL				*i* PKPab	PKPab	11 28 33.4	-0.1
	comp=Z,11nm,0.8s						
DPC	Dobruska-Polom	147.55	343⇑	*e*PKP	PKPbc	11 28 29.7	+0.1
LANS	Liptovska Anna	147.61	338	*e*PKP	PKiKP	11 28 31.1	-0.1
LANS				*e*		11 28 35.6	
MDUB	Mudurnu	147.65	316	PKPbc	PKPbc	11 28 30.1	-0.2
MLR	Muntele Rosu	147.68	328	PKPbc	PKPbc	11 28 30.1	-0.1
BRG	Berggiesshubel	147.69	346	*i* PKP	PKiKP	11 28 30.4	-0.8
BRG				Amp		11 28 30.8	
	comp=Z,7.0nm,0.6s						
GHAJ	Ghor Haditha	147.69	297	PKPbc	PKPbc	11 28 30.1	-0.3
MORC	Moravsky Berou	147.70	341	PKPbc	PKPbc	11 28 29.9	-0.1
MORC	Moravsky Berou	147.70	341	*e*PKP	PKPbc	11 28 30.2	+0.2
PRU	Pruhonice	148.36	344⇑	*e*PKP	PKiKP	11 28 32.0	-0.7
GOPC	GO Pecny, Ondr	148.36	344⇑	*e*PKP	PKiKP	11 28 32.1	-0.6
VYHS	Vyhne	148.39	338	*e*PKP	PKiKP	11 28 32.3	-0.5
VRAC	Vranov	148.41	341	*e*PKP	PKiKP	11 28 32.3	-0.5
BORA	Eskisehir	148.44	315	PKPbc	PKPbc	11 28 32.3	+0.1
JAVC	Velka Javorina	148.47	340	*e*PKP	PKiKP	11 28 33.1	+0.1
KRUC	Moravsky	148.69	341	*e*PKP	PKPbc	11 28 32.7	+0.3
ZVC	Zvikov	148.95	344⇑	*e*PKP	PKPbc	11 28 33.1	+0.1
ZVC				*e*PKPAB	PKPab	11 28 40.4	+0.8
MODS	Modra-Piesok	149.02	340	*e*PKP	PKiKP	11 28 34.3	+0.2
MODS				*e*		11 28 40.9	
KHC	Kasperske Hory	149.39	345		PKiKP	11 28 34.7	-0.3
KHC	Kasperske Hory	149.39	345⇑	*e*PKP	PKiKP	11 28 34.4	-0.5
KHC				*e*PKPAB	PKPab	11 28 42.1	+0.6
CKRC	Cesky Krumlov	149.49	344⇑	*e*PKP	PKPbc	11 28 34.5	+0.1
GEC2	GERESS Array S	149.62	344		PKPbc	11 28 34.9	+0.1
GERES	GERESS Array B	149.62	344	PKPbc	PKPbc	11 28 34.8	0.0
	comp=Z,7.1nm,0.9s,baz=25,slow=2.6,SNR=10.0						
CONA	Conrad Observa	149.86	341	*e*PKP	PKiKP	11 28 35.8	-0.2
	comp=Z,4.1nm,0.5s						
RONA	Rosalia, Austr	149.93	340	*e*PKP	PKPbc	11 28 35.6	+0.2
	comp=Z,5.3nm,0.4s						
BIOA	Bad Ischl, Aus	150.71	344	*e*PKP	PKPbc	11 28 36.7	-0.5
	comp=Z,2.4nm,0.3s						
AKAS	Kas	150.77	310	PKPbc	PKPbc	11 28 37.0	-0.9
LESA	Schwarzleotal	151.20	345	*e*PKP	PKPbc	11 28 38.3	-0.1
	comp=Z,2.9nm,0.3s						
SOKA	Soboth	151.23	341	*e*PKP	PKPbc	11 28 37.9	-0.7
	comp=Z,2.0nm,0.6s						
KBA	Koelnbreinsper	151.35	344	*e*PKP	PKPbc	11 28 37.7	-1.2
	comp=Z,2.0nm,0.4s						
WATA	Walderalm	151.54	346	*e*PKP	PKPbc	11 28 39.0	-0.3
	comp=Z,3.6nm,0.4s						
WTTA	Wattenberg	151.60	346	*e*PKP	PKPbc	11 28 39.2	-0.2
	comp=Z,6.4nm,0.3s						
MOTA	Moosalm	151.64	347	*e*PKP	PKPbc	11 28 39.5	0.0
	comp=Z,1.2nm,0.3s						
SQTA	Sankt Quirin	151.74	346	*e*PKP	PKiKP	11 28 39.7	-0.2
	comp=Z,1.1nm,0.2s						
ABTA	Abfaltersbach	151.87	344	*e*PKP	PKPbc	11 28 39.2	-0.8
	comp=Z,5.9nm,0.5s						
PRED	Cave del Predi	151.87	343	PKPdf	PKPdf	11 28 30.7	-2.2
PRED					PKPab	11 28 51.5	-0.5
FETA	Feichten	152.03	347	*e*PKP	PKPbc	11 28 40.2	-0.2
	comp=Z,1.2nm,0.4s						
FUORN	Ofenpass-Fuorn	152.51	347	PKPdf	PKPdf	11 28 32.1	-1.9
FUORN					PKPab	11 28 55.0	+0.1
CTI	Castel Tesino	152.74	345	PKPdf	PKPdf	11 28 32.4	-1.9
CTI				PKPab	PKPab	11 28 55.1	-0.7
KARP	Karpathos	152.84	310	PKPdf	PKPdf	11 28 32.1	-2.5
LIT	Litokhoron	153.23	323	PKPdf	PKPdf	11 28 32.9	-2.1
LIT				PKPab	PKPab	11 28 57.7	-0.3
FNA	Florina	153.37	326	PKPdf	PKPdf	11 28 33.1	-2.1
FNA				PKPab	PKPab	11 28 59.1	+0.5
NRCA	Norcia	155.28	340	PKPdf	PKPdf	11 28 35.7	-2.1
NRCA				PKPab	PKPab	11 29 07.7	+1.0
CAMP	Campotosto	155.45	339	PKPdf	PKPdf	11 28 35.8	-2.3
CAMP				PKPab	PKPab	11 29 07.4	-0.2
CEL	Celeste	158.05	329	PKPdf	PKPdf	11 28 39.0	-2.4
CEL					PKPab	11 29 17.1	-1.8

IDC ***09*** *11:11:59.3±0.7, 6°.78N×72°.97W, h156km±9km, mb3.5/3, mbtmp4.2/7, Error ellipse: s-maj=24.4km s-min=7.4km az=132.0*
NEIC ***09*** *11:11:59.2±2.0, 6°.44N±0°.09×72°.67W±0°.09, h190km±10km, mb4.3/28, Error ellipse: s-maj=15.0km s-min=8.9km az=134.0*
RSNC ***09*** *11:12:00.4±0.0, 7°.N±1°.×7°.3W±°., h150km±2km, M3.9, mb4.5, mB4.9, ML4.1, Mw(mB)4.2*

ISC 09 11:11:59.1±0.7, 6°.86N±0°.03×73°.09W±0°.03, h153km±6km, n88, σ1§44/125, mb4.3/16, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.29	199	P	Pn	11 12 20.8	+0.5
BARC				S	Sn	11 12 35.4	-1.1
PAMC	Pamplona, Colo	0.61	39	P	Pn	11 12 23.5	+1.5
PAMC				S	Sn	11 12 40.3	+0.9
BRJC	Barrancabermej	0.66	280	P	Pn	11 12 22.4	+0.7
BRJC				S	Sn	11 12 39.3	+0.4
RUSC	La Rusia	0.96	180	P	Pn	11 12 24.6	+0.1
RUSC				S	Sn	11 12 43.2	-0.6
TAMC	Tame, Arauca	1.36	108	P	Pn	11 12 29.1	+1.6
TAMC				S	Sn	11 12 50.5	+1.3
OCAC	Ocana	1.39	350	P	Pn	11 12 28.7	+0.8
OCAC				S	Sn	11 12 50.6	+0.5
PTBC	PUERTO BERRIO,	1.40	257	P	Pn	11 12 27.2	-0.6
PTBC				S	Sn	11 12 48.1	-1.8
SPBC	San Pablo de B	1.55	219	P	Pn	11 12 29.7	+0.2
SPBC				S	Sn	11 12 51.6	-1.3
ZARC	Zaragoza, Cauc	1.86	290	P	Pn	11 12 33.1	+0.2
ZARC				S	Sn	11 12 58.9	+0.1
NORC	Norcasia	2.19	234	P	Pn	11 12 36.7	0.0
NORC				S	Sn	11 13 04.4	-1.3
CHIC	Chingaza	2.31	196	P	Pn	11 12 38.7	+0.2
CHIC				S	Sn	11 13 08.2	-0.7
ROSC	El Rosal	2.35	211		Pn	11 12 40.6	+1.6
ROSC				Sn	Sn	11 13 11.5	+1.8
ROSC	El Rosal	2.35	211	P	Pn	11 12 41.0	+2.0
	244nm,0.3s,baz=340,slow=4.2,SNR=320						
ROSC				S	Sn	11 13 10.1	+0.4
	919nm,0.5s,baz=108,slow=20,SNR=12						
ROSC	El Rosal	2.35	211	P	Pn	11 12 40.5	+1.5
ROSC				S	Sn	11 13 11.3	+1.6
HELC	Santa Helena	2.52	255	P	Pn	11 12 40.8	-0.1
HELC				S	Sn	11 13 13.4	+0.3
CVER	Cruz Verde, Cu	2.52	203	P	Pn	11 12 42.3	+1.1
CVER				S	Sn	11 13 13.2	-0.4
UREC	San Jos de Ur	2.58	290	P	Pn	11 12 40.9	-0.5
UREC				S	Sn	11 13 11.9	-2.1
GUY2C	Guyana, Caldas	2.79	234	P	Pn	11 12 45.0	+0.6
GUY2C				S	Sn	11 13 19.5	+0.1
VILC	Villavicencio,	2.80	192	P	Pn	11 12 44.2	0.0
VILC				S	Sn	11 13 18.6	-0.5
PTGC	Puerto Gaitan,	2.81	160	P	Pn	11 12 43.9	-0.4
PTGC				S	Sn	11 13 16.9	-2.3
RECRC	Villamaria, Ca	2.94	230	P	Pn	11 12 48.4	+2.0
RECRC				S	Sn	11 13 24.2	+1.3
NIZA	Niza - Manizal	2.97	233	P	Pn	11 12 48.0	+1.5
CBOC	Ciudad Bolivar	3.07	251	P	Pn	11 12 48.3	+0.7
CBOC				S	Sn	11 13 25.5	+0.3
DBBC	Dabeiba	3.10	273	P	Pn	11 12 48.5	+0.5
DBBC				S	Sn	11 13 24.8	-1.0
SDV	Santo Domingo	3.15	50		Pn	11 12 50.2	+1.5
SDV				Sn	Sn	11 13 28.4	+1.2
SDV	Santo Domingo	3.15	50	P	Pn	11 12 50.3	+1.5
	163nm,0.3s,baz=238,slow=12,SNR=62						
SDV				S	Sn	11 13 26.5	-0.6
	70nm,0.4s,baz=60,slow=22,SNR=14						
SDV	Santo Domingo	3.15	50	P	Pn	11 12 50.2	+1.5
SDV				S	Sn	11 13 27.0	-0.2
ARGC	Ariguani, Magd	3.19	339	P	Pn	11 12 51.2	+2.2
ARGC				S	Sn	11 13 28.4	+0.7
PRAC	Prado	3.60	210	P	Pn	11 12 54.0	-0.4
PRAC				S	Sn	11 13 36.5	-0.8
APAC	Apartado, Choc	3.61	287	P	Pn	11 12 54.9	+0.5
APAC				S	Sn	11 13 36.4	-1.0
ORTC	Ortega, Tolima	3.64	216	P	Pn	11 12 54.9	+0.1
ORTC				S	Sn	11 13 38.2	+0.1
SJCC	San Jacinto, C	3.66	326	P	Pn	11 12 54.7	-0.3
SJCC				S	Sn	11 13 36.2	-2.3
URMC	La Uribe, Meta	3.82	200	P	Pn	11 12 57.9	+0.8
URMC				S	Sn	11 13 42.0	-0.3
CRJC	Cerrejon, Guaj	4.13	3	P	Pn	11 13 01.2	-0.1
CRJC				S	Sn	11 13 47.1	-2.6
GUVC	San Jose del G	4.32	174	P	Pn	11 13 03.6	0.0
GUVC				S	Sn	11 13 51.3	-2.5
YOTC	Yotoco, Valle	4.32	229	P	Pn	11 13 03.1	-0.7
YOTC				S	Sn	11 13 54.0	-0.2
CAPC	Capurgana	4.58	293	P	Pn	11 13 08.7	+1.7
CAPC				S	Sn	11 13 55.9	-4.0
PTAC	Punta Ardita,	4.69	274	P	Pn	11 13 08.3	-0.2
MACC	Macarena, Meta	4.75	189	P	Pn	11 13 08.2	-1.1
MACC				S	Sn	11 13 59.9	-4.2
URIC	Uribia, Colomb	4.93	13	P	Pn	11 13 11.2	-0.4
URIC				S	Sn	11 14 05.3	-2.9
JAMC	Jamundi, Valle	5.09	225	P	Pn	11 13 13.8	-0.2
	35nm,0.5s,1μm						
MALC	Bahia Malaga	5.09	236	P	Pn	11 13 14.8	+1.1
GARC	Garzon, Huila	5.23	207	P	Pn	11 13 15.1	-0.7
BAUV	El Baul	5.41	67		Pn	11 13 16.9	-1.1
BAUV				Sn	Sn	11 14 17.5	-2.2
FLOC	Florencia	5.84	206	P	Pn	11 13 23.5	-0.2
	30nm,0.9s,817nm						
GR1C	Gorgona, Isla	6.35	233	P	Pn	11 13 28.8	-1.7
BBAC	Balboa, Cauca	6.35	221	P	Pn	11 13 31.5	+0.8
BBAC				S	Sn	11 14 40.4	-2.1
CRUC	La Cruz	6.52	216	P	Pn	11 13 36.0	+2.9
CRUC				S	Sn	11 14 46.9	+0.1
GCUF	Volcan Galeras	7.03	217	P	Pn	11 13 40.7	+0.7
OTAV	Otavalo	8.48	219	Pn	Pn	11 13 57.2	-2.2
PCRV	Puerto La Cruz	8.98	68	P	Pn	11 14 05.7	+0.1
	7.9nm,0.5s,baz=241,slow=7.0,SNR=11						
LCR2	La Lucha 2	11.18	286	Pn	Pn	11 14 38.0	+3.2
MTDJ	Mount Denham	12.10	339	Pn	P	11 14 51.3	-1.6
ILAM	Ilet Lapin Mar	14.34	56	Pn	Pn	11 15 10.0	-5.1
TDBA	Terre de Bas,	14.34	51	Pn	Pn	11 15 10.6	-4.6
TEIG	Tepich	19.84	314	P	P	11 16 19.8	+1.8
TEIG				IAmb	IAmb	11 16 24.4	
	comp=Z,11nm,1.0s						
TEIG	Tepich	19.84	314	P	P	11 16 20.0	+1.9
	comp=Z,6.5nm,0.5s,baz=156,slow=10.0,SNR=10						
PB18	Visviri	24.56	172	P	P	11 16 55.0	-10
HODGE	Hodges	28.52	344	P	P	11 17 39.4	-0.8
HODGE				IAmb	IAmb	11 17 42.8	
	comp=Z,9.6nm,1.3s						
346A	Big Creek Wild	28.81	330	P	P	11 17 43.5	+0.7
Y49A	Blount Mountai	29.56	337	P	P	11 17 50.0	+0.6
Y49A				IAmb	IAmb	11 18 16.7	
	comp=Z,9.8nm,1.4s						
PB06	IPOC Station P	29.59	173	P	P	11 17 41.9	-8.0
PB06				IAmb	IAmb	11 18 03.7	
	comp=Z,6.6nm,0.8s						
W50A	Signal Mountai	30.36	340	P	P	11 17 57.5	+1.0
W50A				IAmb	IAmb	11 18 21.9	
	comp=Z,7.6nm,1.3s						
T57A	Hurt	30.52	350	P	P	11 17 59.3	+1.5
V48A	Smith Brothers	31.38	338	P	P	11 18 06.0	+0.6
V48A				IAmb	IAmb	11 18 08.7	
	comp=Z,5.2nm,0.8s						
WVT	Waverly	32.10	337	P	P	11 18 13.9	+2.1
WVT				IAmb	IAmb	11 18 14.0	
	comp=Z,4.0nm,0.8s						
T47A	Sharon Grove	32.60	339	P	P	11 18 17.6	+1.5
T47A				IAmb	IAmb	11 18 18.6	
	comp=Z,4.7nm,0.5s						
S44A	Carbondale	34.02	337	P	P	11 18 30.4	+2.0
S44A				IAmb	IAmb	11 18 30.8	
	comp=Z,4.4nm,0.6s						
BRDY	Brady	34.31	318	P	P	11 18 31.7	+0.7
P46A	Rosedale	35.00	341	P	P	11 18 39.2	+2.5
CCM	Cathedral Cave	35.15	335	P	P	11 18 39.4	+1.3
CCM				IAmb	IAmb	11 18 40.2	
	comp=Z,7.1nm,0.7s						
SFIN	Lafayette	35.65	342	P	P	11 18 43.9	+1.6
S39A	Bolivar	35.77	332	P	P	11 18 44.3	+0.9
R40A	Maddies Statio	35.78	334	P	P	11 18 45.0	+1.5
OK031	S. Brethren Rd	36.22	326	P	P	11 18 47.9	+0.7
OK031				IAmb	IAmb	11 18 57.7	
	comp=Z,7.6nm,1.2s						
TXAR	Lajitas Array	36.46	312	P	P	11 18 51.0	+1.5
	comp=Z,0.5nm,0.5s,baz=127,slow=9.1,SNR=4.7						
	comp=Z,0.5nm,0.5s						
TX31	Lajitas Ar. Si	36.46	312	P	P	11 18 50.5	+1.0
WMOK	Wichita Mounta	36.47	323	P	P	11 18 49.9	+0.5
P38A	Dawn	37.44	334	P	P	11 18 58.4	+0.9
P38A				IAmb	IAmb	11 18 59.2	
	comp=Z,5.3nm,0.6s						
SMWD	Samnorwood	37.59	322	P	P	11 18 59.8	+0.8
SMWD				IAmb	IAmb	11 19 00.7	
	comp=Z,3.6nm,0.7s						
JFWS	Jewell Farm	38.97	340	P	P	11 19 10.6	+0.4
SDCO	Great Sand Dun	42.54	321	P	P	11 19 41.9	+1.9
K30B	Basset	42.66	331	P	P	11 19 41.7	+1.1
ULM	Lac du Bonnet	47.26	340	P	P	11 20 17.0	+0.4
	comp=Z,4.0nm,0.5s,baz=151,slow=6.3,SNR=7.4						
	comp=Z,4.0nm,0.5s						
PDAR	Pinedale Array	48.06	324	P	P	11 20 24.1	+0.7
	comp=Z,0.4nm,0.5s,baz=130,slow=9.2,SNR=6.0						
	comp=Z,0.4nm,0.5s						
SNAA	Sanae	90.37	163	P	P	11 24 35.5	-7.1
SNAA				IAmb	IAmb	11 24 55.2	
	comp=Z,5.2nm,1.5s						
ASAR	Alice Springs	149.16	234	PKPbc	PKPbc	11 31 29.9	-0.4
	comp=Z,0.7nm,0.5s,baz=115,slow=3.6,SNR=15						
WRA	Warramunga Arr	150.38	241	PKPbc	PKPbc	11 31 33.0	-0.3
	comp=Z,0.9nm,0.5s,baz=110,slow=2.4,SNR=22						

SJA ***09*** *11:19:55.3±0.6, 24°.29S×67°.07W, h190km±6km, ML2.7, MW3.2*
GUC ***09*** *11:19:56.9±0.6, 24°.20S×67°.37W, h220km±10km, ML3.8*

ISC 09 11:19:53.9±2.3, 24°.26S±0°.05×67°.07W±0°.05, h205km±21km, n17, σ1§26/31, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.50	108	*i* P	Pn	11 20 28.8	+0.5
SLA				*i* S	Sn	11 20 53.7	-1.2
SLA				IAML		11 20 55.1	
	comp=Z,32nm,0.7s						
AZAP	Zapla	1.83	89	*i* P	Pn	11 20 32.0	+0.5
AZAP				*i* S	Sn	11 20 60.0	-0.6
AZAP				IAML		11 21 01.4	
	comp=Z,42nm,0.8s						
HJA	Humahuaca	1.85	56	*i* P	Pn	11 20 32.9	+1.0
HJA				*i* S	Sn	11 21 01.4	+0.2
FSA	Cafayete	2.09	152	*i* P	Pn	11 20 35.1	+1.1
FSA				*i* S	Sn	11 21 03.8	-1.5
LVC	Limon Verde	2.36	314	*e*P	Pn	11 20 38.0	+1.0
LVC				*e*S	Sn	11 21 09.3	-1.3
LVC				IAML		11 21 12.6	
	comp=Z,415nm,0.2s						
LVC	Limon Verde	2.36	314	*i* P	Pn	11 20 38.3	+1.3
LVC				*i* S	Sn	11 21 10.2

WRA	Warramunga Arr	18.61	207	P	P	11 32 02.7	-1.1
	0.3nm,0.3s,baz=30,slow=12,SNR=10						
	1.5nm,0.6s						
ASAR	Alice Springs	22.09	203	P	P	11 32 42.7	+1.1
	0.7nm,0.5s,baz=33,slow=9.6,SNR=8.3						
ASAR				LR	LR	11 42 32.8	
	comp=Z,43nm,20.5s,baz=326,slow=40						
	0.7nm,0.5s						
FITZ	Fitzroy Crossi	22.63	229	P	P	11 32 46.1	-1.2
	2.8nm,0.8s,baz=30,slow=12,SNR=7.1						
	2.8nm,0.8s						
H11S3	WAKE ISLAND Hy	31.70	46	T	T	12 07 09.6	
	baz=228,slow=76,SNR=19						
H11S2	WAKE ISLAND Hy	31.71	46	T	T	12 07 08.0	
	baz=228,slow=76,SNR=18						
H11S1	WAKE ISLAND Hy	31.72	46	T	T	12 07 11.0	
	baz=228,slow=76,SNR=15						
MKAR	Makanchi Array	73.16	321	P	P	11 39 16.7	0.0
	1.2nm,0.9s,baz=102,slow=6.1,SNR=2.2						
	1.2nm,0.9s						
ZALV	Zalesovo Beam	74.87	329	P	P	11 39 26.8	+0.3
	1.0nm,0.8s,baz=123,slow=5.3,SNR=2.6						
	1.0nm,0.8s						
KURBB	Kurchatov Arra	76.95	324	P	P	11 39 39.6	+1.2
	0.2nm,0.4s,baz=115,slow=6.3,SNR=1.7						
	0.2nm,0.4s						
BVAR	Borovoye Array	82.51	324	P	P	11 40 09.9	+1.4
	0.8nm,0.7s,baz=104,slow=6.3,SNR=3.6						
	0.8nm,0.7s						
ILAR	Eielson Array	84.59	24	P	P	11 40 17.9	-1.1
	0.5nm,0.6s,baz=256,slow=4.6,SNR=6.0						
	0.5nm,0.6s						

*IDC **09** 11:33:02.1±1.1, 7°.31S×120°.91E, h552km±12km, mb3.0/6, mbtmp3.9/10, Error ellipse: s-maj=60.4km s-min=12.5km az=63.0*
*DJA **09** 11:33:02.5±0.5, 8°.S±3°.×12°.1E±°, h534km±6km, M3.9/14, mb3.7/3, mB5.3/1, MLv4.0/14, Mw(mB)4.8/1, MwMwp4.8/1, Mwp5.1/1*
ISC 09 11:33:01.1±0.7, 7°.44S±0°.07×120°.73E±0°.09, h550km, n28, σ1§47/37, mb3.4/5, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSSI	Bau Bau, Buton	1.31	349	P	P	11 34 09.2	+0.9
BKSI	Bulukumba	2.18	344	P	P	11 34 12.8	+1.1
WBSI	Waikabubak, Su	2.56	211	P	P	11 34 13.8	+0.1
WBSI				S	S	11 35 10.3	-2.4
KAPI	Kappang	2.59	338	P	P	11 34 15.7	+1.9
	40nm,0.4s,baz=146,slow=4.7,SNR=21						
BASI	Baing, Sumba	2.77	183	P	P	11 34 15.5	+0.7
BASI				S	S	11 35 14.1	-0.6
BNSI	Bone	3.08	348	P	P	11 34 18.4	+1.7
PLAI	Plampang	3.24	244	P	P	11 34 18.6	+0.9
PLAI	Plampang	3.24	244	P	P	11 34 18.1	+0.4
PLAI				S	S	11 35 18.3	-1.7
SPSI	Sidrap Palu	3.58	344	P	P	11 34 21.6	+1.6
SPSI				S	S	11 35 26.4	+2.2
BATI	Baumata	4.00	134	P	P	11 34 23.8	+0.8
	37nm,0.4s,baz=270,slow=4.1,SNR=14						
BATI	Baumata	4.00	134	P	P	11 34 22.7	-0.3
BATI				S	S	11 35 27.9	-1.9
SOEI	Soe	4.19	124	P	P	11 34 25.0	+0.4
SOEI	Soe	4.19	124	P	P	11 34 25.0	+0.4
SOEI				S	S	11 35 31.4	-1.2
TTSI	Tana Toraja	4.45	348	P	P	11 34 27.4	+0.8
TTSI				S	S	11 35 30.6	-5.5
JAGI	Jajag, Banyuwa	6.60	261	P	P	11 34 45.6	+0.3
JAGI	Jajag, Banyuwa	6.60	261	P	P	11 34 45.3	0.0
	31nm,0.7s,0.2nm						
BLJI	Banyuglugur	7.08	267	P	P	11 34 50.0	+0.1
NLAI	Namlea	7.59	57	P	P	11 34 56.0	+1.1
TOLI2	Tolitoli	8.49	0	P	P	11 35 04.7	+0.9
FITZ	Fitzroy Crossi	11.63	156	P	P	11 35 36.7	+0.9
	2.6nm,0.8s,baz=331,slow=13,SNR=2.2						
FAKI	Fak Fak	12.31	69	P	P	11 35 41.8	-1.2
WRA	Warramunga Arr	18.13	135	P	P	11 36 41.2	+1.0
	0.9nm,0.5s,baz=299,slow=12,SNR=15						
ASAR	Alice Springs	20.50	143	P	P	11 37 02.6	+0.8
	0.8nm,0.5s,baz=319,slow=8.3,SNR=19						
ASAR				PcP	PcP	11 40 49.6	+0.9
	0.3nm,0.4s,baz=346,slow=1.6,SNR=5.3						
ASAR				ScP	ScP	11 43 34.6	+1.0
	0.6nm,0.7s,baz=334,slow=2.2,SNR=7.8						
	0.8nm,0.5s						
STKA	Stephens Creek	31.14	144	P	P	11 38 35.4	+0.1
	1.3nm,0.6s,baz=313,slow=14,SNR=3.9						
	1.3nm,0.6s						
USRK	Ussuriysk Ar.	52.39	10	P	P	11 41 22.3	-0.1
	2.5nm,0.7s,baz=190,slow=8.0,SNR=4.9						
	2.5nm,0.7s						
SONM	Songino Array	56.47	348	P	P	11 41 50.7	-0.4
	0.8nm,0.5s,baz=168,slow=8.0,SNR=4.3						
	0.8nm,0.5s						
MKAR	Makanchi Array	63.88	332	P	P	11 42 41.2	+1.1
	0.7nm,0.6s,baz=141,slow=7.2,SNR=6.7						
	0.7nm,0.6s						
ZALV	Zalesovo Beam	68.22	338	P	P	11 43 06.1	-0.7
	0.5nm,0.5s,baz=145,slow=5.3,SNR=2.2						
	0.5nm,0.5s						

*CATAC **09** 12:00:27.0±0.9, 8°.67N×83°.26W, h15km±9km, ML2.8*
*UPA **09** 12:00:27.9±1.1, 8°.68N×83°.25W, h14km±6km, ML3.7*
ISC 09 12:00:27.6±1.1, 8°.67N±0°.03×83°.25W±0°.03, h17km±9km, n17, σ0§64/30, 3D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	Carate, Puerto	0.27	198	*i* P	Pg	12 00 33.6	0.0
PIRO				*i* S	Sb	12 00 39.3	+0.8
PIRO				IAML		12 00 40.9	
	comp=Z,3μm,1.0s						
PIRO	Carate, Puerto	0.27	198	*e*P	Pb	12 00 33.8	-0.3
CDITO	Canoas	0.39	104	*i* P	Pg	12 00 35.7	+0.2
CDITO				*i* S	Sb	12 00 42.1	+0.4
CDITO				IAML		12 00 43.1	
	comp=Z,540nm,1.0s						
MLIR3	Monte Lirio, C	0.44	73	⇓*i*P	Pb	12 00 37.8	+0.8
MLIR3				AMP		12 00 38.0	
	comp=Z,6μm,0.1s						
BRU2	Volcan	0.57	77	*i* P	Pb	12 00 39.2	0.0
BRU2				*i* S	Sb	12 00 48.5	+1.4
BRU2				IAML		12 00 50.9	
	comp=Z,380nm,1.0s						
BRU2	Volcan	0.57	77	⇓*i*P	Pb	12 00 39.4	+0.1
BRU2				*e*S	Sb	12 00 48.7	+1.6
OCHAL	Ojochal	0.58	318	*i* P	Pg	12 00 38.9	-0.2
OCHAL				*i* S	Sb	12 00 47.7	+0.4
OCHAL				IAML		12 00 49.3	
	comp=Z,290nm,1.0s						
PTPM	Petroterminale	0.59	141	*e*P	Pb	12 00 39.7	+0.2
PTPM				*e*S	Sn	12 00 49.8	-0.7
DRK0	Durika	0.59	1	*i* P	Pb	12 00 39.5	-0.2
DRK0				*i* S	Sb	12 00 48.4	+0.5
DRK0				IAML		12 00 50.9	
	comp=Z,3μm,1.0s						
DRK0	Durika	0.59	1	⇓*i*P	Pb	12 00 39.8	+0.1
DRK0				*e*S	Sb	12 00 49.1	+1.2
BCO2	Palmira	0.72	86	*e*P	Pg	12 00 41.6	-0.1
BCO2				AMP		12 00 41.8	
	comp=Z,4μm,0.2s						
BCO2				*e*S	Sn	12 00 53.6	-0.3
PTAR3	Potrerillos Ar	0.75	88	*e*P	Pg	12 00 42.0	-0.3
LNBQ3	Los Naranjos,	0.81	81	*e*P	Pg	12 00 42.4	-1.0
LNBQ3				*e*S	Sb	12 00 54.1	+0.1
LOCO3	Loma Colorada,	0.86	107	*e*P	Pb	12 00 43.9	-0.3
LOCO3				*e*S	Sg	12 00 55.7	-0.1
PEDE3	Pedregal, Chir	0.87	109	*e*P	Pg	12 00 44.4	-0.1
LOMA3	Las Lomas, Chi	0.88	105	*e*P	Pg	12 00 44.8	0.0
LOMA3				*e*S	Sg	12 00 56.3	-0.1
CHGR2	Aguacate	1.13	76	*e*P	Pb	12 00 47.7	-1.0
CHGR2				*e*S	Sb	12 01 03.1	0.0

*AEIC **09** 12:00:32.9±0.5, 53°.43N±0°.07×165°.21W±0°.08, h30km±9km, Error ellipse: s-maj=11.2km s-min=5.0km az=153.0*
NEIC 09 12:00:30.9±0.7, 53°.40N±0°.05×165°.20W±0°.03, h27km±12km, ML2.8(AEIC), Error ellipse: s-maj=7.2km s-min=1.6km az=167.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	Akutan Strait	0.80	339		Pb	12 00 45.9	-0.3
AKSA					Sb	12 00 56.1	-0.5
AHB	Akutan Harbor	0.81	333		Pb	12 00 46.3	-0.1
AHB					Sn	12 00 57.6	0.0
AKBBA	Akutan Broad B	0.83	329		Pb	12 00 46.7	0.0
AKBBA					Sb	12 00 57.7	+0.3
ZRO	Akutan Zero	0.83	327		Pb	12 00 46.9	0.0
ZRO					Sb	12 00 57.6	-0.1
AKMO	Akutan Morgan	0.84	326		Pb	12 00 47.0	0.0
AKMO					Sb	12 00 57.9	-0.1
AKV	Akutan Volcano	0.86	329		Pb	12 00 47.3	0.0
UNV	Unalaska Valle	0.90	301		Pn	12 00 47.7	0.0
UNV	Unalaska Valle	0.90	301		Sb	12 00 58.9	-0.5
LVA	Lava Point	0.91	328		Pn	12 00 47.5	-0.5
AKGG	Akutan Green G	0.93	330		Pn	12 00 48.2	0.0
MREP	Makushin Rep't	1.01	295		Pb	12 00 49.6	-0.2
MTBL	Makushin Table	1.05	304		Pb	12 00 50.3	-0.2
MGOD	Makushin Gods	1.07	292		Pn	12 00 50.4	+0.2
MGOD					Sn	12 01 04.0	-0.2
MSW	Makushin Switc	1.07	300		Pb	12 00 50.5	-0.3
MSW					Sn	12 01 04.3	+0.1
MAPS	Pakushin South	1.11	292		Pn	12 00 51.0	+0.3
WESE	West Dahl East	1.14	18		Pn	12 00 51.2	+0.2
WEBT	Westdahl Beart	1.23	12		Pn	12 00 52.8	+0.6
ISLZ	Isanotski Laza	1.60	33		Pn	12 00 57.2	-0.2
ISNN	Isanotski Nort	1.67	30		Pn	12 00 59.0	+0.7
FALS	False Pass	1.80	35		Pn	12 01 00.1	0.0
S12K	Black Hills	2.95	37	Pn	Pn	12 01 15.6	-0.3
M17K	Holitna River	9.05	24	Pn	Pn	12 02 39.0	-0.5
HIN	Hinchinbrook I	12.36	48	Pn	Pn	12 03 24.4	-0.5
KLU	Klutina	13.13	44	Pn	Pn	12 03 34.4	-1.0

*RHSSO **09** 12:19:06.6±0.4, 43°.86N×16°.43E, h4km±1km, ML3.0/22*
*BEO **09** 12:19:06.2±0.7, 43°.85N×16°.43E, h0km, ML2.7/9*
*PDG **09** 12:19:06.7±0.7, 43°.90N×16°.51E, h8km±4km, ML3.1/12, Error ellipse: s-maj=3.3km s-min=3.4km az=0.0*
ISC 09 12:19:05.2±1.0, 43°.83N±0°.02×16°.45E±0°.02, h4km±9km, n77, σ1§02/150, 5C-9b, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIJV	Kijevo	0.18	350	*i* Pg	Pg	12 19 09.2	+0.5
KIJV				Sg	Sg	12 19 12.0	+1.0
MORI	Morici	0.54	274	*e*Pg	Pg	12 19 15.9	+0.4
MORI				Sg	Sg	12 19 23.4	+1.0
RICI	Ricice	0.60	124	*e*Pg	Pg	12 19 17.1	+0.3
RICI				Sg	Sg	12 19 25.3	+0.8
ZIRJ	Zirje	0.61	253	*e*Pg	Pg	12 19 17.1	+0.2
ZIRJ				Sg	Sb	12 19 26.7	-0.6
A050A	Klekovaca	0.65	5	⇓*i*Pg	Pg	12 19 16.8	-1.0
A050A				*e*Sg	Sg	12 19 26.3	0.0
HVAR	Hvar	0.65	180	*e*Pg	Pg	12 19 17.6	-0.1
HVAR				Sg	Sg	12 19 27.3	+1.1
MAKA	Makarska	0.69	142	*i* Pg	Pg	12 19 18.2	-0.2
MAKA				Sg	Sg	12 19 27.4	+0.2
UDBI	Udbina	0.85	325	*e*Pg	Pg	12 19 21.2	-0.4
UDBI				Sg	Sg	12 19 32.5	-0.1
DUGI	Dugi Otok	1.02	280	*e*Pg	Pg	12 19 24.6	-0.1
DUGI				Sg	Sg	12 19 38.3	+0.4
BLY	Banja Luka	1.06	30	*e*Pg	Pg	12 19 25.5	0.0
BLY				*e*Sg	Sn	12 19 41.4	-0.6
BLY	Banja Luka	1.06	30	⇓*i*Pg	Pg	12 19 25.1	-0.4
BLY				*e*Sg	Sg	12 19 39.0	-0.3
VIRC	Vir	1.10	295	*e*Pg	Pg	12 19 25.9	-0.5
VIRC				Sg	Sg	12 19 40.8	+0.1
LSTV	Lastovo	1.11	163	*e*Pn	Pg	12 19 25.9	-0.6
LSTV				Sg	Sg	12 19 41.4	+0.5
PRIJ	Prijedor	1.16	9	*e*Pg	Pg	12 19 27.1	-0.4
PRIJ				*e*Sg	Sb	12 19 43.0	-0.2
PLIT	Plitvice	1.20	331	*e*Pg	Pg	12 19 27.2	-1.0
PLIT				Sg	Sg	12 19 42.5	-1.3
A051A	Mrakovica	1.23	15	⇓*i*Pg	Pg	12 19 28.5	-0.2
A051A				*e*Sg	Sg	12 19 44.5	-0.1
STON	Ston	1.32	136	*e*Pg	Pn	12 19 29.5	-0.9
STON				*e*Sg	Sn	12 19 50.3	+1.8
STON	Ston	1.32	136	*e*Pn	Pn	12 19 29.1	-1.3
STON				Sn	Sb	12 19 47.0	-0.9
STON	Ston	1.32	136	*e*Pg	Pn	12 19 30.1	-0.3
STON				*e*Sg	Sn	12 19 49.0	+0.5
NVLJ	Novalja	1.35	303	*e*Pn	Pn	12 19 30.2	-0.6
NVLJ				Sn	Sb	12 19 47.9	-0.7
A052A	Srbac	1.48	31	*e*Pg	Pb	12 19 33.2	-0.1
A052A				*e*Sg	Sg	12 19 53.6	+0.7
KALIN	Kalinovik	1.49	102	⇑*i*Pg	Pb	12 19 33.6	-0.1
KALIN				*e*Sg	Sg	12 19 53.9	+0.9
DOB	Doboj	1.49	52	*e*Pg	Pb	12 19 33.5	+0.1
DOB				*e*Sg	Sg	12 19 53.7	+0.6
RABC	Rab	1.51	308	*e*Pn	Pn	12 19 31.7	-1.3
RABC				Sn	Sn	12 19 51.8	-1.2
KLINJ	Klinje	1.69	112	*e*Pn	Pb	12 19 36.7	-0.2
KLINJ				*e*Sn	Sg	12 19 59.7	+0.2
DBRK	Dubrovnik	1.70	132	*e*Pn	Pn	12 19 35.0	-0.6
DBRK				Sn	Sn	12 19 56.8	-1.1
TREB	Trebinje	1.78	128	*e*Pn	Pb	12 19 38.3	-0.1
TREB				*e*Sn	Sg	12 20 02.3	-0.1
BRY	Bratogost	1.79	121	*e*Pn	Pb	12 19 38.3	-0.3
BRY				*e*Sn	Sg	12 20 02.2	-0.4
BRY	Bratogost	1.79	121	*e*Pn	Pb	12 19 37.9	-0.7
BRY				*i* Sn	Sg	12 20 04.4	+1.8
HAPS	Han Pijesak,Bl	1.83	81	*e*Pg	Pn	12 19 37.4	-0.1
HAPS				*e*Sg	Sg	12 20 05.2	+1.3
HAPS	Han Pijesak,Bl	1.83	81	*e*Pn	Pb	12 19 39.2	0.0
HAPS				*e*Sn	Sb	12 20 02.4	-0.1
UPM	Unac-Piva	1.90	109	*e*Pn	Pb	12 19 40.4	-0.1
UPM				*e*Sn	Sb	12 20 04.4	-0.1
UPM	Unac-Piva	1.90	109	⇓*i*Pn	Pb	12 19 40.3	-0.2
UPM				*i* Sn	Sg	12 20 07.1	+1.0
HCY	Herceg Novi	2.04	132	*e*Pn	Pb	12 19 42.5	-0.3
HCY				*e*Sn	Sb	12 20 08.1	-0.4
HCY	Herceg Novi	2.04	132	*e*Pn	Pb	12 19 42.5	-0.3
HCY				*i* Sn	Sg	12 20 11.0	+0.3
RIY	Rijeka	2.05	317	*e*Pn	Pn	12 19 39.7	-0.7
RIY				Sn	Sn	12 20 05.3	-1.1
PTJ	Puntijarka	2.10	351	*e*Pn	Pn	12 19 40.5	-0.7
PTJ				Sn	Sn	12 20 06.1	-1.8
CRES	Cresnjevec Ost	2.12	341	*e*Pn	Pb	12 19 42.5	-1.6
CRES				*e*Sn	Sn	12 20 08.4	+0.3
NKME	Niksic	2.12	119	⇓*i*Pn	Pb	12 19 43.5	-0.6
NKME				*i* Sn	Sg	12 20 12.9	-0.3
RUDO	Rudo	2.13	95	*e*Pn	Pb	12 19 43.4	-1.0
RUDO				*e*Sn	Sb	12 20 10.0	-1.1
BBLS	Lazi&#263i	2.14	88	*e*Pg	Pb	12 19 44.1	-0.5
BBLS				*e*Sg	Sg	12 20 15.0	+1.0
BBLS	Lazi&#263i	2.14	88	*e*Pn	Pb	12 19 43.4	-1.2
BBLS				*e*Sn	Sn	12 20 09.7	+0.9
PLE	Pljevlja	2.20	102	⇓*i*Pn	Pb	12 19 45.0	-0.5
PLE				*i* Sn	Sg	12 20 14.6	-1.1
CEME	Cevo	2.22	125	*e*Pn	Pn	12 19 44.0	+1.2
CEME				*i* Sn	Sg	12 20 15.4	-1.0
TEKS	Tekeris	2.33	71	*e*Pg	Pb	12 19 47.9	+0.1
TEKS				*e*Sg	Sg	12 20 18.7	-1.3
TEKS	Tekeris	2.33	71	*e*Pn	Pb	12 19 46.4	-1.4
TEKS				*e*Sn	Sn	12 20 14.6	+1.2
BUM	Brajici-Budva	2.36	130	⇓*i*Pn	Pb	12 19 46.6	-1.7
BUM				*i* Sn	Sb	12 20 19.1	+1.4
CEY	Cerknica	2.39	324	⇑*i*Pn	Pn	12 19 46.5	+1.4
CEY				*e*Sn	Sn	12 20 14.6	-0.3
KOME	Kolasin	2.44	113	⇑*i*Pn	Pb	12 19 47.9	-1.8
KOME				*i* Sn	Sb	12 20 20.1	-0.1
PDG	Podgorica	2.49	123	*e*Pn	Pb	12 19 49.0	-1.4
PDG				*e*Sn	Sb	12 20 19.6	-1.8
PDG	Podgorica	2.49	123	⇑*i*Pn	Pb	12 19 48.5	-1.9
PDG				*i* Sn	Sb	12 20 21.1	-0.3
DIVS	Divibare	2.57	83	*e*Pn	Pb	12 19 50.7	-1.3
DRME	Dracevica, Mon	2.59	128	⇓*i*Pn	Pb	12 19 50.0	-2.3
DRME				*i* Sn	Sb	12 20 24.4	-0.1
SJES	Sjenica	2.63	101	*e*Pn	Pb	12 19 50.7	-2.2
SJES				*e*Sn	Sn	12 20 22.0	+1.2
BEHE	Becsehely	2.65	5	*e*Pn	Pn	12 19 49.6	+0.9
BEHE				*e*Sn	Sn	12 20 21.9	+0.7
IVA	Berane	2.69	110	⇑*i*Pn	Pn	12 19 51.0	+1.7
IVA				*i* Sn	Sb	12 20 26.4	-0.9
IVAS	Ivanjica	2.70	94	*e*Pn	Pn	12 19 50.6	+1.2
FRGS	Fruska Gora	2.75	60	*e*Pn	Pb	12 19 53.0	-1.9
FRGS	Fruska Gora	2.75	60	*e*Pn	Pb	12 19 51.5	+1.4
FRGS				*e*Sn	Sn	12 20 24.9	+1.2
MORH	Mrgy, Hungar	2.85	32	*e*Pn	Pn	12 19 52.2	+0.8
MORH				*e*Sn	Sn	12 20 26.4	+0.3
PVY	Plav	2.85	115	*e*Pn	Pn	12 19 52.9	+1.3
PVY				*i* Sn	Sb	12 20 30.5	-1.4
TRUS	Trudelj	2.88	81	*e*Pn	Pn	12 19 52.3	+0.4
OBKA	Obir	3.00	334	*e*Pn	Pn	12 19 55.4	+1.9
	2.5nm,0.2s						
OBKA				Sn	Sn	12 20 32.4	+2.5
	40nm,0.6s						
OBKA	Obir	3.00	334	*e*Pn	Pn	12 19 55.0	+1.5
OBKA				*e*Sn	Sn	12 20 30.0	+0.1
SOKA	Soboth	3.02	341	*e*Pn	Pn	12 19 54.6	+0.8
	2.7nm,0.2s						
SOKA				*e*Sn	Sn	12 20 30.5	+0.1
	4.3nm,0.4s						
ARSA	Arzberg	3.48	350	*i* Pn	Pn	12 20 00.8	+0.7
	5.1nm,0.3s						
ARSA				*i* Sn	Sn	12 20 41.0	-0.7
	2.2nm,0.3s						
ARSA	Arzberg	3.48	350	⇓*i*Pn	Pn	12 20 00.9	+0.7
ARSA				*e*Sn	Sn	12 20 41.9	+1.0
RONA	Rosalia, Austr	3.87	358	*i* Pn	Pn	12 20 06.2	+0.7
	2.1nm,0.2s						
RONA				*i* Sn	Sn	12 20 52.5	+1.1
	5.4nm,0.4s						
CONA	Conrad Observa	4.12	355	*i* Pn	Pn	12 20 09.8	+0.9
	3.2nm,0.3s						
CONA				*i* Sn	Sn	12 20 56.8	-0.7
	1.4nm,0.2s						
MOA	Molln	4.30	340	*i* Pn	Pn	12 20 12.2	+0.9
	4.5nm,0.3s						
MOA				*i* Sn	Sn	12 21 03.0	+1.1
	1.6nm,0.2s						
LESA	Schwarzleotal	4.46	325	*i* Pn	Pn	12 20 15.6	+1.9
	4.6nm,0.3s						
LESA				*e*Sn	Sn	12 21 08.0	+1.9
	6.1nm,0.4s						
MODS	Modra-Piesok	4.58	7	*e*PN	Pn	12 20 15.3	+0.1
MODS				*e*SN	Sn	12 21 08.3	-0.6
WTTA	Wattenberg	4.82	317	*i* Pn	Pn	12 20 20.5	+1.8
	3.6nm,0.2s						
WTTA				*i* Sn	Sn	12 21 16.1	+1.2
	15nm,0.7s						
WATA	Walderalm	4.89	317	*i* Pn	Pn	12 20 21.4	+1.8
	3.4nm,0.2s						
VYHS	Vyhne	4.95	19	*e*PN	Pn	12 20 22.0	+1.7
VYHS				*e*SN	Sn	12 21 18.1	+0.1
FETA	Feichten	5.13	310	*i* Pn	Pn	12 20 24.5	+1.6
	0.3nm,0.2s						
FETA				*i* Pg	Pg	12 20 43.8	+0.2
	3.7nm,0.5s						
FETA				*i* Sn	Sn	12 21 24.1	+1.4
	1.4nm,0.4s						
FETA				*e*Sg	Sg	12 21 51.7	+1.7
	4.3nm,0.4s						
MOTA	Moosalm	5.14	315	*i* Pn	Pn	12 20 24.7	+1.7
	1.3nm,0.2s						

*SDD **09** 12:21:40.0±0.9, 18°.03N×71°.57W, h66km±8km, MD2.4, ML1.8, MW2.5*
*OSPL **09** 12:21:44.3±1.3, 18°.21N×71°.63W, h25km±9km, ML1.3*
ISC 09 12:21:42.7±2.0, 18°.20N±0°.05×71°.56W±0°.07, h42km±15km, n8, σ1§13/14, 3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LODU1	El Espartillar	0.17	28	*i* P	Pn	12 21 49.5	-0.4
LODU1				*e*S	Sn	12 21 53.3	-1.7
LODU1				IAML		12 21 54.9	
	comp=Z,128nm,0.4s						
PODR	Polo	0.27	98	⇓*e*Pg	Pn	12 21 50.9	-0.1
PODR				*e*Sg	Sn	12 21 57.8	+1.0
PODR				IAML		12 21 58.5	
	comp=E,83nm,0.4s						
PODR				IAML		12 22 01.0	
	comp=N,45nm,0.3s						
PODR	Polo	0.27	98	*i* P	Pn	12 21 50.9	-0.1
PODR				*e*S	Sn	12 21 57.3	+0.6
PODR				IAML		12 21 57.8	
	comp=Z,26nm,0.6s						
LOBH	Bahia de las A	0.35	193	*i* P	Pn	12 21 51.4	-0.2
LOBH				*e*S	Sn	12 21 57.2	-0.6
LOBH				IAML		12 21 57.6	
	comp=Z,27nm,0.5s						
JIDR	Jimani	0.40	316	⇓*e*Pg	Pn	12 21 51.5	-0.7
JIDR				*e*Sg	Sn	12 22 01.3	+2.3
JIDR				IAML		12 22 01.4	
	comp=E,46nm,0.2s						
JIDR				IAML		12 22 03.4	
	comp=N,15nm,0.4s						
LONE3	El Aguacate, B	0.41	13	*i* P	Pn	12 21 53.3	+0.8
LONE3				IAML		12 22 05.8	
	comp=Z,9.8nm,1.2s						
LOVI	El Cajuil, Ovi	0.44	156	*i* P	Pn	12 21 52.8	+0.1
LOVI				*e*S	Sn	12 22 00.1	+0.3
LOVI				IAML		12 22 03.0	
	comp=Z,39nm,0.7s						
MAO1	Mao	1.42	18	⇓*e*Pg	Pn	12 22 04.9	-1.1

VIE 09 12:45:19.6±0.2, 47°.50N×14°.92E, h0km, mb1.4/4, ml1.7/9, Error ellipse: s-maj=1.7km s-min=1.1km az=5.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	Arzberg	0.48	122	*i* Pg	Pg	12 45 28.8	0

	comp=N,60849µm,0.2s				
MATE			AML	AML	
	comp=E,65613µm,0.2s				
MIGL	**Miglionico**	**0.31 197**	⇑P	**Pn**	**12 46 02.7 +0.7**
MIGL			S	**Sn**	**12 46 08.5 +1.0**
MIGL			AML	AML	
MIGL			AML	AML	
MIGL			AML	AML	
MRVN	**Minervino Murg**	**0.32 300**	⇓P	**Pn**	**12 46 03.4 +1.3**
MRVN			S	**Sn**	**12 46 09.4 +1.6**
MRVN			AML	AML	
	comp=E,10555µm,0.8s				
MRVN			AML	AML	
	comp=N,18350µm,0.3s				
MRVN			AML	AML	
	comp=E,9429µm,0.2s				
MRVN			AML	AML	
	comp=N,13643µm,0.2s				
LTRZ	**Laterza**	**0.36 147**	⇓P	**Pn**	**12 46 02.9 +0.3**
LTRZ			S	**Sn**	**12 46 08.7 +0.1**
LTRZ			AML	AML	
LTRZ			AML	AML	
LTRZ			AML	AML	
LTRZ			AML	AML	
LTRZ			AML	AML	
NOCI	**Noci**	**0.40 106**	⇓P	**Pn**	**12 46 03.7 +0.5**
NOCI			S	**Sn**	**12 46 10.0 +0.4**
NOCI			AML	AML	
	comp=E,36569µm,0.1s				
PALZ	**Palazzo San Ge**	**0.46 275**	⇓P	**Pn**	**12 46 05.1 +1.1**
PALZ			S	**Sn**	**12 46 12.7 +1.7**
PALZ			AML	AML	
	comp=E,32250µm,0.4s				
PALZ			AML	AML	
	comp=N,15250µm,0.5s				
PALZ			AML	AML	
	comp=E,20174µm,0.2s				
PALZ			AML	AML	
	comp=N,14591µm,0.3s				
ACER	**Acerenza**	**0.48 256**	P	**Pn**	**12 46 05.5 +1.1**
ACER			S	**Sn**	**12 46 13.0 +1.4**
ACER			AML	AML	
	comp=E,44250µm,0.2s				
ACER			AML	AML	
	comp=E,41850µm,0.3s				
ACER			AML	AML	
	comp=N,38250µm,0.5s				
ACER			AML	AML	
	comp=N,36400µm,0.5s				
ACER			AML	AML	
	comp=N,38273µm,0.5s				
ACER			AML	AML	
	comp=E,44280µm,0.2s				
ACER			AML	AML	
	comp=N,36359µm,0.5s				
ACER			AML	AML	
	comp=E,41833µm,0.3s				
CAPA	**Cerignola FG**	**0.62 295**	⇓P	**Pn**	**12 46 07.5 +1.3**
CAPA			S	**Sn**	**12 46 16.9 +2.0**
PZUN	**Potenza**	**0.63 246**	P	**Pn**	**12 46 07.1 +0.8**
PZUN			S	**Sn**	**12 46 16.1 +1.0**
PGN3	**Pignola, Italy**	**0.67 241**	⇑P	**Pn**	**12 46 07.2 +0.3**
VULT	**Monte Vulture**	**0.72 275**	⇓P	**Pn**	**12 46 08.7 +1.0**
VULT			AML	AML	
	comp=E,4685µm,0.6s				
VULT			AML	AML	
	comp=E,4495µm,0.6s				
VULT			AML	AML	
	comp=N,5445µm,0.3s				
VULT			AML	AML	
	comp=N,5795µm,0.3s				
VULT			AML	AML	
	comp=E,4685µm,1.4s				
VULT			AML	AML	
	comp=E,4495µm,1.4s				
VULT			AML	AML	
	comp=N,5445µm,0.2s				
VULT			AML	AML	
	comp=E,3939µm,0.4s				
VULT			AML	AML	
	comp=N,5444µm,0.3s				
VULT			AML	AML	
	comp=E,4101µm,0.4s				
SFL3	**San Fele**	**0.75 262**	P	**Pn**	**12 46 09.0 +0.8**
VGG3	**Viggiano (Prot**	**0.76 222**	⇑P	**Pn**	**12 46 09.1 +0.9**
RDM3	**Ruvo Del Monte**	**0.78 268**	P	**Pn**	**12 46 10.1 +1.7**
MRN3	**Marsico Nuovo**	**0.79 233**	P	**Pn**	**12 46 08.6 0.0**
MRN3			S	**Sn**	**12 46 19.7 +0.4**
MCEL	**Monticello**	**0.82 225**	⇑P	**Pn**	**12 46 08.9 -0.1**
MCEL			S	**Sn**	**12 46 20.2 +0.2**
MCEL			AML	AML	
	comp=N,2825µm,0.3s				
MCEL			AML	AML	
	comp=E,2935µm,0.2s				
MCEL			AML	AML	
	comp=E,3065µm,0.2s				
MCEL			AML	AML	
	comp=N,2965µm,1.2s				
MCEL			AML	AML	
	comp=N,2965µm,0.8s				
MCEL			AML	AML	
	comp=N,2825µm,1.7s				
MCEL			AML	AML	
	comp=N,2828µm,0.3s				
MCEL			AML	AML	
	comp=N,2940µm,0.3s				
MCEL			AML	AML	
	comp=E,3064µm,0.2s				
MCEL			AML	AML	
	comp=E,2935µm,0.2s				
SCL3	**Muro Lucano (S**	**0.82 256**	P	**Pn**	**12 46 10.2 +1.1**
CSG3	**Toppo Di Caste**	**0.84 265**	P	**Pn**	**12 46 10.4 +1.1**
ORI	**Oriolo Calabro**	**0.84 186**	⇑P	**Pn**	**12 46 10.2 +0.9**
ORI			AML	AML	
	comp=E,9510µm,1.3s				
ORI			AML	AML	
	comp=N,9630µm,0.4s				
ORI			AML	AML	
	comp=N,9645µm,0.4s				
ORI			AML	AML	
	comp=E,8652µm,0.3s				
CGG3	**Caggiano**	**0.87 246**	P	**Pn**	**12 46 10.0 +0.2**
SLCN	**Sala Consilina**	**0.87 234**	P	**Pn**	**12 46 09.9 +0.1**
SLCN			AML	AML	
	comp=E,5145µm,1.6s				
SLCN			AML	AML	
	comp=N,5680µm,0.3s				
SLCN			AML	AML	
	comp=N,6365µm,0.3s				
SLCN			AML	AML	
	comp=E,5335µm,1.6s				
SLCN			AML	AML	
	comp=E,5335µm,0.4s				
SLCN			AML	AML	
	comp=E,5145µm,0.4s				
SLCN			AML	AML	
	comp=N,5683µm,0.3s				
SLCN			AML	AML	
	comp=N,6367µm,0.3s				
SLCN			AML	AML	
	comp=E,5129µm,0.2s				
SLCN			AML	AML	
	comp=E,4909µm,0.2s				
VDS3	**Muro Lucano (V**	**0.88 260**	P	**Pn**	**12 46 11.0 +1.1**
MTSN	**Montesano sull**	**0.89 224**	⇑P	**Pn**	**12 46 09.8 -0.1**
MTSN			AML	AML	
	comp=E,1895µm,1.0s				
MTSN			AML	AML	
	comp=N,2155µm,0.6s				
MTSN			AML	AML	
	comp=E,1895µm,1.0s				
MTSN			AML	AML	
	comp=N,2155µm,1.4s				
MTSN			AML	AML	
	comp=N,1982µm,0.4s				
MTSN			AML	AML	
	comp=E,1880µm,0.2s				
SIRI	**Monte Sirino -**	**0.89 217**	⇑P	**Pn**	**12 46 09.8 -0.3**
SIRI			AML	AML	
	comp=E,2765µm,0.3s				
SIRI			AML	AML	
	comp=N,2135µm,0.2s				
SIRI			AML	AML	
	comp=E,2850µm,0.3s				
SIRI			AML	AML	
	comp=N,2205µm,0.2s				
SIRI			AML	AML	
	comp=E,2770µm,0.3s				
SIRI			AML	AML	
	comp=E,2765µm,0.3s				
SIRI			AML	AML	
	comp=E,2850µm,0.3s				
SIRI			AML	AML	
	comp=N,2138µm,0.2s				
SIRI			AML	AML	
	comp=N,2205µm,0.2s				
AND3	**Andretta**	**0.93 272**	P	**Pn**	**12 46 11.9 +1.3**
SGTA	**Sant Agata di**	**0.93 285**	⇓P	**Pn**	**12 46 11.8 +1.2**
SGTA			AML	AML	
	comp=E,2815µm,0.3s				
SGTA			AML	AML	
	comp=N,1540µm,0.3s				
SGTA			AML	AML	
	comp=N,1525µm,0.3s				
SGTA			AML	AML	
	comp=E,2700µm,0.3s				
SGTA			AML	AML	
	comp=E,2697µm,0.3s				
SGTA			AML	AML	
	comp=N,1538µm,0.3s				
SGTA			AML	AML	
	comp=N,1529µm,0.3s				
SGTA			AML	AML	
	comp=E,2813µm,0.3s				
SRN3	**Sant'Arsenio**	**0.94 244**	P	**Pn**	**12 46 10.9 +0.3**
MSAG	**Monte S. Angel**	**0.95 329**	⇓P	**Pn**	**12 46 12.0 +1.2**
MSAG			AML	AML	
	comp=E,2720µm,0.7s				
MSAG			AML	AML	
	comp=N,6465µm,0.2s				
MSAG			AML	AML	
	comp=E,2725µm,0.7s				
MSAG			AML	AML	
	comp=E,1120µm,1.6s				
MSAG			AML	AML	
	comp=N,2780µm,0.2s				
MSAG			AML	AML	
	comp=E,1120µm,0.4s				
MSAG			AML	AML	
	comp=N,6467µm,0.2s				
MSAG			AML	AML	
	comp=E,2713µm,0.2s				
MSAG			AML	AML	
	comp=N,2781µm,0.2s				
MSAG			AML	AML	
	comp=E,1086µm,0.2s				
CAFE	**Carife**	**1.01 278**	⇓P	**Pn**	**12 46 12.8 +1.1**
CAFE			AML	AML	
	comp=E,2000µm,0.6s				
CAFE			AML	AML	
	comp=N,1875µm,0.3s				
CAFE			AML	AML	
	comp=E,2125µm,0.6s				
CAFE			AML	AML	
	comp=N,1975µm,0.3s				
CAFE			AML	AML	
	comp=N,1975µm,1.7s				
CAFE			AML	AML	
	comp=N,1875µm,1.7s				
CAFE			AML	AML	
	comp=E,1995µm,0.6s				
CAFE			AML	AML	
	comp=N,1871µm,0.3s				
CAFE			AML	AML	
	comp=N,1974µm,0.3s				
CAFE			AML	AML	
	comp=E,1926µm,0.3s				
CAFE			AML	AML	
	comp=E,1843µm,0.3s				
SNAL	**S. Angelo Dei**	**1.02 272**	⇓P	**Pn**	**12 46 12.8 +0.9**
SNAL			AML	AML	
	comp=E,1895µm,0.3s				
SNAL			AML	AML	
	comp=N,1865µm,1.2s				
SNAL			AML	AML	
	comp=N,1865µm,0.8s				
SNAL			AML	AML	
	comp=N,1804µm,0.3s				
SNAL			AML	AML	
	comp=E,1894µm,0.3s				
MESG	**Mesagne**	**1.03 107**	P	**Pn**	**12 46 12.2 +0.4**
MESG			AML	AML	
	comp=E,2545µm,0.4s				
MESG			AML	AML	
	comp=N,2725µm,0.2s				
MESG			AML	AML	
	comp=E,2409µm,0.2s				
MESG			AML	AML	
	comp=N,2726µm,0.2s				
SALB	**San Lorenzo Be**	**1.04 189**	⇑P	**Pn**	**12 46 12.1 0.0**
SALB			AML	AML	
	comp=E,4240µm,1.2s				
SALB			AML	AML	
	comp=N,3800µm,0.3s				
SALB			AML	AML	
	comp=E,4240µm,0.8s				
SALB			AML	AML	
	comp=N,3800µm,1.7s				
SALB			AML	AML	
	comp=N,3796µm,0.3s				
SALB			AML	AML	
	comp=E,3548µm,0.3s				
CDRU	**Civita di Ruta**	**1.04 247**	⇑P	**Pn**	**12 46 12.4 +0.3**
CDRU			AML	AML	
	comp=E,2795µm,0.2s				
CDRU			AML	AML	
	comp=N,2095µm,1.2s				
CDRU			AML	AML	
	comp=N,2095µm,0.8s				
CDRU			AML	AML	
	comp=N,2009µm,0.3s				
CDRU			AML	AML	
	comp=E,2790µm,0.2s				
LIO3	**Lioni**	**1.05 270**	P	**Pn**	**12 46 12.7 +0.6**
RSF3	**Rocca San Feli**	**1.05 274**	P	**Pn**	**12 46 12.9 +0.7**
SNR3	**Senerchia**	**1.05 261**	P	**Pn**	**12 46 13.0 +0.7**
MCRV	**Calabrutti - M**	**1.06 264**	P	**Pn**	**12 46 12.8 +0.4**
CUC	**Castrocucco**	**1.07 212**	⇑P	**Pn**	**12 46 12.6 +0.1**
CUC			AML	AML	
	comp=E,1340µm,0.3s				
CUC			AML	AML	
	comp=N,1070µm,0.4s				
CUC			AML	AML	
	comp=E,1660µm,0.3s				
CUC			AML	AML	
	comp=N,1315µm,0.4s				
CUC			AML	AML	
	comp=E,1660µm,1.7s				
CUC			AML	AML	
	comp=E,1340µm,1.7s				
CUC			AML	AML	
	comp=E,1343µm,0.3s				
CUC			AML	AML	
	comp=N,1316µm,0.4s				
CUC			AML	AML	
	comp=E,1661µm,0.3s				
CUC			AML	AML	
	comp=N,1069µm,0.4s				
MGR	**Morigerati**	**1.08 225**	⇑P	**Pn**	**12 46 13.1 +0.4**
MGR			AML	AML	
	comp=E,2720µm,0.3s				
MGR			AML	AML	
	comp=E,3110µm,0.3s				
MGR			AML	AML	
	comp=N,2230µm,1.5s				
MGR			AML	AML	
	comp=N,2290µm,0.3s				
MGR			AML	AML	
	comp=E,3110µm,1.7s				
MGR			AML	AML	
	comp=E,2720µm,1.7s				
MGR			AML	AML	
	comp=E,3110µm,0.3s				
MGR			AML	AML	
	comp=E,2722µm,0.3s				
MGR			AML	AML	
	comp=N,2005µm,0.3s				
MGR			AML	AML	
	comp=N,2288µm,0.3s				
NSC3	**Nusco**	**1.09 268**	P	**Pn**	**12 46 13.5 +0.7**
MMN	**Mormanno**	**1.10 203**	P	**Pn**	**12 46 13.1 +0.3**
MMN			AML	AML	
	comp=N,4925µm,0.6s				
MMN			AML	AML	
	comp=N,4925µm,1.4s				
MMN			AML	AML	
	comp=E,3655µm,0.3s				
MMN			AML	AML	
	comp=E,3656µm,0.3s				
MMN			AML	AML	
	comp=N,4070µm,0.3s				
BIOG	**Biogem**	**1.12 286**	P	**Pn**	**12 46 15.1 +1.9**
CMPR	**Campora**	**1.12 239**	P	**Pn**	**12 46 13.6 +0.4**
APRC	**Apricena**	**1.15 318**	⇓P	**Pn**	**12 46 14.7 +1.2**
APRC			S	**Sn**	**12 46 29.4 +1.4**
APRC			AML	AML	
	comp=E,5010µm,0.1s				
APRC			AML	AML	
	comp=N,4260µm,0.5s				
APRC			AML	AML	
	comp=E,5009µm,0.1s				
APRC			AML	AML	
	comp=N,1729µm,0.3s				
APRC			AML	AML	
	comp=E,5029µm,0.2s				
APRC			AML	AML	
	comp=N,4147µm,0.3s				
MOCO	**Biccari - m.te**	**1.16 294**	⇓P	**Pn**	**12 46 15.5 +1.8**
BULG	**Bulgheria - Ca**	**1.22 228**	⇑P	**Pn**	**12 46 15.6 +1.0**
BULG			AML	AML	
	comp=N,2775µm,0.9s				
BULG			AML	AML	
	comp=E,2560µm,1.4s				
BULG			AML	AML	
	comp=E,2645µm,1.4s				
BULG			AML	AML	
	comp=N,2875µm,1.3s				
BULG			AML	AML	
	comp=E,2645µm,0.6s				
BULG			AML	AML	
	comp=E,2560µm,0.6s				
BULG			AML	AML	
	comp=N,2875µm,0.7s				
BULG			AML	AML	
	comp=N,2874µm,0.3s				
BULG			AML	AML	
	comp=N,2768µm,0.3s				
BULG			AML	AML	
	comp=E,2548µm,0.4s				
BULG			AML	AML	
	comp=E,2635µm,0.4s				
MRB1	**Monte Rocchett**	**1.22 281**	P	**Pn**	**12 46 16.2 +1.6**
MRB1			AML	AML	
	comp=N,2285µm,0.6s				
MRB1			AML	AML	
	comp=N,2365µm,0.6s				
MRB1			AML	AML	
	comp=E,2055µm,0.4s				
MRB1			AML	AML	
	comp=E,2170µm,0.4s				
MRB1			AML	AML	
	comp=N,2365µm,1.4s				
MRB1			AML	AML	
	comp=N,2285µm,1.4s				
MRB1			AML	AML	
	comp=E,2055µm,0.4s				
MRB1			AML	AML	
	comp=N,2365µm,0.6s				
MRB1			AML	AML	
	comp=E,2165µm,0.4s				
MRB1			AML	AML	
	comp=N,2285µm,0.6s				
TDS	**Terranova Sìba**	**1.25 188**	⇑P	**Pn**	**12 46 15.5 +0.6**
TDS			S	**Sn**	**12 46 31.3 +0.7**
TDS			AML	AML	
	comp=N,634µm,0.9s				
TDS			AML	AML	
	comp=E,448µm,0.8s				
TDS			AML	AML	
	comp=N,634µm,1.1s				
TDS			AML	AML	
	comp=N,588µm,0.4s				
TDS			AML	AML	
	comp=E,446µm,0.7s				
GRIS	**Grisolia**	**1.28 205**	⇑P	**Pn**	**12 46 12.9 -2.4**
TIP	**Timpagrande**	**1.73 175**	⇓P	**Pn**	**12 46 23.6 +2.1**
HCY	**Herceg Novi**	**2.12 43**	*e*Pn	**Pn**	**12 46 26.9 +0.1**
HCY	**Herceg Novi**	**2.12 43**	⇓*i*Pn	**Pn**	**12 46 27.6 +0.8**
HCY			*i* Sn	**Sn**	**12 46 51.5 -0.4**
STON	**Ston**	**2.14 23**	*e*Pn	**Pn**	**12 46 28.0 +0.8**
STON			*e*Sn	**Sn**	**12 46 52.6 +0.1**
STON	**Ston**	**2.14 23**	⇑*i*Pn	**Pn**	**12 46 27.6 +0.4**
BUM	**Brajici-Budva**	**2.24 51**	⇑*i*Pn	**Pn**	**12 46 29.6 +1.0**
BUM			*e*Sn	**Sn**	**12 46 54.2 -0.8**
TREB	**Trebinje**	**2.25 36**	*e*Pn	**Pn**	**12 46 29.4 +0.7**
ULC	**Ulcinj**	**2.28 61**	⇓*i*Pn	**Pn**	**12 46 30.3 +1.2**
ULC			*e*Sn	**Sn**	**12 46 56.7 +0.7**
DRME	**Dracevica, Mon**	**2.35 56**	⇑*i*Pn	**Pn**	**12 46 31.3 +1.3**
DRME			*e*Sn	**Sn**	**12 46 58.0 +0.3**
CEME	**Cevo**	**2.41 46**	⇑*i*Pn	**Pn**	**12 46 32.1 +1.2**
CEME			*i* Sn	**Sn**	**12 46 59.3 0.0**
BRY	**Bratogost**	**2.48 36**	*e*Pn	**Pn**	**12 46 33.1 +1.1**
BRY	**Bratogost**	**2.48 36**	⇑*i*Pn	**Pn**	**12 46 33.2 +1.2**
BRY			*i* Sn	**Sn**	**12 47 00.9 -0.3**
PDG	**Podgorica**	**2.53 52**	*e*Pn	**Pn**	**12 46 33.9 +1.4**
PDG			*e*Sn	**Sn**	**12 47 03.3 +1.2**
PDG	**Podgorica**	**2.53 52**	⇑*i*Pn	**Pn**	**12 46 33.6 +1.1**
PDG	**Podgorica**	**2.53 52**	⇑P	**Pn**	**12 46 33.3 +0.8**
PDG	**Podgorica**	**2.53 52**	⇑*i*Pn	**Pn**	**12 46 33.7 +1.2**
PDG			*e*Sn	**Sn**	**12 47 03.0 +0.9**
TIR	**Tirane**	**2.54 79**	*e*Pn	**Pn**	**12 46 34.9 +2.3**
TIR			*e*Sn	**Sn**	**12 47 01.3 -0.9**
TIR	**Tirane**	**2.54 79**	⇑P	**Pn**	**12 46 34.1 +1.5**
NKME	**Niksic**	**2.58 43**	⇑*i*Pn	**Pn**	**12 46 34.6 +1.3**
NKME			*e*Sn	**Sn**	**12 47 04.2 +0.7**
KEK	**Kerkira**	**2.75 115**	P	**Pn**	**12 46 36.6 +1.1**
SRN	**Sarande**	**2.82 110**	P	**Pn**	**12 46 37.4 +0.9**
UPM	**Unac-Piva**	**2.89 36**	*e*Pn	**Pn**	**12 46 39.1 +1.5**
UPM	**Unac-Piva**	**2.89 36**	⇑*i*Pn	**Pn**	**12 46 38.9 +1.3**
UPM			*e*Sn	**Sn**	**12 47 10.8 -0.4**
KOME	**Kolasin**	**2.94 48**	⇑*i*Pn	**Pn**	**12 46 39.6 +1.3**
KOME			*i* Sn	**Sn**	**12 47 14.1 +1.7**
PVY	**Plav**	**3.05 55**	⇓*i*Pn	**Pn**	**12 46 42.3 +2.5**
PVY			*i* Sn	**Sn**	**12 47 17.4 +2.2**
IVA	**Berane**	**3.17 51**	*e*Pn	**Pn**	**12 46 42.7 +1.3**
IVA			*i* Sn	**Sn**	**12 47 19.7 +1.6**
PLE	**Pljevlja**	**3.21 40**	⇓*i*Pn	**Pn**	**12 46 43.3 +1.3**
PLE			*e*Sn	**Sn**	**12 47 20.6 +1.5**
GAVE	**Gavelli**	**3.27 304**	AML	AML	
	comp=N,283µm,0.5s				
GAVE			AML	AML	
	comp=E,302µm,0.2s				
GAVE			AML	AML	
	comp=N,282µm,0.5s				
GAVE			AML	AML	
	comp=E,313µm,0.2s				
GAVE			AML	AML	
	comp=E,303µm,0.2s				
RUDO	**Rudo**	**3.42 37**	*e*Pn	**Pn**	**12 46 45.5 +0.7**
SJES	**Sjenica**	**3.47 46**	*e*Pn	**Pn**	**12 46 48.3 +2.8**
SJES			*e*Sn	**Sn**	**12 47 25.5 +0.2**
SJES	**Sjenica**	**3.47 46**	⇑*i*Pn	**Pn**	**12 46 48.2 +2.8**
JAN	**Janina**	**3.51 109**	P	**Pn**	**12 46 47.8 +1.8**
A050A	**Klekovaca**	**3.58 360**	*e*Pn	**Pn**	**12 46 49.0 +2.0**
BBLS	**Lazi&#263i**	**3.63 34**	*e*Pn	**Pn**	**12 46 49.9 +2.1**
BBLS			*e*Sn	**Sn**	**12 47 28.8 -0.7**
BBLS	**Lazi&#263i**	**3.63 34**	⇑*i*Pn	**Pn**	**12 46 49.6 +1.8**
HAPS	**Han Pijesak,Bl**	**3.64 28**	*e*Pn	**Pn**	**12 46 50.2 +2.3**
TSLK	**Tsoukalades, L**	**3.77 122**	P	**Pn**	**12 46 51.1 +1.5**
IVAS	**Ivanjica**	**3.77 44**	*e*Pn	**Pn**	**12 46 51.2 +1.5**
IVAS			*e*Sn	**Sn**	**12 47 32.4 -0.5**
LKD2	**Lefkada island**	**3.79 122**	P	**Pn**	**12 46 52.7 +2.8**
DRAG	**Dragano-Lefkad**	**3.80 124**	P	**Pn**	**12 46 51.0 +1.0**
NYDR	**Nydri-Lefkada**	**3.86 123**	P	**Pn**	**12 46 52.1 +1.3**
BLY	**Banja Luka**	**3.87 7**	*e*Pn	**Pn**	**12 46 53.5 +2.6**
EVGI	**Lefkada island**	**3.89 124**	P	**Pn**	**12 46 52.4 +1.2**
FSK	**Fiskardo**	**3.94 127**	P	**Pn**	**12 46 52.6 +0.8**
DIVS	**Divibare**	**4.08 37**	*e*Pn	**Pn**	**12 46 55.1 +1.2**
DIVS			*e*Sn	**Sn**	**12 47 38.6 -1.8**
SELS	**Selova**	**4.11 54**	*e*Pn	**Pn**	**12 46 56.1 +1.9**
SELS			*e*Sn	**Sn**	**12 47 40.1 -1.0**
A051A	**Mrakovica**	**4.12 3**	*e*Pn	**Pn**	**12 46 56.4 +2.0**
VLS	**Valsamata**	**4.14 130**	P	**Pn**	**12 46 55.5 +0.9**
TEKS	**Tekeris**	**4.25 30**	*e*Pn	**Pn**	**12 46 57.0 +0.8**
TEKS	**Tekeris**	**4.25 30**	*e*Pn	**Pn**	**12 46 56.9 +0.8**
GRUS	**Gruza**	**4.29 45**	*e*Pn	**Pn**	**12 46 58.1 +1.5**
GRUS			*e*Sn	**Sn**	**12 47 44.1 -1.3**

BARS	Barje	4.37	62	ePn	Pn	12 46 59.5	+1.8
TRUS	Trudelj	4.37	39	ePn	Pn	12 46 58.7	+0.9
EVR	Evrytania	4.50	114	P	Pn	12 47 03.4	+3.8
BOVS	Bovan	4.69	53	ePn	Pn	12 47 03.2	+1.0
BOVS	Bovan	4.69	53	⇓P	Pn	12 47 03.3	+1.1
BOSS	Bosilegrad	4.71	68	ePn	Pn	12 47 04.2	+1.7
BOSS				eSn	Sn	12 47 52.7	-3.2
ANX	Ano Chora	4.73	117	P	Pn	12 47 05.6	+2.7
AVAS	Avala Beograd	4.78	36	ePn	Pn	12 47 03.9	+0.5
AVAS				eSn	Sn	12 47 54.6	-2.9
AGG	Agios Georgios	4.81	111	P	Pn	12 47 06.5	+2.6
FRGS	Fruska Gora	4.88	28	ePn	Pn	12 47 04.5	-0.2
FRGS				eSn	Sn	12 47 57.4	-2.5
FRGS	Fruska Gora	4.88	28	ePn	Pn	12 47 04.6	-0.2
DRO	Drossia	4.96	125	P	Pn	12 47 07.6	+1.7
CRES	Cresnjevec Ost	4.99	351	⇑iPn	Pn	12 47 07.9	+1.6
CEY	Cerknica	5.08	343	ePn	Pn	12 47 08.7	+1.1
ZAPS	Zavoj	5.10	60	ePn	Pn	12 47 09.7	+1.8
ZAPS				eSn	Sn	12 48 04.1	-1.5
ZAGS	Zajecar	5.11	53	ePn	Pn	12 47 09.1	+1.1
AXAR	Agios Charalam	5.16	112	P	Pn	12 47 11.0	+2.4
MDVR	Moldovita	5.42	43	⇓P	Pn	12 47 13.5	+1.2
VRSS	Vrsac	5.48	38	ePn	Pn	12 47 13.5	+0.5
MORH	Mrgy, Hungar	5.52	15	⇓P	Pn	12 47 14.9	+1.3
OBKA	Obir	5.79	346	iPn	Pn	12 47 19.5	+2.1
	comp=E,11nm,0.2s,SNR=30						
OBKA				iSn	Sn	12 48 21.2	-1.4
	comp=E,35nm,0.2s						
OBKA	Obir	5.79	346	⇑iPn	Pn	12 47 19.0	+1.6
SOKA	Soboth	5.88	350	iPn	Pn	12 47 20.2	+1.6
	comp=E,2.4nm,0.2s						
SOKA				iSn	Sn	12 48 23.0	-1.8
	comp=E,22nm,0.5s						
PGF	Pioggiola	5.89	289	eP	Pn	12 47 19.5	+0.7
PGF				eSn	Sn	12 48 21.9	-3.2
	comp=E,4.0nm,0.4s						
BZS	Buzias	5.99	36	⇓P	Pn	12 47 20.9	+1.0
MYKA	Terra Mystica	6.10	341	iPn	Pn	12 47 23.3	+1.7
	comp=E,4.2nm,0.2s,SNR=5.2						
MYKA				iSn	Sn	12 48 28.9	-1.4
	comp=E,14nm,0.3s						
SURR	Surduc	6.32	38	⇓P	Pn	12 47 25.3	+0.7
GZR	Gura Zlata	6.39	43	⇓P	Pn	12 47 26.8	+1.2
ARSA	Arzberg	6.39	354	iPn	Pn	12 47 27.5	+1.9
	comp=E,1.4nm,0.2s						
ARSA				iSn	Sn	12 48 35.8	-1.5
	comp=E,4.5nm,0.4s						
ABTA	Abfaltersbach	6.54	335	iSn	Sn	12 48 38.6	-2.3
	comp=E,7.6nm,0.2s						
KBA	Koelnbreinsper	6.59	341	iPn	Pn	12 47 29.7	+1.2
	comp=E,4.4nm,0.3s,SNR=7.0						
KBA				iSn	Sn	12 48 40.6	-1.9
	comp=E,10nm,0.3s						
RONA	Rosalia, Austr	6.80	358	iPn	Pn	12 47 32.0	+0.8
	comp=E,2.0nm,0.4s						
RONA				iSn	Sn	12 48 45.0	-2.4
	comp=E,6.6nm,0.3s						
CONA	Conrad Observa	7.04	356	iPn	Pn	12 47 35.6	+1.0
	comp=E,3.0nm,0.2s,SNR=7.5						
CONA				iSn	Sn	12 48 50.9	-2.4
	comp=E,4.6nm,0.3s						
LESA	Schwarzleotal	7.09	338	iPn	Pn	12 47 35.7	+0.4
	comp=E,0.9nm,0.1s						
LESA				eSn	Sn	12 48 54.9	+0.3
	comp=E,8.8nm,0.2s						
BIOA	Bad Ischl, Aus	7.10	344	iPn	Pn	12 47 37.4	+2.1
	comp=E,5.8nm,0.2s						
BIOA				eSn	Sn	12 48 54.0	-0.8
	comp=E,35nm,0.3s						
MOA	Molln	7.14	347	iPn	Pn	12 47 37.9	+2.1
	comp=E,6.4nm,0.3s,SNR=11						
MOA				eSn	Sn	12 48 54.2	-1.4
	comp=E,17nm,0.3s						
WTTA	Wattenberg	7.28	333	iPn	Pn	12 47 39.5	+1.6
	comp=E,4.9nm,0.3s						
WTTA				eSn	Sn	12 48 59.3	-0.1
	comp=E,13nm,0.3s						
WATA	Walderalm	7.36	333	iPn	Pn	12 47 40.4	+1.4
	comp=E,6.0nm,0.3s						
WATA				iSn	Sn	12 49 00.8	-0.5
	comp=E,14nm,0.2s						
SBF	Sospel	7.38	297	ePn	Pn	12 47 36.3	-2.8
DRGR		7.38	35	⇑P	Pn	12 47 39.9	+0.8
SQTA	Sankt Quirin	7.40	330	iPn	Pn	12 47 40.6	+1.2
	comp=E,5.0nm,0.2s						
SQTA				eSn	Sn	12 49 01.3	-0.9
	comp=E,26nm,0.4s						
FETA	Feichten	7.42	327	iPn	Pn	12 47 41.4	+1.6
	comp=E,0.8nm,0.1s						
FETA				eSn	Sn	12 49 02.1	-0.7
	comp=E,2.0nm,0.2s						
MODS	Modra-Piesok	7.49	4	ePN	Pn	12 47 42.2	+1.6
MODS				eSN	Sn	12 49 00.6	-3.6
MOTA	Moosalm	7.54	330	iPn	Pn	12 47 43.3	+1.8
	comp=E,2.5nm,0.3s						
MOTA				eSn	Sn	12 49 05.9	+0.1
	comp=E,11nm,0.4s						
DAVOX	Davos/Dischmat	7.60	323	Pn	Pn	12 47 44.4	+2.0
	comp=E,3.0nm,0.3s,baz=60,slow=4.0,SNR=16						
DAVOX				Sn	Sn	12 49 08.2	+0.9
	comp=E,3.0nm,0.3s,baz=318,slow=11,SNR=5.2						
VYHS	Vyhne	7.76	11	ePN	Pn	12 47 47.3	+2.9
VYHS				eSN	Sn	12 49 08.8	-2.2
RETA	Reutte	7.79	330	iSn	Sn	12 49 13.2	+1.5
	comp=E,6.8nm,0.2s						
LMR	La Mourre	7.86	291	eP	Pn	12 47 46.0	+0.3
DAVA	Damuels	7.99	325	iPn	Pn	12 47 49.7	+2.1
	comp=E,8.5nm,0.2s,SNR=11						
DAVA				iSn	Sn	12 49 15.5	-1.2
	comp=E,40nm,0.4s						
MBDF	Montbardon	8.15	301	eP	Pn	12 47 51.2	+1.4
MBDF				eSn	Sn	12 49 13.6	-7.1
	comp=E,2.1nm,0.5s						
KRUC	Moravsky	8.16	359	eSN	Sn	12 49 16.7	-4.0
GERES	GERESS Array B	8.20	347	Pn	Pn	12 47 51.4	+1.0
	comp=E,0.6nm,0.3s,baz=154,slow=12,SNR=3.6						
GERES				Sn	Sn	12 49 18.6	-3.1
	comp=E,4.3nm,0.3s,baz=284,slow=21,SNR=19						
	comp=E,1.1nm,0.5s						
MLR	Muntele Rosu	8.25	53	Pn	Pn	12 47 54.0	+2.9
	comp=E,1.3nm,0.3s,baz=241,slow=13,SNR=6.2						
	comp=E,3.8nm,0.5s						
MLR	Muntele Rosu	8.25	53	⇑P	Pn	12 47 54.6	+3.5
VRAC	Vranov	8.41	0	eSN	Sn	12 49 22.9	-3.9
LPG	La Plagne	8.51	306	ePn	Pn	12 47 55.1	+0.2
LPG				eSn	Sn	12 49 21.9	-7.8
	comp=E,3.4nm,0.3s						
LPL	La Plagne	8.53	306	eP	Pn	12 47 56.0	+0.9
LPL				eSn	Sn	12 49 22.6	-7.5
	comp=E,2.2nm,0.3s						
IDI	Anoyia	8.63	128	Pn	Pn	12 47 54.0	-2.4
	comp=E,8.7nm,0.3s,baz=316,slow=16,SNR=22						
IDI				Sn	Sn	12 49 26.2	-6.3
	comp=E,2.4nm,0.3s,baz=101,slow=23,SNR=3.1						
SMRF	Simiane la Rot	8.68	294	eP	Pn	12 47 56.2	-0.8
ORIF	Oris-en-Rattie	8.80	301	eP	Pn	12 48 01.0	+2.3
ORIF				eSn	Sn	12 49 29.1	-7.6
	comp=E,2.4nm,0.3s						
CABF	La Chapelle	9.48	310	eP	Pn	12 48 07.9	-0.1
CABF				eSn	Sn	12 49 42.2	-11
	comp=E,3.6nm,0.5s						
HINF	Hinteralfeld	9.80	318	eP	Pn	12 48 11.9	-0.4
HINF				eSn	Sn	12 49 52.9	-8.1
	comp=E,5.7nm,0.2s						
CDF	Champ du Feu	10.00	322	eP	Pn	12 48 14.8	-0.3
CDF				eSn	Sn	12 49 54.1	-12
	comp=E,2.3nm,0.2s						
HAU	Haudompre	10.18	318	eP	Pn	12 48 16.6	-0.9
HAU				eSn	Sn	12 49 59.2	-11
	comp=E,33nm,0.6s						
SMF	Signal de Mont	10.84	306	eP	Pn	12 48 26.1	-0.4
SMF				eSn	Sn	12 50 18.2	-8.2
	comp=E,2.6nm,0.4s						
PAGF	Fort de Pagny	10.85	318	eP	Pn	12 48 25.3	-1.4
PAGF				eSn	Sn	12 50 16.3	-10
	comp=E,2.5nm,0.3s						
LOR	Lormes	11.13	309	eP	Pn	12 48 29.4	-1.0
	baz=115						
LOR				eSn	Sn	12 50 25.3	-8.2
	comp=E,2.4nm,0.2s						
MEZF	Maizieres J'vi	11.16	317	eP	Pn	12 48 30.3	-0.6
	baz=125						
AVF	Avril sur Loir	11.20	306	eP	Pn	12 48 30.9	-0.5
AVF				eSn	Sn	12 50 26.6	-8.7
	comp=E,1.5nm,0.4s						
SSF	Saint Saulge	11.23	308	eP	Pn	12 48 32.5	+0.6
SSF				eSn	Sn	12 50 28.0	-8.2
	comp=E,2.8nm,0.3s						
CAF	Calviac	11.36	296	eP	Pn	12 48 33.1	-0.6
CAF				eSn	Sn	12 50 30.6	-8.8
	comp=E,2.0nm,0.3s						
BGF	Bois d'Agland	11.41	304	eP	Pn	12 48 34.5	+0.1
BGF				eSn	Sn	12 50 32.0	-8.6
	comp=E,4.0nm,0.5s						
HFS	Hagfors	19.34	356	P	P	12 50 17.4	+1.4
	comp=E,0.6nm,0.4s,baz=185,slow=16,SNR=1.7						
FINES	FINESS Array B	21.37	13	P	P	12 50 38.6	+0.6
	comp=E,1.6nm,0.7s,baz=191,slow=11,SNR=7.0						
	comp=E,1.6nm,0.7s						
ZALV	Zalesovo Beam	46.21	50	P	P	12 54 15.3	+0.1
	comp=E,0.6nm,0.5s,baz=292,slow=7.6,SNR=3.6						
	comp=E,0.6nm,0.5s						
MKAR	Makanchi Array	46.53	60	P	P	12 54 18.8	+0.9
	comp=E,0.4nm,0.7s,baz=280,slow=8.6,SNR=2.9						
	comp=E,0.4nm,0.7s						

JMA 09 12:49:58.5±0.2, 24°.2N±0°.4×123°.8E±0°.6, h16km±1km, MV0.7/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	Iriomote-Funau	0.12	348	iP	Pg	12 50 02.2	0.0
IRIF				eS	Sg	12 50 04.8	+0.1
HATJ	Hateruma jima	0.16	165	P	Pg	12 50 02.6	-0.1
HATJ				eS	Sg	12 50 05.3	-0.1
JKRS	Kuro-shima	0.23	84	P	Pg	12 50 03.7	0.0
JKRS				eS	Sb	12 50 07.8	-0.4
JIJ	Ishigaki jima	0.38	67	eP	Pg	12 50 06.0	-0.3
JIJ				eS	Sg	12 50 11.2	-0.4
JISG	Ishigakijimahi	0.63	53	eP	Pg	12 50 10.9	0.0
JISG				eS	Sg	12 50 19.4	+0.2
JTJ	Tarama	0.96	63	eS	Sn	12 50 30.3	-0.4

TAP 09 12:50:49.0, 24°.40N×121°.77E, h8km, ML1.1, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	Nanau	0.04	317	⇑iP	Pg	12 50 50.6	-0.1
ENA				iS	Sg	12 50 51.7	-0.1
EWUT	Wuta	0.05	6	iP	Pg	12 50 50.5	-0.2
EWUT				iS	Sg	12 50 51.8	-0.1
EHP	Heping Village	0.09	199	eP	Pg	12 50 51.5	+0.2
TWC	Suao	0.22	18	eP	Pg	12 50 53.0	-0.4
LATG	Datong	0.26	302	P	Pg	12 50 54.4	+0.1
NACB	Ninganchiao	0.28	216	iP	Pg	12 50 54.5	+0.1
NACB				iS	Sg	12 50 58.4	+0.2
ENTT	Nioudou	0.31	322	iP	Pg	12 50 55.2	+0.1
ENTT				iS	Sg	12 50 59.4	+0.2
ETLH	Xiulin Townshi	0.33	235	eP	Pg	12 50 55.7	+0.3
NNSB	Datong	0.36	275	P	Pg	12 50 56.0	-0.1
NNSB				S	Sg	12 51 00.5	-0.3
NNS	Nan Shan	0.37	277	eP	Pg	12 50 56.0	-0.2
NNS				eS	Sg	12 51 01.2	+0.1
FUSB	Fushanzhiwuyua	0.40	335	eP	Pg	12 50 56.5	-0.3
YHNB	Yeheng	0.45	307	eP	Pg	12 50 56.8	-1.0
YHNB				eS	Sg	12 51 04.0	+0.3

*SOME **09** 13:01:00.8, 39°.00N×74°.88E, h0km*
*IDC **09** 13:01:02.3±0.9, 38°.85N×74°.57E, h0km, mb3.8/8, mbtmp3.6/14, ML2.9/6, MS2.4/2, Error ellipse: s-maj=19.8km s-min=13.1km az=95.0*
*KRNET **09** 13:01:03.4±0.1, 39°.04N×74°.78E, mb3.8*
*NNC **09** 13:01:04.2±2.0, 39°.04N×74°.85E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=14.7km s-min=9.4km az=162.0*

ISC 09 13:01:03.8±0.8, 39°.15N±0°.04×74°.85E±0°.03, h10km, n77, σ2s68/109, mb3.6/8, 21C-25D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALK	Salom-Alik	1.90	336	⇓eP	Pg	13 01 40.3	0.0
SALK				⇓eS	Sg	13 02 07.4	+2.5
OHH	Osh	2.10	311	⇑iP	Pg	13 01 42.4	-1.7
OHH				⇑iS	Sg	13 02 10.8	-0.5
DRK	Karamyk	2.39	279	⇓iP	Pb	13 01 45.5	-1.6
DRK				⇓iS	Sb	13 02 16.4	-0.3
NRN	Naryn	2.44	21	⇑iP	Pb	13 01 48.5	+0.5
NRN				⇑iS	Sb	13 02 21.1	+2.8
ARLS	Aral	2.73	352	⇓iP	Pb	13 01 52.3	-0.6
ARLS				⇓iS	Sb	13 02 27.7	+1.1
AML	Almayashu	3.10	344	P	Pb	13 01 58.6	-0.7
	SNR=9.3						
AML	Almayashu	3.10	344	⇑iP	Pb	13 01 57.6	-1.7
AML				⇑iS	Sb	13 02 36.7	-0.7
BTK	Batken	3.24	287	⇑iP	Pb	13 01 57.6	-3.9
BTK				⇑iS	Sb	13 02 37.0	-4.1
ULHL	Ulahol	3.27	18	P	Pb	13 02 03.1	+1.1
	SNR=20						
ULHL	Ulahol	3.27	18	⇓iP	Pb	13 01 59.8	-2.2
ULHL				⇓iS	Sb	13 02 41.3	-0.6
BOOM	Boomskoye usch	3.43	14	⇓iP	Pb	13 02 02.3	-2.6
BOOM				⇓iS	Sb	13 02 45.1	-1.6
KDJ	Kajisay	3.46	30	⇑iP	Pb	13 02 03.0	-2.3
KDJ				⇑iS	Sb	13 02 45.9	-1.6
AAK	Ala-Archa	3.49	356	P	Pb	13 02 05.2	-0.7
	SNR=17						
AAK	Ala-Archa	3.49	356	Pn	Pb	13 02 04.4	-1.5
	2.1nm,0.3s,baz=137,slow=5.1,SNR=24						
AAK				Sn	Sb	13 02 50.6	+2.3
	1.7nm,0.3s,baz=23,slow=23,SNR=1.4						
AAK				Lg	Lg	13 03 02.7	
	3.4nm,0.3s,baz=290,slow=23,SNR=5.7						
AAK				LR	LR	13 03 19.0	
	comp=Z,15nm,18.7s,baz=208,slow=36						
	8.5nm,0.5s						
KBK	Karagaybulak	3.50	1	P	Pb	13 02 03.9	-2.1
	SNR=21						
KBK	Karagaybulak	3.50	1	⇓iP	Pb	13 02 03.1	-2.9
KBK				⇓iS	Sb	13 02 46.6	-2.0
GAR	Garm	3.53	269	⇑iP	Pn	13 01 59.9	+1.0
GAR				⇑iS	Sn	13 02 42.5	+1.7
EKS2	Erkin-Say	3.60	347	P	Pg	13 02 12.5	-0.3
	SNR=8.4						
EKS2	Erkin-Say	3.60	347	⇓eP	Pb	13 02 04.2	-3.4
EKS2				⇓iS	Sb	13 02 48.3	-3.1
TRKS	Terek-Say	3.70	311	⇑iP	Pn	13 02 03.7	+2.5
TRKS				⇑iS	Sn	13 02 47.8	+2.9
MNAS	Manas	3.77	333	⇓iP	Pb	13 02 06.2	-4.5
MNAS				⇓iS	Sn	13 02 52.1	+5.3
MRKS	Merke	3.79	342	Pg	Pb	13 02 13.2	+2.2
	11nm,0.4s						
MRKS				Lg	Lg	13 03 05.9	
	32nm,0.7s						
MRKS	Merke	3.79	342	eP	Pb	13 02 13.4	+2.4
	18nm,0.5s						
MRKS				eS	Sg	13 03 05.9	+0.3
	32nm,0.6s						
TKM2	Tokmak 2	3.81	8	P	Pb	13 02 07.8	-3.5
	SNR=36						
TKM2	Tokmak 2	3.81	8	⇓Pn	Pb	13 02 07.2	-4.0
	11nm,0.5s						
TKM2				⇑Sn	Sb	13 02 56.4	-1.0
	29nm,0.8s						
TKM2				⇑Lg	Lg	13 03 08.0	
	31nm,0.6s						
TKM2	Tokmak 2	3.81	8	⇓iP	Pb	13 02 07.3	-4.0
TKM2				⇓iS	Sb	13 02 53.8	-3.7
CHMS	Chumysh	3.84	359	P	Pb	13 02 09.9	-1.8
	SNR=5.7						
CHMS	Chumysh	3.84	359	⇓Pn	Pb	13 02 08.8	-2.9
	10nm,0.5s						
CHMS				⇑Lg	Lg	13 03 07.9	
	22nm,0.7s						
CHMS	Chumysh	3.84	359	⇓iP	Pb	13 02 07.5	-4.2
CHMS				⇓iS	Sb	13 02 54.7	-3.6
KST	Kastek	3.98	12	Pg	Pg	13 02 17.3	-2.7
	7.3nm,0.2s						
KST				Lg	Lg	13 03 12.5	
	22nm,0.6s						
KST	Kastek	3.98	12	eP	Pb	13 02 16.4	+2.3
	12nm,0.6s						
KST				eS	Sg	13 03 10.6	-0.9
	55nm,0.8s						
USP	Ospenovka	4.12	356	P	Pg	13 02 21.3	-1.4
	SNR=8.3						
USP	Ospenovka	4.12	356	⇓iP	Pb	13 02 11.3	-5.1
USP				⇓iS	Sn	13 03 00.7	+5.6
MTBS	Maitube	4.15	16	Pg	Pg	13 02 22.0	-1.3
	8.2nm,0.6s						
MTBS				Lg	Lg	13 03 20.3	
	27nm,0.7s						
MTBS	Maitube	4.15	16	eP	Pg	13 02 22.0	-1.3
	8.2nm,0.6s						
MTBS				eS	Sg	13 03 20.4	+3.3
	27nm,0.7s						
TNSS	Tian-Shan	4.19	22	Pg	Pg	13 02 22.3	-1.8
	23nm,0.5s						
TNSS				Lg	Lg	13 03 20.9	
	25nm,0.8s						
TNSS	Tian-Shan	4.19	22	eP	Pg	13 02 22.3	-1.8
	23nm,0.5s						
TNSS				eS	Sg	13 03 20.9	+2.5
	25nm,0.8s						
MDOK	Medeo	4.34	22	Pg	Pg	13 02 23.4	-3.5
	14nm,0.6s						
MDOK				Lg	Lg	13 03 24.9	
	71nm,1.1s						
MDOK	Medeo	4.34	22	eP	Pg	13 02 24.2	-2.7
	12nm,0.6s						
MDOK				eS	Sg	13 03 24.3	+1.2
	39nm,0.9s						
KRBS	Karabastau	4.58	8	eP	Pg	13 02 29.2	-2.4
	9.1nm,0.4s						
KRBS				eS	Sg	13 03 33.1	+2.2
	17nm,0.8s						
SATY	Saty	4.74	33	Pg	Pg	13 02 31.6	-3.0
	21nm,1.0s						
SATY				Lg	Lg	13 03 36.8	
	47nm,1.0s						
SATY	Saty	4.74	33	eP	Pg	13 02 31.6	-3.0
	11nm,0.8s						
SATY				eS	Sg	13 03 37.1	+1.2
	47nm,0.7s						
KUU	Kurty	4.87	13	Pg	Pg	13 02 33.8	-3.2
	5.2nm,0.1s						
KUU				Lg	Lg	13 03 40.8	
	26nm,0.8s						
KUU	Kurty	4.87	13	eP	Pg	13 02 33.8	-3.2
	5.2nm,0.1s						
KUU				eS	Sg	13 03 40.8	+0.7
	26nm,0.8s						
CHKK	Chushkaly	4.96	18	Pg	Pg	13 02 36.2	-2.7
	14nm,0.6s						
CHKK				Lg	Lg	13 03 45.5	
	15nm,0.5s						
CHKK	Chushkaly	4.96	18	eP	Pg	13 02 36.2	-2.7
	13nm,0.6s						
CHKK				eS	Sg	13 03 45.5	+2.3
	22nm,0.7s						
KURS	Kuram	5.00	29	Pg	Pg	13 02 35.7	-3.9
	16nm,0.8s						
KURS				Lg	Lg	13 03 44.1	
	25nm,1.1s						
KURS	Kuram	5.00	29	eP	Pg	13 02 35.7	-3.9
	16nm,0.7s						
KURS				eS	Sg	13 03 44.1	-0.3
	25nm,1.1s						
UZB	Uzynbulak	5.08	37	Pg	Pg	13 02 37.4	-3.8
	9.9nm,0.6s						
UZB				Lg	Lg	13 03 46.8	
	23nm,1.1s						
UZB	Uzynbulak	5.08	37	eP	Pg	13 02 37.2	-3.9
	9.9nm,0.6s						
UZB				eS	Sg	13 03 46.8	-0.2
	23nm,0.7s						
KK31	Karatay Array	5.13	322	Pn	Pn	13 02 23.2	+2.5
	0.9nm,0.3s,baz=108,slow=9.9,SNR=14						
KK31				⇓Pg	Pg	13 02 39.6	-2.5
	8.6nm,0.7s,baz=147,slow=14,SNR=10						
KK31				⇑Sn	Sn	13 03 24.7	+4.8
	6.6nm,0.5s						
KK31				⇑Lg	Lg	13 03 46.4	
	18nm,0.8s,baz=142,slow=29						
KKAR	Karatay Array	5.13	322	⇑iP	Pn	13 02 23.4	+2.7
KKAR				⇑iS	Sn	13 03 23.6	+3.6
KPKS	Kokpek	5.19	33	Pg	Pg	13 02 38.1	-5.0
	11nm,0.7s						
KPKS				Lg	Lg	13 03 48.9	
	37nm,0.7s						
KPKS	Kokpek	5.19	33	eP	Pg	13 02 38.1	-5.0
	10nm,0.8s						
KPKS				eS	Sg	13 03 48.9	-1.4
	36nm,0.6s						
SHLS	Shalkode	5.30	40	Pg	Pg	13 02 45.6	+0.3
	16nm,0.5s						
SHLS				Lg	Lg	13 04 00.9	
	33nm,1.0s						
SHLS	Shalkode	5.30	40	eP	Pg	13 02 45.6	+0.3
	26nm,0.4s						
SHLS				eS	Sg	13 04 01.5	+7.5
	33nm,0.5s						
BRLS	Borolday	5.42	317	eP	Pg	13 02 42.6	-5.0
	4.3nm,0.5s						
BRLS				eS	Sg	13 03 56.1	-1.5
	10nm,0.6s						
ARXS	Arharly	5.52	23	Pg	Pg	13 02 45.9	-3.7
	14nm,0.8s						
ARXS				Lg	Lg	13 04 02.1	
	17nm,0.8s						
ARXS	Arharly	5.52	23	eP	Pg	13 02 45.9	-3.7
	14nm,0.7s						
ARXS				eS	Sg	13 04 02.1	+0.9
	17nm,0.8s						
BLB	Baldybastay	5.64	28	Pg	Pg	13 02 47.8	-4.0
	30nm,0.8s						
BLB				Lg	Lg	13 04 05.4	
	47nm,0.8s						
BTLS	Baital	5.91	354	eP	Pb	13 02 50.9	+3.9
	0.6nm,0.1s						
BTLS				eS	Sg	13 04 10.4	-3.2
	5.2nm,0.6s						
DJR	Jarkent	6.36	34	Pg	Pg	13 03 00.0	-5.5
	2.0nm,0.4s						
DJR				Lg	Lg	13 04 26.4	
	12nm,0.6s						
DJR	Jarkent	6.36	34	eP	Pg	13 03 01.5	-4.0
	5.9nm,0.8s						
DJR				eS	Sg	13 04 28.7	+0.8
	12nm,0.6s						
MKAR	Makanchi Array	9.38	33	Pn	Pn	13 03 25.7	+6.7
	0.2nm,0.3s,baz=217,slow=14,SNR=8.8						
MKAR				Lg	Lg	13 06 12.8	
	0.1nm,0.3s,baz=224,slow=30,SNR=3.0						
	0.9nm,0.6s						
KURBB	Kurchatov Arra	11.76	12	Pn	Pn	13 03 56.3	+4.7
	0.1nm,0.3s,baz=193,slow=14,SNR=3.3						
KURBB				Lg	Lg	13 07 22.4	
	0.1nm,0.3s,baz=195,slow=32,SNR=5.8						
	0.4nm,0.6s						
BVAR	Borovoye Array	14.21	349	Pn	Pn	13 04 26.9	+1.9
	baz=167,

UPA 09 13:05:11.2±1.6, 8°67′N×83°24′W, h18km±7km, ML4.0,1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	**Carate, Puerto**	**0.28**	**201**	*eP*	Pg	13 05 16.6	-0.8
PIRO				*eS*	Sb	13 05 22.8	+0.7
MLIR3	**Monte Lirio, C**	**0.43**	**73**	*eP*	Pn	13 05 21.7	-0.9
BRU2	**Volcan**	**0.55**	**77**	⇓*iP*	Pg	13 05 22.1	-0.2
BRU2				*eS*	Sb	13 05 31.4	+1.3
PTPM	**Petroterminale**	**0.58**	**143**	*eP*	Pg	13 05 21.8	-0.9
PTPM				*eS*	Sn	13 05 32.4	-1.3
DRK0	**Durika**	**0.59**	**359**	*eP*	Pg	13 05 22.7	-0.3
DRK0				*eS*	Sb	13 05 32.6	+1.4
BCO2	**Palmira**	**0.70**	**86**	*eP*	Pb	13 05 24.4	-0.6
BCO2				AMP		13 05 24.6	
	comp=Z,6μm,0.1s						
BCO2				*eS*	Sg	13 05 35.2	+0.7
PTAR3	**Potrerillos Ar**	**0.73**	**88**	*eP*	Pb	13 05 24.8	-0.7
LNBQ3	**Los Naranjos,**	**0.80**	**81**	*eP*	Pb	13 05 25.3	-1.3
LNBQ3				*eS*	Sb	13 05 36.8	-0.3
DVD	**David**	**0.81**	**106**	*eP*	Pb	13 05 26.6	-0.2
DVD				*eS*	Sg	13 05 38.0	+0.2
CNI2	**El Empalme, Bo**	**1.06**	**45**	*eP*	Pb	13 05 29.7	-1.4
CHGR2	**Aguacate**	**1.11**	**76**	*eP*	Pn	13 05 30.2	-1.7
CHGR2				*eS*	Sb	13 05 45.6	-0.6

*DNK **09** 13:20:43.4±2.1, 71°46′N×12°28′W, h36km±19km*
*BER **09** 13:20:44.7±0.3, 71°37′N×12°02′W, h0km±888km, mb(Pn)3.6, Confirmed Earthquake*
ISC 09 13:20:39.3±1.1, 71°60′N±0°07′×12°26′W±0°05, h13km, n8, σ1§44/15, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.32**	**119**	*eP*	**Pg**	**13 21 05.7**	**+1.0**
JMI				*eS*	**Sb**	**13 21 19.9**	**-0.8**
JMI				IAML		13 21 21.7	
	comp=Z,96nm,0.3s						
JMIC	**Jan Mayen**	**1.36**	**115**	*eP*	**Pg**	**13 21 05.5**	**+0.3**
JMIC				*eS*	**Sn**	**13 21 21.0**	**-0.6**
JMIC				IAML		13 21 27.6	
	comp=Z,60nm,0.4s						
JMIC	**Jan Mayen**	**1.36**	**115**	*i* P	**Pg**	**13 21 05.2**	**-0.1**
JMIC				*i* S	**Sn**	**13 21 20.1**	**-1.5**
JNW	**Jan Mayen West**	**1.36**	**113**	*eP*	**Pg**	**13 21 05.8**	**+0.4**
JNW				*eS*	**Sn**	**13 21 21.2**	**-0.5**
JNW				IAML		13 21 23.9	
	comp=Z,85nm,0.5s						
JNE	**Jan Mayen East**	**1.42**	**114**	*eS*	**Sn**	**13 21 22.4**	**-0.7**
JNE				IAML		13 21 25.2	
	comp=Z,151nm,0.2s						
SCO	**Scoresbysund**	**3.35**	**255**	*i* P	**Pn**	**13 21 33.0**	**+1.7**
SCO				*i* S	**Sn**	**13 22 07.5**	**-3.4**
SCO				IAML		13 22 10.4	
	comp=Z,0.4nm,0.3s						
DBG	**Daneborg**	**3.59**	**323**	*i* P	**Pn**	**13 21 36.3**	**+1.8**
DBG				*i* S	**Sn**	**13 22 16.8**	**+0.1**
DAG	**Danmarks Havn**	**5.49**	**344**	*e*	**Pn**	**13 21 59.9**	**-0.6**
	baz=157,slow=18						
DAG				*i* P	Pb	13 22 05.0	-10
DAG				*i* S	**Sn**	**13 23 02.0**	**-1.3**
DAG				IAML		13 23 06.9	
	comp=Z,2.5nm,0.3s						

*NIED **09** 13:31:33.6, 40°71N×142°65E, h27km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.73; $M_{\theta\theta}$0.14; $M_{\phi\phi}$-0.87; $M_{r\theta}$-0.28; $M_{\theta\phi}$-0.14; $M_{\phi r}$1.12; Fault plane solution: $M_0$1.42000×10^{14} NP1: ϕ_s349.00000°, δ73.00000°, λ77.00000°. NP2: ϕ_s209.00000°, δ21.00000°, λ127.00000°.*
JMA 09 13:31:33.6±0.2, 40°7N±0°5×14°3E±°, h27km, MV3.7/33, 10D, E OFF AOMORI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.87**	**235**	⇓*iP*	Pn	13 31 49.5	-0.5
JANG	**Nango**	**0.93**	**249**	⇓P	Pn	13 31 50.7	-0.1
JANG				⇓S	Sb	13 32 02.4	-0.5
JTH	**Tanohata**	**0.98**	**218**	⇓P	Pn	13 31 51.1	-0.4
JARK	**Aomorirokkasho**	**1.01**	**287**	⇓*iP*	Pn	13 31 51.8	-0.2
JARK				⇓*eS*	Sn	13 32 04.2	-1.2
JTM	**Tenmabayashi**	**1.20**	**274**	P	Pn	13 31 54.9	+0.3
JTM				S	Sb	13 32 10.4	-0.3
JEM	**Erimo**	**1.36**	**16**	P	Pn	13 31 57.2	+0.4
JOT	**Ohata**	**1.38**	**300**	⇓P	Pn	13 31 57.0	-0.1
JOT				⇓S	Sn	13 32 13.5	-0.9
JOM	**Ohasama**	**1.61**	**220**	P	Pn	13 32 01.1	+0.8
JAH	**Hinai**	**1.62**	**252**	⇓P	Pb	13 32 01.8	-1.0
JAH				⇓*eS*	Sb	13 32 22.1	-0.7
JKB	**Kayabe**	**1.69**	**315**	P	Pn	13 32 01.5	+0.2
JKB				*eS*	Sn	13 32 20.9	-1.1
JSR	**Shiriuchi**	**1.87**	**297**	P	Pn	13 32 04.8	+1.0
JCH	**Churui**	**1.98**	**16**	P	Pn	13 32 06.0	+0.7
JMK	**Ichinoseki**	**2.07**	**212**	P	Pn	13 32 08.4	+1.9

*SJA **09** 13:41:50.0±0.6, 23°03S×66°69W, h254km±5km, ML3.4, MW3.4*
*GUC **09** 13:41:53.1±0.5, 23°02S×67°03W, h258km±13km, ML3.6*
ISC 09 13:41:51.1±2.1, 23°02S±0°05×66°81W±0°05, h246km±17km, n25, σ1§27/43, 8C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.30**	**99**	*eP*	**Pn**	**13 42 27.5**	**-0.5**
YJA	**Yavi**	**1.46**	**55**	*eP*	**Pn**	**13 42 28.9**	**-0.3**
LVC	**Limon Verde**	**1.98**	**281**	*eP*	**Pn**	**13 42 34.3**	**+0.9**
LVC				*eS*	**S**	**13 43 07.1**	**+0.4**
AZAP	**Zapla**	**2.00**	**127**	*eP*	**Pn**	**13 42 32.8**	**-0.6**
PB15	**IPOC Station P**	**2.46**	**265**	⇑*iP*	**Pn**	**13 42 39.0**	**+1.2**
PB15				*i* S	**S**	**13 43 13.7**	**-0.9**
PB15	**IPOC Station P**	**2.46**	**265**	*eP*	**Pn**	**13 42 38.6**	**+0.7**
PB15				*eS*	**S**	**13 43 14.5**	**-0.2**
PB09	**IPOC Station P**	**2.56**	**298**	⇑*iP*	**Pn**	**13 42 40.4**	**+1.5**
PB09				IAML		13 43 19.4	
	comp=E,73nm,0.2s						
PB09	**IPOC Station P**	**2.56**	**298**	*eP*	**Pn**	**13 42 39.8**	**+0.9**
PB09				*eS*	**S**	**13 43 16.7**	**+0.2**
PB09				IAML		13 43 16.9	
	comp=Z,40nm,0.9s						
PB06	**IPOC Station P**	**2.57**	**276**	⇑*iP*	**Pn**	**13 42 40.0**	**+1.1**
PB06				*i* S	**S**	**13 43 15.3**	**-1.3**
PB06				IAML		13 43 18.8	
	comp=E,91nm,0.1s						
PB06	**IPOC Station P**	**2.57**	**276**	*eP*	**Pn**	**13 42 40.0**	**+1.1**
PB06				*eS*	**S**	**13 43 17.3**	**+0.7**
PB06				IAML		13 43 19.7	
	comp=Z,74nm,0.3s						
ALOL	**LOMAS DE OLMED**	**2.71**	**108**	*eS*	**S**	**13 43 21.3**	**+2.2**
PB04	**IPOC Station P**	**3.16**	**282**	⇑*iP*	**Pn**	**13 42 46.5**	**+1.2**
PB04				*i* S	**S**	**13 43 26.1**	**-2.0**
PB04	**IPOC Station P**	**3.16**	**282**	*eP*	**Pn**	**13 42 46.5**	**+1.2**
PB04				*eS*	**S**	**13 43 27.4**	**-0.7**
PB04				IAML		13 43 31.2	
	comp=Z,75nm,0.2s						
PB01	**IPOC Station P**	**3.17**	**308**	⇑*iP*	**Pn**	**13 42 46.1**	**+0.8**
PB01				*i* S	**S**	**13 43 26.6**	**-1.6**
PB01	**IPOC Station P**	**3.17**	**308**	*eP*	**Pn**	**13 42 46.1**	**+0.8**
PB01				*eS*	**S**	**13 43 27.4**	**-0.8**
PB01				IAML		13 43 31.4	
	comp=Z,59nm,0.2s						
GO02	**Mina Guanaco**	**3.32**	**229**	⇑*iP*	**Pn**	**13 42 48.5**	**+1.4**
GO02				*i* S	**S**	**13 43 31.1**	**-0.3**
GO02	**Mina Guanaco**	**3.32**	**229**	*eP*	**Pn**	**13 42 48.1**	**+1.0**
PB08	**IPOC Station P**	**3.60**	**322**	⇑*iP*	**Pn**	**13 42 52.3**	**+1.7**
PB08	**IPOC Station P**	**3.60**	**322**	*eP*	**Pn**	**13 42 52.2**	**+1.7**
PB08				*eS*	**S**	**13 43 37.6**	**+0.1**
PB08				IAML		13 43 41.3	
	comp=Z,33nm,0.5s						
PB14	**IPOC Station P**	**3.66**	**243**	⇑*iP*	**Pn**	**13 42 52.1**	**+1.1**
PB14				*i* S	**S**	**13 43 36.8**	**-1.7**
TA01	**Diego Aracena**	**3.97**	**307**	*eP*	**Pn**	**13 42 54.6**	**+0.2**
TA01				*eS*	**S**	**13 43 43.1**	**-1.5**
TA01				IAML		13 43 50.9	
	comp=Z,24nm,0.6s						
GO01	**Chusmiza**	**4.01**	**326**	*eP*	**Pn**	**13 42 56.6**	**+1.3**
GO01				*i* S	**S**	**13 43 46.1**	**-0.1**
PB11	**IPOC Station P**	**4.19**	**320**	*i* P	**Pn**	**13 42 57.5**	**+0.3**
PB11				*i* S	**S**	**13 43 46.8**	**-2.8**
PB11	**IPOC Station P**	**4.19**	**320**	*eP*	**Pn**	**13 42 57.6**	**+0.4**
PB11				*eS*	**S**	**13 43 47.7**	**-1.9**
PB11				IAML		13 43 51.8	
	comp=Z,46nm,0.2s						
AC01	**Pan de Azucar**	**4.65**	**227**	*eP*	**Pn**	**13 43 02.9**	**+0.5**
AC01				*eS*	**S**	**13 43 56.9**	**-2.3**
AC01				IAML		13 44 03.6	
	comp=Z,24nm,3.0s						

*AEIC **09** 14:17:37.8±2.7, 56°58N±0°01×168°52W±0°06, h3km±6km, Error ellipse: s-maj=4.9km s-min=1.7km az=92.0*
NEIC 09 14:17:39.6±1.8, 56°55N±0°04×168°7W±0°1, h10km±2km, ML3.5(AEIC), **Error ellipse: s-maj=11.3km s-min=5.1km az=58.0, Pribilof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P08K	**Saint George I**	**0.46**	**277**		Sb	14 17 56.8	+0.1
P08K	**Saint George I**	**0.46**	**277**	Pg	Pg	14 17 48.1	-0.5
SPIA	**Saint Paul Isl**	**1.05**	**308**		Pg	14 17 59.5	-0.2
SPIA					Sn	14 18 14.7	-0.3
MTBL	**Makushin Table**	**2.84**	**155**		Pn	14 18 26.1	+1.1
MTBL					Sb	14 19 03.8	-1.3
MSW	**Makushin Switc**	**2.86**	**156**		Pn	14 18 27.0	+1.7
MSW					Sb	14 19 05.5	-0.3
AHB	**Akutan Harbor**	**2.95**	**145**		Pn	14 18 26.9	+0.4
MREP	**Makushin Rep't**	**2.97**	**157**		Pn	14 18 27.2	+0.4
AKSA	**Akutan Strait**	**2.97**	**143**		Pn	14 18 28.5	+1.8
UNV	**Unalaska Valle**	**2.99**	**154**		Pn	14 18 27.4	+0.3
OKTU	**Okmok Mt. Tuli**	**3.20**	**173**		Pn	14 18 32.1	+2.2
S12K	**Black Hills**	**3.82**	**100**	Pn	Pn	14 18 38.2	-0.2
M11K	**Mekoryuk**	**4.07**	**18**	Pn	Pn	14 18 41.1	-0.6
O14K	**Tigyukauivet M**	**4.81**	**53**	Pn	Pn	14 18 50.1	-1.9
ATKA	**Atka Island**	**5.40**	**219**	Pn	Pn	14 19 01.6	+1.5
M14K	**Bethel**	**5.50**	**37**	Pn	Pn	14 19 02.5	+1.1
CHGN	**Chignik**	**5.73**	**88**	Pn	Pn	14 19 03.3	-1.2
L14K	**Kuka Creek**	**5.73**	**31**	Pn	Pn	14 19 05.2	+0.6
N15K	**Kwethluk River**	**5.81**	**48**	Pn	Pn	14 19 03.9	-1.9
O16K	**Kokwok River B**	**6.41**	**57**	Pn	Pn	14 19 13.3	-0.6
M16K	**Timber Creek**	**6.77**	**44**		Pn	14 19 20.7	+1.9
PLK4	**Peulik 4**	**6.83**	**76**	Pn	Pn	14 19 20.1	+0.4
K15K	**Wolf Creek Mou**	**6.83**	**29**	Pn	Pn	14 19 18.0	-1.7
L16K	**Owhat River**	**7.03**	**39**		Pn	14 19 21.2	-1.2
ACHA	**Angle Creek He**	**7.43**	**71**	Pn	Pn	14 19 26.4	-1.6
M17K	**Holitna River**	**7.59**	**45**	Pn	Pn	14 19 31.2	+1.1
N18K	**Kilae Creek**	**7.87**	**53**	Pn	Pn	14 19 33.3	-0.7
K17K	**Iditarod**	**8.12**	**36**	Pn	Pn	14 19 36.9	-0.5
L18K	**Granite Mounta**	**8.36**	**42**	Pn	Pn	14 19 39.4	-1.3
I17K	**Unalakleet**	**8.37**	**25**	Pn	Pn	14 19 41.6	+0.9
N19K	**Bonanza Creek**	**8.55**	**54**	Pn	Pn	14 19 44.8	+1.4
L19K	**White Mountain**	**9.04**	**46**	Pn	Pn	14 19 51.2	+1.1
M19K	**Big River Lodg**	**9.09**	**48**	Pn	Pn	14 19 51.5	+0.9
M20K	**Styx River**	**9.60**	**50**	Pn	Pn	14 19 57.7	0.0
J19K	**Poorman**	**9.88**	**36**	Pn	Pn	14 20 01.3	-0.2
K20K	**Telida**	**10.01**	**41**	Pn	Pn	14 20 03.7	+0.4
J20K	**Nowinta River**	**10.49**	**37**	Pn	Pn	14 20 08.4	-1.4
CAST	**Castle Rocks**	**10.78**	**44**	Pn	Pn	14 20 13.7	-0.2
I21K	**Tanana**	**11.85**	**36**	Pn	Pn	14 20 26.4	-2.0

*ISK **09** 14:22:27.4, 36°49N×27°54E, h8km, ML3.2/18*
*THE **09** 14:22:27.8, 36°51N×27°59E, h1km±1km, ML3.1/5, Error ellipse: s-maj=1.5km s-min=0.7km az=150.0*
*ATH **09** 14:22:28.4, 36°53N×27°61E, h16km±1km, ML3.0/3, Error ellipse: s-maj=2.3km s-min=1.0km az=38.0*
*AFAD **09** 14:22:28.0±0.0, 36°50N×27°58E, h3km±1km, ML2.8*
ISC 09 14:22:28.1±0.9, 36°50N±0°02×27°54E±0°02, h11km±7km, n51, σ0§67/86, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAZI	**Mula-Dat§a-**	**0.20**	**339**	P	**Pg**	**14 22 32.5**	**+0.2**
YAZI				S	**Sg**	**14 22 35.2**	**-0.1**
YAZI				*i* AML	AML	14 22 36.0	
	comp=N,2μm,0.6s						
YAZI				*i* AML	AML	14 22 37.0	
	comp=E,1μm,0.2s						
DAT	**Datca**	**0.23**	**7**	P	**Pg**	**14 22 33.0**	**-0.1**
DAT				*i* AML	AML	14 22 36.0	
	comp=E,3μm,0.2s						
DAT				S	**Sg**	**14 22 36.3**	**-0.1**
DAT				*i* AML	AML	14 22 38.0	
	comp=N,3μm,0.2s						
DAT	**Datca**	**0.23**	**7**	Pg	**Pg**	**14 22 32.9**	**-0.1**
DAT				Sg	**Sg**	**14 22 36.6**	**+0.2**
DAT	**Datca**	**0.23**	**7**	P	**Pg**	**14 22 32.8**	**-0.2**
DAT				S	**Sg**	**14 22 36.6**	**+0.2**
DATC	**Datca-Mugla**	**0.28**	**20**	Pg	**Pg**	**14 22 33.7**	**-0.1**
DATC				Sg	**Sg**	**14 22 38.2**	**+0.6**
NISR	**Nisiros**	**0.35**	**289**	P	**Pb**	**14 22 35.8**	**-0.6**
NISR				S	**Sb**	**14 22 42.6**	**+0.7**
	4μm,0.3s						
NISR	**Nisiros**	**0.35**	**289**	P	**Pb**	**14 22 35.7**	**-0.6**
NISR				S	**Sb**	**14 22 42.6**	**+0.7**
NISR				AML	AML	14 22 44.1	
	comp=N,4987μm,0.3s						
NISR				AML	AML	14 22 45.0	
	comp=E,8999μm,0.4s						
ARG	**Arkhangelos**	**0.55**	**121**	P	**Pg**	**14 22 38.6**	**-0.2**
ARG				S	**Sb**	**14 22 47.0**	**-0.6**
	comp=E,2μm,0.4s						
ARG	**Arkhangelos**	**0.55**	**121**	P	**Pg**	**14 22 38.7**	**-0.1**
ARG				S	**Sg**	**14 22 46.0**	**-0.1**
ARG				AML	AML	14 22 47.4	
	comp=E,2976μm,0.4s						
ARG				AML	AML	14 22 48.6	
	comp=N,3299μm,0.3s						
MRSB	**Marmaris-Mugla**	**0.57**	**67**	Pg	**Pg**	**14 22 39.1**	**-0.1**
MRSB				Sg	**Sg**	**14 22 47.6**	**+0.8**
BDRM	**Kayabasi**	**0.57**	**352**	P	**Pg**	**14 22 39.4**	**+0.1**
BDRM				S	**Sg**	**14 22 47.8**	**+1.0**
BDRM				*i* AML	AML	14 22 49.0	
	comp=N,2μm,0.2s						
BODT	**Bodrum**	**0.59**	**342**	Pg	**Pg**	**14 22 39.5**	**-0.2**
BODT				Sg	**Sb**	**14 22 48.6**	**-0.3**
BODT	**Bodrum**	**0.59**	**342**	P	**Pg**	**14 22 39.5**	**-0.2**
BODT				S	**Sg**	**14 22 48.2**	**+0.7**
TURN	**Turunc**	**0.63**	**64**	P	**Pg**	**14 22 39.7**	**-0.6**
TURN				S	**Sg**	**14 22 48.5**	**-0.1**
TURN				*i* AML	AML	14 22 50.0	
	comp=N,878nm,0.7s						
TURN				*i* AML	AML	14 22 51.0	
	comp=N,599nm,0.2s						
TURN	**Turunc**	**0.63**	**64**	Pg	**Pg**	**14 22 39.7**	**-0.6**
TURN				Sg	**Sb**	**14 22 49.5**	**-0.4**
KLNA	**Kalymnos**	**0.65**	**315**	P	**Pb**	**14 22 41.0**	**-0.4**
KLNA				S	**Sb**	**14 22 50.7**	**+0.2**
KLNA				AML	AML	14 22 52.6	
	comp=E,5243μm,0.2s						
KLNA				AML	AML	14 22 52.6	
	comp=N,4296μm,0.2s						
YKAV	**Yalikavak-Bodr**	**0.66**	**341**	Pg	**Pg**	**14 22 40.9**	**0.0**
YER	**Yerkesik**	**0.87**	**43**	Pg	**Pg**	**14 22 44.7**	**-0.2**
YER	**Yerkesik**	**0.87**	**43**	P	**Pg**	**14 22 44.2**	**-0.7**
YER				S	**Sb**	**14 22 57.0**	**0.0**
DALY	**Dalyan (Mula)**	**0.95**	**70**	Pg	**Pg**	**14 22 45.3**	**-1.1**
MULA	**Mugla, Merkez-**	**0.98**	**39**	P	**Pg**	**14 22 47.1**	**+0.1**
MULA				S	**Sb**	**14 23 00.8**	**+0.6**
MULA				*i* AML	AML	14 23 01.0	
	comp=N,447nm,0.5s						
MULA				*i* AML	AML	14 23 04.0	
	comp=N,247nm,0.4s						
DDIM	**Aydin, Didim**	**0.99**	**346**	P	**Pg**	**14 22 47.1**	**0.0**
DDIM				S	**Sb**	**14 23 00.4**	**+0.2**
DDIM				*i* AML	AML	14 23 04.0	
	comp=N,644nm,0.5s						
DDIM				*i* AML	AML	14 23 06.0	
	comp=N,700nm,0.5s						
KARP	**Karpathos**	**1.00**	**198**	Pg	**Pb**	**14 22 47.2**	**-0.2**
KARP	**Karpathos**	**1.00**	**198**	P	**Pb**	**14 22 47.6**	**+0.1**
KARP				S	**Sn**	**14 23 01.8**	**-0.4**
	comp=N,1μm,0.4s						
KARP	**Karpathos**	**1.00**	**198**	P	**Pb**	**14 22 47.5**	**+0.1**
KARP				S	**Sn**	**14 23 01.6**	**-0.5**
SABU	**Mula-Dalaman**	**1.19**	**74**	P	**Pb**	**14 22 50.0**	**-0.8**
SABU				S	**Sb**	**14 23 04.9**	**-1.3**
SABU				*i* AML	AML	14 23 12.0	
	comp=N,125nm,0.5s						
SABU				*i* AML	AML	14 23 15.0	
	comp=N,167nm,0.7s						
GCAM	**G?zelcaml?**	**1.23**	**348**	P	**Pn**	**14 22 50.2**	**-0.9**
GCAM				S	**Sn**	**14 23 08.3**	**+0.6**
GCAM				*i* AML	AML	14 23 14.0	
	comp=N,340nm,0.7s						
GCAM				*i* AML	AML	14 23 15.0	
	comp=N,310nm,0.5s						
GCAM	**G?zelcaml?**	**1.23**	**348**	Pn	**Pn**	**14 22 50.1**	**-1.1**
FETY	**Fethiye**	**1.25**	**83**	Pn	**Pn**	**14 22 51.3**	**-0.2**
SMG	**Samos**	**1.33**	**335**	P	**Pn**	**14 22 51.4**	**-1.3**
SMG				S	**Sg**	**14 23 12.1**	**+1.0**
	comp=N,1μm,0.5s						
SMG	**Samos**	**1.33**	**335**	P	**Pn**	**14 22 51.6**	**-1.1**
IZZE	**Mula-Seydike**	**1.36**	**92**	P	**Pn**	**14 22 53.0**	**0.0**
IZZE				S	**Sb**	**14 23 09.6**	**-1.4**
IZZE				*i* AML	AML	14 23 14.0	
	comp=N,207nm,0.4s						
IZZE				*i* AML	AML	14 23 15.0	
	comp=N,490nm,0.4s						
DNZT	**Denizli-Tavas-**	**1.42**	**56**	P	**Pb**	**14 22 55.0**	**+0.3**
DNZT				S	**Sb**	**14 23 13.4**	**+0.5**
DNZT				*i* AML	AML	14 23 16.0	
	comp=N,155nm,0.5s						
DNZT				*i* AML	AML	14 23 16.0	
	comp=N,97nm,1.0s						
ESEN	**Aydn-Nazilli**	**1.45**	**26**	P	**Pn**	**14 22 53.5**	**-0.8**
ESEN				S	**Sn**	**14 23 13.1**	**-0.1**
ESEN				*i* AML	AML	14 23 18.0	
	comp=N,95nm,0.3s						
ESEN				*i* AML	AML	14 23 18.0	
	comp=N,114nm,0.3s						
TAVA	**DENIZLI_Tavas**	**1.46**	**48**	P	**Pn**	**14 22 54.9**	**+0.4**
TAVA				S	**Sn**	**14 23 14.1**	**+0.4**
TAVA				*i* AML	AML	14 23 21.0	
	comp=N,78nm,1.1s						
TAVA				*i* AML	AML	14 23 22.0	
	comp=N,101nm,0.6s						
AYDB	**Zeytinkoy-Aydi**	**1.47**	**11**	Pn	**Pn**	**14 22 53.4**	**-1.3**
CAME	**Cameli-Denizli**	**1.48**	**72**	Pn	**Pn**	**14 22 55.2**	**+0.3**
CAEL	**Denizli, Camel**	**1.56**	**66**	P	**Pg**	**14 22 58.1**	**+0.1**
CAEL				S	**Sg**	**14 23 19.3**	**+1.0**
CAEL				*i* AML	AML	14 23 29.0	
	comp=N,343nm,1.0s						
CAEL				*i* AML	AML	14 23 33.0	
	comp=N,263nm,0.9s						
NAZL	**Nazilli-Aydin**	**1.58**	**22**	Pn	**Pn**	**14 22 56.9**	**+0.8**
DNIZ	**Denizli-Tavas-**	**1.64**	**46**	P	**Pn**	**14 22 57.5**	**+0.4**
DNIZ				S	**Sg**	**14 23 22.0**	**+1.1**
DNIZ				*i* AML	AML	14 23 24.0	
	comp=N,213nm,0.4s						
DNIZ				*i* AML	AML	14 23 30.0	
	comp=N,284nm,0.3s						
IZMR	**zmir-demi**	**1.67**	**11**	P	**Pn**	**14 22 56.2**	**-1.1**
IZMR				S	**Sg**	**14 23 21.6**	**-0.2**
IZMR				*i* AML	AML	14 23 26.0	
	comp=N,105nm,0.5s						
IZMR				*i* AML	AML	14 23 28.0	
	comp=N,118nm,0.6s						
KNIK	**Mula-Seydike**	**1.67**	**77**	P	**Pb**	**14 22 59.3**	**+0.4**
KNIK				S	**Sg**	**14 23 21.5**	**-0.3**
KNIK				*i* AML	AML	14 23 24.0	
	comp=N,158nm,1.1s						
KNIK				*i* AML	AML	14 23 24.0	
	comp=N,162nm,0.5s						
AKAS	**Kas**	**1.69**	**98**	P	**Pb**	**14 22 59.3**	**+0.1**
AKAS				S	**Sg**	**14 23 24.8**	**+2.4**
AKAS				*i* AML	AML	14 23 33.0	
	comp=N,188nm,0.7s						
AKAS				*i* AML	AML	14 23 38.0	
	comp=N,151nm,0.7s						
AKAS	**Kas**	**1.69**	**98**	Pn	**Pn**	**14 22 58.1**	**+0.5**
APE	**Apeiranthos**	**1.71**	**290**	Pn	**Pn**	**14 22 58.4**	**+0.5**
APMY	**Acipayam-Deniz**	**1.71**	**55**	Pn	**Pn**	**14 22 58.5**	**+0.5**
ZKR	**Zakros**	**1.75**	**218**	P	**Pb**	**14 23 00.3**	**0.0**
KIRA	**zmir-Kiraz**	**1.83**	**22**	P	**Pn**	**14 22 59.0**	**-0.6**
KIRA				S	**Sb**	**14 23 25.4**	**+0.9**
KIRA				*i* AML	AML	14 23 34.0	
	comp=N,48nm,0.5s						
KIRA				*i* AML	AML	14 23 37.0	
	comp=N,80nm,0.7s						
ZEYE	**Izmir, Urla-Ze**	**1.92**	**335**	P	**Pn**	**14 22 59.5**	**-1.3**
ZEYE				S	**Sg**	**14 23 30.7**	**+0.7**
ZEYE				*i* AML	AML	14 23 34.0	
	comp=N,135nm,0.7s						
ZEYE				*i* AML	AML	14 23 42.0	
	comp=N,65nm,0.8s						
BLCB	**Balcova**	**1.93**	**348**	Pn	**Pn**	**14 23 01.3**	**+0.5**
IDI	**Anoyia**	**2.47**	**241**	P	**Pn**	**14 23 08.3**	**0.0**

*SNET **09** 14:22:33.0±1.0, 13°89N×89°85W, h4km±1km, ML3.7*
*CATAC **09** 14:22:34.6±0.2, 13°89N×89°82W, h0km±1km, ML3.7*
*NEIC **09** 14:22:35.9±1.4, 13°92N±0°02×89°72W±0°04, h10km±2km, ML3.6/16, Error ellipse: s-maj=7.3km s-min=4.0km az=82.0*
*GCG **09** 14:22:36.7±0.4, 14°07N×89°90W, h2km±5km, MD3.7*
ISC 09 14:22:33.6±0.9, 13°88N±0°02×89°77W±0°02, h3km±6km, n72, σ1§09/107, 18C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.02**	**330**	⇑*iP*	**Pg**	**14 22 34.3**	**-0.1**
NUBE				*eS*	**Sg**	**14 22 34.9**	**0.0**
NUBE	**Las Nubes**	**0.02**	**330**	*iP*	**Pg**	**14 22 34.2**	**-0.1**
NUBE				IAML		14 22 35.9	
	comp=Z,1100μm,1.0s						
LOAL	**Lomas de

LALI				IAML			14 22 56.8
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**0.63**	**112**⇑	*e*P	**Pb**	**14 22 46.3**	**-1.1**
LOMA	**Loma Larga**	**0.63**	**112**	*i* P	**Pb**	**14 22 46.2**	**-1.1**
LOMA				*i* S	**Sb**	**14 22 56.1**	**-0.5**
LOMA				IAML		14 22 58.6	
	comp=Z,1μm,1.0s						
PANCS	**Alcalda de**	**0.63**	**115**	*i* P	**Pb**	**14 22 46.3**	**-1.1**
PANCS				*i* S	**Sb**	**14 22 55.7**	**-1.0**
PANCS				IAML		14 22 58.4	
	comp=Z,4μm,1.0s						
MTO3	**Montecristo**	**0.65**	**38**		**Pg**	**14 22 46.4**	**+0.4**
MTO3				Sg	**Sb**	**14 22 55.7**	**-1.5**
MTO3	**Montecristo**	**0.65**	**38**⇑	*i*P	**Pg**	**14 22 46.4**	**+0.4**
MTO3	**Montecristo**	**0.65**	**38**	*i* P	**Pg**	**14 22 46.3**	**+0.3**
MTO3				*i* S	**Sb**	**14 22 55.7**	**-1.5**
MTO3				IAML		14 22 56.4	
	comp=Z,1μm,1.0s						
LFU	**La Fuente**	**0.65**	**102**⇓	*i*P	**Pb**	**14 22 47.3**	**-0.3**
LFRS	**El Faro**	**0.73**	**111**⇓	*e*P	**Pb**	**14 22 48.4**	**-0.8**
ESQI	**Esquipulas**	**0.79**	**32**		**Pg**	**14 22 49.0**	**+0.2**
ESQI				Sg	**Sb**	**14 23 00.1**	**-1.1**
ESQI				IAML		14 23 01.0	
	comp=E,2μm,0.6s						
ESQI				IAML		14 23 01.5	
	comp=N,1μm,0.6s						
ESQI	**Esquipulas**	**0.79**	**32**⇑	*i*P	**Pg**	**14 22 49.1**	**+0.4**
ESQI	**Esquipulas**	**0.79**	**32**	*i* P	**Pg**	**14 22 49.1**	**+0.4**
ESQI				*i* S	**Sb**	**14 23 00.1**	**-1.1**
ESQI				IAML		14 23 00.8	
	comp=Z,2μm,1.0s						
PAVA	**Las Pavas**	**0.83**	**102**⇑	*e*P	**Pb**	**14 22 50.2**	**-0.5**
PAVA	**Las Pavas**	**0.83**	**102**	*i* P	**Pb**	**14 22 50.1**	**-0.5**
PAVA				IAML		14 22 56.1	
	comp=Z,2μm,1.0s						
PAVA				*i* S	**Sn**	**14 23 02.8**	**-2.3**
LLGN	**La Laguna**	**0.85**	**71**	*e*P	**Pg**	**14 22 50.0**	**+0.2**
LLGN	**La Laguna**	**0.85**	**71**	*i* P	**Pn**	**14 22 51.7**	**-0.9**
LLGN				*i* S	**Sb**	**14 23 02.2**	**-0.7**
LLGN				IAML		14 23 23.3	
	comp=Z,1μm,1.0s						
NBG	**Las Nubes**	**0.90**	**321**	*e*P	**Pg**	**14 22 51.5**	**+0.7**
NBG				*e*S	**Sg**	**14 23 02.7**	**+0.2**
PCG	**Pacaya**	**0.96**	**302**	*e*P	**Pg**	**14 22 52.7**	**+0.8**
TECO	**Alcaldia de Te**	**1.02**	**110**	*e*P	**Pb**	**14 22 53.7**	**-0.3**
TECO	**Alcaldia de Te**	**1.02**	**110**	*i* P	**Pb**	**14 22 53.6**	**-0.3**
TECO				IAML		14 22 53.9	
	comp=Z,420nm,1.0s						
TECO				*i* S	**Sn**	**14 23 08.1**	**-1.7**
SCLA	**Alcaldia de Sa**	**1.03**	**100**	*e*P	**Pn**	**14 22 54.0**	**-1.0**
SCLA	**Alcaldia de Sa**	**1.03**	**100**	*i* P	**Pn**	**14 22 54.0**	**-1.0**
SCLA				IAML		14 22 57.1	
	comp=Z,630nm,1.0s						
ESSG	**Sabana Grande**	**1.14**	**296**	*i* P	**Pb**	**14 22 54.1**	**-2.0**
ESSG				IAML		14 23 01.4	
	comp=Z,580nm,1.0s						
ESSG				*i* S	**Sb**	**14 23 10.0**	**-1.4**
MRL	**Marmol**	**1.19**	**4**	*e*P	**Pb**	**14 22 56.9**	**-0.1**
MRL				*e*S	**Sn**	**14 23 14.3**	**-0.1**
TECA	**Tecapa**	**1.29**	**107**	*e*P	**Pg**	**14 22 58.4**	**+0.1**
INTHN	**La Esperanza I**	**1.67**	**75**	*i* P	**Pb**	**14 23 05.1**	**-0.1**
INTHN				*i* S	**Sg**	**14 23 28.5**	**+1.2**
SULM	**Suchitepequez,**	**1.79**	**284**	*e*P	**Pb**	**14 23 08.0**	**+0.9**
SOKI	**Kika Raxquin**	**1.84**	**301**	*i* P	**Pn**	**14 23 06.7**	**+0.2**
SOKI				IAML		14 23 09.2	
	comp=Z,450nm,1.0s						
CHIHN	**Chmisales**	**1.87**	**47**	*i* P	**Pb**	**14 23 08.3**	**-0.3**
CHIHN				*i* S	**Sg**	**14 23 35.0**	**+1.2**
QUIS	**Sacapulas**	**1.90**	**318**	*i* P	**Pn**	**14 23 07.6**	**+0.6**
QUIS				IAML		14 23 14.3	
	comp=Z,710nm,1.0s						
STG3	**Santiaguito 3,**	**1.93**	**295**	*e*P	**Pn**	**14 23 08.2**	**+0.7**
STG3				*e*S	**Sn**	**14 23 33.1**	**+0.6**
RTAL	**Retalhuleu**	**1.97**	**289**		**Pb**	**14 23 09.3**	**-0.9**
RTAL				Sn	**Sb**	**14 23 34.5**	**-0.7**
RTAL				IAML		14 23 40.4	
	comp=E,463nm,0.7s						
RTAL				IAML		14 23 45.8	
	comp=N,465nm,0.6s						
RTAL	**Retalhuleu**	**1.97**	**289**	*i* P	**Pn**	**14 23 08.9**	**+0.9**
RTAL				*i* S	**Sb**	**14 23 35.0**	**-0.2**
RTAL				IAML		14 23 51.8	
	comp=Z,400nm,1.0s						
CNCH	**Conchagua**	**1.98**	**108**	*i* P	**Pb**	**14 23 09.9**	**-0.4**
CNCH				*i* S	**Sg**	**14 23 37.9**	**+0.8**
CNCH				IAML		14 23 46.8	
	comp=Z,1μm,1.0s						
AMPH	**Amapala**	**2.14**	**106**	*i* P	**Pb**	**14 23 12.7**	**-0.3**
AMPH				*i* S	**Sg**	**14 23 42.9**	**+0.6**
HUEH	**Huehuetenango**	**2.20**	**311**	Pn	**Pb**	**14 23 13.3**	**-1.0**
HUEH				IAML		14 23 47.5	
	comp=N,478nm,0.8s						
HUEH				IAML		14 23 58.7	
	comp=E,572nm,0.6s						
COMHN	**El Horno**	**2.22**	**75**	*i* P	**Pn**	**14 23 12.3**	**+0.8**
COMHN				*i* S	**Sg**	**14 23 43.9**	**-1.0**
CSGN	**Cosiguina Volc**	**2.33**	**113**	*i* P	**Pb**	**14 23 14.3**	**-2.1**
CSGN				*i* S	**Sg**	**14 23 47.1**	**-1.5**
CSGN				IAML		14 23 58.6	
	comp=Z,72nm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.43**	**86**		**Pn**	**14 23 15.0**	**+0.6**
TGUH				IAML		14 23 57.2	
	comp=Z,260nm,0.6s						
TGUH				IAML		14 24 00.7	
	comp=Z,342nm,0.7s						
TGUH	**Tegucigalpa,Un**	**2.43**	**86**	*i* P	**Pb**	**14 23 17.2**	**-0.9**
TGUH				IAML		14 23 21.0	
	comp=Z,470nm,1.0s						
TGUH				*i* S	**Sg**	**14 23 50.6**	**-1.1**
CRIN	**San Cristobal**	**2.90**	**114**		**Pn**	**14 23 22.4**	**+1.7**
PETF	**Flores**	**3.02**	**358**	Pn	**Pn**	**14 23 23.3**	**+0.9**
CCIG	**Comitan**	**3.30**	**316**	Pn	**Pn**	**14 23 28.8**	**+2.3**
TEIG	**Tepich**	**6.47**	**13**	Pn	**Pn**	**14 24 10.1**	**+0.4**

NEIC ***09*** *14:23:47.3±1.4, 37°.14N±0°.07×20°.44E±0°.06, h10km±1km, mb4.4/25, Error ellipse: s-maj=12.4km s-min=7.2km az=192.0*
MOS ***09*** *14:23:49.6±1.6, 37°.28N×20°.63E, h16km, mb4.2/13, Error ellipse: s-maj=9.6km s-min=4.2km az=73.2*
IDC ***09*** *14:23:49.0±0.9, 37°.32N×20°.74E, h0km, mb3.8/13, mbtmp3.8/20, ML3.8/7, MS3.1/7, Error ellipse: s-maj=18.7km s-min=15.1km az=141.0*
THE ***09*** *14:23:51.5, 37°.54N×20°.36E, h0km±5km, ML3.9/12, Error ellipse: s-maj=6.8km s-min=0.9km az=223.0*
ATH ***09*** *14:23:52.1, 37°.58N×20°.37E, h11km±1km, ML3.7/16, Error ellipse: s-maj=2.2km s-min=0.9km az=29.0*
ISC 09 14:23:50.6±1.1, 37°.45N±0°.03×20°.42E±0°.03, h16km±6km, n178, σ2§16/202, mb4.0/32, MS3.2/4, 21C-9D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.38**	**57**	P	**Pb**	**14 23 59.1**	**+0.1**
KRI1				S	**Sg**	**14 24 04.2**	**+0.4**
	51μm,0.5s						
LTHK	**Lithakia**	**0.42**	**53**	P	**Pg**	**14 23 59.4**	**+0.3**
LTHK				S	**Sg**	**14 24 05.2**	**+0.3**
	35μm,0.8s						
LTHK	**Lithakia**	**0.42**	**53**	P	**Pg**	**14 23 59.6**	**+0.4**
LTHK				S	**Sg**	**14 24 05.2**	**+0.3**
LTHK				AML	AML	14 24 05.8	
	comp=E,84656μm,0.8s						
LTHK				AML	AML	14 24 07.3	
	comp=N,46917μm,0.8s						
PSDA	**Pessada-Kefalo**	**0.67**	**11**	P	**Pg**	**14 24 02.9**	**-0.9**
PSDA				S	**Sg**	**14 24 11.2**	**-1.6**
	comp=N,11μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.67**	**11**	P	**Pg**	**14 24 02.7**	**-1.2**
PSDA				S	**Sg**	**14 24 10.5**	**-2.3**
RTZL	**Ratzakli, Kefa**	**0.68**	**24**	P	**Pg**	**14 24 03.2**	**-0.8**
RTZL				S	**Sg**	**14 24 12.1**	**-1.0**
	comp=N,11μm,0.8s						
VLS	**Valsamata**	**0.73**	**11**	P	**Pg**	**14 24 03.9**	**-1.1**
VLS				S	**Sg**	**14 24 13.3**	**-1.4**
	comp=N,7μm,0.6s						
VLS	**Valsamata**	**0.73**	**11**	P	**Pg**	**14 24 03.9**	**-1.1**
VLS				S	**Sg**	**14 24 13.3**	**-1.4**
VLS	**Valsamata**	**0.73**	**11**	P	**Pg**	**14 24 03.5**	**-1.5**
VLS				S	**Sg**	**14 24 12.5**	**-2.3**
VLS				AML	AML	14 24 17.2	
	comp=E,10241μm,0.4s						
VLS				AML	AML	14 24 18.1	
	comp=N,13849μm,0.6s						
LXR1	**Lixouri, Cepha**	**0.74**	**1**	P	**Pg**	**14 24 04.1**	**-1.1**
LXR1				S	**Sg**	**14 24 14.1**	**-1.0**
	comp=N,33μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.74**	**1**	P	**Pg**	**14 24 04.4**	**-0.8**
DMLN	**Damoulianata-K**	**0.78**	**358**	P	**Pg**	**14 24 04.5**	**-1.4**
DMLN				S	**Sg**	**14 24 14.7**	**-1.6**
	comp=N,16μm,0.7s						
DMLN	**Damoulianata-K**	**0.78**	**358**	P	**Pg**	**14 24 04.4**	**-1.6**
DMLN				S	**Sg**	**14 24 14.5**	**-1.8**
VSK1	**VASILIKIADES**	**0.96**	**7**	P	**Pb**	**14 24 07.9**	**-1.0**
VSK1				S	**Sg**	**14 24 20.9**	**-1.0**
	comp=N,7μm,0.7s						
FSK	**Fiskardo**	**1.01**	**7**	P	**Pb**	**14 24 08.2**	**-1.6**
FSK				S	**Sb**	**14 24 20.9**	**-1.9**
FSK				AML	AML	14 24 27.8	
	comp=E,12309μm,0.5s						
FSK				AML	AML	14 24 28.8	
	comp=N,9456μm,0.4s						
RLS	**Riolos of Patr**	**1.03**	**54**	P	**Pb**	**14 24 10.4**	**+0.3**
RLS	**Riolos of Patr**	**1.03**	**54**	P	**Pb**	**14 24 10.1**	**0.0**
RLS				S	**Sb**	**14 24 25.1**	**+1.8**
RLS				AML	AML	14 24 29.9	
	comp=N,5790μm,0.5s						
RLS				AML	AML	14 24 32.9	
	comp=E,10324μm,0.9s						
AMT	**Artemida-Makis**	**1.03**	**85**	P	**Pn**	**14 24 12.2**	**+1.7**
AMT				S	**Sn**	**14 24 26.5**	**+1.9**
AMT				AML	AML	14 24 35.1	
	comp=E,30827μm,0.8s						
AMT				AML	AML	14 24 35.5	
	comp=N,20559μm,0.6s						
DRO	**Drossia**	**1.14**	**64**	P	**Pg**	**14 24 12.5**	**-0.1**
DRO				S	**Sg**	**14 24 28.0**	**+0.3**
DRO				AML	AML	14 24 44.6	
	comp=E,9490μm,0.6s						
DRO				AML	AML	14 24 47.6	
	comp=N,10506μm,0.6s						
EVGI	**Lefkada island**	**1.18**	**9**	P	**Pn**	**14 24 11.7**	**-0.8**
EVGI				S	**Sb**	**14 24 28.2**	**+0.5**
	comp=N,4μm,0.7s						
EVGI	**Lefkada island**	**1.18**	**9**	P	**Pn**	**14 24 11.4**	**-1.1**
PYL	**PYLOS**	**1.20**	**117**	P	**Pn**	**14 24 15.5**	**+2.7**
PYL	**PYLOS**	**1.20**	**117**	P	**Pn**	**14 24 15.5**	**+2.7**
PYL				S	**Sn**	**14 24 31.5**	**+2.9**
PYL				AML	AML	14 24 38.8	
	comp=E,4525μm,0.6s						
PYL				AML	AML	14 24 39.3	
	comp=N,3999μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.23**	**6**	P	**Pn**	**14 24 12.6**	**-0.7**
DRAG				S	**Sb**	**14 24 30.9**	**+1.6**
DRAG	**Dragano-Lefkad**	**1.23**	**6**	P	**Pn**	**14 24 12.4**	**-0.9**
ITM	**Ithomi**	**1.24**	**102**	P	**Pg**	**14 24 16.3**	**+1.8**
ITM	**Ithomi**	**1.24**	**102**	P	**Pg**	**14 24 15.6**	**+1.1**
ITM				S	**Sn**	**14 24 32.1**	**+2.5**
ITM				AML	AML	14 24 42.1	
	comp=N,4863μm,0.9s						
ITM				AML	AML	14 24 42.5	
	comp=E,5213μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.28**	**10**	P	**Pn**	**14 24 13.4**	**-0.4**
NYDR				S	**Sn**	**14 24 32.9**	**+2.3**
	comp=E,3μm,1.0s						
NYDR	**Nydri-Lefkada**	**1.28**	**10**	P	**Pn**	**14 24 13.4**	**-0.4**
LKD2	**Lefkada island**	**1.35**	**8**	P	**Pn**	**14 24 16.2**	**+1.4**
LKD2				S	**Sn**	**14 24 34.0**	**+1.6**
	comp=E,5μm,0.9s						
LKD2	**Lefkada island**	**1.35**	**8**	P	**Pn**	**14 24 14.4**	**-0.4**
TSLK	**Tsoukalades, L**	**1.38**	**8**	P	**Pn**	**14 24 15.5**	**+0.2**
TSLK				S	**Sn**	**14 24 35.9**	**+2.7**
	comp=E,6μm,0.9s						
TSLK	**Tsoukalades, L**	**1.38**	**8**	P	**Pn**	**14 24 15.1**	**-0.1**
KLV	**Kalavryta, Ach**	**1.50**	**66**	P	**Pn**	**14 24 17.6**	**+0.7**
KLV				S	**Sn**	**14 24 37.1**	**+1.0**
KLV				AML	AML	14 24 52.0	
	comp=E,4818μm,1.1s						
KLV				AML	AML	14 24 54.9	
	comp=N,4049μm,0.9s						
EFP	**Efpalio**	**1.53**	**50**	P	**Pb**	**14 24 18.8**	**+0.2**
EFP				AML	AML	14 24 46.5	
	comp=N,4873μm,1.4s						
EFP				AML	AML	14 24 55.2	
	comp=E,5569μm,1.3s						
GUR	**Goura**	**1.60**	**72**	P	**Pb**	**14 24 19.9**	**0.0**
GUR				S	**Sn**	**14 24 39.2**	**+0.4**
GUR				AML	AML	14 24 51.4	
	comp=N,5317μm,0.9s						
GUR				AML	AML	14 24 58.0	
	comp=E,4297μm,1.3s						
ANX	**Ano Chora**	**1.65**	**46**	P	**Pn**	**14 24 19.8**	**+0.8**
ANX				AML	AML	14 24 53.8	
	comp=N,6717μm,0.7s						
ANX				AML	AML	14 24 54.2	
	comp=E,8348μm,0.7s						
KALE	**Kalithea**	**1.65**	**55**	P	**Pb**	**14 24 20.8**	**0.0**
KALE				AML	AML	14 24 52.4	
	comp=N,3968μm,0.8s						
KALE				AML	AML	14 24 54.5	
	comp=E,2976μm,0.8s						
EVR	**Evrytania**	**1.83**	**37**	P	**Pn**	**14 24 21.2**	**-0.3**
EVR				S	**Sn**	**14 24 43.2**	**-1.1**
EVR				AML	AML	14 24 59.5	
	comp=N,2003μm,0.8s						
EVR				AML	AML	14 24 59.6	
	comp=E,3338μm,1.1s						
IGT	**Igoumenitsa**	**2.08**	**358**	P	**Pb**	**14 24 30.1**	**+2.2**
IGT	**Igoumenitsa**	**2.08**	**358**	P	**Pn**	**14 24 25.2**	**+0.4**
IGT				AML	AML	14 25 00.8	
	comp=E,1859μm,0.7s						
IGT				AML	AML	14 25 12.6	
	comp=N,1549μm,1.4s						
VLI	**Veliai**	**2.15**	**109**	P	**Pg**	**14 24 29.2**	**-2.6**
VLI				AML	AML	14 25 17.3	
	comp=N,1685μm,1.1s						
VLI				AML	AML	14 25 23.7	
	comp=E,1325μm,1.0s						
AGG	**Agios Georgios**	**2.17**	**43**	Pn	**Pn**	**14 24 26.6**	**+0.4**
AGG	**Agios Georgios**	**2.17**	**43**	P	**Pn**	**14 24 26.6**	**+0.4**
KEK	**Kerkira**	**2.31**	**348**	Pn	**Pn**	**14 24 29.0**	**+1.0**
SCTE	**Santa Cesarea**	**3.02**	**330**		**Pn**	**14 24 39.4**	**+1.6**
KZN	**Kozani**	**3.04**	**20**	P	**Pb**	**14 24 42.8**	**-1.6**
LIT	**Litokhoron**	**3.10**	**31**	Pn	**Pn**	**14 24 41.2**	**+2.3**
LIT	**Litokhoron**	**3.10**	**31**	P	**Pn**	**14 24 41.2**	**+2.3**
TIP	**Timpagrande**	**3.35**	**302**	Pn	**Pn**	**14 24 43.3**	**+0.9**
TIP	**Timpagrande**	**3.35**	**302**	⇑P	**Pn**	**14 24 44.2**	**+1.8**
FNA	**Florina**	**3.41**	**12**	Pn	**Pn**	**14 24 45.5**	**+2.3**
FNA	**Florina**	**3.41**	**12**	P	**Pn**	**14 24 45.5**	**+2.3**
OHR	**Ohrid**	**3.66**	**5**	*i* Pn	**Pn**	**14 24 50.5**	**+3.8**
CEL	**Celeste**	**3.67**	**284**		**Pn**	**14 24 46.4**	**-0.3**
TIR	**Tirane**	**3.91**	**354**	Pn	**Pn**	**14 24 51.9**	**+1.9**
TIR	**Tirane**	**3.91**	**354**	P	**Pn**	**14 24 51.9**	**+1.9**
VAY	**Valandovo**	**4.21**	**23**	*i* Pn	**Pn**	**14 24 56.0**	**+1.9**
IDI	**Anoyia**	**4.21**	**120**	Pn	Pn	14 24 49.0	-5.2
IDI	**Anoyia**	**4.21**	**120**	Pn	Pb	14 24 58.8	-5.6
	comp=E,0.5nm,0.3s,baz=265,slow=20,SNR=1.1						
IDI				Sn	**Sn**	**14 25 39.3**	**-3.8**
	comp=E,4.3nm,0.3s,baz=281,slow=18,SNR=3.4						
CUC	**Castrocucco**	**4.40**	**307**	Pn	**Pn**	**14 24 57.0**	**+0.2**
PUK	**Puka**	**4.60**	**355**	Pn	**Pn**	**14 25 00.9**	**+1.3**
VAE	**Valguarnera**	**4.78**	**272**	Pn	Pn	14 25 07.5	+5.6
	comp=E,22nm,0.3s,baz=77,slow=9.4,SNR=5.5						
VAE				Sn	**Sn**	**14 26 04.7**	**+7.6**
	comp=E,7.9nm,0.3s,baz=46,slow=20,SNR=4.4						
	comp=E,54nm,0.4s						
RAFF	**Raffo Rosso**	**4.83**	**269**	Pn	**Pn**	**14 25 00.3**	**-2.4**
WDD	**Wied Dalam**	**5.00**	**253**	Pn	**Pn**	**14 25 01.9**	**-3.1**
PDG	**Podgorica**	**5.05**	**350**		**Pn**	**14 25 08.2**	**+2.6**
ALN	**Alexandroupoli**	**5.56**	**50**	Pn	**Pn**	**14 25 12.0**	**-0.7**
ALN	**Alexandroupoli**	**5.56**	**50**	P	**Pn**	**14 25 12.0**	**-0.7**
KARP	**Karpathos**	**5.76**	**107**	Pn	Pn	14 25 10.2	-5.2
PAOL	**Paolisi**	**5.78**	**310**	Pn	**Pn**	**14 25 16.1**	**+0.4**
BOVS	**Bovan**	**6.25**	**9**	⇑P	**Pn**	**14 25 22.6**	**+0.4**
INTR	**Introdacqua**	**6.77**	**314**	Pn	**Pn**	**14 25 30.4**	**+0.9**
ELND	**Elena**	**6.88**	**36**	⇑P	**Pn**	**14 25 33.2**	**+2.4**
MDVR	**Moldovita**	**7.39**	**7**	⇓P	**Pb**	**14 26 01.9**	**+3.5**
ELL	**Elmali**	**7.62**	**92**	Pn	**Pn**	**14 25 37.3**	**-3.8**
ELL	**Elmali**	**7.62**	**92**	P	**Pn**	**14 25 37.3**	**-3.8**
NRCA	**Norcia**	**7.75**	**316**	Pn	**Pn**	**14 25 43.8**	**+0.9**
GUMA	**Gualdo di Mace**	**7.79**	**318**	Pn	**Pn**	**14 25 44.3**	**+1.0**
FDMO	**Fiordimonte**	**7.90**	**317**	Pn	**Pn**	**14 25 45.6**	**+0.7**
VOIR		**8.70**	**22**	⇓P	**Pn**	**14 25 57.9**	**+2.0**
VOIR		**8.70**	**22**	⇓P	**Pn**	**14 25 57.9**	**+2.0**
SIRR	**Siria**	**8.86**	**6**	⇑P	**Pn**	**14 25 59.2**	**+1.3**
ISR	**Istrita**	**8.94**	**29**	⇑P	Pn	14 26 03.9	+4.8
ISR	**Istrita**	**8.94**	**29**	⇑P	Pn	14 26 03.9	+4.8
MLR	**Muntele Rosu**	**9.04**	**26**	Pn	**Pn**	**14 26 00.9**	**+0.4**
MLR	**Muntele Rosu**	**9.04**	**26**	Pn	**Pn**	**14 26 03.2**	**+2.8**
	comp=E,0.7nm,0.3s,baz=204,slow=6.0,SNR=9.7						
MLR				LR	LR	14 29 50.4	
	comp=E,107nm,19.6s,baz=212,slow=40						
	comp=E,15nm,0.9s						
MLR	**Muntele Rosu**	**9.04**	**26**	⇑P	**Pn**	**14 26 03.3**	**+2.8**
KEST	**Kesra**	**9.07**	**262**	Pn	**Pn**	**14 26 03.9**	**+3.0**
	comp=E,0.3nm,0.3s,baz=159,slow=15,SNR=2.1						
	comp=E,5.4nm,1.1s						
PLOR	**Plostina**	**9.60**	**27**	⇑P	**Pn**	**14 26 11.3**	**+3.2**
PLOR	**Plostina**	**9.60**	**27**	⇑P	**Pn**	**14 26 11.3**	**+3.2**
VRI	**Vrincioaia**	**9.64**	**27**	⇓P	**Pn**	**14 26 12.1**	**+3.5**
VRI	**Vrincioaia**	**9.64**	**27**	⇓P	**Pn**	**14 26 12.1**	**+3.5**
SABO	**M.te Sabotino**	**9.92**	**331**	Pn	**Pn**	**14 26 10.8**	**-1.7**
ONER	**Baraj Valea Uz**	**9.93**	**25**	⇑P	**Pn**	**14 26 15.9**	**+3.3**
OBKA	**Obir**	**10.04**	**336**	*i* Sn	**Sn**	**14 28 02.7**	**-3.9**
	comp=E,9.0nm,0.6s						
SOKA	**Soboth**	**10.04**	**338**	*i* Pn	**Pn**	**14 26 18.8**	**+4.5**
	comp=E,2.2nm,0.3s						
SOKA				*i* Sn	Sn	14 28 00.8	-5.8
	comp=E,1.3nm,0.4s						
BUR08	**Bucovina Ar. S**	**10.78**	**18**	Pn	**Pn**	**14 26 25.7**	**+1.4**
KBA	**Koelnbreinsper**	**10.95**	**334**	*i* Pn	**Pn**	**14 26 31.5**	**+4.8**
	comp=E,1.1nm,0.4s						
KBA				*i* Sn	**Sn**	**14 28 24.5**	**-4.3**
	comp=E,2.9nm,0.6s						
VYHS	**Vyhne**	**11.09**	**355**	*e*PN	Pn	14 26 42.4	+14
MODS	**Modra-Piesok**	**11.15**	**349**	*e*PN	Pn	14 26 42.7	+13
MOA	**Molln**	**11.33**	**338**	*e*Pn	**Pn**	**14 26 34.9**	**+3.1**
	comp=E,2.6nm,0.4s						
DAVOX	**Davos/Dischmat**	**12.15**	**323**	Pn	**Pn**	**14 26 46.4**	**+3.2**
	comp=E,0.2nm,0.3s,baz=286,slow=13,SNR=1.4						
	comp=E,0.8nm,0.3s						
GERES	**GERESS Array B**	**12.39**	**339**	Pn	**Pn**	**14 26 50.4**	**+4.1**
	comp=E,0.7nm,0.3s,baz=164,slow=14,SNR=4.6						
	comp=E,0.6nm,0.3s						
KHC	**Kasperske Hory**	**12.68**	**339**⇑	*e*P	**Pn**	**14 26 54.4**	**+4.1**
KHC				pmax	pmax		
	comp=Z,2.0nm,1.0s						
EIL	**Elat**	**14.38**	**118**	Pn	**Pn**	**14 27 09.6**	**-4.0**
	comp=Z,0.1nm,0.3s,baz=8.9,slow=14,SNR=2.2						
EIL				LR	LR	14 34 58.9	
	comp=Z,31nm,19.2s,baz=252,slow=48						
	comp=Z,2.7nm,0.7s						
AKASG	**Malin Array Be**	**14.66**	**23**	Pn	**Pn**	**14 27 15.9**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=200,slow=15,SNR=2.4						
AKASG				LR	LR	14 34 11.2	
	comp=Z,59nm,21.2s,baz=206,slow=42						
	comp=Z,0.6nm,0.4s						
AKASG	**Malin Array Be**	**14.66**	**23**	*e*P	**Pn**	**14 27 20.5**	**+3.2**
AKBB	**Malin Array Si**	**14.66**	**23**⇑	*e*P	**Pn**	**14 27 19.7**	**+2.4**
CLL	**Collm**	**14.82**	**342**	*es*PP		14 27 34.0	
	comp=Z,8.0nm,1.4s						
CLL				AMS	AMS	15 20 00.0	
	comp=N,300nm,20.3s						
CLL				AMS	AMS	15 20 00.0	
	comp=E,200nm,21.4s						
CLL				AMS	AMS	15 25 00.0	
	comp=Z,300nm,18.6s						
KOPT	**Kop Dagi**	**15.88**	**75**	Pn	**Pn**	**14 27 31.6**	**-2.1**
WLF	**Walferdange**	**15.96**	**324**	Pn	**Pn**	**14 27 33.4**	**-1.0**
WLF				IAmb	IAmb	14 27 48.8	
	comp=Z,16nm,0.9s						
WLF	**Walferdange**	**15.96**	**324**	P	**Pn**	**14 27 33.4**	**-1.0**
WLF				pmax	pmax		
	comp=Z,16nm,0.9s						
SUW	**Suwalki**	**16.67**	**6**	Pn	**Pn**	**14 27 43.9**	**+0.5**
SUW	**Suwalki**	**16.67**	**6**	P	**Pn**	**14 27 43.9**	**+0.5**
SUW				pmax	pmax		
	comp=Z,77nm,1.1s						
MNK	**Minsk**	**17.80**	**14**	*i* P	**P**	**14 27 59.6**	**+1.3**
	comp=E,22nm,0.7s						
MNK				*i* P	**P**	**14 27 59.6**	**+1.3**
	comp=N,8.0nm,0.7s						
MNK				*i* P	**P**	**14 27 59.6**	**+1.3**
	comp=Z,15nm,0.8s,baz=200						
MNK				*i* pP	pwP	14 28 12.4	+5.9
MNK				*i* sP	sP	14 28 19.9	+16
MNK				*i* S	**Sn**	**14 31 15.4**	**-0.2**
MNK				*i* LQ	LQ	14 33 21.5	
MNK				*i* LR	LR	14 34 38.1	
MNK				*i* LRM	MLR	14 35 45.3	
	comp=N,35nm,10.7s						
MNK				*i* LRM	MLR	14 36 01.5	
	comp=Z,40nm,11.9s						
MNK				*i* LRM	MLR	14 36 22.8	
	comp=

comp=Z,14nm,1.1s
NOA NORSAR Array B 24.31 349 P P 14 29 10.5 +3.2
comp=Z,0.8nm,0.8s,baz=161,slow=9.1,SNR=2.6
NOA LR LR 14 40 12.5
comp=Z,27nm,18.4s,baz=215,slow=40
comp=Z,0.8nm,0.8s
RAYN Ar Rayn 25.60 116 P P 14 29 14.5 -4.7
RAYN IAmb IAmb 14 29 32.3
comp=Z,7.2nm,1.4s
RAYN Ar Rayn 25.60 116 P P 14 29 14.5 -4.7
RAYN pmax pmax
comp=Z,7.0nm,1.4s
KLMR Klimovskoe 26.34 21 *e*P P 14 29 22.8 -2.8
KLMR pmax pmax
comp=Z,25nm,1.6s
TORD Torodi Ar. Bea 29.42 220 P P 14 29 55.0 +1.5
comp=Z,0.6nm,0.7s,baz=25,slow=9.7,SNR=4.9
comp=Z,0.6nm,0.7s
AKTO Aktyubinsk 29.69 52 LR LR 14 44 08.8
comp=Z,50nm,18.1s,baz=87,slow=41
ABKAR Akbulak array 30.72 55 P P 14 30 02.1 -2.6
ARTI Arti 31.55 41 *d i*P **P 14 30 15.4 +3.4**
ARTI 14 31 14.3
ARTI 14 33 11.5
ARTI S **S 14 35 20.8 +1.1**
ARTI SS **SnSn 14 37 09.1 +4.1**
ARTI pmax pmax
comp=Z,5.0nm,1.1s
BRVK Borovoye 37.59 49 P P 14 31 03.0 -1.2
BRVK Borovoye 37.59 49⇑ *e*P **P 14 31 04.0 -0.2**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 37.65 49 P P 14 31 05.1 +0.3
comp=Z,0.4nm,0.4s,baz=265,slow=8.7,SNR=2.2
comp=Z,0.4nm,0.4s
DBIC Dimbokro 38.31 223 P P 14 31 12.2 +1.6
comp=Z,2.8nm,0.8s,baz=319,slow=5.1,SNR=3.2
comp=Z,2.8nm,0.8s
AAK Ala-Archa 41.13 65⇑ *e*P **P 14 31 35.0 +0.9**
AAK pmax pmax
comp=Z,1.0nm,1.1s
NIL Nilore 42.69 79 P P 14 31 44.3 -2.5
NIL IAmb IAmb 14 31 59.6
comp=Z,3.4nm,0.7s
NIL Nilore 42.69 79 P P 14 31 44.3 -2.5
NIL pmax pmax
comp=Z,3.0nm,0.7s
KURBB Kurchatov Arra 42.73 53 P P 14 31 46.5 -0.3
comp=Z,0.9nm,0.8s,baz=282,slow=8.6,SNR=7.3
comp=Z,0.9nm,0.8s
KURK Kurchatov 42.78 53 P P 14 31 45.2 -2.0
KURK Kurchatov 42.78 53⇓ *e*P **P 14 31 47.0 -0.2**
KURK pmax pmax
comp=Z,5.0nm,1.8s
MK31 Makanchi Array 45.76 58⇑ *e*P **P 14 32 11.1 -0.1**
MKAR Makanchi Array 45.76 58 P P 14 32 11.5 +0.3
comp=Z,0.5nm,0.5s,baz=284,slow=7.5,SNR=7.2
comp=Z,0.5nm,0.5s
ZAA0 Zalesovo Array 46.24 48 P P 14 32 13.1 -1.7
ZAA0 IAmb IAmb 14 32 26.0
comp=Z,3.8nm,0.8s
ZALV Zalesovo Beam 46.24 48 P P 14 32 15.3 +0.5
comp=Z,1.4nm,0.6s,baz=278,slow=7.8,SNR=6.3
ZALV LR LR 14 56 06.2
comp=Z,33nm,19.3s,baz=356,slow=42
comp=Z,1.4nm,0.6s
NRS Narsarsuaq 46.56 322 P P 14 32 15.2 -2.0
NRS Narsarsuaq 46.56 322 P P 14 32 15.2 -2.0
NRS pmax pmax
comp=Z,36nm,1.2s
NRIK Noril'sk 47.48 26 P P 14 32 23.9 -0.4
NRIK IAmb IAmb 14 32 32.9
comp=Z,1.8nm,0.7s
NRIK Noril'sk 47.48 26 P P 14 32 23.9 -0.4
NRIK pmax pmax
comp=Z,2.0nm,0.7s
TIXI Tiksi 60.36 20⇑ *e*P **P 14 34 00.4 +2.1**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 60.98 50 P P 14 34 03.3 +0.1
comp=Z,0.8nm,0.9s,baz=294,slow=6.4,SNR=5.4
comp=Z,0.8nm,0.9s
SONM Songino Array 60.98 50 *e*P **P 14 34 04.5 +1.3**
SONM pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 70.07 82 P P 14 35 01.1 -1.1
comp=Z,0.7nm,0.8s,baz=303,slow=5.9,SNR=1.3
comp=Z,0.7nm,0.8s
CMAR Chiang Mai Arr 70.07 82 *e*P **P 14 35 05.4 +3.2**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
E29M Blow River 73.23 352 P *e*P **P 14 35 19.1 -1.3**
E29M IAmb IAmb 14 35 30.0
comp=Z,3.4nm,0.9s
F31M Tsiigehtchic 73.60 350 P P 14 35 21.5 -1.1
H29M Whitestone 75.36 351 P P 14 35 33.1 +0.2
J30M Hart River 76.67 350 P P 14 35 40.9 +0.3
J30M IAmb IAmb 14 35 53.7
comp=Z,6.1nm,1.5s
KSRS Korea Array 79.85 50 P P 14 35 58.1 -0.3
comp=Z,1.4nm,0.8s,baz=312,slow=5.1,SNR=3.7
comp=Z,1.4nm,0.8s

*ATH **09** 14:28:19.0, 37°.54N×20°.35E, h7km±1km, ML3.5/15, Manual Solution by F.Gkika This location: 2020/09/23 12:56:40 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **09** 14:28:19.8, 37°.55N×20°.39E, h2km±38km, ML3.6/12, Error ellipse: s-maj=38.3km s-min=0.6km az=0.0*
ISC 09 14:28:19.2±1.8, 37°.54N±0°.05×20°.37E±0°.06, h4km±10km, n36, σ0§53/61, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.38**	**71**	P	**Pg**	**14 28 26.9**	**+0.4**
KRI1				S	**Sg**	**14 28 31.8**	**+0.3**
15μm,0.6s							
LTHK	**Lithakia**	**0.41**	**65**	P	**Pg**	**14 28 27.2**	**+0.1**
LTHK				S	**Sg**	**14 28 32.7**	**+0.3**
17μm,0.4s							
LTHK	**Lithakia**	**0.41**	**65**	P	**Pg**	**14 28 27.3**	**+0.1**
LTHK				S	**Sg**	**14 28 32.8**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.60**	**17**	P	**Pg**	**14 28 30.6**	**-0.1**
PSDA				S	**Sg**	**14 28 38.8**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.60**	**17**	P	**Pg**	**14 28 30.6**	**-0.1**
PSDA				S	**Sg**	**14 28 38.8**	**+0.2**
RTZL	**Ratzakli, Kefa**	**0.62**	**31**	P	**Pg**	**14 28 31.5**	**+0.3**
RTZL				S	**Sb**	**14 28 40.8**	**-1.0**
5μm,0.6s							
VLS	**Valsamata**	**0.66**	**15**	P	**Pg**	**14 28 31.9**	**0.0**
VLS				S	**Sg**	**14 28 41.4**	**+0.9**
3μm,0.4s							
VLS	**Valsamata**	**0.66**	**15**	P	**Pg**	**14 28 31.9**	**0.0**
VLS				S	**Sg**	**14 28 40.0**	**-0.6**
DMLN	**Damoulianata-K**	**0.70**	**0**	P	**Pg**	**14 28 32.9**	**+0.3**
DMLN				S	**Sb**	**14 28 43.2**	**-0.8**
8μm,0.4s							
DMLN	**Damoulianata-K**	**0.70**	**0**	P	**Pg**	**14 28 32.6**	**0.0**
DMLN				S	**Sg**	**14 28 42.2**	**+0.5**
VSK1	**VASILIKIADES**	**0.88**	**10**	P	**Pg**	**14 28 36.5**	**+0.3**
VSK1				S	**Sb**	**14 28 49.0**	**-0.3**
5μm,0.7s							
FSK	**Fiskardo**	**0.93**	**9**	P	**Pg**	**14 28 36.6**	**-0.5**
FSK				S	**Sb**	**14 28 50.7**	**+0.1**
3μm,0.6s							
FSK	**Fiskardo**	**0.93**	**9**	P	**Pg**	**14 28 36.8**	**-0.3**
FSK				S	**Sg**	**14 28 49.0**	**-0.2**
RLS	**Riolos of Patr**	**1.01**	**59**	P	**Pg**	**14 28 37.9**	**-0.7**
RLS				S	**Sg**	**14 28 51.8**	**0.0**
AMT	**Artemida-Makis**	**1.07**	**90**	P	**Pg**	**14 28 39.6**	**0.0**
AMT				S	**Sb**	**14 28 54.6**	**+0.1**
EVGI	**Lefkada island**	**1.10**	**12**	P	**Pg**	**14 28 39.8**	**-0.6**
EVGI				S	**Sb**	**14 28 56.2**	**+0.6**
2μm,0.5s							
EVGI	**Lefkada island**	**1.10**	**12**	P	**Pg**	**14 28 39.9**	**-0.5**
DRO	**Drossia**	**1.14**	**68**	P	**Pg**	**14 28 40.4**	**-0.7**
DRO				S	**Sg**	**14 28 55.9**	**0.0**
DRAG	**Dragano-Lefkad**	**1.16**	**8**	P	**Pg**	**14 28 41.2**	**-0.2**
DRAG				S	**Sn**	**14 28 58.2**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.16**	**8**	P	**Pg**	**14 28 41.1**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.20**	**12**	P	**Pg**	**14 28 41.7**	**-0.6**
NYDR				S	**Sn**	**14 28 59.3**	**-0.2**
1μm,0.7s							
NYDR	**Nydri-Lefkada**	**1.20**	**12**	P	**Pg**	**14 28 42.0**	**-0.2**
LKD2	**Lefkada island**	**1.27**	**10**	P	**Pg**	**14 28 43.6**	**0.0**
LKD2				S	**Sn**	**14 29 02.4**	**+1.2**
3μm,0.8s							
LKD2	**Lefkada island**	**1.27**	**10**	P	**Pg**	**14 28 43.4**	**-0.2**
PYL	**PYLOS**	**1.27**	**120**	P	**Pg**	**14 28 42.2**	**-1.4**
PYL				S	**Sn**	**14 29 02.7**	**+1.5**
978nm,0.7s							
PYL	**PYLOS**	**1.27**	**120**	P	**Pg**	**14 28 43.4**	**-0.2**
PYL				S	**Sb**	**14 29 00.6**	**+0.2**
ITM	**Ithomi**	**1.29**	**106**	P	**Pb**	**14 28 44.5**	**+0.4**
ITM				S	**Sn**	**14 29 02.3**	**+0.5**
ITM	**Ithomi**	**1.29**	**106**	P	**Pg**	**14 28 43.8**	**-0.2**
ITM				S	**Sg**	**14 29 00.8**	**+0.1**
TSLK	**Tsoukalades, L**	**1.30**	**10**	P	**Pn**	**14 28 44.1**	**-0.1**
TSLK				S	**Sn**	**14 29 02.7**	**+0.6**
2μm,0.9s							
TSLK	**Tsoukalades, L**	**1.30**	**10**	P	**Pn**	**14 28 43.7**	**-0.4**
KLV	**Kalavryta, Ach**	**1.50**	**70**	P	**Pn**	**14 28 46.4**	**-0.6**
EFP	**Efpalio**	**1.50**	**53**	P	**Pn**	**14 28 46.5**	**-0.4**
GUR	**Goura**	**1.61**	**75**	P	**Pn**	**14 28 48.2**	**-0.3**
ANX	**Ano Chora**	**1.62**	**49**	P	**Pn**	**14 28 47.5**	**-1.1**
KALE	**Kalithea**	**1.64**	**58**	P	**Pn**	**14 28 48.1**	**-0.7**
IGT	**Igoumenitsa**	**1.99**	**359**	P	**Pn**	**14 28 53.3**	**-0.3**

*NEIC **09** 14:33:51.8±2.1, 25°.98N±0°.07×110°.49W±0°.09, h10km±1km, mb4.9/136, Error ellipse: s-maj=14.2km s-min=10.9km az=230.0*
*MEX **09** 14:33:51.8±0.7, 26°.12N×110°.50W, h18km±49km, MD4.8*
*GCMT **09** 14:33:52.8±0.2, 26°.18N±0°.01×110°.51W±0°.01, h21km, MW5.2/132, Moment Tensor Solution. s74,c101; s132,c232; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.85±.15; $M_{\theta\theta}$-6.27±.12; $M_{\phi\phi}$7.13±.14; $M_{r\theta}$-1.37±.23; $M_{\theta\phi}$-1.48±.11; $M_{\phi r}$-0.07±.22; Best double couple: $M_0$7.02100×10^16^ NP1:ϕ_s130.00000°, δ81.00000°, λ-170.00000°. NP2:ϕ_s38.00000°, δ80.00000°, λ-9.00000°. Principal axes: T 7.2920, Plg1.0000°, Azm264.0000°; N -0.5350, Plg77.0000°, Azm171.0000°; P -6.7500, Plg13.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **09** 14:33:53.7±0.7, 26°.36N×110°.61W, h0km, mb4.3/15, mbtmp4.3/22, ML3.5/7, MS4.4/66 Error ellipse: s-maj=24.3km s-min=11.8km az=63.0*
ISC 09 14:33:51.5±2.2, 26°.08N±0°.03×110°.45W±0°.04, h7km±14km, n607, σ1§62/565, mb4.9/42, MS4.5/61, 4C-6D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NE77	**Loreto B.C.S**	**0.82**	**266**⇑	*i*P	Pb	14 34 03.5	-4.7
NE77				*e*S	**Sb**	**14 34 14.0**	**-5.5**
UAGRB	**Rancho Ultima**	**0.90**	**235**	*e*P	Pb	14 34 05.3	-4.1
UAGRB				*e*S	**Sb**	**14 34 17.3**	**-4.2**
EVAR0	**San Evaristo**	**1.19**	**192**⇓	*e*P	**Pn**	**14 34 10.8**	**-3.8**
EVAR0				*e*S	**Sb**	**14 34 26.5**	**-3.5**
TSIG	**Topolobambo**	**1.36**	**110**	*i*P	**Pn**	**14 34 13.5**	**-3.4**
TSIG				*e*S	**Sn**	**14 34 29.4**	**-5.7**
TSIG	**Topolobambo**	**1.36**	**110**⇑	*i*P	**Pn**	**14 34 13.4**	**-3.5**
TSIG				*e*S	**Sn**	**14 34 30.6**	**-4.6**
CDOB	**Cd. Obregon**	**1.36**	**12**⇓	*i*P	**Pn**	**14 34 12.8**	**-4.1**
CDOB				*e*S	**Sn**	**14 34 29.3**	**-5.8**
NE80	**Navojoa**	**1.37**	**53**⇑	*e*P	**Pn**	**14 34 13.5**	**-3.6**
NE80				*e*S	**Sn**	**14 34 30.1**	**-5.5**
NE80				IAML		14 34 35.2	
comp=E,11μm,0.5s							
NE80				*e*		14 34 35.2	
GUYB	**Guaymas**	**1.85**	**348**	*i*P	Pn	14 34 18.3	-5.3
GUYB				*i*S	**Sn**	**14 34 40.2**	**-7.0**
GUYB	**Guaymas**	**1.85**	**348**	*e*P	Pn	14 34 17.4	-6.2
GUYB				*e*S	Sn	14 34 38.0	-9.3
LPIG	**La Paz**	**1.98**	**176**	Pn	**Pn**	**14 34 23.6**	**-1.8**
comp=E,42nm,0.3s,baz=290,slow=0.9,SNR=39							
LPIG				Sn	**Sn**	**14 34 45.0**	**-5.4**
comp=E,174nm,0.3s,baz=250,slow=1.4,SNR=13							
LPIG				LR	LR	14 35 24.3	
comp=E,12μm,18.9s,baz=304,slow=40							
LPIG	**La Paz**	**1.98**	**176**	*e*P	**Pn**	**14 34 22.0**	**-3.4**
LPIG				*e*S	**Sn**	**14 34 45.1**	**-5.4**
LPIG	**La Paz**	**1.98**	**176**⇓	*i*P	**Pn**	**14 34 22.8**	**-2.7**
CSIG	**Choix**	**2.01**	**68**	*e*P	**Pn**	**14 34 22.8**	**-3.0**
CSIG				*e*S	**Sn**	**14 34 45.8**	**-5.4**
SLBS	**Sierra La Lagu**	**2.43**	**169**	Pn	**Pn**	**14 34 29.1**	**-2.6**
SLBS	**Sierra La Lagu**	**2.43**	**169**	*i*P	**Pn**	**14 34 29.3**	**-2.5**
SLBS				*i*S	**Sn**	**14 35 00.9**	**-0.9**
SLBS	**Sierra La Lagu**	**2.43**	**169**⇓	*e*P	**Pn**	**14 34 29.9**	**-1.8**
HSIG		**2.96**	**351**	Pn	Pn	14 34 34.6	-4.4
HSIG		**2.96**	**351**	*e*P	Pn	14 34 34.2	-4.7
HSIG				*e*S	Sn	14 35 04.2	-11
BKIRB	**Bahia Kino**	**3.09**	**334**	*e*P	Pn	14 34 35.1	-5.7
SSIG	**Sanalona**	**3.24**	**112**	*e*P	**Pn**	**14 34 40.3**	**-2.5**
SSIG				*e*S	**Sn**	**14 35 17.6**	**-4.1**
NE74	**Guerrero Negro**	**3.71**	**302**	IAML		14 35 47.6	
comp=N,2μm,1.6s							
NE74				IAML		14 35 49.0	
comp=E,2μm,1.6s							
NE74				⇑*e*		14 35 49.0	
BAHB	**Baha de los**	**3.97**	**317**	*e*P	**Pn**	**14 34 49.5**	**-3.4**
BAHB				*i*S	**Sn**	**14 35 35.5**	**-4.1**
BAHB	**Baha de los**	**3.97**	**317**	*e*P	**Pn**	**14 34 48.7**	**-4.1**
HPIG		**4.37**	**78**	Pn	**Pn**	**14 34 57.2**	**-1.3**
HPIG		**4.37**	**78**	*e*P	Pn	14 34 52.0	-6.5
HPIG				*e*S	**Sn**	**14 35 44.4**	**-5.5**
MAIG	**Mazatlaan**	**4.66**	**127**	*e*P	**Pn**	**14 35 03.3**	**+1.0**
PDIG	**Papasquiaro**	**4.68**	**102**	*e*P	**Pn**	**14 34 59.5**	**-3.3**
PDIG				*e*S	**Sn**	**14 35 53.8**	**-3.7**
LAPR	**La Primavera**	**4.70**	**340**	*e*P	Pn	14 34 58.7	-4.2
LAPR				*e*S	**Sn**	**14 35 51.9**	**-5.8**
LAPR	**La Primavera**	**4.70**	**340**⇓	*e*		14 37 02.0	
LAPR				IAML		14 37 02.0	
comp=E,1μm,1.1s							
LAPR				IAML		14 37 10.2	
comp=N,1μm,0.9s							
BCIG	**La Boquilla**	**4.73**	**71**	*e*P	**Pn**	**14 34 59.9**	**-3.5**
BCIG				*e*S	**Sn**	**14 35 50.8**	**-7.9**
CGIG		**4.79**	**26**	*e*P	**Pn**	**14 35 02.7**	**-1.6**
CGIG				*e*S	**Sn**	**14 35 58.8**	**-1.4**
TUC	**Tucson**	**6.21**	**357**	Pn	**Pn**	**14 35 21.6**	**-2.1**
TUC	**Tucson**	**6.21**	**357**	*e*P	**Pn**	**14 35 20.1**	**-3.7**
TUC				*e*S	**Sn**	**14 36 32.9**	**-2.2**
SPIG	**San Pedro Mart**	**6.63**	**319**	*e*P	**Pn**	**14 35 29.4**	**-0.3**
SPIG				*e*S	Sn	14 36 36.3	-9.4
EPT	**El Paso**	**6.64**	**30**		**Pn**	**14 35 32.8**	**+3.2**
VHRN	**Van Horn**	**6.71**	**44**	Pn	**Pn**	**14 35 31.1**	**+0.4**
TX31	**Lajitas Ar. Si**	**6.83**	**60**	Pn	**Pn**	**14 35 29.9**	**-2.4**
TXAR	**Lajitas Array**	**6.83**	**60**		**Pn**	**14 35 30.7**	**-1.5**
TXAR	**Lajitas Array**	**6.83**	**60**	Pn	**Pn**	**14 35 30.1**	**-2.1**
comp=N,1.5nm,0.3s,baz=233,slow=13,SNR=19							
TXAR				Sn	**Sn**	**14 36 47.0**	**-3.3**
comp=N,1.8nm,0.3s,baz=258,slow=23,SNR=6.5							
TXAR				Lg	Lg	14 37 27.4	
comp=N,3.7nm,0.3s,baz=248,slow=30,SNR=4.8							
TXAR				LR	LR	14 38 22.7	
comp=N,4μm,18.7s,baz=240,slow=39							
121A	**Cookes Peak, D**	**6.83**	**19**	Pn	**Pn**	**14 35 31.6**	**-0.8**
121A	**Cookes Peak, D**	**6.83**	**19**	P	**Pn**	**14 35 34.0**	**+1.6**
baz=200,SNR=25							
121A	**Cookes Peak, D**	**6.83**	**19**	*e*P	**Pn**	**14 35 29.2**	**-3.1**
121A				*e*S	**Sn**	**14 36 44.1**	**-6.5**
VTX	**Valle De La Tr**	**7.07**	**320**	Pn	**Pn**	**14 35 35.8**	**+0.4**
MNTX	**Cornudas Mount**	**7.14**	**37**	*e*P	**Pn**	**14 35 35.0**	**-1.5**
MNTX				*e*S	**Sn**	**14 36 53.9**	**-4.0**
ALPN	**Alpine**	**7.37**	**53**		**Pn**	**14 35 39.1**	**-0.6**
ESJX	**Sierra Juarez**	**7.61**	**322**		**Pn**	**14 35 45.1**	**+2.0**
PECS	**Pecos**	**7.82**	**46**		**Pn**	**14 35 46.1**	**+0.3**
ZAIG	**Zacatecas**	**7.90**	**113**	Pn	**Pn**	**14 35 48.9**	**+1.7**
GLA	**Glamis**	**7.92**	**332**		**Pn**	**14 35 48.8**	**+1.6**
YUH	**Yuha Desert**	**8.10**	**325**	Pn	**Pn**	**14 35 53.1**	**+3.6**
Y14A	**Wickenburg**	**8.14**	**345**		**Pn**	**14 35 49.9**	**-0.2**
SAND	**Sanderson**	**8.31**	**60**	Pn	**Pn**	**14 35 51.7**	**-0.8**
X16A	**Lo Mia Camp, P**	**8.35**	**354**	Pn	**Pn**	**14 35 54.0**	**+0.7**
BLYC	**Blythe**	**8.42**	**336**	Pn	**Pn**	**14 35 53.1**	**-0.8**
X18A	**Snowflake**	**8.43**	**3**		**Pn**	**14 35 54.0**	**-0.3**
Y22D	**IRIS PASSCAL I**	**8.53**	**20**	Pn	**Pn**	**14 35 57.0**	**+1.4**
Y22D	**IRIS PASSCAL I**	**8.53**	**20**	P	**Pn**	**14 35 56.5**	**+0.9**
baz=202							
MNHN	**Monahans**	**8.54**	**50**	Pn	**Pn**	**14 35 56.1**	**+0.4**
PFO	**Pinyon Flats O**	**9.14**	**327**	Pn	**Pn**	**14 36 05.6**	**+1.6**
comp=N,0.1nm,0.3s,baz=152,slow=8.7,SNR=4.9							
PFO				Lg	Lg	14 38 45.1	
baz=243,slow=19							
comp=N,6.3nm,1.0s							
DRIO	**Del Rio**	**9.32**	**67**		**Pn**	**14 36 07.5**	**+1.1**
WUAZ	**Wupatki**	**9.44**	**355**	Pn	**Pn**	**14 36 09.4**	**+1.3**
W13A	**Hualapai Mount**	**9.46**	**343**	Pn	**Pn**	**14 36 11.0**	**+2.5**
ANMO	**Albuquerque**	**9.48**	**20**	Pn	**Pn**	**14 36 10.1**	**+1.4**
comp=N,0.1nm,0.3s,baz=8.2,slow=13,SNR=19							
ANMO				Lg	Lg	14 38 50.7	
comp=N,0.4nm,0.3s,baz=288,slow=20,SNR=4.5							
comp=N,9.9nm,1.0s							
ANMO	**Albuquerque**	**9.48**	**20**	*e*P	**Pn**	**14 36 05.1**	**-3.6**
ANMO				*e*S	**Sn**	**14 37 54.1**	**-1.5**
833A	**Chaparral WMA,**	**10.09**	**75**		**Pn**	**14 36 17.6**	**+0.7**
833A	**Chaparral WMA,**	**10.09**	**75**	P	**Pn**	**14 36 16.5**	**-0.5**
baz=259							
MSTX	**Muleshoe**	**10.29**	**38**		**Pn**	**14 36 21.4**	**+1.7**
V12A	**Nelson**	**10.33**	**340**		**Pn**	**14 36 21.5**	**+1.3**
JCT	**Junction City**	**10.35**	**63**		**Pn**	**14 36 22.9**	**+2.3**
JCT	**Junction City**	**10.35**	**63**	*i*P	**Pn**	**14 36 17.0**	**-3.6**
JCT				*e*S	**Sn**	**14 38 10.4**	**-6.5**
U15A	**North Rim**	**10.43**	**352**	Pn	**Pn**	**14 36 24.4**	**+2.6**
POST	**Post**	**10.44**	**46**		**Pn**	**14 36 23.4**	**+1.6**
KNB	**Kanab**	**11.09**	**350**	Pn	**Pn**	**14 36 32.4**	**+1.7**
CCAC	**Calif City Air**	**11.14**	**326**		**Pn**	**14 36 30.3**	**-1.0**
SHPR	**Sheep Range**	**11.14**	**340**		**Pn**	**14 36 34.0**	**+2.5**
LCMT	**Little Creek M**	**11.15**	**348**		**Pn**	**14 36 32.8**	**+1.2**
MVCO	**Mesa Verde**	**11.22**	**8**		**Pn**	**14 36 33.9**	**+1.4**
GWY	**Greenwater Val**	**11.39**	**334**		**Pn**	**14 36 36.3**	**+1.4**
PKCU	**Pink Cliffs**	**11.44**	**353**		**Pn**	**14 36 38.2**	**+2.5**
ABTX	**Abilene, Hawle**	**11.46**	**53**		**Pn**	**14 36 36.1**	**+0.5**
APMT	**Aspermont**	**11.51**	**49**		**Pn**	**14 36 37.1**	**+0.7**
AMTX	**Amarillo**	**11.57**	**39**		**Pn**	**14 36 38.2**	**+0.9**
ISA	**Isabella, Lake**	**11.77**	**326**		**Pn**	**14 36 41.2**	**+1.2**
HMU	**Henry Mountain**	**11.82**	**359**		**Pn**	**14 36 42.5**	**+1.6**
WCT	**Wildcat Mounta**	**11.90**	**335**		**Pn**	**14 36 44.0**	**+2.2**
TPNV	**Topopah Spring**	**11.91**	**337**		**Pn**	**14 36 44.6**	**+2.7**
PRN	**Pahroc Range**	**11.95**	**342**		**Pn**	**14 36 44.8**	**+2.3**
MTPU	**Mount Pierson**	**12.01**	**353**		**Pn**	**14 36 46.6**	**+3.1**
S22A	**4UR Ranch, Cre**	**12.03**	**14**	Pn	**Pn**	**14 36 45.8**	**+2.1**
S22A	**4UR Ranch, Cre**	**12.03**	**14**	P	**Pn**	**14 36 45.5**	**+1.8**
baz=196,SNR=21							
T25A	**Trinidad**	**12.16**	**24**		**Pn**	**14 36 47.5**	**+2.1**
T25A	**Trinidad**	**12.16**	**24**	P	**Pn**	**14 36 47.0**	**+1.6**
baz=207,SNR=7.0							
RTBA	**Rita Blanca**	**12.24**	**31**	Pn	**Pn**	**14 36 48.7**	**+2.2**
SDCO	**Great Sand Dun**	**12.36**	**19**		**Pn**	**14 36 50.1**	**+1.9**
GRAC	**Grapevine Rang**	**12.37**	**333**	Pn	**Pn**	**14 36 51.0**	**+2.9**
S11A	**Rachel**	**12.37**	**340**	Pn	**Pn**	**14 36 50.6**	**+2.3**
MVU	**Marysvale**	**12.47**	**354**	Pn	**Pn**	**14 36 52.5**	**+2.8**
MSU	**Marysvale**	**12.48**	**354**	Pn	**Pn**	**14 36 52.3**	**+2.5**
SMWD	**Samnorwood**	**12.57**	**42**		**Pn**	**14 36 52.4**	**+1.5**
GMN	**Gold Mountain**	**12.59**	**334**		**Pn**	**14 36 53.7**	**+2.3**
PSUT	**Pine Spring**	**12.74**	**348**		**Pn**	**14 36 56.7**	**+3.3**
Q16A	**Castle Valley**	**12.81**	**357**		**Pn**	**14 36 56.5**	**+2.2**
DSP	**Deep Springs**	**12.94**	**332**		**Pn**	**14 36 57.9**	**+2.0**
R11B	**Troy Canyon, C**	**12.98**	**342**	Pn	**Pn**	**14 36 58.7**	**+2.1**
R11B	**Troy Canyon, C**	**12.98**	**342**	P	**Pn**	**14 36 58.6**	**+2.1**
baz=159,SNR=78							
MZP	**Montezuma Peak**	**12.99**	**335**		**Pn**	**14 36 58.4**	**+1.6**
SRU	**San Rafael Swe**	**12.99**	**360**		**Pn**	**14 36 57.8**	**+1.0**
WMOK	**Wichita Mounta**	**13.25**	**47**		**Pn**	**14 37 00.1**	**-0.1**
TPH	**Tonopah**	**13.26**	**336**		**Pn**	**14 37 02.9**	**+2.5**
SPR3	**Spring Creek 3**	**13.29**	**347**	Pn	**Pn**	**14 37 02.4**	**+1.5**
P17A	**Butcher Ranch,**	**13.36**	**359**		**Pn**	**14 37 03.5**	**+1.8**
Q12A	**Willow Creek R**	**13.44**	**345**	Pn	**Pn**	**14 37 05.3**	**+2.5**
P18A	**Preston Nutter**	**13.51**	**1**		**Pn**	**14 37 05.5**	**+1.6**
Q24A	**Divide**	**13.60**	**18**		**Pn**	**14 37 06.4**	**+1.3**
Q24A	**Divide**	**13.60**	**18**	P	**Pn**	**14 37 06.9**	**+1.8**
baz=201,SNR=7.2							
X34A	**Smith Ranch, M**	**13.80**	**49**		**Pn**	**14 37 08.5**	**+0.9**
LHV	**Little Huntoon**	**13.91**	**333**		**Pn**	**14 37 11.0**	**+1.9**
NV11	**Mina Array Sit**	**13.93**	**334**		**Pn**	**14 37 11.2**	**+1.7**
NVAR	**Mina Array Bea**	**13.98**	**334**	Pn	**Pn**	**14 37 11.8**	**+1.5**
baz=149,slow=14,SNR=35							
NVAR				Lg	Lg	14 41 07.2	
baz=148,slow=32,SNR=3.7							
NVAR				LR	LR	14 42 02.6	
comp=N,735nm,19.6s,baz=153,slow=36							
comp=N,7.9nm,1.1s							
O20A	**White River Ci**	**14.13**	**7**		**Pn**	**14 37 13.1**	**+0.7**
DUG	**Dugway, Tooele**	**14.21**	**353**		**Pn**	**14 37 14.5**	**+1.1**
BSUT	**Blindstream Ca**	**14.42**	**359**		**Pn**	**14 37 16.5**	**+0.1**
KVN	**Kaiserville**	**14.44**	**335**		**Pn**	**14 37 17.4**	**+0.8**
RDMU	**Red Mountain**	**14.47**	**3**		**Pn**	**14 37 16.8**	**-0.1**
WAKR	**Walker**	**14.52**	**331**		**Pn**	**14 37 18.9**	**+1.2**
CMB	**Columbia Colle**	**14.58**	**327**		**Pn**	**14 37 18.7**	**+0.3**
YERR	**Yerington**	**14.84**	**332**		**Pn**	**14 37 22.9**	**+0.9**
BGU	**Big Grassy Mou**	**14.96**	**352**		**Pn**	**14 37 24.1**	**+0.5**
BGU				IAmb	IAmb	14 37 31.4	

WVOR Wild Horse Val 17.64 340 P P 14 37 58.9 -0.1
HLID Hailey 17.74 350 P Pn 14 38 00.0 +0.9
MFID Camas Ranch 17.84 347 P 14 38 01.7 +0.6
143A Socs Landing, 17.85 64 P Pn 14 37 60.0 -0.4
143A IAmb IAmb 14 38 09.5
comp=Z,121nm,1.3s
FLWY Flagg Ranch 17.96 359 P Pn 14 38 02.5 +0.5
FLWY IAmb IAmb 14 38 06.3
comp=Z,103nm,1.4s
H17A Grant Village 18.27 360 P P 14 38 06.6 +0.6
YFT Old Faithful 18.33 359 P P 14 38 07.9 +1.2
YFT IAmb IAmb 14 38 15.2
comp=Z,83nm,1.3s
KHMM Horse Mountain 18.42 327 P Pn 14 38 08.4 +0.9
J08A Circle Bar Ran 18.44 341 P Pn 14 38 08.2 +0.5
FCAR Ozark Folk Cen 18.48 54 P P 14 38 06.9 -1.1
YMR Madison River 18.55 359 P Pn 14 38 09.9 +0.7
YMR IAmb IAmb 14 38 13.8
comp=Z,155nm,1.7s
S39A Bolivar 18.55 47 P P 14 38 08.3 -0.6
S39A IAmb IAmb 14 38 15.5
comp=Z,62nm,1.1s
YNR Norris Junctio 18.59 359 P P 14 38 09.4 -0.1
YBH Yreka Blue Hor 18.60 330 P Pn 14 38 10.8 +1.1
comp=Z,0.6nm,0.3s,baz=181,slow=21,SNR=1.5
YBH LR LR 14 44 50.0
comp=Z,904nm,20.3s,baz=308,slow=36
comp=Z,1.8nm,0.3s
YMP Mirror Lake Pl 18.62 1 P Pn 14 38 10.4 +0.3
YMP IAmb IAmb 14 38 20.7
comp=Z,95nm,1.2s
YHB Horse Butte 18.64 358 P Pn 14 38 11.5 +1.2
YHB IAmb IAmb 14 38 17.8
comp=Z,157nm,2.0s
YHH Holmes Hill 18.67 359 P Pn 14 38 11.8 +1.1
RSSD Black Hills 18.73 15 P P 14 38 10.5 -0.6
YHL Hebgen Lake 18.74 358 P Pn 14 38 12.2 +0.6
YHL IAmb IAmb 14 38 19.1
comp=Z,132nm,1.8s
L04D Klamath Falls 18.82 332 P Pn 14 38 13.4 +1.0
L04D IAmb IAmb 14 38 19.8
comp=Z,91nm,1.4s
YNE Yellowstone No 18.89 1 P P 14 38 13.4 +0.6
YNE IAmb IAmb 14 38 25.0
comp=Z,108nm,1.6s
K04D Chiloquin, OR 18.93 334 P P 14 38 12.4 -0.7
K04D IAmb IAmb 14 38 25.7
comp=Z,62nm,1.1s
MGMO Mountain Grove 18.98 50 P P 14 38 13.4 -0.2
MGMO IAmb IAmb 14 38 21.9
comp=Z,76nm,1.4s
RLMT Red Lodge 19.02 3 P P 14 38 14.2 0.0
RLMT IAmb IAmb 14 38 24.5
comp=Z,108nm,1.6s
LCAR Lake Charles 19.26 54 P P 14 38 16.8 +0.2
J05D Fort Rock, OR 19.29 336 P P 14 38 17.7 +0.6
J05D IAmb IAmb 14 38 24.1
comp=Z,97nm,1.4s
DLMT Dillon 19.32 355 P Pn 14 38 18.7 +0.3
DLMT IAmb IAmb 14 38 22.3
comp=Z,86nm,1.4s
I07A Izee 19.40 340 P P 14 38 18.6 +0.3
PLID Pearl Lake 19.48 348 P P 14 38 19.6 +0.3
PLID IAmb IAmb 14 38 23.1
comp=Z,66nm,1.4s
BOZ Bozeman (W) 19.50 358 P P 14 38 20.2 +0.9
BMO Blue Mountains 19.53 345 P P 14 38 19.8 +0.2
R40A Maddies Statio 19.58 47 P P 14 38 20.4 +0.3
R40A IAmb IAmb 14 38 27.3
comp=Z,69nm,1.0s
J04A Umpqua Nationa 19.59 334 P P 14 38 20.7 +0.3
PINE Pine Mountain 19.62 337 P P 14 38 20.9 +0.2
Y45A Yeager Farm, C 19.68 62 P P 14 38 21.6 +0.3
146A Union 19.74 66 P P 14 38 22.4 +0.5
CCM Cathedral Cave 20.14 49 P P 14 38 27.4 +1.1
CCM IAmb IAmb 14 38 40.9
comp=Z,63nm,1.6s
I05D Terrebonne, OR 20.24 337 P P 14 38 27.2 -0.1
G08A Pilot Rock 20.35 343 P P 14 38 29.1 +0.4
G08A IAmb IAmb 14 38 33.4
comp=Z,78nm,1.4s
P40A Paris 20.42 44 P P 14 38 29.5 +0.2
P40A IAmb IAmb 14 38 36.2
comp=Z,65nm,0.9s
BPMT Black Pine Rid 20.45 354 P P 14 38 30.0 +0.1
F10A Beach Ranch, E 20.58 346 P P 14 38 31.0 0.0
F10A IAmb IAmb 14 38 42.0
comp=Z,58nm,1.1s
FVM French Village 20.66 50 P P 14 38 32.4 +0.5
Z47A Carrollton 20.68 65 P P 14 38 32.5 +0.4
G06A Carlson Farm, 20.79 339 P P 14 38 33.2 -0.1
G06A IAmb IAmb 14 38 41.0
comp=Z,83nm,1.7s
LAO LASA Array 20.84 8 P P 14 38 33.0 -0.8
LAO IAmb IAmb 14 38 38.0
comp=Z,131nm,1.6s
G05A Wamic 21.02 338 P P 14 38 35.5 -0.3
G05A IAmb IAmb 14 38 46.7
comp=Z,144nm,2.0s
OVMT Ovando 21.04 355 P P 14 38 35.9 -0.2
F07A Phinny Hill Vi 21.18 341 P P 14 38 37.0 -0.3
F07A IAmb IAmb 14 38 46.5
comp=Z,84nm,1.6s
PLAL Pickwick Lake 21.18 60 P P 14 38 37.1 -0.4
COR Corvallis 21.18 334 P P 14 38 38.5 +1.0
COR IAmb IAmb 14 38 48.9
comp=Z,84nm,1.1s
TEIG Tepich 21.19 101 P P 14 38 43.8 +6.1
comp=Z,13nm,1.0s,baz=294,slow=8.4,SNR=6.8
TEIG LR LR 14 47 50.9
comp=Z,1µm,20.8s,baz=298,slow=39
comp=Z,13nm,1.0s
HOOD Mount Hood Mea 21.20 338 P P 14 38 36.9 -1.0
HOOD IAmb IAmb 14 38 48.8
comp=Z,56nm,1.1s
D08A Wollman Farm, 21.99 344 P P 14 38 44.4 -1.7
F04A Amboy 22.00 337 P P 14 38 45.5 -0.8
F04A IAmb IAmb 14 39 01.9
comp=Z,80nm,1.6s
Q44A Meyer Farm, Va 22.07 49 P P 14 38 46.3 -0.9
F03A Seaside 22.41 335 P P 14 38 50.1 -0.6
NEW Newport 22.75 348 LR LR 14 48 14.4
comp=Z,2µm,19.8s,baz=170,slow=38
B08A Colville Reser 23.30 345 P P 14 38 59.0 -1.0
B08A IAmb IAmb 14 39 10.7
comp=Z,42nm,1.4s
152A Waverly Hall 23.33 68 P P 14 39 00.1 -0.3
U49A Red Boiling Sp 23.44 58 P P 14 39 00.7 -0.8
Y52A Lilburn 24.09 65 P P 14 39 06.5 -1.2
Y52A IAmb IAmb 14 39 14.5
comp=Z,41nm,1.3s
CPCT Cooper Cave 24.10 61 P P 14 39 07.1 -0.8
CPCT IAmb IAmb 14 39 14.4
comp=Z,68nm,1.7s
GOGA Godfrey 24.49 66 P P 14 39 10.4 -1.0
L44A Lake County Fo 24.50 43 P P 14 39 12.0 +0.5
baz=236
TKL Tuckaleechee C 24.74 61 LR LR 14 49 15.2
comp=Z,1µm,18.8s,baz=250,slow=37
SOR Soroa 25.18 92 P P 14 39 18.3 +0.6
O48B Farmland 25.35 50 P P 14 39 19.6 +0.5
baz=244
HODGE Hodges 25.63 65 P P 14 39 21.2 -0.6
HODGE IAmb IAmb 14 39 34.2
comp=Z,55nm,1.5s
ULM Lac du Bonnet 26.61 21 P P 14 39 31.2 +0.8
ULM IAmb IAmb 14 39 46.9
comp=Z,24nm,1.2s
ULM Lac du Bonnet 26.61 21 P P 14 39 32.5 +2.0
comp=Z,5.2nm,0.8s,baz=198,slow=7.4,SNR=4.5
ULM LR LR 14 48 51.0
comp=Z,339nm,19.9s,baz=208,slow=34
comp=Z,5.2nm,0.8s
ACSO Alum Creek Sta 26.85 51 P P 14 39 32.5 -0.2
JTS Las Juntas de 28.78 118 LR LR 14 52 43.8
comp=Z,646nm,19.1s,baz=305,slow=39
BBB Bella Bella 29.29 338 LR LR 14 51 26.0
comp=Z,872nm,18.8s,baz=165,slow=36
SADO Sadowa 31.32 45 LR LR 14 53 20.4
comp=Z,2µm,19.1s,baz=256,slow=37
CHIV Chivirico 31.84 94 P P 14 40 17.6 +0.3
CHIV IAmb IAmb 14 40 26.0
comp=Z,73nm,1.4s
K57A Scipio Center 32.28 50 P P 14 40 22.5 +1.5
BINY Binghamton 32.48 52 P P 14 40 20.6 -2.0

U35K Hyder 33.02 340 P P 14 40 28.8 +1.6
baz=147
V35K Ketchikan 33.06 338 P P 14 40 27.6 +0.1
baz=144
CRAG Craig 33.70 337 P P 14 40 34.0 +0.9
baz=142
WRAK Wrangell Islan 34.18 338 P P 14 40 37.8 +0.5
baz=144
U33K Whale Pass 34.20 337 P P 14 40 37.6 +0.2
baz=142
TOAD Toad River Com 34.35 346 P P 14 40 38.8 0.0
baz=156
L61B Northampton 34.89 52 P P 14 40 42.8 -0.8
baz=254
S34M Telegraph Cree 35.03 341 P P 14 40 44.5 -0.1
baz=147
LIRD Liard River Hi 35.05 346 P P 14 40 45.9 +1.1
baz=155
DLBC Dease Lake 35.16 342 P P 14 40 45.8 0.0
DLBC IAmb IAmb 14 40 51.1
comp=Z,22nm,1.2s
DLBC Dease Lake 35.16 342 LR LR 14 55 51.3
comp=Z,1µm,18.6s,baz=154,slow=38
DLBC Dease Lake 35.16 342 P P 14 40 47.1 +1.3
baz=149
KOTAN Kotaneelee Air 35.30 348 P P 14 40 47.9 +0.9
baz=159
SIT Sitka 35.71 337 P P 14 40 50.8 +0.4
baz=140
S32K Killisnoo 35.76 338 P P 14 40 51.6 +0.7
baz=141
R33M Jennings River 36.23 342 P P 14 40 55.1 0.0
R33M IAmb IAmb 14 41 03.4
comp=Z,30nm,1.2s
R33M Jennings River 36.23 342 P P 14 40 56.3 +1.2
baz=148
Q32M Nakina River 36.23 341 P P 14 40 55.5 +0.3
baz=146
WTLY Watson Lake, Y 36.30 345 P P 14 40 56.7 +1.2
baz=152
R32K Eaglecrest 36.38 339 P P 14 40 57.5 +1.3
baz=142
YKA Yellowknife Ar 36.51 357 P P 14 40 56.3 -1.0
comp=Z,2.6nm,0.9s,baz=172,slow=8.7,SNR=3.1
YKA LR LR 14 56 32.3
comp=Z,3µm,18.4s,baz=174,slow=38
comp=Z,2.6nm,0.9s
S31K Pelican 36.71 337 P P 14 40 58.9 -0.1
baz=139
SDDR Presa de Saban 36.75 93 P P 14 40 59.7 -0.3
SDDR IAmb IAmb 14 41 09.1
comp=Z,25nm,1.1s
R31K City Hall, Gus 36.89 338 P P 14 41 01.3 +0.8
baz=140
P32M Atlin 37.18 341 P P 14 41 03.2 +0.2
baz=144
P33M Teslin, Yukon 37.43 342 P P 14 41 05.3 +0.1
baz=146
TGTN Hyland Airport 37.43 346 P P 14 41 05.7 +0.5
baz=153
SKAG Skagway 37.57 339 P P 14 41 07.9 +1.6
baz=142
PLBC Pleasant Camp 37.90 339 P P 14 41 10.4 +1.3
baz=140
WRGLY Wrigley 38.12 350 P P 14 41 12.4 +1.4
baz=161
N32M Quiet Lake 38.28 342 P P 14 41 13.2 +0.8
baz=146
WHY Whitehorse 38.39 341 P P 14 41 14.8 +1.4
baz=143
P29M Windy Craggy 38.49 338 P P 14 41 14.5 +0.4
baz=139
O30N Mendenhall 38.84 340 P P 14 41 16.6 -0.5
baz=142
PNL Peninsula 39.09 337 P P 14 41 19.4 +0.3
baz=136
FARO Faro, Yukon 39.25 343 P P 14 41 21.4 +0.9
baz=147
O29M Mount Kennedy 39.27 338 P P 14 41 21.6 +0.8
baz=138
N31M Braeburn, Yuko 39.31 341 P P 14 41 20.4 -0.6
baz=143
HYT Haines Junctio 39.32 339 P P 14 41 21.5 +0.3
baz=140
N30M Aishikik Lake 39.68 340 P P 14 41 24.4 +0.2
baz=141
YUK6 Outpost Mounta 39.68 339 P P 14 41 24.3 -0.1
baz=139
YUK4 Talbot Arm 40.08 339 P P 14 41 28.8 +1.3
baz=139
O28M Mount Upton 40.16 338 P P 14 41 28.7 +0.3
baz=136
MESA MESA 40.36 336 P P 14 41 30.7 +0.8
baz=134
YUK8 Steele Glacier 40.39 339 P P 14 41 30.4 +0.1
baz=137
M30M Minto, Yukon 40.47 342 P P 14 41 31.5 +0.8
baz=142
ROSC El Rosal 40.49 115 P P 14 41 38.9 +7.1
comp=Z,5.4nm,0.3s,baz=357,slow=8.3,SNR=7.1
ROSC LR LR 15 00 33.2
comp=Z,544nm,18.3s,baz=324,slow=39
comp=Z,5.4nm,0.3s
CTG Chitna Glacier 40.69 337 P P 14 41 33.8 +1.2
baz=135
BGLC Bering Glacier 40.81 335 P P 14 41 33.5 +0.2
baz=132
M29M Somme Creek 40.86 340 P P 14 41 34.1 +0.2
M29M IAmb IAmb 14 41 41.6
comp=Z,39nm,1.7s
M29M Somme Creek 40.86 340 P P 14 41 33.9 0.0
baz=140
YUK3 Moose Creek 40.98 339 P P 14 41 34.7 -0.3
baz=137
KAIM Kayak Island 41.11 335 P P 14 41 35.9 0.0
baz=130
CRQE Cirque 41.17 336 P P 14 41 37.0 +0.5
baz=133
L29M L29M 41.27 341 P P 14 41 37.2 -0.1
L29M IAmb IAmb 14 41 45.1
comp=Z,50nm,1.7s
L29M L29M 41.27 341 P P 14 41 37.6 +0.3
baz=141
SDV Santo Domingo 41.43 107 P P 14 41 39.1 -0.2
SDV Santo Domingo 41.43 107 LR LR 15 00 29.4
comp=Z,463nm,18.5s,baz=306,slow=38
Q23K Middleton Isla 41.57 333 P P 14 41 40.7 +1.1
baz=128
MCARA McCarthy VSAT 41.57 337 P P 14 41 40.2 +0.6
baz=133
BVCY Beaver Creek 41.58 339 P P 14 41 40.5 +0.8
baz=137
SJG San Juan 41.64 92 LR LR 15 02 59.9
comp=Z,327nm,18.7s,baz=310,slow=42
K29M Barlow Dome 41.68 342 P P 14 41 40.5 -0.1
K29M IAmb IAmb 14 41 48.5
comp=Z,38nm,1.6s
K29M Barlow Dome 41.68 342 P P 14 41 42.0 +1.4
baz=142
IGPR IntrUniversit 41.73 92 P P 14 41 41.5 +0.1
PDPR Patillas Dam, 41.79 92 P P 14 41 41.9 -0.1
PDPR IAmb IAmb 14 41 49.0
comp=Z,31nm,1.5s
BMRM Bremner River 41.86 336 P P 14 41 43.3 +1.1
baz=131
M27K Edge Creek, AK 41.87 339 P P 14 41 43.1 +0.9
baz=136
J30M Hart River 41.95 344 P P 14 41 43.3 +0.4
baz=144
EYAK Cordova Ski Ar 42.02 335 P P 14 41 43.2 -0.1
baz=129
M26K Nabesna, AK 42.27 338 P P 14 41 46.2 +0.8
baz=134
N25K Chitina, Valde 42.28 336 P P 14 41 45.5 0.0
baz=132
P23K Montague Islan 42.34 333 P P 14 41 46.4 +0.5
baz=127
J29N Klondike Camp 42.35 343 P P 14 41 46.6 +0.5
baz=142
L27K Beaver Creek, 42.35 339 P P 14 41 46.4 +0.3
baz=136
DAWY Dawson 42.37 342 P P 14 41 46.3 +0.1
DAWY IAmb IAmb 14 41 54.4
comp=Z,24nm,1.4s
DAWY Dawson 42.37 342 P P 14 41 45.5 -0.7
baz=140,SNR=7.6
I30M Mount Dempster 42.49 344 P P 14 41 47.1 -0.2
I30M Mount Dempster 42.49 344 P P 14 41 47.3 0.0
baz=144
H31M Peel River 42.50 346 P P 14 41 46.7 -0.5
baz=148
KLU Klutina 42.69 336 P P 14 41 48.7 -0.2
baz=130
GLI Glacier Island 42.75 335 P P 14 41 49.1 -0.2
baz=128
L26K Log Cabin Wild 42.82 339 P P 14 41 49.0 -0.9
baz=134
SCHQ Schefferville 42.83 36 LR LR 14 57 59.0
comp=Z,565nm,20.1s,baz=256,slow=34
HARP HAARP 43.01 337 P P 14 41 51.3 -0.1
baz=132
K27K Chicken 43.13 340 P P 14 41 52.1 -0.2
K27K IAmb IAmb 14 42 00.3
comp=Z,38nm,1.8s
M24K Tolsona, Glenn 43.18 336 P P 14 41 52.5 -0.3
baz=130
PWL Port Wells 43.22 334 P P 14 41 53.3 +0.2
baz=126
SEW Seward 43.23 333 P P 14 41 53.3 +0.1
baz=124
KDAK Kodiak Island 43.41 328 LR LR 14 58 00.7
comp=Z,327nm,18.1s,baz=334,slow=34
KDAK Kodiak Island 43.41 328 P P 14 41 55.0 +0.4
baz=119
EGAK Eagle 43.41 341 P P 14 41 54.2 -0.4
EGAK IAmb IAmb 14 42 01.9
comp=Z,36nm,1.6s
EGAK Eagle 43.41 341 P P 14 41 53.8 -0.8
baz=138
SCM Sheep Creek Mo 43.43 336 P P 14 41 54.4 -0.4
baz=128
OHAK Old Harbor 43.48 327 P P 14 41 55.6 +0.4
baz=118
PAX Paxson 43.49 338 P P 14 41 56.1 +0.7
baz=132
EPYK Eagle Plains 43.51 345 P P 14 41 55.5 +0.1
EPYK Eagle Plains 43.51 345 P P 14 41 55.5 +0.1
baz=145
M23K Glacier View 43.55 335 P P 14 41 56.1 +0.3
baz=128
O22K Cooper Landing 43.56 333 P P 14 41 55.5 -0.3
baz=124
BRSE Bradley Lake S 43.58 332 P P 14 41 56.1 0.0
baz=123
I28M Miner Creek 43.58 343 P P 14 41 56.5 +0.5
baz=140
KNK Knik Glacier 43.60 335 P P 14 41 56.8 +0.7
baz=127
SII Sitkinak Islan 43.62 326 P P 14 41 57.0 +0.6
baz=116
BAUV El Baul 43.65 105 P P 14 41 56.9 -0.2
SCRK Sand Creek 43.69 339 P P 14 41 55.6 -1.3
SCRK Sand Creek 43.69 339 P P 14 41 57.3 +0.3
baz=134
F31M Tsiigehtchic 43.77 347 P P 14 41 57.4 0.0
F31M Tsiigehtchic 43.77 347 P P 14 41 57.6 +0.2
baz=149,SNR=7.3
H29M Whitestone 43.78 344 P P 14 41 58.5 +0.9
baz=143
SML Sawmill 43.79 335 P P 14 41 58.5 +0.7
baz=127
RIDG Independent Ri 43.80 339 P P 14 41 58.3 +0.4
baz=133
G30M tAoh Zraii Nji 43.90 346 P P 14 41 59.8 +1.3
G30M IAmb IAmb 14 42 05.3
comp=Z,30nm,1.6s
RC01 Rabbit Creek A 43.91 334 P P 14 41 59.4 +0.8
baz=125
HOM Homer 43.92 331 P P 14 41 59.4 +0.7
baz=122
J26L Joseph Creek 43.93 340 P P 14 41 58.8 0.0
baz=135,SNR=9.0
PMR Palmer 43.97 334 P P 14 41 59.5 +0.5
baz=126
C36M Paulatuk 44.03 353 P P 14 41 58.8 -0.6
baz=162
WAT6 Susitna Watana 44.04 336 P P 14 41 58.8 -1.1
baz=128
CHIR Chirikof Islan 44.05 325 P P 14 42 00.3 +0.5
baz=114
K24K Donnelly Dome 44.15 338 P P 14 42 00.3 -0.3
baz=132
I27K Kandik River 44.16 342 P P 14 42 00.0 -0.7
baz=138
R18K Karluk 44.20 328 P P 14 41 59.5 -1.4
baz=116
DHY Denali Highway 44.22 337 P P 14 42 00.5 -0.8
baz=129
G29M Pine Creek 44.26 345 P P 14 41 59.8 -1.6
G29M Pine Creek 44.26 345 P P 14 42 01.0 -0.3
baz=144
F30M Barrier River 44.33 346 P P 14 42 01.7 -0.2
baz=147
I26K Coal Creek Min 44.38 341 P P 14 42 04.5 +2.2
I26K Coal Creek Min 44.38 341 P P 14 42 02.1 -0.2
baz=136
M22K Willow 44.44 334 P P 14 42 03.2 +0.4
baz=125
Q19K Cape Douglas, 44.45 330 P P 14 42 02.6 -0.4
baz=119
INK Inuvik 44.48 348 P P 14 42 02.9 -0.2
INK IAmb IAmb 14 42 10.7
comp=Z,27nm,1.4s
INK Inuvik 44.48 348 LR LR 15 00 37.9
comp=Z,893nm,18.1s,baz=174,slow=36
INK Inuvik 44.48 348 P P 14 42 03.0 0.0
baz=150,SNR=6.1
WAT1 Susitna Watana 44.49 336 P P 14 42 03.8 +0.4
baz=128
SUA Susitna One 44.53 334 P P 14 42 03.3 -0.4
SUA IAmb IAmb 14 42 11.7
comp=Z,12nm,0.8s
SUA Susitna One 44.53 334 P P 14 42 03.4 -0.3
baz=124
O20K Slope Mountain 44.56 331 P P 14 42 03.5 -0.5
baz=121
J25K Salcha River, 44.57 339 P P 14 42 03.6 -0.3
J25K IAmb IAmb 14 42 12.2
comp=Z,30nm,1.4s
J25K Salcha River, 44.57 339 P P 14 42 04.5 +0.6
baz=133,SNR=10
H27K Steamboat Moun 44.61 343 P P 14 42 04.0 -0.2
baz=139
P19K Oil Pt 44.61 331 P P 14 42 04.0 -0.4
baz=120
CUT Chulitna 44.88 335 P P 14 42 06.4 +0.1
baz=126
SPU Mount Spurr 44.90 333 P P 14 42 06.3 -0.4
SPU IAmb IAmb 14 42 12.8
comp=Z,12nm,1.0s
HDA Harding Lake 44.94 339 P P 14 42 06.7 -0.1
baz=131
Q18K Katmai Hardscr 44.95 329 P P 14 42 07.2 +0.1
baz=117
N20K Mount Spurr 44.97 333 P P 14 42 07.0 -0.3
baz=122
SPCR Spurr Chakacha 44.97 333 P P 14 42 06.6 -0.6
baz=122
G27K Doyon Strip 45.08 343 P P 14 42 09.2 +1.3
G27K IAmb IAmb 14 42 15.8
comp=Z,21nm,1.5s
G27K Doyon Strip 45.08 343 P P 14 42 08.4 +0.5
baz=139
SKT Skwentna 45.12 334 P P 14 42 08.3 -0.1
baz=124
R17L Mt. Peulik Vol 45.15 327 P P 14 42 08.3 -0.3
baz=114
IL31 45.16 339 P P 14 42 07.4 -1.1
ILAR Eielson Array 45.16 339 P P 14 42 07.7 -0.9
ILAR Eielson Array 45.16 339 P P 14 42 08.3 -0.2
comp=Z,2.6nm,0.8s,baz=148,slow=6.6,SNR=19
ILAR LR LR 15 01 41.2
comp=Z,481nm,19.4s,baz=120,slow=37
comp=Z,2.6nm,0.8s
TAOE Nuku Hiva Isla 45.16 224 *e*LR LR 14 54 44.6
comp=Z,694nm,24.6s
MCK McKinley 45.18 337 P P 14 42 09.4 +0.5
baz=128
Q17K Contact Creek 45.19 328 P P 14 42 08.9 -0.2
baz=116
PRP Porcupine Dome 45.23 340 P P 14 42 09.4 0.0
PRP Porcupine Dome 45.23 340 P P 14 42 09.7 +0.3
baz=133
F28M Old Crow 45.25 345 P P 14 42 09.2 -0.1
baz=142
O19K Port Alsworth 45.36 331 P P 14 42 09.1 -1.1

baz=119
ATAH Atahualpa 45.38 132 LR LR 14 58 54.9
comp=Z,275nm,19.5s,baz=325,slow=33
P18K Big Mountain, 45.38 330 P **P** **14 42 09.5 -1.0**
baz=117
E29M Blow River 45.43 346 P **P** **14 42 10.1 -0.6**
baz=144
TRF Thorofare Moun 45.50 336 P **P** **14 42 10.9 -0.6**
baz=126
COLA College 45.54 339 P **P** **14 42 10.5 -1.0**
baz=130
POKR Poker Plat Res 45.56 339 P **P** **14 42 10.8 -1.0**
baz=131
O18K Koktuh Hills 45.59 330 P **P** **14 42 11.0 -1.1**
baz=118
CHGN Chignik 45.68 325 P **P** **14 42 11.9 -0.9**
baz=111
M20K Styx River 45.71 333 P **P** **14 42 12.1 -1.0**
baz=122
R16K Pilot Point 45.73 327 P **P** **14 42 11.7 -1.4**
baz=113
N19K Bonanza Creek 45.73 332 P **P** **14 42 12.5 -0.8**
baz=119
Q16K King Salmon 45.73 328 P **P** **14 42 12.9 -0.2**
baz=115
G26K Porcupine Rive 45.75 342 P **P** **14 42 12.9 -0.2**
baz=136
NEA2 Nenana 45.76 338 P **P** **14 42 12.9 -0.5**
baz=129
CHNA Chernabura Isl 45.81 322 P **P** **14 42 13.7 -0.1**
baz=109
H25L Birch Creek 45.84 341 P **P** **14 42 13.2 -0.7**
baz=134
P17K Kvichak River 45.85 329 P **P** **14 42 14.0 -0.1**
baz=116
PPLA Purkeypile 45.89 335 P **P** **14 42 14.2 -0.3**
baz=124
E28M Babbage River 45.96 346 P **P** **14 42 15.0 +0.1**
baz=143
PCRV Puerto La Cruz 46.06 101 LR LR 15 02 46.9
comp=Z,354nm,21.4s,slow=37
E27K Coleen River 46.11 344 P **P** **14 42 16.5 +0.4**
E27K Coleen River 46.11 344 P **P** **14 42 16.3 +0.1**
baz=140
BPAW Bear Paw Mtn. 46.13 337 P **P** **14 42 16.0 -0.3**
BPAW IAmb IAmb 14 42 23.8
comp=Z,18nm,1.0s
BPAW Bear Paw Mtn. 46.13 337 P **P** **14 42 16.5 +0.2**
baz=126
CAST Castle Rocks 46.14 336 P **P** **14 42 15.9 -0.5**
CAST Castle Rocks 46.14 336 P **P** **14 42 16.6 +0.3**
baz=124
H24K Noodor Dome 46.17 340 P **P** **14 42 17.9 +1.2**
baz=131
I23K Minto, Yukon-K 46.21 338 P **P** **14 42 17.5 +0.7**
baz=129
M19K Big River Lodg 46.23 333 P **P** **14 42 17.8 +0.7**
baz=120
G25K Bearman Lake 46.27 341 P **P** **14 42 16.6 -0.6**
baz=134
S14K Fog Glacier 46.27 324 P **P** **14 42 17.8 +0.2**
baz=110
N18K Kilae Creek 46.27 331 P **P** **14 42 16.9 -0.6**
baz=118
L20K Farewell, AK 46.32 334 P **P** **14 42 17.0 -0.8**
baz=121
D28M Stokes Point 46.37 347 P **P** **14 42 17.5 -0.5**
baz=144
F26K Sheenjek River 46.39 343 P **P** **14 42 18.5 +0.2**
baz=137
O17K Koliganek Bris 46.41 329 P **P** **14 42 18.3 -0.1**
baz=116
FRB Frobisher Bay 46.42 24 LR LR 15 02 48.1
comp=Z,390nm,20.0s,baz=234,slow=38
CHUM Lake Minchumin 46.49 336 P **P** **14 42 17.9 -1.2**
baz=124
P16K Nushagak River 46.51 328 P **P** **14 42 19.1 -0.1**
baz=114
L19K White Mountain 46.56 333 P **P** **14 42 19.9 +0.2**
baz=120
MLY Manley 46.60 338 P **P** **14 42 19.8 -0.2**
baz=127
G24K Hadweenzic Riv 46.62 341 P **P** **14 42 19.8 -0.3**
baz=132
M18K Stony River 46.63 332 P **P** **14 42 19.3 -0.9**
baz=118
A36M Sachs Harbour 46.68 354 P **P** **14 42 19.4 -1.1**
baz=162,SNR=7.3
H23K Yukon River 46.69 339 P **P** **14 42 19.2 -1.5**
baz=129
F25K Christian Rive 46.72 342 P **P** **14 42 19.9 -0.9**
baz=135
N17K Nushagak Hills 46.77 330 P **P** **14 42 21.0 -0.4**
baz=116
D27M Malcolm River 46.78 346 P **P** **14 42 20.6 -0.8**
baz=141
O16K Kokwok River B 46.79 329 P **P** **14 42 20.4 -1.1**
baz=114
K20K Telida 46.86 335 P **P** **14 42 21.7 -0.3**
baz=122
E25K Arctic Village 47.07 343 P **P** **14 42 24.0 +0.4**
E25K Arctic Village 47.07 343 P **P** **14 42 23.3 -0.3**
baz=135
I21K Tanana 47.11 338 P **P** **14 42 23.9 0.0**
baz=126
M17K Holitna River 47.27 331 P **P** **14 42 25.1 -0.2**
baz=117
F24K Squaw Lake 47.29 341 P **P** **14 42 26.2 +0.8**
F24K Squaw Lake 47.29 341 P **P** **14 42 25.3 -0.1**
baz=132
J20K Nowinta River 47.32 336 P **P** **14 42 26.2 +0.7**
J20K Nowinta River 47.32 336 P **P** **14 42 25.4 -0.2**
baz=122,SNR=5.0
H22K Ishtalitna Cre 47.33 339 P **P** **14 42 25.5 -0.2**
baz=127
L18K Granite Mounta 47.33 333 P **P** **14 42 25.8 +0.1**
baz=118
TTA Tatalina 47.40 334 P **P** **14 42 25.1 -1.2**
baz=119
G23K Bananza Creek 47.40 340 P **P** **14 42 25.6 -0.6**
baz=129
S12K Black Hills 47.42 323 P **P** **14 42 25.6 -0.9**
baz=107
O15K Ungalikthiuk R 47.44 328 P **P** **14 42 25.9 -0.7**
baz=112
N16K Nishlik Lake 47.46 330 P **P** **14 42 26.2 -0.6**
baz=114
H21K Melozitna Rive 47.67 338 P **P** **14 42 27.4 -0.9**
baz=125
C27K Jago River 47.71 345 P **P** **14 42 27.8 -0.8**
baz=138
M16K Timber Creek 47.77 330 P **P** **14 42 28.3 -0.9**
baz=115
I20K Naaghedeneel 47.78 336 P **P** **14 42 28.0 -1.1**
baz=123
J19K Poorman 47.78 335 P **P** **14 42 28.9 -0.2**
baz=121
COLD Coldfoot 47.78 340 P **P** **14 42 28.8 -0.4**
baz=129
E24K Your Creek 47.83 342 P **P** **14 42 28.6 -1.0**
baz=132
FALS False Pass 47.94 322 P **P** **14 42 29.1 -1.3**
baz=105
J18K Innoko River 47.94 334 P **P** **14 42 29.8 -0.6**
baz=119
N15K Kwethluk River 47.94 329 P **P** **14 42 29.5 -1.0**
baz=113
L17K Donlin 47.97 332 P **P** **14 42 30.5 -0.1**
baz=116
G22K Bettles 47.99 340 P **P** **14 42 30.6 -0.1**
baz=128
D25K Kavik River 48.13 344 P **P** **14 42 32.0 +0.2**
D25K Kavik River 48.13 344 P **P** **14 42 31.8 0.0**
baz=135
E23K Chandalar 48.14 341 P **P** **14 42 32.7 +0.7**
E23K Chandalar 48.14 341 P **P** **14 42 31.7 -0.4**
baz=130
O14K Tigyukauivet M 48.16 328 P **P** **14 42 31.8 -0.3**
baz=111
IMAR Indian Mountai 48.17 338 P **P** **14 42 32.1 -0.1**
C26K Camden Bay 48.20 345 P **P** **14 42 32.2 -0.2**
baz=137
K17K Iditarod 48.23 333 P **P** **14 42 31.1 -1.5**
baz=117
L16K Owhat River 48.29 331 P **P** **14 42 32.6 -0.5**
baz=115
H20K Anotleneega Mo 48.30 337 P **P** **14 42 32.5 -0.7**
baz=123
G21K Allakaket 48.40 339 P **P** **14 42 33.0 -0.9**
baz=125
M15K Kasigluk River 48.42 330 P **P** **14 42 33.6 -0.5**
baz=113
TOLK Toolik Lake Re 48.51 342 P **P** **14 42 35.0 +0.2**
TOLK IAmb IAmb 14 42 43.0
comp=Z,16nm,0.9s
TOLK Toolik Lake Re 48.51 342 P **P** **14 42 34.1 -0.8**
baz=131
F22K John River 48.56 340 P **P** **14 42 34.5 -0.6**
baz=127
N14K Kuskokwak Cree 48.60 328 P **P** **14 42 34.3 -1.2**
baz=111
GCSA Galena City Sc 48.63 336 P **P** **14 42 34.4 -1.3**
baz=120
D24K Happy Valley 48.65 343 P **P** **14 42 35.9 +0.1**
baz=132
F21K Alatna River 48.80 339 P **P** **14 42 36.6 -0.4**
baz=126
E22K Anaktuvuk Pass 48.83 341 P **P** **14 42 37.0 -0.3**
baz=128
J17K VABM Dome 48.85 333 P **P** **14 42 36.5 -0.9**
baz=116
H19K Roundabout Mou 48.87 337 P **P** **14 42 37.7 +0.2**
baz=121
C24K Franklin Bluff 49.00 343 P **P** **14 42 38.2 -0.2**
baz=133
M14K Bethel 49.02 329 P **P** **14 42 38.6 -0.1**
baz=111
D23K Nanushuk River 49.03 342 P **P** **14 42 38.8 +0.1**
baz=130
L15K Ungalak Mounta 49.15 331 P **P** **14 42 39.5 -0.3**
baz=113
RES Resolute Bay 49.32 5 LR LR 15 05 02.8
comp=Z,844nm,18.4s,baz=210,slow=38
H18K Honhosa River 49.38 336 P **P** **14 42 41.3 -0.2**
baz=119
K15K Wolf Creek Mou 49.41 331 P **P** **14 42 41.3 -0.4**
baz=113
G19K Purcell Mounta 49.41 337 P **P** **14 42 42.0 +0.3**
baz=121
J16K Anvik River 49.42 333 P **P** **14 42 41.8 0.0**
baz=115
F20K Avaraart Lake 49.43 338 P **P** **14 42 42.2 +0.4**
baz=123
UNV Unalaska Valle 49.47 320 P **P** **14 42 41.9 -0.5**
baz=101
D22K Ayikyak River 49.54 341 P **P** **14 42 42.7 0.0**
baz=128
M13K Dall Lake 49.55 329 P **P** **14 42 43.2 +0.4**
baz=110
L14K Kuka Creek 49.56 330 P **P** **14 42 43.6 +0.7**
baz=111
C23K Itkillik River 49.57 343 P **P** **14 42 43.3 +0.4**
baz=130
E21K Killik River 49.66 340 P **P** **14 42 43.6 0.0**
baz=126
I17K Unalakleet 49.71 334 P **P** **14 42 44.6 +0.6**
baz=115
G18K Tagagawik 49.84 336 P **P** **14 42 45.5 +0.5**
baz=119
H17K Granite Mounta 49.87 335 P **P** **14 42 45.8 +0.6**
baz=117
F19K Shaleruckik Mo 50.00 338 P **P** **14 42 47.7 +1.5**
F19K Shaleruckik Mo 50.00 338 P **P** **14 42 45.8 -0.3**
baz=120
NNA Nana 50.01 135 LR LR 15 00 23.3
comp=Z,185nm,21.9s,baz=340,slow=32
E19K Redstone River 50.14 339 P **P** **14 42 47.2 0.0**
baz=122
E20K Nigu River 50.23 340 P **P** **14 42 48.0 0.0**
baz=123
C21K Knifeblade Rid 50.32 341 P **P** **14 42 49.5 +1.0**
baz=125
G17K Kiwalik Mounta 50.40 335 P **P** **14 42 49.8 +0.6**
baz=116
J14K Nanvaranak Lak 50.45 331 P **P** **14 42 49.5 -0.1**
baz=111
F18K Selawik 50.54 337 P **P** **14 42 51.0 +0.8**
baz=118
B21K Ikpikpuk River 50.54 342 P **P** **14 42 50.2 +0.1**
baz=126
D20K Etivluk River 50.62 340 P **P** **14 42 51.0 +0.2**
baz=123
H16K Elim 50.64 334 P **P** **14 42 51.9 +0.9**
baz=114
B22K Teshekpuk Lake 50.64 343 P **P** **14 42 51.9 +1.0**
baz=128
K13K Kusilvak Mount 50.65 330 P **P** **14 42 51.2 +0.1**
baz=110
NIKH Nikolski High 50.72 318 P **P** **14 42 51.4 -0.3**
baz=98
M11K Mekoryuk 50.88 328 P **P** **14 42 52.7 -0.1**
baz=107
D19K Kuna River 50.97 339 P **P** **14 42 53.5 +0.1**
baz=121
G16K Koyuk River 50.99 335 P **P** **14 42 52.9 -0.7**
baz=114
F17K Baldwin Pennin 51.03 336 P **P** **14 42 54.0 +0.1**
baz=116
E18K Tukpahearik C 51.25 338 P **P** **14 42 56.6 +1.0**
baz=118
A22K Sinclair Lake 51.45 343 P **P** **14 42 57.7 +0.7**
baz=126
ANM Nome 51.86 333 P **P** **14 43 00.4 +0.2**
baz=111
F15K North Star Dit 51.99 335 P **P** **14 43 01.8 +0.6**
baz=112
C18K Utukok River 52.03 339 P **P** **14 43 01.4 0.0**
baz=118
D17K Noatak River 52.23 337 P **P** **14 43 03.5 +0.6**
baz=115
RDOG Red Dog Mine 52.32 338 P **P** **14 43 03.8 +0.2**
baz=116
F14K Arctic Creek 52.56 334 P **P** **14 43 05.5 +0.1**
baz=110
C17K DeLong Mountai 52.60 338 P **P** **14 43 05.2 -0.4**
baz=116
RPN Rapa Nui 52.91 179 LR LR 15 00 18.9
comp=Z,478nm,19.9s,baz=355,slow=30
TNA Tin City 53.22 334 P **P** **14 43 10.1 -0.1**
baz=109
C16K Lisburne Hills 53.24 338 P **P** **14 43 10.2 -0.2**
baz=113
GAMB Gambell 54.27 331 P **P** **14 43 17.8 -0.2**
baz=104
RKT Rikitea 54.37 208 *e*SS **SKiKP** **14 54 34.6 +4.0**
comp=Z,6μm,42.2s
RKT *e*LR LR 14 59 00.6
comp=Z,1μm,26.0s
SFJD Kangerlussuaq 54.57 25 LR LR 15 06 04.1
comp=Z,832nm,20.0s,baz=246,slow=36
EUNU Eureka 55.01 5 P **P** **14 43 22.8 -0.4**
SAML Samuel 57.63 121 P **P** **14 43 41.2 -1.5**
PPT Papeete 57.70 225 LR LR 15 02 28.9
comp=Z,239nm,20.6s,baz=9.5,slow=30
PPT2 Papeete2 57.72 225 *e*S **S** **14 51 38.7 -4.0**
comp=Z,59nm,23.2s
PPT2 *e*LQ LQ 14 58 07.6
comp=Z,406nm,23.5s
PPT2 *e*LR LR 15 00 32.7
comp=Z,650nm,24.2s
PPT2 *e*LR LR 15 00 34.4
comp=Z,576nm,26.2s
LPAZ La Paz 58.89 131 LR LR 15 06 40.5
comp=Z,182nm,21.9s,baz=322,slow=33
MDP Montagnes des 58.94 100 LR LR 15 09 59.2
comp=Z,202nm,22.0s,baz=288,slow=37
SUMG Summit 59.95 19 P **P** **14 43 58.4 -0.2**
SHEM Shemya Is, Ala 61.02 318 LR LR 15 06 22.3
comp=Z,142nm,21.4s,baz=9.5,slow=32
TBI Tubuai 61.97 221 *e*LQ LQ 14 59 50.3
comp=Z,2μm,28.2s
TBI *e*LR LR 15 02 34.9
comp=Z,1μm,25.0s
DAG Danmarks Havn 65.22 15 *i* P **P** **14 44 31.0 -2.2**
H03N2 Juan Fernandez 66.35 151 T T 15 56 52.8
baz=331,slow=77,SNR=12
H03N1 Juan Fernandez 66.36 151 T T 15 57 21.0
baz=331,slow=77,SNR=22
H03N3 Juan Fernandez 66.36 152 T T 15 57 13.9
baz=331,slow=77,SNR=15
RAR Rarotonga 67.07 230 LR LR 15 07 01.9
comp=Z,366nm,19.1s,baz=69,slow=30
JMIC Jan Mayen 69.38 20 LR LR 15 14 59.6
comp=Z,283nm,18.5s,baz=249,slow=36
PETK Petropavlovsk- 70.65 320 LR LR 15 09 40.9
comp=Z,116nm,21.5s,baz=80,slow=30
SPITS Spitsbergen Ar 71.53 10 LR LR 15 16 32.8
comp=Z,491nm,20.4s,baz=282,slow=36
CPUP Villa Florida 73.05 131 P **P** **14 45 25.5 +3.1**
comp=Z,3.4nm,0.7s,baz=336,slow=3.6,SNR=1.4
CPUP LR LR 15 16 48.9
comp=Z,92nm,19.1s,baz=351,slow=35
comp=Z,3.4nm,0.7s
BDFB Brasília 73.51 117 LR LR 15 19 09.1
comp=Z,203nm,18.1s,baz=320,slow=37
TIXI Tiksi 74.37 344 P **P** **14 45 27.7 -1.9**
TIXI IAmb IAmb 14 45 35.3
comp=Z,20nm,1.2s
PLCA Paso Flores 76.11 150 P P 14 45 45.4 +5.4
comp=Z,1.6nm,0.8s,baz=340,slow=4.6,SNR=6.3
PLCA LR LR 15 12 39.4
comp=Z,274nm,18.9s,baz=335,slow=30
comp=Z,1.6nm,0.8s
RCBR Riachuelo 78.80 102 LR LR 15 21 41.2
comp=Z,109nm,21.8s,baz=284,slow=36
ARCES ARCESS Array B 79.51 14 P **P** **14 46 00.7 +2.1**
comp=Z,5.1nm,0.8s,baz=318,slow=5.3,SNR=3.4
ARCES LR LR 15 23 39.9
comp=Z,234nm,18.1s,baz=331,slow=38
comp=Z,5.1nm,0.8s
NB2 NORSAR Subarra 81.24 25 P P 14 46 13.4 +5.3
comp=Z,53nm,2.5s,baz=307,slow=5.3
NB2 NORSAR Subarra 81.24 25 P P 14 46 13.4 +5.3
baz=307,slow=5.3
NOA NORSAR Array B 81.24 25 P **P** **14 46 10.2 +2.1**
comp=Z,1.5nm,0.9s,baz=309,slow=5.1,SNR=2.2
NOA LR LR 15 21 38.3
comp=Z,244nm,19.0s,baz=305,slow=35
comp=Z,1.5nm,0.9s
MSVF Nonsavu 81.98 246 LR LR 15 15 13.9
comp=Z,492nm,18.2s,baz=30,slow=30
HFS Hagfors 82.76 25 P **P** **14 46 18.1 +2.1**
comp=Z,3.2nm,1.0s,baz=336,slow=3.2,SNR=3.9
comp=Z,3.2nm,1.0s
ASAJ Asahikawa 83.43 316 LR LR 15 17 28.5
comp=Z,57nm,22.0s,baz=126,slow=32
NRIK Noril'sk 83.96 354 P **P** **14 46 23.6 +1.6**
comp=Z,4.5nm,0.6s,baz=26,slow=4.8,SNR=10
NRIK LR LR 15 25 11.8
comp=Z,333nm,19.3s,baz=360,slow=37
comp=Z,4.5nm,0.6s
RAO Raoul Island 84.92 234 LR LR 15 19 48.1
comp=Z,130nm,18.4s,baz=108,slow=32
ESDC Sonseca Array 85.35 48 P **P** **14 46 32.4 +2.7**
comp=Z,0.8nm,0.8s,baz=308,slow=4.1,SNR=2.8
ESDC LR LR 15 23 25.3
comp=Z,353nm,18.3s,baz=297,slow=35
comp=Z,0.8nm,0.8s
FINES FINESS Array B 85.99 19 P **P** **14 46 34.7 +2.3**
comp=Z,2.1nm,0.9s,baz=326,slow=4.9,SNR=2.5
FINES LR LR 15 25 04.4
comp=Z,344nm,19.4s,baz=324,slow=36
comp=Z,2.1nm,0.9s
BBTS Babate 87.10 75 LR LR 15 20 49.9
comp=Z,152nm,20.9s,baz=162,slow=32
MDT Midelt 88.33 54 LR LR 15 24 53.2
comp=Z,196nm,18.1s,baz=326,slow=35
DAVOX Davos/Dischmat 89.68 36 LR LR 15 27 02.4
comp=Z,536nm,18.5s,baz=271,slow=36
MJAR Matsushiro Arr 90.25 311 LR LR 15 21 28.0
comp=Z,214nm,19.8s,baz=64,slow=32
GERES GERESS Array B 90.30 33 LR LR 15 27 11.9
comp=Z,263nm,18.4s,baz=302,slow=36
VRAC Vranov 91.37 32 LR LR 15 27 20.5
comp=Z,270nm,19.4s,baz=302,slow=35
URZ Urewera 93.21 229 LR LR 15 20 32.6
comp=Z,275nm,20.4s,baz=192,slow=30
DZM Mont Dzumac 93.63 247 *e*LR LR 15 17 16.0
comp=Z,400nm,25.8s
DZM Mont Dzumac 93.63 247 LR LR 15 23 17.3
comp=Z,242nm,18.2s,baz=52,slow=32
HNR Honiara 93.73 261 LR LR 15 20 46.0
comp=Z,410nm,21.4s,baz=53,slow=30
AKASG Malin Array Be 95.65 24 P **P** **14 47 21.3 +3.5**
comp=Z,0.1nm,0.3s,baz=309,slow=3.3,SNR=2.1
AKASG LR LR 15 32 11.3
comp=Z,209nm,18.0s,baz=318,slow=37
comp=Z,0.1nm,0.3s
KEST Kesra 96.28 45 LR LR 15 30 26.6
comp=Z,381nm,19.0s,baz=334,slow=35
KSRS Korea Array 96.35 317 LR LR 15 24 16.2
comp=Z,54nm,22.0s,baz=30,slow=32
GUMO Guam 96.87 289 LR LR 15 22 05.8
comp=Z,309nm,21.9s,baz=73,slow=30
JNU Nakatsue 97.14 312 LR LR 15 23 44.8
comp=Z,102nm,21.3s,baz=58,slow=31
PMSA Palmer Station 97.43 162 LR LR 15 22 47.0
comp=Z,76nm,19.2s,baz=313,slow=30
ZALV Zalesovo Beam 99.21 351 LR LR 15 34 30.2
comp=Z,110nm,21.5s,baz=14,slow=37
SONM Songino Array 99.31 336 P **Pdif** **14 47 36.0 +1.4**
comp=Z,0.7nm,0.8s,baz=37,slow=4.3,SNR=5.5
SONM LR LR 15 34 57.7
comp=Z,111nm,18.1s,baz=22,slow=37
comp=Z,0.7nm,0.8s
WMQ Urumqi 108.47 346 Pdif **Pdif** **14 48 17.4 +2.0**
WMQ LR LR
comp=Z,140nm,23.8s
PZH PanZhiHua 119.20 327 PKP **PKPdf** **14 52 40.8 -1.4**
WRA Warramunga Arr 120.58 261 PKP **PKiKP** **14 52 47.5 +2.7**
comp=Z,1.1nm,0.9s,baz=74,slow=2.0,SNR=6.2
ASAR Alice Springs 122.10 257 PKP **PKiKP** **14 52 51.2 +3.4**
comp=Z,1.0nm,0.9s,baz=78,slow=2.1,SNR=5.7
CMAR Chiang Mai Arr 127.31 324 PKP **PKiKP** **14 52 59.6 +1.4**
comp=Z,0.3nm,0.4s,baz=30,slow=1.4,SNR=3.1
ELIB Princess Elisa 127.56 164 *d*PKP **PKiKP** **14 52 58.6 +1.3**
MAW Mawson 138.26 176 PKP **PKiKP** **14 53 19.7 +1.0**
comp=Z,2.9nm,1.0s,baz=233,slow=3.7,SNR=6.7

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*NEIC **09** 14:41:28.4±1.5,56.°1S±0.°1×27.°5W±0.°2,h80km±6km, mb4.7/31, Error ellipse: s-maj=22.5km s-min=8.2km az=220.0*
*IDC **09** 14:41:29.8±2.3,56.°10S×27.°39W,h97km±19km,mb4.3/7, mbtmp4.7/8,MS3.5/7, Error ellipse: s-maj=25.6km s-min=16.3km az=68.0*

ISC 09 14:41:31.3±0.4,56.°10S±0.°09×27.°52W±0.°09,h112km, n184,σ0°71/183,mb4.7/21,6C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.45**	**286**	Pn	**Pn**	**14 42 46.6**	**-3.5**
VNA1	**Neumayer--Stat**	**16.82**	**158**	⇑P	**Pn**	**14 45 18.5**	**-1.0**
comp=Z,10.0nm,0.5s							
VNA3	**Neumayer Olymp**	**17.00**	**160**	⇑P	**Pn**	**14 45 19.3**	**-2.5**
comp=Z,16nm,0.6s							
VNA3				⇑ScP	**ScP**	**14 53 24.8**	**+0.1**
comp=Z,2.0nm,0.7s							
VNA2	**Neumayer--Watz**	**17.21**	**158**	⇑P	**P**	**14 45 23.0**	**-1.2**
comp=Z,13nm,0.5s,baz=316,slow=13							
VNA2				⇑ScP	**ScP**	**14 53 27.1**	**+2.1**
comp=Z,3.6nm,0.8s,baz=320,slow=2.5							
EFI	**East Falkland**	**18.45**	**271**	P	**P**	**14 45 38.4**	**+0.5**
SNAA	**Sanae**	**18.77**	**156**	P	**P**	**14 45 39.8**	**-1.5**
SNAA				IAmb	IAmb	14 45 40.9	
comp=Z,31nm,0.5s							
SNAA	**Sanae**	**18.77**	**156**	⇑P	**P**	**14 45 40.1**	**-1.2**
comp=Z,831nm,0.5s							
SNAA	**Sanae**	**18.77**	**156**	P	**P**	**14 45 40.0**	**-1.2**
comp=Z,24nm,0.4s,baz=303,slow=10.0,SNR=290							
SNAA				LR	LR	14 51 24.0	
comp=Z,63nm,18.6s,baz=353,slow=32							
SNAA				ScP	**ScP**	**14 53 30.0**	**+1.6**
comp=Z,0.9nm,0.4s,baz=195,slow=1.1,SNR=6.7							
PMSA	**Palmer Station**	**19.73**	**229**	P	**Pn**	**14 45 56.5**	**+2.4**
comp=Z,15nm,0.5s,baz=68,slow=5.8,SNR=7.3							
TROLL	**Troll, Antarti**	**20.28**	**153**	⇓P	**P**	**14 45 56.3**	**-1.4**
comp=Z,451nm,0.3s							
MG03	**Isla Dawson**	**24.46**	**257**	P	**P**	**14 46 39.4**	**0.0**
MG03				IAmb	IAmb	14 47 15.6	
comp=Z,78nm,1.4s							
GO09	**Cerro Castillo**	**26.61**	**261**	P	**P**	**14 46 57.9**	**-0.9**
GO09				IAmb	IAmb	14 47 37.0	
comp=Z,32nm,1.2s							
GO08	**Villa O'Higgin**	**28.15**	**267**	P	**P**	**14 47 12.7**	**0.0**
TRQA	**Tornquist**	**29.17**	**294**	P	**P**	**14 47 21.3**	**-0.5**
TRQA				IAmb	IAmb	14 47 22.4	
comp=Z,25nm,1.5s							
PLTB	**Pedras Altas**	**30.39**	**312**	P	**P**	**14 47 32.9**	**+0.3**
QSPA	**South Pole Qui**	**34.15**	**180**	P	**P**	**14 48 05.6**	**+0.4**
QSPA	**South Pole Qui**	**34.15**	**180**	P	**P**	**14 48 05.9**	**+0.7**
comp=Z,10nm,0.3s,baz=201,slow=4.3,SNR=311							

QSPA ScP **ScP** **14 54 14.3 +0.5**
comp=Z,1.0nm,0.7s,baz=192,slow=1.9,SNR=6.0
QSPA LR LR 15 01 24.2
comp=Z,41nm,20.0s,baz=189,slow=35
comp=Z,10nm,0.3s
MT02 Curacav 37.63 289 P **P** **14 48 34.0 -1.0**
MT02 IAmb IAmb 14 49 13.8
comp=Z,20nm,1.3s
CO01 Juntas del Tor 39.67 293 P **P** **14 48 52.8 +0.5**
CO01 IAmb IAmb 14 49 29.5
comp=Z,9.9nm,1.1s
GO04 Tololo Observa 39.88 292 P **P** **14 48 53.7 -0.4**
MAW Mawson 40.22 144 P **P** **14 48 56.0 -0.1**
comp=Z,4.7nm,0.3s,baz=220,slow=6.8,SNR=113
MAW ScP **ScP** **14 54 38.7 +2.4**
comp=Z,2.0nm,0.8s,baz=289,slow=5.6,SNR=5.2
MAW LR LR 15 02 51.5
comp=Z,33nm,20.6s,baz=264,slow=32
comp=Z,4.7nm,0.3s
LCO Las Campanas 40.76 293 P **P** **14 49 00.7 -0.7**
SUR Sutherland 40.83 75 LR LR 15 03 21.6
comp=Z,42nm,18.1s,baz=229,slow=32
AC04 Llanos de Chal 41.60 294 P **P** **14 49 07.9 -0.1**
GO02 Mina Guanaco 43.35 298 P **P** **14 49 22.7 +0.2**
GO02 IAmb IAmb 14 49 41.0
comp=Z,16nm,1.1s
LVC Limon Verde 45.17 301 P **P** **14 49 37.2 +0.1**
SBA Scott Base 46.02 184 P **P** **14 49 44.0 +1.3**
SBA IAmb IAmb 14 49 45.1
comp=Z,16nm,1.2s
PB09 IPOC Station P 46.02 301 P **P** **14 49 45.0 +1.4**
PB09 IAmb IAmb 14 49 52.4
comp=Z,22nm,1.4s
BOSA Boshof 46.16 76 P **P** **14 49 43.5 -1.0**
comp=Z,1.6nm,0.8s,baz=204,slow=16,SNR=2.5
BOSA LR LR 15 04 48.3
comp=Z,33nm,21.2s,baz=233,slow=30
comp=Z,1.6nm,0.8s
PB01 IPOC Station P 46.78 301 P **P** **14 49 49.9 +0.4**
PB01 IAmb IAmb 14 50 09.2
comp=Z,6.2nm,0.7s
PTLB Pontes e Lacer 47.21 316 P **P** **14 49 52.4 -0.2**
PTLB IAmb IAmb 14 50 12.1
comp=Z,7.0nm,0.7s
PB08 IPOC Station P 47.39 302 P **P** **14 49 55.3 +0.8**
PB08 IAmb IAmb 14 50 20.9
comp=Z,14nm,1.4s
HMBC Humberstone 47.62 301 P **P** **14 49 57.3 +1.3**
HMBC IAmb IAmb 14 50 26.5
comp=Z,13nm,1.4s
GO01 Chusmiza 47.82 302 P **P** **14 49 58.6 +0.7**
GO01 IAmb IAmb 14 49 59.5
comp=Z,7.5nm,0.9s
H10S2 ASCENSION HYDR48.10 17 T T 15 41 56.4
baz=190,slow=74,SNR=19
H10S3 ASCENSION HYDR48.11 17 T T 15 41 56.4
baz=30,slow=74,SNR=15
H10N1 ASCENSION HYDR49.22 17 T T 15 43 19.7
baz=188,slow=74,SNR=8.9
H10N3 ASCENSION HYDR49.22 17 T T 15 43 23.2
baz=188,slow=74,SNR=9.1
H10N2 ASCENSION HYDR49.24 17 T T 15 43 22.2
baz=188,SNR=10
LPAZ La Paz 50.26 306 P **P** **14 50 17.0 +0.3**
LPAZ IAmb IAmb 14 50 40.5
comp=Z,4.0nm,0.7s
LPAZ La Paz 50.26 306 P **P** **14 50 17.5 +0.8**
comp=Z,4.0nm,0.3s,baz=117,slow=3.5,SNR=28
comp=Z,4.0nm,0.3s
BOAV Boa Vista 64.21 323 P **P** **14 51 53.3 -0.7**
COHC Cochancay 67.54 302 P **P** **14 52 16.4 +1.0**
BAUV El Baul 72.97 318 P **P** **14 52 48.1 -0.3**
BAUV IAmb IAmb 14 53 20.1
comp=Z,12nm,1.1s
TORD Torodi Ar. Bea 73.19 30 P **P** **14 52 50.2 +0.5**
comp=Z,1.7nm,0.3s,baz=201,slow=6.0,SNR=20
comp=Z,1.7nm,0.3s
TAU Tasmania Unive 81.26 176 P **P** **14 53 34.4 -0.1**
BBOO Buckleboo 90.34 166 P **P** **14 54 19.0 -0.5**
BBOO IAmb IAmb 14 54 43.7
comp=Z,7.1nm,1.1s
FORT Forrest 90.99 159 P **P** **14 54 22.7 +0.1**
STKA Stephens Creek 91.88 171 P **P** **14 54 26.9 +0.2**
comp=Z,0.8nm,0.5s,baz=276,slow=3.8,SNR=3.2
STKA LR LR 15 33 47.5
comp=Z,94nm,21.2s,baz=29,slow=34
comp=Z,0.8nm,0.5s
ASAR Alice Springs 99.00 163 P **Pdif** **14 54 58.8 -0.4**
comp=Z,1.1nm,0.5s,baz=188,slow=4.1,SNR=50
ASAR LR LR 15 37 56.4
comp=Z,103nm,21.2s,baz=54,slow=34
comp=Z,1.1nm,0.5s
WRA Warramunga Arr 102.71 163 P **Pdif** **14 55 15.0 -0.8**
comp=Z,0.5nm,0.6s,baz=198,slow=4.7,SNR=7.3
PDAR Pinedale Array 120.22 302 PKP **PKPdf** **15 00 07.5 -0.9**
comp=Z,0.2nm,0.3s,baz=125,slow=4.5,SNR=4.9
FINES FINESS Array B 124.51 28 PKP **PKPdf** **15 00 15.6 -0.1**
comp=Z,1.1nm,0.5s,baz=196,slow=1.2,SNR=13
ARCES ARCESS Array B 131.06 22 PKP **PKPdf** **15 00 28.0 0.0**
comp=Z,3.9nm,0.9s,baz=211,slow=2.1,SNR=7.5
BVAR Borovoye Array 134.96 58 PKP **PKPdf** **15 00 36.0 +0.2**
comp=Z,0.5nm,0.3s,baz=225,slow=1.4,SNR=7.7
YKA Yellowknife Ar 136.09 318 PKP **PKPdf** **15 00 37.6 +0.1**
comp=Z,0.7nm,0.5s,baz=135,slow=1.7,SNR=5.5
MKAR Makanchi Array 137.08 72 PKP **PKPdf** **15 00 38.9 -1.2**
comp=Z,0.4nm,0.5s,baz=234,slow=2.5,SNR=6.1
KURBB Kurchatov Arra 137.49 65 PKP **PKPdf** **15 00 40.6 0.0**
comp=Z,0.3nm,0.5s,baz=223,slow=2.8,SNR=2.7
ZALV Zalesovo Beam 142.56 64 PKP **PKPdf** **15 00 49.2 -0.4**
comp=Z,0.7nm,0.4s,baz=237,slow=4.8,SNR=2.7
P29M Windy Craggy 144.27 305 P **PKPdf** **15 00 53.4 +0.8**
baz=116
HYT Haines Junctio 144.68 307 P **PKPdf** **15 00 55.2 +1.8**
baz=114
N30M Aishikik Lake 144.75 308 P **PKPdf** **15 00 54.6 +1.2**
baz=114,SNR=7.4
O29M Mount Kennedy 144.94 306 P **PKPdf** **15 00 55.0 +1.2**
baz=114,SNR=9.1
M30M Minto, Yukon 145.06 310 P **PKPdf** **15 00 55.1 +1.2**
baz=112
H31M Peel River 145.24 316 P **PKPab** **15 00 54.5 +0.2**
baz=110
YUK4 Talbot Arm 145.39 308 P **PKPab** **15 00 56.8 +1.5**
baz=113,SNR=14
F31M Tsiigehtchic 145.54 319 P **PKPdf** **15 00 54.8 +0.4**
baz=108,SNR=33
J30M Hart River 145.60 314 P **PKPab** **15 00 57.0 +1.2**
baz=110
PINM Pinnacle 145.62 305 P **PKPab** **15 00 56.5 +0.5**
baz=114
INK Inuvik 145.73 321 P **PKPbc** **15 00 55.7 +0.3**
baz=107
M29M Somme Creek 145.73 310 P **PKPbc** **15 00 56.1 +0.3**
baz=112
L29M L29M 145.83 311 P **PKPab** **15 00 56.6 0.0**
baz=111
K29M Barlow Dome 145.84 312 P **PKPbc** **15 00 56.5 +0.4**
baz=110,SNR=29
I30M Mount Dempster 145.84 315 P **PKPbc** **15 00 56.1 +0.1**
baz=109,SNR=38
YUK8 Steele Glacier 145.87 307 P **PKPab** **15 00 57.3 +0.2**
baz=112,SNR=10
G30M tAoh Zraii Nji 146.33 318 P **PKPbc** **15 00 57.6 +0.2**
baz=107
EPYK Eagle Plains 146.34 317 P **PKPbc** **15 00 57.5 +0.1**
baz=107
F30M Barrier River 146.34 319 P **PKPbc** **15 00 57.4 +0.1**
baz=106
DAWY Dawson 146.69 312 P **PKPbc** **15 00 58.5 0.0**
baz=109,SNR=29
BVCY Beaver Creek 146.76 309 P **PKPbc** **15 00 59.2 +0.4**
baz=110
H29M Whitestone 146.93 316 P **PKPbc** **15 00 59.0 -0.1**
baz=106
G29M Pine Creek 146.99 317 P **PKPbc** **15 00 59.5 +0.3**
baz=106
M27K Edge Creek, AK 147.19 308 P **PKPbc** **15 01 00.4 +0.4**
baz=110
E29M Blow River 147.31 320 P **PKPbc** **15 00 59.9 -0.2**
baz=103
I28M Miner Creek 147.33 314 P **PKPbc** **15 01 00.3 0.0**
baz=106,SNR=49
MCARA McCarthy VSAT 147.37 306 P **PKPbc** **15 01 00.0 -0.3**
baz=110
L27K Beaver Creek, 147.40 310 P **PKPbc** **15 01 00.7 +0.2**
baz=109
EGAK Eagle 147.64 313 P **PKPbc** **15 01 00.8 -0.2**
baz=106,SNR=19
K27K Chicken 147.80 311 P **PKPbc** **15 01 01.9 +0.4**
baz=107
D28M Stokes Point 147.81 322 P **PKPbc** **15 01 01.8 +0.5**
baz=101
F28M Old Crow 147.86 318 P **PKPbc** **15 01 01.9 +0.4**
baz=103,SNR=16
E28M Babbage River 147.95 320 P **PKPbc** **15 01 01.9 +0.1**
baz=102
L26K Log Cabin Wild 148.05 309 P **PKPbc** **15 01 02.1 -0.1**
baz=108
I27K Kandik River 148.05 314 P **PKPbc** **15 01 02.7 +0.6**
baz=105,SNR=15
N25K Chitina, Valde 148.15 306 P **PKPbc** **15 01 03.4 +0.8**
baz=109
H27K Steamboat Moun 148.17 315 P **PKPbc** **15 01 02.9 +0.5**
baz=104,SNR=39
G27K Doyon Strip 148.35 316 P **PKPbc** **15 01 03.2 +0.3**
baz=110
J26L Joseph Creek 148.56 312 P **PKPbc** **15 01 04.0 +0.5**
baz=105,SNR=18
D27M Malcolm River 148.58 321 P **PKPbc** **15 01 04.2 +0.8**
baz=100
I26K Coal Creek Min 148.59 313 P **PKPbc** **15 01 04.1 +0.6**
baz=104
SCRK Sand Creek 148.59 311 P **PKPbc** **15 01 04.3 +0.6**
baz=106,SNR=14
E27K Coleen River 148.62 319 P **PKPbc** **15 01 03.7 +0.2**
baz=101
HARP HAARP 148.65 308 P **PKPbc** **15 01 04.5 +0.7**
baz=107
KLU Klutina 148.72 306 P **PKiKP** **15 01 05.3 -0.1**
baz=108
RIDG Independent Ri 148.90 310 P **PKiKP** **15 01 05.2 -0.4**
baz=106
P23K Montague Islan 148.91 302 P **PKiKP** **15 01 05.4 -0.3**
baz=110
PAX Paxson 148.96 308 P **PKiKP** **15 01 05.4 -0.4**
baz=106
G26K Porcupine Rive 149.21 316 P **PKPbc** **15 01 05.3 +0.3**
baz=101
J25K Salcha River, 149.34 312 P **PKPbc** **15 01 06.0 +0.6**
baz=104
SCM Sheep Creek Mo 149.46 306 P **PKPbc** **15 01 06.2 +0.4**
baz=107
F26K Sheenjek River 149.48 318 P **PKiKP** **15 01 06.5 -0.2**
baz=100
C27K Jago River 149.59 322 P **PKPbc** **15 01 06.4 +0.6**
baz=97
PRP Porcupine Dome 149.61 313 P **PKPbc** **15 01 06.5 +0.3**
baz=102
M23K Glacier View 149.63 306 P **PKPbc** **15 01 06.8 +0.6**
baz=107
PWL Port Wells 149.63 304 P **PKPbc** **15 01 06.7 +0.5**
baz=108
DHY Denali Highway 149.82 308 P **PKPbc** **15 01 07.4 +0.6**
baz=105
KNK Knik Glacier 149.85 305 P **PKiKP** **15 01 07.6 0.0**
baz=107
WAT6 Susitna Watana 149.85 307 P **PKPbc** **15 01 07.4 +0.5**
baz=105
H25L Birch Creek 149.87 315 P **PKiKP** **15 01 07.3 -0.1**
baz=101
SML Sawmill 149.91 306 P **PKPbc** **15 01 07.5 +0.6**
baz=106
SEW Seward 149.92 302 P **PKiKP** **15 01 07.6 -0.1**
baz=108
HDA Harding Lake 149.96 311 P **PKiKP** **15 01 07.7 0.0**
baz=103
ILAR Eielson Array 150.01 312 PKPbc **PKPbc** **15 01 07.0 0.0**
comp=Z,3.0nm,0.4s,baz=97,slow=2.9,SNR=54
F25K Christian Rive 150.03 317 P **PKiKP** **15 01 07.8 0.0**
baz=98
C26K Camden Bay 150.04 322 P **PKiKP** **15 01 07.6 -0.1**
baz=95
E25K Arctic Village 150.07 318 P **PKiKP** **15 01 07.7 -0.2**
baz=98
G25K Bearman Lake 150.07 316 P **PKiKP** **15 01 08.1 +0.2**
baz=100
PMR Palmer 150.21 305 P **PKiKP** **15 01 08.2 -0.1**
baz=106
WAT1 Susitna Watana 150.28 307 P **PKPbc** **15 01 08.1 +0.3**
baz=104
POKR Poker Plat Res 150.31 312 P **PKiKP** **15 01 08.3 -0.1**
baz=101
BRSE Bradley Lake S 150.42 301 P **PKiKP** **15 01 08.9 0.0**
baz=108
D25K Kavik River 150.50 321 P **PKiKP** **15 01 08.6 -0.1**
baz=95
G24K Hadweenzic Riv 150.60 315 P **PKPbc** **15 01 08.7 +0.3**
baz=98
H24K Noorder Dome 150.63 314 P **PKPbc** **15 01 08.4 -0.1**
baz=100
MCK McKinley 150.66 309 P **PKPbc** **15 01 09.0 +0.4**
baz=103
KDAK Kodiak Island 150.68 296 PKPbc **PKPbc** **15 01 08.6 -0.2**
comp=Z,8.2nm,0.5s,baz=28,slow=2.7,SNR=25
KDAK Kodiak Island 150.68 296 P **PKPbc** **15 01 09.2 +0.5**
baz=111
M22K Willow 150.71 305 P **PKiKP** **15 01 09.8 +0.5**
baz=105
OHAK Old Harbor 150.83 295 P **PKiKP** **15 01 10.0 +0.4**
baz=111
F24K Squaw Lake 150.87 317 P **PKiKP** **15 01 09.7 +0.1**
baz=97
NEA2 Nenana 150.90 311 P **PKiKP** **15 01 09.8 +0.1**
baz=101
SONM Songino Array 150.91 87 PKPbc **PKPbc** **15 01 10.0 +0.1**
comp=Z,3.1nm,0.4s,baz=235,slow=2.5,SNR=21
CAPN Captain Cook N 150.93 303 P **PKiKP** **15 01 09.7 0.0**
baz=106
CUT Chulitna 150.94 306 P **PKiKP** **15 01 10.0 +0.2**
baz=104
I23K Minto, Yukon-K 151.12 312 P **PKPbc** **15 01 09.2 -0.3**
baz=100
E24K Your Creek 151.16 318 P **PKiKP** **15 01 10.2 0.0**
baz=95
TRF Thorofare Moun 151.19 308 P **PKPbc** **15 01 10.3 +0.3**
baz=102
H23K Yukon River 151.30 313 P **PKPbc** **15 01 10.3 +0.3**
baz=98
C24K Franklin Bluff 151.34 322 P **PKiKP** **15 01 10.6 +0.2**
baz=92
D24K Happy Valley 151.36 320 P **PKiKP** **15 01 10.6 +0.1**
baz=93
SKT Skwentna 151.42 305 P **PKPbc** **15 01 10.6 +0.2**
baz=104
N20K Mount Spurr 151.54 303 P **PKPbc** **15 01 10.9 +0.1**
baz=99
SPCR Spurr Chakacha 151.54 303 P **PKPbc** **15 01 10.8 0.0**
baz=105
R18K Karluk 151.54 295 P **PKPbc** **15 01 10.8 0.0**
baz=110
E23K Chandalar 151.58 318 P **PKPbc** **15 01 11.1 +0.4**
baz=94
P19K Oil Pt 151.60 300 P **PKiKP** **15 01 11.6 +0.3**
baz=107
TOLK Toolik Lake Re 151.60 319 P **PKiKP** **15 01 11.3 +0.2**
baz=93
G23K Bananza Creek 151.61 315 P **PKiKP** **15 01 11.6 +0.5**
baz=96
BPAW Bear Paw Mtn. 151.62 310 P **PKPbc** **15 01 11.1 +0.3**
baz=100
MLY Manley 151.68 312 P **PKiKP** **15 01 11.4 +0.1**
baz=99
COLD Coldfoot 151.73 316 P **PKiKP** **15 01 11.5 +0.2**
baz=95
PPLA Purkeypile 151.92 307 P **PKPbc** **15 01 11.7 0.0**
baz=102
CAST Castle Rocks 151.98 308 P **PKPbc** **15 01 11.5 -0.1**
baz=101
C23K Itkillik River 152.00 322 P **PKiKP** **15 01 11.9 +0.2**
baz=90
D23K Nanushuk River 152.02 320 P **PKiKP** **15 01 12.7 +0.9**
baz=92
H22K Ishtalitna Cre 152.06 313 P **PKiKP** **15 01 12.3 +0.3**
baz=97
M20K Styx River 152.13 305 P **PKPbc** **15 01 11.4 -0.7**
baz=103
CHUM Lake Minchumin 152.16 309 P **PKPbc** **15 01 12.0 0.0**
baz=100
Q18K Katmai Hardscr 152.17 297 P **PKPbc** **15 01 12.1 -0.3**
baz=108
G22K Bettles 152.21 315 P **PKiKP** **15 01 12.5 +0.2**
baz=95
I21K Tanana 152.22 312 P **PKPbc** **15 01 11.7 -0.4**
baz=98
O19K Port Alsworth 152.28 301 P **PKPbc** **15 01 12.0 -0.3**
baz=105
E22K Anaktuvuk Pass 152.41 318 P **PKiKP** **15 01 13.0 +0.2**
baz=92
Q17K Contact Creek 152.49 296 P **PKPbc** **15 01 12.3 -0.8**
baz=108
P18K Big Mountain, 152.50 299 P **PKPbc** **15 01 12.5 -0.4**
baz=106
N19K Bonanza Creek 152.51 302 P **PKPbc** **15 01 12.9 -0.1**
baz=104
F22K John River 152.51 317 P **PKiKP** **15 01 13.6 +0.6**
baz=93
L20K Farewell, AK 152.60 306 P **PKiKP** **15 01 13.5 +0.2**
baz=101
H21K Melozitna Rive 152.62 313 P **PKiKP** **15 01 13.5 +0.3**
baz=96
M19K Big River Lodg 152.72 304 P **PKPbc** **15 01 13.3 0.0**
baz=102
D22K Ayikyak River 152.74 320 P **PKiKP** **15 01 12.9 -0.3**
baz=90
K20K Telida 152.84 307 P **PKPbc** **15 01 13.6 0.0**
baz=100
J20K Nowinta River 153.00 309 P **PKiKP** **15 01 14.1 +0.1**
baz=98
F21K Alatna River 153.00 316 P **PKiKP** **15 01 14.7 +0.8**
baz=92

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*NEIC **09** 14:45:50.2±0.9,33°.480N±0°.007×116°.807W±0°.009, h4km±1km,Error ellipse: s-maj=1.1km s-min=1.0km az=154.0*

PAS 09 14:45:50.7±0.9,33°.484N±0°.007×116°.802W±0°.009, h2km±1km,ML3.7/308,ML3.6/42(NEIC),Error ellipse: s-maj=1.0km s-min=1.0km az=169.0,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BZNA	**Buzz No.'s Pla**	**0.11**	**86**		Pg	14 45 54.9	+2.0
PLM	**Palomar**	**0.14**	**201**		Pg	14 45 56.6	+3.2
DNR	**Dunn Ranch,Anz**	**0.17**	**60**		Pg	14 45 57.1	+3.2
FRD	**Ford Ranch, An**	**0.17**	**86**		Pg	14 45 54.1	+0.1
FRD					Sg	14 45 56.5	+0.3
FRD	**Ford Ranch, An**	**0.17**	**86**		Pg	14 45 54.1	+0.1
FRD					Sg	14 45 56.4	+0.3
SNDA	**J Saunders Pla**	**0.17**	**67**		Pg	14 45 54.3	+0.3
SNDA					Sg	14 45 56.9	+0.5
GVDA	**Garner Valley**	**0.21**	**30**		Pg	14 45 54.8	0.0
GVDA					Sg	14 45 57.9	+0.3
POB	**Polly Butte**	**0.23**	**334**		Pg	14 45 55.1	+0.1
POB					Sg	14 45 58.1	0.0
HMTC	**Hemet**	**0.28**	**323**		Pg	14 45 56.1	0.0
HMTC					Sg	14 45 60.0	+0.2
MATG	**Mataguay Scout**	**0.31**	**155**		Pg	14 45 57.1	+0.4
MATG					Sg	14 46 01.6	+0.9
PFO	**Pinyon Flats O**	**0.31**	**66**		Pg	14 45 56.8	+0.1
PFO					Sg	14 46 01.0	+0.2
PFO	**Pinyon Flats O**	**0.31**	**66**	Pg	Pg	14 45 56.7	-0.1
PFO				IAML		14 46 01.5	
	5μm,0.9s						
PFO				IAML		14 46 02.3	
	3μm,0.6s						
XPFO	**Pinon Flat**	**0.32**	**66**		Pg	14 45 56.6	-0.2
MURC	**Murrieta**	**0.35**	**290**		Pg	14 45 57.6	+0.2
MURC					Sg	14 46 02.7	+0.8
BORC	**Borrego Spring**	**0.39**	**124**		Pg	14 45 58.4	+0.3
BORC					Sg	14 46 03.8	+0.6
PMD	**Palm Desert**	**0.39**	**65**		Pg	14 45 58.1	0.0
PMD					Sg	14 46 03.0	-0.2
JUEM	**Julian Eagle M**	**0.44**	**157**		Pg	14 45 59.3	+0.2
JUEM					Sg	14 46 05.2	+0.5
BBSC	**Beaumont Base**	**0.46**	**341**		Pg	14 45 59.9	+0.4
BBSC					Sg	14 46 06.8	+1.3
GORC	**Green Oak Ranc**	**0.49**	**228**		Pg	14 45 59.9	-0.1
GORC					Sg	14 46 06.8	+0.5
DEVC	**Devers**	**0.49**	**22**		Pg	14 46 00.3	+0.2
DEVC					Sg	14 46 07.2	+0.7
DPP	**Dos Picos Cty**	**0.50**	**194**		Pg	14 46 00.1	-0.2
DPP					Sg	14 46 07.0	+0.3
PEC	**Perris**	**0.51**	**324**		Pg	14 46 00.2	-0.2
PEC					Sg	14 46 07.9	+0.9
SLH	**Sleepy Hollow**	**0.54**	**122**		Pg	14 46 01.6	+0.5
ELS	**Elsinore Mount**	**0.55**	**288**		Sg	14 46 08.8	+0.5
ELS	**Elsinore Mount**	**0.55**	**288**	Pg	Pg	14 46 00.6	-0.5
ELS	**Elsinore Mount**	**0.55**	**288**	IAML		14 46 09.6	
	comp=N,2μm,0.5s						
ELS				IAML		14 46 09.7	
	comp=E,2μm,0.8s						
EW2	**E Wide Canyon**	**0.56**	**36**		Pg	14 46 01.6	+0.1
EW2					Sg	14 46 09.4	+0.6
EML	**El Monte Cty P**	**0.59**	**184**		Pg	14 46 01.8	-0.2
EML					Sg	14 46 09.6	-0.1
CFT	**Crafton Hills**	**0.61**	**335**		Pg	14 46 02.5	+0.2
CPE	**Camp Elliot**	**0.65**	**203**		Pg	14 46 02.7	-0.4
CPE					Sg	14 46 11.5	+0.1
CPE	**Camp Elliot**	**0.65**	**203**	IAML		14 46 13.1	
	comp=N,3μm,0.3s						
CPE				IAML		14 46 15.4	
	comp=E,3μm,0.9s						
RSBC	**Riverside Bore**	**0.66**	**318**		Pg	14 46 02.9	-0.4
RSBC					Sg	14 46 11.5	-0.3
RSBC	**Riverside Bore**	**0.66**	**318**		Pg	14 46 02.8	-0.5
RSBC					Sg	14 46 11.7	-0.1
SVD	**Seven Oaks Dam**	**0.67**	**338**		Pg	14 46 03.5	0.0
SVD					Sg	14 46 13.1	+0.9
MONP2	**Monument Peak**	**0.67**	**152**		Pg	14 46 03.6	0.0
MONP2					Sg	14 46 12.3	0.0
BLAC	**Blackrock camp**	**0.68**	**30**		Pg	14 46 03.6	-0.1
BLAC					Sg	14 46 12.6	+0.1
MTRP	**Mission Trails**	**0.69**	**198**		Pg	14 46 03.6	-0.4
MTRP					Sg	14 46 12.9	-0.1
RVR	**Riverside**	**0.70**	**317**		Pg	14 46 03.5	-0.5
RVR					Sg	14 46 12.9	-0.2
CTCC	**Cactus City**	**0.70**	**76**		Pg	14 46 04.5	+0.4
CTCC					Sg	14 46 14.1	+0.9
SALN	**Salton City**	**0.71**	**106**		Pg	14 46 04.8	+0.5
SALN					Sb	14 46 14.9	-1.2
CRNC	**Corona**	**0.74**	**302**		Pg	14 46 04.6	-0.3
CRNC					Sg	14 46 14.8	+0.2
SDMC	**San Diego Miss**	**0.75**	**202**		Pg	14 46 04.6	-0.5
SDMC					Sg	14 46 14.7	-0.1
SDRC	**San Diego Road**	**0.76**	**189**		Pg	14 46 04.5	-0.6
SDRC					Sg	14 46 14.4	-0.5
BBRC	**Big Bear Solar**	**0.78**	**353**		Pg	14 46 05.7	0.0
BBRC					Sg	14 46 16.5	+0.6
CTW	**Cottonwood Mou**	**0.80**	**76**		Pg	14 46 06.3	+0.2
CTW					Sg	14 46 16.9	+0.5
BAR	**Barrett**	**0.81**	**172**		Pg	14 46 05.6	-0.6
BAR					Sg	14 46 16.0	-0.6
MLSC	**Mira Loma**	**0.82**	**310**		Pg	14 46 06.0	-0.4
MLSC					Sg	14 46 16.7	-0.3
BELC	**Belle Mtn. Jos**	**0.84**	**52**		Pg	14 46 06.6	-0.3
BELC					Sg	14 46 17.9	0.0
DUZA	**Dulzura**	**0.88**	**178**		Pg	14 46 06.6	-0.8
DUZA					Sg	14 46 18.4	-0.4
OLP	**Otay Lakes Par**	**0.88**	**187**		Pg	14 46 06.7	-0.9
OLP					Sg	14 46 18.5	-0.5
TPC	**Twentynine Pal**	**0.88**	**45**		Pg	14 46 07.2	-0.4
GTM	**Goat Mountain**	**0.89**	**25**		Pg	14 46 07.2	-0.5
GTM					Sg	14 46 19.2	-0.2
ERRC	**Elmore Ranch**	**0.90**	**114**		Pb	14 46 08.7	-0.2
ERRC					Sb	14 46 21.4	+0.1
BOMB	**Bombay Beach**	**0.91**	**97**		Pb	14 46 08.8	-0.3
BOMB					Sb	14 46 21.7	+0.2
CRR	**Carrizo Plain**	**0.92**	**130**		Pg	14 46 08.4	+0.2
CRR					Sb	14 46 21.6	-0.3
SS2	**San Sevaine**	**0.93**	**321**		Pg	14 46 07.8	-0.7
TKX	**Tecate**	**0.93**	**170**	Pg	Pg	14 46 07.7	-0.7
TKX				IAML		14 46 23.5	
	comp=N,1μm,0.4s						
CSP	**Cedar Springs**	**0.94**	**330**		Pg	14 46 08.0	-0.7
TJX	**Tijuana**	**0.99**	**192**		Pg	14 46 09.1	-0.6
IKP	**In-Ko-Pah, Jac**	**1.01**	**145**		Pg	14 46 10.0	-0.1
BFSC	**Mount Baldy Ra**	**1.04**	**317**		Pg	14 46 09.6	-0.9
YUH	**Yuha Desert**	**1.11**	**138**		Pg	14 46 11.9	-0.1
YUH	**Yuha Desert**	**1.11**	**138**	Pg	Pg	14 46 11.7	-0.3
YUH	**Yuha Desert**	**1.11**	**138**	IAML		14 46 28.2	
	comp=N,787nm,0.8s						
CBX	**Cerro Bola**	**1.17**	**174**		Pg	14 46 12.2	-1.0
HOLC	**Holcomb Ridge**	**1.30**	**319**		Pg	14 46 14.5	-1.2
CHFC	**Chilao Flat St**	**1.32**	**310**		Pg	14 46 14.9	-1.1
PASC	**Pasadena Art C**	**1.34**	**301**		Pg	14 46 15.1	-1.2
PASC	**Pasadena Art C**	**1.34**	**301**	Pg	Pg	14 46 15.0	-1.4

PASC	**Pasadena Art C**	**1.34 301**	IAML		14 46 34.6	
	comp=N,648nm,0.5s					
RRX	**Edison Barstow**	**1.40 353**		Pn	14 46 17.3	0.0
ESJX	**Sierra Juarez**	**1.64 154**		Pn	14 46 19.3	-1.4
ESJX			IAML		14 46 44.6	
	comp=N,974nm,0.8s					
GLA	**Glamis**	**1.71 104**		Pn	14 46 20.5	-1.0
GLA			IAML		14 46 49.8	
	comp=E,924nm,0.6s					
GLA			IAML		14 46 51.3	
	comp=N,406nm,0.7s					
GSC	**Goldstone, Bar**	**1.81 360**	Pn	Pb	14 46 23.9	-0.7
GSC			IAML		14 46 52.1	
	comp=E,801nm,1.4s					
GSC			IAML		14 46 53.5	
	comp=N,603nm,0.7s					
BLYC	**Blythe**	**1.92 81**	Pn	Pn	14 46 24.5	+0.1
BLYC			IAML		14 46 53.2	
	comp=N,540nm,0.9s					
BLYC			IAML		14 46 56.4	
	comp=E,401nm,0.7s					
CCAC	**Calif City Air**	**1.94 329**	Pn	Pn	14 46 24.2	-0.6
CCAC			IAML		14 46 53.8	
	comp=N,530nm,0.6s					
CCAC			IAML		14 46 55.2	
	comp=E,608nm,1.1s					
VTX	**Valle De La Tr**	**2.26 157**		Pn	14 46 30.2	+1.2
SNCC	**San Nicolas Is**	**2.29 265**	Pn	Pn	14 46 28.7	-0.8
SNCC			IAML		14 47 05.4	
	comp=E,255nm,0.5s					
SNCC			IAML		14 47 07.9	
	comp=N,234nm,0.8s					
ISA	**Isabella, Lake**	**2.58 328**	Pn	Pn	14 46 32.9	-0.6
BCW	**Bitter Crk WRg**	**2.61 305**	Pn	Pn	14 46 34.4	+0.5
BCW			IAML		14 47 29.6	
	comp=E,348nm,0.8s					
GWY	**Greenwater Val**	**2.70 2**	Pn	Pn	14 46 35.4	+0.2
W13A	**Hualapai Mount**	**2.90 55**	Pn	Pn	14 46 38.5	+0.3
WCT	**Wildcat Mounta**	**3.31 2**	Pn	Pn	14 46 43.3	-0.2
GRAC	**Grapevine Rang**	**3.54 353**		Pn	14 46 47.8	+1.2
GRAC			IAML		14 47 46.6	
	comp=E,164nm,1.0s					
DSP	**Deep Springs**	**3.99 347**	Pn	Pn	14 46 54.3	+1.4
PRN	**Pahroc Range**	**4.17 20**	Pn	Pn	14 46 57.4	+2.0
MZP	**Montezuma Peak**	**4.24 354**	Pn	Pn	14 46 56.8	+0.3
PMPB	**Monarch Peak**	**4.27 311**	Pn	Pn	14 46 57.7	+0.9
X16A	**Lo Mia Camp, P**	**4.55 77**		Pn	14 47 01.3	+0.5
LCMT	**Little Creek M**	**4.57 39**	Pn	Pn	14 47 01.1	+0.2
U15A	**North Rim**	**4.73 50**		Pn	14 47 03.3	0.0
KNB	**Kanab**	**4.80 42**	Pn	Pn	14 47 04.6	+0.4
NVAR	**Mina Array Bea**	**5.08 347**		Pn	14 47 04.2	-3.9
TUC	**Tucson**	**5.20 101**	Pn	Pn	14 47 08.0	-1.5
PSUT	**Pine Spring**	**5.58 25**	Pn	Pn	14 47 12.1	-2.7
Q12A	**Willow Creek R**	**5.77 15**		Pn	14 47 17.6	+0.2
X18A	**Snowflake**	**5.79 78**		Pn	14 47 18.1	+0.4
SPR3	**Spring Creek 3**	**5.86 19**	Pn	Pn	14 47 18.1	-0.6
EMB	**Emerald Bay**	**6.09 335**		Pn	14 47 21.2	-0.8
HMU	**Henry Mountain**	**6.64 46**		Pn	14 47 31.1	+1.6
ELK	**Elko**	**7.35 9**		Pn	14 47 41.0	+1.7
121A	**Cookes Peak, D**	**7.63 95**	Pn	Pn	14 47 43.0	-0.1

*NEIC **09** 14:48:39.6±1.1, 33°.495N±0°.005×116°.799W±0°.005, h5km±1km, Error ellipse: s-maj=0.9km s-min=0.5km az=208.0*

PAS 09 14:48:40±0.8, 33°.484N±0°.006×116°.803W±0°.007, h2km±1km, ML3.0/153, ML2.9/34(NEIC), Error ellipse: s-maj=1.0km s-min=0.9km az=68.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRY	**Cary Ranch**	**0.10**	**34**		Pg	14 48 42.0	0.0
BZNA	**Buzz No.'s Pla**	**0.11**	**86**		Pg	14 48 42.5	+0.2
DNR	**Dunn Ranch,Anz**	**0.17**	**60**		Pg	14 48 46.0	+2.7
SNDA	**J Saunders Pla**	**0.17**	**67**		Pg	14 48 43.6	+0.2
SNDA					Sg	14 48 46.1	+0.5
GVDA	**Garner Valley**	**0.21**	**30**		Pg	14 48 44.2	+0.1
GVDA					Sg	14 48 47.4	+0.4
POB	**Polly Butte**	**0.23**	**334**		Pg	14 48 44.5	+0.1
POB					Sg	14 48 47.6	+0.2
BACC	**Bachelor Mtn.**	**0.24**	**303**		Pg	14 48 44.7	+0.2
BACC					Sg	14 48 48.3	+0.6
HMTC	**Hemet**	**0.28**	**323**		Pg	14 48 45.4	0.0
HMTC					Sg	14 48 49.2	+0.1
MATG	**Mataguay Scout**	**0.31**	**155**		Pg	14 48 46.5	+0.5
MATG					Sg	14 48 51.0	+0.9
PFO	**Pinyon Flats O**	**0.31**	**66**		Pg	14 48 46.2	+0.1
PFO					Sg	14 48 50.4	+0.2
PFO	**Pinyon Flats O**	**0.31**	**66**	Pg	Pg	14 48 46.2	+0.2
PFO				IAML		14 48 50.7	
	2μm,0.6s						
PFO				IAML		14 48 51.5	
	953nm,0.3s						
XPFO	**Pinon Flat**	**0.32**	**66**		Pg	14 48 46.2	+0.1
XPFO					Sg	14 48 50.2	0.0
BORC	**Borrego Spring**	**0.39**	**124**		Pg	14 48 47.8	+0.4
BORC					Sg	14 48 53.1	+0.7
PMD	**Palm Desert**	**0.39**	**65**		Pg	14 48 47.5	0.0
PMD					Sg	14 48 52.5	-0.1
JUEM	**Julian Eagle M**	**0.44**	**157**		Pg	14 48 48.8	+0.4
JUEM					Sg	14 48 54.8	+0.7
BBSC	**Beaumont Base**	**0.46**	**341**		Pg	14 48 49.2	+0.3
BBSC					Sb	14 48 56.7	-1.6
GORC	**Green Oak Ranc**	**0.48**	**227**		Pg	14 48 49.4	+0.1
GORC					Sg	14 48 56.2	+0.6
DEVC	**Devers**	**0.49**	**23**		Pg	14 48 49.6	+0.2
DEVC					Sg	14 48 56.2	+0.5
DPP	**Dos Picos Cty**	**0.50**	**194**		Pg	14 48 49.5	0.0
DPP					Sg	14 48 56.3	+0.4
PEC	**Perris**	**0.51**	**324**		Pg	14 48 49.5	-0.2
PEC					Sg	14 48 56.5	+0.2
SLH	**Sleepy Hollow**	**0.54**	**122**		Pg	14 48 50.9	+0.5
SLH					Sg	14 48 58.9	+1.4
ELS	**Elsinore Mount**	**0.55**	**288**	Pg	Pg	14 48 50.4	-0.1
ELS	**Elsinore Mount**	**0.55**	**288**		Sg	14 48 57.9	+0.4
EW2	**E Wide Canyon**	**0.56**	**36**		Pg	14 48 50.9	+0.1
EW2					Sg	14 48 58.4	+0.3
EML	**El Monte Cty P**	**0.59**	**183**		Pg	14 48 51.1	-0.2
EML					Sg	14 48 59.2	+0.2
CFT	**Crafton Hills**	**0.61**	**335**		Pg	14 48 51.9	+0.2
CFT					Sg	14 49 00.4	+0.9
CPE	**Camp Elliot**	**0.65**	**203**		Pg	14 48 52.1	-0.2
CPE					Sg	14 49 01.0	+0.3
CPE	**Camp Elliot**	**0.65**	**203**	IAML		14 49 02.8	
	comp=N,549nm,0.3s						
CPE				IAML		14 49 03.0	
	comp=E,563nm,0.3s						
RSBC	**Riverside Bore**	**0.66**	**318**		Pg	14 48 52.2	-0.4
RSBC					Sg	14 49 01.0	0.0
RSBC	**Riverside Bore**	**0.66**	**318**		Pg	14 48 52.2	-0.4
RSBC					Sg	14 49 00.6	-0.5
SVD	**Seven Oaks Dam**	**0.67**	**338**		Pg	14 48 52.9	+0.1
SVD					Sg	14 49 02.5	+1.0
MONP2	**Monument Peak**	**0.67**	**151**		Pg	14 48 53.0	+0.2
MONP2					Sg	14 49 02.5	+1.0
BLAC	**Blackrock camp**	**0.68**	**30**		Pg	14 48 53.0	-0.1
BLAC					Sg	14 49 02.0	+0.2
MTRP	**Mission Trails**	**0.69**	**198**		Pg	14 48 52.9	-0.4
MTRP					Sg	14 49 02.3	0.0
RVR	**Riverside**	**0.70**	**317**		Pg	14 48 52.9	-0.5
RVR					Sg	14 49 01.8	-0.6
CTCC	**Cactus City**	**0.70**	**76**		Pg	14 48 53.8	+0.3
CTCC					Sg	14 49 03.5	+1.0
SALN	**Salton City**	**0.71**	**106**		Pg	14 48 54.1	+0.5
SALN					Sb	14 49 04.2	-1.2
CRNC	**Corona**	**0.74**	**302**		Pg	14 48 54.0	-0.3
SDMC	**San Diego Miss**	**0.75**	**202**		Pg	14 48 54.0	-0.4
SDMC					Sg	14 49 04.7	+0.5
SDRC	**San Diego Road**	**0.76**	**189**		Pg	14 48 53.9	-0.5
SDRC					Sg	14 49 04.1	-0.2
BBRC	**Big Bear Solar**	**0.78**	**353**		Pg	14 48 55.1	0.0
BBRC					Sg	14 49 05.5	+0.3
CTW	**Cottonwood Mou**	**0.80**	**76**		Pg	14 48 55.4	0.0
CTW					Sg	14 49 06.1	+0.3
BAR	**Barrett**	**0.81**	**172**		Pg	14 48 54.9	-0.6
BAR					Sg	14 49 05.5	-0.5
BELC	**Belle Mtn. Jos**	**0.85**	**52**		Pg	14 48 56.0	-0.2
BELC					Sg	14 49 07.1	-0.1
DUZA	**Dulzura**	**0.88**	**178**		Pg	14 48 56.0	-0.8
DUZA					Sg	14 49 07.7	-0.5
OLP	**Otay Lakes Par**	**0.88**	**187**		Pg	14 48 56.1	-0.7
OLP					Sg	14 49 07.7	-0.6
TPC	**Twentynine Pal**	**0.88**	**45**		Pg	14 48 56.5	-0.4
GTM	**Goat Mountain**	**0.89**	**25**		Pg	14 48 56.6	-0.5
GTM					Sg	14 49 08.5	-0.2
ERRC	**Elmore Ranch**	**0.90**	**114**		Pb	14 48 58.0	-0.3
ERRC					Sb	14 49 11.3	+0.5
BOMB	**Bombay Beach**	**0.91**	**97**		Pg	14 48 57.8	+0.4
CRR	**Carrizo Plain**	**0.92**	**130**		Pg	14 48 57.8	+0.2
CRR					Sg	14 49 10.3	+0.8
SS2	**San Sevaine**	**0.93**	**321**		Pg	14 48 57.2	-0.6
TKX	**Tecate**	**0.93**	**170**		Pg	14 48 57.0	-0.7
TKX					Pn	14 49 09.1	+9.0
CSP	**Cedar Springs**	**0.94**	**331**		Pg	14 48 57.5	-0.4
HAY	**Hayfield**	**0.96**	**76**		Pb	14 48 59.1	-0.3
FRK	**Frink**	**0.98**	**94**		Pg	14 48 58.1	-0.6
TJX	**Tijuana**	**0.99**	**192**		Pg	14 48 58.4	-0.6
TJX	**Tijuana**	**0.99**	**192**	IAML		14 49 17.6	
	comp=N,500nm,0.4s						
IKP	**In-Ko-Pah, Jac**	**1.01**	**145**		Pg	14 48 59.3	-0.1
BFSC	**Mount Baldy Ra**	**1.04**	**317**		Pg	14 48 58.8	-1.1
SSK	**Sunset Peak**	**1.04**	**315**		Pg	14 48 59.2	-0.7
YUH	**Yuha Desert**	**1.11**	**138**		Pg	14 49 01.2	-0.1
YUH	**Yuha Desert**	**1.11**	**138**	Pg	Pg	14 49 01.1	-0.3
YUH	**Yuha Desert**	**1.11**	**138**	IAML		14 49 16.7	
	comp=N,238nm,0.2s						
YUH				IAML		14 49 16.8	
	comp=E,234nm,0.3s						
RHC	**Rose Hills Cem**	**1.13**	**297**		Pg	14 49 01.1	-0.6
CBX	**Cerro Bola**	**1.17**	**174**		Pg	14 49 01.7	-0.8
MWC	**Mount Wilson**	**1.28**	**306**		Pg	14 49 03.5	-1.1
HOLC	**Holcomb Ridge**	**1.30**	**319**		Pg	14 49 03.7	-1.3
CHFC	**Chilao Flat St**	**1.32**	**310**		Pg	14 49 04.0	-1.4
PASC	**Pasadena Art C**	**1.34**	**301**		Pg	14 49 04.4	-1.3
JNH	**Juniper Hills**	**1.36**	**315**		Pg	14 49 04.5	-1.5
HYS	**Haystack Butte**	**1.52**	**335**		Pn	14 49 08.0	-0.3
ESJX	**Sierra Juarez**	**1.64**	**154**		Pn	14 49 10.2	+0.2
GSC	**Goldstone, Bar**	**1.81**	**360**		Pn	14 49 13.0	+0.7
GSC				IAML		14 49 39.8	
	comp=N,127nm,0.5s						
GSC				IAML		14 49 44.3	
	comp=E,136nm,0.4s						
BLYC	**Blythe**	**1.92**	**81**	Pn	Pn	14 49 13.8	+0.1
BLYC				IAML		14 49 42.5	
	comp=N,102nm,0.8s						
BLYC				IAML		14 49 45.2	
	comp=E,76nm,0.8s						
CCAC	**Calif City Air**	**1.94**	**329**		Pn	14 49 13.3	-0.8
CCAC				IAML		14 49 42.9	
	comp=N,104nm,0.5s						
CCAC				IAML		14 49 50.1	
	comp=E,85nm,0.7s						
VTX	**Valle De La Tr**	**2.26**	**157**	Pn	Pn	14 49 19.8	+1.4
VTX				IAML		14 49 51.2	
	comp=N,120nm,0.4s						
ISA	**Isabella, Lake**	**2.57**	**328**		Pn	14 49 22.9	+0.1
BCW	**Bitter Crk WRg**	**2.61**	**305**	Pn	Pn	14 49 23.3	0.0
BCW				IAML		14 49 42.3	
	comp=E,64nm,2.7s						
BCW				IAML		14 50 07.9	
	comp=N,58nm,1.1s						
GWY	**Greenwater Val**	**2.70**	**2**	Pn	Pn	14 49 24.1	-0.5
W13A	**Hualapai Mount**	**2.90**	**55**	Pn	Pn	14 49 27.1	-0.3
TPNV	**Topopah Spring**	**3.49**	**7**	Pn	Pn	14 49 35.6	+0.2
TPNV				IAML		14 50 34.0	
	comp=N,22nm,0.9s						
DSP	**Deep Springs**	**3.99**	**347**	Pn	Pn	14 49 43.2	+1.0
X16A	**Lo Mia Camp, P**	**4.55**	**77**	Pn	Pn	14 49 50.3	+0.1
LCMT	**Little Creek M**	**4.57**	**39**	Pn	Pn	14 49 50.7	+0.4
U15A	**North Rim**	**4.73**	**50**	Pn	Pn	14 49 52.9	+0.3

*DNK **09** 14:52:24.1±4.3, 71°.49N×11°.63W, h16km±54km, ML1.6*
*BER **09** 14:52:26.7±0.4, 71°.63N×10°.87W, h0km±539km, mb(Pn)3.7, Confirmed Earthquake*

ISC 09 14:52:23.9±1.5, 71°.59N±0°.07×11°.52W±0°.06, h28km±17km, n8, σ19°.42/16, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.12**	**125**	*e*P	**Pb**	**14 52 44.9**	**+0.3**
JMI				*e*S	**Sb**	**14 52 58.0**	**-0.9**
JMI				IAML		14 53 07.4	
	comp=Z,123nm,0.3s						
JNW	**Jan Mayen West**	**1.15**	**118**	*e*P	**Pb**	**14 52 44.8**	**-0.3**
JNW				*e*S	**Sn**	**14 52 58.4**	**-0.5**
JNW				IAML		14 53 01.6	
	comp=Z,228nm,0.2s						
JMIC	**Jan Mayen**	**1.15**	**121**	*e*P	**Pb**	**14 52 45.0**	**-0.2**
JMIC				*e*S	**Sn**	**14 52 58.2**	**-0.7**
JMIC				IAML		14 52 59.8	
	comp=Z,164nm,0.5s						
JMIC	**Jan Mayen**	**1.15**	**121**	*i* P	**Pb**	**14 52 44.8**	**-0.3**
JMIC				*i* S	**Sn**	**14 52 58.0**	**-0.9**
JNE	**Jan Mayen East**	**1.21**	**119**	*e*P	**Pb**	**14 52 45.7**	**-0.4**
JNE				*e*S	**Sn**	**14 52 59.3**	**-1.0**
JNE				IAML		14 53 02.4	
	comp=Z,229nm,0.1s						
SCO	**Scoresbysund**	**3.58**	**257**	*i* P	**Pn**	**14 53 19.0**	**+1.5**
SCO				*i* S	**Sn**	**14 53 57.2**	**-1.6**
SCO				IAML		14 54 01.4	
	comp=Z,1.4nm,0.2s						
DBG	**Daneborg**	**3.74**	**321**	*i* P	**Pn**	**14 53 20.8**	**+1.1**
DBG				*i* S	**Sn**	**14 54 01.4**	**-1.3**
DAG	**Danmarks Havn**	**5.55**	**343**	*i* P	**Pn**	**14 53 47.0**	**+2.4**
DAG				*i* S	**Sn**	**14 54 44.7**	**-2.6**
DAG				IAML		14 54 48.6	
	comp=Z,4.9nm,0.2s						

*NEIC **09** 14:53:03.2±2.0, 24°.5S±0°.1×179°.9W±0°.2, h503km±7km, mb4.1/13, Error ellipse: s-maj=22.1km s-min=16.0km az=115.0*
*IDC **09** 14:53:03.5±6.0, 24°.46S×179°.92W, h509km±43km, mb3.0/4, mbtmp4.0/6, Error ellipse: s-maj=95.4km s-min=21.0km az=138.0*

ISC 09 14:53:02.8±0.7, 24°.5S±0°.1×179°.9W±0°.1, h505km, n35, σ0°.89/35, mb3.9/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.02**	**160**	P	**P**	**14 54 28.9**	**-1.2**
MSVF	**Nonsavu**	**7.04**	**344**	P	**P**	**14 54 49.5**	**-0.2**
	8.1nm,0.3s,baz=85,slow=23,SNR=32						
PINNC	**Pines Island,**	**11.79**	**277**	P	**P**	**14 55 39.4**	**+0.1**
DZM	**Mont Dzumac**	**12.81**	**278**	P	**P**	**14 55 51.0**	**+0.8**
	11nm,0.7s,baz=90,slow=17,SNR=11						
QRZ	**Quartz Range**	**17.45**	**200**	P	**P**	**14 56 38.0**	**+0.3**
CMSA	**Cobar Meteorol**	**31.10**	**249**	P	P	14 58 52.3	+13
CTA	**Charters Tower**	**31.61**	**271**	P	**P**	**14 58 44.3**	**+0.3**
CTAO	**Charters Tower**	**31.61**	**271**	P	**P**	**14 58 44.2**	**+0.3**
CTAO				IAmb	IAmb	14 58 44.6	
	comp=Z,7.6nm,0.6s						
CTAO	**Charters Tower**	**31.61**	**271**	P	**P**	**14 58 44.2**	**+0.3**
MTSU	**Mount Surprise**	**33.90**	**274**	P	**P**	**14 59 03.7**	**+0.3**
STKA	**Stephens Creek**	**34.61**	**249**	P	**P**	**14 59 08.8**	**-0.4**
STKA	**Stephens Creek**	**34.61**	**249**	P	**P**	**14 59 10.0**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=92,slow=6.6,SNR=1.8						
	comp=Z,0.4nm,0.4s						
BBOO	**Buckleboo**	**39.31**	**248**	P	**P**	**14 59 46.4**	**-1.5**
BBOO				IAmb	IAmb	15 00 06.4	
	comp=Z,17nm,1.5s						
BBOO	**Buckleboo**	**39.31**	**248**	P	**P**	**14 59 46.7**	**-1.2**
	comp=Z,7.9nm,1.0s						
AS31	**Alice Springs**	**42.05**	**261**	P	**P**	**15 00 10.6**	**+0.6**
ASAR	**Alice Springs**	**42.06**	**261**	P	**P**	**15 00 10.3**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=100,slow=8.4,SNR=13						
ASAR				PcP	**PcP**	**15 01 54.0**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=110,slow=3.2,SNR=2.8						
	comp=Z,0.7nm,0.7s						
WR0	**Warramunga Arr**	**42.30**	**267**	P	**P**	**15 00 10.7**	**-1.2**
WR0				IAmb	IAmb	15 00 19.2	
	comp=Z,6.7nm,1.4s						
WB2	**Warramunga Arr**	**42.48**	**267**	P	**P**	**15 00 12.5**	**-0.8**
WB2				IAmb	IAmb	15 00 53.8	
	comp=Z,9.8nm,1.5s						
WB0	**Warramunga Arr**	**42.48**	**267**	P	**P**	**15 00 12.6**	**-0.8**
WB0				IAmb	IAmb	15 00 37.5	
	comp=Z,4.1nm,1.1s						
WRA	**Warramunga Arr**	**42.49**	**267**	P	**P**	**15 00 11.9**	**-1.5**
WRA	**Warramunga Arr**	**42.49**	**267**	P	**P**	**15 00 12.4**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=105,slow=8.6,SNR=27						
WRA				PcP	**PcP**	**15 01 54.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=107,slow=3.5,SNR=0.9						
	comp=Z,0.6nm,0.4s						
FORT	**Forrest**	**46.21**	**250**	P	**P**	**15 00 40.0**	**-2.0**
KNRA	**Kununurra**	**48.81**	**270**	P	**P**	**15 01 01.6**	**-0.2**
KNRA				IAmb	IAmb	15 01 10.8	
	comp=Z,18nm,1.2s						
QSPA	**South Pole Qui**	**65.56**	**180**	P	**P**	**15 02 57.9**	**+2.0**
QSPA				IAmb	IAmb	15 03 24.5	
	comp=Z,4.5nm,1.4s						
PETK	**Petropavlovsk-**	**79.74**	**346**	P	**P**	**15 04 17.5**	**0.0**
PETK	**Petropavlovsk-**	**79.74**	**346**	P	**P**	**15 04 17.9**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=116,slow=6.8,SNR=4.9						
	comp=Z,2.1nm,0.7s						
S12K	**Black Hills**	**81.34**	**10**	P	**P**	**15 04 26.6**	**+0.8**
KURBB	**Kurchatov Arra**	**115.78**	**316**	PKP	**PKPdf**	**15 10 46.7**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=115,slow=2.0,SNR=2.7						
BVAR	**Borovoye Array**	**120.99**	**318**	PKP	**PKPdf**	**15 10 56.6**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=90,slow=2.0,SNR=5.3						
ARCES	**ARCESS Array B**	**132.52**	**348**	PKP	**PKPdf**	**15 11 18.1**	**-0.7**
	comp=Z,4.7nm,1.0s,baz=43,slow=2.6,SNR=6.3						
HFS	**Hagfors**	**143.18**	**349**	PKP	PKPab	15 11 36.1	-0.1
	comp=Z,4.3nm,0.4s,baz=30,slow=1.6,SNR=44						
AKASG	**Malin Array Be**	**145.56**	**327**	PKPbc	**PKPbc**	**15 11 43.7**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=49,slow=3.6,SNR=8.9						
BRTR	**Keskin Array B**	**148.05**	**306**	PKPbc	**PKPbc**	**15 11 51.5**	**0.0**
	comp=Z,0.8nm,0.6s,baz=79,slow=3.1,SNR=4.9						
MMAI	**Mount Meron Ar**	**148.07**	**293**	PKPbc	**PKPbc**	**15 11 52.0**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=94,slow=2.8,SNR=5.7						
EKA	**Eskdalemuir Ar**	**149.13**	**4**	PKPbc	**PKPbc**	**15 11 53.6**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=348,slow=3.6,SNR=4.7						

*NEIC **09** 14:58:09.3±1.0, 33°.484N±0°.009×116°.80W±0°.01, h12km±4km, Error ellipse: s-maj=1.3km s-min=1.2km az=171.0*

PAS 09 14:58:09.3±1.0, 33°.485N±0°.007×116°.805W±0°.005, h1km±1km, ML3.7/310, Mwr3.8/4, ML3.6/52(NEIC), Error ellipse: s-maj=1.0km s-min=0.7km az=185.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRY	**Cary Ranch**	**0.10**	**35**		Pg	14 58 12.8	+1.6
BZNA	**Buzz No.'s Pla**	**0.12**	**87**		Pg	14 58 13.6	+2.1
DNR	**Dunn Ranch,Anz**	**0.17**	**61**		Pg	14 58 12.8	+0.3
DNR					Sg	14 58 15.3	+0.6
FRD	**Ford Ranch, An**	**0.17**	**87**		Pg	14 58 15.1	+2.5
GVDA	**Garner Valley**	**0.21**	**31**		Pg	14 58 13.4	0.0
GVDA					Sg	14 58 16.6	+0.3
POB	**Polly Butte**	**0.22**	**334**		Pg	14 58 13.8	+0.1
POB					Sg	14 58 16.9	+0.4
BACC	**Bachelor Mtn.**	**0.23**	**303**		Pg	14 58 17.5	+3.7
HMTC	**Hemet**	**0.28**	**323**		Pg	14 58 14.7	0.0
HMTC					Sg	14 58 18.2	0.0
MATG	**Mataguay Scout**	**0.31**	**155**		Pg	14 58 15.9	+0.6
MATG					Sg	14 58 20.4	+1.1
PFO	**Pinyon Flats O**	**0.32**	**66**		Pg	14 58 15.6	+0.2
PFO				IAML		14 58 20.0	
	9μm,0.8s						
PFO	**Pinyon Flats O**	**0.32**	**66**		Pn	14 58 19.8	-1.3
XPFO	**Pinon Flat**	**0.32**	**67**		Pg	14 58 15.5	+0.1
XPFO					Sg	14 58 19.6	+0.1
MURC	**Murrieta**	**0.35**	**289**		Pg	14 58 16.2	+0.3
MURC					Sg	14 58 21.8	+1.4
BORC	**Borrego Spring**	**0.39**	**124**		Pg	14 58 17.1	+0.4
BORC					Sg	14 58 22.4	+0.6
PMD	**Palm Desert**	**0.39**	**65**		Pg	14 58 16.8	0.0
PMD					Sg	14 58 21.8	-0.1
JUEM	**Julian Eagle M**	**0.44**	**157**		Pg	14 58 18.1	+0.4
JUEM					Sg	14 58 23.9	+0.5
BBSC	**Beaumont Base**	**0.46**	**341**		Pg	14 58 18.6	+0.5
BBSC					Sg	14 58 25.4	+1.3
GORC	**Green Oak Ranc**	**0.48**	**227**		Pg	14 58 18.7	+0.1
GORC					Sg	14 58 25.6	+0.7
DEVC	**Devers**	**0.49**	**23**		Pg	14 58 18.9	+0.2
DEVC					Sg	14 58 25.0	0.0
DPP	**Dos Picos Cty**	**0.50**	**193**		Pg	14 58 18.9	0.0
DPP					Sg	14 58 25.8	+0.5
PEC	**Perris**	**0.50**	**324**		Pg	14 58 18.8	-0.2
PEC					Sg	14 58 25.7	+0.3
ELS	**Elsinore Mount**	**0.54**	**287**		Sg	14 58 27.3	+0.5
ELS	**Elsinore Mount**	**0.54**	**287**	Pg	Pg	14 58 19.6	-0.1
ELS	**Elsinore Mount**	**0.54**	**287**	IAML		14 58 28.4	
	comp=N,2μm,0.7s						
ELS				IAML		14 58 28.7	
	comp=E,1μm,0.2s						
SLH	**Sleepy Hollow**	**0.55**	**122**		Pg	14 58 20.2	+0.5
SLH					Sg	14 58 28.2	+1.4
EW2	**E Wide Canyon**	**0.56**	**36**		Pg	14 58 20.1	+0.1
EW2					Sg	14 58 27.9	+0.5
EML	**El Monte Cty P**	**0.59**	**183**		Pg	14 58 20.5	-0.2
EML					Sg	14 58 28.7	+0.4
CFT	**Crafton Hills**	**0.60**	**335**		Pg	14 58 21.2	+0.3
CFT					Sg	14 58 29.7	+1.0
CPE	**Camp Elliot**	**0

PASC Pasadena Art C 1.34 301 Pg 14 58 33.4 -1.5
PASC IAML 14 58 53.2
comp=N,620nm,0.4s
ESJX Sierra Juarez 1.64 154 Pn 14 58 39.1 -0.3
CPBX Cerro Prieto 1.65 130 Pn 14 58 39.0 -0.3
GLA Glamis 1.71 104 Pn 14 58 38.2 -2.1
GLA IAML 14 59 08.4
comp=E,1μm,0.6s
GLA IAML 14 59 10.0
comp=N,718nm,0.7s
GSC Goldstone, Bar 1.81 360 Pn 14 58 41.2 -0.5
GSC IAML 14 59 09.6
comp=E,637nm,0.4s
GSC IAML 14 59 10.0
comp=N,575nm,0.5s
BLYC Blythe 1.92 81 Pn Pn 14 58 41.2 -1.9
BLYC IAML 14 59 12.0
comp=N,954nm,0.8s
BLYC IAML 14 59 14.3
comp=E,603nm,0.7s
CCAC Calif City Air 1.94 329 Pn 14 58 43.1 -0.3
CCAC IAML 14 59 13.2
comp=E,575nm,1.3s
CCAC IAML 14 59 16.8
comp=N,535nm,1.3s
VTX Valle De La Tr 2.26 157 Pn 14 58 48.7 +0.9
ISA Isabella, Lake 2.57 328 Pn 14 58 51.0 -1.1
ISA IAML 14 59 37.8
comp=E,154nm,1.1s
BCW Bitter Crk WRg 2.60 305 Pn 14 58 52.4 -0.2
BCW IAML 14 59 43.0
comp=E,280nm,1.0s
GWY Greenwater Val 2.70 2 Pn 14 58 53.5 -0.4
V12A Nelson 2.76 35 Pn 14 58 54.0 -0.7
W13A Hualapai Mount 2.90 56 Pn 14 58 55.8 -1.0
Y14A Wickenburg 3.20 81 Pn 14 58 59.9 -0.8
SHPR Sheep Range 3.30 24 Pn 14 59 02.0 -0.3
WCT Wildcat Mounta 3.30 2 Pn 14 59 01.5 -0.6
TPNV Topopah Spring 3.48 7 Pn 14 59 05.2 +0.5
TPNV IAML 15 00 03.5
comp=E,110nm,0.7s
TPNV IAML 15 00 12.9
comp=E,92nm,1.6s
GRAC Grapevine Rang 3.53 353 Pn 14 59 05.6 +0.3
GRAC IAML 15 00 11.5
comp=E,130nm,1.2s
GRAC IAML 15 00 12.1
comp=N,163nm,1.7s
GMN Gold Mountain 3.83 355 Pn 14 59 09.8 +0.3
DSP Deep Springs 3.99 347 Pn 14 59 12.3 +0.8
MZP Montezuma Peak 4.23 354 Pn 14 59 15.6 +0.5
S11A Rachel 4.24 11 Pn 14 59 16.2 +1.1
PMPB Monarch Peak 4.27 311 Pn Pn 14 59 15.2 -0.2
X16A Lo Mia Camp, P 4.55 77 Pn 14 59 19.3 -0.2
LCMT Little Creek M 4.57 39 Pn 14 59 19.9 +0.3
U15A North Rim 4.73 50 Pn 14 59 22.4 +0.5
KNB Kanab 4.80 42 Pn 14 59 23.0 +0.2
WUAZ Wupatki 4.92 64 Pn 14 59 25.5 +1.0
WUAZ IAML 15 00 50.7
comp=N,57nm,0.7s
WUAZ IAML 15 01 11.5
comp=N,61nm,1.3s
LHV Little Huntoon 4.95 344 Pn 14 59 26.9 +2.1
R11B Troy Canyon, C 4.95 11 Pn 14 59 25.7 +0.8
NV11 Mina Array Sit 5.06 348 Pn 14 59 27.5 +1.2
NV11 IAML 15 00 60.0
comp=E,23nm,1.4s
NVAR Mina Array Bea 5.08 347 Pn 14 59 29.1 +2.3
TUC Tucson 5.20 101 Pn 14 59 27.4 -0.9
TUC IAML 15 01 08.7
comp=E,22nm,1.3s
RYN Ryan 5.32 345 Pn Pn 14 59 31.4 +1.5
PKCU Pink Cliffs 5.39 42 Pn 14 59 32.4 +1.4
CMB Columbia Colle 5.39 328 Pn 14 59 31.1 +0.3
PSUT Pine Spring 5.58 25 Pn 14 59 34.8 +1.3
KVN Kaiserville 5.65 350 Pn Pn 14 59 36.4 +1.9
X18A Snowflake 5.79 78 Pn 14 59 37.3 +0.9
SPR3 Spring Creek 3 5.85 19 Pn 14 59 35.7 -1.7
MTPU Mount Pierson 5.90 38 Pn Pn 14 59 40.0 +2.0
EMB Emerald Bay 6.09 335 Pn 14 59 40.1 -0.5
HMU Henry Mountain 6.64 46 Pn 14 59 49.4 +1.3
ELK Elko 7.35 9 Pn 14 59 58.9 +1.0
121A Cookes Peak, D 7.64 95 Pn 15 00 00.6 -1.2

*VAO **09** 15:15:41.5±0.5,27°.98S×66°.71W,h172km±4km,mb4.6*
*SJA **09** 15:15:41.6±0.8,27°.95S×66°.62W,h184km±5km,ML4.3, MW4.2*
*NEIC **09** 15:15:42.5±1.7,27°.99S±0°.03×66°.59W±0°.09, h165km±10km,mb4.7/13,Error ellipse: s-maj=12.4km s-min=3.6km az=106.0*
*IDC **09** 15:15:44.2±0.6,27°.87S×66°.48W,h179km±5km,mb4.0/8, mbtmp4.5/13,MS3.3/2,Error ellipse: s-maj=18.2km s-min=12.3km az=97.0*
*GUC **09** 15:15:44.8±0.5,27°.89S×66°.76W,h154km±8km,ML4.7*
ISC 09 15:15:42.4±0.5,27°.94S±0°.03×66°.67W±0°.04,h173km±5km, h173km;pP-P,n144,σ1°50/183,mb4.5/14,8C-7D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYA	**Choya**	**0.91**	**123**	⇑*i*P	**Pn**	**15 16 09.9**	**+1.1**
CYA				*i* S	**Sn**	**15 16 28.3**	**-0.8**
CYA	**Choya**	**0.91**	**123**	*e*P	**Pn**	**15 16 09.8**	**+1.0**
CYA				*e*S	**Sn**	**15 16 29.6**	**+0.4**
CYA				IAML		15 16 31.4	
comp=Z,1μm,0.8s							
ACLC	**CERRO LA CRUZ**	**1.50**	**190**	*e*P	**Pn**	**15 16 15.0**	**+1.1**
GUSE	**Guasayan**	**1.61**	**88**	*e*P	**Pn**	**15 16 15.5**	**+0.6**
AHML	**Horco Molle**	**1.65**	**46**	⇓*i*P	**Pn**	**15 16 16.3**	**+0.9**
AHML	**Horco Molle**	**1.65**	**46**	*e*P	**Pn**	**15 16 16.2**	**+0.8**
AHML				*e*S	**Sn**	**15 16 40.5**	**-0.3**
AHML				IAML		15 16 41.4	
comp=Z,937nm,0.6s							
FSA	**Cafayete**	**1.92**	**19**	*e*P	Pn	15 16 04.3	-14
APLL	**PUNTA DE LOS L**	**2.45**	**177**	*e*P	Pn	15 16 37.6	+14
AVFE	**Valle Fertil**	**2.79**	**194**	*e*P	**Pn**	**15 16 28.6**	**+0.3**
AVFE				*e*S	**Sn**	**15 17 03.0**	**-1.1**
AVFE				IAML		15 17 03.7	
comp=Z,856nm,0.3s							
ACDV	**Cuesta del Vie**	**3.09**	**223**	*e*P	**Pn**	**15 16 33.3**	**+1.3**
ACDV				*e*S	**Sn**	**15 17 12.1**	**+1.5**
ACDV				IAML		15 17 12.3	
comp=Z,724nm,0.5s							
GO03	**Copiapo**	**3.18**	**275**		**Pn**	**15 16 34.1**	**+1.1**
GO03				Sn	**Sn**	**15 17 11.9**	**-0.5**
GO03	**Copiapo**	**3.18**	**275**	⇑*i*P	**Pn**	**15 16 34.1**	**+1.1**
GO03				*i* S	**Sn**	**15 17 11.8**	**-0.5**
GO03	**Copiapo**	**3.18**	**275**	*e*P	**Pn**	**15 16 34.0**	**+1.1**
GO03				*e*S	**Sn**	**15 17 12.1**	**-0.3**
ACHE	**Chepes**	**3.21**	**180**	*e*P	**Pn**	**15 16 33.9**	**+0.5**
ACHE				*e*S	**Sn**	**15 17 04.9**	**-8.3**
AC05	**El Transito**	**3.30**	**253**	Pn	**Pn**	**15 16 36.0**	**+1.4**
AC05				Sn	**Sn**	**15 17 16.2**	**+1.0**
AROD	**Rodeo**	**3.31**	**227**	*e*P	**Pn**	**15 16 36.4**	**+1.6**
AROD				*e*S	**Sn**	**15 17 17.3**	**+1.6**
AC06	**Mina Casimiro**	**3.32**	**279**	Pn	**Pn**	**15 16 35.3**	**+0.6**
AC06	**Mina Casimiro**	**3.32**	**279**	⇑*i*P	**Pn**	**15 16 35.3**	**+0.6**
AC06				*i* S	**Sn**	**15 17 14.1**	**-1.4**
AC06				IAML		15 17 16.9	
comp=N,1μm,0.3s							
ACCO	**Cerro Coronel**	**3.37**	**218**	*e*P	**Pn**	**15 16 36.4**	**+0.8**
ACCO				*e*S	**Sn**	**15 17 17.4**	**+0.3**
SLA	**San Lorenzo**	**3.37**	**18**	⇓*i*P	**Pn**	**15 16 37.5**	**+2.0**
SLA	**San Lorenzo**	**3.37**	**18**	*e*P	**Pn**	**15 16 38.1**	**+2.5**
SLA				IAML		15 17 23.0	
comp=Z,212nm,0.8s							
CO01	**Juntas del Tor**	**3.62**	**235**	Pn	**Pn**	**15 16 40.6**	**+2.0**
CO01	**Juntas del Tor**	**3.62**	**235**	⇑*i*P	**Pn**	**15 16 40.7**	**+2.0**
CO01				*i* S	**Sn**	**15 17 22.7**	**+0.1**
CO01				IAML		15 17 27.0	
comp=N,536nm,0.4s							
CO01	**Juntas del Tor**	**3.62**	**235**	*e*P	**Pn**	**15 16 40.7**	**+2.0**
CO01				*e*S	**Sn**	**15 17 25.4**	**+2.8**
CO01				IAML		15 17 26.6	
comp=Z,191nm,0.5s							
DOCA	**Reserva Natura**	**3.66**	**215**	*e*P	**Pn**	**15 16 38.8**	**-0.5**
DOCA				*e*S	**Sn**	**15 17 23.7**	**-0.1**
LCO	**Las Campanas**	**3.71**	**252**	Pn	**Pn**	**15 16 39.9**	**+0.2**
LCO	**Las Campanas**	**3.71**	**252**	*e*P	**Pn**	**15 16 40.5**	**+0.7**
LCO				*e*S	**Sn**	**15 17 25.1**	**+0.6**
RTLL	**Cerro Villicun**	**3.73**	**205**	*e*P	**Pn**	**15 16 40.2**	**+0.4**
RTLL				*e*S	**Sn**	**15 17 23.9**	**-0.8**
GO02	**Mina Guanaco**	**3.81**	**316**	Pn	**Pn**	**15 16 43.5**	**+2.4**
GO02	**Mina Guanaco**	**3.81**	**316**	⇓*i*P	**Pn**	**15 16 43.6**	**+2.4**
GO02	**Mina Guanaco**	**3.81**	**316**	*e*P	**Pn**	**15 16 42.9**	**+1.7**
GO02				*e*S	**Sn**	**15 17 24.8**	**-2.2**
AC04	**Llanos de Chal**	**3.90**	**265**	Pn	**Pn**	**15 16 42.1**	**+0.1**
AC04	**Llanos de Chal**	**3.90**	**265**	⇑*i*P	**Pn**	**15 16 42.0**	**0.0**
AC04				*i* S	**Sn**	**15 17 26.2**	**-2.4**
AC04	**Llanos de Chal**	**3.90**	**265**	*e*P	**Pn**	**15 16 41.5**	**-0.5**
AC04				*e*S	**Sn**	**15 17 28.3**	**-0.3**
AC04				IAML		15 17 32.2	
comp=Z,406nm,0.3s							
AC01	**Pan de Azucar**	**3.94**	**296**	Pn	**Pn**	**15 16 43.2**	**+0.7**
AC01	**Pan de Azucar**	**3.94**	**296**	⇑*i*P	**Pn**	**15 16 43.0**	**+0.6**
AC01				*i* S	**Sn**	**15 17 26.8**	**-2.6**
AC01	**Pan de Azucar**	**3.94**	**296**	*e*P	**Pn**	**15 16 43.1**	**+0.7**
AC01				*e*S	**Sn**	**15 17 28.8**	**-0.6**
AC01				IAML		15 17 35.0	
comp=Z,350nm,0.6s							
AZAP	**Zapla**	**3.97**	**22**	*e*P	**Pn**	**15 16 44.6**	**+1.4**
AZAP				IAML		15 17 45.2	
comp=Z,228nm,0.8s							
ZON	**Zonda**	**4.00**	**205**	Pn	**Pn**	**15 16 43.4**	**+0.2**
ZON	**Zonda**	**4.00**	**205**	*e*P	**Pn**	**15 16 43.0**	**-0.2**
ZON				*e*S	**Sn**	**15 17 28.3**	**-2.5**
ZON				IAML		15 17 30.8	
comp=Z,338nm,0.6s							
RTCV	**Cerro Valdivia**	**4.23**	**202**	*e*P	**Pn**	**15 16 46.7**	**+0.5**
RTCV				*e*S	**Sn**	**15 17 34.7**	**-1.6**
RTCV				IAML		15 17 36.2	
comp=Z,121nm,1.3s							
GO04	**Tololo Observa**	**4.25**	**237**		**Pn**	**15 16 46.4**	**-0.2**
GO04	**Tololo Observa**	**4.25**	**237**	*i* P	**Pn**	**15 16 45.9**	**-0.7**
GO04				*i* S	**Sn**	**15 17 36.0**	**-0.9**
GO04	**Tololo Observa**	**4.25**	**237**	*e*P	**Pn**	**15 16 45.7**	**-0.9**
GO04				*e*S	**Sn**	**15 17 37.4**	**+0.5**
CO05	**La Serena**	**4.46**	**243**		**Pn**	**15 16 48.1**	**-1.1**
CO05	**La Serena**	**4.46**	**243**	*i* P	**Pn**	**15 16 48.0**	**-1.2**
CO05				*i* S	**Sn**	**15 17 39.2**	**-2.3**
RTLS	**Leoncito**	**4.47**	**210**	*e*P	**Pn**	**15 16 50.1**	**+0.5**
RTLS				*e*S	**Sn**	**15 17 41.5**	**-0.7**
RTLS				IAML		15 17 44.9	
comp=Z,956nm,0.2s							
MRA	**San Martin**	**4.54**	**170**	*e*P	**Pn**	**15 16 49.9**	**-0.3**
MRA				*e*S	Sn	15 17 30.2	-13
MRA				IAML		15 17 42.8	
comp=Z,175nm,0.6s							
CO03	**El Pedregal**	**4.54**	**230**	Pn	**Pn**	**15 16 50.5**	**+0.1**
CO03	**El Pedregal**	**4.54**	**230**	⇑*i*P	**Pn**	**15 16 50.6**	**+0.3**
CO03				*i* S	**Sn**	**15 17 44.1**	**+0.6**
CO03	**El Pedregal**	**4.54**	**230**	*e*P	**Pn**	**15 16 51.2**	**+0.9**
CO03				*e*S	**Sn**	**15 17 44.0**	**+0.5**
CO03				IAML		15 17 46.0	
comp=Z,576nm,0.2s							
PB14	**IPOC Station P**	**4.71**	**314**	Pn	**Pn**	**15 16 53.8**	**+1.1**
PB14	**IPOC Station P**	**4.71**	**314**	*i* P	**Pn**	**15 16 53.8**	**+1.1**
PB14				*i* S	**Sn**	**15 17 47.1**	**-0.6**
HJA	**Humahuaca**	**4.85**	**14**	*e*P	**Pn**	**15 16 56.9**	**+2.2**
HJA				*e*S	**Sn**	**15 17 58.8**	**+7.6**
CO06	**Fray Jorge**	**5.12**	**237**		**Pn**	**15 16 56.3**	**-1.4**
CO06	**Fray Jorge**	**5.12**	**237**	*i* P	**Pn**	**15 16 55.9**	**-1.9**
CO06				*i* S	**Sn**	**15 17 53.1**	**-3.7**
PB15	**IPOC Station P**	**5.35**	**331**		**Pn**	**15 17 02.0**	**+1.0**
LVC	**Limon Verde**	**5.68**	**339**	Pn	**Pn**	**15 17 07.0**	**+1.5**
LVC	**Limon Verde**	**5.68**	**339**	P	**Pn**	**15 17 06.9**	**+1.3**
comp=Z,99nm,0.3s,baz=169,slow=8.8,SNR=266							
LVC				S	**Sn**	**15 18 09.5**	**-1.3**
comp=Z,36nm,0.3s,baz=189,slow=6.7,SNR=3.0							
LVC	**Limon Verde**	**5.68**	**339**	*e*P	**Pn**	**15 17 05.1**	**-0.5**
LVC				*e*S	**Sn**	**15 18 09.0**	**-1.8**
PB06	**IPOC Station P**	**5.84**	**333**	Pn	**Pn**	**15 17 08.2**	**+0.8**
VA03	**San Esteban**	**5.86**	**214**		**Pn**	**15 17 07.6**	**+0.1**
VA03	**San Esteban**	**5.86**	**214**	*e*P	**Pn**	**15 17 07.9**	**+0.4**
MT08	**Bocatoma Ro**	**6.20**	**207**		**Pn**	**15 17 13.0**	**+1.0**
PEL	**Peldehue**	**6.24**	**213**	Pn	**Pn**	**15 17 11.9**	**-0.5**
CPUP	**Villa Florida**	**8.47**	**81**	P	**Pn**	**15 17 40.8**	**-1.1**
comp=Z,16nm,0.8s,baz=264,slow=12,SNR=19							
PSAL	**Palomas, Salto**	**8.49**	**114**	*e*P	**Pn**	**15 17 41.1**	**-1.0**
PAPY	**Pozo Azul**	**8.50**	**65**	*e*P	**Pn**	**15 17 42.5**	**+0.1**
GO01	**Chusmiza**	**8.55**	**344**	Pn	**Pn**	**15 17 42.7**	**-0.8**
ITQB	**Itaqui**	**8.98**	**103**	Pn	**Pn**	**15 17 47.5**	**-1.1**
ITQB	**Itaqui**	**8.98**	**103**	*e*P	**Pn**	**15 17 47.4**	**-1.2**
SJPY	**San Joaquin**	**9.91**	**75**	*e*P	**Pn**	**15 18 01.0**	**+0.2**
MURT	**Porto Murtinho**	**10.33**	**55**	*e*P	**Pn**	**15 18 05.5**	**-0.9**
TRQA	**Tornquist**	**10.82**	**160**	Pn	**Pn**	**15 18 13.4**	**+0.7**
AMBA	**Amambai (Brazi**	**11.67**	**67**	*e*P	**Pn**	**15 18 24.3**	**+0.5**
LPAZ	**La Paz**	**11.68**	**353**	Pn	**Pn**	**15 18 24.4**	**-0.1**
LPAZ	**La Paz**	**11.68**	**353**	P	**Pn**	**15 18 23.8**	**-0.7**
comp=Z,14nm,0.3s,baz=149,slow=6.3,SNR=43							
LPAZ				S	**Sn**	**15 20 28.2**	**-6.2**
comp=Z,2.5nm,0.5s,baz=314,slow=22,SNR=2.4							
LPAZ	**La Paz**	**11.68**	**353**	*e*P	**Pn**	**15 18 24.2**	**-0.3**
BDQN	**Bodoquena, MS**	**11.72**	**53**	*e*P	**Pn**	**15 18 24.1**	**-0.4**
PLTB	**Pedras Altas**	**11.96**	**112**	Pn	**Pn**	**15 18 25.6**	**-1.8**
PLTB	**Pedras Altas**	**11.96**	**112**	*e*P	**Pn**	**15 18 25.7**	**-1.8**
BBSD	**Serra de San D**	**12.07**	**29**	*e*P	**Pn**	**15 18 29.8**	**+0.8**
GO06	**Curarrehue**	**12.28**	**198**	Pn	**Pn**	**15 18 30.9**	**-0.7**
AQDB	**Aquidauana**	**12.46**	**56**	P	**P**	**15 18 40.0**	**+1.2**
AQDB	**Aquidauana**	**12.46**	**56**	*e*P	**Pn**	**15 18 33.8**	**-0.2**
PANT	**Pantanal (Braz**	**12.82**	**48**	*e*P	**Pn**	**15 18 38.9**	**+0.4**
ITAB	**Concordia**	**12.91**	**90**	Pn	**Pn**	**15 18 39.1**	**-0.5**
ITAB	**Concordia**	**12.91**	**90**	*e*P	**Pn**	**15 18 39.5**	**-0.1**
SIV	**San Ignacio**	**12.97**	**25**	P	**Pn**	**15 18 40.3**	**-0.2**
comp=Z,2.2nm,0.4s,baz=192,slow=13,SNR=10							
SIV				S	**Sn**	**15 21 02.3**	**-2.4**
comp=Z,0.7nm,0.3s,baz=190,slow=23,SNR=1.4							
LR05	**Currie**	**13.03**	**198**		**P**	**15 18 45.2**	**+0.2**
PLCA	**Paso Flores**	**13.15**	**193**	Pn	**Pn**	**15 18 40.6**	**-2.0**
PLCA	**Paso Flores**	**13.15**	**193**	P	**Pn**	**15 18 43.9**	**+1.2**
comp=Z,3.5nm,0.4s,baz=7.1,slow=11,SNR=14							
PLCA	**Paso Flores**	**13.15**	**193**	*e*P	**Pn**	**15 18 42.0**	**-0.7**
PTGB	**Pitanga**	**13.48**	**80**	*e*P	**Pn**	**15 18 47.3**	**+0.3**
RPRD	**Ribas do Rio P**	**13.96**	**61**	*e*P	**Pn**	**15 18 52.9**	**0.0**
PTLB	**Pontes e Lacer**	**14.26**	**31**		**P**	**15 18 59.3**	**+0.4**
PTLB	**Pontes e Lacer**	**14.26**	**31**	*e*P	**P**	**15 18 57.9**	**-0.9**
LDASE	**Londrina, Braz**	**14.73**	**76**	*e*P	**Pn**	**15 19 02.0**	**-0.5**
VILB	**Vilhena**	**16.09**	**23**		**Pn**	**15 19 18.7**	**-0.5**
VILB				IAmb	IAmb	15 19 19.5	
comp=Z,23nm,0.6s							
VILB	**Vilhena**	**16.09**	**23**	*e*P	**Pn**	**15 19 18.9**	**-0.2**
ITRB	**Iturama**	**17.01**	**65**	*e*P	**Pn**	**15 19 29.9**	**-0.4**
COYC	**Coyhaique**	**18.12**	**192**	P	**P**	**15 19 40.2**	**-0.9**
COYC				IAmb	IAmb	15 19 47.1	
comp=Z,44nm,0.8s							
RCLB	**Rio Claro- Sao**	**18.16**	**77**	*e*P	**P**	**15 19 42.0**	**+0.1**
ARAG	**Araguaiana, MT**	**18.37**	**52**	*e*P	**P**	**15 19 44.7**	**+0.5**
VAO	**Valinhos**	**18.45**	**79**	P	**P**	**15 19 44.3**	**-0.8**
VAO				IAmb	IAmb	15 19 46.2	
comp=Z,51nm,0.7s							
VAO	**Valinhos**	**18.45**	**79**	*e*P	**P**	**15 19 45.5**	**+0.4**
PDRB	**Porto dos Gac**	**18.73**	**32**	*e*P	**P**	**15 19 47.2**	**-0.8**
SAML	**Samuel**	**19.18**	**11**	P	**P**	**15 19 53.3**	**+0.4**
SAML	**Samuel**	**19.18**	**11**	*e*P	**P**	**15 19 53.1**	**+0.2**
IPMB	**Ipameri, GO**	**19.65**	**64**	*e*P	**P**	**15 19 57.8**	**-0.2**
BDFB	**Brasilia**	**21.17**	**59**	P	**P**	**15 20 12.7**	**-1.7**
BDFB	**Brasilia**	**21.17**	**59**	P	**P**	**15 20 13.7**	**-0.6**
comp=Z,7.3nm,0.4s,baz=247,slow=7.4,SNR=11							
comp=Z,7.3nm,0.4s							
SNDB	**Serra Nova Dou**	**21.43**	**45**	*e*P	**P**	**15 20 15.0**	**-2.1**
SNDB				*e*pP	**pP**	**15 20 46.8**	**-0.6**
DIAM	**Diamantina, MG**	**23.19**	**70**	*e*P	**P**	**15 20 34.5**	**+0.4**
JANB	**Januaria**	**24.38**	**63**	*e*P	**P**	**15 20 43.4**	**-1.4**
EFI	**East Falkland**	**24.57**	**167**	P	**P**	**15 20 46.9**	**+0.8**
MG03	**Isla Dawson**	**26.03**	**185**	P	**P**	**15 20 58.3**	**-0.9**
MG03				IAmb	IAmb	15 21 00.0	
comp=Z,25nm,1.1s							
SMTB	**Santa Maria do**	**26.15**	**47**	*e*P	**P**	**15 21 00.4**	**-0.4**
BOAV	**Boa Vista**	**30.74**	**12**	P	**P**	**15 21 42.2**	**+0.8**
BOAV				IAmb	IAmb	15 21 43.0	
comp=Z,8.7nm,0.8s							
CELP	**Cerrillos**	**45.74**	**0**	P	**P**	**15 23 44.6**	**-1.8**
SJG	**San Juan**	**45.78**	**1**	LR	LR	15 43 45.5	
comp=Z,45nm,19.5s,baz=164,slow=37							
TEIG	**Tepich**	**52.25**	**334**	P	**P**	**15 24 36.2**	**+0.3**
TEIG				IAmb	IAmb	15 24 43.5	
comp=Z,8.1nm,0.9s							
VNA3	**Neumayer Olymp**	**53.35**	**160**	⇓P	**P**	**15 24 44.3**	**+0.9**
comp=Z,13nm,0.7s							
VNA1	**Neumayer--Stat**	**53.56**	**159**	⇑P	**P**	**15 24 45.5**	**+0.7**
comp=Z,11nm,1.1s							
VNA2	**Neumayer--Watz**	**53.93**	**160**	⇓P	**P**	**15 24 48.8**	**+1.2**
comp=Z,9.0nm,0.5s,baz=283,slow=7.8							
SNAA	**Sanae**	**55.55**	**160**	P	**P**	**15 25 00.3**	**+1.0**
SNAA				IAmb	IAmb	15 25 00.9	
comp=Z,8.5nm,0.6s							
SNAA	**Sanae**	**55.55**	**160**	⇓P	**P**	**15 25 00.4**	**+1.1**
comp=Z,200nm,0.6s							
SNAA	**Sanae**	**55.55**	**160**	P	**P**	**15 25 00.5**	**+1.1**
comp=Z,7.4nm,0.5s,baz=280,slow=8.3,SNR=72							
comp=Z,7.4nm,0.5s							
TROLL	**Troll, Antarti**	**57.27**	**160**	⇓P	**P**	**15 25 12.9**	**+1.4**
comp=Z,296nm,0.5s							
QSPA	**South Pole Qui**	**62.28**	**180**	P	**P**	**15 25 47.4**	**+1.6**
QSPA	**South Pole Qui**	**62.28**	**180**	P	**P**	**15 25 47.6**	**+1.8**
comp=Z,15nm,0.6s,baz=172,slow=1.0,SNR=182							
comp=Z,15nm,0.6s							
TXAR	**Lajitas Array**	**67.06**	**325**	LR	LR	15 53 33.5	
comp=Z,14nm,18.3s,baz=345,slow=34							
DBIC	**Dimbokro**	**68.82**	**70**	P	**P**	**15 26 27.8**	**-0.5**
comp=Z,1.1nm,0.3s,baz=206,slow=6.1,SNR=4.8							
comp=Z,1.1nm,0.3s							
MAW	**Mawson**	**77.60**	**162**	P	**P**	**15 27 20.3**	**+1.4**
comp=Z,5.6nm,0.7s,baz=235,slow=7.8,SNR=14							
comp=Z,5.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**77.73**	**68**	P	**P**	**15 27 20.5**	**0.0**
comp=Z,2.8nm,0.7s,baz=236,slow=5.4,SNR=14							
TORD				pP	**pP**	**15 28 04.1**	**+0.7**
comp=Z,0.7nm,0.7s,baz=267,slow=6.7,SNR=2.1							
comp=Z,2.8nm,0.7s							
BOSA	**Boshof**	**78.70**	**116**	P	**P**	**15 27 26.4**	**+0.5**
comp=Z,2.0nm,0.6s,baz=258,slow=4.3,SNR=5.3							
comp=Z,2.0nm,0.6s							
PDAR	**Pinedale Array**	**80.68**	**329**	P	**P**	**15 27 37.4**	**+1.2**
comp=Z,0.5nm,0.5s,baz=133,slow=8.2,SNR=8.7							
PDAR				pP	**pP**	**15 28 20.6**	**+1.3**
comp=Z,0.3nm,0.7s,baz=151,slow=19,SNR=2.2							
comp=Z,0.5nm,0.5s							
ASAR	**Alice Springs**	**124.99**	**203**	PKP	**PKiKP**	**15 34 23.1**	**+0.2**
comp=Z,2.8nm,0.7s,baz=158,slow=2.5,SNR=84							
WRA	**Warramunga Arr**	**128.24**	**205**	PKP	**PKiKP**	**15 34 29.7**	**+0.2**
comp=Z,2.8nm,0.5s,baz=162,slow=1.9,SNR=37							
KURBB	**Kurchatov Arra**	**145.29**	**40**	PKPbc	**PKPab**	**15 35 01.4**	**+1.9**
comp=Z,2.3nm,0.8s,baz=298,slow=3.4,SNR=12							
KURBB				pPKPbc	**pPKPdf**	**15 35 45.8**	**+1.0**
comp=Z,1.3nm,0.6s,baz=301,slow=3.7,SNR=4.0							
ZALV	**Zalesovo Beam**	**146.67**	**31**	PKPbc	**PKPbc**	**15 35 03.1**	**-0.1**
comp=Z,2.0nm,0.3s,baz=304,slow=3.7,SNR=10							
ZALV				pPKPbc	pPKPab	15 35 49.1	-0.1
comp=Z,3.6nm,0.6s,baz=304,slow=3.8,SNR=6.2							
KSH	**Kashi**	**147.07**	**60**	PKPbc	**PKPbc**	**15 35 05.3**	**+0.3**
KSH				pPKP	pPKPbc	15 35 50.3	+0.1
MKAR	**Makanchi Array**	**149.26**	**44**	PKPbc	**PKiKP**	**15 35 11.8**	**+0.3**
comp=Z,2.2nm,0.7s,baz=289,slow=2.8,SNR=14							
MKAR				pPKPbc	**pPKPab**	**15 35 57.7**	**-2.0**
comp=Z,1.0nm,0.5s,baz=299,slow=2.4,SNR=2.8							
PZH	**PanZhiHua**	**169.58**	**95**	PKP	**PKPdf**	**15 35 29.1**	**-0.5**

*TIR **09** 15:25:18.2,37°.29N×20°.59E,h11km±2km,Md3.4,Ml3.5*
*THE **09** 15:25:21.5,37°.48N×20°.44E,h2km±1km,ML3.4/14,Error ellipse: s-maj=1.9km s-min=0.6km az=224.0*
*ATH **09** 15:25:22.3,37°.51N×20°.50E,h9km±1km,ML3.3/15,Error ellipse: s-maj=1.9km s-min=0.9km az=40.0*
ISC 09 15:25:21.7±1.4,37°.49N±0°.04×20°.49E±0°.04,h12km±8km, n51,σ0°81/80,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.31**	**57**	P	**Pb**	**15 25 28.6**	**-0.6**
KRI1				S	**Sb**	**15 25 33.2**	**-1.0**
15μm,0.6s							
LTHK	**Lithakia**	**0.35**	**52**	P	**Pg**	**15 25 28.9**	**+0.2**
LTHK				S	**Sg**	**15 25 34.1**	**+0.8**
24μm,0.6s							
LTHK	**Lithakia**	**0.35**	**52**	P	**Pg**	**15 25 29.0**	**+0.2**
LTHK				S	**Sg**	**15 25 34.0**	**+0.7**
LTHK				AML	AML	15 25 34.7	
comp=E,44565μm,0.6s							
LTHK				AML	AML	15 25 34.9	
comp=N,46081μm,0.6s							
RTZL	**Ratzakli, Kefa**	**0.62**	**21**	P	**Pg**	**15 25 33.6**	**-0.2**
RTZL				S	**Sb**	**15 25 43.2**	**-0.1**
comp=N,3μm,0.6s							
PSDA	**Pessada-Kefalo**	**0.62**	**7**	P	**Pg**	**15 25 33.7**	**-0.1**
PSDA				S	**Sb**	**15 25 43.4**	**+0.1**
comp=N,4μm,0.3s							

comp=E,1μm,0.6s
LKD2 Lefkada island 1.30 6 P **Pn 15 25 46.0 +0.2**
LKD2 S **Sb 15 26 02.1 -0.7**
LKD2 AML AML 15 26 09.8
comp=E,2302μm,0.7s
LKD2 AML AML 15 26 10.4
comp=N,2939μm,0.7s
TSLK Tsoukalades, L 1.33 5 P **Pn 15 25 46.7 +0.5**
TSLK S **Sg 15 26 05.8 +1.1**
comp=N,1μm,0.8s
TSLK Tsoukalades, L 1.33 5 P **Pn 15 25 46.0 -0.3**
KLV Kalavryta, Ach 1.42 67 P **Pb 15 25 48.5 +0.2**
KLV Kalavryta, Ach 1.42 67 P **Pn 15 25 47.4 -0.1**
EFP Efpalio 1.45 50 P **Pb 15 25 48.7 0.0**
EFP Efpalio 1.45 50 P **Pn 15 25 47.5 -0.3**
EFP S **Sn 15 26 05.9 -0.9**
EFP AML AML 15 26 16.6
comp=E,1302μm,0.6s
EFP AML AML 15 26 24.1
comp=N,1293μm,0.7s
GUR Goura 1.53 73 P **Pn 15 25 49.2 +0.2**
GUR AML AML 15 26 23.6
comp=N,2095μm,0.5s
GUR AML AML 15 26 26.0
comp=E,1289μm,0.5s
ANX Ano Chora 1.57 45 P **Pb 15 25 50.6 -0.2**
ANX Ano Chora 1.57 45 P **Pn 15 25 48.9 -0.7**
ANX S **Sn 15 26 08.9 -1.0**
ANX AML AML 15 26 19.3
comp=N,2968μm,0.7s
ANX AML AML 15 26 22.8
comp=E,3374μm,0.6s
KALE Kalithea 1.58 55 P **Pn 15 25 50.4 +0.7**
KALE Kalithea 1.58 55 P **Pn 15 25 49.8 +0.2**
KALE S **Sn 15 26 09.4 -0.7**
KALE AML AML 15 26 21.2
comp=E,1434μm,0.8s
KALE AML AML 15 26 23.2
comp=N,1752μm,0.5s
EVR Evrytania 1.76 36 P **Pn 15 25 53.0 +0.9**
IGT Igoumenitsa 2.04 356 P **Pb 15 25 59.0 +0.3**
IGT AMP
comp=E,0.8nm,0.7s,baz=355
IGT Igoumenitsa 2.04 356 P **Pn 15 25 56.6 +0.7**
IGT AML AML 15 26 34.4
comp=N,386μm,0.6s
IGT AML AML 15 26 35.1
comp=E,803μm,0.7s
VLI Velíai 2.10 111 P **Pn 15 25 57.7 +1.0**
THL Klokotos Trika 2.39 30 P **Pn 15 26 01.1 +0.5**
SRN Sarande 2.41 351 P **Pb 15 26 05.0 -0.1**
SRN AMP
comp=E,0.5nm,1.0s,baz=351
NEST Nestorio 2.95 8 P **Pb 15 26 12.1 -2.2**
SCTE Santa Cesarea 3.02 329 P **Pb 15 26 13.3 -2.1**
FNA Florina 3.36 12 P **Pb 15 26 18.1 -3.1**
OHR Ohrid 3.62 4 *i* Pn **Pg 15 26 31.8 +0.8**

*IDC **09** 15:33:29.5±4.7, 37.°12N×21.°81E, h0km, mb3.7/7, mbtmp3.6/9, ML3.4/2, Error ellipse: s-maj=81.2km s-min=33.1km az=33.0*
*ATH **09** 15:33:33.8, 37.°53N×21.°95E, h6km±2km, ML3.3/16, Error ellipse: s-maj=2.4km s-min=0.7km az=265.0*
*THE **09** 15:33:34.1, 37.°52N×21.°97E, h7km±2km, ML3.2/10, Error ellipse: s-maj=2.5km s-min=0.6km az=271.0*
ISC 09 15:33:33.8±1.0, **37.°53N**±0.°02×**21.°97E**±0.°03, **h8**km±8km, **n43**, σ0°**81**/68, **mb3.7**/7, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.20**	**271**	P	**Pg**	**15 33 37.7**	**-0.2**
AMT				S	**Sg**	**15 33 40.5**	**-0.3**
AMT				AML	AML	15 33 41.4	
AMT				AML	AML	15 33 43.1	
ITM	**Ithomi**	**0.35**	**185**	P	**Pg**	**15 33 40.6**	**-0.1**
ITM				S	**Sg**	**15 33 46.2**	**+0.9**
6μm,0.3s							
ITM	**Ithomi**	**0.35**	**185**	P	**Pg**	**15 33 40.5**	**-0.1**
ITM				S	**Sg**	**15 33 45.1**	**-0.2**
ITM				AML	AML	15 33 46.8	
comp=E,14425μm,0.4s							
ITM				AML	AML	15 33 48.0	
comp=N,9927μm,0.2s							
DRO	**Drossia**	**0.47**	**334**	P	**Pg**	**15 33 42.9**	**0.0**
DRO				S	**Sb**	**15 33 51.0**	**-0.5**
DRO	**Drossia**	**0.47**	**334**	P	**Pg**	**15 33 42.9**	**0.0**
DRO				S	**Sg**	**15 33 49.9**	**+0.8**
DRO				AML	AML	15 33 54.0	
comp=E,11299μm,0.2s							
DRO				AML	AML	15 33 54.4	
comp=N,10980μm,0.3s							
GUR	**Goura**	**0.50**	**36**	P	**Pg**	**15 33 43.4**	**-0.2**
GUR				S	**Sg**	**15 33 50.8**	**+0.6**
comp=N,10μm,0.3s							
GUR	**Goura**	**0.50**	**36**	P	**Pg**	**15 33 43.4**	**-0.2**
GUR				S	**Sg**	**15 33 50.7**	**+0.5**
GUR				AML	AML	15 33 53.4	
comp=N,28862μm,0.4s							
GUR				AML	AML	15 33 54.6	
comp=E,9986μm,0.3s							
KLV	**Kalavryta, Ach**	**0.53**	**16**	P	**Pg**	**15 33 43.8**	**-0.3**
KLV				S	**Sb**	**15 33 53.2**	**-0.2**
comp=E,2μm,0.3s							
KLV	**Kalavryta, Ach**	**0.53**	**16**	P	**Pg**	**15 33 43.8**	**-0.3**
KLV				S	**Sg**	**15 33 52.2**	**+1.1**
KLV				AML	AML	15 33 53.6	
comp=E,4309μm,0.3s							
KLV				AML	AML	15 33 55.2	
comp=N,3119μm,0.4s							
PYL	**PYLOS**	**0.66**	**196**	P	**Pg**	**15 33 45.9**	**-0.6**
PYL				S	**Sb**	**15 33 56.4**	**-0.5**
comp=N,3μm,0.4s							
PYL	**PYLOS**	**0.66**	**196**	P	**Pg**	**15 33 45.8**	**-0.6**
PYL				S	**Sg**	**15 33 55.7**	**+0.7**
PYL				AML	AML	15 33 57.9	
comp=N,5062μm,0.3s							
PYL				AML	AML	15 34 01.4	
comp=E,7056μm,0.4s							
RLS	**Riolos of Patr**	**0.66**	**323**	P	**Pg**	**15 33 46.2**	**-0.3**
RLS				S	**Sb**	**15 33 56.4**	**-0.6**
comp=E,2μm,0.4s							
RLS	**Riolos of Patr**	**0.66**	**323**	P	**Pg**	**15 33 46.0**	**-0.5**
ALIK	**Aliki, Aigiali**	**0.74**	**9**	P	**Pg**	**15 33 47.9**	**-0.1**
ALIK				S	**Sb**	**15 33 59.0**	**-0.2**
UPR	**University Cam**	**0.77**	**349**	P	**Pg**	**15 33 48.4**	**-0.2**
UPR				S	**Sb**	**15 33 59.6**	**-0.4**
KALE	**Kalithea**	**0.87**	**9**	P	**Pg**	**15 33 49.9**	**-0.7**
KALE				S	**Sb**	**15 34 03.7**	**+0.6**
comp=E,2μm,0.4s							
KALE	**Kalithea**	**0.87**	**9**	P	**Pg**	**15 33 49.7**	**-0.8**
KALE				S	**Sg**	**15 34 01.2**	**-0.7**
KALE				AML	AML	15 34 06.4	
comp=E,4322μm,0.4s							
KALE				AML	AML	15 34 06.4	
comp=N,4860μm,0.5s							
EFP	**Efpalio**	**0.90**	**357**	P	**Pg**	**15 33 50.5**	**-0.5**
EFP				S	**Sb**	**15 34 05.1**	**+1.3**
comp=N,2μm,0.4s							
EFP	**Efpalio**	**0.90**	**357**	P	**Pg**	**15 33 50.5**	**-0.5**
EFP				S	**Sg**	**15 34 02.7**	**-0.1**
EFP				AML	AML	15 34 06.7	
comp=E,2878μm,0.4s							
EFP				AML	AML	15 34 08.9	
comp=N,2889μm,0.4s							
LTHK	**Lithakia**	**0.92**	**282**	P	**Pg**	**15 33 50.9**	**-0.5**
LTHK				AML	AML	15 34 08.0	
comp=N,4588μm,0.3s							
LTHK				AML	AML	15 34 08.1	
comp=E,6797μm,0.2s							
LOUT	**Loutraki**	**0.92**	**60**	P	**Pg**	**15 33 51.0**	**-0.5**
ANX	**Ano Chora**	**1.06**	**358**	P	**Pg**	**15 33 53.2**	**-1.0**
ANX				S	**Sn**	**15 34 10.6**	**+0.4**
comp=E,2μm,0.5s							
ANX	**Ano Chora**	**1.06**	**358**	P	**Pg**	**15 33 53.1**	**-1.1**
ANX				S	**Sg**	**15 34 08.0**	**-0.1**
ANX				AML	AML	15 34 11.7	
comp=N,5143μm,0.5s							
ANX				AML	AML	15 34 14.5	
comp=E,4179μm,0.6s							
VLI	**Velíai**	**1.12**	**136**	P	**Pb**	**15 33 55.2**	**-0.3**
VLI				S	**Sn**	**15 34 11.8**	**+0.3**
comp=E,652nm,0.7s							
VLI	**Velíai**	**1.12**	**136**	P	**Pb**	**15 33 55.2**	**-0.3**
VLI				S	**Sb**	**15 34 10.4**	**+0.2**
VLI				AML	AML	15 34 17.0	
comp=N,1245μm,0.5s							
VLI				AML	AML	15 34 17.6	
comp=E,1277μm,0.4s							
VIL2	**Platees**	**1.23**	**56**	P	**Pg**	**15 33 57.0**	**-0.5**
VIL2				AML	AML	15 34 20.1	
comp=E,2722μm,0.4s							
VIL2				AML	AML	15 34 20.6	
comp=N,1677μm,0.4s							
VILL	**Villia**	**1.24**	**59**	P	**Pg**	**15 33 56.8**	**-0.8**
AXAR	**Agios Charalam**	**1.35**	**24**	P	**Pn**	**15 33 58.0**	**-1.1**
AXAR				S	**Sg**	**15 34 15.4**	**-1.8**
AXAR				AML	AML	15 34 20.6	
comp=N,3636μm,0.5s							
AXAR				AML	AML	15 34 29.4	
comp=E,3655μm,0.5s							
EVR	**Evrytania**	**1.39**	**355**	P	**Pn**	**15 33 59.1**	**-0.6**
EVR				AML	AML	15 34 23.6	
comp=E,1014μm,0.8s							
EVR				AML	AML	15 34 25.4	
comp=N,1164μm,0.3s							
ATH	**Athens Observa**	**1.46**	**72**	P	**Pb**	**15 34 00.9**	**-0.3**
ATH	**Athens Observa**	**1.46**	**72**	P	**Pn**	**15 34 00.3**	**-0.2**
ATH				AML	AML	15 34 23.5	
comp=N,978μm,0.5s							
ATH				AML	AML	15 34 24.7	
comp=E,1991μm,0.4s							
VLY	**Voula,Athens**	**1.48**	**77**	P	**Pn**	**15 34 01.3**	**+0.4**
VLY				S	**Sb**	**15 34 20.2**	**-0.5**
comp=E,650nm,0.5s							
VLY	**Voula,Athens**	**1.48**	**77**	P	**Pn**	**15 34 00.6**	**-0.2**
VLY				AML	AML	15 34 26.9	
comp=E,1411μm,0.4s							
VLY				AML	AML	15 34 27.4	
comp=N,1188μm,0.5s							
IDI	**Anoyia**	**3.25**	**133**	Pn	**Pn**	**15 34 25.5**	**+0.3**
comp=N,1.0nm,0.3s,baz=74,slow=13,SNR=2.3							
IDI				Sn	**Sn**	**15 35 04.5**	**+0.4**
comp=N,3.6nm,0.3s,baz=56,slow=19,SNR=3.0							
MLR	**Muntele Rosu**	**8.49**	**19**	Pn	**Pn**	**15 35 41.6**	**+4.3**
comp=N,0.2nm,0.3s,baz=205,slow=9.0,SNR=2.0							
MLR				Sn	Sb	15 37 34.8	-7.6
comp=N,0.1nm,0.3s,baz=195,slow=4.6,SNR=5.8							
comp=N,1.4nm,0.5s							
BRTR	**Keskin Array B**	**9.39**	**73**	Pn	**Pn**	**15 35 50.8**	**+1.1**
comp=N,0.1nm,0.3s,baz=259,slow=13,SNR=2.2							
comp=N,0.3nm,0.5s							
HFS	**Hagfors**	**23.23**	**349**	P	**P**	**15 38 41.8**	**+0.6**
comp=N,0.5nm,0.4s,baz=165,slow=11,SNR=5.4							
comp=N,0.5nm,0.4s							
FINES	**FINESS Array B**	**24.08**	**5**	P	**P**	**15 38 50.2**	**+0.7**
comp=N,1.8nm,0.9s,baz=182,slow=8.9,SNR=4.6							
comp=N,1.8nm,0.9s							
ARCES	**ARCESS Array B**	**32.12**	**2**	P	**P**	**15 40 01.1**	**-0.2**
comp=N,1.1nm,0.7s,baz=185,slow=9.1,SNR=1.0							
comp=N,1.1nm,0.7s							
BVAR	**Borovoye Array**	**36.67**	**49**	P	**P**	**15 40 40.7**	**-0.1**
comp=N,0.4nm,0.5s,baz=272,slow=10.0,SNR=3.2							
comp=N,0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**41.70**	**53**	P	**P**	**15 41 22.9**	**-0.1**
comp=N,1.6nm,0.2s,baz=279,slow=8.9,SNR=2.0							
comp=N,1.6nm,0.2s							
MKAR	**Makanchi Array**	**44.67**	**58**	P	**P**	**15 41 46.5**	**-0.6**
comp=N,0.2nm,0.4s,baz=275,slow=7.9,SNR=7.7							
comp=N,0.2nm,0.4s							
ZALV	**Zalesovo Beam**	**45.27**	**48**	P	**P**	**15 41 51.4**	**-0.3**
comp=N,0.8nm,0.5s,baz=269,slow=7.7,SNR=4.5							
comp=N,0.8nm,0.5s							

*IDC **09** 15:35:22.3±1.6, 37.°56N×20.°77E, h0km, mb3.5/6, mbtmp3.6/6, Error ellipse: s-maj=42.1km s-min=27.4km az=114.0*
ISC 09 15:35:23.9±1.2, **37.°6N**±0.°1×**20.°8E**±0.°1, **h12**km, **n7**, σ1°**17**/8, **mb3.5**/6, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**4.01**	**123**	Pn	**Pb**	**15 36 32.9**	**-1.6**
baz=40,slow=16							
IDI				Sn	**Sn**	**15 37 14.1**	**+2.0**
0.8nm,0.3s,baz=313,slow=21,SNR=1.3							
HFS	**Hagfors**	**23.05**	**351**	P	**P**	**15 40 28.5**	**-0.3**
1.7nm,0.6s,baz=168,slow=12,SNR=8.5							
1.7nm,0.6s							
FINES	**FINESS Array B**	**24.14**	**6**	P	**P**	**15 40 39.9**	**+0.4**
1.6nm,0.7s,baz=161,slow=11,SNR=11							
1.6nm,0.7s							
NOA	**NORSAR Array B**	**24.27**	**349**	P	**P**	**15 40 40.9**	**+0.2**
0.6nm,0.7s,baz=160,slow=9.3,SNR=3.5							
0.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**29.68**	**220**	P	**P**	**15 41 29.9**	**+0.2**
0.4nm,0.9s,baz=30,slow=11,SNR=3.1							
0.4nm,0.9s							
MKAR	**Makanchi Array**	**45.46**	**58**	P	**P**	**15 43 43.1**	**+0.4**
0.2nm,0.5s,baz=274,slow=7.8,SNR=2.7							
0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**45.96**	**48**	P	**P**	**15 43 46.4**	**-0.1**
0.5nm,0.4s,baz=270,slow=6.6,SNR=2.4							
0.5nm,0.4s							

*IDC **09** 15:42:01.2±1.9, 21.°70S×170.°21E, h0km, mb3.8/4, mbtmp3.8/5, ML4.1/1, MS3.0/4, Error ellipse: s-maj=48.8km s-min=34.0km az=8.0*
*NOU **09** 15:42:06.3, 21.°83S×169.°79E, h0km, MLv4.0/10, Southeast of Loyalty Islands*
ISC 09 15:42:06.0±1.1, **21.°9S**±0.°1×**170.°0E**±0.°1, **h25**km, **n20**, σ0°**80**/17, **mb4.0**/6, **2C**, **Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.92**	**282**	P	**Pn**	**15 42 36.5**	**-0.6**
PINNC	**Pines Island,**	**2.50**	**253**	P	**Pn**	**15 42 44.9**	**-0.2**
LIFNC	**LIFOU**	**2.84**	**293**	P	**Pn**	**15 42 48.8**	**-1.0**
YATNC	**Mamie plateau,**	**2.93**	**266**	P	**Pn**	**15 42 50.1**	**-0.9**
DZM	**Mont Dzumac**	**3.34**	**267**	Pn	**Pn**	**15 42 57.1**	**+0.3**
16nm,0.3s,baz=126,slow=12,SNR=235							
DZM				Sn	**Sn**	**15 43 35.8**	**0.0**
11nm,0.3s,baz=307,slow=24,SNR=13							
29nm,0.3s							
DZM	**Mont Dzumac**	**3.34**	**267**	P	**Pn**	**15 42 57.1**	**+0.3**
ONTNC	**Ouen Toro**	**3.35**	**263**	P	**Pn**	**15 42 57.2**	**+0.4**
NOUC	**Port Laguerre**	**3.48**	**266**	P	**Pn**	**15 42 58.6**	**+0.1**
DVP	**Devils Point**	**4.51**	**337**	P	**Pn**	**15 43 13.3**	**+0.5**
RAO	**Raoul Island**	**13.09**	**126**	LR	LR	15 49 18.3	
comp=Z,110nm,18.3s,baz=26,slow=33							
HNR	**Honiara**	**15.75**	**320**	LR	LR	15 51 09.2	
comp=Z,50nm,18.4s,baz=259,slow=35							
RPZ	**Rata Peaks**	**21.76**	**178**	LR	LR	15 53 42.0	
comp=Z,68nm,21.1s,baz=108,slow=32							
CTA	**Charters Tower**	**22.28**	**270**	LR	LR	15 55 26.7	
comp=Z,10nm,18.1s,baz=91,slow=36							
STKA	**Stephens Creek**	**27.17**	**243**	P	**P**	**15 47 49.3**	**+1.7**
1.4nm,0.7s,baz=52,slow=11,SNR=2.9							
1.4nm,0.7s							
ASAR	**Alice Springs**	**33.31**	**260**	P	**P**	**15 48 42.9**	**+0.8**
0.4nm,0.7s,baz=80,slow=8.4,SNR=6.8							
0.4nm,0.7s							
WRA	**Warramunga Arr**	**33.36**	**267**	P	**P**	**15 48 42.0**	**-0.5**
0.4nm,0.4s,baz=99,slow=8.4,SNR=8.4							
0.4nm,0.4s							
QSPA	**South Pole Qui**	**68.16**	**180**	P	**P**	**15 53 04.2**	**+0.3**
2.0nm,0.9s,baz=27,slow=2.3,SNR=5.0							
2.0nm,0.9s							
VNA3	**Neumayer Olymp**	**87.10**	**180**	⇑P	**P**	**15 54 48.1**	**-1.2**
comp=Z,3.4nm,0.7s							
VNA2	**Neumayer--Watz**	**87.40**	**181**	⇑P	**P**	**15 54 50.0**	**-0.7**
comp=Z,2.9nm,0.6s,baz=175,slow=4.9							
EKA	**Eskdalemuir Ar**	**146.24**	**353**	PKPbc	**PKPdf**	**16 01 42.5**	**-0.4**
comp=Z,0.5nm,0.3s,baz=341,slow=2.7,SNR=5.7							

*AEIC **09** 15:43:20.9±1.2, 53.°57N±0.°06×165.°49W±0.°07, h34km±8km, Error ellipse: s-maj=10.1km s-min=4.5km az=149.0*
NEIC 09 15:43:21.0±0.9, **53.°54N**±0.°05×**165.°46W**±0.°07, **h35**km±2km, **ML2.7**(AEIC), **Error ellipse: s-maj=9.6km s-min=4.5km az=320.0**, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**0.62**	**347**		Pn	15 43 32.5	-0.8
AKSA					Sn	15 43 41.5	-0.5
AHB	**Akutan Harbor**	**0.62**	**340**		Pn	15 43 32.8	-0.6
AHB					Sn	15 43 42.2	+0.2
AKBBA	**Akutan Broad B**	**0.63**	**334**		Pn	15 43 33.1	-0.4
AKBBA					Sn	15 43 42.3	-0.1
ZRO	**Akutan Zero**	**0.64**	**331**		Pn	15 43 33.0	-0.6
ZRO					Sn	15 43 42.5	0.0
AKMO	**Akutan Morgan**	**0.65**	**330**		Pn	15 43 33.2	-0.5
AKMO					Sn	15 43 42.7	0.0
AKV	**Akutan Volcano**	**0.66**	**333**		Pn	15 43 33.7	-0.3
AKV					Sn	15 43 43.6	+0.4
UNV	**Unalaska Valle**	**0.70**	**297**		Pn	15 43 33.8	-0.5
UNV					Sn	15 43 43.9	0.0
AKRB	**Akutan Reef Bi**	**0.70**	**329**		Pn	15 43 33.8	-0.7
AKRB					Sn	15 43 44.5	+0.5
LVA	**Lava Point**	**0.71**	**331**		Pn	15 43 34.1	-0.6
MREP	**Makushin Rep't**	**0.81**	**290**		Pn	15 43 35.7	-0.4
MTBL	**Makushin Table**	**0.85**	**301**		Pn	15 43 36.4	-0.1
MTBL					Sn	15 43 48.1	+0.3
MSW	**Makushin Switc**	**0.88**	**296**		Sn	15 43 48.7	+0.3
MGOD	**Makushin Gods**	**0.88**	**288**		Sn	15 43 49.0	+0.4
MAPS	**Pakushin South**	**0.93**	**288**		Pn	15 43 37.5	0.0
WESE	**West Dahl East**	**1.07**	**28**		Pn	15 43 39.6	0.0
ISLZ	**Isanotski Laza**	**1.57**	**40**		Pn	15 43 46.6	+0.1
ISNN	**Isanotski Nort**	**1.63**	**37**		Pn	15 43 48.3	+1.1
FALS	**False Pass**	**1.78**	**41**		Pn	15 43 49.9	+0.6

*SJA **09** 15:51:36.0, 31.°90S×70.°58W, h99km, ML2.8*
*GUC **09** 15:51:36.7±0.8, 31.°87S×70.°75W, h99km±4km, ML2.7*
ISC 09 15:51:37.0±1.5, **31.°87S**±0.°03×**70.°67W**±0.°06, **h90**km±12km, **n33**, σ0°**83**/39, **3C-2D**, **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO04	**Los Peladeros**	**0.32**	**236**	*i* P	**Pn**	**15 51 50.5**	**-0.4**
CO04				*i* S	**Sn**	**15 52 01.4**	**+0.3**
CO04				IAML		15 52 02.0	
comp=N,930nm,0.1s							
VA03	**San Esteban**	**0.90**	**174**	*e*P	**Pn**	**15 51 55.5**	**-0.2**
VA03				*i* S	**Sn**	**15 52 10.0**	**+0.4**
VA03				IAML		15 52 13.1	
comp=E,520nm,0.1s							
VA03	**San Esteban**	**0.90**	**174**	*i* P	**Pn**	**15 51 54.3**	**-1.4**
CO03	**El Pedregal**	**1.03**	**359**	*e*P	**Pn**	**15 51 56.9**	**-0.2**
CO03				*i* S	**Sn**	**15 52 12.6**	**+0.4**
CO03				IAML		15 52 13.8	
comp=E,613nm,0.1s							
CO03	**El Pedregal**	**1.03**	**359**	*i* P	**Pn**	**15 51 56.3**	**-0.8**
ROCH	**El Roble**	**1.14**	**195**	⇓*i*P	**Pn**	**15 51 58.1**	**-0.5**
ROCH				IAML		15 52 17.6	
comp=N,68nm,0.3s							
RTLS	**Leoncito**	**1.17**	**87**	*i* P	**Pn**	**15 51 58.1**	**-0.9**
PEL	**Peldehue**	**1.27**	**181**	*e*P	**Pn**	**15 51 59.9**	**-0.1**
PEL				*i* S	**Sn**	**15 52 17.5**	**+0.2**
PEL				IAML		15 52 22.2	
comp=N,72nm,0.2s							
MT10	**Hacienda Santa**	**1.41**	**176**	*e*P	**Pn**	**15 52 01.5**	**-0.2**
MT10				*i* S	**Sn**	**15 52 20.7**	**+0.3**
MT10				IAML		15 52 21.8	
comp=E,158nm,0.4s							
MT02	**Curacav**	**1.44**	**196**	*i* P	**Pn**	**15 52 01.0**	**-1.0**
CO06	**Fray Jorge**	**1.45**	**325**	*e*P	**Pn**	**15 52 02.3**	**+0.2**
CO06				IAML		15 52 28.6	
comp=E,222nm,0.1s							
FCH	**Farellones**	**1.49**	**168**	⇓*i*P	**Pn**	**15 52 03.5**	**+0.6**
FCH				*i* S	**Sn**	**15 52 23.5**	**+1.0**
FCH				IAML		15 52 25.3	
comp=E,86nm,0.4s							
MT04	**Ro Olivares**	**1.60**	**164**	⇑*i*P	**Pn**	**15 52 04.6**	**+0.4**
MT04				*i* S	**Sn**	**15 52 27.2**	**+2.4**
MT04				IAML		15 52 28.1	
comp=E,69nm,0.2s							
MT04	**Ro Olivares**	**1.60**	**164**	*i* P	**Pn**	**15 52 04.2**	**0.0**
GO04	**Tololo Observa**	**1.69**	**356**	*e*P	**Pn**	**15 52 05.2**	**-0.3**
GO04				*i* S	**Sn**	**15 52 27.3**	**+0.3**
GO04	**Tololo Observa**	**1.69**	**356**	*i* P	**Pn**	**15 52 04.5**	**-0.9**
ZON	**Zonda**	**1.73**	**80**	*i* P	**Pn**	**15 52 04.9**	**-0.7**
RTCV	**Cerro Valdivia**	**1.81**	**90**	*i* P	**Pn**	**15 52 06.5**	**-0.2**
MT12	**Pirque**	**1.86**	**177**	IAML		15 52 43.1	
comp=E,64nm,0.6s							
ACCO	**Cerro Coronel**	**1.87**	**47**	*i* P	**Pn**	**15 52 08.0**	**+0.1**
RTLL	**Cerro Villicun**	**1.95**	**75**	*i* P	**Pn**	**15 52 07.1**	**-1.5**
AROD	**Rodeo**	**1.98**	**31**	*i* P	**Pn**	**15 52 10.3**	**+1.0**
LMEL	**Las Melosas**	**2.01**	**169**	IAML		15 52 39.5	
comp=N,86nm,0.2s							
MT01	**Popeta**	**2.05**	**194**	⇑*i*P	**Pn**	**15 52 09.4**	**-0.5**
MT01				*i* S	**Sn**	**15 52 34.4**	**-0.5**
MT01				IAML		15 52 40.2	
comp=N,68nm,0.2s							
MT01	**Popeta**	**2.05**	**194**	*i* P	**Pn**	**15 52 08.8**	**-1.1**
BO01	**Tunca**	**2.54**	**188**	*i* P	**Pn**	**15 52 15.3**	**-1.1**
LCO	**Las Campanas**	**2.85**	**359**	*i* P	**Pn**	**15 52 19.4**	**-1.3**
BO02	**Sierra Bellavi**	**2.92**	**182**	*i* P	**Pn**	**15 52 21.8**	**+0.3**
AVFE	**Valle Fertil**	**3.00**	**67**	*i* P	**Pn**	**15 52 21.9**	**-0.8**
ACHE	**Chepes**	**3.49**	**79**	*i* P	Pn	15 52 20.0	-9.3
AC04	**Llanos de Chal**	**3.67**	**354**	*i* P	**Pn**	**15 52 32.0**	**+0.5**
ACLC	**CERRO LA CRUZ**	**4.02**	**54**	*i* P	**Pn**	**15 52 36.6**	**+0.1**
MRA	**San Martin**	**4.23**	**99**	*i* P	**Pn**	**15 52 38.1**	**-1.1**

*IDC **09** 16:08:57.1±0.5, 44.°53N×145.°72E, h0km, mb4.1/25, mbtmp4.0/27, ML3.4/2, MS3.4/18, Error ellipse: s-maj=15.0km s-min=13.7km az=137.0*
*BJI **09** 16:08:58.0, 44.°60N×146.°00E, h19km, mb4.5/44, mB4.9/14, Ms4.3/20, Ms7 4.1/20*
*NIED **09** 16:08:58.7, 44.°53N×145.°77E, h22km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}3.38; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$-3.06; $M_{r\theta}$-1.94; $M_{\theta\phi}$-0.81; $M_{\phi r}$-2.35; Fault plane solution: $M_0$4.50000×10^{15} NP1: ϕ_s211.00000°, δ66.00000°, λ102.00000°. NP2:ϕ_s3.00000°, δ26.00000°, λ64.00000°.*
*JMA **09** 16:08:58.7±0.2, 44.°5N±0.°6×145.°8E±0.°9, h22km±1km, MD4.4/38, MV4.4/38, NEAR KUNASHIRI ISLAND*
JMA Felt I J1 at NEAR KUNASHIRI ISLAND .
*MOS **09** 16:08:59.4±0.9, 44.°48N×145.°70E, h27km, mb4.9/24, Error ellipse: s-maj=9.0km s-min=5.4km az=95.7*
MOS Felt (II) at Goryachiy Plyazh, Lagunnoye, Yuzhno-Kuril'sk.
*SKHL **09** 16:08:59.9±0.1, 44.°50N×145.°70E, h25km±2km, mb5.0/8*
*NEIC **09** 16:09:02.7±1.8, 44.°70N±0.°05×145.°64E±0.°10, h30km±6km, mb4.7/93, Error ellipse: s-maj=11.3km s-min=5.0km az=57.0*
ISC 09 16:08:58.6±0.8, **44.°51N**±0.°03×**145.°77E**±0.°03, **h8**km±4km, **n245**, σ1°**68**/210, **mb4.6**/94, **MS3.6**/19, **19C-12D**, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.48**	**172**	*i* P	**Pb**	**16 09 08.9**	**-

comp=N,28µm,0.5s
SHO A A 16 09 32.7
comp=N,20µm,0.5s
SHO Shikotan 1.00 130⇑ *i*PN Pn 16 09 17.9 -1.0
SHO *i* S **Sn 16 09 31.8 -1.4**
SHO pmax pmax
comp=N,1µm,0.3s
SHO pmax pmax
comp=Z,3µm,0.3s
SHO pmax pmax
comp=E,1µm,0.2s
SHO smax smax
comp=N,27µm,0.4s
SHO smax smax
comp=E,20µm,0.3s
NMR Nemuro--Hokkai 1.14 181 *i* P Pg 16 09 19.3 -1.2
NMR *i* S **Sg 16 09 33.9 -1.4**
NMR Nemuro--Hokkai 1.14 181⇑ *i*PN Pg 16 09 19.2 -1.2
NMR *i* S **Sg 16 09 34.4 -0.9**
NEM2 Nemuro 2 1.15 181 *i* P Pg 16 09 19.2 -1.4
NEM2 S **Sg 16 09 34.4 -1.0**
NEM2 Nemuro 2 1.15 181 A A 16 09 19.2
comp=E,8.0nm,2.7s,comp=N,10.0nm,2.4s
JNK Nakash 1.20 220 *i* P Pg 16 09 19.9 -1.6
JNK S **Sg 16 09 35.7 -1.3**
JNK Nakash 1.20 220 A A 16 09 19.9
comp=E,17nm,1.6s,comp=N,13nm,6.0s
JTKR Abashiri--Toko 1.44 249 P **Pn 16 09 23.5 -1.5**
JTKR S **Sb 16 09 41.4 -2.8**
JTKR Abashiri--Toko 1.44 249 A A 16 09 23.5
comp=E,5.0nm,2.4s,comp=N,13nm,1.1s
JKHN Kushirohamanak 1.50 197 P **Pn 16 09 24.7 -1.0**
JKHN S **Sn 16 09 44.6 -0.8**
JKHN Kushirohamanak 1.50 197 A A 16 09 24.7
comp=E,15nm,2.7s,comp=N,14nm,1.6s
AKK Akkeshi 1.64 204 *e*P **Pn 16 09 26.3 -1.4**
AKK *e*S **Sn 16 09 46.0 -3.0**
KUR Kuril'sk 1.66 63 *e*P **Pn 16 09 26.8 -1.2**
KUR AMB AMB 16 09 34.0
comp=N,380nm,0.5s
KUR *e*S **Sn 16 09 46.7 -2.7**
KUR A A 16 09 50.1
comp=N,2µm,0.7s
KUR A A 16 09 50.1
comp=N,2µm,0.7s
KUR Kuril'sk 1.66 63 *d i*PN **Pb 16 09 28.3 -1.1**
KUR *e*S **Sn 16 09 48.0 -1.4**
KUR pmax pmax
comp=Z,244nm,0.7s
KUR smax smax
comp=E,534nm,1.0s
KUR smax smax
comp=N,360nm,0.9s
JAK Akkeshi 1.70 207 P **Pn 16 09 27.1 -1.5**
JAK Akkeshi 1.70 207 A A 16 09 27.1
comp=E,11nm,1.4s,comp=N,12nm,2.6s
JMP Maruseppu 1.80 255⇓ *i*P Pn 16 09 29.1 -0.9
JMP Maruseppu 1.80 255 A A 16 09 29.1
comp=E,6.0nm,1.6s,comp=N,8.0nm,1.0s
JAR Ashorobuto 1.89 231 P **Pn 16 09 31.2 0.0**
JAR Ashorobuto 1.89 231 A A 16 09 31.2
comp=E,6.0nm,1.7s,comp=N,7.0nm,1.8s
JOB Onbets 2.13 222 A A 16 09 34.2
comp=E,9.0nm,3.6s,comp=N,8.0nm,1.3s
JKA Kamikawa-asahi 2.31 261 **Pn 16 09 36.5 -0.4**
JKA Kamikawa-asahi 2.31 261 *e*P **Pn 16 09 36.6 -0.4**
ASAJ Asahikawa 2.31 261 Pn **Pn 16 09 36.6 -0.3**
comp=N,16nm,0.3s,baz=69,slow=18,SNR=88
ASAJ LR LR 16 10 03.9
comp=N,365nm,18.3s,baz=22,slow=29
ASAJ Sn **Sn 16 10 04.1 -1.4**
comp=N,72nm,0.3s,baz=233,slow=24,SNR=8.9
comp=N,162nm,0.6s
ASAJ Asahikawa 2.31 261 PN **Pn 16 09 36.6 -0.3**
ASAJ 16 10 04.1
ERM Erimo 3.14 218 Pn **Pb 16 09 52.1 -2.6**
ERM Erimo 3.14 218⇓ *e*PN **Pn 16 09 49.9 +1.5**
YSS Yuzh-Sakhalins 3.23 320 Pn **Pn 16 09 48.8 -0.7**
YSS Sn **Sn 16 10 23.7 -4.5**
YSS Yuzh-Sakhalins 3.23 320 *e*P **Pn 16 09 48.8 -0.7**
YSS AMB AMB 16 09 50.2
comp=N,110nm,0.4s
YSS *e*S **Sn 16 10 24.8 -3.3**
YSS A A 16 10 27.5
comp=N,300nm,0.8s
YSS A A 16 10 27.5
comp=N,230nm,0.8s
YSS Yuzh-Sakhalins 3.23 320 *e*PN **Pn 16 09 48.8 -0.7**
YSS pmax pmax
comp=Z,110nm,0.4s
YSS MLR MLR
comp=Z,2µm,13.0s
YSS MLR MLR
comp=N,1µm,11.0s
YSS MLR MLR
comp=E,1µm,11.0s
JTM Tenmabayashi 5.09 225 **Pn 16 10 14.9 -0.2**
UGL Uglegorsk 5.23 332 *e*P **Pn 16 10 17.7 +0.7**
UGL AMB AMB 16 10 21.1
comp=E,40nm,0.4s
UGL *e*S **Sn 16 11 16.1 -1.3**
UGL A A 16 11 24.8
comp=E,140nm,0.6s
UGL A A 16 11 24.8
comp=E,190nm,0.6s
TYV Tymovskoe 6.69 343 *e*P **Pn 16 10 37.3 +0.1**
TYV AMB AMB 16 10 38.6
comp=E,20nm,0.5s
TYV *e*S **Sn 16 11 50.3 -3.2**
TYV A A 16 11 54.3
comp=E,20nm,0.7s
TYV A A 16 11 54.3
comp=E,30nm,0.7s
TYV Tymovskoe 6.69 343 *e*PN **Pn 16 10 37.2 +0.1**
TYV pmax pmax
comp=Z,400nm,2.3s
TYV pmax pmax
comp=Z,26nm,1.1s
MJB9 Matsu-Tunnel 9.82 218 **Pn 16 11 22.6 +2.6**
MAJO Matsushiro 9.82 218 **Pn 16 11 21.5 +1.4**
MAJO Matsushiro 9.82 218⇑ *e*PN **Pn 16 11 19.3 -0.8**
MJAR Matsushiro Arr 9.82 218 Pn **Pn 16 11 19.5 -0.6**
baz=31,slow=14,SNR=4.0
MJAR LR LR 16 16 02.5
comp=Z,95nm,18.7s,baz=117,slow=43
comp=Z,2.2nm,0.8s
USRK Ussuriysk Ar. 9.88 273 Pn **Pn 16 11 23.8 +2.9**
comp=Z,0.2nm,0.3s,baz=83,slow=14,SNR=8.1
KLR Kul'dur 10.69 301 *e*P **Pn 16 11 32.7 +0.8**
KLR Kul'dur 10.69 301 *e*PN Pn 16 11 36.6 +4.7
KLR pmax pmax
comp=Z,25nm,1.7s
MDJ Mudanjiang 11.54 276 P Pn 16 11 48.2 +4.6
MDJ pmax pmax
comp=Z,19nm,1.7s
MDJ pmax pmax
comp=Z,710nm,4.0s
PETK Petropavlovsk- 11.64 38 Pn **Pn 16 11 48.5 +3.6**
comp=Z,0.2nm,0.3s,baz=220,slow=11,SNR=5.3
PETK LR LR 16 15 36.5
comp=Z,113nm,21.4s,baz=199,slow=34
BNX BinXian 13.03 282 ⇓P Pn 16 12 08.0 +4.1
BNX pmax pmax
comp=Z,12nm,0.9s
HEH HeiHe 13.68 301 *e*P **Pn 16 12 14.2 +1.4**
HEH LR LR
comp=Z,360nm,10.9s
HEH LR LR
comp=Z,630nm,11.2s
HEH LR LR
comp=Z,830nm,12.7s
CN2 Changchun 14.61 274 *e*P **Pn 16 12 26.7 +1.2**
CN2 *e*S **Sn 16 15 10.5 +3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,10.0s
CN2 LR LR
comp=Z,600nm,10.0s
CN2 LR LR
comp=Z,600nm,10.0s
KSRS Korea Array 15.19 249 LR LR 16 17 56.4
comp=Z,108nm,18.8s,baz=75,slow=36
ZEA Zeya 15.20 314 *e*P **P 16 12 41.6 +3.2**
ZEA pmax pmax
comp=E,50nm,0.9s
ZEA pmax pmax
comp=N,50nm,0.8s
ZEA pmax pmax
comp=Z,80nm,0.8s
ZEA MLR MLR
comp=Z,200nm,14.0s
MA2 Magadan 15.39 10 **Pn 16 12 33.0 -2.9**
MA2 IAmb IAmb 16 12 50.7
comp=Z,71nm,1.2s
MA2 Magadan 15.39 10 *ce*P **Pn 16 12 36.8 +0.9**
MA2 pmax pmax
comp=Z,29nm,1.1s
JNU Nakatsue 16.22 231 LR LR 16 18 12.4
comp=Z,100nm,20.3s,baz=30,slow=34
SEY Seymchan 18.85 9 *e*P **Pn 16 13 20.0 +0.8**
SEY Seymchan 18.85 9⇑ *e*P **Pn 16 13 20.0 +0.8**
SEY pmax pmax
comp=Z,14nm,1.0s
YAK Yakutsk 19.91 337 P **P 16 13 26.6 -3.7**
YAK Yakutsk 19.91 337 *e*P **P 16 13 30.0 -0.3**
YAK *e*S **S 16 17 10.2 -4.1**
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.2s
YAK smax smax
comp=E,79nm,2.8s
YAK smax smax
comp=N,91nm,3.5s
YAK MLR MLR
comp=Z,143nm,13.0s
YAK MLR MLR
comp=E,70nm,13.0s
YAK MLR MLR
comp=N,58nm,12.0s
XLT XiLinHaoTe 21.24 279 *e*P P 16 13 51.7 +6.6
XLT pmax pmax
comp=N,27nm,0.9s
XLT pmax pmax
comp=N,170nm,4.3s
XLT LR LR
comp=N,520nm,13.0s
XLT LR LR
comp=N,340nm,12.2s
NJ2 Nanjing 24.39 249 *e*P **P 16 14 18.5 +1.2**
NJ2 pP **pwP 16 14 23.9 +1.8**
NJ2 pmax pmax
comp=N,9.0nm,1.1s
HNS HongShan 24.41 264 ⇑P P 16 14 23.9 +6.5
HNS S **S 16 18 45.2 +8.0**
HNS pmax pmax
comp=Z,24nm,0.9s
HNS LR LR
comp=N,180nm,11.4s
HNS LR LR
comp=E,140nm,11.8s
HNS LR LR
comp=Z,180nm,12.9s
HHC Hu-ho-hao-te 25.30 274 *e*P **P 16 14 26.9 +1.3**
HHC sP pwP 16 14 33.8 +3.3
HHC S **S 16 18 56.5 +4.7**
HHC PcS **PcS 16 21 42.6 +3.7**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,120nm,4.4s
HHC LR LR
comp=Z,130nm,13.0s
HHC LR LR
comp=Z,300nm,12.2s
HHC LR LR
comp=Z,310nm,11.6s
BILL Biiibino 25.92 18 *e*P **P 16 14 32.3 +1.5**
BILL Biiibino 25.92 18⇓ *e*P **P 16 14 32.3 +1.5**
BILL pmax pmax
comp=Z,36nm,2.6s
BTO Baotou 26.48 274 *e*P **P 16 14 41.5 +5.1**
BTO pP pwP 16 14 50.3 +9.1
BTO sP sP 16 14 53.2 +15
BTO PP **PnPn 16 15 26.0 +10**
BTO pmax pmax
comp=Z,56nm,0.8s
BTO pmax pmax
comp=Z,120nm,5.1s
BTO LR LR
comp=Z,500nm,9.1s
BTO LR LR
comp=Z,440nm,11.2s
BTO LR LR
comp=Z,560nm,11.9s
ULN Ulaanbaatar 26.82 291 P **P 16 14 38.6 -0.8**
ULN Ulaanbaatar 26.82 291 *e*P **P 16 14 40.0 +0.6**
ULN Ulaanbaatar 26.82 291⇑ *e*P **P 16 14 40.0 +0.6**
ULN pmax pmax
comp=Z,24nm,1.8s
SONM Songino Array 27.26 291 P **P 16 14 43.3 -0.1**
SONM IAmb IAmb 16 14 52.7
comp=Z,12nm,1.0s
SONM Songino Array 27.26 291 P **P 16 14 43.5 +0.2**
comp=Z,2.2nm,0.8s,baz=81,slow=7.6,SNR=11
SONM LR LR 16 26 08.2
comp=Z,151nm,19.4s,baz=62,slow=38
comp=Z,2.2nm,0.8s
SONM Songino Array 27.26 291 P **P 16 14 43.3 -0.1**
SONM pmax pmax
comp=Z,12nm,1.0s
TIXI Tiksi 28.41 349 *e*P **P 16 14 54.3 +1.1**
TIXI Tiksi 28.41 349⇑ *e*P **P 16 14 54.3 +1.1**
TIXI pmax pmax
comp=Z,6.0nm,2.0s
XAN Xi'an 30.15 262 *e*P **P 16 15 06.8 -2.2**
XAN pP pwP 16 15 13.7 -0.2
XAN pmax pmax
comp=Z,7.0nm,1.0s
GUMO Guam 30.83 182 LR LR 16 25 11.6
comp=Z,18nm,21.5s,baz=52,slow=32
GTA Gaotai 34.20 278 *e*P P 16 15 52.5 +7.9
GTA sP pwP 16 16 02.6 +13
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA LR LR
comp=N,160nm,11.6s
GTA LR LR
comp=E,260nm,13.1s
GTA LR LR
comp=Z,310nm,11.3s
H19K Roundabout Mou 37.43 35 P **P 16 16 11.7 -0.2**
H19K IAmb IAmb 16 16 24.1
comp=Z,6.9nm,0.8s
NRIK Noril'sk 38.10 331 P **P 16 16 16.6 -0.8**
comp=Z,0.5nm,0.3s,baz=155,slow=10,SNR=1.3
comp=Z,0.5nm,0.3s
IMAR Indian Mountai 38.58 35 P **P 16 16 21.0 -0.5**
GOMU GeErMu 39.16 276 P **P 16 16 27.6 +0.4**
GOMU pmax pmax
comp=Z,22nm,1.1s
KDAK Kodiak Island 39.47 48⇑ *i*P **P 16 16 29.3 +0.2**
KDAK pmax pmax
comp=Z,18nm,0.9s
PZH PanZhiHua 39.55 258 P P 16 16 36.1 +5.9
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.8s
ZALV Zalesovo Beam 39.74 306 P **P 16 16 30.8 -0.6**
comp=Z,0.1nm,0.3s,baz=78,slow=9.3,SNR=1.0
ZALV PcP **PcP 16 18 37.5 -0.2**
comp=Z,1.1nm,0.7s,baz=90,slow=3.1,SNR=4.2
ZALV LR LR 16 35 12.4
comp=Z,48nm,21.6s,baz=62,slow=40
comp=Z,0.1nm,0.3s
BRLK Bradley Lake 40.09 45 P **P 16 16 33.6 -0.6**
BRLK IAmb IAmb 16 16 44.5
comp=Z,24nm,1.3s
NEA2 Nenana 40.54 37 P **P 16 16 37.9 0.0**
NEA2 IAmb IAmb 16 16 49.2
comp=Z,21nm,1.5s
RND Reindeer 40.71 39 P **P 16 16 37.2 -2.2**
RND Reindeer 40.71 39 P **P 16 16 37.2 -2.2**
RND pmax pmax
comp=Z,13nm,1.4s
E24K Your Creek 40.72 32 P **P 16 16 38.1 -1.3**
WMQ Urumqi 40.89 290 *e*P P 16 16 46.4 +5.2
WMQ pP pwP 16 16 49.1 +3.0
WMQ pmax pmax
comp=Z,16nm,0.7s
COLA College 41.05 37⇓ *e*P **P 16 16 42.5 +0.5**
COLA pmax pmax
comp=Z,8.0nm,0.9s
G24K Hadweenzic Riv 41.12 34 P **P 16 16 42.7 0.0**
IL31 41.47 37 P **P 16 16 44.8 -0.6**
ILAR Eielson Array 41.47 37 P **P 16 16 44.6 -0.9**
ILAR Eielson Array 41.47 37 P **P 16 16 45.1 -0.4**
comp=Z,3.6nm,0.9s,baz=272,slow=7.4,SNR=34
comp=Z,3.6nm,0.9s
ILAR Eielson Array 41.47 37 P **P 16 16 44.6 -0.9**
BMAR Burnt Mountain 42.22 33 P **P 16 16 51.1 -0.7**
C27K Jago River 42.44 29 P **P 16 16 52.9 -0.6**
SCRK Sand Creek 42.80 38 P **P 16 16 56.2 -0.4**
MK31 Makanchi Array 43.35 296 P **P 16 17 01.1 0.0**
MK31 Makanchi Array 43.35 296 *de*P **P 16 17 01.2 0.0**
MKAR Makanchi Array 43.35 296 P **P 16 17 00.9 -0.3**
MKAR Makanchi Array 43.35 296 P **P 16 17 01.1 0.0**
comp=Z,1.1nm,0.8s,baz=79,slow=8.0,SNR=7.9
MKAR PcP **PcP 16 18 49.5 -0.2**
comp=Z,0.9nm,0.9s,baz=68,slow=3.7,SNR=3.2
MKAR LR LR 16 36 19.5
comp=Z,81nm,20.7s,baz=18,slow=38
comp=Z,1.1nm,0.8s
MAKZ Makanchi 43.55 297 P **P 16 17 01.6 -1.1**
MAKZ Makanchi 43.55 297 P **P 16 17 01.6 -1.1**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
K27K Chicken 43.63 37 IAmb IAmb 16 17 04.3
comp=Z,8.6nm,0.9s
EGAK Eagle 43.90 36 P **P 16 17 04.2 -1.1**
KURK Kurchatov 44.28 303 *e*P **P 16 17 07.2 -1.3**
KURK Kurchatov 44.28 303⇓ *e*P **P 16 17 07.2 -1.3**
KURK pmax pmax
comp=Z,4.0nm,0.8s
I28M Miner Creek 44.30 35 P **P 16 17 08.6 0.0**
I28M IAmb IAmb 16 17 19.3
comp=Z,10nm,1.2s
KURBB Kurchatov Arra 44.36 303 P **P 16 17 08.7 -0.4**
comp=Z,1.0nm,0.8s,baz=70,slow=8.8,SNR=3.6
KURBB PcP **PcP 16 18 52.5 -0.5**
comp=Z,0.2nm,0.4s,baz=70,slow=3.1,SNR=4.2
comp=Z,1.0nm,0.8s
EPYK Eagle Plains 45.43 34 P **P 16 17 17.6 0.0**
EPYK IAmb IAmb 16 17 27.7
comp=Z,5.2nm,0.8s
INK Inuvik 46.25 31 P **P 16 17 22.4 -1.4**
HYT Haines Junctio 46.41 41 P **P 16 17 25.1 -0.3**
H31M Peel River 46.50 34 IAmb IAmb 16 17 34.0
comp=Z,6.7nm,0.8s
CMAR Chiang Mai Arr 46.80 252 P **P 16 17 28.8 0.0**
comp=Z,1.0nm,0.3s,baz=39,slow=7.3,SNR=6.4
CMAR LR LR 16 38 43.0
comp=Z,49nm,18.2s,baz=60,slow=38
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 48.25 308 P **P 16 17 39.1 -0.6**
comp=Z,1.1nm,0.9s,baz=67,slow=7.7,SNR=3.7
BVAR PcP **PcP 16 19 06.1 -0.5**
comp=Z,0.9nm,0.7s,baz=69,slow=3.9,SNR=2.7
BVAR LR LR 16 37 24.0
comp=Z,60nm,18.1s,baz=80,slow=35
comp=Z,1.1nm,0.9s
BRVK Borovoye 48.30 308⇑ *e*P **P 16 17 42.9 +2.9**
BRVK pmax pmax
comp=Z,7.0nm,1.3s
KDJ Kajisay 48.61 293 P **P 16 17 42.9 +0.1**
ULHL Ulahol 49.17 293 P P 16 17 55.1 +7.9
SNR=5.0
TKM2 Tokmak 2 49.28 294 P P 16 17 56.0 +8.0
SNR=9.1
KBK Karagaybulak 49.83 294 P P 16 17 59.8 +7.7
SNR=8.3
USP Ospenovka 49.84 295 P P 16 17 59.8 +7.8
SNR=11
AAK Ala-Archa 50.13 294 **P 16 17 55.3 +0.8**
AAK Ala-Archa 50.13 294 LR LR 16 39 54.2
comp=Z,44nm,18.5s,baz=85,slow=37
AAK Ala-Archa 50.13 294 *e*P **P 16 17 53.2 -1.2**
AAK Ala-Archa 50.13 294⇓ *e*P **P 16 17 53.2 -1.2**
AAK pmax pmax
comp=Z,17nm,1.4s
EKS2 Erkin-Say 50.59 295 P P 16 18 05.4 +7.5
SNR=7.1
ARSB Arslanbob 51.75 294 IAmb IAmb 16 18 15.5
comp=Z,8.1nm,0.8s
KKAR Karatay Array 52.48 297 P **P 16 18 11.6 -0.3**
KKAR Karatay Array 52.48 297 IAmb IAmb 16 18 19.6
comp=Z,8.5nm,0.8s
KKAR Karatay Array 52.48 297 P **P 16 18 11.6 -0.3**
ARTI Arti 53.21 316 *c i*P **P 16 18 16.8 -0.3**
ARTI 16 19 24.5
ARTI S **S 16 25 49.9 +1.9**
ARTI SS **SS 16 29 24.5 -2.4**
ARTI pmax pmax
comp=Z,3.0nm,0.9s
HNR Honiara 55.20 163 LR LR 16 41 06.7
comp=Z,22nm,19.3s,baz=344,slow=35
NIL Nilore 55.62 285 P **P 16 18 38.7 +3.7**
NIL pmax pmax
comp=Z,15nm,1.2s
SIMJ Simiganj 55.74 293 P **P 16 18 35.4 -0.5**
ABKAR Akbulak array 55.81 308 P **P 16 18 35.3 -0.7**
ABKAR Akbulak array 55.81 308 IAmb IAmb 16 18 44.5
comp=Z,7.4nm,1.1s
AKTO Aktyubinsk 56.28 310 LR LR 16 44 39.2
comp=Z,52nm,18.4s,baz=12,slow=38
KBL Kabul 58.00 289 P **P 16 18 51.6 -0.4**
PINE Pine Mountain 63.12 54 P **P 16 19 27.8 +0.9**
FINES FINESS Array B 63.74 332 P **P 16 19 28.7 -1.7**
comp=Z,1.3nm,0.7s,baz=38,slow=9.6,SNR=5.4
comp=Z,1.3nm,0.7s
FINES FINESS Array B 63.74 332 *i* P **P 16 19 29.5 -0.9**
FINES pmax pmax
comp=Z,1.0nm,0.7s
WB0 Warramunga Arr 64.81 192 P **P 16 19 36.5 -1.3**
WB0 IAmb IAmb 16 19 38.0
comp=Z,7.4nm,0.9s
J08A Circle Bar Ran 64.81 53 IAmb IAmb 16 19 40.2
comp=Z,5.4nm,1.0s
WRAB Tennant Creek 64.98 192 P **P 16 19 38.5 -0.4**
WRAB Tennant Creek 64.98 192 P **P 16 19 38.5 -0.4**
WRAB pmax pmax
comp=Z,12nm,1.1s
WB2 Warramunga Arr 64.98 192 P **P 16 19 37.4 -1.6**
WRA Warramunga Arr 64.99 192 P **P 16 19 37.6 -1.3**
WRA Warramunga Arr 64.99 192 P **P 16 19 38.5 -0.5**
comp=Z,6.7nm,1.0s,baz=9.8,slow=6.7,SNR=22
comp=Z,6.7nm,1.0s
YERR Yerington 67.09 57 IAmb IAmb 16 19 54.8
comp=Z,7.0nm,0.9s
BOZ Bozeman (W) 67.18 48 IAmb IAmb 16 19 54.9
comp=Z,6.4nm,0.8s
WAKR Walker 67.28 58 IAmb IAmb 16 19 59.5
comp=Z,10.0nm,1.3s
KVN Kaiserville 67.74 57 IAmb IAmb 16 19 58.8
comp=Z,6.5nm,0.9s
RYN Ryan 67.75 57 IAmb IAmb 16 19 58.9
comp=Z,8.3nm,0.9s
YHL Hebgen Lake 67.90 48 IAmb IAmb 16 20 07.0
comp=Z,5.6nm,1.0s
NVAR Mina Array Bea 68.01 57 P **P 16 19 58.7 +0.1**
NVAR Mina Array Bea 68.01 57 P **P 16 19 59.2 +0.6**
comp=Z,3.7nm,0.8s,baz=291,slow=5.7,SNR=18
comp=Z,3.7nm,0.8s
NV11 Mina Array Sit 68.10 57 IAmb IAmb 16 20 01.0
comp=Z,5.2nm,1.1s
YMR Madison River 68.14 48 IAmb IAmb 16 20 01.3
comp=Z,5.8nm,1.0s
NCK Nalchik 68.32 310⇑ *e*P **P 16 20 00.6 +0.4**
NCK pmax pmax
comp=Z,4.0nm,0.7s
KIV Kislovodsk 68.51 311 **P 16 20 01.6 +0.1**
KIV Kislovodsk 68.51 311 *e*P **P 16 20 02.0 +0.5**
KIV Kislovodsk 68.51 311 *e*P **P 16 20 02.0 +0.5**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,43nm,17.0s
NB2 NORSAR Subarra 68.53 338 P **P 16 19 59.4 -1.8**
comp=Z,5.8nm,1.0s,baz=32,slow=6.9
NOA NORSAR Array B 68.53 338 P **P 16 19 59.9 -1.3**
comp=Z,0.6nm,0.7s,baz=39,slow=6.3,SNR=2.4
NOA LR LR 16 52 54.2
comp=Z,24nm,19.5s,baz=225,slow=38
comp=Z,0.6nm,0.7s

KBZ Khabaz 68.55 311 P P 16 20 01.7 +0.1
comp=Z,3.5nm,0.9s,baz=48,slow=4.5,SNR=5.2
KBZ LR LR 16 51 34.0
comp=Z,36nm,18.2s,baz=32,slow=37
comp=Z,3.5nm,0.9s
KBZ Khabaz 68.55 311⇓ *eP* **P 16 20 02.0 +0.5**
HFS Hagfors 68.60 336 P **P 16 20 00.8 -0.8**
comp=Z,1.0nm,0.6s,baz=28,slow=6.7,SNR=2.3
comp=Z,1.0nm,0.6s
SHA1 Shidzhatmaz 68.67 311⇑ *eP* **P 16 20 03.2 +0.6**
AS31 Alice Springs 68.71 192 P 16 20 02.3 -0.4
ASAR Alice Springs 68.71 192 P **P 16 20 02.5 -0.1**
comp=Z,1.9nm,0.9s,baz=15,slow=5.5,SNR=19
comp=Z,1.9nm,0.9s
MOOW Moose Ponds 68.87 49 IAmb IAmb 16 20 06.2
comp=Z,7.9nm,1.3s
DSP Deep Springs 68.89 58 IAmb IAmb 16 20 06.3
comp=Z,7.8nm,1.0s
TPAW Teton Pass 68.93 49 IAmb IAmb 16 20 06.9
comp=Z,7.2nm,1.1s
GNI Garni 69.89 307 LR LR 16 56 03.8
comp=Z,31nm,19.4s,baz=51,slow=40
DUG Dugway, Tooele 70.08 53 IAmb IAmb 16 20 13.4
comp=Z,5.7nm,1.1s
DUG Dugway, Tooele 70.08 53 P **P 16 20 12.9 +1.6**
DUG pmax pmax
comp=Z,5.0nm,0.8s
PD31 Pinedale Array 70.17 49 IAmb IAmb 16 20 13.3
comp=Z,4.8nm,0.9s
PDAR Pinedale Array 70.17 49 P **P 16 20 12.3 +0.4**
comp=Z,2.8nm,0.7s,baz=283,slow=2.1,SNR=27
comp=Z,2.8nm,0.7s
VSLR Vesyoloye 70.27 312⇓ *eP* **P 16 20 12.3 +0.1**
VSLR pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 70.37 323 P **P 16 20 11.6 -1.1**
comp=Z,2.1nm,0.7s,baz=41,slow=6.5,SNR=10
comp=Z,2.1nm,0.7s
AKBB Malin Array Si 70.37 323⇓ *eP* **P 16 20 11.8 -0.9**
KIEV Kiev 70.39 323 P 16 20 12.1 -0.7
KIEV Kiev 70.39 323 P **P 16 20 12.1 -0.7**
KIEV pmax pmax
comp=Z,12nm,1.0s
GWY Greenwater Val 70.46 58 IAmb IAmb 16 20 14.9
comp=Z,4.9nm,0.9s
BORG Borgarnes 70.61 354 P **P 16 20 13.0 -0.9**
BSUT Blindstream Ca 71.02 52 IAmb IAmb 16 20 27.4
comp=Z,9.5nm,1.5s
RNPP9 Sopachiv 71.25 325 P **P 16 20 18.5 +0.5**
P17A Butcher Ranch, 71.75 52 IAmb IAmb 16 20 23.5
comp=Z,6.9nm,1.0s
P18A Preston Nutter 71.92 52 IAmb IAmb 16 20 24.7
comp=Z,5.8nm,1.1s
SRU San Rafael Swe 72.12 53 IAmb IAmb 16 20 33.4
comp=Z,7.3nm,0.8s
KNB Kanab 72.21 55 IAmb IAmb 16 20 26.7
comp=Z,7.5nm,1.1s
HMU Henry Mountain 72.80 54 IAmb IAmb 16 20 29.6
comp=Z,8.0nm,0.9s
U15A North Rim 72.92 56 IAmb IAmb 16 20 31.0
comp=Z,8.2nm,1.1s
BUR08 Bucovina Ar. S 74.41 323 P **P 16 20 36.4 -0.6**
BUR08 IAmb IAmb 16 20 45.1
comp=Z,7.1nm,0.8s
BURAR Bucovina Array 74.43 323 P 16 20 36.5 -0.6
BURAR IAmb IAmb 16 20 45.4
comp=Z,6.8nm,0.8s
BURAR Bucovina Array 74.43 323 P **P 16 20 36.5 -0.6**
BURAR pmax pmax
comp=Z,7.0nm,0.8s
MVCO Mesa Verde 74.58 53 IAmb IAmb 16 20 40.1
comp=Z,6.4nm,0.9s
OJC Ojcow 74.60 327 *eP* P 16 20 45.4 +7.5
OJC Ojcow 74.60 327 P **P 16 20 38.9 +0.9**
OJC pmax pmax
comp=Z,18nm,1.2s
KOLS Kolonicke sedl 74.64 325 P **P 16 20 38.0 -0.2**
KOLS Kolonicke sedl 74.64 325 *eP* **P 16 20 38.7 +0.5**
KOLS *e* 16 20 45.6
STHS Stebnicka Huta 74.67 326 *eP* **P 16 20 38.4 0.0**
STHS *e* 16 20 45.3
NIE Niedzica 75.05 327 *eP* P 16 20 49.3 +8.7
NIE Niedzica 75.05 327 P **P 16 20 42.2 +1.6**
NIE pmax pmax
comp=Z,9.0nm,1.0s
KSP Ksiaz 75.41 330 *eP* P 16 20 50.0 +7.4
LANS Liptovska Anna 75.59 327 *eP* **P 16 20 45.2 +1.5**
LANS *e* 16 20 52.0
DPC Dobruska-Polom 75.80 329 *eP* P 16 20 49.4 +4.5
MORC Moravsky Berou 75.82 328 *eP* P 16 20 52.3 +7.3
STKA Stephens Creek 76.12 184 P **P 16 20 46.1 -0.5**
comp=Z,1.6nm,0.7s,baz=27,slow=7.7,SNR=4.2
comp=Z,1.6nm,0.7s
STKA Stephens Creek 76.12 184⇑ *eP* **P 16 20 46.5 -0.2**
CLL Collm 76.17 332 P **P 16 20 46.8 -0.2**
CLL pmax pmax
comp=Z,15nm,0.9s
CLL Collm 76.17 332 *i P* **P 16 20 46.4 -0.5**
comp=Z,14nm,0.9s
CLL *i* x x 16 20 53.1
CLL Collm 76.17 332 *i P* **P 16 20 46.7 -0.2**
CLL *i* x x 16 20 50.4
CLL *i* pP **pwP 16 20 53.2 +1.3**
comp=Z,14nm,0.9s
BR131 Keskin Array S 76.30 313⇑ *eP* **P 16 20 47.0 -1.1**
BRTR Keskin Array B 76.30 313 P **P 16 20 48.1 0.0**
comp=Z,0.6nm,0.8s,baz=42,slow=6.0,SNR=1.2
comp=Z,0.6nm,0.8s
VYHS Vyhne 76.37 327 *eP* **P 16 20 48.8 +0.7**
VYHS *e* 16 20 56.0
PSZ Piszkesteto 76.41 326 P **P 16 20 48.8 +0.3**
PSZ pmax pmax
comp=Z,10.0nm,1.1s
JAVC Velka Javorina 76.52 328 *eP* P 16 20 57.4 +8.3
VRAC Vranov 76.56 329 *eP* P 16 20 56.9 +7.7
VRAC Vranov 76.56 329 P **P 16 20 50.6 +1.4**
VRAC pmax pmax
comp=Z,12nm,1.2s
KRUC Moravsky 76.84 329 *eP* P 16 20 58.3 +7.5
T25A Trinidad 76.93 51 IAmb IAmb 16 20 53.4
comp=Z,7.4nm,1.1s
MODS Modra-Piesok 77.07 328 *eP* **P 16 20 53.2 +1.1**
MODS *e* 16 21 00.3
EKA Eskdalemuir Ar 77.10 342 P **P 16 20 51.3 -0.8**
comp=Z,1.7nm,0.7s,baz=17,slow=5.3,SNR=2.0
comp=Z,1.7nm,0.7s
SCHQ Schefferville 77.22 19 P **P 16 20 52.1 -0.7**
comp=Z,2.3nm,0.9s,baz=215,slow=7.1,SNR=1.0
comp=Z,2.3nm,0.9s
ZVC Zvikov 77.33 330 *eP* P 16 20 59.4 +5.9
ANMO Albuquerque 77.35 53⇑ *eP* **P 16 20 54.8 +0.6**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
KHC Kasperske Hory 77.81 330 IAmb IAmb 16 21 04.5
comp=Z,7.1nm,0.8s
KHC Kasperske Hory 77.81 330 *eP* **P 16 20 56.3 0.0**
KHC *ep*P **PcP 16 21 03.0 -3.2**
KHC Kasperske Hory 77.81 330⇑ *eP* **P 16 20 56.8 +0.5**
KHC pmax pmax
comp=Z,7.0nm,0.9s
GERES GERESS Array B 78.00 330 P **P 16 20 56.7 -0.7**
comp=Z,0.4nm,0.4s,baz=35,slow=5.7,SNR=1.7
comp=Z,0.4nm,0.4s
MMAI Mount Meron Ar 80.23 307 P **P 16 21 10.5 +0.6**
comp=Z,1.6nm,0.7s,baz=46,slow=5.6,SNR=2.5
comp=Z,1.6nm,0.7s
TXAR Lajitas Array 83.05 55 P **P 16 21 25.3 +0.5**
comp=Z,1.3nm,0.6s,baz=291,slow=4.9,SNR=5.7
comp=Z,1.3nm,0.6s
SAND Sanderson 83.49 54 IAmb IAmb 16 21 28.5
comp=Z,3.7nm,1.0s
PPT Papeete 85.27 120 LR LR 16 54 15.9
comp=Z,53nm,21.9s,baz=329,slow=32
ESDC Sonseca Array 91.87 337 P **P 16 22 06.9 -0.5**
comp=Z,1.2nm,1.1s,baz=24,slow=4.4,SNR=2.4
comp=Z,1.2nm,1.1s
MAW Mawson 127.69 209 PKP **PKPdf 16 28 02.6 -0.6**
comp=Z,0.5nm,0.6s,baz=343,slow=2.9,SNR=2.1
QSPA South Pole Qui 134.25 180 PKP **PKPdf 16 28 15.0 -0.7**
comp=Z,1.4nm,0.9s,baz=17,slow=12,SNR=2.9
SNAA Sanae 148.87 199 PKPbc **PKPbc 16 28 44.5 -1.1**
comp=Z,2.6nm,0.9s,baz=171,slow=2.3,SNR=8.5

*GII **09** 16:25:48.0±0.4, 35°.36N±0°.06×27°.27E±0°.02, h3km, Mws2.7, confirmed*

*ISK **09** 16:25:55.6, 36°.31N×27°.85E, h30km, ML2.8/16*
*THE **09** 16:25:56.8, 36°.34N×27°.84E, h59km±5km, ML3.3/1, Error ellipse: s-maj=5.2km s-min=1.1km az=302.0*
*AFAD **09** 16:25:56.8±0.0, 36°.40N×27°.85E, h59km±1km, ML2.6*
ISC 09 16:25:53.7±1.3, 36°.22N±0°.05×27°.95E±0°.05, h60km±15km, n47, σ1°94/65, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSB	**Marmaris-Mugla**	**0.54**	**22**	Pg	**Pn**	**16 26 06.8**	**+0.7**
MRSB				Sg	**Sn**	**16 26 15.0**	**-0.1**
DATC	**Datca-Mugla**	**0.59**	**337**	Pg	**Pn**	**16 26 06.6**	**0.0**
DAT	**Datca**	**0.59**	**330**	P	**Pn**	**16 26 07.7**	**+0.9**
DAT				S	**Sn**	**16 26 15.6**	**-0.7**
DAT	**Datca**	**0.59**	**330**	Pg	**Pn**	**16 26 07.0**	**+0.2**
DAT	**Datca**	**0.59**	**330**	P	**Pn**	**16 26 07.3**	**+0.5**
DAT				S	**Sn**	**16 26 15.6**	**-0.7**
TURN	**Turunc**	**0.61**	**23**	P	**Pn**	**16 26 08.1**	**+1.3**
TURN				S	**Sn**	**16 26 16.8**	**+0.4**
TURN				*i* AML	AML	16 26 17.0	
	comp=N,231nm,0.2s						
TURN	**Turunc**	**0.61**	**23**	Pg	**Pn**	**16 26 07.8**	**+1.0**
TURN				Sg	**Sn**	**16 26 16.6**	**+0.2**
YAZI	**Mula-Dat§a-**	**0.61**	**320**	P	**Pn**	**16 26 07.7**	**+0.8**
YAZI				S	**Sn**	**16 26 15.6**	**-0.9**
YAZI				*i* AML	AML	16 26 16.0	
	comp=E,254nm,0.2s						
NISR	**Nisiros**	**0.77**	**301**	P	**Pn**	**16 26 10.4**	**+1.7**
DALY	**Dalyan (Mula)**	**0.83**	**43**	Pg	**Pn**	**16 26 11.1**	**+1.6**
KARP	**Karpathos**	**0.92**	**224**	Pg	**Pn**	**16 26 13.3**	**+2.6**
KARP	**Karpathos**	**0.92**	**224**	P	**Pn**	**16 26 13.8**	**+3.1**
KARP				S	**Sn**	**16 26 26.7**	**+3.4**
	1μm,0.2s						
BDRM	**Kayabasi**	**0.94**	**335**	P	**Pn**	**16 26 10.8**	**-0.2**
BDRM				*i* AML	AML	16 26 22.0	
	comp=E,220nm,0.5s						
BDRM				S	**Sn**	**16 26 22.2**	**-1.5**
YER	**Yerkesik**	**0.96**	**16**	Pg	**Pn**	**16 26 12.4**	**+1.2**
YER	**Yerkesik**	**0.96**	**16**	P	**Pn**	**16 26 12.3**	**+1.1**
YER				S	**Sn**	**16 26 25.0**	**+0.8**
BODT	**Bodrum**	**0.99**	**329**	Pg	**Pn**	**16 26 11.8**	**+0.2**
BODT				Sg	**Sn**	**16 26 23.8**	**-1.0**
BODT	**Bodrum**	**0.99**	**329**	P	**Pn**	**16 26 11.7**	**+0.2**
BODT				S	**Sn**	**16 26 23.8**	**-1.0**
FETY	**Fethiye**	**1.01**	**65**	P	**Pn**	**16 26 15.5**	**+3.7**
FETY				S	**Sn**	**16 26 28.3**	**+3.1**
FETY	**Fethiye**	**1.01**	**65**	Pg	**Pn**	**16 26 14.2**	**+2.4**
SABU	**Mula-Dalaman**	**1.02**	**53**	P	**Pn**	**16 26 13.8**	**+1.8**
SABU				S	**Sn**	**16 26 28.1**	**+2.5**
SABU				*i* AML	AML	16 26 32.0	
	comp=N,98nm,0.3s						
SABU				*i* AML	AML	16 26 32.0	
	comp=E,86nm,0.4s						
YKAV	**Yalikavak-Bodr**	**1.05**	**330**	Pg	**Pn**	**16 26 12.4**	**0.0**
MULA	**Mugla, Merkez-**	**1.08**	**16**	P	**Pn**	**16 26 14.2**	**+1.3**
MULA				S	**Sn**	**16 26 27.4**	**+0.3**
CAME	**Cameli-Denizli**	**1.31**	**56**	Pn	**Pn**	**16 26 18.4**	**+2.4**
AKAS	**Kas**	**1.34**	**89**	Pn	**Pn**	**16 26 19.4**	**+3.1**
DDIM	**Aydin, Didim**	**1.36**	**336**	P	**Pn**	**16 26 16.7**	**+0.2**
DDIM				S	**Sn**	**16 26 31.4**	**-2.2**
DDIM				*i* AML	AML	16 26 34.0	
	comp=N,119nm,0.4s						
DDIM				*i* AML	AML	16 26 34.0	
	comp=E,194nm,0.6s						
DNZT	**Denizli-Tavas-**	**1.37**	**39**	P	**Pn**	**16 26 18.6**	**+1.9**
DNZT				S	**Sn**	**16 26 36.0**	**+2.0**
GCAM	**G?zelcaml?**	**1.59**	**339**	P	**Pn**	**16 26 19.6**	**+0.1**
GCAM				*i* AML	AML	16 26 37.0	
	comp=E,92nm,0.3s						
GCAM				S	**Sn**	**16 26 37.1**	**-1.9**
GCAM				*i* AML	AML	16 26 38.0	
	comp=N,100nm,0.7s						
GCAM	**G?zelcaml?**	**1.59**	**339**	Pn	**Pn**	**16 26 19.7**	**+0.1**
ESEN	**Aydn-Nazilli**	**1.61**	**11**	P	**Pn**	**16 26 20.6**	**+0.8**
ESEN				S	**Sn**	**16 26 37.8**	**-1.8**
APMY	**Acipayam-Deniz**	**1.66**	**41**	Pn	**Pn**	**16 26 22.5**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**1.73**	**359**	Pn	**Pn**	**16 26 21.9**	**+0.3**
NAZL	**Nazilli-Aydin**	**1.77**	**9**	Pn	**Pn**	**16 26 22.8**	**+0.8**
BLCB	**Balcova**	**2.28**	**342**	P	**Pn**	**16 26 28.7**	**-0.3**
CSS	**Mathiatis**	**4.56**	**104**	P	**Pn**	**16 27 03.7**	**+3.6**
MMAOB	**Mount Meron ar**	**6.93**	**115**	P	**Pn**	**16 27 33.6**	**+1.0**
GEM	**Giv'at Ha'Em**	**7.03**	**113**	P	**Pn**	**16 27 36.3**	**+2.4**
NATI	**Neve Ativ**	**7.06**	**112**	P	**Pn**	**16 27 36.2**	**+1.9**
HMDT	**Nahal Hemdat**	**7.42**	**120**	P	**Pn**	**16 27 38.9**	**-0.4**
KZIT	**Kziot**	**7.55**	**133**	S	**Sn**	**16 29 03.0**	**-2.3**
KZIT	**Kziot**	**7.55**	**133**	P	**Pn**	**16 27 38.1**	**-3.0**
YTIR	**Yattir**	**7.68**	**127**	P	**Pn**	**16 27 41.5**	**-1.5**
PRNI	**Paran**	**8.31**	**133**	S	**Sn**	**16 29 21.7**	**-2.2**
PRNI	**Paran**	**8.31**	**133**	P	**Pn**	**16 27 48.5**	**-3.0**
HRFI	**Mount Harif**	**8.56**	**134**	S	**Sn**	**16 29 28.0**	**-2.1**
HRFI	**Mount Harif**	**8.56**	**134**	P	**Pn**	**16 27 51.0**	**-3.9**
MBRI	**Mt Berech**	**8.67**	**136**	P	**Pn**	**16 27 52.8**	**-3.7**
MBRI	**Mt Berech**	**8.67**	**136**	S	**Sn**	**16 29 29.0**	**-3.9**

*JMA **09** 16:26:20.3±0.2, 44°.5N±0°.7×145°.8E±1°.0, h19km±1km, MV2.7/27, NEAR KUNASHIRI ISLAND*
*SKHL **09** 16:26:21.3±0.4, 44°.50N×145°.70E, h17km±2km, mb4.0/2*
ISC 09 16:26:20.4±2.5, 44°.5N±0°.1×145°.75E±0°.06, h17km±20km, n10, σ0°40/18, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.49**	**171**	*eP*	**Pb**	**16 26 30.8**	**+0.2**
YUK				AMB	AMB	16 26 31.2	
	80nm,0.4s						
YUK				S	**Sb**	**16 26 37.5**	**+0.1**
YUK				A	A	16 26 40.7	
	480nm,0.2s						
YUK				A	A	16 26 40.7	
	500nm,0.2s						
JRA	**Rausu**	**0.74**	**218**	P	**Pb**	**16 26 34.5**	**-0.2**
JRA				S	**Sb**	**16 26 44.6**	**+0.1**
JNSB	**Nemuroshibetsu**	**0.92**	**216**	P	**Pb**	**16 26 37.7**	**-0.1**
JNSB				S	**Sb**	**16 26 49.5**	**-0.2**
SHO	**Shikotan**	**1.01**	**130**	*eP*	**Pb**	**16 26 39.5**	**+0.1**
SHO				AMB	AMB	16 26 40.2	
	130nm,0.5s						
SHO				*eS*	**Sg**	**16 26 53.5**	**+0.2**
SHO				A	A	16 26 54.7	
	520nm,0.5s						
SHO				A	A	16 26 54.7	
	540nm,0.5s						
NMR	**Nemuro--Hokkai**	**1.15**	**181**	*eP*	**Pn**	**16 26 41.0**	**-0.7**
NMR				*eS*	**Sb**	**16 26 56.0**	**-0.4**
NEM2	**Nemuro 2**	**1.15**	**180**	P	**Pn**	**16 26 41.0**	**-0.7**
NEM2				S	**Sb**	**16 26 56.3**	**-0.2**
JNK	**Nakash**	**1.19**	**219**	P	**Pn**	**16 26 41.9**	**-0.4**
JTKR	**Abashiri--Toko**	**1.43**	**248**	P	**Pn**	**16 26 45.6**	**0.0**
JTKR				S	**Sb**	**16 27 04.4**	**-0.1**
AKK	**Akkeshi**	**1.64**	**204**	*eP*	**Pn**	**16 26 49.0**	**+0.6**
AKK				*eS*	**Sn**	**16 27 09.6**	**+0.5**
JAK	**Akkeshi**	**1.70**	**207**	*eS*	**Sb**	**16 27 12.6**	**+0.3**

*IDC **09** 17:02:25.1±1.8, 2°.85N×126°.82E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=119.0km s-min=22.2km az=70.0*
*DJA **09** 17:02:34.0±1.4, 1°.N±15°.×12°.1E±°, h10km, M3.8/6, MLv3.8/6*
ISC 09 17:02:36.8±1.2, 1°.3N±0°.1×121°.36E±0°.09, h10km, n9, σ1°13/7, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPSI	**Mapaga**	**1.73**	**238**	P	**Pn**	**17 03 05.5**	**-1.5**
LUWI	**Luwuk**	**2.69**	**148**	P	**Pn**	**17 03 19.4**	**-0.8**
KMSI	**Cibinong**	**2.71**	**105**	P	**Pb**	**17 03 24.8**	**-0.5**
TTSI	**Tana Toraja**	**4.55**	**200**	P	**Pn**	**17 03 46.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**19.70**	**168**	P	**Pn**	**17 07 08.7**	**+0.8**
	1.6nm,0.8s,baz=7.1,slow=8.1,SNR=1.6						
	1.6nm,0.8s						
WRA	**Warramunga Arr**	**24.62**	**150**	P	P	17 07 40.4	-17
	0.7nm,0.4s,baz=343,slow=10,SNR=3.1						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**27.62**	**155**	P	P	17 08 10.8	-14
	0.1nm,0.3s,baz=338,slow=7.1,SNR=6.5						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**56.69**	**329**	P	**P**	**17 12 21.6**	**+1.1**
	0.2nm,0.5s,baz=123,slow=8.0,SNR=2.6						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**61.06**	**330**	P	**P**	**17 12 51.0**	**+0.2**
	0.5nm,0.8s,baz=117,slow=6.3,SNR=3.2						
	0.5nm,0.8s						

*AEIC **09** 17:08:37.4±1.6, 54°.27N±0°.06×161°.56W±0°.06, h34km±7km, Error ellipse: s-maj=8.6km s-min=5.0km az=171.0*
NEIC 09 17:08:37.1±1.4, 54°.21N±0°.06×161°.52W±0°.06, h42km±21km, mb3.6/13, ML3.5/16, ML3.5(AEIC), Error ellipse: s-maj=9.5km s-min=5.1km az=171.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAG	**Hague Volcano**	**1.13**	**349**		Pn	17 08 56.1	-0.3
HAG					Sn	17 09 10.5	-0.2
PS4A	**Pavlof South-4**	**1.15**	**350**		Pn	17 08 56.1	-0.6
PS4A					Sn	17 09 10.7	-0.6
PVV	**Pavlof Volcano**	**1.17**	**353**		Pn	17 08 56.4	-0.6
PVV					Sn	17 09 10.9	-0.9
PS1A	**Pavlof South-1**	**1.22**	**354**		Pn	17 08 57.4	-0.2
PS1A					Sn	17 09 12.2	-0.7
PN7A	**Pavlof North-7**	**1.25**	**347**		Pn	17 08 58.6	+0.4
PN7A					Sn	17 09 14.0	+0.1
FALS	**False Pass**	**1.28**	**301**		Sn	17 09 14.1	-0.2
FALS	**False Pass**	**1.28**	**301**		Pn	17 08 58.0	-0.4
CNBA	**Chernabura Isl**	**1.28**	**61**		Pn	17 08 59.0	+0.5
CNBA				Sn	Sn	17 09 14.2	-0.2
ISLZ	**Isanotski Laza**	**1.38**	**293**		Pn	17 08 59.5	-0.3
ISLZ					Sn	17 09 17.3	+0.5
ISNN	**Isanotski Nort**	**1.45**	**296**		Pn	17 09 01.4	+0.5
ISNN					Sn	17 09 20.9	+2.2
S12K	**Black Hills**	**1.52**	**348**		Sn	17 09 21.9	+1.4
S12K	**Black Hills**	**1.52**	**348**		Pn	17 09 02.5	+0.6
S12K	**Black Hills**	**1.52**	**348**	IAML		17 09 23.0	
	comp=N,622nm,0.3s						
S12K				IAML		17 09 24.5	
	comp=E,794nm,0.3s						
WESE	**West Dahl East**	**1.81**	**279**		Pn	17 09 06.8	+0.9
WECS	**Westdahl Cape**	**1.93**	**281**		Pn	17 09 08.3	+0.9
AKSA	**Akutan Strait**	**2.46**	**270**		Pn	17 09 15.8	+1.2
AHB	**Akutan Harbor**	**2.53**	**270**		Pn	17 09 16.9	+1.3
AKBBA	**Akutan Broad B**	**2.60**	**269**		Pn	17 09 18.3	+1.8
ZRO	**Akutan Zero**	**2.62**	**269**		Pn	17 09 18.2	+1.3
CHGN	**Chignik**	**2.75**	**39**		Pn	17 09 18.8	+0.2
CHGN				Sn	Sn	17 09 53.0	+2.5
CHGN				IAML		17 09 59.5	
	comp=N,118nm,0.6s						
CHGN				IAML		17 10 07.5	
	comp=E,114nm,0.6s						
UNV	**Unalaska Valle**	**2.96**	**265**		Pn	17 09 22.6	+1.0
MREP	**Makushin Rep't**	**3.11**	**265**		Pn	17 09 25.2	+1.5
MSW	**Makushin Switc**	**3.12**	**267**		Pn	17 09 24.8	+1.2
MGOD	**Makushin Gods**	**3.19**	**265**		Pn	17 09 26.1	+1.5
MAPS	**Pakushin South**	**3.22**	**265**		Pn	17 09 25.5	+0.3
CHIR	**Chirikof Islan**	**3.76**	**62**	Pn	Pn	17 09 33.3	+0.8
CHIR				Sn	Sn	17 10 13.1	-2.4
PLK4	**Peulik 4**	**4.49**	**38**	Pn	Pn	17 09 43.2	+0.5
PLK4				IAML		17 10 31.0	
	comp=E,42nm,4.2s						
PLK4				Sn	Sn	17 10 36.1	+2.5
PLK4				IAML		17 11 05.4	
	comp=N,46nm,2.4s						
SII	**Sitkinak Islan**	**4.80**	**58**	Pn	Pn	17 09 47.4	+0.6
O14K	**Tigyukauivet M**	**5.05**	**2**	Pn	Pn	17 09 50.3	0.0
O14K				IAML		17 10 44.8	
	comp=N,38nm,1.9s						
O14K				IAML		17 11 41.6	
	comp=E,40nm,1.9s						
O15K	**Ungalikthiuk R**	**5.06**	**10**		Pn	17 09 50.9	+0.6
CNTC	**Contact Creek**	**5.13**	**35**		Pn	17 09 52.7	+1.2
P16K	**Nushagak River**	**5.21**	**21**		Pn	17 09 53.3	+0.9
ANCK	**Angle Creek**	**5.22**	**38**		Pn	17 09 54.1	+1.5
ACHA	**Angle Creek He**	**5.29**	**38**	Pn	Pn	17 09 54.4	+0.8
KABU	**Katmai Buttres**	**5.35**	**38**		Pn	17 09 56.0	+1.6
OHAK	**Old Harbor**	**5.54**	**54**	Pn	Pn	17 09 56.1	-0.8
O16K	**Kokwok River B**	**5.71**	**18**	Pn	Pn	17 09 59.9	+0.6
P17K	**Kvichak River**	**5.72**	**27**		Pn	17 10 02.1	+2.6
N14K	**Kuskokwak Cree**	**5.73**	**359**		Pn	17 10 00.1	+0.6
N15K	**Kwethluk River**	**6.02**	**7**	Pn	Pn	17 10 03.7	+0.2
O17K	**Koliganek Bris**	**6.08**	**22**		Pn	17 10 05.1	+0.9
KDAK	**Kodiak Island**	**6.16**	**51**	Pn	Pn	17 10 06.0	+0.6
M13K	**Dall Lake**	**6.29**	**352**	Pn	Pn	17 10 07.8	+0.5
O19K	**Cape Douglas,**	**6.42**	**39**	Pn	Pn	17 10 08.4	-0.6
N16K	**Nishlik Lake**	**6.45**	**12**		Pn	17 10 10.9	+1.4
M15K	**Kasigluk River**	**6.51**	**4**		Pn	17 10 10.5	+0.2
M14K	**Bethel**	**6.56**	**358**	Pn	Pn	17 10 10.3	-0.6
O18K	**Koktuh Hills**	**6.62**	**29**	Pn	Pn	17 10 12.8	+1.1
SYI	**Shuyak Island**	**6.71**	**45**	Pn	Pn	17 10 13.9	+0.9
N17K	**Nushagak Hills**	**6.75**	**19**	Pn	Pn	17 10 14.0	+0.5
M16K	**Timber Creek**	**6.96**	**10**	Pn	Pn	17 10 16.5	0.0
N18K	**Kilae Creek**	**7.16**	**23**	Pn	Pn	17 10 19.3	+0.2
L14K	**Kuka Creek**	**7.17**	**356**	Pn	Pn	17 10 18.9	-0.4
ILSW	**Iliamna Southw**	**7.36**	**35**	Pn	Pn	17 10 22.3	+0.3
L15K	**Ungalak Mounta**	**7.49**	**0**		Pn	17 10 23.7	+0.1
M17K	**Holitna River**	**7.53**	**15**	Pn	Pn	17 10 24.3	+0.1
L16K	**Owhat River**	**7.60**	**7**	Pn	Pn	17 10 24.9	-0.2
N19K	**Bonanza Creek**	**7.62**	**27**	Pn	Pn	17 10 26.2	+0.7
CNPM	**China Poot**	**7.75**	**42**	Pn	Pn	17 10 28.9	+1.7
M18K	**Stony River**	**7.90**	**20**		Pn	17 10 30.1	+0.8
K13K	**Kusilvak Mount**	**7.92**	**349**	Pn	Pn	17 10 29.6	+0.2
K15K	**Wolf Creek Mou**	**8.10**	**360**	Pn	Pn	17 10 32.0	0.0
L17K	**Donlin**	**8.12**	**11**		Pn	17 10 32.6	+0.3
L18K	**Granite Mounta**	**8.42**	**16**	Pn	Pn	17 10 36.4	0.0
M19K	**Big River Lodg**	**8.58**	**23**	Pn	Pn	17 10 39.9	+1.3
SPU	**Mount Spurr**	**8.62**	**32**	Pn	Pn	17 10 40.0	+0.8
J14K	**Nanvaranak Lak**	**8.63**	**354**	Pn	Pn	17 10 39.4	+0.2
K17K	**Iditarod**	**8.69**	**10**	Pn	Pn	17 10 39.8	-0.3
L19K	**White Mountain**	**8.73**	**21**	Pn	Pn	17 10 41.0	+0.4
M20K	**Styx River**	**8.88**	**27**	Pn	Pn	17 10 43.3	+0.6
J16K	**Anvik River**	**9.11**	**3**	Pn	Pn	17 10 45.3	-0.5
SUA	**Susitna One**	**9.25**	**34**	Pn	Pn	17 10 47.3	-0.6
J17K	**VABM Dome**	**9.30**	**7**	Pn	Pn	17 10 47.3	-1.1
SKT	**Skwentna**	**9.40**	**30**	Pn	Pn	17 10 48.9	-0.9
J18K	**Innoko River**	**9.60**	**13**	Pn	Pn	17 10 51.3	-1.3
PWL	**Port Wells**	**9.71**	**41**	Pn	Pn	17 10 53.6	-0.5
K20K	**Telida**	**9.94**	**20**	Pn	Pn	17 10 58.3	+1.1
KNK	**Knik Glacier**	**10.02**	**39**	Pn	Pn	17 10 57.3	-0.9
GHO	**Glory Hole Cre**	**10.09**	**36**	Pn	Pn	17 10 58.3	-1.0
CUT	**Chulitna**	**10.11**	**31**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRP	**Porcupine Dome**	**13.83**	**29**	Pn	Pn	17 11 49.1	-1.3
D19K	**Kuna River**	**14.42**	**5**	Pn	Pn	17 11 55.4	-2.8
C18K	**Utukok River**	**14.49**	**0**	Pn	Pn	17 11 58.0	-1.2
M29M	**Somme Creek**	**14.58**	**46**	Pn	Pn	17 11 60.0	-0.5
E22K	**Anaktuvuk Pass**	**14.70**	**14**	Pn	Pn	17 12 01.8	-0.2
L29M	**L29M**	**15.00**	**44**		Pn	17 12 06.6	+0.7
E24K	**Your Creek**	**15.21**	**19**		Pn	17 12 07.9	-0.8
E24K				IAmb	IAmb	17 12 28.1	
	comp=Z,1.4nm,0.9s						
D22K	**Ayikyak River**	**15.28**	**12**		Pn	17 12 09.2	-0.3
TOLK	**Toolik Lake Re**	**15.51**	**16**	Pn	Pn	17 12 11.4	-1.2
I28M	**Miner Creek**	**15.53**	**35**	Pn	Pn	17 12 12.4	-0.5
BMAR	**Burnt Mountain**	**15.53**	**25**	Pn	Pn	17 12 11.9	-0.9
K29M	**Barlow Dome**	**15.57**	**42**	Pn	Pn	17 12 12.7	-0.8
K29M				IAmb	IAmb	17 12 17.6	
	comp=Z,5.7nm,1.4s						
D23K	**Nanushuk River**	**15.63**	**15**	Pn	Pn	17 12 14.1	-0.1
D23K				IAmb	IAmb	17 12 49.4	
	comp=Z,8.3nm,1.5s						
J30M	**Hart River**	**16.37**	**41**	Pn	Pn	17 12 23.8	+0.1
J30M				IAmb	IAmb	17 13 01.0	
	comp=Z,5.5nm,1.4s						
C23K	**Itkillik River**	**16.44**	**13**		Pn	17 12 24.3	-0.1
H29M	**Whitestone**	**16.50**	**34**		Pn	17 12 25.1	-0.2
F28M	**Old Crow**	**16.92**	**29**	P	P	17 12 31.9	-0.1
G29M	**Pine Creek**	**17.03**	**32**	P	Pn	17 12 31.7	-0.1
G29M				IAmb	IAmb	17 13 02.8	
	comp=Z,9.3nm,1.5s						
G30M	**tAoh Zraii Nji**	**17.65**	**34**	P	Pn	17 12 38.9	-0.6
G30M				IAmb	IAmb	17 12 52.0	
	comp=Z,6.2nm,1.4s						
H31M	**Peel River**	**17.68**	**38**	P	Pn	17 12 39.5	-0.4
H31M				IAmb	IAmb	17 13 00.6	
	comp=Z,12nm,1.4s						

*IDC **09** 17:12:29.2±1.6,3.˚23S×143.˚42E,h0km,mb3.6/4, mbtmp3.8/6,ML3.7/1,MS3.1/2,Error ellipse: s-maj=33.9km s-min=26.0km az=115.0*

ISC 09 17:12:32.7±1.5,3.˚2S±0.˚1×143.˚3E±0.˚2,h24km,n13, σ1°58/7,mb3.6/3,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.29**	**148**	Pn	**Pn**	**17 14 16.4**	**-1.4**
	13nm,0.8s,baz=326,slow=11,SNR=1.7						
PMG				Sn	**Sn**	**17 15 41.7**	**+1.9**
	baz=328,slow=24						
PMG				LR	LR	17 17 39.4	
	comp=Z,99nm,19.3s,baz=340,slow=43						
WRA	**Warramunga Arr**	**18.82**	**207**	P	**P**	**17 16 49.0**	**-1.9**
	0.2nm,0.3s,baz=33,slow=11,SNR=8.4						
	0.7nm,0.5s						
BATI	**Baumata**	**20.70**	**249**	P	**P**	**17 17 12.1**	**+0.7**
	6.2nm,0.4s,baz=60,slow=8.1,SNR=1.8						
	6.2nm,0.4s						
ASAR	**Alice Springs**	**22.31**	**203**	P	**P**	**17 17 29.0**	**+0.3**
	0.5nm,0.7s,baz=27,slow=12,SNR=10						
	0.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**22.79**	**228**	P	**P**	**17 17 34.4**	**+0.6**
	0.8nm,0.4s,baz=65,slow=12,SNR=5.8						
	0.8nm,0.4s						
STKA	**Stephens Creek**	**28.60**	**183**	LR	LR	17 30 42.9	
	comp=Z,56nm,18.3s,baz=22,slow=38						
H11S3	**WAKE ISLAND Hy**	**31.53**	**46**	T	T	17 51 51.5	
	baz=225,slow=76						
H11S2	**WAKE ISLAND Hy**	**31.54**	**46**	T	T	17 51 55.9	
	baz=225,slow=76						
H11S1	**WAKE ISLAND Hy**	**31.55**	**46**	T	T	17 51 57.4	
	baz=225,slow=76						
H11N1	**WAKE ISLAND Hy**	**32.48**	**45**	T	T	17 53 11.3	
	baz=227,slow=76						
H11N2	**WAKE ISLAND Hy**	**32.49**	**45**	T	T	17 53 12.5	
	baz=227,slow=76						
H11N3	**WAKE ISLAND Hy**	**32.49**	**45**	T	T	17 53 12.5	
	baz=227,slow=76						
ILAR	**Eielson Array**	**84.38**	**24**	P	**P**	**17 25 03.1**	**+0.3**
	0.7nm,0.8s,baz=254,slow=5.7,SNR=5.9						
	0.7nm,0.8s						

*IDC **09** 17:14:13.8±0.7,47.˚64N×90.˚47E,h0km,mb3.9/16, mbtmp4.0/21,ML3.9/5,MS3.3/19,Error ellipse: s-maj=15.0km s-min=9.6km az=24.0*

*BJI **09** 17:14:14.0,47.˚71N×90.˚49E,h10km,mb4.3/16,mB4.8/7, ML4.5/9,Ms4.0/15,Ms7 3.7/13*

*NEIC **09** 17:14:15.6±2.2,47.˚65N±0.˚08×90.˚3E±0.˚1,h10km±1km, mb4.4/56,Error ellipse: s-maj=13.4km s-min=11.9km az=172.0*

*MOS **09** 17:14:15.4±1.4,47.˚60N×90.˚20E,h16km,mb4.3/13,Error ellipse: s-maj=5.9km s-min=5.7km az=132.4*

*NNC **09** 17:14:18.4±1.9,47.˚72N×89.˚96E,h0km,mb4.5,mpv4.4, Error ellipse: s-maj=16.0km s-min=11.5km az=98.0*

*ASRS **09** 17:14:23.4±0.5,48.˚N±2.˚×9.˚0E±.˚,h5km,MLh4.8/13,Error ellipse: s-maj=5.4km s-min=4.1km az=176.2,confirmed*

ISC 09 17:14:16.7±0.4,47.˚60N±0.˚03×90.˚29E±0.˚03,h10km,n194, σ2°11/202,mb4.3/43,MS3.4/16,19C-16D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**2.81**	**334**	Pn	**Pn**	**17 15 03.5**	**+1.7**
CUR				Sg	**Sb**	**17 15 43.2**	**+1.7**
CUR	**Chagan-Uzun**	**2.81**	**334**	PN	**Pn**	**17 15 03.7**	**+1.9**
CUR						17 15 44.4	
AKAR	**Aktash**	**3.24**	**328**	Pn	**Pn**	**17 15 09.7**	**+2.0**
AKAR				Pg	**Pb**	**17 15 16.6**	**+2.3**
AKAR				Sg	**Sb**	**17 15 55.5**	**+1.6**
AKAR	**Aktash**	**3.24**	**328**	PN	**Pn**	**17 15 09.7**	**+2.0**
AKAR						17 15 16.9	
AKAR						17 15 55.9	
CHBI	**Chibit, Altay**	**3.28**	**327**	Pn	**Pn**	**17 15 09.9**	**+1.8**
CHBI				Pg	**Pb**	**17 15 16.6**	**+1.7**
CHBI				Sg	**Sb**	**17 15 56.4**	**+1.5**
ULGR	**Ulagan, Altay**	**3.39**	**334**	Pn	**Pn**	**17 15 11.0**	**+1.2**
ULGR				Pg	**Pb**	**17 15 17.9**	**+1.0**
ULGR				Sg	**Sb**	**17 15 59.9**	**+1.7**
ULGR	**Ulagan, Altay**	**3.39**	**334**	PN	**Pn**	**17 15 10.9**	**+1.2**
ULGR						17 15 17.8	
ULGR						17 15 59.8	
TEL	**Teeli**	**3.42**	**359**	Pn	**Pn**	**17 15 13.2**	**+3.1**
TEL				Pg	**Pb**	**17 15 19.8**	**+2.4**
TEL				S	**Sn**	**17 15 48.7**	**-2.0**
TEL				Sg	**Sb**	**17 16 01.8**	**+2.7**
WMQ	**Urumqi**	**4.20**	**207**	Pn	**Pn**	**17 15 24.0**	**+3.2**
WMQ				Sn	**Sn**	**17 16 17.0**	**+7.1**
WMQ				smax	smax		
	comp=N,380nm,0.7s						
WMQ				smax	smax		
	comp=E,180nm,0.7s						
YALR	**Yailyu, Altay**	**4.52**	**338**	Pn	**Pn**	**17 15 26.9**	**+1.7**
YALR				Pg	Pb	17 15 41.0	+4.9
YALR				Sg	**Sb**	**17 16 37.0**	**+6.4**
ARTR	**Artybash**	**4.63**	**336**	Pn	**Pn**	**17 15 28.4**	**+1.7**
ARTR				Pg	**Pb**	**17 15 42.6**	**+4.7**
ARTR				S	**Sn**	**17 16 16.9**	**-3.6**
ARTR				Sg	**Sb**	**17 16 39.1**	**+5.3**
ARTR	**Artybash**	**4.63**	**336**	PN	**Pn**	**17 15 28.9**	**+2.2**
ARTR						17 15 46.1	
ARTR						17 16 39.0	
KZLR	**Kyzyl**	**4.92**	**32**	Pn	**Pn**	**17 15 29.6**	**-1.0**
KZLR				Pg	Pb	17 15 39.3	-3.5
KZLR				Sg	**Sb**	**17 16 43.0**	**+1.0**
UKR	**Ust'-Kan**	**4.92**	**315**	Pn	**Pn**	**17 15 34.2**	**+3.5**
UKR				Pg	**Pb**	**17 15 47.0**	**+4.1**
UKR				Sg	**Sg**	**17 16 51.2**	**-3.3**
UKR	**Ust'-Kan**	**4.92**	**315**	PN	**Pn**	**17 15 34.3**	**+3.6**
UKR						17 15 46.9	
GALT	**Gorno-Altaysk,**	**5.19**	**329**	Pg	**Pb**	**17 15 52.0**	**+4.6**
GALT				Sg	**Sb**	**17 16 58.3**	**+8.5**
DJO	**Djoy, Khakassi**	**5.22**	**6**	Pg	**Pb**	**17 15 49.3**	**+1.4**
DJO				Sg	**Sb**	**17 16 55.4**	**+4.8**
ARDR	**Aradan**	**5.38**	**21**	Pn	**Pn**	**17 15 36.4**	**-0.5**
ARDR				Pg	**Pb**	**17 15 49.0**	**-1.7**
ARDR				Sg	**Sb**	**17 16 59.8**	**+4.6**
MK31	**Makanchi Array**	**5.51**	**265**	⇑Pn	**Pn**	**17 15 40.2**	**+1.3**
	4.9nm,0.3s,baz=92,slow=14,SNR=344						
MK31				⇓Pg	**Pb**	**17 15 54.4**	**+1.3**
	18nm,0.5s,baz=89,slow=16,SNR=13						
MK31				⇑Lg	Lg	17 17 07.9	
	125nm,0.5s,baz=80,slow=29,SNR=15						
MK31	**Makanchi Array**	**5.51**	**265**	Pn	**Pn**	**17 15 40.1**	**+1.3**
MK31	**Makanchi Array**	**5.51**	**265**	*c iPN*	**Pn**	**17 15 40.3**	**+1.5**
MKAR	**Makanchi Array**	**5.51**	**265**	Pn	**Pn**	**17 15 39.8**	**+0.9**
MKAR	**Makanchi Array**	**5.51**	**265**	Pn	**Pn**	**17 15 40.5**	**+1.6**
	6.7nm,0.3s,baz=88,slow=14,SNR=326						
MKAR				Pg	**Pb**	**17 15 52.0**	**-1.0**
	5.2nm,0.3s,baz=91,slow=17,SNR=11						
MKAR				Lg	Lg	17 17 08.7	
	15nm,0.3s,baz=70,slow=38,SNR=4.7						
MKAR				LR	LR	17 17 59.5	
	comp=Z,58nm,21.1s,baz=41,slow=40						
	8.6nm,0.3s						
VEH	**Verkhnyaya Baz**	**5.66**	**0**	Pg	**Pb**	**17 15 58.7**	**+3.3**
VEH				Sg	**Sb**	**17 17 10.8**	**+7.5**
MAKZ	**Makanchi**	**5.72**	**265**	⇓Pn	**Pn**	**17 15 42.9**	**+1.2**
	26nm,0.7s						
MAKZ				⇑Lg	Lg	17 17 14.9	
	290nm,1.0s						
MAKZ	**Makanchi**	**5.72**	**265**	Pn	**Pn**	**17 15 43.0**	**+1.2**
MAKZ	**Makanchi**	**5.72**	**265**	PN	**Pn**	**17 15 43.0**	**+1.3**
SHRR	**Shira**	**6.90**	**359**	*i PN*	**Pb**	**17 16 15.8**	**-0.8**
ZAA0	**Zalesovo Array**	**7.24**	**333**	⇓Pn	**Pn**	**17 16 01.5**	**-0.9**
	1.0nm,0.5s						
ZAA0				⇑Lg	Lg	17 18 01.9	
	13nm,0.8s						
ZAA0	**Zalesovo Array**	**7.24**	**333**	Pn	**Pn**	**17 16 01.7**	**-0.7**
ZALV	**Zalesovo Beam**	**7.24**	**333**	Pn	**Pn**	**17 16 01.4**	**-1.0**
	2.0nm,0.3s,baz=152,slow=13,SNR=40						
ZALV				Lg	Lg	17 18 00.4	
	5.5nm,0.3s,baz=146,slow=26,SNR=6.0						
	3.9nm,0.3s						
ZALV	**Zalesovo Beam**	**7.24**	**333**	*e*P	**Pn**	**17 16 02.1**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ORL	**Orlik**	**7.87**	**48**	*i* P	Pb	17 16 29.7	-3.4
KURK	**Kurchatov**	**8.26**	**296**	⇑Pn	**Pn**	**17 16 15.9**	**-0.5**
	comp=Z,78nm,0.6s						
KURK				⇑Sn	**Sn**	**17 17 46.9**	**-2.8**
	comp=Z,76nm,0.8s						
KURK				⇑Lg	Lg	17 18 34.1	
	comp=Z,97nm,0.5s						
KURK	**Kurchatov**	**8.26**	**296**	Pn	**Pn**	**17 16 16.1**	**-0.3**
KURK	**Kurchatov**	**8.26**	**296**	*c iP*	**Pn**	**17 16 16.1**	**-0.3**
KURK				pmax	pmax		
	comp=Z,79nm,0.6s						
KURBB	**Kurchatov Arra**	**8.29**	**296**	⇑Pn	**Pn**	**17 16 16.5**	**-0.3**
	comp=Z,62nm,0.4s						
KURBB				⇓Sn	**Sn**	**17 17 49.2**	**-1.2**
	comp=Z,89nm,0.8s						
KURBB				⇓Lg	Lg	17 18 34.5	
	comp=Z,463nm,0.9s						
KURBB	**Kurchatov Arra**	**8.29**	**296**	Pn	**Pn**	**17 16 16.6**	**-0.3**
	comp=Z,3.9nm,0.3s,baz=103,slow=14,SNR=498						
KURBB				Sn	**Sn**	**17 17 48.4**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=99,slow=29,SNR=8.5						
KURBB				Lg	Lg	17 18 36.3	
	comp=Z,1.5nm,0.3s,baz=104,slow=34,SNR=7.3						
KURBB				LR	LR	17 19 39.0	
	comp=Z,356nm,18.1s,baz=203,slow=39						
	comp=Z,59nm,0.6s						
KURBB	**Kurchatov Arra**	**8.29**	**296**	P	**Pn**	**17 16 16.5**	**-0.3**
KURBB				S	**Sn**	**17 17 49.2**	**-1.2**
SHLS	**Shalkode**	**8.82**	**244**	*e*P	Pn	17 16 22.1	-2.2
SHLS				pmax	pmax		
	comp=Z,13nm,0.6s						
UZB	**Uzynbulak**	**9.10**	**245**	*e*P	**Pn**	**17 16 29.3**	**+1.2**
KPKS	**Kokpek**	**9.14**	**247**	*e*P	**Pn**	**17 16 30.6**	**+2.0**
ARXS	**Arharly**	**9.33**	**253**	*e*P	**Pn**	**17 16 31.3**	**+0.1**
PRZ	**Przheval'sk**	**9.85**	**243**	Pn	Pn	17 16 36.4	-2.0
PRZ	**Przheval'sk**	**9.85**	**243**	P	Pn	17 16 36.4	-2.0
WUS	**Wushi**	**10.18**	**235**	Pn	**Pn**	**17 16 42.4**	**-0.6**
MDOK	**Medeo**	**10.32**	**249**	⇓Pn	**Pn**	**17 16 47.6**	**+2.8**
	comp=Z,0.9nm,0.4s						
MDOK				⇓Sn	**Sn**	**17 18 40.6**	**0.0**
	comp=Z,15nm,0.7s						
MDOK				⇓Lg	Lg	17 19 40.5	
	comp=Z,59nm,0.8s						
MDOK	**Medeo**	**10.32**	**249**	P	**Pn**	**17 16 47.6**	**+2.8**
MDOK				S	**Sn**	**17 18 40.6**	**0.0**
GTA	**Gaotai**	**10.71**	**136**	*e*P	Pn	17 16 47.3	-2.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
GTA				LR	LR		
	comp=Z,330nm,8.0s						
GTA				LR	LR		
	comp=Z,560nm,8.0s						
GTA				LR	LR		
	comp=Z,310nm,9.8s						
KDJ	**Kajisay**	**10.79**	**244**	Pn	**Pn**	**17 16 50.7**	**-0.6**
KDJ	**Kajisay**	**10.79**	**244**	P	**Pn**	**17 16 50.7**	**-0.6**
SONM	**Songino Array**	**10.86**	**83**	Pn	**Pn**	**17 16 50.8**	**-1.3**
SONM	**Songino Array**	**10.86**	**83**	Pn	**Pn**	**17 16 54.1**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=276,slow=15,SNR=5.8						
SONM				Pg		17 17 30.2	
	comp=Z,0.4nm,0.3s,baz=287,slow=18,SNR=6.8						
SONM				Sn	Sn	17 18 44.2	-10
	comp=Z,0.3nm,0.3s,baz=266,slow=20,SNR=4.1						
SONM				Lg	Lg	17 19 48.1	
	comp=Z,2.0nm,0.3s,baz=260,slow=26,SNR=19						
SONM				LR	LR	17 20 56.9	
	comp=Z,73nm,19.7s,baz=45,slow=38						
SONM	**Songino Array**	**10.86**	**83**	*e*P	**Pn**	**17 16 55.4**	**+3.2**
ULN	**Ulaanbaatar**	**11.29**	**82**	⇑*e*P	**Pn**	**17 17 00.9**	**+2.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BOOM	**Boomskoye usch**	**11.36**	**249**	Pn	**Pn**	**17 16 58.9**	**-0.3**
BOOM	**Boomskoye usch**	**11.36**	**249**	P	**Pn**	**17 16 58.9**	**-0.3**
TKM2	**Tokmak 2**	**11.36**	**251**	⇑Pn	**Pn**	**17 17 00.2**	**+1.0**
	comp=Z,2.8nm,0.5s						
TKM2				⇓Sn	**Sn**	**17 19 04.5**	**-1.8**
	comp=Z,7.3nm,0.8s						
TKM2				⇓Lg	Lg	17 20 13.4	
	comp=Z,52nm,1.4s						
TKM2	**Tokmak 2**	**11.36**	**251**	P	**Pn**	**17 17 00.2**	**+1.0**
TKM2				S	**Sn**	**17 19 04.5**	**-1.8**
BTLS	**Baital**	**11.52**	**263**	*e*P	**Pn**	**17 17 00.8**	**-0.4**
GOMU	**GeErMu**	**11.88**	**162**	P	Pn	17 17 03.1	-3.3
GOMU				S	**Sn**	**17 19 20.0**	**+0.8**
GOMU				LR	LR		
	comp=Z,450nm,10.7s						
GOMU				LR	LR		
	comp=Z,270nm,9.8s						
GOMU				LR	LR		
	comp=Z,420nm,8.6s						
NRN	**Naryn**	**11.91**	**244**	Pn	**Pn**	**17 17 05.3**	**-1.5**
NRN	**Naryn**	**11.91**	**244**	P	**Pn**	**17 17 05.3**	**-1.5**
AAK	**Ala-Archa**	**12.21**	**252**	Pn	**Pn**	**17 17 09.6**	**-1.2**
AAK	**Ala-Archa**	**12.21**	**252**	Pn	**Pn**	**17 17 12.0**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=80,slow=9.0,SNR=14						
AAK				Lg	Lg	17 20 42.9	
	comp=Z,0.3nm,0.3s,baz=296,slow=15,SNR=4.2						
AAK				LR	LR	17 22 06.1	
	comp=Z,43nm,19.7s,baz=52,slow=38						
	comp=Z,3.6nm,0.5s						
AAK	**Ala-Archa**	**12.21**	**252**	*de*P	**Pn**	**17 17 12.4**	**+1.7**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH	**Kashi**	**13.14**	**237**	P	P	17 17 31.8	-1.9
KSH				S	Sn	17 20 00.5	+11
KSH				pmax	pmax		
	comp=Z,5.0nm,1.2s						
BVA0	**Borovoye Array**	**13.81**	**301**	⇑Pn	Pn	17 17 30.3	-2.1
	comp=Z,3.0nm,0.5s,baz=103,slow=14,SNR=72						
BVA0				⇑Sn	**Sn**	**17 20 05.4**	**-0.2**
	comp=Z,6.8nm,0.7s						
BVA0				⇓Lg	Lg	17 21 30.5	
	comp=Z,28nm,1.4s,baz=102,slow=26,SNR=3.9						
BVA0	**Borovoye Array**	**13.81**	**301**	P	Pn	17 17 30.3	-2.0
BVA0				S	**Sn**	**17 20 05.4**	**-0.2**
BVAR	**Borovoye Array**	**13.81**	**301**	Pn	Pn	17 17 30.1	-2.2
	comp=Z,0.5nm,0.3s,baz=102,slow=14,SNR=85						
BVAR				Sn	Sn	17 19 49.6	-16
	comp=Z,0.1nm,0.3s,baz=101,slow=21,SNR=3.6						
BVAR				LR	LR	17 23 04.1	
	comp=Z,196nm,19.3s,baz=99,slow=38						
	comp=Z,6.4nm,0.5s						
ARSB	**Arslanbob**	**13.85**	**249**		**Pn**	**17 17 32.1**	**-1.0**
ARSB	**Arslanbob**	**13.85**	**249**	P	**Pn**	**17 17 32.1**	**-1.0**
BRVK	**Borovoye**	**13.88**	**301**	⇓Pn	Pn	17 17 30.8	-2.5
	comp=Z,3.5nm,0.5s						
BRVK				⇑Sn	**Sn**	**17 20 05.2**	**-2.1**
	comp=Z,7.2nm,0.7s						
BRVK				⇑Lg	Lg	17 21 33.7	
	comp=Z,35nm,1.5s						
BRVK	**Borovoye**	**13.88**	**301**	Pn	Pn	17 17 30.7	-2.6
BRVK	**Borovoye**	**13.88**	**301**	*de*P	**Pn**	**17 17 31.8**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KKAR	**Karatay Array**	**14.61**	**259**	Pn	Pn	17 17 40.5	-2.8
KKAR	**Karatay Array**	**14.61**	**259**	Pn	Pn	17 17 40.4	-2.9
KKAR	**Karatay Array**	**14.61**	**259**	P	Pn	17 17 40.5	-2.9
LZH	**Lanzhou**	**15.28**	**134**	*e*P	**Pn**	**17 17 54.1**	**+1.5**
LZH				sP	pP	17 18 01.7	+0.6
LZH				pmax	pmax		
	comp=Z,9.0nm,1.4s						
LZH				LR	LR		
	comp=Z,430nm,10.3s						
LZH				LR	LR		
	comp=Z,400nm,9.6s						
LZH				LR	LR		
	comp=Z,350nm,10.3s						
IUG	**Iuzhnay**	**15.35**	**257**	*e*P	**Pn**	**17 17 55.8**	**+2.4**
DRK	**Karamyk**	**15.65**	**246**		**Pn**	**17 17 55.7**	**-1.8**
DRK	**Karamyk**	**15.65**	**246**	P	**Pn**	**17 17 55.7**	**-1.8**
DRK				pmax	pmax		
	comp=Z,11nm,1.1s						
BTO	**Baotou**	**15.78**	**109**	*e*P	**Pn**	**17 17 56.5**	**-2.5**
BTO				pP	**P**	**17 18 02.8**	**-0.1**
BTO				PP	**pP**	**17 18 08.6**	**+2.1**
BTO				S	**Sn**	**17 20 50.5**	**-3.4**
BTO				pmax	pmax		
	comp=Z,11nm,0.8s						
BTO				pmax	pmax		
	comp=Z,260nm,4.9s						
BTO				LR	LR		
	comp=Z,600nm,7.4s						
BTO				LR	LR		
	comp=Z,350nm,7.9s						
BTO				LR	LR		
	comp=Z,410nm,8.8s						
BTK	**Batken**	**15.92**	**249**	Pn	**Pn**	**17 17 59.2**	**-1.6**
BTK	**Batken**	**15.92**	**249**	P	**Pn**	**17 17 59.2**	**-1.6**
BTK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**16.65**	**106**	*e*P	**Pn**	**17 18 08.8**	**-1.3**
HHC				S	**Sn**	**17 21 11.7**	**-3.2**
HHC				SS	**SnSn**	**17 21 35.0**	**+7.2**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,96nm,4.5s						
HHC				LR	LR		
	comp=Z,190nm,8.4s						
HHC				LR	LR		
	comp=Z,380nm,8.8s						
HHC				LR	LR		
	comp=Z,530nm,10.4s						
GAR	**Garm**	**16.86**	**247**	Pn	**Pn**	**17 18 10.8**	**-1.9**
GAR				IAmb	IAmb	17 18 24.3	
	comp=Z,15nm,0.9s						
SIMJ	**Simiganj**	**17.88**	**248**	Pn	**Pn**	**17 18 23.0**	**-2.5**
LSA	**Lhasa**	**17.89**	**178**	P	**Pn**	**17 18 26.4**	**+0.4**
LSA	**Lhasa**	**17.89**	**178**	P	**Pn**	**17 18 26.4**	**+0.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
NIL	**Nilore**	**18.96**	**229**	P	**P**	**17 18 37.4**	**-0.6**
NIL				IAmb	IAmb	17 18 42.8	
	comp=Z,21nm,0.8s						
NIL	**Nilore**	**18.96**	**229**	P	**P**	**17 18 37.4**	**-0.6**
NIL				pmax	pmax		
	comp=Z,21nm,0.9s						
ABKAR	**Akbulak array**	**20.15**	**286**		**P**	**17 18 49.6**	**-1.2**
SVE	**Sverdlovsk**	**20.23**	**308**	*e*P	**P**	**17 18 52.4**	**+0.7**
SVE				pmax	pmax		
	comp=Z,21nm,0.8s						
KBL	**Kabul**	**20.58**	**238**	P	**P**	**17 18 55.6**	**-0.2**
KBL				IAmb	IAmb	17 18 58.0	
	comp=Z,7.9nm,0.8s						
KBL	**Kabul**	**20.58**	**238**	P	**P**	**17 18 55.6**	**-0.2**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AKTO	**Aktyubinsk**	**21.27**	**290**	P	**P**	**17 19 02.5**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=84,slow=6.9,SNR=7.3						
AKTO				LR	LR	17 27 44.2	
	comp=Z,168nm,19.6s,baz=48,slow=38						
	comp=Z,2.8nm,0.9s						
ARTI	**Arti**	**21.35**	**306**	P	**P**	**17 19 02.3**	**-1.5**
ARTI				IAmb	IAmb	17 19 07.9	
	comp=Z,28nm,0.8s						
ARTI	**Arti**	**21.35**	**306**	*c iP*	**P**	**17 19 03.9**	**+0.1**
ARTI						17 19 21.7	
ARTI				S	**S**	**17 23 00.5**	**-0.1**
ARTI				SS	**SnSn**	**17 23 24.2**	**+1.3**
ARTI				pmax	pmax		
	comp=Z,23nm,0.6s						
NRIK	**Noril'sk**	**21.84**	**357**	P	**P**	**17 19 07.6**	**-1.3**
NRIK	**Noril'sk**	**21.84**	**357**	P	**P**	**17 19 07.3**	**-1.6**
	comp=Z,4.3nm,0.8s,baz=153,slow=11,SNR=9.0						
	comp=Z,4.3nm,0.8s						
NRIK	**Noril'sk**	**21.84**	**357**	P	**P**	**17 19 07.6**	**-1.3**
NRIK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SHL	**Shillong**	**22.03**	**176**	P	**P**	**17 19 11.4**	**0.0**
SHL				IAmb	IAmb	17 19 38.1	
	comp=Z,9.4nm,1.1s						
SHL	**Shillong**	**22.03**	**176**	P	**P**	**17 19 11.4**	**0.0**
SHL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PZH	**PanZhiHua**	**22.91**	**153**	P	**P**	**17 19 20.7**	**-0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
KSRS	**Korea Array**	**29.27**	**96**	LR	LR	17 32 47.5	
	comp=Z,51nm,18.5s,baz=285,slow=38						
TJN	**Taejon**	**29.48**	**99**	⇑*e*P	**P**	**17 20 25.0**	**+4.3**
CMAR	**Chiang Mai Arr**	**29.

KIEV pmax pmax
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 40.93 280 P P 17 21 57.0 -2.3
BR131 Keskin Array S 40.93 280 P P 17 21 57.0 -2.3
BR131 pmax pmax
comp=Z,3.0nm,1.2s
BRTR Keskin Array B 40.93 280 P P 17 21 57.0 -2.3
BRTR Keskin Array B 40.93 280 P **P 17 21 59.9 +0.6**
comp=Z,0.4nm,0.5s,baz=53,slow=4.8,SNR=5.9
comp=Z,0.4nm,0.5s
BRTR Keskin Array B 40.93 280 *e*P **P 17 22 00.9 +1.6**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
PETK Petropavlovsk- 41.91 56 P **P 17 22 05.5 -1.6**
BUR08 Bucovina Ar. S 42.68 295 P **P 17 22 12.5 -1.0**
BUR08 IAmb IAmb 17 22 17.0
comp=Z,12nm,1.5s
BURAR Bucovina Array 42.69 295 P **P 17 22 12.9 -0.6**
BURAR pmax pmax
comp=Z,2.0nm,0.8s
RAYN Ar Rayn 42.86 252 P **P 17 22 14.8 -0.3**
RAYN IAmb IAmb 17 22 18.1
comp=Z,5.2nm,1.4s
RAYN Ar Rayn 42.86 252 P **P 17 22 14.8 -0.3**
RAYN pmax pmax
comp=Z,5.0nm,1.4s
CSS Mathiatis 43.70 275 P **P 17 22 21.3 -0.4**
KOLS Kolonicke sedl 43.90 298 *e*P **P 17 22 24.7 +1.5**
HFS Hagfors 44.28 316 P **P 17 22 25.1 -1.0**
comp=Z,4.5nm,0.7s,baz=81,slow=9.2,SNR=11
HFS LR LR 17 41 56.8
comp=Z,68nm,18.1s,baz=273,slow=38
comp=Z,4.5nm,0.7s
OJC Ojcow 44.81 301 P **P 17 22 29.3 -1.2**
OJC IAmb IAmb 17 22 31.7
comp=Z,4.4nm,0.6s
OJC Ojcow 44.81 301 P **P 17 22 29.3 -1.2**
OJC pmax pmax
comp=Z,4.0nm,0.6s
NC405 NORSAR Array S 44.87 318 P P 17 22 28.4 -2.4
NC303 NORSAR Array S 44.99 318 P P 17 22 29.4 -2.3
NC602 NORSAR Array S 45.08 317 P **P 17 22 31.0 -1.4**
NORES NORESS Array B 45.08 317 P **P 17 22 32.0 -0.5**
NB201 NORSAR Array S 45.09 318 P **P 17 22 30.8 -1.7**
JCJ Chichijima 45.10 98 P **P 17 22 32.5 -0.5**
NB2 NORSAR Subarra 45.12 318 P **P 17 22 31.8 -1.0**
comp=Z,2.1nm,0.6s,baz=72,slow=7.9
NB2 NORSAR Subarra 45.12 318 P **P 17 22 32.4 -0.5**
NOA NORSAR Array B 45.12 318 P **P 17 22 31.9 -1.0**
comp=Z,1.9nm,0.8s,baz=65,slow=7.6,SNR=12
NOA LR LR 17 42 51.9
comp=Z,51nm,20.2s,baz=225,slow=38
comp=Z,1.9nm,0.8s
NOA NORSAR Array B 45.12 318 *e*P **P 17 22 32.2 -0.7**
NOA pmax pmax
comp=Z,2.0nm,0.7s
LANS Liptovska Anna 45.47 300 *e*P **P 17 22 38.3 +2.5**
VYHS Vyhne 46.14 299 *e*P **P 17 22 42.5 +1.5**
CLL Collm 48.20 305 P P 17 22 54.7 -2.2
CLL Collm 48.20 305 P P 17 22 54.7 -2.3
CLL pmax pmax
comp=Z,5.0nm,0.4s
FUORN Ofenpass-Fuorn 52.11 301 P **P 17 23 25.3 -1.8**
FUORN IAmb IAmb 17 23 41.1
comp=Z,4.8nm,1.1s
CAMP Campotosto 52.45 295 P **P 17 23 27.5 -2.0**
CAMP IAmb IAmb 17 23 30.6
comp=Z,6.0nm,1.1s
NRCA Norcia 52.47 295 P P 17 23 27.4 -2.2
NRCA IAmb IAmb 17 23 38.0
comp=Z,4.1nm,1.0s
D19K Kuna River 53.66 25 P **P 17 23 35.9 -2.1**
D19K IAmb IAmb 17 23 53.2
comp=Z,13nm,1.4s
BKB Balikpapan 53.92 146 P **P 17 23 38.6 -1.8**
EKA Eskdalemuir Ar 54.48 316 P **P 17 23 43.4 -0.6**
comp=Z,0.7nm,0.4s,baz=64,slow=6.4,SNR=1.9
comp=Z,0.7nm,0.4s
E19K Redstone River 54.58 26 P **P 17 23 42.4 -2.2**
E19K IAmb IAmb 17 23 45.7
comp=Z,5.8nm,0.8s
D22K Ayikyak River 54.92 23 P **P 17 23 44.9 -2.2**
F20K Avaraart Lake 55.29 26 P P 17 23 47.2 -2.5
F20K IAmb IAmb 17 24 03.2
comp=Z,9.6nm,1.4s
F21K Alatna River 55.83 25 P **P 17 23 52.0 -1.6**
F21K IAmb IAmb 17 23 54.7
comp=Z,9.5nm,1.2s
H19K Roundabout Mou 56.08 27 P **P 17 23 55.7 +0.3**
IMAR Indian Mountai 56.60 26 **P 17 23 57.2 -1.9**
J20K Nowinta River 57.73 28 P **P 17 24 05.7 -1.4**
J20K IAmb IAmb 17 24 11.7
comp=Z,9.7nm,1.3s
H23K Yukon River 57.94 25 P **P 17 24 07.2 -1.3**
H23K IAmb IAmb 17 24 12.2
comp=Z,8.0nm,1.4s
BMAR Burnt Mountain 58.07 22 P **P 17 24 08.3 -1.2**
E29M Blow River 58.89 19 P **P 17 24 13.6 -1.6**
E29M IAmb IAmb 17 24 17.0
comp=Z,3.8nm,1.1s
ILAR Eielson Array 59.47 25 P P 17 24 16.7 -2.5
comp=Z,0.8nm,0.9s,baz=304,slow=4.4,SNR=6.3
ILAR LR LR 17 52 14.8
comp=Z,121nm,18.6s,baz=245,slow=38
comp=Z,0.8nm,0.9s
ILAR Eielson Array 59.47 25 *e*P **P 17 24 20.5 +1.3**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
LVA Lava Point 59.91 41 P **P 17 24 20.7 -1.7**
RND Reindeer 59.92 27 P **P 17 24 20.4 -2.0**
RND IAmb IAmb 17 25 03.2
comp=Z,8.0nm,1.3s
RND Reindeer 59.92 27 P **P 17 24 20.4 -2.0**
RND pmax pmax
comp=Z,8.0nm,1.3s
I30M Mount Dempster 61.84 20 P **P 17 24 34.2 -1.4**
I30M IAmb IAmb 17 24 36.6
comp=Z,3.8nm,1.1s
GLI Glacier Island 62.37 28 P **P 17 24 38.9 -0.1**
CRQM Cirque 63.68 26 P P 17 24 45.4 -2.6
TGL Tana Glacier 63.77 26 P P 17 24 45.4 -3.1
ESDC Sonseca Array 64.57 302 P **P 17 24 53.5 -0.5**
comp=Z,0.6nm,0.6s,baz=47,slow=7.9,SNR=4.8
ESDC LR LR 17 56 15.3
comp=Z,128nm,19.6s,baz=178,slow=39
comp=Z,0.6nm,0.6s
HYT Haines Junctio 65.22 24 P **P 17 24 56.7 -1.3**
BCPM Bancas Point 65.36 25 P **P 17 24 57.5 -1.2**
FITZ Fitzroy Crossi 72.68 145 P P 17 25 42.1 -2.4
FITZ Fitzroy Crossi 72.68 145 P P 17 25 41.3 -3.3
comp=Z,1.9nm,0.8s,baz=300,slow=7.4,SNR=2.0
comp=Z,1.9nm,0.8s
WB0 Warramunga Arr 77.87 138 P **P 17 26 12.3 -2.1**
WB0 IAmb IAmb 17 26 46.5
comp=Z,6.9nm,1.3s
WRA Warramunga Arr 78.00 138 P **P 17 26 13.2 -2.0**
comp=Z,0.7nm,0.7s,baz=340,slow=5.9,SNR=9.0
comp=Z,0.7nm,0.7s
WRA Warramunga Arr 78.00 138 P **P 17 26 13.4 -1.8**
WB2 Warramunga Arr 78.00 138 P **P 17 26 13.4 -1.8**
WB2 IAmb IAmb 17 26 16.4
comp=Z,8.8nm,1.4s
TORD Torodi Ar. Bea 79.48 278 P **P 17 26 22.6 -1.0**
comp=Z,0.3nm,0.5s,baz=34,slow=7.0,SNR=3.7
comp=Z,0.3nm,0.5s
AS31 Alice Springs 81.06 140 P **P 17 26 29.7 -2.1**
ASAR Alice Springs 81.06 140 P **P 17 26 30.0 -1.8**
comp=Z,0.6nm,0.6s,baz=334,slow=5.4,SNR=20
comp=Z,0.6nm,0.6s
ASAR Alice Springs 81.06 140 P **P 17 26 30.6 -1.2**
PDAR Pinedale Array 88.32 14 LR LR 18 12 37.6
comp=Z,27nm,18.1s,baz=44,slow=40

*NEIC **09** 17:38:31.2±0.6, 10°.8S±0°.1×166°.2E±0°.2, h199km±10km, mb4.4/12, Error ellipse: s-maj=24.7km s-min=15.2km az=106.0*
*IDC **09** 17:38:34.8±11.0, 11°.10S×166°.28E, h253km±134km, mb3.1/3, mbtmp3.8/4, Error ellipse: s-maj=94.3km s-min=31.0km az=156.0*
ISC 09 17:38:30.6±0.9, 10°.83S±0°.08×166°.3E±0°.1, h200km, n22, σ1°82/25, mb4.3/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**9.85**	**191**	Pn	**Pn**	**17 40 52.3**	**+4.5**
KOUNC				Sn	**Sn**	**17 42 41.8**	**+3.9**
DZM	**Mont Dzumac**	**11.18**	**179**	Pn	**Pn**	**17 41 05.5**	**+0.4**
DZM				Sn	**Sn**	**17 43 06.1**	**-3.7**
DZM	**Mont Dzumac**	**11.18**	**179**	P	**Pn**	**17 41 04.9**	**-0.1**
	2.5nm,0.3s,baz=27,slow=16,SNR=45						
DZM				S	**Sn**	**17 43 07.5**	**-2.3**
	4.8nm,0.6s,baz=157,slow=22,SNR=7.9						
ONTNC	**Ouen Toro**	**11.41**	**179**	Pn	**Pn**	**17 41 09.5**	**+1.6**
PINNC	**Pines Island,**	**11.77**	**175**	Pn	**Pn**	**17 41 12.9**	**+0.4**
EIDS	**Eidsvold**	**20.39**	**223**	P	**P**	**17 42 51.3**	**-0.9**
EIDS				IAmb	IAmb	17 43 14.4	
	comp=Z,21nm,1.4s						
CTAO	**Charters Tower**	**21.34**	**242**	P	**P**	**17 43 00.6**	**-1.6**
CTAO				IAmb	IAmb	17 43 01.6	
	comp=Z,19nm,1.4s						
BKZ	**Black Stump Fm**	**29.66**	**164**	P	**P**	**17 44 17.9**	**+0.3**
WB0	**Warramunga Arr**	**31.94**	**250**	P	**P**	**17 44 36.7**	**-1.0**
WB2	**Warramunga Arr**	**32.01**	**250**	P	**P**	**17 44 37.4**	**-1.0**
WB2				IAmb	IAmb	17 45 17.5	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**32.02**	**250**	P	**P**	**17 44 37.2**	**-1.3**
	comp=Z,3.3nm,0.8s,baz=83,slow=8.9,SNR=6.1						
	comp=Z,1.3nm,0.8s						
AS31	**Alice Springs**	**33.33**	**243**	P	**P**	**17 44 49.2**	**-0.7**
ASAR	**Alice Springs**	**33.33**	**243**	P	**P**	**17 44 48.5**	**-1.4**
ASAR	**Alice Springs**	**33.33**	**243**	P	**P**	**17 44 48.8**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=63,slow=10,SNR=13						
	comp=Z,0.8nm,0.8s						
MGBR	**Mount Gambier**	**35.33**	**216**	P	**P**	**17 45 07.0**	**+0.2**
BBOO	**Buckleboo**	**35.34**	**227**	P	**P**	**17 45 06.5**	**-0.4**
BBOO				IAmb	IAmb	17 45 37.5	
	comp=Z,16nm,1.4s						
KNRA	**Kununurra**	**36.77**	**258**	P	**P**	**17 45 18.3**	**-1.0**
KNRA				IAmb	IAmb	17 45 26.5	
	comp=Z,14nm,1.2s						
FITZ	**Fitzroy Crossi**	**39.91**	**255**	P	**P**	**17 45 44.5**	**-0.9**
KRPM	**Rodgers**	**82.26**	**46**	P	**P**	**17 50 30.3**	**+0.5**
E19K	**Redstone River**	**82.41**	**13**	P	**P**	**17 50 30.6**	**+0.8**
E19K				IAmb	IAmb	17 50 32.5	
	comp=Z,13nm,1.5s						
ILAR	**Eielson Array**	**83.16**	**18**	P	**P**	**17 50 33.4**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=237,slow=4.1,SNR=5.0						
	comp=Z,0.3nm,0.6s						
D22K	**Ayikyak River**	**84.58**	**14**	P	**P**	**17 50 42.2**	**+1.3**
D22K				IAmb	IAmb	17 51 17.8	
	comp=Z,7.3nm,1.2s						

*BEO **09** 17:52:57.2±2.6, 36°.93N×20°.00E, h73km±7km, ML3.8/13*
*IDC **09** 17:52:59.5±0.8, 37°.53N×20°.58E, h0km, mb3.9/14, mbtmp3.8/24, ML3.5/9, MS3.2/10, Error ellipse: s-maj=17.5km s-min=13.1km az=166.0*
*MOS **09** 17:52:59.2±1.9, 37°.51N×20°.24E, h10km, mb4.4/9, Error ellipse: s-maj=7.7km s-min=3.5km az=70.2*
*NEIC **09** 17:53:00.7±1.9, 37°.56N±0°.07×20°.30E±0°.03, h10km±1km, mb4.5/20, Error ellipse: s-maj=11.9km s-min=4.1km az=188.0*
*PDG **09** 17:53:01.9±0.2, 37°.59N×20°.37E, h10km±1km, ML4.5/13, Error ellipse: s-maj=0.7km s-min=1.5km az=0.0*
*MED_RC **09** 17:53:01.0±0.6, 37°.53N×20°.29E, h12km±3km, MW4.1/9, Moment Tensor Solution. Mantle waves: s9, c13; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}0.85±.41; $M_{\theta\theta}$0.61±.25; $M_{\phi\phi}$-1.46±.25; $M_{r\theta}$-0.54±.54; $M_{\theta\phi}$1.15±.15; $M_{\phi r}$-0.76±.35; Best double couple: $M_0$1.94000×10^{15} NP1:ϕ_s193.00000°, δ70.00000°, λ141.00000°. NP2: ϕ_s298.00000°, δ54.00000°, λ25.00000°. Principal axes: T 1.8200, Plg41.0000°, Azm150.0000°; N 0.2400, Plg47.0000°, Azm349.0000°; P -2.0600, Plg10.0000°, Azm249.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*TIR **09** 17:53:01.4, 37°.61N×20°.17E, h12km±3km, Md4.0, Ml4.0*
*THE **09** 17:53:01.5, 37°.57N×20°.39E, h0km±3km, ML4.1/12, Error ellipse: s-maj=3.8km s-min=0.7km az=230.0*
*ATH **09** 17:53:02.5, 37°.63N×20°.43E, h9km±1km, ML3.9/21, Error ellipse: s-maj=1.9km s-min=0.8km az=46.0*
*NAO **09** 17:53:19.5, 39°.14N×19.81E, h10km, mb3.9*
ISC 09 17:53:01.8±1.0, 37°.61N±0°.03×20°.38E±0°.03, h15km±6km, n282, σ1°77/328, mb4.1/25, MS3.2/6, 28C-10D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.35**	**81**	P	**Pg**	**17 53 08.6**	**-0.4**
KRI1				S	**Sg**	**17 53 13.6**	**-0.3**
	80μm,0.5s						
LTHK	**Lithakia**	**0.38**	**74**	P	**Pg**	**17 53 09.0**	**-0.4**
LTHK				S	**Sg**	**17 53 14.2**	**-0.5**
	58μm,0.5s						
LTHK	**Lithakia**	**0.38**	**74**	P	**Pg**	**17 53 09.0**	**-0.4**
LTHK				S	**Sg**	**17 53 13.6**	**-1.1**
LTHK				AML	AML	17 53 14.8	
LTHK				AML	AML	17 53 14.8	
	comp=N,59122μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.53**	**18**	P	**Pg**	**17 53 12.3**	**0.0**
PSDA				S	**Sb**	**17 53 20.3**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.53**	**18**	P	**Pg**	**17 53 12.3**	**0.0**
PSDA				S	**Sg**	**17 53 19.2**	**-0.2**
RTZL	**Ratzakli, Kefa**	**0.56**	**33**	P	**Pg**	**17 53 12.7**	**-0.2**
RTZL				S	**Sb**	**17 53 21.8**	**+0.7**
	comp=N,19μm,0.5s						
VLS	**Valsamata**	**0.59**	**16**	P	**Pg**	**17 53 13.1**	**-0.4**
VLS				S	**Sg**	**17 53 21.4**	**0.0**
VLS				AML	AML	17 53 26.4	
	comp=E,25007μm,0.3s						
VLS				AML	AML	17 53 27.7	
	comp=N,21936μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.59**	**4**	P	**Pg**	**17 53 13.4**	**0.0**
LXR1	**Lixouri, Cepha**	**0.59**	**4**	P	**Pb**	**17 53 14.1**	**+0.3**
LXR1				S	**Sb**	**17 53 23.0**	**+1.0**
	comp=N,60μm,0.5s						
DMLN	**Damoulianata-K**	**0.63**	**359**	P	**Pg**	**17 53 14.4**	**+0.2**
DMLN				S	**Sb**	**17 53 23.5**	**+0.4**
	comp=N,32μm,0.7s						
DMLN	**Damoulianata-K**	**0.63**	**359**	P	**Pg**	**17 53 14.3**	**+0.1**
DMLN				S	**Sg**	**17 53 23.0**	**+0.5**
SMHA	**Samh**	**0.68**	**18**	P	**Pg**	**17 53 14.3**	**-0.8**
VSK1	**VASILIKIADES**	**0.81**	**10**	P	**Pg**	**17 53 17.7**	**+0.1**
VSK1				S	**Sn**	**17 53 30.2**	**-0.2**
	comp=N,18μm,0.6s						
FSK	**Fiskardo**	**0.86**	**10**	P	**Pb**	**17 53 18.1**	**-0.3**
FSK				S	**Sn**	**17 53 31.3**	**-0.3**
	comp=N,11μm,0.9s						
FSK	**Fiskardo**	**0.86**	**10**	P	**Pb**	**17 53 18.2**	**-0.3**
FSK				S	**Sg**	**17 53 30.1**	**+0.3**
FSK				AML	AML	17 53 36.5	
	comp=E,21966μm,0.5s						
FSK				AML	AML	17 53 37.1	
	comp=N,15714μm,0.5s						
RLS	**Riolos of Patr**	**0.97**	**62**	P	**Pb**	**17 53 19.2**	**-1.0**
RLS				S	**Sb**	**17 53 32.7**	**-0.1**
RLS				AML	AML	17 53 38.6	
	comp=E,8440μm,0.8s						
RLS				AML	AML	17 53 44.0	
	comp=N,8551μm,0.6s						
EVGI	**Lefkada island**	**1.03**	**12**	P	**Pb**	**17 53 21.5**	**+0.1**
EVGI				S	**Sn**	**17 53 37.7**	**+1.8**
	comp=N,7μm,0.5s						
EVGI	**Lefkada island**	**1.03**	**12**	P	**Pb**	**17 53 21.2**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.08**	**8**	P	**Pn**	**17 53 22.4**	**0.0**
DRAG	**Dragano-Lefkad**	**1.08**	**8**	P	**Pg**	**17 53 23.0**	**+0.3**
AST1	**Astakos**	**1.09**	**31**	P	**Pn**	**17 53 22.6**	**+0.2**
DRO	**Drossia**	**1.11**	**72**	P	**Pb**	**17 53 22.2**	**-0.4**
DRO	**Drossia**	**1.11**	**72**	P	**Pb**	**17 53 22.5**	**-0.2**
DRO				S	**Sb**	**17 53 36.7**	**-0.1**
DRO				AML	AML	17 53 43.7	
	comp=E,20987μm,0.5s						
DRO				AML	AML	17 53 47.6	
	comp=N,17349μm,0.8s						
NYDR	**Nydri-Lefkada**	**1.13**	**13**	P	**Pn**	**17 53 22.8**	**-0.2**
NYDR				S	**Sg**	**17 53 39.7**	**+1.3**
	comp=N,5μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.13**	**13**	P	**Pn**	**17 53 22.8**	**-0.2**
LKD2	**Lefkada island**	**1.20**	**10**	P	**Pg**	**17 53 25.1**	**+0.2**
LKD2				AMP			
	comp=N,22nm,0.6s,baz=17						
LKD2	**Lefkada island**	**1.20**	**10**	P	**Pg**	**17 53 25.2**	**+0.3**
LKD2				S	**Sg**	**17 53 44.0**	**+3.4**
	comp=N,8μm,0.7s						
LKD2	**Lefkada island**	**1.20**	**10**	P	**Pb**	**17 53 24.6**	**+0.4**
LKD2				S	**Sn**	**17 53 40.1**	**0.0**
LKD2				AML	AML	17 53 48.4	
	comp=E,15381μm,0.7s						
LKD2				AML	AML	17 53 49.5	
	comp=N,16376μm,0.9s						
TSLK	**Tsoukalades, L**	**1.23**	**10**	P	**Pb**	**17 53 25.1**	**+0.3**
TSLK				S	**Sg**	**17 53 44.4**	**+2.7**
	comp=N,8μm,0.5s						
TSLK	**Tsoukalades, L**	**1.23**	**10**	P	**Pb**	**17 53 25.0**	**+0.3**
TSLK				S	**Sb**	**17 53 40.6**	**+0.1**
TSLK				AML	AML	17 53 51.1	
	comp=E,17614μm,0.6s						
TSLK				AML	AML	17 53 52.8	
	comp=N,13633μm,0.5s						
PYL	**PYLOS**	**1.30**	**123**	P	**Pb**	**17 53 24.8**	**-0.5**
PYL				S	**Sg**	**17 53 44.5**	**+0.8**
	comp=N,2μm,0.7s						
PYL	**PYLOS**	**1.30**	**123**	P	**Pn**	**17 53 25.3**	**-0.1**
PYL				S	**Sn**	**17 53 42.8**	**+0.4**
PYL				AML	AML	17 53 49.2	
	comp=E,5855μm,0.7s						
PYL				AML	AML	17 53 53.9	
	comp=N,3611μm,0.8s						
ITM	**Ithomi**	**1.30**	**109**	P	**Pn**	**17 53 25.4**	**0.0**
ITM				S	**Sn**	**17 53 43.0**	**+0.4**
ITM				AML	AML	17 53 55.5	
	comp=E,4638μm,0.6s						
ITM				AML	AML	17 53 59.5	
	comp=N,4034μm,0.6s						
EFP	**Efpalio**	**1.46**	**55**	P	**Pn**	**17 53 27.5**	**0.0**
EFP				S	**Sn**	**17 53 45.2**	**-1.1**
EFP				AML	AML	17 53 58.2	
	comp=E,4574μm,0.7s						
EFP				AML	AML	17 53 58.4	
	comp=N,6128μm,0.5s						
KLV	**Kalavryta, Ach**	**1.47**	**72**	P	**Pn**	**17 53 28.1**	**+0.4**
KLV				S	**Sn**	**17 53 46.9**	**+0.2**
KLV				AML	AML	17 53 57.2	
	comp=N,4230μm,0.6s						
KLV				AML	AML	17 54 01.3	
	comp=E,4462μm,0.9s						
ANX	**Ano Chora**	**1.56**	**51**	P	**Pn**	**17 53 29.1**	**0.0**
ANX				AML	AML	17 53 57.6	
	comp=N,14806μm,0.6s						
ANX				AML	AML	17 53 59.5	
	comp=E,10460μm,0.6s						
GUR	**Goura**	**1.59**	**77**	P	**Pn**	**17 53 30.0**	**+0.6**
GUR				AML	AML	17 54 01.8	
	comp=N,7063μm,0.7s						
GUR				AML	AML	17 54 06.9	
	comp=E,5335μm,0.6s						
KALE	**Kalithea**	**1.59**	**60**	P	**Pn**	**17 53 30.1**	**+0.7**
KALE				S	**Sn**	**17 53 48.8**	**-1.0**
KALE				AML	AML	17 54 03.6	
	comp=N,6455μm,0.6s						
KALE				AML	AML	17 54 06.2	
	comp=E,7672μm,0.6s						
EVR	**Evrytania**	**1.72**	**40**	P	**Pn**	**17 53 32.2**	**+1.0**
EVR				AML	AML	17 54 12.6	
	comp=E,3409μm,0.6s						
EVR				AML	AML	17 54 13.0	
	comp=N,3795μm,1.0s						
IGT	**Igoumenitsa**	**1.92**	**359**	P	**Pb**	**17 53 37.2**	**+0.7**
IGT				AMP			
	comp=E,3.7nm,0.6s,baz=3.0						
IGT	**Igoumenitsa**	**1.92**	**359**	P	**Pn**	**17 53 34.5**	**+0.6**
IGT				AML	AML	17 54 08.3	
	comp=E,3883μm,0.5s						
IGT				AML	AML	17 54 21.9	
	comp=N,2334μm,0.9s						
AGG	**Agios Georgios**	**2.08**	**47**		**Pb**	**17 53 38.4**	**-0.9**
AGG	**Agios Georgios**	**2.08**	**47**	P	**Pb**	**17 53 38.4**	**-0.9**
AXAR	**Agios Charalam**	**2.14**	**57**	P	**Pn**	**17 53 37.3**	**+0.4**
AXAR				AML	AML	17 54 22.4	
	comp=E,5294μm,0.6s						
AXAR				AML	AML	17 54 26.8	
	comp=N,7356μm,1.1s						
KEK	**Kerkira**	**2.15**	**348**	Pn	**Pb**	**17 53 39.1**	**-1.3**
KEK	**Kerkira**	**2.15**	**348**	P	**Pn**	**17 53 37.0**	**0.0**
KEK				AML	AML	17 54 23.8	
	comp=E,2926μm,0.6s						
KEK				AML	AML	17 54 30.8	
	comp=N,1751μm,1.1s						
VLI	**Veliai**	**2.23**	**113**	P	**Pn**	**17 53 38.3**	**+0.2**
VLI				AML	AML	17 54 28.1	
	comp=N,1803μm,1.0s						
VLI				AML	AML	17 54 31.8	
	comp=E,1776μm,1.3s						
SRN	**Sarande**	**2.29**	**353**	AMP			
	comp=E,2.2nm,0.7s,baz=357						
THL	**Klokotos Trika**	**2.34**	**33**	P	**Pn**	**17 53 39.9**	**+0.3**
THL				AML	AML	17 54 29.2	
	comp=N,1519μm,0.8s						
THL				AML	AML	17 54 31.9	
	comp=E,2918μm,0.8s						
VIL2	**Platees**	**2.36**	**74**	P	**Pn**	**17 53 41.4**	**+1.5**
VIL2				AML	AML	17 54 30.1	
	comp=N,2450μm,0.9s						
VIL2				AML	AML	17 54 32.1	
	comp=E,3733μm,1.2s						
ATH	**Athens Observa**	**2.67**	**81**	P	**Pb**	**17 53 50.0**	**+0.8**
NEST	**Nestorio**	**2.85**	**10**	P	**Pb**	**17 53 51.5**	**-0.9**
SCTE	**Santa Cesarea**	**2.88**	**329**	P	**Pn**	**17 53 48.4**	**+1.3**
SCTE	**Santa Cesarea**	**2.88**	**329**	Pn	**Pn**	**17 53 47.2**	**+0.1**
VLO	**Vlora**	**2.94**	**347**	P	**Pb**	**17 53 51.1**	**-2.7**
VLO				AMP			
	comp=N,4.8nm,0.8s,baz=350						
LIT	**Litokhoron**	**2.98**	**33**	Pn	**Pn**	**17 53 50.0**	**+1.4**
LIT	**Litokhoron**	**2.98**	**33**	P	**Pn**	**17 53 50.0**	**+1.4**
TIP	**Timpagrande**	**3.25**	**300**	Pn	**Pn**	**17 53 51.6**	**-0.6**
TIP	**Timpagrande**	**3.25**	**300**	⇑P	**Pn**	**17 53 53.5**	**+1.2**
FNA	**Florina**	**3.27**	**13**	P	**Pb**	**17 53 57.7**	**-1.7**
FNA	**Florina**	**3.27**	**13**		**Pn**	**17 53 53.0**	**+0.6**
FNA	**Florina**	**3.27**	**13**	*e*Pn	**Pn**	**17 53 54.8**	**+2.4**
FNA				*e*Sn	**Sn**	**17 54 35.1**	**+4.1**
FNA	**Florina**	**3.27**	**13**	P	**Pn**	**17 53 53.0**	**+0.6**
OHR	**Ohrid**	**3.51**	**5**	*e*Pn	**Pn**	**17 53 58.1**	**+2.3**
OHR				*e*Sn	**Sn**	**17 54 40.3**	**+3.2**
OHR	**Ohrid**	**3.51**	**5**	*i* Pn	**Pn**	**17 53 59.3**	**+3.5**
OHR	**Ohrid**	**3.51**	**5**	P	**Pb**	**17 54 01.8**	**-1.9**
CEL	**Celeste**	**3.61**	**282**		**Pn**	**17 53 56.9**	**-0.2**
TIR	**Tirane**	**3.76**	**354**	P	**Pb**	**17 54 04.4**	**-3.3**
TIR				AMP			
	comp=N,0.6nm,0.6s,baz=357						
TIR	**Tirane**	**3.76**	**354**		**Pn**	**17 54 00.1**	**+1.0**
TIR	**Tirane**	**3.76**	**354**	*e*Pn	**Pn**	**17 54 00.3**	**+1.2**
TIR				*e*Sn	**Sn**	**17 54 43.8**	**+0.8**
TIR	**Tirane**	**3.76**	**354**	⇓P	**Pn**	**17 54 02.7**	**+3.6**
TIR	**Tirane**	**3.76**	**354**	P	**Pn**	**17 54 00.1**	**+1.0**
OUR	**Ouranopolis**	**3.91**	**45**	P	**Pn**	**17 54 04.4**	**+3.2**
SOH	**Sokhos**	**3.95**	**35**	P	**Pn**	**17 54 05.0**	**+3.1**
KNT	**Kendrikon**	**4.05**	**28**	P	**Pn**	**17 54 05.8**	**+2.6**
VAY	**Valandovo**	**4.08**	**24**	*e*Pn	**Pn**	**17 54 05.0**	**+1.5**
VAY	**Valandovo**	**4.08**	**24**	*i* Pn	**Pn**	**17 54 05.8**	**+2.3**
VAY	**Valandovo**	**4.08**	**24**	P	**Pn**	**17 54 06.4**	**+2.9**
NOCI	**Noci**	**4.09**	**322**	P	**Pn**	**17 54 07.9**	**+4.2**
APE	**Apeiranthos**	**4.14**	**96**	P	**Pn**	**17 54 08.4**	**+4.0**
MATE	**Matera**	**4.17**	**318**	⇑P	**Pn**	**17 54 06.9**	**+2.2**
CUC	**Castrocucco**	**4.29**	**305**	Pn	**Pn**	**17 54 07.1**	**+0.6**
SRS	**Serrai**	**4.30**	**34**	*e*Pn	**Pn**	**17 54 07.7**	**+1.1**
SRS				*e*Sn	**Sn**	**17 55 00.2**	**+3.8**
SRS	**Serrai**	**4.30**	**34**	P	**Pn**	**17 54 08.7**	**+2.1**
IDI	**Anoyia**	**4.31**	**121**	Pn	**Pn**	**17 54 08.9**	**+2.1**
IDI	**Anoyia**	**4.31**	**121**	Pn	**Pn**	**17 54 07.4**	**+0.6**
	comp=N,1.2nm,0.3s,baz=354,slow=16,SNR=3.1						
IDI				Sn	**Sn**	**17 54 55.3**	**-1.5**
	comp=N,2.6nm,0.3s,baz=259,slow=6.1,SNR=4.0						
ULC	**Ulcinj**	**4.44**	**349**	⇑*i*P

PDG Podgorica 4.89 350⇑ *i*Pn Pn 17 54 16.1 +1.4
PDG *i* Sn **Sn 17 55 10.7 -0.3**
PVY Plav 4.99 356⇓ *i*Pn Pn 17 54 16.3 +0.1
PVY *i* Sn **Sn 17 55 12.9 -0.8**
WDD Wied Dalam 5.03 251 Pn **Pn 17 54 15.5 -1.0**
HCY Herceg Novi 5.05 344⇑ *i*Pn Pn 17 54 18.0 +1.2
HCY *i* Sn **Sn 17 55 13.1 -1.7**
CEME Cevo 5.06 348⇓ *i*Pn Pn 17 54 18.1 +1.0
CEME *i* Sn **Sn 17 55 13.8 -1.4**
BOSS Bosilegrad 5.14 18 *e*Pn Pn 17 54 19.7 +1.5
NKME Niksic 5.27 348 *e*Pn Pn 17 54 21.4 +1.5
NKME *i* Sn **Sn 17 55 18.8 -1.6**
IVA Berane 5.27 350⇓ *i*Pn Pn 17 54 20.2 +0.2
IVA *i* Sn **Sn 17 55 19.9 -0.6**
KOME Kolasin 5.28 353⇑ *i*Pn Pn 17 54 20.7 +0.6
KOME *i* Sn **Sn 17 55 20.2 -0.5**
RZN Rozhen 5.29 38 *i* P Pn 17 54 22.6 +2.3
BARS Barje 5.32 11 *e*Pn Pn 17 54 21.6 +1.0
TREB Trebinje 5.33 344 *e*Sn Sn 17 55 20.0 -1.9
TREB Trebinje 5.33 344 *e*Pn Pn 17 54 23.5 +2.7
PLNA Plana 5.39 25 *i* P Pn 17 54 23.9 +2.2
VTS Vitosha 5.46 23 *i* P Pn 17 54 24.5 +1.8
VTS Vitosha 5.46 23 *e*Pn Pn 17 54 24.3 +1.6
VTS *e*Sn **Sn 17 55 25.0 -0.3**
BRY Bratogost 5.47 346 *e*Pn Pn 17 54 22.7 -0.1
BRY Bratogost 5.47 346⇑ *i*Pn Pn 17 54 22.6 -0.2
BRY *i* Sn **Sn 17 55 23.7 -1.8**
ALN Alexandroupoli 5.49 51 Pn **Pn 17 54 22.8 -0.1**
ALN Alexandroupoli 5.49 51 P **Pn 17 54 22.8 -0.1**
KDZ Kurdzhali 5.55 42 P **Pn 17 54 26.7 +3.0**
SELS Selova 5.63 6 *e*Pn Pn 17 54 26.5 +1.6
PLD Plovdiv 5.64 35 P **Pn 17 54 28.6 +3.6**
PLD pmax pmax
comp=Z,51nm,1.6s
STON Ston 5.64 340 *e*Pn Pn 17 54 24.8 -0.2
STON Ston 5.64 340 *e*Pn Pn 17 54 24.6 -0.4
SJES Sjenica 5.66 357 *e*Pn Pn 17 54 27.0 +1.7
SJES *e*Sn **Sn 17 55 30.5 +0.5**
SJES Sjenica 5.66 357 *e*Pn Pn 17 54 28.3 +3.0
PAOL Paolisi 5.66 309 Pn **Pn 17 54 24.7 -0.5**
UPM Unac-Piva 5.70 349 *e*Pn Pn 17 54 30.6 +4.6
UPM Unac-Piva 5.70 349⇑ *i*Pn Pn 17 54 26.9 +0.9
UPM *i* Sn **Sn 17 55 28.7 -2.5**
PLE Pljevlja 5.77 353⇑ *i*Pn Pn 17 54 27.8 +1.0
PLE *i* Sn **Sn 17 55 31.6 -1.1**
KARP Karpathos 5.83 109 Pn **Pn 17 54 28.1 +0.5**
ZAPS Zavoj 5.92 16 *e*Pn Pn 17 54 30.6 +1.8
IVAS Ivanjica 5.96 358 *e*Pn Pn 17 54 31.1 +1.6
RUDO Rudo 6.05 353 *e*Pn Pn 17 54 34.3 +3.6
BOVS Bovan 6.11 9 *e*Pn Pn 17 54 33.5 +2.1
BOVS Bovan 6.11 9 ⇓P **Pn 17 54 33.8 +2.5**
GRUS Gruza 6.28 2 *e*Pn Pn 17 54 34.7 +0.9
MPEP Malo Peshtene 6.29 23 *i* P Pn 17 54 35.2 +1.3
BBLS Lazi&#263i 6.30 354 *e*Pn Pn 17 54 42.2 +8.1
ZAGS Zajecar 6.36 12 *e*Pn Pn 17 54 36.7 +1.9
DIVS Divibare 6.49 358 *e*Pn Pn 17 54 36.4 -0.4
HAPS Han Pijesak,BI 6.56 351 *e*Pn Pn 17 54 36.7 -1.1
HAPS Han Pijesak,BI 6.56 351 *e*Pn Pn 17 54 40.4 +2.6
TRUS Trudelj 6.61 0 *e*Pn Pn 17 54 39.9 +1.6
INTR Introdacqua 6.65 313 Pn **Pn 17 54 38.1 -0.8**
ELND Elena 6.77 37 ⇑P **Pn 17 54 42.7 +2.1**
TEKS Tekeris 6.96 355 *e*Pn Pn 17 54 44.3 +1.1
TEKS Tekeris 6.96 355 *e*Pn Pn 17 54 42.2 -1.0
CAMP Campotosto 7.26 315 Pn **Pn 17 54 46.7 -0.7**
A050A Klekovaca 7.46 338 *e*Pn Pn 17 54 51.8 +1.8
BLY Banja Luka 7.53 342 *e*Pn Pn 17 54 52.8 +1.9
NRCA Norcia 7.62 315 Pn 17 54 51.1 -1.2
FDMO Fiordimonte 7.77 317 Pn 17 54 53.5 -0.8
A051A Mrakovica 7.84 342 *e*Pn Pn 17 54 53.6 -1.7
VOIR 8.57 23 ⇑P **Pn 17 55 08.0 +2.8**
VOIR 8.57 23 P **Pn 17 55 08.0 +2.8**
ISR Istrita 8.82 30 ⇑P **Pn 17 55 12.1 +3.5**
ISR Istrita 8.82 30 P **Pn 17 55 12.1 +3.5**
MDUB Mudurnu 8.89 68 Pn **Pn 17 55 09.6 -0.1**
MLR Muntele Rosu 8.91 26 Pn **Pn 17 55 09.5 -0.5**
MLR Muntele Rosu 8.91 26 Pn **Pn 17 55 11.4 +1.4**
comp=Z,0.2nm,0.3s,baz=166,slow=14,SNR=3.9
comp=Z,5.9nm,0.5s
MLR Muntele Rosu 8.91 26 ⇑P **Pn 17 55 13.0 +3.0**
MLR Muntele Rosu 8.91 26 P **Pn 17 55 12.9 +3.0**
PTJ Puntijarka 8.92 340 P Pn 17 55 15.1 +5.0
CRES Cresnjevec Ost 9.00 337 *e*Pn Pn 17 55 11.0 -0.1
KEST Kesra 9.06 261 Pn **Pn 17 55 10.3 -1.7**
KEST Kesra 9.06 261 Pn **Pn 17 55 13.2 +1.2**
comp=Z,0.3nm,0.3s,baz=50,slow=7.9,SNR=3.9
KEST Sn **Sn 17 56 52.4 -1.4**
comp=Z,0.2nm,0.3s,baz=354,slow=19,SNR=1.3
comp=Z,4.8nm,0.8s
BEHE Becsehely 9.25 344 Pn **Pn 17 55 14.9 +0.4**
CEY Cerknica 9.26 333 *e*Pn Pn 17 55 15.2 +0.5
COVR Voineasa-Covas 9.31 26 ⇓P **Pn 17 55 18.9 +3.6**
TURR Turia 9.43 25 ⇑P **Pn 17 55 20.2 +3.2**
PLOR Plostina 9.47 28 ⇑P **Pn 17 55 20.4 +2.8**
PLOR Plostina 9.47 28 P **Pn 17 55 20.4 +2.8**
VRI Vrincioaia 9.51 28 ⇑P **Pn 17 55 21.7 +3.5**
VRI Vrincioaia 9.51 28 P **Pn 17 55 21.6 +3.5**
SABO M.te Sabotino 9.77 331 Pn **Pn 17 55 21.1 -0.6**
OBKA Obir 9.89 336 *i* Sn Sn 17 57 11.3 -2.9
comp=Z,18nm,0.6s
OBKA Obir 9.89 336 *e*Pn Pn 17 55 27.8 +4.4
SOKA Soboth 9.89 338 *i* Pn Pn 17 55 23.3 -0.1
comp=Z,2.9nm,0.4s
SOKA *e*Sn **Sn 17 57 08.2 -5.9**
comp=Z,6.7nm,0.6s
TEOL Teolo 10.13 323 Pn **Pn 17 55 25.9 -0.7**
PSZ Piszkesteto 10.31 358 Pn **Pn 17 55 29.1 0.0**
PSZ Piszkesteto 10.31 358 P **Pn 17 55 29.1 0.0**
BRTR Keskin Array B 10.58 74 Pn **Pn 17 55 36.5 +3.6**
comp=Z,0.1nm,0.3s,baz=252,slow=12,SNR=2.2
BRTR LR LR 18 00 37.4
comp=Z,266nm,19.1s,baz=290,slow=44
BURAR Bucovina Array 10.61 18 Pn **Pn 17 55 33.5 +0.2**
BURAR Bucovina Array 10.61 18 P **Pn 17 55 33.5 +0.2**
CTI Castel Tesino 10.65 325 Pn **Pn 17 55 31.7 -2.1**
CTI Castel Tesino 10.65 325 P **Pn 17 55 31.7 -2.1**
ABTA Abfaltersbach 10.83 330 *e*Pn Pn 17 55 38.2 +1.9
comp=Z,0.7nm,0.3s
ABTA *i* Sn **Sn 17 57 33.0 -4.2**
comp=Z,12nm,1.0s
VYHS Vyhne 10.94 355 *e*PN Pn 17 55 41.1 +3.5
VYHS *e*SN **Sn 17 57 36.8 -2.9**
MODS Modra-Piesok 11.00 349 *e*PN Pn 17 55 43.9 +5.5
MOA Molln 11.18 338 *i* Pn Pn 17 55 42.3 +1.4
comp=Z,3.5nm,0.4s
MOA *i* Sn **Sn 17 57 43.8 -1.7**
comp=Z,3.6nm,0.5s
BIOA Bad Ischl, Aus 11.23 336 *i* Pn Pn 17 55 44.6 +3.0
comp=Z,1.9nm,0.3s
BIOA *i* Sn **Sn 17 57 42.8 -4.0**
comp=Z,6.1nm,0.6s
KOLS Kolonicke sedl 11.40 6 P **Pn 17 55 46.4 +2.4**
WTTA Wattenberg 11.60 329 *e*Sn Sn 17 57 53.8 -2.4
comp=Z,14nm,0.7s
SQTA Sankt Quirin 11.75 328 *i* Sn Sn 17 58 00.0 +0.4
comp=Z,5.9nm,0.5s
FETA Feichten 11.80 326 *i* Sn Sn 17 58 01.1 0.0
comp=Z,3.0nm,0.6s
MOTA Moosalm 11.89 328 *e*Pn Pn 17 55 52.9 +2.1
comp=Z,1.6nm,0.5s
MOTA *e*Sn **Sn 17 58 03.5 +0.4**
comp=Z,3.8nm,0.6s
VRAC Vranov 12.01 348 LR LR 18 02 02.5
comp=Z,126nm,19.1s,baz=170,slow=45
DAVOX Davos/Dischmat 12.02 323 Pn **Pn 17 55 55.6 +3.1**
comp=Z,0.2nm,0.3s,baz=161,slow=17,SNR=2.3
DAVOX Sn **Sn 17 58 04.6 -1.7**
comp=Z,0.1nm,0.3s,baz=159,slow=18,SNR=1.3
DAVOX LR LR 18 00 59.9
comp=Z,112nm,18.4s,baz=102,slow=40
comp=Z,1.7nm,0.7s
TUE Stuetta 12.06 321 Pn **Pn 17 55 51.8 -1.4**
GERES GERESS Array B 12.24 339 Pn **Pn 17 55 57.6 +2.2**
comp=Z,0.1nm,0.3s,baz=151,slow=14,SNR=2.2
GERES Sn **Sn 17 58 05.1 -6.5**
comp=Z,0.2nm,0.3s,baz=151,slow=24,SNR=2.1
GERES LR LR 18 02 25.0
comp=Z,71nm,19.1s,baz=132,slow=46
comp=Z,0.6nm,0.5s
KHC Kasperske Hory 12.53 339 *e*P Pn 17 56 04.5 +5.1
KHC Kasperske Hory 12.53 339⇓ *e*P Pn 17 56 04.7 +5.3
KHC pmax pmax
comp=Z,4.0nm,1.0s
MMAI Mount Meron Ar 13.09 106 Pn **Pn 17 56 04.2 -3.0**
comp=Z,0.3nm,0.3s,baz=306,slow=12,SNR=1.8
comp=Z,2.7nm,0.9s
ARPR Arapgir-MALATY 14.17 78 Pn 17 56 23.8 +1.8
BEL Belsk 14.23 1 P **Pn 17 56 25.7 +3.2**
EIL Elat 14.48 119 Pn **Pn 17 56 23.1 -3.0**
comp=Z,0.2nm,0.3s,baz=320,slow=16,SNR=3.0
EIL Sn Sn 17 58 50.4 -16
comp=Z,0.1nm,0.3s,baz=13,slow=20,SNR=1.8
comp=Z,3.8nm,0.8s
KIEV Kiev 14.52 23 Pn **Pn 17 56 26.6 +0.1**
KIEV Kiev 14.52 23 P **Pn 17 56 26.6 +0.1**
AKASG Malin Array Be 14.53 23 Pn **Pn 17 56 26.3 -0.4**
comp=Z,0.2nm,0.3s,baz=213,slow=12,SNR=4.3
AKASG LR LR 18 03 40.2
comp=Z,68nm,21.4s,baz=208,slow=44
comp=Z,0.4nm,0.6s
AKASG Malin Array Be 14.53 23 *i* P Pn 17 56 29.0 +2.3
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 14.53 23 Pn **Pn 17 56 26.7 0.0**
AKBB Malin Array Si 14.53 23⇑ *e*P Pn 17 56 29.5 +2.8
CLL Collm 14.66 341 *es*PP 17 56 44.0
CLL *ex* x 17 56 53.0
WLF Walferdange 15.82 324 Pn **Pn 17 56 43.3 -0.5**
WLF IAmb IAmb 17 57 06.7
comp=Z,39nm,1.4s
WLF Walferdange 15.82 324 P **Pn 17 56 43.3 -0.5**
WLF pmax pmax
comp=Z,39nm,1.4s
SUW Suwalki 16.52 6 Pn **Pn 17 56 51.1 -1.6**
SUW IAmb IAmb 17 57 08.5
comp=Z,34nm,1.2s
SUW Suwalki 16.52 6 P **Pn 17 56 51.1 -1.6**
SUW pmax pmax
comp=Z,34nm,1.2s
CART Cartagena 16.95 276 Pn **Pn 17 56 55.9 -2.3**
GURO Guroymak-BITLI 17.07 80 Pn **Pn 17 56 59.9 -0.1**
RGN Rugen 17.62 346 Pn **Pn 17 57 05.3 -1.2**
RGN IAmb IAmb 17 57 20.6
comp=Z,86nm,1.2s
NACGM Naroch 17.84 12 *e*P P 17 57 14.1 +4.2
comp=Z,13nm,0.8s,baz=197
KARS Kars 17.86 73 P 17 57 12.1 +1.7
KARS IAmb IAmb 17 57 32.9
comp=Z,30nm,1.0s
KARS Kars 17.86 73 P **P 17 57 12.1 +1.7**
KARS pmax pmax
comp=Z,30nm,1.0s
SHA1 Shidzhatmaz 17.95 63⇑ *i*P P 17 57 12.5 +1.1
KIV Kislovodsk 18.02 62 *e*P P 17 57 13.2 +1.2
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,29nm,14.0s
PABE Paberze 18.07 7 Pn 17 57 10.2 -1.7
PABE IAmb IAmb 17 57 13.7
comp=Z,25nm,0.7s
KBZ Khabaz 18.12 63 P **P 17 57 13.2 +0.2**
comp=Z,0.1nm,0.3s,baz=234,slow=19,SNR=3.3
comp=Z,0.7nm,0.4s
KBZ Khabaz 18.12 63⇑ *e*P P 17 57 13.8 +0.8
KBZ pmax pmax
comp=Z,4.0nm,1.0s
NCK Nalchik 18.57 64⇑ *e*P Pn 17 57 20.8 +2.5
NCK pmax pmax
comp=Z,8.0nm,0.8s
VORD Divnogorie 18.94 39 *e*P P 17 57 21.6 -0.4
VORD pmax pmax
comp=Z,9.0nm,1.0s
VSR Storozhevoye 19.03 38 *e*P P 17 57 21.6 -1.4
VSR pmax pmax
comp=Z,4.0nm,0.9s
ESDC Sonseca Array 19.12 284 P **Pn 17 57 26.1 +1.1**
comp=Z,0.1nm,0.3s,baz=80,slow=9.9,SNR=8.8
comp=Z,3.1nm,1.0s
GNI Garni 19.12 75 LR LR 18 05 17.7
comp=Z,84nm,20.3s,baz=286,slow=39
GNI Garni 19.12 75⇑ *e*P Pn 17 57 25.6 +0.5
GNI pmax pmax
comp=Z,6.0nm,1.0s
VORR Voronezh 19.34 37 *e*P Pn 17 57 30.1 +2.6
VORR pmax pmax
comp=Z,54nm,0.4s
PAB San Pablo 19.42 283 P **P 17 57 26.2 -1.2**
PAB San Pablo 19.42 283 P **P 17 57 26.2 -1.2**
PAB pmax pmax
comp=Z,13nm,1.3s
LPSR Galich'ya Gora 19.82 35 *e*P Pn 17 57 36.9 +3.8
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VRH Novokhopyorsk 20.33 41 *e*P P 17 57 35.8 -1.3
VRH pmax pmax
comp=Z,7.0nm,1.0s
OBN Obninsk 20.68 27⇑ *e*P Pn 17 57 42.1 -1.1
OBN *e* 17 58 01.0
OBN *e*S **S 18 01 32.2 +1.0**
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,127nm,14.0s
MDT Midelt 20.95 264 P Pn 17 57 45.9 -0.8
comp=Z,3.8nm,0.9s,baz=88,slow=15,SNR=5.2
comp=Z,3.8nm,0.9s
VSU Vasula 21.28 9*ce*P P 17 57 48.9 +1.6
VSU pmax pmax
comp=Z,27nm,0.8s
MOS Moscow 21.55 27 *e*P P 17 57 49.6 -0.6
HFS Hagfors 22.95 351 P **P 17 58 06.3 +1.2**
comp=Z,5.5nm,0.8s,baz=164,slow=12,SNR=12
comp=Z,5.5nm,0.8s
EKA Eskdalemuir Ar 23.83 326 P **P 17 58 15.7 +1.7**
comp=Z,4.1nm,0.9s,baz=120,slow=12,SNR=2.5
comp=Z,4.1nm,0.9s
NAO01 NORSAR Array S 24.02 349 P **P 17 58 13.9 -1.8**
NAO01 IAmb IAmb 17 58 37.0
comp=Z,16nm,1.1s
BELG Belogornoye 24.09 43*ce*P P 17 58 17.1 +0.7
BELG pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 24.13 7 P **P 17 58 16.9 +0.2**
comp=Z,1.2nm,0.5s,baz=171,slow=11,SNR=18
FINES LR LR 18 09 03.9
comp=Z,62nm,20.7s,baz=203,slow=40
comp=Z,1.2nm,0.5s
FINES FINESS Array B 24.13 7 *i* P P 17 58 17.2 +0.5
FINES pmax pmax
comp=Z,4.0nm,0.8s
FIA1 FINESS Array S 24.13 7 P **P 17 58 16.2 -0.5**
NB2 NORSAR Subarra 24.16 349 P **P 17 58 18.8 +1.8**
comp=Z,5.0nm,1.0s,baz=162,slow=10
NOA NORSAR Array B 24.16 349 P **P 17 58 17.7 +0.7**
comp=Z,1.2nm,0.9s,baz=152,slow=9.1,SNR=1.9
NOA LR LR 18 07 55.8
comp=Z,23nm,20.9s,baz=145,slow=37
comp=Z,1.2nm,0.9s
NC204 NORSAR Array S 24.45 349 P **P 17 58 18.6 -1.2**
KLMR Klimovskoe 26.21 21 *e*P P 17 58 35.1 -0.5
KLMR pmax pmax
comp=Z,16nm,1.3s
TORD Torodi Ar. Bea 29.52 219 P **P 17 59 06.5 +0.9**
comp=Z,1.8nm,0.8s,baz=27,slow=9.8,SNR=10
comp=Z,1.8nm,0.8s
ABKAR Akbulak array 30.66 55 P **P 17 59 14.7 -0.7**
ABKAR IAmb IAmb 17 59 51.3
comp=Z,2.8nm,1.2s
ARTI Arti 31.45 41 P **P 17 59 20.7 -1.6**
ARTI IAmb IAmb 17 59 56.7
comp=Z,4.4nm,1.1s
ARTI Arti 31.45 41*c i*P P 17 59 21.7 -0.6
ARTI 18 02 17.7
ARTI S **S 18 04 29.5 +0.1**
ARTI pmax pmax
comp=Z,9.0nm,2.3s
ARCES ARCESS Array B 32.11 3 P **P 17 59 27.6 -0.4**
comp=Z,1.8nm,0.8s,baz=189,slow=11,SNR=1.4
comp=Z,1.8nm,0.8s
BVAR Borovoye Array 37.57 49 P **P 18 00 14.5 -0.8**
comp=Z,0.4nm,0.5s,baz=268,slow=3.9,SNR=3.3
comp=Z,0.4nm,0.5s
DBIC Dimbokro 38.40 223 LR LR 18 16 29.4
comp=Z,60nm,18.6s,baz=300,slow=37
AAK Ala-Archa 41.09 65 LR LR 18 21 52.1
comp=Z,18nm,20.9s,baz=346,slow=42
AAK Ala-Archa 41.09 65⇓ *e*P P 18 00 47.0 +2.0
AAK pmax pmax
comp=Z,1.0nm,1.1s
KMBO Kilima Mbogo 41.58 154⇑ *e*P P 18 00 50.8 +1.5
KURBB Kurchatov Arra 42.66 53 P **P 18 00 56.8 -0.7**
comp=Z,1.0nm,0.7s,baz=276,slow=8.7,SNR=6.1
comp=Z,1.0nm,0.7s
KURK Kurchatov 42.71 53 *i* P P 18 00 57.6 -0.3
MK31 Makanchi Array 45.70 58 P **P 18 01 20.9 -1.0**
MK31 Makanchi Array 45.70 58*ce*P P 18 01 21.6 -0.3
MKAR Makanchi Array 45.70 58 P **P 18 01 21.1 -0.8**
comp=Z,0.6nm,0.5s,baz=274,slow=7.6,SNR=14
comp=Z,0.6nm,0.5s
ZALV Zalesovo Beam 46.16 48 P **P 18 01 24.8 -0.6**
comp=Z,1.4nm,0.5s,baz=278,slow=8.2,SNR=7.8
ZALV PcP **PcP 18 03 00.7 -0.4**
comp=Z,1.1nm,0.8s,baz=276,slow=5.7,SNR=1.2
comp=Z,1.4nm,0.5s
TIXI Tiksi 60.22 20 P **P 18 03 08.3 -0.3**
TIXI IAmb IAmb 18 03 24.7
comp=Z,3.7nm,1.1s
TIXI Tiksi 60.22 20 P **P 18 03 08.3 -0.3**
TIXI pmax pmax
comp=Z,4.0nm,1.2s
SONM Songino Array 60.91 50 P **P 18 03 13.2 -0.6**
comp=Z,0.5nm,0.6s,baz=270,slow=8.1,SNR=4.7
comp=Z,0.5nm,0.6s
HHC Hu-ho-hao-te 67.45 55 *e*P P 18 03 57.6 +0.7
HHC pmax pmax
comp=Z,27nm,0.6s
HHC pmax pmax
comp=Z,85nm,4.4s
HHC LR LR
comp=N,170nm,16.8s
HHC LR LR
comp=E,460nm,14.5s
HHC LR LR
comp=Z,600nm,14.4s
PZH PanZhiHua 67.88 73 P **P 18 04 00.2 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.8s
CMAR Chiang Mai Arr 70.08 82 P **P 18 04 12.4 -1.1**
comp=Z,1.2nm,1.0s,baz=303,slow=7.2,SNR=7.6
comp=Z,1.2nm,1.0s
CMAR Chiang Mai Arr 70.08 82 *i* P P 18 04 13.3 -0.2
CMAR pmax pmax
comp=Z,1.0nm,0.8s
E29M Blow River 73.07 352 P **P 18 04 31.3 +0.6**
E29M IAmb IAmb 18 04 38.7
comp=Z,3.6nm,0.9s
CN2 Changchun 74.36 47 *e*P P 18 04 39.4 +0.7
CN2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 Nanjing 77.20 59 *e*P P 18 04 54.0 -1.1
NJ2 pmax pmax
comp=Z,6.0nm,1.0s
KSRS Korea Array 79.78 50 P **P 18 05 09.5 +0.3**
comp=Z,1.6nm,0.9s,baz=328,slow=4.3,SNR=3.4
comp=Z,1.6nm,0.9s

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*THE **09** 18:00:12.3,37°.61N×20°.59E,h3km±1km,ML3.6/11,Error ellipse: s-maj=1.5km s-min=0.7km az=14.0*
*ATH **09** 18:00:12.1,37°.62N×20°.58E,h10km±1km,ML3.4/12,Error ellipse: s-maj=2.0km s-min=0.8km az=49.0*
*IDC **09** 18:00:21.5±11.0,38°.75N×21°.98E,h0km,mb3.4/6, mbtmp3.4/6,Error ellipse: s-maj=223.5km s-min=36.3km az=35.0*
ISC 09 18:00:12.3±1.1,37°.65N±0°.04×20°.61E±0°.04,h15km±5km, n45,σ0°98/73,mb3.5/6,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.17**	**85**	P	**Pg**	**18 00 16.5**	**+0.1**
KRI1				S	**Sg**	**18 00 19.3**	**+0.1**
27μm,0.4s							
LTHK	**Lithakia**	**0.19**	**71**	P	**Pg**	**18 00 16.8**	**0.0**
LTHK				S	**Sg**	**18 00 19.7**	**-0.1**
39μm,0.3s							
LTHK	**Lithakia**	**0.19**	**71**	P	**Pg**	**18 00 16.7**	**0.0**
LTHK				S	**Sg**	**18 00 19.6**	**-0.2**
LTHK				AML	AML	18 00 20.3	
comp=N,61914μm,0.3s							
LTHK				AML	AML	18 00 20.5	
comp=E,66976μm,0.2s							
RTZL	**Ratzakli, Kefa**	**0.45**	**17**	P	**Pb**	**18 00 21.4**	**-0.5**
RTZL				S	**Sb**	**18 00 28.4**	**0.0**
comp=E,14μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.47**	**358**	P	**Pb**	**18 00 21.8**	**-0.5**
PSDA				S	**Sb**	**18 00 29.4**	**+0.4**
comp=E,7μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.47**	**358**	P	**Pb**	**18 00 21.7**	**-0.5**
PSDA				S	**Sb**	**18 00 28.6**	**-0.4**
VLS	**Valsamata**	**0.53**	**358**	P	**Pg**	**18 00 22.7**	**-0.1**
VLS				S	**Sb**	**18 00 30.4**	**-0.4**
VLS				AML	AML	18 00 31.5	
comp=E,6436μm,0.4s							
VLS				AML	AML	18 00 37.6	
comp=N,9196μm,0.4s							
LXRA	**Lixouri, Kepha**	**0.57**	**346**	P	**Pb**	**18 00 23.8**	**-0.2**
LXRA				S	**Sg**	**18 00 31.0**	**-0.1**
SMHA	**Samh**	**0.60**	**3**	P	**Pg**	**18 00 23.4**	**-0.7**
DMLN	**Damoulianata-K**	**0.62**	**343**	P	**Pb**	**18 00 24.5**	**-0.4**
DMLN				S	**Sn**	**18 00 35.0**	**-1.3**
comp=N,12μm,0.4s							
DMLN	**Damoulianata-K**	**0.62**	**343**	P	**Pb**	**18 00 24.4**	**-0.4**
DMLN				S	**Sb**	**18 00 33.5**	**+0.1**
VSK1	**VASILIKIADES**	**0.76**	**357**	P	**Pg**	**18 00 26.9**	**-0.2**
VSK1				S	**Sn**	**18 00 39.0**	**-0.8**
comp=N,6μm,0.5s							
FSK	**Fiskardo**	**0.81**	**357**	P	**Pg**	**18 00 27.4**	**-0.7**
FSK				S	**Sn**	**18 00 40.4**	**-0.6**
comp=N,3μm,0.6s							
FSK	**Fiskardo**	**0.81**	**357**	P	**Pg**	**18 00 27.5**	**-0.6**
FSK				S	**Sb**	**18 00 39.0**	**+0.1**
FSK				AML	AML	18 00 45.6	
comp=N,5295μm,0.4s							
FSK				AML	AML	18 00 49.6	
comp=E,4419μm,0.5s							
DRO	**Drossia**	**0.92**	**70**	P	**Pn**	**18 00 30.4**	**-0.4**
DRO				S	**Sn**	**18 00 43.3**	**-0.5**
comp=E,4μm,0.4s							
DRO	**Drossia**	**0.92**	**70**	P	**Pb**	**18 00 29.6**	**-0.5**
DRO				S	**Sn**	**18 00 43.0**	**-0.8**
DRO				AML	AML	18 00 46.5	
comp=E,6567μm,0.3s							
DRO				AML	AML	18 00 56.9	
comp=N,7277μm,0.4s							
EVGI	**Lefkada island**	**0.97**	**2**	P	**Pg**	**18 00 30.8**	**-0.3**
EVGI				S	**Sn**	**18 00 46.1**	**+1.1**
comp=N,2μm,0.3s							
EVGI	**Lefkada island**	**0.97**	**2**	P	**Pb**	**18 00 30.2**	**-0.7**
EVGI				S	**Sn**	**18 00 45.0**	**0.0**
DRAG	**Dragano-Lefkad**	**1.04**	**359**	P	**Pb**	**18 00 31.5**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.07**	**4**	P	**Pb**	**18 00 32.3**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.07**	**4**	P	**Pb**	**18 00 31.6**	**-0.9**
NYDR				S	**Sn**	**18 00 47.8**	**+0.5**
LKD2	**Lefkada island**	**1.14**	**2**	P	**Pg**	**18 00 35.1**	**+0.8**
LKD2	**Lefkada island**	**1.14**	**2**	P	**Pg**	**18 00 33.8**	**-0.5**
LKD2				S	**Sn**	**18 00 49.2**	**0.0**
LKD2				AML	AML	18 00 58.6	
comp=N,5445μm,0.7s							
LKD2				AML	AML	18 01 01.2	
comp=E,3050μm,0.7s							
ITM	**Ithomi**	**1.15**	**114**	P	**Pn**	**18 00 33.1**	**-0.7**
ITM				S	**Sn**	**18 00 49.1**	**-0.2**
ITM				AML	AML	18 00 57.4	
comp=N,1928μm,0.6s							
ITM				AML	AML	18 00 57.9	
comp=E,1710μm,0.4s							
PYL	**PYLOS**	**1.17**	**129**	P	**Pb**	**18 00 34.3**	**0.0**
PYL	**PYLOS**	**1.17**	**129**	P	**Pb**	**18 00 34.2**	**0.0**
PYL				S	**Sb**	**18 00 49.4**	**+0.1**
PYL				AML	AML	18 00 54.2	
comp=E,3032μm,0.7s							
PYL				AML	AML	18 00 56.1	
comp=N,1507μm,0.6s							
TSLK	**Tsoukalades, L**	**1.18**	**2**	P	**Pb**	**18 00 34.2**	**-0.1**
TSLK	**Tsoukalades, L**	**1.18**	**2**	P	**Pn**	**18 00 33.8**	**-0.5**
TSLK				S	**Sb**	**18 00 49.2**	**-0.2**
EFP	**Efpalio**	**1.29**	**52**	P	**Pg**	**18 00 36.5**	**-0.6**
EFP				S	**Sg**	**18 00 56.2**	**+2.4**
comp=N,935nm,0.7s							
EFP	**Efpalio**	**1.29**	**52**	P	**Pn**	**18 00 35.8**	**0.0**
EFP				S	**Sn**	**18 00 52.9**	**+0.2**

EFP AML AML 18 01 02.0
comp=E,2142μm,0.6s
EFP AML AML 18 01 02.4
comp=N,1386μm,0.4s
ALIK Aliki, Aigiali 1.34 62 P Pg 18 00 37.7 -0.3
ANX Ano Chora 1.40 47 P **Pb 18 00 38.4 +0.2**
ANX S **Sg 18 00 58.4 +0.9**
comp=N,3μm,0.5s
ANX Ano Chora 1.40 47 P **Pn 18 00 37.5 0.0**
ANX S **Sb 18 00 56.3 +0.3**
ANX AML AML 18 01 05.0
comp=N,5979μm,0.5s
ANX AML AML 18 01 06.1
comp=E,4998μm,0.5s
GUR Goura 1.40 78 P **Pb 18 00 38.0 -0.3**
GUR Goura 1.40 78 P **Pn 18 00 37.2 -0.2**
GUR AML AML 18 01 08.9
comp=N,2266μm,0.6s
GUR AML AML 18 01 11.1
comp=E,1857μm,0.6s
KALE Kalithea 1.42 58 P **Pb 18 00 38.6 +0.1**
KALE Kalithea 1.42 58 P **Pb 18 00 38.3 -0.2**
KALE S **Sb 18 00 56.3 -0.1**
KALE AML AML 18 01 07.0
comp=E,1270μm,0.6s
KALE AML AML 18 01 07.3
comp=N,2190μm,0.4s
IGT Igoumenitsa 1.90 354 P **Pn 18 00 44.8 +0.7**
IGT AML AML 18 01 22.6
comp=N,606μm,0.5s
IGT AML AML 18 01 23.3
comp=E,732μm,0.5s
OHR Ohrid 3.46 2 *i* Pn **Pn 18 01 09.0 +3.3**
OHR *i* Sn **Sb 18 01 51.2 -4.1**
HFS Hagfors 22.93 351 P **P 18 05 15.8 +0.2**
comp=E,1.4nm,0.7s,baz=163,slow=12,SNR=2.4
comp=E,1.4nm,0.7s
FINES FINESS Array B 24.07 6 P **P 18 05 26.9 +0.2**
comp=E,1.5nm,0.9s,baz=174,slow=10,SNR=4.7
comp=E,1.5nm,0.9s
NOA NORSAR Array B 24.15 349 P **P 18 05 31.6 +4.0**
comp=E,0.4nm,0.8s,baz=159,slow=11,SNR=1.7
comp=E,0.4nm,0.8s
KURBB Kurchatov Arra 42.49 53 P **P 18 08 05.3 -1.4**
comp=E,0.4nm,0.5s,baz=277,slow=8.7,SNR=3.1
comp=E,0.4nm,0.5s
MKAR Makanchi Array 45.52 58 P **P 18 08 30.6 -0.6**
comp=E,0.2nm,0.4s,baz=274,slow=7.3,SNR=4.2
comp=E,0.2nm,0.4s
ZALV Zalesovo Beam 45.99 48 P **P 18 08 34.2 -0.5**
comp=E,0.5nm,0.4s,baz=267,slow=8.7,SNR=2.9
comp=E,0.5nm,0.4s

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*BJI **09** 18:08:32.0,31˚.38N×141˚.77E,h6km,mb4.6/63,mB4.8/26, Ms4.4/44,Ms7 4.2/47*
*JMA **09** 18:08:34.8±0.5,32˚N±2˚×14˚2E±˚,h21km,MV4.6/23, MW4.6/23,NEAR TORISHIMA IS*
*NIED **09** 18:08:34.8,31˚.57N×142˚.02E,h21km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}0.67; $M_{\theta\theta}$-0.03; $M_{\phi\phi}$-0.64; $M_{r\theta}$-0.29; $M_{\theta\phi}$0.16; $M_{\phi r}$0.79; Fault plane solution: $M_0$1.08000×10^{16} NP1: ϕ_s341.00000°,δ71.00000°,λ87.00000°. NP2: ϕ_s171.00000°,δ20.00000°,λ99.00000°.*
*IDC **09** 18:08:34.4±0.5,31˚.42N×141˚.72E,h0km,mb4.5/22, mbtmp4.5/25,ML3.6/3,MS3.7/31 Error ellipse: s-maj=18.3km s-min=12.8km az=63.0*
*MOS **09** 18:08:34.2±0.9,31˚.38N×141˚.69E,h32km,mb4.9/58,Error ellipse: s-maj=11.3km s-min=4.7km az=125.0*
*NEIC **09** 18:08:35.8±1.6,31˚.38N±0˚.05×141˚.59E±0˚.08,h10km±1km, mb4.9/145,Error ellipse: s-maj=12.8km s-min=7.4km az=68.0*
*GCMT **09** 18:08:39.8±0.5,31˚.21N±0˚.04×141˚.67E±0˚.03,h22km±1km, MW4.8/69,Moment Tensor Solution. s18,c20; s69,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.02±.19; $M_{\theta\theta}$0.14±.10; $M_{\phi\phi}$-2.17±.13; $M_{r\theta}$0.67±.18; $M_{\theta\phi}$0.36±.07; $M_{\phi r}$-0.58±.15; Best double couple: $M_0$2.30700×10^{16} NP1:ϕ_s156.00000°,δ56.00000°,λ72.00000°. NP2: ϕ_s6.00000°,δ38.00000°,λ114.00000°. Principal axes: T 2.2800, Plg73.0000°, Azm20.0000°; N 0.0490, Plg15.0000°, Azm167.0000°; P -2.3350, Plg9.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 18:08:34.9±0.8,31˚.39N±0˚.03×141˚.67E±0˚.05,h7km±4km, n366,σ1º45/349,mb4.8/138,MS4.0/42,16C-11D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.94**	**304**	*eP*	**Pb**	**18 09 09.9**	**-0.6**
JAOM				*eS*	**Sb**	**18 09 36.6**	**+1.7**
JHCJ	**Hachijojimakas**	**2.31**	**317**	*eP*	**Pn**	**18 09 13.0**	**-0.3**
JHCJ				*eS*	**Sn**	**18 09 41.9**	**0.0**
JHJ2	**Mitsune**	**2.33**	**318**	Pn	**Pn**	**18 09 14.4**	**+0.9**
JHJ2				Sn	**Sn**	**18 09 41.1**	**-1.2**
JHJ2	**Mitsune**	**2.33**	**318**	P	**Pn**	**18 09 14.5**	**+1.0**
JHJ2	**Mitsune**	**2.33**	**318**	*eP*	**Pn**	**18 09 14.3**	**+0.9**
JHJ2				*eS*	**Sn**	**18 09 43.1**	**+0.8**
JHJ	**Hachijo jima 2**	**2.35**	**318**	Pn	**Pn**	**18 09 13.8**	**0.0**
	59nm,0.3s,baz=124,slow=15,SNR=17						
JHJ				Sn	**Sn**	**18 09 43.6**	**+0.7**
	196nm,0.3s,baz=233,slow=23,SNR=7.1						
	243nm,0.5s						
JMKN	**Mikurajimanish**	**3.05**	**325**	*eP*	**Pn**	**18 09 23.2**	**-0.3**
JMKN				*eS*	**Sn**	**18 09 58.7**	**-1.5**
BSO1	**Boso 1**	**3.31**	**350**	*eP*	**Pn**	**18 09 26.3**	**-0.2**
BSO1				*eS*	**Sn**	**18 10 04.8**	**-0.9**
BSO3	**Boso 3**	**3.54**	**344**	*eP*	**Pn**	**18 09 29.5**	**-0.4**
CBIJ	**Chichi jima**	**4.30**	**174**	*eP*	**Pn**	**18 09 42.4**	**+1.7**
CBIJ				*eS*	**Sn**	**18 10 29.1**	**-2.0**
JCJ	**Chichijima**	**4.30**	**174**		**Pn**	**18 09 42.2**	**+1.5**
JCJ				Sn	**Sn**	**18 10 29.4**	**-1.7**
JSG	**Sagara**	**4.39**	**319**	Pn	**Pn**	**18 09 40.6**	**-1.3**
JOD2	**Odawara 2**	**4.43**	**331**	*eP*	**Pn**	**18 09 42.9**	**+0.5**
JIE	**Ise**	**5.14**	**307**	*eP*	**Pn**	**18 09 54.9**	**+2.8**
JRY	**Ryogami san**	**5.16**	**334**	*eP*	**Pn**	**18 09 53.5**	**+1.0**
JRY				*eS*	**Sn**	**18 10 51.8**	**-0.4**
JGF	**Kuroka**	**5.53**	**321**	Pn	**Pn**	**18 09 59.5**	**+1.8**
JGF	**Kuroka**	**5.53**	**321**	P	**Pn**	**18 10 00.6**	**+3.0**
	51nm,0.7s						
JTNC	**Tanabenakahech**	**5.66**	**297**	*eP*	**Pn**	**18 10 03.6**	**+4.3**
MJAR	**Matsushiro Arr**	**5.89**	**332**	Pn	**Pn**	**18 10 03.6**	**+1.1**
	1.1nm,0.3s,baz=150,slow=10,SNR=55						
MJAR				LR	LR	18 12 21.2	
	comp=Z,620nm,19.8s,baz=148,slow=38						
	22nm,0.8s						
MAJO	**Matsushiro**	**5.89**	**332**	Pn	**Pn**	**18 10 04.0**	**+1.5**
MAJO	**Matsushiro**	**5.89**	**332**	P	**Pn**	**18 10 04.6**	**+2.1**
	72nm,0.8s						
MAJO	**Matsushiro**	**5.89**	**332**	*c iP*	**Pn**	**18 10 04.4**	**+1.9**
MJB9	**Matsu-Tunnel**	**5.89**	**332**		**Pn**	**18 10 01.1**	**-1.5**
JMM	**Marumori**	**6.50**	**354**	Pn	**Pn**	**18 10 09.1**	**-1.8**
JMM	**Marumori**	**6.50**	**354**	P	**Pn**	**18 10 09.9**	**-1.0**
	167nm,0.6s						
JMN	**Monobe**	**6.98**	**292**	Pn	**Pn**	**18 10 18.2**	**+0.8**
JMN	**Monobe**	**6.98**	**292**	P	**Pn**	**18 10 19.2**	**+1.7**
JSD	**Sado**	**7.20**	**338**	Pn	**Pn**	**18 10 18.9**	**-1.5**
JSD	**Sado**	**7.20**	**338**	P	**Pn**	**18 10 21.6**	**+1.1**
	40nm,1.1s						
JMK	**Ichinoseki**	**7.55**	**357**	*eP*	**Pn**	**18 10 24.3**	**-1.0**
JMK				*eS*	Sn	18 11 41.6	-10
JTO	**Tosashimizu**	**7.66**	**283**	*eP*	Pn	18 10 33.5	+6.7
JNU	**Nakatsue**	**9.30**	**284**	Pn	**Pn**	**18 10 47.5**	**-1.8**
JNU	**Nakatsue**	**9.30**	**284**	Pn	**Pn**	**18 10 53.4**	**+4.1**
	0.5nm,0.3s,baz=84,slow=7.0,SNR=7.5						
JNU				LR	LR	18 14 30.9	
	comp=Z,766nm,18.1s,baz=102,slow=38						
JTM	**Tenmabayashi**	**9.39**	**357**	Pn	**Pn**	**18 10 48.9**	**-1.6**
JTM	**Tenmabayashi**	**9.39**	**357**	P	**Pn**	**18 10 49.6**	**-0.9**
	80nm,1.4s						
ERM	**Erimo**	**10.67**	**6**	Pn	**Pn**	**18 11 05.4**	**-2.6**
ERM	**Erimo**	**10.67**	**6**	P	**Pn**	**18 11 06.6**	**-1.4**
	117nm,1.4s						
ERM	**Erimo**	**10.67**	**6**	*eP*	**Pn**	**18 11 07.1**	**-0.9**
JMZ	**Minamidaito 2**	**10.72**	**241**	Pn	**Pn**	**18 11 06.1**	**-2.7**
JOW	**Kunigami**	**12.56**	**252**	Pn	Pn	18 11 29.7	-4.3
JOW	**Kunigami**	**12.56**	**252**	LR	LR	18 16 33.0	
	comp=Z,495nm,18.3s,baz=111,slow=38						
ASAJ	**Asahikawa**	**12.73**	**3**	Pn	**Pn**	**18 11 33.6**	**-2.6**
	1.9nm,0.3s,baz=226,slow=6.2,SNR=11						
ASAJ				Sn	Sn	18 13 45.7	-12
	0.8nm,0.3s,baz=256,slow=22,SNR=2.7						
ASAJ				LR	LR	18 17 08.1	
	comp=Z,274nm,21.9s,baz=172,slow=40						
ASAJ	**Asahikawa**	**12.73**	**3**	P	**Pn**	**18 11 32.1**	**-4.0**
JKA	**Kamikawa-asahi**	**12.73**	**3**	Pn	**Pn**	**18 11 32.1**	**-4.0**
KSRS	**Korea Array**	**12.85**	**302**	Pn	Pn	18 11 43.5	+5.5
	0.4nm,0.3s,baz=110,slow=13,SNR=13						
KSRS				LR	LR	18 16 34.6	
	comp=Z,517nm,18.5s,baz=110,slow=37						
MSHR	**Mys Shultsa**	**13.96**	**326**	*eP*	**Pn**	**18 11 55.3**	**+2.3**
MSHR				pmax	pmax		
	comp=Z,44nm,1.1s						
USA0B	**Ussuriysk Arra**	**14.89**	**332**	Pn	**Pn**	**18 12 02.5**	**-3.1**
USA0B	**Ussuriysk Arra**	**14.89**	**332**	P	**Pn**	**18 12 02.5**	**-3.1**
USRK	**Ussuriysk Ar.**	**14.89**	**332**	Pn	**Pn**	**18 12 05.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=132,slow=11,SNR=6.4						
USRK				LR	LR	18 17 49.9	
	comp=Z,272nm,19.0s,baz=160,slow=37						
	comp=Z,3.1nm,0.7s						
YSS	**Yuzh-Sakhalins**	**15.56**	**3**	Pn	**Pn**	**18 12 11.6**	**-3.0**
MDJ	**Mudanjiang**	**16.25**	**328**	P	**Pn**	**18 12 25.3**	**+1.8**
MDJ				pmax	pmax		
	comp=Z,19nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,220nm,3.5s						
CN2	**Changchun**	**17.81**	**319**	*eP*	**Pn**	**18 12 40.4**	**-2.7**
CN2				*eS*	**Sn**	**18 15 56.0**	**-5.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,100nm,3.0s						
CN2				LR	LR		
	comp=Z,500nm,11.0s						
CN2				LR	LR		
	comp=Z,500nm,11.0s						
CN2				LR	LR		
	comp=Z,700nm,10.0s						
BNX	**BinXian**	**18.12**	**326**	⇓P	**P**	**18 12 47.6**	**+0.4**
BNX				pmax	pmax		
	comp=Z,12nm,1.0s						
TATO	**Taipei**	**18.89**	**255**	P	**P**	**18 12 54.5**	**-1.4**
TATO				IAmb	IAmb	18 12 59.8	
	comp=Z,107nm,1.2s						
YHNB	**Yeheng**	**19.11**	**255**	P	**P**	**18 12 58.3**	**-0.1**
YHNB				IAmb	IAmb	18 12 59.1	
	comp=Z,114nm,1.7s						
NACB	**Ninganchiao**	**19.14**	**253**	P	**P**	**18 12 58.7**	**0.0**
NACB				IAmb	IAmb	18 13 02.5	
	comp=Z,36nm,0.7s						
KLR	**Kul'dur**	**19.33**	**340**	⇑*eP*	**P**	**18 13 00.9**	**+0.4**
KLR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NJ2	**Nanjing**	**19.42**	**278**	*eP*	**P**	**18 13 02.3**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.8s						
YULB	**Yu-li**	**19.75**	**251**	P	**P**	**18 13 06.3**	**+1.0**
YULB				IAmb	IAmb	18 13 18.4	
	comp=Z,47nm,0.9s						
SSLB	**Suanglung**	**19.84**	**253**	P	**P**	**18 13 07.0**	**+0.6**
SSLB				IAmb	IAmb	18 13 10.4	
	comp=Z,46nm,0.8s						
TPUB	**Ta-pu**	**20.33**	**252**	P	**P**	**18 13 11.6**	**0.0**
TPUB				IAmb	IAmb	18 13 19.8	
	comp=Z,78nm,1.2s						
HEH	**HeiHe**	**21.64**	**335**	*eP*	**P**	**18 13 25.3**	**-0.3**
HEH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HEH				LR	LR		
	comp=Z,510nm,13.4s						
HEH				LR	LR		
	comp=Z,260nm,12.6s						
HEH				LR	LR		
	comp=Z,420nm,12.0s						
BJT	**Baijiatuau**	**22.37**	**300**	P	**P**	**18 13 32.5**	**-1.0**
BJT	**Baijiatuau**	**22.37**	**300**	P	**P**	**18 13 32.5**	**-1.0**
BJT				pmax	pmax		
	comp=Z,17nm,0.9s						
HNS	**HongShan**	**23.00**	**292**	⇓P	**P**	**18 13 40.1**	**-0.1**
HNS				S	**S**	**18 17 49.0**	**-1.9**
HNS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HNS				LR	LR		
	comp=Z,280nm,18.6s						
HNS				LR	LR		
	comp=Z,560nm,17.3s						
HNS				LR	LR		
	comp=Z,650nm,17.1s						
HIA	**Hailar**	**24.31**	**324**	P	**P**	**18 13 52.7**	**-0.3**
HIA				IAmb	IAmb	18 13 59.2	
	comp=Z,22nm,0.8s						
HIA	**Hailar**	**24.31**	**324**	⇑*eP*	**P**	**18 13 53.3**	**+0.4**
HIA				pmax	pmax		
	comp=Z,26nm,1.1s						
PETK	**Petropavlovsk-**	**24.62**	**24**	LR	LR	18 24 21.0	
	comp=Z,88nm,20.4s,baz=223,slow=38						
ZEA	**Zeya**	**24.64**	**339**	*eP*	**P**	**18 13 57.4**	**+1.6**
ZEA				pmax	pmax		
	comp=Z,50nm,0.9s						
ZEA				pmax	pmax		
	comp=N,20nm,0.8s						
ZEA				MLR	MLR		
	comp=Z,200nm,14.0s						
LYN	**LuoYang**	**24.66**	**285**	P	**P**	**18 13 55.7**	**-0.5**
LYN				S	**S**	**18 18 14.4**	**-3.6**
LYN				pmax	pmax		
	comp=Z,27nm,0.8s						
LYN				pmax	pmax		
	comp=Z,140nm,4.7s						
LYN				LR	LR		
	comp=Z,470nm,12.7s						
LYN				LR	LR		
	comp=Z,460nm,14.4s						
LYN				LR	LR		
	comp=Z,600nm,12.7s						
H11N2	**WAKE ISLAND Hy**	**25.48**	**111**	T	T	18 40 21.7	
	baz=305,slow=74						
H11N1	**WAKE ISLAND Hy**	**25.49**	**111**	T	T	18 40 26.7	
	baz=305,slow=74						
H11N3	**WAKE ISLAND Hy**	**25.50**	**111**	T	T	18 40 27.6	
	baz=305,slow=74						
HHC	**Hu-ho-hao-te**	**25.98**	**300**	*eP*	**P**	**18 14 07.9**	**-0.3**
HHC				pP	pwP	18 14 14.0	-1.7
HHC				S	**S**	**18 18 38.8**	**-0.3**
HHC				sS	pS	18 18 49.1	+9.2
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,4.1s						
HHC				LR	LR		
	comp=Z,170nm,11.8s						
HHC				LR	LR		
	comp=Z,430nm,10.7s						
HHC				LR	LR		
	comp=Z,590nm,13.3s						
H11S3	**WAKE ISLAND Hy**	**25.99**	**114**	T	T	18 41 42.5	
	baz=309						
H11S1	**WAKE ISLAND Hy**	**26.00**	**114**	T	T	18 41 21.4	
	baz=309						
H11S2	**WAKE ISLAND Hy**	**26.01**	**114**	T	T	18 41 36.4	
	baz=309						
BTO	**Baotou**	**27.09**	**299**	*eP*	**P**	**18 14 20.1**	**+1.9**
BTO				pP	**pwP**	**18 14 24.5**	**-1.2**
BTO				sP	pP	18 14 26.3	+7.4
BTO				PP	**PnPn**	**18 15 03.4**	**+2.6**
BTO				S	**S**	**18 19 00.1**	**+3.5**
BTO				pmax	pmax		
	comp=Z,47nm,0.7s						
BTO				pmax	pmax		
	comp=Z,190nm,3.8s						
BTO				LR	LR		
	comp=Z,740nm,15.3s						
BTO				LR	LR		
	comp=Z,1μm,17.2s						
BTO				LR	LR		
	comp=Z,2μm,17.4s						
ENH	**Enshi**	**27.61**	**276**	P	**P**	**18 14 21.3**	**-1.6**
ENH				IAmb	IAmb	18 14 41.6	
	comp=Z,46nm,2.0s						
XAN	**Xi'an**	**27.62**	**284**	⇓P	**P**	**18 14 22.8**	**-0.2**
XAN				*eS*	**S**	**18 19 07.4**	**+2.5**
XAN				pmax	pmax		
	comp=Z,31nm,0.8s						
XAN				LR	LR		
	comp=Z,280nm,15.1s						
XAN				LR	LR		
	comp=Z,380nm,15.8s						
XAN				LR	LR		
	comp=Z,450nm,15.1s						
MA2	**Magadan**	**28.84**	**10**	LR	LR	18 26 55.2	
	comp=Z,58nm,20.8s,baz=187,slow=38						
CIT	**Chita**	**29.12**	**323**	*eP*	**P**	**18 14 37.4**	**+1.2**
CIT				*e*		18 15 36.6	
CIT				pmax	pmax		
	comp=Z,67nm,2.2s						
GYA	**Guiyang**	**30.95**	**270**	⇑P	**P**	**18 14 52.4**	**-0.3**
GYA				pmax	pmax		
	comp=Z,12nm,1.0s						
ULN	**Ulaanbaatar**	**31.01**	**312**	P	**P**	**18 14 52.9**	**-0.2**
ULN				IAmb	IAmb	18 14 56.2	
	comp=Z,16nm,0.9s						
ULN	**Ulaanbaatar**	**31.01**	**312**	*cePP*	**P**	**18 14 54.9**	**+1.8**
ULN				pmax	pmax		
	comp=Z,22nm,1.0s						
QIZ	**Qiongzhong**	**31.20**	**254**	P	**P**	**18 14 54.8**	**0.0**
QIZ				S	**S**	**18 20 03.5**	**+2.2**
QIZ				LR	LR		
	comp=Z,150nm,9.8s						
QIZ				LR	LR		
	comp=Z,360nm,7.7s						
QIZ				LR	LR		
	comp=Z,180nm,9.3s						
SONM	**Songino Array**	**31.41**	**312**	P	**P**	**18 14 56.2**	**-0.4**
SONM				IAmb	IAmb	18 14 59.6	
	comp=Z,18nm,0.9s						
SONM	**Songino Array**	**31.41**	**312**	P	**P**	**18 14 58.4**	**+1.8**
	comp=Z,13nm,0.9s,baz=119,slow=8.6,SNR=63						
SONM				PcP	**PcP**	**18 17 50.9**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=122,slow=2.2,SNR=3.4						
SONM				LR	LR	18 27 41.8	
	comp=Z,207nm,18.3s,baz=96,slow=36						
	comp=Z,13nm,0.9s						
YAK	**Yakutsk**	**31.63**	**349**	P	**P**	**18 14 57.0**	**-1.0**
YAK				IAmb	IAmb	18 15 27.9	
	comp=Z,9.3nm,0.8s						
YAK	**Yakutsk**	**31.63**	**349**	*eP*	**P**	**18 14 56.7**	**-1.4**
YAK				*e*PP*	**pP**	**18 15 00.0**	**+1.1**
YAK				*e*PPP	PPP	18 16 12.7	
YAK				*e*		18 17 55.8	
YAK				*e*S	**S**	**18 20 06.9**	**-0.2**
YAK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.5s						
YAK				smax	smax		
	comp=E,20nm,10.2s						
YAK				smax	smax		
	comp=N,32nm,14.9s						
LZH	**Lanzhou**	**31.67**	**289**	*eP*	**P**	**18 14 59.3**	**+0.3**
LZH				pP	pP	18 15 02.6	+2.9
LZH				PcP	**PcP**	**18 17 50.0**	**-0.9**
LZH				pmax	pmax		
	comp=N,20nm,1.5s						
LZH				pmax	pmax		
	comp=N,51nm,5.5s						
LZH				LR	LR		
	comp=N,290nm,14.1s						
LZH				LR	LR		
	comp=N,310nm,14.1s						
LZH				LR	LR		
	comp=N,260nm,16.2s						
SEY	**Seymchan**	**32.30**	**9**	⇑*eP*	**P**	**18 15 05.1**	**+1.1**
SEY				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CD2	**Chengdu**	**32.34**	**279**	P	**P**	**18 15 03.6**	**-1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,390nm,14.6s						
CD2				LR	LR		
	comp=Z,430nm,13.3s						
CD2				LR	LR		
	comp=Z,500nm,14.0s						
TNTI	**Ternate**	**33.33**	**207**	P	**P**	**18 15 11.3**	**-2.1**
TNTI				IAmb	IAmb	18 15 26.1	
	comp=Z,19nm,1.1s						
MYLDM	**Lahad Datu**	**33.95**	**225**	P	**P**	**18 15 19.7**	**+0.8**
MYLDM				IAmb	IAmb	18 15 34.6	
	comp=Z,19nm,1.0s						
ZAK	**Zakamensk**	**34.18**	**315**	*eP*	**P**	**18 15 21.3**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
SLVN	**Son La**	**35.14**	**263**	P	**P**	**18 15 28.5**	**-0.8**
SLVN				IAmb	IAmb	18 16 17.3	
	comp=Z,26nm,1.7s						
PZH	**PanZhiHua**	**35.14**	**272**	P	**P**	**18 15 29.8**	**+0.5**
PZH				S	**S**	**18 21 02.3**	**-0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,50nm,5.5s						
PZH				LR	LR		
	comp=Z,160nm,14.9s						
PZH				LR	LR		
	comp=Z,120nm,15.1s						
PZH				LR	LR		
	comp=Z,140nm,13.2s						
FAKI	**Fak Fak**	**35.28**	**196**	P	**P**	**18 15 29.8**	**-0.5**
FAKI				IAmb	IAmb	18 16 14.7	
	comp=Z,30nm,1.2s						
MIDW	**Midway**	**35.54**	**84**	P	**P**	**18 15 32.6**	**0.0**
TOLI2	**Tolitoli**	**36.02**	**217**	P	**P**	**18 15 34.8**	**-2.0**
LUWI	**Luwuk**	**36.91**	**213**	P	**P**	**18 15 43.5**	**-0.8**
LUWI				IAmb	IAmb	18 15 48.0	
	comp=Z,22nm,0.7s						
TNCH	**TengChong**	**38.36**	**272**	P	**P**	**18 15 57.7**	**+0.8**
TNCH				S	**S**	**18 21 51.1**	**-0.9**
TNCH				pmax	pmax		
	comp=Z,20nm,0.5s						
TNCH				LR	LR		
	comp=Z,150nm,16.6s						
TNCH				LR	LR		
	comp=Z,200nm,15.1s						
TNCH				LR	LR		
	comp=Z,280nm,18.4s						
GOMU	**GeErMu**	**38.94**	**290**	P	**P**	**18 16 02.3**	**+0.5**
GOMU				PcP	**PcP**	**18 18 14.7**	**+2.2**
GOMU				S	**S**	**18 22 00.5**	**-0.4**
GOMU				pmax	pmax		
	comp=Z,45nm,1.0s						
GOMU				LR	LR		
	comp=Z,240nm,15.3s						
GOMU				LR	LR		
	comp=Z,340nm,14.9s						
GOMU				LR	LR		
	comp=Z,420nm,15.5s						
PHRA	**Phrae**	**39.48**	**261**	P	**P**	**18 16 04.5**	**-1.6**
SBUM	**Sibu**	**40.00**	**230**	P	**P**	**18 16 08.1**	**-2.3**
CHTO	**Chiang Mai**	**40.43**	**262**	P	**P**	**18 16 12.6**	**-1.4**
CHTO	**Chiang Mai**	**40.43**	**262**	P	**P**	**18 16 12.6**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CM31	**Chiang Mai Arr**	**40.59**	**262**	P	**P**	**18 16 14.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**40.59**	**262**	P	**P**	**18 16 14.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**40.59**	**262**	P	**P**	**18 16 15.8**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=54,slow=7.0,SNR=22						
CMAR				LR	LR	18 34 16.4	
	comp=Z,77nm,18.8s,baz=60,slow=38						
	comp=Z,2.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.59**	**262**	*i P*	**P**	**18 16 15.6**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TIXI	**Tiksi**	**40.91**	**354**	P	**P**	**18 16 16.3**	**-1.0**
TIXI	**Tiksi**	**40.91**	**354**	⇓*eP*	**P**	**18 16 16.7**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAPI	**Kappang**	**41.81**	**214**	LR	LR	18 34 34.9	
	comp=Z,37nm,18.4s,baz=22,slow=37						
KSM	**Kuching**	**41.99**	**231**	P	**P**	**18 16 25.8**	**-1.0**
LSA	**Lhasa**	**43.23**	**281**	P	**P**	**18 16 34.7**	**-2.7**
LSA	**Lhasa**	**43.23**	**281**	P	**P**	**18 16 34.7**	**-2.7**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
WMQ	**Urumqi**	**43.80**	**302**	*eP*	**P**	**18 16 43.4**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				LR	LR		
	comp=Z,150nm,16.9s						
SHL	**Shillong**	**43.85**	**275**	P	**P**	**18 16 40.6**	**-1.4**
SHL	**Shillong**	**43.85**	**275**	P	**P**	**18 16 40.6**	**-1.4**
SHL				pmax	pm

SOEI Soe 44.18 205 P **P** **18 16 42.8 -1.8**
HNR Honiara 44.21 154 LR LR 18 33 45.6
comp=Z,70nm,21.3s,baz=330,slow=34
BATI Baumata 44.82 206 LR LR 18 32 21.2
comp=Z,38nm,21.9s,baz=43,slow=32
COEN Coen 45.11 178 P **P** **18 16 51.5 -0.4**
MTN Manton Dam 45.13 195 P **P** **18 16 51.1 -0.8**
MTN IAmb IAmb 18 17 04.8
comp=Z,10nm,0.7s
ZSN Zaisan 45.70 307 *e*P **P** **18 16 57.1 +0.8**
comp=Z,19nm,0.9s
ZSN *e*S **S** **18 23 41.5 +1.8**
ZSN Zaisan 45.70 307 *e*P **P** **18 16 57.1 +0.8**
ZSN *e*S **S** **18 23 41.4 +1.8**
ZSN pmax pmax
comp=Z,19nm,0.9s
ZAA0 Zalesovo Array 46.01 317 P **P** **18 16 58.5 -0.2**
ZAA0 IAmb IAmb 18 17 01.5
comp=Z,9.5nm,0.8s
ZALV Zalesovo Beam 46.01 317 P **P** **18 16 58.7 +0.1**
ZALV Zalesovo Beam 46.01 317 P **P** **18 16 59.5 +0.8**
comp=Z,7.7nm,0.7s,baz=100,slow=7.4,SNR=31
ZALV PcP **PcP** **18 18 36.0 +0.8**
comp=Z,3.6nm,0.9s,baz=125,slow=3.4,SNR=3.4
ZALV LR LR 18 35 25.0
comp=Z,85nm,21.1s,baz=83,slow=35
comp=Z,7.7nm,0.7s
ZALV Zalesovo Beam 46.01 317 *i* P **P** **18 16 59.7 +1.0**
ZALV pmax pmax
comp=Z,6.0nm,0.5s
M14K Bethel 46.84 34 P **P** **18 17 06.2 +1.2**
K15K Wolf Creek Mou 47.38 32 P **P** **18 17 11.2 +1.8**
MK31 Makanchi Array 47.48 307 **P** **18 17 10.7 +0.4**
MK31 IAmb IAmb 18 17 12.6
comp=Z,16nm,1.4s
MK31 Makanchi Array 47.48 307 *ce*P **P** **18 17 11.3 +1.0**
MKAR Makanchi Array 47.48 307 **P** **18 17 10.9 +0.6**
MKAR Makanchi Array 47.48 307 P **P** **18 17 11.4 +1.1**
comp=Z,4.9nm,0.5s,baz=87,slow=10.0,SNR=53
MKAR LR LR 18 37 40.2
comp=Z,96nm,20.4s,baz=48,slow=37
comp=Z,4.9nm,0.5s
MAKZ Makanchi 47.69 307 P **P** **18 17 12.4 +0.4**
MAKZ IAmb IAmb 18 17 14.4
comp=Z,8.2nm,0.7s
MAKZ Makanchi 47.69 307 P **P** **18 17 12.4 +0.4**
MAKZ pmax pmax
comp=Z,8.0nm,0.7s
NRIK Noril'sk 48.51 337 P **P** **18 17 17.8 -0.1**
NRIK IAmb IAmb 18 17 20.9
comp=Z,8.5nm,0.9s
NRIK Noril'sk 48.51 337 P **P** **18 17 18.4 +0.5**
comp=Z,7.4nm,0.8s,baz=101,slow=10.0,SNR=8.1
comp=Z,7.4nm,0.8s
NRIK Noril'sk 48.51 337 *ce*P **P** **18 17 18.2 +0.3**
NRIK pmax pmax
comp=Z,10.0nm,0.9s
SEM Semipalatinsk 48.69 312 *e*P **P** **18 17 20.2 +0.2**
comp=Z,6.3nm,0.9s
SEM Semipalatinsk 48.69 312 *e*P **P** **18 17 20.1 +0.2**
SEM pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 49.72 312 P **P** **18 17 27.6 +0.1**
KURK Kurchatov 49.72 312 *ce*P **P** **18 17 27.9 +0.4**
KURK pmax pmax
comp=Z,42nm,1.0s
KURBB Kurchatov Arra 49.78 312 P **P** **18 17 28.8 +0.9**
comp=Z,17nm,0.8s,baz=88,slow=7.3,SNR=93
KURBB LR LR 18 39 20.5
comp=Z,227nm,18.3s,baz=160,slow=37
comp=Z,17nm,0.8s
SHLS Shalkode 49.83 302 *e*P **P** **18 17 26.7 -1.9**
SHLS Shalkode 49.83 302 *e*P **P** **18 17 26.6 -2.0**
UZB Uzynbulak 50.15 302 *e*P **P** **18 17 31.6 +0.6**
UZB Uzynbulak 50.15 302 *e*P **P** **18 17 31.6 +0.6**
WUS Wushi 50.31 300 P **P** **18 17 31.8 -0.5**
WUS IAmb IAmb 18 17 40.1
comp=Z,29nm,1.6s
TDK Taldyqorghan 50.34 305 *e*P **P** **18 17 33.0 +0.6**
TDK Taldyqorghan 50.34 305 *e*P **P** **18 17 32.9 +0.6**
KPKS Kokpek 50.35 303 *e*P **P** **18 17 33.0 +0.5**
KPKS Kokpek 50.35 303 *e*P **P** **18 17 33.0 +0.5**
E19K Redstone River 50.39 26 P **P** **18 17 33.2 +0.9**
E19K IAmb IAmb 18 17 38.5
comp=Z,21nm,1.1s
ZHN Zhinishke 50.57 302 *e*P **P** **18 17 34.8 +0.5**
ZHN Zhinishke 50.57 302 *e*P **P** **18 17 34.7 +0.5**
SATY Saty 50.61 302 *e*P **P** **18 17 35.2 +0.7**
SATY Saty 50.61 302 *e*P **P** **18 17 35.2 +0.7**
ARXS Arharly 50.85 304 *e*P **P** **18 17 36.7 +0.4**
J20K Nowinta River 51.02 30 P **P** **18 17 37.7 +0.6**
KDAK Kodiak Island 51.26 39 LR LR 18 38 06.8
comp=Z,67nm,20.9s,baz=99,slow=35
TARG Taragay, Kyrgy 51.27 301 P **P** **18 17 39.6 -0.3**
TARG Taragay, Kyrgy 51.27 301 P **P** **18 17 39.6 -0.3**
TARG pmax pmax
comp=Z,8.0nm,1.0s
CHKK Chushkaly 51.51 303 *e*P **P** **18 17 41.7 +0.6**
CHKK Chushkaly 51.51 303 *e*P **P** **18 17 41.7 +0.6**
WRAB Tennant Creek 51.51 189 P **P** **18 17 41.4 +0.2**
WRAB IAmb IAmb 18 17 54.2
comp=Z,16nm,1.0s
WRAB Tennant Creek 51.51 189 P **P** **18 17 41.4 +0.2**
WRAB pmax pmax
comp=Z,16nm,1.0s
WR0 Warramunga Arr 51.51 189 IAmb IAmb 18 17 54.2
comp=Z,14nm,0.7s
WB2 Warramunga Arr 51.52 189 IAmb IAmb 18 17 54.3
comp=Z,16nm,0.8s
WRA Warramunga Arr 51.52 189 P **P** **18 17 41.1 -0.2**
WRA Warramunga Arr 51.52 189 P **P** **18 17 41.9 +0.6**
comp=Z,8.7nm,0.7s,baz=6.3,slow=7.7,SNR=68
WRA PcP **PcP** **18 18 57.0 +1.5**
comp=Z,2.7nm,0.9s,baz=1.0,slow=4.0,SNR=2.3
comp=Z,8.7nm,0.7s
FITZ Fitzroy Crossi 51.56 200 LR LR 18 41 16.6
comp=Z,23nm,18.3s,baz=12,slow=38
MDOK Medeo 51.58 302 *e*P **P** **18 17 42.4 +0.5**
MDOK Medeo 51.58 302 *e*P **P** **18 17 42.3 +0.5**
AAA Alma-Ata 51.66 303 *e*P **P** **18 17 43.0 +0.6**
comp=Z,8.5nm,0.6s
AAA Alma-Ata 51.66 303 *e*P **P** **18 17 42.9 +0.6**
AAA pmax pmax
comp=Z,9.0nm,0.6s
TNSS Tian-Shan 51.67 302 *e*P **P** **18 17 43.2 +0.3**
TNSS Tian-Shan 51.67 302 *e*P **P** **18 17 43.1 +0.3**
H21K Melozitna Rive 51.79 29 P **P** **18 17 43.5 +0.6**
CAST Castle Rocks 51.84 32 IAmb IAmb 18 17 53.5
comp=Z,16nm,1.4s
D22K Ayikyak River 52.35 25 IAmb IAmb 18 19 15.4
comp=Z,26nm,1.4s
E22K Anaktuvuk Pass 52.54 26 P **P** **18 17 49.1 +0.7**
E22K IAmb IAmb 18 17 59.9
comp=Z,13nm,1.2s
NRN Naryn 52.65 300 P **P** **18 17 49.8 -0.3**
NRN Naryn 52.65 300 P **P** **18 17 49.8 -0.3**
NRN pmax pmax
comp=Z,6.0nm,1.1s
TKM2 Tokmak 2 52.66 302 P **P** **18 17 52.1 +2.1**
SNR=11
G23K Bananza Creek 53.04 28 IAmb IAmb 18 17 58.5
comp=Z,14nm,1.2s
KSH Kashi 53.08 298 P P 18 17 58.0 +5.0
KSH pmax pmax
comp=Z,8.0nm,0.9s
KSH LR LR
comp=Z,210nm,14.1s
KSH LR LR
comp=Z,220nm,13.4s
KSH LR LR
comp=Z,310nm,15.8s
KBK Karagaybulak 53.18 302 P **P** **18 17 55.5 +1.7**
SNR=13
C23K Itkillik River 53.23 24 IAmb IAmb 18 17 59.2
comp=Z,24nm,1.2s
NEA2 Nenana 53.26 30 P **P** **18 17 54.1 +0.3**
NEA2 IAmb IAmb 18 17 59.6
comp=Z,17nm,1.1s
E23K Chandalar 53.35 26 IAmb IAmb 18 18 00.3
comp=Z,13nm,1.2s
USP Ospenovka 53.39 303 P **P** **18 17 56.5 +1.4**
SNR=8.0
BTLS Baital 53.39 305 *e*P **P** **18 17 55.9 +0.8**
BTLS Baital 53.39 305 *e*P **P** **18 17 55.8 +0.8**
AAK Ala-Archa 53.52 302 P **P** **18 17 57.6 +1.4**
SNR=7.8
AAK Ala-Archa 53.52 302 P **P** **18 17 56.0 -0.2**
AAK Ala-Archa 53.52 302 *i* P **P** **18 17 57.4 +1.2**
SNR=9.7
AAK Ala-Archa 53.52 302 LR LR 18 41 32.2
comp=Z,112nm,18.5s,baz=74,slow=37
AAK Ala-Archa 53.52 302 *ce*P **P** **18 17 57.0 +0.8**
AAK pmax pmax
comp=Z,19nm,2.5s
E24K Your Creek 53.77 26 IAmb IAmb 18 18 04.7
comp=Z,20nm,1.6s
H24K Noodor Dome 53.83 29 IAmb IAmb 18 18 04.4
comp=Z,22nm,1.6s
SCM Sheep Creek Mo 53.96 34 P **P** **18 17 58.1 -0.9**
SCM Sheep Creek Mo 53.96 34 P **P** **18 17 58.1 -0.9**
SCM pmax pmax
comp=Z,41nm,1.4s
EKS2 Erkin-Say 54.03 302 P **P** **18 18 01.6 +1.6**
SNR=5.4
AML Almayashu 54.20 302 P **P** **18 18 03.4 +1.9**
SNR=32
IL31 54.20 30 IAmb IAmb 18 18 36.4
comp=Z,11nm,1.3s
ILAR Eielson Array 54.20 30 P **P** **18 17 59.6 -1.0**
ILAR Eielson Array 54.20 30 P **P** **18 18 00.2 -0.5**
comp=Z,3.0nm,0.9s,baz=264,slow=6.2,SNR=20
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 54.63 315 P **P** **18 18 04.7 +0.7**
comp=Z,4.8nm,0.6s,baz=90,slow=7.7,SNR=30
BVAR LR LR 18 42 08.6
comp=Z,75nm,19.3s,baz=80,slow=37
comp=Z,4.8nm,0.6s
D25K Kavik River 54.65 24 IAmb IAmb 18 18 38.2
comp=Z,11nm,1.3s
BRVK Borovoye 54.69 315 P **P** **18 18 03.3 -1.1**
BRVK IAmb IAmb 18 18 06.5
comp=Z,14nm,1.1s
BRVK Borovoye 54.69 315 *ce*P **P** **18 18 05.3 +0.9**
BRVK pmax pmax
comp=Z,12nm,1.0s
AS31 Alice Springs 55.25 189 P **P** **18 18 08.8 +0.1**
ASAR Alice Springs 55.25 189 P **P** **18 18 08.8 +0.1**
ASAR Alice Springs 55.25 189 P **P** **18 18 09.3 +0.7**
comp=Z,3.9nm,0.7s,baz=360,slow=5.0,SNR=156
ASAR LR LR 18 40 41.6
comp=Z,61nm,21.2s,baz=16,slow=35
comp=Z,3.9nm,0.7s
F26K Sheenjek River 55.39 27 IAmb IAmb 18 18 30.4
comp=Z,20nm,1.7s
SCRK Sand Creek 55.46 31 P **P** **18 18 10.2 +0.3**
SCRK IAmb IAmb 18 18 25.8
comp=Z,24nm,1.9s
C27K Jago River 55.60 24 IAmb IAmb 18 18 16.6
comp=Z,19nm,1.4s
DZA Taraz 55.74 303 *e*P **P** **18 18 13.1 +0.8**
comp=Z,5.7nm,0.8s
DZA Taraz 55.74 303 *e*P **P** **18 18 13.0 +0.8**
DZA pmax pmax
comp=Z,6.0nm,0.8s
DRK Karamyk 56.22 299 IAmb IAmb 18 18 18.6
comp=Z,9.6nm,0.8s
KKAR Karatay Array 56.28 304 P **P** **18 18 16.8 +0.8**
KKAR IAmb IAmb 18 18 18.3
comp=Z,14nm,0.8s
KKAR Karatay Array 56.28 304 P **P** **18 18 16.7 +0.8**
KKAR Karatay Array 56.28 304 P **P** **18 18 16.8 +0.8**
KKAR pmax pmax
comp=Z,14nm,0.9s
E27K Coleen River 56.35 26 IAmb IAmb 18 18 50.6
comp=Z,18nm,1.6s
BCAR Beaver Creek A 56.49 32 P **P** **18 18 18.1 +0.8**
D27M Malcolm River 56.57 25 IAmb IAmb 18 18 24.4
comp=Z,24nm,1.8s
NIL Nilore 56.75 292 P **P** **18 18 19.7 +0.2**
NIL IAmb IAmb 18 18 23.2
comp=Z,10nm,0.7s
NIL Nilore 56.75 292 P **P** **18 18 19.7 +0.2**
NIL pmax pmax
comp=Z,10.0nm,0.7s
BRLS Borolday 56.77 304 *e*P **P** **18 18 21.7 +2.1**
comp=Z,7.7nm,1.1s
BRLS Borolday 56.77 304 *e*P **P** **18 18 21.7 +2.1**
BRLS pmax pmax
comp=Z,8.0nm,1.1s
BTK Batken 56.80 300 P **P** **18 18 20.4 +0.5**
BTK IAmb IAmb 18 18 24.2
comp=Z,36nm,1.9s
BTK Batken 56.80 300 P **P** **18 18 20.4 +0.5**
BTK pmax pmax
comp=Z,36nm,2.0s
IUG Iuzhnay 56.85 303 *e*P **P** **18 18 21.0 +0.8**
comp=Z,9.2nm,0.5s
IUG Iuzhnay 56.85 303 *e*P **P** **18 18 21.0 +0.8**
IUG pmax pmax
comp=Z,9.0nm,0.5s
F28M Old Crow 57.02 27 IAmb IAmb 18 18 27.7
comp=Z,21nm,1.5s
E28M Babbage River 57.10 25 IAmb IAmb 18 18 24.2
comp=Z,22nm,1.6s
CHM Chimkent 57.11 303 *e*P **P** **18 18 22.9 +0.9**
comp=Z,6.2nm,0.7s
CHM Chimkent 57.11 303 *e*P **P** **18 18 22.8 +0.9**
CHM pmax pmax
comp=Z,6.0nm,0.7s
I28M Miner Creek 57.13 29 IAmb IAmb 18 18 30.8
comp=Z,28nm,2.0s
E29M Blow River 57.72 26 IAmb IAmb 18 18 41.2
comp=Z,11nm,1.2s
G29M Pine Creek 57.79 27 P **P** **18 18 27.4 +1.1**
G29M IAmb IAmb 18 18 35.1
comp=Z,15nm,1.2s
M29M Somme Creek 58.08 33 IAmb IAmb 18 18 34.5
comp=Z,11nm,0.8s
DZM Mont Dzumac 58.22 153 *e*LR LR 18 35 24.7
comp=Z,71nm,24.1s
K29M Barlow Dome 58.32 31 P **P** **18 18 31.0 +0.7**
K29M IAmb IAmb 18 19 25.8
comp=Z,16nm,1.6s
G30M tAoh Zrail Nji 58.48 27 IAmb IAmb 18 19 00.2
comp=Z,17nm,1.2s
SIMJ Simiganj 58.53 299 P **P** **18 18 32.4 +0.2**
I30M Mount Dempster 58.64 29 IAmb IAmb 18 18 38.8
comp=Z,19nm,1.4s
HYT Haines Junctio 58.76 34 IAmb IAmb 18 18 39.9
comp=Z,16nm,1.1s
M30M Minto, Yukon 58.82 32 IAmb IAmb 18 18 36.3
comp=Z,20nm,1.4s
INK Inuvik 59.34 25 IAmb IAmb 18 18 43.3
comp=Z,9.7nm,1.2s
INK Inuvik 59.34 25 P **P** **18 18 37.0 0.0**
INK pmax pmax
comp=Z,10.0nm,2.0s
SVE Sverdlovsk 59.59 321⇑ *e*P **P** **18 18 40.6 +1.6**
SVE pmax pmax
comp=Z,32nm,1.1s
ARTI Arti 60.90 321 P **P** **18 18 48.2 +0.3**
ARTI Arti 60.90 321 LR LR 18 47 12.6
comp=Z,58nm,18.3s,baz=84,slow=38
ARTI Arti 60.90 321 *c i*P **P** **18 18 48.4 +0.4**
ARTI 18 19 30.0
ARTI S **S** **18 27 06.7 +0.8**
ARTI SS **SS** **18 31 01.5 -3.0**
ARTI pmax pmax
comp=Z,38nm,1.3s
A36M Sachs Harbour 61.43 21 P **P** **18 18 52.5 +1.2**
A36M IAmb IAmb 18 19 01.7
comp=Z,7.1nm,0.9s
ABKAR Akbulak array 61.82 313 P **P** **18 18 54.4 +0.1**
ABKAR Akbulak array 61.82 313 P **P** **18 18 54.5 +0.2**
STKA Stephens Creek 62.92 180 P **P** **18 19 03.1 +1.4**
comp=Z,1.2nm,0.6s,baz=331,slow=11,SNR=4.0
comp=Z,1.2nm,0.6s
FORT Forrest 63.16 193 P **P** **18 19 03.6 +0.3**
HRA Herat 65.09 296 IAmb IAmb 18 19 19.4
comp=Z,8.7nm,0.8s
APA Apatity 67.93 337 ‖ *i*P **P** **18 19 31.5 -2.3**
APA pmax pmax
comp=Z,5.0nm,0.9s
BELG Belogornoye 68.12 319 LR LR 18 50 21.3
comp=Z,64nm,19.7s,baz=134,slow=37
BELG Belogornoye 68.12 319 *de*P **P** **18 19 36.5 +1.3**
BELG pmax pmax
comp=Z,3.0nm,1.0s
KLMR Klimovskoe 68.66 329 *e*P **P** **18 19 37.1 -1.4**
KLMR pmax pmax
comp=Z,11nm,0.9s
ARCES ARCESS Array B 69.36 340 P **P** **18 19 43.3 +0.6**
comp=Z,2.2nm,0.7s,baz=50,slow=9.8,SNR=3.9
ARCES LR LR 18 53 09.9
comp=Z,78nm,20.0s,baz=72,slow=39
comp=Z,2.2nm,0.7s
DAG Danmarks Havn 71.40 355 P **P** **18 19 56.6 +1.5**
DAG pmax pmax
comp=Z,10.0nm,1.4s
MOS Moscow 71.94 325 *e*P P 18 20 10.4 +12
VRH Novokhopyorsk 71.94 319 *e*P **P** **18 19 58.0 -0.7**
VRH pmax pmax
comp=Z,10.0nm,0.5s
MAK Makhachkala 72.16 310 *e*P P 18 19 55.4 -4.8
MAK *e*S **S** **18 29 16.6 -6.2**
MAK MLR MLR
comp=Z,280nm,13.0s
OBN Obninsk 72.77 324⇑ *e*P **P** **18 20 04.3 +0.7**
OBN *i* 18 20 09.4
OBN *i* 18 20 17.8
OBN *e*S **S** **18 29 23.4 -6.0**
OBN pmax pmax
comp=Z,11nm,0.7s
OBN MLR MLR
comp=Z,124nm,16.0s
LPSR Galich'ya Gora 72.80 321 *e*P **P** **18 20 02.8 -1.0**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
I04A Tendick Farm, 72.93 49 IAmb IAmb 18 20 07.6
comp=Z,9.9nm,1.2s
VORR Voronezh 73.10 321 *e*P **P** **18 20 05.5 -0.1**
VORR pmax pmax
comp=Z,8.0nm,0.8s
SEKA Sheki 73.15 308 P **P** **18 20 07.3 +1.1**
LKRN Lenkeran, Azer 73.20 305 P **P** **18 20 07.9 +1.5**
VSR Storozhevoye 73.35 320 *e*P **P** **18 20 06.1 -1.0**
VSR pmax pmax
comp=Z,10.0nm,1.0s
SHME Shamm 73.36 291 *i* P **P** **18 20 09.1 +1.5**
SNR=7.4
VORD Divnogorie 73.40 320 *e*P **P** **18 20 07.2 -0.2**
VORD pmax pmax
comp=Z,7.0nm,1.0s
MNGR Mingechevir, A 73.42 308 P **P** **18 20 09.9 +2.1**
UOSS Minazif 73.81 290 P **P** **18 20 11.7 +1.3**
FINES FINESS Array B 73.92 333 P **P** **18 20 10.8 +0.5**
comp=Z,3.6nm,0.8s,baz=56,slow=5.9,SNR=19
comp=Z,3.6nm,0.8s
FINES FINESS Array B 73.92 333 *i* P **P** **18 20 10.5 +0.3**
FINES pmax pmax
comp=Z,4.0nm,0.8s
SOHO SOHO 73.92 289 *i* P **P** **18 20 11.1 +0.2**
SNR=11
HATD Hatta, Dubai 73.92 289 *i* P **P** **18 20 12.3 +1.3**
SNR=6.4
ASHO Ashiyiah 74.05 289 *i* P **P** **18 20 14.0 +2.2**
SNR=6.9
FAQ Al Faqa, Dubai 74.40 290 P **P** **18 20 14.6 +0.8**
ALNE Al Ain 74.59 289 *i* P **P** **18 20 16.3 +1.4**
SNR=6.3
ASUD Al Ashush, Dub 74.66 290 P **P** **18 20 17.0 +1.7**
KBZ Khabaz 74.78 312 P **P** **18 20 16.9 +1.3**
comp=Z,6.5nm,1.0s,baz=107,slow=2.8,SNR=12
KBZ LR LR 18 54 17.4
comp=Z,62nm,19.4s,baz=60,slow=37
comp=Z,6.5nm,1.0s
KBZ Khabaz 74.78 312 *de*P **P** **18 20 17.5 +1.9**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 74.81 312 P **P** **18 20 15.9 0.0**
KIV IAmb IAmb 18 20 23.3
comp=Z,12nm,0.9s
KIV Kislovodsk 74.81 312 *e*P **P** **18 20 17.8 +1.9**
KIV pmax pmax
comp=Z,11nm,1.1s
SHA1 Shidzhatmaz 74.93 312 *de*P **P** **18 20 19.2 +2.4**
NAX Nakhchivan 75.25 307 P **P** **18 20 20.0 +1.4**
GNI Garni 75.30 308 LR LR 18 56 05.0
comp=Z,37nm,18.6s,baz=62,slow=38
VSU Vasula 75.44 330 *de*P **P** **18 20 20.0 +0.9**
VSU pmax pmax
comp=Z,32nm,2.5s
VSLR Vesyoloye 76.72 313 *de*P **P** **18 20 28.4 +1.6**
VSLR pmax pmax
comp=Z,14nm,0.9s
MZR Muzera 76.92 289 P **P** **18 20 29.2 +1.0**
MNK Minsk 77.30 327 *i* P **P** **18 20 30.3 +0.5**
comp=E,2.0nm,0.7s
MNK *i* P **P** **18 20 30.3 +0.5**
comp=N,6.0nm,0.7s
MNK *i* P **P** **18 20 30.3 +0.5**
comp=Z,7.0nm,0.8s,baz=53
MNK *i* PcP **PcP** **18 20 40.5 +0.1**
MNK *i* PP **PP** **18 23 24.5 +1.2**
MNK *i* PPP PPP 18 25 11.8
MNK *i* S **S** **18 30 21.7 +1.8**
MNK *i* SS **SS** **18 35 21.3 +4.3**
MNK *i* SSS SSS 18 38 49.2
MNK *i* LQ LQ 18 49 19.2
MNK *i* LR LR 18 55 28.7
MNK *i* LRM MLR 18 58 51.7
comp=Z,132nm,16.4s
MNK *i* LRM MLR 18 59 52.5
comp=N,121nm,16.6s
MNK *i* LRM MLR 19 00 05.5
comp=E,54nm,13.8s
MNK Minsk 77.30 327 *i* P **P** **18 20 30.3 +0.5**
MNK *i* 18 20 40.4
MNK *i* 18 23 24.5
MNK *i* PPP PPP 18 25 11.8
MNK *i* S **S** **18 30 21.7 +1.8**
MNK *i* SS **SS** **18 35 21.2 +4.3**
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK pmax pmax
comp=N,6.0nm,0.7s
MNK MLR MLR
comp=Z,132nm,16.0s
HLID Hailey 78.09 46 P **P** **18 20 35.6 +1.0**
NVAR Mina Array Bea 78.24 52 P **P** **18 20 36.3 +0.7**
comp=Z,1.5nm,0.7s,baz=300,slow=6.3,SNR=11
comp=Z,1.5nm,0.7s
AKASG Malin Array Be 78.91 323 P **P** **18 20 38.3 -0.5**
AKASG Malin Array Be 78.91 323 P **P** **18 20 39.3 +0.5**
comp=Z,4.2nm,0.8s,baz=51,slow=5.5,SNR=21
AKASG LR LR 18 58 15.2
comp=Z,161nm,18.3s,baz=50,slow=38
comp=Z,4.2nm,0.8s
AKBB Malin Array Si 78.91 323 P **P** **18 20 38.8 0.0**
AKBB IAmb IAmb 18 20 40.4
comp=Z,10nm,1.0s
AKBB Malin Array Si 78.91 323 ‖ *e*P **P** **18 20 39.5 +0.7**
AKBB Malin Array Si 78.91 323 P **P** **18 20 38.9 +0.1**
KIEV Kiev 78.92 323 P **P** **18 20 38.4 -0.4**
KIEV IAmb IAmb 18 20 40.4
comp=Z,9.2nm,1.0s
KIEV Kiev 78.92 323 P **P** **18 20 38.4 -0.4**
KIEV pmax pmax
comp=Z,9.0nm,1.0s
ELK Elko 79.06 49 LR LR 18 56 51.1
comp=Z,53nm,18.2s,baz=291,slow=37
MZP Montezuma Peak 79.23 52 P **P** **18 20 40.9 -0.3**
HFS Hagfors 79.32 336 P **P** **18 20 41.3 +0.4**
comp=Z,3.6nm,0.7s,baz=64,slow=6.6,SNR=11
comp=Z,3.6nm,0.7s
NB2 NORSAR Subarra 79.47 338 P **P** **18 20 41.9 +0.2**
comp=Z,4.3nm,0.8s,baz=41,slow=5.9
NB2 NORSAR Subarra 79.47 338 P **P** **18 20 41.9 +0.2**
NOA NORSAR Array B 79.47 338 P **P** **18 20 42.1 +0.3**
comp=Z,3.0nm,0.8s,baz=41,slow=5.3,SNR=11
NOA LR LR 18 59 09.8
comp=Z,63nm,20.2s,baz=45,slow=38
comp=Z,3.0nm,0.8s
HVU Hansel Valley 80.07 47 P **P** **18 20 45.5 0.0**
HVU Hansel Valley 80.07 47 P **P** **18 20 45.5 0.0**
HVU pmax pmax
comp=Z,13nm,1.8s
FXWY Fox Creek 80.11 45 P **P** **18 20 46.6 +0.8**
LUBAR Lubar, Ukraine 80.13 323 P **P** **18 20 44.7 -0.8**
MOOW Moose Ponds 80.22 45 P **P** **18 20 47.0 +0.7**
RNPP5 Staryi Chortor 80.26 325 P **P** **18 20 46.3 +0.2**
TPNV Topopah Spring 80.40 53 P **P** **18 20 46.7 -0.7**
TPNV Topopah Spring 80.40 53 P **P** **18 20 46.7 -0.7**
TPNV pmax pmax

comp=Z,8.0nm,1.3s
DUG Dugway, Tooele 80.91 48 P P 18 20 50.7 +0.6
DUG pmax pmax
comp=Z,4.0nm,1.3s
PDAR Pinedale Array 81.49 45 P P 18 20 54.1 +0.9
comp=Z,0.8nm,0.7s,baz=296,slow=2.3,SNR=6.5
comp=Z,0.8nm,0.7s
KMPD K-Podol'skiy 81.64 323 P P 18 20 53.6 +0.1
comp=Z,3um,0.8s
PPT2 Papeete2 81.96 116 *e*LR LR 18 46 23.1
comp=Z,61nm,21.8s
MVU Marysvale 82.24 50 P P 18 20 57.4 +0.2
KNB Kanab 82.67 51 P P 18 20 58.9 -0.5
KNB IAmb IAmb 18 21 15.7
comp=Z,9.9nm,1.2s
KNB Kanab 82.67 51 P P 18 20 58.9 -0.5
KNB pmax pmax
comp=Z,10.0nm,1.2s
BRTR Keskin Array B 82.77 312 P P 18 20 59.6 -0.3
BRTR Keskin Array B 82.77 312 P P 18 21 01.0 +1.1
comp=Z,2.6nm,0.9s,baz=116,slow=4.3,SNR=14
comp=Z,2.6nm,0.9s
BRTR Keskin Array B 82.77 312 *i* P **P 18 21 01.2 +1.3**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BR106 Keskin Array S 82.78 312 P P 18 21 00.4 +0.5
comp=Z,4.6nm,1.0s,comp=Z,38nm
RAYN Ar Rayn 83.03 293 P P 18 21 01.8 +0.4
RAYN Ar Rayn 83.03 293 *i* P **P 18 21 02.8 +1.5**
SNR=17
RAYN Ar Rayn 83.03 293 P P 18 21 01.8 +0.4
RAYN pmax pmax
comp=Z,10.0nm,0.7s
VRI Vrincioaia 83.18 320 P P 18 21 03.9 +2.2
VRI pmax pmax
comp=Z,2.0nm,0.7s
KOLS Kolonicke sedl 83.52 325 *e*P **P 18 21 05.5 +2.1**
STHS Stebnicka Huta 83.70 325 *e*P **P 18 21 05.7 +1.4**
MLR Muntele Rosu 83.84 320 LR LR 19 03 11.7
comp=Z,95nm,18.1s,baz=49,slow=39
OJC Ojcow 83.85 327 *e*P **P 18 21 06.4 +1.4**
MDUB Mudurnu 83.86 314 P **P 18 21 05.0 -0.4**
NIE Niedzica 84.16 326 *e*P **P 18 21 09.5 +2.8**
TAOE Nuku Hiva Isla 84.62 104 *e*LR LR 18 47 33.6
comp=Z,162nm,26.0s
LANS Liptovska Anna 84.74 326 *e*P **P 18 21 12.3 +2.7**
KSP Ksiaz 85.01 329 *e*P **P 18 21 12.3 +1.4**
MMAI Mount Meron Ar 85.42 306 P **P 18 21 14.5 +1.1**
comp=Z,3.1nm,0.7s,baz=48,slow=2.1,SNR=4.2
comp=Z,3.1nm,0.7s
VYHS Vyhne 85.49 326 *e*P **P 18 21 15.3 +1.9**
CLL Collm 86.09 331 IAmb IAmb 18 21 18.2
comp=Z,5.2nm,0.9s
CLL Collm 86.09 331 *i* P **P 18 21 16.8 +0.5**
comp=Z,6.0nm,1.0s
ANMO Albuquerque 88.06 50 LR LR 18 58 52.4
comp=Z,83nm,18.4s,baz=106,slow=34
FUORN Ofenpass-Fuorn 90.82 329 IAmb IAmb 18 21 41.8
comp=Z,7.2nm,1.1s
TXAR Lajitas Array 93.38 53 P P 18 21 49.3 -1.9
TXAR Lajitas Array 93.38 53 P P 18 21 52.2 +1.0
comp=Z,3.8nm,0.8s,baz=310,slow=3.4,SNR=11
comp=Z,3.8nm,0.8s
QSPA South Pole Qui 121.15 180 PKP **PKPdf 18 27 27.6 0.0**
comp=Z,0.8nm,0.4s,baz=36,slow=1.8,SNR=4.0
TORD Torodi Ar. Bea 121.38 313 PKP **PKPdf 18 27 29.9 +0.3**
comp=Z,0.7nm,0.8s,baz=29,slow=3.3,SNR=3.6
LPAZ La Paz 149.00 68 PKPbc **PKiKP 18 28 26.0 -0.3**
comp=Z,1.2nm,0.5s,baz=341,slow=2.4,SNR=2.6
LPAZ La Paz 149.00 68 PKP2 **PKiKP 18 28 26.0 -0.3**
PLCA Paso Flores 152.46 119 PKPbc **PKiKP 18 28 32.7 +0.6**
comp=Z,3.3nm,1.1s,baz=18,slow=6.4,SNR=3.5

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*IDC **09** 18:15:41.8±4.1, 17°.62S×178°.75W, h575km±21km, mb2.9/4, mbtmp3.8/5, Error ellipse: s-maj=139.1km s-min=30.5km az=138.0*
*NEIC **09** 18:15:41.0±1.2, 17°.5S±0°.2×178°.5W±0°.3, h582km±23km, mb4.2/15, Error ellipse: s-maj=37.6km s-min=25.9km az=83.0*
ISC 09 18:15:39.5±1.6, 17°.6S±0°.1×178°.5W±0°.2, h547km, n24, σ1$76/24, mb4.1/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.27**	**267**	P	**P**	**18 16 59.6**	**+3.5**
MSVF	**Nonsavu**	**3.27**	**267**	P	**P**	**18 16 59.3**	**+3.2**
17nm,0.7s,baz=102,slow=9.5,SNR=10							
FUNA	**Funafuti**	**9.30**	**346**	P	**P**	**18 17 50.4**	**0.0**
DZM	**Mont Dzumac**	**14.83**	**250**	P	**P**	**18 18 49.0**	**+1.6**
THZ	**Tophouse**	**25.17**	**195**	P	**P**	**18 20 21.7**	**-0.2**
EIDS	**Eidsvold**	**29.27**	**249**	P	**P**	**18 20 58.1**	**+0.2**
ARMA	**Armidale**	**30.00**	**239**	P	**P**	**18 21 03.4**	**-0.9**
COEN	**Coen**	**37.00**	**270**	P	**P**	**18 22 02.9**	**-0.4**
TOO	**Toolangi**	**37.28**	**230**	P	**P**	**18 22 05.1**	**-0.2**
TOO				IAmb	IAmb	18 22 27.6	
comp=Z,7.4nm,1.5s							
TAU	**Tasmania Unive**	**38.39**	**222**	P	**P**	**18 22 16.1**	**+1.9**
STKA	**Stephens Creek**	**38.68**	**241**	P	**P**	**18 22 16.0**	**-0.8**
STKA	**Stephens Creek**	**38.68**	**241**	P	**P**	**18 22 16.1**	**-0.7**
comp=Z,0.9nm,0.4s,baz=81,slow=8.9,SNR=4.9							
comp=Z,0.9nm,0.4s							
BBOO	**Buckleboo**	**43.46**	**241**	P	**P**	**18 22 53.8**	**-0.9**
BBOO				IAmb	IAmb	18 23 33.0	
comp=Z,19nm,1.5s							
WB0	**Warramunga Arr**	**44.55**	**260**	P	**P**	**18 23 01.6**	**-1.7**
WB0				IAmb	IAmb	18 23 18.1	
comp=Z,7.7nm,1.4s							
WB2	**Warramunga Arr**	**44.57**	**259**	P	**P**	**18 23 01.2**	**-2.3**
WRA	**Warramunga Arr**	**44.58**	**259**	P	**P**	**18 23 01.8**	**-1.8**
comp=Z,0.4nm,0.6s,baz=98,slow=7.0,SNR=7.9							
comp=Z,0.4nm,0.6s							
AS31	**Alice Springs**	**44.77**	**254**	P	**P**	**18 23 03.2**	**-1.8**
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**18 23 02.9**	**-2.1**
ASAR	**Alice Springs**	**44.77**	**254**	P	**P**	**18 23 03.6**	**-1.4**
comp=Z,4.5nm,0.6s,baz=89,slow=7.8,SNR=112							
comp=Z,4.5nm,0.6s							
FORT	**Forrest**	**50.04**	**244**	P	**P**	**18 23 42.1**	**-2.3**
FORT				IAmb	IAmb	18 24 10.0	
comp=Z,12nm,1.0s							
KNRA	**Kununurra**	**50.41**	**264**	P	**P**	**18 23 45.8**	**-1.5**
KNRA				IAmb	IAmb	18 23 56.0	
comp=Z,22nm,1.4s							
FITZ	**Fitzroy Crossi**	**52.97**	**260**	P	**P**	**18 24 04.1**	**-1.6**
MBWA	**Marble Bar**	**58.05**	**256**	P	**P**	**18 24 39.0**	**-1.9**
MBWA				IAmb	IAmb	18 25 14.3	
comp=Z,14nm,1.2s							
ILAR	**Eielson Array**	**85.62**	**13**	P	**P**	**18 27 19.9**	**0.0**
comp=Z,0.2nm,0.4s,baz=217,slow=5.7,SNR=4.2							
comp=Z,0.2nm,0.4s							

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*IDC **09** 18:18:59.6±0.6, 31°.44N×141°.78E, h0km, mb4.2/22, mbtmp4.2/25, ML3.5/4, MS3.3/4, Error ellipse: s-maj=19.1km s-min=13.1km az=64.0*
*BJI **09** 18:18:59.9, 31°.47N×141°.50E, h5km, mb4.4/41, mB4.9/11, Ms4.4/12, Ms7 4.1/12*
*NEIC **09** 18:19:01.0±1.1, 31°.42N±0°.06×141°.77E±0°.07, h10km±1km, mb4.6/65, Error ellipse: s-maj=10.9km s-min=9.1km az=48.0*
*JMA **09** 18:19:01.3±0.3, 31°N±1°×14°2E±°, h37km, MV4.1/24, NEAR TORISHIMA IS*
*NIED **09** 18:19:01.3, 31°.48N×141°.85E, h37km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.18; $M_{\theta\theta}$-0.00; $M_{\phi\phi}$-2.18; $M_{r\theta}$-1.06; $M_{\theta\phi}$0.99; $M_{\phi r}$2.37; Fault plane solution: $M_0$3.52000×10^{15} NP1: ϕ_s=337.00000°, δ69.00000°, λ88.00000°. NP2: ϕ_s=162.00000°, δ21.00000°, λ95.00000°.*
ISC 09 18:19:01.5±1.1, 31°.45N±0°.05×141°.78E±0°.07, h15km±6km, n131, σ1$19/129, mb4.5/52, MS4.0/5, 1C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.99**	**301**	*e*P	**Pn**	**18 19 34.4**	**-0.2**
JHCJ	**Hachijojimakas**	**2.33**	**314**	*e*P	**Pn**	**18 19 38.6**	**-0.7**
JHCJ				*e*S	**Sn**	**18 20 05.9**	**-1.7**
JHJ2	**Mitsune**	**2.35**	**315**	Pn	**Pn**	**18 19 39.9**	**+0.5**
JHJ2	**Mitsune**	**2.35**	**315**	*e*P	**Pn**	**18 19 39.4**	**0.0**
JHJ2				*e*S	**Sn**	**18 20 06.9**	**-1.0**
JHJ	**Hachijo jima 2**	**2.37**	**315**	Pn	**Pn**	**18 19 39.7**	**-0.1**
39nm,0.3s,baz=61,slow=22,SNR=9.7							
JHJ				Sn	**Sn**	**18 20 10.1**	**+1.4**
89nm,0.3s,baz=82,slow=22,SNR=8.8							
83nm,0.3s							
JMKN	**Mikurajimanish**	**3.05**	**323**	*e*S	**Sn**	**18 20 26.3**	**+0.8**
JMYK	**Miyake Tsubota**	**3.21**	**325**	*e*S	**Sn**	**18 20 30.2**	**+1.0**
BSO1	**Boso 1**	**3.26**	**348**	*e*P	**Pn**	**18 19 51.9**	**+0.4**
BSO1				*e*S	**Sn**	**18 20 29.4**	**-0.4**
BSO3	**Boso 3**	**3.50**	**343**	*e*P	**Pn**	**18 19 55.6**	**+0.5**
BSO4	**Boso 4**	**3.73**	**341**	*e*P	**Pn**	**18 19 58.4**	**+0.1**
CBIJ	**Chichi jima**	**4.36**	**175**	*e*P	**Pn**	**18 20 07.3**	**+0.2**
JCJ	**Chichijima**	**4.36**	**175**	Pn	**Pn**	**18 20 06.8**	**-0.4**
JSG	**Sagara**	**4.41**	**318**	Pn	**Pn**	**18 20 07.7**	**-0.1**
JOD2	**Odawara 2**	**4.42**	**330**	*e*P	**Pn**	**18 20 08.2**	**+0.3**
JHO	**Hitachi**	**5.24**	**349**	*e*P	**Pn**	**18 20 18.9**	**-0.4**
JHO				*e*S	**Sn**	**18 21 15.8**	**-3.6**
JAG	**Ashikaga**	**5.32**	**339**	*e*P	**Pn**	**18 20 20.8**	**+0.4**
JAG				*e*S	**Sn**	**18 21 19.8**	**-1.7**
JGF	**Kuroka**	**5.55**	**319**	Pn	**Pn**	**18 20 24.0**	**+0.5**
MJAR	**Matsushiro Arr**	**5.88**	**331**	Pn	**Pn**	**18 20 29.1**	**+1.0**
0.6nm,0.3s,baz=146,slow=11,SNR=29							
MJAR				Sn	**Sn**	**18 21 36.1**	**+1.0**
0.2nm,0.3s,baz=119,slow=17,SNR=2.1							
4.5nm,0.4s							
MAJO	**Matsushiro**	**5.88**	**331**	Pn	**Pn**	**18 20 28.2**	**+0.2**
MJB9	**Matsu-Tunnel**	**5.88**	**331**		**Pn**	**18 20 28.6**	**+0.5**
JMM	**Marumori**	**6.45**	**353**	Pn	**Pn**	**18 20 35.3**	**-0.5**
JMN	**Monobe**	**7.04**	**291**	Pn	**Pn**	**18 20 44.2**	**+0.1**
JSD	**Sado**	**7.18**	**337**	Pn	**Pn**	**18 20 46.2**	**+0.4**
JTM	**Tenmabayashi**	**9.33**	**357**	Pn	**Pn**	**18 21 14.6**	**-0.8**
JNU	**Nakatsue**	**9.38**	**283**	Pn	**Pn**	**18 21 15.1**	**-1.1**
JNU	**Nakatsue**	**9.38**	**283**	Pn	Pn	18 21 21.8	+5.7
0.2nm,0.3s,baz=69,slow=6.2,SNR=2.4							
JNU				LR	LR	18 24 26.4	
comp=Z,254nm,18.9s,baz=83,slow=35							
ERM	**Erimo**	**10.60**	**6**	Pn	**Pn**	**18 21 31.8**	**-0.9**
ASAJ	**Asahikawa**	**12.66**	**3**	Pn	**Pn**	**18 21 56.7**	**-4.1**
0.8nm,0.3s,baz=213,slow=7.8,SNR=6.7							
JKA	**Kamikawa-asahi**	**12.66**	**3**	Pn	**Pn**	**18 21 56.1**	**-4.7**
JOW	**Kunigami**	**12.67**	**252**	LR	LR	18 26 48.7	
comp=Z,176nm,18.3s,baz=98,slow=37							
KSRS	**Korea Array**	**12.90**	**301**	Pn	**Pn**	**18 22 04.9**	**+0.7**
0.3nm,0.3s,baz=110,slow=13,SNR=5.7							
KSRS				LR	LR	18 26 59.0	
comp=Z,118nm,20.6s,baz=110,slow=37							
USRK	**Ussuriysk Ar.**	**14.88**	**332**	Pn	**Pn**	**18 22 31.1**	**-0.1**
0.3nm,0.3s,baz=135,slow=8.4,SNR=4.9							
0.9nm,0.7s							
MDJ	**Mudanjiang**	**16.25**	**327**		**Pn**	**18 22 48.6**	**-0.5**
MDJ	**Mudanjiang**	**16.25**	**327**	P	**Pn**	**18 22 49.8**	**+0.7**
MDJ				pmax	pmax		
comp=Z,16nm,1.8s							
MDJ				pmax	pmax		
comp=Z,560nm,6.2s							
YOJ	**Yonaguni jima**	**17.98**	**252**		**Pn**	**18 23 10.3**	**-0.6**
YHNB	**Yeheng**	**19.22**	**254**	P	**P**	**18 23 22.5**	**-2.6**
NACB	**Ninganchiao**	**19.26**	**253**	P	**P**	**18 23 24.5**	**-0.9**
NACB				IAmb	IAmb	18 23 59.0	
comp=Z,46nm,1.2s							
NJ2	**Nanjing**	**19.51**	**278**	*e*P	**P**	**18 23 27.3**	**-0.8**
NJ2				pmax	pmax		
comp=Z,9.0nm,1.3s							
YULB	**Yu-li**	**19.86**	**251**	P	**P**	**18 23 30.6**	**-1.5**
YULB				IAmb	IAmb	18 23 37.5	
comp=Z,26nm,0.9s							
SSLB	**Suanglung**	**19.95**	**253**	P	**P**	**18 23 32.2**	**-0.9**
SSLB				IAmb	IAmb	18 23 35.9	
comp=Z,29nm,0.9s							
TWG	**Pinlang**	**20.32**	**250**	P	**P**	**18 23 34.1**	**-2.9**
TWG				IAmb	IAmb	18 23 56.8	
comp=Z,27nm,1.0s							
TPUB	**Ta-pu**	**20.44**	**252**	P	**P**	**18 23 37.3**	**-1.1**
HEH	**HeiHe**	**21.63**	**334**	*e*P	**P**	**18 23 50.9**	**0.0**
HNS	**HongShan**	**23.07**	**292**	⇑P	**P**	**18 24 07.7**	**+1.4**
HNS				LR	LR		
comp=Z,290nm,14.3s							
HNS				LR	LR		
comp=Z,400nm,15.9s							
H11N2	**WAKE ISLAND Hy**	**25.42**	**111**	T	T	18 51 00.6	
baz=304							
H11N1	**WAKE ISLAND Hy**	**25.42**	**111**	T	T	18 50 50.5	
baz=304							
H11N3	**WAKE ISLAND Hy**	**25.43**	**111**	T	T	18 50 51.6	
baz=304							
H11S3	**WAKE ISLAND Hy**	**25.93**	**114**	T	T	18 52 35.5	
baz=304							
H11S1	**WAKE ISLAND Hy**	**25.93**	**114**	T	T	18 52 10.5	
baz=304							
H11S2	**WAKE ISLAND Hy**	**25.95**	**114**	T	T	18 52 05.1	
baz=304							
HHC	**Hu-ho-hao-te**	**26.03**	**300**	*e*P	**P**	**18 24 34.2**	**+0.1**
HHC				pmax	pmax		
comp=Z,9.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,180nm,5.4s							
HHC				LR	LR		
comp=Z,110nm,12.7s							
HHC				LR	LR		
comp=Z,180nm,13.8s							
HHC				LR	LR		
comp=Z,220nm,12.2s							
BTO	**Baotou**	**27.14**	**299**	*e*P	**P**	**18 24 44.4**	**+0.3**
BTO				pP	**sP**	**18 24 49.3**	**+1.1**
BTO				PP	**PnPn**	**18 25 25.3**	**-1.9**
BTO				S	**S**	**18 29 24.1**	**+2.0**
BTO				pmax	pmax		
comp=Z,17nm,0.5s							
BTO				pmax	pmax		
comp=Z,980nm,9.0s							
BTO				LR	LR		
comp=Z,380nm,10.5s							
BTO				LR	LR		
comp=Z,360nm,10.5s							
BTO				LR	LR		
comp=Z,750nm,17.3s							
XAN	**Xi'an**	**27.70**	**284**	P	**P**	**18 24 48.7**	**-0.4**
XAN				pmax	pmax		
comp=Z,11nm,0.9s							
ULN	**Ulaanbaatar**	**31.04**	**312**		**P**	**18 25 18.9**	**+0.1**
ULN	**Ulaanbaatar**	**31.04**	**312**	P	**P**	**18 25 18.5**	**-0.2**
ULN				IAmb	IAmb	18 25 21.5	
comp=Z,14nm,1.3s							
SONM	**Songino Array**	**31.45**	**312**	P	**P**	**18 25 22.4**	**+0.1**
SONM				IAmb	IAmb	18 25 25.0	
comp=Z,7.4nm,1.0s							
SONM	**Songino Array**	**31.45**	**312**	P	**P**	**18 25 23.8**	**+1.5**
comp=Z,5.8nm,0.9s,baz=117,slow=8.6,SNR=21							
SONM				PcP	**PcP**	**18 28 16.3**	**+0.9**
comp=Z,0.9nm,0.6s,baz=141,slow=5.5,SNR=3.6							
comp=Z,5.8nm,0.9s							
YAK	**Yakutsk**	**31.58**	**349**	P	**P**	**18 25 22.0**	**-1.1**
YAK				IAmb	IAmb	18 25 56.1	
comp=Z,9.0nm,1.1s							
YAK	**Yakutsk**	**31.58**	**349**	LR	LR	18 38 06.1	
comp=Z,44nm,20.4s,baz=174,slow=36							
MANU	**Manus Island**	**33.73**	**170**	P	**P**	**18 25 41.5**	**-0.9**
GTA	**Gaotai**	**34.85**	**295**	*e*P	**P**	**18 25 53.1**	**+0.9**
GTA				pP	pwP	18 25 57.9	-4.8
GTA				pmax	pmax		
comp=Z,3.0nm,1.0s							
GTA				LR	LR		
comp=Z,130nm,13.8s							
GTA				LR	LR		
comp=Z,190nm,15.3s							
GTA				LR	LR		
comp=Z,190nm,14.5s							
PZH	**PanZhiHua**	**35.24**	**272**	P	**P**	**18 25 55.2**	**-0.4**
PZH				pmax	pmax		
comp=Z,10.0nm,0.6s							
PZH				pmax	pmax		
comp=Z,60nm,4.5s							
GOMU	**GeErMu**	**39.01**	**290**	P	**P**	**18 26 27.6**	**-0.2**
GOMU				pmax	pmax		
comp=Z,19nm,1.0s							
PHRA	**Phrae**	**39.59**	**261**	P	**P**	**18 26 31.1**	**-1.3**
CHTO	**Chiang Mai**	**40.53**	**262**	P	**P**	**18 26 38.8**	**-1.5**
CMAR	**Chiang Mai Arr**	**40.69**	**262**	P	**P**	**18 26 40.8**	**-0.8**
comp=Z,1.2nm,0.8s,baz=53,slow=7.2,SNR=7.1							
comp=Z,1.2nm,0.8s							
TIXI	**Tiksi**	**40.85**	**354**	P	**P**	**18 26 41.5**	**-0.7**
SOEI	**Soe**	**44.28**	**205**	P	**P**	**18 27 10.1**	**-0.7**
SOEI				IAmb	IAmb	18 27 35.4	
comp=Z,12nm,0.9s							
COEN	**Coen**	**45.17**	**178**	P	**P**	**18 27 18.0**	**+0.3**
MTN	**Manton Dam**	**45.22**	**195**	P	**P**	**18 27 17.5**	**-0.6**
ZAA0	**Zalesovo Array**	**46.03**	**316**	P	**P**	**18 27 23.3**	**-0.9**
ZAA0				IAmb	IAmb	18 27 25.8	
comp=Z,4.4nm,0.8s							
ZALV	**Zalesovo Beam**	**46.03**	**316**	P	**P**	**18 27 23.4**	**-0.8**
ZALV				PcP	**PcP**	**18 29 01.8**	**+1.2**
ZALV	**Zalesovo Beam**	**46.03**	**316**	P	**P**	**18 27 24.6**	**+0.4**
comp=Z,3.3nm,0.6s,baz=102,slow=7.9,SNR=15							
ZALV				PcP	**PcP**	**18 29 01.3**	**+0.8**
comp=Z,0.7nm,0.5s,baz=118,slow=2.5,SNR=3.1							
comp=Z,3.3nm,0.6s							
MK31	**Makanchi Array**	**47.52**	**307**	P	**P**	**18 27 36.1**	**+0.1**
MKAR	**Makanchi Array**	**47.52**	**307**	P	**P**	**18 27 35.6**	**-0.4**
MKAR				PcP	**PcP**	**18 29 05.7**	**-0.3**
MKAR	**Makanchi Array**	**47.52**	**307**	P	**P**	**18 27 36.6**	**+0.6**
comp=Z,2.5nm,0.6s,baz=86,slow=10,SNR=42							
comp=Z,2.5nm,0.6s							
MAKZ	**Makanchi**	**47.73**	**307**	P	**P**	**18 27 37.5**	**-0.2**
MAKZ				IAmb	IAmb	18 27 40.5	
comp=Z,5.3nm,0.8s							
NRIK	**Noril'sk**	**48.49**	**337**	P	**P**	**18 27 43.1**	**-0.1**
comp=Z,1.7nm,0.5s,baz=73,slow=11,SNR=2.5							
comp=Z,1.7nm,0.5s							
KURK	**Kurchatov**	**49.75**	**312**	P	**P**	**18 27 53.2**	**+0.1**
KURK				PcP	**PcP**	**18 29 11.8**	**-2.1**
KURBB	**Kurchatov Arra**	**49.81**	**312**	P	**P**	**18 27 53.8**	**+0.3**
comp=Z,3.9nm,0.6s,baz=86,slow=7.1,SNR=35							
comp=Z,3.9nm,0.6s							
C19K	**Lookout Ridge**	**49.89**	**24**	P	**P**	**18 27 54.8**	**+0.8**
WB0	**Warramunga Arr**	**51.42**	**189**	P	**P**	**18 28 06.0**	**0.0**
WB0				PcP	**PcP**	**18 29 21.1**	**+0.7**
WRAB	**Tennant Creek**	**51.59**	**189**	P	**P**	**18 28 06.6**	**-0.6**
WRAB				IAmb	IAmb	18 28 24.1	
comp=Z,8.3nm,0.8s							
WR0	**Warramunga Arr**	**51.59**	**189**	P	**P**	**18 28 06.8**	**-0.4**
WB2	**Warramunga Arr**	**51.60**	**189**	P	**P**	**18 28 06.5**	**-0.7**
WB2				IAmb	IAmb	18 28 20.0	
comp=Z,8.0nm,0.7s							
WB2				PcP	**PcP**	**18 29 22.7**	**+1.7**
WRA	**Warramunga Arr**	**51.60**	**189**	P	**P**	**18 28 06.0**	**-1.2**
WRA	**Warramunga Arr**	**51.60**	**189**	P	**P**	**18 28 06.9**	**-0.4**
comp=Z,4.0nm,0.7s,baz=3.2,slow=7.5,SNR=47							
WRA				PcP	**PcP**	**18 29 22.8**	**+1.7**
comp=Z,1.4nm,0.8s,baz=358,slow=3.6,SNR=2.5							
comp=Z,4.0nm,0.7s							
H21K	**Melozitna Rive**	**51.69**	**29**	IAmb	IAmb	18 28 18.8	
comp=Z,13nm,1.4s							
E22K	**Anaktuvuk Pass**	**52.44**	**26**	P	**P**	**18 28 14.1**	**+1.0**
E22K				IAmb	IAmb	18 28 29.4	
comp=Z,16nm,1.4s							
KSH	**Kashi**	**53.13**	**298**	P	**P**	**18 28 23.5**	**+4.7**
KSH				pmax	pmax		
comp=Z,4.0nm,1.4s							
C23K	**Itkillik River**	**53.13**	**24**	IAmb	IAmb	18 28 42.2	
comp=Z,12nm,1.3s							
F24K	**Squaw Lake**	**53.84**	**27**	IAmb	IAmb	18 28 26.6	
comp=Z,3.4nm,0.7s							
ILAR	**Eielson Array**	**54.10**	**30**	P	**P**	**18 28 25.5**	**+0.2**
comp=Z,1.3nm,0.7s,baz=263,slow=6.2,SNR=14							
comp=Z,1.3nm,0.7s							
D25K	**Kavik River**	**54.55**	**24**	IAmb	IAmb	18 28 34.2	
comp=Z,5.0nm,1.1s							
BVAR	**Borovoye Array**	**54.65**	**315**	P	**P**	**18 28 30.2**	**+0.7**
comp=Z,2.0nm,0.5s,baz=85,slow=7.2,SNR=18							
comp=Z,2.0nm,0.5s							
BRVK	**Borovoye**	**54.71**	**315**	P	**P**	**18 28 29.8**	**-0.1**
BRVK				IAmb	IAmb	18 28 31.9	
comp=Z,10nm,1.4s							
F26K	**Sheenjek River**	**55.29**	**27**	IAmb	IAmb	18 28 38.5	
comp=Z,4.8nm,0.9s							
AS31	**Alice Springs**	**55.32**	**189**	P	**P**	**18 28 34.1**	**-0.5**
ASAR	**Alice Springs**	**55.33**	**189**	P	**P**	**18 28 34.5**	**-0.2**
comp=Z,2.4nm,0.7s,baz=0.3,slow=6.0,SNR=92							
comp=Z,2.4nm,0.7s							
C27K	**Jago River**	**55.51**	**24**	IAmb	IAmb	18 28 43.4	
comp=Z,5.0nm,0.8s							
KKAR	**Karatay Array**	**56.32**	**304**	P	**P**	**18 28 42.5**	**+0.8**
KKAR	**Karatay Array**	**56.32**	**304**	IAmb	IAmb	18 28 43.6	
comp=Z,5.9nm,0.8s							
L27K	**Beaver Creek,**	**56.37**	**32**	IAmb	IAmb	18 28 46.8	
comp=Z,10nm,1.4s							
E28M	**Babbage River**	**57.00**	**25**	IAmb	IAmb	18 28 52.9	
comp=Z,8.7nm,1.3s							
I28M	**Miner Creek**	**57.02**	**29**	P	**P**	**18 28 46.9**	**+0.5**
GAR	**Garm**	**57.51**	**299**	P	**P**	**18 28 50.0**	**-0.3**
M29M	**Somme Creek**	**57.97**	**33**	IAmb	IAmb	18 29 01.7	
comp=Z,7.5nm,0.9s							
L29M	**L29M**	**58.04**	**32**	P	**P**	**18 28 54.4**	**+0.8**
I30M	**Mount Dempster**	**58.53**	**29**	P	**P**	**18 28 57.7**	**+0.7**
SIMJ	**Simiganj**	**58.59**	**299**	P	**P**	**18 28 58.0**	**+0.1**
SIMJ				IAmb	IAmb	18 28 59.9	
comp=Z,6.7nm,0.8s							
INK	**Inuvik**	**59.24**	**26**	IAmb	IAmb	18 29 11.1	
comp=Z,3.2nm,0.8s							
ARTI	**Arti**	**60.91**	**321**	P	**P**	**18 29 13.1**	**-0.3**
A36M	**Sachs Harbour**	**61.33**	**21**	P	**P**	**18 29 16.2**	**+0.2**
A36M				IAmb	IAmb	18 29 22.3	
comp=Z,4.4nm,0.8s							
ABKAR	**Akbulak array**	**61.85**	**313**	P	**P**	**18 29 20.0**	**+0.1**
ABKAR				IAmb	IAmb	18 29 21.6	
comp=Z,5.9nm,0.9s							
STKA	**Stephens Creek**	**62.99**	**180**	P	**P**	**18 29 29.8**	**+2.2**
comp=Z,1.3nm,0.9s,baz=338,slow=11,SNR=2.0							
comp=Z,1.3nm,0.9s							
SPITS	**Spitsbergen Ar**	**66.05**	**349**	P	**P**	**18 29 49.6**	**+2.5**
comp=Z,18nm,1.0s,baz=40,slow=4.7,SNR=1.9							
comp=Z,18nm,1.0s							
FINES	**FINESS Array B**	**73.90**	**333**	P	**P**	**18 30 35.9**	**+0.4**
comp=Z,1.3nm,0.6s,baz=52,slow=5.9,SNR=16							
comp=Z,1.3nm,0.6s							
KBZ	**Khabaz**	**74.81**	**312**	P	**P**	**18 30 41.2**	**+0.1**
comp=Z,2.4nm,0.9s,baz=123,slow=2.1,SNR=7.2							
comp=Z,2.4nm,0.9s							
NVAR	**Mina Array Bea**	**78.12**	**52**	P	**P**

0.7nm,0.7s,baz=116,slow=9.8,SNR=3.3
0.7nm,0.7s
ZALV Zalesovo Beam 46.27 316 P **P 18 35 42.6 +1.5**
0.4nm,0.5s,baz=88,slow=10,SNR=2.0
0.4nm,0.5s
MKAR Makanchi Array 47.81 307 P **P 18 35 52.8 -0.5**
0.5nm,0.5s,baz=87,slow=10,SNR=10
0.5nm,0.5s
KURBB Kurchatov Arra 50.08 312 P **P 18 36 10.9 +0.4**
0.6nm,0.7s,baz=86,slow=7.8,SNR=4.8
0.6nm,0.7s
WRA Warramunga Arr 51.76 190 P **P 18 36 24.2 +0.7**
0.5nm,0.5s,baz=6.4,slow=7.6,SNR=7.6
0.5nm,0.5s
BVAR Borovoye Array 54.90 315 P **P 18 36 48.5 +2.3**
0.3nm,0.6s,baz=57,slow=5.3,SNR=2.2
0.3nm,0.6s
ASAR Alice Springs 55.48 189 P **P 18 36 51.9 +1.2**
0.3nm,0.6s,baz=356,slow=5.0,SNR=9.8
0.3nm,0.6s

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*NIED **09** 18:30:42.0,25.°12N×123.°62E,h5km,MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=6.39; $M_{\theta\theta}$=5.50; $M_{\phi\phi}$=0.90; $M_{r\theta}$=-2.30; $M_{\theta\phi}$=1.27; $M_{\phi r}$=-2.27; Fault plane solution: M_0=6.89000×10^{14} NP1:ϕ_s=63.00000°, δ=58.00000°,λ=-102.00000°. NP2:ϕ_s=266.00000°, δ=34.00000°,λ=-71.00000°.*
*JMA **09** 18:30:42.0±0.2,25.°1N±0.°6×123.°6E±0.°2,h5km±4km, MV3.5/12,NW OFF ISHIGAKIJIMA IS*
*IDC **09** 18:30:43.4±6.9,24.°66N×122.°70E,h0km,mb3.5/3, mbtmp3.5/3,MS3.0/2,Error ellipse: s-maj=453.8km s-min=29.9km az=60.0*

ISC 09 18:30:42.4±2.5,25.°01N±0.°08×123.°59E±0.°05,h10km±16km, n15,σ0.85/21,mb3.7/3,Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.69**	**169**	P	**Pn**	**18 30 57.2**	**-1.0**
IRIF				*e*S	**Sn**	**18 31 08.1**	**-0.8**
YOJ	**Yonaguni jima**	**0.76**	**224**	*e*P	**Pn**	**18 30 58.6**	**-0.5**
YOJ				*e*S	**Sn**	**18 31 10.0**	**-0.7**
JISG	**Ishigakijimahi**	**0.79**	**123**	P	**Pb**	**18 30 57.8**	**-0.3**
JISG				*e*S	**Sb**	**18 31 08.8**	**0.0**
JYNG	**Yonagunijimaku**	**0.81**	**226**	*e*P	**Pn**	**18 30 59.4**	**-0.5**
JYNG				*e*S	**Sn**	**18 31 11.3**	**-0.5**
JIJ	**Ishigaki jima**	**0.82**	**142**	P	**Pb**	**18 30 58.7**	**-0.1**
JIJ				*e*S	**Sn**	**18 31 10.3**	**-1.9**
JKRS	**Kuro-shima**	**0.86**	**153**	*e*P	**Pn**	**18 31 00.2**	**-0.4**
JKRS				*e*S	**Sn**	**18 31 13.1**	**-0.1**
HATJ	**Hateruma jima**	**0.97**	**168**	*e*P	**Pn**	**18 31 02.2**	**+0.1**
HATJ				*e*S	**Sn**	**18 31 17.1**	**+1.1**
JTJ	**Tarama**	**1.08**	**110**	*e*P	**Pb**	**18 31 02.9**	**-0.3**
JTJ				*e*S	**Sg**	**18 31 17.7**	**+0.4**
JIKM	**Ikemajima**	**1.51**	**93**	*e*S	**Sn**	**18 31 29.0**	**-0.3**
JOGS	**Gusukube**	**1.67**	**98**	*e*S	**Sn**	**18 31 32.7**	**-0.5**
KSRS	**Korea Array**	**12.94**	**16**	LR	LR	18 39 34.2	
	comp=Z,38nm,20.1s,baz=220,slow=39						
DAV	**Davao City (W)**	**17.95**	**174**	LR	LR	18 40 48.9	
	comp=Z,67nm,18.8s,baz=333,slow=34						
MKAR	**Makanchi Array**	**39.30**	**314**	P	**P**	**18 38 11.2**	**-0.2**
	0.2nm,0.6s,baz=117,slow=7.5,SNR=2.1						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**45.90**	**166**	P	**P**	**18 39 06.3**	**+1.0**
	1.1nm,0.7s,baz=346,slow=8.6,SNR=7.1						
	1.1nm,0.7s						
ASAR	**Alice Springs**	**49.41**	**168**	P	**P**	**18 39 34.1**	**+1.5**
	0.4nm,0.5s,baz=352,slow=9.0,SNR=9.8						
	0.4nm,0.5s						

ISC 09 18:52:42.3±1.0,64.°60N±0.°02×138.°43W±0.°02,h9km±8km, n70,σ1.9±25/117,Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J29N	**Klondike Camp**	**0.17**	**147**	P	**Pg**	**18 52 46.0**	**+0.1**
	baz=319,SNR=1000						
J29N				S	**Sg**	**18 52 48.8**	**+0.4**
	baz=319						
DAWY	**Dawson**	**0.68**	**218**	P	**Pg**	**18 52 54.0**	**-1.3**
	baz=39,SNR=1000						
DAWY				S	**Sg**	**18 53 02.5**	**-1.6**
	baz=39						
K29M	**Barlow Dome**	**0.85**	**152**	P	**Pb**	**18 52 57.8**	**-1.5**
	baz=331,SNR=182						
K29M				S	**Sb**	**18 53 08.4**	**-2.5**
	baz=331						
J30M	**Hart River**	**0.91**	**90**	P	**Pb**	**18 52 58.5**	**-1.7**
	baz=270,SNR=343						
J30M				Sb	**Sg**	**18 53 13.4**	**+1.8**
	baz=270						
I28M	**Miner Creek**	**1.07**	**324**	P	**Pb**	**18 53 02.0**	**-1.0**
	baz=144,SNR=343						
I28M				S	**Sb**	**18 53 16.3**	**-0.7**
	baz=144						
I30M	**Mount Dempster**	**1.08**	**53**	P	**Pb**	**18 53 02.4**	**-0.8**
	baz=234,SNR=827						
I30M				S	**Sb**	**18 53 17.0**	**-0.4**
	baz=234						
EGAK	**Eagle**	**1.19**	**280**	P	**Pn**	**18 53 02.9**	**-2.0**
	baz=99,SNR=276						
EGAK				S	**Sb**	**18 53 19.1**	**-1.2**
	baz=99						
L29M	**L29M**	**1.50**	**175**	P	**Pn**	**18 53 08.0**	**-1.3**
	baz=355,SNR=516						
L29M				S	**Sn**	**18 53 27.5**	**-1.5**
	baz=355						
MAYO	**Mayo, Yukon**	**1.50**	**131**	S	**Sb**	**18 53 29.6**	**+0.2**
	baz=312						
H29M	**Whitestone**	**1.63**	**1**	P	**Pn**	**18 53 10.8**	**-0.3**
	baz=181,SNR=563						
H29M				S	**Sb**	**18 53 33.0**	**-0.1**
	baz=181						
I27K	**Kandik River**	**1.69**	**308**	P	**Pn**	**18 53 11.1**	**-0.8**
	baz=126						
I27K				Sb	**Sb**	**18 53 35.6**	**+0.9**
	baz=126						
I27K				Sb	**Sb**	**18 53 35.6**	**+0.9**
	baz=126						
K27K	**Chicken**	**1.69**	**252**	P	**Pn**	**18 53 10.5**	**-1.4**
	baz=70						
EPYK	**Eagle Plains**	**1.92**	**21**	P	**Pn**	**18 53 15.1**	**0.0**
	baz=202,SNR=12						
EPYK				S	**Sb**	**18 53 40.4**	**-1.1**
	baz=202						
H27K	**Steamboat Moun**	**2.09**	**323**	P	**Pn**	**18 53 17.7**	**+0.2**
	baz=141,SNR=90						
H27K				S	**Sn**	**18 53 44.1**	**+0.5**
	baz=141						
H31M	**Peel River**	**2.11**	**53**	P	**Pn**	**18 53 17.5**	**-0.3**
	baz=236,SNR=290						
H31M				S	**Sn**	**18 53 44.7**	**+0.7**
	baz=236						
I26K	**Coal Creek Min**	**2.13**	**292**	P	**Pn**	**18 53 17.3**	**-0.7**
	baz=108,SNR=77						
I26K				Sb	**Sb**	**18 53 48.2**	**+0.7**
	baz=108						
I26K				Sb	**Sb**	**18 53 48.2**	**+0.7**
	baz=108						
L27K	**Beaver Creek,**	**2.15**	**226**	P	**Pn**	**18 53 17.3**	**-1.0**
	baz=43,SNR=198						
L27K				Sb	**Sb**	**18 53 48.4**	**+0.3**
	baz=43						
M30M	**Minto, Yukon**	**2.16**	**159**	P	**Pn**	**18 53 16.9**	**-1.5**
	baz=340,SNR=90						
M30M				Sb	**Sb**	**18 53 48.5**	**+0.3**
	baz=340						
M29M	**Somme Creek**	**2.16**	**180**	P	**Pn**	**18 53 17.5**	**-1.0**
	baz=0.2,SNR=48						
M29M				Sb	**Sb**	**18 53 49.1**	**+0.7**
	baz=0.2						
J26L	**Joseph Creek**	**2.22**	**270**	P	**Pn**	**18 53 18.3**	**-0.9**
	baz=86,SNR=129						
J26L				S	**Sn**	**18 53 46.3**	**-0.5**
	baz=86						
J26L				S	**Sn**	**18 53 46.3**	**-0.5**
	baz=86						
G29M	**Pine Creek**	**2.33**	**4**	P	**Pn**	**18 53 20.1**	**-0.7**
	baz=184						
BVCY	**Beaver Creek**	**2.44**	**208**	P	**Pn**	**18 53 21.6**	**-0.7**
	baz=26,SNR=17						
BVCY				Sb	**Sb**	**18 53 56.4**	**-0.2**
	baz=26						
SCRK	**Sand Creek**	**2.50**	**258**	P	**Pn**	**18 53 21.9**	**-1.2**
	baz=74,SNR=66						
SCRK				Sb	**Sb**	**18 53 58.8**	**+0.6**
	baz=74						
G30M	**tAoh Zraii Nji**	**2.56**	**20**	P	**Pn**	**18 53 23.7**	**-0.3**
	baz=202						
G27K	**Doyon Strip**	**2.59**	**331**	P	**Pn**	**18 53 24.1**	**-0.2**
	baz=148						
L26K	**Log Cabin Wild**	**2.69**	**236**	Sb	**Sb**	**18 54 04.3**	**+0.7**
	baz=52						
M27K	**Edge Creek, AK**	**2.73**	**216**	P	**Pn**	**18 53 25.1**	**-1.2**
	baz=33,SNR=33						
M27K				Sb	**Sb**	**18 54 05.2**	**+0.4**
	baz=33						
M27K				Sb	**Sb**	**18 54 05.2**	**+0.4**
	baz=33						
RIDG	**Independent Ri**	**2.94**	**256**	Sb	**Sb**	**18 54 12.1**	**+1.4**
	baz=71						
YUK3	**Moose Creek**	**2.98**	**199**	P	**Pn**	**18 53 29.3**	**-0.5**
	baz=17,SNR=90						
YUK3				Sb	**Sb**	**18 54 12.6**	**+0.6**
	baz=17						
J25K	**Salcha River,**	**2.99**	**273**	P	**Pn**	**18 53 29.3**	**-0.6**
	baz=88						
J25K				Sb	**Sb**	**18 54 14.5**	**+2.3**
	baz=88						
J25K				Sb	**Sb**	**18 54 14.5**	**+2.3**
	baz=88						
M26K	**Nabesna, AK**	**3.01**	**225**	P	**Pn**	**18 53 29.6**	**-0.5**
	baz=41,SNR=19						
M26K				Sb	**Sb**	**18 54 13.5**	**+0.8**
	baz=41						
M26K				Sb	**Sb**	**18 54 13.5**	**+0.8**
	baz=41						
M31M	**Drury Creek, Y**	**3.01**	**141**	P	**Pn**	**18 53 29.9**	**-0.2**
	baz=324						
M31M				Pg	**Pb**	**18 53 38.0**	**+1.9**
	baz=324						
M31M				Sb	**Sb**	**18 54 14.5**	**+1.7**
	baz=324						
F28M	**Old Crow**	**3.09**	**350**	P	**Pn**	**18 53 30.7**	**-0.4**
	baz=169,SNR=34						
F28M				Sb	**Sb**	**18 54 17.3**	**+2.3**
	baz=169						
PRP	**Porcupine Dome**	**3.14**	**290**	P	**Pn**	**18 53 31.3**	**-0.7**
	baz=104						
PRP				S	**Sn**	**18 54 08.1**	**-1.6**
	baz=104						
N30M	**Aishikik Lake**	**3.21**	**168**	P	**Pn**	**18 53 32.0**	**-0.8**
	baz=349,SNR=29						
N30M				Sb	**Sb**	**18 54 20.1**	**+1.6**
	baz=349						
F30M	**Barrier River**	**3.21**	**18**	P	**Pn**	**18 53 32.6**	**-0.2**
	baz=201						
YUK4	**Talbot Arm**	**3.27**	**182**	P	**Pn**	**18 53 32.0**	**-1.7**
	baz=0.8,SNR=129						
YUK4				Sb	**Sb**	**18 54 19.5**	**-0.8**
	baz=0.8						
N31M	**Braeburn, Yuko**	**3.35**	**158**	P	**Pn**	**18 53 34.1**	**-0.6**
	baz=340,SNR=12						
N31M				Sb	**Sb**	**18 54 25.4**	**+2.9**
	baz=340						
YUK8	**Steele Glacier**	**3.38**	**191**	P	**Pn**	**18 53 35.2**	**-0.1**
	baz=9.8,SNR=50						
YUK8				Sb	**Sb**	**18 54 25.4**	**+1.8**
	baz=9.8						
F31M	**Tsiigehtchic**	**3.44**	**32**	P	**Pn**	**18 53 35.5**	**-0.5**
	baz=216,SNR=7.7						
F31M				S	**Sn**	**18 54 16.0**	**-0.7**
	baz=216						
PAX	**Paxson**	**3.52**	**246**	P	**Pn**	**18 53 36.8**	**-0.4**
	baz=60						
PAX				Sb	**Sb**	**18 54 29.5**	**+1.9**
	baz=60						
YUK6	**Outpost Mounta**	**3.67**	**179**	P	**Pn**	**18 53 38.7**	**-0.6**
	baz=359,SNR=41						
YUK6				Sb	**Sb**	**18 54 35.4**	**+3.5**
	baz=359						
HDA	**Harding Lake**	**3.69**	**271**	Sb	**Sb**	**18 54 35.8**	**+3.6**
	baz=84						
HARP	**HAARP**	**3.73**	**237**	Sb	**Sb**	**18 54 37.8**	**+4.2**
	baz=51						
HYT	**Haines Junctio**	**3.81**	**173**	P	**Pn**	**18 53 40.6**	**-0.6**
	baz=354,SNR=14						
HYT				Sb	**Sb**	**18 54 38.0**	**+2.1**
	baz=354						
E29M	**Blow River**	**3.82**	**3**	P	**Pn**	**18 53 40.8**	**-0.3**
	baz=184,SNR=13						
E29M				Sb	**Sb**	**18 54 37.8**	**+1.9**
	baz=184						
E27K	**Coleen River**	**3.82**	**342**	P	**Pn**	**18 53 40.8**	**-0.5**
	baz=159						
MCARA	**McCarthy VSAT**	**3.84**	**215**	P	**Pn**	**18 53 41.1**	**-0.4**
	baz=31,SNR=25						
MCARA				Sb	**Sb**	**18 54 39.3**	**+2.6**
	baz=31						
CTG	**Chitna Glacier**	**3.88**	**201**	P	**Pn**	**18 53 42.3**	**+0.2**
	baz=19,SNR=51						
CTG				S	**Sn**	**18 54 27.6**	**-0.3**
	baz=19						
F26K	**Sheenjek River**	**3.88**	**326**	P	**Pn**	**18 53 42.2**	**+0.2**
	baz=141						
O28M	**Mount Upton**	**3.92**	**193**	P	**Pn**	**18 53 42.5**	**-0.4**
	baz=11,SNR=20						
O28M				S	**Sn**	**18 54 29.8**	**+0.7**
	baz=11						
O30N	**Mendenhall**	**3.99**	**163**	P	**Pn**	**18 53 42.5**	**-1.0**
	baz=345,SNR=12						
O30N				Sb	**Sb**	**18 54 43.6**	**+2.7**
	baz=345						
COLA	**College**	**4.05**	**278**	Sg	**Sg**	**18 54 53.8**	**+1.8**
	baz=90						
E28M	**Babbage River**	**4.05**	**354**	P	**Pn**	**18 53 44.1**	**-0.3**
	baz=173						
N25K	**Chitina, Valde**	**4.10**	**226**	P	**Pn**	**18 53 45.2**	**0.0**
	baz=41						
F25K	**Christian Rive**	**4.20**	**319**	P	**Pn**	**18 53 46.3**	**-0.2**
	baz=133						
INK	**Inuvik**	**4.21**	**26**	P	**Pn**	**18 53 46.4**	**-0.2**
	baz=210,SNR=14						
DHY	**Denali Highway**	**4.24**	**253**	P	**Pn**	**18 53 46.4**	**-0.7**
	baz=65						
O29M	**Mount Kennedy**	**4.31**	**181**	P	**Pn**	**18 53 48.0**	**-0.1**
	baz=0.8,SNR=24						
CRQE	**Cirque**	**4.41**	**211**	P	**Pn**	**18 53 49.1**	**-0.4**
	baz=27						
P30M	**Million Dollar**	**4.54**	**171**	P	**Pn**	**18 53 50.7**	**-0.4**
	baz=352						
PINM	**Pinnacle**	**4.59**	**191**	P	**Pn**	**18 53 52.1**	**+0.2**
	baz=9.8,SNR=13						
BMRM	**Bremner River**	**4.61**	**221**	P	**Pn**	**18 53 52.1**	**0.0**
	baz=35						
KLU	**Klutina**	**4.62**	**231**	P	**Pn**	**18 53 52.0**	**-0.2**
	baz=44						
WAT6	**Susitna Watana**	**4.62**	**248**	P	**Pn**	**18 53 52.0**	**-0.4**
	baz=60						
MCK	**McKinley**	**4.68**	**264**	P	**Pn**	**18 53 53.0**	**0.0**
	baz=75						
MESA	**MESA**	**4.72**	**202**	P	**Pn**	**18 53 53.3**	**-0.5**
	baz=19,SNR=11						
D27M	**Malcolm River**	**4.77**	**349**	P	**Pn**	**18 53 54.6**	**+0.3**
	baz=167,SNR=24						
H23K	**Yukon River**	**4.84**	**290**	P	**Pn**	**18 53 55.1**	**0.0**
	baz=100						
TRF	**Thorofare Moun**	**5.34**	**263**	P	**Pn**	**18 54 02.1**	**0.0**
	baz=73						

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*SJA **09** 18:54:05.2±0.7,30.°61S×72.°05W,h13km,ML5.3,MW5.0*
*VAO **09** 18:54:05.1±0.6,30.°83S×71.°90W,h10km,mb5.2*
*MOS **09** 18:54:08.5±1.0,30.°63S×71.°62W,h26km,mb5.3/25,Error ellipse: s-maj=13.5km s-min=6.7km az=97.6*
*GUC **09** 18:54:09.9±0.7,30.°68S×71.°75W,h35km±2km,ML5.2*
*NEIC **09** 18:54:09.5,30.°63S×71.°74W,h21km*
*NEIC **09** 18:54:10.2±1.6,30.°63S±0.°04×71.°71W±0.°06,h26km±3km, mb5.2/153,Mwr5.0/77,Mww5.2/15,Error ellipse: s-maj=8.1km s-min=5.7km az=99.0,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=3.73; $M_{\theta\theta}$=0.83; $M_{\phi\phi}$-4.56; $M_{r\theta}$=0.93; $M_{\theta\phi}$=0.01; $M_{\phi r}$-1.73; Fault plane solution: M_0=4.65000×10^{16} NP1:ϕ_s=15.40000°, δ=35.62000°,λ=114.47000°. NP2:ϕ_s=166.15000°,δ=57.99000°, λ=73.47000°. Principal axes: T 4.3212, Plg72.0000°, Azm36.0000°; N 0.5941, Plg14.0000°, Azm175.0000°; P -4.9153, Plg12.0000°, Azm268.0000°;*
*NEIC **09** 18:54:11.1,30.°64S×71.°71W,h33km*
*NEIC **09** 18:54:11.1,30.°64S×71.°71W,h30km,Moment Tensor Solution. Duration: 1s1.0 Moment tensor: Scale 10^{16} Nm; M_{rr}=5.41; $M_{\theta\theta}$=0.39; $M_{\phi\phi}$-5.80; $M_{r\theta}$=0.78; $M_{\theta\phi}$=0.59; $M_{\phi r}$-3.70; Fault plane solution: M_0=6.78000×10^{16} NP1: ϕ_s=170.79000°,δ=61.96000°,λ=86.15000°. NP2: ϕ_s=358.94000°,δ=28.28000°,λ=97.18000°. Principal axes: T 6.5698, Plg73.0000°, Azm72.0000°; N 0.4210, Plg3.0000°, Azm173.0000°; P -6.9908, Plg17.0000°, Azm264.0000°;*
*IDC **09** 18:54:12.6±2.2,30.°69S×71.°63W,h46km±19km,mb4.8/13, mbtmp4.9/19,ML4.6/6,MS4.6/40 Error ellipse: s-maj=19.1km s-min=12.1km az=81.0*
*GCMT **09** 18:54:14.2±0.2,30.°64S±0.°01×71.°91W±0.°01,h33km, MW5.2/113,Moment Tensor Solution. s93,c145; s113,c172; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.78±.02; $M_{\theta\theta}$=0.01±.01; $M_{\phi\phi}$-0.78±.01; $M_{r\theta}$=0.08±.02; $M_{\theta\phi}$=0.02±.01; $M_{\phi r}$-0.41±.02; Best double couple: M_0=0.88800×10^{17} NP1:ϕ_s=174.00000°,δ=59.00000°, λ=85.00000°. NP2:ϕ_s=3.00000°,δ=31.00000°,λ=98.00000°. Principal axes: T 0.8880, Plg75.0000°, Azm71.0000°; N 0.0000, Plg4.0000°, Azm176.0000°; P -0.8870, Plg14.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 18:54:09.2±0.6,30.°63S±0.°02×71.°81W±0.°03,h26km±4km, n514,σ1.9±53/514,mb5.3/116,MS4.7/39,27C-14D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.16**	**108**		**Pb**	**18 54 15.2**	**+0.7**
CO06				Sg	**Sb**	**18 54 19.0**	**+0.9**
CO06	**Fray Jorge**	**0.16**	**108**	⇑*i*P	**Pn**	**18 54 15.5**	**-0.5**
CO06				*i* S	**Sb**	**18 54 19.0**	**+0.9**
CO05	**La Serena**	**0.86**	**35**		**Pn**	**18 54 25.8**	**+0.2**
CO05					**Sb**	**18 54 36.6**	**+0.1**
CO05	**La Serena**	**0.86**	**35**	⇓*i*P	**Pn**	**18 54 25.8**	**+0.2**
CO05				*i* S	**Sn**	**18 54 37.8**	**+0.4**
GO04	**Tololo Observa**	**0.98**	**63**		**Pn**	**18 54 27.3**	**-0.2**
GO04				Sn	**Sb**	**18 54 40.0**	**-0.3**
GO04	**Tololo Observa**	**0.98**	**63**	⇓*i*P	**Pn**	**18 54 27.5**	**0.0**
GO04				*i* S	**Sn**	**18 54 42.0**	**+1.2**
GO04	**Tololo Observa**	**0.98**	**63**	*e*P	**Pn**	**18 54 27.5**	**0.0**
CO03	**El Pedregal**	**0.99**	**103**		**Pn**	**18 54 26.5**	**-1.0**
CO03					**Sb**	**18 54 38.4**	**-2.0**
CO03	**El Pedregal**	**0.99**	**103**	⇓*i*P	**Pn**	**18 54 26.8**	**-0.7**
CO03				*i* S	**Sb**	**18 54 38.9**	**-1.5**
CO03	**El Pedregal**	**0.99**	**103**	*e*P	**Pn**	**18 54 26.6**	**-0.9**
CO03				IAML		18 54 45.6	
	comp=Z,34μm,0.7s						
CO04	**Los Peladeros**	**1.58**	**153**	⇓*i*P	**Pn**	**18 54 36.0**	**+0.1**
CO04				*i* S	**Sn**	**18 54 56.0**	**+0.4**
CO01	**Juntas del Tor**	**1.62**	**67**		**Pn**	**18 54 37.1**	**+0.8**
CO01				Sn	**Sn**	**18 54 54.1**	**-2.3**
CO01	**Juntas del Tor**	**1.62**	**67**	⇓*i*P	**Pb**	**18 54 37.5**	**-1.0**
CO01				*i* S	**Sb**	**18 54 58.4**	**-0.2**
CO01				IAML		18 55 01.2	
	comp=E,24μm,0.3s						
CO01	**Juntas del Tor**	**1.62**	**67**	*e*P	**Pb**	**18 54 37.8**	**-0.7**
LCO	**Las Campanas**	**1.87**	**31**	Pn	**Pn**	**18 54 40.6**	**+0.7**
LCO				Sn	**Sb**	**18 55 04.7**	**-1.3**
LCO	**Las Campanas**	**1.87**	**31**	⇑*i*P	**Pn**	**18 54 41.0**	**+1.2**
LCO				*i* S	**Sb**	**18 55 06.2**	**+0.2**
LCO	**Las Campanas**	**1.87**	**31**	*e*P	**Pn**	**18 54 40.8**	**+1.0**
LCO				*e*S	**Sb**	**18 55 08.1**	**+2.1**
LCO				IAML		18 55 12.8	
	comp=Z,33μm,0.5s						
LCO	**Las Campanas**	**1.87**	**31**	*e*P	**Pn**	**18 54 40.6**	**+0.7**
AROD	**Rodeo**	**2.07**	**78**	*e*P	**Pb**	**18 54 45.5**	**-0.7**
ACCO	**Cerro Coronel**	**2.36**	**90**	*e*P	**Pb**	**18 54 50.4**	**-0.9**
ACCO				*e*S	**Sb**	**18 55 22.7**	**+2.6**
ACDV	**Cuesta del Vie**	**2.37**	**80**	*e*P	**Pb**	**18 54 51.2**	**0.0**
ACDV				*e*S	Sb	18 55 29.8	+10
ACDV				IAML		18 55 30.8	
	comp=Z,18μm,1.2s						
DOCA	**Reserva Natura**	**2.37**	**99**	*e*P	**Pb**	**18 54 49.4**	**-2.0**
DOCA				*e*S	**Sb**	**18 55 22.8**	**+2.5**
VA03	**San Esteban**	**2.39**	**154**		**Pn**	**18 54 47.8**	**+1.1**
VA03	**San Esteban**	**2.39**	**154**	⇑*i*P	**Pn**	**18 54 48.0**	**+1.2**
VA03				IAML		18 55 26.4	
	comp=N,20μm,0.5s						
VA03	**San Esteban**	**2.39**	**154**	*e*P	**Pn**	**18 54 48.0**	**+1.2**
VA03				*e*S	**Sb**	**18 55 20.9**	**+0.4**
VA03				IAML		18 55 26.0	
	comp=Z,11μm,0.6s						
VA01	**Torpederas**	**2.39**	**177**		**Pn**	**18 54 46.8**	**+0.1**
VA01	**Torpederas**	**2.39**	**177**	IAML		18 55 31.2	
	comp=E,6μm,0.4s						
VA01	**Torpederas**	**2.39**	**177**	*e*P	**Pn**	**18 54 47.1**	**+0.3**
VA01				*e*S	**Sb**	**18 55 25.5**	**+4.8**
ROCH	**El Roble**	**2.44**	**164**	⇑*i*P	**Pn**	**18 54 48.2**	**+0.6**
ROCH				IAML		18 55 25.5	
	comp=N,10μm,0.5s						
RTLS	**Leoncito**	**2.45**	**119**	*e*P	**Pn**	**18 54 47.9**	**+0.1**
RTLS				*e*S	**Sb**	**18 55 28.9**	**+6.3**
AC04	**Llanos de Chal**	**2.50**	**15**		**Pn**	**18 54 48.6**	**+0.4**
AC04	**Llanos de Chal**	**2.50**	**15**	⇑*i*P	**Pn**	**18 54 48.9**	**+0.8**
AC04				IAML		18 55 33.3	
	comp=E,9μm,0.9s						
AC04	**Llanos de Chal**	**2.50**	**15**	*e*P	**Pn**	**18 54 49.0**	**+0.8**
AC04				*e*S	**Sb**	**18 55 28.0**	**+4.4**
AC04				IAML		18 55 32.9	
	comp=Z,17μm,0.8s						
PEL	**Peldehue**	**2.69**	**159**		**Pn**	**18 54 51.6**	**+0.8**
PEL	**Peldehue**	**2.69**	**159**	⇑*i*P	**Pn**	**18 54 51.9**	**+1.1**
PEL				IAML		18 55 38.9	
	comp=E,9μm,0.5s						
PEL	**Peldehue**	**2.69**	**159**	*e*P	**Pn**	**18 54 52.0**	**+1.1**
PEL				*e*S	**Sb**	**18 55 29.4**	**+0.3**
PEL	**Peldehue**	**2.69**	**159**	P	**Pn**	**18 54 51.6**	**+0.8**
ZON	**Zonda**	**2.84**	**110**		**Pn**	**18 54 55.8**	**+2.9**
ZON	**Zonda**	**2.84**	**110**	*e*P	**Pb**	**18 54 56.2**	**-3.0**
ZON				*e*S	**Sb**	**18 55 37.5**	**+4.0**
ZON				IAML		18 55 42.4	
	comp=Z,8μm,0.6s						
ZON	**Zonda**	**2.84**	**110**	P	**Pn**	**18 54 55.8**	**+2.9**
MT10	**Hacienda Santa**	**2.85**	**158**	⇑*i*P	**Pn**	**18 54 54.5**	**+1.3**
MT10				IAML		18 55 41.9	
	comp=E,22μm,0.4s						
MT05	**Renca**	**2.90**	**162**		**Pn**	**18 54 54.6**	**+0.7**
MT05	**Renca**	**2.90**	**162**	*e*P	**Pn**	**18 54 55.2**	**+1.4**
MT05				*e*S	**Sb**	**18 55 36.1**	**+0.6**
MT05				IAML		18 55 53.9	
	comp=Z,11μm,1.2s						
RTLL	**Cerro Villicun**	**2.95**	**105**	*e*P	**Pn**	**18 54 57.5**	**+3.1**
RTLL				*e*S	**Sb**	**18 55 35.0**	**-1.6**
MT14	**Cerro Calıjn**	**2.97**	**159**	*e*P	**Pn**	**18 54 55.9**	**+1.2**
MT14				*i* S	**Sn**	**18 55 31.5**	**+2.0**
MT14				IAML		18 55 42.6	
	comp=E,16μm,0.4s						
FCH	**Farellones**	**

LMEL Las Melosas 3.49 158 *eP* **Pn 18 55 03.8 +1.9**
LMEL *eS* **Sn 18 55 43.6 +1.1**
LMEL IAML 18 55 59.9
comp=N,5µm,0.2s
LMEL Las Melosas 3.49 158 *eP* **Pn 18 55 03.8 +1.9**
AC06 Mina Casimiro 3.50 22 Pn 18 55 02.7 +0.7
AC06 Mina Casimiro 3.50 22 *eP* **Pn 18 55 02.6 +0.7**
AC06 IAML 18 56 05.6
comp=E,7µm,0.9s
BO04 La Punta 3.50 163 Pn 18 55 02.8 +0.7
BO04 La Punta 3.50 163⇑*iP* **Pn 18 55 03.0 +0.9**
BO04 *i S* **Sn 18 55 43.5 +0.7**
BO04 IAML 18 55 58.9
comp=E,5µm,0.8s
AVFE Valle Fertil 3.75 92 *eP* **Pn 18 55 08.2 +2.7**
AVFE *eS* **Sb 18 56 01.4 +1.6**
AVFE IAML 18 56 11.3
comp=Z,7µm,0.7s
BO01 Tunca 3.81 171 Pn 18 55 06.7 +0.5
BO01 Tunca 3.81 171 *eP* **Pn 18 55 06.4 +0.2**
BO01 Tunca 3.81 171 *eP* **Pn 18 55 06.7 +0.5**
BO01 *eS* **Sb 18 56 03.7 +2.4**
BO01 IAML 18 56 17.1
comp=Z,3µm,0.6s
BO02 Sierra Bellavi 4.24 169 Pn 18 55 12.6 +0.3
BO02 Sierra Bellavi 4.24 169 *eP* **Pn 18 55 13.6 +1.3**
BO02 *eS* **Sb 18 56 16.1 +2.0**
BO02 IAML 18 56 21.4
comp=Z,4µm,2.3s
GO05 Hualane 4.37 181 Pn 18 55 13.1 -0.9
GO05 Hualane 4.37 181 *eP* **Pn 18 55 13.9 -0.1**
GO05 *eS* **Sb 18 56 24.4 +6.8**
ACLC CERRO LA CRUZ 4.38 75 *eP* **Pn 18 55 17.7 +3.5**
ACLC *eS* **Sb 18 56 11.3 -6.6**
ACLC IAML 18 56 20.5
comp=Z,6µm,0.4s
ACHE Chepes 4.45 98 *eP* **Pn 18 55 17.9 +2.7**
AC01 Pan de Azucar 4.59 14 Pn 18 55 16.0 -0.9
AC01 Pan de Azucar 4.59 14 *eP* **Pn 18 55 15.5 -1.4**
AC01 *eS* **Sb 18 56 30.8 +7.0**
AC01 IAML 18 56 37.6
comp=Z,4µm,1.0s
ML02 Panimavida 5.13 176 Pn 18 55 24.5 0.0
GO02 Mina Guanaco 5.78 20 Pn **Pn 18 55 33.2 -0.4**
BI02 San Fabin de 6.04 176 Pn 18 55 37.1 +0.1
PB14 IPOC Station P 6.10 12 Pn 18 55 36.2 -1.8
BI05 Punta Hualpn 6.21 190 Pn 18 55 37.6 -1.7
H03N1 Juan Fernandez 6.65 243 P **Pn 18 55 44.7 -0.4**
baz=114,slow=18,SNR=869
H03N1 S **Sn 18 56 57.8 -2.1**
baz=101,slow=23,SNR=4.9
H03N1 T T 19 02 39.4
baz=71,slow=72,SNR=7134
H03N2 Juan Fernandez 6.67 243 P **Pn 18 55 45.1 -0.2**
baz=114,slow=18,SNR=547
H03N2 S **Sn 18 56 56.2 -4.1**
baz=101,slow=23,SNR=3.0
H03N2 T T 19 02 41.3
baz=71,slow=72,SNR=5413
H03N3 Juan Fernandez 6.67 243 P **Pn 18 55 44.5 -0.8**
baz=114,slow=18,SNR=690
H03N3 S **Sn 18 56 57.8 -2.5**
baz=101,slow=23,SNR=3.8
H03N3 T T 19 02 38.3
baz=71,slow=72,SNR=4194
VA04 Juan Fernndez 6.67 241 Pn 18 55 44.6 -1.0
H03S3 Juan Fernandez 6.81 240 P **Pn 18 55 45.7 -1.5**
baz=38,slow=18,SNR=93
H03S3 S **Sn 18 56 58.3 -5.5**
baz=8.4,slow=71,SNR=5.4
H03S1 Juan Fernandez 6.82 240 P **Pn 18 55 45.6 -1.7**
baz=38,slow=18,SNR=76
H03S1 S **Sn 18 56 58.9 -5.0**
baz=8.4,slow=71,SNR=3.6
H03S2 Juan Fernandez 6.83 240 P **Pn 18 55 46.0 -1.4**
baz=38,slow=18,SNR=108
H03S2 S **Sn 18 56 59.6 -4.6**
baz=8.4,slow=71,SNR=4.2
PB15 IPOC Station P 7.68 16 Pn 18 55 57.5 -2.1
PB06 IPOC Station P 8.14 15 Pn **Pn 18 56 04.8 -1.0**
AF01 San Pedro de A 8.30 24 Pn 18 56 06.8 -1.4
PB04 IPOC Station P 8.39 11 Pn 18 56 08.7 -0.6
LVC Limon Verde 8.39 19 P **Pn 18 56 13.8 +4.2**
comp=Z,7.1nm,0.3s,baz=207,slow=11,SNR=6.3
LVC S **Sn 18 57 48.6 +4.9**
comp=Z,114nm,0.6s,baz=201,slow=17,SNR=1.5
LVC LR LR 18 59 15.8
comp=Z,6µm,18.0s,baz=212,slow=36
comp=Z,12nm,0.3s
GO06 Curarrehue 8.94 178 Pn 18 56 16.3 -0.5
LR05 Currie 9.59 181 Pn 18 56 24.4 -1.1
PLCA Paso Flores 10.14 175 Pn 18 56 32.9 -0.2
PLCA Paso Flores 10.14 175 P **Pn 18 56 33.6 +0.5**
comp=Z,0.8nm,0.3s,baz=330,slow=11,SNR=19
PLCA LR LR 19 00 54.9
comp=Z,3µm,19.1s,baz=352,slow=40
comp=Z,3.8nm,0.5s
PLCA Paso Flores 10.14 175 *eP* **Pn 18 56 32.9 -0.2**
TA02 Huaiquique 10.42 9 Pn **Pn 18 56 35.4 -1.6**
PB11 IPOC Station P 10.99 11 Pn Pn 18 56 39.9 -5.1
TRQA Tornquist 10.99 135 Pn 18 56 44.6 -0.2
TRQA Tornquist 10.99 135 P **Pn 18 56 44.6 -0.2**
PSAL Palomas, Salto 12.21 96 *eP* **Pn 18 56 59.3 -2.2**
ITQB Itaqui 13.18 90 Pn 18 57 12.6 -2.1
ITQB Itaqui 13.18 90 *eP* **Pn 18 57 12.8 -1.9**
CPUP Villa Florida 13.43 75 Pn 18 57 14.6 -3.6
CPUP Villa Florida 13.43 75 P **Pn 18 57 17.1 -1.1**
comp=Z,1.3nm,0.3s,baz=250,slow=12,SNR=14
CPUP S **Sn 18 59 41.3 -5.3**
comp=Z,70nm,0.8s,baz=214,slow=11,SNR=2.5
CPUP LR LR 19 02 47.8
comp=Z,3µm,21.7s,baz=254,slow=39
comp=Z,12nm,0.7s
FDPY Filadelfia 13.48 55 *eP* **Pn 18 57 18.3 -0.6**
PAPY Pozo Azul 13.70 65 *eP* **Pn 18 57 22.1 +0.2**
LPAZ La Paz 14.66 14 Pn 18 57 35.2 -0.4
LPAZ La Paz 14.66 14 P **Pn 18 57 37.8 +2.2**
comp=Z,2.7nm,0.3s,baz=182,slow=9.2,SNR=73
comp=Z,33nm,0.8s
LPAZ La Paz 14.66 14 *eP* **Pn 18 57 35.2 -0.4**
LPAZ La Paz 14.66 14 *eP* **Pn 18 57 34.5 -1.1**
COYC Coyhaique 14.93 181 Pn 18 57 36.8 -1.6
SJPY San Joaquin 14.98 72 *eP* **Pn 18 57 39.3 0.0**
PLTB Pedras Altas 15.62 99 Pn 18 57 44.0 -3.7
PLTB Pedras Altas 15.62 99 *eP* **Pn 18 57 43.8 -3.9**
PLTB *eS* **Sn 19 00 40.8 +0.7**
CPSB Cacapava Do Su 15.84 94 *eP* **Pn 18 57 48.6 -1.8**
BBSD Serra de San D 16.83 40 *eP* **Pn 18 58 03.1 -0.1**
AMBA Amambai (Brazi 16.85 67 *eP* **Pn 18 58 03.6 +0.2**
BDQN Bodoquena, MS 16.93 57 *eP* **P 18 58 06.2 0.0**
ITAB Concordia 17.55 84 P **Pn 18 58 10.7 -1.4**
ITAB IAmb IAmb 18 58 18.3
comp=Z,211nm,1.5s
ITAB Concordia 17.55 84 *eP* **Pn 18 58 11.7 -0.4**
SIV San Ignacio 17.57 36 P **Pn 18 58 12.4 0.0**
comp=Z,0.1nm,0.3s,baz=216,slow=12,SNR=103
SIV LR LR 19 06 25.9
comp=Z,4µm,19.9s,baz=214,slow=42
comp=Z,66nm,1.0s
AQDB Aquidauana 17.68 59 P **Pn 18 58 11.1 -2.7**
AQDB Aquidauana 17.68 59 *eP* **Pn 18 58 12.1 -1.7**
GO08 Villa O'Higgin 17.83 182 P **P 18 58 15.9 0.0**
PTGB Pitanga 18.44 76 *eP* **Pn 18 58 23.2 +0.1**
PTLB Pontes e Lacer 19.06 40 P **P 18 58 27.7 -1.9**
PTLB IAmb IAmb 18 58 42.5
comp=Z,124nm,1.1s
PTLB Pontes e Lacer 19.06 40 *eP* **P 18 58 29.7 +0.1**
NNA Nana 19.12 345 P **Pn 18 58 32.0 +0.6**
comp=Z,1.2nm,0.3s,baz=231,slow=13,SNR=1.6
NNA LR LR 19 04 15.2
comp=Z,1µm,21.4s,baz=168,slow=31
comp=Z,5.8nm,0.3s
NNA Nana 19.12 345 P **Pn 18 58 32.0 +0.6**
RPRD Ribas do Rio P 19.18 62 *eP* **Pn 18 58 32.1 0.0**
LDASE Londrina, Braz 19.77 74 *eP* **P 18 58 36.7 -0.8**
TER01 Tubaro-SC 19.83 90 *eP* **P 18 58 38.1 0.0**
MAJ01 Sao Joao Batis 20.19 87 *eP* **P 18 58 41.6 -0.4**
VILB Vilhena 20.60 34 P **P 18 58 46.4 -0.1**
VILB IAmb IAmb 18 58 51.5
comp=Z,141nm,1.0s
VILB Vilhena 20.60 34 *eP* **P 18 58 46.8 +0.3**
GO09 Cerro Castillo 20.63 181 P **P 18 58 47.3 +0.8**
GO09 IAmb IAmb 18 58 50.1
comp=Z,130nm,1.1s

SALV Santo Antonio 20.79 49 *eP* **P 18 58 47.9 -0.6**
ETMB Extrema 21.35 15 P **P 18 58 54.7 +0.2**
ETMB IAmb IAmb 18 59 00.0
comp=Z,98nm,1.1s
ETMB Extrema 21.35 15 *eP* **P 18 58 55.6 +1.0**
ITRB Iturama 22.21 66 *eP* **P 18 59 02.8 -1.1**
MG04 Isla Riesco 22.22 180 P **P 18 59 03.7 +0.2**
MG04 IAmb IAmb 18 59 15.4
comp=Z,127nm,1.0s
SPB Sao Paulo 22.77 78 P **P 18 59 08.5 -1.3**
SPB Sao Paulo 22.77 78 *eP* **P 18 59 10.1 +0.3**
CZSB Cruzeiro do Su 22.79 358 P **P 18 59 10.5 +0.5**
CZSB Cruzeiro do Su 22.79 358 *eP* **P 18 59 10.5 +0.5**
BB19B Bebedouro 22.97 71 *eP* **P 18 59 10.2 -1.7**
SAML Samuel 23.02 22 P **P 18 59 11.9 -0.5**
SAML IAmb IAmb 18 59 15.0
comp=Z,101nm,1.4s
SAML Samuel 23.02 22 P **P 18 59 11.9 -0.5**
SAML pmax pmax
comp=Z,101nm,1.4s
SAML Samuel 23.02 22 *eP* **P 18 59 12.8 +0.4**
RCLB Rio Claro- Sao 23.17 75 *eP* **P 18 59 13.2 -0.8**
MG03 Isla Dawson 23.23 178 P **P 18 59 14.8 +0.6**
MG03 IAmb IAmb 18 59 16.8
comp=Z,178nm,1.4s
EFI East Falkland 23.36 158⇑*eP* **P 18 59 14.4 -1.1**
EFI pmax pmax
comp=Z,16nm,0.9s
VAO Valinhos 23.40 77 P **P 18 59 14.9 -1.4**
VAO Valinhos 23.40 77 *eP* **P 18 59 15.4 -0.9**
PDRB Porto dos Gac 23.52 40 *eP* **P 18 59 17.4 0.0**
ARAG Araguaiana, MT 23.57 55 *eP* **P 18 59 16.1 -1.8**
ATAH Atahualpa 24.17 344 LR LR 19 07 39.9
comp=Z,711nm,18.1s,baz=176,slow=33
CLDB Colider 24.65 41 *eP* **P 18 59 27.8 -0.1**
IPMB Ipameri, GO 24.85 65 *eP* **P 18 59 28.8 -1.0**
TBTG Tabatinga, AM 26.36 4 P **P 18 59 43.8 +0.4**
TBTG Tabatinga, AM 26.36 4 *eP* **P 18 59 43.0 -0.4**
BDFB Brasilia 26.40 61 P **P 18 59 42.5 -1.4**
BDFB Brasilia 26.40 61 P **P 18 59 43.0 -0.9**
comp=Z,49nm,0.8s,baz=232,slow=9.0,SNR=40
BDFB LR LR 19 11 12.8
comp=Z,4µm,18.8s,baz=231,slow=39
comp=Z,49nm,0.8s
SNDB Serra Nova Dou 26.55 50 *eP* **P 18 59 43.7 -1.4**
VAS01 Vassouras-RJ 26.66 79 *eP* **P 18 59 45.9 -0.2**
NPGB Novo Progresso 28.07 37 *eP* **P 18 59 57.9 -0.9**
DIAM Diamantina, MG 28.31 71 *eP* **P 19 00 01.2 +0.1**
CAM01 Campos-RJ 28.36 79 *eP* **P 19 00 00.2 -1.1**
COHC Cochancay 28.88 344 P **P 19 00 06.7 +0.8**
MACA Manacapuru-AM 29.27 23 P **P 19 00 08.8 -0.6**
MACA IAmb IAmb 19 00 26.9
comp=Z,33nm,0.6s
JANB Januaria 29.59 65 *eP* **P 19 00 11.7 -0.7**
ALF01 Guarapari-ES 29.66 78 *eP* **P 19 00 12.3 -0.5**
SJMB Sao Joao De Ma 30.15 74 *eP* **P 19 00 16.8 -0.5**
ITTB Itaituba 30.20 33 *eP* **P 19 00 16.6 -1.0**
RIB01 Linhares ES 30.52 76 *eP* **P 19 00 20.6 0.0**
SDBA SAO DESIDERIO 30.77 60 *eP* **P 19 00 22.4 -0.4**
SMTB Santa Maria do 31.30 51 *eP* **P 19 00 27.8 +0.4**
OTAV Otavalo 31.34 347 P **P 19 00 27.8 -0.4**
OTAV Otavalo 31.34 347 *eP* **P 19 00 27.8 -0.4**
OTAV Otavalo 31.34 347 *eP* **P 19 00 27.7 -0.4**
PRPB Parauapebas 31.91 45 *eP* **P 19 00 32.1 -0.7**
RPN Rapa Nui 32.95 267 LR LR 19 10 14.4
comp=Z,1µm,20.2s,baz=96,slow=29
CMC01 Camacan, BA 33.23 70 *eP* **P 19 00 44.5 +0.1**
GDU01 Guandu, BA 34.10 68 *eP* **P 19 00 51.0 -0.9**
PMSA Palmer Station 34.51 174 LR LR 19 14 42.8
comp=Z,1µm,20.2s,baz=344,slow=36
BOAV Boa Vista 34.56 20 P **P 19 00 55.5 -0.3**
BOAV IAmb IAmb 19 00 56.9
comp=Z,30nm,0.8s
BOAV Boa Vista 34.56 20 *eP* **P 19 00 56.1 +0.3**
TMAB Tom-Au,PA,Br 35.96 43 *eP* **P 19 01 08.2 +0.2**
NBLA Lagarto - SE 37.10 66 *eP* **P 19 01 16.5 -1.2**
NBPB Pedra_Branca-C 39.24 57 *eP* **P 19 01 35.2 -0.5**
SDV Santo Domingo 39.30 2 LR LR 19 19 17.3
comp=Z,850nm,18.3s,baz=176,slow=38
BAUV El Baul 39.51 6 P **P 19 01 37.2 -0.7**
MDP Montagnes des 39.98 31 LR LR 19 19 01.6
comp=Z,1µm,21.5s,baz=210,slow=37
RCBR Riachuelo 41.77 61 LR LR 19 20 52.7
comp=Z,534nm,19.1s,baz=227,slow=38
SOCE Pocosol 42.59 341 P **P 19 02 04.3 +1.0**
SOCE IAmb IAmb 19 03 03.4
comp=Z,64nm,1.4s
JTS Las Juntas de 42.60 341⇓*eP* **P 19 02 04.3 +1.0**
JTS pmax pmax
comp=Z,11nm,1.2s
ESPN Las Esperanzas 44.24 342 P **P 19 02 17.0 +0.5**
ESPN IAmb IAmb 19 03 16.5
comp=Z,17nm,0.5s
MPOM Morne Pois Mar 46.03 15 P **P 19 02 30.0 -0.8**
BIM Bigot 46.05 15 P **P 19 02 30.1 -0.9**
TGUH Tegucigalpa,Un 46.85 339 P **P 19 02 37.3 -0.1**
TGUH IAmb IAmb 19 03 44.0
comp=Z,24nm,0.8s
MTO3 Montecristo 47.85 337 P **P 19 02 44.9 -0.3**
MTO3 IAmb IAmb 19 02 57.4
comp=Z,40nm,1.8s
MLPR Magueyes Islan 48.53 6 P **P 19 02 50.4 +0.3**
CRPR Cabo Rojo, PR 48.56 6 P **P 19 02 50.0 -0.3**
IGPR InterUniversit 48.62 7 P **P 19 02 50.0 -0.9**
OBIP Obispado Ponce 48.65 7 P **P 19 02 50.9 -0.1**
CELP Cerrillos 48.68 7 P **P 19 02 50.8 -0.5**
PDPR Patillas Dam, 48.68 7 IAmb IAmb 19 02 52.2
comp=Z,26nm,0.8s
SJG San Juan 48.76 7 P **P 19 02 51.8 -0.1**
SJG San Juan 48.76 7 P **P 19 02 51.8 -0.1**
SJG pmax pmax
comp=Z,103nm,1.0s
PRSN Puerto Rico Se 48.77 6 P **P 19 02 52.1 +0.1**
UUPR Utuado, UPR, P 48.84 6 P **P 19 02 51.7 -0.9**
AOPR Arecibo Observ 48.93 6 P **P 19 02 52.6 -0.6**
GCPR Guaynabo City 48.96 7 P **P 19 02 52.6 -0.9**
GCPR IAmb IAmb 19 02 54.0
comp=Z,32nm,0.7s
CMIG Matias Romero 52.38 332 LR LR 19 20 30.4
comp=Z,336nm,21.0s,baz=180,slow=30
VNA3 Neumayer Olymp 52.41 159⇑P **P 19 03 19.4 +0.4**
comp=Z,7.9nm,0.7s
TEIG Tepich 52.98 341 P **P 19 03 23.8 +0.1**
TEIG IAmb IAmb 19 03 34.4
comp=Z,26nm,0.8s
VNA2 Neumayer--Watz 53.05 158⇑P **P 19 03 24.1 +0.4**
comp=Z,9.7nm,0.6s,baz=285,slow=8.3
SOR Soroa 54.19 347 P **P 19 03 32.1 -0.4**
SOR IAmb IAmb 19 03 42.7
comp=Z,36nm,1.1s
SOR Soroa 54.19 347 P **P 19 03 32.1 -0.4**
SOR pmax pmax
comp=Z,36nm,1.1s
SNAA Sanae 54.64 159 P **P 19 03 34.8 -0.6**
SNAA IAmb IAmb 19 03 44.8
comp=Z,32nm,0.7s
SNAA Sanae 54.64 159⇑P **P 19 03 35.8 +0.4**
comp=Z,285nm,0.6s
SNAA Sanae 54.64 159 P **P 19 03 35.6 +0.2**
comp=Z,26nm,1.0s,baz=284,slow=6.9,SNR=63
SNAA LR LR 19 24 44.0
comp=Z,560nm,21.7s,baz=287,slow=34
comp=Z,26nm,1.0s
SNAA Sanae 54.64 159*c iP* **P 19 03 35.4 0.0**
SNAA pmax pmax
comp=Z,33nm,1.1s
RKT Rikitea 56.21 261 *eS* **S 19 11 36.1 +0.6**
comp=Z,2µm,30.0s
RKT *e*LR LR 19 20 15.1
comp=Z,2µm,27.2s
TROLL Troll, Antarti 56.35 159⇑P **P 19 03 48.2 +0.4**
comp=Z,586nm,0.8s
NVL N'lazarevskaya 59.34 157 *eP* **P 19 04 08.2 -0.4**
NVL pmax pmax
comp=Z,51nm,1.4s
QSPA South Pole Qui 59.60 180 P **P 19 04 10.8 +0.2**
QSPA South Pole Qui 59.60 180 P **P 19 04 11.6 +0.9**
comp=Z,28nm,1.0s,baz=142,slow=2.3,SNR=44
QSPA LR LR 19 29 19.9
comp=Z,200nm,21.9s,baz=170,slow=35
comp=Z,28nm,1.0s
H06S1 SOCORRO T 61.86 317 T T 20 11 46.2
SNR=16
H06E1 SOCORRO T-PHAS 61.87 317 T T 20 11 49.6
SNR=21
352A Blakely 63.01 347 P **P 19 04 33.8 0.0**
352A IAmb IAmb 19 04 35.9
comp=Z,23nm,1.0s
833A Chaparral WMA, 64.26 333 P **P 19 04 44.1 +2.0**
HKT Hockley 64.44 337⇓*eP* **P 19 04 45.0 +1.8**
HKT pmax pmax
comp=Z,40nm,2.0s
Y52A Lilburn 65.18 349 P **P 19 04 48.1 +0.1**
Y52A IAmb IAmb 19 04 58.1
comp=Z,28nm,1.2s
DRIO Del Rio 65.72 333 P **P 19 04 50.4 -1.3**
HPIG 65.75 327 IAmb IAmb 19 05 07.7
comp=Z,22nm,1.2s
LPIG La Paz 65.75 321 LR LR 19 26 23.3
comp=Z,182nm,21.7s,baz=158,slow=29
Y45A Yeager Farm, C 66.30 344 P **P 19 04 55.4 +0.2**
X48A Hartselle 66.31 346 P **P 19 04 55.7 +0.4**
X48A IAmb IAmb 19 04 57.5
comp=Z,23nm,1.0s
JCT Junction City 66.34 334 P **P 19 04 56.1 +0.5**
JCT Junction City 66.34 334 P **P 19 04 56.2 +0.5**
JCT pmax pmax
comp=Z,52nm,1.4s
BRDY Brady 66.77 335 IAmb IAmb 19 05 10.2
comp=Z,23nm,1.2s
SAND Sanderson 66.80 332 IAmb IAmb 19 05 11.0
comp=Z,26nm,1.1s
CPCT Cooper Cave 66.81 349 IAmb IAmb 19 05 00.7
comp=Z,34nm,1.3s
TXAR Lajitas Array 66.91 330 P **P 19 05 01.7 +2.4**
comp=Z,3.4nm,0.7s,baz=147,slow=8.7,SNR=12
TXAR LR LR 19 30 11.4
comp=Z,292nm,18.2s,baz=140,slow=32
comp=Z,3.4nm,0.7s
TAOE Nuku Hiva Isla 66.93 273 *e*LR LR 19 25 14.4
comp=Z,474nm,26.6s
OZNA Ozona 67.25 333 IAmb IAmb 19 05 04.4
comp=Z,14nm,0.8s
MIAR Mount Ida 68.00 341 IAmb IAmb 19 05 08.7
comp=Z,19nm,1.2s
WVT Waverly 68.09 346 P **P 19 05 06.8 +0.3**
WVT Waverly 68.09 346 P **P 19 05 06.9 +0.3**
WVT pmax pmax
comp=Z,50nm,1.3s
TBI Tubuai 68.34 255 *eP* **P 19 05 08.7 +0.1**
comp=Z,668nm,39.2s
TBI *eS* **S 19 14 05.7 -2.6**
comp=Z,793nm,24.8s
TBI Tubuai 68.34 255 *e*LR LR 19 25 54.2
comp=Z,2µm,25.5s
VHRN Van Horn 68.73 330 IAmb IAmb 19 05 14.0
comp=Z,36nm,1.9s
LCAR Lake Charles 68.79 343 IAmb IAmb 19 05 13.1
comp=Z,21nm,0.7s
APMT Aspermont 69.01 335 P **P 19 05 13.8 +1.4**
APMT IAmb IAmb 19 05 15.3
comp=Z,18nm,0.8s
X34A Smith Ranch, M 69.36 337 IAmb IAmb 19 05 17.4
comp=Z,23nm,0.9s
BBTS Babate 69.65 58 LR LR 19 36 55.1
comp=Z,538nm,18.1s,baz=121,slow=37
HHAR Hobbs 69.72 341 IAmb IAmb 19 05 19.1
comp=Z,26nm,0.7s
S44A Carbondale 69.90 345 IAmb IAmb 19 05 19.9
comp=Z,24nm,0.7s
TUL3 Leonard 69.92 339 IAmb IAmb 19 05 29.7
comp=Z,27nm,0.9s
P57A Homestead Farm 69.99 355 P **P 19 05 18.8 +0.5**
OK052 Battle Ridge R 70.31 339 IAmb IAmb 19 05 22.6
comp=Z,23nm,0.9s
MSTX Muleshoe 70.59 333 IAmb IAmb 19 05 24.8
comp=Z,22nm,0.8s
CCM Cathedral Cave 70.70 344 P **P 19 05 23.6 +1.0**
CCM IAmb IAmb 19 05 25.1
comp=Z,30nm,0.8s
CCM Cathedral Cave 70.70 344 P **P 19 05 23.6 +1.0**
CCM pmax pmax
comp=Z,30nm,0.8s
S39A Bolivar 70.88 342 P **P 19 05 24.2 +0.5**
S39A IAmb IAmb 19 05 26.1
comp=Z,30nm,1.1s
PPT2 Papeete2 70.95 260 *e*PKIKP **P 19 05 23.7 -1.2**
comp=Z,72nm,24.8s
PPT2 *eS* **S 19 14 38.6 -0.8**
comp=Z,344nm,28.0s
PPT2 *eS* SKiKP 19 14 41.2 -24
comp=Z,272nm,28.5s
PPT2 *e*SS **SS 19 19 10.4 -1.9**
comp=Z,85nm,24.0s
PPT2 *e*LR LR 19 27 03.0
comp=Z,482nm,24.5s
PPT2 *e*LR LR 19 27 03.3
comp=Z,598nm,23.5s
PPT Papeete 70.96 260 LR LR 19 28 15.8
comp=Z,349nm,19.4s,baz=134,slow=29
T35A Sooner Cattle 71.07 339 P **P 19 05 24.3 -0.7**
T35A IAmb IAmb 19 05 36.7
comp=Z,42nm,1.4s
121A Cookes Peak, D 71.46 328 IAmb IAmb 19 05 31.6
comp=Z,24nm,1.2s
SFIN Lafayette 72.06 348 P **P 19 05 30.8 0.0**
SFIN IAmb IAmb 19 05 31.4
comp=Z,46nm,1.4s
P38A Dawn 72.75 343 IAmb IAmb 19 05 37.0
comp=Z,23nm,0.9s
ANMO Albuquerque 72.93 331 P **P 19 05 37.1 +0.7**
ANMO Albuquerque 72.93 331 LR LR 19 33 31.6
comp=Z,412nm,19.6s,baz=322,slow=32
ANMO Albuquerque 72.93 331⇓*eP* **P 19 05 37.2 +0.7**
ANMO pmax pmax
comp=Z,6.0nm,1.5s
DBIC Dimbokro 73.93 72 P **P 19 05 42.2 -0.3**
DBIC Dimbokro 73.93 72 P **P 19 05 42.9 +0.4**
comp=Z,30nm,0.6s,baz=220,slow=6.4,SNR=78
DBIC LR LR 19 35 47.8
comp=Z,929nm,19.5s,baz=210,slow=34
comp=Z,30nm,0.6s
T25A Trinidad 74.00 333 IAmb IAmb 19 05 46.5
comp=Z,20nm,0.9s
SDCO Great Sand Dun 74.96 333 P **P 19 05 49.5 +1.1**
G62A West of Eustis 75.49 1 IAmb IAmb 19 06 07.5
comp=Z,22nm,1.0s
WUAZ Wupatki 75.59 328 IAmb IAmb 19 05 55.8
comp=Z,25nm,1.2s
MATJ Matjiesfontein 75.72 120⇑*iP* **P 19 05 53.9 +1.0**
MATJ IAmb IAmb 19 05 54.2
comp=Z,79nm,0.8s
MVCO Mesa Verde 75.72 331 IAmb IAmb 19 05 56.2
comp=Z,16nm,0.9s
Q24A Divide 75.88 334 P **P 19 05 55.0 +1.4**
Q24A IAmb IAmb 19 05 57.2
comp=Z,25nm,0.8s
CVNA Calvinia 75.92 118 *eP* **P 19 05 51.0 -3.1**
CVNA IAmb IAmb 19 05 56.0
comp=Z,46nm,1.0s
SUR Sutherland 76.30 120 P **P 19 05 56.9 +0.6**
SUR IAmb IAmb 19 05 58.6
comp=Z,43nm,0.9s
SUR Sutherland 76.30 120⇑*iP* **P 19 05 57.5 +1.3**
SUR IAmb IAmb 19 05 58.3
comp=Z,46nm,1.0s
SUR Sutherland 76.30 120 LR LR 19 37 30.9
comp=Z,430nm,18.2s,baz=231,slow=34
MAW Mawson 76.35 164 P **P 19 05 56.2 +0.6**
comp=Z,40nm,0.9s,baz=216,slow=6.5,SNR=94
MAW LR LR 19 38 22.9
comp=Z,585nm,21.8s,baz=230,slow=35
comp=Z,40nm,0.9s
LMN Caledonia Moun 76.38 5 IAmb IAmb 19 05 58.8
comp=Z,37nm,0.9s
TRQ Mont Tremblant 76.53 358 P **P 19 05 57.5 +0.7**
TRQ IAmb IAmb 19 05 58.6
comp=Z,14nm,0.8s
PFO Pinyon Flats O 76.56 323 LR LR 19 33 17.1
comp=Z,314nm,20.3s,baz=120,slow=31
PFO Pinyon Flats O 76.56 323⇓*eP* **P 19 05 59.5 +2.1**
PFO pmax pmax
comp=Z,10.0nm,1.0s
ISCO Idaho Springs 76.78 334 P **P 19 06 01.1 +2.4**
FRAZ Fraserburg 76.96 119 *eP* **P 19 05 56.8 -3.2**
FRAZ IAmb IAmb 19 06 01.9
comp=Z,76nm,1.1s
ELS Elsinore Mount 77.09 322 IAmb IAmb 19 06 03.6
comp=Z,24nm,1.2s
ECSD EROS Data Cent 77.41 342 P **P 19 06 02.6 +0.8**
ECSD IAmb IAmb 19 06 04.1

comp=Z,35nm,0.8s
KNB Kanab 77.48 327 IAmb IAmb 19 06 06.6
comp=Z,22nm,1.0s
AUGR Augrabies 77.70 116 *e*P **P 19 06 03.0 -1.0**
RAR Rarotonga 77.83 253 LR LR 19 31 40.4
comp=Z,340nm,18.8s,baz=110,slow=29
SPMN Marine on St. 77.87 345 IAmb IAmb 19 06 06.0
comp=Z,20nm,0.9s
GSC Goldstone, Bar 78.06 324 P **P 19 06 07.6 +1.9**
GSC Goldstone, Bar 78.06 324 P **P 19 06 07.6 +1.9**
GSC pmax pmax
comp=Z,10.0nm,1.1s
O20A White River Ci 78.10 332 IAmb IAmb 19 06 09.4
comp=Z,23nm,1.0s
SRU San Rafael Swe 78.18 330 IAmb IAmb 19 06 09.5
comp=Z,15nm,0.9s
LDAQ Lac Daran 78.23 0 P **P 19 06 07.3 +0.9**
LDAQ IAmb IAmb 19 06 21.8
comp=Z,26nm,1.1s
ROOI Rooidraai Farm 78.29 121 *e*P **P 19 06 07.1 -0.2**
ROOI IAmb IAmb 19 06 08.6
comp=Z,46nm,1.0s
UPI Upington 78.52 116 *e*P **P 19 06 09.0 +0.3**
UPI IAmb IAmb 19 06 10.0
comp=Z,71nm,1.2s
ALKP Alkanpan, Nort 78.53 118 *e*P **P 19 06 09.2 +0.5**
PRN Pahroc Range 78.85 326 IAmb IAmb 19 06 14.2
comp=Z,23nm,1.0s
GRAF Camdeboo Natio 79.09 121 *e*P **P 19 06 12.0 +0.3**
GRAF IAmb IAmb 19 06 13.4
comp=Z,72nm,1.3s
PSUT Pine Spring 79.19 328 P **P 19 06 13.3 +1.3**
MPU Maple Canyon 79.41 330 IAmb IAmb 19 06 16.4
comp=Z,17nm,1.0s
SOE Somerset East 79.66 122 *e*P **P 19 06 14.7 -0.1**
SOE IAmb IAmb 19 06 16.4
comp=Z,71nm,1.1s
TSUM Tsumeb 79.96 106 P **P 19 06 16.0 -0.6**
TSUM IAmb IAmb 19 06 18.6
comp=Z,47nm,1.1s
TSUM Tsumeb 79.96 106 *e*P **P 19 06 17.6 +1.0**
TSUM IAmb IAmb 19 06 18.2
comp=Z,46nm,1.1s
GRHM Grahamstown, E 79.98 123 P **P 19 06 16.2 -0.3**
RSSD Black Hills 80.01 337 P **P 19 06 17.4 +1.1**
RSSD Black Hills 80.01 337 P **P 19 06 17.4 +1.1**
RSSD pmax pmax
comp=Z,219nm,1.8s
DUG Dugway, Tooele 80.07 329 P **P 19 06 18.8 +2.1**
DSP Deep Springs 80.25 324 P **P 19 06 18.1 +0.6**
KOOLE Kule 80.26 111 *i* P **P 19 06 18.7 +0.4**
HVD Gariep Dam 80.66 120 *e*P **P 19 06 19.9 -0.4**
HVD IAmb IAmb 19 06 22.0
comp=Z,74nm,1.0s
HWUT Hardware Ranch 80.70 331 IAmb IAmb 19 06 22.8
comp=Z,24nm,0.8s
PD31 Pinedale Array 80.85 333 IAmb IAmb 19 07 48.5
comp=Z,13nm,0.7s
PDAR Pinedale Array 80.85 333 P **P 19 06 22.2 +1.3**
comp=Z,2.2nm,0.6s,baz=138,slow=6.9,SNR=20
PDAR LR LR 19 38 52.0
comp=Z,159nm,20.6s,baz=146,slow=33
comp=Z,2.2nm,0.6s
NVAR Mina Array Bea 81.24 325 P **P 19 06 25.2 +2.1**
comp=Z,3.7nm,0.7s,baz=150,slow=6.7,SNR=18
comp=Z,3.7nm,0.7s
BOSA Boshof 81.47 118 P **P 19 06 24.2 -0.5**
BOSA IAmb IAmb 19 06 25.8
comp=Z,28nm,0.8s
BOSA Boshof 81.47 118 *i* P **P 19 06 24.6 -0.1**
BOSA IAmb IAmb 19 06 25.5
comp=Z,27nm,0.8s
BOSA Boshof 81.47 118 P **P 19 06 24.7 +0.1**
comp=Z,21nm,0.8s,baz=248,slow=4.1,SNR=33
BOSA LR LR 19 38 22.3
comp=Z,456nm,19.9s,baz=238,slow=33
comp=Z,21nm,0.8s
AGMN Agassiz Nation 81.47 344 IAmb IAmb 19 06 25.8
comp=Z,24nm,0.7s
ELK Elko 81.60 328 P **P 19 06 25.5 +0.5**
ELK Elko 81.60 328 LR LR 19 40 00.1
comp=Z,216nm,18.0s,baz=143,slow=34
ELK Elko 81.60 328 P **P 19 06 25.5 +0.5**
ELK pmax pmax
comp=Z,13nm,0.9s
KVN Kaiserville 81.62 325 P **P 19 06 26.0 +0.9**
KVN Kaiserville 81.62 325 P **P 19 06 26.0 +0.9**
KVN pmax pmax
comp=Z,11nm,1.0s
GRTLG Ghanzi 81.88 110 *i* P **P 19 06 27.1 +0.1**
KGCAE Kacgae 81.95 112 *i* P **P 19 06 27.5 +0.3**
MDND Maddock 82.01 342 P **P 19 06 27.8 +1.1**
SWZ Schweizer 82.25 117 *e*P **P 19 06 28.2 -0.6**
SWZ IAmb IAmb 19 06 29.2
comp=Z,27nm,1.0s
PNTR Pine Nut 82.39 324 P **P 19 06 30.5 +1.4**
PNTR IAmb IAmb 19 06 32.9
comp=Z,23nm,0.8s
QNGWA Qangwa 82.75 108 *i* P **P 19 06 32.4 +0.9**
TORD Torodi Ar. Bea 82.88 70 P **P 19 06 32.2 +0.2**
comp=Z,10nm,0.5s,baz=285,slow=5.8,SNR=222
TORD LR LR 19 41 31.6
comp=Z,894nm,19.1s,baz=224,slow=34
comp=Z,10nm,0.5s
YHL Hebgen Lake 83.24 333 P **P 19 06 35.0 +1.5**
ULM Lac du Bonnet 83.30 345 IAmb IAmb 19 06 35.0
comp=Z,30nm,1.0s
ULM Lac du Bonnet 83.30 345 P **P 19 06 34.0 +0.7**
comp=Z,12nm,0.5s,baz=164,slow=5.3,SNR=18
comp=Z,12nm,0.5s
ULM Lac du Bonnet 83.30 345 *c i*P **P 19 06 33.6 +0.3**
CASY Casey 83.39 181 P **P 19 06 34.6 +0.9**
CASY IAmb IAmb 19 06 36.2
comp=Z,34nm,1.0s
LBTB Lobatse 83.55 115 P **P 19 06 35.1 -0.4**
LBTB Lobatse 83.55 115 ⇑ *i*P **P 19 06 35.3 -0.2**
LBTB IAmb IAmb 19 06 44.7
comp=Z,32nm,0.8s
LBTB Lobatse 83.55 115 LR LR 19 38 31.4
comp=Z,808nm,21.9s,baz=232,slow=32
LBTB Lobatse 83.55 115 P **P 19 06 35.1 -0.4**
LBTB pmax pmax
comp=Z,40nm,1.0s
KDWAN Kaudwane 83.64 113 *i* P **P 19 06 36.2 +0.2**
ORV Oroville 83.71 324 IAmb IAmb 19 06 39.3
comp=Z,15nm,0.9s
DGMT Dagmar 83.91 339 P **P 19 06 37.6 +1.1**
CKGRV CKGRV 83.93 111 *i* P **P 19 06 37.7 +0.2**
PRYS Parys 83.93 118 *e*P **P 19 06 36.0 -1.5**
PRYS IAmb IAmb 19 06 46.4
comp=Z,28nm,0.9s
MRCO Marico , North 83.94 116 ⇑ *i*P **P 19 06 37.2 -0.3**
MRCO IAmb IAmb 19 06 38.2
comp=Z,47nm,1.3s
DLMT Dillon 84.22 332 P **P 19 06 39.3 +1.0**
WDLM Western Deep L 84.24 117 *e*P **P 19 06 38.9 -0.2**
WDLM IAmb IAmb 19 06 39.8
comp=Z,83nm,1.3s
LPHEP Lephephe 84.59 114 *i* P **P 19 06 41.1 +0.2**
HRAO HartRAO 84.72 117 *e*P **P 19 06 40.1 -1.4**
NYAT Nyati, Northwe 84.90 116 *e*P **P 19 06 43.2 +0.9**
NYAT IAmb IAmb 19 06 51.6
comp=Z,41nm,1.2s
PMBG Pietermaritzbu 84.94 121 *e*P **P 19 06 42.6 +0.2**
PMBG IAmb IAmb 19 06 44.1
comp=Z,64nm,1.1s
J08A Circle Bar Ran 85.14 328 IAmb IAmb 19 06 46.2
comp=Z,25nm,0.9s
SCHQ Schefferville 85.22 3 P **P 19 06 43.7 +0.8**
comp=Z,22nm,1.0s,baz=178,slow=5.1,SNR=8.4
SCHQ LR LR 19 49 10.7
comp=Z,70nm,18.0s,baz=250,slow=39
comp=Z,22nm,1.0s
TSWA Tswaing Meteor 85.26 117 *e*P **P 19 06 44.8 +0.6**
TSWA IAmb IAmb 19 06 58.6
comp=Z,31nm,1.1s
PLID Pearl Lake 85.41 330 P **P 19 06 45.1 +0.7**
PLID IAmb IAmb 19 06 47.1
comp=Z,11nm,0.8s
RUST Rust De Winter 85.70 117 *e*P **P 19 06 46.5 +0.1**
RUST IAmb IAmb 19 06 47.6
comp=Z,40nm,1.6s
LEPH Lephalale, Lim 85.86 115 *e*P **P 19 06 47.8 +0.6**
LEPH IAmb IAmb 19 06 48.1
comp=Z,36nm,1.2s
YBH Yreka Blue Hor 85.94 324 LR LR 19 39 00.8
comp=Z,132nm,20.4s,baz=150,slow=31
URZ Urewera 86.07 227 LR LR 19 35 51.9
comp=Z,310nm,21.0s,baz=216,slow=29
RPZ Rata Peaks 86.33 220 LR LR 19 38 12.9
comp=Z,229nm,18.3s,baz=132,slow=31
J05D Fort Rock, OR 86.38 326 P **P 19 06 50.6 +1.4**
PINE Pine Mountain 86.62 327 IAmb IAmb 19 06 53.8
comp=Z,16nm,0.9s
CRAIL Swartwater, Li 86.76 114 *e*P **P 19 06 51.0 -0.7**
G08A Pilot Rock 86.86 329 IAmb IAmb 19 06 54.5
comp=Z,22nm,1.8s
POGA Pongola 86.99 120 *e*P **P 19 06 53.5 +1.0**
POGA IAmb IAmb 19 06 53.8
comp=Z,41nm,1.3s
G06A Carlson Farm, 87.58 328 IAmb IAmb 19 07 09.7
comp=Z,16nm,1.4s
H04A Detroit Lake 87.89 327 P **P 19 06 57.4 +1.1**
H04A IAmb IAmb 19 06 58.6
comp=Z,11nm,0.8s
HAWA Hanford 87.97 329 P **P 19 06 57.8 +1.2**
HAWA IAmb IAmb 19 06 58.9
comp=Z,14nm,1.2s
HOED Hoedspruit, Li 87.99 117 *e*P **P 19 06 57.8 +0.3**
HOED IAmb IAmb 19 07 07.0
comp=Z,54nm,2.0s
MUSN Musina, Limpop 88.30 115 *e*P **P 19 06 59.8 +0.9**
MUSN IAmb IAmb 19 07 08.4
comp=Z,19nm,1.3s
NEW Newport 88.40 332 LR LR 19 44 15.7
comp=Z,333nm,18.0s,baz=139,slow=34
BLWY Bulawayo 88.45 112 *e*P **P 19 06 58.3 -1.5**
BLWY IAmb IAmb 19 07 09.1
comp=Z,2μm,4.4s
MOPA Mopani 88.83 117 *e*P **P 19 07 00.5 -0.9**
MOPA IAmb IAmb 19 07 10.0
comp=Z,312nm,2.9s
MDT Midelt 89.55 51 LR LR 19 44 41.6
comp=Z,312nm,21.4s,baz=240,slow=34
LSZ Lusaka 90.67 108 *e*P P 19 07 19.1 +8.9
LSZ IAmb IAmb 19 07 26.3
comp=Z,27nm,1.2s
KRI Karoi 91.01 110 *e*P **P 19 07 13.4 +1.6**
TAM Tamanrasset 91.19 64 P **P 19 07 10.8 -1.7**
TAM Tamanrasset 91.19 64 P **P 19 07 10.8 -1.7**
TAM pmax pmax
comp=Z,8.0nm,1.1s
FRB Frobisher Bay 94.09 1 LR LR 19 52 46.3
comp=Z,147nm,20.1s,baz=154,slow=37
ESDC Sonseca Array 94.09 46 P **P 19 07 25.9 +0.5**
comp=Z,1.4nm,0.9s,baz=240,slow=4.3,SNR=4.4
ESDC LR LR 19 50 00.1
comp=Z,524nm,18.1s,baz=222,slow=36
comp=Z,1.4nm,0.9s
BBB Bella Bella 96.03 329 LR LR 19 48 21.2
comp=Z,92nm,18.1s,baz=134,slow=34
SFJD Kangerlussuaq 98.64 8 LR LR 19 54 01.8
comp=Z,87nm,18.6s,baz=180,slow=36
DZM Mont Dzumac 103.38 234 *e*LR LR 19 42 03.2
comp=Z,617nm,23.7s
GERES GERESS Array B 109.63 44 PKiKP **PKiKP 19 12 38.1 +0.7**
comp=Z,0.3nm,0.3s,baz=296,slow=5.4,SNR=3.9
STKA Stephens Creek 110.23 210 PKiKP **PKiKP 19 12 41.5 +2.4**
comp=Z,1.6nm,0.9s,baz=333,slow=2.3,SNR=3.1
PDG Podgorica 110.64 52 ⇑P **Pdif 19 08 43.2 +3.9**
ILAR Eielson Array 111.28 334 PKiKP **PKiKP 19 12 39.6 -0.3**
comp=Z,0.8nm,0.9s,baz=90,slow=1.0,SNR=5.0
NACGM Naroch 119.22 41 *e*PKP **PKPdf 19 12 53.9 -1.5**
comp=Z,11nm,1.0s,baz=257
AKASG Malin Array Be 119.74 46 PKP **PKPdf 19 12 55.8 -0.8**
comp=Z,1.8nm,0.8s,baz=270,slow=2.6,SNR=7.6
AKASG Malin Array Be 119.74 46 *c i*PKIKP **PKPdf 19 12 56.5 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 119.74 46 ⇑ *i*PKIKP **PKPdf 19 12 56.3 -0.2**
MNK Minsk 119.76 41 *i* PKP **PKiKP 19 12 56.5 0.0**
comp=E,4.0nm,0.8s
MNK *i* PKP **PKiKP 19 12 56.5 0.0**
comp=N,7.0nm,0.8s
MNK *i* PKP **PKiKP 19 12 56.5 0.0**
comp=Z,18nm,0.9s,baz=258
MNK *i* PP **PP 19 14 19.5 -0.9**
MNK *i* LQ LQ 19 58 08.3
MNK *i* LR LR 20 02 03.7
MNK *i* LRM MLR 20 05 43.9
comp=N,262nm,18.2s
MNK *i* LRM MLR 20 05 59.9
comp=Z,226nm,17.2s
MNK *i* LRM MLR 20 07 11.9
comp=E,254nm,19.0s
MNK Minsk 119.76 41 *i* PKIKP **PKiKP 19 12 56.5 0.0**
MNK *i* 19 14 19.5
MNK *i* PPP PPP 19 16 51.6
MNK *i* SS SS 19 30 43.7 +0.1
MNK pmax pmax
comp=Z,18nm,0.9s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.8s
MNK MLR MLR
comp=N,262nm,18.0s
MNK MLR MLR
comp=Z,226nm,17.0s
BRTR Keskin Array B 119.98 59 PKP **PKPdf 19 12 57.4 -0.2**
comp=Z,0.5nm,0.7s,baz=236,slow=5.5,SNR=3.5
ASAR Alice Springs 120.65 208 PKP **PKPdf 19 12 58.9 -0.5**
comp=Z,1.4nm,0.6s,baz=133,slow=1.7,SNR=38
WRA Warramunga Arr 123.79 210 PKPpre 19 12 52.4
WRA PKPdf **PKPdf 19 13 03.5 -1.9**
WRA Warramunga Arr 123.79 210 PKP **PKPdf 19 13 05.0 -0.4**
comp=Z,5.3nm,0.7s,baz=161,slow=1.6,SNR=78
WRAB Tennant Creek 123.79 210 ⇓ *i*PKIKP **PKPdf 19 13 05.0 -0.4**
OBN Obninsk 124.82 42 *c i*PKIKP **PKiKP 19 13 06.4 -0.1**
OBN *e* 19 14 53.4
OBN pmax pmax
comp=Z,22nm,1.7s
OBN MLR MLR
comp=Z,251nm,18.0s
H11S2 WAKE ISLAND Hyl 25.95 271 T T 21 31 56.7
baz=116,slow=75,SNR=172
H11S1 WAKE ISLAND Hyl 25.96 271 T T 21 31 50.5
baz=116,slow=75,SNR=173
H11S3 WAKE ISLAND Hyl 25.97 271 T T 21 31 55.2
baz=116,slow=75,SNR=121
LPSR Galich'ya Gora 126.00 45 *e*PKIKP **PKPdf 19 13 07.6 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 126.03 47 *e*PKIKP **PKPdf 19 13 07.1 -1.5**
VSR pmax pmax
comp=Z,6.0nm,1.0s
VORD Divnogorie 126.08 47 *e*PKIKP **PKPdf 19 13 06.9 -1.8**
VORD pmax pmax
comp=Z,5.0nm,1.0s
VORR Voronezh 126.09 46 *e*PKIKP **PKPdf 19 13 08.2 -0.5**
VORR pmax pmax
comp=Z,27nm,0.4s
H11N3 WAKE ISLAND Hyl 26.28 273 T T 21 32 20.7
baz=116,slow=75,SNR=25
H11N1 WAKE ISLAND Hyl 26.29 273 T T 21 32 24.8
baz=116,slow=75,SNR=11
H11N2 WAKE ISLAND Hyl 26.29 273 T T 21 32 24.8
baz=116,slow=75,SNR=70
KLMR Klimovskoe 126.55 35 *e*PKIKP **PKPdf 19 13 07.7 -1.6**
KLMR *e* 19 15 10.2
KLMR pmax pmax
comp=Z,24nm,1.4s
KIV Kislovodsk 127.50 56 *i* PKIKP **PKiKP 19 13 12.4 +0.1**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KBZ Khabaz 127.61 56 ⇓ *i*PKIKP **PKiKP 19 13 12.6 +0.2**
VRH Novokhopyorsk 127.62 47 *e*PKIKP **PKPdf 19 13 09.6 -2.0**
VRH pmax pmax
comp=Z,13nm,1.5s
FITZ Fitzroy Crossi 128.73 201 PKP **PKPdf 19 13 15.1 +0.2**
comp=Z,4.6nm,0.8s,baz=204,slow=3.9,SNR=4.9
BILL Bilibino 129.88 335 ⇑ *i*PKIKP **PKPdf 19 13 15.8 +0.3**
BELG Belogornoye 131.31 45 *d i*PKIKP **PKiKP 19 13 19.1 -0.4**
ARTI Arti 136.94 38 PKPdf **PKPdf 19 13 28.7 -0.4**
ARTI Arti 136.94 38 *i* PKIKP **PKiKP 19 13 30.6 -0.3**
ARTI 19 16 09.7
ARTI SS SS 19 34 17.6 +1.5
ARTI MLR MLR
comp=Z,234nm,18.0s
SEY Seymchan 137.18 332 ⇓ *i*PKIKP **PKiKP 19 13 31.3 +0.1**
TIXI Tiksi 137.41 350 PKPpre 19 13 17.6
TIXI PKPdf **PKPdf 19 13 28.9 -0.6**
TIXI Tiksi 137.41 350 ⇑ *i*PKIKP **PKPdf 19 13 29.8 +0.3**
TIXI pmax pmax
comp=Z,5.0nm,0.7s
PETK Petropavlovsk- 137.89 317 PKP **PKPdf 19 13 31.6 +0.7**
comp=Z,3.7nm,0.9s,baz=91,slow=4.0,SNR=4.4
ABKAR Abkulak array 139.38 49 PKPpre PKPpre 19 13 21.7
ABKAR Abkulak array 139.38 49 PKPpre PKPpre 19 13 21.4
ABKAR PKPdf **PKPdf 19 13 33.0 -0.7**
NRIK Noril'sk 139.48 11 PKP **PKPdf 19 13 33.8 +0.5**
comp=Z,1.9nm,0.5s,baz=53,slow=5.1,SNR=3.2
NRIK Noril'sk 139.48 11 ⇓ *i*PKIKP **PKiKP 19 13 34.6 -1.1**
LWLI Liwa 144.34 173 PKP PKPbc 19 13 43.0 +0.8
BRVK Borovoye 144.55 40 PKPdf **PKPdf 19 13 42.3 -0.6**
BRVK Borovoye 144.55 40 PKIKP **PKPdf 19 13 42.3 -0.6**
BVAR Borovoye Array 144.62 40 PKP **PKPdf 19 13 42.9 -0.2**
comp=Z,15nm,0.5s,baz=299,slow=3.0,SNR=119
TTSI Tana Toraja 144.73 200 PKP **PKiKP 19 13 54.2 +6.0**
LUWI Luwuk 145.59 206 PKP **PKPab 19 13 47.7 +1.4**
YAK Yakutsk 145.61 342 PKPdf **PKPbc 19 13 44.7 +0.1**
YAK Yakutsk 145.61 342 *c i*PKP2 **PKPbc 19 13 44.7 +0.1**
YAK pmax pmax
comp=Z,132nm,1.0s
YAK pmax pmax
comp=E,17nm,1.3s
YAK pmax pmax
comp=N,22nm,1.4s
SIMJ Simiganj 146.98 65 PKPdf **PKPdf 19 13 47.9 +0.1**
KKAR Karatay Array 147.65 57 PKPdf **PKPdf 19 13 48.6 +0.1**
KKAR Karatay Array 147.65 57 PKPdf **PKPdf 19 13 48.9 +0.4**
KKAR Karatay Array 147.65 57 PKIKP **PKPdf 19 13 48.7 +0.1**
MPSI Mapaga 147.89 202 PKP **PKPbc 19 13 52.5 -0.2**
TOLI2 Tolitoli 148.31 205 PKPdf **PKPdf 19 13 50.5 0.0**
YSS Yuzh-Sakhalins 148.82 311 *e*PKP2 **PKiKP 19 13 55.3 -0.2**
YSS pmax pmax
comp=Z,30nm,0.7s
SBSI Sibolga 149.77 161 PKP PKPab 19 14 12.2 +9.4
HYB Hyderabad 150.01 109 *e*PKPbc **PKPbc 19 13 57.5 -0.6**
EKS2 Erkin-Say 150.09 57 P **PKiKP 19 13 58.4 -0.1**
SNR=16
AML Almayashu 150.14 58 P **PKiKP 19 13 58.9 -0.1**
SNR=9.8
KURBB Kurchatov Arra 150.21 39 PKPbc **PKPbc 19 13 57.6 +0.1**
comp=Z,20nm,1.0s,baz=301,slow=3.0,SNR=29
KURBB PP **PP 19 17 33.9 +1.2**
comp=Z,0.3nm,0.4s,baz=272,slow=6.4,SNR=1.6
KURK Kurchatov 150.21 39 PKPdf **PKPdf 19 13 52.3 0.0**
KURK **PKPbc 19 13 57.7 +0.2**
KURK Kurchatov 150.21 39 PKIKP **PKPdf 19 13 52.3 0.0**
KURK 19 13 57.7
NIL Nilore 150.34 75 PKPdf **PKPdf 19 13 51.5 -1.7**
NIL **PKPbc 19 13 58.0 -0.4**
NIL Nilore 150.34 75 PKIKP **PKPdf 19 13 51.5 -1.7**
NIL 19 13 58.0
USP Ospenovka 150.47 55 P **PKiKP 19 13 59.3 +0.1**
SNR=16
AAK Ala-Archa 150.61 57 PKPdf **PKPdf 19 13 52.4 -1.1**
AAK Ala-Archa 150.61 57 PKIKP **PKPdf 19 13 52.4 -1.1**
CHMS Chumysh 150.71 56 P **PKiKP 19 13 59.9 +0.2**
SNR=12
KBK Karagaybulak 150.93 56 P **PKiKP 19 14 00.7 +0.4**
SNR=12
KSM Kuching 150.94 184 PKPdf **PKPdf 19 13 54.0 -0.6**
KSM PKPbc **PKPbc 19 13 59.6 -0.7**
KSM PKPab **pPKPbc 19 14 08.5 -0.3**
ZALV Zalesovo Beam 151.23 29 PKP **PKPdf 19 13 53.6 -0.2**
comp=Z,50nm,0.8s,baz=318,slow=2.0,SNR=12
ZALV PKPbc **PKiKP 19 14 00.1 -0.2**
comp=Z,51nm,0.8s,baz=298,slow=3.1,SNR=133
ZALV PKPab **sPKPbc 19 14 09.5 -1.4**
comp=Z,30nm,0.7s,baz=295,slow=3.2,SNR=15
TKM2 Tokmak 2 151.33 56 P **PKiKP 19 14 01.7 +0.5**
SNR=17
SBUM Sibu 151.72 189 PKPdf **PKPdf 19 13 54.1 -1.7**
SBUM PKPbc **PKPbc 19 14 01.6 -0.6**
SBUM PKPab **PKPab 19 14 11.4 +0.7**
NRN Naryn 151.97 58 PKPdf **PKPdf 19 13 54.6 -1.2**
NRN Naryn 151.97 58 PKIKP **PKPdf 19 13 54.6 -1.2**
KSH Kashi 152.29 63 PKPbc **PKPdf 19 13 57.0 +0.9**
KSH pPKP PKiKP 19 14 03.5 +0.3
KSH sPKP 19 14 12.2
KSH PP **PP 19 17 51.5 +6.0**
BOD Bodaibo 152.52 353 *e*PKIKP **PKPbc 19 14 02.6 0.0**
BOD pmax pmax
comp=Z,39nm,1.4s
ZEA Zeya 153.10 335 *e*PKIKP **PKPdf 19 13 56.7 +0.1**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
MAKZ Makanchi 154.10 44 PKPdf **PKPdf 19 13 56.6 -1.7**
MAKZ PKPbc **PKPbc 19 14 06.5 0.0**
MAKZ PKPab **PKPab 19 14 19.9 -0.2**
MAKZ Makanchi 154.10 44 PKIKP **PKPdf 19 13 56.6 -1.7**
MAKZ 19 14 06.5
MAKZ 19 14 19.9
MK31 Makanchi Array 154.30 44 **PKPdf 19 13 58.1 -0.5**
MK31 PKPbc **PKPbc 19 14 06.5 -0.4**
MK31 PKPab **PKPab 19 14 21.4 +0.5**
MK31 Makanchi Array 154.30 44 PKIKP **PKPdf 19 13 58.1 -0.5**
MK31 19 14 06.5
MKAR Makanchi Array 154.30 44 PKP **PKPdf 19 13 58.1 -0.5**
comp=Z,0.9nm,0.9s,baz=305,slow=5.1,SNR=4.3
MKAR PKPbc **PKiKP 19 14 07.0 +0.1**
comp=Z,4.8nm,0.9s,baz=310,slow=2.8,SNR=18
MJAR Matsushiro Arr 154.37 291 PKPab **PKPab 19 14 22.6 +1.0**
comp=Z,5.5nm,0.7s,baz=97,slow=2.4,SNR=10
HEH HeiHe 155.67 329 *e*PKP **PKPdf 19 14 00.1 -0.2**
CIT Chita 158.26 351 *e*PKP2 **PKPab 19 14 40.0 +2.2**
CIT pmax pmax
comp=Z,68nm,3.2s
WMQ Urumqi 159.10 45 *e*PKP **PKPdf 19 14 04.9 -0.1**
WMQ LR LR
comp=Z,320nm,22.1s
WMQ LR LR
comp=Z,160nm,23.1s
ZAK Zakamensk 159.92 9 *e*PKP2 **PKPab 19 14 45.5 +0.4**
ZAK pmax pmax
comp=Z,12nm,1.4s
KSRS Korea Array 162.30 298 PKPab **PKPab 19 14 55.1 -0.8**
comp=Z,1.2nm,0.8s,baz=79,slow=2.6,SNR=2.7
SONM Songino Array 162.76 4 PKPdf **PKPdf 19 14 08.1 -0.8**
SONM PKPab **PKPab 19 14 58.0 +0.4**
SONM Songino Array 162.76 4 PKP **PKPdf 19 14 08.7 -0.2**
comp=Z,1.2nm,1.0s,baz=356,slow=4.3,SNR=5.8
SONM PKPab **PKPab 19 14 58.4 +0.8**
comp=Z,4.4nm,1.0s,baz=337,slow=4.0,SNR=3.6
SONM PP **PP 19 18 43.3 +1.8**
comp=Z,0.7nm,0.8s,baz=346,slow=3.6,SNR=1.9
SONM Songino Array 162.76 4 PKIKP **PKPdf 19 14 08.1 -0.8**
SONM 19 14 58.0
ULN Ulaanbaatar 162.76 3 PKPdf **PKPdf 19 14 08.0 -0.9**
ULN PKPab **PKPab 19 14 58.6 +1.0**
ULN Ulaanbaatar 162.76 3 PKIKP **PKPdf 19 14 08.0 -0.9**
ULN 19 14 58.6
SHL Shillong 164.75 105 PKPdf **PKPdf 19 14 06.8 -4.6**
SHL PKPab **PKPab 19 15 05.3 -1.9**
SHL Shillong 164.75 105 PKIKP **PKPdf 19 14 06.9 -4.6**
SHL 19 15 05.3
CMAR Chiang Mai Arr 165.26 143 PKPdf **PKPdf 19 14 10.7 -1.1**
CMAR PKPab **PKPab 19 15 07.5 -1.7**
CMAR Chiang Mai Arr 165.26 143 PKP **PKPdf 19 14 11.6 -0.2**
comp=Z,1.3nm,1.0s,baz=255,slow=2.7,SNR=5.6
CMAR PKPab **PKPab 19 15 08.5 -0.7**
comp=Z,4.7nm,0.9s,baz=231,slow=5.8,SNR=20
CHTO Chiang Mai 165.56 142 PKPdf **PKPdf 19 14 09.7 -2.4**
CHTO PKPab **PKPab 19 15 08.7 -1.9**
CHTO Chiang Mai 165.56 142 PKIKP **PKPdf 19 14 09.7 -2.4**
CHTO 19 15 08.7
GOMU GeErMu 167.52 60 PKP **PKPdf 19 14 14.2 +0.6**
GOMU sPKP 19 14 22.8
GOMU PP **PP 19 19 07.3 -0.8**
GOMU AMB AMB
comp=Z,280nm,5.4s
GOMU LR LR
comp=Z,290nm,18.7s
GOMU LR LR
comp=Z,140nm,17.4s
GOMU LR LR
comp=Z,390nm,17.3s
QIZ Qiongzhong 168.36 188 PKP **PKPdf 19 14 14.2 0.0**
QIZ PP **PP 19 19 11.9 +1.4**
QIZ SS SS 19 40 02.7 +3.4
QIZ LR LR
comp=Z,220nm,7.1s
QIZ LR LR
comp=Z,160nm,10.2s

QIZ				LR	LR	
	comp=Z,200nm,16.2s					
GTA	**Gaotai**	**168.87**	**36**	*e*PKP	**PKPdf**	**19 14 14.9 +0.8**
GTA				pPKP	pPKPdf	19 14 23.4 +0.9
GTA				sPKP		19 14 27.6
GTA				PKPab	**PKPab**	**19 15 26.0 +1.1**
HHC	**Hu-ho-hao-te**	**169.44**	**346**	*e*PKP	**PKPdf**	**19 14 12.2 -2.2**
HHC				PP	**PP**	**19 19 18.9 +2.7**
HHC				SS	SS	19 40 13.6 +3.1
HHC				AMB	AMB	
	comp=Z,130nm,7.5s					
HHC				LR	LR	
	comp=Z,130nm,16.0s					
HHC				LR	LR	
	comp=Z,220nm,16.8s					
HHC				LR	LR	
	comp=Z,300nm,18.3s					
BTO	**Baotou**	**169.93**	**352**	*e*PKP	**PKPdf**	**19 14 13.8 -0.8**
BTO				PKPab	**PKPab**	**19 15 28.1 -1.3**
BTO				LR	LR	
	comp=Z,480nm,11.4s					
BTO				LR	LR	
	comp=Z,270nm,8.7s					
BTO				LR	LR	
	comp=Z,280nm,15.3s					
NJ2	**Nanjing**	**170.77**	**282**	*e*PKP	**PKPdf**	**19 14 15.6 +0.4**
PZH	**PanZhiHua**	**173.00**	**124**	PKP	**PKPdf**	**19 14 16.0 -0.6**
LZH	**Lanzhou**	**173.45**	**33**	*e*PKP	PKPdf	19 14 26.5 +10
LZH				pPKP	sPKPdf	19 14 37.7 +10
LZH				sPKP		19 14 41.2
LZH				PKP	sPKPab	19 15 55.3 -0.8
XAN	**Xi'an**	**176.54**	**350**	PKP	**PKPdf**	**19 14 18.6 +1.2**
XAN				sPKP		19 14 27.4
XAN				PP	**PP**	**19 19 53.6 +2.8**
XAN				LR	LR	
	comp=Z,250nm,19.2s					
XAN				LR	LR	
	comp=Z,200nm,18.5s					
XAN				LR	LR	
	comp=Z,200nm,19.2s					

*FUNV **09** 18:57:25.6, 11°.44N×70°.68W, h2km, MW4.0*
*RSNC **09** 18:57:28.4±0.0, 11°N±5°×7°1W±°, h108km±10km, M4.3, mb4.8, mB5.1, ML3.9, Mw(mB)4.4*

ISC 09 18:57:28.3±2.2, 11°.33N±0°.04×70°.65W±0°.03, h25km±21km, n41, σ1°79/70, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUA1	**Aruba**	**1.33**	**28**	P	**Pn**	**18 57 51.5**	**+0.2**
AUA1				S	**Sb**	**18 58 10.3**	**+1.1**
URIC	**Uribia, Colomb**	**1.37**	**286**	P	**Pn**	**18 57 50.4**	**-1.4**
URIC				S	**Sn**	**18 58 07.6**	**-1.5**
JACV	**Jacura**	**1.80**	**97**	*e*P	**Pn**	**18 57 57.6**	**-0.2**
JACV				*e*S	**Sn**	**18 58 20.9**	**+1.0**
TEPV	**Terepaima**	**1.97**	**133**	*e*P	**Pn**	**18 57 60.0**	**-0.2**
TEPV				*e*S	**Sb**	**18 58 26.3**	**-1.4**
CRJC	**Cerrejon, Guaj**	**2.21**	**262**	P	**Pn**	**18 58 02.3**	**-1.2**
CRJC				S	**Sn**	**18 58 31.2**	**+1.1**
MCQV	**Machiques**	**2.24**	**236**	*e*P	**Pn**	**18 58 03.1**	**-0.8**
MCQV				*e*S	**Sn**	**18 58 31.9**	**+1.1**
SDV	**Santo Domingo**	**2.42**	**180**	P	**Pn**	**18 58 06.2**	**-0.3**
MAPV	**Macapo**	**2.62**	**124**	*e*P	**Pn**	**18 58 09.1**	**0.0**
MAPV				*e*S	**Sn**	**18 58 41.8**	**+1.6**
TURV	**Turiamo**	**2.90**	**107**	*e*P	**Pn**	**18 58 11.3**	**-1.6**
TURV				*e*S	**Sn**	**18 58 47.7**	**+0.8**
SOCV	**Socops**	**3.03**	**184**	*e*P	**Pn**	**18 58 14.8**	**+0.1**
SOCV				*e*S	**Sn**	**18 58 51.9**	**+1.6**
BENV	**Beln**	**3.29**	**114**	*e*P	**Pn**	**18 58 18.3**	**-0.1**
BENV				*e*S	**Sn**	**18 58 57.2**	**+0.3**
BAUV	**El Baul**	**3.50**	**132**	*e*P	**Pn**	**18 58 21.1**	**0.0**
BAUV				*e*S	**Sn**	**18 59 02.5**	**+0.8**
TACV	**Tcata**	**3.75**	**108**	*e*P	**Pn**	**18 58 24.1**	**-0.6**
TACV				*e*S	**Sn**	**18 59 07.2**	**-1.0**
CAPV	**Capacho**	**3.81**	**206**	*e*P	**Pn**	**18 58 24.9**	**-0.8**
CAPV				*e*S	**Sn**	**18 59 09.7**	**-0.1**
ARGC	**Ariguani, Magd**	**3.82**	**248**	P	**Pn**	**18 58 26.0**	**+0.4**
ARGC				S	**Sn**	**18 59 11.5**	**+1.7**
FUNV	**FUNVISIS**	**3.87**	**102**	*e*P	**Pn**	**18 58 26.3**	**0.0**
FUNV				*e*S	**Sn**	**18 59 10.1**	**-1.0**
OCAC	**Ocana**	**4.04**	**221**	P	**Pn**	**18 58 28.3**	**-0.4**
OCAC				S	**Sn**	**18 59 14.7**	**-0.7**
PAMC	**Pamplona, Colo**	**4.45**	**207**	P	**Pn**	**18 58 34.1**	**-0.5**
PAMC				S	**Sn**	**18 59 24.0**	**-1.9**
SJCC	**San Jacinto, C**	**4.67**	**253**	P	**Pn**	**18 58 37.2**	**-0.1**
SJCC				S	**Sn**	**18 59 34.5**	**+3.6**
MERV	**Las Mercedes**	**4.76**	**115**	*e*P	**Pn**	**18 58 38.6**	**+0.1**
MERV				*e*S	**Sn**	**18 59 31.6**	**-1.3**
TAMC	**Tame, Arauca**	**4.99**	**193**	P	**Pn**	**18 58 41.3**	**-0.4**
	132nm,0.7s,2μm					
TAMC				S	**Sn**	**18 59 37.4**	**-1.2**
	132nm,0.7s,2μm					
BRJC	**Barrancabermej**	**5.29**	**215**	P	**Pn**	**18 58 45.9**	**+0.1**
	252nm,0.7s,2μm					
BRJC				S	**Sn**	**18 59 45.5**	**-0.6**
	252nm,0.7s,2μm					
BARC	**Barichara**	**5.33**	**208**	P	**Pn**	**18 58 47.2**	**+0.7**
BARC				S	**Sn**	**18 59 47.7**	**+0.5**
CACV	**CAICARA DEL OR**	**5.51**	**132**	*e*P	**Pn**	**18 58 53.4**	**+4.5**
CACV				*e*S	**Sn**	**18 59 59.5**	**+7.9**
ZARC	**Zaragoza, Cauc**	**5.63**	**228**	P	**Pn**	**18 58 48.8**	**-1.7**
	65nm,0.6s,2μm					
ZARC				S	**Sn**	**18 59 53.3**	**-1.2**
	65nm,0.6s,2μm					
RUSC	**La Rusia**	**5.91**	**204**	P	**Pn**	**18 58 54.5**	**-0.2**
RUSC				S	**Sn**	**18 59 59.5**	**-2.5**
UREC	**San Jos de Ur**	**5.98**	**234**	P	**Pn**	**18 58 55.9**	**+0.6**
	46nm,0.8s,925nm					
UREC				S	**Sn**	**19 00 02.5**	**-0.6**
	46nm,0.8s,925nm					
PCRV	**Puerto La Cruz**	**6.02**	**100**	*e*P	**Pn**	**18 58 55.8**	**-0.1**
PTBC	**PUERTO BERRIO,**	**6.06**	**219**	P	**Pn**	**18 58 54.6**	**-1.8**
	48nm,0.5s,952nm					
PTBC				S	**Sn**	**19 00 00.8**	**-4.3**
	48nm,0.5s,952nm					
CUMV	**Cumana_UDO**	**6.41**	**97**	*e*P	**Pn**	**18 59 00.2**	**-1.0**
CUMV				*e*S	**Sn**	**19 00 09.0**	**-4.6**
HELC	**Santa Helena**	**7.02**	**224**	P	**Pn**	**18 59 11.0**	**+1.1**
HELC				S	**Sn**	**19 00 28.7**	**-0.4**
SVT	**Saint Vincent**	**9.38**	**78**	*e*P	**Pn**	**18 59 39.7**	**-2.3**
SVB	**Belmont**	**9.39**	**77**	*e*P	**Pn**	**18 59 39.0**	**-3.1**
MTDJ	**Mount Denham**	**9.56**	**317**	*e*P	**Pn**	**18 59 44.2**	**-0.3**
GTBY	**Guantanamo Bay**	**9.57**	**334**	*e*P	**Pn**	**18 59 45.1**	**+0.6**
QMBU	**Quimbuelo**	**9.69**	**336**	*e*P	**Pn**	**18 59 46.9**	**+0.7**
RCC	**Rio Carpintero**	**9.89**	**331**	*e*P	**Pn**	**18 59 50.9**	**+1.9**
MARVS	**Santiago de Cu**	**9.99**	**330**	*e*P	**Pn**	**18 59 51.4**	**+1.0**
PINC	**Pinares de May**	**10.36**	**332**	*e*P	**Pn**	**18 59 56.3**	**+0.9**
YARP	**Jiguani**	**10.53**	**329**	*e*P	**Pn**	**18 59 57.9**	**+0.3**
	comp=Z,16nm,0.9s					
YAR	**Yar**	**10.53**	**329**	*e*P	**Pn**	**18 59 57.9**	**+0.1**

GUC 09 19:03:09.8±0.9, 30°.63S×71°.70W, h36km±2km, ML3.6, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.07**	**128**	⇑*i*P	Pn	19 03 15.1	-0.8
CO06				*i* S	Sn	19 03 18.4	-1.7
CO06				IAML		19 03 18.9	
	comp=E,11μm,0.1s						
CO05	**La Serena**	**0.81**	**29**	⇓*i*P	Pn	19 03 25.1	+0.4
CO03	**El Pedregal**	**0.89**	**104**	⇓*i*P	Pn	19 03 26.2	+0.3
CO03				*i* S	Sn	19 03 38.2	+0.5
CO03				IAML		19 03 42.3	
	comp=E,2μm,0.5s						
GO04	**Tololo Observa**	**0.90**	**60**	⇓*i*P	Pn	19 03 26.7	+0.6
GO04				*i* S	Sn	19 03 37.0	-1.1
CO01	**Juntas del Tor**	**1.53**	**65**	*i* P	Pn	19 03 36.9	+2.1
CO04	**Los Peladeros**	**1.54**	**156**	*i* P	Pn	19 03 36.2	+1.3
CO04				*i* S	Sn	19 03 56.0	+2.2
CO04				IAML		19 03 59.2	
	comp=E,819nm,0.2s						
LCO	**Las Campanas**	**1.83**	**28**	⇓*i*P	Pn	19 03 40.4	+1.4
LCO				*i* S	Sn	19 04 03.9	+2.9
VA03	**San Esteban**	**2.34**	**156**	*e*P	Pn	19 03 48.1	+2.3
VA03				*e*S	Sn	19 04 16.7	+3.3
VA03				IAML		19 04 26.6	
	comp=E,421nm,0.3s						
ROCH	**El Roble**	**2.41**	**166**	*e*P	Pn	19 03 48.9	+2.1
ROCH				*e*S	Sn	19 04 18.6	+3.5
PEL	**Peldehue**	**2.65**	**161**	*e*P	Pn	19 03 51.7	+1.7
PEL				*e*S	Sn	19 04 23.8	+2.8
PEL				IAML		19 04 35.9	
	comp=E,173nm,0.5s						
MT10	**Hacienda Santa**	**2.81**	**160**	*e*P	Pn	19 03 54.1	+1.8
MT10				*e*S	Sn	19 04 28.1	+3.0
MT10				IAML		19 04 38.2	
	comp=E,399nm,0.4s						
MT05	**Renca**	**2.87**	**164**	*e*P	Pn	19 03 55.3	+2.2
MT05				*e*S	Sn	19 04 29.9	+3.5
MT05				IAML		19 04 42.7	
	comp=E,322nm,0.3s						
MT14	**Cerro Calı¡n**	**2.93**	**161**	*e*P	Pn	19 03 55.6	+1.7
MT14				IAML		19 04 47.5	
	comp=E,332nm,0.5s						
MT04	**Ro Olivares**	**3.07**	**155**	*e*P	Pn	19 03 58.8	+2.8
MT04				IAML		19 04 50.6	
	comp=E,134nm,0.5s						
MT15	**Las Vizcachas**	**3.13**	**161**	IAML		19 04 47.3	
	comp=E,252nm,0.7s						
MT08	**Bocatoma Ro**	**3.15**	**153**	*e*S	Sn	19 04 37.0	+3.5
MT08				IAML		19 04 48.2	
	comp=E,85nm,0.5s						
MT12	**Pirque**	**3.24**	**163**	IAML		19 04 58.1	
	comp=N,190nm,0.5s						

*THE **09** 19:06:32.5, 37°.58N×20°.40E, h4km±3km, ML3.6/8, Error ellipse: s-maj=3.5km s-min=0.9km az=26.0*
*ATH **09** 19:06:33.8, 37°.61N×20°.51E, h8km±1km, ML3.4/18, Error ellipse: s-maj=1.9km s-min=0.9km az=39.0*
*TIR **09** 19:06:34.6, 37°.60N×21°.03E, h25km±1km, Md3.8, Ml3.9*

ISC 09 19:06:33.3±1.2, 37°.62N±0°.04×20°.47E±0°.04, h17km±7km, n61, σ1°31/86, 5C-3D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.28**	**82**	P	**Pg**	**19 06 38.9**	**-0.5**
KRI1				S	**Sb**	**19 06 44.0**	**-0.3**
	17μm,0.5s						
LTHK	**Lithakia**	**0.30**	**73**	P	**Pg**	**19 06 39.5**	**-0.3**
LTHK				S	**Sb**	**19 06 45.0**	**0.0**
	16μm,0.5s						
LTHK	**Lithakia**	**0.30**	**73**	P	**Pg**	**19 06 39.4**	**-0.4**
LTHK				S	**Sg**	**19 06 43.6**	**-0.7**
LTHK				AML	AML	19 06 45.2	
	comp=E,40039μm,0.4s						
LTHK				AML	AML	19 06 46.6	
	comp=N,20671μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.50**	**10**	P	**Pg**	**19 06 43.5**	**+0.2**
PSDA				S	**Sb**	**19 06 51.6**	**+1.0**
PSDA	**Pessada-Kefalo**	**0.50**	**10**	P	**Pg**	**19 06 43.1**	**-0.3**
PSDA				S	**Sg**	**19 06 50.8**	**+0.7**
RTZL	**Ratzakli, Kefa**	**0.51**	**28**	P	**Pb**	**19 06 43.9**	**0.0**
RTZL				S	**Sb**	**19 06 51.6**	**+0.6**
VLS	**Valsamata**	**0.56**	**10**	P	**Pg**	**19 06 44.5**	**0.0**
VLS				S	**Sb**	**19 06 52.9**	**+0.4**
	comp=N,5μm,0.2s						
VLS	**Valsamata**	**0.56**	**10**	P	**Pg**	**19 06 44.2**	**-0.3**
VLS				S	**Sg**	**19 06 52.4**	**+0.3**
VLS				AML	AML	19 06 58.5	
	comp=E,9846μm,0.3s						
VLS				AML	AML	19 07 00.9	
	comp=N,9938μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.58**	**358**	P	**Pb**	**19 06 45.3**	**+0.4**
DMLN	**Damoulianata-K**	**0.62**	**353**	P	**Pb**	**19 06 45.9**	**+0.2**
DMLN				S	**Sb**	**19 06 55.4**	**+1.2**
	comp=N,13μm,0.6s						
DMLN	**Damoulianata-K**	**0.62**	**353**	P	**Pb**	**19 06 46.2**	**+0.5**
DMLN				S	**Sg**	**19 06 54.3**	**+0.4**
VSK1	**VASILIKIADES**	**0.79**	**5**	P	**Pb**	**19 06 48.0**	**-0.6**
VSK1				S	**Sg**	**19 06 59.8**	**+0.6**
	comp=N,6μm,0.6s						
FSK	**Fiskardo**	**0.84**	**5**	P	**Pb**	**19 06 48.1**	**-1.3**
FSK				S	**Sg**	**19 07 01.8**	**+1.1**
	comp=N,4μm,0.6s						
FSK	**Fiskardo**	**0.84**	**5**	P	**Pb**	**19 06 49.5**	**+0.1**
FSK				S	**Sn**	**19 07 02.0**	**-0.3**
FSK				AML	AML	19 07 08.1	
	comp=E,7966μm,0.7s						
FSK				AML	AML	19 07 09.1	
	comp=N,6357μm,0.5s						
RLS	**Riolos of Patr**	**0.90**	**61**	P	**Pb**	**19 06 50.5**	**0.0**
RLS	**Riolos of Patr**	**0.90**	**61**	P	**Pb**	**19 06 50.2**	**-0.3**
RLS				S	**Sb**	**19 07 01.5**	**-0.7**
RLS				AML	AML	19 07 08.4	
	comp=E,3922μm,0.5s						
RLS				AML	AML	19 07 11.2	
	comp=N,3662μm,0.7s						
AMT	**Artemida-Makis**	**0.99**	**95**	P	**Pb**	**19 06 52.0**	**0.0**
AMT				S	**Sg**	**19 07 05.4**	**-0.1**
AMT				AML	AML	19 07 16.8	
	comp=E,9589μm,0.5s						
AMT				AML	AML	19 07 20.5	
	comp=N,10654μm,0.6s						
EVGI	**Lefkada island**	**1.01**	**8**	P	**Pb**	**19 06 52.1**	**-0.2**
EVGI	**Lefkada island**	**1.01**	**8**	P	**Pb**	**19 06 52.2**	**-0.2**
DRO	**Drossia**	**1.04**	**71**	P	**Pb**	**19 06 52.4**	**-0.5**
DRO				S	**Sb**	**19 07 05.9**	**-0.3**
DRO				AML	AML	19 07 15.3	
	comp=N,5760μm,0.5s						
DRO				AML	AML	19 07 16.8	
	comp=E,6268μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.06**	**4**	P	**Pb**	**19 06 53.2**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.10**	**9**	P	**Pb**	**19 06 54.1**	**+0.2**
LKD2	**Lefkada island**	**1.17**	**7**	P	**Pg**	**19 06 59.0**	**+3.0**
LKD2				AMP			
	comp=E,11nm,0.5s,baz=336						
LKD2	**Lefkada island**	**1.17**	**7**	P	**Pg**	**19 06 58.0**	**+2.0**
LKD2				AMP			
	comp=E,11nm,0.5s,baz=347						
LKD2	**Lefkada island**	**1.17**	**7**	P	**Pb**	**19 06 55.8**	**+0.6**
LKD2				AML	AML	19 07 19.4	
	comp=E,5892μm,0.5s						
LKD2				AML	AML	19 07 19.8	
	comp=N,3703μm,0.3s						
TSLK	**Tsoukalades, L**	**1.21**	**7**	P	**Pg**	**19 06 56.4**	**-0.2**
TSLK				S	**Sg**	**19 07 12.5**	**0.0**
TSLK				AML	AML	19 07 20.5	
	comp=E,5690μm,0.7s						
TSLK				AML	AML	19 07 21.4	
	comp=N,4870μm,0.6s						
ITM	**Ithomi**	**1.24**	**110**	P	**Pb**	**19 06 56.6**	**+0.3**
ITM				S	**Sg**	**19 07 15.1**	**+1.6**
	comp=N,845nm,0.7s						
ITM	**Ithomi**	**1.24**	**110**	P	**Pb**	**19 06 56.4**	**+0.1**
ITM				S	**Sn**	**19 07 12.3**	**+0.1**
ITM				AML	AML	19 07 22.5	
	comp=N,1530μm,0.6s						
ITM				AML	AML	19 07 22.8	
	comp=E,1705μm,0.5s						
PYL	**PYLOS**	**1.25**	**125**	P	**Pn**	**19 06 54.7**	**-1.3**
PYL				S	**Sg**	**19 07 14.4**	**+0.7**
	comp=E,1μm,0.7s						
PYL	**PYLOS**	**1.25**	**125**	P	**Pn**	**19 06 55.4**	**-0.6**
PYL				S	**Sn**	**19 07 12.4**	**0.0**
PYL				AML	AML	19 07 17.9	
	comp=N,1957μm,0.6s						
PYL				AML	AML	19 07 18.0	
	comp=E,3305μm,0.7s						
EFP	**Efpalio**	**1.39**	**54**	P	**Pb**	**19 06 58.5**	**-0.3**
EFP				S	**Sn**	**19 07 16.2**	**+0.3**
EFP				AML	AML	19 07 28.6	
	comp=N,2215μm,0.5s						
EFP				AML	AML	19 07 29.3	
	comp=E,1660μm,0.5s						
KLV	**Kalavryta, Ach**	**1.40**	**72**	P	**Pn**	**19 06 58.4**	**+0.4**
KLV				S	**Sn**	**19 07 16.0**	**-0.1**
KLV				AML	AML	19 07 27.5	
	comp=N,1652μm,1.0s						
KLV				AML	AML	19 07 31.6	
	comp=E,930μm,1.0s						
ANX	**Ano Chora**	**1.50**	**49**	P	**Pb**	**19 07 00.9**	**+0.1**
ANX				S	**Sn**	**19 07 19.2**	**+0.4**
ANX				AML	AML	19 07 29.6	
	comp=N,3987μm,0.6s						
ANX				AML	AML	19 07 30.3	
	comp=E,3960μm,0.7s						
GUR	**Goura**	**1.52**	**78**	P	**Pn**	**19 07 00.4**	**+0.6**
GUR				AML	AML	19 07 38.5	
	comp=N,1786μm,0.6s						
GUR				AML	AML	19 07 40.1	
	comp=E,1849μm,0.6s						
KALE	**Kalı¡thea**	**1.53**	**59**	P	**Pb**	**19 07 00.7**	**-0.5**
KALE				AML	AML	19 07 35.2	
	comp=N,1749μm,0.7s						
KALE				AML	AML	19 07 36.5	
	comp=E,1296μm,0.5s						
EVR	**Evrytania**	**1.67**	**39**	P	**Pn**	**19 07 01.9**	**+0.1**
EVR				S	**Sn**	**19 07 23.5**	**+0.6**
EVR				AML	AML	19 07 42.6	
	comp=E,909μm,0.6s						
EVR				AML	AML	19 07 42.6	
	comp=N,1050μm,0.7s						
IGT	**Igoumenitsa**	**1.91**	**357**	P	**Pg**	**19 07 11.5**	**+1.5**
IGT				AMP			
	comp=E,1.3nm,0.5s,baz=338						
IGT	**Igoumenitsa**	**1.91**	**357**	P	**Pg**	**19 07 10.5**	**+0.5**
IGT				AMP			
	comp=E,1.6nm,0.6s,baz=345						
IGT	**Igoumenitsa**	**1.91**	**357**	P	**Pn**	**19 07 06.2**	**+1.1**
IGT				AML	AML	19 07 41.7	
	comp=E,1685μm,0.5s						
IGT				AML	AML	19 07 46.2	
	comp=N,860μm,0.5s						
SRN	**Sarande**	**2.28**	**351**	AMP			
	comp=E,0.8nm,0.7s,baz=336						
SRN	**Sarande**	**2.28**	**351**	P	**Pg**	**19 07 17.0**	**-0.1**
SRN				AMP			
	comp=E,0.8nm,0.7s,baz=341						
LSK	**Leskovik**	**2.53**	**2**	AMP			
	comp=E,2.8nm,0.8s,baz=353						
NEST	**Nestorio**	**2.83**	**9**	P	**Pb**	**19 07 22.6**	**-0.8**
NEST	**Nestorio**	**2.83**	**9**	P	**Pb**	**19 07 22.4**	**-1.0**
SCTE	**Santa Cesarea**	**2.90**	**328**	P	**Pb**	**19 07 24.3**	**-0.3**
SCTE	**Santa Cesarea**	**2.90**	**328**	P	**Pb**	**19 07 25.2**	**+0.6**
FNA	**Florina**	**3.23**	**12**	P	**Pb**	**19 07 27.9**	**-2.4**
FNA	**Florina**	**3.23**	**12**	P	**Pb**	**19 07 28.0**	**-2.3**
TIP	**Timpagrande**	**3.30**	**299**	⇑P	**Pn**	**19 07 23.9**	**-0.4**
OHR	**Ohrid**	**3.49**	**4**	*i* Pn	**Pg**	**19 07 37.8**	**-2.5**
OHR				*i* Sn	**Sb**	**19 08 12.9**	**-4.0**
TIR	**Tirane**	**3.75**	**353**	P	**Pb**	**19 07 38.7**	**-0.4**
TIR				AMP			
	comp=E,0.2nm,0.6s,baz=344						
TIR	**Tirane**	**3.75**	**353**	P	**Pb**	**19 07 37.5**	**-1.6**
TIR	**Tirane**	**3.75**	**353**	⇑P	**Pb**	**19 07 36.9**	**-2.2**
BOVS	**Bovan**	**6.08**	**9**	⇓P	**Pn**	**19 08 03.3**	**+0.9**
VOIR		**8.53**	**22**	⇓P	**Pn**	**19 08 37.3**	**+1.3**
MLR	**Muntele Rosu**	**8.87**	**26**	⇑P	**Pn**	**19 08 44.9**	**+4.2**
TURR	**Turia**	**9.38**	**24**	⇑P	Pn	19 08 39.8	-7.9
PLOR	**Plostina**	**9.43**	**27**	⇓P	**Pn**	**19 08 51.5**	**+3.2**
VRI	**Vrincioaia**	**9.47**	**28**	⇑P	**Pn**	**19 08 53.4**	**+4.5**
SOKA	**Soboth**	**9.90**	**338**	*i* Pn	**Pn**	**19 08 56.8**	**+1.8**
	comp=E,2.1nm,0.4s						
SOKA				*i* Sn	**Sn**	**19 10 44.7**	**-1.0**
	comp=E,1.9nm,0.3s						
OBKA	**Obir**	**9.91**	**336**	*e*Pn	**Pn**	**19 08 54.9**	**0.0**
	comp=E,0.2nm,0.1s						
OBKA				*e*Sn	**Sn**	**19 10 42.9**	**-2.9**
	comp=E,5.5nm,0.5s						

*DJA **09** 19:12:38.8±1.3, 3°N±4°×12°8E±°, h13km±9km, M4.8/25, mb5.2/25, mB5.2/19, MLv5.1/16, Mw(mB)4.6/19*
*NEIC **09** 19:12:38.6±1.7, 2°.68N±0°.06×128°.22E±0°.07, h57km±7km, mb4.9/74, Error ellipse: s-maj=10.0km s-min=8.4km az=61.0*
*BJI **09** 19:12:39.0, 2°.60N×128°.20E, h70km, mb4.6/43, mB4.9/12, Ms4.5/9, Ms7 4.1/8*
*IDC **09** 19:12:39.9±2.0, 2°.69N×128°.39E, h67km±17km, mb4.1/23, mbtmp4.5/26, MS3.3/11, Error ellipse: s-maj=22.4km s-min=9.2km az=78.0*

ISC 09 19:12:41.2±0.5, 2°.59N±0°.04×128°.19E±0°.05, h82km±4km, h83km: pP-P, n215, σ1°78/220, mb4.7/61, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.99**	**205**	Pn	**Pn**	**19 13 13.1**	**+0.1**
TNTI				Sn	**Sn**	**19 13 35.8**	**-1.4**
TNTI	**Ternate**	**1.99**	**205**	P	**Pn**	**19 13 13.6**	**+0.5**
TNTI	**Ternate**	**1.99**	**205**	P	**Pn**	**19 13 13.5**	**+0.5**
LBMI	**Labuha**	**3.28**	**192**	P	**Pn**	**19 13 33.3**	**+2.9**
SWI	**Sorong**	**4.60**	**138**	P	**Pn**	**19 13 48.8**	**+0.4**
SWI				S	**Sn**	**19 14 40.5**	**-0.1**
SWI	**Sorong**	**4.60**	**138**	PKP	**Pn**	**19 13 48.6**	**+0.2**
KMSI	**Cibinong**	**4.66**	**245**	P	**Pn**	**19 13 49.9**	**+0.7**
KMSI	**Cibinong**	**4.66**	**245**	PKP	**Pn**	**19 13 49.9**	**+0.7**
SANI	**Sanana**	**5.11**	**206**	P	**Pn**	**19 13 56.0**	**+0.6**
SANI	**Sanana**	**5.11**	**206**	P	**Pn**	**19 13 55.9**	**+0.6**
	191nm,0.7s,2μm0.6nm						
SANI	**Sanana**	**5.11**	**206**	PKP	**Pn**	**19 13 55.7**	**+0.4**
DAV	**Davao City (W)**	**5.16**	**330**	Pn	**Pn**	**19 13 52.4**	**-3.5**
DAV	**Davao City (W)**	**5.16**	**330**	P	**Pn**	**19 13 56.0**	**0.0**
	204nm,0.5s,baz=54,slow=14,SNR=1.1						
DAV				S	**Sn**	**19 14 53.9**	**-0.3**
	180nm,0.3s,baz=70,slow=23,SNR=3.7						
DAV				LR	LR	19 15 29.2	
	comp=Z,167nm,21.0s,baz=215,slow=33						
NLAI	**Namlea**	**5.89**	**191**	P	**Pn**	**19 14 08.6**	**+2.6**
MSAI	**Masohi**	**5.94**	**173**	P	**Pn**	**19 14 11.3**	**+4.6**
AAI	**Ambon**	**6.24**	**180**	P	**Pn**	**19 14 14.1**	**+3.4**
	258nm,0.9s,2μm0.8nm						
LUWI	**Luwuk**	**6.51**	**236**	Pn	**Pn**	**19 14 12.2**	**-2.2**
LUWI				Sn	**Sn**	**19 15 21.8**	**-5.5**
LUWI	**Luwuk**	**6.51**	**236**	P	**Pn**	**19 14 16.4**	**+2.0**
LUWI	**Luwuk**	**6.51**	**236**	P	**Pn**	**19 14 16.4**	**+2.0**
FAKI	**Fak Fak**	**6.81**	**143**	Pn	**Pn**	**19 14 17.6**	**-0.9**
FAKI				Sn	**Sn**	**19 15 30.7**	**-3.9**
FAKI	**Fak Fak**	**6.81**	**143**	P	**Pn**	**19 14 19.4**	**+0.9**
FAKI	**Fak Fak**	**6.81**	**143**	P	**Pn**	**19 14 19.2**	**+0.7**
	95nm,0.7s,1μm0.3nm						
RKPI	**Ransiki, Papua**	**7.24**	**124**	P	**Pn**	**19 14 27.8**	**+3.4**
APSI	**Ampana**	**7.41**	**242**	P	**Pn**	**19 14 27.9**	**+1.2**
TOLI2	**Tolitoli**	**7.55**	**259**	Pn	**Pn**	**19 14 27.8**	**-0.9**
TOLI2				Sn	**Sn**

SBUM Sibu 15.96 270 P P 19 16 22.1 -0.9
KMMI Kalianget 17.13 236 P P 19 16 39.3 +3.4
comp=Z,217nm,0.9s
JAGI Jajag, Banyuwa 17.80 232 P P 19 16 42.0 -1.3
JAGI IAmb IAmb 19 16 50.2
comp=Z,83nm,0.9s
JAGI Jajag, Banyuwa 17.80 232 P Pn 19 16 46.1 +2.4
JAGI Jajag, Banyuwa 17.80 232 P Pn 19 16 48.0 +4.3
comp=Z,101nm,0.9s
KSM Kuching 17.91 267 P 19 16 42.9 -1.6
KNRA Kununurra 18.16 178 P 19 16 46.4 -0.8
KNRA Kununurra 18.16 178 P Pn 19 16 49.1 +1.1
comp=Z,40nm,0.8s
GMJI Gumukmas 18.25 234 P Pn 19 16 53.3 +4.3
MANU Manus Island 19.71 103 P P 19 17 01.4 -2.9
MANU IAmb IAmb 19 17 11.3
comp=Z,95nm,1.8s
GUMO Guam 19.78 56 LR LR 19 23 28.0
comp=Z,77nm,21.0s,baz=348,slow=33
SMRI Semarang 20.14 242 P P 19 17 06.3 -2.6
SMRI IAmb IAmb 19 17 18.2
comp=Z,50nm,0.8s
UGM Wanagama 20.48 239 P P 19 17 11.2 -1.5
UGM IAmb IAmb 19 17 28.6
comp=Z,54nm,0.8s
UGM Wanagama 20.48 239 P Pn 19 17 14.8 -0.7
FITZ Fitzroy Crossi 20.71 187 P P 19 17 13.9 -1.1
FITZ Fitzroy Crossi 20.71 187 P P 19 17 15.4 +0.4
comp=Z,4.4nm,0.7s,baz=54,slow=6.2,SNR=15
FITZ LR LR 19 25 58.0
comp=Z,53nm,18.6s,baz=12,slow=38
comp=Z,4.4nm,0.7s
YULB Yu-li 21.73 343 P P 19 17 27.5 +1.6
TPUB Ta-pu 21.85 341 P P 19 17 26.7 -0.5
COEN Coen 22.16 138 P P 19 17 29.3 -1.3
COEN IAmb IAmb 19 17 43.2
comp=Z,60nm,2.0s
COEN Coen 22.16 138 P P 19 17 29.7 -0.9
SSLB Suanglung 22.20 342 P P 19 17 30.7 -0.3
SSLB Suanglung 22.20 342 P P 19 17 32.7 +1.7
NACB Ninganchiao 22.38 344 P P 19 17 29.9 -3.0
NACB IAmb IAmb 19 17 34.4
comp=Z,118nm,1.8s
LEM Lembang 22.57 245 P P 19 17 37.1 +2.0
comp=Z,30nm,0.9s,baz=1.8,slow=8.7,SNR=5.8
comp=Z,30nm,0.9s
BBJI Bungbulang 22.80 244 P P 19 17 39.9 +2.4
YHNB Yeheng 22.91 344 P P 19 17 40.7 +2.2
WB0 Warramunga Arr 23.04 165 P P 19 17 39.1 -0.6
WRAB Tennant Creek 23.19 165 P P 19 17 41.4 +0.3
WRAB IAmb IAmb 19 17 43.7
comp=Z,41nm,0.6s
WRA Warramunga Arr 23.19 165 P P 19 17 41.7 +0.6
comp=Z,28nm,0.5s,baz=339,slow=10,SNR=37
comp=Z,28nm,0.5s
WB2 Warramunga Arr 23.20 165 P P 19 17 41.1 0.0
WB2 IAmb IAmb 19 17 42.8
comp=Z,46nm,0.9s
WR0 Warramunga Arr 23.26 165 P P 19 17 41.5 -0.3
WR0 IAmb IAmb 19 17 44.5
comp=Z,30nm,0.6s
KNMB Chin-men Tao 23.72 337 P P 19 17 43.1 -2.7
JOW Kunigami 24.10 0 P P 19 17 48.8 -0.5
JOW IAmb IAmb 19 18 12.2
comp=Z,76nm,1.4s
JOW Kunigami 24.10 0 LR LR 19 25 21.1
comp=Z,111nm,21.6s,baz=132,slow=32
MYKOM Kota Tinggi 24.34 269 P P 19 17 51.0 -0.6
MYKOM IAmb IAmb 19 17 55.2
comp=Z,64nm,1.7s
MBWA Marble Bar 25.02 199 P P 19 17 56.8 -0.9
MBWA Marble Bar 25.02 199 P P 19 17 59.3 +1.7
QIS Mount Isa 25.58 155 P P 19 18 04.2 +1.4
XMIS Christmas Isla 25.93 240 P P 19 18 04.6 -1.4
AS31 Alice Springs 26.68 168 P P 19 18 13.0 +0.2
ASAR Alice Springs 26.69 168 P P 19 18 13.1 +0.4
ASAR Alice Springs 26.69 168 P P 19 18 13.4 +0.6
comp=Z,3.5nm,0.6s,baz=353,slow=7.6,SNR=64
ASAR PcP **PcP 19 21 35.1 +0.4**
comp=Z,0.8nm,0.4s,baz=357,slow=2.0,SNR=4.6
ASAR ScP **ScP 19 25 09.3 +1.7**
comp=Z,1.1nm,0.9s,baz=350,slow=2.9,SNR=5.8
ASAR LR LR 19 29 37.9
comp=Z,63nm,19.5s,baz=338,slow=38
comp=Z,3.5nm,0.6s
AS01 Alice Springs 26.69 168 P P 19 18 13.5 +0.7
WRKA Warakurna 27.46 180 P P 19 18 20.1 +0.4
KULM Kulim 27.61 276 P P 19 18 21.6 +0.4
KULM IAmb IAmb 19 18 53.0
comp=Z,48nm,1.6s
JCJ Chichijima 27.81 28 P P 19 18 20.5 -2.2
GIRL Giralia 28.55 208 P P 19 18 28.2 -1.1
GIRL Giralia 28.55 208 P P 19 18 31.6 +2.3
CTA Charters Tower 28.68 143 LR LR 19 31 38.9
comp=Z,4.4nm,19.6s,baz=307,slow=40
CTAO Charters Tower 28.68 143 P P 19 18 30.1 -0.5
CTAO IAmb IAmb 19 18 34.6
comp=Z,30nm,1.5s
CHAI Chaiyaphum 29.00 299 P P 19 18 34.3 +0.9
comp=Z,5.6nm,0.8s
JNU Nakatsue 30.48 4 P P 19 18 45.2 -1.1
JNU IAmb IAmb 19 19 46.3
comp=Z,20nm,1.2s
JNU Nakatsue 30.48 4 LR LR 19 29 52.6
comp=Z,79nm,21.4s,baz=138,slow=34
MEEK Meekatharra 30.50 197 P P 19 18 47.7 +1.1
NJ2 Nanjing 30.59 344 *eP* **P 19 18 48.4 +1.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.8s
OOD Oodnadatta 31.06 167 P P 19 18 52.5 +1.0
JMN Monobe 31.43 9 P P 19 18 54.2 -0.5
JMN **PcP 19 21 47.2 +0.7**
PHRA Phrae 31.63 302 P P 19 18 55.0 -1.6
PHRA Phrae 31.63 302 P P 19 18 57.6 +1.0
CM31 Chiang Mai Arr 32.70 301 P P 19 19 04.8 -1.4
CM31 IAmb IAmb 19 19 31.6
comp=Z,7.8nm,0.8s
CMAR Chiang Mai Arr 32.70 301 P P 19 19 05.2 -0.9
CMAR Chiang Mai Arr 32.70 301 P P 19 19 07.8 +1.6
comp=Z,1.6nm,0.7s,baz=123,slow=7.6,SNR=11
CMAR LR LR 19 32 39.4
comp=Z,9.4nm,19.5s,baz=140,slow=36
comp=Z,1.6nm,0.7s
CHTO Chiang Mai 32.86 301 P P 19 19 06.5 -0.9
MULG Mulgathing 33.17 171 P P 19 19 10.8 +0.9
FORT Forrest 33.19 180 P P 19 19 09.8 -0.3
FORT IAmb IAmb 19 19 31.4
comp=Z,17nm,0.8s
FORT Forrest 33.19 180 P P 19 19 10.5 +0.4
KMI Kunming 33.21 315 ⇓*P* **P 19 19 13.5 +2.8**
KMI pmax pmax
comp=Z,11nm,0.9s
MORW Morawa 33.57 199 P P 19 19 13.8 +0.3
MORW IAmb IAmb 19 20 02.1
comp=Z,33nm,1.4s
MORW Morawa 33.57 199 P P 19 19 14.4 +0.9
LCRK Leigh Creek 34.22 164 P P 19 19 20.8 +1.7
KMBL Kambalda 34.30 190 P P 19 19 20.9 +1.1
KSRS Korea Array 34.69 360 P P 19 19 23.1 +0.1
comp=Z,3.3nm,0.9s,baz=178,slow=11,SNR=9.3
KSRS LR LR 19 31 52.9
comp=Z,31nm,21.1s,baz=185,slow=33
comp=Z,3.3nm,0.9s
PZH PanZhiHua 34.77 316 P P 19 19 26.2 +2.1
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,50nm,4.8s
MAJO Matsushiro 35.03 14 P P 19 19 24.0 -2.0
MAJO IAmb IAmb 19 19 35.0
comp=Z,10nm,1.1s
MJAR Matsushiro Arr 35.03 14 P P 19 19 24.2 -1.8
comp=Z,1.9nm,0.7s,baz=177,slow=9.8,SNR=5.7
MJAR LR LR 19 33 06.8
comp=Z,74nm,18.8s,baz=150,slow=35
comp=Z,1.9nm,0.7s
MJB9 Matsu-Tunnel 35.03 14 P P 19 19 24.6 -1.4
MJB9 IAmb IAmb 19 19 36.0
comp=Z,12nm,1.1s
KLBR Kellerberrin 35.41 195 P P 19 19 30.8 +1.4
BBOO Buckleboo 35.99 169 P P 19 19 34.4 +0.1
BBOO IAmb IAmb 19 19 38.4
comp=Z,46nm,1.8s
BBOO Buckleboo 35.99 169 P P 19 19 35.1 +0.8
XAN Xi'an 36.09 332 P P 19 19 36.0 +0.8
XAN pmax pmax
comp=Z,23nm,0.7s
XAN Xi'an 36.09 332 P P 19 19 36.9 +1.7
MUN Mundaring 36.22 197 P P 19 19 37.2 +1.0
STKA Stephens Creek 36.57 161 P P 19 19 39.7 +0.5
STKA Stephens Creek 36.57 161 P P 19 19 39.5 +0.3
comp=Z,14nm,0.5s,baz=336,slow=8.6,SNR=56
comp=Z,14nm,0.5s
STKA Stephens Creek 36.57 161 P P 19 19 40.1 +0.9
NWAO Narrogin (SRO) 36.82 195 P P 19 19 41.4 0.0
JMM Mamuri 36.96 17 P P 19 19 41.7 -0.7
HTT Hallett 37.23 165 P P 19 19 46.6 +1.7
CMSA Cobar Meteorol 37.80 155 P P 19 19 51.1 +1.4
ARMA Armidale 39.72 147 P P 19 20 05.9 0.0
ARMA IAmb IAmb 19 21 14.9
comp=Z,25nm,1.5s
ARMA Armidale 39.72 147 P P 19 20 07.0 +1.1
JTM Tenmabayashi 39.76 15 P P 19 20 04.6 -1.3
LZH Lanzhou 40.22 329 *eP* **P 19 20 12.3 +2.3**
LZH pP pwP 19 20 30.4 -2.6
LZH sS sS 19 26 40.7 -3.2
LZH pmax pmax
comp=Z,33nm,1.0s
LZH LR LR
comp=Z,250nm,12.7s
LZH LR LR
comp=Z,360nm,12.0s
LZH LR LR
comp=Z,110nm,13.1s
H11S3 WAKE ISLAND Hy 40.87 65 T T 20 03 42.2
baz=252,slow=75
H11S2 WAKE ISLAND Hy 40.89 65 T T 20 03 35.8
baz=252,slow=75
H11S1 WAKE ISLAND Hy 40.89 64 T T 20 03 39.3
baz=252,slow=75
HHC Hu-ho-hao-te 40.94 341 *eP* **P 19 20 17.3 +1.5**
HHC pmax pmax
comp=Z,25nm,0.7s
HHC pmax pmax
comp=Z,100nm,4.5s
ARPS Mount Arapiles 41.17 163 P P 19 20 19.2 +1.6
BTO Baotou 41.26 339 *eP* **P 19 20 22.3 +3.9**
BTO sP **sP 19 20 50.1 +4.1**
BTO PP **PP 19 21 52.4 -2.8**
BTO S **S 19 26 34.3 +7.9**
BTO pmax pmax
comp=Z,14nm,0.6s
BTO pmax pmax
comp=Z,270nm,4.3s
BTO LR LR
comp=Z,330nm,5.7s
BTO LR LR
comp=Z,140nm,6.4s
BTO LR LR
comp=Z,200nm,6.1s
H11N1 WAKE ISLAND Hy 41.44 63 T T 20 04 19.3
baz=250,slow=75
H11N2 WAKE ISLAND Hy 41.45 63 T T 20 04 22.5
baz=250,slow=75
H11N3 WAKE ISLAND Hy 41.46 63 T T 20 04 21.9
baz=250,slow=75
USA0B Ussuriysk Arra 41.57 4 P P 19 20 19.6 -1.2
USRK Ussuriysk Ar. 41.57 4 P P 19 20 19.6 -1.1
USRK Ussuriysk Ar. 41.57 4 P P 19 20 20.1 -0.6
comp=Z,4.0nm,0.8s,baz=174,slow=6.8,SNR=12
comp=Z,4.0nm,0.8s
SHL Shillong 41.72 307 P P 19 20 22.4 -0.1
SHL IAmb IAmb 19 20 25.0
comp=Z,18nm,0.7s
LSA Lhasa 44.28 311 P P 19 20 46.1 +2.6
GTA Gaotai 44.82 329 *eP* **P 19 20 48.2 +1.0**
GTA pP pP 19 21 07.5 +1.4
GTA pmax pmax
comp=Z,3.0nm,1.1s
GTA LR LR
comp=Z,130nm,14.5s
GTA LR LR
comp=Z,150nm,14.2s
GTA LR LR
comp=Z,150nm,13.8s
GOMU GeErMu 45.48 321 P P 19 20 53.4 +0.6
GOMU pmax pmax
comp=Z,4.0nm,0.7s
ULN Ulaanbaatar 48.65 341 P P 19 21 17.2 +0.1
ULN Ulaanbaatar 48.65 341 P P 19 21 19.5 +2.5
ULN pP **pP 19 21 36.3 +0.1**
SONM Songino Array 48.84 341 P P 19 21 18.3 -0.2
SONM Songino Array 48.84 341 P P 19 21 18.3 -0.2
comp=Z,1.7nm,0.6s,baz=152,slow=8.0,SNR=11
SONM PcP **PcP 19 22 43.7 +1.7**
comp=Z,1.3nm,0.7s,baz=142,slow=2.6,SNR=2.3
comp=Z,1.7nm,0.6s
WMQ Urumqi 54.49 325 *eP* **P 19 22 03.6 +3.1**
WMQ pmax pmax
comp=Z,15nm,0.7s
PETK Petropavlovsk- 55.94 21 P P 19 22 09.9 -0.8
comp=Z,7.8nm,1.1s,baz=139,slow=2.4,SNR=2.1
comp=Z,7.8nm,1.1s
PET Petropavlovsk 56.22 22 P P 19 22 10.7 -1.9
YAK Yakutsk 59.31 1 P P 19 22 32.9 -1.2
YAK Yakutsk 59.31 1 P P 19 22 36.9 +2.8
YAK pP **pP 19 22 52.9 -1.0**
MK31 Makanchi Array 59.32 325 P P 19 22 33.9 -0.7
MK31 IAmb IAmb 19 22 56.4
comp=Z,8.7nm,1.1s
MKAR Makanchi Array 59.32 325 P P 19 22 34.1 -0.5
MKAR Makanchi Array 59.32 325 P P 19 22 35.0 +0.4
comp=Z,6.1nm,0.6s,baz=115,slow=8.6,SNR=56
comp=Z,6.1nm,0.6s
MAKZ Makanchi 59.51 325 P P 19 22 34.5 -1.3
MAKZ IAmb IAmb 19 22 57.6
comp=Z,7.6nm,0.8s
MAKZ Makanchi 59.51 325 P P 19 22 37.1 +1.2
MAKZ pP **pP 19 22 53.5 -2.1**
MAKZ sP **pwP 19 23 00.4 0.0**
PRZ Przheval'sk 59.52 319 P P 19 22 34.2 -2.1
PRZ IAmb IAmb 19 23 00.5
comp=Z,9.0nm,0.6s
KSH Kashi 59.88 315 P P 19 22 41.3 +2.6
KSH pmax pmax
comp=Z,4.0nm,1.0s
KDJ Kajisay 60.16 318 P P 19 22 39.4 -1.3
KDJ IAmb IAmb 19 23 08.4
comp=Z,6.3nm,0.8s
NRN Naryn 60.65 317 P P 19 22 43.8 -0.4
ZAA0 Zalesovo Array 62.26 333 P P 19 22 52.4 -2.0
ZALV Zalesovo Beam 62.26 333 P P 19 22 52.6 -1.7
ZALV Zalesovo Beam 62.26 333 P P 19 22 53.6 -0.7
comp=Z,1.5nm,0.5s,baz=126,slow=8.0,SNR=6.7
comp=Z,1.5nm,0.5s
ARSB Arslanbob 62.69 316 P P 19 22 57.0 -0.7
JOHN Johnston Islan 62.73 73 P P 19 22 56.5 -1.7
DRK Karamyk 62.85 314 P P 19 22 57.9 -1.0
DRK IAmb IAmb 19 23 24.0
comp=Z,9.2nm,0.8s
KURBB Kurchatov Arra 63.48 327 P P 19 23 02.6 +0.1
comp=Z,3.2nm,0.5s,baz=125,slow=6.3,SNR=17
comp=Z,3.2nm,0.5s
KURK Kurchatov 63.48 327 P P 19 23 01.8 -0.7
KURK IAmb IAmb 19 23 25.0
comp=Z,10nm,0.6s
KURK Kurchatov 63.48 327 P P 19 23 03.6 +1.1
BTK Batken 63.76 314 P P 19 23 04.4 -0.3
BTK IAmb IAmb 19 23 26.5
comp=Z,8.8nm,1.1s
GAR Garm 63.76 313 P P 19 23 03.9 -0.9
SIMJ Simiganj 64.62 312 P P 19 23 08.8 -1.6
KKAR Karatay Array 65.06 317 P P 19 23 11.4 -1.6
BVAR Borovoye Array 69.06 327 P P 19 23 38.1 -0.1
comp=Z,1.8nm,0.6s,baz=137,slow=7.1,SNR=7.9
comp=Z,1.8nm,0.6s
BRVK Borovoye 69.14 327 P P 19 23 37.8 -0.8
NRIK Noril'sk 71.88 346 P P 19 23 54.2 -0.8
NRIK Noril'sk 71.88 346 P P 19 23 54.7 -0.3
comp=Z,3.3nm,0.6s,baz=132,slow=6.7,SNR=5.9
comp=Z,3.3nm,0.6s
ABKAR Akbulak array 73.95 321 P P 19 24 06.7 -1.0
ABKAR Akbulak array 73.95 321 P P 19 24 06.8 -0.9
AKTO Aktyubinsk 75.45 322 P P 19 24 18.4 +2.0
comp=Z,3.0nm,0.6s,baz=121,slow=6.9,SNR=10
comp=Z,3.0nm,0.6s
ARTI Arti 76.76 328 P P 19 24 22.6 -1.0
ARTI IAmb IAmb 19 25 56.1
comp=Z,20nm,1.9s
ARTI Arti 76.76 328 P P 19 24 23.4 -0.2
comp=Z,1.2nm,0.5s,baz=70,slow=7.4,SNR=3.8
comp=Z,1.2nm,0.5s
BELG Belogornoye 82.19 322 P P 19 24 53.9 +0.8
comp=Z,5.6nm,0.9s,baz=98,slow=19,SNR=2.1
comp=Z,5.6nm,0.9s
RAYN Ar Rayn 82.27 293 P P 19 24 53.6 -0.7
RAYN IAmb IAmb 19 25 00.7
comp=Z,7.5nm,0.8s
MAW Mawson 83.20 201 P P 19 24 60.0 +1.9
comp=Z,1.2nm,0.8s,baz=64,slow=9.0,SNR=4.0
comp=Z,1.2nm,0.8s
KBZ Khabaz 84.82 313 LR LR 20 08 53.7
comp=Z,60nm,18.3s,baz=268,slow=40
GURO Guroymak-BITLI 85.39 308 P P 19 25 06.7 -3.3
GURO IAmb IAmb 19 25 18.5
comp=Z,4.3nm,0.8s
BCPM Bancas Point 88.87 30 P P 19 25 22.3 -3.8
BRTR Keskin Array B 91.87 310 P P 19 25 42.2 +1.5
comp=Z,0.2nm,0.3s,baz=145,slow=3.0,SNR=1.8
comp=Z,0.2nm,0.3s
ARCES ARCESS Array B 92.01 340 P P 19 25 41.0 +0.4
comp=Z,1.9nm,0.8s,baz=72,slow=5.8,SNR=1.3
comp=Z,1.9nm,0.8s
QSPA South Pole Qui 92.51 180 P P 19 25 44.2 +1.1
comp=Z,1.0nm,0.3s,baz=283,slow=2.2,SNR=4.9
comp=Z,1.0nm,0.3s
TORD Torodi Ar. Bea 124.66 288 PKP PKiKP 19 31 33.1 +0.5
comp=Z,0.7nm,0.8s,baz=69,slow=1.6,SNR=4.4

NEIC ***09*** *19:13:41.7±2.2,59°.5S±0°.1×27°.76W±0°.09, h208km±6km, mb4.3/24, Error ellipse: s-maj=19.1km s-min=5.9km az=172.0*
IDC ***09*** *19:13:45.8±4.0,59°.44S×27°.84W, h250km±40km, mb3.9/7, mbtmp4.5/8, Error ellipse: s-maj=19.6km s-min=15.7km az=29.0*

ISC 09 19:13:41.0±0.5,59°.38S±0°.09×27°.72W±0°.09, h200km, n55, σ2°.08/57, mb4.2/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**15.88**	**151**		**P**	**19 17 11.5**	**-1.8**
SNAA	**Sanae**	**15.88**	**151**		**P**	**19 17 13.7**	**+0.5**
	1.0nm,1.0s,baz=296,slow=14,SNR=2.1						
PMSA	**Palmer Station**	**17.65**	**237**	P	**P**	**19 17 31.7**	**-0.9**
PMSA	**Palmer Station**	**17.65**	**237**	P	**P**	**19 17 33.8**	**+1.1**
	13nm,0.7s,baz=99,slow=6.9,SNR=2.5						
EFI	**East Falkland**	**18.69**	**281**	P	**P**	**19 17 43.8**	**-0.2**
BELA	**Belgrano 2**	**18.73**	**185**	P	**P**	**19 17 43.4**	**-0.8**
BELA				IAmb	IAmb	19 17 44.5	
	comp=Z,16nm,1.5s						
SMAI	**San Martin Ant**	**19.14**	**226**	P	**P**	**19 17 48.7**	**0.0**
SMAI				IAmb	IAmb	19 18 27.9	
	comp=Z,17nm,1.4s						
TRQA	**Tornquist**	**30.53**	**299**	P	**P**	**19 19 35.5**	**0.0**
TRQA				IAmb	IAmb	19 20 03.3	
	comp=Z,17nm,1.5s						
QSPA	**South Pole Qui**	**30.86**	**180**	P	**P**	**19 19 38.5**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=228,slow=2.7,SNR=5.9						
	comp=Z,2.1nm,0.7s						
PLCA	**Paso Flores**	**32.47**	**286**	P	**P**	**19 19 52.2**	**-0.3**
PLCA	**Paso Flores**	**32.47**	**286**	P	**P**	**19 19 52.0**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=147,slow=1.6,SNR=3.1						
	comp=Z,0.9nm,0.7s						
PLTB	**Pedras Altas**	**32.62**	**316**	P	**P**	**19 19 54.4**	**+0.7**
ITQB	**Itaqui**	**35.60**	**314**	P	**P**	**19 20 20.1**	**+0.8**
MT01	**Popeta**	**38.25**	**292**	P	**P**	**19 20 40.6**	**-1.0**
MT01				IAmb	IAmb	19 21 17.9	
	comp=Z,23nm,1.2s						
CPUP	**Villa Florida**	**38.89**	**315**	P	**P**	**19 20 47.0**	**0.0**
CPUP	**Villa Florida**	**38.89**	**315**	P	**P**	**19 20 46.9**	**-0.1**
	comp=Z,5.9nm,0.3s,baz=156,slow=7.0,SNR=16						
	comp=Z,5.9nm,0.3s						
SUR	**Sutherland**	**41.87**	**72**	P	**P**	**19 21 12.9**	**+1.3**
BOSA	**Boshof**	**47.14**	**73**	P	**P**	**19 21 53.2**	**0.0**
BOSA	**Boshof**	**47.14**	**73**	P	**P**	**19 21 53.2**	**0.0**
	comp=Z,4.3nm,0.6s,baz=222,slow=5.3,SNR=15						
	comp=Z,4.3nm,0.6s						
PB01	**IPOC Station P**	**48.45**	**304**	P	**P**	**19 22 04.2**	**+1.0**
PB01				IAmb	IAmb	19 22 44.8	
	comp=Z,12nm,1.5s						
PB11	**IPOC Station P**	**49.66**	**304**	P	**P**	**19 22 12.3**	**-0.2**
PB11				IAmb	IAmb	19 22 23.0	
	comp=Z,17nm,1.3s						
LBTB	**Lobatse**	**50.31**	**71**	P	**P**	**19 22 17.0**	**-0.3**
LBTB				IAmb	IAmb	19 22 17.8	
	comp=Z,3.9nm,0.7s						
POGA	**Pongola**	**51.38**	**79**	P	**P**	**19 22 25.0**	**-0.2**
POGA				IAmb	IAmb	19 22 26.4	
	comp=Z,23nm,1.4s						
TSUM	**Tsumeb**	**51.60**	**59**	P	**P**	**19 22 26.9**	**-0.1**
TSUM				IAmb	IAmb	19 22 49.0	
	comp=Z,6.2nm,1.2s						
LPAZ	**La Paz**	**52.14**	**308**	P	**P**	**19 22 31.4**	**-0.1**
LPAZ	**La Paz**	**52.14**	**308**	P	**P**	**19 22 31.2**	**-0.3**
	comp=Z,2.1nm,0.4s,baz=301,slow=10.0,SNR=4.5						
	comp=Z,2.1nm,0.4s						
SAML	**Samuel**	**57.00**	**317**	P	**P**	**19 23 04.9**	**-0.8**
LSZ	**Lusaka**	**59.88**	**68**	P	**P**	**19 23 24.6**	**-1.2**
LSZ				IAmb	IAmb	19 23 26.6	
	comp=Z,3.8nm,0.7s						
BOAV	**Boa Vista**	**66.78**	**324**	P	**P**	**19 24 09.5**	**-1.3**
BOAV				IAmb	IAmb	19 24 43.2	
	comp=Z,7.4nm,1.3s						
DBIC	**Dimbokro**	**68.32**	**25**	P	**P**	**19 24 20.7**	**+0.3**
DBIC				IAmb	IAmb	19 24 22.7	
	comp=Z,10nm,1.1s						
DBIC	**Dimbokro**	**68.32**	**25**	P	**P**	**19 24 20.6**	**+0.1**
	comp=Z,2.0nm,0.4s,baz=165,slow=6.8,SNR=7.9						
	comp=Z,2.0nm,0.4s						
TORD	**Torodi Ar. Bea**	**76.10**	**30**	P	**P**	**19 25 07.0**	**+0.6**
	comp=Z,9.1nm,0.3s,baz=198,slow=5.9,SNR=186						
	comp=Z,9.1nm,0.3s						
MGBR	**Mount Gambier**	**82.76**	**171**	P	**P**	**19 25 42.2**	**0.0**
TEIG	**Tepich**	**93.38**	**305**	P	**P**	**19 26 32.2**	**-0.9**
FINES	**FINESS Array B**	**127.45**	**29**	PKP	**PKPdf**	**19 32 19.1**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=164,slow=1.4,SNR=6.9						
ARCES	**ARCESS Array B**	**134.14**	**23**	PKP	**PKPdf**	**19 32 30.5**	**-2.3**
	comp=Z,3.1nm,0.9s,baz=204,slow=2.0,SNR=4.9						
BVAR	**Borovoye Array**	**136.74**	**61**	PKP	**PKPdf**	**19 32 36.7**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=216,slow=2.9,SNR=4.4						
ZAA0	**Zalesovo Array**	**143.99**	**68**	PKPdf	**PKPab**	**19 32 48.2**	**-0.9**
ZALV	**Zalesovo Beam**	**143.99**	**68**	PKP	**PKPab**	**19 32 48.3**	**-0.9**
	comp=Z,3.3nm,0.5s,baz=233,slow=3.7,SNR=16						
M30M	**Minto, Yukon**	**147.02**	**306**	PKPdf	**PKPdf**	**19 32 57.0**	**+0.8**
H31M	**Peel River**	**147.46**	**313**	PKPdf	**PKPdf**	**19 32 57.9**	**+1.1**
INK	**Inuvik**	**148.14**	**317**		**PKPdf**	**19 32 59.8**	**+2.0**
G30M	**tAoh Zraii Nji**	**148.62**	**314**		**PKPdf**	**19 33 01.3**	**+2.6**
H29M	**Whitestone**	**149.14**	**312**		**PKPdf**	**19 33 02.4**	**+2.9**
E29M	**Blow River**	**149.69**	**316**		**PKPdf**	**19 33 03.5**	**+3.3**
F28M	**Old Crow**	**150.17**	**315**		**PKPdf**	**19 33 04.9**	**+3.8**
I26K	**Coal Creek Min**	**150.68**	**309**		**PKPdf**	**19 33 06.2**	**+4.3**
SONM	**Songino Array**	**151.03**	**93**	PKPbc	**PKPdf**	**19 33 08.1**	**+4.9**
	comp=Z,1.5nm,0.5s,baz=224,slow=3.3,SNR=9.0						
PWL	**Port Wells**	**151.25**	**299**		**PKPdf**	**19 33 07.5**	**+4.5**
F26K	**Sheenjek River**	**151.76**	**314**	PKPbc	**PKPbc**	**19 33 09.7**	**-0.5**
ILAR	**Eielson Array**	**152.01**	**307**	PKPdf	**PKPdf**	**19 33 03.5**	**-0.5**
ILAR				PKPbc	**PKPdf**	**19 33 09.3**	**+5.3**
ILAR	**Eielson Array**	**152.01**	**307**	PKPbc	**PKPdf**	**19 33 09.3**	**+5.3**
	comp=Z,0.5nm,0.3s,baz=144,slow=2.2,SNR=15						
CCB	**Clear Creek Bu**	**152.35**	**307**	PKPdf	**PKPdf**	**19 33 07.2**	**+2.8**
CCB				PKPab	**PKPab**	**19 33 21.5**	**-1.0**
SKT	**Skwentna**	**153.09**	**300**		**PKPdf**	**19 33 11.0**	**+5.4**
TOLK	**Toolik Lake Re**	**153.94**	**315**		**PKPbc**	**19 33 13.8**	**-1.1**

IDC 09 19:17:31.0±5.0,22°.05S×178°.49W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=287.9km s-min=71.4km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.74**	**258**	P	P	19 25 37.9	-0.6
	0.3nm,0.7s,baz=84,slow=9.4,SNR=2.2						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**43.95**	**264**	P	P	19 25 40.4	+0.2
	0.9nm,0.4s,baz=102,slow=8.0,SNR=7.2						
	0.9nm,0.4s						
HFS	**Hagfors**	**140.99**	**350**	PKP	PKPdf	19 37 02.3	-0.4
	0.7nm,0.5s,baz=18,slow=5.0,SNR=5.6						
AKASG	**Malin Array Be**	**144.13**	**330**	PKP	PKPdf	19 37 08.0	-0.6
	0.2nm,0.4s,baz=49,slow=3.3,SNR=4.3						

MOS ***09*** *19:19:35.6±1.1, 61°.84N×165°.17E, h24km, mb4.6/25, Error*

ellipse: s-maj=10.3km s-min=6.5km az=84.4
*IDC **09** 19:19:37.0±0.7,61°.79N×164°.90E,h0km,mb3.9/18, mbtmp4.0/20,ML4.3/2,MS3.7/13,Error ellipse: s-maj=18.3km s-min=13.1km az=171.0*
*KRSC **09** 19:19:36.3±0.4,61°.91N×164°.78E,h30km±17km,Ml4.9, Felt [II] at Khailino.*
*NERS **09** 19:19:37.3,61°.98N×165°.04E,h0km*
*NEIC **09** 19:19:39.2±1.9,61°.9N±0°.1×165°.1E±0°.2,h16km±4km, mb4.3/154,Error ellipse: s-maj=18.8km s-min=7.9km az=154.0*
ISC 09 19:19:38.0±0.4,61°.87N±0°.04×165°.13E±0°.03,h10km,n267, σ1§48/257,mb4.3/96,MS4.0/10,6C-3D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSK	**Kamenskaya**	**0.78**	**40**	*e*P	**Pg**	**19 19 52.9**	**-0.2**
KMSK	**Kamenskaya**	**0.78**	**40**	PN	**Pg**	**19 19 52.8**	**-0.2**
TILK	**Tilichiki**	**1.51**	**161**	*e*P	**Pn**	**19 20 04.2**	**-0.8**
TILK				*e*S	**Sn**	**19 20 25.2**	**+0.4**
TILK	**Tilichiki**	**1.51**	**161**	PN	**Pn**	**19 20 04.2**	**-0.8**
TILK				S	**Sn**	**19 20 25.1**	**+0.4**
EVEN	**Evensk**	**2.79**	**274**	*e*P	**Pn**	**19 20 22.7**	**+0.1**
EVEN				*e*Pg	**Pb**	**19 20 26.6**	**-1.3**
EVEN				Pgmax		19 20 27.0	
	80nm,0.4s						
EVEN				*e*Sg	**Sg**	**19 21 05.7**	**-1.9**
EVEN				Sgmax		19 21 14.0	
	670nm,0.7s						
EVEN				Sgmax		19 21 14.0	
	2μm,0.7s						
EVEN	**Evensk**	**2.79**	**274**	*e*PN	**Pn**	**19 20 22.7**	**+0.1**
EVEN				*e*SG	**Sg**	**19 21 05.7**	**-1.9**
OSSR	**Ossora**	**2.82**	**202**	*e*P	**Pn**	**19 20 22.1**	**-0.9**
OSSR				*e*S	**Sn**	**19 20 54.4**	**-2.6**
OSSR	**Ossora**	**2.82**	**202**	PN	**Pn**	**19 20 22.1**	**-0.9**
PALN	**Palana**	**3.78**	**225**	*e*P	**Pn**	**19 20 36.1**	**-0.2**
PALN				*e*S	**Sn**	**19 21 18.6**	**-2.1**
PALN	**Palana**	**3.78**	**225**	PN	**Pn**	**19 20 36.0**	**-0.2**
OMS	**Omsukchan**	**4.43**	**283**	*e*	**Pn**	**19 20 41.4**	**-3.8**
OMS				*e*P	Pb	19 20 46.6	-9.2
OMS				*e*Pg	Pg	19 20 56.8	-5.9
OMS				Pgmax		19 21 09.0	
	150nm,0.5s						
OMS				*e*Sg	**Sg**	**19 21 56.5**	**-3.5**
OMS				Sgmax		19 22 17.2	
	340nm,0.7s						
OMS				Sgmax		19 22 17.2	
	130nm,0.6s						
OMS	**Omsukchan**	**4.43**	**283**	*e*PN	**Pn**	**19 20 46.6**	**+1.4**
TIGL	**Tigil**	**5.25**	**221**	*e*P	**Pn**	**19 20 56.0**	**-0.4**
KBTR	**Krutoberegovo**	**5.80**	**193**	*e*P	**Pn**	**19 21 04.9**	**+1.0**
KBTR	**Krutoberegovo**	**5.80**	**193**	PN	**Pn**	**19 21 04.9**	**+1.0**
SEY	**Seymchan**	**6.02**	**286**	*e*P	**Pn**	**19 21 09.2**	**+2.2**
SEY				Pmax		19 21 10.7	
SEY				Sgmax		19 22 03.0	
	130nm,0.8s						
SEY				Sgmax		19 22 03.0	
	30nm,0.7s						
SEY				*e*Sg	**Sg**	**19 22 47.6**	**-3.4**
SEY	**Seymchan**	**6.02**	**286**	Pn	**Pn**	**19 21 09.1**	**+2.1**
	0.9nm,0.3s,baz=99,slow=13,SNR=13						
SEY				Lg	Lg	19 22 44.7	
	2.6nm,0.3s,baz=3.9,slow=5.1,SNR=4.4						
SEY	**Seymchan**	**6.02**	**286**	*i* PN	**Pn**	**19 21 08.7**	**+1.7**
TLAR	**Talaya**	**6.14**	**269**	*e*P	**Pn**	**19 21 11.0**	**+2.3**
TLAR				Pmax		19 21 12.4	
	20nm,0.4s						
TLAR				*e*Sg	**Sg**	**19 22 51.8**	**-3.1**
TLAR				Sgmax		19 23 08.2	
	170nm,0.6s						
TLAR				Sgmax		19 23 08.2	
	60nm,0.6s						
TLAR	**Talaya**	**6.14**	**269**	*e*PN	**Pn**	**19 21 11.0**	**+2.3**
BILL	**Bilibino**	**6.21**	**4**		Lg	19 23 14.3	
BILL	**Bilibino**	**6.21**	**4**	*e*P	**Pn**	**19 21 12.5**	**+2.9**
BILL				*e*Pg	Pg	19 21 31.5	-5.3
BILL				*e*Sg	**Sg**	**19 22 50.1**	**-7.1**
BILL				Sgmax		19 23 05.1	
	290nm,0.7s						
BILL				Sgmax		19 23 05.1	
	130nm,0.8s						
BILL	**Bilibino**	**6.21**	**4**	*e*PN	**Pn**	**19 21 12.5**	**+2.9**
GADL	**Gadlja**	**7.11**	**258**	*e*P	**Pn**	**19 21 25.6**	**+3.7**
GADL				*e*Sg	**Sg**	**19 23 24.3**	**-1.7**
GADL				Sgmax		19 23 55.7	
	190nm,0.8s						
GADL	**Gadlja**	**7.11**	**258**	*e*PN	**Pn**	**19 21 25.6**	**+3.7**
MA2	**Magadan**	**7.41**	**258**	*e*P	**Pn**	**19 21 27.3**	**+1.3**
MA2				*e*S	**Sg**	**19 23 41.2**	**+5.8**
MA2	**Magadan**	**7.41**	**258**	Pn	**Pn**	**19 21 25.6**	**-0.4**
	0.8nm,0.3s,baz=99,slow=16,SNR=1.7						
MA2				Lg	Lg	19 23 27.1	
	0.7nm,0.3s,baz=165,slow=18,SNR=1.3						
MA2				LR	LR	19 23 39.6	
	comp=Z,63nm,19.4s,baz=58,slow=33						
	7.3nm,0.5s						
MA2	**Magadan**	**7.41**	**258**	*e*PN	**Pn**	**19 21 27.3**	**+1.3**
SUUS	**Susuman**	**7.95**	**284**	*e*P	**Pn**	**19 21 36.7**	**+3.3**
SUUS				Pmax		19 21 48.9	
	10.0nm,0.5s						
SUUS				*e*S	**Sg**	**19 23 53.9**	**+1.2**
SUUS				Sgmax		19 24 19.6	
	80nm,0.9s						
SUUS				Sgmax		19 24 19.6	
	20nm,1.1s						
SUUS	**Susuman**	**7.95**	**284**	*e*PN	**Pn**	**19 21 36.7**	**+3.3**
OCHR	**Omchak**	**8.19**	**276**	*e*	Pb	19 21 50.6	-9.1
OCHR				*e*Sg	**Sg**	**19 23 57.0**	**-3.4**
OCHR				Sgmax		19 24 12.3	
	60nm,0.9s						
OCHR	**Omchak**	**8.19**	**276**	*e*PN	Pb	19 21 50.6	-9.1
TLON	**Talon**	**8.32**	**263**	*e*		19 24 10.4	
PETK	**Petropavlovsk-**	**9.64**	**208**	LR	LR	19 25 55.0	
	comp=Z,339nm,18.2s,baz=5.1,slow=40						
SHEM	**Shemya Is, Ala**	**10.36**	**148**	LR	LR	19 25 17.2	
	comp=Z,233nm,21.9s,baz=304,slow=33						
SKR	**Severo-Kuril's**	**12.26**	**208⇑**	*e*PN	**Pn**	**19 22 32.7**	**+0.3**
ADK	**Adak**	**14.05**	**127**	Pn	**Pn**	**19 22 57.6**	**+0.8**
ADK	**Adak**	**14.05**	**127**	P	**Pn**	**19 22 57.6**	**+0.8**
ATKA	**Atka Island**	**14.77**	**122**	Pn	**Pn**	**19 23 02.6**	**-4.1**
L14K	**Kuka Creek**	**15.24**	**78**	Pn	**Pn**	**19 23 13.5**	**+0.7**
L14K				IAmb	IAmb	19 23 20.8	
	comp=Z,17nm,0.9s						
C18K	**Utukok River**	**15.46**	**50**	Pn	**Pn**	**19 23 16.4**	**+0.6**
C18K				IAmb	IAmb	19 23 28.0	
	comp=Z,26nm,1.1s						
G18K	**Tagagawik**	**16.28**	**60**	P	**Pn**	**19 23 27.3**	**+1.0**
J17K	**VABM Dome**	**16.39**	**69**	Pn	**Pn**	**19 23 28.0**	**+0.2**
H18K	**Honhosa River**	**16.45**	**63**	Pn	**Pn**	**19 23 28.7**	**+0.2**
H18K				IAmb	IAmb	19 23 37.0	
	comp=Z,28nm,1.4s						
YAK	**Yakutsk**	**16.55**	**286**	*i* P	**P**	**19 23 31.2**	**-1.1**
D19K	**Kuna River**	**16.56**	**51**	Pn	**Pn**	**19 23 29.6**	**-0.3**
F19K	**Shaleruckik Mo**	**16.61**	**57**		**Pn**	**19 23 30.3**	**-0.2**
L16K	**Owhat River**	**16.61**	**75**	Pn	**Pn**	**19 23 30.1**	**-0.5**
E19K	**Redstone River**	**16.83**	**54**		**Pn**	**19 23 32.8**	**-0.5**
TIXI	**Tiksi**	**17.01**	**320**	Pn	**Pn**	**19 23 36.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=135,slow=6.8,SNR=4.4						
TIXI				Lg	Lg	19 28 37.5	
	comp=Z,0.3nm,0.3s,baz=36,slow=12,SNR=1.3						
TIXI				LR	LR	19 30 54.2	
	comp=Z,115nm,21.6s,baz=32,slow=40						
	comp=Z,1.9nm,0.4s						
TIXI	**Tiksi**	**17.01**	**320**	P	**Pn**	**19 23 36.0**	**+0.5**
TIXI	**Tiksi**	**17.01**	**320**	P	**Pn**	**19 23 36.0**	**+0.5**
B20K	**Meade River**	**17.10**	**46**		**P**	**19 23 38.4**	**0.0**
F20K	**Avaraart Lake**	**17.41**	**56**	P	**Pn**	**19 23 39.6**	**-1.0**
J18K	**Innoko River**	**17.42**	**68**		**Pn**	**19 23 40.1**	**-0.6**
J19K	**Poorman**	**17.79**	**66**		**P**	**19 23 46.0**	**-0.1**
B21K	**Ikpikpuk River**	**17.93**	**47**	P	**Pn**	**19 23 46.6**	**-0.3**
B21K				IAmb	IAmb	19 24 01.2	
	comp=Z,26nm,1.4s						
IMAR	**Indian Mountai**	**18.28**	**59**	P	**Pn**	**19 23 50.4**	**-0.9**
F21K	**Alatna River**	**18.28**	**55**	P	**Pn**	**19 23 50.2**	**-1.2**
B22K	**Teshekpuk Lake**	**18.41**	**45**	P	**P**	**19 23 51.3**	**-1.5**
B22K				IAmb	IAmb	19 24 04.3	
	comp=Z,45nm,1.4s						
D22K	**Ayikyak River**	**18.57**	**50**	P	**P**	**19 23 53.8**	**-0.8**
L19K	**White Mountain**	**18.57**	**71**	P	**P**	**19 23 54.7**	**-0.1**
N18K	**Kilae Creek**	**18.59**	**76**	P	**P**	**19 23 54.6**	**-0.2**
H21K	**Melozitna Rive**	**18.70**	**60**	P	**P**	**19 23 56.0**	**-0.2**
M19K	**Big River Lodg**	**18.86**	**72**	P	**P**	**19 23 57.7**	**-0.2**
M19K				IAmb	IAmb	19 24 05.7	
	comp=Z,22nm,1.4s						
E22K	**Anaktuvuk Pass**	**18.89**	**52**		**P**	**19 23 56.7**	**-1.5**
D23K	**Nanushuk River**	**19.29**	**50**	P	**P**	**19 24 00.6**	**-1.9**
D23K				IAmb	IAmb	19 24 30.8	
	comp=Z,23nm,1.4s						
C23K	**Itkillik River**	**19.33**	**47**	P	**P**	**19 24 01.4**	**-1.5**
CAST	**Castle Rocks**	**19.46**	**67**	P	**P**	**19 24 03.8**	**-0.6**
MLY	**Manley**	**19.66**	**61**	P	**P**	**19 24 06.5**	**-0.2**
G23K	**Bananza Creek**	**19.68**	**56**	P	**P**	**19 24 06.4**	**-0.5**
TOLK	**Toolik Lake Re**	**19.70**	**51**	P	**Pn**	**19 24 08.7**	**+0.2**
E23K	**Chandalar**	**19.71**	**52**	P	**Pn**	**19 24 08.2**	**-0.5**
ACHA	**Angle Creek He**	**19.86**	**83**	P	**Pn**	**19 24 12.0**	**+1.5**
ACHA				IAmb	IAmb	19 24 19.8	
	comp=Z,15nm,1.0s						
D24K	**Happy Valley**	**19.96**	**49**	P	**Pn**	**19 24 11.9**	**+0.5**
C24K	**Franklin Bluff**	**19.99**	**47**	P	**Pn**	**19 24 10.9**	**-0.9**
H23K	**Yukon River**	**20.01**	**59**	P	Pn	19 24 12.3	+0.2
H23K				IAmb	IAmb	19 24 24.5	
	comp=Z,26nm,1.5s						
E24K	**Your Creek**	**20.14**	**52**	P	Pn	19 24 12.9	-0.7
E24K				IAmb	IAmb	19 24 23.9	
	comp=Z,14nm,0.7s						
BWN	**Browne**	**20.39**	**64**	P	Pn	19 24 16.4	-0.2
BWN				IAmb	IAmb	19 24 36.0	
	comp=Z,28nm,1.1s						
F24K	**Squaw Lake**	**20.42**	**54**		Pn	19 24 15.8	-1.1
F24K				IAmb	IAmb	19 24 24.4	
	comp=Z,15nm,0.8s						
NEA2	**Nenana**	**20.46**	**62**	P	Pn	19 24 16.3	-1.1
H24K	**Noodor Dome**	**20.68**	**58**	P	Pn	19 24 19.7	-0.4
G24K	**Hadweenzic Riv**	**20.69**	**56**	P	Pn	19 24 19.2	-0.8
G24K				IAmb	IAmb	19 24 27.4	
	comp=Z,15nm,1.1s						
D25K	**Kavik River**	**20.82**	**48**	P	**P**	**19 24 19.4**	**+0.2**
D25K				IAmb	IAmb	19 24 31.8	
	comp=Z,13nm,0.9s						
RND	**Reindeer**	**20.86**	**65**	P	Pn	19 24 21.3	-0.9
RND				IAmb	IAmb	19 24 31.8	
	comp=Z,9.3nm,0.9s						
RND	**Reindeer**	**20.86**	**65**	P	Pn	19 24 21.3	-0.9
RND				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WRH	**Wood River Hil**	**20.90**	**62**	P	Pn	19 24 21.6	-0.9
WRH				IAmb	IAmb	19 24 29.7	
	comp=Z,8.8nm,0.8s						
COLA	**College**	**20.90**	**61⇑**	*e*P	Pn	19 24 27.5	+5.0
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CCB	**Clear Creek Bu**	**20.97**	**62**	P	Pn	19 24 22.4	-1.0
E25K	**Arctic Village**	**21.22**	**52**	P	**P**	**19 24 24.2**	**+0.7**
E25K				IAmb	IAmb	19 24 32.4	
	comp=Z,24nm,1.2s						
F25K	**Christian Rive**	**21.26**	**53**	P	**P**	**19 24 24.9**	**+0.9**
F25K				IAmb	IAmb	19 24 33.3	
	comp=Z,13nm,0.8s						
OHAK	**Old Harbor**	**21.30**	**84**	P	**P**	**19 24 24.4**	**+0.1**
OHAK				IAmb	IAmb	19 24 30.4	
	comp=Z,13nm,1.0s						
IL31		**21.32**	**61**	P	**P**	**19 24 25.3**	**+0.7**
IL31				IAmb	IAmb	19 24 33.9	
	comp=Z,6.7nm,0.7s						
ILAR	**Eielson Array**	**21.32**	**61**	P	**P**	**19 24 24.8**	**+0.2**
ILAR	**Eielson Array**	**21.32**	**61**	P	**P**	**19 24 27.1**	**+2.6**
	comp=Z,4.1nm,0.8s,baz=273,slow=8.5,SNR=21						
ILAR				LR	LR	19 33 32.2	
	comp=Z,69nm,20.4s,baz=194,slow=39						
	comp=Z,4.1nm,0.8s						
ILAR	**Eielson Array**	**21.32**	**61**	P	**P**	**19 24 24.8**	**+0.2**
KDAK	**Kodiak Island**	**21.35**	**82**	P	**P**	**19 24 26.0**	**+1.1**
KDAK	**Kodiak Island**	**21.35**	**82**	P	**P**	**19 24 27.5**	**+2.6**
	comp=Z,16nm,1.1s,baz=78,slow=7.9,SNR=2.7						
KDAK				LR	LR	19 33 30.7	
	comp=Z,147nm,21.9s,baz=150,slow=39						
	comp=Z,16nm,1.1s						
KDAK	**Kodiak Island**	**21.35**	**82**	P	**P**	**19 24 26.0**	**+1.1**
KDAK				pmax	pmax		
	comp=Z,42nm,1.4s						
HDA	**Harding Lake**	**21.39**	**62**	P	**P**	**19 24 26.3**	**+1.0**
HDA				IAmb	IAmb	19 24 43.7	
	comp=Z,8.6nm,0.9s						
ZEA	**Zeya**	**21.48**	**265⇑**	*e*P	**P**	**19 24 24.2**	**-2.1**
FYU	**Fort Yukon**	**21.59**	**56**	P	**P**	**19 24 27.2**	**-0.2**
FYU				IAmb	IAmb	19 24 47.3	
	comp=Z,12nm,1.0s						
DHY	**Denali Highway**	**21.60**	**66**	P	**P**	**19 24 27.1**	**-0.6**
SML	**Sawmill**	**21.61**	**69**	P	**P**	**19 24 26.9**	**-0.9**
SML				IAmb	IAmb	19 25 06.9	
	comp=Z,21nm,1.2s						
BMAR	**Burnt Mountain**	**21.69**	**53**	P	**P**	**19 24 29.1**	**+0.5**
PRP	**Porcupine Dome**	**21.70**	**59**	P	**P**	**19 24 29.6**	**+0.8**
PRP				IAmb	IAmb	19 24 38.3	
	comp=Z,10nm,0.6s						
C27K	**Jago River**	**21.74**	**47**	P	**P**	**19 24 29.8**	**+0.8**
C27K				IAmb	IAmb	19 24 36.0	
	comp=Z,12nm,0.9s						
F26K	**Sheenjek River**	**21.81**	**53**	P	**P**	**19 24 30.6**	**+0.7**
F26K				IAmb	IAmb	19 24 39.4	
	comp=Z,9.5nm,0.9s						
J25K	**Salcha River,**	**21.99**	**61**	P	**P**	**19 24 33.1**	**+1.2**
SCM	**Sheep Creek Mo**	**22.04**	**69**	P	**P**	**19 24 31.5**	**-0.9**
SCM	**Sheep Creek Mo**	**22.04**	**69**	P	**P**	**19 24 31.5**	**-0.9**
SCM				pmax	pmax		
	comp=Z,35nm,1.4s						
KLR	**Kul'dur**	**22.42**	**251⇓**	*e*P	**P**	**19 24 36.9**	**+0.4**
KLR				pmax	pmax		
	comp=Z,29nm,0.8s						
RIDG	**Independent Ri**	**22.47**	**63**	P	**P**	**19 24 38.8**	**+1.8**
RIDG				IAmb	IAmb	19 24 41.8	
	comp=Z,16nm,1.2s						
E27K	**Coleen River**	**22.68**	**51**	P	**P**	**19 24 39.7**	**+0.5**
I26K	**Coal Creek Min**	**22.71**	**59**	P	**P**	**19 24 40.0**	**+0.6**
I26K				IAmb	IAmb	19 24 50.4	
	comp=Z,6.8nm,0.9s						
D27M	**Malcolm River**	**22.75**	**48**	P	**P**	**19 24 40.1**	**+0.2**
D27M				IAmb	IAmb	19 24 47.0	
	comp=Z,9.4nm,1.1s						
SCRK	**Sand Creek**	**22.76**	**62**	P	**P**	**19 24 39.5**	**-0.6**
J26L	**Joseph Creek**	**22.77**	**61**	P	**P**	**19 24 41.2**	**+1.0**
G27K	**Doyon Strip**	**22.93**	**54**	P	**P**	**19 24 42.3**	**+0.4**
G27K				IAmb	IAmb	19 24 48.5	
	comp=Z,12nm,1.4s						
E28M	**Babbage River**	**23.36**	**50**	P	**P**	**19 24 45.5**	**-0.6**
HEH	**HeiHe**	**23.67**	**258**	*e*P	**P**	**19 24 49.4**	**+0.1**
HEH				pmax	pmax		
	comp=Z,11nm,1.3s						
EGAK	**Eagle**	**23.68**	**59**	P	**P**	**19 24 48.5**	**-0.8**
EGAK				IAmb	IAmb	19 24 56.0	
	comp=Z,7.0nm,0.8s						
I28M	**Miner Creek**	**23.97**	**57**	P	**P**	**19 24 53.0**	**+0.8**
E29M	**Blow River**	**23.99**	**50**	P	**P**	**19 24 52.2**	**-0.1**
BCAR	**Beaver Creek A**	**24.00**	**64**	P	**P**	**19 24 52.2**	**-0.2**
G29M	**Pine Creek**	**24.30**	**53**	P	**P**	**19 24 54.7**	**-0.5**
G29M				IAmb	IAmb	19 25 01.7	
	comp=Z,13nm,1.1s						
H29M	**Whitestone**	**24.36**	**55**	P	**P**	**19 24 55.4**	**-0.3**
H29M				IAmb	IAmb	19 25 19.9	
	comp=Z,12nm,1.4s						
DAWY	**Dawson**	**24.64**	**60**	P	**P**	**19 24 59.5**	**+1.2**
DAWY				IAmb	IAmb	19 25 35.3	
	comp=Z,7.3nm,1.2s						
GRNC	**Granite Creek**	**24.95**	**69**	P	**P**	**19 25 02.8**	**+1.6**
G30M	**tAoh Zraii Nji**	**24.96**	**53**	P	**P**	**19 25 02.4**	**+1.2**
G30M				IAmb	IAmb	19 25 17.7	
	comp=Z,6.1nm,1.1s						
CTGM	**Chitina Glacie**	**25.03**	**68**	P	**P**	**19 25 03.8**	**+1.8**
LOGN	**Logan Glacier**	**25.24**	**68**	P	**P**	**19 25 04.2**	**+0.4**
I30M	**Mount Dempster**	**25.45**	**57**		**P**	**19 25 04.7**	**-1.0**
I30M				IAmb	IAmb	19 25 22.8	
	comp=Z,6.7nm,1.1s						
L29M	**L29M**	**25.52**	**62**	P	**P**	**19 25 08.5**	**+2.2**
L29M				IAmb	IAmb	19 25 29.6	
	comp=Z,13nm,1.4s						
INK	**Inuvik**	**25.59**	**49**	P	**P**	**19 25 06.8**	**+0.1**
INK				IAmb	IAmb	19 25 22.4	
	comp=Z,12nm,1.2s						
INK	**Inuvik**	**25.59**	**49**	P	**P**	**19 25 06.8**	**+0.1**
INK				pmax	pmax		
	comp=Z,12nm,1.3s						
F31M	**Tsiigehtchic**	**25.75**	**51**	P	**P**	**19 25 07.3**	**-0.9**
F31M				IAmb	IAmb	19 25 24.8	
	comp=Z,5.3nm,0.9s						
H31M	**Peel River**	**26.05**	**55**	P	**P**	**19 25 10.8**	**-0.2**
H31M				IAmb	IAmb	19 25 39.8	
	comp=Z,12nm,1.4s						
A36M	**Sachs Harbour**	**27.35**	**39**	P	**P**	**19 25 22.2**	**-0.4**
A36M				IAmb	IAmb	19 25 30.6	
	comp=Z,5.7nm,0.9s						
MJA0	**Matsu Arr-Jizo**	**30.41**	**226**	*e*P	**P**	**19 25 54.0**	**+3.9**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MAJO	**Matsushiro**	**30.42**	**226⇑**	*e*P	**P**	**19 25 51.8**	**+1.6**
MAJO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MJAR	**Matsushiro Arr**	**30.42**	**226**	P	**P**	**19 25 50.2**	**0.0**
	comp=Z,3.0nm,0.7s,baz=27,slow=8.2,SNR=5.5						
	comp=Z,3.0nm,0.7s						
JGF	**Kuroka**	**31.56**	**227**	P	**P**	**19 25 56.7**	**-3.6**
ULN	**Ulaanbaatar**	**34.94**	**274⇓**	*e*P	**P**	**19 26 30.7**	**+0.9**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**35.27**	**274**	PcP	**PcP**	**19 29 03.1**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=1.4,slow=1.5,SNR=5.7						
SONM				LR	LR	19 41 50.0	
	comp=Z,84nm,20.2s,baz=217,slow=38						
HHC	**Hu-ho-hao-te**	**38.07**	**262**	*e*P	**P**	**19 26 56.5**	**0.0**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,73nm,6.0s						
HHC				LR	LR		
	comp=N,230nm,13.8s						
HHC				LR	LR		
	comp=E,150nm,13.8s						
HHC				LR	LR		
	comp=Z,210nm,10.0s						
ZALV	**Zalesovo Beam**	**40.76**	**297**	P	**P**	**19 27 18.4**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=56,slow=8.8,SNR=1.3						
ZALV				LR	LR	19 45 44.4	
	comp=Z,75nm,19.7s,baz=46,slow=38						
	comp=Z,0.3nm,0.4s						
B08A	**Colville Reser**	**42.69**	**72**	P	**P**	**19 27 35.1**	**+0.5**
B08A				IAmb	IAmb	19 27 41.1	
	comp=Z,5.4nm,0.9s						
LON	**Longmire**	**42.75**	**76**	P	**P**	**19 27 34.8**	**-0.3**
LON	**Longmire**	**42.75**	**76**	P	**P**	**19 27 34.8**	**-0.3**
LON				pmax	pmax		
	comp=Z,4.0nm,1.1s						
LTY	**Liberty**	**42.90**	**74**	P	**P**	**19 27 36.6**	**+0.3**
LTY				IAmb	IAmb	19 27 41.5	
	comp=Z,6.9nm,1.1s						
MXC	**Moxie City**	**43.58**	**75**	P	**P**	**19 27 43.3**	**+1.5**
MXC				IAmb	IAmb	19 27 48.1	
	comp=Z,4.6nm,0.7s						
E07A	**Sunnyside**	**43.79**	**74**	P	**P**	**19 27 43.5**	**+0.1**
E07A				IAmb	IAmb	19 27 49.4	
	comp=Z,4.0nm,0.8s						
D08A	**Wollman Farm,**	**43.84**	**73**	P	**P**	**19 27 44.4**	**+0.6**
D08A				IAmb	IAmb	19 27 49.7	
	comp=Z,5.7nm,0.8s						
HOOD	**Mount Hood Mea**	**43.90**	**77**	P	**P**	**19 27 45.3**	**+0.8**
H04A	**Detroit Lake**	**44.13**	**78**	P	**P**	**19 27 46.1**	**-0.1**
H04A				IAmb	IAmb	19 27 58.3	
	comp=Z,7.9nm,1.2s						
E09A	**Wood Farm, Sta**	**44.60**	**73**	P	**P**	**19 27 49.7**	**-0.2**
E09A				IAmb	IAmb	19 27 55.9	
	comp=Z,5.4nm,0.9s						
GTA	**Gaotai**	**44.75**	**271**	*e*P	**P**	**19 27 53.6**	**+2.2**
GTA				sP	sP	19 28 03.6	+7.8
GTA				pmax	pmax		
	comp=Z,4.0nm,1.8s						
J04A	**Umpqua Nationa**	**45.27**	**79**	P	**P**	**19 27 57.1**	**+1.6**
PINE	**Pine Mountain**	**45.39**	**78**	P	**P**	**19 27 56.5**	**0.0**
F10A	**Beach Ranch, E**	**45.43**	**73**	P	**P**	**19 27 56.9**	**+0.3**
J05D	**Fort Rock, OR**	**45.65**	**78**	P	**P**	**19 27 59.8**	**+1.3**
J05D				IAmb	IAmb	19 28 05.7	
	comp=Z,6.5nm,1.0s						
KURK	**Kurchatov**	**45.73**	**298⇑**	*e*P	**P**	**19 28 00.8**	**+2.0**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**45.79**	**341**	P	**P**	**19 28 00.3**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=31,slow=8.9,SNR=1.0						
	comp=Z,1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**45.84**	**298**	P	**P**	**19 27 59.8**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=42,slow=7.8,SNR=9.8						
KURBB				LR	LR	19 46 24.3	
	comp=Z,101nm,20.4s,baz=183,slow=35						
	comp=Z,1.9nm,0.5s						
L04D	**Klamath Falls**	**45.97**	**80**	P	**P**	**19 28 01.4**	**+0.4**
YBH	**Yreka Blue Hor**	**46.16**	**81**	P	**P**	**19 28 03.3**	**+0.8**
YBH				IAmb	IAmb	19 28 09.2	
	comp=Z,5.2nm,0.9s						
YBH	**Yreka Blue Hor**	**46.16**	**81**	P	**P**	**19 28 03.3**	**+0.8**
YBH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BMO	**Blue Mountains**	**46.25**	**74**	P	**P**	**19 28 04.2**	**+1.1**
BMO	**Blue Mountains**	**46.25**	**74**	P	**P**	**19 28 04.2**	**+1.1**
BMO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PLID	**Pearl Lake**	**46.66**	**73**	P	**P**	**19 28 06.1**	**-0.5**
PLID				IAmb	IAmb	19 28 11.8	
	comp=Z,3.8nm,0.9s						
J08A	**Circle

TPH Tonopah 51.63 80 P P 19 28 45.4 +0.8
TPH pmax pmax
comp=Z,14nm,0.6s
DUG Dugway, Tooele 51.96 74 P P 19 28 47.8 +0.8
DUG IAmb IAmb 19 28 53.2
comp=Z,3.8nm,0.8s
DUG Dugway, Tooele 51.96 74 P P 19 28 47.8 +0.8
DUG pmax pmax
comp=Z,4.0nm,0.9s
SPR3 Spring Creek 3 52.22 77 P P 19 28 49.5 +0.3
SPR3 IAmb IAmb 19 28 56.0
comp=Z,5.9nm,0.9s
NLU North Lily Min 52.49 74 P P 19 28 51.7 +0.7
NLU IAmb IAmb 19 28 57.6
comp=Z,6.4nm,0.9s
BSUT Blindstream Ca 52.62 73 P P 19 28 53.1 +1.0
PSUT Pine Spring 52.82 76 P P 19 28 54.2 +0.8
PSUT IAmb IAmb 19 29 01.6
comp=Z,2.5nm,0.9s
FINES FINESS Array B 53.11 337 P P 19 28 55.6 +0.6
comp=Z,2.4nm,1.0s,baz=13,slow=12,SNR=4.0
comp=Z,2.4nm,1.0s
FINES FINESS Array B 53.11 337 *eP* **P 19 28 58.5 +3.5**
FINES pmax pmax
comp=Z,2.0nm,1.0s
PRN Pahroc Range 53.18 78 19 28 55.9 -0.1
PRN IAmb IAmb 19 29 02.1
comp=Z,5.7nm,1.2s
TMUT Trail Mountain 53.41 74 P P 19 28 57.2 -0.7
TMUT IAmb IAmb 19 29 16.7
comp=Z,3.2nm,0.6s
BORG Borgarnes 53.60 3 LR LR 19 53 01.7
comp=Z,207nm,18.9s,baz=229,slow=37
AAK Ala-Archa 53.81 294 P P 19 28 59.4 -1.3
AAK IAmb IAmb 19 29 08.0
comp=Z,3.0nm,0.9s
AAK Ala-Archa 53.81 294 P P 19 28 59.4 -1.3
AAK pmax pmax
comp=Z,3.0nm,1.0s
GSC Goldstone, Bar 54.07 81 P P 19 29 02.3 -0.2
GSC Goldstone, Bar 54.07 81 P P 19 29 02.3 -0.2
GSC pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Abkulak array 54.28 309 P P 19 29 03.4 -0.3
ABKAR IAmb IAmb 19 29 08.8
comp=Z,2.1nm,0.8s
ABKAR Abkulak array 54.28 309 P P 19 29 03.1 -0.6
PZH PanZhiHua 54.47 260 P P 19 29 06.3 +0.7
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
HMU Henry Mountain 54.73 74 P P 19 29 05.1 -2.4
KKAR Karatay Array 55.14 297 P P 19 29 07.5 -2.6
KKAR Karatay Array 55.14 297 P P 19 29 07.5 -2.6
U15A North Rim 55.25 77 P P 19 29 11.6 +0.3
U15A IAmb IAmb 19 29 17.6
comp=Z,4.6nm,1.0s
PFO Pinyon Flats O 55.62 82 P P 19 29 13.6 -0.2
PFO Pinyon Flats O 55.62 82 P P 19 29 13.6 -0.2
PFO pmax pmax
comp=Z,9.0nm,1.2s
NB2 NORSAR Subarra 55.80 345 P P 19 29 15.0 +0.4
comp=Z,4.7nm,1.0s,baz=15,slow=7.4
NOA NORSAR Array B 55.80 345 P P 19 29 15.4 +0.8
comp=Z,0.6nm,0.5s,baz=14,slow=7.4,SNR=3.8
comp=Z,0.6nm,0.5s
ECSD EROS Data Cent 56.13 60 P P 19 29 17.1 -0.1
ECSD IAmb IAmb 19 29 27.6
comp=Z,4.9nm,0.9s
HFS Hagfors 56.36 343 P P 19 29 18.0 -0.6
comp=Z,0.7nm,0.5s,baz=331,slow=8.3,SNR=1.4
comp=Z,0.7nm,0.5s
HFS Hagfors 56.36 343 P P 19 29 18.0 -0.6
BLYC Blythe 56.42 80 P P 19 29 21.7 +2.4
BLYC IAmb IAmb 19 29 25.7
comp=Z,4.6nm,0.8s
WUAZ Wupatki 56.42 77 P P 19 29 20.3 +0.7
WUAZ IAmb IAmb 19 29 26.9
comp=Z,4.7nm,0.9s
LSA Lhasa 56.78 272 P P 19 29 22.8 +0.3
LSA IAmb IAmb 19 29 25.8
comp=Z,5.9nm,1.3s
LSA Lhasa 56.78 272 P P 19 29 22.8 +0.3
LSA pmax pmax
comp=Z,6.0nm,1.3s
ESJX Sierra Juarez 57.19 83 P P 19 29 25.5 +0.5
X16A Lo Mia Camp, P 57.30 77 P P 19 29 23.9 -1.9
X16A IAmb IAmb 19 29 32.3
comp=Z,2.8nm,0.8s
BTK Batken 57.51 295 P P 19 29 25.7 -1.4
BTK IAmb IAmb 19 29 34.6
comp=Z,3.3nm,1.1s
BTK Batken 57.51 295 P P 19 29 25.7 -1.4
BTK pmax pmax
comp=Z,3.0nm,1.1s
GAR Garm 58.61 295 P P 19 29 32.0 -2.8
ANMO Albuquerque 59.14 73⇓ *eP* P 19 29 43.6 +4.9
ANMO pmax pmax
comp=Z,1.0nm,0.9s
SIMJ Simiganj 59.45 295 P P 19 29 38.7 -2.1
SIMJ IAmb IAmb 19 29 46.9
comp=Z,3.8nm,1.0s
P40A Paris 61.52 59 P P 19 29 55.0 +0.3
PHRA Phrae 62.06 257 P P 19 29 58.1 -0.4
AKASG Malin Array Be 62.41 330 P P 19 30 01.1 +0.6
comp=Z,0.3nm,0.4s,baz=24,slow=7.1,SNR=4.0
comp=Z,0.3nm,0.4s
AKBB Malin Array Si 62.41 330 P P 19 30 00.2 -0.3
AKBB Malin Array Si 62.41 330 P P 19 30 00.2 -0.3
AKBB pmax pmax
comp=Z,7.0nm,1.2s
WMOK Wichita Mounta 62.74 67 P P 19 30 03.6 +0.7
WMOK Wichita Mounta 62.74 67 P P 19 30 03.6 +0.7
WMOK pmax pmax
comp=Z,5.0nm,1.0s
U38A Gravette 63.18 63 P P 19 30 05.4 -0.4
HHAR Hobbs 63.50 62 P P 19 30 07.9 0.0
KBZ Khabaz 64.96 317⇑ *eP* P 19 30 22.5 +5.2
KBZ pmax pmax
comp=Z,3.0nm,1.0s
CLL Collm 65.01 341 *ep*P pP 19 30 24.0 +3.1
KOLS Kolonicke sedl 65.62 334 *eP* **P 19 30 26.1 +4.5**
LANS Liptovska Anna 65.97 336 *eP* **P 19 30 26.9 +3.0**
VYHS Vyhne 66.72 336 *eP* **P 19 30 31.1 +2.4**
MODS Modra-Piesok 67.13 337 *eP* P 19 30 37.3 +6.0
MLR Muntele Rosu 68.06 330 LR LR 20 05 52.9
comp=Z,337nm,18.6s,baz=256,slow=41
BRTR Keskin Array B 71.44 322 P P 19 30 59.2 +1.0
comp=Z,0.4nm,0.7s,baz=354,slow=2.6,SNR=2.3
BRTR LR LR 20 07 26.8
comp=Z,172nm,19.9s,baz=268,slow=40
comp=Z,0.4nm,0.7s
PMG Port Moresby 72.43 199 LR LR 19 58 00.3
comp=Z,210nm,20.2s,baz=142,slow=32
ESDC Sonseca Array 78.42 351 P P 19 31 39.5 +1.0
comp=Z,0.9nm,0.8s,baz=7.4,slow=5.4,SNR=6.4
comp=Z,0.9nm,0.8s
WRA Warramunga Arr 85.16 209 P P 19 32 13.6 -0.3
comp=Z,2.2nm,0.8s,baz=15,slow=5.2,SNR=14
comp=Z,2.2nm,0.8s
WRA Warramunga Arr 85.16 209 *eP* **P 19 32 14.0 0.0**
WRA pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 88.85 208 P P 19 32 31.7 -0.1
comp=Z,0.3nm,0.8s,baz=8.3,slow=4.7,SNR=2.0
comp=Z,0.3nm,0.8s
MAW Mawson 148.42 226 PKPbc **PKPbc 19 39 21.2 -1.6**
comp=Z,1.5nm,0.8s,baz=75,slow=19,SNR=3.3
QSPA South Pole Qui 151.64 180 PKPbc **PKPbc 19 39 30.2 -0.5**
comp=Z,1.6nm,0.4s,baz=264,slow=1.6,SNR=4.8

IDC 09 19:26:24.3±6.1, 30°38S×178°41W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=238.9km s-min=53.9km az=151.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.14**	**257**	P	P	19 33 11.9	+0.8
	0.8nm,0.6s,baz=83,slow=8.9,SNR=5.5						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**42.76**	**267**	P	P	19 34 23.1	-0.7
	0.1nm,0.3s,baz=108,slow=7.6,SNR=4.3						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**43.75**	**272**	P	P	19 34 30.9	-0.8
	0.2nm,0.3s,baz=114,slow=6.5,SNR=6.3						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	19 46 01.7	-0.4
	1.8nm,0.8s,baz=54,slow=7.1,SNR=5.2						

MOS ***09*** *19:57:04.6±2.0, 37°08N×20°19E, h17km, mb4.3/6, Error ellipse: s-maj=10.8km s-min=4.0km az=74.0*
NEIC ***09*** *19:57:05.2±2.3, 37°18N±0°08×20°45E±0°08, h10km±1km, mb4.5/14, Error ellipse: s-maj=13.3km s-min=10.0km az=158.0*
BEO ***09*** *19:57:08.4±2.1, 37°13N×20°14E, h58km±4km, ML4.0/16*
IDC ***09*** *19:57:09.3±0.9, 37°82N×20°48E, h0km, mb3.8/14, mbtmp3.7/22, ML3.4/6, MS3.7/6, Error ellipse: s-maj=16.6km s-min=13.8km az=172.0*
ATH ***09*** *19:57:10.4, 37°52N×20°39E, h14km±3km, ML3.9/8, Manual Solution by I.Dede This location: 2020/09/16 05:56:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
TIR ***09*** *19:57:11.6, 37°51N×20°49E, h13km±1km, Md3.6, Ml4.2*
THE ***09*** *19:57:11.3, 37°58N×20°39E, h0km±4km, ML4.0/12, Error ellipse: s-maj=4.7km s-min=0.7km az=223.0*
PDG ***09*** *19:57:14.2±1.0, 37°41N×20°26E, h95km±8km, ML4.0/13, Error ellipse: s-maj=2.6km s-min=2.0km az=90.0*
NAO ***09*** *19:57:31.6, 39°05N×19°68E, h10km, mb4.4*
ISC 09 19:57:11.1±0.5, 37°61N±0°03×20°40E±0°03, h21km±2km, n254, σ2°29/287, mb4.0/21, MS3.6/9, 30C-8D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.34**	**80**	P	**Pb**	**19 57 18.1**	**-0.2**
KRI1				S	**Sb**	**19 57 23.3**	**+0.1**
	25μm,0.8s						
LTHK	**Lithakia**	**0.36**	**73**	P	**Pb**	**19 57 18.2**	**-0.5**
LTHK				S	**Sb**	**19 57 24.0**	**+0.1**
	32μm,0.6s						
LTHK	**Lithakia**	**0.36**	**73**	P	**Pb**	**19 57 18.4**	**-0.3**
LTHK				S	**Sb**	**19 57 23.8**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.53**	**16**	P	**Pb**	**19 57 22.1**	**+0.4**
PSDA				S	**Sb**	**19 57 29.7**	**+0.8**
	16μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.53**	**16**	P	**Pb**	**19 57 22.0**	**+0.3**
PSDA				S	**Sn**	**19 57 31.2**	**-0.5**
RTZL	**Ratzakli, Kefa**	**0.55**	**32**	P	**Pb**	**19 57 22.1**	**-0.1**
RTZL				S	**Sb**	**19 57 31.2**	**+1.5**
	21μm,0.6s						
VLS	**Valsamata**	**0.59**	**15**	P	**Pb**	**19 57 22.8**	**0.0**
VLS				S	**Sb**	**19 57 32.0**	**+1.2**
	12μm,0.6s						
VLS	**Valsamata**	**0.59**	**15**	P	**Pb**	**19 57 22.7**	**-0.1**
VLS				S	**Sn**	**19 57 32.7**	**-0.6**
LXRA	**Lixouri, Kepha**	**0.59**	**3**	P	**Pb**	**19 57 23.7**	**+0.8**
LXRA				S	**Sn**	**19 57 33.4**	**+0.1**
DMLN	**Damoulianata-K**	**0.63**	**358**	P	**Pb**	**19 57 24.3**	**+0.8**
DMLN				S	**Sn**	**19 57 33.8**	**-0.5**
	43μm,0.8s						
DMLN	**Damoulianata-K**	**0.63**	**358**	P	**Pb**	**19 57 24.0**	**+0.4**
DMLN				S	**Sn**	**19 57 34.0**	**-0.3**
VSK1	**VASILIKIADES**	**0.81**	**9**	P	**Pb**	**19 57 27.0**	**+0.5**
VSK1				S	**Sn**	**19 57 39.9**	**+1.2**
	23μm,0.6s						
FSK	**Fiskardo**	**0.86**	**8**	P	**Pn**	**19 57 28.2**	**+0.2**
FSK				S	**Sn**	**19 57 41.9**	**+2.0**
	11μm,0.6s						
FSK	**Fiskardo**	**0.86**	**8**	P	**Pb**	**19 57 27.7**	**+0.3**
FSK				S	**Sn**	**19 57 40.6**	**+0.7**
RLS	**Riolos of Patr**	**0.96**	**62**	P	**Pn**	**19 57 29.6**	**+0.3**
RLS				S	**Sn**	**19 57 44.4**	**+2.2**
	4μm,1.2s						
RLS	**Riolos of Patr**	**0.96**	**62**	P	**Pn**	**19 57 29.1**	**-0.1**
EVGI	**Lefkada island**	**1.03**	**11**	P	**Pb**	**19 57 31.2**	**+0.9**
EVGI				S	**Sn**	**19 57 46.7**	**+2.5**
	8μm,0.4s						
EVGI	**Lefkada island**	**1.03**	**11**	P	**Pb**	**19 57 30.9**	**+0.6**
AMT	**Artemida-Makis**	**1.04**	**94**	P	**Pb**	**19 57 30.2**	**-0.2**
AMT				S	**Sb**	**19 57 43.8**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.09**	**7**	P	**Pb**	**19 57 32.0**	**+0.8**
DRAG	**Dragano-Lefkad**	**1.09**	**7**	P	**Pb**	**19 57 32.4**	**+1.2**
DRO	**Drossia**	**1.09**	**71**	P	**Pb**	**19 57 32.5**	**+1.2**
DRO				S	**Sn**	**19 57 48.5**	**+2.8**
	6μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.13**	**12**	P	**Pb**	**19 57 32.6**	**+0.7**
NYDR				S	**Sn**	**19 57 51.1**	**+4.6**
	6μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.13**	**12**	P	**Pb**	**19 57 33.2**	**+1.3**
LKD2	**Lefkada island**	**1.20**	**10**	P	**Pb**	**19 57 36.6**	**+3.5**
LKD2				AMP			
	comp=E,42nm,0.6s,baz=5.0						
LKD2	**Lefkada island**	**1.20**	**10**	P	**Pb**	**19 57 34.4**	**+1.3**
TSLK	**Tsoukalades, L**	**1.23**	**9**	P	**Pb**	**19 57 34.7**	**+1.0**
PYL	**PYLOS**	**1.28**	**123**	P	**Pn**	**19 57 33.7**	**-0.1**
PYL				S	**Sb**	**19 57 50.7**	**+0.2**
ITM	**Ithomi**	**1.29**	**109**	P	**Pb**	**19 57 35.4**	**+0.8**
ITM	**Ithomi**	**1.29**	**109**	P	**Pb**	**19 57 34.2**	**-0.4**
ITM				S	**Sb**	**19 57 50.5**	**-0.2**
EFP	**Efpalio**	**1.44**	**55**	P	**Pb**	**19 57 39.3**	**+2.0**
KLV	**Kalavryta, Ach**	**1.45**	**72**	P	**Pb**	**19 57 38.9**	**+1.5**
KLV	**Kalavryta, Ach**	**1.45**	**72**	P	**Pn**	**19 57 36.6**	**+0.5**
GUR	**Goura**	**1.57**	**77**	P	**Pb**	**19 57 40.9**	**+1.4**
KALE	**Kalithea**	**1.58**	**60**	P	**Pb**	**19 57 40.0**	**+0.4**
IGT	**Igoumenitsa**	**1.93**	**358**	P	**Pb**	**19 57 49.0**	**+3.5**
IGT				AMP			
	comp=E,5.3nm,0.5s,baz=357						
IGT	**Igoumenitsa**	**1.93**	**358**	P	**Pb**	**19 57 48.4**	**+2.9**
AGG	**Agios Georgios**	**2.08**	**46**		**Pb**	**19 57 48.7**	**+0.7**
AGG	**Agios Georgios**	**2.08**	**46**	P	**Pb**	**19 57 48.7**	**+0.7**
JAN	**Janina**	**2.08**	**10**	P	**Pb**	**19 57 52.8**	**+4.7**
KEK	**Kerkira**	**2.16**	**348**	Pn	**Pb**	**19 57 48.2**	**-1.2**
SRN	**Sarande**	**2.29**	**352**	P	**Pb**	**19 57 54.9**	**+3.2**
SRN				AMP			
	comp=E,3.2nm,0.7s,baz=351						
VILL	**Villia**	**2.37**	**75**	P	**Pb**	**19 57 51.2**	**-1.9**
LSK	**Leskovik**	**2.55**	**3**	AMP			
	comp=N,12nm,0.8s,baz=1.0						
NEST	**Nestorio**	**2.85**	**10**	P	**Pb**	**19 58 02.1**	**+0.8**
SCTE	**Santa Cesarea**	**2.89**	**329**	P	**Pb**	**19 58 03.4**	**+1.5**
SCTE	**Santa Cesarea**	**2.89**	**329**	Pn	**Pn**	**19 57 56.8**	**+1.0**
LIT	**Litokhoron**	**2.98**	**33**	Pn	**Pn**	**19 57 57.5**	**+0.4**
LIT	**Litokhoron**	**2.98**	**33**	P	**Pn**	**19 57 57.5**	**+0.4**
FNA	**Florina**	**3.26**	**13**	P	**Pb**	**19 58 08.3**	**0.0**
FNA	**Florina**	**3.26**	**13**		**Pn**	**19 58 02.0**	**+0.9**
FNA	**Florina**	**3.26**	**13**	*e*Pn	**Pn**	**19 58 04.2**	**+3.2**
FNA				*e*Sn	**Sn**	**19 58 42.8**	**+3.6**
FNA	**Florina**	**3.26**	**13**	P	**Pn**	**19 58 02.0**	**+0.9**
TIP	**Timpagrande**	**3.27**	**300**	Pn	**Pn**	**19 58 00.3**	**-0.8**
TIP	**Timpagrande**	**3.27**	**300**	⇑P	**Pn**	**19 58 02.8**	**+1.7**
OHR	**Ohrid**	**3.52**	**5**	*e*Pn	**Pn**	**19 58 07.1**	**+2.6**
OHR				*e*Sn	**Sn**	**19 58 48.9**	**+3.5**
OHR	**Ohrid**	**3.52**	**5**	*i* Pn	**Pb**	**19 58 08.7**	**-3.9**
OHR	**Ohrid**	**3.52**	**5**	P	**Pb**	**19 58 10.2**	**-2.4**
CEL	**Celeste**	**3.62**	**282**		**Pn**	**19 58 03.6**	**-2.4**
TIR	**Tirane**	**3.76**	**354**	P	**Pb**	**19 58 15.8**	**-0.9**
TIR				AMP			
	comp=E,0.7nm,0.9s,baz=354						
TIR	**Tirane**	**3.76**	**354**		**Pn**	**19 58 09.8**	**+1.9**
TIR	**Tirane**	**3.76**	**354**	*e*Pn	**Pn**	**19 58 10.0**	**+2.2**
TIR				*e*Sn	**Sn**	**19 58 53.5**	**+2.1**
TIR	**Tirane**	**3.76**	**354**	⇑P	**Pb**	**19 58 13.4**	**-3.4**
TIR	**Tirane**	**3.76**	**354**	⇑P	**Pb**	**19 58 13.4**	**-3.4**
SOH	**Sokhos**	**3.95**	**35**	P	**Pn**	**19 58 14.9**	**+4.5**
KNT	**Kendrikon**	**4.04**	**28**	P	**Pn**	**19 58 15.0**	**+3.3**
VAY	**Valandovo**	**4.07**	**24**	*e*Pn	**Pn**	**19 58 13.9**	**+1.8**
VAY	**Valandovo**	**4.07**	**24**	*i* Pn	**Pn**	**19 58 15.5**	**+3.4**
VAY	**Valandovo**	**4.07**	**24**	P	**Pb**	**19 58 18.2**	**-3.9**
MATE	**Matera**	**4.18**	**318**	⇑P	**Pb**	**19 58 28.2**	**+4.3**
SRS	**Serrai**	**4.29**	**34**	*e*Pn	**Pb**	**19 58 16.6**	**+1.5**
SRS				*e*Sn	**Sn**	**19 59 06.8**	**+2.3**
SRS	**Serrai**	**4.29**	**34**	P	**Pn**	**19 58 17.4**	**+2.3**
IDI	**Anoyia**	**4.29**	**121**	**Pn**	**Pn**	**19 58 17.5**	**+2.3**
	comp=E,4.6nm,0.6s,baz=297,slow=18,SNR=1.7						
IDI				Sn	**Sn**	**19 59 06.3**	**+1.6**
	comp=E,1.3nm,0.3s,baz=354,slow=5.9,SNR=3.8						
CUC	**Castrocucco**	**4.30**	**305**		**Pn**	**19 58 14.2**	**-1.2**
ULC	**Ulcinj**	**4.44**	**349**⇑	*i* Pn	**Pn**	**19 58 19.9**	**+2.7**
ULC				*i* Sn	**Sn**	**19 59 09.8**	**+1.5**
PUK	**Puka**	**4.45**	**355**	Pn	**Pn**	**19 58 16.6**	**-0.7**
DRME	**Dracevica, Mon**	**4.67**	**349**⇑	*i* Pn	**Pn**	**19 58 21.3**	**+1.0**
DRME				*i* Sn	**Sn**	**19 59 14.6**	**+0.7**
MMB	**Musomishta**	**4.71**	**32**	*i* P	**Pn**	**19 58 23.6**	**+2.7**
KKB	**Krupnik**	**4.72**	**26**	*i* P	**Pn**	**19 58 23.6**	**+2.5**
VAE	**Valguarnera**	**4.76**	**270**	Pn	**Pn**	**19 58 24.1**	**+2.5**
	comp=E,8.6nm,0.5s,baz=270,slow=2.0,SNR=3.4						
VAE				Sn	**Sn**	**19 59 18.1**	**+1.9**
	comp=E,2.9nm,0.3s,baz=270,slow=1.0,SNR=2.5						
RAFF	**Raffo Rosso**	**4.82**	**267**		**Pn**	**19 58 18.2**	**-4.2**
BUM	**Brajici-Budva**	**4.83**	**347**⇓	*i*Pn	**Pn**	**19 58 25.1**	**+2.5**
BUM				*i* Sn	**Sn**	**19 59 18.9**	**+1.0**
PDG	**Podgorica**	**4.90**	**350**		**Pn**	**19 58 23.8**	**+0.3**
PDG	**Podgorica**	**4.90**	**350**	*e*Pn	**Pn**	**19 58 24.5**	**+1.0**
PDG				*e*Sn	**Sn**	**19 59 19.5**	**+0.1**
PDG	**Podgorica**	**4.90**	**350**	*e*Pn	**Pn**	**19 58 24.4**	**+1.0**
PDG	**Podgorica**	**4.90**	**350**⇑	*i*Pn	**Pn**	**19 58 26.3**	**+2.9**
PDG				*i* Sn	**Sn**	**19 59 20.5**	**+1.1**
PVY	**Plav**	**5.00**	**356**⇑	*i*Pn	**Pn**	**19 58 27.7**	**+2.8**
PVY				*i* Sn	**Sn**	**19 59 23.4**	**+1.4**
WDD	**Wied Dalam**	**5.04**	**251**	Pn	Pn	19 58 19.8	-5.6
HCY	**Herceg Novi**	**5.05**	**344**	*e*Pn	Pn	19 58 30.6	+5.0
HCY	**Herceg Novi**	**5.05**	**344**⇓	*i*Pn	**Pn**	**19 58 28.4**	**+2.8**
HCY				*i* Sn	**Sn**	**19 59 23.4**	**+0.1**
CEME	**Cevo**	**5.07**	**347**⇑	*i*Pn	**Pn**	**19 58 28.1**	**+2.3**
CEME				*i* Sn	**Sn**	**19 59 24.2**	**+0.5**
BOSS	**Bosilegrad**	**5.14**	**17**	*e*Pn	**Pn**	**19 58 27.6**	**+0.8**
NKME	**Niksic**	**5.27**	**348**⇑	*i*Pn	**Pn**	**19 58 31.1**	**+2.5**
NKME				*i* Sn	**Sn**	**19 59 29.4**	**+0.6**
IVA	**Berane**	**5.28**	**356**⇓	*i*Pn	**Pn**	**19 58 31.3**	**+2.6**
IVA				*i* Sn	**Sn**	**19 59 30.0**	**+1.1**
RZN	**Rozhen**	**5.28**	**38**	*i* P	**Pn**	**19 58 31.8**	**+2.9**
KOME	**Kolasin**	**5.28**	**353**⇑	*i*Pn	**Pn**	**19 58 31.6**	**+2.8**
KOME				*i* Sn	**Sn**	**19 59 29.8**	**+0.7**
BARS	**Barje**	**5.32**	**11**	*e*Pn	**Pn**	**19 58 30.5**	**+1.3**
TREB	**Trebinje**	**5.34**	**344**	*e*Pn	**Pn**	**19 58 29.3**	**-0.2**
TREB				*e*Sn	**Sn**	**19 59 29.5**	**-0.9**
TREB	**Trebinje**	**5.34**	**344**	*e*Pn	**Pn**	**19 58 32.9**	**+3.4**
PLNA	**Plana**	**5.39**	**25**	*i* P	**Pn**	**19 58 33.3**	**+3.0**
VTS	**Vitosha**	**5.46**	**23**	*i* P	**Pn**	**19 58 33.9**	**+2.6**
VTS	**Vitosha**	**5.46**	**23**	*e*Pn	**Pn**	**19 58 33.8**	**+2.5**
VTS				*e*Sn	**Sn**	**19 59 35.1**	**+1.6**
ALN	**Alexandroupoli**	**5.48**	**51**	Pn	**Pn**	**19 58 29.6**	**-1.8**
ALN	**Alexandroupoli**	**5.48**	**51**	P	**Pn**	**19 58 29.6**	**-1.8**
BRY	**Bratogost**	**5.48**	**346**	*e*Pn	**Pn**	**19 58 33.6**	**+2.1**
BRY	**Bratogost**	**5.48**	**346**⇑	*i*Pn	**Pn**	**19 58 33.9**	**+2.4**
BRY				*i* Sn	**Sn**	**19 59 34.6**	**+0.6**
PLD	**Plovdiv**	**5.63**	**35**	P	**Pn**	**19 58 37.8**	**+4.3**
PLD				pmax	pmax		
	comp=Z,43nm,1.1s						
SELS	**Selova**	**5.63**	**5**	*e*Pn	**Pn**	**19 58 34.0**	**+0.4**
SELS				*e*Sn	**Sn**	**19 59 38.0**	**+0.3**
STON	**Ston**	**5.65**	**339**	*e*Pn	**Pn**	**19 58 34.1**	**+0.3**
STON				*e*Sn	**Sn**	**19 59 36.5**	**-1.5**
STON	**Ston**	**5.65**	**339**	*e*Pn	**Pn**	**19 58 34.5**	**+0.7**
SJES	**Sjenica**	**5.66**	**357**	*e*Pn	**Pn**	**19 58 35.9**	**+1.9**
SJES				*e*Sn	**Sn**	**19 59 38.9**	**+0.5**
SJES	**Sjenica**	**5.66**	**357**	*e*Pn	**Pn**	**19 58 36.1**	**+2.1**
PAOL	**Paolisi**	**5.67**	**309**		**Pn**	**19 58 32.6**	**-1.5**
UPM	**Unac-Piva**	**5.71**	**349**	*e*Pn	**Pn**	**19 58 38.8**	**+4.1**
UPM	**Unac-Piva**	**5.71**	**349**⇑	*i*Pn	**Pn**	**19 58 37.8**	**+3.1**
UPM				*i* Sn	**Sn**	**19 59 39.5**	**-0.2**
PLE	**Pljevlja**	**5.77**	**353**⇓	*i*Pn	**Pn**	**19 58 37.8**	**+2.3**
PLE				*i* Sn	**Sn**	**19 59 41.9**	**+0.8**
KARP	**Karpathos**	**5.81**	**109**	Pn	Pn	19 58 26.0	-10
ZAPS	**Zavoj**	**5.91**	**16**	*e*Pn	**Pn**	**19 58 38.7**	**+1.3**
IVAS	**Ivanjica**	**5.97**	**358**	*e*Pn	**Pn**	**19 58 39.1**	**+0.9**
RUDO	**Rudo**	**6.06**	**353**	*e*Pn	**Pn**	**19 58 40.5**	**+1.1**
BOVS	**Bovan**	**6.11**	**9**	⇑P	**Pn**	**19 58 41.9**	**+1.9**
GRUS	**Gruza**	**6.28**	**2**	*e*Pn	**Pn**	**19 58 44.0**	**+1.6**
MPEP	**Malo Peshtene**	**6.28**	**23**	*i* P	**Pn**	**19 58 45.1**	**+2.6**
BBLS	**Lazi&#263i**	**6.30**	**353**	*e*Pn	**Pn**	**19 58 44.6**	**+1.8**
BBLS	**Lazi&#263i**	**6.30**	**353**	*e*Pn	Pn	19 58 50.0	+7.2
DIVS	**Divibare**	**6.49**	**357**	*e*Pn	**Pn**	**19 58 45.8**	**+0.4**
DIVS				*e*Sn	**Sn**	**19 59 57.4**	**-1.5**
HAPS	**Han Pijesak,Bl**	**6.57**	**351**	*e*Pn	**Pn**	**19 58 47.4**	**+0.9**
HAPS	**Han Pijesak,Bl**	**6.57**	**351**	*e*Pn	**Pn**	**19 58 47.7**	**+1.2**
INTR	**Introdacqua**	**6.66**	**313**	Pn	**Pn**	**19 58 46.7**	**-1.0**
ELND	**Elena**	**6.77**	**36**	⇓P	**Pn**	**19 58 52.4**	**+3.4**
MDVR	**Moldovita**	**7.24**	**7**	⇑P	**Pn**	**19 58 58.3**	**+2.7**
CAMP	**Campotosto**	**7.28**	**315**	Pn	**Pn**	**19 58 56.0**	**-0.2**
HERR	**Herculane**	**7.43**	**11**	⇑P	**Pn**	**19 59 01.4**	**+3.2**
A050A	**Klekovaca**	**7.46**	**338**	*e*Pn	**Pn**	**19 58 58.8**	**0.0**
BLY	**Banja Luka**	**7.54**	**342**	*e*Pn	**Pn**	**19 59 00.5**	**+0.8**
FRGS	**Fruska Gora**	**7.56**	**357**	*e*Pn	Pn	19 59 08.5	+8.5
FRGS				*e*Pn	Pb	19 59 08.6	-13
NRCA	**Norcia**	**7.64**	**315**		**Pn**	**19 59 00.9**	**-0.2**
GUMA	**Gualdo di Mace**	**7.67**	**317**		**Pn**	**19 59 00.3**	**-1.2**
FDMO	**Fiordimonte**	**7.79**	**316**		**Pn**	**19 59 02.9**	**-0.2**
A051A	**Mrakovica**	**7.85**	**342**	*e*Pn	**Pn**	**19 59 01.6**	**-2.5**
BZS	**Buzias**	**8.06**	**6**	P	Pn	19 59 13.6	+6.8
BZS				pmax	pmax		
	comp=Z,5.0nm,1.6s						
VOIR		**8.56**	**23**	⇓P	**Pn**	**19 59 16.7**	**+2.8**
VOIR		**8.56**	**23**	P	**Pn**	**19 59 16.9**	**+3.1**
VOIR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SIRR	**Siria**	**8.71**	**6**	⇓P	**Pn**	**19 59 18.4**	**+2.7**
ISR	**Istrita**	**8.81**	**30**	⇑P	**Pn**	**19 59 21.6**	**+4.4**
ISR	**Istrita**	**8.81**	**30**	⇑P	**Pn**	**19 59 21.6**	**+4.4**
MLR	**Muntele Rosu**	**8.90**	**26**	Pn	**Pn**	**19 59 17.0**	**-1.5**
MLR	**Muntele Rosu**	**8.90**	**26**	P

MOTA				*e*Sn	**Sn**	**20 02 09.6**	**-2.1**
	comp=Z,6.1nm,0.6s						
DAVOX	**Davos/Dischmat**	**12.03**	**323**	Pn	**Pn**	**19 59 59.6**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=1.7						
DAVOX				Sn	**Sn**	**20 02 10.9**	**-4.0**
	comp=Z,0.3nm,0.3s,baz=317,slow=19,SNR=2.7						
	comp=Z,0.6nm,0.3s						
TUE	**Stuetta**	**12.07**	**321**	Pn	**Pn**	**20 00 00.9**	**-1.1**
GERES	**GERESS Array B**	**12.24**	**339**	Pn	**Pn**	**20 00 03.0**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=134,slow=10,SNR=1.9						
GERES				Sn	**Sn**	**20 02 13.9**	**-6.1**
	comp=Z,0.3nm,0.3s,baz=163,slow=28,SNR=2.5						
	comp=Z,0.6nm,0.7s						
GERES	**GERESS Array B**	**12.24**	**339**	P	**Pn**	**20 00 03.0**	**-1.2**
DAVA	**Damuels**	**12.40**	**325**	*i* Pn	**Pn**	**20 00 07.8**	**+1.4**
	comp=Z,3.7nm,1.0s						
DAVA				*e*Sn	**Sn**	**20 02 20.4**	**-3.4**
	comp=Z,5.0nm,0.6s						
KHC	**Kasperske Hory**	**12.54**	**339**	*e*PN	Pn	20 00 13.4	+5.3
KHC				*e*SN	**Sn**	**20 02 22.0**	**-5.1**
SENIN	**Lac Senin/Sane**	**13.08**	**316**	Pn	**Pn**	**20 00 13.9**	**-1.9**
AKASG	**Malin Array Be**	**14.53**	**23**	Pn	**Pn**	**20 00 33.6**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=267,slow=14,SNR=1.2						
AKASG	**Malin Array Be**	**14.53**	**23**	*i* P	**P**	**20 00 42.5**	**+0.8**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CLL	**Collm**	**14.67**	**341**	*e*sPP		20 00 52.0	
	comp=Z,6.0nm,1.2s						
WLF	**Walferdange**	**15.83**	**324**	Pn	**Pn**	**20 00 49.6**	**-2.8**
WLF				IAmb	IAmb	20 01 21.6	
	comp=Z,38nm,1.3s						
WLF	**Walferdange**	**15.83**	**324**	P	**Pn**	**20 00 49.7**	**-2.8**
WLF				pmax	pmax		
	comp=Z,38nm,1.3s						
SUW	**Suwalki**	**16.52**	**6**		**Pn**	**20 00 59.1**	**-2.2**
SUW				IAmb	IAmb	20 01 13.3	
	comp=Z,52nm,1.1s						
SUW	**Suwalki**	**16.52**	**6**	P	**Pn**	**20 00 59.1**	**-2.2**
SUW				pmax	pmax		
	comp=Z,52nm,1.1s						
NACGM	**Naroch**	**17.84**	**12**	*e*P	**P**	**20 01 22.4**	**+4.0**
	comp=Z,17nm,1.0s,baz=198						
SHA1	**Shidzhatmaz**	**17.94**	**63**	*i* P	**P**	**20 01 25.4**	**+5.6**
PABE	**Paberze**	**18.07**	**7**	P	**Pn**	**20 01 16.9**	**-3.6**
PABE				IAmb	IAmb	20 01 27.6	
	comp=Z,38nm,0.9s						
VORD	**Divnogorie**	**18.93**	**39**	*e*P	**Pn**	**20 01 31.0**	**-0.1**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VSR	**Storozhevoye**	**19.03**	**38**	*e*P	**P**	**20 01 31.0**	**-0.4**
VSR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ESBB	**Sonseca Array**	**19.13**	**284**	P	**P**	**20 01 27.1**	**-5.6**
ESDC	**Sonseca Array**	**19.13**	**284**	P	**Pn**	**20 01 35.0**	**+1.3**
	baz=76,slow=12,SNR=7.0						
	comp=Z,3.1nm,1.1s						
VORR	**Voronezh**	**19.33**	**37**	*e*P	**Pn**	**20 01 36.8**	**+0.9**
VORR				pmax	pmax		
	comp=Z,25nm,0.3s						
LPSR	**Galich'ya Gora**	**19.81**	**35**	*e*P	**P**	**20 01 39.8**	**-0.1**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VRH	**Novokhopyorsk**	**20.32**	**41**	*e*P	**P**	**20 01 45.3**	**-0.2**
VRH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
OBN	**Obninsk**	**20.68**	**27**	‖*e*P	Pn	20 01 54.5	+2.8
OBN				*e*		20 02 16.1	
OBN				*e*S	Sn	20 05 59.8	+16
OBN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,124nm,18.0s						
MDT	**Midelt**	**20.96**	**264**	P	Pn	20 01 55.6	+0.2
	comp=Z,2.6nm,1.0s,baz=90,slow=7.1,SNR=3.0						
	comp=Z,2.6nm,1.0s						
MOS	**Moscow**	**21.54**	**27**	*e*P	**P**	**20 01 58.2**	**-0.5**
HFS	**Hagfors**	**22.95**	**351**	P	**P**	**20 02 13.3**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=175,slow=7.2,SNR=3.6						
	comp=Z,2.9nm,0.7s						
EKA	**Eskdalemuir Ar**	**23.84**	**326**	P	**P**	**20 02 23.3**	**+0.7**
	comp=Z,5.2nm,1.0s,baz=140,slow=11,SNR=2.4						
	comp=Z,5.2nm,1.0s						
BELG	**Belogornoye**	**24.08**	**43**	P	**P**	**20 02 24.3**	**-0.5**
	comp=Z,16nm,0.9s,baz=242,slow=4.9,SNR=4.6						
	comp=Z,16nm,0.9s						
FINES	**FINESS Array B**	**24.13**	**7**	P	**P**	**20 02 24.3**	**-0.8**
	comp=Z,2.5nm,0.9s,baz=180,slow=10,SNR=8.2						
	comp=Z,2.5nm,0.9s						
FINES	**FINESS Array B**	**24.13**	**7**	*i* P	**P**	**20 02 27.0**	**+1.9**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FIA1	**FINESS Array S**	**24.13**	**7**	P	**P**	**20 02 24.6**	**-0.6**
NC405	**NORSAR Array S**	**24.16**	**350**		**P**	**20 02 24.7**	**-0.7**
NC405				IAmb	IAmb	20 02 50.2	
	comp=Z,24nm,1.4s						
NB2	**NORSAR Subarra**	**24.16**	**349**	P	**P**	**20 02 31.7**	**+6.2**
	comp=Z,34nm,2.0s,baz=163,slow=10						
NOA	**NORSAR Array B**	**24.16**	**349**	P	**P**	**20 02 24.9**	**-0.5**
	comp=Z,0.7nm,1.0s,baz=162,slow=9.9,SNR=2.3						
	comp=Z,0.7nm,1.0s						
NOA	**NORSAR Array B**	**24.16**	**349**	P	**P**	**20 02 25.0**	**-0.5**
KLMR	**Klimovskoe**	**26.21**	**21**	*e*P	**P**	**20 02 44.3**	**+0.3**
KLMR				pmax	pmax		
	comp=Z,25nm,1.8s						
TORD	**Torodi Ar. Bea**	**29.53**	**219**	P	**P**	**20 03 15.8**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=30,slow=9.4,SNR=4.4						
	comp=Z,0.6nm,0.8s						
ARCES	**ARCESS Array B**	**32.11**	**3**	P	**P**	**20 03 37.4**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=191,slow=13,SNR=1.3						
	comp=Z,1.9nm,0.8s						
BRVK	**Borovoye**	**37.50**	**49**	*ce*P	**P**	**20 04 25.7**	**+2.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
BVAR	**Borovoye Array**	**37.56**	**49**	P	**P**	**20 04 24.3**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=255,slow=8.4,SNR=2.2						
	comp=Z,0.3nm,0.5s						
DBIC	**Dimbokro**	**38.41**	**223**	LR	LR	20 23 28.8	
	comp=Z,73nm,18.4s,baz=344,slow=41						
AAK	**Ala-Archa**	**41.08**	**65**	LR	LR	20 24 21.4	
	comp=Z,201nm,20.6s,baz=296,slow=40						
KMBO	**Kilima Mbogo**	**41.58**	**154**	LR	LR	20 22 47.9	
	comp=Z,60nm,19.2s,baz=90,slow=37						
KURBB	**Kurchatov Array**	**42.65**	**53**	P	**P**	**20 05 05.7**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=280,slow=8.9,SNR=5.0						
	comp=Z,0.6nm,0.7s						
KURK	**Kurchatov**	**42.70**	**53**	P	**P**	**20 05 05.7**	**-0.5**
MK31	**Makanchi Array**	**45.68**	**58**	P	**P**	**20 05 27.2**	**-3.0**
MK31	**Makanchi Array**	**45.68**	**58**	P	**P**	**20 05 27.2**	**-3.0**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**45.68**	**58**	P	**P**	**20 05 30.5**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=275,slow=6.9,SNR=4.7						
	comp=Z,0.8nm,0.9s						
ZALV	**Zalesovo Beam**	**46.15**	**48**	P	**P**	**20 05 32.8**	**-0.9**
	comp=Z,1.7nm,0.9s,baz=268,slow=7.4,SNR=5.5						
	comp=Z,1.7nm,0.9s						
ZALV	**Zalesovo Beam**	**46.15**	**48**	*i* P	**P**	**20 05 34.4**	**+0.7**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WMQ	**Urumqi**	**50.12**	**60**	*e*P	P	20 05 59.1	-5.6
WMQ				LR	LR		
	comp=N,320nm,17.7s						
WMQ				LR	LR		
	comp=Z,160nm,18.5s						
SONM	**Songino Array**	**60.90**	**50**	P	**P**	**20 07 21.8**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=284,slow=5.8,SNR=3.7						
	comp=Z,0.5nm,0.7s						
LBTB	**Lobatse**	**62.48**	**175**	LR	LR	20 35 34.6	
	comp=Z,30nm,18.7s,baz=357,slow=37						
HHC	**Hu-ho-hao-te**	**67.44**	**55**	*e*P	P	20 07 58.5	-6.7
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,64nm,4.9s						
HHC				LR	LR		
	comp=N,140nm,17.6s						
HHC				LR	LR		
	comp=E,160nm,18.3s						
HHC				LR	LR		
	comp=Z,190nm,20.6s						
PZH	**PanZhiHua**	**67.86**	**73**	P	P	20 08 00.5	-7.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
CMAR	**Chiang Mai Arr**	**70.06**	**82**	P	**P**	**20 08 23.2**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=323,slow=11,SNR=6.1						
	comp=Z,0.5nm,0.3s						
HEH	**HeiHe**	**71.53**	**40**	*e*P	P	20 08 23.6	-6.6
E29M	**Blow River**	**73.08**	**352**	P	**P**	**20 08 38.8**	**-0.4**
E29M				IAmb	IAmb	20 08 48.9	
	comp=Z,7.4nm,1.2s						
D19K	**Kuna River**	**74.21**	**359**	P	**P**	**20 08 45.9**	**+0.1**
I45A	**Fountain**	**75.11**	**314**	P	**P**	**20 08 50.4**	**-1.0**
H29M	**Whitestone**	**75.21**	**351**	P	**P**	**20 08 50.4**	**-1.2**
E19K	**Redstone River**	**75.25**	**359**	P	**P**	**20 08 50.7**	**-1.1**
IMAR	**Indian Mountai**	**76.64**	**358**	P	**P**	**20 08 56.9**	**-2.9**
NJ2	**Nanjing**	**77.19**	**59**	*e*P	P	20 08 54.7	-8.7
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TEIG	**Tepich**	**91.72**	**297**	LR	LR	20 48 40.3	
	comp=Z,24nm,20.3s,baz=248,slow=34						
DAV	**Davao City (W)**	**97.59**	**75**	LR	LR	21 00 48.4	
	comp=Z,84nm,19.8s,baz=312,slow=39						

*TRN **09** 20:22:15.5, 10.°78N×62.°41W, h85km, MD3.2, North of the Paria peninsula.*
*FUNV **09** 20:22:15.8, 10.°79N×62.°45W, h26km, MW3.5*
ISC 09 20:22:14.1±1.9, 10.°76N±0.°06×62.°45W±0.°06, h93km±29km, n13, σ1°15/23, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.03**	**96**	*e*P	**Pn**	**20 22 35.0**	**+0.6**
TRN				*e*S	**Sn**	**20 22 48.4**	**-1.3**
TBH	**Brigand Hill**	**1.39**	**101**	*e*P	**Pn**	**20 22 39.1**	**+0.5**
TBH				*e*S	**Sn**	**20 22 58.0**	**+0.8**
GRFF	**Grenada Fort F**	**1.46**	**28**	*e*P	**Pn**	**20 22 39.9**	**+0.3**
GRFF				*e*S	**Sn**	**20 22 57.5**	**-1.3**
GRGR	**Grenville**	**1.58**	**30**	*e*P	**Pn**	**20 22 41.5**	**+0.5**
GRGR				*e*S	**Sn**	**20 23 01.5**	**+0.1**
GRW	**Mount Saint Ca**	**1.60**	**29**	*e*P	**Pn**	**20 22 42.0**	**+0.7**
GRW				*e*S	**Sn**	**20 23 02.4**	**+0.4**
GRHS	**Sauteurs**	**1.66**	**28**	*e*S	**Sn**	**20 23 02.0**	**-1.3**
GRSS	**Sisters**	**1.74**	**28**	*e*P	**Pn**	**20 22 44.2**	**+1.1**
GRSS				*e*S	**Sn**	**20 23 04.0**	**-1.1**
TOSP	**Speyside**	**1.96**	**74**	*e*P	**Pn**	**20 22 46.2**	**+0.3**
TOSP				*e*S	**Sn**	**20 23 08.7**	**-1.4**
GCMP	**Grenada, Carri**	**1.99**	**30**	*e*P	**Pn**	**20 22 47.0**	**+0.6**
GCMP				*e*S	**Sn**	**20 23 10.9**	**0.0**
PCRV	**Puerto La Cruz**	**2.23**	**255**	*e*P	**Pn**	**20 22 50.7**	**+1.3**
PCRV				*e*S	**Sn**	**20 23 15.7**	**-0.8**
MERV	**Las Mercedes**	**4.07**	**249**	*e*P	**Pn**	**20 23 15.5**	**+1.2**
MERV				*e*S	**Sn**	**20 24 00.2**	**-0.6**
CACV	**CAICARA DEL OR**	**5.13**	**232**	*e*P	Pn	20 23 24.2	-4.5
CACV				*e*S	Sn	20 24 15.4	-11
BAUV	**El Baul**	**5.80**	**252**	*e*P	**Pn**	**20 23 38.5**	**+0.8**
BAUV				*e*S	**Sn**	**20 24 40.0**	**-2.9**

*IDC **09** 20:23:09.6±1.0, 37.°50N×20.°64E, h0km, mb3.7/10, mbtmp3.7/17, ML2.9/4, Error ellipse: s-maj=20.3km s-min=15.0km az=167.0*
*TIR **09** 20:23:09.9, 37.°59N×19.°92E, h6km±3km, Md3.6, Ml4.0*
*BEO **09** 20:23:10.8±2.7, 37.°24N×20.°10E, h62km±9km, ML3.5/10*
*ATH **09** 20:23:11.3, 37.°55N×20.°38E, h9km±1km, ML3.7/19, Error ellipse: s-maj=2.3km s-min=0.9km az=43.0*
*THE **09** 20:23:11.4, 37.°56N×20.°38E, h0km±4km, ML3.8/13, Error ellipse: s-maj=5.5km s-min=0.9km az=223.0*
ISC 09 20:23:12.3±1.1, 37.°60N±0.°03×20.°42E±0.°03, h17km±6km, n120, σ1°99/155, mb3.8/11, 6C-2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.32**	**79**	P	**Pg**	**20 23 18.6**	**-0.5**
KRI1				S	**Sg**	**20 23 23.6**	**-0.1**
	36μm,0.4s						
LTHK	**Lithakia**	**0.35**	**72**	P	**Pg**	**20 23 19.1**	**-0.5**
LTHK				S	**Sg**	**20 23 24.4**	**0.0**
	32μm,0.4s						
LTHK	**Lithakia**	**0.35**	**72**	P	**Pg**	**20 23 18.9**	**-0.6**
LTHK				S	**Sg**	**20 23 24.5**	**0.0**
LTHK				AML	AML	20 23 24.8	
	comp=E,95299μm,0.4s						
LTHK				AML	AML	20 23 28.2	
	comp=N,29727μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.53**	**14**	P	**Pg**	**20 23 22.4**	**-0.5**
PSDA				S	**Sg**	**20 23 30.3**	**+0.3**
	comp=N,9μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.53**	**14**	P	**Pg**	**20 23 22.3**	**-0.5**
PSDA				S	**Sg**	**20 23 30.5**	**+0.5**
RTZL	**Ratzakli, Kefa**	**0.55**	**30**	P	**Pg**	**20 23 22.7**	**-0.5**
RTZL				S	**Sb**	**20 23 31.7**	**+0.6**
	comp=N,9μm,0.3s						
VLS	**Valsamata**	**0.59**	**13**	P	**Pg**	**20 23 23.3**	**-0.7**
VLS				S	**Sg**	**20 23 32.3**	**+0.4**
	comp=N,6μm,0.4s						
VLS	**Valsamata**	**0.59**	**13**	P	**Pg**	**20 23 23.3**	**-0.7**
VLS				S	**Sg**	**20 23 31.9**	**0.0**
VLS				AML	AML	20 23 36.5	
	comp=E,12618μm,0.3s						
VLS				AML	AML	20 23 39.0	
	comp=N,12065μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.60**	**1**	P	**Pg**	**20 23 23.8**	**-0.4**
LXRA				S	**Sg**	**20 23 32.5**	**+0.3**
LXRA				AML	AML	20 23 39.6	
	comp=E,27389μm,0.4s						
LXRA				AML	AML	20 23 41.7	
	comp=N,32069μm,0.5s						
DMLN	**Damoulianata-K**	**0.64**	**356**	P	**Pb**	**20 23 24.6**	**-0.4**
DMLN				S	**Sb**	**20 23 34.4**	**+0.7**
	comp=N,13μm,0.6s						
DMLN	**Damoulianata-K**	**0.64**	**356**	P	**Pb**	**20 23 24.7**	**-0.4**
DMLN				S	**Sg**	**20 23 33.4**	**-0.1**
SMHA	**Samh**	**0.67**	**15**	P	**Pg**	**20 23 24.4**	**-1.1**
VSK1	**VASILIKIADES**	**0.81**	**8**	P	**Pg**	**20 23 27.5**	**-0.7**
VSK1				S	**Sb**	**20 23 39.6**	**+0.8**
	comp=N,8μm,0.8s						
FSK	**Fiskardo**	**0.86**	**7**	P	**Pg**	**20 23 28.2**	**-0.9**
FSK				S	**Sb**	**20 23 41.7**	**+1.5**
	comp=N,5μm,0.8s						
FSK	**Fiskardo**	**0.86**	**7**	P	**Pg**	**20 23 28.4**	**-0.8**
FSK				S	**Sb**	**20 23 41.5**	**+1.4**
FSK				AML	AML	20 23 45.8	
	comp=N,8556μm,0.6s						
FSK				AML	AML	20 23 49.2	
	comp=E,11022μm,0.9s						
RLS	**Riolos of Patr**	**0.94**	**61**	P	**Pg**	**20 23 29.6**	**-1.1**
RLS				S	**Sb**	**20 23 44.8**	**+2.3**
	comp=E,2μm,0.8s						
RLS	**Riolos of Patr**	**0.94**	**61**	P	**Pg**	**20 23 29.8**	**-0.9**
RLS				S	**Sg**	**20 23 43.3**	**+0.2**
RLS				AML	AML	20 23 48.7	
	comp=E,4768μm,0.4s						
RLS				AML	AML	20 23 53.2	
	comp=N,4657μm,0.7s						
AMT	**Artemida-Makis**	**1.02**	**93**	P	**Pg**	**20 23 31.2**	**-1.0**
AMT				S	**Sb**	**20 23 45.3**	**+0.5**
AMT				AML	AML	20 23 54.0	
	comp=N,23054μm,0.5s						
AMT				AML	AML	20 23 55.7	
	comp=E,23159μm,0.8s						
EVGI	**Lefkada island**	**1.03**	**10**	P	**Pg**	**20 23 31.6**	**-0.8**
EVGI				S	**Sn**	**20 23 48.0**	**+1.8**
	comp=E,4μm,0.4s						
EVGI	**Lefkada island**	**1.03**	**10**	P	**Pg**	**20 23 31.5**	**-0.9**
DRO	**Drossia**	**1.08**	**71**	P	**Pb**	**20 23 32.6**	**0.0**
DRO	**Drossia**	**1.08**	**71**	P	**Pg**	**20 23 32.1**	**-1.1**
DRO				S	**Sb**	**20 23 47.6**	**+1.2**
DRO				AML	AML	20 23 53.2	
	comp=E,9966μm,0.6s						
DRO				AML	AML	20 24 04.5	
	comp=N,7978μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.09**	**6**	P	**Pg**	**20 23 32.3**	**-1.1**
DRAG				S	**Sn**	**20 23 50.3**	**+2.8**
DRAG	**Dragano-Lefkad**	**1.09**	**6**	P	**Pg**	**20 23 32.6**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.13**	**11**	P	**Pg**	**20 23 32.9**	**-1.3**
NYDR				S	**Sn**	**20 23 50.8**	**+2.3**
	comp=N,3μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.13**	**11**	P	**Pg**	**20 23 32.9**	**-1.3**
NYDR				S	**Sg**	**20 23 49.1**	**+0.1**
LKD2	**Lefkada island**	**1.20**	**9**	P	**Pn**	**20 23 35.7**	**+1.3**
LKD2				AMP			
	comp=N,18nm,1.0s,baz=25						
LKD2	**Lefkada island**	**1.20**	**9**	P	**Pn**	**20 23 35.9**	**+1.5**
LKD2				S	**Sn**	**20 23 54.6**	**+4.3**
	comp=N,6μm,0.8s						
LKD2	**Lefkada island**	**1.20**	**9**	P	**Pg**	**20 23 34.6**	**-0.9**
LKD2				AML	AML	20 23 58.3	
	comp=E,12225μm,0.7s						
LKD2				AML	AML	20 23 58.7	
	comp=N,10881μm,0.8s						
TSLK	**Tsoukalades, L**	**1.24**	**8**	P	**Pn**	**20 23 35.0**	**+0.2**
TSLK				S	**Sn**	**20 23 54.8**	**+3.7**
	comp=N,5μm,0.7s						
TSLK	**Tsoukalades, L**	**1.24**	**8**	P	**Pn**	**20 23 34.8**	**0.0**
TSLK				AML	AML	20 23 57.8	
	comp=E,11167μm,0.7s						
TSLK				AML	AML	20 23 59.3	
	comp=N,8850μm,0.6s						
PYL	**PYLOS**	**1.27**	**123**	P	**Pn**	**20 23 33.4**	**-1.8**
PYL				AML	AML	20 23 58.2	
	comp=E,1846μm,0.8s						
PYL				AML	AML	20 24 03.9	
	comp=N,1124μm,0.4s						
ITM	**Ithomi**	**1.27**	**109**	P	**Pg**	**20 23 35.7**	**-1.1**
ITM	**Ithomi**	**1.27**	**109**	P	**Pn**	**20 23 34.8**	**-0.5**
ITM				AML	AML	20 24 00.5	
	comp=E,1621μm,0.7s						
ITM				AML	AML	20 24 02.6	
	comp=N,1880μm,0.7s						
UPR	**University Cam**	**1.27**	**57**	P	**Pn**	**20 23 35.1**	**-0.2**
EFP	**Efpalio**	**1.43**	**54**	P	**Pn**	**20 23 38.4**	**+0.9**
EFP	**Efpalio**	**1.43**	**54**	P	**Pn**	**20 23 37.9**	**+0.4**
EFP				AML	AML	20 24 06.4	
	comp=E,2292μm,0.5s						
EFP				AML	AML	20 24 07.1	
	comp=N,2890μm,0.6s						
KLV	**Kalavryta, Ach**	**1.44**	**72**	P	**Pn**	**20 23 38.0**	**+0.3**
KLV	**Kalavryta, Ach**	**1.44**	**72**	P	**Pn**	**20 23 37.8**	**+0.1**
ALIK	**Aliki, Aigiali**	**1.49**	**63**	P	**Pb**	**20 23 40.0**	**+0.5**
ANX	**Ano Chora**	**1.54**	**50**	P	**Pn**	**20 23 40.2**	**+1.1**
ANX	**Ano Chora**	**1.54**	**50**	P	**Pn**	**20 23 39.6**	**+0.5**
ANX				AML	AML	20 24 07.6	
	comp=N,8259μm,0.6s						
ANX				AML	AML	20 24 09.6	
	comp=E,7850μm,0.6s						
GUR	**Goura**	**1.56**	**77**	P	**Pn**	**20 23 38.3**	**-1.0**
GUR				AML	AML	20 24 11.8	
	comp=N,5474μm,0.7s						
GUR				AML	AML	20 24 18.1	
	comp=E,2649μm,0.5s						
KALE	**Kalithea**	**1.57**	**59**	P	**Pn**	**20 23 39.2**	**-0.3**
KALE				AML	AML	20 24 14.6	
	comp=N,2601μm,0.8s						
KALE				AML	AML	20 24 15.0	
	comp=E,3658μm,0.7s						
IGT	**Igoumenitsa**	**1.93**	**358**	P	**Pb**	**20 23 47.1**	**+0.1**
IGT				AMP			
	comp=N,0.7nm,2.1s,baz=9.0						
IGT	**Igoumenitsa**	**1.93**	**358**	P	**Pn**	**20 23 43.9**	**-0.5**
IGT				AML	AML	20 24 18.3	
	comp=E,2275μm,0.6s						
IGT				AML	AML	20 24 24.2	
	comp=N,1083μm,0.5s						
JAN	**Janina**	**2.08**	**9**	P	**Pn**	**20 23 46.8**	**+0.3**
JAN				AML	AML	20 24 28.5	
	comp=E,1353μm,0.9s						
JAN				AML	AML	20 24 34.2	
	comp=N,1104μm,0.7s						
AXAR	**Agios Charalam**	**2.11**	**56**	P	**Pn**	**20 23 47.0**	**+0.1**
AXAR				AML	AML	20 24 31.8	
	comp=N,2550μm,0.7s						
AXAR				AML	AML	20 24 32.4	
	comp=E,2455μm,0.6s						
KEK	**Kerkira**	**2.17**	**347**	P	**Pn**	**20 23 47.3**	**-0.3**
VLI	**Veliai**	**2.19**	**113**	P	**Pn**	**20 23 48.5**	**+0.5**
SRN	**Sarande**	**2.30**	**352**	P	**Pb**	**20 23 52.4**	**-1.0**
SRN				AMP			
	comp=E,1.1nm,1.1s,baz=1.0						
THL	**Klokotos Trika**	**2.32**	**32**	P	**Pn**	**20 23 49.8**	**+0.1**
THL				AML	AML	20 24 37.5	
	comp=N,865μm,0.7s						
THL				AML	AML	20 24 41.9	
	comp=E,1348μm,0.8s						
TYRN	**Tyrnavos**	**2.54**	**33**	P	**Pn**	**20 23 54.0**	**+1.2**
LSK	**Leskovik**	**2.55**	**3**	AMP			
	comp=N,4.0nm,1.0s,baz=11						
NEST	**Nestorio**	**2.85**	**10**	P	**Pb**	**20 24 01.0**	**-1.9**
SCTE	**Santa Cesarea**	**2.90**	**329**	P	**Pn**	**20 23 58.3**	**+0.5**
FNA	**Florina**	**3.26**	**13**	P	**Pb**	**20 24 08.0**	**-1.9**
FNA	**Florina**	**3.26**	**13**	*e*Pn	**Pn**	**20 24 04.9**	**+2.1**
FNA				*e*Sn	**Sn**	**20 24 42.7**	**+1.5**
OHR	**Ohrid**	**3.52**	**5**	*e*Pn	**Pn**	**20 24 07.8**	**+1.5**
OHR				*e*Sn	**Sn**	**20 24 46.8**	**-0.7**
TIR	**Tirane**	**3.77**	**354**	P	**Pn**	**20 24 13.7**	**+4.0**
TIR	**Tirane**	**3.77**	**354**	*e*Pn	**Pn**	**20 24 10.1**	**+0.5**
IDI	**Anoyia**	**4.28**	**121**	Pn	**Pn**	**20 24 14.5**	**-2.2**
	comp=N,9.7nm,1.0s,baz=299,slow=13,SNR=0.9						
IDI				Sn	**Sn**	**20 25 02.0**	**-4.3**
	comp=N,1.3nm,0.3s,baz=344,slow=20,SNR=1.9						
SRS	**Serrai**	**4.29**	**34**	*e*Pn	**Pn**	**20 24 18.3**	**+1.5**
VAE	**Valguarnera**	**4.78**	**270**	Pn	**Pn**	**20 24 24.1**	**+0.5**
	comp=N,7.2nm,0.7s,baz=169,slow=1.1,SNR=4.1						
VAE				Sn	**Sn**	**20 25 24.6**	**+6.0**
	comp=N,1.4nm,0.3s,baz=41,slow=20,SNR=2.0						
PDG	**Podgorica**	**4.91**	**350**	*e*Pn	**Pn**	**20 24 25.6**	**+0.3**
BOSS	**Bosilegrad**	**5.14**	**17**	*e*Pn	**Pn**	**20 24 29.5**	**+1.0**
BARS	**Barje**	**5.32**	**11**	*e*Pn	**Pn**	**20 24 31.7**	**+0.8**
TREB	**Trebinje**	**5.35**	**343**	*e*Pn	**Pn**	**20 24 30.4**	**-1.0**
TREB				*e*Sn	**Sn**	**20 25 28.5**	**

baz=259,slow=5.2,SNR=2.1
comp=N,0.5nm,0.7s
ESDC Sonseca Array 19.15 284 P **Pn 20 27 37.2 +1.5**
baz=88,slow=9.1,SNR=4.1
comp=N,1.3nm,1.0s
HFS Hagfors 22.96 351 P **P 20 28 16.8 +1.2**
comp=N,2.3nm,0.8s,baz=182,slow=8.9,SNR=5.3
comp=N,2.3nm,0.8s
EKA Eskdalemuir Ar 23.86 326 P **P 20 28 27.1 +2.6**
comp=N,6.6nm,0.9s,baz=131,slow=8.6,SNR=3.3
comp=N,6.6nm,0.9s
FINES FINESS Array B 24.13 7 P **P 20 28 26.9 -0.1**
comp=N,2.1nm,0.8s,baz=156,slow=10.0,SNR=4.9
comp=N,2.1nm,0.8s
NOA NORSAR Array B 24.17 349 P **P 20 28 27.5 0.0**
comp=N,0.4nm,0.8s,baz=150,slow=9.6,SNR=1.4
comp=N,0.4nm,0.8s
TORD Torodi Ar. Bea 29.53 219 P **P 20 29 16.7 +0.7**
comp=N,0.9nm,1.0s,baz=20,slow=10,SNR=4.6
comp=N,0.9nm,1.0s
ARCES ARCESS Array B 32.11 3 P **P 20 29 40.8 +2.5**
comp=N,2.6nm,0.9s,baz=189,slow=11,SNR=1.7
comp=N,2.6nm,0.9s
BVAR Borovoye Array 37.55 49 P **P 20 30 23.5 -1.9**
comp=N,0.6nm,0.7s,baz=263,slow=5.8,SNR=2.5
comp=N,0.6nm,0.7s
KURBB Kurchatov Arra 42.64 53 P **P 20 31 05.9 -1.7**
comp=N,0.3nm,0.5s,baz=280,slow=8.5,SNR=4.5
comp=N,0.3nm,0.5s
MKAR Makanchi Array 45.67 58 P **P 20 31 30.9 -1.1**
comp=N,0.6nm,0.6s,baz=255,slow=9.4,SNR=7.1
comp=N,0.6nm,0.6s
ZALV Zalesovo Beam 46.13 48 P **P 20 31 34.2 -1.3**
comp=N,1.0nm,0.6s,baz=286,slow=8.0,SNR=4.8
comp=N,1.0nm,0.6s
NEW Newport 86.53 333 P **P 20 35 56.1 +1.7**
comp=N,9.4nm,0.2s,baz=42,slow=8.6,SNR=36

*NEIC **09** 20:23:54.1±2.2, 33°.55S±0°.08×81°.02W±0°.09, h10km±1km, mb4.5/10, Error ellipse: s-maj=15.0km s-min=11.4km az=215.0*

ISC 09 20:23:53.4±0.9, **33°.57S**±0°.09×**80°.93W**±0°.09, **h10**km, **n59**, σ**1**§**55**/61, **mb4.5/4, Juan Fernandez Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA04	**Juan Fernndez**	**1.75**	**93**		**Pn**	**20 24 22.3**	**-1.5**
VA04				Sn	**Sn**	**20 24 44.2**	**-2.0**
VA04	**Juan Fernndez**	**1.75**	**93**	*e*S	**Sn**	**20 24 44.1**	**-2.0**
VA04	**Juan Fernndez**	**1.75**	**93**	*e*P	**Pn**	**20 24 22.3**	**-1.5**
BI05	**Punta Hualpn**	**7.08**	**119**	Pn	**Pn**	**20 25 37.7**	**+0.6**
BO03	**Pichilemu**	**7.50**	**100**	*e*P	**Pn**	**20 25 44.0**	**+1.3**
GO05	**Hualane**	**7.58**	**103**		**Pn**	**20 25 45.4**	**+1.4**
GO05	**Hualane**	**7.58**	**103**	*e*P	**Pn**	**20 25 45.4**	**+1.4**
VA05	**Santo Domingo**	**7.77**	**93**		**Pn**	**20 25 48.4**	**+1.9**
VA05	**Santo Domingo**	**7.77**	**93**	*e*P	**Pn**	**20 25 48.7**	**+2.2**
LC02	**Puerto Saavedr**	**8.02**	**133**	Pn	**Pn**	**20 25 52.5**	**+2.5**
MT01	**Popeta**	**8.07**	**95**		**Pn**	**20 25 52.2**	**+1.6**
ML02	**Panimavida**	**8.13**	**108**		**Pn**	**20 25 54.1**	**+2.7**
MT02	**Curacav**	**8.19**	**91**		**Pn**	**20 25 54.2**	**+2.0**
BO01	**Tunca**	**8.21**	**98**		**Pn**	**20 25 54.4**	**+1.8**
BO01	**Tunca**	**8.21**	**98**	*e*P	**Pn**	**20 25 53.6**	**+1.0**
MT09	**Talagante**	**8.29**	**94**		**Pn**	**20 25 55.5**	**+1.8**
CO06	**Fray Jorge**	**8.39**	**72**		**Pn**	**20 25 55.3**	**+0.2**
BI02	**San Fabin de**	**8.49**	**114**	Pn	**Pn**	**20 25 58.5**	**+2.1**
BI02					**Sn**	**20 27 31.4**	**-1.0**
BO02	**Sierra Bellavi**	**8.49**	**101**	Pn	**Pn**	**20 25 58.9**	**+2.4**
PEL	**Peldehue**	**8.58**	**90**	Pn	**Pn**	**20 26 00.4**	**+2.7**
BO04	**La Punta**	**8.60**	**96**		**Pn**	**20 26 00.4**	**+2.5**
MT16	**CCHEN**	**8.69**	**92**		**Pn**	**20 26 02.4**	**+3.2**
MT03	**Universidad Ad**	**8.70**	**92**		**Pn**	**20 26 02.3**	**+3.0**
LR04	**Corral**	**8.71**	**138**		**Pn**	**20 25 59.2**	**-0.2**
VA03	**San Esteban**	**8.73**	**88**		**Pn**	**20 26 02.1**	**+2.3**
LMEL	**Las Melosas**	**8.94**	**95**		**Pn**	**20 26 05.1**	**+2.4**
CO05	**La Serena**	**9.01**	**69**	Pn	**Pn**	**20 26 04.1**	**+0.6**
CO03	**El Pedregal**	**9.09**	**75**	Pn	**Pn**	**20 26 05.8**	**+1.1**
MT08	**Bocatoma Ro**	**9.11**	**92**		**Pn**	**20 26 07.0**	**+1.9**
LR03	**Panguipulli**	**9.18**	**134**		**Pn**	**20 26 07.1**	**+1.3**
GO04	**Tololo Observa**	**9.25**	**71**		**Pn**	**20 26 07.8**	**+0.8**
GO06	**Curarrehue**	**9.69**	**131**		**Pn**	**20 26 13.9**	**+1.0**
LR05	**Currie**	**9.76**	**136**		**Pn**	**20 26 15.1**	**+1.4**
LL05	**Los Muermos**	**9.81**	**145**		**Pn**	**20 26 15.4**	**+1.0**
LCO	**Las Campanas**	**9.85**	**65**	Pn	**Pn**	**20 26 16.2**	**+0.9**
CO01	**Juntas del Tor**	**9.89**	**72**		**Pn**	**20 26 16.7**	**+0.9**
LL04	**Puerto Octay**	**9.99**	**140**		**Pn**	**20 26 17.4**	**+0.5**
AC04	**Llanos de Chal**	**10.01**	**60**	Pn	**Pn**	**20 26 16.4**	**-0.8**
AC05	**El Transito**	**10.26**	**66**		**Pn**	**20 26 22.1**	**+1.2**
LL06	**Loncomilla**	**10.38**	**148**	Pn	**Pn**	**20 26 23.3**	**+1.1**
PLCA	**Paso Flores**	**10.94**	**134**	Pn	**Pn**	**20 26 31.4**	**+1.4**
GO03	**Copiapo**	**10.96**	**60**		**Pn**	**20 26 31.2**	**+0.8**
AC06	**Mina Casimiro**	**11.02**	**59**		**Pn**	**20 26 31.9**	**+0.8**
LL01	**San Ignacio de**	**11.06**	**145**		**Pn**	**20 26 31.9**	**+0.3**
AC01	**Pan de Azucar**	**11.61**	**53**		**Pn**	**20 26 38.5**	**-0.7**
PB14	**IPOC Station P**	**12.80**	**49**		**Pn**	**20 26 55.0**	**-0.7**
GO02	**Mina Guanaco**	**12.95**	**53**		**Pn**	**20 26 59.3**	**+1.6**
PB06	**IPOC Station P**	**14.73**	**46**	Pn	**Pn**	**20 27 22.5**	**+0.5**
PATCX	**Punta Patache**	**15.89**	**40**		**Pn**	**20 27 38.2**	**+1.0**
TRQA	**Tornquist**	**16.00**	**112**	P	**P**	**20 27 41.6**	**-0.5**
TA01	**Diego Aracena**	**16.08**	**39**		**Pn**	**20 27 41.1**	**+1.5**
TA01				IAmb	IAmb	20 27 42.9	
	comp=Z,32nm,0.6s						
PB11	**IPOC Station P**	**17.02**	**39**	P	**P**	**20 27 55.0**	**+1.4**
PB11				IAmb	IAmb	20 28 07.7	
	comp=Z,15nm,0.8s						
LPAZ	**La Paz**	**20.71**	**37**	P	**P**	**20 28 34.0**	**-0.6**
PLTB	**Pedras Altas**	**23.05**	**93**	P	**P**	**20 29 00.2**	**+1.3**
PLTB				IAmb	IAmb	20 29 05.0	
	comp=Z,26nm,1.5s						
BELA	**Belgrano 2**	**48.71**	**168**	P	**P**	**20 32 37.0**	**-0.5**
BELA				IAmb	IAmb	20 33 16.8	
	comp=Z,3.1nm,0.6s						
SNAA	**Sanae**	**54.79**	**158**	P	**P**	**20 33 22.6**	**-0.4**
SNAA				IAmb	IAmb	20 33 30.6	
	comp=Z,7.8nm,1.4s						
CASY	**Casey**	**80.08**	**185**	P	**P**	**20 36 02.8**	**-0.1**
HLID	**Hailey**	**82.63**	**336**	P	**P**	**20 36 16.3**	**-0.5**
HLID				IAmb	IAmb	20 36 26.8	
	comp=Z,3.8nm,1.1s						
ABKAR	**Akbulak array**	**147.15**	**50**		**PKPbc**	**20 43 36.5**	**+0.2**

*NEIC **09** 20:31:48.4, 39°.43N×123°.29W, h11km, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr0.28; Mθθ-4.98; Mφφ4.70; Mrθ2.33; Mθφ1.94; Mφr2.15; Fault plane solution: M0 6.11000×10^14^ NP1:φs56.82000°, δ86.04000°, λ30.95000°. NP2:φs324.45000°, δ59.13000°, λ175.39000°. Principal axes: T 6.2292, Plg24.0000°, Azm285.0000°; N -0.2529, Plg59.0000°, Azm63.0000°; P -5.9764, Plg18.0000°, Azm187.0000°;*
*NEIC **09** 20:31:48.4, 39°.43N×123°.29W, h5km*
*NEIC **09** 20:31:48.4, 39°.43N×123°.29W, h5km*

NEIC 09 20:31:47.8±2.0, **39°.458N**±0°.009×**123°.24W**±0°.02, **h10**km±2km, **Error ellipse: s-maj=3.0km s-min=2.4km az=234.0, Moment Tensor Solution. Moment tensor: Scale** 10^14^**Nm;** Mrr-1.33; Mθθ-4.93; Mφφ6.26; Mrθ3.60; Mθφ3.64; Mrφ0.47; **Fault plane solution:** M0 7.68000×10^14^ **NP1:**φs334.66000°, δ62.88000°, λ-166.80000°. **NP2:** φs238.56000°, δ78.28000°, λ-27.75000°. **Principal axes:** T 7.6073, Plg10.0000°, Azm289.0000°; N 0.1483, Plg60.0000°, Azm37.0000°; P -7.7555, Plg28.0000°, Azm194.0000°; **Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCMP	**DeCamp, Califo**	**0.07**	**278**		**Pg**	**20 31 51.6**	**+1.5**
DCMP	**DeCamp, Califo**	**0.07**	**278**	IAML		**20 31 51.8**	
DCMP	comp=N,72μm,0.5s			IAML		20 31 51.9	
	comp=E,69μm,0.7s						
KRKM	**Rackout Spring**	**0.11**	**24**		**Pg**	**20 31 52.3**	**+1.6**
KFPM	**Farley Peak**	**0.23**	**322**		**Pg**	**20 31 53.3**	**+0.7**
GTC	**Three Chop Rid**	**0.25**	**256**		**Pg**	**20 31 53.0**	**+0.1**
GWRM	**Wonder Ranch**	**0.26**	**190**		**Pg**	**20 31 53.3**	**+0.3**
GWRM					Sg	20 31 57.2	+0.7
KCPM	**Cahto Peak**	**0.35**	**311**		Pb	20 31 55.5	-0.7
KCPM				Sg	Sg	20 31 59.7	+0.3
KIPM	**Iron Peak**	**0.40**	**332**		Pb	20 31 56.7	-0.3
KBNM	**Bluenose Ridge**	**0.44**	**5**		Pb	20 31 58.6	+0.9
HOPS	**Hopland Field**	**0.48**	**164**		Pg	20 31 57.7	+0.5
HOPS				Sg	Sg	20 32 03.3	-0.3
GSNM	**Snow Mountain**	**0.52**	**176**		Pb	20 31 58.5	-0.5
GVV	**Valley View**	**0.54**	**54**		Pn	20 32 00.6	-1.1
GCK	**Clark Valley**	**0.63**	**82**		Pn	20 32 02.8	0.0
GGUM	**Gualala**	**0.63**	**198**		Pb	20 32 00.7	-0.3
GROM	**Round Mountain**	**0.64**	**44**		Pn	20 32 02.3	-0.8
GPMM	**Pine Mountain**	**0.65**	**159**		Pb	20 32 01.2	-0.1
GRTM	**Round Top Moun**	**0.68**	**139**		Pb	20 32 02.1	+0.3
GCVM	**Cloverdale**	**0.71**	**165**		Pb	20 32 02.4	+0.2
GCVM					Sb	20 32 12.7	+0.7
GSGM	**Seigler Mounta**	**0.72**	**145**		Pb	20 32 03.1	+0.7
GFC	**Funks Creek**	**0.75**	**100**		Pn	20 32 05.0	+0.6
GGPM	**Geyser Peak**	**0.76**	**156**		Pb	20 32 03.0	-0.1
GBGM	**Boggs Mountain**	**0.78**	**146**		Pb	20 32 04.2	+0.7
O02D	**Mt. Diablo Mer**	**0.80**	**26**		Pn	20 32 05.3	+0.1
O02D				Sg	Sg	20 32 13.2	-0.4
O02D				IAML		20 32 20.7	
	comp=E,2μm,1.2s						
O02D				IAML		20 32 21.6	
	comp=N,1μm,0.9s						
GAXM	**Alexander Vall**	**0.84**	**153**		Pg	20 32 04.0	+0.1
KMRM	**Mail Ridge**	**0.84**	**335**		Pb	20 32 05.0	+0.4
KMRM					Sg	20 32 13.7	-1.3
MNRC	**McLaughlin Min**	**0.85**	**133**		Pb	20 32 05.0	+0.3
MNRC	**McLaughlin Min**	**0.85**	**133**	IAML		20 32 31.1	
	comp=E,1μm,0.9s						
GHCM	**House Creek**	**0.85**	**178**		Pg	20 32 03.9	-0.3
NMTM	**Middletown**	**0.90**	**136**		Pb	20 32 05.8	+0.4
LBPM	**Beegum Peak**	**0.90**	**18**		Pn	20 32 07.0	+0.4
NHSM	**Mount Saint He**	**0.94**	**148**		Pg	20 32 05.7	-0.1
KSMM	**Slide Mountain**	**1.02**	**316**		Pg	20 32 06.4	-1.1
KCRM	**Chalk Rock**	**1.06**	**336**		Pb	20 32 08.4	0.0
OSUM	**Sutter Buttes**	**1.09**	**99**		Pb	20 32 08.6	-0.2
LTCM	**Tuscan Springs**	**1.14**	**49**		Pb	20 32 09.6	0.0
SUTB	**Sutter Butte**	**1.15**	**101**		Pb	20 32 09.2	-0.6
SUTB	**Sutter Butte**	**1.15**	**101**	IAML		20 32 37.9	
	comp=N,1μm,0.6s						
SUTB				IAML		20 32 43.0	
	comp=E,982nm,0.5s						
KMPM	**Mount Pierce**	**1.17**	**325**		Pb	20 32 09.1	-1.2
KHBM	**Hayfork Bally**	**1.20**	**1**		Pg	20 32 10.9	0.0
KHBM				IAML		20 32 36.3	
	comp=N,669nm,0.7s						
KHBM				IAML		20 32 39.9	
	comp=E,814nm,1.0s						
CVS	**Carmenet Viney**	**1.27**	**151**		Pn	20 32 09.9	-1.6
OGOM	**Van Goodin Ran**	**1.28**	**81**		Pn	20 32 11.1	-0.5
NAPC	**Atlas Peak**	**1.28**	**142**		Pn	20 32 10.6	-1.1
OSTM	**Stimpson Lane**	**1.28**	**93**		Pn	20 32 11.3	-0.3
QRDG	**Quail Ridge Na**	**1.30**	**138**		Pn	20 32 11.1	-0.9
WEAV	**Weaverville**	**1.30**	**9**		Pb	20 32 12.5	0.0
KCTM	**Capetown**	**1.32**	**321**		Pn	20 32 11.5	-0.8
MCCM	**Marconi Confer**	**1.34**	**168**		Pn	20 32 10.9	-1.7
MCCM				IAML		20 32 41.7	
	comp=E,516nm,1.0s						
MCCM				IAML		20 32 44.5	
	comp=N,550nm,1.0s						
ORV	**Oroville**	**1.35**	**85**		Pn	20 32 12.8	+0.1
O03E	**Paynes Creek**	**1.39**	**53**		Pg	20 32 14.4	-0.1
O03E	**Paynes Creek**	**1.39**	**53**	IAML		20 32 43.7	
	comp=E,702nm,0.8s						
O03E				IAML		20 32 50.1	
	comp=N,452nm,0.9s						
SNT	**Sears Point**	**1.42**	**154**		Pn	20 32 11.7	-1.8
NOLM	**Olema**	**1.46**	**166**		Pn	20 32 12.9	-1.3
KHMM	**Horse Mountain**	**1.46**	**345**		Pn	20 32 14.2	-0.3
KHMM				IAML		20 32 50.8	
	comp=E,713nm,0.9s						
NPRM	**Point Reyes**	**1.47**	**173**		Pn	20 32 11.3	-3.0
LDBM	**Digger Butte**	**1.48**	**49**		Pb	20 32 15.2	-0.4
JCC	**Jacoby Creek,**	**1.49**	**336**		Pn	20 32 15.0	+0.5
JCC				IAML		20 32 52.4	
	comp=E,533nm,0.9s						
JCC				IAML		20 32 55.0	
	comp=N,616nm,1.2s						
LGPM	**Granite Peak**	**1.49**	**12**		Pb	20 32 15.6	0.0
LCMM	**Colby Mountain**	**1.49**	**62**		Pb	20 32 15.6	-0.2
N02D	**Trinity Center**	**1.57**	**15**		Pb	20 32 16.7	-0.3
LSHM	**Sage Hen Hill**	**1.62**	**34**		Pb	20 32 17.3	-0.6
CPMM	**Point Molate**	**1.64**	**156**		Pn	20 32 15.5	-1.2
LBKM	**Bonanza King**	**1.68**	**15**		Pb	20 32 18.4	-0.5
LRDM	**Redding Peak**	**1.70**	**53**		Pb	20 32 18.7	-0.5
BKS	**Berkeley--Byer**	**1.77**	**153**		Pn	20 32 17.6	-0.8
FARB	**Farallon Islan**	**1.77**	**174**		Pn	20 32 16.7	-1.7
FARB	**Farallon Islan**	**1.77**	**174**	IAML		20 32 49.4	
	comp=E,325nm,0.6s						
KRPM	**Rodgers**	**1.80**	**341**		Pn	20 32 19.6	+0.6
KOMM	**Orleans Mounta**	**1.83**	**355**		Pn	20 32 19.3	0.0
AFDM	**Forest Hills D**	**1.84**	**105**		Pn	20 32 19.0	-0.4
BDM	**Black Diamond**	**1.85**	**144**		Pb	20 32 21.7	0.0
JSBM	**San Bruno Moun**	**1.90**	**159**		Pn	20 32 19.2	-1.0
JMGM	**Milagra Ridge**	**1.92**	**161**		Pn	20 32 19.1	-1.4
HATC	**Hat Creek Radi**	**1.93**	**45**		Pn	20 32 21.8	+1.1
HATC				IAML		20 33 04.1	
	comp=E,429nm,1.3s						
M02C	**Callahan**	**1.95**	**9**		Pn	20 32 22.1	+1.0
M02C	**Callahan**	**1.95**	**9**	IAML		20 33 06.5	
	comp=E,188nm,1.1s						
SAC	**San Andreas**	**1.98**	**161**		Pn	20 32 19.9	-1.5
LBCM	**Butte Creek Ri**	**2.00**	**46**		Pb	20 32 23.4	-0.9
M03C	**McCloud**	**2.01**	**25**		Pb	20 32 23.5	-0.9
LGBM	**Gray Butte**	**2.05**	**23**		Pb	20 32 24.4	-0.9
LCSM	**College of the**	**2.06**	**18**		Pn	20 32 23.0	+0.4
CNIC	**Niles Canyon**	**2.10**	**151**		Pn	20 32 22.7	-0.3
KRMB	**Red Mountain**	**2.12**	**346**		Pn	20 32 23.9	+0.4
LBFM	**Black Fox Moun**	**2.15**	**28**		Pb	20 32 26.0	-0.9
LTIM	**Timbered Crate**	**2.18**	**37**		Pb	20 32 26.2	-1.1
LMPM	**Military Pass**	**2.19**	**22**		Pb	20 32 27.0	-0.7
LAMM	**Antelope Mount**	**2.20**	**12**		Pn	20 32 26.2	+1.6
JFP	**Foothills Park**	**2.25**	**158**		Pn	20 32 24.0	-1.1
DONR	**Donner Summit**	**2.27**	**92**		Pn	20 32 27.0	+1.5
CALM	**Calaveras Res.**	**2.30**	**150**		Pn	20 32 25.7	-0.1
LHEM	**Herd Peak**	**2.30**	**19**		Pb	20 32 27.9	-1.7
YBH	**Yreka Blue Hor**	**2.31**	**10**	Pn	Pn	20 32 26.8	+0.8
YBH				IAML		20 33 15.1	
	comp=E,137nm,1.4s						
JPSM		**2.36**	**162**		Pn	20 32 25.7	-0.9
LGMM	**Garner Mountai**	**2.39**	**26**		Pn	20 32 29.1	+1.9
KSXB	**Camp Six Broad**	**2.42**	**349**		Pn	20 32 27.9	+0.4
KSXB				IAML		20 33 38.4	
	comp=N,108nm,1.7s						
LMHM	**Little Mount H**	**2.44**	**29**		Pb	20 32 30.3	-1.6
B040	**Montague**	**2.45**	**15**		Pn	20 32 29.6	+1.7
MHC	**Mount Hamilton**	**2.46**	**149**		Pn	20 32 27.9	-0.2
EMB	**Emerald Bay**	**2.49**	**100**		Pn	20 32 29.5	+0.9
SIGP	**Signal Peak, C**	**2.49**	**346**		Pn	20 32 29.0	+0.5
MPK	**Martis Peak**	**2.50**	**93**		Pn	20 32 30.4	+1.7
CCOB	**Coe Ranch Numb**	**2.52**	**150**		Pn	20 32 28.7	-0.1
PEAR	**Peavine Mounta**	**2.54**	**86**		Pb	20 32 32.3	-1.3
JLAB	**Laurel Hill**	**2.59**	**152**		Pn	20 32 28.9	-0.9
CMB	**Columbia Colle**	**2.65**	**122**		Pn	20 32 31.2	+0.6
L02F	**Cave Junction**	**2.67**	**355**		Pn	20 32 31.2	+0.3
L02F				IAML		20 33 38.5	
	comp=E,101nm,1.4s						
L04D	**Klamath Falls**	**2.85**	**14**		Pn	20 32 35.0	+1.6
L04D				IAML		20 33 39.3	
	comp=E,178nm,1.0s						
L04D				IAML		20 33 45.9	
	comp=N,110nm,1.1s						
KBO	**Bosley Butte**	**2.85**	**345**		Pn	20 32 33.5	+0.1
KBO				IAML		20 33 42.1	
	comp=E,110nm,1.8s						
KBO				IAML		20 33 46.4	
	comp=N,114nm,1.9s						
PNTR	**Pine Nut**	**2.85**	**96**		Pn	20 32 34.1	+0.5
PAHR	**Pah Rah Range**	**2.99**	**84**		Pn	20 32 36.0	+0.6
PAHR				IAML		20 33 36.2	
	comp=N,84nm,1.4s						
PAHR				IAML		20 33 36.9	
	comp=E,96nm,1.1s						
SAO	**San Andreas Ge**	**3.04**	**152**		Pn	20 32 35.1	-0.8
WAKR	**Walker**	**3.12**	**107**		Pn	20 32 38.4	+1.2
WAKR				IAML		20 33 53.1	
	comp=E,86nm,1.2s						
WAKR				IAML		20 33 55.5	
	comp=N,66nm,1.2s						
YERR	**Yerington**	**3.14**	**97**		Pn	20 32 39.2	+1.7
YERR				IAML		20 33 26.1	
	comp=N,105nm,0.9s						
HUMO	**Hull Mountain**	**3.15**	**4**		Pn	20 32 37.9	+0.4
HUMO				IAML		20 33 45.1	
	comp=E,54nm,1.4s						
K04D	**Chiloquin, OR**	**3.36**	**19**		Pn	20 32 41.5	+1.0
BBGB	**Big Mountain B**	**3.36**	**148**		Pn	20 32 39.5	-0.9
BBGB				IAML		20 34 08.3	
	comp=N,107nm,1.4s						
BBGB				IAML		20 34 09.6	
	comp=E,105nm,1.1s						
DBO	**Dodson Butte**	**3.66**	**360**		Pn	20 32 45.3	+0.8
DBO				IAML		20 34 02.4	
	comp=E,50nm,2.2s						
DBO				IAML		20 34 06.4	
	comp=N,39nm,1.4s						
RYN	**Ryan**	**3.77**	**101**		Pn	20 32 46.0	-0.1
RYN				IAML		20 33 54.1	
	comp=E,47nm,0.8s						
PMPB	**Monarch Peak**	**3.77**	**148**	Pn	Pn	20 32 46.3	+0.3
PMPB				IAML		20 34 38.0	
	comp=E,50nm,1.2s						
PMPB				IAML		20 35 14.3	
	comp=N,52nm,2.2s						
OMMB	**Old Mammoth Mi**	**3.80**	**118**		Pn	20 32 47.2	+0.5
OMMB				IAML		20 34 18.9	
	comp=N,41nm,1.1s						
J04A	**Umpqua Nationa**	**3.87**	**12**		Pn	20 32 48.8	+1.1
LHV	**Little Huntoon**	**3.89**	**107**		Pn	20 32 49.0	+1.4
LHV				IAML		20 33 59.4	
	comp=E,73nm,1.0s						
LHV				IAML		20 34 12.2	
	comp=N,78nm,1.4s						
NVAR	**Mina Array Bea**	**3.98**	**103**		Pn	20 32 50.3	+1.1
KVN	**Kaiserville**	**4.01**	**94**		Pn	20 32 49.3	-0.2
NV11	**Mina Array Sit**	**4.10**	**103**		Pn	20 32 51.4	+0.8
NV11				IAML		20 34 01.6	
	comp=E,30nm,1.4s						
NV11				IAML		20 34 22.9	
	comp=N,46nm,1.7s						
J05D	**Fort Rock, OR**	**4.11**	**21**		Pn	20 32 51.3	+0.5
J05D				IAML		20 34 21.8	
	comp=E,42nm,1.5s						
J05D				IAML		20 34 48.9	
	comp=N,39nm,2.6s						
I04A	**Tendick Farm,**	**4.38**	**8**		Pn	20 32 54.9	+0.5
I04A				IAML		20 34 26.1	
	comp=E,31nm,1.6s						
WVOR	**Wild Horse Val**	**4.58**	**48**		Pn	20 32 57.9	+0.6
DSP	**Deep Springs**	**4.64**	**115**		Pn	20 32 58.3	+0.5
PINE	**Pine Mountain**	**4.66**	**21**		Pn	20 32 58.8	+0.3
PINE				IAML		20 33 46.3	
	comp=N,18nm,3.4s						
PINE				IAML		20 35 04.4	
	comp=E,19nm,2.1s						
I02E	**Swisshome, OR**	**4.67**	**355**		Pn	20 32 56.7	-1.6
I02E				IAML		20 34 56.1	
	comp=N,40nm,1.8s						
I02E				IAML		20 34 56.8	
	comp=E,33nm,2.8s						
BMN	**Battle Mountai**	**4.73**	**76**		Pn	20 32 59.8	+0.5
BMN				IAML		20 34 33.6	
	comp=N,18nm,1.6s						
BUCK	**Buck Mountain**	**4.74**	**2**	Pn	Pn	20 32 59.5	+0.1
BUCK				IAML		20 34 44.9	
	comp=N,31nm,1.5s						
TPH	**Tonopah**	**4.90**	**104**		Pn	20 33 00.5	-1.3
MZP	**Montezuma Peak**	**4.92**	**109**		Pn	20 33 00.6	-1.4
I05D	**Terrebonne, OR**	**5.08**	**16**		Pn	20 33 03.7	-0.3
I05D				IAML		20 34 56.0	
	comp=N,20nm,1.4s						
I05D				IAML		20 35 06.3	
	comp=E,23nm,3.2s						
GMN	**Gold Mountain**	**5.17**	**113**		Pn	20 33 05.1	-0.4
GRAC	**Grapevine Rang**	**5.24**	**116**		Pn	20 33 05.6	-0.6
GRAC				IAML		20 34 59.9	
	comp=E,26nm,1.5s						
GRAC				IAML		20 35 02.5	
	comp=N,18nm,1.8s						
H04A	**Detroit Lake**	**5.28**	**8**		Pn	20 33 04.8	-2.0
H04A				IAML		20 34 36.1	
	comp=E,11nm,1.6s						
J08A	**Circle Bar Ran**	**5.29**	**41**		Pn	20 33 07.5	+0.5
J08A				IAML		20 35 07.6	
	comp=N,16nm,2.5s						
J08A				IAML		20 35 24.1	
	comp=E,15nm,3.4s						
ISA	**Isabella, Lake**	**5.36**	**134**		Pn	20 33 06.4	-1.5
ISA				IAML		20 35 00.2	
	comp=E,13nm,1.3s						
I07A	**Izee**	**5.40**	**30**		Pn	20 33 07.2	-1.3
G05A	**Wamic**	**5.95**	**13**		Pn	20 33 14.7	-1.3
TPNV	**Topopah Spring**	**6.05**	**112**		Pn	20 33 15.1	-2.4
R11B	**Troy Canyon, C**	**6.07**	**98**		Pn	20 33 16.8	-1.1
G06A	**Carlson Farm,**	**6.09**	**18**	Pn	Pn	20 33 17.6	-0.2
GWY	**Greenwater Val**	**6.14**	**120**		Pn	20 33 16.9	-1.9
S11A	**Rachel**	**6.15**	**105**		Pn	20 33 17.0	-1.8
Q12A	**Willow Creek R**	**6.54**	**91**		Pn	20 33 23.0	-1.2
G08A	**Pilot Rock**	**6.63**	**27**		Pn	20 33 25.6	+0.1
PRN	**Pahroc Range**	**6.75**	**105**		Pn	20 33 25.7	-1.3
MFID	**Camas

PSDA				S	Sg	20 45 55.2 0.0
PSDA	**Pessada-Kefalo**	**0.56**	**13**	P	Pb	20 45 47.5 0.0
PSDA				S	Sg	20 45 55.4 +0.2
RTZL	**Ratzakli, Kefa**	**0.58**	**28**	P	Pb	20 45 47.8 0.0
RTZL				S	Sg	20 45 55.8 +0.1
VLS	**Valsamata**	**0.62**	**12**	P	Pg	20 45 48.0 -0.8
VLS				S	Sb	20 45 57.5 +0.6
5μm,0.5s						
VLS	**Valsamata**	**0.62**	**12**	P	Pg	20 45 48.3 -0.5
VLS				S	Sg	20 45 56.8 -0.4
LXRA	**Lixouri, Kepha**	**0.63**	**1**	P	Pg	20 45 48.8 -0.2
LXRA				S	Sb	20 45 57.8 +0.6
LXR1	**Lixouri, Cepha**	**0.63**	**1**	P	Pb	20 45 49.5 +0.8
LXR1				S	Sb	20 45 58.5 +1.3
30μm,0.5s						
DMLN	**Damoulianata-K**	**0.67**	**356**	P	Pg	20 45 49.3 -0.4
DMLN				S	Sg	20 45 58.9 +0.1
16μm,0.8s						
DMLN	**Damoulianata-K**	**0.67**	**356**	P	Pb	20 45 49.5 +0.1
DMLN				S	Sg	20 45 58.9 +0.1
SMHA	**Samh**	**0.70**	**14**	P	Pg	20 45 49.6 -0.7
VSK1	**VASILIKIADES**	**0.85**	**7**	P	Pg	20 45 52.5 -0.5
VSK1				S	Sb	20 46 04.4 +1.0
9μm,0.9s						
FSK	**Fiskardo**	**0.90**	**7**	P	Pg	20 45 53.4 -0.5
FSK				S	Sb	20 46 06.3 +1.5
5μm,1.0s						
FSK	**Fiskardo**	**0.90**	**7**	P	Pg	20 45 53.2 -0.8
FSK				S	Sb	20 46 06.0 +1.1
RLS	**Riolos of Patr**	**0.96**	**59**	P	Pb	20 45 54.5 +0.2
RLS	**Riolos of Patr**	**0.96**	**59**	P	Pb	20 45 54.4 +0.2
RLS				S	Sn	20 46 08.4 +0.6
AMT	**Artemida-Makis**	**1.02**	**92**	P	Pn	20 45 56.0 +0.4
AMT				S	Sb	20 46 09.2 +0.9
EVGI	**Lefkada island**	**1.07**	**10**	P	Pb	20 45 56.2 0.0
EVGI				S	Sb	20 46 11.5 +1.7
4μm,0.6s						
EVGI	**Lefkada island**	**1.07**	**10**	P	Pb	20 45 56.4 +0.1
DRO	**Drossia**	**1.09**	**69**	P	Pn	20 45 57.4 +0.9
DRAG	**Dragano-Lefkad**	**1.12**	**6**	P	Pb	20 45 57.5 +0.3
DRAG	**Dragano-Lefkad**	**1.12**	**6**	P	Pb	20 45 57.4 +0.3
NYDR	**Nydri-Lefkada**	**1.16**	**10**	P	Pb	20 45 57.9 +0.1
NYDR				S	Sn	20 46 15.5 +2.6
3μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.16**	**10**	P	Pb	20 45 57.8 -0.1
LKD2	**Lefkada island**	**1.23**	**8**	P	Pg	20 46 00.6 +0.3
LKD2				AMP		
comp=E,20nm,0.7s,baz=18						
LKD2	**Lefkada island**	**1.23**	**8**	P	Pb	20 45 59.5 +0.5
PYL	**PYLOS**	**1.24**	**122**	P	Pn	20 45 58.9 +0.2
PYL				S	Sn	20 46 16.9 +2.0
comp=E,490nm,0.8s						
PYL	**PYLOS**	**1.24**	**122**	P	Pb	20 45 59.1 -0.1
ITM	**Ithomi**	**1.25**	**107**	P	Pg	20 46 00.2 -0.5
ITM	**Ithomi**	**1.25**	**107**	P	Pg	20 46 00.4 -0.3
TSLK	**Tsoukalades, L**	**1.27**	**8**	P	Pb	20 46 00.2 +0.5
UPR	**University Cam**	**1.29**	**56**	P	Pg	20 46 00.9 -0.5
KLV	**Kalavryta, Ach**	**1.44**	**70**	P	Pb	20 46 02.6 -0.1
EFP	**Efpalio**	**1.45**	**53**	P	Pb	20 46 02.8 +0.1
ANX	**Ano Chora**	**1.56**	**49**	P	Pb	20 46 04.8 +0.1
GUR	**Goura**	**1.56**	**76**	P	Pb	20 46 05.0 +0.3
KALE	**Kalithea**	**1.58**	**58**	P	Pb	20 46 05.0 0.0
IGT	**Igoumenitsa**	**1.96**	**358**	P	Pb	20 46 12.6 +1.1
IGT				AMP		
comp=E,2.4nm,0.6s,baz=4.0						
IGT	**Igoumenitsa**	**1.96**	**358**	P	Pn	20 46 09.3 +0.7
LOUT	**Loutraki**	**2.06**	**77**	P	Pn	20 46 10.9 +1.0
AGG	**Agios Georgios**	**2.08**	**45**		Pn	20 46 10.1 -0.2
JAN	**Janina**	**2.11**	**9**	P	Pn	20 46 11.8 +1.2
AXAR	**Agios Charalam**	**2.13**	**55**	P	Pn	20 46 11.9 +1.1
VLI	**Veliai**	**2.18**	**112**	P	Pn	20 46 12.8 +1.3
KEK	**Kerkira**	**2.20**	**347**	Pn	Pn	20 46 13.4 +1.6
KEK	**Kerkira**	**2.20**	**347**	P	Pn	20 46 13.0 +1.1
SRN	**Sarande**	**2.33**	**352**	P	Pb	20 46 17.6 -0.2
SRN				AMP		
comp=N,1.0nm,0.8s,baz=358						
VIL2	**Platees**	**2.34**	**73**	P	Pn	20 46 15.7 +2.0
THL	**Klokotos Trika**	**2.35**	**31**	P	Pn	20 46 15.2 +1.4
KPRO	**Kipourio**	**2.49**	**17**	P	Pn	20 46 17.5 +1.6
TYRN	**Tyrnavos**	**2.56**	**33**	P	Pn	20 46 18.2 +1.4
LSK	**Leskovik**	**2.58**	**3**	AMP		
comp=N,3.6nm,0.7s,baz=7.0						
PENT	**Pentalofos**	**2.68**	**12**	P	Pn	20 46 20.4 +1.9
NEST	**Nestorio**	**2.88**	**9**	P	Pb	20 46 26.5 -0.8
NEST	**Nestorio**	**2.88**	**9**	P	Pn	20 46 22.9 +1.5
SCTE	**Santa Cesarea**	**2.93**	**329**	P	Pn	20 46 24.8 +2.9
SCTE	**Santa Cesarea**	**2.93**	**329**	Pn	Pn	20 46 23.0 +1.1
VLO	**Vlora**	**2.99**	**346**	P	Pn	20 46 26.1 +3.5
LIT	**Litokhoron**	**3.00**	**32**	Pn	Pn	20 46 24.2 +1.3
FNA	**Florina**	**3.30**	**13**	P	Pb	20 46 32.5 -1.7
FNA	**Florina**	**3.30**	**13**		Pn	20 46 29.2 +2.3
TIP	**Timpagrande**	**3.30**	**300**	Pn	Pn	20 46 27.0 0.0
TIP	**Timpagrande**	**3.30**	**300**	⇑P	Pb	20 46 34.5 +0.2
OHR	**Ohrid**	**3.55**	**5**	*i* Pn	Pn	20 46 34.2 +3.8
CEL	**Celeste**	**3.65**	**282**		Pn	20 46 31.7 -0.2
TIR	**Tirane**	**3.80**	**354**	P	Pb	20 46 39.0 -3.8
TIR				AMP		
comp=N,0.4nm,0.4s,baz=357						
TIR	**Tirane**	**3.80**	**354**		Pn	20 46 34.8 +1.0
TIR	**Tirane**	**3.80**	**354**	⇑P	Pb	20 46 39.2 -3.6
VAY	**Valandovo**	**4.10**	**23**	*i* Pn	Pn	20 46 41.1 +3.2
IDI	**Anoyia**	**4.26**	**121**	Pn	Pn	20 46 39.2 -0.9
IDI	**Anoyia**	**4.26**	**121**	Pn	Pn	20 46 39.6 -0.6
comp=N,6.5nm,1.0s,baz=230,slow=16,SNR=1.5						
IDI				Sn	Sn	20 47 28.8 -0.5
comp=N,0.6nm,0.3s,baz=315,slow=19,SNR=2.3						
CUC	**Castrocucco**	**4.34**	**305**	Pn	Pn	20 46 40.4 -0.9
PUK	**Puka**	**4.49**	**355**	Pn	Pn	20 46 44.5 +1.1
VAE	**Valguarnera**	**4.78**	**271**	Pn	Pn	20 46 50.3 +2.9
comp=N,7.2nm,0.6s,baz=186,slow=10,SNR=4.0						
VAE				Sn	Sn	20 47 45.4 +3.1
comp=N,1.6nm,0.3s,baz=23,slow=15,SNR=1.9						
RAFF	**Raffo Rosso**	**4.84**	**268**		Pn	20 46 46.4 -1.7
PDG	**Podgorica**	**4.94**	**350**		Pn	20 46 50.3 +0.8
PDG	**Podgorica**	**4.94**	**350**	⇓P	Pn	20 46 54.3 +4.8
ALN	**Alexandroupoli**	**5.48**	**51**	Pn	Pn	20 46 56.5 -0.4
PAOL	**Paolisi**	**5.71**	**309**	Pn	Pn	20 47 00.2 0.0
INTR	**Introdacqua**	**6.70**	**313**	Pn	Pn	20 47 13.6 -0.1
ELND	**Elena**	**6.78**	**36**	⇓P	Pn	20 47 18.0 +3.2
NRCA	**Norcia**	**7.68**	**316**		Pn	20 47 27.3 +0.2
GUMA	**Gualdo di Mace**	**7.71**	**318**	Pn	Pn	20 47 26.8 -0.7
FDMO	**Fiordimonte**	**7.83**	**317**		Pn	20 47 28.5 -0.6
GZR	**Gura Zlata**	**8.02**	**12**	⇑P	Pn	20 47 32.6 +0.9
VOIR		**8.59**	**22**	⇑P	Pn	20 47 42.6 +2.9
MLR	**Muntele Rosu**	**8.93**	**26**		Pn	20 47 43.6 -0.7
MLR	**Muntele Rosu**	**8.93**	**26**	Pn	Pn	20 47 46.6 +2.3
comp=N,5.2nm,0.6s,baz=231,slow=7.2,SNR=9.2						
MLR	**Muntele Rosu**	**8.93**	**26**	⇓P	Pn	20 47 49.0 +4.7
NEHR	**Nehoiu**	**9.00**	**27**	⇓P	Pn	20 47 50.1 +4.9
KEST	**Kesra**	**9.09**	**262**	Pn	Pn	20 47 42.4 -4.2
BISRR	**Bisoca**	**9.26**	**29**	⇑P	Pn	20 47 53.7 +4.9
TURR	**Turia**	**9.45**	**24**	⇓P	Pn	20 47 53.0 +1.6
PLOR	**Plostina**	**9.49**	**27**	⇓P	Pn	20 47 56.0 +4.0
VRI	**Vrincioaia**	**9.53**	**28**	⇑P	Pn	20 47 56.7 +4.2
SABO	**M.te Sabotino**	**9.83**	**331**	Pn	Pn	20 47 55.8 -0.8
OBKA	**Obir**	**9.95**	**336**	*i* Pn	Pn	20 48 01.1 +2.9
comp=N,0.8nm,0.3s						
OBKA				*i* Sn	Sn	20 49 44.8 -4.4
comp=N,12nm,0.8s						
SOKA	**Soboth**	**9.95**	**338**	*i* Pn	Pn	20 48 01.5 +3.3
comp=N,3.3nm,0.5s						
SOKA				*i* Sn	Sn	20 49 42.8 -6.4
comp=N,3.5nm,0.5s						
TEOL	**Teolo**	**10.18**	**323**	Pn	Pn	20 48 01.1 -0.3
BRTR	**Keskin Array B**	**10.56**	**74**	Pn	Pn	20 48 07.0 +0.4
comp=N,0.1nm,0.3s,baz=276,slow=13,SNR=1.9						
BURAR	**Bucovina Array**	**10.64**	**18**	Pn	Pn	20 48 08.4 +0.6
VYHS	**Vyhne**	**10.98**	**354**	*e*PN	Pn	20 48 15.8 +3.5
MODS	**Modra-Piesok**	**11.04**	**349**	*e*PN	Pn	20 48 16.6 +3.4
DAVOX	**Davos/Dischmat**	**12.07**	**323**	Pn	Pn	20 48 31.9 +4.5
comp=N,0.2nm,0.3s,baz=165,slow=20,SNR=2.1						
DAVOX				Sn	Sn	20 50 38.2 -3.3
comp=N,0.1nm,0.3s,baz=312,slow=18,SNR=1.6						
TUE	**Stuetta**	**12.12**	**321**	Pn	Pn	20 48 26.1 -1.9
PABE	**Paberze**	**18.10**	**6**	P	Pn	20 49 45.4 -1.1
PABE				IAmb	IAmb	20 49 47.8
comp=Z,17nm,0.9s						
ESDC	**Sonseca Array**	**19.16**	**284**	P	Pn	20 50 01.0 +1.4
comp=Z,1.1nm,1.0s,baz=86,slow=9.8,SNR=2.7						
HFS	**Hagfors**	**22.99**	**351**	P	P	20 50 40.2 +0.6
comp=Z,1.9nm,0.8s,baz=148,slow=9.8,SNR=4.7						
comp=Z,1.9nm,0.8s						
FINES	**FINESS Array B**	**24.16**	**7**	P	P	20 50 51.4 +0.4
comp=Z,1.8nm,0.9s,baz=157,slow=10,SNR=8.0						
comp=Z,1.8nm,0.9s						
FIA1	**FINESS Array S**	**24.16**	**7**	P	P	20 50 50.4 -0.6
NB2	**NORSAR Subarra**	**24.20**	**349**	P	P	20 50 53.4 +2.0
comp=Z,4.3nm,1.1s,baz=160,slow=10						
NOA	**NORSAR Array B**	**24.20**	**349**	P	P	20 50 52.7 +1.3
comp=Z,0.6nm,0.8s,baz=156,slow=9.8,SNR=1.6						
comp=Z,0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.51**	**219**	P	P	20 51 40.8 +1.3
comp=Z,0.6nm,0.8s,baz=26,slow=9.4,SNR=4.4						
comp=Z,0.6nm,0.8s						
BORG	**Borgarnes**	**36.61**	**331**	LR	LR	21 11 31.1
comp=Z,36nm,18.2s,baz=282,slow=42						
KURBB	**Kurchatov Arra**	**42.65**	**53**	P	P	20 53 31.6 +0.3
comp=Z,0.4nm,0.6s,baz=277,slow=8.6,SNR=3.5						
comp=Z,0.4nm,0.6s						
MK31	**Makanchi Array**	**45.69**	**58**	P	P	20 53 54.7 -1.1
MKAR	**Makanchi Array**	**45.69**	**58**	P	P	20 53 56.0 +0.2
comp=Z,0.3nm,0.6s,baz=286,slow=6.2,SNR=3.9						
comp=Z,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**46.15**	**48**	P	P	20 53 59.3 0.0
comp=Z,0.7nm,0.5s,baz=273,slow=8.3,SNR=3.9						
comp=Z,0.7nm,0.5s						

IDC 09 20:54:28.5±2.0, 4°.78N×126°.73E, h0km, mb3.6/4, mbtmp3.7/4, MS3.1/3, Error ellipse: s-maj=113.8km s-min=25.0km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.75**	**183**	P	P	20 59 32.9	+0.4
2.4nm,0.9s,baz=359,slow=11,SNR=2.8							
2.4nm,0.9s							
PMG	**Port Moresby**	**24.76**	**125**	LR	LR	21 10 26.9	
comp=Z,34nm,20.1s,baz=168,slow=39							
WRA	**Warramunga Arr**	**25.68**	**163**	P	P	21 00 00.3	0.0
2.0nm,0.8s,baz=343,slow=10,SNR=11							
2.0nm,0.8s							
ASAR	**Alice Springs**	**29.12**	**166**	P	P	21 00 31.1	-0.2
0.3nm,0.7s,baz=339,slow=6.6,SNR=8.5							
0.3nm,0.7s							
MKAR	**Makanchi Array**	**56.71**	**325**	P	P	21 04 13.9	0.0
0.4nm,0.6s,baz=119,slow=8.6,SNR=5.8							
0.4nm,0.6s							
MA2	**Magadan**	**57.70**	**14**	LR	LR	21 35 00.2	
comp=Z,9.2nm,18.1s,baz=82,slow=42							
KBZ	**Khabaz**	**82.27**	**313**	LR	LR	21 45 36.7	
comp=Z,18nm,21.8s,baz=60,slow=37							

*TIR **09** 21:22:36.9, 37°.44N×20°.24E, h16km±1km, Md3.6, Ml3.6*
*ATH **09** 21:22:40.0, 37°.83N×20°.41E, h15km±2km, ML2.9/3, Error ellipse: s-maj=5.5km s-min=1.5km az=55.0*

ISC 09 21:22:39.2±1.6, 37.73N±0°.07×20.39E±0°.08, h15km, n24, σ1§45/24, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.36**	**92**	P	Pb	21 22 47.4	+0.2
LTHK				S	Sg	21 22 52.4	+0.9
LTHK				AML	AML	21 22 53.2	
comp=E,30958μm,0.4s							
LTHK				AML	AML	21 22 53.5	
comp=N,9589μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.42**	**22**	P	Pg	21 22 45.8	-1.9
LXRA	**Lixouri, Kepha**	**0.48**	**5**	P	Pg	21 22 47.9	-0.8
VLS	**Valsamata**	**0.48**	**19**	P	Pg	21 22 47.0	-1.8
VLS				AML	AML	21 23 04.6	
comp=E,2564μm,0.4s							
VLS				AML	AML	21 23 07.3	
comp=N,3156μm,0.3s							
DMLN	**Damoulianata-K**	**0.51**	**359**	P	Pg	21 22 48.0	-1.4
SMHA	**Samh**	**0.56**	**21**	P	Pg	21 22 49.1	-1.2
FSK	**Fiskardo**	**0.75**	**11**	P	Pb	21 22 52.7	-1.2
RLS	**Riolos of Patr**	**0.92**	**68**	P	Pb	21 22 55.6	-1.2
RLS				AML	AML	21 23 17.0	
comp=E,1798μm,0.8s							
RLS				AML	AML	21 23 22.4	
comp=N,1697μm,0.6s							
AMT	**Artemida-Makis**	**1.07**	**100**	P	Pg	21 23 00.3	+0.5
DRO	**Drossia**	**1.07**	**77**	P	Pb	21 22 59.1	-0.4
LKD2	**Lefkada island**	**1.08**	**11**	P	Pg	21 23 03.4	+3.2
LKD2				AMP			
comp=N,5.7nm,0.9s,baz=13							
ITM	**Ithomi**	**1.34**	**113**	P	Pb	21 23 03.9	-0.2
PYL	**PYLOS**	**1.36**	**127**	P	Pb	21 23 03.5	-0.9
EFP	**Efpalio**	**1.39**	**59**	P	Pn	21 23 02.0	-2.0
KLV	**Kalavryta, Ach**	**1.43**	**77**	P	Pn	21 23 04.7	+0.1
KALE	**Kalithea**	**1.54**	**64**	P	Pn	21 23 05.6	-0.5
GUR	**Goura**	**1.56**	**82**	P	Pn	21 23 07.0	+0.5
IGT	**Igoumenitsa**	**1.81**	**359**	P	Pg	21 23 15.0	+1.1
IGT				AMP			
comp=E,0.8nm,0.6s,baz=1.0							
SRN	**Sarande**	**2.17**	**352**	P	Pg	21 23 20.3	-0.6
SRN				AMP			
comp=N,0.3nm,0.7s,baz=356							
LSK	**Leskovik**	**2.43**	**4**	AMP			
comp=N,1.3nm,0.9s,baz=5.0							
NEST	**Nestorio**	**2.73**	**11**	P	Pb	21 23 28.8	+0.9
SCTE	**Santa Cesarea**	**2.78**	**328**	P	Pb	21 23 28.4	-0.2
FNA	**Florina**	**3.15**	**14**	P	Pb	21 23 34.9	0.0
OHR	**Ohrid**	**3.40**	**5**	*i* Pn	Pg	21 23 47.7	+3.4

*IDC **09** 21:37:11.2±1.0, 37°.54N×20°.69E, h0km, mb3.7/9, mbtmp3.6/19, ML3.2/8, MS3.2/10, Error ellipse: s-maj=18.4km s-min=15.5km az=168.0*
*THE **09** 21:37:14.6, 37°.55N×20°.40E, h2km±3km, ML3.7/10, Error ellipse: s-maj=3.2km s-min=0.7km az=39.0*
*TIR **09** 21:37:14.3, 37°.59N×20°.09E, h5km±2km, Md3.8, Ml3.8*
*ATH **09** 21:37:15.5, 37°.59N×20°.41E, h10km±1km, ML3.7/15, Error ellipse: s-maj=2.9km s-min=0.9km az=39.0*
*NAO **09** 21:37:31.2, 37°.67N×20°.42E, h10km, mb4.1*

ISC 09 21:37:14.5±1.0, 37°.60N±0°.03×20°.46E±0°.03, h23km±7km, n97, σ2§13/116, mb3.6/9, MS3.5/7, 3C-4D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.29**	**77**	P	Pb	21 37 21.5	+0.1
KRI1				S	Sb	21 37 26.2	+0.2
19μm,0.4s							
LTHK	**Lithakia**	**0.32**	**69**	P	Pb	21 37 21.6	-0.2
LTHK				S	Sb	21 37 27.4	+0.7
18μm,0.5s							
LTHK	**Lithakia**	**0.32**	**69**	P	Pb	21 37 21.9	+0.1
LTHK				S	Sb	21 37 27.1	+0.4
LTHK				AML	AML	21 37 27.6	
comp=E,41012μm,0.5s							
LTHK				AML	AML	21 37 29.8	
comp=N,22269μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.53**	**11**	P	Pb	21 37 25.3	+0.1
PSDA				S	Sb	21 37 33.8	+1.4
comp=N,10μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.53**	**11**	P	Pb	21 37 25.2	0.0
PSDA				S	Sb	21 37 33.6	+1.2
RTZL	**Ratzakli, Kefa**	**0.54**	**28**	P	Pn	21 37 26.8	0.0
RTZL				S	Sn	21 37 34.5	-0.7
comp=N,10μm,0.5s							
VLS	**Valsamata**	**0.59**	**10**	P	Pb	21 37 26.4	+0.2
VLS				S	Sb	21 37 35.5	+1.3
comp=N,6μm,0.4s							
VLS	**Valsamata**	**0.59**	**10**	P	Pb	21 37 26.5	+0.2
VLS				S	Sb	21 37 35.2	+1.0
VLS				AML	AML	21 37 40.8	
comp=N,11087μm,0.4s							
VLS				AML	AML	21 37 40.9	
comp=E,11480μm,0.5s							
LXRA	**Lixouri, Kepha**	**0.60**	**359**	P	Pb	21 37 26.7	+0.3
LXRA				S	Sb	21 37 35.1	+0.5
LXRA				AML	AML	21 37 47.1	
comp=N,27999μm,0.5s							
LXRA				AML	AML	21 37 48.0	
comp=E,34057μm,0.6s							
DMLN	**Damoulianata-K**	**0.65**	**354**	P	Pb	21 37 27.8	+0.6
DMLN				S	Sn	21 37 37.5	-0.3
comp=E,15μm,0.6s							
DMLN	**Damoulianata-K**	**0.65**	**354**	P	Pb	21 37 27.2	+0.1
DMLN				S	Sn	21 37 37.1	-0.7
SMHA	**Samh**	**0.67**	**13**	P	Pb	21 37 27.6	0.0
SMHA				S	Sn	21 37 37.8	-0.6
SMHA				AML	AML	21 37 42.4	
comp=E,45296μm,0.5s							
SMHA				AML	AML	21 37 45.0	
comp=N,59330μm,0.4s							
RLS	**Riolos of Patr**	**0.93**	**60**	P	Pn	21 37 32.7	+0.7
RLS	**Riolos of Patr**	**0.93**	**60**	P	Pn	21 37 32.8	+0.7
RLS				S	Sn	21 37 45.7	+1.1
RLS				AML	AML	21 37 51.5	
comp=E,4106μm,0.5s							
RLS				AML	AML	21 37 52.4	
comp=N,4375μm,0.5s							
AMT	**Artemida-Makis**	**1.00**	**93**	P	Pb	21 37 34.6	+1.4
AMT				S	Sn	21 37 48.9	+2.4
AMT				AML	AML	21 37 57.1	
comp=E,15998μm,0.7s							
AMT				AML	AML	21 37 57.7	
comp=N,13609μm,0.4s							
EVGI	**Lefkada island**	**1.04**	**9**	P	Pb	21 37 34.1	+0.3
EVGI				S	Sn	21 37 51.2	+3.8
comp=N,3μm,0.5s							
EVGI	**Lefkada island**	**1.04**	**9**	P	Pb	21 37 34.0	+0.3
DRO	**Drossia**	**1.06**	**70**	P	Pb	21 37 35.4	+1.2
DRO	**Drossia**	**1.06**	**70**	P	Pb	21 37 35.6	+1.4
DRO				S	Sn	21 37 50.6	+2.7
DRO				AML	AML	21 37 58.4	
comp=E,10023μm,0.5s							
DRO				AML	AML	21 38 00.4	
comp=N,8858μm,0.5s							
DRAG	**Dragano-Lefkad**	**1.09**	**5**	P	Pb	21 37 35.2	+0.5
DRAG	**Dragano-Lefkad**	**1.09**	**5**	P	Pb	21 37 35.8	+1.0
NYDR	**Nydri-Lefkada**	**1.13**	**10**	P	Pb	21 37 36.3	+0.9
NYDR				S	Sn	21 37 54.0	+4.3
comp=N,3μm,0.4s							
NYDR	**Nydri-Lefkada**	**1.13**	**10**	P	Pb	21 37 36.1	+0.7
LKD2	**Lefkada island**	**1.20**	**8**	P	Pb	21 37 39.5	+2.9
LKD2				AMP			
comp=E,16nm,0.5s,baz=20							
LKD2	**Lefkada island**	**1.20**	**8**	P	Pb	21 37 38.6	+2.0
LKD2	**Lefkada island**	**1.20**	**8**	P	Pb	21 37 38.3	+1.7
LKD2				AML	AML	21 38 02.5	
comp=E,7858μm,0.6s							
LKD2				AML	AML	21 38 03.6	
comp=N,6208μm,1.0s							
TSLK	**Tsoukalades, L**	**1.24**	**7**	P	Pb	21 37 38.2	+1.0
TSLK				S	Sb	21 37 58.0	+5.2
comp=N,4μm,0.5s							
TSLK	**Tsoukalades, L**	**1.24**	**7**	P	Pb	21 37 37.8	+0.5
TSLK				AML	AML	21 38 02.4	
comp=E,8739μm,0.7s							
TSLK				AML	AML	21 38 05.0	
comp=N,7432μm,0.6s							
PYL	**PYLOS**	**1.24**	**124**	P	Pb	21 37 37.8	+0.5
PYL				S	Sb	21 37 55.4	+2.5
comp=N,3μm,0.7s							
PYL	**PYLOS**	**1.24**	**124**	P	Pb	21 37 37.8	+0.5
PYL				S	Sb	21 37 55.1	+2.3
PYL				AML	AML	21 38 00.4	
comp=N,4570μm,0.7s							
PYL				AML	AML	21 38 00.5	
comp=E,7178μm,0.7s							
ITM	**Ithomi**	**1.24**	**109**	P	Pb	21 37 38.8	+1.5
ITM	**Ithomi**	**1.24**	**109**	P	Pb	21 37 38.6	+1.3
ITM				S	Sb	21 37 56.3	+3.3
ITM				AML	AML	21 38 04.6	
comp=E,4319μm,1.0s							
ITM				AML	AML	21 38 05.0	
comp=N,3124μm,0.5s							
EFP	**Efpalio**	**1.42**	**54**	P	Pb	21 37 42.1	+1.9
EFP	**Efpalio**	**1.42**	**54**	P	Pb	21 37 41.9	+1.7
EFP				AML	AML	21 38 10.6	
comp=N,3777μm,0.5s							
EFP				AML	AML	21 38 12.9	
comp=E,2692μm,0.6s							
KLV	**Kalavryta, Ach**	**1.42**	**71**	P	Pb	21 37 42.1	+1.8
KLV	**Kalavryta, Ach**	**1.42**	**71**	P	Pb	21 37 41.8	+1.5
ANX	**Ano Chora**	**1.53**	**49**	P	Pb	21 37 43.7	+1.5
ANX				AML	AML	21 38 18.4	
comp=E,4219μm,0.5s							
ANX				AML	AML	21 38 19.9	
comp=N,6218μm,0.6s							
GUR	**Goura**	**1.53**	**77**	P	Pb	21 37 43.8	+1.5
GUR				S	Sb	21 38 02.9	+1.5
GUR				AML	AML	21 38 19.6	
comp=N,3422μm,0.7s							
GUR				AML	AML	21 38 22.7	
comp=E,3221μm,0.8s							
KALE	**Kalithea**	**1.55**	**59**	P	Pb	21 37 43.1	+0.5
KALE	**Kalithea**	**1.55**	**59**	P	Pb	21 37 43.4	+0.8
KALE				AML	AML	21 38 17.4	
comp=N,3150μm,0.6s							
KALE				AML	AML	21 38 18.4	
comp=E,3418μm,0.7s							
MAKR	**Makrakomi, Fth**	**1.94**	**42**	P	Pb	21 37 50.3	+1.1
IGT	**Igoumenitsa**	**1.94**	**357**	P	Pb	21 37 51.1	+2.0
IGT				AMP			
comp=E,2.3nm,0.5s,baz=5.0							
LOUT	**Loutraki**	**2.03**	**78**	P	Pb	21 37 49.7	-1.1
AXAR	**Agios Charalam**	**2.09**	**55**	P	Pb	21 37 52.0	+0.2
SRN	**Sarande**	**2.31**	**351**	P	Pb	21 37 56.8	+1.4
SRN				A

comp=E,1.2nm,0.6s
GERES **GERESS Array B 12.27 339** Pn **Pn 21 40 10.3 +2.5**
comp=E,0.1nm,0.3s,baz=161,slow=9.3,SNR=1.9
GERES Sn **Sn 21 42 19.0 -4.7**
comp=E,0.1nm,0.3s,baz=134,slow=40,SNR=1.6
comp=E,0.2nm,0.3s
MMAI Mount Meron Ar 13.03 106 Pn **Pn 21 40 15.8 -2.5**
comp=E,0.2nm,0.3s,baz=293,slow=12,SNR=1.8
comp=E,2.0nm,0.9s
AKASG **Malin Array Be 14.52 23** Pn **Pn 21 40 38.5 0.0**
comp=E,0.1nm,0.3s,baz=215,slow=12,SNR=1.3
comp=E,0.3nm,0.5s
KBZ Khabaz 18.07 63 P **Pn 21 41 20.9 -3.0**
baz=255,slow=16,SNR=2.1
comp=E,0.9nm,0.9s
GNI Garni 19.07 75 LR LR 21 49 30.3
comp=E,43nm,20.6s,baz=293,slow=39
ESDC Sonseca Array 19.18 284 P **Pn 21 41 37.7 +0.2**
baz=92,slow=13,SNR=2.4
comp=E,0.6nm,0.8s
HFS Hagfors 22.97 351 P **P 21 42 17.8 +0.7**
comp=E,3.0nm,0.8s,baz=182,slow=7.4,SNR=4.7
comp=E,3.0nm,0.8s
BELG Belogornoye 24.06 43 P **P 21 42 26.8 -1.0**
comp=E,7.2nm,0.7s,baz=174,slow=1.9,SNR=6.6
BELG LR LR 21 53 21.9
comp=E,40nm,18.8s,baz=15,slow=40
comp=E,7.2nm,0.7s
FINES FINESS Array B 24.13 7 P **P 21 42 29.3 +0.9**
comp=E,1.9nm,0.8s,baz=172,slow=11,SNR=5.2
comp=E,1.9nm,0.8s
NB2 NORSAR Subarra 24.18 349 P **P 21 42 32.4 +3.5**
comp=Z,3.4nm,0.9s,baz=162,slow=9.3
NOA NORSAR Array B 24.18 349 P **P 21 42 30.8 +1.9**
comp=Z,0.7nm,0.9s,baz=162,slow=10,SNR=1.7
comp=Z,0.7nm,0.9s
TORD Torodi Ar. Bea 29.55 219 P **P 21 43 18.4 +1.0**
comp=Z,0.8nm,0.8s,baz=28,slow=7.8,SNR=5.4
TORD LR LR 21 57 04.5
comp=Z,71nm,18.1s,baz=316,slow=40
comp=Z,0.8nm,0.8s
ARTI Arti 31.42 41 LR LR 21 57 02.7
comp=Z,28nm,20.8s,baz=274,slow=38
BVAR Borovoye Array 37.53 49 P **P 21 44 26.7 +0.1**
comp=Z,0.4nm,0.7s,baz=232,slow=7.1,SNR=2.4
comp=Z,0.4nm,0.7s
DBIC Dimbokro 38.43 223 LR LR 22 00 15.9
comp=Z,68nm,18.4s,baz=304,slow=36
BBTS Babate 39.93 245 LR LR 22 02 17.9
comp=Z,59nm,18.5s,baz=148,slow=38
KURBB **Kurchatov Arra 42.62 53** P **P 21 45 08.7 -0.1**
comp=Z,0.3nm,0.3s,baz=277,slow=8.2,SNR=1.6
comp=Z,0.3nm,0.3s
MKAR Makanchi Array 45.65 58 P **P 21 45 32.9 -0.3**
comp=Z,0.2nm,0.4s,baz=286,slow=6.6,SNR=5.7
comp=Z,0.2nm,0.4s
ZALV Zalesovo Beam 46.12 48 P **P 21 45 35.2 -1.5**
comp=Z,0.5nm,0.4s,baz=281,slow=10,SNR=3.3
comp=Z,0.5nm,0.4s
BOSA Boshof 66.02 175 LR LR 22 19 21.9
comp=Z,30nm,19.3s,baz=10,slow=38
BDFB Brasilia 83.22 244 LR LR 22 27 17.5
comp=Z,43nm,18.1s,baz=131,slow=36

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*IDC **09** 21:47:09.0±1.5, 37°.56N×21°.03E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=70.6km s-min=26.7km az=129.0*
*THE **09** 21:47:11.3, 37°.61N×20°.70E, h6km±3km, ML3.3/9, Error ellipse: s-maj=3.7km s-min=0.8km az=56.0*
*ATH **09** 21:47:12.2, 37°.66N×20°.73E, h6km±2km, ML3.3/11, Error ellipse: s-maj=3.1km s-min=0.8km az=43.0*
ISC 09 21:47:11.1±1.1, 37°.61N±0°.04×20°.71E±0°.04, h11km±5km, n38, σ0s71/56, mb3.4/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.10**	**60**	P	**Pg**	**21 47 14.2**	**+0.5**
KRI1				S	**Sg**	**21 47 15.5**	**-0.1**
150μm,0.3s							
LTHK	**Lithakia**	**0.14**	**46**	P	**Pg**	**21 47 14.3**	**0.0**
LTHK				S	**Sg**	**21 47 15.5**	**-1.0**
132μm,0.4s							
LTHK	**Lithakia**	**0.14**	**46**	P	**Pg**	**21 47 14.3**	**0.0**
LTHK				S	**Sg**	**21 47 15.6**	**-1.0**
LTHK				AML	AML	21 47 15.8	
LTHK				AML	AML	21 47 16.1	
RTZL	**Ratzakli, Kefa**	**0.46**	**6**	P	**Pg**	**21 47 20.3**	**+0.1**
RTZL				S	**Sg**	**21 47 26.7**	**+0.4**
7μm,0.6s							
PSDA	**Pessada-Kefalo**	**0.51**	**349**	P	**Pg**	**21 47 21.2**	**+0.2**
PSDA				S	**Sg**	**21 47 28.5**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.51**	**349**	P	**Pg**	**21 47 21.4**	**+0.3**
PSDA				S	**Sg**	**21 47 27.7**	**-0.1**
VLS	**Valsamata**	**0.57**	**350**	P	**Pg**	**21 47 22.1**	**-0.1**
VLS				S	**Sg**	**21 47 30.1**	**+0.3**
2μm,0.6s							
VLS	**Valsamata**	**0.57**	**350**	P	**Pg**	**21 47 22.1**	**-0.1**
VLS				S	**Sg**	**21 47 29.7**	**0.0**
VLS				AML	AML	21 47 33.9	
comp=N,3881μm,0.6s							
VLS				AML	AML	21 47 34.0	
comp=E,3337μm,0.4s							
LXRA	**Lixouri, Kepha**	**0.62**	**340**	P	**Pg**	**21 47 23.4**	**+0.1**
LXRA				AML	AML	21 47 40.0	
comp=E,10433μm,0.7s							
LXRA				AML	AML	21 47 43.2	
comp=N,13947μm,0.7s							
SMHA	**Samh**	**0.64**	**355**	P	**Pg**	**21 47 23.0**	**-0.5**
SMHA				S	**Sg**	**21 47 32.0**	**+0.1**
SMHA				AML	AML	21 47 33.0	
comp=E,10000μm,0.4s							
SMHA				AML	AML	21 47 34.0	
comp=N,10812μm,0.5s							
DMLN	**Damoulianata-K**	**0.68**	**337**	P	**Pg**	**21 47 24.5**	**+0.2**
DMLN				S	**Sb**	**21 47 34.5**	**+0.1**
comp=N,3μm,0.7s							
DMLN	**Damoulianata-K**	**0.68**	**337**	P	**Pg**	**21 47 24.6**	**+0.4**
RLS	**Riolos of Patr**	**0.74**	**53**	P	**Pg**	**21 47 25.8**	**+0.3**
RLS				S	**Sb**	**21 47 36.2**	**0.0**
comp=N,2μm,0.3s							
RLS	**Riolos of Patr**	**0.74**	**53**	P	**Pg**	**21 47 25.8**	**+0.3**
RLS				S	**Sg**	**21 47 34.7**	**-0.5**
RLS				AML	AML	21 47 38.4	
comp=E,4491μm,0.3s							
RLS				AML	AML	21 47 38.6	
comp=N,4368μm,0.3s							
AMT	**Artemida-Makis**	**0.80**	**96**	P	**Pb**	**21 47 27.4**	**+0.4**
AMT				S	**Sb**	**21 47 38.1**	**+0.4**
AMT				AML	AML	21 47 42.5	
comp=E,11001μm,0.5s							
AMT				AML	AML	21 47 44.4	
comp=N,9080μm,0.3s							
VSK1	**VASILIKIADES**	**0.80**	**352**	P	**Pg**	**21 47 26.2**	**-0.4**
FSK	**Fiskardo**	**0.85**	**352**	P	**Pg**	**21 47 26.7**	**-0.8**
FSK				S	**Sb**	**21 47 40.0**	**+0.6**
comp=N,2μm,0.8s							
FSK	**Fiskardo**	**0.85**	**352**	P	**Pg**	**21 47 26.7**	**-0.8**
DRO	**Drossia**	**0.86**	**67**	P	**Pg**	**21 47 28.0**	**+0.3**
DRO				S	**Sb**	**21 47 41.4**	**+1.8**
comp=N,3μm,0.4s							
DRO	**Drossia**	**0.86**	**67**	P	**Pb**	**21 47 28.1**	**+0.1**
DRO				S	**Sg**	**21 47 38.8**	**-0.1**
DRO				AML	AML	21 47 44.2	
comp=E,7260μm,0.4s							
DRO				AML	AML	21 47 45.6	
comp=N,4038μm,0.4s							
EVGI	**Lefkada island**	**1.01**	**357**	P	**Pg**	**21 47 29.1**	**-1.4**
ITM	**Ithomi**	**1.06**	**114**	P	**Pn**	**21 47 32.3**	**+0.4**
ITM	**Ithomi**	**1.06**	**114**	P	**Pb**	**21 47 32.0**	**+0.6**
ITM				S	**Sn**	**21 47 47.0**	**+0.3**
ITM				AML	AML	21 47 54.1	
comp=N,1303μm,0.4s							
ITM				AML	AML	21 47 57.4	
comp=E,1132μm,0.6s							
DRAG	**Dragano-Lefkad**	**1.07**	**354**	P	**Pg**	**21 47 31.1**	**-0.7**
DRAG	**Dragano-Lefkad**	**1.07**	**354**	P	**Pg**	**21 47 30.7**	**-1.0**
PYL	**PYLOS**	**1.09**	**131**	P	**Pg**	**21 47 30.7**	**-1.3**
PYL				S	**Sn**	**21 47 47.8**	**+0.4**
comp=E,915nm,0.6s							
PYL	**PYLOS**	**1.09**	**131**	P	**Pn**	**21 47 33.0**	**+0.7**
PYL				AML	AML	21 47 53.6	
comp=E,2586μm,0.8s							
PYL				AML	AML	21 47 54.6	
comp=N,1071μm,0.4s							
NYDR	**Nydri-Lefkada**	**1.10**	**359**	P	**Pg**	**21 47 31.6**	**-0.6**
LKD2	**Lefkada island**	**1.17**	**358**	P	**Pg**	**21 47 33.6**	**-0.1**
TSLK	**Tsoukalades, L**	**1.21**	**358**	P	**Pg**	**21 47 33.1**	**-1.2**
KLV	**Kalavryta, Ach**	**1.22**	**69**	P	**Pg**	**21 47 34.2**	**-0.2**
KLV				AML	AML	21 47 59.6	
comp=N,1304μm,0.5s							
KLV				AML	AML	21 47 59.9	
comp=E,606μm,0.7s							
GUR	**Goura**	**1.33**	**75**	P	**Pn**	**21 47 35.1**	**-0.6**
KALE	**Kalithea**	**1.37**	**55**	P	**Pn**	**21 47 36.2**	**0.0**
KALE				AML	AML	21 48 03.6	
comp=E,1209μm,0.7s							
KALE				AML	AML	21 48 07.0	
comp=N,1626μm,0.6s							
AKASG	**Malin Array Be**	**14.43**	**22**	Pn	**P**	**21 50 42.9**	**+0.9**
comp=N,0.6nm,0.3s,baz=212,slow=9.0,SNR=4.5							
FINES	**FINESS Array B**	**24.09**	**6**	P	**P**	**21 52 26.3**	**0.0**
comp=N,0.8nm,0.7s,baz=171,slow=9.8,SNR=4.0							
comp=N,0.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**29.69**	**220**	P	**P**	**21 53 17.8**	**+0.7**
comp=N,0.3nm,0.8s,baz=18,slow=8.6,SNR=5.2							
comp=N,0.3nm,0.8s							
MKAR	**Makanchi Array**	**45.47**	**58**	P	**P**	**21 55 28.7**	**-1.5**
comp=N,0.3nm,0.6s,baz=283,slow=8.3,SNR=2.6							
comp=N,0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**45.96**	**48**	P	**P**	**21 55 31.8**	**-2.0**
comp=N,1.0nm,0.5s,baz=286,slow=8.6,SNR=5.5							
comp=N,1.0nm,0.5s							

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*IDC **09** 21:50:55.2±2.8, 38°.91N×141°.69E, h75km±25km, mb3.3/5, mbtmp3.5/8, Error ellipse: s-maj=31.8km s-min=23.2km az=102.0*
*JMA **09** 21:50:55.5±0.1, 38°.9N±0°.2×141°.6E±0°.4, h72km, MV3.5/40, NORTHERN MIYAGI PREF*
JMA Felt II J1 at NORTHERN MIYAGI PREF .
ISC 09 21:50:54.9±1.0, 38°.90N±0°.05×141°.71E±0°.08, h74km±6km, n27, σ0s53/30, mb3.7/5, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.19**	**351**	P	**Pn**	**21 51 06.3**	**+0.4**
OFUJ				S	**Sn**	**21 51 14.2**	**+0.1**
JKMT	**Kesennumamotoy**	**0.20**	**245**	*i* P	**Pn**	**21 51 06.3**	**+0.3**
JKMT				S	**Sn**	**21 51 14.0**	**-0.1**
JMK	**Ichinoseki**	**0.38**	**278**	P	**Pn**	**21 51 06.9**	**-0.2**
JMK				S	**Sn**	**21 51 15.3**	**-0.7**
JIO	**Ouri**	**0.52**	**212**	*i* P	**Pn**	**21 51 08.4**	**+0.1**
JIO				S	**Sn**	**21 51 17.8**	**-0.4**
JOM	**Ohasama**	**0.66**	**331**	⇓P	**Pn**	**21 51 09.8**	**+0.1**
JOM				⇓S	**Sn**	**21 51 20.3**	**-0.3**
JRG	**Rokugo**	**0.97**	**301**	⇓P	**Pn**	**21 51 13.2**	**-0.1**
JRG				⇓S	**Sn**	**21 51 26.4**	**-0.5**
JOU	**Okura**	**0.97**	**237**	P	**Pn**	**21 51 13.3**	**0.0**
JOU				S	**Sn**	**21 51 26.5**	**-0.5**
JYK	**Kaneyama**	**1.05**	**272**	*i* P	**Pn**	**21 51 14.2**	**-0.1**
JYK				*e*S	**Sn**	**21 51 28.1**	**-0.5**
JMM	**Marumori**	**1.25**	**215**	*i* P	**Pn**	**21 51 16.5**	**-0.3**
JMM				S	**Sn**	**21 51 32.5**	**-0.7**
JYS	**Shiratake**	**1.45**	**243**	⇓*i* P	**Pn**	**21 51 19.7**	**+0.3**
JANG	**Nango**	**1.48**	**354**	P	**Pn**	**21 51 19.9**	**+0.1**
JAH	**Hinai**	**1.53**	**328**	P	**Pn**	**21 51 21.0**	**+0.6**
JYA	**Atsumi**	**1.59**	**260**	⇓*i* P	**Pn**	**21 51 21.2**	**+0.1**
MJAR	**Matsushiro Arr**	**3.63**	**231**	P	**Pn**	**21 51 49.8**	**+0.9**
1.9nm,0.6s,baz=26,slow=12,SNR=6.5							
ASAJ	**Asahikawa**	**5.26**	**7**	P	**Pn**	**21 52 09.5**	**-1.4**
6.8nm,0.9s,baz=214,slow=16,SNR=1.5							
USRK	**Ussuriysk Ar.**	**9.00**	**309**	P	**Pn**	**21 53 02.6**	**+0.5**
1.5nm,0.5s,baz=112,slow=14,SNR=8.3							
H11N2	**WAKE ISLAND Hy 28.95**	**124**		T	T	22 27 19.7	
baz=318,slow=76,SNR=60							
H11N1	**WAKE ISLAND Hy 28.96**	**124**		T	T	22 27 20.4	
baz=318,slow=76,SNR=67							
H11N3	**WAKE ISLAND Hy 28.97**	**124**		T	T	22 27 21.1	
baz=318,slow=76,SNR=55							
H11S1	**WAKE ISLAND Hy 29.72**	**126**		T	T	22 28 15.4	
baz=318,slow=76,SNR=26							
H11S3	**WAKE ISLAND Hy 29.72**	**126**		T	T	22 28 09.6	
baz=318,slow=76,SNR=35							
H11S2	**WAKE ISLAND Hy 29.74**	**126**		T	T	22 28 13.7	
baz=318,slow=76,SNR=31							
ZALV	**Zalesovo Beam**	**40.85**	**311**	P	**P**	**21 58 29.4**	**+0.2**
0.5nm,0.4s,baz=103,slow=8.9,SNR=2.5							
0.5nm,0.4s							
MKAR	**Makanchi Array**	**43.35**	**300**	P	**P**	**21 58 49.5**	**-0.2**
0.3nm,0.5s,baz=80,slow=9.1,SNR=6.6							
0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**45.06**	**307**	P	**P**	**21 59 02.9**	**-0.3**
0.5nm,0.3s,baz=83,slow=9.0,SNR=9.3							
0.5nm,0.3s							
ILAR	**Eielson Array**	**47.81**	**33**	P	**P**	**21 59 25.6**	**+1.1**
0.3nm,0.6s,baz=278,slow=6.3,SNR=2.7							
0.3nm,0.6s							
WRA	**Warramunga Arr**	**58.93**	**188**	P	**P**	**22 00 46.0**	**-0.4**
0.4nm,0.5s,baz=6.1,slow=7.2,SNR=3.0							
0.4nm,0.5s							

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*IDC **09** 22:03:19.4±1.6, 38°.29N×141°.96E, h0km, mb3.8/9, mbtmp3.7/12, ML2.7/3, MS2.5/2, Error ellipse: s-maj=39.6km s-min=22.8km az=93.0*
*JMA **09** 22:03:26.9±0.1, 38°.3N±0°.3×141°.9E±0°.6, h46km, MV3.6/40, E OFF MIYAGI PREF*
*NIED **09** 22:03:26.9, 38°.33N×141°.87E, h46km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.19; $M_{\theta\theta}$=0.89; $M_{\phi\phi}$=-0.70; $M_{r\theta}$=-1.79; $M_{\theta\phi}$=-0.04; $M_{\phi r}$=1.28; Fault plane solution: M_0=2.34000×10^{14} NP1: ϕ_s=127.00000°, δ=87.00000°, λ=-71.00000°. NP2: ϕ_s=226.00000°, δ=19.00000°, λ=-170.00000°.*
ISC 09 22:03:25.9±1.4, 38°.34N±0°.05×141°.94E±0°.09, h47km±10km, n32, σ1s53/38, mb3.8/9, 15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.38**	**265**	⇓*i* P	**Pn**	**22 03 35.7**	**+0.2**
JIKH				⇓S	**Sn**	**22 03 41.9**	**-0.4**
JIO	**Ouri**	**0.48**	**283**	⇓P	**Pn**	**22 03 36.9**	**+0.3**
JIO				⇓S	**Sn**	**22 03 43.9**	**-0.4**
JKMT	**Kesennumamotoy**	**0.59**	**322**	⇓*i* P	**Pn**	**22 03 38.8**	**+0.7**
JKMT				⇓S	**Sn**	**22 03 47.0**	**+0.1**
OFUJ	**Ofunato**	**0.77**	**344**	⇓*i* P	**Pn**	**22 03 41.2**	**+0.8**
OFUJ				⇓S	**Sn**	**22 03 51.3**	**+0.4**
JMK	**Ichinoseki**	**0.83**	**317**	⇓*i* P	**Pn**	**22 03 42.0**	**+0.8**
JMK				⇓S	**Sn**	**22 03 52.6**	**+0.2**
JOU	**Okura**	**1.00**	**272**	*i* P	**Pn**	**22 03 43.9**	**+0.3**
JOU				S	**Sn**	**22 03 56.7**	**0.0**
JMM	**Marumori**	**1.02**	**243**	*i* P	**Pn**	**22 03 43.4**	**-0.4**
JMM				S	**Sn**	**22 03 54.7**	**-2.3**
JOM	**Ohasama**	**1.24**	**336**	⇓*i* P	**Pn**	**22 03 47.9**	**+1.2**
JFK	**Kawauchi**	**1.29**	**221**	P	**Pn**	**22 03 47.3**	**-0.2**
JFK				S	**Sn**	**22 04 02.5**	**-1.2**
JYK	**Kaneyama**	**1.36**	**295**	⇓*i* P	**Pn**	**22 03 49.1**	**+0.6**
JYK				⇓S	**Sn**	**22 04 01.2**	**-4.2**
JRG	**Rokugo**	**1.47**	**316**	P	**Pn**	**22 03 51.1**	**+1.3**
JYS	**Shiratake**	**1.48**	**266**	⇓*i* P	**Pn**	**22 03 50.5**	**+0.4**
JYS				⇓S	**Sn**	**22 04 08.5**	**+0.2**
JOTO	**OTAMA OYAMA**	**1.49**	**239**	P	**Pn**	**22 03 50.9**	**+0.6**
JOTO				S	**Sn**	**22 04 08.7**	**+0.1**
MJAR	**Matsushiro Arr**	**3.47**	**240**	Pn	**Pn**	**22 04 16.1**	**-1.3**
0.1nm,0.3s,baz=64,slow=14,SNR=2.1							
MJAR				Sn	**Sn**	**22 05 03.6**	**+6.3**
0.2nm,0.3s,baz=202,slow=42,SNR=2.4							
MJAR				LR	LR	22 05 54.4	
comp=Z,78nm,18.4s,baz=103,slow=45							
2.0nm,0.5s							
ASAJ	**Asahikawa**	**5.79**	**5**	Pn	**Pn**	**22 04 48.0**	**-1.2**
0.3nm,0.3s,baz=159,slow=8.6,SNR=1.4							
ASAJ				Sn	**Sn**	**22 05 54.5**	**+0.3**
0.2nm,0.3s,baz=283,slow=18,SNR=1.3							
5.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**9.50**	**311**	Pn	**Pn**	**22 05 39.7**	**-0.3**
0.2nm,0.3s,baz=117,slow=18,SNR=2.0							
0.6nm,0.3s							
KSRS	**Korea Array**	**11.12**	**270**	LR	LR	22 09 23.4	
comp=Z,18nm,20.4s,baz=75,slow=33							
H11N2	**WAKE ISLAND Hy 28.49**	**124**		T	T	22 39 29.9	
baz=316,slow=76,SNR=27							
H11N1	**WAKE ISLAND Hy 28.50**	**124**		T	T	22 39 28.4	
baz=316,slow=76,SNR=38							
H11N3	**WAKE ISLAND Hy 28.51**	**124**		T	T	22 39 29.1	
baz=316,slow=76,SNR=28							
H11S1	**WAKE ISLAND Hy 29.25**	**126**		T	T	22 40 30.4	
baz=318,slow=76,SNR=40							
H11S3	**WAKE ISLAND Hy 29.25**	**126**		T	T	22 40 29.8	
baz=318,slow=76,SNR=53							
H11S2	**WAKE ISLAND Hy 29.27**	**126**		T	T	22 40 30.1	
baz=318,slow=76,SNR=32							
ZALV	**Zalesovo Beam**	**41.35**	**311**	P	**P**	**22 11 07.1**	**+0.1**
0.6nm,0.5s,baz=103,slow=8.0,SNR=2.9							
0.6nm,0.5s							
CMAR	**Chiang Mai Arr**	**42.24**	**254**	P	**P**	**22 11 12.6**	**-2.0**
1.6nm,0.3s,baz=12,slow=14,SNR=7.7							
1.6nm,0.3s							
MKAR	**Makanchi Array**	**43.79**	**301**	P	**P**	**22 11 27.1**	**+0.3**
0.6nm,0.8s,baz=88,slow=11,SNR=5.6							
0.6nm,0.8s							
KURBB	**Kurchatov Arra**	**45.54**	**307**	P	**P**	**22 11 41.2**	**+0.5**
2.0nm,0.7s,baz=82,slow=8.0,SNR=16							
2.0nm,0.7s							
BVAR	**Borovoye Array**	**50.01**	**312**	P	**P**	**22 12 15.6**	**+0.3**
0.2nm,0.5s,baz=54,slow=7.3,SNR=2.4							
0.2nm,0.5s							
WRA	**Warramunga Arr**	**58.41**	**188**	P	**P**	**22 13 17.0**	**+0.3**
0.3nm,0.5s,baz=6.7,slow=7.0,SNR=5.7							
0.3nm,0.5s							
FINES	**FINESS Array B**	**67.85**	**332**	P	**P**	**22 14 18.6**	**-0.2**
0.9nm,0.7s,baz=35,slow=15,SNR=2.1							
0.9nm,0.7s							
HFS	**Hagfors**	**73.07**	**336**	P	**P**	**22 14 51.0**	**+0.4**
0.8nm,0.6s,baz=57,slow=5.5,SNR=6.1							
0.8nm,0.6s							
AKASG	**Malin Array Be**	**73.52**	**322**	P	**P**	**22 14 54.3**	**+0.9**
0.7nm,0.6s,baz=41,slow=6.9,SNR=4.9							
0.7nm,0.6s							

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*IDC **09** 22:06:57.8±1.4, 37°.55N×20°.51E, h0km, mb3.6/8, mbtmp3.6/9, ML0.9/1, MS2.8/1, Error ellipse: s-maj=28.3km s-min=24.0km az=73.0*
ISC 09 22:06:59.8±1.1, 37°.42N±0°.09×20°.3E±0°.1, h15km, n17, σ1s58/17, mb3.4/8, 2C-5D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**4.26**	**119**	Pn	**Pn**	**22 08 04.4**	**+0.2**
0.3nm,0.3s,baz=277,slow=8.1,SNR=1.7							
IDI				Sn	**Sn**	**22 08 55.2**	**+1.6**
1.1nm,0.3s,baz=30,slow=23,SNR=2.0							
8.6nm,1.0s							
BOVS	**Bovan**	**6.30**	**9**	⇑P	**Pn**	**22 08 29.4**	**-2.7**
VLAD	**Vladila**	**7.26**	**24**	⇑P	**Pg**	**22 09 21.0**	**+2.2**
VOIR		**8.76**	**22**	⇓P	**Pn**	**22 09 05.7**	**-0.2**
MLR	**Muntele Rosu**	**9.10**	**26**	⇓P	**Pn**	**22 09 11.8**	**+1.1**
TURR	**Turia**	**9.62**	**24**	⇓P	**Pn**	**22 09 18.5**	**+0.8**
PLOR	**Plostina**	**9.66**	**27**	⇓P	**Pn**	**22 09 18.6**	**+0.3**
VRI	**Vrincioaia**	**9.70**	**28**	⇓P	**Pn**	**22 09 19.7**	**+0.9**
AKASG	**Malin Array Be**	**14.72**	**23**	LR	LR	22 16 10.5	
comp=Z,43nm,21.8s,baz=320,slow=38							
HFS	**Hagfors**	**23.12**	**352**	P	**P**	**22 12 05.0**	**0.0**
1.1nm,0.7s,baz=172,slow=12,SNR=1.3							
1.1nm,0.7s							
FINES	**FINESS Array B**	**24.32**	**7**	P	**P**	**22 12 15.1**	**-1.4**
1.0nm,0.5s,baz=173,slow=9.5,SNR=11							
1.0nm,0.5s							
NOA	**NORSAR Array B**	**24.33**	**349**	P	**P**	**22 12 16.4**	**-0.3**
0.6nm,0.8s,baz=160,slow=10,SNR=2.0							
0.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**29.34**	**219**	P	**P**	**22 13 03.8**	**+1.7**
0.5nm,0.8s,baz=51,slow=6.2,SNR=1.7							
0.5nm,0.8s							
KURBB	**Kurchatov Arra**	**42.81**	**53**	P	**P**	**22 14 54.1**	**-2.7**
0.4nm,0.8s,baz=277,slow=8.6,SNR=3.1							
0.4nm,0.8s							
MKAR	**Makanchi Array**	**45.84**	**58**	P	**P**	**22 15 19.6**	**-1.5**
0.2nm,0.4s,baz=268,slow=7.0,SNR=5.2							
0.2nm,0.4s							
ZALV	**Zalesovo Beam**	**46.32**	**48**	P	**P**	**22 15 23.1**	**-1.7**
0.8nm,0.5s,baz=276,slow=7.4,SNR=5.9							
0.8nm,0.5s							
NRIK	**Noril'sk**	**47.54**	**26**	P	**P**	**22 15 33.7**	**-0.4**
1.2nm,0.3s,baz=232,slow=12,SNR=8.9							
1.2nm,0.3s							

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*IDC **09** 22:09:34.7±3.5, 35°.52S×179°.56W, h0km, mb3.8/2, mbtmp3.8/3, ML3.4/1, MS3.2/1, Error ellipse: s-maj=80.3km s-min=37.4km az=124.0*
*WEL **09** 22:09:39.3±1.1, 36°.S±12°.×17°.9W±1°.5, h120km±33km, M4.1/8, ML4.3/11, MLv4.1/8, Error ellipse: s-maj=22.6km s-min=11.3km az=124.7, confirmed*
ISC 09 22:09:38.8±2.0, 35°.8S±0°.1×179°.2W±0°.2, h46km, n25, σ0s78/36, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**3.06**	**220**	P	**Pn**	**22 10 24.7**	**0.0**
PUZ				S	**Sn**	**22 11 00.7**	**+0.8**
HAZ	**Te Kaha**	**3.11**	**230**	P	**Pn**	**22 10 25.3**	**-0.1**
HAZ				S	**Sn**	**22 11 02.7**	**+1.4**
TWGZ	**Tauwhareparae**	**3.28**	**222**	P	**Pn**	**22 10 27.5**	**-0.2**
TWGZ				S	**Sn**	**22 11 07.4**	**+1.9**
RUGZ	**Raukumara Rang**	**3.31**	**228**	P	**Pn**	**22 10 28.7**	**+0.5**
CNGZ	**Carnagh Statio**	**3.40**	**216**	P	**Pn**	**22 10 30.3**	**+1.0**
MWZ	**Matawai**	**3.65**	**224**	P	**Pn**	**22 10 32.6**	**-0.1**
MWZ				S	**Sn**	**22 11 13.1**	**-1.4**
RIGZ	**Rimuhau**	**3.79**	**218**	P	**Pn**	**22 10 34.9**	**+0.2**
RIGZ				S	**Sn**	**22 11 17.1**	**-1.0**
URZ	**Urewera**	**3.84**	**229**	Pn	**Pn**	**22 10 35.0**	**-0.3**
2.9nm,0.3s,baz=352,slow=4.7,SNR=15							
URZ				Sn	**Sn**	**22 11 19.7**	**+0.5**
4.5nm,0.3s,baz=4.7,slow=7.7,SNR=6.2							
21nm,0.6s							
URZ	**Urewera**	**3.84**	**229**	P	**Pn**	**22 10 35.6**	**+0.2**
SNGZ	**Shannon Statio**	**4.07**	**221**	P	**Pn**	**22 10 37.1**	**-1.4**
RAHZ	**Arahi**	**4.30**	**222**	P

180nm,0.1s
SRS Serrai 0.69 191 *e*Pg Pg 22 14 06.0 -0.1
SRS *e*Sg **Sg** 22 14 15.1 -0.1
SRS Serrai 0.69 191 *i* Pg **Pg 22 14 06.1 -0.1**
SRS *i* Sg **Sb** 22 14 16.3 0.0
PLNA Plana 0.72 340 *i* Pg **Pg 22 14 07.0 +0.1**
PLNA *i* Sg **Sg 22 14 16.5 +0.1**
PGB Panagyurishte 0.78 23 *i* Pg **Pb 22 14 08.2 -0.2**
PGB *i* Sg **Sb 22 14 19.2 +0.2**
PLD Plovdiv 0.81 64 *i* Pg **Pb 22 14 08.5 -0.5**
PLD *i* Sg **Sg 22 14 19.3 0.0**
PLD Plovdiv 0.81 64 *e*Pg **Pb 22 14 08.4 -0.5**
PLD *e*Sg **Sg 22 14 19.2 0.0**
KNT Kendrikon 0.91 226 P **Pg 22 14 09.5 -0.8**
KNT S **Sg 22 14 21.0 -1.1**
185nm,0.1s
KNT Kendrikon 0.91 226 *i* Pg **Pg 22 14 09.7 -0.6**
KNT *i* Sg **Sg 22 14 21.1 -1.1**
VTS Vitosha 0.91 335 *i* Pg **Pg 22 14 09.8 -0.6**
VTS *i* Sg **Sg 22 14 21.4 -0.9**
VTS Vitosha 0.91 335 *e*Pg **Pg 22 14 09.8 -0.6**
VTS *e*Sg **Sg 22 14 21.4 -0.9**
KAVA Kavala 0.98 144 P **Pg 22 14 11.3 -0.3**
KAVA S **Sb 22 14 24.5 -0.1**
542nm,0.1s
KOKK Kokkinochori, 0.99 170 P **Pg 22 14 11.3 -0.6**
KOKK S **Sg 22 14 24.7 -0.1**
90nm,0.3s
VAY Valandovo 1.01 242 *e*Pg **Pg 22 14 12.0 -0.3**
VAY *e*Sg **Sg 22 14 24.0 -1.5**
VAY Valandovo 1.01 242 *i* Pg **Pb 22 14 12.6 +0.3**
VAY *i* Sg **Sb 22 14 26.8 +1.2**
VAY *e*Lg Lg 22 14 28.0
comp=E,38nm,0.6s
SOH Sokhos 1.02 198 P **Pg 22 14 11.9 -0.6**
SOH S **Sg 22 14 24.7 -1.0**
comp=E,88nm,0.3s
SOH Sokhos 1.02 198 *i* Pg **Pg 22 14 11.8 -0.7**
SOH *i* Sg **Sb 22 14 26.0 +0.1**
BOSS Bosilegrad 1.18 307 *e*Pg **Pg 22 14 15.2 -0.4**
BOSS *e*Sg **Sg 22 14 30.2 -0.8**
KDZ Kurdzhali 1.19 97 *i* Pg **Pb 22 14 15.4 0.0**
HORT Hortiatis 1.30 203 P **Pn 22 14 17.0 +0.1**
DIM Dimitrovgrad 1.38 79 *i* Pg **Pg 22 14 19.0 -0.3**
THAS Thassos island 1.39 148 P **Pn 22 14 18.4 +0.3**
THAS S **Sb 22 14 36.7 +0.2**
comp=E,135nm,0.5s
OUR Ouranopolis 1.47 173 P **Pn 22 14 19.0 -0.2**
OUR S **Sn 22 14 38.5 +0.2**
comp=E,142nm,0.3s
MPEP Malo Peshtene 1.56 359 *i* Pg **Pg 22 14 22.8 0.0**
ZAPS Zavoj 1.70 331 *e*Pg **Pb 22 14 23.5 -0.5**
ZAPS *e*Sg **Sg 22 14 47.0 -0.4**
BARS Barje 1.77 306 *e*Pn **Pn 22 14 24.1 +0.8**
BARS *e*Sn **Sn 22 14 46.1 +0.3**
VALD Valchedram 1.91 353 *i* Pg **Pg 22 14 29.3 -0.1**
ALN Alexandroupoli 1.94 117 P **Pn 22 14 26.9 +1.3**
ALN S **Sg 22 14 53.5 -1.7**
comp=E,25nm,0.5s
ZAGS Zajecar 2.31 331 *e*Pn **Pn 22 14 30.4 -0.3**
BOVS Bovan 2.38 321 *e*Pn **Pn 22 14 31.8 0.0**
BOVS *e*Sn **Sn 22 15 02.0 +1.1**
SELS Selova 2.42 307 *e*Pn **Pn 22 14 33.3 +1.0**
SELS *e*Sn **Sn 22 15 02.8 +1.0**
GRUS Gruza 3.06 314 *e*Pn **Pn 22 14 41.1 0.0**

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*IDC **09** 22:15:36.5±3.3, 32°.16N×69°.99E, h0km, mb3.9/5, mbtmp3.9/8, ML3.8/3, MS3.0/4, Error ellipse: s-maj=72.8km s-min=27.1km az=133.0*

ISC 09 22:15:41.3±2.5, 32°.2N±0°.2×69°.9E±0°.3, h29km, n16, σ1§51/15, mb3.9/3, MS3.2/3, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**10.36**	**16**	P	**Pn**	**22 18 09.4**	**+1.2**
	SNR=43						
EKS2	**Erkin-Say**	**10.88**	**15**	P	**Pn**	**22 18 17.1**	**+2.0**
	SNR=11						
AAK	**Ala-Archa**	**11.03**	**18**	P	**Pn**	**22 18 18.4**	**+1.2**
	SNR=14						
AAK	**Ala-Archa**	**11.03**	**18**	Pn	**Pn**	**22 18 18.5**	**+1.3**
	2.8nm,0.3s,baz=170,slow=5.1,SNR=33						
AAK				Sn	**Sn**	**22 20 17.9**	**-1.7**
	0.3nm,0.3s,baz=145,slow=23,SNR=1.9						
	7.4nm,0.4s						
KBK	**Karagaybulak**	**11.17**	**19**	P	**Pn**	**22 18 20.8**	**+1.6**
	SNR=9.0						
CHMS	**Chumysh**	**11.43**	**18**	P	**Pn**	**22 18 23.6**	**+0.9**
	SNR=7.4						
TKM2	**Tokmak 2**	**11.60**	**21**	P	**Pn**	**22 18 27.9**	**+2.7**
	SNR=18						
MKAR	**Makanchi Array**	**17.39**	**29**	P	**Pn**	**22 19 40.5**	**-1.2**
	0.2nm,0.3s,baz=212,slow=11,SNR=16						
MKAR				LR	LR	22 27 01.9	
	comp=Z,36nm,20.4s,baz=218,slow=39						
	2.2nm,0.8s						
KURBB	**Kurchatov Arra**	**19.48**	**17**	P	**P**	**22 20 04.3**	**-1.4**
	0.1nm,0.3s,baz=204,slow=12,SNR=11						
	1.0nm,0.7s						
AKTO	**Aktyubinsk**	**20.25**	**338**	P	**P**	**22 20 13.3**	**-0.8**
	3.8nm,0.7s,baz=152,slow=9.4,SNR=9.5						
	3.8nm,0.7s						
BVAR	**Borovoye Array**	**20.81**	**1**	P	**P**	**22 20 20.2**	**0.0**
	3.2nm,0.6s,baz=168,slow=9.7,SNR=21						
	3.2nm,0.6s						
ZALV	**Zalesovo Beam**	**24.21**	**22**	P	**P**	**22 20 55.0**	**-0.2**
	1.3nm,0.3s,baz=221,slow=9.2,SNR=9.0						
ZALV				LR	LR	22 30 00.4	
	comp=Z,10nm,20.7s,baz=57,slow=36						
	1.3nm,0.3s						
SONM	**Songino Array**	**31.65**	**50**	LR	LR	22 36 41.7	
	comp=Z,46nm,19.6s,baz=48,slow=40						
ARCES	**ARCESS Array B**	**44.81**	**340**	P	**P**	**22 23 52.8**	**+0.6**
	2.4nm,0.9s,baz=133,slow=9.2,SNR=7.5						
	2.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**64.78**	**270**	P	**P**	**22 26 17.2**	**-0.4**
	0.8nm,1.1s,baz=46,slow=7.8,SNR=2.5						
	0.8nm,1.1s						
BBB	**Bella Bella**	**94.50**	**11**	LR	LR	23 17 55.5	
	comp=Z,11nm,18.4s,baz=32,slow=40						

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*IDC **09** 22:19:59.0±1.2, 37°.58N×20°.70E, h0km, mb3.8/11, mbtmp3.7/14, ML3.4/3, Error ellipse: s-maj=27.4km s-min=19.3km az=162.0*

*NEIC **09** 22:19:59.4±1.6, 37°.32N±0°.07×20°.42E±0°.07, h10km±2km, mb4.2/8, Error ellipse: s-maj=11.2km s-min=9.2km az=197.0*

*THE **09** 22:20:00.9, 37°.55N×20°.39E, h3km±3km, ML3.7/8, Error ellipse: s-maj=3.8km s-min=0.6km az=41.0*

*ATH **09** 22:20:01.4, 37°.56N×20°.42E, h10km±1km, ML3.6/18, Error ellipse: s-maj=2.6km s-min=0.9km az=37.0*

ISC 09 22:20:01.1±1.1, 37°.57N±0°.03×20°.41E±0°.03, h17km±6km, n120, σ1§84/141, mb3.9/15, 11C-3D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.34**	**75**	P	**Pg**	**22 20 07.9**	**-0.3**
KRI1				S	**Sg**	**22 20 12.9**	**-0.2**
	40μm,0.5s						
LTHK	**Lithakia**	**0.37**	**68**	P	**Pg**	**22 20 08.4**	**-0.4**
LTHK				S	**Sg**	**22 20 14.1**	**+0.2**
	34μm,0.6s						
LTHK	**Lithakia**	**0.37**	**68**	P	**Pg**	**22 20 08.3**	**-0.4**
LTHK				S	**Sg**	**22 20 13.7**	**-0.2**
LTHK				AML	AML	22 20 14.3	
	comp=E,82170μm,0.5s						
LTHK				AML	AML	22 20 14.4	
	comp=N,41933μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.56**	**15**	P	**Pg**	**22 20 12.2**	**0.0**
PSDA				S	**Sb**	**22 20 20.7**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.56**	**15**	P	**Pg**	**22 20 12.2**	**0.0**
PSDA				S	**Sg**	**22 20 20.0**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.58**	**30**	P	**Pg**	**22 20 12.6**	**0.0**
RTZL				S	**Sb**	**22 20 22.0**	**+1.2**
VLS	**Valsamata**	**0.62**	**14**	P	**Pg**	**22 20 13.1**	**-0.3**
VLS				S	**Sb**	**22 20 22.4**	**+0.4**
	comp=N,5μm,0.3s						
VLS	**Valsamata**	**0.62**	**14**	P	**Pg**	**22 20 12.8**	**-0.6**
VLS				S	**Sg**	**22 20 21.8**	**+0.1**
VLS				AML	AML	22 20 23.6	
	comp=N,10535μm,0.2s						
VLS				AML	AML	22 20 27.6	
	comp=E,9100μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.63**	**2**	P	**Pb**	**22 20 13.9**	**+0.3**
LXRA				S	**Sb**	**22 20 23.2**	**+1.0**
LXRA				AML	AML	22 20 31.4	
	comp=N,21975μm,0.4s						
LXRA				AML	AML	22 20 34.6	
	comp=E,23235μm,0.3s						
DMLN	**Damoulianata-K**	**0.67**	**358**	P	**Pg**	**22 20 14.4**	**+0.2**
DMLN				S	**Sb**	**22 20 24.5**	**+1.2**
	comp=E,12μm,0.5s						
DMLN	**Damoulianata-K**	**0.67**	**358**	P	**Pb**	**22 20 14.6**	**+0.3**
DMLN				S	**Sb**	**22 20 23.9**	**+0.7**
SMHA	**Samh**	**0.70**	**16**	P	**Pg**	**22 20 14.4**	**-0.5**
SMHA				S	**Sg**	**22 20 24.5**	**+0.2**
VSK1	**VASILIKIADES**	**0.84**	**9**	P	**Pg**	**22 20 17.4**	**-0.2**
VSK1				S	**Sb**	**22 20 29.6**	**+1.2**
	comp=E,6μm,0.8s						
FSK	**Fiskardo**	**0.89**	**8**	P	**Pg**	**22 20 18.4**	**-0.1**
FSK				S	**Sb**	**22 20 31.8**	**+2.0**
	comp=E,4μm,1.1s						
FSK	**Fiskardo**	**0.89**	**8**	P	**Pg**	**22 20 18.2**	**-0.3**
FSK				S	**Sg**	**22 20 30.5**	**+0.2**
FSK				AML	AML	22 20 37.1	
	comp=N,7324μm,1.0s						
FSK				AML	AML	22 20 38.0	
	comp=E,6694μm,0.3s						
RLS	**Riolos of Patr**	**0.97**	**60**	P	**Pg**	**22 20 19.0**	**-0.9**
RLS	**Riolos of Patr**	**0.97**	**60**	P	**Pg**	**22 20 19.0**	**-0.9**
RLS				S	**Sb**	**22 20 33.1**	**+1.1**
AMT	**Artemida-Makis**	**1.04**	**92**	P	**Pg**	**22 20 20.7**	**-0.4**
AMT				S	**Sn**	**22 20 35.2**	**+0.2**
AMT				AML	AML	22 20 43.8	
	comp=N,7915μm,0.5s						
AMT				AML	AML	22 20 44.8	
	comp=E,15306μm,0.9s						
EVGI	**Lefkada island**	**1.07**	**11**	P	**Pg**	**22 20 21.2**	**-0.5**
EVGI				S	**Sn**	**22 20 36.7**	**+1.0**
	comp=E,3μm,0.6s						
EVGI	**Lefkada island**	**1.07**	**11**	P	**Pg**	**22 20 21.1**	**-0.7**
DRO	**Drossia**	**1.10**	**69**	P	**Pg**	**22 20 21.6**	**-0.8**
DRO				S	**Sg**	**22 20 36.2**	**-0.6**
DRO				AML	AML	22 20 43.4	
	comp=E,10866μm,0.4s						
DRO				AML	AML	22 20 43.9	
	comp=N,9041μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.12**	**7**	P	**Pb**	**22 20 22.2**	**+0.2**
DRAG	**Dragano-Lefkad**	**1.12**	**7**	P	**Pb**	**22 20 21.9**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.16**	**11**	P	**Pb**	**22 20 22.9**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.16**	**11**	P	**Pb**	**22 20 22.0**	**-0.7**
LKD2	**Lefkada island**	**1.23**	**9**	P	**Pn**	**22 20 24.1**	**+0.6**
LKD2				AML	AML	22 20 49.5	
	comp=N,3690μm,0.7s						
LKD2				AML	AML	22 20 50.4	
	comp=E,6356μm,1.1s						
PYL	**PYLOS**	**1.26**	**122**	P	**Pn**	**22 20 23.7**	**-0.3**
PYL				S	**Sn**	**22 20 43.1**	**+2.5**
	comp=E,2μm,0.5s						
PYL	**PYLOS**	**1.26**	**122**	P	**Pn**	**22 20 23.9**	**-0.1**
PYL				AML	AML	22 20 46.6	
	comp=N,2912μm,0.4s						
PYL				AML	AML	22 20 46.8	
	comp=E,3253μm,0.7s						
TSLK	**Tsoukalades, L**	**1.27**	**9**	P	**Pn**	**22 20 24.5**	**+0.4**
TSLK				AML	AML	22 20 49.7	
	comp=E,6666μm,0.9s						
TSLK				AML	AML	22 20 51.4	
	comp=N,5769μm,1.0s						
ITM	**Ithomi**	**1.27**	**107**	P	**Pb**	**22 20 24.7**	**+0.1**
ITM	**Ithomi**	**1.27**	**107**	P	**Pb**	**22 20 24.8**	**+0.1**
ITM				S	**Sb**	**22 20 39.6**	**-1.2**
EFP	**Efpalio**	**1.46**	**54**	P	**Pb**	**22 20 28.0**	**+0.1**
EFP				AML	AML	22 20 58.5	
	comp=E,2908μm,1.2s						
EFP				AML	AML	22 21 00.6	
	comp=N,2797μm,0.6s						
KLV	**Kalavryta, Ach**	**1.46**	**71**	P	**Pn**	**22 20 27.8**	**+1.0**
KLV				AML	AML	22 20 57.5	
	comp=N,1239μm,0.9s						
KLV				AML	AML	22 21 03.6	
	comp=E,1632μm,0.9s						
ANX	**Ano Chora**	**1.57**	**49**	P	**Pn**	**22 20 29.2**	**+0.9**
ANX				AML	AML	22 20 59.4	
	comp=E,7274μm,0.7s						
ANX				AML	AML	22 21 02.8	
	comp=N,5402μm,0.7s						
GUR	**Goura**	**1.58**	**76**	P	**Pn**	**22 20 29.6**	**+1.1**
GUR				AML	AML	22 21 04.1	
	comp=E,2191μm,0.9s						
GUR				AML	AML	22 21 04.6	
	comp=N,2707μm,0.6s						
KALE	**Kalithea**	**1.60**	**59**	P	**Pb**	**22 20 30.1**	**-0.1**
KALE				AML	AML	22 21 01.9	
	comp=E,2654μm,0.7s						
KALE				AML	AML	22 21 02.6	
	comp=N,3666μm,0.6s						
EVR	**Evrytania**	**1.74**	**39**	P	**Pg**	**22 20 34.0**	**-0.6**
EVR				AML	AML	22 21 07.4	
	comp=E,1511μm,1.1s						
EVR				AML	AML	22 21 15.5	
	comp=N,1715μm,1.2s						
IGT	**Igoumenitsa**	**1.96**	**358**	P	**Pn**	**22 20 35.6**	**+2.1**
IGT				AML	AML	22 21 15.1	
	comp=E,1042μm,0.8s						
IGT				AML	AML	22 21 15.2	
	comp=N,728μm,0.7s						
MAKR	**Makrakomi, Fth**	**1.98**	**43**	P	**Pb**	**22 20 37.4**	**+0.7**
MAKR				AML	AML	22 21 15.6	
	comp=N,3437μm,0.8s						
MAKR				AML	AML	22 21 17.8	
	comp=E,2935μm,0.6s						
LOUT	**Loutraki**	**2.08**	**78**	P	**Pn**	**22 20 36.5**	**+1.3**
AGG	**Agios Georgios**	**2.10**	**46**		**Pn**	**22 20 36.9**	**+1.4**
KEK	**Kerkira**	**2.19**	**348**	Pn	**Pb**	**22 20 39.5**	**-0.7**
SCTE	**Santa Cesarea**	**2.92**	**329**		**Pn**	**22 20 48.8**	**+2.0**
LIT	**Litokhoron**	**3.00**	**32**		**Pn**	**22 20 49.5**	**+1.5**
TIP	**Timpagrande**	**3.28**	**300**	Pn	**Pn**	**22 20 52.9**	**+1.0**
TIP	**Timpagrande**	**3.28**	**300**	⇑P	**Pn**	**22 20 48.6**	**-3.3**
FNA	**Florina**	**3.29**	**13**		**Pn**	**22 20 54.6**	**+2.6**
OHR	**Ohrid**	**3.55**	**5**	*i* Pn	**Pb**	**22 21 02.0**	**-1.4**
CEL	**Celeste**	**3.63**	**282**		**Pn**	**22 20 58.0**	**+1.4**
CEL				Sn	**Sn**	**22 21 39.8**	**+0.7**
TIR	**Tirane**	**3.79**	**354**		**Pn**	**22 21 01.1**	**+2.4**
TIR	**Tirane**	**3.79**	**354**	⇑P	Pn	22 20 52.2	-6.6
IDI	**Anoyia**	**4.28**	**121**	Pn	**Pn**	**22 21 02.1**	**-3.4**
CUC	**Castrocucco**	**4.32**	**305**	Pn	**Pn**	**22 21 08.1**	**+1.9**
PUK	**Puka**	**4.48**	**355**	Pn	**Pn**	**22 21 10.4**	**+2.1**
RAFF	**Raffo Rosso**	**4.82**	**268**		**Pn**	**22 21 13.0**	**0.0**
RAFF				Sn	**Sn**	**22 22 08.0**	**-0.5**
PDG	**Podgorica**	**4.93**	**350**		**Pn**	**22 21 16.5**	**+2.2**
PDG	**Podgorica**	**4.93**	**350**	*e*Pn	**Pn**	**22 21 15.9**	**+1.5**
PDG	**Podgorica**	**4.93**	**350**	⇑P	**Pb**	**22 21 23.3**	**-3.7**
WDD	**Wied Dalam**	**5.03**	**252**	Pn	**Pn**	**22 21 13.2**	**-2.6**
TREB	**Trebinje**	**5.37**	**344**	*e*Pn	**Pn**	**22 21 18.6**	**-1.9**
ALN	**Alexandroupoli**	**5.50**	**51**	Pn	**Pn**	**22 21 23.7**	**+1.6**
BRY	**Bratogost**	**5.51**	**346**	*e*Pn	**Pn**	**22 21 21.8**	**-0.7**
STON	**Ston**	**5.68**	**339**	*e*Pn	**Pn**	**22 21 24.1**	**-0.6**
SJES	**Sjenica**	**5.69**	**357**	*e*Pn	**Pn**	**22 21 21.8**	**-3.2**
PAOL	**Paolisi**	**5.69**	**309**	Pn	**Pn**	**22 21 26.3**	**+1.4**
KARP	**Karpathos**	**5.80**	**108**	Pn	**Pn**	**22 21 28.4**	**+2.0**
RUDO	**Rudo**	**6.09**	**353**	*e*Pn	**Pn**	**22 21 29.4**	**-0.9**
BBLS	**Lazi&#263i**	**6.33**	**353**	*e*Pn	**Pn**	**22 21 37.6**	**+3.9**
HAPS	**Han Pijesak,Bl**	**6.60**	**351**	*e*Pn	**Pn**	**22 21 37.9**	**+0.5**
ELND	**Elena**	**6.79**	**36**	⇓P	Pn	22 21 30.0	-10
MDVR	**Moldovita**	**7.27**	**7**	⇓P	**Pg**	**22 22 18.1**	**-2.1**
HERR	**Herculane**	**7.46**	**11**	⇓P	**Pn**	**22 21 50.6**	**+1.5**
A050A	**Klekovaca**	**7.50**	**338**	*e*Pn	**Pn**	**22 21 50.7**	**+1.0**
BLY	**Banja Luka**	**7.57**	**342**	*e*Pn	**Pn**	**22 21 51.4**	**+0.8**
NRCA	**Norcia**	**7.66**	**316**	Pn	**Pn**	**22 21 54.4**	**+2.4**
FDMO	**Fiordimonte**	**7.81**	**317**	Pn	Pn	22 21 59.2	+5.3
A051A	**Mrakovica**	**7.88**	**342**	*e*Pn	**Pn**	**22 21 54.4**	**-0.6**
GZR	**Gura Zlata**	**8.01**	**12**	⇑P	**Pn**	**22 21 59.3**	**+2.6**
VOIR		**8.59**	**22**	⇑P	**Pn**	**22 22 07.6**	**+2.8**
SIRR	**Siria**	**8.74**	**6**	⇑P	**Pn**	**22 22 10.0**	**+3.3**
MLR	**Muntele Rosu**	**8.93**	**26**	Pn	**Pn**	**22 22 13.5**	**+4.0**
MLR	**Muntele Rosu**	**8.93**	**26**	⇑P	**Pn**	**22 22 13.1**	**+3.6**
CRES	**Cresnjevec Ost**	**9.04**	**337**	*e*Pn	**Pn**	**22 22 09.7**	**-1.0**
SKDS	**Skadanscina**	**9.29**	**331**	*e*Pn	**Pn**	**22 22 14.3**	**0.0**
CEY	**Cerknica**	**9.30**	**333**	*e*Pn	**Pn**	**22 22 16.2**	**+1.8**
COVR	**Voineasa-Covas**	**9.33**	**26**	⇑P	**Pn**	**22 22 19.0**	**+4.2**
PLOR	**Plostina**	**9.49**	**27**	⇑P	**Pn**	**22 22 21.0**	**+3.9**
VRI	**Vrincioaia**	**9.54**	**28**	⇑P	**Pn**	**22 22 20.7**	**+3.1**
MESR	**Meseseni**	**9.75**	**10**	⇑P	Pn	22 22 09.3	-11
SABO	**M.te Sabotino**	**9.81**	**331**	Pn	**Pn**	**22 22 25.9**	**+4.5**
OBKA	**Obir**	**9.93**	**336**	*e*Pn	Pn	22 22 29.4	+6.3
	comp=E,1.6nm,0.4s						
OBKA				*i* Sn	**Sn**	**22 24 11.5**	**-2.6**
	comp=E,6.3nm,0.8s						
OBKA	**Obir**	**9.93**	**336**	*e*Pn	**Pn**	**22 22 27.8**	**+4.7**
SOKA	**Soboth**	**9.93**	**338**	*i* Pn	**Pn**	**22 22 26.8**	**+3.7**
	comp=E,1.7nm,0.6s						
SOKA				*i* Sn	**Sn**	**22 24 09.3**	**-4.9**
	comp=E,1.9nm,0.7s						
BRTR	**Keskin Array B**	**10.57**	**74**	Pn	**Pn**	**22 22 30.7**	**-1.2**
	comp=E,0.1nm,0.3s,baz=233,slow=17,SNR=2.0						
	comp=E,0.4nm,0.8s						
BURAR	**Bucovina Array**	**10.64**	**18**	Pn	**Pn**	**22 22 34.8**	**+2.0**
KBA	**Koelnbreinsper**	**10.84**	**333**	*i* Sn	**Sn**	**22 24 32.3**	**-4.2**
	comp=E,1.2nm,0.6s						
VYHS	**Vyhne**	**10.98**	**355**	*e*PN	**Pn**	**22 22 38.4**	**+1.1**
MODS	**Modra-Piesok**	**11.04**	**349**	*e*PN	**Pn**	**22 22 41.4**	**+3.3**
MOA	**Molln**	**11.21**	**338**	*i* Pn	**Pn**	**22 22 45.2**	**+4.6**
	comp=E,0.6nm,0.3s						
MOA				*i* Sn	**Sn**	**22 24 44.4**	**-1.1**
	comp=E,0.9nm,0.5s						
MMAI	**Mount Meron Ar**	**13.07**	**106**	Pn	**Pn**	**22 23 03.4**	**-2.6**
	comp=E,0.3nm,0.3s,baz=299,slow=9.2,SNR=1.6						
	comp=E,2.6nm,0.9s						
PABE	**Paberze**	**18.10**	**7**	P	**Pn**	**22 24 11.8**	**+0.3**
PABE				IAmb	IAmb	22 24 22.0	
	comp=Z,18nm,1.1s						
ESDC	**Sonseca Array**	**19.14**	**284**	P	**Pn**	**22 24 27.0**	**+2.6**
	baz=83,slow=12,SNR=2.5						
	comp=Z,0.6nm,0.9s						
HFS	**Hagfors**	**22.98**	**351**	P	**P**	**22 25 05.4**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=147,slow=8.8,SNR=2.3						
	comp=Z,1.8nm,0.8s						
NC602	**NORSAR Array S**	**23.85**	**349**	P	**P**	**22 25 13.8**	**+0.5**
NC602				IAmb	IAmb	22 25 33.0	
	comp=Z,7.7nm,1.1s						
EKA	**Eskdalemuir Ar**	**23.87**	**326**	P	**P**	**22 25 15.0**	**+1.5**
	comp=Z,3.2nm,0.8s,baz=111,slow=9.3,SNR=3.7						
	comp=Z,3.2nm,0.8s						
BELG	**Belogornoye**	**24.10**	**43**	P	**P**	**22 25 15.3**	**-0.4**
	comp=Z,9.2nm,0.7s,baz=246,slow=20,SNR=5.2						
	comp=Z,9.2nm,0.7s						
FINES	**FINESS Array B**	**24.16**	**7**	P	**P**	**22 25 16.0**	**0.0**
	comp=Z,1.4nm,0.7s,baz=176,slow=8.3,SNR=9.0						
	comp=Z,1.4nm,0.7s						
FIA1	**FINESS Array S**	**24.16**	**7**	P	**P**	**22 25 17.0**	**+0.9**
NC303	**NORSAR Array S**	**24.35**	**349**	P	**P**	**22 25 20.6**	**+2.7**
NC204	**NORSAR Array S**	**24.49**	**349**	P	**P**	**22 25 20.4**	**+1.2**
NC204				IAmb	IAmb	22 25 28.7	
	comp=Z,4.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**29.50**	**219**	P	**P**	**22 26 06.1**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=25,slow=9.7,SNR=5.4						
	comp=Z,0.7nm,0.7s						
ARTI	**Arti**	**31.47**	**41**	P	**P**	**22 26 20.6**	**-0.9**
ARTI	**Arti**	**31.47**	**41**	P	**P**	**22 26 19.5**	**-2.1**
	comp=Z,1.1nm,0.3s,baz=302,slow=9.5,SNR=4.0						
	comp=Z,1.1nm,0.3s						
BVAR	**Borovoye Array**	**37.58**	**49**	P	**P**	**22 27 12.2**	**-2.3**
	comp=Z,0.4nm,0.6s,baz=252,slow=14,SNR=2.6						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**42.66**	**53**	P	**P**	**22 27 56.0**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=278,slow=8.8,SNR=5.1						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**45.70**	**58**	P	**P**	**22 28 20.5**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=286,slow=5.6,SNR=12						
	comp=Z,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**46.16**	**48**	P	**P**	**22 28 24.3**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=273,slow=8.2,SNR=6.9						
	comp=Z,1.3nm,0.6s						
SONM	**Songino Array**	**60.91**	**50**	P	**P**	**22 30 12.4**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=304,slow=8.5,SNR=3.8						
	comp=Z,0.8nm,0.9s						
HHC	**Hu-ho-hao-te**	**67.45**	**55**	*e*P	**P**	**22 30 56.5**	**+0.5**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,72nm,5.2s						
PZH	**PanZhiHua**	**67.87**	**73**	P	**P**	**22 30 59.3**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						

AUST 09 22:23:04.3±0.8, 34°S±3°×117°E±°, h3km±2km, ML0.8/4, Error ellipse: s-maj=7.0km s-min=4.3km az=44.7, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LM01	**Lskr Muir 01**	**0.05**	**23**	P	Pg	22 23 05.8	+0.4
LM01				S	Sg	22 23 06.5	+0.4
LM04	**Lake Muir 04**	**0.14**	**316**	P	Pg	22 23 07.5	+0.4
LM04				S	Sg	22 23 09.5	+0.4
LM03	**Lake Muir 03**	**0.15**	**61**	P	Pg	22 23 07.7	+0.4
LM03				S	Sg	22 23 09.7	+0.4
RKGY	**Rocky Gully**	**0.24**	**134**	P	Pg	22 23 09.4	+0.4
RKGY	**Rocky Gully**	**0.24**	**134**	S	Sg	22 23 12.6	+0.5
LM05	**Lake Muir 05**	**0.37**	**279**	P	Pn	22 23 16.5	-0.1

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*IDC **09** 22:24:34.9±2.2, 12°.98S×45°.35E, h0km, mb3.8/3, mbtmp3.9/5, ML3.9/2, MS3.0/1, Error ellipse: s-maj=61.8km s-min=30.8km az=162.0*

*NEIC **09** 22:24:35.4±0.9, 12°.8S±0°.2×45°.5E±0°.1, h10km±2km, mb4.1/5, Error ellipse: s-maj=27.2km s-min

ZALV	Zalesovo Beam	19.53	3	P	Pn	22 31 35.1	+0.7
	0.1nm,0.3s,baz=167,slow=7.2,SNR=1.5						
	0.3nm,0.4s						
BVAR	Borovoye Array	20.71	338	P	P	22 31 47.1	+1.3
	1.6nm,0.7s,baz=149,slow=13,SNR=12						
	1.6nm,0.7s						
CMAR	Chiang Mai Arr	21.18	135	P	P	22 31 50.4	-0.6
	1.0nm,0.4s,baz=322,slow=12,SNR=4.5						
	1.0nm,0.4s						
SONM	Songino Array	21.86	45	P	P	22 32 00.2	+2.0
	0.3nm,0.6s,baz=239,slow=9.3,SNR=1.9						
	0.3nm,0.6s						
AKTO	Aktyubinsk	24.38	319	P	P	22 32 23.9	+0.5
	1.0nm,0.6s,baz=118,slow=6.2,SNR=2.0						
	1.0nm,0.6s						
FINES	FINESS Array B	44.85	325	P	P	22 35 18.9	-0.2
	1.3nm,0.7s,baz=100,slow=7.6,SNR=1.9						
	1.3nm,0.7s						
HFS	Hagfors	50.82	323	P	P	22 36 05.4	+0.1
	1.5nm,0.6s,baz=81,slow=9.5,SNR=3.0						
	1.5nm,0.6s						
NB2	NORSAR Subarra	51.99	324	P	P	22 36 14.8	+0.6
	comp=Z,0.9nm,0.7s,baz=86,slow=7.4						
NOA	NORSAR Array B	51.99	324	P	P	22 36 14.4	+0.2
	comp=Z,1.4nm,0.8s,baz=86,slow=7.3,SNR=6.9						
	comp=Z,1.4nm,0.8s						
WRA	Warramunga Arr	72.69	130	P	P	22 38 33.4	+0.3
	comp=Z,0.6nm,0.7s,baz=322,slow=6.1,SNR=5.7						
	comp=Z,0.6nm,0.7s						

*IDC **09** 22:27:20.7±0.9, 34°.19N×82°.96E, h0km, mb3.8/12, mbtmp3.8/15, ML3.0/3, MS2.9/4, Error ellipse: s-maj=28.8km s-min=16.2km az=53.0*

ISC 09 22:27:26.0±0.9, 34°.3N±0°.1×83°.0E±0°.1, h35km, n19, σ0°81/16, mb4.0/11, MS2.7/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	10.69	324	Pn	Pn	22 29 55.8	-1.0
	0.1nm,0.3s,baz=141,slow=21,SNR=2.5						
	1.6nm,0.8s						
MKAR	Makanchi Array	12.54	358	Pn	Pn	22 30 20.6	-1.3
	0.2nm,0.3s,baz=187,slow=10,SNR=6.7						
	0.8nm,0.6s						
KURBB	Kurchatov Arra	16.69	350	Pn	Pn	22 31 17.9	+1.0
	0.1nm,0.3s,baz=171,slow=11,SNR=24						
ZALV	Zalesovo Beam	19.74	3	P	P	22 31 51.5	-0.9
	0.2nm,0.3s,baz=185,slow=10,SNR=8.7						
	1.7nm,0.6s						
BVAR	Borovoye Array	20.81	338	P	P	22 32 05.1	+1.0
	2.9nm,0.7s,baz=149,slow=12,SNR=16						
	2.9nm,0.7s						
CMAR	Chiang Mai Arr	21.21	134	P	P	22 32 08.2	-0.6
	2.8nm,0.3s,baz=319,slow=12,SNR=2.3						
CMAR				LR	LR	22 40 31.0	
	comp=Z,13nm,20.1s,baz=50,slow=37						
	2.8nm,0.3s						
SONM	Songino Array	22.16	45	P	P	22 32 19.6	+0.7
	1.6nm,1.0s,baz=237,slow=11,SNR=5.6						
	1.6nm,1.0s						
WSAR	Wadi Sarin	23.95	249	LR	LR	22 44 55.0	
	comp=Z,27nm,20.9s,baz=140,slow=44						
AKTO	Aktyubinsk	24.37	319	P	P	22 32 41.6	+1.0
	1.8nm,0.8s,baz=93,slow=2.5,SNR=3.8						
	1.8nm,0.8s						
GNI	Garni	30.86	292	LR	LR	22 50 49.2	
	comp=Z,16nm,18.1s,baz=94,slow=46						
NRIK	Noril'sk	35.24	3	P	P	22 34 16.8	+0.2
	3.0nm,0.9s,baz=183,slow=6.9,SNR=2.3						
	3.0nm,0.9s						
AKASG	Malin Array Be	41.95	310	LR	LR	22 55 25.9	
	comp=Z,50nm,20.4s,baz=54,slow=40						
FINES	FINESS Array B	44.88	325	P	P	22 35 37.2	+0.6
	1.6nm,0.7s,baz=125,slow=9.6,SNR=6.4						
	1.6nm,0.7s						
HFS	Hagfors	50.83	323	P	P	22 36 23.5	+0.7
	1.8nm,0.5s,baz=94,slow=11,SNR=6.8						
	1.8nm,0.5s						
NOA	NORSAR Array B	52.01	324	P	P	22 36 31.9	+0.2
	2.9nm,0.8s,baz=86,slow=7.3,SNR=12						
	2.9nm,0.8s						
WRA	Warramunga Arr	72.74	130	P	P	22 38 50.7	0.0
	1.2nm,0.7s,baz=324,slow=6.2,SNR=8.1						
	1.2nm,0.7s						
ILAR	Eielson Array	73.90	20	P	P	22 38 56.9	-0.1
	0.1nm,0.6s,baz=285,slow=12,SNR=4.2						
	0.1nm,0.6s						
ASAR	Alice Springs	75.21	133	P	P	22 39 05.5	+0.3
	0.5nm,0.7s,baz=320,slow=5.5,SNR=2.3						
	0.5nm,0.7s						
TORD	Torodi Ar. Bea	75.59	276	P	P	22 39 07.0	-0.6
	0.2nm,0.5s,baz=65,slow=6.0,SNR=4.8						
	0.2nm,0.5s						

*NAO **09** 22:31:12.2±2.9, 71°.46N×11°.41W, ML3.9*
*BER **09** 22:31:13.4±3.2, 71°.41N×11°.58W, h10km, mb(Pn)4.2, ML3.9(NAO), Confirmed Earthquake*
*DNK **09** 22:31:14.8±4.8, 71°.42N×11°.24W, h29km±59km, ML2.1*

ISC 09 22:31:12.0±0.8, 71°.55N±0°.07×11°.48W±0°.06, h10km, n36, σ2°11/46, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	Jan Mayen	1.08	124	Pg	Pb	22 31 32.7	-0.1
JMI				Lg	Lg	22 31 45.5	
JMI	Jan Mayen	1.08	124	eP	Pb	22 31 32.6	-0.1
JMI				eS	Sg	22 31 45.0	-1.9
JMI				IAML		22 31 47.7	
	comp=Z,443nm,0.4s						
JMIC	Jan Mayen	1.11	119	Pg	Pg	22 31 32.9	-0.5
JMIC				Lg	Lg	22 31 45.5	
JMIC	Jan Mayen	1.11	119	eP	Pg	22 31 32.9	-0.5
JMIC				eS	Sg	22 31 45.8	-2.0
JMIC				IAML		22 31 49.8	
	comp=Z,436nm,0.5s						
JMIC	Jan Mayen	1.11	119	iP	Pg	22 31 32.8	-0.5
JMIC				iS	Sg	22 31 45.3	-2.5
JNW	Jan Mayen West	1.11	116	eP	Pg	22 31 32.6	-0.8
JNW				eS	Sg	22 31 44.8	-2.9
JNW				IAML		22 31 47.8	
	comp=Z,391nm,0.3s						
JNE	Jan Mayen East	1.17	117	eP	Pb	22 31 33.5	-0.8
JNE				eS	Sg	22 31 47.0	-2.6
JNE				IAML		22 31 55.7	
	comp=Z,396nm,0.6s						
SCO	Scoresbysund	3.58	258	iP	Pn	22 32 09.0	+1.4
SCO				iS	Sn	22 32 46.9	-3.0
SCO				IAML		22 32 52.5	
	comp=Z,3.2nm,0.3s						
DBG	Daneborg	3.79	321	Pn	Pn	22 32 11.6	+1.3
DBG				Sn	Sn	22 32 52.0	-2.7
DBG	Daneborg	3.79	321	Pn	Pn	22 32 11.6	+1.3
DBG				Sn	Sn	22 32 52.0	-2.7
DBG	Daneborg	3.79	321	iP	Pn	22 32 11.7	+1.4
DBG				iS	Sn	22 32 51.7	-3.1
DBG				IAML		22 32 53.5	
	comp=Z,24nm,0.2s						
DAG	Danmarks Havn	5.60	343	eP	Pn	22 32 37.0	+1.7
DAG				eS	Sn	22 33 34.7	-4.9
DAG	Danmarks Havn	5.60	343	iP	Pn	22 32 36.7	+1.5
DAG				iS	Sn	22 33 35.1	-4.4
DAG				IAML		22 33 39.2	
	comp=Z,14nm,0.8s						
SUMG	Summit	8.35	290	iP	Pn	22 33 16.0	+2.7
SUMG				iS	Sn	22 34 41.3	-6.4
HSPB	Hornsund (broa	9.05	41	Pn	Pn	22 33 24.0	+1.6
HSPB	Hornsund (broa	9.05	41	eP	Pn	22 33 24.3	+1.9
BRBA	Barentsburg A	9.28	34	Pn	Pn	22 33 28.1	+2.5
BRBB	Barentsburg B	9.30	34	Pn	Pn	22 33 29.4	+3.6
BRBB	Barentsburg B	9.30	34	eP	Pn	22 33 27.4	+1.6
KBS	Kingsbay	9.41	28	Pn	Pn	22 33 28.5	+1.1
KBS				Sn	Sn	22 35 05.5	-7.5
KBS	Kingsbay	9.41	28	eP	Pn	22 33 28.2	+0.8
SPA0	Spitsbergen Ar	9.73	35	Pn	Pn	22 33 34.2	+2.5
	baz=233,slow=14						
SPA0	Spitsbergen Ar	9.73	35	Pn	Pn	22 33 34.2	+2.5
	baz=233,slow=14						
NOR	Nord	10.18	356	Pn	Pn	22 33 39.0	+1.1
NOR				Sn	Sn	22 35 25.9	-5.9
NOR	Nord	10.18	356	Pn	Pn	22 33 39.0	+1.1
NOR				Sn	Sn	22 35 25.9	-5.9
JETT	Jettan, Norway	10.73	85	Pn	Pn	22 33 47.9	+2.4
JETT	Jettan, Norway	10.73	85	Pn	Pn	22 33 47.9	+2.4
KIF	Kilpisjarvi	11.11	88	Pn	Pn	22 33 53.1	+2.5
KIF	Kilpisjarvi	11.11	88	Pn	Pn	22 33 53.1	+2.5
AKN	Aaknes	11.81	133	Pn	Pn	22 34 01.4	+1.2
AKN	Aaknes	11.81	133	Pn	Pn	22 34 01.4	+1.2
NEEM	North Greenlan	11.86	317	iP	Pn	22 34 00.3	-0.8
NEEM				eS	Sn	22 36 02.8	-11
HEF	Hetta	12.31	88	Pn	Pn	22 34 08.9	+1.9
HEF	Hetta	12.31	88	Pn	Pn	22 34 08.9	+1.9
ARA0	ARCESS Array S	12.35	81	Pn	Pn	22 34 09.6	+1.9
	baz=291,slow=14						
ARA0	ARCESS Array S	12.35	81	Pn	Pn	22 34 09.6	+1.9
	baz=291,slow=14						

*IDC **09** 22:35:02.2±5.4, 4°.91S×151°.68E, h111km±43km, mb3.5/6, mbtmp3.9/7, Error ellipse: s-maj=55.8km s-min=30.9km az=121.0*

ISC 09 22:35:04.0±1.3, 5°.0S±0°.3×151°.7E±0°.3, h129km, n8, σ0°48/10, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.29	225	P	Pn	22 36 34.4	-0.1
	9.0nm,0.5s,baz=60,slow=16,SNR=3.1						
PMG				S	Sn	22 37 45.2	0.0
	16nm,0.3s,baz=156,slow=20,SNR=4.0						
WRA	Warramunga Arr	22.51	227	P	P	22 39 52.7	-0.4
	1.7nm,0.4s,baz=52,slow=9.7,SNR=23						
WRA				PcP	PcP	22 43 43.5	+0.9
	0.2nm,0.4s,baz=49,slow=2.6,SNR=1.9						
	1.7nm,0.4s						
ASAR	Alice Springs	25.29	221	P	P	22 40 18.9	+0.2
	1.3nm,0.7s,baz=51,slow=9.7,SNR=13						
	1.3nm,0.7s						
FITZ	Fitzroy Crossi	28.61	241	P	P	22 40 48.1	-0.2
	1.2nm,0.3s,baz=47,slow=7.9,SNR=6.3						
	1.2nm,0.3s						
ZALV	Zalesovo Beam	80.68	327	P	P	22 47 02.2	-0.3
	0.4nm,0.3s,baz=95,slow=8.6,SNR=2.1						
	0.4nm,0.3s						
KURBB	Kurchatov Arra	83.25	322	P	P	22 47 16.6	+0.5
	0.2nm,0.4s,baz=99,slow=5.7,SNR=1.9						
	0.2nm,0.4s						
NVAR	Mina Array Bea	93.06	52	P	P	22 48 03.4	-0.3
	0.2nm,0.6s,baz=230,slow=4.2,SNR=2.3						
	0.2nm,0.6s						
TORD	Torodi Ar. Bea	149.30	287	PKPbc	PKPbc	22 54 38.5	-0.2
	0.3nm,0.3s,baz=91,slow=2.7,SNR=11						

*THE **09** 22:38:56.7, 37°.56N×20°.86E, h11km±1km, ML3.5/6, Error ellipse: s-maj=1.9km s-min=1.1km az=15.0*
*ATH **09** 22:38:57.6, 37°.62N×20°.84E, h12km±1km, ML3.0/11, Error ellipse: s-maj=2.3km s-min=1.0km az=28.0*

ISC 09 22:38:57.4±1.2, 37°.62N±0°.06×20°.86E±0°.04, h13km±5km, n27, σ0°54/41, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.05	321	P	Pg	22 39 00.0	+0.1
KRI1				S	Sg	22 39 01.7	+0.1
	92μm,0.4s						
LTHK	Lithakia	0.09	349	P	Pg	22 39 00.2	0.0
LTHK				S	Sg	22 39 02.1	-0.1
	53μm,0.3s						
LTHK	Lithakia	0.09	349	P	Pg	22 39 00.1	0.0
LTHK				S	Sg	22 39 01.9	-0.3
LTHK				AML	AML	22 39 02.2	
	comp=E,94378μm,0.3s						
LTHK				AML	AML	22 39 02.5	
	comp=N,82239μm,0.2s						
RTZL	Ratzakli, Kefa	0.46	352	P	Pg	22 39 06.5	0.0
RTZL				S	Sb	22 39 14.8	+0.7
	comp=N,4μm,0.2s						
PSDA	Pessada-Kefalo	0.54	336	P	Pg	22 39 07.9	-0.1
PSDA				S	Sb	22 39 16.7	+0.3
PSDA	Pessada-Kefalo	0.54	336	P	Pg	22 39 07.8	-0.1
PSDA				S	Sg	22 39 15.6	+0.5
VLS	Valsamata	0.59	339	P	Pg	22 39 08.6	-0.4
VLS				S	Sb	22 39 18.3	+0.3
	comp=N,3μm,0.2s						
VLS	Valsamata	0.59	339	P	Pg	22 39 08.6	-0.4
VLS				S	Sg	22 39 17.4	+0.5
VLS				AML	AML	22 39 18.7	
	comp=E,6753μm,0.2s						
VLS				AML	AML	22 39 18.9	
	comp=N,4180μm,0.2s						
SMHA	Samh	0.65	345	P	Pg	22 39 09.4	-0.7
SMHA				S	Sg	22 39 19.5	+0.9
SMHA				AML	AML	22 39 20.8	
	comp=E,6177μm,0.2s						
SMHA				AML	AML	22 39 22.0	
	comp=N,7591μm,0.4s						
RLS	Riolos of Patr	0.65	48	P	Pg	22 39 09.8	-0.3
RLS				S	Sb	22 39 20.0	+0.4
RLS	Riolos of Patr	0.65	48	P	Pg	22 39 10.1	0.0
RLS				S	Sg	22 39 18.7	0.0
RLS				AML	AML	22 39 21.6	
	comp=N,1460μm,0.3s						
RLS				AML	AML	22 39 23.2	
	comp=E,1522μm,0.4s						
LXR1	Lixouri, Cepha	0.67	330	P	Pg	22 39 10.5	+0.1
LXR1				S	Sb	22 39 21.4	+1.3
	comp=E,5μm,0.4s						
LXRA	Lixouri, Kepha	0.67	330	P	Pg	22 39 10.4	0.0
LXRA				S	Sg	22 39 19.5	+0.3
LXRA				AML	AML	22 39 24.5	
	comp=N,4888μm,0.3s						
LXRA				AML	AML	22 39 26.6	
	comp=E,5496μm,0.4s						
AMT	Artemida-Makis	0.68	97	P	Pb	22 39 11.2	-0.1
AMT				AML	AML	22 39 28.0	
	comp=E,4784μm,0.4s						
AMT				AML	AML	22 39 30.3	
	comp=N,6104μm,0.7s						
DMLN	Damoulianata-K	0.72	328	P	Pg	22 39 11.0	-0.5
DMLN				S	Sb	22 39 23.3	+1.5
	comp=N,2μm,0.8s						
DMLN	Damoulianata-K	0.72	328	P	Pg	22 39 10.9	-0.5
DRO	Drossia	0.75	64	P	Pb	22 39 12.9	+0.5
DRO				AML	AML	22 39 26.9	
	comp=N,2466μm,0.4s						
DRO				AML	AML	22 39 30.6	
	comp=E,2216μm,0.5s						
FSK	Fiskardo	0.87	345	P	Pg	22 39 13.5	-0.7
ITM	Ithomi	0.96	117	P	Pn	22 39 16.3	-0.4
ITM				AML	AML	22 39 38.8	
	comp=N,776μm,0.5s						
ITM				AML	AML	22 39 39.8	
	comp=E,873μm,0.8s						
EVGI	Lefkada island	1.01	351	P	Pb	22 39 16.2	-0.6
DRAG	Dragano-Lefkad	1.08	348	P	Pb	22 39 18.2	+0.1
NYDR	Nydri-Lefkada	1.09	353	P	Pb	22 39 17.3	-1.0
KLV	Kalavryta, Ach	1.11	67	P	Pb	22 39 18.0	-0.5
EFP	Efpalio	1.15	46	P	Pb	22 39 19.0	-0.3
EFP				AML	AML	22 39 39.5	
	comp=N,750μm,1.0s						
EFP				AML	AML	22 39 44.2	
	comp=E,601μm,0.4s						
LKD2	Lefkada island	1.17	352	P	Pn	22 39 19.0	-0.7
GUR	Goura	1.22	75	P	Pn	22 39 20.3	0.0
GUR				AML	AML	22 39 51.2	
	comp=E,949μm,0.7s						
GUR				AML	AML	22 39 51.6	
	comp=N,793μm,0.6s						
ANX	Ano Chora	1.28	41	P	Pn	22 39 21.1	-0.1
ANX				AML	AML	22 39 48.6	
	comp=N,1500μm,1.2s						
ANX				AML	AML	22 39 52.0	
	comp=E,975μm,0.5s						

*IDC **09** 22:55:14.0±0.9, 28°.50N×95°.21E, h0km, mb3.7/9, mbtmp3.8/10, ML4.0/1, Error ellipse: s-maj=58.1km s-min=15.3km az=61.0*

ISC 09 22:55:19.3±0.9, 28°.5N±0°.2×95°.2E±0°.3, h35km, n10, σ0°39/10, mb3.8/8, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.59	161	Pn	Pn	22 57 48.7	+0.2
	0.3nm,0.3s,baz=331,slow=14,SNR=1.2						
	0.5nm,0.3s						
MKAR	Makanchi Array	20.86	334	P	P	22 59 58.2	+0.1
	1.5nm,0.7s,baz=143,slow=13,SNR=12						
	1.5nm,0.7s						
SONM	Songino Array	21.13	21	P	P	23 00 01.2	+0.1
	0.8nm,0.7s,baz=208,slow=12,SNR=3.7						
	0.8nm,0.7s						
KURBB	Kurchatov Arra	25.43	335	P	P	23 00 43.1	-0.4
	1.0nm,0.7s,baz=146,slow=10,SNR=9.6						
	1.0nm,0.7s						
ZALV	Zalesovo Beam	26.52	346	P	P	23 00 53.5	+0.2
	0.3nm,0.4s,baz=157,slow=9.4,SNR=1.9						
	0.3nm,0.4s						
BVAR	Borovoye Array	30.57	330	P	P	23 01 29.9	+0.4
	0.5nm,0.5s,baz=128,slow=12,SNR=5.1						
	0.5nm,0.5s						
FINES	FINESS Array B	55.45	327	P	P	23 04 50.1	+0.1
	1.6nm,0.9s,baz=120,slow=12,SNR=3.4						
	1.6nm,0.9s						
WRA	Warramunga Arr	61.23	137	P	P	23 05 30.6	-0.4
	0.9nm,0.6s,baz=326,slow=7.5,SNR=18						
	0.9nm,0.6s						
HFS	Hagfors	61.57	326	P	P	23 05 32.0	-0.7
	3.7nm,1.0s,baz=61,slow=7.0,SNR=2.6						
	3.7nm,1.0s						
ASAR	Alice Springs	63.88	140	P	P	23 05 48.7	+0.1
	1.2nm,0.5s,baz=325,slow=6.8,SNR=23						
	1.2nm,0.5s						

*SJA **09** 23:09:40.0, 22°.05S×67°.34W, h226km, ML3.9*
*GUC **09** 23:09:43.4±0.7, 22°.01S×67°.67W, h234km±8km, ML4.0*
*SCB **09** 23:09:44.0±1.0, 21°.99S×67°.14W, h140km±27km, ML3.6/3, Error ellipse: s-maj=6.1km s-min=4.4km az=1.0*

ISC 09 23:09:40.6±1.8, 22°.00S±0°.05×67°.29W±0°.05, h209km±18km, n39, σ1°49/52, 6C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	Yavi	1.66	96	iP	Pn	23 10 17.4	+0.4
PB09	IPOC Station P	1.82	276	⇑eP	Pn	23 10 19.7	+1.4
PB09				eS	Sn	23 10 48.0	+0.5
PB09	IPOC Station P	1.82	276	iP	Pn	23 10 19.1	+0.9
PB09	IPOC Station P	1.82	276	Pg	Pn	23 10 19.6	+1.4
HJA	Humahuaca	2.11	125	iP	Pn	23 10 22.5	+1.2
PB06	IPOC Station P	2.23	251	eP	Pn	23 10 23.2	+1.0
PB06				eS	Sn	23 10 53.9	-0.9
PB06				IAML		23 10 56.2	
	comp=E,898nm,0.2s						
PB06	IPOC Station P	2.23	251	iP	Pn	23 10 22.8	+0.6
PB01	IPOC Station P	2.26	295	⇑eP	Pn	23 10 23.4	+0.9
PB01				eS	Sn	23 10 54.4	-0.8
PB01				IAML		23 10 55.3	
	comp=N,583nm,0.3s						
PB01	IPOC Station P	2.26	295	iP	Pn	23 10 22.8	+0.3
PB01	IPOC Station P	2.26	295	Pg	Pn	23 10 23.5	+0.9
PB01				Sg	Sn	23 10 54.4	-0.8
PB01				IAML		23 10 55.4	
	comp=N,498nm,0.4s						
PB15	IPOC Station P	2.35	239	eP	Pn	23 10 25.2	+1.6
PB15				eS	Sn	23 10 56.7	-0.5
PB15	IPOC Station P	2.35	239	iP	Pn	23 10 25.3	+1.8
PB15	IPOC Station P	2.35	239	Pg	Pn	23 10 25.4	+1.8
PB08	IPOC Station P	2.54	316	⇑eP	Pn	23 10 27.8	+1.9
PB08				eS	Sn	23 11 02.2	+0.9
PB08				IAML		23 11 03.4	
	comp=N,103nm,0.5s						
PB08	IPOC Station P	2.54	316	iP	Pn	23 10 27.2	+1.2
PB08	IPOC Station P	2.54	316	Pg	Pn	23 10 27.8	+1.9
PB04	IPOC Station P	2.67	262	eP	Pn	23 10 28.1	+1.0
PB04				eS	Sn	23 11 00.5	-3.0
PB04				IAML		23 11 03.2	
	comp=N,395nm,0.1s						
PB04	IPOC Station P	2.67	262	iP	Pn	23 10 27.8	+0.7
GO01	Chusmiza	2.92	322	⇑eP	Pn	23 10 31.9	+1.5
GO01				eS	Sn	23 11 08.7	-0.5
GO01				IAML		23 11 16.7	
	comp=E,353nm,0.1s						
GO01	Chusmiza	2.92	322	iP	Pn	23 10 31.4	+1.1
GO01	Chusmiza	2.92	322	Pg	Pn	23 10 32.1	+1.7
GO01				Sg	Sn	23 11 08.7	-0.5
GO01				IAML		23 11 14.5	
	comp=E,74nm,0.2s						
HMBC	Humberstone	2.97	305	⇑eP	Pn	23 10 30.9	+0.4
HMBC				eS	Sn	23 11 07.4	-2.2
HMBC				IAML		23 11 08.2	
	comp=N,274nm,0.8s						
HMBC	Humberstone	2.97	305	iP	Pn	23 10 30.3	-0.2
AZAP	Zapla	3.02	138	iP	Pn	23 10 32.1	+1.0
TA01	Diego Aracena	3.05	297	iP	Pn	23 10 31.7	+0.4
TA01				iS	Sn	23 11 07.7	-3.2
TA01				IAML		23 11 10.0	
	comp=N,178nm,0.4s						
TA01	Diego Aracena	3.05	297	iP	Pn	23 10 31.1	-0.2
PB11	IPOC Station P	3.14	315	⇑eP	Pn	23 10 33.2	+0.7
PB11				eS	Sn	23 11 11.2	-2.0
PB11				IAML		23 11 15.7	
	comp=N,270nm,0.1s						
PB11	IPOC Station P	3.14	315	iP	Pn	23 10 32.6	+0.1
SLA	San Lorenzo	3.17	149	iP	Pn	23 10 34.9	+2.1
SOEO	Opoqueri	3.46	351	Pg	Pn	23 10 39.2	+2.5
ALOL	LOMAS DE OLMED	3.55	121	iP	Pn	23 10 37.6	+0.4
GO02	Mina Guanaco	3.79	213	iP	Pn	23 10 41.3	+0.9
PB14	IPOC Station P	3.88	227	iP	Pn	23 10 42.0	+0.6
SOTI	Planta Incahua	4.03	58	Pg	Pn	23 10 43.8	+0.6
SOET	ToroToro	4.11	20	Pg	Pn	23 10 45.7	+1.3
AOEA	Aiquile	4.26	27	Pg	Pn	23 10 46.9	+0.6
AOEA				Sg	Sn	23 11 34.9	-3.1
AOEA				IAML		23 11 40.4	
	comp=N,63nm,0.4s						
AC01	Pan de Azucar	5.12	216	iP	Pn	23 10 56.3	-0.4
BBOD	La Paz, Gloria	5.47	347	Pg	Pn	23 11 04.8	+3.0
LPAZ	La Paz	5.74	352	Pg	Pn	23 11 07.7	+2.4

*SOME **09** 23:14:05.1, 48°.28N×84°.18E, h0km*
*NNC **09** 23:14:06.0±2.4, 48°.32N×84°.24E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=20.8km s-min=7.4km az=86.0*
*ASRS **09** 23:14:07.2±0.3, 48°.N±2°.×8°.4E±°.1, h10km, MLh3.2/9, Error ellipse: s-maj=5.5km s-min=2.4km az=135.5, confirmed*

ISC 09 23:14:05.6±0.8, 48°.20N±0°.03×84°.29E±0°.03, h10km, n21, σ1°43/39, 7C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	Zaisan	0.84	152	eP	Pg	23 14 21.1	-0.7
	9.4nm,0.1s						
ZSN				eS	Sg	23 14 32.3	-0.5
	44nm,0.1s						
MK31	Makanchi Array	1.95	225	⇑Pn	Pb	23 14 41.9	+0.6
	1.5nm,0.2s,baz=45,slow=13,SNR=67						
MK31				⇑Sn	Sg	23 15 07.5	-0.8
	18nm,0.5s,baz=340,slow=42,SNR=4.2						
MKAR	Makanchi Array	1.95	225	Pg	Pb	23 14 41.9	+0.7
MKAR				Sg	Sg	23 15 07.6	-0.7
MAKZ	Makanchi	2.10

	22nm,0.6s						
KURK	**Kurchatov**	**4.47**	**306**	⇑Pn	**Pn**	**23 15 13.2**	**-0.2**
	3.4nm,1.1s						
KURK				⇓Sn	**Sn**	**23 16 06.4**	**+0.9**
	2.1nm,0.5s						
KURK				⇓Lg	Lg	23 16 28.1	
	10nm,0.5s						
KURK	**Kurchatov**	**4.47**	**306**	Pg	**Pg**	**23 15 29.1**	**-2.1**
KURK				Sg	**Sg**	**23 16 29.0**	**-0.2**
TEL	**Teeli**	**4.77**	**51**	Pg	**Pg**	**23 15 36.8**	**0.0**
TEL				Sg	**Sg**	**23 16 39.0**	**+0.5**
ELT	**Eltsovka**	**5.22**	**13**	Sg	**Sg**	**23 16 52.6**	**-0.4**
LUZB	**Luzhba, Kemero**	**6.20**	**26**	Sg	**Sg**	**23 17 21.5**	**-2.7**
VEH	**Verkhnyaya Baz**	**6.34**	**35**	Sg	**Sg**	**23 17 26.0**	**-3.0**

IDC 09 23:16:03.1±1.5, 32°.31N×92°.45E, h0km, mb3.5/3, mbtmp3.5/5, ML3.9/2, Error ellipse: s-maj=92.2km s-min=26.9km az=58.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.98**	**155**	Pn	Pn	23 19 36.0	-0.2
	0.5nm,0.3s,baz=342,slow=15,SNR=4.8						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**16.43**	**335**	Pn	Pn	23 19 53.4	-1.6
	0.1nm,0.3s,baz=143,slow=12,SNR=6.6						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**21.00**	**335**	P	P	23 20 47.7	-0.2
	1.5nm,0.8s,baz=142,slow=10,SNR=11						
	1.5nm,0.8s						
ASAR	**Alice Springs**	**68.31**	**139**	P	P	23 27 06.3	+0.1
	0.3nm,0.6s,baz=320,slow=5.5,SNR=2.3						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**83.72**	**282**	P	P	23 28 34.4	0.0
	0.3nm,0.5s,baz=40,slow=5.5,SNR=3.8						
	0.3nm,0.5s						

GCMT 09 23:17:20.0±0.4, 37°.40S±0°.02×94°.47W±0°.03, h14km±2km, MW4.8/82, Moment Tensor Solution. s21,c23; s82,c103; Duration: 0 Moment tensor: Scale 10^{16} **Nm;** M_{rr}-0.56±.12; $M_{\theta\theta}$0.08±.10; $M_{\phi\phi}$0.47±.09; $M_{r\theta}$-0.22±.18; $M_{\theta\phi}$-1.77±.07; $M_{\phi r}$0.38±.19; **Best double couple:** $M_0$1.81900×10^{16} **NP1:**ϕ_s3.00000°,δ88.00000°, λ10.00000°. **NP2:**ϕ_s273.00000°,δ80.00000°,λ178.00000°. **Principal axes:** T 2.1270, Plg9.0000°, Azm228.0000°; N -0.6170, Plg79.0000°, Azm15.0000°; P -1.5110, Plg6.0000°, Azm137.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function West Chile Rise**

*SJA **09** 23:31:24.5±0.7, 24°.27S×67°.02W, h214km±4km, ML3.6, MW3.5*
*GUC **09** 23:31:27.1±0.6, 24°.25S×67°.43W, h237km±9km, ML3.9*
ISC 09 23:31:23.4±1.8, 24°.26S±0°.04×67°.03W±0°.04, h223km±15km, n30, σ1§**58/57, 5C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.47**	**109**	*e*P	**Pn**	**23 32 00.1**	**+1.0**
SLA				*e*S	**S**	**23 32 25.7**	**-1.1**
AZAP	**Zapla**	**1.79**	**89**	*e*P	**Pn**	**23 32 02.5**	**+0.5**
AZAP				*e*S	**S**	**23 32 31.2**	**-0.8**
FSA	**Cafayete**	**2.08**	**153**	*e*P	**Pn**	**23 32 05.6**	**+0.9**
FSA				*e*S	**S**	**23 32 35.7**	**-1.1**
PB15	**IPOC Station P**	**2.47**	**294**	⇑*i*P	**Pn**	**23 32 10.2**	**+1.5**
PB15				*i* S	**S**	**23 32 42.8**	**-1.1**
PB15	**IPOC Station P**	**2.47**	**294**	*e*P	**Pn**	**23 32 10.2**	**+1.5**
PB15				*e*S	**S**	**23 32 43.6**	**-0.3**
PB15				IAML		23 32 48.5	
	comp=Z,579nm,0.1s						
YJA	**Yavi**	**2.50**	**34**	*e*P	**Pn**	**23 32 10.8**	**+1.6**
GO02	**Mina Guanaco**	**2.50**	**248**	⇑*i*P	**Pn**	**23 32 10.5**	**+1.4**
GO02				*i* S	**S**	**23 32 44.0**	**-0.6**
GO02				IAML		23 32 44.6	
	comp=N,481nm,0.3s						
GO02	**Mina Guanaco**	**2.50**	**248**	*e*P	**Pn**	**23 32 10.0**	**+0.9**
GO02				*e*S	**S**	**23 32 44.1**	**-0.6**
PB06	**IPOC Station P**	**2.80**	**303**	⇑*i*P	**Pn**	**23 32 13.7**	**+1.5**
PB06				*i* S	**S**	**23 32 48.8**	**-1.4**
PB06				IAML		23 32 51.0	
	comp=N,179nm,0.3s						
PB06	**IPOC Station P**	**2.80**	**303**	*e*P	**Pn**	**23 32 13.5**	**+1.3**
PB06				*e*S	**S**	**23 32 50.1**	**-0.1**
PB06				IAML		23 32 51.8	
	comp=Z,130nm,0.1s						
ALOL	**LOMAS DE OLMED**	**2.82**	**82**	*e*P	**Pn**	**23 32 11.8**	**-0.5**
AHML	**Horco Molle**	**2.95**	**149**	*e*P	**Pn**	**23 32 15.1**	**+1.4**
AHML				*e*S	**S**	**23 32 51.8**	**-1.3**
PB14	**IPOC Station P**	**3.10**	**262**	*i* P	**Pn**	**23 32 17.1**	**+1.4**
PB14				*i* S	**S**	**23 32 54.3**	**-2.2**
PB14	**IPOC Station P**	**3.10**	**262**	*e*P	**Pn**	**23 32 17.1**	**+1.4**
PB14				*e*S	**S**	**23 32 55.2**	**-1.3**
PB14				IAML		23 32 59.5	
	comp=Z,104nm,0.2s						
PB09	**IPOC Station P**	**3.18**	**320**	⇑*i*P	**Pn**	**23 32 18.4**	**+1.8**
PB09				*i* S	**S**	**23 32 57.0**	**-1.2**
PB09	**IPOC Station P**	**3.18**	**320**	*e*P	**Pn**	**23 32 18.7**	**+2.1**
PB09				*e*S	**S**	**23 32 57.8**	**-0.4**
PB09				IAML		23 33 02.7	
	comp=Z,114nm,0.3s						
PB04	**IPOC Station P**	**3.45**	**303**	*i* P	**Pn**	**23 32 20.9**	**+1.2**
PB04				*i* S	**S**	**23 33 01.6**	**-2.1**
PB04	**IPOC Station P**	**3.45**	**303**	*e*P	**Pn**	**23 32 21.1**	**+1.5**
PB04				*e*S	**S**	**23 33 03.3**	**-0.4**
PB04				IAML		23 33 06.8	
	comp=Z,82nm,0.3s						
AC01	**Pan de Azucar**	**3.74**	**239**	*i* P	**Pn**	**23 32 23.9**	**+0.9**
AC01				*i* S	**S**	**23 33 07.3**	**-2.4**
AC01	**Pan de Azucar**	**3.74**	**239**	*e*P	**Pn**	**23 32 23.9**	**+0.9**
AC01				*e*S	**S**	**23 33 07.7**	**-2.0**
AC01				IAML		23 33 08.3	
	comp=Z,86nm,0.3s						
PB01	**IPOC Station P**	**3.92**	**324**	⇑*i*P	**Pn**	**23 32 26.1**	**+0.9**
PB01				*i* S	**S**	**23 33 11.2**	**-2.6**
PB01	**IPOC Station P**	**3.92**	**324**	*e*P	**Pn**	**23 32 26.3**	**+1.0**
PB01				*e*S	**S**	**23 33 12.1**	**-1.7**
PB01				IAML		23 33 14.2	
	comp=Z,75nm,0.2s						
GUSE	**Guasayan**	**4.12**	**152**	*e*P	**Pn**	**23 32 29.5**	**+2.0**
GO03	**Copiapo**	**4.40**	**220**	*e*P	**Pn**	**23 32 32.2**	**+1.2**
GO03				*e*S	**S**	**23 33 22.7**	**-1.6**
PB08	**IPOC Station P**	**4.54**	**334**	*e*P	**Pn**	**23 32 35.3**	**+2.1**
PB08				*e*S	**S**	**23 33 27.3**	**-0.8**
PB08				IAML		23 33 28.7	
	comp=Z,41nm,0.6s						
TA01	**Diego Aracena**	**4.69**	**321**	*e*P	**Pn**	**23 32 35.9**	**+1.3**
TA01				*e*S	**S**	**23 33 25.7**	**-4.9**
TA01				IAML		23 33 31.1	
	comp=Z,17nm,0.5s						
GO01	**Chusmiza**	**4.99**	**336**	*e*P	**Pn**	**23 32 40.5**	**+1.7**
GO01				*e*S	**S**	**23 33 38.2**	**0.0**
PB11	**IPOC Station P**	**5.09**	**331**	*e*P	**Pn**	**23 32 40.2**	**+0.4**
PB11				*e*S	**S**	**23 33 38.1**	**-2.0**
PB11				IAML		23 33 39.7	
	comp=Z,39nm,0.2s						
ACLC	**CERRO LA CRUZ**	**5.15**	**179**	*e*P	**Pn**	**23 32 42.7**	**+2.3**
ACLC				*e*S	**S**	**23 33 41.1**	**-0.3**
AC04	**Llanos de Chal**	**5.35**	**222**	*e*P	**Pn**	**23 32 44.0**	**+1.2**
AC04				*e*S	**S**	**23 33 44.3**	**-1.4**
AC04				IAML		23 34 00.1	
	comp=Z,14nm,0.8s						

*NEIC **09** 23:37:51.9±1.6, 5°.91S±0°.04×128°.82E±0°.05, h308km±9km, mb4.7/59, Error ellipse: s-maj=9.8km s-min=1.8km az=48.0*
*DJA **09** 23:37:51.2±0.4, 6°.5S±3°×12°.9E±°, h320km±7km, M4.7/19, mb4.8/13, mB5.1/12, MLv4.9/19, Mw(mB)4.5/12*
*IDC **09** 23:37:52.7±1.4, 5°.98S×128°.69E, h318km±15km, mb3.4/13, mbtmp4.2/17, Error ellipse: s-maj=16.6km s-min=8.1km az=73.0*
ISC 09 23:37:51.0±0.4, 5°.92S±0°.04×128°.80E±0°.05, h300km, n148, σ1§**41/156, mb4.4/45, 1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.77**	**38**	P	**Pn**	**23 38 39.0**	**+2.9**
BNDI	**Bandanaira**	**1.77**	**38**	P	**Pn**	**23 38 38.4**	**+2.3**
AAI	**Ambon**	**2.30**	**345**	P	**Pn**	**23 38 42.6**	**+2.3**
MSAI	**Masohi**	**2.56**	**3**	P	**Pn**	**23 38 43.1**	**+0.4**
NLAI	**Namlea**	**3.16**	**327**	P	**Pn**	**23 38 51.8**	**+3.4**
SAUI	**Saumlaki**	**3.22**	**130**		**Pn**	**23 38 50.6**	**+1.7**
SAUI				Sn	**S**	**23 39 35.6**	**+0.3**
SAUI	**Saumlaki**	**3.22**	**130**	P	**Pn**	**23 38 51.0**	**+2.0**
SAUI	**Saumlaki**	**3.22**	**130**	P	**Pn**	**23 38 50.7**	**+1.7**
FAKI	**Fak Fak**	**4.55**	**49**		**Pn**	**23 39 04.2**	**+0.7**
FAKI				Sn	**S**	**23 39 59.0**	**-2.6**
FAKI	**Fak Fak**	**4.55**	**49**	P	**Pn**	**23 39 04.3**	**+0.8**
FAKI	**Fak Fak**	**4.55**	**49**	P	**Pn**	**23 39 04.1**	**+0.7**
SANI	**Sanana**	**4.76**	**324**	P	**Pn**	**23 39 07.0**	**+1.2**
SANI	**Sanana**	**4.76**	**324**	P	**Pn**	**23 39 06.7**	**+0.9**
LBMI	**Labuha**	**5.41**	**346**	P	**Pn**	**23 39 14.8**	**+1.4**
	168nm,0.4s,4μm1.3nm						
SWI	**Sorong**	**5.59**	**26**	P	**Pn**	**23 39 15.2**	**-0.4**
	241nm,0.6s,7μm						
SOEI	**Soe**	**5.89**	**229**	Pn	**Pn**	**23 39 20.3**	**+1.1**
SOEI				Sn	**S**	**23 40 29.0**	**-1.2**
SOEI	**Soe**	**5.89**	**229**	P	**Pn**	**23 39 20.5**	**+1.3**
SOEI	**Soe**	**5.89**	**229**	P	**Pn**	**23 39 20.3**	**+1.1**
	84nm,0.4s,2μm1.3nm						
BATI	**Baumata**	**6.63**	**230**	P	**Pn**	**23 39 28.8**	**+0.8**
	221nm,0.3s,baz=74,slow=2.9,SNR=37						
BATI				S	**S**	**23 40 46.2**	**-0.2**
	123nm,0.4s,baz=119,slow=23,SNR=27						
BATI	**Baumata**	**6.63**	**230**	P	**Pn**	**23 39 28.8**	**+0.8**
	218nm,0.4s,3μm1.1nm						
TNTI	**Ternate**	**6.80**	**348**		**Pn**	**23 39 30.9**	**+0.9**
TNTI	**Ternate**	**6.80**	**348**	P	**Pn**	**23 39 32.0**	**+2.0**
	68nm,0.7s,0.2nm						
MMRI	**Maumere**	**7.05**	**247**		**Pn**	**23 39 33.1**	**+0.1**
MTN	**Manton Dam**	**7.25**	**162**	Pn	**Pn**	**23 39 35.9**	**+0.4**
MTN	**Manton Dam**	**7.25**	**162**	P	**Pn**	**23 39 35.8**	**+0.3**
KDU	**Kakadu**	**7.64**	**152**	P	**Pn**	**23 39 40.6**	**+0.4**
LUWI	**Luwuk**	**7.72**	**309**	Pn	**Pn**	**23 39 42.4**	**+1.1**
LUWI	**Luwuk**	**7.72**	**309**	P	**Pn**	**23 39 43.1**	**+1.8**
	56nm,0.6s,2μm0.2nm						
BSSI	**Bau Bau, Buton**	**8.27**	**268**	P	**Pn**	**23 39 50.3**	**+2.4**
KAPI	**Kappang**	**9.05**	**275**	P	**Pn**	**23 39 59.3**	**+1.7**
	1.3nm,0.3s,baz=290,slow=24,SNR=1.2						
SPSI	**Sidrap Palu**	**9.20**	**282**	P	**Pn**	**23 40 01.7**	**+2.2**
KNRA	**Kununurra**	**9.70**	**180**	Pn	**Pn**	**23 40 06.1**	**+0.6**
TOLI2	**Tolitoli**	**10.62**	**311**		**Pn**	**23 40 18.2**	**+1.3**
TOLI2	**Tolitoli**	**10.62**	**311**	P	**P**	**23 40 19.8**	**0.0**
PLAI	**Plampang**	**11.31**	**255**	P	**Pn**	**23 40 25.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**12.49**	**194**		**Pn**	**23 40 39.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**12.49**	**194**	P	**Pn**	**23 40 39.0**	**-0.5**
	16nm,0.5s,baz=22,slow=10,SNR=64						
FITZ				S	**S**	**23 42 54.2**	**-4.1**
	23nm,0.5s,baz=343,slow=20,SNR=6.0						
BKB	**Balikpapan**	**12.75**	**291**		**P**	**23 40 44.3**	**+1.0**
WB0	**Warramunga Arr**	**14.80**	**159**		**P**	**23 41 06.2**	**+0.3**
WRAB	**Tennant Creek**	**14.94**	**159**	P	**P**	**23 41 07.9**	**+0.4**
WRA	**Warramunga Arr**	**14.94**	**159**	P	**P**	**23 41 07.8**	**+0.2**
	60nm,0.4s,baz=333,slow=13,SNR=470						
WRA				S	**S**	**23 43 48.0**	**-2.7**
	5.9nm,0.8s,baz=332,slow=16,SNR=4.6						
WB2	**Warramunga Arr**	**14.95**	**159**		**P**	**23 41 07.9**	**+0.3**
WR0	**Warramunga Arr**	**15.03**	**159**	P	**P**	**23 41 08.8**	**+0.3**
WR0				IAmb	IAmb	23 41 10.8	
	comp=Z,41nm,0.7s						
MYLDM	**Lahad Datu**	**15.08**	**317**		**P**	**23 41 09.5**	**+0.4**
MYLDM				IAmb	IAmb	23 41 28.0	
	comp=Z,28nm,0.8s						
COEN	**Coen**	**16.25**	**121**	P	**P**	**23 41 21.8**	**0.0**
COEN				IAmb	IAmb	23 41 27.8	
	comp=Z,29nm,0.7s						
COEN	**Coen**	**16.25**	**121**	P	**P**	**23 41 23.3**	**+1.4**
KKM	**Kota Kinabalu**	**17.29**	**313**	P	**P**	**23 41 33.0**	**-0.4**
KKM				IAmb	IAmb	23 41 45.2	
	comp=Z,25nm,0.8s						
KKM	**Kota Kinabalu**	**17.29**	**313**	P	**P**	**23 41 35.4**	**+2.1**
MBWA	**Marble Bar**	**17.51**	**209**	P	**P**	**23 41 35.5**	**0.0**
QIS	**Mount Isa**	**17.94**	**145**	P	**P**	**23 41 40.9**	**+0.8**
AS31	**Alice Springs**	**18.32**	**165**	P	**P**	**23 41 45.0**	**+0.8**
AS31				IAmb	IAmb	23 41 46.4	
	comp=Z,28nm,0.7s						
ASAR	**Alice Springs**	**18.32**	**165**	P	**P**	**23 41 45.3**	**+1.1**
ASAR	**Alice Springs**	**18.32**	**165**	P	**P**	**23 41 45.0**	**+0.8**
	comp=Z,63nm,0.7s,baz=344,slow=11,SNR=440						
ASAR				S	**S**	**23 44 56.0**	**-1.7**
	comp=Z,43nm,0.9s,baz=345,slow=20,SNR=49						
ASAR				ScP	**ScP**	**23 49 06.2**	**-1.8**
	comp=Z,2.7nm,0.6s,baz=352,slow=1.3,SNR=5.0						
AS01	**Alice Springs**	**18.33**	**165**	P	**P**	**23 41 45.3**	**+1.0**
PMG	**Port Moresby**	**18.52**	**102**	P	**P**	**23 41 49.0**	**+2.5**
PMG				IAmb	IAmb	23 41 50.5	
	comp=Z,19nm,0.6s						
PMG	**Port Moresby**	**18.52**	**102**	P	**P**	**23 41 48.8**	**+2.4**
	comp=Z,14nm,0.5s,baz=301,slow=5.9,SNR=6.0						
SBUM	**Sibu**	**18.53**	**296**	P	**P**	**23 41 49.3**	**+2.8**
SBUM	**Sibu**	**18.53**	**296**	P	**P**	**23 41 49.8**	**+3.3**
WRKA	**Warakurna**	**19.02**	**181**	P	**P**	**23 41 52.0**	**+0.4**
BBJI	**Bungbulang**	**21.06**	**265**	P	**P**	**23 42 14.0**	**+1.3**
GIRL	**Giralia**	**21.77**	**219**	P	**P**	**23 42 19.5**	**+0.5**
GIRL				IAmb	IAmb	23 42 34.2	
	comp=Z,67nm,1.1s						
OOD	**Oodnadatta**	**22.72**	**164**	P	**P**	**23 42 28.1**	**+0.5**
MEEK	**Meekatharra**	**22.78**	**204**	P	**P**	**23 42 29.5**	**+1.3**
MULG	**Mulgathing**	**24.73**	**169**	P	**P**	**23 42 46.3**	**+0.5**
FORT	**Forrest**	**24.74**	**182**	P	**P**	**23 42 45.8**	**0.0**
FORT				IAmb	IAmb	23 43 11.8	
	comp=Z,14nm,0.8s						
FORT	**Forrest**	**24.74**	**182**	P	**P**	**23 42 45.9**	**+0.1**
LCRK	**Leigh Creek**	**25.96**	**161**	P	**P**	**23 42 57.2**	**+0.4**
KMBL	**Kambalda**	**26.13**	**194**	P	**P**	**23 42 58.4**	**+0.1**
BBOO	**Buckleboo**	**27.60**	**167**	P	**P**	**23 43 11.7**	**+0.3**
BBOO				IAmb	IAmb	23 43 14.3	
	comp=Z,22nm,1.5s						
BBOO	**Buckleboo**	**27.60**	**167**	P	**P**	**23 43 11.5**	**+0.2**
STKA	**Stephens Creek**	**28.46**	**157**	P	**P**	**23 43 19.2**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=320,slow=9.1,SNR=6.7						
	comp=Z,3.3nm,0.8s						
HTT	**Hallett**	**28.95**	**162**	P	**P**	**23 43 24.3**	**+1.0**
JCJ	**Chichijima**	**35.29**	**21**	P	**P**	**23 44 15.6**	**-2.6**
CMAR	**Chiang Mai Arr**	**38.13**	**310**	P	**P**	**23 44 42.2**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=138,slow=7.0,SNR=16						
	comp=Z,2.4nm,0.6s						
CHTO	**Chiang Mai**	**38.34**	**311**	P	**P**	**23 44 43.0**	**-0.9**
NJ2	**Nanjing**	**38.93**	**347**	*e*P	**P**	**23 44 51.2**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PZH	**PanZhiHua**	**41.55**	**322**	P	**P**	**23 45 11.1**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,50nm,5.8s						
TNCH	**TengChong**	**42.59**	**317**	*e*P	**P**	**23 45 19.3**	**+0.6**
TNCH				S	**S**	**23 51 18.1**	**-0.6**
TNCH				SS	**SS**	**23 54 33.9**	**-7.4**
TNCH				pmax	pmax		
	comp=Z,13nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,87nm,4.1s						
TNCH				LR	LR		
	comp=N,150nm,5.9s						
TNCH				LR	LR		
	comp=E,130nm,4.8s						
TNCH				LR	LR		
	comp=Z,67nm,5.1s						
MJAR	**Matsushiro Arr**	**43.15**	**11**	P	**P**	**23 45 22.0**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=144,slow=11,SNR=3.2						
	comp=Z,1.1nm,0.5s						
KSRS	**Korea Array**	**43.16**	**359**	P	**P**	**23 45 23.3**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=163,slow=8.8,SNR=2.5						
	comp=Z,0.8nm,0.4s						
XAN	**Xi'an**	**43.97**	**336**	*e*P	**P**	**23 45 29.5**	**+0.2**
XAN				pP	pwP	23 46 36.9	+4.2
XAN				pmax	pmax		
	comp=Z,7.0nm,1.2s						
LZH	**Lanzhou**	**47.90**	**333**	*e*P	P	23 46 05.4	+5.5
LZH				pP	pwP	23 47 12.3	+6.1
LZH				sP	PP	23 47 47.4	-7.7
LZH				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC	**Hu-ho-hao-te**	**49.16**	**343**	*e*P	**P**	**23 46 09.8**	**+0.5**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,85nm,5.3s						
USRK	**Ussuriysk Ar.**	**49.97**	**3**	P	**P**	**23 46 15.4**	**+0.2**
	comp=Z,2.5nm,0.5s,baz=190,slow=6.5,SNR=11						
	comp=Z,2.5nm,0.5s						
SONM	**Songino Array**	**57.05**	**342**	P	**P**	**23 47 07.2**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=132,slow=4.4,SNR=2.2						
	comp=Z,0.4nm,0.6s						
PETK	**Petropavlovsk-**	**63.69**	**19**	P	**P**	**23 47 51.5**	**+0.7**
	comp=Z,3.7nm,0.5s,baz=174,slow=3.8,SNR=9.4						
	comp=Z,3.7nm,0.5s						
KSH	**Kashi**	**66.42**	**318**	P	**P**	**23 48 12.3**	**+3.5**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**66.68**	**327**	P	**P**	**23 48 10.1**	**0.0**
	comp=Z,0.6nm,0.4s,baz=118,slow=8.5,SNR=9.0						
	comp=Z,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**70.09**	**334**	P	**P**	**23 48 29.9**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=84,slow=4.6,SNR=4.0						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**70.97**	**329**	P	**P**	**23 48 36.1**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=129,slow=5.0,SNR=8.2						
	comp=Z,1.2nm,0.7s						
BVAR	**Borovoye Array**	**76.52**	**328**	P	**P**	**23 49 06.5**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=151,slow=6.6,SNR=3.1						
	comp=Z,0.3nm,0.5s						
TIXI	**Tiksi**	**77.42**	**0**	P	**P**	**23 49 12.0**	**-0.9**
TIXI				IAmb	IAmb	23 49 12.8	
	comp=Z,7.7nm,0.4s						
ABKAR	**Akbulak array**	**80.93**	**322**	P	**P**	**23 49 31.5**	**-0.8**
QSPA	**South Pole Qui**	**84.05**	**180**	P	**P**	**23 49 47.1**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=258,slow=0.9,SNR=6.9						
	comp=Z,1.0nm,0.4s						
M13K	**Dall Lake**	**84.42**	**28**	P	**P**	**23 49 50.5**	**+0.7**
L14K	**Kuka Creek**	**85.08**	**27**	P	**P**	**23 49 52.5**	**-0.6**
M14K	**Bethel**	**85.19**	**27**	P	**P**	**23 49 53.6**	**0.0**
M14K				IAmb	IAmb	23 49 54.9	
	comp=Z,16nm,0.8s						
N15K	**Kwethluk River**	**85.86**	**28**	P	**P**	**23 49 57.5**	**+0.5**
RAYN	**Ar Rayn**	**86.22**	**294**	P	**P**	**23 49 59.4**	**-0.2**
O16K	**Kokwok River B**	**86.63**	**29**	P	**P**	**23 50 01.1**	**+0.4**
L16K	**Owhat River**	**86.65**	**27**	P	**P**	**23 50 00.6**	**-0.1**
M16K	**Timber Creek**	**86.66**	**28**	P	**P**	**23 50 01.0**	**+0.1**
J16K	**Anvik River**	**86.68**	**25**	P	**P**	**23 50 01.1**	**+0.2**
M17K	**Holitna River**	**87.48**	**28**	P	**P**	**23 50 05.4**	**+0.7**
L18K	**Granite Mounta**	**88.06**	**27**	P	**P**	**23 50 07.2**	**-0.2**
L18K				IAmb	IAmb	23 50 24.2	
	comp=Z,13nm,1.4s						
J18K	**Innoko River**	**88.40**	**26**	P	**P**	**23 50 08.8**	**-0.3**
N19K	**Bonanza Creek**	**88.70**	**29**	P	**P**	**23 50 10.9**	**+0.3**
N19K				IAmb	IAmb	23 50 52.5	
	comp=Z,13nm,1.2s						
L19K	**White Mountain**	**88.87**	**27**	P	**P**	**23 50 11.3**	**0.0**
L19K				IAmb	IAmb	23 50 13.5	
	comp=Z,16nm,1.4s						
P19K	**Oil Pt**	**89.03**	**30**	P	**P**	**23 50 12.4**	**+0.3**
H19K	**Roundabout Mou**	**89.09**	**24**	P	**P**	**23 50 11.8**	**-0.4**
H19K				IAmb	IAmb	23 50 45.3	
	comp=Z,17nm,1.4s						
ELIB	**Princess Elisa**	**89.16**	**197**	*d*P	**P**	**23 50 13.2**	**+0.5**
K20K	**Telida**	**89.52**	**26**	P	**P**	**23 50 14.3**	**0.0**
K20K				IAmb	IAmb	23 50 55.8	
	comp=Z,12nm,1.4s						
SKT	**Skwentna**	**90.35**	**28**	P	**P**	**23 50 16.3**	**-1.8**
CAST	**Castle Rocks**	**90.40**	**26**	P	**P**	**23 50 17.5**	**-0.9**
H21K	**Melozitna Rive**	**90.59**	**24**	P	**P**	**23 50 18.5**	**-0.7**
H21K				IAmb	IAmb	23 50 42.1	
	comp=Z,7.9nm,1.4s						
SUA	**Susitna One**	**90.61**	**28**	P	**P**	**23 50 18.4**	**-1.1**
SUA				IAmb	IAmb	23 50 30.4	
	comp=Z,7.6nm,1.1s						
KTH	**Kantishna Hill**	**90.94**	**26**	P	**P**	**23 50 19.6**	**-1.4**
KTH				IAmb	IAmb	23 50 21.1	
	comp=Z,12nm,1.5s						
BPAW	**Bear Paw Mtn.**	**91.02**	**26**	P	**P**	**23 50 24.1**	**+2.9**
BPAW				IAmb	IAmb	23 50 25.6	
	comp=Z,4.1nm,0.6s						
MLY	**Manley**	**91.31**	**25**	P	**P**	**23 50 22.1**	**-0.5**
SML	**Sawmill**	**91.81**	**28**	P	**P**	**23 50 23.2**	**-1.7**
SML				IAmb	IAmb	23 50 24.8	
	comp=Z,5.9nm,0.7s						
RND	**Reindeer**	**91.83**	**27**	P	**P**	**23 50 23.3**	**-1.7**
RND				IAmb	IAmb	23 50 24.6	
	comp=Z,8.8nm,1.2s						
I23K	**Minto, Yukon-K**	**91.90**	**25**	P	**P**	**23 50 24.8**	**-0.4**
DHY	**Denali Highway**	**92.44**	**27**	P	**P**	**23 50 27.2**	**-0.7**
DHY				IAmb	IAmb	23 51 01.9	
	comp=Z,8.2nm,1.4s						
CCB	**Clear Creek Bu**	**92.48**	**25**	P	**P**	**23 50 26.1**	**-1.8**
HIN	**Hinchinbrook I**	**92.48**	**30**	P	**P**	**23 50 28.4**	**+0.3**
H24K	**Noodor Dome**	**92.62**	**24**	P	**P**	**23 50 28.1**	**-

comp=Z,91nm,19.6s,baz=288,slow=31
12nm,0.3s
ONTNC **Ouen Toro** 10.90 179 **Pn** **Pn** **23 43 41.6 +1.3**
PINNC **Pines Island,** 11.25 175 Pn **Pn** **23 43 46.5 +1.4**
MSVF **Nonsavu** 12.99 121 **Pn** **Pn** **23 44 08.4 -0.5**
0.3nm,0.3s,baz=133,slow=16,SNR=1.8
MSVF LR LR 23 48 16.3
comp=Z,1μm,20.6s,baz=0.4,slow=33
6.0nm,0.8s
PMG **Port Moresby** 18.97 274 P **P** **23 45 22.3 -1.4**
4.7nm,0.3s,baz=241,slow=5.6,SNR=1.9
PMG LR LR 23 51 57.8
comp=Z,774nm,21.4s,baz=98,slow=35
EIDS **Eidsvold** 20.07 224 Pn 23 45 38.5 +0.5
EIDS IAmb IAmb 23 45 39.4
comp=Z,30nm,0.8s
LHI **Lord Howe Isla** 21.17 197 P **P** **23 45 49.5 +2.1**
CTA **Charters Tower** 21.18 243 LR LR 23 52 44.7
comp=Z,24nm,20.4s,baz=64,slow=33
CTAO **Charters Tower** 21.18 243 P **P** **23 45 48.5 +0.8**
CTAO IAmb IAmb 23 45 52.1
comp=Z,36nm,0.8s
ARMA **Armidale** 23.38 214 P **P** **23 46 11.7 +0.9**
JAY **Jayapura** 26.89 287 LR LR 23 58 30.6
comp=Z,174nm,19.1s,baz=19,slow=39
URZ **Urewera** 28.48 162 LR LR 23 56 38.4
comp=Z,197nm,19.6s,baz=39,slow=33
RTZ **Ruatahuna** 28.77 163 P **P** **23 47 01.3 +2.1**
RTZ IAmb IAmb 23 47 02.2
comp=Z,28nm,1.1s
BKZ **Black Stump Fm** 29.14 164 P **P** **23 47 02.9 +0.4**
BKZ IAmb IAmb 23 47 25.8
comp=Z,27nm,1.4s
H11S2 **WAKE ISLAND Hy** 29.66 1 T T 00 17 46.5
baz=181,slow=76,SNR=85
H11S3 **WAKE ISLAND Hy** 29.66 1 T T 00 17 47.2
baz=181,slow=76,SNR=60
H11S1 **WAKE ISLAND Hy** 29.67 1 T T 00 17 47.8
baz=181,slow=76,SNR=58
QRZ **Quartz Range** 29.86 171 P **P** **23 47 10.2 +1.4**
MRZ **Mangatainoka R** 30.31 166 P **P** **23 47 13.3 +0.5**
MRZ IAmb IAmb 23 47 20.1
comp=Z,26nm,1.2s
NNZ **Nelson** 30.39 169 P **P** **23 47 13.9 +0.5**
MRNZ **Matariki Terra** 30.46 170 P **P** **23 47 14.9 +0.8**
BFZ **Birch Farm** 30.49 165 P **P** **23 47 14.9 +0.5**
TCW **Tory Channel** 30.55 168 P **P** **23 47 13.6 -1.4**
STKA **Stephens Creek** 30.63 224 P **P** **23 47 16.0 +0.3**
STKA **Stephens Creek** 30.63 224 P **P** **23 47 15.6 -0.1**
comp=Z,6.0nm,0.8s,baz=44,slow=13,SNR=5.3
STKA LR LR 23 58 58.7
comp=Z,206nm,21.7s,baz=31,slow=35
comp=Z,6.0nm,0.8s
TUWZ **Tuamarina** 30.70 169 P **P** **23 47 16.9 +0.7**
THZ **Tophouse** 30.84 170 P **P** **23 47 19.1 +1.6**
THZ IAmb IAmb 23 47 39.8
comp=Z,30nm,1.2s
H11N1 **WAKE ISLAND Hy** 30.87 1 T T 00 19 18.1
baz=182,slow=76,SNR=29
H11N3 **WAKE ISLAND Hy** 30.88 1 T T 00 19 18.4
baz=182,slow=76,SNR=12
H11N2 **WAKE ISLAND Hy** 30.89 1 T T 00 19 19.4
baz=182,slow=76,SNR=26
MSWZ **Moikau Station** 30.95 167 P **P** **23 47 18.7 +0.2**
BSWZ **Blackbirch Sta** 30.96 169 P **P** **23 47 19.6 +1.1**
PLWZ **Palliser** 31.10 167 P **P** **23 47 18.9 -0.9**
KHZ **Kahutara** 31.58 170 P **P** **23 47 23.7 -0.2**
LTZ **Lake Taylor** 31.74 172 P **P** **23 47 26.2 +0.8**
WB0 **Warramunga Arr** 31.85 251 P **P** **23 47 23.6 -3.0**
WRA **Warramunga Arr** 31.93 251 P **P** **23 47 26.6 -0.7**
comp=Z,7.5nm,0.9s,baz=81,slow=9.0,SNR=7.6
WRA PcP **PcP** **23 50 14.0 -2.7**
comp=Z,1.0nm,0.9s,baz=51,slow=3.3,SNR=1.6
WRA ScP **ScP** **23 53 59.6 +4.3**
comp=Z,2.5nm,1.1s,baz=85,slow=3.8,SNR=6.0
WRA LR LR 00 00 17.9
comp=Z,176nm,18.6s,baz=78,slow=36
comp=Z,7.5nm,0.9s
GVZ **Greta Valley S** 32.03 171 P **P** **23 47 26.7 -1.3**
TOO **Toolangi** 32.12 212 P **P** **23 47 28.5 -0.3**
FOZ **Fox Glacier** 32.20 175 P **P** **23 47 29.1 -0.3**
OXZ **Oxford** 32.24 172 P **P** **23 47 30.6 +0.9**
RPZ **Rata Peaks** 32.50 174 P **P** **23 47 33.4 +1.3**
RPZ IAmb IAmb 23 47 47.0
comp=Z,12nm,0.7s
GUMO **Guam** 32.67 319 LR LR 00 00 30.4
comp=Z,75nm,20.6s,baz=129,slow=36
MQZ **McQueen's Vall** 32.70 172 P **P** **23 47 34.3 +0.5**
LBZ **Lake Benmore** 33.08 175 P **P** **23 47 37.5 +0.4**
LBZ IAmb IAmb 23 47 53.3
comp=Z,25nm,1.3s
ASAR **Alice Springs** 33.18 244 P **P** **23 47 37.4 -0.9**
ASAR **Alice Springs** 33.18 244 P **P** **23 47 36.5 -1.8**
comp=Z,7.3nm,0.8s,baz=75,slow=10.0,SNR=8.9
ASAR PcP **PcP** **23 50 19.7 -0.5**
comp=Z,1.9nm,0.8s,baz=86,slow=2.4,SNR=4.1
ASAR ScP **ScP** **23 54 03.7 +4.1**
comp=Z,1.6nm,1.0s,baz=65,slow=3.0,SNR=7.3
ASAR LR LR 23 59 39.9
comp=Z,250nm,21.4s,baz=81,slow=34
comp=Z,7.3nm,0.8s
WKZ **Wanaka** 33.44 177 P **P** **23 47 40.8 +0.5**
ODZ **Otahua Downs** 33.78 175 P **P** **23 47 40.7 -2.4**
ODZ IAmb IAmb 23 47 48.6
comp=Z,8.2nm,0.9s
RAR **Rarotonga** 33.91 111 LR LR 00 00 14.3
comp=Z,62nm,19.5s,baz=290,slow=34
DCZ **Deep Cove** 34.00 179 P **P** **23 47 45.4 +0.4**
MGBR **Mount Gambier** 34.97 217 P **P** **23 47 55.3 +1.7**
BBOO **Buckleboo** 35.05 228 P **P** **23 47 54.2 -0.2**
BBOO IAmb IAmb 23 47 55.0
comp=Z,12nm,0.9s
TAU **Tasmania Unive** 35.53 204 P **P** **23 47 59.3 +1.0**
KNRA **Kununurra** 36.76 259 P **P** **23 48 08.8 -0.4**
FITZ **Fitzroy Crossi** 39.87 255 P **P** **23 48 34.2 -1.1**
comp=Z,6.2nm,0.7s,baz=61,slow=8.5,SNR=3.9
FITZ LR LR 00 04 16.6
comp=Z,231nm,19.9s,baz=86,slow=35
comp=Z,6.2nm,0.7s
PPT **Papeete** 43.06 104 LR LR 00 03 04.0
comp=Z,102nm,18.2s,baz=304,slow=31
PPT2 **Papeete2** 43.06 104 *e*S **S** **23 55 20.3 -3.2**
comp=Z,79nm,32.0s
PPT2 *e*LR LR 00 01 08.4
comp=Z,219nm,27.5s
PPT2 *e*LR LR 00 01 08.7
comp=Z,389nm,29.0s
TBI **Tubuai** 43.68 112 *e*LR LR 00 01 24.7
comp=Z,3μm,29.5s
DAV **Davao City (W)** 44.49 292 LR LR 00 07 55.3
comp=Z,48nm,19.7s,baz=351,slow=36
MBWA **Marble Bar** 45.65 252 P **P** **23 49 22.5 +0.3**
MBWA IAmb IAmb 23 49 45.6
comp=Z,15nm,1.1s
MBWA **Marble Bar** 45.65 252 P **P** **23 49 22.4 +0.3**
MBWA pP **pP** **23 49 36.9 +0.4**
TOLI2 **Tolitoli** 46.94 282 P **P** **23 49 32.8 +0.5**
TOLI2 IAmb IAmb 23 49 44.8
comp=Z,9.0nm,0.9s
POHA **Pohakuloa** 48.63 51 P **P** **23 49 46.2 +0.6**
NWAO **Narrogin (SRO)** 49.78 236 P **P** **23 49 52.8 -1.2**
NWAO **Narrogin (SRO)** 49.78 236 LR LR 00 10 51.8
comp=Z,244nm,20.4s,baz=306,slow=36
NWAO **Narrogin (SRO)** 49.78 236 P **P** **23 49 53.8 -0.2**
NWAO pP **pP** **23 50 08.3 -0.4**
MORW **Morawa** 49.99 242 P **P** **23 49 54.1 -1.5**
TAOE **Nuku Hiva Isla** 52.68 93 *e*LR LR 00 05 28.9
comp=Z,186nm,26.9s
JMN **Monobe** 54.44 327 P **P** **23 50 28.2 -0.3**
MJAR **Matsushiro Arr** 54.51 332 LR LR 00 13 06.2
comp=Z,21nm,19.1s,baz=146,slow=36
JNU **Nakatsue** 55.67 324 LR LR 00 11 55.2
comp=Z,32nm,20.9s,baz=146,slow=34
ASAJ **Asahikawa** 59.28 340 LR LR 00 11 20.7
comp=Z,60nm,22.0s,baz=198,slow=31
NJ2 **Nanjing** 62.65 315 *e*P **P** **23 51 27.3 +1.7**
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
PETK **Petropavlovsk-** 64.63 354 LR LR 00 13 42.6
comp=Z,53nm,20.6s,baz=132,slow=30
SBA **Scott Base** 66.49 180 P **P** **23 51 51.4 +1.4**
CCD **Concordia, Ant** 68.02 191 P **P** **23 51 59.7 -0.5**
CCD pP **pP** **23 52 14.7 -1.2**
MA2 **Magadan** 71.79 352 LR LR 00 18 38.3
comp=Z,53nm,21.7s,baz=162,slow=32
HHC **Hu-ho-hao-te** 72.44 319 *e*P **P** **23 52 28.7 +1.3**

HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,60nm,5.6s
CMAR **Chiang Mai Arr** 72.77 293 P **P** **23 52 29.9 +0.2**
comp=Z,0.8nm,0.3s,baz=146,slow=2.9,SNR=5.7
comp=Z,0.8nm,0.3s
PZH **PanZhiHua** 73.13 302 P **P** **23 52 33.2 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
LZH **Lanzhou** 75.39 312 *e*P **P** **23 52 48.7 +3.9**
LZH pP pP 23 53 03.2 +2.5
LZH pmax pmax
comp=Z,12nm,1.1s
KDAK **Kodiak Island** 76.65 21 LR LR 00 19 49.8
comp=Z,71nm,20.0s,baz=66,slow=30
YAK **Yakutsk** 78.55 343 LR LR 00 27 03.3
comp=Z,24nm,18.7s,baz=120,slow=35
QSPA **South Pole Qui** 78.66 180 P **P** **23 53 02.4 -0.2**
QSPA **South Pole Qui** 78.66 180 P **P** **23 53 02.4 -0.2**
comp=Z,14nm,1.0s,baz=356,slow=3.4,SNR=22
comp=Z,14nm,1.0s
L18K **Granite Mounta** 78.79 17 P **P** **23 53 03.7 +0.6**
L18K IAmb IAmb 23 53 07.1
comp=Z,17nm,1.1s
SONM **Songino Array** 79.26 324 P **P** **23 53 03.8 -2.3**
comp=Z,1.1nm,0.8s,baz=141,slow=7.3,SNR=6.3
comp=Z,1.1nm,0.8s
GTA **Gaotai** 79.69 314 *e*P **P** **23 53 09.4 +0.7**
GTA pP pP 23 53 26.0 +1.3
GTA pmax pmax
comp=Z,5.0nm,1.2s
RPN **Rapa Nui** 79.92 116 LR LR 00 22 51.7
comp=Z,41nm,18.6s,baz=36,slow=31
GLI **Glacier Island** 80.84 21 P **P** **23 53 14.9 +0.7**
GLI IAmb IAmb 23 53 16.4
comp=Z,14nm,1.0s
FID **Port Fidalgo** 80.97 21 P **P** **23 53 14.5 -0.4**
CAST **Castle Rocks** 81.06 18 P **P** **23 53 15.8 +0.5**
BPAW **Bear Paw Mtn.** 81.89 17 P **P** **23 53 22.8 +3.0**
BPAW IAmb IAmb 23 53 28.1
comp=Z,7.3nm,0.6s
RND **Reindeer** 82.04 19 P **P** **23 53 21.7 +1.1**
WRH **Wood River Hil** 83.04 18 P **P** **23 53 25.6 -0.1**
WRH IAmb IAmb 23 53 27.2
comp=Z,13nm,1.2s
G21K **Allakaket** 83.04 15 P **P** **23 53 25.1 -0.6**
LOGN **Logan Glacier** 83.05 23 P **P** **23 53 25.5 -0.5**
LOGN IAmb IAmb 23 53 28.5
comp=Z,17nm,1.3s
O02D **Mt. Diablo Mer** 83.08 47 P **P** **23 53 27.0 +0.4**
CCB **Clear Creek Bu** 83.25 18 P **P** **23 53 26.6 -0.2**
M26K **Nabesna, AK** 83.31 21 P **P** **23 53 27.2 0.0**
M26K IAmb IAmb 23 53 30.4
comp=Z,10nm,1.0s
HDA **Harding Lake** 83.34 19 P **P** **23 53 26.8 -0.4**
MENT **Mentasta** 83.41 21 P **P** **23 53 28.1 +0.5**
RIDG **Independent Ri** 83.56 20 P **P** **23 53 28.8 +0.3**
L26K **Log Cabin Wild** 83.59 21 P **P** **23 53 28.5 -0.1**
L26K IAmb IAmb 23 53 31.4
comp=Z,9.3nm,1.0s
IL31 83.62 18 P **P** **23 53 28.4 -0.2**
IL31 IAmb IAmb 23 53 48.4
comp=Z,9.2nm,1.1s
ILAR **Eielson Array** 83.62 18 P **P** **23 53 28.1 -0.6**
ILAR **Eielson Array** 83.62 18 P **P** **23 53 27.6 -1.1**
comp=Z,3.2nm,0.9s,baz=244,slow=5.2,SNR=18
comp=Z,3.2nm,0.9s
M27K **Edge Creek, AK** 83.69 22 P **P** **23 53 30.1 +0.8**
M27K IAmb IAmb 23 53 45.7
comp=Z,19nm,1.4s
YBH **Yreka Blue Hor** 83.69 45 **P** **23 53 30.6 +0.9**
YBH **Yreka Blue Hor** 83.69 45 P **P** **23 53 29.9 +0.2**
YBH IAmb IAmb 23 53 32.5
comp=Z,12nm,1.4s
YBH **Yreka Blue Hor** 83.69 45 LR LR 00 22 02.4
comp=Z,39nm,21.8s,baz=245,slow=30
POKR **Poker Plat Res** 83.69 18 P **P** **23 53 29.7 +0.6**
ORV **Oroville** 83.79 48 P **P** **23 53 30.1 0.0**
ORV IAmb IAmb 23 53 32.3
comp=Z,9.4nm,1.1s
HUMO **Hull Mountain** 83.84 44 P **P** **23 53 30.5 +0.2**
AFDM **Forest Hills D** 83.97 48 P **P** **23 53 31.9 +0.8**
AFDM IAmb IAmb 23 53 34.0
comp=Z,6.6nm,0.9s
J25K **Salcha River,** 83.98 19 P **P** **23 53 30.5 -0.1**
J25K IAmb IAmb 23 53 33.5
comp=Z,9.9nm,0.8s
SCRK **Sand Creek** 84.00 20 P **P** **23 53 30.2 -0.6**
SCRK IAmb IAmb 23 53 32.4
comp=Z,8.8nm,1.0s
CMB **Columbia Colle** 84.09 49 P **P** **23 53 32.1 +0.3**
CMB IAmb IAmb 23 53 33.9
comp=Z,8.5nm,1.3s
L27K **Beaver Creek,** 84.15 21 P **P** **23 53 31.9 +0.4**
BCAR **Beaver Creek A** 84.17 21 P **P** **23 53 31.4 -0.1**
J26L **Joseph Creek** 84.49 19 P **P** **23 53 33.8 +0.6**
BBB **Bella Bella** 84.50 34 LR LR 00 23 47.1
comp=Z,62nm,20.3s,baz=245,slow=30
EMB **Emerald Bay** 84.61 49 P **P** **23 53 35.0 +0.4**
I04A **Tendick Farm,** 84.64 44 P **P** **23 53 35.1 +0.7**
I04A IAmb IAmb 23 53 38.3
comp=Z,13nm,1.5s
J04A **Umpqua Nationa** 84.65 44 P **P** **23 53 35.5 +0.9**
J04A IAmb IAmb 23 53 37.7
comp=Z,14nm,1.2s
MAW **Mawson** 84.66 202 P **P** **23 53 35.9 +1.9**
comp=Z,0.7nm,0.3s,baz=52,slow=12,SNR=3.4
MAW LR LR 00 25 58.6
comp=Z,37nm,20.5s,baz=109,slow=32
comp=Z,0.7nm,0.3s
K27K **Chicken** 84.68 20 P **P** **23 53 35.1 +1.0**
K27K IAmb IAmb 23 53 37.5
comp=Z,7.6nm,1.1s
MPK **Martis Peak** 84.77 48 P **P** **23 53 36.2 +0.7**
MPK IAmb IAmb 23 53 57.1
comp=Z,11nm,1.2s
ISA **Isabella, Lake** 84.80 52 P **P** **23 53 35.5 +0.1**
ISA IAmb IAmb 23 53 37.8
comp=Z,12nm,1.4s
G24K **Hadweenzic Riv** 84.80 17 P **P** **23 53 35.4 +0.8**
G24K IAmb IAmb 23 53 37.3
comp=Z,12nm,1.1s
WAKR **Walker** 84.95 49 **P** **23 53 36.8 +0.5**
WAKR IAmb IAmb 23 53 39.6
comp=Z,11nm,1.2s
OMMB **Old Mammoth Mi** 85.00 50 **P** **23 53 36.9 +0.2**
PNTR **Pine Nut** 85.02 49 **P** **23 53 37.5 +0.8**
PNTR IAmb IAmb 23 53 39.2
comp=Z,9.2nm,1.2s
H04A **Detroit Lake** 85.11 43 P **P** **23 53 35.5 -1.2**
H04A IAmb IAmb 23 53 56.7
comp=Z,7.3nm,1.2s
I26K **Coal Creek Min** 85.15 19 P **P** **23 53 36.2 -0.2**
CBB **Campbell River** 85.16 37 P **P** **23 53 36.7 -0.1**
J05D **Fort Rock, OR** 85.26 44 **P** **23 53 38.0 +0.4**
J05D IAmb IAmb 23 53 58.4
comp=Z,10nm,1.1s
PAHR **Pah Rah Range** 85.38 48 P **P** **23 53 37.3 -1.0**
PAHR IAmb IAmb 23 53 41.4
comp=Z,5.9nm,1.0s
EGAK **Eagle** 85.46 20 P **P** **23 53 37.7 -0.3**
EGAK IAmb IAmb 23 54 00.2
comp=Z,9.7nm,0.8s
N31M **Braeburn, Yuko** 85.49 24 P **P** **23 53 37.8 -0.4**
LHV **Little Huntoon** 85.57 50 P **P** **23 53 38.8 -0.3**
LHV IAmb IAmb 23 53 42.0
comp=Z,9.6nm,1.3s
PINE **Pine Mountain** 85.64 44 **P** **23 53 40.3 +0.7**
RYN **Ryan** 85.67 49 P **P** **23 53 40.6 +0.7**
RYN IAmb IAmb 23 53 42.2
comp=Z,10nm,1.4s
DSP **Deep Springs** 85.70 51 **P** **23 53 39.8 0.0**
DSP IAmb IAmb 23 53 42.5
comp=Z,9.6nm,1.2s
ESJX **Sierra Juarez** 85.75 56 P **P** **23 53 39.7 -0.6**
PGC **Sidney** 85.77 39 P **P** **23 53 39.5 -0.3**
NVAR **Mina Array Bea** 85.78 50 P **P** **23 53 40.9 +0.5**
NVAR **Mina Array Bea** 85.78 50 P **P** **23 53 40.7 +0.2**
comp=Z,3.8nm,1.0s,baz=235,slow=7.6,SNR=15
NVAR LR LR 00 24 11.6
comp=Z,122nm,21.1s,baz=268,slow=30
comp=Z,3.8nm,1.0s

PFO **Pinyon Flats O** 85.78 55 LR LR 00 23 04.5
comp=Z,70nm,21.7s,baz=253,slow=30
NV11 **Mina Array Sit** 85.89 50 P **P** **23 53 40.7 -0.2**
NV11 IAmb IAmb 23 53 43.2
comp=Z,11nm,1.3s
GSC **Goldstone, Bar** 85.99 53 P **P** **23 53 41.3 -0.1**
GRAC **Grapevine Rang** 86.05 51 P **P** **23 53 41.8 +0.1**
GRAC IAmb IAmb 23 53 44.8
comp=Z,9.2nm,1.1s
KVN **Kaiserville** 86.12 49 **P** **23 53 42.6 +0.5**
KVN IAmb IAmb 23 53 44.3
comp=Z,9.4nm,1.4s
BMAR **Burnt Mountain** 86.12 17 P **P** **23 53 41.5 +0.2**
GMN **Gold Mountain** 86.22 51 P **P** **23 53 43.3 +0.6**
MZP **Montezuma Peak** 86.25 51 P **P** **23 53 42.9 0.0**
GWY **Greenwater Val** 86.35 52 P **P** **23 53 43.5 +0.3**
DLBC **Dease Lake** 86.40 28 LR LR 00 23 48.2
comp=Z,57nm,21.5s,baz=295,slow=30
N32M **Quiet Lake** 86.41 25 P **P** **23 53 44.1 +1.3**
N32M IAmb IAmb 23 53 46.5
comp=Z,5.7nm,0.8s
I07A **Izee** 86.71 44 **P** **23 53 43.9 -0.9**
WVOR **Wild Horse Val** 86.78 46 P **P** **23 53 46.0 +0.8**
WVOR IAmb IAmb 23 53 47.7
comp=Z,8.7nm,1.2s
J08A **Circle Bar Ran** 87.19 45 **P** **23 53 47.8 +0.7**
J08A IAmb IAmb 23 53 49.3
comp=Z,9.4nm,1.3s
BLYC **Blythe** 87.37 55 P **P** **23 53 48.6 +0.6**
BLYC IAmb IAmb 23 53 51.5
comp=Z,4.2nm,0.7s
G08A **Pilot Rock** 87.47 43 **P** **23 53 48.8 +0.4**
G08A IAmb IAmb 23 53 50.6
comp=Z,6.9nm,1.3s
E27K **Coleen River** 87.48 17 P **P** **23 53 48.9 +1.0**
E27K IAmb IAmb 23 54 10.3
comp=Z,10nm,1.2s
SHPR **Sheep Range** 87.61 52 **P** **23 53 50.3 +1.0**
V12A **Nelson** 87.64 53 P **P** **23 53 50.0 +0.6**
G29M **Pine Creek** 87.79 19 P **P** **23 53 50.5 +1.2**
G29M IAmb IAmb 23 54 07.8
comp=Z,11nm,1.2s
E08A **Dider Farm, El** 87.79 42 P **P** **23 53 50.5 +0.7**
E08A IAmb IAmb 23 53 52.2
comp=Z,9.9nm,1.2s
R11B **Troy Canyon, C** 87.79 50 **P** **23 53 51.0 +0.8**
PRN **Pahroc Range** 87.94 51 **P** **23 53 52.0 +1.1**
PRN IAmb IAmb 23 53 53.8
comp=Z,11nm,1.3s
W13A **Hualapai Mount** 88.23 54 **P** **23 53 52.6 +0.2**
W13A IAmb IAmb 23 53 55.0
comp=Z,11nm,1.4s
D27M **Malcolm River** 88.33 16 P **P** **23 53 52.9 +1.0**
E09A **Wood Farm, Sta** 88.40 42 P **P** **23 53 52.2 -0.4**
G30M **tAoh Zraii Nji** 88.41 19 **P** **23 53 52.5 +0.2**
BMO **Blue Mountains** 88.45 44 **P** **23 53 53.8 +0.8**
Q12A **Willow Creek R** 88.55 50 P **P** **23 53 54.9 +1.1**
LPIG **La Paz** 88.61 65 LR LR 00 25 04.2
comp=Z,34nm,20.8s,baz=318,slow=30
ELK **Elko** 88.72 48 **P** **23 53 55.1 +0.5**
ELK IAmb IAmb 23 53 57.7
comp=Z,6.4nm,1.4s
ELK **Elko** 88.72 48 LR LR 00 27 14.2
comp=Z,47nm,18.7s,baz=242,slow=31
F10A **Beach Ranch, E** 88.84 43 P **P** **23 53 55.1 +0.3**
SLBS **Sierra La Lagu** 88.84 66 P **P** **23 53 54.5 -0.8**
SPR3 **Spring Creek 3** 88.92 50 **P** **23 53 56.1 +0.4**
PSUT **Pine Spring** 89.15 51 P **P** **23 53 54.5 -2.2**
LCMT **Little Creek M** 89.23 52 P **P** **23 53 56.7 -0.2**
LCMT IAmb IAmb 23 53 59.6
comp=Z,8.6nm,1.4s
KNB **Kanab** 89.56 52 **P** **23 53 58.9 +0.3**
KNB IAmb IAmb 23 54 01.5
comp=Z,9.8nm,1.4s
NEW **Newport** 89.59 41 LR LR 00 26 18.4
comp=Z,46nm,21.0s,baz=272,slow=30
WMQ **Urumqi** 89.72 315 *e*P **P** **23 53 58.0 -1.0**
WMQ pP pP 23 54 17.4 +2.1
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ LR LR
comp=N,420nm,23.3s
U15A **North Rim** 89.82 53 P **P** **23 54 00.8 +0.8**
INK **Inuvik** 90.00 19 LR LR 00 29 41.8
comp=N,42nm,20.0s,baz=234,slow=32
X16A **Lo Mia Camp, P** 90.02 55 **P** **23 54 00.8 0.0**
X16A IAmb IAmb 23 54 04.3
comp=Z,5.8nm,1.2s
PKCU **Pink Cliffs** 90.06 52 **P** **23 54 00.9 -0.2**
HLID **Hailey** 90.07 46 **P** **23 54 01.2 +0.4**
MTPU **Mount Pierson** 90.30 51 P **P** **23 54 02.8 +0.5**
MTPU IAmb IAmb 23 54 05.0
comp=Z,5.8nm,1.0s
WUAZ **Wupatki** 90.33 54 **P** **23 54 02.2 0.0**
WUAZ IAmb IAmb 23 54 05.7
comp=Z,5.7nm,1.1s
MVU **Marysvale** 90.39 51 P **P** **23 54 02.2 -0.3**
MSU **Marysvale** 90.42 51 **P** **23 54 04.5 +1.9**
HVU **Hansel Valley** 90.78 48 P **P** **23 54 04.2 +0.1**
HVU IAmb IAmb 23 54 06.2
comp=Z,5.6nm,1.0s
NLU **North Lily Min** 90.85 50 P **P** **23 54 03.3 -1.2**
NLU IAmb IAmb 23 54 07.0
comp=Z,5.4nm,1.2s
SPUT **South Promonto** 90.90 48 P **P** **23 54 04.8 +0.1**
P18A **Preston Nutter** 92.14 50 P **P** **23 54 10.1 -0.5**
P18A IAmb IAmb 23 54 19.9
comp=Z,3.8nm,0.9s
PDAR **Pinedale Array** 93.33 47 P **P** **23 54 16.8 +0.8**
comp=Z,1.0nm,0.9s,baz=250,slow=3.0,SNR=5.6
PDAR LR LR 00 32 41.6
comp=Z,19nm,18.3s,baz=294,slow=33
comp=Z,1.0nm,0.9s
ELIB **Princess Elisa** 93.35 191 *d*P **P** **23 54 14.9 -0.5**
ANMO **Albuquerque** 94.14 55 P **P** **23 54 19.3 -0.6**
ANMO **Albuquerque** 94.14 55 LR LR 00 28 31.1
comp=Z,46nm,21.1s,baz=54,slow=30
MK31 **Makanchi Array** 94.14 317 **P** **23 54 17.8 -1.5**
MK31 IAmb IAmb 23 54 20.1
comp=Z,4.5nm,1.4s
MKAR **Makanchi Array** 94.14 317 P **P** **23 54 18.2 -1.1**
MKAR **Makanchi Array** 94.14 317 P **P** **23 54 18.7 -0.7**
comp=Z,1.5nm,0.7s,baz=86,slow=6.8,SNR=12
comp=Z,1.5nm,0.7s
ZALV **Zalesovo Beam** 94.14 324 P **P** **23 54 17.9 -1.3**
comp=Z,0.5nm,0.5s,baz=126,slow=2.0,SNR=5.0
comp=Z,0.5nm,0.5s
MAKZ **Makanchi** 94.36 317 **P** **23 54 19.5 -0.8**
MAKZ IAmb IAmb 23 54 21.6
comp=Z,6.8nm,1.5s
YKA **Yellowknife Ar** 94.98 27 P **P** **23 54 22.9 +0.1**
comp=Z,0.5nm,0.6s,baz=316,slow=5.2,SNR=1.6
YKA LR LR 00 29 59.7
comp=Z,42nm,20.1s,baz=277,slow=31
comp=Z,0.5nm,0.6s
TXAR **Lajitas Array** 95.46 61 LR LR 00 29 41.0
comp=Z,61nm,20.8s,baz=253,slow=31
SNAA **Sanae** 96.85 183 LR LR 00 36 58.9
comp=Z,48nm,20.1s,baz=180,slow=35
KURBB **Kurchatov Arra** 97.29 320 P **P** **23 54 31.0 -2.5**
comp=Z,0.3nm,0.3s,baz=116,slow=5.3,SNR=1.9
comp=Z,0.3nm,0.3s
ARCES **ARCESS Array B** 116.78 346 PKP **PKPdf** **23 59 43.4 -0.8**
comp=Z,3.9nm,1.0s,baz=27,slow=1.4,SNR=3.7
FINES **FINESS Array B** 122.27 339 PKP **PKPdf** **23 59 54.5 -0.5**
comp=Z,2.0nm,0.9s,baz=48,slow=6.2,SNR=6.1
BOSA **Boshof** 125.29 223 PKP **PKiKP** **00 00 03.3 +0.9**
comp=Z,1.0nm,0.9s,baz=175,slow=2.2,SNR=3.6
KEST **Kesra** 148.01 323 PKPbc **PKPdf** **00 00 44.5 +1.2**
comp=Z,7.3nm,1.1s,baz=304,slow=3.6,SNR=2.7
ESDC **Sonseca Array** 150.51 345 PKP **PKPdf** **00 00 47.8 +0.7**
comp=Z,0.3nm,0.5s,baz=20,slow=4.1,SNR=3.2
TORD **Torodi Ar. Bea** 164.89 278 PKP **PKPdf** **00 01 04.3 -1.1**
comp=Z,0.9nm,1.0s,baz=9.2,slow=3.3,SNR=4.2

STR ***09*** *23:57:35.6±0.3,43°N±3°×±°, h2km, MLv2.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=17.8, preliminary*
LDG ***09*** *23:57:35.4±0.1,43°.13N×0°.89W, h2km, Md2.1/2, Ml2.2/12, Error ellipse: s-maj=2.4km s-min=1.9km az=172.0*
MDD ***09*** *23:57:36.1±0.2,43°.12N×0°.91W, h12km, mb_Lg2.5/34, Error ellipse: s-maj=1.8km s-min=1.1km az=177.0*
ISC 09 23:57:34.4±0.9, 43°.16N±0°.02×0°.89W±0°.01, h18km±3km, n51, σ1°15/103, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.16**	**119**	Pg	**Pb**	**23 57 38.7**	**+0.4**
ATE				Sg	**Sb**	**23 57 41.2**	**+0.4**
SJPF	**Ste Jean**	**0.25**	**259**	*e*Pg	**Pb**	**23 57 40.1**	**-0.3**
SJPF				*e*Sg	**Sb**	**23 57 43.3**	**-1.0**
	179nm,0.2s						
OSSF	**Osses**	**0.29**	**289**	Pg	**Pg**	**23 57 41.3**	**+0.6**
OSSF				Sg	**Sg**	**23 57 45.9**	**+0.8**
ETSF	**Etsaut**	**0.36**	**138**	*e*Pg	**Pg**	**23 57 41.5**	**-0.5**
ETSF				*e*Sg	**Sg**	**23 57 45.0**	**-2.1**
	26nm,0.1s						
EORO	**Oroz-Betelu**	**0.41**	**229**	Pg	**Pg**	**23 57 42.5**	**-0.5**
EORO				Sg	**Sg**	**23 57 47.7**	**-0.9**
EORO				*i* Vmb_Lg		23 57 49.2	
EALK	**Alkurruntz**	**0.46**	**277**	Pg	**Pb**	**23 57 44.1**	**+0.2**
EALK				Sg	**Sb**	**23 57 50.6**	**0.0**
EALK				*i* Vmb_Lg		23 57 52.2	
EALK	**Alkurruntz**	**0.46**	**277**	Pg	**Pb**	**23 57 44.2**	**+0.2**
CANF	**Canfranc**	**0.48**	**146**	Pg	**Pg**	**23 57 43.6**	**-0.6**
CANF				Sg	**Sg**	**23 57 49.2**	**-1.6**
TERF	**Tercis-les-Bai**	**0.54**	**342**	Pg	**Pn**	**23 57 47.2**	**0.0**
TERF				Sg	**Sn**	**23 57 55.7**	**-0.2**
PYLO	**Lourdes**	**0.62**	**96**	Pg	**Pg**	**23 57 47.3**	**+0.7**
PYLO				Sg	**Sg**	**23 57 56.3**	**+1.4**
EARA	**Aranguren**	**0.64**	**233**	Pg	**Pb**	**23 57 46.6**	**-0.4**
EARA				Sg	**Sb**	**23 57 55.1**	**-0.6**
EARA				*i* Vmb_Lg		23 57 59.5	
EARA	**Aranguren**	**0.64**	**233**	Pg	**Pg**	**23 57 47.7**	**+0.6**
LABF	**Labassere**	**0.71**	**99**	Pg	**Pg**	**23 57 49.0**	**+0.6**
LABF				Sg	**Sb**	**23 57 58.3**	**+0.5**
VIEF	**Viey**	**0.72**	**112**	Pg	**Pb**	**23 57 48.4**	**-0.1**
VIEF				Sg	**Sb**	**23 57 58.8**	**+0.6**
EPF	**Esparros**	**0.91**	**98**	*e*Pg	**Pn**	**23 57 52.5**	**+0.2**
EPF				*e*Sg	**Sb**	**23 58 03.7**	**+0.3**
	14nm,0.2s						
ECHI	**Chisagues Biel**	**0.94**	**122**	Pg	**Pb**	**23 57 52.1**	**-0.1**
ECHI				Sg	**Sb**	**23 58 04.0**	**-0.3**
ECHI				*i* Vmb_Lg		23 58 07.5	
ECHI	**Chisagues Biel**	**0.94**	**122**	Sg	**Sb**	**23 58 05.0**	**+0.6**
ECHI	**Chisagues Biel**	**0.94**	**122**	Pg	**Pb**	**23 57 52.2**	**-0.1**
MELF	**Melles**	**1.24**	**103**	Pg	**Pb**	**23 57 58.3**	**+0.9**
MELF				Sg	**Sg**	**23 58 15.1**	**+0.5**
CRAS	**Crastes**	**1.30**	**64**	Pg	**Pg**	**23 58 00.3**	**+0.7**
CRAS				Sg	**Sg**	**23 58 18.2**	**+1.6**
MLS	**Moulis**	**1.47**	**97**	Pn	**Pg**	**23 58 02.6**	**-0.1**
MLS				Sn	**Sg**	**23 58 22.5**	**+0.7**
ESAC	**San Caprasio**	**1.47**	**168**	Pg	**Pn**	**23 57 58.6**	**-1.5**
ESAC				Sg	**Sn**	**23 58 16.7**	**-2.2**
SALF	**Salau**	**1.58**	**104**	Pn	**Pg**	**23 58 04.4**	**-0.4**
SALF				Sn	**Sg**	**23 58 25.3**	**0.0**
LRVF	**chteau la Riv**	**1.83**	**13**	Pn	**Pb**	**23 58 08.4**	**+1.0**
LRVF				Sn	**Sg**	**23 58 33.1**	**-0.3**
ELAN	**Lanestosa**	**1.86**	**273**	Pg	**Pb**	**23 58 09.0**	**+1.0**
ELAN				Sg	**Sg**	**23 58 32.9**	**-1.5**
ELAN				*i* Vmb_Lg		23 58 50.2	
PAND	**Andorre**	**1.90**	**109**	Pn	**Pb**	**23 58 08.3**	**-0.4**
PAND				Sn	**Sb**	**23 58 33.0**	**+0.9**
MONQ	**Montcuq**	**1.93**	**51**	Pn	**Pb**	**23 58 09.9**	**+0.9**
MONQ				Sn	**Sg**	**23 58 35.9**	**-0.7**
DUNF	**Dun**	**1.98**	**93**	Pn	**Pb**	**23 58 09.9**	**0.0**
DUNF				Sn	**Sb**	**23 58 35.2**	**+0.9**
LFF	**La Frestale**	**2.13**	**33**	*e*Pg	**Pg**	**23 58 14.9**	**-0.4**
LFF				*e*Sg	**Sg**	**23 58 42.1**	**-0.8**
	2.9nm,0.3s						
EMIR	**Miracle**	**2.18**	**124**	Pg	**Pb**	**23 58 14.8**	**+1.5**
EMIR				Sg	**Sg**	**23 58 43.7**	**-0.8**
EMIR				*i* Vmb_Lg		23 58 49.3	
FNEB	**Nbias**	**2.21**	**96**	Pn	**Pb**	**23 58 13.1**	**-0.8**
FNEB				Sn	**Sb**	**23 58 41.2**	**+0.2**
CARF	**Carcanieres**	**2.24**	**100**	Pn	**Pb**	**23 58 13.4**	**-1.1**
CARF				Sn	**Sb**	**23 58 41.5**	**-0.4**
MTLF	**Montolieu**	**2.27**	**84**	*e*Pg	**Pb**	**23 58 15.2**	**+0.3**
MTLF				*e*Sg	**Sb**	**23 58 44.3**	**+1.6**
	2.5nm,0.2s						
MTLF	**Montolieu**	**2.27**	**84**	Pn	**Pb**	**23 58 14.2**	**-0.8**
MTLF				Sn	**Sb**	**23 58 43.0**	**+0.2**
VALC	**Valcebollere**	**2.29**	**109**	Pn	**Pb**	**23 58 13.9**	**-1.5**
VALC				Sn	**Sb**	**23 58 42.6**	**-0.9**
EPOB	**Poblet**	**2.32**	**140**	Pg	**Pb**	**23 58 15.2**	**-0.6**
EPOB				Sn	**Sn**	**23 58 39.7**	**-0.3**
EPOB				Sg	**Sb**	**23 58 47.1**	**+2.9**
EPOB				*i* Vmb_Lg		23 58 55.5	
ERTA	**Horta de San J**	**2.38**	**157**	Pn	**Pn**	**23 58 13.1**	**+0.4**
ERTA				Pg	**Pb**	**23 58 17.0**	**+0.2**
ERTA				Sn	**Sn**	**23 58 42.1**	**+0.7**
ERTA				Sg	**Sb**	**23 58 48.0**	**+2.1**
ERTA				*i* Vmb_Lg		23 58 52.6	
ETOR	**Torete**	**2.50**	**201**	Pn	**Pn**	**23 58 14.4**	**+0.2**
ETOR				Sn	**Sn**	**23 58 44.2**	**-0.1**
ETOR				Sg	**Sb**	**23 58 50.4**	**+1.2**
ETOR				*i* Vmb_Lg		23 58 57.7	
E0901	**Celadas (Terue**	**2.69**	**184**	Sn	**Sn**	**23 58 49.4**	**+0.4**
E0901				Sg	**Sb**	**23 58 56.6**	**+1.9**
E0901				*i* Vmb_Lg		23 59 05.3	
RJF	**Les Rejaudoux**	**2.75**	**38**	*e*Pg	**Pg**	**23 58 26.4**	**-0.8**
RJF				*e*Sg	**Sg**	**23 59 01.5**	**-1.3**
	2.1nm,0.2s						
CAF	**Calviac**	**2.76**	**49**	*e*Pn	**Pn**	**23 58 18.9**	**+1.1**
CAF				*e*Sn	**Sn**	**23 58 50.2**	**-0.6**
CAF				*e*Sg	**Sg**	**23 59 02.3**	**-0.9**
	1.4nm,0.2s						
EMOS	**Mosqueruela**	**2.81**	**174**	Pn	**Pn**	**23 58 18.6**	**-0.1**
EMOS				Pg	**Pb**	**23 58 24.3**	**+0.1**
EMOS				Sn	**Sn**	**23 58 51.1**	**-1.1**
EMOS				*i* Vmb_Lg		23 58 59.2	
EMOS				Sg	**Sb**	**23 59 01.5**	**+3.1**
EJON	**La Jonquera**	**2.87**	**103**	Sg	**Sg**	**23 59 06.1**	**-0.5**
EJON				*i* Vmb_Lg		23 59 10.2	
EARI	**Arriondas**	**3.16**	**274**	Sn	**Sn**	**23 59 00.9**	**+0.3**
GUD	**Guadarrama**	**3.50**	**225**	Sn	**Sn**	**23 59 07.5**	**-1.7**
LASF	**Ste Croix**	**3.56**	**74**	*e*Pn	**Pn**	**23 58 29.4**	**+0.6**
LASF				*e*Sn	**Sn**	**23 59 09.4**	**-1.1**
	1.5nm,0.4s						
TCF	**Toulx Ste Croi**	**3.83**	**34**	*e*Sn	**Sn**	**23 59 15.8**	**-1.1**
	0.4nm,0.1s						
TCF				*e*Sg	**Sg**	**23 59 36.1**	**-1.1**
	1.0nm,0.2s						
BGF	**Bois d'Agland**	**4.31**	**37**	*e*Pn	**Pn**	**23 58 39.6**	**+0.6**
BGF				*e*Sg	**Sg**	**23 59 50.6**	**-2.1**
	0.8nm,0.2s						
PAB	**San Pablo**	**4.45**	**217**	Pn	**Pn**	**23 58 41.7**	**+0.6**
PAB				Sn	**Sn**	**23 59 30.6**	**-2.0**
PAB				Sg	**Sb**	**23 59 49.8**	**+4.3**
PAB				*i* Vmb_Lg		23 59 55.8	
AVF	**Avril sur Loir**	**4.71**	**38**	*e*Pn	**Pn**	**23 58 45.6**	**+1.0**
AVF				*e*Sg	**Sg**	**00 00 03.6**	**-2.0**
	0.6nm,0.3s						
SSF	**Saint Saulge**	**4.99**	**37**	*e*Pn	**Pn**	**23 58 49.1**	**+0.8**
SSF				*e*Sg	**Sg**	**00 00 11.4**	**-3.0**
	0.4nm,0.2s						

*NOU **10** 00:02:45.3, 10.°31S×161.°20E, h0km, MLv4.7/4, Solomon Islands*
*NEIC **10** 00:02:45.1±1.2, 10.°34S±0.°09×161.°2E±0.°1, h26km±9km, mb4.2/12, Error ellipse: s-maj=20.2km s-min=7.3km az=54.0*
*IDC **10** 00:02:47.4±4.0, 10.°36S×161.°11E, h54km±32km, mb3.7/10, mbtmp4.0/10, MS3.2/9, Error ellipse: s-maj=30.6km s-min=18.5km az=103.0*
ISC 10 00:02:42.3±0.6, 10.°42S±0.°08×161.°18E±0.°07, h10km, n37, σ1$63/31, mb4.2/14, MS3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**0.71**	**94**	P	**Pb**	**00 02 59.0**	**+2.2**
HNR	**Honiara**	**1.56**	**309**	P	**Pn**	**00 03 10.5**	**+0.3**
	905nm,0.6s,baz=132,slow=15,SNR=18						
HNR				S	**Sn**	**00 03 29.9**	**-0.6**
	3μm,0.3s,baz=145,slow=19,SNR=18						
HNR				LR	LR	00 03 53.5	
	comp=Z,499nm,19.0s,baz=178,slow=45						
HNR	**Honiara**	**1.56**	**309**	P	**Pn**	**00 03 12.6**	**+2.4**
ALEG	**Aligegeo Malai**	**1.72**	**344**	P	**Pn**	**00 03 14.4**	**+2.0**
TATA	**Tatamba Isabel**	**2.43**	**326**	P	**Pn**	**00 03 25.1**	**+2.9**
RABL	**Rabaul**	**10.87**	**304**	Pn	**Pn**	**00 05 17.9**	**-0.3**
DZM	**Mont Dzumac**	**12.64**	**157**	LR	LR	00 09 47.2	
	comp=Z,140nm,18.0s,baz=44,slow=33						
PMG	**Port Moresby**	**13.85**	**273**	Pn	**Pn**	**00 06 02.7**	**+3.8**
PMG	**Port Moresby**	**13.85**	**273**	LR	LR	00 11 00.9	
	comp=Z,166nm,21.9s,baz=116,slow=36						
CTA	**Charters Tower**	**17.30**	**234**	LR	LR	00 12 49.7	
	comp=Z,8.6nm,18.7s,baz=92,slow=35						
CTAO	**Charters Tower**	**17.30**	**234**		**Pn**	**00 06 46.3**	**+2.0**
CTAO				IAmb	IAmb	00 06 50.8	
	comp=Z,13nm,0.8s						
EIDS	**Eidsvold**	**17.69**	**211**	Pn	**Pn**	**00 06 47.5**	**-1.5**
EIDS				IAmb	IAmb	00 06 55.2	
	comp=Z,16nm,1.1s						
MSVF	**Nonsavu**	**17.90**	**116**	LR	LR	00 13 15.5	
	comp=Z,60nm,19.1s,baz=177,slow=35						
COEN	**Coen**	**17.95**	**257**		**Pn**	**00 06 52.2**	**-0.1**
CAN	**Canberra**	**27.16**	**202**	P	**P**	**00 08 26.6**	**+0.5**
CAN				IAmb	IAmb	00 08 42.0	
	comp=Z,5.9nm,1.1s						
WR0	**Warramunga Arr**	**27.37**	**247**	P	**P**	**00 08 28.4**	**+0.4**
WB0	**Warramunga Arr**	**27.45**	**247**	P	**P**	**00 08 28.2**	**-0.6**
WB0				IAmb	IAmb	00 08 43.5	
	comp=Z,3.8nm,0.9s						
WB2	**Warramunga Arr**	**27.53**	**247**	P	**P**	**00 08 29.4**	**-0.1**
WB2				IAmb	IAmb	00 08 30.1	
	comp=Z,5.0nm,1.1s						
WRA	**Warramunga Arr**	**27.55**	**247**	P	**P**	**00 08 28.6**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=75,slow=9.3,SNR=13						
WRA				PcP	**PcP**	**00 11 46.5**	**-1.2**
	comp=Z,0.8nm,1.0s,baz=79,slow=3.4,SNR=4.0						
	comp=Z,1.3nm,0.6s						
STKA	**Stephens Creek**	**28.00**	**217**	P	**P**	**00 08 34.3**	**+0.7**
STKA	**Stephens Creek**	**28.00**	**217**	P	**P**	**00 08 34.2**	**+0.7**
	comp=Z,0.6nm,0.2s,baz=38,slow=18,SNR=3.4						
STKA				LR	LR	00 19 26.9	
	comp=Z,79nm,19.9s,baz=25,slow=36						
	comp=Z,0.6nm,0.2s						
ASAR	**Alice Springs**	**29.15**	**240**	P	**P**	**00 08 42.5**	**-1.4**
	comp=Z,1.1nm,0.9s,baz=64,slow=10,SNR=8.0						
ASAR				LR	LR	00 20 17.7	
	comp=Z,188nm,19.1s,baz=82,slow=36						
	comp=Z,1.1nm,0.9s						
KNRA	**Kununurra**	**31.99**	**257**	P	**P**	**00 09 08.2**	**-0.8**
BBOO	**Buckleboo**	**32.12**	**222**	P	**P**	**00 09 10.7**	**+0.7**
KHZ	**Kahutara**	**33.66**	**163**	P	**P**	**00 09 24.4**	**+1.0**
FITZ	**Fitzroy Crossi**	**35.23**	**253**	P	P	00 09 35.4	-1.9
	comp=Z,3.1nm,0.8s,baz=93,slow=9.6,SNR=6.0						
	comp=Z,3.1nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.14**	**234**	LR	LR	00 31 01.4	
	comp=Z,46nm,18.2s,baz=227,slow=37						
PETK	**Petropavlovsk-**	**63.34**	**358**	LR	LR	00 36 22.1	
	comp=Z,20nm,21.7s,baz=123,slow=32						
CMAR	**Chiang Mai Arr**	**67.77**	**295**	LR	LR	00 42 35.9	
	comp=Z,5.6nm,22.0s,baz=35,slow=35						
SONM	**Songino Array**	**75.56**	**325**	P	**P**	**00 14 26.9**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=136,slow=5.9,SNR=12						
	comp=Z,1.9nm,0.6s						
QSPA	**South Pole Qui**	**79.58**	**180**	P	**P**	**00 14 49.7**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=357,slow=2.2,SNR=6.3						
	comp=Z,0.9nm,0.3s						
SUA	**Susitna One**	**80.90**	**21**	P	**P**	**00 14 56.4**	**-0.3**
SUA				IAmb	IAmb	00 15 14.5	
	comp=Z,4.4nm,1.1s						
MAW	**Mawson**	**83.60**	**202**	P	**P**	**00 15 10.5**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=91,slow=11,SNR=6.0						
	comp=Z,1.8nm,0.8s						
ILAR	**Eielson Array**	**84.39**	**20**	P	**P**	**00 15 12.8**	**-1.8**
	comp=Z,0.7nm,0.9s,baz=240,slow=5.0,SNR=7.2						
	comp=Z,0.7nm,0.9s						
NVAR	**Mina Array Bea**	**89.08**	**51**	P	**P**	**00 15 36.6**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=243,slow=10.0,SNR=2.2						
	comp=Z,0.3nm,0.6s						
MKAR	**Makanchi Array**	**90.02**	**318**	P	**P**	**00 15 40.2**	**-2.2**
	comp=Z,0.4nm,0.7s,baz=95,slow=6.6,SNR=4.4						
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**159.74**	**280**	PKPab	**PKPab**	**00 23 18.2**	**-3.2**
	comp=Z,0.6nm,1.0s,baz=84,slow=2.8,SNR=2.7						

*WEL **10** 00:06:53.5±1.1, 32.°5S±0.°1×179.°6W±0.°2, h450km, M4.7/7, mB4.6/2, ML4.8/10, MLv4.7/7, Mw(mB)3.8/2, Error ellipse: s-maj=21.7km s-min=5.2km az=116.2, confirmed*
*IDC **10** 00:07:00.6±3.8, 33.°29S×179.°87E, h509km±34km, mb2.8/3, mbtmp3.8/4, Error ellipse: s-maj=56.7km s-min=30.2km az=41.0*
ISC 10 00:06:52.7±1.7, 32.°5S±0.°1×179.°6W±0.°2, h450km, n20, σ2$05/32, mb3.1/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.54**	**24**	S	S	00 08 31.9	-30
HAZ	**Te Kaha**	**5.66**	**202**	P	**P**	**00 08 23.3**	**-0.1**
HAZ				S	**S**	**00 09 34.4**	**-3.1**
PUZ	**Puketiti**	**5.82**	**197**	P	**P**	**00 08 27.9**	**+2.8**
PUZ				S	**S**	**00 09 39.8**	**-0.8**
RUGZ	**Raukumara Rang**	**5.88**	**202**	P	**P**	**00 08 26.9**	**+1.0**
RUGZ				S	**S**	**00 09 39.6**	**-2.4**
TWGZ	**Tauwhareparae**	**5.99**	**199**	P	**P**	**00 08 30.6**	**+3.7**
TWGZ				S	**S**	**00 09 43.3**	**-0.6**
CNGZ	**Carnagh Statio**	**6.22**	**196**	P	**P**	**00 08 33.2**	**+4.0**
URZ	**Urewera**	**6.34**	**204**	P	**P**	**00 08 30.4**	**+0.1**
	4.2nm,0.3s,baz=346,slow=6.3,SNR=18						
URZ				S	**S**	**00 09 48.6**	**-1.6**
	16nm,0.4s,baz=345,slow=20,SNR=15						
URZ	**Urewera**	**6.34**	**204**	P	**P**	**00 08 30.7**	**+0.3**
URZ				S	**S**	**00 09 48.6**	**-1.6**
RIGZ	**Rimuhau**	**6.55**	**199**	P	**P**	**00 08 35.0**	**+2.5**
RIGZ				S	**S**	**00 09 55.4**	**+1.0**
SNGZ	**Shannon Statio**	**6.74**	**201**	S	**S**	**00 09 58.9**	**+0.9**
RAHZ	**Arahi**	**6.94**	**202**	P	**P**	**00 08 38.2**	**+1.5**
RAHZ				S	**S**	**00 10 01.2**	**-0.7**
MTHZ	**Maungataniwha**	**6.96**	**204**	P	**P**	**00 08 39.2**	**+2.2**
MTHZ				S	**S**	**00 10 00.8**	**-1.6**
NMHZ	**Naumai**	**7.20**	**203**	P	**P**	**00 08 42.0**	**+2.5**
NMHZ				S	**S**	**00 10 06.8**	**-0.2**
BKZ	**Black Stump Fm**	**7.36**	**205**	P	**P**	**00 08 42.6**	**+1.4**
BKZ				S	**S**	**00 10 07.7**	**-2.5**
MCHZ	**McNeill Hill**	**7.55**	**203**	P	**P**	**00 08 45.0**	**+1.9**
MCHZ				S	**S**	**00 10 14.5**	**+0.9**
OTVZ	**Oturere**	**7.68**	**209**	P	**P**	**00 08 46.1**	**+1.5**
OTVZ				S	**S**	**00 10 19.9**	**+3.4**
ASAR	**Alice Springs**	**41.70**	**270**	P	**P**	**00 14 01.6**	**+0.7**
	0.7nm,0.9s,baz=113,slow=7.1,SNR=5.0						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**42.89**	**275**	P	**P**	**00 14 09.7**	**-0.6**
	0.6nm,0.7s,baz=114,slow=7.7,SNR=5.2						
	0.6nm,0.7s						
QSPA	**South Pole Qui**	**57.60**	**180**	P	**P**	**00 15 55.2**	**-2.9**
	0.9nm,0.3s,baz=355,slow=14,SNR=2.0						
	0.9nm,0.3s						
FINES	**FINESS Array B**	**146.62**	**338**	PKPbc	**PKPab**	**00 25 45.4**	**+0.9**
	3.0nm,1.0s,baz=48,slow=4.1,SNR=8.9						

*IDC **10** 00:08:54.0±1.2, 37.°75N×20.°48E, h0km, mb3.6/9, mbtmp3.6/14, ML3.6/3, MS3.4/4, Error ellipse: s-maj=20.5km s-min=19.3km az=24.0*
*PDG **10** 00:08:55.2±1.1, 37.°61N×20.°41E, h5km±2km, ML3.7/12, Error ellipse: s-maj=2.9km s-min=3.0km az=0.0*
*THE **10** 00:08:55.2, 37.°62N×20.°50E, h5km±2km, ML3.6/16, Error ellipse: s-maj=2.2km s-min=0.5km az=45.0*
*BEO **10** 00:08:55.4±0.7, 37.°74N×20.°24E, h0km, ML3.4/10*
*ATH **10** 00:08:55.1, 37.°63N×20.°50E, h6km±1km, ML3.6/21, Error ellipse: s-maj=2.7km s-min=0.8km az=34.0*
*NAO **10** 00:09:01.8, 37.°64N×20.°47E, h10km, mb3.3*
ISC 10 00:08:55.2±1.1, 37.°70N±0.°03×20.°49E±0.°03, h11km±7km, n137, σ1$45/192, mb3.8/10, MS3.6/3, 3C-2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.26**	**97**	P	**Pg**	**00 09 00.7**	**+0.1**
KRI1				S	**Sg**	**00 09 04.2**	**0.0**
	40μm,0.3s						
LTHK	**Lithakia**	**0.28**	**87**	P	**Pg**	**00 09 00.8**	**0.0**
LTHK				S	**Sg**	**00 09 04.1**	**-0.5**
	22μm,0.4s						
LTHK	**Lithakia**	**0.28**	**87**	P	**Pg**	**00 09 00.7**	**-0.1**
LTHK				S	**Sg**	**00 09 04.4**	**-0.2**
LTHK				AML	AML	00 09 05.1	
	comp=N,46206μm,0.3s						
LTHK				AML	AML	00 09 06.3	
	comp=E,38485μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.42**	**10**	P	**Pb**	**00 09 04.7**	**0.0**
PSDA				S	**Sb**	**00 09 11.7**	**+0.6**
	comp=E,8μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.42**	**10**	P	**Pb**	**00 09 04.5**	**-0.2**
PSDA				S	**Sb**	**00 09 11.2**	**+0.1**
RTZL	**Ratzakli, Kefa**	**0.44**	**30**	P	**Pb**	**00 09 04.5**	**-0.5**
RTZL				S	**Sb**	**00 09 11.7**	**+0.1**
	comp=E,19μm,0.4s						
VLS	**Valsamata**	**0.49**	**9**	P	**Pb**	**00 09 05.6**	**-0.2**
VLS				S	**Sb**	**00 09 13.8**	**+0.8**
	comp=E,6μm,0.3s						
VLS	**Valsamata**	**0.49**	**9**	P	**Pb**	**00 09 05.5**	**-0.2**
VLS				S	**Sb**	**00 09 13.4**	**+0.5**
VLS				AML	AML	00 09 17.6	
	comp=E,11319μm,0.2s						
VLS				AML	AML	00 09 17.6	
	comp=N,13964μm,0.4s						
LXR1	**Lixouri, Cepha**	**0.51**	**356**	P	**Pb**	**00 09 06.7**	**+0.6**
LXR1				S	**Sn**	**00 09 15.3**	**-1.7**
LXRA	**Lixouri, Kepha**	**0.51**	**355**	P	**Pb**	**00 09 06.5**	**+0.5**
LXRA				S	**Sb**	**00 09 13.0**	**-0.4**
LXRA				AML	AML	00 09 21.0	
	comp=E,44251μm,0.4s						
LXRA				AML	AML	00 09 24.7	
	comp=N,52335μm,0.4s						
DMLN	**Damoulianata-K**	**0.55**	**351**	P	**Pb**	**00 09 07.1**	**+0.3**
DMLN				S	**Sn**	**00 09 16.8**	**-1.3**
	comp=N,23μm,0.3s						
DMLN	**Damoulianata-K**	**0.55**	**351**	P	**Pb**	**00 09 07.1**	**+0.3**
DMLN				S	**Sb**	**00 09 15.0**	**+0.3**
SMHA	**Samh**	**0.57**	**13**	P	**Pb**	**00 09 06.6**	**-0.6**
VSK1	**VASILIKIADES**	**0.71**	**5**	P	**Pb**	**00 09 09.8**	**+0.2**
VSK1				S	**Sn**	**00 09 21.7**	**-0.5**
	comp=N,8μm,0.5s						
FSK	**Fiskardo**	**0.77**	**4**	P	**Pb**	**00 09 10.1**	**-0.4**
FSK				S	**Sn**	**00 09 23.1**	**-0.3**
	comp=N,4μm,0.6s						
FSK	**Fiskardo**	**0.77**	**4**	P	**Pb**	**00 09 10.7**	**+0.2**
FSK				AML	AML	00 09 28.5	
	comp=N,7221μm,0.7s						
FSK				AML	AML	00 09 28.9	
	comp=E,8722μm,0.5s						
RLS	**Riolos of Patr**	**0.85**	**65**	P	**Pg**	**00 09 11.3**	**-0.4**
RLS				S	**Sb**	**00 09 24.0**	**+0.5**
	comp=E,7μm,0.4s						
RLS	**Riolos of Patr**	**0.85**	**65**	P	**Pg**	**00 09 11.1**	**-0.5**
RLS				S	**Sb**	**00 09 23.9**	**+0.4**
RLS				AML	AML	00 09 25.0	
	comp=E,11664μm,0.5s						
RLS				AML	AML	00 09 25.2	
	comp=N,16630μm,0.4s						
EVGI	**Lefkada island**	**0.93**	**8**	P	**Pn**	**00 09 13.5**	**-0.7**
EVGI				S	**Sn**	**00 09 28.8**	**+1.2**
	comp=N,4μm,0.3s						
EVGI	**Lefkada island**	**0.93**	**8**	P	**Pn**	**00 09 13.6**	**-0.7**
AMT	**Artemida-Makis**	**0.98**	**99**	P	**Pb**	**00 09 13.3**	**-0.9**
AMT				S	**Sb**	**00 09 26.8**	**-0.3**
AMT				AML	AML	00 09 30.1	
	comp=N,19713μm,0.5s						
AMT				AML	AML	00 09 37.9	
	comp=E,17476μm,0.8s						
DRAG	**Dragano-Lefkad**	**0.99**	**4**	P	**Pn**	**00 09 14.4**	**-0.6**
DRAG				S	**Sn**	**00 09 30.4**	**+1.4**
DRAG	**Dragano-Lefkad**	**0.99**	**4**	P	**Pn**	**00 09 14.4**	**-0.6**
DRO	**Drossia**	**1.00**	**75**	P	**Pb**	**00 09 13.7**	**-0.8**
DRO				S	**Sn**	**00 09 29.6**	**+0.3**
	comp=E,5μm,0.4s						
DRO	**Drossia**	**1.00**	**75**	P	**Pb**	**00 09 13.9**	**-0.7**
DRO				S	**Sg**	**00 09 27.9**	**+0.4**
DRO				AML	AML	00 09 30.8	
	comp=E,10990μm,0.5s						
DRO				AML	AML	00 09 32.5	
	comp=N,9152μm,0.4s						
NYDR	**Nydri-Lefkada**	**1.03**	**9**	P	**Pg**	**00 09 14.9**	**-0.1**
NYDR				S	**Sn**	**00 09 31.4**	**+1.5**
	comp=N,2μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.03**	**9**	P	**Pg**	**00 09 15.0**	**-0.1**
LKD2	**Lefkada island**	**1.10**	**7**	P	**Pg**	**00 09 17.7**	**+1.4**
LKD2				S	**Sn**	**00 09 34.7**	**+3.0**
	comp=N,3μm,0.6s						
LKD2	**Lefkada island**	**1.10**	**7**	P	**Pg**	**00 09 17.5**	**+1.2**
LKD2				AML	AML	00 09 41.1	
	comp=N,4823μm,0.7s						
LKD2				AML	AML	00 09 43.7	
	comp=E,5521μm,0.6s						
TSLK	**Tsoukalades, L**	**1.14**	**7**	P	**Pg**	**00 09 17.0**	**0.0**
TSLK				S	**Sn**	**00 09 36.3**	**+3.7**
	comp=E,2μm,0.6s						
TSLK	**Tsoukalades, L**	**1.14**	**7**	P	**Pg**	**00 09 17.0**	**0.0**
TSLK				AML	AML	00 09 44.2	
	comp=E,4924μm,0.5s						
TSLK				AML	AML	00 09 51.0	
	comp=N,4090μm,0.6s						
UPR	**University Cam**	**1.18**	**60**	P	**Pb**	**00 09

comp=E,1353μm,0.9s
TYRN Tyrnavos 2.43 34 P **Pn 00 09 35.9 +1.1**
KZN Kozani 2.79 21 P **Pn 00 09 41.5 +1.7**
FNA Florina 3.16 12 *e*Pn **Pn 00 09 46.9 +2.0**
FNA *e*Sn **Sn 00 10 25.3 +2.7**
OHR Ohrid 3.42 4 *e*Pn **Pn 00 09 49.8 +1.3**
OHR *e*Sn **Sn 00 10 30.9 +1.9**
TIR Tirane 3.68 353 *e*Pn **Pn 00 09 53.2 +1.2**
SRS Serrai 4.18 34 *e*Pn **Pn 00 10 00.8 +2.0**
IDI Anoyia 4.28 123 Pn **Pn 00 10 01.0 +0.7**
comp=E,4.9nm,0.8s,baz=308,slow=18,SNR=1.3
IDI Sn **Sn 00 10 50.0 -0.3**
comp=E,4.6nm,0.3s,baz=322,slow=19,SNR=12
DRME Dracevica, Mon 4.60 348 ⇓*i*Pn **Pn 00 10 05.6 +1.0**
DRME *i* Sn **Sn 00 10 58.4 +0.5**
BUM Brajici-Budva 4.76 346 *e*Pn **Pn 00 10 08.3 +1.4**
BUM *i* Sn **Sn 00 11 03.2 +1.1**
PDG Podgorica 4.82 349 *e*Pn **Pn 00 10 08.5 +0.9**
PDG *e*Sn **Sn 00 11 02.4 -1.1**
PDG Podgorica 4.82 349 *e*Pn **Pn 00 10 07.9 +0.3**
PDG Podgorica 4.82 349 ⇑*i*Pn **Pn 00 10 08.3 +0.7**
PDG *i* Sn **Sn 00 11 05.4 +1.9**
VAE Valguarnera 4.83 269 Pn **Pn 00 10 09.6 +1.7**
comp=E,5.1nm,0.7s,baz=49,slow=7.4,SNR=11
VAE Sn **Sn 00 11 03.5 -0.3**
comp=E,4.1nm,0.3s,baz=108,slow=20,SNR=6.6
PVY Plav 4.91 355 *e*Pn **Pn 00 10 11.4 +2.4**
PVY *i* Sn **Sn 00 11 07.4 +1.6**
HCY Herceg Novi 4.99 343 *e*Pn **Pn 00 10 09.4 -0.5**
HCY Herceg Novi 4.99 343 *e*Pn **Pn 00 10 09.8 -0.1**
HCY *i* Sn **Sn 00 11 08.7 +1.1**
CEME Cevo 4.99 347 ⇑*i*Pn **Pn 00 10 10.1 0.0**
CEME *i* Sn **Sn 00 11 07.0 -0.8**
BOSS Bosilegrad 5.03 17 *e*Pn **Pn 00 10 12.2 +1.6**
IVA Berane 5.19 355 *e*Pn **Pn 00 10 14.5 +1.7**
IVA *i* Sn **Sn 00 11 14.6 +1.9**
NKME Niksic 5.20 347 *e*Pn **Pn 00 10 13.7 +0.8**
NKME *e*Sn **Sn 00 11 13.4 +0.5**
KOME Kolasin 5.20 352 ⇑*i*Pn **Pn 00 10 14.1 +1.1**
KOME *i* Sn **Sn 00 11 14.8 +1.8**
BARS Barje 5.21 11 *e*Pn **Pn 00 10 14.0 +0.9**
TREB Trebinje 5.28 343 *e*Pn **Pn 00 10 13.6 -0.3**
TREB *e*Sn **Sn 00 11 11.7 -3.0**
TREB Trebinje 5.28 343 *e*Pn **Pn 00 10 13.2 -0.7**
VTS Vitosha 5.35 22 *e*Pn **Pn 00 10 17.2 +2.2**
VTS *e*Sn **Sn 00 11 16.0 -0.7**
BRY Bratogost 5.41 345 *e*Pn **Pn 00 10 15.6 -0.3**
BRY Bratogost 5.41 345 *e*Pn **Pn 00 10 16.0 +0.1**
BRY *i* Sn **Sn 00 11 18.8 +0.6**
SELS Selova 5.54 5 *e*Pn **Pn 00 10 17.5 0.0**
SJES Sjenica 5.57 356 *e*Pn **Pn 00 10 19.3 +1.2**
SJES *e*Sn **Sn 00 11 20.6 -1.6**
SJES Sjenica 5.57 356 *e*Pn **Pn 00 10 19.0 +0.9**
STON Ston 5.59 338 *e*Pn **Pn 00 10 18.3 +0.1**
STON *e*Sn **Sn 00 11 20.0 -2.4**
STON Ston 5.59 338 *e*Pn **Pn 00 10 18.3 +0.1**
UPM Unac-Piva 5.63 348 *e*Pn **Pn 00 10 19.7 +0.7**
UPM Unac-Piva 5.63 348 ⇓*i*Pn **Pn 00 10 20.7 +1.7**
UPM *i* Sn **Sn 00 11 24.3 +0.6**
PLE Pljevlja 5.69 352 *e*Pn **Pn 00 10 22.4 +2.7**
PLE *i* Sn **Sn 00 11 26.1 +1.0**
ZAPS Zavoj 5.81 16 *e*Pn **Pn 00 10 20.8 -0.4**
IVAS Ivanjica 5.88 358 *e*Pn **Pn 00 10 21.2 -1.1**
RUDO Rudo 5.98 352 *e*Pn **Pn 00 10 22.5 -1.0**
BOVS Bovan 6.00 8 *e*Pn **Pn 00 10 25.0 +1.1**
GRUS Gruza 6.19 2 *e*Pn **Pn 00 10 25.1 -1.3**
DIVS Divibare 6.41 357 *e*Pn **Pn 00 10 28.9 -0.6**
DIVS *e*Sn **Sn 00 11 39.7 -3.0**
HAPS Han Pijesak,BI 6.49 350 *e*Pn **Pn 00 10 30.9 +0.2**
HAPS Han Pijesak,BI 6.49 350 *e*Pn **Pn 00 10 30.8 +0.1**
A050A Klekovaca 7.41 337 *e*Pn **Pn 00 10 44.8 +1.6**
BLY Banja Luka 7.47 342 *e*Pn **Pn 00 10 42.6 -1.4**
BLY Banja Luka 7.47 342 *e*Pn **Pn 00 10 45.0 +1.0**
A051A Mrakovica 7.79 341 *e*Pn **Pn 00 10 47.8 -0.7**
MLR Muntele Rosu 8.79 26 Pn **Pn 00 11 04.7 +2.4**
comp=E,0.2nm,0.3s,baz=209,slow=10,SNR=7.1
comp=E,3.8nm,0.8s
CRES Cresnjevec Ost 8.95 337 *e*Pn **Pn 00 11 04.5 +0.2**
SKDS Skadanscina 9.22 330 *e*Pn **Pn 00 11 07.7 -0.3**
CEY Cerknica 9.22 333 *e*Pn **Pn 00 11 08.5 +0.4**
SOKA Soboth 9.84 337 *i*Pn **Pn 00 11 16.6 -0.1**
comp=E,2.4nm,0.5s
SOKA *i* Sn **Sn 00 13 02.3 -4.8**
comp=E,3.3nm,0.7s
OBKA Obir 9.85 335 *i*Pn **Pn 00 11 17.9 +1.2**
comp=E,8.4nm,0.7s
OBKA *e*Sn **Sn 00 13 03.4 -3.9**
comp=E,18nm,0.9s
OBKA Obir 9.85 335 *e*Pn **Pn 00 11 16.5 -0.2**
MYKA Terra Mystica 10.27 333 *e*Pn **Pn 00 11 23.6 +1.2**
comp=E,3.6nm,0.6s
MYKA *e*Sn **Sn 00 13 15.7 -1.8**
comp=E,1.8nm,0.4s
BRTR Keskin Array B 10.48 75 Pn Pn 00 11 32.5 +7.1
comp=E,0.1nm,0.3s,baz=264,slow=14,SNR=2.1
KBA Koelnbreinsper 10.76 333 *e*Pn **Pn 00 11 32.1 +2.9**
comp=E,5.6nm,1.0s
KBA *e*Sn **Sn 00 13 26.6 -3.1**
comp=E,5.7nm,0.6s
ABTA Abfaltersbach 10.80 329 *e*Pn **Pn 00 11 31.9 +2.2**
comp=E,11nm,1.1s
ABTA *e*Sn **Sn 00 13 25.2 -5.4**
comp=E,9.5nm,0.8s
MOA Molln 11.13 338 *i*Pn **Pn 00 11 35.6 +1.5**
comp=E,5.5nm,1.1s
MOA *i* Sn **Sn 00 13 35.4 -3.1**
comp=E,1.6nm,0.4s
BIOA Bad Ischl, Aus 11.18 335 *e*Pn **Pn 00 11 36.2 +1.3**
comp=E,2.9nm,0.7s
BIOA *i* Sn **Sn 00 13 37.4 -2.5**
comp=E,1.6nm,0.4s
LESA Schwarzleotal 11.29 332 *e*Pn **Pn 00 11 38.3 +1.8**
comp=E,6.6nm,0.7s
LESA *e*Sn **Sn 00 13 38.7 -4.0**
comp=E,3.4nm,0.6s
WTTA Wattenberg 11.57 329 *e*Pn **Pn 00 11 42.3 +1.9**
comp=E,5.0nm,0.7s
WTTA *i* Sn **Sn 00 13 46.7 -3.0**
comp=E,8.7nm,0.6s
WATA Walderalm 11.65 329 *e*Pn Pn 00 11 46.1 +4.7
comp=E,10.0nm,0.9s
WATA *i* Sn **Sn 00 13 50.6 -1.0**
comp=E,9.7nm,0.6s
MOTA Moosalm 11.86 327 *i*Pn Pn 00 11 49.3 +5.0
comp=E,10nm,1.1s
MOTA *i* Sn **Sn 00 13 55.2 -1.5**
comp=E,8.3nm,1.0s
GERES GERESS Array B 12.19 338 Pn **Pn 00 11 49.0 +0.3**
comp=E,0.1nm,0.3s,baz=149,slow=9.3,SNR=1.9
GERES Sn **Sn 00 13 58.5 -6.0**
comp=E,0.2nm,0.3s,baz=152,slow=21,SNR=3.4
comp=E,0.3nm,0.3s
DAVA Damuels 12.36 324 *e*Sn **Sn 00 14 06.1 -2.9**
comp=E,3.7nm,0.6s
MMAI Mount Meron Ar 13.04 107 Pn **Pn 00 12 00.1 -0.2**
comp=E,0.2nm,0.3s,baz=300,slow=12,SNR=1.1
comp=E,0.3nm,0.4s
GNI Garni 19.02 75 LR LR 00 20 52.6
comp=E,27nm,19.9s,baz=306,slow=38
HFS Hagfors 22.87 351 P **P 00 13 57.5 -0.8**
comp=E,3.6nm,0.8s,baz=165,slow=12,SNR=11
comp=E,3.6nm,0.8s
EKA Eskdalemuir Ar 23.81 325 P **P 00 14 08.6 +0.8**
comp=E,7.0nm,1.1s,baz=124,slow=6.0,SNR=2.6
comp=E,7.0nm,1.1s
FINES FINESS Array B 24.03 7 P **P 00 14 09.3 -0.5**
comp=E,5.9nm,1.1s,baz=179,slow=9.9,SNR=8.9
comp=E,5.9nm,1.1s
NB2 NORSAR Subarra 24.09 349 P **P 00 14 10.3 -0.1**
comp=Z,0.4nm,0.6s,baz=162,slow=9.3
NOA NORSAR Array B 24.09 349 P **P 00 14 09.6 -0.8**
comp=Z,0.6nm,1.0s,baz=159,slow=9.1,SNR=2.0
comp=Z,0.6nm,1.0s
TORD Torodi Ar. Bea 29.64 219 P **P 00 15 01.6 +0.9**
comp=Z,0.2nm,0.5s,baz=36,slow=7.2,SNR=1.7
comp=Z,0.2nm,0.5s
ARCES ARCESS Array B 32.02 3 P **P 00 15 21.1 0.0**
comp=Z,1.5nm,0.8s,baz=187,slow=12,SNR=6.1
comp=Z,1.5nm,0.8s
BVAR Borovoye Array 37.45 49 P **P 00 16 08.8 +0.5**
comp=Z,0.2nm,0.5s,baz=244,slow=9.3,SNR=1.9
comp=Z,0.2nm,0.5s
KURBB Kurchatov Arra 42.54 53 P **P 00 16 51.2 +0.7**
comp=Z,0.5nm,0.2s,baz=285,slow=8.5,SNR=1.7
KURBB LR LR 00 36 30.2
comp=Z,64nm,20.5s,baz=188,slow=39
MKAR Makanchi Array 45.58 58 P **P 00 17 14.9 -0.2**
comp=Z,0.2nm,0.3s,baz=276,slow=8.0,SNR=4.7
comp=Z,0.2nm,0.3s
ZALV Zalesovo Beam 46.03 48 P **P 00 17 18.1 -0.3**
comp=Z,0.5nm,0.4s,baz=272,slow=8.6,SNR=2.3
comp=Z,0.5nm,0.4s
FRB Frobisher Bay 56.54 328 LR LR 00 42 29.5
comp=Z,74nm,22.0s,baz=313,slow=36
LBTB Lobatse 62.56 175 LR LR 00 47 05.0
comp=Z,37nm,19.1s,baz=98,slow=37

*IDC **10** 00:14:45.6±1.1,37°.63N×20°.47E, h0km, mb3.7/8, mbtmp3.7/12, ML1.2/2, Error ellipse: s-maj=21.4km s-min=18.4km az=119.0*
*THE **10** 00:14:47.2, 37°.59N×20°.35E, h0km±3km, ML3.3/13, Error ellipse: s-maj=4.1km s-min=0.6km az=234.0*
*ATH **10** 00:14:47.3, 37°.59N×20°.36E, h11km±2km, ML3.4/24, Manual Solution by N.Liadopoulou This location: 2020/07/01 05:16:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*BEO **10** 00:14:49.1±0.8, 37°.66N×20°.18E, h14km±6km, ML3.2/8*
ISC 10 00:14:47.5±1.2, 37°.62N±0°.04×20°.36E±0°.04, h14km±7km**, n90,** σ1§**32**/123**, mb3.7/8, 3C-6D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.36**	**84**	P		**Pg**		**00 14 54.8**	**-0.1**
KRI1				S		**Sg**		**00 14 59.9**	**0.0**
25μm,0.5s									
LTHK	**Lithakia**	**0.39**	**77**	P		**Pg**		**00 14 55.1**	**-0.2**
LTHK				S		**Sg**		**00 15 00.3**	**-0.3**
24μm,0.3s									
LTHK	**Lithakia**	**0.39**	**77**	P		**Pg**		**00 14 55.1**	**-0.2**
LTHK				S		**Sg**		**00 15 00.6**	**0.0**
PSDA	**Pessada-Kefalo**	**0.52**	**20**	P		**Pb**		**00 14 58.1**	**-0.3**
PSDA				S		**Sb**		**00 15 05.5**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.52**	**20**	P		**Pb**		**00 14 58.1**	**-0.3**
PSDA				S		**Sb**		**00 15 05.4**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.56**	**36**	P		**Pg**		**00 14 58.5**	**0.0**
RTZL				S		**Sb**		**00 15 07.0**	**+0.2**
6μm,0.2s									
LXRA	**Lixouri, Kepha**	**0.58**	**6**	P		**Pb**		**00 14 59.4**	**0.0**
LXRA				S		**Sb**		**00 15 06.9**	**-0.6**
LXR1	**Lixouri, Cepha**	**0.58**	**6**	P		**Pb**		**00 14 59.5**	**+0.1**
LXR1				S		**Sb**		**00 15 08.4**	**+0.9**
VLS	**Valsamata**	**0.58**	**18**	P		**Pg**		**00 14 58.9**	**-0.1**
VLS				S		**Sb**		**00 15 07.7**	**+0.1**
3μm,0.3s									
VLS	**Valsamata**	**0.58**	**18**	P		**Pg**		**00 14 58.9**	**-0.1**
VLS				S		**Sb**		**00 15 07.4**	**-0.1**
DMLN	**Damoulianata-K**	**0.61**	**1**	P		**Pb**		**00 15 00.1**	**0.0**
DMLN				S		**Sb**		**00 15 08.7**	**+0.2**
SMHA	**Samh**	**0.67**	**20**	P		**Pg**		**00 14 59.9**	**-0.6**
VSK1	**VASILIKIADES**	**0.80**	**11**	P		**Pg**		**00 15 02.9**	**-0.2**
VSK1				S		**Sn**		**00 15 15.5**	**-0.6**
3μm,0.4s									
FSK	**Fiskardo**	**0.85**	**11**	P		**Pg**		**00 15 03.5**	**-0.5**
FSK				S		**Sn**		**00 15 16.7**	**-0.5**
2μm,0.5s									
FSK	**Fiskardo**	**0.85**	**11**	P		**Pb**		**00 15 03.9**	**-0.1**
FSK				S		**Sb**		**00 15 15.8**	**+0.5**
RLS	**Riolos of Patr**	**0.98**	**63**	P		**Pg**		**00 15 05.6**	**-0.8**
RLS				S		**Sn**		**00 15 20.2**	**-0.2**
1μm,0.5s									
RLS	**Riolos of Patr**	**0.98**	**63**	P		**Pg**		**00 15 05.8**	**-0.6**
RLS				S		**Sb**		**00 15 19.2**	**+0.3**
EVGI	**Lefkada island**	**1.02**	**13**	P		**Pg**		**00 15 06.9**	**-0.4**
EVGI				S		**Sn**		**00 15 22.3**	**+0.8**
3μm,0.3s									
EVGI	**Lefkada island**	**1.02**	**13**	P		**Pb**		**00 15 07.0**	**0.0**
DRAG	**Dragano-Lefkad**	**1.07**	**9**	P		**Pb**		**00 15 06.6**	**-1.2**
DRAG				S		**Sn**		**00 15 24.4**	**+1.6**
DRAG	**Dragano-Lefkad**	**1.07**	**9**	P		**Pg**		**00 15 07.9**	**-0.3**
AMT	**Artemida-Makis**	**1.07**	**94**	P		**Pb**		**00 15 07.6**	**-0.3**
AMT				S		**Sg**		**00 15 22.1**	**-0.2**
DRO	**Drossia**	**1.12**	**73**	P		**Pb**		**00 15 08.7**	**+0.1**
DRO	**Drossia**	**1.12**	**73**	P		**Pb**		**00 15 08.6**	**0.0**
NYDR	**Nydri-Lefkada**	**1.12**	**14**	P		**Pb**		**00 15 08.4**	**-0.2**
NYDR				S		**Sn**		**00 15 25.6**	**+1.7**
1μm,0.5s									
NYDR	**Nydri-Lefkada**	**1.12**	**14**	P		**Pb**		**00 15 08.6**	**0.0**
LKD2	**Lefkada island**	**1.19**	**11**	P		**Pg**		**00 15 10.1**	**-0.3**
LKD2				S		**Sn**		**00 15 29.3**	**+3.7**
1μm,0.5s									
LKD2	**Lefkada island**	**1.19**	**11**	P		**Pg**		**00 15 10.1**	**-0.3**
TSLK	**Tsoukalades, L**	**1.22**	**11**	P		**Pg**		**00 15 10.7**	**-0.3**
TSLK				S		**Sn**		**00 15 29.0**	**+2.6**
2μm,0.6s									
TSLK	**Tsoukalades, L**	**1.22**	**11**	P		**Pg**		**00 15 10.6**	**-0.5**
UPR	**University Cam**	**1.30**	**59**	P		**Pb**		**00 15 11.9**	**+0.1**
PYL	**PYLOS**	**1.32**	**123**	P		**Pn**		**00 15 11.4**	**-0.1**
PYL				S		**Sg**		**00 15 31.4**	**+1.3**
562nm,0.6s									
PYL	**PYLOS**	**1.32**	**123**	P		**Pn**		**00 15 11.2**	**-0.2**
ITM	**Ithomi**	**1.32**	**109**	P		**Pn**		**00 15 11.2**	**-0.4**
ITM				S		**Sg**		**00 15 32.4**	**+2.2**
588nm,0.6s									
ITM	**Ithomi**	**1.32**	**109**	P		**Pn**		**00 15 11.9**	**+0.3**
EFP	**Efpalio**	**1.46**	**56**	P		**Pn**		**00 15 13.8**	**+0.4**
KLV	**Kalavryta, Ach**	**1.48**	**73**	P		**Pn**		**00 15 14.1**	**+0.4**
KLV	**Kalavryta, Ach**	**1.48**	**73**	P		**Pn**		**00 15 14.1**	**+0.4**
ANX	**Ano Chora**	**1.56**	**51**	P		**Pn**		**00 15 15.7**	**+0.7**
GUR	**Goura**	**1.60**	**78**	P		**Pb**		**00 15 16.9**	**0.0**
GUR	**Goura**	**1.60**	**78**	P		**Pn**		**00 15 15.8**	**+0.4**
KALE	**Kalithea**	**1.60**	**61**	P		**Pn**		**00 15 15.7**	**+0.2**
IGT	**Igoumenitsa**	**1.91**	**359**	P		**Pb**		**00 15 20.9**	**-1.2**
JAN	**Janina**	**2.06**	**11**	P		**Pn**		**00 15 23.0**	**+1.2**
KEK	**Kerkira**	**2.13**	**348**	P		**Pn**		**00 15 23.0**	**+0.3**
AXAR	**Agios Charalam**	**2.14**	**57**	P		**Pn**		**00 15 24.4**	**+1.6**
VLI	**Veliai**	**2.25**	**113**	P		**Pn**		**00 15 25.1**	**+0.9**
THL	**Klokotos Trika**	**2.33**	**33**	P		**Pb**		**00 15 27.5**	**-1.7**
KPRO	**Kipourio**	**2.46**	**18**	P		**Pn**		**00 15 29.1**	**+1.9**
TYRN	**Tyrnavos**	**2.55**	**35**	P		**Pn**		**00 15 29.7**	**+1.3**
PENT	**Pentalofos**	**2.64**	**13**	P		**Pn**		**00 15 30.8**	**+1.0**
TIP	**Timpagrande**	**3.23**	**300**	⇓P		**Pn**		**00 15 39.5**	**+1.7**
FNA	**Florina**	**3.25**	**14**	*e*Pn		**Pn**		**00 15 40.7**	**+2.6**
FNA				*e*Sn		**Sn**		**00 16 18.2**	**+1.6**
OHR	**Ohrid**	**3.50**	**5**	*e*Pn		**Pn**		**00 15 42.7**	**+1.2**
TIR	**Tirane**	**3.74**	**354**	*e*Pn		**Pn**		**00 15 45.7**	**+1.0**
TIR				*e*Sn		**Sn**		**00 16 30.1**	**+1.6**
TIR	**Tirane**	**3.74**	**354**	⇑P		**Pn**		**00 15 48.4**	**+3.6**
VAY	**Valandovo**	**4.07**	**24**	*e*Pn		**Pn**		**00 15 50.1**	**+0.8**
SRS	**Serrai**	**4.29**	**35**	*e*Pn		**Pn**		**00 15 54.3**	**+1.9**
IDI	**Anoyia**	**4.33**	**121**	Pn		**Pn**		**00 15 54.0**	**+1.0**
0.4nm,0.3s,baz=308,slow=12,SNR=2.0									
IDI				Sn		**Sn**		**00 16 42.2**	**-1.1**
1.6nm,0.3s,baz=315,slow=20,SNR=1.8									
15nm,1.1s									
VAE	**Valguarnera**	**4.73**	**270**	Pn		**Pn**		**00 15 59.3**	**+0.9**
0.7nm,0.3s,baz=40,slow=18,SNR=1.6									
VAE				Sn		**Sn**		**00 16 53.0**	**-0.1**
1.6nm,0.3s,baz=53,slow=20,SNR=3.1									
3.3nm,0.5s									
PDG	**Podgorica**	**4.88**	**350**	*e*Pn		**Pn**		**00 16 00.7**	**+0.4**
BOSS	**Bosilegrad**	**5.13**	**18**	*e*Pn		**Pn**		**00 16 05.6**	**+1.7**
BARS	**Barje**	**5.30**	**12**	*e*Pn		**Pn**		**00 16 07.4**	**+1.1**
TREB	**Trebinje**	**5.32**	**344**	*e*Pn		**Pn**		**00 16 07.1**	**+0.7**
TREB				*e*Sn		**Sn**		**00 17 04.9**	**-2.5**
VTS	**Vitosha**	**5.45**	**23**	*e*Pn		**Pn**		**00 16 10.3**	**+1.9**
SELS	**Selova**	**5.62**	**6**	*e*Pn		**Pn**		**00 16 11.2**	**+0.6**
SELS				*e*Sn		**Sn**		**00 17 12.8**	**-2.1**
STON	**Ston**	**5.62**	**340**	*e*Pn		**Pn**		**00 16 10.5**	**-0.1**
STON				*e*Sn		**Sn**		**00 17 11.6**	**-3.3**
SJES	**Sjenica**	**5.64**	**357**	*e*Pn		**Pn**		**00 16 11.9**	**+0.9**
SJES				*e*Sn		**Sn**		**00 17 13.0**	**-2.5**
ZAPS	**Zavoj**	**5.90**	**16**	*e*Pn		**Pn**		**00 16 15.3**	**+0.8**
IVAS	**Ivanjica**	**5.95**	**359**	*e*Pn		**Pn**		**00 16 14.2**	**-1.0**
BOVS	**Bovan**	**6.09**	**9**	*e*Pn		**Pn**		**00 16 17.8**	**+0.8**
BOVS	**Bovan**	**6.09**	**9**	⇑P		**Pn**		**00 16 18.5**	**+1.4**
DIVS	**Divibare**	**6.47**	**358**	*e*Pn		**Pn**		**00 16 23.3**	**+0.9**
DIVS				*e*Sn		**Sn**		**00 17 32.7**	**-3.4**
HAPS	**Han Pijesak,BI**	**6.54**	**351**	*e*Pn		**Pn**		**00 16 23.2**	**-0.2**
ELND	**Elena**	**6.77**	**37**	⇓P		**Pn**		**00 16 28.0**	**+1.6**
HERR	**Herculane**	**7.41**	**11**	⇓P		**Pn**		**00 16 32.5**	**-2.7**
VOIR		**8.56**	**23**	⇓P		**Pn**		**00 16 53.4**	**+2.4**
MLR	**Muntele Rosu**	**8.90**	**26**	Pn		**Pn**		**00 16 57.8**	**+2.1**
5.5nm,0.7s,baz=206,slow=6.6,SNR=11									
MLR	**Muntele Rosu**	**8.90**	**26**	⇑P		**Pn**		**00 16 59.3**	**+3.6**
PLOR	**Plostina**	**9.46**	**28**	⇓P		**Pn**		**00 17 06.6**	**+3.3**
VRI	**Vrincioaia**	**9.51**	**28**	⇓P		**Pn**		**00 17 06.4**	**+2.5**
MMAI	**Mount Meron Ar**	**13.11**	**106**	Pn		**Pn**		**00 17 51.4**	**-2.0**
2.8nm,0.9s,baz=278,slow=12,SNR=2.0									
HFS	**Hagfors**	**22.93**	**351**	P		**P**		**00 19 51.0**	**+0.2**
1.7nm,0.7s,baz=153,slow=13,SNR=2.5									
1.7nm,0.7s									
FINES FINESS Array B 24.11 7 P **P 00 20 02.1 -0.4**									
1.0nm,0.5s,baz=181,slow=9.6,SNR=9.9									
1.0nm,0.5s									
NOA NORSAR Array B 24.14 349 P **P 00 20 04.1 +1.3**									
0.6nm,0.8s,baz=167,slow=10,SNR=1.3									
0.6nm,0.8s									
TORD Torodi Ar. Bea 29.52 219 P **P 00 20 52.7 +1.2**									
2.4nm,0.8s,baz=22,slow=10,SNR=23									
2.4nm,0.8s									
ARCES ARCESS Array B 32.09 3 P **P 00 21 13.5 -0.2**									
5.5nm,1.2s,baz=193,slow=10,SNR=1.9									
5.5nm,1.2s									
BVAR Borovoye Array 37.57 49 P **P 00 22 01.2 0.0**									
0.3nm,0.5s,baz=263,slow=7.1,SNR=2.2									
0.3nm,0.5s									
MKAR Makanchi Array 45.70 58 P **P 00 23 06.7 -1.2**									
0.4nm,0.6s,baz=282,slow=6.7,SNR=7.4									
0.4nm,0.6s									
ZALV Zalesovo Beam 46.16 48 P **P 00 23 10.1 -1.2**									
0.6nm,0.4s,baz=289,slow=8.5,SNR=4.9									
0.6nm,0.4s									

*SJA **10** 00:36:50.4±0.6, 23°.53S×66°.81W, h224km±5km, ML3.9, MW3.8*
*NEIC **10** 00:36:51.6±1.8, 23°.57S±0°.07×66°.78W±0°.10, h199km±9km, mb4.5/15, Error ellipse: s-maj=12.8km s-min=9.9km az=88.0*
*IDC **10** 00:36:52.5±2.4, 23°.47S×66°.62W, h202km±21km, mb3.4/5, mbtmp4.0/9, MS2.6/1, Error ellipse: s-maj=20.5km s-min=16.0km az=74.0*
*GUC **10** 00:36:52.0±0.7, 23°.61S×66°.93W, h223km±8km, ML4.0*
*VAO **10** 00:36:54.4±0.6, 23°.37S×66°.55W, h205km, mb4.1*
ISC 10 00:36:52.1±0.6, 23°.50S±0°.04×66°.82W±0°.04, h207km±6km**, n118,** σ1§**35**/142**, mb4.1**/10**, 6C-1D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.33**	**77**	*e*P		**Pn**		**00 37 25.6**	**+0.2**
AF01	**San Pedro de A**	**1.37**	**293**			**Pn**		**00 37 26.6**	**+0.9**
AF01	**San Pedro de A**	**1.37**	**293**	*e*P		**Pn**		**00 37 26.4**	**+0.8**
AF01				IAML				00 37 56.8	
comp=E,407nm,0.6s									
SLA	**San Lorenzo**	**1.71**	**136**	⇓*i*P		**Pn**		**00 37 29.0**	**+0.6**
SLA	**San Lorenzo**	**1.71**	**136**	*e*P		**Pn**		**00 37 29.2**	**+0.8**
SLA				*e*S		**S**		**00 37 58.0**	**+1.6**
SLA				IAML				00 37 58.5	
comp=Z,197nm,0.8s									
AZAP	**Zapla**	**1.76**	**114**	*e*P		**Pn**		**00 37 28.7**	**-0.3**
AZAP				IAML				00 38 01.3	
comp=Z,212nm,1.2s									
YJA	**Yavi**	**1.79**	**43**	*e*P		**Pn**		**00 37 30.3**	**+0.8**
YJA				*e*S		**S**		**00 37 59.9**	**+1.7**
PB15	**IPOC Station P**	**2.46**	**276**			**Pn**		**00 37 36.2**	**+0.1**
PB15				Sn		**S**		**00 38 10.5**	**+0.5**
PB15	**IPOC Station P**	**2.46**	**276**	⇑*i*P		**Pn**		**00 37 36.4**	**+0.1**
PB15				*e*S		**S**		**00 38 09.9**	**-0.1**
PB15	**IPOC Station P**	**2.46**	**276**	*e*P		**Pn**		**00 37 36.2**	**+0.1**
PB15				*e*S		**S**		**00 38 10.6**	**+0.6**
PB15				IAML				00 38 18.1	
comp=Z,719nm,0.1s									
PB06	**IPOC Station P**	**2.66**	**287**			**Pn**		**00 37 38.4**	**+0.1**
PB06				Sn		**S**		**00 38 13.5**	**-0.4**
PB06	**IPOC Station P**	**2.66**	**287**	⇑*i*P		**Pn**		**00 37 38.6**	**+0.2**
PB06				*i* S		**S**		**00 38 13.3**	**-0.6**
PB06				IAML				00 38 17.1	
comp=N,548nm,0.5s									
PB06	**IPOC Station P**	**2.66**	**287**	*e*P		**Pn**		**00 37 38.8**	**+0.4**
PB06				*e*S		**S**		**00 38 13.6**	**-0.4**
PB06				IAML				00 38 17.7	
comp=Z,349nm,0.6s									
FSA	**Cafayete**	**2.71**	**164**	*e*P		**Pn**		**00 37 38.7**	**-0.2**
PB09	**IPOC Station P**	**2.81**	**307**			**Pn**		**00 37 40.9**	**+0.8**
PB09				Sn		**S**		**00 38 18.4**	**+1.3**
PB09	**IPOC Station P**	**2.81**	**307**	⇑*i*P		**Pn**		**00 37 40.9**	**+0.8**
PB09				*i* S		**S**		**00 38 18.1**	**+1.1**
PB09				IAML				00 38 21.0	
comp=N,244nm,0.5s									
PB09	**IPOC Station P**	**2.81**	**307**	*e*P		**Pn**		**00 37 40.9**	**+0.8**
PB09				*e*S		**S**		**00 38 19.3**	**+2.2**
PB09				IAML				00 38 19.6	
comp=Z,166nm,0.5s									
GO02	**Mina Guanaco**	**3.02**	**236**			**Pn**		**00 37 42.2**	**-0.4**
GO02	**Mina Guanaco**	**3.02**	**236**	⇑*i*P		**Pn**		**00 37 42.2**	**-0.4**
GO02				*e*S		**S**		**00 38 20.4**	**-1.3**
GO02	**Mina Guanaco**	**3.

comp=Z,0.6nm,0.4s,baz=180,slow=20,SNR=1.3
BDQN Bodoquena, MS 9.82 74 *eP* **Pn 00 39 06.9 -2.1**
MT02 Curacav 10.44 200 Pn **Pn 00 39 15.7 -1.1**
PTLB Pontes e Lacer 10.80 43 *eP* **Pn 00 39 20.4 -1.2**
MT09 Talagante 10.87 199 Pn **Pn 00 39 21.2 -1.3**
AMBA Amambai (Brazi 10.89 89 *eP* **Pn 00 39 20.5 -2.3**
PSAL Palomas, Salto 11.13 135 *eP* **Pn 00 39 25.9 +0.1**
BO01 Tunca 11.47 198 **P 00 39 32.7 -2.6**
BO02 Sierra Bellavi 11.77 196 **P Pn 00 39 35.6 +1.7**
CPSB Cacapava Do Su 13.76 123 *eP* **P 00 40 00.5 -0.3**
ITAB Concordia 13.79 109 *eP* **Pn 00 39 59.1 -0.1**
PLTB Pedras Altas 14.30 128 Pn **Pn 00 40 03.2 -2.4**
PLTB Pedras Altas 14.30 128 *eP* **Pn 00 40 05.3 -0.2**
LDASE Londrina, Braz 14.41 93 *eP* **Pn 00 40 06.2 -0.8**
SAML Samuel 14.88 14 **Pn 00 40 12.4 -0.4**
SAML Samuel 14.88 14 *eP* **Pn 00 40 13.1 +0.3**
TRQA Tornquist 15.09 165 **Pn 00 40 14.2 -0.9**
PDRB Porto dos Gac 15.23 41 *eP* **Pn 00 40 16.8 -0.2**
ITRB Iturama 15.77 79 *eP* **Pn 00 40 23.7 +0.3**
FRTB Fartura 15.84 93 *eP* **Pn 00 40 24.9 +0.6**
GO06 Curarrehue 16.51 193 P **P 00 40 29.6 -1.7**
BB19B Bebedouro 17.10 85 *eP* **P 00 40 37.6 -0.3**
PLCA Paso Flores 17.46 189 P **Pn 00 40 46.4 +2.9**
comp=Z,3.0nm,0.6s,baz=15,slow=9.1,SNR=6.3
PLCA Paso Flores 17.46 189 *eP* **Pn 00 40 46.9 +3.4**
RCLB Rio Claro- Sao 17.80 90 *eP* **P 00 40 45.0 -0.4**
IPMB Ipameri, GO 18.24 76 *eP* **P 00 40 50.7 +0.4**
VAO Valinhos 18.25 92 P **P 00 40 49.8 -0.7**
VAO Valinhos 18.25 92 *eP* **P 00 40 49.7 -0.7**
SNDB Serra Nova Dou 18.69 55 *eP* **P 00 40 54.3 -0.8**
BDFB Brasilia 19.35 70 P **P 00 41 02.4 +0.1**
BDFB IAmb IAmb 00 41 03.5
comp=Z,22nm,0.9s
BDFB Brasilia 19.35 70 P **P 00 41 01.8 -0.6**
comp=Z,15nm,0.8s,baz=245,slow=10.0,SNR=21
PARB Paraibuna 19.45 94 *eP* **P 00 41 02.6 -0.7**
LL06 Loncomilla 19.50 195 P **P 00 41 03.1 -0.5**
LL06 IAmb IAmb 00 41 04.5
comp=Z,55nm,1.1s
PMNB Patos De Minas 19.65 79 *eP* **P 00 41 04.1 -1.5**
NPGB Novo Progresso 19.73 36 *eP* **P 00 41 07.7 +1.5**
LL07 Hotel Espejo d 20.05 194 P **P 00 41 09.1 -0.4**
LL02 Futaleuf 20.07 191 P **P 00 41 10.1 +0.4**
LL02 IAmb IAmb 00 41 12.2
comp=Z,12nm,0.9s
GO07 Milladeo Hill, 20.36 195 P **P 00 41 11.5 -1.3**
GO07 IAmb IAmb 00 41 13.8
comp=Z,24nm,0.5s
BSCB Bom Sucesso 20.55 87 *eP* **P 00 41 15.8 +0.6**
ITTB Itaituba 21.83 31 *eP* **P 00 41 26.7 -1.6**
JANB Januaria 22.82 72 *eP* **P 00 41 36.5 -1.0**
SMTB Santa Maria do 23.47 55 *eP* **P 00 41 42.4 -0.9**
SDBA SAO DESIDERIO 23.55 66 *eP* **P 00 41 43.0 -1.1**
PRPB Parauapebas 23.76 46 *eP* **P 00 41 45.2 -0.8**
GO08 Villa O'Higgin 25.32 189 P **P 00 42 00.3 +0.6**
BOAV Boa Vista 26.46 14 P **P 00 42 09.7 -0.6**
BOAV IAmb IAmb 00 42 10.3
comp=Z,3.6nm,1.1s
GDU01 Guandu, BA 27.55 74 *eP* **P 00 42 18.5 -1.5**
SNAA Sanae 59.76 161 P **P 00 46 35.8 +0.8**
comp=Z,0.8nm,0.6s,baz=277,slow=11,SNR=9.3
comp=Z,0.8nm,0.6s
237A Washetta, Mont 61.76 332 P **P 00 46 47.8 -1.1**
TXAR Lajitas Array 63.37 324 P **P 00 47 01.1 +1.4**
comp=Z,0.4nm,0.5s,baz=148,slow=7.5,SNR=4.0
comp=Z,0.4nm,0.5s
VHRN Van Horn 65.22 324 P **P 00 47 12.8 +1.1**
VHRN IAmb IAmb 00 47 13.9
comp=Z,3.4nm,0.8s
S39A Bolivar 65.78 337 P **P 00 47 15.7 +0.7**
S39A IAmb IAmb 00 47 16.3
comp=Z,4.5nm,0.6s
L61B Northampton 65.84 355 P **P 00 47 15.7 +0.5**
L61B IAmb IAmb 00 47 19.6
comp=Z,8.1nm,1.0s
R40A Maddies Statio 65.95 338 P **P 00 47 16.4 +0.4**
R40A IAmb IAmb 00 47 16.8
comp=Z,3.1nm,0.7s
QSPA South Pole Qui 66.70 180 P **P 00 47 21.9 +1.2**
comp=Z,2.5nm,0.5s,baz=139,slow=16,SNR=8.9
comp=Z,2.5nm,0.5s
TORD Torodi Ar. Bea 76.23 69 P **P 00 48 17.5 -0.8**
comp=Z,1.1nm,0.6s,baz=260,slow=5.5,SNR=24
comp=Z,1.1nm,0.6s
PDAR Pinedale Array 76.81 329 P **P 00 48 22.7 +1.5**
comp=Z,0.4nm,0.7s,baz=148,slow=10,SNR=2.7
comp=Z,0.4nm,0.7s
ASAR Alice Springs 128.97 205 PKP **PKPdf 00 55 35.8 -0.2**
comp=Z,0.3nm,0.7s,baz=149,slow=2.0,SNR=3.1
WRA Warramunga Arr 132.14 207 PKP **PKPdf 00 55 42.4 +0.3**
comp=Z,1.3nm,1.3s,baz=155,slow=1.8,SNR=4.6
ZALV Zalesovo Beam 142.88 28 PKP **PKPdf 00 56 01.8 +1.2**
comp=Z,0.4nm,0.4s,baz=318,slow=1.9,SNR=2.2
MKAR Makanchi Array 146.04 39 PKPbc **PKPbc 00 56 07.5 -0.1**
comp=Z,1.5nm,0.8s,baz=307,slow=3.2,SNR=9.5

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*JMA **10** 00:50:13.6±0.1,34°N±2°×13°7E±°, h392km, MV2.7/49, SE OFF KII PENINSULA*
*IDC **10** 00:50:17.6±1.9,33°.80N×136°.99E, h347km±34km, mb2.4/2, mbtmp3.2/4, Error ellipse: s-maj=64.5km s-min=30.4km az=47.0*
ISC 10 00:50:17.7±1.1,34°.0N±0°.1×137°.06E±0°.09, h350km, n20, σ1°50/24, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.26**	**187**	P	**Pn**	**00 51 02.7**	**+1.4**
TTO4	**TONANKAI O.B.S**	**0.39**	**88**	P	**Pn**	**00 51 03.1**	**+1.7**
TTO1	**TONANKAI O.B.S**	**0.44**	**212**	P	**Pn**	**00 51 02.8**	**+1.3**
JIE	**Ise**	**0.50**	**323**	P	**Pn**	**00 51 03.0**	**+1.2**
JKN2	**Miekihoku**	**0.70**	**291**	P	**Pn**	**00 51 03.0**	**+0.7**
JTNC	**Tanabenakahech**	**1.22**	**262**	P	**Pn**	**00 51 04.6**	**+0.2**
JWY	**Kouya**	**1.24**	**281**	P	**Pn**	**00 51 05.2**	**+0.7**
JWT	**Wachi**	**1.88**	**314**	P	**Pn**	**00 51 08.8**	**+0.8**
JAI	**Aioi**	**2.18**	**265**	P	**Pn**	**00 51 10.2**	**0.0**
JRY	**Ryogami san**	**2.52**	**36**	P	**Pn**	**00 51 14.8**	**+1.9**
JRY				*eS*	**S**	**00 52 00.0**	**+2.8**
MJAR	**Matsushiro Arr**	**2.71**	**20**	P	**Pn**	**00 51 15.9**	**+1.5**
	2.2nm,0.6s,baz=191,slow=8.6,SNR=6.0						
BSO4	**Boso 4**	**2.88**	**69**	P	**Pn**	**00 51 16.7**	**+1.0**
BSO4				*eS*	**S**	**00 52 03.3**	**+0.7**
BSO3	**Boso 3**	**2.96**	**73**	P	**Pn**	**00 51 16.4**	**+0.1**
JAG	**Ashikaga**	**3.12**	**38**	P	**Pn**	**00 51 18.1**	**+0.1**
JYT	**Yasato**	**3.40**	**48**	P	**Pn**	**00 51 20.7**	**+0.1**
JHO	**Hitachi**	**3.88**	**47**	P	**Pn**	**00 51 25.2**	**-0.1**
JHO				*eS*	**S**	**00 52 17.0**	**-2.9**
JFK	**Kawauchi**	**4.58**	**42**	P	**Pn**	**00 51 32.6**	**0.0**
JFK				*eS*	**S**	**00 52 29.8**	**-3.4**
KSRS	**Korea Array**	**8.20**	**298**	P	**Pn**	**00 52 14.7**	**+0.7**
	1.8nm,0.4s,baz=114,slow=13,SNR=5.0						
MKAR	**Makanchi Array**	**42.81**	**304**	P	**P**	**00 57 42.6**	**+0.4**
	0.3nm,0.8s,baz=90,slow=9.8,SNR=2.2						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**53.70**	**183**	P	**P**	**00 59 03.4**	**-1.3**
	0.1nm,0.7s,baz=0.8,slow=7.6,SNR=2.7						
	0.1nm,0.7s						

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*IDC **10** 01:00:22.6±3.5,6°.57S×127°.70E, h394km±37km, mb2.9/2, mbtmp3.9/6, Error ellipse: s-maj=56.0km s-min=13.4km az=64.0*
ISC 10 01:00:23.7±1.4,6°.6S±0°.1×127°.6E±0°.1, h408km, n6, σ1°28/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.29**	**228**	P	**P**	**01 01 48.4**	**-0.5**
	57nm,0.4s,baz=108,slow=3.2,SNR=9.8						
BATI				S	**S**	**01 02 58.2**	**-0.4**
	20nm,0.3s,baz=74,slow=18,SNR=4.2						
FITZ	**Fitzroy Crossi**	**11.55**	**190**	P	**P**	**01 02 59.8**	**+1.5**
	1.7nm,0.6s,baz=25,slow=11,SNR=6.8						
WRA	**Warramunga Arr**	**14.74**	**154**	P	**P**	**01 03 32.4**	**-0.8**
	2.4nm,0.6s,baz=332,slow=12,SNR=5.1						
WRA				S	**S**	**01 06 08.5**	**-1.4**
	0.7nm,0.6s,baz=330,slow=22,SNR=3.7						
ASAR	**Alice Springs**	**17.97**	**161**	P	**P**	**01 04 07.8**	**+0.1**
	1.7nm,0.3s,baz=344,slow=12,SNR=35						
ASAR				S	**S**	**01 07 14.9**	**+2.1**
	0.6nm,0.7s,baz=347,slow=19,SNR=6.2						
MKAR	**Makanchi Array**	**66.66**	**328**	P	**P**	**01 10 32.5**	**+0.2**
	0.3nm,0.5s,baz=124,slow=8.2,SNR=4.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**70.99**	**329**	P	**P**	**01 10 58.2**	**-0.3**
	0.3nm,0.4s,baz=132,slow=4.9,SNR=4.5						
	0.3nm,0.4s						

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*NAO **10** 01:00:25.0,33°.99N×23°.86E, h10km, mb4.2*
*BEO **10** 01:00:51.5±2.8,36°.25N×21°.12E, h73km±9km, ML3.7/10*
*IDC **10** 01:00:51.6±0.7,36°.79N×21°.44E, h0km, mb4.0/20, mbtmp3.9/28, ML3.3/6, MS3.2/6, Error ellipse: s-maj=15.4km s-min=12.9km az=5.0*
*NEIC **10** 01:00:53.5±2.7,36°.65N±0°.07×21°.34E±0°.09, h10km±2km, mb4.1/11, Error ellipse: s-maj=14.1km s-min=9.3km az=220.0*
*PDG **10** 01:00:55.5±1.1,36°.67N×21°.30E, h20km±3km, ML4.0/12, Error ellipse: s-maj=2.2km s-min=2.1km az=90.0*
*THE **10** 01:00:55.0,36°.72N×21°.34E, h0km±2km, ML3.7/7, Error ellipse: s-maj=2.4km s-min=0.8km az=186.0*
*ATH **10** 01:00:55.6,36°.77N×21°.32E, h9km±1km, ML3.7/12, Error ellipse: s-maj=1.9km s-min=1.2km az=47.0*
ISC 10 01:00:55.5±1.0,36°.76N±0°.03×21°.34E±0°.03, h27km±7km, n235, σ1°94/282, mb4.2/23, MS3.4/4, 13C-12D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.35**	**67**	P	**Pb**	**01 01 02.6**	**-0.8**
PYL				S	**Sb**	**01 01 08.0**	**-0.7**
PYL	**PYLOS**	**0.35**	**67**	P	**Pb**	**01 01 02.4**	**-1.0**
PYL				S	**Sb**	**01 01 07.7**	**-1.0**
PYL				AML	AML	01 01 08.5	
	comp=N,32847μm,0.3s						
PYL				AML	AML	01 01 08.7	
	comp=E,74056μm,0.5s						
ITM	**Ithomi**	**0.63**	**48**	P	**Pb**	**01 01 07.2**	**-0.8**
ITM				S	**Sb**	**01 01 16.7**	**+0.3**
	comp=E,7μm,0.6s						
ITM	**Ithomi**	**0.63**	**48**	P	**Pb**	**01 01 07.1**	**-0.8**
ITM				S	**Sb**	**01 01 16.5**	**+0.1**
ITM				AML	AML	01 01 17.5	
	comp=N,10241μm,0.2s						
ITM				AML	AML	01 01 18.6	
	comp=E,10528μm,0.3s						
AMT	**Artemida-Makis**	**0.82**	**21**	P	**Pb**	**01 01 10.5**	**-0.8**
AMT				S	**Sn**	**01 01 23.1**	**+0.3**
AMT				AML	AML	01 01 25.7	
	comp=E,30188μm,0.3s						
AMT				AML	AML	01 01 29.0	
	comp=N,41462μm,0.3s						
LTHK	**Lithakia**	**1.03**	**337**	P	**Pb**	**01 01 14.8**	**+0.1**
LTHK				S	**Sb**	**01 01 28.5**	**+0.6**
LTHK				AML	AML	01 01 36.1	
	comp=N,7643μm,0.5s						
LTHK				AML	AML	01 01 39.5	
	comp=E,6319μm,0.4s						
DRO	**Drossia**	**1.23**	**14**	P	**Pb**	**01 01 17.5**	**-0.5**
DRO				S	**Sb**	**01 01 37.8**	**+4.3**
	comp=E,5μm,0.9s						
DRO	**Drossia**	**1.23**	**14**	P	**Pb**	**01 01 17.6**	**-0.4**
DRO				S	**Sb**	**01 01 34.3**	**+0.8**
DRO				AML	AML	01 01 47.9	
	comp=E,9367μm,0.6s						
DRO				AML	AML	01 01 50.5	
	comp=N,9878μm,1.0s						
VLI	**Veliai**	**1.28**	**91**	P	**Pb**	**01 01 18.6**	**-0.3**
VLI				S	**Sb**	**01 01 38.5**	**+3.5**
	comp=N,3μm,0.8s						
VLI	**Veliai**	**1.28**	**91**	P	**Pb**	**01 01 19.4**	**+0.5**
VLI				S	**Sb**	**01 01 36.3**	**+1.4**
VLI				AML	AML	01 01 42.9	
	comp=E,5582μm,0.8s						
VLI				AML	AML	01 01 45.1	
	comp=N,5271μm,0.7s						
RLS	**Riolos of Patr**	**1.30**	**4**	P	**Pb**	**01 01 18.8**	**-0.4**
RLS				S	**Sb**	**01 01 39.1**	**+3.6**
	comp=N,2μm,0.7s						
RLS	**Riolos of Patr**	**1.30**	**4**	P	**Pb**	**01 01 18.9**	**-0.4**
RLS				S	**Sb**	**01 01 35.8**	**+0.2**
RLS				AML	AML	01 01 48.6	
	comp=E,3623μm,0.7s						
RLS				AML	AML	01 01 50.4	
	comp=N,3861μm,0.7s						
GUR	**Goura**	**1.42**	**34**	P	**Pb**	**01 01 20.9**	**-0.5**
GUR				S	**Sb**	**01 01 42.8**	**+3.7**
	comp=N,3μm,0.6s						
GUR	**Goura**	**1.42**	**34**	P	**Pb**	**01 01 21.4**	**0.0**
GUR				S	**Sb**	**01 01 38.4**	**-0.6**
GUR				AML	AML	01 01 49.6	
	comp=N,5412μm,0.4s						
GUR				AML	AML	01 01 53.5	
	comp=E,6961μm,0.8s						
KLV	**Kalavryta, Ach**	**1.43**	**26**	P	**Pb**	**01 01 21.4**	**-0.2**
KLV	**Kalavryta, Ach**	**1.43**	**26**	P	**Pb**	**01 01 21.7**	**+0.1**
KLV				S	**Sb**	**01 01 39.1**	**-0.3**
KLV				AML	AML	01 01 49.9	
	comp=N,1411μm,0.6s						
KLV				AML	AML	01 01 51.9	
	comp=E,1774μm,0.6s						
PSDA	**Pessada-Kefalo**	**1.48**	**336**	P	**Pb**	**01 01 22.9**	**+0.5**
PSDA				S	**Sb**	**01 01 44.1**	**+3.4**
	comp=E,2μm,0.7s						
PSDA	**Pessada-Kefalo**	**1.48**	**336**	P	**Pb**	**01 01 22.6**	**+0.2**
VLS	**Valsamata**	**1.54**	**337**	P	**Pb**	**01 01 23.5**	**+0.2**
VLS				S	**Sb**	**01 01 44.7**	**+2.3**
	comp=E,848nm,0.6s						
VLS	**Valsamata**	**1.54**	**337**	P	**Pb**	**01 01 23.4**	**0.0**
LXR1	**Lixouri, Cepha**	**1.61**	**334**	P	**Pb**	**01 01 24.5**	**0.0**
LXR1				S	**Sb**	**01 01 48.4**	**+4.0**
DMLN	**Damoulianata-K**	**1.67**	**333**	P	**Pn**	**01 01 24.2**	**+1.2**
EFP	**Efpalio**	**1.72**	**15**	P	**Pb**	**01 01 27.3**	**+0.8**
EFP				S	**Sb**	**01 01 49.2**	**+1.5**
EFP	**Efpalio**	**1.72**	**15**	P	**Pb**	**01 01 26.2**	**-0.2**
EFP				AML	AML	01 01 59.0	
	comp=E,1906μm,0.9s						
EFP				AML	AML	01 02 12.3	
	comp=N,3160μm,0.8s						
KALE	**Kalithea**	**1.75**	**21**	P	**Pb**	**01 01 27.8**	**+0.9**
FSK	**Fiskardo**	**1.81**	**340**	P	**Pn**	**01 01 25.3**	**+0.4**
ANKY	**Antikythira Is**	**1.81**	**119**	P	**Pb**	**01 01 27.4**	**-0.6**
ANKY	**Antikythira Is**	**1.81**	**119**	P	**Pb**	**01 01 27.0**	**-1.0**
ANKY				AML	AML	01 02 10.9	
	comp=N,2630μm,1.0s						
ANKY				AML	AML	01 02 11.0	
	comp=E,2573μm,1.1s						
ANX	**Ano Chora**	**1.89**	**14**	P	**Pb**	**01 01 29.7**	**+0.4**
NYDR	**Nydri-Lefkada**	**2.02**	**345**	P	**Pb**	**01 01 29.7**	**-1.8**
LKD2	**Lefkada island**	**2.10**	**345**	P	**Pb**	**01 01 31.8**	**-1.1**
VILL	**Villia**	**2.10**	**48**	P	**Pn**	**01 01 30.0**	**+1.0**
TSLK	**Tsoukalades, L**	**2.13**	**345**	P	**Pb**	**01 01 32.3**	**-1.2**
VLY	**Voula,Athens**	**2.24**	**60**	P	**Pn**	**01 01 32.2**	**+1.4**
ATH	**Athens Observa**	**2.24**	**57**	P	**Pn**	**01 01 32.5**	**+1.6**
ATH	**Athens Observa**	**2.24**	**57**	P	**Pn**	**01 01 32.7**	**+1.8**
ATH				AML	AML	01 02 18.4	
	comp=E,2288μm,1.1s						
ATH				AML	AML	01 02 24.6	
	comp=N,1740μm,1.0s						
AXAR	**Agios Charalam**	**2.26**	**27**	P	**Pb**	**01 01 33.6**	**-2.0**
PTL	**Penteli**	**2.38**	**57**	P	**Pn**	**01 01 34.4**	**+1.5**
AGG	**Agios Georgios**	**2.39**	**19**		**Pb**	**01 01 35.9**	**-1.9**
AGG	**Agios Georgios**	**2.39**	**19**	P	**Pb**	**01 01 35.9**	**-1.9**
KNDR	**Palaiochora Ch**	**2.43**	**128**	P	**Pn**	**01 01 34.5**	**+1.0**
DION	**Dionisos Attik**	**2.44**	**57**	P	**Pn**	**01 01 35.0**	**+1.3**
IMMV	**Iera Moni Meta**	**2.50**	**120**	P	**Pn**	**01 01 36.2**	**+1.8**
IMMV	**Iera Moni Meta**	**2.50**	**120**	P	**Pn**	**01 01 35.5**	**+1.1**
THL	**Klokotos Trika**	**2.85**	**10**	P	**Pn**	**01 01 41.8**	**+2.6**
KYMI	**Kymi, Euboea I**	**2.88**	**49**	P	**Pn**	**01 01 40.8**	**+1.2**
IGT	**Igoumenitsa**	**2.88**	**344**	P	**Pn**	**01 01 41.1**	**+1.4**
JAN	**Janina**	**2.92**	**352**	P	**Pn**	**01 01 43.0**	**+2.8**
NEO	**Neokhori**	**2.94**	**30**	P	**Pn**	**01 01 42.6**	**+2.0**
TYRN	**Tyrnavos**	**3.03**	**13**	P	**Pn**	**01 01 43.6**	**+1.9**
KEK	**Kerkira**	**3.19**	**338**		**Pn**	**01 01 45.3**	**+1.4**
KEK	**Kerkira**	**3.19**	**338**	P	**Pn**	**01 01 45.1**	**+1.2**
IDI	**Anoyia**	**3.23**	**116**		**Pn**	**01 01 45.0**	**+0.5**
IDI	**Anoyia**	**3.23**	**116**	P	**Pn**	**01 01 45.1**	**+0.6**
IDI	**Anoyia**	**3.23**	**116**	Pn	**Pn**	**01 01 44.5**	**0.0**
	comp=N,4.1nm,0.3s,baz=318,slow=18,SNR=26						
IDI				Sn	**Sn**	**01 02 22.2**	**+0.1**
	comp=N,11nm,0.3s,baz=288,slow=20,SNR=6.5						
	comp=N,12nm,0.5s						
SRN	**Sarande**	**3.29**	**342**	P	**Pn**	**01 01 46.6**	**+1.3**
APE	**Apeiranthos**	**3.37**	**83**	P	**Pn**	**01 01 48.4**	**+2.0**
LSK	**Leskovik**	**3.44**	**350**	P	**Pn**	**01 01 49.9**	**+2.5**
PENT	**Pentalofos**	**3.44**	**357**	P	**Pn**	**01 01 50.8**	**+3.4**
LIT	**Litokhoron**	**3.46**	**15**		**Pn**	**01 01 49.6**	**+1.9**
LIT	**Litokhoron**	**3.46**	**15**	P	**Pn**	**01 01 49.5**	**+1.9**
KZN	**Kozani**	**3.56**	**5**	P	**Pn**	**01 01 51.0**	**+2.0**
NEST	**Nestorio**	**3.66**	**356**	P	**Pn**	**01 01 53.8**	**+3.4**
KTI	**Kastanea**	**3.68**	**9**	P	**Pn**	**01 01 53.8**	**+3.1**
SCTE	**Santa Cesarea**	**4.01**	**327**		**Pn**	**01 01 56.0**	**+0.8**
FNA	**Florina**	**4.02**	**0**		**Pn**	**01 01 57.2**	**+1.9**
FNA	**Florina**	**4.02**	**0**	P	**Pn**	**01 01 57.1**	**+1.7**
FNA	**Florina**	**4.02**	**0**	*ePn*	**Pn**	**01 01 57.0**	**+1.7**
FNA				*eSn*	**Sn**	**01 02 41.0**	**-0.6**
TIP	**Timpagrande**	**4.36**	**305**		**Pn**	**01 02 00.7**	**+0.7**
OHR	**Ohrid**	**4.37**	**355**	*ePn*	**Pn**	**01 02 01.8**	**+1.7**
OHR	**Ohrid**	**4.37**	**355**	*i Pn*	**Pn**	**01 02 03.2**	**+3.1**
KNT	**Kendrikon**	**4.56**	**15**	P	**Pn**	**01 02 04.6**	**+1.9**
CEL	**Celeste**	**4.58**	**291**		**Pn**	**01 02 04.2**	**+1.1**
VAY	**Valandovo**	**4.65**	**11**	*ePn*	**Pn**	**01 02 05.6**	**+1.6**
VAY	**Valandovo**	**4.65**	**11**	*i Pn*	**Pn**	**01 02 06.1**	**+2.1**
SRS	**Serrai**	**4.69**	**21**	*ePn*	**Pn**	**01 02 06.0**	**+1.5**
TIR	**Tirane**	**4.72**	**346**		**Pn**	**01 02 06.9**	**+1.9**
TIR	**Tirane**	**4.72**	**346**	*ePn*	**Pn**	**01 02 05.7**	**+0.7**
TIR				*eSn*	**Sn**	**01 02 58.2**	**-0.7**
TIR	**Tirane**	**4.72**	**346**	⇓P	**Pn**	**01 02 06.7**	**+1.7**
KARP	**Karpathos**	**4.86**	**103**		**Pn**	**01 02 07.8**	**+1.0**
KARP	**Karpathos**	**4.86**	**103**	*eP*	**Pn**	**01 02 09.9**	**+3.0**
KARP	**Karpathos**	**4.86**	**103**	P	**Pn**	**01 02 08.3**	**+1.4**
NVR	**Nevrokopi**	**4.99**	**22**	P	**Pn**	**01 02 11.3**	**+2.7**
MATE	**Matera**	**5.32**	**318**	*eP*	**Pn**	**01 02 13.3**	**+0.2**
MATE	**Matera**	**5.32**	**318**	⇑P	**Pn**	**01 02 14.0**	**+0.9**
PUK	**Puka**	**5.39**	**348**		**Pn**	**01 02 15.3**	**+1.1**
CUC	**Castrocucco**	**5.41**	**308**		**Pn**	**01 02 16.0**	**+1.6**
ULC	**Ulcinj**	**5.45**	**343**	⇓*i Pn*	**Pn**	**01 02 14.7**	**-0.2**
ULC				*i Sn*	**Sn**	**01 03 16.0**	**-0.7**
VAE	**Valguarnera**	**5.59**	**279**	Pn	**Pn**	**01 02 18.6**	**+1.7**
	comp=N,16nm,0.6s,baz=84,slow=19,SNR=6.3						
VAE				Sn	**Sn**	**01 03 20.0**	**-0.2**
	comp=N,4.8nm,0.3s,baz=146,slow=18,SNR=2.5						
RAFF	**Raffo Rosso**	**5.61**	**277**		**Pn**	**01 02 18.0**	**+0.9**
DRME	**Dracevica, Mon**	**5.67**	**344**	⇓*i Pn*	**Pn**	**01 02 18.4**	**+0.4**
DRME				*i Sn*	**Sn**	**01 03 22.2**	**0.0**
BOSS	**Bosilegrad**	**5.80**	**8**	*ePn*	**Pn**	**01 02 20.7**	**+1.0**
BUM	**Brajici-Budva**	**5.85**	**342**	⇓*i Pn*	**Pn**	**01 02 20.4**	**-0.1**
BUM				*i Sn*	**Sn**	**01 03 25.5**	**-1.2**
PDG	**Podgorica**	**5.89**	**345**		**Pn**	**01 02 21.1**	**+0.1**
PDG	**Podgorica**	**5.89**	**345**	*ePn*	**Pn**	**01 02 21.0**	**+0.1**
PDG				*eSn*	**Sn**	**01 03 25.8**	**-1.7**
PDG	**Podgorica**	**5.89**	**345**	*ePn*	**Pn**	**01 02 21.2**	**+0.2**
PDG	**Podgorica**	**5.89**	**345**	⇑P	**Pn**	**01 02 21.5**	**+0.5**
PDG	**Podgorica**	**5.89**	**345**	⇓*i Pn*	**Pn**	**01 02 21.1**	**+0.1**
PDG				*i Sn*	**Sn**	**01 03 26.9**	**-0.6**
PVY	**Plav**	**5.92**	**350**	⇑*i Pn*	**Pn**	**01 02 23.3**	**+1.7**
PVY				*i Sn*	**Sn**	**01 03 28.5**	**-0.1**
PLD	**Plovdiv**	**5.99**	**25**	*ePn*	**Pn**	**01 02 21.9**	**-0.5**
VTS	**Vitosha**	**6.03**	**13**	*ePn*	**Pn**	**01 02 23.9**	**+0.8**
VTS				*eSn*	**Sn**	**01 03 29.6**	**-1.7**
BARS	**Barje**	**6.06**	**3**	*ePn*	**Pn**	**01 02 23.9**	**+0.6**
BARS				*eSn*	**Sn**	**01 03 29.8**	**-2.0**
CEME	**Cevo**	**6.08**	**343**	⇓*i Pn*	**Pn**	**01 02 23.4**	**-0.2**
CEME				*i Sn*	**Sn**	**01 03 30.3**	**-2.0**
HCY	**Herceg Novi**	**6.09**	**340**	*ePn*	**Pn**	**01 02 23.0**	**-0.8**
HCY	**Herceg Novi**	**6.09**	**340**	⇑*i Pn*	**Pn**	**01 02 23.0**	**-0.8**
HCY				*i Sn*	**Sn**	**01 03 31.3**	**-1.3**
IVA	**Berane**	**6.21**	**350**	*ePn*	**Pn**	**01 02 26.7**	**+1.3**
IVA				*i Sn*	**Sn**	**01 03 34.9**	**-0.6**
KOME	**Kolasin**	**6.24**	**348**	⇑*i Pn*	**Pn**	**01 02 26.8**	**+0.9**
KOME				*i Sn*	**Sn**	**01 03 35.0**	**-0.2**
NKME	**Niksic**	**6.28**	**344**	⇓*i Pn*	**Pn**	**01 02 26.5**	**+0.2**
NKME				*i Sn*	**Sn**	**01 03 36.1**	**-1.1**
TREB	**Trebinje**	**6.38**	**340**	*ePn*	**Pn**	**01 02 27.0**	**-0.7**
TREB				*eSn*	**Sn**	**01 03 35.7**	**-4.0**
TREB	**Trebinje**	**6.38**	**340**	*ePn*	**Pn**	**01 02 26.5**	**-1.2**
SELS	**Selova**	**6.46**	**359**	*ePn*	**Pn**	**01 02 28.7**	**-0.1**
BRY	**Bratogost**	**6.50**	**341**	*ePn*	**Pn**	**01 02 28.7**	**-0.8**
BRY	**Bratogost**	**6.50**	**341**	*ePn*	**Pn**	**01 02 28.8**	**-0.8**
BRY				*i Sn*	**Sn**	**01 03 42.0**	**-0.9**
SJES	**Sjenica**	**6.58**	**351**	*ePn*	**Pn**	**01 02 31.1**	**+0.5**
SJES	**Sjenica**	**6.58**	**351**	*ePn*	**Pn**	**01 02 31.1**	**+0.5**
ZAPS	**Zavoj**	**6.58**	**8**	*ePn*	**Pn**	**01 02 31.6**	**+1.1**
UPM	**Unac-Piva**	**6.70**	**345**	*ePn*	**Pn**	**01 02 31.6**	**-0.7**
UPM	**Unac-Piva**	**6.70**	**345**	⇑*i Pn*	**Pn**	**01 02 34.0**	**+1.7**
UPM				*i Sn*	**Sn**	**01 03 46.6**	**-1.3**
STON	**Ston**	**6.72**	**336**	*ePn*	**Pn**	**01 02 31.4**	**-0.9**
STON				*eSn*	**Sn**	**01 03 42.1**	**-5.8**
STON	**Ston**	**6.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIOA	**Bad Ischl, Aus**	**12.32**	**335**	*i* Pn	**Pn**	**01 03 49.7**	**+0.6**
	comp=N,1.3nm,0.3s						
BIOA					**Sn**	**01 06 00.4**	**-5.0**
	comp=N,1.6nm,0.5s						
KZIT	**Kziot**	**12.32**	**115**	P	**Pn**	**01 03 49.5**	**+0.4**
LESA	**Schwarzleotal**	**12.44**	**332**	*e*Pn	**Pn**	**01 03 52.2**	**+1.4**
	comp=N,3.4nm,0.5s						
LESA				*e*Sn	**Sn**	**01 06 02.9**	**-5.6**
	comp=N,2.8nm,0.6s						
SHMJ	**Saham**	**12.52**	**105**	P	**Pn**	**01 03 52.9**	**+1.0**
QRNJ	**Al-Qirein**	**12.53**	**106**	P	**Pn**	**01 03 52.0**	**0.0**
UJAP	**Al Uja**	**12.61**	**108**	P	**Pn**	**01 03 53.7**	**+0.6**
YTIR	**Yattir**	**12.62**	**111**	P	Pn	01 03 46.3	-7.0
WTTA	**Wattenberg**	**12.73**	**329**	*e*Pn	**Pn**	**01 03 56.9**	**+2.1**
	comp=N,0.5nm,0.2s						
WTTA				*e*Sn	**Sn**	**01 06 11.3**	**-4.3**
	comp=N,4.3nm,0.6s						
WATA	**Walderalm**	**12.81**	**329**	*i* Pn	**Pn**	**01 03 58.8**	**+2.9**
	comp=N,1.3nm,0.4s						
WATA				*e*Sn	**Sn**	**01 06 13.4**	**-4.2**
	comp=N,7.0nm,0.9s						
SQTA	**Sankt Quirin**	**12.88**	**327**	*i* Sn	**Sn**	**01 06 17.4**	**-1.8**
	comp=N,4.2nm,0.8s						
FETA	**Feichten**	**12.94**	**326**	*i* Sn	**Sn**	**01 06 17.8**	**-2.9**
	comp=N,2.2nm,0.8s						
MOTA	**Moosalm**	**13.02**	**328**	*i* Pn	**Pn**	**01 04 00.4**	**+1.7**
	comp=N,1.9nm,0.5s						
MOTA				*i* Sn	**Sn**	**01 06 21.8**	**-0.9**
	comp=N,4.4nm,0.7s						
DAVOX	**Davos/Dischmat**	**13.16**	**323**	Pn	**Pn**	**01 04 02.8**	**+2.1**
	comp=N,0.2nm,0.3s,baz=150,slow=20,SNR=2.1						
DAVOX				Sn	Sn	01 06 14.4	-12
	comp=N,0.1nm,0.3s,baz=142,slow=19,SNR=1.0						
TUE	**Stuetta**	**13.20**	**321**		**Pn**	**01 04 02.2**	**+0.9**
RETA	**Reutte**	**13.27**	**327**	*e*Pn	**Pn**	**01 04 04.5**	**+2.3**
	comp=N,0.6nm,0.3s						
RETA				*e*Sn	**Sn**	**01 06 24.3**	**-4.6**
	comp=N,2.1nm,0.6s						
GERES	**GERESS Array B**	**13.31**	**338**	Pn	**Pn**	**01 04 02.2**	**-0.4**
	comp=N,0.1nm,0.3s,baz=146,slow=15,SNR=2.5						
	comp=N,0.5nm,0.5s						
EIL	**Elat**	**13.40**	**118**	Pn	**Pn**	**01 04 01.3**	**-2.6**
	comp=N,0.7nm,0.3s,baz=301,slow=5.9,SNR=10						
EIL				Sn	Sn	01 06 19.2	-13
	comp=N,0.2nm,0.3s,baz=300,slow=16,SNR=2.3						
	comp=N,1.6nm,0.4s						
DAVA	**Damuels**	**13.52**	**325**	*i* Pn	**Pn**	**01 04 10.0**	**+4.4**
	comp=N,1.5nm,0.5s						
DAVA				*e*Sn	**Sn**	**01 06 29.3**	**-5.7**
	comp=N,3.1nm,0.7s						
KHC	**Kasperske Hory**	**13.60**	**338**	*e*PN	**Pn**	**01 04 06.1**	**-0.5**
KIEV	**Kiev**	**15.03**	**20**	P	**P**	**01 04 33.0**	**+2.0**
KIEV				IAmb	IAmb	01 04 43.3	
	comp=Z,7.3nm,0.9s						
AKASG	**Malin Array Be**	**15.04**	**20**	Pn	**Pn**	**01 04 24.5**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=209,slow=12,SNR=9.0						
AKBB	**Malin Array Si**	**15.04**	**20**	P	**P**	**01 04 32.8**	**+1.6**
AKBB				IAmb	IAmb	01 04 43.3	
	comp=Z,7.5nm,0.9s						
KBZ	**Khabaz**	**17.84**	**60**	P	**P**	**01 05 03.0**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=252,slow=13,SNR=5.3						
KBZ				LR	LR	01 13 40.2	
	comp=Z,48nm,18.9s,baz=302,slow=43						
NACGM	**Naroch**	**18.53**	**10**	*e*P	**P**	**01 05 07.2**	**-2.5**
	comp=Z,13nm,0.9s,baz=193						
GNI	**Garni**	**18.62**	**72**	LR	LR	01 13 46.6	
	comp=Z,68nm,19.4s,baz=272,slow=42						
PABE	**Paberze**	**18.84**	**5**	P	**P**	**01 05 12.5**	**-0.5**
PABE	**Paberze**	**18.84**	**5**	*e*P	**Pn**	**01 05 15.1**	**+1.4**
ESDC	**Sonseca Array**	**20.08**	**286**	P	**P**	**01 05 27.2**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=87,slow=9.2,SNR=2.7						
	comp=Z,0.9nm,0.9s						
ARBE	**Arbavere**	**22.89**	**6**	*e*P	**P**	**01 05 58.3**	**+1.5**
MEF	**Metsahovi**	**23.56**	**4**	*e*P	**P**	**01 06 02.9**	**-0.6**
HFS	**Hagfors**	**23.90**	**351**	P	**P**	**01 06 05.8**	**-1.0**
	comp=Z,3.3nm,0.5s,baz=162,slow=11,SNR=43						
	comp=Z,3.3nm,0.5s						
RAF	**Rauma**	**24.29**	**0**	*e*P	**P**	**01 06 10.5**	**+0.2**
FINES	**FINESS Array B**	**24.89**	**5**	P	**P**	**01 06 15.3**	**-0.4**
	comp=Z,3.4nm,0.5s,baz=171,slow=11,SNR=44						
	comp=Z,3.4nm,0.5s						
EKA	**Eskdalemuir Ar**	**24.96**	**326**	P	**P**	**01 06 16.5**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=123,slow=7.7,SNR=4.5						
	comp=Z,2.3nm,0.7s						
NB2	**NORSAR Subarra**	**25.14**	**348**	P	**P**	**01 06 17.7**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=157,slow=9.3						
NOA	**NORSAR Array B**	**25.14**	**348**	P	**P**	**01 06 17.6**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=157,slow=9.0,SNR=15						
	comp=Z,0.8nm,0.5s						
VAF	**Ylistaro**	**26.32**	**1**	*e*P	**P**	**01 06 30.2**	**+1.5**
TORD	**Torodi Ar. Bea**	**29.38**	**222**	P	**P**	**01 06 57.2**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=34,slow=9.3,SNR=6.5						
	comp=Z,0.7nm,0.7s						
ABKAR	**Akbulak array**	**30.53**	**54**	P	**P**	**01 07 04.7**	**-1.7**
ABKAR				IAmb	IAmb	01 07 18.9	
	comp=Z,1.6nm,0.8s						
ARTI	**Arti**	**31.60**	**40**	LR	LR	01 22 34.7	
	comp=Z,32nm,19.6s,baz=270,slow=41						
ARCES	**ARCESS Array B**	**32.91**	**3**	P	**P**	**01 07 26.8**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=191,slow=11,SNR=5.1						
ARCES				LR	LR	01 22 42.8	
	comp=Z,58nm,18.3s,baz=222,slow=40						
	comp=Z,0.6nm,0.5s						
BVAR	**Borovoye Array**	**37.55**	**48**	P	**P**	**01 08 06.8**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=261,slow=8.6,SNR=7.2						
	comp=Z,1.2nm,0.6s						
KKAR	**Karatay Array**	**37.79**	**65**	P	**P**	**01 08 09.2**	**-0.2**
KKAR				IAmb	IAmb	01 08 22.9	
	comp=Z,1.4nm,0.8s						
DBIC	**Dimbokro**	**38.33**	**225**	P	**P**	**01 08 14.7**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=25,slow=11,SNR=4.4						
	comp=Z,3.0nm,0.7s						
GAR	**Garm**	**38.35**	**71**	IAmb	IAmb	01 08 27.1	
	comp=Z,5.4nm,0.8s						
SPITS	**Spitsbergen Ar**	**41.58**	**358**	P	**P**	**01 08 41.4**	**+0.9**
	comp=Z,10.0nm,0.9s,baz=142,slow=7.2,SNR=1.2						
	comp=Z,10.0nm,0.9s						
KSH	**Kashi**	**42.50**	**69**	P	**P**	**01 08 48.9**	**+0.2**
KURBB	**Kurchatov Arra**	**42.56**	**52**	P	**P**	**01 08 47.9**	**-0.9**
	comp=Z,1.5nm,0.4s,baz=277,slow=8.7,SNR=15						
	comp=Z,1.5nm,0.4s						
MK31	**Makanchi Array**	**45.50**	**57**	P	**P**	**01 09 11.6**	**-0.9**
MK31				IAmb	IAmb	01 09 24.0	
	comp=Z,1.3nm,0.6s						
MKAR	**Makanchi Array**	**45.50**	**57**	P	**P**	**01 09 11.4**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=274,slow=7.6,SNR=22						
MKAR				PcP	**PcP**	**01 10 51.4**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=266,slow=1.7,SNR=1.3						
	comp=Z,0.8nm,0.4s						
ZAA0	**Zalesovo Array**	**46.16**	**47**	P	**P**	**01 09 16.5**	**-1.1**
ZAA0				IAmb	IAmb	01 09 26.4	
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**46.16**	**47**	P	**P**	**01 09 16.3**	**-1.2**
	comp=Z,1.8nm,0.3s,baz=276,slow=8.5,SNR=13						
	comp=Z,1.8nm,0.3s						
NRIK	**Noril'sk**	**47.77**	**26**	P	**P**	**01 09 29.4**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=298,slow=14,SNR=2.4						
	comp=Z,1.2nm,0.4s						
SCHQ	**Schefferville**	**59.95**	**318**	P	**P**	**01 10 59.2**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=86,slow=12,SNR=1.6						
	comp=Z,2.4nm,0.7s						
SONM	**Songino Array**	**60.86**	**50**	P	**P**	**01 11 04.9**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=248,slow=7.6,SNR=3.6						
	comp=Z,0.5nm,0.5s						
BOSA	**Boshof**	**65.13**	**176**	LR	LR	01 42 07.1	
	comp=Z,33nm,18.3s,baz=320,slow=38						
HHC	**Hu-ho-hao-te**	**67.30**	**55**	*e*P	**P**	**01 11 48.1**	**+0.1**
PZH	**PanZhiHua**	**67.39**	**73**	P	**P**	**01 11 50.1**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
CMAR	**Chiang Mai Arr**	**69.44**	**82**	P	**P**	**01 12 00.9**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=301,slow=7.2,SNR=1.8						
	comp=Z,0.8nm,0.3s						
USRK	**Ussuriysk Ar.**	**77.86**	**44**	P	**P**	**01 12 50.4**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=303,slow=4.2,SNR=2.6						
	comp=Z,1.7nm,0.8s						
ILAR	**Eielson Array**	**78.38**	**355**	P	**P**	**01 12 53.9**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=346,slow=4.1,SNR=5.5						
	comp=Z,0.4nm,0.6s						
KSRS	**Korea Array**	**79.72**	**51**	P	**P**	**01 13 01.3**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=312,slow=5.1,SNR=4.7						
	comp=Z,1.7nm,0.7s						
DAV	**Davao City (W)**	**97.07**	**76**	LR	LR	02 04 06.7	
	comp=Z,217nm,18.7s,baz=331,slow=39						
ASAR	**Alice Springs**	**121.36**	**97**	PKP	**PKiKP**	**01 19 46.6**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=323,slow=1.4,SNR=2.1						

*JMA **10** 01:10:27.5±0.2, 44°.6N±0°.8×14°.6E±°, h19km±1km, MV3.1/25, NEAR KUNASHIRI ISLAND*
*SKHL **10** 01:10:28.2±0.1, 44°.50N×145°.70E, h12km±2km, mb4.3/2*
ISC 10 01:10:28.0±2.0, 44°.5N±0°.1×145°.72E±0°.04, h18km±8km, n11, σ0°34/19, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.50**	**168**	*e*P	**Pg**	**01 10 38.2**	**+0.1**
YUK				AMB	AMB	01 10 39.6	
	70nm,0.2s						
YUK				*i* S	**Sb**	**01 10 45.8**	**+0.6**
YUK				A	A	01 10 46.1	
	1μm,0.4s						
YUK				A	A	01 10 46.1	
	1μm,0.4s						
JRA	**Rausu**	**0.72**	**216**	*e*P	**Pg**	**01 10 42.0**	**-0.2**
JRA				*e*S	**Sb**	**01 10 52.2**	**+0.5**
JNSB	**Nemuroshibetsu**	**0.91**	**215**	*e*P	**Pb**	**01 10 45.1**	**-0.1**
JNSB				*e*S	**Sg**	**01 10 57.7**	**+0.2**
SHO	**Shikotan**	**1.03**	**129**	*i* P	**Pb**	**01 10 47.4**	**0.0**
SHO				AMB	AMB	01 10 47.7	
	180nm,0.3s						
SHO				*i* S	**Sg**	**01 11 01.8**	**+0.1**
SHO				A	A	01 11 02.7	
	2μm,0.5s						
SHO				A	A	01 11 02.7	
	1μm,0.5s						
SHO	**Shikotan**	**1.03**	**129**	*i* P	**Pb**	**01 10 47.4**	**0.0**
SHO				AMB	AMB	01 10 47.7	
	180nm,0.3s						
SHO				*i* S	**Sg**	**01 11 01.7**	**+0.1**
SHO				A	A	01 11 02.7	
	2μm,0.5s						
SHO				A	A	01 11 02.7	
	1μm,0.5s						
NMR	**Nemuro--Hokkai**	**1.15**	**180**	*i* P	**Pn**	**01 10 48.7**	**-0.6**
NMR				*i* S	**Sb**	**01 11 04.0**	**0.0**
NEM2	**Nemuro 2**	**1.16**	**179**	*e*P	**Pn**	**01 10 48.7**	**-0.6**
NEM2				*e*S	**Sb**	**01 11 04.2**	**+0.1**
JNK	**Nakash**	**1.18**	**218**	*e*P	**Pn**	**01 10 49.5**	**-0.2**
JNK				*e*S	**Sb**	**01 11 05.0**	**+0.2**
JTKR	**Abashiri--Toko**	**1.41**	**248**	*e*P	**Pn**	**01 10 52.4**	**-0.4**
AKK	**Akkeshi**	**1.63**	**203**	*e*P	**Pn**	**01 10 56.0**	**+0.1**
JMP	**Maruseppu**	**1.77**	**254**	*e*P	**Pn**	**01 10 58.0**	**+0.2**

*NEIC **10** 01:10:46.3±0.5, 19°.21N±0°.06×155°.51W±0°.06, h32km±3km, Error ellipse: s-maj=9.6km s-min=6.4km az=138.0*
HVO 10 01:10:46.9±0.8, 19°.17N±0°.07×155°.47W±0°.07, h32km±8km, ML2.4/34, ML2.5/35(NEIC), Error ellipse: s-maj=11.5km s-min=6.3km az=137.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.10**	**45**		Pb	01 10 52.3	-0.3
KHU	**Kahuku**	**0.16**	**300**		Pb	01 10 52.5	-0.8
KHU					Sn	01 10 56.5	-0.8
HLP	**Hilina Pali**	**0.20**	**50**		Pb	01 10 53.0	-0.5
HLP					Sb	01 10 57.6	-0.3
HLP				IAML		01 11 01.2	
	comp=E,531nm,0.5s						
HLP				IAML		01 11 04.6	
	comp=N,536nm,0.8s						
SDHHI	**Sand Hill**	**0.28**	**37**		Pb	01 10 53.5	-0.9
SDHHI					Sb	01 10 58.3	-1.2
WRMHI	**West Rim**	**0.29**	**34**		Pb	01 10 53.5	-1.0
WRMHI					Sb	01 10 58.6	-1.2
RIM	**Rim**	**0.29**	**39**		Pb	01 10 53.6	-1.0
RIM					Sb	01 10 58.8	-1.1
KKO	**Keanakako'i**	**0.30**	**40**		Pb	01 10 53.8	-1.0
KKO					Sb	01 10 58.8	-1.2
UWE	**Uwekahuna**	**0.30**	**34**		Pb	01 10 53.7	-1.1
UWE				IAML		01 11 00.1	
	comp=N,568nm,1.6s						
UWE				IAML		01 11 06.5	
	comp=E,563nm,0.4s						
UWE	**Uwekahuna**	**0.30**	**34**		Sb	01 10 59.0	-1.1
OBL	**Observatory Le**	**0.31**	**35**		Pb	01 10 53.7	-1.1
OBL					Sb	01 10 59.0	-1.1
BYL	**Byron's Ledge**	**0.32**	**39**		Pb	01 10 53.8	-1.1
BYL					Sb	01 10 59.1	-1.2
BYL	**Byron's Ledge**	**0.32**	**39**	IAML		01 10 59.5	
	comp=N,375nm,4.0s						
BYL				IAML		01 11 09.0	
	comp=E,463nm,2.8s						
UWB	**Uwekahuna Bluf**	**0.32**	**36**		Pb	01 10 53.7	-1.2
UWB					Sb	01 10 59.0	-1.3
PUH	**Pauahi**	**0.32**	**50**		Pb	01 10 53.8	-1.1
PUH					Sb	01 10 59.0	-1.3
PUH	**Pauahi**	**0.32**	**50**	IAML		01 10 59.3	
	comp=E,389nm,0.4s						
PUH				IAML		01 10 59.4	
	comp=N,256nm,0.2s						
SBLHI	**Steaming Bluff**	**0.32**	**37**		Pb	01 10 53.8	-1.2
SBLHI					Sb	01 10 58.8	-1.7
HATHI	**Halema'uma'u T**	**0.32**	**38**		Pb	01 10 53.8	-1.2
HATHI					Sb	01 10 59.1	-1.4
HATHI	**Halema'uma'u T**	**0.32**	**38**	IAML		01 10 59.6	
	comp=E,400nm,0.4s						
HATHI				IAML		01 11 00.3	
	comp=N,371nm,0.7s						
MLH	**Mauna Loa**	**0.34**	**14**		Pb	01 10 54.2	-1.0
MLH				IAML		01 10 59.9	
	comp=E,336nm,0.4s						
MLH				IAML		01 11 00.2	
	comp=N,496nm,0.5s						
MLH	**Mauna Loa**	**0.34**	**14**		Sb	01 10 59.6	-1.3
RSD	**Rainshed**	**0.35**	**32**		Pb	01 10 54.1	-1.3
RSD					Sb	01 10 59.3	-1.8
KNHH	**Kane Nui o Ham**	**0.35**	**53**		Pb	01 10 54.0	-1.4
MLOA	**Mauna Loa Obse**	**0.38**	**345**		Pb	01 10 54.7	-1.4
MLOA					Sb	01 11 00.3	-1.9
STCH	**Steam Cracks**	**0.39**	**56**		Pb	01 10 54.7	-1.2
STCH					Sb	01 11 00.5	-1.6
STCH	**Steam Cracks**	**0.39**	**56**	IAML		01 11 00.6	
	comp=E,168nm,0.2s						
STCH				IAML		01 11 03.8	
	comp=N,197nm,0.5s						
ALEP	**Alea Permanent**	**0.41**	**336**		Pb	01 10 54.8	-1.6
ALEP					Sb	01 11 00.6	-2.2
NPOC	**North of Pu'u**	**0.41**	**57**		Pb	01 10 54.9	-1.3
NPOC					Sb	01 11 00.8	-1.7
JCUZ	**Jacuzzi**	**0.41**	**58**		Pb	01 10 55.1	-1.1
JCUZ					Sb	01 11 01.0	-1.5
HMH	**Humu'ula Sheep**	**0.43**	**359**		Pb	01 10 55.6	-1.1
HMH				IAML		01 11 03.1	
	comp=E,398nm,0.3s						
HMH	**Humu'ula Sheep**	**0.43**	**359**		Sb	01 11 02.0	-1.4
JOKA	**Jonika Flow**	**0.52**	**59**	IAML		01 11 09.3	
	comp=E,211nm,3.6s						
JOKA	**Jonika Flow**	**0.52**	**59**		Pb	01 10 56.1	-1.6
JOKA	**Jonika Flow**	**0.52**	**59**		Sb	01 11 03.0	-2.1
HUH	**Hualalai**	**0.62**	**326**	IAML		01 11 12.0	
	comp=E,294nm,0.7s						

IDC 10 01:13:50.5±3.2, 6°.44S×147°.12E, h0km, mb2.9/1, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=80.8km s-min=34.0km az=87.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.94**	**179**	Pn	Pn	01 14 38.1	-0.5
	11nm,0.6s,baz=342,slow=6.4,SNR=4.6						
PMG				Sn	Sn	01 15 15.3	+0.7
	5.0nm,0.3s,baz=331,slow=18,SNR=4.4						
WRA	**Warramunga Arr**	**18.28**	**222**	P	P	01 18 06.2	+0.1
	0.1nm,0.3s,baz=43,slow=12,SNR=1.8						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**21.32**	**215**	P	P	01 18 39.2	0.0
	0.2nm,0.4s,baz=48,slow=9.1,SNR=2.9						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**145.31**	**284**	PKPbc	PKPbc	01 33 30.4	-0.8
	0.7nm,0.6s,baz=73,slow=4.4,SNR=7.3						

*BER **10** 01:46:30.5±3.8, 71°.39N×12°.37W, h10km, mb(Pn)3.7, Confirmed Earthquake*
*DNK **10** 01:46:33.8±5.2, 71°.57N×11°.67W, h37km±90km, ML1.7*
ISC 10 01:46:31.4±1.5, 71°.63N±0°.07×11°.80W±0°.06, h26km±17km, n15, σ2°40/25, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.21**	**124**	*e*P	**Pb**	**01 46 53.5**	**-0.1**
JMI				*e*S	**Sb**	**01 47 08.4**	**-0.4**
JMI				IAML		01 47 11.3	
	comp=Z,46nm,0.3s						
JNW	**Jan Mayen West**	**1.24**	**117**	*e*P	**Pn**	**01 46 53.4**	**+0.4**
JNW				*e*S	**Sb**	**01 47 08.7**	**-0.8**
JNW				IAML		01 47 09.9	
	comp=Z,71nm,0.2s						
JMIC	**Jan Mayen**	**1.24**	**120**	*e*P	**Pb**	**01 46 53.5**	**-0.6**
JMIC				*e*S	**Sb**	**01 47 08.4**	**-1.2**
JMIC				IAML		01 47 15.9	
	comp=Z,48nm,0.7s						
JMIC	**Jan Mayen**	**1.24**	**120**	*i* P	**Pn**	**01 46 52.1**	**-0.8**
JMIC				*i* S	**Sn**	**01 47 07.8**	**-1.0**
JNE	**Jan Mayen East**	**1.30**	**118**	*e*P	**Pb**	**01 46 54.3**	**-0.7**
JNE				*e*S	**Sn**	**01 47 09.5**	**-0.7**
JNE				IAML		01 47 12.1	
	comp=Z,149nm,0.5s						
SCO	**Scoresbysund**	**3.50**	**256**	*i* P	**Pn**	**01 47 24.7**	**+0.7**
SCO				*i* S	**Sn**	**01 48 02.5**	**-2.1**
SCO				IAML		01 48 05.4	
	comp=Z,3.1nm,0.2s						
DBG	**Daneborg**	**3.66**	**321**	*e*P	**Pn**	**01 47 27.2**	**+1.0**
DBG				*e*S	**Sn**	**01 48 06.1**	**-2.2**
DBG	**Daneborg**	**3.66**	**321**	*i* P	**Pn**	**01 47 27.9**	**+1.7**
DBG				*i* S	**Sn**	**01 48 05.4**	**-3.0**
DBG				IAML		01 48 07.0	
	comp=Z,5.2nm,0.3s						
DAG	**Danmarks Havn**	**5.50**	**343**	*e*P	**Pn**	**01 47 53.5**	**+2.1**
DAG				*e*S	**Sn**	**01 48 49.8**	**-3.8**
DAG	**Danmarks Havn**	**5.50**	**343**	*i* P	**Pn**	**01 47 53.1**	**+1.8**
DAG				*i* S	**Sn**	**01 48 49.5**	**-4.1**
DAG				IAML		01 48 51.0	
	comp=Z,6.1nm,0.2s						
SUMG	**Summit**	**8.23**	**289**	*i* P	**Pn**	**01 48 33.6**	**+4.4**
HSPB	**Hornsund (broa**	**9.05**	**41**	*e*P	**Pn**	**01 48 42.7**	**+2.6**
HSPB				IAML		01 48 43.5	
	comp=Z,2.7nm,0.2s						
BRBA	**Barentsburg A**	**9.27**	**35**	*e*P	**Pn**	**01 48 44.9**	**+1.8**
BRBA				IAML		01 48 45.0	
	comp=Z,7.7nm,0.9s						
KBS	**Kingsbay**	**9.38**	**29**	*e*P	**Pn**	**01 48 47.6**	**+3.0**
KBS				IAML		01 48 47.8	
	comp=Z,3.4nm,0.7s						
SPA0	**Spitsbergen Ar**	**9.72**	**35**	*e*P	**Pn**	**01 48 53.1**	**+3.8**
SPA0				IAML		01 48 56.9	
	comp=Z,4.6nm,0.8s						

*JMA **10** 01:51:18.8±0.2, 23°.4N±0°.4×120°.2E±0°.8, h0km, MV4.2/11, TAIWAN REGION*
*ASIES **10** 01:51:19.8, 23°.36N×120°.22E, h7km, ML4.4, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}4.03; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$-3.92; $M_{r\theta}$2.81; $M_{\theta\phi}$-1.49; $M_{\phi r}$2.48; Fault plane solution: $M_0$5.66312×10^{21} NP1:φs37.79000°, δ66.37000°, λ106.75000°. NP2:φs180.89000°, δ28.69000°, λ56.63000°. Principal axes: T Plg64.6610°, Azm336.2290°; N Plg15.3110°, Azm210.9080°; P Plg19.6820°, Azm115.2880°;*
*TAP **10** 01:51:19.8, 23°.36N×120°.22E, h7km, ML4.4, B*
*IDC **10** 01:51:22.1±1.4, 22°.94N×120°.83E, h0km, mb3.5/3, mbtmp3.6/5, ML3.6/2, MS3.4/3, Error ellipse: s-maj=43.3km s-min=26.8km az=78.0*
ISC 10 01:51:21.3±0.6, 23°.37N±0°.01×120°.21E±0°.01, h14km±3km, n170, σ1°25/296, mb3.5/3, MS2.9/3, 16C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN8	**Yiju**	**0.02**	**166**	⇑*i*P	**Pg**	**01 51 21.3**	**-2.5**
CHN8				*i* S	**Sg**	**01 51 23.1**	**-2.3**
ICHU	**Yijhu**	**0.07**	**94**	⇓*i*P	**Pg**	**01 51 22.2**	**-1.9**
ICHU				S	**Sg**	**01 51 24.9**	**-1.1**
WSL	**Shuilin Townsh**	**0.16**	**7**	⇑*i*P	**Pg**	**01 51 24.5**	**-0.7**
WSL				S	**Sg**	**01 51 29.0**	**+1.0**
SCLT	**Jiali**	**0.19**	**183**	⇑*i*P	**Pg**	**01 51 25.0**	**-0.7**
SCLT				*i* S	**Sg**	**01 51 29.5**	**+0.9**
CHY	**Chiayi**	**0.24**	**56**	P	**Pg**	**01 51 26.1**	**-0.4**
CHY				*e*S	**Sg**	**01 51 31.2**	**+1.1**
SSHA	**Shanhua**	**0.24**	**162**	P	**Pg**	**01 51 26.0**	**-0.5**
SSHA				S	**Sg**	**01 51 31.3**	**+1.2**
TSCK	**Chigu Township**	**0.24**	**207**	*e*P	**Pg**	**01 51 26.1**	**-0.5**
TSCK				*e*S	**Sg**	**01 51 31.9**	**+1.8**
WSF	**Szhu**	**0.27**	**3**	⇑P	**Pb**	**01 51 26.7**	**-1.4**
WSF				*i* S	**Sb**	**01 51 32.4**	**-0.1**
CHN2	**Minshiung**	**0.30**	**56**	⇑P	**Pb**	**01 51 27.3**	**-1.2**
CHN2				*i* S	**Sb**	**01 51 33.1**	**-0.2**
SNST	**Tainan City**	**0.30**	**118**	⇓*i*P	**Pb**	**01 51 26.9**	**-1.7**
CHN3	**Shinhua**	**0.32**	**153**	⇑P	**Pb**	**01 51 27.8**	**-1.1**
CHN3				*e*S	**Sb**	**01 51 34.5**	**+0.5**
TAI1	**Yung-k'ang**	**0.32**	**176**	*e*P	**Pb

SSLB				S	Sb	01 51 47.6	-0.3
SMLT	**Sun Moon Lake**	**0.82**	**51**	⇑*i*P	**Pb**	01 51 36.4	-1.0
SMLT				*i* S	**Sn**	01 51 49.2	-1.4
MASBT	**Mashibuluo**	**0.85**	**152**	⇑P	**Pn**	01 51 37.4	-1.5
MASBT				*i* S	**Sn**	01 51 50.7	-0.4
SSPT	**Xinbi**	**0.94**	**159**	*e*P	**Pn**	01 51 39.6	-0.5
SSPT				*e*S	**Sn**	01 51 55.0	+1.6
VWDT	**VWDT**	**0.94**	**66**	⇑P	**Pb**	01 51 38.6	-0.8
VWDT				*e*S	**Sn**	01 51 52.5	-0.9
EHD	**Haiduan**	**0.94**	**103**	*e*P	**Pb**	01 51 38.4	-1.1
EHD				*e*S	**Sn**	01 51 52.2	-1.4
WCS	**Beigang Elemen**	**0.94**	**43**	*e*P	**Pb**	01 51 38.3	-1.2
WCS				*i* S	**Sn**	01 51 53.1	-0.4
TWG	**Pinlang**	**0.96**	**124**	*e*P	**Pn**	01 51 39.1	-1.4
TWG				*i* S	**Sn**	01 51 53.8	-0.2
LONT	**Longtian**	**0.96**	**118**	*e*P	**Pb**	01 51 39.1	-0.8
LONT				S	**Sn**	01 51 53.8	-0.3
ECS	**Chishang**	**0.97**	**106**	*e*P	**Pn**	01 51 39.3	-1.2
ECS				*e*S	**Sn**	01 51 54.2	0.0
TWGBT	**Beinan**	**0.97**	**124**	P	**Pn**	01 51 39.4	-1.2
TWGBT	**Beinan**	**0.97**	**124**	⇓P	**Pb**	01 51 39.1	-0.9
TWGBT				*i* S	**Sn**	01 51 53.9	-0.3
TWF1	**Yuli**	**1.00**	**91**	⇓*i*P	**Pb**	01 51 39.5	-1.1
TWF1				*i* S	**Sn**	01 51 53.7	-1.3
YULB	**Yu-li**	**1.00**	**88**	P	**Pb**	01 51 39.5	-1.0
YULB	**Yu-li**	**1.00**	**88**	⇓*i*P	**Pb**	01 51 39.3	-1.3
YULB				*i* S	**Sn**	01 51 53.5	-1.4
FULB	**Fuli**	**1.01**	**99**	*e*P	**Pn**	01 51 40.4	-0.8
EYUL	**Yuli**	**1.02**	**91**	*e*P	**Pb**	01 51 40.0	-0.9
EYUL				*i* S	**Sn**	01 51 54.3	-1.2
TWP	**Hsiaoliuchiu**	**1.02**	**172**	*e*P	**Pn**	01 51 40.9	-0.4
TWP				*e*S	**Sn**	01 51 58.0	+2.6
ECL	**Taimali**	**1.03**	**138**	*e*P	**Pn**	01 51 40.3	-1.0
ECL				*e*S	**Sn**	01 51 55.2	-0.3
EHY	**Hungye**	**1.03**	**82**	*e*P	**Pb**	01 51 40.2	-0.9
EHY				S	**Sb**	01 51 54.4	-0.1
WUSB	**Renai**	**1.04**	**53**	⇓*i*P	**Pg**	01 51 40.0	-1.6
WUSB				S	**Sb**	01 51 54.3	-0.6
EHYH	**Wanrong**	**1.05**	**83**	*e*P	**Pn**	01 51 40.6	-1.1
EHYH				*e*S	**Sb**	01 51 54.8	-0.3
WDJ	**Dajia District**	**1.06**	**22**	*e*P	**Pn**	01 51 40.9	-0.9
WDJ				*e*S	**Sn**	01 51 56.3	0.0
SCZT	**Fangliau**	**1.06**	**159**	⇑P	**Pn**	01 51 40.6	-1.1
SCZT				*e*S	**Sn**	01 51 57.2	+0.9
TTN	**Taitung**	**1.06**	**125**	*e*P	**Pn**	01 51 42.0	+0.2
TTN				*e*S	**Sn**	01 51 57.2	+0.9
OWD	**Renai**	**1.07**	**56**	*i* P	**Pb**	01 51 40.8	-0.9
OWD				*e*S	**Sb**	01 51 55.0	-0.5
EDH	**Donghe**	**1.08**	**111**	*e*P	**Pn**	01 51 41.4	-0.7
EDH				*i* S	**Sn**	01 51 58.5	+1.5
CHKT	**Chengkung**	**1.10**	**104**	*e*P	**Pn**	01 51 42.0	-0.3
CHKT				*i* S	**Sn**	01 51 59.2	+1.9
CHKH	**Chenggong**	**1.11**	**99**	*i* P	**Pn**	01 51 42.0	-0.5
CHKH				*i* S	**Sn**	01 51 58.2	+0.7
TWQ1	**Liyutan**	**1.11**	**28**	P	**Pb**	01 51 41.6	-0.7
TWQ1				*e*S	**Sn**	01 51 58.2	+0.6
HGSD	**Ruisui**	**1.13**	**83**	*e*P	**Pn**	01 51 42.6	-0.1
HGSD				S	**Sn**	01 51 59.0	+1.0
WHP	**Taichung City**	**1.13**	**37**	*e*P	**Pb**	01 51 41.8	-1.0
WHP				*e*S	**Sn**	01 51 59.0	+0.7
WARBT	**Fenglin Townsh**	**1.14**	**72**	P	**Pn**	01 51 42.0	-0.9
WARBT				S	**Sn**	01 51 57.8	-0.6
EAST	**Anshuo**	**1.14**	**149**	*e*P	**Pn**	01 51 42.0	-1.0
EAST				*i* S	**Sn**	01 51 59.3	+0.9
ECBN	**Changbin**	**1.15**	**92**	*e*P	**Pn**	01 51 42.9	-0.1
ECBN				*e*S	**Sn**	01 51 58.9	+0.4
EGFH	**Guangfu**	**1.16**	**75**	P	**Pn**	01 51 42.7	-0.5
EGFH				*i* S	**Sn**	01 51 58.8	-0.1
TAW	**Tawu**	**1.19**	**147**	P	**Pn**	01 51 43.1	-0.4
TAW				*e*S	**Sn**	01 51 59.9	+0.4
TAWH	**Dawu Township**	**1.20**	**148**	P	**Pn**	01 51 43.1	-0.6
TAWH				*e*S	**Sn**	01 52 00.1	+0.3
ESL	**Shilin**	**1.21**	**68**	*e*P	**Pn**	01 51 43.5	-0.4
ESL				S	**Sn**	01 52 00.3	+0.2
TDCB	**Techi**	**1.24**	**44**	P	**Pg**	01 51 43.4	-1.9
TDCB				*e*S	**Sn**	01 52 00.9	-0.2
WHF	**Hehuan Shan**	**1.24**	**51**	*i* P	**Pn**	01 51 43.9	-0.8
WHF				*e*S	**Sn**	01 52 01.3	-0.2
TWT	**Tachien**	**1.25**	**45**	P	**Pg**	01 51 43.3	-2.3
TEGC	**Jichi Village**	**1.27**	**74**	*e*P	**Pg**	01 51 45.0	-0.8
NMLH	**Miaoli**	**1.28**	**25**	*e*P	**Pg**	01 51 44.5	-1.6
NMLH				*e*S	**Sn**	01 52 02.9	+0.9
LXIB	**Xiulin Townshi**	**1.28**	**59**	*i* P	**Pb**	01 51 44.4	-1.0
LXIB				*i* S	**Sn**	01 52 02.5	+0.3
SHUL	**Shoufeng**	**1.31**	**71**	*i* P	**Pg**	01 51 45.7	-0.9
SHUL				*i* S	**Sn**	01 52 03.8	+1.2
ETM	**Tongmen**	**1.32**	**63**	*e*P	**Pg**	01 51 45.0	-1.8
ETM				*e*S	**Sn**	01 52 02.9	0.0
LDUT	**Ludao**	**1.35**	**120**	*e*P	**Pg**	01 51 45.6	-1.8
LDUT				*i* S	**Sn**	01 52 04.6	+1.1
TEYL	**Yanliau Villag**	**1.37**	**68**	*e*P	**Pg**	01 51 47.3	-0.4
HWA	**Hwalien**	**1.42**	**64**	*e*P	**Pg**	01 51 47.2	-1.4
HWA				*e*S	**Sg**	01 52 06.6	-0.5
ETLH	**Xiulin Townshi**	**1.44**	**54**	*i* P	**Pb**	01 51 46.9	-1.1
ETLH				*i* S	**Sg**	01 52 06.8	-1.0
HEN	**Hengchun**	**1.44**	**160**	*e*P	**Pg**	01 51 47.1	-2.0
HEN				*e*S	**Sg**	01 52 06.7	-1.0
NSTT	**Nanjuang**	**1.46**	**30**	*e*P	**Pn**	01 51 46.4	-0.9
NSTT				*i* S	**Sg**	01 52 06.7	-1.6
TWD	**Chiawan**	**1.46**	**61**	P	**Pb**	01 51 46.9	-1.4
TWD				*i* S	**Sg**	01 52 07.9	-0.6
LIOB	**Emei**	**1.47**	**30**	*e*P	**Pn**	01 51 46.7	-0.9
LIOB				*e*S	**Sb**	01 52 07.0	-0.2
NACB	**Ninganchiao**	**1.51**	**57**	P	**Pb**	01 51 48.2	-0.9
NACB	**Ninganchiao**	**1.51**	**57**	*i* P	**Pb**	01 51 48.0	-1.1
NACB				*e*S	**Sg**	01 52 08.6	-1.3
NFF	**Wufeng Townshi**	**1.51**	**33**	P	**Pn**	01 51 46.9	-1.2
NFF				*e*S	**Sb**	01 52 07.9	-0.4
NNS	**Nan Shan**	**1.51**	**45**	P	**Pb**	01 51 47.9	-1.4
NNS				*e*S	**Sg**	01 52 09.2	-0.9
TWK1	**Hengchun**	**1.52**	**159**	*e*P	**Pn**	01 51 47.2	-0.9
TWK1				*e*S	**Sg**	01 52 07.9	-2.4
ETL	**Fush Village**	**1.52**	**58**	*e*P	**Pb**	01 51 48.0	-1.4
TWKBT	**Hengchun**	**1.52**	**158**	*e*P	**Pn**	01 51 47.1	-1.0
TWKBT				*e*S	**Sb**	01 52 08.0	-0.6
SBCB	**Hsinchu**	**1.59**	**26**	P	**Pn**	01 51 48.9	-0.2
SBCB				*e*S	**Sg**	01 52 11.2	-1.4
HSN	**Hsinchu**	**1.59**	**26**	P	**Pb**	01 51 49.3	-1.3
HSN				*e*S	**Sg**	01 52 11.5	-1.2
TSEB	**Hengchuen, Pin**	**1.59**	**156**	*e*P	**Pn**	01 51 46.5	-2.6
KSHI	**Guanxi Townshi**	**1.66**	**32**	*e*P	**Pb**	01 51 52.3	-1.8
KSHI				*e*S	**Sb**	01 52 12.2	-0.4
NSK	**Sanguang**	**1.68**	**39**	*i* P	**Pn**	01 51 49.8	-0.5
NSK				*e*S	**Sb**	01 52 12.8	-0.2
LATG	**Datong**	**1.68**	**46**	*i* P	**Pb**	01 51 50.5	-1.6
LATG				*i* S	**Sg**	01 52 13.7	-1.8
YHNB	**Yeheng**	**1.68**	**39**	P	**Pn**	01 51 50.2	-0.3
YHNB	**Yeheng**	**1.68**	**39**	*i* P	**Pn**	01 51 50.1	-0.4
YHNB				*e*S	**Sb**	01 52 13.1	-0.2
EAHA	**Aohua**	**1.70**	**55**	*i* P	**Pb**	01 51 51.2	-1.2
EAHA				*e*S	**Sg**	01 52 15.2	-0.9
ENA	**Nanau**	**1.76**	**53**	P	**Pb**	01 51 52.0	-1.4
ENA				*e*S	**Sg**	01 52 16.4	-1.6
VWUC	**VWUC**	**1.76**	**337**	*e*P	**Pn**	01 51 50.8	-0.7
VWUC				S	**Sn**	01 52 14.3	+0.7
ENTT	**Nioudou**	**1.78**	**44**	*e*P	**Pb**	01 51 52.1	-1.7
ENTT				*e*S	**Sb**	01 52 15.9	0.0
EWUT	**Wuta**	**1.80**	**53**	*e*P	**Pb**	01 51 52.3	-1.8
EWUT				*e*S	**Sg**	01 52 16.9	-2.3
LAY	**Lan-yu**	**1.81**	**136**	*e*P	**Pn**	01 51 50.9	-1.3
LAY				*e*S	**Sn**	01 52 14.2	-0.8
NCUH	**Zhongli**	**1.83**	**29**	*e*P	**Pn**	01 51 51.8	-0.6
NCUH				*e*S	**Sb**	01 52 16.7	-0.7
NWLT	**Wulai**	**1.84**	**40**	*i* P	**Pn**	01 51 52.3	-0.2
NWLT				*e*S	**Sb**	01 52 16.4	-1.4
LYUB	**Lan-yu**	**1.86**	**137**	*e*P	**Pn**	01 51 49.9	-2.9
NDS	**Dongshan**	**1.87**	**47**	*e*P	**Pb**	01 51 53.5	-1.9
NDS				*e*S	**Sb**	01 52 17.9	-0.7
FUSB	**Fushanzhiwuyua**	**1.88**	**42**	*e*P	**Pn**	01 51 53.0	-0.1
FUSB				*e*S	**Sb**	01 52 17.5	-1.4
TWE	**Neicheng**	**1.90**	**44**	*e*P	**Pb**	01 51 53.8	-2.0
TWE				*e*S	**Sb**	01 52 19.6	+0.2
ESAO	**Su ao**	**1.92**	**51**	*e*P	**Pb**	01 51 55.1	-1.1
ESAO				*e*S	**Sb**	01 52 19.5	-0.6
KNM	**Kinmen**	**1.93**	**303**	*e*P	**Pg**	01 51 56.7	-1.7
KNM				*e*S	**Sg**	01 52 21.9	-1.6
PTMZ	**Houxiangcun**	**1.94**	**329**	*e*P	**Pn**	01 51 53.4	-0.5
PTMZ				*e*S	**Sn**	01 52 18.8	+0.7
TWC	**Suao**	**1.95**	**50**	*e*P	**Pb**	01 51 55.4	-1.2
TWC				S	**Sb**	01 52 21.1	+0.4
TATO	**Taipei**	**1.98**	**36**	P	**Pn**	01 51 54.1	-0.4
KNMB	**Chin-men Tao**	**1.99**	**304**	*e*P	**Pn**	01 51 53.8	-0.9
KNMB				*e*S	**Sn**	01 52 20.0	+0.7
TWS1	**Kuangyinshan**	**2.05**	**32**	*e*P	**Pb**	01 51 56.2	-2.2
EOS4	**EOS4**	**2.08**	**68**	*e*P	**Pn**	01 51 55.5	+0.1
EOS4				*i* S	**Sb**	01 52 22.9	-1.2
EOS3	**EOS3**	**2.14**	**64**	*e*P	**Pn**	01 51 57.1	+0.6
QZH	**Quanzhou**	**2.15**	**317**	Pn	**Pn**	01 51 55.3	-1.6
QZH				Sn	**Sn**	01 52 20.6	-2.8
QZH				smax	smax		
comp=N,550nm,0.5s							
QZH				smax	smax		
comp=E,830nm,0.5s							
QZH				LR	LR		
comp=N,730nm,4.0s							
QZH				LR	LR		
comp=E,710nm,3.6s							
QZH				LR	LR		
comp=Z,720nm,4.0s							
EGS		**2.16**	**47**	*e*P	**Pb**	01 51 57.7	-2.5
YM01	**YM01**	**2.17**	**35**	*i* P	**Pn**	01 51 56.5	-0.6
YM01				*e*S	**Sn**	01 52 24.6	+0.8
ZUZH	**Zhuzihu**	**2.17**	**34**	*i* P	**Pn**	01 51 56.3	-0.8
ZUZH				*e*S	**Sn**	01 52 23.2	-0.6
ANP	**Anpu**	**2.17**	**33**	*e*P	**Pn**	01 51 56.5	-0.7
ANP				*e*S	**Sn**	01 52 24.7	+0.7
TIPB	**Shuangxi**	**2.18**	**42**	*e*P	**Pn**	01 51 57.3	+0.1
YM08	**YM08**	**2.21**	**35**	*e*P	**Pn**	01 51 56.6	-1.0
YM08				S	**Sn**	01 52 26.1	+1.3
WFSB	**Wu-fen Shan**	**2.23**	**40**	*e*P	**Pn**	01 51 57.8	0.0
TWY	**Chenhua**	**2.29**	**33**	*e*P	**Pn**	01 51 57.6	-1.1
TWY				*e*S	**Sn**	01 52 27.1	+0.4
SXI1	**Grass Mountain**	**2.30**	**41**	*e*P	**Pn**	01 51 58.5	-0.5
TWB1	**Santiao Chiao**	**2.31**	**44**	*e*P	**Pn**	01 51 59.2	+0.2
ZPLA	**Ao Xicun**	**2.32**	**285**	*e*P	**Pb**	01 52 00.6	-2.4
JYNG	**Yonagunijimaku**	**2.73**	**66**	*e*S	**Sn**	01 52 38.3	+0.7
MATB	**Ma-tsu**	**2.79**	**355**	*e*P	**Pn**	01 52 03.8	-1.8
YOJ	**Yonaguni jima**	**2.79**	**66**	*e*P	**Pn**	01 52 06.0	+0.4
YOJ				*e*S	**Sn**	01 52 40.6	+1.6
PCYT	**Pengchaiyu**	**2.82**	**37**	*e*P	**Pn**	01 52 05.1	-1.0
MHZQ	**Yeshan**	**2.93**	**339**	*e*P	**Pn**	01 52 06.5	-0.9
IRIF	**Iriomote-Funau**	**3.37**	**73**	*e*P	**Pn**	01 52 14.4	+0.9
HATJ	**Hateruma jima**	**3.37**	**77**	*e*S	**Sn**	01 52 53.5	+0.1
JIJ	**Ishigaki jima**	**3.74**	**74**	*e*P	**Pn**	01 52 19.1	+0.5
JISG	**Ishigakijimahi**	**3.95**	**71**	*e*P	**Pn**	01 52 21.5	0.0
JOW	**Kunigami**	**8.09**	**63**	Pn	**Pn**	01 53 16.8	-1.6
comp=Z,1.5nm,0.3s,baz=227,slow=18,SNR=1.3							
comp=Z,10.0nm,0.7s							
XAN	**Xi'an**	**14.52**	**320**	*e*P	**Pn**	01 54 45.8	-0.7
XAN				S	**Sn**	01 57 28.4	+1.1
XAN				pmax	pmax		
comp=Z,11nm,0.8s							
XAN				LR	LR		
comp=N,580nm,10.0s							
XAN				LR	LR		
comp=E,460nm,9.6s							
XAN				LR	LR		
comp=Z,180nm,9.6s							
HNS	**HongShan**	**14.77**	**343**	⇓P	**P**	01 54 57.9	+2.2
HNS				pmax	pmax		
comp=Z,28nm,0.9s							
KSRS	**Korea Array**	**15.53**	**24**	Pn	**P**	01 55 05.0	+0.8
comp=E,3.0nm,0.3s,baz=213,slow=12,SNR=3.4							
comp=Z,1.3nm,0.6s							
BTO	**Baotou**	**19.21**	**336**	*e*P	**Pn**	01 55 46.5	+0.5
BTO				sP	**sP**	01 55 53.8	+3.0
BTO				PP	**PnPn**	01 56 04.0	+5.1
BTO				S	**S**	01 59 27.3	+4.8
BTO				SS	**SnSn**	01 59 41.4	+5.9
BTO				pmax	pmax		
comp=Z,21nm,0.6s							
BTO				pmax	pmax		
comp=Z,160nm,5.4s							
BTO				LR	LR		
comp=N,270nm,4.7s							
BTO				LR	LR		
comp=E,250nm,5.0s							
BTO				LR	LR		
comp=Z,230nm,5.5s							
CMAR	**Chiang Mai Arr**	**20.45**	**260**	LR	LR	02 04 12.2	
comp=Z,35nm,21.5s,baz=90,slow=37							
ASAJ	**Asahikawa**	**27.68**	**36**	LR	LR	02 07 45.8	
comp=Z,31nm,20.9s,baz=172,slow=36							
MKAR	**Makanchi Array**	**38.31**	**317**	P	P	01 58 50.2	+8.6
comp=Z,0.3nm,0.6s,baz=107,slow=9.7,SNR=2.2							
comp=Z,0.3nm,0.6s							
KRVT	**Keravat (AS076**	**41.47**	**127**	LR	LR	02 15 01.8	
comp=Z,448nm,19.4s,baz=282,slow=35							
WRA	**Warramunga Arr**	**45.20**	**161**	P	**P**	01 59 36.3	-1.9
comp=Z,0.7nm,0.6s,baz=344,slow=8.6,SNR=6.9							
comp=Z,0.7nm,0.6s							
ASAR	**Alice Springs**	**48.61**	**163**	P	**P**	02 00 03.4	-1.4
comp=Z,0.2nm,0.4s,baz=346,slow=9.0,SNR=4.9							
comp=Z,0.2nm,0.4s							

*IDC **10** 01:53:46.6±1.7, 37.°63N×20.°50E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=56.9km s-min=29.1km az=116.0*
*THE **10** 01:53:48.2, 37.°61N×20.°39E, h0km±6km, ML3.1/13, Error ellipse: s-maj=8.4km s-min=0.9km az=222.0*
*ATH **10** 01:53:48.2, 37.°60N×20.°40E, h7km±2km, ML3.1/9, Error ellipse: s-maj=3.0km s-min=0.8km az=38.0*

ISC 10 01:53:47.9±1.6, 37.°60N±0.°05×20.°42E±0.°05, h10km±8km, n41, σ0.963/70, mb3.4/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.32**	**79**	P	**Pb**	01 53 55.3	-0.5
KRI1				S	**Sb**	01 54 00.5	-0.6
8μm,0.4s							
LTHK	**Lithakia**	**0.35**	**71**	P	**Pb**	01 53 55.6	-0.7
LTHK				S	**Sg**	01 54 00.6	+1.1
8μm,0.2s							
LTHK	**Lithakia**	**0.35**	**71**	P	**Pb**	01 53 55.5	-0.7
LTHK				S	**Sg**	01 54 00.3	+0.8
LTHK				AML	AML	01 54 01.4	
comp=E,21345μm,0.3s							
LTHK				AML	AML	01 54 01.7	
comp=N,9539μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.53**	**14**	P	**Pg**	01 53 58.5	+0.2
PSDA				S	**Sg**	01 54 05.7	+0.4
PSDA	**Pessada-Kefalo**	**0.53**	**14**	P	**Pg**	01 53 58.4	+0.2
PSDA				S	**Sg**	01 54 05.2	-0.1
RTZL	**Ratzakli, Kefa**	**0.55**	**30**	P	**Pg**	01 53 59.0	+0.3
RTZL				S	**Sg**	01 54 06.6	+0.6
comp=N,2μm,0.2s							
VLS	**Valsamata**	**0.59**	**13**	P	**Pg**	01 53 59.3	-0.2
VLS				S	**Sg**	01 54 07.8	+0.5
comp=N,2μm,0.4s							
VLS	**Valsamata**	**0.59**	**13**	P	**Pg**	01 53 59.3	-0.2
VLS				S	**Sg**	01 54 07.4	+0.1
VLS				AML	AML	01 54 12.2	
comp=E,2801μm,0.3s							
VLS				AML	AML	01 54 16.5	
comp=N,3133μm,0.4s							
LXRA	**Lixouri, Kepha**	**0.60**	**1**	P	**Pb**	01 53 59.9	-0.6
LXRA				S	**Sg**	01 54 07.6	+0.1
LXRA				AML	AML	01 54 17.0	
comp=N,7675μm,0.3s							
LXRA				AML	AML	01 54 17.1	
comp=E,9911μm,0.3s							
LXR1	**Lixouri, Cepha**	**0.60**	**1**	P	**Pb**	01 54 00.1	-0.5
LXR1				S	**Sb**	01 54 09.1	0.0
comp=E,8μm,0.3s							
DMLN	**Damoulianata-K**	**0.64**	**357**	P	**Pg**	01 54 00.3	0.0
DMLN				S	**Sb**	01 54 10.0	-0.3
comp=E,3μm,0.4s							
DMLN	**Damoulianata-K**	**0.64**	**357**	P	**Pg**	01 54 00.3	0.0
DMLN				S	**Sb**	01 54 09.6	-0.7
SMHA	**Samh**	**0.68**	**15**	P	**Pg**	01 54 00.8	-0.3
SMHA				S	**Sg**	01 54 10.1	+0.2
SMHA				AML	AML	01 54 15.4	
comp=E,10913μm,0.3s							
SMHA				AML	AML	01 54 18.4	
comp=N,14963μm,0.3s							
VSK1	**VASILIKIADES**	**0.82**	**8**	P	**Pb**	01 54 03.7	-0.6
VSK1				S	**Sb**	01 54 15.0	-0.4
comp=N,1μm,0.5s							
FSK	**Fiskardo**	**0.87**	**7**	P	**Pg**	01 54 03.7	-0.9
FSK				S	**Sb**	01 54 17.1	+0.3
comp=N,1μm,0.4s							
FSK	**Fiskardo**	**0.87**	**7**	P	**Pg**	01 54 04.4	-0.3
FSK				S	**Sb**	01 54 16.9	+0.2
FSK				AML	AML	01 54 22.3	
comp=N,1734μm,0.5s							
FSK				AML	AML	01 54 22.5	
comp=E,2361μm,0.4s							
RLS	**Riolos of Patr**	**0.95**	**61**	P	**Pg**	01 54 06.2	0.0
RLS				S	**Sn**	01 54 20.7	-0.2
comp=E,498nm,0.5s							
RLS	**Riolos of Patr**	**0.95**	**61**	P	**Pg**	01 54 05.9	-0.3
RLS				S	**Sg**	01 54 19.2	+0.7
RLS				AML	AML	01 54 25.3	
comp=E,970μm,0.6s							
RLS				AML	AML	01 54 26.5	
comp=N,1015μm,0.4s							
AMT	**Artemida-Makis**	**1.03**	**93**	P	**Pn**	01 54 08.0	-0.5
AMT				S	**Sb**	01 54 21.7	+0.3
AMT				AML	AML	01 54 28.2	
comp=E,3313μm,0.4s							
AMT				AML	AML	01 54 30.8	
comp=N,2390μm,0.4s							
EVGI	**Lefkada island**	**1.04**	**10**	P	**Pg**	01 54 07.3	-0.6
EVGI				S	**Sn**	01 54 22.9	-0.3
comp=N,1μm,0.3s							
EVGI	**Lefkada island**	**1.04**	**10**	P	**Pg**	01 54 07.1	-0.8
EVGI				S	**Sb**	01 54 21.7	0.0
DRO	**Drossia**	**1.08**	**71**	P	**Pn**	01 54 08.8	-0.4
DRO				S	**Sn**	01 54 24.1	-0.2
DRO				AML	AML	01 54 30.4	
comp=E,1606μm,0.5s							
DRO				AML	AML	01 54 36.9	
comp=N,2000μm,0.5s							
DRAG	**Dragano-Lefkad**	**1.09**	**6**	P	**Pg**	01 54 08.4	-0.5
DRAG				S	**Sn**	01 54 24.9	+0.4
DRAG	**Dragano-Lefkad**	**1.09**	**6**	P	**Pg**	01 54 08.3	-0.6
DRAG				S	**Sb**	01 54 23.6	+0.4
NYDR	**Nydri-Lefkada**	**1.14**	**11**	P	**Pb**	01 54 08.8	-0.8
NYDR				S	**Sn**	01 54 26.3	+0.8
comp=N,485nm,0.5s							
NYDR	**Nydri-Lefkada**	**1.14**	**11**	P	**Pb**	01 54 08.8	-0.8
NYDR				S	**Sg**	01 54 25.0	+0.5
LKD2	**Lefkada island**	**1.20**	**9**	P	**Pg**	01 54 11.8	+0.7
LKD2				S	**Sn**	01 54 29.7	+2.4
comp=N,618nm,0.4s							
LKD2	**Lefkada island**	**1.20**	**9**	P	**Pn**	01 54 10.4	-0.5
TSLK	**Tsoukalades, L**	**1.24**	**9**	P	**Pn**	01 54 10.4	-0.9
TSLK				S	**Sn**	01 54 30.0	+1.9
comp=N,1μm,0.5s							
TSLK	**Tsoukalades, L**	**1.24**	**9**	P	**Pb**	01 54 11.1	-0.4
ITM	**Ithomi**	**1.27**	**109**	P	**Pb**	01 54 11.6	-0.4
ITM				S	**Sn**	01 54 29.3	+0.3
ITM				AML	AML	01 54 39.7	
comp=N,291μm,0.7s							
ITM				AML	AML	01 54 42.5	
comp=E,313μm,0.5s							
EFP	**Efpalio**	**1.44**	**54**	P	**Pn**	01 54 13.6	-0.5
KLV	**Kalavryta, Ach**	**1.44**	**72**	P	**Pg**	01 54 15.3	-0.3
KLV	**Kalavryta, Ach**	**1.44**	**72**	P	**Pn**	01 54 13.7	-0.4
ANX	**Ano Chora**	**1.55**	**50**	P	**Pb**	01 54 16.2	-0.6
GUR	**Goura**	**1.56**	**77**	P	**Pn**	01 54 16.0	+0.2
OHR	**Ohrid**	**3.52**	**5**	*i* Pn	**Pg**	01 54 56.1	+0.7
HFS	**Hagfors**	**22.96**	**351**	P	**P**	01 58 52.5	+0.3
comp=E,0.7nm,0.5s,baz=159,slow=12,SNR=1.5							
comp=E,0.7nm,0.5s							
FINES	**FINESS Array B**	**24.13**	**7**	P	**P**	01 59 03.2	-0.5
comp=E,2.0nm,0.9s,baz=188,slow=8.4,SNR=4.3							
comp=E,2.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**29.53**	**219**	P	**P**	01 59 53.4	+0.7
comp=E,0.4nm,1.0s,baz=36,slow=11,SNR=2.1							
comp=E,0.4nm,1.0s							
MKAR	**Makanchi Array**	**45.67**	**58**	P	**P**	02 02 08.5	-0.3
comp=E,0.2nm,0.5s,baz=296,slow=7.0,SNR=1.7							
comp=E,0.2nm,0.5s							

*IDC **10** 01:58:43.6±0.6, 0.°61S×123.°43E, h0km, mb4.0/13, mbtmp4.0/15, ML3.8/2, MS3.2/11, Error ellipse: s-maj=35.6km s-min=13.5km az=

FORT				IAmb	IAmb	02 05 01.3	
	comp=Z,14nm,1.0s						
CMAR	**Chiang Mai Arr**	**30.78**	**310**	P	**P**	**02 05 03.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**30.78**	**310**	P	**P**	**02 05 02.9**	**+1.1**
	comp=Z,2.8nm,0.4s,baz=134,slow=6.8,SNR=18						
CMAR				LR	LR	02 18 22.4	
	comp=Z,43nm,19.7s,baz=110,slow=38						
CHTO	**Chiang Mai**	**30.99**	**310**	P	**P**	**02 05 05.4**	**+1.8**
CHTO				IAmb	IAmb	02 05 11.2	
	comp=Z,8.5nm,0.9s						
NWAO	**Narrogin (SRO)**	**32.54**	**190**	LR	LR	02 19 19.1	
	comp=Z,60nm,18.4s,baz=186,slow=38						
NJ2	**Nanjing**	**32.93**	**353**	*e*P	**P**	**02 05 24.1**	**+3.7**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
PZH	**PanZhiHua**	**34.28**	**324**	P	**P**	**02 05 36.7**	**+4.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,50nm,4.0s						
TNCH	**TengChong**	**35.24**	**318**	P	**P**	**02 05 43.9**	**+3.0**
TNCH				sP	sP	02 05 49.0	+3.8
TNCH				pmax	pmax		
	comp=Z,35nm,0.6s						
STKA	**Stephens Creek**	**35.36**	**153**	P	**P**	**02 05 42.1**	**+0.5**
	comp=Z,4.9nm,0.9s,baz=326,slow=12,SNR=7.2						
	comp=Z,4.9nm,0.9s						
CD2	**Chengdu**	**36.66**	**331**	P	**P**	**02 05 54.0**	**+1.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
XAN	**Xi'an**	**37.23**	**340**	P	**P**	**02 05 56.0**	**-1.6**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KSRS	**Korea Array**	**38.24**	**6**	LR	LR	02 24 37.6	
	comp=Z,15nm,18.3s,baz=200,slow=41						
MJAR	**Matsushiro Arr**	**39.55**	**19**	P	**P**	**02 06 16.9**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=197,slow=9.4,SNR=2.3						
MJAR				LR	LR	02 22 40.2	
	comp=Z,25nm,18.7s,baz=191,slow=36						
	comp=Z,0.7nm,0.3s						
LZH	**Lanzhou**	**40.97**	**335**	*e*P	P	02 06 34.4	+5.3
LZH				pP	sP	02 06 39.4	+6.0
LZH				sP	pP	02 06 43.6	+11
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
HHC	**Hu-ho-hao-te**	**42.81**	**347**	*e*P	**P**	**02 06 46.4**	**+2.4**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,64nm,4.9s						
CN2	**Changchun**	**44.40**	**2**	*e*P	**P**	**02 06 55.9**	**-0.6**
MDJ	**Mudanjiang**	**45.50**	**6**	P	P	02 07 12.2	+6.9
MDJ				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SONM	**Songino Array**	**50.64**	**345**	P	**P**	**02 07 44.5**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=162,slow=8.2,SNR=5.2						
SONM				PcP	**PcP**	**02 09 01.3**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=162,slow=4.3,SNR=1.8						
	comp=Z,1.0nm,0.7s						
WMQ	**Urumqi**	**54.70**	**329**	*e*P	**P**	**02 08 16.4**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,25nm,1.5s						
NIL	**Nilore**	**58.26**	**311**	P	**P**	**02 08 40.8**	**0.0**
NIL				IAmb	IAmb	02 08 46.2	
	comp=Z,5.9nm,0.6s						
KSH	**Kashi**	**59.08**	**318**	P	**P**	**02 08 47.3**	**+0.8**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MK31	**Makanchi Array**	**59.52**	**328**	P	**P**	**02 08 48.2**	**-1.1**
MKAR	**Makanchi Array**	**59.52**	**328**	P	**P**	**02 08 47.9**	**-1.5**
MKAR	**Makanchi Array**	**59.52**	**328**	P	**P**	**02 08 48.0**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=121,slow=8.4,SNR=17						
MKAR				PcP	**PcP**	**02 09 35.4**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=120,slow=4.0,SNR=5.9						
	comp=Z,1.2nm,0.5s						
KBL	**Kabul**	**61.81**	**310**	P	**P**	**02 09 04.9**	**-0.5**
GAR	**Garm**	**62.70**	**315**	P	**P**	**02 09 10.7**	**-0.5**
ZALV	**Zalesovo Beam**	**63.21**	**336**	P	**P**	**02 09 13.9**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=136,slow=13,SNR=2.4						
	comp=Z,0.4nm,0.4s						
SIMJ	**Simiganj**	**63.48**	**315**	P	**P**	**02 09 15.1**	**-1.4**
SIMJ				IAmb	IAmb	02 09 16.8	
	comp=Z,4.6nm,0.9s						
MA2	**Magadan**	**63.83**	**15**	LR	LR	02 40 01.4	
	comp=Z,11nm,18.1s,baz=110,slow=39						
KURBB	**Kurchatov Arra**	**63.87**	**330**	P	**P**	**02 09 16.6**	**-1.9**
	comp=Z,1.6nm,0.7s,baz=137,slow=6.1,SNR=13						
KURBB				PcP	**PcP**	**02 09 52.6**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=119,slow=4.1,SNR=4.2						
	comp=Z,1.6nm,0.7s						
KURK	**Kurchatov**	**63.88**	**330**	P	**P**	**02 09 17.1**	**-1.5**
KURK				IAmb	IAmb	02 09 25.2	
	comp=Z,3.9nm,0.7s						
BVAR	**Borovoye Array**	**69.39**	**329**	P	**P**	**02 09 51.3**	**-2.4**
	comp=Z,0.7nm,0.5s,baz=127,slow=9.3,SNR=5.5						
	comp=Z,0.7nm,0.5s						
GURO	**Guroymak-BITLI**	**83.79**	**309**	P	**P**	**02 11 13.9**	**-1.9**
GURO				IAmb	IAmb	02 11 15.5	
	comp=Z,3.2nm,0.8s						
N15K	**Kwethluk River**	**83.91**	**29**	P	**P**	**02 11 17.6**	**+1.9**
QSPA	**South Pole Qui**	**89.18**	**180**	P	**P**	**02 11 41.8**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=42,slow=2.5,SNR=4.1						
	comp=Z,1.1nm,0.5s						
BRTR	**Keskin Array B**	**90.38**	**310**	P	**P**	**02 11 45.2**	**-2.6**
	comp=Z,0.6nm,0.7s,baz=115,slow=6.5,SNR=4.9						
	comp=Z,0.6nm,0.7s						
ILAR	**Eielson Array**	**90.51**	**25**	P	**P**	**02 11 45.9**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=256,slow=5.5,SNR=4.2						
	comp=Z,0.3nm,0.6s						
AKASG	**Malin Array Be**	**93.30**	**321**	P	**P**	**02 11 58.0**	**-2.8**
	comp=Z,0.5nm,0.6s,baz=71,slow=6.1,SNR=2.0						
	comp=Z,0.5nm,0.6s						
I28M	**Miner Creek**	**93.42**	**25**	P	**P**	**02 12 02.1**	**+0.8**
FINES	**FINESS Array B**	**94.22**	**331**	P	**P**	**02 12 01.4**	**-3.5**
	comp=Z,4.0nm,1.0s,baz=108,slow=4.5,SNR=2.8						
L29M	**L29M**	**94.47**	**27**	P	**P**	**02 12 05.9**	**-0.2**
I30M	**Mount Dempster**	**94.93**	**25**	P	**P**	**02 12 08.4**	**+0.2**
I30M				IAmb	IAmb	02 12 16.0	
	comp=Z,2.4nm,0.9s						
FARO	**Faro, Yukon**	**96.78**	**27**	P	**P**	**02 12 17.5**	**+0.9**
LBTB	**Lobatse**	**96.85**	**245**	LR	LR	02 54 10.3	
	comp=Z,22nm,18.3s,baz=339,slow=34						
TORD	**Torodi Ar. Bea**	**121.09**	**285**	PKP	**PKPdf**	**02 17 38.8**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=54,slow=3.1,SNR=5.6						
CPUP	**Villa Florida**	**153.06**	**178**	PKPbc	**PKPbc**	**02 18 45.2**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=191,slow=4.9,SNR=4.9						

*NOU **10** 02:09:44.5, 21°.29S×176°.08W, h323km, mb4.5/15, Fiji Islands Region*
*NEIC **10** 02:09:49.4±2.8, 21°.6S±0°.2×176°.89W±0°.06, h309km±11km, mb4.3/15, Error ellipse: s-maj=22.8km s-min=6.2km az=192.0*
*IDC **10** 02:09:51.0±2.6, 21°.79S×177°.32W, h301km±24km, mb3.5/9, mbtmp4.2/11, Error ellipse: s-maj=20.1km s-min=15.2km az=123.0*

ISC 10 02:09:50.0±0.5, 21°.67S±0°.09×177°.06W±0°.08, h300km, n56, σ1s50/54, mb4.1/17, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**3.80**	**334**	P	**Pn**	**02 10 53.3**	**-0.8**
MSVF	**Nonsavu**	**6.05**	**310**	Pn	**Pn**	**02 11 20.9**	**+0.9**
MSVF	**Nonsavu**	**6.05**	**310**	P	**Pn**	**02 11 20.5**	**+0.5**
	6.0nm,0.5s,baz=167,slow=12,SNR=5.6						
MSVF	**Nonsavu**	**6.05**	**310**	P	**Pn**	**02 11 21.2**	**+1.2**
NIUE	**Niue**	**7.17**	**70**	P	**Pn**	**02 11 32.2**	**-1.3**
FUTU	**Fugatoga**	**7.39**	**352**	P	Pn	02 11 27.5	-8.7
	362nm,1.9s						
AFI	**Afiamalu**	**9.21**	**34**	Pn	**Pn**	**02 11 54.1**	**-4.5**
PINNC	**Pines Island,**	**14.39**	**263**	P	**P**	**02 13 01.4**	**+1.0**
DVP	**Devils Point**	**14.44**	**283**	P	**Pn**	**02 13 04.2**	**+2.4**
YATNC	**Mamie plateau,**	**14.91**	**266**	P	**Pn**	**02 13 08.9**	**+1.5**
DZM	**Mont Dzumac**	**15.32**	**265**	P	**Pn**	**02 13 13.2**	**+0.8**
DZM	**Mont Dzumac**	**15.32**	**265**	P	**P**	**02 13 12.8**	**+2.0**
	21nm,0.7s,baz=79,slow=19,SNR=21						
DZM	**Mont Dzumac**	**15.32**	**265**	P	**P**	**02 13 12.8**	**+2.0**
NOUC	**Port Laguerre**	**15.45**	**265**	P	**Pn**	**02 13 14.5**	**+0.7**
URZ	**Urewera**	**17.28**	**196**	P	**P**	**02 13 28.9**	**-2.8**
	5.1nm,0.3s,baz=45,slow=5.7,SNR=15						
URZ				S	S	02 16 26.3	-10
	5.8nm,0.5s,baz=49,slow=20,SNR=1.5						
URZ	**Urewera**	**17.28**	**196**	P	**P**	**02 13 29.8**	**-1.9**
BKZ	**Black Stump Fm**	**18.29**	**196**	P	**P**	**02 13 40.9**	**-1.8**
BFZ	**Birch Farm**	**19.79**	**195**	P	**P**	**02 13 59.2**	**+0.7**
MRZ	**Mangatainoka R**	**19.93**	**197**	P	**P**	**02 13 58.1**	**-2.0**
MRZ				IAmb	IAmb	02 14 36.0	
	comp=Z,20nm,1.1s						
QRZ	**Quartz Range**	**21.04**	**202**	P	**P**	**02 14 10.7**	**-0.4**
TKNZ	**Takaka Hill**	**21.07**	**201**	P	**P**	**02 14 10.7**	**-0.8**
KHZ	**Kahutara**	**22.14**	**199**	P	**P**	**02 14 20.6**	**-0.4**
JCZ	**Jackson Bay**	**25.23**	**204**	P	**P**	**02 14 48.5**	**-0.7**
ARMA	**Armidale**	**29.38**	**246**	P	**P**	**02 15 25.9**	**-0.3**
ARMA				IAmb	IAmb	02 15 48.7	
	comp=Z,19nm,1.4s						
ARMA	**Armidale**	**29.38**	**246**	P	**P**	**02 15 27.0**	**+0.9**
EIDS	**Eidsvold**	**29.41**	**257**	P	**P**	**02 15 26.9**	**+0.6**
EIDS				IAmb	IAmb	02 15 46.2	
	comp=Z,12nm,1.2s						
CTAO	**Charters Tower**	**34.27**	**266**	P	**P**	**02 16 08.2**	**-0.4**
STKA	**Stephens Creek**	**38.09**	**246**	P	**P**	**02 16 40.0**	**-0.6**
STKA	**Stephens Creek**	**38.09**	**246**	P	**P**	**02 16 39.9**	**-0.8**
	comp=Z,3.2nm,0.5s,baz=86,slow=11,SNR=9.9						
	comp=Z,3.2nm,0.5s						
BBOO	**Buckleboo**	**42.83**	**245**	P	**P**	**02 17 17.5**	**-1.7**
ASAR	**Alice Springs**	**45.12**	**258**	P	**P**	**02 17 36.5**	**-0.9**
ASAR	**Alice Springs**	**45.12**	**258**	P	**P**	**02 17 36.4**	**-1.1**
	comp=Z,2.6nm,0.7s,baz=96,slow=9.1,SNR=36						
	comp=Z,2.6nm,0.7s						
WB0	**Warramunga Arr**	**45.30**	**263**	P	**P**	**02 17 37.2**	**-1.7**
WB2	**Warramunga Arr**	**45.31**	**263**	P	**P**	**02 17 37.0**	**-2.0**
WB2				IAmb	IAmb	02 17 38.4	
	comp=Z,7.0nm,1.0s						
WRA	**Warramunga Arr**	**45.32**	**263**	P	**P**	**02 17 37.5**	**-1.5**
	comp=Z,4.4nm,0.9s,baz=96,slow=8.2,SNR=50						
	comp=Z,4.4nm,0.9s						
FORT	**Forrest**	**49.65**	**247**	P	**P**	**02 18 10.0**	**-2.0**
FORT				IAmb	IAmb	02 18 12.3	
	comp=Z,14nm,0.6s						
MTN	**Manton Dam**	**50.06**	**271**	P	**P**	**02 18 13.1**	**-2.2**
MTN				IAmb	IAmb	02 18 14.6	
	comp=Z,8.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.75**	**263**	P	**P**	**02 18 41.4**	**-0.9**
MBWA	**Marble Bar**	**58.46**	**258**	P	**P**	**02 19 13.9**	**-1.5**
MBWA				IAmb	IAmb	02 19 15.3	
	comp=Z,4.2nm,0.7s						
QSPA	**South Pole Qui**	**68.40**	**180**	P	**P**	**02 20 21.1**	**+1.6**
QSPA				IAmb	IAmb	02 20 22.5	
	comp=Z,9.0nm,1.3s						
QSPA	**South Pole Qui**	**68.40**	**180**	P	**P**	**02 20 21.0**	**+1.5**
	comp=Z,3.3nm,0.6s,baz=30,slow=1.1,SNR=10.0						
	comp=Z,3.3nm,0.6s						
NVAR	**Mina Array Bea**	**81.28**	**43**	P	**P**	**02 21 36.0**	**+2.7**
	comp=Z,1.2nm,0.8s,baz=223,slow=8.2,SNR=11						
	comp=Z,1.2nm,0.8s						
ELIB	**Princess Elisa**	**85.58**	**186**	*d*P	**P**	**02 21 55.0**	**+0.5**
SNAA	**Sanae**	**86.82**	**178**	P	**P**	**02 22 00.1**	**-0.3**
	comp=Z,1.2nm,1.0s,baz=178,slow=12,SNR=6.1						
	comp=Z,1.2nm,1.0s						
TXAR	**Lajitas Array**	**86.95**	**57**	P	**P**	**02 22 04.5**	**+2.6**
	comp=Z,1.9nm,0.8s,baz=213,slow=8.1,SNR=15						
	comp=Z,1.9nm,0.8s						
PDAR	**Pinedale Array**	**89.21**	**43**	P	**P**	**02 22 13.7**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=248,slow=2.4,SNR=4.4						
	comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	**89.26**	**12**	P	**P**	**02 22 12.3**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=217,slow=5.6,SNR=6.9						
	comp=Z,0.4nm,0.7s						
HHC	**Hu-ho-hao-te**	**90.80**	**314**	*e*P	**P**	**02 22 19.0**	**-0.6**
HHC				pmax	pmax		
	comp=Z,15nm,0.5s						
HHC				pmax	pmax		
	comp=Z,94nm,4.6s						
PZH	**PanZhiHua**	**92.03**	**298**	P	**P**	**02 22 25.0**	**-0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,4.8s						
BVAR	**Borovoye Array**	**120.54**	**320**	PKP	**PKiKP**	**02 28 05.8**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=46,slow=4.2,SNR=2.6						
FINES	**FINESS Array B**	**137.14**	**344**	SKP		02 31 44.9	
	comp=Z,2.8nm,1.0s,baz=64,slow=3.2,SNR=4.9						
AKASG	**Malin Array Be**	**144.46**	**331**	PKP	**PKPab**	**02 28 49.1**	**-0.6**
	comp=Z,2.6nm,0.4s,baz=48,slow=3.7,SNR=11						
EKA	**Eskdalemuir Ar**	**146.08**	**6**	PKPbc	**PKPab**	**02 28 55.2**	**-0.5**
	comp=Z,4.1nm,0.9s,baz=343,slow=2.2,SNR=2.2						
BRTR	**Keskin Array B**	**148.27**	**312**	PKPbc	**PKPbc**	**02 29 00.9**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=135,slow=3.2,SNR=3.8						
MMAI	**Mount Meron Ar**	**149.15**	**298**	PKPbc	**PKiKP**	**02 29 04.5**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=66,slow=5.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**171.44**	**172**	PKPab	**PKPab**	**02 30 45.8**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=195,slow=3.6,SNR=3.7						

*IDC **10** 02:10:58.8±1.1, 37°.45N×20°.61E, h0km, mb3.6/8, mbtmp3.6/13, ML3.6/3, Error ellipse: s-maj=22.6km s-min=18.5km az=13.0*
*THE **10** 02:11:01.3, 37°.38N×20°.44E, h0km±1km, ML3.5/16, Error ellipse: s-maj=2.1km s-min=0.6km az=225.0*
*ATH **10** 02:11:02.7, 37°.42N×20°.50E, h9km±2km, ML3.4/20, Error ellipse: s-maj=2.9km s-min=1.0km az=33.0*
*NAO **10** 02:11:04.5, 38°.02N×23°.69E, h33km, mb3.3*

ISC 10 02:11:00.8±1.5, 37°.37N±0°.03×20°.46E±0°.04, h12km±10km, n78, σ1s26/103, mb3.5/8, 7C-2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.41**	**44**	P	**Pb**	**02 11 09.7**	**-0.3**
KRI1				S	**Sb**	**02 11 15.6**	**-0.6**
	42μm,0.2s						
LTHK	**Lithakia**	**0.45**	**42**	P	**Pb**	**02 11 10.1**	**-0.6**
LTHK				S	**Sb**	**02 11 16.7**	**-0.7**
	25μm,0.4s						
LTHK	**Lithakia**	**0.45**	**42**	P	**Pb**	**02 11 10.2**	**-0.5**
LTHK				S	**Sb**	**02 11 16.2**	**-1.3**
LTHK				AML	AML	02 11 17.4	
	comp=E,53104μm,0.3s						
LTHK				AML	AML	02 11 17.5	
	comp=N,43633μm,0.5s						
RTZL	**Ratzakli, Kefa**	**0.75**	**19**	P	**Pg**	**02 11 15.4**	**+0.1**
RTZL				S	**Sb**	**02 11 26.3**	**+0.4**
	comp=N,6μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.75**	**8**	P	**Pg**	**02 11 15.2**	**-0.1**
PSDA				S	**Sb**	**02 11 26.6**	**+0.6**
PSDA	**Pessada-Kefalo**	**0.75**	**8**	P	**Pg**	**02 11 15.4**	**+0.1**
PSDA				S	**Sb**	**02 11 25.4**	**-0.6**
VLS	**Valsamata**	**0.81**	**7**	P	**Pg**	**02 11 16.2**	**-0.3**
VLS				S	**Sb**	**02 11 28.1**	**+0.3**
	comp=N,5μm,0.5s						
VLS	**Valsamata**	**0.81**	**7**	P	**Pg**	**02 11 16.2**	**-0.3**
VLS				S	**Sb**	**02 11 27.5**	**-0.3**
VLS				AML	AML	02 11 31.9	
	comp=E,7534μm,0.3s						
VLS				AML	AML	02 11 32.7	
	comp=N,11212μm,0.7s						
LXRA	**Lixouri, Kepha**	**0.83**	**359**	P	**Pb**	**02 11 17.9**	**+0.8**
LXRA				S	**Sb**	**02 11 28.1**	**-0.1**
LXRA				AML	AML	02 11 38.1	
	comp=E,14024μm,0.6s						
LXRA				AML	AML	02 11 39.4	
	comp=N,16576μm,0.4s						
LXR1	**Lixouri, Cepha**	**0.83**	**359**	P	**Pg**	**02 11 17.0**	**+0.2**
LXR1				S	**Sb**	**02 11 28.5**	**+0.3**
	comp=N,14μm,0.4s						
DMLN	**Damoulianata-K**	**0.87**	**356**	P	**Pg**	**02 11 17.4**	**-0.2**
DMLN				S	**Sb**	**02 11 30.2**	**+0.8**
	comp=N,5μm,0.5s						
DMLN	**Damoulianata-K**	**0.87**	**356**	P	**Pb**	**02 11 18.9**	**+1.0**
SMHA	**Samh**	**0.89**	**10**	P	**Pb**	**02 11 18.8**	**+0.6**
AMT	**Artemida-Makis**	**1.01**	**80**	P	**Pb**	**02 11 21.0**	**+0.7**
AMT				AML	AML	02 11 45.1	
	comp=N,12107μm,0.5s						
AMT				AML	AML	02 11 45.9	
	comp=E,11333μm,0.4s						
VSK1	**VASILIKIADES**	**1.04**	**5**	P	**Pg**	**02 11 20.3**	**-0.6**
VSK1				S	**Sb**	**02 11 35.7**	**+1.3**
	comp=E,3μm,0.7s						
RLS	**Riolos of Patr**	**1.05**	**49**	P	**Pb**	**02 11 21.0**	**0.0**
RLS				S	**Sn**	**02 11 37.0**	**+1.0**
	comp=E,2μm,0.5s						
RLS	**Riolos of Patr**	**1.05**	**49**	P	**Pb**	**02 11 21.2**	**+0.2**
RLS				S	**Sb**	**02 11 34.8**	**+0.1**
RLS				AML	AML	02 11 39.9	
	comp=N,3232μm,0.3s						
RLS				AML	AML	02 11 39.9	
	comp=E,3553μm,0.6s						
FSK	**Fiskardo**	**1.09**	**4**	P	**Pb**	**02 11 22.5**	**+0.9**
FSK				S	**Sn**	**02 11 37.7**	**+0.8**
	comp=E,2μm,0.8s						
FSK	**Fiskardo**	**1.09**	**4**	P	**Pg**	**02 11 21.6**	**-0.2**
FSK				AML	AML	02 11 43.0	
	comp=N,3763μm,0.9s						
FSK				AML	AML	02 11 48.1	
	comp=E,4967μm,0.8s						
PYL	**PYLOS**	**1.13**	**114**	P	**Pg**	**02 11 22.7**	**+0.1**
PYL				S	**Sb**	**02 11 39.1**	**+2.2**
	comp=E,955nm,0.5s						
PYL	**PYLOS**	**1.13**	**114**	P	**Pg**	**02 11 23.1**	**+0.5**
PYL				AML	AML	02 11 48.3	
	comp=N,1877μm,0.4s						
PYL				AML	AML	02 11 48.5	
	comp=E,1938μm,0.5s						
DRO	**Drossia**	**1.15**	**59**	P	**Pb**	**02 11 22.9**	**+0.2**
DRO				S	**Sn**	**02 11 40.0**	**+1.5**
	comp=E,3μm,0.4s						
DRO	**Drossia**	**1.15**	**59**	P	**Pb**	**02 11 22.9**	**+0.2**
DRO				AML	AML	02 11 46.4	
	comp=E,6324μm,0.4s						
DRO				AML	AML	02 11 47.2	
	comp=N,3910μm,0.3s						
ITM	**Ithomi**	**1.19**	**99**	P	**Pb**	**02 11 24.4**	**+1.1**
ITM				S	**Sn**	**02 11 41.1**	**+1.8**
	comp=N,835nm,0.4s						
ITM	**Ithomi**	**1.19**	**99**	P	**Pb**	**02 11 24.2**	**+0.9**
ITM				S	**Sb**	**02 11 39.7**	**+1.2**
ITM				AML	AML	02 11 49.6	
	comp=E,1792μm,0.4s						
ITM				AML	AML	02 11 51.0	
	comp=N,1539μm,0.4s						
EVGI	**Lefkada island**	**1.26**	**7**	P	**Pg**	**02 11 24.1**	**-0.9**
EVGI				S	**Sn**	**02 11 42.5**	**+1.4**
	comp=N,1μm,0.5s						
EVGI	**Lefkada island**	**1.26**	**7**	P	**Pg**	**02 11 24.2**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.31**	**4**	P	**Pg**	**02 11 25.4**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.35**	**8**	P	**Pg**	**02 11 26.1**	**-0.7**
NYDR				S	**Sn**	**02 11 46.0**	**+2.6**
	comp=N,1μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.35**	**8**	P	**Pg**	**02 11 25.5**	**-1.3**
UPR	**University Cam**	**1.39**	**49**	P	**Pb**	**02 11 27.4**	**+0.7**
LKD2	**Lefkada island**	**1.43**	**6**	P	**Pb**	**02 11 28.5**	**+1.2**
LKD2				S	**Sn**	**02 11 48.7**	**+3.5**
	comp=N,1μm,0.8s						
LKD2	**Lefkada island**	**1.43**	**6**	P	**Pg**	**02 11 27.5**	**-0.7**
LKD2				AML	AML	02 11 58.5	
	comp=N,1984μm,0.9s						
LKD2				AML	AML	02 12 02.0	
	comp=E,3133μm,0.6s						
TSLK	**Tsoukalades, L**	**1.46**	**6**	P	**Pg**	**02 11 28.3**	**-0.6**
TSLK				S	**Sn**	**02 11 49.0**	**+2.9**
	comp=E,1μm,0.6s						
TSLK	**Tsoukalades, L**	**1.46**	**6**	P	**Pn**	**02 11 27.8**	**+0.8**
TSLK				AML	AML	02 11 56.4	
	comp=E,3123μm,0.6s						
TSLK				AML	AML	02 12 02.0	
	comp=N,2970μm,0.6s						
KLV	**Kalavryta, Ach**	**1.50**	**63**	P	**Pb**	**02 11 29.4**	**+0.8**
KLV	**Kalavryta, Ach**	**1.50**	**63**	P	**Pn**	**02 11 28.8**	**+1.2**
EFP	**Efpalio**	**1.56**	**47**	P	**Pn**	**02 11 29.3**	**+1.0**
EFP				AML	AML	02 11 57.0	
	comp=E,1795μm,0.6s						
EFP				AML	AML	02 11 58.3	
	comp=N,1901μm,0.6s						
GUR	**Goura**	**1.60**	**69**	P	**Pn**	**02 11 30.4**	**+1.4**
GUR				AML	AML	02 12 02.8	
	comp=E,1915μm,0.5s						
GUR				AML	AML	02 12 04.3	
	comp=N,2527μm,0.6s						
KALE	**Kalithea**	**1.68**	**52**	P	**Pn**	**02 11 30.6**	**+0.6**
KALE				AML	AML	02 12 01.9	
	comp=N,1934μm,0.4s						
KALE				AML	AML	02 12 06.7	
	comp=E,1662μm,0.4s						
ANX	**Ano Chora**	**1.68**	**43**	P	**Pn**	**02 11 30.3**	**+0.1**
ANX				AML	AML	02 12 04.0	
	comp=E,4286μm,0.5s						
ANX				AML	AML	02 12 06.5	
	comp=N,4933μm,0.5s						
VLI	**Veliai**	**2.09**	**107**	P	**Pn**	**02 11 37.8**	**+2.2**
VLI				AML	AML	02 12 16.5	
	comp=E,323μm,0.6s						
VLI				AML	AML	02 12 23.2	
	comp=N,454μm,0.7s						
IGT	**Igoumenitsa**	**2.16**	**357**	P	**Pn**	**02 11 37.3**	**+0.7**
IGT				AML	AML	02 12 22.3	
	comp=N,401μm,0.8s						
IGT				AML	AML	02 12 28.2	
	comp=E,762μm,0.7s						
AXAR	**Agios Charalam**	**2.23**	**51**	P	**Pn**	**02 11 38.8**	**+1.2**
AXAR				AML	AML	02 12 20.2	
	comp=E,1235μm,0.4s						
AXAR				AML	AML	02 12 24.7	
	comp=N,2050μm,0.5s						
JAN	**Janina**	**2.30**	**8**	P	**Pn**	**02 11 39.5**	**+0.9**
JAN				AML	AML	02 12 29.9	
	comp=N,551μm,0.7s						
JAN				AML	AML	02 12 34.1	
	comp=E,742μm,0.9s						
KEK	**Kerkira**	**2.40**	**348**	P	**Pn**	**02 11 40.2**	**+0.4**
KEK				AML	AML	02 12 28.3	
	comp=N,471μm,0.7s						
KEK				AML	AML

comp=Z,0.5nm,0.5s,baz=276,slow=8.5,SNR=3.0
comp=Z,0.5nm,0.5s

MOS ***10*** *02:13:35.3±1.6, 37°.55N×20°.30E, h10km, mb4.4/9, Error ellipse: s-maj=8.3km s-min=3.5km az=71.6*
IDC ***10*** *02:13:37.8±0.9, 37°.78N×20°.47E, h0km, mb4.0/12, mbtmp3.9/23, ML3.8/9, MS3.2/16, Error ellipse: s-maj=15.3km s-min=13.2km az=1.0*
THE ***10*** *02:13:37.5, 37°.62N×20°.45E, h0km±2km, ML4.1/19, Error ellipse: s-maj=3.5km s-min=0.7km az=234.0*
BEO ***10*** *02:13:37.8±0.6, 37°.57N×20°.14E, h13km±2km, ML3.8/12*
PDG ***10*** *02:13:38.5±0.4, 37°.66N×20°.49E, h8km, ML4.1/12, Error ellipse: s-maj=1.1km s-min=1.3km az=0.0*
NEIC ***10*** *02:13:38.9±2.8, 37°.59N±0°.06×20°.40E±0°.07, h10km±2km, mb4.6/10, Error ellipse: s-maj=10.7km s-min=9.5km az=149.0*
ATH ***10*** *02:13:38.2, 37°.65N×20°.49E, h8km±1km, ML4.2/18, Error ellipse: s-maj=2.0km s-min=0.8km az=37.0*
NAO ***10*** *02:13:54.3, 39°.14N×19°.81E, h10km, mb4.2*
ISC 10 02:13:38.7±0.7, 37°.69N±0°.03×20°.49E±0°.03, h16km±4km, n280, σ2°.04/359, mb4.3/23, MS3.1/9, 27C-18D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.26**	**96**	P	**Pg**	**02 13 43.7**	**-0.7**
KRI1				S	**Sg**	**02 13 47.9**	**-0.4**
	81μm,0.5s						
LTHK	**Lithakia**	**0.28**	**86**	P	**Pg**	**02 13 43.7**	**-0.9**
LTHK				S	**Sg**	**02 13 48.2**	**-0.5**
	126μm,0.5s						
LTHK	**Lithakia**	**0.28**	**86**	P	**Pg**	**02 13 43.8**	**-0.9**
LTHK				S	**Sg**	**02 13 48.0**	**-0.7**
LTHK				AML	AML	02 13 50.5	
LTHK				AML	AML	02 13 50.7	
PSDA	**Pessada-Kefalo**	**0.43**	**10**	P	**Pg**	**02 13 47.3**	**-0.1**
PSDA				S	**Sb**	**02 13 54.2**	**0.0**
PSDA	**Pessada-Kefalo**	**0.43**	**10**	P	**Pg**	**02 13 47.3**	**-0.1**
PSDA				S	**Sb**	**02 13 53.8**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.45**	**30**	P	**Pg**	**02 13 47.4**	**-0.3**
RTZL				S	**Sb**	**02 13 54.8**	**+0.2**
	45μm,0.5s						
VLS	**Valsamata**	**0.49**	**9**	P	**Pg**	**02 13 48.2**	**-0.4**
VLS				S	**Sb**	**02 13 55.6**	**-0.4**
	20μm,0.6s						
VLS	**Valsamata**	**0.49**	**9**	P	**Pg**	**02 13 48.2**	**-0.4**
VLS	**Valsamata**	**0.49**	**9**	P	**Pg**	**02 13 48.1**	**-0.4**
VLS				S	**Sg**	**02 13 55.3**	**+0.1**
VLS				AML	AML	02 13 57.0	
	comp=E,37967μm,0.5s						
VLS				AML	AML	02 14 03.2	
	comp=N,27616μm,0.4s						
LXR1	**Lixouri, Cepha**	**0.51**	**355**	P	**Pb**	**02 13 49.2**	**-0.1**
LXR1				S	**Sb**	**02 13 57.8**	**+1.3**
	comp=N,75μm,0.6s						
LXRA	**Lixouri, Kepha**	**0.51**	**355**	P	**Pb**	**02 13 49.2**	**-0.1**
LXRA				S	**Sb**	**02 13 56.9**	**+0.4**
LXRA				AML	AML	02 14 05.1	
	comp=E,94495μm,0.7s						
LXRA				AML	AML	02 14 08.1	
DMLN	**Damoulianata-K**	**0.56**	**350**	P	**Pg**	**02 13 49.6**	**-0.1**
DMLN				S	**Sb**	**02 13 58.4**	**+0.6**
	comp=E,40μm,0.5s						
DMLN	**Damoulianata-K**	**0.56**	**350**	P	**Pg**	**02 13 49.5**	**-0.3**
DMLN				S	**Sb**	**02 13 58.3**	**+0.6**
SMHA	**Samh**	**0.57**	**12**	P	**Pg**	**02 13 49.2**	**-0.9**
SMHA				S	**Sg**	**02 13 57.3**	**-0.5**
SMHA				AML	AML	02 14 02.0	
SMHA				AML	AML	02 14 03.4	
	comp=N,90028μm,0.4s						
VSK1	**VASILIKIADES**	**0.72**	**5**	P	**Pg**	**02 13 52.2**	**-0.6**
VSK1				S	**Sn**	**02 14 04.1**	**-0.9**
	comp=N,14μm,0.7s						
FSK	**Fiskardo**	**0.77**	**4**	P	**Pb**	**02 13 53.0**	**-0.7**
FSK				S	**Sn**	**02 14 05.7**	**-0.4**
	comp=N,10μm,0.4s						
FSK	**Fiskardo**	**0.77**	**4**	P	**Pb**	**02 13 53.2**	**-0.5**
FSK				S	**Sb**	**02 14 04.8**	**+0.9**
FSK				AML	AML	02 14 12.6	
	comp=N,17352μm,0.5s						
FSK				AML	AML	02 14 13.3	
	comp=E,22172μm,0.4s						
RLS	**Riolos of Patr**	**0.86**	**64**	P	**Pb**	**02 13 54.4**	**-0.8**
RLS				S	**Sg**	**02 14 07.3**	**+0.7**
	comp=E,17μm,0.4s						
RLS	**Riolos of Patr**	**0.86**	**64**	P	**Pb**	**02 13 54.3**	**-0.8**
RLS				S	**Sb**	**02 14 06.4**	**0.0**
RLS				AML	AML	02 14 08.8	
	comp=N,38282μm,0.4s						
RLS				AML	AML	02 14 09.1	
	comp=E,31598μm,0.5s						
EVGI	**Lefkada island**	**0.94**	**8**	P	**Pb**	**02 13 55.8**	**-0.8**
EVGI				S	**Sn**	**02 14 10.9**	**+0.6**
	comp=E,8μm,0.6s						
EVGI	**Lefkada island**	**0.94**	**8**	P	**Pb**	**02 13 56.4**	**-0.2**
AMT	**Artemida-Makis**	**0.98**	**99**	P	**Pb**	**02 13 56.4**	**-0.8**
AMT				S	**Sb**	**02 14 09.9**	**-0.1**
AMT				AML	AML	02 14 14.6	
	comp=E,57052μm,0.3s						
AMT				AML	AML	02 14 18.5	
	comp=N,54027μm,0.3s						
DRAG	**Dragano-Lefkad**	**1.00**	**4**	P	**Pb**	**02 13 56.9**	**-0.7**
DRAG				S	**Sn**	**02 14 13.5**	**+1.8**
DRAG	**Dragano-Lefkad**	**1.00**	**4**	P	**Pb**	**02 13 57.1**	**-0.5**
DRO	**Drossia**	**1.00**	**74**	P	**Pb**	**02 13 57.0**	**-0.6**
DRO				S	**Sn**	**02 14 11.8**	**-0.1**
	comp=N,18μm,0.4s						
DRO	**Drossia**	**1.00**	**74**	P	**Pb**	**02 13 56.5**	**-1.1**
DRO				S	**Sg**	**02 14 11.0**	**-0.2**
DRO				AML	AML	02 14 15.9	
	comp=E,41500μm,0.4s						
DRO				AML	AML	02 14 17.3	
	comp=N,30844μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.04**	**9**	P	**Pb**	**02 13 57.2**	**-1.0**
NYDR				S	**Sn**	**02 14 14.3**	**+1.6**
	comp=N,6μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.04**	**9**	P	**Pb**	**02 13 57.7**	**-0.6**
LKD2	**Lefkada island**	**1.11**	**7**	P	**Pg**	**02 14 00.5**	**+0.4**
LKD2				S	**Sg**	**02 14 18.7**	**+4.1**
	comp=N,6μm,0.6s						
LKD2	**Lefkada island**	**1.11**	**7**	P	**Pg**	**02 14 00.5**	**+0.4**
TSLK	**Tsoukalades, L**	**1.14**	**6**	P	**Pn**	**02 13 59.7**	**-0.3**
TSLK				S	**Sg**	**02 14 18.4**	**+2.7**
	comp=N,8μm,0.7s						
UPR	**University Cam**	**1.18**	**59**	P	**Pb**	**02 14 00.8**	**0.0**
UPR				S	**Sg**	**02 14 16.8**	**-0.2**
ITM	**Ithomi**	**1.25**	**114**	P	**Pn**	**02 14 00.8**	**-0.7**
ITM				S	**Sg**	**02 14 19.8**	**+0.7**
	comp=N,4μm,0.5s						
ITM	**Ithomi**	**1.25**	**114**	P	**Pn**	**02 14 01.4**	**-0.1**
ITM				S	**Sb**	**02 14 17.0**	**-0.8**
ITM				AML	AML	02 14 27.4	
	comp=N,8922μm,0.4s						
ITM				AML	AML	02 14 29.6	
	comp=E,7127μm,0.6s						
PYL	**PYLOS**	**1.27**	**128**	P	**Pn**	**02 14 00.9**	**-0.9**
PYL				S	**Sg**	**02 14 20.3**	**+0.4**
	comp=E,6μm,0.8s						
PYL	**PYLOS**	**1.27**	**128**	P	**Pn**	**02 14 01.1**	**-0.6**
PYL				AML	AML	02 14 23.9	
	comp=E,16006μm,0.9s						
PYL				AML	AML	02 14 25.8	
	comp=N,8390μm,0.7s						
EFP	**Efpalio**	**1.34**	**56**	P	**Pn**	**02 14 02.9**	**+0.2**
EFP				AML	AML	02 14 28.4	
	comp=E,10598μm,0.8s						
EFP				AML	AML	02 14 28.8	
	comp=N,16083μm,0.6s						
KLV	**Kalavryta, Ach**	**1.36**	**74**	P	**Pn**	**02 14 03.1**	**+0.1**
KLV				S	**Sg**	**02 14 25.2**	**+2.5**
	comp=N,3μm,0.7s						
KLV	**Kalavryta, Ach**	**1.36**	**74**	P	**Pn**	**02 14 03.0**	**-0.1**
KLV				S	**Sb**	**02 14 20.8**	**-0.1**
KLV				AML	AML	02 14 30.1	
	comp=E,5767μm,0.9s						
KLV				AML	AML	02 14 32.3	
	comp=N,7564μm,0.6s						
ALIK	**Aliki, Aigiali**	**1.40**	**65**	P	**Pn**	**02 14 03.7**	**+0.2**
ANX	**Ano Chora**	**1.45**	**51**	P	**Pb**	**02 14 04.7**	**-0.5**
ANX				AML	AML	02 14 32.1	
	comp=N,42402μm,0.5s						
ANX				AML	AML	02 14 33.1	
	comp=E,20677μm,0.7s						
KALE	**Kalithea**	**1.48**	**61**	P	**Pn**	**02 14 05.0**	**+0.3**
KALE				S	**Sg**	**02 14 27.3**	**+0.9**
	comp=E,5μm,0.7s						
KALE	**Kalithea**	**1.48**	**61**	P	**Pn**	**02 14 04.8**	**+0.1**
KALE				S	**Sn**	**02 14 23.4**	**-0.3**
KALE				AML	AML	02 14 33.0	
	comp=E,9371μm,0.6s						
KALE				AML	AML	02 14 33.5	
	comp=N,9296μm,0.8s						
GUR	**Goura**	**1.49**	**80**	P	**Pb**	**02 14 05.6**	**-0.4**
GUR				S	**Sg**	**02 14 28.6**	**+1.9**
	comp=N,7μm,0.5s						
GUR	**Goura**	**1.49**	**80**	P	**Pn**	**02 14 04.9**	**+0.1**
GUR				AML	AML	02 14 35.8	
	comp=E,11233μm,0.4s						
GUR				AML	AML	02 14 38.7	
	comp=N,12570μm,0.4s						
IGT	**Igoumenitsa**	**1.84**	**356**	P	**Pb**	**02 14 10.9**	**-1.1**
IGT	**Igoumenitsa**	**1.84**	**356**	P	**Pb**	**02 14 10.9**	**-1.1**
MAKR	**Makrakomi, Fth**	**1.85**	**44**	P	**Pb**	**02 14 12.1**	**0.0**
MAKR				AML	AML	02 14 46.6	
	comp=E,10564μm,1.1s						
MAKR				AML	AML	02 14 49.2	
	comp=N,10471μm,0.8s						
AGG	**Agios Georgios**	**1.97**	**47**	Pn	**Pb**	**02 14 14.9**	**+0.9**
AGG	**Agios Georgios**	**1.97**	**47**	P	**Pb**	**02 14 15.0**	**+0.9**
KEK	**Kerkira**	**2.09**	**345**	Pn	**Pb**	**02 14 14.6**	**-1.6**
THL	**Klokotos Trika**	**2.22**	**32**	P	**Pb**	**02 14 17.5**	**-0.9**
THL				AML	AML	02 14 58.1	
	comp=N,2230μm,0.6s						
THL				AML	AML	02 14 58.3	
	comp=E,2506μm,0.7s						
ATH	**Athens Observa**	**2.57**	**83**	P	**Pb**	**02 14 25.9**	**+1.5**
KZN	**Kozani**	**2.80**	**20**	P	**Pb**	**02 14 27.3**	**-1.0**
SCTE	**Santa Cesarea**	**2.86**	**327**		**Pn**	**02 14 24.4**	**+0.8**
LIT	**Litokhoron**	**2.87**	**32**	Pn	**Pn**	**02 14 26.4**	**+2.6**
LIT	**Litokhoron**	**2.87**	**32**	P	**Pn**	**02 14 26.4**	**+2.6**
FNA	**Florina**	**3.17**	**12**	Pn	**Pn**	**02 14 30.9**	**+3.0**
FNA	**Florina**	**3.17**	**12**	*e*Pn	**Pn**	**02 14 30.9**	**+3.0**
FNA				*e*Sn	**Sb**	**02 15 09.5**	**-3.5**
FNA	**Florina**	**3.17**	**12**	P	**Pn**	**02 14 30.9**	**+3.0**
TIP	**Timpagrande**	**3.29**	**298**	Pn	**Pn**	**02 14 31.6**	**+2.1**
TIP	**Timpagrande**	**3.29**	**298**	⇑P	**Pn**	**02 14 32.0**	**+2.5**
PAIG	**Paliouri**	**3.35**	**47**	P	**Pn**	**02 14 33.8**	**+3.5**
OHR	**Ohrid**	**3.43**	**4**	*e*Pn	**Pn**	**02 14 34.0**	**+2.5**
OHR				*e*Sn	**Sn**	**02 15 14.2**	**+2.5**
OHR	**Ohrid**	**3.43**	**4**	*i* Pn	**Pn**	**02 14 34.9**	**+3.5**
THE	**Thessaloniki**	**3.51**	**32**	P	**Pn**	**02 14 36.2**	**+3.6**
CEL	**Celeste**	**3.68**	**280**		**Pn**	**02 14 35.8**	**+0.9**
TIR	**Tirane**	**3.69**	**353**		**Pn**	**02 14 37.0**	**+2.0**
TIR	**Tirane**	**3.69**	**353**	*e*Pn	**Pn**	**02 14 36.2**	**+1.2**
TIR				*e*Sn	**Sn**	**02 15 19.9**	**+1.8**
TIR	**Tirane**	**3.69**	**353**	⇑P	**Pn**	**02 14 36.9**	**+1.9**
TIR	**Tirane**	**3.69**	**353**	P	**Pn**	**02 14 37.0**	**+2.0**
OUR	**Ouranopolis**	**3.79**	**45**	P	**Pn**	**02 14 39.8**	**+3.4**
SOH	**Sokhos**	**3.84**	**35**	P	**Pn**	**02 14 40.4**	**+3.3**
KNT	**Kendrikon**	**3.94**	**28**	P	**Pn**	**02 14 41.5**	**+3.1**
VAY	**Valandovo**	**3.97**	**23**	*e*Pn	**Pn**	**02 14 41.7**	**+2.9**
VAY	**Valandovo**	**3.97**	**23**	*i* Pn	**Pn**	**02 14 41.5**	**+2.7**
APE	**Apeiranthos**	**4.06**	**97**	P	**Pn**	**02 14 43.8**	**+3.6**
SRS	**Serrai**	**4.18**	**34**	*e*Pn	**Pn**	**02 14 43.6**	**+1.8**
IDI	**Anoyia**	**4.28**	**123**	Pn	**Pn**	**02 14 43.8**	**+0.6**
IDI	**Anoyia**	**4.28**	**123**	Pn	**Pn**	**02 14 44.9**	**+1.7**
	comp=E,5.6nm,0.2s,baz=290,slow=15,SNR=1.5						
IDI				Sn	**Sn**	**02 15 35.6**	**+2.8**
	comp=E,33nm,0.3s,baz=315,slow=20,SNR=20						
CUC	**Castrocucco**	**4.32**	**304**	Pn	**Pn**	**02 14 47.6**	**+3.9**
PUK	**Puka**	**4.37**	**354**	Pn	**Pn**	**02 14 45.8**	**+1.3**
ULC	**Ulcinj**	**4.38**	**348**	⇓*i*Pn	**Pn**	**02 14 44.8**	**+0.3**
ULC				*i* Sn	**Sn**	**02 15 35.7**	**+0.6**
MMB	**Musomishta**	**4.60**	**32**	P	**Pn**	**02 14 50.4**	**+2.8**
DRME	**Dracevica, Mon**	**4.60**	**348**	⇑*i*Pn	**Pn**	**02 14 48.5**	**+0.9**
DRME				*i* Sn	**Sn**	**02 15 41.1**	**+0.4**
BUM	**Brajici-Budva**	**4.77**	**346**	⇓*i*Pn	**Pn**	**02 14 50.5**	**+0.6**
BUM				*i* Sn	**Sn**	**02 15 45.7**	**+0.9**
PDG	**Podgorica**	**4.83**	**349**	Pn	**Pn**	**02 14 51.3**	**+0.6**
PDG	**Podgorica**	**4.83**	**349**	*e*Pn	**Pn**	**02 14 50.8**	**+0.1**
PDG				*e*Sn	**Sn**	**02 15 46.5**	**+0.3**
PDG	**Podgorica**	**4.83**	**349**	*e*Pn	**Pn**	**02 14 50.8**	**+0.1**
PDG	**Podgorica**	**4.83**	**349**	⇓P	**Pn**	**02 14 51.3**	**+0.6**
PDG	**Podgorica**	**4.83**	**349**	⇑*i*Pn	**Pn**	**02 14 51.0**	**+0.3**
PDG				*i* Sn	**Sn**	**02 15 46.6**	**+0.3**
VAE	**Valguarnera**	**4.83**	**269**	Pn	**Pn**	**02 14 53.8**	**+3.0**
	comp=E,8.3nm,0.4s,baz=38,slow=18,SNR=2.8						
VAE				Sn	**Sn**	**02 15 45.8**	**-0.7**
	comp=E,6.0nm,0.3s,baz=66,slow=20,SNR=8.1						
RAFF	**Raffo Rosso**	**4.90**	**266**	Pn	**Pn**	**02 14 51.4**	**-0.2**
PVY	**Plav**	**4.92**	**355**	⇓*i*Pn	**Pn**	**02 14 52.8**	**+0.8**
PVY				*i* Sn	**Sn**	**02 15 48.9**	**+0.3**
HCY	**Herceg Novi**	**4.99**	**343**	*e*Pn	**Pn**	**02 14 52.2**	**-0.7**
HCY	**Herceg Novi**	**4.99**	**343**	⇓*i*Pn	**Pn**	**02 14 52.6**	**-0.3**
HCY				*i* Sn	**Sn**	**02 15 50.8**	**+0.5**
CEME	**Cevo**	**5.00**	**347**	⇑*i*Pn	**Pn**	**02 14 52.8**	**-0.3**
CEME				*i* Sn	**Sn**	**02 15 50.2**	**-0.3**
BOSS	**Bosilegrad**	**5.04**	**17**	*e*Pn	**Pn**	**02 14 55.3**	**+1.7**
WDD	**Wied Dalam**	**5.13**	**251**	Pn	**Pn**	**02 14 55.4**	**+0.6**
IVA	**Berane**	**5.20**	**355**	⇓*i*Pn	**Pn**	**02 14 57.7**	**+1.9**
IVA				*i* Sn	**Sn**	**02 15 55.5**	**+0.1**
NKME	**Niksic**	**5.21**	**347**	⇓*i*Pn	**Pn**	**02 14 56.2**	**+0.3**
NKME				*i* Sn	**Sn**	**02 15 55.4**	**-0.2**
KOME	**Kolasin**	**5.21**	**352**	⇑*i*Pn	**Pn**	**02 14 57.0**	**+1.0**
KOME				*i* Sn	**Sn**	**02 15 55.5**	**-0.3**
BARS	**Barje**	**5.22**	**11**	*e*Pn	**Pn**	**02 14 57.1**	**+1.0**
BARS				*e*Sn	**Sn**	**02 15 56.8**	**+0.9**
TREB	**Trebinje**	**5.28**	**343**	*e*Pn	**Pn**	**02 14 56.5**	**-0.4**
TREB				*e*Sn	**Sn**	**02 15 54.5**	**-2.9**
TREB	**Trebinje**	**5.28**	**343**	*e*Pn	**Pn**	**02 14 56.4**	**-0.4**
VTS	**Vitosha**	**5.35**	**22**	*e*Pn	**Pn**	**02 15 00.3**	**+2.3**
ALN	**Alexandroupoli**	**5.37**	**52**	Pn	**Pn**	**02 15 00.2**	**+2.1**
ALN	**Alexandroupoli**	**5.37**	**52**	P	**Pn**	**02 15 00.2**	**+2.1**
BRY	**Bratogost**	**5.42**	**345**	*e*Pn	**Pn**	**02 14 58.7**	**-0.2**
BRY	**Bratogost**	**5.42**	**345**	⇓*i*Pn	**Pn**	**02 14 58.7**	**-0.2**
BRY				*i* Sn	**Sn**	**02 16 00.6**	**-0.3**
KDZ	**Kurdzhali**	**5.43**	**42**	P	**Pn**	**02 15 01.6**	**+2.7**
PLD	**Plovdiv**	**5.53**	**35**	*e*Pn	**Pn**	**02 15 02.2**	**+2.0**
SELS	**Selova**	**5.55**	**5**	*e*Pn	**Pn**	**02 15 01.6**	**+1.1**
SELS				*e*Sn	**Sn**	**02 16 03.9**	**0.0**
SJES	**Sjenica**	**5.58**	**356**	*e*Pn	**Pn**	**02 15 02.4**	**+1.3**
SJES				*e*Sn	**Sn**	**02 16 05.9**	**+1.0**
SJES	**Sjenica**	**5.58**	**356**	*e*Pn	**Pn**	**02 15 02.2**	**+1.1**
STON	**Ston**	**5.60**	**338**	*e*Pn	**Pn**	**02 15 01.0**	**-0.2**
STON				*e*Sn	**Sn**	**02 16 02.3**	**-2.9**
STON	**Ston**	**5.60**	**338**	*e*Pn	**Pn**	**02 15 00.6**	**-0.6**
UPM	**Unac-Piva**	**5.64**	**348**	*e*Pn	**Pn**	**02 15 02.6**	**+0.6**
UPM	**Unac-Piva**	**5.64**	**348**	⇑*i*Pn	**Pn**	**02 15 02.8**	**+0.8**
UPM				*i* Sn	**Sn**	**02 16 06.0**	**-0.5**
PAOL	**Paolisi**	**5.67**	**308**	Pn	**Pn**	**02 15 04.8**	**+2.5**
KARP	**Karpathos**	**5.78**	**110**		**Pn**	**02 15 04.8**	**+1.1**
KARP	**Karpathos**	**5.78**	**110**	P	**Pn**	**02 15 06.5**	**+2.8**
ZAPS	**Zavoj**	**5.81**	**16**	*e*Pn	**Pn**	**02 15 05.8**	**+1.6**
IVAS	**Ivanjica**	**5.89**	**358**	*e*Pn	**Pn**	**02 15 05.4**	**+0.1**
RUDO	**Rudo**	**5.98**	**352**	*e*Pn	**Pn**	**02 15 06.1**	**-0.4**
BOVS	**Bovan**	**6.01**	**8**	*e*Pn	**Pn**	**02 15 06.9**	**0.0**
BOVS	**Bovan**	**6.01**	**8**	⇑P	**Pn**	**02 15 07.6**	**+0.7**
GRUS	**Gruza**	**6.20**	**2**	*e*Pn	**Pn**	**02 15 09.6**	**+0.2**
BBLS	**Lazi&#263i**	**6.23**	**353**	*e*Pn	**Pn**	**02 15 10.0**	**+0.1**
BBLS	**Lazi&#263i**	**6.23**	**353**	*e*Pn	**Pn**	**02 15 12.7**	**+2.8**
ZAGS	**Zajecar**	**6.26**	**12**	*e*Pn	**Pn**	**02 15 11.5**	**+1.2**
DIVS	**Divibare**	**6.42**	**357**	*e*Pn	**Pn**	**02 15 12.3**	**-0.2**
DIVS				*e*Sn	**Sn**	**02 16 23.5**	**-1.9**
HAPS	**Han Pijesak,BI**	**6.50**	**350**	*e*Pn	**Pn**	**02 15 13.8**	**+0.1**
HAPS	**Han Pijesak,BI**	**6.50**	**350**	*e*Pn	**Pn**	**02 15 13.6**	**-0.1**
TRUS	**Trudelj**	**6.53**	**359**	*e*Pn	**Pn**	**02 15 13.9**	**-0.1**
INTR	**Introdacqua**	**6.66**	**312**		**Pn**	**02 15 18.4**	**+2.6**
ELND	**Elena**	**6.66**	**36**	⇓P	**Pn**	**02 15 18.6**	**+2.8**
TEKS	**Tekeris**	**6.89**	**354**	*e*Pn	**Pn**	**02 15 17.8**	**-1.2**
TEKS	**Tekeris**	**6.89**	**354**	*e*Pn	**Pn**	**02 15 17.8**	**-1.2**
DOB	**Doboj**	**7.26**	**346**	*e*Pn	**Pn**	**02 15 23.3**	**-0.8**
CAMP	**Campotosto**	**7.27**	**314**		**Pn**	**02 15 25.6**	**+1.3**
HERR	**Herculane**	**7.33**	**11**	⇓P	**Pn**	**02 15 25.7**	**+0.7**
A050A	**Klekovaca**	**7.42**	**337**	*e*Pn	**Pn**	**02 15 26.4**	**+0.2**
BLY	**Banja Luka**	**7.48**	**342**	*e*Pn	**Pn**	**02 15 26.4**	**-0.7**
BLY	**Banja Luka**	**7.48**	**342**	*e*Pn	**Pn**	**02 15 27.0**	**-0.1**
FRGS	**Fruska Gora**	**7.48**	**356**	*e*Pn	**Pn**	**02 15 25.7**	**-1.4**
FRGS	**Fruska Gora**	**7.48**	**356**	*e*Pn	Pn	02 15 20.5	-6.6
NRCA	**Norcia**	**7.63**	**315**		**Pn**	**02 15 31.7**	**+2.5**
GUMA	**Gualdo di Mace**	**7.66**	**317**		**Pn**	**02 15 31.8**	**+2.3**
FDMO	**Fiordimonte**	**7.78**	**316**		**Pn**	**02 15 33.4**	**+2.3**
A051A	**Mrakovica**	**7.80**	**341**	*e*Pn	**Pn**	**02 15 30.4**	**-1.1**
PRIJ	**Prijedor**	**7.81**	**340**	*e*Pn	**Pn**	**02 15 33.6**	**+2.0**
GZR	**Gura Zlata**	**7.89**	**12**	⇓P	**Pn**	**02 15 34.6**	**+1.9**
GZR	**Gura Zlata**	**7.89**	**12**	P	**Pn**	**02 15 34.6**	**+1.9**
BZS	**Buzias**	**7.97**	**6**	*e*Pn	**Pn**	**02 15 33.9**	**+0.2**
BZS	**Buzias**	**7.97**	**6**	⇑P	**Pn**	**02 15 35.2**	**+1.5**
BZS	**Buzias**	**7.97**	**6**	P	**Pn**	**02 15 36.8**	**+3.1**
SURR	**Surduc**	**8.15**	**8**	⇑P	**Pn**	**02 15 38.3**	**+2.1**
VOIR		**8.46**	**22**	⇓P	**Pn**	**02 15 42.8**	**+2.2**
VOIR		**8.46**	**22**	P	**Pn**	**02 15 42.8**	**+2.2**
SIRR	**Siria**	**8.62**	**5**	⇓P	**Pn**	**02 15 44.8**	**+2.2**
MORH	**Mrgy, Hungar**	**8.63**	**351**	⇑P	**Pn**	**02 15 43.9**	**+1.1**
MLR	**Muntele Rosu**	**8.80**	**26**	Pn	**Pn**	**02 15 48.3**	**+3.1**
	comp=E,0.5nm,0.3s,baz=180,slow=15,SNR=16						
MLR				LR	LR	02 19 47.5	
	comp=E,130nm,19.3s,baz=202,slow=42						
	comp=E,17nm,0.9s						
MLR	**Muntele Rosu**	**8.80**	**26**	⇑P	**Pn**	**02 15 48.2**	**+3.0**
PTJ	**Puntijarka**	**8.88**	**339**	P	**Pn**	**02 15 45.8**	**-0.5**
CRES	**Cresnjevec Ost**	**8.96**	**337**	*e*Pn	**Pn**	**02 15 47.1**	**-0.2**
DOPR	**Dopca**	**9.04**	**22**	⇑P	**Pn**	**02 15 51.3**	**+2.8**
BISRR	**Bisoca**	**9.13**	**29**	⇑P	**Pn**	**02 15 51.6**	**+1.9**
KEST	**Kesra**	**9.16**	**261**	Pn	**Pn**	**02 15 52.1**	**+1.9**
	comp=E,0.5nm,0.3s,baz=73,slow=8.7,SNR=5.5						
KEST				Sn	**Sn**	**02 17 29.0**	**-4.0**
	comp=E,0.5nm,0.3s,baz=319,slow=20,SNR=1.5						
KEST				LR	LR	02 19 14.1	
	comp=E,100nm,20.5s,baz=38,slow=37						
	comp=E,5.3nm,0.8s						
MARR	**Marisel-Cluj**	**9.19**	**11**	⇑P	**Pn**	**02 15 52.9**	**+2.3**
CEY	**Cerknica**	**9.23**	**333**	*e*Pn	**Pn**	**02 15 51.2**	**+0.1**
CJR	**Cluj-Napoca**	**9.31**	**13**	⇓P	**Pn**	**02 15 55.2**	**+3.0**
CJR	**Cluj-Napoca**	**9.31**	**13**	P	**Pn**	**02 15 55.1**	**+3.0**
TURR	**Turia**	**9.32**	**24**	⇑P	**Pn**	**02 15 55.0**	**+2.7**
PLOR	**Plostina**	**9.36**	**27**	⇑P	**Pn**	**02 15 55.9**	**+3.0**
PLOR	**Plostina**	**9.36**	**27**	P	**Pn**	**02 15 55.9**	**+3.0**
VRI	**Vrincioaia**	**9.40**	**28**	⇑P	**Pn**	**02 15 56.3**	**+2.9**
VRI	**Vrincioaia**	**9.40**	**28**	P	**Pn**	**02 15 56.3**	**+2.9**
SOKA	**Soboth**	**9.85**	**337**	*i* Pn	**Pn**	**02 15 59.1**	**-0.5**
	comp=E,8.3nm,0.5s,SNR=6.5						
SOKA				*i* Sn	**Sn**	**02 17 43.1**	**-6.7**
	comp=E,15nm,0.7s						
OBKA	**Obir**	**9.85**	**335**	*i* Pn	**Pn**	**02 16 00.6**	**+0.9**
	comp=E,9.1nm,0.5s,SNR=7.8						
OBKA				*e*Sn	**Sn**	**02 17 45.9**	**-4.1**
	comp=E,28nm,0.6s						
OBKA	**Obir**	**9.85**	**335**	*e*Pn	**Pn**	**02 16 00.1**	**+0.4**
PRED	**Cave del Predi**	**10.14**	**332**		**Pn**	**02 16 06.8**	**+3.1**
ARSA	**Arzberg**	**10.23**	**341**	*e*Pn	**Pn**	**02 16 04.6**	**-0.2**
	comp=E,2.1nm,0.4s						
ARSA				*e*Sn	**Sn**	**02 17 53.3**	**-5.8**
	comp=E,4.9nm,0.7s						
PSZ	**Piszkesteto**	**10.23**	**358**	P	**Pn**	**02 16 06.2**	**+1.3**
MYKA	**Terra Mystica**	**10.28**	**333**	*e*Sn	**Sn**	**02 17 53.9**	**-6.4**
	comp=E,8.3nm,0.5s						
BR131	**Keskin Array S**	**10.48**	**75**

```
MNK                                  i P      Pn     02 17 40.0 -2.6
     comp=Z,21nm,0.8s,baz=200
MNK                                  i PP     sP     02 17 50.4 +0.4
MNK                                  i PPP    PPP    02 17 56.8
MNK                                  i S      Sn     02 20 55.2 -2.5
MNK                                  i SS     SnSn   02 21 10.5 -0.7
MNK                                  i LR     LR     02 24 11.3
MNK                                  i LRM    MLR    02 25 08.0
     comp=N,131nm,17.8s
MNK                                  i LRM    MLR    02 25 58.3
     comp=Z,69nm,14.2s
MNK                                  i LRM    MLR    02 26 05.0
     comp=E,67nm,14.0s
MNK  Minsk          17.56  14  i P      Pn     02 17 39.9 -2.6
MNK                                  i S      Sn     02 20 55.1 -2.5
MNK                                  pmax     pmax
     comp=N,7.0nm,0.9s
MNK                                  pmax     pmax
     comp=Z,21nm,0.8s
MNK                                  MLR      MLR
     comp=N,131nm,18.0s
MNK                                  MLR      MLR
     comp=Z,69nm,14.0s
MNK                                  MLR      MLR
     comp=E,67nm,14.0s
NACGM Naroch        17.75  12  eP     Pn     02 17 45.1 +0.2
     comp=Z,15nm,1.0s,baz=197
KIV  Kislovodsk     17.90  63  eP     Pn     02 17 45.2 -1.8
KIV                                  pmax     pmax
     comp=Z,3.0nm,1.1s
KIV                                  MLR      MLR
     comp=Z,14nm,14.0s
PABE Paberze        17.98   6  eP     P      02 17 48.1  0.0
KBZ  Khabaz         18.00  63⇑eP     Pn     02 17 46.7 -1.4
KBZ                                  pmax     pmax
     comp=Z,3.0nm,0.9s
GNI  Garni          19.02  75  LR     LR     02 25 23.3
     comp=Z,40nm,21.8s,baz=281,slow=37
GNI  Garni          19.02  75⇑eP     P      02 17 59.3 -0.6
GNI                                  pmax     pmax
     comp=Z,4.0nm,0.9s
ESDC Sonseca Array  19.18 284  P      Pn     02 18 04.0 +1.4
     comp=Z,0.1nm,0.3s,baz=81,slow=10,SNR=8.5
     comp=Z,3.3nm,1.0s
VORR Voronezh       19.22  37  P      P      02 17 58.0 -3.9
VORR                                 pmax     pmax
     comp=Z,24nm,2.3s
VRH  Novokhopyorsk  20.21  41  P      P      02 18 12.4 -0.2
VRH                                  pmax     pmax
     comp=Z,16nm,1.8s
OBN  Obninsk        20.57  27⇑eP     P      02 18 16.7 +0.2
OBN                                  *PP      pP     02 18 20.0 -0.8
OBN                                  PPP      PPP    02 18 39.0
OBN                                  S        S      02 22 06.0 +0.3
OBN                                  SSS      SSS    02 22 26.0
OBN                                  pmax     pmax   02 22 44.0
     comp=Z,4.0nm,0.7s
OBN                                  MLR      MLR
     comp=Z,58nm,15.0s
MDT  Midelt         21.04 264  P      P      02 18 23.4 +1.5
     comp=Z,2.1nm,0.8s,baz=95,slow=12,SNR=3.6
MDT                                  LR       LR     02 27 36.5
     comp=Z,83nm,19.2s,baz=87,slow=40
     comp=Z,2.1nm,0.8s
MTSE Matsula        21.15   5  eP     P      02 18 23.7 +0.9
VSU  Vasula         21.18   9ceP     P      02 18 23.6 +0.5
VSU                                  pmax     pmax
     comp=Z,80nm,0.7s
MOS  Moscow         21.43  27  eP     P      02 18 28.2 +2.4
MOS                                  e        02 18 49.4
ARBE Arbavere       22.05   7  eP     P      02 18 33.3 +0.9
HFS  Hagfors        22.88 351  P      P      02 18 41.2  0.0
     comp=Z,12nm,0.8s,baz=163,slow=10,SNR=15
HFS                                  LR       LR     02 28 37.5
     comp=Z,52nm,18.6s,baz=172,slow=40
     comp=Z,12nm,0.8s
NC602 NORSAR Array S 23.75 349  P      P      02 18 50.7 +0.8
NC602                                IAmb     IAmb   02 19 14.1
     comp=Z,27nm,1.5s
NORES NORESS Array B 23.75 349  P      P      02 18 51.2 +1.2
EKA  Eskdalemuir Ar 23.82 325  P      P      02 18 51.8 +1.2
     comp=Z,4.2nm,0.7s,baz=128,slow=13,SNR=8.1
     comp=Z,4.2nm,0.7s
BELG Belogornoye    23.97  43⇑iP     P      02 18 52.4 +0.3
BELG                                 pmax     pmax
     comp=Z,2.0nm,1.0s
FINES FINESS Array B 24.04   7  P      P      02 18 52.4 -0.2
     comp=Z,6.3nm,0.6s,baz=165,slow=10,SNR=26
FINES                                LR       LR     02 29 23.2
     comp=Z,131nm,18.6s,baz=208,slow=40
     comp=Z,6.3nm,0.6s
FIA1 FINESS Array S  24.04   7  P      P      02 18 52.5 -0.1
NC405 NORSAR Array S 24.09 350  P      P      02 18 53.6 +0.5
NC405                                IAmb     IAmb   02 19 24.2
     comp=Z,16nm,1.1s
NB2  NORSAR Subarra 24.09 349  P      P      02 18 53.6 +0.4
     comp=Z,11nm,1.1s,baz=162,slow=10
NOA  NORSAR Array B 24.09 349  P      P      02 18 53.5 +0.2
     comp=Z,0.9nm,0.5s,baz=160,slow=10.0,SNR=12
NOA                                  LR       LR     02 30 39.7
     comp=Z,39nm,18.1s,baz=160,slow=43
     comp=Z,0.9nm,0.5s
NC303 NORSAR Array S 24.25 349  P      P      02 18 56.3 +1.7
NC303                                IAmb     IAmb   02 18 56.4
     comp=Z,18nm,0.8s
KEF  Keuruu         24.66   5  eP     P      02 19 00.3 +2.0
VAF  Ylistaro       25.42   2  eP     P      02 19 07.1 +2.0
KLMR Klimovskoe     26.10  21  eP     P      02 19 11.1 -0.3
KLMR                                 pmax     pmax
     comp=Z,21nm,1.7s
TORD Torodi Ar. Bea 29.64 219  P      P      02 19 44.8 +1.3
     comp=Z,0.7nm,0.7s,baz=28,slow=9.9,SNR=6.3
     comp=Z,0.7nm,0.7s
ABKAR Akbulak array 30.54  55  P      P      02 19 51.4 +0.3
ARTI Arti           31.34  41di P     P      02 19 57.1 -1.0
ARTI                                 S        S      02 25 05.9 +1.6
ARTI                                 pmax     pmax
     comp=Z,5.0nm,1.2s
ARCES ARCESS Array B 32.02   3  P      P      02 20 03.9  0.0
     comp=Z,2.8nm,0.9s,baz=189,slow=11,SNR=8.7
ARCES                                LR       LR     02 33 41.5
     comp=Z,34nm,19.6s,baz=204,slow=38
     comp=Z,2.8nm,0.9s
FURI Furi           33.04 146  LR     LR     02 35 32.1
     comp=Z,32nm,18.0s,baz=350,slow=40
BORG Borgarnes      36.53 331  LR     LR     02 38 32.1
     comp=Z,52nm,18.2s,baz=340,slow=41
BRVK Borovoye       37.39  49⇓eP     P      02 20 49.1 -1.4
BRVK                                 pmax     pmax
     comp=Z,3.0nm,1.2s
BVAR Borovoye Array 37.45  49  P      P      02 20 52.9 +1.8
     comp=Z,0.6nm,0.7s,baz=278,slow=4.2,SNR=2.8
     comp=Z,0.6nm,0.7s
KKAR Karatay Array  38.02  66  P      P      02 20 57.3 +1.3
MBAR Mbarara        39.26 164  LR     LR     02 37 53.5
     comp=Z,29nm,20.2s,baz=2.0,slow=37
KURBB Kurchatov Arra 42.54  53  P      P      02 21 35.1 +1.8
     comp=Z,1.3nm,0.7s,baz=277,slow=8.6,SNR=10
     comp=Z,1.3nm,0.7s
KURK Kurchatov      42.59  53⇑eP     P      02 21 32.8 -0.9
KURK                                 pmax     pmax
     comp=Z,14nm,3.3s
MK31 Makanchi Array 45.58  58  P      P      02 21 59.4 +1.6
MK31 Makanchi Array 45.58  58⇑eP     P      02 21 58.8 +1.0
MKAR Makanchi Array 45.58  58  P      P      02 21 60.0 +2.2
     comp=Z,0.8nm,0.5s,baz=276,slow=7.5,SNR=7.3
     comp=Z,0.8nm,0.5s
MKAR Makanchi Array 45.58  58  P      P      02 22 00.3 +2.5
ZALV Zalesovo Beam  46.04  48  P      P      02 22 01.0 -0.2
     comp=Z,1.7nm,0.4s,baz=279,slow=9.6,SNR=9.2
     comp=Z,1.7nm,0.4s
TIXI Tiksi          60.12  20⇑eP     P      02 23 45.4 +0.7
TIXI                                 pmax     pmax
     comp=Z,1.0nm,0.8s
HHC  Hu-ho-hao-te   67.33  55  eP     P      02 24 33.2 +0.3
HHC                                  pmax     pmax
     comp=Z,13nm,0.6s
HHC                                  pmax     pmax
     comp=Z,110nm,5.4s
XAN  Xi'an          69.07  63  eP     P      02 24 43.5 -0.4
CMAR Chiang Mai Arr 69.98  82  P      P      02 24 52.2 +2.5
     comp=Z,1.9nm,0.3s,baz=301,slow=8.8,SNR=5.8
     comp=Z,1.9nm,0.3s
CMAR Chiang Mai Arr 69.98  82  iP     P      02 24 51.5 +1.8
CMAR                                 pmax     pmax
     comp=Z,2.0nm,0.3s
NJ2  Nanjing        77.08  60  eP     P      02 25 32.2 +1.0
NJ2                                  pmax     pmax
     comp=Z,4.0nm,0.6s
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SOME **10** *02:27:07.7,43.°77N×86.°55E,h10km*
IDC **10** *02:27:11.4±0.7,43.°78N×86.°54E,h0km,mb3.9/16,*
mbtmp3.9/20,ML3.4/4,MS3.1/10,Error ellipse:
s-maj=28.2km s-min=11.1km az=49.0
NEIC **10** *02:27:13.7±1.7,43.°84N±0.°08×86.°62E±0.°06,h10km±1km,*
mb4.1/7,Error ellipse: s-maj=13.0km s-min=7.3km az=4.0
NNC **10** *02:27:13.8±1.2,43.°85N×86.°28E,h0km,mb4.5,mpv4.4,*
Error ellipse: s-maj=10.3km s-min=5.5km az=133.0
BJI **10** *02:27:15.3,43.°75N×86.°56E,h29km,mb4.3/10,mB4.4/3,*
ML4.2/12,Ms3.6/6,Ms7 3.4/4
ISC 10 02:27:14.0±0.5,43.88N±0.°03×86.53E±0.°03,h10km,n95,
σ2S43/103,mb4.0/16,MS3.1/6,9C-8D,Northern Xinjiang

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Code Station Name        Δ°  AZ°  Phase ID          Time     Res
                                  Op    ISC         h m s    ISC
WMQ  Urumqi         0.84   93    Pg    Pn          02 27 33.1 +1.2
WMQ                              Sg    Sn          02 27 46.0 +1.6
WMQ                              smax  smax
     comp=N,1μm,0.7s
WMQ                              smax  smax
     comp=E,2μm,0.7s
ZSN  Zaisan         3.76 342     Pg    Pb          02 28 22.8 +2.4
ZSN                              Lg    Lg          02 29 17.3
     192nm,0.9s
ZSN  Zaisan         3.76 342     eP    Pb          02 28 21.7 +1.3
ZSN                              eS    Sg          02 29 14.7  0.0
     186nm,0.5s
MK31 Makanchi Array 4.18 316     Pn    Pn          02 28 17.9 +0.1
     6.9nm,0.5s,baz=132,slow=14,SNR=505
MK31                             ⇑Pg   Pb          02 28 28.0 +0.4
     49nm,0.6s,baz=142,slow=16,SNR=22
MK31                             ⇓Lg   Lg          02 29 23.6
     123nm,0.6s,baz=130,slow=28,SNR=7.7
MK31 Makanchi Array 4.18 316     Pn    Pn          02 28 19.5 +1.7
MKAR Makanchi Array 4.18 316     Pn    Pn          02 28 19.4 +1.6
MKAR Makanchi Array 4.18 316     Pn    Pn          02 28 19.5 +1.7
     4.5nm,0.3s,baz=130,slow=15,SNR=228
MKAR                             Sn    Sn          02 29 08.3 +1.6
     15nm,0.3s,baz=138,slow=27,SNR=4.9
MKAR                             Lg    Lg          02 29 23.6
     41nm,0.3s,baz=127,slow=27,SNR=8.4
MKAR                             LR    LR          02 30 27.9
     comp=Z,268nm,20.4s,baz=197,slow=46
     23nm,0.6s
MAKZ Makanchi       4.35 314     ⇓Pn   Pn          02 28 21.7 +1.6
     24nm,0.6s
MAKZ                             ⇓Pg   Pb          02 28 30.5 +0.1
     34nm,0.7s
MAKZ                             ⇓Lg   Lg          02 29 27.7
     128nm,0.7s
MAKZ Makanchi       4.35 314     Pn    Pn          02 28 21.7 +1.6
DJR  Jarkent        4.88 278     Pg    Pb          02 28 38.3 -1.2
     11nm,0.3s
DJR                              Lg    Lg          02 29 43.9
     90nm,0.7s
DJR  Jarkent        4.88 278     eP    Pb          02 28 38.3 -1.2
     11nm,0.3s
DJR                              eS    Sb          02 29 43.9 +5.6
     90nm,0.7s
SHLS Shalkode       5.19 264     Pg    Pn          02 28 38.6 +6.8
     44nm,0.1s
SHLS                             Lg    Lg          02 29 44.2
     343nm,0.8s
SHLS Shalkode       5.19 264     eP    Pn          02 28 38.6 +6.8
     44nm,0.1s
SHLS                             eS    Sb          02 29 44.2 -3.2
     343nm,0.8s
KAPS Kapalarasan    5.32 288     Pg    Pb          02 28 47.2 +0.3
     35nm,0.6s
KAPS                             Lg    Lg          02 29 59.0
     83nm,0.4s
KAPS Kapalarasan    5.32 288     eP    Pb          02 28 47.2 +0.3
     35nm,0.6s
KAPS                             eS    Sb          02 29 59.0 +8.2
     83nm,0.4s
UZB  Uzynbulak      5.51 265     Pg    Pb          02 28 49.8 -0.6
     15nm,0.4s
UZB                              Lg    Lg          02 30 03.6
     70nm,0.7s
UZB  Uzynbulak      5.51 265     eP    Pb          02 28 49.8 -0.6
     15nm,0.4s
UZB                              eS    Sb          02 30 03.6 +7.0
     70nm,0.7s
KPKS Kokpek         5.71 269     Pg    Pb          02 28 53.5 -0.1
     12nm,0.2s
KPKS                             Lg    Lg          02 30 09.7
     141nm,0.7s
BLB  Baldybastay    5.82 275     Pg    Pb          02 28 56.0 +0.5
     125nm,0.5s
BLB                              Lg    Lg          02 30 14.6
     81nm,0.5s
TDK  Taldyqorghan   5.93 284     Pg    Pb          02 28 58.8 +1.5
     88nm,0.8s
TDK                              Lg    Lg          02 30 19.4
     332nm,0.9s
TDK  Taldyqorghan   5.93 284     eP    Pb          02 28 58.8 +1.5
     88nm,0.8s
TDK                              eS    Sg          02 30 19.4 -4.7
     332nm,0.9s
ZHN  Zhinishke      5.93 266     Pg    Pb          02 28 57.8 +0.3
     14nm,0.4s
ZHN                              Lg    Lg          02 30 17.1
     46nm,0.5s
ZHN  Zhinishke      5.93 266     eP    Pb          02 28 57.8 +0.3
     14nm,0.4s
ZHN                              eS    Sb          02 30 17.1 +8.5
     46nm,0.5s
SATY Saty           5.97 265     Pg    Pb          02 28 57.8 -0.4
     21nm,0.5s
SATY                             Lg    Lg          02 30 17.4
     89nm,0.4s
SATY Saty           5.97 265     eP    Pb          02 28 57.8 -0.4
     22nm,0.5s
SATY                             eS    Sb          02 30 17.4 +7.7
     89nm,0.4s
WUS  Wushi          6.03 246     Pn    Pn          02 28 43.8 +0.5
KURS Kuram          6.08 269     Pg    Pb          02 29 00.4 +0.4
     15nm,0.5s
KURS                             Lg    Lg          02 30 21.7
     30nm,1.2s
KURS Kuram          6.08 269     eP    Pb          02 29 00.4 +0.4
     15nm,0.5s
KURS                             eS    Sb          02 30 21.7 +8.9
     30nm,1.2s
ARXS Arharly        6.29 276     Pg    Pb          02 29 04.3 +0.8
     19nm,0.4s
ARXS                             Lg    Lg          02 30 28.3
     85nm,0.7s
ARXS Arharly        6.29 276     eP    Pb          02 29 04.3 +0.8
     19nm,0.4s
ARXS                             eS    Sb          02 30 28.3  +10
     85nm,0.7s
TARG Taragay, Kyrgy 6.77 255     Pn    Pn          02 28 54.1 +0.4
MDOK Medeo          6.93 267     ⇓Pn   Pn          02 28 55.2 -0.5
     8.6nm,0.7s
MDOK                             Pg    Pb          02 29 16.4 +1.9
     12nm,0.6s
MDOK                             ⇑Pg   Pg          02 29 18.5  -8.2
     17nm,0.7s
MDOK                             ⇑Lg   Lg          02 30 48.5
     80nm,0.9s
MDOK                             Lg    Lg          02 30 49.3
     48nm,0.8s
MDOK Medeo          6.93 267     eP    Pb          02 29 16.4 +1.9
     12nm,0.6s
MDOK                             eS    Sg          02 30 49.2 -7.2
     48nm,0.8s
TNSS Tian-Shan      7.03 266     Pg    Pb          02 29 18.0 +1.7
     8.8nm,0.5s
TNSS                             Lg    Lg          02 30 52.3
     13nm,1.1s
TNSS Tian-Shan      7.03 266     eP    Pb          02 29 18.0 +1.7
     8.8nm,0.5s
TNSS                             eS    Sg          02 30 52.3 -7.2
     13nm,1.1s
KDJ  Kajisay        7.08 259     Pn    Pn          02 28 58.4 +0.7
KUU  Kurty          7.37 274     Pg    Pb          02 29 24.2 +2.3
     3.8nm,0.0s
KUU                              Lg    Lg          02 31 02.5
     62nm,0.9s
KUU  Kurty          7.37 274     eP    Pb          02 29 24.2 +2.3
     3.8nm,0.0s
KUU                              eS    Sg          02 31 02.5 -7.8
     62nm,0.9s
MTBS Maitube        7.39 268     Pg    Pb          02 29 24.3 +2.1
     7.8nm,0.6s
MTBS                             Lg    Lg          02 31 02.6
     27nm,0.5s
MTBS Maitube        7.39 268     eP    Pb          02 29 24.3 +2.1
     7.8nm,0.6s
MTBS                             eS    Sg          02 31 02.6 -8.3
     27nm,0.5s
KST  Kastek         7.74 267     Pg    Pb          02 29 31.0 +2.8
     10.0nm,1.0s
KST                              Lg    Lg          02 31 14.3
     30nm,1.2s
KST  Kastek         7.74 267     eP    Pb          02 29 31.0 +2.8
     10.0nm,1.0s
KST                              eS    Sg          02 31 14.3 -7.9
     30nm,1.2s
SEM  Semipalatinsk  7.81 329     Pg    Pb          02 29 35.0 +5.5
     8.5nm,0.1s
SEM                              Lg    Lg          02 31 20.8
     94nm,0.7s
SEM  Semipalatinsk  7.81 329     eP    Pb          02 29 35.0 +5.5
     8.5nm,0.1s
SEM                              eS    Sg          02 31 20.8 -3.7
     94nm,0.7s
DGS  Degeres        7.84 269     Pg    Pb          02 29 32.7 +2.7
     7.9nm,0.7s
DGS                              Lg    Lg          02 31 17.1
     25nm,0.8s
DGS  Degeres        7.84 269     eP    Pb          02 29 32.7 +2.7
     7.9nm,0.7s
DGS                              eS    Sg          02 31 17.1 -8.4
     25nm,0.8s
BOOM Boomskoye usch 7.87 264     Pn    Pn          02 29 08.5  0.0
TKM2 Tokmak 2       8.02 267     ⇓Pn   Pn          02 29 09.5 -1.2
     1.3nm,0.6s
TKM2                             ⇓Lg   Lg          02 31 23.1
     22nm,1.0s
KURBB Kurchatov Arra 8.67 324    ⇑Pn   Pn          02 29 19.3  0.0
     10nm,0.5s
KURBB                            ⇑Lg   Lg          02 31 46.9
     122nm,0.7s
KURBB Kurchatov Arra 8.67 324    Pn    Pn          02 29 19.2 -0.1
     0.3nm,0.3s,baz=132,slow=13,SNR=45
KURBB                            Lg    Lg          02 31 45.3
     0.9nm,0.3s,baz=144,slow=33,SNR=5.2
KURBB                            LR    LR          02 33 10.7
     comp=Z,156nm,19.7s,baz=173,slow=41
     2.7nm,0.7s
KURK Kurchatov      8.70 325     Pn    Pn          02 29 19.7 -0.1
AAK  Ala-Archa      8.87 266     Lg    Lg          02 31 47.9
     0.4nm,0.3s,baz=87,slow=21,SNR=1.3
AAK                              LR    LR          02 32 47.2
     comp=Z,34nm,19.7s,baz=82,slow=38
GOMU GeErMu         9.95 138     P     Pn          02 29 38.1 +0.8
GOMU                             smax  smax
     comp=N,32μm,1.0s
GOMU                             smax  smax
     comp=E,21μm,0.9s
GOMU                             LR    LR
     comp=N,470nm,13.2s
GOMU                             LR    LR
     comp=E,270nm,11.2s
GOMU                             LR    LR
     comp=Z,770nm,13.8s
ZAA0 Zalesovo Array 10.14 354    ⇓Pn   Pn          02 29 38.4 -1.1
     2.1nm,0.6s
ZAA0                             ⇑Sn   Sn          02 31 32.0 -1.3
     2.4nm,0.5s
ZAA0 Zalesovo Array 10.14 354    Pn    Pn          02 29 39.2 -0.3
ZALV Zalesovo Beam  10.14 354    Pn    Pn          02 29 39.2 -0.3
ZALV Zalesovo Beam  10.14 354    Pn    Pn          02 29 39.5  0.0
     2.3nm,0.3s,baz=176,slow=14,SNR=86
ZALV                             Sn    Sn          02 31 28.9 -4.3
     3.2nm,0.3s,baz=172,slow=23,SNR=11
     15nm,0.5s
GTA  Gaotai         10.89 110    eP    Pn          02 29 51.0 +1.0
GTA                              sP    02 30 02.5
GTA                              pmax  pmax
     comp=Z,6.0nm,1.0s
GTA                              LR    LR
     comp=N,150nm,6.5s
GTA                              LR    LR
     comp=E,160nm,7.3s
GTA                              LR    LR
     comp=Z,170nm,10.2s
KK31 Karatay Array  11.67 272    ⇑Lg   Lg          02 33 18.1
     6.7nm,0.7s,baz=75,slow=28,SNR=4.6
BVA0 Borovoye Array 14.06 316    Pn    Pn          02 30 31.5 -1.6
     3.3nm,0.7s,baz=121,slow=8.1,SNR=7.9
BVA0                             ⇑Lg   Lg          02 34 37.3
     32nm,1.3s
BVAR Borovoye Array 14.06 316    Pn    Pn          02 30 29.8 -3.3
     0.1nm,0.3s,baz=125,slow=13,SNR=8.0
BVAR                             Sn    Sn          02 33 02.6 -6.5
     baz=109,slow=22,SNR=3.1
BVAR                             Lg    Lg          02 34 33.0
     baz=122,slow=27,SNR=5.7
     1.2nm,0.5s
BRVK Borovoye       14.13 316    Pn    Pn          02 30 33.3 -0.7
SIMJ Simiganj       14.17 254    Pn    Pn          02 30 34.7 -0.1
SONM Songino Array  14.39  67    Pn    P           02 30 41.4 -3.4
     baz=248,slow=12
SONM                             Lg    Lg          02 34 45.9
     baz=264,slow=30
SONM                             LR    LR          02 36 39.4
     comp=Z,89nm,18.2s,baz=226,slow=39
NIL  Nilore         14.53 230    Pn    Pn          02 30 37.3 -2.3
LZH  Lanzhou        15.36 115    eP    P           02 30 58.5 +2.8
LZH                              pP    sP          02 31 01.6 +1.3
LZH                              sP    pP          02 31 04.9 +6.1
LZH                              pmax  pmax
     comp=Z,24nm,1.1s
LZH                              pmax  pmax
     comp=Z,24nm,1.1s
LZH                              LR    LR
     comp=N,100nm,12.5s
LZH                              LR    LR
     comp=E,200nm,12.5s
LZH                              LR    LR
     comp=Z,170nm,13.2s
HHC  Hu-ho-hao-te   18.72  91    eP    Pn          02 31 33.5 +0.4
HHC                              pmax  pmax
     comp=Z,11nm,0.6s
HHC                              pmax  pmax
     comp=Z,55nm,4.7s
SHL  Shillong       18.78 165    P     Pn          02 31 32.9 -1.0
SHL                              IAmb  IAmb        02 31 33.5
     comp=Z,6.4nm,0.7s
AB31 Akbulak array  19.01 296    P     P           02 31 35.3 -0.4
     comp=Z,1.8nm,0.8s,baz=262,slow=34,SNR=14
ABKAR Akbulak array 19.01 296    P     P           02 31 34.9 -0.7
AKTO Aktyubinsk     20.39 299    ⇑P    Pn          02 31 53.0 +0.2
     comp=Z,1.6nm,0.8s
AKTO Aktyubinsk     20.39 299    P     P           02 31 51.0 +0.2
     comp=Z,1.0nm,0.5s,baz=102,slow=13,SNR=2.2
     comp=Z,1.0nm,0.5s
PZH  PanZhiHua      21.27 140    P     P           02 32 01.4 +0.9
PZH                              pmax  pmax
     comp=Z,10.0nm,0.6s
PZH                              pmax  pmax
     comp=Z,90nm,5.0s
ARTI Arti           21.78 315    P     P           02 32 05.2 -0.5
ARTI                             IAmb  IAmb        02 32 14.4
     comp=Z,6.3nm,0.6s
ARTI Arti           21.78 315    P     P           02 32 04.6 -1.1
     comp=Z,2.5nm,0.5s,baz=94,slow=4.6,SNR=5.8
ARTI                             LR    LR          02 40 17.6
     comp=Z,38nm,18.1s,baz=115,slow=36
     comp=Z,2.5nm,0.5s
NRIK Noril'sk       25.53   1    P     P           02 32 43.4 +1.0
NRIK                             IAmb  IAmb        02 33 02.5
     comp=Z,7.4nm,1.1s
NRIK Noril'sk       25.53   1    P     P           02 32 42.8 +0.4
     comp=Z,2.6nm,0.5s,baz=175,slow=6.2,SNR=5.0
     comp=Z,2.6nm,0.5s
CMAR Chiang Mai Arr 27.41 154    P     P           02 32 57.9 -1.9
     comp=Z,1.3nm,0.3s,baz=338,slow=10,SNR=8.5
     comp=Z,1.3nm,0.3s
KBZ  Khabaz         31.22 285    P     P           02 33 33.3  0.0
     comp=Z,1.2nm,0.8s,baz=76,slow=5.9,SNR=2.6
KBZ                              LR    LR          02 47 56.3
     comp=Z,48nm,18.9s,baz=68,slow=40
     comp=Z,1.2nm,0.8s
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KSRS	Korea Array	31.79	87	LR	LR	02 48 59.6		
	comp=Z,12nm,18.2s,baz=230,slow=41							
TIXI	Tiksi	34.47	22	LR	LR	02 47 44.8		
	comp=Z,38nm,18.5s,baz=326,slow=36							
JNU	Nakatsue	35.94	92	LR	LR	02 50 13.5		
	comp=Z,28nm,20.7s,baz=309,slow=38							
AKASG	Malin Array Be	38.61	301	P	P	02 34 36.7	-0.3	
	comp=Z,0.2nm,0.3s,baz=65,slow=8.8,SNR=2.4							
	comp=Z,0.2nm,0.3s							
FINES	FINESS Array B	39.01	318	P	P	02 34 39.9	-0.3	
	comp=Z,1.9nm,0.7s,baz=94,slow=8.6,SNR=6.2							
	comp=Z,1.9nm,0.7s							
BRTR	Keskin Array B	39.09	283	P	P	02 34 40.8	-0.5	
BRTR	Keskin Array B	39.09	283	P	P	02 34 41.4	0.0	
	comp=Z,0.8nm,0.6s,baz=80,slow=6.3,SNR=4.2							
	comp=Z,0.8nm,0.6s							
ARCES	ARCESS Array B	39.67	331	P	P	02 34 45.4	-0.2	
	comp=Z,4.1nm,1.0s,baz=85,slow=10.0,SNR=1.9							
	comp=Z,4.1nm,1.0s							
HFS	Hagfors	45.19	318	P	P	02 35 30.0	-0.7	
	comp=Z,1.9nm,0.9s,baz=59,slow=7.9,SNR=6.1							
	comp=Z,1.9nm,0.9s							
NOA	NORSAR Array B	46.17	319	P	P	02 35 37.5	-1.0	
	comp=Z,1.0nm,0.8s,baz=76,slow=7.9,SNR=3.3							
NOA				LR	LR	02 56 10.0		
	comp=Z,31nm,18.1s,baz=185,slow=38							
	comp=Z,1.0nm,0.8s							
ILAR	Eielson Array	63.94	23	P	P	02 37 46.4	-0.3	
	comp=Z,0.3nm,0.8s,baz=302,slow=5.2,SNR=2.4							
	comp=Z,0.3nm,0.8s							
FITZ	Fitzroy Crossi	71.31	141	P	P	02 38 33.0	-0.7	
	comp=Z,1.5nm,0.6s,baz=313,slow=5.2,SNR=2.1							
	comp=Z,1.5nm,0.6s							
WRA	Warramunga Arr	77.13	134	P	P	02 39 06.5	-1.2	
	comp=Z,1.5nm,0.7s,baz=330,slow=4.8,SNR=13							
	comp=Z,1.5nm,0.7s							
TORD	Torodi Ar. Bea	77.32	276	P	P	02 39 07.3	-1.7	
	comp=Z,0.8nm,0.8s,baz=40,slow=5.3,SNR=4.7							
	comp=Z,0.8nm,0.8s							
ASAR	Alice Springs	80.02	137	P	P	02 39 22.4	-1.2	
	comp=Z,0.6nm,0.7s,baz=331,slow=5.3,SNR=6.3							
	comp=Z,0.6nm,0.7s							
LPAZ	La Paz	145.11	314	PKPbc	PKPbc	02 46 49.3	-2.8	
	comp=Z,0.6nm,0.5s,baz=326,slow=3.6,SNR=2.4							

IDC ***10*** *02:27:14.2±0.8, 13°.18N×144°.84E, h168km±6km, mb3.3/5, mbtmp3.8/5, Error ellipse: s-maj=36.3km s-min=17.4km az=85.0*

ISC 10 02:27:14.3±1.1, 13°.1N±0°.2×144°.1E±0°.2, h150km, n6, σ0.64/7, mb3.6/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.88	59	P	Pn	02 27 38.1	-0.1
	110nm,0.3s,baz=207,slow=14,SNR=18						
GUMO				S	Sn	02 27 56.1	-0.1
	256nm,0.3s,baz=163,slow=19,SNR=7.8						
MJAR	Matsushiro Arr	23.90	348	P	P	02 32 14.7	+0.4
	1.1nm,0.5s,baz=162,slow=11,SNR=1.5						
	1.1nm,0.5s						
WRA	Warramunga Arr	34.24	196	P	P	02 33 46.0	-0.1
	2.9nm,0.7s,baz=17,slow=9.6,SNR=37						
	2.9nm,0.7s						
ASAR	Alice Springs	37.91	195	P	P	02 34 17.6	+0.3
	0.5nm,0.7s,baz=11,slow=6.7,SNR=10						
	0.5nm,0.7s						
ZALV	Zalesovo Beam	61.55	325	P	P	02 37 16.0	+0.5
	0.6nm,0.6s,baz=120,slow=8.7,SNR=2.6						
	0.6nm,0.6s						
KURBB	Kurchatov Arra	64.48	320	P	P	02 37 33.9	-1.0
	0.5nm,0.7s,baz=108,slow=6.5,SNR=2.4						
	0.5nm,0.7s						

MOS ***10*** *02:31:47.5±1.4, 37°.22N×20°.34E, h11km, mb4.3/11, Error ellipse: s-maj=12.2km s-min=4.0km az=75.3*
IDC ***10*** *02:31:49.8±1.0, 37°.52N×20°.59E, h0km, mb3.8/13, mbtmp3.7/22, ML3.5/7, MS3.2/7, Error ellipse: s-maj=17.9km s-min=16.0km az=22.0*
BEO ***10*** *02:31:49.5±2.5, 37°.13N×20°.07E, h57km±7km, ML3.9/14*
NEIC ***10*** *02:31:51.8±2.1, 37°.50N±0°.05×20°.40E±0°.06, h10km±1km, mb4.6/12, Error ellipse: s-maj=10.7km s-min=4.8km az=220.0*
THE ***10*** *02:31:51.7, 37°.53N×20°.37E, h0km±2km, ML4.0/18, Error ellipse: s-maj=2.9km s-min=0.6km az=233.0*
ATH ***10*** *02:31:52.3, 37°.56N×20°.38E, h7km±1km, ML3.9/18, Error ellipse: s-maj=2.5km s-min=1.0km az=43.0*
PDG ***10*** *02:31:53.4±0.3, 37°.61N×20°.47E, h12km±1km, ML4.6/13, Error ellipse: s-maj=0.6km s-min=1.4km az=0.0*
MED_RC ***10*** *02:31:53.0±0.5, 37°.47N×20°.45E, h13km±3km, MW4.1/8, Moment Tensor Solution.Mantle waves: s8,c11; Duration: 1s0 Moment tensor: Scale 10^15Nm; Mrr0.60±.48; Mθθ1.01±.44; Mφφ-1.61±.25; Mrθ-1.14±.64; Mθφ0.06±.22; Mφr-0.17±.23; Best double couple: M0 1.80000×10^15 NP1:φs322.00000°, δ59.00000°, λ27.00000°. Principal axes: T 1.9700, Plg40.0000°, Azm177.0000°; N -0.3500, Plg50.0000°, Azm6.0000°; P -1.6200, Plg5.0000°, Azm271.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NAO ***10*** *02:31:57.8, 38°.13N×23°.83E, h10km, mb4.4*

ISC 10 02:31:51.8±1.1, 37°.56N±0°.03×20°.40E±0°.03, h10km±6km, n246, σ1.99/303, mb4.1/25, MS3.4/5, 25C-16D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.35	73	P	Pg	02 31 59.2	+0.5
KRI1				S	Sb	02 32 04.5	-1.1
	63μm,0.5s						
LTHK	Lithakia	0.38	67	P	Pg	02 31 59.4	+0.1
LTHK				S	Sg	02 32 05.1	+0.8
	53μm,0.5s						
LTHK	Lithakia	0.38	67	P	Pb	02 31 60.0	-0.6
LTHK				S	Sb	02 32 05.6	-1.0
LTHK				AML	AML	02 32 05.7	
LTHK				AML	AML	02 32 06.2	
	comp=N,51234μm,0.4s						
PSDA	Pessada-Kefalo	0.57	15	P	Pg	02 32 02.9	0.0
PSDA				S	Sb	02 32 12.0	-0.1
PSDA	Pessada-Kefalo	0.57	15	P	Pg	02 32 03.1	+0.2
PSDA				S	Sg	02 32 11.4	+1.0
RTZL	Ratzakli, Kefa	0.59	30	P	Pg	02 32 03.6	+0.3
RTZL				S	Sb	02 32 13.1	+0.4
	comp=N,18μm,0.8s						
VLS	Valsamata	0.63	14	P	Pg	02 32 04.0	-0.1
VLS				S	Sg	02 32 13.4	+1.0
	comp=N,10μm,0.5s						
VLS	Valsamata	0.63	14	P	Pg	02 32 04.0	-0.1
VLS				S	Sg	02 32 13.4	+1.0
VLS	Valsamata	0.63	14	P	Pg	02 32 04.1	+0.1
VLS				S	Sg	02 32 13.3	+0.9
VLS				AML	AML	02 32 17.1	
	comp=N,20042μm,0.5s						
VLS				AML	AML	02 32 19.2	
	comp=E,17878μm,0.5s						
LXR1	Lixouri, Cepha	0.64	3	P	Pb	02 32 04.8	-0.3
LXR1				S	Sb	02 32 14.3	+0.3
	comp=E,48μm,0.4s						
LXRA	Lixouri, Kepha	0.64	3	P	Pg	02 32 04.5	+0.3
LXRA				S	Sg	02 32 12.8	+0.2
LXRA				AML	AML	02 32 26.2	
	comp=E,48284μm,0.5s						
LXRA				AML	AML	02 32 29.4	
	comp=N,52651μm,0.6s						
DMLN	Damoulianata-K	0.68	358	P	Pg	02 32 04.8	-0.1
DMLN				S	Sb	02 32 15.1	-0.1
	comp=N,29μm,0.5s						
DMLN	Damoulianata-K	0.68	358	P	Pg	02 32 05.2	+0.3
DMLN				S	Sg	02 32 14.7	+1.0
SMHA	Samh	0.72	16	P	Pg	02 32 05.3	-0.4
VSK1	VASILIKIADES	0.86	9	P	Pg	02 32 08.1	-0.2
VSK1				S	Sn	02 32 21.8	-0.7
	comp=N,17μm,0.6s						
FSK	Fiskardo	0.91	8	P	Pg	02 32 08.9	-0.4
FSK				S	Sb	02 32 22.9	+1.2
	comp=N,10μm,0.6s						
FSK	Fiskardo	0.91	8	P	Pg	02 32 09.0	-0.2
FSK				S	Sg	02 32 21.4	+0.3
FSK				AML	AML	02 32 29.0	
	comp=N,13981μm,0.8s						
FSK				AML	AML	02 32 29.0	
	comp=E,22887μm,0.6s						
RLS	Riolos of Patr	0.98	59	P	Pg	02 32 10.3	-0.4
RLS				S	Sn	02 32 25.0	-0.6
	comp=E,5μm,0.8s						
RLS	Riolos of Patr	0.98	59	P	Pg	02 32 10.4	-0.2
RLS				S	Sb	02 32 24.6	+0.8
RLS				AML	AML	02 32 28.5	
	comp=N,7950μm,0.5s						
RLS				AML	AML	02 32 29.9	
	comp=E,12401μm,1.1s						
AMT	Artemida-Makis	1.04	91	P	Pn	02 32 12.3	-0.2
AMT				S	Sn	02 32 26.3	-0.8
AMT				AML	AML	02 32 35.7	
	comp=N,31171μm,0.5s						
AMT				AML	AML	02 32 37.5	
	comp=E,25843μm,0.7s						
EVGI	Lefkada island	1.08	11	P	Pg	02 32 12.1	-0.4
EVGI				S	Sn	02 32 29.2	+1.2
	comp=E,7μm,0.4s						
EVGI	Lefkada island	1.08	11	P	Pg	02 32 12.1	-0.4
DRO	Drossia	1.11	69	P	Pn	02 32 13.3	-0.1
DRO				S	Sn	02 32 30.3	+1.5
	comp=E,8μm,0.7s						
DRO	Drossia	1.11	69	P	Pn	02 32 13.2	-0.3
DRO				AML	AML	02 32 36.8	
	comp=N,12804μm,0.6s						
DRO				AML	AML	02 32 42.2	
	comp=E,18834μm,0.8s						
DRAG	Dragano-Lefkad	1.13	7	P	Pb	02 32 13.4	0.0
DRAG				S	Sn	02 32 31.0	+1.7
DRAG	Dragano-Lefkad	1.13	7	P	Pb	02 32 13.4	0.0
NYDR	Nydri-Lefkada	1.17	12	P	Pb	02 32 13.9	-0.3
NYDR				S	Sn	02 32 32.8	+2.5
	comp=E,5μm,0.4s						
NYDR	Nydri-Lefkada	1.17	12	P	Pb	02 32 13.9	-0.3
LKD2	Lefkada island	1.24	9	P	Pg	02 32 16.5	+0.8
LKD2				S	Sn	02 32 34.7	+2.6
	comp=E,7μm,0.7s						
LKD2	Lefkada island	1.24	9	P	Pn	02 32 15.4	+0.1
LKD2				AML	AML	02 32 39.8	
	comp=N,12341μm,0.8s						
LKD2				AML	AML	02 32 40.2	
	comp=E,15601μm,0.5s						
PYL	PYLOS	1.26	121	P	Pn	02 32 15.2	-0.3
PYL				S	Sn	02 32 33.8	+1.3
	comp=E,1μm,0.6s						
PYL	PYLOS	1.26	121	P	Pb	02 32 15.4	-0.2
PYL				AML	AML	02 32 38.9	
	comp=N,2546μm,0.6s						
PYL				AML	AML	02 32 38.9	
	comp=E,3420μm,0.6s						
ITM	Ithomi	1.28	107	P	Pg	02 32 16.1	-0.2
ITM				S	Sn	02 32 34.9	+2.0
	comp=E,2μm,0.8s						
ITM	Ithomi	1.28	107	P	Pb	02 32 15.7	-0.2
ITM				AML	AML	02 32 41.3	
	comp=E,3544μm,0.8s						
ITM				AML	AML	02 32 41.8	
	comp=N,4320μm,0.8s						
TSLK	Tsoukalades, L	1.28	9	P	Pn	02 32 15.9	+0.2
TSLK				S	Sg	02 32 36.2	+3.3
	comp=N,9μm,0.7s						
TSLK	Tsoukalades, L	1.28	9	P	Pn	02 32 15.6	-0.1
TSLK				S	Sb	02 32 32.0	-0.5
TSLK				AML	AML	02 32 39.7	
	comp=E,18546μm,0.8s						
TSLK				AML	AML	02 32 42.5	
	comp=N,14438μm,0.8s						
UPR	University Cam	1.31	56	P	Pn	02 32 15.9	-0.3
KLV	Kalavryta, Ach	1.47	70	P	Pb	02 32 19.4	+0.1
KLV				S	Sg	02 32 41.1	+2.0
	comp=N,2μm,1.1s						
KLV	Kalavryta, Ach	1.47	70	P	Pb	02 32 19.0	-0.3
EFP	Efpalio	1.47	54	P	Pn	02 32 18.7	+0.3
ANX	Ano Chora	1.58	49	P	Pn	02 32 19.4	-0.6
ANX				AML	AML	02 32 51.5	
	comp=E,10013μm,0.6s						
ANX				AML	AML	02 32 52.8	
	comp=N,18386μm,0.6s						
GUR	Goura	1.58	76	P	Pg	02 32 21.9	-0.3
GUR				S	Sg	02 32 44.0	+1.2
	comp=N,3μm,0.6s						
GUR	Goura	1.58	76	P	Pb	02 32 20.6	-0.7
GUR				AML	AML	02 32 55.6	
	comp=E,4973μm,0.7s						
GUR				AML	AML	02 32 58.0	
	comp=N,6583μm,0.6s						
KALE	Kalithea	1.61	58	P	Pb	02 32 21.2	-0.4
KALE	Kalithea	1.61	58	P	Pn	02 32 20.7	+0.4
KALE				AML	AML	02 32 53.3	
	comp=N,6327μm,0.7s						
KALE				AML	AML	02 32 54.8	
	comp=E,6320μm,1.1s						
IGT	Igoumenitsa	1.97	359	P	Pg	02 32 30.2	+0.6
IGT	Igoumenitsa	1.97	359	P	Pn	02 32 26.6	+1.3
IGT				AML	AML	02 33 01.8	
	comp=E,2813μm,0.7s						
IGT				AML	AML	02 33 02.0	
	comp=N,2837μm,0.5s						
AGG	Agios Georgios	2.11	46		Pb	02 32 29.7	-0.4
AGG	Agios Georgios	2.11	46	P	Pb	02 32 29.7	-0.4
JAN	Janina	2.12	9	P	Pg	02 32 33.9	+1.4
JAN	Janina	2.12	9	P	Pn	02 32 27.9	+0.5
AXAR	Agios Charalam	2.15	55	P	Pn	02 32 28.7	+1.0
VLI	Veliai	2.20	112	P	Pn	02 32 28.9	+0.6
VLI				AML	AML	02 33 11.2	
	comp=E,1339μm,0.9s						
VLI				AML	AML	02 33 20.2	
	comp=N,1424μm,1.0s						
KEK	Kerkira	2.20	348	Pn	Pn	02 32 29.2	+0.8
KEK	Kerkira	2.20	348	P	Pn	02 32 28.4	0.0
KEK				AML	AML	02 33 15.7	
	comp=N,2021μm,0.5s						
KEK				AML	AML	02 33 19.3	
	comp=E,2277μm,0.5s						
THL	Klokotos Trika	2.37	32	P	Pn	02 32 32.2	+1.5
THL				AML	AML	02 33 17.7	
	comp=E,1802μm,1.0s						
THL				AML	AML	02 33 22.4	
	comp=N,1892μm,0.9s						
KPRO	Kipourio	2.50	17	P	Pn	02 32 32.4	-0.3
TYRN	Tyrnavos	2.58	33	P	Pn	02 32 35.0	+1.4
SCTE	Santa Cesarea	2.93	330		Pn	02 32 38.9	+0.5
KZN	Kozani	2.94	21	P	Pb	02 32 43.4	-1.0
LIT	Litokhoron	3.02	32	Pn	Pn	02 32 40.3	+0.7
LIT	Litokhoron	3.02	32	P	Pn	02 32 40.3	+0.7
TIP	Timpagrande	3.29	301		Pn	02 32 44.4	+1.0
TIP	Timpagrande	3.29	301	⇓P	Pn	02 32 45.6	+2.2
FNA	Florina	3.31	13		Pn	02 32 46.2	+2.5
FNA	Florina	3.31	13	*e*Pn	Pn	02 32 45.8	+2.1
FNA				*e*Sn	Sn	02 33 24.9	+1.8
FNA	Florina	3.31	13	P	Pn	02 32 46.2	+2.5
OHR	Ohrid	3.56	5	*e*Pn	Pn	02 32 47.9	+0.8
OHR				*e*Sn	Sn	02 33 31.1	+1.8
OHR	Ohrid	3.56	5	*i* Pn	Pn	02 32 50.5	+3.4
CEL	Celeste	3.63	282		Pn	02 32 49.6	+1.5
TIR	Tirane	3.80	354		Pn	02 32 53.8	+3.4
TIR	Tirane	3.80	354	*e*Pn	Pn	02 32 51.0	+0.6
TIR				*e*Sn	Sn	02 33 35.4	+0.2
TIR	Tirane	3.80	354	⇑P	Pn	02 32 51.0	+0.6
TIR	Tirane	3.80	354	P	Pn	02 32 53.8	+3.4
SOH	Sokhos	3.98	34	P	Pn	02 32 55.7	+2.7
KNT	Kendrikon	4.08	28	P	Pn	02 32 56.5	+2.2
VAY	Valandovo	4.11	23	*e*Pn	Pn	02 32 55.2	+0.5
VAY	Valandovo	4.11	23	*i* Pn	Pn	02 32 56.3	+1.6
MATE	Matera	4.21	318	⇑P	Pn	02 32 58.4	+2.4
IDI	Anoyia	4.27	121	Pn	Pn	02 32 57.8	+0.8
IDI	Anoyia	4.27	121	Pn	Pn	02 32 53.3	-3.7
	comp=N,13nm,1.1s,baz=318,slow=18,SNR=1.3						
IDI				Sn	Sn	02 33 44.9	-2.1
	comp=N,1.9nm,0.3s,baz=305,slow=19,SNR=2.2						
CUC	Castrocucco	4.33	306		Pn	02 33 00.8	+3.1
SRS	Serrai	4.33	34	*e*Pn	Pn	02 32 58.7	+1.0
ULC	Ulcinj	4.49	349	⇓*i*Pn	Pn	02 32 59.8	0.0
ULC				*i* Sn	Sn	02 33 50.7	-1.4
PUK	Puka	4.49	355		Pn	02 33 01.1	+1.1
DRME	Dracevica, Mon	4.71	349	⇓*i*Pn	Pn	02 33 03.2	+0.3
DRME				*i* Sn	Sn	02 33 56.2	-1.5
VAE	Valguarnera	4.76	271	Pn	Pn	02 33 05.5	+1.8
	comp=N,6.0nm,0.6s,baz=170,slow=18,SNR=2.0						
VAE				Sn	Sn	02 33 59.6	+0.7
	comp=N,1.2nm,0.3s,baz=299,slow=19,SNR=4.2						
RAFF	Raffo Rosso	4.82	268		Pn	02 33 03.8	-0.6
BUM	Brajici-Budva	4.87	347	*e*Pn	Pn	02 33 05.5	+0.3
BUM				*i* Sn	Sn	02 33 59.8	-1.9
PDG	Podgorica	4.94	350		Pn	02 33 07.0	+1.0
PDG	Podgorica	4.94	350	*e*Pn	Pn	02 33 05.7	-0.4
PDG				*e*Sn	Sn	02 34 01.0	-2.2
PDG	Podgorica	4.94	350	*e*Pn	Pn	02 33 05.5	-0.6
PDG	Podgorica	4.94	350	⇓P	Pn	02 33 07.3	+1.2
PDG	Podgorica	4.94	350	⇓*i*Pn	Pn	02 33 06.8	+0.7
PDG				*i* Sn	Sn	02 34 01.5	-1.7
WDD	Wied Dalam	5.02	252	Pn	Pn	02 33 08.4	+1.2
PVY	Plav	5.04	356	*e*Pn	Pn	02 33 07.8	+0.3
PVY				*i* Sn	Sn	02 34 04.5	-1.4
HCY	Herceg Novi	5.09	344	*e*Pn	Pn	02 33 12.0	+3.8
HCY	Herceg Novi	5.09	344	*e*Pn	Pn	02 33 08.5	+0.3
HCY				*i* Sn	Sn	02 34 04.9	-2.2
CEME	Cevo	5.11	348	⇓*i*Pn	Pn	02 33 08.5	+0.1
CEME				*i* Sn	Sn	02 34 05.6	-1.9
BOSS	Bosilegrad	5.18	17	*e*Pn	Pn	02 33 09.3	-0.1
NKME	Niksic	5.32	348	⇑*i*Pn	Pn	02 33 10.7	-0.6
NKME				*i* Sn	Sn	02 34 11.3	-1.3
IVA	Berane	5.32	356	⇑*i*Pn	Pn	02 33 11.9	+0.6
IVA				*i* Sn	Sn	02 34 11.3	-1.4
KOME	Kolasin	5.33	353	⇓*i*Pn	Pn	02 33 11.5	0.0
KOME				*i* Sn	Sn	02 34 10.7	-2.2
BARS	Barje	5.36	11	*e*Pn	Pn	02 33 11.5	-0.3
TREB	Trebinje	5.38	344	*e*Pn	Pn	02 33 10.4	-1.8
TREB				*e*Sn	Sn	02 34 10.2	-4.0
TREB	Trebinje	5.38	344	*e*Pn	Pn	02 33 15.7	+3.5
VTS	Vitosha	5.50	22	*e*Pn	Pn	02 33 15.1	+1.2
VTS				*e*Sn	Sn	02 34 15.9	-1.3
BRY	Bratogost	5.52	346	*e*Pn	Pn	02 33 16.4	+2.2
BRY	Bratogost	5.52	346	*e*Pn	Pn	02 33 13.9	-0.3
BRY				*i* Sn	Sn	02 34 15.7	-2.0
KDZ	Kurdzhali	5.57	42	P	Pn	02 33 17.0	+2.2
SELS	Selova	5.68	5	*e*Pn	Pn	02 33 15.7	-0.5
STON	Ston	5.69	340	*e*Pn	Pn	02 33 15.5	-0.9
STON				*e*Sn	Sn	02 34 17.9	-3.8
STON	Ston	5.69	340	*e*Pn	Pn	02 33 15.2	-1.2
PAOL	Paolisi	5.70	309		Pn	02 33 16.2	-0.3
SJES	Sjenica	5.70	357	*e*Pn	Pn	02 33 17.5	+0.9
SJES				*e*Sn	Sn	02 34 20.1	-2.1
SJES	Sjenica	5.70	357	*e*Pn	Pn	02 33 16.9	+0.3
UPM	Unac-Piva	5.75	349	*e*Pn	Pn	02 33 23.4	+6.0
UPM	Unac-Piva	5.75	349	*e*Pn	Pn	02 33 17.4	0.0
UPM				*i* Sn	Sn	02 34 21.3	-2.2
PLE	Pljevlja	5.81	353	*e*Pn	Pn	02 33 18.4	+0.2
PLE				*i* Sn	Sn	02 34 22.4	-2.5
ZAPS	Zavoj	5.95	16	*e*Pn	Pn	02 33 21.0	+1.0
IVAS	Ivanjica	6.01	358	*e*Pn	Pn	02 33 20.6	-0.2
RUDO	Rudo	6.10	353	*e*Pn	Pn	02 33 26.0	+4.0
BOVS	Bovan	6.15	9	⇑P	Pn	02 33 23.8	+1.1
BBLS	Lazi&#263i	6.34	353	*e*Sn	Sn	02 34 33.8	-4.1
BBLS	Lazi&#263i	6.34	353	*e*Pn	Pn	02 33 23.7	-1.7
DIVS	Divibare	6.54	357	*e*Pn	Pn	02 33 27.7	-0.4
DIVS				*e*Sn	Sn	02 34 39.4	-3.3
HAPS	Han Pijesak,Bl	6.61	351	*e*Pn	Pn	02 33 27.7	-1.4
HAPS				*e*Sn	Sn	02 34 41.1	-3.4
HAPS	Han Pijesak,Bl	6.61	351	*e*Pn	Pn	02 33 28.8	-0.3
ELND	Elena	6.80	36	⇓P	Pn	02 33 33.5	+1.9
CAMP	Campotosto	7.31	315		Pn	02 33 44.9	+6.2
HERR	Herculane	7.47	11	⇓P	Pn	02 33 41.6	+0.8
A050A	Klekovaca	7.50	338	*e*Pn	Pn	02 33 42.3	+0.9
ISK	Istanbul-Kandi	7.57	60	P	Pn	02 33 44.1	+1.9
ISK				pmax	pmax		
	comp=Z,22nm,1.2s						
BLY	Banja Luka	7.58	342	*e*Pn	Pn	02 33 41.4	-0.9
BLY	Banja Luka	7.58	342	*e*Pn	Pn	02 33 43.8	+1.5
FRGS	Fruska Gora	7.60	357	*e*Pn	Pn	02 33 42.0	-0.6
NRCA	Norcia	7.67	316		Pn	02 33 48.3	+4.7
FDMO	Fiordimonte	7.81	317		Pn	02 33 49.9	+4.3
A051A	Mrakovica	7.89	342	*e*Pn	Pn	02 33 45.4	-1.3
GZR	Gura Zlata	8.03	12	⇑P	Pn	02 33 49.6	+1.1
GZR	Gura Zlata	8.03	12	⇑P	Pn	02 33 49.6	+1.1
BZS	Buzias	8.10	6	*e*Pn	Pn	02 33 49.2	-0.2
BZS	Buzias	8.10	6	⇑P	Pn	02 33 50.5	+1.1
BZS	Buzias	8.10	6	⇑P	Pn	02 33 50.5	+1.1
SURR	Surduc	8.29	8	⇓P	Pn	02 33 54.0	+2.0
VOIR		8.61	22	⇑P	Pn	02 33 58.4	+2.0
VOIR		8.61	22	⇑P	Pn	02 33 58.4	+2.0
MORH	Mrgy, Hungar	8.74	352	⇑P	Pn	02 33 58.8	+0.5
SIRR	Siria	8.75	6	⇑P	Pn	02 34 00.3	+2.0
MLR	Muntele Rosu	8.95	26	Pn	Pn	02 34 03.8	+2.6
MLR	Muntele Rosu	8.95	26	Pn	Pn	02 34 03.3	+2.1
	comp=Z,0.2nm,0.3s,baz=210,slow=5.9,SNR=9.9						
MLR				LR	LR	02 37 51.2	
	comp=Z,124nm,19.6s,baz=216,slow=40						
	comp=Z,11nm,0.9s						
MLR	Muntele Rosu	8.95	26	⇑P	Pn	02 34 04.0	+2.8
MLR	Muntele Rosu	8.95	26	⇑P	Pn	02 34 04.0	+2.8
PTJ	Puntijarka	8.97	340	P	Pn	02 34 06.5	+5.0
NEHR	Nehoiu	9.02	27	⇓P	Pn	02 34 04.9	+2.9
CRES	Cresnjevec Ost	9.04	337	*e*Pn	Pn	02 34 01.1	-1.3
CEY	Cerknica	9.31	333	*e*Pn	Pn	02 34 08.7	+2.6
COVR	Voineasa-Covas	9.34	26	⇓P	Pn	02 34 09.8	+3.3
SPBR	Spulber	9.46	28	⇓P	Pn	02 34 10.6	+2.5
TURR	Turia	9.46	24	⇓P	Pn	02 34 10.8	+2.6
PLOR	Plostina	9.51	27	⇑P	Pn	02 34 11.1	+2.4
PLOR	Plostina	9.51	27	⇑P	Pn	02 34 11.1	+2.4
VRI	Vrincioaia	9.55	28	⇑P	Pn	02 34 11.5	+2.2

comp=Z,2.2nm,0.8s
AKASG **Malin Array Be** 14.57 23 Pn Pn 02 35 16.4 -1.4
comp=Z,0.2nm,0.3s,baz=215,slow=13,SNR=4.8
AKASG LR LR 02 41 29.1
comp=Z,43nm,18.2s,baz=200,slow=40
comp=Z,0.5nm,0.7s
AKASG **Malin Array Be** 14.57 23 *i* P Pn 02 35 18.6 +0.7
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKBB **Malin Array Si** 14.57 23|| *e*P Pn 02 35 18.1 +0.2
CLL **Collm** 14.71 341 *es*PP 02 35 33.0
SUW **Suwalki** 16.57 6 P Pn 02 35 43.2 -0.8
SUW IAmb IAmb 02 35 54.6
comp=Z,67nm,1.1s
SUW **Suwalki** 16.57 6 P Pn 02 35 43.2 -0.8
SUW pmax pmax
comp=Z,67nm,1.1s
NACGM **Naroch** 17.89 12 *e*P Pn 02 36 00.2 -0.3
comp=Z,12nm,0.8s,baz=197
KIV **Kislovodsk** 18.03 62 *e*P P 02 36 03.2 +0.3
KIV pmax pmax
comp=Z,6.0nm,1.1s
PABE **Paberze** 18.11 7 P Pn 02 36 01.1 -2.2
PABE IAmb IAmb 02 36 09.4
comp=Z,48nm,0.9s
VORD **Divnogorie** 18.97 39 *e*P P 02 36 11.7 -1.4
VORD pmax pmax
comp=Z,7.0nm,1.0s
VSR **Storozhevoye** 19.06 38 *e*P P 02 36 12.2 -1.9
VSR pmax pmax
comp=Z,4.0nm,0.8s
GNI **Garni** 19.12 75 LR LR 02 44 08.5
comp=Z,60nm,21.9s,baz=270,slow=39
ESDC **Sonseca Array** 19.14 284 P Pn 02 36 17.4 +1.4
baz=74,slow=9.5,SNR=3.3
comp=Z,1.1nm,1.0s
VORR **Voronezh** 19.37 37 P Pn 02 36 18.3 -0.3
VORR pmax pmax
comp=Z,11nm,1.4s
LPSR **Galich'ya Gora** 19.84 35 *e*P P 02 36 20.7 -1.9
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VRH **Novokhopyorsk** 20.35 41 P P 02 36 26.6 -1.6
VRH pmax pmax
comp=Z,21nm,1.5s
OBN **Obninsk** 20.71 27⇑ *e*P Pn 02 36 35.7 +1.3
OBN *e**PP pwP 02 36 40.6 +2.9
OBN *e*PPP PPP 02 36 57.1
OBN S Sn 02 40 26.0 -2.0
OBN SSS SSS 02 40 58.0
OBN pmax pmax
comp=Z,32nm,1.9s
OBN MLR MLR
comp=Z,59nm,12.0s
VSU **Vasula** 21.32 9*de*P P 02 36 38.4 -0.2
VSU pmax pmax
comp=Z,16nm,1.1s
MOS **Moscow** 21.58 27 *e*P P 02 36 49.5 +8.1
MOS *e* 02 37 14.1
HFS **Hagfors** 22.99 351 P P 02 36 56.3 -0.1
comp=Z,2.0nm,0.7s,baz=163,slow=12,SNR=5.1
comp=Z,2.0nm,0.7s
BELG **Belogornoye** 24.11 43⇑ *i*P P 02 37 06.1 -1.4
BELG pmax pmax
comp=Z,5.0nm,1.0s
FINES **FINESS Array B** 24.17 7 P P 02 37 07.1 -0.8
comp=Z,2.9nm,0.8s,baz=170,slow=8.5,SNR=9.7
comp=Z,2.9nm,0.8s
FINES **FINESS Array B** 24.17 7 *i*P P 02 37 08.1 +0.2
FINES pmax pmax
comp=Z,3.0nm,0.8s
FIA1 **FINESS Array S** 24.17 7 P P 02 37 07.6 -0.3
NB2 **NORSAR Subarra** 24.20 349 P P 02 37 13.8 +5.5
comp=Z,17nm,1.7s,baz=155,slow=10
NOA **NORSAR Array B** 24.20 349 P P 02 37 08.3 0.0
comp=Z,0.8nm,0.9s,baz=152,slow=9.5,SNR=1.9
comp=Z,0.8nm,0.9s
NC303 **NORSAR Array S** 24.36 349 P P 02 37 06.4 -3.3
NC303 IAmb IAmb 02 37 21.9
comp=Z,26nm,1.3s
KLMR **Klimovskoe** 26.25 21 *e*P P 02 37 27.4 +0.6
KLMR pmax pmax
comp=Z,23nm,1.7s
TORD **Torodi Ar. Bea** 29.49 219 P P 02 37 56.6 +0.4
comp=Z,0.5nm,0.7s,baz=28,slow=10,SNR=5.0
comp=Z,0.5nm,0.7s
ARTI **Arti** 31.48 41 P P 02 38 12.1 -1.4
ARTI IAmb IAmb 02 38 54.8
comp=Z,9.4nm,1.2s
ARTI **Arti** 31.48 41 P P 02 38 11.8 -1.6
comp=Z,1.4nm,0.4s,baz=257,slow=14,SNR=6.0
ARTI LR LR 02 52 43.3
comp=Z,40nm,18.5s,baz=258,slow=40
comp=Z,1.4nm,0.4s
ARTI **Arti** 31.48 41*c* *i*P P 02 38 14.6 +1.2
ARTI S S 02 43 26.3 +5.1
ARTI SS SnSn 02 45 08.1 +2.6
ARTI pmax pmax
comp=Z,5.0nm,1.1s
ARCES **ARCESS Array B** 32.15 3 P P 02 38 17.7 -1.5
comp=Z,2.3nm,0.9s,baz=190,slow=10,SNR=2.1
comp=Z,2.3nm,0.9s
BVAR **Borovoye Array** 37.59 49 P P 02 39 04.6 -1.7
comp=Z,0.5nm,0.6s,baz=260,slow=7.2,SNR=2.7
comp=Z,0.5nm,0.6s
DBIC **Dimbokro** 38.38 223 LR LR 02 55 06.0
comp=Z,54nm,18.4s,baz=304,slow=36
KURBB **Kurchatov Arra** 42.67 53 P P 02 39 47.0 -1.5
comp=Z,0.7nm,0.7s,baz=278,slow=8.8,SNR=5.5
comp=Z,0.7nm,0.7s
KURK **Kurchatov** 42.72 53 P P 02 39 47.0 -1.9
MK31 **Makanchi Array** 45.71 58 P P 02 40 12.1 -0.8
MK31 **Makanchi Array** 45.71 58 P P 02 40 12.1 -0.8
MK31 pmax pmax
comp=Z,1.0nm,0.9s
MKAR **Makanchi Array** 45.71 58 P P 02 40 11.5 -1.4
comp=Z,0.7nm,0.5s,baz=273,slow=7.9,SNR=8.6
comp=Z,0.7nm,0.5s
MKAR **Makanchi Array** 45.71 58 *i*P P 02 40 11.8 -1.1
MKAR pmax pmax
comp=Z,1.0nm,0.5s
ZAA0 **Zalesovo Array** 46.17 48 P P 02 40 14.8 -1.7
ZALV **Zalesovo Beam** 46.17 48 P P 02 40 15.1 -1.4
comp=Z,1.5nm,0.6s,baz=274,slow=8.4,SNR=7.8
comp=Z,1.5nm,0.6s
ZALV **Zalesovo Beam** 46.17 48 *i*P P 02 40 15.3 -1.1
ZALV pmax pmax
comp=Z,2.0nm,0.6s
NRIK **Noril'sk** 47.39 26⇑ *e*P P 02 40 26.7 +1.0
NRIK pmax pmax
comp=Z,2.0nm,1.0s
WMQ **Urumqi** 50.14 60 *e*P P 02 40 50.0 +2.6
WMQ LR LR
comp=N,690nm,10.1s
WMQ LR LR
comp=E,640nm,13.3s
WMQ LR LR
comp=Z,150nm,18.7s
SHL **Shillong** 60.76 79 P P 02 42 08.2 +4.0
SHL **Shillong** 60.76 79 P P 02 42 08.2 +4.0
SHL pmax pmax
comp=Z,7.0nm,0.7s
SONM **Songino Array** 60.92 50 P P 02 42 03.7 -1.3
comp=Z,0.4nm,0.5s,baz=295,slow=8.2,SNR=2.4
comp=Z,0.4nm,0.5s
LBTB **Lobatse** 62.44 175 LR LR 03 12 17.4
comp=Z,25nm,21.1s,baz=290,slow=39
LZH **Lanzhou** 64.57 63 *e*P P 02 42 35.0 +5.6
LZH sP pwP 02 42 41.2 +4.7
LZH pmax pmax
comp=Z,17nm,1.2s
HHC **Hu-ho-hao-te** 67.46 55 *e*P P 02 42 49.2 +1.3
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,75nm,5.7s
GYA **Guiyang** 71.61 71 ⇑P P 02 43 14.6 +0.8
GYA pmax pmax
comp=Z,22nm,0.7s
E29M **Blow River** 73.12 352 P P 02 43 23.6 +1.7
E29M IAmb IAmb 02 43 30.3
comp=Z,7.4nm,1.1s
CN2 **Changchun** 74.38 47 *e*P P 02 43 26.4 -3.3
NJ2 **Nanjing** 77.21 59 *e*P P 02 43 45.6 -0.5
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
ILAR **Eielson Array** 77.51 354 P P 02 43 47.4 +0.2
comp=Z,0.2nm,0.8s,baz=11,slow=5.5,SNR=2.5
comp=Z,0.2nm,0.8s
KSRS **Korea Array** 79.80 50 P P 02 44 00.0 -0.3
KSRS **Korea Array** 79.80 50 P P 02 43 60.0 -0.3
comp=Z,1.0nm,0.6s,baz=317,slow=5.9,SNR=4.1
comp=Z,1.0nm,0.6s
KSRS **Korea Array** 79.80 50 P P 02 44 00.0 -0.3

*IDC **10** 02:34:36.5±1.3, 0°.82S×123°.65E, h0km, mb3.8/5, mbtmp3.9/6, ML3.9/1, MS2.9/3, Error ellipse: s-maj=47.1km s-min=21.1km az=61.0*
*DJA **10** 02:34:39.1±0.3, 1°.5±3°×12°.3E±°, h10km, M4.4/10, mb4.6/3, mB5.3/1, MLv4.3/10, Mw(mB)4.7/1*
ISC 10 02:34:37.2±0.8, 0°.75±0°.06×123°.53E±0°.04, h10km, n18, σ1§98/19, mb3.6/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	0.81	249	P	Pg	02 34 51.3	-1.6
LUWI				S	Sg	02 35 00.7	-2.8
KMSI	**Cibinong**	1.39	19	P	Pn	02 35 03.0	+0.3
APSI	**Ampana**	1.89	265	P	Pn	02 35 10.1	+0.5
SANI	**Sanana**	2.77	118	P	Pn	02 35 21.8	0.0
MPSI	**Mapaga**	3.79	287	P	Pn	02 35 36.9	+1.2
NLAI	**Namlea**	4.34	125	P	Pn	02 35 45.3	+2.0
SPSI	**Sidrap Palu**	4.93	230	P	Pn	02 35 53.9	+2.5
BNSI	**Bone**	4.98	223	P	Pn	02 35 54.9	+2.7
KAPI	**Kappang**	5.67	222	Pn	Pn	02 36 03.2	+1.6
3.4nm,0.3s,baz=36,slow=5.2,SNR=24							
KAPI				Sn	Sn	02 37 05.4	-1.4
2.8nm,0.3s,baz=179,slow=20,SNR=1.8							
KAPI				LR	LR	02 38 30.9	
comp=Z,137nm,18.2s,baz=132,slow=41							
32nm,0.7s							
BKSI	**Bulukumba**	5.67	217	P	Pn	02 36 01.3	-0.4
27nm,0.9s,0.1nm							
MSAI	**Masohi**	5.98	116	P	Pb	02 36 20.0	-1.6
BSSI	**Bau Bau, Buton**	6.16	209	P	Pn	02 36 12.6	+4.3
FITZ	**Fitzroy Crossi**	17.36	173	LR	LR	02 45 21.3	
comp=Z,35nm,19.4s,baz=352,slow=37							
WRA	**Warramunga Arr**	21.81	152	P	P	02 39 29.6	-0.2
2.5nm,0.9s,baz=328,slow=12,SNR=6.6							
2.5nm,0.9s							
ASAR	**Alice Springs**	24.90	157	P	P	02 39 59.8	-0.8
1.5nm,0.9s,baz=332,slow=6.7,SNR=7.4							
1.5nm,0.9s							
CMAR	**Chiang Mai Arr**	30.80	310	P	P	02 40 55.0	+1.5
0.8nm,0.3s,baz=138,slow=6.9,SNR=4.7							
CMAR				LR	LR	02 54 54.2	
comp=Z,13nm,18.4s,baz=245,slow=39							
0.8nm,0.3s							
STKA	**Stephens Creek**	35.35	153	P	P	02 41 32.8	-0.2
0.8nm,0.5s,baz=322,slow=12,SNR=2.0							
0.8nm,0.5s							
SONM	**Songino Array**	50.64	345	P	P	02 43 38.8	+2.1
0.4nm,0.5s,baz=155,slow=7.9,SNR=2.2							
0.4nm,0.5s							

RSNC 10 02:36:10.5±0.0, 7°N±1°×7°3W±°, h150km±2km, M3.3, mb3.7, mB6.5, ML3.0, Mw(mB)6.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	0.23	191	P	Pn	02 36 30.4	-0.8
BARC				S	Sn	02 36 45.2	-1.7
BRJC	**Barrancabermej**	0.62	284	P	Pn	02 36 32.2	-0.3
BRJC				S	Sn	02 36 49.7	+0.5
PAMC	**Pamplona, Colo**	0.68	40	P	Pn	02 36 33.3	-0.1
PAMC				S	Sn	02 36 50.2	-0.7
RUSC	**La Rusia**	0.92	176	P	Pn	02 36 34.5	-0.7
RUSC				S	Sn	02 36 53.2	-0.9
PTBC	**PUERTO BERRIO,**	1.34	258	P	Pn	02 36 37.1	-1.3
PTBC				S	Sn	02 36 58.4	-1.3
TAMC	**Tame, Arauca**	1.39	106	P	Pn	02 36 38.7	-0.3
TAMC				S	Sn	02 37 00.2	-0.6
OCAC	**Ocana**	1.42	353	P	Pn	02 36 39.0	-0.4
OCAC				S	Sn	02 37 00.7	-0.9
SPBC	**San Pablo de B**	1.48	219	P	Pn	02 36 39.4	-0.6
SPBC				S	Sn	02 37 01.7	-0.9
ZARC	**Zaragoza, Cauc**	1.83	292	P	Pn	02 36 43.2	-0.5
ZARC				S	Sn	02 37 09.4	+0.2
NORC	**Norcasia**	2.12	234	P	Pn	02 36 46.5	-0.7
NORC				S	Sn	02 37 14.5	-0.9
CHIC	**Chingaza**	2.25	195	P	Pn	02 36 48.9	-0.2
CHIC				S	Sn	02 37 18.4	-0.3
ROSC	**El Rosal**	2.29	211	P	Pn	02 36 50.4	+0.9
ROSC				S	Sn	02 37 20.6	+1.1
HELC	**Santa Helena**	2.46	255	P	Pn	02 36 52.4	+1.0
HELC				S	Sn	02 37 21.7	-1.2
CVER	**Cruz Verde, Cu**	2.46	202	P	Pn	02 36 52.0	+0.3
CVER				S	Sn	02 37 24.2	+0.8
UREC	**San Jos de Ur**	2.55	291	P	Pn	02 36 50.8	-1.4
UREC				S	Sn	02 37 22.7	-1.7
GUY2C	**Guyana, Caldas**	2.72	234	P	Pn	02 36 55.9	+1.0
GUY2C				S	Sn	02 37 28.8	-0.2
VILC	**Villavicencio,**	2.75	192	P	Pn	02 36 54.8	-0.1
VILC				S	Sn	02 37 28.6	-0.5
PTGC	**Puerto Gaitan,**	2.79	159	P	Pn	02 36 53.7	-1.6
PTGC				S	Sn	02 37 27.0	-2.9
RECRC	**Villamaria, Ca**	2.87	230	P	Pn	02 36 58.4	+1.6
RECRC				S	Sn	02 37 31.2	-1.3
NIZA	**Niza - Manizal**	2.91	233	P	Pn	02 36 59.7	+2.7
NIZA				S	Sn	02 37 33.1	+0.3
CBOC	**Ciudad Bolivar**	3.01	252	P	Pn	02 36 59.5	+1.3
CBOC				S	Sn	02 37 35.2	+0.2
DBBC	**Dabeiba**	3.05	274	P	Pn	02 36 58.6	0.0
DBBC				S	Sn	02 37 34.6	-1.3
ARGC	**Ariguani, Magd**	3.21	340	P	Pn	02 37 01.3	+0.7
ARGC				S	Sn	02 37 38.2	-1.2
SDV	**Santo Domingo**	3.22	50	P	Pn	02 36 59.7	-1.2
SDV				S	Sn	02 37 35.7	-4.2
PRAC	**Prado**	3.54	209	P	Pn	02 37 04.7	-0.2
PRAC				S	Sn	02 37 47.0	-0.1
ORTC	**Ortega, Tolima**	3.57	216	P	Pn	02 37 05.3	0.0
ORTC				S	Sn	02 37 47.7	-0.1
APAC	**Apartado, Choc**	3.58	288	P	Pn	02 37 04.7	-0.6
APAC				S	Sn	02 37 47.9	+0.2
SJCC	**San Jacinto, C**	3.66	327	P	Pn	02 37 04.6	-1.9
SJCC				S	Sn	02 37 46.4	-3.5
URMC	**La Uribe, Meta**	3.76	199	P	Pn	02 37 08.9	+1.2
URMC				S	Sn	02 37 51.7	-0.5
CRJC	**Cerrejon, Guaj**	4.18	3	P	Pn	02 37 11.3	-1.9
CRJC				S	Sn	02 37 58.0	-4.1
YOTC	**Yotoco, Valle**	4.26	229	P	Pn	02 37 13.5	-0.8
YOTC				S	Sn	02 38 03.1	-0.8
CAPC	**Capurgana**	4.55	294	P	Pn	02 37 16.5	-1.5
CAPC				S	Sn	02 38 06.0	-4.5
MACC	**Macarena, Meta**	4.70	189	P	Pn	02 37 17.9	-2.1
MACC				S	Sn	02 38 09.6	-4.6
URIC	**Uribia, Colomb**	4.98	13	P	Pn	02 37 20.7	-3.0
URIC				S	Sn	02 38 16.9	-3.9
JAMC	**Jamundi, Valle**	5.02	225	P	Pn	02 37 23.4	-1.1
3.9nm,0.4s							
MALC	**Bahia Malaga**	5.02	236	P	Pn	02 37 25.5	+1.3
BBAC	**Balboa, Cauca**	6.28	221	P	Pn	02 37 41.6	+0.4
BBAC				S	Sn	02 38 50.3	-1.9
CRUC	**La Cruz**	6.45	216	P	Pn	02 37 46.3	+2.6

*IDC **10** 02:42:05.2±1.2, 37°.62N×20°.53E, h0km, mb3.6/6, mbtmp3.6/9, ML1.0/2, Error ellipse: s-maj=24.0km s-min=22.9km az=15.0*
*THE **10** 02:42:07.4, 37°.54N×20°.37E, h0km±5km, ML3.5/11, Error ellipse: s-maj=5.8km s-min=0.9km az=230.0*
*ATH **10** 02:42:08.5, 37°.54N×20°.43E, h9km±2km, ML3.5/17, Error ellipse: s-maj=3.1km s-min=1.1km az=39.0*
ISC 10 02:42:07.1±1.3, 37°.51N±0°.03×20°.39E±0°.04, h11km±8km, n58, σ1§16/79, mb3.6/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	0.37	65	P	Pg	02 42 14.8	+0.3
KRI1				S	Sb	02 42 20.1	-1.5
21μm,0.4s							
LTHK	**Lithakia**	0.41	60	P	Pg	02 42 15.3	+0.1
LTHK				S	Sg	02 42 21.0	+0.4
21μm,0.2s							
LTHK	**Lithakia**	0.41	60	P	Pg	02 42 15.4	+0.3
LTHK				S	Sg	02 42 20.9	+0.3
LTHK				AML	AML	02 42 21.3	
comp=E,54020μm,0.3s							
LTHK				AML	AML	02 42 21.6	
comp=N,24896μm,0.2s							
PSDA	**Pessada-Kefalo**	0.62	14	P	Pg	02 42 19.0	-0.2
PSDA				S	Sg	02 42 26.6	-0.9
PSDA	**Pessada-Kefalo**	0.62	14	P	Pg	02 42 19.6	+0.3
PSDA				S	Sg	02 42 27.6	+0.2
VLS	**Valsamata**	0.69	13	P	Pg	02 42 19.8	-0.6
VLS				S	Sg	02 42 29.5	0.0
comp=N,3μm,0.5s							
VLS	**Valsamata**	0.69	13	P	Pg	02 42 20.0	-0.4
VLS				S	Sg	02 42 29.5	0.0
VLS				AML	AML	02 42 32.9	
comp=N,4448μm,0.4s							
VLS				AML	AML	02 42 37.6	
comp=E,6443μm,0.5s							
LXRA	**Lixouri, Kepha**	0.69	3	P	Pb	02 42 21.5	+0.3
LXRA				S	Sb	02 42 30.3	-0.5
LXRA				AML	AML	02 42 39.4	
comp=N,21282μm,0.4s							
LXRA				AML	AML	02 42 41.1	
comp=E,18867μm,0.4s							
DMLN	**Damoulianata-K**	0.73	359	P	Pb	02 42 21.7	-0.1
DMLN				S	Sb	02 42 31.5	-0.5
SMHA	**Samh**	0.77	15	P	Pg	02 42 21.8	-0.2
VSK1	**VASILIKIADES**	0.91	9	P	Pg	02 42 23.4	-1.3
VSK1				S	Sb	02 42 37.0	-0.1
comp=E,5μm,0.5s							
FSK	**Fiskardo**	0.96	8	P	Pg	02 42 23.9	-1.7
FSK				S	Sb	02 42 38.5	0.0
comp=E,3μm,0.6s							
FSK	**Fiskardo**	0.96	8	P	Pb	02 42 26.2	+0.4
FSK				AML	AML	02 42 43.0	
comp=E,6128μm,0.5s							
FSK				AML	AML	02 42 46.5	
comp=N,4010μm,0.6s							
RLS	**Riolos of Patr**	1.02	57	P	Pg	02 42 26.1	-0.5
RLS				S	Sb	02 42 40.7	+0.6
comp=N,2μm,0.6s							
RLS	**Riolos of Patr**	1.02	57	P	Pg	02 42 26.2	-0.4
RLS				S	Sb	02 42 39.6	-0.5
RLS				AML	AML	02 42 49.2	
comp=E,3191μm,0.6s							
RLS				AML	AML	02 42 49.2	
comp=N,3495μm,0.6s							
AMT	**Artemida-Makis**	1.05	88	P	Pb	02 42 28.0	+0.7
AMT				AML	AML	02 42 50.0	
comp=E,8742μm,0.4s							
AMT				AML	AML	02 42 50.9	
comp=N,9505μm,0.4s							
EVGI	**Lefkada island**	1.13	11	P	Pg	02 42 27.9	-1.0
EVGI				S	Sb	02 42 44.6	+1.1
comp=N,2μm,0.4s							
EVGI	**Lefkada island**	1.13	11	P	Pn	02 42 29.6	+0.7
DRO	**Drossia**	1.14	67	P	Pg	02 42 28.4	-0.6
DRO				S	Sn	02 42 45.9	+1.2
comp=N,3μm,0.5s							
DRO	**Drossia**	1.14	67	P	Pg	02 42 28.4	-0.6
DRO				AML	AML	02 42 50.9	
comp=E,7322μm,0.5s							
DRO				AML	AML	02 42 56.6	
comp=N,4491μm,0.6s							
DRAG	**Dragano-Lefkad**	1.18	7	P	Pg	02 42 28.8	-1.1
DRAG				S	Sn	02 42 47.0	+1.2
DRAG	**Dragano-Lefkad**	1.18	7	P	Pg	02 42 29.0	-0.9
NYDR	**Nydri-Lefkada**	1.23	11	P	Pg	02 42 29.5	-1.2
PYL	**PYLOS**	1.24	119	P	Pg	02 42 30.8	-0.1
PYL				S	Sn	02 42 50.7	+3.5
comp=N,642nm,0.5s							
PYL	**PYLOS**	1.24	119	P	Pg	02 42 30.8	-0.1
PYL				AML	AML	02 42 54.5	
comp=N,1320μm,0.5s							
PYL				AML	AML	02 42 56.8	
comp=E,1256μm,0.4s							
ITM	**Ithomi**	1.27	104	P	Pb	02 42 31.8	+0.8
ITM	**Ithomi**	1.27	104	P	Pg	02 42 31.4	-0.1
ITM				AML	AML	02 42 56.2	
comp=E,940μm,0.6s							
ITM				AML	AML	02 42 57.3	
comp=N,1584μm,0.7s							
LKD2	**Lefkada island**	1.30	9	P	Pb	02 42 32.1	+0.5
LKD2				S	Sn	02 42 50.6	+2.0
comp=N,2μm,0.8s							
LKD2	**Lefkada island**	1.30	9	P	Pn	02 42 32.3	+1.1
LKD2				AML	AML	02 42 58.0	
comp=N,3476μm,0.8s							
LKD2				AML	AML	02 42 58.4	
comp=E,4794μm,0.7s							
TSLK	**Tsoukalades, L**	1.33	9	P	Pg	02 42 32.3	-0.4
TSLK				S	Sn	02 42 52.7	+3.3
comp=E,2μm,0.8s							
TSLK	**Tsoukalades, L**	1.33	9	P	Pg	02 42 31.9	-0.8
TSLK				AML	AML	02 42 58.0	
comp=E,4617μm,1.0s							
TSLK				AML	AML	02 43 01.6	
comp=N,4564μm,0.7s							
UPR	**University Cam**	1.35	55	P	Pg	02 42 32.1	-0.9
KLV	**Kalavryta, Ach**	1.50	68	P	Pn	02 42 34.4	+0.4
EFP	**Efpalio**	1.51	52	P	Pn	02 42 34.8	+0.7
EFP				AML	AML	02 43 03.5	
comp=E,1409μm,0.5s							
EFP				AML	AML	02 43 04.7	
comp=N,2183μm,0.5s							
GUR	**Goura**	1.61	74	P	Pn	02 42 35.9	+0.3
GUR				AML	AML	02 43 11.2	
comp=E,1681μm,0.5s							
GUR				AML	AML	02 43 13.6	
comp=N,1897μm,0.5s							
ANX	**Ano Chora**	1.62	48	P	Pn	02 42 35.4	-0.4
ANX				AML	AML	02 43 08.2	
comp=N,6260μm,0.5s							
ANX				AML	AML	02 43 10.0	
comp=E,3859μm,0.5s							
KALE	**Kalithea**	1.64	57	P	Pn	02 42 36.2	+0.2
KALE				AML	AML	02 43 10.3	
comp=E,2562μm,0.7s							
KALE				AML	AML	02 43 13.1	
comp=N,1847μm,0.8s							
IGT	**Igoumenitsa**	2.02	359	P	Pn	02 42 41.2	0.0
IGT				AML	AML	02 43 17.1	
comp=E,986μm,0.4s							
IGT				AML	AML	02 43 17.9	
comp=N,578μm,0.5s							
JAN	**Janina**	2.18	9	P	Pn	02 42 44.0	+0.7
VLI	**Veliai**	2.18	110	P	Pn	02 42 44.8	+1.4
AXAR	**Agios Charalam**	2.19	54	P	Pn	02 42 43.7	+0.2
AXAR				AML	AML	02 43 25.1	
comp=N,2184μm,0.6s							
AXAR				AML	AML	02 43 31.1	
comp=E,1768μm,0.6s							
KEK	**Kerkira**	2.25	348	P	Pn	02 42 45.0	+0.6
THL	**Klokotos Trika**	2.42	31	P	Pn	02 42 46.8	+0.2
KPRO	**Kipourio**	2.56	17	P	Pn	02 42 50.0	+1.4
TYRN	**Tyrnavos**	2.63	33	P	Pn	02 42 50.6	+1.1
NEST	**Nestorio**	2.95	10	P	Pn	02 42 54.8	+0.8
OHR	**Ohrid**	3.61	5	*i* Pn	Pn	02 43 06.2	+3.1
VAY	**Valandovo**	4.17	23	*i* Pn	Pn	02 43 12.4	+1.8
IDI	**Anoyia**	4.25	120	Pn	Pn	02 43 12.1	+0.1
comp=E,0.6nm,0.3s,baz=270,slow=9.1,SNR=1.8							
IDI				Sn	Sn	02 44 00.9	-0.7
comp=E,1.0nm,0.3s,baz=330,slow=20,SNR=1.5							
comp=E,1.4nm,1.1s							
VAE	**Valguarnera**	4.75	271	Pn	Pn	02 43 21.1	+2.3
comp=E,0.2nm,0.3s,baz=35,slow=12,SNR=1.7							
VAE				Sn	Sn	02 44 14.3	+0.4
comp=E,1.0nm,0.3s,baz=342,slow=20,SNR=2.5							
comp=E,5.7nm,0.7s							
MLR	**Muntele Rosu**	9.00	26	Pn	Pn	02 44 20.3	+3.2
comp=E,0.4nm,0.3s,baz=214,slow=7.3,SNR=11							
EIL	**Elat**	14.43	119	Pn	Pn	02 45 30.9	-0.4
comp=E,1.4nm,0.6s,baz=299,slow=13,SNR=1.8							
EIL				Sn	Sn	02 47 56.5	-15
comp=E,0.1nm,0.3s,baz=26,slow=13,SNR=2.8							
HFS	**Hagfors**	23.05	351	P	P	02 47 10.7	-1.5
comp=E,1.2nm,0.6s,baz=170,slow=8.8,SNR=5.0							
comp=E,1.2nm,0.6s							
FINES	**FINESS Array B**	24.22	7	P	P	02 47 22.4	-1.2
comp=E,0.7nm,0.4s,baz=163,slow=10,SNR=15							
comp=E,0.7nm,0.4s							
TORD	**Torodi Ar. Bea**	29.45	219	P	P	02 48 11.7	+0.7
comp=E,0.4nm,0.6s,baz=26,slow=9.0,SNR=1.5							
comp=E,0.4nm,0.6s							
KURBB	**Kurchatov Arra**	42.71	53	P	P	02 50 02.5	-1.5
comp=E,0.3nm,0.5s,baz=280,slow=8.5,SNR=1.9							
comp=E,0.3nm,0.5s							
MKAR	**Makanchi Array**	45.74	58	P	P	02 50 26.2	-2.2

comp=E,0.5nm,0.5s,baz=264,slow=8.9,SNR=6.1
comp=E,0.5nm,0.5s
ZALV Zalesovo Beam 46.22 48 P P 02 50 30.6 -1.4
comp=E,0.8nm,0.4s,baz=276,slow=8.4,SNR=4.8
comp=E,0.8nm,0.4s

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*IDC **10** 02:42:48.9±1.6, 43°.97N×86°.69E, h0km, mb3.7/3, mbtmp3.6/6, ML2.9/3, MS2.4/1, Error ellipse: s-maj=60.9km s-min=17.9km az=47.0*
*SOME **10** 02:42:49.3, 43°.62N×86°.30E, h20km*
*NNC **10** 02:42:53.1±1.2, 43°.82N×86°.18E, h5km±4km, mb4.2, mpv3.9, Error ellipse: s-maj=9.0km s-min=6.4km az=120.0*
ISC 10 02:42:49.5±1.3, 43°.61N±0°.06×86°.30E±0°.06, h10km, n30, σ2°01/40, mb3.6/3, 9C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.97**	**346**	Pg	**Pg**	**02 44 03.4**	**-2.2**
	34nm,0.3s						
ZSN				Lg	Lg	02 44 56.9	
	23nm,0.4s						
ZSN	**Zaisan**	**3.97**	**346**	*e*P	**Pg**	**02 44 03.4**	**-2.2**
	34nm,0.3s						
ZSN				*e*S	**Sg**	**02 44 56.9**	**-0.2**
	23nm,0.4s						
MK31	**Makanchi Array**	**4.27**	**320**	⇑Pn	**Pn**	**02 43 56.2**	**+1.7**
	1.4nm,0.3s,baz=137,slow=15,SNR=128						
MK31				⇓Pg	**Pb**	**02 44 06.1**	**+1.6**
	4.1nm,0.3s,baz=146,slow=15,SNR=8.7						
MK31				⇓Sn	**Sn**	**02 44 44.9**	**+0.6**
	4.9nm,0.4s,baz=128,slow=17,SNR=4.5						
MK31				⇑Lg	Lg	02 45 00.8	
	39nm,0.7s,baz=125,slow=31,SNR=7.6						
MKAR	**Makanchi Array**	**4.27**	**320**	Pn	**Pn**	**02 43 56.3**	**+1.8**
	1.2nm,0.3s,baz=126,slow=14,SNR=46						
MKAR				Sn	**Sn**	**02 44 45.2**	**+0.9**
	4.9nm,0.3s,baz=144,slow=22,SNR=5.2						
MKAR				Lg	Lg	02 45 00.1	
	6.6nm,0.3s,baz=129,slow=30,SNR=5.8						
MKAR				LR	LR	02 45 20.0	
	comp=Z,48nm,21.1s,baz=178,slow=36						
	3.9nm,0.5s						
MAKZ	**Makanchi**	**4.43**	**318**	⇑Pn	**Pn**	**02 43 58.1**	**+1.4**
	6.8nm,0.7s						
MAKZ				⇑Sn	**Sn**	**02 44 47.9**	**-0.4**
	13nm,0.5s						
MAKZ				⇑Lg	Lg	02 45 06.5	
	15nm,0.6s						
DJR	**Jarkent**	**4.76**	**281**	Pg	**Pb**	**02 44 16.7**	**+3.8**
	3.4nm,0.1s						
DJR				Lg	Lg	02 45 19.9	
	26nm,0.4s						
DJR	**Jarkent**	**4.76**	**281**	*e*P	**Pb**	**02 44 16.7**	**+3.8**
	3.4nm,0.1s						
DJR				*e*S	**Sg**	**02 45 19.9**	**-2.3**
	26nm,0.4s						
SHLS	**Shalkode**	**5.01**	**267**	Pg	**Pb**	**02 44 15.4**	**-1.9**
	11nm,0.2s						
SHLS				Lg	Lg	02 45 17.5	
	52nm,0.4s						
SHLS	**Shalkode**	**5.01**	**267**	*e*P	**Pb**	**02 44 15.4**	**-1.9**
	11nm,0.2s						
SHLS				*e*S	**Sb**	**02 45 17.5**	**-0.1**
	52nm,0.4s						
UZB	**Uzynbulak**	**5.33**	**268**	Pg	**Pg**	**02 44 28.9**	**-2.6**
	5.0nm,0.2s						
UZB				Lg	Lg	02 45 40.5	
	9.9nm,0.3s						
UZB	**Uzynbulak**	**5.33**	**268**	*e*P	**Pg**	**02 44 28.9**	**-2.6**
	5.0nm,0.2s						
UZB				*e*S	**Sg**	**02 45 40.5**	**0.0**
	9.9nm,0.3s						
KPKS	**Kokpek**	**5.54**	**271**	Pg	**Pg**	**02 44 33.5**	**-2.1**
	3.8nm,0.2s						
KPKS				Lg	Lg	02 45 48.4	
	29nm,0.4s						
KPKS	**Kokpek**	**5.54**	**271**	*e*P	**Pg**	**02 44 33.5**	**-2.1**
	3.8nm,0.2s						
KPKS				*e*S	**Sg**	**02 45 48.4**	**+1.1**
	29nm,0.4s						
SATY	**Saty**	**5.79**	**267**	Pg	Pg	02 44 37.6	-2.7
	3.7nm,0.2s						
SATY				Lg	Lg	02 45 55.6	
	18nm,0.3s						
SATY	**Saty**	**5.79**	**267**	*e*P	Pg	02 44 37.6	-2.7
	3.7nm,0.2s						
SATY				*e*S	**Sg**	**02 45 55.6**	**+0.4**
	18nm,0.3s						
TDK	**Taldyqorghan**	**5.84**	**287**	Pg	**Pg**	**02 44 38.6**	**-2.6**
	65nm,0.2s						
TDK				Lg	Lg	02 45 57.3	
	88nm,0.3s						
TDK	**Taldyqorghan**	**5.84**	**287**	*e*P	**Pg**	**02 44 38.6**	**-2.6**
	65nm,0.2s						
TDK				*e*S	**Sg**	**02 45 57.3**	**+0.5**
	88nm,0.3s						
KURS	**Kuram**	**5.91**	**272**	Pg	**Pg**	**02 44 40.0**	**-2.7**
	6.3nm,0.7s						
KURS				Lg	Lg	02 45 59.5	
	8.0nm,0.5s						
KURS	**Kuram**	**5.91**	**272**	*e*P	**Pg**	**02 44 40.0**	**-2.7**
	6.3nm,0.7s						
KURS				*e*S	**Sg**	**02 45 59.5**	**+0.3**
	8.0nm,0.5s						
ARXS	**Arharly**	**6.15**	**279**	Pg	**Pg**	**02 44 44.5**	**-2.7**
	4.6nm,0.2s						
ARXS				Lg	Lg	02 46 07.5	
	17nm,0.3s						
ARXS	**Arharly**	**6.15**	**279**	*e*P	**Pg**	**02 44 44.5**	**-2.7**
	4.6nm,0.2s						
ARXS				*e*S	**Sg**	**02 46 07.5**	**+0.5**
	17nm,0.3s						
TNSS	**Tian-Shan**	**6.85**	**268**	Pg	Pg	02 44 57.3	-3.3
	2.7nm,0.2s						
TNSS				Lg	Lg	02 46 29.5	
	2.4nm,0.6s						
TNSS	**Tian-Shan**	**6.85**	**268**	*e*P	Pg	02 44 57.3	-3.3
	2.7nm,0.2s						
TNSS				*e*S	**Sg**	**02 46 29.5**	**+0.2**
	2.4nm,0.6s						
TKM2	**Tokmak 2**	**7.85**	**269**	⇑Pn	**Pn**	**02 44 47.3**	**+3.5**
	1.4nm,0.6s						
TKM2				⇑Lg	Lg	02 46 60.0	
	3.3nm,0.6s						
KURBB	**Kurchatov Arra**	**8.79**	**326**	Pn	**Pn**	**02 44 55.8**	**-0.7**
	0.1nm,0.3s,baz=134,slow=13,SNR=8.3						
KURBB				Lg	Lg	02 47 23.4	
	0.2nm,0.3s,baz=134,slow=33,SNR=2.6						
	0.4nm,0.3s						
KURK	**Kurchatov**	**8.82**	**326**	⇑Pn	**Pn**	**02 44 56.9**	**-0.1**
	2.1nm,0.6s						
KURK				⇑Lg	Lg	02 47 24.6	
	7.4nm,0.6s						
ZALV	**Zalesovo Beam**	**10.40**	**355**	Pn	**Pn**	**02 45 15.9**	**-2.6**
	0.4nm,0.3s,baz=175,slow=13,SNR=10						
ZALV				Sn	Sn	02 47 04.8	-10
	0.7nm,0.3s,baz=180,slow=24,SNR=7.6						
	2.0nm,0.5s						
FINES	**FINESS Array B**	**39.10**	**319**	P	**P**	**02 50 16.8**	**+0.3**
	2.7nm,1.0s,baz=98,slow=9.1,SNR=2.1						
	2.7nm,1.0s						
NOA	**NORSAR Array B**	**46.26**	**319**	P	**P**	**02 51 14.7**	**0.0**
	0.5nm,0.8s,baz=72,slow=8.1,SNR=1.3						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**77.06**	**134**	P	**P**	**02 54 43.8**	**+1.0**
	0.3nm,0.7s,baz=330,slow=4.9,SNR=1.9						
	0.3nm,0.7s						

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*JMA **10** 02:55:11.0±0.2, 24°.N±2°.×122°.6E±0°.6, h28km±4km, MV2.2/10, NW OFF ISHIGAKIJIMA IS*
*TAP **10** 02:55:11.5, 24°.22N×122°.55E, h33km, ML2.8, C*
ISC 10 02:55:09.3±1.0, 24°.02N±0°.02×122°.55E±0°.03, h17km±8km, n63, σ0°90/108, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.23**	**296**	*i*P	**Pb**	**02 55 18.2**	**+3.4**
EOS4				S	**Sb**	**02 55 23.4**	**+4.9**
EOS3	**EOS3**	**0.34**	**322**	*i*P	**Pn**	**02 55 19.0**	**-0.3**
EOS3				*i* S	**Sn**	**02 55 24.7**	**-1.0**
EOS2	**EOS2**	**0.49**	**324**	P	**Pn**	**02 55 21.1**	**-0.3**
EOS2				S	**Sn**	**02 55 28.8**	**-0.7**
JYNG	**Yonagunijimaku**	**0.56**	**40**	*e*P	**Pg**	**02 55 20.9**	**+0.5**
JYNG				*e*S	**Sg**	**02 55 27.7**	**-0.3**
YOJ	**Yonaguni jima**	**0.61**	**44**	*e*P	**Pg**	**02 55 21.7**	**+0.4**
YOJ				*e*S	**Sg**	**02 55 29.3**	**-0.2**
YOJ	**Yonaguni jima**	**0.61**	**44**	*i* P	**Pg**	**02 55 21.7**	**+0.4**
YOJ				*i* S	**Sg**	**02 55 29.6**	**+0.1**
EWUT	**Wuta**	**0.82**	**301**	P	**Pn**	**02 55 26.1**	**+0.1**
EWUT				*e*S	**Sn**	**02 55 37.2**	**-0.6**
ENA	**Nanau**	**0.84**	**299**	P	**Pn**	**02 55 26.5**	**+0.1**
ENA				*e*S	**Sn**	**02 55 38.0**	**-0.3**
ESAO	**Su ao**	**0.84**	**311**	*e*P	**Pn**	**02 55 26.2**	**-0.2**
ESAO				*e*S	**Sb**	**02 55 36.5**	**0.0**
TWC	**Suao**	**0.86**	**313**	P	**Pg**	**02 55 26.2**	**+0.2**
TWC				*e*S	**Sb**	**02 55 36.6**	**-0.5**
TWD	**Chiawan**	**0.87**	**274**	*e*P	**Pn**	**02 55 27.3**	**+0.5**
TWD				*e*S	**Sn**	**02 55 39.4**	**+0.4**
NACB	**Ninganchiao**	**0.88**	**280**	P	**Pn**	**02 55 27.2**	**+0.3**
NACB				S	**Sn**	**02 55 39.7**	**+0.3**
SHUL	**Shoufeng**	**0.93**	**256**	*e*S	**Sn**	**02 55 41.9**	**+1.4**
NDS	**Dongshan**	**0.97**	**309**	*e*P	**Pn**	**02 55 28.6**	**+0.4**
NDS				*e*S	**Sg**	**02 55 40.7**	**-0.2**
ETLH	**Xiulin Townshi**	**0.99**	**281**	P	**Pn**	**02 55 29.0**	**+0.5**
ETLH				*e*S	**Sn**	**02 55 41.9**	**-0.3**
LXIB	**Xiulin Townshi**	**1.03**	**270**	*e*P	**Pn**	**02 55 29.6**	**+0.5**
LXIB				*e*S	**Sn**	**02 55 43.3**	**-0.1**
ESL	**Shilin**	**1.04**	**259**	*e*P	**Pn**	**02 55 29.3**	**+0.2**
ESL				*e*S	**Sn**	**02 55 43.8**	**+0.5**
LATG	**Datong**	**1.06**	**299**	*e*P	**Pn**	**02 55 30.1**	**+0.5**
LATG				*e*S	**Sn**	**02 55 44.7**	**+0.8**
TWE	**Neicheng**	**1.06**	**311**	P	**Pg**	**02 55 29.8**	**0.0**
TWE				S	**Sb**	**02 55 41.6**	**-1.2**
ENTT	**Nioudou**	**1.08**	**305**	P	**Pg**	**02 55 30.4**	**+0.2**
ENTT				S	**Sn**	**02 55 44.6**	**+0.1**
WARBT	**Fenglin Townsh**	**1.10**	**254**	*e*P	**Pg**	**02 55 30.6**	**0.0**
WARBT				*e*S	**Sn**	**02 55 45.5**	**+0.6**
TWB1	**Santiao Chiao**	**1.10**	**333**	*e*P	**Pb**	**02 55 29.6**	**-0.4**
TWB1				*e*S	**Sb**	**02 55 41.7**	**-2.4**
IRIF	**Iriomote-Funau**	**1.13**	**74**	*e*P	**Pn**	**02 55 30.3**	**0.0**
FUSB	**Fushanzhiwuyua**	**1.14**	**310**	*e*P	**Pg**	**02 55 31.4**	**0.0**
FUSB				*e*S	**Sn**	**02 55 46.6**	**+0.7**
TIPB	**Shuangxi**	**1.15**	**325**	*e*P	**Pb**	**02 55 30.1**	**-0.7**
HGSD	**Ruisui**	**1.15**	**243**	*e*P	**Pg**	**02 55 31.5**	**-0.1**
HGSD				*e*S	**Sg**	**02 55 46.8**	**+0.1**
WHF	**Hehuan Shan**	**1.18**	**276**	*e*P	**Pg**	**02 55 31.9**	**-0.2**
WHF				*e*S	**Sn**	**02 55 47.2**	**0.0**
FUSS	**Fushou**	**1.21**	**281**	*e*P	**Pg**	**02 55 32.2**	**-0.4**
FUSS				*e*S	**Sn**	**02 55 47.7**	**-0.2**
NWLT	**Wulai**	**1.21**	**309**	*e*P	**Pg**	**02 55 32.4**	**-0.3**
NWLT				*e*S	**Sn**	**02 55 47.6**	**0.0**
ECBN	**Changbin**	**1.22**	**235**	*e*S	**Sg**	**02 55 48.4**	**-0.5**
SXI1	**Grass Mountain**	**1.23**	**330**	P	**Pn**	**02 55 31.0**	**-0.8**
SXI1				*e*S	**Sb**	**02 55 45.3**	**-2.5**
EHY	**Hungye**	**1.23**	**246**	*e*P	**Pg**	**02 55 32.8**	**-0.2**
EHY				*e*S	**Sg**	**02 55 49.4**	**+0.2**
YHNB	**Yeheng**	**1.25**	**301**	*i* P	**Pg**	**02 55 33.0**	**-0.4**
YHNB				S	**Sb**	**02 55 46.6**	**-1.6**
OWD	**Renai**	**1.25**	**267**	P	**Pg**	**02 55 33.0**	**-0.5**
OWD				S	**Sn**	**02 55 48.8**	**0.0**
WFSB	**Wu-fen Shan**	**1.25**	**327**	*e*P	**Pn**	**02 55 31.8**	**-0.3**
NSK	**Sanguang**	**1.26**	**301**	P	**Pb**	**02 55 33.0**	**+0.3**
NSK				S	**Sb**	**02 55 48.7**	**-0.1**
YULB	**Yu-li**	**1.30**	**242**	*e*P	**Pg**	**02 55 33.9**	**-0.5**
YULB				*e*S	**Sg**	**02 55 50.7**	**-0.8**
WUSB	**Renai**	**1.31**	**269**	P	**Pg**	**02 55 34.0**	**-0.5**
WUSB				*e*S	**Sg**	**02 55 51.5**	**0.0**
VWDT	**VWDT**	**1.31**	**259**	P	**Pg**	**02 55 34.4**	**-0.1**
VWDT				*e*S	**Sg**	**02 55 51.1**	**-0.6**
TWF1	**Yuli**	**1.32**	**240**	*e*P	**Pb**	**02 55 33.6**	**-0.1**
TWF1				*e*S	**Sg**	**02 55 52.2**	**+0.1**
CHKH	**Chenggong**	**1.34**	**232**	*e*P	**Pg**	**02 55 35.2**	**+0.1**
CHKH				*e*S	**Sb**	**02 55 50.5**	**-0.3**
JKRS	**Kuro-shima**	**1.35**	**81**	*e*P	**Pn**	**02 55 34.5**	**+1.1**
FULB	**Fuli**	**1.41**	**235**	*e*P	**Pg**	**02 55 36.0**	**-0.4**
FULB				*e*S	**Sg**	**02 55 54.2**	**-0.6**
NFF	**Wufeng Townshi**	**1.44**	**295**	P	**Pg**	**02 55 36.4**	**-0.5**
NFF				*e*S	**Sb**	**02 55 53.5**	**-0.2**
SSLB	**Suanglung**	**1.47**	**261**	*e*P	**Pg**	**02 55 38.1**	**+0.4**
WHP	**Taichung City**	**1.48**	**280**	*e*P	**Pg**	**02 55 38.4**	**+0.6**
WHP				*e*S	**Sg**	**02 55 58.2**	**+1.1**
WCS	**Beigang Elemen**	**1.49**	**272**	*e*P	**Pg**	**02 55 38.7**	**+0.7**
JIJ	**Ishigaki jima**	**1.50**	**77**	*e*P	**Pn**	**02 55 35.5**	**0.0**
SMLT	**Sun Moon Lake**	**1.51**	**265**	*e*P	**Pb**	**02 55 37.3**	**+0.4**
NSTT	**Nanjuang**	**1.53**	**294**	P	**Pb**	**02 55 37.6**	**+0.4**
NSTT				S	**Sb**	**02 55 57.1**	**+0.7**
EDH	**Donghe**	**1.54**	**228**	*e*P	**Pb**	**02 55 37.2**	**-0.3**
EDH				S	**Sb**	**02 55 56.3**	**-0.4**
TYC	**Yuchr**	**1.55**	**266**	*e*P	**Pb**	**02 55 38.0**	**+0.5**
WHYT	**Xinyi Township**	**1.58**	**259**	*e*P	**Pg**	**02 55 39.6**	**-0.1**
ELDTW	**Lidau**	**1.63**	**240**	*e*P	**Pb**	**02 55 38.5**	**-0.5**
ELDTW				*e*S	**Sb**	**02 55 58.5**	**-0.8**
ALS	**Alishan**	**1.67**	**253**	*e*P	**Pg**	**02 55 41.3**	**-0.2**
LONT	**Longtian**	**1.71**	**230**	*e*P	**Pg**	**02 55 41.3**	**-0.8**
CHN5	**Tsauling**	**1.76**	**256**	*e*P	**Pg**	**02 55 42.1**	**-1.0**
TPUB	**Ta-pu**	**1.90**	**248**	*e*P	**Pg**	**02 55 44.5**	**-1.2**
TPUB				*e*S	**Sg**	**02 56 08.6**	**-1.8**
CHN4	**Tsaushan**	**1.91**	**250**	*e*P	**Pb**	**02 55 44.4**	**+0.8**
CHN4				*e*S	**Sg**	**02 56 08.7**	**-2.1**
WTP	**Ta-pu**	**1.93**	**247**	*e*P	**Pb**	**02 55 44.6**	**+0.5**
SLGT	**Liugui**	**2.02**	**240**	*e*P	**Pb**	**02 55 46.5**	**+0.9**
SLGT				*e*S	**Sb**	**02 56 11.3**	**+0.8**
CHN1	**Nanshi**	**2.03**	**246**	*e*S	**Sb**	**02 56 11.8**	**+1.1**
MASBT	**Mashibuluo**	**2.25**	**232**	*e*P	**Pb**	**02 55 48.7**	**-0.8**

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*DNK **10** 03:04:24.2±1.7, 51°.46N×16°.24E, h26km±71km, ML1.7*
*VIE **10** 03:04:26.6±0.6, 51°.32N×16°.02E, h0km, mb2.4/3, ml2.5/4, Error ellipse: s-maj=6.0km s-min=3.8km az=87.0, Suspected Mining induced.*
*PRU **10** 03:04:26.4, 51°.42N×16°.09E, h0km*
ISC 10 03:04:22.9±0.8, 51°.56N±0°.03×16°.10E±0°.03, h0km, n32, σ1°19/62, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**170**	*e*Pg	**Pg**	**03 04 37.2**	**+0.5**
KSP				*e*Sg	**Sg**	**03 04 46.2**	**+0.1**
CHVC	**Chvalec**	**0.97**	**182**	*e*PG	**Pg**	**03 04 41.8**	**+0.4**
CHVC				*e*SG	**Sg**	**03 04 53.5**	**-0.5**
	comp=Z,20nm,0.6s						
OSTC	**Ostas**	**1.00**	**176**	*e*PG	**Pg**	**03 04 42.7**	**+0.6**
OSTC				*e*SG	**Sg**	**03 04 54.7**	**-0.4**
	comp=Z,26nm,0.4s						
UPC	**Upice**	**1.05**	**183**	*e*PG	**Pg**	**03 04 43.4**	**+0.4**
UPC				*e*SG	**Sg**	**03 04 56.0**	**-0.6**
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*PG	**Pg**	**03 04 46.1**	**-0.1**
DPC				*e*SG	**Sg**	**03 04 59.9**	**-2.0**
	comp=Z,20nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pb**	**03 04 50.4**	**+0.4**
PVCC				*e*SG	**Sb**	**03 05 08.8**	**+0.2**
	comp=Z,59nm,0.3s						
BRG	**Berggiesshubel**	**1.52**	**244**	Pg	**Pg**	**03 04 52.6**	**+0.6**
BRG				Sg	**Sn**	**03 05 12.5**	**+0.8**
BRG				Amp		03 05 14.0	
	comp=Z,36nm,0.4s						
KRLC	**Kraliky**	**1.55**	**163**	*e*PG	**Pn**	**03 04 52.1**	**+0.4**
KRLC				*e*SG	**Sg**	**03 05 11.3**	**-1.2**
	comp=Z,15nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.84**	**207**	*e*PG	**Pb**	**03 04 57.0**	**-0.4**
PRU	**Pruhonice**	**1.85**	**213**	*e*PG	**Pb**	**03 04 57.3**	**-0.3**
PRU				*e*SG	**Sn**	**03 05 20.8**	**+0.8**
	comp=Z,11nm,0.5s						
HSKC	**Hora Svate Kat**	**1.93**	**242**	*e*PG	**Pb**	**03 04 58.3**	**-0.6**
HSKC				*e*SG	**Sb**	**03 05 23.7**	**+0.1**
CLL	**Collm**	**1.95**	**264**	*i* Pn	**Pn**	**03 04 57.3**	**+0.1**
	comp=Z,3.0nm,0.4s						
CLL				*i* Pg	**Pg**	**03 05 00.6**	**+0.4**
CLL				*ex*	x	03 05 05.0	
CLL				*i* Sg	**Sg**	**03 05 26.4**	**+0.9**
	comp=Z,10.0nm,0.5s						
MORC	**Moravsky Berou**	**2.01**	**152**	*e*PG	**Pn**	**03 04 58.3**	**+0.3**
MORC				*e*SG	**Sn**	**03 05 22.0**	**-1.8**
VRAC	**Vranov**	**2.27**	**172**	*e*PN	**Pn**	**03 05 02.0**	**+0.3**
VRAC				*e*SG	**Sb**	**03 05 32.3**	**-1.1**
TREC	**Trest**	**2.30**	**190**	*e*SG	**Sb**	**03 05 34.1**	**0.0**
KRUC	**Moravsky**	**2.51**	**175**	*e*PN	**Pn**	**03 05 05.7**	**+0.9**
KRUC				*e*SG	**Sb**	**03 05 40.1**	**0.0**
NKC	**Novy Kostel**	**2.66**	**242**	*e*SG	**Sg**	**03 05 49.1**	**+0.7**
	comp=Z,19nm,0.3s						
OJC	**Ojcow**	**2.70**	**118**	*e*Pg	**Pg**	**03 05 15.3**	**+0.7**
OJC				*e*Sg	**Sg**	**03 05 51.0**	**+1.5**
JAVC	**Velka Javorina**	**2.88**	**159**	*e*SG	**Sb**	**03 05 50.2**	**-0.8**
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**03 05 10.6**	**+0.1**
KHC				*e*PG	**Pb**	**03 05 16.8**	**+1.1**
KHC				*e*SN	**Sn**	**03 05 45.0**	**-1.3**
KHC				*e*SG	**Sg**	**03 05 55.5**	**-1.0**
	comp=Z,5.2nm,0.3s						
CKRC	**Cesky Krumlov**	**2.97**	**203**	*e*PN	**Pn**	**03 05 12.2**	**+0.9**
CKRC				*e*PG	**Pb**	**03 05 17.5**	**+0.9**
CKRC				*e*SG	**Sg**	**03 05 56.3**	**-2.0**
LANS	**Liptovska Anna**	**3.23**	**137**	*e*PG	**Pg**	**03 05 26.6**	**+1.8**
LANS				*e*SG	**Sg**	**03 06 04.3**	**-2.4**
MODS	**Modra-Piesok**	**3.28**	**166**	*e*PG	**Pg**	**03 05 25.1**	**-0.5**
MODS				*e*SG	**Sg**	**03 06 08.7**	**+0.6**
VYHS	**Vyhne**	**3.54**	**149**	*e*PG	**Pg**	**03 05 34.5**	**+3.9**
VYHS				*e*SG	**Sg**	**03 06 15.9**	**-0.6**
VYHS				*e*		03 28 07.2	
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**03 05 21.0**	**+0.7**
BSD				*i* S	**Sn**	**03 06 01.1**	**-2.7**
BSD				IAML		03 06 07.2	
	comp=Z,0.8nm,0.2s						
CONA	**Conrad Observa**	**3.64**	**182**	*i* Pn	**Pn**	**03 05 21.3**	**+0.9**
	comp=Z,0.5nm,0.2s						
CONA				*e*Sg	**Sg**	**03 06 18.0**	**-1.6**
	comp=Z,4.9nm,0.3s						
RONA	**Rosalia, Austr**	**3.86**	**178**	*e*Sg	**Sg**	**03 06 26.7**	**-0.2**
	comp=Z,3.1nm,0.3s						
MOA	**Molln**	**3.90**	**198**	*i* Pn	**Pn**	**03 05 24.7**	**+0.7**
	comp=Z,0.6nm,0.2s						
MOA				*e*Sg	**Sg**	**03 06 28.0**	**0.0**
	comp=Z,4.9nm,0.3s						
ARSA	**Arzberg**	**4.33**	**185**	*e*Sg	**Sg**	**03 06 39.5**	**-2.3**
	comp=Z,2.3nm,0.5s						
LUNU	**Lund**	**4.38**	**340**	*i* P	**Pn**	**03 05 31.8**	**+1.3**
LUNU				*i* S	**Sn**	**03 06 21.5**	**-0.7**
BLEU	**Blekinge**	**4.76**	**358**	*i* P	**Pn**	**03 05 36.6**	**+0.9**
BLEU				*i* S	**Sn**	**03 06 30.1**	**-1.5**
DEL	**Delary**	**5.09**	**346**	*i* P	**Pn**	**03 05 40.5**	**+0.2**
DEL				*i* S	**Sn**	**03 06 37.2**	**-2.6**

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*BJI **10** 03:14:28.6, 22°.52N×143°.31E, h162km, mb4.8/61, mB5.0/18*
*IDC **10** 03:14:31.7±0.5, 22°.72N×142°.97E, h153km±4km, mb4.2/23, mbtmp4.7/27, MS3.2/11, Error ellipse: s-maj=14.0km s-min=8.6km az=78.0*
*NEIC **10** 03:14:33.2±2.5, 22°.72N±0°.06×143°.0E±0°.1, h158km±7km, mb4.7/102, Error ellipse: s-maj=17.1km s-min=8.5km az=92.0*
*JMA **10** 03:14:35.7±0.2, 23°N±1°×14°3E±°, h207km±2km, IOTO ISLANDS REGION*
*GCMT **10** 03:14:35.2±0.4, 22°.79N±0°.02×143°.00E±0°.03, h169km±5km, MW4.9/72, Moment Tensor Solution. s17,c17; s72,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.72±.11; $M_{\theta\theta}$1.31±.13; $M_{\phi\phi}$-2.03±.13; $M_{r\theta}$-1.18±.09; $M_{\theta\phi}$1.73±.16; $M_{\phi r}$-0.37±.10; Best double couple: $M_0$2.77500×10^{16} NP1:ϕ_s296.00000°, δ70.00000°, λ24.00000°. NP2:ϕ_s198.00000°, δ67.00000°, λ159.00000°. Principal axes: T 2.7810, Plg31.0000°, Azm158.0000°; N -0.0070, Plg59.0000°, Azm333.0000°; P -2.7690, Plg2.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 03:14:32.4±0.4, 22°.71N±0°.04×142°.99E±0°.07, h158km±3km, h159km; pP-P, n212, σ1°66/205, mb4.7/89, 3C-1D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.98**	**349**	P	**Pn**	**03 15 33.4**	**+0.8**
JHH2				*e*S	**Sn**	**03 16 17.9**	**-1.6**
JHH2	**Haha-jima-NKT2**	**3.98**	**349**	A	A	03 15 33.4	
	comp=E,9.0nm,0.5s,comp=N,7.0nm,0.3s						
CBIJ	**Chichi jima**	**4.43**	**351**	P	**Pn**	**03 15 38.7**	**+0.3**
CBIJ				*e*S	**Sn**	**03 16 28.1**	**-1.9**
JCJ	**Chichijima**	**4.43**	**351**	Pn	**Pn**	**03 15 38.6**	**+0.2**
GUMO	**Guam**	**9.24**	**169**	P	**Pn**	**03 16 42.7**	**+0.3**
	comp=N,153nm,0.8s,baz=336,slow=20,SNR=11						
GUMO				LR	LR	03 18 58.6	
	comp=N,137nm,19.8s,baz=12,slow=29						
JHJ2	**Mitsune**	**10.73**	**346**	P	**Pn**	**03 17 00.6**	**-1.3**
JHJ2	**Mitsune**	**10.73**	**346**	*e*P	**Pn**	**03 16 59.7**	**-2.2**
JHJ	**Hachijo jima 2**	**10.75**	**345**	P	**Pn**	**03 16 59.7**	**-2.4**
	comp=N,37nm,0.3s,baz=126,slow=22,SNR=5.6						
JHJ				S	**Sn**	**03 18 55.4**	**-5.8**
	comp=N,106nm,0.8s,baz=241,slow=18,SNR=1.7						
JMKN	**Mikurajimanish**	**11.54**	**346**	*e*P	**Pn**	**03 17 10.7**	**-1.7**
JMYK	**Miyake Tsubota**	**11.71**	**346**	*e*P	**Pn**	**03 17 12.7**	**-1.9**
BSO1	**Boso 1**	**12.03**	**352**	*e*P	**Pn**	**03 17 16.5**	**-1.8**
BSO1				*e*S	**Sn**	**03 19 25.1**	**-6.0**
**TTO1

comp=Z,30nm,0.9s
ASAJ Asahikawa 21.35 359 P **P 03 19 09.2 +2.0**
comp=Z,9.9nm,0.7s,baz=188,slow=3.4,SNR=4.5
PATS Pohnpei 21.61 135 P **P 03 19 09.8 -0.3**
H11N1 WAKE ISLAND Hy 22.48 93 T T 03 43 40.6
baz=282,slow=74
H11N2 WAKE ISLAND Hy 22.48 93 T T 03 43 25.4
baz=282,slow=74
H11N3 WAKE ISLAND Hy 22.49 93 T T 03 43 28.5
baz=282
H11S3 WAKE ISLAND Hy 22.57 96 T T 03 42 46.7
baz=284,slow=75,SNR=7.9
H11S1 WAKE ISLAND Hy 22.58 96 T T 03 42 48.3
baz=284,slow=75,SNR=3.9
H11S2 WAKE ISLAND Hy 22.59 96 T T 03 42 48.9
baz=284,slow=75,SNR=5.7
USA0B Ussuriysk Arra 23.27 340 P **P 03 19 28.7 +2.9**
USA0B IAmb IAmb 03 19 29.6
comp=Z,13nm,0.7s
USRK Ussuriysk Ar. 23.27 340 P **P 03 19 27.1 +1.3**
comp=Z,12nm,0.6s,baz=148,slow=9.1,SNR=26
comp=Z,12nm,0.6s
NJ2 Nanjing 23.32 299 *e*P **P 03 19 26.6 +0.2**
NJ2 pmax pmax
comp=Z,29nm,0.9s
DL2 Dalian 24.35 316 P **P 03 19 37.0 +1.4**
DL2 pmax pmax
comp=Z,110nm,0.8s
MDJ Mudanjiang 24.47 336 P **P 03 19 37.8 +1.2**
MDJ pmax pmax
comp=Z,12nm,1.9s
MDJ pmax pmax
comp=Z,400nm,3.5s
MANU Manus Island 24.97 170 P **P 03 19 42.1 +0.7**
MANU IAmb IAmb 03 20 15.0
comp=Z,41nm,1.2s
CN2 Changchun 25.54 330 *e*P **P 03 19 43.1 -3.3**
CN2 *e*pP pP 03 20 15.8 -2.5
TIA Tai'an 26.14 307 P **P 03 19 52.4 +0.5**
TIA pP **pP 03 20 27.9 +3.6**
TIA PP **sP 03 20 41.9 -0.7**
TIA S **S 03 24 08.2 -3.6**
TIA pmax pmax
comp=Z,25nm,1.0s
BNX BinXian 26.25 335 ⇓P **P 03 19 53.4 +0.7**
BNX pmax pmax
comp=Z,12nm,0.6s
WHN Wuhan 26.71 293 P **P 03 20 00.6 +3.5**
WHN pmax pmax
comp=Z,60nm,0.7s
FAKI Fak Fak 27.55 204 P **P 03 20 02.6 -2.0**
FAKI IAmb IAmb 03 20 05.2
comp=Z,24nm,1.1s
FAKI Fak Fak 27.55 204 P **P 03 20 04.0 -0.6**
comp=Z,20nm,0.9s
HEH HeiHe 30.08 340 *e*P **P 03 20 27.4 +0.7**
HEH pP **pP 03 20 58.1 -0.9**
HEH ScP **ScP 03 26 49.9 -2.0**
HEH pmax pmax
comp=Z,24nm,0.8s
TOLI2 Tolitoli 30.44 228 P **P 03 20 31.9 +1.6**
TOLI2 IAmb IAmb 03 20 44.2
comp=Z,11nm,1.3s
XAN Xi'an 31.89 298 P **P 03 20 41.6 -1.3**
XAN pmax pmax
comp=Z,11nm,1.6s
XAN LR LR
comp=Z,260nm,18.6s
XAN LR LR
comp=Z,220nm,16.5s
XAN LR LR
comp=Z,160nm,11.7s
HHC Hu-ho-hao-te 32.02 312 *e*P **P 03 20 45.5 +1.5**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,110nm,4.7s
BTO Baotou 33.00 310 *e*P **P 03 20 55.3 +2.8**
BTO pP **pwP 03 21 30.3 +2.6**
BTO sP **sP 03 21 42.8 -0.8**
BTO PP **PnPn 03 22 08.3 +0.2**
BTO S **S 03 26 05.6 +6.3**
BTO SS **SnSn 03 28 11.4 -5.2**
BTO pmax pmax
comp=Z,14nm,0.7s
BTO pmax pmax
comp=Z,220nm,4.2s
BTO LR LR
comp=Z,200nm,8.2s
BTO LR LR
comp=Z,190nm,5.1s
BTO LR LR
comp=Z,120nm,4.4s
KAPI Kappang 35.71 222 P **P 03 21 16.6 +0.6**
KAPI IAmb IAmb 03 21 18.0
comp=Z,12nm,0.8s
CD2 Chengdu 35.81 292 P **P 03 21 16.6 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
HNR Honiara 36.01 151 LR LR 03 34 18.9
comp=Z,74nm,20.6s,baz=54,slow=33
SLVN Son La 36.19 275 IAmb IAmb 03 21 22.0
comp=Z,14nm,0.8s
LZH Lanzhou 36.37 300 *e*P **P 03 21 22.9 +1.3**
LZH pP pP 03 21 55.6 +0.7
LZH sP sP 03 22 14.4 +1.7
LZH pmax pmax
comp=Z,21nm,1.0s
LZH LR LR
comp=Z,290nm,16.7s
LZH LR LR
comp=Z,180nm,15.8s
COEN Coen 36.44 180 P **P 03 21 22.3 +0.2**
COEN IAmb IAmb 03 21 24.3
comp=Z,17nm,0.8s
SOEI Soe 37.11 212 P **P 03 21 27.0 -1.0**
SOEI IAmb IAmb 03 21 31.9
comp=Z,18nm,0.6s
MTN Manton Dam 37.19 199 P **P 03 21 27.4 -1.0**
PZH PanZhiHua 37.58 284 P **P 03 21 32.4 +0.5**
PZH pmax pmax
comp=Z,30nm,0.7s
PZH pmax pmax
comp=Z,40nm,3.5s
ULN Ulaanbaatar 38.07 320 P **P 03 21 36.1 +0.3**
ULN IAmb IAmb 03 21 36.9
comp=Z,7.6nm,0.7s
SONM Songino Array 38.45 320 P **P 03 21 39.3 +0.4**
comp=Z,4.8nm,0.4s,baz=132,slow=7.9,SNR=53
comp=Z,4.8nm,0.4s
BASI Baing, Sumba 39.41 216 P **P 03 21 46.4 -0.6**
GTA Gaotai 40.15 305 *e*P **P 03 21 53.7 +0.6**
GTA pmax pmax
comp=Z,7.0nm,1.4s
KNRA Kununurra 40.61 201 P **P 03 21 56.6 -0.3**
KNRA IAmb IAmb 03 21 57.5
comp=Z,25nm,0.7s
CHTO Chiang Mai 41.26 273 P **P 03 22 01.6 -0.7**
CHTO IAmb IAmb 03 22 03.5
comp=Z,13nm,1.0s
CMAR Chiang Mai Arr 41.34 272 P **P 03 22 03.7 +0.7**
comp=Z,8.3nm,0.8s,baz=56,slow=8.2,SNR=29
CMAR ScP **ScP 03 27 31.3 -2.3**
comp=Z,1.5nm,0.3s,baz=50,slow=3.8,SNR=4.6
comp=Z,8.3nm,0.8s
CTAO Charters Tower 42.66 175 P **P 03 22 14.3 +0.8**
CTAO IAmb IAmb 03 22 15.7
comp=Z,37nm,1.1s
WR0 Warramunga Arr 43.20 192 P **P 03 22 17.6 -0.3**
WR0 IAmb IAmb 03 22 18.6
comp=Z,37nm,1.1s
WRA Warramunga Arr 43.23 192 P **P 03 22 16.9 -1.2**
WRA Warramunga Arr 43.23 192 P **P 03 22 17.7 -0.4**
comp=Z,36nm,0.7s,baz=7.9,slow=7.7,SNR=273
WRA ScP **ScP 03 27 39.7 -1.3**
comp=Z,3.6nm,0.8s,baz=4.8,slow=4.3,SNR=12
WRA S **S 03 28 28.0 -5.2**
comp=Z,4.3nm,0.9s,baz=12,slow=14,SNR=8.8
WRA LR LR 03 41 56.8
comp=Z,40nm,18.1s,baz=138,slow=38
comp=Z,36nm,0.7s
GOMU GeErMu 43.63 299 P **P 03 22 21.9 +0.2**
GOMU pP pP 03 22 57.3 +1.4
GOMU sP sP 03 23 15.1 +1.6
GOMU PcP **PP 03 24 09.2 +2.8**
GOMU pmax pmax
comp=Z,42nm,0.8s
GOMU pmax pmax
comp=Z,140nm,4.8s
FITZ Fitzroy Crossi 43.96 204 P **P 03 22 23.9 0.0**
FITZ Fitzroy Crossi 43.96 204 P **P 03 22 23.8 -0.2**
comp=Z,31nm,0.7s,baz=23,slow=9.4,SNR=50
comp=Z,31nm,0.7s
SHL Shillong 46.49 284 IAmb IAmb 03 22 45.2
comp=Z,12nm,0.7s
ASAR Alice Springs 46.94 191 P **P 03 22 46.4 -0.9**
ASAR Alice Springs 46.94 191 P **P 03 22 46.8 -0.6**
comp=Z,8.7nm,0.6s,baz=15,slow=10,SNR=168
ASAR PcP **PcP 03 24 17.5 +0.2**
comp=Z,1.1nm,0.7s,baz=21,slow=6.0,SNR=2.4
ASAR ScP **ScP 03 27 55.1 -1.1**
comp=Z,1.2nm,0.8s,baz=8.3,slow=3.5,SNR=6.1
ASAR S **S 03 29 22.8 -3.7**
comp=Z,1.6nm,0.8s,baz=20,slow=19,SNR=11
ASAR LR LR 03 42 06.3
comp=Z,20nm,18.2s,baz=72,slow=35
comp=Z,8.7nm,0.6s
TIXI Tiksi 49.63 354 P **P 03 23 07.1 -0.2**
TIXI Tiksi 49.63 354 *i* Pg **P 03 23 06.9 -0.4**
comp=Z,2.7nm,0.0s
TIXI Tiksi 49.63 354 *e*Sg pP 03 23 42.4 +0.4
comp=Z,9.4nm,0.1s
DZM Mont Dzumac 50.03 151 P **P 03 23 11.0 -0.1**
DZM IAmb IAmb 03 23 13.4
comp=Z,18nm,0.7s
MSVF Nonsavu 52.83 137 P **P 03 23 34.4 +2.4**
ZAA0 Zalesovo Array 53.31 321 P **P 03 23 34.3 -0.7**
ZALV Zalesovo Beam 53.31 321 P **P 03 23 34.2 -0.7**
ZALV Zalesovo Beam 53.31 321 P **P 03 23 34.6 -0.3**
comp=Z,3.8nm,0.5s,baz=107,slow=7.5,SNR=16
comp=Z,3.8nm,0.5s
MK31 Makanchi Array 53.89 312 IAmb IAmb 03 23 40.6
comp=Z,8.9nm,0.8s
MKAR Makanchi Array 53.89 312 P **P 03 23 39.6 +0.2**
MKAR Makanchi Array 53.89 312 P **P 03 23 39.8 +0.4**
comp=Z,9.3nm,0.7s,baz=92,slow=9.1,SNR=78
MKAR ScP **ScP 03 28 23.8 -2.2**
comp=Z,1.1nm,0.7s,baz=88,slow=4.4,SNR=5.2
MKAR LR LR 03 46 20.5
comp=Z,19nm,21.0s,baz=305,slow=35
comp=Z,9.3nm,0.7s
MAKZ Makanchi 54.10 312 P **P 03 23 41.5 +0.6**
MAKZ IAmb IAmb 03 23 42.4
comp=Z,15nm,0.9s
STKA Stephens Creek 54.29 181 P **P 03 23 41.8 -0.5**
comp=Z,19nm,0.6s,baz=347,slow=8.3,SNR=61
comp=Z,19nm,0.6s
FORT Forrest 55.08 196 P **P 03 23 47.9 -0.1**
BBOO Buckleboo 55.60 187 IAmb IAmb 03 23 53.7
comp=Z,9.3nm,0.7s
KURK Kurchatov 56.62 317 P **P 03 23 58.9 +0.2**
KURBB Kurchatov Arra 56.67 317 P **P 03 23 59.1 +0.1**
comp=Z,30nm,0.6s,baz=92,slow=7.7,SNR=315
KURBB pP **pP 03 24 34.7 -0.4**
comp=Z,3.4nm,0.6s,baz=94,slow=7.8,SNR=2.7
KURBB LR LR 03 48 41.3
comp=Z,35nm,18.6s,baz=170,slow=36
comp=Z,30nm,0.6s
NRIK Noril'sk 56.99 340 P **P 03 24 00.3 -0.8**
comp=Z,2.3nm,0.4s,baz=114,slow=7.0,SNR=4.2
comp=Z,2.3nm,0.4s
TARG Taragay, Kyrgy 57.00 306 IAmb IAmb 03 24 04.9
comp=Z,8.1nm,0.9s
KDAK Kodiak Island 57.48 35 LR LR 03 47 57.2
comp=Z,20nm,20.1s,baz=90,slow=35
MORW Morawa 57.65 208 P **P 03 24 06.1 -0.2**
CAN Canberra 57.99 174 IAmb IAmb 03 24 10.7
comp=Z,17nm,0.8s
NRN Naryn 58.37 306 IAmb IAmb 03 24 13.9
comp=Z,11nm,1.2s
KSH Kashi 58.52 303 P **P 03 24 16.0 +3.6**
KSH pmax pmax
comp=Z,12nm,0.6s
CAST Castle Rocks 58.74 28 P **P 03 24 14.8 +1.4**
CAST IAmb IAmb 03 24 58.6
comp=Z,8.4nm,1.1s
I21K Tanana 59.17 26 P **P 03 24 18.3 +2.1**
I21K IAmb IAmb 03 25 02.5
comp=Z,11nm,1.1s
D22K Ayikyak River 59.82 22 P **P 03 24 22.9 +2.2**
D22K IAmb IAmb 03 25 07.0
comp=Z,19nm,0.9s
TOO Toolangi 60.01 178 IAmb IAmb 03 24 24.1
comp=Z,6.3nm,0.8s
NWAO Narrogin (SRO) 60.54 205 P **P 03 24 25.6 -0.4**
E23K Chandalar 60.72 23 IAmb IAmb 03 24 34.0
comp=Z,14nm,1.3s
H24K Noodor Dome 60.97 26 IAmb IAmb 03 25 11.2
comp=Z,7.0nm,1.2s
ILAR Eielson Array 61.23 27 P **P 03 24 30.0 -0.3**
comp=Z,2.1nm,0.7s,baz=256,slow=5.1,SNR=24
comp=Z,2.1nm,0.7s
NIL Nilore 61.41 297 IAmb IAmb 03 24 34.2
comp=Z,18nm,0.9s
BVAR Borovoye Array 61.79 319 P **P 03 24 34.6 +0.3**
comp=Z,32nm,0.5s,baz=90,slow=7.4,SNR=190
comp=Z,32nm,0.5s
BRVK Borovoye 61.85 319 P **P 03 24 35.2 +0.5**
RIDG Independent Ri 61.99 29 IAmb IAmb 03 25 11.7
comp=Z,8.1nm,1.2s
D25K Kavik River 62.12 22 IAmb IAmb 03 25 22.1
comp=Z,8.2nm,0.7s
J26L Joseph Creek 62.62 28 IAmb IAmb 03 24 41.5
comp=Z,4.9nm,0.8s
F26K Sheenjek River 62.70 24 IAmb IAmb 03 25 26.4
comp=Z,4.9nm,0.8s
SIMJ Simiganj 64.00 303 IAmb IAmb 03 24 50.4
comp=Z,20nm,1.1s
D27M Malcolm River 64.02 23 IAmb IAmb 03 25 35.1
comp=Z,5.3nm,0.8s
E28M Babbage River 64.50 23 IAmb IAmb 03 25 38.4
comp=Z,5.0nm,0.8s
KBL Kabul 64.69 299 IAmb IAmb 03 24 54.9
comp=Z,14nm,0.7s
EPYK Eagle Plains 65.54 26 IAmb IAmb 03 25 44.8
comp=Z,7.7nm,0.9s
G31M Satah River 66.50 25 IAmb IAmb 03 25 10.0
comp=Z,10nm,1.1s
VRZ Vera Road 68.32 154 P **P 03 25 17.9 +1.5**
ARTI Arti 68.45 323 IAmb IAmb 03 25 17.6
comp=Z,12nm,0.7s
LREZ Lake Rotokare 68.46 154 P P 03 25 11.5 -5.8
TWVZ Taurewa 68.55 153 P **P 03 25 19.5 +1.5**
KATZ Kakaramea 68.58 153 P **P 03 25 19.8 +1.5**
URZ Urewera 68.59 152 P **P 03 25 17.8 -0.3**
WTVZ West Tongariro 68.66 153 P **P 03 25 20.4 +1.8**
NTVZ North Tongarir 68.68 153 P **P 03 25 21.3 +2.5**
NNVZ North Ngauruho 68.68 153 P **P 03 25 20.1 +1.2**
ABKAR Akbulak array 68.70 316 IAmb IAmb 03 25 19.4
comp=Z,14nm,0.8s
TMVZ Te Maari 68.70 153 P **P 03 25 20.5 +1.5**
ETVZ East Tongariro 68.72 153 P **P 03 25 20.7 +1.6**
OTVZ Oturere 68.73 153 P **P 03 25 20.2 +1.0**
SNVZ South Ngauruho 68.74 153 P **P 03 25 21.3 +2.1**
RTZ Ruatahuna 68.83 152 P **P 03 25 19.5 -0.2**
MWZ Matawai 68.83 151 P **P 03 25 20.4 +0.7**
WNVZ Wahianoa 68.84 153 P **P 03 25 21.6 +1.8**
QRZ Quartz Range 68.92 156 P **P 03 25 20.8 +0.7**
MTHZ Maungataniwha 68.96 152 P **P 03 25 20.6 +0.1**
MOVZ Moawhango 68.97 153 P **P 03 25 20.5 0.0**
BKZ Black Stump Fm 69.08 153 P **P 03 25 21.4 +0.2**
NMHZ Naumai 69.15 152 P **P 03 25 22.7 +1.1**
RIGZ Rimuhau 69.24 151 P **P 03 25 22.4 +0.2**
KWHZ Kaweka Forest 69.26 153 P **P 03 25 23.5 +1.1**
DUWZ D'Urville Isla 69.42 155 P **P 03 25 23.6 +0.3**
NNZ Nelson 69.58 156 P **P 03 25 24.1 0.0**
KAHZ Kahuranaki 69.76 153 P **P 03 25 26.1 +0.7**
KIW Kapiti Island 69.86 155 P **P 03 25 25.4 -0.5**
OXZ Oxford 70.94 158 IAmb IAmb 03 25 32.7
comp=Z,18nm,0.7s
YKA Yellowknife Ar 75.65 28 P **P 03 25 59.9 +0.1**
comp=Z,1.4nm,0.9s,baz=300,slow=12,SNR=5.2
comp=Z,1.4nm,0.9s
LVZ Lovozero 75.80 338 P **P 03 26 01.2 +0.6**
comp=Z,40nm,2.0s
ARCES ARCESS Array B 77.91 341 P **P 03 26 11.9 -0.4**
comp=Z,4.7nm,0.7s,baz=74,slow=8.1,SNR=32
ARCES pP **pP 03 26 50.7 +0.5**
comp=Z,7.2nm,0.7s,baz=59,slow=7.5,SNR=5.0
comp=Z,4.7nm,0.7s
KBZ Khabaz 81.54 314 P **P 03 26 32.6 +0.2**
comp=Z,8.9nm,0.9s,baz=96,slow=1.8,SNR=21
KBZ pP **pP 03 27 10.5 -0.4**
comp=Z,12nm,0.8s,baz=104,slow=2.7,SNR=8.6
comp=Z,8.9nm,0.9s
FINES FINESS Array B 82.19 334 P **P 03 26 34.3 -1.1**
comp=Z,3.0nm,0.3s,baz=64,slow=4.9,SNR=68
FINES pP **pP 03 27 12.3 -1.5**
comp=Z,2.9nm,0.5s,baz=62,slow=5.4,SNR=2.0
comp=Z,3.0nm,0.3s
NVAR Mina Array Bea 82.66 52 P **P 03 26 39.9 +1.2**
comp=Z,1.4nm,0.7s,baz=276,slow=5.6,SNR=14
NVAR pP **pP 03 27 16.5 0.0**
comp=Z,1.4nm,0.8s,baz=273,slow=5.1,SNR=3.5
comp=Z,1.4nm,0.7s
TPH Tonopah 83.58 52 IAmb IAmb 03 26 48.0
comp=Z,14nm,1.2s
NACGM Naroch 85.53 329 *e*P **P 03 26 50.2 -2.3**
comp=Z,11nm,0.8s,baz=56
AKASG Malin Array Be 86.58 324 P **P 03 26 55.9 -1.9**
comp=Z,0.4nm,0.4s,baz=50,slow=5.5,SNR=6.9
AKASG pP **pP 03 27 35.7 -0.9**
comp=Z,0.4nm,0.3s,baz=44,slow=6.0,SNR=2.9
comp=Z,0.4nm,0.4s
AK15 Malin Array Si 86.64 324 P **P 03 26 59.2 +1.1**
PDAR Pinedale Array 86.80 45 P **P 03 26 58.8 -0.6**
comp=Z,0.5nm,0.8s,baz=280,slow=5.4,SNR=3.3
PDAR pP **pP 03 27 38.4 +0.9**
comp=Z,0.3nm,0.6s,baz=252,slow=3.9,SNR=3.0
MVU Marysvale 86.97 49 IAmb IAmb 03 27 11.1
comp=Z,9.0nm,1.0s
RAYN Ar Rayn 87.60 294 IAmb IAmb 03 27 05.2
comp=Z,5.6nm,0.8s
HFS Hagfors 87.73 337 P **P 03 27 01.0 -2.1**
comp=Z,1.1nm,0.4s,baz=64,slow=3.4,SNR=13
HFS pP **pP 03 27 40.1 -1.7**
comp=Z,2.4nm,0.6s,baz=113,slow=1.9,SNR=3.0
comp=Z,1.1nm,0.4s
NB2 NORSAR Subarra 87.94 339 P **P 03 27 02.4 -1.7**
comp=Z,1.8nm,0.8s,baz=45,slow=5.1
NOA NORSAR Array B 87.94 339 P **P 03 27 02.9 -1.3**
comp=Z,0.7nm,0.8s,baz=45,slow=4.8,SNR=3.5
NOA pP **pP 03 27 41.4 -1.4**
comp=Z,0.6nm,0.8s,baz=266,slow=5.1,SNR=1.9
NOA LR LR 04 11 06.5
comp=Z,12nm,18.1s,baz=245,slow=39
comp=Z,0.7nm,0.8s
RNPP9 Sopachiv 87.95 326 P **P 03 27 05.0 +0.7**
HMU Henry Mountain 88.25 49 IAmb IAmb 03 27 11.2
comp=Z,2.9nm,0.7s
BRTR Keskin Array B 89.52 313 P **P 03 27 10.9 -1.2**
comp=Z,1.6nm,0.8s,baz=105,slow=2.4,SNR=11
BRTR pP **pP 03 27 49.6 -1.6**
comp=Z,1.4nm,0.8s,baz=110,slow=3.0,SNR=2.4
comp=Z,1.6nm,0.8s
BR104 Keskin Array S 89.53 313 P **P 03 27 11.0 -1.2**
TXAR Lajitas Array 97.61 54 P Pdif 03 27 50.2 +0.8
comp=Z,0.3nm,0.7s,baz=242,slow=1.9,SNR=1.9
comp=Z,0.3nm,0.7s
QSPA South Pole Qui 112.50 180 PKiKP **PKiKP 03 32 48.3 -0.9**
comp=Z,0.9nm,0.5s,baz=195,slow=0.3,SNR=14
TROLL Troll, Antarti 125.88 194 ⇑PKiKP **PKPdf 03 33 14.1 -0.7**
comp=Z,79nm,0.6s
SNAA Sanae 127.29 193 ⇑PKiKP **PKPdf 03 33 15.9 -1.6**
comp=Z,16nm,0.7s
SNAA Sanae 127.29 193 PKP **PKPdf 03 33 16.2 -1.2**
comp=Z,0.6nm,0.7s,baz=48,slow=3.4,SNR=2.0
TORD Torodi Ar. Bea 127.97 309 PKP **PKiKP 03 33 20.7 -0.2**
comp=Z,0.2nm,0.4s,baz=68,slow=1.1,SNR=2.8
VNA2 Neumayer--Watz 128.79 192 ⇑PKiKP **PKPdf 03 33 19.1 -1.2**
comp=Z,3.9nm,0.6s,baz=208,slow=2.9
PLCA Paso Flores 146.55 130 PKPbc **PKPbc 03 33 56.0 +0.6**
comp=Z,14nm,0.6s,baz=239,slow=3.5,SNR=56
LPAZ La Paz 150.02 83 PKP **PKPdf 03 34 01.2 +0.6**
comp=Z,3.5nm,1.0s,baz=110,slow=4.7,SNR=4.4
LPAZ PKPbc **PKPbc 03 34 05.8 0.0**
comp=Z,5.3nm,0.7s,baz=294,slow=2.1,SNR=20

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*KRNET **10** 03:21:14.7±0.1, 41°.58N×78°.15E, h16km, mb2.4*
*NNC **10** 03:21:17.4±0.8, 41°.66N×78°.16E, h0km, mb3.5, mpv3.3,*
Error ellipse: s-maj=5.5km s-min=3.2km az=162.0,
Suspected Mining explosion.

ISC 10 03:21:15.8±1.6, **41°.60N**±0°.07×**78°.11E**±0°.04, **h0**km, **n25,**
σ0**62**/42, **11C-8D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.26**	**300**	⇓*i*P	**Pg**	**03 21 20.8**	**-0.1**
TARG				⇓*i*S	**Sg**	**03 21 25.0**	**+0.7**
KDJ	**Kajisay**	**0.88**	**308**	⇑*i*P	**Pg**	**03 21 31.7**	**-0.9**
KDJ				⇑*i*S	**Sg**	**03 21 44.1**	**+0.2**
PRZ	**Przheval'sk**	**0.91**	**14**	⇓*e*P	**Pg**	**03 21 32.1**	**-1.2**
PRZ				⇓*e*S	**Sg**	**03 21 45.3**	**+0.2**
SATY	**Saty**	**1.48**	**8**	P	**Pn**	**03 21 43.1**	**-0.6**
SATY	2.4nm,0.2s			S	**Sg**	**03 22 02.7**	**-0.5**
ULHL	**Ulahol**	**1.54**	**296**	⇑*i*P	**Pn**	**03 21 44.1**	**-0.6**
ULHL	16nm,0.1s			⇑*i*S	**Sg**	**03 22 04.8**	**-0.4**
ZHN	**Zhinishke**	**1.59**	**9**	P	**Pb**	**03 21 45.7**	**-0.5**
ZHN	11nm,0.3s			S	**Sg**	**03 22 07.0**	**+0.2**
NRN	**Naryn**	**1.59**	**265**	⇓*i*P	**Pn**	**03 21 45.0**	**-0.6**
NRN				⇓*i*S	**Sg**	**03 22 06.7**	**-0.3**
TNSS	**Tian-Shan**	**1.68**	**329**	P	**Pn**	**03 21 47.1**	**+0.3**
TNSS	4.3nm,0.2s			S	**Sn**	**03 22 09.6**	**+0.3**
UZB	**Uzynbulak**	**1.69**	**23**	P	**Pn**	**03 21 46.5**	**-0.2**
UZB	3.8nm,0.2s			S	**Sn**	**03 22 08.6**	**-0.6**
MDOK	**Medeo**	**1.75**	**334**	⇓P	**Pb**	**03 21 48.5**	**-0.4**
MDOK	5.6nm,0.4s			Pg	**Pb**	**03 21 48.6**	**-0.4**
MDOK	10nm,0.3s			Lg	Lg	03 22 12.1	
MDOK	7.9nm,0.5s			S	**Sg**	**03 22 12.4**	**+0.3**
BOOM	**Boomskoye usch**	**1.85**	**300**	⇑*i*P	**Pn**	**03 21 49.4**	**+0.5**
BOOM				⇑*i*S	**Sb**	**03 22 14.3**	**0.0**
SHLS	**Shalkode**	**1.85**	**32**	Pg	**Pg**	**03 21 52.9**	**+1.6**
SHLS	12nm,0.3s			Lg	Lg	03 22 19.7	
KURS	**Kuram**	**1.89**	**1**	P	**Pb**	**03 21 50.7**	**-0.5**
KURS	6.1nm,0.4s			S	**Sb**	**03 22 15.6**	**+0.2**
KPKS	**Kokpek**	**1.92**	**13**	P	**Pb**	**03 21 50.5**	**-1.2**
KPKS	6.8nm,0.2s			S	**Sb**	**03 22 15.6**	**-0.6**
MTBS	**Maitube**	**1.98**	**321**	Pg	**Pb**	**03 21 52.1**	**-0.5**
MTBS	4.6nm,0.2s			Lg	Lg	03 22 18.3	
KST	**Kastek**	**2.15**	**313**	Pg	**Pb**	**03 21 55.5**	**-0.2**
KST	3.3nm,0.2s			Lg	Lg	03 22 24.0	
TKM2	**Tokmak 2**	**2.29**	**306**	⇓Pn	**Pb**	**03 21 57.2**	**-0.8**
TKM2	2.2nm,0.5s			⇑Sn	**Sb**	**03 22 27.6**	**+0.6**
TKM2	**Tokmak 2**	**2.29**	**306**	⇑*i*P	**Pn**	**03 21 55.6**	**+0.6**
TKM2				⇑*i*S	**Sn**	**03 22 25.3**	**+1.3**
DGS	**Degeres**	**2.39**	**314**	Pg	**Pb**	**03 21 59.9**	**+0.2**
DGS	3.4nm,0.4s			Lg	Lg	03 22 31.7	
CHKK	**Chushkaly**	**2.40**	**340**	Pg	**Pb**	**03 22 00.0**	**+0.1**
CHKK	11nm,0.3s			Lg	Lg	03 22 31.9	
BLB	**Baldybastay**	**2.51**	**6**	Pg	**Pb**	**03 22 01.7**	**-0.2**
BLB	21nm,0.3s			Lg	Lg	03 22 34.7	
ARXS	**Arharly**	**2.62**	**356**	Pg	**Pb**	**03 22 03.7**	**0.0**
ARXS	13nm,0.3s			Lg	Lg	03 22 38.1	
KUU	**Kurty**	**2.64**	**331**	Pg	**Pb**	**03 22 04.4**	**+0.5**
KUU	5.2nm,0.0s			Lg	Lg	03 22 39.4	
	6.4nm,0.1s						

ARLS	**Aral**	**2.85**	**277**	⇑*e*P		**Pn**	**03 22 03.0**	**+0.3**
ARLS				⇑*e*S		**Sn**	**03 22 38.1**	**+0.4**
DJR	**Jarkent**	**3.00**	**24**	Pg		**Pb**	**03 22 10.9**	**+0.8**
	2.0nm,0.2s							
DJR				Lg		Lg	03 22 50.3	
	11nm,0.3s							

*IDC **10** 03:35:55.3±1.4, 53°.67N×87°.94E, h0km, mb3.7/4, mbtmp3.9/7, ML3.5/3, MS3.4/1, Error ellipse: s-maj=15.8km s-min=13.3km az=32.0*
*NNC **10** 03:35:56.3±1.2, 53°.65N×87°.89E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=9.7km s-min=5.7km az=59.0, Suspected Mining explosion.*
ISC 10 03:35:54.8±1.3,**53°.71N**±0°.08×**88°.0E**±0°.1,**h0**km,**n16,**
σ1§**03**/22,**mb3.6/4,10C-6D,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.92**	**279**	⇑P	**Pn**	**03 36 28.8**	**+0.2**
	13nm,0.8s						
ZAA0				⇑S	**Sn**	**03 36 54.6**	**+1.1**
	28nm,0.8s						
ZALV	**Zalesovo Beam**	**1.92**	**279**	Pg	**Pn**	**03 36 28.9**	**+0.2**
	18nm,0.3s,baz=100,slow=16,SNR=238						
ZALV				Lg	Lg	03 36 54.3	
	25nm,0.3s,baz=96,slow=29,SNR=12						
KURK	**Kurchatov**	**6.51**	**246**	⇓Pn	**Pn**	**03 37 31.8**	**+0.1**
	12nm,0.6s						
KURK				⇑Sn	**Sn**	**03 38 45.9**	**-0.7**
	14nm,0.8s						
KURK				⇑Lg	Lg	03 39 19.6	
	33nm,0.7s						
KURBB	**Kurchatov Arra**	**6.61**	**246**	⇑Pn	**Pn**	**03 37 33.4**	**+0.5**
	27nm,0.5s						
KURBB				⇑Sn	**Sn**	**03 38 48.5**	**-0.5**
	38nm,0.7s						
KURBB				⇓Lg	Lg	03 39 23.4	
	51nm,0.7s						
KURBB	**Kurchatov Arra**	**6.61**	**246**	Pn	**Pn**	**03 37 33.5**	**+0.5**
	1.1nm,0.3s,baz=62,slow=14,SNR=159						
KURBB				Sn	**Sn**	**03 38 47.8**	**-1.2**
	0.2nm,0.3s,baz=52,slow=20,SNR=3.3						
KURBB				Lg	Lg	03 39 19.5	
	0.2nm,0.3s,baz=66,slow=34,SNR=9.1						
	22nm,0.5s						
MK31	**Makanchi Array**	**7.83**	**210**	⇓Pn	**Pn**	**03 37 50.7**	**+0.8**
	14nm,1.0s,baz=29,slow=12,SNR=52						
MK31				⇑Sn	**Sn**	**03 39 21.6**	**+2.4**
	6.5nm,0.8s,baz=222,slow=41,SNR=4.3						
MK31				⇓Lg	Lg	03 40 01.6	
	25nm,0.9s,baz=38,slow=31,SNR=7.9						
MKAR	**Makanchi Array**	**7.83**	**210**	Pn	**Pn**	**03 37 51.0**	**+1.1**
	1.2nm,0.3s,baz=29,slow=12,SNR=64						
MKAR				Sn	**Sn**	**03 39 16.8**	**-2.5**
	0.4nm,0.3s,baz=32,slow=26,SNR=2.8						
MKAR				Lg	Lg	03 39 56.3	
	0.4nm,0.3s,baz=35,slow=28,SNR=4.4						
	7.7nm,0.7s						
MAKZ	**Makanchi**	**7.92**	**212**	⇑Pn	**Pn**	**03 37 51.9**	**+0.8**
	6.6nm,0.7s						
MAKZ				⇓Sn	**Sn**	**03 39 21.7**	**+0.4**
	8.9nm,0.8s						
MAKZ				⇑Lg	Lg	03 40 04.3	
	22nm,0.9s						
BVA0	**Borovoye Array**	**10.56**	**273**	⇑Pn	**Pn**	**03 38 27.9**	**+0.6**
	3.4nm,0.7s,baz=80,slow=15,SNR=21						
BVA0				⇓Sn	**Sn**	**03 40 25.8**	**-0.5**
	9.4nm,0.8s,baz=78,slow=26,SNR=3.6						
BVAR	**Borovoye Array**	**10.56**	**273**	Pn	**Pn**	**03 38 26.7**	**-0.6**
	0.3nm,0.3s,baz=73,slow=15,SNR=21						
BVAR				Sn	Sn	03 40 18.5	-7.7
	0.1nm,0.3s,baz=78,slow=27,SNR=4.4						
	4.8nm,0.5s						
SONM	**Songino Array**	**13.01**	**109**	Lg	Lg	03 42 46.6	
	baz=306,slow=27,SNR=4.4						
AKASG	**Malin Array Be**	**35.27**	**290**	P	**P**	**03 42 50.6**	**-0.3**
	0.6nm,0.5s,baz=54,slow=8.5,SNR=3.4						
	0.6nm,0.5s						
FURI	**Furi**	**59.59**	**240**	LR	LR	04 14 47.2	
	comp=Z,34nm,19.3s,baz=24,slow=39						
ESDC	**Sonseca Array**	**60.31**	**297**	P	**P**	**03 46 05.5**	**+0.5**
	1.7nm,0.9s,baz=42,slow=6.7,SNR=12						
	1.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**77.36**	**275**	P	**P**	**03 47 51.4**	**-0.1**
	0.5nm,1.1s,baz=30,slow=4.2,SNR=2.0						
	0.5nm,1.1s						
ASAR	**Alice Springs**	**86.64**	**139**	P	**P**	**03 48 39.3**	**-0.6**
	0.3nm,0.7s,baz=350,slow=4.7,SNR=2.6						
	0.3nm,0.7s						

*UPP **10** 03:43:42.0±0.0, 67°.84N×20°.22E, h0km, ML2.5, Confirmed Induced event*
*HEL **10** 03:43:42.2±0.1, 67°.84N×20°.18E, h0km, ML1.8, Explosion*
*IDC **10** 03:43:43.0±1.1, 67°.83N×20°.40E, h0km, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=20.8km s-min=7.9km az=122.0*
ISC 10 03:43:42.2±0.8,**67°.83N**±0°.02×**20°.22E**±0°.03,**h0**km,**n35,**
σ1§**03**/61,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**19**	P	**Pg**	**03 43 44.5**	**-0.2**
KUA				S	**Sg**	**03 43 46.0**	**-0.5**
RATU	**Laukkuluspa**	**0.24**	**269**	P	**Pg**	**03 43 46.7**	**0.0**
RATU				S	**Sg**	**03 43 50.0**	**+0.2**
KOVU	**Salmi**	**0.40**	**357**	P	**Pg**	**03 43 49.3**	**-0.5**
KOVU				S	**Sg**	**03 43 54.4**	**-0.5**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**03 43 55.2**	**-0.4**
LANU				S	**Sg**	**03 44 04.6**	**-0.2**
LANU	**Lannavaara**	**0.70**	**71**	PG	**Pg**	**03 43 55.1**	**-0.6**
LANU				SG	**Sg**	**03 44 04.4**	**-0.4**
DUNU	**Dundret**	**0.72**	**169**	P	**Pg**	**03 43 55.8**	**-0.2**
DUNU				S	**Sg**	**03 44 05.8**	**+0.4**
MASU	**Masugnsbyn**	**0.78**	**118**	P	**Pg**	**03 43 56.7**	**-0.3**
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	**Pg**	**03 44 04.9**	**-0.2**
PAJU	**Pajala**	**1.38**	**125**	P	**Pg**	**03 44 07.5**	**-1.1**
PAJU				S	**Sg**	**03 44 25.9**	**-0.4**
PAJU	**Pajala**	**1.38**	**125**	PG	**Pg**	**03 44 07.2**	**-1.3**
	baz=303						
PAJU				SG	**Sg**	**03 44 26.0**	**-0.4**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**03 44 07.9**	**-1.2**
HEF	**Hetta**	**1.41**	**64**	PG	**Pn**	**03 44 08.0**	**-1.2**
	baz=247						
HEF				MSG		03 44 25.2	
	comp=Z,4.9nm,0.2s						
HEF				SB	**Sg**	**03 44 26.2**	**-1.3**
ERTU	**Ertsjaerv**	**1.49**	**148**	P	**Pn**	**03 44 09.5**	**-0.8**
ERTU	**Ertsjaerv**	**1.49**	**148**	PG	**Pn**	**03 44 09.4**	**-0.8**
ERTU				SN	**Sn**	**03 44 30.4**	**+0.1**
KLF	**Kolari**	**1.56**	**111**	PG	**Pn**	**03 44 10.5**	**-0.6**
KLF				MSG		03 44 29.4	
	comp=Z,5.7nm,0.2s						
KLF				SN	**Sg**	**03 44 32.3**	**+0.2**
KTK1	**Kautokeino**	**1.63**	**42**	PG	**Pn**	**03 44 11.4**	**-0.6**
KTK1				SN	**Sg**	**03 44 35.2**	**+0.8**
HARU	**Harads**	**1.70**	**170**	P	**Pn**	**03 44 13.1**	**0.0**
TRO	**Tromso**	**1.87**	**346**	PG	**Pn**	**03 44 15.6**	**+0.2**
TRO				SG	**Sn**	**03 44 39.6**	**0.0**
KALU	**Kalix**	**2.33**	**147**	PB	**Pn**	**03 44 22.7**	**+1.0**
	baz=325						
KALU				SG	**Sb**	**03 44 53.9**	**-0.4**
TOF	**Tornio**	**2.39**	**136**	PB	**Pn**	**03 44 23.7**	**+1.2**
TOF				MSG		03 44 53.2	
	comp=Z,5.4nm,0.2s						
TOF				SG	**Sb**	**03 44 55.8**	**-0.1**
RNF	**Rovaniemi**	**2.56**	**116**	PB	**Pn**	**03 44 26.5**	**+1.6**
RNF				SG	**Sb**	**03 45 00.1**	**-0.9**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**03 44 25.2**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=232,slow=14,SNR=88						
ARCES				Sn	**Sn**	**03 44 58.8**	**+1.6**
	comp=Z,2.0nm,0.3s,baz=228,slow=24,SNR=20						
	comp=Z,2.1nm,0.3s						
KMNF	**Kaamanen**	**2.83**	**59**	PN	**Pn**	**03 44 28.6**	**+0.1**
KMNF				SB	**Sn**	**03 45 04.8**	**+1.6**
RAJF	**Raja-Jooseppi**	**3.09**	**74**	PN	**Pn**	**03 44 32.1**	**-0.1**
RAJF				SG	**Sb**	**03 45 14.8**	**-1.4**
KEV	**Kevo**	**3.13**	**49**	PN	**Pn**	**03 44 33.5**	**+0.8**
KEV				SN	**Sn**	**03 45 11.6**	**+0.8**
KEV				MSG		03 45 14.4	
	comp=Z,4.3nm,0.2s						
RANF	**Ranua**	**3.16**	**122**	PN	**Pn**	**03 44 34.3**	**+1.1**
	baz=311						
RANF				SG	**Sb**	**03 45 20.0**	**+1.7**
VRF	**Varrio**	**3.57**	**87**	PG	**Pb**	**03 44 46.8**	**+0.7**
VRF				SG	**Sb**	**03 45 30.4**	**+0.6**
OUL	**Oulu**	**3.57**	**138**	PG	**Pb**	**03 44 47.0**	**+0.8**
	baz=326						
OUL				SG	**Sb**	**03 45 31.3**	**+1.3**
OBF0	**Syolatti, Pyha**	**3.72**	**152**	PG	**Pb**	**03 44 50.6**	**+1.9**
OLKF	**Oulanka, Finla**	**3.90**	**109**	PN	**Pn**	**03 44 43.9**	**+0.7**
UMAU	**Umeaa**	**3.97**	**177**	PN	**Pn**	**03 44 45.2**	**+1.0**
KU6	**Riekki**	**4.21**	**111**	PN	**Pn**	**03 44 48.3**	**+0.8**
	baz=297						
FINES	**FINESS Array B**	**6.88**	**156**	Pn	**Pn**	**03 45 24.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=348,slow=12,SNR=5.1						
FINES				Sn	**Sn**	**03 46 42.0**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=345,slow=22,SNR=3.0						
FINES				Lg	Lg	03 47 15.3	
	comp=Z,0.3nm,0.3s,baz=343,slow=28,SNR=6.6						
	comp=Z,1.3nm,0.8s						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**03 45 37.3**	**-0.1**
	baz=24,slow=11,SNR=1.5						
NOA				Sn	**Sn**	**03 47 03.7**	**-3.1**
	baz=49,slow=19,SNR=1.1						
NOA				Lg	Lg	03 47 47.5	
	baz=44,slow=24,SNR=2.3						
	comp=Z,0.8nm,1.0s						
HFS	**Hagfors**	**8.24**	**203**	Pn	**Pn**	**03 45 42.0**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=24,slow=11,SNR=1.4						
HFS				Sn	**Sn**	**03 47 13.3**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=20,slow=27,SNR=1.8						
HFS				Lg	Lg	03 47 59.7	
	comp=Z,0.2nm,0.3s,baz=28,slow=28,SNR=2.1						
	comp=Z,1.7nm,1.0s						

*DJA **10** 04:04:09.8±1.1, 3°.5±7°.7×11°.9E±°, h10km, M3.8/7, MLv3.8/7*
*IDC **10** 04:04:11.3±1.5, 3°.06S×119°.37E, h0km, mb3.3/3, mbtmp3.3/3, MS2.4/1, Error ellipse: s-maj=75.4km s-min=15.8km az=73.0*
ISC 10 04:04:12.5±1.4,**3°.0S**±0°.1×**119°.46E**±0°.10,**h10**km,**n10,**
σ1§**54**/11,**mb3.1/3,Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.37**	**105**	P	**Pg**	**04 04 19.0**	**-0.8**
TTSI				S	**Sg**	**04 04 25.7**	**+0.9**
SPSI	**Sidrap Palu**	**1.06**	**163**	P	**Pn**	**04 04 30.5**	**-2.8**
SPSI				S	**Sn**	**04 04 49.6**	**+1.5**
BNSI	**Bone**	**1.58**	**156**	P	**Pn**	**04 04 40.7**	**+0.1**
KAPI	**Kappang**	**2.07**	**172**	Pn	**Pn**	**04 04 46.7**	**-0.7**
	20nm,0.3s,baz=340,slow=12,SNR=44						
KAPI				LR	LR	04 05 13.3	
	comp=Z,22nm,20.9s,baz=252,slow=31						
KAPI				Lg	Lg	04 05 13.7	
	42nm,0.3s,baz=169,slow=23,SNR=18						
BKSI	**Bulukumba**	**2.45**	**164**	P	**Pn**	**04 04 53.1**	**+0.6**
BSSI	**Bau Bau, Buton**	**3.34**	**162**	P	**Pn**	**04 05 04.5**	**-0.2**
WRA	**Warramunga Arr**	**22.28**	**140**	P	**P**	**04 09 08.3**	**-1.8**
	0.5nm,0.7s,baz=318,slow=11,SNR=2.2						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**24.89**	**147**	P	**P**	**04 09 37.4**	**+1.7**
	0.3nm,0.7s,baz=331,slow=9.5,SNR=2.9						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.34**	**317**	LR	LR	04 24 09.8	
	comp=Z,7.3nm,19.4s,baz=195,slow=41						
MKAR	**Makanchi Array**	**59.36**	**331**	P	**P**	**04 14 15.5**	**+0.6**
	0.6nm,0.6s,baz=144,slow=7.1,SNR=6.2						
	0.6nm,0.6s						

*IDC **10** 04:24:39.0±1.9, 18°.13S×178°.21W, h522km±19km, mb3.3/8, mbtmp4.1/9, Error ellipse: s-maj=23.5km s-min=18.5km az=115.0*
*NEIC **10** 04:24:38.8±1.1, 17°.6S±0°.2×178°.1W±0°.1, h542km±14km, mb4.3/17, Error ellipse: s-maj=27.1km s-min=15.0km az=179.0*
ISC 10 04:24:38.7±0.6,**17°.7S**±0°.1×**178°.1W**±0°.1,**h550**km,**n47,**
σ1§**95**/47,**mb4.1**/15,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.37**	**360**	P	**P**	**04 25 56.1**	**-0.1**
MSVF	**Nonsavu**	**3.67**	**269**	P	**P**	**04 25 56.6**	**-1.7**
MSVF	**Nonsavu**	**3.67**	**269**	P	**P**	**04 25 56.4**	**-1.9**
	21nm,0.7s,baz=22,slow=19,SNR=9.8						
AFI	**Afiamalu**	**7.16**	**59**	P	**P**	**04 26 26.6**	**-1.7**
NIUE	**Niue**	**7.88**	**101**	P	**P**	**04 26 34.7**	**-0.5**
KOUNC	**Koumac, New Ca**	**16.89**	**258**	P	**P**	**04 28 05.8**	**-0.6**
URZ	**Urewera**	**20.91**	**191**	P	**P**	**04 28 39.4**	**-3.3**
	6.3nm,0.6s,baz=13,slow=2.9,SNR=8.3						
	6.3nm,0.6s						
EIDS	**Eidsvold**	**29.61**	**250**	P	**P**	**04 29 59.7**	**-0.2**
ARMA	**Armidale**	**30.30**	**240**	P	**P**	**04 30 06.1**	**+0.3**
CTAO	**Charters Tower**	**33.77**	**260**	P	**P**	**04 30 35.5**	**+0.1**
COEN	**Coen**	**37.40**	**270**	P	**P**	**04 31 06.9**	**+1.4**
COEN				IAmb	IAmb	04 31 07.6	
	comp=Z,6.3nm,0.7s						
TOO	**Toolangi**	**37.53**	**231**	P	**P**	**04 31 07.0**	**+0.7**
TOO				IAmb	IAmb	04 31 27.8	
	comp=Z,6.6nm,1.5s						
STKA	**Stephens Creek**	**38.99**	**241**	P	**P**	**04 31 18.7**	**+0.5**
STKA	**Stephens Creek**	**38.99**	**241**	P	**P**	**04 31 18.5**	**+0.3**
	comp=Z,2.0nm,0.4s,baz=92,slow=8.2,SNR=8.5						
	comp=Z,2.0nm,0.4s						
BBOO	**Buckleboo**	**43.76**	**241**	P	**P**	**04 31 56.3**	**+0.4**
BBOO				IAmb	IAmb	04 31 57.4	
	comp=Z,9.6nm,1.1s						
WR0	**Warramunga Arr**	**44.77**	**259**	P	**P**	**04 32 03.6**	**-0.3**
WR0				IAmb	IAmb	04 32 23.6	
	comp=Z,10nm,1.5s						
WRA	**Warramunga Arr**	**44.96**	**259**	P	**P**	**04 32 05.4**	**0.0**
WRA	**Warramunga Arr**	**44.96**	**259**	P	**P**	**04 32 05.1**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=95,slow=6.9,SNR=65						
	comp=Z,2.4nm,0.5s						
AS31	**Alice Springs**	**45.13**	**254**	P	**P**	**04 32 07.2**	**+0.5**
AS31				IAmb	IAmb	04 32 07.8	
	comp=Z,6.6nm,0.7s						
ASAR	**Alice Springs**	**45.13**	**254**	P	**P**	**04 32 07.1**	**+0.4**
ASAR	**Alice Springs**	**45.13**	**254**	P	**P**	**04 32 07.2**	**+0.6**
	comp=Z,21nm,0.6s,baz=89,slow=8.3,SNR=367						
ASAR				PcP	**PcP**	**04 33 37.7**	**+2.2**
	comp=Z,0.5nm,0.5s,baz=105,slow=3.9,SNR=3.7						
	comp=Z,21nm,0.6s						
FORT	**Forrest**	**50.36**	**244**	P	**P**	**04 32 45.5**	**-0.1**
FORT				IAmb	IAmb	04 32 53.4	
	comp=Z,12nm,0.8s						
KNRA	**Kununurra**	**50.80**	**264**	P	**P**	**04 32 50.1**	**+1.1**
KNRA				IAmb	IAmb	04 32 50.6	
	comp=Z,7.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.35**	**260**	P	**P**	**04 33 07.7**	**+0.4**
PSA00	**Pilbara Seismi**	**58.25**	**255**	P	**P**	**04 33 41.5**	**+0.3**
PSA00				IAmb	IAmb	04 33 42.3	
	comp=Z,22nm,1.2s						
QSPA	**South Pole Qui**	**72.35**	**180**	P	**P**	**04 35 10.9**	**+2.0**
QSPA	**South Pole Qui**	**72.35**	**180**	P	**P**	**04 35 10.6**	**+1.8**
	comp=Z,1.5nm,1.1s,baz=0.0,slow=7.1,SNR=6.1						
	comp=Z,1.5nm,1.1s						
USA0B	**Ussuriysk Arra**	**76.61**	**326**	P	**P**	**04 35 28.7**	**-4.2**
NVAR	**Mina Array Bea**	**79.07**	**44**	P	P	04 35 51.5	+4.9
	comp=Z,0.3nm,0.7s,baz=212,slow=7.9,SNR=2.6						
	comp=Z,0.3nm,0.7s						
MAW	**Mawson**	**84.15**	**200**	P	**P**	**04 36 10.6**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=186,slow=18,SNR=5.2						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**85.62**	**13**	P	**P**	**04 36 22.4**	**+3.6**
	comp=Z,0.2nm,0.4s,baz=220,slow=4.8,SNR=6.9						
	comp=Z,0.2nm,0.4s						
ARCES	**ARCESS Array B**	**126.16**	**350**	PKP	**PKiKP**	**04 42 42.0**	**+3.4**
	comp=Z,2.5nm,0.9s,baz=357,slow=1.9,SNR=3.6						
BRTR	**Keskin Array B**	**144.84**	**315**	PKPbc	**PKiKP**	**04 43 17.6**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=180,slow=2.0,SNR=5.6						
CLL	**Collm**	**145.33**	**348**	*i* PKPbc	**PKiKP**	**04 43 19.0**	**+0.9**
GERES	**GERESS Array B**	**147.49**	**345**	PKPbc	**PKPab**	**04 43 25.0**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=23,slow=4.3,SNR=7.8						
CONA	**Conrad Observa**	**147.76**	**342**	*i* PKP	**PKPab**	**04 43 26.8**	**+0.5**
	comp=Z,1.1nm,0.4s						
RONA	**Rosalia, Austr**	**147.84**	**342**	*i* PKP	**PKPab**	**04 43 26.8**	**+0.3**
	comp=Z,1.6nm,0.5s						
LESA	**Schwarzleotal**	**149.06**	**346**	*i* PKP	**PKPab**	**04 43 29.5**	**-2.1**
	comp=Z,1.2nm,0.4s						
SOKA	**Soboth**	**149.13**	**342**	*i* PKP	**PKPab**	**04 43 29.2**	**-2.7**
	comp=Z,0.5nm,0.4s						
KBA	**Koelnbreinsper**	**149.22**	**345**	*i* PKP	**PKPab**	**04 43 29.7**	**-2.8**
	comp=Z,1.1nm,0.4s						
WATA	**Walderalm**	**149.39**	**347**	*i* PKP	**PKPab**	**04 43 30.2**	**-2.9**
	comp=Z,1.7nm,0.4s						
WTTA	**Wattenberg**	**149.45**	**347**	*i* PKP	**PKPab**	**04 43 30.6**	**-2.8**
	comp=Z,2.1nm,0.4s						
MOTA	**Moosalm**	**149.48**	**348**	*i* PKP	**PKPab**	**04 43 30.4**	**-3.0**
	comp=Z,0.8nm,0.4s						
MYKA	**Terra Mystica**	**149.56**	**344**	*i* PKP	**PKPab**	**04 43 30.4**	**-3.3**
	comp=Z,1.0nm,0.4s						
SQTA	**Sankt Quirin**	**149.58**	**347**	*i* PKP	**PKPab**	**04 43 30.8**	**-3.1**
	comp=Z,0.9nm,0.3s						
ABTA	**Abfaltersbach**	**149.74**	**345**	*i* PKP	**PKiKP**	**04 43 30.4**	**+2.9**
	comp=Z,2.4nm,0.6s						
FETA	**Feichten**	**149.87**	**348**	*i* PKP	**PKPab**	**04 43 31.6**	**-3.5**
	comp=Z,0.7nm,0.5s						

*SDD **10** 04:35:02.1±2.3, 19°.85N×71°.40W, h12km±41km, MD3.2, ML3.2, MW3.4*
*SSNC **10** 04:35:05.0±0.9, 19°.67N×71°.30W, h5km±12km, MD3.6, ML3.2*
*OSPL **10** 04:35:05.7±2.2, 19°.70N×71°.37W, h0km±10km, ML2.9*
ISC 10 04:35:03.9±1.2,**19.73N**±0°.03×**71°.36W**±0°.03,**h9**km±9km,
n32,σ0§**73**/55,**18C-3D,Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAO1	**Mao**	**0.32**	**123**	⇑*e*Pg	**Pg**	**04 35 10.1**	**-0.1**
MAO1				⇑*e*Sg	**Sg**	**04 35 14.7**	**+0.3**
SC01	**Santiago de Io**	**0.67**	**116**	⇓*e*Pg	**Pg**	**04 35 16.7**	**-0.2**
SC01				⇑*e*Sg	**Sg**	**04 35 26.5**	**+0.9**
SC01				IAML		04 35 26.6	
	comp=N,687nm,0.6s						
SC01				IAML		04 35 26.7	
	comp=N,668nm,0.5s						
SC01				IAML		04 35 26.9	
	comp=E,791nm,0.7s						
SC01	**Santiago de Io**	**0.67**	**116**	*i* P	**Pg**	**04 35 16.6**	**-0.2**
SC01				*e*S	**Sg**	**04 35 26.4**	**+0.8**
SC01				IAML		04 35 32.4	
	comp=Z,383nm,0.2s						
SDDR	**Presa de Saban**	**0.74**	**175**	*e*P	**Pg**	**04 35 17.9**	**-0.4**
SDDR				*e*S	**Sg**	**04 35 27.3**	**-0.7**
SDDR	**Presa de Saban**	**0.74**	**175**	⇓*e*Pg	**Pg**	**04 35 18.0**	**-0.3**
SDDR				⇑*e*Sg	**Sg**	**04 35 28.1**	**+0.2**
SDDR				IAML		04 35 28.5	
	comp=E,612nm,0.5s						
SDDR				IAML		04 35 29.1	
	comp=N,572nm,0.7s						
SDDR				IAML		04 35 29.1	
	comp=N,572nm,0.7s						
SDDR	**Presa de Saban**	**0.74**	**175**	*i* P	**Pg**	**04 35 18.2**	**-0.1**
SDDR				*e*S	**Sg**	**04 35 27.5**	**-0.5**
SDDR				IAML		04 35 29.5	
	comp=Z,464nm,0.5s						
LONE3	**El Aguacate, B**	**1.12**	**185**	*i* P	**Pg**	**04 35 24.9**	**-0.5**
LONE3				*e*S	**Sg**	**04 35 39.7**	**-0.3**
LONE3				IAML		04 35 41.3	
	comp=Z,193nm,0.3s						
NEDR	**Neiba UASD**	**1.24**	**182**	⇑*e*Pg	**Pn**	**04 35 27.1**	**-0.3**
NEDR				IAML	**Sg**	**04 35 44.1**	**+0.3**
	comp=N,251nm,0.4s						
NEDR				⇑*e*Sg	**Sg**	**04 35 44.1**	**+0.3**
NEDR				IAML		04 35 44.1	
	comp=N,232nm,0.4s						
NEDR				IAML		04 35 44.7	
	comp=E,247nm,0.3s						
JIDR	**Jimani**	**1.31**	**201**	⇑*e*Pg	**Pn**	**04 35 27.8**	**-0.6**
JIDR				⇑*e*Sg	**Sn**	**04 35 47.1**	**+1.0**
JIDR				IAML		04 35 48.2	
	comp=N,495nm,0.4s						
JIDR				IAML		04 35 48.3	
	comp=N,495nm,0.4s						
JIDR				IAML		04 35 52.4	
	comp=E,258nm,0.3s						
CADR	**Cabrera**	**1.34**	**92**	⇑*e*Pg	**Pn**	**04 35 26.4**	**-2.4**
CADR				⇑*e*Sg	**Sb**	**04 35 46.4**	**-0.2**
CADR				IAML		04 35 47.2	
	comp=E,852nm,0.6s						
CADR				IAML		04 35 47.5	
	comp=N,1μm,0.7s						
CADR				IAML		04 35 47.5	
	comp=N,1μm,0.7s						
LODU1	**El Espartillar**	**1.37**	**184**	*i* P	**Pb**	**04 35 29.7**	**-0.1**
LODU1				IAML		04 35 51.2	
	comp=Z,237nm,0.3s						
NAG1	**Nagua**	**1.46**	**104**	⇑*e*Pg	**Pn**	**04 35 30.8**	**+0.3**
NAG1				⇑*e*Sg	**Sn**	**04 35 49.7**	**-0.1**
NADR	**Nagua**	**1.47**	**104**	⇑*e*Pg	**Pn**	**04 35 29.2**	**-1.4**
NADR				⇑*e*Sg	**Sb**	**04 35 50.6**	**+0.4**
NADR				IAML		04 35 52.6	
	comp=N,1μm,0.3s						
NADR				IAML		04 35 52.6	
	comp=N,1μm,0.3s						
NADR				IAML		04 35 53.2	
	comp=E,1μm,0.3s						
PODR	**Polo**	**1.55**	**177**	⇑*e*Pg	**Pb**	**04 35 32.7**	**-0.3**
PODR				⇑*e*Sg	**Sg**	**04 35 55.1**	**+1.2**
PODR				IAML		04 36 00.3	
	comp=E,270nm,0.6s						
PODR				IAML		04 36 02.2	
	comp=N,130nm,0.7s						
PODR				IAML		04 36 02.2	
	comp=N,130nm,0.7s						
PODR	**Polo**	**1.55**	**177**	*i* P	**Pn**	**04 35 32.4**	**+0.4**

n53,σ0°50/84, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.41**	**204**	*i* P	**Pg**	**04 36 42.1**	**+0.4**
EOS2				*i* S	**Sg**	**04 36 48.2**	**+0.9**
TWB1	**Santiao Chiao**	**0.44**	**299**	*i* P	**Pb**	**04 36 43.0**	**+0.1**
TWB1				*i* S	**Sb**	**04 36 48.9**	**-0.4**
EOS3	**EOS3**	**0.52**	**190**	P	**Pg**	**04 36 43.8**	**+0.2**
EOS3				S	**Sg**	**04 36 51.0**	**+0.5**
TWC	**Suao**	**0.55**	**250**	P	**Pg**	**04 36 43.7**	**-0.5**
TWC				*eS*	**Sg**	**04 36 51.6**	**+0.1**
TIPB	**Shuangxi**	**0.56**	**288**	P	**Pb**	**04 36 45.2**	**+0.2**
TIPB				*eS*	**Sb**	**04 36 52.6**	**-0.3**
ESAO	**Su ao**	**0.56**	**247**	*eP*	**Pg**	**04 36 43.8**	**-0.7**
ESAO				*eS*	**Sg**	**04 36 52.2**	**+0.2**
SXI1	**Grass Mountain**	**0.57**	**301**	*i* P	**Pn**	**04 36 46.0**	**-1.2**
SXI1				*eS*	**Sb**	**04 36 53.1**	**0.0**
JYNG	**Yonagunijimaku**	**0.59**	**125**	*eP*	**Pb**	**04 36 45.3**	**-0.2**
JYNG				*eS*	**Sg**	**04 36 52.9**	**-0.2**
WFSB	**Wu-fen Shan**	**0.64**	**295**	P	**Pn**	**04 36 47.3**	**-0.6**
WFSB				S	**Sb**	**04 36 56.0**	**+1.0**
YOJ	**Yonaguni jima**	**0.64**	**122**	*eP*	**Pb**	**04 36 46.2**	**-0.1**
YOJ				*eS*	**Sg**	**04 36 54.1**	**-0.3**
YOJ	**Yonaguni jima**	**0.64**	**122**	*i* P	**Pb**	**04 36 46.1**	**-0.1**
YOJ				S	**Sg**	**04 36 54.1**	**-0.3**
NDS	**Dongshan**	**0.66**	**256**	*eP*	**Pg**	**04 36 45.9**	**-0.4**
NDS				*eS*	**Sg**	**04 36 55.2**	**+0.2**
EWUT	**Wuta**	**0.68**	**239**	*eP*	**Pg**	**04 36 46.3**	**-0.3**
EOS4	**EOS4**	**0.68**	**187**	*eP*	**Pg**	**04 36 46.8**	**+0.1**
EOS4				*eS*	**Sg**	**04 36 55.8**	**+0.2**
TWE	**Neicheng**	**0.68**	**264**	P	**Pg**	**04 36 46.5**	**-0.3**
TWE				S	**Sb**	**04 36 56.5**	**+0.2**
ENA	**Nanau**	**0.71**	**239**	P	**Pg**	**04 36 46.7**	**-0.6**
ENA				*eS*	**Sg**	**04 36 57.2**	**+0.4**
FUSB	**Fushanzhiwuyua**	**0.75**	**267**	*eP*	**Pb**	**04 36 48.1**	**-0.2**
FUSB				*eS*	**Sg**	**04 36 57.3**	**-0.7**
EAHA	**Aohua**	**0.77**	**233**	*eP*	**Pg**	**04 36 47.8**	**-0.6**
ENTT	**Nioudou**	**0.79**	**259**	*eP*	**Pg**	**04 36 48.3**	**-0.5**
ENTT				*eS*	**Sg**	**04 36 59.2**	**0.0**
NWLT	**Wulai**	**0.83**	**269**	P	**Pb**	**04 36 49.8**	**+0.3**
NWLT				*eS*	**Sg**	**04 36 59.5**	**-1.0**
YM01	**YM01**	**0.84**	**295**	P	**Pn**	**04 36 50.9**	**+0.1**
YM01				S	**Sn**	**04 37 02.4**	**-0.5**
YM08	**YM08**	**0.84**	**298**	*eP*	**Pn**	**04 36 50.4**	**-0.4**
LATG	**Datong**	**0.85**	**252**	*eP*	**Pg**	**04 36 49.5**	**-0.4**
LATG				*eS*	**Sg**	**04 37 00.9**	**-0.2**
PCYT	**Pengchaiyu**	**0.88**	**340**	*eP*	**Pn**	**04 36 52.6**	**+1.2**
YHNB	**Yeheng**	**0.95**	**262**	P	**Pg**	**04 36 52.0**	**+0.1**
YHNB				*eS*	**Sn**	**04 37 05.4**	**-0.4**
NACB	**Ninganchiao**	**0.97**	**230**	P	**Pb**	**04 36 51.2**	**-0.8**
NACB				*eS*	**Sb**	**04 37 04.2**	**-0.4**
NNS	**Nan Shan**	**1.01**	**250**	*eP*	**Pb**	**04 36 52.6**	**-0.1**
NNS				*eS*	**Sg**	**04 37 06.7**	**+0.4**
ETLH	**Xiulin Townshi**	**1.03**	**235**	*eP*	**Pb**	**04 36 52.3**	**-0.7**
ETLH				*eS*	**Sb**	**04 37 06.8**	**+0.4**
KSHI	**Guanxi Townshi**	**1.12**	**269**	*eP*	**Pg**	**04 36 56.5**	**+1.4**
ETM	**Tongmen**	**1.18**	**226**	*eP*	**Pg**	**04 36 56.2**	**0.0**
NFF	**Wufeng Townshi**	**1.19**	**262**	*eP*	**Pg**	**04 36 56.6**	**+0.2**
LXIB	**Xiulin Townshi**	**1.20**	**230**	*eP*	**Pn**	**04 36 55.6**	**-0.2**
WHF	**Hehuan Shan**	**1.23**	**238**	*eP*	**Pn**	**04 36 56.6**	**+0.1**
WHF				*eS*	**Sb**	**04 37 13.3**	**+0.7**
TWT	**Tachien**	**1.25**	**245**	*eP*	**Pg**	**04 36 57.6**	**0.0**
TWT				*eS*	**Sg**	**04 37 14.6**	**+0.7**
TDCB	**Techi**	**1.27**	**245**	*eP*	**Pg**	**04 36 57.8**	**-0.1**
SHUL	**Shoufeng**	**1.27**	**218**	*eP*	**Pn**	**04 36 57.1**	**+0.4**
IRIF	**Iriomote-Funau**	**1.28**	**111**	*eS*	**Sn**	**04 37 13.8**	**0.0**
NSTT	**Nanjuang**	**1.29**	**263**	*eP*	**Pg**	**04 36 59.1**	**+0.7**
NSTT				*eS*	**Sg**	**04 37 15.2**	**-0.1**
ESL	**Shilin**	**1.33**	**223**	*eP*	**Pg**	**04 36 58.7**	**-0.3**
OWD	**Renai**	**1.41**	**234**	*eP*	**Pb**	**04 36 59.4**	**-0.1**
OWD				*eS*	**Sg**	**04 37 19.6**	**+0.8**
WARBT	**Fenglin Townsh**	**1.43**	**221**	*eP*	**Pn**	**04 36 59.5**	**+0.6**
WARBT				*eS*	**Sn**	**04 37 18.1**	**+0.7**
WUSB	**Renai**	**1.43**	**236**	*eP*	**Pb**	**04 37 00.0**	**+0.1**
WUSB				*eS*	**Sg**	**04 37 20.3**	**+0.7**
WHP	**Taichung City**	**1.43**	**249**	*eP*	**Pb**	**04 37 00.1**	**+0.2**
WHP				*eS*	**Sg**	**04 37 19.5**	**-0.3**
WCS	**Beigang Elemen**	**1.56**	**242**	*eP*	**Pg**	**04 37 03.2**	**-0.1**
VWDT	**VWDT**	**1.56**	**228**	*eP*	**Pb**	**04 37 02.2**	**+0.2**
HGSD	**Ruisui**	**1.58**	**215**	*eP*	**Pn**	**04 37 00.0**	**-1.0**
SMLT	**Sun Moon Lake**	**1.65**	**237**	*eP*	**Pb**	**04 37 03.9**	**+0.2**
SSLB	**Suanglung**	**1.67**	**233**	*eP*	**Pb**	**04 37 04.0**	**+0.1**
WHYT	**Xinyi Township**	**1.80**	**233**	*eP*	**Pb**	**04 37 06.1**	**0.0**
ALS	**Alishan**	**1.95**	**229**	*eP*	**Pb**	**04 37 08.7**	**-0.2**
CHN5	**Tsauling**	**1.98**	**233**	*eP*	**Pb**	**04 37 09.3**	**0.0**
CHN4	**Tsaushan**	**2.20**	**229**	*eP*	**Pb**	**04 37 12.6**	**-0.3**
TPUB	**Ta-pu**	**2.21**	**228**	*eP*	**Pb**	**04 37 12.4**	**-0.8**

*IDC **10** 04:40:14.5±2.7, 10°.88S×113°.85E, h0km, mb3.4/3, mbtmp3.5/4, ML3.7/1, MS2.6/1, Error ellipse: s-maj=117.4km s-min=27.2km az=46.0*
*DJA **10** 04:40:23.5±1.1, 11°.S±26°×11°.4E±°, h82km±109km, M3.8/6, MLv3.8/6*

ISC 10 04:40:19.2±1.2, 10°.8S±0°.1×113°.96E±0°.09, h35km, n14, σ1°62/12, mb3.5/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**2.33**	**5**	P	**Pn**	**04 40 55.6**	**+0.5**
GMJI	**Gumukmas**	**2.57**	**349**	P	**Pn**	**04 40 58.3**	**0.0**
GMJI				S	**Sn**	**04 41 26.7**	**-1.7**
SRBI	**Singaraja**	**2.98**	**25**	P	**Pn**	**04 41 05.8**	**+1.9**
BLJI	**Banyuglugur**	**3.07**	**353**	P	**Pn**	**04 41 05.8**	**+0.7**
PWJI	**Pagerwojo**	**3.49**	**322**	P	**Pn**	**04 41 10.1**	**-0.9**
PCJI	**Pacitan**	**3.78**	**313**	P	**Pn**	**04 41 17.5**	**+2.5**
PLAI	**Plampang**	**4.25**	**63**	P	**Pn**	**04 41 22.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**13.43**	**124**	Pn	**Pn**	**04 43 25.1**	**-2.3**
	0.3nm,0.3s,baz=298,slow=8.4,SNR=7.8						
FITZ				Sn	Sn	04 45 43.3	-12
	0.3nm,0.3s,baz=306,slow=19,SNR=6.5						
FITZ				LR	LR	04 48 43.8	
	comp=Z,26nm,18.6s,baz=234,slow=38						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**21.62**	**117**	P	**P**	**04 45 06.8**	**+0.3**
	1.6nm,0.7s,baz=290,slow=12,SNR=8.4						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**22.90**	**127**	P	**P**	**04 45 21.6**	**+1.5**
	0.6nm,0.5s,baz=303,slow=10,SNR=16						
	0.6nm,0.5s						
H08S2	**Diego Garcia H**	**41.03**	**271**	T	T	05 31 39.9	
	baz=96						
H08S3	**Diego Garcia H**	**41.04**	**271**	T	T	05 31 42.9	
	baz=96						
H08S1	**Diego Carcia H**	**41.05**	**271**	T	T	05 31 40.3	
	baz=96						
MKAR	**Makanchi Array**	**63.95**	**336**	P	**P**	**04 50 49.5**	**+0.7**
	0.2nm,0.5s,baz=139,slow=7.4,SNR=1.9						
	0.2nm,0.5s						

NEIC 10 05:00:43.2±1.3, 31°.49N±0°.02×103°.60W±0°.02, h6km±5km, ML1.2/12, Error ellipse: s-maj=2.8km s-min=1.7km az=143.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.26**	**243**		Pg	05 00 48.9	+0.6
PECS				Sg	Sb	05 00 54.5	-0.5
PECS				IAML		05 00 55.3	
	36nm,0.3s						
MNHN	**Monahans**	**0.73**	**101**	Pg	Pg	05 00 57.5	+0.4
MNHN				Sg	Sb	05 01 08.2	-0.3
MNHN				IAML		05 01 09.2	
	8.1nm,0.9s						
ALPN	**Alpine**	**1.11**	**182**	Pg	Pg	05 01 03.9	-0.6
ALPN				IAML		05 01 20.7	
	8.8nm,4.6s						
VHRN	**Van Horn**	**1.38**	**240**	Pg	Pn	05 01 08.0	-1.1
SAND	**Sanderson**	**1.99**	**140**	Pn	Pn	05 01 17.2	-0.1
TX31	**Lajitas Ar. Si**	**2.15**	**182**	Pn	Pn	05 01 20.3	+0.7
TXAR	**Lajitas Array**	**2.15**	**182**	Pn	Pn	05 01 19.4	-0.2

*IDC **10** 05:05:19.7±1.7, 30°.22S×177°.84W, h0km, mb3.6/3, mbtmp3.7/4, ML2.9/1, Error ellipse: s-maj=44.3km s-min=17.7km az=98.0*

ISC 10 05:05:21.2±1.3, 30°.28S±0°.10×178°.0W±0°.3, h10km, n6, σ2°04/8, mb3.7/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.03**	**4**	Pn	**Pn**	**05 05 41.3**	**-0.4**
	636nm,0.3s,baz=97,slow=8.0,SNR=26						
RAO				Sn	**Sn**	**05 05 55.3**	**-0.8**
	438nm,0.3s,baz=104,slow=22,SNR=4.6						
URZ	**Urewera**	**8.93**	**206**	Pn	**Pn**	**05 07 31.3**	**+1.1**
	0.1nm,0.3s,baz=355,slow=9.9,SNR=1.3						
URZ				Sn	**Sn**	**05 09 07.4**	**-3.4**
	1.1nm,0.3s,baz=296,slow=4.6,SNR=8.6						
	16nm,1.0s						
ASAR	**Alice Springs**	**43.11**	**267**	P	**P**	**05 13 23.3**	**+1.4**
	0.2nm,0.5s,baz=104,slow=7.3,SNR=5.6						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**44.09**	**272**	P	**P**	**05 13 30.8**	**+1.0**
	0.4nm,0.3s,baz=110,slow=8.1,SNR=13						
	0.4nm,0.3s						
QSPA	**South Pole Qui**	**59.83**	**180**	P	**P**	**05 15 27.7**	**+1.0**
	1.1nm,1.1s,baz=53,slow=5.1,SNR=2.4						
	1.1nm,1.1s						
FINES	**FINESS Array B**	**145.03**	**340**	PKPbc	**PKPbc**	**05 24 55.6**	**-1.8**
	1.7nm,0.8s,baz=35,slow=5.1,SNR=7.4						

*CATAC **10** 05:20:09.4±0.3, 11°.07N×87°.31W, h10km, ML4.6*
*IDC **10** 05:20:10.2±1.0, 11°.60N×87°.00W, h0km, mb4.0/10, mbtmp4.0/13, ML3.4/3, Error ellipse: s-maj=35.9km s-min=14.5km az=43.0*
*NEIC **10** 05:20:13.5±1.6, 11°.47N±0°.06×87°.08W±0°.07, h10km±2km, mb4.3/35, Error ellipse: s-maj=13.6km s-min=7.8km az=228.0*

ISC 10 05:20:11.4±1.1, 11°.14N±0°.04×87°.27W±0°.04, h18km±4km, n136, σ1°38/152, mb4.3/26, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.23**	**33**	*i* P	**Pn**	**05 20 32.4**	**-1.3**
COPN				IAML		05 21 28.1	
	comp=Z,6μm,1.0s						
RA5A7	**EI Crucero**	**1.26**	**48**	*i* P	**Pn**	**05 20 33.1**	**-1.2**
RA5A7				IAML		05 21 39.0	
	comp=Z,29μm,1.0s						
BC86	**Nagarote**	**1.31**	**32**	*i* P	**Pn**	**05 20 34.2**	**-0.7**
BC86				*i* S	**Sg**	**05 20 54.2**	**+0.2**
BC86				IAML		05 21 26.5	
	comp=Z,17μm,1.0s						
ABCN	**Banco Central**	**1.35**	**44**	*i* P	**Pn**	**05 20 34.5**	**-0.9**
ABCN				IAML		05 21 54.1	
	comp=Z,15μm,1.0s						
NADN	**Granada**	**1.35**	**63**	*i* P	**Pn**	**05 20 34.6**	**-0.8**
NADN				IAML		05 21 40.5	
	comp=Z,12μm,1.0s						
SABN	**Sabanita**	**1.35**	**53**	*i* P	**Pn**	**05 20 35.0**	**-0.5**
SABN				IAML		05 21 48.8	
	comp=Z,21μm,1.0s						
UNAN	**Cigeo UNAN**	**1.37**	**45**	*i* P	**Pn**	**05 20 35.1**	**-0.6**
UNAN				IAML		05 21 52.2	
	comp=Z,38μm,1.0s						
USIM	**UNAN**	**1.38**	**45**	*i* P	**Pn**	**05 20 34.8**	**-0.9**
USIM				IAML		05 21 32.0	
	comp=Z,14μm,1.0s						
NANN	**Nandasmo**	**1.38**	**55**	*i* P	**Pb**	**05 20 36.2**	**-0.5**
NANN				*i* S	**Sn**	**05 20 54.9**	**+1.4**
NANN				IAML		05 21 42.8	
	comp=Z,96μm,1.0s						
MASN	**Masaya**	**1.38**	**52**	*i* P	**Pn**	**05 20 35.6**	**-0.2**
MASN				IAML		05 21 44.3	
	comp=Z,2μm,1.0s						
ENAN	**Enatrel Managu**	**1.38**	**45**	*i* P	**Pn**	**05 20 35.3**	**-0.5**
ENAN				IAML		05 21 44.5	
	comp=Z,13μm,1.0s						
MAFN	**Magfor**	**1.39**	**47**	*i* P	**Pn**	**05 20 35.6**	**-0.3**
MAFN				IAML		05 21 44.0	
	comp=Z,12μm,1.0s						
MAS3	**AI N del Volca**	**1.39**	**51**	*i* P	**Pn**	**05 20 34.9**	**-1.0**
MAS3				IAML		05 21 36.4	
	comp=Z,5μm,1.0s						
TISN	**Laguna Tiscapa**	**1.40**	**44**	*i* P	**Pn**	**05 20 35.4**	**-0.6**
TISN				IAML		05 21 48.5	
	comp=Z,480nm,1.0s						
APQ2	**Apoyeque**	**1.40**	**41**	*i* P	**Pn**	**05 20 35.2**	**-0.8**
APQ2				IAML		05 21 44.5	
	comp=Z,4μm,1.0s						
ALLN	**Telcor Managua**	**1.40**	**44**	*i* P	**Pn**	**05 20 35.0**	**-1.1**
ALLN				IAML		05 20 56.7	
	comp=Z,11μm,1.0s						
R0529	**La Mascota**	**1.41**	**46**	*i* P	**Pn**	**05 20 35.4**	**-0.7**
R0529				IAML		05 21 43.0	
	comp=Z,5μm,1.0s						
MGAN	**Managua**	**1.42**	**45**		**Pn**	**05 20 34.8**	**-1.5**
MGAN	**Managua**	**1.42**	**45**	*i* P	**Pn**	**05 20 35.5**	**-0.8**
MGAN				IAML		05 21 36.8	
	comp=Z,6μm,1.0s						
R4DEC	**Barrio San Lui**	**1.42**	**45**	*i* P	**Pn**	**05 20 35.6**	**-0.7**
R4DEC				IAML		05 21 36.8	
	comp=Z,6μm,1.0s						
MOMN	**Momotombo**	**1.45**	**29**	*i* P	**Pn**	**05 20 35.7**	**-1.1**
MOMN				IAML		05 21 28.5	
	comp=Z,590nm,1.0s						
CNGA	**AI SSO del Vol**	**1.46**	**22**	*i* P	**Pn**	**05 20 35.8**	**-1.1**
CNGA				IAML		05 21 29.5	
	comp=Z,6μm,1.0s						
WILN	**Americas 2**	**1.47**	**46**	*i* P	**Pn**	**05 20 36.2**	**-0.8**
WILN				IAML		05 21 44.8	
	comp=Z,6μm,1.0s						
AERN	**Aeropuerto Man**	**1.47**	**47**	*i* P	**Pn**	**05 20 36.9**	**-0.1**
AERN				IAML		05 21 49.9	
	comp=Z,11μm,1.0s						
MOM2	**El Cardon**	**1.50**	**31**	*i* P	**Pn**	**05 20 36.7**	**-0.7**
MOM2				*i* S	**Sb**	**05 20 59.1**	**+1.6**
MOM2				IAML		05 21 29.5	
	comp=Z,13μm,1.0s						
EVIJ	**El Viejo**	**1.52**	**5**	*i* P	**Pn**	**05 20 36.7**	**-0.9**
EVIJ				*i* S	**Sb**	**05 20 59.3**	**+1.4**
EVIJ				IAML		05 21 52.1	
	comp=Z,10μm,1.0s						
PLRN	**Geotermica Pol**	**1.52**	**19**	*i* P	**Pn**	**05 20 35.9**	**-1.8**
PLRN				*i* S	**Sb**	**05 20 59.0**	**+1.1**
PLRN				IAML		05 21 30.3	
	comp=Z,3μm,1.0s						
ILCN	**San Idelfonso**	**1.53**	**21**	*i* P	**Pn**	**05 20 36.5**	**-1.4**
ILCN				*i* S	**Sb**	**05 20 59.6**	**+1.2**
ILCN				IAML		05 21 29.3	
	comp=Z,3μm,1.0s						
PKGN	**Cerro Pekin**	**1.55**	**11**	*i* P	**Pn**	**05 20 37.1**	**-1.0**
PKGN				IAML		05 21 53.6	
	comp=Z,15μm,1.0s						
CRIN	**San Cristobal**	**1.56**	**8**		**Pn**	**05 20 36.9**	**-1.5**
CRIN	**San Cristobal**	**1.56**	**8**	*i* P	**Pn**	**05 20 37.3**	**-1.1**
CRIN				IAML		05 21 54.5	
	comp=Z,19μm,1.0s						
JAPN	**AI SSO del Vol**	**1.61**	**76**	*i* P	**Pn**	**05 20 39.2**	**+0.3**
JAPN				IAML		05 21 35.8	
	comp=Z,3μm,1.0s						
MORN	**AI O del Volca**	**1.64**	**76**	*i* P	**Pn**	**05 20 38.8**	**-0.6**
MORN				*i* S	**Sb**	**05 21 02.7**	**+1.2**
MORN				IAML		05 21 53.2	
	comp=Z,380nm,1.0s						
SBEN	**San Benito**	**1.66**	**46**	*i* P	**Pn**	**05 20 39.2**	**-0.4**
SBEN				IAML		05 22 04.4	
	comp=Z,7μm,1.0s						
BC87	**San Francisco**	**1.66**	**35**	*i* P	**Pn**	**05 20 38.6**	**-1.1**
BC87				*i* S	**Sn**	**05 21 02.7**	**+2.2**
BC87				IAML		05 21 31.8	
	comp=Z,9μm,1.0s						
CONN	**Concepcion**	**1.67**	**75**	*i* P	**Pn**	**05 20 39.3**	**-0.4**
CONN				*i* S	**Sb**	**05 21 03.1**	**+0.8**
CONN				IAML		05 22 07.5	
	comp=Z,20μm,1.0s						
CARN	**Rivas**	**1.71**	**88**	*i* P	**Pn**	**05 20 40.1**	**-0.3**
BRAN	**Las Pilas**	**1.81**	**30**	*i* P	Pn	05 20 35.0	-6.7
BRAN				IAML		05 21 31.2	
	comp=Z,4μm,1.0s						
CSGN	**Cosiguina Volc**	**1.85**	**351**	*i* P	**Pn**	**05 20 41.4**	**-0.9**
CSGN				*i* S	**Sb**	**05 21 07.8**	**+0.3**
CSGN				IAML		05 21 58.0	
	comp=Z,790nm,1.0s						
LIMN	**Finca el Limon**	**2.10**	**25**	*i* P	**Pn**	**05 20 44.3**	**-1.5**
LIMN				IAML		05 22 11.5	
	comp=Z,2μm,1.0s						
AMPH	**Amapala**	**2.17**	**350**	*i* P	**Pn**	**05 20 45.6**	**-1.0**
CNCH	**Conchagua**	**2.19**	**345**	*i* P	**Pn**	**05 20 46.0**	**-1.1**
CNCH				IAML		05 22 05.5	
	comp=Z,4μm,1.0s						
ACON	**Acoyapa**	**2.21**	**68**	Pn	**Pn**	**05 20 45.9**	**-1.3**
ACON	**Acoyapa**	**2.21**	**68**	*i* P	**Pn**	**05 20 46.0**	**-1.2**
ACON				IAML		05 22 24.5	
	comp=Z,1μm,1.0s						
LCND	**La Caada**	**2.24**	**344**	*i* P	**Pn**	**05 20 46.6**	**-1.0**
LCND				IAML		05 22 07.9	
	comp=Z,1μm,1.0s						
JTS	**Las Juntas de**	**2.43**	**110**		**Pb**	**05 20 52.9**	**-1.7**
JTS	**Las Juntas de**	**2.43**	**110**	Pn	**Pb**	**05 20 52.2**	**-2.4**
	comp=Z,5.9nm,0.3s,baz=294,slow=19,SNR=17						
JTS				Sn	**Sn**	**05 21 20.0**	**+0.5**
	comp=Z,37nm,0.3s,baz=301,slow=19,SNR=11						
	comp=Z,11nm,0.3s						
JTS	**Las Juntas de**	**2.43**	**110**	*eP*	**Pg**	**05 20 58.4**	**+0.3**
CNRM	**Centro Naciona**	**2.48**	**339**	*i* P	**Pn**	**05 20 50.6**	**-0.3**
CNRM				*i* S	**Sn**	**05 21 23.1**	**+2.3**
CNRM				IAML		05 22 46.9	
	comp=Z,10μm,1.0s						
RANC	**El Ranchito**	**2.49**	**336**	*i* P	**Pn**	**05 20 50.2**	**-1.0**
RANC				*i* S	**Sn**	**05 21 22.3**	**+1.2**
RANC				IAML		05 22 15.8	
	comp=Z,830nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.63**	**26**	*i* P	**Pn**	**05 20 53.2**	**0.0**
RCPN				IAML		05 21 51.4	
	comp=Z,2.4nm,1.0s						
RCVN	**Varillal2**	**2.65**	**23**	*i* P	**Pn**	**05 20 52.6**	**-0.7**
RCVN				*i* S	**Sn**	**05 21 27.0**	**+2.0**
RCVN				IAML		05 22 13.4	
	comp=Z,12μm,1.0s						
SOCE	**Pocosol**	**2.71**	**106**		**Pb**	**05 20 56.5**	**-2.9**
PQSS	**Presa 15 de Se**	**2.77**	**333**	*i* P	**Pn**	**05 20 54.7**	**-0.2**
PQSS				IAML		05 23 00.8	
	comp=Z,740nm,1.0s						
TECO	**Alcaldia de Te**	**2.80**	**328**	*i* P	**Pn**	**05 20 54.2**	**-1.2**
TECO				IAML		05 22 35.3	
	comp=Z,240nm,1.0s						
YUSH	**Yuscaran**	**2.83**	**8**	*i* P	**Pn**	**05 20 55.6**	**-0.2**
UESV	**Universidad de**	**2.89**	**329**	*i* P	**Pn**	**05 20 56.3**	**-0.3**
UESV				*i* S	**Sn**	**05 21 31.2**	**+0.3**
UESV				IAML		05 22 43.2	
	comp=Z,870nm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.90**	**360**		**Pn**	**05 20 56.0**	**-0.9**
TGUH	**Tegucigalpa,Un**	**2.90**	**360**	*i* P	**Pn**	**05 20 56.4**	**-0.4**
TGUH				*i* S	**Sn**	**05 21 33.9**	**+2.6**
TGUH				IAML		05 22 04.2	
	comp=Z,1μm,1.0s						
SCLA	**Alcaldia de Sa**	**2.92**	**331**	*i* P	**Pn**	**05 20 56.8**	**-0.2**
SCLA				IAML		05 22 45.2	
	comp=Z,430nm,1.0s						
PAVA	**Las Pavas**	**3.03**	**328**	*i* P	**Pn**	**05 20 58.6**	**0.0**
PAVA				*i* S	**Sn**	**05 21 36.1**	**+1.6**
PAVA				IAML		05 22 23.0	
	comp=Z,2μm,1.0s						
ESPN	**Las Esperanzas**	**3.09**	**70**		**Pn**	**05 20 59.5**	**+0.2**
ESPN	**Las Esperanzas**	**3.09**	**70**	*i* P	**Pn**	**05 20 59.9**	**+0.6**
ESPN				IAML		05 23 08.3	
	comp=Z,1μm,1.0s						
LOMA	**Loma Larga**	**3.10**	**323**	*i* P	**Pn**	**05 20 59.0**	**-0.6**
LOMA				IAML		05 22 31.7	
	comp=Z,460nm,1.0s						
SNET	**Serv Nac Est T**	**3.17**	**323**	Pn	**Pn**	**05 21 02.6**	**+2.1**
UEES	**Universidad Ev**	**3.20**	**323**	*i* P	**Pn**	**05 21 01.4**	**+0.5**
UEES				IAML		05 22 40.3	
	comp=Z,220nm,1.0s						
PMON	**Piamonte**	**3.24**	**322**	*i* P	**Pn**	**05 21 01.7**	**+0.2**
PMON				IAML		05 22 29.2	
	comp=Z,580nm,1.0s						
INTHN	**La Esperanza I**	**3.26**	**346**	*i* P	**Pn**	**05 21 02.9**	**+1.1**
JAYA	**Jayaque - finc**	**3.28**	**320**	*i* P	**Pn**	**05 21 01.7**	**-0.4**
JAYA				IAML		05 22 26.1	
	comp=Z,940nm,1.0s						
LCR2	**La Lucha 2**	**3.50**	**113**		**Pb**	**05 21 08.7**	**-4.3**
LCR2	**La Lucha 2**	**3.50**	**113**	*i* S	**Sn**	**05 21 48.5**	**+2.3**
CEVE	**Cerro Verde**	**3.52**	**320**	*i* P	**Pn**	**05 21 05.8**	**+0.3**
CEVE				*i* S	**Sn**	**05 21 48.0**	**+1.1**
CEVE				IAML		05 22 37.1	
	comp=Z,600nm,1.0s						
NUBE	**Las Nubes**	**3.68**	**318**	*i* P	**Pn**	**05 21 07.5**	**-0.1**
NUBE				IAML		05 22 45.9	
	comp=Z,430nm,1.0s						
MTO3	**Montecristo**	**3.83**	**328**		**Pn**	**05 21 10.1**	**+0.4**
MTO3	**Montecristo**	**3.83**	**328**	*i* P	**Pn**	**05 21 09.6**	**-0.1**
MTO3				*i* S	**Sn**	**05 21 56.0**	**+1.7**
MTO3				IAML		05 23 01.8	
	comp=Z,160nm,1.0s						
ESQI	**Esquipulas**	**3.95**	**329**		**Pn**	**05 21 12.6**	**+1.3**
BRU2	**Volcan**	**5.08**	**117**		Pn	05 21 31.3	+4.5
BCO2	**Palmira**	**5.25**	**117**	*eP*	**Pg**	**05 21 54.2**	**+2.1**
DVD	**David**	**5.46**	**119**	*eP*	Pn	05 21 24.2	-7.7
PETF	**Flores**	**6.27**	**337**		**Pn**	**05 21 44.2**	**+1.2**
CCIG	**Comitan**	**6.96**	**318**		**Pn**	**05 21 54.8**	**+2.1**
BCIP	**Isla Barro

MACA	Manacapuru-AM	30.03 117	P	P	05 26 21.1	+1.6
SAML	Samuel	31.18 129	P	P	05 26 31.2	+1.5
SAML			IAmb	IAmb	05 26 32.9	
	comp=Z,2.2nm,0.8s					
O20A	White River Ci	34.33 331	P	P	05 26 58.4	+1.1
SRU	San Rafael Swe	34.70 327	P	P	05 27 00.1	-0.5
SRU			IAmb	IAmb	05 27 02.8	
	comp=Z,2.9nm,0.7s					
MTPU	Mount Pierson	34.86 324	P	P	05 27 05.0	+2.9
P17A	Butcher Ranch,	35.08 328	P	P	05 27 04.4	+0.6
P17A			IAmb	IAmb	05 27 05.5	
	comp=Z,3.4nm,0.8s					
PDAR	Pinedale Array	37.01 332	P	P	05 27 19.4	-0.8
	comp=Z,0.6nm,0.6s,baz=134,slow=7.7,SNR=6.2					
	comp=Z,0.6nm,0.6s					
HWUT	Hardware Ranch	37.08 329	P	P	05 27 21.4	+0.5
HWUT			IAmb	IAmb	05 27 22.9	
	comp=Z,4.3nm,0.8s					
TPAW	Teton Pass	38.21 332	P	P	05 27 31.4	+0.9
NVAR	Mina Array Bea	38.80 320	P	P	05 27 36.5	+1.0
	comp=Z,0.6nm,0.7s,baz=129,slow=7.1,SNR=6.4					
NVAR			PcP	PcP	05 29 48.3	+1.6
	comp=Z,0.4nm,0.7s,baz=133,slow=5.0,SNR=1.6					
	comp=Z,0.6nm,0.7s					
ULM	Lac du Bonnet	39.63 351	P	P	05 27 39.4	-2.6
	comp=Z,2.8nm,0.6s,baz=160,slow=15,SNR=4.7					
	comp=Z,2.8nm,0.6s					
HLID	Hailey	39.94 329	P	P	05 27 45.0	+0.1
SCHQ	Schefferville	46.48 16	P	P	05 28 33.4	-3.9
	comp=Z,2.8nm,0.6s,baz=236,slow=16,SNR=4.7					
	comp=Z,2.8nm,0.6s					
BDFB	Brasilia	47.10 124	P	P	05 28 44.5	+1.7
	comp=Z,5.7nm,0.7s,baz=280,slow=7.9,SNR=9.0					
	comp=Z,5.7nm,0.7s					
RES	Resolute Bay	63.67 358	P	P	05 30 38.9	-2.2
	comp=Z,1.2nm,0.8s,baz=166,slow=2.8,SNR=2.5					
	comp=Z,1.2nm,0.8s					
ILAR	Eielson Array	67.28 336	P	P	05 31 03.3	-1.5
	comp=Z,0.4nm,0.7s,baz=148,slow=5.3,SNR=2.1					
	comp=Z,0.4nm,0.7s					
KURBB	Kurchatov Arra	117.26 10	PKP	PKiKP	05 38 56.7	+0.9
	comp=Z,0.2nm,0.5s,baz=38,slow=1.3,SNR=1.9					
SONM	Songino Array	120.04 349	PKP	PKiKP	05 39 02.1	+0.6
	comp=Z,0.4nm,0.4s,baz=122,slow=1.9,SNR=2.4					
ASAR	Alice Springs	138.93 247	PKP	PKiKP	05 39 38.8	-1.1
	comp=Z,0.5nm,0.7s,baz=110,slow=2.7,SNR=4.3					
WRA	Warramunga Arr	139.06 252	PKP	PKiKP	05 39 39.7	-0.5
	comp=Z,0.6nm,0.9s,baz=94,slow=2.5,SNR=1.9					
PZH	PanZhiHua	141.57 347	PKP	PKiKP	05 39 44.0	-1.4
CMAR	Chiang Mai Arr	149.96 348	PKPbc	PKPbc	05 40 01.5	-0.2
	comp=Z,2.0nm,0.4s,baz=343,slow=4.0,SNR=12					

*IDC **10** 05:20:55.3±0.7, 11°.59N×86°.94W, h0km, mb4.2/15, mbtmp4.2/17, ML3.9/2, MS3.8/8, Error ellipse: s-maj=29.1km s-min=11.9km az=51.0*
*NEIC **10** 05:20:57.5±1.5, 11°.38N±0°.07×87°.13W±0°.07, h10km±1km, mb4.6/87, Error ellipse: s-maj=13.8km s-min=9.8km az=225.0*
ISC 10 05:20:56.3±0.5, 11°.36N±0°.07×87°.17W±0°.07, h10km, n142, σ1§08/131, mb4.6/54, MS3.8/8, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGAN	Managua	1.20	49	Pn	Pn	05 21 20.4	+1.2
CRIN	San Cristobal	1.34	5	Pn	Pb	05 21 22.5	+0.9
ACON	Acoyapa	2.05	72	Pn	Pn	05 21 30.8	0.0
JTS	Las Juntas de	2.42	116	Pn	Pn	05 21 36.2	+0.1
	12nm,0.3s,baz=312,slow=22,SNR=6.1						
JTS				Sn	Sn	05 22 05.9	+0.1
	68nm,0.3s,baz=246,slow=21,SNR=3.6						
JTS				LR	LR	05 22 11.7	
	comp=Z,905nm,19.6s,baz=285,slow=33						
	77nm,0.4s						
JTS	Las Juntas de	2.42	116	eS	Sg	05 22 40.0	+26
TGUH	Tegucigalpa,Un	2.69	358	Pn	Pn	05 21 41.3	+1.5
ESPN	Las Esperanzas	2.93	73	Pn	Pn	05 21 44.2	+1.2
LCR2	La Lucha 2	3.50	117	Pn	Pn	05 21 51.5	+0.4
BRU2	Volcan	5.09	120		Pn	05 22 13.9	+1.0
RTAL	Retalhuleu	5.42	306	Pn	Pn	05 22 18.4	+1.1
DVD	David	5.48	122	eS	Sg	05 24 25.6	+33
PETF	Flores	6.12	335		Pn	05 22 27.5	+0.7
CCIG	Comitan	6.88	316		Pn	05 22 39.2	+1.8
BCIP	Isla Barro Col	7.54	106	Pn	Pn	05 22 47.4	+1.0
TEIG	Tepich	8.88	353		Pn	05 23 06.8	+2.0
TEIG	Tepich	8.88	353	Pn	Pn	05 23 05.1	+0.3
	0.1nm,0.3s,baz=251,slow=22,SNR=2.6						
CMIG	Matias Romero	9.40	308	Pn	Pn	05 23 13.2	+1.2
	2.4nm,0.3s,baz=124,slow=11,SNR=9.7						
	9.3nm,0.4s						
SOR	Soroa	12.05	19	Pn	Pn	05 23 46.7	-1.5
TLIG	Tlapa	12.64	301	Pn	Pn	05 23 57.5	+1.0
NMDO	Nuevo Mundo	14.86	50	Pn	Pn	05 24 27.2	+0.5
JRQG	Juriquilla Cam	15.78	308	Pn	Pn	05 24 40.0	+1.0
COHC	Cochancay	15.83	150	P	P	05 24 42.6	-0.6
MOIG	Morelia	15.83	303	P	Pn	05 24 43.0	+3.3
MOIG				IAmb	IAmb	05 24 44.9	
	comp=Z,48nm,0.7s						
SDV	Santo Domingo	16.46	97	P	Pn	05 24 48.7	+0.9
ZAIG	Zacatecas	18.57	310	P	P	05 25 14.1	+0.2
BAUV	El Baul	18.98	95		P	05 25 18.3	+0.1
HBVL	Hebbronville	19.01	327	P	P	05 25 19.8	+1.5
HBVL				IAmb	IAmb	05 25 21.6	
	comp=Z,59nm,1.2s						
352A	Blakely	20.13	6	P	Pn	05 25 32.6	+0.1
HKT	Hockley	20.18	338	P	P	05 25 32.1	+1.0
HKT				IAmb	IAmb	05 25 36.7	
	comp=Z,32nm,1.1s						
TIGA	Tifton	20.26	9	P	P	05 25 32.4	+0.4
ATAH	Atahualpa	20.34	154	LR	LR	05 32 27.6	
	comp=Z,413nm,20.0s,baz=340,slow=34						
833A	Chaparral WMA,	20.40	328	P	P	05 25 34.1	+0.6
833A				IAmb	IAmb	05 25 35.2	
	comp=Z,48nm,1.1s						
250A	Grady	20.54	2		P	05 25 36.9	+1.9
250A				IAmb	IAmb	05 25 37.9	
	comp=Z,47nm,1.3s						
CELP	Cerrillos	20.99	69	P	P	05 25 41.4	+1.3
HNDO	Hondo	21.32	330	P	P	05 25 43.3	-0.2
152A	Waverly Hall	21.33	6	P	P	05 25 44.8	+1.2
152A				IAmb	IAmb	05 25 48.1	
	comp=Z,38nm,0.9s						
NATX	Nacogdoches	21.45	342	P	P	05 25 45.3	+0.4
154A	Montrose	21.48	9	P	P	05 25 46.1	+0.9
154A				IAmb	IAmb	05 25 49.6	
	comp=Z,40nm,0.9s						
LRAL	Lakeview Retre	21.58	0	P	P	05 25 46.4	+0.1
143A	Socs Landing,	21.60	350	P	P	05 25 47.8	+1.3
143A				IAmb	IAmb	05 25 50.1	
	comp=Z,20nm,1.0s						
435B	Jarrell	21.61	335	P	P	05 25 47.3	+0.7
435B				IAmb	IAmb	05 25 54.7	
	comp=Z,17nm,0.8s						
DRIO	Del Rio	21.92	327	P	P	05 25 50.4	+0.4
PCRV	Puerto La Cruz	22.17	91	P	P	05 25 52.8	0.0
	comp=Z,15nm,0.6s,baz=260,slow=5.7,SNR=13						
	comp=Z,15nm,0.6s						
GOGA	Godfrey	22.21	8	P	P	05 25 54.3	+1.2
GOGA				IAmb	IAmb	05 25 56.2	
	comp=Z,25nm,0.8s						
Z41A	Richland Creek	22.40	348	P	P	05 25 55.6	+0.5
Z41A				IAmb	IAmb	05 26 12.8	
	comp=Z,24nm,1.0s						
Y49A	Blount Mountai	22.41	2	P	P	05 25 55.7	+0.5
Y45A	Yeager Farm, C	22.51	355	P	P	05 25 56.7	+0.5
Y45A				IAmb	IAmb	05 25 58.5	
	comp=Z,44nm,1.2s						
Y52A	Lilburn	22.58	7	P	P	05 25 58.1	+1.1
Y52A				IAmb	IAmb	05 25 59.8	
	comp=Z,35nm,1.0s						
WHTX	Lake Whitney,	22.62	337	P	P	05 25 57.9	+0.4
WHTX				IAmb	IAmb	05 26 01.0	
	comp=Z,22nm,0.8s						
BRDY	Brady	22.65	333	P	P	05 25 57.7	-0.2
FW13	Cleburne	22.93	337	P	P	05 26 00.2	-0.6
FW13				IAmb	IAmb	05 26 04.5	
	comp=Z,29nm,1.1s						
Z38A	Mt. Pleasant	22.95	343	P	P	05 26 01.8	+0.9
X48A	Hartselle	22.99	0	P	P	05 26 01.4	+0.1
X48A				IAmb	IAmb	05 26 02.3	
	comp=Z,12nm,0.8s						
SAND	Sanderson	23.15	325	P	P	05 26 02.5	-0.6
X51A	Calhoun	23.20	5	P	P	05 26 03.7	+0.2
X51A				IAmb	IAmb	05 26 05.9	
	comp=Z,15nm,0.8s						
HODGE	Hodges	23.21	10	P	P	05 26 04.3	+0.8
HODGE				IAmb	IAmb	05 26 05.4	
	comp=Z,22nm,1.2s						
OZNA	Ozona	23.38	328	P	P	05 26 05.2	-0.2
FW07	Weatherford	23.38	337	P	P	05 26 05.7	+0.4
Y58A	Scranton	23.47	16	P	P	05 26 05.8	-0.4
FW06	Azle	23.54	338	P	P	05 26 07.0	+0.2
FW06				IAmb	IAmb	05 26 10.3	
	comp=Z,22nm,0.8s						
TX31	Lajitas Ar. Si	23.59	322	P	P	05 26 07.7	+0.1
TX31				IAmb	IAmb	05 26 21.7	
	comp=Z,13nm,1.0s						
TXAR	Lajitas Array	23.59	322	P	P	05 26 08.3	+0.7
	comp=Z,5.9nm,0.7s,baz=133,slow=10.0,SNR=11						
TXAR				PcP	PcP	05 29 55.2	+2.5
	comp=Z,1.5nm,0.8s,baz=123,slow=4.6,SNR=5.8						
	comp=Z,5.9nm,0.7s						
PLPT	Palo Pinto	23.69	336	P	P	05 26 09.1	+0.8
PLPT				IAmb	IAmb	05 26 11.6	
	comp=Z,19nm,0.8s						
Z35A	Perchaven, San	23.75	339	P	P	05 26 09.6	+0.7
Z35A				IAmb	IAmb	05 26 11.4	
	comp=Z,19nm,0.8s						
UALR	University of	23.79	349	P	P	05 26 09.0	-0.3
UALR				IAmb	IAmb	05 26 09.7	
	comp=Z,17nm,1.1s						
FW03	Perrin-Whitt E	23.79	337	P	P	05 26 09.3	0.0
FW03				IAmb	IAmb	05 26 37.6	
	comp=Z,17nm,1.0s						
W50A	Signal Mountai	23.80	4	P	P	05 26 09.5	+0.1
CZSB	Cruzeiro do Su	23.80	142	P	P	05 26 10.6	+1.0
CZSB				IAmb	IAmb	05 26 35.3	
	comp=Z,17nm,1.1s						
MIAR	Mount Ida	23.81	347	P	P	05 26 09.4	-0.1
MIAR				IAmb	IAmb	05 26 11.9	
	comp=Z,10nm,0.7s						
W52A	Murphy	23.81	7	P	P	05 26 09.3	-0.2
W52A				IAmb	IAmb	05 26 12.1	
	comp=Z,20nm,0.8s						
BG3	Lake Jocassee	23.84	9	P	P	05 26 10.4	+0.6
BG3				IAmb	IAmb	05 26 11.0	
	comp=Z,15nm,0.9s						
BIRD	Birdtown, Kers	23.98	14	P	P	05 26 11.6	+0.6
BIRD				IAmb	IAmb	05 26 13.7	
	comp=Z,15nm,0.9s						
ABTX	Abilene, Hawle	24.08	333	P	P	05 26 12.4	+0.3
ABTX				IAmb	IAmb	05 26 13.2	
	comp=Z,12nm,0.7s						
CPCT	Cooper Cave	24.11	5	P	P	05 26 12.3	0.0
X58A	Rowland	24.17	16	P	P	05 26 12.7	-0.1
X58A				IAmb	IAmb	05 26 15.6	
	comp=Z,17nm,0.8s						
V48A	Smith Brothers	24.28	1	P	P	05 26 13.2	-0.7
V48A				IAmb	IAmb	05 26 16.4	
	comp=Z,12nm,0.8s						
X37A	Clayton	24.31	343		P	05 26 14.4	+0.3
LOOK	Love County	24.32	339	P	P	05 26 15.6	+1.3
TKL	Tuckaleechee C	24.39	7	P	P	05 26 15.1	+0.2
TKL	Tuckaleechee C	24.39	7	P	P	05 26 14.6	-0.3
	comp=Z,20nm,0.7s,baz=167,slow=11,SNR=14						
TKL				LR	LR	05 36 29.5	
	comp=Z,131nm,19.0s,baz=90,slow=39						
	comp=Z,20nm,0.7s						
V53A	Saluda	24.53	9	P	P	05 26 16.1	-0.1
MNHN	Monahans	24.57	326	P	P	05 26 17.6	+1.0
FCAR	Ozark Folk Cen	24.84	350	P	P	05 26 17.5	-1.4
SN05	Snyder 5	24.85	332	P	P	05 26 18.7	-0.5
SN05				IAmb	IAmb	05 26 22.9	
	comp=Z,14nm,1.0s						
APMT	Aspermont	24.89	334	P	P	05 26 19.5	+0.1
APMT				IAmb	IAmb	05 26 33.9	
	comp=Z,8.7nm,0.8s						
V55A	Taylorsville	24.98	12	P	P	05 26 21.2	+1.0
V55A				IAmb	IAmb	05 26 23.2	
	comp=Z,12nm,0.8s						
ODSA	Odessa	25.06	328	P	P	05 26 20.9	-0.3
U49A	Red Boiling Sp	25.08	3	P	P	05 26 20.3	-0.8
U49A				IAmb	IAmb	05 26 23.5	
	comp=Z,20nm,0.9s						
X34A	Smith Ranch, M	25.10	339	P	P	05 26 21.7	+0.4
TZTN	Tazewell	25.29	7	P	P	05 26 23.1	0.0
TZTN				IAmb	IAmb	05 26 26.8	
	comp=Z,13nm,0.9s						
POST	Post	25.30	331	P	P	05 26 22.3	-0.9
POST				IAmb	IAmb	05 26 35.8	
	comp=Z,14nm,0.9s						
T47A	Sharon Grove	25.52	0	P	P	05 26 23.9	-1.2
T47A				IAmb	IAmb	05 26 25.0	
	comp=Z,16nm,0.7s						
DKNS	Dickens	25.53	333	P	P	05 26 25.6	+0.3
DKNS				IAmb	IAmb	05 26 27.3	
	comp=Z,16nm,0.9s						
P53A	Whipple	28.48	9	P	P	05 26 51.6	-0.1
ETMB	Extrema	29.61	134	P	P	05 27 02.4	+0.4
ETMB				IAmb	IAmb	05 27 07.7	
	comp=Z,5.8nm,0.8s						
MACA	Manacapuru-AM	30.03	117	P	P	05 27 05.4	-0.4
SSPA	Standing Stone	30.29	14	P	P	05 27 07.5	-0.3
M57A	Sunshine Farm,	31.14	15	P	P	05 27 15.6	+0.3
SAML	Samuel	31.24	129	P	P	05 27 16.2	-0.2
LPAZ	La Paz	33.30	145	P	P	05 27 36.2	+1.0
	comp=Z,1.0nm,0.7s,baz=346,slow=4.2,SNR=3.9						
	comp=Z,1.0nm,0.7s						
SADO	Sadowa	34.00	10	LR	LR	05 42 16.0	
	comp=Z,148nm,19.3s,baz=200,slow=38						
SRU	San Rafael Swe	34.58	327	P	P	05 27 46.2	+0.5
SRU				IAmb	IAmb	05 27 47.1	
	comp=Z,6.4nm,0.8s						
PFO	Pinyon Flats O	34.76	314	LR	LR	05 42 54.3	
	comp=Z,208nm,21.3s,baz=138,slow=38						
RSSD	Black Hills	35.74	339	P	P	05 27 56.4	+0.8
BSUT	Blindstream Ca	35.75	329	P	P	05 27 56.1	+0.2
TCUT	Toone Canyon	36.51	329	P	P	05 28 03.1	+0.9
SPR3	Spring Creek 3	36.63	323	P	P	05 28 03.8	+0.4
PDAR	Pinedale Array	36.86	332	P	P	05 28 05.0	-0.2
	comp=Z,1.3nm,0.6s,baz=126,slow=10,SNR=8.5						
	comp=Z,1.3nm,0.6s						
SNOW	Snow King Moun	37.95	332	P	P	05 28 14.8	+0.3
SNOW				IAmb	IAmb	05 28 15.8	
	comp=Z,9.2nm,0.8s						
NVAR	Mina Array Bea	38.71	320	P	P	05 28 22.3	+1.5
	comp=Z,2.2nm,0.8s,baz=125,slow=7.8,SNR=12						
NVAR				PcP	PcP	05 30 33.7	+1.0
	comp=Z,1.0nm,0.7s,baz=142,slow=4.6,SNR=5.2						
	comp=Z,2.2nm,0.8s						
LHV	Little Huntoon	38.73	319	P	P	05 28 22.8	+2.1
ULM	Lac du Bonnet	39.44	351	P	P	05 28 24.0	-2.6
	comp=Z,7.2nm,0.7s,baz=168,slow=8.2,SNR=7.2						
	comp=Z,7.2nm,0.7s						
D08A	Wollman Farm,	44.53	329	P	P	05 29 08.2	0.0
C09A	Chrisman Ranch	44.72	330	P	P	05 29 09.7	0.0
C09A				IAmb	IAmb	05 29 11.5	
	comp=Z,4.4nm,0.7s						
H03N2	Juan Fernandez	45.23	170	T	T	06 17 29.9	
	baz=349,slow=76,SNR=3.4						
H03N1	Juan Fernandez	45.24	170	T	T	06 17 33.5	
	baz=349,slow=76,SNR=3.9						
H03N3	Juan Fernandez	45.25	170	T	T	06 17 36.1	
	baz=349,slow=76,SNR=3.7						
SCHQ	Schefferville	46.24	16	P	P	05 29 18.7	-3.0
	comp=Z,4.7nm,0.7s,baz=201,slow=8.4,SNR=6.0						
	comp=Z,4.7nm,0.7s						
BDFB	Brasilia	47.14	124	P	P	05 29 29.9	+0.5
BDFB	Brasilia	47.14	124	P	P	05 29 29.4	+0.1
	comp=Z,8.8nm,0.6s,baz=294,slow=10,SNR=15						
	comp=Z,8.8nm,0.6s						
CPUP	Villa Florida	47.38	143	P	P	05 29 31.8	+0.8
	comp=Z,1.4nm,0.6s,baz=338,slow=10,SNR=3.9						
CPUP				LR	LR	05 50 55.6	
	comp=Z,125nm,18.2s,baz=334,slow=38						
	comp=Z,1.4nm,0.6s						
BBB	Bella Bella	52.39	329	LR	LR	05 55 41.2	
	comp=Z,73nm,19.8s,baz=128,slow=40						
PLCA	Paso Flores	54.06	164	P	P	05 30 21.7	+0.5
	comp=Z,1.7nm,1.0s,baz=0.0,slow=15,SNR=2.6						
	comp=Z,1.7nm,1.0s						
TAOE	Nuku Hiva Isla	56.39	251	eLR	LR	05 46 58.2	
	comp=Z,122nm,24.1s						
DLBC	Dease Lake	57.01	335	P	P	05 30 41.5	-0.8
	comp=Z,1.8nm,0.7s,baz=164,slow=6.5,SNR=3.1						
	comp=Z,1.8nm,0.7s						
RES	Resolute Bay	63.46	358	P	P	05 31 23.9	-2.1
	comp=Z,1.1nm,0.7s,baz=191,slow=11,SNR=5.1						
	comp=Z,1.1nm,0.7s						
INK	Inuvik	64.33	343	P	P	05 31 31.9	+0.1
	comp=Z,1.4nm,0.8s,baz=125,slow=8.9,SNR=3.4						
	comp=Z,1.4nm,0.8s						
BCAR	Beaver Creek A	64.36	336	P	P	05 31 32.4	+0.1
ILAR	Eielson Array	67.13	336	P	P	05 31 49.0	-1.1
	comp=Z,0.8nm,0.7s,baz=146,slow=5.1,SNR=6.5						
	comp=Z,0.8nm,0.7s						
KDAK	Kodiak Island	67.43	328	LR	LR	06 02 48.0	
	comp=Z,74nm,19.2s,baz=305,slow=37						
PPT2	Papeete2	68.01	246	eLR	LR	05 52 28.0	
	comp=Z,94nm,22.2s						
TBI	Tubuai	70.00	240	eLR	LR	05 53 23.2	
	comp=Z,497nm,25.8s						
KURBB	Kurchatov Arra	117.03	10	PKP	PKPdf	05 39 40.8	-0.8
	comp=Z,0.3nm,0.6s,baz=349,slow=1.7,SNR=3.0						
SONM	Songino Array	119.85	350	PKP	PKPdf	05 39 47.2	-0.2
	comp=Z,0.6nm,0.5s,baz=343,slow=1.5,SNR=3.0						
KSRS	Korea Array	121.34	328	PKP	PKPdf	05 39 50.3	0.0
	comp=Z,0.7nm,0.4s,baz=7.2,slow=1.5,SNR=2.5						
MKAR	Makanchi Array	121.35	8	PKP	PKPdf	05 39 48.7	-1.4
	comp=Z,0.2nm,0.5s,baz=311,slow=3.3,SNR=1.7						
WMQ	Urumqi	124.89	5	ePKP	PKiKP	05 39 58.6	+1.2
WMQ				LR	LR		
	comp=Z,100nm,24.7s						
LZH	Lanzhou	131.68	348	ePKP	PKPdf	05 40 04.4	-6.0
LZH				sPKP		05 40 14.8	
ASAR	Alice Springs	139.11	247	PKP	PKPdf	05 40 24.5	+0.2
	comp=Z,0.5nm,0.6s,baz=108,slow=3.0,SNR=7.3						
WRA	Warramunga Arr	139.22	253	PKP	PKPdf	05 40 25.1	+0.5
	comp=Z,0.9nm,0.8s,baz=93,slow=1.5,SNR=2.9						
PZH	PanZhiHua	141.38	347	PKP	PKPdf	05 40 28.0	-0.6
CMAR	Chiang Mai Arr	149.77	348	PKPbc	PKPbc	05 40 47.6	+0.1
	comp=Z,6.0nm,0.7s,baz=348,slow=4.0,SNR=25						

*SDD **10** 05:29:50.1±2.2, 19°.62N×70°.05W, h20km±13km, MD3.3, ML2.3, MW2.9*
*OSPL **10** 05:29:51.4±2.6, 19°.67N×70°.08W, h0km±13km, ML2.3*
ISC 10 05:29:49.7±0.9, 19°.55N±0°.04×70°.06W±0°.03, h15km±7km, n17, σ0§84/29, 9C-7D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADR	Cabrera	0.16	44	⇑ePg	Pg	05 29 53.1	-0.6
CADR				⇓eSg	Sg	05 29 56.9	+0.5
CADR				IAML		05 29 57.1	
	comp=E,2μm,0.2s						
CADR				IAML		05 30 00.8	
	comp=N,1μm,0.7s						
NADR	Nagua	0.27	137	⇑ePg	Pg	05 29 55.9	+0.4
NADR				⇓eSg	Sb	05 30 01.8	+1.0
NADR				IAML		05 30 01.9	
	comp=N,538nm,0.5s						
NADR				IAML		05 30 04.2	
	comp=E,490nm,0.2s						
SC01	Santiago de lo	0.65	259	⇑ePg	Pg	05 30 01.8	-0.6
SC01				⇑eSg	Sb	05 30 12.1	+0.6
SC01				IAML		05 30 19.0	
	comp=E,161nm,0.3s						
SC01				IAML		05 30 20.5	
	comp=N,128nm,0.5s						
SC01	Santiago de lo	0.65	259	i P	Pg	05 30 01.8	-0.6
SC01				eS	Sb	05 30 12.7	+1.1
SC01				IAML		05 30 18.9	
	comp=Z,110nm,0.5s						
ABDR	Alto Bandera	0.91	216	⇑ePg	Pg	05 30 05.8	-1.7
ABDR				⇓eSg	Sg	05 30 19.6	0.0
ABDR				IAML		05 30 21.2	
	comp=N,122nm,0.2s						
ABDR				IAML		05 30 23.0	
	comp=E,110nm,0.2s						
HATOM	Hato Mayor del	0.99	140	⇓ePg	Pg	05 30 07.8	-1.2
HATOM				⇓eSg	Sg	05 30 22.3	+0.4
HATOM				IAML		05 30 22.9	
	comp=N,38nm,0.2s						
HATOM				IAML		05 30 23.0	
	comp=E,38nm,0.3s						
MIDR	Miches	1.11	121	⇓ePg	Pg	05 30 09.6	-1.5
MIDR				⇑eSg	Sg	05 30 25.8	+0.3
MIDR				IAML		05 30 27.3	
	comp=N,23nm,0.1s						
MIDR				IAML		05 30 27.3	
	comp=N,23nm,0.1s						
MIDR				IAML		05 30 29.4	
	comp=E,32nm,0.3s						
BANI	BANI	1.19	194	⇑ePg	Pb	05 30 11.7	-0.4
BANI				⇓eSg	Sg	05 30 28.3	0.0
BANI				IAML		05 30 29.2	
	comp=N,158nm,0.6s						
BANI				IAML		05 30 30.9	
	comp=E,131nm,0.3s						
SDDR	Presa de Saban	1.30	244	⇑ePg	Pg	05 30 15.2	+0.5
SDDR				IAML		05 30 31.7	
	comp=E,51nm,0.5s						
SDDR				IAML		05 30 41.7	
	comp=N,21nm,2.0s						
SDDR	Presa de Saban	1.30	244	i P	Pg	05 30 15.4	+0.7
SDDR				IAML		05 30 33.6	
	comp=Z,36nm,0.5s						
LONE3	El Aguacate, B	1.63	235	i P	Pn	05 30 18.8	+0.9
LONE3				IAML		05 30 41.3	
	comp=Z,20nm,1.4s						
LONE3				eS	Sg	05 30 41.5	-0.8
LODU1	El Espartillar	1.80	229	i P	Pb	05 30 22.1	-0.2
LODU1				IAML		05 30 47.9	
	comp=Z,39nm,2.8s						
PODR	Polo	1.80	220	⇑ePg	Pb	05 30 22.2	-0.3
PODR				IAML		05 30 49.5	
	comp=E,36nm,0.8s						
PODR				IAML		05 31 26.1	
	comp=N,24nm,1.6s						
PODR	Polo	1.80	220	i P	Pb	05 30 22.1	-0.4
PODR				eS	Sg	05 30 47.9	0.0
PODR				IAML		05 30 48.8	
	comp=Z,20nm,0.7s						
PCDR	Pun

PLAI	Plampang	5.92	272	P	Pn	05 54 06.2 +0.7
DRS	Darwin Rock St	7.75	116	P	Pn	05 54 30.2 -0.3
MTN	Manton Dam	8.13	118	Pn	Pn	05 54 35.1 -0.6
MTN	Manton Dam	8.13	118	P	Pn	05 54 35.8 +0.1
KNRA	Kununurra	8.14	144		Pn	05 54 34.9 -0.9
FITZ	Fitzroy Crossi	9.10	169		Pn	05 54 47.1 -1.8
FITZ	Fitzroy Crossi	9.10	169	P	Pn	05 54 47.0 -2.0
	7.0nm,0.3s,baz=359,slow=11,SNR=37					
FITZ				S	Sn	05 56 21.5 -8.1
	94nm,0.8s,baz=135,slow=4.3,SNR=23					
FITZ				LR	LR	05 58 57.7
	comp=Z,47nm,21.6s,baz=14,slow=41					
KDU	Kakadu	9.26	113	P	Pn	05 54 50.0 -1.1
TOLI2	Tolitoli	10.59	344	Pn	Pn	05 55 10.2 +0.9
MBWA	Marble Bar	12.58	198	Pn	Pn	05 55 34.7 -1.1
UGM	Wanagama	13.15	274	P	Pn	05 55 45.4 +2.1
WB0	Warramunga Arr	14.75	137	Pn	Pn	05 56 00.7 -3.4
WRA	Warramunga Arr	14.84	138	Pn	Pn	05 56 01.9 -3.3
WRA	Warramunga Arr	14.84	138	P	Pn	05 56 01.3 -3.9
	1.4nm,0.5s,baz=310,slow=14,SNR=15					
WRA				S	Sn	05 58 34.1 -15
	8.6nm,0.8s,baz=314,slow=26,SNR=13					
WR0	Warramunga Arr	14.99	137		Pn	05 56 03.8 -3.3
BBJI	Bungbulang	16.03	275	P	Pn	05 56 21.0 +0.8
WRKA	Warakurna	16.40	165	P	Pn	05 56 24.5 -0.3
AS31	Alice Springs	17.41	147	P	P	05 56 36.6 -0.3
ASAR	Alice Springs	17.41	147	P	P	05 56 36.2 -0.8
ASAR	Alice Springs	17.41	147	P	P	05 56 35.8 -1.2
	9.1nm,0.7s,baz=329,slow=12,SNR=85					
ASAR				S	Sn	05 59 38.2 -13
	4.7nm,0.7s,baz=315,slow=22,SNR=13					
AS01	Alice Springs	17.44	147	P	P	05 56 37.7 +0.5
	17nm,0.9s					
MEEK	Meekatharra	18.09	195	P	P	05 56 45.3 +1.0
QIS	Mount Isa	19.05	128	P	P	05 56 56.4 +1.5
COEN	Coen	19.62	106	P	P	05 57 02.0 +0.9
MORW	Morawa	21.12	199	P	P	05 57 17.6 +0.4
MORW				IAmb	IAmb	05 57 52.0
	comp=Z,21nm,1.3s					
OOD	Oodnadatta	21.71	150	P	P	05 57 23.9 +0.4
FORT	Forrest	21.91	170	P	P	05 57 24.9 -0.7
FORT				IAmb	IAmb	05 57 32.7
	comp=Z,17nm,0.8s					
FORT	Forrest	21.91	170	P	P	05 57 27.4 +1.8
MULG	Mulgathing	23.14	157	P	P	05 57 38.6 +0.5
CTAO	Charters Tower	24.31	119	P	P	05 57 48.3 -0.5
NWAO	Narrogin (SRO)	24.44	193	P	P	05 57 48.7 -1.1
NWAO	Narrogin (SRO)	24.44	193	P	P	05 57 50.3 +0.5
LCRK	Leigh Creek	25.14	150	P	P	05 57 57.2 +0.9
BBOO	Buckleboo	26.17	156	P	P	05 58 05.7 +0.1
BBOO				IAmb	IAmb	05 58 06.5
	comp=Z,11nm,0.6s					
BBOO	Buckleboo	26.17	156	P	P	05 58 06.0 +0.5
HTT	Hallett	27.94	152	P	P	05 58 22.8 +1.4
STKA	Stephens Creek	28.05	146	P	P	05 58 20.8 -1.5
	comp=Z,1.8nm,0.4s,baz=323,slow=15,SNR=5.1					
	comp=Z,1.8nm,0.4s					
ARMA	Armidale	33.54	133	P	P	05 59 12.1 +1.2
ARMA	Armidale	33.54	133	P	P	05 59 12.2 +1.3
CMAR	Chiang Mai Arr	36.76	318	P	P	05 59 37.8 -0.7
	comp=Z,4.0nm,0.8s,baz=150,slow=6.9,SNR=19					
	comp=Z,4.0nm,0.8s					
PZH	PanZhiHua	41.37	329	P	P	06 00 18.5 +1.5
PZH				pmax	pmax	
	comp=Z,10.0nm,0.5s					
PZH				pmax	pmax	
	comp=Z,100nm,4.8s					
H08S2	Diego Garcia H	50.71	268	T	T	06 57 43.2
	baz=98					
H08S3	Diego Garcia H	50.72	268	T	T	06 57 40.7
	baz=98					
H08S1	Diego Carcia H	50.72	268	T	T	06 57 44.5
	baz=98					
HHC	Hu-ho-hao-te	50.98	348	eP	P	06 01 35.0 +2.9
HHC				pmax	pmax	
	comp=Z,19nm,0.6s					
HHC				pmax	pmax	
	comp=Z,120nm,5.2s					
USRK	Ussuriysk Ar.	53.60	7	P	P	06 01 47.2 -3.9
	comp=Z,1.6nm,0.4s,baz=193,slow=5.8,SNR=5.3					
	comp=Z,1.6nm,0.4s					
SONM	Songino Array	58.76	346	P	P	06 02 26.3 -1.7
	comp=Z,1.1nm,0.6s,baz=174,slow=9.6,SNR=4.3					
	comp=Z,1.1nm,0.6s					
KSH	Kashi	65.58	321	P	P	06 03 13.2 -0.6
KSH				pmax	pmax	
	comp=Z,8.0nm,0.5s					
MK31	Makanchi Array	66.80	330	P	P	06 03 20.5 -0.8
MK31				IAmb	IAmb	06 03 21.4
	comp=Z,7.1nm,1.1s					
MKAR	Makanchi Array	66.80	330	P	P	06 03 19.8 -1.5
	comp=Z,3.8nm,0.4s,baz=135,slow=7.4,SNR=64					
	comp=Z,3.8nm,0.4s					
MAKZ	Makanchi	66.97	330		P	06 03 21.5 -0.9
MAKZ				IAmb	IAmb	06 03 21.8
	comp=Z,2.9nm,0.6s					
BOOM	Boomskoye usch	67.39	324	P	P	06 03 24.7 -0.7
AAK	Ala-Archa	68.33	323	P	P	06 03 30.3 -1.0
AAK				IAmb	IAmb	06 03 31.4
	comp=Z,3.8nm,0.5s					
ARSB	Arslanbob	68.49	321	P	P	06 03 30.8 -1.4
ZAA0	Zalesovo Array	70.92	337		P	06 03 44.5 -2.1
ZAA0				IAmb	IAmb	06 03 44.8
	comp=Z,7.6nm,1.3s					
ZALV	Zalesovo Beam	70.92	337	P	P	06 03 44.4 -2.2
ZALV	Zalesovo Beam	70.92	337	P	P	06 03 44.1 -2.5
	comp=Z,3.0nm,0.5s,baz=132,slow=5.0,SNR=13					
	comp=Z,3.0nm,0.5s					
H04N2	CROZET ISLANDS	70.98	224	T	T	07 21 52.7
	baz=81,slow=75,SNR=5.5					
H04N3	CROZET ISLANDS	71.00	224	T	T	07 21 50.5
	baz=81,slow=75,SNR=5.2					
H04N1	CROZET ISLANDS	71.00	224	T	T	07 21 58.6
	baz=81,slow=75,SNR=6.6					
KURBB	Kurchatov Arra	71.24	331	P	P	06 03 46.8 -1.8
	comp=Z,3.4nm,0.9s,baz=146,slow=5.3,SNR=29					
	comp=Z,3.4nm,0.9s					
KURK	Kurchatov	71.27	332		P	06 03 47.2 -1.6
KURK				IAmb	IAmb	06 03 48.6
	comp=Z,7.3nm,0.9s					
BVAR	Borovoye Array	76.68	330	P	P	06 04 18.4 -2.0
	comp=Z,0.7nm,0.4s,baz=119,slow=8.4,SNR=5.3					
	comp=Z,0.7nm,0.4s					
ABKAR	Akbulak array	80.42	323	P	P	06 04 38.8 -2.1
QSPA	South Pole Qui	80.87	180	P	P	06 04 44.0 +0.7
	comp=Z,1.3nm,1.0s,baz=322,slow=3.9,SNR=5.1					
	comp=Z,1.3nm,1.0s					
TORD	Torodi Ar. Bea	123.11	280	PKP	PKPdf	06 11 25.1 -1.2
	comp=Z,0.5nm,0.5s,baz=49,slow=2.4,SNR=6.3					

IDC ***10*** *06:05:32.3±0.8, 12°.67S×166°.91E, h210km±6km, mb4.0/20, mbtmp4.5/21, Error ellipse: s-maj=14.0km s-min=9.8km az=131.0*

NEIC ***10*** *06:05:34.2±1.6, 12°.7S±0°.1×167°.1E±0°.1, h224km±7km, mb4.6/65, Error ellipse: s-maj=19.9km s-min=15.1km az=100.0*

NOU ***10*** *06:05:35.0, 12°.53S×166°.99E, h192km, MLv4.9/5, Santa Cruz Islands*

ISC 10 06:05:33.3±0.4, 12°.59S±0°.05×166°.97E±0°.07, h220km, n305, σ0°81/317, mb4.5/51, 3C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	Luesalemba Tem	2.17	332	P	Pn	06 06 14.5	-0.6
VLAKA	Lakatoro	3.53	173	P	Pn	06 06 31.4	+1.3
HURO	Huro Makira	5.39	292	P	Pn	06 06 54.3	+1.1
ALEG	Aligegeo Malai	7.25	301	P	Pn	06 07 18.3	+1.4
KOUNC	Koumac, New Ca	8.33	198	Pn	Pn	06 07 31.4	+0.7
DZM	Mont Dzumac	9.45	183	Pn	Pn	06 07 45.4	+0.1
DZM	Mont Dzumac	9.45	183	P	Pn	06 07 48.5	+3.2
	5.2nm,0.6s,baz=86,slow=16,SNR=11						
DZM				S	S	06 09 30.5	-1.0
	8.5nm,0.9s,baz=306,slow=23,SNR=2.2						
PINNC	Pines Island,	9.98	177	Pn	Pn	06 07 50.2	-1.8
EIDS	Eidsvold	19.65	227	P	P	06 09 47.1	+1.4
EIDS				IAmb	IAmb	06 09 49.2	
	comp=Z,15nm,0.8s						
PMG	Port Moresby	19.70	277	P	P	06 09 45.0	-1.2
	comp=Z,17nm,1.0s,baz=78,slow=19,SNR=3.6						
CTAO	Charters Tower	21.22	247	P	P	06 10 03.5	+1.2
ARMA	Armidale	22.72	216	P	P	06 10 18.0	+1.4
ARMA				IAmb	IAmb	06 10 20.8	
	comp=Z,27nm,1.4s						
BKZ	Black Stump Fm	27.79	164	P	P	06 11 01.6	-0.4
BKZ				IAmb	IAmb	06 11 14.9	
	comp=Z,20nm,1.3s						
TUWZ	Tuamarina	29.37	169	P	P	06 11 16.0	+0.1
STKA	Stephens Creek	30.20	226	P	P	06 11 24.1	+0.7
STKA	Stephens Creek	30.20	226	P	P	06 11 22.5	-0.9
	comp=Z,4.7nm,0.8s,baz=18,slow=9.6,SNR=8.7						
STKA				PcP	PcP	06 14 18.6	-0.2
	comp=Z,1.4nm,0.4s,baz=49,slow=3.4,SNR=4.7						
	comp=Z,4.7nm,0.8s						
LBZ	Lake Benmore	31.81	176	P	P	06 11 37.1	-0.2
WB0	Warramunga Arr	32.05	253	P	P	06 11 39.3	-0.5
WRA	Warramunga Arr	32.12	253	P	P	06 11 39.9	-0.5
WRA	Warramunga Arr	32.12	253	P	P	06 11 40.0	-0.5
	comp=Z,1.0nm,0.5s,baz=84,slow=8.9,SNR=8.3						
WRA				pP	pP	06 12 23.3	-0.9
	comp=Z,1.1nm,0.9s,baz=85,slow=8.6,SNR=2.5						
WRA				PcP	PcP	06 14 24.4	+0.2
	comp=Z,0.4nm,0.6s,baz=80,slow=3.5,SNR=1.2						
WRA				S	S	06 16 32.6	-4.0
	comp=Z,0.5nm,0.7s,baz=84,slow=14,SNR=3.2						
	comp=Z,1.0nm,0.5s						
AS31	Alice Springs	33.22	246	P	P	06 11 49.7	-0.2
ASAR	Alice Springs	33.22	246	P	P	06 11 49.5	-0.3
ASAR	Alice Springs	33.22	246	P	P	06 11 49.4	-0.5
	comp=Z,1.9nm,0.7s,baz=71,slow=9.5,SNR=20						
ASAR				pP	pP	06 12 31.7	-2.2
	comp=Z,2.3nm,0.8s,baz=75,slow=9.6,SNR=5.8						
ASAR				PcP	PcP	06 14 26.7	-0.5
	comp=Z,1.3nm,0.8s,baz=73,slow=3.3,SNR=8.4						
ASAR				S	S	06 16 52.8	-0.7
	comp=Z,1.3nm,1.1s,baz=77,slow=16,SNR=5.4						
ASAR				ScP	ScP	06 17 52.7	+2.1
	comp=Z,1.1nm,1.0s,baz=90,slow=4.6,SNR=4.2						
	comp=Z,1.9nm,0.7s						
BBOO	Buckleboo	34.70	229	P	P	06 12 02.8	+0.4
BBOO				IAmb	IAmb	06 12 04.1	
	comp=Z,14nm,0.8s						
FORT	Forrest	40.17	237	P	P	06 12 49.1	+0.7
KAPI	Kappang	47.20	275	P	P	06 13 45.5	+0.9
NWAO	Narrogin (SRO)	49.62	237	P	P	06 14 03.3	+0.6
NWAO				IAmb	IAmb	06 14 45.7	
	comp=Z,36nm,1.4s						
JAGI	Jajag, Banyuwa	52.02	269	P	P	06 14 19.5	-1.4
JAGI				IAmb	IAmb	06 14 58.0	
	comp=Z,32nm,1.3s						
JGF	Kuroka	55.51	331	P	P	06 14 45.9	+0.1
JGF				IAmb	IAmb	06 15 04.9	
	comp=Z,32nm,1.5s						
JMN	Monobe	55.80	327	P	P	06 14 48.7	+0.8
MJAR	Matsushiro Arr	55.88	332	P	P	06 14 48.4	0.0
	comp=Z,5.9nm,0.8s,baz=173,slow=8.7,SNR=15						
	comp=Z,5.9nm,0.8s						
MAJO	Matsushiro	55.88	332	P	P	06 14 48.6	+0.2
MAJO				IAmb	IAmb	06 14 49.6	
	comp=Z,13nm,0.9s						
JNU	Nakatsue	57.02	324	P	P	06 14 57.3	+0.8
JNU				IAmb	IAmb	06 14 58.4	
	comp=Z,11nm,0.9s						
JNU	Nakatsue	57.02	324	P	P	06 14 56.9	+0.4
	comp=Z,8.7nm,0.8s,baz=45,slow=4.7,SNR=4.4						
	comp=Z,8.7nm,0.8s						
JKA	Kamikawa-asahi	60.64	340	P	P	06 15 22.2	+1.2
KSRS	Korea Array	61.82	325	P	P	06 15 30.1	+1.1
	comp=Z,2.6nm,0.8s,baz=150,slow=7.7,SNR=8.7						
	comp=Z,2.6nm,0.8s						
USA0B	Ussuriysk Arra	64.86	333	P	P	06 15 50.2	+1.3
USA0B				IAmb	IAmb	06 15 51.8	
	comp=Z,15nm,1.2s						
USRK	Ussuriysk Ar.	64.86	333	P	P	06 15 49.9	+1.1
USRK	Ussuriysk Ar.	64.86	333	P	P	06 15 50.5	+1.7
	comp=Z,6.7nm,0.9s,baz=149,slow=5.9,SNR=8.6						
	comp=Z,6.7nm,0.9s						
CASY	Casey	65.39	202	P	P	06 15 52.0	0.0
CASY				IAmb	IAmb	06 15 53.3	
	comp=Z,16nm,1.3s						
PETK	Petropavlovsk-	65.91	354	P	P	06 15 56.1	+0.7
	comp=Z,3.9nm,0.7s,baz=148,slow=8.5,SNR=6.5						
	comp=Z,3.9nm,0.7s						
PHRA	Phrae	72.69	294	P	P	06 16 38.3	+0.6
CMAR	Chiang Mai Arr	73.82	294	P	P	06 16 45.1	+0.7
CMAR	Chiang Mai Arr	73.82	294	P	P	06 16 45.5	+1.1
	comp=Z,2.0nm,0.4s,baz=122,slow=4.1,SNR=19						
	comp=Z,2.0nm,0.4s						
CHTO	Chiang Mai	73.94	294	P	P	06 16 45.8	+0.7
CHIR	Chirikof Islan	75.00	21	P	P	06 16 49.9	-0.3
	baz=218						
R16K	Pilot Point	75.75	19	P	P	06 16 54.3	-0.2
	baz=216						
O14K	Tigyukauivet M	76.07	16	P	P	06 16 56.0	-0.3
	baz=212						
SII	Sitkinak Islan	76.08	21	P	P	06 16 55.4	-1.0
	baz=219						
R17L	Mt. Peulik Vol	76.19	19	P	P	06 16 56.9	-0.2
	baz=217						
M13K	Dall Lake	76.53	15	P	P	06 16 58.5	-0.4
	baz=210						
R18K	Karluk	76.77	20	P	P	06 16 59.6	-0.6
	baz=218						
P16K	Nushagak River	76.82	18	P	P	06 17 00.2	-0.3
	baz=215						
Q17K	Contact Creek	76.85	19	P	P	06 17 00.4	-0.5
	baz=217						
OHAK	Old Harbor	76.90	21	P	P	06 17 00.6	-0.4
	baz=220						
Q16K	King Salmon	76.94	19	P	P	06 17 00.0	-1.1
	baz=216						
ACHA	Angle Creek He	76.99	19	P	P	06 17 01.5	0.0
ACHA				IAmb	IAmb	06 17 03.9	
	comp=Z,16nm,1.4s						
N15K	Kwethluk River	77.17	16	P	P	06 17 02.1	-0.3
	baz=213						
M14K	Bethel	77.17	15	P	P	06 17 02.5	+0.1
	baz=211						
O16K	Kokwok River B	77.25	17	P	P	06 17 02.7	-0.2
	baz=215						
P17K	Kvichak River	77.42	18	P	P	06 17 03.4	-0.4
	baz=216						
QSPA	South Pole Qui	77.43	180	P	P	06 17 03.4	-0.7
QSPA	South Pole Qui	77.43	180	P	P	06 17 04.4	+0.3
	comp=Z,4.0nm,0.8s,baz=348,slow=0.7,SNR=18						
	comp=Z,4.0nm,0.8s						
Q18K	Katmai Hardscr	77.44	19	P	P	06 17 03.5	-0.6
	baz=218						
L14K	Kuka Creek	77.50	14	P	P	06 17 04.5	+0.3
	baz=210						
K13K	Kusilvak Mount	77.56	13	P	P	06 17 05.2	+0.6
	baz=208						
KDAK	Kodiak Island	77.58	21	P	P	06 17 04.4	-0.3
	baz=220						
N16K	Nishlik Lake	77.79	17	P	P	06 17 05.8	-0.1
	baz=214						
P18K	Big Mountain,	77.95	19	P	P	06 17 06.2	-0.6
	baz=218						
L15K	Ungalak Mounta	78.08	15	P	P	06 17 08.0	+0.6
	baz=211						
Q19K	Cape Douglas,	78.10	20	P	P	06 17 07.6	0.0
	baz=219						
M16K	Timber Creek	78.19	16	P	P	06 17 09.0	+0.9
	baz=214						
Q20K	Shuyak Island	78.27	20	P	P	06 17 08.3	-0.2
	baz=220						
J14K	Nanvaranak Lak	78.52	13	P	P	06 17 10.4	+0.6
	baz=209						
K15K	Wolf Creek Mou	78.60	14	P	P	06 17 10.6	+0.3
	baz=211						
L16K	Owhat River	78.63	16	P	P	06 17 10.5	+0.1
	baz=213						
L17K	Donlin	79.29	16	P	P	06 17 13.9	-0.1
	baz=214						
HOM	Homer	79.32	20	P	P	06 17 13.8	-0.4
	baz=221						
M18K	Stony River	79.45	17	P	P	06 17 14.5	-0.4
	baz=217						
J16K	Anvik River	79.67	14	P	P	06 17 16.4	+0.3
	baz=212						
BRSE	Bradley Lake S	79.69	20	P	P	06 17 15.9	-0.3
	baz=222						
K17K	Iditarod	79.77	15	P	P	06 17 17.0	+0.4
	baz=214						
L18K	Granite Mounta	79.80	16	P	P	06 17 16.2	-0.5
	baz=216						
YAK	Yakutsk	79.91	343	P	P	06 17 17.9	+0.6
	comp=Z,13nm,0.5s,baz=219,slow=14,SNR=4.6						
	comp=Z,13nm,0.5s						
J17K	VABM Dome	80.14	15	P	P	06 17 19.0	+0.5
	baz=213						
TNA	Tin City	80.16	10	P	P	06 17 19.0	+0.4
	baz=205						
L19K	White Mountain	80.28	17	P	P	06 17 19.4	0.0
	baz=218						
N20K	Mount Spurr	80.31	19	P	P	06 17 18.7	-0.9
	baz=220						
SEW	Seward	80.39	21	P	P	06 17 20.4	+0.5
	baz=223						
TTA	Tatalina	80.56	16	P	P	06 17 20.3	-0.6
	baz=216						
O22K	Cooper Landing	80.58	20	P	P	06 17 21.6	+0.6
	baz=223						
SONM	Songino Array	80.61	324	P	P	06 17 21.2	-0.4
	comp=Z,1.4nm,0.6s,baz=137,slow=4.7,SNR=10						
	comp=Z,1.4nm,0.6s						
L20K	Farewell, AK	80.80	17	P	P	06 17 21.6	-0.5
	baz=218						
J18K	Innoko River	80.80	16	P	P	06 17 21.5	-0.6
	baz=216						
SUA	Susitna One	80.97	19	P	P	06 17 22.7	-0.5
	baz=222						
Q23K	Middleton Isla	81.01	22	P	P	06 17 23.2	0.0
	baz=226						
RC01	Rabbit Creek A	81.02	20	P	P	06 17 23.0	-0.3
	baz=222						
PWL	Port Wells	81.32	20	P	P	06 17 24.6	-0.3
	baz=224						
M22K	Willow	81.39	19	P	P	06 17 25.2	+0.1
	baz=222						
K20K	Telida	81.43	17	P	P	06 17 25.2	-0.2
	baz=218						
PMR	Palmer	81.59	20	P	P	06 17 26.2	-0.1
	baz=223						
KNK	Knik Glacier	81.68	20	P	P	06 17 26.7	-0.1
KNK				IAmb	IAmb	06 17 27.9	
	comp=Z,6.6nm,0.6s						
KNK	Knik Glacier	81.68	20	P	P	06 17 26.5	-0.3
	baz=224						
GLI	Glacier Island	81.76	21	P	P	06 17 27.1	-0.1
	baz=225						
CUT	Chulitna	81.83	19	P	P	06 17 27.3	-0.1
	baz=222						
EYAK	Cordova Ski Ar	82.01	22	P	P	06 17 29.0	+0.6
	baz=226						
SML	Sawmill	82.01	20	P	P	06 17 28.4	-0.1
SML	Sawmill	82.01	20	P	P	06 17 27.8	-0.7
	baz=224						
CAST	Castle Rocks	82.05	17	P	P	06 17 28.0	-0.7
CAST				IAmb	IAmb	06 17 30.2	
	comp=Z,8.3nm,0.6s						
CAST	Castle Rocks	82.05	17	P	P	06 17 28.5	-0.2
	baz=220,SNR=9.3						
J20K	Nowinta River	82.06	16	P	P	06 17 28.6	0.0
	baz=218						
KAIM	Kayak Island	82.07	22	P	P	06 17 28.5	-0.3
	baz=228						
M23K	Glacier View	82.20	20	P	P	06 17 28.8	-0.7
	baz=224						
F17K	Baldwin Pennin	82.22	12	P	P	06 17 30.2	+0.7
	baz=211						
CHUM	Lake Minchumin	82.34	17	P	P	06 17 30.9	+0.8
	baz=220						
SCM	Sheep Creek Mo	82.36	20	P	P	06 17 30.2	-0.1
SCM				IAmb	IAmb	06 17 31.9	
	comp=Z,9.5nm,0.7s						
SCM	Sheep Creek Mo	82.36	20	P	P	06 17 30.3	-0.1
	baz=225						
I20K	Naaghedeneel	82.46	16	P	P	06 17 31.1	+0.4
	baz=218						
H19K	Roundabout Mou	82.55	14	P	P	06 17 32.2	+1.1
	baz=216						
KLU	Klutina	82.60	21	P	P	06 17 31.1	-0.5
	baz=226						
TRF	Thorofare Moun	82.60	18	P	P	06 17 31.9	+0.2
	baz=222,SNR=5.1						
BERG	Berg Lake	82.65	22	P	P	06 17 32.4	+0.6
E17K	Hotham Inlet	82.66	12	P	P	06 17 31.9	+0.2
	baz=210						
WAT1	Susitna Watana	82.68	19	P	P	06 17 31.8	-0.2
	baz=223						
F18K	Selawik	82.70	13	P	P	06 17 32.2	+0.4
	baz=213						
BMRM	Bremner River	82.70	22	P	P	06 17 32.2	+0.1
	baz=227						
WAT6	Susitna Watana	82.76	19	P	P	06 17 32.3	-0.2
	baz=224,SNR=7.3						
G19K	Purcell Mounta	82.90	14	P	P	06 17 33.0	+0.1
	baz=215						
H20K	Anotleneega Mo	82.91	15	P	P	06 17 33.1	+0.1
	baz=217						
M24K	Tolsona, Glenn	82.94	20	P	P	06 17 34.0	+0.7
M24K	Tolsona, Glenn	82.94	20	P	P	06 17 33.5	+0.2
	baz=226						
D17K	Noatak River	82.95	11	P	P	06 17 33.9	+0.8
	baz=209						
RND	Reindeer	83.01	18	P	P	06 17 33.7	+0.1
RND				IAmb	IAmb	06 17 35.1	
	comp=Z,9.2nm,0.6s						
C16K	Lisburne Hills	83.06	10	P	P	06 17 33.9	+0.2
	baz=207						
CRQE	Cirque	83.11	22	P	P	06 17 33.5	-0.8
	baz=229						
N25K	Chitina, Valde	83.14	21	P	P	06 17 35.0	+0.7
N25K				IAmb	IAmb	06 17 36.1	
	comp=Z,20nm,1.2s						
N25K	Chitina, Valde	83.14	21	P	P	06 17 34.2	-0.2
	baz=227,SNR=6.2						
MESA	MESA	83.17	23	P	P	06 17 34.0	-0.7
	baz=230						
E18K	Tukpahlearik C	83.20	12	P	P	06 17 34.9	+0.4
	baz=212						
MCK	McKinley	83.22	18	P	P	06 17 34.5	-0.2
	baz=223,SNR=5.3						
DHY	Denali Highway	83.23	19	P	P	06 17 34.9	-0.1
DHY	Denali Highway	83.23	19	P	P	06 17 34.3	-0.6
	baz=224,SNR=6.1						
RDOG	Red Dog Mine	83.29	11	P	P	06 17 35.5	+0.6
	baz=209						
F19K	Shaleruckik Mo	83.31	13	P	P	06 17 35.1	+0.1
	baz=214						
I21K	Tanana	83.43	16	P	P	06 17 36.0	+0.4
I21K	Tanana	83.43	16	P	P	06 17 35.6	0.0
	baz=220						
HARP	HAARP	83.49	20	P	P	06 17 35.9	-0.2
	baz=227						
MCARA	McCarthy VSAT	83.55	22	P	P	06 17 36.9	+0.5
	baz=229						
H21K	Melozitna Rive	83.57	16	P	P	06 17 36.7	+0.3
	baz=219						
MLY	Manley	83.66	17	P	P	06 17 37.1	+0.2
	baz=221						
MAW	Mawson	83.75	202	P	P	06 17 37.8	+0.4
	comp=Z,2.6nm,0.8s,baz=115,slow=6.4,SNR=7.3						
	comp=Z,2.6nm,0.8s						
PINM	Pinnacle	83.77	24	P	P	06 17 37.4	-0.2
	baz=231						
PAX	Paxson	83.78	20	P	P	06 17 37.5	-0.1

HDA	Harding Lake	84.31	18	P	P	06 17 40.2 +0.1
	baz=225,SNR=26					
COLA	College	84.38	18	P	P	06 17 40.3 -0.1
	baz=224					
P29M	Windy Craggy	84.49	25	P	P	06 17 41.4 +0.2
	baz=234					
RIDG	Independent Ri	84.51	19	P	P	06 17 41.6 +0.4
RIDG	Independent Ri	84.51	19	P	P	06 17 41.3 0.0
	baz=227,SNR=7.4					
L26K	Log Cabin Wild	84.53	20	P	P	06 17 41.9 +0.6
	baz=228					
O29M	Mount Kennedy	84.56	24	P	P	06 17 41.5 -0.1
	baz=233					
H23K	Yukon River	84.58	17	P	P	06 17 42.1 +0.6
H23K	Yukon River	84.58	17	P	P	06 17 41.3 -0.2
	baz=222					
IL31		84.59	18	P	P	06 17 40.9 -0.5
IL31				IAmb	IAmb	06 17 41.9
	comp=Z,11nm,0.9s					
ILAR	Eielson Array	84.59	18	P	P	06 17 40.8 -0.8
ILAR	Eielson Array	84.59	18	P	P	06 17 41.3 -0.2
	comp=Z,7.6nm,0.6s,baz=239,slow=4.8,SNR=126					
ILAR				pP	pP	06 18 32.0 -2.3
	comp=Z,2.5nm,0.9s,baz=224,slow=6.1,SNR=5.1					
	comp=Z,7.6nm,0.6s					
M27K	Edge Creek, AK	84.60	21	P	P	06 17 42.4 +0.6
M27K				IAmb	IAmb	06 17 43.8
	comp=Z,17nm,1.3s					
M27K	Edge Creek, AK	84.60	21	P	P	06 17 41.4 -0.5
	baz=230					
F21K	Alatna River	84.62	14	P	P	06 17 41.5 -0.2
	baz=218					
R31K	City Hall, Gus	84.63	26	P	P	06 17 41.9 +0.1
	baz=235					
POKR	Poker Plat Res	84.67	18	P	P	06 17 41.3 -0.7
	baz=224,SNR=5.0					
YUK8	Steele Glacier	84.70	23	P	P	06 17 42.4 -0.1
	baz=232					
YUK3	Moose Creek	84.75	22	P	P	06 17 41.9 -0.7
	baz=231					
E20K	Nigu River	84.83	13	P	P	06 17 44.0 +1.3
	baz=216					
G22K	Bettles	84.89	15	P	P	06 17 43.4 +0.5
	baz=220					
J25K	Salcha River,	84.95	19	P	P	06 17 43.5 +0.1
J25K	Salcha River,	84.95	19	P	P	06 17 43.9 +0.5
	baz=226,SNR=16					
SCRK	Sand Creek	84.95	20	P	P	06 17 43.9 +0.4
SCRK				IAmb	IAmb	06 17 44.8
	comp=Z,5.3nm,0.6s					
SCRK	Sand Creek	84.95	20	P	P	06 17 44.1 +0.6
	baz=228,SNR=8.1					
PLBC	Pleasant Camp	84.96	25	P	P	06 17 43.4 -0.1
	baz=235					
H24K	Noodor Dome	85.06	17	P	P	06 17 44.7 +0.8
	baz=224					
L27K	Beaver Creek,	85.08	21	P	P	06 17 44.4 +0.3
	baz=230					
P30M	Million Dollar	85.10	25	P	P	06 17 44.3 +0.1
	baz=234					
D20K	Etivluk River	85.11	13	P	P	06 17 44.9 +0.8
	baz=215					
G23K	Bananza Creek	85.11	16	P	P	06 17 45.1 +0.9
G23K				IAmb	IAmb	06 17 46.0
	comp=Z,8.5nm,0.8s					
G23K	Bananza Creek	85.11	16	P	P	06 17 44.6 +0.5
	baz=222					
MPK	Martis Peak	85.13	48	P	P	06 17 46.1 +0.9
MPK				IAmb	IAmb	06 17 47.0
	comp=Z,13nm,1.5s					
YUK4	Talbot Arm	85.16	23	P	P	06 17 44.9 +0.2
	baz=233					
F22K	John River	85.17	15	P	P	06 17 45.1 +0.7
	baz=220					
HYT	Haines Junctio	85.30	24	P	P	06 17 45.3 0.0
	baz=234					
J26L	Joseph Creek	85.44	19	P	P	06 17 46.6 +0.7
	baz=228					
COLD	Coldfoot	85.45	15	P	P	06 17 46.9 +1.1
	baz=222					
E21K	Killik River	85.47	14	P	P	06 17 47.3 +1.4
	baz=218					
PRP	Porcupine Dome	85.53	18	P	P	06 17 46.8 +0.4
	baz=226					
K27K	Chicken	85.62	20	P	P	06 17 47.6 +1.0
	baz=229					
J05D	Fort Rock, OR	85.71	44	P	P	06 17 48.1 +0.3
J05D				IAmb	IAmb	06 17 49.7
	comp=Z,11nm,1.2s					
E22K	Anaktuvuk Pass	85.74	14	P	P	06 17 47.8 +0.6
	baz=220					
G24K	Hadweenzic Riv	85.80	17	P	P	06 17 47.6 +0.1
G24K	Hadweenzic Riv	85.80	17	P	P	06 17 48.2 +0.7
	baz=224					
O30N	Mendenhall	85.83	24	P	P	06 17 48.3 +0.5
	baz=235					
N30M	Aishikik Lake	85.83	24	P	P	06 17 48.0 +0.2
	baz=234					
C21K	Knifeblade Rid	85.86	13	P	P	06 17 48.6 +0.8
	baz=217					
M29M	Somme Creek	85.90	22	P	P	06 17 48.3 +0.1
	baz=233					
DSP	Deep Springs	86.01	51	P	P	06 17 49.3 +0.1
NVAR	Mina Array Bea	86.10	49	P	P	06 17 49.9 0.0
	comp=Z,1.7nm,0.8s,baz=236,slow=6.4,SNR=13					
NVAR				pP	pP	06 18 41.3 -1.6
	comp=Z,0.3nm,0.6s,baz=240,slow=7.1,SNR=1.6					
	comp=Z,1.7nm,0.8s					
D22K	Ayikyak River	86.11	14	P	P	06 17 50.5 +1.5
	baz=219					
I26K	Coal Creek Min	86.11	19	P	P	06 17 49.4 +0.3
I26K	Coal Creek Min	86.11	19	P	P	06 17 49.6 +0.6
	baz=228					
P32M	Atlin	86.16	26	P	P	06 17 49.5 +0.1
	baz=237					
E23K	Chandalar	86.22	15	P	P	06 17 50.2 +0.6
E23K				IAmb	IAmb	06 17 52.2
	comp=Z,13nm,1.4s					
G25K	Bearman Lake	86.23	17	P	P	06 17 49.5 0.0
	baz=225					
B21K	Ikpikpuk River	86.27	13	P	P	06 17 50.8 +1.2
	baz=217					
F24K	Squaw Lake	86.28	16	P	P	06 17 50.9 +1.0
F24K				IAmb	IAmb	06 17 52.5
	comp=Z,7.8nm,0.9s					
F24K	Squaw Lake	86.28	16	P	P	06 17 50.6 +0.8
	baz=224					
EGAK	Eagle	86.41	20	P	P	06 17 50.0 -0.5
EGAK				IAmb	IAmb	06 17 52.1
	comp=Z,5.7nm,0.7s					
EGAK	Eagle	86.41	20	P	P	06 17 51.0 +0.5
	baz=230,SNR=8.1					
L29M	L29M	86.42	22	P	P	06 17 50.9 +0.2
	baz=233					
E24K	Your Creek	86.52	15	P	P	06 17 51.4 +0.3
	baz=223					
DAWY	Dawson	86.56	21	P	P	06 17 51.6 +0.3
	baz=232					
M30M	Minto, Yukon	86.60	23	P	P	06 17 51.6 +0.1
	baz=234					
D23K	Nanushuk River	86.64	14	P	P	06 17 53.1 +1.5
D23K				IAmb	IAmb	06 17 54.5
	comp=Z,11nm,0.9s					
D23K	Nanushuk River	86.64	14	P	P	06 17 52.9 +1.3
	baz=221					
TOLK	Toolik Lake Re	86.67	15	P	P	06 17 52.7 +1.0
	baz=222					
I27K	Kandik River	86.79	19	P	P	06 17 53.2 +0.7
	baz=230					
F25K	Christian Rive	86.94	16	P	P	06 17 53.7 +0.6
	baz=226					
G26K	Porcupine Rive	87.02	17	P	P	06 17 54.4 +1.0
	baz=228					
K29M	Barlow Dome	87.08	21	P	P	06 17 54.2 +0.2
	baz=234					
B22K	Teshekpuk Lake	87.09	12	P	P	06 17 54.8 +1.2
	baz=218					
J29N	Klondike Camp	87.20	21	P	P	06 17 55.4 +0.9
	baz=233					
H27K	Steamboat Moun	87.23	19	P	P	06 17 55.3 +0.8
	baz=230					
D24K	Happy Valley	87.23	14	P	P	06 17 55.3 +0.9
	baz=223					
I28M	Miner Creek	87.24	20	P	P	06 17 55.7 +1.1
	baz=231					
A21K	Barrow	87.24	11	P	P	06 17 55.6 +1.3
	baz=215					
R33M	Jennings River	87.25	27	P	P	06 17 55.4 +0.6
	baz=240					
N32M	Quiet Lake	87.26	25	P	P	06 17 55.5 +0.7
	baz=238					
C23K	Itkillik River	87.32	14	P	P	06 17 55.9 +1.1
	baz=221					
E25K	Arctic Village	87.33	16	P	P	06 17 56.1 +1.2
	baz=226					
G27K	Doyon Strip	87.56	18	P	P	06 17 57.0 +0.9
	baz=230					
J08A	Circle Bar Ran	87.62	45	P	P	06 17 57.2 +0.2
J08A				IAmb	IAmb	06 17 58.7
	comp=Z,10nm,1.4s					
C24K	Franklin Bluff	87.68	14	P	P	06 17 57.6 +1.1
	baz=223					
D25K	Kavik River	87.96	15	P	P	06 17 58.7 +0.9
	baz=225					
R11B	Troy Canyon, C	88.11	50	P	P	06 18 00.2 +0.7
	baz=252					
H29M	Whitestone	88.22	19	P	P	06 18 00.3 +1.2
	baz=233					
I30M	Mount Dempster	88.29	21	P	P	06 18 00.4 +0.8
	baz=234					
E27K	Coleen River	88.47	17	P	P	06 18 01.5 +1.2
	baz=230					
C26K	Camden Bay	88.74	15	P	P	06 18 03.0 +1.6
	baz=226					
G29M	Pine Creek	88.75	19	P	P	06 18 02.6 +1.0
	baz=233					
EPYK	Eagle Plains	88.85	20	P	P	06 18 03.0 +0.9
	baz=234					
C27K	Jago River	88.85	15	P	P	06 18 03.0 +1.0
	baz=228					
SPR3	Spring Creek 3	89.23	50	P	P	06 18 04.3 -0.7
H31M	Peel River	89.32	21	P	P	06 18 05.1 +0.7
	baz=236					
F10A	Beach Ranch, E	89.32	43	P	P	06 18 04.7 -0.2
F10A				IAmb	IAmb	06 18 06.3
	comp=Z,7.2nm,1.0s					
E28M	Babbage River	89.33	17	P	P	06 18 05.4 +1.1
	baz=232					
D27M	Malcolm River	89.33	16	P	P	06 18 04.7 +0.3
	baz=230					
G30M	tAoh Zraii Nji	89.36	19	P	P	06 18 04.8 +0.2
	baz=235					
KNB	Kanab	89.82	52	P	P	06 18 07.8 +0.3
KNB				IAmb	IAmb	06 18 09.6
	comp=Z,8.6nm,1.2s					
PLID	Pearl Lake	89.86	44	P	P	06 18 07.3 -0.3
G31M	Satah River	89.97	20	P	P	06 18 07.8 +0.6
	baz=236					
D28M	Stokes Point	90.01	17	P	P	06 18 08.3 +1.0
	baz=232					
U15A	North Rim	90.08	53	P	P	06 18 09.4 +0.5
U15A				IAmb	IAmb	06 18 11.0
	comp=Z,9.0nm,0.9s					
HLID	Hailey	90.50	45	P	P	06 18 10.6 +0.1
121A	Cookes Peak, D	92.72	57	P	P	06 18 22.0 +0.9
	baz=257					
PDAR	Pinedale Array	93.71	47	P	P	06 18 25.0 -0.4
	comp=Z,0.2nm,0.5s,baz=198,slow=5.4,SNR=2.6					
	comp=Z,0.2nm,0.5s					
C36M	Paulatuk	94.48	19	P	P	06 18 28.4 +0.5
	baz=246					
S22A	4UR Ranch, Cre	94.63	53	P	P	06 18 30.2 +0.3
	baz=258					
TROLL	Troll, Antarti	94.96	185	⇑P	P	06 18 28.1 -2.4
	comp=Z,184nm,0.7s					
A36M	Sachs Harbour	95.22	17	P	P	06 18 32.5 +1.2
	baz=245					
MK31	Makanchi Array	95.46	317	P	P	06 18 33.8 +0.7
MKAR	Makanchi Array	95.46	317	P	P	06 18 33.2 +0.2
MKAR	Makanchi Array	95.46	317	P	P	06 18 33.4 +0.4
	comp=Z,4.0nm,0.7s,baz=94,slow=6.6,SNR=16					
	comp=Z,4.0nm,0.7s					
ZALV	Zalesovo Beam	95.50	324	P	P	06 18 32.8 -0.2
	comp=Z,1.9nm,0.7s,baz=108,slow=4.7,SNR=9.6					
	comp=Z,1.9nm,0.7s					
TXAR	Lajitas Array	95.51	61	P	P	06 18 33.5 -0.3
	comp=Z,0.7nm,0.8s,baz=216,slow=4.5,SNR=7.8					
	comp=Z,0.7nm,0.8s					
SNAA	Sanae	95.66	183	⇑P	P	06 18 32.1 -1.6
	comp=Z,38nm,0.9s					
SNAA	Sanae	95.66	183	P	P	06 18 32.6 -1.0
	comp=Z,2.1nm,1.0s,baz=166,slow=5.6,SNR=4.4					
	comp=Z,2.1nm,1.0s					
N23A	Red Feather La	95.95	50	P	P	06 18 35.6 -0.1
	baz=258					
Q24A	Divide	96.17	52	P	P	06 18 37.7 +0.9
	baz=259					
VNA3	Neumayer Olymp	96.34	181	⇑P	P	06 18 32.2 -4.4
	comp=Z,2.9nm,0.7s					
833A	Chaparral WMA,	99.02	63	P	Pdif	06 18 52.1 +2.6
	baz=260					
ARCES	ARCESS Array B	118.12	346	PKP	PKPdf	06 23 53.4 -0.1
	comp=Z,2.6nm,0.6s,baz=48,slow=1.8,SNR=14					
LPAZ	La Paz	118.43	116	PKP	PKPdf	06 23 55.6 -0.8
	comp=Z,0.4nm,0.5s,baz=211,slow=2.7,SNR=2.3					
FINES	FINESS Array B	123.63	339	PKP	PKPdf	06 24 03.5 -0.8
	comp=Z,3.4nm,0.9s,baz=20,slow=4.4,SNR=5.3					
BOSA	Boshof	124.79	222	PKP	PKPdf	06 24 07.5 -0.3
	comp=Z,0.7nm,0.7s,baz=142,slow=12,SNR=3.7					
NB2	NORSAR Subarra	128.49	345	PKPdf	PKPpre	06 24 09.2
	comp=Z,2.4nm,0.8s,baz=31,slow=2.0					
NOA	NORSAR Array B	128.49	345	PKP	PKPdf	06 24 13.2 -0.5
	comp=Z,0.6nm,0.6s,baz=56,slow=2.4,SNR=3.8					
AKASG	Malin Array Be	128.80	327	PKP	PKiKP	06 24 15.5 +0.3
	comp=Z,0.2nm,0.3s,baz=82,slow=1.0,SNR=5.0					
GERES	GERESS Array B	137.61	334	PKP	PKiKP	06 24 32.7 -0.6
	comp=Z,0.5nm,0.6s,baz=46,slow=5.6,SNR=3.6					
KEST	Kesra	149.36	323	PKPbc	PKPbc	06 24 57.1 +0.4
	comp=Z,5.4nm,0.8s,baz=0.0,slow=6.1,SNR=3.6					
ESDC	Sonseca Array	151.85	345	PKPbc	PKiKP	06 25 02.7 0.0
	comp=Z,2.5nm,0.8s,baz=14,slow=2.9,SNR=12					
ESDC				PKPab	PKPab	06 25 12.0 -0.2
	comp=Z,4.0nm,0.8s,baz=336,slow=2.8,SNR=13					
TORD	Torodi Ar. Bea	165.63	274	PKP	PKPdf	06 25 12.4 -0.2
	comp=Z,0.9nm,0.8s,baz=17,slow=2.4,SNR=5.2					
TORD				PKPab	PKPab	06 26 12.4 -0.3
	comp=Z,1.8nm,0.9s,baz=73,slow=5.7,SNR=8.5					

GCMT 10 06:21:53.0±0.5, 41°.39S±0°.03×88°.86W±0°.04, h25km±2km, MW4.8/73, Moment Tensor Solution. s7,c8; s73,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-0.29±.16; Mθθ0.45±.14; Mφφ-0.16±.11; Mrθ-1.32±.31; Mθφ-1.97±.08; Mφr0.39±.22; **Best double couple:** M0 2.37800×10^{16} **NP1:**φs267.00000°,δ89.00000°, λ147.00000°. **NP2:**φs358.00000°,δ57.00000°,λ1.00000°. **Principal axes:** T 2.6840, Plg23.0000°, Azm218.0000°; N -0.6120, Plg57.0000°, Azm85.0000°; P -2.0720, Plg22.0000°, Azm317.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function West Chile Rise**

*AEIC **10** 06:31:34.3±1.4, 69°.54N±0°.05×144°.3W±0°.1, h12km±6km, ML3.3, ML3.3/114(NEIC) Error ellipse: s-maj=7.5km s-min=3.8km az=210.0*
*NEIC **10** 06:31:35.2±1.2, 69°.61N±0°.06×144°.19W±0°.04, h10km±2km, Error ellipse: s-maj=10.7km s-min=3.0km az=11.0*
ISC 10 06:31:36.0±1.8, 69°.56N±0°.06×144°.24W±0°.03, h0km±16km, **n130,**σ1°.03/121**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	Jago River	0.20	69	Pg	Pg	06 31 38.7	-1.0
C27K				IAML		06 31 44.8	
	comp=N,5μm,0.4s						
C26K	Camden Bay	0.43	328	P	Pg	06 31 44.1	-0.1
	baz=150						
C26K				S	Sg	06 31 51.7	+1.8
	baz=150						
D25K	Kavik River	0.79	254		Pg	06 31 48.7	-2.3
D27M	Malcolm River	1.20	104		Pb	06 31 56.2	-3.4
D27M				IAML		06 32 18.4	
	comp=E,620nm,0.5s						
D27M				IAML		06 32 19.6	
	comp=N,640nm,0.5s						
D27M	Malcolm River	1.20	104	S	Sb	06 32 17.7	+2.0
	baz=286						
E25K	Arctic Village	1.52	199		Pn	06 32 03.0	-1.4
E25K				Sn	Sn	06 32 23.3	-1.5
E25K				IAML		06 32 26.3	
	comp=N,417nm,0.9s						
E25K	Arctic Village	1.52	199	P	Pn	06 32 03.4	-1.0
	baz=18						
E25K				S	Sn	06 32 24.7	-0.1
	baz=18						
C24K	Franklin Bluff	1.57	278		Pn	06 32 03.2	-1.8
C24K				IAML		06 32 29.7	
	comp=N,535nm,1.0s						
C24K	Franklin Bluff	1.57	278	P	Pn	06 32 04.5	-0.5
	baz=95						
C24K				S	Sn	06 32 25.9	0.0
	baz=95						
D24K	Happy Valley	1.67	258		Pn	06 32 05.4	-1.0
D24K				IAML		06 32 31.2	
	comp=N,517nm,0.8s						
D24K	Happy Valley	1.67	258	S	Sn	06 32 29.4	+0.8
	baz=74						
E27K	Coleen River	1.68	144		Pn	06 32 05.3	-1.3
E27K				Sn	Sn	06 32 27.9	-0.8
E27K				IAML		06 32 32.4	
	comp=E,271nm,0.6s						
E27K	Coleen River	1.68	144	P	Pn	06 32 05.1	-1.4
	baz=326						
F26K	Sheenjek River	1.87	179		Pn	06 32 08.8	-0.3
F26K				IAML		06 32 35.0	
	comp=E,364nm,0.9s						
F26K	Sheenjek River	1.87	179	P	Pn	06 32 09.3	+0.1
	baz=359						
F26K				S	Sn	06 32 34.0	+0.5
	baz=359						
E28M	Babbage River	1.94	117		Pn	06 32 08.8	-1.3
E28M				IAML		06 32 44.2	
	comp=N,210nm,0.8s						
E28M	Babbage River	1.94	117	P	Pn	06 32 10.1	-0.1
	baz=301						
E28M				S	Sn	06 32 36.6	+1.4
	baz=301						
D28M	Stokes Point	1.96	94	P	Pn	06 32 10.6	+0.3
	baz=279						
F25K	Christian Rive	2.04	195		Pn	06 32 09.9	-1.6
F25K				IAML		06 32 41.8	
	comp=N,211nm,1.1s						
F25K				IAML		06 32 42.1	
	comp=E,216nm,1.4s						
F25K	Christian Rive	2.04	195	P	Pn	06 32 11.3	-0.2
	baz=14						
F25K				S	Sn	06 32 39.0	+1.4
	baz=14						
TOLK	Toolik Lake Re	2.12	247	Pn	Pn	06 32 10.9	-1.7
TOLK				IAML		06 32 48.8	
	comp=N,175nm,1.4s						
TOLK	Toolik Lake Re	2.12	247	P	Pn	06 32 11.2	-1.5
	baz=62						
BMAR	Burnt Mountain	2.14	183	Pn	Pn	06 32 12.2	-0.7
E24K	Your Creek	2.14	228		Pn	06 32 12.2	-0.8
C23K	Itkillik River	2.24	280		Pn	06 32 12.1	-2.2
D23K	Nanushuk River	2.37	259		Pn	06 32 14.6	-1.4
D23K				IAML		06 33 04.2	
	comp=E,184nm,0.8s						
D23K				IAML		06 33 12.8	
	comp=N,184nm,0.9s						
F24K	Squaw Lake	2.45	215		Pn	06 32 15.8	-1.4
F24K	Squaw Lake	2.45	215	P	Pn	06 32 16.0	-1.1
	baz=32						
E23K	Chandalar	2.46	235		Pn	06 32 15.5	-1.9
F28M	Old Crow	2.52	139	Pn	Pn	06 32 17.1	-1.0
F28M				IAML		06 32 59.4	
	comp=N,130nm,0.6s						
F28M	Old Crow	2.52	139	P	Pn	06 32 17.1	-1.0
	baz=322						
E29M	Blow River	2.57	114	Pn	Pn	06 32 16.9	-1.9
E29M				IAML		06 32 58.4	
	comp=E,130nm,0.8s						
E29M				IAML		06 33 04.6	
	comp=N,136nm,0.8s						
G26K	Porcupine Rive	2.62	176	P	Pn	06 32 18.5	-1.0
	baz=356						
G27K	Doyon Strip	2.92	159		Pn	06 32 22.7	-1.0
FYU	Fort Yukon	3.03	188	Pn	Pn	06 32 24.3	-0.7
D22K	Ayikyak River	3.08	261		Pn	06 32 24.1	-1.8
D22K	Ayikyak River	3.08	261	P	Pn	06 32 25.8	-0.1
	baz=74						
E22K	Anaktuvuk Pass	3.09	246		Pn	06 32 24.1	-2.0
E22K				IAML		06 33 20.8	
	comp=N,79nm,1.2s						
E22K	Anaktuvuk Pass	3.09	246	P	Pn	06 32 24.6	-1.4
	baz=59						
G24K	Hadweenzic Riv	3.11	204		Pn	06 32 24.7	-1.5
G24K				IAML		06 33 13.1	
	comp=E,82nm,1.3s						
G24K				IAML		06 33 21.1	
	comp=N,102nm,1.0s						
COLD	Coldfoot	3.21	226	P	Pn	06 32 26.7	-0.9
	baz=41						
B22K	Teshekpuk Lake	3.26	288		Pn	06 32 26.7	-1.5
H27K	Steamboat Moun	3.49	162	P	Pn	06 32 31.2	-0.3
	baz=344						
G29M	Pine Creek	3.52	136		Pn	06 32 31.0	-0.9
G29M				IAML		06 33 37.1	
	comp=N,84nm,0.8s						
G29M	Pine Creek	3.52	136	P	Pn	06 32 31.5	-0.4
	baz=321						
G23K	Bananza Creek	3.58	220		Pn	06 32 30.5	-2.3
G23K				IAML		06 33 36.0	
	comp=N,63nm,1.5s						
G23K				IAML		06 33 43.4	
	comp=E,46nm,1.0s						
B21K	Ikpikpuk River	3.63	276		Pn	06 32 31.9	-1.5
E21K	Killik River	3.68	257	Pn	Pn	06 32 32.6	-1.4
E21K				IAML		06 33 44.2	
	comp=E,61nm,1.3s						
E21K				IAML		06 33 50.8	
	comp=N,80nm,1.1s						
G30M	tAoh Zraii Nji	3.95	127	Pn	Pn	06 32 37.3	-0.4
G30M				IAML		06 33 52.7	
	comp=N,50nm,1.1s						
G30M				IAML		06 33 58.2	
	comp=E,39nm,1.1s						
H24K	Noodor Dome	3.98	202	Pn	Pn	06 32 36.7	-1.5
H24K				IAML		06 33 48.1	
	comp=E,42nm,1.4s						
H29M	Whitestone	4.02	144	Pn	Pn	06 32 38.3	-0.4
H29M				IAML		06 33 52.1	
	comp=N,58nm,0.9s						
H29M	Whitestone	4.02	144	P	Pn	06 32 38.5	-0.2
	baz=329						
INK	Inuvik	4.07	103	Pn	Pn	06 32 37.5	-1.8
PRP	Porcupine Dome	4.09	188	Pn	Pn	06 32 38.8	-0.9
PRP				IAML		06 33 44.2	
	comp=E,33nm,1.1s						
PRP				IAML		06 33 48.4	
	comp=N,40nm,0.7s						
PRP	Porcupine Dome	4.09	188	P	Pn	06 32 39.2	-0.5
	baz=6.2						
I27K	Kandik River	4.09	165	P	Pn	06 32 40.0	+0.3
	baz=347						
F21K	Alatna River	4.14	240	Pn	Pn	06 32 39.0	-1.3
F21K				IAML		06 33 57.0	
	comp=N,37nm,1.0s						
F21K				IAML		06 34 00.4	
	comp=E,41nm,1.0s						
F21K	Alatna River	4.14	240	P	Pn	06 32 39.5	-0.9
	baz=52						
H23K	Yukon River	4.26	211		Pn	06 32 40.2	-1.8
H23K				IAML		06 33 59.1	
	comp=N,44nm,1.3s						
H23K				IAML		06 33 59.5	
	comp=E,45nm,1.1s						
EPYK	Eagle Plains	4.27	135		Pn	06 32 41.5	-0.7
I26K	Coal Creek Min	4.29	174		Pn	06 32 41.7	-0.7
I26K				IAML		06 33 51.9	
	comp=E,52nm,0.8s						
I28M	Miner Creek	4.44	156	Pn	Pn	06 32 44.1	-0.5
I28M				IAML		06 33 40.0	
	comp=N,26nm,0.5s						
I28M	Miner Creek	4.44	156	P	Pn	06 32 44.7	+0.1
	baz=340						
B20K	Meade River	4.50	282	Pn	Pn	06 32 44.0	-1.3
B20K	Meade River	4.50	282	P	Pn	06 32 45.5	+0.2
	baz=90						
G31M	Satah River	4.55	121	Pn	Pn	06 32 45.0	-1.0
G31M				IAML		06 34 07.4	
	comp=N,43nm,1.4s						
POKR	Poker Plat Res	4.63	197	Pn	Pn	06 32 47.1	+0.1
POKR				IAML		06 34 06.9	
	comp=N,22nm,1.1s						
POKR				IAML		06 34 09.6	

comp=E,24nm,0.9s
I23K Minto, Yukon-K 4.85 206 Pn 06 32 48.2 -1.8
I23K IAML 06 34 18.1
comp=N,23nm,1.4s
I23K IAML 06 34 20.0
comp=E,25nm,1.4s
IL31 4.91 193 Pn 06 32 50.4 -0.5
ILAR Eielson Array 4.91 193 Pn **Pn 06 32 50.7 -0.3**
F20K Avaraart Lake 4.95 245 Pn **Pn 06 32 50.3 -1.1**
F20K IAML 06 34 27.4
comp=N,24nm,1.4s
EGAK Eagle 4.95 164 Pn 06 32 50.4 -1.0
EGAK IAML 06 33 53.4
comp=N,31nm,0.9s
EGAK IAML 06 34 20.6
comp=N,24nm,0.9s
EGAK Eagle 4.95 164 P **Pn 06 32 52.5 +1.2**
baz=347
J25K Salcha River, 4.98 186 Pn 06 32 51.2 -0.8
J25K IAML 06 34 16.8
comp=E,29nm,1.0s
J25K Salcha River, 4.98 186 P **Pn 06 32 51.7 -0.3**
baz=4.4
J26L Joseph Creek 5.08 177 Pn 06 32 52.6 -0.8
J26L IAML 06 34 20.0
comp=E,21nm,1.0s
J26L Joseph Creek 5.08 177 P **Pn 06 32 53.6 +0.3**
baz=357
IMAR Indian Mountai 5.08 230 Pn 06 32 51.1 -2.1
D19K Kuna River 5.10 264 Pn 06 32 52.3 -1.1
H21K Melozitna Rive 5.10 224 Pn 06 32 51.6 -1.9
H21K IAML 06 34 28.0
comp=E,18nm,1.5s
H21K IAML 06 34 28.2
comp=N,18nm,1.3s
CCB Clear Creek Bu 5.12 197 Pn **Pn 06 32 52.9 -0.9**
MLY Manley 5.19 212 Pn **Pn 06 32 53.4 -1.4**
MLY IAML 06 34 40.0
comp=E,14nm,1.4s
MLY Manley 5.19 212 P **Pn 06 32 54.1 -0.7**
baz=26
E19K Redstone River 5.22 252 Pn 06 32 53.4 -1.7
HDA Harding Lake 5.28 193 Pn 06 32 55.6 -0.4
HDA IAML 06 34 22.7
comp=N,20nm,1.3s
HDA IAML 06 34 28.4
comp=E,24nm,0.9s
I30M Mount Dempster 5.30 141 Pn 06 32 55.1 -1.3
I30M IAML 06 34 01.1
comp=N,14nm,0.6s
I30M IAML 06 34 29.1
comp=E,19nm,1.4s
I21K Tanana 5.31 218 Pn 06 32 54.5 -1.9
WRH Wood River Hil 5.32 198 Pn 06 32 55.5 -1.1
WRH IAML 06 34 33.9
comp=E,15nm,1.2s
H31M Peel River 5.33 130 Pn Pn 06 32 54.0 -2.6
H31M IAML 06 34 28.9
comp=E,23nm,1.1s
H31M IAML 06 34 33.7
comp=N,22nm,1.1s
NEA2 Nenana 5.33 203 Pn 06 32 55.3 -1.3
NEA2 IAML 06 34 43.1
comp=N,14nm,1.0s
NEA2 Nenana 5.33 203 P **Pn 06 32 56.2 -0.4**
baz=18
SCRK Sand Creek 5.61 179 Pn **Pn 06 33 00.1 -0.5**
SCRK Sand Creek 5.61 179 P **Pn 06 33 00.5 -0.1**
baz=359
F19K Shaleruckik Mo 5.73 248 Pn **Pn 06 33 00.3 -1.8**
K24K Donnelly Dome 5.81 187 P **Pn 06 33 03.2 -0.1**
baz=5.2
DAWY Dawson 5.84 159 Pn 06 33 02.8 -0.8
DAWY Dawson 5.84 159 P **Pn 06 33 03.5 -0.2**
baz=343
RIDG Independent Ri 5.85 183 Pn 06 33 03.2 -0.6
J30M Hart River 5.88 145 Pn 06 33 03.1 -1.1
J30M Hart River 5.88 145 P **Pn 06 33 03.6 -0.6**
baz=332
MCK McKinley 6.14 200 P **Pn 06 33 07.3 -0.4**
baz=16
H19K Roundabout Mou 6.17 235 Pn 06 33 06.7 -1.5
K29M Barlow Dome 6.32 152 Pn 06 33 09.3 -1.1
K29M Barlow Dome 6.32 152 P **Pn 06 33 10.9 +0.5**
baz=338
RND Reindeer 6.44 199 Pn 06 33 11.5 -0.5
F18K Selawik 6.48 250 P **Pn 06 33 11.5 -0.8**
baz=56
L26K Log Cabin Wild 6.57 176 Pn 06 33 13.3 -0.4
BCAR Beaver Creek A 6.59 170 Pn 06 33 13.1 -0.9
L27K Beaver Creek, 6.59 170 Pn 06 33 13.5 -0.5
DHY Denali Highway 6.63 192 Pn 06 33 15.2 +0.6
PAX Paxson 6.63 185 P **Pn 06 33 14.9 +0.3**
baz=3.6
MENT Mentasta 6.65 178 Pn 06 33 14.1 -0.7
A36M Sachs Harbour 6.72 60 Pn 06 33 13.0 -2.6
L29M L29M 6.92 156 Pn 06 33 17.9 -0.7
C36M Paulatuk 7.09 82 Pn 06 33 17.7 -3.1
F17K Baldwin Pennin 7.10 252 Pn 06 33 18.2 -2.7
J19K Poorman 7.16 224 Pn **Pn 06 33 20.6 -1.2**
M26K Nabesna, AK 7.20 175 Pn 06 33 22.6 +0.2
M27K Edge Creek, AK 7.29 171 Pn 06 33 23.8 +0.1
M29M Somme Creek 7.52 159 Pn 06 33 26.3 -0.4
H17K Granite Mounta 7.62 240 Pn **Pn 06 33 26.4 -1.7**
M30M Minto, Yukon 7.63 153 Pn 06 33 27.3 -1.0
C16K Lisburne Hills 7.70 270 Pn **Pn 06 33 28.2 -1.0**
SCM Sheep Creek Mo 7.86 191 Pn **Pn 06 33 32.5 +1.1**
J18K Innoko River 7.87 225 Pn **Pn 06 33 30.6 -0.9**
GLB Gilahina Butte 8.15 179 Pn **Pn 06 33 35.8 +0.4**
FARO Faro, Yukon 8.58 144 Pn Pn 06 33 39.1 -2.2
N30M Aishikik Lake 8.65 157 Pn 06 33 42.5 +0.3
L18K Granite Mounta 8.93 221 Pn Pn 06 33 44.2 -1.9
HYT Haines Junctio 9.20 159 Pn 06 33 49.1 -0.7

IDC 10 06:35:49.3±10.0, 1°.85N×101°.48W, h0km, mb3.4/4, mbtmp3.4/4, MS3.4/3, Error ellipse: s-maj=266.3km s-min=130.2km az=113.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**27.41**	**356**	P	P	06 41 36.6	-0.3
	0.7nm,0.8s,baz=181,slow=10,SNR=7.4						
	0.7nm,0.8s						
SJG	**San Juan**	**38.24**	**63**	LR	LR	06 57 41.8	
	comp=Z,65nm,19.8s,baz=162,slow=34						
NVAR	**Mina Array Bea**	**39.53**	**339**	P	P	06 43 22.2	-0.1
	0.1nm,0.6s,baz=152,slow=7.9,SNR=1.8						
	0.1nm,0.6s						
H03N2	**Juan Fernandez**	**41.04**	**151**	T	T	07 26 52.0	
	baz=329,slow=77,SNR=11						
H03N1	**Juan Fernandez**	**41.05**	**151**	T	T	07 26 59.2	
	baz=329,slow=77,SNR=14						
H03N3	**Juan Fernandez**	**41.06**	**151**	T	T	07 26 56.5	
	baz=329,slow=77,SNR=12						
PDAR	**Pinedale Array**	**41.37**	**351**	P	P	06 43 37.8	+0.3
	0.3nm,0.6s,baz=163,slow=6.4,SNR=3.9						
	0.3nm,0.6s						
PLCA	**Paso Flores**	**50.90**	**150**	LR	LR	07 01 27.4	
	comp=Z,48nm,18.1s,baz=322,slow=30						
BBB	**Bella Bella**	**54.88**	**340**	LR	LR	07 05 55.6	
	comp=Z,18nm,19.2s,baz=182,slow=33						
ILAR	**Eielson Array**	**70.75**	**341**	P	P	06 47 07.0	-0.1
	0.3nm,0.7s,baz=131,slow=4.1,SNR=6.9						
	0.3nm,0.7s						

BER 10 06:50:10.2±2.5, 71°.16N×10°.58W, h10km, mb(Pn)3.7, ML2.1, 1C, Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**0.65**	**110**	⇑*i*P	Pg	06 50 22.7	0.0
JMI				*e*S	Sg	06 50 31.7	+0.6
JMI				IAML		06 50 32.2	
	comp=Z,100nm,0.3s						
JMIC	**Jan Mayen**	**0.70**	**104**	*e*P	Pg	06 50 22.8	-0.9
JMIC				*e*S	Sg	06 50 31.7	-1.1
JMIC				IAML		06 50 33.5	
	comp=Z,70nm,0.2s						
JNW	**Jan Mayen West**	**0.71**	**100**	*e*P	Pg	06 50 22.7	-1.2
JNW				*e*S	Sg	06 50 31.9	-1.3
JNW				IAML		06 50 32.7	
	comp=Z,98nm,0.2s						
JNE	**Jan Mayen East**	**0.76**	**102**	*e*P	Pg	06 50 23.4	-1.5
JNE				*e*S	Sg	06 50 32.6	-2.2
JNE				IAML		06 50 32.7	
	comp=Z,149nm,0.2s						
DBG	**Daneborg**	**4.27**	**322**	*e*P	Pn	06 51 15.0	-0.1
DBG				*e*S	Sn	06 51 54.1	-11
DAG	**Danmarks Havn**	**6.06**	**342**	*e*P	Pn	06 51 35.0	-4.7
DAG				*e*S	Sn	06 52 35.2	-14
DAG	**Danmarks Havn**	**6.06**	**342**	*i* P	Pn	06 51 34.0	-5.7
DAG				*i* S	Sn	06 52 34.1	-15
BRBB	**Barentsburg B**	**9.46**	**32**	*e*P	Pn	06 52 23.5	-2.8
BRBB				*e*S	Sn	06 54 00.2	-12
KBS	**Kingsbay**	**9.62**	**26**	*e*P	Pn	06 52 23.9	-4.6
KBS				*e*S	Sn	06 54 03.2	-13
KBS				IAML		06 54 07.5	
	comp=Z,3.4nm,0.8s						
SPA0	**Spitsbergen Ar**	**9.89**	**33**	*e*P	Pn	06 52 28.5	-3.6
SPA0				IAML		06 52 29.2	
	comp=Z,2.2nm,0.7s						
NOR	**Nord**	**10.59**	**355**	*e*P	Pn	06 52 37.0	-4.6
NOR				*e*S	Sn	06 54 24.1	-16

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*SDD **10** 06:50:54.1±2.2, 19°.82N×71°.34W, h16km±29km, MD2.9, ML3.1, MW3.4*
*OSPL **10** 06:50:56.3±2.1, 19°.71N×71°.34W, h0km±9km, ML2.9*
*SSNC **10** 06:50:56.0±0.8, 19°.68N×71°.30W, h4km±8km, MD3.5, ML3.0*
ISC 10 06:50:53.6±1.2, 19°.73N±0°.03×71°.33W±0°.02, h9km±10km, n35, σ0s97/58, 20C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAO1	**Mao**	**0.29**	**127**	⇑*e*Pg	Pb	06 51 00.7	-0.3
MAO1				⇑*e*Sg	Sb	06 51 05.1	-0.8
SC01	**Santiago de lo**	**0.64**	**118**	⇑*e*Pg	Pb	06 51 07.2	+0.2
SC01				⇑*e*Sg	Sb	06 51 16.7	+0.7
SC01				IAML		06 51 21.2	
	comp=E,396nm,0.3s						
SC01				IAML		06 51 27.7	
	comp=N,383nm,0.5s						
SC01				IAML		06 51 27.7	
	comp=N,383nm,0.5s						
SC01	**Santiago de lo**	**0.64**	**118**	*i* P	Pb	06 51 07.2	+0.2
SC01				*e*S	Sb	06 51 16.9	+0.9
SC01				IAML		06 51 22.9	
	comp=Z,361nm,0.2s						
SDDR	**Presa de Saban**	**0.74**	**177**	*e*P	Pb	06 51 08.3	-0.5
SDDR				*e*S	Sg	06 51 17.6	-0.1
SDDR	**Presa de Saban**	**0.74**	**177**	⇓*e*Pg	Pb	06 51 08.5	-0.2
SDDR				⇓*e*Sg	Sb	06 51 18.8	-0.2
SDDR				IAML		06 51 19.2	
	comp=E,509nm,0.5s						
SDDR				IAML		06 51 19.5	
	comp=N,601nm,0.7s						
SDDR				IAML		06 51 19.6	
	comp=N,601nm,0.7s						
SDDR	**Presa de Saban**	**0.74**	**177**	*i* P	Pb	06 51 08.5	-0.2
SDDR				*e*S	Sb	06 51 18.0	-1.0
SDDR				IAML		06 51 20.0	
	comp=Z,435nm,0.5s						
LONE3	**El Aguacate, B**	**1.12**	**186**	*i* P	Pn	06 51 15.4	-0.3
LONE3				*e*S	Sb	06 51 30.2	+0.2
LONE3				IAML		06 51 35.1	
	comp=Z,153nm,0.4s						
ABDR	**Alto Bandera**	**1.12**	**144**	⇑*e*Pg	Pg	06 51 14.4	-0.9
ABDR				⇑*e*Sg	Sn	06 51 31.0	-0.6
ABDR				IAML		06 51 34.0	
	comp=N,251nm,0.5s						
ABDR				IAML		06 51 34.1	
	comp=N,251nm,0.5s						
ABDR				IAML		06 51 35.5	
	comp=E,292nm,0.7s						
NEDR	**Neiba UASD**	**1.24**	**184**	⇑*e*Pg	Pg	06 51 17.3	-0.1
NEDR				IAML		06 51 34.6	
	comp=N,356nm,0.3s						
NEDR				IAML		06 51 34.6	
	comp=N,322nm,0.3s						
NEDR				⇑*e*Sg	Sn	06 51 34.6	+0.7
NEDR				IAML		06 51 35.2	
	comp=E,319nm,0.3s						
CADR	**Cabrera**	**1.31**	**92**	⇑*e*Pg	Pg	06 51 18.6	-0.1
CADR				IAML		06 51 38.0	
	comp=E,672nm,0.3s						
CADR				IAML		06 51 41.0	
	comp=N,582nm,0.5s						
CADR				IAML		06 51 48.4	
	comp=N,502nm,0.5s						
JIDR	**Jimani**	**1.33**	**202**	⇑*e*Pg	Pg	06 51 18.9	-0.1
JIDR				⇑*e*Sg	Sg	06 51 36.6	+0.3
JIDR				IAML		06 51 38.7	
	comp=N,585nm,0.5s						
JIDR				IAML		06 51 38.7	
	comp=N,585nm,0.5s						
JIDR				IAML		06 51 45.6	
	comp=E,348nm,0.4s						
LODU1	**El Espartillar**	**1.38**	**186**	*i* P	Pg	06 51 20.2	+0.2
LODU1				IAML		06 51 45.0	
	comp=Z,201nm,0.4s						
NADR	**Nagua**	**1.44**	**105**	⇑*e*Pg	Pn	06 51 19.0	-0.8
NADR				⇑*e*Sg	Sg	06 51 39.5	-0.3
NADR				IAML		06 51 42.4	
	comp=N,873nm,0.3s						
NADR				IAML		06 51 42.4	
	comp=N,873nm,0.3s						
NADR				IAML		06 51 47.6	
	comp=E,546nm,0.4s						
PODR	**Polo**	**1.55**	**178**	⇑*e*Pg	Pg	06 51 22.8	-0.7
PODR				⇓*e*Sg	Sg	06 51 44.3	+0.6
PODR				IAML		06 51 50.8	
	comp=E,281nm,0.5s						
PODR				IAML		06 51 51.5	
	comp=N,159nm,0.3s						
PODR				IAML		06 51 51.5	
	comp=N,159nm,0.3s						
PODR	**Polo**	**1.55**	**178**	*i* P	Pb	06 51 22.7	0.0
PODR				*e*S	Sg	06 51 43.1	-0.6
PODR				IAML		06 51 49.7	
	comp=Z,116nm,0.3s						
BANI	**BANI**	**1.61**	**145**	⇑*e*Pg	Pg	06 51 24.5	-0.1
BANI				⇑*e*Sg	Sg	06 51 46.1	+0.5
BANI				IAML		06 51 49.5	
	comp=N,234nm,0.5s						
BANI				IAML		06 51 49.5	
	comp=N,234nm,0.5s						
BANI				IAML		06 51 51.0	
	comp=E,381nm,0.4s						
GRTK	**Grand Turk**	**1.78**	**6**	*e*P	Pb	06 51 25.6	-0.9
GRTK				⇑*e*S	Sb	06 51 49.9	+0.9
GRTK				IAML		06 51 51.0	
	comp=E,249nm,0.2s						
GRTK				IAML		06 51 51.2	
	comp=E,213nm,0.3s						
GRTK	**Grand Turk**	**1.78**	**6**	*i* P	Pb	06 51 25.9	-0.6
GRTK				*e*S	Sb	06 51 48.8	-0.2
GRTK				IAML		06 51 56.9	
	comp=Z,47nm,0.2s						
SDD	**Santo Domingo**	**1.84**	**133**	*i* P	Pb	06 51 27.1	-0.3
SDD				*e*S	Sb	06 51 49.9	-0.6
LOBH	**Bahia de las A**	**1.88**	**189**	*i* P	Pb	06 51 28.1	0.0
LOBH				IAML		06 51 53.8	
	comp=Z,63nm,3.1s						
LOVI	**El Cajuil, Ovi**	**1.92**	**181**	*i* P	Pg	06 51 30.3	-0.2
LOVI				IAML		06 52 05.3	
	comp=Z,79nm,1.2s						
HATOM	**Hato Mayor del**	**2.06**	**117**	⇑*e*Pg	Pn	06 51 29.5	+1.1
HATOM				⇓*e*Sg	Sb	06 51 56.4	-0.6
HATOM				IAML		06 51 56.9	
	comp=N,94nm,0.5s						
HATOM				IAML		06 51 57.0	
	comp=N,94nm,0.5s						
HATOM				IAML		06 51 58.6	
	comp=E,122nm,0.8s						
MIDR	**Miches**	**2.27**	**109**	⇓*e*Pg	Pn	06 51 32.7	+1.3
MIDR				⇓*e*Sg	Sb	06 52 01.9	-1.1
MIDR				IAML		06 52 03.1	
	comp=E,85nm,0.4s						
MIDR				IAML		06 52 06.9	
	comp=N,57nm,0.4s						
MASC	**Masc**	**2.77**	**280**	*e*P	Pn	06 51 40.0	+1.8
MASC				*e*S	Sb	06 52 17.2	-0.1
MASC	**Masc**	**2.77**	**280**	*i* P	Pn	06 51 40.1	+2.0
MASC				IAML		06 52 23.7	
	comp=Z,60nm,0.5s						
PCDR	**Punta Cana, DR**	**3.04**	**113**	*i* P	Pn	06 51 43.4	+1.6
PCDR				IAML		06 52 25.1	
	comp=Z,78nm,1.1s						
QMBU	**Quimbuelo**	**3.31**	**279**	*e*P	Pn	06 51 46.9	+1.2
QMBU				*e*S	Sn	06 52 24.5	-0.7
QMBU				IAML		06 52 37.8	
	comp=N,46nm,0.3s						
QMBU				IAML		06 52 37.8	
	comp=E,35nm,0.4s						
NMDO	**Nuevo Mundo**	**3.53**	**284**	*e*P	Pn	06 51 49.4	+0.7
NMDO				*e*S	Sn	06 52 29.3	-1.3
NMDO				IAML		06 52 47.4	
	comp=N,13nm,0.5s						
NMDO				IAML		06 52 48.6	
	comp=E,15nm,0.4s						
MOAC	**Moa**	**3.54**	**286**	*e*S	Sn	06 52 28.9	-1.7
GTBY	**Guantanamo Bay**	**3.57**	**274**	*i* P	Pn	06 51 51.5	+2.3
GTBY				IAML		06 52 34.4	
	comp=Z,13nm,1.9s						
RCC	**Rio Carpintero**	**4.12**	**274**	*e*P	Pn	06 51 56.7	-0.1
RCC				*e*S	Sn	06 52 45.5	+0.4
AGPR	**Aguadilla, PR**	**4.18**	**107**	*i* P	Pn	06 51 58.7	+1.2
AGPR				IAML		06 53 05.4	
	comp=Z,20nm,0.6s						
PINC	**Pinares de May**	**4.26**	**281**	IAML		06 52 46.4	
	comp=Z,2.1nm,0.2s						
PINC				*e*S	Sn	06 52 46.5	-2.1
CRPR	**Cabo Rojo, PR**	**4.34**	**113**	*i* P	Pn	06 52 02.3	+2.5
CRPR				IAML		06 53 14.7	
	comp=Z,45nm,3.0s						
CHIV	**Chivirico**	**4.80**	**274**	*e*P	Pn	06 52 07.3	+1.3

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*IDC **10** 06:57:08.3±1.1, 37°.53N×20°.36E, h0km, mb3.5/9, mbtmp3.5/14, ML2.7/3, MS2.8/4, Error ellipse: s-maj=19.9km s-min=17.8km az=177.0*
*THE **10** 06:57:11.2, 37°.58N×20°.35E, h0km±4km, ML3.6/15, Error ellipse: s-maj=5.0km s-min=0.8km az=232.0*
*ATH **10** 06:57:11.4, 37°.59N×20°.36E, h13km±2km, ML3.5/8, Error ellipse: s-maj=3.2km s-min=1.1km az=35.0*
*NAO **10** 06:57:17.2, 37°.91N×19°.76E, h10km, mb4.0*
ISC 10 06:57:10.0±1.4, 37°.53N±0°.04×20°.32E±0°.04, h6km±9km, n54, σ1s13/77, mb3.6/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.42**	**71**	P	Pg	06 57 18.9	+0.8
KRI1				S	Sg	06 57 24.0	+0.3
	38μm,0.6s						
LTHK	**Lithakia**	**0.45**	**66**	P	Pg	06 57 19.0	+0.3
LTHK				S	Sg	06 57 24.6	0.0
	29μm,0.5s						
LTHK	**Lithakia**	**0.45**	**66**	P	Pg	06 57 19.0	+0.3
LTHK				S	Sg	06 57 24.6	0.0
LTHK				AML	AML	06 57 25.1	
	comp=E,86001μm,0.5s						
LTHK				AML	AML	06 57 25.7	
	comp=N,27969μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.62**	**20**	P	Pg	06 57 21.9	-0.1
PSDA				S	Sg	06 57 30.4	+0.3
PSDA	**Pessada-Kefalo**	**0.62**	**20**	P	Pg	06 57 21.7	-0.3
PSDA				S	Sg	06 57 30.0	-0.1
RTZL	**Ratzakli, Kefa**	**0.66**	**33**	P	Pg	06 57 22.4	-0.2
RTZL				S	Sg	06 57 30.9	-0.3
	comp=N,10μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.68**	**8**	P	Pg	06 57 23.6	+0.5
LXRA				S	Sg	06 57 32.0	+0.1
VLS	**Valsamata**	**0.69**	**18**	P	Pg	06 57 22.8	-0.3
VLS				S	Sg	06 57 32.2	+0.1
	comp=N,5μm,0.5s						
VLS	**Valsamata**	**0.69**	**18**	P	Pg	06 57 22.9	-0.3
VLS				S	Sg	06 57 31.9	-0.2
VLS				AML	AML	06 57 38.1	
	comp=N,10420μm,0.4s						
VLS				AML	AML	06 57 39.2	
	comp=E,9862μm,0.2s						
DMLN	**Damoulianata-K**	**0.71**	**4**	P	Pg	06 57 23.8	+0.1
DMLN				S	Sg	06 57 33.6	+0.6
	comp=E,9μm,0.5s						
DMLN	**Damoulianata-K**	**0.71**	**4**	P	Pg	06 57 23.5	-0.2
DMLN				S	Sg	06 57 33.0	0.0
SMHA	**Samh**	**0.77**	**20**	P	Pg	06 57 23.9	-0.9
SMHA				S	Sg	06 57 34.2	-0.6
VSK1	**VASILIKIADES**	**0.90**	**13**	P	Pg	06 57 27.0	-0.3
VSK1				S	Sg	06 57 39.5	+0.5
	comp=E,5μm,0.4s						
FSK	**Fiskardo**	**0.95**	**12**	P	Pg	06 57 27.5	-0.8
FSK				S	Sb	06 57 41.8	+0.1
	comp=E,4μm,0.6s						
FSK	**Fiskardo**	**0.95**	**12**	P	Pg	06 57 27.4	-0.8
FSK				AML	AML	06 57 45.8	
	comp=N,5610μm,0.5s						
FSK				AML	AML	06 57 47.8	
	comp=E,8013μm,0.7s						
RLS	**Riolos of Patr**	**1.06**	**59**	P	Pg	06 57 29.7	-0.5
RLS				S	Sb	06 57 44.7	0.0
	comp=E,3μm,0.8s						
RLS	**Riolos of Patr**	**1.06**	**59**	P	Pg	06 57 29.5	-0.7
RLS				S	Sg	06 57 43.0	-0.9
RLS				AML	AML	06 57 49.0	
	comp=E,5865μm,0.5s						
RLS				AML	AML	06 57 52.8	
	comp=N,5298μm,0.8s						
AMT	**Artemida-Makis**	**1.11**	**89**	P	Pg	06 57 31.3	+0.1
AMT				AML	AML	06 57 51.7	
	comp=N,7103μm,0.4s						
AMT				AML	AML	06 57 56.6	
	comp=E,14811μm,0.6s						
EVGI	**Lefkada island**	**1.13**	**14**	P	Pg	06 57 30.9	-0.7
EVGI				S	Sb	06 57 46.6	-0.1
	comp=E,3μm,0.5s						
EVGI	**Lefkada island**	**1.13**	**14**	P	Pg	06 57 30.8	-0.7
DRAG	**Dragano-Lefkad**	**1.17**	**10**	P	Pg	06 57 31.9	-0.6
DRAG				S	Sb	06 57 48.8	+0.7
DRAG	**Dragano-Lefkad**	**1.17**	**10**	P	Pg	06 57 31.4	-1.1
DRO	**Drossia**	**1.19**	**69**	P	Pg	06 57 32.5	-0.2
DRO				S	Sb	06 57 49.8	+1.4
	comp=E,4μm,0.5s						
DRO	**Drossia**	**1.19**	**69**	P	Pg	06 57 31.9	-0.8
DRO				AML	AML	06 57 54.0	
	comp=E,9250μm,0.5s						
DRO				AML	AML	06 58 01.0	
	comp=N,5825μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.22**	**14**	P	Pg	06 57 32.3	-1.1
NYDR				S	Sb	06 57 50.2	+0.7
	comp=N,2μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.22**	**14**	P	Pg	06 57 32.0	-1.4
LKD2	**Lefkada island**	**1.29**	**12**	P	Pb	06 57 35.3	+0.7
LKD2				S	Sn	06 57 54.3	+2.2
	comp=N,2μm,0.8s						
PYL	**PYLOS**	**1.30**	**118**	P	Pg	06 57 35.4	+0.5
PYL				S	Sn	06 57 54.4	+2.1
	comp=N,690nm,0.7s						
PYL	**PYLOS**	**1.30**	**118**	P	Pg	06 57 35.1	+0.2
PYL				AML	AML	06 58 04.2	
	comp=E,1363μm,0.5s						
PYL				AML	AML	06 58 07.0	
	comp=N,1390μm,0.9s						
TSLK	**Tsoukalades, L**	**1.32**	**12**	P	Pg	06 57 34.6	-0.8
TSLK				S	Sn	06 57 55.3	+2.4
	comp=N,4μm,0.6s						
ITM	**Ithomi**	**1.33**	**105**	P	Pg	06 57 35.8	+0.3
ITM				S	Sn	06 57 57.1	+4.0
	comp=N,1μm,1.5s						
ITM	**Ithomi**	**1.33**	**105**	P	Pg	06 57 35.1	-0.4
ITM				AML	AML	06 58 07.6	
	comp=E,1622μm,0.8s						
ITM				AML	AML	06 58 13.0	
	comp=N,1683μm,0.6s						
GUR	**Goura**	**1.66**	**75**	P	Pn	06 57 40.5	+0.8
OHR	**Ohrid**	**3.60**	**6**	*i* Pn	Pn	06 58 09.3	+3.0
VAY	**Valandovo**	**4.17**	**24**	*i* Pn	Pn	06 58 15.6	+1.5
IDI	**Anoyia**	**4.31**	**120**	Pn	Pn	06 58 16.3	+0.1
	comp=N,6.3nm,0.9s,baz=341,slow=17,SNR=1.4						
IDI				Sn	Sn	06 59 04.8	-1.9
	comp=N,1.4nm,0.3s,baz=330,slow=20,SNR=2.5						
VAE	**Valguarnera**	**4.69**	**271**	Pn	Pn	06 58 21.9	+0.5
	comp=N,2.9nm,0.3s,baz=211,slow=7.8,SNR=6.7						
VAE				Sn	Sn	06 59 19.4	+3.3
	comp=N,3.8nm,0.3s,baz=19,slow=13,SNR=2.0						
	comp=N,7.1nm,0.3s						
MLR	**Muntele Rosu**	**9.01**	**26**	Pn	Pn	06 59 21.5	+0.9
	comp=N,0.5nm,0.3s,baz=146,slow=15,SNR=13						

MLR LR LR 07 03 58.7
comp=N,48nm,19.9s,baz=224,slow=46
BRTR Keskin Array B 10.65 74 Pn **Pn 06 59 44.5 +1.4**
comp=N,0.1nm,0.3s,baz=237,slow=12,SNR=1.6
comp=N,0.2nm,0.5s
EIL Elat 14.49 118 Pn **Pn 07 00 35.4 -0.1**
comp=N,0.1nm,0.3s,baz=15,slow=9.7,SNR=2.0
comp=N,2.1nm,0.8s
AKASG Malin Array Be 14.63 23 Pn **Pn 07 00 35.8 -1.5**
comp=N,0.2nm,0.2s,baz=213,slow=10,SNR=1.5
AKASG LR LR 07 06 13.0
comp=N,22nm,18.4s,baz=345,slow=37
NACGM Naroch 17.93 12 *eP* P 07 01 29.4 +9.1
comp=Z,16nm,1.0s,baz=195
GNI Garni 19.19 75 LR LR 07 09 27.7
comp=Z,24nm,21.1s,baz=316,slow=39
HFS Hagfors 23.02 352 P **P 07 02 14.6 -0.8**
comp=Z,1.8nm,0.7s,baz=139,slow=13,SNR=2.7
comp=Z,1.8nm,0.7s
EKA Eskdalemuir Ar 23.87 326 P **P 07 02 23.4 -0.5**
comp=Z,0.8nm,0.7s,baz=121,slow=7.5,SNR=1.2
comp=Z,0.8nm,0.7s
FINES FINESS Array B 24.21 7 P **P 07 02 25.7 -1.3**
comp=Z,1.6nm,0.7s,baz=176,slow=8.2,SNR=6.7
comp=Z,1.6nm,0.7s
NB2 NORSAR Subarra 24.23 349 P **P 07 02 28.5 +1.3**
comp=Z,5.3nm,1.1s,baz=163,slow=10
NOA NORSAR Array B 24.23 349 P **P 07 02 26.6 -0.6**
comp=Z,0.4nm,0.8s,baz=156,slow=8.7,SNR=1.5
comp=Z,0.4nm,0.8s
TORD Torodi Ar. Bea 29.42 219 P **P 07 03 13.7 -0.6**
comp=Z,0.4nm,0.6s,baz=27,slow=9.6,SNR=2.9
comp=Z,0.4nm,0.6s
ARCES ARCESS Array B 32.19 3 P **P 07 03 37.7 -0.6**
comp=Z,1.5nm,0.8s,baz=184,slow=11,SNR=1.6
comp=Z,1.5nm,0.8s
KMBO Kilima Mbogo 41.53 154 LR LR 07 22 14.0
comp=Z,23nm,21.7s,baz=96,slow=36
KURBB Kurchatov Arra 42.75 53 P **P 07 05 06.7 -1.1**
comp=Z,0.2nm,0.6s,baz=278,slow=9.2,SNR=2.6
comp=Z,0.2nm,0.6s
MKAR Makanchi Array 45.78 58 P **P 07 05 30.4 -1.8**
comp=Z,0.3nm,0.6s,baz=302,slow=6.3,SNR=2.8
comp=Z,0.3nm,0.6s
ZALV Zalesovo Beam 46.25 48 P **P 07 05 34.2 -1.5**
comp=Z,0.4nm,0.4s,baz=263,slow=12,SNR=3.1
comp=Z,0.4nm,0.4s

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*IDC **10** 07:17:49.5±0.4, 0.°78N×29.°67W, h0km, mb4.7/26, mbtmp4.8/28, ML4.9/2, MS4.4/67, Error ellipse: s-maj=15.5km s-min=10.3km az=139.0*
*MOS **10** 07:17:49.8±1.2, 0.°82N×29.°74W, h10km, mb5.3/45, Error ellipse: s-maj=10.8km s-min=5.6km az=135.1*
*NEIC **10** 07:17:52.5±1.6, 0.°83N±0.°09×29.°73W±0.°08, h10km±1km, mb5.3/136, Error ellipse: s-maj=15.3km s-min=12.2km az=328.0*
*GCMT **10** 07:17:53.5±0.1, 0.°82N±0.°01×29.°45W±0.°01, h18km, MW5.3/140, Moment Tensor Solution. s109,c180; s140,c252; Duration: 1s1 Moment tensor: Scale 1017 Nm; Mrr-0.16±.02; Mθθ0.36±.02; Mφφ-0.20±.02; Mrθ-0.09±.04; Mrφ-1.09±.02; Mθφ0.16±.03; Best double couple: M0 1.13900×1017 NP1:φ=353.00000°, δ88.00000°, λ8.00000°. NP2:φ=263.00000°, δ82.00000°, λ178.00000°. Principal axes: T 1.2260, Plg7.0000°, Azm218.0000°; N -0.1750, Plg82.0000°, Azm5.0000°; P -1.0520, Plg4.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 07:17:51.5±0.3, 0.70N±0.°05×29.°76W±0.°05, h10km, n481, σ1.59/443, mb5.2/171, MS4.5/68, 8C-3D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**8.93**	**223**	Pn	**Pn**	**07 20 01.0**	**+0.3**
RCBR	**Riachuelo**	**8.93**	**223**	Pn	**Pn**	**07 20 00.1**	**-0.5**
13nm,0.3s,baz=21,slow=19,SNR=127							
RCBR				Sn	**Sn**	**07 21 35.1**	**-6.3**
3.8nm,0.3s,baz=98,slow=23,SNR=1.8							
RCBR				LR	LR	07 22 46.1	
comp=Z,2μm,21.9s,baz=113,slow=33							
41nm,0.3s							
RCBR	**Riachuelo**	**8.93**	**223**	P	**Pn**	**07 20 01.0**	**+0.3**
RCBR	**Riachuelo**	**8.93**	**223**	*eP*	**Pn**	**07 19 59.6**	**-1.0**
NBCA	**Caruaru-PE**	**10.84**	**215**	*eP*	**Pn**	**07 20 26.9**	**0.0**
NBAN	**Anadia - AL**	**12.17**	**212**	*eP*	**Pn**	**07 20 45.7**	**+0.6**
NBLA	**Lagarto - SE**	**14.10**	**214**	*eP*	**Pn**	**07 21 11.6**	**+0.2**
SACV	**Santiago Islan**	**15.43**	**23**	Pn	**Pn**	**07 21 26.0**	**-3.3**
GDU01	**Guandu, BA**	**17.32**	**214**	*eP*	**P**	**07 21 54.3**	**-0.7**
H10N3	**ASCENSION HYDR**	**17.42**	**119**	P	**P**	**07 21 55.1**	**-0.7**
baz=290,slow=14,SNR=9.8							
H10N3				T	T	07 39 39.8	
baz=299,slow=74,SNR=1630							
H10N2	**ASCENSION HYDR**	**17.43**	**119**	P	**P**	**07 21 56.2**	**+0.3**
baz=290,slow=14,SNR=10							
H10N2				T	T	07 39 40.3	
baz=299,slow=74,SNR=1673							
H10N1	**ASCENSION HYDR**	**17.44**	**119**	P	**Pn**	**07 21 55.0**	**+0.2**
baz=290,slow=14,SNR=11							
H10N1				T	T	07 39 44.1	
baz=299,slow=74,SNR=2530							
ASCN	**Ascension**	**17.59**	**119**	Pn	**Pn**	**07 21 57.2**	**+0.3**
ASCN				IAmb	IAmb	07 22 00.3	
comp=Z,250nm,1.1s							
H10S3	**ASCENSION HYDR**	**17.84**	**123**	T	T	07 40 14.5	
baz=299,slow=74,SNR=1034							
H10S2	**ASCENSION HYDR**	**17.85**	**123**	T	T	07 40 16.8	
baz=281,slow=74,SNR=1251							
MBO	**M'Bour**	**18.58**	**42**	P	**P**	**07 22 07.2**	**-1.7**
MBO				IAmb	IAmb	07 22 19.1	
comp=Z,178nm,0.9s							
TMAB	**Tom-Au,PA,Br**	**18.59**	**260**	*eP*	**P**	**07 22 08.8**	**-0.2**
CMC01	**Camacan, BA**	**18.65**	**211**	*eP*	**Pn**	**07 22 12.2**	**+2.3**
BBTS	**Babate**	**19.06**	**43**	P	**P**	**07 22 11.1**	**-3.1**
comp=Z,3.8nm,0.3s,baz=46,slow=1.0,SNR=4.1							
BBTS				LR	LR	07 27 41.8	
comp=Z,1μm,20.8s,baz=114,slow=31							
comp=Z,27nm,0.5s							
GUA01	**Guaratinga, BA**	**19.83**	**210**	*eP*	**Pn**	**07 22 25.0**	**+0.9**
SDBA	**SAO DESIDERIO**	**19.89**	**229**	*eP*	**P**	**07 22 23.3**	**0.0**
SMTB	**Santa Maria do**	**20.14**	**241**	*eP*	**P**	**07 22 26.7**	**+0.6**
NAN01	**Guarapari, ES**	**21.07**	**208**	*eP*	**P**	**07 22 38.0**	**+2.0**
PRPB	**Paraupebas**	**21.15**	**251**	*eP*	**P**	**07 22 37.5**	**+0.5**
JANB	**Januaria**	**21.27**	**222**	*eP*	**P**	**07 22 38.9**	**+0.6**
SJMB	**Sao Joao De Ma**	**22.31**	**210**	*eP*	**P**	**07 22 50.9**	**+1.4**
RIB01	**Linhares ES**	**22.46**	**207**	*eP*	**P**	**07 22 53.6**	**+2.6**
MDP	**Montagnes des**	**23.26**	**281**	LR	LR	07 30 14.4	
comp=Z,792nm,21.7s,baz=87,slow=32							
DIAM	**Diamantina, MG**	**23.32**	**215**	*eP*	**P**	**07 23 00.9**	**+0.8**
ALF01	**Guarapari-ES**	**23.75**	**206**	*eP*	**P**	**07 23 06.0**	**+1.9**
BDFB	**Brasilia**	**24.27**	**227**	P	**P**	**07 23 09.9**	**+0.7**
BDFB				IAmb	IAmb	07 23 11.2	
comp=Z,54nm,0.8s							
BDFB	**Brasilia**	**24.27**	**227**	P	**P**	**07 23 09.4**	**+0.2**
comp=Z,50nm,0.8s,baz=62,slow=8.6,SNR=66							
BDFB				LR	LR	07 31 45.9	
comp=Z,2μm,19.6s,baz=64,slow=34							
comp=Z,50nm,0.8s							
BDFB	**Brasilia**	**24.27**	**227**	P	**P**	**07 23 09.9**	**+0.7**
BDFB				pmax	pmax		
comp=Z,54nm,0.8s							
SNDB	**Serra Nova Dou**	**24.82**	**239**	*eP*	**P**	**07 23 14.6**	**+0.5**
PMNB	**Patos De Minas**	**25.19**	**220**	*eP*	**P**	**07 23 19.1**	**+1.6**
CAM01	**Campos-RJ**	**25.22**	**207**	*eP*	**P**	**07 23 19.3**	**+1.6**
DBIC	**Dimbokro**	**25.54**	**76**	P	**P**	**07 23 18.5**	**-2.2**
DBIC	**Dimbokro**	**25.54**	**76**	*eP*	**P**	**07 23 17.3**	**-3.4**
DBIC	**Dimbokro**	**25.54**	**76**	P	**P**	**07 23 17.9**	**-2.8**
comp=Z,60nm,0.9s,baz=253,slow=12,SNR=37							
DBIC				LR	LR	07 31 21.6	
comp=Z,2μm,19.0s,baz=241,slow=32							
comp=Z,60nm,0.9s							
DBIC	**Dimbokro**	**25.54**	**76**	P	**P**	**07 23 18.5**	**-2.2**
DBIC				pmax	pmax		
comp=Z,102nm,1.0s							
DUB01	**Friburgo-RJ**	**25.77**	**208**	*eP*	**P**	**07 23 24.2**	**+1.5**
IPMB	**Ipameri, GO**	**25.97**	**223**	*eP*	**P**	**07 23 25.4**	**+0.8**
BSCB	**Bom Sucesso**	**26.09**	**213**	*eP*	**P**	**07 23 26.0**	**+0.3**
ITTB	**Itaituba**	**26.44**	**259**	*eP*	**P**	**07 23 29.7**	**+0.9**
VAS01	**Vassouras-RJ**	**26.45**	**209**	*eP*	**P**	**07 23 30.9**	**+2.0**
NPGB	**Novo Progresso**	**26.68**	**253**	*eP*	**P**	**07 23 30.9**	**-0.1**
MAN01	**Angra dos Reis**	**27.20**	**210**	*eP*	**P**	**07 23 37.4**	**+1.7**
ARAG	**Araguaiana, MT**	**27.21**	**232**	*eP*	**P**	**07 23 37.3**	**+1.5**
CLDB	**Colider**	**28.33**	**245**	*eP*	**P**	**07 23 48.1**	**+2.2**
BB19B	**Bebedouro**	**28.37**	**219**	*eP*	**P**	**07 23 47.3**	**+1.1**
ITRB	**Iturama**	**28.62**	**224**	*eP*	**P**	**07 23 49.3**	**+0.9**
PDRB	**Porto dos Gac**	**29.46**	**245**	*eP*	**P**	**07 23 56.7**	**+0.8**
SPB	**Sao Paulo**	**29.63**	**214**	*eP*	**P**	**07 23 59.4**	**+2.1**
C2SB	**Chapadao do Su**	**29.81**	**228**	*eP*	**P**	**07 24 00.7**	**+1.8**
SALV	**Santo Antonio**	**30.46**	**236**	*eP*	**P**	**07 24 05.9**	**+1.2**
FRTB	**Fartura**	**30.70**	**218**	*eP*	**P**	**07 24 08.5**	**+1.7**
BOAV	**Boa Vista**	**30.80**	**273**	P	**P**	**07 24 08.6**	**+0.8**
BOAV				IAmb	IAmb	07 24 14.3	
comp=Z,63nm,1.4s							
BOAV	**Boa Vista**	**30.80**	**273**	*eP*	**P**	**07 24 09.9**	**+2.2**
MACA	**Manacapuru-AM**	**31.15**	**263**	P	**P**	**07 24 10.9**	**+0.1**
MACA	**Manacapuru-AM**	**31.15**	**263**	*eP*	**P**	**07 24 12.3**	**+1.5**
RPRD	**Ribas do Rio P**	**31.50**	**227**	*eP*	**P**	**07 24 15.6**	**+1.7**
LDASE	**Londrina, Braz**	**31.70**	**220**	*eP*	**P**	**07 24 17.4**	**+1.8**
PANT	**Pantanal (Braz**	**32.84**	**232**	*eP*	**P**	**07 24 27.5**	**+1.8**
AQDB	**Aquidauana**	**32.98**	**229**	P	**P**	**07 24 28.0**	**+1.1**
AQDB				IAmb	IAmb	07 24 29.5	
comp=Z,31nm,1.0s							
AQDB	**Aquidauana**	**32.98**	**229**	*eP*	**P**	**07 24 28.6**	**+1.8**
VILB	**Vilhena**	**33.10**	**245**	P	**P**	**07 24 29.4**	**+1.4**
PTLB	**Pontes e Lacer**	**33.17**	**240**	P	**P**	**07 24 29.6**	**+1.0**
PTLB				IAmb	IAmb	07 24 31.4	
comp=Z,41nm,1.0s							
PTLB	**Pontes e Lacer**	**33.17**	**240**	*eP*	**P**	**07 24 30.1**	**+1.6**
PTGB	**Pitanga**	**33.25**	**219**	*eP*	**P**	**07 24 31.1**	**+1.9**
MAJ01	**Sao Joao Batis**	**33.52**	**212**	*eP*	**P**	**07 24 33.0**	**+1.6**
TORD	**Torodi Ar. Bea**	**33.52**	**67**	P	**P**	**07 24 29.0**	**-2.7**
comp=Z,10nm,1.1s,baz=259,slow=9.1,SNR=34							
TORD				LR	LR	07 36 39.2	
comp=Z,764nm,18.2s,baz=247,slow=34							
comp=Z,10nm,1.1s							
H05S1	**Guadeloupe/Mar**	**33.62**	**295**	T	T	08 00 02.3	
SNR=117							
BDQN	**Bodoquena, MS**	**33.77**	**230**	*eP*	**P**	**07 24 35.6**	**+1.9**
BIM	**Bigot**	**33.86**	**295**	P	**P**	**07 24 35.8**	**+1.1**
AMBA	**Amambai (Brazi**	**33.98**	**225**	*eP*	**P**	**07 24 37.3**	**+1.7**
PMAR	**Madeira**	**34.07**	**20**	*eT*	T	07 59 54.6	
TER01	**Tubaro-SC**	**34.49**	**211**	*eP*	**P**	**07 24 41.9**	**+2.0**
H05N1	**Guadeloupe/Mar**	**34.53**	**298**	T	T	08 01 06.2	
SNR=22							
SAML	**Samuel**	**34.65**	**253**	P	**P**	**07 24 42.4**	**+1.0**
SAML				IAmb	IAmb	07 24 47.3	
comp=Z,32nm,1.0s							
SAML	**Samuel**	**34.65**	**253**	P	**P**	**07 24 42.4**	**+1.0**
SAML				pmax	pmax		
comp=Z,32nm,1.0s							
SAML	**Samuel**	**34.65**	**253**	*eP*	**P**	**07 24 42.7**	**+1.3**
SIV	**San Ignacio**	**35.09**	**240**	LR	LR	07 38 28.0	
comp=Z,3μm,19.1s,baz=91,slow=35							
MURT	**Porto Murtinho**	**35.12**	**229**	*eP*	**P**	**07 24 47.1**	**+1.7**
ITAB	**Concordia**	**35.14**	**216**	*eP*	**P**	**07 24 47.4**	**+1.9**
BBSD	**Serra de San D**	**35.21**	**238**	*eP*	**P**	**07 24 48.1**	**+1.8**
CNLB	**Canela**	**36.02**	**212**	*eP*	**P**	**07 24 55.5**	**+2.4**
SJPY	**San Joaquin**	**36.10**	**223**	*eP*	**P**	**07 24 55.6**	**+1.8**
PSMA	**Santa Maria**	**36.37**	**6**	*eT*	T	08 02 43.5	
PSMN	**Pico do Norte,**	**36.38**	**6**	*eT*	T	08 02 43.9	
PAPY	**Pozo Azul**	**37.02**	**226**	*eP*	**P**	**07 25 03.9**	**+2.2**
CMLA	**Cha da Macela**	**37.09**	**6**	*eT*	T	08 03 43.7	
PGRON	**Lagoa das Cont**	**37.11**	**6**	*eT*	T	08 03 45.0	
BART	**Pico Bartolome**	**37.14**	**6**	*eT*	T	08 03 47.8	
FDPY	**Filadelfia**	**37.25**	**230**	*eP*	**P**	**07 25 06.6**	**+3.0**
ETMB	**Extrema**	**37.76**	**253**	P	**P**	**07 25 08.3**	**+0.2**
ETMB	**Extrema**	**37.76**	**253**	*eP*	**P**	**07 25 08.8**	**+0.7**
CPUP	**Villa Florida**	**37.81**	**223**	P	**P**	**07 25 08.9**	**+0.6**
CPUP				IAmb	IAmb	07 25 11.1	
comp=Z,38nm,1.0s							
CPUP	**Villa Florida**	**37.81**	**223**	P	**P**	**07 25 09.7**	**+1.4**
comp=Z,24nm,0.9s,baz=53,slow=8.3,SNR=31							
CPUP				LR	LR	07 40 27.9	
comp=Z,3μm,19.1s,baz=64,slow=36							
comp=Z,24nm,0.9s							
CPUP	**Villa Florida**	**37.81**	**223**	*eP*	**P**	**07 25 09.6**	**+1.3**
CPSB	**Cacapava Do Su**	**38.28**	**214**	*eP*	**P**	**07 25 13.9**	**+1.7**
BAUV	**El Baul**	**38.98**	**283**	P	**P**	**07 25 19.4**	**+1.1**
PLTB	**Pedras Altas**	**39.41**	**213**	P	**P**	**07 25 22.7**	**+1.0**
PLTB	**Pedras Altas**	**39.41**	**213**	*eP*	**P**	**07 25 24.3**	**+2.6**
HUMP	**Col San Antoni**	**39.46**	**298**	P	**P**	**07 25 22.7**	**+0.4**
PDPR	**Patillas Dam,**	**39.56**	**298**	P	**P**	**07 25 23.6**	**+0.4**
ITQB	**Itaqui**	**39.62**	**218**	P	**P**	**07 25 25.0**	**+1.6**
ITQB				IAmb	IAmb	07 25 26.2	
comp=Z,66nm,1.0s							
ITQB	**Itaqui**	**39.62**	**218**	*eP*	**P**	**07 25 25.0**	**+1.6**
SJG	**San Juan**	**39.71**	**298**	P	**P**	**07 25 24.8**	**+0.4**
SJG				IAmb	IAmb	07 25 29.8	
comp=Z,98nm,1.9s							
SJG	**San Juan**	**39.71**	**298**	LR	LR	07 39 58.7	
comp=Z,309nm,19.4s,baz=115,slow=33							
SJG	**San Juan**	**39.71**	**298**	P	**P**	**07 25 24.8**	**+0.4**
SJG				pmax	pmax		
comp=Z,98nm,2.0s							
MDT	**Midelt**	**39.76**	**34**	LR	LR	07 39 42.0	
comp=Z,924nm,21.2s,baz=234,slow=33							
CELP	**Cerrillos**	**40.08**	**298**	P	**P**	**07 25 27.1**	**-0.3**
OBIP	**Obispado Ponce**	**40.09**	**298**	P	**P**	**07 25 27.8**	**+0.2**
UUPR	**Utuado, UPR, P**	**40.27**	**298**	P	**P**	**07 25 29.0**	**0.0**
TBTG	**Tabatinga, AM**	**40.41**	**263**	P	**P**	**07 25 30.8**	**+0.4**
TBTG				IAmb	IAmb	07 25 35.1	
comp=Z,60nm,1.3s							
TBTG	**Tabatinga, AM**	**40.41**	**263**	*eP*	**P**	**07 25 31.6**	**+1.3**
MLPR	**Magueyes Islan**	**40.45**	**297**	P	**P**	**07 25 30.5**	**0.0**
MLPR				IAmb	IAmb	07 25 31.9	
comp=Z,69nm,1.4s							
PRSN	**Puerto Rico Se**	**40.63**	**298**	P	**P**	**07 25 32.3**	**+0.3**
TAM	**Tamanrasset**	**40.72**	**55**	P	**P**	**07 25 31.8**	**-1.1**
TAM	**Tamanrasset**	**40.72**	**55**	P	**P**	**07 25 31.8**	**-1.1**
TAM				pmax	pmax		
comp=Z,47nm,1.5s							
H09N1	**TRISTAN DA CUN**	**40.91**	**159**	T	T	08 09 16.4	
SNR=114							
H09W1	**TRISTAN DA CUN**	**40.93**	**159**	T	T	08 09 15.8	
SNR=156							
PSAL	**Palomas, Salto**	**41.21**	**217**	*eP*	**P**	**07 25 38.2**	**+1.6**
LPAZ	**La Paz**	**41.45**	**244**	P	**P**	**07 25 40.2**	**+0.6**
LPAZ	**La Paz**	**41.45**	**244**	P	**P**	**07 25 40.7**	**+1.1**
comp=Z,26nm,0.9s,baz=73,slow=3.3,SNR=94							
LPAZ				LR	LR	07 41 43.3	
comp=Z,1μm,22.0s,baz=74,slow=34							
comp=Z,26nm,0.9s							
LPAZ	**La Paz**	**41.45**	**244**	*eP*	**P**	**07 25 41.3**	**+1.8**
SDV	**Santo Domingo**	**41.50**	**283**	P	**P**	**07 25 40.7**	**+1.3**
SDV				IAmb	IAmb	07 25 47.7	
comp=Z,46nm,1.1s							
SDV	**Santo Domingo**	**41.50**	**283**	LR	LR	07 42 09.4	
comp=Z,400nm,18.9s,baz=98,slow=35							
SDV	**Santo Domingo**	**41.50**	**283**	*eP*	**P**	**07 25 40.8**	**+1.3**
PVAQ	**Vaqueiros**	**41.80**	**27**	*eP*	**P**	**07 25 41.9**	**+0.5**
PVAQ				A	A	07 25 45.2	
comp=Z,44nm,1.5s							
PVAQ				A	A	07 39 30.1	
comp=Z,425nm,20.0s							
EVO	**Evora**	**42.61**	**25**	*eP*	**P**	**07 25 48.4**	**+0.4**
EVO				A	A	07 25 51.9	
comp=Z,52nm,1.6s							
PSBE	**So Bento**	**43.11**	**24**	*eP*	**P**	**07 25 54.8**	**+2.7**
PSBE				A	A	07 26 04.3	
comp=Z,88nm,1.8s							
PB18	**Visviri**	**43.12**	**243**	P	**P**	**07 25 52.9**	**-0.1**
PMRV	**Marv??o**	**43.62**	**25**	*eP*	**P**	**07 25 57.3**	**+1.1**
PMRV				A	A	07 25 58.7	
comp=Z,58nm,1.8s							
CZSB	**Cruzeiro do Su**	**43.63**	**258**	P	**P**	**07 25 56.9**	**+0.2**
CZSB				IAmb	IAmb	07 26 01.2	
comp=Z,53nm,1.2s							
CZSB	**Cruzeiro do Su**	**43.63**	**258**	*eP*	**P**	**07 25 56.9**	**+0.2**
GO01	**Chusmiza**	**43.64**	**240**	P	**P**	**07 25 56.3**	**-0.8**
MTE	**Manteigas**	**44.37**	**24**	*eS*	**S**	**07 32 40.5**	**+3.6**
MTE				A	A	07 40 19.4	
comp=Z,448nm,20.0s							
HMBC	**Humberstone**	**44.48**	**240**	P	**P**	**07 26 02.8**	**-0.7**
PB09	**IPOC Station P**	**44.54**	**237**	P	**P**	**07 26 04.4**	**+0.3**
SDDR	**Presa de Saban**	**44.58**	**297**	P	**P**	**07 26 04.8**	**+0.5**
ROSC	**El Rosal**	**44.69**	**276**	P	**P**	**07 26 06.3**	**+0.7**
ROSC				IAmb	IAmb	07 26 13.0	
comp=Z,54nm,0.9s							
ROSC	**El Rosal**	**44.69**	**276**	P	**P**	**07 26 07.0**	**+1.4**
comp=Z,19nm,0.7s,baz=124,slow=16,SNR=17							
ROSC				LR	LR	07 43 38.1	
comp=Z,2μm,21.0s,baz=108,slow=35							
comp=Z,19nm,0.7s							
PB06	**IPOC Station P**	**45.20**	**236**	P	**P**	**07 26 09.0**	**-0.3**
MVO	**Moncorvo**	**45.23**	**24**	A	A	07 40 55.0	
comp=Z,427nm,22.0s							
PB15	**IPOC Station P**	**45.34**	**236**	P	**P**	**07 26 10.4**	**0.0**
ESDC	**Sonseca Array**	**45.37**	**28**	P	**P**	**07 26 10.0**	**-0.2**
comp=Z,10nm,1.0s,baz=225,slow=9.3,SNR=21							
ESDC				LR	LR	07 42 10.9	
comp=Z,271nm,21.7s,baz=210,slow=32							
comp=Z,10nm,1.0s							
ESBB	**Sonseca Array**	**45.37**	**28**	P	**P**	**07 26 10.3**	**+0.1**
ESBB				IAmb	IAmb	07 26 21.5	
comp=Z,30nm,1.2s							
PGAV	**Gavieira, Arco**	**45.41**	**23**	A	A	07 40 33.7	
comp=Z,543nm,22.0s							
PB04	**IPOC Station P**	**45.53**	**237**	P	**P**	**07 26 11.8**	**-0.1**
PB04				IAmb	IAmb	07 26 13.3	
comp=Z,42nm,0.9s							
PBRG	**Braganca**	**45.88**	**24**	*eP*	**P**	**07 26 14.3**	**+0.1**
PBRG				A	A	07 26 15.3	
comp=Z,53nm,1.5s							
GO02	**Mina Guanaco**	**46.31**	**233**	P	**P**	**07 26 18.4**	**+0.2**
PB14	**IPOC Station P**	**46.73**	**235**	P	**P**	**07 26 22.1**	**+0.6**
AC01	**Pan de Azucar**	**47.58**	**233**	P	**P**	**07 26 28.8**	**+1.1**
AC01				IAmb	IAmb	07 26 34.1	
comp=Z,33nm,1.1s							
AC06	**Mina Casimiro**	**47.95**	**231**	P	**P**	**07 26 30.8**	**+0.2**
AC06				IAmb	IAmb	07 26 32.4	
comp=Z,24nm,0.8s							
GO03	**Copiapo**	**47.97**	**231**	P	**P**	**07 26 31.4**	**+0.5**
GO03				IAmb	IAmb	07 26 33.3	
comp=Z,31nm,0.8s							
NNA	**Nana**	**48.42**	**253**	LR	LR	07 46 29.2	
comp=Z,464nm,18.1s,baz=61,slow=35							
TRQA	**Tornquist**	**48.67**	**214**	P	**P**	**07 26 36.8**	**+0.8**
TRQA				IAmb	IAmb	07 26 39.0	
comp=Z,18nm,0.9s							
TRQA	**Tornquist**	**48.67**	**214**	P	**P**	**07 26 36.8**	**+0.8**
TRQA				pmax	pmax		
comp=Z,19nm,1.0s							
OTAV	**Otavalo**	**48.69**	**270**	P	**P**	**07 26 37.3**	**+0.2**
OTAV	**Otavalo**	**48.69**	**270**	P	**P**	**07 26 37.3**	**+0.2**
OTAV				pmax	pmax		
comp=Z,8.0nm,1.1s							
OTAV	**Otavalo**	**48.69**	**270**	*eP*	**P**	**07 26 38.6**	**+1.5**
ZON	**Zonda**	**48.86**	**225**	P	**P**	**07 26 38.2**	**+0.6**
ZON				IAmb	IAmb	07 26 43.6	
comp=Z,33nm,1.3s							
ZON	**Zonda**	**48.86**	**225**	P	**P**	**07 26 38.3**	**+0.6**
ZON				pmax	pmax		
comp=Z,33nm,1.3s							
AC04	**Llanos de Chal**	**48.92**	**231**	P	**P**	**07 26 38.8**	**+0.7**
LCO	**Las Campanas**	**49.03**	**229**	P	**P**	**07 26 39.8**	**+0.6**
LCO				IAmb	IAmb	07 26 45.2	
comp=Z,23nm,1.0s							
LCO	**Las Campanas**	**49.03**	**229**	P	**P**	**07 26 39.8**	**+0.6**
LCO				pmax	pmax		
comp=Z,23nm,1.0s							
CO01	**Juntas del Tor**	**49.06**	**228**	P	**P**	**07 26 40.4**	**+1.0**
CO01				IAmb	IAmb	07 26 51.8	
comp=Z,52nm,1.4s							
ATAH	**Atahualpa**	**49.14**	**260**	LR	LR	07 47 22.9	
comp=Z,1μm,20.8s,baz=76,slow=36							
COHC	**Cochancay**	**49.58**	**266**	P	**P**	**07 26 43.6**	**+0.3**
GO04	**Tololo Observa**	**49.68**	**228**	P	**P**	**07 26 44.8**	**+0.6**
GO04				IAmb	IAmb	07 26 46.0	
comp=Z,34nm,0.9s							
CO03	**El Pedregal**	**49.94**	**227**	P	**P**	**07 26 46.7**	**+0.8**
CO03				IAmb	IAmb	07 26 48.7	
comp=Z,44nm,1.3s							
KEST	**Kesra**	**50.33**	**42**	P	**P**	**07 26 48.4**	**-0.4**
KEST	**Kesra**	**50.33**	**42**	P	**P**	**07 26 48.6**	**-0.2**
comp=Z,16nm,1.1s,baz=277,slow=12,SNR=5.3							
KEST				LR	LR	07 47 35.4	
comp=Z,924nm,21.6s,baz=244,slow=36							
comp=Z,16nm,1.1s							
TSUM	**Tsumeb**	**50.48**	**116**	P	**P**	**07 26 49.7**	**-0.6**
TSUM				IAmb	IAmb	07 26 54.5	
comp=Z,52nm,1.1s							
TSUM	**Tsumeb**	**50.48**	**116**	*eP*	**P**	**07 26 48.4**	**-1.8**
TSUM				IAmb	IAmb	07 26 54.2	
comp=Z,47nm,1.1s							
MT08	**Bocatoma Ro**	**50.85**	**224**	P	**P**	**07 26 54.2**	**+1.2**
MT08				IAmb	IAmb	07 26 56.0	
comp=Z,40nm,1.1s							
PEL	**Peldehue**	**51.15**	**225**	P	**P**	**07 26 55.2**	**+0.2**
PEL				IAmb	IAmb	07 26 57.0	
comp=Z,41nm,1.2s							
PEL	**Peldehue**	**51.15**	**225**	P	**P**	**07 26 55.2**	**+0.2**
PEL				pmax	pmax		
comp=Z,41nm,1.2s							
MT02

SUR	**Sutherland**	57.93	130	LR	LR	07 48 08.6		
	comp=Z,506nm,19.0s,baz=291,slow=31							
KDWAN	**Kaudwane**	58.01	118	*i* P	P	07 27 44.9	-0.2	
FETA	**Feichten**	58.05	32	*e*P	P	07 27 44.1	-0.9	
	comp=Z,19nm,1.4s							
BIRD	**Birdtown, Kers**	58.06	311	P	P	07 27 45.5	+0.4	
BIRD				IAmb	IAmb	07 27 46.6		
	comp=Z,30nm,1.0s							
ALKP	**Alkanpan, Nort**	58.11	126	*e*P	P	07 27 41.5	-4.2	
RETA	**Reutte**	58.37	31	*e*P	P	07 27 45.9	-1.2	
	comp=Z,25nm,1.7s							
TGUH	**Tegucigalpa,Un**	58.39	286	P	P	07 27 48.1	+0.2	
TGUH				IAmb	IAmb	07 27 49.4		
	comp=Z,50nm,1.3s							
SQTA	**Sankt Quirin**	58.43	32	*i* P	P	07 27 46.7	-0.9	
	comp=Z,34nm,1.3s							
MOTA	**Moosalm**	58.45	31	*i* P	P	07 27 46.7	-1.2	
	comp=Z,17nm,1.4s							
MERW	**Merweville**	58.60	130	*e*P	P	07 27 52.2	+3.2	
MERW				IAmb	IAmb	07 27 54.2		
	comp=Z,151nm,1.6s							
EKA	**Eskdalemuir Ar**	58.61	17	P	P	07 27 46.3	-2.2	
	comp=Z,3.3nm,1.0s,baz=216,slow=7.1,SNR=2.5							
	comp=Z,3.3nm,1.0s							
WTTA	**Wattenberg**	58.68	32	*e*P	P	07 27 48.4	-1.0	
	comp=Z,31nm,1.7s							
WATA	**Walderalm**	58.70	32	*i* P	P	07 27 48.4	-1.1	
	comp=Z,27nm,1.7s							
ABTA	**Abfaltersbach**	58.83	33	*e*P	P	07 27 50.2	-0.2	
	comp=Z,30nm,1.1s,SNR=11							
SABO	**M.te Sabotino**	58.96	34	P	P	07 27 51.5	+0.3	
V55A	**Taylorsville**	59.12	312	P	P	07 27 52.7	+0.2	
V55A				IAmb	IAmb	07 27 54.2		
	comp=Z,32nm,1.1s							
CADS	**Cadrg**	59.18	34	*e*P	P	07 27 52.0	-0.7	
HODGE	**Hodges**	59.26	310	P	P	07 27 53.8	+0.4	
HODGE				IAmb	IAmb	07 27 54.5		
	comp=Z,26nm,1.2s							
COYC	**Coyhaique**	59.29	213	P	P	07 27 54.0	+0.5	
COYC				IAmb	IAmb	07 27 55.7		
	comp=Z,26nm,1.0s							
LBTB	**Lobatse**	59.29	120	P	P	07 27 55.8	+1.8	
LBTB	**Lobatse**	59.29	120	*e*P	P	07 27 50.4	-3.6	
LBTB				IAmb	IAmb	07 27 57.4		
	comp=Z,48nm,1.1s							
LBTB	**Lobatse**	59.29	120	LR	LR	07 48 23.8		
	comp=Z,573nm,21.2s,baz=288,slow=31							
LBTB	**Lobatse**	59.29	120	P	P	07 27 55.8	+1.8	
LBTB				pmax	pmax			
	comp=Z,42nm,1.0s							
BRAK	**Brakfontein**	59.32	128	*e*P	P	07 27 54.1	0.0	
BRAK				IAmb	IAmb	07 27 58.2		
	comp=Z,73nm,1.5s							
LESA	**Schwarzleotal**	59.33	32	*i* P	P	07 27 53.0	-0.8	
	comp=Z,39nm,1.3s							
MYKA	**Terra Mystica**	59.37	33	*e*P	P	07 27 54.1	0.0	
	comp=Z,26nm,1.2s,SNR=10							
LSZ	**Lusaka**	59.40	108	P	P	07 27 57.0	+2.1	
LSZ				IAmb	IAmb	07 27 59.2		
	comp=Z,44nm,1.4s							
LSZ	**Lusaka**	59.40	108	P	P	07 27 57.0	+2.1	
LSZ				pmax	pmax			
	comp=Z,44nm,1.4s							
KBA	**Koelnbreinsper**	59.48	33	*i* P	P	07 27 54.2	-0.8	
	comp=Z,17nm,1.4s							
KBA	**Koelnbreinsper**	59.48	33	P	P	07 27 54.2	-0.8	
SWZ	**Schweizer**	59.72	122	*e*P	P	07 27 57.9	+1.0	
SWZ				IAmb	IAmb	07 28 00.5		
	comp=Z,36nm,1.1s							
OBKA	**Obir**	59.80	34	*e*P	P	07 27 56.0	-1.1	
	comp=Z,12nm,1.3s							
BROLN	**Tlhalogang**	59.81	115	*i* P	P	07 28 00.1	+2.4	
U54A	**Nelsons Funny**	59.84	313	P	P	07 27 57.8	+0.3	
U54A				IAmb	IAmb	07 27 59.1		
	comp=Z,36nm,1.1s							
TRQ	**Mont Tremblant**	59.91	326	P	P	07 27 57.3	-0.5	
TRQ				IAmb	IAmb	07 27 58.1		
	comp=Z,33nm,1.2s							
BFON	**Badsfontein, M**	59.95	128	*e*P	P	07 27 59.6	+1.1	
BFON				IAmb	IAmb	07 28 02.6		
	comp=Z,58nm,1.2s							
BIOA	**Bad Ischl, Aus**	60.01	32	*e*P	P	07 27 56.9	-1.5	
	comp=Z,26nm,1.3s							
BG3	**Lake Jocassee**	60.06	311	P	P	07 27 59.2	+0.2	
ROOI	**Rooidraai Farm**	60.11	129	*e*P	P	07 27 56.2	-3.3	
ROOI				IAmb	IAmb	07 28 03.4		
	comp=Z,113nm,1.6s							
DOBS	**Dobrina**	60.11	35	*i* P	P	07 27 58.6	-0.5	
BOSA	**Boshof**	60.11	124	P	P	07 27 59.0	-0.7	
BOSA	**Boshof**	60.11	124	*e*P	P	07 27 58.5	-1.1	
BOSA				IAmb	IAmb	07 28 02.9		
	comp=Z,51nm,1.1s							
BOSA	**Boshof**	60.11	124	P	P	07 27 58.4	-1.2	
	comp=Z,30nm,1.0s,baz=278,slow=7.0,SNR=19							
BOSA				LR	LR	07 48 26.5		
	comp=Z,470nm,21.1s,baz=270,slow=31							
	comp=Z,30nm,1.0s							
BOSA	**Boshof**	60.11	124	P	P	07 27 59.0	-0.7	
BOSA				pmax	pmax			
	comp=Z,44nm,1.1s							
MRCO	**Marico , North**	60.12	120	*e*P	P	07 27 58.9	-0.8	
MRCO				IAmb	IAmb	07 28 03.2		
	comp=Z,40nm,1.1s							
SOKA	**Soboth**	60.17	34	*e*P	P	07 27 59.5	-0.2	
	comp=Z,27nm,1.2s,SNR=14							
GROS	**Grobnik**	60.31	34	*e*P	P	07 27 59.5	-1.0	
TEIG	**Tepich**	60.36	293	P	P	07 27 59.9	-1.4	
TEIG				IAmb	IAmb	07 28 09.6		
	comp=Z,17nm,1.0s							
352A	**Blakely**	60.38	306	P	P	07 28 00.3	-0.9	
PDG	**Podgorica**	60.41	40	P	P	07 28 01.0	-0.3	
PDG				IAmb	IAmb	07 28 05.5		
	comp=Z,24nm,1.0s							
MOA	**Molln**	60.45	33	*e*P	P	07 28 00.4	-1.0	
	comp=Z,18nm,1.1s							
MBAR	**Mbarara**	60.51	91	LR	LR	07 51 24.4		
	comp=Z,246nm,18.6s,baz=264,slow=33							
MBAR	**Mbarara**	60.51	91	*i* P	P	07 28 02.4	-0.3	
MBAR				pmax	pmax			
	comp=Z,10.0nm,1.3s							
Y52A	**Lilburn**	60.51	309	P	P	07 28 02.2	+0.1	
Y52A				IAmb	IAmb	07 28 03.9		
	comp=Z,52nm,1.5s							
152A	**Waverly Hall**	60.61	308	P	P	07 28 03.4	+0.6	
152A				IAmb	IAmb	07 28 04.5		
	comp=Z,55nm,1.6s							
AY03	**Cochrane**	60.62	212	P	P	07 28 04.0	+1.5	
AY03				IAmb	IAmb	07 28 05.7		
	comp=Z,36nm,1.0s							
PUK	**Puka**	60.64	41	P	P	07 28 04.2	+1.3	
PUK				IAmb	IAmb	07 28 06.9		
	comp=Z,25nm,1.3s							
MATP	**Matopo**	60.71	114	LR	LR	07 50 10.7		
	comp=Z,226nm,19.9s,baz=242,slow=32							
GERES	**GERESS Array B**	60.75	31	P	P	07 28 02.0	-1.6	
	comp=Z,7.2nm,0.9s,baz=219,slow=6.2,SNR=16							
GERES				LR	LR	07 52 14.1		
	comp=Z,204nm,20.4s,baz=238,slow=34							
	comp=Z,7.2nm,0.9s							
GRAF	**Camdeboo Natio**	60.76	128	*e*P	P	07 28 04.5	+0.5	
GRAF				IAmb	IAmb	07 28 08.1		
	comp=Z,76nm,1.3s							
NHAM	**Northam, North**	60.76	119	*e*P	P	07 28 03.2	-0.9	
NHAM				IAmb	IAmb	07 28 07.6		
	comp=Z,40nm,1.1s							
ARSA	**Arzberg**	60.78	34	*e*P	P	07 28 03.0	-0.7	
	comp=Z,16nm,1.6s							
KHC	**Kasperske Hory**	60.87	31	P	P	07 28 03.4	-0.9	
KHC				IAmb	IAmb	07 28 08.2		
	comp=Z,25nm,1.2s							
KHC	**Kasperske Hory**	60.87	31	*e*P	P	07 28 02.7	-1.6	
KHC	**Kasperske Hory**	60.87	31	*ce*P	P	07 28 03.3	-0.9	
KHC				pmax	pmax			
	comp=Z,74nm,1.7s							
KHC	**Kasperske Hory**	60.87	31	P	P	07 28 03.7	-0.6	
	comp=Z,20nm,1.4s							
LEPH	**Lephalale, Lim**	60.91	118	*e*P	P	07 28 06.3	+1.2	
LEPH				IAmb	IAmb	07 28 08.2		
	comp=Z,39nm,1.2s							
TKL	**Tuckaleechee C**	60.95	311	LR	LR	07 48 42.0		
	comp=Z,746nm,21.6s,baz=116,slow=30							
HVD	**Gariep Dam**	60.98	126	*e*P	P	07 28 06.6	+1.1	
HVD				IAmb	IAmb	07 28 09.5		
	comp=Z,113nm,1.2s							
NYAT	**Nyati, Northwe**	61.10	120	*e*P	P	07 28 05.1	-1.3	
NYAT				IAmb	IAmb	07 28 10.0		
	comp=Z,56nm,1.1s							
PETF	**Flores**	61.28	289	P	P	07 28 07.2	-0.4	
PETF				IAmb	IAmb	07 28 08.1		
	comp=Z,39nm,1.2s							
IDI	**Anoyia**	61.30	50	LR	LR	07 56 42.0		
	comp=Z,405nm,18.7s,baz=293,slow=38							
HRAO	**HartRAO**	61.35	120	*e*P	P	07 28 11.2	+3.1	
CONA	**Conrad Observa**	61.36	33	*i* P	P	07 28 07.2	-0.5	
	comp=Z,22nm,1.3s							
PRYS	**Parys**	61.37	121	*e*P	P	07 28 09.7	+1.4	
PRYS				IAmb	IAmb	07 28 11.3		
	comp=Z,15nm,1.1s							
RONA	**Rosalia, Austr**	61.47	34	*e*P	P	07 28 08.1	-0.2	
	comp=Z,33nm,1.1s,SNR=11							
SOP	**Sopron**	61.60	34	P	P	07 28 13.4	+4.2	
SOE	**Somerset East**	61.76	128	P	P	07 28 12.4	+1.6	
SADO	**Sadowa**	61.82	322	LR	LR	07 49 30.8		
	comp=Z,578nm,20.4s,baz=112,slow=31							
SCHQ	**Schefferville**	61.87	337	P	P	07 28 08.3	-2.6	
	comp=Z,7.5nm,0.9s,baz=93,slow=6.4,SNR=4.8							
SCHQ				LR	LR	07 52 28.7		
	comp=Z,151nm,18.6s,baz=90,slow=34							
	comp=Z,7.5nm,0.9s							
CLL	**Collm**	61.95	29	*e*P	P	07 28 13.0	+1.5	
	comp=Z,11nm,1.4s							
CLL				*i* x	x	07 28 17.6		
CLL				*e*S	S	07 36 40.0	+4.4	
CLL				*e*SS	SS	07 40 36.0	-2.1	
TREC	**Trest**	61.96	32	*e*P	P	07 28 10.4	-1.2	
SNKL	**Senekal, Frees**	62.11	123	*e*P	P	07 28 12.8	-0.5	
SNKL				IAmb	IAmb	07 28 16.6		
	comp=Z,53nm,0.9s							
BRG	**Berggiesshubel**	62.13	30	*e*P	P	07 28 15.3	+2.5	
BRG				Amp		07 28 16.5		
	comp=Z,4.4nm,1.0s							
BRG	**Berggiesshubel**	62.13	30	*e*P	P	07 28 15.2	+2.5	
BRG				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KRUC	**Moravsky**	62.30	32	*e*P	P	07 28 12.4	-1.5	
MUSN	**Musina, Limpop**	62.37	116	*e*P	P	07 28 16.0	+1.1	
MUSN				IAmb	IAmb	07 28 18.1		
	comp=Z,26nm,1.1s							
MODS	**Modra-Piesok**	62.39	33	*e*P	P	07 28 14.6	0.0	
MODS				*e*		07 28 18.0		
VRAC	**Vranov**	62.55	32	LR	LR	07 54 56.4		
	comp=Z,153nm,19.0s,baz=234,slow=36							
VRAC	**Vranov**	62.55	32	*e*P	P	07 28 14.6	-1.0	
GRHM	**Grahamstown, E**	62.60	128	P	P	07 28 18.9	+2.6	
R49A	**Shelbyville**	62.99	313	P	P	07 28 18.6	-0.1	
DPC	**Dobruska-Polom**	63.02	31	*e*P	P	07 28 17.3	-1.5	
OSTC	**Ostas**	63.09	31	*e*P	P	07 28 17.3	-1.9	
KSP	**Ksiaz**	63.30	31	*e*P	P	07 28 20.5	0.0	
KSP	**Ksiaz**	63.30	31	P	P	07 28 20.3	-0.2	
KSP	**Ksiaz**	63.30	31	P	P	07 28 20.3	-0.2	
	comp=Z,9.9nm,1.9s							
VYHS	**Vyhne**	63.32	34	*e*P	P	07 28 19.9	-0.8	
VYHS				*e*		07 28 23.5		
MORC	**Moravsky Berou**	63.33	32	P	P	07 28 20.9	+0.1	
MORC				IAmb	IAmb	07 28 25.3		
	comp=Z,23nm,1.3s							
MORC	**Moravsky Berou**	63.33	32	*e*P	P	07 28 20.3	-0.5	
MORC	**Moravsky Berou**	63.33	32	P	P	07 28 20.9	+0.1	
MORC				pmax	pmax			
	comp=Z,23nm,1.3s							
DULL	**Dullstroom, Mp**	63.38	119	*e*P	P	07 28 19.1	-2.7	
DULL				IAmb	IAmb	07 28 25.3		
	comp=Z,27nm,1.0s							
PSZ	**Piszkesteto**	63.61	35	P	P	07 28 22.2	-0.5	
PSZ	**Piszkesteto**	63.61	35	P	P	07 28 22.2	-0.5	
PSZ				pmax	pmax			
	comp=Z,47nm,1.1s							
OKC	**Ostrava-Krasne**	63.69	32	P	P	07 28 27.2	+4.1	
PILG	**Pilgrimsrest,**	63.74	118	*e*P	P	07 28 24.3	0.0	
PILG				IAmb	IAmb	07 28 27.6		
	comp=Z,34nm,1.0s							
HOED	**Hoedspruit, Li**	63.82	118	*e*P	P	07 28 25.2	+0.7	
HOED				IAmb	IAmb	07 28 27.6		
	comp=Z,34nm,1.0s							
LANS	**Liptovska Anna**	64.03	34	*e*P	P	07 28 25.9	+0.5	
LANS				*e*		07 28 29.4		
BORG	**Borgarnes**	64.20	4	LR	LR	07 50 00.7		
	comp=Z,262nm,20.9s,baz=177,slow=30							
WVT	**Waverly**	64.20	310	P	P	07 28 26.3	-0.5	
NIE	**Niedzica**	64.63	34	*e*P	P	07 28 34.1	+4.7	
NIE	**Niedzica**	64.63	34	P	P	07 28 31.1	+1.7	
OJC	**Ojcow**	64.79	33	*e*P	P	07 28 33.9	+3.6	
OJC	**Ojcow**	64.79	33	P	P	07 28 30.2	-0.1	
	comp=Z,22nm,1.3s							
P46A	**Rosedale**	64.96	314	P	P	07 28 31.7	0.0	
STHS	**Stebnicka Huta**	65.16	34	*e*P	P	07 28 36.8	+4.0	
STHS				*e*		07 28 44.4		
GKP	**Gorka Klasztor**	65.21	29	*e*P	P	07 28 37.1	+4.1	
POGA	**Pongola**	65.21	121	P	P	07 28 35.0	+1.4	
POGA	**Pongola**	65.21	121	*e*P	P	07 28 32.7	-0.8	
POGA				IAmb	IAmb	07 28 37.0		
	comp=Z,34nm,1.1s							
HOLU	**Holmets**	65.35	35	P	P	07 28 33.6	-0.4	
BERU	**Beregovo**	65.36	36	P	P	07 28 33.5	-0.6	
TRSU	**Trosnyk**	65.47	36	P	P	07 28 34.0	-0.8	
KOLS	**Kolonicke sedl**	65.49	35	*e*P	P	07 28 38.4	+3.4	
VOIR		65.52	39	P	P	07 28 34.9	-0.4	
VOIR		65.52	39	P	P	07 28 34.9	-0.4	
	comp=Z,20nm,1.3s							
ELL	**Elmali**	65.62	50	P	P	07 28 36.4	+0.3	
ELL	**Elmali**	65.62	50	P	P	07 28 36.4	+0.3	
ELL				pmax	pmax			
	comp=Z,64nm,1.1s							
CMIG	**Matias Romero**	66.06	288	LR	LR	08 00 19.0		
	comp=Z,122nm,18.0s,baz=102,slow=39							
MLR	**Muntele Rosu**	66.11	39	LR	LR	07 56 11.6		
	comp=Z,286nm,21.9s,baz=260,slow=35							
MLR	**Muntele Rosu**	66.11	39	P	P	07 28 38.5	-0.7	
MLR	**Muntele Rosu**	66.11	39	P	P	07 28 38.5	-0.7	
	comp=Z,41nm,1.2s							
ISR	**Istrita**	66.34	40	P	P	07 28 40.5	0.0	
ISR	**Istrita**	66.34	40	P	P	07 28 40.5	0.0	
	comp=Z,41nm,1.0s							
BURAR	**Bucovina Array**	66.59	37	P	P	07 28 41.7	-0.5	
BURAR				pmax	pmax			
	comp=Z,5.0nm,1.1s							
LCAR	**Lake Charles**	66.74	309	P	P	07 28 41.9	-1.2	
LCAR				IAmb	IAmb	07 28 43.2		
	comp=Z,42nm,1.5s							
VRI	**Vrincioaia**	66.77	39	P	P	07 28 42.7	-0.5	
KSV	**Kosov**	66.82	36	P	P	07 28 43.4	-0.1	
LVV	**L'vov**	66.93	35	P	P	07 28 42.9	-1.2	
KMBO	**Kilima Mbogo**	67.03	92	P	P	07 28 46.6	+0.8	
KMBO	**Kilima Mbogo**	67.03	92	P	P	07 28 46.5	+0.8	
	comp=Z,1.3nm,0.3s,baz=258,slow=5.3,SNR=6.3							
KMBO				LR	LR	07 54 12.0		
	comp=Z,564nm,19.9s,baz=268,slow=33							
	comp=Z,1.3nm,0.3s							
KMBO	**Kilima Mbogo**	67.03	92	P	P	07 28 46.6	+0.8	
KMBO				pmax	pmax			
	comp=Z,16nm,1.3s							
SFJD	**Kangerlussuaq**	67.77	351	LR	LR	07 51 54.6		
	comp=Z,429nm,19.4s,baz=170,slow=30							
NB2	**NORSAR Subarra**	67.79	20	P	P	07 28 48.5	-0.9	
	comp=Z,2.0nm,0.8s,baz=224,slow=6.5							
NOA	**NORSAR Array B**	67.79	20	P	P	07 28 49.1	-0.3	
	comp=Z,6.4nm,0.9s,baz=224,slow=6.3,SNR=8.6							
NOA				LR	LR	07 53 20.2		
	comp=Z,307nm,21.8s,baz=220,slow=32							
	comp=Z,6.4nm,0.9s							
EIL	**Elat**	67.81	58	LR	LR	07 59 01.8		
	comp=Z,812nm,18.7s,baz=250,slow=36							
HORU	**Horodok**	68.03	36	P	P	07 28 49.2	-1.9	
HFS	**Hagfors**	68.05	22	P	P	07 28 50.2	-0.8	
	comp=Z,1.0nm,0.7s,baz=222,slow=5.7,SNR=5.1							
HFS				LR	LR	07 54 04.7		
	comp=Z,312nm,21.8s,baz=232,slow=32							
SUW	**Suwalki**	68.56	30	*e*P	P	07 28 57.5	+3.2	
FURI	**Furi**	68.59	81	LR	LR	07 55 15.6		
	comp=Z,200nm,21.7s,baz=252,slow=33							
ICESG	**Greenland Ices**	68.59	356	*i* P	P	07 28 54.3	-0.4	
ICESG				IAmb	IAmb	07 29 01.8		
	comp=Z,40nm,1.4s							
RNPP8	**Varash**	68.67	34	P	P	07 28 54.8	-0.3	
SORM	**Soroca**	68.72	38	P	P	07 28 53.6	-1.9	
SORM	**Soroca**	68.72	38	P	P	07 28 53.6	-1.9	
	comp=Z,30nm,1.3s							
RNPP9	**Sopachiv**	68.73	34	P	P	07 28 55.2	-0.2	
ANTO	**Ankara**	68.75	47	P	P	07 29 00.0	+4.1	
ANTO				pmax	pmax			
	comp=Z,25nm,1.2s							
MMAI	**Mount Meron Ar**	68.93	55	P	P	07 28 56.5	-0.7	
	comp=Z,5.0nm,0.8s,baz=255,slow=6.3,SNR=1.8							
MMAI				LR	LR	08 00 46.7		
	comp=Z,190nm,18.1s,baz=252,slow=38							
	comp=Z,5.0nm,0.8s							
HKT	**Hockley**	69.02	302	*i* P	P	07 28 57.4	-0.2	
HKT				pmax	pmax			
	comp=Z,33nm,1.9s							
FRB	**Frobisher Bay**	69.05	343	LR	LR	07 54 27.3		
	comp=Z,241nm,21.3s,baz=142,slow=32							
LUBAR	**Lubar, Ukraine**	69.12	36	P	P	07 28 56.0	-1.9	
BR105	**Keskin Array S**	69.31	47	P	P	07 28 59.0	-0.5	
	comp=Z,19nm,1.1s,comp=Z,154nm							
BR106	**Keskin Array S**	69.31	47	P	P	07 28 58.9	-0.6	
	comp=Z,15nm,1.1s,comp=Z,116nm							
BR131	**Keskin Array S**	69.33	47	P	P	07 28 58.7	-0.8	
BR131				IAmb	IAmb	07 29 03.7		
	comp=Z,23nm,1.1s							
BR131	**Keskin Array S**	69.33	47	*i* P	P	07 28 58.8	-0.8	
BRTR	**Keskin Array B**	69.33	47	P	P	07 28 58.5	-1.1	
BRTR	**Keskin Array B**	69.33	47	P	P	07 28 59.2	-0.4	
	comp=Z,10nm,0.9s,baz=227,slow=5.1,SNR=21							
BRTR				LR	LR	08 00 33.5		
	comp=Z,276nm,19.1s,baz=258,slow=37							
	comp=Z,10nm,0.9s							
MI28	**Mi28,Pidlybu**	69.51	35	P	P	07 28 59.8	-0.5	
	comp=Z,372nm,1.1s							
TLIG	**Tlapa**	69.61	288	P	P	07 29 01.0	-0.7	
TLIG				IAmb	IAmb	07 29 04.2		
	comp=Z,28nm,1.5s							
PMSA	**Palmer Station**	69.94	195	LR	LR	07 53 32.6		
	comp=Z,162nm,19.6s,baz=24,slow=31							
AK19	**Malin Array Si**	70.19	35	P	P	07 29 03.6	-0.9	
AK14	**Malin Array Si**	70.21	35	P	P	07 29 03.8	-0.8	
KIEV	**Kiev**	70.29	35	P	P	07 29 04.1	-1.0	
KIEV	**Kiev**	70.29	35	P	P	07 29 04.1	-1.0	
KIEV				pmax	pmax			
	comp=Z,43nm,1.1s							
AKASG	**Malin Array Be**	70.30	35	P	P	07 29 04.5	-0.7	
	comp=Z,28nm,0.9s,baz=246,slow=6.5,SNR=31							
	comp=Z,28nm,0.9s							
AKBB	**Malin Array Si**	70.30	35	P	P	07 29 04.1	-1.1	
AKBB	**Malin Array Si**	70.30	35	*ce*P	P	07 29 04.5	-0.7	
AKBB	**Malin Array Si**	70.30	35	P	P	07 29 04.4	-0.7	
BNN	**Bunyan**	70.73	49	P	P	07 29 07.8	-0.5	
NACGM	**Naroch**	70.83	31	*e*P	P	07 29 11.8	+3.5	
	comp=Z,32nm,1.0s,baz=242							
DEOK	**Depew**	70.86	308		P	07 29 08.2	-0.8	
DEOK				IAmb	IAmb	07 29 09.3		
	comp=Z,47nm,1.4s							
Z35A	**Perchaven, San**	70.91	305	P	P	07 29 08.5	-0.8	
Z35A				IAmb	IAmb	07 29 09.6		
	comp=Z,30nm,0.8s							
MNK	**Minsk**	71.22	31	*i* P	P	07 29 13.3	+2.6	
	comp=E,17nm,1.0s							
MNK				*i* P	P	07 29 13.3	+2.6	
	comp=N,23nm,1.0s							
MNK				*i* P	P	07 29 13.3	+2.6	
	comp=Z,37nm,0.9s,baz=243							
MNK				*i* PcP	PcP	07 29 32.8	+2.2	
MNK				*i* PP	PP	07 31 49.8	+1.2	
MNK				*i* PPP	PPP	07 33 33.5		
MNK				*i* S	S	07 38 29.9	+2.0	
MNK				*i* SS	SS	07 43 03.5	+1.8	
MNK				*i* SSS	SSS	07 46 23.3		
MNK				*i* LQ	LQ	07 55 58.3		
MNK				*i* LR	LR	08 01 04.3		
MNK				*i* LRM	MLR	08 03 29.6		
	comp=N,106nm,16.5s							
MNK				*i* LRM	MLR	08 03 34.4		
	comp=Z,161nm,17.4s							
MNK				*i* LRM	MLR	08 03 36.9		
	comp=E,140nm,17.1s							
MNK	**Minsk**	71.22	31	*i* P	P	07 29 13.2	+2.6	
MNK				*i*		07 29 32.7		
MNK				*i*		07 31 49.7		
MNK				*i* PPP	PPP	07 33 33.5		
MNK				*i* S	S	07 38 29.8	+2.0	
MNK				*i* SS	SS	07 43 03.5	+1.8	
MNK				pmax	pmax			
	comp=Z,37nm,0.9s							
MNK				pmax	pmax			
	comp=E,17nm,1.0s							
MNK				pmax	pmax			
	comp=N,23nm,1.0s							
MNK				MLR	MLR			
	comp=N,106nm,17.0s							
MNK				MLR	MLR			
	comp=Z,161nm,17.0s							
MNK				MLR	MLR			
	comp=E,140nm,17.0s							
JMIC	**Jan Mayen**	71.52	7	LR	LR	07 53 48.2		
	comp=E,108nm,18.6s,baz=224,slow=30							
SUMG	**Summit**	71.98	357	*i* P	P	07 29 14.0	-1.4	
SUMG				IAmb	IAmb	07 29 15.5		
	comp=Z,17nm,1.4s							
JCT	**Junction City**	72.50	302	P	P	07 29 18.7	-0.3	
VNA2	**Neumayer--Watz**	72.99	172	⇑P	P	07 29 24.2	+3.2	
	comp=Z,8.3nm,0.8s,baz=356,slow=5.8

RAYN pmax pmax
comp=Z,15nm,1.2s
DAG Danmarks Havn 76.24 3 P **P 07 29 43.9 +4.1**
DAG pmax pmax
comp=Z,18nm,2.1s
DAG Danmarks Havn 76.24 3 *i* P **P 07 29 38.0 -1.8**
DAG IAmb IAmb 07 29 47.5
comp=Z,52nm,2.0s
VSR Storozhevoye 76.37 37 *e*P **P 07 29 37.1 -3.9**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 76.38 37 *e*P **P 07 29 38.1 -2.9**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 76.53 37 P **P 07 29 42.7 +0.9**
VORR pmax pmax
comp=Z,48nm,1.5s
LPSR Galich'ya Gora 76.63 36 *e*P **P 07 29 42.0 -0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MOS Moscow 76.85 32 *e*P **P 07 29 40.4 -3.2**
MOS pmax pmax
comp=Z,38nm,0.8s
SHA1 Shidzhatmaz 76.86 45*c e*P **P 07 29 44.8 +0.6**
KIV Kislovodsk 76.92 45 *e*P **P 07 29 44.2 -0.2**
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,109nm,19.0s
KBZ Khabaz 77.03 45 P **P 07 29 44.8 -0.1**
comp=Z,6.9nm,0.9s,baz=249,slow=2.8,SNR=11
KBZ LR LR 08 05 23.8
comp=Z,184nm,21.1s,baz=249,slow=37
comp=Z,6.9nm,0.9s
KBZ Khabaz 77.03 45 *i* P **P 07 29 46.0 +1.2**
KBZ pmax pmax
comp=Z,11nm,1.0s
NEEM North Greenlan 77.55 355 *i* P **P 07 29 45.3 -2.2**
NEEM IAmb IAmb 07 30 04.1
comp=Z,25nm,0.9s
GNI Garni 77.72 49 LR LR 08 05 31.4
comp=Z,199nm,20.9s,baz=248,slow=37
GNI Garni 77.72 49 *i* P **P 07 29 48.8 -0.3**
GNI pmax pmax
comp=Z,27nm,2.1s
ARCES ARCESS Array B 77.78 17 LR LR 07 58 27.5
comp=Z,292nm,21.9s,baz=228,slow=31
VRH Novokhopyorsk 77.92 38 *e*P **P 07 29 51.7 +2.0**
VRH pmax pmax
comp=Z,30nm,1.7s
ISCO Idaho Springs 78.70 310 P **P 07 29 54.8 +0.1**
ANMO Albuquerque 78.70 305 LR LR 07 59 54.4
comp=Z,478nm,21.7s,baz=260,slow=32
ANMO Albuquerque 78.70 305 *i* P **P 07 29 54.1 -0.6**
ANMO pmax pmax
comp=Z,8.0nm,1.4s
APA Apatity 79.37 20⇓*i* P **P 07 29 59.8 +2.5**
APA pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 79.41 28 *e*P **P 07 29 59.6 +1.9**
KLMR pmax pmax
comp=Z,33nm,1.4s
ELIB Princess Elisa 79.89 165 *d*P **P 07 30 00.9 +0.6**
comp=Z,9.0nm,0.9s
LPIG La Paz 81.08 294 LR LR 08 04 24.4
comp=Z,109nm,19.0s,baz=90,slow=34
SPITS Spitsbergen Ar 81.10 9 LR LR 07 59 17.3
comp=Z,136nm,20.2s,baz=198,slow=31
BELG Belogornoye 81.75 37 LR LR 08 06 31.4
comp=Z,100nm,20.0s,baz=251,slow=36
PDAR Pinedale Array 82.03 313 P **P 07 30 11.7 -0.8**
comp=Z,1.8nm,0.8s,baz=98,slow=5.4,SNR=13
PDAR LR LR 08 01 38.3
comp=Z,301nm,21.9s,baz=112,slow=32
comp=Z,1.8nm,0.8s
RES Resolute Bay 82.91 346 LR LR 07 59 41.5
comp=Z,89nm,19.3s,baz=165,slow=30
KIRV Kirov 83.76 31 LR LR 08 04 56.2
comp=Z,338nm,21.4s,baz=281,slow=34
ELK Elko 86.11 311 P **P 07 30 32.9 -0.4**
ELK Elko 86.11 311 P **P 07 30 32.9 -0.4**
ELK pmax pmax
comp=Z,9.0nm,1.0s
MFID Camas Ranch 86.66 313 P **P 07 30 35.5 -0.3**
YKA Yellowknife Ar 86.99 332 LR LR 08 07 07.9
comp=Z,344nm,18.2s,baz=106,slow=34
WCT Wildcat Mounta 87.07 307 P **P 07 30 37.6 -0.3**
WCT IAmb IAmb 07 30 39.7
comp=Z,15nm,1.1s
AKTO Aktyubinsk 88.04 40 LR LR 08 13 08.3
comp=Z,113nm,19.8s,baz=278,slow=38
WSAR Wadi Sarin 88.25 67 LR LR 08 10 52.3
comp=Z,276nm,18.1s,baz=286,slow=36
ARTI Arti 88.39 34 LR LR 08 07 58.3
comp=Z,175nm,21.9s,baz=292,slow=34
ARTI Arti 88.39 34*c i* P **P 07 30 45.7 +2.0**
ARTI 07 34 07.6
ARTI S **SKSac 07 41 14.7 +2.0**
ARTI SS **SS 07 47 20.1 +1.4**
ARTI pmax pmax
comp=Z,12nm,1.5s
NVAR Mina Array Bea 88.43 308 P **P 07 30 44.7 +0.1**
comp=Z,5.7nm,0.9s,baz=105,slow=5.3,SNR=35
comp=Z,5.7nm,0.9s
SVE Sverdlovsk 89.64 33 *e*P **P 07 30 50.8 +1.3**
QSPA South Pole Qui 90.77 180 P **P 07 30 54.9 +0.1**
comp=Z,3.3nm,1.0s,baz=255,slow=3.1,SNR=6.0
QSPA LR LR 08 06 27.3
comp=Z,118nm,18.8s,baz=169,slow=32
comp=Z,3.3nm,1.0s
YBH Yreka Blue Hor 91.75 312 LR LR 08 09 25.2
comp=Z,304nm,18.9s,baz=82,slow=34
KURBB Kurchatov Arra 100.98 38 PP **PP 07 35 46.1 -3.2**
comp=Z,0.5nm,0.6s,baz=291,slow=5.9,SNR=4.8
WMQ Urumqi 108.98 43 Pdif **Pdif 07 32 19.1 +1.9**
WMQ LR LR
comp=Z,220nm,23.8s
TAOE Nuku Hiva Isla 110.25 261 *e*LR LR 08 09 00.4
comp=Z,132nm,23.9s
BTO Baotou 124.99 37 *e*PKP **PKPdf 07 36 48.1 -4.5**
BTO sPKP 07 37 05.5
BTO PP PP 07 38 26.2 -14
HHC Hu-ho-hao-te 125.75 36 *e*P **PKPdf 07 36 49.4 -4.6**
PZH PanZhiHua 126.04 56 PKP **PKPdf 07 36 54.5 -0.5**
CMAR Chiang Mai Arr 126.13 67 PKP **PKiKP 07 36 56.0 +0.4**
comp=Z,1.1nm,0.3s,baz=285,slow=3.5,SNR=15
MDJ Mudanjiang 131.28 20 P **PKPdf 07 37 04.6 +0.3**
MDJ pmax pmax
comp=Z,10.0nm,1.1s
MDJ pmax pmax
comp=Z,160nm,5.5s
NJ2 Nanjing 135.93 39 *e*P **PKPdf 07 37 13.1 -0.3**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
MSVF Nonsavu 147.85 237 PKPbc **PKiKP 07 37 39.6 -0.3**
comp=Z,21nm,0.9s,baz=173,slow=2.4,SNR=4.4
STKA Stephens Creek 147.93 166 PKPbc **PKPbc 07 37 36.8 -0.9**
comp=Z,2.7nm,0.9s,baz=119,slow=20,SNR=3.7
KAPI Kappang 149.25 99 PKPbc **PKPbc 07 37 40.5 -1.1**
comp=Z,36nm,1.0s,baz=161,slow=2.4,SNR=6.0
FITZ Fitzroy Crossi 150.28 127 PKPbc **PKPbc 07 37 43.6 -0.4**
comp=Z,26nm,1.0s,baz=216,slow=2.7,SNR=16
ASAR Alice Springs 152.21 146 PKP **PKPdf 07 37 41.2 -0.6**
comp=Z,0.8nm,0.9s,baz=214,slow=1.8,SNR=5.8
ASAR PKPbc **PKPbc 07 37 47.7 -0.7**
comp=Z,5.4nm,1.1s,baz=216,slow=2.1,SNR=12
WRA Warramunga Arr 155.34 142 PKP **PKPdf 07 37 46.1 -0.2**
comp=Z,1.3nm,1.1s,baz=219,slow=1.3,SNR=5.8

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*IDC **10** 07:18:52.9±1.1, 8°.96S×158°.06E, h0km, mb3.9/6, mbtmp3.9/6, MS4.4/3, Error ellipse: s-maj=33.1km s-min=20.1km az=171.0*

ISC 10 07:18:56.4±1.0, 9°.0S±0°.2×158°.12E±0°.09, h23km, n16, σ0s95/8, mb3.9/6, MS4.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.85**	**103**	Pn	**Pn**	**07 19 26.0**	**-0.8**
	45nm,0.3s,baz=191,slow=13,SNR=14						
HNR				Sn	**Sb**	**07 19 52.5**	**+0.2**
	128nm,0.3s,baz=284,slow=14,SNR=3.8						
PMG	**Port Moresby**	**10.83**	**267**	LR	LR	07 25 36.9	
	comp=Z,99nm,18.5s,baz=154,slow=38						
DZM	**Mont Dzumac**	**15.24**	**149**	LR	LR	07 27 58.7	
	comp=Z,61nm,18.1s,baz=355,slow=36						
CTA	**Charters Tower**	**15.89**	**225**	LR	LR	07 28 22.8	
	comp=Z,4.4nm,19.4s,baz=78,slow=36						
WRA	**Warramunga Arr**	**25.42**	**242**	P	**P**	**07 24 22.2**	**-0.4**
	1.6nm,0.5s,baz=69,slow=9.4,SNR=15						
	1.6nm,0.5s						
ASAR	**Alice Springs**	**27.35**	**235**	P	**P**	**07 24 39.2**	**-0.8**
	0.8nm,0.8s,baz=66,slow=8.9,SNR=8.5						
	0.8nm,0.8s						
STKA	**Stephens Creek**	**27.43**	**212**	P	**P**	**07 24 41.8**	**+1.1**
	1.5nm,0.7s,baz=56,slow=14,SNR=3.7						
STKA				LR	LR	07 33 47.5	
	comp=Z,30nm,20.5s,baz=23,slow=33						
	1.5nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**28.62**	**17**	T	T	07 53 29.7	
	baz=198,slow=75,SNR=17						
H11S2	**WAKE ISLAND Hy**	**28.62**	**17**	T	T	07 53 24.3	
	baz=198,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**28.64**	**17**	T	T	07 53 25.2	
	baz=198,slow=75,SNR=8.4						
MAW	**Mawson**	**83.72**	**203**	LR	LR	08 06 49.0	
	comp=Z,184nm,18.1s,baz=266,slow=34						
MKAR	**Makanchi Array**	**86.97**	**318**	P	**P**	**07 31 39.1**	**-0.7**
	0.5nm,0.7s,baz=107,slow=5.5,SNR=4.3						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**87.59**	**325**	P	**P**	**07 31 42.5**	**-0.2**
	0.2nm,0.3s,baz=129,slow=4.6,SNR=1.6						
	0.2nm,0.3s						
INK	**Inuvik**	**90.53**	**20**	LR	LR	08 08 07.5	
	comp=Z,323nm,21.9s,baz=62,slow=33						
NVAR	**Mina Array Bea**	**90.56**	**51**	P	**P**	**07 31 58.4**	**+1.1**
	1.0nm,0.8s,baz=246,slow=4.3,SNR=1.9						
	1.0nm,0.8s						
NRIK	**Noril'sk**	**91.66**	**340**	LR	LR	08 13 19.2	
	comp=Z,154nm,21.9s,baz=299,slow=36						

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*NEIC **10** 07:32:53.0±1.4, 58°.3S±0°.1×26°.2W±0°.2, h102km±8km, mb4.3/14, Error ellipse: s-maj=19.0km s-min=18.0km az=199.0*
*IDC **10** 07:32:58.7±7.6, 58°.43S×26°.26W, h155km±70km, mb3.5/5, mbtmp3.8/6, Error ellipse: s-maj=35.5km s-min=22.9km az=57.0*

ISC 10 07:32:52.3±0.7, 58°.23S±0°.10×26°.1W±0°.1, h100km, n35, σ1s02/32, mb4.0/11, 8C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.01**	**300**	Pn	**Pn**	**07 34 32.1**	**-0.1**
ORCD	**Orcadas**	**9.81**	**247**	Pn	**Pn**	**07 35 11.6**	**+1.5**
VNA1	**Neumayer--Stat**	**14.55**	**156**	⇑P	**Pn**	**07 36 13.7**	**+0.8**
	comp=Z,6.0nm,0.7s						
VNA3	**Neumayer Olymp**	**14.73**	**159**	⇑P	**Pn**	**07 36 14.5**	**-0.7**
	comp=Z,1.3nm,0.2s						
VNA3				⇑S	Sn	07 38 39.3	-18
	comp=Z,0.7nm,0.4s						
VNA2	**Neumayer--Watz**	**14.95**	**156**	⇑P	**P**	**07 36 20.8**	**-0.2**
	comp=Z,1.2nm,0.2s,baz=317,slow=14						
VNA2				⇑S	Sn	07 38 49.3	-13
	comp=Z,1.5nm,0.6s,baz=286,slow=31						
SNAA	**Sanae**	**16.51**	**154**	P	**Pn**	**07 36 36.8**	**-0.7**
SNAA	**Sanae**	**16.51**	**154**	⇑P	**P**	**07 36 39.2**	**+0.9**
	comp=Z,51nm,0.7s						
SNAA				⇓S	Sn	07 39 23.5	-17
	comp=Z,13nm,0.4s						
SNAA	**Sanae**	**16.51**	**154**	P	**P**	**07 36 39.3**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=298,slow=12,SNR=12						
SNAA				S	Sn	07 39 23.2	-17
	comp=Z,0.4nm,0.4s,baz=268,slow=22,SNR=1.6						
TROLL	**Troll, Antarti**	**18.03**	**151**	⇑P	**Pn**	**07 36 59.1**	**+3.0**
	comp=Z,11nm,0.2s						
TROLL				⇑S	S	07 39 57.9	-19
	comp=Z,22nm,0.3s						
EFI	**East Falkland**	**19.36**	**276**	P	**P**	**07 37 10.0**	**+0.3**
BELA	**Belgrano 2**	**19.95**	**185**	P	**P**	**07 37 13.9**	**-2.0**
QSPA	**South Pole Qui**	**32.02**	**180**	P	**P**	**07 39 08.5**	**-0.4**
QSPA				IAmb	IAmb	07 39 17.1	
	comp=Z,4.4nm,1.2s						
QSPA	**South Pole Qui**	**32.02**	**180**	P	**P**	**07 39 08.3**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=194,slow=3.1,SNR=18						
	comp=Z,1.1nm,0.5s						
PLCA	**Paso Flores**	**33.02**	**282**	P	**P**	**07 39 18.4**	**+0.6**
PLCA				IAmb	IAmb	07 39 23.7	
	comp=Z,8.8nm,1.5s						
PLCA	**Paso Flores**	**33.02**	**282**	P	**P**	**07 39 18.6**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=112,slow=7.9,SNR=3.7						
	comp=Z,0.8nm,0.6s						
BO02	**Sierra Bellavi**	**37.67**	**289**	P	**P**	**07 39 57.4**	**-0.3**
BO02				IAmb	IAmb	07 40 12.9	
	comp=Z,4.5nm,0.9s						
GO05	**Hualane**	**38.08**	**287**	P	**P**	**07 40 01.0**	**0.0**
BO01	**Tunca**	**38.14**	**289**	P	**P**	**07 40 01.9**	**+0.4**
BO01				IAmb	IAmb	07 40 23.8	
	comp=Z,7.7nm,1.4s						
MT09	**Talagante**	**38.58**	**289**	P	**P**	**07 40 05.1**	**-0.3**
MT09				IAmb	IAmb	07 40 06.8	
	comp=Z,4.7nm,0.8s						
MT01	**Popeta**	**38.64**	**289**	P	**P**	**07 40 05.3**	**-0.5**
AC05	**El Transito**	**42.27**	**295**	P	**P**	**07 40 36.2**	**+0.4**
AC05				IAmb	IAmb	07 41 19.5	
	comp=Z,12nm,1.2s						
H04S2	**CROZET ISLANDS**	**46.15**	**111**	T	T	08 31 42.0	
	baz=226,slow=75,SNR=8.9						
H04S3	**CROZET ISLANDS**	**46.16**	**111**	T	T	08 31 40.9	
	baz=226,slow=75,SNR=6.7						
H04S1	**CROZET ISLANDS**	**46.17**	**111**	T	T	08 31 38.9	
	baz=226,slow=75,SNR=8.1						
LPAZ	**La Paz**	**52.13**	**305**	P	**P**	**07 41 52.9**	**-0.1**
LPAZ	**La Paz**	**52.13**	**305**	P	**P**	**07 41 53.5**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=177,slow=24,SNR=2.3						
	comp=Z,0.2nm,0.4s						
SAML	**Samuel**	**56.77**	**315**	P	**P**	**07 42 25.2**	**-0.6**
SAML				IAmb	IAmb	07 42 35.0	
	comp=Z,2.2nm,1.4s						
BOAV	**Boa Vista**	**66.37**	**322**	P	**P**	**07 43 28.7**	**-1.6**
BOAV				IAmb	IAmb	07 44 09.2	
	comp=Z,3.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**74.68**	**28**	P	**P**	**07 44 22.2**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=202,slow=5.6,SNR=6.4						
	comp=Z,0.5nm,0.4s						
ASAR	**Alice Springs**	**96.72**	**162**	P	**P**	**07 46 10.2**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=185,slow=4.7,SNR=4.7						
	comp=Z,0.2nm,0.6s						
A36M	**Sachs Harbour**	**146.37**	**326**	PKPdf	**PKPdf**	**07 52 19.5**	**+1.3**
J30M	**Hart River**	**147.61**	**311**	PKPbc	**PKPbc**	**07 52 24.4**	**+0.8**
M29M	**Somme Creek**	**147.66**	**306**	PKPbc	**PKPbc**	**07 52 24.0**	**+0.3**
G31M	**Satah River**	**147.67**	**316**	PKPdf	**PKPdf**	**07 52 20.8**	**+0.3**
ILAR	**Eielson Array**	**151.98**	**308**	PKPbc	**PKPbc**	**07 52 33.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=118,slow=2.6,SNR=8.8						

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*IDC **10** 07:33:08.4±10.0, 0°.47N×124°.28E, h106km±100km, mb3.4/4, mbtmp3.8/5, ML4.0/1, Error ellipse: s-maj=117.4km s-min=24.9km az=60.0*
*DJA **10** 07:33:12.8±0.5, 0°.S±4°.×12°.4E±°, h117km±6km, M4.0/10, MLv4.0/10*

ISC 10 07:33:13.2±0.9, 0°.18S±0°.06×123°.81E±0°.06, h110km, n13, σ1s89/17, mb3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.76**	**13**	P	**Pn**	**07 33 33.1**	**+1.0**
KMSI				S	**Sn**	**07 33 48.2**	**+1.8**
GTOI	**Gorontalo**	**1.13**	**315**	P	**Pn**	**07 33 37.5**	**+1.7**
GTOI				S	**Sn**	**07 33 55.9**	**+3.0**
LUWI	**Luwuk**	**1.35**	**230**	P	**Pn**	**07 33 40.2**	**+2.0**
LUWI				S	**Sn**	**07 33 59.6**	**+2.4**
MRSI	**Marisa**	**1.98**	**289**	P	**Pn**	**07 33 44.0**	**-1.9**
APSI	**Ampana**	**2.28**	**251**	P	**Pn**	**07 33 50.7**	**+0.9**
SANI	**Sanana**	**2.87**	**131**	P	**Pn**	**07 33 57.6**	**+0.1**
SANI				S	**Sn**	**07 34 31.9**	**+0.3**
MPSI	**Mapaga**	**3.94**	**277**	P	**Pn**	**07 34 12.1**	**+0.3**
NLAI	**Namlea**	**4.48**	**133**	P	**Pn**	**07 34 21.5**	**+2.4**
FITZ	**Fitzroy Crossi**	**17.90**	**174**	P	**Pn**	**07 37 15.2**	**-0.1**
	0.3nm,0.3s,baz=349,slow=10,SNR=12						
	1.2nm,0.4s						
WRA	**Warramunga Arr**	**22.19**	**153**	P	**P**	**07 37 59.4**	**-1.3**
	1.0nm,0.4s,baz=334,slow=10,SNR=25						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**25.33**	**158**	P	**P**	**07 38 29.8**	**-0.1**
	0.4nm,0.4s,baz=348,slow=12,SNR=14						
ASAR				PcP	**PcP**	**07 41 56.8**	**-3.4**
	0.2nm,0.5s,baz=338,slow=2.2,SNR=1.5						
	0.4nm,0.4s						
STKA	**Stephens Creek**	**35.74**	**154**	P	**P**	**07 40 00.8**	**-0.7**
	1.5nm,0.6s,baz=337,slow=8.7,SNR=3.8						
	1.5nm,0.6s						
MKAR	**Makanchi Array**	**59.19**	**328**	P	P	07 42 56.8	-5.9
	0.6nm,0.5s,baz=128,slow=6.6,SNR=8.6						
MKAR				PcP	sP	07 43 43.4	+1.9
	0.5nm,0.5s,baz=126,slow=4.5,SNR=5.2						
	0.6nm,0.5s						

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*IDC **10** 07:48:49.3±1.2, 26°.58S×67°.76E, h0km, mb4.0/8, mbtmp4.0/8, Error ellipse: s-maj=39.6km s-min=25.2km az=69.0*
*NEIC **10** 07:48:50.7±1.1, 26°.56S±0°.10×67°.68E±0°.07, h10km±1km, mb4.4/21, Error ellipse: s-maj=18.7km s-min=6.5km az=211.0*

ISC 10 07:48:50.3±0.6, 26°.56S±0°.09×67°.6E±0°.1, h10km, n34, σ0s93/25, mb4.3/13, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**7.83**	**329**	Pn	**Pn**	**07 50 45.0**	**+0.7**
FOMA	**Nahampoana Res**	**18.68**	**270**	P	**P**	**07 53 07.2**	**-1.5**
FOMA				IAmb	IAmb	07 53 50.5	
	comp=Z,33nm,1.0s						
H08S1	**Diego Carcia H**	**19.36**	**15**	T	T	08 12 51.2	
	baz=194,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**19.36**	**15**	T	T	08 12 51.5	
	baz=194,slow=76,SNR=19						
H08S3	**Diego Garcia H**	**19.38**	**15**	T	T	08 12 55.1	
	baz=194,slow=76,SNR=12						
VOI	**Vohitsoka**	**19.56**	**279**	P	**P**	**07 53 18.2**	**-0.3**
VOI				IAmb	IAmb	07 53 27.4	
	comp=Z,19nm,1.2s						
DGAR	**Diego Garcia**	**19.58**	**14**	P	**P**	**07 53 16.0**	**-2.6**
PAF	**Port-aux-Franc**	**22.85**	**176**	P	**P**	**07 53 52.6**	**-0.9**
H04N2	**CROZET ISLANDS**	**23.28**	**209**	T	T	08 18 26.3	
	baz=38,slow=74,SNR=194						
H04N1	**CROZET ISLANDS**	**23.29**	**209**	T	T	08 18 28.3	
	baz=38,slow=74,SNR=208						
H04N3	**CROZET ISLANDS**	**23.30**	**209**	T	T	08 18 18.6	
	baz=38,slow=74,SNR=339						
POGA	**Pongola**	**31.98**	**260**	P	**P**	**07 55 16.6**	**-0.2**
KIBK	**Kibwezi**	**37.23**	**305**	P	**P**	**07 56 03.0**	**+0.7**
LSZ	**Lusaka**	**38.38**	**279**	P	**P**	**07 56 11.2**	**-1.0**
H01W2	**Cape Leeuwin H**	**40.52**	**113**	T	T	08 39 26.8	
	baz=269						
H01W3	**Cape Leeuwin H**	**40.53**	**113**	T	T	08 39 33.0	
	baz=269						
H01W1	**Cape Leeuwin H**	**40.54**	**113**	T	T	08 39 29.6	
	baz=269						
MAW	**Mawson**	**41.17**	**183**	P	**P**	**07 56 35.3**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=17,slow=6.9,SNR=2.6						
	comp=Z,1.1nm,0.9s						
CM31	**Chiang Mai Arr**	**54.09**	**38**	P	**P**	**07 58 15.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**54.09**	**38**	P	**P**	**07 58 16.6**	**+1.1**
	comp=Z,1.9nm,0.3s,baz=230,slow=7.6,SNR=15						
	comp=Z,1.9nm,0.3s						
SNAA	**Sanae**	**58.90**	**200**	P	**P**	**07 58 50.1**	**+0.9**
SNAA				IAmb	IAmb	07 59 03.2	
	comp=Z,5.6nm,1.4s						
ASAR	**Alice Springs**	**59.46**	**103**	P	**P**	**07 58 53.6**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=249,slow=6.2,SNR=15						
	comp=Z,1.0nm,0.7s						
AS31	**Alice Springs**	**59.47**	**103**	P	**P**	**07 58 53.2**	**-0.6**
WRA	**Warramunga Arr**	**61.05**	**99**	P	**P**	**07 59 04.0**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=252,slow=6.5,SNR=6.0						
	comp=Z,1.1nm,0.8s						
WB2	**Warramunga Arr**	**61.06**	**99**	P	**P**	**07 59 03.9**	**-0.9**
WB2				IAmb	IAmb	07 59 26.8	
	comp=Z,5.2nm,1.2s						
BTK	**Batken**	**66.34**	**3**	P	**P**	**07 59 38.9**	**-0.2**
BTK				IAmb	IAmb	07 59 41.0	
	comp=Z,2.5nm,0.8s						
KKAR	**Karatay Array**	**69.36**	**2**	P	**P**	**07 59 57.9**	**-0.2**
KKAR				IAmb	IAmb	08 00 00.1	
	comp=Z,1.6nm,1.1s						
BRTR	**Keskin Array B**	**73.17**	**333**	P	**P**	**08 00 21.8**	**+0.5**
BRTR	**Keskin Array B**	**73.17**	**333**	P	**P**	**08 00 22.4**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=146,slow=5.8,SNR=3.6						
	comp=Z,0.8nm,0.8s						
MKAR	**Makanchi Array**	**74.20**	**10**	P	**P**	**08 00 27.0**	**0.0**
	comp=Z,0.7nm,0.8s,baz=191,slow=6.2,SNR=4.5						
	comp=Z,0.7nm,0.8s						
ABKAR	**Akbulak array**	**75.78**	**355**	P	**P**	**08 00 35.9**	**-0.2**
ABKAR				IAmb	IAmb	08 00 37.2	
	comp=Z,2.9nm,0.8s						
ZAA0	**Zalesovo Array**	**81.54**	**10**	P	**P**	**08 01 07.7**	**0.0**
ZAA0				IAmb	IAmb	08 01 08.8	
	comp=Z,2.8nm,0.8s						
ZALV	**Zalesovo Beam**	**81.54**	**10**	P	**P**	**08 01 08.1**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=193,slow=5.4,SNR=11						
	comp=Z,2.4nm,0.8s						
SONM	**Songino Array**	**81.83**	**25**	P	**P**	**08 01 10.6**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=209,slow=6.1,SNR=7.5						
	comp=Z,1.5nm,0.8s						

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*SJA **10** 07:53:36.6±0.7, 24°.06S×69°.07W, h120km±8km, ML4.6, MW4.3*
*NEIC **10** 07:53:37.1±2.4, 24°.09S±0°.05×68°.97W±0°.08, h96km±7km, mb4.7/47, ML4.7(GUC), Error ellipse: s-maj=10.4km s-min=6.8km az=106.0*
*VAO **10** 07:53:38.0±1.0, 23°.69S×68°.73W, h71km±7km, mb4.8*
*GUC **10** 07:53:38.0±0.8, 24°.08S×69°.02W, h101km±4km, ML4.6*
*IDC **10** 07:53:38.6±0.5, 24°.07S×68°.84W, h106km±4km, mb4.2/12, mbtmp4.4/15, Error ellipse: s-maj=18.4km s-min=12.2km az=69.0*

ISC 10 07:53:37.2±0.4, 24°.05S±0°.03×69°.06W±0°.04, h107km±3km, n193, σ2s04/196, mb4.6/32, 9C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.92**	**336**		**Pn**	**07 53 59.4**	**+1.9**
PB15	**IPOC Station P**	**0.92**	**336**	⇓*i* P	**Pn**	**07 53 59.3**	**+1.7**
PB15				*e*S	**Sn**	**07 54 14.8**	**+2.0**
PB15	**IPOC Station P**	**0.92**	**336**	*e*P	**Pn**	**07 53 58.5**	**+1.0**
GO02	**Mina Guanaco**	**1.21**	**203**		**Pn**	**07 54 01.7**	**+1.0**
GO02	**Mina Guanaco**	**1.21**	**203**	⇓*i* P	**Pn**	**07 54 01.8**	**+1.0**
GO02				*e*S	**Sn**	**07 54 20.0**	**+1.4**
GO02				IAML		07 54 20.7	
	comp=N,21μm,0.4s						
GO02	**Mina Guanaco**	**1.21**	**203**	*e*P	**Pn**	**07 54 01.8**	**+1.0**
GO02				*e*S	**Sn**	**07 54 20.4**	**+1.9**
PB14	**IPOC Station P**	**1.36**	**245**	Pn	**Pn**	**07 54 03.5**	**+1.1**
PB14	**IPOC Station P**	**1.36**	**245**	⇑*i* P	**Pn**	**07 54 03.9**	**+1.4**
PB14				*e*S	**Sn**	**07 54 23.4**	**+1.9**
PB14				IAML		07 54 24.4	
	comp=E,5μm,0.3s						
PB14	**IPOC Station P**	**1.36**	**245**	*e*P	**Pn**	**07 54 03.8**	**+1.4**
PB14				*e*S	**Sn**	**07 54 23.4**	**+1.9**
PB14				IAML		07 54 24.1	
	comp=Z,4μm,0.3s						
AF01	**San Pedro de A**	**1.36**	**37**		**Pn**	**07 54 03.6**	**+1.3**
AF01	**San Pedro de A**	**1.36**	**37**	⇑*i* P	**Pn**	**07 54 03.7**	**+1.3**
AF01				*e*S	**Sn**	**07 54 23.0**	**+1.5**
AF01	**San Pedro de A**	**1.36**	**37**	*e*P	**Pn**	**07 54 03.0**	**+0.6**
AF01				IAML		07 54 27.5	
	comp=Z,19μm,0.4s						
PB06	**IPOC Station P**	**1.42**	**340**		**Pn**	**07 54 04.5**	**+1.5**
PB06	**IPOC Station P**	**1.42**	**340**	⇓*i* P	**Pn**	**07 54 04.9**	**+1.9**
PB06				*e*S	**Sn**	**07 54 24.5**	**+2.0**
PB06				IAML

AC01 IAML 07 54 46.0
comp=Z,1μm,0.3s
PB01 IPOC Station P 3.02 352 Pn **Pn 07 54 23.9 +0.5**
PB01 IPOC Station P 3.02 352⇑*eP* **Pn 07 54 24.4 +1.0**
PB01 IPOC Station P 3.02 352 *eP* **Pn 07 54 24.4 +1.0**
PB01 *eS* **Sn 07 54 53.7 -5.3**
PB01 IAML 07 54 53.9
comp=Z,1μm,0.7s
SLA San Lorenzo 3.31 102⇓*iP* **Pn 07 54 29.3 +1.9**
SLA San Lorenzo 3.31 102 *eP* **Pn 07 54 29.7 +2.3**
PATCX Punta Patache 3.37 342 **Pn 07 54 27.7 -0.4**
PATCX Punta Patache 3.37 342 *eP* **Pn 07 54 28.1 0.0**
PATCX *eS* Sn 07 55 22.2 +15
PATCX IAML 07 55 29.2
comp=Z,1μm,0.8s
HJA Humahuaca 3.45 77 *eP* **Pn 07 54 31.8 +2.3**
FSA Cafayete 3.47 127 *eP* **Pn 07 54 30.5 +1.0**
AC06 Mina Casimiro 3.50 199 Pn **Pn 07 54 28.1 -1.6**
TA01 Diego Aracena 3.62 343 **Pn 07 54 30.1 -1.3**
TA01 Diego Aracena 3.62 343 *eP* **Pn 07 54 30.5 -0.9**
TA01 *eS* Sn 07 54 56.8 -16
TA01 IAML 07 55 43.3
comp=Z,810nm,0.9s
AZAP Zapla 3.65 94 *eP* **Pn 07 54 33.5 +1.5**
AZAP *eS* **Sn 07 55 21.1 +6.7**
GO03 Copiapo 3.69 196 **Pn 07 54 30.9 -1.5**
GO03 Copiapo 3.69 196 *eP* **Pn 07 54 31.5 -0.8**
GO03 *eS* Sn 07 54 59.4 -16
YJA Yavi 3.76 61 *eP* **Pn 07 54 35.6 +2.0**
HMBC Humberstone 3.83 348 **Pn 07 54 33.9 -0.5**
HMBC Humberstone 3.83 348 *eP* **Pn 07 54 33.4 -0.9**
HMBC *eS* Sn 07 55 29.2 +11
HMBC IAML 07 55 51.3
comp=Z,1μm,0.4s
PB08 IPOC Station P 3.89 359 **Pn 07 54 35.5 +0.1**
PB08 IPOC Station P 3.89 359 *eP* **Pn 07 54 35.6 +0.2**
PB08 *eS* Sn 07 55 03.2 -17
PB08 IAML 07 55 47.6
comp=Z,415nm,0.3s
PB11 IPOC Station P 4.30 352 Pn **Pn 07 54 40.8 +0.1**
PB11 IPOC Station P 4.30 352 *eP* **Pn 07 54 40.0 -0.7**
PB11 *eS* Sn 07 55 09.3 -21
PB11 IAML 07 56 02.3
comp=Z,511nm,0.8s
GO01 Chusmiza 4.36 358 **Pn 07 54 42.1 +0.3**
GO01 Chusmiza 4.36 358 *eP* **Pn 07 54 41.5 -0.3**
GO01 *eS* Sn 07 55 18.2 -14
AC04 Llanos de Chal 4.52 203 Pn **Pn 07 54 40.8 -2.7**
AC04 Llanos de Chal 4.52 203 *eP* **Pn 07 54 41.0 -2.5**
AC04 *eS* **Sn 07 55 32.5 -2.4**
AC04 IAML 07 56 09.7
comp=Z,228nm,0.8s
ALOL LOMAS DE OLMED 4.65 88 *eP* **Pn 07 54 46.0 +0.7**
LCO Las Campanas 5.16 196 **Pn 07 54 49.7 -2.7**
LCO Las Campanas 5.16 196 *eP* Pn 07 54 38.4 -14
LCO IAML 07 56 18.2
comp=Z,415nm,0.4s
CYA Choya 5.26 147 *eP* **Pn 07 54 53.9 +0.3**
CYA *eS* **Sn 07 55 57.2 +4.2**
CO01 Juntas del Tor 5.98 189 **Pn 07 55 01.7 -1.8**
CO05 La Serena 6.16 198 **Pn 07 55 02.2 -3.5**
GO04 Tololo Observa 6.29 194 **Pn 07 55 04.7 -3.0**
CO03 El Pedregal 6.92 192 **Pn 07 55 13.0 -3.1**
CO06 Fray Jorge 6.99 199 Pn 07 55 12.0 -4.9
ZON Zonda 7.48 178 **Pn 07 55 21.6 -2.0**
LPAZ La Paz 7.77 7 **Pn 07 55 28.6 +0.5**
LPAZ La Paz 7.77 7 P **Pn 07 55 29.1 +1.0**
comp=Z,22nm,0.4s,baz=191,slow=5.1,SNR=221
LPAZ S **Sn 07 56 53.5 -1.4**
comp=Z,6.3nm,0.7s,baz=218,slow=13,SNR=0.9
LPAZ La Paz 7.77 7 *eP* Pn 07 55 22.8 -5.3
FDPY Filadelfia 8.57 80 *eP* **Pn 07 55 34.3 -4.1**
VA03 San Esteban 8.78 188 Pn 07 55 37.1 -4.3
MT02 Curacav 9.36 191 Pn 07 55 43.7 -5.4
MT08 Bocatoma Ro 9.40 185 **Pn 07 55 46.7 -3.2**
MT16 CCHEN 9.44 187 **Pn 07 55 46.2 -3.9**
MT03 Universidad Ad 9.50 187 Pn 07 55 46.3 -4.8
LMEL Las Melosas 9.82 186 Pn **Pn 07 55 52.0 -3.4**
MT09 Talagante 9.84 189 Pn 07 55 50.3 -5.4
MT01 Popeta 9.97 191 Pn 07 55 51.3 -6.0
BO04 La Punta 10.00 187 Pn 07 55 51.8 -6.1
BBSD Serra de San D 10.45 51 *eP* Pn 07 55 59.1 -4.8
BO01 Tunca 10.46 189 Pn 07 55 57.5 -6.5
BO02 Sierra Bellavi 10.81 188 Pn 07 56 02.7 -6.2
CPUP Villa Florida 10.86 105 P **Pn 07 56 06.9 -2.6**
comp=Z,1.6nm,0.6s,baz=277,slow=14,SNR=5.2
SIV San Ignacio 10.98 45 P **Pn 07 56 06.7 -4.5**
comp=Z,47nm,0.4s,baz=253,slow=9.4,SNR=318
SIV S **Sn 07 58 04.8 -7.3**
comp=Z,2.1nm,0.3s,baz=139,slow=21,SNR=1.3
BDQN Bodoquena, MS 11.95 75 *eP* **Pn 07 56 20.8 -3.2**
PTLB Pontes e Lacer 12.66 49 **Pn 07 56 29.8 -3.7**
PTLB Pontes e Lacer 12.66 49 *eP* Pn 07 56 28.9 -4.6
H03N1 Juan Fernandez 12.73 220 P **Pn 07 56 32.6 -1.4**
H03N1 T T 08 08 47.5
baz=43
H03N2 Juan Fernandez 12.74 221 P **Pn 07 56 32.6 -1.6**
H03N2 T T 08 08 43.1
baz=43,slow=74
H03N3 Juan Fernandez 12.75 220 P **Pn 07 56 32.1 -2.2**
H03N3 T T 08 08 42.2
baz=43,slow=74
AQDB Aquidauana 12.87 77 *eP* **Pn 07 56 33.4 -2.8**
H03S3 Juan Fernandez 13.00 219 P **Pn 07 56 35.5 -2.1**
baz=34,slow=19,SNR=28
H03S1 Juan Fernandez 13.02 219 P **Pn 07 56 35.4 -2.4**
baz=34,slow=19,SNR=16
H03S2 Juan Fernandez 13.02 219 P **Pn 07 56 35.6 -2.2**
baz=34,slow=19,SNR=22
VILB Vilhena 13.86 39 **Pn 07 56 46.1 -3.1**
VILB Vilhena 13.86 39 *eP* **Pn 07 56 45.9 -3.3**
ETMB Extrema 14.41 11 **Pn 07 56 52.5 -3.7**
ETMB Extrema 14.41 11 *eP* Pn 07 56 52.4 -3.8
RPRD Ribas do Rio P 14.65 79 *eP* **Pn 07 56 57.4 -1.9**
SALV Santo Antonio 14.94 60 *eP* **Pn 07 56 59.5 -3.5**
PTGB Pitanga 15.50 96 *eP* **Pn 07 57 09.6 -0.5**
PLTB Pedras Altas 15.66 123 P **Pn 07 57 09.0 -3.0**
C2SB Chapadao do Su 15.99 74 *eP* **Pn 07 57 14.9 -1.2**
SAML Samuel 16.03 21 P **Pn 07 57 13.2 -3.4**
SAML Samuel 16.03 21 *eP* **Pn 07 57 13.4 -3.2**
LDASE Londrina, Braz 16.45 91 *eP* **Pn 07 57 19.5 -2.2**
CZSB Cruzeiro do Su 16.60 347 *eP* **Pn 07 57 22.9 -0.7**
PLCA Paso Flores 16.68 184 P **Pn 07 57 24.1 -0.5**
comp=Z,1.4nm,0.9s,baz=298,slow=6.0,SNR=2.1
PDRB Porto dos Gac 17.03 46 *eP* **Pn 07 57 25.5 -3.5**
LL05 Los Muermos 17.70 191 **P 07 57 32.0 -4.1**
ITRB Iturama 17.88 80 *eP* **P 07 57 38.1 -0.3**
ARAG Araguaiana, MT 18.21 66 *eP* **P 07 57 41.0 -1.0**
LL06 Loncomilla 18.51 191 P **P 07 57 41.1 -3.9**
LL06 IAmb IAmb 07 58 23.1
comp=Z,50nm,1.1s
TBTG Tabatinga, AM 19.76 357 *eP* **P 07 57 58.6 -0.3**
VAO Valinhos 20.28 92 P **P 07 58 02.7 -1.9**
VAO IAmb IAmb 07 58 04.5
comp=Z,24nm,0.9s
VAO Valinhos 20.28 92 *eP* **P 07 58 04.2 -0.4**
IPMB Ipameri, GO 20.36 77 *eP* **P 07 58 05.0 -0.5**
SNDB Serra Nova Dou 20.70 58 *eP* **P 07 58 06.5 -2.5**
NPGB Novo Progresso 21.41 40 *eP* **P 07 58 14.3 -2.4**
BDFB Brasilia 21.47 71 P **P 07 58 16.3 -1.0**
BDFB IAmb IAmb 07 58 17.8
comp=Z,34nm,0.6s
BDFB Brasilia 21.47 71 P **P 07 58 17.3 -0.1**
comp=Z,36nm,0.7s,baz=245,slow=12,SNR=44
comp=Z,36nm,0.7s
MACA Manacapuru-AM 22.28 23 P **P 07 58 24.7 -1.1**
MACA Manacapuru-AM 22.28 23 *eP* **P 07 58 24.5 -1.3**
ITTB Itaituba 23.41 35 *eP* **P 07 58 35.2 -1.6**
JANB Januaria 24.94 74 *eP* **P 07 58 51.1 +0.3**
SMTB Santa Maria do 25.47 57 *eP* **P 07 58 56.8 +1.2**
PRPB Paraiapebas 25.65 49 *eP* **P 07 58 57.6 +0.5**
SDBA SAO DÉSIDERIO 25.65 67 *eP* **P 07 58 57.3 +0.1**
BOAV Boa Vista 27.56 19 P **P 07 59 14.4 +0.1**
BOAV IAmb IAmb 07 59 53.1
comp=Z,16nm,1.4s
BOAV Boa Vista 27.56 19 *eP* **P 07 59 16.3 +2.0**
RCBR Riachuelo 36.65 66 P **P 08 00 35.1 +1.3**
BELA Belgrano 2 56.26 172 P **P 08 03 06.3 +0.3**
BELA IAmb IAmb 08 03 07.8
comp=Z,3.7nm,0.7s
VNA3 Neumayer Olymp 57.72 161 ⇑P **P 08 03 17.4 +1.0**
comp=Z,5.2nm,0.7s
VNA2 Neumayer--Watz 58.31 160 ⇑P **P 08 03 20.9 +0.4**
comp=Z,5.4nm,0.6s,baz=305,slow=6.0
LRAL Lakeview Retre 59.28 342 P **P 08 03 27.6 0.0**
LRAL IAmb IAmb 08 03 29.6
comp=Z,14nm,1.4s
833A Chaparral WMA, 59.71 329 P **P 08 03 32.2 +1.5**
Z47A Carrollton 59.74 342 P **P 08 03 31.1 +0.4**
Y49A Blount Mountai 59.91 343 P **P 08 03 32.1 +0.2**
SNAA Sanae 59.93 160 P **P 08 03 32.1 +0.3**
SNAA IAmb IAmb 08 03 33.4
comp=Z,6.8nm,0.8s
SNAA Sanae 59.93 160 ⇑P **P 08 03 32.1 +0.3**
comp=Z,144nm,0.8s
SNAA Sanae 59.93 160 P **P 08 03 32.4 +0.7**
comp=Z,5.1nm,0.7s,baz=274,slow=8.4,SNR=24
comp=Z,5.1nm,0.7s
V58A Windy Hill, Pi 60.27 351 P **P 08 03 35.1 +0.7**
X48A Hartselle 60.63 343 P **P 08 03 37.2 +0.4**
X48A IAmb IAmb 08 03 38.5
comp=Z,7.8nm,0.7s
V55A Taylorsville 60.67 349 P **P 08 03 38.2 +1.1**
W50A Signal Mountai 60.91 345 P **P 08 03 39.3 +0.6**
TKL Tuckaleechee C 60.99 346 P **P 08 03 39.5 +0.2**
TKL IAmb IAmb 08 04 07.7
comp=Z,8.1nm,1.0s
TROLL Troll, Antarti 61.65 160 ⇑P **P 08 03 44.0 +0.5**
comp=Z,348nm,0.5s
V48A Smith Brothers 61.79 344 P **P 08 03 45.4 +0.8**
V48A IAmb IAmb 08 03 46.4
comp=Z,7.0nm,0.7s
U49A Red Boiling Sp 62.27 345 P **P 08 03 48.5 +0.7**
U49A IAmb IAmb 08 04 00.8
comp=Z,11nm,1.3s
WVT Waverly 62.43 343 P **P 08 03 49.2 +0.4**
WVT IAmb IAmb 08 03 50.1
comp=Z,7.1nm,0.7s
TXAR Lajitas Array 62.64 326 P **P 08 03 52.7 +2.1**
comp=Z,0.8nm,0.6s,baz=148,slow=9.1,SNR=6.2
comp=Z,0.8nm,0.6s
T47A Sharon Grove 63.05 344 P **P 08 03 53.1 +0.1**
T47A IAmb IAmb 08 03 54.6
comp=Z,12nm,1.0s
PBMO Poplar Bluff 63.77 341 P **P 08 03 58.4 +0.6**
VHRN Van Horn 64.49 326 P **P 08 04 04.3 +1.5**
RLO Rose Lookout 64.72 337 P **P 08 04 05.2 +1.2**
RLO IAmb IAmb 08 04 33.4
comp=Z,6.8nm,1.0s
FVM French Village 64.89 341 P **P 08 04 05.6 +0.5**
S39A Bolivar 65.51 339 P **P 08 04 09.5 +0.4**
S39A IAmb IAmb 08 04 11.2
comp=Z,10nm,0.7s
QSPA South Pole Qui 66.16 180 P **P 08 04 14.9 +1.8**
comp=Z,8.0nm,0.5s,baz=292,slow=0.6,SNR=151
QSPA pP **pP 08 04 41.0 +0.5**
comp=Z,1.9nm,0.5s,baz=213,slow=10,SNR=2.9
comp=Z,8.0nm,0.5s
ANMO Albuquerque 68.56 328 P **P 08 04 31.1 +2.4**
ANMO IAmb IAmb 08 04 59.1
comp=Z,9.9nm,1.4s
DBIC Dimbokro 69.61 73 P **P 08 04 35.1 -0.2**
DBIC IAmb IAmb 08 05 04.3
comp=Z,17nm,1.4s
DBIC Dimbokro 69.61 73 P **P 08 04 35.7 +0.4**
comp=Z,5.9nm,0.8s,baz=244,slow=8.1,SNR=5.1
comp=Z,5.9nm,0.8s
X16A Lo Mia Camp, P 70.71 324 P **P 08 04 44.2 +2.3**
MVCO Mesa Verde 71.36 328 P **P 08 04 47.3 +1.5**
U15A North Rim 72.69 325 P **P 08 04 57.3 +3.5**
O20A White River Ci 73.55 330 P **P 08 05 01.3 +2.6**
O20A IAmb IAmb 08 05 02.5
comp=Z,9.0nm,0.9s
SRU San Rafael Swe 73.83 328 P **P 08 05 02.4 +2.0**
SRU IAmb IAmb 08 05 04.0
comp=Z,6.6nm,0.7s
P18A Preston Nutter 74.10 328 P **P 08 05 04.9 +2.8**
P18A IAmb IAmb 08 05 06.0
comp=Z,5.5nm,0.7s
BSUT Blindstream Ca 75.06 328 P **P 08 05 10.3 +2.6**
TPNV Topopah Spring 75.22 323 P **P 08 05 11.6 +3.2**
TPNV IAmb IAmb 08 05 12.9
comp=Z,5.0nm,0.8s
R11B Troy Canyon, C 75.87 324 P **P 08 05 14.9 +2.8**
PD31 Pinedale Array 76.24 331 P **P 08 05 16.1 +1.9**
PDAR Pinedale Array 76.24 331 P **P 08 05 16.4 +2.2**
comp=Z,0.7nm,0.4s,baz=134,slow=7.5,SNR=14
PDAR pP **pP 08 05 42.6 +0.6**
comp=Z,0.5nm,0.6s,baz=135,slow=7.3,SNR=2.3
PDAR sP **sP 08 05 56.0 +2.3**
comp=Z,0.7nm,0.5s,baz=123,slow=7.4,SNR=4.0
comp=Z,0.7nm,0.4s
HWUT Hardware Ranch 76.27 329 P **P 08 05 16.2 +1.9**
HWUT IAmb IAmb 08 05 18.7
comp=Z,5.2nm,0.6s
LOHW Long Hollow 77.38 330 P **P 08 05 22.7 +2.2**
NVAR Mina Array Bea 77.41 322 P **P 08 05 23.8 +2.9**
comp=Z,0.9nm,0.8s,baz=133,slow=7.3,SNR=6.3
NVAR pP **pP 08 05 50.1 +1.3**
comp=Z,0.7nm,0.8s,baz=134,slow=5.9,SNR=3.3
comp=Z,0.9nm,0.8s
ULM Lac du Bonnet 77.69 343 P **P 08 05 22.4 +0.6**
ULM IAmb IAmb 08 05 45.2
comp=Z,11nm,1.2s
ULM Lac du Bonnet 77.69 343 P **P 08 05 23.1 +1.3**
comp=Z,3.8nm,0.6s,baz=160,slow=5.6,SNR=8.0
comp=Z,3.8nm,0.6s
TORD Torodi Ar. Bea 78.35 70 P **P 08 05 26.6 +0.3**
comp=Z,9.2nm,0.5s,baz=236,slow=5.1,SNR=73
TORD pP **pP 08 05 54.2 -0.2**
comp=Z,2.5nm,0.5s,baz=235,slow=6.4,SNR=4.4
comp=Z,9.2nm,0.5s
SCHQ Schefferville 78.58 1 P **P 08 05 28.1 +1.5**
comp=Z,5.5nm,1.0s,baz=122,slow=3.4,SNR=2.4
comp=Z,5.5nm,1.0s
MAW Mawson 81.94 163 P **P 08 05 45.9 +1.2**
comp=Z,5.9nm,0.5s,baz=211,slow=6.5,SNR=47
MAW pP **pP 08 06 12.9 -0.3**
comp=Z,1.2nm,0.4s,baz=225,slow=7.2,SNR=2.4
comp=Z,5.9nm,0.5s
BOSA Boshof 82.38 118 P **P 08 05 48.1 +0.2**
comp=Z,2.2nm,0.8s,baz=259,slow=2.9,SNR=5.7
BOSA pP **pP 08 06 16.2 -0.2**
comp=Z,1.1nm,0.6s,baz=209,slow=4.2,SNR=1.8
comp=Z,2.2nm,0.8s
CASY Casey 89.96 180 P **P 08 06 25.4 +1.2**
CASY IAmb IAmb 08 06 26.7
comp=Z,5.0nm,0.7s
KBZ Khabaz 121.80 52 PKP **PKPdf 08 12 19.9 +1.3**
comp=Z,2.1nm,0.8s,baz=72,slow=3.6,SNR=5.2
H11S2 WAKE ISLAND Hyl 28.01 275 T T 10 32 46.4
baz=107,slow=74,SNR=61
H11S1 WAKE ISLAND Hyl 28.02 275 T T 10 32 47.1
baz=107,slow=74,SNR=36
H11S3 WAKE ISLAND Hyl 28.03 275 T T 10 32 47.7
baz=107,slow=74,SNR=40
H11N3 WAKE ISLAND Hyl 28.16 277 T T 10 33 08.2
baz=104,slow=75,SNR=9.6
H11N2 WAKE ISLAND Hyl 28.18 277 T T 10 33 15.9
baz=104,slow=75,SNR=8.5
H11N1 WAKE ISLAND Hyl 28.18 277 T T 10 33 13.6
baz=104,slow=75,SNR=5.8
BVAR Borovoye Array 137.95 36 PKP **PKPdf 08 12 50.9 +1.9**
comp=Z,1.0nm,0.7s,baz=315,slow=1.4,SNR=3.6
KURBB Kurchatov Arra 143.51 35 PKP PKPbc 08 12 58.2 +1.6
comp=Z,1.7nm,0.7s,baz=302,slow=3.4,SNR=17
KURBB pPKP pPKPdf 08 13 27.1 -1.9
comp=Z,1.0nm,0.7s,baz=305,slow=3.4,SNR=3.9
ZALV Zalesovo Beam 144.30 26 PKP PKPbc 08 13 00.7 +1.8
comp=Z,6.7nm,0.8s,baz=324,slow=1.7,SNR=29
ZALV pPKP pPKPdf 08 13 29.7 -0.6
comp=Z,2.8nm,0.5s,baz=330,slow=1.6,SNR=5.4
KSH Kashi 146.75 54 PKPbc **PKPdf 08 13 05.2 0.0**
MKAR Makanchi Array 147.74 38 PKPbc **PKPbc 08 13 10.8 +1.3**
comp=Z,5.1nm,0.7s,baz=314,slow=2.8,SNR=38
MKAR pPKPbc **pPKPbc 08 13 39.1 -0.1**
comp=Z,3.4nm,0.6s,baz=317,slow=2.6,SNR=8.3
WMQ Urumqi 152.57 38 *e*PKPbc **PKPdf 08 13 14.8 +0.6**
WMQ LR LR
comp=N,1μm,18.3s
WMQ LR LR
comp=E,2μm,18.3s
WMQ LR LR
comp=Z,3μm,18.3s
XLT XiLinHaoTe 159.75 349 *e*PKP **PKPdf 08 13 24.6 +1.0**
XLT SKS **SKSdf 08 20 15.4 -3.9**
HHC Hu-ho-hao-te 163.24 358 *eP* **PKPdf 08 13 26.5 -0.9**
NJ2 Nanjing 169.40 321 *eP* **PKPdf 08 13 33.8 +1.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
GYA Guiyang 175.44 57 PKP **PKPdf 08 13 32.5 -2.8**
GYA LR LR
comp=Z,2μm,18.0s

VIE ***10*** *07:59:36.2±0.2, 46.29N×13.20E, h10km, mb2.4/19, ml3.0/21, Error ellipse: s-maj=1.8km s-min=1.2km az=35.0*
ROM ***10*** *07:59:36.1±0.1, 46.300N±0.005×13.232E±0.008, h7km, ML3.0/62, Error ellipse: s-maj=0.6km s-min=0.4km az=357.0*
BGR ***10*** *07:59:37.1±1.0, 46.16N×13.42E, h10km, ML3.0/5, Error ellipse: s-maj=14.5km s-min=11.1km az=112.0*
PRU ***10*** *07:59:37.7, 46.31N×13.25E, h1km*
ISC 10 07:59:36.4±0.7, 46.29N±0.01×13.22E±0.01, h11km±3km, **n132,** $_{e}$0.95/187, **9C-10D, Austria**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VINO	**Villanova**	**0.05**	**129**	⇑*iPg*		**Pg**	**Pg**	**07 59 38.5**	**-0.2**
VINO				*i*Sg		**Sg**	**Sg**	**07 59 40.0**	**-0.3**
VINO	**Villanova**	**0.05**	**129**	⇑P		**Pg**	**Pg**	**07 59 38.5**	**-0.2**
VINO				S		**Sg**	**Sg**	**07 59 39.9**	**-0.3**
VINO				AML		AML	AML		
VINO	comp=E,16550μm,0.3s			AML		AML	AML		
VINO	comp=N,12000μm,0.5s			AML		AML	AML		
VINO	comp=E,16557μm,0.3s			AML		AML	AML		
VINO	comp=N,6363μm,0.1s			AML		AML	AML		
VINO	comp=N,8476μm,0.3s			AML		AML	AML		
BAD	**Bernadia**	**0.05**	**165**	*iPg*		**Pg**	**Pg**	**07 59 38.5**	**-0.2**
BAD				*i*Sg		**Sg**	**Sg**	**07 59 40.0**	**-0.3**
BAD	**Bernadia**	**0.05**	**165**	P		**Pg**	**Pg**	**07 59 38.5**	**-0.2**
BAD				S		**Sg**	**Sg**	**07 59 40.0**	**-0.3**
GEPF	**Gemona**	**0.06**	**256**	P		**Pg**	**Pg**	**07 59 38.4**	**-0.3**
GEPF				S		**Sg**	**Sg**	**07 59 39.8**	**-0.5**
GEPF				AML		AML	AML		
GEPF	comp=E,34700μm,0.2s			AML		AML	AML		
GEPF	comp=N,28500μm,0.2s			AML		AML	AML		
GEPF	comp=E,34677μm,0.2s			AML		AML	AML		
GEPF	comp=N,28496μm,0.2s			AML		AML	AML		
BOO	**Bordano**	**0.09**	**290**	⇑*ePg*		**Pg**	**Pg**	**07 59 38.7**	**-0.3**
BOO				*e*Sg		**Sg**	**Sg**	**07 59 40.4**	**-0.6**
BOO	**Bordano**	**0.09**	**290**	P		**Pg**	**Pg**	**07 59 38.7**	**-0.3**
BOO				S		**Sg**	**Sg**	**07 59 40.5**	**-0.5**
BUA	**Buia**	**0.10**	**224**	⇑*ePg*		**Pg**	**Pg**	**07 59 38.9**	**-0.2**
BUA				*e*Sg		**Sg**	**Sg**	**07 59 40.9**	**-0.2**
PTCC	**Patocco-Chiusa**	**0.15**	**38**	P		**Pg**	**Pg**	**07 59 39.7**	**-0.2**
PTCC				S		**Sg**	**Sg**	**07 59 42.4**	**+0.1**
PTCC				AML		AML	AML		
PTCC	comp=E,4305μm,0.3s			AML		AML	AML		
PTCC	comp=N,7085μm,0.6s			AML		AML	AML		
PTCC	comp=E,4137μm,0.1s			AML		AML	AML		
PTCC	comp=N,6722μm,0.1s			AML		AML	AML		
MPRI	**Monte Prat**	**0.17**	**254**	⇓*ePg*		**Pg**	**Pg**	**07 59 40.0**	**-0.2**
MPRI				*e*Sg		**Sg**	**Sg**	**07 59 42.6**	**-0.2**
MPRI	**Monte Prat**	**0.17**	**254**	⇓P		**Pg**	**Pg**	**07 59 40.0**	**-0.2**
MPRI				S		**Sg**	**Sg**	**07 59 42.9**	**0.0**
MPRI				AML		AML	AML		
MPRI	comp=E,4795μm,1.4s			AML		AML	AML		
MPRI	comp=E,3735μm,1.4s			AML		AML	AML		
MPRI	comp=N,5290μm,0.4s			AML		AML	AML		
MPRI	comp=N,6765μm,0.4s			AML		AML	AML		
MPRI	comp=E,3540μm,0.2s			AML		AML	AML		
MPRI	comp=N,5125μm,0.2s			AML		AML	AML		
MPRI	comp=N,3976μm,0.2s			AML		AML	AML		
MPRI	comp=E,4524μm,0.2s			AML		AML	AML		
COLI	**Coloredo**	**0.19**	**145**	⇓*ePg*		**Pg**	**Pg**	**07 59 40.6**	**+0.1**
COLI				*e*Sg		**Sg**	**Sg**	**07 59 43.6**	**+0.3**
FUSE	**Fusea**	**0.20**	**309**	⇓*ePg*		**Pg**	**Pg**	**07 59 40.4**	**-0.3**
FUSE				*e*Sg		**Sg**	**Sg**	**07 59 43.4**	**-0.2**
FUSE	**Fusea**	**0.20**	**309**	P		**Pg**	**Pg**	**07 59 40.4**	**-0.3**
ROBS	**Robic**	**0.20**	**103**	⇑*iPg*		**Pg**	**Pg**	**07 59 40.6**	**-0.2**
ROBS				*i*				07 59 44.0	
ROBS				*i*Sg			**Sg**	**07 59 44.7**	**+1.0**
ROBS				IAML				07 59 45.0	
ROBS	comp=Z,437nm,0.1s								
DST2	**Trieste**	**0.21**	**258**	P		**Pg**	**Pg**	**07 59 40.7**	**-0.2**
DST2				S		**Sg**	**Sg**	**07 59 44.3**	**+0.4**
PLRO	**Paularo**	**0.27**	**349**	⇓*ePg*		**Pg**	**Pg**	**07 59 41.8**	**-0.2**
PLRO				*e*Sg		**Sg**	**Sg**	**07 59 45.9**	**+0.2**
PLRO	**Paularo**	**0.27**	**349**	P		**Pg**	**Pg**	**07 59 41.8**	**-0.2**
PLRO				S		**Sb**	**Sb**	**07 59 46.4**	**-1.6**
LSR	**Lussari**	**0.28**	**48**	⇓*ePg*		**Pg**	**Pg**	**07 59 42.1**	**-0.2**
LSR				*e*Sg		**Sg**	**Sg**	**07 59 46.6**	**+0.4**
PRED	**Cave del Predi**	**0.28**	**57**	*ePg*		**Pg**	**Pg**	**07 59 42.2**	**0.0**
PRED				*e*Sg		**Sb**	**Sb**	**07 59 46.9**	**-1.5**
PRED	**Cave del Predi**	**0.28**	**57**	P		**Pg**	**Pg**	**07 59 41.9**	**-0.3**
PRED				S		**Sb**	**Sb**	**07 59 46.8**	**-1.6**
DRE	**Drenchia**	**0.31**	**112**	*ePg*		**Pg**	**Pg**	**07 59 42.6**	**-0.2**
DRE				*e*Sg		**Sg**	**Sg**	**07 59 47.6**	**+0.6**
DRE	**Drenchia**	**0.31**	**112**	P		**Pg**	**Pg**	**07 59 42.6**	**-0.2**
DRE				S		**Sb**	**Sb**	**07 59 48.1**	**-1.1**
ZOU	**Zoufplan**	**0.32**	**327**	⇓*ePg*		**Pg**	**Pg**	**07 59 42.7**	**-0.2**
ZOU				*e*Sg		**Sg**	**Sg**	**07 59 47.4**	**+0.1**
ZOU	**Zoufplan**	**0.32**	**327**	⇓P		**Pg**	**Pg**	**07 59 42.7**	**-0.2**
ZOU				S		**Sb**	**Sb**	**07 59 48.1**	**-1.5**
ZOU				AML		AML	AML		
ZOU	comp=E,2475μm,0.6s			AML		AML	AML		
ZOU	comp=N,3415μm,0.3s			AML		AML	AML		
ZOU	comp=E,2470μm,0.6s			AML		AML	AML		
ZOU	comp=N,3385μm,0.3s			AML		AML	AML		
ZOU	comp=E,2435μm,0.6s			AML		AML	AML		
ZOU	comp=E,2275μm,0.2s			AML		AML	AML		
ZOU	comp=E,2281μm,0.2s			AML		AML	AML		
ZOU	comp=N,3416μm,0.3s			AML		AML	AML		
ZOU	comp=N,3387μm,0.3s			AML		AML	AML		
ACOM	**Acomizza, Ital**	**0.33**	**38**	⇓*ePg*		**Pg**	**Pg**	**07 59 43.0**	**-0.1**
ACOM				*e*Sg		**Sb**	**Sb**	**07 59 48.2**	**-1.6**
ACOM	**Acomizza, Ital**	**0.33**	**38**	⇓P		**Pg**	**Pg**	**07 59 43.0**	**-0.1**
ACOM				S		**Sb**	**Sb**	**07 59 48.5**	**-1.3**
ACOM				AML		AML	AML		
ACOM	comp=E,5420μm,0.3s			AML		AML	AML		
ACOM	comp=N,3245μm,1.5s			AML		AML	AML		
ACOM	comp=E,5370μm,0.3s			AML		AML	AML		
ACOM	comp=N,3235μm,0.1s			AML		AML	AML		
ACOM	comp=E,5421μm,0.3s			AML		AML	AML		
ACOM	comp=E,5371μm,0.3s			AML		AML	AML		
ACOM	comp=N,3234μm,0.1s			AML		AML	AML		
ACOM	comp=N,3244μm,0.2s			AML		AML	AML		
CADS	**Cadrg**	**0.36**	**100**	⇑*iPg*		**Pg**	**Pg**	**07 59 43.4**	**-0.3**
CADS				*i*Sg		**Sb**	**Sb**	**07 59 49.3**	**-1.4**
CADS				IAML				07 59 51.1	
CADS	comp=Z,118nm,0.1s								
TLI	**Talmassons**	**0.38**	**193**	P		**Pg**	**Pg**	**07 59 43.6**	**-0.3**
SABO	**M.te Sabotino**	**0.41**	**140**	*ePg*		**Pg**	**Pg**	**07 59 44.5**	**+0.1**
SABO	**M.te Sabotino**	**0.41**	**140**	P		**Pg**	**Pg**	**07 59 44.4**	**-0.1**
SABO				AML		AML	AML		
SABO	comp=E,8910μm,0.5s			AML		AML	AML		
SABO	comp=N,7600μm,0.3s			AML		AML	AML		
SABO	comp=E,2125μm,0.5s			AML		AML	AML		

SABO				AML	AML		
	comp=N,2050µm,0.7s						
SABO				AML	AML		
	comp=E,1939µm,0.2s						
SABO				AML	AML		
	comp=E,8154µm,0.2s						
SABO				AML	AML		
	comp=N,7599µm,0.3s						
SABO				AML	AML		
	comp=N,2052µm,0.7s						
MYKA	**Terra Mystica**	**0.45**	**40**	*e*Pg	**Pg**	**07 59 45.1**	**-0.1**
	comp=N,11nm,0.1s,SNR=53						
MYKA				*i* Sg	**Sb**	**07 59 52.1**	**-1.0**
	comp=N,360nm,0.2s						
MLNI	**Malnisio**	**0.45**	**252**	*e*Pg	**Pg**	**07 59 44.9**	**-0.4**
VOJS	**Vojsko**	**0.53**	**119**	*i* Pg	**Pg**	**07 59 46.2**	**-0.5**
VOJS				*i* Sg	**Sb**	**07 59 55.1**	**-0.3**
VOJS				IAML		07 59 56.6	
	comp=Z,83nm,0.1s						
GORS	**Gorjuse**	**0.54**	**87⇑**	*i* Pg	**Pg**	**07 59 46.3**	**-0.6**
GORS				*i* Sg	**Sb**	**07 59 54.7**	**-1.0**
GORS				IAML		07 59 56.7	
	comp=Z,156nm,0.1s						
CIMO	**Cimolais**	**0.54**	**272**	*e*Pg	**Pg**	**07 59 46.4**	**-0.7**
CIMO	**Cimolais**	**0.54**	**272**	P	**Pg**	**07 59 46.1**	**-1.0**
CIMO				S	**Sg**	**07 59 54.2**	**0.0**
CIMO				AML	AML		
	comp=N,236µm,0.3s						
CIMO				AML	AML		
	comp=N,242µm,0.9s						
CIMO				AML	AML		
	comp=E,248µm,1.5s						
CIMO				AML	AML		
	comp=E,254µm,0.2s						
CIMO				AML	AML		
	comp=E,255µm,0.2s						
CIMO				AML	AML		
	comp=N,236µm,0.3s						
CIMO				AML	AML		
	comp=N,236µm,0.3s						
CIMO				AML	AML		
	comp=E,243µm,0.2s						
POLC	**Polcenigo**	**0.57**	**243**	P	**Pg**	**07 59 47.2**	**-0.2**
POLC				S	**Sb**	**07 59 55.8**	**-0.7**
APGO	**Alpago**	**0.61**	**257**	*e*Pg	**Pg**	**07 59 47.6**	**-0.7**
CAE	**Caneva**	**0.62**	**243**	*e*Pg	**Pg**	**07 59 47.8**	**-0.6**
CAE	**Caneva**	**0.62**	**243**	P	**Pg**	**07 59 47.7**	**-0.6**
CSO	**Casso**	**0.62**	**269**	*e*Pg	**Pg**	**07 59 48.0**	**-0.6**
ABTA	**Abfaltersbach**	**0.67**	**313**	*i* Pg	**Pg**	**07 59 48.9**	**-0.6**
	comp=E,2.8nm,0.1s,SNR=39						
ABTA				*i* Sg	**Sg**	**07 59 58.5**	**+0.1**
	comp=E,82nm,0.1s						
TRI	**Trieste**	**0.69**	**147**	*e*Pg	**Pg**	**07 59 49.6**	**-0.2**
TRI	**Trieste**	**0.69**	**147**	P	**Pg**	**07 59 48.6**	**-1.2**
TRI				AML	AML		
	comp=E,366µm,1.5s						
TRI				AML	AML		
	comp=N,245µm,0.8s						
TRI				AML	AML		
	comp=N,218µm,0.3s						
TRI				AML	AML		
	comp=E,285µm,0.2s						
JAVS	**Javornik**	**0.71**	**124**	*i* Pg	**Pg**	**07 59 49.2**	**-1.0**
JAVS				*i* Sg	**Sb**	**08 00 00.9**	**+0.3**
JAVS				IAML		08 00 08.0	
	comp=Z,43nm,0.1s						
CRNS	**Crni Vrh**	**0.75**	**106**	*i* Pg	**Pg**	**07 59 50.2**	**-0.7**
CRNS				*i* Sg	**Sb**	**08 00 02.6**	**+0.7**
CRNS				IAML		08 00 06.5	
	comp=Z,72nm,0.1s						
AFL	**Alpe Faloria**	**0.76**	**289**	*e*Pg	**Pg**	**07 59 51.1**	**-0.1**
KBA	**Koelnbreinsper**	**0.79**	**6**	*e*Pg	**Pg**	**07 59 51.6**	**-0.2**
	comp=Z,2.5nm,0.1s,SNR=28						
KBA				*i* Sg	**Sb**	**08 00 02.9**	**-0.4**
	comp=Z,171nm,0.2s						
ED06	**Collalto TV**	**0.83**	**239**	*e*Pg	**Pg**	**07 59 52.1**	**-0.3**
MOZS	**Mozjanca**	**0.85**	**89**	*i* Pg	**Pg**	**07 59 52.2**	**-0.5**
MOZS				*i* Sg	**Sb**	**08 00 05.7**	**+1.1**
MOZS				IAML		08 00 08.8	
	comp=Z,26nm,0.1s						
GBAS	**Gorenja Brezov**	**0.92**	**112**	*i* Pg	**Pg**	**07 59 53.2**	**-0.9**
GBAS				*i* Sg	**Sn**	**08 00 08.2**	**-0.4**
GBAS				IAML		08 00 13.0	
	comp=Z,34nm,0.1s						
SKDS	**Skadanscina**	**0.93**	**143**	*i* Pg	**Pg**	**07 59 52.8**	**-1.5**
SKDS				*i* Sg	**Sb**	**08 00 07.5**	**+0.6**
SKDS				IAML		08 00 11.8	
	comp=Z,172nm,0.2s						
LJU	**Ljubljana**	**0.94**	**105**	*e*Sg	**Sn**	**08 00 08.8**	**-0.2**
LJU				IAML		08 00 13.6	
	comp=Z,43nm,0.1s						
LJU	**Ljubljana**	**0.94**	**105**	AML	AML		
	comp=N,2904µm,0.5s						
LJU				AML	AML		
	comp=E,2195µm,1.0s						
LJU				AML	AML		
	comp=N,2935µm,0.8s						
LJU				AML	AML		
	comp=E,1980µm,0.3s						
OBKA	**Obir**	**0.94**	**76**	*e*Pg	**Pg**	**07 59 53.9**	**-0.8**
	comp=E,1.5nm,0.1s,SNR=22						
OBKA				*e*Sg	**Sb**	**08 00 08.3**	**+0.8**
	comp=E,83nm,0.2s						
CEY	**Cerknica**	**1.00**	**123**	*i* Pg	**Pg**	**07 59 54.6**	**-1.1**
CEY				*i* Sg	**Sn**	**08 00 10.2**	**-0.5**
CEY				IAML		08 00 15.9	
	comp=Z,41nm,0.1s						
VNDS	**Vrh nad Dolski**	**1.04**	**100**	*i* Pg	**Pg**	**07 59 56.0**	**-0.5**
VNDS				*i* Sg	**Sn**	**08 00 12.0**	**+0.4**
CGRP	**Cima Grappa**	**1.07**	**248**	P	**Pb**	**07 59 57.1**	**0.0**
CGRP				S	**Sn**	**08 00 13.1**	**+0.5**
CGRP				AML	AML		
	comp=E,1046µm,0.4s						
CGRP				AML	AML		
	comp=N,575µm,0.5s						
CGRP				AML	AML		
	comp=E,1048µm,0.4s						
CGRP				AML	AML		
	comp=E,1021µm,0.4s						
CGRP				AML	AML		
	comp=N,523µm,0.5s						
CGRP				AML	AML		
	comp=E,1047µm,0.4s						
CGRP				AML	AML		
	comp=N,523µm,0.5s						
CGRP				AML	AML		
	comp=N,575µm,0.5s						
CGRP				AML	AML		
	comp=E,1019µm,0.4s						
BRES	**Bressanone**	**1.11**	**292**	AML	AML		
	comp=E,376µm,0.1s						
BRES				AML	AML		
	comp=E,382µm,1.4s						
BRES				AML	AML		
	comp=N,425µm,0.6s						
BRES				AML	AML		
	comp=N,408µm,0.3s						
KNDS	**Knezji Dol**	**1.11**	**133**	*i* Pg	**Pg**	**07 59 56.1**	**-1.7**
KNDS				*i* Sg	**Sn**	**08 00 13.4**	**0.0**
KNDS				IAML		08 00 16.9	
	comp=Z,59nm,0.2s						
CTI	**Castel Tesino**	**1.12**	**258**	P	**Pb**	**07 59 58.1**	**+0.2**
CTI				AML	AML		
	comp=E,1710µm,0.2s						
CTI				AML	AML		
	comp=N,1540µm,0.2s						
CTI				AML	AML		
	comp=E,1713µm,0.2s						
CTI				AML	AML		
	comp=N,1540µm,0.2s						
ZIAN	**Ziano**	**1.15**	**270**	P	**Pn**	**07 59 58.8**	**+0.2**
ZIAN				AML	AML		
	comp=E,576µm,0.6s						
ZIAN				AML	AML		
	comp=E,475µm,0.5s						
ZIAN				AML	AML		
	comp=N,594µm,0.6s						
ZIAN				AML	AML		
	comp=N,475µm,0.5s						
ZIAN				AML	AML		
	comp=N,367µm,0.2s						
ZIAN				AML	AML		
	comp=E,363µm,0.2s						
ZIAN				AML	AML		
	comp=N,594µm,0.6s						
ZIAN				AML	AML		
	comp=E,577µm,0.6s						
LESA	**Schwarzleotal**	**1.20**	**342**	*i* Pg	**Pn**	**07 59 59.2**	**-0.1**
	comp=E,16nm,0.1s						
LESA				*e*Sg	**Sb**	**08 00 14.5**	**-0.2**
	comp=E,57nm,0.2s						
VISS	**Visnje**	**1.23**	**113**	*i* Pg	**Pb**	**07 59 59.4**	**-0.2**
VISS				*i* Sg	**Sn**	**08 00 17.2**	**+1.1**
VISS				IAML		08 00 21.7	
	comp=Z,61nm,0.2s						
PDKS	**Podkum**	**1.25**	**100**	*i* Pg	**Pn**	**07 59 59.6**	**-0.3**
PDKS				*i* Sg	**Sn**	**08 00 18.1**	**+1.2**
PDKS				IAML		08 00 21.6	
	comp=Z,34nm,0.1s						
ZAVS	**Zavodnje**	**1.26**	**83**	*i* Pg	**Pn**	**07 59 59.4**	**-0.6**
ZAVS				*i* Sg	**Sn**	**08 00 17.9**	**+1.0**
ZAVS				IAML		08 00 21.5	
	comp=Z,40nm,0.1s						
KOSI	**Kohlern**	**1.29**	**278**	P	**Pn**	**08 00 00.7**	**+0.1**
KOSI				AML	AML		
	comp=E,242µm,0.6s						
KOSI				AML	AML		
	comp=N,440µm,0.5s						
KOSI				AML	AML		
	comp=E,242µm,0.6s						
KOSI				AML	AML		
	comp=N,395µm,0.6s						
SOKA	**Soboth**	**1.31**	**72**	*e*Pg	**Pn**	**08 00 00.6**	**-0.2**
	comp=N,1.8nm,0.1s,SNR=15						
SOKA				*e*Sg	**Sn**	**08 00 18.6**	**+0.3**
	comp=N,29nm,0.4s						
PANI	**Panarotta**	**1.33**	**260**	P	**Pb**	**08 00 01.7**	**+0.1**
PANI				AML	AML		
	comp=N,770µm,0.8s						
PANI				AML	AML		
	comp=E,598µm,0.3s						
PANI				AML	AML		
	comp=E,576µm,0.2s						
PANI				AML	AML		
	comp=N,742µm,0.3s						
GBRS	**Gornja Briga**	**1.34**	**124**	*i* Sg	**Sn**	**08 00 21.5**	**+2.5**
GBRS				IAML		08 00 25.2	
	comp=Z,74nm,0.2s						
APPI	**Appiano**	**1.39**	**279**	P	**Pg**	**08 00 02.8**	**-0.4**
APPI				AML	AML		
	comp=E,378µm,0.3s						
APPI				AML	AML		
	comp=N,312µm,0.9s						
APPI				AML	AML		
	comp=E,379µm,0.3s						
APPI				AML	AML		
	comp=E,379µm,0.3s						
APPI				AML	AML		
	comp=N,303µm,0.3s						
ROSI	**Rosskopf**	**1.40**	**298**	P	**Pg**	**08 00 03.1**	**-0.3**
ROSI				AML	AML		
	comp=E,270µm,0.7s						
ROSI				AML	AML		
	comp=N,264µm,0.5s						
ROSI				AML	AML		
	comp=E,264µm,0.5s						
ROSI				AML	AML		
	comp=N,264µm,0.5s						
TEOL	**Teolo**	**1.43**	**230**	AML	AML		
	comp=N,1858µm,0.7s						
TEOL				AML	AML		
	comp=E,1725µm,0.6s						
TEOL				AML	AML		
	comp=N,1855µm,0.7s						
TEOL				AML	AML		
	comp=E,1725µm,0.6s						
BIOA	**Bad Ischl, Aus**	**1.43**	**11**	*e*Pg	**Pg**	**08 00 03.8**	**-0.1**
	comp=E,11nm,0.2s,SNR=5.0						
BIOA				*e*Sg	**Sg**	**08 00 23.6**	**+1.1**
	comp=E,103nm,0.4s						
BRJN	**Brijuni**	**1.43**	**165**	P	**Pn**	**08 00 02.8**	**+0.4**
WTTA	**Wattenberg**	**1.46**	**312**	Pg	**Pg**	**08 00 03.9**	**-0.7**
	comp=E,14nm,0.1s,SNR=33						
WTTA				*e*Sg	**Sg**	**08 00 24.3**	**+0.7**
	comp=E,79nm,0.6s						
WTTA	**Wattenberg**	**1.46**	**312**	P	**Pg**	**08 00 03.9**	**-0.7**
WTTA				AML	AML		
	comp=E,230µm,0.4s						
WTTA				AML	AML		
	comp=N,194µm,0.6s						
WTTA				AML	AML		
	comp=E,231µm,0.4s						
WTTA				AML	AML		
	comp=N,193µm,0.6s						
ZOVE	**Zovencedo**	**1.47**	**236**	P	**Pn**	**08 00 03.1**	**+0.2**
DOSS	**Dosso del Somm**	**1.47**	**255**	P	**Pb**	**08 00 04.1**	**+0.1**
DOSS				AML	AML		
	comp=E,693µm,1.2s						
DOSS				AML	AML		
	comp=N,640µm,0.2s						
DOSS				AML	AML		
	comp=N,724µm,1.1s						
DOSS				AML	AML		
	comp=E,676µm,1.4s						
DOSS				AML	AML		
	comp=N,639µm,0.2s						
DOSS				AML	AML		
	comp=N,625µm,0.4s						
DOSS				AML	AML		
	comp=E,600µm,0.4s						
DOSS				AML	AML		
	comp=E,674µm,0.2s						
RJOB	**Jochberg**	**1.48**	**349**	*e*Pn	**Pg**	**08 00 04.3**	**-0.6**
LEGS	**Legarje**	**1.50**	**102**	*i* Pn	**Pb**	**08 00 03.9**	**-0.4**
LEGS				*i* Sn	**Sg**	**08 00 24.5**	**0.0**
OZOL	**Ozolo**	**1.51**	**275**	P	**Pg**	**08 00 05.0**	**-0.4**
OZOL				AML	AML		
	comp=E,677µm,0.5s						
OZOL				AML	AML		
	comp=N,526µm,0.4s						
OZOL				AML	AML		
	comp=E,795µm,0.5s						
OZOL				AML	AML		
	comp=N,513µm,0.5s						
OZOL				AML	AML		
	comp=E,667µm,0.4s						
OZOL				AML	AML		
	comp=N,526µm,0.4s						
OZOL				AML	AML		
	comp=E,794µm,0.4s						
OZOL				AML	AML		
	comp=N,513µm,0.5s						
WATA	**Walderalm**	**1.54**	**313**	*e*Pg	**Pg**	**08 00 05.9**	**-0.1**
	comp=N,22nm,0.2s,SNR=32						
WATA				*e*Sg	**Sg**	**08 00 25.7**	**-0.3**
	comp=N,40nm,0.2s						
MARN	**Marana (Italy)**	**1.55**	**246**	P	**Pn**	**08 00 04.1**	**+0.1**
GAGG	**Gaggia**	**1.59**	**263**	P	**Pb**	**08 00 05.6**	**-0.3**
GAGG				AML	AML		
	comp=E,632µm,0.5s						
GAGG				AML	AML		
	comp=N,646µm,0.5s						
GAGG				AML	AML		
	comp=N,520µm,0.7s						
GAGG				AML	AML		
	comp=E,536µm,0.7s						
GAGG				AML	AML		
	comp=N,646µm,0.5s						
GAGG				AML	AML		
	comp=E,632µm,0.5s						
GAGG				AML	AML		
	comp=N,495µm,0.2s						
GAGG				AML	AML		
	comp=E,505µm,0.2s						
LUSI	**Trento, Gardas**	**1.62**	**259**	P	**Pb**	**08 00 06.3**	**-0.1**
LUSI				AML	AML		
	comp=E,531µm,0.5s						
LUSI				AML	AML		
	comp=N,704µm,1.2s						
LUSI				AML	AML		
	comp=E,531µm,0.5s						
LUSI				AML	AML		
	comp=N,699µm,0.2s						
BOJS	**Bojanci**	**1.62**	**118**	*i* Pn	**Pb**	**08 00 06.3**	**0.0**
BOJS				*i* Sn	**Sg**	**08 00 28.7**	**+0.2**
BOJS				IAML		08 00 32.2	
	comp=Z,46nm,0.3s						
CRES	**Cresnjevec Ost**	**1.62**	**106**	*i* Pn	**Pb**	**08 00 06.1**	**-0.3**
CRES				*i* Sn	**Sg**	**08 00 28.5**	**-0.1**
CRES				IAML		08 00 36.0	
	comp=Z,15nm,0.2s						
SQTA	**Sankt Quirin**	**1.67**	**305**	*e*Pg	**Pg**	**08 00 08.4**	**0.0**
	comp=Z,13nm,0.2s,SNR=19						
SQTA				*i* Sg	**Sg**	**08 00 29.6**	**-0.5**
	comp=Z,16nm,0.3s						
VARA	**Varagna**	**1.69**	**255**	P	**Pn**	**08 00 06.7**	**+0.7**
VARA				AML	AML		
	comp=N,516µm,0.8s						
VARA				AML	AML		
	comp=E,818µm,1.6s						
VARA				AML	AML		
	comp=E,488µm,0.2s						
VARA				AML	AML		
	comp=E,660µm,0.2s						
VARA				AML	AML		
	comp=N,474µm,0.2s						
VARA				AML	AML		
	comp=N,676µm,0.3s						
GOLS	**Golise**	**1.69**	**99**	*e*Sn	**Sg**	**08 00 32.0**	**+1.2**
GOLS				IAML		08 00 38.7	
	comp=Z,18nm,0.2s						
MOA	**Molln**	**1.72**	**24**	*e*Pg	**Pg**	**08 00 08.5**	**-0.9**
	comp=Z,8.6nm,0.1s,SNR=34						
MOA				*e*Sg	**Sg**	**08 00 32.4**	**+0.7**
	comp=Z,23nm,0.3s						
GCIS	**Gornji Cirnik**	**1.73**	**103**	*e*Pn	**Pb**	**08 00 08.1**	**0.0**
GCIS				IAML		08 00 37.7	
	comp=Z,13nm,0.1s						
MBAL	**Monte Baldo -**	**1.75**	**251**	AML	AML		
	comp=N,498µm,0.3s						
MBAL				AML	AML		
	comp=N,498µm,0.3s						
MBAL				AML	AML		
	comp=E,558µm,0.3s						
MBAL				AML	AML		
	comp=N,420µm,0.3s						
MBAL				AML	AML		
	comp=E,491µm,1.3s						
MBAL				AML	AML		
	comp=E,465µm,0.1s						
MBAL				AML	AML		
	comp=N,377µm,0.1s						
MBAL				AML	AML		
	comp=N,417µm,0.1s						
MBAL				AML	AML		
	comp=E,451µm,0.1s						
MBAL				AML	AML		
	comp=E,451µm,1.9s						
CARE	**Lago del Cares**	**1.76**	**275**	AML	AML		
	comp=N,220µm,0.4s						
CARE				AML	AML		
	comp=E,150µm,1.4s						
CARE				AML	AML		
	comp=E,150µm,1.4s						
CARE				AML	AML		
	comp=N,220µm,0.4s						
CARE				AML	AML		
	comp=N,220µm,0.4s						
CARE				AML	AML		
	comp=E,134µm,0.6s						
CARE				AML	AML		
	comp=N,207µm,0.4s						
MOTA	**Moosalm**	**1.80**	**307**	*e*Pg	**Pg**	**08 00 10.5**	**-0.5**
	comp=N,6.3nm,0.1s						
MOTA				*e*Sg	**Sg**	**08 00 35.4**	**+1.1**
	comp=N,39nm,0.5s						
RONC	**Roncone**	**1.83**	**261**	AML	AML		
	comp=N,496µm,1.5s						
RONC				AML	AML		
	comp=E,990µm,1.5s						
RONC				AML	AML		
	comp=E,518µm,1.1s						
RONC				AML	AML		
	comp=N,826µm,0.5s						
RONC				AML	AML		
	comp=N,826µm,0.5s						
RONC				AML	AML		
	comp=N,417µm,0.4s						
RONC				AML	AML		
	comp=E,479µm,0.4s						
ARSA	**Arzberg**	**1.85**	**58**	*e*Pn	**Pb**	**08 00 09.3**	**-1.1**
	comp=E,2.1nm,0.2s						
ARSA				Sg	**Sg**	**08 00 35.6**	**-0.3**
	comp=E,10nm,0.3s						
FETA	**Feichten**	**1.87**	**294**	*e*Pg	**Pb**	**08 00 10.8**	**+0.2**
	comp=E,1.7nm,0.1s						
FETA				*e*Sg	**Sg**	**08 00 36.4**	**0.0**
	comp=E,5.4nm,0.2s						
MOSI	**Grossmontoni**	**1.88**	**281**	AML	AML		
	comp=N,594µm,0.5s						
MOSI				AML	AML		
	comp=E,388µm,0.8s						
MOSI				AML	AML		
	comp=N,594µm,0.5s						
MOSI				AML	AML		
	comp=E,388µm,0.8s						
MAGA	**Magasa**	**1.88**	**255**	AML	AML		
	comp=N,807µm,0.5s						
MAGA				AML	AML		
	comp=E,871µm,0.6s						
MAGA				AML	AML		
	comp=E,871µm,0.6s						
MAGA				AML	AML		
	comp=N,807µm,0.5s						
RETA	**Reutte**	**2.07**	**306**	*e*Pg	**Pb**	**08 00 14.0**	**-0.1**
	comp=N,6.7nm,0.3s,SNR=18						
RETA				*e*Sg	**Sg**	**08 00 43.3**	**+0.4**
	comp=N,21nm,0.2s						
FUR	**Furstenfeldbru**	**2.30**	**325**	*e*Pn	**Pb**	**08 00 16.5**	**-1.5**
CONA	**Conrad Observa**	**2.44**	**47**	*e*Pn	**Pn**	**08 00 17.6**	**+1.4**
	comp=N,0.5nm,0.1s						
CONA				Sn	**Sn**	**08 00 47.2**	**+1.1**
	comp=N,4.5nm,0.4s						
DAVA	**Damuels**	**2.50**	**295**	Pn	**Pn**	**08 00 18.0**	**+0.7**
	comp=N,1.7nm,0.1s						
DAVA				Sg	**Sg**	**08 00 55.4**	**-1.5**
	comp=N,18nm,0.4s						
RONA	**Rosalia, Austr**	**2.53**	**55**	*i* Pn	**Pn**	**08 00 18.9**	**+1.4**
	comp=N,0.7nm,0.1s						
UBR	**Ueberruh**	**2.55**	**304**	*e*Pn	**Pb**	**08 00 20.1**	**-2.1**
GEC2	**GERESS Array S**	**2.58**	**7**	*e*Pn	**Pn**	**08 00 19.7**	**+1.5**
CKRC	**Cesky Krumlov**	**2.64**	**16**	*e*SG	**Sg**	**08 00 59.8**	**-1.3**
	comp=N,32nm,0.5s						
COR1	**Corinaldo**	**2.66**	**183**	AML	AML		
COR1				AML	AML		
	comp=N,137µm,0.4s						
COR1				AML	AML		
	comp=E,22859µm,19.7s						
COR1				AML	AML		
PIEI	**Pieia**	**2.80**	**190**	AML	AML		
	comp=E,58µm,0.4s						
PIEI				AML	AML		
	comp=N,39µm,0.7s						
PIEI				AML	AML		
	comp=N,35µm,0.4s						
PIEI				AML	AML		
	comp=E,58µm,0.4s						
CRE	**Caprese Michel**	**2.82**	**199**	AML	AML		
	comp=E,24µm,0.6s						
CRE				AML	AML		
	comp=N,36µm,0.5s						
KHC	**Kasperske Hory**	**2.85**	**5**	*e*PN	**Pn**	**08 00 23.8**	**+1.8**
KHC				*e*PG	**Pg**	**08 00 33.5**	**+2.4**
KHC				*e*SN	**Sn**	**08 00 58.7**	**+2.4**
KHC				*e*SG	**Sg**	**08 01 08.1**	**0.0**
WET	**Wettzell**	**2.87**	**355**	*e*Pn	**Pn**	**08 00 23.3**	**+1.2**
EL6	**Elcito**	**2.96**	**182**	AML	AML		
	comp=E,645µm,0.3s						
EL6				AML	AML		
	comp=E,2635µm,0.7s						
EL6				AML	AML		
	comp=N,3155µm,0.2s						
EL6				AML	AML		
	comp=N,447µm,0.3s						
NORI	**Noerdlinger Ri**	**3.00**	**325**	*e*Sn	**Sn**	**08 01 00.6**	**+0.7**
FOSV	**Fossato di Vic**	**3.01**	**186**	AML	AML		
	comp=N,1325µm,0.4s						
FOSV				AML	AML		
	comp=E,706µm,0.4s						
FOSV				AML	AML		
	comp=E,328µm,0.4s						
FOSV				AML	AML		
	comp=N,305µm,0.4s						
MURB	**Monte Urbino**	**3.07**	**190**	AML	AML		
	comp=N,669µm,0.3s						
MURB				AML	AML		
	comp=E,572µm,0.8s						
MURB				AML	AML		
	comp=N,670µm,0.3s						
MURB				AML	AML		
	comp=E,618µm,0.8s						

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MURB                                    AML     AML
      comp=N,655µm,0.3s
MURB                                    AML     AML
      comp=E,605µm,0.3s
MURB                                    AML     AML
      comp=N,759µm,0.3s
MURB                                    AML     AML
      comp=E,522µm,0.3s
ZVC   Zvikov          3.22  11  eSG     Sg      08 01 18.4 -1.4
      comp=E,15nm,0.4s
MODS  Modra-Piesok    3.46  51  eSG     Sg      08 01 27.6 +0.2
KRUC  Moravsky        3.50  37  eSB     Sg      08 01 26.1 -2.9
ROTZ  Rotzenmuhle     3.55 349  ePn     Pn      08 00 32.3 +0.9
MANZ  Manzenberg      3.77 349  eSn     Sn      08 01 18.7 -0.4
VRAC  Vranov          3.78  36  eSB     Sb      08 01 32.4 +3.5
PRU   Pruhonice       3.81  13  eSG     Sg      08 01 37.3 -1.3
      comp=E,14nm,0.5s
BFO   Black Forest    3.91 303  ePn     Pn      08 00 37.8 +1.4
VYHS  Vyhne           4.40  58  ePN     Pn      08 00 43.8 +0.6
VYHS                              eSN     Sn      08 01 35.4 +0.9
MOX   Moxa            4.49 347  ePn     Pn      08 00 45.4 +1.0
MOX                               eSn     Sn      08 01 35.6 -1.0
MORC  Moravsky Berou  4.54  38  eSB     Sg      08 01 56.5 -5.5
CLL   Collm           5.03 358  ePn     Pn      08 00 53.0 +1.3
CLL                               eSg     Sg      08 02 17.0 -0.7
TNS   Taunus Mts      5.07 323  ePn     Pn      08 00 54.6 +2.2
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BJI **10** *08:02:13.4,5.°70S×152.°23E,h63km,mb5.5/93,mB5.5/64, Ms5.1/88,Ms7 5.0/86*
MOS **10** *08:02:14.5±1.0,5.°73S×151.°66E,h52km,mb5.9/46,Error ellipse: s-maj=7.2km s-min=5.0km az=109.6*
NEIC **10** *08:02:16.5,5.°90S×151.°62E,h70km,Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10^17^Nm; Mrr0.38; Mθθ-0.58; Mφφ0.20; Mrθ1.24; Mθφ0.29; Mφr1.40; Fault plane solution: M0 1.91000×10^17^ NP1:φs46.77000°, δ87.45000°,λ77.53000°. NP2:φs305.38000°,δ12.73000°, λ168.33000°. Principal axes: T 2.1581, Plg46.0000°, Azm304.0000°; N -0.4920, Plg12.0000°, Azm47.0000°; P -1.6661, Plg41.0000°, Azm148.0000°;*
IPGP **10** *08:02:16.0,5.°81S×151.°72E,h53km,Mw5.6,Fault plane solution: NP1:φs35.00000°,δ75.00000°,λ54.00000°. NP2:φs286.00000°,δ38.00000°,λ156.00000°.*
NEIC **10** *08:02:16.7±1.6,5.°81S±0.°06×151.°72E±0.°07,h51km±1km, mb5.8/177,Mwb5.6/35,Mww5.5/23,Error ellipse: s-maj=12.9km s-min=9.6km az=110.0,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr1.97; Mθθ-2.02; Mφφ0.05; Mrθ1.02; Mθφ-0.82; Mφr1.40; Fault plane solution: M0 2.77000×10^17^ NP1:φs271.84000°, δ31.79000°,λ127.49000°. NP2:φs49.77000°,δ65.29000°, λ69.33000°. Principal axes: T 2.7731, Plg64.0000°, Azm285.0000°; N -0.0122, Plg19.0000°, Azm59.0000°; P -2.7609, Plg18.0000°, Azm155.0000°;*
NEIC **10** *08:02:16.5,5.°80S×151.°72E,h70km*
NEIC **10** *08:02:17.7,5.°79S×151.°72E,h60km*
IDC **10** *08:02:17.2±0.9,5.°79S×151.°73E,h63km±7km,mb5.2/29, mbtmp5.5/31,MS4.7/31,Error ellipse: s-maj=10.3km s-min=7.5km az=110.0*
GCMT **10** *08:02:18.7±0.1,5.°98S±0.°01×151.°75E±0.°01,h67km±1km, MW5.6/153,Moment Tensor Solution. s131,c247; s153,c293; Duration: 1s5 Moment tensor: Scale 10^17^ Nm; Mrr0.83±.04; Mθθ-0.97±.03; Mφφ0.13±.04; Mrθ1.32±.03; Mθφ-0.65±.03; Mφr2.26±.03; Best double couple: M0 2.84600×10^17^ NP1:φs33.00000°,δ81.00000°, λ74.00000°. NP2:φs275.00000°,δ18.00000°,λ151.00000°. Principal axes: T 2.8680, Plg51.0000°, Azm285.0000°; N -0.0440, Plg16.0000°, Azm36.0000°; P -2.8240, Plg34.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA **10** *08:02:23.4±0.8,6.°S±3.°×15.°1E±.°,h107km±6km,M5.6/101, mB6.1/78,mb5.8/101,MLv6.7/1,Mw(mB)5.7/78, MwMwp5.3/34,Mwp5.5/34*
ISC 10 08:02:16.5±0.3,5.°82S±0.°03×151.°76E±0.°04,h59km±2km, h59km:pP-P,n1024,σ1.°47/1161,mb5.7/240,MS4.8/62, 30C-3D,New Britain region

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Code  Station Name      Δ°   AZ°   Phase ID   Time     Res
                                Op    ISC    h m s    ISC
I40PG Keravat         1.53    9   P     Pn     08 02 43.1 +1.5
      baz=183,slow=9.0
I40PG                             S     Sn     08 03 03.0 +2.5
      baz=199,slow=58
I40PG                             I     I      08 10 25.2
      74nm,0.4s,baz=226,slow=307,SNR=0.8
RABL  Rabaul          1.67   14   Pn    Pn     08 02 44.6 +1.2
RABL                              Sn    Sn     08 03 04.0 +0.2
PMG   Port Moresby    5.79  232   Pn    Pn     08 03 41.7 +1.9
PMG   Port Moresby    5.79  232   P     Pn     08 03 42.2 +2.4
      1µm,0.7s,baz=39,slow=4.5,SNR=176
PMG                               S     Sn     08 04 45.7 +0.9
      2µm,0.5s,baz=160,slow=2.2,SNR=5.5
PMG   Port Moresby    5.79  232   P     Pn     08 03 40.9 +1.1
PMG   Port Moresby    5.79  232   P     Pn     08 03 40.6 +0.8
PMG   Port Moresby    5.79  232   ceP   Pn     08 03 41.2 +1.4
PMG                               pmax  pmax
      comp=Z,2µm,0.8s
TATA  Tatamba Isabel  8.38  108   P     Pn     08 04 17.0 +1.7
HNR   Honiara         8.87  114   Pn    Pn     08 04 22.9 +0.8
HNR   Honiara         8.87  114   P     Pn     08 04 24.3 +2.2
      comp=Z,82nm,0.3s,baz=64,slow=1.8,SNR=2.8
HNR                               S     Sn     08 06 02.4 +1.8
      comp=Z,1µm,0.9s,baz=200,slow=8.8,SNR=6.7
HNR                               LR    LR     08 07 41.9
      comp=Z,3µm,20.7s,baz=272,slow=36
HNR   Honiara         8.87  114   P     Pn     08 04 24.2 +2.2
ALEG  Aligegeo Malai  9.33  109   P     Pn     08 04 30.1 +1.8
TABU  Tabubil        10.50  272   P     Pn     08 04 46.5 +2.1
HURO  Huro Makira    11.05  115   P     Pn     08 04 54.5 +2.7
JAY   Jayapura       11.50  286   LR    LR     08 08 55.4
      comp=Z,10µm,21.9s,baz=85,slow=35
JAY   Jayapura       11.50  286   P     Pn     08 05 01.2 +3.1
      comp=Z,205nm,1.1s,comp=Z,4µmcomp=Z,8µm
MMPI  Merauke        11.59  256   P     Pn     08 05 02.1 +2.9
COEN  Coen           11.70  226   Pn    Pn     08 05 01.7 +1.0
COEN  Coen           11.70  226   P     Pn     08 05 01.8 +1.0
      comp=Z,0.0nmcomp=Z,82nm,1.0s
COEN  Coen           11.70  226   P     Pn     08 05 01.0 +0.3
GENI  Genyem         12.00  285   P     Pn     08 05 08.3 +3.5
      comp=Z,421nm,1.1s,comp=Z,8µmcomp=Z,9µm
MTSU  Mount Surprise 14.23  210   P     Pn     08 05 37.5 +2.4
      comp=Z,93nm,1.0s
CTA   Charters Tower 15.16  200   LR    LR     08 11 17.7
      comp=Z,196nm,18.5s,baz=22,slow=36
CTA   Charters Tower 15.16  200   P     Pn     08 05 47.6 +0.5
CTA                               pmax  pmax
      comp=Z,6.0nm,1.4s
CTAO  Charters Tower 15.16  200         Pn     08 05 47.4 +0.2
CTAO  Charters Tower 15.16  200   P     Pn     08 05 47.4 +0.2
CTAO                              pmax  pmax
      comp=Z,37nm,0.9s
RK1H  Rockhampton Ha 17.51  184   P     Pn     08 06 17.4 +0.8
RKPI  Ransiki, Papua 18.06  283   P     Pn     08 06 25.2 +1.8
      comp=Z,399nm,1.0s,comp=Z,9µm
QIS   Mount Isa      18.81  218   P     Pn     08 06 32.7 +0.2
      comp=Z,0.0nmcomp=Z,213nm,1.1s
QIS   Mount Isa      18.81  218   P     Pn     08 06 33.0 +0.5
KOUNC Koumac, New Ca 19.03  141   P     P      08 06 34.0 +0.1
EIDS  Eidsvold       19.45  182         P      08 06 39.0 +0.6
EIDS  Eidsvold       19.45  182   P     P      08 06 39.8 +1.4
      comp=Z,0.0nmcomp=Z,255nm,1.0s
FAKI  Fak Fak        19.66  278   P     P      08 06 41.8 +1.0
FAKI  Fak Fak        19.66  278   P     P      08 06 41.2 +0.4
      comp=Z,301nm,1.5s,comp=Z,5µm
KDU   Kakadu         20.21  249   P     P      08 06 46.9 +0.2
      comp=Z,0.0nmcomp=Z,2µm,1.0s
KDU   Kakadu         20.21  249   P     P      08 06 47.0 +0.2
SAUI  Saumlaki       20.43  263   P     P      08 06 49.3 +0.2
SAUI  Saumlaki       20.43  263   P     Pn     08 06 50.5 -1.2
SAUI  Saumlaki       20.43  263   P     Pn     08 06 50.8 -0.9
      comp=Z,1µm,1.4s,comp=Z,25µm
GUMO  Guam           20.46  340   P     P      08 06 50.3 +0.9
      comp=Z,2µm,1.1s,baz=177,slow=7.6,SNR=32
GUMO                              S     S      08 10 35.1 -0.3
      comp=Z,44nm,0.7s,baz=193,slow=15,SNR=1.8
GUMO                              LR    LR     08 15 16.5
      comp=Z,755nm,19.6s,baz=152,slow=38
      comp=Z,2µm,1.1s
SWI   Sorong         21.04  283   P     P      08 06 57.2 +1.5
      comp=Z,689nm,0.8s,comp=Z,5µm
MTN   Manton Dam     21.51  250   P     P      08 06 59.7 -1.0
MTN   Manton Dam     21.51  250   P     P      08 07 01.0 +0.3
      comp=Z,0.0nmcomp=Z,1µm,0.7s
MTN   Manton Dam     21.51  250   P     P      08 07 00.9 +0.2
DZM   Mont Dzumac    21.51  140   eP    P      08 07 00.2 -0.5
      comp=Z,472nm,1.6s
DZM                               eLR   LR     08 12 10.9
      comp=Z,23µm,24.4s
DZM   Mont Dzumac    21.51  140   P     P      08 07 01.1 +0.4
DZM                               IAmb  IAmb   08 07 05.5
      comp=Z,445nm,1.6s
DZM   Mont Dzumac    21.51  140   P     P      08 07 01.0 +0.3
      comp=Z,81nm,0.5s,baz=258,slow=7.6,SNR=84
DZM                               LR    LR     08 14 09.7
      comp=Z,11µm,21.8s,baz=304,slow=33
      comp=Z,81nm,0.5s
DZM   Mont Dzumac    21.51  140   P     P      08 07 01.1 +0.4
DRS   Darwin Rock St 21.61  251   P     P      08 07 02.3 +0.5
      comp=Z,1µm,0.8s
ONTNC Ouen Toro      21.69  141   P     P      08 07 02.9 +0.4
YATNC Mamie plateau, 21.79  139   P     P      08 07 04.7 +1.1
BNDI  Bandanaira     21.80  272   P     P      08 07 05.0 +1.1
BNDI  Bandanaira     21.80  272   P     P      08 07 04.2 +0.3
      comp=Z,2µm,1.2s,comp=Z,26µm
WB0   Warramunga Arr 21.85  229   P     P      08 07 04.3 -0.1
WB0                               IAmb  IAmb   08 07 08.8
      comp=Z,533nm,1.1s
WR0   Warramunga Arr 21.86  228   P     P      08 07 04.2 -0.2
WR0                               IAmb  IAmb   08 07 08.3
      comp=Z,406nm,1.1s
QLP   Quilpie        21.86  198   P     P      08 07 05.2 +0.9
      comp=Z,0.0nmcomp=Z,461nm,1.3s
QLP   Quilpie        21.86  198   P     P      08 07 06.0 +1.6
WRAB  Tennant Creek  21.98  229   P     P      08 07 05.5 -0.3
WRAB                              IAmb  IAmb   08 07 09.5
      comp=Z,427nm,1.0s
WRAB  Tennant Creek  21.98  229   iP    P      08 07 05.2 -0.6
WRAB                              pmax  pmax
      comp=Z,524nm,1.0s
WB2   Warramunga Arr 21.99  229   P     P      08 07 05.0 -0.8
WB2                               IAmb  IAmb   08 07 09.6
      comp=Z,499nm,1.1s
WB2   Warramunga Arr 21.99  229   P     P      08 07 06.1 +0.2
WRA   Warramunga Arr 22.00  229   P     P      08 07 05.5 -0.5
      comp=Z,273nm,0.9s,baz=53,slow=9.7,SNR=104
WRA                               S     S      08 11 03.6 -2.0
      comp=Z,36nm,1.1s,baz=55,slow=19,SNR=11
WRA                               ScP   ScP    08 14 34.7 -0.6
      comp=Z,3.9nm,0.8s,baz=55,slow=2.2,SNR=1.1
WRA                               LR    LR     08 16 46.0
      comp=Z,884nm,18.3s,baz=51,slow=40
WRA                               P3KPbc        08 40 43.6
      comp=Z,0.3nm,1.0s,baz=244,slow=5.2,SNR=1.6
      comp=Z,273nm,0.9s
MSAI  Masohi         22.89  275   P     P      08 07 14.9 -0.6
      comp=Z,203nm,0.9s,comp=Z,3µm
AAI   Ambon          23.58  274   P     P      08 07 22.0 -0.1
      comp=Z,311nm,0.8s,comp=Z,3µm
INKA  Innaminka      24.18  204   P     P      08 07 28.7 +1.2
ARMA  Armidale       24.47  180   P     P      08 07 31.3 +1.2
ARMA                              IAmb  IAmb   08 07 32.8
      comp=Z,419nm,1.6s
ARMA  Armidale       24.47  180   P     P      08 07 31.5 +1.3
      comp=Z,0.0nmcomp=Z,158nm,0.4s
ARMA  Armidale       24.47  180   P     P      08 07 31.4 +1.2
KNRA  Kununurra      24.60  245   P     P      08 07 30.6 -0.8
KNRA  Kununurra      24.60  245   P     P      08 07 31.6 +0.2
      comp=Z,0.0nmcomp=Z,2µm,0.9s
AS01  Alice Springs  24.67  222   P     P      08 07 32.5 +0.5
AS31  Alice Springs  24.70  222   P     P      08 07 31.9 -0.5
AS31  Alice Springs  24.70  222   P     P      08 07 32.3 -0.1
      comp=Z,0.0nmcomp=Z,185nm,0.9s
ASAR  Alice Springs  24.70  222   P     P      08 07 32.3 -0.1
ASAR  Alice Springs  24.70  222   P     P      08 07 33.0 +0.6
      comp=Z,422nm,0.9s,baz=56,slow=8.6,SNR=364
ASAR                              S     S      08 11 49.8 -0.5
      comp=Z,6.9nm,1.0s,baz=48,slow=15,SNR=2.2
ASAR                              ScP   ScP    08 14 43.3 +0.9
      comp=Z,2.7nm,1.0s,baz=30,slow=2.3,SNR=1.9
ASAR                              LR    LR     08 18 41.5
      comp=Z,968nm,19.4s,baz=44,slow=40
ASAR                              P3KPbc        08 40 34.1
      comp=Z,0.1nm,0.9s,baz=180,slow=3.6,SNR=1.0
      comp=Z,422nm,0.9s
NLAI  Namlea         24.71  275   P     P      08 07 33.1 +0.6
      comp=Z,175nm,0.9s,comp=Z,2µmcomp=Z,3µm
LBMI  Labuha         24.75  281   P     P      08 07 34.1 +1.3
      comp=Z,481nm,1.0s,comp=Z,6µm
TNTI  Ternate        25.22  284   P     P      08 07 36.6 -0.4
TNTI  Ternate        25.22  284   P     P      08 07 37.2 +0.1
SANI  Sanana         25.98  277   P     P      08 07 45.2 +1.2
SANI  Sanana         25.98  277   P     P      08 07 43.0 -1.0
      comp=Z,397nm,0.8s,comp=Z,4µmcomp=Z,4µm
CMSA  Cobar Meteorol 26.21  192   P     P      08 07 45.4 -0.4
      comp=Z,85nm,1.1s
CMSA  Cobar Meteorol 26.21  192   P     P      08 07 45.9 +0.1
OOD   Oodnadatta     26.66  213   P     P      08 07 50.2 +0.3
MGCD  Mangrove Creek 27.26  181   P     P      08 07 55.9 +0.7
      comp=Z,104nm,0.9s
MGCD  Mangrove Creek 27.26  181   P     P      08 07 56.0 +0.7
SOEI  Soe            27.51  260   P     P      08 07 58.0 +0.1
SOEI  Soe            27.51  260   P     P      08 07 58.4 +0.5
SOEI  Soe            27.51  260   P     P      08 07 58.9 +1.0
      comp=Z,734nm,1.0s,comp=Z,8µmcomp=Z,4µm
STKA  Stephens Creek 27.61  199   P     P      08 07 59.2 +0.7
STKA  Stephens Creek 27.61  199   P     P      08 07 58.6 +0.1
      comp=Z,13nm,1.0s
STKA  Stephens Creek 27.61  199   P     P      08 07 58.5 +0.1
      comp=Z,17nm,0.9s,baz=11,slow=9.7,SNR=28
STKA                              LR    LR     08 19 19.6
      comp=Z,1µm,18.9s,baz=14,slow=37
      comp=Z,17nm,0.9s
STKA  Stephens Creek 27.61  199   P     P      08 07 59.0 +0.5
STKA  Stephens Creek 27.61  199   iP    P      08 07 58.2 -0.3
LCRK  Leigh Creek    27.62  206   P     P      08 07 58.9 +0.4
RIV   Riverview      27.88  181   P     P      08 08 01.6 +0.8
      comp=Z,140nm,1.5s
BATI  Baumata        28.15  259   P     P      08 08 04.0 +0.5
      comp=Z,400nm,0.7s,baz=135,slow=1.7,SNR=86
BATI                              LR    LR     08 21 34.0
      comp=Z,3µm,21.7s,baz=95,slow=41
      comp=Z,400nm,0.7s
BATI  Baumata        28.15  259   P     P      08 08 04.8 +1.3
FITZ  Fitzroy Crossi 28.27  242   P     P      08 08 03.6 -0.8
FITZ  Fitzroy Crossi 28.27  242   P     P      08 08 04.2 -0.3
FITZ  Fitzroy Crossi 28.27  242   P     P      08 08 04.2 -0.3
      comp=Z,169nm,0.6s,baz=62,slow=7.5,SNR=273
FITZ                              S     S      08 12 48.3 +1.7
      comp=Z,15nm,0.8s,baz=91,slow=23,SNR=1.4
FITZ                              LR    LR     08 20 00.5
      comp=Z,2µm,18.7s,baz=48,slow=38
      comp=Z,169nm,0.6s
MSVF  Nonsavu        28.28  117   P     P      08 08 06.7 +2.0
MSVF                              IAmb  IAmb   08 08 33.1
      comp=Z,168nm,1.2s
MSVF  Nonsavu        28.28  117   LR    LR     08 18 46.3
      comp=Z,2µm,21.0s,baz=312,slow=35
MSVF  Nonsavu        28.28  117   P     P      08 08 06.2 +1.5
MSVF  Nonsavu        28.28  117   iP    P      08 08 07.2 +2.5
MSVF                              pmax  pmax
      comp=Z,152nm,1.3s
KMSI  Cibinong       28.45  282   P     P      08 08 07.2 +1.0
      comp=Z,478nm,0.9s,comp=Z,4µm
YNG   Young          28.51  186   P     P      08 08 06.9 +0.5
      comp=Z,83nm,1.9s
DAV   Davao City (W) 29.09  296   LR    LR     08 19 39.1
      comp=Z,1µm,18.9s,baz=128,slow=36
DAV   Davao City (W) 29.09  296   P     P      08 08 10.0 -1.8
LUWI  Luwuk          29.32  278   P     P      08 08 12.8 -1.0
LUWI                              IAmb  IAmb   08 09 06.2
      comp=Z,205nm,1.1s
GTOI  Gorontalo      29.41  282   P     P      08 08 16.2 +1.5
MMRI  Maumere        29.42  263   P     P      08 08 13.5 -1.2
MMRI  Maumere        29.42  263   P     P      08 08 14.6 -0.1
MMRI  Maumere        29.42  263   P     P      08 08 13.8 -0.9
CAN   Canberra       29.47  185   P     P      08 08 15.4 +0.5
CAN   Canberra       29.47  185   P     P      08 08 15.5 +0.5
      comp=Z,41nm,1.3s
CAN   Canberra       29.47  185   P     P      08 08 15.5 +0.5
CAN                               pmax  pmax
      comp=Z,100nm,1.5s
MULG  Mulgathing     29.49  212   P     P      08 08 14.7 -0.5
WRKA  Warakurna      29.51  227   P     P      08 08 14.7 -0.8
      comp=Z,90nm,0.6s
WRKA  Warakurna      29.51  227   P     P      08 08 14.9 -0.6
HTT   Hallett        29.95  202   P     P      08 08 19.4 +0.1
      comp=Z,76nm,1.0s
HTT   Hallett        29.95  202   P     P      08 08 19.9 +0.6
MRSI  Marisa         30.42  281   P     P      08 08 23.5 -0.1
      comp=Z,85nm,1.3s,comp=Z,1µm
APSI  Ampana         30.44  278   P     P      08 08 24.3 +0.5
      comp=Z,141nm,1.4s,comp=Z,1µm
BBOO  Buckleboo      30.58  207   P     P      08 08 24.8  0.0
BBOO  Buckleboo      30.58  207   P     P      08 08 24.9  0.0
      comp=Z,55nm,1.1s
BBOO  Buckleboo      30.58  207   P     P      08 08 25.6 +0.8
FUTU  Fugatoga       30.80  108   P     P      08 08 27.7 +0.8
FUTU                              IAmb  IAmb   08 08 30.3
      comp=Z,230nm,1.3s
BSSI  Bau Bau, Buton 31.10  268   P     P      08 08 30.3 +0.7
      comp=Z,457nm,1.4s,comp=Z,6µmcomp=Z,3µm
BASI  Baing, Sumba   31.17  260   P     P      08 08 30.7 +0.5
BKSI  Bulukumba      31.49  269   P     P      08 08 33.1 +0.1
      comp=Z,54nm,1.0s,comp=Z,823nm
BNSI  Bone           31.56  271   P     P      08 08 34.4 +0.8
      comp=Z,76nm,0.8s,comp=Z,1µmcomp=Z,4µm
TOLI2 Tolitoli       31.69  282   P     P      08 08 32.9 -1.9
TOLI2 Tolitoli       31.69  282   P     P      08 08 34.8  0.0
KAPI  Kappang        31.87  270   P     P      08 08 35.3 -1.1
KAPI                              IAmb  IAmb   08 08 59.2
      comp=Z,72nm,0.8s
KAPI  Kappang        31.87  270   P     P      08 08 36.2 -0.2
      comp=Z,45nm,0.8s,baz=82,slow=5.6,SNR=33
KAPI                              LR    LR     08 22 58.3
      comp=Z,1µm,21.9s,baz=86,slow=39
      comp=Z,45nm,0.8s
SPSI  Sidrap Palu    31.93  272   P     P      08 08 36.6 -0.3
TTSI  Tana Toraja    31.96  274   P     P      08 08 31.9 -5.3
ARPS  Mount Arapiles 32.12  195   P     P      08 08 38.9 +0.6
      comp=Z,78nm,0.8s
ARPS  Mount Arapiles 32.12  195   P     P      08 08 39.1 +0.9
TOO   Toolangi       32.12  189   P     P      08 08 38.4 +0.1
TOO   Toolangi       32.12  189   P     P      08 08 38.4 +0.1
TOO                               pmax  pmax
      comp=Z,11nm,1.2s
WBSI  Waikabubak, Su 32.29  261   P     P      08 08 39.3 -0.8
      comp=Z,728nm,1.4s,comp=Z,7µm
MPSI  Mapaga         32.39  280   P     P      08 08 39.6 -1.4
      comp=Z,59nm,1.3s
FORT  Forrest        33.35  219   P     P      08 08 48.6 -0.5
FORT                              IAmb  IAmb   08 08 50.1
      comp=Z,138nm,0.9s
FORT  Forrest        33.35  219   P     P      08 08 48.6 -0.5
      comp=Z,139nm,0.7s
FORT  Forrest        33.35  219   P     P      08 08 49.7 +0.6
PLAI  Plampang       33.83  263   P     P      08 08 51.3 -2.2
JCJ   Chichijima     34.01  345   P     P      08 08 55.9 +1.1
MBWA  Marble Bar     34.57  241   P     P      08 08 59.3 -0.6
MBWA  Marble Bar     34.57  241   P     P      08 08 59.6 -0.2
      comp=Z,0.0nmcomp=Z,523nm,0.7s
MBWA  Marble Bar     34.57  241   P     P      08 08 60.0 +0.1
MBWA  Marble Bar     34.57  241   P     P      08 09 00.2 +0.4
MBWA  Marble Bar     34.57  241   P     P      08 08 59.7 -0.2
MBWA                              pP    pP     08 09 11.8 -1.6
MYLDM Lahad Datu     34.96  288   P     P      08 09 03.0 -0.3
MYLDM Lahad Datu     34.96  288   P     P      08 09 04.3 +1.0
OUZ   Omahuta        35.51  148   P     P      08 09 09.6 +1.9
SRBI  Singaraja      36.34  264   P     P      08 09 14.3 -0.8
      comp=Z,220nm,1.0s,comp=Z,3µmcomp=Z,2µm
DNP   Denpasar       36.36  263   P     P      08 09 14.6 -0.7
      comp=Z,823nm,1.5s
TGY   Tagaytay City  36.43  303   P     P      08 09 16.4 +0.5
      baz=0.0,slow=0.0
TGY                               PcP   PcP    08 11 40.0 +0.8
TGY                               LR    LR     08 22 02.4
      comp=Z,1µm,21.8s,baz=315,slow=33
MOO   Moorlands      36.70  186   P     P      08 09 19.1 +1.4
      comp=Z,117nm,1.2s
MOO   Moorlands      36.70  186   P     P      08 09 18.5 +0.7
MTKI  Muara Teweh, K 37.11  276   P     P      08 09 35.8 +14
TAU   Tasmania Unive 37.15  185   P     P      08 09 22.6 +1.0
TAU                               IAmb  IAmb   08 09 24.3
      comp=Z,136nm,1.2s
TAU   Tasmania Unive 37.15  185   P     P      08 09 22.7 +1.1
TAU   Tasmania Unive 37.15  185   P     P      08 09 22.6 +1.0
TAU                               pmax  pmax
      comp=Z,136nm,1.2s
ABJI  Asem Bagus     37.30  265   P     P      08 09 23.0 -0.3
      comp=Z,198nm,1.0s,comp=Z,3µm
KKM   Kota Kinabalu  37.39  288   P     P      08 09 24.0 -0.2
JAGI  Jajag, Banyuwa 37.40  264   P     P      08 09 22.3 -1.8
JAGI  Jajag, Banyuwa 37.40  264   P     P      08 09 22.0 -2.1
      comp=Z,742nm,1.2s,comp=Z,7µm
KMMI  Kalianget      37.57  266   P     P      08 09 26.1 +0.5
      comp=Z,168nm,1.2s,comp=Z,3µmcomp=Z,3µm
MEEK  Meekatharra    37.77  233   P     P      08 09 26.8 -0.3
      comp=Z,193nm,0.5s
MEEK  Meekatharra    37.77  233   P     P      08 09 27.0 -0.1
KUZ   Kuaotunu       37.79  148   P     P      08 09 28.7 +1.6
KMBL  Kambalda       37.80  224   P     P      08 09 26.8 -0.6
      comp=Z,93nm,1.1s
KMBL  Kambalda       37.80  224   P     P      08 09 28.0 +0.6
BLJI  Banyuglugur    37.94  265   P     P      08 09 27.5 -1.2
      comp=Z,292nm,0.9s,comp=Z,2µm
GMJI  Gumukmas       38.09  264   P     P      08 09 29.2 -0.8
      comp=Z,107nm,0.9s,comp=Z,2µm
TOZ   Tahuroa Road   38.42  149   P     P      08 09 32.7 +0.3
TOZ                               IAmb  IAmb   08 09 35.2
      comp=Z,219nm,1.4s
HIZ   Hauiti         38.70  151   P     P      08 09 35.9 +1.1
HIZ                               IAmb  IAmb   08 09 37.8
      comp=Z,222nm,1.3s
GRJI  Gresik         39.05  266   P     P      08 09 38.9 +0.9
      comp=Z,389nm,1.0s,comp=Z,4µm
NIUE  Niue           39.55  113   P     P      08 09 43.7 +1.6
NGZ   Ngauruhoe      39.58  150   P     P      08 09 44.6 +2.3
ETVZ  East Tongariro 39.60  150   P     P      08 09 45.2 +2.8
SNVZ  South Ngauruho 39.61  150   P     P      08 09 43.2 +0.6
JOW   Kunigami       39.63  326   P     P      08 09 43.8 +1.1
JOW                               IAmb  IAmb   08 09 45.2
      comp=Z,264nm,1.2s
JOW   Kunigami       39.63  326   LR    LR     08 22 55.8
      comp=Z,2µm,21.8s,baz=128,slow=31
JOW   Kunigami       39.63  326   P     P      08 09 44.8 +2.1
URZ   Urewera        39.65  148   LR    LR     08 24 08.7
      comp=Z,2µm,20.6s,baz=8.5,slow=33
URZ   Urewera        39.65  148   P     P      08 09 43.3 +0.6
PWJI  Pagerwojo      39.72  264   P     P      08 09 42.2 -1.4
RTZ   Ruatahuna      39.85  149   P     P      08 09 44.5 +0.1
RTZ                               IAmb  IAmb   08 09 48.0
      comp=Z,106nm,0.8s
TKNZ  Takaka Hill    39.86  155   P     P      08 09 45.4 +1.0
GIRL  Giralia        39.87  241   P     P      08 09 44.4 -0.4
GIRL  Giralia        39.87  241   P     P      08 09 45.5 +0.8
      comp=Z,632nm,1.2s
GIRL  Giralia        39.87  241   P     P      08 09 45.8 +1.1
RAGZ  Rawiri         39.99  148   P     P      08 09 47.5 +1.9
BKZ   Black Stump Fm 40.02  150   P     P      08 09 45.9 +0.1
BKZ   Black Stump Fm 40.02  150   P     P      08 09 46.3 +0.5
NGJI  Ngawi          40.05  265   P     P      08 09 47.3 +0.9
      comp=Z,156nm,1.0s
MRNZ  Matariki Terra 40.08  155   P     P      08 09 46.8 +0.6
SBUM  Sibu           40.33  281   P     P      08 09 49.0 +0.3
SBUM  Sibu           40.33  281   P     P      08 09 50.0 +1.3
PCJI  Pacitan        40.34  264   P     P      08 09 47.8 -0.9
JHJ   Hachijo jima 2 40.36  344   LR    LR     08 25 03.4
      comp=Z,676nm,22.0s,baz=191,slow=34
THZ   Tophouse       40.44  155   P     P      08 09 49.4 +0.1
TCW   Tory Channel   40.58  154   P     P      08 09 50.7 +0.3
UWJI  Ujung Watu     40.58  267   P     P      08 09 50.3 -0.4
      comp=Z,382nm,0.8s,comp=Z,4µm
TUWZ  Tuamarina      40.61  154   P     P      08 09 51.5 +0.9
STKI  Sintang        40.64  277   P     P      08 09 51.9 +0.7
      comp=Z,49nm,0.8s,comp=Z,2µm
INZ   Inchbonnie     40.68  158   P     P      08 09 51.7 +0.6
INZ                               IAmb  IAmb   08 09 52.4
      comp=Z,214nm,2.0s
MRZ   Mangatainoka R 40.73  152   P     P      08 09 51.0 -0.6
MRZ                               IAmb  IAmb   08 09 52.8
      comp=Z,166nm,1.2s
BSWZ  Blackbirch Sta 40.81  154   P     P      08 09 52.1 -0.2
SNZO  South Karori   40.85  153   P     P      08 09 53.1 +0.6
KLBR  Kellerberrin   40.86  227   P     P      08 09 51.9 -0.9
      comp=Z,378nm,0.8s
KLBR  Kellerberrin   40.86  227   P     P      08 09 52.3 -0.5
MORW  Morawa         40.90  231   P     P      08 09 52.6 -0.6
MORW                              IAmb  IAmb   08 10 01.5
      comp=Z,120nm,1.0s
MORW  Morawa         40.90  231   P     P      08 09 52.6 -0.6
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comp=Z,94nm,0.8s
MORW Morawa 40.90 231 P **P 08 09 53.0 -0.2**
JCZ Jackson Bay 40.93 161 P **P 08 09 54.7 +1.4**
UGM Wanagama 40.98 265 P **P 08 09 53.5 -0.6**
UGM Wanagama 40.98 265 P **P 08 09 54.9 +0.8**
UGM Wanagama 40.98 265 P **P 08 09 54.2 +0.1**
comp=Z,399nm,1.0s,comp=Z,6μm
LTZ Lake Taylor 41.05 157 P **P 08 09 54.6 +0.4**
LTZ IAmb IAmb 08 09 56.7
comp=Z,143nm,1.4s
BFZ Birch Farm 41.06 151 P **P 08 09 54.0 -0.4**
BFZ IAmb IAmb 08 09 55.5
comp=Z,284nm,1.6s
BFZ Birch Farm 41.06 151 P **P 08 09 54.9 +0.6**
SMRI Semarang 41.07 266 P **P 08 09 54.1 -0.7**
SMRI Semarang 41.07 266 P **P 08 09 56.1 +1.3**
SMRI Semarang 41.07 266 P **P 08 09 55.8 +1.0**
comp=Z,409nm,0.9s,comp=Z,4μm
YOJ Yonaguni jima 41.11 318 P **P 08 09 56.1 +1.2**
YOJ Yonaguni jima 41.11 318 P **P 08 09 56.7 +1.8**
YOJ Yonaguni jima 41.11 318 P **P 08 09 56.1 +1.2**
YOJ pmax pmax
comp=Z,565nm,1.4s
MSWZ Moikau Station 41.18 153 P **P 08 09 54.9 -0.4**
YOGI Yogyakarta 41.21 265 P **P 08 09 56.1 +0.2**
comp=Z,462nm,0.9s,comp=Z,8μm
KHZ Kahutara 41.25 155 P **P 08 09 55.1 -0.7**
KHZ IAmb IAmb 08 09 57.3
comp=Z,307nm,1.9s
PLWZ Palliser 41.30 153 P **P 08 09 55.9 -0.4**
RPZ Rata Peaks 41.39 159 P **P 08 09 57.2 +0.2**
RPZ IAmb IAmb 08 09 59.3
comp=Z,167nm,1.4s
RPZ Rata Peaks 41.39 159 LR LR 08 24 41.3
comp=Z,5μm,22.0s,baz=312,slow=32
OXZ Oxford 41.42 158 P **P 08 09 56.2 -1.0**
GVZ Greta Valley S 41.50 156 P **P 08 09 57.4 -0.5**
YULB Yu-li 41.57 315 P **P 08 09 59.1 +0.4**
YULB Yu-li 41.57 315 P **P 08 10 00.0 +1.3**
LBZ Lake Benmore 41.67 160 P **P 08 09 59.3 +0.1**
WKZ Wanaka 41.68 161 P **P 08 09 59.1 -0.2**
DCZ Deep Cove 41.70 164 P **P 08 09 59.6 +0.1**
NACB Ninganchiao 41.87 317 P **P 08 10 01.5 +0.3**
NACB IAmb IAmb 08 10 06.6
comp=Z,161nm,1.1s
NACB Ninganchiao 41.87 317 P **P 08 10 03.1 +1.9**
MLZ Mavora Lakes 41.89 163 P **P 08 10 01.4 +0.3**
MLZ IAmb IAmb 08 10 02.7
comp=Z,137nm,1.2s
NWAO Narrogin (SRO) 41.94 225 P **P 08 10 01.1 -0.6**
NWAO Narrogin (SRO) 41.94 225 P **P 08 10 01.1 -0.6**
NWAO Narrogin (SRO) 41.94 225 LR LR 08 28 31.3
comp=Z,952nm,18.9s,baz=26,slow=38
NWAO Narrogin (SRO) 41.94 225 P **P 08 10 01.5 -0.1**
NWAO Narrogin (SRO) 41.94 225 P **P 08 10 01.8 +0.2**
NWAO Narrogin (SRO) 41.94 225 P **P 08 10 01.1 -0.6**
NWAO pmax pmax
comp=Z,46nm,1.1s
NWAO Narrogin (SRO) 41.94 225 P **P 08 10 00.8 -0.9**
MQZ McQueen's Vall 41.98 157 P **P 08 10 01.6 -0.2**
MQZ IAmb IAmb 08 10 03.1
comp=Z,197nm,1.4s
TPUB Ta-pu 41.98 315 P **P 08 10 01.8 -0.3**
TPUB IAmb IAmb 08 10 20.3
comp=Z,549nm,2.0s
TPUB Ta-pu 41.98 315 P **P 08 10 02.3 +0.2**
SSLB Suanglung 42.06 316 P **P 08 10 03.8 +1.0**
MUN Mundaring 42.19 227 P **P 08 10 03.4 -0.2**
comp=Z,109nm,1.0s
MUN Mundaring 42.19 227 P **P 08 10 03.8 +0.1**
WHZ Wether Hill Ro 42.32 163 P **P 08 10 04.3 -0.2**
YHNB Yeheng 42.35 317 P **P 08 10 06.2 +1.0**
YHNB IAmb IAmb 08 10 07.6
comp=Z,211nm,1.0s
YHNB Yeheng 42.35 317 P **P 08 10 05.9 +0.7**
ODZ Otahua Downs 42.41 160 P **P 08 10 05.7 +0.5**
TATO Taipei 42.48 317 P **P 08 10 06.5 +0.4**
TATO IAmb IAmb 08 10 08.1
comp=Z,165nm,0.9s
TATO Taipei 42.48 317 P **P 08 10 07.4 +1.3**
TATO Taipei 42.48 317 P **P 08 10 07.3 +1.3**
TATO pP **pP 08 10 19.1 -2.2**
KPJI Karang Pucung 42.56 266 P **P 08 10 06.9 -0.1**
comp=Z,396nm,0.7s,comp=Z,3μmcomp=Z,2μm
JMN Monobe 42.82 338 P **P 08 10 09.0 +0.2**
JMN IAmb IAmb 08 10 10.8
comp=Z,103nm,1.0s
JMN Monobe 42.82 338 P **P 08 10 09.6 +0.8**
RKGY Rocky Gully 43.03 224 P **P 08 10 10.4 -0.1**
comp=Z,151nm,0.6s
RKGY Rocky Gully 43.03 224 P **P 08 10 10.6 +0.1**
CMJI Cimerak 43.04 265 P **P 08 10 09.8 -1.0**
JCJI Jatiwangi 43.24 267 P **P 08 10 13.0 +0.6**
INU Inuyama 43.24 342 P **P 08 10 10.8 -1.2**
INU Inuyama 43.24 342 P **P 08 10 10.3 -1.7**
INU pP **pP 08 10 22.0 -5.1**
INU sP sP 08 10 26.4 -7.5
JGF Kuroka 43.37 343 P **P 08 10 12.1 -1.1**
JGF Kuroka 43.37 343 P **P 08 10 12.6 -0.6**
JNU Nakatsue 43.51 334 P **P 08 10 14.2 -0.1**
JNU Nakatsue 43.51 334 LR LR 08 27 08.5
comp=Z,425nm,21.1s,baz=172,slow=34
JNU Nakatsue 43.51 334 P **P 08 10 15.2 +0.9**
BBJI Bungbulang 43.83 265 P **P 08 10 16.6 -0.7**
LEM Lembang 43.88 266 P **P 08 10 17.4 -0.4**
comp=Z,306nm,0.7s,baz=66,slow=8.8,SNR=42
LEM LR LR 08 33 15.3
comp=Z,534nm,18.9s,baz=114,slow=42
comp=Z,306nm,0.7s
MJAR Matsushiro Arr 44.01 344 P **P 08 10 16.2 -2.1**
comp=Z,9.8nm,0.7s,baz=167,slow=8.4,SNR=18
MJAR PcP **PcP 08 12 03.1 +0.1**
comp=Z,15nm,0.7s,baz=171,slow=3.8,SNR=13
MJAR ScP **ScP 08 15 48.0 -2.1**
comp=Z,7.1nm,1.0s,baz=174,slow=3.8,SNR=7.0
MJAR LR LR 08 26 37.5
comp=Z,852nm,21.7s,baz=176,slow=33
comp=Z,9.8nm,0.7s
MAJO Matsushiro 44.01 344 P **P 08 10 17.3 -1.0**
MAJO Matsushiro 44.01 344 P **P 08 10 17.3 -1.0**
MAJO pmax pmax
comp=Z,83nm,1.7s
KNMB Chin-men Tao 44.30 314 P **P 08 10 21.2 +0.4**
KNMB IAmb IAmb 08 10 23.1
comp=Z,571nm,2.0s
CNJI Cibinong 44.35 266 P **P 08 10 20.6 -0.8**
QZH Quanzhou 44.46 315 P **P 08 10 22.9 +0.9**
QZH S **S 08 16 54.6 +1.6**
QZH pmax pmax
comp=Z,150nm,0.8s
QZH pmax pmax
comp=Z,580nm,6.4s
QZH LR LR
comp=Z,1μm,17.0s
QZH LR LR
comp=Z,2μm,19.0s
QZH LR LR
comp=Z,2μm,20.4s
JMM Marumori 44.65 348 P **P 08 10 25.0 +1.7**
DBJI Dramaga 44.74 267 P **P 08 10 24.1 -0.4**
comp=Z,221nm,0.9s
SKJI Sukabumi 44.92 266 P **P 08 10 25.3 -0.7**
PPBI Pangkal Pinang 45.65 273 P **P 08 10 32.1 +0.4**
comp=Z,77nm,0.9s
XMIS Christmas Isla 45.84 261 P **P 08 10 33.2 -0.1**
XMIS Christmas Isla 45.84 261 P **P 08 10 34.1 +0.8**
comp=Z,414nm,1.2s
HKPS Hong Kong Po S 46.21 308 P **P 08 10 37.0 +1.0**
CTZ Chatham Island 46.88 149 P **P 08 10 41.0 +0.1**
SSE Sheshan 46.92 323 P **P 08 10 42.0 +0.7**
SSE S **S 08 17 30.3 +2.1**
SSE pmax pmax
comp=Z,24nm,0.9s
SSE pmax pmax
comp=Z,220nm,3.5s
SSE LR LR
comp=Z,420nm,23.3s
SSE LR LR
comp=Z,560nm,23.0s
KASI Kota Agung 47.02 268 P **P 08 10 40.7 -1.8**
comp=Z,185nm,1.1s,comp=Z,1μm
JTM Tenmabayashi 47.41 349 P **P 08 10 43.4 -1.6**
JTM IAmb IAmb 08 10 45.1
comp=Z,99nm,0.9s
JTM Tenmabayashi 47.41 349 P **P 08 10 45.0 0.0**
LWLI Liwa 47.48 269 P **P 08 10 45.2 -1.0**
comp=Z,434nm,1.0s,comp=Z,5μm
TPRI Tanjung Pinang 47.63 277 P **P 08 10 47.6 +0.4**
comp=Z,131nm,1.1s
TJN Taejon 47.80 333 P **P 08 10 48.1 0.0**
TJN Taejon 47.80 333 *ce*P **P 08 10 48.0 0.0**
QIZ Qiongzhong 48.11 302 P **P 08 10 51.2 +0.4**
QIZ pP **pP 08 11 04.2 -1.9**
QIZ sP **sP 08 11 12.0 -0.8**
QIZ S **S 08 17 47.2 +1.6**
QIZ sS **sS 08 18 10.9 +1.6**
QIZ pmax pmax
comp=Z,83nm,1.0s
QIZ pmax pmax
comp=Z,390nm,4.3s
QIZ LR LR
comp=Z,700nm,21.6s
QIZ LR LR
comp=Z,2μm,24.0s
QIZ LR LR
comp=Z,3μm,24.5s
QIZ Qiongzhong 48.11 302 P **P 08 10 52.0 +1.1**
QIZ pP **pP 08 11 03.7 -2.4**
QIZ sP **sP 08 11 08.5 -4.3**
QIZ PcP **PcP 08 12 18.8 +1.0**
MYKOM Kota Tinggi 48.44 278 P **P 08 10 52.8 -0.7**
MYKOM IAmb IAmb 08 10 55.0
comp=Z,101nm,1.1s
KSRS Korea Array 48.45 335 P **P 08 10 53.6 +0.5**
comp=Z,22nm,0.9s,baz=152,slow=8.9,SNR=70
KSRS PcP **PcP 08 12 19.7 +1.1**
comp=Z,19nm,0.7s,baz=159,slow=3.2,SNR=27
KSRS ScP **ScP 08 16 07.4 -1.1**
comp=Z,0.5nm,0.3s,baz=140,slow=5.5,SNR=4.7
KSRS LR LR 08 28 55.4
comp=Z,440nm,21.9s,baz=150,slow=33
comp=Z,22nm,0.9s
KS19 Wonju Array Si 48.52 335 P **P 08 10 53.4 -0.3**
KS19 IAmb IAmb 08 12 21.2
comp=Z,170nm,1.8s
MNAI Manna 48.62 269 P **P 08 10 55.0 +0.1**
NJ2 Nanjing 49.00 322 *e*P **P 08 10 57.9 +0.5**
NJ2 pP **pP 08 11 08.4 -4.3**
NJ2 PcP **PcP 08 12 21.4 +0.7**
NJ2 pmax pmax
comp=Z,43nm,1.0s
NJ2 LR LR
comp=Z,1μm,23.7s
NJ2 LR LR
comp=Z,930nm,21.8s
NJ2 LR LR
comp=Z,2μm,24.6s
INCN Inchon 49.04 333 P **P 08 10 57.8 +0.1**
INCN IAmb IAmb 08 10 59.5
comp=Z,184nm,1.1s
INCN Inchon 49.04 333 P **P 08 10 58.9 +1.2**
INCN P **P 08 10 58.9 +1.2**
INCN Inchon 49.04 333 P **P 08 10 57.8 +0.1**
INCN pmax pmax
comp=Z,184nm,1.1s
INCN Inchon 49.04 333 P **P 08 10 58.2 +0.6**
INCN pP **pP 08 11 09.5 -3.6**
INCN sP **sP 08 11 14.9 -4.9**
INCN PcP **PcP 08 12 21.5 +0.7**
JKA Kamikawa-asahi 50.39 351 P **P 08 11 07.1 -0.6**
JKA IAmb IAmb 08 11 08.3
comp=Z,87nm,1.3s
ASAJ Asahikawa 50.39 351 P **P 08 11 07.4 -0.4**
comp=Z,24nm,0.9s,baz=235,slow=14,SNR=8.3
comp=Z,24nm,0.9s
CNSH ChangSha 50.44 314 P **P 08 11 10.2 +1.7**
CNSH S **S 08 18 20.9 +2.9**
CNSH LR LR
comp=Z,580nm,34.3s
CNSH LR LR
comp=Z,930nm,24.5s
CNSH LR LR
comp=Z,2μm,35.0s
PYAG Pyongyang 50.72 334 P **P 08 11 10.4 0.0**
PYAG AmB
comp=Z,123nm,1.0s
GULI GuiLin 50.74 309 P **P 08 11 12.1 +1.3**
GULI pmax pmax
comp=Z,110nm,1.2s
GULI LR LR
comp=Z,970nm,20.8s
GULI LR LR
comp=Z,830nm,21.3s
GULI LR LR
comp=Z,2μm,23.2s
WHN Wuhan 50.89 318 P **P 08 11 12.8 +1.0**
WHN pP **pP 08 11 24.5 -2.7**
WHN sP **sP 08 11 29.9 -4.0**
WHN PP **PP 08 13 11.6 +2.9**
WHN S **S 08 18 26.7 +2.6**
WHN sS **sS 08 18 53.6 +5.2**
WHN pmax pmax
comp=Z,170nm,1.1s
WHN pmax pmax
comp=Z,1μm,3.0s
WHN LR LR
comp=Z,3μm,21.0s
WHN LR LR
comp=Z,5μm,22.1s
WHN LR LR
comp=Z,5μm,23.1s
PDSI Padang 51.42 273 P **P 08 11 13.9 -2.2**
comp=Z,138nm,0.7s,comp=Z,4μm
IPM Ipoh 51.69 280 P **P 08 11 17.3 -0.8**
IPM IAmb IAmb 08 12 33.7
comp=Z,96nm,1.1s
VLA Vladivostok 51.94 342 *i* P **P 08 11 17.4 -2.0**
VLA pmax pmax
comp=Z,82nm,1.3s
SUJ Sinuiju 52.14 334 P **P 08 11 20.4 -0.5**
SUJ S S 08 19 05.6 +25
SUJ AmB
comp=Z,96nm,1.6s
KULM Kulim 52.21 281 P **P 08 11 20.9 -1.0**
KULM IAmb IAmb 08 11 22.2
comp=Z,63nm,0.9s
KULM Kulim 52.21 281 P **P 08 11 22.3 +0.3**
DL2 Dalian 52.53 330 P **P 08 11 24.1 +0.3**
DL2 S **S 08 18 48.4 +2.0**
DL2 pmax pmax
comp=Z,62nm,1.1s
DL2 pmax pmax
comp=Z,330nm,6.3s
DL2 LR LR
comp=Z,1μm,23.1s
DL2 LR LR
comp=Z,710nm,29.1s
DL2 LR LR
comp=Z,2μm,25.1s
SISI Saibi 52.74 273 P **P 08 11 27.1 +1.2**
comp=Z,105nm,0.8s
USA0B Ussuriysk Arra 52.88 342 P **P 08 11 26.1 -0.3**
USA0B Ussuriysk Arra 52.88 342 *i* P **P 08 11 26.3 -0.1**
USRK Ussuriysk Ar. 52.88 342 P **P 08 11 26.3 -0.1**
comp=Z,28nm,0.8s,baz=176,slow=8.5,SNR=55
USRK PcP **PcP 08 12 35.2 +0.4**
comp=Z,31nm,1.1s,baz=143,slow=4.1,SNR=8.6
USRK ScP **ScP 08 16 25.6 -1.9**
comp=Z,1.2nm,0.7s,baz=200,slow=2.3,SNR=3.6
USRK LR LR 08 33 57.0
comp=Z,290nm,18.5s,baz=174,slow=36
comp=Z,28nm,0.8s
TIA Tai'an 52.93 325 P **P 08 11 26.0 -0.9**
TIA pP **pP 08 11 37.9 -4.0**
TIA PcP **PcP 08 12 36.0 +0.8**
TIA ScP **ScP 08 16 29.2 +1.3**
TIA S **S 08 18 53.5 +1.5**
TIA sS **sS 08 19 19.8 +2.5**
TIA pmax pmax
comp=Z,57nm,1.0s
TIA pmax pmax
comp=Z,430nm,3.8s
TIA LR LR
comp=Z,870nm,19.2s
TIA LR LR
comp=Z,530nm,24.6s
TIA LR LR
comp=Z,2μm,25.0s
YSS Yuzh-Sakhalins 53.15 352 *e*P **P 08 11 27.1 -1.1**
YSS *e* 08 12 37.0
YSS *e*S **S 08 18 49.7 -4.8**
YSS *e* 08 21 10.0
YSS *e*SSS SSS 08 22 34.8
YSS *e* 08 24 16.0
YSS pmax pmax
comp=Z,40nm,1.2s
SRIT Nakonsritamara 53.94 285 P **P 08 11 34.2 -0.5**
SRIT IAmb IAmb 08 11 35.1
comp=Z,51nm,1.0s
SNY Shenyang 53.95 334 ⇑P **P 08 11 34.2 0.0**
SNY S **S 08 19 01.4 -4.1**
SNY pmax pmax
comp=Z,27nm,0.7s
SNY pmax pmax
comp=Z,69nm,3.9s
SNY LR LR
comp=Z,340nm,17.1s
SNY LR LR
comp=Z,500nm,19.4s
SNY LR LR
comp=Z,770nm,20.2s
MDJ Mudanjiang 54.02 341 P **P 08 11 34.5 -0.2**
MDJ IAmb IAmb 08 12 40.8
comp=Z,56nm,0.9s
MDJ Mudanjiang 54.02 341 P **P 08 11 34.6 -0.1**
MDJ pP pP 08 11 48.8 -1.5
MDJ sP sP 08 11 56.4 -0.6
MDJ PcP **PcP 08 12 40.3 +1.1**
MDJ PcS **PcS 08 16 38.5 +0.1**
MDJ S **S 08 19 07.0 +0.6**
MDJ sS sS 08 19 32.0 +0.5
MDJ SS **SS 08 22 49.3 +0.5**
MDJ pmax pmax
comp=Z,43nm,0.8s
MDJ pmax pmax
comp=Z,230nm,6.2s
MDJ LR LR
comp=Z,410nm,24.8s
MDJ LR LR
comp=Z,690nm,24.4s
MDJ LR LR
comp=Z,1μm,24.4s
MDJ Mudanjiang 54.02 341 P **P 08 11 34.5 -0.2**
MDJ PcP **PcP 08 12 39.8 +0.6**
ENH Enshi 54.10 314 P **P 08 11 35.2 -0.4**
ENH IAmb IAmb 08 12 41.8
comp=Z,98nm,0.9s
ENH Enshi 54.10 314 P **P 08 11 35.5 -0.1**
ENH pP **pP 08 11 47.5 -3.6**
ENH PcP **PcP 08 12 40.9 +1.0**
SLVN Son La 54.13 301 P **P 08 11 36.6 +0.6**
SLVN IAmb IAmb 08 11 38.3
comp=Z,90nm,1.1s
GYA Guiyang 54.20 308 P **P 08 11 37.8 +1.3**
GYA pmax pmax
comp=Z,85nm,0.7s
GYA LR LR
comp=Z,720nm,15.4s
GYA LR LR
comp=Z,1μm,16.3s
GYA LR LR
comp=Z,2μm,37.2s
COCO West Island 54.54 259 P **P 08 11 40.0 +0.9**
COCO West Island 54.54 259 P **P 08 11 40.0 +0.9**
COCO pmax pmax
comp=Z,534nm,1.6s
GSI Gunungsitoli 54.57 276 P **P 08 11 37.2 -2.1**
GSI IAmb IAmb 08 11 38.7
comp=Z,153nm,1.0s
GSI Gunungsitoli 54.57 276 P **P 08 11 38.4 -0.9**
comp=Z,173nm,0.8s
LYN LuoYang 54.64 320 ⇑P **P 08 11 39.4 0.0**
LYN sP pP 08 11 58.9 +4.4
LYN S **S 08 19 12.2 -3.0**
LYN sS sS 08 19 41.8 +1.3
LYN pmax pmax
comp=Z,75nm,0.9s
LYN pmax pmax
comp=Z,670nm,3.7s
LYN LR LR
comp=Z,2μm,21.7s
LYN LR LR
comp=Z,2μm,22.1s
LYN LR LR
comp=Z,3μm,22.7s
CN2 Changchun 54.81 337 *e*P **P 08 11 39.8 -0.7**
CN2 PcP **PcP 08 12 40.7 -1.5**
CN2 *e*S **S 08 19 15.5 -1.6**
CN2 pmax pmax
comp=Z,30nm,1.2s
HNS HongShan 55.15 324 ⇑P **P 08 11 42.9 -0.1**
HNS S **S 08 19 15.4 -6.5**
HNS pmax pmax
comp=Z,110nm,1.3s
HNS pmax pmax
comp=Z,570nm,3.7s
HNS LR LR
comp=Z,950nm,18.4s
HNS LR LR
comp=Z,570nm,17.5s
HNS LR LR
comp=Z,1μm,24.7s
BNX BinXian 55.75 340 ⇑P **P 08 11 46.8 -0.4**
BNX pmax pmax
comp=Z,110nm,1.0s
BJT Baijiatuau 56.16 327 P **P 08 11 49.9 -0.4**
BJT Baijiatuau 56.16 327 P **P 08 11 49.9 -0.4**
BJT pmax pmax
comp=Z,51nm,1.1s
BJI Beijing 56.18 327 P **P 08 11 50.4 +0.1**
BJI pP **pP 08 12 04.7 -0.8**
BJI sP **sP 08 12 13.6 +1.6**
BJI PcP **PcP 08 12 48.5 +0.9**
BJI S **S 08 19 36.8 +1.4**
BJI pmax pmax
comp=Z,12nm,1.3s
BJI pmax pmax
comp=Z,220nm,4.2s
BJI LR LR
comp=Z,440nm,20.7s
BJI LR LR
comp=Z,240nm,17.0s
BJI LR LR
comp=Z,640nm,21.6s
MLSI Meulaboh, Aceh 56.18 279 P **P 08 11 49.1 -1.8**
comp=Z,152nm,1.0s
PHRA Phrae 56.25 297 P **P 08 11 51.4 +0.1**
XAN Xi'an 56.66 317 ⇑P **P 08 11 53.6 -0.4**
XAN sP pP 08 12 13.6 +4.0
XAN PP **PP 08 14 00.2 -0.4**
XAN S **S 08 19 43.7 +1.5**
XAN sS sS 08 20 09.1 +0.7
XAN SS **SS 08 23 33.1 +2.3**
XAN pmax pmax
comp=Z,110nm,0.8s
XAN pmax pmax
comp=Z,640nm,3.5s
XAN LR LR
comp=Z,1μm,22.6s
XAN LR LR
comp=Z,1μm,20.1s
XAN LR LR
comp=Z,2μm,20.5s
XAN Xi'an 56.66 317 P **P 08 11 53.4 -0.6**
TIY Taiyuan 56.70 323 *e*P **P 08 11 54.8 +0.6**
TIY PcP **PcP 08 12 50.9 +1.1**
TIY PP **PP 08 14 03.3 +2.3**
TIY S **S 08 19 50.3 +7.6**
TIY sS **sS 08 20 10.9 +1.9**
TIY ScS **ScS 08 21 37.8 -0.8**
TIY pmax pmax
comp=Z,34nm,0.7s
TIY pmax pmax
comp=Z,290nm,3.6s
TIY LR LR
comp=Z,910nm,19.2s
TIY LR LR
comp=Z,370nm,17.2s
TIY LR LR
comp=Z,2μm,21.3s
KMI Kunming 56.71 305 ⇑P **P 08 11 55.8 +1.1**
KMI pP pP 08 12 07.4 -3.0
KMI PP **PP 08 14 00.2 -1.3**
KMI pmax pmax

comp=Z,81nm,1.0s
KMI pmax pmax
comp=Z,450nm,5.4s
KMI LR LR
comp=Z,2μm,32.8s
KMI LR LR
comp=Z,560nm,22.1s
KMI LR LR
comp=Z,2μm,31.8s
CM31 Chiang Mai Arr 57.38 296 P **P** **08 11 59.5 +0.2**
CM31 IAmb IAmb 08 12 01.3
comp=Z,83nm,1.1s
CMAR Chiang Mai Arr 57.38 296 P **P** **08 11 59.5 +0.2**
CMAR Chiang Mai Arr 57.38 296 P **P** **08 12 00.1 +0.8**
comp=Z,39nm,1.0s,baz=116,slow=5.1,SNR=107
CMAR PcP **PcP** **08 12 53.1 +0.3**
comp=Z,8.7nm,0.8s,baz=110,slow=2.0,SNR=6.3
CMAR ScP **ScP** **08 16 47.6 -0.2**
comp=Z,1.3nm,0.3s,baz=123,slow=3.3,SNR=1.6
CMAR LR LR 08 37 21.1
comp=Z,293nm,18.7s,baz=115,slow=37
CMAR PKP2bc **P'P'bc** **08 41 58.9 -1.1**
comp=Z,0.7nm,0.3s,baz=276,slow=3.5,SNR=7.7
comp=Z,39nm,1.0s
CHTO Chiang Mai 57.50 297 P **P** **08 11 60.0 -0.2**
CHTO IAmb IAmb 08 12 01.8
comp=Z,65nm,1.1s
CHTO Chiang Mai 57.50 297 P **P** **08 12 00.0 -0.2**
CHTO pmax pmax
comp=Z,65nm,1.1s
KLR Kul'dur 57.54 345 *e*P **P** **08 11 58.2 -1.6**
KLR pmax pmax
comp=Z,2μm,1.3s
PZH PanZhiHua 58.12 306 P **P** **08 12 04.7 +0.2**
PZH pP **pP** **08 12 22.3 +2.1**
PZH S **S** **08 20 01.2 -0.6**
PZH sS **sS** **08 20 29.5 +1.3**
PZH pmax pmax
comp=Z,40nm,0.9s
PZH pmax pmax
comp=Z,350nm,5.0s
PZH LR LR
comp=Z,520nm,19.0s
PZH LR LR
comp=Z,560nm,20.8s
PZH LR LR
comp=Z,1μm,26.5s
PPT2 Papeete2 58.41 107 *e*P **P** **08 12 06.1 -0.6**
comp=Z,209nm,27.5s
PPT2 *e*S **S** **08 20 04.3 -1.5**
comp=Z,677nm,25.8s
PPT2 *e*LR LR 08 29 21.3
comp=Z,1μm,24.8s
PPT2 *e*LR LR 08 29 23.4
comp=Z,858nm,34.5s
PAE Paea 58.41 107 *e*S **S** **08 20 05.0 -0.7**
comp=Z,214nm,24.7s
PAE *e*LR LR 08 29 18.6
comp=Z,352nm,27.7s
CD2 Chengdu 58.62 312 P **P** **08 12 07.6 -0.3**
CD2 PP **PP** **08 14 16.7 -1.5**
CD2 S **S** **08 20 06.2 -1.9**
CD2 sS sS 08 20 33.6 -0.9
CD2 pmax pmax
comp=Z,60nm,0.8s
CD2 pmax pmax
comp=Z,710nm,3.5s
CD2 LR LR
comp=Z,950nm,19.0s
CD2 LR LR
comp=Z,2μm,21.6s
CD2 LR LR
comp=Z,2μm,22.8s
PET Petropavlovsk 58.91 5 *e*P **P** **08 12 09.9 +0.6**
PET *e* 08 12 59.4
PET *e*S **S** **08 20 14.4 +3.6**
PET *e**SS **sS** **08 20 38.5 +1.0**
PET *e* 08 21 55.4
PET pmax pmax
comp=Z,200nm,19.6s
PET MLR MLR
comp=Z,400nm,19.0s
PET MLR MLR
comp=Z,500nm,15.0s
PET Petropavlovsk 58.91 5 P **P** **08 12 09.3 0.0**
comp=Z,21nm,0.8s
PEA0B Petropavlovsk- 58.92 4 P **P** **08 12 09.4 0.0**
PEA0B IAmb IAmb 08 12 11.9
comp=Z,156nm,1.6s
PEA0B Petropavlovsk- 58.92 4 *ce*P **P** **08 12 08.9 -0.5**
PETK Petropavlovsk- 58.92 4 P **P** **08 12 09.0 -0.4**
PETK Petropavlovsk- 58.92 4 P **P** **08 12 09.4 +0.1**
comp=Z,16nm,0.6s,baz=152,slow=6.4,SNR=26
PETK PcP **PcP** **08 12 59.1 +1.1**
comp=Z,17nm,0.8s,baz=126,slow=2.5,SNR=6.1
PETK LR LR 08 34 07.5
comp=Z,461nm,21.5s,baz=166,slow=32
comp=Z,16nm,0.6s
XLT XiLinHaoTe 59.03 331 *e*P **P** **08 12 10.9 +0.4**
XLT pP pP 08 12 25.6 -0.2
XLT PcP **PcP** **08 12 58.6 -0.3**
XLT S **S** **08 20 13.0 +0.1**
XLT ScS **ScS** **08 21 51.5 -3.9**
XLT SS **SS** **08 24 06.8 -1.1**
XLT pmax pmax
comp=Z,130nm,1.1s
XLT pmax pmax
comp=Z,250nm,7.0s
XLT LR LR
comp=Z,810nm,22.4s
XLT LR LR
comp=Z,2μm,22.7s
TBI Tubuai 59.09 114 *e*P **P** **08 12 13.4 +2.2**
comp=Z,939nm,31.2s
TBI *e*S **S** **08 20 12.8 -1.5**
comp=Z,3μm,28.8s
TBI *e*LR LR 08 29 36.4
comp=Z,28μm,37.2s
TBI *e*LR LR 08 29 40.5
comp=Z,5μm,36.5s
HHC Hu-ho-hao-te 59.28 325 *e*P **P** **08 12 13.0 +0.7**
HHC pP pP 08 12 26.5 -1.1
HHC S **S** **08 20 17.0 +0.7**
HHC sS sS 08 20 40.5 -2.4
HHC ScS **ScS** **08 21 56.2 -1.3**
HHC SS **SS** **08 24 10.4 -1.6**
HHC pmax pmax
comp=Z,79nm,1.0s
HHC pmax pmax
comp=Z,470nm,5.6s
HHC LR LR
comp=Z,640nm,19.1s
HHC LR LR
comp=Z,770nm,18.3s
HHC LR LR
comp=Z,1μm,17.6s
HEH HeiHe 59.69 342 *e*P **P** **08 12 13.9 -0.9**
HEH PcP **PcP** **08 13 01.2 0.0**
HEH ScP **ScP** **08 16 58.4 +1.1**
HEH pmax pmax
comp=Z,91nm,0.7s
HEH pmax pmax
comp=Z,320nm,5.6s
HEH LR LR
comp=Z,770nm,20.3s
HEH LR LR
comp=Z,390nm,21.8s
HEH LR LR
comp=Z,880nm,22.7s
BTO Baotou 60.01 324 *e*P **P** **08 12 18.8 +1.5**
BTO pP **pP** **08 12 35.0 +2.3**
BTO sP **sP** **08 12 42.0 +2.8**
BTO PP **PP** **08 14 31.4 +1.1**
BTO S **S** **08 20 29.6 +3.9**
BTO SS **SS** **08 24 23.8 +0.4**
BTO pmax pmax
comp=Z,77nm,0.8s
BTO pmax pmax
comp=Z,280nm,4.7s
BTO LR LR
comp=Z,3μm,22.7s
BTO LR LR
comp=Z,2μm,20.6s
BTO LR LR
comp=Z,2μm,21.2s
TNCH TengChong 60.15 303 ⇑P **P** **08 12 19.1 +0.4**
TNCH sP sP 08 12 44.5 +4.1
TNCH S **S** **08 20 23.8 -4.4**
TNCH pmax pmax
comp=Z,170nm,0.8s
TNCH pmax pmax
comp=Z,520nm,5.4s
TNCH LR LR
comp=Z,1μm,18.5s
TNCH LR LR
comp=Z,1μm,21.8s
TNCH LR LR
comp=Z,2μm,31.0s
LZH Lanzhou 61.25 317 ⇑P **P** **08 12 26.9 +1.0**
LZH pP pP 08 12 38.0 -3.4
LZH sP sP 08 12 48.9 +1.0
LZH PcP **PcP** **08 13 09.1 +1.1**
LZH S **S** **08 20 44.2 +2.4**
LZH sS sS 08 21 06.6 -2.4
LZH pmax pmax
comp=Z,94nm,1.1s
LZH pmax pmax
comp=Z,500nm,4.6s
LZH LR LR
comp=Z,320nm,19.2s
LZH LR LR
comp=Z,690nm,19.6s
LZH LR LR
comp=Z,960nm,20.4s
DRV Dumont d'Urvil 61.29 185 P **P** **08 12 25.8 +0.4**
SHEM Shemya Is, Ala 61.33 15 LR LR 08 34 28.0
comp=Z,853nm,21.8s,baz=316,slow=32
HIA Hailar 61.54 337 P **P** **08 12 27.2 -0.2**
HIA Hailar 61.54 337 P **P** **08 12 28.3 +0.8**
HIA Hailar 61.54 337 P **P** **08 12 27.3 -0.2**
HIA pmax pmax
comp=Z,95nm,0.7s
HIA Hailar 61.54 337 P **P** **08 12 27.7 +0.2**
HIA pP **pP** **08 12 39.7 -3.3**
HIA PcP **PcP** **08 13 09.2 +0.4**
ZEA Zeya 62.82 344 *e*P **P** **08 12 35.7 -0.2**
ZEA pmax pmax
comp=Z,40nm,0.6s
KIWB Kanaga Island 63.29 21 P **P** **08 12 39.9 +0.9**
ADK Adak 63.48 21 P **P** **08 12 41.3 +1.0**
ADK Adak 63.48 21 P **P** **08 12 41.7 +1.4**
ATKA Atka Island 64.66 22 P **P** **08 12 49.0 +1.0**
MA2 Magadan 65.19 359 P **P** **08 12 51.2 -0.2**
comp=Z,36nm,0.6s,baz=163,slow=7.7,SNR=33
MA2 PcP **PcP** **08 13 24.1 +0.7**
comp=Z,31nm,0.7s,baz=158,slow=4.8,SNR=6.2
MA2 LR LR 08 41 17.3
comp=Z,255nm,19.6s,baz=161,slow=36
comp=Z,36nm,0.6s
MA2 Magadan 65.19 359 P **P** **08 12 51.1 -0.2**
MA2 Magadan 65.19 359 *i* P **P** **08 12 50.2 -1.1**
MA2 pmax pmax
comp=Z,51nm,0.7s
MA2 Magadan 65.19 359 P **P** **08 12 50.9 -0.4**
comp=Z,76nm,0.8s,comp=Z,892nm
MA2 Magadan 65.19 359 P **P** **08 12 51.0 -0.4**
MA2 pP **pP** **08 13 03.1 -4.2**
MA2 PcP **PcP** **08 13 23.8 +0.4**
BRDH Bariadhala 65.22 298 LR LR 08 39 35.1
comp=Z,652nm,21.5s,baz=167,slow=34
GTA Gaotai 65.71 318 ⇑P **P** **08 12 55.8 +0.5**
GTA pP pP 08 13 11.4 +0.4
GTA PcP **PcP** **08 13 27.6 +1.4**
GTA S **S** **08 21 39.8 +2.6**
GTA sS sS 08 22 04.6 -0.1
GTA pmax pmax
comp=Z,32nm,1.3s
GTA pmax pmax
comp=Z,380nm,7.2s
GTA LR LR
comp=Z,380nm,24.0s
GTA LR LR
comp=Z,450nm,24.4s
GTA LR LR
comp=Z,980nm,23.6s
SHL Shillong 65.94 301 P **P** **08 12 56.4 -0.7**
SHL Shillong 65.94 301 P **P** **08 12 56.9 -0.1**
SNR=54
SHL Shillong 65.94 301 P **P** **08 12 56.4 -0.7**
SHL pmax pmax
comp=Z,312nm,1.3s
CIT Chita 66.18 335 *e*P **P** **08 12 58.6 +0.7**
CIT *e* 08 13 22.2
CIT pmax pmax
comp=Z,226nm,1.7s
ULN Ulaanbaatar 66.32 329 P **P** **08 12 59.4 +0.4**
ULN IAmb IAmb 08 13 01.2
comp=Z,84nm,1.1s
ULN Ulaanbaatar 66.32 329 P **P** **08 13 00.1 +1.1**
ULN P **P** **08 13 00.1 +1.1**
ULN Ulaanbaatar 66.32 329 *ce*P **P** **08 12 59.1 +0.1**
ULN pmax pmax
comp=Z,93nm,1.3s
ULN Ulaanbaatar 66.32 329 P **P** **08 12 59.9 +0.9**
ULN pP **pP** **08 13 12.1 -2.7**
ULN PcP **PcP** **08 13 29.1 +0.6**
SONM Songino Array 66.64 329 P **P** **08 13 00.6 -0.4**
SONM IAmb IAmb 08 13 03.0
comp=Z,150nm,1.4s
SONM Songino Array 66.64 329 P **P** **08 13 01.9 +0.9**
comp=Z,31nm,0.7s,baz=140,slow=5.3,SNR=157
SONM PcP **PcP** **08 13 28.3 -1.5**
comp=Z,12nm,0.6s,baz=138,slow=3.8,SNR=5.5
SONM LR LR 08 40 53.1
comp=Z,681nm,21.2s,baz=188,slow=35
SONM PKP2bc **P'P'bc** **08 41 35.0 +0.9**
comp=Z,0.3nm,0.5s,baz=250,slow=2.9,SNR=1.5
comp=Z,31nm,0.7s
CASY Casey 66.74 197 P **P** **08 13 01.2 0.0**
CASY IAmb IAmb 08 13 28.6
comp=Z,104nm,1.9s
NIKH Nikolski High 67.36 25 P **P** **08 13 06.0 +0.7**
baz=223
TAOE Nuku Hiva Isla 67.53 97 *e*S **S** **08 21 55.2 -4.8**
comp=Z,190nm,27.7s
TAOE Nuku Hiva Isla 67.53 97 *e*LR LR 08 33 25.3
comp=Z,1μm,32.7s
GOMU GeErMu 67.68 313 P **P** **08 13 08.8 +0.6**
GOMU pP pP 08 13 22.0 -2.1
GOMU sP sP 08 13 29.0 -1.6
GOMU PP **PP** **08 15 39.8 +1.6**
GOMU S **S** **08 22 04.0 +2.3**
GOMU SS **SS** **08 26 24.8 +0.9**
GOMU pmax pmax
comp=Z,37nm,1.3s
GOMU pmax pmax
comp=Z,410nm,5.7s
GOMU LR LR
comp=Z,1μm,24.9s
GOMU LR LR
comp=Z,2μm,25.0s
GOMU LR LR
comp=Z,4μm,25.2s
LSA Lhasa 67.97 305 P **P** **08 13 10.1 -0.2**
LSA IAmb IAmb 08 13 12.1
comp=Z,65nm,0.7s
LSA Lhasa 67.97 305 P **P** **08 13 10.1 -0.2**
LSA pmax pmax
comp=Z,65nm,0.7s
SEY Seymchan 68.56 0 P **P** **08 13 12.6 0.0**
comp=Z,12nm,0.5s,baz=172,slow=6.4,SNR=38
SEY PcP **PcP** **08 13 37.8 +0.5**
comp=Z,25nm,0.9s,baz=169,slow=4.6,SNR=10
comp=Z,12nm,0.5s
SEY Seymchan 68.56 0 *ce*P **P** **08 13 13.2 +0.6**
SEY pmax pmax
comp=Z,43nm,1.3s
UNV Unalaska Valle 68.97 25 P **P** **08 13 16.1 +0.7**
baz=225
UNV Unalaska Valle 68.97 25 P **P** **08 13 16.8 +1.4**
YAK Yakutsk 69.77 349 P **P** **08 13 19.3 -0.8**
comp=Z,66nm,0.7s,baz=152,slow=1.3,SNR=22
YAK LR LR 08 43 10.6
comp=Z,224nm,21.0s,baz=153,slow=35
comp=Z,66nm,0.7s
YAK Yakutsk 69.77 349 *ce*P **P** **08 13 20.3 +0.2**
YAK pmax pmax
comp=Z,143nm,1.3s
P08K Saint George I 69.78 22 P **P** **08 13 21.7 +1.3**
baz=222
ZAK Zakamensk 69.83 329 *e*P **P** **08 13 21.4 +0.5**
ZAK pmax pmax
comp=Z,94nm,1.3s
SPIA Saint Paul Isl 69.97 21 P **P** **08 13 22.8 +1.4**
baz=221
SPIA Saint Paul Isl 69.97 21 P **P** **08 13 22.4 +1.0**
IRK Irkutsk 70.49 331 *e*P **P** **08 13 24.6 -0.2**
IRK pmax pmax
comp=Z,98nm,1.5s
FALS False Pass 70.98 26 P **P** **08 13 28.4 +0.8**
baz=228
CCD Concordia, Ant 71.12 187 P **P** **08 13 29.4 +0.6**
CCD PcP **PcP** **08 13 49.3 +0.7**
S12K Black Hills 72.12 25 P **P** **08 13 35.6 +1.0**
baz=229
SBA Scott Base 72.42 177 P **P** **08 13 37.8 +1.7**
SBA Scott Base 72.42 177 P **P** **08 13 37.8 +1.7**
SBA pmax pmax
comp=Z,58nm,1.4s
CHNA Chernabura Isl 72.65 27 P **P** **08 13 38.8 +1.1**
baz=232,SNR=5.8
CHNA Chernabura Isl 72.65 27 P **P** **08 13 39.6 +1.9**
S14K Fog Glacier 73.58 26 P **P** **08 13 43.8 +0.5**
baz=231
M11K Mekoryuk 73.76 20 P **P** **08 13 45.1 +0.9**
baz=224
CHGN Chignik 74.09 26 P **P** **08 13 47.2 +1.1**
baz=232,SNR=5.2
BILL Bilibino 74.40 6 P **P** **08 13 48.5 +0.8**
BILL IAmb IAmb 08 13 50.3
comp=Z,79nm,0.8s
BILL Bilibino 74.40 6 *ce*P **P** **08 13 48.8 +1.1**
BILL pmax pmax
comp=Z,139nm,1.3s
GAMB Gambell 74.64 16 P **P** **08 13 50.5 +1.4**
baz=218
O14K Tigyukauivet M 74.79 23 P **P** **08 13 51.7 +1.6**
O14K Tigyukauivet M 74.79 23 P **P** **08 13 51.9 +1.7**
baz=229
M13K Dall Lake 74.79 21 P **P** **08 13 52.3 +2.2**
baz=227,SNR=9.1
CHIR Chirikof Islan 75.06 28 P **P** **08 13 53.4 +1.6**
baz=235
N14K Kuskokwak Cree 75.07 22 P **P** **08 13 53.3 +1.5**
baz=228,SNR=7.3
R16K Pilot Point 75.23 26 P **P** **08 13 54.1 +1.5**
baz=233
O15K Ungalikthiuk R 75.30 23 P **P** **08 13 54.8 +1.7**
baz=230
K13K Kusilvak Mount 75.40 20 P **P** **08 13 55.1 +1.5**
K13K IAmb IAmb 08 13 57.0
comp=Z,98nm,0.9s
K13K Kusilvak Mount 75.40 20 P **P** **08 13 55.4 +1.8**
baz=225,SNR=10.0
M14K Bethel 75.53 22 P **P** **08 13 56.2 +1.9**
baz=228,SNR=32
L14K Kuka Creek 75.67 21 P **P** **08 13 57.4 +2.2**
baz=227,SNR=41
R17L Mt. Peulik Vol 75.79 26 P **P** **08 13 57.5 +1.5**
baz=234,SNR=34
WMQ Urumqi 75.79 318 ⇑P **P** **08 13 56.9 +0.5**
WMQ pmax pmax
comp=Z,36nm,1.1s
WMQ pmax pmax
comp=Z,530nm,5.3s
WMQ LR LR
comp=Z,500nm,24.1s
WMQ LR LR
comp=Z,430nm,23.9s
WMQ LR LR
comp=Z,540nm,23.9s
N15K Kwethluk River 75.84 23 P **P** **08 13 58.4 +2.2**
baz=230,SNR=18
HYB Hyderabad 75.85 290 ⇑*e*P **P** **08 13 55.9 -1.3**
HYB IVmB_BB 08 13 56.9
comp=Z,736nm,1.1s
HYB IVMs_BB IVMs_BB 08 40 30.9
comp=Z,224nm,24.5s
P16K Nushagak River 75.95 24 P **P** **08 13 57.7 +1.0**
baz=232,SNR=6.4
M15K Kasigluk River 75.96 22 P **P** **08 13 58.3 +1.5**
baz=229,SNR=21
SII Sitkinak Islan 76.14 27 P **P** **08 13 59.4 +1.3**
SII Sitkinak Islan 76.14 27 P **P** **08 13 59.4 +1.3**
baz=236,SNR=14
SII Sitkinak Islan 76.14 27 P **P** **08 13 59.9 +1.9**
comp=Z,372nm,0.9s
O16K Kokwok River B 76.25 24 P **P** **08 13 59.6 +1.1**
O16K IAmb IAmb 08 14 01.1
comp=Z,96nm,1.2s
O16K Kokwok River B 76.25 24 P **P** **08 13 59.6 +1.1**
baz=232,SNR=11
Q16K King Salmon 76.29 25 P **P** **08 13 59.3 +0.6**
baz=233,SNR=7.4
L15K Ungalak Mounta 76.32 21 P **P** **08 14 00.5 +1.6**
baz=228,SNR=19
J14K Nanvaranak Lak 76.34 19 P **P** **08 14 01.1 +2.2**
baz=226,SNR=22
Q17K Contact Creek 76.37 26 P **P** **08 14 00.3 +0.9**
baz=234,SNR=63
N16K Nishlik Lake 76.54 23 P **P** **08 14 02.6 +2.5**
baz=231,SNR=28
R18K Karluk 76.59 27 P **P** **08 14 01.7 +1.2**
baz=236
P17K Kvichak River 76.69 25 P **P** **08 14 01.4 +0.4**
baz=233,SNR=7.3
K15K Wolf Creek Mou 76.71 20 P **P** **08 14 03.1 +2.0**
baz=228,SNR=43
M16K Timber Creek 76.81 22 P **P** **08 14 04.0 +2.3**
baz=231,SNR=48
OHAK Old Harbor 76.92 27 P **P** **08 14 03.4 +1.0**
OHAK IAmb IAmb 08 14 05.2
comp=Z,101nm,0.8s
OHAK Old Harbor 76.92 27 P **P** **08 14 03.8 +1.5**
baz=237,SNR=20
OHAK Old Harbor 76.92 27 P **P** **08 14 04.6 +2.3**
Q18K Katmai Hardscr 76.97 25 P **P** **08 14 03.5 +0.8**
baz=235,SNR=71
ANM Nome 77.05 18 P **P** **08 14 04.4 +1.4**
baz=224
TNA Tin City 77.05 16 P **P** **08 14 05.1 +2.2**
baz=221
L16K Owhat River 77.06 22 P **P** **08 14 04.8 +1.7**
baz=230,SNR=34
N17K Nushagak Hills 77.19 23 P **P** **08 14 06.0 +2.2**
baz=232,SNR=23
P18K Big Mountain, 77.30 25 P **P** **08 14 05.3 +0.8**
baz=234,SNR=9.4
F14K Arctic Creek 77.44 17 P **P** **08 14 06.5 +1.4**
baz=223
KDAK Kodiak Island 77.55 27 P **P** **08 14 07.4 +1.6**
KDAK IAmb IAmb 08 14 08.8
comp=Z,145nm,1.1s
KDAK Kodiak Island 77.55 27 P **P** **08 14 07.1 +1.2**
baz=237
KDAK Kodiak Island 77.55 27 *i* P **P** **08 14 07.2 +1.4**
KDAK pmax pmax
comp=Z,211nm,1.1s
O18K Koktuh Hills 77.58 24 P **P** **08 14 07.0 +0.9**
baz=234,SNR=8.7
M17K Holitna River 77.63 22 P **P** **08 14 08.6 +2.3**
baz=232,SNR=21
J16K Anvik River 77.69 20 P **P** **08 14 08.9 +2.4**
baz=229,SNR=25
Q19K Cape Douglas, 77.71 26 P **P** **08 14 07.7 +0.9**
baz=236,SNR=28
G15K Niukluk 77.76 18 P **P** **08 14 08.5 +1.6**
baz=225
L17K Donlin 77.76 22 P **P** **08 14 09.3 +2.3**
baz=231,SNR=36
N18K Kilae Creek 77.79 23 P **P** **08 14 09.5 +2.3**
baz=234,SNR=47
I17K Unalakleet 78.06 19 P **P** **08 14 10.5 +1.9**
I17K Unalakleet 78.06 19 P **P** **08 14 11.0 +2.4**
baz=229,SNR=12
H16K Elim 78.07 18 P **P** **08 14 10.2 +1.6**
baz=227
Q20K Shuyak Island 78.08 26 P **P** **08 14 10.3 +1.5**
baz=237,SNR=9.4
SYI Shuyak Island 78.08 26 P **P** **08 14 10.2 +1.4**
SYI IAmb IAmb 08 14 11.7
comp=Z,127nm,0.9s
F15K North Star Dit 78.09 17 P **P** **08 14 10.4 +1.7**
baz=224
K17K Iditarod 78.13 21 P **P** **08 14 10.5 +1.5**
K17K Iditarod 78.13 21 P **P** **08 14 11.2 +2.2**
baz=231,SNR=51
O19K Port Alsworth 78.14 24 P **P** **08 14 10.0 +0.9**

O19K IAmb IAmb 08 14 11.2
comp=Z,60nm,0.8s
O19K Port Alsworth 78.14 24 P **P 08 14 09.9 +0.9**
baz=235,SNR=17
J17K VABM Dome 78.29 20 P **P 08 14 12.1 +2.3**
baz=230,SNR=35
P19K Oil Pt 78.29 25 P **P 08 14 10.9 +0.9**
baz=236,SNR=35
M18K Stony River 78.30 23 P **P 08 14 12.1 +2.2**
baz=234,SNR=36
L18K Granite Mounta 78.41 22 P **P 08 14 12.4 +1.9**
L18K Granite Mounta 78.41 22 P **P 08 14 12.9 +2.4**
baz=233,SNR=81
N19K Bonanza Creek 78.43 24 P **P 08 14 12.3 +1.5**
baz=235,SNR=24
ILSW Iliamna Southw 78.51 25 P **P 08 14 11.8 +0.4**
G16K Koyuk River 78.55 18 P **P 08 14 12.9 +1.7**
baz=227
DGAR Diego Garcia 78.70 264*ce*P **P 08 14 10.9 -2.3**
DGAR pmax pmax
comp=Z,347nm,1.7s
TIXI Tiksi 78.77 353 P **P 08 14 11.3 -1.0**
comp=Z,12nm,0.6s,baz=159,slow=4.1,SNR=26
comp=Z,12nm,0.6s
TIXI Tiksi 78.77 353*ce*P **P 08 14 11.7 -0.6**
TIXI pmax pmax
comp=Z,24nm,1.3s
O20K Slope Mountain 78.78 25 P **P 08 14 13.5 +0.8**
baz=237,SNR=9.8
KAAM Kaadhehdhoo 78.87 272 P **P 08 14 15.2 +1.0**
HOM Homer 78.97 26 P **P 08 14 15.4 +1.8**
baz=238,SNR=12
ZSN Zaisan 78.99 321 *e*P **P 08 14 14.0 -0.1**
ZSN Zaisan 78.99 321 *e*P **P 08 14 14.0 -0.1**
H17K Granite Mounta 79.01 19 P **P 08 14 15.8 +2.0**
baz=229,SNR=34
L19K White Mountain 79.08 23 P **P 08 14 16.4 +2.1**
baz=234,SNR=84
TTA Tatalina 79.09 22 P **P 08 14 16.2 +1.8**
baz=233,SNR=38
M19K Big River Lodg 79.10 23 P **P 08 14 16.7 +2.3**
baz=235,SNR=40
G17K Kiwalik Mounta 79.15 18 P **P 08 14 16.5 +1.9**
baz=228,SNR=27
J18K Innoko River 79.16 21 P **P 08 14 15.9 +1.2**
J18K IAmb IAmb 08 14 17.6
comp=Z,132nm,0.9s
J18K Innoko River 79.16 21 P **P 08 14 16.2 +1.5**
baz=232,SNR=65
BRSE Bradley Lake S 79.40 26 P **P 08 14 17.4 +1.3**
baz=239,SNR=20
HMDM Hanimaadhoo 79.41 278 P **P 08 14 18.4 +1.3**
N20K Mount Spurr 79.57 24 P **P 08 14 17.4 +0.3**
baz=237,SNR=16
SPCR Spurr Chakacha 79.57 24 P **P 08 14 17.4 +0.3**
baz=237,SNR=8.7
M20K Styx River 79.58 23 P **P 08 14 18.8 +1.7**
baz=236
F17K Baldwin Pennin 79.60 17 P **P 08 14 18.9 +1.9**
baz=228
L20K Farewell, AK 79.62 23 P **P 08 14 19.3 +2.1**
baz=235,SNR=40
H18K Honhosa River 79.65 19 P **P 08 14 18.5 +1.2**
baz=231
C16K Lisburne Hills 79.75 15 P **P 08 14 19.2 +1.4**
baz=224
CAPN Captain Cook N 79.77 25 P **P 08 14 20.2 +2.2**
baz=238
E17K Hotham Inlet 79.86 17 P **P 08 14 20.4 +2.0**
baz=227
J19K Poorman 79.87 21 P **P 08 14 20.5 +2.0**
baz=233,SNR=39
GCSA Galena City Sc 79.89 20 P **P 08 14 20.1 +1.6**
baz=232,SNR=34
D17K Noatak River 79.94 16 P **P 08 14 20.4 +1.6**
baz=226
G18K Tagagawik 80.03 19 P **P 08 14 20.7 +1.3**
baz=230
K20K Telida 80.06 22 P **P 08 14 21.2 +1.7**
K20K IAmb IAmb 08 14 22.9
comp=Z,152nm,1.0s
K20K Telida 80.06 22 P **P 08 14 21.7 +2.1**
baz=235
SEW Seward 80.15 26 P **P 08 14 21.6 +1.6**
baz=240,SNR=29
F18K Selawik 80.18 18 P **P 08 14 21.5 +1.4**
baz=229
O22K Cooper Landing 80.22 25 P **P 08 14 21.6 +1.2**
baz=239,SNR=23
RDOG Red Dog Mine 80.24 16 P **P 08 14 22.2 +1.8**
baz=226
SKT Skwentna 80.26 24 P **P 08 14 20.5 -0.2**
baz=238,SNR=17
SUA Susitna One 80.31 24 P **P 08 14 21.4 +0.3**
SUA IAmb IAmb 08 14 22.9
comp=Z,70nm,0.8s
SUA Susitna One 80.31 24 P **P 08 14 21.6 +0.5**
baz=238,SNR=21
MK31 Makanchi Array 80.41 319*ce*P **P 08 14 22.2 +0.3**
MKAR Makanchi Array 80.41 319 P **P 08 14 21.7 -0.2**
MKAR Makanchi Array 80.41 319 P **P 08 14 21.9 0.0**
comp=Z,11nm,0.6s,baz=112,slow=5.5,SNR=50
MKAR S **S 08 24 24.1 +0.6**
comp=Z,0.1nm,0.3s,baz=195,slow=28,SNR=1.4
comp=Z,11nm,0.6s
MKAR Makanchi Array 80.41 319 *i* P **P 08 14 21.8 -0.1**
MKAR pmax pmax
comp=Z,11nm,0.6s
E18K Tukpahlearik C 80.45 17 P **P 08 14 22.8 +1.2**
baz=228
C17K DeLong Mountai 80.46 15 P **P 08 14 22.7 +1.1**
baz=226
J20K Nowinta River 80.50 21 P **P 08 14 24.0 +2.1**
baz=235,SNR=69
PPLA Purkeypile 80.50 23 P **P 08 14 22.8 +0.7**
baz=237,SNR=13
H19K Roundabout Mou 80.52 19 P **P 08 14 23.3 +1.4**
H19K IAmb IAmb 08 14 25.0
comp=Z,201nm,1.1s
H19K Roundabout Mou 80.52 19 P **P 08 14 23.6 +1.7**
baz=232,SNR=58
RC01 Rabbit Creek A 80.53 25 P **P 08 14 23.3 +1.2**
baz=239,SNR=43
MAKZ Makanchi 80.62 319 P **P 08 14 21.8 -1.2**
G19K Purcell Mounta 80.69 19 P **P 08 14 24.6 +1.7**
baz=232
M22K Willow 80.71 24 P **P 08 14 23.6 +0.6**
baz=239,SNR=28
I20K Naaghedeneel 80.75 20 P **P 08 14 25.2 +2.0**
baz=234,SNR=16
CAST Castle Rocks 80.83 22 P **P 08 14 24.4 +0.7**
baz=237,SNR=91
WUS Wushi 80.84 313 P **P 08 14 24.6 +0.2**
F19K Shaleruckik Mo 80.91 18 P **P 08 14 25.0 +1.0**
baz=231
CUT Chulitna 80.99 24 P **P 08 14 24.9 +0.4**
baz=239,SNR=24
P23K Montague Islan 80.99 26 P **P 08 14 26.1 +1.5**
baz=242,SNR=7.8
CHUM Lake Minchumin 81.00 22 P **P 08 14 25.8 +1.3**
baz=237,SNR=19
PWL Port Wells 81.00 25 P **P 08 14 25.8 +1.1**
PWL Port Wells 81.00 25 P **P 08 14 26.0 +1.3**
baz=241,SNR=97
H20K Anotteneega Mo 81.02 20 P **P 08 14 26.3 +1.6**
baz=234,SNR=34
PMR Palmer 81.03 25 P **P 08 14 25.7 +0.9**
baz=240,SNR=46
PMR Palmer 81.03 25 P **P 08 14 26.4 +1.6**
C18K Utukok River 81.11 16 P **P 08 14 26.3 +1.2**
baz=228
Q23K Middleton Isla 81.20 27 P **P 08 14 27.5 +1.9**
baz=243
SHLS Shalkode 81.22 315 *e*P **P 08 14 24.3 -2.1**
SHLS Shalkode 81.22 315 *e*P **P 08 14 24.2 -2.1**
KNK Knik Glacier 81.23 25 P **P 08 14 27.2 +1.3**
baz=240,SNR=41
KTH Kantishna Hill 81.34 22 P **P 08 14 26.6 +0.1**
KTH IAmb IAmb 08 14 28.1
comp=Z,130nm,1.0s
ZAA0 Zalesovo Array 81.42 327 P **P 08 14 25.8 -1.2**
ZAA0 IAmb IAmb 08 14 28.1
comp=Z,46nm,0.6s
ZALV Zalesovo Beam 81.42 327 P **P 08 14 26.1 -0.9**
comp=Z,49nm,0.5s,baz=113,slow=5.8,SNR=107
comp=Z,49nm,0.5s
B18K Kokolik River 81.44 15 P **P 08 14 28.3 +1.5**
baz=227
E19K Redstone River 81.46 18 P **P 08 14 28.8 +1.9**
baz=231
SML Sawmill 81.47 25 P **P 08 14 28.3 +1.1**
baz=240,SNR=92
UZB Uzynbulak 81.52 315 *e*P **P 08 14 27.6 -0.4**
UZB Uzynbulak 81.52 315 *e*P **P 08 14 27.6 -0.4**
TRF Thorofare Moun 81.53 23 P **P 08 14 27.6 0.0**
baz=238,SNR=31
GLI Glacier Island 81.55 26 P **P 08 14 28.4 +0.9**
GLI Glacier Island 81.55 26 P **P 08 14 28.8 +1.3**
baz=242,SNR=61
BPAW Bear Paw Mtn. 81.61 22 P **P 08 14 28.1 +0.3**
baz=238,SNR=17
F20K Avaraart Lake 81.67 18 P **P 08 14 28.9 +0.9**
F20K IAmb IAmb 08 14 31.2
comp=Z,80nm,0.8s
F20K Avaraart Lake 81.67 18 P **P 08 14 29.9 +1.9**
baz=233
M23K Glacier View 81.72 25 P **P 08 14 29.6 +1.2**
baz=241,SNR=29
H21K Melozitna Rive 81.82 20 P **P 08 14 30.4 +1.5**
baz=236,SNR=36
I21K Tanana 81.84 21 P **P 08 14 30.6 +1.6**
baz=237
KPKS Kokpek 81.85 315 *e*P **P 08 14 29.4 -0.3**
KPKS Kokpek 81.85 315 *e*P **P 08 14 29.3 -0.3**
C19K Lookout Ridge 81.85 16 P **P 08 14 30.9 +1.9**
C19K IAmb IAmb 08 14 32.1
comp=Z,139nm,0.9s
C19K Lookout Ridge 81.85 16 P **P 08 14 30.6 +1.6**
baz=229
D19K Kuna River 81.86 17 P **P 08 14 30.4 +1.3**
baz=230
WAT1 Susitna Watana 81.89 24 P **P 08 14 30.1 +0.7**
baz=240
SCM Sheep Creek Mo 81.90 25 P **P 08 14 30.8 +1.3**
baz=241,SNR=39
SATY Saty 81.93 315 *e*P **P 08 14 29.6 -0.5**
SATY Saty 81.93 315 *e*P **P 08 14 29.6 -0.5**
EYAK Cordova Ski Ar 81.98 26 P **P 08 14 31.1 +1.3**
baz=243,SNR=17
EYAK Cordova Ski Ar 81.98 26 P **P 08 14 32.0 +2.2**
RND Reindeer 82.06 23 P **P 08 14 30.6 +0.3**
G21K Allakaket 82.07 19 P **P 08 14 31.6 +1.4**
baz=235
WAT6 Susitna Watana 82.09 24 P **P 08 14 31.5 +0.9**
baz=241,SNR=74
MCK McKinley 82.20 23 P **P 08 14 31.2 +0.3**
baz=240,SNR=133
MCK McKinley 82.20 23 P **P 08 14 31.7 +0.8**
A19K Wainwright 82.20 15 P **P 08 14 32.1 +1.3**
baz=227
MLY Manley 82.20 21 P **P 08 14 31.9 +1.0**
baz=238,SNR=109
BWN Browne 82.22 22 P **P 08 14 32.0 +1.0**
E20K Nigu River 82.27 17 P **P 08 14 32.8 +1.6**
baz=232
KAIM Kayak Island 82.30 27 P **P 08 14 33.6 +2.2**
baz=244,SNR=5.4
KLU Klutina 82.33 25 P **P 08 14 33.5 +1.8**
baz=243,SNR=75
D20K Etivluk River 82.43 17 P **P 08 14 33.5 +1.4**
baz=232
H22K Ishtalitna Cre 82.44 20 P **P 08 14 33.8 +1.6**
baz=237,SNR=44
TDK Taldyqorghan 82.46 317 *e*P **P 08 14 32.6 -0.2**
TDK Taldyqorghan 82.46 317 *e*P **P 08 14 32.5 -0.2**
DHY Denali Highway 82.48 24 P **P 08 14 33.7 +1.1**
baz=241,SNR=74
F21K Alatna River 82.48 19 P **P 08 14 33.6 +1.2**
baz=235
M24K Tolsona, Glenn 82.51 25 P **P 08 14 34.0 +1.4**
M24K Tolsona, Glenn 82.51 25 P **P 08 14 34.6 +1.9**
baz=242,SNR=56
HMT Hamilton 82.55 27 P **P 08 14 34.3 +1.5**
HMT IAmb IAmb 08 14 36.1
comp=Z,152nm,1.0s
NEA2 Nenana 82.58 22 P **P 08 14 33.0 +0.1**
baz=240,SNR=92
ARXS Arharly 82.64 316 *e*P **P 08 14 33.6 -0.2**
BMRM Bremner River 82.67 26 P **P 08 14 34.9 +1.4**
baz=244,SNR=39
I23K Minto, Yukon-K 82.76 21 P **P 08 14 34.6 +0.8**
baz=239,SNR=34
KSH Kashi 82.81 311 P **P 08 14 35.8 +1.0**
KSH pP pP 08 14 50.8 +0.2
KSH S **SKSac 08 24 52.4 +0.7**
KSH pmax pmax
comp=Z,29nm,1.4s
KSH LR LR
comp=Z,330nm,25.4s
KSH LR LR
comp=Z,460nm,24.0s
KSH LR LR
comp=Z,890nm,25.4s
MDOK Medeo 82.92 315 *e*P **P 08 14 35.0 -0.3**
MDOK Medeo 82.92 315 *e*P **P 08 14 35.0 -0.3**
N25K Chitina, Valde 82.95 26 P **P 08 14 36.5 +1.6**
baz=244,SNR=45
G22K Bettles 82.96 19 P **P 08 14 36.1 +1.3**
baz=237
TNSS Tian-Shan 82.96 315 *e*P **P 08 14 35.2 -0.7**
TNSS Tian-Shan 82.96 315 *e*P **P 08 14 35.1 -0.7**
AAA Alma-Ata 83.02 315 *e*P **P 08 14 35.3 -0.4**
AAA Alma-Ata 83.02 315 *e*P **P 08 14 35.3 -0.4**
E21K Killik River 83.04 18 P **P 08 14 36.3 +1.1**
E21K IAmb IAmb 08 14 38.0
comp=Z,107nm,0.9s
E21K Killik River 83.04 18 P **P 08 14 36.8 +1.5**
baz=234
H23K Yukon River 83.04 21 P **P 08 14 36.8 +1.5**
baz=239
F22K John River 83.06 19 P **P 08 14 37.0 +1.6**
baz=236
HARP HAARP 83.07 25 P **P 08 14 36.7 +1.2**
baz=243,SNR=24
B20K Meade River 83.08 16 P **P 08 14 36.5 +1.2**
baz=231
CHKK Chushkaly 83.14 315 *e*P **P 08 14 36.0 -0.3**
CHKK Chushkaly 83.14 315 *e*P **P 08 14 35.9 -0.3**
COLA College 83.18 22 P **P 08 14 35.9 0.0**
baz=241
COLA College 83.18 22 *c i*P **P 08 14 36.5 +0.6**
COLA College 83.18 22 *c i*P **P 08 14 35.0 -0.9**
COLA pmax pmax
comp=Z,204nm,0.8s
PAX Paxson 83.20 24 P **P 08 14 37.1 +0.9**
baz=243,SNR=44
GLB Gilahina Butte 83.22 26 P **P 08 14 37.2 +0.8**
C21K Knifeblade Rid 83.22 17 P **P 08 14 37.8 +1.7**
baz=234
CRQE Cirque 83.25 27 P **P 08 14 38.0 +1.5**
baz=245,SNR=24
NRN Naryn 83.25 313 P **P 08 14 38.1 +0.9**
NRN Naryn 83.25 313 P **P 08 14 38.2 +0.9**
NRN pmax pmax
comp=Z,44nm,1.6s
ULHL Ulahol 83.27 314 P **P 08 14 38.0 +0.7**
SNR=10
HDA Harding Lake 83.29 23 P **P 08 14 36.8 +0.2**
baz=242,SNR=72
G23K Bananza Creek 83.34 20 P **P 08 14 38.4 +1.6**
baz=238
TGL Tana Glacier 83.36 27 P **P 08 14 38.9 +1.7**
TGL IAmb IAmb 08 14 40.3
comp=Z,131nm,1.1s
POKR Poker Plat Res 83.45 22 P **P 08 14 37.5 +0.1**
baz=241,SNR=22
K24K Donnelly Dome 83.46 23 P **P 08 14 38.7 +1.2**
baz=243,SNR=36
IL31 83.49 22 P **P 08 14 37.1 -0.3**
IL31 IAmb IAmb 08 14 38.8
comp=Z,118nm,0.8s
ILAR Eielson Array 83.49 22 P **P 08 14 37.4 -0.2**
comp=Z,86nm,0.7s,baz=247,slow=5.3,SNR=930
ILAR S **S 08 24 52.1 -2.3**
comp=Z,2.9nm,1.2s,baz=253,slow=9.2,SNR=6.0
comp=Z,86nm,0.7s
MESA MESA 83.53 27 P **P 08 14 40.1 +1.9**
baz=246,SNR=8.1
E22K Anaktuvuk Pass 83.53 18 P **P 08 14 39.3 +1.5**
baz=237
MCARA McCarthy VSAT 83.54 26 P **P 08 14 39.6 +1.7**
baz=245,SNR=33
BOOM Boomskoye usch 83.54 314 P **P 08 14 39.5 +0.9**
BOOM pmax pmax
comp=Z,58nm,1.1s
B21K Ikpikpuk River 83.55 16 P **P 08 14 39.2 +1.4**
baz=234
COLD Coldfoot 83.56 19 P **P 08 14 39.5 +1.7**
baz=238,SNR=58
KUU Kurty 83.60 315 *e*P **P 08 14 38.5 -0.1**
KUU Kurty 83.60 315 *e*P **P 08 14 38.5 -0.1**
H24K Noodor Dome 83.64 21 P **P 08 14 39.2 +0.8**
baz=240,SNR=36
D22K Ayikyak River 83.68 18 P **P 08 14 40.3 +1.9**
baz=236
YAH Yahtse 83.69 27 P **P 08 14 40.9 +1.9**
YAH IAmb IAmb 08 14 42.4
comp=Z,74nm,1.0s
NIL Nilore 83.70 305 P **P 08 14 39.6 +0.2**
NIL Nilore 83.70 305 P **P 08 14 39.0 -0.4**
NIL pmax pmax
comp=Z,165nm,0.9s
RIDG Independent Ri 83.80 24 P **P 08 14 40.5 +1.2**
baz=244,SNR=63
TKM2 Tokmak 2 83.89 314 P **P 08 14 40.4 0.0**
SNR=32
TKM2 Tokmak 2 83.89 314 P **P 08 14 39.8 -0.6**
KURK Kurchatov 83.93 322 P **P 08 14 39.8 -0.3**
KURK P **P 08 14 39.8 -0.3**
KURK Kurchatov 83.93 322*ce*P **P 08 14 40.1 0.0**
KURK pmax pmax
comp=Z,108nm,1.3s
KURBB Kurchatov Arra 83.96 322 P **P 08 14 40.0 -0.3**
comp=Z,15nm,0.6s,baz=109,slow=4.1,SNR=85
KURBB S **SKSac 08 24 55.1 -3.2**
comp=Z,0.2nm,0.4s,baz=61,slow=39,SNR=1.4
comp=Z,15nm,0.6s
M26K Nabesna, AK 83.98 25 P **P 08 14 41.6 +1.4**
baz=245,SNR=34
J25K Salcha River, 83.99 23 P **P 08 14 40.9 +0.6**
baz=243,SNR=285
L26K Log Cabin Wild 84.09 25 P **P 08 14 42.1 +1.4**
baz=245,SNR=91
CTG Chitna Glacier 84.12 27 P **P 08 14 42.8 +1.8**
baz=247,SNR=51
QSPA South Pole Qui 84.15 180 P **P 08 14 41.1 0.0**
QSPA IAmb IAmb 08 15 04.1
comp=Z,256nm,2.0s
QSPA South Pole Qui 84.15 180 P **P 08 14 41.2 0.0**
comp=Z,20nm,0.8s,baz=338,slow=1.1,SNR=97
QSPA S **SKSac 08 24 54.6 -4.8**
comp=Z,0.6nm,0.9s,baz=236,slow=15,SNR=1.1
QSPA PKKP **PKKPdf 08 32 47.8 -1.0**
comp=Z,1.0nm,0.8s,baz=228,slow=2.7,SNR=5.3
QSPA PKKPbc **PKKPbc 08 32 57.5 -0.4**
comp=Z,0.5nm,0.5s,baz=240,slow=1.8,SNR=7.1
comp=Z,20nm,0.8s
E23K Chandalar 84.18 19 P **P 08 14 42.5 +1.3**
E23K IAmb IAmb 08 14 44.2
comp=Z,109nm,0.9s
E23K Chandalar 84.18 19 P **P 08 14 42.9 +1.7**
baz=239,SNR=65
G24K Hadweenzic Riv 84.21 20 P **P 08 14 42.6 +1.3**
baz=241
MAW Mawson 84.24 203 P **P 08 14 41.6 +0.3**
comp=Z,2.5nm,0.5s,baz=105,slow=5.6,SNR=26
MAW S **SKSac 08 24 57.1 -2.5**
comp=Z,0.4nm,0.7s,baz=292,slow=20,SNR=1.4
MAW PKKPbc **PKKPbc 08 32 55.5 -1.4**
comp=Z,1.2nm,0.7s,baz=326,slow=14,SNR=4.1
SCRK Sand Creek 84.25 24 P **P 08 14 42.7 +1.1**
baz=244,SNR=73
A22K Sinclair Lake 84.28 15 P **P 08 14 42.7 +1.3**
baz=233
PINM Pinnacle 84.28 28 P **P 08 14 44.0 +2.2**
baz=248,SNR=9.6
KBK Karagaybulak 84.29 314 P **P 08 14 43.4 +1.0**
SNR=11
B22K Teshekpuk Lake 84.31 16 P **P 08 14 42.9 +1.4**
baz=235,SNR=6.1
D23K Nanushuk River 84.33 18 P **P 08 14 44.0 +2.2**
baz=238,SNR=109
PRP Porcupine Dome 84.35 22 P **P 08 14 41.2 -0.9**
baz=243,SNR=11
M27K Edge Creek, AK 84.44 25 P **P 08 14 44.5 +1.9**
baz=246,SNR=119
F24K Squaw Lake 84.47 20 P **P 08 14 44.5 +1.9**
baz=240
TOLK Toolik Lake Re 84.50 18 P **P 08 14 44.3 +1.6**
baz=239,SNR=46
CHMS Chumysh 84.51 314 P **P 08 14 43.5 +0.1**
SNR=19
PNL Peninsula 84.52 28 P **P 08 14 44.5 +1.6**
baz=249,SNR=13
PNL Peninsula 84.52 28 P **P 08 14 44.6 +1.6**
E24K Your Creek 84.56 19 P **P 08 14 44.4 +1.3**
baz=240
O28M Mount Upton 84.56 27 P **P 08 14 45.0 +1.5**
baz=248,SNR=29
ARLS Aral 84.57 313 P **P 08 14 44.5 +0.7**
ARLS pmax pmax
comp=Z,67nm,1.3s
H25L Birch Creek 84.59 21 P **P 08 14 44.5 +1.4**
baz=242,SNR=33
AAK Ala-Archa 84.61 314 P **P 08 14 44.9 +0.9**
AAK P **P 08 14 44.9 +0.9**
AAK Ala-Archa 84.61 314*ce*P **P 08 14 44.0 0.0**
AAK pmax pmax
comp=Z,126nm,1.7s
J26L Joseph Creek 84.64 23 P **P 08 14 45.0 +1.4**
baz=245,SNR=86
SGDS Sogindy 84.70 315 *e*P **P 08 14 43.8 -0.5**
SGDS Sogindy 84.70 315 *e*P **P 08 14 42.9 -1.4**
SGDS pmax pmax
comp=Z,67nm,1.9s
G25K Bearman Lake 84.72 21 P **P 08 14 45.3 +1.6**
baz=242
L27K Beaver Creek, 84.74 25 P **P 08 14 45.3 +1.3**
L27K IAmb IAmb 08 14 47.3
comp=Z,81nm,0.9s
L27K Beaver Creek, 84.74 25 P **P 08 14 45.7 +1.7**
baz=246,SNR=91
USP Ospenovka 84.75 314 P **P 08 14 44.7 +0.2**
SNR=66
C23K Itkillik River 84.82 17 P **P 08 14 46.0 +1.8**
baz=238
YUK3 Moose Creek 84.82 26 P **P 08 14 46.6 +1.9**
baz=248,SNR=42
BVCY Beaver Creek 84.89 26 P **P 08 14 46.7 +1.9**
baz=247,SNR=50
YUK8 Steele Glacier 84.94 27 P **P 08 14 47.3 +1.9**
baz=248,SNR=42
D24K Happy Valley 85.00 18 P **P 08 14 47.0 +1.9**
baz=239
K27K Chicken 85.03 24 P **P 08 14 47.5 +2.1**
baz=246
AML Almayashu 85.08 313 P **P 08 14 47.2 +0.5**
SNR=96
O29M Mount Kennedy 85.13 28 P **P 08 14 48.1 +2.0**
baz=249,SNR=21
EKS2 Erkin-Say 85.14 314 P **P 08 14 47.7 +1.1**
SNR=42
I26K Coal Creek Min 85.14 22 P **P 08 14 46.8 +0.9**
baz=245
F25K Christian Rive 85.27 20 P **P 08 14 48.3 +1.7**
baz=242
P29M Windy Craggy 85.30 29 P **P 08 14 48.6 +1.7**
baz=250,SNR=19
C24K Franklin Bluff 85.33 18 P **P 08 14 48.6 +1.9**
baz=239,SNR=55
OHH Osh 85.42 311 P **P 08 14 48.7 +0.7**
OHH pmax pmax
comp=Z,96nm,1.4s
ARSB Arslanbob 85.44 312 P **P 08 14 48.1 -0.1**
ARSB IAmb IAmb 08 14 51.1
comp=Z,128nm,1.7s
ARSB Arslanbob 85.44 312 P **P 08 14 48.1 -0.1**
ARSB pmax pmax
comp=Z,128nm,1.7s
YUK6 Outpost Mounta 85.46 27 P **P 08 14 50.1 +2.2**
baz=250,SNR=15
BTLS Baital 85.47 316 *e*P **P 08 14 46.9 -1.1**
BTLS pmax pmax
comp=Z,130nm,1.9s
YUK4 Talbot Arm 85.47 27 P **P 08 14 50.5 +2.6**
baz=249,SNR=56
S31K Pelican 85.49 31 P **P 08 14 50.5 +2.8**
baz=252
E25K Arctic Village 85.54 20 P **P 08 14 49.7 +1.8**
E25K IAmb IAmb 08 14 51.1

comp=Z,70nm,1.1s
E25K Arctic Village 85.54 20 P **P 08 14 49.5 +1.6**
baz=242,SNR=38
G26K Porcupine Rive 85.62 21 P **P 08 14 50.3 +2.1**
baz=244
SIT Sitka 85.68 32 P **P 08 14 51.4 +2.7**
baz=252
SIT Sitka 85.68 32 P **P 08 14 51.7 +3.0**
EGAK Eagle 85.70 23 P **P 08 14 50.3 +1.6**
baz=247,SNR=142
HYT Haines Junctio 85.81 28 P **P 08 14 51.5 +1.9**
baz=250,SNR=66
F26K Sheenjek River 85.82 20 P **P 08 14 50.8 +1.5**
F26K Sheenjek River 85.82 20 P **P 08 14 51.3 +1.9**
baz=244
P30M Million Dollar 85.83 28 P **P 08 14 51.4 +1.9**
baz=251,SNR=29
D25K Kavik River 85.84 18 P **P 08 14 50.4 +1.0**
baz=242
I27K Kandik River 85.85 22 P **P 08 14 51.3 +1.8**
baz=246,SNR=124
R31K City Hall, Gus 85.88 30 P **P 08 14 51.5 +1.8**
baz=252
PLBC Pleasant Camp 85.90 29 P **P 08 14 51.5 +1.7**
baz=251,SNR=13
M29M Somme Creek 85.94 26 P **P 08 14 51.8 +1.7**
baz=249,SNR=67
DRK Karamyk 85.96 310 P **P 08 14 51.7 +0.7**
DRK IAmb IAmb 08 14 52.8
comp=Z,46nm,1.1s
DRK Karamyk 85.96 310 P **P 08 14 51.7 +0.7**
DRK pmax pmax
comp=Z,46nm,1.1s
DAWY Dawson 86.14 24 P **P 08 14 52.8 +1.8**
DAWY Dawson 86.14 24 P **P 08 14 52.7 +1.8**
baz=248,SNR=96
H27K Steamboat Moun 86.14 22 P **P 08 14 52.8 +1.8**
baz=246,SNR=130
S32K Killisnoo 86.19 31 P **P 08 14 54.0 +2.8**
baz=253,SNR=12
N30M Aishikik Lake 86.21 27 P **P 08 14 53.2 +1.8**
baz=251,SNR=31
L29M L29M 86.32 25 P **P 08 14 53.7 +1.8**
L29M L29M 86.32 25 P **P 08 14 54.0 +2.1**
baz=250,SNR=102
G27K Doyon Strip 86.33 21 P **P 08 14 53.8 +2.0**
baz=246
CRAG Craig 86.40 33 P **P 08 14 53.8 +1.4**
baz=254
SKAG Skagway 86.40 29 P **P 08 14 54.1 +1.9**
SKAG Skagway 86.40 29 P **P 08 14 54.1 +1.9**
baz=252,SNR=24
SKAG Skagway 86.40 29 P **P 08 14 54.5 +2.2**
I28M Miner Creek 86.44 23 P **P 08 14 53.8 +1.4**
baz=248,SNR=108
O30N Mendenhall 86.45 28 P **P 08 14 54.4 +1.8**
baz=252,SNR=49
R32K Eaglecrest 86.45 31 P **P 08 14 54.8 +2.2**
baz=253,SNR=9.6
JIS Juneau Island 86.52 31 P **P 08 14 55.4 +2.6**
C26K Camden Bay 86.58 18 P **P 08 14 55.1 +2.2**
baz=243
U33K Whale Pass 86.58 33 P **P 08 14 54.9 +1.8**
baz=254,SNR=9.1
NRIK Noril'sk 86.59 341 P **P 08 14 52.6 -0.3**
comp=Z,59nm,0.7s,baz=113,slow=4.0,SNR=63
NRIK S **SKSac 08 25 12.9 -1.4**
comp=Z,1.1nm,0.5s,baz=278,slow=8.4,SNR=11
comp=Z,59nm,0.7s
NRIK Noril'sk 86.59 341 *ce*P **P 08 14 52.9 -0.1**
NRIK pmax pmax
comp=Z,76nm,0.9s
M30M Minto, Yukon 86.72 26 P **P 08 14 55.7 +1.9**
baz=251,SNR=89
J29N Klondike Camp 86.75 24 P **P 08 14 56.4 +2.4**
baz=250,SNR=82
BTK Batken 86.81 311 P **P 08 14 54.6 -0.3**
BTK pmax pmax
comp=Z,43nm,2.1s
C27K Jago River 86.82 18 P **P 08 14 56.1 +2.0**
baz=244
N31M Braeburn, Yuko 86.82 27 P **P 08 14 56.3 +1.9**
baz=252,SNR=64
K29M Barlow Dome 86.83 25 P **P 08 14 56.3 +1.8**
baz=250,SNR=254
TRKS Terek-Say 86.83 312 P **P 08 14 55.6 +0.5**
TRKS pmax pmax
comp=Z,92nm,1.3s
T33K Petersburg 86.86 32 P **P 08 14 56.3 +1.8**
baz=254
E27K Coleen River 86.91 20 P **P 08 14 55.9 +1.2**
E27K Coleen River 86.91 20 P **P 08 14 56.5 +1.9**
baz=246
DZA Taraz 86.95 313 *e*P **P 08 14 55.2 -0.2**
comp=Z,29nm,0.8s
DZA Taraz 86.95 313 *e*P **P 08 14 55.2 -0.2**
DZA pmax pmax
comp=Z,29nm,0.8s
WHY Whitehorse 86.98 28 P **P 08 14 56.9 +1.6**
baz=253,SNR=44
WRAK Wrangell Islan 87.08 33 P **P 08 14 57.4 +1.8**
baz=255,SNR=14
V35K Ketchikan 87.20 34 P **P 08 14 57.7 +1.5**
baz=256,SNR=14
P32M Atlin 87.23 29 P **P 08 14 58.3 +1.9**
P32M IAmb IAmb 08 15 00.2
comp=Z,64nm,0.8s
P32M Atlin 87.23 29 P **P 08 14 58.5 +2.1**
baz=254,SNR=21
F28M Old Crow 87.28 21 P **P 08 14 58.2 +1.7**
baz=248
KBL Kabul 87.29 305 P **P 08 14 56.1 -1.4**
SNR=8.9
KBL P **P 08 14 56.1 -1.4**
SNR=8.9
KBL Kabul 87.29 305 P **P 08 14 56.3 -1.2**
KBL pmax pmax
comp=Z,19nm,1.3s
H29M Whitestone 87.32 22 P **P 08 14 57.8 +1.2**
baz=249,SNR=31
MAYO Mayo, Yukon 87.43 25 P **P 08 14 59.2 +1.9**
baz=252,SNR=86
D27M Malcolm River 87.54 19 P **P 08 14 59.4 +1.6**
baz=247
J30M Hart River 87.56 24 P **P 08 14 59.8 +1.8**
baz=251,SNR=193
KK31 Karatay Array 87.58 314 *i* P **P 08 14 57.7 -0.7**
M31M Drury Creek, Y 87.66 27 P **P 08 14 59.6 +1.2**
baz=253,SNR=78
G29M Pine Creek 87.69 22 P **P 08 14 59.8 +1.4**
baz=250
I30M Mount Dempster 87.75 24 P **P 08 15 00.0 +1.2**
baz=251,SNR=115
IUG Iuzhnay 87.76 313 *e*P **P 08 14 58.9 -0.6**
comp=Z,38nm,0.8s
IUG Iuzhnay 87.76 313 *e*P **P 08 14 58.8 -0.6**
IUG pmax pmax
comp=Z,38nm,0.8s
E28M Babbage River 87.77 20 P **P 08 15 00.4 +1.6**
baz=248
Q32M Nakina River 87.77 30 P **P 08 15 01.2 +2.0**
baz=255,SNR=15
P33M Teslin, Yukon 87.83 29 P **P 08 15 01.0 +1.6**
baz=254,SNR=26
N32M Quiet Lake 87.96 28 P **P 08 15 01.5 +1.6**
baz=254
EPYK Eagle Plains 88.00 22 P **P 08 15 01.3 +1.4**
baz=251,SNR=106
BRLS Borolday 88.05 313 *e*P **P 08 15 00.8 0.0**
BRLS Borolday 88.05 313 *e*P **P 08 15 00.7 0.0**
S34M Telegraph Cree 88.09 31 P **P 08 15 02.7 +2.2**
S34M IAmb IAmb 08 15 04.9
comp=Z,82nm,0.8s
S34M Telegraph Cree 88.09 31 P **P 08 15 02.8 +2.4**
baz=256,SNR=44
CHM Chimkent 88.10 313 *e*P **P 08 15 00.7 -0.3**
comp=Z,17nm,0.6s
CHM Chimkent 88.10 313 *e*P **P 08 15 00.6 -0.3**
CHM pmax pmax
comp=Z,17nm,0.6s
FARO Faro, Yukon 88.14 27 P **P 08 15 02.1 +1.4**
baz=254,SNR=100
U35K Hyder 88.21 33 P **P 08 15 02.8 +1.8**
baz=257
E29M Blow River 88.26 20 P **P 08 15 02.2 +1.2**
E29M Blow River 88.26 20 P **P 08 15 02.4 +1.3**
baz=250

D28M Stokes Point 88.31 19 P **P 08 15 02.9 +1.7**
baz=249
T35M Bob Quinn 88.33 32 P **P 08 15 03.4 +1.7**
baz=257,SNR=16
G30M tAoh Zraii Nji 88.38 22 P **P 08 15 02.6 +0.9**
baz=251
R33M Jennings River 88.53 30 P **P 08 15 05.1 +2.4**
baz=256,SNR=33
H31M Peel River 88.74 23 P **P 08 15 04.6 +1.2**
baz=253,SNR=53
F30M Barrier River 88.75 21 P **P 08 15 04.8 +1.4**
baz=252
DLBC Dease Lake 88.78 31 P **P 08 15 05.5 +1.7**
baz=257,SNR=23
G31M Satah River 89.10 22 P **P 08 15 05.6 +0.7**
G31M Satah River 89.10 22 P **P 08 15 06.3 +1.3**
baz=253
BVA0 Borovoye Array 89.43 323 *i* P **P 08 15 05.3 -1.6**
BVAR Borovoye Array 89.43 323 P **P 08 15 05.9 -1.0**
comp=Z,54nm,0.7s,baz=103,slow=5.0,SNR=129
BVAR S **SKSac 08 25 28.4 -3.7**
comp=Z,2.2nm,0.7s,baz=238,slow=38,SNR=4.4
comp=Z,54nm,0.7s
BRVK Borovoye 89.50 323 P **P 08 15 06.5 -0.7**
BRVK P **P 08 15 06.5 -0.7**
BRVK Borovoye 89.50 323 *ce*P **P 08 15 06.5 -0.7**
BRVK pmax pmax
comp=Z,92nm,1.7s
WTLY Watson Lake, Y 89.77 29 P **P 08 15 10.1 +1.7**
baz=258
INK Inuvik 89.77 21 P **P 08 15 08.7 +0.6**
baz=254
INK Inuvik 89.77 21 P **P 08 15 08.9 +0.8**
INK pmax pmax
comp=Z,104nm,1.0s
LIRD Liard River Hi 90.97 30 P **P 08 15 15.4 +1.5**
baz=260,SNR=19
I04A Tendick Farm, 90.98 46 P **P 08 15 15.2 +0.8**
TOAD Toad River Com 91.32 31 P **P 08 15 17.1 +1.5**
baz=261,SNR=14
D05A Enumclaw 91.68 43 P **P 08 15 20.0 +2.5**
D05A IAmb IAmb 08 15 47.1
comp=Z,82nm,1.9s
HOOD Mount Hood Mea 91.70 45 P **P 08 15 19.1 +1.3**
J05D Fort Rock, OR 91.77 47 P **P 08 15 19.0 +0.8**
J05D IAmb IAmb 08 15 49.0
comp=Z,80nm,1.7s
KOTAN Kotaneelee Air 92.11 30 P **P 08 15 20.6 +1.4**
baz=262,SNR=12
MPK Martis Peak 92.26 51 P **P 08 15 21.9 +1.1**
MPK IAmb IAmb 08 15 50.9
comp=Z,53nm,1.4s
PNTR Pine Nut 92.57 51 P **P 08 15 23.4 +1.2**
MXC Moxie City 92.77 44 P **P 08 15 23.2 +0.6**
WRGLY Wrigley 92.80 27 P **P 08 15 23.0 +0.7**
WRGLY IAmb IAmb 08 15 25.5
comp=Z,49nm,0.8s
WRGLY Wrigley 92.80 27 P **P 08 15 23.7 +1.5**
baz=263
F07A Phinny Hill Vi 92.96 44 P **P 08 15 24.1 +0.6**
F07A IAmb IAmb 08 15 28.6
comp=Z,55nm,1.8s
NGCH Negor - Chabah 93.02 295 P **P 08 15 24.4 +0.3**
SNR=5.7
A36M Sachs Harbour 93.32 18 P **P 08 15 24.5 0.0**
A36M Sachs Harbour 93.32 18 P **P 08 15 25.1 +0.6**
baz=262
C36M Paulatuk 93.34 21 P **P 08 15 24.9 +0.3**
baz=262
LHV Little Huntoon 93.35 52 P **P 08 15 26.4 +1.0**
PNT Pentiction 93.47 41 P **P 08 15 23.4 -2.4**
PNT pmax pmax
comp=Z,11nm,0.8s
RER Riviere de l'E 93.51 248 P **P 08 15 27.1 +0.5**
NVAR Mina Array Bea 93.52 52 P **P 08 15 27.5 +1.0**
comp=Z,5.9nm,0.7s,baz=254,slow=6.4,SNR=30
comp=Z,5.9nm,0.7s
WVOR Wild Horse Val 93.59 48 P **P 08 15 28.4 +1.8**
WVOR pmax pmax
comp=Z,10.0nm,1.8s
KVN Kaiserville 93.73 51 P **P 08 15 26.9 -0.5**
KVN Kaiserville 93.73 51 P **P 08 15 26.9 -0.5**
KVN pmax pmax
comp=Z,12nm,1.1s
D08A Wollman Farm, 93.75 43 P **P 08 15 28.0 +0.9**
MZP Montezuma Peak 94.19 53 P **P 08 15 30.7 +1.0**
JLN Jalan Bani Buh 94.33 292 P **P 08 15 29.3 -1.0**
JLN P **P 08 15 29.3 -1.0**
JLN P **PcP 08 15 29.9 -0.8**
JLN P **PcP 08 15 29.9 -0.8**
WBK Wadi Bani Khal 94.78 292 P **P 08 15 32.2 -0.2**
SNR=12
WBK P **P 08 15 32.2 -0.2**
SNR=12
NEW Newport 95.04 42 P **P 08 15 34.4 +1.4**
NEW pmax pmax
comp=Z,11nm,2.4s
SVE Sverdlovsk 95.44 326 *e*P **P 08 15 33.0 -1.6**
SVE *e*S **SKSac 08 26 01.7 -3.7**
SVE pmax pmax
comp=Z,61nm,1.9s
AB31 Akbulak array 95.55 319 *i* P **P 08 15 33.5 -1.8**
ABKAR Akbulak array 95.55 319 P **P 08 15 33.2 -2.1**
JMDO Jabal Madar 95.56 292 P **P 08 15 35.2 -0.7**
SNR=5.1
ELIB Princess Elisa 95.57 194 *d*P **P 08 15 35.6 +0.5**
comp=Z,8.2nm,1.0s
MHTO MHTO 95.59 290 P **P 08 15 35.1 -0.9**
SNR=13
BIDO Bidbid 95.61 293 P **P 08 15 36.0 -0.1**
SNR=14
BIDO P **P 08 15 36.0 -0.1**
SNR=14
R11B Troy Canyon, C 95.65 52 P **P 08 15 37.0 +0.8**
baz=267
SMDO Samad 95.66 293 P **P 08 15 36.0 -0.5**
SMDO P **P 08 15 36.0 -0.5**
DQM DQM 95.91 289 P **P 08 15 37.1 -0.4**
SNR=5.8
DQM P **P 08 15 37.1 -0.4**
SNR=5.8
JASK Jask - Hormozg 96.00 295 P **P 08 15 38.6 +0.7**
SNR=14
ELK Elko 96.03 50 P **P 08 15 37.7 -0.3**
ELK Elko 96.03 50 P **P 08 15 37.7 -0.3**
ELK pmax pmax
comp=Z,12nm,1.5s
HOQ Hoqain 96.37 293 P **P 08 15 39.2 -0.3**
SNR=16
HOQ P **P 08 15 39.2 -0.3**
SNR=16
BSY Bisya 96.42 292 P **P 08 15 39.1 -0.7**
SNR=7.5
BSY P **P 08 15 39.1 -0.7**
SNR=7.5
ARTI Arti 96.68 326 P **P 08 15 37.9 -2.3**
ARTI IAmb IAmb 08 15 40.2
comp=Z,80nm,1.7s
ARTI Arti 96.68 326 LR LR 08 58 44.7
comp=Z,1μm,21.9s,baz=78,slow=35
ARTI Arti 96.68 326 *c i*P **P 08 15 37.6 -2.6**
ARTI 08 19 32.6
ARTI S **SKSac 08 26 07.9 -4.0**
ARTI pmax pmax
comp=Z,32nm,1.1s
ARTI MLR MLR
comp=Z,2μm,24.0s
YKA Yellowknife Ar 96.80 28 P **P 08 15 42.1 +1.5**
YKA Yellowknife Ar 96.80 28 P **P 08 15 42.4 +1.7**
comp=Z,8.7nm,0.7s,baz=275,slow=4.9,SNR=20
comp=Z,8.7nm,0.7s
AKTO Aktyubinsk 96.83 320 P **P 08 15 37.8 -3.3**
ARQ Araqi 97.08 293 P **P 08 15 42.5 -0.4**
SNR=9.4
ARQ P **P 08 15 42.5 -0.4**
SNR=9.4
SOHO SOHO 97.11 294 P **P 08 15 42.4 -0.5**
SOHO P **P 08 15 42.4 -0.5**
UOSS Minazif 97.45 294 P **P 08 15 43.6 -0.8**
UOSS P **P 08 15 43.6 -0.8**
HATD Hatta, Dubai 97.51 294 P **P 08 15 44.4 -0.3**
SNR=6.0
HATD P **P 08 15 44.4 -0.3**
SNR=6.0
MASF Masafi 97.51 295 P Pdif 08 15 44.9 0.0
SNR=6.9

MASF P Pdif 08 15 44.9 0.0
SNR=6.9
SHME Shamm 97.56 295 P **P 08 15 44.6 -0.4**
SHME P **P 08 15 44.6 -0.4**
ASHO Ashiyiah 97.57 294 P **P 08 15 44.6 -0.4**
SNR=5.5
ALNE Al Ain 97.82 293 P Pdif 08 15 46.3 +0.1
SNR=5.3
HVU Hansel Valley 97.92 49 P Pdif 08 15 47.1 +0.7
HVU Hansel Valley 97.92 49 P Pdif 08 15 47.1 +0.7
HVU pmax pmax
comp=Z,7.0nm,1.0s
NAZ Nazwa, Dubai 97.95 294 P **P 08 15 46.2 -0.5**
DMTO DMTO 98.22 287 P **P 08 15 44.9 -3.1**
MTPU Mount Pierson 98.32 53 P Pdif 08 15 49.6 +1.0
RBK Rabkut 98.92 287 P **P 08 15 50.5 -0.7**
SNR=6.8
RBK P **P 08 15 50.5 -0.7**
SNR=6.8
DOK Doka 99.05 288 P **Pdif 08 15 50.4 -1.3**
SNR=5.4
WHFO Wadi Hawf 99.35 287 P **Pdif 08 15 51.9 -1.2**
ABTO Aybut 99.77 287 P **Pdif 08 15 54.5 -0.6**
SNR=9.3
TROLL Troll, Antarti 99.78 189 ⇑Pdiff **Pdif 08 15 53.2 -0.8**
comp=Z,81nm,0.8s
MZR Muzera 99.86 292 P **Pdif 08 15 54.8 -0.4**
PDAR Pinedale Array 100.30 48 P **Pdif 08 15 58.2 +1.1**
comp=Z,2.1nm,0.6s,baz=248,slow=1.6,SNR=24
PDAR PKKPbc **PKKPbc 08 32 13.6 -1.6**
comp=Z,0.2nm,0.5s,baz=93,slow=3.0,SNR=2.5
SNAA Sanae 100.88 188 ⇑Pdiff **Pdif 08 15 51.5 -7.4**
comp=Z,16nm,0.9s
SNAA Sanae 100.88 188 P **Pdif 08 15 58.9 +0.1**
comp=Z,2.2nm,1.1s,baz=324,slow=12,SNR=2.6
SNAA PKKPbc **PKKPbc 08 32 12.5 -1.6**
comp=Z,1.8nm,0.9s,baz=324,slow=9.8,SNR=3.9
VOI Vohitsoka 101.61 246 P **Pdif 08 16 04.8 +1.6**
RES Resolute Bay 101.64 14 P **Pdif 08 16 03.2 +1.2**
RES pmax pmax
comp=Z,28nm,1.3s
VNA3 Neumayer Olymp 102.11 186 ⇑Pdiff **Pdif 08 16 11.6 +7.3**
comp=Z,1.4nm,0.7s
TXAR Lajitas Array 105.53 61 PKiKP **PKiKP 08 20 32.7 -1.1**
comp=Z,0.2nm,0.8s,baz=336,slow=2.0,SNR=2.3
TXAR PKKPbc **PKKPbc 08 31 57.2 -1.9**
comp=Z,0.3nm,0.6s,baz=104,slow=3.8,SNR=4.1
TXAR PKKPab **PKKPab 08 32 15.0 -0.6**
comp=Z,1.7nm,0.7s,baz=106,slow=4.4,SNR=8.7
KLMR Klimovskoe 105.79 332 *e*P **Pdif 08 16 16.2 -4.5**
KLMR *e* 08 20 40.1
KLMR pmax pmax
comp=Z,25nm,1.5s
APA Apatity 105.92 339 ⇓ *i*P **Pdif 08 16 24.0 +2.8**
APA pmax pmax
comp=Z,7.0nm,1.0s
ARCES ARCESS Array B 107.53 343 Pdiff **Pdif 08 16 27.7 -0.7**
comp=Z,6.2nm,1.0s,baz=20,slow=4.0,SNR=7.6
ARCES PKiKP **PKiKP 08 20 36.0 -0.3**
comp=Z,2.2nm,0.7s,baz=67,slow=2.3,SNR=7.8
MOS Moscow 108.25 327 *e*P **Pdif 08 16 29.7 -2.1**
MOS pmax pmax
comp=Z,29nm,0.6s
OBN Obninsk 109.01 327 ⇓ *i*P **Pdif 08 16 35.7 +0.5**
OBN pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 111.54 335 Pdiff **Pdif 08 16 45.4 -0.9**
comp=Z,4.1nm,0.6s,baz=67,slow=4.2,SNR=24
FINES PKiKP **PKiKP 08 20 44.2 +0.3**
comp=Z,3.4nm,1.0s,baz=118,slow=4.0,SNR=5.7
MNK Minsk 113.91 328 *i* P **Pdif 08 16 56.5 -0.5**
comp=E,17nm,0.8s
MNK *i* P **Pdif 08 16 56.5 -0.5**
comp=N,13nm,0.9s
MNK *i* P **Pdif 08 16 56.5 -0.5**
comp=Z,10.0nm,0.8s,baz=65
MNK *i* pP **pPdif 08 17 15.8 +3.1**
MNK *i* sP **sPdif 08 17 23.8 +5.1**
MNK *i* PP **PP 08 21 42.4 -0.2**
MNK *i* PPP PPP 08 24 07.2
MNK *i* SKS **SKSdf 08 27 54.2 -1.5**
MNK *i* SS **SS 08 37 27.5 +0.2**
MNK *i* SSS SSS 08 41 41.6
MNK *i* LQ LQ 09 00 38.8
MNK *i* LR LR 09 05 08.0
MNK *i* LRM MLR 09 08 53.2
comp=Z,950nm,19.3s
MNK *i* LRM MLR 09 08 59.8
comp=E,340nm,18.2s
MNK *i* LRM MLR 09 09 01.4
comp=N,458nm,22.3s
MNK Minsk 113.91 328 *i* P **Pdif 08 16 56.5 -0.5**
MNK *i* 08 21 42.4
MNK *i* PPP PPP 08 24 07.2
MNK *i* 08 27 54.2
MNK *i* SS SS 08 37 27.5 +0.1
MNK *i* SSS SSS 08 41 41.5
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=E,17nm,0.8s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK MLR MLR
comp=Z,950nm,19.0s
MNK MLR MLR
comp=E,340nm,18.0s
MNK MLR MLR
comp=N,458nm,22.0s
NACGM Naroch 114.31 329 *e*Pdif **Pdif 08 16 48.5 -10**
comp=Z,6.0nm,0.8s,baz=64
AKASG Malin Array Be 114.71 324 PKP **PKiKP 08 20 50.2 -0.1**
comp=Z,1.4nm,0.6s,baz=72,slow=1.5,SNR=6.5
BRTR Keskin Array B 115.20 311 PKP **PKiKP 08 20 51.6 -0.2**
comp=Z,1.6nm,0.7s,baz=73,slow=2.1,SNR=7.2
HFS Hagfors 117.23 338 PKP **PKPdf 08 20 54.8 -0.1**
comp=Z,1.7nm,0.7s,baz=61,slow=2.1,SNR=2.2
NB2 NORSAR Subarra 117.51 340 PKPdf **PKiKP 08 20 57.7 +2.2**
comp=Z,1.0nm,0.6s,baz=44,slow=1.9
NOA NORSAR Array B 117.51 340 PKP **PKPdf 08 20 55.1 -0.4**
comp=Z,1.3nm,0.6s,baz=48,slow=1.9,SNR=8.7
BOSA Boshof 118.19 233 PKP **PKPdf 08 20 58.0 +0.1**
comp=Z,1.6nm,0.6s,baz=137,slow=5.9,SNR=4.1
BOSA Boshof 118.19 233 PKiKP **PKPdf 08 20 58.0 +0.1**
KOLS Kolonicke sedl 119.53 324 *e*PKP **PKiKP 08 21 01.1 +1.3**
KOLS *e* 08 21 15.1
PLCA Paso Flores 119.58 144 PKP **PKiKP 08 21 01.0 +0.7**
comp=Z,1.4nm,0.9s,baz=1.1,slow=5.9,SNR=3.4
PLCA PKKPbc **PKKPbc 08 31 11.9 -0.6**
comp=Z,6.5nm,0.9s,baz=39,slow=3.3,SNR=17
STHS Stebnicka Huta 119.89 325 *e* PKiKP 08 21 14.1 +14
LANS Liptovska Anna 121.03 325 *e*PKP **PKiKP 08 21 04.3 +1.5**
LANS *e* 08 21 18.3
VYHS Vyhne 121.73 325 *e*PKP **PKPdf 08 21 03.7 -0.3**
VYHS *e* 08 21 18.2
MORC Moravsky Berou 121.77 327 *e*PKIKP **PKiKP 08 21 04.4 +0.2**
SCHQ Schefferville 122.14 25 PKP **PKPdf 08 21 04.2 -0.3**
comp=Z,1.8nm,0.6s,baz=222,slow=12,SNR=1.3
JAVC Velka Javorina 122.19 326 *e*PKIKP **PKPdf 08 21 04.9 0.0**
VRAC Vranov 122.54 327 *e*PKIKP **PKiKP 08 21 05.8 +0.1**
MODS Modra-Piesok 122.68 326 *e*PKP **PKiKP 08 21 07.4 +1.4**
MODS *e* 08 21 22.1
KRUC Moravsky 122.79 327 *e*PKIKP **PKiKP 08 21 06.2 +0.1**
BRG Berggiesshubel 123.03 330 *e*PKP **PKiKP 08 21 07.1 +0.6**
BRG Amp 08 21 08.6
comp=Z,4.1nm,0.8s
BRG Berggiesshubel 123.03 330 P PKiKP 08 21 20.8 +14
BRG Amp 08 21 21.6
comp=Z,4.8nm,0.7s
BRG Berggiesshubel 123.03 330 *e*PKIKP **PKiKP 08 21 07.1 +0.6**
BRG 08 21 20.8
BRG 08 21 25.4
BRG pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 123.23 330 *i* PKPdf **PKiKP 08 21 07.2 +0.3**
comp=Z,8.0nm,1.1s
CLL *i* pPKPdf **pPKPdf 08 21 21.1 -1.6**
comp=Z,9.0nm,0.6s
CLL *e*PP **PP 08 22 48.0 +1.1**
CLL *e*PS **PS 08 32 48.0 +3.5**
CLL *e*SS SS 08 39 48.0 +20
CLL *e*SSS SSS 08 44 06.0
CLL AMS AMS 09 16 00.0
comp=Z,800nm,19.3s
RONA Rosalia, Austr 123.59 325 *i* PKiKP **PKiKP 08 21 08.5 +0.7**

comp=Z,14nm,1.4s
RONA *i* pPKP **pPKPdf** 08 21 22.8 -0.8
comp=Z,3.6nm,0.8s
CONA Conrad Observa 123.71 326 *i* PKiKP **PKiKP** 08 21 08.8 +0.7
comp=Z,4.1nm,0.8s
CONA *i* pPKP **pPKPdf** 08 21 22.3 -1.6
comp=Z,4.5nm,0.6s
ZVC Zvikov 123.75 328 *e*PKPDF **PKiKP** 08 21 09.7 +1.6
ZVC *e*pPKP **pPKPdf** 08 21 22.4 -1.4
OHR Ohrid 123.97 317 *i* P **PKiKP** 08 21 09.5 +0.7
CKRC Cesky Krumlov 124.06 327 *e*PKPDF **PKiKP** 08 21 09.0 +0.3
CKRC *e*pPKP **pPKPdf** 08 21 22.1 -2.3
KHC Kasperske Hory 124.26 328 *e*PKPDF **PKPdf** 08 21 08.5 -0.3
KHC *e*pPKP **pPKPdf** 08 21 22.8 -2.0
ARSA Arzberg 124.28 325 *i* PKiKP **PKiKP** 08 21 09.6 +0.4
comp=Z,4.2nm,1.0s
ARSA *i* pPKP **pPKPdf** 08 21 23.7 -1.2
comp=Z,2.8nm,0.6s
GERES GERESS Array B 124.37 328 PKP **PKiKP** 08 21 09.7 +0.3
comp=Z,2.9nm,0.6s,baz=52,slow=2.2,SNR=14
GERES SKP **SKPdf** 08 24 39.8 0.0
comp=Z,1.7nm,0.6s,baz=52,slow=1.5,SNR=5.1
MOA Molln 124.64 326 *i* PKiKP **PKiKP** 08 21 10.3 +0.4
comp=Z,3.4nm,0.7s
MOA *i* pPKP **pPKPdf** 08 21 24.2 -1.4
comp=Z,3.4nm,0.9s
GROS Grobnik 124.73 324 *e*PKPdf **PKPdf** 08 21 09.8 0.0
SOKA Soboth 124.88 325 *i* PKiKP **PKiKP** 08 21 10.7 +0.2
comp=Z,9.1nm,1.2s
BIOA Bad Ischl, Aus 125.08 327 *i* PKiKP **PKiKP** 08 21 11.0 +0.2
comp=Z,2.5nm,0.5s
OBKA Obir 125.25 325 *i* PKiKP **PKiKP** 08 21 11.4 +0.1
comp=Z,6.9nm,1.4s
LJU Ljubljana 125.52 324 *e*PKPdf **PKiKP** 08 21 11.9 +0.2
KBA Koelnbreinsper 125.60 326 *i* PKP **PKPdf** 08 21 11.7 +0.1
comp=Z,6.6nm,0.8s
CRNS Crni Vrh 125.65 325 *e*PKPdf **PKPdf** 08 21 11.9 +0.3
MYKA Terra Mystica 125.69 325 *i* PKiKP **PKiKP** 08 21 12.2 +0.1
comp=Z,5.0nm,0.9s
LESA Schwarzleotal 125.76 327 *i* PKiKP **PKiKP** 08 21 12.2 0.0
comp=Z,3.3nm,0.6s
ABTA Abfaltersbach 126.26 326 *i* PKP **PKiKP** 08 21 13.1 -0.1
comp=Z,15nm,1.3s
WATA Walderalm 126.41 327 *i* PKiKP **PKiKP** 08 21 13.8 +0.2
comp=Z,14nm,1.1s
WTTA Wattenberg 126.42 327 *i* PKiKP **PKiKP** 08 21 14.1 +0.4
comp=Z,27nm,1.4s
WTTA *i* pPKP **pPKPdf** 08 21 27.5 -1.7
comp=Z,15nm,0.9s
MOTA Moosalm 126.66 327 *i* PKiKP **PKiKP** 08 21 14.3 +0.2
comp=Z,20nm,1.5s
MOTA *i* pPKP **pPKPdf** 08 21 27.8 -1.8
comp=Z,9.8nm,0.6s
SQTA Sankt Quirin 126.68 327 *i* PKiKP **PKiKP** 08 21 14.6 +0.5
comp=Z,7.4nm,0.9s
EKA Eskdalemuir Ar 126.69 342 PKP **PKPdf** 08 21 13.3 +0.1
comp=Z,2.4nm,0.6s,baz=20,slow=3.4,SNR=10
RETA Reutte 126.75 328 *e*PKiKP **PKiKP** 08 21 14.7 +0.5
comp=Z,6.4nm,1.2s
FETA Feichten 127.06 327 *i* PKiKP **PKiKP** 08 21 15.6 +0.7
comp=Z,9.7nm,1.0s
DAVA Damuels 127.35 328 *e*PKiKP **PKiKP** 08 21 15.9 +0.4
comp=Z,7.6nm,0.8s
ROSC El Rosal 134.12 89 PKP **PKPdf** 08 21 27.5 -1.5
comp=Z,9.9nm,0.6s,baz=174,slow=16,SNR=5.9
KEST Kesra 134.43 316 PKP **PKPdf** 08 21 28.0 -0.6
comp=Z,11nm,0.9s,baz=12,slow=5.6,SNR=4.6
LPAZ La Paz 134.83 120 PKP **PKPdf** 08 21 28.8 -1.8
comp=Z,4.6nm,0.9s,baz=0.7,slow=1.9,SNR=14
LPAZ SKPbc **SKPbc** 08 24 56.4 +0.3
comp=Z,4.7nm,1.2s,baz=228,slow=4.8,SNR=5.2
LPAZ La Paz 134.83 120 *e*P **PKPdf** 08 21 28.8 -1.8
CPUP Villa Florida 137.38 140 PKP **PKPdf** 08 21 33.5 -0.7
comp=Z,2.2nm,0.9s,baz=212,slow=3.8,SNR=3.3
SDV Santo Domingo 137.86 83 *e*P **PKPdf** 08 21 34.2 -1.5
ESDC Sonseca Array 139.82 331 PKhKP PKPpre 08 21 29.8
comp=Z,1.6nm,0.6s,baz=20,slow=3.2,SNR=9.5
ESDC PP **PP** 08 24 34.2 +0.3
comp=Z,6.6nm,1.1s,baz=27,slow=6.6,SNR=11
MVO Moncorvo 140.03 335 *e*PKPdf PKPpre 08 21 32.6
PVIS Viseu 140.76 335 *e*PKPdf PKPpre 08 21 35.3
MTE Manteigas 140.88 335 *e*PKPdf PKPpre 08 21 33.9
PCBR Castelo Branco 141.31 334 *e*PKPdf PKPpre 08 21 36.3
COI Coimbra 141.40 335 *e*PKPdf PKPpre 08 21 38.5
PCAS Casmilo, Conde 141.57 335 *e*PKPdf PKPpre 08 21 37.4
PMRV Marv??o 141.61 334 *e*PKPdf PKPpre 08 21 36.1
PSBE So Bento 142.14 335 *e*PKPdf PKPpre 08 21 38.9
PESTR Estremoz 142.16 333 *e*PKPdf **PKPdf** 08 21 41.1 -1.5
SAML Samuel 142.20 113 *e*P PKPpre 08 21 39.6
PMTG Montargil 142.27 334 *e*PKPdf PKPpre 08 21 38.7
PBAR Barrancos 142.47 332 *e*PKPdf PKPpre 08 21 39.8
EVO Evora 142.62 333 *e*PKPdf PKPpre 08 21 40.1
PACT Alcochete 142.79 335 *e*PKPdf **PKPdf** 08 21 43.9 +0.2
PBEJ Beja 142.97 335 *e*PKPdf **PKPdf** 08 21 41.3 -2.8
VILB Vilhena 143.17 121 *e*P PKPbc 08 21 42.1 0.0
MESJ Messejana 143.29 333 *e*PKPdf PKPbc 08 21 42.4 +0.7
MESJ Messejana 143.29 333 *e*PKP PKPbc 08 21 42.9 +1.1
PCVE Castro Verde 143.37 333 *e*PKPdf PKPbc 08 21 42.6 +0.6
PVAQ Vaqueiros 143.41 332 *e*PKPdf PKPbc 08 21 42.9 +0.8
PBDV Barranco-do-Ve 143.64 332 *e*PKPdf **PKPdf** 08 21 45.1 -0.2
PTEO Sao Teotonio 143.75 333 *e*PKPdf **PKPdf** 08 21 44.8 -0.6
RPRD Ribas do Rio P 143.82 137 *e*P PKPbc 08 21 44.8 +1.0
MORF Marmelete 143.92 333 *e*PKPdf **PKPdf** 08 21 45.1 -0.7
MORF Marmelete 143.92 333 *e*PKP PKPbc 08 21 44.2 +0.6
PFVI Vila Bisbo 144.14 333 *e*PKPfd **PKPdf** 08 21 45.7 -0.4
BOAV Boa Vista 147.63 95 *e*P **PKPdf** 08 21 51.4 -1.3
CLDB Colider 147.94 121 *e*P **PKPdf** 08 21 51.8 -1.4
ARAG Araguaiana, MT 148.34 133 *e*P **PKPdf** 08 21 52.5 -1.4
IPMB Ipameri, GO 149.21 141 *e*P **PKPdf** 08 21 54.0 -1.2
CAM01 Campos-RJ 149.54 155 *e*P **PKPdf** 08 21 52.1 -3.5
TORD Torodi Ar. Bea 149.62 286 PKPbc **PKPbc** 08 22 00.1 -0.4
comp=Z,50nm,0.8s,baz=60,slow=1.3,SNR=95
NPGB Novo Progresso 150.07 115 *e*P **PKPdf** 08 21 54.9 -1.8
PMPS Porto Santo 150.72 339 *e*PKPab **PKPab** 08 22 10.1 +0.5
ITTB Itaituba 150.74 110 *e*P **PKPdf** 08 21 56.1 -1.6
BDFB Brasilia 151.05 138 PKPbc **PKPbc** 08 22 03.7 -0.4
comp=Z,6.5nm,0.7s,baz=190,slow=1.6,SNR=9.4
SNDB Serra Nova Dou 151.05 128 *e*P **PKPdf** 08 21 57.3 -0.9
PMAR Madeira 151.22 340 *e*PKPab **PKiKP** 08 22 05.7 +1.0
PMAR Madeira 151.22 340 *e*PKPab **PKPab** 08 22 13.7 +1.7
DBIC Dimbokro 156.74 273 **PKPdf** 08 22 06.3 +0.1
comp=Z,1.9nm,0.7s,baz=111,slow=5.3,SNR=3.3
DBIC PKPab **PKPab** 08 22 35.6 -0.3
comp=Z,57nm,0.7s,baz=87,slow=4.8,SNR=29

*SJA **10** 08:02:26.3±0.7,30°.19S×71°.47W,h53km±6km,ML3.3, MW3.4*
*GUC **10** 08:02:28.3±0.6,30°.21S×71°.27W,h70km±2km,ML3.6*
ISC 10 08:02:27.6±1.3,30°.16S±0°.03×71°.49W±0°.05,h56km±10km, n39,σ1°.27/70,2C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.32**	**42**	⇓*i*P	Pn	08 02 38.9	+1.4
CO05				*e*S	**Sn**	**08 02 46.9**	**+2.2**
CO05				IAML		08 02 48.2	
comp=E,5μm,0.1s							
CO06	**Fray Jorge**	**0.53**	**194**	⇓*i*P	Pn	08 02 41.3	+1.6
CO06				*e*S	**Sn**	**08 02 51.0**	**+2.6**
CO06				IAML		08 02 51.8	
comp=E,3μm,0.3s							
GO04	**Tololo Observa**	**0.60**	**91**	*e*P	**Pn**	**08 02 40.1**	**-0.6**
GO04				*e*S	**Sn**	**08 02 48.9**	**-1.2**
GO04	**Tololo Observa**	**0.60**	**91**	*e*P	**Pn**	**08 02 40.0**	**-0.7**
GO04				*e*S	**Sn**	**08 02 49.4**	**-0.7**
CO03	**El Pedregal**	**0.97**	**135**	⇑*i*P	**Pn**	**08 02 44.0**	**-1.2**
CO03				*e*S	**Sn**	**08 02 56.1**	**-2.1**
CO03				IAML		08 02 56.5	
comp=E,2μm,0.2s							
CO03	**El Pedregal**	**0.97**	**135**	*e*P	**Pn**	**08 02 44.0**	**-1.2**
CO03				*e*S	**Sn**	**08 02 56.4**	**-1.8**
CO03				IAML		08 02 57.1	
comp=Z,508nm,0.1s							
CO01	**Juntas del Tor**	**1.22**	**82**	⇑*i*P	**Pn**	**08 02 48.0**	**-0.8**
CO01				*e*S	**Sn**	**08 03 02.4**	**-2.0**
CO01				IAML		08 03 02.8	
comp=N,1μm,0.2s							
CO01	**Juntas del Tor**	**1.22**	**82**	*e*P	**Pn**	**08 02 47.9**	**-0.8**
CO01				*e*S	**Sn**	**08 03 02.6**	**-1.8**
CO01				IAML		08 03 03.3	
comp=Z,675nm,0.1s							
LCO	**Las Campanas**	**1.33**	**31**	*e*P	**Pn**	**08 02 50.7**	**+0.5**
LCO				*e*S	**Sn**	**08 03 07.9**	**+0.7**
LCO				IAML		08 03 08.6	
comp=Z,3μm,0.3s							
LCO	**Las Campanas**	**1.33**	**31**	*e*P	**Pn**	**08 02 50.7**	**+0.5**
LCO				IAML		08 03 10.5	
comp=Z,797nm,0.3s							
AROD	**Rodeo**	**1.75**	**91**	*e*P	**Pn**	**08 02 56.4**	**+0.5**
AROD				*e*P		08 02 56.4	
CO04	**Los Peladeros**	**1.93**	**167**	*e*P	**Pn**	**08 02 58.3**	**0.0**
CO04				*e*S	**Sn**	**08 03 21.1**	**-0.5**
CO04				IAML		08 03 23.3	
comp=N,867nm,0.2s							
AC04	**Llanos de Chal**	**1.98**	**11**	*e*P	**Pn**	**08 02 59.8**	**+1.0**
AC04				*e*S	**Sn**	**08 03 18.7**	**-3.8**
AC04				IAML		08 03 28.8	
comp=Z,102nm,0.7s							
ACDV	**Cuesta del Vie**	**2.05**	**91**	*e*P	**Pn**	**08 03 00.4**	**+0.5**
ACDV				*e*S	**Sn**	**08 03 25.4**	**+1.0**
ACDV				IAML		08 03 26.3	
comp=Z,78nm,0.4s							
ACCO	**Cerro Coronel**	**2.14**	**102**	*e*P	**Pn**	**08 03 02.1**	**+0.9**
ACCO				*e*S	**Sn**	**08 03 30.5**	**+3.7**
DOCA	**Reserva Natura**	**2.22**	**111**	*e*P	**Pn**	**08 03 02.6**	**+0.3**
DOCA				*e*S	**Sn**	**08 03 28.4**	**-0.5**
RTLS	**Leoncito**	**2.49**	**132**	*e*P	**Pn**	**08 03 06.7**	**+0.7**
RTLS				*e*S	**Sn**	**08 03 37.0**	**+1.5**
RTLS				IAML		08 03 37.5	
comp=Z,558nm,0.2s							
VA03	**San Esteban**	**2.72**	**163**	*e*P	**Pn**	**08 03 09.1**	**+0.1**
VA03				*e*S	**Sn**	**08 03 39.3**	**-1.3**
VA03				IAML		08 03 46.1	
comp=E,391nm,0.2s							
VA03	**San Esteban**	**2.72**	**163**	*e*P	**Pn**	**08 03 09.1**	**+0.1**
VA03				*e*S	**Sn**	**08 03 42.6**	**+1.9**
VA03				IAML		08 03 47.4	
comp=Z,173nm,0.2s							
GO03	**Copiapo**	**2.78**	**24**	*e*P	**Pn**	**08 03 10.6**	**+0.8**
GO03				*e*S	Sn	08 03 29.8	-12
ZON	**Zonda**	**2.78**	**120**	*e*P	**Pn**	**08 03 11.3**	**+1.5**
ZON				*e*S	**Sn**	**08 03 44.2**	**+2.0**
ZON				IAML		08 03 46.9	
comp=Z,68nm,0.6s							
RTLL	**Cerro Villicun**	**2.84**	**115**	*e*P	**Pn**	**08 03 10.9**	**+0.2**
RTLL				*e*S	**Sn**	**08 03 43.3**	**-0.4**
VA01	**Torpederas**	**2.86**	**183**	*e*P	**Pn**	**08 03 09.6**	**-1.1**
VA01				IAML		08 03 58.3	
comp=Z,41nm,0.5s							
RTCV	**Cerro Valdivia**	**3.05**	**125**	*e*P	Pn	08 03 15.4	+2.0
RTCV				*e*S	**Sn**	**08 03 50.9**	**+2.2**
PEL	**Peldehue**	**3.05**	**167**	*e*P	**Pn**	**08 03 13.6**	**+0.1**
PEL				*e*S	**Sn**	**08 03 47.5**	**-1.3**
PEL				IAML		08 03 51.1	
comp=N,116nm,0.3s							
PEL	**Peldehue**	**3.05**	**167**	*e*P	**Pn**	**08 03 13.8**	**+0.3**
PEL				*e*S	**Sn**	**08 03 49.5**	**+0.7**
MT02	**Curacav**	**3.10**	**175**	*e*P	**Pn**	**08 03 13.7**	**-0.4**
MT02				*e*S	**Sn**	**08 03 49.6**	**-0.4**
MT02				IAML		08 04 06.2	
comp=Z,82nm,0.5s							
MT10	**Hacienda Santa**	**3.21**	**166**	*e*P	**Pn**	**08 03 15.9**	**+0.2**
MT10				*e*S	**Sn**	**08 03 51.8**	**-1.0**
MT05	**Renca**	**3.29**	**169**	*e*P	**Pn**	**08 03 17.4**	**+0.7**
MT05				*e*S	**Sn**	**08 03 55.1**	**+0.6**
MT05				IAML		08 04 03.7	
comp=Z,71nm,0.2s							
MT14	**Cerro Calıın**	**3.33**	**166**	*e*P	**Pn**	**08 03 17.3**	**+0.1**
MT14				*e*S	**Sn**	**08 03 54.8**	**-0.8**
MT14				IAML		08 03 56.6	
comp=E,180nm,0.5s							
MT03	**Universidad Ad**	**3.43**	**166**	*e*P	**Pn**	**08 03 19.5**	**+0.9**
MT03				*e*S	**Sn**	**08 03 58.9**	**+0.8**
MT03				IAML		08 04 00.4	
comp=Z,148nm,0.1s							
MT04	**Ro Olivares**	**3.43**	**161**	*e*P	**Pn**	**08 03 20.8**	**+1.9**
MT04				*e*S	**Sn**	**08 03 59.8**	**+1.3**
MT04				IAML		08 04 01.5	
comp=Z,66nm,0.3s							
AVFE	**Valle Fertil**	**3.52**	**99**	*e*P	**Pn**	**08 03 19.7**	**-0.2**
AVFE				*e*S	**Sn**	**08 03 59.1**	**-1.2**
AVFE				IAML		08 04 01.8	
comp=Z,64nm,0.4s							
MT09	**Talagante**	**3.63**	**173**	*e*P	**Pn**	**08 03 21.4**	**-0.1**
MT09				*e*S	**Sn**	**08 04 01.7**	**-1.4**
MT01	**Popeta**	**3.70**	**177**	*e*P	**Pn**	**08 03 21.8**	**-0.5**
MT01				IAML		08 04 06.5	
comp=E,112nm,0.1s							
MT01	**Popeta**	**3.70**	**177**	*e*P	**Pn**	**08 03 21.9**	**-0.5**
MT01				*e*S	**Sn**	**08 04 04.3**	**-0.4**
MT01				IAML		08 04 12.2	
comp=Z,74nm,0.9s							
ACLC	**CERRO LA CRUZ**	**4.01**	**81**	*e*P	**Pn**	**08 03 26.5**	**-0.2**
ACLC				*e*S	**Sn**	**08 04 12.3**	**-0.3**
ACLC				IAML		08 04 13.5	
comp=Z,37nm,0.4s							
BO01	**Tunca**	**4.23**	**175**	*e*P	**Pn**	**08 03 29.1**	**-0.6**
BO01				*e*S	**Sn**	**08 04 16.4**	**-1.4**
BO01				IAML		08 04 16.9	
comp=Z,23nm,0.5s							
BO02	**Sierra Bellavi**	**4.66**	**173**	*e*P	**Pn**	**08 03 36.4**	**+0.9**
BO02				*e*S	**Sn**	**08 04 27.6**	**-0.7**
BO02				IAML		08 04 29.2	
comp=Z,51nm,0.1s							

RSNC 10 08:08:28.3±0.0,7°N±1°×7°3W±°,h152km±2km,M2.9,mb3.5, mB5.4,ML2.7,Mw(mB)4.8,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**191**	P	Pn	08 08 48.9	-0.3
BARC				S	Sn	08 09 04.0	-1.1
BRJC	**Barrancabermej**	**0.62**	**285**	P	Pn	08 08 50.6	+0.1
BRJC				S	Sn	08 09 07.3	-0.1
PAMC	**Pamplona, Colo**	**0.68**	**40**	P	Pn	08 08 51.6	+0.1
PAMC				S	Sn	08 09 08.7	-0.5
RUSC	**La Rusia**	**0.91**	**176**	P	Pn	08 08 52.7	-0.5
RUSC				S	Sn	08 09 11.4	-0.7
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	P	Pn	08 08 55.5	-0.9
PTBC				S	Sn	08 09 16.4	-1.4
TAMC	**Tame, Arauca**	**1.39**	**105**	P	Pn	08 08 57.2	+0.3
TAMC				S	Sn	08 09 18.7	-0.1
OCAC	**Ocana**	**1.43**	**353**	P	Pn	08 08 56.8	-0.7
OCAC				S	Sn	08 09 19.0	-0.9
SPBC	**San Pablo de B**	**1.48**	**219**	P	Pn	08 08 57.8	-0.1
SPBC				S	Sn	08 09 20.4	-0.2
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	P	Pn	08 09 01.4	-0.3
ZARC				S	Sn	08 09 26.9	-0.4
NORC	**Norcasia**	**2.12**	**234**	P	Pn	08 09 04.9	-0.1
NORC				S	Sn	08 09 32.2	-1.0
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	08 09 06.9	0.0
CHIC				S	Sn	08 09 36.2	-0.4
ROSC	**El Rosal**	**2.28**	**211**	P	Pn	08 09 08.7	+1.4
ROSC				S	Sn	08 09 37.4	+0.1
HELC	**Santa Helena**	**2.45**	**256**	P	Pn	08 09 09.9	+0.6
HELC				S	Sn	08 09 41.0	+0.2
CVER	**Cruz Verde, Cu**	**2.46**	**202**	P	Pn	08 09 10.2	+0.7
CVER				S	Sn	08 09 41.5	+0.3
UREC	**San Jos de Ur**	**2.55**	**292**	P	Pn	08 09 09.4	-0.8
UREC				S	Sn	08 09 40.0	-2.5
GUY2C	**Guyana, Caldas**	**2.72**	**235**	P	Pn	08 09 12.8	+0.1
GUY2C				S	Sn	08 09 50.2	+3.3
VILC	**Villavicencio,**	**2.74**	**192**	P	Pn	08 09 12.5	-0.1
VILC				S	Sn	08 09 46.1	-0.8
PTGC	**Puerto Gaitan,**	**2.78**	**159**	P	Pn	08 09 11.8	-1.2
PTGC				S	Sn	08 09 45.3	-2.3
RECRC	**Villamaria, Ca**	**2.87**	**230**	P	Pn	08 09 15.6	+1.0
RECRC				S	Sn	08 09 53.8	+3.5
NIZA	**Niza - Manizal**	**2.90**	**233**	P	Pn	08 09 17.0	+2.2
NIZA				S	Sn	08 09 53.4	+2.7
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	08 09 16.5	+0.5
CBOC				S	Sn	08 09 53.2	+0.3
DBBC	**Dabeiba**	**3.06**	**274**	P	Pn	08 09 16.3	-0.2
DBBC				S	Sn	08 09 52.0	-1.8
ARGC	**Ariguani, Magd**	**3.22**	**340**	P	Pn	08 09 17.7	-0.9
ARGC				S	Sn	08 09 57.6	0.0
PRAC	**Prado**	**3.53**	**210**	P	Pn	08 09 21.9	-0.7
PRAC				S	Sn	08 10 03.8	-1.0
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	08 09 23.0	0.0
ORTC				S	Sn	08 10 05.6	+0.1
APAC	**Apartado, Choc**	**3.58**	**288**	P	Pn	08 09 23.5	+0.3
APAC				S	Sn	08 10 01.8	-3.9
SJCC	**San Jacinto, C**	**3.67**	**327**	P	Pn	08 09 22.4	-2.0
SJCC				S	Sn	08 10 05.5	-2.5
CRJC	**Cerrejon, Guaj**	**4.19**	**3**	P	Pn	08 09 29.0	-2.2
CRJC				S	Sn	08 10 16.8	-3.4
YOTC	**Yotoco, Valle**	**4.25**	**229**	P	Pn	08 09 31.1	-0.9
GUVC	**San Jose del G**	**4.27**	**173**	P	Pn	08 09 31.1	-1.1
GUVC				S	Sn	08 10 19.7	-2.2
CAPC	**Capurgana**	**4.55**	**294**	P	Pn	08 09 35.0	-0.8
CAPC				S	Sn	08 10 25.5	-3.0
MACC	**Macarena, Meta**	**4.69**	**189**	P	Pn	08 09 35.8	-1.9
MACC				S	Sn	08 10 27.0	-4.8
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	08 09 39.1	-2.6
URIC				S	Sn	08 10 36.4	-2.5
JAMC	**Jamundi, Valle**	**5.01**	**225**	P	Pn	08 09 41.4	-0.8
4.3nm,1.0s							
MALC	**Bahia Malaga**	**5.02**	**237**	P	Pn	08 09 43.0	+1.0
BBAC	**Balboa, Cauca**	**6.28**	**221**	P	Pn	08 09 59.3	+0.3

IDC 10 08:15:44.8±1.6,4°.20S×152°.86E,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=80.4km s-min=27.4km az=119.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.89**	**228**	P	P	08 21 00.5	+0.2
3.3nm,0.6s,baz=55,slow=10.0,SNR=28							
3.3nm,0.6s							
ASAR	**Alice Springs**	**26.63**	**222**	P	P	08 21 24.9	-0.5
0.4nm,0.6s,baz=54,slow=8.6,SNR=6.9							
0.4nm,0.6s							
STKA	**Stephens Creek**	**29.49**	**200**	P	P	08 21 51.2	+0.4
1.0nm,0.4s,baz=355,slow=8.2,SNR=14							
1.0nm,0.4s							
ILAR	**Eielson Array**	**81.59**	**22**	P	P	08 28 03.7	-0.6
0.4nm,0.8s,baz=251,slow=5.6,SNR=2.9							
0.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**150.18**	**289**	PKPbc	PKPbc	08 35 38.8	0.0
0.3nm,0.3s,baz=68,slow=2.2,SNR=5.0							

*IDC **10** 08:24:17.7±2.4,52°.68N×169°.17W,h0km,mb3.8/5, mbtmp3.8/6,ML3.5/1,Error ellipse: s-maj=74.0km s-min=30.2km az=12.0*
*AEIC **10** 08:24:20.9±2.4,52°.28N±0°.05×169°.24W±0°.09,h29km±7km, Error ellipse: s-maj=9.8km s-min=4.5km az=128.0*
*NEIC **10** 08:24:22.0±1.9,52°.33N±0°.06×169°.31W±0°.08,h35km±2km, mb3.8/18,ML3.7/6,ML3.2(AEIC),Error ellipse: s-maj=11.4km s-min=7.4km az=153.0*
ISC 10 08:24:20.4±2.0,52°.29N±0°.10×169°.27W±0°.07, h26km±13km,n65,σ1°.15/65,mb4.1/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.57**	**331**		**Pn**	**08 24 32.8**	**0.0**
CLCO					**Sn**	**08 24 41.8**	**+0.5**
NIKH	**Nikolski High**	**0.73**	**20**		**Pn**	**08 24 34.5**	**-0.4**
NIKH					**Sn**	**08 24 45.3**	**+0.1**
OKCE	**Okmok Cone E**	**1.32**	**30**		**Pb**	**08 24 43.7**	**-0.8**
OKCE					**Sb**	**08 25 01.2**	**+0.2**
OKNC	**Okmok New Cone**	**1.36**	**30**		**Pb**	**08 24 44.2**	**-0.9**
OKNC					**Sb**	**08 25 02.5**	**+0.5**
OKFG	**Magazine Ridge**	**1.39**	**36**		**Pn**	**08 24 44.2**	**+0.1**
OKFG					**Sb**	**08 25 02.8**	**-0.1**
MAPS	**Pakushin South**	**2.07**	**42**		**Pn**	**08 24 54.2**	**+0.9**
MGOD	**Makushin Gods**	**2.09**	**43**		**Pn**	**08 24 54.8**	**+1.1**
MSW	**Makushin Switc**	**2.21**	**42**		**Pn**	**08 24 56.5**	**+1.2**
UNV	**Unalaska Valle**	**2.28**	**46**		**Pn**	**08 24 57.2**	**+0.9**
MTBL	**Makushin Table**	**2.29**	**42**		**Pn**	**08 24 57.1**	**+0.6**
AKMO	**Akutan Morgan**	**2.66**	**46**		**Pn**	**08 25 03.4**	**+1.9**
AKMO					**Sn**	**08 25 34.0**	**+1.1**
LVA	**Lava Point**	**2.70**	**45**	Pn	**Pn**	**08 25 03.9**	**+1.9**
LVA				IAML		08 25 49.0	
comp=E,307nm,0.7s							
AKBBA	**Akutan Broad B**	**2.70**	**47**		**Pn**	**08 25 04.3**	**+2.3**
AKV	**Akutan Volcano**	**2.71**	**46**		**Pn**	**08 25 04.1**	**+1.9**
KOFP	**Korovin Flat P**	**2.97**	**272**		**Pn**	**08 25 06.9**	**+1.1**
ATKA	**Atka Island**	**3.03**	**270**		**Pn**	**08 25 06.3**	**-0.3**
ATKA				IAML		08 26 54.2	
comp=E,86nm,3.6s							
ADK	**Adak**	**4.59**	**268**	Pn	**Pn**	**08 25 28.4**	**+0.3**
ADK				IAML		08 26 22.5	
comp=E,91nm,3.6s							
ADK				IAML		08 27 19.1	
comp=E,99nm,2.5s							
KIWB	**Kanaga Island**	**4.88**	**268**	Pn	**Pn**	**08 25 34.6**	**+2.5**
CHGN	**Chignik**	**7.51**	**53**	Pn	**Pn**	**08 26 10.5**	**+2.4**
O14K	**Tigyukauivet M**	**8.30**	**30**	Pn	**Pn**	**08 26 20.9**	**+2.0**
M14K	**Bethel**	**9.39**	**23**	Pn	**Pn**	**08 26 35.9**	**+2.2**
N15K	**Kwethluk River**	**9.39**	**29**	Pn	**Pn**	**08 26 34.9**	**+1.0**
O16K	**Kokwok River B**	**9.62**	**36**	Pn	**Pn**	**08 26 38.6**	**+1.6**
OHAK	**Old Harbor**	**10.46**	**56**	Pn	**Pn**	**08 26 47.4**	**-1.0**
N17K	**Nushagak Hills**	**10.61**	**34**	Pn	**Pn**	**08 26 52.3**	**+1.8**
O18K	**Koktuh Hills**	**10.90**	**40**	Pn	**Pn**	**08 26 54.7**	**+0.3**
KDAK	**Kodiak Island**	**11.03**	**54**	Pn	**Pn**	**08 26 56.8**	**+0.7**
Q19K	**Cape Douglas,**	**11.04**	**47**	Pn	**Pn**	**08 26 57.5**	**+1.1**
SYI	**Shuyak Island**	**11.46**	**50**	Pn	**Pn**	**08 27 03.2**	**+1.1**
L18K	**Granite Mounta**	**12.03**	**29**	Pn	**Pn**	**08 27 12.2**	**+2.3**
BRLK	**Bradley Lake**	**12.68**	**47**	Pn	**Pn**	**08 27 18.5**	**-0.3**
RC01	**Rabbit Creek A**	**13.83**	**43**	Pn	**Pn**	**08 27 33.0**	**-1.5**
PWL	**Port Wells**	**14.32**	**45**	Pn	**Pn**	**08 27 42.0**	**+0.8

FINES FINESS Array B 65.95 352 P **P 08 35 02.3 -1.3**
comp=Z,1.3nm,0.8s,baz=8.9,slow=9.8,SNR=4.8
comp=Z,1.3nm,0.8s
HFS Hagfors 67.90 358 P **P 08 35 15.3 -0.7**
comp=Z,1.6nm,0.8s,baz=358,slow=5.5,SNR=4.9
comp=Z,1.6nm,0.8s

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*MOS **10** 08:33:15.1±1.0,20°.39S×174°.33W,h10km,mb6.1/58, MS5.8/24, Error ellipse: s-maj=7.8km s-min=6.9km az=85.0*
*IDC **10** 08:33:16.0±0.3,20°.47S×174°.24W,h0km,mb5.6/30, mbtmp5.6/32, ML5.6/2, MS5.7/61, Error ellipse: s-maj=13.5km s-min=12.9km az=114.0*
*IPGP **10** 08:33:16.0,20°.54S×173°.82W,h17km,Mw6.1, Fault plane solution: NP1:ϕ_s20.00000°,δ64.00000°,λ92.00000°. NP2:ϕ_s195.00000°,δ26.00000°,λ86.00000°.*
*NEIC **10** 08:33:16.8,20°.51S×173°.84W,h30km*
*NEIC **10** 08:33:16.8,20°.41S×173°.62W,h30km, Moment Tensor Solution. Duration: 4s5 Moment tensor: Scale 10^{18}Nm; M_{rr}1.62; $M_{\theta\theta}$-0.13; $M_{\phi\phi}$-1.49; $M_{r\theta}$-0.23; $M_{\theta\phi}$-0.49; $M_{\phi r}$-0.13; Fault plane solution: $M_0$1.65000×10^{18} NP1: ϕ_s204.03000°,δ48.65000°,λ98.36000°. NP2:ϕ_s11.49000°, δ42.04000°,λ80.62000°. Principal axes: T 1.6471, Plg83.0000°, Azm170.0000°; N 0.0090, Plg6.0000°, Azm18.0000°; P -1.6562, Plg3.0000°, Azm288.0000°;*
*BJI **10** 08:33:17.4,20°.19S×174°.25W,h10km,mb5.8/84, mB6.3/76,Ms6.1/98,Ms7 5.8/95*
*NEIC **10** 08:33:21.1±2.5,20°.45S±0°.07×174°.01W±0°.09,h35km±1km, mb6.0/128,Ms_20 6.0/649,Mww6.1/24, Error ellipse: s-maj=14.5km s-min=11.3km az=126.0*
*BGR **10** 08:33:21.5,20°.53S×174°.01W,h33km,Ms6.0*
*NOU **10** 08:33:21.3,20°.49S×173°.80W,h50km,ML5.8/95,Tonga Islands*
*GCMT **10** 08:33:24.1±0.1,20°.53S×173°.71W,h20km,MW6.1/173, Moment Tensor Solution. s163,c387; s173,c639; Duration: 2s7 Moment tensor: Scale 10^{18}Nm; M_{rr}1.33±.01; $M_{\theta\theta}$-0.02±.01; $M_{\phi\phi}$-1.31±.01; $M_{r\theta}$0.46±.02; $M_{\theta\phi}$-0.55±.01; $M_{\phi r}$0.78±.02; Best double couple: $M_0$1.68900×10^{18} NP1:ϕ_s26.00000°,δ61.00000°, λ96.00000°. NP2:ϕ_s193.00000°,δ29.00000°,λ78.00000°. Principal axes: T 1.6040, Plg73.0000°, Azm312.0000°; N 0.1660, Plg6.0000°, Azm203.0000°; P -1.7730, Plg16.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 10 08:33:19.7±0.4,**20°.53S**±0°.03×**174°.06W**±0°.03,**h27**km±2km, **h27**km:**pP-P,n1695,**σ1**958**/1781,**mb5.9**/181,**MS6.0**/452, **202C-63D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.15**	**70**	Pn	Pn	08 34 15.0	-6.3
NIUE	**Niue**	**4.15**	**70**	P	Pn	08 34 14.3	-7.0
NIUE				S	Sn	08 34 56.6	-12
NIUE	**Niue**	**4.15**	**70**	P	Pn	08 34 16.3	-5.1
NIUE	**Niue**	**4.15**	**70**	⇑P	Pn	08 34 14.3	-7.1
LKBA	**Tubou, Lakemba**	**5.04**	**296**	P	**Pn**	**08 34 37.2**	**+3.6**
AFI	**Afiamalu**	**6.93**	**19**		**Pn**	**08 34 55.9**	**-3.8**
AFI	**Afiamalu**	**6.93**	**19**	P	**Pn**	**08 34 55.9**	**-3.8**
AFI	**Afiamalu**	**6.93**	**19**	P	**Pn**	**08 34 55.9**	**-3.8**
FUTU	**Fugatoga**	**7.30**	**327**	Pn	**Pn**	**08 35 07.5**	**+2.8**
MSVF	**Nonsavu**	**7.96**	**289**	Pn	Pn	08 35 19.4	+5.6
MSVF	**Nonsavu**	**7.96**	**289**	Pn	Pn	08 35 20.4	+6.6
9.7nm,0.3s,baz=127,slow=11,SNR=95							
MSVF				LR	LR	08 38 03.9	
comp=Z,241μm,18.8s,baz=82,slow=37							
MSVF	**Nonsavu**	**7.96**	**289**	P	Pn	08 35 19.9	+6.1
MSVF	**Nonsavu**	**7.96**	**289**	⇑P	Pn	08 35 19.1	+5.3
MSVF	**Nonsavu**	**7.96**	**289**	P	Pn	08 35 19.4	+5.6
YSA	**Yasawairara**	**8.80**	**294**	P	Pn	08 35 31.1	+5.9
RIZ	**Raoul Island**	**9.36**	**201**	P	**Pn**	**08 35 34.0**	**+1.1**
RIZ				S	**Sn**	**08 37 11.0**	**-6.4**
RAO	**Raoul Island**	**9.36**	**201**		**Pn**	**08 35 31.6**	**-1.3**
RAO	**Raoul Island**	**9.36**	**201**	Pn	**Pn**	**08 35 32.2**	**-0.7**
117nm,0.3s,baz=258,slow=21,SNR=2.2							
RAO				Sn	**Sn**	**08 37 10.9**	**-6.5**
213nm,0.3s,baz=95,slow=23,SNR=10							
423nm,0.4s							
GLKZ	**Green Lake**	**9.37**	**201**	P	**Pn**	**08 35 34.7**	**+1.6**
GLKZ				S	**Sn**	**08 37 11.6**	**-6.0**
RAR	**Rarotonga**	**13.37**	**95**	Pn	Pn	08 36 21.9	-6.0
RAR	**Rarotonga**	**13.37**	**95**	Pn	Pn	08 36 21.1	-6.7
21nm,0.3s,baz=256,slow=7.5,SNR=47							
RAR				Sn	Sn	08 38 37.7	-18
11nm,0.3s,baz=116,slow=20,SNR=1.7							
RAR	**Rarotonga**	**13.37**	**95**	P	Pn	08 36 21.8	-6.1
FUNA	**Funafuti**	**13.60**	**330**	Pn	**Pn**	**08 36 32.1**	**+1.2**
MARNC	**Mare, Loyalty**	**16.75**	**264**	P	**P**	**08 37 18.3**	**+3.6**
DVP	**Devils Point**	**17.01**	**276**	P	**P**	**08 37 19.8**	**+2.3**
PINNC	**Pines Island,**	**17.33**	**260**		**P**	**08 37 22.3**	**+1.2**
PINNC	**Pines Island,**	**17.33**	**260**	P	**P**	**08 37 24.1**	**+3.1**
LIFNC	**LIFOU**	**17.50**	**266**	P	**P**	**08 37 23.9**	**+0.9**
YATNC	**Mamie plateau,**	**17.82**	**262**	P	**P**	**08 37 29.0**	**+2.5**
GRZ	**Great Barrier**	**18.16**	**208**	P	**P**	**08 37 33.2**	**+3.1**
MXZ	**Matakaoa Point**	**18.23**	**200**	P	**P**	**08 37 31.1**	**+0.2**
MXZ	**Matakaoa Point**	**18.23**	**200**	P	**P**	**08 37 33.4**	**+2.6**
OUZ	**Omahuta**	**18.23**	**214**	P	**Pn**	**08 37 29.6**	**-1.2**
OUZ	**Omahuta**	**18.23**	**214**	P	**P**	**08 37 31.5**	**+0.6**
ONTNC	**Ouen Toro**	**18.23**	**261**	P	**P**	**08 37 32.2**	**+1.2**
DZM	**Mont Dzumac**	**18.23**	**262**	*e*P	**P**	**08 37 31.5**	**+0.3**
1μm,1.4s							
DZM				*e*S	**Sn**	**08 40 54.4**	**+0.3**
18μm,24.8s							
DZM				*e*LR	LR	08 41 50.6	
57μm,22.8s							
DZM	**Mont Dzumac**	**18.23**	**262**	P	**P**	**08 37 32.5**	**+1.3**
DZM	**Mont Dzumac**	**18.23**	**262**	P	**P**	**08 37 32.2**	**+1.1**
260nm,1.0s,baz=90,slow=14,SNR=49							
DZM				S	**Sn**	**08 40 47.5**	**-6.6**
11nm,0.9s,baz=122,slow=13,SNR=1.2							
DZM				LR	LR	08 43 17.8	
comp=Z,47μm,20.6s,baz=92,slow=33							
DZM	**Mont Dzumac**	**18.23**	**262**	P	**P**	**08 37 33.0**	**+1.8**
NOUC	**Port Laguerre**	**18.36**	**262**	P	**Pn**	**08 37 34.4**	**+1.8**
NFK	**Norfolk Island**	**18.40**	**239**	P	**Pn**	**08 37 34.3**	**+1.4**
comp=Z,0.0nmcomp=Z,764nm,1.1s							
WCZ	**Waipu Caves**	**18.42**	**211**	P	**Pn**	**08 37 33.1**	**0.0**
KUZ	**Kuaotunu**	**18.46**	**207**	P	**Pn**	**08 37 36.9**	**+3.3**
KUZ	**Kuaotunu**	**18.46**	**207**	P	**Pn**	**08 37 36.7**	**+3.1**
HAZ	**Te Kaha**	**18.57**	**201**	P	**P**	**08 37 34.7**	**+0.1**
HAZ				S	Sn	08 40 46.9	-15
PUZ	**Puketiti**	**18.71**	**199**	P	**Pn**	**08 37 38.9**	**+2.2**
PUZ				S	Sn	08 40 47.8	-17
WIAZ	**Waiheke Island**	**18.75**	**208**	P	**Pn**	**08 37 40.2**	**+3.0**
RUGZ	**Raukumara Rang**	**18.80**	**201**	P	**Pn**	**08 37 37.8**	**0.0**
RUGZ				S	Sn	08 40 51.6	-16
MBAZ	**Motutapu North**	**18.84**	**208**	P	**Pn**	**08 37 40.1**	**+1.9**
TWGZ	**Tauwhareparae**	**18.89**	**200**	P	**Pn**	**08 37 41.1**	**+2.2**
TWGZ				S	Sn	08 40 52.7	-17
ETAZ	**East Tamaki Re**	**18.98**	**208**	P	**Pn**	**08 37 42.8**	**+2.9**
MKAZ	**Moumakai**	**19.00**	**207**	P	**Pn**	**08 37 42.0**	**+1.8**
CNGZ	**Carnagh Statio**	**19.10**	**199**	P	**Pn**	**08 37 43.0**	**+1.6**
MWZ	**Matawai**	**19.18**	**201**	P	**Pn**	**08 37 43.0**	**+0.6**
MWZ				S	Sn	08 41 01.8	-15
AWAZ	**Awhitu Peninsu**	**19.20**	**208**	P	**Pn**	**08 37 44.8**	**+2.3**
AWAZ				S	Sn	08 41 01.9	-15
URZ	**Urewera**	**19.25**	**201**	P	**P**	**08 37 41.6**	**-0.5**
comp=Z,8.3nm,0.3s,baz=44,slow=1.7,SNR=48							
URZ				S	Sn	08 41 00.2	-18
comp=Z,29nm,0.8s,baz=100,slow=22,SNR=2.1							
URZ				LR	LR	08 44 30.3	
comp=Z,25μm,20.9s,baz=95,slow=35							
comp=Z,57nm,0.7s							
URZ	**Urewera**	**19.25**	**201**	P	**P**	**08 37 41.6**	**-0.5**
URZ				S	Sn	08 41 00.4	-18
URZ	**Urewera**	**19.25**	**201**	P	**Pn**	**08 37 43.1**	**-0.1**
URZ	**Urewera**	**19.25**	**201**	⇑P	**P**	**08 37 41.6**	**-0.5**
RAGZ	**Rawiri**	**19.36**	**201**	P	**Pn**	**08 37 47.5**	**+2.9**
TOZ	**Tahuroa Road**	**19.39**	**206**	P	**Pn**	**08 37 44.5**	**-0.4**
TOZ	**Tahuroa Road**	**19.39**	**206**	P	**Pn**	**08 37 46.8**	**+1.9**
RIGZ	**Rimuhau**	**19.44**	**200**	P	**Pn**	**08 37 47.4**	**+1.9**
RIGZ				S	S	08 41 06.7	-16
RTZ	**Ruatahuna**	**19.62**	**201**	P	**P**	**08 37 45.2**	**-1.0**
PRRZ	**Plateau Road**	**19.72**	**203**	P	**Pn**	**08 37 49.1**	**+0.3**
BKZ	**Black Stump Fm**	**20.28**	**202**	P	**P**	**08 37 52.5**	**-0.8**
BKZ	**Black Stump Fm**	**20.28**	**202**	P	Pn	08 37 55.1	-0.3
KOUNC	**Koumac, New Ca**	**20.28**	**266**	P	**P**	**08 37 54.2**	**+0.7**
KOUNC				IAMs_20	IAMs_20	08 44 19.7	
comp=Z,54μm,20.0s							
KOUNC	**Koumac, New Ca**	**20.28**	**266**	P	Pn	08 37 57.4	+1.8
KOUNC	**Koumac, New Ca**	**20.28**	**266**	⇑P	**P**	**08 37 53.5**	**0.0**
HIZ	**Hauiti**	**20.32**	**206**	P	**P**	**08 37 54.7**	**+0.9**
HIZ				IAmb	IAmb	08 38 03.5	
comp=Z,744nm,1.5s							
HIZ	**Hauiti**	**20.32**	**206**	P	Pn	08 37 55.4	-0.5
KHEZ	**Kahui Hut**	**21.33**	**206**	P	**P**	**08 38 06.1**	**+1.3**
LUES	**Luesalemba Tem**	**21.62**	**294**	P	**P**	**08 38 08.9**	**+1.0**
BFZ	**Birch Farm**	**21.72**	**200**	P	**P**	**08 38 11.4**	**+2.5**
MSWZ	**Moikau Station**	**22.71**	**201**	P	**P**	**08 38 18.9**	**-0.5**
SNZO	**South Karori**	**22.81**	**202**	P	**P**	**08 38 19.8**	**-0.7**
SNZO	**South Karori**	**22.81**	**202**	P	**P**	**08 38 22.9**	**+2.5**
TBI	**Tubuai**	**22.98**	**102**	*e*P	**P**	**08 38 19.1**	**-3.3**
comp=Z,3μm,1.7s							
TBI				*e*S	S	08 42 19.6	-12
comp=Z,118μm,27.0s							
TBI				*e*LR	LR	08 43 47.6	
comp=Z,245μm,28.5s							
TBI				*e*LR	LR	08 43 51.1	
comp=Z,48μm,27.0s							
QRZ	**Quartz Range**	**23.23**	**206**	P	**P**	**08 38 26.0**	**+1.2**
PAE	**Paea**	**23.30**	**87**	*e*PKP2	**P**	**08 38 24.2**	**-1.5**
comp=Z,199nm,1.3s							
PAE				*e*S	**S**	**08 42 28.7**	**-8.0**
comp=Z,2μm,22.9s							
PAE				*e*LR	LR	08 43 56.5	
comp=Z,9μm,24.5s							
PPT2	**Papeete2**	**23.32**	**87**	*e*PKP2	**P**	**08 38 23.8**	**-2.2**
comp=Z,708nm,1.5s							
PPT2				*e*S	S	08 42 24.0	-13
comp=Z,56μm,26.8s							
PPT2				*e*LR	LR	08 43 54.6	
comp=Z,65μm,26.5s							
PPT2				*e*LR	LR	08 44 01.6	
comp=Z,40μm,26.2s							
PPT	**Papeete**	**23.32**	**87**	P	**P**	**08 38 26.1**	**+0.2**
comp=Z,94nm,0.8s,baz=80,slow=8.9,SNR=9.4							
PPT				LR	LR	08 46 59.3	
comp=Z,19μm,18.0s,baz=265,slow=35							
comp=Z,94nm,0.8s							
PPTF	**Pamatai, Papee**	**23.33**	**87**	P	**P**	**08 38 23.9**	**-2.2**
PPTF				IAmb	IAmb	08 38 34.3	
comp=Z,928nm,1.3s							
PPTF	**Pamatai, Papee**	**23.33**	**87**	P	**P**	**08 38 25.5**	**-0.6**
PPTF	**Pamatai, Papee**	**23.33**	**87**	⇓P	**P**	**08 38 25.1**	**-1.0**
CMWZ	**Cape Campbell**	**23.37**	**203**	P	**P**	**08 38 26.4**	**+0.2**
KHZ	**Kahutara**	**24.20**	**203**	P	**P**	**08 38 33.8**	**-0.2**
KHZ	**Kahutara**	**24.20**	**203**	⇑P	**P**	**08 38 33.1**	**-0.9**
TARA	**Tarawa**	**25.21**	**328**	P	**P**	**08 38 42.2**	**-1.2**
TARA				IAmb	IAmb	08 38 52.9	
comp=Z,274nm,1.1s							
TARA				IAMs_20	IAMs_20	08 47 53.9	
comp=Z,32μm,18.0s							
INZ	**Inchbonnie**	**25.27**	**206**	IAMs_20	IAMs_20	08 47 57.8	
comp=Z,31μm,20.0s							
PMOR	**Pomariorio Ree**	**25.50**	**82**	*e*P	**P**	**08 38 42.6**	**-3.5**
comp=Z,562nm,1.2s							
PMOR				*e*LR	LR	08 44 58.6	
comp=Z,46μm,23.4s							
VAH	**Vaihoa**	**25.68**	**83**	*e*P	**P**	**08 38 44.0**	**-3.7**
comp=Z,269nm,1.2s							
VAH				*e*LR	LR	08 45 03.6	
comp=Z,47μm,23.2s							
RPZ	**Rata Peaks**	**26.25**	**205**	P	**P**	**08 38 52.6**	**-0.1**
RPZ				IAMs_20	IAMs_20	08 48 40.9	
comp=Z,33μm,20.0s							
RPZ	**Rata Peaks**	**26.25**	**205**	LR	LR	08 48 52.3	
comp=Z,33μm,19.8s,baz=24,slow=36							
RPZ	**Rata Peaks**	**26.25**	**205**	P	**P**	**08 38 53.2**	**+0.5**
FOZ	**Fox Glacier**	**26.61**	**207**	IAMs_20	IAMs_20	08 48 25.3	
comp=Z,30μm,20.0s							
ALEG	**Aligegeo Malai**	**27.04**	**292**	P	**P**	**08 38 58.4**	**-1.6**
LBZ	**Lake Benmore**	**27.16**	**205**	IAMs_20	IAMs_20	08 50 19.8	
comp=Z,37μm,19.0s							
HNR	**Honiara**	**27.38**	**290**	P	**P**	**08 39 01.1**	**-2.0**
comp=Z,51nm,0.3s,baz=252,slow=6.7,SNR=5.5							
HNR				LR	LR	08 49 00.9	
comp=Z,22μm,18.0s,baz=127,slow=35							
comp=Z,51nm,0.3s							
JCZ	**Jackson Bay**	**27.48**	**207**	P	**P**	**08 39 03.8**	**-0.1**
ODZ	**Otahua Downs**	**27.53**	**204**	P	**P**	**08 39 04.4**	**+0.3**
ODZ	**Otahua Downs**	**27.53**	**204**	⇑P	**P**	**08 39 04.7**	**+0.6**
TATA	**Tatamba Isabel**	**27.99**	**292**	P	**P**	**08 39 05.9**	**-2.6**
SYZ	**Scrubby Hill**	**29.35**	**204**	P	**P**	**08 39 21.4**	**+1.1**
PYZ	**Puysegur Point**	**30.05**	**207**	P	**P**	**08 39 27.2**	**+0.7**
ARMA	**Armidale**	**32.40**	**245**	P	**P**	**08 39 47.2**	**-0.4**
ARMA				IAMs_20	IAMs_20	08 52 11.3	
comp=Z,22μm,19.0s							
ARMA	**Armidale**	**32.40**	**245**	P	**P**	**08 39 47.1**	**-0.4**
comp=Z,0.0nmcomp=Z,59nm,1.0s							
ARMA	**Armidale**	**32.40**	**245**	P	**P**	**08 39 48.4**	**+0.8**
ARMA	**Armidale**	**32.40**	**245**	⇑P	**P**	**08 39 47.0**	**-0.5**
EIDS	**Eidsvold**	**32.40**	**255**	P	**P**	**08 39 45.4**	**-2.1**
EIDS	**Eidsvold**	**32.40**	**255**	P	**P**	**08 39 45.4**	**-2.1**
comp=Z,0.0nmcomp=Z,55nm,0.9s							
EIDS	**Eidsvold**	**32.40**	**255**	⇑P	**P**	**08 39 45.9**	**-1.6**
MGCD	**Mangrove Creek**	**33.38**	**240**	P	**P**	**08 39 55.6**	**-0.4**
comp=Z,61nm,1.2s							
MGCD	**Mangrove Creek**	**33.38**	**240**	P	**P**	**08 39 56.9**	**+0.9**
SYDH	**Sydney Hard Ro**	**33.81**	**240**	P	**P**	**08 39 59.1**	**-0.6**
TAOE	**Nuku Hiva Isla**	**34.71**	**76**	*e*PKP2	**P**	**08 40 04.0**	**-3.9**
comp=Z,444nm,1.4s							
TAOE	**Nuku Hiva Isla**	**34.71**	**76**	*e*PP	**PnPn**	**08 41 20.3**	**-3.9**
comp=Z,2μm,24.5s							
TAOE				*e*S	**S**	**08 45 31.9**	**-4.8**
comp=Z,4μm,26.7s							
TAOE				*e*LQ	LQ	08 47 34.3	
comp=Z,9μm,24.0s							
TAOE				*e*LR	LR	08 49 12.6	
comp=Z,30μm,24.6s							
CAN	**Canberra**	**35.59**	**238**	P	**P**	**08 40 14.9**	**-0.3**
CAN				IAmb	IAmb	08 40 15.7	
comp=Z,255nm,1.4s							
CAN				IAMs_20	IAMs_20	08 54 09.4	
comp=Z,19μm,18.0s							
CAN	**Canberra**	**35.59**	**238**	P	**P**	**08 40 13.9**	**-1.3**
comp=Z,0.0nmcomp=Z,132nm,1.2s							
CAN	**Canberra**	**35.59**	**238**	P	**P**	**08 40 14.9**	**-0.3**
CAN	**Canberra**	**35.59**	**238**	⇑P	**P**	**08 40 14.2**	**-1.0**
CAN	**Canberra**	**35.59**	**238**	P	**P**	**08 40 14.9**	**-0.3**
CAN				pmax	pmax		
comp=Z,255nm,1.4s							
CAN				MLR	MLR		
comp=Z,19μm,18.0s							
CAN	**Canberra**	**35.59**	**238**	P	**P**	**08 40 14.0**	**-1.1**
YNG	**Young**	**35.83**	**240**	P	**P**	**08 40 15.8**	**-1.4**
comp=Z,142nm,0.9s							
YNG	**Young**	**35.83**	**240**	P	**P**	**08 40 16.5**	**-0.7**
RABL	**Rabaul**	**36.65**	**292**	P	**P**	**08 40 21.6**	**-2.8**
TV1H	**Townsville Har**	**36.77**	**265**	P	**P**	**08 40 25.1**	**-0.3**
CTA	**Charters Tower**	**37.16**	**264**	LR	LR	08 54 52.4	
comp=Z,1μm,18.0s,baz=88,slow=35							
CTA	**Charters Tower**	**37.16**	**264**	P	**P**	**08 40 27.3**	**-1.4**
CTAO	**Charters Tower**	**37.16**	**264**	P	**P**	**08 40 27.1**	**-1.6**
CTAO	**Charters Tower**	**37.16**	**264**	IAMs_20	IAMs_20	08 54 49.0	
comp=Z,15μm,18.0s							
CTAO	**Charters Tower**	**37.16**	**264**	P	**P**	**08 40 28.0**	**-0.7**
CTAO	**Charters Tower**	**37.16**	**264**	⇑P	**P**	**08 40 27.0**	**-1.8**
CTAO	**Charters Tower**	**37.16**	**264**	P	**P**	**08 40 27.1**	**-1.6**
CTAO				pmax	pmax		
comp=Z,109nm,1.0s							
CTAO				MLR	MLR		
comp=Z,15μm,18.0s							
CTAO	**Charters Tower**	**37.16**	**264**	P	**P**	**08 40 26.9**	**-1.8**
CMSA	**Cobar Meteorol**	**37.60**	**245**	P	**P**	**08 40 30.2**	**-2.1**
comp=Z,0.0nmcomp=Z,136nm,1.1s							
CMSA	**Cobar Meteorol**	**37.60**	**245**	P	**P**	**08 40 31.4**	**-0.9**
PATS	**Pohnpei**	**38.43**	**312**	IAMs_20	IAMs_20	08 52 26.2	
comp=Z,19μm,21.0s							
QLP	**Quilpie**	**38.58**	**253**	P	**P**	**08 40 38.5**	**-2.2**
comp=Z,0.0nmcomp=Z,221nm,1.4s							
QLP	**Quilpie**	**38.58**	**253**	P	**P**	**08 40 40.9**	**+0.3**
QLP	**Quilpie**	**38.58**	**253**	⇑P	**P**	**08 40 38.6**	**-2.0**
TOO	**Toolangi**	**38.89**	**235**	P	**P**	**08 40 41.8**	**-1.3**
TOO	**Toolangi**	**38.89**	**235**	P	**P**	**08 40 41.8**	**-1.3**
TOO				pmax	pmax		
comp=Z,85nm,1.5s							
TOO				MLR	MLR		
comp=Z,6μm,18.0s							
PMG	**Port Moresby**	**38.96**	**281**	P	**P**	**08 40 42.1**	**-1.9**
PMG				IAmb	IAmb	08 40 44.4	
comp=Z,329nm,1.1s							
PMG	**Port Moresby**	**38.96**	**281**	P	**P**	**08 40 42.5**	**-1.5**
comp=Z,282nm,1.1s,baz=96,slow=5.5,SNR=58							
PMG				LR	LR	08 53 53.8	
comp=Z,14μm,21.4s,baz=166,slow=32							
comp=Z,282nm,1.1s							
PMG	**Port Moresby**	**38.96**	**281**	P	**P**	**08 40 44.1**	**+0.2**
PMG	**Port Moresby**	**38.96**	**281**	P	**P**	**08 40 43.9**	**0.0**
PMG	**Port Moresby**	**38.96**	**281**	⇑P	**P**	**08 40 42.3**	**-1.6**
PMG	**Port Moresby**	**38.96**	**281**	*c*eP	**P**	**08 40 42.2**	**-1.7**
PMG				pmax	pmax		
comp=Z,421nm,1.3s							
PMG				MLR	MLR		
comp=Z,10μm,15.0s							
PMG	**Port Moresby**	**38.96**	**281**	P	**P**	**08 40 42.3**	**-1.6**
MOO	**Moorlands**	**39.15**	**227**	P	**P**	**08 40 45.2**	**0.0**
comp=Z,0.0nmcomp=Z,104nm,1.1s							
MOO	**Moorlands**	**39.15**	**227**	P	**P**	**08 40 47.4**	**+2.2**
TAU	**Tasmania Unive**	**39.24**	**226**	P	**P**	**08 40 45.4**	**-0.5**
TAU	**Tasmania Unive**	**39.24**	**226**	P	**P**	**08 40 46.3**	**+0.4**
TAU	**Tasmania Unive**	**39.24**	**226**	P	**P**	**08 40 45.4**	**-0.5**
TAU				pmax	pmax		
comp=Z,129nm,1.3s							
MTSU	**Mount Surprise**	**39.28**	**266**	P	**P**	**08 40 45.2**	**-1.4**
comp=Z,56nm,0.7s							
MTSU	**Mount Surprise**	**39.28**	**266**	P	**P**	**08 40 45.5**	**-1.1**
BRAT	**Ballarat**	**40.09**	**236**	P	**P**	**08 40 53.6**	**+0.6**
STKA	**Stephens Creek**	**41.11**	**245**	P	**P**	**08 40 59.8**	**-1.7**
STKA	**Stephens Creek**	**41.11**	**245**	P	**P**	**08 40 59.7**	**-1.9**
comp=Z,0.0nmcomp=Z,15nm,1.2s							
STKA	**Stephens Creek**	**41.11**	**245**	P	**P**	**08 41 00.1**	**-1.5**
comp=Z,55nm,1.0s,baz=90,slow=9.6,SNR=83							
STKA				LR	LR	08 56 25.0	
comp=Z,11μm,18.6s,baz=78,slow=34							
comp=Z,55nm,1.0s							
STKA	**Stephens Creek**	**41.11**	**245**	P	**P**	**08 41 00.3**	**-1.3**
STKA	**Stephens Creek**	**41.11**	**245**	*i*P	**P**	**08 40 59.9**	**-1.7**
COEN	**Coen**	**41.27**	**272**	P	**P**	**08 41 01.3**	**-1.9**
COEN	**Coen**	**41.27**	**272**	P	**P**	**08 41 01.2**	**-1.9**
comp=Z,0.0nmcomp=Z,172nm,1.0s							
COEN	**Coen**	**41.27**	**272**	P	**P**	**08 41 02.7**	**-0.4**
ARPS	**Mount Arapiles**	**41.56**	**237**	P	**P**	**08 41 03.8**	**-1.4**
comp=Z,99nm,0.9s							
ARPS	**Mount Arapiles**	**41.56**	**237**	P	**P**	**08 41 05.5**	**+0.2**
INKA	**Innaminka**	**41.68**	**251**	P	**P**	**08 41 09.8**	**+3.5**
MANU	**Manus Island**	**41.87**	**291**	P	**P**	**08 41 06.6**	**-1.4**
MANU				IAmb	IAmb	08 41 08.6	
comp=Z,253nm,1.1s							
QIS	**Mount Isa**	**43.27**	**261**	P	**P**	**08 41 16.9**	**-2.5**
comp=Z,0.0nmcomp=Z,26nm,1.1s							
QIS	**Mount Isa**	**43.27**	**261**	P	**P**	**08 41 17.2**	**-2.2**
HTT	**Hallett**	**43.49**	**243**	P	**P**	**08 41 19.0**	**-2.0**
comp=Z,0.0nmcomp=Z,102nm,1.1s							
HTT	**Hallett**	**43.49**	**243**	P	**P**	**08 41 20.1**	**-0.9**
HTT	**Hallett**	**43.49**	**243**	⇑P	**P**	**08 41 19.1**	**-1.9**
HTT	**Hallett**	**43.49**	**243**	P	**P**	**08 41 19.1**	**-1.9**
PUH	**Pauahi**	**43.74**	**26**	P	**P**	**08 41 22.3**	**-0.9**
PUH				IAmb	IAmb	08 41 33.4	
comp=Z,577nm,1.9s							
MLH	**Mauna Loa**	**43.78**	**26**	P	**P**	**08 41 22.0**	**-1.6**
MLH				IAmb	IAmb	08 41 36.5	
comp=Z,228nm,1.3s							
JOKA	**Jonika Flow**	**43.88**	**26**	P	**P**	**08 41 21.8**	**-2.4**
LCRK	**Leigh Creek**	**43.92**	**247**	P	**P**	**08 41 23.9**	**-0.6**
POHA	**Pohakuloa**	**43.96**	**26**	P	**P**	**08 41 25.2**	**+0.2**
POHA				pP	**pwP**	**08 41 35.9**	**-0.1**
POHA				sP	**sP**	**08 41 40.8**	**+5.8**
POHA				PcP	**PP**	**08 43 05.9**	**-1.9**
DHH	**Diamond Head**	**44.47**	**22**	P	**P**	**08 41 27.4**	**-1.4**
DHH	**Diamond Head**	**44.47**	**22**	P	**P**	**08 41 27.4**	**-1.4**
KIP	**Kipapa**	**44.55**	**22**	*i*P	**P**	**08 41 29.4**	**0.0**
KIP				pmax	pmax		
comp=Z,121nm,1.3s							
KIP				MLR	MLR		
comp=Z,1μm,16.0s							
KIP	**Kipapa**	**44.55**

comp=Z,0.0nmcomp=Z,85nm,0.6s
DRV Dumont d'Urvil 54.59 201 P **P** **08 42 46.4 +1.0**
DRV Dumont d'Urvil 54.59 201 P **P** **08 42 46.7 +1.3**
DRV PcP **PcP** **08 43 46.1 -2.1**
FAKI Fak Fak 55.12 281 P **P** **08 42 48.6 -1.5**
FAKI IAmb IAmb 08 42 51.3
comp=Z,231nm,1.3s
FAKI IAMs_20 IAMs_20 09 04 57.6
comp=Z,13μm,22.0s
FAKI Fak Fak 55.12 281 ⇑P **P** **08 42 48.2 -1.9**
FAKI Fak Fak 55.12 281 P **P** **08 42 47.9 -2.2**
comp=Z,133nm,1.4s,comp=Z,3μmcomp=Z,9μm
BNDI Bandanaira 56.68 278 P **P** **08 42 59.8 -1.5**
comp=Z,488nm,2.1s
FITZ Fitzroy Crossi 56.68 261 P **P** **08 42 59.5 -1.8**
FITZ Fitzroy Crossi 56.68 261 S **S** **08 50 47.0 -5.4**
comp=Z,3.4nm,1.0s,baz=89,slow=22,SNR=1.8
FITZ LR LR 09 06 45.3
comp=Z,12μm,18.8s,baz=98,slow=36
SWI Sorong 56.84 283 P **P** **08 43 00.7 -1.7**
KMBL Kambalda 57.91 245 P **P** **08 43 07.7 -2.1**
comp=Z,0.0nmcomp=Z,49nm,1.3s
KMBL Kambalda 57.91 245 P **P** **08 43 08.1 -1.7**
SBA Scott Base 58.12 185 P **P** **08 43 13.5 +3.1**
SBA Scott Base 58.12 185 P **P** **08 43 13.5 +3.1**
SBA pmax pmax
comp=Z,311nm,1.5s
AAI Ambon 58.57 278 P **P** **08 43 13.0 -1.6**
comp=Z,197nm,1.2s,comp=Z,4μm
RPN Rapa Nui 59.02 110 LR LR 09 04 26.3
comp=Z,7μm,18.1s,baz=258,slow=32
SOEI Soe 60.19 270 P **P** **08 43 25.6 -0.3**
SOEI IAMs_20 IAMs_20 09 09 43.2
comp=Z,9μm,20.0s
SOEI Soe 60.19 270 P **P** **08 43 24.9 -1.1**
SOEI Soe 60.19 270 ⇑P **P** **08 43 26.0 0.0**
BATI Baumata 60.62 270 LR LR 09 10 50.9
comp=Z,7μm,18.6s,baz=132,slow=37
TNTI Ternate 61.05 283 P **P** **08 43 30.6 -1.1**
SANI Sanana 61.22 279 P **P** **08 43 29.7 -3.1**
SANI Sanana 61.22 279 ⇑P **P** **08 43 30.9 -1.9**
KLBR Kellerberrin 61.38 244 P **P** **08 43 32.6 -1.2**
comp=Z,279nm,0.8s
KLBR Kellerberrin 61.38 244 P **P** **08 43 33.9 +0.2**
MEEK Meekatharra 61.39 250 P **P** **08 43 31.4 -2.5**
comp=Z,0.0nmcomp=Z,42nm,1.2s
MEEK Meekatharra 61.39 250 P **P** **08 43 34.1 +0.2**
MBWA Marble Bar 61.45 256 P **P** **08 43 32.4 -1.9**
MBWA IAmb IAmb 08 43 34.0
comp=Z,214nm,1.5s
MBWA Marble Bar 61.45 256 P **P** **08 43 31.9 -2.4**
comp=Z,0.0nmcomp=Z,90nm,0.9s
MBWA Marble Bar 61.45 256 P **P** **08 43 32.6 -1.7**
MBWA P **P** **08 43 32.6 -1.7**
MBWA Marble Bar 61.45 256 P **P** **08 43 33.1 -1.2**
MBWA Marble Bar 61.45 256 ⇑P **P** **08 43 32.3 -2.0**
MBWA Marble Bar 61.45 256 P **P** **08 43 32.4 -1.9**
MBWA pP **sP** **08 43 44.3 -0.4**
MBWA PcP **PcP** **08 44 13.9 -2.3**
NWAO Narrogin (SRO) 61.65 243 P **P** **08 43 34.9 -0.6**
NWAO IAmb IAmb 08 43 37.1
comp=Z,178nm,1.2s
NWAO Narrogin (SRO) 61.65 243 LR LR 09 09 12.9
comp=Z,7μm,18.6s,baz=60,slow=35
NWAO Narrogin (SRO) 61.65 243 P **P** **08 43 34.8 -0.7**
NWAO P **P** **08 43 34.8 -0.7**
NWAO Narrogin (SRO) 61.65 243 P **P** **08 43 35.3 -0.2**
NWAO Narrogin (SRO) 61.65 243 P **P** **08 43 34.9 -0.6**
NWAO pmax pmax
comp=Z,178nm,1.3s
NWAO MLR MLR
comp=Z,13μm,18.0s
NWAO Narrogin (SRO) 61.65 243 P **P** **08 43 34.4 -1.1**
RKGY Rocky Gully 61.67 241 P **P** **08 43 35.5 -0.1**
comp=Z,268nm,0.9s
RKGY Rocky Gully 61.67 241 P **P** **08 43 36.6 +1.0**
MMRI Maumere 62.45 271 P **P** **08 43 39.3 -1.8**
MUN Mundaring 62.64 244 P **P** **08 43 41.2 -0.9**
comp=Z,0.0nmcomp=Z,123nm,1.1s
MUN Mundaring 62.64 244 P **P** **08 43 42.1 0.0**
MTKN Mount Kenneth 63.01 244 P **P** **08 43 47.1 +2.6**
comp=Z,256nm,0.9s
MORW Morawa 63.23 247 P **P** **08 43 44.4 -1.7**
MORW IAmb IAmb 08 43 47.8
comp=Z,190nm,1.2s
MORW IAMs_20 IAMs_20 09 10 39.8
comp=Z,9μm,18.0s
MORW Morawa 63.23 247 P **P** **08 43 44.7 -1.4**
comp=Z,0.0nmcomp=Z,148nm,1.2s
MORW Morawa 63.23 247 P **P** **08 43 46.6 +0.5**
MORW Morawa 63.23 247 ⇑P **P** **08 43 45.0 -1.2**
CCD Concordia, Ant 63.37 195 P **P** **08 43 48.7 +1.9**
JCJ Chichijima 63.54 316 P **P** **08 43 46.6 -1.5**
H01W1 Cape Leeuwin H 63.94 240 P **P** **08 43 53.2 +2.8**
baz=106,slow=8.8,SNR=11
H01W2 Cape Leeuwin H 63.95 240 P **P** **08 43 52.7 +2.2**
baz=106,slow=8.8,SNR=7.6
H01W3 Cape Leeuwin H 63.95 240 P **P** **08 43 53.3 +2.8**
baz=106,slow=8.8,SNR=10
LUWI Luwuk 64.58 279 P **P** **08 43 54.7 -0.5**
LUWI Luwuk 64.58 279 P **P** **08 43 51.9 -3.3**
DAV Davao City (W) 65.33 288 IAMs_20 IAMs_20 09 11 42.1
comp=Z,7μm,19.0s
DAV Davao City (W) 65.33 288 LR LR 09 12 02.4
comp=Z,4μm,18.5s,baz=108,slow=36
DAV Davao City (W) 65.33 288 P P 08 43 55.0 -5.1
CASY Casey 65.52 205 P **P** **08 44 01.0 +0.5**
CASY IAmb IAmb 08 44 18.4
comp=Z,137nm,1.2s
CASY Casey 65.52 205 ⇑P **P** **08 44 01.6 +1.2**
CASY Casey 65.52 205 P **P** **08 44 01.6 +1.2**
KAPI Kappang 65.97 274 P **P** **08 44 02.5 -1.7**
KAPI Kappang 65.97 274 LR LR 09 12 27.4
comp=Z,4μm,19.9s,baz=114,slow=36
KAPI Kappang 65.97 274 P **P** **08 44 02.5 -1.7**
KAPI pmax pmax
comp=Z,63nm,1.1s
GIRL Giralia 66.09 254 P **P** **08 44 02.6 -2.3**
comp=Z,0.0nmcomp=Z,215nm,1.2s
GIRL Giralia 66.09 254 P **P** **08 44 05.7 +0.8**
PLAI Plampang 66.57 269 P **P** **08 44 07.6 -0.4**
TOLI2 Tolitoli 67.23 280 P **P** **08 44 10.8 -1.5**
TOLI2 IAmb IAmb 08 44 12.5
comp=Z,168nm,1.2s
TOLI2 Tolitoli 67.23 280 P **P** **08 44 13.3 +1.0**
JHJ2 Mitsune 69.17 320 P **P** **08 44 23.2 -0.8**
JHJ2 IAMs_20 IAMs_20 09 14 18.0
comp=Z,8μm,18.0s
JHJ Hachijo jima 2 69.19 320 LR LR 09 14 02.1
comp=Z,5μm,18.1s,baz=150,slow=35
QSPA South Pole Qui 69.54 180 P **P** **08 44 27.4 +1.3**
QSPA South Pole Qui 69.54 180 IAMs_20 IAMs_20 09 16 12.9
comp=Z,5μm,18.0s
QSPA South Pole Qui 69.54 180 P **P** **08 44 28.1 +2.0**
comp=Z,165nm,1.0s,baz=42,slow=2.0,SNR=133
QSPA S **S** **08 53 34.8 +2.7**
comp=Z,1.2nm,1.0s,baz=238,slow=21,SNR=1.4
QSPA LR LR 09 14 38.3
comp=Z,4μm,18.0s,baz=42,slow=36
comp=Z,165nm,1.0s
QSPA South Pole Qui 69.54 180 P **P** **08 44 28.1 +2.0**
JAGI Jajag, Banyuwa 70.08 268 P **P** **08 44 27.6 -2.4**
JAGI IAmb IAmb 08 44 29.9
comp=Z,244nm,1.4s
JAGI Jajag, Banyuwa 70.08 268 ⇑P **P** **08 44 27.6 -2.4**
MYLDM Lahad Datu 70.92 283 P **P** **08 44 35.4 +0.2**
MYLDM IAmb IAmb 08 45 20.6
comp=Z,220nm,1.2s
MYLDM Lahad Datu 70.92 283 ⇑P **P** **08 44 36.0 +0.9**
JOD2 Odawara 2 71.08 321 P **P** **08 44 34.7 -1.0**
JSG Sagara 71.22 320 P **P** **08 44 36.3 -0.2**
JRY Ryogami san 71.71 321 P **P** **08 44 39.5 0.0**
JIE Ise 71.94 319 P **P** **08 44 41.1 +0.3**
JMM Marumori 71.94 324 P **P** **08 44 39.9 -0.9**
JMM IAMs_20 IAMs_20 09 12 50.9
comp=Z,9μm,20.0s
JMM Marumori 71.94 324 ⇑P **P** **08 44 40.9 +0.1**
JMM Marumori 71.94 324 P **P** **08 44 39.8 -0.9**
KIWB Kanaga Island 72.12 358 P **P** **08 44 41.6 +0.1**
ADK Adak 72.14 358 P **P** **08 44 41.6 0.0**
ADK IAmb IAmb 08 44 42.9
comp=Z,266nm,1.1s
ADK Adak 72.14 358 P **P** **08 44 41.6 0.0**
ADK pmax pmax
comp=Z,266nm,1.1s

JGF Kuroka 72.35 320 P **P** **08 44 42.4 -1.0**
JGF IAmb IAmb 08 44 54.5
comp=Z,248nm,1.5s
JGF Kuroka 72.35 320 P **P** **08 44 43.8 +0.5**
JGF Kuroka 72.35 320 ⇑P **P** **08 44 42.8 -0.5**
INU Inuyama 72.38 320 P **P** **08 44 43.1 -0.4**
INU IAmb IAmb 08 44 54.9
comp=Z,175nm,1.4s
INU Inuyama 72.38 320 ⇑P **P** **08 44 43.4 -0.1**
ATKA Atka Island 72.42 360 P **P** **08 44 42.9 -0.4**
ATKA Atka Island 72.42 360 P **P** **08 44 43.6 +0.3**
ATKA Atka Island 72.42 360 ⇑P **P** **08 44 42.5 -0.8**
MJAR Matsushiro Arr 72.48 321 P **P** **08 44 43.7 -0.4**
comp=Z,80nm,0.9s,baz=132,slow=6.5,SNR=122
MJAR LR LR 09 10 32.2
comp=Z,3μm,21.4s,baz=130,slow=31
comp=Z,80nm,0.9s
MAJO Matsushiro 72.48 321 P **P** **08 44 43.3 -0.8**
MAJO IAmb IAmb 08 44 45.4
comp=Z,87nm,0.8s
MAJO Matsushiro 72.48 321 P **P** **08 44 44.4 +0.3**
MAJO Matsushiro 72.48 321 ⇑P **P** **08 44 43.9 -0.2**
MAJO Matsushiro 72.48 321 *c iP* **P** **08 44 43.4 -0.7**
MAJO pmax pmax
comp=Z,154nm,1.3s
MAJO MLR MLR
comp=Z,3μm,17.0s
MAT Matsushiro 72.48 321 P **P** **08 44 43.7 -0.4**
MJB9 Matsu-Tunnel 72.49 321 P **P** **08 44 44.4 +0.2**
MJB9 IAmb IAmb 08 44 46.4
comp=Z,84nm,0.8s
TGY Tagaytay City 72.55 293 LR LR 09 15 12.8
comp=Z,3μm,19.9s,baz=315,slow=35
JAM Amami Oshima 72.98 310 P **P** **08 44 48.0 +0.8**
JOW Kunigami 73.06 308 P **P** **08 44 47.5 -0.2**
JOW IAmb IAmb 08 44 53.3
comp=Z,141nm,1.1s
JOW Kunigami 73.06 308 LR LR 09 14 16.8
comp=Z,2μm,19.9s,baz=125,slow=34
JOW Kunigami 73.06 308 P **P** **08 44 47.9 +0.2**
JOW Kunigami 73.06 308 ⇑P **P** **08 44 48.2 +0.5**
H06S1 SOCORRO T 73.11 62 P **P** **08 44 49.3 +1.1**
H06S1 T T 10 05 15.8
SNR=26
H06E1 SOCORRO T-PHAS 73.16 62 P **P** **08 44 49.3 +0.8**
JMN Monobe 73.29 317 P **P** **08 44 49.1 +0.1**
JMN Monobe 73.29 317 P **P** **08 44 50.7 +1.7**
JMN Monobe 73.29 317 ⇑P **P** **08 44 49.8 +0.8**
JMN Monobe 73.29 317 P **P** **08 44 49.8 +0.8**
NIKH Nikolski High 73.33 3 P **P** **08 44 47.4 -1.3**
baz=185
NIKH S **S** **08 54 13.7 -1.9**
baz=185
KKM Kota Kinabalu 73.35 283 P **P** **08 44 48.2 -1.6**
KKM IAmb IAmb 08 44 50.7
comp=Z,155nm,1.3s
KKM Kota Kinabalu 73.35 283 ⇑P **P** **08 44 49.0 -0.9**
UGM Wanagama 73.65 268 P **P** **08 44 50.2 -1.4**
UGM IAmb IAmb 08 45 11.6
comp=Z,310nm,1.4s
UGM Wanagama 73.65 268 P **P** **08 44 51.2 -0.4**
SHEM Shemya Is, Ala 73.67 353 LR LR 09 12 54.9
comp=Z,12μm,19.9s,baz=140,slow=32
ERM Erimo 73.73 328 IAMs_20 IAMs_20 09 15 37.8
comp=Z,7μm,20.0s
ERM Erimo 73.73 328 P **P** **08 44 51.1 -0.2**
ERM pmax pmax
comp=Z,164nm,1.4s
JAD Aida 73.88 318 P **P** **08 44 52.9 +0.6**
JTM Tenmabayashi 73.89 326 P **P** **08 44 52.3 0.0**
JTM Tenmabayashi 73.89 326 ⇑P **P** **08 44 52.8 +0.5**
YUK Yuzh-Kuril'sk 73.99 331 *e*P P 08 44 45.8 -7.0
YUK *i* S **S** **08 54 25.1 +1.7**
YUK pmax pmax
comp=E,109nm,2.6s
KUR Kuril'sk 74.06 333 *e*P **P** **08 44 52.5 -0.6**
KUR *e* 08 47 37.4
KUR PPP PPP 08 49 22.7
KUR *e*S **S** **08 54 27.0 +2.9**
KUR *e* 08 55 04.1
KUR *e*SS **SS** **08 59 10.5 +0.6**
KUR pmax pmax
comp=Z,4μm,5.2s
KUR pmax pmax
comp=Z,515nm,1.2s
KUR MLR MLR
comp=N,8μm,19.0s
KUR MLR MLR
comp=E,4μm,19.0s
KUR MLR MLR
comp=Z,8μm,19.0s
JSU Suzuyama 74.20 313 P **P** **08 44 54.6 +0.3**
UNV Unalaska Valle 74.35 5 P **P** **08 44 52.4 -2.3**
baz=187
UNV S **S** **08 54 25.2 -1.8**
baz=187
UNV Unalaska Valle 74.35 5 P **P** **08 44 54.6 0.0**
JNU Nakatsue 74.88 315 P **P** **08 44 58.0 -0.2**
JNU IAmb IAmb 08 44 59.8
comp=Z,240nm,1.1s
JNU Nakatsue 74.88 315 P **P** **08 44 58.2 0.0**
comp=Z,110nm,1.0s,baz=87,slow=2.8,SNR=40
JNU LR LR 09 14 51.5
comp=Z,3μm,19.4s,baz=112,slow=33
comp=Z,110nm,1.0s
JNU Nakatsue 74.88 315 P **P** **08 44 58.8 +0.5**
JNU Nakatsue 74.88 315 ⇑P **P** **08 44 58.1 -0.2**
JNU Nakatsue 74.88 315 P **P** **08 44 58.0 -0.2**
JMP Maruseppu 75.13 330 P **P** **08 45 00.2 +0.7**
SAO San Andreas Ge 75.57 41 P **P** **08 45 02.3 +0.2**
SAO IAmb IAmb 08 45 17.9
comp=Z,340nm,2.0s
SAO San Andreas Ge 75.57 41 ⇑P **P** **08 45 03.1 +1.0**
SAO San Andreas Ge 75.57 41 P **P** **08 45 02.3 +0.2**
SAO pmax pmax
comp=Z,340nm,2.0s
JKA Kamikawa-asahi 75.57 329 P **P** **08 45 02.4 +0.5**
JKA IAMs_20 IAMs_20 09 16 11.6
comp=Z,8μm,19.0s
ASAJ Asahikawa 75.58 329 P **P** **08 45 01.9 0.0**
comp=Z,60nm,0.8s,baz=203,slow=7.6,SNR=29
ASAJ LR LR 09 15 55.1
comp=Z,7μm,18.9s,baz=156,slow=34
comp=Z,60nm,0.8s
ASAJ Asahikawa 75.58 329 P **P** **08 45 02.4 +0.4**
ASAJ pmax pmax
comp=Z,81nm,0.8s
ASAJ Asahikawa 75.58 329 P **P** **08 45 03.2 +1.2**
MCCM Marconi Confer 75.59 39 P **P** **08 45 02.4 +0.3**
MCCM IAmb IAmb 08 45 17.8
comp=Z,302nm,1.9s
MCCM IAMs_20 IAMs_20 09 13 58.5
comp=Z,6μm,18.0s
PMPB Monarch Peak 75.62 42 P **P** **08 45 03.2 +0.6**
SKR Severo-Kuril's 75.62 341 ⇑*i*P **P** **08 44 59.1 -2.9**
SKR *i* S **S** **08 54 40.5 -0.8**
SKR pmax pmax
comp=Z,3μm,12.4s
SKR pmax pmax
comp=Z,179nm,0.9s
FALS False Pass 75.63 6 P **P** **08 45 00.4 -1.6**
baz=190
SBUM Sibu 75.66 278 P **P** **08 45 02.8 -0.4**
SBUM Sibu 75.66 278 ⇑P **P** **08 45 03.0 -0.2**
JSH Shimam 75.76 327 P **P** **08 45 04.0 +0.9**
YOJ Yonaguni jima 75.81 303 P **P** **08 45 03.6 -0.1**
YOJ Yonaguni jima 75.81 303 P **P** **08 45 03.8 +0.1**
YOJ Yonaguni jima 75.81 303 ⇑P **P** **08 45 04.2 +0.5**
YOJ Yonaguni jima 75.81 303 P **P** **08 45 03.6 -0.1**
YOJ pmax pmax
comp=Z,392nm,1.1s
HOPS Hopland Field 76.04 39 IAMs_20 IAMs_20 09 14 22.2
comp=Z,7μm,18.0s
JFU Fukue jima 2 76.04 313 P **P** **08 45 05.1 +0.2**
PASC Pasadena Art C 76.05 45 IAMs_20 IAMs_20 09 13 51.9
comp=Z,5μm,18.0s
CNBA Chernabura Isl 76.06 9 IAMs_20 IAMs_20 09 14 39.6
comp=Z,8μm,20.0s
CHNA Chernabura Isl 76.07 9 P **P** **08 45 04.4 -0.1**
baz=194
CHNA S **S** **08 54 45.7 -0.3**
baz=194
LPIG La Paz 76.28 58 LR LR 09 12 19.3
comp=Z,7μm,18.4s,baz=238,slow=31
ESJX Sierra Juarez 76.30 48 P **P** **08 45 06.2 -0.5**

ESJX IAmb IAmb 08 45 22.5
comp=Z,263nm,1.5s
KMPM Mount Pierce 76.38 37 P **P** **08 45 07.1 +0.3**
BBJI Bungbulang 76.49 267 P **P** **08 45 08.8 +0.8**
TWG Pinlang 76.54 301 P **P** **08 45 06.1 -1.8**
TWG IAmb IAmb 08 45 17.9
comp=Z,124nm,1.0s
S12K Black Hills 76.61 7 IAMs_20 IAMs_20 09 14 40.8
comp=Z,6μm,20.0s
S12K Black Hills 76.61 7 P **P** **08 45 05.9 -1.7**
baz=191
YULB Yu-li 76.64 301 P **P** **08 45 07.4 -1.1**
YULB IAmb IAmb 08 45 20.6
comp=Z,207nm,1.4s
JCC Jacoby Creek, 76.70 37 IAMs_20 IAMs_20 09 14 41.9
comp=Z,6μm,19.0s
JTU Tsushima 76.70 315 P **P** **08 45 07.9 -0.7**
JTU Tsushima 76.70 315 ⇑P **P** **08 45 08.5 -0.1**
LEM Lembang 76.73 268 LR LR 09 19 24.6
comp=Z,3μm,18.5s,baz=111,slow=36
NACB Ninganchiao 76.78 302 P **P** **08 45 07.9 -1.4**
NACB IAmb IAmb 08 45 10.6
comp=Z,187nm,0.9s
NACB Ninganchiao 76.78 302 P **P** **08 45 09.3 0.0**
PFO Pinyon Flats O 76.88 46 LR LR 09 13 51.4
comp=Z,4μm,18.2s,baz=242,slow=32
PFO Pinyon Flats O 76.88 46 *c iP* **P** **08 45 10.6 +0.8**
PFO pmax pmax
comp=Z,208nm,1.6s
P08K Saint George I 76.92 3 P **P** **08 45 08.1 -1.2**
baz=184
PET Petropavlovsk 76.98 343 P **P** **08 45 09.4 -0.3**
PET IAmb IAmb 08 45 21.1
comp=Z,220nm,1.6s
PET Petropavlovsk 76.98 343 α *i*P **P** **08 45 09.4 -0.3**
PET *i* S **S** **08 54 56.3 +0.2**
PET pmax pmax
comp=Z,72nm,1.4s
PET pmax pmax
comp=Z,2μm,10.9s
PET pmax pmax
comp=Z,2μm,14.0s
PET MLR MLR
comp=Z,3μm,19.0s
PET Petropavlovsk 76.98 343 P **P** **08 45 09.2 -0.5**
comp=Z,78nm,1.5s,comp=Z,3μm
O02D Mt. Diablo Mer 76.98 38 P **P** **08 45 10.7 +0.5**
O02D IAMs_20 IAMs_20 09 14 26.2
comp=Z,7μm,19.0s
CMB Columbia Colle 77.02 41 IAMs_20 IAMs_20 09 14 18.5
comp=Z,6μm,19.0s
CMB Columbia Colle 77.02 41 P **P** **08 45 10.6 +0.2**
KSM Kuching 77.08 277 P **P** **08 45 10.6 -0.6**
KSM IAmb IAmb 08 45 24.6
comp=Z,204nm,1.5s
SSLB Suanglung 77.10 302 P **P** **08 45 09.3 -1.8**
SSLB IAmb IAmb 08 45 21.3
comp=Z,96nm,1.0s
SSLB Suanglung 77.10 302 P **P** **08 45 10.4 -0.7**
TPUB Ta-pu 77.12 301 P **P** **08 45 09.5 -1.8**
TPUB IAMs_20 IAMs_20 09 14 36.1
comp=Z,6μm,20.0s
TPUB Ta-pu 77.12 301 P **P** **08 45 11.3 0.0**
YHNB Yeheng 77.20 303 P **P** **08 45 10.8 -0.9**
YHNB IAMs_20 IAMs_20 09 15 45.0
comp=Z,5μm,20.0s
TATO Taipei 77.26 303 P **P** **08 45 11.5 -0.4**
TATO Taipei 77.26 303 IAMs_20 IAMs_20 09 13 47.4
comp=Z,6μm,22.0s
TATO Taipei 77.26 303 P **P** **08 45 12.4 +0.4**
TATO P **P** **08 45 12.4 +0.4**
PEA0B Petropavlovsk- 77.31 343 P **P** **08 45 11.4 -0.2**
PEA0B IAmb IAmb 08 45 13.3
comp=Z,216nm,1.0s
PEA0B Petropavlovsk- 77.31 343 *ce*P **P** **08 45 12.2 +0.6**
PETK Petropavlovsk- 77.31 343 P **P** **08 45 10.4 -1.2**
PETK Petropavlovsk- 77.31 343 P **P** **08 45 11.8 +0.2**
comp=Z,118nm,0.9s,baz=123,slow=7.9,SNR=79
PETK LR LR 09 12 45.4
comp=Z,5μm,22.0s,baz=158,slow=31
comp=Z,118nm,0.9s
XMIS Christmas Isla 77.38 263 P **P** **08 45 13.3 +0.4**
XMIS IAmb IAmb 08 45 15.3
comp=Z,162nm,0.9s
SPIA Saint Paul Isl 77.47 2 P **P** **08 45 12.5 +0.2**
baz=183
S14K Fog Glacier 77.49 8 P **P** **08 45 12.0 -0.6**
baz=194
OMMB Old Mammoth Mi 77.62 42 P **P** **08 45 14.3 +0.2**
YSS Yuzh-Sakhalins 77.63 331 P **P** **08 45 13.3 -0.2**
YSS IAMs_20 IAMs_20 09 12 49.7
comp=Z,7μm,22.0s
YSS Yuzh-Sakhalins 77.63 331 ⇑P **P** **08 45 14.3 +0.8**
YSS Yuzh-Sakhalins 77.63 331 α *i*P **P** **08 45 14.5 +1.0**
YSS *e**SP **PcP** **08 45 22.6 -1.0**
YSS *e* 08 48 03.0
YSS *e*S **S** **08 55 05.8 +2.3**
YSS *e*PS PnS 08 55 25.3 -21
YSS *e*SS **SS** **09 00 02.0 -2.0**
YSS pmax pmax
comp=Z,230nm,0.9s
YSS pmax pmax
comp=Z,1μm,4.2s
CHIR Chirikof Islan 77.64 11 IAMs_20 IAMs_20 09 15 54.1
comp=Z,9μm,20.0s
CHIR Chirikof Islan 77.64 11 P **P** **08 45 13.3 -0.1**
baz=197
CHGN Chignik 77.66 9 P **P** **08 45 13.3 -0.1**
baz=195
EMB Emerald Bay 77.79 40 P **P** **08 45 14.3 -0.6**
WAKR Walker 77.90 41 P **P** **08 45 16.0 +0.5**
WAKR IAmb IAmb 08 45 27.6
comp=Z,198nm,1.5s
YBH Yreka Blue Hor 78.06 37 P **P** **08 45 16.9 +0.7**
YBH IAmb IAmb 08 45 28.3
comp=Z,268nm,2.0s
YBH IAMs_20 IAMs_20 09 16 29.6
comp=Z,5μm,18.0s
YBH Yreka Blue Hor 78.06 37 LR LR 09 15 38.3
comp=Z,4μm,18.2s,baz=232,slow=32
YBH Yreka Blue Hor 78.06 37 P **P** **08 45 16.9 +0.7**
YBH pmax pmax
comp=Z,268nm,2.0s
HATC Hat Creek Radi 78.17 38 IAMs_20 IAMs_20 09 15 34.6
comp=Z,6μm,19.0s
BLYC Blythe 78.28 47 P **P** **08 45 18.5 +1.0**
BLYC IAmb IAmb 08 45 33.3
comp=Z,387nm,1.9s
HSIG 78.29 53 P **P** **08 45 17.9 +0.3**
HSIG IAmb IAmb 08 45 27.8
comp=Z,172nm,1.6s
HSIG 78.29 53 ⇑P **P** **08 45 18.2 +0.6**
HUMO Hull Mountain 78.50 36 IAMs_20 IAMs_20 09 15 50.4
comp=Z,5μm,19.0s
HUMO Hull Mountain 78.50 36 ⇑P **P** **08 45 19.7 +1.2**
NVAR Mina Array Bea 78.55 41 P **P** **08 45 20.1 +0.9**
comp=Z,25nm,0.7s,baz=228,slow=5.3,SNR=206
NVAR PKPPKP 09 12 16.6
comp=Z,0.6nm,1.0s,baz=239,slow=0.5,SNR=4.1
NVAR LR LR 09 16 07.3
comp=Z,8μm,18.1s,baz=230,slow=33
comp=Z,25nm,0.7s
SII Sitkinak Islan 78.60 11 IAMs_20 IAMs_20 09 12 01.4
comp=Z,8μm,22.0s
SII Sitkinak Islan 78.60 11 P **P** **08 45 18.3 -0.4**
baz=199
SII S **S** **08 55 18.6 +5.0**
baz=199
TPNV Topopah Spring 78.97 44 IAMs_20 IAMs_20 09 15 49.1
comp=Z,7μm,19.0s
TPNV Topopah Spring 78.97 44 ⇑P **P** **08 45 22.5 +1.1**
R16K Pilot Point 79.01 9 P **P** **08 45 19.8 -1.1**
baz=196
TJN Taejon 79.14 315 *ce*P **P** **08 45 23.1 +1.0**
TEY Ternei 79.21 327 *e*P **P** **08 45 19.8 -2.5**
TEY *e* 08 56 10.8
R17L Mt. Peulik Vol 79.25 10 P **P** **08 45 22.8 +0.5**
baz=197,SNR=8.0
R17L S **S** **08 55 19.7 -0.8**
baz=197
PLK4 Peulik 4 79.25 10 IAMs_20 IAMs_20 09 16 19.8
comp=Z,6μm,20.0s
OHAK Old Harbor 79.39 11 P **P** **08 45 22.8 -0.1**
OHAK IAmb IAmb 08 45 35.7
comp=Z,220nm,1.7s
OHAK Old Harbor 79.39 11 P **P** **08 45 23.6 +0.7**

baz=200,SNR=5.9
OHAK S **S** **08 55 22.2 +0.3**
baz=200
KSRS Korea Array 79.40 317 P **P** **08 45 24.1 +0.6**
comp=Z,67nm,1.0s,baz=138,slow=6.0,SNR=141
KSRS LR LR 09 14 50.5
comp=Z,4μm,21.8s,baz=125,slow=32
comp=Z,67nm,1.0s
KSAR Wonju Array Be 79.42 317 P **P** **08 45 24.1 +0.5**
KSAR Wonju Array Be 79.42 317 P **P** **08 45 24.1 +0.5**
KS19 Wonju Array Si 79.46 317 P **P** **08 45 24.1 +0.2**
KNMB Chin-men Tao 79.48 301 P **P** **08 45 24.8 +0.6**
KNMB IAmb IAmb 08 45 26.1
comp=Z,291nm,1.4s
R18K Karluk 79.51 11 P **P** **08 45 24.1 +0.5**
baz=198,SNR=16
R18K S **S** **08 55 23.2 +0.1**
baz=198
R18K S **S** **08 55 23.2 +0.1**
baz=198
UGL Uglegorsk 79.54 332 *e*P **P** **08 45 23.9 0.0**
UGL *e*S **S** **08 55 27.9 +4.1**
UGL pmax pmax
comp=Z,200nm,0.9s
UGL pmax pmax
comp=Z,3μm,7.6s
UGL MLR MLR
comp=Z,4μm,15.0s
UGL MLR MLR
comp=N,2μm,14.0s
QZH Quanzhou 79.54 302⇑*i*P **P** **08 45 24.8 +0.2**
QZH pP **pP** **08 45 31.3 -0.9**
QZH S **S** **08 55 25.9 +1.0**
QZH pmax pmax
comp=N,260nm,1.0s
QZH pmax pmax
comp=N,2μm,7.9s
QZH LR LR
comp=N,2μm,23.1s
QZH LR LR
comp=N,4μm,20.0s
QZH LR LR
comp=N,4μm,22.9s
COR Corvallis 79.64 34 IAMs_20 IAMs_20 09 17 37.5
comp=Z,6μm,18.0s
PMSA Palmer Station 79.77 156 IAMs_20 IAMs_20 09 20 01.1
comp=Z,4μm,18.0s
PMSA Palmer Station 79.77 156 LR LR 09 12 34.7
comp=Z,3μm,21.2s,baz=244,slow=30
Q17K Contact Creek 79.94 10 P **P** **08 45 26.3 +0.2**
baz=197,SNR=12
Q17K S **S** **08 55 27.6 -0.3**
baz=197
ACHA Angle Creek He 79.97 10 P **P** **08 45 25.7 -0.6**
PRN Pahroc Range 80.01 44⇑P **P** **08 45 28.5 +1.5**
KDAK Kodiak Island 80.05 11 P **P** **08 45 26.2 -0.3**
KDAK IAmb IAmb 08 46 00.5
comp=Z,119nm,1.1s
KDAK Kodiak Island 80.05 11 LR LR 09 13 29.9
comp=Z,6μm,21.7s,baz=57,slow=30
KDAK Kodiak Island 80.05 11 P **P** **08 45 27.3 +0.7**
baz=200
KDAK S **S** **08 55 28.5 -0.3**
baz=200
KDAK Kodiak Island 80.05 11⇑P **P** **08 45 27.0 +0.5**
KDAK Kodiak Island 80.05 11*c i*P **P** **08 45 26.7 +0.2**
KDAK pmax pmax
comp=Z,178nm,1.3s
KDAK MLR MLR
comp=Z,5μm,18.0s
TUC Tucson 80.13 50 IAMs_20 IAMs_20 09 16 41.0
comp=Z,7μm,18.0s
TUC Tucson 80.13 50⇑P **P** **08 45 29.2 +1.5**
TUC Tucson 80.13 50 P **P** **08 45 28.6 +0.9**
O14K Tigyukauivet M 80.18 7 IAMs_20 IAMs_20 09 17 23.3
comp=Z,7μm,20.0s
O14K Tigyukauivet M 80.18 7 P **P** **08 45 27.7 +0.4**
baz=192
O14K S **S** **08 55 29.0 -1.2**
baz=192
Q16K King Salmon 80.21 9 P **P** **08 45 27.9 +0.5**
baz=196,SNR=10
Q16K S **S** **08 55 30.9 +0.4**
baz=196
R11B Troy Canyon, C 80.22 43 IAMs_20 IAMs_20 09 16 39.0
comp=Z,6μm,19.0s
R11B Troy Canyon, C 80.22 43 P **P** **08 45 29.1 +0.9**
baz=234
R11B S **S** **08 55 35.0 +3.1**
baz=234
INCN Inchon 80.25 316 P **P** **08 45 28.8 +0.6**
INCN Inchon 80.25 316 P **P** **08 45 29.4 +1.2**
INCN P **P** **08 45 29.4 +1.2**
INCN Inchon 80.25 316 P **P** **08 45 28.8 +0.6**
INCN pmax pmax
comp=Z,332nm,1.4s
O15K Ungalikthiuk R 80.27 7 P **P** **08 45 27.9 +0.2**
baz=193
O15K S **S** **08 55 30.2 -1.0**
baz=193
P16K Nushagak River 80.37 8 P **P** **08 45 28.7 +0.5**
baz=195
P16K S **S** **08 55 32.0 0.0**
baz=195
P16K S **S** **08 55 32.0 0.0**
baz=195
Q18K Katmai Hardscr 80.44 10 P **P** **08 45 28.8 0.0**
baz=198,SNR=16
Q18K S **S** **08 55 33.4 +0.2**
baz=198
VLA Vladivostok 80.48 323 *i* P **P** **08 45 28.0 -1.2**
VLA pmax pmax
comp=Z,162nm,2.1s
MSHR Mys Shultsa 80.55 322*ce*P **P** **08 45 28.4 -1.2**
MSHR pmax pmax
comp=Z,154nm,1.0s
SSE Sheshan 80.58 308 P **P** **08 45 29.3 -0.7**
SSE S **S** **08 55 34.9 -0.6**
SSE pmax pmax
comp=Z,39nm,1.2s
SSE pmax pmax
comp=Z,240nm,4.0s
SSE LR LR
comp=Z,510nm,17.6s
TYV Tymovskoe 80.64 334 *e*P **P** **08 45 29.7 -0.2**
TYV *e*S **S** **08 55 36.8 +1.5**
TYV pmax pmax
comp=Z,117nm,1.4s
TYV pmax pmax
comp=Z,2μm,5.6s
TYV smax smax
comp=N,1μm,5.6s
TYV smax smax
comp=E,2μm,5.6s
TYV MLR MLR
comp=Z,5μm,16.0s
P17K Kvichak River 80.74 9 P **P** **08 45 30.5 +0.2**
baz=196,SNR=19
P17K S **S** **08 55 36.8 +0.8**
baz=196
P17K S **S** **08 55 36.8 +0.8**
baz=196
N14K Kuskokwak Cree 80.80 6 P **P** **08 45 30.8 +0.3**
baz=192
WVOR Wild Horse Val 80.83 38 IAMs_20 IAMs_20 09 17 56.0
comp=Z,6μm,18.0s
WVOR Wild Horse Val 80.83 38⇑P **P** **08 45 32.0 +0.7**
WVOR Wild Horse Val 80.83 38⇑P **P** **08 45 32.0 +0.7**
Q20K Shuyak Island 80.86 11 P **P** **08 45 31.4 +0.5**
baz=200
Q20K S **S** **08 55 37.4 +0.1**
baz=200
SYI Shuyak Island 80.86 11 P **P** **08 45 30.8 -0.1**
SYI IAmb IAmb 08 45 43.8
comp=Z,223nm,1.4s
SYI IAMs_20 IAMs_20 09 13 23.2
comp=Z,5μm,22.0s
M11K Mekoryuk 80.88 4 P **P** **08 45 32.2 +1.3**
baz=187
M11K S **S** **08 55 40.8 +3.4**
baz=187
O16K Kokwok River B 80.90 8 IAMs_20 IAMs_20 09 18 10.2
comp=Z,5μm,20.0s
O16K Kokwok River B 80.90 8 P **P** **08 45 30.6 -0.4**
baz=195,SNR=13
O16K S **S** **08 55 37.3 -0.3**
baz=195

Q19K Cape Douglas, 80.94 11 P **P** **08 45 31.6 +0.3**
Q19K IAmb IAmb 08 46 06.9
comp=Z,210nm,1.1s
Q19K IAMs_20 IAMs_20 09 13 29.3
comp=Z,7μm,22.0s
Q19K Cape Douglas, 80.94 11 P **P** **08 45 31.8 +0.4**
baz=199
Q19K S **S** **08 55 38.5 +0.3**
baz=199
Q19K S **S** **08 55 38.5 +0.3**
baz=199
USRK Ussuriysk Ar. 81.11 324 P **P** **08 45 34.0 +1.4**
comp=Z,44nm,0.9s,baz=131,slow=5.6,SNR=45
USRK LR LR 09 16 09.1
comp=Z,7μm,21.7s,baz=130,slow=32
comp=Z,44nm,0.9s
P18K Big Mountain, 81.12 10 P **P** **08 45 32.2 -0.1**
baz=198,SNR=10
P18K S **S** **08 55 39.8 -0.3**
baz=198
M13K Dall Lake 81.12 5 P **P** **08 45 33.7 +1.5**
baz=190
N15K Kwethluk River 81.21 7 IAMs_20 IAMs_20 09 17 44.4
comp=Z,8μm,20.0s
N15K Kwethluk River 81.21 7 P **P** **08 45 33.4 +0.7**
baz=193
N15K S **S** **08 55 42.1 +1.2**
baz=193
NLWA Neilton Lookou 81.26 32⇑P **P** **08 45 34.3 +0.9**
HPIG 81.31 57⇑P **P** **08 45 34.7 +0.4**
WUAZ Wupatki 81.42 47⇑P **P** **08 45 36.1 +1.5**
J08A Circle Bar Ran 81.50 37 P **P** **08 45 35.3 +0.5**
J08A IAmb IAmb 08 45 50.5
comp=Z,230nm,1.8s
O18K Koktuh Hills 81.56 9 IAMs_20 IAMs_20 09 17 42.8
comp=Z,5μm,20.0s
O18K Koktuh Hills 81.56 9 P **P** **08 45 35.1 +0.5**
baz=198,SNR=15
O18K S **S** **08 55 43.9 -0.7**
baz=198
O18K S **S** **08 55 43.9 -0.7**
baz=198
M14K Bethel 81.58 6 P **P** **08 45 36.0 +1.4**
baz=191,SNR=11
M14K S **SKSac** **08 55 47.6 -4.5**
baz=191
M15K Kasigluk River 81.66 7 P **P** **08 45 36.3 +1.2**
baz=192,SNR=20
M15K S **SKSac** **08 55 48.3 -4.4**
baz=192
N16K Nishlik Lake 81.66 8 P **P** **08 45 36.2 +1.0**
baz=194,SNR=7.2
N16K S **S** **08 55 46.9 +1.3**
baz=194
P19K Oil Pt 81.69 11 IAMs_20 IAMs_20 09 17 17.2
comp=Z,5μm,20.0s
P19K Oil Pt 81.69 11 P **P** **08 45 35.8 +0.4**
baz=199
P19K S **S** **08 55 46.7 +0.6**
baz=199
PYAG Pyongyang 81.71 317 P **P** **08 45 37.1 +1.2**
PYAG S **S** **08 55 49.0 +2.0**
PYAG AmB
comp=Z,2μm,2.4s
PYAG AMS AMS
comp=Z,5μm,18.7s
ELK Elko 81.83 41⇑P **P** **08 45 37.5 +0.7**
ELK Elko 81.83 41 P **P** **08 45 37.7 +0.9**
LON Longmire 81.87 33 P **P** **08 45 37.1 +0.5**
LON Longmire 81.87 33 P **P** **08 45 37.1 +0.5**
LON pmax pmax
comp=Z,97nm,1.6s
N17K Nushagak Hills 81.92 8 P **P** **08 45 36.6 +0.1**
baz=196,SNR=5.3
N17K S **S** **08 55 47.6 -0.7**
baz=196
MNAI Manna 81.92 268 IAMs_20 IAMs_20 09 26 36.2
comp=Z,4μm,18.0s
CNPM China Poot 81.93 12 P **P** **08 45 36.8 +0.2**
CNPM IAmb IAmb 08 46 09.8
comp=Z,294nm,1.7s
CNPM IAMs_20 IAMs_20 09 14 39.5
comp=Z,7μm,21.0s
HKPS Hong Kong Po S 81.97 297 IAMs_20 IAMs_20 09 19 02.5
comp=Z,6μm,20.0s
HOM Homer 81.98 11 IAMs_20 IAMs_20 09 17 32.7
comp=Z,6μm,20.0s
HOM Homer 81.98 11 P **P** **08 45 37.6 +0.8**
baz=201
O19K Port Alsworth 82.03 10 IAMs_20 IAMs_20 09 17 47.1
comp=Z,5μm,20.0s
O19K Port Alsworth 82.03 10 P **P** **08 45 37.1 +0.2**
baz=198,SNR=19
O19K S **S** **08 55 50.2 +0.9**
baz=198
O19K S **S** **08 55 50.2 +0.9**
baz=198
L14K Kuka Creek 82.09 6 P **P** **08 45 38.5 +1.2**
L14K IAmb IAmb 08 45 39.6
comp=Z,201nm,1.3s
L14K Kuka Creek 82.09 6 P **P** **08 45 38.8 +1.4**
baz=190,SNR=20
L14K S **SKSac** **08 55 53.1 -2.5**
baz=190
M16K Timber Creek 82.17 7 P **P** **08 45 39.1 +1.3**
M16K IAMs_20 IAMs_20 09 18 14.0
comp=Z,6μm,20.0s
M16K Timber Creek 82.17 7 P **P** **08 45 39.4 +1.6**
baz=194,SNR=26
M16K S **SKSac** **08 55 54.1 -2.1**
baz=194
O20K Slope Mountain 82.20 11 P **P** **08 45 38.1 0.0**
baz=200
O20K S **S** **08 55 52.5 +1.1**
baz=200
O20K S **S** **08 55 52.5 +1.1**
baz=200
BRLK Bradley Lake 82.22 12 IAMs_20 IAMs_20 09 14 35.7
comp=Z,7μm,22.0s
BRSE Bradley Lake S 82.22 12 P **P** **08 45 38.6 +0.5**
baz=202,SNR=9.9
BRSE S **S** **08 55 51.2 -0.3**
baz=202
N18K Kilae Creek 82.25 9 P **P** **08 45 38.5 +0.3**
baz=197,SNR=6.5
N18K S **S** **08 55 52.1 +0.4**
baz=197
N18K S **S** **08 55 52.1 +0.4**
baz=197
121A Cookes Peak, D 82.42 51 P **P** **08 45 41.7 +1.7**
baz=240
121A S **S** **08 56 01.0 +6.0**
baz=240
K13K Kusilvak Mount 82.52 4 P **P** **08 45 40.7 +1.1**
baz=189,SNR=6.2
K13K S **SKSac** **08 55 57.0 -1.4**
baz=189
L15K Ungalak Mounta 82.54 6 P **P** **08 45 40.8 +1.2**
baz=192,SNR=19
L15K S **SKSac** **08 55 58.2 -0.4**
baz=192
N19K Bonanza Creek 82.59 10 IAMs_20 IAMs_20 09 18 43.9
comp=Z,5μm,20.0s
N19K Bonanza Creek 82.59 10 P **P** **08 45 40.1 0.0**
baz=198,SNR=18
N19K S **SKSac** **08 55 56.2 -3.0**
baz=198
N19K S **SKSac** **08 55 56.2 -3.0**
baz=198
MDJ Mudanjiang 82.71 323 IAMs_20 IAMs_20 09 19 07.0
comp=Z,6μm,20.0s
MDJ Mudanjiang 82.71 323 P **P** **08 45 42.3 +1.3**
MDJ PP **PP** **08 48 53.8 +2.4**
MDJ S **S** **08 56 03.8 +6.8**
MDJ pmax pmax
comp=Z,160nm,1.0s
MDJ pmax pmax
comp=Z,4μm,7.9s
MDJ LR LR
comp=Z,2μm,17.9s
MDJ LR LR
comp=Z,4μm,19.9s
MDJ LR LR
comp=Z,7μm,21.3s
BBB Bella Bella 82.73 26 LR LR 09 15 42.0
comp=Z,2μm,20.4s,baz=232,slow=31
M17K Holitna River 82.73 8 IAMs_20 IAMs_20 09 18 19.7
comp=Z,5μm,20.0s

M17K Holitna River 82.73 8 P **P** **08 45 42.4 +1.7**
baz=195,SNR=7.3
M17K S **SKSac** **08 55 59.8 -0.1**
baz=195
MAW Mawson 82.76 199 P **P** **08 45 42.1 +1.1**
comp=Z,31nm,0.9s,baz=115,slow=6.1,SNR=82
MAW LR LR 09 20 05.4
comp=Z,5μm,20.4s,baz=115,slow=34
comp=Z,31nm,0.9s
MAW Mawson 82.76 199⇑P **P** **08 45 42.4 +1.5**
NJ2 Nanjing 82.78 308⇑P **P** **08 45 42.7 +1.1**
NJ2 pP **PcP** **08 45 45.6 -0.8**
NJ2 sP **pP** **08 45 50.8 +1.5**
NJ2 PP **PP** **08 48 55.0 +2.8**
NJ2 S **SKSac** **08 56 05.5 +4.0**
NJ2 pmax pmax
comp=Z,130nm,1.1s
NJ2 pmax pmax
comp=Z,2μm,5.1s
NJ2 LR LR
comp=Z,2μm,17.6s
NJ2 LR LR
comp=Z,2μm,18.0s
NJ2 LR LR
comp=Z,3μm,18.8s
L16K Owhat River 82.78 7 IAMs_20 IAMs_20 09 18 43.1
comp=Z,6μm,20.0s
L16K Owhat River 82.78 7 P **P** **08 45 42.1 +1.2**
baz=194,SNR=20
L16K S **S** **08 56 01.5 +4.5**
baz=194
SEW Seward 82.81 12 P **P** **08 45 41.3 +0.2**
baz=203,SNR=6.7
SEW S **SKSac** **08 55 58.0 -2.4**
baz=203
HAWA Hanford 82.83 35 IAMs_20 IAMs_20 09 19 20.8
comp=Z,6μm,18.0s
HAWA Hanford 82.83 35⇑P **P** **08 45 42.5 +0.9**
Q23K Middleton Isla 82.85 14 IAMs_20 IAMs_20 09 25 35.9
comp=Z,6μm,18.0s
H03S2 Juan Fernandez 82.91 123 T T 10 17 57.9
baz=248,slow=74,SNR=326
H03S1 Juan Fernandez 82.92 123 T T 10 17 59.0
baz=248,slow=74,SNR=425
H03S3 Juan Fernandez 82.93 123 T T 10 18 14.2
baz=248,slow=74,SNR=411
EPT El Paso 82.98 52 IAMs_20 IAMs_20 09 19 17.8
comp=Z,8μm,18.0s
DUG Dugway, Tooele 83.03 43 IAMs_20 IAMs_20 09 19 40.7
comp=Z,6μm,18.0s
DUG Dugway, Tooele 83.03 43⇑P **P** **08 45 43.6 +0.6**
DUG Dugway, Tooele 83.03 43 P **P** **08 45 43.8 +0.8**
M18K Stony River 83.04 9 P **P** **08 45 42.7 +0.4**
baz=197,SNR=6.4
M18K S **S** **08 55 58.9 -0.7**
baz=197
H03N2 Juan Fernandez 83.04 123 T T 10 18 14.2
baz=257,slow=71,SNR=163
H03N3 Juan Fernandez 83.04 123 T T 10 18 14.8
baz=257,slow=71,SNR=148
H03N1 Juan Fernandez 83.06 123 T T 10 18 16.5
baz=257,slow=71,SNR=125
BMO Blue Mountains 83.08 37 IAMs_20 IAMs_20 09 18 32.6
comp=Z,5μm,19.0s
BMO Blue Mountains 83.08 37⇑P **P** **08 45 43.4 +0.4**
BMO Blue Mountains 83.08 37⇑P **P** **08 45 43.4 +0.4**
CAPN Captain Cook N 83.11 11 IAMs_20 IAMs_20 09 15 08.6
comp=Z,7μm,22.0s
CAPN Captain Cook N 83.11 11 P **P** **08 45 43.5 +0.9**
baz=201
O22K Cooper Landing 83.11 12 IAMs_20 IAMs_20 09 29 17.6
comp=Z,7μm,18.0s
O22K Cooper Landing 83.11 12 P **P** **08 45 43.1 +0.4**
baz=203
O22K S **SKSac** **08 56 01.3 -1.1**
baz=203
SUJ Sinuiju 83.11 317 P **P** **08 45 43.5 +0.4**
SUJ S **SKSac** **08 56 03.8 +0.5**
SUJ AmB
comp=Z,3μm,2.8s
SUJ AMS AMS
comp=Z,4μm,17.8s
P23K Montague Islan 83.13 13 P **P** **08 45 43.4 +0.6**
baz=205
P23K S **SKSac** **08 56 00.3 -2.3**
baz=205
P23K S **SKSac** **08 56 00.3 -2.3**
baz=205
K15K Wolf Creek Mou 83.14 6 P **P** **08 45 44.7 +1.9**
baz=192,SNR=59
K15K S **SKSac** **08 56 03.3 +0.8**
baz=192
GRNR Gornyy 83.28 331⇑*i*P **P** **08 45 44.7 +0.9**
GRNR pmax pmax
comp=E,9.0nm,1.0s
GRNR pmax pmax
comp=Z,60nm,0.9s
CRAG Craig 83.30 22 P **P** **08 45 45.0 +1.3**
baz=218
CRAG S **S** **08 56 05.8 +3.3**
baz=218
N20K Mount Spurr 83.32 10 P **P** **08 45 43.4 -0.5**
baz=200,SNR=13
N20K S **SKSac** **08 56 02.1 -1.9**
baz=200
SPCR Spurr Chakacha 83.33 10 P **P** **08 45 43.4 -0.5**
baz=200,SNR=8.9
SPCR S **S** **08 56 01.7 -1.0**
baz=200
UNM Universidad Na 83.33 67 IAMs_20 IAMs_20 09 17 28.6
comp=Z,6μm,18.0s
L17K Donlin 83.33 7 P **P** **08 45 45.6 +1.9**
baz=195,SNR=22
L17K S **S** **08 56 06.4 +3.8**
baz=195
Q16A Castle Valley 83.39 44 P **P** **08 45 45.5 +0.6**
Q16A IAmb IAmb 08 45 57.8
comp=Z,244nm,1.5s
J14K Nanvaranak Lak 83.41 5 P **P** **08 45 45.4 +1.3**
baz=190,SNR=5.6
J14K S **S** **08 56 06.8 +3.5**
baz=190
D08A Wollman Farm, 83.58 34 P **P** **08 45 45.7 +0.3**
L18K Granite Mounta 83.62 8 P **P** **08 45 45.7 +0.4**
L18K IAmb IAmb 08 46 22.7
comp=Z,161nm,1.4s
L18K IAMs_20 IAMs_20 09 19 46.2
comp=Z,4μm,19.0s
L18K Granite Mounta 83.62 8 P **P** **08 45 46.6 +1.4**
baz=196,SNR=13
L18K S **S** **08 56 08.9 +3.4**
baz=196
L18K S **S** **08 56 08.9 +3.4**
baz=196
M19K Big River Lodg 83.64 9 IAMs_20 IAMs_20 09 28 00.7
comp=Z,5μm,18.0s
M19K Big River Lodg 83.64 9 P **P** **08 45 45.5 0.0**
baz=198,SNR=9.4
M19K S **SKSac** **08 56 05.8 -0.1**
baz=198
M19K S **SKSac** **08 56 05.8 -0.1**
baz=198
RC01 Rabbit Creek A 83.67 12 IAMs_20 IAMs_20 09 30 20.4
comp=Z,5μm,18.0s
RC01 Rabbit Creek A 83.67 12 P **P** **08 45 46.0 +0.5**
baz=203,SNR=9.9
RC01 S **SKSac** **08 56 06.2 +0.2**
baz=203
HIN Hinchinbrook I 83.69 13 IAMs_20 IAMs_20 09 15 53.0
comp=Z,7μm,20.0s
MPU Maple Canyon 83.69 43 P **P** **08 45 46.9 +0.5**
MPU IAmb IAmb 08 46 11.5
comp=Z,183nm,1.8s
PWL Port Wells 83.73 12 P **P** **08 45 45.2 -0.7**
PWL IAMs_20 IAMs_20 09 19 06.0
comp=Z,5μm,20.0s
PWL Port Wells 83.73 12 P **P** **08 45 45.9 0.0**
baz=204,SNR=12
V35K Ketchikan 83.73 23 P **P** **08 45 46.5 +0.6**
baz=219
KAIM Kayak Island 83.74 15 IAMs_20 IAMs_20 09 18 08.3
comp=Z,8μm,20.0s
KAIM Kayak Island 83.74 15 P **P** **08 45 46.8 +0.9**
baz=208
MNTX Cornudas Mount 83.79 53⇑P **P** **08 45 48.0 +1.1**
Y22D IRIS PASSCAL I 83.81 50 P **P** **08 45 48.8 +1.6**
baz=240

Y22D				S	S	08 56 11.3	+2.4
	baz=240						
U33K	Whale Pass	83.81	22	P	P	08 45 47.5	+1.2
	baz=218						
M20K	Styx River	83.81	10	IAMs_20	IAMs_20	09 18 44.4	
	comp=Z,6μm,20.0s						
M20K	Styx River	83.81	10	P	P	08 45 46.2	-0.2
	baz=199						
M20K				S	S	08 56 07.7	0.0
	baz=199						
M20K				S	S	08 56 07.7	0.0
	baz=199						
SUA	Susitna One	83.83	11	IAMs_20	IAMs_20	09 15 53.7	
	comp=Z,7μm,21.0s						
SUA	Susitna One	83.83	11	P	P	08 45 46.7	+0.2
	baz=202,SNR=10						
SUA				S	SKSac	08 56 05.7	-1.7
	baz=202						
SIT	Sitka	83.83	20	P	P	08 45 46.4	0.0
	baz=216						
L19K	White Mountain	83.84	9	P	P	08 45 47.0	+0.5
	baz=198,SNR=7.7						
L19K				S	S	08 56 07.9	+0.1
	baz=198						
L19K				S	S	08 56 07.9	+0.1
	baz=198						
K17K	Iditarod	83.90	7	IAMs_20	IAMs_20	09 19 36.5	
	comp=Z,7μm,20.0s						
K17K	Iditarod	83.90	7	P	P	08 45 48.1	+1.5
	baz=195,SNR=8.5						
K17K				S	S	08 56 12.0	+3.8
	baz=195						
PLID	Pearl Lake	83.96	37	IAMs_20	IAMs_20	09 19 20.9	
	comp=Z,6μm,19.0s						
HLID	Hailey	83.98	39	⇑P	P	08 45 48.9	+1.1
EYAK	Cordova Ski Ar	83.99	14	P	P	08 45 47.6	+0.4
	baz=206,SNR=7.5						
EYAK				S	S	08 56 09.9	+0.7
	baz=206						
EYAK	Cordova Ski Ar	83.99	14	P	P	08 45 47.0	-0.2
TXAR	Lajitas Array	83.99	56	P	P	08 45 49.1	+1.1
	comp=Z,6.9nm,0.8s,baz=218,slow=7.8,SNR=47						
TXAR				PKKP	PKKPdf	09 03 50.2	-5.7
	comp=Z,0.2nm,0.8s,baz=29,slow=2.1,SNR=3.5						
TXAR				PKKPbc	PKKPbc	09 04 05.2	+1.6
	comp=Z,0.9nm,0.9s,baz=114,slow=2.3,SNR=5.7						
TXAR				PKPPKP	P'P'df	09 12 08.3	+0.9
	comp=Z,0.7nm,1.1s,baz=96,slow=1.8,SNR=3.5						
TXAR				LR	LR	09 18 14.7	
	comp=Z,3μm,18.1s,baz=238,slow=32						
	comp=Z,6.9nm,0.8s						
GLI	Glacier Island	84.00	13	IAMs_20	IAMs_20	09 16 15.2	
	comp=Z,7μm,20.0s						
GLI	Glacier Island	84.00	13	P	P	08 45 47.4	+0.2
	baz=205,SNR=22						
GLI				S	S	08 56 09.3	-0.1
	baz=205						
FID	Port Fidalgo	84.01	13	IAMs_20	IAMs_20	09 15 31.3	
	comp=Z,7μm,21.0s						
GAMB	Gambell	84.05	1	P	P	08 45 48.5	+1.2
	baz=182						
HMT	Hamilton	84.14	14	P	P	08 45 47.4	-0.6
HMT				IAmb	IAmb	08 46 05.8	
	comp=Z,158nm,1.6s						
SKT	Skwentna	84.17	10	P	P	08 45 46.1	-2.1
SKT				IAMs_20	IAMs_20	09 15 43.8	
	comp=Z,7μm,22.0s						
SKT	Skwentna	84.17	10	P	P	08 45 47.3	-0.8
	baz=201,SNR=16						
SKT				S	SKSac	08 56 08.8	-0.6
	baz=201						
BGLC	Bering Glacier	84.18	15	P	P	08 45 48.5	+0.4
	baz=209						
B08A	Colville Reser	84.19	33	P	P	08 45 47.7	-0.9
J16K	Anvik River	84.20	6	P	P	08 45 49.3	+1.1
J16K				IAMs_20	IAMs_20	09 20 07.6	
	comp=Z,4μm,20.0s						
J16K	Anvik River	84.20	6	P	P	08 45 49.8	+1.6
	baz=192,SNR=14						
J16K				S	S	08 56 15.7	+4.4
	baz=192						
M22K	Willow	84.21	11	P	P	08 45 48.1	-0.1
M22K				IAMs_20	IAMs_20	09 15 53.8	
	comp=Z,6μm,22.0s						
M22K	Willow	84.21	11	P	P	08 45 48.5	+0.2
	baz=202,SNR=14						
M22K				S	S	08 56 11.4	+0.1
	baz=202						
KNK	Knik Glacier	84.21	12	P	P	08 45 48.3	-0.1
KNK				IAMs_20	IAMs_20	09 15 32.8	
	comp=Z,5μm,21.0s						
KNK	Knik Glacier	84.21	12	P	P	08 45 48.8	+0.5
	baz=204,SNR=20						
KNK				S	S	08 56 11.4	-0.1
	baz=204						
PMR	Palmer	84.24	12	P	P	08 45 48.2	-0.2
PMR	Palmer	84.24	12	P	P	08 45 48.5	0.0
	baz=203,SNR=17						
PMR				S	S	08 56 11.9	+0.2
	baz=203						
PMR	Palmer	84.24	12	P	P	08 45 48.2	-0.2
PMR				pmax	pmax		
	comp=Z,291nm,1.7s						
QIZ	Qiongzhong	84.26	293	P	P	08 45 49.4	-0.1
QIZ				PP	PP	08 49 05.8	+1.2
QIZ				S	S	08 56 18.0	+4.3
QIZ				pmax	pmax		
	comp=Z,53nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,1μm,4.4s						
QIZ				LR	LR		
	comp=Z,1μm,14.7s						
QIZ				LR	LR		
	comp=Z,1μm,16.7s						
QIZ				LR	LR		
	comp=Z,3μm,19.6s						
L20K	Farewell, AK	84.26	9	P	P	08 45 48.7	+0.1
	baz=199,SNR=11						
L20K				S	S	08 56 12.5	+0.4
	baz=199						
L20K				S	S	08 56 12.5	+0.4
	baz=199						
MVCO	Mesa Verde	84.28	47	IAMs_20	IAMs_20	09 20 26.8	
	comp=Z,5μm,18.0s						
MVCO	Mesa Verde	84.28	47	⇓P	P	08 45 49.8	+0.2
S31K	Pelican	84.28	19	P	P	08 45 49.7	+1.1
	baz=215						
WRAK	Wrangell Islan	84.32	22	P	P	08 45 48.8	-0.1
	baz=218						
WRAK				S	S	08 56 13.4	+0.7
	baz=218						
WRAK	Wrangell Islan	84.32	22	⇓P	P	08 45 52.5	+3.6
DL2	Dalian	84.32	315	P	P	08 45 50.3	+0.9
DL2				pP	pwP	08 46 00.6	0.0
DL2				SKS	SKSac	08 56 09.5	-1.8
DL2				S	SKKSac	08 56 17.9	+1.2
DL2				pmax	pmax		
	comp=Z,150nm,1.2s						
DL2				pmax	pmax		
	comp=Z,2μm,8.3s						
DL2				LR	LR		
	comp=Z,4μm,19.4s						
DL2				LR	LR		
	comp=Z,3μm,19.9s						
DL2				LR	LR		
	comp=Z,5μm,20.2s						
SNH	Sunshine Point	84.34	15	IAMs_20	IAMs_20	09 16 09.2	
	comp=Z,7μm,20.0s						
TTA	Tatalina	84.39	8	P	P	08 45 49.6	+0.3
TTA	Tatalina	84.39	8	P	P	08 45 50.6	+1.3
	baz=197,SNR=28						
TTA				S	S	08 56 15.9	+2.5
	baz=197						
TTA	Tatalina	84.39	8	⇑P	P	08 45 50.2	+0.9
TTA	Tatalina	84.39	8	P	P	08 45 49.6	+0.3
TTA				pmax	pmax		
	comp=Z,296nm,1.8s						
S32K	Killisnoo	84.40	20	IAMs_20	IAMs_20	09 25 16.0	
	comp=Z,4μm,18.0s						
S32K	Killisnoo	84.40	20	P	P	08 45 50.3	+1.0
	baz=216						
LLLB	Lillooet	84.40	30	P	P	08 45 49.4	-0.2
LLLB				IAmb	IAmb	08 46 08.3	
	comp=Z,97nm,1.3s						
T33K	Petersburg	84.42	21	P	P	08 45 50.6	+1.2
	baz=218						
GHO	Glory Hole Cre	84.45	12	P	P	08 45 49.3	-0.3
GHO				IAmb	IAmb	08 46 16.9	
	comp=Z,70nm,0.8s						
GHO				IAMs_20	IAMs_20	09 30 10.1	
	comp=Z,6μm,18.0s						
J17K	VABM Dome	84.47	7	IAMs_20	IAMs_20	09 20 23.7	
	comp=Z,6μm,20.0s						
J17K	VABM Dome	84.47	7	P	P	08 45 51.1	+1.5
	baz=194,SNR=14						
J17K				S	S	08 56 17.0	+3.0
	baz=194						
J17K				S	S	08 56 17.0	+3.0
	baz=194						
MESA	MESA	84.56	15	P	P	08 45 50.9	+0.5
	baz=210,SNR=7.3						
MESA				S	S	08 56 16.2	+0.8
	baz=210						
ANMO	Albuquerque	84.57	50	IAMs_20	IAMs_20	09 20 43.7	
	comp=Z,4μm,18.0s						
ANMO	Albuquerque	84.57	50	LR	LR	09 18 27.8	
	comp=Z,3μm,18.3s,baz=46,slow=32						
ANMO	Albuquerque	84.57	50	*ce*P	P	08 45 52.2	+1.2
ANMO				pmax	pmax		
	comp=Z,92nm,2.5s						
SML	Sawmill	84.59	12	P	P	08 45 50.7	+0.4
SML				IAmb	IAmb	08 46 23.5	
	comp=Z,197nm,1.8s						
SML				IAMs_20	IAMs_20	09 30 13.0	
	comp=Z,5μm,18.0s						
SML	Sawmill	84.59	12	P	P	08 45 50.6	+0.3
	baz=204,SNR=8.4						
SML				S	S	08 56 16.1	+0.7
	baz=204						
SML	Sawmill	84.59	12	P	P	08 45 50.7	+0.4
SML				pmax	pmax		
	comp=Z,197nm,1.8s						
HWUT	Hardware Ranch	84.61	42	⇑P	P	08 45 51.4	+0.4
CN2	Changchun	84.62	321	*e*P	P	08 45 51.3	+0.5
CN2				*es*P	pP	08 45 58.3	-0.2
CN2				*e*PP	PP	08 49 08.7	+1.7
CN2				*e*S	S	08 56 16.6	+0.3
CN2				pmax	pmax		
	comp=Z,80nm,1.0s						
CN2				pmax	pmax		
	comp=Z,3μm,4.0s						
CN2				LR	LR		
	comp=Z,680nm,19.0s						
CN2				LR	LR		
	comp=Z,650nm,19.0s						
CN2				LR	LR		
	comp=Z,1μm,17.0s						
BMRM	Bremner River	84.62	14	P	P	08 45 51.0	+0.6
	baz=207,SNR=14						
BMRM				S	S	08 56 16.6	+0.8
	baz=207						
BNX	BinXian	84.62	323	⇑P	P	08 45 51.0	+0.3
BNX				S	S	08 56 19.2	+3.0
BNX				sS	pS	08 56 23.8	-2.3
BNX				pmax	pmax		
	comp=Z,220nm,0.9s						
BNX				pmax	pmax		
	comp=Z,3μm,6.8s						
BNX				LR	LR		
	comp=Z,5μm,20.6s						
BNX				LR	LR		
	comp=Z,4μm,21.7s						
BNX				LR	LR		
	comp=Z,5μm,18.4s						
SNY	Shenyang	84.64	318	⇑P	P	08 45 51.8	+0.9
SNY				pmax	pmax		
	comp=Z,63nm,1.3s						
SNY				pmax	pmax		
	comp=Z,260nm,3.6s						
SNY				LR	LR		
	comp=Z,1μm,19.0s						
SNY				LR	LR		
	comp=Z,1μm,19.2s						
SNY				LR	LR		
	comp=Z,3μm,20.2s						
LL02	Futaleuf	84.68	134	⇓P	P	08 45 53.7	+2.3
M23K	Glacier View	84.70	12	P	P	08 45 51.0	+0.2
	baz=204,SNR=8.3						
M23K				S	S	08 56 15.3	-1.2
	baz=204						
U35K	Hyder	84.76	23	P	P	08 45 51.8	+0.7
	baz=221						
U35K				S	S	08 56 19.8	+2.7
	baz=221						
YAH	Yahtse	84.77	15	IAMs_20	IAMs_20	09 16 43.4	
	comp=Z,8μm,20.0s						
CRQE	Cirque	84.78	15	P	P	08 45 51.8	+0.4
	baz=209,SNR=10						
CRQE				S	S	08 56 19.1	+1.6
	baz=209						
I17K	Unalakleet	84.78	6	IAMs_20	IAMs_20	09 20 26.9	
	comp=Z,4μm,20.0s						
I17K	Unalakleet	84.78	6	P	P	08 45 52.5	+1.4
	baz=192						
I17K				S	S	08 56 21.8	+4.7
	baz=192						
PNL	Peninsula	84.78	17	P	P	08 45 51.4	+0.1
	baz=212,SNR=8.8						
PNL				S	S	08 56 17.6	+0.3
	baz=212						
PNL	Peninsula	84.78	17	P	P	08 45 51.9	+0.6
CUT	Chulitna	84.79	11	IAMs_20	IAMs_20	09 15 51.1	
	comp=Z,8μm,22.0s						
CUT	Chulitna	84.79	11	P	P	08 45 51.4	+0.2
	baz=202,SNR=16						
CUT				S	S	08 56 16.8	-0.4
	baz=202						
KLU	Klutina	84.80	13	IAMs_20	IAMs_20	09 15 57.4	
	comp=Z,7μm,21.0s						
KLU	Klutina	84.80	13	P	P	08 45 51.7	+0.3
	baz=206,SNR=14						
KLU				S	S	08 56 17.8	+0.3
	baz=206						
R31K	City Hall, Gus	84.80	19	P	P	08 45 52.1	+0.8
	baz=215						
J18K	Innoko River	84.81	8	IAMs_20	IAMs_20	09 19 45.8	
	comp=Z,5μm,20.0s						
J18K	Innoko River	84.81	8	P	P	08 45 52.5	+1.1
	baz=196,SNR=35						
J18K				S	S	08 56 21.5	+4.1
	baz=196						
SCM	Sheep Creek Mo	84.82	12	P	P	08 45 51.4	-0.1
SCM				IAmb	IAmb	08 45 54.0	
	comp=Z,86nm,1.0s						
SCM				IAMs_20	IAMs_20	09 17 03.8	
	comp=Z,5μm,20.0s						
SCM	Sheep Creek Mo	84.82	12	P	P	08 45 51.9	+0.4
	baz=205,SNR=22						
SCM				S	S	08 56 17.9	+0.2
	baz=205						
SCM	Sheep Creek Mo	84.82	12	P	P	08 45 51.4	-0.1
SCM				pmax	pmax		
	comp=Z,86nm,1.0s						
ISLE	Juniper Island	84.83	15	IAMs_20	IAMs_20	09 18 15.2	
	comp=Z,8μm,20.0s						
MA2	Magadan	84.85	343	P	P	08 45 50.6	-1.0
MA2				IAmb	IAmb	08 45 52.8	
	comp=Z,98nm,1.0s						
MA2				IAMs_20	IAMs_20	09 18 03.1	
	comp=Z,6μm,21.0s						
MA2	Magadan	84.85	343	P	P	08 45 51.3	-0.2
	comp=Z,60nm,0.9s,baz=176,slow=5.4,SNR=13						
MA2				LR	LR	09 18 14.2	
	comp=Z,5μm,21.5s,baz=156,slow=32						
	comp=Z,60nm,0.9s						
MA2	Magadan	84.85	343	⇑P	P	08 45 51.2	-0.3
MA2	Magadan	84.85	343	*ce*P	P	08 45 51.8	+0.2
MA2				pmax	pmax		
	comp=Z,162nm,1.7s						
MA2	Magadan	84.85	343	P	P	08 45 51.5	-0.1
	comp=Z,129nm,1.2s,comp=Z,3μm						
PINM	Pinnacle	84.92	16	P	P	08 45 52.5	+0.4
	baz=211						
PINM				S	S	08 56 19.7	+1.0
	baz=211						
PPLA	Purkeypile	84.92	10	P	P	08 45 51.1	-0.9
	baz=200						
PPLA				S	S	08 56 17.8	-1.0
	baz=200						
BCPM	Bancas Point	84.96	17	P	P	08 45 50.6	-1.6
BCPM				IAmb	IAmb	08 45 55.0	
	comp=Z,74nm,0.9s						
BCPM				IAMs_20	IAMs_20	09 18 37.7	
	comp=Z,6μm,20.0s						
COCO	West Island	84.98	259	P	P	08 45 53.1	-0.2
COCO				P	P	08 45 53.1	-0.2
TABL	Table Mountain	84.99	16	IAMs_20	IAMs_20	09 17 11.3	
	comp=Z,8μm,20.0s						
R32K	Eaglecrest	85.07	20	P	P	08 45 52.5	-0.2
	baz=216						
R32K				S	S	08 56 18.0	-2.2
	baz=216						
R32K				S	S	08 56 18.0	-2.2
	baz=216						
K20K	Telida	85.07	9	P	P	08 45 53.3	+0.6
	baz=198						
K20K				S	S	08 56 21.0	+1.0
	baz=198						
K20K				S	S	08 56 21.0	+1.0
	baz=198						
ANM	Nome	85.08	4	P	P	08 45 53.2	+0.6
	baz=188						
GRNC	Granite Creek	85.09	15	IAMs_20	IAMs_20	09 16 23.0	
	comp=Z,8μm,20.0s						
VRDI	Verde Repeater	85.11	14	IAMs_20	IAMs_20	09 18 24.7	
	comp=Z,5μm,20.0s						
LL04	Puerto Octay	85.18	132	IAMs_20	IAMs_20	09 14 59.7	
	comp=Z,5μm,22.0s						
N25K	Chitina, Valde	85.19	14	IAMs_20	IAMs_20	09 16 19.7	
	comp=Z,6μm,21.0s						
N25K	Chitina, Valde	85.19	14	P	P	08 45 54.0	+0.6
	baz=207,SNR=21						
N25K				S	S	08 56 21.1	-0.3
	baz=207						
P29M	Windy Craggy	85.21	18	IAMs_20	IAMs_20	09 27 15.4	
	comp=Z,5μm,18.0s						
P29M	Windy Craggy	85.21	18	P	P	08 45 55.0	+1.6
	baz=214,SNR=13						
P29M				S	S	08 56 22.6	+0.9
	baz=214						
NEW	Newport	85.28	34	IAMs_20	IAMs_20	09 20 28.6	
	comp=Z,6μm,18.0s						
NEW	Newport	85.28	34	LR	LR	09 20 22.5	
	comp=Z,5μm,18.2s,baz=233,slow=33						
NEW	Newport	85.28	34	⇑P	P	08 45 54.2	+0.1
NEW	Newport	85.28	34	P	P	08 45 54.2	+0.1
M24K	Tolsona, Glenn	85.30	13	IAMs_20	IAMs_20	09 16 55.6	
	comp=Z,5μm,21.0s						
M24K	Tolsona, Glenn	85.30	13	P	P	08 45 55.0	+1.2
	baz=206,SNR=14						
M24K				S	S	08 56 23.8	+1.4
	baz=206						
BKNI	Bangkinang	85.33	272	P	P	08 45 53.4	-1.7
BKNI				PP	PP	08 49 09.0	-4.3
MCARA	McCarthy VSAT	85.35	14	IAMs_20	IAMs_20	09 19 10.9	
	comp=Z,5μm,20.0s						
MCARA	McCarthy VSAT	85.35	14	P	P	08 45 55.0	+0.9
	baz=209,SNR=5.7						
MCARA				S	S	08 56 25.4	+2.6
	baz=209						
LOGN	Logan Glacier	85.35	16	IAMs_20	IAMs_20	09 16 52.0	
	comp=Z,7μm,20.0s						
H16K	Elim	85.38	5	P	P	08 45 55.0	+0.9
	baz=191,SNR=6.2						
H16K				S	S	08 56 27.5	+4.6
	baz=191						
CTG	Chitna Glacier	85.39	15	P	P	08 45 55.0	+0.6
	baz=210,SNR=14						
CTGM	Chitina Glacie	85.39	15	IAMs_20	IAMs_20	09 16 23.0	
	comp=Z,7μm,21.0s						
WAT6	Susitna Watana	85.42	12	P	P	08 45 54.9	+0.4
	baz=204,SNR=59						
WAT6				S	S	08 56 24.4	+0.6
	baz=204						
CAST	Castle Rocks	85.43	10	IAMs_20	IAMs_20	09 20 14.0	
	comp=Z,6μm,20.0s						
CAST	Castle Rocks	85.43	10	P	P	08 45 53.4	-1.0
	baz=200,SNR=24						
CAST				S	S	08 56 27.0	+3.4
	baz=200						
J19K	Poorman	85.46	8	IAMs_20	IAMs_20	09 20 15.9	
	comp=Z,5μm,20.0s						
J19K	Poorman	85.46	8	P	P	08 45 55.6	+1.1
	baz=197,SNR=19						
J19K				S	S	08 56 27.9	+4.0
	baz=197						
J19K				S	S	08 56 27.9	+4.0
	baz=197						
WHN	Wuhan	85.46	305	⇑*i*P	P	08 45 56.3	+1.0
WHN				S	S	08 56 26.2	+1.0
WHN				sS	ScS	08 56 34.0	-1.1
WHN				pmax	pmax		
	comp=Z,930nm,1.4s						
WHN				pmax	pmax		
	comp=Z,5μm,4.7s						
WHN				LR	LR		
	comp=Z,12μm,18.0s						
WHN				LR	LR		
	comp=Z,3μm,13.9s						
WHN				LR	LR		
	comp=Z,12μm,19.5s						
PLBC	Pleasant Camp	85.47	18	P	P	08 45 55.7	+1.0
	baz=215,SNR=9.2						
WAT1	Susitna Watana	85.49	11	P	P	08 45 55.2	+0.4
	baz=204						
WAT1				S	S	08 56 24.4	+0.2
	baz=204						
T35M	Bob Quinn	85.49	22	P	P	08 45 53.2	-1.7
	baz=220						
T35M				S	S	08 56 28.0	+3.5
	baz=220						
O28M	Mount Upton	85.51	16	P	P	08 45 56.1	+0.8
	baz=211,SNR=12						
O28M				S	S	08 56 25.1	+0.1
	baz=211						
CNSH	ChangSha	85.53	302	P	P	08 45 56.8	+1.1
CNSH				S	S	08 56 32.0	+6.0
CNSH				pmax	pmax		
	comp=Z,130nm,1.1s						
CNSH				LR	LR		
	comp=Z,2μm,18.3s						
CNSH				LR	LR		
	comp=Z,3μm,18.4s						
CNSH				LR	LR		
	comp=Z,3μm,18.3s						
AHID	Auburn Hatcher	85.53	41	IAMs_20	IAMs_20	09 20 43.6	
	comp=Z,7μm,18.0s						
AHID	Auburn Hatcher	85.53	41	⇑P	P	08 45 56.2	+0.5
O29M	Mount Kennedy	85.54	17	IAMs_20	IAMs_20	09 18 36.1	
	comp=Z,5μm,20.0s						
O29M	Mount Kennedy	85.54	17	P	P	08 45 56.3	+1.1
	baz=213,SNR=12						
O29M				S	S	08 56 27.7	+2.7
	baz=213						
G15K	Niukluk	85.60	4	P	P	08 45 56.2	+1.0
	baz=189						
G15K				S	S	08 56 27.9	+2.8
	baz=189						
S22A	4UR Ranch, Cre	85.70	47	P	P	08 45 58.1	+1.4
	baz=240						
S22A				S	S	08 56 29.0	+1.0
	baz=240						
KTH	Kantishna Hill	85.74	10	IAMs_20	IAMs_20	09 20 46.3	
	comp=Z,7μm,20.0s						
TRF	Thorofare Moun	85.75	10	P	P	08 45 56.2	0.0
	baz=202,SNR=51						
TRF				S	S	08 56 26.5	-0.6
	baz=202						
HARP	HAARP	85.77	13	P	P	08 45 57.0	+0.8
	baz=207,SNR=8.9						
HARP				S	S	08 56 28.2	+1.2
	baz=207						
SKAG	Skagway	85.78	19	P	P	08 45 57.8	+1.6
	baz=216,SNR=12						
SKAG				S	S	08 56 28.8	+1.8
	baz=216						
SKAG	Skagway	85.78	19	P	P	08 45 56.4	+0.2
SKAG	Skagway	85.78	19	⇑P	P	08 45 57.7	+1.6
CHUM	Lake Minchumin	85.83	9	P	P	08 45 56.0	-0.4
	baz=200,SNR=5.2						
J20K	Nowinta River	85.84	9	P	P	08 45 57.3	+0.9
	baz=198,SNR=37						
J20K				S	S	08 56 30.4	+2.9
	baz=198						
J20K				S	S	08 56 30.4	+2.9
	baz=198						
P30M	Million Dollar	85.84	18	P	P	08 45 58.0	+1.4
	baz=214						
P30M				S	S	08 56 30.6	+2.7
	baz=214						
H17K	Granite Mounta	85.89	6	IAMs_20	IAMs_20	09 20 52.1	
	comp=Z,5μm,20.0s						

H17K	**Granite Mounta**	**85.89**	**6**	P	**P**	**08 45 57.4 +0.7**
	baz=193,SNR=14					
H17K				S	**S**	**08 56 31.8 +3.8**
	baz=193					
S34M	**Telegraph Cree**	**85.90**	**21**	P	**P**	**08 45 58.2 +1.3**
	baz=220,SNR=6.1					
S34M				S	**S**	**08 56 31.8 +3.4**
	baz=220					
F14K	**Arctic Creek**	**85.94**	**3**	P	**P**	**08 45 58.2 +1.4**
	baz=187					
F14K				S	**S**	**08 56 32.4 +4.0**
	baz=187					
DHY	**Denali Highway**	**85.94**	**12**	IAMs_20	IAMs_20	09 30 46.5
	comp=Z,5μm,18.0s					
DHY	**Denali Highway**	**85.94**	**12**	P	**P**	**08 45 57.5 +0.4**
	baz=205,SNR=21					
DHY				S	**S**	**08 56 28.4 -0.5**
	baz=205					
TNA	**Tin City**	**85.95**	**3**	P	**P**	**08 45 58.1 +1.2**
	baz=186					
TNA				S	**S**	**08 56 32.1 +3.7**
	baz=186					
RND	**Reindeer**	**85.97**	**11**	IAMs_20	IAMs_20	09 16 58.1
	comp=Z,6μm,21.0s					
RND	**Reindeer**	**85.97**	**11**	P	**P**	**08 45 57.6 +0.4**
TPAW	**Teton Pass**	**86.02**	**41**	IAMs_20	IAMs_20	09 20 42.4
	comp=Z,6μm,18.0s					
GCSA	**Galena City Sc**	**86.03**	**7**	P	**P**	**08 45 58.6 +1.3**
	baz=196,SNR=18					
GCSA				S	**S**	**08 56 33.1 +3.8**
	baz=196					
FXWY	**Fox Creek**	**86.05**	**40**	IAMs_20	IAMs_20	09 20 26.4
	comp=Z,5μm,19.0s					
TIA	**Tai'an**	**86.05**	**311**	P	**P**	**08 45 59.0 +0.8**
TIA				S	**S**	**08 56 36.8 +6.0**
TIA				pmax	pmax	
	comp=Z,140nm,1.2s					
TIA				pmax	pmax	
	comp=Z,3μm,5.9s					
TIA				LR	LR	
	comp=Z,2μm,19.9s					
TIA				LR	LR	
	comp=Z,4μm,20.5s					
TIA				LR	LR	
	comp=Z,5μm,19.5s					
YUK8	**Steele Glacier**	**86.06**	**16**	P	**P**	**08 45 59.0 +1.1**
	baz=212,SNR=14					
YUK8				S	**S**	**08 56 32.7 +2.3**
	baz=212					
DLMT	**Dillon**	**86.08**	**38**	IAMs_20	IAMs_20	09 23 58.9
	comp=Z,5μm,18.0s					
G16K	**Koyuk River**	**86.12**	**5**	P	**P**	**08 45 58.4 +0.7**
	baz=191					
G16K				S	**S**	**08 56 32.9 +2.8**
	baz=191					
SNOW	**Snow King Moun**	**86.12**	**41**	IAMs_20	IAMs_20	09 20 19.2
	comp=Z,6μm,19.0s					
YUK6	**Outpost Mounta**	**86.14**	**17**	P	**P**	**08 45 59.3 +1.0**
	baz=213,SNR=9.4					
MSO	**Missoula**	**86.15**	**37**	IAMs_20	IAMs_20	09 25 12.8
	comp=Z,5μm,18.0s					
MSO	**Missoula**	**86.15**	**37**	⇑P	**P**	**08 45 58.3 -0.2**
CMIG	**Matias Romero**	**86.19**	**70**	LR	LR	09 14 49.3
	comp=Z,5μm,21.8s,baz=252,slow=29					
PAX	**Paxson**	**86.22**	**13**	P	**P**	**08 45 58.5 0.0**
	baz=206,SNR=17					
PAX				S	**S**	**08 56 32.9 +1.4**
	baz=206					
BPAW	**Bear Paw Mtn.**	**86.24**	**10**	IAMs_20	IAMs_20	09 17 33.5
	comp=Z,5μm,21.0s					
BPAW	**Bear Paw Mtn.**	**86.24**	**10**	P	**P**	**08 45 57.8 -0.7**
	baz=201,SNR=7.6					
BPAW				S	**S**	**08 56 30.3 -1.3**
	baz=201					
M26K	**Nabesna, AK**	**86.25**	**14**	IAMs_20	IAMs_20	09 17 55.7
	comp=Z,5μm,20.0s					
M26K	**Nabesna, AK**	**86.25**	**14**	P	**P**	**08 45 59.5 +1.0**
	baz=209,SNR=29					
M26K				S	**S**	**08 56 33.7 +1.9**
	baz=209					
M26K				S	**S**	**08 56 33.7 +1.9**
	baz=209					
MCK	**McKinley**	**86.25**	**11**	P	**P**	**08 45 58.7 +0.2**
	baz=203,SNR=66					
MCK				S	**S**	**08 56 30.3 -1.4**
	baz=203					
MCK	**McKinley**	**86.25**	**11**	⇑P	**P**	**08 45 58.3 -0.2**
H18K	**Honhosa River**	**86.26**	**7**	IAMs_20	IAMs_20	09 21 59.9
	comp=Z,5μm,20.0s					
H18K	**Honhosa River**	**86.26**	**7**	P	**P**	**08 45 59.3 +0.8**
	baz=194					
H18K				S	**S**	**08 56 33.2 +1.6**
	baz=194					
F15K	**North Star Dit**	**86.27**	**4**	P	**P**	**08 45 59.3 +0.8**
	baz=189					
F15K				S	**S**	**08 56 34.0 +2.4**
	baz=189					
HYT	**Haines Junctio**	**86.27**	**17**	P	**P**	**08 46 00.1 +1.2**
	baz=214,SNR=18					
HYT				S	**S**	**08 56 34.1 +1.9**
	baz=214					
MOOW	**Moose Ponds**	**86.28**	**40**	IAMs_20	IAMs_20	09 20 33.5
	comp=Z,5μm,19.0s					
LOHW	**Long Hollow**	**86.30**	**41**	IAMs_20	IAMs_20	09 20 42.8
	comp=Z,5μm,19.0s					
YUK3	**Moose Creek**	**86.31**	**15**	P	**P**	**08 45 59.9 +0.8**
	baz=211,SNR=31					
YUK3				S	**S**	**08 56 33.2 +0.6**
	baz=211					
Q32M	**Nakina River**	**86.33**	**20**	P	**P**	**08 46 00.6 +1.3**
	baz=218,SNR=5.9					
Q32M				S	**S**	**08 56 35.3 +2.3**
	baz=218					
GO06	**Curarrehue**	**86.36**	**131**	⇓P	**P**	**08 46 02.1 +2.1**
G17K	**Kiwalik Mounta**	**86.37**	**6**	P	**P**	**08 45 59.9 +0.8**
	baz=192					
G17K				S	**S**	**08 56 35.5 +2.9**
	baz=192					
P32M	**Atlin**	**86.37**	**19**	P	**P**	**08 45 59.8 +0.5**
	baz=217,SNR=5.9					
P32M				S	**S**	**08 56 33.8 +0.8**
	baz=217					
GULI	**GuiLin**	**86.37**	**299**	P	**P**	**08 46 01.3 +1.3**
GULI				S	**S**	**08 56 38.8 +4.4**
GULI				pmax	pmax	
	comp=Z,220nm,1.3s					
GULI				LR	LR	
	comp=Z,1μm,19.9s					
GULI				LR	LR	
	comp=Z,2μm,21.8s					
GULI				LR	LR	
	comp=Z,3μm,22.3s					
I20K	**Naaghedeneel**	**86.38**	**8**	P	**P**	**08 46 00.2 +1.2**
	baz=198,SNR=13					
YUK4	**Talbot Arm**	**86.40**	**16**	P	**P**	**08 46 01.4 +1.9**
	baz=213,SNR=9.0					
YUK4				S	**S**	**08 56 33.8 +0.2**
	baz=213					
M27K	**Edge Creek, AK**	**86.47**	**14**	IAMs_20	IAMs_20	09 19 09.5
	comp=Z,6μm,20.0s					
M27K	**Edge Creek, AK**	**86.47**	**14**	P	**P**	**08 46 00.9 +1.2**
	baz=210,SNR=32					
M27K				S	**S**	**08 56 35.1 +1.0**
	baz=210					
M27K				S	**S**	**08 56 35.1 +1.0**
	baz=210					
BW06	**Boulder Array**	**86.49**	**42**	⇑P	**P**	**08 46 00.6 +0.1**
PDAR	**Pinedale Array**	**86.49**	**42**	P	**P**	**08 46 00.5 0.0**
	comp=Z,14nm,0.8s,baz=208,slow=3.1,SNR=93					
PDAR				PKKPbc	**PKKPbc**	**09 03 58.4 -0.2**
	comp=Z,0.8nm,0.8s,baz=83,slow=4.9,SNR=5.0					
PDAR				PKPPKP	**P'P'df**	**09 12 04.9 +3.4**
	comp=Z,0.5nm,0.8s,baz=79,slow=3.2,SNR=4.3					
PDAR				LR	LR	09 21 10.4
	comp=Z,4μm,18.1s,baz=235,slow=33					
	comp=Z,14nm,0.8s					
FLWY	**Flagg Ranch**	**86.49**	**40**	IAMs_20	IAMs_20	09 20 41.0
	comp=Z,4μm,19.0s					
PLCA	**Paso Flores**	**86.55**	**132**	P	**P**	**08 46 02.6 +1.8**
	comp=Z,6.6nm,1.0s,baz=231,slow=7.0,SNR=9.9					
PLCA				PKKPbc	**PKKPbc**	**09 03 55.5 -1.6**
	comp=Z,1.7nm,0.8s,baz=90,slow=5.1,SNR=5.1					
PLCA				LR	LR	09 19 08.8
	comp=Z,4μm,18.5s,baz=238,slow=32					
	comp=Z,6.6nm,1.0s					
PLCA	**Paso Flores**	**86.55**	**132**	⇑P	**P**	**08 46 03.4 +2.6**
SDCO	**Great Sand Dun**	**86.61**	**48**	⇑P	**P**	**08 46 01.6 +0.4**
O30N	**Mendenhall**	**86.62**	**18**	IAMs_20	IAMs_20	09 18 50.6
	comp=Z,4μm,20.0s					
O30N	**Mendenhall**	**86.62**	**18**	P	**P**	**08 46 01.8 +1.4**
	baz=215,SNR=18					
O30N				S	**S**	**08 56 37.9 +2.4**
	baz=215					
DLBC	**Dease Lake**	**86.68**	**21**	LR	LR	09 19 01.7
	comp=Z,3μm,19.4s,baz=236,slow=32					
DLBC	**Dease Lake**	**86.68**	**21**	P	**P**	**08 46 02.0 +1.2**
	baz=220,SNR=5.6					
DLBC				S	**S**	**08 56 39.4 +3.3**
	baz=220					
L26K	**Log Cabin Wild**	**86.72**	**13**	IAMs_20	IAMs_20	09 18 13.2
	comp=Z,7μm,20.0s					
L26K	**Log Cabin Wild**	**86.72**	**13**	P	**P**	**08 46 01.9 +1.1**
	baz=208,SNR=22					
L26K				S	**S**	**08 56 36.3 +0.1**
	baz=208					
L26K				S	**S**	**08 56 36.3 +0.1**
	baz=208					
BVCY	**Beaver Creek**	**86.76**	**15**	P	**P**	**08 46 01.8 +0.8**
	baz=211,SNR=47					
BVCY				S	**S**	**08 56 38.9 +2.3**
	baz=211					
BOZ	**Bozeman (W)**	**86.77**	**39**	IAMs_20	IAMs_20	09 24 39.3
	comp=Z,4μm,18.0s					
BOZ	**Bozeman (W)**	**86.77**	**39**	⇑P	**P**	**08 46 02.2 +0.6**
BOZ	**Bozeman (W)**	**86.77**	**39**	⇑P	**P**	**08 46 02.2 +0.6**
MSTX	**Mulesho e**	**86.79**	**52**	IAMs_20	IAMs_20	09 21 56.5
	comp=Z,7μm,18.0s					
H19K	**Roundabout Mou**	**86.83**	**7**	IAMs_20	IAMs_20	09 21 38.2
	comp=Z,6μm,20.0s					
H19K	**Roundabout Mou**	**86.83**	**7**	P	**P**	**08 46 02.5 +1.2**
	baz=196,SNR=31					
H19K				S	**S**	**08 56 41.6 +4.5**
	baz=196					
WHY	**Whitehorse**	**86.88**	**18**	P	**P**	**08 46 02.7 +0.9**
	baz=216,SNR=11					
WHY				S	**S**	**08 56 40.8 +2.8**
	baz=216					
833A	**Chaparral WMA,**	**86.91**	**58**	P	**P**	**08 46 02.5 -0.1**
	baz=245					
833A				S	**S**	**08 56 38.0 -1.4**
	baz=245					
K24K	**Donnelly Dome**	**86.91**	**12**	P	**P**	**08 46 02.7 +0.9**
	baz=206,SNR=30					
K24K				S	**S**	**08 56 39.0 +1.0**
	baz=206					
K24K				S	**S**	**08 56 39.0 +1.0**
	baz=206					
N30M	**Aishikik Lake**	**86.91**	**17**	IAMs_20	IAMs_20	09 32 35.3
	comp=Z,5μm,18.0s					
N30M	**Aishikik Lake**	**86.91**	**17**	P	**P**	**08 46 02.8 +1.0**
	baz=214,SNR=9.9					
N30M				S	**S**	**08 56 40.3 +2.1**
	baz=214					
G18K	**Tagagawik**	**86.95**	**6**	IAMs_20	IAMs_20	09 22 04.1
	comp=Z,6μm,20.0s					
G18K	**Tagagawik**	**86.95**	**6**	P	**P**	**08 46 02.5 +0.7**
	baz=194					
G18K				S	**S**	**08 56 39.3 +1.1**
	baz=194					
H20K	**Anotleneega Mo**	**87.00**	**8**	P	**P**	**08 46 02.8 +0.7**
	baz=198,SNR=25					
H20K				S	**S**	**08 56 42.7 +3.9**
	baz=198					
ELIB	**Princess Elisa**	**87.00**	**185**	*d*P	**P**	**08 46 03.4 +1.0**
	comp=Z,52nm,1.1s					
NEA2	**Nenana**	**87.02**	**11**	P	**P**	**08 46 01.9 -0.4**
	baz=203,SNR=22					
NEA2				S	**S**	**08 56 37.9 -1.2**
	baz=203					
RIDG	**Independent Ri**	**87.04**	**13**	IAMs_20	IAMs_20	09 19 34.5
	comp=Z,6μm,20.0s					
RIDG	**Independent Ri**	**87.04**	**13**	P	**P**	**08 46 02.9 +0.5**
	baz=207,SNR=23					
RIDG				S	**S**	**08 56 40.3 +1.0**
	baz=207					
WRH	**Wood River Hil**	**87.08**	**11**	IAMs_20	IAMs_20	09 17 00.6
	comp=Z,5μm,22.0s					
T25A	**Trinidad**	**87.08**	**49**	P	**P**	**08 46 04.1 +0.6**
	baz=241					
T25A				S	**S**	**08 56 43.0 +1.8**
	baz=241					
L27K	**Beaver Creek,**	**87.09**	**14**	IAMs_20	IAMs_20	09 16 59.0
	comp=Z,5μm,22.0s					
L27K	**Beaver Creek,**	**87.09**	**14**	P	**P**	**08 46 03.5 +0.8**
	baz=210,SNR=22					
L27K				S	**S**	**08 56 41.3 +1.4**
	baz=210					
R33M	**Jennings River**	**87.09**	**20**	P	**P**	**08 46 03.9 +1.0**
	baz=220,SNR=12					
R33M				S	**S**	**08 56 39.0 -1.2**
	baz=220					
I21K	**Tanana**	**87.10**	**9**	P	**P**	**08 46 02.9 +0.3**
	baz=200					
I21K				S	**S**	**08 56 40.4 +0.6**
	baz=200					
I21K				S	**S**	**08 56 40.4 +0.6**
	baz=200					
P33M	**Teslin, Yukon**	**87.14**	**19**	P	**P**	**08 46 03.9 +0.9**
	baz=218,SNR=6.7					
P33M				S	**S**	**08 56 41.7 +1.2**
	baz=218					
MLY	**Manley**	**87.15**	**10**	P	**P**	**08 46 02.9 -0.1**
	baz=202,SNR=21					
MLY				S	**S**	**08 56 39.5 -0.8**
	baz=202					
HDA	**Harding Lake**	**87.23**	**11**	IAMs_20	IAMs_20	09 30 23.6
	comp=Z,4μm,18.0s					
HDA	**Harding Lake**	**87.23**	**11**	P	**P**	**08 46 03.6 +0.3**
	baz=205,SNR=50					
HDA				S	**S**	**08 56 40.6 -0.5**
	baz=205					
F17K	**Baldwin Pennin**	**87.24**	**5**	P	**P**	**08 46 03.7 +0.5**
	baz=192					
F17K				S	**S**	**08 56 43.2 +2.2**
	baz=192					
SEY	**Seymchan**	**87.29**	**345**	P	**P**	**08 46 03.9 +0.4**
	comp=Z,148nm,0.9s,baz=143,slow=5.4,SNR=162					
	comp=Z,148nm,0.9s					
SEY	**Seymchan**	**87.29**	**345**	*ce*P	**P**	**08 46 03.8 +0.3**
SEY				pmax	pmax	
	comp=Z,211nm,1.0s					
CCB	**Clear Creek Bu**	**87.29**	**11**	IAMs_20	IAMs_20	09 17 41.2
	comp=Z,5μm,22.0s					
N31M	**Braeburn, Yuko**	**87.30**	**17**	IAMs_20	IAMs_20	09 19 12.4
	comp=Z,4μm,20.0s					
N31M	**Braeburn, Yuko**	**87.30**	**17**	P	**P**	**08 46 04.8 +1.2**
	baz=215,SNR=14					
N31M				S	**S**	**08 56 44.2 +2.4**
	baz=215					
HEH	**HeiHe**	**87.32**	**327**	*e*P	**P**	**08 46 04.2 +0.2**
HEH				pP	**PcP**	**08 46 08.0 +2.0**
HEH				PP	**PP**	**08 49 25.5 -3.2**
HEH				SKS	**SKSac**	**08 56 33.0 +3.4**
HEH				S	**S**	**08 56 44.0 +1.6**
HEH				pmax	pmax	
	comp=Z,110nm,1.5s					
HEH				pmax	pmax	
	comp=Z,3μm,7.2s					
HEH				LR	LR	
	comp=Z,5μm,21.2s					
HEH				LR	LR	
	comp=Z,4μm,22.9s					
HEH				LR	LR	
	comp=Z,11μm,21.1s					
G19K	**Purcell Mounta**	**87.36**	**7**	IAMs_20	IAMs_20	09 22 04.9
	comp=Z,4μm,19.0s					
G19K	**Purcell Mounta**	**87.36**	**7**	P	**P**	**08 46 04.8 +1.0**
	baz=196					
G19K				S	**S**	**08 56 43.7 +1.5**
	baz=196					
M29M	**Somme Creek**	**87.37**	**16**	IAMs_20	IAMs_20	09 17 59.5
	comp=Z,8μm,20.0s					
M29M	**Somme Creek**	**87.37**	**16**	P	**P**	**08 46 05.0 +0.9**
	baz=213,SNR=32					
M29M				S	**S**	**08 56 43.3 +0.5**
	baz=213					
SCRK	**Sand Creek**	**87.42**	**13**	IAMs_20	IAMs_20	09 18 44.7
	comp=Z,5μm,20.0s					
SCRK	**Sand Creek**	**87.42**	**13**	P	**P**	**08 46 04.9 +0.6**
	baz=208,SNR=41					
SCRK				S	**S**	**08 56 44.3 +1.1**
	baz=208					
H21K	**Melozitna Rive**	**87.43**	**9**	P	**P**	**08 46 05.1 +0.9**
	baz=200,SNR=30					
H21K				S	**S**	**08 56 44.7 +1.8**
	baz=200					
H21K				S	**S**	**08 56 44.7 +1.8**
	baz=200					
KULM	**Kulim**	**87.44**	**277**	⇑P	**P**	**08 46 06.2 +0.8**
Q24A	**Divide**	**87.44**	**47**	P	**P**	**08 46 03.8 -1.5**
	baz=241					
Q24A				S	**S**	**08 56 47.6 +2.7**
	baz=241					
I23K	**Minto, Yukon-K**	**87.48**	**10**	P	**P**	**08 46 04.8 +0.4**
	baz=203,SNR=22					
I23K				S	**S**	**08 56 43.9 +0.5**
	baz=203					
I23K				S	**S**	**08 56 43.9 +0.5**
	baz=203					
COLA	**College**	**87.49**	**11**	IAMs_20	IAMs_20	09 21 00.4
	comp=Z,6μm,20.0s					
COLA	**College**	**87.49**	**11**	P	**P**	**08 46 04.8 +0.3**
	baz=204					
COLA				S	**S**	**08 56 43.2 -0.2**
	baz=204					
COLA	**College**	**87.49**	**11**	P	**P**	**08 46 05.1 +0.7**
COLA	**College**	**87.49**	**11**	⇓P	**P**	**08 46 03.1 -1.4**
COLA	**College**	**87.49**	**11**	*i* P	**P**	**08 46 03.5 -0.9**
COLA				pmax	pmax	
	comp=Z,406nm,1.6s					
JCT	**Junction City**	**87.50**	**56**	⇑P	**P**	**08 46 05.1 -0.3**
F18K	**Selawik**	**87.54**	**6**	P	**P**	**08 46 05.1 +0.5**
	baz=193,SNR=7.5					
F18K				S	**S**	**08 56 45.3 +1.5**
	baz=193					
ILAR	**Eielson Array**	**87.57**	**11**	P	**P**	**08 46 04.8 -0.1**
	comp=Z,14nm,0.9s,baz=213,slow=5.6,SNR=84					
ILAR				PP	**PP**	**08 49 36.4 +5.9**
	comp=Z,9.2nm,1.1s,baz=219,slow=7.1,SNR=4.9					
ILAR				PKiKP	**PKiKP**	**08 51 11.2 +2.9**
	comp=Z,0.8nm,0.8s,baz=219,slow=1.1,SNR=4.8					
ILAR				PKKPbc	**PKKPbc**	**09 03 55.9 -0.8**
	comp=Z,0.8nm,1.0s,baz=0.0,slow=2.8,SNR=3.4					
ILAR				PKPPKP	**P'P'df**	**09 12 02.4 +5.4**
	comp=Z,0.7nm,1.0s,baz=325,slow=3.9,SNR=4.1					
ILAR				LR	LR	09 18 57.4
	comp=Z,3μm,20.6s,baz=189,slow=31					
	comp=Z,14nm,0.9s					
TROLL	**Troll, Antarti**	**87.67**	**179**	⇑P	**P**	**08 46 06.6 +0.9**
	comp=Z,1μm,0.7s					
J25K	**Salcha River,**	**87.71**	**12**	IAMs_20	IAMs_20	09 31 34.4
	comp=Z,5μm,18.0s					
J25K	**Salcha River,**	**87.71**	**12**	P	**P**	**08 46 06.2 +0.6**
	baz=206,SNR=52					
J25K				S	**S**	**08 56 46.0 +0.2**
	baz=206					
J25K				S	**S**	**08 56 46.0 +0.2**
	baz=206					
POKR	**Poker Plat Res**	**87.79**	**11**	IAMs_20	IAMs_20	09 17 45.3
	comp=Z,6μm,22.0s					
POKR	**Poker Plat Res**	**87.79**	**11**	P	**P**	**08 46 06.2 +0.3**
	baz=205,SNR=16					
POKR				S	**S**	**08 56 46.0 -0.3**
	baz=205					
POKR				S	**S**	**08 56 46.0 -0.3**
	baz=205					
KVTX	**Kingsville**	**87.79**	**60**	IAMs_20	IAMs_20	09 23 10.3
	comp=Z,4μm,18.0s					
N32M	**Quiet Lake**	**87.80**	**19**	P	**P**	**08 46 07.3 +1.2**
	baz=218					
N32M				S	**S**	**08 56 48.4 +1.6**
	baz=218					
E17K	**Hotham Inlet**	**87.82**	**5**	P	**P**	**08 46 06.9 +0.9**
	baz=191					
E17K				S	**S**	**08 56 48.1 +1.5**
	baz=191					
VNA3	**Neumayer Olymp**	**87.83**	**175**	⇑P	**P**	**08 46 06.9 +0.6**
	comp=Z,20nm,1.0s					
SNAA	**Sanae**	**87.84**	**177**	IAMs_20	IAMs_20	09 24 33.3
	comp=Z,5μm,18.0s					
SNAA	**Sanae**	**87.84**	**177**	⇑P	**P**	**08 46 07.2 +0.8**
	comp=Z,583nm,0.8s					
SNAA	**Sanae**	**87.84**	**177**	P	**P**	**08 46 07.0 +0.6**
	comp=Z,34nm,0.9s,baz=188,slow=3.9,SNR=53					
SNAA				LR	LR	09 24 53.4
	comp=Z,3μm,18.4s,baz=194,slow=35					
	comp=Z,34nm,0.9s					
SNAA	**Sanae**	**87.84**	**177**	⇑P	**P**	**08 46 06.9 +0.5**
SNAA	**Sanae**	**87.84**	**177**	*ce*P	**P**	**08 46 06.8 +0.4**
SNAA				pmax	pmax	
	comp=Z,41nm,1.0s					
SNAA				MLR	MLR	
	comp=Z,5μm,18.0s					
N23A	**Red Feather La**	**87.85**	**45**	P	**P**	**08 46 07.6 +0.5**
	baz=240					
N23A				S	**S**	**08 56 46.1 -2.5**
	baz=240					
H22K	**Ishtalitna Cre**	**87.86**	**9**	P	**P**	**08 46 06.9 +0.7**
	baz=201,SNR=26					
H22K				S	**S**	**08 56 47.8 +0.7**
	baz=201					
H22K				S	**S**	**08 56 47.8 +0.7**
	baz=201					
K27K	**Chicken**	**87.88**	**13**	IAMs_20	IAMs_20	09 18 47.8
	comp=Z,5μm,20.0s					
K27K	**Chicken**	**87.88**	**13**	P	**P**	**08 46 08.0 +1.7**
	baz=210,SNR=28					
K27K				S	**S**	**08 56 49.5 +2.3**
	baz=210					
K27K				S	**S**	**08 56 49.5 +2.3**
	baz=210					
RLMT	**Red Lodge**	**87.91**	**40**	⇓P	**P**	**08 46 08.6 +1.3**
M30M	**Minto, Yukon**	**87.92**	**16**	IAMs_20	IAMs_20	09 18 34.8
	comp=Z,7μm,20.0s					
M30M	**Minto, Yukon**	**87.92**	**16**	P	**P**	**08 46 07.3 +0.7**
	baz=214,SNR=16					
M30M				S	**S**	**08 56 48.3 +0.5**
	baz=214					
F19K	**Shaleruckik Mo**	**87.95**	**6**	IAMs_20	IAMs_20	09 21 45.6
	comp=Z,5μm,20.0s					
F19K	**Shaleruckik Mo**	**87.95**	**6**	P	**P**	**08 46 07.3 +0.7**
	baz=195,SNR=21					
F19K				S	**S**	**08 56 48.6 +0.9**
	baz=195					
J26L	**Joseph Creek**	**87.98**	**13**	IAMs_20	IAMs_20	09 18 01.4
	comp=Z,6μm,21.0s					
J26L	**Joseph Creek**	**87.98**	**13**	P	**P**	**08 46 08.1 +1.2**
	baz=208,SNR=66					
J26L				S	**S**	**08 56 51.1 +2.7**
	baz=208					
J26L				S	**S**	**08 56 51.1 +2.7**
	baz=208					
L29M	**L29M**	**88.02**	**15**	IAMs_20	IAMs_20	09 17 57.5
	comp=Z,8μm,21.0s					
L29M	**L29M**	**88.02**	**15**	P	**P**	**08 46 08.3 +1.2**
	baz=213,SNR=39					
L29M				S	**S**	**08 56 50.5 +1.8**
	baz=213					
H23K	**Yukon River**	**88.08**	**10**	IAMs_20	IAMs_20	09 22 28.1
	comp=Z,6μm,20.0s					
H23K	**Yukon River**	**88.08**	**10**	P	**P**	**08 46 07.5 +0.2**
	baz=203					
H23K				S	**S**	**08 56 49.2 0.0**
	baz=203					
H23K				S	**S**	**08 56 49.2 0.0**
	baz=203					
G21K	**Allakaket**	**88.15**	**8**	P	**P**	**08 46 08.7 +1.1**
	baz=199					
G21K				S	**S**	**08 56 51.3 +1.5**
	baz=199					
E18K	**Tukpahlearik C**	**88.26**	**5**	P	**P**	**08 46 09.0 +0.9**
	baz=192,SNR=7.0					
E18K				S	**S**	**08 56 52.2 +1.5**
	baz=192					
M31M	**Drury Creek, Y**	**88.26**	**17**	IAMs_20	IAMs_20	09 30 59.0
	comp=Z,5μm,18.0s					
M31M	**Drury Creek, Y**	**88.26**	**17**	P	**P**	**08 46 08.6 +0.3**
	baz=216,SNR=8.8					
M31M				S	**S**	**08 56 51.6 +0.5**
	baz=216					
VNA2	**Neumayer--Watz**	**88.32**	**176**	⇑P	**P**	**08 46 09.5 +0.9**
	comp=Z,37nm,0.8s,baz=194,slow=4.2					
HNS	**HongShan**	**88.32**	**311**	⇑P	**P**	**08 46 10.2 +1.1**
HNS				S	**S**	**08 56 47.7 -4.9**
HNS				pmax	pmax	
	comp=Z,87nm,1.8s					
HNS				pmax	pmax	
	comp=Z,2μm,6.1s					
HNS				LR	LR	
	comp=Z,3μm,18.6s					
HNS				LR	LR	
	comp=Z,2μm,18.0s					
HNS				LR	LR	
	comp=Z,4μm,19.6s					

D17K	**Noatak River**	**88.34**	**4**	P	**P**	**08 46 08.3**	**-0.2**
	baz=190						
D17K				S	**S**	**08 56 54.4**	**+2.9**
	baz=190						
WTLY	**Watson Lake, Y**	**88.36**	**21**	P	**P**	**08 46 09.9**	**+1.1**
	baz=222,SNR=9.7						
WTLY				S	**S**	**08 56 53.0**	**+0.9**
	baz=222						
H24K	**Noodor Dome**	**88.37**	**10**	P	**P**	**08 46 08.5**	**-0.2**
	baz=204,SNR=7.0						
H24K				S	**S**	**08 56 52.2**	**+0.3**
	baz=204						
H24K				S	**S**	**08 56 52.2**	**+0.3**
	baz=204						
F20K	**Avaraart Lake**	**88.38**	**7**	IAMs_20	IAMs_20	09 22 56.1	
	comp=Z,5μm,20.0s						
F20K	**Avaraart Lake**	**88.38**	**7**	P	**P**	**08 46 09.4**	**+0.8**
	baz=197,SNR=21						
F20K				S	**S**	**08 56 54.5**	**+2.6**
	baz=197						
735A	**Kenedy**	**88.39**	**58**	IAMs_20	IAMs_20	09 21 50.4	
	comp=Z,7μm,18.0s						
PRP	**Porcupine Dome**	**88.50**	**11**	P	**P**	**08 46 10.0**	**+0.6**
	baz=206,SNR=16						
PRP				S	**S**	**08 56 53.2**	**-0.2**
	baz=206						
DAWY	**Dawson**	**88.52**	**14**	P	**P**	**08 46 10.8**	**+1.3**
	baz=212,SNR=45						
DAWY				S	**S**	**08 56 55.7**	**+2.2**
	baz=212						
VNA1	**Neumayer--Stat**	**88.52**	**175**	⇑P	**P**	**08 46 11.2**	**+1.7**
	comp=Z,59nm,0.9s						
BJT	**Baijiatuau**	**88.53**	**314**	IAMs_20	IAMs_20	09 27 00.3	
	comp=Z,4μm,19.0s						
BJI	**Beijing**	**88.54**	**314**	P	**P**	**08 46 10.8**	**+0.8**
BJI				sP	**pwP**	**08 46 21.2**	**-0.1**
BJI				SKS	**SKSac**	**08 56 40.2**	**+2.8**
BJI				SS	**SS**	**09 02 47.6**	**+1.5**
BJI				pmax	pmax		
	comp=Z,75nm,1.9s						
BJI				pmax	pmax		
	comp=Z,1μm,6.2s						
BJI				LR	LR		
	comp=Z,710nm,19.1s						
BJI				LR	LR		
	comp=Z,1μm,18.2s						
BJI				LR	LR		
	comp=Z,2μm,18.3s						
FARO	**Faro, Yukon**	**88.58**	**18**	P	**P**	**08 46 10.6**	**+0.8**
	baz=217,SNR=6.6						
FARO				S	**S**	**08 56 54.5**	**+0.4**
	baz=217						
E19K	**Redstone River**	**88.61**	**6**	IAMs_20	IAMs_20	09 22 56.1	
	comp=Z,5μm,20.0s						
E19K	**Redstone River**	**88.61**	**6**	P	**P**	**08 46 10.7**	**+0.9**
	baz=196						
E19K				S	**S**	**08 56 56.6**	**+2.5**
	baz=196						
LYN	**LuoYang**	**88.67**	**308**	⇑P	**P**	**08 46 11.8**	**+1.0**
LYN				sP	pwP	08 46 22.7	+0.6
LYN				SKS	**SKSac**	**08 56 42.4**	**+3.9**
LYN				S	**SKKSac**	**08 56 51.7**	**+2.1**
LYN				sS	pS	08 57 04.4	-1.8
LYN				pmax	pmax		
	comp=Z,210nm,1.5s						
LYN				pmax	pmax		
	comp=Z,3μm,5.8s						
LYN				LR	LR		
	comp=Z,6μm,17.9s						
LYN				LR	LR		
	comp=Z,4μm,18.8s						
LYN				LR	LR		
	comp=Z,8μm,18.2s						
TOAD	**Toad River Com**	**88.69**	**23**	P	**P**	**08 46 11.4**	**+1.0**
	baz=225,SNR=31						
TOAD				S	**S**	**08 56 55.2**	**0.0**
	baz=225						
RDOG	**Red Dog Mine**	**88.70**	**4**	P	**P**	**08 46 10.9**	**+0.7**
	baz=190						
RDOG				S	**S**	**08 56 56.1**	**+1.1**
	baz=190						
EGAK	**Eagle**	**88.73**	**13**	IAMs_20	IAMs_20	09 20 35.2	
	comp=Z,5μm,20.0s						
EGAK	**Eagle**	**88.73**	**13**	P	**P**	**08 46 11.2**	**+0.9**
	baz=210,SNR=29						
EGAK				S	**S**	**08 56 57.0**	**+1.7**
	baz=210						
EGAK	**Eagle**	**88.73**	**13**	⇑P	**P**	**08 46 11.1**	**+0.7**
I26K	**Coal Creek Min**	**88.77**	**12**	IAMs_20	IAMs_20	09 20 08.3	
	comp=Z,5μm,20.0s						
I26K	**Coal Creek Min**	**88.77**	**12**	P	**P**	**08 46 11.8**	**+1.2**
	baz=208						
I26K				S	**S**	**08 56 56.9**	**+1.2**
	baz=208						
I26K				S	**S**	**08 56 56.9**	**+1.2**
	baz=208						
LIRD	**Liard River Hi**	**88.77**	**22**	P	**P**	**08 46 11.6**	**+0.9**
	baz=224,SNR=11						
LIRD				S	**S**	**08 56 58.8**	**+2.8**
	baz=224						
C16K	**Lisburne Hills**	**88.78**	**3**	P	**P**	**08 46 10.9**	**+0.4**
	baz=188						
K29M	**Barlow Dome**	**88.78**	**15**	IAMs_20	IAMs_20	09 19 02.7	
	comp=Z,7μm,20.0s						
K29M	**Barlow Dome**	**88.78**	**15**	P	**P**	**08 46 12.3**	**+1.5**
	baz=214,SNR=39						
K29M				S	**S**	**08 56 57.2**	**+1.1**
	baz=214						
G22K	**Bettles**	**88.80**	**9**	P	**P**	**08 46 12.0**	**+1.4**
	baz=201,SNR=14						
G22K				S	**S**	**08 56 58.5**	**+2.6**
	baz=201						
BO02	**Sierra Bellavi**	**88.81**	**127**	⇑P	**P**	**08 46 13.0**	**+1.3**
F21K	**Alatna River**	**88.82**	**8**	IAMs_20	IAMs_20	09 22 59.7	
	comp=Z,5μm,20.0s						
F21K	**Alatna River**	**88.82**	**8**	P	**P**	**08 46 11.4**	**+0.7**
	baz=199						
F21K				S	**S**	**08 56 57.6**	**+1.4**
	baz=199						
G23K	**Bananza Creek**	**88.83**	**9**	IAMs_20	IAMs_20	09 31 49.8	
	comp=Z,4μm,18.0s						
G23K	**Bananza Creek**	**88.83**	**9**	P	**P**	**08 46 11.8**	**+0.9**
	baz=202						
G23K				S	**S**	**08 56 57.6**	**+1.3**
	baz=202						
NVL	**N'lazarevskaya**	**88.86**	**182**	*e*P	**P**	**08 46 12.0**	**+0.9**
NVL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
NVL				MLR	MLR		
	comp=Z,4μm,19.0s						
GSI	**Gunungsitoli**	**88.92**	**272**	IAMs_20	IAMs_20	09 25 18.7	
	comp=Z,6μm,21.0s						
GSI	**Gunungsitoli**	**88.92**	**272**	⇑P	**P**	**08 46 13.7**	**+1.2**
MAYO	**Mayo, Yukon**	**88.99**	**16**	P	**P**	**08 46 13.3**	**+1.7**
	baz=215,SNR=9.1						
MAYO				S	**S**	**08 56 59.6**	**+1.7**
	baz=215						
C17K	**DeLong Mountai**	**89.10**	**4**	P	**P**	**08 46 13.0**	**+0.9**
	baz=190						
C17K				S	**S**	**08 57 01.4**	**+2.7**
	baz=190						
H25L	**Birch Creek**	**89.12**	**11**	P	**P**	**08 46 12.3**	**+0.2**
	baz=206						
J29N	**Klondike Camp**	**89.12**	**15**	IAMs_20	IAMs_20	09 22 27.7	
	comp=Z,5μm,19.0s						
J29N	**Klondike Camp**	**89.12**	**15**	P	**P**	**08 46 13.9**	**+1.6**
	baz=213,SNR=20						
J29N				S	**S**	**08 57 01.6**	**+2.4**
	baz=213						
EGMT	**Eagleton**	**89.17**	**37**	IAMs_20	IAMs_20	09 23 28.8	
	comp=Z,5μm,18.0s						
G24K	**Hadweenzic Riv**	**89.22**	**10**	IAMs_20	IAMs_20	09 22 33.3	
	comp=Z,7μm,20.0s						
G24K	**Hadweenzic Riv**	**89.22**	**10**	P	**P**	**08 46 12.8**	**+0.1**
	baz=205						
G24K				S	**S**	**08 57 00.8**	**+0.9**
	baz=205						
F22K	**John River**	**89.26**	**8**	P	**P**	**08 46 13.8**	**+0.9**
	baz=200,SNR=10						
F22K				S	**S**	**08 57 03.5**	**+3.2**
	baz=200						
COLD	**Coldfoot**	**89.28**	**9**	P	**P**	**08 46 14.1**	**+1.2**
	baz=202,SNR=13						
COLD				S	**S**	**08 57 03.9**	**+3.5**
	baz=202						
I27K	**Kandik River**	**89.35**	**13**	P	**P**	**08 46 14.2**	**+0.9**
	baz=210,SNR=15						
I27K				S	**S**	**08 57 03.0**	**+1.9**
	baz=210						
I27K				S	**S**	**08 57 03.0**	**+1.9**
	baz=210						
435B	**Jarrell**	**89.36**	**57**	P	**P**	**08 46 13.1**	**-1.0**
	baz=245						
435B				S	**S**	**08 57 03.0**	**+0.3**
	baz=245						
C18K	**Utukok River**	**89.41**	**5**	P	**P**	**08 46 14.2**	**+0.6**
	baz=192						
C18K				S	**S**	**08 57 03.9**	**+2.2**
	baz=192						
BILL	**Bilibino**	**89.49**	**353**	*c*eP	**P**	**08 46 14.6**	**+0.7**
BILL				pmax	pmax		
	comp=Z,43nm,0.8s						
ZEA	**Zeya**	**89.49**	**329**	*e*P	**P**	**08 46 10.5**	**-3.7**
ZEA				*e*S	**S**	**08 56 58.6**	**-4.3**
ZEA				pmax	pmax		
	comp=N,100nm,1.3s						
ZEA				pmax	pmax		
	comp=E,30nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,200nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,1μm,6.9s						
ZEA				smax	smax		
	comp=N,800nm,7.9s						
E20K	**Nigu River**	**89.49**	**7**	P	**P**	**08 46 15.2**	**+1.2**
	baz=196						
E20K				S	**S**	**08 57 04.2**	**+1.7**
	baz=196						
G25K	**Bearman Lake**	**89.52**	**11**	P	**P**	**08 46 14.7**	**+0.7**
	baz=206						
G25K				S	**S**	**08 57 06.3**	**+3.8**
	baz=206						
D19K	**Kuna River**	**89.53**	**6**	IAMs_20	IAMs_20	09 23 09.3	
	comp=Z,5μm,20.0s						
D19K	**Kuna River**	**89.53**	**6**	P	**P**	**08 46 14.8**	**+0.7**
	baz=195						
D19K				S	**S**	**08 57 03.3**	**+0.6**
	baz=195						
PEL	**Peldehue**	**89.55**	**125**	IAMs_20	IAMs_20	09 18 47.9	
	comp=Z,4μm,20.0s						
PEL	**Peldehue**	**89.55**	**125**	P	**P**	**08 46 17.5**	**+2.3**
PEL				pmax	pmax		
	comp=Z,44nm,1.3s						
I28M	**Miner Creek**	**89.57**	**14**	IAMs_20	IAMs_20	09 18 38.6	
	comp=Z,6μm,21.0s						
I28M	**Miner Creek**	**89.57**	**14**	P	**P**	**08 46 15.2**	**+0.7**
	baz=212,SNR=29						
I28M				S	**S**	**08 57 04.8**	**+1.4**
	baz=212						
J30M	**Hart River**	**89.68**	**15**	P	**P**	**08 46 16.1**	**+1.0**
	baz=215,SNR=26						
J30M				S	**S**	**08 57 04.6**	**0.0**
	baz=215						
D20K	**Etivluk River**	**89.89**	**6**	P	**P**	**08 46 16.7**	**+0.9**
	baz=196						
D20K				S	**S**	**08 57 07.1**	**+1.1**
	baz=196						
GYA	**Guiyang**	**89.89**	**298**	P	**P**	**08 46 18.5**	**+1.6**
GYA				SKS	**SKSac**	**08 56 49.3**	**+2.9**
GYA				S	**SKKSac**	**08 57 01.3**	**+1.8**
GYA				pmax	pmax		
	comp=Z,85nm,1.6s						
GYA				pmax	pmax		
	comp=Z,2μm,5.4s						
GYA				LR	LR		
	comp=Z,2μm,17.1s						
GYA				LR	LR		
	comp=Z,2μm,18.2s						
GYA				LR	LR		
	comp=Z,3μm,18.0s						
E22K	**Anaktuvuk Pass**	**89.90**	**8**	IAMs_20	IAMs_20	09 23 46.2	
	comp=Z,6μm,20.0s						
E22K	**Anaktuvuk Pass**	**89.90**	**8**	P	**P**	**08 46 16.7**	**+0.8**
	baz=200						
E22K				S	**S**	**08 57 07.8**	**+1.6**
	baz=200						
F24K	**Squaw Lake**	**89.90**	**10**	IAMs_20	IAMs_20	09 19 37.3	
	comp=Z,7μm,21.0s						
F24K	**Squaw Lake**	**89.90**	**10**	P	**P**	**08 46 17.1**	**+1.2**
	baz=204						
F24K				S	**S**	**08 57 07.8**	**+1.5**
	baz=204						
H27K	**Steamboat Moun**	**89.91**	**13**	P	**P**	**08 46 17.2**	**+1.3**
	baz=210,SNR=33						
H27K				S	**S**	**08 57 08.1**	**+1.7**
	baz=210						
E21K	**Killik River**	**89.92**	**7**	IAMs_20	IAMs_20	09 23 45.7	
	comp=Z,5μm,20.0s						
E21K	**Killik River**	**89.92**	**7**	P	**P**	**08 46 16.7**	**+0.8**
	baz=198						
E21K				S	**S**	**08 57 07.2**	**+0.9**
	baz=198						
C19K	**Lookout Ridge**	**89.99**	**5**	IAMs_20	IAMs_20	09 24 26.6	
	comp=Z,4μm,20.0s						
C19K	**Lookout Ridge**	**89.99**	**5**	P	**P**	**08 46 17.2**	**+0.9**
	baz=193						
C19K				S	**S**	**08 57 07.2**	**+0.2**
	baz=193						
SNET	**Serv Nac Est T**	**89.99**	**75**	IAMs_20	IAMs_20	09 16 50.5	
	comp=Z,5μm,20.0s						
KOTAN	**Kotaneelee Air**	**90.02**	**23**	P	**P**	**08 46 17.8**	**+1.2**
	baz=226,SNR=13						
KOTAN				S	**S**	**08 57 08.7**	**+1.2**
	baz=226						
B18K	**Kokolik River**	**90.07**	**4**	P	**P**	**08 46 17.6**	**+1.0**
	baz=191						
TIY	**Taiyuan**	**90.08**	**310**	*e*P	**P**	**08 46 19.1**	**+1.7**
TIY				S	**S**	**08 57 06.5**	**-2.7**
TIY				pmax	pmax		
	comp=Z,69nm,1.1s						
TIY				pmax	pmax		
	comp=Z,2μm,5.5s						
TIY				LR	LR		
	comp=Z,840nm,20.6s						
TIY				LR	LR		
	comp=Z,540nm,19.9s						
TIY				LR	LR		
	comp=Z,3μm,20.6s						
WMOK	**Wichita Mounta**	**90.09**	**53**	⇑P	P	08 46 23.7	+6.2
G26K	**Porcupine Rive**	**90.10**	**11**	P	**P**	**08 46 18.0**	**+1.3**
	baz=208						
G26K				S	**S**	**08 57 09.0**	**+1.1**
	baz=208						
PAF	**Port-aux-Franc**	**90.13**	**216**	IAMs_20	IAMs_20	09 26 22.6	
	comp=Z,4μm,18.0s						
E23K	**Chandalar**	**90.14**	**9**	P	**P**	**08 46 18.0**	**+0.9**
	baz=203						
E23K				S	**S**	**08 57 08.9**	**+0.4**
	baz=203						
I30M	**Mount Dempster**	**90.20**	**15**	IAMs_20	IAMs_20	09 23 04.3	
	comp=Z,6μm,20.0s						
I30M	**Mount Dempster**	**90.20**	**15**	P	**P**	**08 46 18.3**	**+0.8**
	baz=215,SNR=51						
I30M				S	**S**	**08 57 09.4**	**+0.1**
	baz=215						
E24K	**Your Creek**	**90.32**	**9**	IAMs_20	IAMs_20	09 20 14.3	
	comp=Z,6μm,21.0s						
E24K	**Your Creek**	**90.32**	**9**	P	**P**	**08 46 19.1**	**+1.2**
	baz=204						
E24K				S	**S**	**08 57 10.4**	**+0.3**
	baz=204						
F25K	**Christian Rive**	**90.34**	**11**	IAMs_20	IAMs_20	09 19 13.8	
	comp=Z,7μm,22.0s						
F25K	**Christian Rive**	**90.34**	**11**	P	**P**	**08 46 19.2**	**+1.3**
	baz=206,SNR=17						
F25K				S	**S**	**08 57 10.2**	**-0.2**
	baz=206						
G27K	**Doyon Strip**	**90.38**	**12**	IAMs_20	IAMs_20	09 19 38.0	
	comp=Z,5μm,21.0s						
G27K	**Doyon Strip**	**90.38**	**12**	P	**P**	**08 46 19.5**	**+1.4**
	baz=210,SNR=20						
G27K				S	**S**	**08 57 10.7**	**-0.1**
	baz=210						
HKT	**Hockley**	**90.41**	**58**	P	**P**	**08 46 18.7**	**-0.3**
HKT				pmax	pmax		
	comp=Z,138nm,1.7s						
XLT	**XiLinHaoTe**	**90.44**	**317**	*e*P	**P**	**08 46 19.4**	**+0.4**
XLT				sP	pP	08 46 26.4	-0.4
XLT				SKS	**SKSac**	**08 56 46.1**	**-2.5**
XLT				S	**S**	**08 57 11.8**	**-0.5**
XLT				SS	**SS**	**09 03 15.5**	**+1.8**
XLT				pmax	pmax		
	comp=Z,54nm,1.2s						
XLT				pmax	pmax		
	comp=Z,2μm,7.2s						
XLT				LR	LR		
	comp=Z,3μm,18.5s						
XLT				LR	LR		
	comp=Z,3μm,19.4s						
OGNE	**Ogallala**	**90.49**	**46**	IAMs_20	IAMs_20	09 23 15.1	
	comp=Z,5μm,18.0s						
D22K	**Ayikyak River**	**90.49**	**8**	IAMs_20	IAMs_20	09 24 24.8	
	comp=Z,4μm,19.0s						
D22K	**Ayikyak River**	**90.49**	**8**	P	**P**	**08 46 20.0**	**+1.4**
	baz=200						
D22K				S	**S**	**08 57 11.6**	**0.0**
	baz=200						
C21K	**Knifeblade Rid**	**90.51**	**7**	P	**P**	**08 46 20.1**	**+1.5**
	baz=198						
C21K				S	**S**	**08 57 10.3**	**-1.4**
	baz=198						
LAO	**LASA Array**	**90.54**	**40**	⇑P	**P**	**08 46 20.8**	**+1.4**
H29M	**Whitestone**	**90.57**	**14**	IAMs_20	IAMs_20	09 19 08.0	
	comp=Z,5μm,22.0s						
H29M	**Whitestone**	**90.57**	**14**	P	**P**	**08 46 19.9**	**+1.0**
	baz=213,SNR=26						
H29M				S	**S**	**08 57 11.2**	**-1.3**
	baz=213						
RSSD	**Black Hills**	**90.64**	**43**	⇑P	**P**	**08 46 20.2**	**0.0**
RSSD	**Black Hills**	**90.64**	**43**	P	**P**	**08 46 20.4**	**+0.3**
GO04	**Tololo Observa**	**90.68**	**123**	⇑P	**P**	**08 46 23.2**	**+2.5**
TOLK	**Toolik Lake Re**	**90.68**	**9**	P	**P**	**08 46 20.6**	**+1.1**
	baz=203,SNR=10						
TOLK				S	**S**	**08 57 12.1**	**-1.3**
	baz=203						
TOLK				S	**S**	**08 57 12.1**	**-1.3**
	baz=203						
F26K	**Sheenjek River**	**90.69**	**11**	IAMs_20	IAMs_20	09 19 45.1	
	comp=Z,4μm,21.0s						
F26K	**Sheenjek River**	**90.69**	**11**	P	**P**	**08 46 21.1**	**+1.6**
	baz=208,SNR=16						
F26K				S	**S**	**08 57 14.2**	**+0.7**
	baz=208						
E25K	**Arctic Village**	**90.83**	**10**	IAMs_20	IAMs_20	09 20 13.7	
	comp=Z,7μm,21.0s						
E25K	**Arctic Village**	**90.83**	**10**	P	**P**	**08 46 21.6**	**+1.4**
	baz=206,SNR=21						
E25K				S	**S**	**08 57 16.6**	**+1.8**
	baz=206						
D23K	**Nanushuk River**	**90.83**	**8**	IAMs_20	IAMs_20	09 24 05.8	
	comp=Z,6μm,19.0s						
D23K	**Nanushuk River**	**90.83**	**8**	P	**P**	**08 46 21.0**	**+0.9**
	baz=202						
D23K				S	**S**	**08 57 15.3**	**+0.6**
	baz=202						
HIA	**Hailar**	**90.89**	**323**	IAMs_20	IAMs_20	09 21 32.6	
	comp=Z,7μm,21.0s						
A19K	**Wainwright**	**90.95**	**4**	P	**P**	**08 46 21.3**	**+0.7**
	baz=192						
B21K	**Ikpikpuk River**	**90.97**	**7**	IAMs_20	IAMs_20	09 24 24.5	
	comp=Z,6μm,20.0s						
B21K	**Ikpikpuk River**	**90.97**	**7**	P	**P**	**08 46 21.9**	**+1.2**
	baz=198						
B21K				S	**S**	**08 57 14.9**	**-1.0**
	baz=198						
EPYK	**Eagle Plains**	**91.07**	**14**	IAMs_20	IAMs_20	09 22 44.1	
	comp=Z,4μm,20.0s						
EPYK	**Eagle Plains**	**91.07**	**14**	P	**P**	**08 46 22.2**	**+0.8**
	baz=214,SNR=21						
EPYK				S	**S**	**08 57 20.4**	**+3.4**
	baz=214						
B20K	**Meade River**	**91.08**	**6**	IAMs_20	IAMs_20	09 24 31.5	
	comp=Z,5μm,20.0s						
B20K	**Meade River**	**91.08**	**6**	P	**P**	**08 46 21.5**	**+0.3**
	baz=196						
B20K				S	**S**	**08 57 17.9**	**+1.0**
	baz=196						
XAN	**Xi'an**	**91.11**	**306**	⇑P	**P**	**08 46 23.5**	**+1.2**
XAN				SKS	**SKSac**	**08 56 52.8**	**-0.1**
XAN				S	**ScS**	**08 57 24.2**	**+2.3**
XAN				pmax	pmax		
	comp=Z,370nm,1.4s						
XAN				pmax	pmax		
	comp=Z,3μm,4.7s						
XAN				LR	LR		
	comp=Z,3μm,19.6s						
XAN				LR	LR		
	comp=Z,4μm,18.0s						
XAN				LR	LR		
	comp=Z,4μm,19.4s						
CBKS	**Cedar Bluff**	**91.13**	**49**	IAMs_20	IAMs_20	09 23 01.3	
	comp=Z,4μm,18.0s						
H31M	**Peel River**	**91.17**	**15**	IAMs_20	IAMs_20	09 22 55.9	
	comp=Z,7μm,20.0s						
H31M	**Peel River**	**91.17**	**15**	P	**P**	**08 46 22.1**	**+0.3**
	baz=217,SNR=9.7						
H31M				S	**S**	**08 57 18.8**	**+0.8**
	baz=217						
G29M	**Pine Creek**	**91.23**	**13**	IAMs_20	IAMs_20	09 20 33.3	
	comp=Z,5μm,20.0s						
G29M	**Pine Creek**	**91.23**	**13**	P	**P**	**08 46 23.2**	**+1.1**
	baz=213						
G29M				S	**S**	**08 57 19.4**	**+1.0**
	baz=213						
LCO	**Las Campanas**	**91.23**	**122**	IAMs_20	IAMs_20	09 22 10.2	
	comp=Z,6μm,18.0s						
LCO	**Las Campanas**	**91.23**	**122**	⇑P	**P**	**08 46 26.4**	**+3.0**
D24K	**Happy Valley**	**91.26**	**9**	P	**P**	**08 46 23.3**	**+1.2**
	baz=203						
D24K				S	**S**	**08 57 16.5**	**-2.0**
	baz=203						
F28M	**Old Crow**	**91.44**	**12**	IAMs_20	IAMs_20	09 23 40.8	
	comp=Z,6μm,20.0s						
F28M	**Old Crow**	**91.44**	**12**	P	**P**	**08 46 23.9**	**+0.9**
	baz=212,SNR=28						
F28M				S	**S**	**08 57 21.8**	**+1.5**
	baz=212						
E27K	**Coleen River**	**91.59**	**12**	P	**P**	**08 46 25.1**	**+1.4**
	baz=210						
E27K				S	**S**	**08 57 23.9**	**+2.2**
	baz=210						
C23K	**Itkillik River**	**91.65**	**8**	IAMs_20	IAMs_20	09 24 35.5	
	comp=Z,6μm,20.0s						
C23K	**Itkillik River**	**91.65**	**8**	P	**P**	**08 46 24.9**	**+1.0**
	baz=202						
C23K				S	**S**	**08 57 23.2**	**+1.2**
	baz=202						
G30M	**tAoh Zraii Nji**	**91.69**	**14**	IAMs_20	IAMs_20	09 25 06.4	
	comp=Z,4μm,20.0s						
G30M	**tAoh Zraii Nji**	**91.69**	**14**	P	**P**	**08 46 25.3**	**+1.1**
	baz=215						
G30M				S	**S**	**08 57 24.7**	**+2.0**
	baz=215						
R32A	**Long Quarter,**	**91.69**	**49**	IAMs_20	IAMs_20	09 25 29.2	
	comp=Z,5μm,18.0s						
D25K	**Kavik River**	**91.78**	**10**	IAMs_20	IAMs_20	09 20 59.9	
	comp=Z,6μm,21.0s						
D25K	**Kavik River**	**91.78**	**10**	P	**P**	**08 46 25.0**	**+0.4**
	baz=206,SNR=9.1						
D25K				S	**S**	**08 57 24.5**	**+1.1**
	baz=206						
B22K	**Teshekpuk Lake**	**91.79**	**7**	IAMs_20	IAMs_20	09 25 08.0	
	comp=Z,5μm,20.0s						
B22K	**Teshekpuk Lake**	**91.79**	**7**	P	**P**	**08 46 25.7**	**+1.2**
	baz=199						
B22K				S	**S**	**08 57 25.6**	**+2.4**
	baz=199						
C24K	**Franklin Bluff**	**91.80**	**9**	P	**P**	**08 46 25.9**	**+1.4**
	baz=203,SNR=6.1						
TGUH	**Tegucigalpa,Un**	**91.90**	**76**	⇑P	**P**	**08 46 27.1**	**+0.6**
OK031	**S. Brethren Rd**	**92.04**	**52**	IAMs_20	IAMs_20	09 25 31.5	
	comp=Z,6μm,18.0s						
HHC	**Hu-ho-hao-te**	**92.04**	**313**	*e*P	**P**	**08 46 27.6**	**+1.0**
HHC				pP	pP	08 46 33.2	-1.1
HHC				sP	pwP	08 46 38.0	+0.2
HHC				PP	**PP**	**08 50 02.0**	**-4.8**
HHC				SKS	**SKSac**	**08 56 58.1**	**+0.1**
HHC				S	**ScS**	**08 57 30.2**	**+0.7**
HHC				SS	**SS**	**09 03 39.1**	**+2.1**
HHC				pmax	pmax		
	comp=Z,70nm,0.9s						
HHC				LR	LR		
	comp=Z,1μm,19.1s						
HHC				LR	LR		
	comp=Z,3μm,19.1s						
HHC				LR	LR		
	comp=Z,4μm,18.3s						
G31M	**Satah River**	**92.09**	**15**	IAMs_20	IAMs_20	09 22 38.1	
	comp=Z,6μm,20.0s						
G31M	**Satah River**	**92.09**	**15**	P	**P**	**08 46 26.7**	**+0.7**
	baz=217,SNR=28						
G31M				S	**S**	**08 57 26.8**	**+0.8**
	baz=217						
OK048	**Pawnee Station**	**92.15**	**52**	IAMs_20	IAMs_20	09 24 09.4	

comp=Z,6μm,18.0s
A22K Sinclair Lake 92.25 6 P **P 08 46 27.6 +0.9**
baz=198
A22K S **S 08 57 28.8 +1.4**
baz=198
F30M Barrier River 92.30 14 P **P 08 46 27.6 +0.7**
baz=215
F30M S **S 08 57 28.9 +0.8**
baz=215
E28M Babbage River 92.35 12 IAMs_20 IAMs_20 09 24 56.9
comp=Z,5μm,20.0s
E28M Babbage River 92.35 12 P **P 08 46 28.5 +1.4**
baz=212
E28M S **S 08 57 31.2 +2.8**
baz=212
WRGLY Wrigley 92.37 21 P **P 08 46 28.5 +1.1**
baz=226
WRGLY S **S 08 57 32.5 +3.8**
baz=226
A21K Barrow 92.40 6 P **P 08 46 27.6 +0.3**
baz=196
C27K Jago River 92.48 10 IAMs_20 IAMs_20 09 20 57.4
comp=Z,6μm,21.0s
C27K Jago River 92.48 10 P **P 08 46 28.8 +1.0**
baz=208
C27K S **S 08 57 31.2 +1.6**
baz=208
NNA Nana 92.48 104 LR LR 09 17 24.8
comp=Z,3μm,21.7s,baz=235,slow=29
E29M Blow River 92.49 13 IAMs_20 IAMs_20 09 24 03.7
comp=Z,6μm,20.0s
E29M Blow River 92.49 13 P **P 08 46 28.4 +0.6**
baz=213
E29M S **S 08 57 31.9 +2.2**
baz=213
C26K Camden Bay 92.55 10 P **P 08 46 29.6 +1.6**
baz=207
C26K S **S 08 57 31.1 +1.1**
baz=207
DGMT Dagmar 92.61 39 IAMs_20 IAMs_20 09 28 40.7
comp=Z,5μm,18.0s
DGMT Dagmar 92.61 39 ⇑P **P 08 46 30.0 +1.2**
D27M Malcolm River 92.62 11 P **P 08 46 30.0 +1.4**
baz=211
D27M S **S 08 57 35.6 +4.6**
baz=211
KMI Kunming 92.67 296 ⇑P **P 08 46 31.8 +1.8**
KMI PP **PP 08 50 09.8 -2.4**
KMI pmax pmax
comp=Z,98nm,1.1s
KMI pmax pmax
comp=Z,1μm,6.2s
KMI LR LR
comp=Z,2μm,18.7s
KMI LR LR
comp=Z,4μm,20.7s
KMI LR LR
comp=Z,6μm,19.7s
JTS Las Juntas de 92.72 80 LR LR 09 18 09.2
comp=Z,4μm,21.2s,baz=250,slow=29
ATAH Atahualpa 92.80 99 LR LR 09 18 29.5
comp=Z,4μm,21.0s,baz=250,slow=29
TUL3 Leonard 92.80 53 IAMs_20 IAMs_20 09 26 15.7
comp=Z,5μm,18.0s
BTO Baotou 93.00 312 *e*P **P 08 46 32.4 +1.4**
BTO pP **pP 08 46 38.1 -0.7**
BTO sP **pwP 08 46 43.3 +1.0**
BTO PP **PP 08 50 18.9 +4.5**
BTO S **S 08 57 39.8 +4.1**
BTO pmax pmax
comp=Z,73nm,1.3s
BTO pmax pmax
comp=Z,1μm,7.7s
BTO LR LR
comp=Z,4μm,18.5s
BTO LR LR
comp=Z,4μm,18.8s
BTO LR LR
comp=Z,4μm,19.4s
D28M Stokes Point 93.11 12 P **P 08 46 31.8 +1.1**
baz=213
D28M S **S 08 57 35.8 +0.7**
baz=213
TEIG Tepich 93.16 70 LR LR 09 19 35.0
comp=Z,3μm,21.7s,baz=238,slow=30
INK Inuvik 93.37 14 LR LR 09 21 27.7
comp=Z,4μm,21.3s,baz=218,slow=31
INK Inuvik 93.37 14 P **P 08 46 32.2 +0.3**
baz=217
INK S **S 08 57 37.9 +0.5**
baz=217
INK Inuvik 93.37 14 ⇑P **P 08 46 32.0 +0.2**
INK Inuvik 93.37 14 P **P 08 46 31.6 -0.2**
HDC Heredia 93.40 81 *e*P **P 08 46 37.7 +4.3**
KSU1 Kansas State U 93.47 50 IAMs_20 IAMs_20 09 25 10.2
comp=Z,6μm,19.0s
YAK Yakutsk 93.56 337 P **P 08 46 32.7 -0.1**
comp=Z,29nm,0.5s,baz=248,slow=23,SNR=13
YAK LR LR 09 22 34.8
comp=Z,2μm,21.6s,baz=127,slow=32
comp=Z,29nm,0.5s
YAK Yakutsk 93.56 337 *e*P **P 08 46 32.0 -0.8**
YAK *e* 08 50 13.5
YAK *e*PPP PPP 08 52 16.9
YAK *e*S **SKSac 08 57 04.8 -0.3**
YAK *e* 08 57 40.2
YAK *e*SS **SS 09 03 56.1 -1.4**
YAK *e*SSS SSS 09 07 37.3
YAK pmax pmax
comp=Z,57nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=Z,376nm,3.3s
YAK pmax pmax
comp=N,305nm,4.2s
YAK pmax pmax
comp=E,69nm,2.1s
YAK smax smax
comp=E,270nm,5.6s
YAK smax smax
comp=N,218nm,3.2s
YAK MLR MLR
comp=Z,4μm,25.0s
YAK MLR MLR
comp=N,2μm,21.0s
YAK MLR MLR
comp=E,1μm,20.0s
CMAR Chiang Mai Arr 93.62 288 P **P 08 46 35.8 +1.6**
comp=E,79nm,1.1s,baz=117,slow=2.8,SNR=170
CMAR PP **PP 08 50 19.8 +0.3**
comp=E,0.6nm,0.3s,baz=118,slow=7.3,SNR=4.6
CMAR PKKPbc **PKKPdf 09 03 38.2 -0.3**
comp=E,0.4nm,0.3s,baz=294,slow=4.8,SNR=4.2
CMAR LR LR 09 28 20.5
comp=E,2μm,19.1s,baz=100,slow=35
comp=E,79nm,1.1s
TRQA Tornquist 93.68 133 IAMs_20 IAMs_20 09 26 49.5
comp=Z,3μm,18.0s
E28A Huff 93.86 41 IAMs_20 IAMs_20 09 25 14.0
comp=Z,5μm,19.0s
CD2 Chengdu 93.94 301 P **P 08 46 37.0 +1.6**
CD2 PP **PP 08 50 24.9 +3.1**
CD2 SKS **SKSac 08 57 10.6 +1.8**
CD2 S **S 08 57 42.5 -1.7**
CD2 pmax pmax
comp=Z,30nm,0.3s
CD2 pmax pmax
comp=Z,1μm,4.6s
CD2 LR LR
comp=Z,2μm,19.0s
CD2 LR LR
comp=Z,3μm,20.3s
CD2 LR LR
comp=Z,3μm,20.3s
MIAR Mount Ida 93.95 55 IAMs_20 IAMs_20 09 25 26.2
comp=Z,6μm,18.0s
PZH PanZhiHua 94.00 297 P **P 08 46 37.0 +1.0**
PZH PP **PP 08 50 19.0 -3.5**
PZH SKS **SKSac 08 57 12.2 +2.7**
PZH SS **SS 09 04 07.8 +2.1**
PZH pmax pmax
comp=Z,70nm,1.1s
PZH pmax pmax
comp=Z,950nm,3.6s
PZH LR LR
comp=Z,2μm,21.0s
PZH LR LR
comp=Z,3μm,21.3s
PZH LR LR
comp=Z,4μm,22.3s
SUSD Miller 94.05 44 IAMs_20 IAMs_20 09 23 04.3
comp=Z,4μm,20.0s
U38A Gravette 94.05 53 IAMs_20 IAMs_20 09 26 53.9
comp=Z,5μm,18.0s
L34A Svendsen Farm, 94.77 47 IAMs_20 IAMs_20 09 25 13.5
comp=Z,4μm,19.0s
YKA Yellowknife Ar 95.03 24 P **P 08 46 40.4 +0.8**
comp=Z,10nm,0.9s,baz=239,slow=4.1,SNR=14
YKA LR LR 09 22 25.3
comp=Z,3μm,21.4s,baz=244,slow=31
comp=Z,10nm,0.9s
MDND Maddock 95.08 41 IAMs_20 IAMs_20 09 25 45.2
comp=Z,6μm,19.0s
ECSD EROS Data Cent 95.31 45 IAMs_20 IAMs_20 09 27 07.5
comp=Z,4μm,18.0s
ECSD EROS Data Cent 95.31 45 ⇑P **P 08 46 41.4 0.0**
OTAV Otavalo 95.34 92 IAMs_20 IAMs_20 09 19 35.6
comp=Z,4μm,21.0s
OTAV Otavalo 95.34 92 *e*P P 08 46 48.0 +5.2
CIT Chita 95.67 324 *e*P **P 08 46 42.2 -0.7**
CIT pmax pmax
comp=Z,114nm,2.3s
LZH Lanzhou 95.74 306 ⇑P **P 08 46 44.9 +1.1**
LZH pP pP 08 46 48.5 -3.0
LZH sP sP 08 46 51.4 -3.2
LZH PP **PP 08 50 37.3 +1.4**
LZH SKS **SKSac 08 57 19.5 +1.0**
LZH S **ScS 08 58 01.4 +0.7**
LZH pmax pmax
comp=Z,35nm,1.5s
LZH pmax pmax
comp=Z,700nm,5.8s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,3μm,16.8s
LZH LR LR
comp=Z,4μm,16.1s
346A Big Creek Wild 96.04 59 IAMs_20 IAMs_20 09 28 16.8
comp=Z,5μm,18.0s
TNCH TengChong 96.22 294 ⇑P **P 08 46 47.0 +0.8**
TNCH sP pP 08 46 52.5 -1.7
TNCH SKS **SKSac 08 57 25.9 +4.3**
TNCH S **S 08 57 57.7 -6.9**
TNCH pmax pmax
comp=Z,49nm,0.5s
TNCH pmax pmax
comp=Z,750nm,5.1s
TNCH LR LR
comp=Z,1μm,20.1s
TNCH LR LR
comp=Z,1μm,20.7s
TNCH LR LR
comp=Z,4μm,22.5s
F33A 5 Mile Ranch, 96.34 43 IAMs_20 IAMs_20 09 26 44.8
comp=Z,6μm,19.0s
C36M Paulatuk 96.44 16 IAMs_20 IAMs_20 09 24 49.1
comp=Z,6μm,20.0s
C36M Paulatuk 96.44 16 P **P 08 46 45.9 0.0**
baz=226
C36M S **S 08 58 04.7 +0.6**
baz=226
Y45A Yeager Farm, C 96.83 57 IAMs_20 IAMs_20 09 26 45.5
comp=Z,5μm,19.0s
CCM Cathedral Cave 96.98 52 IAMs_20 IAMs_20 09 28 36.2
comp=Z,6μm,18.0s
AGMN Agassiz Nation 97.56 41 ⇓P **P 08 46 51.5 0.0**
I37A Lemond, Waseca 97.56 46 IAMs_20 IAMs_20 09 27 34.3
comp=Z,4μm,18.0s
ULN Ulaanbaatar 97.82 318 P Pdif 08 46 53.7 +0.8
ULN P Pdif 08 46 53.7 +0.8
ULN Ulaanbaatar 97.82 318 *i* P **P 08 46 52.7 -0.2**
ULN pmax pmax
comp=Z,39nm,1.3s
ULN MLR MLR
comp=Z,2μm,19.0s
BRAL Brewton 97.91 60 IAMs_20 IAMs_20 09 29 10.4
comp=Z,4μm,18.0s
A36M Sachs Harbour 98.01 14 IAMs_20 IAMs_20 09 27 36.5
comp=Z,5μm,20.0s
A36M Sachs Harbour 98.01 14 P Pdif 08 46 53.5 +0.6
baz=225
A36M S **S 08 58 18.0 +0.6**
baz=225
SONM Songino Array 98.22 318 P **P 08 46 54.0 -0.6**
comp=Z,6.5nm,1.0s,baz=110,slow=4.7,SNR=16
SONM PP **PP 08 50 50.9 -3.8**
comp=Z,2.1nm,1.1s,baz=116,slow=9.8,SNR=2.3
SONM LR LR 09 32 38.6
comp=Z,2μm,18.0s,baz=112,slow=36
comp=Z,6.5nm,1.0s
ULM Lac du Bonnet 98.28 39 P **P 08 46 54.6 0.0**
comp=Z,7.9nm,0.8s,baz=265,slow=5.5,SNR=9.4
ULM LR LR 09 29 00.6
comp=Z,4μm,18.0s,baz=252,slow=34
comp=Z,7.9nm,0.8s
S44A Carbondale 98.33 53 IAMs_20 IAMs_20 09 28 01.2
comp=Z,6μm,18.0s
L40A Anamosa 98.38 48 IAMs_20 IAMs_20 09 28 46.0
comp=Z,4μm,18.0s
SPMN Marine on St. 98.39 45 IAMs_20 IAMs_20 09 29 27.2
comp=Z,4μm,18.0s
LPAZ La Paz 98.62 111 P Pdif 08 46 58.9 +1.1
comp=Z,1.3nm,1.0s,baz=220,slow=13,SNR=2.8
LPAZ PP **PP 08 50 59.2 +0.6**
comp=Z,0.4nm,0.4s,baz=191,slow=12,SNR=2.7
LPAZ PKKPbc **PKKPbc 09 03 25.0 -1.2**
comp=Z,0.8nm,0.6s,baz=27,slow=1.0,SNR=4.6
LPAZ LR LR 09 21 54.6
comp=Z,3μm,21.5s,baz=268,slow=30
comp=Z,1.3nm,1.0s
LPAZ La Paz 98.62 111 *e*P Pdif 08 47 02.9 +5.0
451A Vernon 98.79 61 IAMs_20 IAMs_20 09 30 33.9
comp=Z,4μm,18.0s
LKP Lekhapani 99.24 296 *e*P **Pdif 08 46 58.6 -1.0**
LKP ⇓*e*S **SKSac 08 57 35.7 -0.8**
LKP IAMs_20 IAMs_20 09 01 39.6
comp=Z,2μm,15.2s
Y49A Blount Mountai 99.28 57 IAMs_20 IAMs_20 09 30 36.6
comp=Z,4μm,18.0s
JFWS Jewell Farm 99.34 48 IAMs_20 IAMs_20 09 29 56.5
comp=Z,5μm,18.0s
I40A Norwalk 99.41 47 IAMs_20 IAMs_20 09 29 33.2
comp=Z,5μm,18.0s
L42A Oliver, Polo 99.45 49 IAMs_20 IAMs_20 09 28 10.4
comp=Z,5μm,18.0s
352A Blakely 99.73 60 IAMs_20 IAMs_20 09 31 13.7
comp=Z,3μm,18.0s
553A Crawfordville 99.74 61 IAMs_20 IAMs_20 09 32 39.0
comp=Z,3μm,18.0s
TIXI Tiksi 99.75 344 IAMs_20 IAMs_20 09 25 07.5
comp=Z,4μm,22.0s
TIXI Tiksi 99.75 344 P **Pdif 08 47 00.5 -0.1**
comp=Z,4.1nm,0.3s,baz=137,slow=4.4,SNR=19
TIXI PP **PP 08 51 00.3 -5.2**
comp=Z,0.9nm,0.3s,baz=138,slow=11,SNR=4.4
TIXI LR LR 09 27 05.0
comp=Z,3μm,20.9s,baz=148,slow=32
comp=Z,4.1nm,0.3s
TIXI Tiksi 99.75 344 *c*e P **Pdif 08 47 00.6 -0.1**
TIXI pmax pmax
comp=Z,19nm,1.0s
GTA Gaotai 99.87 308 ⇑P **Pdif 08 47 02.8 +0.6**
GTA sP sP 08 47 12.6 -0.5
GTA SKS **SKSac 08 57 39.8 +0.5**
GTA sS pS 08 58 43.8 -1.1
GTA pmax pmax
comp=Z,11nm,2.1s
GTA pmax pmax
comp=Z,530nm,9.0s
GTA LR LR
comp=Z,2μm,17.8s
GTA LR LR
comp=Z,1μm,17.1s
GTA LR LR
comp=Z,2μm,17.8s
MOKO MOKOCHONG 100.06 294 *e*P **Pdif 08 47 02.6 -0.8**
MOKO *i* x x 08 51 12.7
MOKO *e*S **SKSac 08 57 40.9 0.0**
MOKO IAMs_20 IAMs_20 09 01 14.3
comp=Z,2μm,18.6s
IMP Imphal 100.09 293 *e*P **Pdif 08 47 02.3 -1.2**
IMP *i* x x 08 51 13.6
IMP ⇑*e*S **SKSac 08 57 39.2 -1.8**
IMP IAMs_20 IAMs_20 09 02 25.5
comp=Z,2μm,18.2s
G40A Rib Lake 100.14 46 IAMs_20 IAMs_20 09 30 23.4
comp=Z,5μm,18.0s
EYMN Ely 100.17 43 IAMs_20 IAMs_20 09 30 28.0
comp=Z,5μm,18.0s
KOHI KOHIMA 100.22 294 *e*P **Pdif 08 47 00.9 -3.2**
KOHI *i* x x 08 51 13.6
KOHI ⇑*e*S **SKSac 08 57 38.5 -3.3**
KOHI IAMs_20 IAMs_20 09 01 33.2
comp=Z,2μm,16.0s
152A Waverly Hall 100.26 59 IAMs_20 IAMs_20 09 30 12.7
comp=Z,4μm,18.0s
M44A Midewin, Midew 100.41 50 IAMs_20 IAMs_20 09 31 16.8
comp=Z,6μm,18.0s
I42A Draeger Farm, 100.57 47 IAMs_20 IAMs_20 09 29 18.1
comp=Z,5μm,19.0s
K43A Burlington 100.61 48 IAMs_20 IAMs_20 09 29 05.1
comp=Z,3μm,19.0s
HQIL Hanson Quary C 100.67 49 IAMs_20 IAMs_20 09 30 45.7
comp=Z,5μm,19.0s
L44A Lake County Fo 100.74 49 IAMs_20 IAMs_20 09 28 03.7
comp=Z,4μm,20.0s
AZL Aizawl 100.85 291 *e*P **Pdif 08 47 04.0 -2.9**
AZL *i* x x 08 51 08.2
AZL *e*S **SKSac 08 57 43.9 -0.9**
AZL IAMs_20 IAMs_20 09 01 42.5
comp=Z,2μm,17.3s
ITAN ITANAGAR 100.98 295 *e*P **Pdif 08 47 05.1 -2.2**
ZIRO ZIRO 100.99 295 *e*P **Pdif 08 47 04.8 -2.8**
ZIRO *i* x x 08 51 13.6
ZAK Zakamensk 101.02 320 *e*P **Pdif 08 47 06.3 -0.7**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
COWI Conover 101.11 45 IAMs_20 IAMs_20 09 32 01.1
comp=Z,4μm,18.0s
Y52A Lilburn 101.15 58 IAMs_20 IAMs_20 09 32 04.0
comp=Z,4μm,18.0s
H43A Windswept, Lux 101.53 47 IAMs_20 IAMs_20 09 30 06.5
comp=Z,3μm,19.0s
154A Montrose 101.55 59 IAMs_20 IAMs_20 09 31 04.7
comp=Z,4μm,18.0s
F42A Maple Grove Fa 101.67 45 IAMs_20 IAMs_20 09 30 55.0
comp=Z,4μm,19.0s
BELO BELONIA 101.79 290 *e*P **Pdif 08 47 13.7 +2.8**
BELO *i* x x 08 51 23.5
BELO *e*S **SKSac 08 57 48.5 -0.5**
SHL Shillong 102.09 293 *e*Pp 08 51 25.3
R50A Paris 102.22 54 IAMs_20 IAMs_20 09 30 13.1
comp=Z,5μm,18.0s
I45A Fountain 102.46 48 IAMs_20 IAMs_20 09 30 24.1
comp=Z,4μm,19.0s
V53A Saluda 102.65 57 IAMs_20 IAMs_20 09 30 25.7
comp=Z,5μm,18.0s
GOMU GeErMu 102.70 304 P **Pdif 08 47 15.7 +0.5**
GOMU PP **PP 08 51 25.5 -3.7**
GOMU S **Sdif 08 59 01.5 +2.3**
GOMU pmax pmax
comp=Z,21nm,1.8s
GOMU pmax pmax
comp=Z,1μm,9.8s
GOMU LR LR
comp=Z,2μm,19.0s
GOMU LR LR
comp=Z,4μm,19.1s
GOMU LR LR
comp=Z,5μm,19.1s
N49A Columbus Grove 103.06 51 IAMs_20 IAMs_20 09 30 20.1
comp=Z,5μm,18.0s
J47A Sunmer 103.23 49 IAMs_20 IAMs_20 09 35 08.5
comp=Z,4μm,18.0s
ACSO Alum Creek Sta 103.75 52 IAMs_20 IAMs_20 09 32 44.6
comp=Z,5μm,18.0s
LSA Lhasa 103.88 297 PKiKP **PKiKP 08 51 37.4 -1.1**
Q52A Bidwell 103.96 53 IAMs_20 IAMs_20 09 26 39.1
comp=Z,5μm,22.0s
M50A Fremont 104.02 51 IAMs_20 IAMs_20 09 31 26.4
comp=Z,5μm,18.0s
Y57A Sumter 104.12 59 IAMs_20 IAMs_20 09 32 31.8
comp=Z,3μm,18.0s
CAL Calcutta 104.34 289⇑*e*Pp 08 51 38.5
E46A Sault Ste Mari 104.40 46 IAMs_20 IAMs_20 09 33 03.2
comp=Z,5μm,18.0s
Y58A Scranton 104.67 59 IAMs_20 IAMs_20 09 33 24.4
comp=Z,4μm,18.0s
W57A Gilead 104.73 58 IAMs_20 IAMs_20 09 32 42.9
comp=Z,5μm,18.0s
I49A Point Hope 104.81 48 IAMs_20 IAMs_20 09 36 31.3
comp=Z,3μm,18.0s
SIV San Ignacio 104.87 114 PP **PP 08 51 45.2 +0.3**
comp=Z,1.3nm,1.1s,baz=287,slow=13,SNR=1.8
SIV PKKPbc **PKKPbc 09 03 07.3 -0.1**
comp=Z,2.0nm,0.9s,baz=85,slow=5.7,SNR=8.1
X58A Rowland 105.10 58 IAMs_20 IAMs_20 09 33 47.7
comp=Z,4μm,18.0s
GTK Tadong 105.41 294 *i* x x 08 51 45.2
GTK *e*S **SKSac 08 58 07.0 +1.0**
GTK IAMs_20 IAMs_20 09 02 18.3
comp=Z,1μm,16.4s
N53A Lisbon 105.48 52 IAMs_20 IAMs_20 09 32 49.3
comp=Z,5μm,18.0s
V58A Windy Hill, Pi 105.58 57 IAMs_20 IAMs_20 09 33 00.5
comp=Z,5μm,18.0s
W59A Clinton 105.96 58 IAMs_20 IAMs_20 09 33 13.6
comp=Z,5μm,18.0s
SAML Samuel 106.03 106 IAMs_20 IAMs_20 09 26 14.8
comp=Z,3μm,22.0s
SSPA Standing Stone 107.63 53 IAMs_20 IAMs_20 09 33 40.2
comp=Z,4μm,18.0s
SDDR Presa de Saban 107.99 76 IAMs_20 IAMs_20 09 26 07.3
comp=Z,6μm,22.0s
N58A Sunbury 108.54 53 IAMs_20 IAMs_20 09 34 27.4
comp=Z,5μm,18.0s
MDRS Chennai 108.99 277 *e*Pp 08 52 13.1
DGAR Diego Garcia 109.01 254 IAMs_20 IAMs_20 09 36 34.6
comp=Z,4μm,18.0s
BINY Binghamton 109.34 51 IAMs_20 IAMs_20 09 36 10.3
comp=Z,5μm,18.0s
TRD Trivandrum 110.66 272 *e*Pp 08 52 25.7
LONY Lake Ozonia 110.75 49 IAMs_20 IAMs_20 09 36 24.4
comp=Z,4μm,18.0s
ROCAM Rodrigues Isla 110.98 238 IAMs_20 IAMs_20 09 33 26.8
comp=Z,3μm,20.0s
KAAM Kaadhehdhoo 111.61 262 IAMs_20 IAMs_20 09 34 33.1
comp=Z,5μm,21.0s
HYB Hyderabad 111.78 281 *e*PKiKP **PKiKP 08 51 52.5 -0.5**
HYB *e*PP **PP 08 52 34.2 -1.6**
HYB *e*SKSac **SKSac 08 58 29.3 -4.0**
HYB IVMs_BB IVMs_BB 09 43 44.5
comp=Z,672nm,19.3s
NRIK Noril'sk 111.99 338 Pdiff **Pdif 08 47 55.6 +0.4**
comp=Z,1.5nm,0.4s,baz=71,slow=5.9,SNR=1.9
NRIK PKiKP **PKiKP 08 51 52.1 +0.3**
comp=Z,2.3nm,0.6s,baz=100,slow=2.4,SNR=2.4
J61A Chester 112.01 50 IAMs_20 IAMs_20 09 36 29.1
comp=Z,3μm,19.0s
ZSN Zaisan 112.22 314 *e*PKiKP **PKiKP 08 51 52.5 -0.5**
ZSN Zaisan 112.22 314 *i* PKiKP **PKiKP 08 51 52.4 -0.5**
ZALV Zalesovo Beam 112.83 321 Pdiff **Pdif 08 47 58.9 -0.4**
comp=Z,0.3nm,0.3s,baz=104,slow=4.6,SNR=1.4
ZALV PKiKP **PKiKP 08 51 53.7 -0.1**
comp=Z,3.3nm,0.5s,baz=104,slow=0.8,SNR=14
ZALV PP **PP 08 52 42.9 +0.6**
comp=Z,8.1nm,1.1s,baz=90,slow=6.5,SNR=5.8
G62A West of Eustis 113.68 49 IAMs_20 IAMs_20 09 37 48.9
comp=Z,4μm,19.0s
JHNI Jhansi 113.73 290⇑*e*Pp 08 52 48.4
MK31 Makanchi Array 113.91 313*c i* PKiKP **PKiKP 08 51 56.3 +0.1**
MKAR Makanchi Array 113.91 313 Pdiff **Pdif 08 48 04.0 -0.4**
comp=Z,0.6nm,1.0s,baz=102,slow=5.4,SNR=2.6
MKAR PKiKP **PKiKP 08 51 55.5 -0.6**
comp=Z,6.7nm,0.8s,baz=70,slow=1.8,SNR=31
MKAR PKKPbc **PKKPbc 09 02 40.2 +1.0**
comp=Z,0.9nm,0.8s,baz=301,slow=3.6,SNR=4.6
MAKZ Makanchi 114.12 313 IAMs_20 IAMs_20 09 42 45.5
comp=Z,3μm,19.0s
MAKZ Makanchi 114.12 313 ⇑PKiKP **PKiKP 08 51 56.8 +0.2**
SABA Saba 115.00 80 IAMs_20 IAMs_20 09 32 03.2
comp=Z,3μm,20.0s
DDI Dehra Dun 115.09 295 *e*Pp 08 52 57.1
F64A Sherman 115.26 48 IAMs_20 IAMs_20 09 37 40.7
comp=Z,4μm,20.0s
SHLS Shalkode 115.60 309 *e*PKP **PKPdf 08 51 58.3 -1.4**

SHLS	Shalkode	115.60 309	ePKIKP	PKPdf	08 51 58.3	-1.4
GOA	Goa	115.64 278	ePp		08 53 02.4	
UZB	Uzynbulak	115.92 309	ePKP	PKPdf	08 51 59.9	-0.5
UZB			ePP	PP	08 53 02.7	-2.0
UZB	Uzynbulak	115.92 309	ePKIKP	PKPdf	08 51 59.8	-0.5
UZB			e		08 53 02.7	
SMLA	Simla	115.98 295	ePp		08 53 04.6	
KPKS	Kokpek	116.19 309	ePKP	PKPdf	08 52 00.0	-0.8
KPKS			ePP	PP	08 53 04.4	-2.2
KPKS	Kokpek	116.19 309	ePKIKP	PKPdf	08 52 00.0	-0.8
KPKS			e		08 53 04.3	
SATY	Saty	116.37 309	ePKP	PKPdf	08 52 00.7	-0.5
SATY			ePP	PP	08 53 05.8	-2.0
SATY	Saty	116.37 309	ePKIKP	PKPdf	08 52 00.7	-0.5
SATY			e		08 53 05.7	
POO	Poona	116.39 281	ePp		08 53 05.3	
TDK	Taldyqorghan	116.49 311	ePKP	PKPdf	08 52 00.7	-0.5
TDK			LR	LR	09 41 24.8	
	comp=Z,3μm,20.4s					
TDK	Taldyqorghan	116.49 311	ePKIKP	PKPdf	08 52 00.7	-0.5
TDK			MLR	MLR		
	comp=Z,3μm,20.0s					
KURK	Kurchatov	116.52 317	P	PKiKP	08 52 01.0	0.0
KURK	Kurchatov	116.52 317c	iPKIKP	PKiKP	08 52 01.0	0.0
KURK			pmax	pmax		
	comp=Z,13nm,1.0s					
KURK			MLR	MLR		
	comp=Z,2μm,19.0s					
KURBB	Kurchatov Arra	116.58 317	Pdiff	Pdif	08 48 14.7	-1.3
	comp=Z,0.1nm,0.2s,baz=97,slow=4.8,SNR=1.2					
KURBB			PKP	PKPdf	08 52 00.8	-0.3
	comp=Z,6.6nm,0.8s,baz=92,slow=1.9,SNR=38					
KURBB			PP	PP	08 53 04.5	-4.3
	comp=Z,4.3nm,1.1s,baz=96,slow=6.5,SNR=5.9					
KURBB			PKKPbc	PKKPbc	09 02 30.4	+0.4
	comp=Z,1.0nm,0.7s,baz=270,slow=4.4,SNR=7.3					
BHK	Bhakra	116.66 296	ex	x	08 52 02.2	
BBSR	BB Station	116.66 63	IAMs_20	IAMs_20	09 42 19.2	
	comp=Z,3μm,18.0s					
ARXS	Arharly	116.86 310	iPKIKP	PKPdf	08 52 01.0	-1.0
NEEM	North Greenlan	116.86 12	iP	PKPdf	08 52 00.6	-0.8
NEEM			IAMs_20	IAMs_20	09 42 05.2	
	comp=Z,3μm,17.9s					
MDOK	Medeo	117.37 309	ePKP	PKPdf	08 52 02.4	-0.8
MDOK			ePP	PP	08 53 12.6	-2.2
MDOK			LR	LR	09 41 48.5	
MDOK	Medeo	117.37 309	ePKIKP	PKPdf	08 52 02.3	-0.8
MDOK			e		08 53 12.6	
AJM	Ajmer	117.37 290	ex	x	08 52 03.1	
TNSS	Tian-Shan	117.43 309	ePKP	PKPdf	08 52 02.8	-0.8
TNSS	Tian-Shan	117.43 309	ePKIKP	PKPdf	08 52 02.8	-0.8
CHKK	Chushkaly	117.44 310	ePKP	PKPdf	08 52 02.5	-0.6
CHKK	Chushkaly	117.44 310	ePKIKP	PKPdf	08 52 02.5	-0.6
AAA	Alma-Ata	117.47 309	ePKP	PKPdf	08 52 02.8	-0.4
AAA	Alma-Ata	117.47 309	ePKIKP	PKPdf	08 52 02.8	-0.4
KSH	Kashi	117.94 305	PKP	PKiKP	08 52 05.8	+1.5
KSH			PP	PP	08 53 22.9	+4.0
KSH			AMB	AMB		
	comp=Z,710nm,7.2s					
KSH			LR	LR		
	comp=Z,2μm,23.7s					
KSH			LR	LR		
	comp=Z,2μm,20.3s					
KSH			LR	LR		
	comp=Z,2μm,18.9s					
SGDS	Sogindy	119.14 309	ePKP	PKPdf	08 52 05.9	-0.6
SGDS	Sogindy	119.14 309	ePKIKP	PKPdf	08 52 05.8	-0.6
AAK	Ala-Archa	119.22 308	iPKiKP	PKPdf	08 52 06.6	-0.1
	SNR=5.8					
AAK	Ala-Archa	119.22 308	P	PKiKP	08 52 07.1	+0.3
AAK	Ala-Archa	119.22 308c	iPKIKP	PKiKP	08 52 07.1	+0.3
AAK			pmax	pmax		
	comp=Z,7.0nm,0.7s					
AAK			MLR	MLR		
	comp=Z,2μm,18.0s					
BTLS	Baital	119.58 311	ePKIKP	PKPdf	08 52 06.0	-1.1
BTLS			pmax	pmax		
	comp=Z,37nm,2.8s					
FOMA	Nahampoana Res	119.69 223	IAMs_20	IAMs_20	09 35 43.4	
	comp=Z,4μm,21.0s					
SMTB	Santa Maria do	119.81 114	eP	PKiKP	08 52 12.1	+3.4
BVAR	Borovoye Array	121.47 320	PKP	PKiKP	08 52 10.6	0.0
	comp=Z,14nm,0.8s,baz=78,slow=2.1,SNR=37					
KBS	Kingsbay	121.48 359	ePKIKP	PKPdf	08 52 08.6	-1.2
KBS	Kingsbay	121.48 359	eP	PKPdf	08 52 08.3	-1.5
BRVK	Borovoye	121.53 320	IAMs_20	IAMs_20	09 45 22.1	
	comp=Z,4μm,20.0s					
BRVK	Borovoye	121.53 320	P	PKiKP	08 52 10.8	+0.1
BRVK	Borovoye	121.53 320	iPKIKP	PKPdf	08 52 09.4	-1.2
BRVK			MLR	MLR		
	comp=Z,4μm,19.0s					
DZA	Taraz	121.55 308	ePKP	PKPdf	08 52 10.6	-0.4
DZA	Taraz	121.55 308	ePKIKP	PKPdf	08 52 10.6	-0.4
SFJD	Kangerlussuaq	121.57 23	IAMs_20	IAMs_20	09 48 10.5	
	comp=Z,3μm,19.0s					
SFJD	Kangerlussuaq	121.57 23	eP	PKPdf	08 52 07.4	-2.8
SFJD			IAMs_20	IAMs_20	09 47 49.0	
	comp=Z,3μm,17.0s					
VOI	Vohitsoka	121.94 226	IAMs_20	IAMs_20	09 38 23.4	
	comp=Z,3μm,19.0s					
VOI	Vohitsoka	121.94 226	P	PKPdf	08 52 11.9	-0.7
SPITS	Spitsbergen Ar	122.09 357	PKP	PKiKP	08 52 11.3	+0.1
	comp=Z,28nm,0.8s,baz=12,slow=1.9,SNR=7.5					
SUMG	Summit	122.29 14	iP	PKPdf	08 52 11.0	-1.0
SUMG			IAMs_20	IAMs_20	09 39 49.8	
	comp=Z,5μm,19.0s					
DAG	Danmarks Havn	122.38 7	iP	PKPdf	08 52 09.0	-2.6
DAG			IAMs_20	IAMs_20	09 41 42.0	
	comp=Z,3μm,19.6s					
IUG	Iuzhnay	122.52 308	ePKP	PKPdf	08 52 12.3	-0.7
IUG			ePP	PP	08 53 48.2	-2.0
IUG	Iuzhnay	122.52 308	ePKIKP	PKPdf	08 52 12.3	-0.7
IUG			e		08 53 48.2	
BRLS	Borolday	122.64 309	ePKP	PKPdf	08 52 12.9	-0.3
BRLS			ePP	PP	08 53 49.9	-1.0
BRLS	Borolday	122.64 309	ePKIKP	PKPdf	08 52 12.8	-0.3
BRLS			e		08 53 49.9	
CHM	Chimkent	122.84 308	ePKP	PKPdf	08 52 12.1	-1.4
CHM			LR	LR	09 44 56.2	
CHM	Chimkent	122.84 308	ePKIKP	PKPdf	08 52 12.9	-0.6
KBU	Kabul Universi	123.07 298	PKP	PKPdf	08 52 11.7	-2.7
KBL	Kabul	123.15 298	P	PKiKP	08 52 15.4	+0.6
	SNR=21					
KBL	Kabul	123.15 298	PKIKP	PKiKP	08 52 14.8	0.0
DY2G	Dye2	123.36 22	iP	PKPdf	08 52 11.9	-2.1
DY2G			IAMs_20	IAMs_20	09 48 46.9	
	comp=Z,3μm,15.6s					
GDU01	Guandu, BA	123.79 123	eP	PKiKP	08 52 18.9	+2.5
OPO	Ambohidratompo	123.92 229	PKP	PKiKP	08 52 17.2	+0.4
	comp=Z,22nm,0.8s,baz=168,slow=1.6,SNR=21					
ICESG	Greenland Ices	124.11 18	iP	PKPdf	08 52 13.3	-2.3
ICESG			IAMs_20	IAMs_20	09 38 29.6	
	comp=Z,3μm,27.9s					
SBV	Sambava	125.14 236	P	PKPdf	08 52 18.6	-0.1
MSEY	Mahe Island	125.31 248	IAMs_20	IAMs_20	09 45 40.9	
	comp=Z,3μm,18.0s					
MSEY	Mahe Island	125.31 248	P	PKiKP	08 52 19.6	+0.1
SUR	Sutherland	125.50 195	PKP	PKiKP	08 52 20.5	+0.9
	comp=Z,24nm,0.9s,baz=130,slow=2.9,SNR=8.3					
SUR	Sutherland	125.50 195	P	PKiKP	08 52 20.5	+0.9
SVE	Sverdlovsk	126.08 326	iPKIKP	PKPdf	08 52 19.4	+0.2
SVE			pmax	pmax		
	comp=Z,34nm,1.2s					
SVE			MLR	MLR		
	comp=Z,5μm,21.0s					
NBLA	Lagarto - SE	126.80 122	eP	PKiKP	08 52 23.4	+1.0
SCO	Scoresbysund	127.35 11	IAMs_20	IAMs_20	09 41 40.8	
	comp=Z,3μm,22.0s					
ARTI	Arti	127.41 326	iPKIKP	PKPdf	08 52 20.1	-1.7
ARTI					08 54 19.0	
ARTI					08 59 31.1	
ARTI			SP	SP	09 04 24.8	+1.4
ARTI			SSS	SSS	09 16 16.7	
ARTI			MLR	MLR		
	comp=Z,5μm,21.0s					
BOSA	Boshof	127.70 202	PKP	PKiKP	08 52 24.1	0.0
	comp=Z,18nm,1.0s,baz=161,slow=3.3,SNR=16					
KEV	Kevo	129.14 351	IAMs_20	IAMs_20	09 48 47.7	
	comp=Z,3μm,20.0s					
KEV	Kevo	129.14 351	PKIKP	PKiKP	08 52 25.2	-0.2
ARCES	ARCESS Array B	129.56 351	PKP	PKiKP	08 52 26.1	-0.2
	comp=Z,19nm,0.8s,baz=22,slow=1.4,SNR=35					
MOPA	Mopani	129.68 211	IAmb	IAmb	08 52 40.3	
	comp=Z,163nm,1.3s					
MOPA	Mopani	129.68 211	eP	PKiKP	08 52 28.6	+0.6
APA	Apatity	129.87 347	⇓iPKIKP	PKPdf	08 52 22.4	-3.7
APA			i		08 54 36.0	
APA			i		09 04 46.0	
APA			iSS	SS	09 12 03.0	+3.3
APA			pmax	pmax		
	comp=Z,11nm,0.8s					
JLN	Jalan Bani Buh	130.38 282	P	PKiKP	08 52 29.5	+0.2
	SNR=9.8					
KIRV	Kirov	130.78 332	iPKIKP	PKPdf	08 52 28.4	+0.3
WBK	Wadi Bani Khal	130.85 283	P	PKiKP	08 52 30.6	+0.4
LBTB	Lobatse	130.86 204	PKP	PKiKP	08 52 30.1	-0.3
	comp=Z,8.9nm,1.0s,baz=141,slow=4.3,SNR=6.5					
RCBR	Riachuelo	131.26 118	IAMs_20	IAMs_20	09 53 51.1	
	comp=Z,3μm,18.0s					
MHTO	MHTO	131.53 280	P	PKPdf	08 52 30.9	+0.3
	SNR=16					
JMDO	Jabal Madar	131.61 282	P	PKiKP	08 52 32.1	+0.3
	SNR=9.7					
BIDO	Bidbid	131.74 284	P	PKiKP	08 52 32.1	+0.1
BIDO			P	PKPdf	08 52 32.6	+1.6
DQM	DQM	131.75 279	P	PKiKP	08 52 32.2	0.0
	SNR=7.3					
SMDO	Samad	131.76 283	P	PKiKP	08 52 32.7	+0.5
	SNR=13					
JASK	Jask - Hormozg	132.22 287	P	PKiKP	08 52 32.6	-0.4
BSY	Bisya	132.49 282	P	PKPdf	08 52 32.8	+0.3
	SNR=6.2					
HOQ	Hoqain	132.49 284	P	PKPdf	08 52 32.8	+0.4
	SNR=8.2					
KDWAN	Kaudwane	132.69 204	iP	PKiKP	08 52 34.8	+0.6
ARQ	Araqi	133.18 283	P	PKiKP	08 52 35.4	+0.4
LKGWB	Lokgwabe	133.20 199	iP	PKiKP	08 52 34.9	-0.3
SOHO	SOHO	133.26 284	iPKPdf	PKPdf	08 52 33.6	-0.3
	SNR=30					
SOHO	SOHO	133.26 284	P	PKPdf	08 52 34.1	+0.2
KLMR	Klimovskoe	133.33 338	ePKIKP	PKPdf	08 52 24.9	-7.9
KLMR			pmax	pmax		
	comp=Z,42nm,1.3s					
MDH	Madha	133.59 286	iPKPdf	PKPdf	08 52 33.6	-0.9
	SNR=7.8					
MDH	Madha	133.59 286	P	PKiKP	08 52 35.2	-0.5
BROLN	Tlhalogang	133.64 208	iP	PKPdf	08 52 35.5	+0.6
UOSS	Minazif	133.64 285	iPKPdf	PKPdf	08 52 33.9	-0.7
	SNR=11					
UOSS	Minazif	133.64 285	P	PKPdf	08 52 35.0	+0.4
HATD	Hatta, Dubai	133.69 285	iPKPdf	PKPdf	08 52 34.0	-0.7
	SNR=17					
HATD	Hatta, Dubai	133.69 285	P	PKPdf	08 52 35.2	+0.5
	SNR=11					
MATP	Matopo	133.70 210	PKP	PKPdf	08 52 35.5	+0.4
	comp=Z,8.0nm,1.0s,baz=180,slow=2.5,SNR=14					
MSFE	Esma-Masafi	133.72 286	iPKPdf	PKPdf	08 52 34.0	-0.7
	SNR=11					
MASF	Masafi	133.72 286	P	PKiKP	08 52 35.5	-0.6
	SNR=7.1					
DMTO	DMTO	133.75 275	P	PKiKP	08 52 35.7	-0.5
ASHO	Ashiyiah	133.75 285	iPKPdf	PKPdf	08 52 33.9	-0.9
	SNR=17					
ASHO	Ashiyiah	133.75 285	P	PKPdf	08 52 35.2	+0.4
	SNR=14					
SHME	Shamm	133.78 287	P	PKiKP	08 52 36.0	0.0
ALNE	Al Ain	133.97 284	iPKPdf	PKPdf	08 52 34.5	-0.7
	SNR=5.6					
ALNE	Al Ain	133.97 284	P	PKiKP	08 52 36.0	-0.5
	SNR=5.6					
NAZ	Nazwa, Dubai	134.13 285	PKPdf	PKPdf	08 52 34.2	-1.2
NAZ	Nazwa, Dubai	134.13 285	P	PKiKP	08 52 36.4	-0.4
FAQ	Al Faqa, Dubai	134.18 285	PKPdf	PKPdf	08 52 34.7	-0.9
FAQ	Al Faqa, Dubai	134.18 285	P	PKPdf	08 52 36.2	+0.7
UMZA	Um Al Zommool	134.35 282	P	PKPdf	08 52 36.4	+0.5
RBK	Rabkut	134.40 275	P	PKiKP	08 52 37.4	-0.1
	SNR=7.7					
RBK			P	PKiKP	08 52 37.5	-0.1
ASUD	Al Ashush, Dub	134.40 285	PKiKP	PKPdf	08 52 36.0	0.0
ASUD	Al Ashush, Dub	134.40 285	P	PKiKP	08 52 37.2	-0.2
SOOWA	Sowa	134.60 207	iP	PKiKP	08 52 39.5	+1.4
DOK	Doka	134.68 276	P	PKPdf	08 52 37.1	+0.4
	SNR=6.3					
AJN	Ajban	134.71 285	P	PKiKP	08 52 37.5	-0.5
BELG	Belogornoye	134.78 325	iPKIKP	PKPdf	08 52 34.5	-1.3
WHFO	Wadi Hawf	134.88 275	P	PKPdf	08 52 37.5	+0.4
	SNR=7.7					
ABTO	Aybut	135.21 274	P	PKiKP	08 52 38.9	-0.4
	SNR=11					
GRTLG	Ghanzi	135.77 201	iP	PKPdf	08 52 39.2	+0.4
MZR	Muzera	135.93 282	P	PKiKP	08 52 40.0	-0.6
GHWR	Ruwais	136.57 284	P	PKiKP	08 52 42.0	+0.2
FINES	FINESS Array B	136.77 346	PKhKP	PKPpre	08 52 29.0	
	comp=Z,3.5nm,0.9s,baz=33,slow=4.5,SNR=4.8					
FINES			PKP	PKPdf	08 52 38.1	-1.1
	comp=Z,14nm,0.8s,baz=45,slow=1.7,SNR=14					
FINES			PP	PP	08 55 23.0	+1.4
	comp=Z,4.1nm,0.9s,baz=29,slow=3.2,SNR=2.1					
MOS	Moscow	137.61 334	iPKIKP	PKPdf	08 52 41.7	+0.7
MOS			e		08 55 22.7	
MOS			pmax	pmax		
	comp=Z,32nm,0.8s					
LSZ	Lusaka	138.24 213	IAMs_20	IAMs_20	09 47 39.0	
	comp=Z,4μm,20.0s					
LSZ	Lusaka	138.24 213	P	PKPdf	08 52 43.7	+0.1
OBN	Obninsk	138.48 334	IAMs_20	IAMs_20	09 55 45.0	
	comp=Z,3μm,20.0s					
OBN	Obninsk	138.48 334	⇑ePKIKP	PKPdf	08 52 42.2	-0.4
OBN			i		08 52 43.9	
OBN			i		08 55 35.3	
OBN			iSS	SS	09 13 38.4	-5.5
OBN			pmax	pmax		
	comp=Z,41nm,2.0s					
OBN			MLR	MLR		
	comp=Z,3μm,19.0s					
VRH	Novokhopyorsk	138.53 326	ePKIKP	PKPdf	08 52 41.5	-1.3
VRH			pmax	pmax		
	comp=Z,40nm,1.8s					
MAK	Makhachkala	138.72 312	eP	Pdif	08 49 54.3	-0.4
MAK			i		08 52 41.6	
MAK			e		08 55 31.7	
MAK			ePPP	PPP	08 58 35.6	
MAK			eSS	SS	09 13 44.2	-4.0
MAK			pmax	pmax		
	comp=Z,284nm,1.7s					
LPSR	Galich'ya Gora	139.09 330	ePKHKP	PKPpre	08 52 33.8	
LPSR			pmax	pmax		
	comp=Z,10.0nm,1.0s					
VSU	Vasula	139.21 343	iPKIKP	PKPdf	08 52 43.5	-0.3
NB2	NORSAR Subarra1	139.36 356	PKP	PKPpre	08 52 35.5	
	comp=Z,188nm,2.5s,baz=17,slow=2.6					
NB2	NORSAR Subarra1	139.36 356	PKP	PKPpre	08 52 35.5	
	baz=17,slow=2.6					
NOA	NORSAR Array B	139.36 356	PKhKP	PKPpre	08 52 35.4	
	comp=Z,1.7nm,0.8s,baz=13,slow=4.5,SNR=5.4					
NOA			PKP	PKPdf	08 52 43.9	-0.3
	comp=Z,6.1nm,0.9s,baz=14,slow=4.1,SNR=8.4					
VORR	Voronezh	139.53 328	ePKIKP	PKPdf	08 52 45.1	+0.5
VORR			pmax	pmax		
	comp=Z,99nm,1.6s					
NORES	NORESS Array B	139.64 356	PKIKP	PKiKP	08 52 46.0	-0.9
NORES			pmax	pmax		
	comp=Z,4.0nm,1.0s					
VSR	Storozhevoye	139.83 328	ePKHKP	PKPpre	08 52 36.2	
VSR			pmax	pmax		
	comp=Z,10.0nm,1.0s					
HFS	Hagfors	140.05 354	PKhKP	PKPpre	08 52 36.8	
	comp=Z,4.8nm,0.6s,baz=234,slow=8.9,SNR=12					
GOF	Gofitskoye	140.87 317	cePKIKP	PKPdf	08 52 47.2	-0.1
KIBK	Kibwezi	141.18 238	IAMs_20	IAMs_20	09 54 11.8	
	comp=Z,2μm,19.0s					
KIBK	Kibwezi	141.18 238	PKP	PKPdf	08 52 43.8	-5.2
KBZ	Khabaz	141.54 316	PKhKP	PKPpre	08 52 44.5	
	comp=Z,5.7nm,1.0s,baz=136,slow=1.2,SNR=9.7					
KIV	Kislovodsk	141.58 316	iPKPdf	PKPdf	08 52 41.9	-6.8
	SNR=7.1					
KIV	Kislovodsk	141.58 316	iPKIKP	PKPdf	08 52 49.4	+0.6
KIV			e		08 55 49.0	
KIV			ePPP	PPP	08 58 54.4	
KIV			eSS	SS	09 14 19.5	-2.2
KIV			eSSS	SSS	09 19 38.1	
KIV			pmax	pmax		
	comp=Z,17nm,1.1s					
GNI	Garni	141.61 309	IAMs_20	IAMs_20	10 02 49.3	
	comp=Z,2μm,20.0s					
GNI	Garni	141.61 309	PKPdf	PKPdf	08 52 43.7	-5.3
GNI	Garni	141.61 309	iPKIKP	PKPdf	08 52 47.6	-1.4
ERBR	Yeremizino-Bor	142.15 320	iPKIKP	PKPdf	08 52 50.3	+0.7
ERBR			pmax	pmax		
	comp=Z,134nm,1.4s					
MNK	Minsk	142.21 339	iPKP	PKPdf	08 52 46.2	-3.2
	comp=E,24nm,0.8s					
MNK			iPKP	PKPdf	08 52 46.2	-3.2
	comp=N,22nm,0.8s					
MNK			iPKP	PKPdf	08 52 46.2	-3.2
	comp=Z,39nm,0.9s,baz=35					
MNK			iPP	PP	08 55 53.5	-1.7
MNK			iPPP	PPP	08 59 00.5	
MNK			iSKS	SKSdf	08 59 56.1	-1.3
MNK			iSS	SS	09 14 28.3	+1.0
MNK			iSSS	SSS	09 19 47.6	
MNK			iLQ	LQ	09 50 33.5	
MNK			iLR	LR	09 57 09.8	
MNK			iLRM	MLR	09 58 52.8	
	comp=N,2μm,18.2s					
MNK			iLRM	MLR	09 59 26.7	
	comp=Z,3μm,19.1s					
MNK			iLRM	MLR	10 00 03.0	
	comp=E,2μm,18.1s					
MNK	Minsk	142.21 339	iPKIKP	PKPdf	08 52 46.2	-3.2
MNK			i		08 55 53.5	
MNK			iPPP	PPP	08 59 00.5	
MNK			i		08 59 56.1	
MNK			iSS	SS	09 14 28.2	+0.9
MNK			iSSS	SSS	09 19 47.6	
MNK			pmax	pmax		
	comp=N,22nm,0.8s					
MNK			pmax	pmax		
	comp=Z,39nm,0.9s					
MNK			pmax	pmax		
	comp=E,24nm,0.8s					
NACGM	Naroch	142.23 340	⇓iPKP	PKPdf	08 52 45.6	-3.8
	comp=Z,31nm,0.9s,baz=32					
LABN	Labinsk	142.53 318	iPKIKP	PKPdf	08 52 47.2	-3.1
LABN			pmax	pmax		
	comp=Z,35nm,0.4s					
KMBO	Kilima Mbogo	142.54 239	IAMs_20	IAMs_20	09 54 15.2	
	comp=Z,2μm,20.0s					
KMBO	Kilima Mbogo	142.54 239	iPKPdf	PKPdf	08 52 46.8	-4.7
	SNR=13					
KMBO	Kilima Mbogo	142.54 239	PKP	PKPdf	08 52 50.1	-1.4
	comp=Z,18nm,0.9s,baz=78,slow=2.2,SNR=20					
KMBO	Kilima Mbogo	142.54 239	P	PKPdf	08 52 47.9	-3.7
RAYN	Ar Rayn	143.28 282	iPKPdf	PKPab	08 52 48.7	+0.5
	SNR=17					
RAYN	Ar Rayn	143.28 282	P	PKPbc	08 52 50.2	+0.8
RAYN	Ar Rayn	143.28 282	⇓PKIKP	PKPbc	08 52 49.2	-0.2
ATD	Arta Tunnel	143.49 262	IAMs_20	IAMs_20	09 56 15.9	
	comp=Z,3μm,18.0s					
SOC	Sochi	143.67 317	ePKIKP	PKPab	08 52 49.2	+0.2
SOC			i		08 52 53.4	
SOC			e		08 55 58.9	
SOC			ePPP	PPP	08 59 12.0	
SOC			eSS	SS	09 14 46.1	+0.5
SOC			eSSS	SSS	09 20 07.0	
SOC			pmax	pmax		
	comp=Z,11nm,0.7s					
MUD	Monsted U'grnd	144.04 357	iP	PKPab	08 52 50.0	0.0
MUD			IAMs_20	IAMs_20	09 57 59.0	
	comp=Z,4μm,24.6s					
SUW	Suwalki	144.07 343	ePKP	PKPbc	08 52 51.3	+0.7
SUW	Suwalki	144.07 343	PKIKP	PKPbc	08 52 51.3	+0.6
ANN	Anapa	144.47 320	iPKIKP	PKPab	08 52 51.6	-0.4
ANN			pmax	pmax		
	comp=Z,344nm,1.4s					
COP	Copenhagen	144.56 354	iP	PKPab	08 52 49.9	-2.0
COP			IAMs_20	IAMs_20	09 56 48.6	
	comp=Z,4μm,24.0s					
EKA	Eskdalemuir Ar	144.58 9	PKP	PKPbc	08 52 52.3	+0.1
	comp=Z,21nm,0.7s,baz=328,slow=3.0,SNR=38					
ESK	Eskdalemuir	144.59 9	PKIKP	PKPab	08 52 51.8	-0.3
AK03	Malin Array Si	144.72 334	PKP	PKPab	08 52 52.4	-0.3
AKASG	Malin Array Be	144.74 334	PKP	PKPab	08 52 52.4	-0.3
	comp=Z,58nm,0.8s,baz=41,slow=2.1,SNR=224					
AKBB	Malin Array Si	144.74 334	PKP	PKPab	08 52 52.4	-0.4
KIEV	Kiev	144.75 334	iPKPdf	PKPab	08 52 52.2	-0.6
	SNR=16					
KIEV	Kiev	144.75 334	⇓P	PKPdf	08 52 53.9	-0.1
KIEV	Kiev	144.75 334	⇓PKIKP	PKPdf	08 52 53.9	-0.1
BSD	Bornholm Skovb	144.81 351	PKIKP	PKPab	08 52 52.9	0.0
BSD	Bornholm Skovb	144.81 351	iP	PKPab	08 52 51.0	-1.9
BSD			IAMs_20	IAMs_20	09 55 25.0	
	comp=Z,3μm,23.3s					
SSRD	Sdr. Stenderup	144.99 356	iP	PKPab	08 52 52.4	-1.1
SSRD			IAMs_20	IAMs_20	09 57 15.4	
	comp=Z,5μm,20.0s					
EDMD	Edmundbyers	145.23 8	eP	PKPab	08 52 54.5	0.0
TEND	Ethiopian Broa	145.28 261	eP	PKPdf	08 52 58.0	+2.0
KESW	Keswick, Cumbr	145.31 9	eP	PKPbc	08 52 54.6	0.0
RNPP9	Sopachiv	145.44 338	PKP	PKPbc	08 52 55.0	-0.1
RGN	Rugen	145.57 352	IAMs_20	IAMs_20	09 59 59.1	
	comp=Z,2μm,21.0s					
RGN	Rugen	145.57 352	ePKPbc	PKPab	08 52 55.9	+0.2
	baz=10.0,slow=2.5					
DILA	Dilla	145.66 250	eP	PKPab	08 52 58.0	+0.4
ANKE	Ethiopia-Afar	145.68 257	eP	PKiKP	08 52 59.7	-1.5
GKP	Gorka Klasztor	146.18 348	ePKP	PKPab	08 52 58.0	0.0
GKP	Gorka Klasztor	146.18 348	PKP2	PKPab	08 52 58.3	+0.3
SIM	Simferopol'	146.32 323	iPKP2	PKPbc	08 52 58.4	+0.3
SIM			pmax	pmax		
	comp=Z,252nm,1.3s					
SIM			pmax	pmax		
	comp=Z,329nm,13.6s					
WLF1	Llynfaes	146.34 11	eP	PKPbc	08 52 57.9	+0.1
FURI	Furi	146.37 255	IAMs_20	IAMs_20	09 53 06.5	
	comp=Z,3μm,20.0s					
WLRA	Wolmera	146.43 255	eP	PKPab	08 53 00.9	+0.2
BSEG	Bad Segeberg	146.48 355	ePKPbc	PKPab	08 52 59.0	-0.1
	baz=10.0,slow=2.5					
BEL	Belsk	146.67 343	ePKP	PKPab	08 53 00.4	+0.4
BEL	Belsk	146.67 343	PKP2	PKPbc	08 52 59.1	+0.3
LODK	Lodwar	146.68 243	IAMs_20	IAMs_20	10 02 21.6	
	comp=Z,2μm,19.0s					
LLW	Llanuwychllyn	146.89 11	eP	PKPbc	08 52 59.1	-0.3
FOEL	Foel Wylf

GTTG	Gottingen	148.88	355	ePKPbc	PKiKP	08 53 05.7	-0.5
	baz=10.0,slow=2.5						
VLDR	Vladesti	148.89	329	⇑P	PKPbc	08 53 05.4	+0.3
OSTC	Ostas	148.95	347	⇑ePKP	PKiKP	08 53 06.6	+0.2
OSTC				AMS	AMS	09 58 30.0	
	comp=Z,3μm,21.4s						
OSTC	Ostas	148.95	347	ePKP2	PKiKP	08 53 07.0	+0.6
OSTC				MLR	MLR		
	comp=Z,3μm,22.2s						
CHVC	Chvalec	148.96	347	⇑ePKP	PKiKP	08 53 06.3	-0.1
CHVC				AMS	AMS	09 58 40.0	
	comp=Z,4μm,23.1s						
VARL	Varlezi	148.96	330	⇓P	PKiKP	08 53 07.0	+0.5
NIE	Niedzica	148.98	342	ePKP	PKiKP	08 53 07.3	+0.7
TLCR		149.00	328	⇓P	PKPbc	08 53 06.0	+0.7
TLCR		149.00	328	⇓PKP2	PKPbc	08 53 06.0	+0.7
NEUB	Neuenburg	149.04	353	ePKPbc	PKPbc	08 53 05.8	+0.5
	baz=10.0,slow=2.5						
UPC	Upice	149.04	347	⇑ePKP	PKiKP	08 53 06.7	+0.1
UPC				AMS	AMS	09 58 10.0	
	comp=Z,4μm,20.9s						
GHRR		149.04	330	⇓P	PKiKP	08 53 07.3	+0.6
TESR	Tescani	149.05	332	⇓P	PKPdf	08 53 01.4	0.0
SCTR	Scanteiesti	149.05	329	⇑P	PKiKP	08 53 06.6	-0.2
BRG	Berggiesshubel	149.07	350	ePKP	PKPdf	08 53 02.1	+0.9
BRG				Amp		08 53 03.6	
	comp=Z,31nm,1.3s						
BRG	Berggiesshubel	149.07	350	P	PKiKP	08 53 06.3	-0.3
BRG				Amp		08 53 07.7	
	comp=Z,71nm,0.8s						
BRG	Berggiesshubel	149.07	350	P	PKPab	08 53 17.4	+7.9
BRG				Amp		08 53 22.5	
	comp=Z,138nm,1.1s						
BRG	Berggiesshubel	149.07	350	PP	PP	08 56 36.0	+0.2
BRG	Berggiesshubel	149.07	350	ePKIKP	PKPdf	08 53 02.1	+0.9
BRG						08 53 06.3	
BRG						08 56 36.0	
BRG				pmax	pmax		
	comp=Z,31nm,1.3s						
BRG				pmax	pmax		
	comp=Z,71nm,0.8s						
BRG	Berggiesshubel	149.07	350	ePKPbc	PKiKP	08 53 06.2	-0.3
	baz=10.0,slow=2.5						
DPC	Dobruska-Polom	149.12	347	⇑ePKP	PKiKP	08 53 07.0	+0.2
DPC				AMS	AMS	09 58 50.0	
	comp=Z,3μm,22.2s						
BUG	Bochum--Univer	149.13	358	ePKPbc	PKPbc	08 53 05.7	+0.3
	baz=10.0,slow=2.5						
OKC	Ostrava-Krasne	149.18	344	⇑ePKP	PKiKP	08 53 06.9	0.0
OKC				AMS	AMS	09 59 30.0	
	comp=Z,4μm,19.5s						
OKC	Ostrava-Krasne	149.18	344	PKIKP	PKPdf	08 53 03.0	+1.6
NEGRR	Negrea	149.21	329	⇑P	PKiKP	08 53 06.6	-0.5
SLCR	Slobozia Conac	149.22	329	⇓P	PKiKP	08 53 07.4	+0.3
IZVR	Izvoarele	149.26	329	⇓P	PKPab	08 53 11.8	+1.4
SCHLR	Schela	149.28	329	⇑P	PKiKP	08 53 07.9	+0.7
KRLC	Kraliky	149.28	346	⇑ePKP	PKiKP	08 53 07.3	+0.1
KRLC				AMS	AMS	09 57 20.0	
	comp=Z,4μm,21.4s						
PVCC	Panska Ves	149.29	349	⇑ePKP	PKiKP	08 53 07.1	0.0
PVCC				AMS	AMS	10 00 30.0	
	comp=Z,4μm,19.7s						
PVCC	Panska Ves	149.29	349	PKIKP	PKPdf	08 53 03.0	+1.4
ONER	Baraj Valea Uz	149.30	332	⇓P	PKPdf	08 53 02.8	+1.0
KASTN	Kahler Asten	149.33	357	ePKPbc	PKPbc	08 53 06.6	+0.6
	baz=10.0,slow=2.5						
CFR	Carcaliu	149.34	328	⇑P	PKiKP	08 53 06.9	-0.4
CFR	Carcaliu	149.34	328	⇑PKP2	PKiKP	08 53 06.9	-0.4
MORC	Moravsky Berou	149.39	345	ePKP	PKPdf	08 53 02.1	+0.2
MORC	Moravsky Berou	149.39	345	⇓P	PKPdf	08 53 02.0	+0.2
MORC	Moravsky Berou	149.39	345	⇓PKIKP	PKPdf	08 53 02.0	+0.2
HSKC	Hora Svate Kat	149.41	351	⇑ePKP	PKiKP	08 53 07.7	+0.3
HSKC				AMS	AMS	10 04 50.0	
	comp=Z,3μm,19.7s						
BMR	Baia Mare	149.41	336	⇑P	PKiKP	08 53 08.1	+0.6
BMR	Baia Mare	149.41	336	⇑PKP2	PKiKP	08 53 08.1	+0.6
LANS	Liptovska Anna	149.46	342	ePKP	PKPbc	08 53 04.3	-2.1
LANS				e		08 53 09.0	
VRI	Vrincioaia	149.50	331	⇑P	PKPdf	08 53 04.1	+2.0
VRI	Vrincioaia	149.50	331	⇑PKIKP	PKPdf	08 53 04.1	+2.0
BRTR	Keskin Array B	149.53	315	PKP	PKPdf	08 53 02.3	-0.2
	comp=Z,5.2nm,0.9s,baz=72,slow=1.9,SNR=20						
BRTR				PKPbc	PKPbc	08 53 07.1	0.0
	comp=Z,18nm,0.7s,baz=58,slow=2.6,SNR=28						
BRTR				PP	PP	08 56 36.1	-3.6
	comp=Z,6.9nm,1.1s,baz=90,slow=4.3,SNR=3.7						
PLOR	Plostina	149.55	331	⇑P	PKiKP	08 53 07.6	-0.2
PLOR	Plostina	149.55	331	⇑PKP2	PKiKP	08 53 07.6	-0.2
UBBA	Unterbreizbach	149.60	355	ePKPbc	PKiKP	08 53 07.2	-0.4
	baz=10.0,slow=2.5						
MOX	Moxa	149.61	353	ePKPbc	PKiKP	08 53 07.3	-0.5
	baz=10.0,slow=2.5						
MOX				eL	L	09 57 38.5	
	comp=Z,2μm,22.0s						
KIRS	Kirsehir-Merke	149.64	314	⇑P	PKPdf	08 53 03.4	+0.8
TURR	Turia	149.68	332	⇓P	PKiKP	08 53 08.7	+0.6
MAUC	Maruska	149.70	345	⇑ePKP	PKiKP	08 53 08.6	+0.6
PLN	Plauen	149.70	352	ePKPbc	PKiKP	08 53 07.6	-0.4
	baz=10.0,slow=2.5						
TANN	Tannenbergstha	149.73	352	ePKPbc	PKiKP	08 53 07.6	-0.5
	baz=10.0,slow=2.5						
OZUR		149.75	332	⇓P	PKiKP	08 53 08.8	+0.5
KECS	Kecovo	149.75	341	ePKP	PKPdf	08 53 03.8	+1.4
KECS				e		08 53 09.3	
COVR	Voineasa-Covas	149.76	331	⇑P	PKiKP	08 53 08.4	+0.1
UCC	Uccle	149.77	2	dPKP	PKiKP	08 53 08.2	+0.1
BEBN	Eben Emael	149.79	0	dPKP	PKiKP	08 53 07.6	-0.5
HARR	Harsova	149.79	328	⇑P	PKiKP	08 53 07.9	-0.4
HARR	Harsova	149.79	328	⇑PKP2	PKiKP	08 53 07.9	-0.4
PRU	Pruhonice	149.82	349	⇑ePKP	PKiKP	08 53 08.2	0.0
PRU				AMS	AMS	10 00 50.0	
	comp=Z,4μm,19.8s						
PRU	Pruhonice	149.82	349	PKHKP	PKPpre	08 53 04.5	
GOPC	GO Pecny, Ondr	149.84	349	⇑ePKP	PKiKP	08 53 08.5	+0.2
GOPC				AMS	AMS	10 09 10.0	
	comp=Z,3μm,17.4s						
EFOR	EFORIE	149.87	326	⇑P	PKPab	08 53 13.8	+0.8
NKC	Novy Kostel	149.91	352	⇑ePKP	PKiKP	08 53 09.2	+0.8
NKC				AMS	AMS	10 03 20.0	
	comp=Z,3μm,20.1s						
NKC	Novy Kostel	149.91	352	PKIKP	PKPdf	08 53 01.0	-1.6
MEM	Membach	149.98	360	dPKP	PKPbc	08 53 07.9	+0.3
BTNL	Ternell	150.00	360	dPKP	PKPbc	08 53 07.2	-0.5
BSTI	Sart Tilman	150.01	0	dPKP	PKiKP	08 53 08.3	-0.3
ANTO	Ankara	150.01	316	IAMs_20	IAMs_20	10 07 49.3	
	comp=Z,2μm,20.0s						
ANTO	Ankara	150.01	316	P	PKPdf	08 53 03.7	+0.5
ANTO	Ankara	150.01	316	⇑P	PKPdf	08 53 05.2	+2.0
ANTO	Ankara	150.01	316	⇑PKHKP	PKPpre	08 53 05.2	
DOPR	Dopca	150.02	332	⇓P	PKPdf	08 53 04.3	+1.4
NEHR	Nehoiu	150.03	331	⇑P	PKiKP	08 53 08.5	-0.4
VRAC	Vranov	150.05	346	ePKP	PKPdf	08 53 03.1	+0.2
VRAC	Vranov	150.05	346	⇑P	PKPdf	08 53 03.5	+0.7
VRAC	Vranov	150.05	346	⇑PKHKP	PKPpre	08 53 03.5	
MESR	Meseseni	150.06	336	⇓P	PKiKP	08 53 09.6	+0.8
MLR	Muntele Rosu	150.15	331	⇑P	PKPdf	08 53 05.2	+1.9
MLR	Muntele Rosu	150.15	331	⇑PKHKP	PKPpre	08 53 05.2	
ISR	Istrita	150.15	330	⇓P	PKiKP	08 53 10.6	+1.5
ISR	Istrita	150.15	330	⇓PKP2	PKiKP	08 53 10.6	+1.5
BCLA	Clavier	150.17	1	dPKP	PKPbc	08 53 08.2	+0.2
CJR	Cluj-Napoca	150.17	335	⇓P	PKiKP	08 53 09.7	+0.6
CJR	Cluj-Napoca	150.17	335	⇓PKP2	PKiKP	08 53 09.7	+0.6
HWQ	Hawqa	150.17	304	eP	PKPdf	08 53 03.1	-0.6
BGES	Gesves	150.20	1	dPKP	PKiKP	08 53 10.0	+1.0
MANZ	Manzenberg	150.20	352	ePKPbc	PKiKP	08 53 08.9	-0.1
	baz=10.0,slow=2.5						
JAVC	Velka Javorina	150.21	344	ePKP	PKPdf	08 53 03.7	+0.5
VYHS	Vyhne	150.23	343	ePKP	PKPdf	08 53 03.7	+0.5
VYHS				e		08 53 09.3	
VYHS				e		08 53 21.0	
BHOU	Houvegnez	150.24	360	dPKP	PKiKP	08 53 08.9	-0.2
BMRD	Maredsous	150.27	2	dPKP	PKPbc	08 53 08.7	+0.4
TREC	Trest	150.30	347	⇑ePKP	PKiKP	08 53 09.0	-0.3
TREC				AMS	AMS	09 59 20.0	
	comp=Z,3μm,20.0s						
TREC	Trest	150.30	347	PKIKP	PKPdf	08 53 04.0	+0.7
TNS	Taunus Mts	150.30	357	ePKPbc	PKiKP	08 53 09.2	0.0
	baz=10.0,slow=2.5						
KRUC	Moravsky	150.32	346	ePKP	PKPdf	08 53 03.2	-0.1
MARR	Marisel-Cluj	150.39	336	⇓P	PKiKP	08 53 10.0	+0.4
ROTZ	Rotzenmuhle	150.40	352	ePKPbc	PKiKP	08 53 09.3	-0.1
	baz=10.0,slow=2.5						
ZVC	Zvikov	150.41	349	⇑ePKP	PKiKP	08 53 09.4	0.0
ZVC				⇑ePKP	PKPbc	08 53 09.9	+1.2
ZVC				AMS	AMS	10 01 10.0	
	comp=Z,3μm,18.9s						
RCHB	Rochefort	150.43	1	dPKP	PKPdf	08 53 05.8	+2.5
PSN	Preselentsi	150.43	326	iP	PKPdf	08 53 03.5	-0.1
PSZ	Piszkesteto	150.44	341	⇑P	PKiKP	08 53 09.3	-0.3
PSZ	Piszkesteto	150.44	341	PKIKP	PKPdf	08 53 03.1	-0.5
DRGR		150.45	336	⇑P	PKiKP	08 53 10.9	+1.2
DRGR		150.45	336	⇑PKIKP	PKiKP	08 53 10.9	+1.2
DOU	Dourbes	150.48	2	dPKP	PKiKP	08 53 09.7	+0.1
BHL	Bhannes	150.53	303	eP	PKPdf	08 53 04.3	+0.1
VOIR		150.59	332	⇓P	PKPdf	08 53 04.6	+0.7
VOIR		150.59	332	⇓PKIKP	PKPdf	08 53 04.6	+0.7
GRA1	Grafenberg Arr	150.60	353	IAMs_20	IAMs_20	10 01 30.9	
	comp=Z,3μm,20.0s						
GRF	Grafenberg Arr	150.60	353	ePKPbc	PKiKP	08 53 09.8	0.0
	baz=10.0,slow=2.5						
GRF				eL	L	09 58 17.0	
	comp=Z,3μm,21.5s						
GRFO	Grafenberg	150.60	353	IAMs_20	IAMs_20	10 01 30.9	
	comp=Z,3μm,20.0s						
TNR	Turnu Rosu	150.75	333	⇓P	PKiKP	08 53 10.9	+0.6
TNR	Turnu Rosu	150.75	333	⇓PKIKP	PKiKP	08 53 10.9	+0.6
MODS	Modra-Piesok	150.76	344	ePKP	PKPdf	08 53 04.8	+0.8
MODS				e		08 53 11.0	
MODS				e		08 53 22.6	
KHC	Kasperske Hory	150.81	350	ePKPDF	PKPdf	08 53 05.4	+1.3
KHC				⇑ePKP	PKiKP	08 53 10.6	+0.3
KHC				ePKS	PKSdf	08 56 37.9	-0.8
KHC				AMS	AMS	10 00 50.0	
	comp=Z,4μm,20.8s						
KHC	Kasperske Hory	150.81	350	PKIKP	PKPdf	08 53 04.1	0.0
ARR	Arges	150.82	332	⇑P	PKPdf	08 53 05.9	+1.7
WET	Wettzell	150.91	351	ePKPbc	PKiKP	08 53 10.6	+0.1
	baz=10.0,slow=2.5						
WLF	Walferdange	150.93	360	PKP	PKPbc	08 53 08.6	-1.3
WLF	Walferdange	150.93	360	PKIKP	PKPdf	08 53 06.2	+2.0
WLF	Walferdange	150.93	360	ePKPbc	PKiKP	08 53 11.0	+0.6
	baz=10.0,slow=2.5						
WLF	Walferdange	150.93	360	dPKP	PKiKP	08 53 11.1	+0.6
CKRC	Cesky Krumlov	150.98	349	ePKPDF	PKPdf	08 53 05.7	+1.4
CKRC				⇑ePKP	PKiKP	08 53 11.0	+0.3
CKRC				AMS	AMS	10 01 50.0	
	comp=Z,3μm,22.5s						
MMAI	Mount Meron Ar	151.01	302	PKPbc	PKiKP	08 53 12.2	+0.9
	comp=Z,84nm,0.9s,baz=60,slow=5.0,SNR=62						
GEC2	GERESS Array S	151.07	349	ePKPbc	PKiKP	08 53 10.8	-0.2
	baz=10.0,slow=2.5						
GERES	GERESS Array B	151.07	349	PKP	PKPdf	08 53 04.1	-0.5
	comp=Z,3.8nm,0.9s,baz=39,slow=1.2,SNR=11						
GERES				PKPbc	PKPbc	08 53 09.9	-0.4
	comp=Z,42nm,0.9s,baz=17,slow=2.6,SNR=76						
DEV	Deva	151.13	335	⇓P	PKiKP	08 53 11.7	+0.7
DEV	Deva	151.13	335	⇓PKIKP	PKiKP	08 53 11.7	+0.7
LOT	Lotru	151.13	333	⇑P	PKPbc	08 53 10.7	0.0
PRD	Provadia	151.15	326	iP	PKPdf	08 53 05.1	+0.4
SIRR	Siria	151.28	337	⇓P	PKiKP	08 53 11.2	-0.2
GHAJ	Ghor Haditha	151.36	298	IAMs_20	IAMs_20	10 02 15.0	
	comp=Z,2μm,21.0s						
CONA	Conrad Observa	151.51	346	iPKP	PKPdf	08 53 05.8	+0.5
	comp=Z,12nm,1.2s,SNR=23						
CONA				ePKiKP	PKiKP	08 53 12.3	+0.4
	comp=Z,72nm,0.9s						
SURR	Surduc	151.54	336	⇓P	PKPbc	08 53 11.6	+0.1
GZR	Gura Zlata	151.58	335	⇑P	PKiKP	08 53 11.9	-0.2
GZR	Gura Zlata	151.58	335	⇑PKIKP	PKiKP	08 53 11.9	-0.2
RONA	Rosalia, Austr	151.62	345	iPKP	PKPdf	08 53 05.6	+0.3
	comp=Z,13nm,1.2s,SNR=27						
RONA				ePKiKP	PKiKP	08 53 12.5	+0.4
	comp=Z,70nm,0.8s						
STU	Stuttgart	151.70	355	PKIKP	PKPdf	08 53 06.5	+1.1
STU	Stuttgart	151.70	355	ePKPbc	PKiKP	08 53 12.2	+0.1
	baz=10.0,slow=2.5						
SZH	Strazhitsa	151.80	328	iP	PKPdf	08 53 05.6	-0.1
BZS	Buzias	151.84	336	⇑P	PKiKP	08 53 12.6	+0.1
BZS	Buzias	151.84	336	⇑PKIKP	PKiKP	08 53 12.6	+0.1
MOA	Molln	151.92	348	ePKP	PKPdf	08 53 05.9	+0.1
	comp=Z,5.5nm,1.1s						
MOA				iPKiKP	PKiKP	08 53 12.6	0.0
	comp=Z,30nm,0.8s,SNR=11						
CSS	Mathiatis	151.93	307	IAMs_20	IAMs_20	10 05 12.9	
	comp=Z,2μm,20.0s						
VLAD	Vladila	152.00	331	⇑P	PKiKP	08 53 14.3	+1.4
SRE	Strehaia	152.00	333	⇓P	PKiKP	08 53 13.9	+1.0
SRE	Strehaia	152.00	333	⇓PKIKP	PKiKP	08 53 13.9	+1.0
JMB	Yambol	152.08	326	iP	PKPdf	08 53 06.3	+0.1
FUR	Furstenfeldbru	152.09	352	ePKPbc	PKiKP	08 53 12.9	-0.1
	baz=10.0,slow=2.5						
ELND	Elena	152.10	328	⇑P	PKPdf	08 53 07.6	+1.4
HERR	Herculane	152.15	334	⇑P	PKiKP	08 53 13.2	0.0
BIOA	Bad Ischl, Aus	152.19	349	ePKP	PKPdf	08 53 05.9	-0.3
	comp=Z,5.8nm,0.9s						
BIOA				iPKiKP	PKPbc	08 53 13.0	0.0
	comp=Z,37nm,1.0s,SNR=8.6						
BFO	Black Forest	152.20	357	PKIKP	PKPdf	08 53 05.3	-0.9
BFO	Black Forest	152.20	357	ePKPbc	PKiKP	08 53 13.2	0.0
	baz=10.0,slow=2.5						
ARSA	Arzberg	152.23	346	ePKP	PKPdf	08 53 06.1	-0.2
	comp=Z,7.8nm,1.4s						
ARSA				iPKiKP	PKiKP	08 53 13.2	-0.1
	comp=Z,27nm,1.1s,SNR=7.8						
RJOB	Jochberg	152.29	350	ePKPbc	PKPbc	08 53 13.2	0.0
	baz=10.0,slow=2.5						
MORH	Mrgy, Hungar	152.34	341	⇓P	PKPdf	08 53 06.8	+0.3
ECH	Echery	152.36	358	IAMs_20	IAMs_20	10 10 09.9	
	comp=Z,3μm,19.0s						
MDVR	Moldovita	152.51	335	⇑P	PKPdf	08 53 07.4	+0.6
ISP	Isparta	152.60	314	IAMs_20	IAMs_20	10 12 49.4	
	comp=Z,3μm,20.0s						
LESA	Schwarzleotal	152.62	350	ePKP	PKPdf	08 53 06.6	-0.3
	comp=Z,13nm,1.2s						
LESA				ePKiKP	PKPbc	08 53 14.0	+0.1
	comp=Z,35nm,1.0s						
BEHE	Becsehely	152.65	344	IAMs_20	IAMs_20	09 59 56.1	
	comp=Z,3μm,21.0s						
VALD	Valchedram	152.67	332	iP	PKPdf	08 53 07.4	+0.4
UBR	Ueberruh	152.70	354	ePKPbc	PKiKP	08 53 14.2	-0.1
	baz=10.0,slow=2.5						
SLE	Schleitheim	152.75	356	PKIKP	PKPdf	08 53 06.7	-0.4
MPEP	Malo Peshtene	152.80	331	iP	PKPdf	08 53 07.4	+0.2
RETA	Reutte	152.82	353	ePKP	PKPdf	08 53 06.4	-0.9
	comp=Z,9.7nm,1.5s						
RETA				iPKiKP	PKiKP	08 53 14.8	+0.2
	comp=Z,38nm,1.1s,SNR=6.2						
KBA	Koelnbreinsper	152.84	349	ePKP	PKPdf	08 53 06.6	-0.8
	comp=Z,11nm,1.4s						
KBA				ePKiKP	PKPbc	08 53 14.4	-0.2
	comp=Z,37nm,1.2s						
WATA	Walderalm	152.87	352	ePKP	PKPdf	08 53 07.1	-0.3
	comp=Z,9.0nm,1.4s						
WATA				iPKiKP	PKPbc	08 53 14.6	+0.1
	comp=Z,44nm,0.9s,SNR=9.5						
SOKA	Soboth	152.88	346	iPKP	PKPdf	08 53 07.1	-0.3
	comp=Z,14nm,1.4s,SNR=6.2						
SOKA				ePKiKP	PKPbc	08 53 14.4	-0.1
	comp=Z,50nm,1.0s						
MOTA	Moosalm	152.92	352	ePKP	PKPdf	08 53 07.1	-0.4
	comp=Z,15nm,1.3s						
MOTA				ePKiKP	PKiKP	08 53 14.9	0.0
	comp=Z,58nm,1.1s						
WTTA	Wattenberg	152.93	351	ePKP	PKPdf	08 53 07.4	-0.1
	comp=Z,12nm,1.2s						
WTTA				iPKiKP	pPKPdf	08 53 15.2	-0.1
	comp=Z,62nm,0.7s,SNR=13						
SQTA	Sankt Quirin	153.03	352	ePKP	PKPdf	08 53 07.5	-0.1
	comp=Z,11nm,1.3s						
SQTA				iPKiKP	PKiKP	08 53 15.2	+0.2
	comp=Z,44nm,1.0s,SNR=10						
DAVA	Damuels	153.12	354	ePKP	PKPdf	08 53 07.2	-0.6
	comp=Z,9.2nm,1.2s						
DAVA				iPKiKP	pPKPdf	08 53 15.8	+0.2
	comp=Z,64nm,1.3s,SNR=9.7						
OBKA	Obir	153.15	347	ePKP	PKPdf	08 53 06.7	-1.0
	comp=Z,7.9nm,1.4s						
OBKA				iPKiKP	PKPbc	08 53 14.7	-0.4
	comp=Z,21nm,1.1s,SNR=8.5						
MYKA	Terra Mystica	153.21	348	iPKP	PKPdf	08 53 06.9	-0.9
	comp=Z,10nm,1.3s,SNR=7.4						
MYKA				iPKiKP	PKPbc	08 53 14.7	-0.6
	comp=Z,28nm,0.8s,SNR=11						
PLD	Plovdiv	153.24	328	iP	PKPdf	08 53 07.4	-0.5
PGB	Panagyurishte	153.24	329	iP	PKPdf	08 53 07.9	0.0
FETA	Feichten	153.29	353	ePKP	PKPdf	08 53 07.9	-0.1
	comp=Z,11nm,1.2s						
FETA				iPKiKP	pPKPdf	08 53 16.1	+0.2
	comp=Z,38nm,0.9s,SNR=8.7						
ABTA	Abfaltersbach	153.30	350	iPKP	PKPdf	08 53 07.5	-0.4
	comp=Z,16nm,1.2s,SNR=7.7						
ABTA				ePKiKP	PKPbc	08 53 15.4	-0.1
	comp=Z,83nm,1.1s						
KDZ	Kurdzhali	153.31	326	iP	PKPdf	08 53 07.7	-0.3
GOLS	Golise	153.37	345	ePKPab	PKPab	08 53 27.4	-0.2
GOLS	Golise	153.37	345	iPKPdf	PKPdf	08 53 08.3	+0.3
GOLS	Golise	153.37	345	ePKPbc	PKiKP	08 53 15.9	+0.2
BOVS	Bovan	153.46	334	⇑P	PKPdf	08 53 08.5	+0.4
VNDS	Vrh nad Dolski	153.50	346	iPKPdf	PKPdf	08 53 08.5	+0.3
VNDS				ePKPbc	PKPbc	08 53 15.9	0.0
RZN	Rozhen	153.57	327	iP	PKPdf	08 53 07.9	-0.7
ELL	Elmali	153.58	313	PKIKP	PKPdf	08 53 10.0	+1.3
LJU	Ljubljana	153.59	346	ePKPdf	PKPdf	08 53 08.5	+0.3
LJU				ePKPbc	pPKPdf	08 53 16.2	+0.1
VTS	Vitosha	153.60	330	iP	PKPdf	08 53 08.4	-0.2
CRNS	Crni Vrh	153.61	347	ePKPdf	PKPdf	08 53 08.2	-0.2
FUORN	Ofenpass-Fuorn	153.74	353	IAMs_20	IAMs_20	10 01 54.5	
	comp=Z,3μm,21.0s						
MMB	Musomishta	154.18	328	iP	PKPdf	08 53 08.6	-0.7
KKB	Krupnik	154.26	329	iP	PKPdf	08 53 08.6	-0.8
PLE	Pljevlja	154.63	337	⇑iPKP	PKPdf	08 53 09.4	-0.6
KOME	Kolasin	154.99	336	⇑iPKP	PKPdf	08 53 10.3	-0.2
PVY	Plav	155.03	335	⇑iPKP	PKPdf	08 53 10.6	0.0
NKME	Niksic	155.28	337	⇑iPKP	PKPdf	08 53 10.4	-0.4
BRY	Bratogost	155.31	337	⇑iPKP	PKPdf	08 53 10.2	-0.8
PDG	Podgorica	155.45	336	⇓P	PKPab	08 53 36.9	+0.4
PDG	Podgorica	155.45	336	⇑iPKP	PKPdf	08 53 10.8	-0.1
CEME	Cevo	155.48	336	⇑iPKP	PKPdf	08 53 10.5	-0.6
PGAV	Gavieira, Arco	155.48	26	ePP	PP	08 57 27.7	+15
PGAV	Gavieira, Arco	155.48	26	eSS	SS	09 16 50.4	-6.1
PGAV	Gavieira, Arco	155.48	26	eLR	LR	09 50 52.9	
PGAV				A	A	10 03 23.8	
	comp=Z,3μm,18.0s						
BNI	Bardonecchia	155.53	359	PKIKP	PKPdf	08 53 10.3	-0.9
BUM	Brajici-Budva	155.70	336	⇑iPKP	PKPdf	08 53 11.7	+0.3
PCAB	Cabril	155.80	26	ePKPab	PKPab	08 53 39.5	+1.4
PTO	Porto	156.02	28	ePKPab	PKPab	08 53 40.8	+1.8
KARP	Karpathos	156.10	313	IAMs_20	IAMs_20	10 10 07.3	
	comp=Z,3μm,21.0s						
VLC	Villacollemand	156.15	352	PKP	PKPdf	08 53 12.9	+1.0
POLO	Lamas de Olo	156.17	26	ePKPab	PKPab	08 53 40.6	+0.8
POLO	Lamas de Olo	156.17	26	eSS	SS	09 17 15.7	+12
PBRG	Braganca	156.23	24	ePKPab	PKPab	08 53 40.6	+0.7
PVRL	Vila Real	156.29	26	ePKPab	PKPab	08 53 41.9	+1.7
MVO	Moncorvo	156.66	25	ePKPdf	PKPdf	08 53 14.7	+2.0
MVO	Moncorvo	156.66	25	ePKPab	PKPab	08 53 43.4	+1.6
MVO	Moncorvo	156.66	25	ePP	PP	08 57 27.9	+8.7
MVO	Moncorvo	156.66	25	eSS	SS	09 17 21.5	+12
PVIS	Viseu	156.68	27	ePKPab	PKPab	08 53 43.4	+1.5
GUMA	Gualdo di Mace	156.69	346	IAMs_20	IAMs_20	10 09 35.6	
	comp=Z,3μm,19.0s						
FDMO

CAW	**Cannon Point**	**0.90 174**	P	Pb	08 34 12.4	-0.1
CAW			S	Sb	08 34 24.4	-0.1
MTVZ	**Mangateitei**	**0.91 26**	P	Pg	08 34 12.3	+0.1
DUWZ	**D'Urville Isla**	**0.98 233**	P	Pg	08 34 12.6	-0.9
DUWZ			S	Sg	08 34 26.3	-0.1
MOVZ	**Moawhango**	**1.01 38**	P	Pg	08 34 13.0	-1.0
MOVZ			S	Sg	08 34 26.2	-1.0
WNVZ	**Wahianoa**	**1.01 30**	P	Pg	08 34 13.7	-0.3
WNVZ			S	Sg	08 34 27.4	+0.2
TRVZ	**Turoa**	**1.02 27**	P	Pg	08 34 13.8	-0.4
TRVZ			S	Sg	08 34 26.4	-1.0
MTW	**Mount Morrison**	**1.04 156**	P	Pn	08 34 15.3	0.0
MTW			S	Sb	08 34 28.5	0.0
PREZ	**Palmer Road**	**1.06 324**	S	Sn	08 34 31.2	+0.8
TUVZ	**Tukino**	**1.08 30**	P	Pg	08 34 15.1	-0.4
TUVZ			S	Sg	08 34 29.0	-0.5
BFZ	**Birch Farm**	**1.10 116**	P	Pn	08 34 16.8	+0.8
BFZ			S	Sn	08 34 31.6	+0.3
TCW	**Tory Channel**	**1.13 207**	P	Pb	08 34 14.9	-1.3
TCW			S	Sb	08 34 29.7	-1.2
NEZ	**North Egmont**	**1.14 325**	P	Pb	08 34 15.1	-1.5
NEZ			S	Sb	08 34 32.0	+0.5
NGZ	**Ngauruhoe**	**1.15 26**	P	Pb	08 34 16.0	-0.6
NGZ			S	Sg	08 34 30.8	-0.7
SNVZ	**South Ngauruho**	**1.15 28**	P	Pb	08 34 16.0	-0.7
SNVZ			S	Sg	08 34 31.6	-0.1
KHEZ	**Kahui Hut**	**1.16 321**	P	Pb	08 34 16.4	-0.4
KHEZ			S	Sn	08 34 32.8	-0.2
OTVZ	**Oturere**	**1.18 28**	P	Pb	08 34 16.3	-0.9
OTVZ			S	Sb	08 34 31.9	-0.7
NNVZ	**North Ngauruho**	**1.19 26**	P	Pb	08 34 16.3	-1.0
NNVZ			S	Sb	08 34 31.9	-1.0
WTVZ	**West Tongariro**	**1.20 25**	P	Pb	08 34 16.3	-1.1
ETVZ	**East Tongariro**	**1.22 29**	P	Pb	08 34 16.9	-0.9
KRHZ	**Kereru**	**1.23 63**	P	Pn	08 34 16.8	-1.1
KRHZ			S	Sg	08 34 34.3	+0.1
KRVZ	**Karewarewa**	**1.23 26**	P	Pn	08 34 17.2	-0.8
TMVZ	**Te Maari**	**1.23 28**	P	Pn	08 34 17.2	-0.9
NTVZ	**North Tongarir**	**1.24 27**	P	Pn	08 34 17.3	-0.9
NBEZ	**Newall Road No**	**1.26 318**	S	Sg	08 34 35.1	+0.1
KWHZ	**Kaweka Forest**	**1.38 56**	P	Pb	08 34 20.5	0.0
KWHZ			S	Sg	08 34 39.0	+0.1
TUWZ	**Tuamarina**	**1.44 212**	P	Pb	08 34 21.3	-0.3
BKZ	**Black Stump Fm**	**1.58 49**	P	Pb	08 34 23.4	-0.6
BKZ			S	Sb	08 34 44.6	+0.6
BSWZ	**Blackbirch Sta**	**1.71 208**	P	Pb	08 34 26.1	-0.2
THZ	**Tophouse**	**2.19 224**	P	Pn	08 34 32.6	+1.4
LIRZ	**Lichensteins R**	**2.47 27**	P	Pn	08 34 35.7	+0.8

TRN 10 08:36:59.0, 14°.61N×60°.28W, h35km, MD3.5, East of Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIM	**Bigot**	**0.77**	**263**	*e*P	Pn	08 37 14.5	+1.1
BIM				*e*S	Sn	08 37 25.8	+1.9
SLBI	**Saint Lucia, B**	**0.89**	**229**	*e*P	Pn	08 37 15.5	+0.5
SLBI				*e*S	Sn	08 37 28.0	+1.2
SLAC	**Saint Lucia, A**	**0.93**	**220**	*e*P	Pn	08 37 16.4	+0.8
SLAC				*e*S	Sn	08 37 29.0	+1.3
SSV	**Crater Summit**	**1.56**	**215**	*e*P	Pn	08 37 26.2	+1.9
SSV				*e*S	Sn	08 37 45.3	+2.1
SVB	**Belmont**	**1.63**	**216**	*e*P	Pn	08 37 26.3	+1.1
SVB				*e*S	Sn	08 37 46.4	+1.4
SVT	**Saint Vincent**	**1.71**	**213**	*e*P	Pn	08 37 26.8	+0.5
SVT				*e*S	Sn	08 37 48.5	+1.6
SVOC	**Richmond Hill,**	**1.71**	**212**	*e*P	Pn	08 37 26.7	+0.4
SVOC				*e*S	Sn	08 37 48.5	+1.5
GCMP	**Grenada, Carri**	**2.39**	**208**	*e*P	Pn	08 37 37.3	+1.7
GCMP				*e*S	Sn	08 38 05.6	+1.9
GRSS	**Sisters**	**2.64**	**210**	*e*P	Pn	08 37 41.3	+2.2
GRHS	**Sauteurs**	**2.72**	**209**	*e*P	Pn	08 37 41.2	+1.0
GRHS				*e*S	Sn	08 38 11.9	+0.1
GRW	**Mount Saint Ca**	**2.78**	**209**	*e*P	Pn	08 37 42.5	+1.3
GRW				*e*S	Sn	08 38 19.7	+6.1
ANBD	**Bethesda, Anti**	**2.82**	**330**	*e*P	Pn	08 37 43.0	+1.5
ANBD				*e*S	Sn	08 38 14.8	+0.6
MBFL	**Flemmings, Mon**	**2.83**	**319**	*e*P	Pn	08 37 44.3	+2.6
MBFL				*e*S	Sn	08 38 17.3	+2.8

JMA 10 08:43:05.1±0.0, 34°.9N±0°.1×135°.4E±0°.1, h7km, MV0.5/22, KYOTO OSAKA BORDER REG, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHE	**Heguri**	**0.33**	**142**	*e*S	Sg	08 43 16.2	+0.3
JWT	**Wachi**	**0.37**	**355**	*e*P	Pg	08 43 12.5	+0.2
JWT				*e*S	Sg	08 43 17.1	-0.1
JKS	**Kasai**	**0.49**	**278**	P	Pg	08 43 14.8	+0.2
JKS				*e*S	Sg	08 43 21.3	+0.2

*THE **10** 08:50:50.3, 37°.34N×20°.80E, h6km±2km, ML3.3/9, Error ellipse: s-maj=2.3km s-min=0.7km az=39.0*
*ATH **10** 08:50:50.2, 37°.35N×20°.79E, h16km±1km, ML3.4/4, Error ellipse: s-maj=3.4km s-min=1.3km az=49.0*
ISC 10 08:50:50.5±1.4, 37°.36N±0°.05×20°.82E±0°.06, h11km±9km, n27, σ0s77/41, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.30**	**359**	P	**Pg**	**08 50 56.8**	**+0.3**
KRI1				S	**Sg**	**08 51 01.4**	**+0.8**
	15μm,0.4s						
LTHK	**Lithakia**	**0.34**	**2**	P	**Pg**	**08 50 57.4**	**0.0**
LTHK				S	**Sg**	**08 51 02.6**	**+0.6**
	8μm,0.4s						
LTHK	**Lithakia**	**0.34**	**2**	P	**Pg**	**08 50 57.5**	**0.0**
LTHK				S	**Sg**	**08 51 02.4**	**+0.4**
LTHK				AML	AML	08 51 03.3	
	comp=N,15532μm,0.3s						
LTHK				AML	AML	08 51 03.5	
	comp=E,15613μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.71**	**357**	P	**Pg**	**08 51 03.9**	**-0.4**
RTZL				S	**Sb**	**08 51 14.7**	**-0.1**
	comp=E,2μm,0.5s						
AMT	**Artemida-Makis**	**0.73**	**76**	P	**Pg**	**08 51 04.1**	**-0.5**
AMT				S	**Sb**	**08 51 15.4**	**+0.2**
AMT				AML	AML	08 51 20.9	
	comp=N,9562μm,0.4s						
AMT				AML	AML	08 51 23.8	
	comp=E,14888μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.77**	**346**	P	**Pg**	**08 51 05.2**	**-0.2**
PSDA				S	**Sb**	**08 51 17.2**	**+0.7**
	comp=E,4μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.77**	**346**	P	**Pg**	**08 51 05.1**	**-0.3**
VLS	**Valsamata**	**0.83**	**347**	P	**Pg**	**08 51 05.9**	**-0.7**
VLS				S	**Sb**	**08 51 18.9**	**+0.6**
	comp=E,1μm,0.4s						
VLS	**Valsamata**	**0.83**	**347**	P	**Pg**	**08 51 05.8**	**-0.8**
VLS				S	**Sb**	**08 51 18.5**	**+0.2**
VLS				AML	AML	08 51 21.1	
	comp=E,2245μm,0.3s						
VLS				AML	AML	08 51 23.6	
	comp=N,2903μm,0.5s						
RLS	**Riolos of Patr**	**0.86**	**36**	P	**Pg**	**08 51 06.3**	**-0.8**
RLS				S	**Sb**	**08 51 20.2**	**+1.1**
	comp=N,955nm,0.3s						
RLS	**Riolos of Patr**	**0.86**	**36**	P	**Pg**	**08 51 06.3**	**-0.8**
PYL	**PYLOS**	**0.87**	**122**	P	**Pg**	**08 51 06.9**	**-0.4**
PYL				S	**Sb**	**08 51 20.3**	**+0.9**
	comp=N,925nm,0.7s						
PYL	**PYLOS**	**0.87**	**122**	P	**Pg**	**08 51 06.7**	**-0.6**
PYL				S	**Sg**	**08 51 19.1**	**+0.5**
ITM	**Ithomi**	**0.90**	**101**	P	**Pg**	**08 51 07.2**	**-0.7**
ITM	**Ithomi**	**0.90**	**101**	P	**Pg**	**08 51 07.8**	**-0.1**
DRO	**Drossia**	**0.92**	**50**	P	**Pg**	**08 51 07.3**	**-0.9**
DRO	**Drossia**	**0.92**	**50**	P	**Pg**	**08 51 07.2**	**-0.9**
DMLN	**Damoulianata-K**	**0.94**	**338**	P	**Pg**	**08 51 07.9**	**-0.8**
DMLN				S	**Sb**	**08 51 22.4**	**+0.9**
	comp=N,4μm,0.4s						
DMLN	**Damoulianata-K**	**0.94**	**338**	P	**Pg**	**08 51 07.6**	**-1.1**
VSK1	**VASILIKIADES**	**1.06**	**349**	P	**Pg**	**08 51 10.2**	**-0.8**
FSK	**Fiskardo**	**1.11**	**349**	P	**Pg**	**08 51 10.9**	**-1.0**
FSK				S	**Sn**	**08 51 28.5**	**+1.1**
	comp=N,2μm,0.5s						
FSK	**Fiskardo**	**1.11**	**349**	P	**Pg**	**08 51 11.1**	**-0.8**
FSK				S	**Sg**	**08 51 24.6**	**-1.8**
FSK				AML	AML	08 51 32.0	
	comp=N,4502μm,0.6s						
FSK				AML	AML	08 51 33.2	
	comp=E,3040μm,0.4s						
KLV	**Kalavryta, Ach**	**1.25**	**57**	P	**Pn**	**08 51 13.1**	**-1.0**
GUR	**Goura**	**1.33**	**64**	P	**Pn**	**08 51 14.3**	**-1.0**
KALE	**Kalithea**	**1.46**	**45**	P	**Pn**	**08 51 17.5**	**+0.5**
TSLK	**Tsoukalades, L**	**1.46**	**355**	P	**Pb**	**08 51 17.9**	**+0.1**
ANX	**Ano Chora**	**1.50**	**35**	P	**Pn**	**08 51 17.4**	**-0.2**

*IDC **10** 09:11:24.9±1.3, 37°.49N×20°.72E, h0km, mb3.5/8, mbtmp3.4/11, ML1.1/1, Error ellipse: s-maj=24.4km s-min=22.8km az=149.0*
*THE **10** 09:11:27.0, 37°.44N×20°.26E, h4km±4km, ML3.6/5, Error ellipse: s-maj=5.7km s-min=1.0km az=32.0*
*ATH **10** 09:11:28.9, 37°.45N×20°.44E, h10km±2km, ML3.5/11, Error ellipse: s-maj=3.2km s-min=1.1km az=34.0*
ISC 10 09:11:26.1±1.7, 37°.43N±0°.05×20°.41E±0°.04, h7km±11km, n54, σ1s37/66, mb3.5/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.44**	**50**	P	**Pb**	**09 11 36.3**	**+0.2**
LTHK				S	**Sb**	**09 11 42.3**	**-0.7**
LTHK				AML	AML	09 11 44.1	
	comp=E,27297μm,0.4s						
LTHK				AML	AML	09 11 44.2	
	comp=N,29212μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.70**	**11**	P	**Pg**	**09 11 38.9**	**-0.6**
PSDA				S	**Sb**	**09 11 51.2**	**+0.8**
	comp=N,6μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.70**	**11**	P	**Pb**	**09 11 41.5**	**+0.9**
PSDA				S	**Sb**	**09 11 50.6**	**+0.2**
VLS	**Valsamata**	**0.76**	**11**	P	**Pg**	**09 11 39.9**	**-0.8**
VLS				S	**Sb**	**09 11 52.6**	**+0.3**
	comp=N,4μm,0.5s						
VLS	**Valsamata**	**0.76**	**11**	P	**Pb**	**09 11 43.1**	**+1.5**
VLS				S	**Sb**	**09 11 52.9**	**+0.6**
VLS				AML	AML	09 12 01.6	
	comp=N,8062μm,0.6s						
VLS				AML	AML	09 12 02.5	
	comp=E,8288μm,0.4s						
DMLN	**Damoulianata-K**	**0.81**	**358**	P	**Pg**	**09 11 42.0**	**+0.3**
DMLN				S	**Sb**	**09 11 53.8**	**+0.1**
	comp=E,10μm,0.8s						
DMLN	**Damoulianata-K**	**0.81**	**358**	P	**Pb**	**09 11 44.1**	**+1.6**
DMLN				S	**Sb**	**09 11 54.5**	**+0.8**
SMHA	**Samh**	**0.84**	**13**	P	**Pn**	**09 11 44.7**	**+0.4**
VSK1	**VASILIKIADES**	**0.99**	**7**	P	**Pg**	**09 11 43.6**	**-1.5**
VSK1				S	**Sb**	**09 11 59.6**	**+0.9**
	comp=E,4μm,0.9s						
AMT	**Artemida-Makis**	**1.04**	**84**	P	**Pb**	**09 11 47.0**	**+0.7**
AMT				AML	AML	09 12 09.9	
	comp=N,6085μm,0.7s						
AMT				AML	AML	09 12 14.3	
	comp=E,9228μm,0.5s						
FSK	**Fiskardo**	**1.04**	**7**	P	**Pg**	**09 11 44.6**	**-1.4**
FSK				S	**Sn**	**09 12 02.2**	**+0.4**
	comp=E,3μm,1.0s						
FSK	**Fiskardo**	**1.04**	**7**	P	**Pn**	**09 11 48.6**	**+1.6**
FSK				S	**Sb**	**09 12 01.7**	**+1.6**
FSK				AML	AML	09 12 13.6	
	comp=N,6067μm,1.1s						
FSK				AML	AML	09 12 13.7	
	comp=E,5101μm,1.0s						
RLS	**Riolos of Patr**	**1.05**	**53**	P	**Pn**	**09 11 48.0**	**+0.8**
RLS				S	**Sn**	**09 12 01.8**	**-0.1**
RLS				AML	AML	09 12 07.6	
	comp=E,2432μm,0.7s						
RLS				AML	AML	09 12 09.6	
	comp=N,1868μm,0.6s						
DRO	**Drossia**	**1.16**	**63**	P	**Pn**	**09 11 49.5**	**+0.8**
DRO	**Drossia**	**1.16**	**63**	P	**Pb**	**09 11 49.1**	**+0.8**
PYL	**PYLOS**	**1.19**	**116**	P	**Pn**	**09 11 50.2**	**+1.2**
ITM	**Ithomi**	**1.23**	**101**	P	**Pn**	**09 11 51.6**	**+1.9**
ITM	**Ithomi**	**1.23**	**101**	P	**Pn**	**09 11 50.9**	**+1.2**
ITM				S	**Sn**	**09 12 07.6**	**+1.0**
ITM				AML	AML	09 12 18.3	
	comp=N,1517μm,1.3s						
ITM				AML	AML	09 12 18.4	
	comp=E,1478μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.26**	**6**	P	**Pn**	**09 11 51.2**	**+1.1**
DRAG	**Dragano-Lefkad**	**1.26**	**6**	P	**Pb**	**09 11 51.0**	**+0.8**
NYDR	**Nydri-Lefkada**	**1.30**	**10**	P	**Pg**	**09 11 51.3**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.30**	**10**	P	**Pg**	**09 11 51.2**	**+0.2**
LKD2	**Lefkada island**	**1.37**	**8**	P	**Pn**	**09 11 51.9**	**+0.2**
LKD2	**Lefkada island**	**1.37**	**8**	P	**Pg**	**09 11 53.2**	**+0.8**
LKD2				AML	AML	09 12 22.9	
	comp=N,2787μm,0.6s						
LKD2				AML	AML	09 12 27.4	
	comp=E,2956μm,0.5s						
UPR	**University Cam**	**1.38**	**51**	P	**Pg**	**09 11 53.1**	**+0.5**
TSLK	**Tsoukalades, L**	**1.41**	**8**	P	**Pn**	**09 11 51.8**	**-0.3**
TSLK	**Tsoukalades, L**	**1.41**	**8**	P	**Pn**	**09 11 53.0**	**+0.9**
TSLK				AML	AML	09 12 25.0	
	comp=E,5181μm,0.8s						
TSLK				AML	AML	09 12 30.0	
	comp=N,2828μm,0.8s						
KLV	**Kalavryta, Ach**	**1.51**	**65**	P	**Pg**	**09 11 55.6**	**+0.6**
KLV	**Kalavryta, Ach**	**1.51**	**65**	P	**Pn**	**09 11 54.8**	**+1.2**
EFP	**Efpalio**	**1.55**	**49**	P	**Pg**	**09 11 56.0**	**+0.3**
EFP	**Efpalio**	**1.55**	**49**	P	**Pb**	**09 11 55.5**	**+0.5**
ALIK	**Aliki, Aigiali**	**1.58**	**58**	P	**Pn**	**09 11 55.6**	**+1.1**
GUR	**Goura**	**1.61**	**71**	P	**Pg**	**09 11 58.0**	**+1.0**
GUR	**Goura**	**1.61**	**71**	P	**Pb**	**09 11 56.6**	**+0.3**
GUR				AML	AML	09 12 25.1	
	comp=E,1395μm,0.7s						
GUR				AML	AML	09 12 28.7	
	comp=N,1313μm,0.6s						
ANX	**Ano Chora**	**1.67**	**45**	P	**Pb**	**09 11 58.0**	**+0.9**
ANX	**Ano Chora**	**1.67**	**45**	P	**Pb**	**09 11 57.3**	**+0.2**
ANX				AML	AML	09 12 31.8	
	comp=N,4739μm,0.7s						
ANX				AML	AML	09 12 32.9	
	comp=E,2694μm,0.6s						
KALE	**Kalithea**	**1.67**	**54**	P	**Pn**	**09 11 57.2**	**+1.4**
KALE	**Kalithea**	**1.67**	**54**	P	**Pn**	**09 11 56.9**	**+1.1**
KALE				AML	AML	09 12 32.0	
	comp=N,1892μm,0.7s						
KALE				AML	AML	09 12 37.6	
	comp=E,1486μm,1.0s						
IGT	**Igoumenitsa**	**2.10**	**358**	P	**Pn**	**09 12 03.2**	**+1.5**
AXAR	**Ágios Charalam**	**2.22**	**52**	P	**Pn**	**09 12 05.3**	**+2.0**
OHR	**Ohrid**	**3.69**	**5**	*i* Pn	**Pb**	**09 12 29.0**	**-2.7**
IDI	**Anoyia**	**4.20**	**119**	Pn	**Pn**	**09 12 27.1**	**-3.4**
	comp=E,0.6nm,0.3s,baz=3.1,slow=23,SNR=1.6						
	comp=E,8.3nm,0.9s						
VAE	**Valguarnera**	**4.77**	**272**	Pn	**Pn**	**09 12 38.6**	**+0.2**
	comp=E,1.9nm,0.3s,baz=37,slow=21,SNR=2.1						
MLR	**Muntele Rosu**	**9.06**	**26**	Pn	**Pn**	**09 13 41.8**	**+4.4**
	comp=E,0.1nm,0.3s,baz=214,slow=16,SNR=2.1						
AKASG	**Malin Array Be**	**14.69**	**23**	Pn	**Pn**	**09 14 51.3**	**-2.8**
	comp=E,0.1nm,0.3s,baz=210,slow=8.7,SNR=1.1						
ESDC	**Sonseca Array**	**19.18**	**284**	P	**Pn**	**09 15 54.0**	**+2.8**
	comp=E,0.5nm,0.7s,baz=76,slow=11,SNR=1.7						
HFS	**Hagfors**	**23.13**	**351**	P	**P**	**09 16 31.8**	**-0.6**
	comp=E,0.7nm,0.4s,baz=159,slow=14,SNR=8.0						
	comp=E,0.7nm,0.4s						
EKA	**Eskdalemuir Ar**	**24.00**	**326**	P	**P**	**09 16 41.2**	**+0.1**
	comp=E,0.9nm,0.7s,baz=131,slow=11,SNR=2.0						
	comp=E,0.9nm,0.7s						
FINES	**FINESS Array B**	**24.30**	**7**	P	**P**	**09 16 43.8**	**-0.1**
	comp=E,2.3nm,0.9s,baz=172,slow=11,SNR=5.4						
	comp=E,2.3nm,0.9s						
NOA	**NORSAR Array B**	**24.34**	**349**	P	**P**	**09 16 43.1**	**-1.2**
	comp=E,0.5nm,0.8s,baz=163,slow=11,SNR=1.5						
	comp=E,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.39**	**220**	P	**P**	**09 17 31.7**	**+1.7**
	comp=E,0.4nm,0.9s,baz=45,slow=7.8,SNR=2.3						
	comp=E,0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**42.75**	**53**	P	**P**	**09 19 22.3**	**-1.5**
	comp=E,0.2nm,0.3s,baz=277,slow=8.8,SNR=2.6						
	comp=E,0.2nm,0.3s						
MKAR	**Makanchi Array**	**45.77**	**58**	P	**P**	**09 19 46.0**	**-2.1**
	comp=E,0.3nm,0.5s,baz=278,slow=6.7,SNR=3.6						
	comp=E,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.26**	**48**	P	**P**	**09 19 50.1**	**-1.7**
	comp=E,0.6nm,0.4s,baz=284,slow=9.5,SNR=3.9						
	comp=E,0.6nm,0.4s						

*IDC **10** 09:12:16.3±1.2, 37°.42N×20°.91E, h0km, mb3.7/9, mbtmp3.7/12, ML1.6/2, Error ellipse: s-maj=21.7km s-min=20.9km az=27.0*

*NAO **10** 09:12:19.3, 37°.55N×20°.43E, h10km, mb3.8*
*THE **10** 09:12:19.7, 37°.34N×20°.80E, h9km±2km, ML3.8/6, Error ellipse: s-maj=2.7km s-min=0.5km az=54.0*
*ATH **10** 09:12:20.0, 37°.33N×20°.78E, h10km±1km, ML3.4/13, Error ellipse: s-maj=2.6km s-min=1.0km az=37.0*
ISC 10 09:12:19.7±1.1, 37°.37N±0°.04×20°.80E±0°.04, h23km±8km, n49, σ0s78/64, mb3.7/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.29**	**2**	P	**Pb**	**09 12 26.6**	**+0.2**
KRI1				S	**Sb**	**09 12 31.2**	**+0.2**
	25μm,0.4s						
LTHK	**Lithakia**	**0.34**	**4**	P	**Pb**	**09 12 25.4**	**-1.7**
LTHK				S	**Sb**	**09 12 32.4**	**+0.2**
	34μm,0.4s						
LTHK	**Lithakia**	**0.34**	**4**	P	**Pb**	**09 12 27.2**	**+0.1**
LTHK				S	**Sb**	**09 12 32.6**	**+0.4**
LTHK				AML	AML	09 12 33.4	
	comp=N,90542μm,0.4s						
LTHK				AML	AML	09 12 33.6	
	comp=E,40459μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.70**	**358**	P	**Pb**	**09 12 33.2**	**-0.1**
RTZL				S	**Sn**	**09 12 44.4**	**-0.1**
AMT	**Artemida-Makis**	**0.74**	**77**	P	**Pb**	**09 12 34.4**	**+0.6**
AMT				S	**Sb**	**09 12 44.7**	**+1.2**
AMT				AML	AML	09 12 47.2	
	comp=E,13816μm,12.7s						
AMT				AML	AML	09 12 54.2	
	comp=N,19189μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.76**	**347**	P	**Pb**	**09 12 33.4**	**-0.9**
PSDA				S	**Sb**	**09 12 44.8**	**+0.6**
	comp=N,5μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.76**	**347**	P	**Pn**	**09 12 35.2**	**+0.1**
PSDA				S	**Sn**	**09 12 46.5**	**+0.6**
VLS	**Valsamata**	**0.82**	**348**	P	**Pb**	**09 12 35.7**	**+0.4**
VLS				S	**Sn**	**09 12 47.9**	**+0.4**
	comp=N,4μm,0.2s						
VLS	**Valsamata**	**0.82**	**348**	P	**Pb**	**09 12 35.6**	**+0.2**
VLS				S	**Sn**	**09 12 47.8**	**+0.4**
VLS				AML	AML	09 12 49.5	
	comp=E,6990μm,0.2s						
VLS				AML	AML	09 12 51.3	
	comp=N,7058μm,0.3s						
RLS	**Riolos of Patr**	**0.86**	**37**	P	**Pb**	**09 12 36.6**	**+0.6**
RLS	**Riolos of Patr**	**0.86**	**37**	P	**Pn**	**09 12 37.0**	**+0.6**
RLS				S	**Sn**	**09 12 49.7**	**+1.3**
RLS				AML	AML	09 12 53.2	
	comp=E,4271μm,0.4s						
RLS				AML	AML	09 12 54.5	
	comp=N,3161μm,0.5s						
LXR1	**Lixouri, Cepha**	**0.88**	**341**	P	**Pb**	**09 12 35.5**	**-0.7**
LXR1				S	**Sn**	**09 12 50.2**	**+1.5**
	comp=N,13μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.88**	**341**	P	**Pn**	**09 12 37.5**	**+0.8**
LXRA				S	**Sn**	**09 12 49.1**	**+0.4**
PYL	**PYLOS**	**0.89**	**122**	P	**Pb**	**09 12 36.4**	**0.0**
PYL				S	**Sn**	**09 12 48.5**	**-0.4**
	comp=N,1μm,0.7s						
PYL	**PYLOS**	**0.89**	**122**	P	**Pb**	**09 12 36.4**	**0.0**
PYL				AML	AML	09 12 51.7	
	comp=N,2326μm,0.5s						
PYL				AML	AML	09 12 52.2	
	comp=E,2889μm,0.6s						
SMHA	**Samh**	**0.89**	**352**	P	**Pn**	**09 12 37.5**	**+0.8**
ITM	**Ithomi**	**0.92**	**102**	P	**Pn**	**09 12 37.4**	**+0.2**
ITM	**Ithomi**	**0.92**	**102**	P	**Pn**	**09 12 37.9**	**+0.7**
ITM				AML	AML	09 12 53.9	
	comp=N,2382μm,0.4s						
ITM				AML	AML	09 13 00.1	
	comp=E,2675μm,0.5s						
DRO	**Drossia**	**0.92**	**51**	P	**Pb**	**09 12 37.3**	**+0.3**
DRO	**Drossia**	**0.92**	**51**	P	**Pb**	**09 12 37.3**	**+0.3**
DRO				AML	AML	09 12 58.7	
	comp=E,8150μm,0.5s						
DRO				AML	AML	09 13 03.1	
	comp=N,6698μm,0.6s						
DMLN	**Damoulianata-K**	**0.93**	**339**	P	**Pb**	**09 12 37.4**	**+0.2**
DMLN	**Damoulianata-K**	**0.93**	**339**	P	**Pn**	**09 12 37.8**	**+0.3**
DMLN				S	**Sn**	**09 12 51.2**	**+1.1**
VSK1	**VASILIKIADES**	**1.05**	**350**	P	**Pb**	**09 12 40.0**	**+0.7**
FSK	**Fiskardo**	**1.10**	**350**	P	**Pb**	**09 12 40.8**	**+0.7**
FSK	**Fiskardo**	**1.10**	**350**	P	**Pb**	**09 12 41.1**	**+1.0**
FSK				AML	AML	09 13 04.6	
	comp=N,3364μm,0.5s						
FSK				AML	AML	09 13 04.6	
	comp=E,3139μm,0.6s						
UPR	**University Cam**	**1.20**	**40**	P	**Pb**	**09 12 42.1**	**+0.4**
KLV	**Kalavryta, Ach**	**1.26**	**57**	P	**Pb**	**09 12 43.8**	**+1.0**
DRAG	**Dragano-Lefkad**	**1.32**	**352**	P	**Pb**	**09 12 44.4**	**+0.6**
DRAG	**Dragano-Lefkad**	**1.32**	**352**	P	**Pb**	**09 12 44.6**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.34**	**356**	P	**Pb**	**09 12 44.5**	**+0.3**
GUR	**Goura**	**1.34**	**65**	P	**Pb**	**09 12 45.2**	**+0.9**
GUR				AML	AML	09 13 15.0	
	comp=E,1817μm,0.4s						
GUR				AML	AML	09 13 15.5	
	comp=N,3025μm,0.4s						
EFP	**Efpalio**	**1.37**	**39**	P	**Pn**	**09 12 44.2**	**+0.8**
EFP				AML	AML	09 13 10.7	
	comp=N,1580μm,0.6s						
EFP				AML	AML	09 13 11.7	
	comp=E,1509μm,0.5s						
LKD2	**Lefkada island**	**1.42**	**355**	P	**Pb**	**09 12 45.9**	**+0.4**
LKD2				AML	A

distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km
*THE **10** 09:17:15.6, 37°.55N×20°.43E, h0km±3km, ML3.4/9, Error ellipse: s-maj=3.5km s-min=0.6km az=236.0*
ISC 10 09:17:16.6±0.9, 37°.60N±0°.04×20°.51E±0°.04, h18km±2km, n39, σ0s82/54, mb3.7/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.26**	**75**	P	**Pb**	**09 17 22.2**	**-0.3**
KRI1				S	**Sb**	**09 17 26.9**	**+0.5**
	16μm,0.5s						
LTHK	**Lithakia**	**0.29**	**67**	P	**Pg**	**09 17 22.4**	**-0.5**
LTHK				S	**Sb**	**09 17 28.0**	**+0.5**
	10μm,0.5s						
LTHK	**Lithakia**	**0.29**	**67**	P	**Pb**	**09 17 22.7**	**-0.5**
LTHK				S	**Sb**	**09 17 27.9**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.52**	**7**	P	**Pg**	**09 17 26.4**	**-0.7**
PSDA				S	**Sb**	**09 17 34.5**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.52**	**7**	P	**Pb**	**09 17 27.2**	**+0.1**
PSDA				S	**Sb**	**09 17 35.2**	**+0.9**
RTZL	**Ratzakli, Kefa**	**0.52**	**24**	P	**Pg**	**09 17 26.7**	**-0.4**
RTZL				S	**Sb**	**09 17 35.5**	**+1.1**
	3μm,0.5s						
VLS	**Valsamata**	**0.58**	**7**	P	**Pg**	**09 17 27.4**	**-0.9**
VLS				S	**Sb**	**09 17 36.4**	**+0.3**
	2μm,0.3s						
VLS	**Valsamata**	**0.58**	**7**	P	**Pg**	**09 17 27.2**	**-1.1**
VLS				S	**Sb**	**09 17 37.7**	**+1.6**
DMLN	**Damoulianata-K**	**0.65**	**351**	P	**Pb**	**09 17 29.2**	**-0.1**
DMLN				S	**Sn**	**09 17 39.8**	**-0.9**
	6μm,0.4s						
DMLN	**Damoulianata-K**	**0.65**	**351**	P	**Pb**	**09 17 29.2**	**-0.1**
VSK1	**VASILIKIADES**	**0.81**	**3**	P	**Pg**	**09 17 32.2**	**-0.3**
VSK1				S	**Sn**	**09 17 44.7**	**0.0**
	3μm,0.6s						
FSK	**Fiskardo**	**0.86**	**3**	P	**Pg**	**09 17 33.0**	**-0.5**
FSK				S	**Sn**	**09 17 45.9**	**0.0**
	2μm,0.7s						
FSK	**Fiskardo**	**0.86**	**3**	P	**Pb**	**09 17 32.6**	**-0.4**
FSK				S	**Sg**	**09 17 44.7**	**-0.1**
RLS	**Riolos of Patr**	**0.89**	**59**	P	**Pb**	**09 17 33.2**	**-0.3**
AMT	**Artemida-Makis**	**0.96**	**93**	P	**Pb**	**09 17 34.4**	**-0.3**
DRO	**Drossia**	**1.02**	**69**	P	**Pg**	**09 17 36.0**	**-0.4**
DRO	**Drossia**	**1.02**	**69**	P	**Pn**	**09 17 35.8**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.12**	**8**	P	**Pn**	**09 17 37.2**	**-0.2**
LKD2	**Lefkada island**	**1.20**	**6**	P	**Pg**	**09 17 39.3**	**-0.5**
ITM	**Ithomi**	**1.21**	**110**	P	**Pn**	**09 17 38.3**	**-0.2**
ITM				S	**Sg**	**09 17 57.8**	**+2.1**
	1μm,0.7s						
ITM	**Ithomi**	**1.21**	**110**	P	**Pn**	**09 17 38.0**	**-0.5**
PYL	**PYLOS**	**1.21**	**125**	P	**Pb**	**09 17 38.4**	**-0.5**
PYL				S	**Sg**	**09 17 57.0**	**+1.2**
	1μm,0.6s						
PYL	**PYLOS**	**1.21**	**125**	P	**Pn**	**09 17 38.0**	**-0.5**
TSLK	**Tsoukalades, L**	**1.23**	**5**	P	**Pb**	**09 17 39.3**	**0.0**
KLV	**Kalavryta, Ach**	**1.38**	**71**	P	**Pg**	**09 17 42.4**	**-0.8**
EFP	**Efpalio**	**1.38**	**53**	P	**Pg**	**09 17 42.3**	**-1.0**
GUR	**Goura**	**1.50**	**76**	P	**Pg**	**09 17 44.6**	**-0.8**
ANX	**Ano Chora**	**1.50**	**48**	P	**Pg**	**09 17 44.7**	**-0.8**
KALE	**Kalithea**	**1.52**	**58**	P	**Pb**	**09 17 44.3**	**+0.1**
OHR	**Ohrid**	**3.52**	**4**	*i* Pn	**Pg**	**09 18 23.5**	**-0.5**
IDI	**Anoyia**	**4.22**	**122**	Pn	**Pn**	**09 18 19.9**	**-0.1**
	0.3nm,0.3s,baz=308,slow=18,SNR=2.0						
IDI				Sn	**Sn**	**09 19 08.6**	**-0.2**
	2.6nm,0.3s,baz=324,slow=19,SNR=7.6						
	7.2nm,0.8s						
VAE	**Valguarnera**	**4.84**	**270**	Pn	**Pn**	**09 18 28.9**	**+0.3**
	1.7nm,0.3s,baz=3.8,slow=22,SNR=1.9						
	5.9nm,0.5s						
MLR	**Muntele Rosu**	**8.88**	**26**	Pn	**Pn**	**09 19 25.5**	**+1.5**
	1.0nm,0.3s,baz=212,slow=13,SNR=5.8						
BRTR	**Keskin Array B**	**10.49**	**74**	Pn	**Pn**	**09 19 48.2**	**+2.1**
	0.3nm,0.4s,baz=266,slow=16,SNR=1.4						
HFS	**Hagfors**	**22.97**	**351**	P	**P**	**09 22 18.0**	**-1.8**
	2.0nm,0.8s,baz=165,slow=12,SNR=2.2						
	2.0nm,0.8s						
FINES	**FINESS Array B**	**24.12**	**7**	P	**P**	**09 22 29.5**	**-1.5**
	2.9nm,0.9s,baz=191,slow=11,SNR=1.9						
	2.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**29.57**	**220**	P	**P**	**09 23 20.3**	**-0.1**
	0.6nm,0.6s,baz=27,slow=9.9,SNR=3.8						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**45.62**	**58**	P	**P**	**09 25 36.0**	**+0.3**
	0.2nm,0.5s,baz=268,slow=7.4,SNR=1.7						
	0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**46.09**	**48**	P	**P**	**09 25 38.3**	**-0.9**
	0.5nm,0.6s,baz=276,slow=9.4,SNR=1.7						
	0.5nm,0.6s						

*VIE **10** 09:26:29.9±0.4, 50°.26N×19°.05E, h0km, mb2.5/4, ml2.9/3, Error ellipse: s-maj=4.3km s-min=2.0km az=162.0, Suspected Mining induced.*
*IDC **10** 09:26:30.1±0.7, 50°.01N×19°.10E, h0km, mb3.6/4, mbtmp3.6/13, ML3.2/9, Error ellipse: s-maj=11.7km s-min=7.0km az=149.0*
*BGR **10** 09:26:30.0±0.4, 50°.18N×19°.13E, h1km, ML3.1/5, Error ellipse: s-maj=12.2km s-min=5.6km az=174.0*
*PRU **10** 09:26:30.8, 50°.26N×19°.02E, h0km*
*IPEC **10** 09:26:30.1±0.2, 50°.26N×19°.05E, h1km, ML2.9/4, Error ellipse: s-maj=2.5km s-min=1.1km az=169.0*
ISC 10 09:26:28.8±0.6, 50°.29N±0°.03×19°.14E±0°.02, h0km, n64, σ1s39/99, mb3.5/4, 5C-10D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.43**	**99**	*e*Pg	**Pb**	**09 26 39.3**	**0.0**
OJC				*e*Sg	**Sb**	**09 26 46.2**	**-0.1**
OJC	**Ojcow**	**0.43**	**99**	*e*Pn	**Pb**	**09 26 39.4**	**0.0**
RAC	**Raciborz**	**0.64**	**252**	*e*PG	**Pg**	**09 26 42.4**	**+1.3**
RAC				*e*SG	**Sb**	**09 26 51.7**	**-0.7**
OKC	**Ostrava-Krasne**	**0.78**	**235**	*e*PG	**Pg**	**09 26 44.4**	**+0.6**
OKC				*e*SG	**Sg**	**09 26 54.7**	**+0.8**
	comp=Z,268nm,0.9s						
OKC	**Ostrava-Krasne**	**0.78**	**235**	*e*Pg	**Pg**	**09 26 44.5**	**+0.6**
OKC				*e*Sg	**Sg**	**09 26 54.8**	**+0.9**
MORC	**Moravsky Berou**	**1.15**	**244**	*e*Pg	**Pg**	**09 26 50.8**	**0.0**
	baz=63						
MORC				*e*Sg	**Sg**	**09 27 04.1**	**-1.6**
	186nm,0.7s,baz=63						
MORC	**Moravsky Berou**	**1.15**	**244**	⇑P	**Pg**	**09 26 50.9**	**+0.1**
MORC				⇓S	**Sb**	**09 27 07.3**	**+0.2**
MORC	**Moravsky Berou**	**1.15**	**244**	*e*Pn	**Pg**	**09 26 50.9**	**+0.1**
MORC				*e*Sg	**Sg**	**09 27 05.8**	**+0.1**
NIE	**Niedzica**	**1.15**	**139**	*e*Pg	**Pb**	**09 26 52.3**	**+0.7**
NIE				*e*Sg	**Sb**	**09 27 08.2**	**+1.1**
LANS	**Liptovska Anna**	**1.16**	**169**	*e*PG	**Pg**	**09 26 51.5**	**+0.5**
LANS				*e*SG	**Sg**	**09 27 06.0**	**-0.1**
LANS				*e*LG	Lg	09 27 12.3	
MAUC	**Maruska**	**1.25**	**223**	*e*PG	**Pg**	**09 26 53.3**	**+0.4**
KRLC	**Kraliky**	**1.53**	**263**	*e*PG	**Pn**	**09 26 56.8**	**-0.6**
KRLC				*e*SG	**Sg**	**09 27 16.9**	**-1.0**
STHS	**Stebnicka Huta**	**1.62**	**122**	*e*PN	**Pg**	**09 27 00.3**	**+0.5**
STHS				*e*SN	**Sg**	**09 27 23.6**	**+2.8**
STHS				*e*LG	Lg	09 27 29.5	
JAVC	**Velka Javorina**	**1.72**	**214**	*e*Pn	**Pn**	**09 27 00.1**	**0.0**
	baz=32						
JAVC	**Velka Javorina**	**1.72**	**214**	*e*PN	**Pn**	**09 27 00.2**	**+0.1**
DPC	**Dobruska-Polom**	**1.81**	**273**	*e*PG	**Pn**	**09 27 02.2**	**+1.0**
DPC				*e*SG	**Sb**	**09 27 26.4**	**+0.4**
	comp=Z,130nm,0.6s						
DPC	**Dobruska-Polom**	**1.81**	**273**	*e*Pn	**Pn**	**09 27 02.1**	**+0.8**
DPC				*e*Sg	**Sb**	**09 27 25.9**	**0.0**
VYHS	**Vyhne**	**1.81**	**186**	*e*PN	**Pn**	**09 27 00.8**	**-0.4**
VYHS				*e*SN	**Sn**	**09 27 23.0**	**-1.9**
KSP	**Ksiaz**	**1.90**	**288**	*e*Pg	**Pg**	**09 27 06.2**	**+1.1**
KSP				*e*Sg	**Sg**	**09 27 31.4**	**+1.6**
KSP	**Ksiaz**	**1.90**	**288**	*e*Pn	**Pn**	**09 27 03.4**	**+0.9**
KSP				*e*Pg	**Pg**	**09 27 06.3**	**+1.1**
KSP				*e*Sg	**Sg**	**09 27 31.3**	**+1.6**
VRAC	**Vranov**	**1.92**	**240**	Pg	**Pn**	**09 27 02.4**	**-0.3**
	15nm,0.3s,baz=59,slow=13,SNR=67						
VRAC				Lg	Lg	09 27 27.2	
	11nm,0.3s,baz=344,slow=20,SNR=5.1						
VRAC	**Vranov**	**1.92**	**240**	*e*Pn	**Pn**	**09 27 02.9**	**+0.2**
	baz=58						
VRAC				*e*Sg	**Sn**	**09 27 28.0**	**+0.4**
	72nm,0.7s,baz=58						
VRAC	**Vranov**	**1.92**	**240**	*e*PN	**Pn**	**09 27 03.0**	**+0.2**
VRAC				*e*SG	**Sn**	**09 27 28.1**	**+0.4**
VRAC	**Vranov**	**1.92**	**240**	⇓P	**Pn**	**09 27 02.4**	**-0.3**
VRAC				⇑S	**Sb**	**09 27 28.9**	**-0.3**
CHVC	**Chvalec**	**1.99**	**280**	*e*PG	**Pn**	**09 27 04.7**	**+0.9**
KECS	**Kecovo**	**2.01**	**154**	*e*PN	**Pn**	**09 27 04.1**	**+0.1**
KECS				*e*LG	Lg	09 27 36.5	
UPC	**Upice**	**2.01**	**277**	*e*SG	**Sg**	**09 27 34.3**	**+0.9**
KRUC	**Moravsky**	**2.16**	**236**	*e*Pn	**Pn**	**09 27 06.2**	**+0.1**
	baz=54						
KRUC				*e*Sg	**Sb**	**09 27 35.6**	**-0.6**
	73nm,0.8s,baz=54						
MODS	**Modra-Piesok**	**2.27**	**213**	*e*PN	**Pn**	**09 27 08.2**	**+0.6**
MODS				*e*SG	**Sb**	**09 27 38.7**	**-0.6**
PSZ	**Piszkesteto**	**2.42**	**168**	⇑P	**Pn**	**09 27 10.3**	**+0.5**
PSZ				⇓S	**Sg**	**09 27 45.7**	**-1.0**
KOLS	**Kolonicke sedl**	**2.45**	**122**	*e*PN	**Pn**	**09 27 11.1**	**+1.0**
KOLS				*e*SN	**Sn**	**09 27 42.2**	**+1.5**
KOLS				*e*LG	Lg	09 27 55.8	
PRU	**Pruhonice**	**2.97**	**266**	*e*SG	**Sb**	**09 28 01.5**	**+2.0**
CONA	**Conrad Observa**	**3.20**	**224**	*i* Pn	**Pn**	**09 27 20.0**	**-0.4**
	2.4nm,0.3s						
CONA				*e*Sn	**Sn**	**09 27 59.0**	**-0.3**
	11nm,0.6s						
RONA	**Rosalia, Austr**	**3.20**	**217**	*i* Pn	**Pn**	**09 27 20.7**	**+0.4**
	5.2nm,0.5s						
BRG	**Berggiesshubel**	**3.36**	**282**	Pg	**Pg**	**09 27 33.1**	**-0.2**
BRG				Sg	**Sg**	**09 28 16.3**	**-0.5**
BRG				Amp		09 28 30.7	
	comp=Z,19nm,0.5s						
CKRC	**Cesky Krumlov**	**3.47**	**247**	*e*PN	**Pn**	**09 27 24.6**	**+0.5**
CKRC				*e*PG	**Pb**	**09 27 31.7**	**+0.6**
CKRC				*e*SG	**Sb**	**09 28 16.5**	**+2.7**
HSKC	**Hora Svate Kat**	**3.66**	**277**	*e*PG	**Pb**	**09 27 35.1**	**+0.7**
KHC	**Kasperske Hory**	**3.79**	**254**	*e*PN	**Pn**	**09 27 29.2**	**+0.7**
KHC				*e*PG	**Pb**	**09 27 35.6**	**-1.0**
KHC				*e*SG	**Sg**	**09 28 27.3**	**-3.2**
	comp=Z,64nm,1.0s						
GEC2	**GERESS Array S**	**3.82**	**250**	*e*Pg	**Pb**	**09 27 39.6**	**+2.4**
GERES	**GERESS Array B**	**3.82**	**250**	Pn	**Pn**	**09 27 29.4**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=67,slow=14,SNR=10.0						
GERES				Sn	**Sn**	**09 28 16.7**	**+2.0**
	comp=Z,1.4nm,0.3s,baz=351,slow=27,SNR=4.5						
GERES				Lg	Lg	09 28 29.1	
	comp=Z,4.4nm,0.3s,baz=70,slow=26,SNR=8.1						
	comp=Z,2.2nm,0.4s						
CLL	**Collm**	**4.02**	**287**	*i* Pg	**Pg**	**09 27 48.3**	**+2.4**
CLL				*ex*	x	09 27 52.0	
CLL				*e*Sg	**Sg**	**09 28 40.0**	**+2.0**
	comp=Z,16nm,0.5s						
MOA	**Molln**	**4.03**	**235**	*i* Pn	**Pn**	**09 27 32.5**	**+0.7**
	comp=Z,0.6nm,0.2s						
MOA				*i* Sn	**Sn**	**09 28 20.0**	**+0.4**
	comp=Z,2.4nm,0.3s						
MORH	**Mrgy, Hungar**	**4.09**	**185**	⇑P	**Pn**	**09 27 34.1**	**+1.5**
DRGR		**4.23**	**145**	⇓P	**Pn**	**09 27 35.0**	**+0.4**
SIRR	**Siria**	**4.36**	**156**	⇓P	**Pn**	**09 27 37.1**	**+0.7**
MARR	**Marisel-Cluj**	**4.48**	**142**	⇓P	**Pn**	**09 27 38.7**	**+0.7**
BURAR	**Bucovina Array**	**4.82**	**121**	⇓P	**Pn**	**09 27 42.9**	**+0.3**
SURR	**Surduc**	**4.96**	**155**	⇑P	**Pn**	**09 27 45.3**	**+0.7**
BZS	**Buzias**	**4.96**	**159**	⇓P	**Pn**	**09 27 45.5**	**+0.9**
GZR	**Gura Zlata**	**5.48**	**152**	⇓P	**Pn**	**09 27 53.0**	**+1.3**
HERR	**Herculane**	**5.85**	**156**	⇓P	**Pn**	**09 27 57.9**	**+1.2**
AKASG	**Malin Array Be**	**6.45**	**82**	Pn	**Pn**	**09 28 04.8**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=262,slow=14,SNR=1.5						
AKASG				Lg	Lg	09 29 50.1	
	comp=Z,1.0nm,0.3s,baz=264,slow=24,SNR=5.8						
	comp=Z,0.4nm,0.4s						
NACGM	**Naroch**	**6.56**	**42**	*e*P	Pn	09 27 57.9	-8.6
	comp=Z,5.0nm,0.7s,baz=230						
MLR	**Muntele Rosu**	**6.63**	**134**	Pn	**Pn**	**09 28 07.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=333,slow=16,SNR=1.8						
	comp=Z,1.0nm,0.5s						
DAVOX	**Davos/Dischmat**	**7.08**	**244**	Pn	**Pn**	**09 28 14.2**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=62,slow=19,SNR=12						
DAVOX				Sn	**Sn**	**09 29 32.3**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=84,slow=19,SNR=1.3						
DAVOX				Lg	Lg	09 30 11.8	
	comp=Z,0.2nm,0.3s,baz=29,slow=19,SNR=4.3						
	comp=Z,3.0nm,0.4s						
HFS	**Hagfors**	**10.34**	**345**	Pn	**Pn**	**09 28 57.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=144,slow=13,SNR=6.0						
HFS				Sn	**Sn**	**09 30 51.8**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=160,slow=22,SNR=2.1						
	comp=Z,0.7nm,0.4s						
OBN	**Obninsk**	**11.62**	**59**	Pn	**Pn**	**09 29 12.2**	**-3.4**
	comp=Z,2.7nm,0.3s,baz=297,slow=11,SNR=1.3						
	comp=Z,10nm,0.3s						
NOA	**NORSAR Array B**	**11.65**	**341**	Pn	**Pn**	**09 29 15.2**	**-1.1**
	baz=152,slow=12,SNR=5.7						
	comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**11.83**	**16**	Pn	**Pn**	**09 29 18.1**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=187,slow=12,SNR=19						
FINES				Sn	**Sn**	**09 31 24.1**	**-7.1**
	comp=Z,0.2nm,0.3s,baz=202,slow=22,SNR=1.8						
	comp=Z,1.6nm,0.3s						
ARCES	**ARCESS Array B**	**19.55**	**7**	Pn	**P**	**09 30 57.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=191,slow=12,SNR=12						
	comp=Z,0.8nm,0.5s						
BVAR	**Borovoye Array**	**31.36**	**65**	P	**P**	**09 32 52.3**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=266,slow=6.9,SNR=2.2						
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**39.20**	**58**	P	**P**	**09 33 58.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=310,slow=4.9,SNR=2.3						
	comp=Z,0.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**39.69**	**207**	P	**P**	**09 34 02.8**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=10,slow=9.8,SNR=3.2						
	comp=Z,0.3nm,0.6s						
SONM	**Songino Array**	**54.01**	**56**	P	**P**	**09 35 57.5**	**+2.9**
	comp=Z,1.3nm,0.9s,baz=302,slow=8.5,SNR=5.1						
	comp=Z,1.3nm,0.9s						

*IDC **10** 09:27:40.3±0.7, 15°.80S×179°.33E, h0km, mb4.1/10, mbtmp4.1/11, ML5.8/1, Error ellipse: s-maj=33.8km s-min=16.2km az=132.0*
*NEIC **10** 09:27:47.6±0.7, 16°.1S±0°.1×179°.3E±0°.2, h39km±9km, mb4.4/16, Error ellipse: s-maj=29.1km s-min=4.1km az=125.0*
ISC 10 09:27:45.9±0.5, 15°.9S±0°.1×179°.4E±0°.1, h35km, n48, σ1s16/50, mb4.4/21, 3C-1D, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.23**	**215**	Pn	**Pn**	**09 28 19.7**	**-0.7**
MSVF	**Nonsavu**	**2.23**	**215**	Pn	**Pn**	**09 28 19.5**	**-0.9**
	107nm,0.3s,baz=47,slow=19,SNR=28						
MSVF				Sn	**Sn**	**09 28 48.8**	**+2.1**
	108nm,0.3s,baz=127,slow=20,SNR=4.6						
	456nm,0.6s						
MRZ	**Mangatainoka R**	**24.89**	**187**	P	**P**	**09 33 06.1**	**+0.7**
MRZ				IAmb	IAmb	09 33 34.3	
	comp=Z,13nm,1.2s						
CTAO	**Charters Tower**	**31.77**	**257**	P	**P**	**09 34 06.4**	**-0.7**
TOO	**Toolangi**	**36.88**	**228**	P	**P**	**09 34 49.9**	**-1.3**
TOO				IAmb	IAmb	09 34 58.8	
	comp=Z,3.8nm,1.1s						
STKA	**Stephens Creek**	**37.82**	**238**	P	**P**	**09 34 58.7**	**-0.5**
STKA				IAmb	IAmb	09 35 07.2	
	comp=Z,3.1nm,0.9s						
STKA	**Stephens Creek**	**37.82**	**238**	P	**P**	**09 34 59.2**	**0.0**
	comp=Z,6.6nm,0.8s,baz=68,slow=8.1,SNR=9.1						
	comp=Z,6.6nm,0.8s						
BBOO	**Buckleboo**	**42.59**	**239**	P	**P**	**09 35 38.1**	**-0.6**
BBOO				IAmb	IAmb	09 35 46.1	
	comp=Z,12nm,1.0s						
WR0	**Warramunga Arr**	**42.78**	**258**	P	**P**	**09 35 38.7**	**-1.7**
WB0	**Warramunga Arr**	**42.92**	**258**	P	**P**	**09 35 40.9**	**-0.8**
WB0				IAmb	IAmb	09 35 46.9	
	comp=Z,5.8nm,1.1s						
WB2	**Warramunga Arr**	**42.96**	**258**	P	**P**	**09 35 41.4**	**-0.5**
WRA	**Warramunga Arr**	**42.97**	**258**	P	**P**	**09 35 41.3**	**-0.7**
WRA	**Warramunga Arr**	**42.97**	**258**	P	**P**	**09 35 40.5**	**-1.4**
	comp=Z,1.6nm,1.0s,baz=89,slow=8.3,SNR=7.6						
WRA				PcP	**PcP**	**09 37 30.4**	**-1.8**
	comp=Z,0.8nm,1.0s,baz=92,slow=3.1,SNR=3.2						
	comp=Z,1.6nm,1.0s						
AS31	**Alice Springs**	**43.35**	**252**	P	**P**	**09 35 45.0**	**-0.1**
ASAR	**Alice Springs**	**43.35**	**252**	P	**P**	**09 35 44.6**	**-0.5**
ASAR	**Alice Springs**	**43.35**	**252**	P	**P**	**09 35 44.5**	**-0.6**
	comp=Z,4.9nm,0.9s,baz=82,slow=8.9,SNR=26						
	comp=Z,4.9nm,0.9s						
KNRA	**Kununurra**	**48.63**	**263**	P	**P**	**09 36 25.8**	**-0.8**
CASY	**Casey**	**67.08**	**204**	P	**P**	**09 38 35.7**	**+0.3**
USA0B	**Ussuriysk Arra**	**73.80**	**327**	P	P	09 39 21.5	+4.8
USA0B				IAmb	IAmb	09 39 44.8	
	comp=Z,3.6nm,0.9s						
QSPA	**South Pole Qui**	**74.13**	**180**	P	**P**	**09 39 18.8**	**+0.2**
QSPA				IAmb	IAmb	09 39 35.2	
	comp=Z,4.7nm,1.0s						
QSPA	**South Pole Qui**	**74.13**	**180**	P	**P**	**09 39 19.3**	**+0.8**
	comp=Z,3.4nm,1.0s,baz=23,slow=2.9,SNR=9.1						
	comp=Z,3.4nm,1.0s						
NVAR	**Mina Array Bea**	**79.47**	**45**	P	**P**	**09 39 48.7**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=233,slow=11,SNR=6.9						
	comp=Z,0.8nm,0.8s						
J05D	**Fort Rock, OR**	**80.10**	**40**	P	**P**	**09 39 54.2**	**+1.8**
HHC	**Hu-ho-hao-te**	**84.38**	**315**	*e*P	**P**	**09 40 17.5**	**+2.7**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,870nm,4.5s						
BELA	**Belgrano 2**	**84.39**	**173**	P	**P**	**09 40 14.2**	**0.0**
BELA				IAmb	IAmb	09 40 28.0	
	comp=Z,3.8nm,1.0s						
ILAR	**Eielson Array**	**84.44**	**14**	P	**P**	**09 40 13.6**	**-0.9**
	comp=Z,5.8nm,0.9s,baz=236,slow=6.2,SNR=40						
	comp=Z,5.8nm,0.9s						
MAW	**Mawson**	**85.01**	**200**	P	**P**	**09 40 17.8**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=123,slow=5.0,SNR=5.8						
	comp=Z,1.5nm,0.9s						
PZH	**PanZhiHua**	**86.37**	**299**	P	**P**	**09 40 28.0**	**+2.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
TXAR	**Lajitas Array**	**86.72**	**58**	P	**P**	**09 40 27.4**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=246,slow=6.3,SNR=3.7						
	comp=Z,0.4nm,0.9s						
PDAR	**Pinedale Array**	**87.37**	**44**	P	**P**	**09 40 29.3**	**-0.4**
	comp=Z,0.8nm,0.9s,baz=225,slow=3.4,SNR=6.5						
	comp=Z,0.8nm,0.9s						
LZH	**Lanzhou**	**88.02**	**308**	*e*P	**P**	**09 40 34.8**	**+1.9**
LZH				sP	sP	09 40 50.3	+3.0
LZH				pmax	pmax		
	comp=Z,19nm,1.5s						
SONM	**Songino Array**	**90.68**	**320**	P	**P**	**09 40 45.5**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=121,slow=3.1,SNR=3.9						
	comp=Z,0.5nm,0.7s						
ELIB	**Princess Elisa**	**90.88**	**187**	*d*P	**P**	**09 40 46.1**	**+0.5**
	comp=Z,2.0nm,1.1s						
TROLL	**Troll, Antarti**	**92.27**	**181**	⇑P	**P**	**09 40 51.8**	**-0.3**
	comp=Z,177nm,0.8s						
SNAA	**Sanae**	**92.62**	**179**	⇑P	**P**	**09 40 51.5**	**-2.2**
	comp=Z,14nm,0.7s						
VNA3	**Neumayer Olymp**	**92.84**	**177**	⇑P	**P**	**09 40 54.8**	**+0.2**
	comp=Z,3.2nm,0.8s						
KHC	**Kasperske Hory**	**144.90**	**344**	*e*PKP	**PKPdf**	**09 47 18.3**	**-1.0**
GERES	**GERESS Array B**	**145.13**	**343**	PKPbc	**PKPdf**	**09 47 19.1**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=38,slow=2.4,SNR=7.3						
CONA	**Conrad Observa**	**145.30**	**340**	*i* PKP	**PKPdf**	**09 47 20.7**	**+0.6**
	comp=Z,9.3nm,1.2s						
RONA	**Rosalia, Austr**	**145.36**	**340**	*i* PKP	**PKPab**	**09 47 21.1**	**+0.9**
	comp=Z,6.7nm,1.2s						
MOA	**Molln**	**145.87**	**342**	*i* PKP	**PKPab**	**09 47 22.4**	**+0.3**
	comp=Z,7.7nm,1.3s						
ARSA	**Arzberg**	**146.01**	**340**	*i* PKP	**PKPab**	**09 47 22.4**	**-0.2**
	comp=Z,6.9nm,1.4s						
SOKA	**Soboth**	**146.67**	**340**	*i* PKP	**PKPbc**	**09 47 23.5**	**-0.6**
	comp=Z,1.6nm,0.6s						
KBA	**Koelnbreinsper**	**146.83**	**342**	*i* PKP	**PKPbc**	**09 47 23.6**	**-1.1**
	comp=Z,4.4nm,1.2s						
WATA	**Walderalm**	**147.08**	**345**	*i* PKP	**PKPbc**	**09 47 23.9**	**-1.4**
	comp=Z,4.8nm,0.6s						
WTTA	**Wattenberg**	**147.13**	**345**	*i* PKP	**PKPab**	**09 47 26.1**	**-1.0**
	comp=Z,0.7nm,0.1s						
SQTA	**Sankt Quirin**	**147.28**	**345**	*i* PKP	**PKPab**	**09 47 26.5**	**-1.1**
	comp=Z,1.5nm,0.3s						
ABTA	**Abfaltersbach**	**147.37**	**343**	*

comp=Z,19nm,1.1s
PB14 IPOC Station P 24.17 65 P **P 10 11 57.5 +0.7**
PB14 IAmb IAmb 10 12 21.3
comp=Z,16nm,1.0s
PB06 IPOC Station P 25.96 63 P **P 10 12 13.4 +0.5**
PB06 IAmb IAmb 10 12 15.6
comp=Z,19nm,1.0s
NNA Nana 29.82 37 LR LR 10 21 32.5
comp=Z,2μm,20.0s,baz=213,slow=30
LPAZ La Paz 31.35 55 P **P 10 13 01.8 +0.2**
LPAZ IAmb IAmb 10 13 09.3
comp=Z,7.1nm,0.9s
LPAZ La Paz 31.35 55 P **P 10 13 01.6 0.0**
comp=Z,4.8nm,0.8s,baz=203,slow=6.3,SNR=14
LPAZ LR LR 10 22 41.7
comp=Z,972nm,19.7s,baz=212,slow=31
comp=Z,4.8nm,0.8s
CPUP Villa Florida 33.24 82 P **P 10 13 16.5 -0.9**
comp=Z,2.2nm,0.9s,baz=204,slow=6.0,SNR=2.9
CPUP LR LR 10 23 39.0
comp=Z,239nm,21.9s,baz=216,slow=31
comp=Z,2.2nm,0.9s
ATAH Atahualpa 33.47 30 LR LR 10 23 35.0
comp=Z,1μm,21.0s,baz=229,slow=30
CZSB Cruzeiro do Su 35.52 39 P **P 10 13 36.6 -0.7**
CZSB IAmb IAmb 10 14 02.7
comp=Z,14nm,1.1s
ETMB Extrema 37.45 50 P **P 10 13 52.6 -1.2**
COHC Cochancay 37.45 26 P **P 10 13 54.3 +0.6**
TBTG Tabatinga, AM 39.97 40 P **P 10 14 14.2 -0.7**
TBTG IAmb IAmb 10 14 16.4
comp=Z,12nm,0.9s
SAML Samuel 40.01 53 P **P 10 14 14.0 -1.3**
OTAV Otavalo 40.25 25 P **P 10 14 16.8 -0.9**
ROSC El Rosal 46.01 29 P **P 10 15 04.5 +0.2**
ROSC El Rosal 46.01 29 LR LR 10 30 48.5
comp=Z,706nm,21.4s,baz=90,slow=32
MACA Manacapuru-AM 46.05 51 P **P 10 15 03.0 -1.1**
BDFB Brasilia 46.33 75 LR LR 10 32 37.9
comp=Z,918nm,20.9s,baz=68,slow=34
JTS Las Juntas de 48.24 13 LR LR 10 30 46.7
comp=Z,537nm,18.0s,baz=144,slow=30
SOCE Pocosol 48.39 13 P **P 10 15 22.9 +0.5**
SOCE IAmb IAmb 10 15 31.4
comp=Z,65nm,1.4s
TAOE Nuku Hiva Isla 50.00 293 *e*LR LR 10 29 42.7
comp=Z,394nm,29.7s
BOAV Boa Vista 50.58 46 P **P 10 15 37.7 -1.3**
SDV Santo Domingo 51.15 31 P **P 10 15 43.8 +0.2**
SDV IAmb IAmb 10 16 03.0
comp=Z,5.0nm,0.7s
SDV Santo Domingo 51.15 31 LR LR 10 35 05.0
comp=Z,889nm,22.0s,baz=169,slow=33
TGUH Tegucigalpa,Un 51.60 9 P **P 10 15 47.0 +0.2**
TGUH IAmb IAmb 10 15 53.9
comp=Z,8.2nm,0.7s
PPT2 Papeete2 51.94 277 *e*LR LR 10 30 41.9
comp=Z,249nm,42.0s
PPT2 *e*LR LR 10 30 42.5
comp=Z,448nm,26.2s
PPT Papeete 51.95 277 LR LR 10 32 42.9
comp=Z,170nm,19.8s,baz=360,slow=30
BAUV El Baul 52.31 34 P **P 10 15 50.9 -1.0**
BAUV IAmb IAmb 10 16 06.4
comp=Z,18nm,1.4s
QSPA South Pole Qui 52.85 180 P **P 10 15 55.7 0.0**
QSPA South Pole Qui 52.85 180 P **P 10 15 55.9 +0.2**
comp=Z,1.8nm,0.9s,baz=145,slow=8.0,SNR=9.3
QSPA LR LR 10 34 41.6
comp=Z,308nm,21.0s,baz=144,slow=32
comp=Z,1.8nm,0.9s
VNA3 Neumayer Olymp 53.48 156 ⇑P **P 10 15 59.9 -0.1**
comp=Z,9.3nm,0.8s
VNA1 Neumayer--Stat 54.04 156 ⇑P **P 10 16 04.7 +0.6**
comp=Z,15nm,1.1s
VNA2 Neumayer--Watz 54.27 156 ⇑P **P 10 16 05.4 -0.4**
comp=Z,6.8nm,0.8s,baz=265,slow=7.9
PCRV Puerto La Cruz 54.96 37 LR LR 10 37 47.2
comp=Z,936nm,19.1s,slow=34
SNAA Sanae 55.53 157 P **P 10 16 15.5 +0.6**
SNAA IAmb IAmb 10 16 37.8
comp=Z,7.1nm,1.2s
SNAA Sanae 55.53 157 ⇑P **P 10 16 14.5 -0.5**
comp=Z,49nm,0.8s
SNAA Sanae 55.53 157 ⇑P **P 10 16 14.9 0.0**
comp=Z,2.5nm,0.9s,baz=270,slow=15,SNR=6.5
comp=Z,2.5nm,0.9s
SBA Scott Base 55.60 195 P **P 10 16 14.5 -0.8**
TROLL Troll, Antarti 57.03 158 ⇑P **P 10 16 27.9 +2.1**
comp=Z,256nm,0.6s
MOIG Morelia 57.09 352 P **P 10 16 26.5 -0.3**
MDP Montagnes des 57.47 52 LR LR 10 39 29.1
comp=Z,662nm,18.0s,baz=124,slow=34
ZAIG Zacatecas 60.30 351 P **P 10 16 49.7 +0.5**
ZAIG IAmb IAmb 10 16 60.0
comp=Z,8.1nm,1.1s
BIM Bigot 60.43 38 P **P 10 16 50.9 +0.9**
RCBR Riachuelo 61.71 75 LR LR 10 43 00.1
comp=Z,300nm,19.0s,baz=40,slow=35
ELIB Princess Elisa 62.73 162 *d*P **P 10 17 06.8 +1.8**
comp=Z,2.4nm,1.1s
HPIG 64.82 349 P **P 10 17 18.9 -0.3**
HPIG IAmb IAmb 10 17 29.2
comp=Z,4.6nm,1.0s
DRIO Del Rio 66.69 354 P **P 10 17 32.9 +1.9**
DRIO IAmb IAmb 10 17 34.7
comp=Z,6.9nm,1.3s
HNDO Hondo 66.70 355 P **P 10 17 31.5 +0.4**
TXAR Lajitas Array 66.91 351 P **P 10 17 33.4 +0.9**
comp=Z,1.1nm,0.8s,baz=168,slow=9.0,SNR=9.7
comp=Z,1.1nm,0.8s
TX31 Lajitas Ar. Si 66.91 351 P **P 10 17 33.6 +1.1**
URZ Urewera 67.03 239 LR LR 10 39 27.4
comp=Z,553nm,20.0s,baz=240,slow=29
435B Jarrell 67.86 357 P **P 10 17 40.0 +1.7**
ALPN Alpine 67.93 351 P **P 10 17 40.2 +1.2**
ALPN IAmb IAmb 10 17 59.5
comp=Z,4.7nm,0.9s
NNZ Nelson 68.01 234 P **P 10 17 39.7 +0.3**
MNHN Monahans 68.79 352 P **P 10 17 44.8 +0.5**
MNHN IAmb IAmb 10 17 50.6
comp=Z,7.7nm,1.1s
LRAL Lakeview Retre 70.39 7 P **P 10 17 54.5 +0.5**
LRAL IAmb IAmb 10 17 58.1
comp=Z,8.3nm,1.1s
GOGA Godfrey 71.16 10 P **P 10 17 60.0 +1.3**
MSTX Muleshoe 71.39 353 P **P 10 18 01.1 +0.8**
MSTX IAmb IAmb 10 18 08.2
comp=Z,10nm,1.2s
WHAR Wooly Hollow 72.32 2 P **P 10 18 05.6 -0.1**
ANMO Albuquerque 72.80 350 P **P 10 18 09.8 +1.0**
ANMO IAmb IAmb 10 18 15.6
comp=Z,4.4nm,1.2s
ANMO Albuquerque 72.80 350 P **P 10 18 08.3 -0.5**
comp=Z,1.4nm,0.9s,baz=129,slow=11,SNR=4.3
comp=Z,1.4nm,0.9s
Y14A Wickenburg 73.01 344 P **P 10 18 09.7 -0.1**
Y14A IAmb IAmb 10 18 13.8
comp=Z,6.5nm,1.3s
OK052 Battle Ridge R 73.02 358 P **P 10 18 11.5 +1.7**
LCAR Lake Charles 73.13 3 P **P 10 18 10.3 -0.2**
LCAR IAmb IAmb 10 18 29.2
comp=Z,8.6nm,1.1s
BLYC Blythe 73.17 343 P **P 10 18 11.4 +0.6**
BLYC IAmb IAmb 10 18 31.4
comp=Z,10.0nm,1.4s
MAW Mawson 73.95 171 P **P 10 18 14.3 -0.7**
comp=Z,2.8nm,0.7s,baz=199,slow=7.4,SNR=13
comp=Z,2.8nm,0.7s
PV02 Paradox Valley 76.34 348 P **P 10 18 29.9 +0.6**
GMN Gold Mountain 77.22 342 P **P 10 18 35.2 +0.9**
Q16A Castle Valley 77.45 347 IAmb IAmb 10 18 52.7
comp=Z,5.3nm,1.1s
DSP Deep Springs 77.47 341 IAmb IAmb 10 18 53.3
comp=Z,5.1nm,1.1s
MSVF Nonsavu 77.48 257 LR LR 10 44 14.8
comp=Z,194nm,22.0s,baz=99,slow=29
MZP Montezuma Peak 77.63 342 P **P 10 18 36.7 +0.1**
NVAR Mina Array Bea 78.56 341 P **P 10 18 41.9 +0.2**
comp=Z,2.4nm,1.0s,baz=164,slow=7.0,SNR=9.5
comp=Z,2.4nm,1.0s
RDMU Red Mountain 78.78 348 P **P 10 18 42.3 -0.7**
RDMU IAmb IAmb 10 18 53.0
comp=Z,4.9nm,1.2s
KVN Kaiserville 79.09 341 P **P 10 18 44.9 +0.3**
KVN IAmb IAmb 10 18 53.7
comp=Z,5.0nm,1.2s
YERR Yerington 79.32 341 P **P 10 18 46.2 +0.3**
YERR IAmb IAmb 10 19 00.1
comp=Z,5.3nm,1.0s
MPK Martis Peak 79.83 340 P **P 10 18 49.2 +0.4**
MPK IAmb IAmb 10 19 01.2
comp=Z,8.7nm,1.2s
ELK Elko 80.03 344 P **P 10 18 50.0 +0.3**
comp=Z,0.8nm,0.5s,baz=203,slow=4.6,SNR=3.3
comp=Z,0.8nm,0.5s
PD31 Pinedale Array 80.93 349 P **P 10 18 54.7 +0.2**
PD31 IAmb IAmb 10 19 03.0
comp=Z,3.0nm,0.8s
PDAR Pinedale Array 80.93 349 P **P 10 18 54.7 +0.2**
comp=Z,0.8nm,0.6s,baz=157,slow=5.2,SNR=10
comp=Z,0.8nm,0.6s
TPAW Teton Pass 81.86 348 P **P 10 19 00.0 +0.5**
TPAW IAmb IAmb 10 19 13.3
comp=Z,9.0nm,1.1s
WVOR Wild Horse Val 82.42 342 P **P 10 19 03.1 +0.8**
WVOR IAmb IAmb 10 19 16.4
comp=Z,5.9nm,0.9s
HLID Hailey 82.56 346 P **P 10 19 02.9 -0.1**
HLID IAmb IAmb 10 19 12.8
comp=Z,4.6nm,0.8s
MCMT McKenzie Canyo 83.48 347 P **P 10 19 08.2 +0.3**
DZM Mont Dzumac 83.72 247 *e*LR LR 10 45 25.5
comp=Z,389nm,23.9s
J05D Fort Rock, OR 83.87 341 P **P 10 19 09.7 -0.1**
I07A Izee 84.18 342 P **P 10 19 11.2 -0.1**
ULM Lac du Bonnet 87.25 359 LR LR 10 54 58.7
comp=Z,448nm,19.4s,baz=92,slow=33
SUR Sutherland 88.06 130 LR LR 10 52 23.2
comp=Z,622nm,20.0s,baz=344,slow=31
BBB Bella Bella 93.88 340 LR LR 10 55 33.0
comp=Z,357nm,20.6s,baz=50,slow=31
CTA Charters Tower 99.18 236 LR LR 10 58 02.9
comp=Z,16nm,20.8s,baz=213,slow=31
H01W1 Cape Leeuwin H 103.33 204 T T 12 16 55.7
baz=154,slow=76,SNR=42
H01W2 Cape Leeuwin H 103.33 204 T T 12 17 06.2
baz=154,slow=76,SNR=55
H01W3 Cape Leeuwin H 103.35 204 T T 12 16 56.2
baz=154,slow=76,SNR=54
USRK Ussuriysk Ar. 144.53 296 PKP **PKPdf 10 26 17.3 +1.0**
comp=Z,4.3nm,1.0s,baz=132,slow=2.2,SNR=5.2
KSRS Korea Array 146.51 283 PKPbc **PKPdf 10 26 20.0 0.0**
comp=Z,0.7nm,0.7s,baz=109,slow=4.0,SNR=2.7
KBZ Khabaz 147.29 65 PKPbc **PKPdf 10 26 21.8 +0.8**
comp=Z,1.2nm,0.7s,baz=265,slow=4.2,SNR=2.4
NRIK Noril'sk 147.95 359 PKPbc **PKPbc 10 26 24.5 +0.1**
comp=Z,1.5nm,0.4s,baz=51,slow=7.7,SNR=2.7
CMAR Chiang Mai Arr 157.78 216 PKPab **PKPab 10 27 09.5 -0.2**
comp=Z,0.6nm,0.4s,baz=194,slow=4.3,SNR=4.4
SONM Songino Array 161.46 311 PKPab **PKPab 10 27 23.7 -1.6**
comp=Z,0.4nm,0.4s,baz=50,slow=4.5,SNR=1.3
PZH PanZhiHua 162.50 236 PKP **PKPdf 10 26 43.0 +0.5**
ZALV Zalesovo Beam 163.41 1 PKP **PKPdf 10 26 42.1 -0.2**
comp=Z,0.3nm,0.3s,baz=64,slow=3.4,SNR=1.7
LZH Lanzhou 165.23 271 *e*PKP **PKPdf 10 26 41.4 -3.4**
LZH sPKP 10 26 53.1
KURBB Kurchatov Arra 165.84 18 PKP **PKPdf 10 26 44.7 +0.2**
comp=Z,0.2nm,0.3s,baz=356,slow=1.3,SNR=2.0
KURBB PKPab **PKPab 10 27 44.4 +0.3**
comp=Z,0.3nm,0.3s,baz=304,slow=5.3,SNR=2.1
MKAR Makanchi Array 170.28 13 PKP **PKPdf 10 26 49.5 +1.7**
comp=Z,0.8nm,0.9s,baz=333,slow=1.6,SNR=4.2

*IDC **10** 10:07:45.1±3.3,24°.48N×142°.67E, h0km, mb3.5/2, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=146.4km s-min=28.2km az=76.0*
*JMA **10** 10:08:03.1±0.1,24°.8N±0°.9×14°.1E±°, h172km, MV4.4/17, IOTO ISLANDS REGION*
ISC 10 10:08:02.7±1.2,**24°.61N**±0°.09×**141°.7E**±0°.3,**h150**km,**n13,**
σ1**§83**/15,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**2.06**	**12**	P	**Pn**	**10 08 39.4**	**+0.8**
JHH2				*e*S	**Sn**	**10 09 07.3**	**+1.1**
CBIJ	**Chichi jima**	**2.52**	**10**	P	**Pn**	**10 08 44.6**	**+0.5**
CBIJ				S	**Sn**	**10 09 16.5**	**+0.5**
BSO1	**Boso 1**	**10.03**	**357**	P	**Pn**	**10 10 21.6**	**-0.9**
BSO3	**Boso 3**	**10.21**	**355**	P	**Pn**	**10 10 23.3**	**-1.9**
BSO4	**Boso 4**	**10.41**	**354**	*e*P	**Pn**	**10 10 26.8**	**-1.2**
JOD2	**Odawara 2**	**10.85**	**349**	*e*P	**Pn**	**10 10 32.8**	**-1.1**
JRY	**Ryogami san**	**11.62**	**349**	P	**Pn**	**10 10 42.8**	**-1.2**
JAG	**Ashikaga**	**11.93**	**351**	*e*P	**Pn**	**10 10 44.8**	**-3.3**
JHO	**Hitachi**	**12.00**	**356**	*e*P	**Pn**	**10 10 46.1**	**-2.9**
MJAR	**Matsushiro Arr**	**12.26**	**347**	Pn	Pn	10 10 44.4	-7.9
	0.1nm,0.3s,baz=164,slow=12,SNR=1.9						
	1.0nm,0.9s						
KSRS	**Korea Array**	**17.38**	**321**	P	**Pn**	**10 11 58.9**	**+2.8**
	0.1nm,0.3s,baz=136,slow=12,SNR=5.3						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**44.86**	**190**	P	**P**	**10 16 01.6**	**-0.6**
	0.6nm,0.3s,baz=7.0,slow=8.6,SNR=14						
WRA				PcP	**PcP**	**10 17 42.7**	**+1.3**
	0.2nm,0.5s,baz=359,slow=3.4,SNR=1.8						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**48.58**	**190**	P	**P**	**10 16 30.6**	**-0.6**
	0.2nm,0.5s,baz=14,slow=13,SNR=6.5						
	0.2nm,0.5s						

*IDC **10** 10:17:42.2±0.9,2°.83S×119°.59E, h0km, mb3.9/6, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=64.1km s-min=15.4km az=68.0*
*NEIC **10** 10:17:43.1±1.7,2°.90S±0°.05×119°.44E±0°.02, h10km±1km, mb4.3/11, Error ellipse: s-maj=9.1km s-min=3.2km az=161.0*
*DJA **10** 10:17:43.5±0.3,3°.S±2°.×11°.9E±°, h10km, M4.4/15, mb4.4/3, MLv4.4/15*
ISC 10 10:17:42.7±0.6,**2°.90S**±0°.05×**119°.41E**±0°.06,**h10**km,**n37,**
σ1**§03**/42,**mb4.2**/12,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.44**	**109**	P	**Pg**	**10 17 51.1**	**-0.2**
TTSI				S	**Sb**	**10 17 58.1**	**-1.0**
SPSI	**Sidrap Palu**	**1.12**	**161**	P	**Pb**	**10 18 03.3**	**-0.8**
SPSI				S	**Sn**	**10 18 20.2**	**+0.4**
BNSI	**Bone**	**1.65**	**155**	P	**Pb**	**10 18 13.1**	**0.0**
BNSI				S	**Sg**	**10 18 36.7**	**+1.0**
KAPI	**Kappang**	**2.13**	**171**	Pn	**Pn**	**10 18 19.6**	**+1.3**
	43nm,0.3s,baz=349,slow=11,SNR=70						
KAPI				Sn	**Sb**	**10 18 47.8**	**0.0**
	99nm,0.3s,baz=53,slow=20,SNR=15						
	205nm,0.5s						
BKSI	**Bulukumba**	**2.51**	**163**	P	**Pn**	**10 18 25.3**	**+1.7**
APSI	**Ampana**	**2.99**	**49**	P	**Pn**	**10 18 31.2**	**+1.0**
BKB	**Balikpapan**	**2.99**	**303**	Pn	**Pn**	**10 18 31.9**	**+1.7**
MPSI	**Mapaga**	**3.25**	**9**	P	**Pn**	**10 18 34.3**	**+0.5**
BSSI	**Bau Bau, Buton**	**3.40**	**161**	P	**Pn**	**10 18 37.9**	**+2.1**
LUWI	**Luwuk**	**3.84**	**61**	Pn	**Pn**	**10 18 42.0**	**+0.1**
LUWI	**Luwuk**	**3.84**	**61**	P	**Pn**	**10 18 42.6**	**+0.8**
MRSI	**Marisa**	**4.20**	**37**	P	**Pn**	**10 18 48.0**	**+1.1**
TOLI2	**Tolitoli**	**4.22**	**19**		**Pn**	**10 18 46.5**	**-0.5**
MTKI	**Muara Teweh, K**	**4.91**	**293**	P	**Pn**	**10 18 56.8**	**+0.2**
PLAI	**Plampang**	**6.11**	**195**	P	**Pn**	**10 19 12.9**	**-0.2**
	28nm,1.1s,0.1nm						
MMRI	**Maumere**	**6.36**	**154**	Pn	**Pn**	**10 19 16.2**	**-0.3**
JAGI	**Jajag, Banyuwa**	**7.61**	**223**	Pn	**Pn**	**10 19 32.9**	**-0.8**
SOEI	**Soe**	**8.35**	**145**	Pn	**Pn**	**10 19 41.9**	**-2.0**
KKM	**Kota Kinabalu**	**9.44**	**340**	Pn	**Pn**	**10 19 58.3**	**-0.6**
RPSI	**Rantau Prapat**	**21.21**	**285**	P	**P**	**10 22 28.9**	**0.0**
RPSI				IAmb	IAmb	10 22 34.9	
	comp=Z,12nm,0.9s						
GSI	**Gunungsitoli**	**22.22**	**281**	P	**P**	**10 22 39.8**	**+0.1**
WB0	**Warramunga Arr**	**22.25**	**140**	P	**P**	**10 22 38.8**	**-1.2**
WRA	**Warramunga Arr**	**22.35**	**140**	P	**P**	**10 22 40.8**	**-0.2**
	comp=Z,3.1nm,1.0s,baz=319,slow=10,SNR=14						
	comp=Z,3.1nm,1.0s						
WB2	**Warramunga Arr**	**22.36**	**140**	P	**P**	**10 22 40.2**	**-0.9**
WR0	**Warramunga Arr**	**22.49**	**140**	P	**P**	**10 22 41.2**	**-1.3**
WR0				IAmb	IAmb	10 22 50.1	
	comp=Z,7.9nm,1.1s						
ASAR	**Alice Springs**	**24.96**	**147**	P	**P**	**10 23 07.7**	**+1.2**
	comp=Z,2.0nm,1.0s,baz=326,slow=8.7,SNR=17						
ASAR				PcP	**PcP**	**10 26 43.0**	**+1.0**
	comp=Z,3.1nm,1.0s,baz=319,slow=1.3,SNR=1.7						
	comp=Z,2.0nm,1.0s						
MDJ	**Mudanjiang**	**48.18**	**10**	P	**P**	**10 26 22.8**	**-0.5**
MDJ	**Mudanjiang**	**48.18**	**10**	P	**P**	**10 26 22.7**	**-0.5**
MDJ				pmax	pmax		
	comp=Z,20nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,410nm,10.4s						
USRK	**Ussuriysk Ar.**	**48.23**	**12**	P	**P**	**10 26 21.9**	**-1.6**
USA0B	**Ussuriysk Arra**	**48.23**	**12**	P	**P**	**10 26 23.3**	**-0.3**
USA0B				IAmb	IAmb	10 26 36.1	
	comp=Z,5.6nm,1.1s						
SONM	**Songino Array**	**51.80**	**349**	P	**P**	**10 26 51.3**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=175,slow=8.1,SNR=7.0						
	comp=Z,1.6nm,0.6s						
MK31	**Makanchi Array**	**59.29**	**331**	P	**P**	**10 27 45.6**	**+1.0**
MK31				IAmb	IAmb	10 27 48.7	
	comp=Z,3.1nm,0.9s						
MKAR	**Makanchi Array**	**59.29**	**331**	P	**P**	**10 27 44.8**	**+0.1**
MKAR	**Makanchi Array**	**59.29**	**331**	P	**P**	**10 27 45.9**	**+1.2**
	comp=Z,2.7nm,0.8s,baz=133,slow=7.9,SNR=12						
	comp=Z,2.7nm,0.8s						
MAKZ	**Makanchi**	**59.45**	**331**	P	**P**	**10 27 46.9**	**+1.1**
MAKZ				IAmb	IAmb	10 27 51.7	
	comp=Z,1.9nm,1.1s						
ZALV	**Zalesovo Beam**	**63.55**	**338**	P	**P**	**10 28 14.8**	**+1.5**
	comp=Z,1.6nm,1.0s,baz=130,slow=6.0,SNR=4.4						
	comp=Z,1.6nm,1.0s						
KURBB	**Kurchatov Arra**	**63.75**	**332**	P	**P**	**10 28 16.1**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=136,slow=6.0,SNR=2.6						
	comp=Z,0.5nm,0.6s						

*IDC **10** 10:31:23.1±0.5,31°.73N×141°.04E, h0km, mb4.1/20, mbtmp4.1/22, ML3.5/2, MS3.8/8, Error ellipse: s-maj=20.3km s-min=13.8km az=73.0*
*NEIC **10** 10:31:25.4±1.8,31°.34N±0°.06×140°.9E±0°.1, h10km±1km, mb4.4/18, Error ellipse: s-maj=17.1km s-min=8.6km az=68.0*
*NIED **10** 10:31:27.8,31°.73N×141°.04E, h0km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.09; Mθθ-0.81; Mφφ-0.28; Mrθ-1.14; Mφφ0.61; Mφr-0.30; Fault plane solution: M0 1.63000×10^15 NP1: φs274.00000°, δ69.00000°, λ66.00000°. NP2: φs145.00000°, δ32.00000°, λ136.00000°.*
*JMA **10** 10:31:27.8±0.5,32°N±2°.×14°.1E±°, h0km, MV4.8/48, NEAR TORISHIMA IS*
ISC 10 10:31:24.7±0.5,**31°.33N**±0°.06×**140°.95E**±0°.08,**h10**km,**n106,**
σ1**§83**/103,**mb4.3**/29,**MS4.1**/5,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.51**	**319**	P	**Pb**	**10 31 53.0**	**+0.1**
JAOM	**Aogashimamukai**	**1.51**	**319**	A	A	10 31 53.0	
	comp=E,10.0nm,2.9s,comp=N,9.0nm,2.4s						
JHCJ	**Hachijojimakas**	**1.99**	**331**	P	**Pn**	**10 31 58.8**	**+0.3**
JHCJ				S	**Sn**	**10 32 21.1**	**-2.4**
JHJ2	**Mitsune**	**2.02**	**332**		**Pn**	**10 31 58.3**	**-0.5**
JHJ2	**Mitsune**	**2.02**	**332**	P	**Pn**	**10 31 59.4**	**+0.6**
JHJ	**Hachijo jima 2**	**2.04**	**331**	Pn	**Pn**	**10 31 59.3**	**+0.2**
	comp=N,75nm,0.3s,baz=235,slow=23,SNR=15						
JHJ				Sn	**Sn**	**10 32 20.9**	**-3.7**
	comp=N,163nm,0.3s,baz=108,slow=20,SNR=7.9						
JHJ				LR	LR	10 32 56.3	
	comp=N,984nm,18.0s,baz=163,slow=45						
	comp=N,203nm,0.3s						
JMKN	**Mikurajimanish**	**2.80**	**336**	P	**Pn**	**10 32 10.6**	**+1.0**
JMYK	**Miyake Tsubota**	**2.97**	**337**	P	**Pn**	**10 32 13.6**	**+1.7**
JMYK				S	**Sn**	**10 32 46.6**	**-0.9**
JKO	**Kozu shima**	**3.23**	**332**	P	**Pn**	**10 32 17.6**	**+2.1**
BSO1	**Boso 1**	**3.31**	**0**	P	**Pn**	**10 32 15.8**	**-0.4**
BSO3	**Boso 3**	**3.48**	**354**	P	**Pn**	**10 32 18.5**	**-0.2**
BSO3				*e*S	**Sn**	**10 32 57.1**	**-2.7**
BSO4	**Boso 4**	**3.69**	**352**	P	**Pn**	**10 32 21.8**	**+0.2**
JSG	**Sagara**	**4.06**	**326**	Pn	**Pn**	**10 32 27.7**	**+0.7**
JSG	**Sagara**	**4.06**	**326**	P	**Pn**	**10 32 31.4**	**+4.5**
JOD2	**Odawara 2**	**4.22**	**339**	P	**Pn**	**10 32 30.8**	**+1.6**
JCJ	**Chichijima**	**4.36**	**165**	Pn	**Pn**	**10 32 31.2**	**+0.2**
JCJ	**Chichijima**	**4.36**	**165**	P	**Pn**	**10 32 31.3**	**+0.3**
JYN	**Shimob**	**4.62**	**335**	P	**Pn**	**10 32 37.8**	**+3.1**
JNY	**Yasuok**	**4.78**	**328**	P	**Pn**	**10 32 41.4**	**+4.6**
JAO	**Obara**	**4.99**	**323**	P	**Pn**	**10 32 44.0**	**+4.2**
INU	**Inuyama**	**5.18**	**322**		**Pn**	**10 32 42.2**	**-0.1**
INU	**Inuyama**	**5.18**	**322**	P	**Pn**	**10 32 46.6**	**+4.3**
JGF	**Kuroka**	**5.21**	**326**		**Pn**	**10 32 42.8**	**+0.1**
JGF	**Kuroka**	**5.21**	**326**	P	**Pn**	**10 32 46.4**	**+3.7**
JHO	**Hitachi**	**5.28**	**357**	P	**Pn**	**10 32 45.3**	**+1.7**
JWY	**Kouya**	**5.35**	**304**	P	Pn	10 32 51.0	+6.3
MJAR	**Matsushiro Arr**	**5.67**	**337**	Pn	**Pn**	**10 32 52.8**	**+3.6**
	comp=N,3.3nm,0.3s,baz=160,slow=14,SNR=130						
MJAR				LR	LR	10 35 13.8	
	comp=N,314nm,18.7s,baz=168,slow=40						
MAJO	**Matsushiro**	**5.67**	**337**		**Pn**	**10 32 48.8**	**-0.3**
MAJO	**Matsushiro**	**5.67**	**337**	P	**Pn**	**10 32 53.2**	**+4.1**
MJB9	**Matsu-Tunnel**	**5.68**	**337**		**Pn**	**10 32 50.9**	**+1.7**
JFK	**Kawauchi**	**6.02**	**359**	P	**Pn**	**10 32 54.4**	**+0.5**
JMN	**Monobe**	**6.43**	**294**	Pn	**Pn**	**10 32 60.0**	**+0.4**
JMN	**Monobe**	**6.43**	**294**	P	Pn	10 33 05.4	+5.9
JMM	**Marumori**	**6.52**	**359**		**Pn**	**10 33 01.2**	**+0.5**
JMM	**Marumori**	**6.52**	**359**	P	**Pn**	**10 33 01.8**	**+1.1**
JSD	**Sado**	**7.05**	**342**	Pn	**Pn**	**10 33 08.6**	**+0.7**
JSD	**Sado**	**7.05**	**342**	P	**Pn**	**10 33 10.3**	**+2.4**
JMK	**Ichinoseki**	**7.61**	**2**	P	**Pn**	**10 33 16.6**	**+1.0**
JMK				*e*S	**Sn**	**10 34 37.8**	**-4.0**
JNU	**Nakatsue**	**8.71**	**284**	Pn	**Pn**	**10 33 31.7**	**+0.8**
JNU	**Nakatsue**	**8.71**	**284**	Pn	**Pn**	**10 33 35.6**	**+4.7**
	comp=N,0.1nm,0.3s,baz=350,slow=18,SNR=2.0						
JTM	**Tenmabayashi**	**9.44**	**1**	Pn	**Pn**	**10 33 41.2**	**+0.5**
JTM	**Tenmabayashi**	**9.44**	**1**	P	**Pn**	**10 33 43.0**	**+2.3**
ERM	**Erimo**	**10.81**	**9**	Pn	**Pn**	**10 33 59.7**	**+0.2**
ERM	**Erimo**	**10.81**	**9**	P	**Pn**	**10 33 59.8**	**+0.3**
KSRS	**Korea Array**	**12.36**	**303**	Pn	Pn	10 34 26.3	+5.5
	comp=N,0.2nm,0.3s,baz=117,slow=14,SNR=16						
KSRS				LR	LR	10 38 10.2	
	comp=N,143nm,18.1s,baz=325,slow=33						
KSAR	**Wonju Array Be**	**12.39**	**303**	Pn	**Pn**	**10 34 20.7**	**-0.4**
KS19	**Wonju Array Si**	**12.43**	**303**	Pn	**Pn**	**10 34 22.1**	**+0.5**
ASAJ	**Asahikawa**	**12.83**	**5**	Pn	**Pn**	**10 34 26.0**	**-1.1**
	comp=N,1.6nm,0.3s,baz=221,slow=9.8,SNR=13						
JKA	**Kamikawa-asahi**	**12.83**	**5**	Pn	**Pn**	**10 34 26.2**	**-0.9**
USRK	**Ussuriysk Ar.**	**14.66**	**334**	Pn	**Pn**	**10 34 53.6**	**+1.5**
	comp=N,0.1nm,0.3s,baz=172,slow=12,SNR=1.8						
	comp=N,0.9nm,0.7s						
YSS	**Yuzh-Sakhalins**	**15.66**	**5**	Pn	**Pn**	**10 35 05.2**	**-0.2**
YSS				IAmb	IAmb	10 35 13.5	
	comp=Z,31nm,0.8s						
GUMO	**Guam**	**18.02**	**168**	P	**Pn**	**10 35 34.9**	**-0.5**
	comp=Z,51nm,0.6s,baz=61,slow=12,SNR=2.8						
H11S3	**WAKE ISLAND Hy**	**26.54**	**113**	T	T	11 04 57.0	
	baz=309						
H11S1	**WAKE ISLAND Hy**	**26.54**	**113**	T	T	11 04 32.5	
	baz=309						
H11S2	**WAKE ISLAND Hy**	**26.55**	**113**	T	T	11 04 32.9	
	baz=309						
SONM	**Songino Array**	**31.00**	**312**	P	**P**	**10 37 42.9**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=119,slow=

PWL	Port Wells	53.88	35	P	P	10 40 49.0	+1.2
BVAR	Borovoye Array	54.24	315	P	P	10 40 49.0	-1.6
	comp=Z,0.9nm,0.5s,baz=79,slow=7.7,SNR=5.0						
	comp=Z,0.9nm,0.5s						
HDA	Harding Lake	54.53	30	P	P	10 40 52.1	-0.5
HDA				IAmb	IAmb	10 40 57.1	
	comp=Z,2.3nm,0.8s						
ILAR	Eielson Array	54.56	30	P	P	10 40 53.8	+1.0
ILAR	Eielson Array	54.56	30	P	P	10 40 54.0	+1.3
	comp=Z,1.4nm,0.7s,baz=267,slow=6.8,SNR=18						
	comp=Z,1.4nm,0.7s						
AS31	Alice Springs	55.10	188	P	P	10 40 55.5	-1.6
ASAR	Alice Springs	55.10	188	P	P	10 40 55.3	-1.8
ASAR	Alice Springs	55.10	188	P	P	10 40 55.0	-2.1
	comp=Z,0.7nm,0.4s,baz=4.0,slow=5.5,SNR=33						
ASAR				PcP	PcP	10 41 58.4	0.0
	comp=Z,0.5nm,0.8s,baz=11,slow=14,SNR=2.6						
	comp=Z,0.7nm,0.4s						
EYAK	Cordova Ski Ar	55.16	35	P	P	10 40 57.5	+0.4
E25K	Arctic Village	55.19	26	P	P	10 40 57.9	+0.6
KKAR	Karatay Array	55.79	303	P	P	10 41 01.5	-0.5
SCRK	Sand Creek	55.83	31	P	P	10 41 01.7	-0.4
J26L	Joseph Creek	56.00	30	P	P	10 41 03.1	-0.1
J26L				IAmb	IAmb	10 41 06.6	
	comp=Z,2.6nm,0.8s						
MENT	Mentasta	56.00	32	P	P	10 41 04.2	+1.1
MENT				IAmb	IAmb	10 41 31.8	
	comp=Z,4.8nm,1.3s						
K27K	Chicken	56.67	31	P	P	10 41 07.8	-0.1
BCAR	Beaver Creek A	56.87	32	P	P	10 41 11.7	+2.3
EIDS	Eidsvold	57.21	169	P	P	10 41 12.0	-0.1
DAWY	Dawson	57.84	31	P	P	10 41 15.5	-0.8
DAWY				IAmb	IAmb	10 41 44.9	
	comp=Z,4.6nm,1.4s						
E29M	Blow River	58.04	26	P	P	10 41 19.4	+1.9
E29M				IAmb	IAmb	10 41 50.2	
	comp=Z,5.9nm,1.5s						
INK	Inuvik	59.66	25	P	P	10 41 30.6	+1.9
INK				IAmb	IAmb	10 41 44.0	
	comp=Z,6.5nm,1.5s						
M31M	Drury Creek, Y	60.37	32	P	P	10 41 36.2	+2.5
M31M				IAmb	IAmb	10 41 37.0	
	comp=Z,2.7nm,0.7s						
ARTI	Arti	60.55	321	P	P	10 41 35.2	+0.2
ARTI				IAmb	IAmb	10 41 36.4	
	comp=Z,3.8nm,0.6s						
FARO	Faro, Yukon	60.84	32	P	P	10 41 39.6	+2.6
FARO				IAmb	IAmb	10 41 52.6	
	comp=Z,5.2nm,1.4s						
ABKAR	Akbulak array	61.41	313	P	P	10 41 41.0	0.0
ARCES	ARCESS Array B	69.20	340	P	P	10 42 31.1	-0.1
	comp=Z,6.1nm,1.1s,baz=64,slow=6.1,SNR=2.0						
	comp=Z,6.1nm,1.1s						
FINES	FINESS Array B	73.69	333	P	P	10 42 58.3	0.0
	comp=Z,1.4nm,0.3s,baz=64,slow=5.7,SNR=26						
	comp=Z,1.4nm,0.3s						
KBZ	Khabaz	74.36	312	P	P	10 43 02.3	-0.3
	comp=Z,3.1nm,0.8s,baz=94,slow=2.5,SNR=7.4						
	comp=Z,3.1nm,0.8s						
AKASG	Malin Array Be	78.58	323	P	P	10 43 26.4	-0.1
	comp=Z,1.1nm,0.4s,baz=52,slow=5.4,SNR=12						
AKASG				LR	LR	11 19 58.5	
	comp=Z,122nm,18.8s,baz=261,slow=37						
	comp=Z,1.1nm,0.4s						
NVAR	Mina Array Bea	78.76	52	P	P	10 43 30.2	+2.3
	comp=Z,1.1nm,0.6s,baz=287,slow=5.8,SNR=13						
	comp=Z,1.1nm,0.6s						
HFS	Hagfors	79.12	336	P	P	10 43 29.6	+0.4
	comp=Z,2.5nm,0.8s,baz=58,slow=5.6,SNR=7.3						
	comp=Z,2.5nm,0.8s						
NB2	NORSAR Subarra	79.29	338	P	P	10 43 30.1	-0.1
	comp=Z,0.6nm,0.5s,baz=42,slow=5.3						
NOA	NORSAR Array B	79.29	338	P	P	10 43 30.4	+0.2
	comp=Z,0.6nm,0.5s,baz=58,slow=6.9,SNR=4.1						
NOA				LR	LR	11 21 01.2	
	comp=Z,42nm,19.9s,baz=245,slow=38						
	comp=Z,0.6nm,0.5s						
PDAR	Pinedale Array	81.97	45	P	P	10 43 47.4	+2.2
	comp=Z,0.3nm,0.4s,baz=301,slow=2.0,SNR=4.2						
	comp=Z,0.3nm,0.4s						
BRTR	Keskin Array B	82.36	312	P	P	10 43 46.5	-0.6
	comp=Z,0.4nm,0.5s,baz=123,slow=2.4,SNR=2.2						
	comp=Z,0.4nm,0.5s						
RAYN	Ar Rayn	82.48	293	P	P	10 43 50.7	+2.7
MMAI	Mount Meron Ar	84.95	306	LR	LR	11 27 36.9	
	comp=Z,68nm,18.2s,baz=252,slow=40						
TXAR	Lajitas Array	93.91	52	P	P	10 44 45.3	+2.3
	comp=Z,1.5nm,0.7s,baz=301,slow=3.0,SNR=21						
	comp=Z,1.5nm,0.7s						
TORD	Torodi Ar. Bea	120.97	312	PKP	PKPdf	10 50 17.5	-0.7
	comp=Z,0.3nm,0.5s,baz=40,slow=0.5,SNR=2.1						
QSPA	South Pole Qui	121.09	180	PKP	PKPdf	10 50 16.4	-0.4
	comp=Z,1.1nm,0.9s,baz=273,slow=2.0,SNR=9.2						
H03N2	Juan Fernandez	146.40	104	T	T	13 34 54.5	
	baz=283						
H03N3	Juan Fernandez	146.41	104	T	T	13 34 52.5	
	baz=283						
H03N1	Juan Fernandez	146.41	104	T	T	13 34 53.7	
	baz=283						
LPAZ	La Paz	149.59	67	PKPbc	PKPbc	10 51 17.0	+1.1
	comp=Z,1.4nm,0.8s,baz=353,slow=1.6,SNR=5.2						

*CATAC **10** 10:46:44.7±0.6, 12°.72N×90°.33W, h5km, ML3.5*
*SNET **10** 10:46:48.0±1.1, 12°.83N×90°.22W, h16km±8km, ML3.2*
ISC 10 10:46:43.6±3.1, 12°.73N±0°.09×90°.4W±0°.1, h3km±11km, n31, σ0°78/47, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	Jayaque - finc	1.27	44	eP	Pg	10 47 08.4	+0.3
JAYA				IAML		10 47 32.4	
	comp=Z,502nm,0.3s						
JAYA	Jayaque - finc	1.27	44	i P	Pg	10 47 08.2	+0.1
JAYA				i S	Sb	10 47 24.7	-0.6
JAYA				IAML		10 47 32.1	
	comp=Z,2μm,1.0s						
NUBE	Las Nubes	1.29	26	eP	Pg	10 47 08.2	-0.2
NUBE				eS	Sg	10 47 24.4	-0.8
NUBE	Las Nubes	1.29	26	i P	Pg	10 47 07.9	-0.5
NUBE				IAML		10 47 11.5	
	comp=Z,490nm,1.0s						
NUBE				i S	Sg	10 47 24.6	-0.6
CEVE	Cerro Verde	1.30	33	eP	Pg	10 47 09.3	+0.7
CEVE				IAML		10 47 30.4	
	comp=Z,2μm,0.3s						
CEVE	Cerro Verde	1.30	33	i P	Pg	10 47 09.2	+0.6
CEVE				i S	Sn	10 47 27.1	+0.1
CEVE				IAML		10 47 30.0	
	comp=Z,2μm,1.0s						
LOAL	Lomas de Alarc	1.38	24	i P	Pn	10 47 09.8	0.0
LOAL				i S	Sb	10 47 26.7	-1.5
LOAL				IAML		10 47 39.6	
	comp=Z,2μm,1.0s						
PMON	Piamonte	1.41	46	i P	Pn	10 47 10.4	+0.1
PMON				i S	Sn	10 47 31.2	+1.8
PMON				IAML		10 47 43.2	
	comp=Z,1μm,1.0s						
PANCS	Alcalda de	1.44	53	i P	Pn	10 47 11.2	+0.5
PANCS				IAML		10 47 22.1	
	comp=Z,4μm,1.0s						
BOQS	Boqueron	1.45	46	eP	Pn	10 47 11.3	+0.4
BOQS				IAML		10 47 38.5	
	comp=Z,226nm,0.3s						
UEES	Universidad Ev	1.46	48	eP	Pn	10 47 11.2	+0.1
LOMA	Loma Larga	1.47	52	eP	Pn	10 47 11.2	+0.1
LOMA	Loma Larga	1.47	52	i P	Pn	10 47 11.1	0.0
LOMA				IAML		10 47 33.1	
	comp=Z,390nm,1.0s						
UNIC	Universidad Ca	1.47	32	eP	Pn	10 47 10.8	-0.4
UNIC				IAML		10 47 12.7	
	comp=Z,173nm,0.2s						
UNIC	Universidad Ca	1.47	32	i P	Pn	10 47 10.7	-0.4
UNIC				i S	Sn	10 47 30.7	-0.2
UNIC				IAML		10 47 32.7	
	comp=Z,280nm,1.0s						
QUEZ	Alcaldia de Qu	1.52	44	i S	Sg	10 47 34.0	+1.4
PAVA	Las Pavas	1.69	55	i P	Pn	10 47 14.8	+0.6
PAVA				IAML		10 47 43.9	
	comp=Z,520nm,1.0s						
JUAM	Asuncion Mita	1.72	22	i P	Pn	10 47 15.4	+0.9
JUAM				i S	Sn	10 47 37.1	+0.2
JUAM				IAML		10 48 13.0	
	comp=Z,690nm,1.0s						
TECO	Alcaldia de Te	1.73	62	i P	Pn	10 47 14.8	+0.1
TECO				i S	Sn	10 47 37.4	+0.1
TECO				IAML		10 47 48.5	
	comp=Z,130nm,1.0s						
UESV	Universidad de	1.77	59	i P	Pn	10 47 15.7	+0.4
UESV				i S	Sb	10 47 39.2	-0.3
UESV				IAML		10 47 54.2	
	comp=Z,350nm,1.0s						
SCLA	Alcaldia de Sa	1.86	59	i P	Pn	10 47 17.1	+0.7
SCLA				i S	Sb	10 47 41.4	-0.5
SCLA				IAML		10 47 56.4	
	comp=Z,150nm,1.0s						
MTO3	Montecristo	1.92	30	eP	Pn	10 47 17.8	+0.3
MTO3	Montecristo	1.92	30	i P	Pn	10 47 17.7	+0.3
MTO3				IAML		10 47 22.1	
	comp=Z,250nm,1.0s						
MTO3				i S	Sb	10 47 43.7	-0.2
TECA	Tecapa	1.96	67	eP	Pn	10 47 18.7	+0.7
LLGN	La Laguna	1.98	44	i P	Pn	10 47 19.6	+1.5
LLGN				IAML		10 48 16.0	
	comp=Z,230nm,1.0s						
ESQI	Esquipulas	2.07	28	eP	Pn	10 47 21.1	+1.7
ESQI	Esquipulas	2.07	28	i P	Pn	10 47 20.6	+1.2
ESQI				i S	Sg	10 47 49.3	-0.9
ESQI				IAML		10 48 13.0	
	comp=Z,340nm,1.0s						
LCND	La Caada	2.47	76	eP	Pn	10 47 25.8	+0.9
LCND				eS	Sn	10 47 54.4	-1.2
LCND	La Caada	2.47	76	i P	Pn	10 47 25.7	+0.9
LCND				IAML		10 48 09.3	
	comp=Z,140nm,1.0s						
CNCH	Conchagua	2.52	77	i P	Pn	10 47 26.3	+0.7
CNCH				i S	Sn	10 47 57.5	+0.6
CNCH				IAML		10 48 13.8	
	comp=Z,330nm,1.0s						
CRIN	San Cristobal	3.23	90	i P	Pn	10 47 34.8	-0.5
CRIN				i S	Sn	10 48 13.2	-1.1
CRIN				IAML		10 48 27.9	
	comp=Z,240nm,1.0s						

*IDC **10** 10:47:38.8±1.6, 37°.62N×20°.32E, h0km, mb3.5/6, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=43.6km s-min=24.5km az=119.0*
*THE **10** 10:47:41.5, 37°.53N×20°.38E, h0km±6km, ML3.3/7, Error ellipse: s-maj=7.4km s-min=1.3km az=222.0*
*ATH **10** 10:47:42.4, 37°.57N×20°.40E, h8km±2km, ML3.2/8, Error ellipse: s-maj=3.0km s-min=0.9km az=34.0*
ISC 10 10:47:41.9±1.5, 37°.59N±0°.04×20°.39E±0°.05, h18km±5km, n36, σ0°92/53, mb3.6/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.37	71	P	Pg	10 47 49.2	-0.4
LTHK				S	Sg	10 47 54.8	-0.1
	13μm,0.4s						
LTHK	Lithakia	0.37	71	P	Pg	10 47 49.3	-0.4
LTHK				S	Sg	10 47 54.9	-0.1
LTHK				AML	AML	10 47 55.2	
	comp=E,31200μm,0.5s						
LTHK				AML	AML	10 47 56.3	
	comp=N,17408μm,0.3s						
PSDA	Pessada-Kefalo	0.54	16	P	Pb	10 47 52.9	0.0
PSDA				S	Sn	10 48 01.9	-1.5
	comp=N,2μm,0.3s						
PSDA	Pessada-Kefalo	0.54	16	P	Pb	10 47 53.1	+0.2
PSDA				S	Sb	10 48 00.7	+0.3
RTZL	Ratzakli, Kefa	0.57	32	P	Pg	10 47 53.0	-0.2
RTZL				S	Sn	10 48 02.6	-1.5
	comp=N,2μm,0.7s						
VLS	Valsamata	0.61	15	P	Pg	10 47 53.8	-0.1
VLS				S	Sn	10 48 03.5	-1.5
	comp=N,2μm,0.4s						
VLS	Valsamata	0.61	15	P	Pb	10 47 54.1	+0.1
VLS				S	Sb	10 48 02.6	+0.4
VLS				AML	AML	10 48 08.2	
	comp=E,2416μm,0.5s						
VLS				AML	AML	10 48 09.3	
	comp=N,3415μm,0.4s						
DMLN	Damoulianata-K	0.65	359	P	Pb	10 47 55.1	+0.4
DMLN	Damoulianata-K	0.65	359	P	Pb	10 47 55.0	+0.3
DMLN				S	Sb	10 48 04.0	+0.6
VSK1	VASILIKIADES	0.83	9	P	Pg	10 47 58.0	-0.1
VSK1				S	Sn	10 48 12.1	+1.6
	comp=N,2μm,0.7s						
FSK	Fiskardo	0.88	9	P	Pb	10 47 58.8	+0.2
FSK				S	Sn	10 48 11.5	-0.1
FSK				AML	AML	10 48 19.2	
	comp=N,1902μm,0.5s						
FSK				AML	AML	10 48 20.7	
	comp=E,1925μm,0.7s						
RLS	Riolos of Patr	0.97	61	P	Pb	10 48 00.1	-0.1
RLS				S	Sn	10 48 15.2	+1.3
	comp=E,1μm,0.7s						
RLS	Riolos of Patr	0.97	61	P	Pb	10 48 00.3	+0.2
RLS				S	Sg	10 48 13.4	-0.1
RLS				AML	AML	10 48 19.9	
	comp=E,2171μm,0.7s						
RLS				AML	AML	10 48 21.7	
	comp=N,2541μm,0.9s						
AMT	Artemida-Makis	1.05	93	P	Pb	10 48 01.8	+0.3
AMT				S	Sn	10 48 16.2	+0.3
AMT				AML	AML	10 48 20.9	
	comp=N,4944μm,0.4s						
AMT				AML	AML	10 48 23.9	
	comp=E,6097μm,0.4s						
EVGI	Lefkada island	1.05	11	P	Pn	10 48 02.0	+0.3
DRO	Drossia	1.11	71	P	Pn	10 48 02.9	+0.4
DRO				S	Sg	10 48 20.2	+2.4
	comp=E,2μm,0.5s						
DRO	Drossia	1.11	71	P	Pn	10 48 03.1	+0.6
DRO				S	Sg	10 48 18.0	+0.2
DRO				AML	AML	10 48 26.8	
	comp=E,3636μm,0.6s						
DRO				AML	AML	10 48 27.5	
	comp=N,5950μm,0.5s						
LKD2	Lefkada island	1.21	10	P	Pg	10 48 06.4	+1.0
TSLK	Tsoukalades, L	1.25	9	P	Pg	10 48 05.7	-0.3
PYL	PYLOS	1.28	122	P	Pn	10 48 05.4	+0.5
PYL				S	Sb	10 48 22.3	+0.7
PYL				AML	AML	10 48 29.7	
	comp=N,688μm,0.6s						
PYL				AML	AML	10 48 29.9	
	comp=E,1301μm,0.5s						
ITM	Ithomi	1.29	108	P	Pb	10 48 06.1	+0.5
ITM				S	Sb	10 48 21.8	-0.1
ITM				AML	AML	10 48 32.0	
	comp=N,1043μm,0.7s						
ITM				AML	AML	10 48 33.7	
	comp=E,1272μm,0.5s						
EFP	Efpalio	1.46	55	P	Pb	10 48 08.1	-0.4
EFP	Efpalio	1.46	55	P	Pn	10 48 07.9	+0.6
KLV	Kalavryta, Ach	1.46	71	P	Pb	10 48 08.9	+0.3
ANX	Ano Chora	1.57	50	P	Pb	10 48 10.4	0.0
GUR	Goura	1.58	77	P	Pb	10 48 11.1	+0.4
GUR	Goura	1.58	77	P	Pb	10 48 10.8	+0.1
OHR	Ohrid	3.53	5	i Pn	Pb	10 48 45.1	+1.3
VAY	Valandovo	4.09	24	i Pn	Pb	10 48 51.4	-1.9
MLR	Muntele Rosu	8.92	26	Pn	Pn	10 49 52.2	+2.3
	comp=E,0.1nm,0.3s,baz=260,slow=8.0,SNR=5.8						
	comp=E,3.2nm,0.8s						
HFS	Hagfors	22.96	351	P	P	10 52 44.5	-0.5
	comp=E,2.7nm,0.9s,baz=165,slow=12,SNR=1.5						
	comp=E,2.7nm,0.9s						
FINES	FINESS Array B	24.14	7	P	P	10 52 54.4	-2.1
	comp=E,2.8nm,0.9s,baz=190,slow=7.7,SNR=4.7						
	comp=E,2.8nm,0.9s						
NOA	NORSAR Array B	24.17	349	P	P	10 52 55.6	-1.3
	comp=E,0.7nm,0.9s,baz=161,slow=8.6,SNR=1.8						
	comp=E,0.7nm,0.9s						
TORD	Torodi Ar. Bea	29.51	219	P	P	10 53 45.5	+0.2
	comp=E,0.2nm,0.5s,baz=32,slow=9.2,SNR=2.1						
	comp=E,0.2nm,0.5s						
MKAR	Makanchi Array	45.70	58	P	P	10 56 00.1	-1.5
	comp=E,0.4nm,0.7s,baz=288,slow=5.9,SNR=3.0						
	comp=E,0.4nm,0.7s						
ZALV	Zalesovo Beam	46.16	48	P	P	10 56 05.7	+0.5
	comp=E,0.6nm,0.5s,baz=258,slow=6.6,SNR=1.7						
	comp=E,0.6nm,0.5s						

*IDC **10** 10:52:34.0±2.2, 17°.68S×178°.34W, h462km±23km, mb3.0/8, mbtmp3.8/9, Error ellipse: s-maj=24.4km s-min=18.9km az=128.0*
ISC 10 10:52:32.9±0.9, 17°.7S±0°.2×178°.3W±0°.2, h450km, n9, σ1°19/11, mb3.3/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.52	269	P	P	10 53 46.1	+2.0
	4.0nm,0.5s,baz=106,slow=7.4,SNR=1.8						
STKA	Stephens Creek	38.87	241	P	P	10 59 16.9	-1.2
	0.7nm,0.5s,baz=75,slow=12,SNR=1.6						
	0.7nm,0.5s						
WRA	Warramunga Arr	44.82	259	P	P	11 00 04.5	-1.2
	0.2nm,0.4s,baz=98,slow=7.1,SNR=7.7						
WRA				PcP	PcP	11 01 39.7	+1.2
	0.2nm,0.6s,baz=97,slow=5.1,SNR=2.1						
	0.2nm,0.4s						
ASAR	Alice Springs	44.99	254	P	P	11 00 06.5	-0.6
	2.1nm,0.6s,baz=90,slow=8.1,SNR=31						
ASAR				PcP	PcP	11 01 39.4	+0.4
	0.4nm,0.8s,baz=117,slow=4.4,SNR=2.4						
	2.1nm,0.6s						
MJAR	Matsushiro Arr	67.82	323	P	P	11 02 45.1	+0.1
	1.8nm,0.6s,baz=150,slow=5.8,SNR=7.8						
	1.8nm,0.6s						
QSPA	South Pole Qui	72.36	180	P	P	11 03 12.0	+0.2
	3.2nm,0.7s,baz=326,slow=0.4,SNR=23						
	3.2nm,0.7s						
NVAR	Mina Array Bea	79.17	44	P	P	11 03 50.3	0.0
	0.3nm,0.6s,baz=227,slow=7.9,SNR=4.2						
	0.3nm,0.6s						
ILAR	Eielson Array	85.64	13	P	P	11 04 21.0	-1.4
	0.4nm,0.6s,baz=222,slow=5.8,SNR=7.8						
	0.4nm,0.6s						
TXAR	Lajitas Array	85.75	58	P	P	11 04 24.6	+0.8
	0.3nm,0.8s,baz=236,slow=6.4,SNR=2.1						
	0.3nm,0.8s						

*SJA **10** 11:05:40.4±0.7, 30°.66S×71°.78W, h18km±2km, ML3.5, MW3.6*
*GUC **10** 11:05:42.8±0.8, 30°.66S×71°.74W, h33km±2km, ML3.6*
ISC 10 11:05:42.3±1.2, 30°.65S±0°.02×71°.81W±0°.04, h20km±2km, n41, σ1°69/73, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	Fray Jorge	0.15	97	eP	Pb	11 05 47.8	0.0
CO06				i S	Sb	11 05 51.1	-0.5
CO05	La Serena	0.89	34	eP	Pb	11 05 58.3	-0.7
CO05				i S	Sb	11 06 10.2	-0.2
CO05				IAML		11 06 12.0	
	comp=N,4μm,0.3s						
CO03	El Pedregal	0.98	101	eP	Pb	11 05 59.3	-1.5
CO03				i S	Sb	11 06 11.6	-1.7
CO03				IAML		11 06 11.9	
	comp=E,5μm,0.3s						
CO03	El Pedregal	0.98	101	eP	Pb	11 05 59.1	-1.6
CO03				eS	Sb	11 06 11.8	-1.5
CO03				IAML		11 06 12.4	
	comp=Z,2μm,0.3s						
GO04	Tololo Observa	1.00	62	eP	Pb	11 05 60.0	-1.1
GO04				i S	Sb	11 06 12.6	-1.3
GO04	Tololo Observa	1.00	62	eP	Pb	11 05 59.2	-1.8
GO04				eS	Sn	11 06 15.1	0.0
CO04	Los Peladeros	1.56	153	eP	Pn	11 06 08.5	-0.6
CO04				i S	Sn	11 06 29.1	+0.2
CO04				IAML		11 06 32.6	
	comp=N,2μm,0.2s						
CO01	Juntas del Tor	1.63	66	eP	Pn	11 06 10.3	+0.2
CO01				i S	Sn	11 06 30.9	+0.3
CO01	Juntas del Tor	1.63	66	eP	Pn	11 06 10.1	0.0
CO01				eS	Sb	11 06 32.2	+0.1
CO01				IAML		11 06 33.1	
	comp=Z,440nm,0.2s						
LCO	Las Campanas	1.90	31	eP	Pn	11 06 13.4	-0.5
LCO				i S	Sn	11 06 37.5	+0.2
LCO	Las Campanas	1.90	31	eP	Pn	11 06 13.5	-0.3
LCO				eS	Sb	11 06 39.6	-0.3
LCO				IAML		11 06 45.7	
	comp=Z,722nm,0.3s						
AROD	Rodeo	2.08	77	eP	Pb	11 06 18.8	-0.8
AROD				eS	Sb	11 06 45.6	+0.5
VA03	San Esteban	2.36	153	eP	Pn	11 06 20.9	+0.9
VA03				i S	Sn	11 06 50.3	+1.9
VA03				IAML		11 06 58.1	
	comp=N,665nm,0.2s						
VA03	San Esteban	2.36	153	eP	Pn	11 06 20.9	+0.9
VA03				eS	Sn	11 06 47.9	-0.6
VA03				IAML		11 07 02.0	
	comp=Z,281nm,0.3s						
VA01	Torpederas	2.37	177	eP	Pn	11 06 02.5	-17
VA01				eS	Sn	11 06 50.2	+1.9
VA01				IAML		11 06 60.0	
	comp=Z,110nm,0.6s						
DOCA	Reserva Natura	2.37	98	eP	Pn	11 06 20.4	0.0
DOCA				eS	Sn	11 06 50.9	+1.9
ACCO	Cerro Coronel	2.37	89	eP	Pb	11 06 23.2	-1.3
ACCO				eS	Sn	11 06 32.3	-17
ACDV	Cuesta del Vie	2.38	79	eP	Pb	11 06 23.4	-1.1
ACDV				eS	Sb	11 06 55.2	+1.8
ACDV				IAML		11 07 03.3	
	comp=Z,178nm,0.6s						
ROC1	El Roble	2.41	164	eS	Sn	11 06 51.0	+1.1
RTLS	Leoncito	2.44	119	eP	Pn	11 06 21.5	+0.3
RTLS				eS	Sn	11 06 51.8	+1.2
AC04	Llanos de Chal	2.52	15	eP	Pn	11 06 21.4	-0.8
AC04				eS	Sn	11 06 51.9	-0.4
AC04				IAML		11 07 09.9	
	comp=E,194nm,0.2s						
AC04	Llanos de Chal	2.52	15	eP	Pn	11 06 21.4	-0.8
AC04				eS	Sn	11 06 54.4	+2.1
AC04				IAML		11 07 06.2	
	comp=Z,186nm,0.8s						
MT02	Curacav	2.66	168	eP	Pn	11 06 25.3	+1.2
MT02				eS	Sn	11 06 56.9	+1.2
MT02				IAML		11 07 08.9	
	comp=N,144nm,0.3s						
MT02	Curacav	2.66	168	eP	Pn	11 06 24.4	+0.4
MT02				eS	Sn	11 06 56.5	+0.8
MT02				IAML		11 07 11.2	
	comp=Z,138nm,0.3s						
PEL	Peldehue	2.66	159	eP	Pn	11 06 24.9	+0.8
PEL				i S	Sn	11 06 56.5	+0.8
PEL				IAML		11 07 07.3	
	comp=E,314nm,0.3s						
PEL	Peldehue	2.66	159	eP	Pn	11 06 24.8	+0.7
PEL				eS	Sn	11 06 56.3	+0.5
ZON	Zonda	2.83	109	eP	Pn	11 06 28.8	+2.3
ZON				IAML		11 07 18.5	
	comp=Z,117nm,0.5s						
MT05	Renca	2.88	162	eP	Pn	11 06 29.7	+2.6
MT05				eS	Sb	11 07 05.6	-2.2
MT05				IAML		11 07 13.7	
	comp=Z,177nm,0.3s						
RTLL	Cerro Villicun	2.94	104	eP	Pn	11 06 25.4	-2.6
RTLL				eS	Sn	11 07 04.4	+1.6
MT03	Universidad Ad	3.04	159	i S	Pn	11 06 30.8	+1.4
MT03				i P	Sn	11 07 04.7	-0.5

ACLC IAML 11 07 53.2
comp=Z,88nm,0.4s
AC01 Pan de Azucar 4.62 14 *e*P **Pn 11 06 48.6 -2.3**
AC01 *e*S **Sb 11 07 55.5 -2.2**
AC01 IAML 11 08 13.4
comp=Z,45nm,0.5s

*DJA **10** 11:26:35.1±0.5,9°S±4°×12°1E±°,h183km±7km,M4.0/13, MLv4.0/13*
*IDC **10** 11:26:35.7±1.2,8°34S×121°10E,h204km±11km,mb3.6/10, mbtmp4.1/15,Error ellipse: s-maj=33.2km s-min=8.0km az=56.0*
*NEIC **10** 11:26:36.2±1.5,8°50S±0°08×120°88E±0°09,h190km±1km, mb4.1/20,Error ellipse: s-maj=14.7km s-min=9.8km az=54.0*
ISC 10 11:26:35.8±0.4,**8°60S**±0°04×**120°83E**±0°04,**h200**km,**n76,** σ**1**°**73**/84,**mb4.1**/18,**Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.39**	**92**	Pn	**Pn**	**11 27 07.4**	**-1.2**
MMRI	**Maumere**	**1.39**	**92**	P	**Pn**	**11 27 07.1**	**-1.5**
MMRI				S	**Sn**	11 27 31.4	-2.5
BASI	**Baing, Sumba**	**1.63**	**189**	P	**Pn**	**11 27 09.4**	**-1.3**
BASI				S	**Sn**	11 27 36.0	-2.0
WBSI	**Waikabubak, Su**	**1.76**	**234**	P	**Pn**	**11 27 09.8**	**-2.2**
WBSI				S	**Sn**	11 27 36.1	-4.1
BSSI	**Bau Bau, Buton**	**2.46**	**352**	P	**Pn**	**11 27 16.9**	**-2.5**
PLAI	**Plampang**	**3.03**	**265**	P	**Pn**	**11 27 24.6**	**-1.3**
PLAI	**Plampang**	**3.03**	**265**	P	**Pn**	**11 27 24.5**	**-1.3**
PLAI				S	**Sn**	11 28 01.3	-3.6
BATI	**Baumata**	**3.22**	**120**	P	**Pn**	**11 27 27.6**	**-0.6**
	102nm,0.5s,baz=281,slow=4.3,SNR=20						
BATI				S	**Sn**	**11 28 06.3**	**-2.7**
	97nm,0.3s,baz=72,slow=20,SNR=4.2						
BATI	**Baumata**	**3.22**	**120**	P	**Pn**	**11 27 27.4**	**-0.7**
BKSI	**Bulukumba**	**3.33**	**348**	P	**Pn**	**11 27 28.5**	**-1.0**
SOEI	**Soe**	**3.58**	**109**	Pn	**Pn**	**11 27 32.3**	**-0.3**
SOEI	**Soe**	**3.58**	**109**	P	**Pn**	**11 27 32.1**	**-0.5**
SOEI				S	**Sn**	11 28 14.7	-2.3
KAPI	**Kappang**	**3.72**	**343**	P	**Pn**	**11 27 34.0**	**-0.2**
	10nm,0.7s,baz=147,slow=10,SNR=5.3						
BNSI	**Bone**	**4.23**	**350**	P	**Pn**	**11 27 40.4**	**-0.2**
SPSI	**Sidrap Palu**	**4.72**	**347**	P	**Pn**	**11 27 46.5**	**-0.3**
UGM	**Wanagama**	**10.23**	**273**	Pn	**Pn**	**11 28 59.3**	**+1.1**
KNRA	**Kununurra**	**10.47**	**133**	Pn	**Pn**	**11 29 00.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**10.54**	**154**	Pn	**Pn**	**11 29 02.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**10.54**	**154**	P	**Pn**	**11 29 02.0**	**0.0**
	2.0nm,0.3s,baz=338,slow=9.0,SNR=32						
FITZ				S	**Sn**	**11 30 55.6**	**-4.1**
	3.4nm,0.4s,baz=199,slow=14,SNR=2.4						
MTN	**Manton Dam**	**10.96**	**114**	Pn	**Pn**	**11 29 07.3**	**-0.3**
KDU	**Kakadu**	**12.14**	**111**	P	**Pn**	**11 29 22.4**	**-0.2**
MBWA	**Marble Bar**	**12.53**	**185**	Pn	**Pn**	**11 29 28.1**	**+0.6**
MBWA	**Marble Bar**	**12.53**	**185**	P	**Pn**	**11 29 28.1**	**+0.6**
FAKI	**Fak Fak**	**12.68**	**64**	Pn	**Pn**	**11 29 28.0**	**-1.4**
FAKI	**Fak Fak**	**12.68**	**64**	P	**Pn**	**11 29 29.1**	**-0.3**
BBJI	**Bungbulang**	**13.10**	**274**	P	**Pn**	**11 29 36.4**	**+1.6**
MYLDM	**Lahad Datu**	**13.88**	**350**	Pn	**Pn**	**11 29 42.3**	**-2.1**
KKM	**Kota Kinabalu**	**15.26**	**342**		**P**	**11 30 01.8**	**0.0**
KKM	**Kota Kinabalu**	**15.26**	**342**	P	**P**	**11 30 02.7**	**+0.9**
WB0	**Warramunga Arr**	**17.19**	**132**	P	**P**	**11 30 23.5**	**+0.5**
WB0				IAmb	IAmb	11 30 24.3	
	comp=Z,4.1nm,0.6s						
WRA	**Warramunga Arr**	**17.26**	**132**	P	**P**	**11 30 24.1**	**+0.3**
WRA	**Warramunga Arr**	**17.26**	**132**	P	**P**	**11 30 24.0**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=312,slow=10,SNR=56						
WRA				S	**S**	**11 33 29.7**	**-3.4**
	comp=Z,3.3nm,0.9s,baz=300,slow=22,SNR=8.0						
WRAB	**Tennant Creek**	**17.26**	**132**	P	**P**	**11 30 24.6**	**+0.9**
WB2	**Warramunga Arr**	**17.27**	**132**	P	**P**	**11 30 24.5**	**+0.7**
WB2				IAmb	IAmb	11 30 26.0	
	comp=Z,3.6nm,0.8s						
WR0	**Warramunga Arr**	**17.42**	**132**	P	**P**	**11 30 26.2**	**+0.8**
WR0				IAmb	IAmb	11 30 27.9	
	comp=Z,6.0nm,0.7s						
WRKA	**Warakurna**	**17.83**	**157**	P	**P**	**11 30 32.0**	**+2.1**
AS31	**Alice Springs**	**19.52**	**142**	P	**P**	**11 30 49.7**	**+1.4**
ASAR	**Alice Springs**	**19.52**	**142**	P	**P**	**11 30 49.8**	**+1.6**
ASAR	**Alice Springs**	**19.52**	**142**	P	**P**	**11 30 49.4**	**+1.1**
	comp=Z,3.6nm,0.3s,baz=326,slow=12,SNR=99						
ASAR				S	**S**	**11 34 17.6**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=330,slow=26,SNR=5.6						
AS01	**Alice Springs**	**19.55**	**142**	P	**P**	**11 30 49.4**	**+0.8**
	comp=Z,13nm,1.1s						
MORW	**Morawa**	**20.86**	**192**	P	**P**	**11 31 04.0**	**+1.6**
MORW				IAmb	IAmb	11 31 28.1	
	comp=Z,8.3nm,1.1s						
MORW	**Morawa**	**20.86**	**192**	P	**P**	**11 31 03.9**	**+1.6**
QIS	**Mount Isa**	**21.68**	**125**	P	**P**	**11 31 11.9**	**+0.8**
COEN	**Coen**	**22.54**	**106**	P	**P**	**11 31 19.2**	**-0.1**
COEN				IAmb	IAmb	11 31 20.2	
	comp=Z,5.4nm,0.5s						
COEN	**Coen**	**22.54**	**106**	P	**P**	**11 31 20.7**	**+1.4**
FORT	**Forrest**	**23.08**	**164**	P	**P**	**11 31 25.9**	**+2.0**
FORT	**Forrest**	**23.08**	**164**	P	**P**	**11 31 25.6**	**+1.7**
OOD	**Oodnadatta**	**23.70**	**146**	P	**P**	**11 31 31.1**	**+1.5**
MULG	**Mulgathing**	**24.87**	**152**	P	**P**	**11 31 41.7**	**+1.5**
BBOO	**Buckleboo**	**27.91**	**152**	P	**P**	**11 32 08.8**	**+1.3**
STKA	**Stephens Creek**	**30.15**	**143**	P	**P**	**11 32 29.0**	**+1.8**
STKA				IAmb	IAmb	11 32 29.4	
	comp=Z,1.1nm,0.4s						
STKA	**Stephens Creek**	**30.15**	**143**	P	**P**	**11 32 28.6**	**+1.4**
	comp=Z,4.2nm,0.3s,baz=327,slow=9.2,SNR=19						
	comp=Z,4.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**34.49**	**321**	P	**P**	**11 33 05.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**34.49**	**321**	P	**P**	**11 33 04.8**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=149,slow=6.3,SNR=5.5						
	comp=Z,0.8nm,0.8s						
ARMA	**Armidale**	**36.04**	**131**	P	**P**	**11 33 19.3**	**+0.9**
ARMA				IAmb	IAmb	11 33 25.4	
	comp=Z,4.3nm,1.0s						
TOO	**Toolangi**	**36.46**	**146**	P	**P**	**11 33 24.4**	**+2.7**
PZH	**PanZhiHua**	**39.51**	**333**	P	**P**	**11 33 51.1**	**+3.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
KOUNC	**Koumac, New Ca**	**43.57**	**111**	P	**P**	**11 34 20.9**	**+0.5**
DZM	**Mont Dzumac**	**45.80**	**112**	P	**P**	**11 34 36.8**	**-1.3**
DZM				IAmb	IAmb	11 35 04.1	
	comp=Z,10nm,1.1s						
HHC	**Hu-ho-hao-te**	**49.94**	**351**	*e*P	P	11 35 14.3	+4.8
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,160nm,4.0s						
SONM	**Songino Array**	**57.62**	**349**	P	**P**	**11 36 03.0**	**-2.1**
	comp=Z,0.4nm,0.4s,baz=139,slow=6.8,SNR=2.0						
	comp=Z,0.4nm,0.4s						
BKZ	**Black Stump Fm**	**58.19**	**131**	P	**P**	**11 36 10.8**	**+1.6**
BKZ				IAmb	IAmb	11 36 26.3	
	comp=Z,6.5nm,1.1s						
KSH	**Kashi**	**63.38**	**322**	P	**P**	**11 36 48.8**	**+4.6**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**64.94**	**332**	P	**P**	**11 36 52.7**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=150,slow=8.1,SNR=7.8						
	comp=Z,0.8nm,0.6s						
WSAR	**Wadi Sarin**	**68.53**	**299**	P	**P**	**11 37 15.7**	**-1.6**
	comp=Z,2.2nm,0.8s,baz=180,slow=5.1,SNR=1.8						
	comp=Z,2.2nm,0.8s						
PETK	**Petropavlovsk-**	**68.99**	**23**	P	**P**	**11 37 20.4**	**+1.0**
PETK	**Petropavlovsk-**	**68.99**	**23**	P	**P**	**11 37 18.7**	**-0.7**
	comp=Z,4.6nm,1.0s,baz=242,slow=7.7,SNR=3.2						
	comp=Z,4.6nm,1.0s						
ZAA0	**Zalesovo Array**	**69.33**	**338**	P	**P**	**11 37 19.5**	**-1.9**
ZAA0				IAmb	IAmb	11 37 19.7	
	comp=Z,1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**69.33**	**338**	P	**P**	**11 37 19.4**	**-2.0**
ZALV	**Zalesovo Beam**	**69.33**	**338**	P	**P**	**11 37 18.6**	**-2.8**
	comp=Z,2.1nm,0.5s,baz=137,slow=5.0,SNR=12						
	comp=Z,2.1nm,0.5s						
KURBB	**Kurchatov Arra**	**69.43**	**333**	P	**P**	**11 37 20.7**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=128,slow=6.2,SNR=4.3						
	comp=Z,0.3nm,0.3s						
KURK	**Kurchatov**	**69.45**	**333**	P	**P**	**11 37 21.1**	**-1.2**
BVAR	**Borovoye Array**	**74.81**	**331**	P	**P**	**11 37 52.6**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=133,slow=7.1,SNR=4.4						
	comp=Z,0.4nm,0.3s						
ABKAR	**Akbulak array**	**78.29**	**324**	P	**P**	**11 38 12.2**	**-1.4**
QSPA	**South Pole Qui**	**81.39**	**180**	P	**P**	**11 38 32.0**	**+1.8**
QSPA	**South Pole Qui**	**81.39**	**180**	P	**P**	**11 38 31.6**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=304,slow=2.1,SNR=17						
	comp=Z,0.9nm,0.5s						

*SSNC **10** 11:53:23.6±1.7,19°74N×76°98W,h4km±10km,MD2.8, ML2.9,MW2.9*
*OSPL **10** 11:53:24.1±0.6,19°58N×76°88W,h0km±119km,ML2.3*
*JSN **10** 11:53:25.8±1.0,19°72N×77°00W,h30km±34km,MD3.4*
ISC 10 11:53:20.9±1.6,**19°75N**±0°04×**76°97W**±0°06,**h12**km±12km, **n14,** σ**0**°**93**/22,**1C,Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMGC	**Las Mercedes**	**0.32**	**353**	*e*P	**Pb**	**11 53 28.6**	**0.0**
CHIV	**Chivirico**	**0.57**	**66**	*e*P	**Pn**	**11 53 34.8**	**0.0**
CHIV				*e*S	**Sb**	**11 53 42.0**	**+1.2**
CHIV				IAML		11 53 44.5	
	comp=E,198nm,0.1s						
CHIV				IAML		11 53 44.6	
	comp=N,258nm,0.1s						
MARVS	**Santiago de Cu**	**1.03**	**76**	*e*P	**Pn**	**11 53 41.5**	**+0.3**
RCC	**Rio Carpintero**	**1.22**	**78**	*e*P	**Pg**	**11 53 44.4**	**0.0**
RCC				*e*S	**Sb**	**11 53 59.7**	**+0.1**
RCC				IAML		11 54 04.1	
	comp=E,37nm,0.1s						
RCC				IAML		11 54 04.2	
	comp=N,43nm,0.1s						
PINC	**Pinares de May**	**1.33**	**56**	*e*P	**Pg**	**11 53 46.3**	**-0.1**
PINC				*e*S	**Sg**	**11 54 03.3**	**-0.4**
HLGC	**Holguin**	**1.42**	**37**	*e*P	**Pb**	**11 53 46.8**	**-0.6**
HLGC				*e*S	**Sn**	**11 54 04.2**	**-1.0**
HLGC				IAML		11 54 08.5	
	comp=N,105nm,0.3s						
HLGC				IAML		11 54 08.5	
	comp=E,151nm,0.5s						
MTDJ	**Mount Denham**	**1.60**	**200**	*i* P	**Pb**	**11 53 50.3**	**-0.3**
MTDJ				*e*S	**Sn**	**11 54 09.1**	**-0.8**
MTDJ				IAML		11 54 12.9	
	comp=Z,22nm,0.3s						
STH	**Stony Hill**	**1.67**	**175**	*i* P	**Pb**	**11 53 51.3**	**-0.3**
STH	**Stony Hill**	**1.67**	**175**	*e*P	**Pb**	**11 53 51.2**	**-0.3**
STH				*e*S	**Sn**	**11 54 10.7**	**-0.6**
STH				IAML		11 54 11.4	
	comp=E,10μm,0.1s						
STH				IAML		11 54 11.5	
	comp=N,18μm,0.1s						
GTBY	**Guantanamo Bay**	**1.75**	**84**	*i* P	**Pb**	**11 53 52.8**	**-0.3**
GTBY	**Guantanamo Bay**	**1.75**	**84**	*i* P	**Pb**	**11 53 52.8**	**-0.3**
GTBY				*e*S	**Sb**	**11 54 14.6**	**-0.4**
GTBY				IAML		11 54 23.3	
	comp=Z,32nm,1.1s						
QMBU	**Quimbuelo**	**2.08**	**77**	*e*P	**Pn**	**11 53 56.0**	**+0.4**
QMBU				*e*S	**Sn**	**11 54 20.5**	**-0.9**
QMBU				IAML		11 54 29.7	
	comp=E,23nm,0.2s						
QMBU				IAML		11 54 30.7	
	comp=N,24nm,0.3s						
MASC	**Masc**	**2.61**	**80**	*e*P	**Pn**	**11 54 05.1**	**+2.2**
MASC	**Masc**	**2.61**	**80**	*i* P	**Pn**	**11 54 05.1**	**+2.2**
MASC				IAML		11 54 46.6	
	comp=Z,23nm,2.1s						

*ISK **10** 12:00:18.8,38°39N×36°22E,h5km,ML3.4/22*
*AFAD **10** 12:00:19.2±0.0,38°37N×36°18E,h15km±2km,MW3.5*
ISC 10 12:00:18.9±1.0,**38°39N**±0°02×**36°20E**±0°02,**h10**km±9km, **n53,** σ**0**°**68**/80,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAIM	**ADANA**	**0.42**	**192**	P	**Pg**	**12 00 27.8**	**+0.7**
SAIM				S	**Sg**	**12 00 33.3**	**+0.7**
BNN	**Bunyan**	**0.54**	**330**	Pg	**Pb**	**12 00 30.5**	**0.0**
BNN				Sg	**Sb**	**12 00 38.8**	**+0.4**
GUNE	**Kayseri**	**0.68**	**319**	P	**Pb**	**12 00 33.5**	**+0.5**
GUNE				S	**Sb**	**12 00 42.3**	**-0.2**
YAHY	**KAYSERI_Yahyal**	**0.72**	**246**	P	**Pg**	**12 00 33.2**	**+0.4**
YAHY				S	**Sg**	**12 00 41.5**	**-0.6**
ELBS	**KAHRAMANMARAS**	**0.74**	**94**	P	**Pg**	**12 00 32.5**	**-0.7**
ELBS				S	**Sg**	**12 00 42.0**	**-0.9**
ANDN	**Andirin**	**0.81**	**172**	P	**Pb**	**12 00 35.1**	**-0.1**
ANDN				S	**Sb**	**12 00 47.0**	**+0.9**
CUGUR	**Gurin_SVAS**	**0.91**	**68**	P	**Pg**	**12 00 36.7**	**+0.3**
CUGUR				S	**Sn**	**12 00 50.4**	**-0.7**
KOZT	**Kozan**	**0.95**	**198**	Pg	**Pn**	**12 00 38.3**	**0.0**
KOZT				Sg	**Sn**	**12 00 53.1**	**+1.3**
CUAYA	**Sivas-Altinyay**	**0.98**	**26**	P	**Pb**	**12 00 38.2**	**+0.2**
CUAYA				S	**Sb**	**12 00 51.9**	**+0.8**
DARE	**Darende-Malaty**	**1.03**	**79**	Pg	**Pb**	**12 00 39.0**	**+0.2**
DARE				Sg	**Sn**	**12 00 54.2**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**1.03**	**2**	P	**Pb**	**12 00 39.1**	**+0.2**
CUSAR				S	**Sg**	**12 00 52.3**	**0.0**
KMRS	**Kahramanmaras**	**1.04**	**147**	Pg	**Pn**	**12 00 39.5**	**0.0**
KAHM	**Kahramanmaras,**	**1.07**	**144**	P	**Pb**	**12 00 39.6**	**+0.2**
KAHM				S	**Sg**	**12 00 51.2**	**-2.1**
AKO	**Adana**	**1.10**	**213**	P	**Pb**	**12 00 40.1**	**+0.2**
AKO				S	**Sg**	**12 00 54.1**	**-0.1**
AVNS	**Nevsehir-Avano**	**1.14**	**292**	P	**Pn**	**12 00 41.3**	**+0.3**
AVNS				S	**Sg**	**12 00 55.4**	**-0.1**
NIDE	**Nigde/Merkez-G**	**1.18**	**251**	P	**Pg**	**12 00 41.7**	**+0.1**
NIDE				S	**Sb**	**12 00 56.0**	**-0.9**
KHMR	**Kahramanmara**	**1.18**	**151**	P	**Pg**	**12 00 41.7**	**+0.1**
KHMR				S	**Sb**	**12 00 56.0**	**-0.8**
CMRD	**Camardi-Nigde**	**1.19**	**233**	Pn	**Pg**	**12 00 41.9**	**+0.1**
KHMN	**Narli-Kahraman**	**1.25**	**142**	Pn	**Pg**	**12 00 44.1**	**+1.2**
SIRC	**Yozgat**	**1.25**	**320**	P	**Pg**	**12 00 43.2**	**+0.2**
SIRC				S	**Sb**	**12 00 58.9**	**0.0**
KAMA	**Osmaniye**	**1.25**	**162**	P	**Pg**	**12 00 43.0**	**0.0**
KAMA				S	**Sg**	**12 00 59.1**	**-0.2**
AKCA	**Adyaman/G¶l**	**1.32**	**116**	P	**Pb**	**12 00 43.8**	**0.0**
AKCA				S	**Sb**	**12 01 00.6**	**-0.1**
KOZK	**Kozakli-Nevseh**	**1.32**	**309**	Pn	**Pg**	**12 00 45.4**	**+1.1**
CUKAN	**kangal_SIVAS**	**1.36**	**47**	P	**Pg**	**12 00 45.0**	**-0.1**
CUKAN				S	**Sg**	**12 01 03.5**	**+0.8**
AKCD	**Akcadag**	**1.36**	**93**	P	**Pn**	**12 00 44.1**	**+0.1**
HACI	**Hacifakili, Ak**	**1.36**	**345**	P	**Pg**	**12 00 46.1**	**+1.0**
HACI				S	**Sg**	**12 01 03.1**	**+0.3**
YOZ	**Yozgat**	**1.43**	**332**	Pn	**Pg**	**12 00 47.1**	**+0.8**
GAZ	**Gaziantep**	**1.46**	**146**	Pn	**Pg**	**12 00 47.1**	**+0.3**
HEKM	**Malatya_Hekimh**	**1.47**	**70**	P	**Pb**	**12 00 46.5**	**+0.2**
HEKM				S	**Sg**	**12 01 06.3**	**+0.2**
GZT	**Gaziantep**	**1.49**	**133**	P	**Pb**	**12 00 46.7**	**-0.1**
GZT				S	**Sn**	**12 01 04.9**	**-0.6**
BSIR	**Belisirma, Guz**	**1.50**	**266**	P	**Pg**	**12 00 48.3**	**+0.5**
MCUR	**KIREHR**	**1.52**	**301**	P	**Pg**	**12 00 47.8**	**-0.2**
MCUR				S	**Sn**	**12 01 06.0**	**0.0**
GULE	**Gulek**	**1.57**	**226**	P	**Pb**	**12 00 48.5**	**+0.3**
GULE				S	**Sn**	**12 01 07.4**	**0.0**
YURE	**YUREGIR**	**1.62**	**196**	P	**Pg**	**12 00 50.3**	**+0.4**
HASA	**Hatay-Hassa-Ha**	**1.65**	**172**	P	**Pg**	**12 00 50.1**	**-0.4**
SVSK	**Karacayir**	**1.65**	**22**	Pn	**Pg**	**12 00 50.5**	**-0.1**
AZEY	**Adyaman-Merk**	**1.72**	**109**	P	**Pb**	**12 00 50.7**	**+0.1**
AZEY				S	**Sb**	**12 01 12.8**	**+0.5**
KUZU	**Kuzuini**	**1.75**	**156**	P	**Pb**	**12 00 51.3**	**+0.1**
KUZU				S	**Sb**	**12 01 12.8**	**-0.4**
NZIP	**Nizip/Gaziante**	**1.78**	**138**	P	**Pn**	**12 00 50.5**	**+0.7**
ARPR	**Arapgir-MALATY**	**1.82**	**66**	Pn	**Pb**	**12 00 52.2**	**-0.1**
KERG	**Konya-Eregli**	**1.90**	**240**	P	**Pb**	**12 00 54.6**	**+0.9**
TOKT	**Tokat**	**1.95**	**8**	Pn	**Pb**	**12 00 54.4**	**-0.1**
MERS	**Mersin**	**2.02**	**222**	Pn	**Pb**	**12 00 55.4**	**-0.2**
YESY	**Yesilyurt**	**2.03**	**253**	Pn	**Pb**	**12 00 55.6**	**-0.2**
SULT	**Sultanhani-AKS**	**2.12**	**266**	Pn	**Pb**	**12 00 56.9**	**-0.5**
SERE	**Sereflikochisa**	**2.13**	**286**	Pn	**Pb**	**12 00 56.9**	**-0.8**
CORM	**Corum**	**2.16**	**326**	Pn	**Pb**	**12 00 57.9**	**-0.3**
KAMT	**Kaman**	**2.17**	**298**	Pn	**Pb**	**12 00 57.7**	**-0.6**
RSDY	**Resadiye-TOKAT**	**2.19**	**23**	Pn	**Pb**	**12 00 58.0**	**-0.6**
BR131	**Keskin Array S**	**2.40**	**305**	Pn	**Pb**	**12 01 00.9**	**-1.3**
KULU	**Kulu**	**2.58**	**286**	Pn	**Pb**	**12 01 03.6**	**-1.7**
AFSR	**Afar-Bala (An**	**2.66**	**294**	Pn	**Pb**	**12 01 04.8**	**-1.8**
KVT	**Kavak**	**2.69**	**358**	Pn	**Pb**	**12 01 05.3**	**-1.9**

*TAP **10** 12:21:14.2,24°06N×122°72E,h44km,ML2.7,D*
*JMA **10** 12:21:14.2±0.2,24°N±1°×122°6E±0°8,h25km,MV2.0/10, NW OFF ISHIGAKIJIMA IS*
ISC 10 12:21:12.9±1.0,**23°92N**±0°03×**122°71E**±0°03,**h32**km±9km, **n73,** σ**0**°**88**/130,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.41**	**299**	*i* P	**Pn**	**12 21 23.3**	**+1.1**
EOS4				*e*S	**Sb**	**12 21 27.9**	**+0.1**
EOS3	**EOS3**	**0.51**	**316**	*e*P	**Pb**	**12 21 23.3**	**-0.2**
JYNG	**Yonaunijimaku**	**0.57**	**22**	*e*P	**Pb**	**12 21 24.4**	**-0.2**
JYNG				*e*S	**Sb**	**12 21 32.0**	**-0.7**
YOJ	**Yonaguni jima**	**0.61**	**27**	*e*P	**Pb**	**12 21 25.5**	**+0.3**
YOJ				S	**Sb**	**12 21 33.0**	**-0.6**
YOJ	**Yonaguni jima**	**0.61**	**27**	*e*P	**Pn**	**12 21 25.8**	**+0.5**
YOJ				*i* S	**Sb**	**12 21 33.1**	**-0.5**
EOS2	**EOS2**	**0.66**	**319**	*e*P	**Pn**	**12 21 26.3**	**+0.4**
EOS2				*e*S	**Sb**	**12 21 34.8**	**0.0**
EWUT	**Wuta**	**0.99**	**302**	*i* P	**Pb**	**12 21 31.2**	**-0.5**
EWUT				*e*S	**Sb**	**12 21 45.0**	**+0.5**
TEYL	**Yanliau Villag**	**1.01**	**267**	*e*S	**Sb**	**12 21 47.9**	**+2.9**
ENA	**Nanau**	**1.02**	**300**	*e*P	**Pb**	**12 21 32.0**	**-0.1**
ENA				S	**Sb**	**12 21 45.3**	**+0.2**
ESAO	**Su ao**	**1.02**	**310**	*e*P	**Pb**	**12 21 31.8**	**-0.4**
ESAO				*e*S	**Sb**	**12 21 45.0**	**-0.3**
IRIF	**Iriomote-Funau**	**1.02**	**66**	*e*P	**Pb**	**12 21 33.4**	**+1.3**
TWC	**Suao**	**1.04**	**311**	*e*P	**Pn**	**12 21 31.5**	**+0.3**
TWC				*e*S	**Sn**	**12 21 44.3**	**-0.4**
NACB	**Ninganchiao**	**1.05**	**284**	*e*P	**Pb**	**12 21 33.8**	**+1.3**
NACB				*e*S	**Sn**	**12 21 43.5**	**-1.4**
SHUL	**Shoufeng**	**1.05**	**263**	*e*P	**Pb**	**12 21 33.1**	**+0.5**
SHUL				*e*S	**Sn**	**12 21 45.0**	**-0.1**
ETM	**Tongmen**	**1.11**	**273**	*e*P	**Pn**	**12 21 32.5**	**+0.3**
ETM				*e*S	**Sb**	**12 21 49.3**	**+1.5**
NDS	**Dongshan**	**1.15**	**308**	*e*P	**Pb**	**12 21 34.5**	**+0.2**
NDS				*e*S	**Sb**	**12 21 48.6**	**-0.3**
ETLH	**Xiulin Townshi**	**1.15**	**285**	P	**Pb**	**12 21 33.6**	**-0.8**
ETLH				*e*S	**Sn**	**12 21 47.8**	**+0.1**
LXIB	**Xiulin Townshi**	**1.19**	**275**	*e*P	**Pb**	**12 21 34.3**	**-0.7**
LXIB				*e*S	**Sn**	**12 21 48.7**	**+0.2**
WARBT	**Fenglin Townsh**	**1.23**	**261**	*i* P	**Pb**	**12 21 35.1**	**-0.5**
WARBT				*e*S	**Sb**	**12 21 50.0**	**-1.0**
LATG	**Datong**	**1.24**	**300**	P	**Pb**	**12 21 35.6**	**-0.3**
LATG				S	**Sb**	**12 21 50.8**	**-0.8**
TWE	**Neicheng**	**1.24**	**310**	*i* P	**Pb**	**12 21 35.0**	**-0.8**
TWE				*e*S	**Sn**	**12 21 49.4**	**-0.2**
HGSD	**Ruisui**	**1.25**	**250**	P	**Pb**	**12 21 35.4**	**-0.5**
HGSD				*e*S	**Sb**	**12 21 51.2**	**-0.5**
ENTT	**Nioudou**	**1.26**	**305**	P	**Pb**	**12 21 35.3**	**-0.9**
ENTT				S	**Sb**	**12 21 51.6**	**-0.5**
TWB1	**Santiao Chiao**	**1.27**	**329**	*i* P	**Pn**	**12 21 34.4**	**0.0**
TWB1				*e*S	**Sn**	**12 21 50.5**	**+0.2**
NNSB	**Datong**	**1.31**	**293**	P	**Pn**	**12 21 35.8**	**+0.7**
NNSB				*e*S	**Sb**	**12 21 52.7**	**-0.9**
FUSB	**Fushanzhiwuyua**	**1.32**	**310**	*e*P	**Pb**	**12 21 37.1**	**-0.1**
FUSB				*e*S	**Sb**	**12 21 55.2**	**+1.5**
TIPB	**Shuangxi**	**1.32**	**323**	*i* P	**Pn**	**12 21 35.3**	**+0.2**
TIPB				*e*S	**Sn**	**12 21 49.9**	**-1.8**
NNS	**Nan Shan**	**1.32**	**293**	*e*P	**Pn**	**12 21 38.0**	**+0.7**
NNS				*e*S	**Sn**	**12 21 52.3**	**+0.4**
EHY	**Hungye**	**1.33**	**252**	*e*P	**Pb**	**12 21 37.5**	**+0.1**
EHY				*e*S	**Sb**	**12 21 53.5**	**-0.6**
WHF	**Hehuan Shan**	**1.34**	**280**	*e*P	**Pn**	**12 21 36.0**	**+0.3**
WHF				*e*S	**Sn**	**12 21 52.4**	**-0.2**
FUSS	**Fushou**	**1.38**	**284**	P	**Pn**	**12 21 36.9**	**+0.8**
FUSS				*e*S	**Sn**	**12 21 54.0**	**+0.6**
JIJ	**Ishigaki jima**	**1.39**	**71**	P	**Pb**	**12 21 38.7**	**+0.4**
NWLT	**Wulai**	**1.39**	**308**	*e*P	**Pb**	**12 21 38.2**	**-0.1**
NWLT				*e*S	**Sb**	**12 21 55.2**	**-0.5**
SXI1	**Grass Mountain**	**1.39**	**327**	*e*P	**Pn**	**12 21 36.4**	**+0.2**
SXI1

az=49.0

ISC 10 12:41:20.0±0.4, 23°48N±0.05×143°3E±0.1, h31km, n127, σ1§05/102, mb4.5/44, MS3.6/27, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.30**	**342**	*eP*	**Pn**	**12 42 10.2**	**+0.6**
JHH2				*eS*	**Sn**	**12 42 48.5**	**+0.8**
CBIJ	**Chichi jima**	**3.74**	**344**	*eP*	**Pn**	**12 42 15.8**	**+0.1**
CBIJ				*eS*	**Sn**	**12 42 57.8**	**-0.8**
JCJ	**Chichijima**	**3.74**	**344**	Pn	**Pn**	**12 42 16.2**	**+0.6**
GUMO	**Guam**	**9.95**	**171**	LR	LR	12 46 12.3	
	comp=Z,38nm,19.1s,baz=354,slow=30						
JMZ	**Minamidaito 2**	**11.24**	**284**	Pn	Pn	12 44 06.3	+7.8
BSO1	**Boso 1**	**11.32**	**350**	*eP*	**Pn**	**12 43 58.8**	**-0.3**
BSO4	**Boso 4**	**11.76**	**348**	*eS*	**Sn**	**12 46 11.3**	**-4.3**
JOD2	**Odawara 2**	**12.30**	**344**	*eP*	**Pn**	**12 44 12.1**	**-1.0**
INU	**Inuyama**	**13.03**	**337**	Pn	**Pn**	**12 44 25.1**	**+2.1**
JRY	**Ryogami san**	**13.06**	**344**	P	**Pn**	**12 44 21.5**	**-1.9**
JGF	**Kuroka**	**13.14**	**338**	Pn	**Pn**	**12 44 25.5**	**+1.0**
JMN	**Monobe**	**13.14**	**323**	Pn	Pn	12 44 17.3	-7.2
JHO	**Hitachi**	**13.30**	**350**	*eP*	**Pn**	**12 44 24.9**	**-1.7**
MJAR	**Matsushiro Arr**	**13.74**	**342**	Pn	**Pn**	**12 44 30.8**	**-1.9**
	0.1nm,0.3s,baz=157,slow=12,SNR=7.2						
MJAR				LR	LR	12 49 56.6	
	comp=Z,194nm,18.2s,baz=164,slow=38						
	0.9nm,0.3s						
MAJO	**Matsushiro**	**13.74**	**342**	Pn	**Pn**	**12 44 34.2**	**+1.5**
MJB9	**Matsu-Tunnel**	**13.75**	**342**	Pn	**Pn**	**12 44 33.1**	**+0.3**
JOW	**Kunigami**	**14.02**	**287**	LR	LR	12 49 23.6	
	comp=Z,400nm,20.0s,baz=26,slow=35						
JMM	**Marumori**	**14.50**	**352**	Pn	**Pn**	**12 44 41.3**	**-1.7**
JNU	**Nakatsue**	**14.55**	**314**	Pn	**Pn**	**12 44 42.5**	**-1.3**
	0.1nm,0.3s,baz=140,slow=16,SNR=1.9						
JNU				LR	LR	12 49 42.7	
	comp=Z,118nm,19.8s,baz=128,slow=35						
	4.1nm,0.9s						
KSRS	**Korea Array**	**19.19**	**320**	P	**P**	**12 45 40.8**	**-0.5**
	0.5nm,0.3s,baz=134,slow=11,SNR=17						
KSRS				LR	LR	12 52 57.5	
	comp=Z,160nm,18.3s,baz=135,slow=36						
	2.7nm,0.6s						
KSAR	**Wonju Array Be**	**19.21**	**320**	P	**Pn**	**12 45 41.8**	**-0.7**
KS19	**Wonju Array Si**	**19.26**	**320**	P	**P**	**12 45 42.1**	**+0.1**
YULB	**Yu-li**	**20.20**	**274**	P	Pn	12 45 58.2	+3.8
YULB				IAmb	IAmb	12 46 11.5	
	comp=Z,14nm,0.8s						
SSLB	**Suanglung**	**20.49**	**275**	P	Pn	12 46 03.8	+6.0
SSLB				IAmb	IAmb	12 46 05.5	
	comp=Z,70nm,1.5s						
JKA	**Kamikawa-asahi**	**20.59**	**359**	P	Pn	12 45 58.6	-0.2
JKA				IAmb	IAmb	12 46 28.4	
	comp=Z,63nm,1.4s						
ASAJ	**Asahikawa**	**20.59**	**359**	P	**P**	**12 45 57.3**	**+0.9**
	comp=Z,9.5nm,1.0s,baz=252,slow=9.6,SNR=6.2						
ASAJ				LR	LR	12 56 50.2	
	comp=Z,47nm,19.2s,baz=167,slow=45						
	comp=Z,9.5nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**22.23**	**95**	T	T	13 10 22.9	
	baz=283						
H11N2	**WAKE ISLAND Hy**	**22.24**	**95**	T	T	13 10 37.9	
	baz=283						
H11N3	**WAKE ISLAND Hy**	**22.25**	**95**	T	T	13 10 16.9	
	baz=283						
H11S3	**WAKE ISLAND Hy**	**22.37**	**98**	T	T	13 10 24.2	
	baz=284,slow=74						
H11S1	**WAKE ISLAND Hy**	**22.38**	**98**	T	T	13 10 19.1	
	baz=284,slow=74						
H11S2	**WAKE ISLAND Hy**	**22.39**	**98**	T	T	13 10 31.2	
	baz=284						
USRK	**Ussuriysk Ar.**	**22.66**	**338**	P	**P**	**12 46 18.7**	**+0.1**
USRK	**Ussuriysk Ar.**	**22.66**	**338**	P	**P**	**12 46 18.6**	**-0.1**
	comp=Z,2.4nm,0.5s,baz=143,slow=9.6,SNR=8.4						
USRK				LR	LR	12 54 27.4	
	comp=Z,150nm,20.9s,baz=166,slow=35						
	comp=Z,2.4nm,0.5s						
FAKI	**Fak Fak**	**28.37**	**204**	P	**P**	**12 47 10.6**	**-1.0**
PETK	**Petropavlovsk-**	**31.54**	**17**	LR	LR	12 58 53.5	
	comp=Z,70nm,21.6s,baz=189,slow=34						
PMG	**Port Moresby**	**32.90**	**173**	P	**P**	**12 47 50.9**	**-0.7**
	comp=Z,3.7nm,0.5s,baz=304,slow=15,SNR=1.9						
	comp=Z,3.7nm,0.5s						
MA2	**Magadan**	**36.45**	**6**	LR	LR	13 05 02.0	
	comp=Z,22nm,18.5s,baz=234,slow=39						
SBUM	**Sibu**	**36.64**	**240**	P	**P**	**12 48 25.9**	**+1.9**
COEN	**Coen**	**37.21**	**180**	P	**P**	**12 48 29.3**	**+0.6**
COEN				IAmb	IAmb	12 48 49.5	
	comp=Z,9.6nm,1.1s						
MTN	**Manton Dam**	**38.02**	**200**	P	**P**	**12 48 35.2**	**-0.4**
MTN				IAmb	IAmb	12 48 49.6	
	comp=Z,22nm,1.4s						
SONM	**Songino Array**	**38.06**	**319**	P	**P**	**12 48 34.9**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=133,slow=9.8,SNR=3.0						
SONM				LR	LR	13 04 58.9	
	comp=Z,120nm,18.8s,baz=156,slow=37						
	comp=Z,0.5nm,0.5s						
BATI	**Baumata**	**38.61**	**212**	LR	LR	13 02 33.6	
	comp=Z,36nm,20.3s,baz=144,slow=33						
SEY	**Seymchan**	**39.91**	**6**	P	**P**	**12 48 52.2**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=330,slow=15,SNR=2.0						
	comp=Z,0.8nm,0.6s						
KNRA	**Kununurra**	**41.44**	**201**	P	**P**	**12 49 03.5**	**-0.5**
KNRA				IAmb	IAmb	12 49 44.1	
	comp=Z,14nm,1.3s						
CMAR	**Chiang Mai Arr**	**41.61**	**272**	P	**P**	**12 49 06.3**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=60,slow=8.3,SNR=9.5						
CMAR				LR	LR	13 04 49.3	
	comp=Z,87nm,21.8s,baz=75,slow=34						
	comp=Z,1.0nm,0.5s						
CTAO	**Charters Tower**	**43.40**	**176**	P	**P**	**12 49 19.9**	**0.0**
CTAO				IAmb	IAmb	12 49 35.7	
	comp=Z,24nm,1.4s						
WB0	**Warramunga Arr**	**43.86**	**192**	P	**P**	**12 49 22.9**	**-0.7**
WB0				IAmb	IAmb	12 49 24.0	
	comp=Z,4.2nm,0.4s						
WR0	**Warramunga Arr**	**44.02**	**192**	P	**P**	**12 49 24.6**	**-0.3**
WRAB	**Tennant Creek**	**44.03**	**192**	P	**P**	**12 49 24.5**	**-0.5**
WRAB				IAmb	IAmb	12 49 26.0	
	comp=Z,5.6nm,0.9s						
WB2	**Warramunga Arr**	**44.04**	**192**	P	**P**	**12 49 24.8**	**-0.3**
WB2				IAmb	IAmb	12 49 26.1	
	comp=Z,15nm,1.3s						
WRA	**Warramunga Arr**	**44.04**	**192**	P	**P**	**12 49 24.8**	**-0.3**
WRA	**Warramunga Arr**	**44.04**	**192**	P	**P**	**12 49 23.8**	**-1.3**
	comp=Z,2.4nm,0.5s,baz=17,slow=9.2,SNR=113						
WRA				PcP	**PcP**	**12 51 10.2**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=2.7,slow=3.4,SNR=11						
	comp=Z,2.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**44.79**	**204**	P	**P**	**12 49 30.9**	**-0.1**
AS31	**Alice Springs**	**47.75**	**192**	P	**P**	**12 49 55.4**	**+1.0**
ASAR	**Alice Springs**	**47.75**	**192**	P	**P**	**12 49 55.6**	**+1.2**
ASAR	**Alice Springs**	**47.75**	**192**	P	**P**	**12 49 53.2**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=18,slow=12,SNR=20						
ASAR				PcP	**PcP**	**12 51 23.0**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=11,slow=3.5,SNR=1.6						
ASAR				LR	LR	13 08 24.9	
	comp=Z,58nm,21.2s,baz=17,slow=34						
	comp=Z,0.7nm,0.3s						
TIXI	**Tiksi**	**48.89**	**354**	LR	LR	13 17 11.0	
	comp=Z,19nm,18.0s,baz=184,slow=44						
EIDS	**Eidsvold**	**49.14**	**171**	P	**P**	**12 50 04.6**	**-0.4**
EIDS				IAmb	IAmb	12 50 30.2	
	comp=Z,16nm,1.4s						
ZAA0	**Zalesovo Array**	**52.90**	**321**	P	**P**	**12 50 32.4**	**-0.6**
ZAA0				IAmb	IAmb	12 50 33.2	
	comp=Z,2.2nm,0.3s						
ZALV	**Zalesovo Beam**	**52.90**	**321**	P	**P**	**12 50 32.4**	**-0.6**
ZALV	**Zalesovo Beam**	**52.90**	**321**	P	**P**	**12 50 32.6**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=110,slow=8.3,SNR=16						
ZALV				LR	LR	13 13 28.1	
	comp=Z,54nm,19.0s,baz=74,slow=36						
	comp=Z,1.8nm,0.3s						
MK31	**Makanchi Array**	**53.59**	**312**	P	**P**	**12 50 38.2**	**-0.1**
MKAR	**Makanchi Array**	**53.59**	**312**	P	**P**	**12 50 38.4**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=86,slow=9.3,SNR=41						
MKAR				LR	LR	13 14 19.5	
	comp=Z,35nm,19.3s,baz=57,slow=37						
	comp=Z,1.1nm,0.3s						
MAKZ	**Makanchi**	**53.81**	**312**	P	**P**	**12 50 40.2**	**+0.4**
STKA	**Stephens Creek**	**55.07**	**182**	P	**P**	**12 50 48.1**	**-0.9**
STKA	**Stephens Creek**	**55.07**	**182**	P	**P**	**12 50 48.0**	**-0.9**
	comp=Z,1.3nm,0.4s,baz=44,slow=6.2,SNR=7.6						
	comp=Z,1.3nm,0.4s						
FORT	**Forrest**	**55.90**	**196**	P	**P**	**12 50 54.0**	**-1.0**
KURK	**Kurchatov**	**56.26**	**316**	P	**P**	**12 50 57.6**	**+0.2**
KURK				IAmb	IAmb	12 50 58.4	
	comp=Z,8.0nm,1.1s						
KURBB	**Kurchatov Arra**	**56.31**	**316**	P	**P**	**12 50 57.7**	**-0.1**
	comp=Z,5.0nm,0.7s,baz=93,slow=7.6,SNR=45						
	comp=Z,5.0nm,0.7s						
NRIK	**Noril'sk**	**56.37**	**339**	P	**P**	**12 50 56.8**	**-1.1**
	comp=Z,2.6nm,0.5s,baz=110,slow=10,SNR=4.6						
	comp=Z,2.6nm,0.5s						
BBOO	**Buckleboo**	**56.41**	**187**	P	**P**	**12 50 58.4**	**-0.1**
BBOO				IAmb	IAmb	12 51 20.9	
	comp=Z,18nm,1.4s						
KDAK	**Kodiak Island**	**56.67**	**35**	LR	LR	13 12 12.0	
	comp=Z,51nm,21.9s,baz=91,slow=33						
K20K	**Telida**	**57.04**	**28**	P	**P**	**12 51 04.2**	**+1.4**
K20K				IAmb	IAmb	12 51 28.8	
	comp=Z,8.0nm,1.4s						
J20K	**Nowinta River**	**57.20**	**28**	P	**P**	**12 51 05.4**	**+1.5**
J20K				IAmb	IAmb	12 51 21.6	
	comp=Z,6.3nm,1.1s						
IMAR	**Indian Mountai**	**57.83**	**26**	P	**P**	**12 51 09.4**	**+1.1**
B20K	**Meade River**	**57.85**	**20**	P	**P**	**12 51 10.1**	**+1.8**
H21K	**Melozitna Rive**	**58.12**	**26**	P	**P**	**12 51 11.9**	**+1.5**
H21K				IAmb	IAmb	12 51 17.9	
	comp=Z,4.0nm,1.1s						
BOOM	**Boomskoye usch**	**58.13**	**306**	P	**P**	**12 51 12.3**	**+1.2**
BOOM				IAmb	IAmb	12 51 16.0	
	comp=Z,9.2nm,0.7s						
AAK	**Ala-Archa**	**59.19**	**307**	LR	LR	13 19 24.7	
	comp=Z,60nm,19.0s,baz=58,slow=39						
KNK	**Knik Glacier**	**59.26**	**31**	P	**P**	**12 51 18.1**	**-0.2**
I23K	**Minto, Yukon-K**	**59.42**	**27**	P	**P**	**12 51 20.7**	**+1.4**
I23K				IAmb	IAmb	12 51 23.7	
	comp=Z,7.8nm,1.5s						
D23K	**Nanushuk River**	**59.72**	**22**	P	**P**	**12 51 23.1**	**+1.7**
D23K				IAmb	IAmb	12 51 27.3	
	comp=Z,5.4nm,1.1s						
C23K	**Itkillik River**	**59.95**	**21**	P	**P**	**12 51 24.7**	**+1.8**
H24K	**Noodor Dome**	**60.15**	**26**	P	**P**	**12 51 26.0**	**+1.5**
ILAR	**Eielson Array**	**60.41**	**28**	P	**P**	**12 51 25.0**	**-1.1**
ILAR	**Eielson Array**	**60.41**	**28**	P	**P**	**12 51 26.2**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=254,slow=5.7,SNR=14						
ILAR				LR	LR	13 14 39.0	
	comp=Z,20nm,21.4s,baz=305,slow=33						
	comp=Z,0.9nm,0.8s						
RIDG	**Independent Ri**	**61.17**	**29**	P	**P**	**12 51 31.1**	**-0.3**
RIDG				IAmb	IAmb	12 51 40.3	
	comp=Z,9.3nm,1.2s						
D25K	**Kavik River**	**61.30**	**22**	P	**P**	**12 51 33.2**	**+1.0**
D25K				IAmb	IAmb	12 51 54.8	
	comp=Z,3.4nm,0.8s						
BVAR	**Borovoye Array**	**61.40**	**319**	P	**P**	**12 51 33.4**	**+0.2**
	comp=Z,8.7nm,0.4s,baz=89,slow=8.1,SNR=68						
BVAR				LR	LR	13 20 15.6	
	comp=Z,40nm,18.3s,baz=76,slow=38						
	comp=Z,8.7nm,0.4s						
BRVK	**Borovoye**	**61.47**	**319**	P	**P**	**12 51 34.0**	**+0.5**
SCRK	**Sand Creek**	**61.57**	**29**	P	**P**	**12 51 35.1**	**+0.9**
SCRK				IAmb	IAmb	12 51 43.7	
	comp=Z,3.7nm,0.9s						
J26L	**Joseph Creek**	**61.80**	**28**	P	**P**	**12 51 36.2**	**+0.5**
KKAR	**Karatay Array**	**62.05**	**308**	P	**P**	**12 51 38.6**	**+0.9**
BTK	**Batken**	**62.23**	**304**	P	**P**	**12 51 39.9**	**+0.8**
SIMJ	**Simiganj**	**63.83**	**303**	P	**P**	**12 51 50.8**	**+1.0**
G31M	**Satah River**	**65.67**	**25**	P	**P**	**12 52 02.3**	**+1.3**
G31M				IAmb	IAmb	12 52 18.3	
	comp=Z,6.8nm,1.2s						
INK	**Inuvik**	**65.89**	**24**	P	**P**	**12 52 02.6**	**+0.2**
INK				IAmb	IAmb	12 52 05.5	
	comp=Z,7.2nm,1.5s						
ABKAR	**Akbulak array**	**68.36**	**316**	P	**P**	**12 52 18.4**	**-0.1**
BKZ	**Black Stump Fm**	**69.63**	**153**	P	**P**	**12 52 26.2**	**-0.2**
KIRV	**Kirov**	**72.25**	**327**	LR	LR	13 26 39.6	
	comp=Z,78nm,20.6s,baz=59,slow=38						
YKA	**Yellowknife Ar**	**74.83**	**28**	LR	LR	13 24 16.1	
	comp=Z,34nm,21.4s,baz=294,slow=34						
BELG	**Belogornoye**	**75.09**	**321**	LR	LR	13 27 54.0	
	comp=Z,60nm,18.9s,baz=222,slow=37						
RES	**Resolute Bay**	**75.32**	**14**	P	**P**	**12 53 01.0**	**+1.3**
ARCES	**ARCESS Array B**	**77.27**	**341**	P	**P**	**12 53 12.0**	**+1.0**
ARCES				IAmb	IAmb	12 53 54.3	
	comp=Z,5.4nm,1.1s						
ARCES	**ARCESS Array B**	**77.27**	**341**	P	**P**	**12 53 11.5**	**+0.5**
	comp=Z,3.6nm,0.7s,baz=28,slow=4.1,SNR=13						
	comp=Z,3.6nm,0.7s						
YBH	**Yreka Blue Hor**	**77.58**	**50**	LR	LR	13 18 28.2	
	comp=Z,36nm,21.6s,baz=298,slow=29						
KBZ	**Khabaz**	**81.22**	**314**	P	**P**	**12 53 33.5**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=65,slow=8.0,SNR=7.1						
KBZ				LR	LR	13 32 51.0	
	comp=Z,41nm,19.8s,baz=38,slow=38						
	comp=Z,2.8nm,0.8s						
FIA1	**FINESS Array S**	**81.63**	**334**	P	**P**	**12 53 34.2**	**-0.5**
FINES	**FINESS Array B**	**81.63**	**334**	P	**P**	**12 53 34.3**	**-0.5**
FINES	**FINESS Array B**	**81.63**	**334**	P	**P**	**12 53 34.1**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=62,slow=4.4,SNR=22						
	comp=Z,1.1nm,0.4s						
NVAR	**Mina Array Bea**	**81.95**	**52**	P	**P**	**12 53 38.0**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=283,slow=6.3,SNR=3.8						
NVAR				LR	LR	13 24 07.3	
	comp=Z,33nm,19.5s,baz=276,slow=31						
	comp=Z,0.5nm,0.8s						
ELK	**Elko**	**83.16**	**49**	LR	LR	13 23 38.9	
	comp=Z,24nm,19.8s,baz=288,slow=31						
PFO	**Pinyon Flats O**	**85.28**	**55**	LR	LR	13 27 44.9	
	comp=Z,35nm,18.7s,baz=268,slow=33						
PDAR	**Pinedale Array**	**86.05**	**45**	LR	LR	13 26 45.2	
	comp=Z,39nm,19.8s,baz=321,slow=32						
AKASG	**Malin Array Be**	**86.13**	**324**	P	**P**	**12 53 57.8**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=63,slow=4.3,SNR=2.5						
	comp=Z,0.4nm,0.3s						
HFS	**Hagfors**	**87.13**	**337**	P	**P**	**12 54 01.0**	**-1.7**
	comp=Z,1.8nm,0.8s,baz=108,slow=4.7,SNR=7.2						
	comp=Z,1.8nm,0.8s						
NOA	**NORSAR Array B**	**87.33**	**339**	LR	LR	13 37 25.7	
	comp=Z,17nm,19.1s,baz=200,slow=39						
BRTR	**Keskin Array B**	**89.21**	**313**	P	**P**	**12 54 12.8**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=64,slow=6.6,SNR=1.8						
	comp=Z,0.4nm,0.5s						
ANMO	**Albuquerque**	**92.00**	**50**	LR	LR	13 30 36.7	
	comp=Z,25nm,19.5s,baz=114,slow=32						
LPIG	**La Paz**	**94.34**	**62**	LR	LR	13 30 19.2	
	comp=Z,24nm,20.2s,baz=272,slow=31						
TXAR	**Lajitas Array**	**96.92**	**54**	P	**P**	**12 54 49.9**	**+1.0**
	comp=Z,0.3nm,1.0s,baz=294,slow=4.6,SNR=2.1						
	comp=Z,0.3nm,1.0s						
QSPA	**South Pole Qui**	**113.27**	**180**	PKiKP	**PKiKP**	**12 59 53.3**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=68,slow=5.4,SNR=17						
TORD	**Torodi Ar. Bea**	**127.70**	**310**	PKP	**PKiKP**	**13 00 23.2**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=116,slow=3.4,SNR=2.3						
SNAA	**Sanae**	**128.11**	**193**	PKP	**PKiKP**	**13 00 24.1**	**+1.2**
	comp=Z,1.0nm,0.9s,baz=242,slow=10,SNR=1.8						
PLCA	**Paso Flores**	**146.82**	**129**	PKPbc	**PKPab**	**13 00 59.8**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=218,slow=3.8,SNR=6.7						
LPAZ	**La Paz**	**149.62**	**82**	PKPbc	**PKPbc**	**13 01 07.7**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=343,slow=4.3,SNR=3.8						

BJI ***10*** *12:57:11.7, 18°00S×177°56W, h576km, mb4.7/48, mB4.9/10*

NOU ***10*** *12:57:12.3, 18°07S×177°88W, h571km, mb5.1/87, Fiji Islands Region*

NEIC ***10*** *12:57:12.6±2.2, 18°1S±0°1×178°0W±0°1, h556km±6km, mb4.9/59, Error ellipse: s-maj=16.2km s-min=14.8km az=131.0*

IDC ***10*** *12:57:13.4±0.7, 18°10S×178°09W, h572km±6km, mb3.8/17, mbtmp4.7/19, Error ellipse: s-maj=12.2km s-min=9.6km az=146.0*

ISC 10 12:57:12.6±0.4, 18°21S±0°05×177°93W±0°05, h568km±4km, h569km:pP-P, n417, σ1§37/448, mb5.0/108, 32C-18D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.84**	**268**	P	**P**	**12 58 21.0**	**+0.7**
MSVF	**Nonsavu**	**3.86**	**276**	P	**P**	**12 58 35.7**	**+0.9**
MSVF	**Nonsavu**	**3.86**	**276**	P	**P**	**12 58 35.3**	**+0.5**
	746nm,0.7s,baz=123,slow=7.2,SNR=252						
MSVF				S	**S**	**12 59 43.7**	**+1.9**
	66nm,0.9s,baz=140,slow=21,SNR=1.1						
MSVF	**Nonsavu**	**3.86**	**276**	P	**P**	**12 58 35.6**	**+0.8**
FUTU	**Fugatoga**	**3.88**	**357**	P	**P**	**12 58 34.2**	**-0.8**
FUTU	**Fugatoga**	**3.88**	**357**	P	**P**	**12 58 34.1**	**-0.9**
YSA	**Yasawairara**	**4.55**	**289**	P	**P**	**12 58 39.4**	**-0.5**
AFI	**Afiamalu**	**7.29**	**55**	P	**P**	**12 59 01.7**	**-2.5**
AFI	**Afiamalu**	**7.29**	**55**	P	**P**	**12 59 01.6**	**-2.6**
NIUE	**Niue**	**7.63**	**98**	P	**P**	**12 59 08.4**	**+1.1**
NIUE	**Niue**	**7.63**	**98**	P	**P**	**12 59 08.0**	**+0.7**
	comp=Z,471nm,1.2s						
NIUE	**Niue**	**7.63**	**98**	P	**P**	**12 59 08.0**	**+0.7**
FUNA	**Funafuti**	**10.02**	**343**	P	**P**	**12 59 30.3**	**-0.9**
GLKZ	**Green Lake**	**11.00**	**180**	P	**P**	**12 59 38.7**	**-2.2**
GLKZ				S	**S**	**13 01 43.0**	**+0.3**
DVP	**Devils Point**	**13.22**	**270**	P	**P**	**13 00 04.5**	**+0.7**
MARNC	**Mare, Loyalty**	**13.61**	**254**	P	**P**	**13 00 07.9**	**+0.2**
VLAKA	**Lakatoro**	**14.16**	**276**	P	**P**	**13 00 13.2**	**-0.2**
LIFNC	**LIFOU**	**14.22**	**257**	P	**P**	**13 00 12.0**	**-2.0**
PINNC	**Pines Island,**	**14.39**	**250**	P	**P**	**13 00 14.5**	**-1.2**
PINNC	**Pines Island,**	**14.39**	**250**	P	**P**	**13 00 14.5**	**-1.2**
DZM	**Mont Dzumac**	**15.17**	**253**	*eP*	**P**	**13 00 23.9**	**+0.4**
	comp=Z,179nm,0.9s						
DZM				*eS*	**S**	**13 02 54.8**	**-5.3**
	comp=Z,352nm,24.6s						
DZM	**Mont Dzumac**	**15.17**	**253**	P	**P**	**13 00 22.0**	**-1.5**
DZM	**Mont Dzumac**	**15.17**	**253**	P	**P**	**13 00 21.6**	**-1.9**
	comp=Z,96nm,0.6s,baz=88,slow=18,SNR=38						
DZM	**Mont Dzumac**	**15.17**	**253**	P	**P**	**13 00 23.7**	**+0.2**
ONTNC	**Ouen Toro**	**15.21**	**252**	P	**P**	**13 00 22.2**	**-1.6**
NOUC	**Port Laguerre**	**15.30**	**253**	P	**P**	**13 00 24.2**	**-0.5**
NFK	**Norfolk Island**	**16.84**	**228**	P	**P**	**13 00 39.7**	**+0.7**
	comp=Z,492nm,1.2s						
KOUNC	**Koumac, New Ca**	**16.94**	**259**	P	**P**	**13 00 40.2**	**+0.1**
KOUNC	**Koumac, New Ca**	**16.94**	**259**	P	**P**	**13 00 39.9**	**-0.1**
OUZ	**Omahuta**	**18.54**	**202**	P	**P**	**13 00 57.4**	**+3.0**
OUZ	**Omahuta**	**18.54**	**202**	P	**P**	**13 00 57.4**	**+3.0**
GRZ	**Great Barrier**	**18.90**	**197**	P	**P**	**13 00 57.2**	**-0.4**
WCZ	**Waipu Caves**	**18.94**	**200**	P	**P**	**13 01 00.1**	**+2.1**
KUZ	**Kuaotunu**	**19.30**	**196**	P	**P**	**13 01 02.8**	**+1.6**
KUZ	**Kuaotunu**	**19.30**	**196**	P	**P**	**13 01 03.4**	**+2.2**
ABAZ	**Army Bay**	**19.40**	**198**	P	**P**	**13 01 05.4**	**+3.2**
WIAZ	**Waiheke Island**	**19.50**	**197**	P	**P**	**13 01 05.6**	**+2.5**
MBAZ	**Motutapu North**	**19.54**	**197**	P	**P**	**13 01 05.5**	**+2.1**
MXZ	**Matakaoa Point**	**19.56**	**189**	P	**P**	**13 01 06.6**	**+3.0**
RVAZ	**Riverhead Bore**	**19.63**	**198**	P	**P**	**13 01 04.6**	**+0.3**
HBAZ	**Herne Bay Bore**	**19.66**	**198**	P	**P**	**13 01 07.2**	**+2.7**
ETAZ	**East Tamaki Re**	**19.70**	**197**	P	**P**	**13 01 07.0**	**+2.0**
MKAZ	**Moumakai**	**19.78**	**197**	P	**P**	**13 01 07.9**	**+2.2**
WTAZ	**Waiatarua**	**19.79**	**198**	P	**P**	**13 01 06.7**	**+1.0**
HAZ	**Te Kaha**	**19.83**	**190**	P	**P**	**13 01 06.2**	**+0.1**
AWAZ	**Awhitu Peninsu**	**19.89**	**198**	P	**P**	**13 01 08.4**	**+1.8**
RUGZ	**Raukumara Rang**	**20.06**	**190**	P	**P**	**13 01 07.4**	**-0.9**
PUZ	**Puketiti**	**20.07**	**189**	P	**P**	**13 01 07.9**	**-0.4**
TWGZ	**Tauwhareparae**	**20.21**	**189**	P	**P**	**13 01 09.8**	**+0.2**
URZ	**Urewera**	**20.44**	**191**	P	**P**	**13 01 08.5**	**-3.1**
	comp=Z,23nm,0.5s,baz=342,slow=16,SNR=22						
URZ				S	**S**	**13 04 20.0**	**-4.9**
	comp=Z,6.7nm,0.6s,baz=283,slow=16,SNR=2.1						
URZ	**Urewera**	**20.44**	**191**	P	**P**	**13 01 11.0**	**-0.6**
RTZ	**Ruatahuna**	**20.81**	**191**	P	**P**	**13 01 14.2**	**-0.9**
BKZ	**Black Stump Fm**	**21.44**	**192**	P	**P**	**13 01 19.8**	**-0.9**
BKZ	**Black Stump Fm**	**21.44**	**192**	P	**P**	**13 01 20.0**	**-0.6**
TMVZ	**Te Maari**	**21.55**	**194**	P	**P**	**13 01 21.5**	**-0.3**
NEZ	**North Egmont**	**22.10**	**197**	P	**P**	**13 01 29.0**	**+2.4**
ANWZ	**Angora Road**	**22.69**	**191**	P	**P**	**13 01 32.4**	**+0.6**
ANWZ				S	**S**	**13 05 03.0**	**+2.7**
BFZ	**Birch Farm**	**22.95**	**191**	P	**P**	**13 01 33.6**	**-0.5**
BFZ				S	**S**	**13 05 01.1**	**-3.4**
BFZ	**Birch Farm**	**22.95**	**191**	P	**P**	**13 01 34.0**	**-0.1**

comp=Z,82nm,0.8s
ARPS Mount Arapiles 39.84 234 P **P 13 03 58.3 +0.5**
QIS Mount Isa 40.05 260 P **P 13 03 58.5 -1.2**
comp=Z,17nm,0.6s
QIS Mount Isa 40.05 260 P **P 13 03 58.8 -0.9**
MGBR Mount Gambier 41.08 233 P **P 13 04 08.6 +1.0**
HTT Hallett 41.39 240 P **P 13 04 10.6 +0.4**
comp=Z,135nm,1.2s
HTT Hallett 41.39 240 P **P 13 04 11.0 +0.8**
LCRK Leigh Creek 41.54 244 P **P 13 04 11.8 +0.5**
WHYH Whyalla 42.44 241 P **P 13 04 18.9 +0.6**
JAY Jayapura 43.43 286 P **P 13 04 26.1 -0.3**
comp=Z,116nm,0.9s,comp=Z,990nm
OOD Oodnadatta 43.53 249 P **P 13 04 27.7 +0.7**
BBOO Buckleboo 43.66 241 P **P 13 04 27.9 0.0**
BBOO Buckleboo 43.66 241 P **P 13 04 28.1 +0.2**
comp=Z,172nm,0.7s
BBOO Buckleboo 43.66 241 P **P 13 04 27.9 0.0**
GENI Genyem 43.89 286 P **P 13 04 30.4 +0.5**
comp=Z,135nm,0.8s,comp=Z,3µm
WR0 Warramunga Arr 44.84 260 P **P 13 04 36.3 -0.9**
WR0 IAmb IAmb 13 04 37.1
comp=Z,76nm,1.4s
WB0 Warramunga Arr 45.00 260 P **P 13 04 37.5 -0.9**
WB0 IAmb IAmb 13 04 38.2
comp=Z,70nm,0.8s
WB2 Warramunga Arr 45.02 260 P **P 13 04 37.6 -0.9**
WRAB Tennant Creek 45.02 260 P **P 13 04 37.8 -0.7**
WRAB IAmb IAmb 13 04 38.4
comp=Z,52nm,0.7s
WRA Warramunga Arr 45.03 260 P **P 13 04 37.5 -1.1**
WRA Warramunga Arr 45.03 260 P **P 13 04 37.0 -1.6**
comp=Z,47nm,0.7s,baz=96,slow=7.1,SNR=225
WRA PcP **PcP 13 06 07.5 +0.1**
comp=Z,12nm,1.2s,baz=90,slow=4.3,SNR=4.9
WRA ScP **ScP 13 09 07.2 +1.0**
comp=Z,1.3nm,0.8s,baz=90,slow=4.6,SNR=4.4
comp=Z,47nm,0.7s
MULG Mulgathing 45.10 245 P **P 13 04 38.8 -0.2**
AS01 Alice Springs 45.11 255 P **P 13 04 38.9 -0.3**
AS31 Alice Springs 45.15 255 P **P 13 04 39.1 -0.4**
AS31 Alice Springs 45.15 255 P **P 13 04 39.2 -0.4**
comp=Z,118nm,0.8s
ASAR Alice Springs 45.15 254 P **P 13 04 39.4 -0.2**
ASAR Alice Springs 45.15 254 P **P 13 04 37.8 -1.7**
comp=Z,271nm,0.7s,baz=88,slow=8.7,SNR=2521
ASAR PcP **PcP 13 06 07.2 -0.5**
comp=Z,7.6nm,0.6s,baz=100,slow=3.4,SNR=5.8
ASAR ScP **ScP 13 09 08.1 +1.5**
comp=Z,2.6nm,0.8s,baz=111,slow=4.2,SNR=6.1
ASAR S **S 13 10 36.5 -2.0**
comp=Z,1.6nm,0.8s,baz=90,slow=15,SNR=6.0
KDU Kakadu 48.01 269 P **P 13 05 00.1 -1.0**
comp=Z,79nm,0.7s
KDU Kakadu 48.01 269 P **P 13 05 00.4 -0.7**
MTN Manton Dam 49.25 269 P **P 13 05 08.8 -1.5**
MTN IAmb IAmb 13 05 09.9
comp=Z,63nm,0.8s
MTN Manton Dam 49.25 269 P **P 13 05 09.1 -1.2**
comp=Z,85nm,1.0s
DRS Darwin Rock St 49.56 269 P **P 13 05 11.6 -1.0**
WRKA Warakurna 50.19 252 P **P 13 05 16.9 -0.2**
comp=Z,170nm,1.1s
WRKA Warakurna 50.19 252 P **P 13 05 17.0 -0.1**
FORT Forrest 50.29 245 P **P 13 05 17.0 -0.7**
FORT Forrest 50.29 245 P **P 13 05 17.1 -0.7**
comp=Z,219nm,0.8s
FORT Forrest 50.29 245 P **P 13 05 17.4 -0.3**
KNRA Kununurra 50.91 264 P **P 13 05 21.7 -0.8**
KNRA IAmb IAmb 13 05 22.5
comp=Z,53nm,0.8s
KNRA Kununurra 50.91 264 P **P 13 05 21.6 -0.8**
comp=Z,83nm,0.8s
FAKI Fak Fak 51.09 281 P **P 13 05 22.5 -1.3**
FAKI IAmb IAmb 13 05 24.6
comp=Z,25nm,1.0s
FAKI Fak Fak 51.09 281 P **P 13 05 23.2 -0.5**
FAKI Fak Fak 51.09 281 P **P 13 05 23.2 -0.5**
SWI Sorong 52.76 283 P **P 13 05 35.0 -0.7**
FITZ Fitzroy Crossi 53.43 261 P **P 13 05 40.0 -0.5**
MSAI Masohi 54.04 279 P **P 13 05 45.6 +0.8**
comp=Z,41nm,0.7s
DRV Dumont d'Urvil 55.53 199 P **P 13 05 55.3 +1.1**
KMBL Kambalda 55.59 244 P **P 13 05 54.5 -1.0**
comp=Z,44nm,1.1s
SOEI Soe 56.53 270 P **P 13 06 02.5 +0.2**
SOEI Soe 56.53 270 P **P 13 06 03.0 +0.7**
comp=Z,175nm,0.9s,comp=Z,2µm
TNTI Ternate 56.98 283 P **P 13 06 05.0 -0.2**
comp=Z,70nm,1.0s,comp=Z,766nm
BATI Baumata 56.99 270 P **P 13 06 06.3 +1.0**
comp=Z,58nm,0.8s
SANI Sanana 57.24 280 P **P 13 06 05.7 -1.3**
comp=Z,87nm,0.9s,comp=Z,860nm
PSA00 Pilbara Seismi 58.28 256 P **P 13 06 12.6 -1.3**
PSA00 IAmb IAmb 13 06 14.1
comp=Z,57nm,0.8s
MBWA Marble Bar 58.45 256 P **P 13 06 14.3 -0.8**
MBWA IAmb IAmb 13 06 14.8
comp=Z,29nm,0.8s
MBWA Marble Bar 58.45 256 P **P 13 06 14.3 -0.8**
comp=Z,47nm,0.7s
MBWA Marble Bar 58.45 256 P **P 13 06 14.5 -0.5**
MBWA Marble Bar 58.45 256 P **P 13 06 14.2 -0.8**
MEEK Meekatharra 58.76 249 P **P 13 06 16.1 -1.0**
comp=Z,48nm,0.8s
MEEK Meekatharra 58.76 249 P **P 13 06 16.6 -0.5**
MMRI Maumere 58.76 271 P **P 13 06 15.6 -1.6**
MMRI IAmb IAmb 13 06 17.1
comp=Z,46nm,0.7s
MMRI Maumere 58.76 271 P **P 13 06 16.3 -0.9**
comp=Z,82nm,0.8s,comp=Z,3µm
KLBR Kellerberrin 59.11 244 P **P 13 06 18.7 -0.6**
comp=Z,275nm,0.7s
KLBR Kellerberrin 59.11 244 P **P 13 06 19.3 0.0**
NWAO Narrogin (SRO) 59.48 242 P **P 13 06 21.2 -0.5**
NWAO IAmb IAmb 13 06 22.5
comp=Z,34nm,0.9s
NWAO Narrogin (SRO) 59.48 242 P **P 13 06 21.8 +0.1**
NWAO Narrogin (SRO) 59.48 242 P **P 13 06 21.6 -0.1**
RKGY Rocky Gully 59.62 240 P **P 13 06 23.1 +0.5**
comp=Z,93nm,0.9s
RKGY Rocky Gully 59.62 240 P **P 13 06 22.6 -0.1**
KMSI Cibinong 60.05 282 P **P 13 06 25.6 -0.2**
comp=Z,186nm,0.8s,comp=Z,2µm
MUN Mundaring 60.40 243 P **P 13 06 28.0 +0.1**
comp=Z,70nm,0.8s
MUN Mundaring 60.40 243 P **P 13 06 27.7 -0.2**
LUWI Luwuk 60.61 279 P **P 13 06 29.5 0.0**
comp=Z,103nm,1.1s
MORW Morawa 60.78 246 P **P 13 06 29.9 -0.6**
MORW IAmb IAmb 13 06 30.7
comp=Z,23nm,0.8s
MORW Morawa 60.78 246 P **P 13 06 29.8 -0.6**
comp=Z,37nm,0.9s
MORW Morawa 60.78 246 P **P 13 06 30.4 -0.1**
BSSI Bau Bau, Buton 61.13 273 P **P 13 06 32.2 -0.8**
APSI Ampana 61.71 279 P **P 13 06 37.7 +1.0**
comp=Z,82nm,1.1s,comp=Z,1µm
BKSI Bulukumba 61.73 274 P **P 13 06 35.4 -1.4**
MRSI Marisa 61.92 281 P **P 13 06 37.2 -0.9**
comp=Z,43nm,0.9s,comp=Z,840nm
BNSI Bone 62.02 275 P **P 13 06 38.4 -0.4**
comp=Z,55nm,1.1s,comp=Z,617nm
KAPI Kappang 62.17 274 P **P 13 06 38.6 -1.1**
SPSI Sidrap Palu 62.48 275 P **P 13 06 40.3 -1.4**
comp=Z,33nm,0.8s
PLAI Plampang 62.95 269 P **P 13 06 44.5 -0.2**
PLAI Plampang 62.95 269 P **P 13 06 43.7 -1.0**
comp=Z,101nm,0.9s,comp=Z,804nm
TOLI2 Tolitoli 63.22 281 P **P 13 06 45.9 -0.6**
TOLI2 IAmb IAmb 13 06 46.7
comp=Z,20nm,0.8s
TOLI2 Tolitoli 63.22 281 P **P 13 06 46.7 +0.2**
GIRL Giralia 63.25 253 P **P 13 06 46.7 +0.2**
MPSI Mapaga 63.78 280 P **P 13 06 49.1 -0.9**
comp=Z,45nm,0.9s
CCD Concordia, Ant 64.69 194 P **P 13 06 56.3 +1.1**
CCD pP **pP 13 08 51.2 +2.8**
SRBI Singaraja 65.59 269 P **P 13 07 00.6 -0.8**
comp=Z,62nm,1.1s
CASY Casey 66.06 205 P **P 13 07 04.3 +0.9**
CASY Casey 66.06 205 P **P 13 07 04.2 +0.9**
CASY PcP **PcP 13 07 28.5 +0.1**
JAGI Jajag, Banyuwa 66.49 269 P **P 13 07 04.6 -2.5**

JAGI Jajag, Banyuwa 66.49 269 P **P 13 07 04.6 -2.5**
MYLDM Lahad Datu 66.83 284 P **P 13 07 08.0 -1.1**
MYLDM IAmb IAmb 13 07 24.8
comp=Z,48nm,1.3s
KMMI Kalianget 67.07 270 P **P 13 07 10.5 -0.1**
comp=Z,48nm,1.0s
GMJI Gumukmas 67.22 269 P **P 13 07 10.5 -1.0**
comp=Z,73nm,0.9s
BLJI Banyuglugur 67.22 269 P **P 13 07 10.9 -0.6**
comp=Z,102nm,0.7s
JGF Kuroka 68.26 322 P **P 13 07 17.2 -0.3**
JGF IAmb IAmb 13 07 56.0
comp=Z,85nm,2.0s
INU Inuyama 68.28 321 P **P 13 07 16.5 -1.0**
MJAR Matsushiro Arr 68.42 323 P **P 13 07 17.0 -1.4**
comp=Z,9.2nm,0.7s,baz=158,slow=5.8,SNR=28
comp=Z,9.2nm,0.7s
MAJO Matsushiro 68.42 323 P **P 13 07 17.6 -0.7**
MAJO IAmb IAmb 13 07 18.5
comp=Z,16nm,0.8s
MAJO Matsushiro 68.42 323 P **P 13 07 17.7 -0.7**
MAJO PcP **PcP 13 07 39.6 +0.7**
MJB9 Matsu-Tunnel 68.43 323 P **P 13 07 18.9 +0.5**
MJB9 IAmb IAmb 13 07 19.5
comp=Z,15nm,0.8s
PWJI Pagerwojo 68.85 268 P **P 13 07 20.7 -0.7**
comp=Z,57nm,0.8s
KKM Kota Kinabalu 69.26 284 P **P 13 07 22.7 -1.3**
KKM IAmb IAmb 13 07 24.6
comp=Z,20nm,0.8s
PCJI Pacitan 69.39 268 P **P 13 07 24.5 -0.2**
UGM Wanagama 70.09 268 P **P 13 07 28.4 -0.6**
UGM Wanagama 70.09 268 P **P 13 07 28.6 -0.3**
UGM Wanagama 70.09 268 P **P 13 07 28.3 -0.6**
JNU Nakatsue 70.67 316 P **P 13 07 31.7 -0.2**
SBUM Sibu 71.70 279 P **P 13 07 37.6 -0.7**
QSPA South Pole Qui 71.85 180 P **P 13 07 40.2 +1.9**
QSPA South Pole Qui 71.85 180 P **P 13 07 39.8 +1.4**
comp=Z,7.9nm,0.7s,baz=352,slow=0.4,SNR=79
QSPA S **SKiKP 13 16 16.3 +1.0**
comp=Z,1.5nm,1.0s,baz=275,slow=20,SNR=12
comp=Z,7.9nm,0.7s
QSPA South Pole Qui 71.85 180 P **P 13 07 40.1 +1.8**
QSPA pP **pwP 13 09 37.2 -0.4**
TWGBT Beinan 72.21 302 P **P 13 07 39.7 -1.3**
YULB Yu-li 72.32 303 P **P 13 07 40.0 -1.6**
YULB IAmb IAmb 13 08 38.5
comp=Z,152nm,1.9s
YULB Yu-li 72.32 303 P **P 13 07 41.4 -0.2**
NACB Ninganchiao 72.47 304 P **P 13 07 41.2 -1.2**
NACB IAmb IAmb 13 07 43.1
comp=Z,45nm,1.0s
SSLB Suanglung 72.78 303 P **P 13 07 42.5 -1.8**
SSLB IAmb IAmb 13 08 29.8
comp=Z,142nm,2.0s
SSLB Suanglung 72.78 303 P **P 13 07 43.5 -0.8**
TPUB Ta-pu 72.81 302 P **P 13 07 43.2 -1.2**
TPUB IAmb IAmb 13 07 43.7
comp=Z,61nm,0.7s
TPUB Ta-pu 72.81 302 P **P 13 07 43.7 -0.8**
BBJI Bungbulang 72.95 268 P **P 13 07 44.8 -0.8**
PEA0B Petropavlovsk- 74.09 345 P **P 13 07 50.5 -0.5**
PEA0B IAmb IAmb 13 09 57.4
comp=Z,94nm,1.9s
PETK Petropavlovsk- 74.09 345 P **P 13 07 50.7 -0.3**
comp=Z,5.2nm,0.7s,baz=111,slow=8.0,SNR=12
comp=Z,5.2nm,0.7s
KSRS Korea Array 75.23 318 P **P 13 07 58.3 +0.5**
comp=Z,2.9nm,0.7s,baz=135,slow=6.4,SNR=15
comp=Z,2.9nm,0.7s
KSAR Wonju Array Be 75.25 318 P **P 13 07 57.4 -0.5**
USRK Ussuriysk Ar. 77.12 326 P **P 13 08 08.7 +0.7**
comp=Z,3.3nm,0.8s,baz=145,slow=7.0,SNR=5.1
comp=Z,3.3nm,0.8s
NJ2 Nanjing 78.48 309 *e*P **P 13 08 16.4 +0.7**
NJ2 pmax pmax
comp=Z,16nm,0.7s
MDJ Mudanjiang 78.69 325 P **P 13 08 17.8 +1.3**
MDJ pmax pmax
comp=Z,24nm,0.9s
NVAR Mina Array Bea 79.32 44 P **P 13 08 21.0 +0.7**
comp=Z,1.4nm,0.7s,baz=222,slow=9.0,SNR=14
NVAR pP **pP 13 10 19.9 +0.3**
comp=Z,1.4nm,1.0s,baz=228,slow=9.4,SNR=5.7
comp=Z,1.4nm,0.7s
MYKOM Kota Tinggi 79.38 275 P **P 13 08 20.6 -0.3**
J05D Fort Rock, OR 80.27 38 P **P 13 08 26.4 +1.3**
CN2 Changchun 80.54 322 *e*P **P 13 08 25.9 -0.3**
CN2 *e*PP **PP 13 11 41.0 +0.5**
CN2 pmax pmax
comp=Z,20nm,1.0s
BNX BinXian 80.60 325 ⇑P **P 13 08 26.8 +0.3**
BNX pmax pmax
comp=Z,23nm,0.7s
SMAI San Martin Ant 80.71 159 P **P 13 08 29.1 +2.4**
SMAI IAmb IAmb 13 08 30.0
comp=Z,19nm,0.8s
PINE Pine Mountain 80.74 38 P **P 13 08 28.1 +0.5**
TIA Tai'an 81.79 312 P **P 13 08 33.3 +0.5**
TIA pmax pmax
comp=Z,9.0nm,0.7s
BELA Belgrano 2 81.81 173 P **P 13 08 33.1 +0.8**
SUA Susitna One 82.32 13 P **P 13 08 34.7 -0.4**
SUA IAmb IAmb 13 09 03.9
comp=Z,45nm,1.4s
U15A North Rim 82.38 48 P **P 13 08 36.2 +0.1**
IPM Ipoh 82.91 277 P **P 13 08 39.3 +0.3**
IPM IAmb IAmb 13 08 40.3
comp=Z,35nm,0.8s
IPM Ipoh 82.91 277 P **P 13 08 38.9 -0.1**
HEH HeiHe 83.41 328 *e*P **P 13 08 40.6 0.0**
HEH pmax pmax
comp=Z,10.0nm,1.2s
MAW Mawson 83.73 200 P **P 13 08 42.5 +0.6**
comp=Z,3.3nm,0.8s,baz=150,slow=3.5,SNR=18
comp=Z,3.3nm,0.8s
CAST Castle Rocks 83.83 11 P **P 13 08 41.1 -1.3**
HNS HongShan 84.06 312 ⇑P **P 13 08 45.1 +1.0**
HNS pmax pmax
comp=Z,16nm,1.3s
BJI Beijing 84.32 315 P **P 13 08 45.8 +0.5**
BJI pmax pmax
comp=Z,6.0nm,1.1s
LYN LuoYang 84.37 309 ⇑P **P 13 08 46.8 +1.1**
LYN pmax pmax
comp=Z,50nm,0.8s
RND Reindeer 84.46 13 P **P 13 08 45.5 -0.1**
ENH Enshi 84.82 304 P **P 13 08 48.2 +0.1**
ENH IAmb IAmb 13 08 49.6
comp=Z,41nm,0.8s
MG03 Isla Dawson 85.34 145 P **P 13 08 52.2 +2.0**
MG03 IAmb IAmb 13 10 41.6
comp=Z,46nm,1.2s
TX31 Lajitas Ar. Si 85.77 57 P **P 13 08 54.6 +1.8**
TXAR Lajitas Array 85.77 57 P **P 13 08 54.8 +2.1**
TXAR Lajitas Array 85.77 57 P **P 13 08 54.6 +1.8**
comp=Z,3.6nm,0.8s,baz=222,slow=6.1,SNR=38
comp=Z,3.6nm,0.8s
ILAR Eielson Array 86.08 13 P **P 13 08 52.5 -0.7**
comp=Z,0.4nm,0.4s,baz=222,slow=5.5,SNR=17
ILAR pP **pwP 13 10 58.0 -0.3**
comp=Z,1.5nm,1.1s,baz=234,slow=6.3,SNR=4.5
comp=Z,0.4nm,0.4s
J26L Joseph Creek 86.58 14 P **P 13 08 56.1 +0.4**
XAN Xi'an 86.81 307 P **P 13 08 58.6 +1.1**
XAN sP sP 13 11 59.4 +1.8
XAN pmax pmax
comp=Z,50nm,1.0s
PDAR Pinedale Array 87.25 43 P **P 13 08 59.9 +0.3**
comp=Z,0.9nm,0.7s,baz=229,slow=3.7,SNR=6.1
PDAR pP **pwP 13 11 04.8 -1.0**
comp=Z,0.3nm,0.4s,baz=270,slow=0.2,SNR=3.5
comp=Z,0.9nm,0.7s
HHC Hu-ho-hao-te 87.81 314 *e*P **P 13 09 03.5 +1.4**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,81nm,4.6s
KMI Kunming 88.38 297 ⇑P **P 13 09 07.0 +1.8**
KMI pmax pmax
comp=Z,11nm,1.2s
BTO Baotou 88.76 314 *e*P P 13 09 11.5 +5.0
BTO PP **PP 13 12 52.2 +5.8**
BTO S **S 13 19 06.8 +0.4**
BTO pmax pmax

comp=Z,29nm,0.5s
BTO pmax pmax
comp=Z,150nm,3.6s
ELIB Princess Elisa 88.91 186 *d*P **P 13 09 07.6 +0.8**
CMAR Chiang Mai Arr 89.42 290 P **P 13 09 10.6 +0.7**
CMAR Chiang Mai Arr 89.42 290 P **P 13 09 10.4 +0.5**
comp=Z,9.4nm,0.9s,baz=110,slow=2.6,SNR=58
CMAR PP **PP 13 12 56.1 +4.3**
comp=Z,0.9nm,0.8s,baz=119,slow=5.6,SNR=5.1
comp=Z,9.4nm,0.9s
CHTO Chiang Mai 89.53 290 P **P 13 09 10.7 +0.2**
CHTO IAmb IAmb 13 09 12.1
comp=Z,11nm,0.8s
PZH PanZhiHua 89.70 298 P **P 13 09 11.7 +0.5**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,60nm,4.7s
TROLL Troll, Antarti 90.01 180 ⇑P **P 13 09 12.0 +0.1**
comp=Z,89nm,0.7s
SNAA Sanae 90.29 178 ⇑P **P 13 09 11.7 -1.3**
comp=Z,22nm,0.6s
SNAA Sanae 90.29 178 P **P 13 09 13.3 +0.3**
comp=Z,1.7nm,0.9s,baz=212,slow=9.5,SNR=2.4
comp=Z,1.7nm,0.9s
G30M tAoh Zraii Nji 90.37 15 P **P 13 09 12.5 -0.8**
G30M IAmb IAmb 13 09 14.2
comp=Z,12nm,1.2s
VNA3 Neumayer Olymp 90.41 176 ⇑P **P 13 09 14.6 +1.0**
comp=Z,6.1nm,0.7s
PLCA Paso Flores 90.79 134 P **P 13 09 17.9 +1.9**
comp=Z,2.8nm,0.7s,baz=202,slow=6.9,SNR=3.2
comp=Z,2.8nm,0.7s
LZH Lanzhou 91.44 308 *e*P **P 13 09 20.3 +1.2**
LZH pP pP 13 11 25.0 +2.2
LZH pmax pmax
comp=Z,21nm,1.3s
SONM Songino Array 94.08 319 P **P 13 09 30.3 -0.6**
comp=Z,1.1nm,0.9s,baz=123,slow=2.9,SNR=6.1
comp=Z,1.1nm,0.9s
GTA Gaotai 95.58 310 *e*P **P 13 09 37.5 -0.4**
GTA pmax pmax
comp=Z,3.0nm,1.2s
WMQ Urumqi 105.48 312 Pdif **Pdif 13 10 22.6 +0.8**
MKAR Makanchi Array 109.67 314 PKiKP **PKiKP 13 14 38.2 -1.2**
comp=Z,0.7nm,0.5s,baz=153,slow=0.3,SNR=7.5
MKAR PKKPbc **PKKPbc 13 25 45.3 -0.6**
comp=Z,0.6nm,0.8s,baz=270,slow=2.7,SNR=4.0
KURBB Kurchatov Arra 112.41 318 PKiKP **PKiKP 13 14 43.2 -1.2**
comp=Z,0.3nm,0.4s,baz=94,slow=1.8,SNR=13
KURBB PP **PP 13 15 36.0 -5.6**
comp=Z,0.3nm,0.3s,baz=87,slow=7.1,SNR=4.5
BVAR Borovoye Array 117.37 321 PKP **PKPdf 13 14 52.0 -1.8**
comp=Z,2.0nm,0.5s,baz=54,slow=2.7,SNR=9.5
ARTI Arti 123.46 326 PKPdf **PKPdf 13 15 04.7 -0.7**
ABKAR Akbulak array 124.46 318 PKPdf **PKPdf 13 15 06.6 -1.0**
ARCES ARCESS Array B 126.69 350 PKP **PKPdf 13 15 10.9 -0.4**
comp=Z,2.3nm,0.9s,baz=86,slow=2.8,SNR=7.5
FINES FINESS Array B 133.60 344 PKP **PKPdf 13 15 23.3 -1.2**
comp=Z,1.5nm,0.8s,baz=72,slow=4.5,SNR=3.9
AKASG Malin Array Be 141.04 333 PKhKP PKPpre 13 15 31.9
comp=Z,0.3nm,0.2s,baz=40,slow=4.4,SNR=7.1
AKASG PKP **PKPdf 13 15 39.7 +1.1**
comp=Z,0.8nm,0.4s,baz=38,slow=1.8,SNR=5.3
ARPR Arapgir-MALATY 142.33 311 PKPdf **PKPdf 13 15 39.0 -2.5**
SORM Soroca 143.28 330 ⇓P PKPbc 13 15 40.9 -0.1
DIKM Dikmen 143.31 317 ⇑P PKPbc 13 15 42.0 +0.6
GAZ Gaziantep 143.88 309 PKPbc 13 15 43.2 -0.2
BNN Bunyan 144.19 312 **PKPdf 13 15 44.7 0.0**
LODK Lodwar 144.25 250 PKPbc 13 15 45.2 -0.1
KWP Kalwaria Pacla 144.53 337 *e*PKP **PKPab 13 15 45.4 -0.1**
KWP Kalwaria Pacla 144.53 337 PKPbc 13 15 45.1 +0.1
KWP Kalwaria Pacla 144.53 337 PKP **PKPdf 13 15 44.8 0.0**
CIDE Kastamonu/Cide 144.67 319 ⇓P **PKPab 13 15 47.0 +0.8**
OJC Ojcow 145.05 340 *e*PKP **PKPbc 13 15 46.6 +0.2**
OJC Ojcow 145.05 340 PKPdf **PKPdf 13 15 45.7 +0.1**
TLCR 145.08 326 ⇑P **PKPbc 13 15 47.2 +0.5**
BUR08 Bucovina Ar. S 145.08 332 PKPdf **PKPbc 13 15 46.6 -0.2**
BURAR Bucovina Array 145.09 332 ⇑P **PKPab 13 15 47.4 -0.5**
SCTR Scanteiesti 145.17 328 ⇑P **PKPab 13 15 48.0 -0.1**
BIZ Bicaz 145.19 331 ⇓P **PKPab 13 15 48.5 +0.3**
GHRR 145.20 329 ⇑P **PKPab 13 15 48.6 +0.4**
STHS Stebnicka Huta 145.24 338 *e*PKP **PKPab 13 15 47.8 -0.5**
TESR Tescani 145.25 330 ⇑P **PKPbc 13 15 47.5 +0.3**
KOLS Kolonicke sedl 145.26 336 *e*PKP **PKPab 13 15 47.8 -0.6**
BR131 Keskin Array S 145.32 315 PKPdf **PKPdf 13 15 47.0 +0.4**
BRTR Keskin Array B 145.32 315 PKPdf **PKPdf 13 15 47.0 +0.4**
BRTR Keskin Array B 145.32 315 PKPbc **PKPdf 13 15 46.7 +0.1**
comp=Z,11nm,0.9s,baz=134,slow=3.6,SNR=40
JURR Jurilovca 145.32 326 ⇑P **PKPbc 13 15 47.9 +0.5**
KIRS Kirsehir-Merke 145.41 314 ⇓P **PKPdf 13 15 47.0 +0.3**
CFR Carcaliu 145.44 327 ⇑P **PKPbc 13 15 48.3 +0.5**
ONER Baraj Valea Uz 145.50 330 ⇓P **PKPbc 13 15 48.4 +0.5**
KSP Ksiaz 145.53 344 *e*PKP **PKPbc 13 15 48.4 +0.6**
NIE Niedzica 145.57 339 *e*PKP **PKPab 13 15 49.7 +0.1**
VRI Vrincioaia 145.67 329 ⇓P **PKPbc 13 15 49.0 +0.6**
PLOR Plostina 145.72 329 ⇓P **PKPbc 13 15 48.5 -0.1**
OSTC Ostas 145.81 344 *e*PKP **PKPbc 13 15 49.3 +0.6**
ANTO Ankara 145.81 316 **PKPbc 13 15 48.7 -0.4**
ANTO Ankara 145.81 316 ⇓P **PKPab 13 15 50.3 -0.7**
CLL Collm 145.85 348 **PKPbc 13 15 48.2 -0.6**
CLL Collm 145.85 348 *i* PKPbc **PKPbc 13 15 49.1 +0.4**
comp=Z,29nm,0.9s
HARR Harsova 145.88 326 ⇑P **PKPbc 13 15 49.6 +0.6**
ARCR ARCALIA 145.88 332 ⇑P **PKPab 13 15 50.1 -0.8**
TURR Turia 145.88 330 ⇑P **PKPab 13 15 50.0 -0.9**
UPC Upice 145.91 344 *e*PKP **PKPbc 13 15 49.5 +0.6**
UPC *e*PKP **PKPbc 13 15 49.6 +0.6**
COVR Voineasa-Covas 145.94 329 ⇓P **PKPbc 13 15 49.1 -0.2**
OZUR 145.96 330 ⇑P **PKPbc 13 15 49.9 +0.6**
DPC Dobruska-Polom 145.97 344 *e*PKP **PKPbc 13 15 48.9 -0.3**
BRG Berggiesshubel 146.07 346 *i* PKP **PKPbc 13 15 50.0 +0.6**
BRG Amp 13 15 50.7
comp=Z,10nm,0.9s
LANS Liptovska Anna 146.08 339 *e*PKP **PKPab 13 15 50.8 -0.9**
KRLC Kraliky 146.09 343 *e*PKP **PKPbc 13 15 50.0 +0.5**
MORC Moravsky Berou 146.14 342 **PKPbc 13 15 49.0 -0.7**
MORC Moravsky Berou 146.14 342 *e*PKP **PKPbc 13 15 49.4 -0.3**
MORC Moravsky Berou 146.14 342 ⇑P **PKPbc 13 15 50.2 +0.5**
PVCC Panska Ves 146.24 346 *e*PKP **PKPbc 13 15 50.8 +0.9**
DOPR Dopca 146.25 330 ⇑P **PKPbc 13 15 51.2 +1.1**
ISR Istrita 146.29 328 ⇑P **PKPbc 13 15 50.8 +0.5**
MLR Muntele Rosu 146.32 329 **PKPbc 13 15 49.8 -0.6**
MLR Muntele Rosu 146.32 329 ⇓P **PKPbc 13 15 51.0 +0.6**
MAUC Maruska 146.42 341 *e*PKP **PKPbc 13 15 51.3 +0.9**
HSKC Hora Svate Kat 146.43 347 *e*PKP **PKPbc 13 15 50.2 -0.2**
MDUB Mudurnu 146.54 318 **PKPbc 13 15 50.8 -0.3**
MMAI Mount Meron Ar 146.69 303 PKPbc **PKPbc 13 15 51.9 +0.1**
comp=Z,13nm,0.6s,baz=75,slow=6.1,SNR=21
MARR Marisel-Cluj 146.73 333 ⇑P **PKPbc 13 15 52.0 +0.6**
PRU Pruhonice 146.75 345 *e*PKP **PKPbc 13 15 51.5 +0.2**
DRGR 146.81 334 ⇓P **PKPbc 13 15 52.0 +0.3**
VRAC Vranov 146.84 343 *e*PKP **PKPbc 13 15 51.4 -0.1**
VRAC Vranov 146.84 343 ⇑P **PKPbc 13 15 52.4 +0.8**
VYHS Vyhne 146.86 339 *e*PKP **PKPbc 13 15 52.4 +0.8**
PSZ Piszkesteto 146.99 338 **PKPbc 13 15 51.4 -0.7**
PSZ Piszkesteto 146.99 338 ⇑P **PKPbc 13 15 52.6 +0.6**
ARR Arges 147.04 330 ⇑P **PKPbc 13 15 52.3 0.0**
KRUC Moravsky 147.11 343 *e*PKP **PKPbc 13 15 52.4 +0.1**
ZVC Zvikov 147.35 345 *e*PKP **PKPbc 13 15 53.3 +0.4**
ZVC *ex* x 13 15 57.0
MODS Modra-Piesok 147.47 341 *e*PKP **PKiKP 13 15 54.3 -0.5**
SIRR Siria 147.67 334 ⇑P **PKPbc 13 15 53.9 +0.1**
KHC Kasperske Hory 147.78 346 *e*PKP **PKPbc 13 15 54.0 0.0**
KHC *ex* x 13 15 59.4
GZR Gura Zlata 147.88 332 ⇑P **PKPbc 13 15 54.5 0.0**
SURR Surduc 147.88 333 ⇓P **PKPbc 13 15 54.2 -0.1**
CKRC Cesky Krumlov 147.89 345 *e*PKP **PKPbc 13 15 54.9 +0.6**
CKRC *ex* x 13 16 00.0
GERES GERESS Array B 148.02 345 PKPbc **PKPbc 13 15 54.6 -0.1**
comp=Z,7.1nm,0.8s,baz=15,slow=4.1,SNR=25
ELND Elena 148.16 326 ⇓P **PKPbc 13 15 54.7 -0.5**
BZS Buzias 148.21 334 ⇓P **PKPbc 13 15 55.2 +0.1**
CONA Conrad Observa 148.29 342 *i* PKP **PKiKP 13 15 56.4 -0.2**
comp=Z,20nm,1.8s
RONA Rosalia, Austr 148.37 342 *i* PKiKP **PKiKP 13 15 56.4 -0.3**
comp=Z,19nm,1.5s
HERR Herculane 148.44 332 ⇑P **PKPbc 13 15 55.8 0.0**
MDVR Moldovita 148.83 332 ⇑P **PKPbc 13 15 57.0 +0.2**
MORH Mrgy, Hungar 148.88 337 ⇑P **PKPbc 13 15 57.0 +0.2**
ARSA Arzberg 149.00 342 *i* PKiKP **PKiKP 13 15 58.2 +0.2**
comp=Z,5.0nm,0.9s
BIOA Bad Ischl, Aus 149.11 345 *i* PKP **PKPbc 13 15 57.5 +0.2**

comp=Z,10nm,1.2s
LESA Schwarzleotal 149.59 346 *i* PKP **PKPbc 13 15 58.8 +0.2**
comp=Z,5.8nm,0.8s
SOKA Soboth 149.66 342 *i* PKP **PKPbc 13 15 58.7 -0.1**
comp=Z,7.6nm,0.9s
BOVS Bovan 149.72 331 ⇓P **PKPbc 13 15 58.5 -0.4**
KBA Koelnbreinsper 149.75 345 *i* PKP **PKPbc 13 15 58.8 -0.3**
comp=Z,7.6nm,0.7s,SNR=9.5
WATA Walderalm 149.92 347 *i* PKP **PKPbc 13 15 59.5 +0.1**
comp=Z,14nm,1.2s
RETA Reutte 149.94 348 *i* PKP **PKPbc 13 15 59.7 +0.3**
comp=Z,4.9nm,1.1s
OBKA Obir 149.95 343 *i* PKP **PKPbc 13 15 59.2 -0.3**
comp=Z,2.7nm,0.7s
WTTA Wattenberg 149.98 347 *i* PKP **PKiKP 13 16 00.0 -0.2**
comp=Z,16nm,0.7s,SNR=6.5
MOTA Moosalm 150.01 348 *i* PKP **PKPbc 13 15 59.0 -0.6**
comp=Z,7.9nm,0.8s
MYKA Terra Mystica 150.09 344 *i* PKP **PKPbc 13 15 59.4 -0.4**
comp=Z,10nm,0.8s
SQTA Sankt Quirin 150.11 347 *i* PKP **PKiKP 13 16 00.2 -0.2**
comp=Z,9.2nm,0.7s,SNR=4.3
ABTA Abfaltersbach 150.27 345 *i* PKP **PKPbc 13 16 00.0 -0.2**
comp=Z,18nm,0.7s,SNR=12
DAVA Damuels 150.30 349 *e*PKiKP **PKiKP 13 16 00.8 -0.1**
comp=Z,7.6nm,0.6s,SNR=5.3
FETA Feichten 150.40 348 *i* PKiKP **PKiKP 13 16 01.1 0.0**
comp=Z,15nm,1.0s,SNR=7.3
MATE Matera 154.33 334 ⇑P **PKiKP 13 16 06.3 -2.9**
ESDC Sonseca Array 157.98 13 PKPab **PKPab 13 16 41.3 -0.8**
comp=Z,0.3nm,0.3s,baz=326,slow=4.2,SNR=3.2
TORD Torodi Ar. Bea 174.95 176 PKP **PKPdf 13 16 17.9 -0.7**
comp=Z,1.1nm,1.0s,baz=287,slow=1.9,SNR=3.8

AUST 10 12:57:51.6±0.7,34°S±2°×117°E±°,h2km±2km,ML0.9/5,
Error ellipse: s-maj=5.6km s-min=3.5km az=26.1,
Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LM01	**Lskr Muir 01**	**0.03**	**343**	P	Pg	12 57 52.6	+0.3
LM01				S	Sg	12 57 53.0	+0.2
LM03	**Lake Muir 03**	**0.12**	**63**	P	Pg	12 57 54.3	+0.3
LM03				S	Sg	12 57 55.8	+0.3
LM04	**Lake Muir 04**	**0.15**	**303**	P	Pg	12 57 54.9	+0.3
LM04				S	Sg	12 57 56.8	+0.2
RKGY	**Rocky Gully**	**0.24**	**142**	P	Pg	12 57 56.5	+0.3
RKGY				S	Sg	12 57 59.7	+0.4
LM05	**Lake Muir 05**	**0.40**	**275**	P	Pg	12 57 59.7	+0.5
LM05				S	Sg	12 58 04.8	+0.4

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*IDC **10** 13:20:19.0±1.0,0°.57N×126°.63E,h0km,mb3.6/7,*
mbtmp3.6/7,Error ellipse: s-maj=61.4km s-min=19.0km
az=71.0
ISC 10 13:20:25.2±1.1,0°.5N±0°.2×126°.7E±0°.4,h47km,n7,σ0°94/7,
mb3.6/7,Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.69**	**160**	P	**P**	**13 25 11.3**	**-1.0**
	0.9nm,0.5s,baz=338,slow=10,SNR=30						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**25.06**	**164**	P	**P**	**13 25 46.4**	**+1.0**
	0.7nm,0.4s,baz=342,slow=8.9,SNR=47						
	0.7nm,0.4s						
SONM	**Songino Array**	**50.30**	**342**	P	**P**	**13 29 16.6**	**-0.6**
	0.1nm,0.3s,baz=166,slow=8.9,SNR=1.8						
	0.1nm,0.3s						
PETK	**Petropavlovsk-**	**58.38**	**21**	P	**P**	**13 30 15.9**	**+0.3**
	1.9nm,0.9s,baz=198,slow=6.7,SNR=4.4						
	1.9nm,0.9s						
MKAR	**Makanchi Array**	**60.16**	**326**	P	**P**	**13 30 27.8**	**-0.4**
	0.2nm,0.4s,baz=117,slow=7.1,SNR=6.5						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.41**	**328**	P	**P**	**13 30 56.5**	**0.0**
	0.6nm,0.7s,baz=126,slow=6.7,SNR=4.7						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**69.97**	**328**	P	**P**	**13 31 32.8**	**+1.0**
	0.4nm,0.5s,baz=127,slow=9.3,SNR=1.9						
	0.4nm,0.5s						

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*IDC **10** 13:21:26.8±1.7,6°.91S×147°.32E,h96km±15km,mb3.9/16,*
mbtmp4.2/18,MS3.1/13,Error ellipse: s-maj=19.7km
s-min=11.1km az=107.0
*NEIC **10** 13:21:26.2±2.5,6°.94S±0°.07×147°.42E±0°.09,h90km±8km,*
mb4.5/23,Error ellipse: s-maj=13.2km s-min=9.3km
az=110.0
ISC 10 13:21:26.9±0.5,6°.95S±0°.05×147°.23E±0°.07,h100km,n73,
σ1°69/68,mb4.3/25,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.44**	**182**	Pn	**Pn**	**13 22 04.1**	**-1.2**
PMG	**Port Moresby**	**2.44**	**182**	P	**Pn**	**13 22 05.6**	**+0.2**
	399nm,0.3s,baz=12,slow=7.5,SNR=456						
PMG				S	**Sn**	**13 22 35.7**	**+0.9**
	373nm,0.4s,baz=53,slow=20,SNR=3.2						
PMG				LR	LR	13 23 08.1	
	comp=Z,455nm,20.1s,baz=60,slow=41						
PMG	**Port Moresby**	**2.44**	**182**	P	**Pn**	**13 22 05.4**	**0.0**
PMG	**Port Moresby**	**2.44**	**182**	P	**Pn**	**13 22 05.6**	**+0.2**
BULU	**Kimbe**	**3.37**	**66**	P	**Pn**	**13 22 18.1**	**+0.4**
MANU	**Manus Island**	**4.87**	**2**	Pn	**Pn**	**13 22 37.0**	**-1.1**
RABL	**Rabaul**	**5.62**	**61**	Pn	**Pn**	**13 22 44.4**	**-3.7**
JAY	**Jayapura**	**7.85**	**304**	LR	LR	13 26 51.7	
	comp=Z,142nm,19.5s,baz=324,slow=41						
COEN	**Coen**	**8.03**	**209**	Pn	**Pn**	**13 23 21.1**	**+0.3**
COEN	**Coen**	**8.03**	**209**	P	**Pn**	**13 23 21.6**	**+0.7**
MTSU	**Mount Surprise**	**11.48**	**194**	P	**Pn**	**13 24 09.5**	**+1.8**
HNR	**Honiara**	**12.83**	**102**	LR	LR	13 28 31.0	
	comp=Z,52nm,19.9s,baz=258,slow=33						
CTAO	**Charters Tower**	**13.10**	**184**		**P**	**13 24 32.1**	**-3.6**
QIS	**Mount Isa**	**15.42**	**208**	P	**P**	**13 25 01.4**	**0.0**
KDU	**Kakadu**	**15.62**	**247**	P	**P**	**13 25 04.6**	**+1.0**
SAUI	**Saumlaki**	**15.83**	**265**	Pn	**Pn**	**13 25 01.9**	**-2.3**
MTN	**Manton Dam**	**16.90**	**248**		**Pn**	**13 25 17.6**	**+0.1**
WRAB	**Tennant Creek**	**17.97**	**223**	P	**P**	**13 25 29.6**	**0.0**
WRAB				IAmb	IAmb	13 25 37.1	
	comp=Z,13nm,0.6s						
WB2	**Warramunga Arr**	**17.98**	**223**		**Pn**	**13 25 31.3**	**+0.8**
WRA	**Warramunga Arr**	**17.98**	**223**	P	**P**	**13 25 30.4**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=55,slow=13,SNR=18						
WRA				S	**S**	**13 28 43.3**	**-7.7**
	comp=Z,1.3nm,0.6s,baz=39,slow=23,SNR=3.4						
WRA				LR	LR	13 32 46.5	
	comp=Z,88nm,20.0s,baz=34,slow=38						
EIDS	**Eidsvold**	**18.69**	**169**	P	**P**	**13 25 36.8**	**-0.6**
QLP	**Quilpie**	**19.73**	**188**	P	**Pn**	**13 25 51.1**	**-0.1**
KNRA	**Kununurra**	**20.07**	**243**	P	**P**	**13 25 53.3**	**+0.8**
KNRA				IAmb	IAmb	13 26 25.7	
	comp=Z,13nm,0.8s						
GUMO	**Guam**	**20.54**	**353**	LR	LR	13 32 21.2	
	comp=Z,45nm,21.6s,baz=90,slow=32						
AS31	**Alice Springs**	**20.98**	**216**	P	**P**	**13 26 04.4**	**+2.0**
ASAR	**Alice Springs**	**20.98**	**216**	P	**P**	**13 26 03.7**	**+1.4**
ASAR	**Alice Springs**	**20.98**	**216**	P	**P**	**13 26 04.0**	**+1.7**
	comp=Z,5.3nm,0.6s,baz=48,slow=9.2,SNR=32						
ASAR				S	**S**	**13 29 52.6**	**+1.9**
	comp=Z,5.1nm,1.0s,baz=34,slow=20,SNR=11						
ASAR				LR	LR	13 35 10.8	
	comp=Z,33nm,21.9s,baz=47,slow=39						
	comp=Z,5.3nm,0.6s						
INKA	**Innaminka**	**21.58**	**196**	P	**P**	**13 26 11.9**	**+3.3**
AULRC	**Lightning Ridg**	**22.38**	**178**	P	**P**	**13 26 19.7**	**+2.7**
OOD	**Oodnadatta**	**23.45**	**206**	P	**P**	**13 26 28.6**	**+1.1**
ARMA	**Armidale**	**23.71**	**171**	P	**P**	**13 26 30.3**	**+0.3**
ARMA				IAmb	IAmb	13 26 33.8	
	comp=Z,18nm,1.2s						
FITZ	**Fitzroy Crossi**	**23.78**	**240**	P	**P**	**13 26 29.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**23.78**	**240**	P	**P**	**13 26 31.1**	**+0.6**
	comp=Z,8.5nm,0.6s,baz=55,slow=8.2,SNR=28						
FITZ				LR	LR	13 37 14.4	
	comp=Z,71nm,21.7s,baz=66,slow=40						
	comp=Z,8.5nm,0.6s						
DZM	**Mont Dzumac**	**23.87**	**131**	P	**P**	**13 26 31.9**	**+0.5**
	comp=Z,4.7nm,0.7s,baz=254,slow=19,SNR=1.5						
	comp=Z,4.7nm,0.7s						
LCRK	**Leigh Creek**	**24.86**	**199**	P	**P**	**13 26 42.1**	**+1.8**
STKA	**Stephens Creek**	**25.36**	**191**	P	**P**	**13 26 46.1**	**+1.4**
STKA	**Stephens Creek**	**25.36**	**191**	P	**P**	**13 26 45.6**	**+0.8**
	comp=Z,3.6nm,0.5s,baz=352,slow=10,SNR=11						
STKA				LR	LR	13 36 50.3	
	comp=Z,60nm,20.9s,baz=19,slow=36						
	comp=Z,3.6nm,0.5s						
STKA	**Stephens Creek**	**25.36**	**191**	P	**P**	**13 26 47.5**	**+2.8**
MULG	**Mulgathing**	**26.31**	**206**	P	**P**	**13 26 55.0**	**+1.7**
KAPI	**Kappang**	**27.39**	**272**	P	**P**	**13 27 02.4**	**-0.9**
KAPI				IAmb	IAmb	13 27 06.2	
	comp=Z,12nm,0.5s						
BBOO	**Buckleboo**	**27.75**	**201**	P	**P**	**13 27 07.0**	**+0.7**
BBOO				IAmb	IAmb	13 27 29.6	
	comp=Z,22nm,1.4s						
CAN	**Canberra**	**28.29**	**177**	P	**P**	**13 27 10.7**	**-0.4**
CAN				IAmb	IAmb	13 27 43.0	
	comp=Z,13nm,1.3s						
FORT	**Forrest**	**29.75**	**215**	P	**P**	**13 27 24.4**	**+0.4**
FORT				IAmb	IAmb	13 27 50.4	
	comp=Z,16nm,0.9s						
MORW	**Morawa**	**36.72**	**229**	P	**P**	**13 28 23.5**	**-1.2**
MORW				IAmb	IAmb	13 28 52.1	
	comp=Z,14nm,1.2s						
NWAO	**Narrogin (SRO)**	**37.99**	**223**	LR	LR	13 45 12.6	
	comp=Z,76nm,20.2s,baz=248,slow=38						
URZ	**Urewera**	**41.26**	**144**	LR	LR	13 45 32.6	
	comp=Z,42nm,18.3s,baz=87,slow=35						
RTZ	**Ruatahuna**	**41.42**	**144**	P	**P**	**13 29 04.0**	**+0.2**
KSRS	**Korea Array**	**47.71**	**339**	P	**P**	**13 29 53.7**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=161,slow=12,SNR=3.3						
KSRS				LR	LR	13 49 12.4	
	comp=Z,7.4nm,20.1s,baz=140,slow=35						
	comp=Z,0.6nm,0.8s						
KULM	**Kulim**	**48.05**	**283**	P	**P**	**13 29 55.2**	**-1.5**
CMAR	**Chiang Mai Arr**	**53.90**	**299**	P	**P**	**13 30 42.6**	**+2.2**
	comp=Z,2.0nm,0.6s,baz=125,slow=5.4,SNR=18						
	comp=Z,2.0nm,0.6s						
PZH	**PanZhiHua**	**55.23**	**309**	P	P	13 30 58.4	+8.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,40nm,4.3s						
HHC	**Hu-ho-hao-te**	**57.75**	**328**	*e*P	**P**	**13 31 11.0**	**+3.3**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,88nm,5.2s						
PETK	**Petropavlovsk-**	**60.48**	**7**	P	**P**	**13 31 26.4**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=195,slow=8.8,SNR=1.7						
PETK				LR	LR	13 53 03.1	
	comp=Z,20nm,21.3s,baz=119,slow=31						
	comp=Z,2.1nm,0.9s						
MA2	**Magadan**	**66.37**	**2**	LR	LR	14 00 50.6	
	comp=Z,8.7nm,19.5s,baz=112,slow=36						
L14K	**Kuka Creek**	**78.36**	**22**	P	**P**	**13 33 14.8**	**-1.2**
L14K				IAmb	IAmb	13 33 30.4	
	comp=Z,19nm,1.2s						
MKAR	**Makanchi Array**	**78.37**	**321**	P	**P**	**13 33 16.4**	**-0.1**
MKAR	**Makanchi Array**	**78.37**	**321**	P	**P**	**13 33 17.1**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=99,slow=7.6,SNR=5.1						
	comp=Z,0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**79.93**	**328**	P	**P**	**13 33 23.9**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=103,slow=6.1,SNR=6.7						
	comp=Z,1.5nm,0.6s						
Q19K	**Cape Douglas,**	**80.71**	**27**	P	**P**	**13 33 27.6**	**-1.3**
MAW	**Mawson**	**81.47**	**203**	P	**P**	**13 33 33.6**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=45,slow=7.1,SNR=2.5						
	comp=Z,0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**82.12**	**323**	P	**P**	**13 33 36.5**	**0.0**
	comp=Z,0.4nm,0.5s,baz=111,slow=4.4,SNR=5.2						
	comp=Z,0.4nm,0.5s						
QSPA	**South Pole Qui**	**83.03**	**180**	P	**P**	**13 33 40.1**	**-1.0**
QSPA				IAmb	IAmb	13 33 43.3	
	comp=Z,3.7nm,0.8s						
QSPA	**South Pole Qui**	**83.03**	**180**	P	**P**	**13 33 41.7**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=298,slow=1.4,SNR=38						
	comp=Z,2.5nm,0.6s						
NRIK	**Noril'sk**	**86.24**	**342**	P	**P**	**13 33 56.9**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=117,slow=3.0,SNR=2.5						
	comp=Z,1.7nm,0.4s						
IL31		**86.26**	**23**	P	**P**	**13 33 55.9**	**-1.2**
IL31				IAmb	IAmb	13 33 57.0	
	comp=Z,3.2nm,0.8s						
ILAR	**Eielson Array**	**86.26**	**23**	P	**P**	**13 33 55.5**	**-1.7**
	comp=Z,1.6nm,0.6s,baz=250,slow=5.0,SNR=33						
	comp=Z,1.6nm,0.6s						
J25K	**Salcha River,**	**86.79**	**23**	P	**P**	**13 33 59.8**	**-0.1**
J25K				IAmb	IAmb	13 34 00.3	
	comp=Z,3.1nm,0.8s						
BVAR	**Borovoye Array**	**87.67**	**324**	P	**P**	**13 34 03.5**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=98,slow=6.1,SNR=4.8						
	comp=Z,0.7nm,0.5s						
NVAR	**Mina Array Bea**	**97.76**	**52**	P	Pdif	13 34 52.7	+1.2
	comp=Z,0.7nm,0.8s,baz=224,slow=7.9,SNR=5.3						
	comp=Z,0.7nm,0.8s						
PDAR	**Pinedale Array**	**104.38**	**48**	Pdiff	**Pdif**	**13 35 21.4**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=251,slow=2.8,SNR=6.6						
TORD	**Torodi Ar. Bea**	**145.54**	**283**	PKPbc	**PKPab**	**13 40 56.2**	**+1.0**
	comp=Z,4.1nm,0.8s,baz=74,slow=4.6,SNR=19						
DBIC	**Dimbokro**	**152.28**	**271**	PKPbc	**PKPbc**	**13 41 12.0**	**-0.3**
	comp=Z,2.7nm,0.5s,baz=108,slow=1.6,SNR=7.6						
BDFB	**Brasilia**	**152.95**	**146**	PKPbc	**PKiKP**	**13 41 14.5**	**+0.5**
	comp=Z,5.4nm,0.6s,baz=235,slow=1.6,SNR=6.3						

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*NEIC **10** 13:30:08.0±1.8,18°.2S±0°.1×178°.0W±0°.1,h582km±9km,*
mb4.3/19,Error ellipse: s-maj=20.2km s-min=17.8km
az=190.0
*IDC **10** 13:30:09.2±1.2,18°.24S×178°.18W,h578km±11km,*
mb3.3/10,mbtmp4.2/12,Error ellipse: s-maj=18.4km
s-min=15.0km az=108.0
ISC 10 13:30:08.7±0.7,18°.1S±0°.1×178°.1W±0°.1,h590km,n43,
σ1°56/47,mb4.3/21,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.68**	**275**	P	**P**	**13 31 29.4**	**-2.0**
MSVF	**Nonsavu**	**3.68**	**275**	P	**P**	**13 31 29.8**	**-1.5**
	67nm,0.6s,baz=128,slow=13,SNR=49						
MSVF				S	**S**	**13 32 38.3**	**-0.3**
	15nm,1.0s,baz=18,slow=20,SNR=1.9						
FUTU	**Fugatoga**	**3.79**	**360**	P	**P**	**13 31 30.1**	**-2.0**
AFI	**Afiamalu**	**7.38**	**56**	P	**P**	**13 31 59.5**	**-2.5**
DZM	**Mont Dzumac**	**15.03**	**252**	P	**P**	**13 33 18.9**	**+1.3**
	4.5nm,0.9s,baz=123,slow=24,SNR=1.7						
URZ	**Urewera**	**20.50**	**191**	P	**P**	**13 34 05.0**	**-2.2**
	3.3nm,0.3s,baz=340,slow=4.1,SNR=9.3						
	3.3nm,0.3s						
RTZ	**Ruatahuna**	**20.87**	**191**	P	**P**	**13 34 07.1**	**-3.6**
HNR	**Honiara**	**22.97**	**289**	P	**P**	**13 34 23.8**	**-5.8**
	35nm,0.3s,baz=23,slow=18,SNR=4.4						
CTAO	**Charters Tower**	**33.69**	**261**	P	**P**	**13 36 02.0**	**-0.4**
CTAO				IAmb	IAmb	13 36 11.9	
	comp=Z,21nm,1.5s						
COEN	**Coen**	**37.39**	**271**	P	**P**	**13 36 33.4**	**+0.3**
COEN				IAmb	IAmb	13 36 38.0	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**38.78**	**241**	P	**P**	**13 36 45.2**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=98,slow=12,SNR=3.3						
	comp=Z,2.0nm,0.7s						
WR0	**Warramunga Arr**	**44.69**	**260**	P	**P**	**13 37 29.3**	**-1.3**
WB0	**Warramunga Arr**	**44.84**	**260**	P	**P**	**13 37 31.8**	**-0.1**
WB2	**Warramunga Arr**	**44.86**	**260**	P	**P**	**13 37 31.8**	**-0.2**
WB2				IAmb	IAmb	13 37 32.8	
	comp=Z,3.4nm,0.6s						
WRA	**Warramunga Arr**	**44.88**	**260**	P	**P**	**13 37 32.0**	**-0.1**
WRA	**Warramunga Arr**	**44.88**	**260**	P	**P**	**13 37 32.1**	**0.0**
	comp=Z,1.7nm,0.4s,baz=96,slow=7.1,SNR=72						
WRA				PcP	**PcP**	**13 39 02.5**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=92,slow=3.4,SNR=2.7						
	comp=Z,1.7nm,0.4s						
AS31	**Alice Springs**	**45.01**	**254**	P	**P**	**13 37 33.9**	**+0.8**
AS31				IAmb	IAmb	13 37 34.6	
	comp=Z,4.6nm,0.5s						
ASAR	**Alice Springs**	**45.01**	**254**	P	**P**	**13 37 33.3**	**+0.2**
ASAR	**Alice Springs**	**45.01**	**254**	P	**P**	**13 37 33.8**	**+0.7**
	comp=Z,11nm,0.5s,baz=88,slow=9.1,SNR=331						
ASAR				PcP	**PcP**	**13 39 03.0**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=104,slow=3.7,SNR=5.0						
ASAR				S	**S**	**13 43 29.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=87,slow=16,SNR=4.8						
	comp=Z,11nm,0.5s						
MTN	**Manton Dam**	**49.08**	**269**	P	**P**	**13 38 04.2**	**+0.6**
MTN				IAmb	IAmb	13 38 43.4	
	comp=Z,14nm,1.3s						
KNRA	**Kununurra**	**50.75**	**264**	P	**P**	**13 38 15.9**	**0.0**
KNRA				IAmb	IAmb	13 38 48.7	
	comp=Z,14nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.28**	**261**	P	**P**	**13 38 34.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**53.28**	**261**	P	**P**	**13 38 34.6**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=151,slow=5.1,SNR=7.5						
	comp=Z,1.6nm,0.8s						
PSA00	**Pilbara Seismi**	**58.13**	**255**	P	**P**	**13 39 07.5**	**+0.2**
PSA00				IAmb	IAmb	13 39 39.6	
	comp=Z,28nm,1.4s						
MBWA	**Marble Bar**	**58.30**	**256**	P	**P**	**13 39 07.7**	**-0.8**
MBWA				IAmb	IAmb	13 39 08.8	
	comp=Z,27nm,1.3s						
MJAR	**Matsushiro Arr**	**68.24**	**323**	P	**P**	**13 40 12.9**	**+1.3**
	comp=Z,1.0nm,0.5s,baz=155,slow=5.6,SNR=6.5						
	comp=Z,1.0nm,0.5s						
MAJO	**Matsushiro**	**68.24**	**323**	P	**P**	**13 40 10.9**	**-0.7**
MAJO				IAmb	IAmb	13 40 42.6	
	comp=Z,15nm,1.3s						
MJB9	**Matsu-Tunnel**	**68.25**	**323**	P	**P**	**13 40 12.5**	**+0.9**
MJB9				IAmb	IAmb	13 40 43.6	
	comp=Z,14nm,1.3s						
UGM	**Wanagama**	**69.92**	**268**	P	**P**	**13 40 22.0**	**-0.2**
QSPA	**South Pole Qui**	**71.94**	**180**	P	**P**	**13 40 33.5**	**+0.3**
QSPA	**South Pole Qui**	**71.94**	**180**	P	**P**	**13 40 35.0**	**+1.9**
	comp=Z,1.3nm,0.8s,baz=341,slow=6.8,SNR=12						
	comp=Z,1.3nm,0.8s						
PEA0B	**Petropavlovsk-**	**73.95**	**345**	P	**P**	**13 40 45.2**	**+0.6**
PETK	**Petropavlovsk-**	**73.95**	**345**	P	**P**	**13 40 44.0**	**-0.5**
PETK	**Petropavlovsk-**	**73.95**	**345**	P	**P**	**13 40 46.2**	**+1.6**
	comp=Z,1.8nm,0.7s,baz=108,slow=6.9,SNR=6.4						
	comp=Z,1.8nm,0.7s						
IMAR	**Indian Mountai**	**85.83**	**10**	P	**P**	**13 41 47.7**	**+1.5**
ILAR	**Eielson Array**	**86.02**	**13**	P	**P**	**13 41 48.8**	**+1.7**
ILAR	**Eielson Array**	**86.02**	**13**	P	**P**	**13 41 48.6**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=222,slow=5.0,SNR=18						
	comp=Z,0.3nm,0.4s						
BMAR	**Burnt Mountain**	**88.80**	**12**	P	**P**	**13 42 00.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**89.22**	**290**	P	**P**	**13 42 05.9**	**+2.7**
	comp=Z,0.5nm,0.3s,baz=67,slow=3.0,SNR=1.8						
	comp=Z,0.5nm,0.3s						
G31M	**Satah River**	**90.78**	**16**	P	**P**	**13 42 09.0**	**-0.2**
G31M				IAmb	IAmb	13 42 14.9	
	comp=Z,6.0nm,1.4s						
BRTR	**Keskin Array B**	**145.13**	**315**	PKPbc	**PKPab**	**13 48 43.0**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=75,slow=4.6,SNR=3.3						
CLL	**Collm**	**145.72**	**348**	*i* PKPbc	**PKiKP**	**13 48 45.0**	**0.0**
CLL				AMS	AMS	17 15 00.0	
	comp=Z,200nm,19.2s						
GERES	**GERESS Array B**	**147.88**	**345**	PKPbc	**PKiKP**	**13 48 49.8**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=93,slow=4.3,SNR=2.4						

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*IDC **10** 13:31:07.0±3.2,37°.54N×69°.18E,h0km,mb4.0/2,*
mbtmp3.9/8,ML3.4/6,MS2.7/7,Error ellipse: s-maj=39.0km
s-min=20.5km az=177.0
*NNC **10** 13:31:15.6±3.7,38°.09N×68°.77E,h28km±19km,mb4.5,*
mpv4.2,Error ellipse: s-maj=24.9km s-min=15.1km
az=26.0
ISC 10 13:31:11.9±2.5,37°.9N±0°.2×68°.7E±0°.1,h10km,n24,
σ2°01/25,7C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.33**	**14**	Pg	**Pb**	**13 32 31.9**	**+3.7**
	63nm,0.4s						
IUG				Lg	Lg	13 33 30.5	
	274nm,1.0s						
BRLS	**Borolday**	**5.17**	**10**	Pg	**Pb**	**13 32 43.4**	**+1.1**
	7.0nm,0.3s						
BRLS				Lg	Lg	13 33 50.4	
	58nm,0.5s						
KK31	**Karatay Array**	**5.35**	**15**	⇑Pn	**Pn**	**13 32 32.5**	**+0.7**
	1.0nm,0.2s,baz=197,slow=14,SNR=38						
KK31				⇓Pg	**Pb**	**13 32 48.8**	**+3.3**
	7.1nm,0.4s,baz=192,slow=15,SNR=21						
KK31				⇓Lg	Lg	13 33 58.7	
	29nm,0.5s						
MRKS	**Merke**	**5.93**	**35**	Pg	**Pb**	**13 32 58.6**	**+3.1**
	48nm,0.7s						
MRKS				Lg	Lg	13 34 17.0	
	48nm,0.6s						
EKS2	**Erkin-Say**	**6.13**	**38**	P	**Pn**	**13 32 42.8**	**+0.2**
	SNR=13						
AAK	**Ala-Archa**	**6.47**	**42**	Pn	**Pn**	**13 32 44.4**	**-3.0**
	2.2nm,0.3s,baz=201,slow=10.0,SNR=23						
AAK				Lg	Lg	13 34 31.2	
	1.2nm,0.3s,baz=78,slow=21,SNR=1.6						
AAK				LR	LR	13 35 03.9	
	comp=Z,27nm,18.8s,baz=242,slow=36						
	6.5nm,0.4s						
KBK	**Karagaybulak**	**6.73**	**44**	P	**Pn**	**13 32 50.3**	**-0.6**
	SNR=8.7						
CHMS	**Chumysh**	**6.86**	**41**	⇑Pn	**Pn**	**13 32 53.5**	**+0.9**
	17nm,0.8s						
CHMS				⇓Lg	Lg	13 34 46.5	
	22nm,0.8s						
USP	**Ospenovka**	**6.93**	**38**	P	**Pn**	**13 32 53.4**	**-0.2**
	SNR=6.0						
ULHL	**Ulahol**	**7.23**	**51**	P	**Pn**	**13 32 56.8**	**-1.0**
	SNR=8.8						
TKM2	**Tokmak 2

0.4nm,0.3s,baz=97,slow=7.2,SNR=30
0.4nm,0.3s

FITZ	Fitzroy Crossi	52.64	263	P	P	13 42 11.6	-1.3
	3.3nm,1.2s,baz=125,slow=12,SNR=1.6						
	3.3nm,1.2s						
PETK	Petropavlovsk-	76.82	345	P	P	13 44 44.6	+0.1
	4.5nm,1.1s,baz=132,slow=8.0,SNR=5.1						
	4.5nm,1.1s						
ILAR	Eielson Array	89.02	13	P	P	13 45 44.9	-0.4
	0.1nm,0.5s,baz=218,slow=5.7,SNR=4.5						
	0.1nm,0.5s						
AKASG	Malin Array Be	143.43	330	PKP	PKPab	13 52 19.5	-0.2
	1.2nm,0.5s,baz=42,slow=4.3,SNR=9.4						

IDC 10 13:41:40.2±2.1, 6°.21S×129°.87E, h0km, mb3.7/2, mbtmp3.6/5, ML3.4/3, Error ellipse: s-maj=109.1km s-min=25.7km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.52	199	Pn	Pn	13 44 40.6	+0.8
	0.3nm,0.3s,baz=24,slow=12,SNR=16						
FITZ				Sn	Sn	13 46 46.8	-13
	0.4nm,0.3s,baz=337,slow=7.7,SNR=5.8						
	0.9nm,0.3s						
WRA	Warramunga Arr	14.33	163	Pn	Pn	13 45 04.2	-0.4
	0.1nm,0.3s,baz=334,slow=13,SNR=8.3						
WRA				Sn	Sn	13 47 31.0	-13
	0.3nm,0.3s,baz=336,slow=23,SNR=7.9						
	0.1nm,0.3s						
ASAR	Alice Springs	17.79	168	P	Pn	13 45 49.0	-0.4
	0.1nm,0.3s,baz=346,slow=12,SNR=18						
ASAR				S	Sn	13 48 54.6	-14
	0.2nm,0.4s,baz=331,slow=15,SNR=5.8						
	0.6nm,0.6s						
MKAR	Makanchi Array	67.49	327	P	P	13 52 38.4	+0.3
	0.6nm,0.4s,baz=117,slow=7.8,SNR=8.8						
	0.6nm,0.4s						
KURBB	Kurchatov Arra	71.77	328	P	P	13 53 04.0	-0.4
	0.2nm,0.5s,baz=111,slow=5.1,SNR=1.8						
	0.2nm,0.5s						

KRSC 10 13:47:01.1±0.7, 55°.58N×161°.68E, h99km±12km, Ml4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	Zelenaya	0.66	312	eP	Pn	13 47 19.6	+1.4
ZLN				eS	Sn	13 47 32.5	+1.5
BZGR	Bezymyannyi-Gr	0.66	304	eP	Pn	13 47 19.3	+1.0
BZP	Bezymyannyi-Pe	0.73	298	eP	Pn	13 47 19.8	+1.0
CIRR	Tsirk	0.75	316	eP	Pn	13 47 20.5	+1.4
BZMR	Bezymyannaya	0.76	299	eP	Pn	13 47 20.5	+1.3
BZWR	Bezymyannyi-We	0.77	301	eP	Pn	13 47 20.7	+1.4
TUMD	Tumrok D	0.82	243	eP	Pn	13 47 19.8	+0.2
TUMD				eS	Sn	13 47 33.1	-0.4
KMNR	Kamenistaya	0.84	283	eP	Pn	13 47 21.0	+1.1
KMNR				eS	Sn	13 47 34.5	+0.6
KIRR	Kirishev	0.84	297	eP	Pn	13 47 21.4	+1.4
KIRR				eS	Sn	13 47 34.5	+0.3
KBG	Krutoberegovo	0.89	40	eP	Pn	13 47 21.5	+1.3
KBG				eS	Sn	13 47 36.6	+2.0
KRSR	Krestovskiy	0.90	316	i P	Pn	13 47 21.6	+1.1
KRSR				eS	Sn	13 47 35.6	+0.6
KBTR	Krutoberegovo	0.90	45	i P	Pn	13 47 21.7	+1.4
KBTR				eS	Sn	13 47 36.9	+2.0
KPT	Kopyto	0.91	296	eP	Pn	13 47 21.5	+0.9
KPT				eS	Sn	13 47 36.3	+1.1
TUMR	Tumrok	0.92	252	i P	Pn	13 47 22.0	+1.3
KLY	Klyuchi	0.94	322	eP	Pn	13 47 21.2	+0.5
KLY				eS	Sn	13 47 35.0	-0.5
SMKR	Semkarok	1.01	353	eP	Pn	13 47 23.4	+1.7
SMKR				eS	Sn	13 47 39.6	+2.5
BDR	Baidarnaya	1.03	345	eS	Sn	13 47 39.2	+1.8
SRKR	Sorokina	1.12	345	eS	Sn	13 47 41.8	+2.7
KOZ	Kozyrevsk	1.13	296	eP	Pn	13 47 24.5	+1.6
KOZ				eS	Sn	13 47 41.2	+1.9
SRDR	Sredinnyy	1.33	305	eP	Pn	13 47 26.6	+1.4
SRDR				eS	Sn	13 47 44.7	+1.2
ESO	Esso	1.72	283	eP	Pn	13 47 31.3	+1.2
ESO				eS	Sn	13 47 52.0	-0.1
KII	Karymskiy	2.01	221	eP	Pn	13 47 35.8	+1.9
BKI	Bering	2.48	97	eP	Pn	13 47 40.8	+1.0
BKI				eS	Sn	13 48 08.6	-0.9
SPN	Mys Shipunski	2.67	202	eP	Pn	13 47 43.3	+1.0
NLC	Nalytchevo	2.77	210	eP	Pn	13 47 45.3	+1.6
NLC				eS	Sn	13 48 17.9	+1.4
SDLR	Sedlovina	2.82	216	eP	Pn	13 47 46.8	+2.2
KRX	Arik	2.84	220	eP	Pn	13 47 47.2	+2.3
KRER	Koryakskii	2.85	218	eP	Pn	13 47 47.6	+2.6
SMAR	Somma	2.87	217	eP	Pn	13 47 47.4	+2.2
GNL	Ganaly	2.88	231	eP	Pn	13 47 47.8	+2.5
AVH	Avacha	2.88	218	eP	Pn	13 47 48.2	+2.8
KOK	Koryaka	2.90	219	eP	Pn	13 47 48.1	+2.5
UGLR	Uglovaya	2.90	216	eP	Pn	13 47 48.1	+2.5
DALK	Dalny	3.07	215	eP	Pn	13 47 49.6	+1.9
PET	Petropavlovsk	3.11	216	eP	Pn	13 47 50.6	+2.3
KRMR	Karymshinskiy	3.45	219	eP	Pn	13 47 55.2	+2.4
PALN	Palana	3.64	346	eP	Pn	13 47 57.5	+2.1
RUS	Russkaya	3.66	212	eP	Pn	13 47 58.0	+2.3
GRL	Gorelyy	3.70	217	eP	Pn	13 47 59.7	+3.4
MTVR	Mutnovka	3.72	215	eP	Pn	13 48 00.2	+3.6
APC	Apacha	3.75	227	eP	Pn	13 48 00.2	+3.3
OSSR	Ossora	3.76	11	eP	Pn	13 47 58.9	+2.0
OSSR				eS	Sn	13 48 40.9	+0.8
ASAK	Asacha	3.90	216	eP	Pn	13 48 02.1	+3.1
KDTR	Khodutka, Kamc	4.34	211	eP	Pn	13 48 05.9	+1.1

*IDC **10** 13:53:47.7±1.1, 9°.15S×154°.03E, h0km, mb3.8/10, mbtmp3.8/10, MS3.1/6, Error ellipse: s-maj=37.3km s-min=23.4km az=125.0*

ISC 10 13:53:53.4±1.0, 9°.2S±0°.2×153°.9E±0°.2, h35km, n14, σ1§15/10, mb3.8/10, MS3.0/3, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.95	93	LR	LR	13 57 00.9	
	comp=Z,130nm,19.7s,baz=268,slow=33						
PMG	Port Moresby	6.68	267	LR	LR	13 58 11.4	
	comp=Z,188nm,19.4s,baz=98,slow=39						
DZM	Mont Dzumac	17.59	138	LR	LR	14 02 51.5	
	comp=Z,46nm,18.8s,baz=262,slow=31						
WRA	Warramunga Arr	21.75	238	P	P	13 58 42.8	+0.7
	2.5nm,0.7s,baz=62,slow=9.8,SNR=17						
	2.5nm,0.7s						
ASAR	Alice Springs	23.97	231	P	P	13 59 05.2	+0.5
	1.1nm,0.8s,baz=60,slow=9.5,SNR=12						
ASAR				LR	LR	14 08 03.6	
	comp=Z,46nm,20.4s,baz=106,slow=36						
	1.1nm,0.8s						
FITZ	Fitzroy Crossi	28.85	249	P	P	13 59 50.0	+1.1
	2.0nm,0.7s,baz=112,slow=8.4,SNR=5.6						
FITZ				LR	LR	14 12 26.9	
	comp=Z,46nm,18.9s,baz=152,slow=39						
	2.0nm,0.7s						
BATI	Baumata	29.84	265	LR	LR	14 12 59.7	
	comp=Z,19nm,18.0s,baz=144,slow=38						
CMAR	Chiang Mai Arr	60.78	297	P	P	14 04 02.3	-0.1
	0.5nm,0.3s,baz=128,slow=5.8,SNR=1.7						
	0.5nm,0.3s						
SONM	Songino Array	70.59	328	P	P	14 05 03.6	-1.6
	0.4nm,0.6s,baz=90,slow=2.2,SNR=2.7						
	0.4nm,0.6s						
QSPA	South Pole Qui	80.83	180	P	P	14 06 02.0	-1.5
	0.9nm,0.8s,baz=92,slow=1.7,SNR=6.0						
	0.9nm,0.8s						
MKAR	Makanchi Array	84.33	319	P	P	14 06 22.2	+0.2
	0.4nm,0.7s,baz=100,slow=6.0,SNR=2.6						
	0.4nm,0.7s						
ZALV	Zalesovo Beam	85.38	326	P	P	14 06 26.7	-0.3
	0.7nm,0.6s,baz=96,slow=8.0,SNR=2.5						
	0.7nm,0.6s						
ILAR	Eielson Array	85.77	22	P	P	14 06 29.3	+0.6
	0.4nm,0.9s,baz=217,slow=7.4,SNR=1.9						
	0.4nm,0.9s						
NVAR	Mina Array Bea	93.89	52	P	P	14 07 09.2	+1.3
	0.4nm,0.9s,baz=249,slow=2.5,SNR=2.3						
	0.4nm,0.9s						

NEIC 10 14:11:54.0±1.5, 36°.68N±0°.01×121°.27W±0°.02, h5km±1km, Error ellipse: s-maj=3.2km s-min=2.5km az=242.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVL	Bear Valley	0.13	149		Pg	14 11 57.7	+1.1
BVYM	Vineyard	0.13	300		Pg	14 11 57.6	+0.9
SAO	San Andreas Ge	0.16	300	Pg	Pg	14 11 57.7	+0.5
BJCM	Johnson Can.	0.17	216		Pg	14 11 57.7	+0.4
FRP	Fremont Peak	0.19	292		Pg	14 11 58.3	+0.6
BSRM	Salinas Radio	0.20	265		Pg	14 11 58.4	+0.5
BPIM	Pinnacles	0.21	157		Pg	14 11 58.9	+0.8
BBGB	Big Mountain B	0.21	119		Pg	14 12 00.2	+2.1
BSGM	Shirttail Gulc	0.27	177		Pg	14 11 59.6	+0.4
HJGM	San Juan Grade	0.27	295		Pg	14 11 58.6	-0.7
BPCNC	Pine Canyon	0.31	249		Pg	14 12 00.6	+0.7
BSMM	Soledad Missio	0.33	203		Pg	14 12 00.9	+0.6
ANZ	Anzar Road	0.33	308		Pg	14 12 01.1	+0.8
LRV	Little Rabbit	0.33	142		Pb	14 12 01.7	-0.6
HTUM	Tustin Road	0.33	296		Pg	14 12 01.0	+0.6
HAST	Hastings Reser	0.37	218		Pg	14 12 01.5	+0.4
HAST					Sg	14 12 06.4	+0.4
HERM	Elkhorn Road	0.37	288		Pg	14 12 02.0	+0.8
CDC	Canada Road	0.38	333		Pb	14 12 03.1	-0.2
HCAM	Canada Road	0.38	333		Pb	14 12 03.3	+0.1
HCBM	Chamberlain	0.40	308		Pg	14 12 02.4	+0.7
HCOM	Corn Cob Canyo	0.41	300		Pg	14 12 02.7	+0.8
GHS	Gilroy Hot Spr	0.44	341		Pb	14 12 04.2	-0.1
HLPM	Lions Peak	0.46	321		Pb	14 12 04.1	-0.4
JELB	Ellicott, Sant	0.51	299		Pg	14 12 04.5	+0.7
SCKWR	San Luis Creek	0.53	18		Pb	14 12 06.5	+0.8
HMOM	Monterey	0.53	261		Pg	14 12 04.5	+0.4
PCCM	Crazy Canyon	0.60	172		Pb	14 12 06.2	-0.7
JLAB	Laurel Hill	0.60	322		Pb	14 12 06.7	-0.2
PMPB	Monarch Peak	0.60	141	Pg	Pb	14 12 06.4	-0.6
CCOB	Coe Ranch Numb	0.66	331		Pb	14 12 08.5	+0.5
HULI	Fort Hunter Li	0.66	178		Pg	14 12 07.2	+0.5
HULI	Fort Hunter Li	0.66	178	IAML		14 12 20.6	
	comp=N,2μm,0.7s						
HULI				IAML		14 12 29.1	
	comp=E,1μm,0.8s						
CMPM	Mikes Peak	0.68	357		Pb	14 12 09.0	+0.7
ARN	Arnold Ranch	0.70	343		Pb	14 12 08.9	+0.3
PJUM	Juniper Ridge	0.71	130		Pb	14 12 09.0	+0.1
C072	Blauer Lane Sa	0.72	327		Pb	14 12 09.8	+0.8
MHC	Mount Hamilton	0.72	336		Pb	14 12 09.3	+0.2
PPTM	Peach Tree Val	0.72	142		Pb	14 12 08.6	-0.6
PSAM	San Ardo	0.72	155		Pg	14 12 08.4	+0.5
C054	Valleyhaven Wa	0.74	323		Pb	14 12 09.5	+0.2
SCCB	Santa Clara Co	0.77	322		Pb	14 12 10.0	+0.2
JJOM	Saint Joseph's	0.77	313		Pg	14 12 09.1	+0.3
CMMM	Mount Mocho	0.79	347		Pb	14 12 10.8	+0.5
PDRM	Domengine Ranc	0.81	115		Pn	14 12 11.3	-0.7
PSMM	Smith Mountain	0.82	138		Pb	14 12 10.7	-0.1
MTOS	Mt Oso, Westle	0.82	357		Pn	14 12 11.7	-0.5
MTOS	Mt Oso, Westle	0.82	357	IAML		14 12 27.8	
	comp=N,1μm,0.8s						
MTOS				IAML		14 12 27.9	
	comp=E,2μm,0.6s						
CMLM	Mount Lewis	0.85	339		Pb	14 12 11.8	+0.5
PHSB	Hesperia Broad	0.88	168		Pg	14 12 11.1	+0.3
CALM	Calaveras Res.	0.88	331		Pb	14 12 11.9	+0.2
PHPM	Hope Ranch	0.88	142		Pg	14 12 11.2	+0.3
PWMM	Westland Maint	0.89	106		Pn	14 12 12.8	-0.3
JSJM	St Joseph	0.92	315		Pb	14 12 12.4	-0.1
JBMM	Black Mountain	0.95	312		Pg	14 12 12.2	0.0
PVCM	Vineyard Canyo	0.96	142		Pb	14 12 12.8	-0.4
PPO	Portuguese Can	0.97	147		Pb	14 12 13.3	0.0
CSTL	Corral Hollow	0.97	349		Pn	14 12 14.2	-0.1
PSTM	Stockdale Moun	0.97	140		Pg	14 12 12.8	+0.2
MYLM	Yosemite Lake	0.98	44		Pb	14 12 13.7	+0.4
JFP	Foothills Park	1.00	313		Pg	14 12 12.9	-0.3
JPSM		1.00	301		Pg	14 12 13.1	-0.2
WENL	Wente Vineyard	1.01	338		Pb	14 12 14.2	+0.2
JSFB	Stanford Teles	1.02	315		Pg	14 12 13.5	-0.1
CVLM	Vallecito	1.04	335		Pb	14 12 14.7	+0.1
JRSC	Jasper Ridge	1.06	313		Pg	14 12 13.7	-0.5
PWKM	Work Ranch	1.06	144		Pg	14 12 14.5	+0.2
CTM	Castle Mountai	1.06	135		Pn	14 12 15.7	0.0
PHFM	Heflinger Ranc	1.06	138		Pb	14 12 14.7	-0.2
CBZL	Buffer Zone	1.07	341		Pn	14 12 15.4	-0.2
CNIC	Niles Canyon	1.08	329		Pg	14 12 14.6	-0.1
RAMR	Ramage Ranch	1.09	163		Pg	14 12 14.7	-0.3
PKEM	Kettleman Hill	1.12	123		Pn	14 12 16.7	+0.3
GHC	Gold Hill	1.13	139		Pg	14 12 15.4	-0.2
CBSNC	Byron Hot Spri	1.17	345		Pb	14 12 16.7	0.0
PKLM	Kerr Lake	1.18	140		Pg	14 12 16.3	-0.3
CMOB	Morgan Territo	1.20	340		Pg	14 12 16.8	-0.2
TCAS	Cass Winery, P	1.22	152		Pb	14 12 17.4	0.0
TCHL	Shandon	1.22	144		Pg	14 12 17.0	-0.3
PMRM	Maxey Ranch	1.23	137		Pg	14 12 17.2	-0.3
JCPM	Coyote Point	1.23	317		Pg	14 12 16.4	-1.3
ARDC	Alexander Ranc	1.24	169		Pg	14 12 16.6	-1.1
CSLM	San Leandro Hi	1.24	327		Pg	14 12 16.7	-1.1
SAC	San Andreas	1.28	315		Pn	14 12 17.1	-1.5
FRI	Friant	1.29	76		Pn	14 12 18.5	-0.2
BGC	Bolinger Road	1.30	331		Pn	14 12 18.0	-0.8
JSBM	San Bruno Moun	1.34	318		Pn	14 12 17.4	-1.9
JMGM	Milagra Ridge	1.35	315		Pn	14 12 17.9	-1.6
BDM	Black Diamond	1.35	340		Pn	14 12 18.8	-0.8
TSCN	Private Proper	1.36	146		Pn	14 12 18.8	-0.8
PTAM	Tassajara Cree	1.37	160		Pn	14 12 18.6	-1.2
BKS	Berkeley--Byer	1.42	327		Pn	14 12 19.1	-1.3
CVPM	Vollmer Peak	1.42	328		Pn	14 12 19.7	-0.8
LSDC	Los Osos Digit	1.43	166		Pn	14 12 20.2	-0.3
VAK	Adit at Lawren	1.43	327		Pn	14 12 19.3	-1.2
MMIM	Miami Mountain	1.43	58		Pb	14 12 21.0	-0.1
BRK	Berkeley--Havi	1.43	327		Pn	14 12 19.4	-1.1
EFD	Emergency Oper	1.43	162		Pn	14 12 19.5	-1.1
TSCS	Shell Creek So	1.45	149		Pn	14 12 19.6	-1.2
PBPM	Bitterwater Pu	1.47	138		Pn	14 12 20.5	-0.6
JPRM	Presidio of Sa	1.47	320		Pn	14 12 19.1	-2.0
DPD	Davis Peak	1.50	165		Pn	14 12 20.6	-1.0
CPIM	Pinole Ridge	1.50	330		Pn	14 12 20.9	-0.8
DCD	Diablo Creek	1.51	166		Pn	14 12 20.4	-1.3
CMB	Columbia Colle	1.52	27		Pn	14 12 22.0	+0.1
CMB				IAML		14 12 47.7	
	comp=E,283nm,0.8s						
CMB				IAML		14 12 48.8	
	comp=N,216nm,0.7s						
CPMM	Point Molate	1.56	325		Pn	14 12 21.0	-1.3
PINL	Point Pinole R	1.59	327		Pn	14 12 22.2	-0.5
KCC	Kaiser Creek	1.69	67		Pb	14 12 25.3	-0.3
FARB	Farallon Islan	1.71	307		Pn	14 12 22.8	-1.7
FARB	Farallon Islan	1.71	307	IAML		14 12 55.2	
	comp=N,182nm,0.9s						
SMMC	Simmler	1.71	142		Pn	14 12 23.7	-0.8
SNT	Sears Point	1.77	328		Pn	14 12 24.2	-1.1
CARC	Carrizo Plain	1.79	139		Pn	14 12 25.2	-0.4
MRHM	Rocky Hill	1.80	102		Pn	14 12 25.4	-0.4
NOLM	Olema	1.82	319		Pn	14 12 23.9	-2.0
CRGC	Crocker Grade	1.91	138		Pn	14 12 26.5	-0.7
CVS	Carmenet Viney	1.91	331		Pn	14 12 25.9	-1.3
CVS	Carmenet Viney	1.91	331	IAML		14 13 06.2	
	comp=N,128nm,1.0s						
CVS				IAML		14 13 09.5	
	comp=E,138nm,0.6s						
QRDG	Quail Ridge Na	1.92	339		Pn	14 12 27.1	-0.3
MCCM	Marconi Confer	1.94	319	Pn	Pn	14 12 25.6	-2.0
MCCM				IAML		14 13 01.3	
	comp=N,211nm,1.1s						
MCCM				IAML		14 13 06.6	
	comp=E,316nm,1.1s						
MRDM	Red Cones	1.99	62		Pb	14 12 30.2	-0.6
MDPB	Devils Postpil	1.99	61		Pb	14 12 30.2	-0.6
MINS	Minaret Summit	2.01	61		Pb	14 12 30.8	-0.5
MLIM	Lincoln Peak	2.04	61		Pb	14 12 31.8	+0.1
OMMB	Old Mammoth Mi	2.04	62	Pn	Pn	14 12 29.7	+0.5
OMMB				IAML		14 13 03.0	
	comp=E,290nm,0.6s						
MDYM	Dry Creek	2.05	61		Pb	14 12 31.7	-0.2
MDCM	Deadman Creek	2.05	59		Pb	14 12 31.1	-0.8
MMLB	Mammoth Lakes	2.07	61		Pb	14 12 32.1	-0.2
SPG2	Springville 2	2.08	103		Pn	14 12 29.7	+0.2
MLCM	Laurel Creek C	2.10	63		Pb	14 12 31.7	-1.0
MEMM	East Mammoth H	2.10	62		Pb	14 12 31.8	-1.0
MCSM	Casa Diablo Ho	2.12	62		Pb	14 12 33.0	-0.2
MCBM	Casa Benchmark	2.13	62		Pb	14 12 32.9	-0.2
PKM	Mcpherson Peak	2.15	146		Pn	14 12 29.7	-0.9
MCVM	Convict Lake	2.15	64		Pb	14 12 32.8	-0.8
MLAC	Mammoth, Mammo	2.16	63		Pb	14 12 33.5	-0.2
MDRNC	Doe Ridge	2.17	63		Pb	14 12 33.3	-0.5
FIGC	Figueroa Mtn.	2.21	151		Pn	14 12 30.8	-0.7
MTUM	Tungsten Hills	2.27	72		Pb	14 12 34.4	-1.1
AFDM	Forest Hills D	2.27	6		Pn	14 12 32.2	0.0
BCW	Bitter Crk WRg	2.30	138		Pn	14 12 32.6	-0.1
BHPR	Bishop	2.31	74		Pb	14 12 35.4	-0.9
NMTM	Middletown	2.31	337		Pn	14 12 32.1	-0.6
NJQ	Nojoqui County	2.32	157		Pn	14 12 32.4	-0.5
WAKR	Walker	2.33	38	Pn	Pn	14 12 32.2	-1.0
WAKR				IAML		14 13 09.7	
	comp=N,226nm,0.7s						
GAXM	Alexander Vall	2.34	330		Pn	14 12 31.6	-1.6
MNRC	McLaughlin Min	2.38	337		Pn	14 12 33.4	-0.3
BENR	Benton	2.39	64		Pn	14 12 36.9	-0.7
WASM	Alta Sierra Ca	2.39	112		Pn	14 12 35.2	+1.2
MFBM	Five Bridges	2.39	71		Pb	14 12 37.0	-0.6
MCDM	Chidago Canyon	2.42	68		Pb	14 12 37.8	-0.3
MRCM	Red Rock Canyo	2.42	65		Pb	14 12 37.8	-0.3
GGPM	Geyser Peak	2.42	330		Pn	14 12 33.0	-1.4
GHCM	House Creek	2.45	322		Pn	14 12 33.0	-1.7
GSGM	Seigler Mounta	2.46	333		Pn	14 12 34.0	-0.8
TIN	Tinemaha, Big	2.47	80		Pn	14 12 34.4	-0.5
EMB	Emerald Bay	2.47	22		Pn	14 12 35.1	+0.1
EMB				IAML		14 13 18.3	
	comp=E,184nm,0.9s						
ISA	Isabella, Lake	2.48	113	Pn	Pn	14 12 33.7	-1.4
ISA				IAML		14 13 19.1	
	comp=N,113nm,0.8s						
ISA				IAML		14 13 22.2	
	comp=E,104nm,0.9s						
SUTB	Sutter Butte	2.57	351		Pn	14 12 35.6	-0.7
SUTB	Sutter Butte	2.57	351	IAML		14 13 30.6	
	comp=N,162nm,0.5s						
SUTB				IAML		14 13 40.2	
	comp=E,134nm,0.6s						
OSUM	Sutter Buttes	2.62	350		Pn	14 12 35.8	-1.2
LHV	Little Huntoon	2.70	54		Pn	14 12 38.1	+0.1
HOPS	Hopland Field	2.71	329		Pn	14 12 37.1	-1.1
HOPS				IAML		14 13 43.7	
	comp=N,59nm,1.5s						
DSP	Deep Springs	2.73	74	Pn	Pn	14 12 39.3	+0.9
DSP				IAML		14 13 32.9	
	comp=E,64nm,0.6s						
DSP				IAML		14 13 34.3	
	comp=N,67nm,1.0s						
PNTR	Pine Nut	2.74	28	Pn	Pn	14 12 40.3	+1.5
YERR	Yerington	2.81	34		Pn	14 12 42.1	+2.4
ORV	Oroville	2.87	356	Pn	Pn	14 12 41.7	+1.2
OGOM	Van Goodin Ran	2.98	355		Pn	14 12 43.3	+1.4
PAHR	Pah Rah Range	3.37	26	IAML		14 13 51.3	
	comp=E,66nm,1.5s						
KVN	Kaiserville	3.45	46	IAML		14 13 50.6	
	comp=N,62nm,1.6s						
KVN				IAML		14 13 57.3	
	comp=E,88nm,1.6s						
WCT	Wildcat Mounta	3.73	87	IAML		14 13 57.5	
	comp=E,28nm,0.8s						
WCT				IAML		14 14 02.0	
	comp=N,28nm,2.1s						
GWY	Greenwater Val	3.74	96	Pn	Pn	14 12 52.3	-0.3
GWY				IAML		14 14 14.7	
	comp=E,34nm,0.9s						
GWY				IAML		14 14 15.6	
	comp=N,29nm,1.4s						
GSC	Goldstone, Bar	3.87	110	Pn	Pn	14 12 53.1	-1.2
GSC				IAML		14 13 56.4	
	comp=N,29nm,1.2s						
GSC				IAML		14 13 57.2	
	comp=E,38nm,1.3s						
KMRM	Mail Ridge	4.02	332	Pn	Pn	14 12 56.5	+0.3
KMRM				IAML		14 14 38.3	
	comp=E,36nm,2.8s						
KMRM				IAML		14 15 05.2	
	comp=N,29nm,3.6s						
TPNV	Topopah Spring	4.04	85	IAML		14 14 20.2	
	comp=N,40nm,1.1s						
TPNV				IAML		14 14 38.0	
	comp=N,40nm,1.2s						
ELS	Elsinore Mount	4.37	133	Pn	Pn	14 13 01.4	+0.4
SHPR	Sheep Range	4.92	90	Pn	Pn	14 13 08.5	-0.3
PFO	Pinyon Flats O	4.99	126		Pn	14 13 10.6	+0.9
ESJX	Sierra Juarez	6.41	135	Pn	Pn	14 13 30.5	+1.2

*IDC **10** 14:15:50.8±0.8, 68°.22N×166°.04W, h0km, mb3.8/15, mbtmp3.9/17, ML4.0/2, MS3.2/12, Error ellipse: s-maj=26.3km s-min=13.4km az=15.0*

*NERS **10** 14:15:50.1, 68°.03N×165°.80W, h19km*

*NEIC **10** 14:15:50, 68°.08N×166°.52W, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.76; $M_{\theta\theta}$0.15; $M_{\phi\phi}$-0.91; $M_{r\theta}$-0.47; $M_{\theta\phi}$-0.82; $M_{\phi r}$0.60; Fault plane solution: $M_0$1.40000×10^{15} NP1:ϕ_s242.00000°,

G16K IAmb_Lg 14 17 34.0
comp=Z,242nm,0.7s
G15K Niukluk 3.16 164 Pn 14 16 42.2 +0.9
E19K Redstone River 3.43 96 Pn **Pn 14 16 45.1 +0.2**
F19K Shaleruckik Mo 3.43 107 Pn 14 16 45.1 +0.1
F19K Shaleruckik Mo 3.43 107 IAmb_Lg 14 17 48.9
comp=Z,158nm,1.0s
ANM Nome 3.50 175 Pn **Pn 14 16 46.9 +1.1**
ANM IAmb_Lg 14 17 45.5
comp=Z,242nm,0.7s
D20K Etivluk River 3.58 75 Pn 14 16 46.9 -0.2
G18K Tagagawik 3.63 123 Pn 14 16 48.0 +0.3
G18K Tagagawik 3.63 123 P **Pn 14 16 48.0 +0.3**
baz=309
E20K Nigu River 3.72 82 Pn 14 16 48.8 -0.2
H16K Elim 3.75 154 Pn 14 16 50.1 +0.8
B20K Meade River 3.78 54 Pn **Pn 14 16 50.7 +1.0**
B20K IAmb_Lg 14 17 52.2
comp=Z,136nm,0.7s
H17K Granite Mounta 3.98 138 Pn **Pn 14 16 53.7 +1.3**
H17K IAmb_Lg 14 18 07.6
comp=Z,316nm,1.1s
H17K Granite Mounta 3.98 138 P **Pn 14 16 53.5 +1.1**
baz=323
G19K Purcell Mounta 4.00 114 Pn **Pn 14 16 52.6 -0.2**
F20K Avaraart Lake 4.11 99 Pn 14 16 53.9 -0.3
H18K Honhosa River 4.23 129 Pn **Pn 14 16 56.8 +0.8**
H18K IAmb_Lg 14 18 09.2
comp=Z,102nm,0.8s
H18K Honhosa River 4.23 129 P **Pn 14 16 56.8 +0.8**
baz=316
C21K Knifeblade Rid 4.30 70 Pn 14 16 57.5 +0.6
B21K Ikpikpuk River 4.46 64 Pn **Pn 14 16 59.7 +0.6**
H19K Roundabout Mou 4.58 119 Pn **Pn 14 17 00.9 +0.2**
H19K Roundabout Mou 4.58 119 P **Pn 14 17 00.8 +0.2**
baz=307
PVDR Provideniya 4.62 222 *e*P **Pn 14 17 02.3 +1.1**
PVDR *e*Pg **Pg 14 17 17.1 -2.1**
PVDR Pgmax 14 17 17.7
comp=Z,130nm,0.6s
PVDR *e*Sg **Sg 14 18 19.1 +0.1**
PVDR Sgmax 14 18 24.6
comp=Z,720nm,0.6s
A21K Barrow 4.67 41 Pn 14 17 02.2 +0.2
I17K Unalakleet 4.71 149 Pn **Pn 14 17 04.3 +1.8**
I17K IAmb_Lg 14 18 24.1
comp=Z,115nm,0.8s
GAMB Gambell 4.85 211 Pn 14 17 03.3 -1.0
F21K Alatna River 4.89 94 Pn 14 17 05.5 +0.4
A22K Sinclair Lake 4.92 48 Pn 14 17 05.5 +0.2
GCSA Galena City Sc 4.96 127 P **Pn 14 17 07.1 +1.1**
baz=315
D22K Ayikyak River 5.02 74 Pn 14 17 07.5 +0.7
B22K Teshekpuk Lake 5.08 57 Pn **Pn 14 17 08.2 +0.7**
G21K Allakaket 5.12 101 Pn **Pn 14 17 08.2 +0.1**
H20K Anotleneega Mo 5.12 115 P **Pn 14 17 08.0 -0.2**
baz=304
IMAR Indian Mountai 5.26 107 Pn **Pn 14 17 09.8 -0.2**
J16K Anvik River 5.28 152 Pn 14 17 12.7 +2.4
F22K John River 5.32 89 Pn 14 17 11.5 +0.7
E22K Anaktuvuk Pass 5.36 82 Pn **Pn 14 17 11.5 0.0**
E22K Anaktuvuk Pass 5.36 82 P **Pn 14 17 11.4 0.0**
baz=275
J14K Nanvaranak Lak 5.41 167 Pn **Pn 14 17 11.4 -0.7**
J14K IAmb_Lg 14 18 54.9
comp=Z,92nm,0.8s
J17K VABM Dome 5.48 145 Pn **Pn 14 17 10.5 -2.6**
J17K IAmb_Lg 14 18 59.2
comp=Z,218nm,1.2s
J17K VABM Dome 5.48 145 P **Pn 14 17 15.3 +2.2**
baz=331
I20K Naaghedeneel 5.68 119 Pn 14 17 13.7 -2.1
D23K Nanushuk River 5.75 74 Pn 14 17 17.2 +0.5
H21K Melozitna Rive 5.76 108 Pn 14 17 16.4 -0.6
H21K Melozitna Rive 5.76 108 P **Pn 14 17 17.0 0.0**
baz=300
J19K Poorman 5.89 129 Pn **Pn 14 17 19.7 +1.0**
J19K Poorman 5.89 129 P **Pn 14 17 19.7 +1.0**
baz=318
J18K Innoko River 6.00 135 Pn **Pn 14 17 21.3 +1.2**
J18K Innoko River 6.00 135 P **Pn 14 17 21.6 +1.5**
baz=324
K15K Wolf Creek Mou 6.07 159 Pn 14 17 22.8 +1.6
COLD Coldfoot 6.13 90 P **Pn 14 17 22.4 +0.5**
baz=285
TOLK Toolik Lake Re 6.15 77 Pn **Pn 14 17 23.0 +0.7**
TOLK Toolik Lake Re 6.15 77 P **Pn 14 17 22.9 +0.6**
baz=272
K13K Kusilvak Mount 6.16 174 Pn 14 17 23.8 +1.5
K13K Kusilvak Mount 6.16 174 IAmb_Lg 14 19 18.2
comp=Z,107nm,1.1s
H22K Ishtalitna Cre 6.17 103 Pn 14 17 22.5 0.0
H22K Ishtalitna Cre 6.17 103 P **Pn 14 17 22.8 +0.3**
baz=297
J20K Nowinta River 6.21 123 Pn **Pn 14 17 24.1 +1.1**
K17K Iditarod 6.25 145 Pn **Pn 14 17 24.5 +0.9**
K17K IAmb_Lg 14 19 17.9
comp=Z,87nm,1.1s
K17K Iditarod 6.25 145 P **Pn 14 17 25.5 +1.9**
baz=332
I21K Tanana 6.31 110 P **Pn 14 17 24.6 +0.2**
baz=303
G23K Bananza Creek 6.34 95 Pn 14 17 24.5 -0.5
D24K Happy Valley 6.42 72 Pn 14 17 25.9 -0.1
C24K Franklin Bluff 6.51 67 Pn 14 17 27.0 -0.2
E24K Your Creek 6.60 81 Pn 14 17 28.8 +0.3
TTA Tatalina 6.62 136 Pn **Pn 14 17 30.6 +1.9**
TTA Tatalina 6.62 136 P **Pn 14 17 30.7 +1.9**
baz=325
L15K Ungalak Mounta 6.67 161 Pn 14 17 31.3 +1.9
K20K Telida 6.83 128 Pn 14 17 32.5 +1.0
MLY Manley 6.83 109 Pn **Pn 14 17 32.2 +0.6**
H23K Yukon River 6.87 101 Pn **Pn 14 17 32.5 +0.3**
L14K Kuka Creek 6.88 166 Pn **Pn 14 17 34.0 +1.8**
F24K Squaw Lake 6.93 86 Pn 14 17 33.1 +0.1
L16K Owhat River 6.94 153 Pn 14 17 34.9 +1.7
CHUM Lake Minchumin 7.00 120 Pn 14 17 34.6 +0.8
L18K Granite Mounta 7.05 141 Pn 14 17 36.4 +1.8
L18K Granite Mounta 7.05 141 IAmb_Lg 14 19 47.2
comp=Z,51nm,1.2s
I23K Minto, Yukon-K 7.26 106 Pn 14 17 38.2 +0.7
BPAW Bear Paw Mtn. 7.30 116 Pn 14 17 38.7 +0.7
D25K Kavik River 7.30 71 Pn 14 17 36.6 -1.5
G24K Hadweenzic Riv 7.31 92 Pn 14 17 37.5 -0.6
ANDR Anadyr' 7.36 251 *e*S **Sn 14 19 00.5 -2.1**
ANDR *e*Sg **Sg 14 19 47.7 +1.0**
ANDR Sgmax 14 20 02.5
comp=Z,340nm,0.8s
CAST Castle Rocks 7.39 122 Pn 14 17 40.7 +1.4
H24K Noodor Dome 7.48 99 Pn 14 17 39.9 -0.7
M14K Bethel 7.53 164 Pn 14 17 42.8 +1.7
L19K White Mountain 7.54 136 Pn 14 17 42.5 +1.1
L20K Farewell, AK 7.56 132 Pn 14 17 42.8 +1.1
M17K Holitna River 7.61 147 Pn 14 17 44.8 +2.4
M17K Holitna River 7.61 147 IAmb_Lg 14 20 02.4
comp=Z,88nm,1.2s
M16K Timber Creek 7.68 153 Pn 14 17 45.3 +2.1
KTH Kantishna Hill 7.68 119 Pn 14 17 44.1 +0.9
E25K Arctic Village 7.68 80 Pn 14 17 42.5 -0.7
M15K Kasigluk River 7.73 160 Pn 14 17 46.4 +2.5
PPLA Purkeypile 7.74 125 Pn 14 17 45.9 +1.7
M13K Dall Lake 7.74 170 Pn 14 17 45.4 +1.3
F25K Christian Rive 7.75 84 Pn 14 17 44.0 -0.3
G25K Bearman Lake 7.80 90 Pn 14 17 44.5 -0.3
C26K Camden Bay 7.84 66 Pn 14 17 44.3 -1.0
M18K Stony River 7.89 141 Pn 14 17 48.2 +2.1
M19K Big River Lodg 7.89 136 Pn 14 17 48.1 +1.9
COLA College 7.95 105 Pn 14 17 47.6 +0.7
TRF Thorofare Moun 7.96 118 Pn 14 17 48.5 +1.3
POKR Poker Plat Res 7.98 103 Pn 14 17 46.8 -0.6
H25L Birch Creek 8.08 93 Pn 14 17 48.0 -0.7
WRH Wood River Hil 8.09 108 Pn 14 17 49.1 +0.3
CCB Clear Creek Bu 8.09 106 Pn 14 17 48.6 -0.2
BMAR Burnt Mountain 8.19 84 Pn **Pn 14 17 48.6 -1.6**
N16K Nishlik Lake 8.22 154 Pn 14 17 53.4 +2.7
MCK McKinley 8.23 113 Pn 14 17 51.5 +0.7
C27K Jago River 8.24 69 Pn **Pn 14 17 49.8 -1.1**
M20K Styx River 8.25 132 Pn 14 17 52.6 +1.5
F26K Sheenjek River 8.29 82 Pn 14 17 50.6 -1.0
IL31 8.36 104 Pn 14 17 52.1 -0.4
ILAR Eielson Array 8.36 104 Pn 14 17 52.7 +0.1
ILAR Eielson Array 8.36 104 *e*P **Pn 14 17 51.1 -1.4**
ILAR Eielson Array 8.36 104 Pn **Pn 14 17 51.1 -1.4**
comp=Z,1.6nm,0.3s,baz=301,slow=13,SNR=224
ILAR Sn **Sn 14 19 23.3 -3.9**
comp=Z,0.1nm,0.3s,baz=310,slow=14,SNR=1.0
ILAR LR LR 14 21 41.1
comp=Z,106nm,18.3s,baz=274,slow=42
N17K Nushagak Hills 8.46 149 Pn 14 17 55.8 +1.9
N18K Kilae Creek 8.59 144 Pn 14 17 56.3 +0.5
G26K Porcupine Rive 8.62 87 Pn 14 17 54.9 -1.1
N19K Bonanza Creek 8.80 140 Pn 14 18 00.5 +1.8
J25K Salcha River, 9.00 103 Pn 14 18 01.8 +0.4
E27K Coleen River 9.13 78 Pn 14 18 01.5 -1.7
DHY Denali Highway 9.19 114 Pn 14 18 05.0 +0.9
D27M Malcolm River 9.23 71 Pn **Pn 14 18 03.4 -1.0**
G27K Doyon Strip 9.46 86 Pn **Pn 14 18 07.0 -0.7**
I26K Coal Creek Min 9.48 96 Pn 14 18 07.0 -0.9
O18K Koktuh Hills 9.49 145 Pn 14 18 10.1 +2.1
J26L Joseph Creek 9.72 101 Pn 14 18 11.3 +0.1
BILL Bilibino 10.30 283 *e*P **Pn 14 18 19.5 +0.4**
BILL Pmax 14 18 19.5
comp=Z,10.0nm,0.3s
BILL *e*Sg 14 21 20.3
BILL Sgmax 14 21 47.1
comp=Z,20nm,1.0s
E29M Blow River 10.45 75 Pn **Pn 14 18 19.0 -2.1**
I28M Minor Creek 10.63 92 Pn **Pn 14 18 23.4 -0.2**
H29M Whitestone 10.90 87 Pn **Pn 14 18 27.2 -0.1**
L27K Beaver Creek, 11.17 105 Pn **Pn 14 18 30.1 -1.0**
G30M tAoh Zraii Nji 11.44 81 Pn **Pn 14 18 33.7 -1.0**
KDAK Kodiak Island 11.95 143 LR LR 14 23 42.1
comp=Z,64nm,19.2s,baz=196,slow=39
INK Inuvik 12.05 74 Pn **Pn 14 18 40.2 -2.7**
comp=Z,1.7nm,0.3s,baz=291,slow=19,SNR=52
INK Sn Sn 14 20 45.5 -12
comp=Z,1.1nm,0.3s,baz=194,slow=19,SNR=5.0
comp=Z,6.3nm,0.4s
A36M Sachs Harbour 14.29 56 Pn **Pn 14 19 10.5 -2.9**
C36M Paulatuk 15.12 66 Pn **Pn 14 19 20.6 -4.1**
C36M IAmb IAmb 14 19 38.2
comp=Z,7.7nm,0.8s
R33M Jennings River 17.55 102 IAmb IAmb 14 19 59.0
comp=Z,12nm,1.2s
DLBC Dease Lake 18.57 103 IAmb IAmb 14 20 24.6
comp=Z,13nm,1.4s
DLBC Dease Lake 18.57 103 P **Pn 14 20 08.9 +0.4**
comp=Z,0.1nm,0.3s,baz=300,slow=10,SNR=9.9
comp=Z,2.8nm,0.7s
YKA Yellowknife Ar 21.67 80 P **P 14 20 42.0 +0.1**
comp=Z,3.9nm,0.8s,baz=304,slow=11,SNR=7.1
comp=Z,3.9nm,0.8s
TIXI Tiksi 21.70 309 IAmb IAmb 14 20 47.3
comp=Z,6.2nm,0.9s
TIXI Tiksi 21.70 309 *e*P **P 14 20 42.4 +0.2**
TIXI Tiksi 21.70 309 P **P 14 20 42.2 +0.1**
comp=Z,5.9nm,0.8s,baz=83,slow=7.0,SNR=3.7
comp=Z,5.9nm,0.8s
RES Resolute Bay 22.27 42 LR LR 14 29 39.4
comp=Z,33nm,20.3s,baz=20,slow=38
PETK Petropavlovsk- 22.74 247 P **P 14 20 56.2 +2.7**
comp=Z,2.8nm,0.9s,baz=60,slow=9.6,SNR=7.6
comp=Z,2.8nm,0.9s
BBB Bella Bella 24.13 112 LR LR 14 31 13.4
comp=Z,57nm,18.8s,baz=302,slow=38
SFJD Kangerlussuaq 37.97 35 LR LR 14 40 44.6
comp=Z,21nm,20.2s,baz=152,slow=40
PDAR Pinedale Array 38.78 101 P **P 14 23 16.9 +0.6**
comp=Z,0.4nm,0.7s,baz=322,slow=9.4,SNR=4.1
comp=Z,0.4nm,0.7s
NVAR Mina Array Bea 39.47 114 P **P 14 23 23.8 +1.7**
comp=Z,0.5nm,0.6s,baz=328,slow=8.2,SNR=6.8
comp=Z,0.5nm,0.6s
JMIC Jan Mayen 40.42 11 LR LR 14 38 05.5
comp=Z,42nm,20.8s,baz=267,slow=33
MJAR Matsushiro Arr 43.94 253 P **P 14 23 58.6 +0.2**
comp=Z,1.2nm,0.9s,baz=10,slow=8.7,SNR=3.7
comp=Z,1.2nm,0.9s
SONM Songino Array 45.91 290 P **P 14 24 15.8 +1.6**
comp=Z,1.5nm,0.9s,baz=44,slow=6.0,SNR=5.5
comp=Z,1.5nm,0.9s
ZALV Zalesovo Beam 47.57 311 P **P 14 24 25.8 -1.1**
comp=Z,0.7nm,0.7s,baz=40,slow=4.7,SNR=2.7
comp=Z,0.7nm,0.7s
JNU Nakatsue 49.67 259 LR LR 14 46 24.4
comp=Z,33nm,19.5s,baz=165,slow=37
FINES FINESS Array B 50.52 352 P **P 14 24 49.4 +0.1**
comp=Z,0.8nm,0.5s,baz=17,slow=8.6,SNR=8.7
FINES LR LR 14 48 05.4
comp=Z,16nm,18.2s,baz=191,slow=38
comp=Z,0.8nm,0.5s
HFS Hagfors 52.14 0 P **P 14 25 00.1 -1.3**
comp=Z,7.4nm,1.2s,baz=340,slow=12,SNR=1.7
comp=Z,7.4nm,1.2s
BVAR Borovoye Array 52.20 320 P **P 14 25 01.5 -0.5**
comp=Z,1.9nm,0.7s,baz=27,slow=9.1,SNR=3.4
comp=Z,1.9nm,0.7s
KURBB Kurchatov Arra 52.30 313 P **P 14 25 02.1 -0.7**
comp=Z,0.8nm,0.5s,baz=28,slow=7.1,SNR=2.6
comp=Z,0.8nm,0.5s
TXAR Lajitas Array 52.87 104 P **P 14 25 07.7 +0.2**
comp=Z,1.5nm,0.5s,baz=342,slow=7.9,SNR=5.3
comp=Z,1.5nm,0.5s
MKAR Makanchi Array 54.69 308 P **P 14 25 20.3 -0.2**
comp=Z,0.4nm,0.5s,baz=39,slow=7.8,SNR=3.9
comp=Z,0.4nm,0.5s
AKTO Aktyubinsk 57.34 328 LR LR 14 54 23.0
comp=Z,25nm,19.7s,baz=213,slow=40
VRAC Vranov 62.97 358 LR LR 14 54 09.7
comp=Z,16nm,18.2s,baz=279,slow=37
CMAR Chiang Mai Arr 74.88 282 P **P 14 27 31.7 -0.7**
comp=Z,0.4nm,0.4s,baz=5.6,slow=6.0,SNR=1.9
CMAR LR LR 15 03 56.5
comp=Z,36nm,18.2s,baz=70,slow=38
comp=Z,0.4nm,0.4s
EIL Elat 81.33 342 LR LR 15 08 19.5
comp=Z,19nm,18.5s,baz=71,slow=39

SDD ***10*** *14:22:14.8±2.4, 20°.36N×70°.73W, h30km±662km, MD3.3, ML2.8, MW3.3*
OSPL ***10*** *14:22:17.3±3.7, 20°.19N×70°.71W, h0km±33km, ML2.5*
ISC 10 14:22:14.6±1.8, 20°.18N±0°.05×70°.72W±0°.07, h1km±13km, n11, σ0°63/19, 4C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.74 181**		⇓*e*Sg	**Sn**	**14 22 43.6**	**-0.7**
SC01				IAML		14 22 46.1	
comp=N,231nm,0.5s							
SDDR	**Presa de Saban**	**1.30 204**		⇑*e*Pg	**Pg**	**14 22 39.2**	**-0.3**
SDDR				⇑*e*Sg	**Sg**	**14 22 56.9**	**+0.4**
SDDR				IAML		14 22 57.2	
comp=N,110nm,0.4s							
SDDR	**Presa de Saban**	**1.30 204**		*i* P	**Pg**	**14 22 39.3**	**-0.3**
SDDR				*e*S	**Sg**	**14 22 56.9**	**+0.4**
SDDR				IAML		14 23 01.0	
comp=Z,74nm,0.3s							
ABDR	**Alto Bandera**	**1.36 176**		⇓*e*Pg	**Pg**	**14 22 40.5**	**-0.2**
ABDR				⇓*e*Sg	**Sg**	**14 22 59.0**	**+0.6**
ABDR				IAML		14 22 60.0	
comp=N,181nm,0.5s							
GRTK	**Grand Turk**	**1.38 344**		*i* P	**Pn**	**14 22 41.1**	**0.0**
GRTK				*e*S	**Sn**	**14 23 00.6**	**+0.6**
LONE3	**El Aguacate, B**	**1.71 204**		*i* P	**Pn**	**14 22 46.2**	**+0.5**
LONE3				*e*S	**Sn**	**14 23 09.0**	**+0.7**
LONE3				IAML		14 23 10.5	
comp=Z,41nm,0.4s							
BANI	**BANI**	**1.81 169**		⇓*e*Pg	**Pb**	**14 22 48.2**	**-0.4**
BANI				⇓*e*Sg	**Sg**	**14 23 13.7**	**+0.9**
BANI				IAML		14 23 17.9	
comp=N,146nm,0.9s							
HATOM	**Hato Mayor del**	**1.87 137**		⇑*e*Pg	**Pn**	**14 22 48.4**	**+0.5**
HATOM				⇑*e*Sg	**Sn**	**14 23 11.5**	**-0.7**
HATOM				IAML		14 23 15.8	
comp=N,32nm,0.3s							
LODU1	**El Espartillar**	**1.95 202**		*i* P	**Pb**	**14 22 50.8**	**-0.1**
PODR	**Polo**	**2.07 195**		*i* P	**Pb**	**14 22 52.9**	**-0.2**
PODR				*e*S	**Sg**	**14 23 21.4**	**+0.2**
PODR				IAML		14 23 22.9	
comp=Z,48nm,0.5s							
LOBH	**Bahia de las A**	**2.46 201**		*i* P	**Pb**	**14 22 58.4**	**-1.2**

TAP 10 14:33:26.0, 24°.46N×121°.86E, h13km, ML1.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.07 257**		*i* P	Pg	14 33 29.4	+0.7
EWUT				S	Sg	14 33 31.1	+0.5
ENA	**Nanau**	**0.11 253**		P	Pb	14 33 29.9	-0.2
ENA				S	Sb	14 33 32.1	-0.6
ESAO	**Su ao**	**0.11 353**		P	Pg	14 33 29.6	+0.5
ESAO				*e*S	Sg	14 33 31.2	-0.2
TWC	**Suao**	**0.15 356**		P	Pb	14 33 30.1	-0.5
TWC				*e*S	Sg	14 33 32.4	+0.2
EAHA	**Aohua**	**0.17 220**		*e*P	Pb	14 33 30.8	-0.3
EAHA				*e*S	Sb	14 33 33.6	-0.8
NDS	**Dongshan**	**0.21 323**		*e*P	Pb	14 33 31.6	-0.2
NDS				*e*S	Sg	14 33 34.4	+0.6
LATG	**Datong**	**0.31 284**		*e*P	Pb	14 33 33.6	+0.1
LATG				*e*S	Sb	14 33 38.3	-0.3
TWE	**Neicheng**	**0.31 326**		*e*P	Pb	14 33 33.4	0.0
TWE				*e*S	Sg	14 33 37.5	+0.8
ENTT	**Nioudou**	**0.32 304**		*e*P	Pb	14 33 33.7	+0.1
ENTT				*e*S	Sb	14 33 38.1	-0.7
EOS2	**EOS2**	**0.34 97**		*e*P	Pb	14 33 33.8	-0.1
EOS2				*e*S	Sb	14 33 38.9	-0.3
ETL	**Fush Village**	**0.37 216**		*e*P	Pb	14 33 34.5	0.0
ETL				*e*S	Sb	14 33 39.9	-0.3
NACB	**Ninganchiao**	**0.38 220**		*e*P	Pb	14 33 34.4	-0.2
NACB				*e*S	Sb	14 33 39.8	-0.5
FUSB	**Fushanzhiwuyua**	**0.39 320**		*e*P	Pb	14 33 35.4	+0.6
FUSB				*e*S	Sb	14 33 40.6	0.0
ETLH	**Xiulin Townshi**	**0.43 234**		*e*P	Pb	14 33 35.4	-0.1
ETLH				*e*S	Sb	14 33 41.4	-0.5
NNSB	**Datong**	**0.43 266**		P	Pb	14 33 35.7	+0.1
NNSB				*e*S	Sg	14 33 41.2	+0.7
NNS	**Nan Shan**	**0.44 267**		*e*P	Pb	14 33 35.8	0.0
NNS				*e*S	Sb	14 33 41.9	-0.5
TWD	**Chiawan**	**0.45 212**		*e*P	Pb	14 33 35.4	-0.4
TWD				*e*S	Sg	14 33 40.5	-0.4
NWLT	**Wulai**	**0.45 314**		*e*P	Pb	14 33 36.3	+0.5
NWLT				*e*S	Sb	14 33 42.0	-0.5
EOS3	**EOS3**	**0.45 113**		*e*P	Pb	14 33 35.7	0.0
EOS3				*e*S	Sb	14 33 42.4	0.0
YHNB	**Yeheng**	**0.49 295**		*e*P	Pb	14 33 37.1	+0.6
YHNB				*e*S	Sb	14 33 43.4	-0.2
NSK	**Sanguang**	**0.50 295**		*e*P	Pb	14 33 37.2	+0.4
NSK				*e*S	Sb	14 33 43.6	-0.4
TIPB	**Shuangxi**	**0.51 357**		*e*P	Pb	14 33 36.9	+0.1
TIPB				*e*S	Sb	14 33 43.8	-0.4
EOS4	**EOS4**	**0.54 129**		*e*P	Pb	14 33 37.2	+0.1
EOS4				*e*S	Sb	14 33 44.5	-0.2
LXIB	**Xiulin Townshi**	**0.60 223**		*e*S	Sb	14 33 47.3	+0.4
WHF	**Hehuan Shan**	**0.63 240**		*e*P	Pb	14 33 39.2	+0.2
WHF				*e*S	Sb	14 33 47.7	-0.2
NFF	**Wufeng Townshi**	**0.70 284**		*e*P	Pn	14 33 41.2	-0.4
NFF				*e*S	Sb	14 33 50.1	+0.5
LIOB	**Emei**	**0.79 284**		*e*P	Pn	14 33 42.7	-0.2
LIOB				*e*S	Sn	14 33 53.9	-0.6
OWD	**Renai**	**0.80 231**		*e*P	Pb	14 33 42.3	+0.4
OWD				*e*S	Sb	14 33 53.1	+0.3
WUSB	**Renai**	**0.82 235**		*e*P	Pn	14 33 43.0	-0.4
WUSB				*e*S	Sb	14 33 54.0	+0.7
WHP	**Taichung City**	**0.85 258**		*e*P	Pn	14 33 44.2	+0.4
WHP				*e*S	Sb	14 33 55.0	+0.9
WARBT	**Fenglin Townsh**	**0.86 210**		*e*P	Pg	14 33 42.0	-0.6
WARBT				*e*S	Sb	14 33 54.0	-0.2
VWDT	**VWDT**	**0.96 223**		*e*P	Pn	14 33 46.2	+1.0
VWDT				*e*S	Sn	14 33 59.0	+0.2
SSLB	**Suanglung**	**1.06 231**		*e*P	Pb	14 33 46.2	-0.1
SSLB				*e*S	Sb	14 33 60.0	-0.2

TAP 10 14:33:35.7, 23°.98N×121°.46E, h13km, ML1.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.04 122**		P	Pg	14 33 38.4	+0.3
ETM				S	Sg	14 33 40.6	+0.8
LXIB	**Xiulin Townshi**	**0.06 311**		*e*P	Pg	14 33 38.6	+0.1
LXIB				*e*S	Sg	14 33 41.0	+0.6
LXIB	**Xiulin Townshi**	**0.06 311**		*e*P	Pg	14 33 38.5	0.0
ESL	**Shilin**	**0.17 188**		*e*P	Pb	14 33 40.5	-0.2
ESL				*e*S	Sb	14 33 43.8	-0.3
SHUL	**Shoufeng**	**0.22 154**		*e*P	Pb	14 33 41.3	-0.2
SHUL	**Shoufeng**	**0.22 154**		*e*P	Pb	14 33 41.3	-0.2
SHUL				*e*S	Sb	14 33 45.4	0.0

DJA ***10*** *14:39:48.3±0.6, 7°.5S±6°.×12°.9E±°, h127km±18km, M4.6/7, mb4.8/4, mB4.9/3, MLv4.5/7, Mw(mB)4.2/3*
IDC ***10*** *14:39:51.8±6.2, 7°.80S×129°.29E, h149km±60km, mb3.5/1, mbtmp4.3/5, Error ellipse: s-maj=61.5km s-min=30.4km az=28.0*
ISC 10 14:39:46.8±0.8, 7°.15S±0°.06×129°.25E±0°.06, h150km, n29, σ2°27/31, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.19 112**		P	**Pn**	**14 40 27.2**	**+3.0**
SAUI	**Saumlaki**	**2.19 112**		P	**Pn**	**14 40 27.3**	**+3.0**
SAUI				S	**Sn**	**14 40 53.8**	**+0.8**
BNDI	**Bandanaira**	**2.69 14**		P	**Pn**	**14 40 33.6**	**+3.3**
BNDI	**Bandanaira**	**2.69 14**		P	**Pn**	**14 40 34.5**	**+4.2**
FAKI	**Fak Fak**	**5.15 36**		P	**Pn**	**14 41 03.3**	**+1.0**
FAKI	**Fak Fak**	**5.15 36**		P	**Pn**	**14 41 02.0**	**-0.3**
17nm,0.6s,647nm0.3nm							
FAKI				S	**Sn**	**14 41 55.5**	**-5.7**
17nm,0.6s,647nm0.3nm							
DRS	**Darwin Rock St**	**5.50 163**		P	**Pn**	**14 41 08.1**	**+1.2**
SOEI	**Soe**	**5.57 242**		P	**Pn**	**14 41 09.0**	**+1.0**
SOEI	**Soe**	**5.57 242**		P	**Pn**	**14 41 09.0**	**+1.0**
84nm,0.7s,0.4nm							
MTN	**Manton Dam**	**5.96 162**		P	**Pn**	**14 41 13.3**	**+0.3**
BATI	**Baumata**	**6.31 241**		P	**Pn**	**14 41 19.4**	**+1.7**
157nm,0.4s,baz=76,slow=2.1,SNR=52							
BATI				S	**Sn**	**14 42 28.3**	**-0.6**
46nm,0.4s,baz=106,slow=15,SNR=10							
BATI	**Baumata**	**6.31 241**		P	**Pn**	**14 41 19.2**	**+1.5**
KDU	**Kakadu**	**6.35 150**		P	**Pn**	**14 41 18.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**11.44 198**		P	Pn	14 42 22.5	-3.4
1.4nm,0.2s,baz=26,slow=8.3,SNR=31							
FITZ				S	Sn	14 44 21.0	-11
3.1nm,0.3s,baz=98,slow=6.6,SNR=3.7							
PLAI	**Plampang**	**11.49 261**		P	**Pn**	**14 42 25.3**	**-1.2**
WRA	**Warramunga Arr**	**13.64 159**		P	Pn	14 42 51.0	-3.4
1.6nm,0.5s,baz=338,slow=13,SNR=21							
WRA				S	Sn	14 45 15.9	-10
3.9nm,0.4s,baz=328,slow=23,SNR=7.2							
COEN	**Coen**	**15.26 117**		P	**Pn**	**14 43 15.4**	**+0.7**
QIS	**Mount Isa**	**16.68 144**		P	**P**	**14 43 31.9**	**+0.1**
ASAR	**Alice Springs**	**17.02 165**		P	**P**	**14 43 34.9**	**-0.7**
10nm,0.5s,baz=345,slow=11,SNR=290							
ASAR				S	**S**	**14 46 38.5**	**-6.8**
0.8nm,0.5s,baz=352,slow=26,SNR=5.3							
AS01	**Alice Springs**	**17.03 165**		P	**P**	**14 43 35.7**	**+0.1**
18nm,0.7s							
WRKA	**Warakurna**	**17.81 183**		P	**P**	**14 43 44.8**	**+0.6**
MTSU	**Mount Surprise**	**18.29 128**		P	**P**	**14 43 50.4**	**+0.9**
OOD	**Oodnadatta**	**21.42 164**		P	**P**	**14 44 22.6**	**-0.5**
INKA	**Innaminka**	**23.20 153**		P	**P**	**14 44 42.0**	**+1.5**
MULG	**Mulgathing**	**23.45 170**		P	**P**	**14 44 42.7**	**-0.1**
FORT	**Forrest**	**23.54 183**		P	**P**	**14 44 43.9**	**+0.4**
LCRK	**Leigh Creek**	**24.66 161**		P	**P**	**14 44 54.3**	**+0.6**
STKA	**Stephens Creek**	**27.17 157**		P	**P**	**14 45 15.5**	**-0.8**
1.4nm,0.7s,baz=327,slow=10,SNR=3.9							
1.4nm,0.7s							
ARPS	**Mount Arapiles**	**31.64 161**		P	**P**	**14 45 56.2**	**+0.4**

IDC ***10*** *15:01:54.4±0.8, 40°.29N×40°.76E, h0km, mb3.6/7, mbtmp3.6/15, ML3.7/9, MS3.1/15, Error ellipse: s-maj=12.7km s-min=8.0km az=170.0*
ISK ***10*** *15:01:54.9, 40°.26N×41°.03E, h2km, ML3.9/22*
TIF ***10*** *15:01:54.9, 40°.29N×41°.04E, h7km±1km*
MOS

EMRE	**Erzurum,Aziziy**	**0.24 202**	P	**Pg**	**15 02 01.3**	**0.0**
EMRE			*i* AML	AML	15 02 06.0
	comp=N,9μm,0.4s				
EMRE			*i* AML	AML	15 02 06.0
	comp=E,10μm,0.9s				
EMRE			S	**Sg**	**15 02 06.2**	**+1.3**
AKDA	**Akdag**	**0.26 125**	P	**Pg**	**15 02 02.0**	**+0.4**
AKDA			S	**Sg**	**15 02 06.8**	**+1.4**
AKDA			*i* AML	AML	15 02 07.0
	comp=N,8μm,0.3s				
AKDA			*i* AML	AML	15 02 07.0
	comp=E,2μm,0.3s				
EDAM	**Erzurum-Paland**	**0.38 159**	P	**Pb**	**15 02 04.0**	**-0.7**
EDAM			S	**Sb**	**15 02 10.4**	**-0.3**
EDAM			*i* AML	AML	15 02 11.0
	comp=N,8.1nm,0.4s				
EDAM			*i* AML	AML	15 02 11.0
	comp=E,11nm,0.3s				
EDAM	**Erzurum-Paland**	**0.38 159**	Pg	**Pb**	**15 02 04.1**	**-0.7**
EDAM			Sg	**Sb**	**15 02 10.6**	**-0.1**
ERZM	**Erzurum**	**0.41 148**	P	**Pb**	**15 02 04.8**	**-0.5**
ERZM			S	**Sb**	**15 02 11.9**	**+0.5**
EJDE	**Erzurum, Palan**	**0.45 158**	P	**Pb**	**15 02 05.2**	**-0.9**
EJDE			S	**Sb**	**15 02 12.6**	**-0.2**
KOPT	**Kop Dagi**	**0.51 243**	P	**Pg**	**15 02 05.8**	**-0.4**
KOPT			S	**Sb**	**15 02 16.2**	**+1.7**
BAYB	**BAYBURT**	**0.64 271**	P	**Pg**	**15 02 08.1**	**-0.5**
BAYB			*i* AML	AML	15 02 17.0
	comp=N,2μm,0.4s				
BAYB			*i* AML	AML	15 02 17.0
	comp=E,9μm,0.3s				
BAYB			S	**Sb**	**15 02 17.8**	**-0.3**
KOPR	**Koprukoy-ERZUR**	**0.64 114**	Pg	**Pb**	**15 02 09.0**	**-0.2**
KOPR			Sg	**Sb**	**15 02 19.2**	**+1.0**
ECAT	**Cat-ERZURUM**	**0.65 188**	P	**Pg**	**15 02 08.1**	**-0.7**
ECAT			S	**Sb**	**15 02 19.0**	**+0.6**
HOMI	**Horasan**	**0.66 108**	P	**Pb**	**15 02 09.0**	**-0.6**
HOMI			S	**Sn**	**15 02 20.4**	**-1.3**
IZDR	**Rize**	**0.67 323**	P	**Pg**	**15 02 08.6**	**-0.5**
IZDR			S	**Sg**	**15 02 17.6**	**-0.4**
IZDR			*i* AML	AML	15 02 18.0
	comp=E,4μm,0.4s				
IZDR			*i* AML	AML	15 02 19.0
	comp=N,3μm,0.4s				
BAYT	**Aydıntepe-Bayb**	**0.74 281**	Pg	**Pg**	**15 02 09.8**	**-0.7**
BAYT			Sg	**Sg**	**15 02 19.9**	**-0.3**
DDEM	**Demirkent**	**0.81 38**	P	**Pg**	**15 02 11.1**	**-0.9**
DDEM			S	**Sn**	**15 02 25.6**	**+0.2**
CHOM	**Cayeli-Rize**	**0.88 344**	Pg	**Pb**	**15 02 12.9**	**-0.4**
CHOM			Sg	**Sb**	**15 02 25.4**	**+0.4**
DBAD	**Bademkaya**	**0.89 31**	P	**Pg**	**15 02 12.6**	**-0.8**
DBAD			S	**Sb**	**15 02 25.2**	**-0.2**
YEDI	**Yedisu-Bingol**	**0.91 207**	Pg	**Pg**	**15 02 13.1**	**-0.7**
YEDI			Sg	**Sb**	**15 02 26.1**	**+0.1**
KARO	**Karliova-Bingo**	**0.94 182**	Pg	**Pg**	**15 02 13.7**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.01 72**	Pg	**Pn**	**15 02 15.5**	**-0.7**
DAGI	**Agillar**	**1.04 37**	P	**Pg**	**15 02 15.0**	**-1.1**
VRTB	**Varto-Mus**	**1.13 165**	P	**Pn**	**15 02 18.4**	**+0.7**
VRTB			*i* AML	AML	15 02 39.0
	comp=E,2μm,1.0s				
VRTB			*i* AML	AML	15 02 55.0
	comp=N,2μm,0.9s				
VRTB	**Varto-Mus**	**1.13 165**	Pn	**Pn**	**15 02 17.8**	**+0.1**
EATA	**Eleskirt**	**1.14 109**	P	**Pn**	**15 02 18.1**	**+0.1**
EATA			S	**Sn**	**15 02 33.6**	**-0.1**
HOPA	**Hopa-Artvin**	**1.17 13**	Pn	**Pb**	**15 02 17.8**	**-0.3**
DBOC	**Borcka**	**1.18 22**	P	**Pg**	**15 02 17.3**	**-1.5**
DBOC			S	**Sb**	**15 02 33.3**	**-0.2**
EUZM	**Uzumlu**	**1.20 244**	P	**Pb**	**15 02 17.5**	**-1.2**
EUZM			S	**Sn**	**15 02 36.2**	**+1.3**
EUZM			*i* AML	AML	15 02 39.0
	comp=E,3μm,0.8s				
EUZM			*i* AML	AML	15 02 40.0
	comp=N,2μm,0.6s				
MACK	**Trabzon**	**1.22 305**	P	**Pb**	**15 02 18.8**	**-0.3**
MACK			S	**Sn**	**15 02 36.3**	**+1.0**
ERZN	**Erzincan**	**1.24 238**	Pn	**Pn**	**15 02 18.8**	**-0.5**
GUMT	**Gumushane**	**1.25 280**	Pn	**Pn**	**15 02 18.5**	**-0.8**
KTUT	**Trabzon**	**1.25 307**	Pn	**Pn**	**15 02 18.4**	**-0.8**
BCA	**Borcka**	**1.26 19**	Pn	**Pn**	**15 02 19.2**	**-0.2**
GOLE	**Ardahan-G¶le**	**1.29 63**	P	**Pg**	**15 02 20.7**	**-0.2**
GOLE			S	**Sn**	**15 02 40.7**	**+3.5**
GOLE			*i* AML	AML	15 02 43.0
	comp=N,1μm,1.0s				
GOLE			*i* AML	AML	15 02 44.0
	comp=E,1μm,0.6s				
SLHN	**Bingol, Solhan**	**1.29 182**	P	**Pg**	**15 02 20.5**	**-0.5**
SLHN			S	**Sn**	**15 02 39.7**	**+2.5**
SLHN			*i* AML	AML	15 02 44.0
	comp=N,2μm,0.7s				
SLHN			*i* AML	AML	15 02 44.0
	comp=E,2μm,0.8s				
BNGB	**Bingl**	**1.30 194**	Pn	**Pg**	**15 02 20.4**	**-0.7**
KELT	**Kelkit**	**1.41 266**	P	**Pn**	**15 02 21.1**	**-0.6**
KELT			S	**Sb**	**15 02 39.5**	**-0.8**
EZC	**Erzincan**	**1.42 250**	PG	**Pn**	**15 02 18.8**	**-3.0**
BATM	**Batumi**	**1.43 19**	Pn	**Pg**	**15 02 22.5**	**-1.0**
BATM	**Batumi**	**1.43 19**	P	**Pb**	**15 02 22.3**	**-0.3**
BATM			S	**Sg**	**15 02 41.5**	**-0.6**
BATM	**Batumi**	**1.43 19**	PG	**Pb**	**15 02 22.3**	**-0.3**
BATM			S	**Sg**	**15 02 41.5**	**-0.6**
BINT	**Bingol**	**1.45 199**	PG	**Pn**	**15 02 20.3**	**-1.8**
BOZK	**Kars-Merkez-Bo**	**1.48 76**	P	**Pg**	**15 02 23.3**	**-1.2**
AHAN	**Ardahan-Merkez**	**1.48 51**	P	**Pb**	**15 02 22.8**	**-0.8**
MUSM	**Mu-Merkez**	**1.56 168**	P	**Pb**	**15 02 24.6**	**-0.3**
MUSM			*i* AML	AML	15 02 51.0
	comp=E,261nm,0.7s				
MUSM			*i* AML	AML	15 02 57.0
	comp=N,260nm,0.7s				
DORK	**Agr/Tutak/Do**	**1.56 123**	P	**Pb**	**15 02 24.7**	**-0.3**
DORK			S	**Sg**	**15 02 48.0**	**+1.6**
KARS	**Kars**	**1.56 75**	Pn	**Pg**	**15 02 25.5**	**-0.7**
KARS	**Kars**	**1.56 75**	PN	**Pg**	**15 02 25.4**	**-0.7**
MLAZ	**Malazgirt-MUS**	**1.58 134**	Pn	**Pg**	**15 02 25.4**	**-1.1**
AGRB	**Hanur-Agry**	**1.61 114**	Pn	**Pg**	**15 02 26.2**	**-0.9**
TNCL	**Tunceli-Merkez**	**1.65 227**	P	**Pn**	**15 02 24.9**	**0.0**
KOTA	**Agri, Merkez-K**	**1.69 105**	P	**Pg**	**15 02 27.6**	**-0.9**
KOTA			*i* AML	AML	15 02 56.0
	comp=N,355nm,0.9s				
KOTA			*i* AML	AML	15 03 01.0
	comp=E,356nm,1.0s				
DIGO	**Kars**	**1.75 84**	P	**Pb**	**15 02 27.8**	**-0.5**
EPOS	**Posof**	**1.76 44**	P	**Pg**	**15 02 28.5**	**-1.5**
EPOS			S	**Sg**	**15 02 52.6**	**-0.2**
EPOS			*i* AML	AML	15 02 57.0
	comp=N,1μm,0.8s				
EPOS			*i* AML	AML	15 03 02.0
	comp=E,599nm,0.6s				
ALUC	**Giresun/Alucra**	**1.78 274**	P	**Pn**	**15 02 27.5**	**+0.9**
ALUC			S	**Sb**	**15 02 51.4**	**+0.5**
KOVA	**Elazig, Kovanc**	**1.83 213**	P	**Pb**	**15 02 28.4**	**-1.1**
KOVA			*i* AML	AML	15 03 02.0
	comp=E,399nm,0.8s				
KOVA			*i* AML	AML	15 03 06.0
	comp=N,359nm,1.0s				
GURO	**Guroymak-BITLI**	**1.85 156**	Pn	**Pb**	**15 02 29.1**	**-0.7**
PTK	**Pertek**	**1.89 225**	Pn	**Pn**	**15 02 28.8**	**+0.6**
HANI	**Diyarbakir_Han**	**1.91 196**	P	**Pn**	**15 02 29.0**	**+0.5**
BLIS	**Bitlis-Merkez**	**2.00 156**	P	**Pn**	**15 02 30.7**	**+1.0**
DYDN	**Diyadin**	**2.12 109**	P	**Pb**	**15 02 34.7**	**+0.2**
AKH	**Akhalkalaki**	**2.16 57**	Pn	**Pb**	**15 02 34.1**	**-1.1**
AKH	**Akhalkalaki**	**2.16 57**	P	**Pb**	**15 02 33.6**	**-1.6**
AKH	**Akhalkalaki**	**2.16 57**	PN	**Pb**	**15 02 33.6**	**-1.6**
SUSE	**Susehri**	**2.21 270**	P	**Pn**	**15 02 33.2**	**+0.6**
KEMA	**Kemaliye**	**2.23 245**	P	**Pb**	**15 02 34.9**	**-1.3**
VMUR	**Van-Muradiye**	**2.29 123**	P	**Pb**	**15 02 37.8**	**+0.3**
AKDM	**Akdamar-Van**	**2.42 142**	Pn	**Pb**	**15 02 37.4**	**-2.1**
TASB	**TASBURUN-IGDIR**	**2.43 95**	Pn	**Pb**	**15 02 37.7**	**-2.0**
VANB	**Van**	**2.43 132**	Pn	**Pb**	**15 02 38.5**	**-1.2**
TKB	**Tkibuli**	**2.54 34**	P	**Pb**	**15 02 39.2**	**-2.4**
TKB			S	**Sg**	**15 03 17.3**	**-0.5**
TKB	**Tkibuli**	**2.54 34**	PN	**Pb**	**15 02 39.2**	**-2.4**
TKB			S	**Sg**	**15 03 17.3**	**-0.5**
ORDU	**Ordu-Boztepe**	**2.57 288**	P	**Pb**	**15 02 40.8**	**-1.2**
TRLG	**Trialeti**	**2.62 60**	P	**Pb**	**15 02 40.5**	**-2.5**
TRLG	**Trialeti**	**2.62 60**	PN	**Pb**	**15 02 40.5**	**-2.5**
ALIG	**Mtskhetisjvari**	**2.68 45**	P	**Pn**	**15 02 40.8**	**+1.9**
ALIG	**Mtskhetisjvari**	**2.68 45**	PN	**Pn**	**15 02 40.8**	**+1.9**
GNI	**Garni**	**2.80 91**	Pn	**Pb**	**15 02 43.1**	**-2.9**
GNI	**Garni**	**2.80 91**	Pn	**Pb**	**15 02 46.4**	**+0.3**
	21nm,0.3s,baz=303,slow=6.0,SNR=51				
GNI			Lg	Lg	15 03 30.6
	3.7nm,0.3s,baz=232,slow=19,SNR=1.3				
GNI			LR	LR	15 04 11.3
	comp=Z,192nm,19.4s,baz=356,slow=45				
	94nm,0.5s				
VSLR	**Vesyoloye**	**3.30 347**	*i* PN	**Pn**	**15 02 46.9**	**-0.6**
SOC	**Sochi**	**3.48 343**	*e*PN	**Pn**	**15 02 50.5**	**+0.5**
MTEO	**Meteo**	**3.55 46**	P	**Pn**	**15 02 53.9**	**+2.7**
MTEO	**Meteo**	**3.55 46**	PN	**Pn**	**15 02 53.9**	**+2.7**
CHRG	**Chargali**	**3.56 53**	P	**Pn**	**15 02 53.4**	**+2.3**
SHA1	**Shidzhatmaz**	**3.67 18**	*i* PN	**Pn**	**15 02 52.4**	**-0.4**
KBZ	**Khabaz**	**3.73 21**	Pn	**Pn**	**15 02 56.2**	**+2.9**
	0.8nm,0.3s,baz=158,slow=9.6,SNR=13				
KBZ			Lg	Lg	15 03 53.9
	1.6nm,0.3s,baz=45,slow=10.0,SNR=1.6				
	3.8nm,0.5s				
KBZ	**Khabaz**	**3.73 21**	*i* PN	**Pn**	**15 02 53.1**	**-0.2**
NCK	**Nalchik**	**3.74 29**	*i* PN	**Pn**	**15 02 52.8**	**-0.8**
KIV	**Kislovodsk**	**3.89 17**	*e*PN	**Pn**	**15 02 54.9**	**-0.7**
KIV			pmax	pmax	
	comp=Z,20nm,1.0s				
KIV			MLR	MLR	
	comp=Z,55nm,8.0s				
KVAR	**Kislovodsk Arr**	**3.89 17**	Pn	**Pn**	**15 02 58.4**	**+2.8**
	baz=276,slow=22				
KVAR			Lg	Lg	15 03 59.5
	baz=346,slow=17				
	comp=Z,4.7nm,0.4s				
VSHL	**Vashlovani**	**4.15 75**	P	**Pn**	**15 03 03.3**	**+4.2**
LABN	**Labinsk**	**4.40 357**	*e*PN	**Pn**	**15 02 59.3**	**-3.2**
LABN			*e*S	**Sn**	**15 03 56.2**	**+2.7**
LABN			pmax	pmax	
	comp=Z,26nm,0.4s				
LABN			MLR	MLR	
	comp=Z,261nm,12.0s				
GOF	**Gofitskoye**	**5.01 16**	*ce*PN	**Pb**	**15 03 21.9**	**-1.8**
GOF			*e*S	**Sg**	**15 04 44.0**	**+7.0**
ANN	**Anapa**	**5.29 330**	*e*PN	**Pn**	**15 03 18.5**	**+3.8**
ANN			*e*S	**Sn**	**15 04 20.0**	**+4.5**
ANN			pmax	pmax	
	comp=Z,28nm,1.1s				
ANN			MLR	MLR	
	comp=Z,266nm,23.0s				
ERBR	**Yeremizino-Bor**	**5.48 356**	*e*P	**Pn**	**15 03 19.4**	**+2.0**
ERBR			*e*S	**Sn**	**15 04 23.4**	**+3.2**
ERBR			pmax	pmax	
	comp=Z,32nm,0.7s				
ERBR			MLR	MLR	
	comp=Z,105nm,5.0s				
MAK	**Makhachkala**	**5.52 59**	*e*P	**Pn**	**15 03 14.1**	**-3.8**
MAK			*e*S	**Sn**	**15 04 17.5**	**-3.7**
MAK			pmax	pmax	
	comp=Z,67nm,0.8s				
MAK			MLR	MLR	
	comp=Z,295nm,8.0s				
BR131	**Keskin Array S**	**5.75 267**	*i* P	**Pn**	**15 03 19.8**	**-1.4**
BRTR	**Keskin Array B**	**5.75 267**	Pn	**Pn**	**15 03 19.8**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=97,slow=14,SNR=5.8				
BRTR			Pg	Pb	15 03 30.9	-5.3
	comp=Z,0.4nm,0.3s,baz=100,slow=14,SNR=12				
BRTR			Lg	Lg	15 04 50.2
	baz=304,slow=31				
FEO	**Feodosiya**	**6.35 320**	*e*P	**Pn**	**15 03 32.4**	**+3.1**
FEO			*e*S	**Sn**	**15 04 46.1**	**+4.4**
SUDU	**Sudak**	**6.46 318**	*e*P	**Pn**	**15 03 32.4**	**+1.6**
SUDU			*e*S	**Sn**	**15 04 48.2**	**+3.9**
ALU	**Alushta**	**6.64 314**	*e*P	**Pn**	**15 03 37.7**	**+4.5**
ALU			*e*S	**Sn**	**15 04 54.0**	**+5.3**
YAL	**Yalta**	**6.65 312**	*e*P	**Pn**	**15 03 35.7**	**+2.2**
YAL			*e*S	**Sn**	**15 04 49.9**	**+0.8**
SIM	**Simferopol'**	**6.96 315**	*e*P	Pb	15 03 47.4	-9.5
SIM			pmax	pmax	
	comp=Z,24nm,1.0s				
SEV	**Sevastopol'**	**6.97 310**	*e*P	**Pn**	**15 03 41.4**	**+3.6**
SEV			*e*S	**Sn**	**15 04 59.0**	**+2.1**
MMAI	**Mount Meron Ar**	**8.54 214**	Pn	**Pn**	**15 03 58.5**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=50,slow=16,SNR=2.0				
MMAI			LR	LR	15 07 35.1
	comp=Z,92nm,19.1s,baz=256,slow=40				
	comp=Z,0.8nm,0.5s				
MLR	**Muntele Rosu**	**12.28 300**	Pn	**Pn**	**15 04 49.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=112,slow=16,SNR=1.8				
	comp=Z,0.5nm,0.3s				
BELG	**Belogornoye**	**12.95 18**	LR	LR	15 10 50.5
	comp=Z,76nm,18.4s,baz=226,slow=41				
AKASG	**Malin Array Be**	**13.34 325**	Pn	**Pn**	**15 05 03.0**	**-2.1**
	comp=Z,2.5nm,0.3s,baz=140,slow=13,SNR=21				
AKASG			Sn	Sn	15 07 22.6	-10
	comp=Z,0.5nm,0.3s,baz=139,slow=24,SNR=2.5				
	comp=Z,0.7nm,0.3s				
AKASG	**Malin Array Be**	**13.34 325**	*i* P	**Pn**	**15 05 05.5**	**+0.5**
AKASG			pmax	pmax	
	comp=Z,3.0nm,0.5s				
AKBB	**Malin Array Si**	**13.34 325**	*i* P	**Pn**	**15 05 05.3**	**+0.3**
AKTO	**Aktyubinsk**	**15.63 44**	Pn	**Pn**	**15 05 35.1**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=235,slow=11,SNR=2.8				
AKTO			LR	LR	15 13 39.8
	comp=Z,61nm,19.9s,baz=210,slow=45				
	comp=Z,0.6nm,0.4s				
NACGM	**Naroch**	**17.50 332**	*e*P	Pn	15 05 51.0	-8.6
	comp=Z,6.0nm,0.8s,baz=141				
KIRV	**Kirov**	**19.11 13**	LR	LR	15 14 07.2
	comp=Z,87nm,18.6s,baz=202,slow=38				
ARTI	**Arti**	**19.73 29**	P	**P**	**15 06 25.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=246,slow=10.0,SNR=2.4				
ARTI			LR	LR	15 15 25.8
	comp=Z,54nm,21.6s,baz=223,slow=41				
	comp=Z,1.4nm,0.4s				
ARTI	**Arti**	**19.73 29**	*d* P	**Pn**	**15 06 28.2**	**+1.5**
ARTI			pmax	pmax	
	comp=Z,10.0nm,1.4s				
KLMR	**Klimovskoe**	**20.65 358**	*e*P	**P**	**15 06 34.6**	**-0.6**
KLMR			pmax	pmax	
	comp=Z,31nm,1.3s				
SVE	**Sverdlovsk**	**20.91 31**	*e*P	Pn	15 06 39.6	-1.0
GERES	**GERESS Array B**	**21.23 303**	P	**P**	**15 06 38.8**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=93,slow=9.1,SNR=1.2				
	comp=Z,0.2nm,0.3s				
FINES	**FINESS Array B**	**23.13 342**	P	**P**	**15 07 00.0**	**-1.6**
	comp=Z,3.2nm,0.8s,baz=154,slow=11,SNR=1.7				
	comp=Z,3.2nm,0.8s				
FINES	**FINESS Array B**	**23.13 342**	*i* P	**P**	**15 07 04.4**	**+2.8**
FINES			pmax	pmax	
	comp=Z,3.0nm,0.9s				
BVAR	**Borovoye Array**	**23.64 47**	P	**P**	**15 07 08.0**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=246,slow=9.8,SNR=3.8				
	comp=Z,0.9nm,0.6s				
BVAR	**Borovoye Array**	**23.64 47**	P	**P**	**15 07 08.0**	**+1.2**
AAK	**Ala-Archa**	**25.06 74**	LR	LR	15 19 24.9
	comp=Z,53nm,18.3s,baz=290,slow=42				
HFS	**Hagfors**	**26.20 329**	P	**P**	**15 07 27.4**	**-2.7**
	comp=Z,2.7nm,0.8s,baz=128,slow=13,SNR=2.0				
	comp=Z,2.7nm,0.8s				
NOA	**NORSAR Array B**	**27.72 329**	LR	LR	15 19 39.4
	comp=Z,22nm,19.6s,baz=305,slow=39				
KURBB	**Kurchatov Arra**	**27.97 56**	P	**P**	**15 07 47.4**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=267,slow=9.1,SNR=2.0				
	comp=Z,0.5nm,0.4s				
KURK	**Kurchatov**	**28.04 55**	P	**P**	**15 07 47.4**	**+0.6**
MKAR	**Makanchi Array**	**30.31 64**	P	**P**	**15 08 08.6**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=266,slow=7.9,SNR=2.4				
MKAR			LR	LR	15 22 17.5
	comp=Z,31nm,20.3s,baz=329,slow=40				
	comp=Z,0.3nm,0.6s				
ARCES	**ARCESS Array B**	**30.48 349**	LR	LR	15 22 37.4
	comp=Z,37nm,18.7s,baz=304,slow=41				
FURI	**Furi**	**31.30 185**	LR	LR	15 21 37.0
	comp=Z,33nm,18.1s,baz=154,slow=38				
KMBO	**Kilima Mbogo**	**41.33 186**	LR	LR	15 25 17.7
	comp=Z,21nm,21.3s,baz=93,slow=34				
TORD	**Torodi Ar. Bea**	**43.81 243**	P	**P**	**15 10 00.1**	**-1.7**
	comp=Z,0.8nm,1.0s,baz=38,slow=7.3,SNR=3.7				
	comp=Z,0.8nm,1.0s				
SONM	**Songino Array**	**46.29 58**	LR	LR	15 32 07.9
	comp=Z,80nm,19.3s,baz=281,slow=39				
YAK	**Yakutsk**	**54.80 35**	LR	LR	15 39 07.8
	comp=Z,25nm,19.1s,baz=310,slow=41				
MA2	**Magadan**	**64.98 32**	LR	LR	15 44 39.9
	comp=Z,26nm,18.1s,baz=310,slow=39				

IDC ***10*** *15:32:59.3±1.8, 37°.55N×20°.48E, h0km, mb3.7/4, mbtmp3.6/5, MS2.7/1, Error ellipse: s-maj=62.1km s-min=25.8km az=117.0*
THE ***10*** *15:32:59.9, 37°.60N×20°.65E, h2km±37km, ML3.4/11, Error ellipse: s-maj=37.8km s-min=0.7km az=0.0*
ATH ***10*** *15:33:00.4, 37°.62N×20°.65E, h8km±3km, ML3.2/8, Error ellipse: s-maj=3.9km s-min=0.8km az=34.0*

ISC 10 15:33:00.1±1.5, 37°.61N±0°.04×20°.64E±0°.04, h3km±10km, n37, σ0.72/61, mb3.7/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.15**	**68**	P	**Pg**	**15 33 03.1**	**0.0**
KRI1				S	**Sg**	**15 33 04.8**	**-0.3**
	36μm,0.3s						
LTHK	**Lithakia**	**0.19**	**56**	P	**Pg**	**15 33 03.5**	**-0.2**
LTHK				S	**Sg**	**15 33 05.8**	**-0.4**
	24μm,0.2s						
LTHK	**Lithakia**	**0.19**	**56**	P	**Pg**	**15 33 03.6**	**-0.2**
LTHK				S	**Sg**	**15 33 06.1**	**-0.1**
LTHK				AML	AML	15 33 06.6	
	comp=E,35661μm,0.2s						
LTHK				AML	AML	15 33 06.7	
	comp=N,53422μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.48**	**12**	P	**Pg**	**15 33 09.0**	**-0.4**
RTZL				S	**Sg**	**15 33 16.1**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.51**	**355**	P	**Pg**	**15 33 09.8**	**-0.1**
PSDA				S	**Sg**	**15 33 17.2**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.51**	**355**	P	**Pg**	**15 33 10.0**	**+0.1**
PSDA				S	**Sg**	**15 33 16.8**	**+0.3**
VLS	**Valsamata**	**0.57**	**356**	P	**Pg**	**15 33 10.8**	**-0.3**
VLS				S	**Sg**	**15 33 19.4**	**+0.8**
	comp=N,5μm,0.5s						
VLS	**Valsamata**	**0.57**	**356**	P	**Pg**	**15 33 10.9**	**-0.2**
VLS				S	**Sg**	**15 33 18.8**	**+0.3**
VLS				AML	AML	15 33 23.4	
	comp=E,11170μm,0.3s						
VLS				AML	AML	15 33 24.2	
	comp=N,8993μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.61**	**345**	P	**Pg**	**15 33 12.3**	**+0.4**
LXRA				S	**Sg**	**15 33 19.8**	**-0.1**
SMHA	**Samh**	**0.65**	**0**	P	**Pg**	**15 33 11.7**	**-0.8**
DMLN	**Damoulianata-K**	**0.67**	**342**	P	**Pg**	**15 33 13.0**	**+0.1**
DMLN				S	**Sb**	**15 33 23.0**	**-1.1**
	comp=N,11μm,0.3s						
DMLN	**Damoulianata-K**	**0.67**	**342**	P	**Pg**	**15 33 12.9**	**+0.1**
RLS	**Riolos of Patr**	**0.80**	**55**	P	**Pg**	**15 33 15.1**	**-0.3**
RLS				S	**Sb**	**15 33 26.7**	**-1.0**
	comp=N,965nm,1.0s						
RLS	**Riolos of Patr**	**0.80**	**55**	P	**Pg**	**15 33 15.1**	**-0.3**
RLS				S	**Sg**	**15 33 25.7**	**+0.1**
RLS				AML	AML	15 33 31.1	
	comp=N,1558μm,0.4s						
RLS				AML	AML	15 33 34.9	
	comp=E,1656μm,0.5s						
VSK1	**VASILIKIADES**	**0.81**	**356**	P	**Pg**	**15 33 14.8**	**-0.8**
VSK1				S	**Sg**	**15 33 26.9**	**+0.9**
	comp=E,5μm,0.6s						
AMT	**Artemida-Makis**	**0.85**	**95**	P	**Pg**	**15 33 16.6**	**+0.1**
AMT				S	**Sg**	**15 33 27.8**	**+0.3**
AMT				AML	AML	15 33 38.6	
	comp=E,6595μm,0.4s						
AMT				AML	AML	15 33 40.9	
	comp=N,9730μm,0.4s						
FSK	**Fiskardo**	**0.85**	**356**	P	**Pg**	**15 33 15.5**	**-1.0**
FSK				S	**Sg**	**15 33 28.1**	**+0.5**
	comp=N,3μm,0.7s						
FSK	**Fiskardo**	**0.85**	**356**	P	**Pg**	**15 33 15.7**	**-0.8**
FSK				S	**Sg**	**15 33 27.5**	**-0.1**
FSK				AML	AML	15 33 33.3	
	comp=N,4783μm,0.5s						
FSK				AML	AML	15 33 35.4	
	comp=E,6730μm,0.6s						
DRO	**Drossia**	**0.92**	**67**	P	**Pg**	**15 33 17.7**	**0.0**
DRO				S	**Sg**	**15 33 30.0**	**+0.5**
	comp=E,2μm,0.5s						
DRO	**Drossia**	**0.92**	**67**	P	**Pg**	**15 33 17.6**	**-0.1**
DRO				S	**Sg**	**15 33 29.5**	**-0.1**
DRO				AML	AML	15 33 43.5	
	comp=E,3234μm,0.5s						
DRO				AML	AML	15 33 46.5	
	comp=N,3614μm,0.6s						
EVGI	**Lefkada island**	**1.01**	**1**	P	**Pg**	**15 33 18.4**	**-1.2**
EVGI				S	**Sb**	**15 33 34.3**	**+0.3**
	comp=N,2μm,0.4s						
EVGI	**Lefkada island**	**1.01**	**1**	P	**Pg**	**15 33 18.5**	**-1.1**
DRAG	**Dragano-Lefkad**	**1.08**	**357**	P	**Pg**	**15 33 19.5**	**-1.3**
DRAG				S	**Sb**	**15 33 36.3**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.08**	**357**	P	**Pg**	**15 33 20.0**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.11**	**2**	P	**Pg**	**15 33 19.6**	**-1.7**
NYDR				S	**Sb**	**15 33 36.6**	**-0.1**
	comp=N,1μm,0.6s						
ITM	**Ithomi**	**1.11**	**112**	P	**Pg**	**15 33 21.3**	**-0.1**
ITM				S	**Sb**	**15 33 36.2**	**-0.6**
ITM				AML	AML	15 33 48.0	
	comp=N,1180μm,0.7s						
ITM				AML	AML	15 33 48.2	
	comp=E,1054μm,0.6s						
PYL	**PYLOS**	**1.13**	**129**	P	**Pg**	**15 33 21.5**	**-0.2**
PYL				S	**Sb**	**15 33 36.7**	**-0.6**
PYL				AML	AML	15 33 40.9	
	comp=E,1827μm,0.8s						
PYL				AML	AML	15 33 46.0	
	comp=N,680μm,0.6s						
LKD2	**Lefkada island**	**1.18**	**1**	P	**Pg**	**15 33 22.7**	**-0.1**
TSLK	**Tsoukalades, L**	**1.22**	**1**	P	**Pg**	**15 33

Plg3.0000°, Azm134.0000°; P -4.2433, Plg24.0000°, Azm42.0000°;
DJA ***10*** *16:05:12.6±0.3, 2°S±3°×13°9E±°, h20km±2km, M4.9/76, mb5.2/76, mB5.4/43, MLv5.4/7, Mw4.9/95, Mw(mB)4.8/43, MwMwp4.8/10, Mwp5.1/10*
IDC ***10*** *16:05:14.0±3.4, 1°87S×138°81E, h31km±24km, mb4.3/17, mbtmp4.5/19, ML4.7/3, MS4.2/32, Error ellipse: s-maj=15.0km s-min=9.5km az=88.0*
GCMT ***10*** *16:05:15.3±0.2, 1°62S±0°01×138°95E±0°02, h20km, MW5.0/86, Moment Tensor Solution. s51,c67; s86,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.85±.14; $M_{\theta\theta}$-1.30±.08; $M_{\phi\phi}$-1.55±.10; $M_{r\theta}$-3.09±.23; $M_{\theta\phi}$1.65±.06; $M_{\phi r}$1.63±.21; Best double couple: $M_0$4.58600×10^{16} NP1:ϕ_s302.00000°, δ70.00000°, λ79.00000°. NP2: ϕ_s152.00000°, δ22.00000°, λ118.00000°. Principal axes: T 4.5770, Plg63.0000°, Azm195.0000°; N 0.0180, Plg10.0000°, Azm306.0000°; P -4.5950, Plg25.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 16:05:14.2±0.5, 1°90S±0°04×138°76E±0°04, h30km±3km, h30km:pP-P,n342,σ1§76/345,mb5.0/115,MS4.2/41, 11C-3D,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.57**	**116**	P	**Pn**	**16 05 39.4**	**-0.6**
JAY	**Jayapura**	**2.04**	**107**	Pn	**Pn**	**16 05 44.3**	**-2.2**
	22nm,0.3s,baz=251,slow=9.1,SNR=84						
JAY				Sn	**Sn**	**16 06 09.7**	**-1.3**
	84nm,0.3s,baz=345,slow=32,SNR=13						
JAY				LR	LR	16 06 12.4	
	comp=Z,874nm,20.4s,baz=345,slow=29						
JAY	**Jayapura**	**2.04**	**107**	P	**Pn**	**16 05 44.2**	**-2.3**
RKPI	**Ransiki, Papua**	**4.59**	**275**	P	**Pn**	**16 06 22.2**	**+0.6**
KMPI	**Kaimana, Papua**	**5.34**	**251**	P	**Pn**	**16 06 34.8**	**+2.9**
FAKI	**Fak Fak**	**6.58**	**261**	Pn	**Pn**	**16 06 50.2**	**+1.3**
FAKI				Sn	**Sn**	**16 08 05.4**	**+2.4**
FAKI	**Fak Fak**	**6.58**	**261**	P	**Pn**	**16 06 51.0**	**+2.1**
FAKI	**Fak Fak**	**6.58**	**261**	P	**Pn**	**16 06 50.5**	**+1.6**
	187nm,0.9s,2μm2μm1.1nm						
MMPI	**Merauke**	**6.72**	**166**	P	**Pn**	**16 06 53.4**	**+2.6**
SWI	**Sorong**	**7.56**	**278**	P	**Pn**	**16 07 04.4**	**+1.9**
	106nm,0.7s,1μm0.4nm						
MANU	**Manus Island**	**8.61**	**91**	Pn	**Pn**	**16 07 16.9**	**+0.1**
BNDI	**Bandanaira**	**9.21**	**253**	P	**Pn**	**16 07 27.2**	**+2.1**
BNDI	**Bandanaira**	**9.21**	**253**	P	**Pn**	**16 07 27.2**	**+2.1**
	236nm,0.7s,3μm2μm						
SAUI	**Saumlaki**	**9.57**	**231**	Pn	**Pn**	**16 07 29.2**	**-0.8**
SAUI	**Saumlaki**	**9.57**	**231**	P	**Pn**	**16 07 32.0**	**+2.0**
SAUI	**Saumlaki**	**9.57**	**231**	P	**Pn**	**16 07 32.4**	**+2.4**
MSAI	**Masohi**	**9.92**	**261**	P	**Pn**	**16 07 37.9**	**+3.1**
	109nm,0.7s,898nm						
AAI	**Ambon**	**10.70**	**260**	P	**Pn**	**16 07 46.6**	**+1.2**
	168nm,0.7s,1μm						
PMG	**Port Moresby**	**11.20**	**132**		**Pn**	**16 07 53.4**	**+1.1**
PMG	**Port Moresby**	**11.20**	**132**	Pn	**Pn**	**16 07 52.2**	**-0.1**
	5.2nm,0.8s,baz=289,slow=16,SNR=1.7						
PMG				LR	LR	16 13 20.2	
	comp=Z,2μm,19.6s,baz=358,slow=44						
PMG	**Port Moresby**	**11.20**	**132**	*i* P	**Pn**	**16 07 53.4**	**+1.1**
TNTI	**Ternate**	**11.69**	**283**	Pn	**Pn**	**16 07 59.2**	**+0.2**
TNTI	**Ternate**	**11.69**	**283**	P	Pn	16 08 05.0	+5.9
TNTI	**Ternate**	**11.69**	**283**	P	**Pn**	**16 08 01.6**	**+2.5**
NLAI	**Namlea**	**11.72**	**263**	P	**Pn**	**16 07 58.0**	**-1.4**
	33nm,0.5s,588nm						
KDU	**Kakadu**	**12.39**	**210**	P	**Pn**	**16 08 08.0**	**-0.6**
	comp=Z,83nm,0.8s						
KDU	**Kakadu**	**12.39**	**210**	P	**Pn**	**16 08 08.6**	**0.0**
COEN	**Coen**	**12.75**	**160**	Pn	Pn	16 08 09.2	-4.4
COEN	**Coen**	**12.75**	**160**	P	**Pn**	**16 08 16.7**	**+3.2**
	comp=Z,17nm,0.7s						
COEN	**Coen**	**12.75**	**160**	P	P	16 08 20.0	-4.3
SANI	**Sanana**	**12.76**	**269**	P	**Pn**	**16 08 16.5**	**+2.8**
SANI	**Sanana**	**12.76**	**269**	P	**Pn**	**16 08 12.7**	**-1.0**
	comp=Z,51nm,0.7s						
DRS	**Darwin Rock St**	**13.04**	**216**	P	**Pn**	**16 08 17.8**	**+0.3**
	comp=Z,164nm,0.7s						
MTN	**Manton Dam**	**13.23**	**214**	Pn	**Pn**	**16 08 19.3**	**-0.8**
MTN	**Manton Dam**	**13.23**	**214**	P	**Pn**	**16 08 19.6**	**-0.5**
	comp=Z,155nm,0.8s						
MTN	**Manton Dam**	**13.23**	**214**	P	**Pn**	**16 08 21.0**	**+0.8**
KMSI	**Cibinong**	**14.98**	**279**	P	**Pn**	**16 08 44.6**	**+0.7**
	comp=Z,205nm,0.9s,comp=Z,2μm						
LUWI	**Luwuk**	**16.00**	**273**	Pn	**Pn**	**16 08 56.7**	**-0.5**
LUWI				IAmb	IAmb	16 09 02.7	
	comp=Z,139nm,1.4s						
LUWI	**Luwuk**	**16.00**	**273**	P	**Pn**	**16 08 56.9**	**-0.3**
	comp=Z,140nm,1.1s,comp=Z,2μm						
SOEI	**Soe**	**16.38**	**241**		**Pn**	**16 09 01.4**	**-0.8**
SOEI	**Soe**	**16.38**	**241**	P	**Pn**	**16 09 01.4**	**-0.8**
BBSI	**Bau Bau**	**16.54**	**257**	P	**P**	**16 09 07.1**	**+0.7**
	comp=Z,309nm,1.2s,comp=Z,3μmcomp=Z,1μm						
GUMO	**Guam**	**16.54**	**21**	LR	LR	16 15 19.8	
	comp=Z,587nm,18.3s,baz=181,slow=37						
KNRA	**Kununurra**	**16.86**	**215**	Pn	**Pn**	**16 09 06.7**	**-1.5**
KNRA				IAmb	IAmb	16 09 13.7	
	comp=Z,121nm,0.7s						
KNRA	**Kununurra**	**16.86**	**215**	P	**Pn**	**16 09 08.5**	**+0.3**
	comp=Z,177nm,0.8s						
MRSI	**Marisa**	**16.98**	**278**	P	**Pn**	**16 09 11.0**	**+1.4**
	comp=Z,46nm,0.8s						
MTSU	**Mount Surprise**	**17.03**	**162**	P	**P**	**16 09 12.5**	**+0.6**
	comp=Z,26nm,1.0s						
MTSU	**Mount Surprise**	**17.03**	**162**	P	**P**	**16 09 16.2**	**+4.3**
BATI	**Baumata**	**17.11**	**241**	P	**Pn**	**16 09 11.5**	**+0.1**
	comp=Z,5.3nm,0.3s,baz=131,slow=2.8,SNR=26						
BATI				S	**Sn**	**16 12 20.9**	**-0.1**
	comp=Z,6.7nm,0.4s,baz=126,slow=19,SNR=1.6						
BATI				LR	LR	16 18 43.7	
	comp=Z,395nm,18.1s,baz=76,slow=47						
BATI	**Baumata**	**17.11**	**241**	P	**Pn**	**16 09 10.9**	**-0.5**
APSI	**Ampana**	**17.13**	**273**	P	**P**	**16 09 13.5**	**+0.5**
	comp=Z,98nm,1.2s,comp=Z,1μm						
MMRI	**Maumere**	**17.75**	**247**	P	**Pn**	**16 09 19.4**	**+0.2**
	comp=Z,67nm,1.0s,comp=Z,1μm						
TOLI2	**Tolitoli**	**18.22**	**279**	P	**Pn**	**16 09 23.4**	**-1.6**
WB0	**Warramunga Arr**	**18.26**	**193**	P	**P**	**16 09 24.4**	**-1.1**
WB0				IAmb	IAmb	16 09 29.5	
	comp=Z,79nm,0.8s						
WR0	**Warramunga Arr**	**18.41**	**193**	P	**P**	**16 09 26.2**	**-0.9**
WR0				IAmb	IAmb	16 09 31.1	
	comp=Z,112nm,0.8s						
WB2	**Warramunga Arr**	**18.44**	**193**	P	**P**	**16 09 26.0**	**-1.4**
WB2				IAmb	IAmb	16 09 31.5	
	comp=Z,94nm,0.9s						
WRA	**Warramunga Arr**	**18.44**	**193**	P	**P**	**16 09 24.1**	**-3.4**
WRA	**Warramunga Arr**	**18.44**	**193**	P	**P**	**16 09 27.8**	**+0.3**
	comp=Z,2.7nm,0.3s,baz=16,slow=12,SNR=100						
WRA				S	**Sn**	**16 12 45.1**	**-7.9**
	comp=Z,53nm,0.9s,baz=12,slow=22,SNR=9.0						
WRA				LR	LR	16 16 50.8	
	comp=Z,1μm,21.4s,baz=14,slow=38						
WRA	**Warramunga Arr**	**18.44**	**193**	*i* P	**P**	**16 09 27.7**	**+0.3**
WRA				pmax	pmax		
	comp=Z,81nm,0.9s						
QIS	**Mount Isa**	**18.56**	**177**	P	**P**	**16 09 27.5**	**-1.2**
	comp=Z,32nm,0.8s						
QIS	**Mount Isa**	**18.56**	**177**	P	**Pn**	**16 09 31.1**	**+2.0**
BSSI	**Bau Bau, Buton**	**18.70**	**256**	P	**Pn**	**16 09 32.8**	**+2.0**
	comp=Z,221nm,1.5s,comp=Z,3μmcomp=Z,2μm						
BNSI	**Bone**	**18.78**	**262**	P	**Pn**	**16 09 34.4**	**+2.5**
	comp=Z,94nm,1.1s,comp=Z,1μm						
BKSI	**Bulukumba**	**18.90**	**259**	P	**Pn**	**16 09 34.0**	**+0.7**
	comp=Z,50nm,0.9s,comp=Z,1μmcomp=Z,2μm						
TTSI	**Tana Toraja**	**18.95**	**266**	P	**Pn**	**16 09 35.4**	**+1.5**
	comp=Z,73nm,1.0s,comp=Z,929nm						
MPSI	**Mapaga**	**18.98**	**277**	P	**P**	**16 09 32.9**	**-0.6**
SPSI	**Sidrap Palu**	**19.07**	**263**	P	**Pn**	**16 09 36.1**	**+0.8**
	comp=Z,60nm,1.2s,comp=Z,924nmcomp=Z,2μm						
KAPI	**Kappang**	**19.22**	**260**	P	**P**	**16 09 36.2**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=76,slow=9.4,SNR=2.7						
KAPI				LR	LR	16 18 31.3	
	comp=Z,406nm,20.8s,baz=84,slow=41						
	comp=Z,5.9nm,0.4s						
CTA	**Charters Tower**	**19.50**	**158**	LR	LR	16 17 54.0	
	comp=Z,114nm,18.6s,baz=340,slow=39						
CTA	**Charters Tower**	**19.50**	**158**	P	**Pn**	**16 09 44.5**	**+4.0**
CTA	**Charters Tower**	**19.50**	**158**	P	**Pn**	**16 09 42.3**	**+1.8**
CTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CTAO	**Charters Tower**	**19.50**	**158**	P	**P**	**16 09 39.0**	**-0.1**
CTAO	**Charters Tower**	**19.50**	**158**	P	**Pn**	**16 09 44.5**	**+4.0**
CTAO	**Charters Tower**	**19.50**	**158**	P	**P**	**16 09 39.0**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,24nm,1.0s						
BASI	**Baing, Sumba**	**19.86**	**245**	P	**P**	**16 09 44.6**	**+1.6**
	comp=Z,120nm,1.0s						
WSI	**Waingapu**	**19.91**	**246**	P	**P**	**16 09 44.7**	**+1.2**
	comp=Z,154nm,0.9s,comp=Z,3μm						
FITZ	**Fitzroy Crossi**	**20.61**	**218**	P	**P**	**16 09 48.1**	**-3.0**
FITZ	**Fitzroy Crossi**	**20.61**	**218**	P	**P**	**16 09 51.8**	**+0.7**
	comp=Z,24nm,0.8s,baz=37,slow=12,SNR=20						
FITZ				S	**S**	**16 13 32.2**	**-7.9**
	comp=Z,75nm,0.8s,baz=93,slow=16,SNR=13						
FITZ				LR	LR	16 18 58.2	
	comp=Z,602nm,19.1s,baz=38,slow=40						
	comp=Z,24nm,0.8s						
WBSI	**Waikabubak, Su**	**20.73**	**247**	P	**P**	**16 09 51.7**	**-0.8**
	comp=Z,150nm,0.8s,comp=Z,1μm						
MYLDM	**Lahad Datu**	**21.42**	**289**	P	**P**	**16 09 59.0**	**-1.0**
MYLDM				IAmb	IAmb	16 10 10.6	
	comp=Z,59nm,1.1s						
SMKI	**Samarinda**	**21.59**	**274**	P	**P**	**16 10 04.7**	**+2.9**
	comp=Z,111nm,1.1s						
BKB	**Balikpapan**	**21.86**	**271**	P	**P**	**16 10 05.0**	**+0.4**
	comp=Z,165nm,1.1s						
PLAI	**Plampang**	**21.98**	**251**	P	**P**	**16 10 07.7**	**+1.8**
	comp=Z,73nm,0.9s						
AS31	**Alice Springs**	**22.14**	**192**	P	**P**	**16 10 08.2**	**+0.6**
AS31	**Alice Springs**	**22.14**	**192**	P	**P**	**16 10 08.2**	**+0.6**
	comp=Z,34nm,0.7s						
ASAR	**Alice Springs**	**22.14**	**192**	P	**P**	**16 10 07.4**	**-0.2**
ASAR	**Alice Springs**	**22.14**	**192**	P	**P**	**16 10 08.4**	**+0.8**
	comp=Z,55nm,0.9s,baz=23,slow=9.5,SNR=349						
ASAR				S	**S**	**16 14 10.6**	**+0.5**
	comp=Z,24nm,1.1s,baz=14,slow=24,SNR=9.7						
ASAR				LR	LR	16 19 06.1	
	comp=Z,920nm,20.4s,baz=15,slow=38						
	comp=Z,55nm,0.9s						
HNR	**Honiara**	**22.36**	**110**	LR	LR	16 19 05.1	
	comp=Z,408nm,19.1s,baz=302,slow=37						
KKM	**Kota Kinabalu**	**23.85**	**289**	P	**P**	**16 10 24.5**	**-0.8**
KKM				IAmb	IAmb	16 10 26.3	
	comp=Z,53nm,0.9s						
KKM	**Kota Kinabalu**	**23.85**	**289**	P	**P**	**16 10 29.3**	**+4.1**
MTKI	**Muara Teweh, K**	**23.87**	**272**	P	**P**	**16 10 25.7**	**+0.4**
	comp=Z,62nm,1.3s						
SRBI	**Singaraja**	**24.23**	**254**	P	**P**	**16 10 29.2**	**+0.5**
	comp=Z,50nm,1.0s,comp=Z,1μm						
QLP	**Quilpie**	**25.10**	**168**	P	**P**	**16 10 37.8**	**+1.4**
	comp=Z,166nm,1.3s						
QLP	**Quilpie**	**25.10**	**168**	P	**P**	**16 10 38.9**	**+2.5**
WRKA	**Warakurna**	**25.12**	**203**	P	**P**	**16 10 37.4**	**+0.8**
	comp=Z,96nm,1.1s						
KMMI	**Kalianget**	**25.23**	**258**	P	**P**	**16 10 40.1**	**+2.4**
KMMI				pP	**pP**	**16 10 47.2**	**+0.8**
JAGI	**Jajag, Banyuwa**	**25.34**	**254**	P	**P**	**16 10 37.0**	**-1.7**
JAGI				IAmb	IAmb	16 10 57.6	
	comp=Z,42nm,1.0s						
BLJI	**Banyuglugur**	**25.72**	**256**	P	**P**	**16 10 43.7**	**+1.5**
	comp=Z,49nm,1.0s						
INKA	**Inminka**	**25.76**	**176**	P	**P**	**16 10 44.8**	**+2.4**
OOD	**Oodnadatta**	**25.91**	**186**	P	**P**	**16 10 44.8**	**+1.1**
GMJI	**Gumukmas**	**25.98**	**255**	P	**P**	**16 10 45.9**	**+1.4**
	comp=Z,55nm,1.0s						
GMJI				pP	**pP**	**16 10 52.2**	**-1.0**
	comp=Z,55nm,1.0s						
EIDS	**Eidsvold**	**26.18**	**154**	P	**P**	**16 10 47.3**	**+1.1**
EIDS	**Eidsvold**	**26.18**	**154**	P	**P**	**16 10 50.0**	**+3.8**
EIDS	**Eidsvold**	**26.18**	**154**	P	**P**	**16 10 51.0**	**+4.8**
MBWA	**Marble Bar**	**26.65**	**223**	P	**P**	**16 10 48.8**	**-1.8**
MBWA				IAmb	IAmb	16 10 55.5	
	comp=Z,49nm,1.2s						
MBWA	**Marble Bar**	**26.65**	**223**	P	**P**	**16 10 51.2**	**+0.7**
	comp=Z,41nm,1.4s						
MBWA	**Marble Bar**	**26.65**	**223**	P	**P**	**16 10 51.0**	**+0.5**
GRJI	**Gresik**	**26.66**	**258**	P	**P**	**16 10 53.1**	**+2.4**
SBUM	**Sibu**	**26.88**	**279**	P	**P**	**16 10 52.1**	**-0.6**
SBUM	**Sibu**	**26.88**	**279**	P	**P**	**16 10 54.4**	**+1.7**
STKI	**Sintang**	**27.34**	**274**	P	**P**	**16 10 57.6**	**+0.7**
	comp=Z,13nm,0.8s						
PWJI	**Pagerwojo**	**27.52**	**256**	P	**P**	**16 10 56.7**	**-1.7**
	comp=Z,62nm,0.9s						
PWJI				pP	**pP**	**16 11 03.6**	**-3.5**
	comp=Z,62nm,0.9s						
PCJI	**Pacitan**	**28.16**	**256**	P	**P**	**16 11 01.9**	**-2.2**
	comp=Z,73nm,1.1s						
LCRK	**Leigh Creek**	**28.39**	**181**	P	**P**	**16 11 08.6**	**+2.6**
TW1H	**Toowoomba 1 Ha**	**28.46**	**155**	P	P	16 11 12.2	+5.4
	comp=Z,36nm,0.9s						
MULG	**Mulgathing**	**28.57**	**189**	P	**P**	**16 11 08.9**	**+1.3**
KSM	**Kuching**	**28.64**	**277**	P	**P**	**16 11 06.5**	**-1.9**
KSM				IAmb	IAmb	16 11 10.4	
	comp=Z,18nm,0.9s						
KSM	**Kuching**	**28.64**	**277**	P	**P**	**16 11 09.6**	**+1.2**
AULRC	**Lightning Ridg**	**28.75**	**163**	P	**P**	**16 11 13.0**	**+3.8**
STKA	**Stephens Creek**	**29.93**	**175**	P	**P**	**16 11 20.0**	**+0.3**
STKA	**Stephens Creek**	**29.93**	**175**	P	**P**	**16 11 19.9**	**+0.3**
	comp=Z,4.6nm,0.9s						
STKA	**Stephens Creek**	**29.93**	**175**	P	**P**	**16 11 20.2**	**+0.5**
	comp=Z,10.0nm,0.8s,baz=347,slow=8.8,SNR=19						
STKA				LR	LR	16 24 58.2	
	comp=Z,1000nm,18.9s,baz=350,slow=40						
	comp=Z,10.0nm,0.8s						
STKA	**Stephens Creek**	**29.93**	**175**	P	**P**	**16 11 22.7**	**+3.0**
STKA	**Stephens Creek**	**29.93**	**175**	*i* P	**P**	**16 11 18.2**	**-1.5**
CMSA	**Cobar Meteorol**	**30.20**	**168**	P	**P**	**16 11 23.3**	**+1.3**
	comp=Z,32nm,1.2s						
CMSA	**Cobar Meteorol**	**30.20**	**168**	P	**P**	**16 11 24.5**	**+2.5**
KPJI	**Karang Pucung**	**30.20**	**259**	P	**P**	**16 11 22.6**	**+0.3**
	comp=Z,57nm,1.2s						
JOW	**Kunigami**	**30.30**	**341**	LR	LR	16 22 08.6	
	comp=Z,438nm,18.8s,baz=86,slow=34						
FORT	**Forrest**	**30.45**	**198**	P	**P**	**16 11 23.6**	**-0.7**
FORT	**Forrest**	**30.45**	**198**	P	**P**	**16 11 23.6**	**-0.7**
	comp=Z,69nm,0.8s						
FORT	**Forrest**	**30.45**	**198**	P	**P**	**16 11 26.4**	**+2.1**
BBOO	**Buckleboo**	**30.85**	**184**	P	**P**	**16 11 29.3**	**+1.5**
BBOO	**Buckleboo**	**30.85**	**184**	P	**P**	**16 11 28.3**	**+0.5**
	comp=Z,32nm,1.2s						
BBOO	**Buckleboo**	**30.85**	**184**	P	**P**	**16 11 29.2**	**+1.5**
TPI	**Tanjungpandan**	**31.09**	**268**	P	**P**	**16 11 31.4**	**+1.3**
	comp=Z,47nm,1.1s						
AUPHS	**Peel High Scho**	**31.23**	**160**	P	P	16 11 36.3	+5.2
HTT	**Hallett**	**31.36**	**180**	P	**P**	**16 11 33.3**	**+0.9**
	comp=Z,46nm,1.0s						
HTT	**Hallett**	**31.36**	**180**	P	**P**	**16 11 34.5**	**+2.1**
AUDCS	**Dubbo College**	**31.57**	**164**	P	P	16 11 39.7	+5.6
	comp=Z,17nm,0.9s						
PPBI	**Pangkal Pinang**	**32.60**	**269**	P	**P**	**16 11 44.7**	**+1.3**
	comp=Z,23nm,0.5s						
AUMBR	**Murray Bridge**	**33.07**	**179**	P	**P**	**16 11 49.2**	**+2.0**
KMBL	**Kambalda**	**33.36**	**207**	P	**P**	**16 11 50.4**	**+0.5**
	comp=Z,42nm,1.4s						
KMBL	**Kambalda**	**33.36**	**207**	P	**P**	**16 11 50.8**	**+0.9**
	comp=Z,55nm,1.3s						
YNG	**Young**	**33.46**	**165**	P	**P**	**16 11 51.6**	**+0.9**
	comp=Z,120nm,1.2s						
YNG	**Young**	**33.46**	**165**	P	**P**	**16 11 54.2**	**+3.5**
DZM	**Mont Dzumac**	**33.57**	**129**	*e*S	**S**	**16 17 11.9**	**-0.7**
	comp=Z,65nm,25.7s						
DZM				*e*LR	LR	16 20 49.0	
	comp=Z,474nm,23.4s						
DZM	**Mont Dzumac**	**33.57**	**129**	LR	LR	16 25 13.0	
	comp=Z,361nm,20.7s,baz=262,slow=36						
H11S3	**WAKE ISLAND Hy**	**34.15**	**52**	T	T	16 47 47.5	
	baz=236,slow=76,SNR=319						
H11S2	**WAKE ISLAND Hy**	**34.16**	**52**	T	T	16 47 46.4	
	baz=236,slow=76,SNR=494						
H11S1	**WAKE ISLAND Hy**	**34.17**	**52**	T	T	16 47 46.7	
	baz=236,slow=76,SNR=237						
CAN	**Canberra**	**34.59**	**165**	P	**P**	**16 12 02.3**	**+1.8**
CAN				IAmb	IAmb	16 12 16.1	
	comp=Z,29nm,1.1s						
CAN	**Canberra**	**34.59**	**165**	P	**P**	**16 11 57.0**	**-3.5**
CAN	**Canberra**	**34.59**	**165**	P	**P**	**16 12 04.0**	**+3.5**
CAN	**Canberra**	**34.59**	**165**	P	**P**	**16 12 02.3**	**+1.8**
CAN				pmax	pmax		
	comp=Z,29nm,1.1s						
MORW	**Morawa**	**34.61**	**217**	P	**P**	**16 11 59.3**	**-1.4**
MORW	**Morawa**	**34.61**	**217**	P	**P**	**16 12 01.4**	**+0.6**
	comp=Z,32nm,1.1s						
MORW	**Morawa**	**34.61**	**217**	P	**P**	**16 12 01.7**	**+1.0**
ARPS	**Mount Arapiles**	**34.81**	**176**	P	**P**	**16 12 03.4**	**+1.0**
	comp=Z,84nm,0.9s						
ARPS	**Mount Arapiles**	**34.81**	**176**	P	**P**	**16 12 04.3**	**+2.0**
JHJ	**Hachijo jima 2**	**34.85**	**2**	LR	LR	16 23 57.6	
	comp=Z,491nm,18.7s,baz=215,slow=32						
H11N1	**WAKE ISLAND Hy**	**34.99**	**51**	T	T	16 49 08.9	
	baz=229,slow=75,SNR=19						
H11N2	**WAKE ISLAND Hy**	**35.00**	**51**	T	T	16 49 06.7	
	baz=229,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hy**	**35.01**	**51**	T	T	16 48 58.1	
	baz=229,slow=75,SNR=20						
MYKOM	**Kota Tinggi**	**35.09**	**276**	P	**P**	**16 12 06.4**	**+1.3**
	comp=Z,35nm,1.2s						
BTDF	**Bukit Timah Da**	**35.13**	**275**	P	**P**	**16 12 07.0**	**+1.6**
	comp=Z,28nm,1.1s						
QIZ	**Qiongzhong**	**35.22**	**308**	P	**P**	**16 12 06.1**	**0.0**
QIZ				S	**S**	**16 17 40.4**	**+2.5**
QIZ				LR	LR		
	comp=Z,160nm,10.4s						
QIZ				LR	LR		
	comp=Z,200nm,12.5s						
QIZ				LR	LR		
	comp=Z,210nm,18.6s						
AUSMG	**Snowy Mountain**	**35.54**	**166**	P	**P**	**16 12 13.5**	**+4.8**
	comp=Z,28nm,0.9s						
KLBR	**Kellerberrin**	**35.57**	**212**	P	**P**	**16 12 09.3**	**+0.4**
	comp=Z,54nm,0.8s						
KLBR	**Kellerberrin**	**35.57**	**212**	P	**P**	**16 12 10.1**	**+1.2**
MGBR	**Mount Gambier**	**35.69**	**178**	P	**P**	**16 12 07.2**	**-2.6**
BRAT	**Ballarat**	**35.79**	**173**	P	**P**	**16 12 13.3**	**+2.6**
	comp=Z,13nm,0.9s						
TOO	**Toolangi**	**36.03**	**171**	P	**P**	**16 12 11.0**	**-1.9**
TOO	**Toolangi**	**36.03**	**171**	P	**P**	**16 12 11.0**	**-1.9**
TOO				pmax	pmax		
	comp=Z,16nm,1.4s						
GEXS	**Deakin Univers**	**36.48**	**173**	P	**P**	**16 12 19.6**	**+3.0**
NWAO	**Narrogin (SRO)**	**36.89**	**211**	LR	LR	16 29 50.9	
	comp=Z,506nm,19.4s,baz=356,slow=40						
UBPT	**Khong Chiam**	**37.09**	**299**	P	**P**	**16 12 20.6**	**-1.6**
UBPT				IAmb	IAmb	16 12 39.2	
	comp=Z,72nm,1.8s						
IPM	**Ipoh**	**38.23**	**280**	P	**P**	**16 12 31.4**	**-0.5**
IPM				IAmb	IAmb	16 12 33.1	
	comp=Z,34nm,0.9s						
IPM	**Ipoh**	**38.23**	**280**	P	**P**	**16 12 33.3**	**+1.4**
MJAR	**Matsushiro Arr**	**38.25**	**359**	P	**P**	**16 12 31.7**	**0.0**
	comp=Z,0.3nm,0.4s,baz=174,slow=8.2,SNR=1.7						
MJAR				LR	LR	16 25 44.0	
	comp=Z,285nm,19.6s,baz=151,slow=32						
	comp=Z,0.3nm,0.4s						
PDSI	**Padang**	**38.29**	**271**	P	**P**	**16 12 31.7**	**-0.7**
	comp=Z,59nm,0.8s						
NJ2	**Nanjing**	**38.68**	**332**	*e*P	**P**	**16 12 36.3**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,310nm,22.7s						
NJ2				LR	LR		
	comp=Z,560nm,24.6s						
NJ2				LR	LR		
	comp=Z,350nm,20.8s						
SISI	**Saibi**	**39.65**	**270**	P	**P**	**16 12 43.2**	**-0.6**
SRIT	**Nakonsritamara**	**40.40**	**286**	P	**P**	**16 12 48.0**	**-2.0**
SRIT				IAmb	IAmb	16 12 51.2	
	comp=Z,39nm,0.8s						
KSRS	**Korea Array**	**40.43**	**347**	P	**P**	**16 12 47.4**	**-2.5**
	comp=Z,0.9nm,0.8s,baz=153,slow=8.2,SNR=3.5						
	comp=Z,0.9nm,0.8s						
GSI	**Gunungsitoli**	**41.30**	**274**	P	**P**	**16 12 56.5**	**-0.9**
GSI	**Gunungsitoli**	**41.30**	**274**	P	**P**	**16 12 56.5**	**-0.9**
	comp=Z,69nm,0.9s						
GSI				pP	**pP**	**16 13 01.8**	**-4.6**
	comp=Z,69nm,0.9s						
MSVF	**Nonsavu**	**41.66**	**115**	LR	LR	16 29 46.4	
	comp=Z,148nm,20.9s,baz=345,slow=35						
LHMI	**Lhok Sumawe**	**42.36**	**280**	P	**P**	**16 13 01.8**	**-4.2**
LHMI	**Lhok Sumawe**	**42.36**	**280**	P	**P**	**16 13 05.7**	**-0.4**
SNSI	**Sinabang, Aceh**	**42.63**	**276**	P	**P**	**16 13 07.6**	**-0.7**
MLSI	**Meulaboh, Aceh**	**42.76**	**278**	P	**P**	**16 13 08.8**	**-0.6**
TIA	**Tai'an**	**42.95**

BJI	**Beijing**	**46.58 336**	P	**P**	**16 13 40.1**	**+0.7**
BJI			S	**S**	**16 20 25.6**	**-0.7**
BJI			pmax	pmax		
	comp=Z,6.0nm,1.2s					
BJI			LR	LR		
	comp=Z,100nm,17.6s					
BJI			LR	LR		
	comp=Z,88nm,14.9s					
BJI			LR	LR		
	comp=Z,160nm,18.1s					
CD2	**Chengdu**	**46.62 317**	P	**P**	**16 13 40.6**	**+0.7**
CD2			S	**S**	**16 20 27.3**	**-0.1**
CD2			pmax	pmax		
	comp=Z,20nm,0.4s					
CD2			LR	LR		
	comp=Z,190nm,10.8s					
CD2			LR	LR		
	comp=Z,200nm,13.1s					
CD2			LR	LR		
	comp=Z,140nm,14.0s					
MDJ	**Mudanjiang**	**47.03 351**	P	**P**	**16 13 44.2**	**+1.4**
MDJ			pP	sP	16 13 54.0	-1.5
MDJ			PP	**PP**	**16 15 37.4**	**+3.5**
MDJ			S	**S**	**16 20 36.5**	**+3.8**
MDJ			ScS	**ScS**	**16 23 35.5**	**+0.4**
MDJ			pmax	pmax		
	comp=Z,10.0nm,1.4s					
MDJ			pmax	pmax		
	comp=Z,130nm,3.5s					
MDJ			LR	LR		
	comp=Z,330nm,13.7s					
MDJ			LR	LR		
	comp=Z,260nm,16.2s					
MDJ			LR	LR		
	comp=Z,430nm,20.4s					
CN2	**Changchun**	**47.04 347**	*e*P	**P**	**16 13 41.9**	**-1.0**
CN2			*e*pP	pP	16 13 51.9	-0.1
CN2			pmax	pmax		
	comp=Z,10.0nm,0.9s					
TNCH	**TengChong**	**47.29 307**	P	**P**	**16 13 47.6**	**+2.2**
TNCH			pmax	pmax		
	comp=Z,7.0nm,0.9s					
TNCH			pmax	pmax		
	comp=Z,49nm,3.1s					
BNX	**BinXian**	**48.49 349**	⇑P	**P**	**16 13 53.4**	**-0.8**
BNX			pmax	pmax		
	comp=Z,17nm,1.0s					
YSS	**Yuzh-Sakhalins**	**48.78 4**	*e*P	**P**	**16 13 55.7**	**-0.6**
YSS			*e*		16 21 09.0	
YSS			pmax	pmax		
	comp=Z,10.0nm,0.6s					
HHC	**Hu-ho-hao-te**	**49.24 333**	*e*P	**P**	**16 14 02.3**	**+2.2**
HHC			sP	sP	16 14 18.2	+5.4
HHC			S	**S**	**16 21 01.2**	**-3.1**
HHC			sS	sS	16 21 23.5	+4.3
HHC			SS	**SS**	**16 24 38.1**	**+1.9**
HHC			pmax	pmax		
	comp=Z,29nm,0.7s					
HHC			pmax	pmax		
	comp=Z,110nm,4.4s					
HHC			LR	LR		
	comp=Z,140nm,14.5s					
HHC			LR	LR		
	comp=Z,180nm,14.9s					
HHC			LR	LR		
	comp=Z,200nm,16.4s					
RAO	**Raoul Island**	**49.35 128**	LR	LR	16 32 12.9	
	comp=Z,122nm,21.1s,baz=138,slow=33					
BTO	**Baotou**	**49.77 331**	*e*P	**P**	**16 14 07.4**	**+3.2**
BTO			pP	**sP**	**16 14 16.5**	**-0.4**
BTO			sP	pP	16 14 20.7	+7.4
BTO			S	**S**	**16 21 17.6**	**+5.9**
BTO			pmax	pmax		
	comp=Z,18nm,0.5s					
BTO			pmax	pmax		
	comp=Z,230nm,4.2s					
BTO			LR	LR		
	comp=Z,280nm,15.5s					
BTO			LR	LR		
	comp=Z,390nm,13.3s					
BTO			LR	LR		
	comp=Z,590nm,17.8s					
LZH	**Lanzhou**	**49.87 323**	*e*P	**P**	**16 14 06.3**	**+1.2**
LZH			pP	sP	16 14 16.4	-1.4
LZH			sP	pP	16 14 19.1	+4.9
LZH			S	**S**	**16 21 11.5**	**-1.9**
LZH			pmax	pmax		
	comp=Z,16nm,1.4s					
LZH			pmax	pmax		
	comp=Z,97nm,5.5s					
LZH			LR	LR		
	comp=Z,170nm,14.4s					
LZH			LR	LR		
	comp=Z,150nm,14.4s					
LZH			LR	LR		
	comp=Z,170nm,16.8s					
URZ	**Urewera**	**50.41 141**	LR	LR	16 36 56.7	
	comp=Z,226nm,19.6s,baz=38,slow=38					
TUWZ	**Tuamarina**	**50.51 146**	P	**P**	**16 14 09.0**	**-0.6**
HEH	**HeiHe**	**52.86 351**	*e*P	**P**	**16 14 26.1**	**-0.9**
HEH			pmax	pmax		
	comp=Z,9.0nm,0.9s					
SHL	**Shillong**	**52.92 304**	P	**P**	**16 14 29.9**	**+1.8**
SHL			pmax	pmax		
	comp=Z,17nm,0.8s					
GTA	**Gaotai**	**54.45 323**	*e*P	**P**	**16 14 39.4**	**+0.3**
GTA			pP	sP	16 14 49.6	-2.2
GTA			S	**S**	**16 22 14.0**	**-2.1**
GTA			pmax	pmax		
	comp=Z,6.0nm,0.9s					
GTA			LR	LR		
	comp=Z,87nm,15.6s					
GTA			LR	LR		
	comp=Z,99nm,17.8s					
GTA			LR	LR		
	comp=Z,110nm,18.9s					
GOMU	**GeErMu**	**55.76 317**	P	**P**	**16 14 48.9**	**0.0**
GOMU			pP	pP	16 14 57.1	-0.9
GOMU			sP	sP	16 15 02.5	+0.9
GOMU			PcP	**PcP**	**16 15 50.2**	**+2.3**
GOMU			pmax	pmax		
	comp=Z,7.0nm,1.2s					
GOMU			pmax	pmax		
	comp=Z,200nm,4.6s					
ZEA	**Zeya**	**56.27 352**	*i* P	**P**	**16 14 52.1**	**+0.4**
ULN	**Ulaanbaatar**	**56.76 335**	P	**P**	**16 14 55.2**	**-0.3**
ULN	**Ulaanbaatar**	**56.76 335**	*ce*P	**P**	**16 14 56.2**	**+0.7**
ULN			pmax	pmax		
	comp=Z,14nm,2.1s					
SONM	**Songino Array**	**57.01 335**	P	**P**	**16 14 57.1**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=152,slow=7.8,SNR=8.7					
	comp=Z,1.9nm,0.7s					
PETK	**Petropavlovsk-**	**57.07 13**	P	**P**	**16 14 56.4**	**-1.0**
	comp=Z,4.1nm,0.9s,baz=224,slow=8.1,SNR=4.1					
PETK			LR	LR	16 35 59.8	
	comp=Z,151nm,21.9s,baz=199,slow=32					
	comp=Z,4.1nm,0.9s					
ZAK	**Zakamensk**	**60.28 335**	*e*P	**P**	**16 15 19.6**	**-0.4**
ZAK			pmax	pmax		
	comp=Z,12nm,1.2s					
SHEM	**Shemya Is, Ala**	**61.99 23**	LR	LR	16 40 56.6	
	comp=Z,252nm,19.5s,baz=324,slow=35					
MA2	**Magadan**	**62.02 7**	LR	LR	16 40 44.8	
	comp=Z,91nm,20.3s,baz=192,slow=34					
MOY	**Mondy**	**62.21 334**	*e*P	**P**	**16 15 33.4**	**+0.4**
MOY			pmax	pmax		
	comp=Z,30nm,2.3s					
HYB	**Hyderabad**	**62.33 291**	*e*P	**P**	**16 15 33.8**	**-0.6**
HYB			IVmB_BB		16 15 34.2	
	comp=Z,202nm,1.2s					
YAK	**Yakutsk**	**64.14 355**	LR	LR	16 42 01.7	
	comp=Z,236nm,19.7s,slow=34					
YAK	**Yakutsk**	**64.14 355**	*e*P	**P**	**16 15 45.1**	**-0.3**
YAK			*e**PP	**pP**	**16 15 55.0**	**+0.2**
YAK			*e*		16 18 06.2	
YAK			*e*S	**S**	**16 24 20.1**	**-0.1**
YAK			*e**SS	**sS**	**16 24 37.5**	**+1.9**
YAK			*e*SS	**SS**	**16 28 30.7**	**+0.8**
YAK			pmax	pmax		
	comp=Z,20nm,1.1s					
YAK			pmax	pmax		
	comp=N,8.0nm,1.5s					
YAK			pmax	pmax		
	comp=E,5.0nm,1.5s					
YAK			pmax	pmax		
	comp=Z,76nm,4.1s					
YAK			pmax	pmax		
	comp=N,139nm,3.5s					
YAK			pmax	pmax		
	comp=E,58nm,2.1s					
YAK			smax	smax		
	comp=E,130nm,3.2s					
YAK			smax	smax		
	comp=N,68nm,3.0s					
WMQ	**Urumqi**	**64.41 321**	*e*P	**P**	**16 15 48.6**	**+0.9**
WMQ			pP	sP	16 15 59.4	-1.2
WMQ			pmax	pmax		
	comp=N,22nm,0.7s					
SEY	**Seymchan**	**65.48 7**	*ce*P	**P**	**16 15 54.0**	**-0.2**
SEY			pmax	pmax		
	comp=Z,12nm,1.3s					
CASY	**Casey**	**67.27 192**	P	**P**	**16 16 05.1**	**-0.4**
CASY			IAmb	IAmb	16 16 07.4	
	comp=Z,15nm,1.1s					
ZSN	**Zaisan**	**67.94 324**	*e*P	**P**	**16 16 10.3**	**+0.1**
	comp=Z,15nm,1.5s					
ZSN	**Zaisan**	**67.94 324**	*e*P	**P**	**16 16 10.3**	**+0.1**
ZSN			pmax	pmax		
	comp=Z,15nm,1.5s					
MK31	**Makanchi Array**	**69.18 322**	IAmb	IAmb	16 16 19.9	
	comp=Z,12nm,1.1s					
MK31	**Makanchi Array**	**69.18 322**	*ce*P	**P**	**16 16 18.5**	**+0.5**
MKAR	**Makanchi Array**	**69.18 322**	P	**P**	**16 16 16.7**	**-1.3**
MKAR	**Makanchi Array**	**69.18 322**	P	**P**	**16 16 18.4**	**+0.4**
	comp=Z,13nm,1.1s,baz=118,slow=7.5,SNR=31					
	comp=Z,13nm,1.1s					
MKAR	**Makanchi Array**	**69.18 322**	*i* P	**P**	**16 16 18.3**	**+0.3**
MKAR			pmax	pmax		
	comp=Z,14nm,1.1s					
SHLS	**Shalkode**	**69.45 318**	*e*P	**P**	**16 16 18.2**	**-1.7**
	comp=Z,5.3nm,0.8s					
SHLS	**Shalkode**	**69.45 318**	*e*P	**P**	**16 16 18.2**	**-1.7**
SHLS			pmax	pmax		
	comp=Z,5.0nm,0.8s					
UZB	**Uzynbulak**	**69.74 318**	*e*P	**P**	**16 16 21.7**	**0.0**
	comp=Z,12nm,1.5s					
UZB	**Uzynbulak**	**69.74 318**	*e*P	**P**	**16 16 21.7**	**0.0**
UZB			pmax	pmax		
	comp=Z,12nm,1.5s					
KPKS	**Kokpek**	**70.09 318**	*e*P	**P**	**16 16 23.8**	**-0.1**
KPKS	**Kokpek**	**70.09 318**	*e*P	**P**	**16 16 23.7**	**-0.1**
SATY	**Saty**	**70.13 317**	*e*P	**P**	**16 16 24.1**	**0.0**
	comp=Z,5.4nm,0.9s					
SATY	**Saty**	**70.13 317**	*e*P	**P**	**16 16 24.0**	**0.0**
SATY			pmax	pmax		
	comp=Z,5.0nm,0.9s					
ZHN	**Zhinishke**	**70.15 317**	*e*P	**P**	**16 16 24.1**	**-0.1**
ZHN	**Zhinishke**	**70.15 317**	*e*P	**P**	**16 16 24.0**	**-0.1**
KSH	**Kashi**	**70.57 313**	P	**P**	**16 16 28.9**	**+2.1**
KSH			pmax	pmax		
	comp=Z,8.0nm,1.2s					
TDK	**Taldyqorghan**	**70.88 319**	*e*P	**P**	**16 16 28.6**	**+0.1**
	comp=Z,6.3nm,0.7s					
TDK	**Taldyqorghan**	**70.88 319**	*e*P	**P**	**16 16 28.6**	**+0.1**
TDK			pmax	pmax		
	comp=Z,6.0nm,0.7s					
NIL	**Nilore**	**70.88 307**	P	**P**	**16 16 29.3**	**+0.6**
MDOK	**Medeo**	**71.09 317**	*e*P	**P**	**16 16 29.8**	**-0.1**
MDOK	**Medeo**	**71.09 317**	*e*P	**P**	**16 16 29.8**	**-0.1**
TNSS	**Tian-Shan**	**71.11 317**	*e*P	**P**	**16 16 30.1**	**-0.4**
TNSS	**Tian-Shan**	**71.11 317**	*e*P	**P**	**16 16 30.0**	**-0.4**
AAA	**Alma-Ata**	**71.19 317**	*e*P	**P**	**16 16 30.5**	**0.0**
	comp=Z,13nm,0.9s					
AAA	**Alma-Ata**	**71.19 317**	*e*P	**P**	**16 16 30.4**	**0.0**
AAA			pmax	pmax		
	comp=Z,13nm,0.9s					
ZALV	**Zalesovo Beam**	**71.27 330**	P	**P**	**16 16 28.5**	**-2.0**
ZALV	**Zalesovo Beam**	**71.27 330**	P	**P**	**16 16 29.4**	**-1.1**
	comp=Z,8.2nm,1.0s,baz=109,slow=5.4,SNR=16					
	comp=Z,8.2nm,1.0s					
ZALV	**Zalesovo Beam**	**71.27 330**	*i* P	**P**	**16 16 29.8**	**-0.8**
ZALV			pmax	pmax		
	comp=Z,7.0nm,0.9s					
PPT	**Papeete**	**71.96 108**	LR	LR	16 44 24.4	
	comp=Z,66nm,21.9s,baz=311,slow=33					
PPT2	**Papeete2**	**71.96 108**	*e*S	**S**	**16 25 52.4**	**-3.1**
	comp=Z,41nm,24.5s					
PPT2	**Papeete2**	**71.96 108**	*e*LR	LR	16 38 29.3	
	comp=Z,180nm,25.2s					
PPT2			*e*LR	LR	16 38 32.0	
	comp=Z,166nm,24.0s					
TKM2	**Tokmak 2**	**71.99 316**	P	**P**	**16 16 36.3**	**+0.8**
	SNR=5.8					
TBI	**Tubuai**	**72.53 114**	*e*LR	LR	16 38 46.3	
	comp=Z,1μm,29.8s					
AAK	**Ala-Archa**	**72.66 316**	P	**P**	**16 16 40.4**	**+1.0**
	SNR=5.4					
AAK	**Ala-Archa**	**72.66 316**	P	**P**	**16 16 38.8**	**-0.7**
AAK	**Ala-Archa**	**72.66 316**	*ce*P	**P**	**16 16 39.5**	**+0.1**
AAK			pmax	pmax		
	comp=Z,6.0nm,1.0s					
SGDS	**Sogindy**	**72.84 317**	*e*P	**P**	**16 16 40.3**	**0.0**
SGDS	**Sogindy**	**72.84 317**	*e*P	**P**	**16 16 40.3**	**0.0**
USP	**Ospenovka**	**72.87 316**	P	**P**	**16 16 41.3**	**+0.8**
	SNR=10					
AML	**Almayashu**	**73.06 315**	P	**P**	**16 16 43.4**	**+1.3**
	SNR=10					
KURK	**Kurchatov**	**73.09 325**	P	**P**	**16 16 40.3**	**-1.2**
KURK			IAmb	IAmb	16 16 42.4	
	comp=Z,12nm,1.1s					
KURK	**Kurchatov**	**73.09 325**	*ce*P	**P**	**16 16 40.6**	**-0.9**
KURK			pmax	pmax		
	comp=Z,13nm,1.0s					
KURBB	**Kurchatov Arra**	**73.10 325**	P	**P**	**16 16 41.4**	**-0.2**
	comp=Z,9.6nm,1.0s,baz=111,slow=5.5,SNR=38					
	comp=Z,9.6nm,1.0s					
EKS2	**Erkin-Say**	**73.17 316**	P	**P**	**16 16 43.5**	**+1.1**
	SNR=6.1					
TIXI	**Tiksi**	**73.70 357**	LR	LR	16 47 50.5	
	comp=Z,129nm,19.6s,baz=196,slow=35					
TIXI	**Tiksi**	**73.70 357**	*ce*P	**P**	**16 16 45.4**	**+0.7**
TIXI			pmax	pmax		
	comp=Z,10.0nm,1.5s					
KBL	**Kabul**	**74.49 307**	P	**P**	**16 16 49.3**	**-1.1**
KBL			IAmb	IAmb	16 16 51.0	
	comp=Z,7.8nm,0.9s					
KBL	**Kabul**	**74.49 307**	P	**P**	**16 16 49.3**	**-1.1**
KBL			pmax	pmax		
	comp=Z,8.0nm,0.9s					
BTK	**Batken**	**74.51 312**	P	**P**	**16 16 50.9**	**+0.6**
GAR	**Garm**	**74.60 311**	IAmb	IAmb	16 16 53.9	
	comp=Z,19nm,0.9s					
DZA	**Taraz**	**74.95 315**	*e*P	**P**	**16 16 52.8**	**+0.1**
DZA	**Taraz**	**74.95 315**	*e*P	**P**	**16 16 52.7**	**+0.1**
SIMJ	**Simiganj**	**75.50 311**	P	**P**	**16 16 55.2**	**-0.8**
SIMJ			IAmb	IAmb	16 16 58.5	
	comp=Z,20nm,1.2s					
KKAR	**Karatay Array**	**75.59 315**	P	**P**	**16 16 55.0**	**-1.3**
KKAR	**Karatay Array**	**75.59 315**	P	**P**	**16 16 55.0**	**-1.3**
IUG	**Iuzhnay**	**75.66 314**	*e*P	**P**	**16 16 56.9**	**0.0**
	comp=Z,12nm,1.2s					
IUG	**Iuzhnay**	**75.66 314**	*e*P	**P**	**16 16 56.8**	**0.0**
IUG			pmax	pmax		
	comp=Z,12nm,1.2s					
CHM	**Chimkent**	**76.01 314**	*e*P	**P**	**16 16 58.9**	**+0.1**
CHM	**Chimkent**	**76.01 314**	*e*P	**P**	**16 16 58.8**	**+0.1**
BRLS	**Borolday**	**76.04 315**	*e*P	**P**	**16 16 59.1**	**+0.1**
BRLS	**Borolday**	**76.04 315**	*e*P	**P**	**16 16 59.0**	**+0.1**
BVAR	**Borovoye Array**	**78.68 325**	P	**P**	**16 17 13.8**	**+0.4**
	comp=Z,10nm,0.6s,baz=115,slow=7.2,SNR=56					
	comp=Z,10nm,0.6s					
BRVK	**Borovoye**	**78.75 325**	P	**P**	**16 17 13.0**	**-0.8**
BRVK			IAmb	IAmb	16 17 15.0	
	comp=Z,12nm,0.8s					
BRVK	**Borovoye**	**78.75 325**	*ce*P	**P**	**16 17 14.0**	**+0.2**
BRVK			pmax	pmax		
	comp=Z,13nm,0.8s					
NRIK	**Noril'sk**	**78.96 344**	P	**P**	**16 17 14.3**	**-0.3**
	comp=Z,7.9nm,1.1s,baz=141,slow=5.8,SNR=6.9					
	comp=Z,7.9nm,1.1s					
NRIK	**Noril'sk**	**78.96 344**	*ce*P	**P**	**16 17 14.9**	**+0.3**
NRIK			pmax	pmax		
	comp=Z,11nm,1.1s					
KDAK	**Kodiak Island**	**80.39 30**	LR	LR	16 48 53.9	
	comp=Z,234nm,20.1s,baz=82,slow=33					
TAOE	**Nuku Hiva Isla**	**80.92 99**	*e*LR	LR	16 42 42.4	
	comp=Z,135nm,23.1s					
MAW	**Mawson**	**82.88 202**	P	**P**	**16 17 35.7**	**+0.2**
	comp=Z,8.3nm,0.9s,baz=69,slow=6.5,SNR=26					
MAW			LR	LR	16 53 26.7	
	comp=Z,209nm,18.7s,baz=78,slow=35					
	comp=Z,8.3nm,0.9s					
RND	**Reindeer**	**83.88 26**	P	**P**	**16 17 41.0**	**+0.1**
RND	**Reindeer**	**83.88 26**	P	**P**	**16 17 41.0**	**+0.1**
RND			pmax	pmax		
	comp=Z,18nm,0.6s					
ABKAR	**Akbulak array**	**84.14 320**	P	**P**	**16 17 41.8**	**-0.6**
ABKAR	**Akbulak array**	**84.14 320**	IAmb	IAmb	16 17 44.0	
	comp=Z,14nm,1.2s					
ILAR	**Eielson Array**	**85.08 24**	P	**P**	**16 17 45.4**	**-1.5**
	comp=Z,1.8nm,1.0s,baz=256,slow=5.2,SNR=9.7					
ILAR			LR	LR	16 58 21.6	
	comp=Z,86nm,18.1s,baz=207,slow=38					
	comp=Z,1.8nm,1.0s					
SVE	**Sverdlovsk**	**85.09 327**	*e*P	**P**	**16 17 47.7**	**+0.6**
ARTI	**Arti**	**86.24 327**	*d i*P	**P**	**16 17 52.0**	**-0.8**
ARTI					16 21 07.1	
ARTI			S	**SKSac**	**16 28 14.8**	**-2.0**
ARTI			SS	**SS**	**16 34 03.4**	**-1.9**
ARTI			pmax	pmax		
	comp=Z,10.0nm,1.5s					
QSPA	**South Pole Qui**	**88.04 180**	P	**P**	**16 18 01.8**	**+0.3**
QSPA	**South Pole Qui**	**88.04 180**	P	**P**	**16 18 01.6**	**+0.1**
	comp=Z,11nm,0.8s,baz=318,slow=1.8,SNR=69					
QSPA			LR	LR	16 58 52.0	
	comp=Z,558nm,19.4s,baz=14,slow=36					
	comp=Z,11nm,0.8s					
INK	**Inuvik**	**90.91 22**	LR	LR	16 52 53.7	
	comp=Z,61nm,21.6s,baz=240,slow=32					
DLBC	**Dease Lake**	**92.25 32**	LR	LR	16 54 12.2	
	comp=Z,123nm,20.9s,baz=346,slow=32					
RAYN	**Ar Rayn**	**93.73 293**	P	**P**	**16 18 27.2**	**-1.7**
RAYN			IAmb	IAmb	16 18 29.2	
	comp=Z,5.1nm,0.8s					
RAYN	**Ar Rayn**	**93.73 293**	P	**P**	**16 18 27.2**	**-1.7**
RAYN			pmax	pmax		
	comp=Z,5.0nm,0.9s					
KIV	**Kislovodsk**	**95.69 314**	*e*P	**P**	**16 18 35.5**	**-1.9**
KIV			pmax	pmax		
	comp=Z,2.0nm,1.0s					
ELIB	**Princess Elisa**	**95.88 196**	*d*P	**P**	**16 18 38.7**	**+1.0**
	comp=Z,3.7nm,1.0s					
VRH	**Novokhopyorsk**	**95.89 321**	P	**P**	**16 18 35.4**	**-2.6**
VRH			pmax	pmax		
	comp=Z,28nm,2.8s					
VORR	**Voronezh**	**97.41 322**	P	**P**	**16 18 43.9**	**-1.0**
VORR			pmax	pmax		
	comp=Z,8.0nm,1.5s					
VORD	**Divnogorie**	**97.44 321**	*e*P	**P**	**16 18 41.8**	**-3.2**
VORD			pmax	pmax		
	comp=Z,8.0nm,0.9s					
VSR	**Storozhevoye**	**97.49 321**	*e*P	**P**	**16 18 41.8**	**-3.4**
VSR			pmax	pmax		
	comp=Z,3.0nm,1.0s					
NACGM	**Naroch**	**104.06 326**	*e*Pdif	**Pdif**	**16 19 14.2**	**-0.3**
	comp=Z,10.0nm,0.9s,baz=73					
BMRD	**Maredsous**	**118.06 328**	*d*PKP	**PKiKP**	**16 24 01.4**	**+3.2**
PLCA	**Paso Flores**	**129.86 151**	PKP	**PKPdf**	**16 24 20.6**	**-0.6**
	comp=Z,5.5nm,1.0s,baz=224,slow=4.6,SNR=10					
TORD	**Torodi Ar. Bea**	**136.07 287**	PKP	**PKPdf**	**16 24 32.0**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=59,slow=2.9,SNR=4.8					
DBIC	**Dimbokro**	**143.42 279**	PKP	PKPbc	16 24 44.1	0.0
	comp=Z,8.6nm,0.9s,baz=90,slow=4.1,SNR=8.3					
PB01	**IPOC Station P**	**144.16 131**	PKPdf	**PKPdf**	**16 24 47.6**	**-0.6**
PB11	**IPOC Station P**	**144.77 129**	PKPdf	**PKPdf**	**16 24 49.1**	**-0.2**
LPAZ	**La Paz**	**147.88 125**		**PKPbc**	**16 24 57.1**	**-1.0**
LPAZ	**La Paz**	**147.88 125**	PKPbc	**PKPdf**	**16 24 56.5**	**+1.2**
	comp=Z,3.9nm,0.9s,baz=244,slow=8.5,SNR=3.9					
CPUP	**Villa Florida**	**147.92 152**	PKPbc	**PKPdf**	**16 24 55.9**	**+1.6**
	comp=Z,5.8nm,0.5s,baz=231,slow=3.1,SNR=6.9					
SDV	**Santo Domingo**	**149.95 76**	PKPab	**PKiKP**	**16 25 05.2**	**+1.2**
SDV	**Santo Domingo**	**149.95 76**	PKPbc	**PKPbc**	**16 25 03.1**	**0.0**
	comp=Z,4.9nm,0.3s,baz=232,slow=0.3,SNR=8.0					
OBIP	**Obispado Ponce**	**150.39 56**		**PKiKP**	**16 25 04.4**	**-0.1**
SJG	**San Juan**	**150.73 55**	PKPbc	**PKPbc**	**16 25 04.2**	**-0.3**
	comp=Z,13nm,0.7s,baz=225,slow=7.5,SNR=5.4					

DJA 10 16:07:57.9±1.9, 1°N±5°×9°E±°, h29km±17km, M4.0/8, mb4.2/1, MLv3.8/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.89**	**52**	P	Pn	16 08 14.5	+0.1
PBSI	**Pulau Batu**	**1.61**	**120**	P	Pn	16 08 24.7	+0.3
PBSI				S	Sn	16 08 44.0	-0.2
SNSI	**Sinabang, Aceh**	**1.74**	**341**	P	Pn	16 08 26.2	0.0
SNSI				S	Sn	16 08 47.4	0.0
KCSI	**Kotacane, Aceh**	**2.89**	**18**	P	Pn	16 08 42.0	-0.1
SISI	**Saibi**	**3.02**	**133**	P	Pn	16 08 44.0	+0.2
LHMI	**Lhok Sumawe**	**4.45**	**1**	P	Pn	16 09 03.7	+0.2
PPSI	**Pulau Pagai**	**4.69**	**138**	P	Pn	16 09 06.7	0.0

*GUC **10** 16:16:31.6±0.7, 22°.38S×70°.25W, h29km±2km, ML3.3*
*SJA **10** 16:16:31.0, 22°.38S×70°.19W, h17km, ML3.5*
ISC 10 16:16:31.1±1.1, 22°.37S±0°.03×70°.23W±0°.06, h26km±6km, n24, σ1°28/35, 3C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.08**	**67**	⇑*i*P	**Pb**	**16 16 36.2**	**+0.3**
PB04				*i* S	**Sb**	**16 16 39.0**	**-0.3**
PB04	**IPOC Station P**	**0.08**	**67**	*i* P	**Pb**	**16 16 35.5**	**-0.5**
PB06	**IPOC Station P**	**0.70**	**119**	⇑*i*P	**Pb**	**16 16 44.8**	**0.0**
PB06				⇓*i*S	**Sb**	**16 16 54.0**	**-0.1**
PB06				IAML		16 16 54.2	
	comp=N,5μm,0.2s						
PB06	**IPOC Station P**	**0.70**	**119**	*i* P	**Pb**	**16 16 44.0**	**-0.7**
PB09	**IPOC Station P**	**1.08**	**58**	⇓*i*P	**Pb**	**16 16 51.5**	**+0.3**
PB09				*i* S	**Sn**	**16 17 05.5**	**+0.6**
PB09				IAML		16 17 06.2	
	comp=N,1μm,0.3s						
PB09	**IPOC Station P**	**1.08**	**58**	*i* P	**Pn**	**16 16 50.7**	**0.0**
PB15	**IPOC Station P**	**1.09**	**140**	⇑*i*P	**Pn**	**16 16 51.1**	**+0.2**
PB15				*i* S	**Sb**	**16 17 05.1**	**-0.3**
PB15				IAML		16 17 09.3	
	comp=E,2μm,0.3s						
PB15	**IPOC Station P**	**1.09**	**140**	*i* P	**Pn**	**16 16 50.6**	**-0.3**
PB01	**IPOC Station P**	**1.49**	**28**	⇓*i*P	**Pn**	**16 16 57.3**	**+1.1**
PB01				*i* S	**Sb**	**16 17 16.4**	**-0.3**
PB01				IAML		16 17 16.7	
	comp=E,710nm,0.2s						
PB01	**IPOC Station P**	**1.49**	**28**	*i* P	**Pn**	**16 16 56.8**	**+0.5**
PATCX	**Punta Patache**	**1.54**	**3**	⇓*i*P	**Pn**	**16 16 57.7**	**+0.7**
PATCX				*i* S	**Sn**	**16 17 15.9**	**-0.3**
PATCX				IAML		16 17 21.8	
	comp=E,331nm,0.3s						
PATCX	**Punta Patache**	**1.54**	**3**	*i* P	**Pn**	**16 16 57.4**	**+0.4**
TA01	**Diego Aracena**	**1.79**	**2**	*i* P	**Pn**	**16 17 01.4**	**+1.1**
TA01				*i* S	**Sn**	**16 17 23.8**	**+1.6**
TA01				IAML		16 17 27.4	
	comp=N,302nm,0.3s						
TA01	**Diego Aracena**	**1.79**	**2**	*i* P	**Pn**	**16 17 01.2**	**+0.9**
HMBC	**Humberstone**	**2.10**	**9**	*e*P	**Pn**	**16 17 06.5**	**+1.8**
HMBC				*e*S	**Sb**	**16 17 33.2**	**-1.2**
HMBC				IAML		16 17 36.4	
	comp=E,244nm,0.3s						
HMBC	**Humberstone**	**2.10**	**9**	*i* P	**Pn**	**16 17 06.3**	**+1.6**
PB14	**IPOC Station P**	**2.25**	**184**	*e*P	**Pn**	**16 17 08.1**	**+1.1**
PB14				*e*S	**Sb**	**16 17 38

σ1$50/59, **mb4.2/23, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.47**	**218**	*e*P	**Pn**	**16 17 08.0**	**-0.6**
CBIJ				*e*S	**Sn**	**16 17 26.6**	**-0.1**
JCJ	**Chichijima**	**1.47**	**218**	Pn	**Pn**	**16 17 08.0**	**-0.6**
JCJ				Sn	**Sn**	**16 17 23.6**	**-3.1**
JHH2	**Haha-jima-NKT2**	**1.86**	**209**	*e*P	**Pn**	**16 17 13.7**	**-0.3**
JHH2				*e*S	**Sn**	**16 17 35.9**	**-0.4**
BSO1	**Boso 1**	**6.64**	**344**	*e*S	**Sn**	**16 19 30.4**	**-3.1**
JOD2	**Odawara 2**	**7.80**	**334**	*e*P	**Pn**	**16 18 35.8**	**+0.1**
JYT	**Yasato**	**8.34**	**343**	*e*S	**Sn**	**16 20 13.1**	**-2.8**
JRY	**Ryogami san**	**8.54**	**336**	*e*P	**Pn**	**16 18 45.7**	**-0.1**
JRY				S	**Sn**	**16 20 17.9**	**-3.1**
JHO	**Hitachi**	**8.61**	**346**	*e*P	**Pn**	**16 18 47.2**	**+0.4**
JAG	**Ashikaga**	**8.73**	**340**	*e*P	**Pn**	**16 18 47.7**	**-0.7**
JAG				*e*S	**Sn**	**16 20 19.7**	**-5.9**
MJAR	**Matsushiro Arr**	**9.26**	**334**	Pn	**Pn**	**16 18 55.0**	**-0.7**
	0.2nm,0.3s,baz=161,slow=12,SNR=26						
MJAR				Sn	**Sn**	**16 20 38.2**	**-0.5**
	0.1nm,0.3s,baz=60,slow=10,SNR=4.2						
	1.1nm,0.3s						
MAJO	**Matsushiro**	**9.26**	**334**	Pn	**Pn**	**16 18 55.8**	**0.0**
MJB9	**Matsu-Tunnel**	**9.27**	**334**	Pn	**Pn**	**16 18 56.7**	**+0.9**
JMM	**Marumori**	**9.78**	**349**	Pn	**Pn**	**16 19 00.8**	**-2.0**
JMK	**Ichinoseki**	**10.79**	**352**	*e*S	Sn	16 21 04.7	-11
KSRS	**Korea Array**	**15.75**	**309**	Pn	**Pn**	**16 20 24.6**	**+0.8**
	0.2nm,0.3s,baz=113,slow=12,SNR=12						
	1.6nm,0.6s						
USA0B	**Ussuriysk Arra**	**18.26**	**334**	P	**Pn**	**16 20 56.3**	**+1.1**
USRK	**Ussuriysk Ar.**	**18.26**	**334**	P	**Pn**	**16 20 56.0**	**+0.8**
USRK	**Ussuriysk Ar.**	**18.26**	**334**	P	**Pn**	**16 20 56.6**	**+1.5**
	0.1nm,0.3s,baz=174,slow=12,SNR=4.7						
	2.8nm,0.7s						
YHNB	**Yeheng**	**19.85**	**265**	P	**P**	**16 21 10.8**	**-2.1**
YULB	**Yu-li**	**20.29**	**261**	P	**P**	**16 21 17.7**	**+0.2**
YULB				IAmb	IAmb	16 21 21.1	
	comp=Z,40nm,1.4s						
SSLB	**Suanglung**	**20.46**	**262**	P	**P**	**16 21 18.1**	**-1.4**
SSLB				IAmb	IAmb	16 21 23.8	
	comp=Z,48nm,1.5s						
TPUB	**Ta-pu**	**20.90**	**261**	P	**P**	**16 21 22.4**	**-1.8**
HEH	**HeiHe**	**25.03**	**336**	*e*P	**P**	**16 22 06.2**	**+0.9**
HEH				LR	LR		
	comp=N,310nm,18.8s						
HEH				LR	LR		
	comp=E,280nm,18.1s						
HEH				LR	LR		
	comp=Z,420nm,15.6s						
HHC	**Hu-ho-hao-te**	**28.75**	**304**	*e*P	**P**	**16 22 41.1**	**+2.0**
HHC				S	**S**	**16 27 28.3**	**+1.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,64nm,5.1s						
HHC				LR	LR		
	comp=N,170nm,13.8s						
HHC				LR	LR		
	comp=E,160nm,15.3s						
HHC				LR	LR		
	comp=Z,200nm,14.5s						
CD2	**Chengdu**	**34.27**	**284**	P	**P**	**16 23 27.2**	**-0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SONM	**Songino Array**	**34.51**	**315**	P	**P**	**16 23 31.5**	**+1.8**
	comp=Z,1.4nm,0.6s,baz=123,slow=9.0,SNR=5.4						
	comp=Z,1.4nm,0.6s						
PZH	**PanZhiHua**	**36.72**	**277**	P	**P**	**16 23 49.6**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
GTA	**Gaotai**	**37.38**	**299**	*e*P	**P**	**16 23 53.9**	**-0.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**41.58**	**266**	P	**P**	**16 24 29.2**	**-0.2**
	comp=Z,1.2nm,0.9s,baz=62,slow=8.5,SNR=9.6						
	comp=Z,1.2nm,0.9s						
WB0	**Warramunga Arr**	**48.50**	**191**	P	**P**	**16 25 23.1**	**-1.2**
WB0				IAmb	IAmb	16 25 24.2	
	comp=Z,4.0nm,0.8s						
WR0	**Warramunga Arr**	**48.66**	**191**	P	**P**	**16 25 24.4**	**-1.1**
WR0				IAmb	IAmb	16 25 40.4	
	comp=Z,4.2nm,1.1s						
WB2	**Warramunga Arr**	**48.68**	**191**	P	**P**	**16 25 24.3**	**-1.3**
WRA	**Warramunga Arr**	**48.68**	**191**	P	**P**	**16 25 24.4**	**-1.2**
WRA	**Warramunga Arr**	**48.68**	**191**	P	**P**	**16 25 24.9**	**-0.8**
	comp=Z,4.0nm,0.7s,baz=12,slow=8.4,SNR=41						
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**49.20**	**318**	P	**P**	**16 25 30.7**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=96,slow=9.1,SNR=4.2						
	comp=Z,0.5nm,0.4s						
MK31	**Makanchi Array**	**50.43**	**309**	P	**P**	**16 25 39.2**	**+0.4**
MKAR	**Makanchi Array**	**50.43**	**309**	P	**P**	**16 25 39.2**	**+0.4**
MKAR	**Makanchi Array**	**50.43**	**309**	P	**P**	**16 25 39.9**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=89,slow=8.9,SNR=11						
	comp=Z,1.4nm,0.6s						
MAKZ	**Makanchi**	**50.64**	**309**	P	**P**	**16 25 40.5**	**+0.1**
MAKZ				IAmb	IAmb	16 26 12.6	
	comp=Z,3.9nm,1.1s						
ASAR	**Alice Springs**	**52.40**	**191**	P	**P**	**16 25 52.5**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=7.0,slow=7.1,SNR=15						
	comp=Z,0.3nm,0.4s						
KURK	**Kurchatov**	**52.81**	**314**	P	**P**	**16 25 57.3**	**+0.8**
KURK				IAmb	IAmb	16 25 59.6	
	comp=Z,4.5nm,1.1s						
KURBB	**Kurchatov Arra**	**52.87**	**314**	P	**P**	**16 25 57.5**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=91,slow=7.7,SNR=17						
	comp=Z,1.7nm,0.6s						
ILAR	**Eielson Array**	**56.26**	**29**	P	**P**	**16 26 20.8**	**-0.6**
	comp=Z,0.6nm,0.9s,baz=262,slow=6.7,SNR=6.4						
	comp=Z,0.6nm,0.9s						
BVAR	**Borovoye Array**	**57.79**	**317**	P	**P**	**16 26 33.3**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=94,slow=6.8,SNR=5.4						
	comp=Z,0.9nm,0.5s						
KKAR	**Karatay Array**	**59.13**	**305**	P	**P**	**16 26 42.9**	**+1.1**
KKAR				IAmb	IAmb	16 26 44.2	
	comp=Z,3.0nm,0.7s						
KKAR	**Karatay Array**	**59.13**	**305**	P	**P**	**16 26 43.6**	**+1.8**
SIMJ	**Simiganj**	**61.23**	**301**	P	**P**	**16 26 57.1**	**+0.7**
ABKAR	**Akbulak array**	**64.92**	**314**	P	**P**	**16 27 21.4**	**+0.8**
SPITS	**Spitsbergen Ar**	**69.39**	**350**	P	**P**	**16 27 48.1**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=50,slow=6.3,SNR=0.9						
	comp=Z,1.3nm,0.4s						
FINES	**FINESS Array B**	**77.29**	**334**	P	**P**	**16 28 35.5**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=72,slow=6.2,SNR=4.8						
	comp=Z,2.5nm,0.9s						
KBZ	**Khabaz**	**77.86**	**313**	P	**P**	**16 28 40.2**	**+1.5**
	comp=Z,1.7nm,0.9s,baz=53,slow=5.1,SNR=4.8						
	comp=Z,1.7nm,0.9s						
NVAR	**Mina Array Bea**	**79.10**	**52**	P	**P**	**16 28 46.0**	**0.0**
	comp=Z,0.7nm,0.9s,baz=280,slow=2.7,SNR=3.1						
	comp=Z,0.7nm,0.9s						
BRTR	**Keskin Array B**	**85.86**	**313**	P	**P**	**16 29 21.4**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=104,slow=5.2,SNR=4.7						
	comp=Z,0.8nm,0.8s						

*IDC **10** 16:19:46.3±1.2, 37°.32N×20°.92E, h0km, mb3.7/10, mbtmp3.6/13, ML2.9/3, MS3.2/5, Error ellipse: s-maj=26.0km s-min=21.0km az=172.0*
*ATH **10** 16:19:47.2, 37°.16N×20°.60E, h9km±1km, ML3.8/18, Manual Solution by A.Papageorgiou This location: 2020/07/20 08:23:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **10** 16:19:48.7, 37°.22N×20°.66E, h0km±2km, ML3.7/13, Error ellipse: s-maj=2.5km s-min=0.6km az=225.0*

ISC 10 16:19:48.4±1.5, 37°.23N±0°.04×20.71E±0°.04, h13km±10km, n84, σ1$32/112, **mb3.8/10, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.44**	**11**	P	**Pb**	**16 19 57.8**	**-0.3**
KRI1				S	**Sb**	**16 20 04.6**	**-0.1**
	16μm,0.4s						
LTHK	**Lithakia**	**0.49**	**12**	P	**Pb**	**16 19 58.5**	**-0.4**
LTHK				S	**Sb**	**16 20 06.5**	**+0.4**
	15μm,0.4s						
LTHK	**Lithakia**	**0.49**	**12**	P	**Pb**	**16 19 58.5**	**-0.4**
LTHK				S	**Sb**	**16 20 06.1**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.85**	**3**	P	**Pg**	**16 20 04.4**	**-0.4**
RTZL				S	**Sb**	**16 20 18.3**	**+1.9**
	3μm,0.3s						
AMT	**Artemida-Makis**	**0.85**	**69**	P	**Pb**	**16 20 05.8**	**+0.7**
AMT				S	**Sb**	**16 20 18.6**	**+2.2**
PYL	**PYLOS**	**0.89**	**111**	P	**Pb**	**16 20 05.5**	**-0.2**
PYL				S	**Sn**	**16 20 20.3**	**+0.9**
	3μm,0.3s						
PYL	**PYLOS**	**0.89**	**111**	P	**Pb**	**16 20 05.5**	**-0.2**
PYL				S	**Sb**	**16 20 19.1**	**+1.6**
PSDA	**Pessada-Kefalo**	**0.89**	**354**	P	**Pb**	**16 20 05.5**	**-0.2**
PSDA				S	**Sb**	**16 20 18.4**	**+0.8**
	6μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.89**	**354**	P	**Pb**	**16 20 05.5**	**-0.2**
PSDA				S	**Sb**	**16 20 17.7**	**+0.1**
VLS	**Valsamata**	**0.95**	**354**	P	**Pb**	**16 20 06.6**	**-0.2**
VLS				S	**Sb**	**16 20 21.0**	**+1.6**
	3μm,0.4s						
VLS	**Valsamata**	**0.95**	**354**	P	**Pb**	**16 20 06.8**	**0.0**
VLS				S	**Sb**	**16 20 19.8**	**+0.4**
ITM	**Ithomi**	**0.97**	**92**	P	**Pb**	**16 20 07.5**	**+0.4**
ITM				S	**Sn**	**16 20 22.7**	**+1.2**
	3μm,0.3s						
ITM	**Ithomi**	**0.97**	**92**	P	**Pb**	**16 20 07.4**	**+0.3**
ITM				S	**Sb**	**16 20 21.1**	**+1.3**
LXRA	**Lixouri, Kepha**	**1.00**	**348**	P	**Pb**	**16 20 07.7**	**+0.2**
LXRA				S	**Sb**	**16 20 21.4**	**+0.9**
RLS	**Riolos of Patr**	**1.02**	**36**	P	**Pb**	**16 20 08.3**	**+0.3**
RLS				S	**Sb**	**16 20 22.9**	**+1.5**
	1μm,0.5s						
RLS	**Riolos of Patr**	**1.02**	**36**	P	**Pb**	**16 20 07.9**	**-0.1**
RLS				S	**Sn**	**16 20 24.3**	**+1.5**
SMHA	**Samh**	**1.02**	**357**	P	**Pb**	**16 20 07.7**	**-0.3**
SMHA				S	**Sb**	**16 20 22.2**	**+0.8**
DMLN	**Damoulianata-K**	**1.05**	**345**	P	**Pb**	**16 20 08.3**	**-0.1**
DMLN				S	**Sn**	**16 20 24.7**	**+1.4**
	6μm,0.6s						
DMLN	**Damoulianata-K**	**1.05**	**345**	P	**Pb**	**16 20 08.2**	**-0.1**
DMLN				S	**Sb**	**16 20 22.9**	**+0.9**
DRO	**Drossia**	**1.08**	**47**	P	**Pb**	**16 20 09.0**	**+0.2**
DRO				S	**Sn**	**16 20 25.9**	**+1.9**
	5μm,0.6s						
DRO	**Drossia**	**1.08**	**47**	P	**Pb**	**16 20 09.1**	**+0.2**
DRO				S	**Sn**	**16 20 25.6**	**+1.5**
VSK1	**VASILIKIADES**	**1.19**	**354**	P	**Pb**	**16 20 10.5**	**-0.3**
VSK1				S	**Sn**	**16 20 28.6**	**+1.8**
	3μm,0.8s						
FSK	**Fiskardo**	**1.24**	**355**	P	**Pg**	**16 20 11.3**	**-0.9**
FSK				S	**Sn**	**16 20 30.8**	**+2.8**
	4μm,0.4s						
FSK	**Fiskardo**	**1.24**	**355**	P	**Pb**	**16 20 11.6**	**-0.1**
FSK				S	**Sb**	**16 20 28.7**	**+1.2**
UPR	**University Cam**	**1.36**	**39**	P	**Pb**	**16 20 14.7**	**+1.0**
EVGI	**Lefkada island**	**1.39**	**358**	P	**Pb**	**16 20 14.2**	**-0.1**
EVGI				S	**Sn**	**16 20 34.9**	**+3.0**
	2μm,0.2s						
EVGI	**Lefkada island**	**1.39**	**358**	P	**Pn**	**16 20 14.0**	**+0.5**
EVGI				S	**Sn**	**16 20 33.2**	**+1.3**
KLV	**Kalavryta, Ach**	**1.41**	**54**	P	**Pn**	**16 20 14.7**	**+0.9**
KLV	**Kalavryta, Ach**	**1.41**	**54**	P	**Pn**	**16 20 14.7**	**+0.9**
KLV				S	**Sb**	**16 20 33.9**	**+1.5**
DRAG	**Dragano-Lefkad**	**1.46**	**356**	P	**Pb**	**16 20 15.5**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.46**	**356**	P	**Pn**	**16 20 14.5**	**0.0**
DRAG				S	**Sb**	**16 20 34.5**	**+0.6**
GUR	**Goura**	**1.48**	**61**	P	**Pn**	**16 20 15.7**	**+0.9**
GUR	**Goura**	**1.48**	**61**	P	**Pn**	**16 20 15.7**	**+0.9**
GUR				S	**Sb**	**16 20 36.0**	**+1.5**
NYDR	**Nydri-Lefkada**	**1.48**	**360**	P	**Pb**	**16 20 15.8**	**0.0**
NYDR	**Nydri-Lefkada**	**1.48**	**360**	P	**Pb**	**16 20 15.8**	**0.0**
NYDR				S	**Sb**	**16 20 35.4**	**+0.8**
ALIK	**Aliki, Aigiali**	**1.52**	**47**	P	**Pg**	**16 20 17.4**	**-0.1**
EFP	**Efpalio**	**1.53**	**38**	P	**Pn**	**16 20 16.2**	**+0.8**
EFP	**Efpalio**	**1.53**	**38**	P	**Pn**	**16 20 16.1**	**+0.7**
LKD2	**Lefkada island**	**1.56**	**358**	P	**Pg**	**16 20 18.4**	**0.0**
LKD2	**Lefkada island**	**1.56**	**358**	P	**Pn**	**16 20 16.7**	**+0.8**
LKD2				S	**Sn**	**16 20 37.2**	**+1.2**
TSLK	**Tsoukalades, L**	**1.60**	**358**	P	**Pb**	**16 20 17.8**	**0.0**
TSLK	**Tsoukalades, L**	**1.60**	**358**	P	**Pb**	**16 20 17.3**	**-0.5**
TSLK				S	**Sn**	**16 20 38.0**	**+1.1**
KALE	**Kalithea**	**1.62**	**44**	P	**Pb**	**16 20 18.8**	**+0.6**
KALE	**Kalithea**	**1.62**	**44**	P	**Pn**	**16 20 17.9**	**+1.1**
ANX	**Ano Chora**	**1.67**	**35**	P	**Pb**	**16 20 19.0**	**-0.1**
ANX	**Ano Chora**	**1.67**	**35**	P	**Pb**	**16 20 18.9**	**-0.1**
VLI	**Veliai**	**1.85**	**105**	P	**Pb**	**16 20 22.7**	**+0.6**
LOUT	**Loutraki**	**1.95**	**66**	P	**Pb**	**16 20 23.6**	**-0.2**
AXAR	**Agios Charalam**	**2.18**	**44**	P	**Pn**	**16 20 26.2**	**+1.9**
AXAR	**Agios Charalam**	**2.18**	**44**	P	**Pn**	**16 20 26.0**	**+1.6**
AGG	**Agios Georgios**	**2.20**	**35**	P	**Pb**	**16 20 27.8**	**-0.3**
VILL	**Villia**	**2.27**	**65**	P	**Pn**	**16 20 27.4**	**+1.8**
IGT	**Igoumenitsa**	**2.32**	**353**	P	**Pn**	**16 20 27.9**	**+1.6**
VLY	**Voula,Athens**	**2.53**	**75**	P	**Pn**	**16 20 30.5**	**+1.3**
THL	**Klokotos Trika**	**2.55**	**23**	P	**Pn**	**16 20 30.7**	**+1.3**
KEK	**Kerkira**	**2.58**	**344**	P	**Pn**	**16 20 31.6**	**+1.7**
DION	**Dionisos Attik**	**2.69**	**71**	P	**Pn**	**16 20 33.4**	**+1.9**
TYRN	**Tyrnavos**	**2.75**	**25**	P	**Pn**	**16 20 34.4**	**+2.2**
TYRN	**Tyrnavos**	**2.75**	**25**	P	**Pn**	**16 20 33.8**	**+1.5**
KPRO	**Kipourio**	**2.77**	**10**	P	**Pn**	**16 20 33.3**	**+0.7**
NEO	**Neokhori**	**2.87**	**43**	P	**Pn**	**16 20 35.8**	**+1.9**
KZN	**Kozani**	**3.19**	**15**	P	**Pn**	**16 20 39.9**	**+1.6**
LIT	**Litokhoron**	**3.19**	**25**	P	**Pn**	**16 20 39.9**	**+1.6**
NEST	**Nestorio**	**3.19**	**5**	P	**Pn**	**16 20 40.8**	**+2.4**
FNA	**Florina**	**3.59**	**8**	P	**Pn**	**16 20 45.6**	**+1.8**
OHR	**Ohrid**	**3.88**	**1**	*i* Pn	**Pn**	**16 20 50.9**	**+3.1**
VAY	**Valandovo**	**4.34**	**19**	*i* Pn	**Pn**	**16 20 56.1**	**+2.1**
KEST	**Kesra**	**9.27**	**264**	Pn	**Pn**	**16 22 05.5**	**+3.6**
	0.1nm,0.3s,baz=110,slow=12,SNR=2.8						
	3.8nm,0.9s						
BRTR	**Keskin Array B**	**10.44**	**72**	Pn	**Pn**	**16 22 17.5**	**-0.4**
	baz=257,slow=15,SNR=1.2						
	0.2nm,0.5s						
VRAC	**Vranov**	**12.44**	**347**	LR	LR	16 27 55.8	
	comp=Z,83nm,18.5s,baz=168,slow=40						
DAVOX	**Davos/Dischmat**	**12.48**	**323**	LR	LR	16 28 09.8	
	comp=Z,46nm,18.8s,baz=86,slow=40						
MMAI	**Mount Meron Ar**	**12.74**	**105**	Pn	**Pn**	**16 22 45.9**	**-3.4**
	0.4nm,0.3s,baz=289,slow=9.0,SNR=1.7						
	0.6nm,0.4s						
AKASG	**Malin Array Be**	**14.79**	**22**	LR	LR	16 30 01.5	
	comp=Z,53nm,18.2s,baz=234,slow=42						
HFS	**Hagfors**	**23.36**	**351**	P	**P**	**16 24 55.8**	**-0.5**
	3.0nm,0.8s,baz=157,slow=9.6,SNR=5.4						
	3.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**24.30**	**326**	P	**P**	**16 25 03.9**	**-1.4**
	2.9nm,1.0s,baz=91,slow=15,SNR=2.1						
	2.9nm,1.0s						
FINES	**FINESS Array B**	**24.48**	**6**	P	**P**	**16 25 06.3**	**-0.6**
	3.7nm,1.0s,baz=191,slow=9.1,SNR=4.0						
	3.7nm,1.0s						
NOA	**NORSAR Array B**	**24.58**	**349**	P	**P**	**16 25 08.4**	**+0.5**
	0.8nm,0.9s,baz=172,slow=9.8,SNR=1.4						
NOA				LR	LR	16 35 50.2	
	comp=Z,22nm,20.3s,baz=235,slow=39						
	0.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**29.39**	**220**	P	**P**	**16 25 52.6**	**+1.1**
	0.2nm,0.6s,baz=12,slow=7.9,SNR=0.9						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**42.68**	**53**	P	**P**	**16 27 43.5**	**-1.2**
	0.4nm,0.5s,baz=280,slow=8.4,SNR=3.4						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**45.68**	**58**	P	**P**	**16 28 08.4**	**-0.4**
	0.3nm,0.5s,baz=266,slow=16,SNR=2.0						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.22**	**47**	P	**P**	**16 28 10.4**	**-2.5**
	0.8nm,0.5s,baz=270,slow=10,SNR=3.0						
	0.8nm,0.5s						
NRIK	**Noril'sk**	**47.58**	**26**	P	**P**	**16 28 19.9**	**-3.4**
	1.3nm,0.5s,baz=196,slow=23,SNR=4.9						
	1.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**69.87**	**82**	P	**P**	**16 30 58.5**	**-0.8**
	0.2nm,0.3s,baz=303,slow=8.5,SNR=1.8						
	0.2nm,0.3s						
JTS	**Las Juntas de**	**96.04**	**288**	LR	LR	17 13 57.0	
	comp=Z,73nm,18.3s,baz=303,slow=34						

*IDC **10** 16:25:41.6±0.5, 17°.55N×61°.14W, h0km, mb4.2/23, mbtmp4.3/27, ML4.0/4, MS3.8/24, Error ellipse: s-maj=13.6km s-min=12.3km az=114.0*
*NEIC **10** 16:25:43.2±2.7, 17°.62N±0°.05×61°.07W±0°.05, h10km±1km, mb4.7/93, Mwr4.5/34, Error ellipse: s-maj=8.9km s-min=6.8km az=29.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.37; $M_{\theta\theta}$-0.63; $M_{\phi\phi}$-2.74; $M_{r\theta}$-4.11; $M_{\theta\phi}$1.94; $M_{\phi r}$3.81; Fault plane solution: $M_0$6.69000×10^{15} NP1:ϕ_s165.51000°, δ18.36000°, λ119.06000°. NP2:ϕ_s315.17000°, δ74.02000°, λ80.84000°. Principal axes: T 6.5577, Plg60.0000°, Azm212.0000°; N 0.2649, Plg9.0000°, Azm318.0000°; P -6.8226, Plg28.0000°, Azm53.0000°;*
*NEIC **10** 16:25:43.2, 17°.62N×61°.06W, h10km*
*TRN **10** 16:25:44.6, 17°.46N×61°.27W, h9km, MD4.8, South-east of Barbuda.*

ISC 10 16:25:45.1±1.0, 17°.58N±0°.04×61°.14W±0°.04, h24km±7km, n176, σ1$24/144, **mb4.6/68, MS3.8/19, 2D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.62**	**278**	Pg	**Pb**	**16 25 56.9**	**-0.4**
ANWB	**Willy Bob**	**0.62**	**278**	*e*P	**Pb**	**16 25 57.3**	**-0.1**
ANWB				*e*S	**Sb**	**16 26 06.7**	**+1.0**
ANBD	**Bethesda, Anti**	**0.80**	**228**	*e*P	**Pb**	**16 26 00.4**	**0.0**
ANBD				*e*S	**Sb**	**16 26 09.8**	**-1.0**
ABD	**La Joyeuse, An**	**1.15**	**197**	Pn	**Pn**	**16 26 05.8**	**+0.1**
ABD					**Sb**	**16 26 21.8**	**+0.9**
H05N1	**Guadeloupe/Mar**	**1.26**	**176**	T	T	16 26 33.1	
GDSD	**La Dsirade Is**	**1.27**	**177**		**Pn**	**16 26 07.6**	**+0.2**
MBWH		**1.31**	**230**	*e*P	**Pn**	**16 26 08.5**	**+0.6**
MBWH				*e*S	**Sn**	**16 26 25.6**	**+0.9**
MBFL	**Flemmings, Mon**	**1.32**	**231**	*e*P	**Pn**	**16 26 08.4**	**+0.3**
MBFL				*e*S	**Sb**	**16 26 26.6**	**+0.8**
GDHS	**Morne Mazeau,**	**1.44**	**205**		**Pn**	**16 26 10.1**	**+0.4**
SKI	**Saint Kitts**	**1.55**	**261**	*e*P	**Pn**	**16 26 12.1**	**+0.8**
SKI				*e*S	**Sn**	**16 26 32.1**	**+1.5**
SKOC	**St. Kitts, UWI**	**1.55**	**259**	*e*P	**Pn**	**16 26 13.0**	**+1.8**
SKOC				*e*S	**Sb**	**16 26 32.9**	**+0.6**
CBE	**Ff, Capester**	**1.57**	**197**		**Pn**	**16 26 12.6**	**+1.1**
SEUS	**St. Eustatius**	**1.76**	**267**		**Pn**	**16 26 15.4**	**+1.3**
TBG	**Guadaloupe-3**	**1.79**	**196**	*e*P	**Pn**	**16 26 16.2**	**+1.7**
TDBA	**Terre de Bas,**	**1.79**	**196**		**Pn**	**16 26 16.2**	**+1.7**
SMRT	**St. Maarten**	**1.90**	**284**	Pn	**Pn**	**16 26 16.2**	**+0.2**
SABA	**Saba**	**2.01**	**271**		**Pn**	**16 26 18.5**	**+1.0**
ILAM	**Ilet Lapin Mar**	**2.81**	**175**		**Pn**	**16 26 29.5**	**+1.0**
FDF	**Fort de France**	**2.83**	**180**	Pn	**Pn**	**16 26 29.2**	**+0.2**
BIM	**Bigot**	**3.05**	**179**		**Pn**	**16 26 33.2**	**+1.2**
BIM	**Bigot**	**3.05**	**179**	*e*P	**Pn**	**16 26 33.0**	**+1.1**
BIM				*e*S	**Sn**	**16 27 10.1**	**+2.3**
MPOM	**Morne Pois Mar**	**3.13**	**175**		**Pn**	**16 26 34.2**	**+1.2**
SLBI	**Saint Lucia, B**	**3.54**	**177**	*e*P	**Pn**	**16 26 40.6**	**+1.9**
SLAC	**Saint Lucia, A**	**3.67**	**176**	*e*P	**Pn**	**16 26 42.1**	**+1.6**
SVB	**Belmont**	**4.29**	**181**	*e*P	**Pn**	**16 26 50.7**	**+1.8**
SVT	**Saint Vincent**	**4.39**	**181**	*e*P	**Pn**	**16 26 51.7**	**+1.4**
HUMP	**Col San Antoni**	**4.52**	**278**		**Pn**	**16 26 52.5**	**+0.4**
PDPR	**Patillas Dam,**	**4.67**	**276**		**Pn**	**16 26 54.4**	**+0.2**
IGPR	**InterUniversit**	**4.75**	**275**	Pn	**Pn**	**16 26 55.8**	**+0.6**
GCPR	**Guaynabo City**	**4.76**	**279**		**Pn**	**16 26 56.5**	**+1.0**
SJG	**San Juan**	**4.80**	**277**	Pn	**Pn**	**16 26 55.8**	**-0.1**
SJG	**San Juan**	**4.80**	**277**	Pn	**Pn**	**16 26 56.4**	**+0.5**
	38nm,0.3s,baz=100,slow=12,SNR=67						
SJG				Sn	**Sn**	**16 27 53.3**	**+2.4**
	27nm,0.3s,baz=73,slow=21,SNR=1.7						
SJG				LR	LR	16 29 01.6	
	comp=Z,1μm,18.6s,baz=24,slow=42						
	175nm,0.4s						
GCMP	**Grenada, Carri**	**5.08**	**183**	*e*P	**Pn**	**16 27 01.1**	**+1.3**
CELP	**Cerrillos**	**5.21**	**276**	Pn	**Pn**	**16 27 01.8**	**+0.2**
OBIP	**Obispado Ponce**	**5.23**	**276**	Pn	**Pn**	**16 27 01.9**	**0.0**
GRSS	**Sisters**	**5.28**	**185**	*e*P	**Pn**	**16 27 04.0**	**+1.5**
GRHS	**Sauteurs**	**5.35**	**185**	*e*P	**Pn**	**16 27 04.3**	**+0.8**
AOPR	**Arecibo Observ**	**5.40**	**279**		**Pn**	**16 27 03.0**	**-1.2**
GRW	**Mount Saint Ca**	**5.42**	**185**	*e*P	**Pn**	**16 27 06.5**	**+2.0**
GRGR	**Grenville**	**5.44**	**185**	*e*P	**Pn**	**16 27 06.3**	**+1.5**
AGPR	**Aguadil

SCHQ Schefferville 37.44 355 P **P** **16 32 57.3 +1.0**
comp=Z,3.0nm,0.7s,baz=184,slow=7.1,SNR=5.7
SCHQ LR LR 16 46 09.2
comp=Z,164nm,19.7s,baz=298,slow=33
comp=Z,3.0nm,0.7s
IPMB Ipameri, GO 37.56 160 *e*P **P** **16 32 59.8 +2.0**
GO01 Chusmiza 37.86 192 IAmb IAmb 16 32 59.4
comp=Z,8.3nm,0.6s
PB11 IPOC Station P 38.04 193 P **P** **16 32 59.5 -2.5**
PB08 IPOC Station P 38.31 192 IAmb IAmb 16 33 03.0
comp=Z,10nm,0.5s
OZNA Ozona 38.59 298 IAmb IAmb 16 33 07.7
comp=Z,11nm,0.6s
ODSA Odessa 40.01 299 IAmb IAmb 16 33 18.9
comp=Z,13nm,0.8s
TXAR Lajitas Array 40.52 295 P **P** **16 33 22.2 -0.5**
comp=Z,0.9nm,0.5s,baz=98,slow=7.8,SNR=4.4
TXAR PcP **PcP** **16 35 26.1 +1.1**
comp=Z,0.5nm,0.5s,baz=110,slow=8.0,SNR=1.6
comp=Z,0.9nm,0.5s
ALPN Alpine 40.64 296 IAmb IAmb 16 33 24.8
comp=Z,8.6nm,0.8s
AMBA Amambai (Brazi 40.71 171 *e*P **P** **16 33 25.7 +1.6**
VHRN Van Horn 41.85 297 P **P** **16 33 33.7 +0.1**
VHRN IAmb IAmb 16 33 35.3
comp=Z,12nm,0.7s
LDASE Londrina, Braz 41.89 166 *e*P **P** **16 33 35.8 +2.0**
ULM Lac du Bonnet 42.83 327 P **P** **16 33 40.5 -0.6**
comp=Z,4.6nm,0.8s,baz=110,slow=7.8,SNR=4.9
comp=Z,4.6nm,0.8s
BBTS Babate 42.88 87 LR LR 16 47 54.4
comp=Z,113nm,19.8s,baz=168,slow=31
GO02 Mina Guanaco 43.28 191 P **P** **16 33 43.8 -1.5**
GO02 IAmb IAmb 16 33 44.6
comp=Z,11nm,0.7s
CPUP Villa Florida 43.81 175 P **P** **16 33 48.8 -0.4**
comp=Z,4.0nm,0.7s,baz=351,slow=7.0,SNR=7.6
CPUP LR LR 16 53 16.9
comp=Z,88nm,20.0s,baz=38,slow=38
comp=Z,4.0nm,0.7s
121A Cookes Peak, D 44.45 299 IAmb IAmb 16 34 25.8
comp=Z,9.0nm,0.8s
X18A Snowflake 46.53 301 IAmb IAmb 16 34 21.3
comp=Z,5.0nm,0.6s
PD31 Pinedale Array 47.99 312 IAmb IAmb 16 34 44.5
comp=Z,3.8nm,0.8s
PDAR Pinedale Array 47.99 312 P **P** **16 34 22.9 +0.5**
comp=Z,2.4nm,0.8s,baz=108,slow=9.2,SNR=20
comp=Z,2.4nm,0.8s
TMUT Trail Mountain 48.36 307 IAmb IAmb 16 34 43.9
comp=Z,3.7nm,0.8s
Y14A Wickenburg 48.96 300 IAmb IAmb 16 34 32.9
comp=Z,5.0nm,0.8s
CO03 El Pedregal 49.01 191 P **P** **16 34 28.9 -1.3**
AHID Auburn Hatcher 49.08 312 IAmb IAmb 16 34 53.5
comp=Z,4.8nm,0.9s
YHB Horse Butte 49.68 314 IAmb IAmb 16 34 39.4
comp=Z,9.0nm,0.8s
SFJD Kangerlussuaq 49.86 5 LR LR 16 55 29.8
comp=Z,102nm,18.8s,baz=184,slow=36
BGU Big Grassy Mou 50.06 309 IAmb IAmb 16 35 10.1
comp=Z,7.5nm,1.2s
VTX Valle De La Tr 51.12 296 IAmb IAmb 16 34 49.1
comp=Z,10nm,0.9s
YUH Yuha Desert 51.30 298 P **P** **16 34 48.1 +0.6**
YUH IAmb IAmb 16 34 50.8
comp=Z,8.7nm,0.8s
PFO Pinyon Flats O 51.80 299 LR LR 16 59 36.4
comp=Z,132nm,19.7s,baz=250,slow=39
BO04 La Punta 52.07 190 IAmb IAmb 16 35 02.4
comp=Z,10nm,1.1s
H10N3 ASCENSION HYDR 52.54 115 T T 17 32 12.1
baz=299,slow=75,SNR=42
H10N2 ASCENSION HYDR 52.55 115 T T 17 32 14.2
baz=299,slow=75,SNR=79
H10N1 ASCENSION HYDR 52.56 115 T T 17 32 11.8
baz=299,slow=75,SNR=90
MDT Midelt 52.78 62 LR LR 16 55 15.9
comp=Z,62nm,18.6s,baz=270,slow=34
BO02 Sierra Bellavi 52.89 190 P **P** **16 34 58.4 -0.8**
NV11 Mina Array Sit 53.58 305 IAmb IAmb 16 35 30.7
comp=Z,6.3nm,1.2s
NVAR Mina Array Bea 53.70 305 P **P** **16 35 05.9 +0.4**
comp=Z,0.7nm,0.6s,baz=83,slow=7.6,SNR=7.9
NVAR PcP **PcP** **16 36 12.9 +1.3**
comp=Z,1.6nm,0.8s,baz=111,slow=4.9,SNR=5.2
comp=Z,0.7nm,0.6s
ESDC Sonseca Array 53.84 53 P **P** **16 35 06.9 +0.5**
comp=Z,1.7nm,1.1s,baz=270,slow=7.7,SNR=2.9
comp=Z,1.7nm,1.1s
BORG Borgarnes 54.16 20 LR LR 16 54 00.8
comp=Z,65nm,20.6s,baz=152,slow=31
NEW Newport 54.55 317 P **P** **16 35 09.3 -2.1**
NEW IAmb IAmb 16 35 12.7
comp=Z,7.5nm,0.8s
DBIC Dimbokro 55.90 94 P **P** **16 35 21.5 0.0**
comp=Z,5.8nm,1.1s,baz=328,slow=5.5,SNR=2.5
comp=Z,5.8nm,1.1s
SUMG Summit 56.53 8 P **P** **16 35 23.0 -2.6**
SUMG Summit 56.53 8 *i* P **P** **16 35 26.0 +0.4**
EKA Eskdalemuir Ar 57.63 35 P **P** **16 35 32.0 -1.1**
comp=Z,4.4nm,1.2s,baz=256,slow=7.1,SNR=1.8
comp=Z,4.4nm,1.2s
YKA Yellowknife Ar 58.02 334 P **P** **16 35 35.7 -0.1**
comp=Z,3.7nm,0.8s,baz=119,slow=7.7,SNR=12
comp=Z,3.7nm,0.8s
PLCA Paso Flores 58.67 188 P **P** **16 35 40.3 -0.3**
comp=Z,5.6nm,0.7s,baz=10,slow=6.3,SNR=23
PLCA LR LR 17 03 34.6
comp=Z,73nm,19.0s,baz=352,slow=39
comp=Z,5.6nm,0.7s
PLCA Paso Flores 58.67 188 *e*P **P** **16 35 41.2 +0.5**
TORD Torodi Ar. Bea 60.52 85 P **P** **16 35 53.4 -0.4**
comp=Z,1.1nm,0.7s,baz=300,slow=7.1,SNR=7.9
TORD LR LR 17 00 36.9
comp=Z,57nm,18.2s,baz=310,slow=35
comp=Z,1.1nm,0.7s
BMRD Maredsous 61.31 42 *d*P **P** **16 35 57.7 -0.9**
BMRD dpP **pP** **16 36 04.8 0.0**
JMIC Jan Mayen 61.74 17 LR LR 16 57 00.6
comp=Z,53nm,20.2s,baz=180,slow=30
KEST Kesra 64.29 58 P **P** **16 36 18.9 0.0**
comp=Z,3.3nm,0.8s,baz=313,slow=18,SNR=2.5
KEST LR LR 16 59 51.4
comp=Z,51nm,21.9s,baz=299,slow=32
comp=Z,3.3nm,0.8s
FETA Feichten 65.03 46 *i* P **P** **16 36 25.0 +1.4**
comp=Z,3.7nm,0.9s
RETA Reutte 65.06 45 *i* P **P** **16 36 24.7 +1.0**
comp=Z,5.1nm,1.1s
SQTA Sankt Quirin 65.36 46 *e*P **P** **16 36 25.4 -0.3**
comp=Z,5.0nm,1.0s
A36M Sachs Harbour 65.48 342 IAmb IAmb 16 36 27.6
comp=Z,4.6nm,0.8s
NOA NORSAR Array B 66.23 30 P **P** **16 36 31.4 +0.4**
comp=Z,1.7nm,0.8s,baz=263,slow=6.4,SNR=4.1
NOA LR LR 16 59 53.0
comp=Z,76nm,21.7s,baz=50,slow=31
comp=Z,1.7nm,0.8s
FARO Faro, Yukon 66.31 331 IAmb IAmb 16 36 34.7
comp=Z,4.7nm,1.0s
GERES GERESS Array B 67.03 44 P **P** **16 36 37.2 +0.8**
comp=Z,0.4nm,0.4s,baz=347,slow=4.0,SNR=2.3
comp=Z,0.4nm,0.4s
H31M Peel River 67.22 335 P **P** **16 36 37.2 0.0**
H31M IAmb IAmb 16 36 39.3
comp=Z,6.2nm,0.9s
G31M Satah River 67.35 336 IAmb IAmb 16 36 39.4
comp=Z,4.5nm,0.9s
HFS Hagfors 67.36 32 P **P** **16 36 39.5 +1.3**
comp=Z,3.5nm,0.8s,baz=262,slow=5.7,SNR=6.3
comp=Z,3.5nm,0.8s
M30M Minto, Yukon 67.94 331 P **P** **16 36 40.0 -1.8**
M30M IAmb IAmb 16 36 44.0
comp=Z,5.4nm,0.9s
I30M Mount Dempster 67.99 334 IAmb IAmb 16 36 56.8
comp=Z,3.3nm,0.8s
M29M Somme Creek 68.71 331 IAmb IAmb 16 36 49.8
comp=Z,2.8nm,0.8s
F28M Old Crow 69.59 336 IAmb IAmb 16 36 52.8
comp=Z,4.1nm,1.1s
EGAK Eagle 69.99 333 IAmb IAmb 16 36 56.6
comp=Z,4.3nm,0.8s
L27K Beaver Creek, 70.27 331 IAmb IAmb 16 36 59.1
comp=Z,6.1nm,0.8s
K27K Chicken 70.38 333 IAmb IAmb 16 36 59.9
comp=Z,4.7nm,0.8s
VYHS Vyhne 70.45 44 *e*P **P** **16 36 58.2 +0.6**

SCRK Sand Creek 71.22 332 P **P** **16 37 03.1 +0.9**
F25K Christian Rive 71.80 336 IAmb IAmb 16 37 50.5
comp=Z,3.1nm,0.7s
IL31 72.45 333 IAmb IAmb 16 37 44.2
comp=Z,7.1nm,1.2s
ILAR Eielson Array 72.45 333 P **P** **16 37 09.3 0.0**
comp=Z,2.9nm,0.8s,baz=96,slow=5.1,SNR=39
comp=Z,2.9nm,0.8s
ARCES ARCESS Array B 72.50 22 P **P** **16 37 09.6 +0.1**
comp=Z,7.6nm,1.0s,baz=280,slow=6.0,SNR=6.9
comp=Z,7.6nm,1.0s
POKR Poker Plat Res 72.65 334 IAmb IAmb 16 37 12.6
comp=Z,6.9nm,0.9s
FINES FINESS Array B 73.41 30 P **P** **16 37 16.1 +1.1**
comp=Z,1.0nm,0.4s,baz=260,slow=3.5,SNR=16
FINES LR LR 17 06 24.4
comp=Z,63nm,19.6s,baz=13,slow=33
comp=Z,1.0nm,0.4s
BPAW Bear Paw Mtn. 74.28 333 IAmb IAmb 16 37 21.4
comp=Z,9.4nm,1.0s
G21K Allakaket 74.97 336 IAmb IAmb 16 37 27.0
comp=Z,9.4nm,1.1s
BRTR Keskin Array B 82.54 51 P **P** **16 38 07.6 +1.2**
comp=Z,1.5nm,0.9s,baz=257,slow=3.6,SNR=7.6
comp=Z,1.5nm,0.9s
KBZ Khabaz 87.76 45 P **P** **16 38 34.2 +2.0**
comp=Z,3.2nm,0.9s,baz=334,slow=2.6,SNR=6.5
comp=Z,3.2nm,0.9s
KSRS Korea Array 124.60 351 PKP **PKiKP** **16 44 43.8 +0.6**
comp=Z,0.5nm,0.7s,baz=81,slow=12,SNR=2.7
PZH PanZhiHua 133.13 21 PKP **PKPdf** **16 44 59.0 -0.7**
CMAR Chiang Mai Arr 139.18 30 PKP **PKPdf** **16 45 11.7 +0.7**
comp=Z,0.4nm,0.5s,baz=316,slow=3.5,SNR=4.9
ASAR Alice Springs 164.68 244 PKP **PKPdf** **16 45 46.8 -1.0**
comp=Z,0.6nm,0.8s,baz=56,slow=1.4,SNR=6.7
ASAR PKPab **PKPab** **16 46 43.2 -0.1**
comp=Z,2.5nm,0.8s,baz=111,slow=3.9,SNR=28
WRA Warramunga Arr 165.16 258 PKP **PKPdf** **16 45 47.1 -1.1**
comp=Z,1.0nm,0.8s,baz=67,slow=0.9,SNR=6.5
WRA PKPab **PKPab** **16 46 45.1 -0.3**
comp=Z,0.9nm,0.8s,baz=96,slow=4.2,SNR=8.7

*IDC **10** 16:30:50.2±3.6, 1°.99S×100°.07E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=161.4km s-min=27.7km az=58.0*
*DJA **10** 16:30:55.1±0.9, 2°.5±6°×10°.0E±°, h31km±16km, M3.8/7, MLv3.8/7*
ISC 10 16:30:55.0±0.9, **2°.05**±0°.07×**100°.01E**±0°.09, **h34**km, **n18,**
σ0§**89**/10, **mb3.6/3, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.71**	**180**	P	**Pn**	**16 31 08.8**	**+0.2**
SISI	**Saibi**	**1.16**	**308**	P	**Pb**	**16 31 16.4**	**-0.2**
SISI				S	**Sb**	**16 31 31.9**	**+0.5**
PDSI	**Padang**	**1.22**	**22**	P	**Pn**	**16 31 16.1**	**+0.4**
PBSI	**Pulau Batu**	**2.63**	**319**	P	**Pn**	**16 31 35.8**	**+0.8**
MNAI	**Manna**	**3.73**	**128**	P	**Pn**	**16 31 51.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**20.41**	**357**	P	**P**	**16 35 28.5**	**-0.8**
	0.3nm,0.4s,baz=189,slow=10.0,SNR=1.7						
	0.3nm,0.4s						
H08S2	**Diego Garcia H**	**27.96**	**258**	T	T	17 05 29.4	
	baz=80,slow=76,SNR=11						
H08S3	**Diego Garcia H**	**27.97**	**258**	T	T	17 05 30.1	
	baz=80,slow=76,SNR=11						
H08S1	**Diego Carcia H**	**27.98**	**258**	T	T	17 05 34.1	
	baz=80,slow=76,SNR=71						
ASAR	**Alice Springs**	**39.22**	**126**	P	**P**	**16 38 20.4**	**0.0**
	0.3nm,0.8s,baz=302,slow=7.7,SNR=5.2						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**51.08**	**344**	P	**P**	**16 39 55.1**	**+0.9**
	0.4nm,0.5s,baz=156,slow=9.3,SNR=10						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**57.22**	**349**	P	**P**	**16 40 37.2**	**-1.5**
	0.4nm,0.3s,baz=166,slow=6.3,SNR=1.8						
	0.4nm,0.3s						
H04N2	**CROZET ISLANDS**	**60.76**	**216**	T	T	17 46 29.9	
	baz=58,slow=75,SNR=17						
H04N1	**CROZET ISLANDS**	**60.77**	**216**	T	T	17 46 32.0	
	baz=58,slow=75,SNR=17						
H04N3	**CROZET ISLANDS**	**60.78**	**216**	T	T	17 46 29.0	
	baz=58,slow=75,SNR=18						
H04S1	**CROZET ISLANDS**	**61.05**	**216**	T	T	17 46 49.5	
	baz=58						
H04S3	**CROZET ISLANDS**	**61.06**	**216**	T	T	17 46 49.2	
	baz=58						
H04S2	**CROZET ISLANDS**	**61.07**	**216**	T	T	17 46 49.7	
	baz=58						

IDC 10 16:33:26.3±2.8, **5°.99S**×**149°.81E, h0**km, **mb3.7**/3,
mbtmp3.8/4, **ML1.6**/1, **Error ellipse: s-maj=74.8km**
s-min=39.2km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.29**	**218**	Pn	Pn	16 34 34.2	+1.3
	2.7nm,0.3s,baz=45,slow=16,SNR=11						
PMG				Sn	Sn	16 35 22.1	-1.6
	7.8nm,0.3s,baz=43,slow=17,SNR=9.4						
	16nm,0.5s						
WRA	**Warramunga Arr**	**20.45**	**226**	P	P	16 38 05.8	+0.1
	2.3nm,0.5s,baz=51,slow=11,SNR=30						
	2.3nm,0.5s						
ASAR	**Alice Springs**	**23.30**	**219**	P	P	16 38 35.6	-0.5
	0.5nm,0.8s,baz=57,slow=8.1,SNR=4.6						
	0.5nm,0.8s						
STKA	**Stephens Creek**	**26.88**	**196**	P	P	16 39 08.8	-0.1
	1.8nm,0.6s,baz=357,slow=14,SNR=3.9						
	1.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**147.79**	**285**	PKPbc	PKPbc	16 53 13.8	-0.5
	0.3nm,0.4s,baz=90,slow=2.5,SNR=2.2						

*IDC **10** 16:33:33.5±0.7, 30°.61S×178°.14W, h0km, mb4.1/7, mbtmp4.1/8, ML3.4/1, Error ellipse: s-maj=26.7km s-min=17.1km az=108.0*
ISC 10 16:33:39.5±0.7, **30°.59S**±0°.09×**178°.2W**±0°.2, **h46**km, **n25,**
σ1§**62**/22, **mb4.2/7, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.35**	**10**	Pn	**Pn**	**16 34 01.1**	**-0.8**
	275nm,0.3s,baz=137,slow=18,SNR=13						
RAO				Sn	**Sn**	**16 34 15.5**	**-3.2**
	774nm,0.3s,baz=221,slow=19,SNR=10.0						
URZ	**Urewera**	**8.58**	**206**	Pn	**Pn**	**16 35 37.9**	**-3.2**
	0.4nm,0.3s,baz=345,slow=3.9,SNR=18						
URZ				Sn	**Sn**	**16 37 14.9**	**-1.7**
	2.6nm,0.3s,baz=61,slow=19,SNR=8.7						
	5.3nm,0.8s						
STKA	**Stephens Creek**	**34.28**	**257**	P	**P**	**16 40 23.1**	**+1.7**
	2.5nm,0.3s,baz=81,slow=11,SNR=6.8						
	2.5nm,0.3s						
ASAR	**Alice Springs**	**42.94**	**267**	P	**P**	**16 41 34.3**	**+0.1**
	0.6nm,0.4s,baz=105,slow=7.4,SNR=31						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**43.95**	**272**	P	**P**	**16 41 42.4**	**+0.1**
	2.3nm,0.5s,baz=110,slow=8.1,SNR=30						
	2.3nm,0.5s						
QSPA	**South Pole Qui**	**59.52**	**180**	P	**P**	**16 43 39.7**	**+1.7**
	1.8nm,0.8s,baz=135,slow=1.4,SNR=18						
	1.8nm,0.8s						
SNAA	**Sanae**	**77.97**	**178**	P	**P**	**16 45 32.7**	**+0.2**
	0.3nm,0.3s,baz=276,slow=18,SNR=1.4						
	0.3nm,0.3s						
H03S2	**Juan Fernandez**	**80.49**	**124**	T	T	18 14 54.8	
	baz=238,slow=74,SNR=33						
H03S1	**Juan Fernandez**	**80.50**	**124**	T	T	18 14 52.7	
	baz=238,slow=74,SNR=32						
H03S3	**Juan Fernandez**	**80.51**	**124**	T	T	18 14 52.9	
	baz=238,slow=74,SNR=32						
H03N3	**Juan Fernandez**	**80.69**	**123**	T	T	18 15 12.2	
	baz=241,slow=72,SNR=15						
H03N2	**Juan Fernandez**	**80.69**	**123**	T	T	18 15 08.9	
	baz=241,slow=72,SNR=16						
H03N1	**Juan Fernandez**	**80.70**	**123**	T	T	18 15 07.0	
	baz=241,slow=72,SNR=22						
PETK	**Petropavlovsk-**	**85.95**	**346**	P	**P**	**16 46 16.1**	**+1.8**
	1.6nm,0.7s,baz=114,slow=8.5,SNR=6.9						
	1.6nm,0.7s						
NVAR	**Mina Array Bea**	**88.48**	**43**	P	**P**	**16 46 27.1**	**-0.1**
	0.3nm,0.6s,baz=217,slow=8.8,SNR=2.3						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**118.07**	**318**	PKP	**PKiKP**	**16 52 23.3**	**+2.5**
	0.2nm,0.3s,baz=195,slow=4.5,SNR=1.4						
KURBB	**Kurchatov Arra**	**121.10**	**314**	PKP	**PKPdf**	**16 52 25.5**	**-1.2**
	0.3nm,0.4s,baz=113,slow=2.3,SNR=1.7						
ARCES	**ARCESS Array B**	**138.74**	**348**	PKP	**PKPdf**	**16 52 59.8**	**+0.2**
	3.4nm,0.9s,baz=73,slow=3.1,SNR=2.2						
FINES	**FINESS Array B**	**145.26**	**340**	PKPbc	**PKPbc**	**16 53 09.7**	**-1.5**
	3.8nm,0.5s,baz=59,slow=3.7,SNR=41						
NB2	**NORSAR Subarra**	**148.91**	**351**	PKP	**PKPbc**	**16 53 21.3**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.91**	**351**	PKPbc	**PKiKP**	**16 53 22.4**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=14,slow=4.2,SNR=3.5						
HFS	**Hagfors**	**149.39**	**348**	PKPbc	**PKPbc**	**16 53 21.4**	**-1.4**
	comp=Z,2.4nm,0.7s,baz=36,slow=2.8,SNR=5.4						
AKASG	**Malin Array Be**	**151.35**	**322**	PKP	**PKPdf**	**16 53 22.9**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=51,slow=3.1,SNR=1.8						
AKASG				PKPbc	**PKiKP**	**16 53 29.9**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=52,slow=2.8,SNR=7.3						
MMAI	**Mount Meron Ar**	**151.42**	**284**	PKPbc	**PKPbc**	**16 53 28.8**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=102,slow=6.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**162.65**	**180**	PKPab	**PKPab**	**16 54 25.3**	**0.0**
	comp=Z,0.4nm,0.6s,baz=173,slow=4.2,SNR=3.0						

*IDC **10** 16:34:33.6±1.2, 53°.73N×168°.32E, h0km, mb3.9/13, mbtmp4.0/15, ML3.4/2, MS3.6/3, Error ellipse: s-maj=36.4km s-min=15.4km az=163.0*
*MOS **10** 16:34:34.0±0.7, 53°.19N×167°.58E, h42km, mb4.0/1, Error ellipse: s-maj=10.6km s-min=5.7km az=29.5*
*KRSC **10** 16:34:37.2±1.8, 53°.29N×167°.67E, h40km±43km, Ml4.3*
ISC 10 16:34:38.1±1.2, **53°.32N**±0°.07×**168°.12E**±0°.09, **h35**km, **n92,**
σ1§**42**/99, **mb3.9**/13, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.27**	**327**	*e*P	**Pn**	**16 35 11.4**	**-1.6**
BKI				*e*S	**Sn**	**16 35 38.6**	**-1.2**
BKI	**Bering**	**2.27**	**327**	PN	**Pn**	**16 35 11.4**	**-1.6**
KBTR	**Krutoberegovo**	**4.22**	**315**	*e*P	**Pn**	**16 35 39.2**	**-0.7**
KBTR				*e*S	**Sn**	**16 36 26.5**	**-1.3**
KBTR	**Krutoberegovo**	**4.22**	**315**	PN	**Pn**	**16 35 39.1**	**-0.7**
KBG	**Krutoberegovo**	**4.30**	**315**	*e*P	**Pn**	**16 35 41.6**	**+0.7**
KBG				*e*S	**Sn**	**16 36 28.7**	**-1.0**
KBG	**Krutoberegovo**	**4.30**	**315**	PN	**Pn**	**16 35 41.6**	**+0.7**
SPN	**Mys Shipunski**	**4.87**	**271**	*e*P	**Pn**	**16 35 48.5**	**-0.3**
SPN				*e*S	**Sn**	**16 36 41.2**	**-2.7**
SPN	**Mys Shipunski**	**4.87**	**271**	PN	**Pn**	**16 35 48.5**	**-0.3**
TUMD	**Tumrok D**	**4.91**	**296**	*e*P	**Pn**	**16 35 49.9**	**+0.7**
TUMD				*e*S	**Sn**	**16 36 42.9**	**-1.9**
ZLN	**Zelenaya**	**5.04**	**305**	*e*S	**Sn**	**16 36 46.2**	**-1.8**
SMKR	**Semkarok**	**5.04**	**313**	*e*P	**Pn**	**16 35 52.6**	**+1.4**
SMKR	**Semkarok**	**5.04**	**313**	PN	**Pn**	**16 35 52.5**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**5.05**	**304**	*e*P	**Pn**	**16 35 52.7**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**5.05**	**304**	PN	**Pn**	**16 35 52.7**	**+1.4**
TUMR	**Tumrok**	**5.07**	**296**	*e*P	**Pn**	**16 35 52.4**	**+0.8**
TUMR	**Tumrok**	**5.07**	**296**	PN	**Pn**	**16 35 52.4**	**+0.8**
BZP	**Bezymyannyi-Pe**	**5.12**	**304**	*e*P	**Pn**	**16 35 53.0**	**+0.7**
BZMR	**Bezymyannaya**	**5.15**	**304**	*e*P	**Pn**	**16 35 54.0**	**+1.2**
BZMR	**Bezymyannaya**	**5.15**	**304**	PN	**Pn**	**16 35 53.9**	**+1.2**
BZWR	**Bezymyannyi-We**	**5.16**	**304**	*e*P	**Pn**	**16 35 53.5**	**+0.6**
BZWR	**Bezymyannyi-We**	**5.16**	**304**	PN	**Pn**	**16 35 53.5**	**+0.6**
KMNR	**Kamenistaya**	**5.20**	**301**	*e*P	**Pn**	**16 35 54.9**	**+1.5**
KMNR				*e*S	**Sn**	**16 36 50.8**	**-1.3**
KMNR	**Kamenistaya**	**5.20**	**301**	PN	**Pn**	**16 35 54.8**	**+1.5**
KII	**Karymskiy**	**5.21**	**281**	*e*P	**Pn**	**16 35 53.8**	**+0.3**
KII	**Karymskiy**	**5.21**	**281**	PN	**Pn**	**16 35 53.7**	**+0.3**
KIRR	**Kirishev**	**5.23**	**303**	*e*P	**Pn**	**16 35 56.2**	**+2.3**
KIRR	**Kirishev**	**5.23**	**303**	PN	**Pn**	**16 35 56.1**	**+2.3**
KLY	**Klyuchi**	**5.26**	**308**	*e*P	**Pn**	**16 35 53.9**	**-0.1**
KLY	**Klyuchi**	**5.26**	**308**	PN	**Pn**	**16 35 53.9**	**-0.1**
NLC	**Nalytchevo**	**5.27**	**272**	*e*P	**Pn**	**16 35 54.5**	**+0.2**
NLC				*e*S	**Sn**	**16 36 50.2**	**-3.5**
NLC	**Nalytchevo**	**5.27**	**272**	PN	**Pn**	**16 35 54.4**	**+0.2**
KPT	**Kopyto**	**5.30**	**303**	*e*P	**Pn**	**16 35 56.8**	**+2.1**
KPT	**Kopyto**	**5.30**	**303**	PN	**Pn**	**16 35 56.8**	**+2.1**
KOZ	**Kozyrevsk**	**5.52**	**303**	*e*P	**Pn**	**16 35 59.4**	**+1.8**
KOZ	**Kozyrevsk**	**5.52**	**303**	PN	**Pn**	**16 35 59.4**	**+1.8**
SDLR	**Sedlovina**	**5.54**	**273**	*e*P	**Pn**	**16 35 58.4**	**+0.3**
SDLR	**Sedlovina**	**5.54**	**273**	PN	**Pn**	**16 35 58.4**	**+0.3**
UGLR	**Uglovaya**	**5.58**	**273**	*e*P	**Pn**	**16 35 59.1**	**+0.5**
UGLR	**Uglovaya**	**5.58**	**273**	PN	**Pn**	**16 35 59.1**	**+0.5**
SMAR	**Somma**	**5.59**	**273**	*e*P	**Pn**	**16 35 59.0**	**+0.2**
SMAR	**Somma**	**5.59**	**273**	PN	**Pn**	**16 35 59.0**	**+0.2**
KRER	**Koryakskii**	**5.62**	**274**	*e*P	**Pn**	**16 35 59.7**	**+0.5**
KRER	**Koryakskii**	**5.62**	**274**	PN	**Pn**	**16 35 59.7**	**+0.5**
AVH	**Avacha**	**5.63**	**273**	*e*P	**Pn**	**16 35 59.8**	**+0.6**
AVH	**Avacha**	**5.63**	**273**	PN	**Pn**	**16 35 59.8**	**+0.6**
DALK	**Dalny**	**5.64**	**271**	*e*P	**Pn**	**16 35 59.7**	**+0.4**
DALK				*e*S	**Sn**	**16 36 59.8**	**-3.0**
DALK	**Dalny**	**5.64**	**271**	PN	**Pn**	**16 35 59.7**	**+0.4**
KRX	**Arik**	**5.68**	**274**	*e*P	**Pn**	**16 36 00.1**	**+0.2**
KRX	**Arik**	**5.68**	**274**	PN	**Pn**	**16 36 00.1**	**+0.2**
KOK	**Koryaka**	**5.69**	**274**	*e*P	**Pn**	**16 36 00.5**	**+0.4**
KOK	**Koryaka**	**5.69**	**274**	PN	**Pn**	**16 36 00.4**	**+0.4**
PET	**Petropavlovsk**	**5.70**	**271**	*e*P	**Pn**	**16 36 00.9**	**+0.8**
PET				*e*S	**Sn**	**16 37 01.8**	**-2.5**
PET	**Petropavlovsk**	**5.70**	**271**	*e*PN	**Pn**	**16 36 00.3**	**+0.1**
PET				pmax	pmax		
	comp=Z,48nm,0.5s						
RUS	**Russkaya**	**5.89**	**265**	*e*P	**Pn**	**16 36 02.5**	**-0.2**
RUS	**Russkaya**	**5.89**	**265**	PN	**Pn**	**16 36 02.4**	**-0.2**
KRMR	**Karymshinskiy**	**6.04**	**269**	*e*P	**Pn**	**16 36 04.5**	**-0.4**
KRMR				*e*S	**Sn**	**16 37 10.2**	**-2.5**
KRMR	**Karymshinskiy**	**6.04**	**269**	PN	**Pn**	**16 36 04.4**	**-0.4**
ESO	**Esso**	**6.07**	**299**	*e*P	**Pn**	**16 36 05.8**	**+0.6**
ESO	**Esso**	**6.07**	**299**	PN	**Pn**	**16 36 05.7**	**+0.6**
MTVR	**Mutnovka**	**6.07**	**266**	*e*P	**Pn**	**16 36 05.5**	**+0.1**
MTVR				*e*S	**Sn**	**16 37 11.4**	**-2.2**
MTVR	**Mutnovka**	**6.07**	**266**	PN	**Pn**	**16 36 05.5**	**+0.1**
GNL	**Ganaly**	**6.09**	**278**	*e*P	**Pn**	**16 36 06.7**	**+1.2**
GNL	**Ganaly**	**6.09**	**278**	PN	**Pn**	**16 36 06.7**	**+1.2**
GRL	**Gorelyy**	**6.13**	**267**	*e*P	**Pn**	**16 36 06.8**	**+0.7**
GRL	**Gorelyy**	**6.13**	**267**	PN	**Pn**	**16 36 06.7**	**+0.7**
ASAK	**Asacha**	**6.26**	**266**	*e*P	**Pn**	**16 36 08.3**	**+0.4**
ASAK	**Asacha**	**6.26**	**266**	PN	**Pn**	**16 36 08.3**	**+0.4**
PETK	**Petropavlovsk-**	**6.27**	**272**	Pn	**Pn**	**16 36 09.3**	**+1.4**
	comp=Z,9.4nm,0.3s,baz=90,slow=19,SNR=32						
PETK				Sn	**Sn**	**16

CMAR	**Chiang Mai Arr**	**62.99 265**	P	**P**	**16 45 02.3**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=37,slow=6.1,SNR=2.4					
	comp=Z,0.3nm,0.3s					
NOA	**NORSAR Array B**	**64.52 348**	P	**P**	**16 45 09.8**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=18,slow=6.5,SNR=1.7					
	comp=Z,0.9nm,0.7s					
HFS	**Hagfors**	**65.06 346**	P	**P**	**16 45 13.5**	**-0.7**
	comp=Z,3.8nm,0.9s,baz=30,slow=9.2,SNR=4.4					
	comp=Z,3.8nm,0.9s					
ESDC	**Sonseca Array**	**87.13 354**	LR	LR	17 26 30.8	
	comp=Z,63nm,18.1s,baz=12,slow=36					
QSPA	**South Pole Qui**	**143.07 180**	PKhKP	PKPpre	16 54 00.8	
	comp=Z,1.8nm,0.9s,baz=293,slow=1.3,SNR=9.5					

*IDC **10** 16:54:07.6±5.7, 28°.36N×144°.13E, h0km, mb3.7/5, mbtmp3.6/7, ML3.1/2, Error ellipse: s-maj=209.3km s-min=20.3km az=71.0*

ISC 10 16:54:12.1±2.8, 28°.5N±0°.2×144°.3E±0°.6, h35km, n7, σ0°78/7, mb3.8/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**9.54**	**329**	Pn	**Pn**	**16 56 26.0**	**-0.9**
	0.1nm,0.3s,baz=162,slow=12,SNR=12						
	0.8nm,0.6s						
KSRS	**Korea Array**	**16.36**	**307**	Pn	**Pn**	**16 57 58.4**	**-0.7**
	0.1nm,0.3s,baz=117,slow=11,SNR=5.7						
	0.9nm,0.6s						
SONM	**Songino Array**	**35.05**	**314**	P	**P**	**17 01 02.3**	**+0.7**
	0.4nm,0.6s,baz=125,slow=7.4,SNR=2.0						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**49.07**	**192**	P	**P**	**17 02 55.7**	**-0.2**
	1.8nm,0.7s,baz=12,slow=8.2,SNR=17						
	1.8nm,0.7s						
MKAR	**Makanchi Array**	**51.04**	**309**	P	**P**	**17 03 11.3**	**+0.5**
	0.9nm,0.8s,baz=83,slow=8.6,SNR=5.9						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**52.78**	**192**	P	**P**	**17 03 23.5**	**-0.4**
	0.3nm,0.6s,baz=7.4,slow=7.1,SNR=9.4						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**53.41**	**314**	P	**P**	**17 03 28.8**	**+0.6**
	0.9nm,0.6s,baz=91,slow=7.4,SNR=11						
	0.9nm,0.6s						

*NOU **10** 16:58:08.0, 36°.74S×179°.56E, h0km, MLv4.1/10, Off E. Coast of N. Island, N.Z.*
*IDC **10** 16:58:11.4±2.1, 36°.58S×179°.13E, h0km, mb3.9/3, mbtmp4.0/4, ML3.8/1, Error ellipse: s-maj=46.2km s-min=35.5km az=67.0*
*WEL **10** 16:58:13.1±0.8, 37°.S±5°.×17°.9E±°, h12km, M3.8/18, ML4.0/19, MLv3.8/18, Error ellipse: s-maj=8.8km s-min=6.2km az=105.4, confirmed*

ISC 10 16:58:10.0±3.3, 36°.87S±0°.06×179°.46E±0°.07, h2km±20km, n98, σ1°.40/122, mb3.9/3, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.15**	**233**	P	**Pb**	**16 58 31.9**	**-0.7**
MXZ				S	**Sb**	**16 58 47.0**	**-1.0**
MXZ	**Matakaoa Point**	**1.15**	**233**	P	**Pb**	**16 58 30.4**	**-2.2**
PUZ	**Puketiti**	**1.54**	**218**	P	**Pb**	**16 58 39.7**	**+0.5**
PUZ				S	**Sb**	**16 58 58.4**	**-0.7**
HAZ	**Te Kaha**	**1.60**	**236**	P	**Pb**	**16 58 40.2**	**-0.2**
HAZ				S	**Sb**	**16 59 01.0**	**-0.1**
TWGZ	**Tauwhareparae**	**1.76**	**222**	P	**Pb**	**16 58 43.0**	**0.0**
TWGZ				S	**Sb**	**16 59 05.2**	**-0.3**
RUGZ	**Raukumara Rang**	**1.79**	**232**	P	**Pn**	**16 58 41.3**	**-0.8**
RUGZ				S	**Sb**	**16 59 06.2**	**-0.4**
CNGZ	**Carnagh Statio**	**1.89**	**211**	P	**Pb**	**16 58 45.4**	**+0.1**
CNGZ				S	**Sb**	**16 59 10.1**	**+0.7**
TKGZ	**Te Karaka**	**2.02**	**219**	P	**Pn**	**16 58 46.2**	**+1.1**
MWZ	**Matawai**	**2.12**	**226**	P	**Pn**	**16 58 47.8**	**+1.3**
MWZ				S	**Sn**	**16 59 12.8**	**-0.6**
WHRZ	**Whale Island**	**2.21**	**243**	P	**Pn**	**16 58 48.9**	**+1.2**
RIGZ	**Rimuhau**	**2.27**	**216**	P	**Pn**	**16 58 49.3**	**+0.7**
RIGZ				S	**Sn**	**16 59 16.7**	**-0.6**
RAGZ	**Rawiri**	**2.29**	**224**	P	**Pn**	**16 58 50.1**	**+1.2**
RAGZ				S	**Sn**	**16 59 18.0**	**+0.2**
URZ	**Urewera**	**2.33**	**233**	Pn	**Pn**	**16 58 50.1**	**+0.8**
	26nm,0.3s,baz=356,slow=6.0,SNR=181						
URZ				Sn	**Sn**	**16 59 17.3**	**-1.1**
	48nm,0.3s,baz=38,slow=7.8,SNR=18						
URZ				LR	LR	17 00 05.8	
	comp=Z,184nm,18.8s,baz=116,slow=49						
	106nm,0.4s						
URZ	**Urewera**	**2.33**	**233**	P	**Pn**	**16 58 49.2**	**-0.1**
URZ				S	**Sn**	**16 59 17.1**	**-1.3**
URZ	**Urewera**	**2.33**	**233**	P	**Pn**	**16 58 50.4**	**+1.1**
PRGZ	**Paritu Road**	**2.40**	**211**	P	**Pn**	**16 58 51.3**	**+0.9**
PRGZ				S	**Sn**	**16 59 19.8**	**-0.5**
MARZ	**Manawahe**	**2.48**	**242**	P	**Pn**	**16 58 52.1**	**+0.7**
MARZ				S	**Sn**	**16 59 20.7**	**-1.7**
EDRZ	**Edgecumbe**	**2.49**	**239**	P	**Pn**	**16 58 52.9**	**+1.2**
EDRZ				S	**Sn**	**16 59 20.8**	**-1.9**
OPRZ	**Ohinepanea**	**2.51**	**246**	P	**Pn**	**16 58 52.4**	**+0.5**
SNGZ	**Shannon Statio**	**2.54**	**221**	P	**Pn**	**16 58 52.1**	**-0.2**
SNGZ				S	**Sn**	**16 59 23.2**	**-0.6**
KNZ	**Kokohu**	**2.57**	**213**	P	**Pn**	**16 58 52.9**	**+0.2**
MHGZ	**Mahia Peninsul**	**2.59**	**208**	P	**Pn**	**16 58 53.8**	**+0.8**
MHGZ				S	**Sn**	**16 59 24.5**	**-0.4**
MYRZ	**Mayor Island**	**2.61**	**260**	P	**Pn**	**16 58 53.2**	**0.0**
RTZ	**Ruatahuna**	**2.63**	**228**	P	**Pn**	**16 58 54.3**	**+0.8**
RTZ				S	**Sn**	**16 59 25.0**	**-1.0**
MUGZ	**Murupara**	**2.67**	**232**	P	**Pn**	**16 58 54.8**	**+0.7**
TGRZ	**Tauranga**	**2.69**	**250**	P	**Pn**	**16 58 54.9**	**+0.6**
MKRZ	**Makatiti**	**2.70**	**241**	P	**Pn**	**16 58 56.2**	**+1.8**
TARZ	**Mount Tarawera**	**2.72**	**239**	P	**Pn**	**16 58 56.1**	**+1.3**
RRRZ	**Republican Roa**	**2.76**	**237**	P	**Pn**	**16 58 56.6**	**+1.3**
RAHZ	**Arahi**	**2.78**	**222**	P	**Pn**	**16 58 56.3**	**+0.8**
RAHZ				S	**Sn**	**16 59 29.1**	**-0.5**
KARZ	**Kaharoa**	**2.81**	**245**	P	**Pn**	**16 58 56.7**	**+0.8**
WHHZ	**Waihua**	**2.82**	**218**	P	**Pn**	**16 58 57.5**	**+1.4**
WHHZ				S	**Sn**	**16 59 29.4**	**-1.3**
MTHZ	**Maungataniwha**	**2.87**	**226**	P	**Pn**	**16 58 57.8**	**+1.0**
MTHZ				S	**Sn**	**16 59 31.0**	**-0.9**
PRRZ	**Plateau Road**	**2.93**	**235**	P	**Pn**	**16 58 58.4**	**+0.8**
HSRZ	**Hossack Road**	**2.93**	**240**	P	**Pb**	**16 59 01.0**	**-2.0**
KMRZ	**Kaimai**	**2.97**	**250**	P	**Pn**	**16 58 58.6**	**+0.4**
ALRZ	**Allen Road**	**2.99**	**235**	P	**Pn**	**16 58 59.3**	**+0.8**
KUZ	**Kuaotunu**	**3.00**	**271**	P	**Pn**	**16 58 55.6**	**-3.0**
NMHZ	**Naumai**	**3.06**	**222**	P	**Pn**	**16 59 00.3**	**+0.9**
NMHZ				S	**Sn**	**16 59 35.6**	**-1.0**
ARHZ	**Aropaoanui**	**3.08**	**218**	P	**Pn**	**16 59 00.3**	**+0.6**
ARHZ				S	**Sn**	**16 59 36.7**	**-0.4**
MRHZ	**Matea Rd**	**3.11**	**230**	P	**Pn**	**16 59 00.8**	**+0.7**
BKZ	**Black Stump Fm**	**3.28**	**225**	P	**Pn**	**16 59 02.9**	**+0.4**
BKZ				S	**Sn**	**16 59 39.9**	**-2.1**
BKZ	**Black Stump Fm**	**3.28**	**225**	P	**Pn**	**16 59 02.6**	**+0.1**
CKHZ	**Cape Kidnapper**	**3.36**	**213**	P	**Pn**	**16 59 03.1**	**-0.3**
MCHZ	**McNeill Hill**	**3.37**	**219**	P	**Pn**	**16 59 03.9**	**+0.3**
MCHZ				S	**Sn**	**16 59 43.1**	**-1.1**
TLZ	**Tolley Road**	**3.44**	**244**	P	**Pn**	**16 59 06.1**	**+1.4**
KWHZ	**Kaweka Forest**	**3.50**	**222**	P	**Pn**	**16 59 05.4**	**-0.1**
KWHZ				S	**Sn**	**16 59 45.6**	**-1.9**
RATZ	**Rangitukua**	**3.54**	**235**	P	**Pn**	**16 59 07.4**	**+1.4**
RITZ	**Rihia Road**	**3.54**	**232**	P	**Pn**	**16 59 07.2**	**+1.2**
KAHZ	**Kahuranaki**	**3.56**	**214**	P	**Pn**	**16 59 05.8**	**-0.5**
KAHZ				S	**Sn**	**16 59 46.1**	**-2.8**
KATZ	**Kakaramea**	**3.65**	**234**	P	**Pn**	**16 59 09.6**	**+2.0**
KRHZ	**Kereru**	**3.69**	**220**	P	**Pn**	**16 59 08.1**	**+0.1**
TMVZ	**Te Maari**	**3.72**	**232**	P	**Pn**	**16 59 09.2**	**+0.7**
ETVZ	**East Tongariro**	**3.73**	**231**	P	**Pn**	**16 59 09.3**	**+0.6**
NTVZ	**North Tongarir**	**3.73**	**232**	P	**Pn**	**16 59 09.3**	**+0.6**
KRVZ	**Karewarewa**	**3.75**	**232**	P	**Pn**	**16 59 09.8**	**+0.8**
OTVZ	**Oturere**	**3.77**	**231**	P	**Pn**	**16 59 09.3**	**0.0**
EPAZ	**Eden Park BICE**	**3.78**	**268**	P	**Pn**	**16 59 11.1**	**+1.8**
NNVZ	**North Ngauruho**	**3.79**	**232**	P	**Pn**	**16 59 10.3**	**+0.7**
WTVZ	**West Tongariro**	**3.79**	**233**	P	**Pn**	**16 59 11.1**	**+1.6**
HBAZ	**Herne Bay Bore**	**3.79**	**269**	P	**Pn**	**16 59 11.3**	**+1.9**
SNVZ	**South Ngauruho**	**3.80**	**231**	P	**Pn**	**16 59 10.3**	**+0.6**
NGZ	**Ngauruhoe**	**3.82**	**232**	P	**Pn**	**16 59 10.6**	**+0.6**
TUVZ	**Tukino**	**3.84**	**230**	P	**Pn**	**16 59 11.0**	**+0.7**
TWVZ	**Taurewa**	**3.87**	**234**	P	**Pn**	**16 59 12.1**	**+1.5**
MOVZ	**Moawhango**	**3.87**	**228**	P	**Pn**	**16 59 11.0**	**+0.4**
COVZ	**Chateau Observ**	**3.87**	**232**	P	**Pn**	**16 59 12.2**	**+1.5**
FWVZ	**Far West T-bar**	**3.90**	**231**	P	**Pn**	**16 59 12.0**	**+0.9**
MAVZ	**Matarangi**	**3.90**	**231**	P	**Pn**	**16 59 11.9**	**+0.7**
WNVZ	**Wahianoa**	**3.91**	**230**	P	**Pn**	**16 59 11.8**	**+0.5**
TRVZ	**Turoa**	**3.93**	**231**	P	**Pn**	**16 59 12.2**	**+0.7**
WPHZ	**Waipukurau**	**3.97**	**216**	P	**Pn**	**16 59 11.3**	**-0.6**
HIZ	**Hauiti**	**4.00**	**244**	P	**Pn**	**16 59 14.0**	**+1.6**
HIZ	**Hauiti**	**4.00**	**244**	P	**Pn**	**16 59 14.4**	**+2.0**
WCZ	**Waipu Caves**	**4.23**	**281**	P	**Pn**	**16 59 14.4**	**-1.0**
DVHZ	**Dannevirke**	**4.29**	**216**	P	**Pn**	**16 59 15.7**	**-0.6**
VRZ	**Vera Road**	**4.34**	**237**	P	**Pn**	**16 59 18.5**	**+1.5**
WAZ	**Wanganui**	**4.55**	**229**	P	**Pn**	**16 59 20.6**	**+0.7**
POWZ	**Post Office Ro**	**4.55**	**218**	P	**Pn**	**16 59 19.7**	**-0.2**
BFZ	**Birch Farm**	**4.56**	**212**	P	**Pn**	**16 59 17.9**	**-2.1**
PRWZ	**Pori Road**	**4.58**	**215**	P	**Pn**	**16 59 19.7**	**-0.6**
PREZ	**Palmer Road**	**4.86**	**238**	P	**Pn**	**16 59 27.1**	**+3.0**
NEZ	**North Egmont**	**4.87**	**239**	P	**Pn**	**16 59 27.2**	**+3.0**
PKE	**Pukeiti**	**4.91**	**240**	P	**Pn**	**16 59 27.4**	**+2.7**
KHEZ	**Kahui Hut**	**4.93**	**239**	P	**Pn**	**16 59 28.0**	**+2.9**
KHEZ	**Kahui Hut**	**4.93**	**239**	P	**Pn**	**16 59 26.8**	**+1.6**
	218nm,1.8s						
OUZ	**Omahuta**	**5.03**	**287**	P	**Pn**	**16 59 25.3**	**-1.1**
OUZ	**Omahuta**	**5.03**	**287**	P	**Pn**	**16 59 25.5**	**-0.9**
	22nm,0.6s						
SNZO	**South Karori**	**5.77**	**218**	P	**Pn**	**16 59 38.8**	**+2.1**
	33nm,2.0s						
QRZ	**Quartz Range**	**6.70**	**232**	P	**Pn**	**16 59 47.2**	**-2.2**
CTZ	**Chatham Island**	**7.48**	**158**	P	**Pn**	**17 00 02.5**	**+2.3**
CTZ				S	**Sn**	**17 01 19.8**	**-5.7**
ASAR	**Alice Springs**	**41.12**	**276**	P	**P**	**17 05 55.1**	**-0.5**
	2.1nm,0.6s,baz=118,slow=7.9,SNR=51						
	2.1nm,0.6s						
WRA	**Warramunga Arr**	**42.70**	**281**	P	**P**	**17 06 07.7**	**-0.8**
	1.0nm,0.4s,baz=120,slow=7.8,SNR=13						
	1.0nm,0.4s						
QSPA	**South Pole Qui**	**53.26**	**180**	P	**P**	**17 07 33.9**	**+4.1**
	1.0nm,1.0s,baz=4.0,slow=17,SNR=2.1						
	1.0nm,1.0s						
H03N3	**Juan Fernandez**	**78.88**	**123**	T	T	18 37 13.9	
	baz=239,slow=74						
H03N2	**Juan Fernandez**	**78.89**	**123**	T	T	18 37 11.8	
	baz=239						
H03N1	**Juan Fernandez**	**78.90**	**123**	T	T	18 37 11.7	
	baz=239,slow=74						
FINES	**FINESS Array B**	**150.28**	**334**	PKPbc	**PKPbc**	**17 18 01.9**	**+0.1**
	1.1nm,0.7s,baz=52,slow=3.9,SNR=1.2						

*MOS **10** 17:15:44.0±1.2, 23°.83N×93°.47E, h47km, mb5.2/61, Error ellipse: s-maj=7.6km s-min=3.5km az=121.7*
*BJI **10** 17:15:44.4, 24°.00N×93°.41E, h46km, mb4.9/74, mB4.9/37, ML4.7/5, Ms4.6/78, Ms7 4.3/75*
*NDI **10** 17:15:46.3, 23°.98N×93°.40E, h97km, mb4.9, ML4.8, mb5.1(NEIC)*
*IDC **10** 17:15:46.9±0.4, 23°.94N×93°.56E, h48km±3km, mb4.3/33, mbtmp4.5/35, MS4.0/64, Error ellipse: s-maj=9.4km s-min=6.8km az=137.0*
*NEIC **10** 17:15:46.7±1.4, 23°.97N±0°.04×93°.39E±0°.03, h52km±5km, mb5.1/204, Mww5.2/16, Error ellipse: s-maj=6.2km s-min=1.7km az=210.0*
*GCMT **10** 17:15:49.7±0.2, 23°.93N±0°.01×93°.50E±0°.01, h35km, MW5.1/114, Moment Tensor Solution. s56,c68; s114,c182; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.34±.15; $M_{\theta\theta}$=-3.01±.11; $M_{\phi\phi}$=3.35±.11; $M_{r\theta}$=0.40±.15; $M_{r\phi}$=3.72±.10; $M_{\theta\phi}$=-1.97±.13; Best double couple: M_0=5.28200×10^{16} NP1:ϕ_s=160.00000°, δ=89.00000°, λ=158.00000°. NP2:ϕ_s=250.00000°, δ=68.00000°, λ=1.00000°. Principal axes: T 5.5240, Plg16.0000°, Azm113.0000°; N -0.4890, Plg68.0000°, Azm338.0000°; P -5.0400, Plg15.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 17:15:46.7±0.2, 23°.97N±0°.03×93°.45E±0°.03, h48km±1km, h48km:pP-P, n732, σ1°.66/761, mb5.1/263, MS4.0/84, 27C-22D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZL	**Aizawl**	**0.73**	**252**	⇑*i*P	**Pn**	**17 16 01.6**	**+0.6**
AZL				*e*S	**Sn**	**17 16 12.9**	**+1.7**
AZL				IAML		17 16 14.3	
	comp=E,123μm,0.4s						
AZL				*e*S		17 16 18.5	
AZL				IAML		17 16 22.8	
	comp=E,139μm,0.4s						
IMP	**Imphal**	**0.97**	**28**	⇓*i*P	**Pn**	**17 16 06.8**	**+2.7**
IMP				*e*S	**Sn**	**17 16 21.2**	**+4.3**
IMP				*e*S		17 16 26.4	
IMP				IAML		17 16 28.0	
	comp=E,7μm,0.3s						
KOHI	**KOHIMA**	**1.84**	**19**	*e*P	**Pn**	**17 16 17.5**	**+1.4**
KOHI				IAML		17 16 37.0	
	comp=E,3μm,0.5s						
KOHI				*ex*	x	17 16 41.5	
BRDH	**Bariadhala**	**2.10**	**233**	P	**Pn**	**17 16 20.0**	**+0.6**
	comp=E,2μm,0.6s,baz=59,slow=11,SNR=118						
BRDH				S	**Sn**	**17 16 46.8**	**+2.4**
	comp=E,4μm,0.5s,baz=248,slow=22,SNR=8.0						
BRDH				LR	LR	17 17 17.7	
	comp=E,5μm,18.5s,baz=104,slow=42						
SHL	**Shillong**	**2.13**	**318**		**Pn**	**17 16 19.2**	**-0.9**
SHL				Sn	**Sn**	**17 16 42.8**	**-2.7**
SHL	**Shillong**	**2.13**	**318**	*e*P	**Pn**	**17 16 19.9**	**-0.2**
SHL				*e*S	**Sn**	**17 16 44.8**	**-0.7**
SHL				IAML		17 16 51.4	
	comp=E,11μm,0.2s						
SHL				IAML		17 16 51.6	
	comp=N,9μm,0.2s						
SHL	**Shillong**	**2.13**	**318**	P	**Pn**	**17 16 19.2**	**-0.9**
SHL						17 16 42.8	
ZIRO	**ZIRO**	**3.56**	**6**	*e*P	**Pn**	**17 16 39.3**	**-0.3**
ZIRO				*e*S	**Sn**	**17 17 14.7**	**-5.9**
ZIRO				IAML		17 17 28.8	
	comp=N,11μm,0.3s						
LKP	**Lekhapani**	**3.99**	**32**	*e*P	**Pn**	**17 16 46.8**	**+1.5**
LKP				IAML		17 18 15.7	
	comp=N,2μm,1.3s						
LKP				IAML		17 18 16.5	
	comp=E,3μm,0.4s						
TNCH	**TengChong**	**4.74**	**76**	P	**Pn**	**17 16 58.2**	**+2.4**
TNCH				S	**Sn**	**17 17 47.0**	**-2.6**
TNCH				smax	smax		
	comp=E,2μm,1.5s						
TNCH				smax	smax		
	comp=E,1μm,1.9s						
TNCH				LR	LR		
	comp=E,4μm,9.7s						
GTK	**Tadong**	**5.50**	**308**	*e*P	**Pn**	**17 17 06.0**	**-0.2**
GTK				*e*S	**Sn**	**17 18 05.0**	**-3.3**
GTK				IAML		17 19 00.7	
	comp=E,776nm,1.4s						
GTK				IAML		17 19 09.2	
	comp=E,653nm,0.0s						
LSA	**Lhasa**	**6.07**	**341**	Pn	**Pn**	**17 17 15.2**	**+0.9**
LSA	**Lhasa**	**6.07**	**341**	P	**Pn**	**17 17 15.2**	**+0.9**
BOK	**Bokaro**	**6.93**	**270**	*e*P	**Pn**	**17 17 25.2**	**-0.4**
BOK				IAmb	IAmb	17 17 36.5	
	comp=Z,843nm,0.7s						
CHTO	**Chiang Mai**	**7.25**	**134**	Pn	**Pn**	**17 17 29.4**	**-0.7**
CHTO	**Chiang Mai**	**7.25**	**134**	P	**Pn**	**17 17 29.4**	**-0.7**
CM31	**Chiang Mai Arr**	**7.50**	**136**		**Pn**	**17 17 33.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**7.50**	**136**	Pn	**Pn**	**17 17 33.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**7.50**	**136**	P	**Pn**	**17 17 33.7**	**0.0**
	comp=Z,10nm,0.5s,baz=312,slow=13,SNR=103						
CMAR				LR	LR	17 20 29.8	
	comp=Z,675nm,21.3s,baz=300,slow=38						
CMAR	**Chiang Mai Arr**	**7.50**	**136**	P	**Pn**	**17 17 33.2**	**-0.5**
PZH	**PanZhiHua**	**7.92**	**70**	P	**Pn**	**17 17 42.9**	**+3.5**
PZH				S	**Sn**	**17 19 12.6**	**+4.8**
PZH				pmax	pmax		
	comp=Z,50nm,0.7s						
PZH				pmax	pmax		
	comp=Z,150nm,3.5s						
PZH				LR	LR		
	comp=Z,3μm,14.2s						
PZH				LR	LR		
	comp=Z,1μm,13.0s						
PZH				LR	LR		
	comp=Z,2μm,11.4s						
PHRA	**Phrae**	**8.34**	**129**	Pn	**Pn**	**17 17 45.3**	**+0.2**
KMI	**Kunming**	**8.54**	**80**	⇑P	**Pn**	**17 17 52.1**	**+4.1**
KMI				S	**Sn**	**17 19 29.2**	**+6.2**
KMI				pmax	pmax		
	comp=Z,49nm,0.9s						
KMI				pmax	pmax		
	comp=Z,380nm,5.5s						
KMI				LR	LR		
	comp=Z,5μm,8.1s						
KMI				LR	LR		
	comp=Z,3μm,15.0s						
KMI				LR	LR		
	comp=Z,3μm,12.8s						
JHSG	**JHARSUGUGA**	**9.19**	**258**	*e*P	**Pn**	**17 17 56.0**	**-0.8**
JHSG				*e*S	Sn	17 19 27.9	-11
VLK	**Valmikinagar**	**9.27**	**293**	*e*P	**Pn**	**17 17 56.8**	**-1.0**
SLVN	**Son La**	**10.01**	**103**		**Pn**	**17 18 08.2**	**+0.3**
SLVN	**Son La**	**10.01**	**103**	P	**Pn**	**17 18 10.2**	**+2.3**
ALBI	**Allahabad**	**10.67**	**280**	*e*P	**Pn**	**17 18 14.5**	**-2.5**
ALBI				*i* x	x	17 18 24.8	
ALBI				*ex*	x	17 20 04.0	
SRDT	**SRDT**	**10.96**	**150**	P	**Pn**	**17 18 21.3**	**+0.3**
BRCI	**Bahraich**	**11.28**	**291**	*ex*	x	17 20 21.5	
CD2	**Chengdu**	**11.47**	**51**	P	**Pn**	**17 18 27.4**	**-0.5**
CD2				S	**Sn**	**17 20 33.8**	**-0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,3μm,11.4s						
CD2				LR	LR		
	comp=Z,1μm,12.7s						
CD2				LR	LR		
	comp=Z,1μm,9.9s						
BNDA	**BANDA**	**12.02**	**280**	*e*P	**Pn**	**17 18 32.4**	**-3.0**
GYA	**Guiyang**	**12.22**	**76**	⇓P	Pn	17 18 43.5	+5.3
GYA				S	**Sn**	**17 20 56.3**	**+3.2**
GYA				pmax	pmax		
	comp=Z,28nm,1.2s						
GYA				pmax	pmax		
	comp=Z,220nm,4.5s						
GYA				LR	LR		
	comp=Z,1μm,10.7s						
GYA				LR	LR		
	comp=Z,1μm,9.8s						
GYA				LR	LR		
	comp=Z,2μm,13.1s						
GOMU	**GeErMu**	**12.24**	**5**	P	**Pn**	**17 18 37.9**	**-0.9**
GOMU				S	**Sn**	**17 20 49.7**	**-4.3**
GOMU				LR	LR		
	comp=Z,1μm,12.1s						
GOMU				LR	LR		
	comp=Z,2μm,10.6s						
GOMU				LR	LR		
	comp=Z,2μm,12.5s						
PBA	**Port Blair**	**12.27**	**183**	Pn	**Pn**	**17 18 36.2**	**-2.6**
FRKB	**FARRUKHABAD**	**12.97**	**288**	*e*P	**Pn**	**17 18 47.0**	**-1.4**
LGTI	**Lohaghat**	**13.00**	**298**	*e*P	**Pn**	**17 18 46.0**	**-2.8**
PTH	**Pithoragarh**	**13.06**	**298**	*e*P	**Pn**	**17 18 46.4**	**-3.4**
NGP	**Nagpur**	**13.60**	**261**	*e*P	**Pn**	**17 18 54.5**	**-2.6**
JHNI	**Jhansi**	**13.63**	**279**	*e*P	Pn	17 18 50.4	-7.1
JHNI				*i* x	x	17 19 00.8	
JHNI				*ex*	x	17 21 10.6	
JOSI	**Joshimath**	**13.98**	**301**	*e*P	**Pn**	**17 18 58.2**	**-4.2**
JOSI				IAmb	IAmb	17 19 11.6	
	comp=Z,53nm,0.4s						
UBPT	**Khong Chiam**	**14.24**	**125**	Pn	**Pn**	**17 19 03.9**	**-1.8**
BHPL	**Bhopal**	**14.71**	**270**	*e*P	**Pn**	**17 19 08.5**	**-3.4**
BHPL				IAmb	IAmb	17 19 20.1	
	comp=Z,95nm,0.8s						
BHPL				*ex*	x	17 21 39.7	
GUNA	**GUNA**	**14.71**	**276**	*e*P	**Pn**	**17 19 08.4**	**-3.6**
GUNA				*i* x	x	17 19 18.6	
GUNA				IAmb	IAmb	17 19 19.6	
	comp=Z,192nm,0.8s						
LZH	**Lanzhou**	**15.05**	**34**	⇑P	**Pn**	**17 19 15.5**	**-0.9**
LZH				pP	P	17 19 22.7	+1.8
LZH				PP	**pP**	**17 19 28.8**	**-3.5**
LZH				sP	sP	17 19 31.7	-6.9
LZH				S	**Sn**	**17 22 10.4**	**+8.4**
LZH				sS	S	17 22 16.2	-1.3
LZH				SS	**SnSn**	**17 22 17.5**	**+2.2**
LZH				pmax	pmax		
	comp=Z,75nm,1.4s						
LZH				pmax	pmax		
	comp=Z,290nm,4.8s						
LZH				LR	LR		
	comp=Z,1μm,10.7s						
LZH				LR	LR		
	comp=Z,1μm,12.0s						
LZH				LR	LR		
	comp=Z,1μm,12.0s						
NDI	**New Delhi**	**15.29**	**291**	*e*P	**Pn**	**17 19 15.6**	**-3.8**
NDI				IAmb	IAmb	17 19 18.7	
	comp=Z,24nm,0.3s						
NDI				*e*S	Sn	17 21 47.9	-20
SONA	**Sohna**	**15.31**	**290**	*e*P	**Pn**	**17 19 16.5**	**-3.1**
SONA				*ex*	x	17 21 51.4	
HYB	**Hyderabad**	**15.38**	**248**	*e*P	**Pn**	**17 19 17.3**	**-3.4**
HYB				*e*		17 19 19.5	
HYB				*e*		17 21 53.6	
HYB				*e*S	**S**	**17 22 24.7**	**+0.4**
KLP	**Kalpa**	**15.41**	**303**	*e*P	**Pn**	**17 19 17.4**	**-3.9**
KLP				*i* x	x	17 19 26.9	
KLP				IAmb	IAmb	17 19 31.9	
	comp=Z,49nm,0.8s						
AKL	**Akola**	**15.55**	**261**	*e*P	**Pn**	**17 19 21.1**	**-1.8**
AKL				IAmb	IAmb	17 19 22.6	
	comp=Z,40nm,0

comp=Z,760nm,13.8s
JMU Jammu 18.49 302 *e*P **Pn 17 19 59.8 +0.4**
JMU IAmb IAmb 17 20 03.6
comp=Z,120nm,0.4s
LHMI Lhok Sumawe 18.93 169 P **P 17 20 02.4 -1.4**
LHMI IAmb IAmb 17 20 07.5
comp=Z,108nm,0.8s
SALM Salem 18.98 232 *e*P **Pn 17 20 06.5 +1.2**
SALM IAmb IAmb 17 20 10.4
comp=Z,24nm,0.8s
POO Poona 19.05 257 *e*P **Pn 17 20 06.2 0.0**
POO *ex* x 17 23 21.3
KAD Karad 19.20 253 *e*P **Pn 17 20 07.7 -0.4**
KAD IAmb IAmb 17 20 17.6
comp=Z,9.2nm,0.9s
LYN LuoYang 19.63 53 ⇓P **P 17 20 11.7 +0.5**
LYN sP sP 17 20 27.2 -1.8
LYN S **S 17 23 47.3 -2.8**
LYN sS Sn 17 23 58.7 +6.2
LYN pmax pmax
comp=Z,16nm,0.8s
LYN pmax pmax
comp=Z,150nm,3.7s
LYN LR LR
comp=Z,960nm,11.0s
LYN LR LR
comp=Z,1μm,11.0s
LYN LR LR
comp=Z,890nm,14.4s
WHN Wuhan 19.69 66 P **P 17 20 12.1 +0.2**
WHN pP **pP 17 20 24.1 +0.6**
WHN S **S 17 23 42.4 -9.0**
WHN pmax pmax
comp=Z,49nm,0.7s
WHN pmax pmax
comp=Z,850nm,3.8s
WHN LR LR
comp=Z,2μm,9.2s
WHN LR LR
comp=Z,1μm,11.6s
WHN LR LR
comp=Z,2μm,15.1s
BHV Bhavnagar 19.76 268 *e*P **Pn 17 20 16.1 +1.5**
BHV *i* x x 17 20 25.4
BHV IAmb IAmb 17 20 27.6
comp=Z,150nm,1.5s
MLSI Meulaboh, Aceh 19.80 171 P **Pn 17 20 17.2 +2.1**
comp=Z,116nm,1.1s
NIL Nilore 20.13 303 P **P 17 20 16.5 -0.2**
NIL IAmb IAmb 17 20 18.3
comp=Z,118nm,0.8s
NIL Nilore 20.13 303 P **P 17 20 16.5 -0.2**
NIL pmax pmax
comp=Z,118nm,0.9s
WMQ Urumqi 20.36 348 *e*P Pn 17 20 20.6 -1.0
WMQ sP sP 17 20 34.8 -2.1
WMQ S **S 17 24 01.4 -3.3**
WMQ pmax pmax
comp=Z,52nm,1.1s
WMQ LR LR
comp=Z,600nm,14.5s
WMQ LR LR
comp=Z,650nm,13.5s
WMQ LR LR
comp=Z,460nm,22.3s
JASL Jaisalmer 20.57 283 *ex* x 17 20 22.4
JASL *ex* x 17 23 57.9
IPM Ipoh 20.71 158 P **P 17 20 21.5 -1.6**
IPM IAmb IAmb 17 20 23.0
comp=Z,67nm,0.7s
IPM Ipoh 20.71 158 P **P 17 20 21.8 -1.3**
KCSI Kotacane, Aceh 20.75 168 P **P 17 20 24.2 +0.6**
comp=Z,120nm,1.0s
WUS Wushi 20.90 329 IAmb IAmb 17 20 35.6
comp=Z,75nm,1.2s
TIY Taiyuan 21.24 45 *e*P **P 17 20 27.5 -1.2**
TIY sP **sP 17 20 49.5 +3.0**
TIY S **S 17 24 15.3 -6.9**
TIY sS Sn 17 24 30.8 -0.5
TIY SS **SnSn 17 24 49.3 +2.4**
TIY pmax pmax
comp=Z,46nm,0.6s
TIY LR LR
comp=Z,890nm,24.7s
TIY LR LR
comp=Z,700nm,24.0s
TIY LR LR
comp=Z,360nm,24.7s
KSH Kashi 21.41 320 P **P 17 20 30.9 +0.2**
KSH pP pP 17 20 42.1 -0.1
KSH S **S 17 24 22.8 -3.0**
KSH pmax pmax
comp=Z,33nm,1.1s
SNSI Sinabang, Aceh 21.61 172 P **P 17 20 33.8 +1.0**
comp=Z,204nm,0.8s
BTO Baotou 21.65 36 *e*P **P 17 20 33.4 +0.3**
BTO pP **pP 17 20 43.2 -1.6**
BTO sP **sP 17 20 46.3 -4.7**
BTO PP **PnPn 17 20 57.6 +2.2**
BTO S **S 17 24 32.5 +2.2**
BTO SS **SnSn 17 24 59.0 +1.9**
BTO pmax pmax
comp=Z,690nm,3.6s
BTO LR LR
comp=Z,2μm,16.1s
BTO LR LR
comp=Z,2μm,15.1s
BTO LR LR
comp=Z,4μm,19.4s
PSI Prapat 21.70 165 P **P 17 20 33.7 -0.2**
PSI pmax pmax
comp=Z,76nm,0.7s
RPSI Rantau Prapat 21.80 165 P **P 17 20 33.7 -1.1**
RPSI IAmb IAmb 17 20 42.3
comp=Z,76nm,0.7s
PRZ Przheval'sk 22.29 330 P **P 17 20 39.8 -0.3**
PRZ pmax pmax
comp=Z,85nm,1.0s
SHLS Shalkode 22.35 332 *e*P **P 17 20 39.5 -1.2**
comp=Z,83nm,1.2s
SHLS *e*S **S 17 24 42.1 -1.2**
SHLS Shalkode 22.35 332 *e*P **P 17 20 39.5 -1.2**
SHLS *e*S **S 17 24 42.1 -1.2**
SHLS pmax pmax
comp=Z,83nm,1.2s
UZB Uzynbulak 22.53 332 *e*P **P 17 20 43.7 +1.1**
comp=Z,38nm,1.2s
UZB Uzynbulak 22.53 332 *e*P **P 17 20 43.7 +1.1**
UZB pmax pmax
comp=Z,39nm,1.2s
HNS HongShan 22.59 49 ⇓P **P 17 20 42.5 -0.6**
HNS sP **sP 17 20 58.3 -2.7**
HNS S **S 17 24 45.2 -2.2**
HNS pmax pmax
comp=Z,24nm,0.8s
HNS LR LR
comp=Z,1μm,18.2s
HNS LR LR
comp=Z,700nm,16.7s
HNS LR LR
comp=Z,530nm,21.6s
KDJ Kajisay 22.60 327 P **P 17 20 41.9 -1.6**
KDJ IAmb IAmb 17 21 00.7
comp=Z,70nm,1.0s
KDJ Kajisay 22.60 327 P **P 17 20 41.9 -1.6**
KDJ pmax pmax
comp=Z,69nm,1.0s
HHC Hu-ho-hao-te 22.67 38 *e*P **P 17 20 43.6 -0.5**
HHC pP pP 17 20 55.8 +0.1
HHC sP sP 17 21 01.7 -0.2
HHC S **S 17 24 44.4 -4.5**
HHC sS Sn 17 25 02.8 -2.7
HHC pmax pmax
comp=Z,55nm,0.6s
HHC LR LR
comp=Z,1μm,14.4s
HHC LR LR
comp=Z,870nm,15.0s
HHC LR LR
comp=Z,2μm,14.7s
SATY Saty 22.73 331 *e*P **P 17 20 45.7 +0.9**
comp=Z,53nm,1.3s
SATY *e*S **S 17 24 52.2 +2.1**
SATY Saty 22.73 331 *e*P **P 17 20 45.7 +0.9**
SATY *e*S **S 17 24 52.1 +2.1**
SATY pmax pmax
comp=Z,53nm,1.3s
KNMB Chin-men Tao 22.74 84 P **P 17 20 42.4 -2.5**
ZHN Zhinishke 22.81 331 *e*P **P 17 20 46.6 +1.0**
ZHN Zhinishke 22.81 331 *e*P **P 17 20 46.5 +1.0**
GSI Gunungsitoli 22.88 169 P **P 17 20 44.3 -2.1**
GSI IAmb IAmb 17 20 47.8
comp=Z,64nm,0.9s
GSI Gunungsitoli 22.88 169 P **P 17 20 46.7 +0.3**
GSI Gunungsitoli 22.88 169 P **P 17 20 44.7 -1.7**
comp=Z,84nm,1.0s
KPKS Kokpek 22.93 332 *e*P **P 17 20 47.4 +0.6**
KPKS *e*S **S 17 24 55.1 +1.7**
KPKS Kokpek 22.93 332 *e*P **P 17 20 47.4 +0.6**
KPKS *e*S **S 17 24 55.0 +1.7**
TNSS Tian-Shan 23.39 328 *e*P **P 17 20 52.4 +0.7**
TNSS Tian-Shan 23.39 328 *e*P **P 17 20 52.3 +0.7**
MDOK Medeo 23.44 329 *e*P **P 17 20 52.9 +1.1**
MDOK *e*S **S 17 25 04.1 +2.2**
MDOK Medeo 23.44 329 *e*P **P 17 20 52.9 +1.1**
MDOK *e*S **S 17 25 04.0 +2.2**
BOOM Boomskoye usch 23.49 326 **P 17 20 50.6 -1.7**
BOOM IAmb IAmb 17 21 14.4
comp=Z,100nm,1.3s
BOOM Boomskoye usch 23.49 326 P **P 17 20 50.6 -1.7**
BOOM pmax pmax
comp=Z,100nm,1.3s
AAA Alma-Ata 23.54 329 *e*P **P 17 20 53.4 +0.7**
comp=Z,38nm,0.9s
AAA Alma-Ata 23.54 329 *e*P **P 17 20 53.4 +0.7**
AAA pmax pmax
comp=Z,38nm,0.9s
KBL Kabul 23.70 302 P **P 17 20 54.0 -0.4**
KBL IAmb IAmb 17 21 03.5
comp=Z,95nm,0.9s
KBL Kabul 23.70 302 P **P 17 20 54.1 -0.4**
KBL pmax pmax
comp=Z,95nm,1.0s
TIA Tai'an 23.77 54 P **P 17 20 54.3 -0.5**
TIA PcP **PcP 17 24 38.4 +0.9**
TIA S **S 17 25 01.8 -5.2**
TIA pmax pmax
comp=Z,29nm,0.8s
TIA LR LR
comp=Z,1μm,14.4s
TIA LR LR
comp=Z,690nm,18.4s
TIA LR LR
comp=Z,690nm,15.9s
NJ2 Nanjing 23.79 65 ⇑P **P 17 20 53.9 -1.1**
NJ2 sP **sP 17 21 13.6 0.0**
NJ2 S **S 17 25 08.6 +1.3**
NJ2 pmax pmax
comp=Z,29nm,0.7s
NJ2 LR LR
comp=Z,2μm,16.1s
NJ2 LR LR
comp=Z,670nm,9.0s
NJ2 LR LR
comp=Z,460nm,10.0s
ARXS Arharly 23.90 331 *e*P **P 17 20 57.3 +1.2**
ARLS Aral 23.91 323 P **P 17 20 58.4 +2.1**
ARLS pmax pmax
comp=Z,75nm,0.9s
OHH Osh 23.95 318 P **P 17 20 57.9 +1.4**
OHH pmax pmax
comp=Z,44nm,1.8s
DRK Karamyk 23.96 315 P **P 17 20 56.7 -0.2**
DRK IAmb IAmb 17 21 23.8
comp=Z,74nm,1.2s
DRK Karamyk 23.96 315 P **P 17 20 56.7 -0.2**
DRK pmax pmax
comp=Z,74nm,1.2s
CHKK Chushkaly 24.00 330 *e*P **P 17 20 57.6 +0.7**
CHKK Chushkaly 24.00 330 *e*P **P 17 20 57.5 +0.7**
MYKOM Kota Tinggi 24.24 154 P **P 17 20 58.5 -0.8**
MYKOM Kota Tinggi 24.24 154 P **P 17 21 00.1 +0.9**
TDK Taldygorghan 24.29 333 *e*P **P 17 21 00.5 +0.9**
comp=Z,48nm,1.0s
TDK Taldyqorghan 24.29 333 *e*P **P 17 21 00.5 +0.9**
TDK pmax pmax
comp=Z,48nm,1.0s
ARSB Arslanbob 24.32 320 P **P 17 20 59.4 -0.6**
ARSB Arslanbob 24.32 320 P **P 17 20 59.4 -0.6**
ARSB pmax pmax
comp=Z,12nm,1.1s
PBSI Pulau Batu 24.34 168 P **P 17 21 01.0 +0.9**
comp=Z,131nm,1.7s
AAK Ala-Archa 24.35 324 P **P 17 21 00.4 +0.2**
AAK Ala-Archa 24.35 324 LR LR 17 31 48.0
comp=Z,342nm,20.2s,baz=130,slow=39
AAK Ala-Archa 24.35 324 *i* P **P 17 21 02.3 +2.0**
AAK pmax pmax
comp=Z,59nm,1.4s
FRU1 Bishkek 24.40 325 P **P 17 21 00.1 -0.4**
FRU1 IAmb IAmb 17 21 25.3
comp=Z,69nm,1.2s
FRU1 Bishkek 24.40 325 P **P 17 21 00.2 -0.4**
FRU1 pmax pmax
comp=Z,69nm,1.2s
ZSN Zaisan 24.41 346 *e*P **P 17 21 01.8 +1.2**
comp=Z,50nm,1.5s
ZSN Zaisan 24.41 346 *e*P **P 17 21 01.8 +1.2**
ZSN pmax pmax
comp=Z,50nm,1.5s
MK31 Makanchi Array 24.47 341 P **P 17 21 00.9 -0.3**
MK31 Makanchi Array 24.47 341 *ce*P **P 17 21 01.9 +0.7**
MKAR Makanchi Array 24.47 341 P **P 17 21 02.0 +0.9**
comp=Z,5.9nm,0.5s,baz=150,slow=10.0,SNR=65
MKAR pP **pP 17 21 15.9 +1.9**
comp=Z,20nm,0.8s,baz=147,slow=12,SNR=14
MKAR LR LR 17 32 35.7
comp=Z,404nm,18.6s,baz=160,slow=41
comp=Z,5.9nm,0.5s
MKAR Makanchi Array 24.47 341 P **P 17 20 59.8 -1.4**
MAKZ Makanchi 24.58 341 P **P 17 21 00.9 -1.2**
MAKZ IAmb IAmb 17 21 33.8
comp=Z,53nm,1.1s
MAKZ Makanchi 24.58 341 P **P 17 21 00.9 -1.2**
MAKZ pmax pmax
comp=Z,53nm,1.2s
BKNI Bangkinang 24.63 162 P **P 17 21 02.0 -0.8**
GAR Garm 24.68 313 P **P 17 21 02.8 -0.4**
SGDS Sogindy 24.85 326 *e*P **P 17 21 05.6 +0.9**
SGDS Sogindy 24.85 326 *e*P **P 17 21 05.6 +0.9**
TPUB Ta-pu 24.90 86 P **P 17 21 04.2 -1.1**
TPUB IAmb IAmb 17 21 07.5
comp=Z,91nm,1.1s
TPUB Ta-pu 24.90 86 P **P 17 21 06.6 +1.3**
BTK Batken 24.91 315 P **P 17 21 05.7 +0.4**
BTK Batken 24.91 315 P **P 17 21 05.7 +0.4**
BTK pmax pmax
comp=Z,387nm,1.7s
BJT Baijiatuau 24.94 45 P **P 17 21 04.7 -0.8**
BJT Baijiatuau 24.94 45 P **P 17 21 04.7 -0.8**
BJT pmax pmax
comp=Z,26nm,1.2s
BJI Beijing 24.96 45 P **P 17 21 06.3 +0.7**
BJI S **S 17 25 25.7 -0.2**
BJI pmax pmax
comp=Z,9.0nm,1.4s
BJI LR LR
comp=Z,310nm,24.2s
BJI LR LR
comp=Z,270nm,22.0s
BJI LR LR
comp=Z,210nm,20.4s
SSLB Suanglung 25.14 85 P **P 17 21 07.6 +0.1**
SSLB IAmb IAmb 17 21 26.9
comp=Z,165nm,2.0s
TPRI Tanjung Pinang 25.30 153 P **P 17 21 09.6 +0.7**
comp=Z,96nm,0.8s
TWG Pinlang 25.36 87 P **P 17 21 09.3 -0.1**
TWG IAmb IAmb 17 21 11.7
comp=Z,63nm,0.7s
SIMJ Simiganj 25.40 311 P **P 17 21 09.1 -0.7**
SIMJ IAmb IAmb 17 21 29.1
comp=Z,89nm,1.4s
YHNB Yeheng 25.44 83 P **P 17 21 10.4 +0.1**
YHNB IAmb IAmb 17 21 29.0
comp=Z,97nm,1.5s
YULB Yu-li 25.50 86 P **P 17 21 10.3 -0.4**
YULB IAmb IAmb 17 21 13.6
comp=Z,43nm,0.9s
YULB Yu-li 25.50 86 P **P 17 21 11.7 +1.0**
SSE Sheshan 25.55 68 P **P 17 21 09.5 -1.6**
SSE pmax pmax
comp=Z,17nm,0.8s
SSE pmax pmax
comp=Z,73nm,3.5s
SSE LR LR
comp=Z,510nm,16.6s
SSE LR LR
comp=Z,210nm,16.6s
PDSI Padang 25.65 164 P **P 17 21 11.5 -0.6**
NACB Ninganchiao 25.68 84 P **P 17 21 12.5 +0.2**
NACB IAmb IAmb 17 21 14.7
comp=Z,45nm,0.7s
NACB Ninganchiao 25.68 84 P **P 17 21 13.6 +1.2**
SISI Saibi 25.74 167 P **P 17 21 14.5 +1.7**
comp=Z,154nm,1.3s
SONM Songino Array 25.95 20 P **P 17 21 16.2 +1.5**
comp=Z,29nm,0.8s,baz=196,slow=7.9,SNR=92
SONM pP **pP 17 21 28.7 +1.2**
comp=Z,27nm,1.0s,baz=203,slow=8.9,SNR=11
SONM ScP **ScP 17 28 17.8 -0.2**
comp=Z,1.0nm,0.8s,baz=179,slow=3.7,SNR=3.9
SONM LR LR 17 33 40.5
comp=Z,168nm,20.3s,baz=201,slow=41
comp=Z,29nm,0.8s
SONM Songino Array 25.95 20 P **P 17 21 15.2 +0.5**
SONM pmax pmax
comp=Z,33nm,0.8s
ULN Ulaanbaatar 26.19 21 P **P 17 21 16.2 -0.6**
ULN IAmb IAmb 17 21 21.0
comp=Z,41nm,0.8s
ULN Ulaanbaatar 26.19 21 *ce*P **P 17 21 18.0 +1.1**
ULN pmax pmax
comp=Z,45nm,0.8s
DZA Taraz 26.26 321 *e*P **P 17 21 18.4 +0.8**
DZA Taraz 26.26 321 *e*P **P 17 21 18.3 +0.8**
BTLS Baital 26.28 328 *e*P **P 17 21 19.4 +1.8**
BTLS pmax pmax
comp=Z,22nm,1.4s
IUG Iuzhnay 26.58 319 *e*P **P 17 21 21.4 +1.0**
comp=Z,68nm,1.3s
IUG Iuzhnay 26.58 319 *e*P **P 17 21 21.4 +1.0**
IUG pmax pmax
comp=Z,68nm,1.3s
KKAR Karatay Array 26.87 321 P **P 17 21 21.6 -1.3**
KKAR Karatay Array 26.87 321 P **P 17 21 21.8 -1.1**
CHM Chimkent 26.94 319 *e*P **P 17 21 24.6 +1.1**
comp=Z,26nm,1.0s
CHM Chimkent 26.94 319 *e*P **P 17 21 24.6 +1.1**
CHM pmax pmax
comp=Z,26nm,1.0s
XLT XiLinHaoTe 27.19 37 *e*P **P 17 21 25.9 0.0**
XLT S **S 17 26 00.0 -1.3**
XLT pmax pmax
comp=Z,28nm,1.1s
XLT LR LR
comp=Z,620nm,10.6s
XLT LR LR
comp=Z,1μm,19.2s
BRLS Borolday 27.22 320 *e*P **P 17 21 25.6 -0.4**
PPSI Pulau Pagai 27.33 166 P **P 17 21 31.1 +3.9**
ZAK Zakamensk 27.45 14 *e*P **P 17 21 29.6 +1.4**
ZAK pmax pmax
comp=Z,25nm,1.5s
KSM Kuching 27.69 141 P **P 17 21 29.2 -1.3**
SBUM Sibu 28.06 137 P **P 17 21 32.6 -1.1**
SBUM Sibu 28.06 137 P **P 17 21 34.6 +0.9**
DL2 Dalian 28.14 51 *e*P **P 17 21 33.4 -0.8**
DL2 S **S 17 26 13.6 -2.5**
DL2 SS **SnSn 17 27 35.1 -0.2**
DL2 pmax pmax
comp=Z,21nm,0.8s
DL2 LR LR
comp=Z,690nm,18.8s
DL2 LR LR
comp=Z,420nm,19.4s
DL2 LR LR
comp=Z,600nm,26.4s
KKM Kota Kinabalu 28.22 126 P **P 17 21 34.9 -0.5**
KKM IAmb IAmb 17 21 42.3
comp=Z,45nm,0.8s
KKM Kota Kinabalu 28.22 126 P **P 17 21 36.5 +1.2**
SEM Semipalatinsk 28.32 342 *e*P **P 17 21 36.6 +0.6**
SEM Semipalatinsk 28.32 342 *e*P **P 17 21 36.6 +0.6**
PPBI Pangkal Pinang 28.76 153 P **P 17 21 40.3 +0.3**
comp=Z,28nm,0.7s
KURBB Kurchatov Arra 29.02 340 P **P 17 21 42.8 +0.9**
comp=Z,3.1nm,0.6s,baz=155,slow=8.2,SNR=21
KURBB pP **pP 17 21 56.1 +1.3**
comp=Z,4.2nm,0.7s,baz=149,slow=8.5,SNR=8.3
KURBB PcP **PcP 17 24 49.6 +0.2**
comp=Z,2.0nm,0.8s,baz=162,slow=2.5,SNR=4.0
KURBB ScP **ScP 17 28 27.1 +0.1**
comp=Z,1.3nm,0.8s,baz=159,slow=2.5,SNR=5.3
KURBB LR LR 17 35 32.2
comp=Z,253nm,20.4s,baz=152,slow=41
comp=Z,3.1nm,0.6s
HRA Herat 29.05 298 P **P 17 21 41.5 -1.2**
KURK Kurchatov 29.07 340 P **P 17 21 41.6 -0.8**
KURK Kurchatov 29.07 340 *ce*P **P 17 21 43.0 +0.6**
KURK pmax pmax
comp=Z,16nm,1.0s
MYLDM Lahad Datu 30.50 124 P **P 17 21 54.7 -0.7**
MYLDM Lahad Datu 30.50 124 P **P 17 21 56.1 +0.7**
LWLI Liwa 30.61 159 P **P 17 21 56.9 +0.4**
ZAA0 Zalesovo Array 30.63 350 P **P 17 21 56.4 +0.2**
ZAA0 IAmb IAmb 17 22 35.9
comp=Z,33nm,1.1s
ZALV Zalesovo Beam 30.63 350 P **P 17 21 57.5 +1.3**
comp=Z,9.4nm,0.5s,baz=173,slow=7.6,SNR=51
ZALV pP **pP 17 22 09.9 +0.8**
comp=Z,7.8nm,0.7s,baz=174,slow=8.7,SNR=10.0
comp=Z,9.4nm,0.5s
ZALV Zalesovo Beam 30.63 350 P **P 17 21 55.9 -0.3**
KASI Kota Agung 31.23 158 P **P 17 21 59.0 -2.8**
comp=Z,33nm,0.7s,comp=Z,455nm
INCN Inchon 31.37 57 P **P 17 22 02.9 -0.1**
INCN Inchon 31.37 57 P **P 17 22 02.9 -0.1**
INCN pmax pmax
comp=Z,28nm,1.3s
JOW Kunigami 31.53 77 P **P 17 22 02.5 -1.9**
JOW IAmb IAmb 17 22 54.7
comp=Z,28nm,0.9s
JOW Kunigami 31.53 77 P **P 17 22 03.0 -1.4**
comp=Z,9.4nm,0.3s,baz=211,slow=20,SNR=12
JOW LR LR 17 36 05.0
comp=Z,546nm,18.2s,baz=339,slow=39
comp=Z,9.4nm,0.3s
JOW Kunigami 31.53 77 P **P 17 22 05.3 +0.9**
TJN Taejon 31.66 59 P **P 17 22 03.4 -2.1**
TJN Taejon 31.66 59 P **P 17 22 03.4 -2.1**
TJN pmax pmax
comp=Z,64nm,1.0s
WSAR Wadi Sarin 31.87 276 LR LR 17 35 54.6
comp=Z,231nm,21.6s,baz=110,slow=38
KS19 Wonju Array Si 32.32 57 P **P 17 22 09.6 -1.7**
KS19 IAmb IAmb 17 23 00.7
comp=Z,38nm,1.7s
KSRS Korea Array 32.35 57 P **P 17 22 09.5 -2.0**
comp=Z,1.8nm,0.7s,baz=252,slow=8.8,SNR=9.5
KSRS PcP **PcP 17 24 58.5 +0.1**
comp=Z,1.3nm,0.7s,baz=256,slow=2.9,SNR=4.5
KSRS LR LR 17 35 58.7
comp=Z,246nm,19.3s,baz=260,slow=38
comp=Z,1.8nm,0.7s
CN2 Changchun 32.82 45 *e*P **P 17 22 14.9 -0.7**
CN2 *e*PP **PnPn 17 23 23.9 -1.5**
CN2 *e*S **S 17 27 27.2 -2.2**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,230nm,12.0s
CN2 LR LR
comp=Z,150nm,12.0s
BVAR Borovoye Array 33.87 335 P **P 17 22 24.7 +0.1**
comp=Z,3.7nm,0.5s
BVAR LR LR 17 38 16.7
comp=Z,354nm,19.4s,baz=140,slow=40
comp=Z,3.7nm,0.5s
BRVK Borovoye 33.93 335 P **P 17 22 22.8 -2.3**
BRVK Borovoye 33.93 335 *ce*P **P 17 22 26.2 +1.1**
BRVK pmax pmax
comp=Z,10.0nm,1.2s
BRVK Borovoye 33.93 335 P **P 17 22 26.0 +0.9**
BRVK pP **pP 17 22 38.4 +0.4**
JNU Nakatsue 33.97 66 P **P 17 22 23.6 -2.2**

JNU	**Nakatsue**	**33.97 66**	P	**P**	**17 22 25.1**	**-0.6**
	comp=Z,39nm,0.8s,baz=266,slow=2.0,SNR=35					
JNU			LR	LR	17 36 54.7	
	comp=Z,267nm,19.9s,baz=264,slow=37					
	comp=Z,39nm,0.8s					
JNU	**Nakatsue**	**33.97 66**	P	**P**	**17 22 25.8**	**0.0**
BBJI	**Bungbulang**	**34.18 154**	P	**P**	**17 22 28.4**	**+0.7**
KPJI	**Karang Pucung**	**34.59 152**	P	**P**	**17 22 31.1**	**-0.1**
	comp=Z,46nm,0.6s					
MPSI	**Mapaga**	**34.78 129**	P	**P**	**17 22 33.8**	**+1.0**
	comp=Z,30nm,0.7s					
TOLI2	**Tolitoli**	**34.89 127**	P	**P**	**17 22 32.1**	**-1.7**
TOLI2	**Tolitoli**	**34.89 127**	P	**P**	**17 22 34.5**	**+0.7**
BNX	**BinXian**	**34.94 43**	⇓P	**P**	**17 22 34.3**	**+0.4**
BNX			pmax	pmax		
	comp=Z,27nm,0.9s					
SMRI	**Semarang**	**35.01 150**	P	**P**	**17 22 33.5**	**-1.3**
SMRI	**Semarang**	**35.01 150**	P	**P**	**17 22 37.5**	**+2.7**
	comp=Z,95nm,0.7s					
DAV	**Davao City (W)**	**35.09 113**	LR	LR	17 37 29.7	
	comp=Z,73nm,19.1s,baz=290,slow=37					
UGM	**Wanagama**	**35.81 150**	P	**P**	**17 22 41.5**	**-0.2**
MDJ	**Mudanjiang**	**35.87 46**	IAmb	IAmb	17 22 42.5	
	comp=Z,21nm,1.2s					
MDJ	**Mudanjiang**	**35.87 46**	P	**P**	**17 22 42.5**	**+0.6**
MDJ			pP	pP	17 22 55.7	+0.7
MDJ			S	**S**	**17 28 19.6**	**+3.2**
MDJ			PcS	**PcS**	**17 28 56.6**	**+0.9**
MDJ			pmax	pmax		
	comp=Z,14nm,0.7s					
MDJ			pmax	pmax		
	comp=Z,97nm,6.2s					
MDJ			LR	LR		
	comp=Z,370nm,19.2s					
MDJ			LR	LR		
	comp=Z,280nm,12.0s					
MDJ			LR	LR		
	comp=Z,300nm,14.4s					
MDJ	**Mudanjiang**	**35.87 46**	P	**P**	**17 22 42.0**	**+0.1**
MDJ			sP	**sP**	**17 23 01.1**	**+0.3**
MRSI	**Marisa**	**36.17 126**	P	**P**	**17 22 45.4**	**+0.6**
ABKAR	**Akbulak array**	**36.40 322**	P	**P**	**17 22 46.0**	**-0.3**
ABKAR			IAmb	IAmb	17 23 01.8	
	comp=Z,20nm,0.8s					
JMN	**Monobe**	**36.52 65**	P	**P**	**17 22 46.4**	**-1.4**
JMN			IAmb	IAmb	17 22 49.8	
	comp=Z,29nm,0.8s					
JMN	**Monobe**	**36.52 65**	P	**P**	**17 22 49.2**	**+1.5**
KMMI	**Kalianget**	**36.77 144**	P	**P**	**17 22 52.3**	**+2.5**
	comp=Z,105nm,0.9s					
APSI	**Ampana**	**36.90 128**	P	**P**	**17 22 52.9**	**+1.9**
	comp=Z,115nm,0.7s,comp=Z,985nm					
TTSI	**Tana Toraja**	**37.14 133**	P	**P**	**17 22 54.7**	**+1.6**
	comp=Z,79nm,0.9s,comp=Z,691nm					
HEH	**HeiHe**	**37.17 36**	*e*P	**P**	**17 22 54.2**	**+1.2**
HEH			pmax	pmax		
	comp=Z,65nm,0.8s					
HEH			LR	LR		
	comp=Z,940nm,14.2s					
HEH			LR	LR		
	comp=Z,680nm,14.8s					
HEH			LR	LR		
	comp=Z,1μm,15.5s					
USA0B	**Ussuriysk Arra**	**37.32 48**	P	**P**	**17 22 53.7**	**-0.6**
USA0B			IAmb	IAmb	17 22 55.1	
	comp=Z,21nm,0.9s					
USA0B	**Ussuriysk Arra**	**37.32 48**	*i* P	**P**	**17 22 54.4**	**+0.1**
USRK	**Ussuriysk Ar.**	**37.32 48**	P	**P**	**17 22 54.2**	**0.0**
	comp=Z,15nm,0.9s,baz=245,slow=9.1,SNR=15					
USRK			LR	LR	17 41 33.4	
	comp=Z,151nm,18.5s,baz=247,slow=42					
	comp=Z,15nm,0.9s					
USRK	**Ussuriysk Ar.**	**37.32 48**	P	**P**	**17 22 53.5**	**-0.8**
KMSI	**Cibinong**	**37.63 124**	P	**P**	**17 22 59.1**	**+1.8**
SPSI	**Sidrap Palu**	**37.79 134**	P	**P**	**17 23 00.0**	**+1.5**
	comp=Z,67nm,1.2s,comp=Z,882nm					
LUWI	**Luwuk**	**37.80 127**	P	**P**	**17 22 57.6**	**-1.1**
LUWI	**Luwuk**	**37.80 127**	P	**P**	**17 23 00.0**	**+1.3**
LUWI	**Luwuk**	**37.80 127**	P	**P**	**17 22 59.6**	**+0.9**
JAGI	**Jajag, Banyuwa**	**38.06 145**	P	**P**	**17 22 59.3**	**-1.5**
JAGI			IAmb	IAmb	17 23 28.8	
	comp=Z,30nm,0.8s					
JAGI	**Jajag, Banyuwa**	**38.06 145**	P	**P**	**17 22 59.6**	**-1.2**
JAGI	**Jajag, Banyuwa**	**38.06 145**	P	**P**	**17 23 00.7**	**-0.1**
	comp=Z,38nm,0.7s					
AKTO	**Aktyubinsk**	**38.07 323**	LR	LR	17 41 49.7	
	comp=Z,259nm,20.1s,baz=206,slow=41					
BNSI	**Bone**	**38.34 134**	P	**P**	**17 23 04.1**	**+0.9**
	comp=Z,41nm,1.1s,comp=Z,410nm					
KAPI	**Kappang**	**38.57 135**	P	**P**	**17 23 04.2**	**-0.9**
KAPI			IAmb	IAmb	17 23 42.8	
	comp=Z,27nm,1.2s					
KAPI	**Kappang**	**38.57 135**	LR	LR	17 40 54.2	
	comp=Z,143nm,21.1s,baz=305,slow=39					
KAPI	**Kappang**	**38.57 135**	P	**P**	**17 23 04.2**	**-0.9**
KAPI			pmax	pmax		
	comp=Z,27nm,1.2s					
BKSI	**Bulukumba**	**39.04 135**	P	**P**	**17 23 08.1**	**-0.9**
	comp=Z,27nm,1.2s					
ZEA	**Zeya**	**39.05 32**	*e*P	**P**	**17 23 10.7**	**+2.0**
ZEA			pmax	pmax		
	comp=Z,10.0nm,0.7s					
ZEA			MLR	MLR		
	comp=Z,400nm,15.0s					
INU	**Inuyama**	**39.24 63**	P	**P**	**17 23 09.5**	**-1.1**
INU	**Inuyama**	**39.24 63**	P	**P**	**17 23 10.3**	**-0.3**
INU	**Inuyama**	**39.24 63**	P	**P**	**17 23 09.9**	**-0.7**
JGF	**Kuroka**	**39.54 63**	IAmb	IAmb	17 23 21.0	
	comp=Z,22nm,0.8s					
JGF	**Kuroka**	**39.54 63**	P	**P**	**17 23 12.6**	**-0.5**
BSSI	**Bau Bau, Buton**	**39.90 135**	P	**P**	**17 23 16.2**	**0.0**
	comp=Z,22nm,0.7s					
TNTI	**Ternate**	**40.14 120**	P	**P**	**17 23 16.6**	**-1.7**
TNTI			IAmb	IAmb	17 23 18.4	
	comp=Z,44nm,1.3s					
TNTI	**Ternate**	**40.14 120**	P	**P**	**17 23 19.1**	**+0.8**
	comp=Z,21nm,0.7s,comp=Z,865nm					
MAJO	**Matsushiro**	**40.30 61**	P	**P**	**17 23 18.1**	**-1.3**
MAJO	**Matsushiro**	**40.30 61**	P	**P**	**17 23 18.9**	**-0.5**
MAJO	**Matsushiro**	**40.30 61**	⇑*i* P	**P**	**17 23 18.3**	**-1.1**
MAJO			pmax	pmax		
	comp=Z,42nm,0.7s					
MAJO	**Matsushiro**	**40.30 61**	P	**P**	**17 23 18.3**	**-1.1**
MJAR	**Matsushiro Arr**	**40.31 61**	P	**P**	**17 23 18.7**	**-0.7**
	comp=Z,30nm,0.8s,baz=267,slow=7.5,SNR=85					
MJAR			PcP	**PcP**	**17 25 22.3**	**0.0**
	comp=Z,2.6nm,0.8s,baz=238,slow=1.0,SNR=4.6					
MJAR			ScP	**ScP**	**17 29 06.1**	**-1.6**
	comp=Z,1.9nm,1.0s,baz=263,slow=1.8,SNR=4.4					
	comp=Z,30nm,0.8s					
PLAI	**Plampang**	**40.34 141**	P	**P**	**17 23 21.1**	**+1.2**
SVE	**Sverdlovsk**	**40.53 333**	*e*P	**P**	**17 23 22.6**	**+1.7**
SVE			pmax	pmax		
	comp=Z,46nm,1.1s					
SVE			MLR	MLR		
	comp=Z,198nm,12.0s					
BBSI	**Bau Bau**	**40.79 132**	P	**P**	**17 23 25.1**	**+1.5**
	comp=Z,49nm,0.9s,comp=Z,690nm					
SANI	**Sanana**	**40.86 125**	P	**P**	**17 23 23.1**	**-1.1**
SANI	**Sanana**	**40.86 125**	P	**P**	**17 23 22.3**	**-1.9**
	comp=Z,42nm,0.7s,comp=Z,544nm					
ARTI	**Arti**	**41.22 331**	P	**P**	**17 23 25.7**	**-1.0**
ARTI			IAmb	IAmb	17 24 03.7	
	comp=Z,31nm,1.2s					
ARTI	**Arti**	**41.22 331**	LR	LR	17 42 29.3	
	comp=Z,254nm,18.8s,baz=128,slow=39					
ARTI	**Arti**	**41.22 331**	*d i P*	**P**	**17 23 27.2**	**+0.5**
ARTI			*PP	**pP**	**17 23 40.9**	**+1.0**
ARTI					17 24 59.2	
ARTI					17 25 22.5	
ARTI			S	**S**	**17 29 39.7**	**+2.9**
ARTI			SS	**SS**	**17 32 37.7**	**-3.5**
ARTI			pmax	pmax		
	comp=Z,9.0nm,1.4s					
ARTI	**Arti**	**41.22 331**	P	**P**	**17 23 27.5**	**+0.8**
ARTI			pP	**pP**	**17 23 41.5**	**+1.6**
JHJ	**Hachijo jima 2**	**41.43 67**	LR	LR	17 43 32.4	
	comp=Z,147nm,18.8s,baz=277,slow=40					
WBSI	**Waikabubak, Su**	**41.93 140**	P	**P**	**17 23 31.5**	**-1.5**
	comp=Z,62nm,0.7s					
MAK	**Makhachkala**	**42.16 308**	*e*P	**P**	**17 23 33.3**	**-1.2**
MAK			*e**PP	**pP**	**17 23 46.4**	**-1.4**
MAK			*e**SP	**sP**	**17 23 53.0**	**-0.5**
MAK			*e*		17 25 14.2	
MAK			*e*S	**S**	**17 29 51.8**	**+0.8**
MAK			*e**SS	**sS**	**17 30 13.8**	**+0.5**
MAK			pmax	pmax		
	comp=Z,48nm,0.8s					
MAK			MLR	MLR		
	comp=Z,175nm,19.0s					
NLAI	**Namlea**	**42.47 125**	P	**P**	**17 23 39.6**	**+2.2**
	comp=Z,73nm,0.7s,comp=Z,554nm					
JMM	**Marumori**	**42.48 60**	IAmb	IAmb	17 23 42.0	
	comp=Z,26nm,0.7s					
JMM	**Marumori**	**42.48 60**	P	**P**	**17 23 36.2**	**-1.0**
MMRI	**Maumere**	**42.91 136**	IAmb	IAmb	17 23 42.5	
	comp=Z,33nm,0.6s					
MMRI	**Maumere**	**42.91 136**	P	**P**	**17 23 40.7**	**-0.2**
MMRI	**Maumere**	**42.91 136**	P	**P**	**17 23 39.8**	**-1.1**
	comp=Z,45nm,0.7s					
AAI	**Ambon**	**43.59 124**	P	**P**	**17 23 48.0**	**+1.6**
RAYN	**Ar Rayn**	**43.72 280**	P	**P**	**17 23 45.7**	**-1.8**
RAYN	**Ar Rayn**	**43.72 280**	P	**P**	**17 23 45.7**	**-1.8**
RAYN			pmax	pmax		
	comp=Z,25nm,1.3s					
RAYN	**Ar Rayn**	**43.72 280**	P	**P**	**17 23 48.1**	**+0.6**
RAYN			pP	**pP**	**17 24 00.8**	**0.0**
GNI	**Garni**	**43.77 304**	P	**P**	**17 23 45.9**	**-1.9**
GNI	**Garni**	**43.77 304**	LR	LR	17 45 19.0	
	comp=Z,83nm,20.6s,baz=100,slow=40					
GNI	**Garni**	**43.77 304**	*i* P	**P**	**17 23 46.7**	**-1.1**
GNI			pmax	pmax		
	comp=Z,8.0nm,1.1s					
GNI	**Garni**	**43.77 304**	P	pP	17 24 03.3	+2.2
	comp=Z,24nm,1.6s					
GNI	**Garni**	**43.77 304**	P	**P**	**17 23 50.1**	**+2.3**
GNI			pP	**pP**	**17 24 03.5**	**+2.4**
GNI			sP	**sP**	**17 24 10.2**	**+3.3**
MSAI	**Masohi**	**43.92 123**	P	**P**	**17 23 50.3**	**+1.2**
	comp=Z,89nm,0.6s,comp=Z,703nm					
SWI	**Sorong**	**44.23 118**	P	**P**	**17 23 51.0**	**-0.5**
	comp=Z,89nm,0.9s,comp=Z,705nm					
ASAJ	**Asahikawa**	**44.66 51**	P	**P**	**17 23 54.4**	**-0.3**
	comp=Z,19nm,0.7s,baz=268,slow=6.6,SNR=18					
	comp=Z,19nm,0.7s					
ASAJ	**Asahikawa**	**44.66 51**	P	**P**	**17 23 53.5**	**-1.2**
ASAJ			pmax	pmax		
	comp=Z,152nm,1.8s					
JKA	**Kamikawa-asahi**	**44.67 51**	P	**P**	**17 23 53.5**	**-1.3**
ERM	**Erimo**	**44.75 54**	P	**P**	**17 23 56.4**	**+1.0**
BATI	**Baumata**	**45.01 136**	P	**P**	**17 23 56.0**	**-1.7**
	comp=Z,59nm,0.7s					
SOEI	**Soe**	**45.06 134**	P	**P**	**17 23 56.2**	**-2.0**
SOEI	**Soe**	**45.06 134**	P	**P**	**17 23 58.5**	**+0.2**
SOEI	**Soe**	**45.06 134**	P	**P**	**17 23 58.4**	**+0.2**
	comp=Z,101nm,0.7s,comp=Z,1μm					
KARS	**Kars**	**45.08 304**	P	**P**	**17 23 56.2**	**-2.1**
KARS	**Kars**	**45.08 304**	P	**P**	**17 23 56.2**	**-2.1**
KARS			pmax	pmax		
	comp=Z,80nm,0.7s					
YAK	**Yakutsk**	**45.24 23**	P	**P**	**17 23 57.9**	**-1.1**
YAK			IAmb	IAmb	17 24 19.6	
	comp=Z,20nm,0.8s					
YAK	**Yakutsk**	**45.24 23**	LR	LR	17 46 26.9	
	comp=Z,40nm,18.1s,baz=232,slow=41					
YAK	**Yakutsk**	**45.24 23**	*e*P	**P**	**17 23 59.7**	**+0.7**
YAK			*e**PP	**pP**	**17 24 12.1**	**-0.2**
YAK			*e*		17 25 47.6	
YAK			*e*S	**S**	**17 30 36.7**	**+1.3**
YAK			*e**SS	**sS**	**17 30 58.9**	**+1.0**
YAK			pmax	pmax		
	comp=Z,13nm,0.9s					
YAK			pmax	pmax		
	comp=N,2.0nm,0.8s					
YAK			pmax	pmax		
	comp=E,9.0nm,1.3s					
YAK			pmax	pmax		
	comp=Z,166nm,3.3s					
YAK			pmax	pmax		
	comp=N,232nm,3.3s					
YAK			pmax	pmax		
	comp=E,111nm,2.8s					
YAK			smax	smax		
	comp=E,182nm,2.8s					
YAK			smax	smax		
	comp=N,66nm,2.0s					
YAK	**Yakutsk**	**45.24 23**	P	**P**	**17 23 59.4**	**+0.4**
YAK			pP	**pP**	**17 24 12.6**	**+0.2**
YAK			sP	**sP**	**17 24 18.5**	**+0.4**
YSS	**Yuzh-Sakhalins**	**45.34 47**	P	**P**	**17 23 59.2**	**-0.8**
YSS	**Yuzh-Sakhalins**	**45.34 47**	P	**P**	**17 24 01.0**	**+1.0**
YSS	**Yuzh-Sakhalins**	**45.34 47**	*i* P	**P**	**17 24 00.2**	**+0.2**
YSS			pmax	pmax		
	comp=Z,48nm,1.1s					
YSS	**Yuzh-Sakhalins**	**45.34 47**	P	**P**	**17 24 00.4**	**+0.4**
YSS			pP	**pP**	**17 24 14.0**	**+0.6**
BNDI	**Bandanaira**	**45.42 124**	P	**P**	**17 24 01.9**	**+0.9**
BNDI	**Bandanaira**	**45.42 124**	P	**P**	**17 24 00.4**	**-0.6**
NRIK	**Noril'sk**	**45.52 357**	P	**P**	**17 24 00.9**	**-0.2**
NRIK			IAmb	IAmb	17 24 16.4	
	comp=Z,16nm,0.8s					
NRIK	**Noril'sk**	**45.52 357**	P	**P**	**17 24 02.6**	**+1.4**
	comp=Z,12nm,0.6s,baz=160,slow=5.9,SNR=22					
	comp=Z,12nm,0.6s					
NRIK	**Noril'sk**	**45.52 357**	*ce*P	**P**	**17 24 02.1**	**+1.0**
NRIK			pmax	pmax		
	comp=Z,13nm,0.7s					
KBZ	**Khabaz**	**45.60 308**	P	**P**	**17 24 02.9**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=79,slow=4.4,SNR=4.1					
KBZ			pP	**pP**	**17 24 16.9**	**+1.5**
	comp=Z,3.6nm,0.9s,baz=113,slow=6.0,SNR=5.9					
KBZ			LR	LR	17 49 44.1	
	comp=Z,112nm,18.1s,baz=81,slow=45					
	comp=Z,1.0nm,0.6s					
KBZ	**Khabaz**	**45.60 308**	*i* P	**P**	**17 24 03.0**	**+0.9**
KBZ			pmax	pmax		
	comp=Z,10.0nm,1.4s					
GOF	**Gofitskoye**	**45.72 310**	*ce*P	pP	17 24 17.6	+1.2
GURO	**Guroymak-BITLI**	**45.73 301**	P	**P**	**17 24 02.0**	**-1.4**
GURO			IAmb	IAmb	17 24 19.6	
	comp=Z,22nm,1.2s					
SHA1	**Shidzhatmaz**	**45.78 308**	*ce*P	**P**	**17 24 05.3**	**+1.5**
KIV	**Kislovodsk**	**45.79 309**	P	**P**	**17 24 01.9**	**-1.9**
KIV			IAmb	IAmb	17 24 20.1	
	comp=Z,32nm,1.1s					
KIV	**Kislovodsk**	**45.79 309**	*e*P	**P**	**17 24 03.9**	**+0.1**
KIV			pmax	pmax		
	comp=Z,8.0nm,1.1s					
KIV			MLR	MLR		
	comp=Z,99nm,16.0s					
KIV	**Kislovodsk**	**45.79 309**	P	pP	17 24 19.1	+2.0
	comp=Z,275nmcomp=Z,22nm,1.5s					
KIV	**Kislovodsk**	**45.79 309**	P	**P**	**17 24 05.2**	**+1.4**
KIV			pP	**pP**	**17 24 18.9**	**+1.7**
KIV			sP	**sP**	**17 24 25.0**	**+2.2**
FAKI	**Fak Fak**	**46.24 120**	P	**P**	**17 24 06.0**	**-1.6**
FAKI	**Fak Fak**	**46.24 120**	P	**P**	**17 24 07.4**	**-0.1**
FAKI	**Fak Fak**	**46.24 120**	P	**P**	**17 24 07.5**	**-0.1**
KIRV	**Kirov**	**46.48 330**	LR	LR	17 45 44.7	
	comp=Z,161nm,19.2s,baz=121,slow=39					
RKPI	**Ransiki, Papua**	**46.97 117**	P	**P**	**17 24 13.0**	**-0.2**
	comp=Z,79nm,1.0s,comp=Z,715nm					
SOC	**Sochi**	**47.88 308**	*e*P	**P**	**17 24 19.2**	**-0.7**
SOC			*e*		17 26 10.9	
SOC			*e*PPP	PPP	17 27 00.3	
SOC			*e*S	**S**	**17 31 13.9**	**+0.2**
SOC			*e*SSS	SSS	17 35 56.4	
SOC			MLR	MLR		
	comp=Z,101nm,20.0s					
VRH	**Novokhopyorsk**	**47.90 318**	*e*P	**P**	**17 24 20.7**	**+0.8**
VRH			pmax	pmax		
	comp=Z,55nm,1.6s					
ARPR	**Arapgir-MALATY**	**48.63 302**	P	**P**	**17 24 24.9**	**-1.2**
ARPR			IAmb	IAmb	17 24 43.0	
	comp=Z,30nm,1.3s					
VORD	**Divnogorie**	**49.33 317**	*e*P	**P**	**17 24 30.1**	**-0.9**
VORD			*e**PP	**pP**	**17 24 43.7**	**-0.7**
VORD			pmax	pmax		
	comp=Z,10.0nm,0.8s					
VSR	**Storozhevoye**	**49.46 318**	*e*P	**P**	**17 24 30.1**	**-1.9**
VSR			*e**PP	**pP**	**17 24 44.7**	**-0.7**
VSR			pmax	pmax		
	comp=Z,10.0nm,1.4s					
GAZ	**Gaziantep**	**49.52 299**	P	**P**	**17 24 31.2**	**-1.6**
GAZ			IAmb	IAmb	17 24 48.3	
	comp=Z,31nm,1.4s					
GUMO	**Guam**	**49.53 92**	LR	LR	17 46 04.4	
	comp=Z,110nm,19.6s,baz=325,slow=37					
VORR	**Voronezh**	**49.54 318**	*e*P	**P**	**17 24 33.1**	**+0.6**
VORR			pmax	pmax		
	comp=Z,48nm,1.8s					
LPSR	**Galich'ya Gora**	**49.91 320**	*e*P	**P**	**17 24 34.8**	**-0.6**
LPSR			*e**PP	**pP**	**17 24 49.9**	**+1.1**
LPSR			pmax	pmax		
	comp=Z,20nm,0.7s					
BNN	**Bunyan**	**50.58 301**	P	**P**	**17 24 38.9**	**-1.9**
BNN			IAmb	IAmb	17 25 06.9	
	comp=Z,28nm,1.1s					
MMAI	**Mount Meron Ar**	**51.26 294**	P	**P**	**17 24 47.1**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=27,slow=13,SNR=1.9					
MMAI			PcP	**PcP**	**17 26 02.5**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=88,slow=8.4,SNR=1.6					
MMAI			LR	LR	17 50 15.4	
	comp=Z,83nm,20.8s,baz=72,slow=40					
	comp=Z,0.3nm,0.4s					
MOS	**Moscow**	**51.41 323**	*e*P	**pP**	**17 24 59.3**	**-0.8**
MOS			pmax	pmax		
	comp=Z,28nm,0.6s					
DRS	**Darwin Rock St**	**51.46 131**	P	**P**	**17 24 47.6**	**+0.1**
MBWA	**Marble Bar**	**51.64 148**	P	**P**	**17 24 47.9**	**-0.8**
MBWA	**Marble Bar**	**51.64 148**	P	**P**	**17 24 48.3**	**-0.5**
	comp=Z,69nm,0.7s					
MBWA	**Marble Bar**	**51.64 148**	P	**P**	**17 24 48.8**	**+0.1**
MBWA	**Marble Bar**	**51.64 148**	P	**P**	**17 24 48.2**	**-0.5**
TIXI	**Tiksi**	**51.73 14**	P	**P**	**17 24 48.6**	**-0.2**
TIXI	**Tiksi**	**51.73 14**	LR	LR	17 48 36.5	
	comp=Z,220nm,19.2s,baz=212,slow=38					
TIXI	**Tiksi**	**51.73 14**	*i* P	**P**	**17 24 49.2**	**+0.4**
TIXI			pmax	pmax		
	comp=Z,11nm,0.6s					
TIXI	**Tiksi**	**51.73 14**	P	**P**	**17 24 49.2**	**+0.4**
OBN	**Obninsk**	**51.84 322**	P	**P**	**17 24 49.0**	**-0.8**
OBN			IAmb	IAmb	17 25 07.3	
	comp=Z,36nm,1.2s					
OBN	**Obninsk**	**51.84 322**	⇓*e*P	**P**	**17 24 49.8**	**0.0**
OBN			*e**PP	**pP**	**17 25 04.9**	**+1.5**
OBN			*e**SP	**sP**	**17 25 08.2**	**-0.9**
OBN			*i* S	S	17 32 27.7	+19
OBN			*e*		17 37 21.7	
OBN			pmax	pmax		
	comp=Z,9.0nm,0.7s					
OBN			MLR	MLR		
	comp=Z,172nm,23.0s					
OBN	**Obninsk**	**51.84 322**	P	pP	17 25 03.2	-0.2
	comp=Z,24nm,0.9s					
MTN	**Manton Dam**	**51.91 131**	P	**P**	**17 24 49.7**	**-1.1**
MTN			IAmb	IAmb	17 25 37.6	
	comp=Z,32nm,1.4s					
MTN	**Manton Dam**	**51.91 131**	P	**P**	**17 24 51.1**	**+0.2**
BZK	**Bozkurt**	**51.98 305**	P	**P**	**17 24 49.7**	**-1.4**
BZK	**Bozkurt**	**51.98 305**	P	pP	17 25 05.9	+1.3
	comp=Z,62nm,0.9s					
KLMR	**Klimovskoe**	**51.98 330**	*e*P	**P**	**17 24 50.3**	**-0.5**
KLMR			*e**PP	**pP**	**17 25 02.6**	**-1.7**
KLMR			pmax	pmax		
	comp=Z,22nm,1.4s					
SIM	**Simferopol'**	**51.99 309**	*e*S	S	17 32 25.7	+15
SIM			*e*P	**pP**	**17 25 05.8**	**+1.1**
SIM			pmax	pmax		
	comp=Z,29nm,1.3s					
SIM			MLR	MLR		
	comp=Z,39nm,16.0s					
EIL	**Elat**	**52.05 290**	LR	LR	17 51 56.6	
	comp=Z,187nm,18.4s,baz=72,slow=42					
KIRS	**Kirsehir-Merke**	**52.07 302**	⇓P	**P**	**17 24 52.4**	**+0.4**
BR104	**Keskin Array S**	**52.27 303**	P	pP	17 25 07.7	+0.6
	comp=Z,56nmcomp=Z,3.6nm,1.2s					
BR131	**Keskin Array S**	**52.27 303**	P	**P**	**17 24 52.0**	**-1.5**
BR131	**Keskin Array S**	**52.27 303**	P	**P**	**17 24 52.0**	**-1.5**
BR131			pmax	pmax		
	comp=Z,8.0nm,1.1s					
BRTR	**Keskin Array B**	**52.27 303**	P	**P**	**17 24 51.4**	**-2.1**
BRTR	**Keskin Array B**	**52.27 303**	P	**P**	**17 24 54.0**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=117,slow=13,SNR=3.0					
BRTR			pP	**pP**	**17 25 07.9**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=120,slow=7.4,SNR=9.2					
BRTR			PcP	**PcP**	**17 26 04.8**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=92,slow=8.7,SNR=1.6					
BRTR			LR	LR	17 52 23.8	
	comp=Z,73nm,18.6s,baz=123,slow=42					
	comp=Z,0.7nm,0.8s					
BRTR	**Keskin Array B**	**52.27 303**	P	**P**	**17 24 51.4**	**-2.1**
BR106	**Keskin Array S**	**52.29 303**	P	pP	17 25 07.9	+0.7
	comp=Z,47nmcomp=Z,4.7nm,1.1s					
BR105	**Keskin Array S**	**52.29 303**	P	pP	17 25 07.9	+0.7
	comp=Z,57nmcomp=Z,5.6nm,1.2s					
FITZ	**Fitzroy Crossi**	**52.30 140**	P	**P**	**17 24 52.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**52.30 140**	P	**P**	**17 24 53.0**	**-0.6**
	comp=Z,479nm,0.9s					
FITZ	**Fitzroy Crossi**	**52.30 140**	LR	LR	17 50 11.2	
	comp=Z,101nm,19.8s,baz=310,slow=40					
FITZ	**Fitzroy Crossi**	**52.30 140**	P	**P**	**17 24 53.6**	**0.0**
KNRA	**Kununurra**	**52.37 135**	P	**P**	**17 24 52.8**	**-1.4**
KNRA	**Kununurra**	**52.37 135**	P	**P**	**17 24 53.7**	**-0.6**
	comp=Z,51nm,1.4s					
GENI	**Genyem**	**52.53 114**	P	**P**	**17 24 56.9**	**+1.4**
KDU	**Kakadu**	**52.74 129**	P	**P**	**17 24 55.6**	**-1.4**
	comp=Z,13nm,1.0s					
JAY	**Jayapura**	**52.94 113**	P	**P**	**17 25 01.1**	**+2.5**
	comp=Z,31nm,0.8s					
MA2	**Magadan**	**53.19 32**	P	**P**	**17 24 59.2**	**-0.6**
MA2	**Magadan**	**53.19 32**	P	**P**	**17 24 59.2**	**-0.6**
MA2			pmax	pmax		
	comp=Z,36nm,1.2s					
SEY	**Seymchan**	**54.89 29**	*ce*P	**P**	**17 25 11.9**	**-0.2**
SEY			pmax	pmax		
	comp=Z,16nm,1.8s					
ELL	**Elmali**	**55.39 299**	P	**P**	**17 25 14.9**	**-1.4**
ELL	**Elmali**	**55.39 299**	P	**P**	**17 25 14.9**	**-1.4**
ELL			pmax	pmax		
	comp=Z,247nm,1.2s					
AK09	**Malin Array Si**	**55.57 316**	P	pP	17 25 31.2	+0.3
AK08	**Malin Array Si**	**55.59 316**	P	pP	17 25 31.4	+0.4
AK10	**Malin Array Si**	**55.59 316**	P	pP	17 25 31.3	+0.3
AKASG	**Malin Array Be**	**55.62 316**	P	**P**	**17 25 17.4**	**-0.1**
	comp=Z,1.1nm,0.3s,baz=84,slow=6.1,SNR=19					
AKASG			pP	**pP**	**17 25 31.2**	**0.0**
	comp=Z,7.3nm,0.6s,baz=83,slow=6.5,SNR=12				

MNK *i* pP sP 17 25 43.7 -0.9
MNK *i* PP **PP** **17 27 38.6 +7.0**
MNK *i* PPP PPP 17 28 52.9
MNK *i* S **S** **17 33 20.9 +6.5**
MNK *i* sS sS 17 33 45.2 +8.3
MNK *i* SS **SS** **17 37 10.7 +8.4**
MNK *i* SSS SSS 17 39 35.7
MNK *i* LQ LQ 17 47 52.9
MNK *i* LR LR 17 51 03.7
MNK *i* LRM MLR 17 53 58.2
comp=Z,150nm,18.1s
MNK *i* LRM MLR 17 54 05.6
comp=N,189nm,23.3s
MNK *i* LRM MLR 17 54 35.5
comp=E,201nm,21.7s
MNK Minsk 56.71 321 *i* P P 17 25 30.5 +5.2
MNK *i* *PP sP 17 25 43.7 -0.9
MNK *i* 17 27 38.5
MNK *i* PPP PPP 17 28 52.8
MNK *i* S **S** **17 33 20.8 +6.5**
MNK *i* SS **SS** **17 37 10.7 +8.4**
MNK pmax pmax
comp=E,16nm,1.2s
MNK pmax pmax
comp=N,5.0nm,0.7s
MNK pmax pmax
comp=Z,10.0nm,0.9s
MNK MLR MLR
comp=Z,150nm,18.0s
MNK MLR MLR
comp=N,189nm,23.0s
MNK MLR MLR
comp=E,201nm,22.0s
APA Apatity 56.75 337 ⇓*i* P **P** **17 25 24.0 -1.3**
APA pmax pmax
comp=Z,10.0nm,1.5s
MORW Morawa 57.04 156 P **P** **17 25 27.4 -0.4**
MORW Morawa 57.04 156 P **P** **17 25 27.3 -0.5**
comp=Z,29nm,1.4s
MORW Morawa 57.04 156 P **P** **17 25 27.8 0.0**
VRI Vrincioaia 57.21 310 ⇓P **P** **17 25 30.2 +1.2**
VRI Vrincioaia 57.21 310 P **P** **17 25 30.2 +1.2**
VRI Vrincioaia 57.21 310 P pP 17 25 43.6 +0.9
comp=Z,184nmcomp=Z,21nm,1.1s
BISRR Bisoca 57.23 310 ⇑P **P** **17 25 29.7 +0.5**
BISRR Bisoca 57.23 310 P pP 17 25 43.5 +0.6
comp=Z,4µmcomp=Z,38nm,1.4s
TESR Tescani 57.25 311 ⇑P **P** **17 25 30.0 +0.8**
PLOR Plostina 57.26 310 ⇓P **P** **17 25 31.3 +1.8**
PLOR Plostina 57.26 310 P **P** **17 25 31.2 +1.8**
NACGM Naroch 57.38 321 *i* P pP 17 25 47.0 +3.3
comp=Z,55nm,0.8s,baz=92
ONER Baraj Valea Uz 57.43 311 ⇑P **P** **17 25 31.8 +1.3**
COVR Voineasa-Covas 57.57 310 ⇓P **P** **17 25 33.3 +1.7**
TURR Turia 57.70 310 ⇓P **P** **17 25 34.1 +1.7**
KARP Karpathos 57.74 298 P **P** **17 25 31.1 -1.8**
RNPP9 Sopachiv 57.75 317 P pP 17 25 47.0 +0.6
MLR Muntele Rosu 57.77 310 P **P** **17 25 32.0 -1.1**
MLR Muntele Rosu 57.77 310 LR LR 17 56 13.2
comp=Z,206nm,18.1s,baz=64,slow=42
MLR Muntele Rosu 57.77 310 ⇓P **P** **17 25 34.7 +1.6**
MLR Muntele Rosu 57.77 310 P **P** **17 25 34.7 +1.6**
MLR Muntele Rosu 57.77 310 P pP 17 25 48.1 +1.3
comp=Z,30nm,0.9s
RNPP8 Varash 57.77 317 P pP 17 25 47.3 +0.8
ELND Elena 57.96 307 ⇓P **P** **17 25 35.4 +1.1**
ALN Alexandroupoli 58.00 304 P **P** **17 25 33.7 -0.9**
ALN IAmb IAmb 17 25 50.6
comp=Z,27nm,1.2s
ALN Alexandroupoli 58.00 304 P **P** **17 25 33.7 -0.9**
ALN pmax pmax
comp=Z,27nm,1.2s
DOPR Dopca 58.14 310 ⇓P **P** **17 25 36.5 +1.0**
BURAR Bucovina Array 58.20 312 ⇑P **P** **17 25 37.2 +1.1**
BURAR Bucovina Array 58.20 312 P **P** **17 25 37.1 +1.1**
BUR08 Bucovina Ar. S 58.21 312 P **P** **17 25 34.3 -1.8**
BUR08 IAmb IAmb 17 26 52.0
comp=Z,14nm,1.3s
MANU Manus Island 58.39 108 P **P** **17 25 36.8 -0.9**
FINES FINESS Array B 58.44 329 P **P** **17 25 37.7 +0.4**
comp=Z,3.1nm,0.6s,baz=108,slow=7.7,SNR=18
FINES pP **pP** **17 25 51.2 +0.1**
comp=Z,3.9nm,0.6s,baz=84,slow=4.8,SNR=4.8
FINES LR LR 17 54 21.2
comp=Z,192nm,21.5s,baz=72,slow=40
comp=Z,3.1nm,0.6s
ARR Arges 58.70 310 ⇑P **P** **17 25 40.6 +1.1**
WB0 Warramunga Arr 59.01 134 P **P** **17 25 40.8 -1.0**
PABE Paberze 59.03 322 P **P** **17 25 40.8 -0.7**
PABE Paberze 59.03 322 *eP* **P** **17 25 42.3 +0.8**
WRA Warramunga Arr 59.10 134 P **P** **17 25 42.2 -0.2**
comp=Z,62nm,0.6s,baz=320,slow=7.5,SNR=389
WRA ScP **ScP** **17 30 24.6 -3.0**
comp=Z,1.8nm,0.7s,baz=323,slow=4.5,SNR=6.5
WRA Warramunga Arr 59.10 134 P **P** **17 25 41.3 -1.1**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRAB Tennant Creek 59.10 134 P **P** **17 25 41.9 -0.6**
WRAB Tennant Creek 59.10 134 *i* P **P** **17 25 42.2 -0.2**
WRAB pmax pmax
comp=Z,60nm,0.6s
KEF Keuruu 59.10 329 *eP* **P** **17 25 42.8 +0.9**
WB2 Warramunga Arr 59.10 134 P **P** **17 25 41.9 -0.6**
MEF Metsahovi 59.12 327 *eP* **P** **17 25 42.8 +0.8**
WR0 Warramunga Arr 59.24 134 P **P** **17 25 43.0 -0.4**
WRKA Warakurna 59.27 143 P **P** **17 25 43.9 +0.2**
comp=Z,133nm,0.7s
WRKA Warakurna 59.27 143 P **P** **17 25 43.8 +0.2**
CJR Cluj-Napoca 59.34 311 ⇑P **P** **17 25 44.5 +0.6**
CJR Cluj-Napoca 59.34 311 P **P** **17 25 44.5 +0.6**
SUW Suwalki 59.44 320 *eP* pP 17 26 00.8 +2.6
SUW Suwalki 59.44 320 P **P** **17 25 43.5 -0.9**
SUW Suwalki 59.44 320 P **P** **17 25 43.5 -0.9**
SUW pmax pmax
comp=Z,71nm,0.9s
LODK Lodwar 59.56 259 P **P** **17 25 44.7 -1.2**
LODK IAmb IAmb 17 26 01.7
comp=Z,29nm,1.3s
BRIU Brid 59.65 313 P pP 17 26 01.2 +1.5
MARR Marisel-Cluj 59.67 311 ⇑P **P** **17 25 47.3 +1.0**
MUN Mundaring 59.74 158 P **P** **17 25 46.1 -0.5**
KWP Kalwaria Pacla 59.80 315 P pP 17 26 01.0 +0.3
comp=Z,3µmcomp=Z,116nm,0.6s
KIBK Kibwezi 59.83 252 P **P** **17 25 46.6 -1.2**
MUKU Mukachevo 59.86 313 P pP 17 26 02.0 +0.8
KMBO Kilima Mbogo 59.94 254 P **P** **17 25 46.1 -2.6**
KMBO Kilima Mbogo 59.94 254 P **P** **17 25 49.0 +0.3**
comp=Z,1.1nm,0.6s,baz=59,slow=20,SNR=2.3
KMBO pP **pP** **17 26 01.9 -0.7**
comp=Z,2.6nm,0.8s,baz=59,slow=8.0,SNR=3.7
KMBO LR LR 17 50 16.2
comp=Z,56nm,21.3s,baz=86,slow=34
comp=Z,1.1nm,0.6s
KMBO Kilima Mbogo 59.94 254 P **P** **17 25 46.1 -2.6**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
DRGR 59.94 311 ⇓P **P** **17 25 49.3 +1.2**
DRGR 59.94 311 P **P** **17 25 49.3 +1.2**
KLBR Kellerberrin 59.94 156 P **P** **17 25 48.1 +0.1**
GZR Gura Zlata 60.00 310 ⇑P **P** **17 25 49.3 +0.8**
HOLU Holmets 60.06 313 P pP 17 26 03.7 +1.2
ARCES ARCESS Array B 60.07 338 P **P** **17 25 49.8 +1.3**
comp=Z,3.6nm,0.8s,baz=81,slow=7.5,SNR=7.7
ARCES pP **pP** **17 26 02.6 +0.3**
comp=Z,2.4nm,0.6s,baz=103,slow=8.5,SNR=2.4
comp=Z,3.6nm,0.8s
KOLS Kolonicke sedl 60.11 314 *eP* **P** **17 25 50.0 +0.9**
KOLS *e* 17 26 06.1
VAF Ylistaro 60.21 330 *eP* **P** **17 25 50.8 +1.3**
HERR Herculane 60.30 309 ⇓P **P** **17 25 51.2 +0.8**
SURR Surduc 60.43 310 ⇑P **P** **17 25 52.5 +1.2**
RAF Rauma 60.47 328 *eP* **P** **17 25 52.1 +0.8**
VAY Valandovo 60.57 305 *i* P pP 17 26 07.3 +1.1
SIRR Siria 60.71 311 ⇓P **P** **17 25 54.6 +1.4**
STHS Stebnicka Huta 60.76 315 *e* pP 17 26 06.9 -0.5
LIT Litokhoron 60.78 304 P **P** **17 25 52.0 -1.9**
LIT Litokhoron 60.78 304 P **P** **17 25 52.0 -1.9**
LIT pmax pmax
comp=Z,31nm,1.2s
MDVR Moldovita 60.81 309 ⇑P **P** **17 25 55.7 +1.7**
BOVS Bovan 60.93 308 ⇑P **P** **17 25 55.7 +0.9**
NWAO Narrogin (SRO) 60.96 157 P **P** **17 25 55.4 +0.5**
AGG Agios Georgios 61.06 303 P **P** **17 25 54.0 -1.8**
AGG Agios Georgios 61.06 303 P **P** **17 25 54.0 -1.8**

AGG pmax pmax
comp=Z,27nm,1.0s
NIE Niedzica 61.37 315 *eP* pP 17 26 15.2 +3.6
NIE Niedzica 61.37 315 P pP 17 26 11.6 0.0
comp=Z,9.8nm,0.9s
KMBL Kambalda 61.39 152 P **P** **17 25 57.6 -0.3**
COEN Coen 61.49 123 P **P** **17 25 59.2 +0.3**
AS31 Alice Springs 61.51 137 P **P** **17 25 59.2 +0.2**
comp=Z,46nm,0.6s
ASAR Alice Springs 61.51 137 P **P** **17 25 59.1 +0.2**
comp=Z,85nm,0.6s,baz=318,slow=6.8,SNR=1634
ASAR LR LR 17 58 12.1
comp=Z,84nm,18.1s,baz=311,slow=41
ASAR Alice Springs 61.51 137 P **P** **17 25 58.5 -0.4**
FNA Florina 61.53 305 P **P** **17 25 57.0 -2.0**
FNA IAmb IAmb 17 26 15.6
comp=Z,21nm,0.9s
FNA Florina 61.53 305 P **P** **17 25 57.0 -2.0**
FNA pmax pmax
comp=Z,21nm,0.9s
AS01 Alice Springs 61.54 137 P **P** **17 25 59.5 +0.4**
BILL Bilibino 61.58 24 P **P** **17 25 58.9 +0.2**
BILL Bilibino 61.58 24 *i* P **P** **17 25 59.4 +0.7**
BILL pmax pmax
comp=Z,9.0nm,0.6s
BILL Bilibino 61.58 24 P **P** **17 25 59.5 +0.7**
BILL pP **pP** **17 26 12.9 +0.3**
OJC Ojcow 61.64 316 P **P** **17 25 57.5 -2.0**
OJC IAmb IAmb 17 26 26.7
comp=Z,9.4nm,0.9s
OJC Ojcow 61.64 316 P **P** **17 25 57.5 -2.0**
OJC pmax pmax
comp=Z,9.0nm,0.9s
PSZ Piszkesteto 61.76 313 P **P** **17 25 59.0 -1.4**
PSZ IAmb IAmb 17 26 17.4
comp=Z,14nm,1.3s
PSZ Piszkesteto 61.76 313 P **P** **17 25 59.0 -1.4**
PSZ pmax pmax
comp=Z,14nm,1.3s
OHR Ohrid 61.92 305 *i* P pP 17 26 16.4 +1.0
PMG Port Moresby 62.05 116 P **P** **17 26 02.6 -0.1**
PMG Port Moresby 62.05 116 P **P** **17 26 03.6 +0.9**
PMG Port Moresby 62.05 116 P **P** **17 26 03.4 +0.7**
PMG Port Moresby 62.05 116 *i* P **P** **17 26 02.4 -0.3**
PMG pmax pmax
comp=Z,65nm,0.7s
PMG Port Moresby 62.05 116 P **P** **17 26 02.8 +0.1**
VYHS Vyhne 62.41 314 *eP* **P** **17 26 05.7 +1.0**
VYHS *e* 17 26 20.7
PUK Puka 62.46 306 **P** **17 26 04.0 -1.2**
PUK IAmb IAmb 17 26 21.5
comp=Z,20nm,1.0s
MORH Mrgy, Hungar 62.80 311 ⇓P **P** **17 26 07.8 +0.6**
MORH Mrgy, Hungar 62.80 311 P pP 17 26 21.7 +0.6
comp=Z,8.2nm,1.1s
PDG Podgorica 62.87 307 **P** **17 26 06.0 -1.8**
PDG IAmb IAmb 17 26 24.3
comp=Z,20nm,0.9s
MAUC Maruska 62.99 315 *ep*P pP 17 26 23.9 +1.5
QIS Mount Isa 63.08 131 P **P** **17 26 09.4 0.0**
comp=Z,34nm,0.8s
QIS Mount Isa 63.08 131 P **P** **17 26 09.9 +0.5**
MORC Moravsky Berou 63.13 315 P **P** **17 26 08.3 -1.2**
MORC IAmb IAmb 17 26 27.4
comp=Z,12nm,1.0s
MORC Moravsky Berou 63.13 315 *ep*P pP 17 26 24.0 +0.6
MORC Moravsky Berou 63.13 315 ⇑P **P** **17 26 10.7 +1.2**
MORC Moravsky Berou 63.13 315 P **P** **17 26 10.6 +1.2**
JAVC Velka Javorina 63.14 314 *ep*P pP 17 26 24.9 +1.4
MODS Modra-Piesok 63.46 314 *eP* **P** **17 26 13.6 +1.9**
MODS *e* 17 26 28.9
KRLC Kraliky 63.59 316 *ep*P pP 17 26 28.8 +2.4
RABL Rabaul 63.61 108 P **P** **17 26 12.0 -1.2**
FORT Forrest 63.75 147 P **P** **17 26 13.5 -0.1**
VRAC Vranov 63.80 315 LR LR 17 55 44.1
comp=Z,114nm,21.6s,baz=77,slow=38
VRAC Vranov 63.80 315 *eP* **P** **17 26 14.9 +1.0**
VRAC Vranov 63.80 315 ⇑P **P** **17 26 15.5 +1.7**
VRAC Vranov 63.80 315 P **P** **17 26 15.5 +1.7**
KSP Ksiaz 63.81 316 *eP* pP 17 26 30.6 +2.8
DPC Dobruska-Polom 63.85 316 *ep*P pP 17 26 28.5 +0.3
KRUC Moravsky 63.95 314 *eP* **P** **17 26 15.1 +0.2**
SPITS Spitsbergen Ar 64.06 347 P **P** **17 26 15.3 +0.2**
comp=Z,16nm,1.0s,baz=89,slow=13,SNR=1.8
SPITS LR LR 17 59 43.9
comp=Z,169nm,18.4s,baz=70,slow=41
comp=Z,16nm,1.0s
RONA Rosalia, Austr 64.20 313 *i* P **P** **17 26 16.3 -0.3**
comp=Z,6.3nm,1.6s
RONA *i* pP **pP** **17 26 31.2 +0.7**
comp=Z,8.6nm,1.1s
CONA Conrad Observa 64.46 313 *i* P **P** **17 26 19.4 +1.1**
comp=Z,4.7nm,1.4s
CONA *ep*P **pP** **17 26 33.0 +0.8**
comp=Z,14nm,1.0s
HFS Hagfors 64.46 327 P **P** **17 26 18.5 +0.5**
comp=Z,3.3nm,0.4s,baz=121,slow=5.5,SNR=17
HFS pP **pP** **17 26 31.6 -0.4**
comp=Z,30nm,1.0s,baz=87,slow=6.4,SNR=7.2
HFS PcP **PcP** **17 26 52.4 +0.5**
comp=Z,8.1nm,0.6s,baz=103,slow=6.4,SNR=3.7
comp=Z,3.3nm,0.4s
ARSA Arzberg 64.78 313 *i* P **P** **17 26 19.2 -1.2**
comp=Z,2.7nm,1.0s
ARSA *i* pP **pP** **17 26 35.3 +1.0**
comp=Z,5.6nm,1.1s
MTSU Mount Surprise 64.91 125 P **P** **17 26 21.6 0.0**
comp=Z,13nm,0.8s
PVCC Panska Ves 64.94 316 P **P** **17 26 22.3 +1.0**
SOKA Soboth 65.20 312 *eP* **P** **17 26 23.2 0.0**
comp=Z,1.0nm,0.5s
SOKA *i* pP **pP** **17 26 37.7 +0.6**
comp=Z,6.7nm,0.9s
BRG Berggiesshubel 65.28 317 Amp 17 26 42.3
comp=Z,13nm,0.9s
BRG *eP* **pP** **17 26 38.3 +0.8**
TIP Timpagrande 65.30 304 P **P** **17 26 22.1 -1.8**
TIP Timpagrande 65.30 304 P pP 17 26 38.5 +0.6
comp=Z,12nm,1.0s
CKRC Cesky Krumlov 65.35 314 *ep*P pP 17 26 38.7 +0.7
MBAR Mbarara 65.47 258 LR LR 17 55 07.0
comp=Z,112nm,19.9s,baz=71,slow=36
NC602 NORSAR Array S 65.47 328 P **P** **17 26 23.4 -1.1**
NORES NORESS Array B 65.47 328 P **P** **17 26 27.7 +3.2**
MOA Molln 65.53 313 *i* P **P** **17 26 24.6 -0.6**
comp=Z,7.2nm,1.4s
MOA *i* pP **pP** **17 26 39.4 +0.2**
comp=Z,8.3nm,0.7s
OBKA Obir 65.56 312 *i* P **P** **17 26 24.5 -1.0**
comp=Z,3.7nm,1.2s
OBKA *i* pP **pP** **17 26 39.7 +0.2**
comp=Z,8.6nm,0.9s
NB2 NORSAR Subarra 65.60 328 P **P** **17 26 25.0 -0.4**
comp=Z,32nm,1.4s,baz=84,slow=6.5
NB2 NORSAR Subarra 65.60 328 P **P** **17 26 25.0 -0.4**
baz=84,slow=6.5
NOA NORSAR Array B 65.60 328 P **P** **17 26 25.3 -0.2**
comp=Z,1.7nm,0.7s,baz=85,slow=6.5,SNR=5.5
NOA pP **pP** **17 26 39.3 -0.2**
comp=Z,9.7nm,1.0s,baz=85,slow=6.6,SNR=11
NOA LR LR 17 58 04.7
comp=Z,204nm,20.2s,baz=85,slow=39
comp=Z,1.7nm,0.7s
OOD Oodnadatta 65.63 139 P **P** **17 26 26.6 +0.6**
HSKC Hora Svate Kat 65.64 316 *ep*P pP 17 26 42.0 +2.1
SHEM Shemya Is, Ala 65.73 41 LR LR 17 57 26.2
comp=Z,73nm,19.5s,baz=306,slow=38
GEC2 GERESS Array S 65.74 315 IAmb IAmb 17 26 44.0
comp=Z,15nm,0.8s
GERES GERESS Array B 65.74 315 P **P** **17 26 27.6 +0.9**
comp=Z,2.9nm,0.6s,baz=77,slow=5.8,SNR=13
GERES pP **pP** **17 26 41.0 +0.4**
comp=Z,13nm,0.8s,baz=76,slow=7.0,SNR=16
GERES LR LR 17 58 31.3
comp=Z,135nm,20.9s,baz=79,slow=39
comp=Z,2.9nm,0.6s
KHC Kasperske Hory 65.78 315 P **P** **17 26 25.2 -1.6**
KHC Kasperske Hory 65.78 315 *ep*P pP 17 26 43.1 +2.3
KHC Kasperske Hory 65.78 315 P **P** **17 26 25.2 -1.6**
KHC pmax pmax
comp=Z,12nm,1.2s
KHC Kasperske Hory 65.78 315 P pP 17 26 42.1 +1.3
comp=Z,10nm,1.8s
CLL Collm 65.81 317 P **P** **17 26 25.2 -1.7**
CLL Collm 65.81 317 P **P** **17 26 25.2 -1.7**

CLL pmax pmax
comp=Z,17nm,1.4s
CLL Collm 65.81 317 *i* pP **pP** **17 26 40.6 -0.3**
comp=Z,14nm,1.3s
CLL *i* sP sP 17 26 46.7 +0.2
CUC Castrocucco 65.85 305 P **P** **17 26 25.9 -1.5**
BIOA Bad Ischl, Aus 65.97 313 *eP* **P** **17 26 27.6 -0.5**
comp=Z,1.4nm,0.6s
BIOA *i* pP **pP** **17 26 41.8 -0.2**
comp=Z,4.3nm,0.6s
CEL Celeste 66.15 303 P pP 17 26 44.9 +1.5
comp=Z,45nm,1.1s
KBA Koelnbreinsper 66.28 313 *eP* **P** **17 26 30.0 -0.2**
comp=Z,1.0nm,0.5s
KBA *ep*P **pP** **17 26 43.9 -0.3**
comp=Z,13nm,1.3s
MULG Mulgathing 66.54 142 P **P** **17 26 32.2 +0.4**
LESA Schwarzleotal 66.66 313 *i* P **P** **17 26 32.5 0.0**
comp=Z,2.7nm,0.5s
LESA *i* pP **pP** **17 26 46.6 0.0**
comp=Z,7.5nm,0.5s
ABTA Abfaltersbach 66.90 312 *i* P **P** **17 26 33.9 -0.1**
comp=Z,2.4nm,1.0s
ABTA *i* pP **pP** **17 26 47.5 -0.5**
comp=Z,6.7nm,1.0s
CAMP Campotosto 67.11 308 P **P** **17 26 34.0 -1.5**
CAMP IAmb IAmb 17 27 02.9
comp=Z,15nm,0.8s
FDMO Fiordimonte 67.23 308 P **P** **17 26 35.4 -0.8**
FDMO IAmb IAmb 17 27 02.0
comp=Z,40nm,1.3s
NRCA Norcia 67.25 308 P **P** **17 26 34.9 -1.5**
NRCA IAmb IAmb 17 27 04.3
comp=Z,35nm,1.4s
WTTA Wattenberg 67.39 313 *eP* **P** **17 26 36.8 -0.5**
comp=Z,3.5nm,1.1s
WTTA *i* pP **pP** **17 26 50.9 -0.4**
comp=Z,17nm,1.1s
WATA Walderalm 67.41 313 *eP* **P** **17 26 36.4 -1.0**
comp=Z,2.3nm,0.7s
WATA *i* pP **pP** **17 26 51.4 -0.1**
comp=Z,12nm,1.4s
VAE Valguarnera 67.47 302 LR LR 18 00 14.9
comp=Z,89nm,19.1s,baz=102,slow=40
CTA Charters Tower 67.55 126 P **P** **17 26 38.6 +0.2**
CTA Charters Tower 67.55 126 P **P** **17 26 37.8 -0.6**
CTA pmax pmax
comp=Z,3.0nm,1.2s
CTAO Charters Tower 67.55 126 P **P** **17 26 36.6 -1.8**
CTAO Charters Tower 67.55 126 P **P** **17 26 38.4 0.0**
CTAO Charters Tower 67.55 126 P **P** **17 26 36.6 -1.8**
CTAO pmax pmax
comp=Z,50nm,1.4s
CTAO Charters Tower 67.55 126 P **P** **17 26 37.8 -0.6**
CTAO pP **pP** **17 26 51.3 -1.3**
CTAO sP **sP** **17 26 57.3 -0.9**
CTI Castel Tesino 67.62 312 P **P** **17 26 37.2 -1.5**
CTI Castel Tesino 67.62 312 P **P** **17 26 37.2 -1.5**
CTI pmax pmax
comp=Z,12nm,1.1s
SQTA Sankt Quirin 67.68 313 *i* P **P** **17 26 38.8 -0.3**
comp=Z,5.2nm,0.8s
SQTA *i* pP **pP** **17 26 52.6 -0.5**
comp=Z,12nm,0.8s
MOTA Moosalm 67.73 313 *eP* **P** **17 26 39.4 0.0**
comp=Z,4.3nm,0.8s
MOTA *i* pP **pP** **17 26 51.7 -1.8**
comp=Z,19nm,1.0s
RETA Reutte 67.92 313 *eP* **P** **17 26 40.3 -0.2**
comp=Z,2.7nm,0.6s
RETA *i* pP **pP** **17 26 52.7 -1.9**
comp=Z,11nm,0.8s
FETA Feichten 68.04 313 *i* P **P** **17 26 40.0 -1.4**
comp=Z,3.4nm,1.3s
FETA *ep*P **pP** **17 26 53.8 -1.6**
comp=Z,12nm,1.2s
DAVA Damuels 68.55 313 *eP* **P** **17 26 43.6 -0.9**
comp=Z,4.3nm,0.9s
DAVA *i* pP **pP** **17 26 57.2 -1.4**
comp=Z,22nm,1.2s
DAVOX Davos/Dischmat 68.66 313 LR LR 18 00 20.8
comp=Z,181nm,18.0s,baz=85,slow=39
INKA Innaminka 68.72 136 P **P** **17 26 46.7 +1.1**
LCRK Leigh Creek 69.07 139 P **P** **17 26 48.2 +0.5**
BBOO Buckleboo 69.57 143 P **P** **17 26 49.1 -1.7**
BBOO IAmb IAmb 17 26 51.3
comp=Z,21nm,0.7s
BBOO Buckleboo 69.57 143 P **P** **17 26 49.5 -1.2**
comp=Z,31nm,0.8s
BBOO Buckleboo 69.57 143 P **P** **17 26 50.2 -0.5**
QLP Quilpie 70.24 133 P **P** **17 26 55.4 +0.4**
comp=Z,77nm,0.9s
QLP Quilpie 70.24 133 P **P** **17 26 56.2 +1.2**
JMIC Jan Mayen 71.36 340 LR LR 18 02 06.6
comp=Z,93nm,19.9s,baz=40,slow=39
HTT Hallett 71.64 141 P **P** **17 27 03.4 -0.1**
comp=Z,27nm,1.2s
HTT Hallett 71.64 141 P **P** **17 27 03.5 +0.1**
DAG Danmarks Havn 71.71 347 *i* P **P** **17 27 04.5 +1.3**
KEST Kesra 71.86 302 P **P** **17 27 02.8 -2.1**
KEST IAmb IAmb 17 27 23.5
comp=Z,40nm,1.1s
KEST Kesra 71.86 302 P **P** **17 27 05.0 0.0**
comp=Z,4.0nm,0.9s,baz=135,slow=20,SNR=3.0
KEST pP **pP** **17 27 20.1 +1.1**
comp=Z,27nm,1.0s,baz=20,slow=2.4,SNR=12
KEST LR LR 18 06 05.0
comp=Z,68nm,18.8s,baz=353,slow=42
comp=Z,4.0nm,0.9s
STKA Stephens Creek 72.12 138 P **P** **17 27 05.2 -1.1**
STKA Stephens Creek 72.12 138 P **P** **17 27 06.0 -0.3**
comp=Z,4.2nm,1.1s
STKA Stephens Creek 72.12 138 P **P** **17 27 05.5 -0.7**
comp=Z,14nm,0.9s,baz=324,slow=6.8,SNR=28
STKA LR LR 18 02 49.8
comp=Z,135nm,19.2s,baz=296,slow=39
comp=Z,14nm,0.9s
STKA Stephens Creek 72.12 138 P **P** **17 27 06.0 -0.3**
STKA Stephens Creek 72.12 138 P **P** **17 27 05.2 -1.1**
STKA pmax pmax
comp=Z,11nm,1.6s
TATA Tatamba Isabel 72.27 108 P **P** **17 27 08.1 +0.6**
HNR Honiara 72.89 109 LR LR 18 00 10.1
comp=Z,19nm,18.3s,baz=6.0,slow=37
EKA Eskdalemuir Ar 74.25 324 P **P** **17 27 18.9 +0.3**
comp=Z,2.9nm,0.8s,baz=84,slow=7.2,SNR=3.3
EKA pP **PcP** **17 27 33.0 -0.2**
comp=Z,4.9nm,0.8s,baz=70,slow=6.0,SNR=4.8
comp=Z,2.9nm,0.8s
EIDS Eidsvold 74.28 127 P **P** **17 27 17.4 -1.7**
EIDS IAmb IAmb 17 27 20.4
comp=Z,18nm,0.8s
EIDS Eidsvold 74.28 127 P **P** **17 27 19.7 +0.6**
comp=Z,30nm,1.2s
EIDS Eidsvold 74.28 127 P **P** **17 27 19.3 +0.1**
CMSA Cobar Meteorol 74.45 136 P **P** **17 27 20.3 +0.3**
comp=Z,41nm,0.8s
CMSA Cobar Meteorol 74.45 136 P **P** **17 27 20.5 +0.5**
LSZ Lusaka 74.71 245 P **P** **17 27 21.3 -0.7**
LSZ IAmb IAmb 17 27 48.0
comp=Z,13nm,0.8s
LSZ Lusaka 74.71 245 P **P** **17 27 21.3 -0.7**
LSZ pmax pmax
comp=Z,13nm,0.8s
ARPS Mount Arapiles 75.70 142 P **P** **17 27 27.4 +0.4**
comp=Z,17nm,1.0s
ARPS Mount Arapiles 75.70 142 P **P** **17 27 27.8 +0.7**
EUNU Eureka 76.19 360 P **P** **17 27 29.2 -0.2**
EUNU IAmb IAmb 17 27 56.1
comp=Z,19nm,1.1s
F21K Alatna River 76.55 22 IAmb IAmb 17 28 12.7
comp=Z,17nm,1.0s
TOLK Toolik Lake Re 77.06 20 P **P** **17 27 34.4 -0.1**
TOLK IAmb IAmb 17 28 16.4
comp=Z,27nm,1.1s
MATP Matopo 77.11 241 LR LR 18 00 22.5
comp=Z,68nm,19.1s,baz=61,slow=35
H21K Melozitna Rive 77.59 23 P **P** **17 27 37.4 0.0**
H21K IAmb IAmb 17 28 16.2
comp=Z,35nm,1.3s
D25K Kavik River 77.62 18 IAmb IAmb 17 28 01.6
comp=Z,16nm,1.0s
ARMA Armidale 77.69 131 P **P** **17 27 40.2 +1.6**
E24K Your Creek 77.71 20 IAmb IAmb 17 28 20.3
comp=Z,20nm,0.8s
YNG Young 77.97 136 P **P** **17 27 41.7 +1.7**

C27K	Jago River	78.19	17	IAmb	IAmb	17 28 06.3	
	comp=Z,18nm,1.0s						
POGA	Pongola	78.43	233	P	P	17 27 41.9	-0.7
POGA				IAmb	IAmb	17 27 44.2	
	comp=Z,16nm,0.7s						
BORG	Borgarnes	78.44	337	LR	LR	18 03 53.5	
	comp=Z,67nm,18.1s,baz=70,slow=37						
MLY	Manley	78.65	23	P	P	17 27 43.6	+0.2
MLY				IAmb	IAmb	17 28 19.9	
	comp=Z,39nm,1.7s						
CAN	Canberra	79.01	137	P	P	17 27 45.2	-0.5
CAN				IAmb	IAmb	17 28 03.9	
	comp=Z,27nm,1.3s						
CAN	Canberra	79.01	137	P	P	17 27 46.2	+0.5
	comp=Z,14nm,1.4s						
CAN	Canberra	79.01	137	P	P	17 27 45.0	-0.7
CAN	Canberra	79.01	137	P	P	17 27 45.2	-0.5
CAN				pmax	pmax		
	comp=Z,27nm,1.3s						
MGCD	Mangrove Creek	79.05	134	P	P	17 27 46.5	+0.6
BPAW	Bear Paw Mtn.	79.07	24	P	P	17 27 45.3	-0.4
I23K	Minto, Yukon-K	79.08	23	P	P	17 27 45.0	-0.5
I23K				IAmb	IAmb	17 28 50.1	
	comp=Z,24nm,1.5s						
D27M	Malcolm River	79.18	17	P	P	17 27 45.2	-1.0
BMAR	Burnt Mountain	79.30	19	P	P	17 27 48.4	+1.5
IL31		80.16	22	P	P	17 27 51.4	0.0
ILAR	Eielson Array	80.16	22	P	P	17 27 51.4	-0.1
	comp=Z,1.9nm,0.7s,baz=299,slow=4.4,SNR=23						
ILAR				pP	pP	17 28 03.9	-1.9
	comp=Z,1.4nm,0.8s,baz=303,slow=4.7,SNR=6.0						
ILAR				LR	LR	18 05 58.1	
	comp=Z,102nm,18.1s,baz=276,slow=38						
	comp=Z,1.9nm,0.7s						
ILAR	Eielson Array	80.16	22	P	P	17 27 50.8	-0.7
PRP	Porcupine Dome	80.17	21	P	P	17 27 50.2	-1.5
ESDC	Sonseca Array	80.46	309	P	P	17 27 54.5	+0.8
	comp=Z,1.2nm,1.0s,baz=71,slow=4.4,SNR=3.4						
ESDC				pP	pP	17 28 08.9	+0.9
	comp=Z,2.7nm,1.0s,baz=54,slow=5.2,SNR=5.5						
ESDC				LR	LR	18 08 56.4	
	comp=Z,24nm,19.0s,baz=30,slow=40						
	comp=Z,1.2nm,1.0s						
F28M	Old Crow	80.57	18	P	P	17 27 52.5	-1.2
A36M	Sachs Harbour	80.69	11	P	P	17 27 53.6	-0.6
SML	Sawmill	81.37	25	IAmb	IAmb	17 28 20.5	
	comp=Z,37nm,1.3s						
RES	Resolute Bay	81.44	2	P	P	17 27 57.0	-1.1
RES	Resolute Bay	81.44	2	LR	LR	18 06 18.7	
	comp=Z,68nm,20.7s,baz=15,slow=37						
RES	Resolute Bay	81.44	2	P	P	17 27 57.0	-1.1
RES				pmax	pmax		
	comp=Z,10.0nm,1.1s						
J26L	Joseph Creek	81.45	22	P	P	17 27 57.5	-1.1
RIDG	Independent Ri	81.49	22	P	P	17 27 57.4	-1.3
SCRK	Sand Creek	81.64	22	IAmb	IAmb	17 28 29.4	
	comp=Z,20nm,1.3s						
LBTB	Lobatse	81.78	238	IAmb	IAmb	17 28 16.7	
	comp=Z,28nm,1.1s						
LBTB	Lobatse	81.78	238	LR	LR	18 01 43.9	
	comp=Z,114nm,21.8s,baz=56,slow=34						
INK	Inuvik	81.78	16	P	P	17 27 59.3	-0.7
INK				IAmb	IAmb	17 28 30.3	
	comp=Z,14nm,0.9s						
INK	Inuvik	81.78	16	LR	LR	18 11 03.2	
	comp=Z,148nm,19.2s,baz=243,slow=40						
INK	Inuvik	81.78	16	P	P	17 27 59.3	-0.7
INK				pmax	pmax		
	comp=Z,14nm,0.9s						
KDAK	Kodiak Island	81.83	30	LR	LR	18 08 35.4	
	comp=Z,110nm,20.1s,baz=165,slow=39						
PWL	Port Wells	81.92	26	P	P	17 27 59.9	-1.0
PWL				IAmb	IAmb	17 28 41.5	
	comp=Z,40nm,1.4s						
H29M	Whitestone	81.95	19	IAmb	IAmb	17 28 25.2	
	comp=Z,24nm,1.2s						
I28M	Miner Creek	82.01	20	IAmb	IAmb	17 28 28.3	
	comp=Z,41nm,1.6s						
G30M	tAoh Zraii Nji	82.03	18	IAmb	IAmb	17 28 25.9	
	comp=Z,26nm,0.9s						
EGAK	Eagle	82.07	21	IAmb	IAmb	17 28 42.4	
	comp=Z,17nm,1.1s						
K27K	Chicken	82.26	21	IAmb	IAmb	17 28 33.9	
	comp=Z,17nm,1.1s						
KLU	Klutina	82.48	25	P	P	17 28 04.4	+0.5
KLU				IAmb	IAmb	17 28 25.9	
	comp=Z,13nm,0.9s						
G31M	Satah River	82.61	17	IAmb	IAmb	17 28 34.3	
	comp=Z,16nm,1.0s						
N25K	Chitina, Valde	82.91	24	IAmb	IAmb	17 28 48.3	
	comp=Z,17nm,1.1s						
L27K	Beaver Creek,	82.97	22	IAmb	IAmb	17 28 28.5	
	comp=Z,23nm,1.2s						
BCAR	Beaver Creek A	82.98	22	P	P	17 28 06.3	-0.2
M26K	Nabesna, AK	82.99	23	P	P	17 28 06.1	-0.5
M26K				IAmb	IAmb	17 28 52.9	
	comp=Z,34nm,1.3s						
C36M	Paulatuk	83.09	13	P	P	17 28 06.4	-0.4
DAWY	Dawson	83.11	21	P	P	17 28 06.2	-1.0
DAWY				IAmb	IAmb	17 28 56.5	
	comp=Z,22nm,1.6s						
J29N	Klondike Camp	83.22	20	IAmb	IAmb	17 28 50.2	
	comp=Z,21nm,1.2s						
I30M	Mount Dempster	83.24	19	IAmb	IAmb	17 28 31.8	
	comp=Z,26nm,1.4s						
H31M	Peel River	83.41	18	IAmb	IAmb	17 28 33.1	
	comp=Z,25nm,0.9s						
M27K	Edge Creek, AK	83.42	23	IAmb	IAmb	17 28 31.5	
	comp=Z,22nm,1.1s						
MDT	Midelt	83.69	303	LR	LR	18 13 45.0	
	comp=Z,28nm,19.8s,baz=130,slow=42						
BOSA	Boshof	83.90	235	P	P	17 28 11.2	-0.7
BOSA				IAmb	IAmb	17 28 35.8	
	comp=Z,20nm,0.9s						
BOSA	Boshof	83.90	235	P	P	17 28 12.4	+0.6
	comp=Z,5.3nm,0.7s,baz=60,slow=3.0,SNR=13						
BOSA				pP	pP	17 28 26.2	-0.2
	comp=Z,10nm,0.9s,baz=52,slow=5.0,SNR=8.3						
BOSA				LR	LR	18 00 56.4	
	comp=Z,135nm,21.1s,baz=56,slow=32						
	comp=Z,5.3nm,0.7s						
BOSA	Boshof	83.90	235	P	P	17 28 11.2	-0.7
BOSA				pmax	pmax		
	comp=Z,20nm,0.9s						
TGL	Tana Glacier	84.11	24	IAmb	IAmb	17 28 58.1	
	comp=Z,25nm,1.0s						
SFJD	Kangerlussuaq	85.39	347	LR	LR	18 13 12.1	
	comp=Z,100nm,18.1s,baz=17,slow=40						
N30M	Aishikik Lake	85.69	22	IAmb	IAmb	17 28 42.9	
	comp=Z,14nm,1.1s						
TORD	Torodi Ar. Bea	86.33	283	P	P	17 28 25.2	+1.0
	comp=Z,1.1nm,0.7s,baz=42,slow=4.8,SNR=7.0						
TORD				pP	pP	17 28 39.1	+0.5
	comp=Z,3.1nm,0.9s,baz=44,slow=5.4,SNR=9.6						
TORD				LR	LR	18 10 47.3	
	comp=Z,65nm,18.3s,baz=104,slow=38						
	comp=Z,1.1nm,0.7s						
O30N	Mendenhall	86.52	22	P	P	17 28 25.2	+0.8
O30N				IAmb	IAmb	17 28 55.4	
	comp=Z,12nm,0.9s						
SUR	Sutherland	89.10	234	LR	LR	18 03 49.8	
	comp=Z,179nm,22.0s,baz=58,slow=32						
DLBC	Dease Lake	90.32	21	LR	LR	18 14 49.0	
	comp=Z,115nm,19.3s,baz=304,slow=39						
YKA	Yellowknife Ar	90.97	13	LR	LR	18 14 17.1	
	comp=Z,54nm,18.1s,baz=334,slow=39						
FRB	Frobisher Bay	91.44	352	LR	LR	18 14 23.5	
	comp=Z,68nm,19.2s,baz=40,slow=38						
MAW	Mawson	94.09	191	P	P	17 29 00.2	+0.9
	comp=Z,0.8nm,0.7s,baz=43,slow=10,SNR=2.7						
MAW				LR	LR	18 05 48.7	
	comp=Z,34nm,20.1s,baz=25,slow=32						
	comp=Z,0.8nm,0.7s						
DBIC	Dimbokro	94.86	279	P	P	17 29 05.4	+1.2
	comp=Z,3.0nm,0.9s,baz=59,slow=5.9,SNR=2.0						
DBIC				LR	LR	18 15 34.6	
	comp=Z,71nm,18.5s,baz=47,slow=38						
	comp=Z,3.0nm,0.9s						
BBB	Bella Bella	95.92	24	LR	LR	18 16 05.3	
	comp=Z,102nm,18.8s,baz=336,slow=38						
PDAR	Pinedale Array	110.29	18	PKiKP	PKiKP	17 34 13.8	0.0
	comp=Z,0.3nm,0.6s,baz=207,slow=0.7,SNR=4.1						
NVAR	Mina Array Bea	111.15	26	PKiKP	PKiKP	17 34 16.6	+1.0
	comp=Z,0.6nm,0.5s,baz=292,slow=1.2,SNR=9.0						
QSPA	South Pole Qui	113.78	180	PKiKP	PKiKP	17 34 19.0	-0.4
	comp=Z,0.6nm,0.5s,baz=304,slow=2.5,SNR=8.1						
SNAA	Sanae	114.52	200	PKiKP	PKPdf	17 34 20.2	-0.4
	comp=Z,1.0nm,0.8s,baz=13,slow=18,SNR=1.9						
TXAR	Lajitas Array	124.50	18	PKP	PKiKP	17 34 41.6	0.0
	comp=Z,1.7nm,0.7s,baz=181,slow=1.2,SNR=7.3						
BDFB	Brasilia	142.90	276	PKP	PKPdf	17 35 17.2	+1.3
	comp=Z,1.7nm,0.5s,baz=74,slow=20,SNR=1.5						
LCR2	La Lucha 2	146.40	355		PKPdf	17 35 18.3	-3.9
ROSC	El Rosal	148.98	336		PKPdf	17 35 22.8	-3.9
ROSC					PKiKP	17 35 31.9	-0.2
ROSC	El Rosal	148.98	336	PKPbc	PKPbc	17 35 30.7	-0.1
	comp=Z,15nm,0.6s,baz=306,slow=5.1,SNR=6.3						
ROSC	El Rosal	148.98	336	PKHKP	PKPpre	17 35 22.8	
ROSC						17 35 31.9	
CPUP	Villa Florida	153.47	259	PKP	PKPdf	17 35 33.5	+0.8
	comp=Z,0.7nm,0.5s,baz=129,slow=6.5,SNR=1.0						
CPUP				PKPbc	PKiKP	17 35 40.5	+0.1
	comp=Z,2.2nm,0.6s,baz=80,slow=1.9,SNR=5.0						
CPUP				PKPab	sPKPdf	17 35 54.0	+0.9
	comp=Z,3.7nm,0.9s,baz=51,slow=1.6,SNR=4.7						
PLCA	Paso Flores	158.56	215	PKP	PKPdf	17 35 40.7	+1.6
	comp=Z,2.5nm,1.2s,baz=165,slow=19,SNR=1.8						
PLCA				PKPab	PKPab	17 36 14.3	0.0
	comp=Z,2.4nm,1.1s,baz=135,slow=2.9,SNR=3.0						
LPAZ	La Paz	161.10	290	PKP	PKPdf	17 35 43.9	+0.6
	comp=Z,1.4nm,0.9s,baz=22,slow=6.9,SNR=2.4						

TRN 10 17:30:15.6, 17.°47N×61.°29W, h12km, MD3.6, South-east of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	Willy Bob	0.51	293	eP	Pb	17 30 27.4	+0.8
ANWB				eS	Sn	17 30 37.6	+0.2
ANBD	Bethesda, Anti	0.62	227	eP	Pn	17 30 30.6	+0.3
ANBD				eS	Sn	17 30 40.8	+0.7
MBWH		1.13	230	eP	Pg	17 30 38.7	+1.4
MBWH				eS	Sn	17 30 56.3	+3.7
MBFL	Flemmings, Mon	1.14	231	eP	Pg	17 30 39.2	+1.7
MBFL				eS	Sn	17 30 56.6	+3.7
SKI	Saint Kitts	1.39	265	eP	Pg	17 30 42.5	+0.1
SKI				eS	Sg	17 31 02.4	+1.9
TBG	Guadaloupe-3	1.65	192	eP	Pb	17 30 46.3	+0.4
TBG				eS	Sg	17 31 09.0	+0.3

*IDC **10** 17:33:08.0±0.9, 6.°85S×121.°41E, h489km±14km, mb2.8/4, mbtmp3.5/7, Error ellipse: s-maj=57.3km s-min=14.9km az=54.0*

ISC 10 17:33:08.4±1.0, 6.°9S±0.°2×121.°4E±0.°2, h500km, n9, σ1°08/10, mb3.5/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	2.52	318	P	P	17 34 15.4	-1.0
	7.2nm,0.4s,baz=170,slow=5.7,SNR=3.8						
BATI	Baumata	3.94	146	P	P	17 34 26.6	+0.3
	74nm,0.3s,baz=334,slow=13,SNR=44						
BATI				S	S	17 35 28.5	-1.4
	19nm,0.4s,baz=32,slow=18,SNR=7.1						
FITZ	Fitzroy Crossi	11.85	160	P	P	17 35 45.0	-0.3
	0.8nm,0.4s,baz=344,slow=9.0,SNR=8.2						
LEM	Lembang	13.72	270	P	P	17 36 05.6	+0.1
	16nm,0.6s,baz=338,slow=11,SNR=5.2						
WRA	Warramunga Arr	18.01	137	P	P	17 36 51.0	+2.0
	0.2nm,0.4s,baz=316,slow=11,SNR=8.8						
ASAR	Alice Springs	20.52	146	P	P	17 37 12.6	+0.8
	0.4nm,0.9s,baz=319,slow=8.5,SNR=6.3						
	0.4nm,0.9s						
MKAR	Makanchi Array	63.76	331	P	P	17 42 50.9	+0.3
	0.8nm,0.6s,baz=135,slow=7.4,SNR=8.2						
	0.8nm,0.6s						
ZALV	Zalesovo Beam	68.00	338	P	P	17 43 16.8	-0.1
	0.7nm,0.4s,baz=139,slow=4.8,SNR=4.5						
	0.7nm,0.4s						
KURBB	Kurchatov Arra	68.22	332	P	P	17 43 17.9	-0.4
	0.4nm,0.5s,baz=132,slow=5.2,SNR=4.0						
	0.4nm,0.5s						

UPA 10 17:34:22.0±1.0, 8.°15N×82.°79W, h45km±6km, MW3.8, 1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	Petroterminale	0.10	301	↑iP	Pn	17 34 29.7	+0.4
PTPM				eS	Sn	17 34 34.3	0.0
PIRO	Carate, Puerto	0.59	295	eP	Pn	17 34 34.7	+0.5
PIRO				eS	Sn	17 34 42.2	-0.7
PTJ1	Puerto Jimnez	0.63	307	eP	Pn	17 34 33.7	-1.0
PTJ1				eS	Sn	17 34 44.1	+0.3
BRU2	Volcan	0.65	9	eP	Pn	17 34 35.2	+0.1
BRU2				eS	Sn	17 34 45.2	+0.8
LNBQ3	Los Naranjos,	0.72	29	eP	Pn	17 34 35.0	-1.0
DRK0	Durika	1.19	338	eP	Pn	17 34 42.5	0.0
DRK0				eS	Sn	17 34 57.9	+0.4

*IDC **10** 17:46:49.2±6.8, 7.°89S×127.°63E, h214km±75km, mb2.9/3, mbtmp3.8/7, Error ellipse: s-maj=82.3km s-min=22.3km az=42.0*

ISC 10 17:46:47.9±1.3, 7.°95S±0.°10×127.°8E±0.°1, h200km, n7, σ1°84/10, mb3.2/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	4.64	241	P	Pn	17 47 58.7	+0.8
	18nm,0.3s,baz=53,slow=3.4,SNR=17						
BATI				S	Sn	17 48 53.5	+0.6
	25nm,0.4s,baz=76,slow=4.7,SNR=18						
FITZ	Fitzroy Crossi	10.30	191	P	Pn	17 49 11.3	+0.2
	5.2nm,0.6s,baz=20,slow=11,SNR=32						
FITZ				S	Sn	17 51 03.4	-2.9
	2.7nm,0.3s,baz=287,slow=18,SNR=5.8						
WRA	Warramunga Arr	13.51	153	P	Pn	17 49 53.0	+1.0
	1.3nm,0.6s,baz=324,slow=14,SNR=7.1						
WRA				S	S	17 52 16.9	-5.6
	3.6nm,0.7s,baz=325,slow=24,SNR=9.7						
ASAR	Alice Springs	16.70	160	P	Pn	17 50 33.1	+2.4
	2.1nm,0.5s,baz=338,slow=11,SNR=53						
ASAR				S	S	17 53 34.0	+0.1
	0.3nm,0.3s,baz=344,slow=26,SNR=1.7						
MKAR	Makanchi Array	67.83	328	P	P	17 57 22.2	-2.3
	0.3nm,0.7s,baz=116,slow=6.6,SNR=2.0						
	0.3nm,0.7s						
ZALV	Zalesovo Beam	71.48	335	P	P	17 57 47.1	+0.5
	0.3nm,0.4s,baz=150,slow=6.7,SNR=1.9						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	72.18	330	P	P	17 57 49.5	-1.4
	0.1nm,0.4s,baz=131,slow=5.5,SNR=2.7						
	0.1nm,0.4s						

*IDC **10** 17:49:06.3±2.4, 23.°90N×145.°25E, h0km, mb3.6/7, mbtmp3.6/8, ML2.1/1, Error ellipse: s-maj=80.3km s-min=23.7km az=79.0*

ISC 10 17:49:07.7±2.1, 23.°9N±0.°2×145.°2E±0.°5, h10km, n8, σ1°13/8, mb3.7/7, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	13.94	336	Pn	Pn	17 52 24.6	-0.8
	baz=163,slow=12,SNR=2.0						
	1.7nm,0.9s						
CMAR	Chiang Mai Arr	43.36	272	P	P	17 57 10.2	-0.3
	0.2nm,0.4s,baz=69,slow=8.0,SNR=1.7						
	0.2nm,0.4s						
WRA	Warramunga Arr	44.90	195	P	P	17 57 22.5	-0.1
	0.7nm,0.6s,baz=8.3,slow=7.7,SNR=4.9						
	0.7nm,0.6s						
ASAR	Alice Springs	48.59	194	P	P	17 57 51.3	-0.3
	0.1nm,0.3s,baz=17,slow=13,SNR=1.7						
	0.1nm,0.3s						
MKAR	Makanchi Array	54.61	311	P	P	17 58 36.2	-0.3
	0.1nm,0.4s,baz=71,slow=9.1,SNR=1.9						
	0.1nm,0.4s						
KURBB	Kurchatov Arra	57.21	316	P	P	17 58 55.3	+0.3
	0.5nm,0.6s,baz=92,slow=7.5,SNR=7.0						
	0.5nm,0.6s						
BVAR	Borovoye Array	62.22	319	P	P	17 59 31.7	+2.2
	2.1nm,0.7s,baz=93,slow=5.9,SNR=6.6						
	2.1nm,0.7s						
FINES	FINESS Array B	81.97	335	P	P	18 01 26.8	-0.7
	2.6nm,0.9s,baz=57,slow=5.1,SNR=2.0						
	2.6nm,0.9s						

*IDC **10** 17:57:31.1±1.0, 22.°07N×145.°58E, h0km, mb3.7/12, mbtmp3.7/14, ML3.3/2, MS3.2/8, Error ellipse: s-maj=30.4km s-min=18.4km az=79.0*

ISC 10 17:57:36.4±1.0, 22.°0N±0.°1×145.°5E±0.°2, h36km, n24, σ0°82/14, mb3.8/12, MS3.2/7, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	15.79	338	Pn	Pn	18 01 16.2	+0.1
	baz=160,slow=13,SNR=2.2						
	1.4nm,0.9s						
JOW	Kunigami	16.42	290	LR	LR	18 06 37.7	
	comp=Z,110nm,19.6s,baz=140,slow=33						
JNU	Nakatsue	17.03	314	Pn	Pn	18 01 31.4	-0.4
	0.2nm,0.3s,baz=134,slow=10.0,SNR=2.1						
	5.2nm,1.0s						
H11N1	WAKE ISLAND Hy	20.09	93	T	T	18 23 32.6	
	baz=283						
H11N2	WAKE ISLAND Hy	20.09	93	T	T	18 23 33.1	
H11N3	WAKE ISLAND Hy	20.11	93	T	T	18 23 32.1	
	baz=283						
H11S3	WAKE ISLAND Hy	20.16	96	T	T	18 23 35.2	
	baz=284,slow=75,SNR=10						
H11S1	WAKE ISLAND Hy	20.16	96	T	T	18 23 35.9	
	baz=284,slow=75,SNR=6.4						
H11S2	WAKE ISLAND Hy	20.17	96	T	T	18 23 38.4	
	baz=284,slow=75,SNR=6.5						
KSRS	Korea Array	21.62	319	P	P	18 02 24.5	+1.1
	2.3nm,0.8s,baz=141,slow=9.5,SNR=16						
KSRS				LR	LR	18 10 23.6	
	comp=Z,59nm,20.8s,baz=250,slow=36						
	2.3nm,0.8s						
PETK	Petropavlovsk-	32.39	14	LR	LR	18 17 39.8	
	comp=Z,37nm,19.2s,baz=241,slow=37						
HNR	Honiara	34.32	154	LR	LR	18 17 39.2	
	comp=Z,45nm,20.4s,baz=349,slow=35						
SONM	Songino Array	40.49	319	P	P	18 05 12.6	+0.8
	0.3nm,0.5s,baz=140,slow=9.2,SNR=2.1						
	0.3nm,0.5s						
WRA	Warramunga Arr	43.13	195	P	P	18 05 34.0	+0.5
	1.9nm,1.0s,baz=11,slow=8.7,SNR=12						
	1.9nm,1.0s						
CMAR	Chiang Mai Arr	43.73	274	P	P	18 05 36.8	-1.6
	0.3nm,0.3s,baz=39,slow=7.6,SNR=5.0						
CMAR				LR	LR	18 22 20.4	
	comp=Z,20nm,21.4s,baz=100,slow=34						
	0.3nm,0.3s						
ASAR	Alice Springs	46.81	195	P	P	18 06 03.7	+0.9
	0.6nm,0.6s,baz=16,slow=8.5,SNR=12						
ASAR				LR	LR	18 27 20.8	
	comp=Z,30nm,18.1s,baz=354,slow=38						
	0.6nm,0.6s						
ZALV	Zalesovo Beam	55.31	321	P	P	18 07 06.2	-0.1
	0.4nm,0.4s,baz=111,slow=7.9,SNR=2.4						
	0.4nm,0.4s						
MKAR	Makanchi Array	56.08	312	P	P	18 07 12.2	+0.2
	1.2nm,0.8s,baz=98,slow=8.7,SNR=7.8						
	1.2nm,0.8s						
KDAK	Kodiak Island	56.69	34	LR	LR	18 28 48.0	
	comp=Z,24nm,21.6s,baz=189,slow=33						
KURBB	Kurchatov Arra	58.77	317	P	P	18 07 30.4	-0.4
	0.6nm,0.5s,baz=94,slow=7.8,SNR=9.3						
	0.6nm,0.5s						
ILAR	Eielson Array	60.75	27	P	P	18 07 44.1	-0.1
	0.2nm,0.7s,baz=260,slow=6.9,SNR=1.9						
ILAR				LR	LR	18 33 35.6	
	comp=Z,23nm,19.4s,baz=108,slow=36						
	0.2nm,0.7s						
BVAR	Borovoye Array	63.83	319	P	P	18 08 04.6	-0.5
	1.8nm,0.6s,baz=101,slow=7.7,SNR=8.7						
	1.8nm,0.6s						
NVAR	Mina Array Bea	81.22	52	P	P	18 09 48.3	-0.8
	0.2nm,0.4s,baz=238,slow=5.2,SNR=2.2						
	0.2nm,0.4s						
FINES	FINESS Array B	83.81	335	P	P	18 10 02.4	+0.6
	1.3nm,0.7s,baz=28,slow=8.6,SNR=3.7						
	1.3nm,0.7s						

GUC 10 18:03:45.0±0.6, 35.°51S×71.°24W, h108km±2km, ML3.8, 7C-4D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ML02	Panimavida	0.29	211	↑iP	Pn	18 04 00.2	-0.2
ML02				iS	Sn	18 04 11.9	-0.2
ML02				iS		18 04 11.9	
ML02				IAML		18 04 12.4	
	comp=E,12μm,0.3s						
GO05	Hualane	0.76	311	↑iP	Pn	18 04 03.5	-0.2
GO05				iS	Sn	18 04 17.6	-0.2
GO05				IAML		18 04 18.8	
	comp=E,1μm,0.3s						
BO02	Sierra Bellavi	0.81	27	↑iP	Pn	18 04 03.8	-0.4
BO02				iS	Sn	18 04 18.1	-0.6
BO02				IAML		18 04 19.9	
	comp=N,4μm,0.3s						
BO01	Tunca	1.13	6	↑iP	Pn	18 04 07.0	-0.3
BO01				iS	Sn	18 04 23.5	-0.8
BO01				IAML		18 04 23.9	
	comp=E,2μm,0.2s						
BI02	San Fabin de	1.15	182	↓iP	Pn	18 04 07.3	-0.4
BI02				iS	Sn	18 04 24.2	-0.7
BO03	Pichilemu	1.18	329	↑iP	Pn	18 04 08.2	+0.2
BO03				iS	Sn	18 04 24.8	-0.5
BO03				IAML		18 04 27.8	
	comp=N,1μm,0.3s						
BO04	La Punta	1.61	19	eP	Pn	18 04 12.9	-0.1
BO04				eS	Sn	18 04 34.0	-0.3
BO04				IAML		18 04 36.7	
	comp=E,512nm,0.2s						
MT01	Popeta	1.65	360	↑iP	Pn	18 04 13.1	-0.4
MT01				iS	Sn	18 04 34.1	-1.0
MT01				IAML		18 04 36.1	
	comp=E,2μm,0.3s						
MT09	Talagante	1.75	7	eP	Pn	18 04 14.5	-0.3
MT09				iS	Sn	18 04 36.3	-1.3
MT09				IAML		18 04 40.3	
	comp=N,1μm,0.1s						
MT12	Pirque	1.86	18	eP	Pn	18 04 16.2	-0.1
MT12				iS	Sn	18 04 39.6	-0.4
MT12				IAML		18 04 43.6	
	comp=E,676nm,0.3s						
LMEL	Las Melosas	1.87	27	eP	Pn	18 04 16.4	0.0
LMEL				eS	Sn	18 04 41.3	+1.0
LMEL				IAML		18 04 44.6	
	comp=N,553nm,0.2s						
VA05	Santo Domingo	1.88	350	eP	Pn	18 04 15.9	-0.4
VA05

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VA01  Torpederas      2.51 352⇑iP      Pn    18 04 24.2  -0.2
VA01                        i S        Sn    18 04 53.9  -0.9
VA01                        IAML             18 04 59.3
      comp=N,446nm,0.3s
```

*IDC **10** 18:06:43.7±5.2,32.°56S×179.°05W,h34km±39km,mb3.9/3, mbtmp4.1/4,ML4.2/2,MS3.4/2,Error ellipse: s-maj=34.0km s-min=23.4km az=111.0*

*NEIC **10** 18:06:44.3±2.7,32.°83S±0.°05×179.°0W±0.°2,h35km±1km, mb4.6/12,Error ellipse: s-maj=21.6km s-min=7.3km az=261.0*

ISC 10 18:06:44.1±0.8,32.°67S±0.°09×179.°1W±0.°1,h35km,n35, σ1$25/30,mb4.4/9,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.54**	**16**	Pn	**Pn**	**18 07 35.2**	**-1.4**
	56nm,0.3s,baz=38,slow=19,SNR=1.9						
RAO				Sn	Sn	18 08 08.1	-9.1
	213nm,0.3s,baz=130,slow=22,SNR=5.4						
MXZ	**Matakaoa Point**	**5.34**	**203**	Pn	**Pn**	**18 08 01.0**	**-0.3**
URZ	**Urewera**	**6.40**	**208**	Pn	**Pn**	**18 08 15.9**	**+0.1**
	1.7nm,0.3s,baz=358,slow=5.7,SNR=17						
URZ				Sn	**Sn**	**18 09 28.1**	**+0.6**
	3.0nm,0.3s,baz=310,slow=3.8,SNR=8.0						
	6.2nm,0.4s						
RTZ	**Ruatahuna**	**6.75**	**207**		**Pn**	**18 08 20.5**	**-0.3**
BKZ	**Black Stump Fm**	**7.42**	**208**	Pn	**Pn**	**18 08 29.4**	**-0.5**
BFZ	**Birch Farm**	**8.84**	**204**	Pn	**Pn**	**18 08 46.7**	**-2.7**
TUWZ	**Tuamarina**	**10.38**	**211**	Pn	**Pn**	**18 09 07.4**	**-3.0**
NIUE	**Niue**	**15.82**	**33**		**Pn**	**18 10 25.1**	**+0.9**
ARMA	**Armidale**	**25.05**	**267**	P	**P**	**18 12 04.3**	**-0.9**
ARMA				IAmb	IAmb	18 12 06.0	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**33.15**	**261**	LR	LR	18 25 23.1	
	comp=Z,43nm,18.7s,baz=202,slow=34						
CTAO	**Charters Tower**	**33.35**	**283**	P	**P**	**18 13 21.5**	**+2.4**
CTAO				IAmb	IAmb	18 14 00.6	
	comp=Z,23nm,1.4s						
COEN	**Coen**	**39.09**	**289**	P	**P**	**18 14 09.4**	**+1.2**
COEN				IAmb	IAmb	18 14 48.4	
	comp=Z,23nm,1.4s						
AS31	**Alice Springs**	**42.14**	**270**	P	**P**	**18 14 32.7**	**-0.6**
ASAR	**Alice Springs**	**42.14**	**270**	P	**P**	**18 14 32.5**	**-0.8**
ASAR	**Alice Springs**	**42.14**	**270**	P	**P**	**18 14 33.5**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=112,slow=7.7,SNR=26						
ASAR				PcP	**PcP**	**18 16 25.4**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=109,slow=5.0,SNR=1.8						
	comp=Z,0.9nm,0.5s						
WB2	**Warramunga Arr**	**43.33**	**275**	P	**P**	**18 14 43.2**	**+0.3**
WRA	**Warramunga Arr**	**43.34**	**275**	P	**P**	**18 14 42.9**	**-0.1**
	comp=Z,2.5nm,0.4s,baz=115,slow=7.9,SNR=47						
	comp=Z,2.5nm,0.4s						
WB0	**Warramunga Arr**	**43.37**	**275**	P	**P**	**18 14 43.3**	**+0.1**
WB0				IAmb	IAmb	18 14 44.5	
	comp=Z,5.7nm,0.7s						
MTN	**Manton Dam**	**49.49**	**282**	P	**P**	**18 15 31.3**	**0.0**
MTN				IAmb	IAmb	18 15 40.7	
	comp=Z,13nm,1.2s						
KNRA	**Kununurra**	**50.02**	**277**	P	**P**	**18 15 35.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**51.49**	**272**	P	**P**	**18 15 46.9**	**+0.4**
QSPA	**South Pole Qui**	**57.45**	**180**	P	**P**	**18 16 31.0**	**+1.8**
QSPA				IAmb	IAmb	18 16 32.0	
	comp=Z,5.1nm,1.2s						
SNAA	**Sanae**	**75.92**	**179**	P	**P**	**18 18 26.4**	**-0.3**
SNAA				IAmb	IAmb	18 19 00.4	
	comp=Z,6.4nm,1.5s						
SNAA	**Sanae**	**75.92**	**179**	P	**P**	**18 18 28.2**	**+1.4**
	comp=Z,1.3nm,0.9s,baz=218,slow=22,SNR=2.1						
	comp=Z,1.3nm,0.9s						
H03S2	**Juan Fernandez**	**79.97**	**124**	T	T	19 47 14.1	
	baz=236,slow=74,SNR=23						
H03S1	**Juan Fernandez**	**79.98**	**124**	T	T	19 47 15.5	
	baz=236,slow=74,SNR=18						
H03S3	**Juan Fernandez**	**79.99**	**124**	T	T	19 47 13.7	
	baz=236,slow=74,SNR=17						
H03N3	**Juan Fernandez**	**80.17**	**123**	T	T	19 47 24.0	
	baz=241,slow=72,SNR=7.5						
H03N2	**Juan Fernandez**	**80.18**	**123**	T	T	19 47 33.8	
	baz=241,slow=72,SNR=7.5						
H03N1	**Juan Fernandez**	**80.19**	**123**	T	T	19 47 34.8	
	baz=241,slow=72,SNR=15						
PLCA	**Paso Flores**	**81.62**	**133**	LR	LR	18 49 29.1	
	comp=Z,31nm,18.4s,baz=1.5,slow=31						
FIA1	**FINESS Array S**	**146.93**	**338**	PKPdf	**PKPdf**	**18 26 20.6**	**+0.5**
FINES	**FINESS Array B**	**146.93**	**338**	PKPbc	**PKPdf**	**18 26 20.2**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=46,slow=3.7,SNR=18						
HFS	**Hagfors**	**151.26**	**347**	PKPbc	**PKPbc**	**18 26 31.7**	**-1.4**
	comp=Z,2.1nm,0.9s,baz=57,slow=5.3,SNR=1.6						
HFS				PKPab	**sPKPdf**	**18 26 40.6**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=60,slow=3.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**160.56**	**182**	PKPab	**PKPab**	**18 27 22.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=170,slow=4.6,SNR=3.2						

*TRN **10** 18:10:36.8,17.°57N×61.°23W,h15km,MD4.5,East of Barbuda.*

*NEIC **10** 18:10:38.2±1.8,17.°57N±0.°04×61.°23W±0.°05,h24km±4km, mb4.5/51,Mwr4.3/30,Error ellipse: s-maj=8.6km s-min=3.4km az=57.0,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}-0.44; $M_{\theta\theta}$0.40; $M_{\phi\phi}$0.04; $M_{r\theta}$-2.86; $M_{r\phi}$0.45; $M_{\theta\phi}$2.90; Fault plane solution: $M_0$4.12000×10^15^ NP1:ϕ_s134.68000°,δ_{89}.25000°, λ-87.36000°. NP2:ϕ_s240.60000°,δ_2.75000°, λ-164.06000°. Principal axes: T 3.7423, Plg44.0000°, Azm222.0000°; N 0.6742, Plg3.0000°, Azm315.0000°; P -4.4166, Plg46.0000°, Azm47.0000°;*

*NEIC **10** 18:10:38.5,17.°58N×61.°23W,h26km*

*IDC **10** 18:10:40.5±2.0,17.°52N×61.°24W,h42km±20km,mb3.8/17, mbtmp4.1/22,ML3.6/5,MS3.6/17,Error ellipse: s-maj=18.0km s-min=14.2km az=48.0*

ISC 10 18:10:37.8±1.5,17.°60N±0.°04×61.°20W±0.°05,h25km±10km, n157,σ1$31/160,mb4.5/39,MS3.6/12,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.56**	**278**	Pg	**Pb**	**18 10 49.5**	**+0.4**
ANWB					**Pb**	**18 10 49.8**	**+0.6**
ANWB				Sg	**Sb**	**18 10 57.1**	**+0.4**
ANWB	**Willy Bob**	**0.56**	**278**	eP	**Pb**	**18 10 49.7**	**+0.6**
ANWB				eS	**Sn**	**18 10 59.8**	**+1.0**
ANBD	**Bethesda, Anti**	**0.77**	**225**	eP	**Pb**	**18 10 53.1**	**+0.6**
ANBD				eS	**Sn**	**18 11 05.7**	**+1.9**
ABD	**La Joyeuse, An**	**1.15**	**194**		**Pn**	**18 10 58.3**	**0.0**
ABD					**Sn**	**18 11 12.5**	**-0.7**
MBWH		**1.27**	**228**	eP	**Pn**	**18 11 00.8**	**+0.7**
MBWH				eS	**Sb**	**18 11 18.5**	**+1.4**
H05N1	**Guadeloupe/Mar**	**1.28**	**174**	P	**Pn**	**18 11 00.3**	**+0.1**
	SNR=5045						
H05N1				S	**Sn**	**18 11 16.4**	**-0.2**
GDSD	**La Dsirade Is**	**1.28**	**174**		**Pn**	**18 11 00.2**	**0.0**
GDSD				Sn	**Sn**	**18 11 17.1**	**+0.5**
MBFL	**Flemmings, Mon**	**1.28**	**229**	eP	**Pn**	**18 11 01.2**	**+1.0**
GDHS	**Morne Mazeau,**	**1.42**	**202**		**Pn**	**18 11 02.2**	**+0.1**
SKI	**Saint Kitts**	**1.49**	**260**	eP	**Pn**	**18 11 04.1**	**+1.0**
SKI				eS	**Sb**	**18 11 25.0**	**+1.6**
SKOC	**St. Kitts, UWI**	**1.49**	**259**	eP	**Pb**	**18 11 05.3**	**+0.4**
SKOC				eS	**Sb**	**18 11 23.9**	**+0.4**
CBE	**Ff, Capester**	**1.57**	**194**		**Pn**	**18 11 04.8**	**+0.7**
SEUS	**St. Eustatius**	**1.70**	**267**		**Pn**	**18 11 06.7**	**+0.7**
TBG	**Guadaloupe-3**	**1.79**	**194**	eP	**Pn**	**18 11 09.0**	**+1.9**
TBG				eS	**Sb**	**18 11 32.0**	**+0.1**
TDBA	**Terre de Bas,**	**1.79**	**194**		**Pn**	**18 11 07.5**	**+0.4**
SMRT	**St. Maarten**	**1.84**	**285**	Pn	**Pn**	**18 11 08.7**	**+0.8**
SABA	**Saba**	**1.95**	**271**		**Pn**	**18 11 09.7**	**+0.3**
ILAM	**Ilet Lapin Mar**	**2.82**	**174**	Pn	**Pn**	**18 11 21.2**	**-0.1**
FDF	**Fort de France**	**2.85**	**179**		**Pn**	**18 11 22.2**	**+0.4**
BIM	**Bigot**	**3.06**	**178**		**Pn**	**18 11 25.4**	**+0.6**
BIM	**Bigot**	**3.06**	**178**	eP	**Pn**	**18 11 27.3**	**+2.5**
BIM				eS	**Sn**	**18 12 03.4**	**+2.7**
MPOM	**Morne Pois Mar**	**3.15**	**174**		**Pn**	**18 11 26.7**	**+0.8**
H05S1	**Guadeloupe/Mar**	**3.17**	**174**	P	**Pn**	**18 11 27.8**	**+1.6**
	SNR=122						
H05S1				S	**Sn**	**18 12 03.4**	**+0.1**
SLBI	**Saint Lucia, B**	**3.56**	**176**	eP	**Pn**	**18 11 33.0**	**+1.5**
SLBI				eS	**Sn**	**18 12 15.3**	**+2.5**
SLAC	**Saint Lucia, A**	**3.69**	**175**	eP	**Pn**	**18 11 34.8**	**+1.4**
SLAC				eS	**Sn**	**18 12 17.4**	**+1.4**
SVB	**Belmont**	**4.30**	**181**	eP	**Pn**	**18 11 44.0**	**+2.3**
HUMP	**Col San Antoni**	**4.46**	**278**		**Pn**	**18 11 44.3**	**+0.4**
PDPR	**Patillas Dam,**	**4.61**	**276**		**Pn**	**18 11 46.5**	**+0.5**
IGPR	**InterUniversit**	**4.69**	**275**	Pn	**Pn**	**18 11 47.6**	**+0.6**
BBGH	**Gun Hill**	**4.70**	**160**	Pn	**Pn**	**18 11 47.4**	**+0.2**
GCPR	**Guaynabo City**	**4.70**	**279**		**Pn**	**18 11 48.1**	**+0.8**
SJG	**San Juan**	**4.74**	**277**		**Pn**	**18 11 46.9**	**-0.9**
SJG	**San Juan**	**4.74**	**277**	P	**Pn**	**18 11 48.8**	**+1.0**
	22nm,0.3s,baz=100,slow=11,SNR=52						
SJG				S	**Sn**	**18 12 46.1**	**+4.1**
	98nm,0.6s,baz=209,slow=23,SNR=3.8						
SJG				LR	LR	18 13 54.3	
	comp=Z,812nm,18.9s,baz=14,slow=41						
	83nm,0.5s						
SJG	**San Juan**	**4.74**	**277**	eP	**Pn**	**18 11 50.1**	**+2.3**
CELP	**Cerrillos**	**5.14**	**276**	Pn	**Pn**	**18 11 52.8**	**-0.5**
EMPR	**Esperanza - Ma**	**5.14**	**281**	Pn	**Pn**	**18 11 52.0**	**-1.4**
OBIP	**Obispado Ponce**	**5.17**	**276**	Pn	**Pn**	**18 11 53.5**	**-0.2**
GRSS	**Sisters**	**5.28**	**184**	eP	**Pn**	**18 11 57.0**	**+1.8**
UUPR	**Utuado, UPR, P**	**5.29**	**278**		**Pn**	**18 11 54.9**	**-0.5**
AOPR	**Arecibo Observ**	**5.34**	**279**		**Pn**	**18 11 55.7**	**-0.3**
AOPR	**Arecibo Observ**	**5.34**	**279**	eP	**Pn**	**18 11 57.5**	**+1.5**
MLPR	**Magueyes Islan**	**5.58**	**275**		**Pn**	**18 11 58.9**	**-0.4**
CRPR	**Cabo Rojo, PR**	**5.64**	**275**		**Pn**	**18 11 59.5**	**-0.6**
AGPR	**Aguadilla, PR**	**5.69**	**280**	Pn	**Pn**	**18 11 59.1**	**-1.8**
PRSN	**Puerto Rico Se**	**5.69**	**277**	Pn	**Pn**	**18 11 59.0**	**-1.9**
TOSP	**Speyside**	**6.29**	**174**	eP	**Pn**	**18 12 11.7**	**+2.6**
PCRV	**Puerto La Cruz**	**8.09**	**205**	P	**Pn**	**18 12 35.3**	**+1.4**
	1.7nm,0.3s,baz=3.0,slow=3.6,SNR=10						
PCRV				S	**Sn**	**18 14 07.4**	**+2.7**
	7.8nm,0.7s,baz=345,slow=20,SNR=1.3						
PCRV				LR	LR	18 16 07.8	
	comp=Z,690nm,18.1s,slow=41						
	25nm,0.7s						
SC01	**Santiago de lo**	**9.22**	**283**		**Pn**	**18 12 48.9**	**-0.5**
SDDR	**Presa de Saban**	**9.68**	**280**	Pn	**Pn**	**18 12 54.4**	**-1.3**
GRTK	**Grand Turk**	**10.14**	**294**	Pn	**Pn**	**18 12 58.0**	**-3.9**
BAUV	**El Baul**	**10.87**	**219**	Pn	**Pn**	**18 13 12.1**	**+0.1**
SDV	**Santo Domingo**	**12.61**	**228**	Pn	**Pn**	**18 13 34.3**	**-1.7**
SDV	**Santo Domingo**	**12.61**	**228**	P	**Pn**	**18 13 37.0**	**+1.0**
	1.4nm,0.3s,baz=126,slow=13,SNR=1.5						
SDV				LR	LR	18 18 38.4	
	comp=Z,187nm,21.3s,baz=58,slow=38						
	4.3nm,0.3s						
CHIV	**Chivirico**	**14.60**	**282**	Pn	**Pn**	**18 13 59.0**	**-3.9**
MDP	**Montagnes des**	**14.98**	**145**	P	**Pn**	**18 14 07.3**	**-0.8**
	0.3nm,0.3s,baz=43,slow=8.2,SNR=2.7						
MDP				S	Sn	18 16 39.8	-14
	1.2nm,0.3s,baz=68,slow=9.3,SNR=1.7						
MDP				LR	LR	18 19 53.8	
	comp=Z,92nm,21.6s,baz=290,slow=37						
	4.3nm,0.9s						
BOAV	**Boa Vista**	**15.12**	**177**		**Pn**	**18 14 07.4**	**-2.6**
BOAV	**Boa Vista**	**15.12**	**177**	eP	**P**	**18 14 16.0**	**+1.1**
MTDJ	**Mount Denham**	**15.56**	**275**	Pn	**Pn**	**18 14 12.4**	**-3.4**
ROSC	**El Rosal**	**18.05**	**227**	P	**Pn**	**18 14 44.1**	**-3.3**
ROSC				IAmb	IAmb	18 14 55.8	
	comp=Z,25nm,0.7s						
ROSC	**El Rosal**	**18.05**	**227**	P	**Pn**	**18 14 47.6**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=217,slow=22,SNR=2.5						
ROSC				LR	LR	18 23 16.5	
	comp=Z,256nm,18.3s,baz=74,slow=42						
	comp=Z,11nm,0.4s						
MACA	**Manacapuru-AM**	**20.63**	**179**	P	**P**	**18 15 12.2**	**-3.4**
MACA	**Manacapuru-AM**	**20.63**	**179**	eP	Pn	18 15 18.4	+0.4
SOR	**Soroa**	**21.10**	**288**		**P**	**18 15 19.0**	**-1.7**
SOR				IAmb	IAmb	18 15 24.1	
	comp=Z,17nm,0.9s						
ITTB	**Itaituba**	**22.48**	**166**	eP	**P**	**18 15 37.0**	**+1.4**
LCR2	**La Lucha 2**	**23.48**	**254**	P	**P**	**18 15 43.8**	**-2.2**
LCR2				IAmb	IAmb	18 15 48.3	
	comp=Z,11nm,0.8s						
OTAV	**Otavalo**	**24.20**	**226**	P	**P**	**18 15 51.7**	**-1.4**
OTAV	**Otavalo**	**24.20**	**226**	eP	**P**	**18 15 52.2**	**-1.0**
NPGB	**Novo Progresso**	**25.16**	**166**	eP	**P**	**18 16 02.8**	**+1.5**
TEIG	**Tepich**	**25.74**	**280**	P	**P**	**18 16 06.1**	**-0.5**
TEIG				IAmb	IAmb	18 16 08.2	
	comp=Z,11nm,0.8s						
BG3	**Lake Jocassee**	**25.98**	**316**	P	**P**	**18 16 08.4**	**-0.3**
BG3				IAmb	IAmb	18 16 13.6	
	comp=Z,9.9nm,0.8s						
SAML	**Samuel**	**26.45**	**184**	P	**P**	**18 16 11.8**	**-1.2**
SAML	**Samuel**	**26.45**	**184**	eP	**P**	**18 16 13.2**	**+0.2**
CZSB	**Cruzeiro do Su**	**27.61**	**205**	P	**P**	**18 16 21.9**	**-1.6**
CZSB	**Cruzeiro do Su**	**27.61**	**205**	eP	**P**	**18 16 22.9**	**-0.6**
ETMB	**Extrema**	**27.68**	**191**	P	**P**	**18 16 22.3**	**-1.8**
GBN	**Guysborough**	**27.73**	**360**	P	**P**	**18 16 24.7**	**+0.4**
ATAH	**Atahualpa**	**29.87**	**216**	LR	LR	18 31 16.3	
	comp=Z,212nm,18.1s,baz=14,slow=42						
VILB	**Vilhena**	**30.37**	**178**	eP	**P**	**18 16 50.2**	**+2.2**
PTLB	**Pontes e Lacer**	**32.90**	**176**	P	**P**	**18 17 10.4**	**+0.3**
PTLB				IAmb	IAmb	18 17 12.7	
	comp=Z,4.2nm,0.9s						
PTLB	**Pontes e Lacer**	**32.90**	**176**	eP	**P**	**18 17 11.5**	**+1.3**
LPAZ	**La Paz**	**34.35**	**192**	P	**P**	**18 17 21.5**	**-2.1**
LPAZ	**La Paz**	**34.35**	**192**	eP	**P**	**18 17 23.4**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=23,slow=7.6,SNR=5.8						
LPAZ				LR	LR	18 32 22.7	
	comp=Z,106nm,19.4s,baz=30,slow=38						
	comp=Z,1.6nm,0.7s						
LPAZ	**La Paz**	**34.35**	**192**	eP	**P**	**18 17 24.7**	**+1.1**
E46A	**Sault Ste Mari**	**34.49**	**331**	P	**P**	**18 17 22.9**	**-0.8**
BBSD	**Serra de San D**	**34.57**	**179**	eP	**P**	**18 17 25.8**	**+1.1**
BRDY	**Brady**	**36.82**	**299**	P	**P**	**18 17 43.0**	**-1.1**
JCT	**Junction City**	**37.33**	**297**	P	**P**	**18 17 48.0**	**-0.5**
JCT				IAmb	IAmb	18 17 50.4	
	comp=Z,7.7nm,0.8s						
SCHQ	**Schefferville**	**37.42**	**355**	LR	LR	18 31 13.4	
	comp=Z,66nm,19.8s,baz=300,slow=33						
FDPY	**Filadelfia**	**39.65**	**178**	eP	**P**	**18 18 09.8**	**+2.0**
TXAR	**Lajitas Array**	**40.47**	**295**	P	**P**	**18 18 15.2**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=83,slow=10,SNR=3.5						
	comp=Z,0.5nm,0.6s						
ALPN	**Alpine**	**40.58**	**296**	P	**P**	**18 18 15.4**	**-0.4**
VHRN	**Van Horn**	**41.79**	**297**	P	**P**	**18 18 26.4**	**+0.6**
VHRN				IAmb	IAmb	18 18 27.7	
	comp=Z,6.7nm,0.7s						
ULM	**Lac du Bonnet**	**42.78**	**327**	P	**P**	**18 18 33.7**	**+0.3**
	comp=Z,4.3nm,0.8s,baz=141,slow=7.5,SNR=4.8						
	comp=Z,4.3nm,0.8s						
BBTS	**Babate**	**42.94**	**87**	LR	LR	18 33 30.0	
	comp=Z,68nm,20.8s,baz=214,slow=32						
BNM	**Barren Site**	**43.70**	**301**	P	**P**	**18 18 41.1**	**-0.2**
CRNM	**Carthage**	**43.75**	**301**	P	**P**	**18 18 40.9**	**-0.7**
CPUP	**Villa Florida**	**43.82**	**175**	P	**P**	**18 18 41.5**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=2.1,slow=4.3,SNR=4.9						
	comp=Z,3.0nm,0.8s						
DUN6	**Lazy B Ranch**	**45.49**	**299**	P	**P**	**18 18 55.6**	**+0.1**
FRB	**Frobisher Bay**	**46.38**	**355**	LR	LR	18 36 14.7	
	comp=Z,55nm,20.8s,baz=271,slow=33						
TUC	**Tucson**	**46.89**	**298**	P	**P**	**18 19 07.5**	**+1.1**
TUC				IAmb	IAmb	18 19 09.0	
	comp=Z,5.0nm,0.8s						
PD31	**Pinedale Array**	**47.93**	**312**	P	**P**	**18 19 13.8**	**-0.8**
PD31				IAmb	IAmb	18 19 47.4	
	comp=Z,6.2nm,1.4s						
PDAR	**Pinedale Array**	**47.93**	**312**	P	**P**	**18 19 14.8**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=109,slow=8.3,SNR=11						
PDAR				PcP	**PcP**	**18 20 42.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=99,slow=8.5,SNR=1.5						
	comp=Z,1.2nm,0.8s						
Y14A	**Wickenburg**	**48.91**	**300**	P	**P**	**18 19 22.9**	**+0.9**
Y14A				IAmb	IAmb	18 19 25.9	
	comp=Z,2.9nm,0.8s						
YHH	**Holmes Hill**	**49.41**	**314**	P	**P**	**18 19 26.2**	**+0.2**
YHB	**Horse Butte**	**49.63**	**314**	P	**P**	**18 19 27.7**	**+0.1**
YHB				IAmb	IAmb	18 19 32.2	
	comp=Z,5.6nm,0.9s						
YHL	**Hebgen Lake**	**49.65**	**314**	P	**P**	**18 19 28.6**	**+0.8**
YHL				IAmb	IAmb	18 19 31.2	
	comp=Z,5.3nm,1.0s						
QLMT	**Earthquake Lak**	**49.81**	**314**	P	**P**	**18 19 30.6**	**+1.6**
SFJD	**Kangerlussuaq**	**49.85**	**5**	LR	LR	18 40 41.3	
	comp=Z,60nm,18.8s,baz=176,slow=36						
BGU	**Big Grassy Mou**	**50.01**	**309**	P	**P**	**18 19 31.6**	**+1.1**
PSUT	**Pine Spring**	**50.19**	**306**	P	**P**	**18 19 33.1**	**+1.1**
LYMT	**Lyon Mountain**	**51.01**	**317**	P	**P**	**18 19 38.6**	**+0.6**
VTX	**Valle De La Tr**	**51.07**	**296**	P	**P**	**18 19 39.4**	**+0.9**
VTX				IAmb	IAmb	18 19 42.0	
	comp=Z,6.3nm,0.9s						
YUH	**Yuha Desert**	**51.24**	**298**	P	**P**	**18 19 40.7**	**+1.0**
YUH				IAmb	IAmb	18 19 42.5	
	comp=Z,5.5nm,0.8s						
OVMT	**Ovando**	**51.50**	**317**	P	**P**	**18 19 41.8**	**+0.2**
BPMT	**Black Pine Rid**	**51.62**	**316**	P	**P**	**18 19 42.1**	**-0.5**
H10N3	**ASCENSION HYDR**	**52.60**	**115**	T	T	19 16 54.5	
	baz=299,slow=75,SNR=34						
H10N2	**ASCENSION HYDR**	**52.60**	**115**	T	T	19 17 07.6	
	baz=299,slow=75,SNR=36						
H10N1	**ASCENSION HYDR**	**52.62**	**115**	T	T	19 17 09.2	
	baz=299,slow=75,SNR=33						
H10S3	**ASCENSION HYDR**	**53.00**	**116**	T	T	19 17 46.0	
	SNR=52						
H10S2	**ASCENSION HYDR**	**53.02**	**116**	T	T	19 17 03.3	
	SNR=30						
NVAR	**Mina Array Bea**	**53.64**	**305**	P	**P**	**18 19 58.7**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=88,slow=9.1,SNR=3.3						
NVAR				PcP	**PcP**	**18 21 04.8**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=116,slow=4.1,SNR=4.3						
NVAR				LR	LR	18 45 37.5	
	comp=Z,41nm,20.0s,baz=88,slow=39						
	comp=Z,0.5nm,0.7s						
ESDC	**Sonseca Array**	**53.88**	**53**	P	**P**	**18 20 00.2**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=274,slow=6.8,SNR=4.0						
	comp=Z,1.1nm,0.9s						
BORG	**Borgarnes**	**54.17**	**20**	LR	LR	18 39 04.7	
	comp=Z,47nm,21.3s,baz=219,slow=31						
NEW	**Newport**	**54.51**	**317**	P	**P**	**18 20 03.6**	**0.0**
NEW				IAmb	IAmb	18 20 06.0	
	comp=Z,4.8nm,0.9s						
NEW	**Newport**	**54.51**	**317**	LR	LR	18 46 07.8	
	comp=Z,41nm,18.2s,baz=82,slow=39						
KMRM	**Mail Ridge**	**57.97**	**307**	P	**P**	**18 20 27.6**	**-1.0**
YKA	**Yellowknife Ar**	**57.99**	**334**	P	**P**	**18 20 28.3**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=122,slow=7.7,SNR=6.6						
YKA				LR	LR	18 46 48.0	
	comp=Z,43nm,18.4s,baz=326,slow=37						
	comp=Z,2.2nm,0.7s						
PLCA	**Paso Flores**	**58.67**	**188**	P	**P**	**18 20 33.0**	**-0.3**
PLCA				IAmb	IAmb	18 20 35.3	
	comp=Z,3.4nm,0.8s						
PLCA	**Paso Flores**	**58.67**	**188**	P	**P**	**18 20 32.9**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=347,slow=6.0,SNR=9.3						
	comp=Z,2.9nm,0.8s						
RES	**Resolute Bay**	**59.97**	**350**	LR	LR	18 48 15.3	
	comp=Z,49nm,18.3s,baz=7.0,slow=38						
TORD	**Torodi Ar. Bea**	**60.58**	**85**	P	**P**	**18 20 46.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=301,slow=7.3,SNR=4.4						
	comp=Z,0.5nm,0.6s						
BBB	**Bella Bella**	**62.16**	**320**	LR	LR	18 48 58.0	
	comp=Z,41nm,19.9s,baz=93,slow=37						
KEST	**Kesra**	**64.33**	**58**	P	**P**	**18 21 13.4**	**+1.6**
	comp=Z,4.0nm,0.8s,baz=1.4,slow=5.8,SNR=3.8						
	comp=Z,4.0nm,0.8s						
NOA	**NORSAR Array B**	**66.25**	**30**	P	**P**	**18 21 25.0**	**+1.3**
	comp=Z,1.5nm,0.9s,baz=263,slow=6.6,SNR=4.0						
	comp=Z,1.5nm,0.9s						
INK	**Inuvik**	**67.26**	**337**	P	**P**	**18 21 30.1**	**+0.2**
INK				IAmb	IAmb	18 21 32.0	
	comp=Z,4.9nm,1.0s						
N31M	**Braeburn, Yuko**	**67.34**	**330**	P	**P**	**18 21 31.5**	**+0.9**
M30M	**Minto, Yukon**	**67.90**	**331**	P	**P**	**18 21 35.5**	**+1.4**
M30M				IAmb	IAmb	18 21 37.0	
	comp=Z,3.4nm,0.8s						
L27K	**Beaver Creek,**	**70.23**	**331**	P	**P**	**18 21 48.9**	**+0.3**
L27K				IAmb	IAmb	18 22 32.2	
	comp=Z,8.0nm,1.2s						
MCARA	**McCarthy VSAT**	**70.81**	**330**	P	**P**	**18 21 52.3**	**+0.1**
MENT	**Mentasta**	**71.10**	**331**	P	**P**	**18 21 55.2**	**+1.4**
SCRK	**Sand Creek**	**71.19**	**332**		**P**	**18 21 54.6**	**+0.1**
SCRK				IAmb	IAmb	18 22 14.8	
	comp=Z,5.5nm,1.3s						
ILAR	**Eielson Array**	**72.41**	**333**	P	**P**	**18 22 02.0**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=96,slow=5.1,SNR=25						
	comp=Z,1.8nm,0.8s						
H24K	**Noodor Dome**	**72.75**	**335**	P	**P**	**18 22 03.7**	**0.0**
H24K				IAmb	IAmb	18 22 45.5	
	comp=Z,10nm,1.5s						
NEA2	**Nenana**	**73.36**	**333**	P	**P**	**18 22 07.4**	**+0.1**
NEA2				IAmb	IAmb	18 22 09.2	
	comp=Z,6.0nm,0.8s						
FINES	**FINESS Array B**	**73.43**	**30**	P	**P**	**18 22 08.6**	**+0.8**
	comp=Z,2.6nm,0.9s,ba

comp=E,3μm,0.7s
DMLN Damoulianata-K 1.14 354 P Pn 18 23 33.4 +0.2
DMLN S Sn 18 23 48.4 -0.6
RLS Riolos of Patr 1.21 38 P Pg 18 23 33.9 -0.3
RLS Riolos of Patr 1.21 38 P Pg 18 23 33.9 -0.3
RLS S Sb 18 23 49.3 -0.5
RLS AML AML 18 23 53.2
comp=N,1266μm,0.3s
RLS AML AML 18 23 57.4
comp=E,1043μm,0.7s
DRO Drossia 1.26 47 P Pg 18 23 35.0 -0.2
DRO Drossia 1.26 47 P Pg 18 23 35.1 -0.1
DRO S Sb 18 23 51.4 0.0
DRO AML AML 18 23 57.8
comp=E,3135μm,0.6s
DRO AML AML 18 24 00.8
comp=N,1728μm,0.4s
VSK1 VASILIKIADES 1.30 1 P Pg 18 23 36.2 +0.2
VSK1 S Sn 18 23 53.9 +0.8
comp=N,3μm,0.3s
FSK Fiskardo 1.35 1 P Pg 18 23 37.0 0.0
FSK S Sg 18 23 55.5 +0.9
comp=N,2μm,0.3s
FSK Fiskardo 1.35 1 P Pg 18 23 37.0 0.0
FSK S Sg 18 23 54.2 -0.3
FSK AML AML 18 23 57.7
comp=N,4311μm,0.2s
FSK AML AML 18 23 59.5
comp=E,4000μm,0.4s
EVGI Lefkada island 1.52 4 P Pg 18 23 39.8 -0.3
EVGI S Sg 18 24 00.9 +1.1
comp=E,2μm,0.3s
EVGI Lefkada island 1.52 4 P Pg 18 23 39.5 -0.6
DRAG Dragano-Lefkad 1.58 1 P Pg 18 23 40.4 -0.9
KLV Kalavryta, Ach 1.59 53 P Pb 18 23 40.7 +0.1
KLV Kalavryta, Ach 1.59 53 P Pb 18 23 40.6 -0.1
KLV S Sn 18 23 59.8 -0.4
KLV AML AML 18 24 14.8
comp=E,473μm,0.6s
KLV AML AML 18 24 15.1
comp=N,428μm,0.5s
NYDR Nydri-Lefkada 1.61 5 P Pg 18 23 41.3 -0.6
NYDR S Sg 18 24 03.1 +0.2
comp=N,630nm,0.5s
GUR Goura 1.66 59 P Pb 18 23 41.5 -0.3
EFP Efpalio 1.71 39 P Pb 18 23 42.4 -0.2
EFP Efpalio 1.71 39 P Pb 18 23 42.1 -0.5
EFP S Sn 18 24 02.2 -0.8
EFP AML AML 18 24 12.6
comp=E,444μm,0.6s
EFP AML AML 18 24 17.9
comp=N,744μm,0.5s
TSLK Tsoukalades, L 1.72 3 P Pg 18 23 43.7 -0.3
VLI Veliai 1.96 101 P Pg 18 23 47.3 -1.3
OHR Ohrid 4.01 3 *i* Pn **Pb 18 24 22.0 +0.2**
OHR *i* Sn **Sn 18 25 00.3 +0.4**

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*IDC **10** 18:33:50.4±0.6, 13°.19N×51°.41E, h0km, mb4.1/30, mbtmp4.1/33, ML3.6/3, MS4.0/63, Error ellipse: s-maj=14.5km s-min=13.1km az=137.0*
*GCMT **10** 18:33:50.7±0.2, 13°.25N±0°.01×51°.23E±0°.02, h18km±1km, MW4.9/107, Moment Tensor Solution. s41,c51; s107,c165; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-1.28±.12; $M_{\theta\theta}$2.91±.09; $M_{\phi\phi}$-1.63±.09; $M_{r\theta}$1.01±.19; $M_{\theta\phi}$1.36±.07; $M_{\phi r}$0.60±.21; Best double couple: $M_0$2.85600×10^16^ NP1:ϕ_s214.00000°, δ82.00000°, λ-152.00000°. NP2:ϕ_s120.00000°, δ62.00000°, λ-10.00000°. Principal axes: T 3.5530, Plg13.0000°, Azm344.0000°; N -1.3950, Plg60.0000°, Azm229.0000°; P -2.1590, Plg26.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **10** 18:33:51.7±1.9, 13°.26N±0°.08×51°.34E±0°.07, h10km±1km, mb4.6/85 Error ellipse: s-maj=13.4km s-min=11.4km az=144.0*
*OMAN **10** 18:34:01.9±0.7, 14°.04N×51°.22E, h30km±36km, mb3.9/23, ml4.3/5, ms3.8/1, Error ellipse: s-maj=50.4km s-min=7.4km az=20.0*

ISC 10 18:33:51.3±0.4, 13°.33N±0°.05×51°.32E±0°.05, h10km, n214, σ2.3, 30/202, mb4.5/86, MS4.1/66, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**4.44**	**25**	P	**Pn**	**18 34 58.3**	**-0.5**
	SNR=17						
ABTO				S	**Sn**	**18 35 48.2**	**-2.4**
RBK	**Rabkut**	**5.00**	**33**	P	**Pn**	**18 35 07.0**	**+0.5**
	SNR=23						
RBK				S	**Sn**	**18 36 02.9**	**-1.5**
	SNR=6.4						
WHFO	**Wadi Hawf**	**5.14**	**27**	P	**Pn**	**18 35 08.6**	**+0.1**
	SNR=64						
WHFO				S	**Sn**	**18 36 05.9**	**-2.0**
DMTO	**DMTO**	**5.59**	**38**	P	**Pn**	**18 35 16.1**	**+1.5**
	SNR=32						
DMTO				S	**Sn**	**18 36 18.5**	**-0.6**
DOK	**Doka**	**5.92**	**27**	P	**Pn**	**18 35 19.5**	**+0.4**
	SNR=27						
DOK				S	**Sn**	**18 36 24.5**	**-2.4**
ATD	**Arta Tunnel**	**8.47**	**259**		**Pn**	**18 35 53.8**	**-0.4**
ATD				Sn	**Sn**	**18 37 25.5**	**-4.5**
ATD	**Arta Tunnel**	**8.47**	**259**	Pn	**Pn**	**18 35 55.6**	**+1.4**
	1.0nm,0.3s,baz=352,slow=2.7,SNR=55						
ATD				Sn	**Sn**	**18 37 32.5**	**+2.5**
	0.2nm,0.3s,baz=108,slow=23,SNR=2.7						
ATD				LR	LR	18 38 26.8	
	comp=Z,90nm,19.1s,baz=80,slow=32 2.4nm,0.3s						
DQM	**DQM**	**8.87**	**41**	P	**Pn**	**18 36 01.4**	**+1.8**
DQM				S	**Sn**	**18 37 37.7**	**-1.9**
MZR	**Muzera**	**9.84**	**12**	P	**Pn**	**18 36 12.7**	**-0.3**
MZR				S	**Sn**	**18 37 58.1**	**-5.5**
MHTO	**MHTO**	**9.92**	**39**	P	**Pn**	**18 36 14.6**	**+0.6**
	SNR=11						
MHTO				S	**Sn**	**18 38 02.3**	**-3.1**
UMZA	**Um Al Zommool**	**10.03**	**21**	P	**Pn**	**18 36 15.5**	**0.0**
UMZA				S	**Sn**	**18 37 59.6**	**-8.6**
MZWR	**Madinat Zayed**	**10.66**	**13**	P	**Pn**	**18 36 26.2**	**+2.0**
MZWR				S	**Sn**	**18 38 17.5**	**-6.2**
GHWR	**Ruwais**	**10.68**	**8**	P	**Pn**	**18 36 22.4**	**-2.1**
GHWR				S	Sn	18 38 14.1	-10
BSY	**Bisya**	**10.91**	**30**	P	**Pn**	**18 36 28.4**	**+0.8**
BSY				S	**Sn**	**18 38 26.6**	**-3.2**
JMDO	**Jabal Madar**	**11.07**	**35**	P	**Pn**	**18 36 30.6**	**+0.7**
JMDO				S	**Sn**	**18 38 28.8**	**-5.0**
ARQ	**Araqi**	**11.11**	**26**	P	**Pn**	**18 36 31.5**	**+1.1**
ARQ				S	**Sn**	**18 38 29.1**	**-5.7**
SMRA	**Abu-Samra**	**11.37**	**358**	P	**Pn**	**18 36 33.0**	**-0.9**
SMRA				S	**Sn**	**18 38 33.3**	**-7.8**
ALNE	**Al Ain**	**11.47**	**21**	P	**Pn**	**18 36 36.3**	**+1.0**
ALNE				S	Sn	18 38 34.0	-9.5
RAYN	**Ar Rayn**	**11.55**	**332**	Pn	**Pn**	**18 36 35.3**	**-1.1**
RAYN				Sn	Sn	18 38 34.3	-11
SMDO	**Samad**	**11.60**	**32**	P	**Pn**	**18 36 39.2**	**+2.0**
SMDO				S	**Sn**	**18 38 39.2**	**-7.7**
HOQ	**Hoqain**	**11.68**	**28**	P	**Pn**	**18 36 41.1**	**+3.0**
HOQ				S	**Sn**	**18 38 44.9**	**-3.7**
JLN	**Jalan Bani Buh**	**11.68**	**40**	P	**Pn**	**18 36 39.8**	**+1.7**
JLN				S	**Sn**	**18 38 46.8**	**-1.9**
AJN	**Ajban**	**11.70**	**17**	P	**Pn**	**18 36 38.4**	**-0.1**
AJN				S	**Sn**	**18 38 40.3**	**-8.9**
SOHO	**SOHO**	**11.83**	**24**	P	**Pn**	**18 36 40.9**	**+0.7**
ASUD	**Al Ashush, Dub**	**11.86**	**18**	P	**Pn**	**18 36 41.7**	**+1.0**
	SNR=13						
ASUD				S	**Sn**	**18 38 44.7**	**-8.4**
BIDO	**Bidbid**	**12.02**	**31**	P	**Pn**	**18 36 44.1**	**+1.3**
FAQ	**Al Faqa, Dubai**	**12.05**	**19**	P	**Pn**	**18 36 44.3**	**+1.0**
WSAR	**Wadi Sarin**	**12.05**	**34**	Pn	**Pn**	**18 36 43.9**	**+0.6**
	0.2nm,0.3s,baz=243,slow=20,SNR=4.9						
WSAR				Sn	**Sn**	**18 38 51.5**	**-6.4**
	0.3nm,0.3s,baz=276,slow=6.4,SNR=2.1						
WSAR				LR	LR	18 41 14.5	
	comp=Z,793nm,19.9s,baz=230,slow=37 5.8nm,0.8s						
ASHO	**Ashiyiah**	**12.15**	**21**	P	**Pn**	**18 36 45.5**	**+0.8**
NAZ	**Nazwa, Dubai**	**12.30**	**19**	P	**Pn**	**18 36 48.5**	**+1.8**
HATD	**Hatta, Dubai**	**12.31**	**21**	P	**Pn**	**18 36 48.1**	**+1.4**
UOSS	**Minazif**	**12.44**	**21**	Pn	**Pn**	**18 36 47.9**	**-0.7**
UOSS	**Minazif**	**12.44**	**21**	P	**Pn**	**18 36 50.3**	**+1.7**
SAKB	**Bahrain**	**12.61**	**357**	P	**Pn**	**18 36 49.7**	**-1.2**
SAKB				S	**Sn**	**18 39 02.7**	**-8.8**
MDH	**Madha**	**12.80**	**21**	P	**Pn**	**18 36 55.4**	**+1.9**
MASF	**Masafi**	**12.82**	**20**	P	**Pn**	**18 36 55.6**	**+1.8**
FURI	**Furi**	**13.16**	**252**	Pn	**Pn**	**18 36 55.0**	**-3.8**
SHME	**Shamm**	**13.45**	**19**	P	**Pn**	**18 37 03.0**	**+0.7**
SHME				P	**Pn**	**18 37 03.0**	**+0.7**
MSEY	**Mahe Island**	**18.35**	**167**	P	**Pn**	**18 38 01.0**	**-5.2**
LODK	**Lodwar**	**18.59**	**239**	P	**Pn**	**18 38 07.4**	**-1.8**
KMBO	**Kilima Mbogo**	**20.02**	**225**	P	**P**	**18 38 23.4**	**-1.4**
KMBO				IAmb	IAmb	18 38 26.8	
	comp=Z,27nm,1.3s						
KMBO	**Kilima Mbogo**	**20.02**	**225**	P	Pn	18 38 24.5	-2.1
	comp=Z,0.2nm,0.3s,baz=45,slow=12,SNR=15						
KMBO				LR	LR	18 46 10.5	
	comp=Z,803nm,18.8s,baz=74,slow=37 comp=Z,11nm,1.1s						
KIBK	**Kibwezi**	**20.39**	**221**	P	Pn	18 38 27.7	-3.0
EIL	**Elat**	**22.24**	**320**	LR	LR	18 47 47.0	
	comp=Z,1μm,18.8s,baz=140,slow=37						
GHAJ	**Ghor Haditha**	**23.03**	**324**	P	**P**	**18 38 57.7**	**+1.0**
GHAJ				IAmb	IAmb	18 39 12.7	
	comp=Z,43nm,1.4s						
HRA	**Herat**	**23.19**	**23**	P	**P**	**18 38 59.5**	**+0.8**
MMAI	**Mount Meron Ar**	**24.40**	**326**	P	**P**	**18 39 13.7**	**+3.6**
	comp=Z,0.4nm,0.3s,baz=134,slow=8.3,SNR=2.0						
MMAI				LR	LR	18 48 40.3	
	comp=Z,404nm,19.4s,baz=72,slow=36 comp=Z,0.4nm,0.3s						
MBAR	**Mbarara**	**24.66**	**237**	P	**P**	**18 39 12.0**	**-0.7**
KAAM	**Kaadhehdhoo**	**24.97**	**119**	P	**P**	**18 39 13.0**	**-2.3**
MARD	**Mardin**	**25.68**	**340**	P	**P**	**18 39 20.7**	**-1.0**
MARD				IAmb	IAmb	18 39 40.8	
	comp=Z,35nm,1.3s						
GEVA	**Gevas**	**25.95**	**345**	P	**P**	**18 39 23.6**	**-0.6**
GURO	**Guroymak-BITLI**	**26.44**	**343**	P	**P**	**18 39 29.1**	**+0.4**
GURO				IAmb	IAmb	18 39 48.1	
	comp=Z,24nm,1.5s						
KBL	**Kabul**	**26.53**	**34**	P	**P**	**18 39 29.5**	**-0.1**
KBL				IAmb	IAmb	18 39 50.2	
	comp=Z,32nm,1.5s						
GAZ	**Gaziantep**	**26.89**	**334**	P	**P**	**18 39 33.6**	**+1.0**
GAZ				IAmb	IAmb	18 40 05.2	
	comp=Z,12nm,1.3s						
GNI	**Garni**	**27.34**	**349**	P	**P**	**18 39 37.1**	**+0.4**
GNI	**Garni**	**27.34**	**349**	LR	LR	18 52 50.8	
	comp=Z,2μm,18.1s,baz=178,slow=42						
GNI	**Garni**	**27.34**	**349**	P	**P**	**18 39 39.9**	**+3.2**
	comp=Z,25nm,1.3s,comp=Z,519nm						
ARPR	**Arapgir-MALATY**	**28.12**	**338**	P	**P**	**18 39 43.6**	**-0.1**
KARS	**Kars**	**28.14**	**347**	P	**P**	**18 39 44.1**	**+0.2**
KOPT	**Kop Dagi**	**28.25**	**342**	P	**P**	**18 39 44.7**	**-0.2**
KOPT				IAmb	IAmb	18 40 24.9	
	comp=Z,16nm,1.3s						
NIL	**Nilore**	**28.41**	**41**	P	**P**	**18 39 45.7**	**-0.6**
NIL				IAmb	IAmb	18 40 28.0	
	comp=Z,12nm,1.2s						
BNN	**Bunyan**	**28.89**	**334**	P	**P**	**18 39 50.5**	**0.0**
BNN				IAmb	IAmb	18 40 14.4	
	comp=Z,24nm,1.3s						
DGAR	**Diego Garcia**	**29.41**	**133**	P	**P**	**18 39 54.0**	**-1.2**
SIMJ	**Simiganj**	**29.71**	**29**	P	**P**	**18 39 59.4**	**+1.5**
SIMJ				IAmb	IAmb	18 40 09.2	
	comp=Z,15nm,1.1s						
AKAS	**Kas**	**30.01**	**323**	P	**P**	**18 40 00.6**	**+0.1**
ELL	**Elmali**	**30.20**	**324**	P	**P**	**18 40 02.3**	**+0.1**
BRTR	**Keskin Array B**	**30.57**	**333**	P	**P**	**18 40 06.5**	**+1.1**
BRTR	**Keskin Array B**	**30.57**	**333**	P	**P**	**18 40 07.7**	**+2.3**
	comp=Z,0.8nm,1.1s,baz=151,slow=9.2,SNR=2.2						
	comp=Z,0.8nm,1.1s						
GAR	**Garm**	**30.60**	**30**	P	**P**	**18 40 04.7**	**-1.0**
GAR				IAmb	IAmb	18 40 17.1	
	comp=Z,15nm,1.2s						
ANTO	**Ankara**	**31.07**	**332**	P	**P**	**18 40 09.2**	**-0.5**
ANTO				IAmb	IAmb	18 40 32.2	
	comp=Z,8.5nm,0.7s						
ANTO	**Ankara**	**31.07**	**332**	P	P	18 40 14.2	+4.4
	comp=Z,4.9nm,0.8s						
KBZ	**Khabaz**	**31.15**	**348**	P	**P**	**18 40 13.1**	**+2.8**
	comp=Z,2.2nm,0.8s,baz=186,slow=8.1,SNR=7.1						
KBZ				LR	LR	18 54 56.5	
	comp=Z,2μm,20.3s,baz=156,slow=40 comp=Z,2.2nm,0.8s						
KVAR	**Kislovodsk Arr**	**31.41**	**348**	LR	LR	18 55 09.4	
	comp=Z,590nm,19.2s,baz=66,slow=40						
KIV	**Kislovodsk**	**31.41**	**348**	P	P	18 40 16.8	+4.0
	comp=Z,6.0nm,0.4s						
ILGA	**Ilgaz**	**31.62**	**334**	P	**P**	**18 40 15.0**	**+0.2**
BTK	**Batken**	**31.67**	**29**	P	**P**	**18 40 15.0**	**-0.1**
BTK				IAmb	IAmb	18 40 35.5	
	comp=Z,19nm,1.3s						
DRK	**Karamyk**	**31.70**	**31**	P	**P**	**18 40 14.3**	**-1.3**
DRK				IAmb	IAmb	18 40 30.0	
	comp=Z,8.1nm,1.0s						
OPO	**Ambohidratompo**	**31.95**	**187**	LR	LR	18 53 03.0	
	comp=Z,266nm,18.1s,baz=178,slow=36						
IDI	**Anoyia**	**32.35**	**317**	P	**P**	**18 40 20.3**	**-0.8**
ARSB	**Arslanbob**	**33.69**	**30**	P	**P**	**18 40 33.2**	**+0.3**
KSH	**Kashi**	**33.95**	**35**	P	**P**	**18 40 34.5**	**-0.6**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KKAR	**Karatay Array**	**33.98**	**26**	P	**P**	**18 40 35.6**	**+0.4**
KKAR				IAmb	IAmb	18 40 50.9	
	comp=Z,3.9nm,0.9s						
NRN	**Naryn**	**35.31**	**33**	P	**P**	**18 40 46.7**	**-0.3**
AAK	**Ala-Archa**	**35.42**	**30**	P	**P**	**18 40 47.5**	**-0.3**
AAK				IAmb	IAmb	18 40 57.3	
	comp=Z,12nm,1.4s						
AAK	**Ala-Archa**	**35.42**	**30**	LR	LR	18 57 10.0	
	comp=Z,130nm,21.1s,baz=233,slow=39						
TARG	**Taragay, Kyrgy**	**36.48**	**34**	P	**P**	**18 40 55.4**	**-1.9**
TARG				IAmb	IAmb	18 41 19.5	
	comp=Z,16nm,1.3s						
ABKAR	**Akbulak array**	**36.53**	**9**		**P**	**18 40 55.2**	**-1.8**
ABKAR				IAmb	IAmb	18 41 08.5	
	comp=Z,16nm,1.2s						
LIT	**Litokhoron**	**36.77**	**322**	P	**P**	**18 40 56.6**	**-2.7**
WUS	**Wushi**	**36.92**	**36**	P	**P**	**18 40 58.5**	**-2.2**
WUS				IAmb	IAmb	18 41 24.4	
	comp=Z,14nm,1.2s						
PRZ	**Przheval'sk**	**37.32**	**34**	P	**P**	**18 41 03.1**	**-1.0**
PRZ				IAmb	IAmb	18 41 25.7	
	comp=Z,8.3nm,1.0s						
FNA	**Florina**	**37.86**	**322**	P	**P**	**18 41 08.2**	**-0.3**
KEK	**Kerkira**	**38.21**	**319**	P	**P**	**18 41 08.8**	**-2.5**
KEK				IAmb	IAmb	18 41 26.7	
	comp=Z,11nm,0.9s						
FOMA	**Nahampoana Res**	**38.30**	**186**	P	**P**	**18 41 11.1**	**-1.2**
PLOR3	**Plostina Array**	**38.56**	**332**	P	**P**	**18 41 16.5**	**+2.2**
	comp=Z,5.9nm,1.0s						
MLR	**Muntele Rosu**	**38.61**	**331**	P	**P**	**18 41 14.4**	**-0.5**
MLR	**Muntele Rosu**	**38.61**	**331**	LR	LR	18 59 03.9	
	comp=Z,391nm,19.1s,baz=157,slow=39						
BELG	**Belogornoye**	**39.08**	**356**	LR	LR	19 01 31.3	
	comp=Z,582nm,19.2s,baz=188,slow=42						
BRDH	**Bariadhala**	**39.35**	**70**	LR	LR	18 56 57.3	
	comp=Z,284nm,20.4s,baz=291,slow=35						
PUK	**Puka**	**39.51**	**322**	P	**P**	**18 41 21.6**	**-0.8**
SHL	**Shillong**	**39.98**	**66**	P	**P**	**18 41 24.2**	**-2.5**
MATP	**Matopo**	**40.36**	**214**	LR	LR	18 58 45.7	
	comp=Z,183nm,19.8s,baz=60,slow=37						
VAE	**Valguarnera**	**40.72**	**313**	LR	LR	18 58 30.1	
	comp=Z,104nm,20.5s,baz=136,slow=36						
KSV	**Kosov**	**41.13**	**333**	P	**P**	**18 41 36.2**	**+0.6**
AK10	**Malin Array Si**	**41.29**	**339**	P	**P**	**18 41 39.0**	**+2.1**
AK06	**Malin Array Si**	**41.30**	**339**	P	**P**	**18 41 38.2**	**+1.3**
AK01	**Malin Array Si**	**41.38**	**339**	P	**P**	**18 41 39.6**	**+2.0**
AKASG	**Malin Array Be**	**41.39**	**339**	P	**P**	**18 41 39.7**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=151,slow=7.6,SNR=9.4						
AKASG				PP	**PP**	**18 43 15.6**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=142,slow=9.2,SNR=4.7						
AKASG				LR	LR	19 01 52.2	
	comp=Z,133nm,18.3s,baz=114,slow=40 comp=Z,0.4nm,0.5s						
AKBB	**Malin Array Si**	**41.39**	**339**	P	**P**	**18 41 38.4**	**+0.8**
AKBB	**Malin Array Si**	**41.39**	**339**	P	**P**	**18 41 39.7**	**+2.0**
KIEV	**Kiev**	**41.39**	**339**	P	**P**	**18 41 38.3**	**+0.7**
KIEV	**Kiev**	**41.39**	**339**	P	**P**	**18 41 39.6**	**+2.0**
	comp=Z,31nm,1.0s						
MAKZ	**Makanchi**	**42.13**	**31**	P	**P**	**18 41 44.4**	**+0.5**
MAKZ				IAmb	IAmb	18 41 47.2	
	comp=Z,16nm,1.5s						
MK31	**Makanchi Array**	**42.28**	**32**	P	**P**	**18 41 46.1**	**+1.0**
MK31				IAmb	IAmb	18 41 48.4	
	comp=Z,13nm,1.4s						
MKAR	**Makanchi Array**	**42.28**	**32**	P	**P**	**18 41 47.1**	**+2.0**
	comp=Z,2.8nm,0.5s,baz=219,slow=8.3,SNR=49						
MKAR				PP	**PP**	**18 43 24.5**	**+1.5**
	comp=Z,0.6nm,1.0s,baz=203,slow=7.0,SNR=1.0						
MKAR				LR	LR	19 01 34.0	
	comp=Z,124nm,18.2s,baz=234,slow=39 comp=Z,2.8nm,0.5s						
BRVK	**Borovoye**	**42.42**	**17**	P	**P**	**18 41 48.1**	**+2.0**
BVAR	**Borovoye Array**	**42.42**	**17**	P	**P**	**18 41 48.1**	**+2.0**
	comp=Z,2.0nm,0.5s,baz=191,slow=8.0,SNR=23						
BVAR				PP	**PP**	**18 43 25.5**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=206,slow=9.6,SNR=1.0						
BVAR				PcP	**PcP**	**18 43 40.6**	**+1.5**
	comp=Z,1.6nm,0.9s,baz=184,slow=4.5,SNR=3.8 comp=Z,2.0nm,0.5s						
MORH	**Mrgy, Hungar**	**42.80**	**327**	P	**P**	**18 41 51.2**	**+1.9**
	comp=Z,3.9nm,1.6s						
KOLS	**Kolonicke sedl**	**42.83**	**332**	*e*P	P	18 42 02.7	+13
OBN	**Obninsk**	**43.26**	**348**	LR	LR	19 02 41.8	
	comp=Z,538nm,20.6s,baz=179,slow=40						
KURBB	**Kurchatov Arra**	**43.28**	**25**	P	**P**	**18 41 55.2**	**+2.1**
	comp=Z,1.9nm,0.8s,baz=228,slow=8.0,SNR=23						
KURBB				PP	**PP**	**18 43 35.7**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=226,slow=8.8,SNR=0.9						
KURBB				LR	LR	19 02 44.6	
	comp=Z,189nm,18.2s,baz=182,slow=40 comp=Z,1.9nm,0.8s						
ARTI	**Arti**	**43.32**	**6**	P	**P**	**18 41 54.6**	**+1.3**
ARTI	**Arti**	**43.32**	**6**	P	**P**	**18 41 54.6**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=206,slow=7.9,SNR=2.3						
ARTI				PP	**PP**	**18 43 35.3**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=193,slow=14,SNR=1.5						
ARTI				LR	LR	19 04 08.8	
	comp=Z,219nm,18.9s,baz=184,slow=42 comp=Z,1.3nm,0.5s						
KURK	**Kurchatov**	**43.39**	**25**	P	**P**	**18 41 55.6**	**+1.6**
KURK				IAmb	IAmb	18 42 08.0	
	comp=Z,7.9nm,1.0s						
WMQ	**Urumqi**	**43.50**	**39**	*e*P	**P**	**18 41 57.0**	**+1.9**
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
WMQ				LR	LR		
	comp=Z,84nm,23.8s						
KEST	**Kesra**	**43.79**	**308**	P	**P**	**18 41 59.6**	**+2.1**
	comp=Z,2.9nm,0.9s,baz=162,slow=20,SNR=1.7						
KEST				LR	LR	19 00 16.2	
	comp=Z,283nm,20.1s,baz=354,slow=36 comp=Z,2.9nm,0.9s						
TAM	**Tamanrasset**	**44.40**	**289**	P	**P**	**18 42 02.6**	**-0.1**
POGA	**Pongola**	**44.69**	**205**	P	**P**	**18 42 03.2**	**-1.4**
MODS	**Modra-Piesok**	**44.89**	**328**	*e*P	P	18 42 13.1	+7.0
RONA	**Rosalia, Austr**	**44.98**	**327**	*e*P	**P**	**18 42 08.1**	**+1.2**
	comp=Z,2.0nm,0.7s						
GOMU	**GeErMu**	**45.10**	**52**	P	**P**	**18 42 05.1**	**-3.3**
GOMU				S	S	18 48 36.2	-12
GOMU				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GOMU				LR	LR		
	comp=N,140nm,13.2s						
GOMU				LR	LR		
	comp=E,270nm,16.6s						
GOMU				LR	LR		
	comp=Z,400nm,15.4s						
KIRV	**Kirov**	**45.20**	**359**	P	**P**	**18 42 09.8**	**+1.5**
	comp=Z,3.9nm,0.6s,baz=162,slow=18,SNR=2.3						
KIRV				PP	**PP**	**18 43 56.9**	**+3.0**
	comp=Z,3.1nm,0.5s,baz=37,slow=20,SNR=1.4						
KIRV				LR	LR	19 04 43.8	
	comp=Z,483nm,18.4s,baz=166,slow=41 comp=Z,3.9nm,0.6s						
OBKA	**Obir**	**45.24**	**324**	*e*P	**P**	**18 42 08.2**	**-0.8**
	comp=Z,3.0nm,1.1s						
CONA	**Conrad Observa**	**45.35**	**327**	*e*P	**P**	**18 42 10.5**	**+0.6**
	comp=Z,4.9nm,1.8s						
NACGM	**Naroch**	**45.70**	**340**	*e*P	**P**	**18 42 13.5**	**+1.1**
	comp=Z,7.0nm,0.8s,baz=146						
MYKA	**Terra Mystica**	**45.83**	**324**	*e*P	**P**	**18 42 14.0**	**+0.4**
	comp=Z,3.2nm,1.0s						
VRAC	**Vranov**	**45.83**	**329**	LR	LR	19 02 33.5	
	comp=Z,92nm,20.5s,baz=118,slow=38						
CHTO	**Chiang Mai**	**45.98**	**77**	P	**P**	**18 42 14.5**	**-0.6**
CM31	**Chiang Mai Arr**	**45.98**	**77**	P	**P**	**18 42 15.2**	**0.0**
CMAR	**Chiang Mai Arr**	**45.98**	**77**	P	**P**	**18 42 16.1**	**+0.9**
	comp=Z,5.2nm,1.1s,baz=274,slow=8.7,SNR=28 comp=Z,5.2nm,1.1s						
SUW	**Suwalki**	**46.25**	**337**	P	**P**	**18 42 18.2**	**+1.4**
TEOL	**Teolo**	**46.31**	**322**	P	**P**	**18 42 18.2**	**+0.9**
TEOL				IAmb	IAmb	18 43 02.4	
	comp=Z,5.6nm,0.8s						
TSUM	**Tsumeb**	**46.36**	**226**	P	**P**	**18 42 17.4**	**-0.8**
TSUM				IAmb	IAmb	18 42 30.2	
	comp=Z,9.8nm,1.4s						
ABTA	**Abfaltersbach**	**46.54**	**324**	*e*P	**P**	**18 42 21.8**	**+2.5**
	comp=Z,2.7nm,0.9s						
GERES	**GERESS Array B**	**47.06**	**327**	P	**P**	**18 42 26.7**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=106,slow=6.5,SNR=2.3						
GERES				LR	LR	19 05 02.4	
	comp=Z,92nm,18.6s,baz=126,slow=40 comp=Z,0.3nm,0.3s						
WTTA	**Wattenberg**	**47.32**	**324**	*e*P	**P**	**18 42 23.5**	**-2.0**
	comp=Z,3.5nm,1.0s						
WATA	**Walderalm**	**47.40**	**324**	*e*P	**P**	**18 42 26.5**	**+0.5**
	comp=Z,3.4nm,1.1s						
MOTA	**Moosalm**	**47.67**	**324**	*e*P	**P**	**18 42 29.7**	**+1.5**
	comp=Z,14nm,1.8s						
TORD	**Torodi Ar. Bea**	**48.24**	**276**	P	**P**	**18 42 34.0**	**+1.1**
	comp=Z,6.3nm,0.8s,baz=76,slow=7.9,SNR=48						
TORD				PcP	**PcP**	**18 44 01.0**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=77,slow=4.6,SNR=2.0						
TORD				LR	LR	19 03 25.2	
	comp=Z,148nm,19.4s,baz=118,slow=37 comp=Z,6.3nm,0.8s						
TUE	**Stuetta**	**48.27**	**322**	P	**P**	**18 42 33.6**	**+0.7**

MYKOM IAmb IAmb 18 43 17.9
comp=Z,11nm,1.1s
SUR Sutherland 54.02 212 LR LR 19 08 15.9
comp=Z,244nm,18.3s,baz=30,slow=38
HFS Hagfors 54.26 338 P **P** **18 43 18.0 +0.7**
comp=Z,2.4nm,0.9s,baz=145,slow=8.6,SNR=1.4
HFS LR LR 19 10 23.1
comp=Z,238nm,18.2s,baz=135,slow=40
comp=Z,2.4nm,0.9s
MDT Midelt 54.36 301 LR LR 19 08 09.2
comp=Z,245nm,18.8s,baz=100,slow=38
ESBB Sonseca Array 55.01 309 P **P** **18 43 24.9 +1.7**
ESDC Sonseca Array 55.01 309 P **P** **18 43 25.2 +2.0**
comp=Z,2.1nm,0.8s,baz=103,slow=6.4,SNR=12
ESDC LR LR 19 08 20.4
comp=Z,86nm,18.4s,baz=94,slow=38
comp=Z,2.1nm,0.8s
PAB San Pablo 55.27 309 P **P** **18 43 26.1 +0.9**
PAB IAmb IAmb 18 43 39.3
comp=Z,12nm,1.2s
NC602 NORSAR Array S 55.46 338 P **P** **18 43 26.5 +0.5**
DBIC Dimbokro 55.62 269 LR LR 19 05 50.0
comp=Z,137nm,18.8s,baz=76,slow=34
NOA NORSAR Array B 55.78 338 P **P** **18 43 29.3 +0.9**
comp=Z,0.9nm,0.8s,baz=123,slow=7.7,SNR=2.6
NOA LR LR 19 11 10.4
comp=Z,252nm,18.2s,baz=135,slow=40
comp=Z,0.9nm,0.8s
SONM Songino Array 56.99 41 P **P** **18 43 38.0 +0.6**
comp=Z,1.3nm,0.9s,baz=232,slow=7.2,SNR=7.2
SONM LR LR 19 12 59.4
comp=Z,67nm,18.8s,baz=286,slow=41
comp=Z,1.3nm,0.9s
ARCES ARCESS Array B 58.50 350 P **P** **18 43 48.7 +1.3**
comp=Z,3.8nm,0.9s,baz=141,slow=5.8,SNR=2.4
ARCES LR LR 19 12 02.9
comp=Z,453nm,20.1s,baz=144,slow=39
comp=Z,3.8nm,0.9s
HHC Hu-ho-hao-te 58.95 50 *eP* **P** **18 43 52.6 +1.3**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,94nm,4.2s
HHC LR LR
comp=N,100nm,14.5s
HHC LR LR
comp=E,170nm,15.3s
HHC LR LR
comp=Z,240nm,15.3s
EKA Eskdalemuir Ar 59.27 327 P **P** **18 43 54.0 +1.0**
comp=Z,0.4nm,0.5s,baz=116,slow=7.2,SNR=1.7
comp=Z,0.4nm,0.5s
NRIK Noril'sk 60.48 14 LR LR 19 13 41.2
comp=Z,146nm,18.3s,baz=181,slow=40
NJ2 Nanjing 64.10 61 *eP* **P** **18 44 25.2 -0.8**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
SPITS Spitsbergen Ar 67.13 353 P **P** **18 44 45.9 +1.0**
comp=Z,13nm,1.0s,baz=131,slow=6.6,SNR=2.1
SPITS LR LR 19 17 26.7
comp=Z,128nm,19.8s,baz=114,slow=39
comp=Z,13nm,1.0s
JMIC Jan Mayen 67.87 342 LR LR 19 17 57.0
comp=Z,90nm,18.2s,baz=83,slow=39
KAPI Kappang 70.33 100 LR LR 19 12 14.9
comp=Z,71nm,21.0s,baz=271,slow=33
BORG Borgarnes 70.65 334 LR LR 19 20 18.5
comp=Z,60nm,19.3s,baz=116,slow=39
KSRS Korea Array 71.45 55 P **P** **18 45 11.0 -1.3**
comp=Z,0.3nm,0.3s,baz=277,slow=7.3,SNR=2.1
KSRS LR LR 19 17 34.0
comp=Z,33nm,18.8s,baz=255,slow=37
comp=Z,0.3nm,0.3s
JOW Kunigami 72.59 66 LR LR 19 17 02.2
comp=Z,78nm,21.4s,baz=264,slow=36
YAK Yakutsk 72.87 29 P **P** **18 45 20.5 +0.2**
comp=Z,3.4nm,0.3s,baz=43,slow=1.8,SNR=2.7
YAK LR LR 19 19 21.6
comp=Z,65nm,21.1s,baz=278,slow=37
comp=Z,3.4nm,0.3s
TIXI Tiksi 73.52 19 P **P** **18 45 23.9 -0.1**
comp=Z,0.4nm,0.2s,baz=306,slow=6.4,SNR=1.2
TIXI LR LR 19 22 21.6
comp=Z,91nm,18.4s,baz=254,slow=40
comp=Z,0.4nm,0.2s
USRK Ussuriysk Ar. 74.18 48 LR LR 19 22 17.7
comp=Z,44nm,19.8s,baz=285,slow=39
JNU Nakatsue 74.18 59 LR LR 19 20 14.0
comp=Z,49nm,19.6s,baz=268,slow=38
BATI Baumata 75.50 104 LR LR 19 16 20.1
comp=Z,60nm,20.4s,baz=282,slow=34
NWAO Narrogin (SRO) 77.86 128 LR LR 19 14 28.8
comp=Z,190nm,18.6s,baz=260,slow=31
FITZ Fitzroy Crossi 79.66 111 P **P** **18 46 00.1 +0.4**
comp=Z,0.7nm,0.7s,baz=230,slow=8.5,SNR=1.0
comp=Z,0.7nm,0.7s
MJAR Matsushiro Arr 79.73 55 LR LR 19 22 00.7
comp=Z,63nm,21.7s,baz=294,slow=36
MAW Mawson 81.14 176 P **P** **18 46 07.3 +0.7**
comp=Z,0.9nm,0.7s,baz=317,slow=7.8,SNR=3.6
MAW LR LR 19 15 56.0
comp=Z,153nm,20.1s,baz=348,slow=31
comp=Z,0.9nm,0.7s
JHJ Hachijo jima 2 81.58 58 LR LR 19 21 57.7
comp=Z,35nm,21.6s,baz=101,slow=35
ASAJ Asahikawa 81.82 47 LR LR 19 25 09.9
comp=Z,60nm,18.5s,baz=338,slow=38
SFJD Kangerlussuaq 82.45 337 LR LR 19 25 42.3
comp=Z,87nm,20.3s,baz=56,slow=38
MA2 Magadan 83.35 30 LR LR 19 25 55.8
comp=Z,76nm,19.6s,baz=311,slow=38
WRA Warramunga Arr 88.07 111 P **P** **18 46 43.0 +0.3**
comp=Z,0.3nm,0.6s,baz=296,slow=4.0,SNR=4.7
comp=Z,0.3nm,0.6s
WB0 Warramunga Arr 88.07 111 P **P** **18 46 41.9 -0.8**
WB0 IAmb IAmb 18 46 50.5
comp=Z,5.7nm,0.9s
WR0 Warramunga Arr 88.26 111 P **P** **18 46 42.1 -1.5**
ASAR Alice Springs 88.63 115 P **P** **18 46 45.5 +0.1**
comp=Z,0.2nm,0.4s,baz=288,slow=4.8,SNR=6.8
ASAR LR LR 19 21 49.1
comp=Z,70nm,18.0s,baz=285,slow=32
comp=Z,0.2nm,0.4s
PETK Petropavlovsk- 89.01 35 LR LR 19 28 51.9
comp=Z,77nm,20.9s,baz=295,slow=37
RES Resolute Bay 89.67 352 LR LR 19 30 28.4
comp=Z,120nm,20.1s,baz=15,slow=38
GUMO Guam 90.29 76 LR LR 19 25 28.5
comp=Z,13nm,21.6s,baz=39,slow=34
FRB Frobisher Bay 90.60 337 LR LR 19 30 21.0
comp=Z,49nm,18.7s,baz=98,slow=37
SNAA Sanae 92.12 195 LR LR 19 21 00.4
comp=Z,70nm,21.9s,baz=11,slow=31
SCHQ Schefferville 94.53 329 LR LR 19 31 16.0
comp=Z,45nm,20.1s,baz=295,slow=36
STKA Stephens Creek 97.14 121 LR LR 19 28 51.1
comp=Z,90nm,18.5s,baz=216,slow=34
INK Inuvik 98.51 2 LR LR 19 37 30.2
comp=Z,94nm,21.8s,baz=284,slow=39
LPAZ La Paz 121.57 259 PKP **PKiKP** **18 52 48.1 +1.0**
comp=Z,1.1nm,0.3s,baz=341,slow=7.4,SNR=2.1
PLCA Paso Flores 122.65 230 PKP **PKiKP** **18 52 48.0 0.0**
comp=Z,1.1nm,0.9s,baz=55,slow=12,SNR=1.2
NVAR Mina Array Bea 127.61 350 PKP **PKiKP** **18 52 58.7 +0.5**
comp=Z,0.5nm,0.7s,baz=357,slow=3.0,SNR=3.7
TXAR Lajitas Array 131.20 331 PKP **PKiKP** **18 53 04.4 -1.1**
comp=Z,0.2nm,0.3s,baz=0.0,slow=0.2,SNR=1.9

*IDC **10** 18:36:50.7±1.8, 0°.53N×123°.26E, h0km, mb3.3/3, mbtmp3.5/4, ML4.1/1, Error ellipse: s-maj=131.1km s-min=26.3km az=65.0*
*NEIC **10** 18:37:12.0±2.2, 0°.2N±0°.1×123°.09E±0°.07, h193km±11km, mb4.2/9, Error ellipse: s-maj=15.8km s-min=7.2km az=205.0*
ISC 10 18:37:11.5±0.7, 0°.19N±0°.08×123°.04E±0°.06, h200km, n18, σ1§62/21, mb3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.25**	**192**		**Pn**		**18 37 42.9**	**-0.4**
LUWI					Sn	**Sn**	**18 38 04.3**	**-3.5**
TOLI2	**Tolitoli**	**2.44**	**292**		**Pn**		**18 37 55.0**	**+0.3**
TOLI2					Sn	**Sn**	**18 38 24.8**	**-3.6**
TNTI	**Ternate**	**4.37**	**82**		**Pn**		**18 38 17.6**	**-0.3**
TNTI					Sn	**Sn**	**18 39 09.5**	**-0.6**
UGM	**Wanagama**	**14.85**	**237**	P	**P**		**18 40 35.4**	**+2.5**
MTN	**Manton Dam**	**15.24**	**149**		**P**		**18 40 37.5**	**+0.3**
MTN					IAmb	IAmb	18 40 38.9	
	comp=Z,26nm,1.4s							
KNRA	**Kununurra**	**16.75**	**161**		**P**		**18 40 54.1**	**+0.3**
KNRA					IAmb	IAmb	18 41 04.9	
	comp=Z,17nm,1.3s							
FITZ	**Fitzroy Crossi**	**18.35**	**172**	P	**P**		**18 41 10.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.35**	**172**	P	**P**		**18 41 11.0**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=353,slow=9.9,SNR=19							
	comp=Z,2.7nm,0.6s							
WB0	**Warramunga Arr**	**22.74**	**151**	P	**P**		**18 41 56.2**	**-0.5**
WB0					IAmb	IAmb	18 42 14.1	
	comp=Z,4.7nm,1.2s							
WRA	**Warramunga Arr**	**22.87**	**152**	P	**P**		**18 41 57.5**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=327,slow=11,SNR=16							
	comp=Z,0.5nm,0.3s							
WB2	**Warramunga Arr**	**22.87**	**152**	P	**P**		**18 41 57.1**	**-0.9**
WB2					IAmb	IAmb	18 42 40.9	
	comp=Z,5.0nm,1.2s							
ASAR	**Alice Springs**	**25.96**	**157**	P	**P**		**18 42 27.1**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=343,slow=14,SNR=7.3							
	comp=Z,0.2nm,0.5s							
JMN	**Monobe**	**34.88**	**16**	P	**P**		**18 43 42.5**	**-1.5**
BBOO	**Buckleboo**	**35.05**	**161**	P	**P**		**18 43 43.5**	**-2.0**
STKA	**Stephens Creek**	**36.41**	**153**	P	**P**		**18 43 57.6**	**+0.6**
CN2	**Changchun**	**43.47**	**3**	*eP*	**P**		**18 44 55.0**	**+0.1**
MK31	**Makanchi Array**	**58.47**	**328**	P	**P**		**18 46 48.9**	**+2.2**
MKAR	**Makanchi Array**	**58.47**	**328**	P	**P**		**18 46 47.5**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=125,slow=7.6,SNR=1.4							
	comp=Z,0.1nm,0.3s							

*IDC **10** 18:52:43.3±1.1, 27°.32S×71°.18W, h0km, mb4.0/6, mbtmp3.9/8, ML3.7/2, MS3.7/6, Error ellipse: s-maj=50.6km s-min=21.8km az=109.0*
*GUC **10** 18:52:44.9±0.7, 27°.33S×71°.42W, h35km±5km, ML4.0*
ISC 10 18:52:42.9±0.7, 27°.31S±0°.04×71°.36W±0°.08, h10km, n33, σ1§62/32, mb4.0/6, MS4.0/6, 2C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AC06	**Mina Casimiro**	**0.90**	**94**	⇓*i* P		**Pn**	**18 53 02.1**	**+0.5**
AC06				*i* S		**Sn**	**18 53 15.0**	**+0.3**
AC04	**Llanos de Chal**	**0.93**	**164**	⇓*i* P		**Pn**	**18 53 01.6**	**-0.5**
AC04				*i* S		**Sn**	**18 53 14.2**	**-1.3**
AC04				IAML			18 53 16.6	
	comp=E,6μm,0.4s							
GO03	**Copiapo**	**1.04**	**106**	⇓*i* P		**Pn**	**18 53 04.5**	**+0.9**
GO03				*e* S		**Sn**	**18 53 19.8**	**+1.5**
AC01	**Pan de Azucar**	**1.34**	**31**	⇑*i* P		**Pg**	**18 53 07.8**	**-0.8**
LCO	**Las Campanas**	**1.80**	**161**	⇓*i* P		**Pb**	**18 53 15.4**	**-0.6**
CO05	**La Serena**	**2.61**	**178**	*eP*		**Pb**	**18 53 26.2**	**-3.5**
CO05				IAML			18 54 13.1	
	comp=E,666nm,0.4s							
CO05				IAML			18 54 17.6	
	comp=N,704nm,0.4s							
GO02	**Mina Guanaco**	**2.66**	**37**	*i* P		**Pb**	**18 53 27.9**	**-2.9**
GO02				*i* S		**Sb**	**18 54 01.2**	**-2.5**
GO02				IAML			18 54 19.0	
	comp=E,713nm,0.6s							
PB14	**IPOC Station P**	**2.80**	**18**	⇑*e* P		**Pn**	**18 53 27.4**	**-0.7**
CO01	**Juntas del Tor**	**2.89**	**158**	*eP*		**Pb**	**18 53 31.9**	**-2.8**
CO01				*e* S		**Sb**	**18 54 06.3**	**-3.8**
GO04	**Tololo Observa**	**2.90**	**170**	*i* P		**Pn**	**18 53 30.5**	**+1.1**
GO04				*i* S		**Sn**	**18 54 05.2**	**+0.7**
CO06	**Fray Jorge**	**3.37**	**184**	*eP*		**Pn**	**18 53 34.6**	**-1.0**
CO06				IAML			18 54 42.3	
	comp=E,121nm,0.2s							
CO03	**El Pedregal**	**3.57**	**171**	*eP*		**Pn**	**18 53 39.6**	**+1.1**
CO03				IAML			18 54 47.7	
	comp=E,318nm,0.6s							
PB15	**IPOC Station P**	**4.42**	**23**	*eP*		**Pn**	**18 53 50.7**	**+0.4**
CO04	**Los Peladeros**	**4.73**	**176**	*eP*		**Pn**	**18 53 54.6**	**-0.1**
H03N1	**Juan Fernandez**	**8.94**	**225**	T		T	19 04 28.6	
	baz=52,slow=71,SNR=91							
H03N2	**Juan Fernandez**	**8.95**	**225**	T		T	19 04 28.6	
	baz=52,slow=71,SNR=91							
H03N3	**Juan Fernandez**	**8.96**	**225**	T		T	19 04 23.5	
	baz=52,slow=71,SNR=91							
LPAZ	**La Paz**	**11.37**	**16**	Pn		**Pn**	**18 55 25.4**	**-0.6**
	comp=E,0.2nm,0.3s,baz=197,slow=6.9,SNR=2.5							
	comp=E,0.8nm,0.5s							
SIV	**San Ignacio**	**14.76**	**42**	Pn		**Pn**	**18 56 10.8**	**-1.1**
	baz=253,slow=15,SNR=2.0							
	comp=E,0.6nm,0.4s							
BDFB	**Brasilia**	**24.58**	**67**	P		**P**	**18 58 04.0**	**+0.6**
	comp=E,2.1nm,0.6s,baz=192,slow=9.3,SNR=3.4							
BDFB				LR		LR	19 08 18.9	
	comp=E,30nm,19.7s,baz=317,slow=38							
	comp=E,2.1nm,0.6s							
SNAA	**Sanae**	**57.59**	**160**	P		**P**	**19 02 34.0**	**+1.3**
	comp=E,0.9nm,0.6s,baz=291,slow=12,SNR=6.4							
	comp=E,0.9nm,0.6s							
QSPA	**South Pole Qui**	**62.91**	**180**	P		**P**	**19 03 10.8**	**+1.6**
	comp=E,0.3nm,0.4s,baz=313,slow=2.3,SNR=6.9							
QSPA				LR		LR	19 31 09.6	
	comp=E,117nm,18.2s,baz=254,slow=37							
	comp=E,0.3nm,0.4s							
SADO	**Sadowa**	**72.08**	**354**	LR		LR	19 40 31.2	
	comp=E,38nm,18.8s,baz=120,slow=40							
DBIC	**Dimbokro**	**72.56**	**73**	P		**P**	**19 04 11.9**	**+1.2**
	comp=E,0.8nm,0.4s,baz=6.3,slow=8.0,SNR=1.4							
	comp=E,0.8nm,0.4s							
MAW	**Mawson**	**79.42**	**164**	P		**P**	**19 04 50.8**	**+1.9**
	comp=E,0.9nm,0.5s,baz=205,slow=7.5,SNR=6.4							
	comp=E,0.9nm,0.5s							
ULM	**Lac du Bonnet**	**80.22**	**344**	LR		LR	19 41 19.9	
	comp=E,69nm,21.0s,baz=56,slow=36							
TORD	**Torodi Ar. Bea**	**81.40**	**70**	P		**P**	**19 05 01.7**	**+1.3**
	comp=E,1.4nm,0.7s,baz=272,slow=5.0,SNR=8.6							
	comp=E,1.4nm,0.7s							
URZ	**Urewera**	**88.61**	**227**	LR		LR	19 39 21.0	
	comp=E,84nm,18.0s,baz=344,slow=32							
MSVF	**Nonsavu**	**99.21**	**245**	LR		LR	19 43 02.0	
	comp=E,51nm,20.2s,baz=188,slow=30							
WRA	**Warramunga Arr**	**126.84**	**211**	PKP		**PKiKP**	**19 11 48.7**	**+0.6**
	comp=E,0.4nm,1.0s,baz=160,slow=1.9,SNR=1.8							
KURBB	**Kurchatov Arra**	**147.36**	**36**	PKPbc		**PKiKP**	**19 12 28.4**	**-0.4**
	comp=E,1.5nm,0.6s,baz=304,slow=3.2,SNR=21							
ZALV	**Zalesovo Beam**	**148.13**	**27**	PKPbc		**PKPab**	**19 12 30.3**	**-1.0**
	comp=E,2.0nm,0.7s,baz=316,slow=4.1,SNR=10							
MKAR	**Makanchi Array**	**151.57**	**40**	PKPbc		**PKiKP**	**19 12 38.9**	**+1.2**
	comp=E,1.5nm,0.7s,baz=344,slow=2.1,SNR=13							

*DNK **10** 19:06:36.7±3.5, 71°.27N×9°.89W, h9km±51km, ML1.8*
*BER **10** 19:06:37.6±2.6, 71°.21N×9°.83W, h0km±30km, mb(Pn)3.8, ML2.9, ML1.8(DNK), Confirmed Earthquake*
ISC 10 19:06:35.6±0.8, 71°.43N±0°.05×9°.53W±0°.06, h10km, n19, σ2§62/33, 4C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.54**	**138**	⇑*i* P		**Pg**	**19 06 46.3**	**+0.2**
JNW				*e* S		**Sg**	**19 06 51.8**	**-1.5**
JNW				IAML			19 06 53.1	
	comp=Z,1μm,0.2s							
JMIC	**Jan Mayen**	**0.56**	**143**	⇑*i* P		**Pg**	**19 06 46.3**	**-0.2**
JMIC				*e* S		**Sg**	**19 06 52.4**	**-1.4**
JMIC				IAML			19 06 53.7	
	comp=Z,679nm,0.5s							
JMIC	**Jan Mayen**	**0.56**	**143**	*i* P		**Pg**	**19 06 46.3**	**-0.2**
JMIC				*i* S		**Sg**	**19 06 52.4**	**-1.4**
JMI	**Jan Mayen**	**0.57**	**152**	⇑*e* P		**Pg**	**19 06 46.6**	**0.0**
JMI				*e* S		**Sg**	**19 06 52.9**	**-1.2**
JMI				IAML			19 06 53.7	
	comp=Z,402nm,0.2s							
JNE	**Jan Mayen East**	**0.60**	**137**	⇑*i* P		**Pg**	**19 06 46.9**	**-0.3**
JNE				*e* S		**Sg**	**19 06 53.4**	**-1.7**
JNE				IAML			19 06 56.4	
	comp=Z,1μm,0.2s							
SCO	**Scoresbysund**	**4.18**	**263**	*i* P		**Pn**	**19 07 39.6**	**+0.3**
SCO	**Scoresbysund**	**4.18**	**263**	*i* P		**Pn**	**19 07 39.6**	**+0.3**
DBG	**Daneborg**	**4.28**	**317**	*i* P		**Pn**	**19 07 41.7**	**+1.0**
DBG				*i* S		**Sn**	**19 08 27.8**	**-2.7**
DBG				IAML			19 08 30.9	
	comp=Z,2.8nm,0.3s							
DBG	**Daneborg**	**4.28**	**317**	*i* P		**Pn**	**19 07 41.7**	**+1.0**
DBG				*i* S		**Sn**	**19 08 27.8**	**-2.7**
DBG				IAML			19 08 30.9	
	comp=Z,2.8nm,0.3s							
DAG	**Danmarks Havn**	**5.91**	**339**	*i* P		**Pn**	**19 08 04.9**	**+1.8**
DAG				*i* S		**Sn**	**19 09 08.2**	**-2.5**
DAG				IAML			19 09 13.0	
	comp=Z,5.4nm,0.2s							
DAG	**Danmarks Havn**	**5.91**	**339**	*i* P		**Pn**	**19 08 04.9**	**+1.8**
DAG				*i* S		**Sn**	**19 09 08.2**	**-2.5**
DAG				IAML			19 09 13.0	
	comp=Z,5.4nm,0.2s							
BJO1	**Bjornoya**	**8.85**	**57**	*eP*		**Pn**	**19 08 47.0**	**+3.6**
SUMG	**Summit**	**8.97**	**291**	*i* P		**Pn**	**19 08 49.2**	**+3.8**
SUMG				*i* S		**Sn**	**19 10 23.0**	**-3.5**
SUMG	**Summit**	**8.97**	**291**	*i* P		**Pn**	**19 08 49.2**	**+3.8**
SUMG				*i* S		**Sn**	**19 10 23.0**	**-3.5**
BRBB	**Barentsburg B**	**9.05**	**32**	*eP*		**Pn**	**19 08 48.9**	**+2.8**
KBS	**Kingsbay**	**9.23**	**26**	*eP*		**Pn**	**19 08 50.3**	**+1.8**
KBS				*e* S		**Sn**	**19 10 28.6**	**-3.6**
KBS				IAML			19 10 35.7	
	comp=Z,2.8nm,0.6s							
KBS	**Kingsbay**	**9.23**	**26**	*i* P		**Pn**	**19 08 49.9**	**+1.4**
KBS				*i* S		**Sn**	**19 10 27.6**	**-4.5**
SPA0	**Spitsbergen Ar**	**9.47**	**33**	*eP*		**Pn**	**19 08 55.3**	**+3.5**
NOR	**Nord**	**10.35**	**354**	*i* P		**Pn**	**19 09 05.5**	**+1.8**
NOR				*i* S		**Sn**	**19 10 54.0**	**-5.5**
NOR				IAML			19 11 00.6	
	comp=Z,2.3nm,0.3s							

IDC 10 19:09:07.2±5.0, 17°.71S×178°.24W, h582km±23km, mb3.2/3, mbtmp4.1/4, Error ellipse: s-maj=116.4km s-min=81.2km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.54**	**269**	P		P	19 10 28.2	-0.1
	9.1nm,0.6s,baz=83,slow=7.9,SNR=8.4							
STKA	**Stephens Creek**	**38.87**	**241**	P		P	19 15 43.9	+0.1
	3.3nm,0.8s,baz=88,slow=12,SNR=4.7							
	3.3nm,0.8s							
WRA	**Warramunga Arr**	**44.83**	**259**	P		P	19 16 30.6	-0.2
	0.6nm,0.3s,baz=96,slow=7.5,SNR=26							
	0.6nm,0.3s							
ASAR	**Alice Springs**	**45.00**	**254**	P		P	19 16 31.9	-0.2
	4.6nm,0.6s,baz=87,slow=8.6,SNR=98							
ASAR				PcP		PcP	19 18 00.1	-0.5
	0.2nm,0.5s,baz=110,slow=3.5,SNR=1.9							
	4.6nm,0.6s							

*IDC **10** 19:49:09.4±8.8, 36°.56N×71°.01E, h95km±74km, mb3.4/5, mbtmp3.7/9, ML3.4/4, Error ellipse: s-maj=71.9km s-min=25.0km az=37.0*
*NNC **10** 19:49:12.4±3.1, 37°.09N×70°.42E, h116km±55km, mb3.3, mpv3.8, Error ellipse: s-maj=27.2km s-min=18.2km az=36.0*
ISC 10 19:49:10.5±1.3, 36°.8N±0°.1×70°.7E±0°.1, h100km, n26, σ1§77/28, mb3.6/5, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.76**	**23**	P		**Pn**	**19 50 34.4**	**+0.6**
	SNR=17							
KK31	**Karatay Array**	**6.26**	**359**	⇑P		**Pn**	**19 50 39.5**	**-0.8**
	0.6nm,0.1s,baz=34,slow=5.7,SNR=50							
KK31				⇓S		**Sn**	**19 51 47.4**	**-3.0**
	7.1nm,0.3s,baz=198,slow=18,SNR=9.0							
EKS2	**Erkin-Say**	**6.27**	**21**	P		**Pn**	**19 50 41.7**	**+1.1**
	SNR=5.6							
AAK	**Ala-Archa**	**6.48**	**25**	P		**Pn**	**19 50 44.6**	**+1.2**
	SNR=12							
AAK	**Ala-Archa**	**6.48**	**25**	P		**Pn**	**19 50 44.6**	**+1.2**
	3.1nm,0.3s,baz=176,slow=5.9,SNR=37							
AAK				S		**Sn**	**19 51 54.7**	**-1.1**
	7.0nm,0.3s,baz=6.1,slow=23,SNR=7.9							
	5.7nm,0.3s							
KBK	**Karagaybulak**	**6.66**	**28**	P		**Pn**	**19 50 46.8**	**+0.9**
	SNR=6.2							
ULHL	**Ulahol**	**6.88**	**37**	P		**Pn**	**19 50 50.4**	**+1.6**
	SNR=7.3							
CHMS	**Chumysh**	**6.88**	**25**	P		**Pn**	**19 50 49.7**	**+0.9**
	SNR=9.6							
CHMS	**Chumysh**	**6.88**	**25**	⇓P		**Pn**	**19 50 49.3**	**+0.6**
	8.4nm,0.4s							
CHMS				⇑S		**Sn**	**19 52 05.0**	**-0.5**
	11nm,0.8s							
USP	**Ospenovka**	**7.04**	**23**	P		**Pn**	**19 50 51.1**	**+0.2**
	SNR=8.4							
TKM2	**Tokmak 2**	**7.13**	**30**	P		**Pn**	**19 50 53.5**	**+1.2**
	SNR=13							
TKM2	**Tokmak 2**	**7.13**	**30**	⇑P		**Pn**	**19 50 52.7**	**+0.3**
	6.1nm,0.6s							
MDOK	**Medeo**	**7.96**	**36**	P		**Pn**	**19 51 04.5**	**+1.0**
	2.4nm,0.6s							
MK31	**Makanchi Array**	**13.15**	**37**	P		**Pn**	**19 52 15.7**	**+2.4**
	0.5nm,0.3s,baz=203,slow=9.2,SNR=21							
MKAR	**Makanchi Array**	**13.15**	**37**	P		**Pn**	**19 52 13.1**	**-0.1**
	0.1nm,0.3s,baz=215,slow=12,SNR=2.2							
	0.4nm,0.8s							
AB31	**Akbulak array**	**14.68**	**331**	⇓P		Pn	19 52 29.0	-4.0
	0.6nm,0.3s,baz=162,slow=12,SNR=82							
AB31				⇑S		Sn	19 55 07.9	-6.9
	0.6nm,0.4s,baz=153,slow=24,SNR=5.5							
KURBB	**Kurchatov Arra**	**14.87**	**20**	P		**Pn**	**19 52 37.5**	**+2.1**
	0.1nm,0.3s,baz=204,slow=11,SNR=6.6							
	0.7nm,0.8s							
BVAR	**Borovoye Array**	**16.19**	**359**	P		**Pn**	**19 52 50.1**	**-1.8**
	0.3nm,0.4s,baz=166,slow=13,SNR=3.6							
AKTO	**Aktyubinsk**	**16.38**	**330**	⇓P		**Pn**	**19 52 51.5**	**-2.7**
	0.7nm,0.5s							
AKTO	**Aktyubinsk**	**16.38**	**330**	P		**Pn**	**19 52 52.2**	**-2.0**
	1.8nm,0.4s,baz=162,slow=4.2,SNR=8.3							
AKTO				S		Sn	19 55 47.1	-8.6
	1.6nm,0.8s,baz=150,slow=14,SNR=2.7							
ZALV	**Zalesovo Beam**	**19.70**	**25**	P		**P**	**19 53 32.6**	**+1.0**
	1.0nm,0.3s,baz=217,slow=11,SNR=19							
	2.7nm,0.3s							
ARTI	**Arti**	**21.25**	**341**	P		**P**	**19 53 50.9**	**+2.6**
	1.6nm,0.5s,baz=151,slow=19,SNR=3.7							
	1.6nm,0.5s							
HFS	**Hagfors**	**42.67**	**322**	P		**P**	**19 56 58.1**	**+1.2**
	0.8nm,0.5s,baz=92,slow=13,SNR=4.4							
	0.8nm,0.5s							
NOA	**NORSAR Array B**	**43.98**	**323**	P		**P**	**19 57 10.9**	**+3.4**
	1.1nm,1.0s,baz=97,slow=8.5,SNR=3.0							
	1.1nm,1.0s							
WRA	**Warramunga Arr**	**82.35**	**122**	P		**P**	**20 01 19.8**	**-1.7**
	0.5nm,0.8s,baz=326,slow=5.0,SNR=3.1							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**84.63**	**125**	P		**P**	**20 01 30.4**	**-2.6**
	0.5nm,0.7s,baz=306,slow=5.5,SNR=5.9							
	0.5nm,0.7s							

IDC 10 19:52:15.6±2.3, 6°.29S×129°.33E, h0km, mb3.4/1, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=148.4km s-min=31.7km az=68.0, Banda Sea

| Code

TIWZ	Tintock	2.18	191	P	Pn	19 56 01.4	+0.4
OGWZ	Otaki Gorge	2.39	204	P	Pn	19 56 03.9	+0.1
KIW	Kapiti Island	2.52	207	P	Pn	19 56 05.0	-0.4
MTW	Mount Morrison	2.62	196	P	Pn	19 56 06.3	-0.5
CAW	Cannon Point	2.69	203	P	Pn	19 56 07.0	-0.6
PAWZ	Paruwai Farm	2.85	195	P	Pn	19 56 08.8	-1.1
DUWZ	D'Urville Isla	2.91	221	P	Pn	19 56 09.1	-1.5
MSWZ	Moikau Station	2.92	198	P	Pn	19 56 09.7	-1.2
TCW	Tory Channel	3.06	212	P	Pn	19 56 11.2	-1.4
PLWZ	Palliser	3.07	197	P	Pn	19 56 11.4	-1.4
TUWZ	Tuamarina	3.38	214	P	Pn	19 56 16.1	-0.8

NEIC 10 19:56:02.6±2.9, 38°.13N±0°.01×122°.09W±0°.01, h5^{km}±1^{km}, Error ellipse: s-maj=3.3km s-min=1.9km az=195.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAM	Taylor	0.12	151		Pg	19 56 07.7	+2.7
CRQB	Carquinez Brid	0.13	236		Pg	19 56 05.9	+0.7
C018	Christie Drive	0.15	189		Pg	19 56 06.2	+0.6
CPIM	Pinole Ridge	0.17	216		Pg	19 56 05.4	-0.6
CPIM					Sg	19 56 07.7	-0.6
HERB	Hercules	0.18	230		Pg	19 56 06.6	+0.5
NGVM		0.18	327		Pg	19 56 08.1	+1.9
C010	Sunflower Cour	0.20	161		Pg	19 56 07.7	+1.3
C067	Fleetwood El S	0.22	226		Pg	19 56 05.9	-1.0
CSPM	San Pablo Ridg	0.24	226		Pg	19 56 06.5	-0.9
PINL	Point Pinole R	0.25	242		Pg	19 56 06.4	-1.0
PINL					Sg	19 56 09.3	-1.4
CRPB	Russellman Par	0.26	146		Pb	19 56 09.0	-0.8
CVPM	Vollmer Peak	0.27	203		Pg	19 56 07.3	-0.5
C024	33rd St Richmo	0.27	227		Pg	19 56 06.5	-1.3
C024					Sg	19 56 09.4	-1.9
C011	Colusa Avenue,	0.27	216		Pg	19 56 06.9	-1.0
C011					Sg	19 56 10.0	-1.5
BKS	Berkeley--Byer	0.28	205		Pg	19 56 07.3	-0.6
BKS					Sg	19 56 10.5	-1.1
VAK	Adit at Lawren	0.28	207		Pg	19 56 07.3	-0.7
VAK					Sg	19 56 10.6	-1.1
BL88	Building 88, L	0.28	208		Pg	19 56 07.3	-0.8
BL88					Sg	19 56 10.8	-1.0
C008	Spokane Avenue	0.28	215		Pg	19 56 07.0	-1.1
C008					Sg	19 56 10.1	-1.7
BL67	Building 67, L	0.28	207		Pg	19 56 07.4	-0.7
BL67					Sg	19 56 10.6	-1.3
CMSB	University of	0.29	207		Pg	19 56 07.4	-0.7
CMSB					Sg	19 56 10.6	-1.3
BRK	Berkeley--Havi	0.29	208		Pg	19 56 07.3	-0.8
BRK					Sg	19 56 10.6	-1.4
RFSB	Richmond Field	0.29	223		Pg	19 56 06.9	-1.3
RFSB					Sg	19 56 09.8	-2.1
SMCB	Saint Mary's C	0.29	184		Pg	19 56 08.4	+0.2
SNT	Sears Point	0.29	281		Pg	19 56 08.2	0.0
C028	Eucalyptus Rd	0.30	204		Pg	19 56 07.8	-0.7
C028					Sg	19 56 11.3	-1.1
C047	Rutherford Dri	0.30	170		Pb	19 56 09.5	-1.0
CPMM	Point Molate	0.31	235		Pg	19 56 07.2	-1.4
BGC	Bolinger Road	0.31	176		Pg	19 56 09.1	+0.5
C013	Ascot Lane Oak	0.32	195		Pg	19 56 08.3	-0.3
C033	Glashaus Lp Em	0.32	209		Pg	19 56 07.8	-1.0
C033					Sg	19 56 11.5	-1.6
C064	Brunell Drive	0.33	193		Pg	19 56 08.6	-0.4
NAPC	Atlas Peak	0.34	337		Pb	19 56 10.9	-0.2
C005	Mandana Bl Oak	0.34	200		Pg	19 56 08.4	-0.7
C057	Hedge Avenue B	0.35	119		Pb	19 56 12.6	+1.2
CMCM	Mills College	0.35	191		Pg	19 56 09.1	-0.3
QRDG	Quail Ridge Na	0.35	353		Sb	19 56 19.7	+2.4
CVS	Carmenet Viney	0.36	307		Pg	19 56 09.7	+0.1
CVS					Sg	19 56 15.0	+0.6
CVS	Carmenet Viney	0.36	307	IAML		19 56 16.5	
	comp=E,8μm,0.4s						
CVS				IAML		19 56 17.2	
	comp=N,5μm,0.5s						
CYBM	Yerba Buena Is	0.38	214		Pg	19 56 08.8	-1.2
C058	Eastshore Driv	0.39	196		Pg	19 56 09.6	-0.4
C058					Sg	19 56 14.7	-0.4
CMOB	Morgan Territo	0.39	145		Pb	19 56 11.7	-0.3
CLCB	Lake Chabot	0.39	177		Pg	19 56 10.4	+0.3
C045	Hawkins Drive	0.39	165		Pb	19 56 11.4	-0.6
CSLM	San Leandro Hi	0.41	183		Pg	19 56 10.3	-0.1
C044	Maitland Drive	0.41	196		Pg	19 56 10.1	-0.5
JPRM	Presidio of Sa	0.45	223		Pg	19 56 10.0	-1.2
C055	Cottonwood Ave	0.47	182		Pg	19 56 11.5	-0.1
CBSNC	Byron Hot Spri	0.47	131		Pb	19 56 13.7	+0.4
C062	Calle Reynoso	0.48	162		Pb	19 56 13.3	-0.2
C069	Rotal Creek Pl	0.50	162		Pg	19 56 13.1	+0.8
JSBM	San Bruno Moun	0.51	209		Pg	19 56 11.2	-1.2
J061	Lakeshore Driv	0.51	219		Pg	19 56 11.2	-1.2
CBZL	Buffer Zone	0.53	146		Pb	19 56 14.6	+0.3
CNIC	Niles Canyon	0.53	169		Pg	19 56 13.0	+0.3
CVLM	Vallecito	0.54	158		Pb	19 56 14.1	-0.4
CSAM	Sandia	0.55	146		Pb	19 56 15.1	+0.5
NOLM	Olema	0.56	261		Pg	19 56 12.0	-1.4
WENL	Wente Vineyard	0.57	152		Pb	19 56 14.8	-0.2
JCPM	Coyote Point	0.57	199		Pg	19 56 12.7	-0.9
JMGM	Milagra Ridge	0.58	212		Pg	19 56 12.4	-1.3
SAC	San Andreas	0.60	206		Pg	19 56 13.1	-1.1
MCCM	Marconi Confer	0.62	272	Pg	Pg	19 56 13.3	-1.3
MCCM				Sg	Sg	19 56 21.0	-1.7
NHSM	Mount Saint He	0.67	322		Pg	19 56 15.6	+0.1
CSTL	Corral Hollow	0.68	136		Pb	19 56 16.8	0.0
CSTL	Corral Hollow	0.68	136		Pb	19 56 17.1	+0.3
JSFB	Stanford Teles	0.73	185		Pg	19 56 15.9	-0.6
NMTM	Middletown	0.73	338		Pb	19 56 17.9	+0.1
JRSC	Jasper Ridge	0.73	189		Pg	19 56 15.8	-0.9
CMLM	Mount Lewis	0.74	152		Pb	19 56 17.4	-0.5
NPRM	Point Reyes	0.74	260		Pg	19 56 15.1	-1.7
JFP	Foothills Park	0.77	186		Pg	19 56 16.6	-0.7
GAXM	Alexander Vall	0.78	318		Pg	19 56 17.3	-0.3
JSJM	St Joseph	0.79	180		Pg	19 56 17.2	-0.6
MNRC	McLaughlin Min	0.80	340		Pb	19 56 19.1	+0.2
JBMM	Black Mountain	0.81	184		Pg	19 56 17.4	-0.7
CMMM	Mount Mocho	0.82	145		Pb	19 56 19.0	-0.4
GBGM	Boggs Mountain	0.83	326		Pg	19 56 18.9	+0.5
FARB	Farallon Islan	0.84	239		Pg	19 56 16.7	-2.0
SCCB	Santa Clara Co	0.86	168		Pg	19 56 19.3	+0.3
MHC	Mount Hamilton	0.86	156		Pg	19 56 19.1	0.0
MTOS	Mt Oso, Westle	0.87	136		Pb	19 56 19.8	-0.3
MTOS	Mt Oso, Westle	0.87	136	IAML		19 56 35.8	
	comp=E,947nm,0.5s						
MTOS				IAML		19 56 36.5	
	comp=N,1μm,0.7s						
GGPM	Geyser Peak	0.87	317		Pg	19 56 18.8	-0.4
GSGM	Seigler Mounta	0.88	327		Pb	19 56 20.0	-0.4
ARN	Arnold Ranch	0.89	150		Pg	19 56 19.7	0.0
GSSM	Skaggs Springs	0.93	309		Pg	19 56 19.8	-0.5
JJOM	Saint Joseph's	0.93	174		Pg	19 56 19.4	-0.9
GRTM	Round Top Moun	0.93	331		Pg	19 56 20.6	+0.2
CCOB	Coe Ranch Numb	0.93	159		Pg	19 56 20.4	+0.1
JPSM		0.95	193		Pg	19 56 19.1	-1.7
GCVM	Cloverdale	0.97	312		Pg	19 56 20.3	-0.9
CMPM	Mikes Peak	0.98	141		Pg	19 56 21.6	+0.2
GPMM	Pine Mountain	0.98	317		Pg	19 56 21.1	-0.4
GHCM	House Creek	0.99	299		Pg	19 56 19.9	-1.7
JLAB	Laurel Hill	1.01	164		Pg	19 56 21.4	-0.6
SUTB	Sutter Butte	1.12	12		Pg	19 56 23.2	-0.9
SUTB	Sutter Butte	1.12	12	IAML		19 56 45.4	
	comp=N,672nm,0.4s						
SUTB				IAML		19 56 47.0	
	comp=E,582nm,0.5s						
HLPM	Lions Peak	1.15	161		Pg	19 56 23.2	-1.3
GHS	Gilroy Hot Spr	1.15	154		Pg	19 56 23.5	-1.1
OSUM	Sutter Buttes	1.16	9		Pg	19 56 24.2	-0.6
HOPS	Hopland Field	1.16	319		Pg	19 56 23.1	-1.7
HOPS	Hopland Field	1.16	319	IAML		19 56 50.1	
	comp=E,444nm,1.7s						
HOPS				IAML		19 56 57.6	
	comp=N,388nm,1.1s						
GSNM	Snow Mountain	1.19	313		Pg	19 56 23.2	-2.1
AFDM	Forest Hills D	1.20	47		Pb	19 56 25.9	+0.1
AFDM				IAML		19 56 44.1	
	comp=N,451nm,0.6s						
CDC	Canada Road	1.20	156		Pg	19 56 24.7	-0.9
JELB	Ellicott, Sant	1.22	170		Pg	19 56 24.6	-1.4
HCBM	Chamberlain	1.24	164		Pg	19 56 24.5	-1.9
SCKWR	San Luis Creek	1.24	139		Pg	19 56 26.1	-0.2
PACP	Pacheco Peak	1.29	150		Pg	19 56 25.9	-1.3
OSTM	Stimpson Lane	1.30	17		Pn	19 56 25.8	-1.6
GGUM	Gualala	1.32	304		Pn	19 56 24.6	-3.2
CMB	Columbia Colle	1.35	93		Pn	19 56 27.7	-0.4
CMB	Columbia Colle	1.35	93	IAML		19 56 52.5	
	comp=N,315nm,0.8s						
HTUM	Tustin Road	1.35	165		Pn	19 56 25.4	-2.7
HERM	Elkhorn Road	1.36	167		Pn	19 56 25.8	-2.4
SAO	San Andreas Ge	1.46	159		Pn	19 56 27.2	-2.3
MYLM	Yosemite Lake	1.52	119		Pn	19 56 29.6	-0.7
BSRM	Salinas Radio	1.53	163		Pn	19 56 27.9	-2.6
HMOM	Monterey	1.53	175		Pn	19 56 27.7	-2.8
OGOM	Van Goodin Ran	1.57	14		Pn	19 56 30.7	-0.4
BPCNC	Pine Canyon	1.60	167		Pn	19 56 29.6	-1.9
SCZ	Santa Cruz	1.62	160		Pn	19 56 29.4	-2.4
BJCM	Johnson Can.	1.67	160		Pn	19 56 30.1	-2.4
BAVM	Antelope Valle	1.70	150		Pn	19 56 31.6	-1.4
BVL	Bear Valley	1.71	155		Pn	19 56 31.0	-2.0
GTC	Three Chop Rid	1.71	318		Pn	19 56 30.9	-2.2
BBGB	Big Mountain B	1.76	151		Pn	19 56 32.5	-1.3
EMB	Emerald Bay	1.77	61		Pb	19 56 35.8	+0.1
HAST	Hastings Reser	1.79	166		Pn	19 56 31.7	-2.5
BPIM	Pinnacles	1.79	156		Pn	19 56 32.1	-2.0
BMSM	Mercy Hot Spri	1.79	145		Pn	19 56 33.2	-1.0
BSGM	Shirttail Gulc	1.84	158		Pn	19 56 32.7	-2.0
DONR	Donner Summit	1.84	48		Pn	19 56 35.8	+0.7
BPOM	Post Ranch	1.91	172		Pn	19 56 33.2	-2.7
KCPM	Cahto Peak	1.94	324		Pn	19 56 36.2	-0.2
KCPM				IAML		19 57 15.0	
	comp=E,126nm,1.5s						
MMIM	Miami Mountain	1.99	110		Pn	19 56 37.4	+0.4
MPK	Martis Peak	1.99	53		Pb	19 56 39.5	+0.1
LCMM	Colby Mountain	2.06	12		Pn	19 56 38.9	+0.8
O02D	Mt. Diablo Mer	2.12	345		Pn	19 56 39.0	+0.3
WAKR	Walker	2.12	79		Pb	19 56 41.1	-0.5
WAKR				IAML		19 57 16.8	
	comp=N,145nm,0.6s						
WAKR				IAML		19 57 23.7	
	comp=E,218nm,0.8s						
PMPB	Monarch Peak	2.17	151		Pn	19 56 38.3	-1.1
PMPB				IAML		19 57 26.8	
	comp=E,288nm,0.8s						
PMPB				IAML		19 57 28.5	
	comp=N,251nm,1.1s						
PNTR	Pine Nut	2.17	63		Pb	19 56 42.2	-0.4
O03E	Paynes Creek	2.17	6		Pn	19 56 38.6	-0.9
O03E	Paynes Creek	2.17	6	IAML		19 57 10.4	
	comp=N,91nm,0.6s						
O03E				IAML		19 57 28.0	
	comp=E,160nm,0.7s						
HULI	Fort Hunter Li	2.21	162		Pn	19 56 38.3	-1.7
HULI	Fort Hunter Li	2.21	162	IAML		19 57 27.8	
	comp=E,205nm,1.5s						
PEAR	Peavine Mounta	2.22	48		Pb	19 56 42.2	-1.1
PDRM	Domengine Ranc	2.25	142		Pn	19 56 40.0	-0.6
PPTM	Peach Tree Val	2.29	151		Pn	19 56 39.8	-1.3
PSAM	San Ardo	2.31	155		Pn	19 56 39.9	-1.4
LDBM	Digger Butte	2.31	6		Pn	19 56 41.2	-0.2
KCC	Kaiser Creek	2.34	109		Pn	19 56 42.9	+1.2
LRDM	Redding Peak	2.38	12		Pb	19 56 44.2	-1.8
YERR	Yerington	2.39	68		Pn	19 56 44.2	+1.6
KMRM	Mail Ridge	2.44	329		Pn	19 56 42.9	-0.2
MINS	Minaret Summit	2.44	100		Pb	19 56 45.5	-1.7
MDCM	Deadman Creek	2.45	99		Pb	19 56 45.5	-1.6
OMMB	Old Mammoth Mi	2.50	101		Pn	19 56 45.8	+1.7
OMMB				IAML		19 57 21.8	
	comp=E,77nm,0.6s						
OMMB				IAML		19 57 35.5	
	comp=N,84nm,0.8s						
PAHR	Pah Rah Range	2.63	52		Pn	19 56 47.4	+1.5
PAHR				IAML		19 57 40.6	
	comp=E,116nm,1.0s						
PWKM	Work Ranch	2.63	151		Pn	19 56 44.7	-1.0
HATC	Hat Creek Radi	2.73	10		Pn	19 56 48.9	+1.8
HATC				IAML		19 57 39.4	
	comp=N,91nm,1.0s						
HATC				IAML		19 57 52.2	
	comp=E,100nm,1.1s						
LBCM	Butte Creek Ri	2.76	12		Pn	19 56 49.4	+1.7
KMPM	Mount Pierce	2.78	326		Pn	19 56 46.9	-0.9
KMPM				IAML		19 57 09.4	
	comp=N,61nm,1.8s						
LHV	Little Huntoon	2.83	86		Pb	19 56 51.1	-2.4
LHV				IAML		19 57 48.8	
	comp=E,125nm,0.7s						
LHV				IAML		19 57 54.6	
	comp=N,119nm,0.9s						
RYN	Ryan	2.85	79		Pn	19 56 50.5	+1.7
RYN				IAML		19 57 43.5	
	comp=N,58nm,0.8s						
RYN				IAML		19 57 47.4	
	comp=E,58nm,0.5s						
KHMM	Horse Mountain	3.02	336	Pn	Pn	19 56 51.9	+0.7
NV11	Mina Array Sit	3.11	83	Pn	Pn	19 56 54.2	+1.8
NV11				IAML		19 57 56.4	
	comp=E,42nm,1.0s						
KVN	Kaiserville	3.26	72	Pn	Pn	19 56 55.9	+1.4
KVN				IAML		19 58 00.4	
	comp=E,66nm,0.9s						
KVN				IAML		19 58 03.4	
	comp=N,72nm,1.2s						
DSP	Deep Springs	3.35	102	Pn	Pn	19 56 58.4	+2.8
DSP				IAML		19 57 52.9	
	comp=N,57nm,1.1s						
DSP				IAML		19 57 54.2	
	comp=E,75nm,1.0s						
YBH	Yreka Blue Hor	3.63	353		Pn	19 57 00.8	+1.2
MZP	Montezuma Peak	3.75	95		Pn	19 57 03.5	+2.2
ISA	Isabella, Lake	3.80	129	Pn	Pn	19 57 02.4	+0.5
ISA				IAML		19 58 20.6	
	comp=E,30nm,1.1s						
BCW	Bitter Crk WRg	3.84	145		Pn	19 57 03.1	+0.7
BCW				IAML		19 58 41.8	
	comp=N,61nm,1.8s						
GMN	Gold Mountain	3.92	101		Pn	19 57 05.4	+1.8
GMN				IAML		19 58 15.8	
	comp=E,21nm,1.0s						
GMN				IAML		19 58 25.3	
	comp=N,28nm,0.8s						
L04D	Klamath Falls	4.09	358	Pn	Pn	19 57 08.1	+2.2
L04D				IAML		19 58 09.9	
	comp=E,23nm,4.1s						
L04D				IAML		19 59 03.7	
	comp=N,19nm,4.3s						
HUMO	Hull Mountain	4.52	352	Pn	Pn	19 57 13.6	+1.9
ELK	Elko	5.91	62	Pn	Pn	19 57 32.8	+1.8

CATAC 10 20:11:03.3±0.9, 11°.17N×87°.38W, h12^{km}±11^{km}, ML3.6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.27	38	*i* P	Pn	20 11 26.1	-0.8
COPN				IAML		20 11 33.8	
	comp=Z,1μm,1.0s						
SAPS	Ciudad Sandino	1.38	44	*i* P	Pn	20 11 27.9	-0.5
SAPS				IAML		20 11 37.8	
	comp=Z,1μm,1.0s						
SABN	Sabanita	1.43	57	*i* P	Pn	20 11 28.8	-0.3
SABN				IAML		20 12 13.7	
	comp=Z,3μm,1.0s						
NANN	Nandasmo	1.45	58	*i* P	Pn	20 11 29.6	+0.2
NANN				IAML		20 11 37.6	
	comp=Z,12μm,1.0s						
NANN				*i* S	Sn	20 11 47.7	-0.7
APQ2	Apoyeque	1.45	45	*i* P	Pn	20 11 29.0	-0.4
APQ2				IAML		20 11 38.9	
	comp=Z,760nm,1.0s						
MAS3	Al N del Volca	1.46	54	*i* P	Pn	20 11 28.9	-0.6
MAS3				IAML		20 11 45.9	
	comp=Z,770nm,1.0s						
CNGA	Al SSO del Vol	1.48	27	*i* P	Pn	20 11 29.2	-0.6
CNGA				IAML		20 11 36.5	
	comp=Z,670nm,1.0s						
MOMN	Momotombo	1.48	34	*i* P	Pn	20 11 29.0	-0.9
MOMN				IAML		20 11 40.2	
	comp=Z,35nm,1.0s						
MOMN				*i* S	Sn	20 11 49.4	+0.2
MOM2	El Cardon	1.54	35	*i* P	Pn	20 11 30.2	-0.3
MOM2				IAML		20 11 37.7	
	comp=Z,2μm,1.0s						
MOM2				*i* S	Sb	20 11 51.5	+0.3
ILCN	San Idelfonso	1.55	25	*i* P	Pn	20 11 29.9	-0.9
ILCN				IAML		20 11 40.0	
	comp=Z,270nm,1.0s						
ILCN				*i* S	Sb	20 11 51.4	-0.2
CRIN	San Cristobal	1.56	12	*i* P	Pn	20 11 31.0	+0.1
CRIN				IAML		20 11 57.5	
	comp=Z,2μm,1.0s						
CSGN	Cosiguina Volc	1.80	355	*i* P	Pn	20 11 34.8	+0.5
CSGN				*i* S	Sn	20 11 56.9	-0.3
CSGN				IAML		20 12 05.0	
	comp=Z,130nm,1.0s						
LIMN	Finca el Limon	2.13	28	*i* P	Pn	20 11 38.1	-0.7
LIMN				IAML		20 11 56.6	
	comp=Z,280nm,1.0s						
ACON	Acoyapa	2.30	70	*i* P	Pn	20 11 41.3	+0.2
ACON				IAML		20 12 05.2	
	comp=Z,150nm,1.0s						
RCPN	Sur Rio San Ju	2.66	28	*i* P	Pn	20 11 46.8	+0.7
RCPN				IAML		20 11 57.4	
	comp=Z,0.5nm,1.0s						

*CNRM **10** 20:24:47.0, 36°.54N×9°.66W, h64^{km}*
*MDD **10** 20:24:49.7±1.3, 36°.70N×9°.80W, h42^{km}±36^{km}, mb_Lg2.9/9, Error ellipse: s-maj=10.0km s-min=6.2km az=48.0*
*SFS **10** 20:24:49.5, 36°.65N×9°.77W, h42^{km}, ML2.9/15, ML3.2/13, MLv2.5/15*
*INMG **10** 20:24:50.7±1.0, 36°.71N×9°.69W, h22^{km}±3^{km}, ML2.1, Error ellipse: s-maj=3.8km s-min=2.9km az=52.0*
*IGIL **10** 20:24:51.1, 36°.74N×9°.69W, h21^{km}, ML1.9*

ISC 10 20:24:47.2±1.4, 36°.61N±0°.03×9°.78W±0°.06, h35^{km}, n65,
σ1^{s}59/108, **3C, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	0.92	56⇑	*e*P	Pn	20 25 05.3	+1.6
PFVI				*e*S	Sn	20 25 16.5	+0.8
PFVI				A	A	20 25 17.5	
	22nm,0.1s						
PFVI	Vila Bisbo	0.92	56	Pn	Pn	20 25 05.3	+1.6
PFVI				Sn	Sn	20 25 16.3	+0.5
PFVI	Vila Bisbo	0.92	56	P	Pn	20 25 04.3	+0.6
MORF	Marmelete	1.14	52	*e*P	Pn	20 25 08.3	+1.7
MORF				*e*S	Sn	20 25 21.5	+0.5
MORF				A	A	20 25 22.5	
	27nm,0.3s						
MORF	Marmelete	1.14	52	*e*P	Pn	20 25 08.3	+1.7
MORF				*e*S	Sn	20 25 21.2	+0.2
MORF				IAML		20 25 22.2	
	comp=E,28nm,0.1s						
PTEO	Sao Teotonio	1.26	42	*e*P	Pn	20 25 10.0	+1.7
PTEO				*e*S	Sn	20 25 24.2	+0.3
PTEO				A	A	20 25 24.7	
	comp=E,17nm,0.2s						
PBDV	Barranco-do-Ve	1.61	66⇑	*e*P	Pn	20 25 15.1	+2.0
PBDV				*e*S	Sn	20 25 33.8	+1.1
PCVE	Castro Verde	1.72	53	*e*P	Pn	20 25 16.6	+1.9
PCVE				*e*S	Sn	20 25 35.7	+0.2
PCVE				A	A	20 25 37.5	
	comp=E,12nm,0.6s						
PCVE	Castro Verde	1.72	53	Pn	Pn	20 25 16.4	+1.7
PCVE				Sn	Sn	20 25 35.7	+0.2
MESJ	Messejana	1.75	45	*e*P	Pn	20 25 16.6	+1.6
MESJ				*e*S	Sn	20 25 36.1	+0.1
MESJ				A	A	20 25 39.9	
	comp=E,8.7nm,0.1s						
MESJ	Messejana	1.75	45	*e*P	Pn	20 25 16.6	+1.6
MESJ				*e*S	Sn	20 25 35.6	-0.4
MESJ				IAML		20 25 36.1	
	comp=N,8.6nm,0.3s						
PVAQ	Vaqueiros	1.83	64⇑	*e*P	Pn	20 25 18.0	+1.9
PVAQ				*e*S	Sn	20 25 38.1	0.0
PVAQ				A	A	20 25 40.1	
	comp=N,10nm,0.2s						
PVAQ	Vaqueiros	1.83	64	Pn	Pn	20 25 18.0	+1.9
PVAQ				Sn	Sn	20 25 38.0	0.0
PVAQ	Vaqueiros	1.83	64	P	Pn	20 25 17.1	+1.0
PVAQ	Vaqueiros	1.83	64	S	Sn	20 25 37.7	-0.4
EGRO	El Granado	2.05	63	Pn	Pn	20 25 21.1	+1.9
EGRO				Sn	Sn	20 25 43.3	-0.3
EGRO	El Granado	2.05	63	Pn	Pn	20 25 20.5	+1.3
EGRO				Sn	Sn	20 25 42.4	-1.2
EGRO				*i* Vmb_Lg		20 25 49.6	
PBEJ	Beja	2.08	47	*e*P	Pn	20 25 21.1	+1.5
PBEJ				*e*S	Sn	20 25 43.7	-0.5
PBEJ				A	A	20 25 45.5	
	comp=N,5.9nm,0.2s						
PACT	Alcochete	2.28	19	*e*P	Pn	20 25 24.2	+1.9
PACT				*e*S	Sn	20 25 49.2	+0.1
PACT				A	A	20 25 49.2	
	comp=N,14nm,0.3s						
PMAFR	Mafra	2.37	9	*e*P	Pn	20 25 24.7	+1.1
PMAFR				*e*S	Sn	20 25 50.6	-0.9
PMAFR	Mafra	2.37	9	Pn	Pn	20 25 24.4	+0.8
PMAFR				Sn	Sn	20 25 50.4	-1.1
EVO	Evora	2.37	36	*e*P	Pn	20 25 24.8	+1.2
EVO				*e*S	Sn	20 25 50.5	-1.0
EVO				A	A	20 25 50.6	
	comp=N,14nm,0.1s						
EVO	Evora	2.37	36	Pn	Pn	20 25 24.7	+1.0
EVO				Sn	Sn	20 25 50.3	-1.2
PBAR	Barrancos	2.68	54	*e*P	Pn	20 25 29.6	+1.7
PBAR				*e*S	Sn	20 25 58.7	-0.4
PBAR				A	A	20 26 00.6	
	comp=N,4.8nm,0.4s						
PBAR	Barrancos	2.68	54	Pn	Pn	20 25 29.4	+1.5
PBAR				Sn	Sn	20 25 58.8	-0.4
EMIN	Mina Concepcio	2.73	64	Pn	Pn	20 25 29.9	+1.3
EMIN				Sn	Sn	20 25

PAB				*i* Vmb_Lg		20 27 02.3	
ELOB	**Lobios**	**5.41**	**14**	Pn	**Pn**	**20 26 05.7**	**+0.2**
ELOB				Sn	**Sn**	**20 27 01.3**	**-5.3**
ELOB				*i* Vmb_Lg		20 27 06.9	
MD31	**MD31**	**5.57**	**131**	P	**Pn**	**20 26 07.7**	**0.0**
MD31	**MD31**	**5.57**	**131**	S	**Sn**	**20 27 07.8**	**-2.7**
OUK	**Oukaimeden**	**5.62**	**163**	P	Pn	20 26 07.6	-1.1
OUK	**Oukaimeden**	**5.62**	**163**	S	**Sn**	**20 27 09.9**	**-2.3**
PBRG	**Braganca**	**5.70**	**24**	*e*P	**Pn**	**20 26 10.8**	**+1.5**
PBRG				*e*S	**Sn**	**20 27 10.8**	**-2.7**
TIO	**Tiouine**	**6.05**	**159**	Pn	**Pn**	**20 26 16.1**	**+1.8**
TIO				Sn	**Sn**	**20 27 20.7**	**-1.6**
TIO	**Tiouine**	**6.05**	**159**	P	Pn	20 26 13.6	-0.7
TIO	**Tiouine**	**6.05**	**159**	S	**Sn**	**20 27 19.2**	**-3.1**
TTIG	**Tnine Tigouga,**	**6.15**	**169**	P	Pn	20 26 13.5	-2.2
TTIG	**Tnine Tigouga,**	**6.15**	**169**	S	**Sn**	**20 27 23.1**	**-1.8**
OUZM	**OUZ**	**6.22**	**155**	P	**Pn**	**20 26 16.6**	**0.0**
OUZM	**OUZ**	**6.22**	**155**	S	**Sn**	**20 27 24.9**	**-1.7**

*IDC **10** 20:49:38.5±0.8, 30°.65S×177°.99W, h0km, mb4.1/7, mbtmp4.1/7, MS3.4/5, Error ellipse: s-maj=26.8km s-min=18.3km az=104.0*
*NEIC **10** 20:49:40.9±1.3, 30°.68S±0°.06×177°.9W±0°.2, h10km±1km, mb4.4/11, Error ellipse: s-maj=31.5km s-min=10.6km az=86.0*
ISC 10 20:49:40.3±0.6, **30°.73S**±0°.06×**178°.0W**±0°.1, **h10**km, **n52,** σ1°**39**/41, **mb4.4**/14, **MS3.5**/3, **4C, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.48**	**4**	Pn	**Pn**	**20 50 07.1**	**+0.1**
RAO				Sn	**Sn**	**20 50 25.3**	**-1.1**
RAO	**Raoul Island**	**1.48**	**4**	Pn	**Pn**	**20 50 06.2**	**-0.8**
	59nm,0.3s,baz=105,slow=20,SNR=1.7						
RAO				Sn	**Sb**	**20 50 25.9**	**-0.8**
	268nm,0.3s,baz=126,slow=19,SNR=7.7						
URZ	**Urewera**	**8.51**	**207**	Pn	**Pn**	**20 51 41.0**	**-2.6**
	0.4nm,0.3s,baz=80,slow=1.9,SNR=1.7						
URZ				Sn	**Sn**	**20 53 15.8**	**-3.9**
	3.1nm,0.3s,baz=130,slow=17,SNR=14						
CTZ	**Chatham Island**	**13.03**	**175**	Pn	**Pn**	**20 52 46.6**	**+1.3**
MSVF	**Nonsavu**	**13.43**	**344**	LR	LR	20 57 10.4	
	comp=Z,85nm,21.0s,baz=221,slow=34						
DZM	**Mont Dzumac**	**16.36**	**298**	LR	LR	20 58 28.0	
	comp=Z,116nm,18.3s,baz=67,slow=32						
ARMA	**Armidale**	**26.09**	**263**	P	**P**	**20 55 18.3**	**+3.8**
ARMA				IAmb	IAmb	20 55 45.7	
	comp=Z,14nm,1.4s						
EIDS	**Eidsvold**	**27.73**	**273**	P	**P**	**20 55 30.5**	**+1.4**
EIDS				IAmb	IAmb	20 55 30.7	
	comp=Z,17nm,1.5s						
CTAO	**Charters Tower**	**33.83**	**280**	P	**P**	**20 56 25.1**	**+2.1**
STKA	**Stephens Creek**	**34.38**	**257**	P	**P**	**20 56 29.3**	**+1.6**
STKA				IAmb	IAmb	20 56 31.0	
	comp=Z,1.7nm,0.8s						
STKA	**Stephens Creek**	**34.38**	**257**	P	**P**	**20 56 29.0**	**+1.4**
	comp=Z,7.5nm,0.7s,baz=96,slow=13,SNR=24						
STKA				LR	LR	21 08 34.2	
	comp=Z,62nm,18.1s,baz=204,slow=33						
	comp=Z,7.5nm,0.7s						
BBOO	**Buckleboo**	**38.86**	**255**	P	**P**	**20 57 06.5**	**+0.6**
BBOO				IAmb	IAmb	20 57 07.6	
	comp=Z,22nm,1.5s						
COEN	**Coen**	**39.34**	**286**	P	**P**	**20 57 10.4**	**+0.3**
COEN				IAmb	IAmb	20 57 13.0	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**43.07**	**267**	P	**P**	**20 57 41.5**	**+0.8**
ASAR	**Alice Springs**	**43.07**	**267**	P	**P**	**20 57 40.4**	**-0.3**
ASAR	**Alice Springs**	**43.07**	**267**	P	**P**	**20 57 40.5**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=105,slow=7.1,SNR=36						
	comp=Z,2.6nm,0.7s						
WB2	**Warramunga Arr**	**44.08**	**273**	P	**P**	**20 57 48.9**	**+0.1**
WB2				IAmb	IAmb	20 57 50.3	
	comp=Z,3.9nm,0.7s						
WRA	**Warramunga Arr**	**44.09**	**273**	P	**P**	**20 57 49.3**	**+0.3**
WRA	**Warramunga Arr**	**44.09**	**273**	P	**P**	**20 57 48.3**	**-0.6**
	comp=Z,2.6nm,0.4s,baz=112,slow=8.1,SNR=36						
WRA				PcP	**PP**	**20 59 33.4**	**+1.8**
	comp=Z,0.7nm,0.9s,baz=127,slow=4.2,SNR=2.3						
	comp=Z,2.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**52.34**	**270**	LR	LR	21 19 52.0	
	comp=Z,45nm,18.8s,baz=170,slow=35						
BATI	**Baumata**	**57.67**	**278**	LR	LR	21 25 04.4	
	comp=Z,62nm,18.2s,baz=166,slow=37						
QSPA	**South Pole Qui**	**59.38**	**180**	P	**P**	**20 59 44.7**	**+2.1**
QSPA	**South Pole Qui**	**59.38**	**180**	P	**P**	**20 59 43.6**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=55,slow=3.5,SNR=3.0						
	comp=Z,0.8nm,0.5s						
MAW	**Mawson**	**71.99**	**201**	P	**P**	**21 01 04.2**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=134,slow=8.3,SNR=1.6						
	comp=Z,0.7nm,0.7s						
TROLL	**Troll, Antarti**	**77.54**	**180**	⇑P	**P**	**21 01 34.9**	**-1.2**
	comp=Z,110nm,0.7s						
SNAA	**Sanae**	**77.82**	**178**	P	**P**	**21 01 37.6**	**0.0**
SNAA				IAmb	IAmb	21 01 51.8	
	comp=Z,3.5nm,1.1s						
SNAA	**Sanae**	**77.82**	**178**	⇑P	**P**	**21 01 37.0**	**-0.6**
	comp=Z,27nm,0.7s						
SNAA	**Sanae**	**77.82**	**178**	P	**P**	**21 01 38.1**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=187,slow=16,SNR=1.3						
	comp=Z,0.6nm,0.6s						
VNA3	**Neumayer Olymp**	**77.97**	**176**	⇑P	**P**	**21 01 38.3**	**0.0**
	comp=Z,7.0nm,0.7s						
VNA2	**Neumayer--Watz**	**78.41**	**177**	⇑P	**P**	**21 01 40.5**	**-0.2**
	comp=Z,4.5nm,0.6s,baz=163,slow=5.3						
H03S2	**Juan Fernandez**	**80.30**	**124**	T	T	22 30 50.4	
	baz=238,slow=74,SNR=33						
H03S1	**Juan Fernandez**	**80.31**	**124**	T	T	22 30 52.5	
	baz=238,slow=74,SNR=22						
H03S3	**Juan Fernandez**	**80.32**	**124**	T	T	22 30 57.4	
	baz=238,slow=74,SNR=30						
H03N3	**Juan Fernandez**	**80.49**	**123**	T	T	22 31 07.2	
	baz=241,slow=72,SNR=7.5						
H03N2	**Juan Fernandez**	**80.50**	**123**	T	T	22 31 09.7	
	baz=241,slow=72,SNR=8.1						
H03N1	**Juan Fernandez**	**80.51**	**123**	T	T	22 31 05.5	
	baz=241,slow=72,SNR=16						
NVAR	**Mina Array Bea**	**88.50**	**43**	P	**P**	**21 02 33.2**	**0.0**
	comp=Z,0.4nm,0.6s,baz=222,slow=8.0,SNR=4.4						
	comp=Z,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**121.30**	**314**	PKP	**PKPdf**	**21 08 31.2**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=110,slow=1.7,SNR=5.3						
BVAR	**Borovoye Array**	**126.63**	**316**	PKP	**PKPdf**	**21 08 42.8**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=126,slow=5.3,SNR=3.5						
H10S3	**ASCENSION HYDR**	**137.43**	**155**	T	T	23 43 12.1	
	baz=16,slow=74,SNR=5.8						
H10S2	**ASCENSION HYDR**	**137.43**	**155**	T	T	23 43 10.9	
	baz=204,slow=74,SNR=4.8						
H10N3	**ASCENSION HYDR**	**138.52**	**155**	T	T	23 44 32.2	
	baz=204,slow=75,SNR=10						
H10N1	**ASCENSION HYDR**	**138.52**	**155**	T	T	23 44 38.4	
	baz=204,slow=75,SNR=17						
H10N2	**ASCENSION HYDR**	**138.53**	**155**	T	T	23 44 38.6	
	baz=204,slow=75,SNR=12						
FIA1	**FINESS Array S**	**145.45**	**340**	PKPbc	**PKPbc**	**21 09 16.9**	**-0.9**
FINES	**FINESS Array B**	**145.45**	**340**	PKPbc	**PKPbc**	**21 09 16.7**	**-1.1**
	comp=Z,7.7nm,0.7s,baz=39,slow=5.3,SNR=31						
NC303	**NORSAR Array S**	**148.88**	**351**	PKPbc	**PKPbc**	**21 09 27.1**	**-0.5**
NB2	**NORSAR Subarra**	**149.08**	**351**	PKP	**PKPbc**	**21 09 27.7**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**149.08**	**351**	PKPbc	**PKPbc**	**21 09 27.2**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=11,slow=4.1,SNR=4.0						
AKASG	**Malin Array Be**	**151.55**	**322**	PKPbc	**PKPbc**	**21 09 33.6**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=52,slow=2.5,SNR=7.5						
BRTR	**Keskin Array B**	**152.74**	**298**	PKPbc	**PKPbc**	**21 09 37.2**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=58,slow=3.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**162.50**	**179**	PKPab	**PKPab**	**21 10 30.7**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=191,slow=4.3,SNR=3.4						

*AFAD **10** 21:04:23.8±0.0, 35°.12N×27°.71E, h11km±2km, ML2.9*
*ATH **10** 21:04:26.9, 35°.25N×27°.82E, h8km±2km, ML3.1/6, Manual Solution by F.Gkika This location: 2020/09/23 13:20:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*NIC **10** 21:04:27.4, 35°.20N×27°.64E, h32km±22km, Ml3.1/8*
*ISK **10** 21:04:27.5, 35°.31N×27°.76E, h8km, ML3.0/11*
*THE **10** 21:04:28.4, 35°.33N×27°.77E, h0km±2km, ML2.9/3, Error ellipse: s-maj=5.7km s-min=1.9km az=146.0*
ISC 10 21:04:27.7±1.3, **35°.26N**±0°.04×**27°.78E**±0°.02, **h8**km±9km, **n61,** σ1°**00**/92, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.58**	**300**	Pg	**Pg**	**21 04 38.7**	**-0.2**
KARP				Sg	**Sg**	**21 04 46.3**	**-0.2**
KARP	**Karpathos**	**0.58**	**300**	P	**Pg**	**21 04 38.4**	**-0.5**
KARP				S	**Sb**	**21 04 47.8**	**-0.7**
	2μm,0.3s						
KARP	**Karpathos**	**0.58**	**300**	P	**Pg**	**21 04 38.5**	**-0.5**
KARP				S	**Sg**	**21 04 46.5**	**-0.1**
KARP				AML	AML	21 04 50.9	
	4.2nm,0.5s						
KARP				AML	AML	21 04 51.0	
	4.2nm,0.4s						
KARP	**Karpathos**	**0.58**	**300**	P	**Pg**	**21 04 38.3**	**-0.7**
KARP				S	**Sb**	**21 04 47.3**	**-1.3**
RGE1	**Gennadi, Rhode**	**0.78**	**9**	P	**Pg**	**21 04 41.6**	**-1.1**
RGE1				S	**Sg**	**21 04 52.7**	**-0.1**
ARG	**Arkhangelos**	**1.00**	**17**	P	**Pg**	**21 04 46.0**	**-0.9**
ARG				S	**Sb**	**21 05 01.0**	**+0.5**
	662nm,0.4s						
ARG	**Arkhangelos**	**1.00**	**17**	P	**Pg**	**21 04 46.0**	**-0.9**
ARG				S	**Sb**	**21 05 01.0**	**+0.5**
ARG				AML	AML	21 05 07.3	
	1.6nm,0.3s						
ARG				AML	AML	21 05 08.6	
	1.1nm,0.5s						
ARG	**Arkhangelos**	**1.00**	**17**	P	**Pg**	**21 04 46.0**	**-0.9**
ARG				S	**Sg**	**21 04 59.5**	**-0.3**
RDI1	**Rhodes Town Ha**	**1.24**	**17**	P	**Pn**	**21 04 50.3**	**-1.1**
RDI1				S	**Sb**	**21 05 06.9**	**-0.7**
ZKR	**Zakros**	**1.28**	**264**	Pn	**Pg**	**21 04 51.9**	**-0.5**
ZKR				Sn	**Sn**	**21 05 10.2**	**+0.8**
ZKR	**Zakros**	**1.28**	**264**	P	**Pg**	**21 04 51.7**	**-0.7**
ZKR				S	**Sn**	**21 05 11.7**	**+2.3**
	432nm,0.6s						
ZKR	**Zakros**	**1.28**	**264**	P	**Pn**	**21 04 51.3**	**-0.7**
ZKR				S	**Sn**	**21 05 09.5**	**+0.1**
YAZI	**Mula-Dat§a-**	**1.44**	**350**	P	**Pn**	**21 04 53.7**	**-0.5**
YAZI				S	**Sg**	**21 05 14.4**	**+0.3**
YAZI				*i* AML	AML	21 05 17.0	
	comp=E,156nm,0.6s						
YAZI				*i* AML	AML	21 05 18.0	
	comp=N,124nm,0.4s						
NISR	**Nisiros**	**1.45**	**339**	P	**Pn**	**21 04 53.6**	**-0.6**
NISR				S	**Sn**	**21 05 12.7**	**-0.7**
DAT	**Datca**	**1.48**	**354**	P	**Pn**	**21 04 54.6**	**-0.1**
DAT				S	**Sg**	**21 05 17.0**	**+1.8**
DAT				*i* AML	AML	21 05 18.0	
	comp=N,305nm,0.4s						
DAT				*i* AML	AML	21 05 21.0	
	comp=E,185nm,0.6s						
DAT	**Datca**	**1.48**	**354**	Pn	**Pn**	**21 04 54.2**	**-0.5**
DAT				Sn	**Sn**	**21 05 14.0**	**-0.2**
DAT	**Datca**	**1.48**	**354**	P	**Pn**	**21 04 54.3**	**-0.5**
DAT				S	**Sb**	**21 05 14.4**	**0.0**
MRSB	**Marmaris-Mugla**	**1.49**	**13**	Pn	**Pn**	**21 04 54.6**	**-0.3**
TURN	**Turunc**	**1.56**	**14**	P	**Pn**	**21 04 56.0**	**+0.3**
TURN				S	**Sg**	**21 05 19.5**	**+1.6**
TURN				*i* AML	AML	21 05 25.0	
	comp=E,156nm,0.3s						
TURN				*i* AML	AML	21 05 30.0	
	comp=N,166nm,0.4s						
TURN	**Turunc**	**1.56**	**14**	Pn	**Pn**	**21 04 55.6**	**-0.1**
IZZE	**Mula-Seydike**	**1.66**	**45**	P	**Pn**	**21 04 57.0**	**-0.2**
IZZE				*i* AML	AML	21 05 24.0	
	comp=E,115nm,0.4s						
IZZE				*i* AML	AML	21 05 39.0	
	comp=N,174nm,0.5s						
DALY	**Dalyan (Mula)**	**1.71**	**24**	Pn	**Pn**	**21 04 57.8**	**0.0**
KSL	**Kastellorizon**	**1.72**	**58**	P	**Pn**	**21 04 56.9**	**-1.0**
KSL				S	**Sn**	**21 05 18.5**	**-1.5**
FETY	**Fethiye**	**1.73**	**37**	P	**Pn**	**21 04 58.6**	**+0.5**
FETY				S	**Sg**	**21 05 25.2**	**+1.7**
FETY	**Fethiye**	**1.73**	**37**	Pn	**Pn**	**21 04 58.3**	**+0.1**
BDRM	**Kayabasi**	**1.82**	**352**	P	**Pn**	**21 04 59.2**	**-0.2**
BDRM				S	**Sn**	**21 05 23.0**	**+0.3**
BDRM				*i* AML	AML	21 05 31.0	
	comp=E,133nm,0.6s						
SABU	**Mula-Dalaman**	**1.83**	**31**	P	**Pn**	**21 04 59.2**	**-0.3**
SABU				S	**Sg**	**21 05 33.2**	**+6.4**
SABU				*i* AML	AML	21 05 34.0	
	comp=E,91nm,0.9s						
SABU				*i* AML	AML	21 05 39.0	
	comp=N,113nm,0.8s						
BODT	**Bodrum**	**1.84**	**348**	Pn	**Pn**	**21 04 59.3**	**-0.3**
BODT	**Bodrum**	**1.84**	**348**	P	**Pn**	**21 04 58.7**	**-0.9**
BODT				S	**Sn**	**21 05 22.4**	**-0.7**
YER	**Yerkesik**	**1.92**	**12**	Pn	**Pn**	**21 05 00.9**	**+0.2**
CAME	**Cameli-Denizli**	**2.09**	**36**	Pn	**Pn**	**21 05 03.3**	**+0.2**
THR8	**Santorini-Mono**	**2.19**	**302**	P	**Pn**	**21 05 04.3**	**-0.1**
THR6	**Thira Island,**	**2.22**	**300**	P	**Pn**	**21 05 04.6**	**-0.2**
THR3	**Thira Island,**	**2.25**	**301**	P	**Pn**	**21 05 05.3**	**+0.1**
SNT5	**Nea Kammeni, S**	**2.25**	**301**	P	**Pn**	**21 05 04.4**	**-0.8**
SNT5				S	**Sn**	**21 05 33.5**	**+0.4**
THR9	**Santorini-Faro**	**2.25**	**300**	P	**Pn**	**21 05 04.5**	**-0.7**
DNZT	**Denizli-Tavas-**	**2.25**	**26**	P	**Pn**	**21 05 06.3**	**+0.9**
DNZT				S	**Sb**	**21 05 37.6**	**+0.8**
DNZT				*i* AML	AML	21 05 47.0	
	comp=N,41nm,0.6s						
DNZT				*i* AML	AML	21 05 51.0	
	comp=E,47nm,0.7s						
CMBO	**Columbo, Santo**	**2.27**	**303**	P	**Pn**	**21 05 05.7**	**+0.1**
SAP3	**Santorini-Thir**	**2.30**	**301**	P	**Pn**	**21 05 05.5**	**-0.4**
IDI	**Anoyia**	**2.36**	**272**	Pn	**Pn**	**21 05 07.7**	**+0.9**
IDI	**Anoyia**	**2.36**	**272**	P	**Pn**	**21 05 07.3**	**+0.4**
SMG	**Samos**	**2.56**	**343**	P	**Pn**	**21 05 08.6**	**-0.9**
APE	**Apeiranthos**	**2.56**	**315**	Pn	**Pn**	**21 05 09.6**	**0.0**
APE	**Apeiranthos**	**2.56**	**315**	P	**Pn**	**21 05 08.9**	**-0.6**
ESEN	**Aydn-Nazilli**	**2.58**	**10**	P	**Pn**	**21 05 10.3**	**+0.6**
ESEN				*i* AML	AML	21 06 00.0	
	comp=E,44nm,1.0s						
ESEN				*i* AML	AML	21 06 03.0	
	comp=N,29nm,0.5s						
GVD	**Gavdhos**	**3.06**	**263**	P	**Pn**	**21 05 16.6**	**+0.3**
IMMV	**Iera Moni Meta**	**3.11**	**275**	P	**Pn**	**21 05 17.8**	**+0.8**
KNDR	**Palaiochora Ch**	**3.35**	**271**	P	**Pn**	**21 05 20.5**	**+0.2**
CHOS	**Chios island**	**3.41**	**337**	P	**Pn**	**21 05 20.8**	**-0.5**
ANKY	**Antikythira Is**	**3.70**	**281**	P	**Pn**	**21 05 25.5**	**+0.3**
AKMS	**Akamas**	**3.74**	**92**	P	**Pn**	**21 05 25.2**	**-0.6**
AKMS				S	**Sn**	**21 06 09.4**	**-0.6**
AKMS				AML	AML	21 06 14.9	
	0.1nm,0.9s						
AKMS				AML	AML	21 06 19.5	
	0.1nm,0.8s						
KARY	**Karystos**	**3.85**	**317**	P	**Pn**	**21 05 27.0**	**-0.4**
ALFC	**Alefka**	**3.95**	**90**	P	**Pn**	**21 05 27.5**	**-1.2**
ALFC				S	**Sn**	**21 06 14.8**	**-0.4**
ALFC				AML	AML	21 06 15.6	
	0.1nm,1.0s						
ALFC				AML	AML	21 06 22.3	
	0.1nm,0.5s						
NATA	**Nata**	**3.96**	**96**	P	**Pn**	**21 05 28.6**	**-0.2**
NATA				AML	AML	21 06 26.9	
	0.2nm,0.9s						
NATA				AML	AML	21 06 29.1	
	0.2nm,0.8s						
NATA	**Nata**	**3.96**	**96**	P	**Pn**	**21 05 27.8**	**-1.0**
VLY	**Voula,Athens**	**4.12**	**310**	P	**Pn**	**21 05 30.6**	**-0.3**
DION	**Dionisos Attik**	**4.18**	**313**	P	**Pn**	**21 05 31.4**	**-0.4**
TROD	**Troodos**	**4.18**	**93**	P	**Pn**	**21 05 30.7**	**-1.4**
TROD				S	**Sn**	**21 06 21.0**	**-0.2**
TROD				AML	AML	21 06 31.5	
TROD				AML	AML	21 06 36.4	
ASGA	**Asgata**	**4.51**	**94**	P	**Pn**	**21 05 36.0**	**-0.4**
ASGA				S	**Sn**	**21 06 29.1**	**0.0**
ASGA				AML	AML	21 06 35.7	
	0.1nm,0.8s						
ASGA				AML	AML	21 06 43.4	
	0.1nm,0.7s						
CSS	**Mathiatis**	**4.56**	**92**	P	**Pn**	**21 05 36.5**	**-0.5**
CSS				S	**Sn**	**21 06 30.1**	**-0.2**
CSS				AML	AML	21 06 32.3	
CSS				AML	AML	21 06 40.8	
MVOU	**Mavrovouni**	**4.80**	**91**	P	**Pn**	**21 05 39.9**	**-0.4**
MVOU				S	**Sn**	**21 06 37.5**	**+1.3**

*ATH **10** 21:21:02.4, 37°.62N×20°.72E, h9km±1km, ML2.3/16, Error ellipse: s-maj=2.0km s-min=0.7km az=43.0*
*THE **10** 21:21:02.5, 37°.68N×20°.74E, h14km±1km, ML2.5/8, Error ellipse: s-maj=2.9km s-min=1.3km az=233.0*
ISC 10 21:21:02.5±1.0, **37°.66N**±0°.04×**20°.74E**±0°.04, **h18**km±4km,

n41, σ0°**73**/62, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.07**	**88**	P	**Pg**	**21 21 05.8**	**0.0**
KRI1				S	**Sg**	**21 21 08.3**	**+0.3**
	13μm,0.3s						
LTHK	**Lithakia**	**0.10**	**58**	P	**Pg**	**21 21 05.8**	**-0.2**
LTHK				S	**Sg**	**21 21 08.3**	**-0.1**
	11μm,0.3s						
LTHK	**Lithakia**	**0.10**	**58**	P	**Pg**	**21 21 05.9**	**-0.2**
LTHK				S	**Sg**	**21 21 08.2**	**-0.1**
LTHK				AML	AML	21 21 08.9	
	comp=E,16064μm,0.1s						
LTHK				AML	AML	21 21 09.1	
	comp=N,18984μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.42**	**4**	P	**Pg**	**21 21 09.7**	**-1.3**
RTZL				S	**Sb**	**21 21 16.8**	**-0.6**
PSDA	**Pessada-Kefalo**	**0.47**	**345**	P	**Pb**	**21 21 12.1**	**-0.1**
PSDA				S	**Sb**	**21 21 19.5**	**+0.7**
VLS	**Valsamata**	**0.53**	**348**	P	**Pg**	**21 21 11.1**	**-2.0**
VLS				S	**Sb**	**21 21 20.3**	**-0.3**
	comp=N,382nm,0.3s						
VLS	**Valsamata**	**0.53**	**348**	P	**Pb**	**21 21 13.7**	**+0.4**
VLS				S	**Sb**	**21 21 20.9**	**+0.3**
VLS				AML	AML	21 21 22.4	
	comp=E,644μm,0.2s						
VLS				AML	AML	21 21 23.4	
	comp=N,857μm,0.2s						
LXRA	**Lixouri, Kepha**	**0.59**	**337**	P	**Pg**	**21 21 14.0**	**-0.2**
LXRA				S	**Sb**	**21 21 23.2**	**+1.0**
SMHA	**Samh**	**0.59**	**353**	P	**Pg**	**21 21 14.1**	**-0.2**
SMHA				S	**Sb**	**21 21 23.1**	**+0.7**
DMLN	**Damoulianata-K**	**0.65**	**334**	P	**Pg**	**21 21 13.6**	**-1.6**
DMLN				S	**Sg**	**21 21 23.5**	**-0.3**
	comp=N,785nm,0.4s						
DMLN	**Damoulianata-K**	**0.65**	**334**	P	**Pb**	**21 21 15.2**	**0.0**
DMLN				S	**Sb**	**21 21 24.5**	**+0.6**
RLS	**Riolos of Patr**	**0.70**	**55**	P	**Pg**	**21 21 15.3**	**-0.9**
RLS				S	**Sg**	**21 21 24.3**	**-1.3**
	comp=N,132nm,0.5s						
RLS	**Riolos of Patr**	**0.70**	**55**	P	**Pg**	**21 21 15.4**	**-0.9**
RLS				S	**Sb**	**21 21 26.3**	**+0.8**
RLS				AML	AML	21 21 29.8	
	comp=E,202μm,0.3s						
RLS				AML	AML	21 21 32.8	
	comp=N,276μm,0.4s						
AMT	**Artemida-Makis**	**0.78**	**99**	P	**Pg**	**21 21 17.4**	**-0.4**
AMT				S	**Sb**	**21 21 28.3**	**+0.4**
AMT				AML	AML	21 21 32.8	
	comp=N,1941μm,0.3s						
AMT				AML	AML	21 21 34.9	
	comp=E,1390μm,0.4s						
FSK	**Fiskardo**	**0.81**	**350**	P	**Pg**	**21 21 17.6**	**-0.7**
FSK				S	**Sn**	**21 21 29.9**	**-0.7**
	comp=E,262nm,0.4s						
FSK	**Fiskardo**	**0.81**	**350**	P	**Pg**	**21 21 17.8**	**-0.5**
FSK				S	**Sn**	**21 21 30.5**	**-0.1**
FSK				AML	AML	21 21 32.3	
	comp=N,595μm,0.3s						
FSK				AML	AML	21 21 33.6	
	comp=E,332μm,0.2s						
DRO	**Drossia**	**0.83**	**69**	P	**Pg**	**21 21 17.3**	**-1.3**
DRO	**Drossia**	**0.83**	**69**	P	**Pg**	**21 21 18.3**	**-0.3**
DRO				AML	AML	21 21 36.6	
	comp=E,574μm,0.4s						
DRO				AML	AML	21 21 38.5	
	comp=N,657μm,0.4s						
EVGI	**Lefkada island**	**0.96**	**356**	P	**Pg**	**21 21 20.7**	**-0.5**
EVGI				S	**Sg**	**21 21 33.8**	**0.0**
	comp=N,228nm,0.2s						
EVGI	**Lefkada island**	**0.96**	**356**	P	**Pn**	**21 21 21.0**	**-0.1**
EVGI				S	**Sn**	**21 21 34.7**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.03**	**353**	P	**Pn**	**21 21 22.3**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.05**	**358**	P	**Pb**	**21 21 21.9**	**-0.3**
NYDR				S	**Sn**	**21 21 38.0**	**+1.5**
	comp=N,125nm,0.5s						
NYDR	**Nydri-Lefkada**	**1.05**	**358**	P	**Pn**	**21 21 22.6**	**+0.2**
NYDR				S	**Sn**	**21 21 38.1**	**+1.5**
ITM	**Ithomi**	**1.06**	**116**	P	**Pb**	**21 21 22.0**	**-0.3**
ITM				AML	AML	21 21 43.6	
	comp=N,105μm,0.3s						
ITM				AML	AML	21 21 49.1	
	comp=E,133μm,0.6s						
PYL	**PYLOS**	**1.11**	**133**	P	**Pb**	**21 21 21.7**	**-1.4**
PYL	**PYLOS**	**1.11**	**133**	P	**Pb**	**21 21 23.4**	**+0.2**
PYL				S	**Sb**	**21 21 37.4**	**+0.2**
PYL				AML	AML	21 21 44.3	
	comp=N,98μm,0.5s						
PYL				AML	AML	21 21 46.7	
	comp=E,158μm,0.6s						
LKD2	**Lefkada island**	**1.13**	**357**	P	**Pg**	**21 21 23.9**	**-0.4**
LKD2				AML	AML	21 21 44.8	
	comp=E,297μm,0.5s						
LKD2				AML	AML	21 21 47.6	
	comp=N,303μm,0.5s						

TGIG				*e*S	**Sn**	**21 22 45.6**	**-1.1**
TGBT	**Tuxtla Gutierr**	**1.13**	**71**	*e*P	**Pn**	**21 22 29.8**	**-0.3**
TGBT				*e*S	**Sn**	**21 22 46.2**	**-1.0**
PCIG		**1.19**	**126**	*e*P	**Pn**	**21 22 29.9**	**-0.8**
PCIG				*e*S	**Sn**	**21 22 47.9**	**-0.3**
TUIG	**Tuzandepetl**	**1.62**	**353**	*i* P	**Pn**	**21 22 35.7**	**-0.2**
TUIG				*e*S	**Sn**	**21 22 56.0**	**-1.4**
HUIG	**Huatulco**	**1.93**	**251**	*i* P	**Pn**	**21 22 38.0**	**-1.7**
HUIG				*e*S	**Sn**	**21 23 02.2**	**-2.0**
VHSA	**Villahermosa**	**1.98**	**38**	*e*P	Pn	21 22 46.0	+5.7
VHSA				*e*S	**Sn**	**21 23 05.7**	**+0.5**
NEUV	**Arroyo Zacate**	**2.00**	**311**	*e*P	**Pn**	**21 22 40.6**	**+0.1**
NEUV				*e*S	**Sn**	**21 23 04.1**	**-1.6**
CCIG	**Comitan**	**2.00**	**94**	Pn	**Pn**	**21 22 41.2**	**+0.5**
CCIG				Sn	**Sn**	**21 23 04.4**	**-1.6**
CCIG	**Comitan**	**2.00**	**94**	*e*P	**Pn**	**21 22 41.3**	**+0.6**
CCIG				*e*S	**Sn**	**21 23 04.5**	**-1.4**
PMUV	**Sontecomapan**	**2.29**	**338**	*i* P	**Pn**	**21 22 43.0**	**-1.4**
PMUV				*e*S	**Sn**	**21 23 09.0**	**-3.5**
THIG		**2.40**	**128**	*e*P	**Pn**	**21 22 48.4**	**+2.7**
THIG				*e*S	**Sn**	**21 23 15.3**	**+0.4**
CHUJ	**Union Juarez**	**2.41**	**123**	*e*P	**Pn**	**21 22 46.8**	**+0.7**
CHUJ				*e*S	**Sn**	**21 23 16.6**	**+0.9**
OXBJ	**Oaxaca**	**2.49**	**285**	*e*P	**Pn**	**21 22 49.4**	**+2.3**
OXBJ				*e*S	**Sn**	**21 23 18.3**	**+0.8**
VHO	**Vista Hermosa**	**2.50**	**285**	*e*P	**Pn**	**21 22 48.5**	**+1.2**
VHO				*e*S	**Sn**	**21 23 15.9**	**-1.8**
HUEH	**Huehuetenango**	**2.83**	**112**	Pn	**Pn**	**21 22 51.5**	**0.0**
HUEH	**Huehuetenango**	**2.83**	**112**	*e*P	**Pn**	**21 22 50.6**	**-0.9**
HUEH				*e*S	**Sn**	**21 23 18.0**	**-7.3**
PEIG	**Puerto Escondi**	**2.85**	**262**	*i* P	**Pn**	**21 22 50.2**	**-1.5**
PEIG				*e*S	**Sn**	**21 23 22.6**	**-3.0**
RTAL	**Retalhuleu**	**3.07**	**127**	Pn	**Pn**	**21 22 55.1**	**+0.5**
RTAL	**Retalhuleu**	**3.07**	**127**	*e*P	**Pn**	**21 22 55.7**	**+1.1**
RTAL				*e*S	**Sn**	**21 23 22.2**	**-8.5**
TOIG	**Toxpalan**	**3.20**	**302**	*e*P	**Pn**	**21 22 57.1**	**+0.7**
TOIG				*e*S	**Sn**	**21 23 33.0**	**-0.9**
YOIG	**Yosondua**	**3.23**	**278**	*e*P	**Pn**	**21 22 57.4**	**+0.5**
YOIG				*e*S	**Sn**	**21 23 32.3**	**-2.6**
TXIG	**Tlaxiaco**	**3.51**	**284**	*i* P	**Pn**	**21 23 01.8**	**+1.2**
TXIG				*e*S	**Sn**	**21 23 39.1**	**-2.5**
TPIG	**Tehuac#an**	**3.61**	**304**	*e*P	**Pn**	**21 23 02.2**	**+0.3**
TPIG				*e*S	**Sn**	**21 23 41.2**	**-2.7**
HLIG	**Huajuapan de L**	**3.71**	**293**	*i* P	**Pn**	**21 23 05.1**	**+1.8**
HLIG				*e*S	**Sn**	**21 23 44.0**	**-2.4**
PNIG	**Pinotepa**	**3.76**	**270**	*e*P	**Pn**	**21 23 03.0**	**-0.8**
PNIG				*e*S	**Sn**	**21 23 43.0**	**-4.3**
JAUV	**Jalcomulco**	**3.83**	**320**	*e*P	**Pn**	**21 23 04.2**	**-0.6**
JAUV				*e*S	**Sn**	**21 23 46.1**	**-3.0**
SCIG	**Sabancuy**	**3.84**	**48**	*e*P	**Pn**	**21 23 03.5**	**-1.3**
SCIG				*e*S	**Sn**	**21 23 43.9**	**-5.2**
FTIG	**Fresnillo de T**	**4.03**	**292**	*e*P	**Pn**	**21 23 09.3**	**+1.7**
FTIG				*e*S	**Sn**	**21 23 49.3**	**-4.6**
PETF	**Flores**	**4.19**	**83**	Pn	**Pn**	**21 23 10.0**	**+0.4**
PETF				Sn	**Sn**	**21 23 55.9**	**-1.8**
PETF	**Flores**	**4.19**	**83**	*e*P	**Pn**	**21 23 09.6**	**0.0**
PETF				*e*S	**Sn**	**21 23 54.1**	**-3.6**
MGIG	**Malinaltepec**	**4.31**	**282**	*e*P	**Pn**	**21 23 12.2**	**+0.8**
MGIG				*e*S	**Sn**	**21 23 56.3**	**-4.5**
TLIG	**Tlapa**	**4.32**	**286**	Pn	**Pn**	**21 23 12.9**	**+1.4**
TLIG	**Tlapa**	**4.32**	**286**	*i* P	**Pn**	**21 23 12.8**	**+1.4**
TLIG				*e*S	**Sn**	**21 23 58.6**	**-2.4**
CRIG	**Cruz Grande**	**4.73**	**275**	*e*P	**Pn**	**21 23 16.2**	**-0.6**
CRIG				*e*S	**Sn**	**21 24 06.1**	**-4.5**
PBCV	**Popocatepetl**	**4.87**	**302**	*e*P	**Pn**	**21 23 21.9**	**+2.9**
PBCV				*e*S	**Sn**	**21 24 12.4**	**-2.0**
CXUV	**Coxquihui**	**4.93**	**320**	*e*P	**Pn**	**21 23 19.6**	**+0.1**
CXUV				*e*S	**Sn**	**21 24 10.4**	**-5.0**
PBPN	**Popocatepetl**	**4.95**	**302**	*e*P	**Pn**	**21 23 23.2**	**+2.9**
PBPN				*e*P	**Pn**	**21 23 23.4**	**+3.0**
PBPN				*e*S	Sn	21 24 01.1	-16
PBPN				*e*S	**Sn**	**21 24 13.6**	**-3.3**
PBPN				*e*S	**Sn**	**21 24 14.9**	**-1.9**
PBXN	**Popocatepetl**	**4.96**	**302**	*e*P	Pn	21 23 10.2	-10
PBXN				*e*P	**Pn**	**21 23 22.9**	**+2.5**
PBXN				*e*S	**Sn**	**21 24 13.7**	**-3.2**
PPM	**Popocatepetl**	**4.97**	**303**	*e*P	**Pn**	**21 23 23.7**	**+3.2**
PPM				*e*S	**Sn**	**21 24 13.2**	**-3.8**
ESQI	**Esquipulas**	**5.04**	**111**	Pn	**Pn**	**21 23 20.4**	**-0.8**
MTO3	**Montecristo**	**5.09**	**113**	Pn	**Pn**	**21 23 20.5**	**-1.4**
YAIG	**Yautepec**	**5.23**	**298**	*e*P	**Pn**	**21 23 26.3**	**+2.5**
YAIG				*e*S	**Sn**	**21 24 19.0**	**-4.0**
DAIG	**Los Arroyos**	**5.25**	**277**	*e*P	**Pn**	**21 23 23.7**	**-0.1**
DAIG				*e*S	**Sn**	**21 24 17.6**	**-5.6**
PLIG	**Platanillo**	**5.42**	**292**	*e*P	**Pn**	**21 23 28.3**	**+2.0**
PLIG				*e*S	**Sn**	**21 24 21.7**	**-5.8**
IZABA	**Izabal, Puerto**	**5.45**	**96**	*e*S	**Sn**	**21 24 20.1**	**-8.0**
AOVM	**Tlapan**	**5.63**	**301**	*e*P	**Pn**	**21 23 30.6**	**+1.1**
MAVM	**Malinalco, Edo**	**5.63**	**297**	*e*P	Pn	21 23 16.5	-13
INVM	**La Marquesa**	**5.70**	**301**	*e*P	**Pn**	**21 23 31.7**	**+1.5**
CAIG	**El Cayaco**	**5.84**	**277**	*e*P	**Pn**	**21 23 31.8**	**0.0**
CAIG				*e*S	**Sn**	**21 24 30.4**	**-7.1**
ARIG	**Puente Sto Nin**	**6.15**	**288**	*i* P	**Pn**	**21 23 38.5**	**+2.4**
ARIG				*i* S	**Sn**	**21 24 41.1**	**-3.9**
MYIG	**Merida**	**6.20**	**42**	*e*P	**Pn**	**21 23 39.0**	**+2.3**
MYIG				*e*S	**Sn**	**21 24 41.8**	**-4.3**
TEIG	**Tepich**	**6.79**	**55**		**Pn**	**21 23 43.2**	**-1.6**
TEIG	**Tepich**	**6.79**	**55**	P	**Pn**	**21 23 42.6**	**-2.2**
	baz=232,slow=20,SNR=57						
TEIG				S	**Sn**	**21 24 55.2**	**-5.4**
	baz=180,slow=20,SNR=13						
ZIIG	**Zihuatanejo**	**7.04**	**281**	*e*P	**Pn**	**21 23 49.3**	**+1.1**
ZIIG				*e*S	**Sn**	**21 25 01.0**	**-5.7**
TGUH	**Tegucigalpa,Un**	**7.09**	**108**	Pn	**Pn**	**21 23 47.5**	**-1.5**
MOIG	**Morelia**	**7.39**	**297**	Pn	**Pn**	**21 23 55.7**	**+2.6**
EZ5V		**9.44**	**290**	*e*P	**Pn**	**21 24 25.5**	**+4.5**
MNGA	**Volcan de Coli**	**9.46**	**290**	*e*P	Pn	21 24 26.1	+4.9
INCO	**Volcan de Coli**	**9.46**	**290**	*e*P	**Pn**	**21 24 25.9**	**+4.5**
SOMAC	**Volcano de Col**	**9.48**	**290**	*e*P	Pn	21 24 27.2	+5.6
CEGR	**Campo Tres**	**9.65**	**289**	*e*P	**Pn**	**21 24 27.4**	**+3.7**
CDAR	**Ciudad de Arme**	**9.67**	**286**	*e*P	**Pn**	**21 24 26.4**	**+2.6**
JTS	**Las Juntas de**	**10.87**	**123**	Pn	**Pn**	**21 24 39.4**	**-0.8**
JTS	**Las Juntas de**	**10.87**	**123**	P	**Pn**	**21 24 39.9**	**-0.3**
	3.3nm,0.3s,baz=312,slow=19,SNR=2.6						
SOR	**Soroa**	**12.31**	**57**	Pn	**Pn**	**21 24 56.8**	**-2.5**
833A	**Chaparral WMA,**	**12.78**	**339**		**Pn**	**21 25 08.2**	**+2.8**
HNDO	**Hondo**	**13.86**	**341**		**Pn**	**21 25 20.8**	**+1.4**
435B	**Jarrell**	**14.63**	**348**		**P**	**21 25 32.7**	**0.0**
JCT	**Junction City**	**14.90**	**341**		**P**	**21 25 35.9**	**+0.1**
BRDY	**Brady**	**15.43**	**344**	P	**P**	**21 25 42.7**	**+1.0**
TXAR	**Lajitas Array**	**15.52**	**328**	P	**Pn**	**21 25 41.6**	**+0.9**
	0.5nm,0.8s,baz=147,slow=15,SNR=7.4						
LPIG	**La Paz**	**16.92**	**299**	LR	LR	21 33 02.5	
	comp=Z,46nm,21.9s,baz=48,slow=38						
352A	**Blakely**	**17.22**	**28**	P	**Pn**	**21 26 01.4**	**0.0**
APMT	**Aspermont**	**17.66**	**343**	Pn	**Pn**	**21 26 08.7**	**+1.9**
APMT				IAmb	IAmb	21 26 25.6	
	comp=Z,7.2nm,0.7s						
LOOK	**Love County**	**17.71**	**352**		**Pn**	**21 26 08.1**	**+0.7**
LOOK				IAmb	IAmb	21 26 24.1	
	comp=Z,14nm,0.9s						
LRAL	**Lakeview Retre**	**17.79**	**20**		**P**	**21 26 07.6**	**0.0**
LRAL				IAmb	IAmb	21 26 36.9	
	comp=Z,13nm,1.4s						
POST	**Post**	**17.84**	**340**		**Pn**	**21 26 09.7**	**+0.6**
POST				IAmb	IAmb	21 26 38.5	
	comp=Z,11nm,1.4s						
MIAR	**Mount Ida**	**18.06**	**2**		**P**	**21 26 10.9**	**+0.3**
MIAR				IAmb	IAmb	21 26 11.9	
	comp=Z,8.6nm,0.6s						
X37A	**Clayton**	**18.13**	**357**	P	**Pn**	**21 26 12.6**	**+0.2**
X37A				IAmb	IAmb	21 26 17.2	
	comp=Z,17nm,1.5s						
WMOK	**Wichita Mounta**	**18.70**	**348**	P	**P**	**21 26 18.1**	**+0.6**
Y49A	**Blount Mountai**	**18.73**	**21**	P	**P**	**21 26 16.8**	**-1.2**
Y49A				IAmb	IAmb	21 26 43.2	
	comp=Z,9.0nm,1.2s						
FCAR	**Ozark Folk Cen**	**19.48**	**5**	P	**P**	**21 26 25.7**	**-0.4**
FCAR				IAmb	IAmb	21 26 26.7	
	comp=Z,3.4nm,0.5s						
GOGA	**Godfrey**	**19.50**	**28**	P	**P**	**21 26 25.7**	**-0.6**
GOGA				IAmb	IAmb	21 26 45.1	
	comp=Z,16nm,1.2s						
FPAL	**Fort Paine**	**19.63**	**22**	P	**P**	**21 26 26.4**	**-1.3**
FPAL				IAmb	IAmb	21 26 38.0	
	comp=Z,6.5nm,1.1s						
Y52A	**Lilburn**	**19.63**	**26**	P	**P**	**21 26 27.8**	**+0.1**
Y52A				IAmb	IAmb	21 26 46.7	
	comp=Z,8.7nm,0.7s						
LCAR	**Lake Charles**	**19.76**	**7**	P	**P**	**21 26 27.6**	**-1.5**
HHAR	**Hobbs**	**19.79**	**1**	P	**P**	**21 26 28.7**	**-0.7**
HHAR				IAmb	IAmb	21 26 33.6	
	comp=Z,4.9nm,0.5s						
U38A	**Gravette**	**19.95**	**360**	P	**P**	**21 26 32.2**	**+1.2**
NOKA	**Waynoka**	**20.57**	**349**	P	Pn	21 26 39.5	-1.6
JSC	**Jenkinsville**	**21.26**	**31**	P	**P**	**21 26 46.0**	**+0.9**
R40A	**Maddies Statio**	**21.86**	**4**	P	**P**	**21 26 51.8**	**+0.3**
R40A				IAmb	IAmb	21 26 54.1	
	comp=Z,11nm,1.2s						
R32A	**Long Quarter,**	**22.28**	**351**	P	**P**	**21 26 56.5**	**+0.5**
T25A	**Trinidad**	**22.53**	**338**	P	**P**	**21 26 59.0**	**+0.2**
NVAR	**Mina Array Bea**	**30.46**	**321**	P	**P**	**21 28 12.8**	**+2.4**
	comp=Z,0.8nm,0.8s,baz=134,slow=8.9,SNR=4.4						
	comp=Z,0.8nm,0.8s						
ULM	**Lac du Bonnet**	**33.78**	**358**	P	**P**	**21 28 36.5**	**-2.4**
	comp=Z,1.6nm,0.4s,baz=166,slow=8.3,SNR=2.1						
	comp=Z,1.6nm,0.4s						
LPAZ	**La Paz**	**41.45**	**140**	P	**P**	**21 29 46.0**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=350,slow=11,SNR=3.8						
	comp=Z,0.8nm,0.5s						
SIV	**San Ignacio**	**45.89**	**133**	LR	LR	21 50 05.3	
	comp=Z,23nm,19.4s,baz=108,slow=37						
BDFB	**Brasilia**	**55.61**	**123**	P	**P**	**21 31 32.6**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=22,slow=5.4,SNR=1.9						
	comp=Z,1.5nm,0.5s						
ILAR	**Eielson Array**	**59.79**	**337**	P	**P**	**21 32 02.1**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=118,slow=5.6,SNR=5.9						
ILAR				pP	**pP**	**21 32 28.1**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=143,slow=5.1,SNR=5.6						
	comp=Z,0.3nm,0.7s						
PLCA	**Paso Flores**	**60.96**	**160**	P	**P**	**21 32 10.7**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=323,slow=5.1,SNR=3.1						
	comp=Z,1.6nm,0.8s						
EKA	**Eskdalemuir Ar**	**77.27**	**36**	P	**P**	**21 33 48.8**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=265,slow=4.8,SNR=1.4						
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**83.05**	**28**	P	**P**	**21 34 19.9**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=292,slow=5.2,SNR=2.0						
	comp=Z,0.8nm,0.7s						
ARCES	**ARCESS Array B**	**84.52**	**18**	P	**P**	**21 34 28.6**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=308,slow=4.4,SNR=12						
	comp=Z,1.1nm,0.5s						
FINES	**FINESS Array B**	**89.21**	**25**	P	**P**	**21 34 50.5**	**-0.5**
	comp=Z,4.3nm,1.1s,baz=299,slow=5.7,SNR=3.8						
	comp=Z,4.3nm,1.1s						

*SDD **10** 21:30:06.3±1.1, 19°.79N×71°.20W, h12km±119km, MD3.1, ML2.4, MW2.8*
*OSPL **10** 21:30:08.6±0.3, 19°.72N×71°.29W, h4km±3km, ML2.0*
ISC 10 21:30:08.1±3.9, **19.7N**±0°.2×**71.2W**±0°.1, **h28**km±16km, **n6, σ0.98/11, 2C-1D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.48**	**123**	*e*S	**Sn**	**21 30 27.5**	**+0.8**
SC01				IAML		21 30 37.6	
	comp=Z,70nm,0.7s						
SDDR	**Presa de Saban**	**0.72**	**190**	‖*e*Pg	**Pb**	**21 30 21.7**	**-0.4**
SDDR				‖*e*Sg	**Sn**	**21 30 31.6**	**-1.0**
SDDR				IAML		21 30 32.5	
	comp=N,111nm,0.4s						
SDDR	**Presa de Saban**	**0.72**	**190**	*i* P	**Pb**	**21 30 21.9**	**-0.2**
SDDR				*e*S	**Sn**	**21 30 31.6**	**-1.0**
SDDR				IAML		21 30 33.5	
	comp=Z,81nm,0.5s						
ABDR	**Alto Bandera**	**1.01**	**150**	*e*Pg	**Pn**	**21 30 25.9**	**-0.8**
ABDR				*e*Sg	**Sn**	**21 30 41.3**	**+1.0**
ABDR				IAML		21 30 49.9	
	comp=N,48nm,1.0s						
LONE3	**El Aguacate, B**	**1.12**	**195**	*i* P	**Pb**	**21 30 28.6**	**-0.3**
LONE3				*e*S	**Sn**	**21 30 43.6**	**+1.0**
LONE3				IAML		21 30 48.5	
	comp=Z,32nm,1.2s						
JIDR	**Jimani**	**1.36**	**209**	*e*Pg	**Pn**	**21 30 31.6**	**+0.3**
JIDR				‖*e*Sg	**Sb**	**21 30 51.0**	**+1.0**
JIDR				IAML		21 30 51.9	
	comp=N,94nm,0.6s						

*IDC **10** 21:34:09.7±1.6, 22°.62S×175°.87W, h0km, mb3.8/4, mbtmp3.8/4, MS3.1/2, Error ellipse: s-maj=48.2km s-min=41.1km az=47.0*
ISC 10 21:34:19.6±1.7, **22.7S**±0°.3×**176.0W**±0°.3, **h71**km, **n12, σ0.84/9, mb3.8/4, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.42**	**310**	Pn	**Pn**	**21 36 05.2**	**-0.1**
	0.4nm,0.3s,baz=148,slow=19,SNR=6.1						
RAR	**Rarotonga**	**15.14**	**88**	LR	LR	21 44 05.8	
	comp=Z,57nm,18.2s,baz=314,slow=40						
PPT	**Papeete**	**25.32**	**83**	LR	LR	21 47 20.0	
	comp=Z,42nm,19.6s,baz=14,slow=31						
ASAR	**Alice Springs**	**45.86**	**258**	P	**P**	**21 42 34.6**	**-0.5**
	0.5nm,0.6s,baz=97,slow=7.2,SNR=11						
ASAR				PcP	**PcP**	**21 44 12.1**	**+0.8**
	0.4nm,0.6s,baz=101,slow=3.8,SNR=2.3						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**46.16**	**264**	P	**P**	**21 42 37.5**	**0.0**
	1.0nm,0.7s,baz=103,slow=8.3,SNR=8.7						
WRA				PcP	**PcP**	**21 44 14.2**	**+1.7**
	0.9nm,0.9s,baz=100,slow=3.3,SNR=3.3						
	1.0nm,0.7s						
QSPA	**South Pole Qui**	**67.42**	**180**	P	**P**	**21 45 07.0**	**-0.4**
	1.3nm,1.0s,baz=45,slow=9.0,SNR=2.7						
	1.3nm,1.0s						
MAW	**Mawson**	**80.16**	**199**	P	**P**	**21 46 21.8**	**+0.2**
	0.8nm,0.6s,baz=127,slow=5.1,SNR=2.5						
	0.8nm,0.6s						
H03S2	**Juan Fernandez**	**83.26**	**124**	T	T	23 18 08.8	
	baz=246,slow=75,SNR=30						
H03S1	**Juan Fernandez**	**83.27**	**124**	T	T	23 18 00.9	
	baz=246,slow=75,SNR=31						
H03S3	**Juan Fernandez**	**83.27**	**124**	T	T	23 17 59.6	
	baz=246,slow=75,SNR=32						
AKASG	**Malin Array Be**	**145.79**	**331**	PKPbc	**PKPdf**	**21 53 49.5**	**-0.3**
	0.6nm,0.5s,baz=43,slow=3.9,SNR=9.5						
BRTR	**Keskin Array B**	**149.65**	**311**	PKPbc	**PKPbc**	**21 54 00.9**	**-0.6**
	0.8nm,0.8s,baz=160,slow=3.9,SNR=4.7						

*INMG **10** 21:53:05.7±1.6, 37°.95N×3°.12W, h11km±5km, ML2.8, Error ellipse: s-maj=8.5km s-min=5.8km az=56.0*
*SFS **10** 21:53:06.8, 37°.93N×3°.24W, h3km, ML3.1/9, ML3.3/7, MLv2.9/9*
*MDD **10** 21:53:06.0±0.2, 37°.88N×3°.24W, h6km±2km, mb_Lg3.0/31, Error ellipse: s-maj=1.8km s-min=1.6km az=146.0*
*CNRM **10** 21:53:12.8, 37°.68N×2°.83W, h94km, ML3.8*
ISC 10 21:53:05.2±0.9, **37.89N**±0°.02×**3.23W**±0°.01, **h13**km±7km, **n72, σ1.21/119, Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
E0802	**Ubeda,Jaen**	**0.18**	**321**	Pg	**Pb**	**21 53 10.5**	**+0.1**
E0802				Sg	**Sg**	**21 53 13.1**	**+0.9**
EQUE	**Quentar**	**0.70**	**194**	Pg	**Pb**	**21 53 19.6**	**+0.3**
EQUE				Sg	**Sg**	**21 53 27.9**	**-0.3**
EQUE				*i* Vmb_Lg		21 53 32.0	
EXCAB	**Granada**	**0.77**	**202**	Pg	**Pb**	**21 53 20.1**	**-0.3**
EXCAB				Sg	**Sb**	**21 53 30.2**	**-0.5**
EBER	**Berja**	**1.03**	**164**	Pg	**Pn**	**21 53 25.5**	**+0.1**
EBER				Sg	**Sb**	**21 53 38.0**	**-0.4**
EBER				*i* Vmb_Lg		21 53 47.4	
EGOR	**Sierra Gorda,**	**1.04**	**222**	Pn	**Pn**	**21 53 26.0**	**+0.3**
EGOR				Sn	**Sn**	**21 53 41.8**	**+1.7**
EGOR	**Sierra Gorda,**	**1.04**	**222**	Pg	**Pn**	**21 53 26.3**	**+0.7**
EGOR				Sg	**Sg**	**21 53 37.9**	**-1.1**
EGOR				*i* Vmb_Lg		21 53 46.5	
ELGU	**Los Guajares,**	**1.07**	**197**	Pg	**Pn**	**21 53 26.3**	**+0.4**
ELGU				Sg	**Sg**	**21 53 39.5**	**-0.2**
ELGU				*i* Vmb_Lg		21 53 50.7	
EADA	**Adamuz**	**1.10**	**285**	Pg	**Pb**	**21 53 26.4**	**+0.4**
EADA				Sg	**Sg**	**21 53 41.6**	**+0.9**
EADA				*i* Vmb_Lg		21 53 46.5	
ELOR	**Lorca, Murcia**	**1.21**	**101**	Pg	**Pg**	**21 53 28.0**	**-0.5**
ELOR				Sg	**Sn**	**21 53 43.6**	**-0.4**
ELOR				*i* Vmb_Lg		21 53 51.2	
EZAR	**Zarzadilla de**	**1.22**	**90**	Pg	**Pg**	**21 53 29.3**	**+0.6**
EZAR				Sg	**Sn**	**21 53 45.8**	**+1.4**
EZAR				*i* Vmb_Lg		21 53 50.0	
ENIJ	**Nijar**	**1.23**	**138**	Pg	**Pg**	**21 53 29.0**	**+0.1**
ENIJ				Sg	**Sn**	**21 53 44.2**	**-0.3**
ENIJ				*i* Vmb_Lg		21 53 51.6	
TLOR	**Lorca, Murcia**	**1.25**	**100**	Sg	**Sg**	**21 53 45.2**	**-0.2**
TLOR	**Lorca, Murcia**	**1.25**	**100**	Pg	**Pg**	**21 53 29.2**	**0.0**
TLOR				Sg	**Sn**	**21 53 44.4**	**-0.6**
EXBUL	**Bullas, Murcia**	**1.25**	**82**	Pg	**Pg**	**21 53 29.9**	**+0.5**
EXBUL				Sg	**Sg**	**21 53 45.9**	**+0.2**
EXAHM	**Alhama Murcia,**	**1.43**	**91**	Pg	**Pb**	**21 53 31.3**	**-0.3**
EXAHM				Sg	**Sg**	**21 53 50.7**	**-0.4**
EMAL	**Malaga-Limoner**	**1.47**	**221**	Pn	**Pg**	**21 53 33.7**	**+0.2**
EMAL				Sn	**Sg**	**21 53 54.8**	**+2.2**
EMUR	**La Murta**	**1.58**	**91**	Pg	**Pg**	**21 53 34.7**	**-0.8**
EMUR				Sg	**Sg**	**21 53 55.5**	**-0.6**
EMUR				*i* Vmb_Lg		21 54 00.8	
ECAB	**El Cabril**	**1.74**	**277**	Sn	**Sb**	**21 53 59.5**	**+0.9**
ECAB				Pn	**Pn**	**21 53 35.7**	**+0.6**
ECAB	**El Cabril**	**1.74**	**277**	Pg	**Pn**	**21 53 35.7**	**+0.6**
ECAB				Sg	**Sb**	**21 53 59.6**	**+0.9**
ECAB				*i* Vmb_Lg		21 54 04.4	
CART	**Cartagena**	**1.80**	**99**	Pn	**Pb**	**21 53 37.5**	**-0.4**
CART				Sn	**Sb**	**21 54 00.3**	**0.0**
CART	**Cartagena**	**1.80**	**99**	P	**Pb**	**21 53 37.9**	**0.0**
CART	**Cartagena**	**1.80**	**99**	S	**Sn**	**21 53 57.3**	**-1.1**
PAB	**San Pablo**	**1.87**	**333**	Pg	**Pg**	**21 53 40.7**	**-0.4**
PAB				Sn	**Sn**	**21 53 59.8**	**-0.6**
PAB				*i* Vmb_Lg		21 54 11.4	
ESDC	**Sonseca Array**	**1.87**	**343**	Pg	**Pg**	**21 53 41.1**	**-0.1**
ESDC				Sn	**Sn**	**21 54 00.2**	**-0.2**
ESDC				*i* Vmb_Lg		21 54 08.2	
EALB	**Alboran**	**1.95**	**175**	Sn	**Sn**	**21 54 02.5**	**+0.2**
EALB				*i* Vmb_Lg		21 54 11.3	
ETRV	**Los Montesinos**	**1.96**	**85**	Pg	**Pb**	**21 53 40.3**	**-0.3**
ETRV				Sn	**Sb**	**21 54 03.5**	**-1.5**
ETRV				*i* Vmb_Lg		21 54 18.2	
EVIV	**Cofrentes, Val**	**2.15**	**50**	Pn	**Pn**	**21 53 41.3**	**+0.5**
EVIV				Sn	**Sn**	**21 54 08.0**	**+0.6**
EVIV				*i* Vmb_Lg		21 54 21.9	
AFON	**Font Roja**	**2.26**	**69**	Pn	**Pn**	**21 53 42.1**	**-0.1**
AFON				Sn	**Sn**	**21 54 11.2**	**+1.2**
AFON				*i* Vmb_Lg		21 54 27.3	
EJIF	**Jimena Fronter**	**2.29**	**232**	Pn	**Pn**	**21 53 43.3**	**+0.6**
EJIF				Sn	**Sn**	**21 54 11.2**	**+0.5**
ESPR	**Espera**	**2.32**	**245**	Pn	**Pn**	**21 53 43.0**	**0.0**
ESPR				Sn	**Sn**	**21 54 10.9**	**-0.6**
ESPR				*i* Vmb_Lg		21 54 29.0	
UCM	**Universidad Co**	**2.42**	**360**	Pg	**Pg**	**21 53 51.2**	**-0.4**
UCM				Sg	**Sg**	**21 54 22.9**	**+0.1**
ECHE	**Chera**	**2.46**	**46**	Pn	**Pn**	**21 53 45.0**	**+0.1**
ECHE				Sn	**Sn**	**21 54 15.6**	**+0.7**
ECHE				*i* Vmb_Lg		21 54 29.9	
EBEN2	**Beniarda presa**	**2.52**	**71**	Pn	**Pn**	**21 53 46.3**	**+0.4**
EBEN2				Sn	**Sn**	**21 54 17.1**	**+0.7**
EBEN2				*i* Vmb_Lg		21 54 28.5	
GOG	**Mont Gurugu**	**2.67**	**176**	P	**Pb**	**21 53 51.1**	**-1.8**
GOG	**Mont Gurugu**	**2.67**	**176**	S	**Sn**	**21 54 22.1**	**+2.0**
PALE	**Palemas**	**2.73**	**192**	P	**Pb**	**21 53 53.6**	**-0.2**
PALE	**Palemas**	**2.73**	**192**	S	**Sb**	**21 54 25.5**	**-1.6**
SMIR	**Smir Dam**	**2.80**	**219**	P	**Pg**	**21 53 56.8**	**-2.0**
SMIR	**Smir Dam**	**2.80**	**219**	S	**Sb**	**21 54 30.6**	**+1.5**
PBAR	**Barrancos**	**3.02**	**277

comp=E,15280µm,0.2s
RTZL Ratzakli, Kefa 0.66 19 P **Pg 22 05 56.9 -0.5**
RTZL S **Sb 22 06 07.5 +1.2**
PSDA Pessada-Kefalo 0.67 6 P **Pg 22 05 56.7 -0.8**
PSDA S **Sb 22 06 07.3 +0.9**
comp=E,6µm,0.4s
PSDA Pessada-Kefalo 0.67 6 P **Pg 22 05 56.5 -1.0**
PSDA S **Sg 22 06 06.5 +0.1**
VLS Valsamata 0.73 6 P **Pg 22 05 57.5 -1.2**
VLS S **Sg 22 06 08.6 +0.2**
comp=E,5µm,0.3s
VLS Valsamata 0.73 6 P **Pg 22 05 57.7 -1.0**
VLS S **Sg 22 06 08.6 +0.2**
VLS AML AML 22 06 12.6
comp=N,7214µm,0.3s
VLS AML AML 22 06 13.0
comp=E,14131µm,0.4s
DMLN Damoulianata-K 0.79 353 P **Pg 22 05 58.5 -1.4**
DMLN S **Sb 22 06 10.9 +0.8**
comp=E,7µm,0.7s
DMLN Damoulianata-K 0.79 353 P **Pg 22 05 58.9 -1.0**
VSK1 VASILIKIADES 0.96 3 P **Pb 22 06 02.6 +0.1**
VSK1 S **Sn 22 06 16.8 +0.6**
comp=E,3µm,0.6s
AMT Artemida-Makis 0.97 85 P **Pb 22 06 02.5 -0.1**
AMT AML AML 22 06 30.6
comp=E,7881µm,0.4s
AMT AML AML 22 06 33.5
comp=N,7612µm,0.4s
RLS Riolos of Patr 0.98 51 P **Pg 22 06 03.0 -0.4**
RLS Riolos of Patr 0.98 51 P **Pb 22 06 02.0 -0.8**
RLS S **Sg 22 06 16.1 -0.2**
RLS AML AML 22 06 21.6
comp=N,2235µm,0.7s
RLS AML AML 22 06 23.8
comp=E,1900µm,0.6s
FSK Fiskardo 1.01 3 P **Pb 22 06 03.1 -0.3**
FSK S **Sg 22 06 17.5 +0.3**
comp=E,2µm,0.5s
FSK Fiskardo 1.01 3 P **Pb 22 06 03.0 -0.3**
FSK S **Sg 22 06 17.1 -0.1**
FSK AML AML 22 06 25.6
comp=N,4326µm,0.5s
FSK AML AML 22 06 29.4
comp=E,3986µm,0.5s
DRO Drossia 1.09 62 P **Pg 22 06 05.3 -0.1**
DRO Drossia 1.09 62 P **Pb 22 06 04.2 -0.5**
DRO S **Sb 22 06 18.8 +0.2**
DRO AML AML 22 06 31.5
comp=N,2314µm,0.4s
DRO AML AML 22 06 36.4
comp=E,3485µm,0.5s
PYL PYLOS 1.14 119 P **Pb 22 06 05.0 -0.5**
PYL S **Sg 22 06 23.5 +2.2**
comp=E,690nm,0.3s
PYL PYLOS 1.14 119 P **Pb 22 06 04.6 -1.0**
PYL S **Sn 22 06 20.2 -0.4**
PYL AML AML 22 06 24.8
comp=N,1458µm,0.2s
PYL AML AML 22 06 24.9
comp=E,1286µm,0.3s
ITM Ithomi 1.17 103 P **Pg 22 06 06.5 -0.5**
ITM Ithomi 1.17 103 P **Pn 22 06 05.3 -0.6**
ITM S **Sb 22 06 20.4 -0.6**
ITM AML AML 22 06 27.0
comp=N,1363µm,0.3s
ITM AML AML 22 06 30.2
comp=E,1484µm,0.5s
EVGI Lefkada island 1.18 6 P **Pn 22 06 06.2 +0.2**
DRAG Dragano-Lefkad 1.23 3 P **Pn 22 06 06.3 -0.5**
NYDR Nydri-Lefkada 1.27 7 P **Pn 22 06 07.4 +0.1**
NYDR S **Sg 22 06 27.1 +1.5**
comp=E,1µm,0.5s
NYDR Nydri-Lefkada 1.27 7 P **Pn 22 06 06.6 -0.7**
LKD2 Lefkada island 1.34 5 P **Pn 22 06 08.6 +0.3**
LKD2 S **Sn 22 06 25.6 -0.1**
LKD2 AML AML 22 06 33.7
comp=E,3350µm,0.6s
LKD2 AML AML 22 06 37.5
comp=N,2964µm,0.5s
TSLK Tsoukalades, L 1.38 5 P **Pb 22 06 10.0 +0.3**
TSLK S **Sg 22 06 29.9 +0.9**
comp=N,2µm,0.5s
TSLK Tsoukalades, L 1.38 5 P **Pn 22 06 09.2 +0.4**
TSLK S **Sn 22 06 26.0 -0.6**
TSLK AML AML 22 06 32.0
comp=E,2883µm,0.5s
TSLK AML AML 22 06 34.4
comp=N,4431µm,0.5s
KLV Kalavryta, Ach 1.44 65 P **Pg 22 06 11.5 -0.6**
KLV Kalavryta, Ach 1.44 65 P **Pn 22 06 09.6 -0.1**
KLV S **Sn 22 06 28.4 +0.3**
KLV AML AML 22 06 43.5
comp=E,494µm,0.7s
KLV AML AML 22 06 49.3
comp=N,533µm,0.7s
EFP Efpalio 1.48 48 P **Pn 22 06 10.6 +0.4**
EFP Efpalio 1.48 48 P **Pn 22 06 10.3 +0.2**
EFP AML AML 22 06 41.0
comp=E,1466µm,0.4s
EFP AML AML 22 06 41.4
comp=N,1405µm,0.7s
GUR Goura 1.54 71 P **Pn 22 06 10.7 -0.4**
GUR S **Sn 22 06 30.6 -0.2**
GUR AML AML 22 06 47.5
comp=N,1143µm,0.4s
GUR AML AML 22 06 49.8
comp=E,1442µm,0.5s
ANX Ano Chora 1.60 44 P **Pb 22 06 13.6 +0.1**
ANX Ano Chora 1.60 44 P **Pn 22 06 12.4 +0.5**
ANX AML AML 22 06 42.9
comp=N,4877µm,0.7s
ANX AML AML 22 06 43.2
comp=E,2758µm,0.7s
KALE Kalithea 1.60 54 P **Pb 22 06 13.3 -0.2**
KALE Kalithea 1.60 54 P **Pn 22 06 11.9 0.0**
KALE AML AML 22 06 45.1
comp=E,1243µm,0.5s
KALE AML AML 22 06 51.0
comp=N,1093µm,0.5s
IGT Igoumenitsa 2.08 357 P **Pn 22 06 19.1 +0.7**
IGT S **Sn 22 06 43.5 -0.5**
IGT AML AML 22 06 57.5
comp=N,513µm,0.5s
IGT AML AML 22 06 59.9
comp=E,728µm,0.7s
OHR Ohrid 3.66 4 *i* Pn **Pn 22 06 44.4 +4.2**
IDI Anoyia 4.15 120 Pn **Pn 22 06 49.6 +2.7**
comp=E,4.5nm,0.8s,baz=258,slow=13,SNR=2.0
IDI Sn **Sn 22 07 36.6 +1.6**
comp=E,1.2nm,0.3s,baz=333,slow=23,SNR=1.8
VAY Valandovo 4.19 22 *i* Pn **Pn 22 06 47.3 -0.1**
MLR Muntele Rosu 9.01 25 Pn **Pn 22 07 54.4 +0.7**
comp=E,0.1nm,0.3s,baz=232,slow=9.7,SNR=4.1
comp=E,1.2nm,0.7s
HFS Hagfors 23.12 351 P **P 22 10 48.0 -1.1**
comp=E,1.9nm,0.7s,baz=171,slow=10,SNR=2.2
comp=E,1.9nm,0.7s
FINES FINESS Array B 24.27 7 P **P 22 10 59.4 -0.9**
comp=E,5.0nm,1.0s,baz=177,slow=9.3,SNR=1.9
comp=E,5.0nm,1.0s
TORD Torodi Ar. Bea 29.45 220 P P 22 11 54.6 +7.3
comp=E,0.4nm,0.6s,baz=27,slow=9.4,SNR=3.0
comp=E,0.4nm,0.6s
MKAR Makanchi Array 45.70 58 P **P 22 14 03.7 -0.6**
comp=E,0.4nm,0.6s,baz=283,slow=6.8,SNR=2.6
comp=E,0.4nm,0.6s
ZALV Zalesovo Beam 46.19 48 P **P 22 14 08.5 +0.5**
comp=E,0.3nm,0.4s,baz=285,slow=7.3,SNR=2.3
comp=E,0.3nm,0.4s

*CNRM **10** 22:20:32.4, 36°.46N×8°.09W, h58km, ML1.8*
*IGIL **10** 22:20:35.5, 36°.60N×7°.95W, h19km, ML1.5*
*INMG **10** 22:20:35.4±1.4, 36°.57N×7°.91W, h26km±6km, ML1.8, Error ellipse: s-maj=4.6km s-min=2.8km az=85.0*
*MDD **10** 22:20:35.5±1.1, 36°.57N×7°.87W, h39km±17km, mb_Lg2.4/5, Error ellipse: s-maj=10.2km s-min=5.3km az=11.0*
*SFS **10** 22:20:36.1, 36°.64N×7°.84W, h27km, ML2.1/12, ML2.6/10, MLv1.8/12*
ISC 10 22:20:32.4±1.2, 36°.51N±0°.03×7°.89W±0°.03, h29km±12km, n54, σ1°37/83, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.73**	**358**	*e*P	**Pn**	**22 20 47.7**	**+0.8**
PBDV				*e*S	**Sn**	**22 20 56.8**	**-0.4**
PBDV				A	A	22 21 01.7	
	18nm,0.3s						
PVAQ	**Vaqueiros**	**0.91**	**9**	*e*P	**Pn**	**22 20 50.1**	**+0.9**
PVAQ				*e*S	**Sb**	**22 21 00.8**	**-0.5**
PVAQ				A	A	22 21 01.4	
	14nm,0.3s						
PVAQ	**Vaqueiros**	**0.91**	**9**	Pg	**Pn**	**22 20 50.1**	**+0.9**
PVAQ				Sg	**Sb**	**22 21 00.8**	**-0.5**
PVAQ	**Vaqueiros**	**0.91**	**9**	P	**Pn**	**22 20 50.3**	**+1.1**
PVAQ	**Vaqueiros**	**0.91**	**9**	S	**Sn**	**22 21 02.6**	**+1.3**
PFVI	**Vila Bisbo**	**0.98**	**310**	*e*P	**Pn**	**22 20 51.1**	**+0.9**
PFVI				*e*S	**Sb**	**22 21 03.0**	**-0.2**
PFVI				A	A	22 21 06.6	
	17nm,0.5s						
PFVI	**Vila Bisbo**	**0.98**	**310**	P	**Pn**	**22 20 51.0**	**+0.8**
PFVI	**Vila Bisbo**	**0.98**	**310**	S	**Sb**	**22 21 02.0**	**-1.3**
MORF	**Marmelete**	**1.00**	**323**	*e*P	**Pn**	**22 20 51.3**	**+0.7**
MORF				*e*S	**Sn**	**22 21 05.3**	**+1.5**
MORF				A	A	22 21 07.5	
	17nm,0.2s						
MORF	**Marmelete**	**1.00**	**323**	*e*P	**Pn**	**22 20 51.3**	**+0.7**
EGRO	**El Granado**	**1.07**	**18**	Pn	**Pb**	**22 20 52.6**	**+0.2**
EGRO				Sn	**Sb**	**22 21 05.5**	**-0.7**
EGRO	**El Granado**	**1.07**	**18**	P	**Pb**	**22 20 52.6**	**+0.2**
EGRO				S	**Sb**	**22 21 05.4**	**-0.7**
EGRO				*i* Vmb_Lg		22 21 07.8	
PCVE	**Castro Verde**	**1.13**	**354**	*e*P	**Pb**	**22 20 53.5**	**+0.2**
PCVE				*e*S	**Sn**	**22 21 06.4**	**-0.4**
PCVE				A	A	22 21 07.3	
	9.7nm,0.2s						
PCVE	**Castro Verde**	**1.13**	**354**	Sn	**Sn**	**22 21 06.4**	**-0.4**
PCVE				Pn	**Pb**	**22 20 53.5**	**+0.2**
PTEO	**Sao Teotonio**	**1.23**	**327**	*e*P	**Pn**	**22 20 55.0**	**+1.3**
PTEO				*e*S	**Sn**	**22 21 09.3**	**-0.1**
PTEO				A	A	22 21 23.2	
	10nm,0.4s						
MESJ	**Messejana**	**1.35**	**349**	*e*P	**Pn**	**22 20 56.6**	**+1.2**
MESJ				*e*S	**Sn**	**22 21 12.3**	**-0.1**
MESJ				A	A	22 21 27.6	
	7.5nm,0.3s						
MESJ	**Messejana**	**1.35**	**349**	*e*P	**Pn**	**22 20 56.5**	**+1.2**
MESJ				*e*S	**Sn**	**22 21 11.8**	**-0.6**
MESJ				IAML		22 21 12.4	
	comp=N,6.5nm,0.1s						
PBEJ	**Beja**	**1.52**	**1**	*e*P	**Pn**	**22 20 58.8**	**+1.2**
PBEJ				*e*S	**Sn**	**22 21 15.8**	**-0.6**
PBEJ				A	A	22 21 17.7	
	comp=N,5.8nm,0.2s						
EMIN	**Mina Concepcio**	**1.59**	**37**	Pn	**Pn**	**22 20 59.5**	**+0.8**
EMIN	**Mina Concepcio**	**1.59**	**37**	P	**Pn**	**22 20 59.7**	**+1.1**
EMIN				S	**Sn**	**22 21 17.7**	**-0.6**
EMIN				*i* Vmb_Lg		22 21 25.1	
ESPR	**Espera**	**1.68**	**77**	Pn	**Pn**	**22 21 02.2**	**+2.4**
ESPR				Sn	**Sn**	**22 21 20.9**	**+0.6**
PBAR	**Barrancos**	**1.80**	**22**	*e*P	**Pn**	**22 21 02.6**	**+1.1**
PBAR				*e*S	**Sn**	**22 21 23.3**	**0.0**
PBAR	**Barrancos**	**1.80**	**22**	Pn	**Pn**	**22 21 02.5**	**+1.0**
EVO	**Evora**	**2.02**	**357**	*e*P	**Pn**	**22 21 05.7**	**+1.1**
EVO				*e*S	**Sn**	**22 21 27.8**	**-1.1**
EVO				A	A	22 21 30.5	
	comp=N,5.9nm,0.8s						
EVO	**Evora**	**2.02**	**357**	Pn	**Pn**	**22 21 05.7**	**+1.1**
EVO				Sn	**Sn**	**22 21 27.5**	**-1.4**
EBAD	**Badajoz**	**2.35**	**17**	Pn	**Pn**	**22 21 09.9**	**+0.8**
EBAD				Sn	**Sn**	**22 21 35.2**	**-1.8**
EBAD	**Badajoz**	**2.35**	**17**	P	**Pn**	**22 21 10.1**	**+1.0**
EBAD				S	**Sn**	**22 21 35.5**	**-1.4**
EBAD				*i* Vmb_Lg		22 21 38.5	
PESTR	**Estremoz**	**2.37**	**6**	*e*P	**Pn**	**22 21 10.4**	**+1.1**
PESTR				*e*S	**Sn**	**22 21 36.6**	**-0.8**
PESTR	**Estremoz**	**2.37**	**6**	Pn	**Pn**	**22 21 10.2**	**+0.8**
PESTR	**Estremoz**	**2.37**	**6**	P	**Pn**	**22 21 10.1**	**+0.8**
ECAB	**El Cabril**	**2.52**	**51**	Pn	**Pn**	**22 21 11.8**	**+0.4**
ECAB				Sn	**Sn**	**22 21 38.3**	**-2.9**
ECAB	**El Cabril**	**2.52**	**51**	P	**Pn**	**22 21 13.1**	**+1.6**
ECAB				S	**Sn**	**22 21 38.8**	**-2.4**
ECAB				*i* Vmb_Lg		22 21 43.9	
PMTG	**Montargil**	**2.57**	**354**	*e*P	**Pn**	**22 21 13.1**	**+1.0**
PMTG				*e*S	**Sn**	**22 21 41.9**	**-0.5**
PMTG				A	A	22 21 43.5	
	comp=N,4.3nm,0.2s						
PMAFR	**Mafra**	**2.68**	**336**	*e*P	**Pn**	**22 21 15.0**	**+1.4**
PMAFR				*e*S	**Sn**	**22 21 44.2**	**-0.9**
PMAFR	**Mafra**	**2.68**	**336**	Pn	**Pn**	**22 21 14.9**	**+1.2**
PMRV	**Marv??o**	**2.94**	**8**	*e*P	**Pn**	**22 21 18.2**	**+1.0**
PMRV				*e*S	**Sn**	**22 21 50.6**	**-1.0**
PSBE	**So Bento**	**3.08**	**347**	*e*P	**Pn**	**22 21 20.6**	**+1.4**
PSBE				*e*S	**Sn**	**22 21 54.3**	**-0.9**
EADA	**Adamuz**	**3.12**	**57**	Pn	**Pn**	**22 21 21.2**	**+1.6**
EADA				Sn	**Sn**	**22 21 55.2**	**-0.7**
EADA	**Adamuz**	**3.12**	**57**	P	**Pn**	**22 21 21.4**	**+1.7**
EADA				S	**Sn**	**22 21 54.2**	**-1.7**
EADA				*i* Vmb_Lg		22 21 57.6	
AKLM	**AKL**	**3.84**	**120**	P	**Pn**	**22 21 31.1**	**+1.4**
AKLM	**AKL**	**3.84**	**120**	S	**Sn**	**22 22 15.1**	**+1.1**
PAB	**San Pablo**	**4.13**	**42**	P	**Pn**	**22 21 35.4**	**+1.8**
PAB				S	**Sn**	**22 22 15.9**	**-4.9**
MD31	**MD31**	**4.46**	**144**	P	**Pn**	**22 21 39.8**	**+1.7**
MD31	**MD31**	**4.46**	**144**	S	**Sn**	**22 22 27.8**	**-1.2**
TISM	**Timmit**	**4.92**	**165**	P	**Pn**	**22 21 44.5**	**0.0**
TISM	**Timmit**	**4.92**	**165**	S	**Sn**	**22 22 37.9**	**-2.6**
OUK	**Oukaimeden**	**5.29**	**180**	P	Pn	22 21 48.0	-1.8
OUK	**Oukaimeden**	**5.29**	**180**	S	**Sn**	**22 22 50.1**	**+0.2**
TIO	**Tiouine**	**5.59**	**174**	P	**Pn**	**22 21 54.7**	**+0.9**
TIO	**Tiouine**	**5.59**	**174**	S	**Sn**	**22 22 56.4**	**-0.8**
OUZM	**OUZ**	**5.66**	**170**	P	**Pn**	**22 21 56.3**	**+1.6**
OUZM	**OUZ**	**5.66**	**170**	S	**Sn**	**22 23 00.3**	**+1.4**
TTIG	**Tnine Tigouga,**	**5.96**	**185**	P	**Pn**	**22 21 57.5**	**-1.4**
TTIG	**Tnine Tigouga,**	**5.96**	**185**	S	**Sn**	**22 23 02.4**	**-3.9**

RSNC 10 22:24:02.2±0.0, 5°N±1°×77°W±°, h50km±6km, M2.9, mb3.8, ML2.5, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.48**	**129**	P	Pn	22 24 12.6	-0.8
PLMC				S	Sn	22 24 21.4	+0.1
CBOC	**Ciudad Bolivar**	**0.92**	**45**	P	Pn	22 24 18.6	-0.4
CBOC				S	Sn	22 24 31.8	+0.5
NIZA	**Niza - Manizal**	**1.19**	**97**	P	Pn	22 24 22.0	-0.8
NIZA				S	Sn	22 24 38.2	+0.1
YOTC	**Yotoco, Valle**	**1.26**	**166**	P	Pn	22 24 21.6	-2.0
YOTC				S	Sn	22 24 37.0	-2.5
GUY2C	**Guyana, Caldas**	**1.29**	**89**	P	Pn	22 24 22.9	-1.4
GUY2C				S	Sn	22 24 39.9	-0.8
RECRC	**Villamaria, Ca**	**1.33**	**101**	P	Pn	22 24 24.3	-0.5
RECRC				S	Sn	22 24 41.3	-0.4
MALC	**Bahia Malaga**	**1.37**	**210**	P	Pn	22 24 25.8	+0.9
MALC				S	Sn	22 24 45.7	+3.8
HELC	**Santa Helena**	**1.49**	**49**	P	Pn	22 24 25.6	-1.3
HELC				S	Sn	22 24 45.1	-0.3
NORC	**Norcasia**	**1.82**	**79**	P	Pn	22 24 30.1	-1.0
NORC				S	Sn	22 24 51.5	-1.5
DBBC	**Dabeiba**	**1.85**	**14**	P	Pn	22 24 32.4	+0.8
DBBC				S	Sn	22 24 56.4	+2.5
ORTC	**Ortega, Tolima**	**1.91**	**132**	P	Pn	22 24 31.3	-1.1
ORTC				S	Sn	22 24 55.3	-0.1
JAMC	**Jamundi, Valle**	**1.98**	**180**	P	Pn	22 24 32.0	-1.5
JAMC				S	Sn	22 24 54.8	-2.5
PTAC	**Punta Ardita,**	**2.24**	**329**	P	Pn	22 24 36.0	-0.8
PTAC				S	Sn	22 25 02.1	-1.2
PRAC	**Prado**	**2.31**	**130**	P	Pn	22 24 36.9	-1.0
PRAC				S	Sn	22 25 04.6	-0.5
ROSC	**El Rosal**	**2.36**	**99**	P	Pn	22 24 39.2	+0.4
PTBC	**PUERTO BERRIO,**	**2.56**	**59**	P	Pn	22 24 40.2	-1.1
PTBC				S	Sn	22 25 10.5	-0.7
SPBC	**San Pablo de B**	**2.61**	**80**	P	Pn	22 24 41.1	-1.0
GR1C	**Gorgona, Isla**	**2.66**	**214**	P	Pn	22 24 40.7	-1.9
GR1C				S	Sn	22 25 12.6	-1.0
CVER	**Cruz Verde, Cu**	**2.67**	**105**	P	Pn	22 24 43.5	+0.4
APAC	**Apartado, Choc**	**2.67**	**2**	P	Pn	22 24 44.5	+1.7
APAC				S	Sn	22 25 18.4	+4.4
UREC	**San Jos de Ur**	**2.76**	**24**	P	Pn	22 24 44.5	+0.4
UREC				S	Sn	22 25 17.0	+0.8
ZARC	**Zaragoza, Cauc**	**2.89**	**38**	P	Pn	22 24 45.9	+0.1
ZARC				S	Sn	22 25 21.7	+2.4
CHIC	**Chingaza**	**2.97**	**101**	P	Pn	22 24 48.0	+0.7
URMC	**La Uribe, Meta**	**3.00**	**131**	P	Pn	22 24 45.8	-1.5
URMC				S	Sn	22 25 21.6	-0.5
VILC	**Villavicencio,**	**3.15**	**110**	P	Pn	22 24 50.4	+0.9
BBAC	**Balboa, Cauca**	**3.22**	**190**	P	Pn	22 24 49.4	-1.1
BBAC				S	Sn	22 25 28.6	+0.8
BRJC	**Barrancabermej**	**3.39**	**59**	P	Pn	22 24 51.7	-0.9
RUSC	**La Rusia**	**3.62**	**79**	P	Pn	22 24 55.6	-0.7
RUSC				S	Sn	22 25 38.1	0.0
BARC	**Barichara**	**3.72**	**68**	P	Pn	22 24 57.5	+0.1
FLOC	**Florencia**	**3.74**	**164**	P	Pn	22 24 56.9	-0.6
FLOC				S	Sn	22 25 39.0	-1.3
GCUF	**Volcan Galeras**	**4.02**	**190**	P	Pn	22 25 01.4	-0.3
GCUF				S	Sn	22 25 47.1	-0.7
MACC	**Macarena, Meta**	**4.14**	**137**	P	Pn	22 25 01.3	-1.7
MACC				S	Sn	22 25 46.6	-3.6
PAMC	**Pamplona, Colo**	**4.47**	**62**	P	Pn	22 25 06.8	-1.1
PAMC				S	Sn	22 25 55.0	-3.9
OCAC	**Ocana**	**4.48**	**48**	P	Pn	22 25 06.9	-0.8
CACAO	**El Cacao, Vera**	**4.68**	**297**	P	Pn	22 25 09.4	-1.0
CACAO				S	Sn	22 26 00.8	-2.7
BCIP	**Isla Barro Col**	**5.04**	**321**	P	Pn	22 25 14.2	-1.1
	58nm,1.6s						
BCIP				S	Sn	22 26 11.6	-0.6
	58nm,1.6s						
OTAV	**Otavalo**	**5.25**	**200**	P	Pn	22 25 17.1	-1.5
OTAV				S	Sn	22 26 14.4	-3.8

*IDC **10** 22:35:19.8±3.0, 20°.19S×179°.61W, h666km±28km, mb3.0/6, mbtmp4.0/8, Error ellipse: s-maj=96.8km s-min=17.1km az=150.0*
ISC 10 22:35:18.0±1.2, 20°.5S±0°.2×179°.4W±0°.2, h650km, n9, σ1°38/10, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.67**	**318**	P	**P**	**22 36 44.3**	**-1.0**
	26nm,0.5s,baz=120,slow=6.0,SNR=42						
MSVF				S	**S**	**22 37 57.1**	**+0.8**
	8.0nm,1.0s,baz=135,slow=18,SNR=1.2						
DZM	**Mont Dzumac**	**13.34**	**261**	P	**P**	**22 38 10.5**	**+1.3**
	6.4nm,0.9s,baz=104,slow=19,SNR=6.6						
STKA	**Stephens Creek**	**36.66**	**244**	P	**P**	**22 41 32.6**	**-0.1**
	1.9nm,0.5s,baz=82,slow=12,SNR=7.1						
	1.9nm,0.5s						
ASAR	**Alice Springs**	**43.29**	**257**	P	**P**	**22 42 25.3**	**-0.1**
	4.4nm,0.5s,baz=96,slow=7.6,SNR=107						
	4.4nm,0.5s						
WRA	**Warramunga Arr**	**43.35**	**262**	P	**P**	**22 42 25.2**	**-0.6**
	1.6nm,0.3s,baz=97,slow=7.5,SNR=30						
	1.6nm,0.3s						
NVAR	**Mina Array Bea**	**81.88**	**44**	P	**P**	**22 46 32.4**	**+0.6**
	0.2nm,0.5s,baz=210,slow=3.1,SNR=1.5						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**88.11**	**58**	P	**P**	**22 47 02.5**	**+0.6**
	0.4nm,0.8s,baz=240,slow=9.0,SNR=4.6						
	0.4nm,0.8s						
PDAR	**Pinedale Array**	**89.81**	**44**	P	**P**	**22 47 10.5**	**+0.9**
	0.3nm,0.7s,baz=227,slow=4.8,SNR=3.5						
	0.3nm,0.7s						
AKASG	**Malin Array Be**	**142.37**	**330**	PKP	**PKPdf**	**22 53 35.4**	**-2.8**
	0.5nm,0.4s,baz=46,slow=3.9,SNR=7.0						

*CNRM **10** 22:35:27.3, 30°.77N×8°.92W, h5km, ML3.7*
*INMG **10** 22:35:29.6±2.1, 30°.83N×8°.94W, h17km±9km, ML2.8, Error ellipse: s-maj=8.8km s-min=6.2km az=47.0*
*IGIL **10** 22:35:30.7, 30°.92N×8°.88W, h6km*
ISC 10 22:35:28.3±0.9, 30°.92N±0°.04×8°.92W±0°.03, h10km, n62, σ2°02/83, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTIG	**Tnine Tigouga,**	**0.56**	**132**	P	Pg	22 35 32.6	-6.6
CGR	**Cap Guir**	**0.87**	**251**	P	**Pg**	**22 35 45.3**	**+0.2**
CGR				S	**Sg**	**22 35 56.0**	**-0.5**
EAH	**EAH**	**0.92**	**322**	P	**Pg**	**22 35 46.7**	**+0.7**
EAH	**EAH**	**0.92**	**322**	S	**Sn**	**22 36 01.9**	**+1.4**
OUK	**Oukaimeden**	**0.95**	**72**	P	**Pg**	**22 35 45.9**	**-0.7**
OUK	**Oukaimeden**	**0.95**	**72**	S	**Sg**	**22 35 60.0**	**+0.9**
TIO	**Tiouine**	**1.43**	**89**	Pn	**Pn**	**22 35 53.7**	**-0.7**
TIO				Sn	**Sb**	**22 36 12.6**	**-0.8**
TIO	**Tiouine**	**1.43**	**89**	P	**Pn**	**22 35 53.6**	**-0.8**
TIO	**Tiouine**	**1.43**	**89**	S	**Sb**	**22 36 14.0**	**+0.6**
SRHM	**Skhour des Reh**	**1.78**	**29**	P	**Pn**	**22 36 00.8**	**+1.7**
OUZM	**OUZ**	**1.86**	**90**	P	**Pn**	**22 36 00.1**	**-0.2**
OUZM	**OUZ**	**1.86**	**90**	S	**Sn**	**22 36 23.2**	**-0.7**
TISM	**Timmit**	**2.27**	**69**	P	**Pn**	**22 36 06.8**	**+1.0**
TISM	**Timmit**	**2.27**	**69**	S	**Sb**	**22 36 36.7**	**-0.8**
AVE	**Averroes**	**2.70**	**28**	Pn	**Pn**	**22 36 13.0**	**+1.3**
AVE				Sg	**Sg**	**22 36 55.1**	**+0.2**
AVE	**Averroes**	**2.70**	**28**	P	**Pb**	**22 36 17.3**	**+0.7**
AVE	**Averroes**	**2.70**	**28**	S	**Sb**	**22 36 48.9**	**-0.8**
ZGR	**Zagora**	**2.96**	**105**	P	**Pn**	**22 36 14.4**	**-1.1**
ZGR	**Zagora**	**2.96**	**105**	S	**Sn**	**22 36 51.8**	**+0.7**
ZHG	**ZHG**	**3.18**	**37**	P	**Pn**	**22 36 18.5**	**+0.2**
ZHG	**ZHG**	**3.18**	**37**	S	**Sn**	**22 36 57.2**	**+0.9**
TANT	**Tantan**	**3.21**	**219**	P	**Pn**	**22 36 16.3**	**-2.4**
TANT	**Tantan**	**3.21**	**219**	S	**Sn**	**22 36 55.1**	**-2.0**
GOLM	**Goulmima**	**3.49**	**76**	P	**Pn**	**22 36 22.8**	**+0.1**
GOLM	**Goulmima**	**3.49**	**76**	S	**Sn**	**22 37 06.0**	**+1.9**
CZD	**Col de Zad**	**3.92**	**56**	P	**Pn**	**22 36 29.3**	**+0.6**
CZD	**Col de Zad**	**3.92**	**56**	S	**Sn**	**22 37 18.1**	**+3.2**
MD31	**MD31**	**4.04**	**60**	P	**Pn**	**22 36 30.9**	**+0.7**
MD31	**MD31**	**4.04**	**60**	S	**Sn**	**22 37 19.2**	**+1.5**
IFR	**Ifrane**	**4.13**	**50**	Pn	**Pn**	**22 36 32.6**	**+1.0**
IFR				Sg	**Sb**	**22 37 35.5**	**+4.2**
LCRM	**LCR**	**4.41**	**50**	P	**Pn**	**22 36 35.1**	**-0.3**
LCRM	**LCR**	**4.41**	**50**	S	**Sn**	**22 37 27.1**	**+0.1**
RSA	**Sarsar**	**4.74**	**33**	P	**Pn**	**22 36 41.3**	**+1.5**
RSA	**Sarsar**	**4.74**	**33**	S	**Sn**	**22 37 37.3**	**+2.5**
AKLM	**AKL**	**5.57**	**49**	P	**Pn**	**22 36 51.9**	**+0.6**
SMIR	**Smir Dam**	**5.60**	**31**	P	**Pn**	**22 36 52.7**	**+1.1**
PALE	**Palemas**	**5.99**	**43**	P	**Pn**	**22 36 58.2**	**+1.2**
PFVI	**Vila Bisbo**	**6.20**	**1**	*e*Pn	**Pn**	**22 37 00.9**	**+1.1**
PFVI				*e*Sn	**Sn**	**22 38 10.5**	**-0.2**
PFVI	**Vila Bisbo**	**6.20**	**1**	Pn	**Pn**	**22 37 00.9**	**+1.1**
PFVI				Sn	**Sn**	**22 38 06.6**	**-4.1**
PBDV	**Barranco-do-Ve**	**6.36**	**7**	*e*Pn	**Pn**	**22 37 02.8**	**+0.7**
PBDV				A	A	22 37 15.9	
	3.6nm,0.6s						
PBDV				*e*Sn	**Sn**	**22 38 12.0**	**-2.8**
MORF	**Marmelete**	**6.37**	**2**	*e*Pn	**Pn**	**22 37 03.0**	**+0.7**
MORF				*e*Sn	**Sn**	**22 38 13.5**	**-1.6**
MORF				A	A	22 38 18.0	
	5.1nm,0.6s						
MORF	**Marmelete**	**6.37**	**2**	*e*P	**Pn**	**22 37 02.7**	**+0.5**
PVAQ	**Vaqueiros**	**6.54**	**8**	*e*Pn	**Pn**	**22 37 05.3**	**+0.

IDC 10 22:35:45.0±4.3, 23°.50N×143°.44E, h0km, mb3.8/5, mbtmp3.8/5, MS2.6/1, Error ellipse: s-maj=193.2km s-min=27.2km az=73.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**41.73**	**272**	LR	LR	23 00 11.0	
	comp=Z,7.1nm,20.2s,baz=110,slow=35						
WRA	**Warramunga Arr**	**44.08**	**192**	P	P	22 43 54.6	-0.5
	0.5nm,0.5s,baz=15,slow=8.7,SNR=4.9						
WRA				PcP	PcP	22 45 40.8	+0.3
	0.5nm,0.7s,baz=0.5,slow=3.5,SNR=3.1						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**52.97**	**321**	P	P	22 45 02.0	-1.2
	0.6nm,0.6s,baz=82,slow=11,SNR=1.5						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**53.67**	**312**	P	P	22 45 09.2	+0.6
	0.3nm,0.5s,baz=88,slow=9.1,SNR=4.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**56.39**	**316**	P	P	22 45 27.7	-0.4
	1.1nm,0.8s,baz=89,slow=7.4,SNR=4.5						
	1.1nm,0.8s						
BVAR	**Borovoye Array**	**61.47**	**319**	P	P	22 46 03.7	+0.3
	2.3nm,0.7s,baz=77,slow=6.8,SNR=11						
	2.3nm,0.7s						

*NOU **10** 22:36:03.7, 32°.11S×176°.86W, h0km, mb4.6/7, South of Kermadec Islands*
*WEL **10** 22:36:32.5±0.6, 33°.S±4°.×17°.9W±°, h33km, M4.4/12, mB5.0/7, ML4.6/19, MLv4.5/12, Mw(mB)4.2/7, Error ellipse: s-maj=10.8km s-min=3.7km az=109.6, confirmed*
ISC 10 22:36:31.7±1.5, 33°.31S±0°.07×178°.8W±0°.1, h35km, n35, σ1°.93/54, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.10**	**11**	P	**Pn**	**22 37 32.7**	**+0.8**
GLKZ				S	**Sn**	**22 38 17.3**	**-1.4**
MXZ	**Matakaoa Point**	**4.86**	**208**	P	**Pn**	**22 37 42.3**	**0.0**
MXZ				S	**Sn**	**22 38 37.4**	**+0.1**
MXZ	**Matakaoa Point**	**4.86**	**208**	P	**Pn**	**22 37 42.3**	**0.0**
HAZ	**Te Kaha**	**5.24**	**211**	P	**Pn**	**22 37 48.8**	**+1.3**
HAZ				S	**Sn**	**22 38 45.0**	**-1.8**
PUZ	**Puketiti**	**5.33**	**206**	P	**Pn**	**22 37 50.3**	**+1.6**
PUZ				S	**Sn**	**22 38 49.1**	**+0.3**
RUGZ	**Raukumara Rang**	**5.46**	**211**	P	**Pn**	**22 37 51.0**	**+0.3**
RUGZ				S	**Sn**	**22 38 52.1**	**-0.3**
TWGZ	**Tauwhareparae**	**5.52**	**207**	P	**Pn**	**22 37 52.3**	**+0.9**
TWGZ				S	**Sn**	**22 38 54.7**	**+1.0**
GRZ	**Great Barrier**	**5.57**	**237**	P	Pn	22 37 56.0	+4.0
KUZ	**Kuaotunu**	**5.66**	**231**	P	**Pn**	**22 37 56.4**	**+3.2**
KUZ	**Kuaotunu**	**5.66**	**231**	P	**Pn**	**22 37 56.5**	**+3.2**
CNGZ	**Carnagh Statio**	**5.71**	**204**	P	**Pn**	**22 37 55.3**	**+1.3**
CNGZ				S	**Sn**	**22 38 57.1**	**-1.2**
TKGZ	**Te Karaka**	**5.80**	**207**	P	**Pn**	**22 37 57.2**	**+2.0**
TKGZ				S	**Sn**	**22 38 59.5**	**-0.9**
MWZ	**Matawai**	**5.84**	**210**	P	**Pn**	**22 37 56.4**	**+0.6**
MWZ				S	**Sn**	**22 39 00.4**	**-1.1**
OPRZ	**Ohinepanea**	**5.90**	**219**	P	**Pn**	**22 37 59.5**	**+2.9**
OPRZ				S	**Sn**	**22 39 05.1**	**+2.1**
URZ	**Urewera**	**5.96**	**213**	P	**Pn**	**22 37 56.5**	**-0.8**
URZ				S	**Sn**	**22 39 02.9**	**-1.5**
URZ	**Urewera**	**5.96**	**213**	P	**Pn**	**22 37 59.5**	**+2.2**
RAGZ	**Rawiri**	**6.02**	**210**	P	**Pn**	**22 37 59.7**	**+1.4**
RAGZ				S	**Sn**	**22 39 06.3**	**+0.3**
RIGZ	**Rimuhau**	**6.07**	**206**	P	**Pn**	**22 37 58.7**	**-0.2**
RIGZ				S	**Sn**	**22 39 04.1**	**-3.0**
WIAZ	**Waiheke Island**	**6.07**	**233**	P	**Pn**	**22 37 56.5**	**-2.4**
PRGZ	**Paritu Road**	**6.21**	**205**	P	**Pn**	**22 38 00.2**	**-0.7**
PRGZ				S	**Sn**	**22 39 10.5**	**-0.3**
MKAZ	**Moumakai**	**6.23**	**231**	P	Pn	22 38 05.1	+4.0
WCZ	**Waipu Caves**	**6.24**	**243**	P	**Pn**	**22 38 04.3**	**+3.2**
MUGZ	**Murupara**	**6.29**	**214**	P	**Pn**	**22 38 02.3**	**+0.4**
MUGZ				S	**Sn**	**22 39 11.5**	**-1.0**
SNGZ	**Shannon Statio**	**6.30**	**209**	P	**Pn**	**22 38 02.9**	**+0.8**
SNGZ				S	**Sn**	**22 39 12.1**	**-0.7**
KNZ	**Kokohu**	**6.38**	**206**	P	**Pn**	**22 38 03.7**	**+0.6**
KNZ				S	**Sn**	**22 39 14.4**	**-0.2**
RVAZ	**Riverhead Bore**	**6.44**	**236**	P	**Pn**	**22 37 59.6**	**-4.4**
RAHZ	**Arahi**	**6.51**	**210**	P	**Pn**	**22 38 04.6**	**-0.4**
RAHZ				S	**Sn**	**22 39 15.4**	**-2.8**
OUZ	**Omahuta**	**6.58**	**251**	P	**Pn**	**22 38 08.6**	**+2.6**
OUZ				S	**Sn**	**22 39 16.1**	**-3.6**
OUZ	**Omahuta**	**6.58**	**251**	P	**Pn**	**22 38 08.3**	**+2.4**
WHHZ	**Waihua**	**6.59**	**208**	P	**Pn**	**22 38 08.0**	**+2.0**
WHHZ				S	**Sn**	**22 39 19.6**	**-0.4**
BKZ	**Black Stump Fm**	**6.98**	**212**	P	**Pn**	**22 38 11.5**	**+0.1**
BKZ				S	**Sn**	**22 39 25.6**	**-3.9**
BKZ	**Black Stump Fm**	**6.98**	**212**	P	**Pn**	**22 38 12.5**	**+1.1**
HIZ	**Hauiti**	**7.31**	**223**	P	**Pn**	**22 38 18.8**	**+2.9**
HIZ	**Hauiti**	**7.31**	**223**	P	**Pn**	**22 38 19.7**	**+3.7**
BFZ	**Birch Farm**	**8.36**	**207**	P	**Pn**	**22 38 32.0**	**+1.7**

*NEIC **10** 22:39:15.1±0.9, 50°.1N±0°.1×156°.8E±0°.2, h10km±2km, mb4.2/7, Error ellipse: s-maj=24.5km s-min=12.9km az=126.0*
*KRSC **10** 22:39:19.7±1.4, 50°.16N×157°.29E, h48km±22km, Ml4.3*
*MOS **10** 22:39:20.8±1.0, 50°.21N×157°.21E, h48km, mb4.4/3, Error ellipse: s-maj=16.3km s-min=4.4km az=79.6*
*IDC **10** 22:39:24.2±2.6, 50°.38N×156°.75E, h76km±20km, mb3.5/15, mbtmp3.8/18, MS2.5/1, Error ellipse: s-maj=30.7km s-min=16.3km az=172.0*
ISC 10 22:39:22.5±1.2, 50°.23N±0°.09×156°.98E±0°.07, h67km±8km, n96, σ1°.19/100, mb3.9/21, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.71**	**310**	*i* P	Pn	22 39 36.5	-0.7
SKR				*eS*	**Sn**	**22 39 49.0**	**+0.8**
SKR	**Severo-Kuril's**	**0.71**	**310**	⇓*i* PN	Pn	22 39 36.2	-1.1
SKR				*i* S	**Sn**	**22 39 48.4**	**+0.2**
SKR				pmax	pmax		
	comp=Z,4μm,0.4s						
SKR				smax	smax		
	comp=E,33μm,0.5s						
SKR				smax	smax		
	comp=N,18μm,0.5s						
PAU	**Pauzhetka**	**1.25**	**355**	*eP*	**Pn**	**22 39 44.2**	**+0.2**
PAU				*eS*	**Sn**	**22 40 02.0**	**+2.0**
PAU	**Pauzhetka**	**1.25**	**355**	PN	**Pn**	**22 39 44.1**	**+0.2**
PAU				S	**Sn**	**22 40 02.0**	**+2.0**
KDTR	**Khodutka, Kamc**	**1.73**	**23**	*eP*	Pn	22 39 49.3	-1.1
KDTR				*eS*	**Sn**	**22 40 11.1**	**-0.4**
KDTR	**Khodutka, Kamc**	**1.73**	**23**	PN	Pn	22 39 49.2	-1.1
KDTR				S	**Sn**	**22 40 11.1**	**-0.4**
ASAK	**Asacha**	**2.24**	**15**	*eP*	**Pn**	**22 39 57.4**	**+0.1**
ASAK	**Asacha**	**2.24**	**15**	PN	**Pn**	**22 39 57.4**	**+0.1**
MTVR	**Mutnovka**	**2.38**	**18**	*eP*	**Pn**	**22 39 59.3**	**0.0**
MTVR				*eS*	**Sn**	**22 40 28.6**	**+1.1**
MTVR	**Mutnovka**	**2.38**	**18**	PN	**Pn**	**22 39 59.3**	**0.0**
MTVR				S	**Sn**	**22 40 28.6**	**+1.1**
RUS	**Russkaya**	**2.41**	**23**	*eP*	**Pn**	**22 39 58.9**	**-0.6**
RUS				*eS*	**Sn**	**22 40 27.0**	**-1.0**
RUS	**Russkaya**	**2.41**	**23**	PN	**Pn**	**22 39 58.9**	**-0.6**
RUS				S	**Sn**	**22 40 27.0**	**-1.0**
GRL	**Gorelyy**	**2.43**	**16**	*eP*	**Pn**	**22 40 00.3**	**+0.3**
GRL	**Gorelyy**	**2.43**	**16**	PN	**Pn**	**22 40 00.2**	**+0.3**
APC	**Apacha**	**2.71**	**2**	*eP*	**Pn**	**22 40 04.7**	**+1.2**
APC	**Apacha**	**2.71**	**2**	PN	**Pn**	**22 40 04.7**	**+1.2**
KRMR	**Karymshinskiy**	**2.71**	**15**	*eP*	**Pn**	**22 40 04.6**	**+1.0**
KRMR				*eS*	**Sn**	**22 40 36.8**	**+1.7**
KRMR	**Karymshinskiy**	**2.71**	**15**	PN	**Pn**	**22 40 04.6**	**+1.0**
KRMR				S	**Sn**	**22 40 36.8**	**+1.7**
PEA0B	**Petropavlovsk-**	**2.92**	**9**	Pn	**Pn**	**22 40 05.7**	**-0.8**
PEA0B	**Petropavlovsk-**	**2.92**	**9**	*e*PN	**Pn**	**22 40 07.4**	**+0.9**
PETK	**Petropavlovsk-**	**2.92**	**9**	Pn	**Pn**	**22 40 04.8**	**-1.7**
PETK	**Petropavlovsk-**	**2.92**	**9**	P	**Pn**	**22 40 06.0**	**-0.5**
	comp=N,5.7nm,0.5s,baz=185,slow=14,SNR=43						
PETK				S	**Sn**	**22 40 45.2**	**+4.7**
	comp=N,8.7nm,0.6s,baz=159,slow=20,SNR=2.0						
PETK				LR	LR	22 41 33.9	
	comp=N,77nm,20.2s,baz=139,slow=46						
PETK	**Petropavlovsk-**	**2.92**	**9**	PN	**Pn**	**22 40 06.0**	**-0.5**
PET	**Petropavlovsk**	**2.99**	**20**	Pn	Pn	22 40 04.9	-2.6
PET				Sn	**Sn**	**22 40 42.6**	**+0.5**
PET	**Petropavlovsk**	**2.99**	**20**	*eP*	**Pn**	**22 40 08.2**	**+0.8**
PET				*eS*	**Sn**	**22 40 43.1**	**+1.0**
PET	**Petropavlovsk**	**2.99**	**20**	*i* PN	**Pn**	**22 40 07.5**	**+0.1**
DALK	**Dalny**	**3.02**	**21**	*eP*	**Pn**	**22 40 07.6**	**-0.2**
DALK				*eS*	**Sn**	**22 40 43.4**	**+0.6**
DALK	**Dalny**	**3.02**	**21**	PN	**Pn**	**22 40 07.6**	**-0.2**
DALK				S	**Sn**	**22 40 43.4**	**+0.6**
UGLR	**Uglovaya**	**3.20**	**20**	*eP*	**Pn**	**22 40 11.3**	**+0.8**
UGLR	**Uglovaya**	**3.20**	**20**	PN	**Pn**	**22 40 11.2**	**+0.8**
AVH	**Avacha**	**3.23**	**19**	*eP*	**Pn**	**22 40 12.1**	**+1.2**
AVH	**Avacha**	**3.23**	**19**	PN	**Pn**	**22 40 12.1**	**+1.2**
KOK	**Koryaka**	**3.24**	**18**	*eP*	**Pn**	**22 40 12.5**	**+1.6**
KOK	**Koryaka**	**3.24**	**18**	PN	**Pn**	**22 40 12.5**	**+1.6**
SMAR	**Somma**	**3.25**	**20**	*eP*	**Pn**	**22 40 12.2**	**+1.1**
SMAR	**Somma**	**3.25**	**20**	PN	**Pn**	**22 40 12.2**	**+1.1**
KRER	**Koryakskii**	**3.27**	**19**	*eP*	**Pn**	**22 40 12.9**	**+1.4**
KRER	**Koryakskii**	**3.27**	**19**	PN	**Pn**	**22 40 12.9**	**+1.4**
SDLR	**Sedlovina**	**3.28**	**20**	*eP*	**Pn**	**22 40 11.8**	**+0.3**
SDLR	**Sedlovina**	**3.28**	**20**	PN	**Pn**	**22 40 11.8**	**+0.3**
NLC	**Nalytchevo**	**3.30**	**26**	*eS*	**Sn**	**22 40 48.0**	**-1.5**
KRX	**Arik**	**3.31**	**18**	*eP*	**Pn**	**22 40 13.1**	**+1.1**
KRX	**Arik**	**3.31**	**18**	PN	**Pn**	**22 40 13.0**	**+1.1**
SPN	**Mys Shipunski**	**3.45**	**32**	*eP*	**Pn**	**22 40 13.2**	**-0.4**
SPN				*eS*	**Sn**	**22 40 52.3**	**-0.9**
SPN	**Mys Shipunski**	**3.45**	**32**	PN	**Pn**	**22 40 13.2**	**-0.4**
GNL	**Ganaly**	**3.53**	**9**	*eP*	**Pn**	**22 40 16.5**	**+1.6**
GNL	**Ganaly**	**3.53**	**9**	PN	**Pn**	**22 40 16.4**	**+1.6**
TUMD	**Tumrok D**	**5.40**	**21**	*eP*	**Pn**	**22 40 40.9**	**+0.5**
TUMD				*eS*	**Sn**	**22 41 43.0**	**+1.9**
TUMR	**Tumrok**	**5.42**	**20**	*eP*	**Pn**	**22 40 41.6**	**+0.9**
TUMR	**Tumrok**	**5.42**	**20**	PN	**Pn**	**22 40 41.6**	**+0.9**
KMNR	**Kamenistaya**	**5.88**	**18**	*eP*	**Pn**	**22 40 48.4**	**+1.4**
KMNR	**Kamenistaya**	**5.88**	**18**	PN	**Pn**	**22 40 48.3**	**+1.4**
KUR	**Kuril'sk**	**7.91**	**234**	*e*PN	**Pn**	**22 41 15.6**	**+0.9**
MA2	**Magadan**	**10.02**	**342**	P	**Pn**	**22 41 44.4**	**+1.0**
	comp=N,3.4nm,0.4s,baz=162,slow=20,SNR=1.3						
SHEM	**Shemya Is, Ala**	**10.97**	**70**	P	**Pn**	**22 41 59.4**	**+3.0**
	comp=N,32nm,0.4s,baz=276,slow=19,SNR=1.1						
JKA	**Kamikawa-asahi**	**11.53**	**243**	Pn	Pn	22 41 59.1	-5.0
ASAJ	**Asahikawa**	**11.53**	**243**	P	**Pn**	**22 42 04.9**	**+0.8**
	comp=N,16nm,1.1s,baz=51,slow=16,SNR=2.4						
C16K	**Lisburne Hills**	**25.76**	**32**	P	**P**	**22 44 46.6**	**+0.1**
C16K				IAmb	IAmb	22 44 47.9	
	comp=Z,11nm,1.0s						
C18K	**Utukok River**	**27.32**	**32**	P	**P**	**22 45 00.8**	**+0.3**
C18K				IAmb	IAmb	22 45 05.2	
	comp=Z,7.1nm,1.1s						
C19K	**Lookout Ridge**	**28.02**	**32**	P	**P**	**22 45 07.3**	**+0.5**
B20K	**Meade River**	**29.13**	**30**	P	**P**	**22 45 17.1**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**31.44**	**162**	T	T	23 19 06.9	
	baz=347,slow=76						
H11N3	**WAKE ISLAND Hy**	**31.45**	**162**	T	T	23 19 16.0	
	baz=347,slow=76						
H11N1	**WAKE ISLAND Hy**	**31.45**	**162**	T	T	23 19 09.5	
	baz=347						
H11S1	**WAKE ISLAND Hy**	**32.59**	**163**	T	T	23 20 07.2	
	baz=347,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**32.60**	**163**	T	T	23 20 07.0	
	baz=347,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	**32.61**	**163**	T	T	23 20 04.3	
	baz=347,slow=76,SNR=26						
A36M	**Sachs Harbour**	**39.58**	**29**	P	**P**	**22 46 47.6**	**+1.1**
A36M				IAmb	IAmb	22 46 49.1	
	comp=Z,3.7nm,0.8s						
Q32M	**Nakina River**	**40.07**	**49**	P	**P**	**22 46 52.4**	**+1.3**
KURK	**Kurchatov**	**47.62**	**303**	P	**P**	**22 47 50.0**	**-1.4**
KURK				IAmb	IAmb	22 47 51.7	
	comp=Z,1.8nm,1.0s						
KURK	**Kurchatov**	**47.62**	**303**	P	**P**	**22 47 50.0**	**-1.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MK31	**Makanchi Array**	**47.66**	**296**	P	**P**	**22 47 50.8**	**-1.1**
MK31				IAmb	IAmb	22 47 53.3	
	comp=Z,1.7nm,1.1s						
MK31	**Makanchi Array**	**47.66**	**296**	P	**P**	**22 47 50.8**	**-1.1**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**47.66**	**296**	P	**P**	**22 47 50.3**	**-1.5**
MKAR	**Makanchi Array**	**47.66**	**296**	P	**P**	**22 47 50.8**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=53,slow=6.2,SNR=16						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**47.72**	**302**	P	**P**	**22 47 50.3**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=61,slow=7.5,SNR=2.8						
	comp=Z,0.2nm,0.4s						
BVAR	**Borovoye Array**	**50.66**	**309**	P	**P**	**22 48 13.5**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=59,slow=8.7,SNR=2.5						
	comp=Z,0.4nm,0.4s						
SHL	**Shillong**	**55.02**	**269**	P	**P**	**22 48 45.2**	**-2.1**
SHL	**Shillong**	**55.02**	**269**	P	**P**	**22 48 45.2**	**-2.1**
SHL				pmax	pmax		
	comp=Z,9.0nm,1.5s						
CMAR	**Chiang Mai Arr**	**55.67**	**257**	P	**P**	**22 48 52.3**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=27,slow=7.0,SNR=2.4						
	comp=Z,0.5nm,0.5s						
ABKAR	**Akbulak array**	**58.16**	**310**	P	**P**	**22 49 08.3**	**-0.7**
NVAR	**Mina Array Bea**	**58.61**	**66**	P	**P**	**22 49 13.8**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=318,slow=4.9,SNR=2.0						
	comp=Z,0.3nm,0.5s						
PDAR	**Pinedale Array**	**60.66**	**57**	P	**P**	**22 49 28.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=314,slow=12,SNR=2.5						
	comp=Z,0.1nm,0.3s						
NOA	**NORSAR Array B**	**65.72**	**343**	P	**P**	**22 49 59.1**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=31,slow=8.2,SNR=1.2						
	comp=Z,0.8nm,0.9s						
HFS	**Hagfors**	**66.06**	**341**	P	**P**	**22 50 00.9**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=356,slow=1.9,SNR=2.2						
	comp=Z,2.0nm,0.8s						
SCHQ	**Schefferville**	**69.09**	**25**	P	**P**	**22 50 21.6**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=329,slow=12,SNR=1.5						
	comp=Z,3.2nm,0.8s						
AKASG	**Malin Array Be**	**70.03**	**328**	P	**P**	**22 50 25.6**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=33,slow=6.8,SNR=3.1						
	comp=Z,0.2nm,0.3s						
KBZ	**Khabaz**	**70.25**	**315**	P	**P**	**22 50 27.7**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=18,slow=20,SNR=1.5						
	comp=Z,0.5nm,0.7s						
EKA	**Eskdalemuir Ar**	**73.51**	**348**	P	**P**	**22 50 47.8**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=19,slow=5.4,SNR=5.9						
	comp=Z,0.8nm,0.5s						
TXAR	**Lajitas Array**	**73.60**	**64**	P	**P**	**22 50 49.2**	**+0.6**
TXAR	**Lajitas Array**	**73.60**	**64**	P	**P**	**22 50 49.3**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=304,slow=5.4,SNR=7.9						
	comp=Z,0.3nm,0.4s						
BRTR	**Keskin Array B**	**77.55**	**319**	P	**P**	**22 51 11.1**	**0.0**
	comp=Z,0.4nm,0.8s,baz=50,slow=4.5,SNR=2.3						
	comp=Z,0.4nm,0.8s						
MMAI	**Mount Meron Ar**	**82.35**	**314**	P	**P**	**22 51 37.2**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=38,slow=7.3,SNR=5.9						
	comp=Z,1.3nm,0.5s						
H03N2	**Juan Fernandez**	**136.17**	**89**	T	T	01 29 46.4	
	baz=311,slow=77						
H03N1	**Juan Fernandez**	**136.19**	**89**	T	T	01 29 51.1	
	baz=311,slow=77						
H03N3	**Juan Fernandez**	**136.19**	**89**	T	T	01 29 47.6	
	baz=311,slow=77						

KRSC 10 22:50:52.7±1.4, 49°.81N×156°.77E, h16km±17km, Ml3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.97**	**335**	*eP*	Pb	22 51 10.2	-0.9
SKR				*eS*	Sb	22 51 22.4	-1.2
PAU	**Pauzhetka**	**1.66**	**1**	*eP*	Pn	22 51 21.7	+0.6
PAU				*eS*	Sb	22 51 43.2	-0.3
KDTR	**Khodutka, Kamc**	**2.17**	**22**	*eP*	Pn	22 51 29.4	+1.4
KDTR				*eS*	Sb	22 51 56.7	-1.3
ASAK	**Asacha**	**2.67**	**15**	*eP*	Pb	22 51 38.4	-1.8
MTVR	**Mutnovka**	**2.82**	**18**	*eP*	Pb	22 51 40.3	-2.5
RUS	**Russkaya**	**2.85**	**22**	*eP*	Pn	22 51 39.7	+2.3
GRL	**Gorelyy**	**2.86**	**16**	*eP*	Pn	22 51 40.6	+2.8
PET	**Petropavlovsk**	**3.43**	**19**	*eP*	Pn	22 51 48.6	+3.2
PET				*eS*	Sn	22 52 29.5	+3.9
UGLR	**Uglovaya**	**3.64**	**20**	*eP*	Pn	22 51 52.1	+3.8
AVH	**Avacha**	**3.67**	**19**	*eP*	Pn	22 51 53.0	+4.2
KOK	**Koryaka**	**3.67**	**18**	*eP*	Pb	22 51 53.1	-4.2
SMAR	**Somma**	**3.68**	**19**	*eP*	Pn	22 51 53.1	+4.0
KRER	**Koryakskii**	**3.71**	**19**	*eP*	Pn	22 51 53.1	+3.6
SDLR	**Sedlovina**	**3.71**	**20**	*eP*	Pn	22 51 52.3	+2.8
KRX	**Arik**	**3.74**	**18**	*eP*	Pn	22 51 53.9	+4.0
SPN	**Mys Shipunski**	**3.87**	**30**	*eP*	Pn	22 51 54.5	+3.1
SPN				*eS*	Sn	22 52 41.7	+5.2
GNL	**Ganaly**	**3.96**	**10**	*eP*	Pn	22 51 56.7	+3.9
KII	**Karymskiy**	**4.54**	**20**	*eP*	Pn	22 52 05.8	+5.0
KBTR	**Krutoberegovo**	**7.37**	**27**	*eP*	Pn	22 52 43.6	+4.1

*IDC **10** 22:57:35.8±0.6, 13°.66N×120°.90E, h204km±4km, mb3.3/14, mbtmp3.8/14, MS2.2/2, Error ellipse: s-maj=26.9km s-min=14.0km az=64.0*
ISC 10 22:57:35.6±0.9, 13°.6N±0°.1×120°.8E±0°.2, h200km, n17, σ0°.85/16, mb3.5/14, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.50**	**14**	P	**Pn**	**22 58 02.8**	**-0.1**
	baz=180,slow=0.0						
TGY				S	**Sn**	**22 58 25.9**	**+1.9**
	baz=180,slow=0.0						
JOW	**Kunigami**	**14.89**	**27**	LR	LR	23 06 08.7	
	comp=Z,9.2nm,21.6s,baz=140,slow=35						
CMAR	**Chiang Mai Arr**	**21.56**	**286**	P	**P**	**23 02 10.4**	**+0.8**
	2.1nm,0.9s,baz=97,slow=7.4,SNR=15						
	2.1nm,0.9s						
KSRS	**Korea Array**	**24.58**	**14**	LR	LR	23 11 54.1	
	comp=Z,6.0nm,19.2s,baz=35,slow=35						
USRK	**Ussuriysk Ar.**	**31.95**	**15**	P	**P**	**23 03 42.8**	**+0.2**
	0.6nm,0.5s,baz=189,slow=8.5,SNR=1.0						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**35.90**	**158**	P	**P**	**23 04 16.4**	**-0.5**
	0.4nm,0.8s,baz=338,slow=9.7,SNR=2.4						
	0.4nm,0.8s						
SONM	**Songino Array**	**36.17**	**343**	P	**P**	**23 04 19.0**	**-0.1**
	0.6nm,0.5s,baz=162,slow=10,SNR=5.6						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**39.20**	**161**	P	**P**	**23 04 45.2**	**+0.6**
	0.2nm,0.3s,baz=337,slow=6.6,SNR=7.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**46.17**	**324**	P	**P**	**23 05 40.6**	**+0.2**
	0.9nm,0.8s,baz=116,slow=7.4,SNR=5.8						
	0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**49.19**	**333**	P	**P**	**23 06 03.0**	**-0.3**
	0.5nm,0.3s,baz=122,slow=6.4,SNR=3.0						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**50.33**	**326**	P	**P**	**23 06 12.3**	**+0.4**
	0.6nm,0.6s,baz=122,slow=8.7,SNR=6.5						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**55.91**	**326**	P	**P**	**23 06 52.4**	**-0.3**
	0.5nm,0.5s,baz=120,slow=7.9,SNR=4.5						
	0.5nm,0.5s						
ARCES	**ARCESS Array B**	**79.21**	**339**	P	**P**	**23 09 17.8**	**-0.4**
	4.2nm,1.0s,baz=74,slow=6.7,SNR=8.1						
	4.2nm,1.0s						
BRTR	**Keskin Array B**	**79.29**	**308**	P	**P**	**23 09 19.5**	**+0.1**
	0.5nm,0.7s,baz=43,slow=6.5,SNR=3.6						
	0.5nm,0.7s						
FINES	**FINESS Array B**	**80.42**	**331**	P	**P**	**23 09 23.8**	**-0.9**
	0.8nm,0.5s,baz=68,slow=4.8,SNR=6.4						
	0.8nm,0.5s						
HFS	**Hagfors**	**86.61**	**331**	P	**P**	**23 09 54.9**	**-1.4**
	1.3nm,0.6s,baz=79,slow=3.1,SNR=6.7						
	1.3nm,0.6s						
NOA	**NORSAR Array B**	**87.39**	**333**	P	**P**	**23 09 58.9**	**-1.2**
	0.4nm,0.5s,baz=42,slow=13,SNR=3.4						
	0.4nm,0.5s						

*DNK **10** 23:07:56.5±0.9, 81°.53N×28°.19W, h36km±9km, ML1.4*
BER 10 23:07:57.3±2.6, 80°.61N×2°.28W, h15km±129km, mb(Pn)2.9, Confirmed Earthquake, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.44**	**301**	*i* S	Sn	23 08 42.0	-24
KBS	**Kingsbay**	**3.04**	**117**	*eP*	Pn	23 08 43.0	-1.8
KBS				IAML		23 09 20.2	
	comp=Z,3.6nm,0.5s						
BRBB	**Barentsburg B**	**3.95**	**121**	*eP*	Pn	23 08 56.8	-0.5
BRBB				*eS*	Sn	23 09 39.1	-4.1
**SP

KRMR	Karymshinskiy	2.74	10	eP	Pn	23 11 23.5	+3.8
APC	Apacha	2.79	358	eP	Pn	23 11 25.2	+4.8
PET	Petropavlovsk	3.00	16	eP	Pn	23 11 26.2	+2.8
PET				eS	Sn	23 12 01.7	+3.6
UGLR	Uglovaya	3.21	16	eP	Pn	23 11 30.5	+4.1
AVH	Avacha	3.25	15	eP	Pn	23 11 31.1	+4.2
SMAR	Somma	3.26	16	eP	Pn	23 11 31.2	+4.1
KOK	Koryaka	3.26	14	eP	Pn	23 11 31.3	+4.3
SDLR	Sedlovina	3.29	17	eP	Pn	23 11 30.3	+2.9
KRER	Koryakskii	3.29	15	eP	Pn	23 11 31.6	+4.1
KRX	Arik	3.33	14	eP	Pn	23 11 31.8	+3.8
SPN	Mys Shipunski	3.41	29	eP	Pn	23 11 32.2	+3.3
SPN				eS	Sn	23 12 10.6	+2.6
GNL	Ganaly	3.58	6	eP	Pn	23 11 36.1	+4.7
KII	Karymskiy	4.12	18	eP	Pn	23 11 42.8	+4.0
KBTR	Krutoberegovo	6.92	26	eP	Pn	23 12 19.7	+2.7

IDC 10 23:43:41.1±5.1, 32°.18N×69°.80E, h0km, mb3.5/3, mbtmp3.5/5, ML2.8/2, MS2.9/1, Error ellipse: s-maj=142.5km s-min=31.9km az=134.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.45**	**30**	P	Pn	23 47 45.8	-0.1
	baz=216,slow=11,SNR=6.1 1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**19.52**	**17**	P	P	23 48 09.5	-0.4
	baz=205,slow=12,SNR=5.4 0.5nm,0.7s						
AKTO	**Aktyubinsk**	**20.22**	**338**	LR	LR	23 57 07.9	
	comp=Z,36nm,18.9s,baz=113,slow=40						
BVAR	**Borovoye Array**	**20.83**	**1**	P	P	23 48 24.3	+0.1
	1.9nm,0.7s,baz=186,slow=12,SNR=8.9 1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**24.26**	**22**	P	P	23 48 60.0	+0.2
	1.0nm,0.6s,baz=216,slow=7.4,SNR=4.0 1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**64.67**	**270**	P	P	23 54 21.2	0.0
	0.3nm,0.8s,baz=40,slow=5.7,SNR=1.9 0.3nm,0.8s						

*IDC **10** 23:48:56.2±1.0, 29°.52N×141°.93E, h0km, mb3.8/10, mbtmp3.8/12, ML3.5/2, MS2.6/1, Error ellipse: s-maj=35.8km s-min=19.0km az=75.0*
*NEIC **10** 23:48:58.1±1.3, 29°.59N±0°.03×142°.2E±0°.2, h10km±1km, mb4.3/5, Error ellipse: s-maj=28.8km s-min=4.4km az=82.0*

ISC 10 23:49:00.8±0.8, 29°.61N±0°.07×142°.1E±0°.2, h30km, n28, σ0s88/28, mb4.0/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.51**	**178**	Pn	**Pn**	**23 49 41.0**	**+1.4**
JCJ				Sn	**Sn**	**23 50 08.9**	**-0.3**
JHJ2	**Mitsune**	**3.99**	**332**	Pn	**Pn**	**23 49 59.7**	**-0.2**
JHJ	**Hachijo jima 2**	**4.01**	**331**	Pn	**Pn**	**23 50 00.5**	**+0.3**
	47nm,0.3s,baz=86,slow=19,SNR=2.3 173nm,0.4s						
MJAR	**Matsushiro Arr**	**7.63**	**336**	Pn	**Pn**	**23 50 50.3**	**+0.2**
	0.2nm,0.3s,baz=150,slow=12,SNR=9.2 1.9nm,0.6s						
MAJO	**Matsushiro**	**7.64**	**336**	Pn	**Pn**	**23 50 50.8**	**+0.7**
MJB9	**Matsu-Tunnel**	**7.64**	**336**	Pn	**Pn**	**23 50 50.9**	**+0.8**
JMM	**Marumori**	**8.30**	**353**	Pn	**Pn**	**23 50 58.0**	**-1.2**
JOW	**Kunigami**	**12.48**	**261**	LR	LR	23 55 22.4	
	comp=Z,29nm,21.2s,baz=154,slow=31						
USRK	**Ussuriysk Ar.**	**16.62**	**334**	Pn	**Pn**	**23 52 51.7**	**+0.1**
ZALV	**Zalesovo Beam**	**47.55**	**318**	P	**P**	**23 57 32.7**	**-0.7**
ZALV	**Zalesovo Beam**	**47.55**	**318**	P	**P**	**23 57 32.5**	**-0.8**
	0.7nm,0.3s,baz=90,slow=7.4,SNR=3.8 0.7nm,0.3s						
MK31	**Makanchi Array**	**48.83**	**308**	P	**P**	**23 57 44.3**	**+0.9**
MK31				IAmb	IAmb	23 58 01.0	
	comp=Z,2.4nm,1.2s						
MKAR	**Makanchi Array**	**48.83**	**308**	P	**P**	**23 57 43.5**	**0.0**
MKAR	**Makanchi Array**	**48.83**	**308**	P	**P**	**23 57 41.4**	**-2.1**
	comp=Z,0.3nm,0.6s,baz=108,slow=4.7,SNR=2.1 comp=Z,0.3nm,0.6s						
WB0	**Warramunga Arr**	**49.65**	**190**	P	**P**	**23 57 48.3**	**-1.5**
WB0				IAmb	IAmb	23 57 55.0	
	comp=Z,6.3nm,1.4s						
WRA	**Warramunga Arr**	**49.83**	**190**	P	**P**	**23 57 50.2**	**-1.0**
WRA	**Warramunga Arr**	**49.83**	**190**	P	**P**	**23 57 50.1**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=4.9,slow=7.5,SNR=8.3 comp=Z,1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**51.24**	**313**	P	**P**	**23 58 00.9**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=87,slow=6.6,SNR=12 comp=Z,0.6nm,0.4s						
E19K	**Redstone River**	**51.83**	**25**	P	**P**	**23 58 05.6**	**-0.1**
E19K				IAmb	IAmb	23 58 19.3	
	comp=Z,9.5nm,1.5s						
IMAR	**Indian Mountai**	**52.86**	**28**	P	**P**	**23 58 13.3**	**-0.1**
ASAR	**Alice Springs**	**53.55**	**189**	P	**P**	**23 58 18.2**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=3.8,slow=6.1,SNR=7.8 comp=Z,0.4nm,0.5s						
ILAR	**Eielson Array**	**55.57**	**29**	P	**P**	**23 58 33.2**	**0.0**
	comp=Z,0.3nm,0.7s,baz=268,slow=6.3,SNR=4.4 comp=Z,0.3nm,0.7s						
BVAR	**Borovoye Array**	**56.15**	**316**	P	**P**	**23 58 37.3**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=97,slow=7.4,SNR=10 comp=Z,3.2nm,0.8s						
ABKAR	**Akbulak array**	**63.29**	**313**	P	**P**	**23 59 26.6**	**-0.1**
KBZ	**Khabaz**	**76.24**	**313**	P	**P**	**00 00 47.2**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=101,slow=5.2,SNR=5.4 comp=Z,0.9nm,0.6s						
RAYN	**Ar Rayn**	**84.05**	**294**	P	**P**	**00 01 29.2**	**+0.1**
BRTR	**Keskin Array B**	**84.23**	**313**	P	**P**	**00 01 29.8**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=64,slow=6.6,SNR=6.7 comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**94.17**	**53**	P	**P**	**00 02 18.7**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=300,slow=3.8,SNR=3.5 comp=Z,0.2nm,0.6s						

*INMG **11** 00:11:40.6±0.9, 35°.44N×3°.73W, h16km±6km, ML2.2, Error ellipse: s-maj=3.5km s-min=2.2km az=94.0*
*SFS **11** 00:11:40.5, 35°.43N×3°.69W, h20km, ML2.5/18, ML2.9/14, MLv2.3/18*
*MDD **11** 00:11:40.2±0.5, 35°.45N×3°.73W, h14km±5km, mb_Lg2.9/7, Error ellipse: s-maj=4.0km s-min=3.3km az=154.0*

ISC 11 00:11:39.5±1.0, 35°.42N±0°.03×3°.73W±0°.03, h29km±12km, n49, σ1s01/81, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVLZ	**Pen de Vlez**	**0.53**	**242**	Pg	**Pb**	**00 11 50.1**	**-0.3**
EMEL	**Melilla**	**0.64**	**101**	Pg	**Pn**	**00 11 52.6**	**-0.1**
EMEL				Sg	**Sn**	**00 12 01.6**	**-0.3**
EMEL				i Vmb_Lg		00 12 04.3	
WMELI	**Melilla**	**0.64**	**99**	Pg	**Pb**	**00 11 52.2**	**0.0**
WMELI				Sg	**Sb**	**00 12 01.2**	**+0.3**
WMELI	**Melilla**	**0.64**	**99**	Pg	**Pb**	**00 11 52.2**	**0.0**
WMELI				Sg	**Sb**	**00 12 01.2**	**+0.3**
EMLI	**Melilla**	**0.65**	**101**	Pg	**Pb**	**00 11 52.3**	**0.0**
EMLI				Sg	**Sb**	**00 12 00.9**	**-0.1**
EMLI	**Melilla**	**0.65**	**101**	Sg	**Sb**	**00 12 01.1**	**+0.1**
EMLI				Pg	**Pb**	**00 11 52.3**	**0.0**
EALB	**Alboran**	**0.76**	**47**	Pg	**Pb**	**00 11 54.0**	**-0.3**
EALB				Sg	**Sb**	**00 12 04.5**	**+0.1**
EALB	**Alboran**	**0.76**	**47**	Pg	**Pb**	**00 11 54.0**	**-0.3**
EALB				Sg	**Sb**	**00 12 04.2**	**-0.2**
EALB	**Alboran**	**0.76**	**47**	Pg	**Pb**	**00 11 54.2**	**-0.1**
EALB				Sg	**Sb**	**00 12 04.7**	**+0.3**
EALB				i Vmb_Lg		00 12 05.1	
CHAS	**Isla Isabel II**	**1.09**	**102**	Pn	**Pn**	**00 11 58.6**	**-0.2**
CHAS				Sn	**Sb**	**00 12 11.6**	**-1.9**
CHAS	**Isla Isabel II**	**1.09**	**102**	Pn	**Pn**	**00 11 58.7**	**-0.2**
CEU	**Ceuta**	**1.42**	**290**	Pn	**Pn**	**00 12 01.4**	**-2.0**
ECEU	**Ceuta**	**1.43**	**290**	Pn	**Pn**	**00 12 02.5**	**-1.0**
ECEU	**Ceuta**	**1.43**	**290**	Pn	**Pn**	**00 12 02.5**	**-1.0**
ECEU	**Ceuta**	**1.43**	**290**	Pn	**Pn**	**00 12 02.6**	**-1.0**
ECEU				Sn	**Sn**	**00 12 19.5**	**-1.9**
ECEU				i Vmb_Lg		00 12 21.3	
ELGU	**Los Guajares,**	**1.45**	**3**	Pn	**Pn**	**00 12 03.3**	**-0.6**
ELGU	**Los Guajares,**	**1.45**	**3**	Pn	**Pn**	**00 12 03.5**	**-0.4**
ELGU				Sn	**Sn**	**00 12 20.5**	**-1.5**
ELGU	**Los Guajares,**	**1.45**	**3**	Pn	**Pn**	**00 12 03.3**	**-0.6**
ELGU				Sn	**Sn**	**00 12 20.6**	**-1.3**
ELGU				i Vmb_Lg		00 12 25.1	
EMAL	**Malaga-Limoner**	**1.45**	**337**	Pn	**Pn**	**00 12 03.9**	**0.0**
EMAL	**Malaga-Limoner**	**1.45**	**337**	Pn	**Pn**	**00 12 03.9**	**0.0**
EMAL				Sn	**Sn**	**00 12 20.7**	**-1.3**
EBER	**Berja**	**1.62**	**24**	Pn	**Pn**	**00 12 06.7**	**+0.3**
EBER	**Berja**	**1.62**	**24**	Pn	**Pn**	**00 12 06.1**	**-0.3**
EBER	**Berja**	**1.62**	**24**	Pn	**Pn**	**00 12 06.5**	**+0.1**
EBER				Sn	**Sn**	**00 12 27.1**	**+0.7**
EBER				i Vmb_Lg		00 12 33.1	
EGOR	**Sierra Gorda,**	**1.71**	**350**	Pn	**Pn**	**00 12 08.1**	**+0.5**
EGOR				Sn	**Sn**	**00 12 29.2**	**+0.6**
EGOR	**Sierra Gorda,**	**1.71**	**350**	Pn	**Pn**	**00 12 08.4**	**+0.8**
EGOR	**Sierra Gorda,**	**1.71**	**350**	Pn	**Pn**	**00 12 08.3**	**+0.7**
EGOR				Sg	**Sb**	**00 12 31.6**	**0.0**
ENIJ	**Nijar**	**1.98**	**38**	Pn	**Pn**	**00 12 10.8**	**-0.3**
ENIJ				Sn	**Sn**	**00 12 34.4**	**-0.6**
IFR	**Ifrane**	**2.23**	**212**	Pn	**Pn**	**00 12 15.9**	**+1.2**
IFR				Sn	**Sn**	**00 12 42.5**	**+1.2**
EADA	**Adamuz**	**2.82**	**346**	Pn	**Pn**	**00 12 24.6**	**+1.8**
EADA	**Adamuz**	**2.82**	**346**	Pn	**Pn**	**00 12 25.0**	**+2.2**
ECAB	**El Cabril**	**2.98**	**333**	Pn	**Pn**	**00 12 27.0**	**+2.1**
ECAB	**El Cabril**	**2.98**	**333**	Pn	**Pn**	**00 12 27.1**	**+2.2**
ECAB				Sn	**Sn**	**00 13 00.7**	**+1.1**
EGRO	**El Granado**	**3.69**	**306**	Pn	**Pn**	**00 12 34.8**	**+0.2**
EGRO	**El Granado**	**3.69**	**306**	Pn	**Pn**	**00 12 35.4**	**+0.8**
EGRO				Sn	**Sn**	**00 13 15.5**	**-1.7**
EGRO				i Vmb_Lg		00 13 21.8	
PVAQ	**Vaqueiros**	**3.78**	**303**	eP	**Pn**	**00 12 37.2**	**+1.3**
PVAQ				eS	**Sn**	**00 13 18.4**	**-0.9**
PVAQ				A	A	00 13 19.6	
	4.3nm,0.6s						
PVAQ	**Vaqueiros**	**3.78**	**303**	Sn	**Sn**	**00 13 19.2**	**-0.2**
PVAQ				Pn	**Pn**	**00 12 37.1**	**+1.3**
PBAR	**Barrancos**	**3.82**	**317**	eP	**Pn**	**00 12 37.8**	**+1.3**
PBAR				eS	**Sn**	**00 13 20.0**	**-0.5**
PBAR				A	A	00 13 27.8	
	1.8nm,0.7s						
PBAR	**Barrancos**	**3.82**	**317**	Pn	**Pn**	**00 12 37.5**	**+1.1**
PBAR				Sn	**Sn**	**00 13 19.5**	**-1.0**
PBDV	**Barranco-do-Ve**	**3.85**	**299**	eP	**Pn**	**00 12 38.2**	**+1.3**
PBDV				eS	**Sn**	**00 13 20.6**	**-0.6**
PCVE	**Castro Verde**	**4.11**	**304**	eP	**Pn**	**00 12 41.8**	**+1.3**
PCVE				eS	**Sn**	**00 13 27.7**	**+0.1**
PCVE				A	A	00 13 29.5	
	2.5nm,0.4s						
PAB	**San Pablo**	**4.15**	**353**	Pn	**Pn**	**00 12 43.1**	**+2.1**
EBAD	**Badajoz**	**4.24**	**323**	Pn	**Pn**	**00 12 42.4**	**+0.2**
EBAD				Sn	**Sn**	**00 13 29.8**	**-0.9**
EBAD	**Badajoz**	**4.24**	**323**	Pn	**Pn**	**00 12 43.5**	**+1.3**
EBAD				Sn	**Sn**	**00 13 29.8**	**-0.9**
EBAD				i Vmb_Lg		00 13 35.7	
MESJ	**Messejana**	**4.34**	**305**	eP	**Pn**	**00 12 44.8**	**+1.1**
MESJ				eS	**Sn**	**00 13 33.6**	**+0.3**
MESJ				A	A	00 13 36.0	
	3.3nm,0.7s						
MORF	**Marmelete**	**4.40**	**297**	eP	**Pn**	**00 12 46.0**	**+1.6**
MORF				eS	**Sn**	**00 13 34.0**	**-0.7**
MORF				A	A	00 13 36.2	
	3.6nm,0.2s						
PFVI	**Vila Bisbo**	**4.46**	**294**	eS	**Sn**	**00 13 35.0**	**-1.2**
PTEO	**Sao Teotonio**	**4.55**	**299**	eP	**Pn**	**00 12 46.9**	**+0.4**
PTEO				eS	**Sn**	**00 13 38.3**	**-0.1**
PTEO				A	A	00 13 50.3	
	7.4nm,0.6s						
PESTR	**Estremoz**	**4.62**	**319**	eS	**Sn**	**00 13 40.3**	**+0.1**
EVO	**Evora**	**4.63**	**313**	eP	**Pn**	**00 12 49.0**	**+1.5**
EVO				eS	**Sn**	**00 13 39.2**	**-1.1**
EVO				A	A	00 13 42.2	
	2.3nm,0.1s						

IDC 11 00:12:06.1±1.8, 1°.61N×126°.60E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=180.3km s-min=21.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.73**	**161**	P	P	00 17 09.7	-0.1
	1.5nm,0.7s,baz=340,slow=12,SNR=16 1.5nm,0.7s						
ASAR	**Alice Springs**	**26.11**	**165**	P	P	00 17 42.2	+0.3
	0.1nm,0.3s,baz=345,slow=11,SNR=4.4 0.1nm,0.3s						
MKAR	**Makanchi Array**	**59.22**	**326**	P	P	00 22 09.1	-0.1
	0.3nm,0.4s,baz=110,slow=8.3,SNR=8.0 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.45**	**328**	P	P	00 22 37.7	0.0
	0.5nm,0.4s,baz=126,slow=6.1,SNR=5.0 0.5nm,0.4s						

*BJI **11** 00:28:02.3, 18°.21S×172°.91W, h6km, mb5.2/35, mB5.3/15, Ms4.9/4, Ms7 4.6/5*
*NEIC **11** 00:28:04.2±2.3, 18°.6S±0°.1×173°.16W±0°.09, h10km±1km, mb5.1/58, Error ellipse: s-maj=17.3km s-min=14.4km az=190.0*
*BGR **11** 00:28:08.6, 18°.57S×172°.28W, h33km*
*GCMT **11** 00:28:09.2±0.3, 18°.65S±0°.02×173°.04W±0°.02, h29km±1km, MW4.9/69, Moment Tensor Solution. s24,c34; s69,c81; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.52±.17; Mθθ -0.09±.12; Mφφ -1.43±.11; Mrθ 1.29±.20; Mφθ 1.74±.07; Mφr 0.30±.13; Best double couple: M0 2.63700×10^16 NP1: φs 113.00000°, δ63.00000°, λ45.00000°. NP2: φs 359.00000°, δ51.00000°, λ144.00000°. Principal axes: T 2.5900, Plg50.0000°, Azm332.0000°; N 0.0980, Plg39.0000°, Azm137.0000°; P -2.6840, Plg7.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **11** 00:28:13.0±3.0, 18°.64S×173°.68W, h73km±26km, mb4.2/17, mbtmp4.6/18, MS3.9/45 Error ellipse: s-maj=18.9km s-min=12.9km az=136.0*
*NOU **11** 00:28:21.9, 19°.30S×173°.97W, h82km, mb5.1/19, Tonga Islands*

ISC 11 00:28:06.9±0.3, 18°.75S±0°.06×173°.08W±0°.05, h35km, n634, σ1s50/593, mb5.0/70, MS4.0/42, 24C-38D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.00**	**97**	Sn	**Pn**	**00 28 51.1**	**-1.0**
NIUE	**Niue**	**3.00**	**97**	P	**Pn**	**00 28 51.1**	**-1.0**
NIUE				S	**Sn**	**00 29 23.6**	**-3.2**
AFI	**Afiamalu**	**4.97**	**15**	Pn	Pn	00 29 11.6	-7.6
FUTU	**Fugatoga**	**6.55**	**312**	Pn	**Pn**	**00 29 38.7**	**-2.1**
MSVF	**Nonsavu**	**8.49**	**275**	Pn	**Pn**	**00 30 08.5**	**+0.9**
MSVF	**Nonsavu**	**8.49**	**275**	P	**Pn**	**00 30 10.1**	**+2.5**
	44nm,1.0s,baz=131,slow=16,SNR=11						
MSVF				LR	LR	00 32 48.5	
	comp=Z,1μm,18.3s,baz=43,slow=35						
MSVF	**Nonsavu**	**8.49**	**275**	P	**Pn**	**00 30 11.5**	**+3.9**
YSA	**Yasawairara**	**9.13**	**281**	P	Pn	00 30 21.8	+5.5
GLKZ	**Green Lake**	**11.36**	**202**	P	**Pn**	**00 30 46.4**	**-0.4**
GLKZ				S	Sn	00 32 44.0	-8.4
RAR	**Rarotonga**	**12.75**	**103**	Pn	**Pn**	**00 31 05.1**	**-0.7**
RAR	**Rarotonga**	**12.75**	**103**	P	**Pn**	**00 31 05.7**	**-0.1**
	45nm,0.9s,baz=255,slow=8.7,SNR=8.7						
RAR				S	Sn	00 33 16.4	-10
	11nm,0.8s,baz=342,slow=19,SNR=0.9						
RAR				LR	LR	00 35 20.1	
	comp=Z,134nm,20.4s,baz=294,slow=32						
PINNC	**Pines Island,**	**18.62**	**255**	P	**P**	**00 32 21.0**	**-0.5**
PINNC				IAmb	IAmb	00 32 23.6	
	comp=Z,200nm,1.3s						
YATNC	**Mamie plateau,**	**19.06**	**257**	P	**Pn**	**00 32 28.4**	**+1.0**
DZM	**Mont Dzumac**	**19.47**	**257**	eP	**P**	**00 32 29.7**	**-1.3**
	comp=Z,80nm,1.1s						
DZM				eS	**S**	**00 36 04.6**	**-4.8**
	comp=Z,313nm,26.4s						
DZM				eLR	LR	00 37 06.1	
	comp=Z,625nm,22.9s						
DZM	**Mont Dzumac**	**19.47**	**257**	P	**P**	**00 32 30.6**	**-0.4**
DZM	**Mont Dzumac**	**19.47**	**257**	P	**P**	**00 32 29.1**	**-1.9**
	comp=Z,20nm,0.6s,baz=84,slow=18,SNR=27						
DZM				LR	LR	00 39 04.0	
	comp=Z,574nm,18.7s,baz=66,slow=34						
DZM	**Mont Dzumac**	**19.47**	**257**	P	**P**	**00 32 31.2**	**+0.2**
ONTNC	**Ouen Toro**	**19.49**	**256**	P	**P**	**00 32 30.2**	**-0.8**
NOUC	**Port Laguerre**	**19.61**	**257**	P	**P**	**00 32 32.9**	**+0.5**
NFK	**Norfolk Island**	**20.13**	**236**	P	**P**	**00 32 39.3**	**+1.3**
	comp=Z,124nm,1.3s						
MXZ	**Matakaoa Point**	**20.20**	**200**	P	Pn	00 32 42.2	+1.4
OUZ	**Omahuta**	**20.22**	**213**	P	**P**	**00 32 39.7**	**+0.8**
OUZ	**Omahuta**	**20.22**	**213**	P	**P**	**00 32 40.4**	**+1.5**
WCZ	**Waipu Caves**	**20.41**	**210**	P	**P**	**00 32 42.4**	**+1.4**
KUZ	**Kuaotunu**	**20.45**	**207**	P	Pn	00 32 43.9	+0.2
PUZ	**Puketiti**	**20.68**	**200**	P	**P**	**00 32 43.5**	**-0.4**
PUZ				S	S	00 36 20.4	-13
RUGZ	**Raukumara Rang**	**20.78**	**201**	P	**P**	**00 32 45.5**	**+0.4**
RUGZ				S	S	00 36 25.1	-10
WHRZ	**Whale Island**	**20.93**	**203**	P	Pn	00 32 51.4	+2.1
OPRZ	**Ohinepanea**	**21.07**	**203**	P	**P**	**00 32 51.4**	**+3.3**
CNGZ	**Carnagh Statio**	**21.08**	**199**	P	**P**	**00 32 51.5**	**+3.3**
MARZ	**Manawahe**	**21.15**	**203**	P	**P**	**00 32 52.7**	**+3.7**
TKGZ	**Te Karaka**	**21.15**	**200**	P	**P**	**00 32 52.7**	**+3.7**
MWZ	**Matawai**	**21.16**	**201**	P	**P**	**00 32 51.2**	**+2.0**
EDRZ	**Edgecumbe**	**21.23**	**203**	P	**P**	**00 32 49.6**	**-0.4**
URZ	**Urewera**	**21.24**	**202**	P	**P**	**00 32 50.8**	**+1.0**
	comp=Z,114nm,0.5s,baz=40,slow=3.4,SNR=106						
URZ				S	S	00 36 32.4	-12
	comp=Z,2.9nm,0.6s,baz=123,slow=20,SNR=1.2 comp=Z,114nm,0.5s						
URZ	**Urewera**	**21.24**	**202**	P	**P**	**00 32 48.3**	**-1.6**
URZ				S	S	00 36 31.2	-13
URZ	**Urewera**	**21.24**	**202**	P	**P**	**00 32 50.9**	**+1.0**
KARZ	**Kaharoa**	**21.34**	**204**	P	**P**	**00 32 54.2**	**+3.1**
RAGZ	**Rawiri**	**21.34**	**201**	P	**P**	**00 32 53.5**	**+2.3**
MKRZ	**Makatiti**	**21.36**	**203**	P	**P**	**00 32 53.6**	**+2.3**
TOZ	**Tahuroa Road**	**21.39**	**205**	P	**P**	**00 32 54.6**	**+3.1**
KOUNC	**Koumac, New Ca**	**21.39**	**261**	P	**P**	**00 32 51.4**	**-0.3**
RIGZ	**Rimuhau**	**21.42**	**200**	P	**P**	**00 32 52.3**	**+0.4**
TARZ	**Mount Tarawera**	**21.43**	**203**	P	**P**	**00 32 54.6**	**+2.5**
HLRZ	**Highlands Stat**	**21.51**	**203**	P	**P**	**00 32 55.9**	**+3.1**
RRRZ	**Republican Roa**	**21.52**	**203**	P	**P**	**00 32 55.8**	**+2.8**
MUGZ	**Murupara**	**21.55**	**202**	P	**P**	**00 32 54.5**	**+1.2**
PRGZ	**Paritu Road**	**21.58**	**199**	P	**P**	**00 32 55.4**	**+1.8**
RTZ	**Ruatahuna**	**21.60**	**202**		**P**	**00 32 54.3**	**+0.4**
RTZ				IAmb	IAmb	00 32 58.3	
	comp=Z,52nm,0.7s						
RTZ	**Ruatahuna**	**21.60**	**202**	P	**P**	**00 32 54.9**	**+1.0**
SNGZ	**Shannon Statio**	**21.63**	**201**	P	**P**	**00 32 57.0**	**+2.9**
HRRZ	**Handcock Road**	**21.65**	**203**	P	**P**	**00 32 57.9**	**+3.5**
GRRZ	**Galatos Road**	**21.68**	**204**	P	**P**	**00 32 57.0**	**+2.3**
ALRZ	**Allen Road**	**21.78**	**203**	P	**P**	**00 32 57.0**	**+1.2**
WPRZ	**Whakapapatarin**	**21.81**	**203**	P	**P**	**00 32 58.3**	**+2.2**
MTHZ	**Maungataniwha**	**21.86**	**202**	P	**P**	**00 32 58.2**	**+1.5**
MTHZ				S	**S**	**00 36 51.9**	**-4.5**
BKZ	**Black Stump Fm**	**22.26**	**202**	P	**P**	**00 33 00.0**	**-0.9**
BKZ				S	**S**	**00 36 57.5**	**-6.4**
BKZ	**Black Stump Fm**	**22.26**	**202**	P	**P**	**00 33 02.4**	**+1.4**
HIZ	**Hauiti**	**22.32**	**206**	P	**P**	**00 33 03.4**	**+1.9**
HIZ	**Hauiti**	**22.32**	**206**	P	**P**	**00 33 04.2**	**+2.7**
HIZ	**Hauiti**	**22.32**	**206**	P	**P**	**00 33 04.5**	**+3.0**
PPT2	**Papeete2**	**22.36**	**91**	eP	**P**	**00 32 59.9**	**-2.3**
	comp=Z,66nm,25.2s						
PPT2				eS	**S**	**00 37 02.2**	**-3.9**
	comp=Z,2μm,27.5s						
PPT2				eLR	LR	00 38 23.6	
	comp=Z,307nm,24.8s						
PPT2				eLR	LR	00 38 24.4	
	comp=Z,220nm,25.5s						
PPT	**Papeete**	**22.36**	**91**	LR	LR	00 40 05.3	
	comp=Z,160nm,19.3s,baz=241,slow=31						
TBI	**Tubuai**	**22.50**	**106**	eS	**S**	**00 37 08.0**	**-0.4**
	comp=Z,6μm,28.2s						
TBI				eLR	LR	00 38 29.6	
	comp=Z,1μm,25.0s						
OTVZ	**Oturere**	**22.56**	**203**	P	**P**	**00 33 02.4**	**-1.9**
WNVZ	**Wahianoa**	**22.73**	**203**	P	**P**	**00 33 05.6**	**-0.5**
VRZ	**Vera Road**	**22.88**	**205**	P	**P**	**00 33 07.0**	**-0.4**
PKE	**Pukeiti**	**23.25**	**206**	P	**P**	**00 33 14.1**	**+2.8**
NEZ	**North Egmont**	**23.27**	**206**	P	**P**	**00 33 14.3**	**+2.8**
LREZ	**Lake Rotokare**	**23.31**	**205**	P	**P**	**00 33 14.6**	**+2.8**
KHEZ	**Kahui Hut**	**23.33**	**206**	P	**P**	**00 33 14.3**	**+2.3**
KHEZ	**Kahui Hut**	**23.33**	**206**	P	**P**	**00 33 13.3**	**+1.3**
BFZ	**Birch Farm**	**23.70**	**201**	P	**P**	**00 33 16.7**	**+1.1**
BFZ				S	**S**	**00 37 24.0**	**-4.3**
BFZ	**Birch Farm**	**23.70**	**201**	P	**P**	**00 33 19.0**	**+3.4**
MRZ	**Mangatainoka R**	**23.91**	**202**	P	**P**	**00 33 18.1**	**+0.5**
MRZ				S	**S**	**00 37 27.5**	**-4.1**
OGWZ	**Otaki Gorge**	**24.20**	**202**	P	**P**	**00 33 20.5**	**+0.4**
OGWZ				S	**S**	**00 37 34.3**	**-1.8**
CAW	**Cannon Point**	**24.49**	**202**	P	**P**	**00 33 23.2**	**+0.3**
SNZO	**South Karori**	**24.80**	**202**	P	**P**	**00 33 28.7**	**+3.1**
QRZ	**Quartz Range**	**25.23**	**206**	P	**P**	**00 33 32.5**	**+2.9**
KHZ	**Kahutara**	**26.19**	**203**	P	**P**	**00 33 40.8**	**+2.6**
MQZ	**McQueen's Vall**	**27.63**	**203**	P	**P**	**00 33 52.0**	**+0.9**
MQZ				IAmb	IAmb	00 33 58.0	
	comp=Z,79nm,1.5s						
HNR	**Honiara**	**27.72**	**286**	LR	LR	00 43 19.5	
	comp=Z,322nm,19.7s,baz=29,slow=33						
RPZ	**Rata Peaks**	**28.24**	**205**	LR	LR	00 44 53.1	
	comp=Z,211nm,20.2s,baz=50,slow=36						
RPZ	**Rata Peaks**	**28.24**	**205**	P	**P**	**00 33 59.8**	**+3.1**
JCZ	**Jackson Bay**	**29.48**	**207**	P	**P**	**00 34 10.0**	**+2.2**
ODZ	**Otahua Downs**	**29

FORT	Forest	54.24	245	P	P	00 37 28.1	-1.4	
FORT				IAmb	IAmb	00 38 04.5		
	comp=Z,30nm,1.0s							
FORT	Forest	54.24	245	P	P	00 37 27.3	-2.3	
	comp=Z,24nm,1.0s							
WRKA	Warakurna	54.41	252	P	P	00 37 28.5	-2.4	
	comp=Z,16nm,0.6s							
KNRA	Kununurra	55.43	264	P	P	00 37 36.2	-2.2	
KNRA				IAmb	IAmb	00 37 50.8		
	comp=Z,16nm,0.7s							
KNRA	Kununurra	55.43	264	P	P	00 37 35.3	-3.1	
	comp=Z,23nm,0.7s							
FITZ	Fitzroy Crossi	57.88	260	P	P	00 37 52.4	-3.3	
	comp=Z,125nm,1.8s							
FITZ	Fitzroy Crossi	57.88	260	LR	LR	01 01 57.8		
	comp=Z,219nm,19.0s,baz=97,slow=35							
RPN	Rapa Nui	58.77	111	LR	LR	00 56 34.8		
	comp=Z,39nm,21.5s,baz=126,slow=29							
SBA	Scott Base	59.96	185	P	P	00 38 12.8	+3.5	
SBA				IAmb	IAmb	00 38 32.8		
	comp=Z,6.7nm,0.8s							
SOEI	Soe	61.13	269	P	P	00 38 17.0	-1.4	
BATI	Baumata	61.58	268	LR	LR	01 05 42.1		
	comp=Z,112nm,18.4s,baz=113,slow=37							
MBWA	Marble Bar	62.77	255	P	P	00 38 27.8	-1.4	
NWAO	Narrogin (SRO)	63.29	242	LR	LR	01 04 48.0		
	comp=Z,104nm,18.4s,baz=352,slow=35							
CASY	Casey	67.52	205	P	P	00 39 01.3	+2.1	
CASY				IAmb	IAmb	00 39 04.6		
	comp=Z,23nm,1.6s							
TOLI2	Tolitoli	67.85	279	P	P	00 39 01.3	-0.9	
JMM	Marumori	71.07	323	P	P	00 39 20.4	-1.1	
QSPA	South Pole Qui	71.31	180	P	P	00 39 25.8	+2.9	
QSPA				IAmb	IAmb	00 39 42.2		
	comp=Z,13nm,0.9s							
QSPA	South Pole Qui	71.31	180	P	P	00 39 25.9	+3.1	
	comp=Z,8.4nm,0.9s,baz=56,slow=1.1,SNR=22							
QSPA				LR	LR	01 07 12.1		
	comp=Z,56nm,18.9s,baz=36,slow=33							
	comp=Z,8.4nm,0.9s							
NIKH	Nikolski High	71.51	3	P	P	00 39 25.8	+1.9	
	baz=184							
JGF	Kuroka	71.60	319	P	P	00 39 23.4	-1.5	
MJAR	Matsushiro Arr	71.69	320	P	P	00 39 24.0	-1.4	
	comp=Z,5.3nm,0.8s,baz=156,slow=6.1,SNR=17							
MJAR				LR	LR	01 05 07.9		
	comp=Z,81nm,21.3s,baz=129,slow=31							
	comp=Z,5.3nm,0.8s							
MAJO	Matsushiro	71.69	320	P	P	00 39 24.3	-1.1	
MAJO				IAmb	IAmb	00 39 25.4		
	comp=Z,14nm,1.0s							
SHEM	Shemya Is, Ala	72.04	352	LR	LR	01 07 24.8		
	comp=Z,150nm,18.2s,baz=342,slow=33							
UNV	Unalaska Valle	72.52	4	P	P	00 39 30.7	+0.9	
	baz=187							
JOW	Kunigami	72.72	307	LR	LR	01 05 24.6		
	comp=Z,98nm,21.8s,baz=154,slow=31							
FALS	False Pass	73.77	6	P	P	00 39 38.5	+1.2	
	baz=190							
CHNA	Chernabura Isl	74.19	8	P	P	00 39 41.1	+1.5	
	baz=193							
JNU	Nakatsue	74.31	314	LR	LR	01 08 29.5		
	comp=Z,46nm,18.7s,baz=126,slow=33							
JKA	Kamikawa-asahi	74.53	329	P	P	00 39 42.1	+0.1	
ASAJ	Asahikawa	74.54	329	LR	LR	01 08 03.4		
	comp=Z,84nm,20.6s,baz=155,slow=32							
S12K	Black Hills	74.74	6	P	P	00 39 43.8	+0.8	
	baz=191							
PFO	Pinyon Flats O	74.99	46	LR	LR	01 10 19.4		
	comp=Z,60nm,18.1s,baz=200,slow=34							
S14K	Fog Glacier	75.61	8	P	P	00 39 48.0	0.0	
	baz=193							
SPIA	Saint Paul Isl	75.67	2	P	P	00 39 48.3	+0.1	
	baz=183							
CHIR	Chirikof Islan	75.74	10	P	P	00 39 48.8	+0.2	
	baz=197							
PEA0B	Petropavlovsk-	75.90	342	P	P	00 39 49.3	-0.3	
PETK	Petropavlovsk-	75.90	342	P	P	00 39 48.8	-0.8	
PETK	Petropavlovsk-	75.90	342	P	P	00 39 49.0	-0.6	
	comp=Z,5.7nm,0.6s,baz=103,slow=8.4,SNR=6.4							
	comp=Z,5.7nm,0.6s							
YBH	Yreka Blue Hor	76.08	36	LR	LR	01 10 56.0		
	comp=Z,79nm,18.1s,baz=222,slow=34							
NVAR	Mina Array Bea	76.61	41	P	P	00 39 55.6	+1.3	
NVAR	Mina Array Bea	76.61	41	P	P	00 39 56.8	+2.5	
	comp=Z,0.5nm,0.6s,baz=234,slow=7.6,SNR=5.1							
NVAR				LR	LR	01 11 55.6		
	comp=Z,55nm,18.0s,baz=269,slow=34							
	comp=Z,0.5nm,0.6s							
TPH	Tonopah	77.08	42	P	P	00 39 57.6	+0.6	
TPH				IAmb	IAmb	00 40 15.7		
	comp=Z,21nm,1.0s							
R16K	Pilot Point	77.12	8	P	P	00 39 57.1	+0.7	
	baz=195							
R17L	Mt. Peulik Vol	77.36	9	P	P	00 39 58.7	+0.9	
	baz=196							
OHAK	Old Harbor	77.47	11	P	P	00 39 59.2	+0.8	
	baz=199							
R18K	Karluk	77.60	10	P	P	00 40 00.0	+0.9	
	baz=198							
KSM	Kuching	77.81	276	P	P	00 39 59.7	-1.6	
Q17K	Contact Creek	78.04	9	P	P	00 40 01.8	+0.1	
	baz=197							
KDAK	Kodiak Island	78.13	11	LR	LR	01 08 26.3		
	comp=Z,156nm,19.2s,baz=46,slow=31							
KDAK	Kodiak Island	78.13	11	P	P	00 40 02.6	+0.6	
	baz=200							
R11B	Troy Canyon, C	78.29	43	P	P	00 40 03.1	-0.6	
	baz=235							
O14K	Tigyukauivet M	78.32	6	P	P	00 40 04.7	+1.6	
	baz=192							
O15K	Ungalikthiuk R	78.40	7	P	P	00 40 04.7	+1.1	
	baz=193							
PINE	Pine Mountain	78.41	36	P	P	00 40 02.7	-1.5	
PINE				IAmb	IAmb	00 40 23.7		
	comp=Z,14nm,1.2s							
P16K	Nushagak River	78.48	8	P	P	00 40 04.5	+0.5	
	baz=195							
Q18K	Katmai Hardscr	78.54	10	P	P	00 40 05.3	+0.8	
	baz=198							
KSRS	Korea Array	78.76	316	P	P	00 40 06.5	+0.5	
	comp=Z,7.0nm,0.9s,baz=135,slow=6.2,SNR=28							
KSRS				LR	LR	01 11 47.1		
	comp=Z,40nm,19.4s,baz=115,slow=33							
	comp=Z,7.0nm,0.9s							
KSAR	Wonju Array Be	78.78	316	P	P	00 40 06.0	-0.1	
P17K	Kvichak River	78.85	9	P	P	00 40 06.6	+0.6	
	baz=196							
N14K	Kuskokwak Cree	78.94	6	P	P	00 40 07.3	+0.9	
	baz=191							
Q20K	Shuyak Island	78.94	11	P	P	00 40 07.1	+0.6	
	baz=200							
O16K	Kokwok River B	79.02	8	P	P	00 40 07.5	+0.6	
	baz=194							
Q19K	Cape Douglas,	79.03	10	P	P	00 40 08.0	+0.9	
	baz=199							
P18K	Big Mountain,	79.22	9	P	P	00 40 08.7	+0.6	
	baz=197							
M13K	Dall Lake	79.28	5	P	P	00 40 09.7	+1.5	
	baz=190							
O17K	Koliganek Bris	79.32	8	P	P	00 40 09.7	+1.1	
	baz=196							
N15K	Kwethluk River	79.34	7	P	P	00 40 09.8	+1.1	
	baz=193							
O18K	Koktuh Hills	79.67	9	P	P	00 40 11.7	+1.2	
	baz=197							
M14K	Bethel	79.73	6	P	P	00 40 10.9	+0.2	
	baz=191							
P19K	Oil Pt	79.78	10	P	P	00 40 11.4	+0.2	
	baz=199							
N16K	Nishlik Lake	79.79	7	P	P	00 40 11.3	+0.2	
	baz=194							
M15K	Kasigluk River	79.80	6	P	P	00 40 11.1	0.0	
	baz=192							
N17K	Nushagak Hills	80.04	8	P	P	00 40 12.4	0.0	
	baz=195							
HOM	Homer	80.06	11	P	P	00 40 12.7	+0.1	
	baz=201							
USRK	Ussuriysk Ar.	80.23	323	P	P	00 40 14.0	+0.1	
USRK	Ussuriysk Ar.	80.23	323	P	P	00 40 14.7	+0.8	
	comp=Z,3.1nm,0.8s,baz=131,slow=5.9,SNR=5.3							
USRK				LR	LR	01 08 49.4		
	comp=Z,136nm,21.8s,baz=111,slow=30							
	comp=Z,3.1nm,0.8s							
L14K	Kuka Creek	80.25	5	P	P	00 40 14.2	+0.6	
	baz=190							
O20K	Slope Mountain	80.29	10	P	P	00 40 14.6	+0.6	
	baz=200							
M16K	Timber Creek	80.30	7	P	P	00 40 14.7	+0.8	
M16K	Timber Creek	80.30	7	P	P	00 40 14.3	+0.4	
	baz=194							
BRSE	Bradley Lake S	80.31	11	P	P	00 40 14.2	+0.2	
	baz=202							
N18K	Kilae Creek	80.36	8	P	P	00 40 14.5	+0.3	
	baz=197							
K13K	Kusilvak Mount	80.69	4	P	P	00 40 17.2	+1.3	
	baz=188							
N19K	Bonanza Creek	80.69	9	P	P	00 40 17.1	+0.9	
	baz=198							
BBB	Bella Bella	80.73	26	LR	LR	01 13 12.8		
	comp=Z,64nm,18.0s,baz=240,slow=33							
M17K	Holitna River	80.85	8	P	P	00 40 17.2	+0.4	
	baz=195							
SEW	Seward	80.89	12	P	P	00 40 17.4	+0.4	
	baz=203							
Q23K	Middleton Isla	80.91	13	P	P	00 40 17.4	+0.3	
	baz=206							
L16K	Owhat River	80.92	7	P	P	00 40 18.1	+0.9	
	baz=193							
PMSA	Palmer Station	81.01	156	LR	LR	01 08 54.0		
	comp=Z,57nm,20.1s,baz=242,slow=30							
M18K	Stony River	81.15	8	P	P	00 40 18.9	+0.5	
	baz=197							
O22K	Cooper Landing	81.19	11	P	P	00 40 19.2	+0.7	
	baz=202							
CAPN	Captain Cook N	81.19	11	P	P	00 40 19.1	+0.5	
	baz=201							
P23K	Montague Islan	81.20	13	P	P	00 40 18.9	+0.2	
	baz=205							
K15K	Wolf Creek Mou	81.29	5	P	P	00 40 20.6	+1.4	
K15K	Wolf Creek Mou	81.29	5	P	P	00 40 19.8	+0.7	
	baz=191,SNR=6.9							
CRAG	Craig	81.32	22	P	P	00 40 19.6	+0.2	
	baz=218							
N20K	Mount Spurr	81.42	10	P	P	00 40 20.6	+0.6	
	baz=200							
SPCR	Spurr Chakacha	81.42	10	P	P	00 40 20.6	+0.7	
	baz=200							
L17K	Donlin	81.46	7	P	P	00 40 21.0	+1.0	
	baz=194							
J14K	Nanvaranak Lak	81.57	4	P	P	00 40 22.1	+1.5	
	baz=189							
V35K	Ketchikan	81.74	22	P	P	00 40 22.4	+0.8	
	baz=219							
RC01	Rabbit Creek A	81.75	11	P	P	00 40 22.8	+1.3	
	baz=202							
M19K	Big River Lodg	81.75	9		P	00 40 21.5	-0.1	
M19K				IAmb	IAmb	00 43 19.4		
	comp=Z,34nm,1.6s							
KAIM	Kayak Island	81.79	14	P	P	00 40 22.6	+0.8	
	baz=207							
PWL	Port Wells	81.80	12	P	P	00 40 21.5	-0.4	
	baz=204							
U33K	Whale Pass	81.83	21	P	P	00 40 21.8	-0.2	
	baz=218							
SIT	Sitka	81.85	20	P	P	00 40 21.9	-0.3	
	baz=216							
SUA	Susitna One	81.92	11	P	P	00 40 22.3	-0.3	
SUA	Susitna One	81.92	11	P	P	00 40 21.5	-1.1	
	baz=201							
L19K	White Mountain	81.95	9	P	P	00 40 22.4	-0.3	
	baz=198							
Y22D	IRIS PASSCAL I	81.97	50	P	P	00 40 22.4	-1.1	
	baz=241							
K17K	Iditarod	82.03	7	P	P	00 40 22.1	-0.9	
	baz=194							
EYAK	Cordova Ski Ar	82.05	13	P	P	00 40 23.2	0.0	
	baz=206							
GLI	Glacier Island	82.07	12	P	P	00 40 22.7	-0.6	
	baz=205							
TX31	Lajitas Ar. Si	82.23	56	P	P	00 40 25.2	+0.2	
TX31				IAmb	IAmb	00 40 45.0		
	comp=Z,18nm,1.6s							
TXAR	Lajitas Array	82.23	56	P	P	00 40 28.1	+3.1	
	comp=Z,2.1nm,1.1s,baz=209,slow=7.2,SNR=9.8							
	comp=Z,2.1nm,1.1s							
GAMB	Gambell	82.26	1	P	P	00 40 23.5	-0.7	
	baz=181							
SKT	Skwentna	82.27	10	P	P	00 40 23.6	-0.7	
	baz=201							
KNK	Knik Glacier	82.29	12	P	P	00 40 23.3	-1.1	
	baz=204							
M22K	Willow	82.30	11	P	P	00 40 24.1	-0.3	
	baz=202							
PMR	Palmer	82.33	11	P	P	00 40 23.7	-0.9	
	baz=203							
J16K	Anvik River	82.35	6	P	P	00 40 23.7	-1.0	
	baz=192							
S32K	Killisnoo	82.42	20	P	P	00 40 23.5	-1.6	
	baz=217							
NJ2	Nanjing	82.42	307	eP	P	00 40 27.1	+1.3	
NJ2				pP	PcP	00 40 31.0	+0.1	
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.6s							
NJ2				pmax	pmax			
	comp=Z,140nm,3.7s							
TTA	Tatalina	82.51	8	P	P	00 40 24.1	-1.6	
	baz=196							
MESA	MESA	82.61	15	P	P	00 40 24.8	-1.6	
	baz=210							
J17K	VABM Dome	82.61	6	P	P	00 40 24.7	-1.3	
	baz=193							
SML	Sawmill	82.67	12	P	P	00 40 26.0	-0.5	
	baz=204							
BMRM	Bremner River	82.68	14	P	P	00 40 25.2	-1.4	
	baz=207							
ANMO	Albuquerque	82.72	49	LR	LR	01 08 18.9		
	comp=Z,30nm,21.3s,baz=19,slow=29							
PNL	Peninsula	82.83	16	P	P	00 40 25.9	-1.4	
	baz=212							
CRQE	Cirque	82.83	14	P	P	00 40 26.2	-1.3	
	baz=209							
CUT	Chulitna	82.88	10	P	P	00 40 25.4	-2.0	
	baz=202							
SCM	Sheep Creek Mo	82.89	12	P	P	00 40 26.1	-1.5	
	baz=205							
I17K	Unalakleet	82.93	5	P	P	00 40 25.4	-2.2	
	baz=192							
J18K	Innoko River	82.94	7	P	P	00 40 26.5	-1.3	
	baz=196							
PINM	Pinnacle	82.96	16	P	P	00 40 25.8	-2.3	
	baz=211							
PPLA	Purkeypile	83.02	9	P	P	00 40 27.4	-1.0	
	baz=200							
R32K	Eaglecrest	83.09	19	P	P	00 40 26.9	-1.8	
	baz=217							
H03S2	Juan Fernandez	83.11	123	T	T	02 13 13.1		
	baz=249,slow=75,SNR=40							
H03S1	Juan Fernandez	83.12	123	T	T	02 13 15.5		
	baz=249,slow=75,SNR=30							
H03S3	Juan Fernandez	83.13	123	T	T	02 13 13.4		
	baz=249,slow=75,SNR=29							
K20K	Telida	83.18	9	P	P	00 40 28.1	-1.0	
	baz=198							
H03N2	Juan Fernandez	83.23	123	T	T	02 13 20.3		
	baz=248,slow=73,SNR=8.4							
H03N3	Juan Fernandez	83.23	123	T	T	02 13 26.1		
	baz=248,slow=73,SNR=6.4							
H03N1	Juan Fernandez	83.24	123	T	T	02 13 29.8		
	baz=248,slow=73,SNR=6.6							
P29M	Windy Craggy	83.25	17	P	P	00 40 28.0	-1.5	
	baz=214							
N25K	Chitina, Valde	83.25	13	P	P	00 40 27.7	-1.8	
	baz=207							
NEW	Newport	83.30	34	LR	LR	01 12 06.5		
	comp=Z,108nm,19.0s,baz=168,slow=32							
M24K	Tolsona, Glenn	83.37	12	P	P	00 40 28.9	-1.2	
	baz=206							
MCARA	McCarthy VSAT	83.41	14	P	P	00 40 28.6	-1.6	
	baz=209							
MA2	Magadan	83.43	342	LR	LR	01 10 57.7		
	comp=Z,36nm,21.2s,baz=132,slow=31							
CTG	Chitna Glacier	83.44	15	P	P	00 40 29.4	-1.2	
	baz=210							
CTGM	Chitina Glacie	83.44	15	P	P	00 40 30.5	-0.1	
CTGM				IAmb	IAmb	00 40 32.2		
	comp=Z,9.5nm,0.9s							
WAT6	Susitna Watana	83.50	12	P	P	00 40 28.8	-2.0	
	baz=204							
T35M	Bob Quinn	83.50	22	P	P	00 40 29.5	-1.4	
	baz=220							
CAST	Castle Rocks	83.53	9	P	P	00 40 30.3	-0.6	
CAST				IAmb	IAmb	00 43 09.7		
	comp=Z,21nm,1.8s							
CAST	Castle Rocks	83.53	9	P	P	00 40 29.3	-1.6	
	baz=200							
H16K	Elim	83.54	5	P	P	00 40 28.0	-2.9	
	baz=190							
O28M	Mount Upton	83.56	16	P	P	00 40 27.9	-3.5	
	baz=211							
WAT1	Susitna Watana	83.58	11	P	P	00 40 27.7	-3.4	
	baz=203							
O29M	Mount Kennedy	83.58	16	P	P	00 40 29.0	-2.4	
	baz=213							
J19K	Poorman	83.58	8	P	P	00 40 29.2	-1.9	
	baz=197							
BNX	BinXian	83.77	323	⇓P	P	00 40 32.8	+0.4	
BNX				pmax	pmax			
	comp=Z,16nm,0.8s							
G15K	Niukluk	83.77	4	P	P	00 40 30.7	-1.3	
	baz=189							
S22A	4UR Ranch, Cre	83.81	47	P	P	00 40 30.4	-2.9	
	baz=241							
CN2	Changchun	83.84	320	eP	P	00 40 33.2	+0.3	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KTH	Kantishna Hill	83.84	10	P	P	00 40 32.0	-0.5	
TRF	Thorofare Moun	83.85	10	P	P	00 40 31.6	-1.1	
	baz=202,SNR=6.0							
P30M	Million Dollar	83.88	17	P	P	00 40 30.7	-2.0	
	baz=214							
S34M	Telegraph Cree	83.92	21	P	P	00 40 30.3	-2.6	
	baz=220							
J20K	Nowinta River	83.95	8	P	P	00 40 31.9	-1.1	
	baz=198							
DHY	Denali Highway	84.02	11	P	P	00 40 33.4	-0.1	
DHY				IAmb	IAmb	00 41 16.7		
	comp=Z,23nm,1.6s							
DHY	Denali Highway	84.02	11	P	P	00 40 31.8	-1.8	
	baz=204							
H17K	Granite Mounta	84.03	6	P	P	00 40 31.0	-2.3	
	baz=193							
YUK8	Steele Glacier	84.11	15	P	P	00 40 31.5	-2.7	
	baz=212							
F14K	Arctic Creek	84.12	3	P	P	00 40 32.3	-1.5	
	baz=186							
TNA	Tin City	84.14	2	P	P	00 40 32.1	-1.7	
	baz=185							
GCSA	Galena City Sc	84.16	7	P	P	00 40 32.2	-1.7	
	baz=196							
YUK6	Outpost Mounta	84.18	16	P	P	00 40 30.7	-3.8	
	baz=213							
G16K	Koyuk River	84.28	4	P	P	00 40 32.5	-2.0	
	baz=190							
PAX	Paxson	84.29	12	P	P	00 40 33.6	-1.3	
	baz=206							
M26K	Nabesna, AK	84.31	14	P	P	00 40 33.4	-1.5	
	baz=209							
HYT	Haines Junctio	84.31	17	P	P	00 40 32.9	-2.1	
	baz=214							
MCK	McKinley	84.34	11	P	P	00 40 33.2	-1.7	
	baz=203,SNR=5.5							
BPAW	Bear Paw Mtn.	84.34	10	P	P	00 40 33.8	-1.2	
	baz=201							
Q32M	Nakina River	84.35	20	P	P	00 40 33.3	-2.1	
	baz=219							
YUK3	Moose Creek	84.36	15	P	P	00 40 33.6	-1.7	
	baz=211							
H18K	Honhosa River	84.39	6	P	P	00 40 33.4	-1.8	
	baz=194							
P32M	Atlin	84.40	19	P	P	00 40 33.5	-1.9	
	baz=217							
F15K	North Star Dit	84.44	3	P	P	00 40 33.9	-1.5	
	baz=188							
YUK4	Talbot Arm	84.44	16	P	P	00 40 34.8	-1.0	
	baz=213							
I20K	Naaghedeneel	84.50	8	P	P	00 40 34.1	-1.6	
	baz=198							
G17K	Kiwalik Mounta	84.52	5	P	P	00 40 34.6	-1.2	
	baz=192							
M27K	Edge Creek, AK	84.53	14	P	P	00 40 34.0	-2.1	
	baz=210							
PDAR	Pinedale Array	84.55	41	P	P	00 40 37.4	+0.6	
PDAR	Pinedale Array	84.55	41	P	P	00 40 38.1	+1.3	
	comp=Z,0.6nm,0.6s,baz=216,slow=2.9,SNR=6.2							
PDAR				LR	LR	01 16 57.8		
	comp=Z,28nm,18.2s,baz=274,slow=34							
	comp=Z,0.6nm,0.6s							
O30N	Mendenhall	84.66	17	P	P	00 40 34.9	-1.7	
	baz=215							
DLBC	Dease Lake	84.69	21	P	P	00 40 35.8	-1.1	
	baz=221							
CMIG	Matias Romero	84.72	70	LR	LR	01 11 20.6		
	comp=Z,97nm,19.0s,baz=202,slow=30							
MAW	Mawson	84.73	199	P	P	00 40 40.0	+2.9	
	comp=Z,2.2nm,0.7s,baz=140,slow=9.3,SNR=9.4							
MAW				LR	LR	01 15 20.8		
	comp=Z,114nm,21.0s,baz=115,slow=33							
	comp=Z,2.2nm,0.7s							
L26K	Log Cabin Wild	84.78	13	P	P	00 40 36.9	-0.4	
	baz=208							
BVCY	Beaver Creek	84.81	14	P	P	00 40 36.3	-1.1	
	baz=211							
WHY	Whitehorse	84.91	18	P	P	00 40 38.3	+0.3	
WHY	Whitehorse	84.91	18	P	P	00 40 37.2	-0.9	
	baz=216							
N30M	Aishikik Lake	84.95	16	P	P	00 40 37.1	-1.1	
	baz=214							
H19K	Roundabout Mou	84.97	7	P	P	00 40 37.8	-0.2	
	baz=196							
K24K	Donnelly Dome	84.98	12	P	P	00 40 37.3	-0.9	
	baz=206							
G18K	Tagagawik	85.09	6	P	P	00 40 37.3	-1.4	
	baz=194							
RIDG	Independent Ri	85.11	12	P	P	00 40 37.2	-1.7	
	baz=207							
NEA2	Nenana	85.11	10	P	P	00 40 38.1	-0.7	
	baz=203							
R33M	Jennings River	85.11	20	P	P	00 40 37.5	-1.6	
	baz=220							
H20K	Anotleneega Mo	85.12	8	P	P	00 40 38.1	-0.7	
	baz=197							
L27K	Beaver Creek,	85.15	14	P	P	00 40 38.3	-0.8	
	baz=210							
BCAR	Beaver Creek A	85.17	14	P	P	00 40 39.7	+0.5	
P33M	Teslin, Yukon	85.17	19	P	P	00 40 37.8	-1.5	
	baz=218							
WRH	Wood River Hil	85.17	11	P	P	00 40 39.1	+0.1	
WRH				IAmb	IAmb	00 40 40.9		
	comp=Z,21nm,1.0s							
833A	Chaparral WMA,	85.19	58	P	P	00 40 38.6	-1.5	
	baz=246							
I21K	Tanana	85.21	9	P	P	00 40 38.3	-1.0	
	baz=200							
T25A	Trinidad	85.22	48	P	P	00 40 38.4	-1.9	
	baz=242							
WHN	Wuhan	85.22	304	P	P	00 40 35.4	-4.7	
MLY	Manley	85.25	9	P	P	00 40 38.9	-0.7	
MLY				IAmb	IAmb	00 40 41.2		
	comp=Z,8.4nm,1.0s							
MLY	Manley	85.25	9	P	P	00 40 38.7	-0.9	
	baz=201							
HDA	Harding Lake	85.31	11	P	P	00 40 38.7	-1.2	
	baz=205,SNR=6.9							
N31M	Braeburn, Yuko	85.33	17	P	P	00 40 38.6	-1.5	
	baz=215							
CCB	Clear Creek Bu	85.38	11	P	P	00 40 40.4	+0.2	
CCB				IAmb	IAmb	00 40 41.6		
	comp=Z,16nm,0.8s							
F17K	Baldwin Pennin	85.40	5	P	P	00 40 39.9	-0.2	
	baz=191							
M29M	Somme Creek	85.42	15	P	P	00 40 39.3	-1.2	
	baz=213							
G19K	Purcell Mounta	85.49	6	P	P	00 40 40.0	-0.7	
	baz=195	

comp=Z,3.6nm,0.7s
F18K Selawik 85.69 5 P P 00 40 41.4 -0.2
baz=193
IMAR Indian Mountai 85.73 8 P P 00 40 42.5 +0.6
J25K Salcha River, 85.79 12 P P 00 40 42.0 -0.3
baz=206,SNR=7.0
POKR Poker Plat Res 85.88 11 P P 00 40 42.9 +0.3
POKR IAmb IAmb 00 40 44.3
comp=Z,21nm,1.1s
POKR Poker Plat Res 85.88 11 P P 00 40 42.1 -0.5
baz=204,SNR=9.5
K27K Chicken 85.94 13 P P 00 40 42.6 -0.4
baz=209,SNR=5.2
N23A Red Feather La 85.94 44 P P 00 40 42.6 -1.3
baz=241
M30M Minto, Yukon 85.96 16 P P 00 40 43.9 +0.8
baz=214
H22K Ishtalitna Cre 85.97 9 P P 00 40 43.9 +0.8
baz=201,SNR=5.4
E17K Hotham Inlet 85.99 4 P P 00 40 44.6 +1.5
baz=191
J26L Joseph Creek 86.05 12 P P 00 40 44.1 +0.5
baz=208,SNR=14
L29M L29M 86.07 15 P P 00 40 43.9 +0.2
baz=213,SNR=7.8
F19K Shaleruckik Mo 86.09 6 P P 00 40 44.1 +0.4
baz=195
H23K Yukon River 86.18 9 P P 00 40 44.6 +0.5
baz=202
G21K Allakaket 86.27 8 P P 00 40 45.5 +1.0
baz=199
M31M Drury Creek, Y 86.30 17 P P 00 40 45.6 +0.8
baz=216
E18K Tukpahlearik C 86.41 5 P P 00 40 45.6 +0.4
baz=192
H24K Noodor Dome 86.46 10 P P 00 40 46.0 +0.4
baz=204
D17K Noatak River 86.51 4 P P 00 40 46.4 +0.8
baz=190
F20K Avaraart Lake 86.51 7 P P 00 40 46.7 +1.0
baz=196
DAWY Dawson 86.58 14 P P 00 40 46.7 +0.6
DAWY IAmb IAmb 00 40 48.6
comp=Z,8.3nm,0.9s
DAWY Dawson 86.58 14 P P 00 40 47.4 +1.3
baz=212,SNR=6.8
PRP Porcupine Dome 86.58 11 P P 00 40 47.2 +0.9
baz=206,SNR=12
TOAD Toad River Com 86.69 23 P P 00 40 47.5 +0.6
baz=225
E19K Redstone River 86.75 6 P P 00 40 47.3 +0.4
baz=195
EGAK Eagle 86.79 13 P P 00 40 47.7 +0.6
EGAK IAmb IAmb 00 40 49.4
comp=Z,8.4nm,1.0s
EGAK Eagle 86.79 13 P P 00 40 47.4 +0.3
baz=210
K29M Barlow Dome 86.83 15 P P 00 40 47.9 +0.4
baz=214,SNR=5.6
I26K Coal Creek Min 86.84 12 P P 00 40 48.1 +0.8
baz=208
RDOG Red Dog Mine 86.87 4 P P 00 40 48.3 +0.8
baz=190
G22K Bettles 86.92 8 P P 00 40 48.3 +0.7
baz=200
G23K Bananza Creek 86.93 9 P P 00 40 48.7 +0.9
baz=202
F21K Alatna River 86.94 8 P P 00 40 48.2 +0.3
baz=199
C16K Lisburne Hills 86.96 3 P P 00 40 48.4 +0.6
baz=187
PLCA Paso Flores 87.05 132 LR LR 01 12 15.4
comp=Z,52nm,19.3s,baz=23,slow=30
J29N Klondike Camp 87.18 14 P P 00 40 49.6 +0.5
baz=213
C17K DeLong Mountai 87.28 4 P P 00 40 49.5 +0.1
baz=190
G24K Hadweenzic Riv 87.32 10 P P 00 40 49.7 0.0
baz=204
F22K John River 87.38 8 P P 00 40 49.9 -0.1
baz=200
COLD Coldfoot 87.39 9 P P 00 40 50.2 +0.2
baz=202
I27K Kandik River 87.42 13 P P 00 40 49.9 -0.3
baz=210
C18K Utukok River 87.58 4 P P 00 40 50.3 -0.7
baz=191
G25K Bearman Lake 87.61 10 P P 00 40 50.5 -0.5
baz=206
E20K Nigu River 87.63 6 P P 00 40 51.6 +0.4
baz=196
I28M Miner Creek 87.64 13 P P 00 40 51.2 -0.1
baz=211
D19K Kuna River 87.67 5 P P 00 40 51.6 +0.2
baz=194
J30M Hart River 87.73 15 P P 00 40 52.5 +0.6
baz=215
HNS HongShan 87.86 311 ⇑P P 00 40 54.0 +1.1
HNS pmax pmax
comp=Z,17nm,1.2s
BJT Baijiatuau 87.98 313 P P 00 40 53.2 -0.2
H27K Steamboat Moun 87.98 12 P P 00 40 53.4 +0.5
baz=210
BJI Beijing 87.98 314 P P 00 40 54.5 +1.1
BJI pmax pmax
comp=Z,6.0nm,1.5s
F24K Squaw Lake 88.00 9 P P 00 40 53.2 +0.3
baz=204
E22K Anaktuvuk Pass 88.02 8 P P 00 40 53.3 +0.3
baz=200
KOTAN Kotaneelee Air 88.03 22 P P 00 40 53.4 +0.2
baz=226
D20K Etivluk River 88.03 6 P P 00 40 52.9 -0.1
baz=196
E21K Killik River 88.05 7 P P 00 40 53.7 +0.6
baz=198
C19K Lookout Ridge 88.15 5 P P 00 40 54.2 +0.6
baz=193
G26K Porcupine Rive 88.18 11 P P 00 40 54.3 +0.6
baz=208
B18K Kokolik River 88.24 4 P P 00 40 54.5 +0.5
baz=191
E23K Chandalar 88.25 9 P P 00 40 54.9 +0.8
baz=202
I30M Mount Dempster 88.26 15 P P 00 40 55.4 +1.0
baz=215,SNR=8.0
LYN LuoYang 88.32 307 P P 00 40 56.5 +1.3
LYN pmax pmax
comp=Z,28nm,0.9s
LYN pmax pmax
comp=Z,150nm,5.6s
E24K Your Creek 88.42 9 P P 00 40 55.9 +0.9
baz=203
F25K Christian Rive 88.43 10 P P 00 40 55.7 +0.6
baz=206
G27K Doyon Strip 88.46 12 P P 00 40 55.6 +0.5
baz=210
BMAR Burnt Mountain 88.47 11 P P 00 40 56.4 +1.2
D22K Ayikyak River 88.62 7 P P 00 40 56.7 +0.9
baz=199
H29M Whitestone 88.64 13 P P 00 40 57.3 +1.4
baz=213
C21K Knifeblade Rid 88.64 6 P P 00 40 57.4 +1.5
baz=197
F26K Sheenjek River 88.78 11 P P 00 40 57.0 +0.4
baz=207
TOLK Toolik Lake Re 88.79 8 P P 00 40 57.2 +0.5
baz=202
ELIB Princess Elisa 88.84 185 dP P 00 40 59.2 +1.9
comp=Z,4.6nm,1.2s
E25K Arctic Village 88.92 10 P P 00 40 58.2 +0.9
baz=206
D23K Nanushuk River 88.95 8 P P 00 40 58.5 +1.2
baz=201
ENH Enshi 88.96 302 P P 00 40 58.5 +0.1
B21K Ikpikpuk River 89.11 6 P P 00 40 59.3 +1.2
baz=198
A19K Wainwright 89.12 4 P P 00 40 59.1 +1.0
baz=192
EPYK Eagle Plains 89.13 14 P P 00 40 59.2 +0.9
baz=214
H31M Peel River 89.22 15 P P 00 40 59.3 +0.6
baz=216
B20K Meade River 89.23 5 P P 00 40 59.0 +0.4
baz=195
G29M Pine Creek 89.30 13 P P 00 41 00.7 +1.7
baz=213
TROLL Troll, Antarti 89.42 179 ⇑P P 00 41 04.4 +4.5
comp=Z,419nm,1.2s
F28M Old Crow 89.51 12 P P 00 41 01.6 +1.5
baz=211
VNA3 Neumayer Olymp 89.51 175 ⇑P P 00 41 05.9 +5.7
comp=Z,8.1nm,0.8s
SNAA Sanae 89.56 177 ⇑P P 00 41 04.9 +4.4
comp=Z,176nm,1.0s
SNAA Sanae 89.56 177 P P 00 41 02.2 +1.7
comp=Z,2.1nm,0.8s,baz=357,slow=20,SNR=4.0
SNAA LR LR 01 17 39.1
comp=Z,58nm,19.3s,baz=216,slow=33
comp=Z,2.1nm,0.8s
E27K Coleen River 89.67 11 P P 00 41 02.0 +1.2
baz=210
G30M tAoh Zraii Nji 89.75 14 P P 00 41 01.9 +0.7
baz=215
XLT XiLinHaoTe 89.77 317 eP P 00 41 01.7 -0.2
XLT pP PcP 00 41 06.5 +3.3
XLT pmax pmax
comp=Z,7.0nm,0.5s
C23K Itkillik River 89.77 8 P P 00 41 01.9 +0.8
baz=201
C24K Franklin Bluff 89.92 8 P P 00 41 02.6 +0.8
baz=203
B22K Teshekpuk Lake 89.92 7 P P 00 41 02.6 +0.8
baz=199
VNA2 Neumayer--Watz 90.01 175 ⇑P P 00 41 04.8 +2.3
comp=Z,9.2nm,0.7s,baz=201,slow=3.4
G31M Satah River 90.15 14 P P 00 41 04.4 +1.4
baz=216
VNA1 Neumayer--Stat 90.21 175 ⇑P P 00 41 04.4 +1.0
comp=Z,14nm,1.1s
E28M Babbage River 90.42 12 P P 00 41 04.9 +0.7
baz=212
E29M Blow River 90.56 12 P P 00 41 05.6 +0.7
baz=213
C27K Jago River 90.58 10 P P 00 41 06.8 +1.8
baz=208
C26K Camden Bay 90.65 9 P P 00 41 07.1 +1.8
baz=207
F31M Tsiigehtchic 90.69 14 P P 00 41 06.7 +1.2
baz=217
D27M Malcolm River 90.71 11 P P 00 41 06.9 +1.3
baz=210
D28M Stokes Point 91.19 12 P P 00 41 08.5 +0.7
baz=212
INK Inuvik 91.43 14 P P 00 41 08.6 -0.3
INK IAmb IAmb 00 41 11.9
comp=Z,24nm,1.8s
INK Inuvik 91.43 14 LR LR 01 16 22.1
comp=Z,75nm,20.8s,baz=228,slow=32
INK Inuvik 91.43 14 P P 00 41 09.8 +0.9
baz=217
HHC Hu-ho-hao-te 91.52 313 eP P 00 41 11.9 +1.8
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,73nm,6.1s
ATAH Atahualpa 92.14 98 LR LR 01 14 29.3
comp=Z,78nm,18.8s,baz=10,slow=30
YAK Yakutsk 92.29 337 LR LR 01 18 33.1
comp=Z,26nm,19.2s,baz=110,slow=33
BTO Baotou 92.50 312 eP P 00 41 16.8 +2.1
BTO pP **pP 00 41 21.4 -3.1**
BTO sP **sP 00 41 23.4 -4.7**
BTO PP **PP 00 44 58.9 +2.4**
BTO S **S 00 52 23.4 +7.0**
BTO SS **SS 00 58 30.3 +1.4**
BTO pmax pmax
comp=Z,19nm,0.6s
BTO pmax pmax
comp=Z,140nm,4.5s
BTO LR LR
comp=Z,170nm,4.9s
KMI Kunming 92.74 295 ⇓P P 00 41 17.9 +1.6
KMI pmax pmax
comp=Z,33nm,0.5s
CMAR Chiang Mai Arr 93.94 288 P P 00 41 20.9 -0.8
comp=Z,2.2nm,0.8s,baz=92,slow=2.8,SNR=17
CMAR LR LR 01 18 43.1
comp=Z,18nm,21.9s,baz=290,slow=32
comp=Z,2.2nm,0.8s
PZH PanZhiHua 94.04 296 P P 00 41 24.1 +2.0
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
A36M Sachs Harbour 96.07 13 P P 00 41 30.0 -0.2
A36M IAmb IAmb 00 41 50.2
comp=Z,5.0nm,0.8s
A36M Sachs Harbour 96.07 13 P P 00 41 30.4 +0.2
baz=225
ULM Lac du Bonnet 96.33 39 LR LR 01 24 09.9
comp=Z,79nm,18.1s,baz=320,slow=35
SONM Songino Array 97.53 318 P P 00 41 37.6 0.0
comp=Z,0.6nm,0.8s,baz=88,slow=3.5,SNR=3.1
SONM LR LR 01 19 15.4
comp=Z,32nm,21.9s,baz=80,slow=32
comp=Z,0.6nm,0.8s
TIXI Tiksi 98.29 344 LR LR 01 22 21.7
comp=Z,39nm,20.4s,baz=190,slow=33
LPAZ La Paz 98.38 110 LR LR 01 15 48.6
comp=Z,39nm,21.9s,baz=354,slow=29
WMQ Urumqi 109.29 311 Pdif Pdif 00 42 31.5 +1.6
ZALV Zalesovo Beam 112.03 321 PKiKP PKiKP 00 46 38.0 -0.3
comp=Z,0.5nm,0.5s,baz=96,slow=1.4,SNR=3.4
MKAR Makanchi Array 113.36 314 PKiKP PKiKP 00 46 41.0 -0.1
comp=Z,1.0nm,0.6s,baz=93,slow=0.6,SNR=9.1
KURBB Kurchatov Arra 115.89 318 PKP PKPdf 00 46 46.0 +0.2
comp=Z,1.5nm,0.8s,baz=93,slow=1.9,SNR=12
BVAR Borovoye Array 120.68 321 PKP PKPdf 00 46 55.4 +0.5
comp=Z,4.2nm,0.6s,baz=60,slow=1.3,SNR=27
ARCES ARCESS Array B 127.95 352 PKP PKiKP 00 47 10.1 +1.1
comp=Z,5.5nm,1.0s,baz=25,slow=2.4,SNR=5.0
FINES FINESS Array B 135.26 347 PKhKP PKPpre 00 47 19.7
comp=Z,2.9nm,0.9s,baz=40,slow=2.4,SNR=1.9
NACGM Naroch 140.85 342 ePKP PKPpre 00 47 25.9
comp=Z,10.0nm,0.9s,baz=31
GNI Garni 141.16 311 PKPdf PKPpre 00 47 24.4
AK03 Malin Array Si 143.50 336 PKPdf PKPbc 00 47 35.3 +0.2
AKASG Malin Array Be 143.52 336 PKhKP PKPpre 00 47 34.6
comp=Z,1.0nm,0.5s,baz=39,slow=4.1,SNR=11
AKBB Malin Array Si 143.52 336 PKPdf PKPbc 00 47 35.4 +0.3
AK21 Malin Array Si 143.53 336 PKPdf PKPbc 00 47 35.0 -0.1
KIEV Kiev 143.53 336 ⇑P PKPbc 00 47 35.2 0.0
AK15 Malin Array Si 143.56 336 PKPdf PKPab 00 47 35.0 +0.7
GURO Guroymak-BITLI 143.72 310 PKPdf PKPbc 00 47 37.5 +1.2
MI28 Mi28,Pidlybu 143.91 338 PKPdf PKPbc 00 47 36.6 +0.3
KMBO Kilima Mbogo 144.24 240 PKP PKPdf 00 47 40.5 -0.1
comp=Z,1.8nm,0.8s,baz=104,slow=5.5,SNR=6.7
RNPP5 Staryi Chortor 144.28 340 PKPdf PKPbc 00 47 38.0 +0.6
LUBAR Lubar, Ukraine 144.71 337 PKPdf PKPab 00 47 37.3 -1.4
MARD Mardin 145.11 309 PKPdf PKPdf 00 47 41.4 +0.2
BEL Belsk 145.22 345 ePKP PKPdf 00 47 42.5 +1.7
BAL3X Bal3x, Balta 145.53 333 PKPdf PKPdf 00 47 41.6 +0.2
SORM Soroca 145.90 334 PKPdf PKPab 00 47 43.5 +0.4
NDNU Novodnistrovsk 145.93 336 PKPdf PKPbc 00 47 43.1 +0.3
NRDL Niedersach Rie 146.23 356 ePKPbc PKPab 00 47 44.9 +0.8
baz=6.4,slow=2.7
KMPD K-Podol'skiy 146.31 336 PKPdf PKPab 00 47 44.4 -0.3
KMPD PKPdf **PKPbc 00 47 44.2 +0.3**
FLTG Flechtingen 146.32 355 ePKPbc PKPab 00 47 45.0 +0.4
baz=6.4,slow=2.7
PURM Purcari 146.47 331 ⇑P PKPab 00 47 45.7 +0.4
PURM Purcari 146.47 331 PKPdf PKPab 00 47 45.2 -0.1
IBBN Ibbenburen 146.50 359 ePKPbc PKPab 00 47 45.9 +0.6
baz=6.4,slow=2.7
MILM Milestii Mici 146.65 332 ⇓P PKPbc 00 47 45.8 +0.9
KWP Kalwaria Pacla 146.68 341 ePKP PKPab 00 47 46.1 0.0
KWP Kalwaria Pacla 146.68 341 PKPbc PKPbc 00 47 45.7 +0.7
KWP Kalwaria Pacla 146.68 341 PKPdf PKPbc 00 47 45.7 +0.7
MORS Morshin 146.74 340 PKPdf PKPdf 00 47 44.1 +0.7
SHIU Shidnytsya 146.84 340 PKPdf PKPab 00 47 46.8 0.0
STNU Starunia 146.90 339 PKPdf PKPab 00 47 47.0 0.0
OJC Ojcow 146.96 345 ePKP PKPab 00 47 47.6 +0.4
KSV Kosov 147.03 338 PKPdf PKPbc 00 47 46.8 +0.8
KSP Ksiaz 147.12 349 ePKP PKPab 00 47 48.2 +0.4
KSP Ksiaz 147.12 349 PKPab PKPab 00 47 48.0 +0.2
CLL Collm 147.16 353 PKPbc PKPbc 00 47 46.9 +0.7
CLL Collm 147.16 353 ePKPbc PKPab 00 47 47.7 -0.2
baz=6.4,slow=2.7
CLL Collm 147.16 353 *i* PKPbc **PKPab 00 47 47.5 -0.4**
comp=Z,17nm,0.8s
CLL Collm 147.16 353 PKPab PKPbc 00 47 47.2 +1.0
STHS Stebnicka Huta 147.31 343 ePKP PKPab 00 47 48.5 -0.1
CHVC Chvalec 147.41 349 ePKP PKPab 00 47 48.9 -0.1
KOLS Kolonicke sedl 147.43 341 ePKP PKPab 00 47 49.4 +0.3
BRG Berggiesshubel 147.47 352 ePKP PKPab 00 47 48.9 -0.2
BRG Amp 00 47 50.0
comp=Z,10nm,1.0s
BRG Berggiesshubel 147.47 352 ePKPbc PKPab 00 47 48.8 -0.4
baz=6.4,slow=2.7
BURAR Bucovina Array 147.56 337 PKPbc PKPbc 00 47 48.2 +0.6
BURAR Bucovina Array 147.56 337 ⇓P PKiKP 00 47 50.5 +0.7
NIE Niedzica 147.56 344 ePKP PKiKP 00 47 50.2 +0.6
DPC Dobruska-Polom 147.59 349 ePKP PKPbc 00 47 48.4 +0.9
DPC Dobruska-Polom 147.59 349 PKPab PKPab 00 47 49.6 -0.1
PVCC Panska Ves 147.71 351 ePKP PKiKP 00 47 49.9 +0.1
BRIU Brid 147.72 340 PKPab PKiKP 00 47 49.3 -0.6
HOLU Holmets 147.76 341 PKPab PKiKP 00 47 50.0 +0.1
HSKC Hora Svate Kat 147.79 352 ePKP PKiKP 00 47 49.7 -0.3
VLDR Vladesti 147.80 332 ⇓P PKPab 00 47 51.2 +0.6
MORC Moravsky Berou 147.89 347 PKPbc 00 47 47.8 -0.6
MORC Moravsky Berou 147.89 347 ePKP PKiKP 00 47 49.9 -0.4
MORC Moravsky Berou 147.89 347 ⇑P PKiKP 00 47 50.2 0.0
TESR Tescani 147.90 334 ⇑P PKPbc 00 47 49.6 +1.1
BNN Bunyan 147.91 315 PKPbc 00 47 48.7 -0.2
GHRR 147.93 333 ⇑P PKiKP 00 47 50.7 +0.3
TLCR 147.96 330 ⇓P PKiKP 00 47 50.3 -0.2
SCTR Scanteiesti 147.97 332 ⇑P PKiKP 00 47 50.4 -0.1
TATR Tatarca 148.00 331 ⇓P PKiKP 00 47 51.0 +0.5
LANS Liptovska Anna 148.03 344 ePKP PKPab 00 47 51.7 +0.2
CIDE Kastamonu/Cide 148.03 322 ⇓P PKPab 00 47 52.8 +1.2
NEGRR Negrea 148.13 332 ⇓P PKPab 00 47 52.1 +0.2
BMR Baia Mare 148.13 339 ⇑P PKiKP 00 47 50.6 -0.2
ONER Baraj Valea Uz 148.14 334 ⇓P PKiKP 00 47 51.5 +0.6
IZVR Izvoarele 148.17 332 ⇓P PKPab 00 47 51.8 -0.2
MAUC Maruska 148.22 346 ePKP PKiKP 00 47 51.3 +0.3
PRU Pruhonice 148.24 351 ePKP PKPbc 00 47 50.3 +1.1
JURR Jurilovca 148.24 330 ⇓P PKiKP 00 47 51.1 +0.1
CFR Carcaliu 148.28 331 ⇓P PKiKP 00 47 51.1 0.0
LODK Lodwar 148.29 245 PKPbc PKPbc 00 47 50.6 +0.1
ODBI Odobesti 148.31 333 ⇑P PKPab 00 47 54.3 +1.7
ARCR ARCALIA 148.33 337 ⇓P PKiKP 00 47 51.7 +0.5
VRI Vrincioaia 148.38 333 ⇑P PKiKP 00 47 51.5 +0.2
VRI Vrincioaia 148.38 333 PKPab PKiKP 00 47 51.1 -0.3
PLOR Plostina 148.42 333 ⇓P PKPab 00 47 53.2 +0.1
TURR Turia 148.53 334 ⇓P PKPab 00 47 55.3 +1.7
VRAC Vranov 148.53 348 ePKP PKiKP 00 47 51.6 0.0
VRAC Vranov 148.53 348 ⇓P PKiKP 00 47 52.2 +0.7
MANZ Manzenberg 148.56 354 ePKPbc PKiKP 00 47 51.9 +0.3
baz=6.4,slow=2.7
OZUR 148.59 334 ⇑P PKiKP 00 47 53.1 +1.3
COVR Voineasa-Covas 148.61 334 ⇓P PKPab 00 47 54.4 +0.5
JAVC Velka Javorina 148.73 346 ePKP PKPbc 00 47 50.9 +0.3
HARR Harsova 148.75 330 ⇓P PKiKP 00 47 52.2 +0.1
TREC Trest 148.75 349 ePKP PKiKP 00 47 51.8 -0.2
ROTZ Rotzenmuhle 148.77 353 ePKPbc PKiKP 00 47 52.2 +0.1
baz=6.4,slow=2.7
MESR Meseseni 148.77 339 ⇓P PKiKP 00 47 52.2 +0.1
VYHS Vyhne 148.79 345 ePKP PKiKP 00 47 52.6 +0.5
KRUC Moravsky 148.81 348 ePKP PKiKP 00 47 51.9 -0.2
DOPR Dopca 148.85 335 ⇑P PKiKP 00 47 52.9 +0.5
BR131 Keskin Array S 148.89 318 PKPbc PKPbc 00 47 51.5 0.0
BRTR Keskin Array B 148.89 318 PKPbc PKPbc 00 47 51.2 -0.2
BRTR Keskin Array B 148.89 318 PKPbc PKiKP 00 47 52.6 -0.2
comp=Z,3.4nm,0.7s,baz=122,slow=3.0,SNR=24
NEHR Nehoiu 148.91 333 ⇓P PKiKP 00 47 54.0 +1.5
CJR Cluj-Napoca 148.92 338 ⇓P PKiKP 00 47 53.2 +0.7
MLR Muntele Rosu 149.01 334 ⇓P PKiKP 00 47 53.1 +0.3
KIRS Kirsehir-Merke 149.04 317 ⇓P PKiKP 00 47 52.9 -0.1
PSZ Piszkesteto 149.04 343 PKPdf 00 47 48.2 +0.8
PSZ Piszkesteto 149.04 343 ⇑P PKPbc 00 47 52.1 +0.7
ISR Istrita 149.04 332 ⇓P PKiKP 00 47 52.8 -0.1
MARR Marisel-Cluj 149.12 338 ⇓P PKiKP 00 47 53.0 0.0
DRGR 149.16 339 ⇓P PKiKP 00 47 53.1 0.0
BORR Bors 149.22 340 ⇑P PKiKP 00 47 53.9 +0.9
KHC Kasperske Hory 149.22 351 ePKP PKiKP 00 47 53.4 +0.4
MODS Modra-Piesok 149.28 346 ePKP PKiKP 00 47 54.4 +1.3
WET Wettzell 149.30 352 ePKPbc PKiKP 00 47 53.6 +0.4
baz=6.4,slow=2.7
ANTO Ankara 149.34 319 PKPbc PKPbc 00 47 53.0 +0.5
ANTO Ankara 149.34 319 ⇓P PKiKP 00 47 55.0 +1.4
CKRC Cesky Krumlov 149.41 350 ePKP PKiKP 00 47 53.9 +0.5
VOIR 149.42 334 ⇓P PKiKP 00 47 54.7 +1.1
GEC2 GERESS Array S 149.48 351 ePKPbc PKiKP 00 47 53.9 +0.3
baz=6.4,slow=2.7
GERES GERESS Array B 149.48 351 PKPbc PKiKP 00 47 54.1 +0.4
comp=Z,5.7nm,0.8s,baz=8.9,slow=3.2,SNR=21
ARR Arges 149.65 335 ⇑P PKiKP 00 47 55.6 +1.5
DEV Deva 149.88 337 ⇓P PKiKP 00 47 55.3 +0.8
MDUB Mudurnu 149.94 321 PKPbc PKiKP 00 47 54.9 0.0
SIRR Siria 149.98 339 ⇑P PKiKP 00 47 55.6 +0.9
CONA Conrad Observa 150.00 348 *i* PKiKP **PKiKP 00 47 55.6 +0.9**
comp=Z,4.4nm,0.6s,SNR=11
RONA Rosalia, Austr 150.13 347 *e*PKiKP **PKiKP 00 47 55.7 +0.8**
comp=Z,5.4nm,0.5s,SNR=6.7
SURR Surduc 150.27 338 ⇓P PKiKP 00 47 56.1 +0.9
GZR Gura Zlata 150.34 337 ⇓P PKiKP 00 47 55.8 +0.3
MOA Molln 150.36 350 *i* PKiKP **PKiKP 00 47 56.0 +0.6**
comp=Z,2.7nm,0.6s
FUR Furstenfeldbru 150.44 354 *e*PKPbc **PKiKP 00 47 56.6 +1.0**
baz=6.4,slow=2.7
BZS Buzias 150.56 339 ⇑P PKiKP 00 47 56.7 +0.9
BIOA Bad Ischl, Aus 150.62 351 *e*PKiKP **PKiKP 00 47 56.3 +0.4**
comp=Z,1.1nm,0.4s
RJOB Jochberg 150.69 352 *e*PKPbc **PKiKP 00 47 56.9 +0.8**
baz=6.4,slow=2.7
MMAI Mount Meron Ar 150.81 305 PKPbc PKiKP 00 47 57.5 +0.6
comp=Z,5.6nm,0.7s,baz=54,slow=4.3,SNR=14
VLAD Vladila 150.86 334 ⇓P PKiKP 00 47 58.0 +1.5
HERR Herculane 150.91 337 ⇓P PKiKP 00 47 57.2 +0.6
MORH Mrgy, Hungar 150.95 343 ⇓P PKiKP 00 47 57.5 +0.9
LESA Schwarzleotal 151.01 352 *i* PKiKP **PKiKP 00 47 57.5 +0.6**
comp=Z,5.4nm,1.0s
ELND Elena 151.05 330 ⇓P PKiKP 00 47 58.1 +1.2
RETA Reutte 151.16 355 *i* PKiKP **PKiKP 00 47 58.0 +0.8**
comp=Z,15nm,1.7s
WATA Walderalm 151.23 353 *i* PKiKP **PKiKP 00 47 58.1 +0.7**
comp=Z,6.7nm,0.7s
MDVR Moldovita 151.25 338 ⇑P PKiKP 00 47 58.2 +0.9
KBA Koelnbreinsper 151.26 351 *i* PKiKP **PKiKP 00 47 58.1 +0.6**
comp=Z,4.9nm,0.6s
MOTA Moosalm 151.27 354 *i* PKiKP **PKiKP 00 47 58.5 +1.0**
comp=Z,14nm,1.0s
WTTA Wattenberg 151.30 353 *i* PKiKP **PKiKP 00 47 58.5 +0.9**
comp=Z,18nm,0.6s,SNR=8.1
SOKA Soboth 151.36 348 *i* PKiKP **PKiKP 00 47 57.9 +0.4**
comp=Z,7.0nm,0.9s,SNR=6.6
SQTA Sankt Quirin 151.39 354 *i* PKiKP **PKiKP 00 47 58.7 +1.0**
comp=Z,9.5nm,0.7s
DAVA Damuels 151.43 356 *e*PKiKP **PKiKP 00 47 59.1 +1.3**
comp=Z,5.9nm,0.7s
OBKA Obir 151.61 349 *i* PKiKP **PKiKP 00 47 58.3 +0.2**
comp=Z,4.9nm,0.7s
FETA Feichten 151.63 355 *i* PKiKP **PKiKP 00 47 59.4 +1.2**
comp=Z,10nm,0.8s
MYKA Terra Mystica 151.65 350 *i* PKP **PKiKP 00 47 58.4 +0.2**
comp=Z,6.8nm,0.7s
ABTA Abfaltersbach 151.70 352 *i* PKiKP **PKiKP 00 47 58.8 +0.5**
comp=Z,16nm,0.7s,SNR=9.2
LJU Ljubljana 152.06 349 *i* PKPbc **PKiKP 00 47 60.0 +1.0**
CRNS Crni Vrh 152.07 349 *i* PKPbc **PKiKP 00 47 59.6 +0.6**
BOVS Bovan 152.24 337 ⇓P PKiKP 00 48 00.1 +0.7
BOJS Bojanci 152.44 347 *i* PKPbc **PKiKP 00 48 01.1 +1.4**
PDG Podgorica 154.18 339 ⇑P PKPab 00 48 17.5 +0.5
TORD Torodi Ar. Bea 172.50 137 PKP PKPdf 00 48 12.7 -0.5
comp=Z,1.2nm,1.1s,baz=256,slow=0.6,SNR=5.2

IDC ***11*** *00:53:11.9±0.7,5.86S×153.39E,h0km,mb4.2/16,*
mbtmp4.2/17,ML2.4/1,MS3.4/6,Error ellipse:
s-maj=25.3km s-min=15.1km az=95.0
NEIC ***11*** *00:53:14.9±1.0,5.75S±0.07×153.3E±0.1,h10km±1km,*
mb4.5/19,Error ellipse: s-maj=17.2km s-min=11.2km
az=73.0

ISC 11 00:53:17.9±0.5,5.78S±0.06×153.22E±0.08,h35km,n50,
σ1.907/52,mb4.4/22,MS3.3/4,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.90**	**326**	Pn	**Pn**	**00 53 47.7**	**-0.2**
RABL				Sn	**Sn**	**00 54 12.2**	**+1.6**
PMG	**Port Moresby**	**7.00**	**239**	Pn	**Pn**	**00 54 59.0**	**+0.9**
PMG	**Port Moresby**	**7.00**	**239**	Pn	**Pn**	**00 54 59.1**	**+1.0**
	4.1nm,0.3s,baz=57,slow=18,SNR=9.8						
PMG				Sn	**Sn**	**00 56 16.8**	**+0.3**
	baz=12,slow=23						

PMG LR LR 00 57 30.4
comp=Z,141nm,18.3s,baz=22,slow=36
16nm,0.5s
JAY Jayapura 12.90 284 Pn **Pn 00 56 15.9 -3.0**
0.3nm,0.3s,baz=129,slow=13,SNR=1.7
JAY LR LR 01 01 51.1
comp=Z,206nm,20.4s,baz=330,slow=40
PATS Pohnpei 13.53 22 Pn **Pn 00 56 26.0 -1.3**
CTA Charters Tower 15.75 205 LR LR 01 03 02.9
comp=Z,8.8nm,18.1s,baz=64,slow=38
EIDS Eidsvold 19.59 186 P **P 00 57 43.1 +0.1**
EIDS IAmb IAmb 00 57 44.4
comp=Z,9.8nm,1.0s
DZM Mont Dzumac 20.63 143 **P 00 57 56.3 +1.7**
DZM IAmb IAmb 00 57 57.0
comp=Z,32nm,1.2s
DZM Mont Dzumac 20.63 143 P **P 00 57 52.1 -2.4**
comp=Z,22nm,1.1s,baz=11,slow=9.6,SNR=4.6
comp=Z,22nm,1.1s
FAKI Fak Fak 21.10 277 P **P 00 57 59.7 0.0**
WB0 Warramunga Arr 22.99 231 P **P 00 58 20.1 +0.4**
WB0 IAmb IAmb 00 58 44.1
comp=Z,17nm,1.5s
WRA Warramunga Arr 23.13 231 P **P 00 58 22.0 +0.8**
WRA Warramunga Arr 23.13 231 P **P 00 58 19.7 -1.5**
comp=Z,1.4nm,0.7s,baz=53,slow=10,SNR=8.4
WRA PcP **PcP 01 02 07.8 -1.6**
comp=Z,0.3nm,0.8s,baz=62,slow=2.7,SNR=1.8
WRA LR LR 01 08 00.9
comp=Z,110nm,18.7s,baz=74,slow=38
comp=Z,1.4nm,0.7s
ARMA Armidale 24.55 183 P **P 00 58 34.6 0.0**
ARMA IAmb IAmb 00 58 35.9
comp=Z,14nm,1.1s
AS31 Alice Springs 25.73 224 P **P 00 58 45.9 +0.6**
ASAR Alice Springs 25.73 224 P **P 00 58 45.1 -0.2**
ASAR Alice Springs 25.73 224 P **P 00 58 44.6 -0.7**
comp=Z,3.4nm,0.8s,baz=58,slow=8.7,SNR=33
ASAR PcP **PcP 01 02 17.0 +2.0**
comp=Z,0.4nm,0.6s,baz=43,slow=3.0,SNR=2.1
ASAR LR LR 01 08 05.3
comp=Z,54nm,20.3s,baz=76,slow=35
comp=Z,3.4nm,0.8s
KNRA Kununurra 25.93 246 P **P 00 58 47.7 +0.6**
KNRA IAmb IAmb 00 59 11.3
comp=Z,13nm,0.9s
STKA Stephens Creek 28.15 201 P **P 00 59 05.2 -1.7**
STKA Stephens Creek 28.15 201 P **P 00 59 04.8 -2.1**
comp=Z,2.8nm,0.7s,baz=50,slow=13,SNR=5.7
STKA LR LR 01 09 19.6
comp=Z,80nm,19.4s,baz=33,slow=34
comp=Z,2.8nm,0.7s
DAV Davao City (W) 30.39 294 LR LR 01 11 26.4
comp=Z,62nm,18.7s,baz=320,slow=36
RTZ Ruatahuna 39.14 150 P **P 01 00 43.0 +0.7**
RTZ IAmb IAmb 01 00 49.9
comp=Z,8.9nm,0.9s
KSRS Korea Array 49.06 333 P **P 01 02 02.0 +0.4**
comp=Z,1.5nm,0.8s,baz=153,slow=8.0,SNR=6.9
comp=Z,1.5nm,0.8s
USRK Ussuriysk Ar. 53.31 341 P **P 01 02 33.8 +0.4**
USRK Ussuriysk Ar. 53.31 341 P **P 01 02 33.6 +0.2**
comp=Z,4.1nm,0.9s,baz=148,slow=12,SNR=4.3
comp=Z,4.1nm,0.9s
CMAR Chiang Mai Arr 58.67 296 P **P 01 03 14.0 +1.7**
comp=Z,1.2nm,0.6s,baz=114,slow=4.6,SNR=9.7
comp=Z,1.2nm,0.6s
PETK Petropavlovsk- 58.79 3 P **P 01 03 12.4 -0.1**
comp=Z,4.4nm,0.8s,baz=164,slow=6.1,SNR=9.7
comp=Z,4.4nm,0.8s
SHL Shillong 67.17 301 P **P 01 04 08.8 -0.2**
SONM Songino Array 67.37 328 P **P 01 04 09.9 +0.2**
SONM Songino Array 67.37 328 P **P 01 04 10.8 +1.1**
comp=Z,1.6nm,0.5s,baz=148,slow=7.6,SNR=11
comp=Z,1.6nm,0.5s
E19K Redstone River 80.99 17 P **P 01 05 29.0 +0.4**
IMAR Indian Mountai 81.16 19 P **P 01 05 29.5 0.0**
MKAR Makanchi Array 81.34 319 P **P 01 05 32.1 +1.1**
MKAR Makanchi Array 81.34 319 P **P 01 05 31.2 +0.3**
comp=Z,0.7nm,0.6s,baz=96,slow=7.4,SNR=3.8
comp=Z,0.7nm,0.6s
D19K Kuna River 81.41 16 P **P 01 05 31.5 +0.7**
D19K IAmb IAmb 01 05 33.8
comp=Z,10nm,1.4s
RND Reindeer 81.46 23 P **P 01 05 31.7 +0.4**
RND IAmb IAmb 01 05 37.8
comp=Z,4.9nm,1.1s
ZAA0 Zalesovo Array 82.20 326 P **P 01 05 35.0 -0.2**
ZAA0 IAmb IAmb 01 05 35.8
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 82.20 326 P **P 01 05 35.2 0.0**
ZALV Zalesovo Beam 82.20 326 P **P 01 05 35.0 -0.3**
comp=Z,2.0nm,0.5s,baz=112,slow=6.0,SNR=13
comp=Z,2.0nm,0.5s
ILAR Eielson Array 82.91 22 P **P 01 05 36.8 -1.9**
comp=Z,0.4nm,0.5s,baz=243,slow=5.4,SNR=8.8
comp=Z,0.4nm,0.5s
QSPA South Pole Qui 84.19 180 P **P 01 05 46.1 +0.6**
QSPA IAmb IAmb 01 05 47.5
comp=Z,3.6nm,0.9s
QSPA South Pole Qui 84.19 180 P **P 01 05 44.9 -0.6**
comp=Z,3.1nm,0.8s,baz=0.8,slow=1.6,SNR=17
comp=Z,3.1nm,0.8s
KURK Kurchatov 84.80 322 P **P 01 05 48.2 -0.4**
KURBB Kurchatov Arra 84.83 322 P **P 01 05 49.0 +0.2**
comp=Z,1.1nm,0.9s,baz=109,slow=3.9,SNR=9.4
comp=Z,1.1nm,0.9s
NRIK Noril'sk 87.02 341 P **P 01 06 00.2 +0.9**
comp=Z,1.6nm,0.3s,baz=105,slow=6.2,SNR=6.6
comp=Z,1.6nm,0.3s
BVAR Borovoye Array 90.27 323 P **P 01 06 14.9 -0.1**
comp=Z,4.0nm,0.8s,baz=87,slow=6.1,SNR=11
comp=Z,4.0nm,0.8s
KOLS Kolonicke sedl 120.35 325 *e*PKP **PKiKP 01 12 06.3 +0.6**
VYHS Vyhne 122.53 326 *e*PKP **PKPdf 01 12 09.8 0.0**
BDFB Brasilia 150.08 136 PKPbc **PKPbc 01 13 06.7 +0.6**
comp=Z,2.2nm,0.6s,baz=11,slow=4.6,SNR=5.7
TORD Torodi Ar. Bea 151.00 287 PKPbc **PKPbc 01 13 07.8 -0.4**
comp=Z,2.7nm,0.7s,baz=36,slow=2.9,SNR=17

*IDC **11** 01:01:19.9±5.6, 28.°10N×143.°23E, h0km, mb3.8/6, mbtmp3.7/7, ML2.9/1, Error ellipse: s-maj=221.7km s-min=20.9km az=73.0*
ISC 11 01:01:17.9±7.8, 28.°4N±0.°6×14.°4E±.°, h10km, n7, σ0§66/7, mb3.9/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**9.58**	**329**	Pn	**Pn**	**01 03 35.2**	**-0.7**
	0.1nm,0.3s,baz=161,slow=12,SNR=2.9						
	0.6nm,0.3s						
SONM	**Songino Array**	**35.08**	**314**	P	**P**	**01 08 11.9**	**+0.5**
	0.7nm,0.6s,baz=118,slow=8.5,SNR=5.0						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**49.02**	**192**	P	**P**	**01 10 04.8**	**-0.2**
	1.3nm,0.6s,baz=11,slow=8.4,SNR=12						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**51.07**	**309**	P	**P**	**01 10 20.2**	**-0.3**
	0.9nm,0.7s,baz=89,slow=6.7,SNR=6.2						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**52.73**	**192**	P	**P**	**01 10 32.7**	**-0.3**
	0.2nm,0.4s,baz=8.1,slow=8.3,SNR=5.0						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**53.45**	**314**	P	**P**	**01 10 38.0**	**-0.1**
	0.8nm,0.5s,baz=91,slow=7.6,SNR=7.8						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**58.33**	**317**	P	**P**	**01 11 13.8**	**+0.8**
	0.7nm,0.5s,baz=99,slow=6.6,SNR=3.0						
	0.7nm,0.5s						

*SJA **11** 01:02:07.7±0.7, 24.°23S×67.°22W, h197km±5km, ML3.6, MW3.6*
*GUC **11** 01:02:09.8±0.6, 24.°22S×67.°64W, h225km±11km, ML3.9*
ISC 11 01:02:06.0±1.7, 24.°22S±0.°03×67.°20W±0.°04, h207km±14km, n29, σ1§79/55, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.55**	**324**	*e*P	**Pn**	**01 02 43.0**	**+1.8**
AF01				IAML		01 03 19.4	
	comp=Z,157nm,0.3s						
SLA	**San Lorenzo**	**1.62**	**108**	*e*P	**Pn**	**01 02 43.4**	**+1.7**
SLA				*e*S	**Sn**	**01 03 09.5**	**+0.2**
AZAP	**Zapla**	**1.95**	**91**	*e*P	**Pn**	**01 02 43.0**	**-1.9**
AZAP				*e*S	**Sn**	**01 03 11.0**	**-4.0**
FSA	**Cafayete**	**2.18**	**150**	*e*P	**Pn**	**01 02 48.8**	**+1.7**
FSA				*e*S	**Sn**	**01 03 18.9**	**-0.4**
PB15	**IPOC Station P**	**2.31**	**295**	⇑*i*P	**Pn**	**01 02 50.2**	**+1.6**
PB15				*i* S	**Sn**	**01 03 20.6**	**-1.2**
PB15	**IPOC Station P**	**2.31**	**295**	*e*P	**Pn**	**01 02 50.2**	**+1.6**
PB15				*e*S	**Sn**	**01 03 21.1**	**-0.6**
GO02	**Mina Guanaco**	**2.37**	**246**	⇑*i*P	**Pn**	**01 02 50.6**	**+1.4**
GO02				*i* S	**Sn**	**01 03 21.8**	**-1.2**
GO02				IAML		01 03 23.0	
	comp=N,631nm,0.2s						
GO02	**Mina Guanaco**	**2.37**	**246**	*e*P	**Pn**	**01 02 50.7**	**+1.4**
GO02				*e*S	**Sn**	**01 03 22.6**	**-0.4**
YJA	**Yavi**	**2.56**	**38**	*e*P	**Pn**	**01 02 53.8**	**+2.3**
YJA				*e*S	**Sn**	**01 03 22.5**	**-4.5**
PB06	**IPOC Station P**	**2.65**	**304**	⇑*i*P	**Pn**	**01 02 53.9**	**+1.6**
PB06				*i* S	**Sn**	**01 03 26.5**	**-1.8**
PB06				IAML		01 03 28.2	
	comp=N,377nm,0.1s						
PB06	**IPOC Station P**	**2.65**	**304**	*e*P	**Pn**	**01 02 53.7**	**+1.5**
PB06				*e*S	**Sn**	**01 03 27.5**	**-0.8**
PB06				IAML		01 03 29.5	
	comp=Z,224nm,0.1s						
PB14	**IPOC Station P**	**2.95**	**261**	*e*P	**Pn**	**01 02 56.8**	**+1.0**
PB14				*e*S	**Sn**	**01 03 34.3**	**-0.3**
PB14				IAML		01 03 37.4	
	comp=Z,90nm,0.5s						
ALOL	**LOMAS DE OLMED**	**2.97**	**83**	*e*P	**Pn**	**01 02 57.8**	**+2.1**
PB09	**IPOC Station P**	**3.06**	**322**	⇑*i*P	**Pn**	**01 02 59.1**	**+2.1**
PB09				*i* S	**Sn**	**01 03 35.8**	**-1.0**
PB09				IAML		01 03 37.1	
	comp=N,234nm,0.5s						
PB09	**IPOC Station P**	**3.06**	**322**	*e*P	**Pn**	**01 02 59.2**	**+2.2**
PB09				*e*S	**Sn**	**01 03 36.9**	**+0.1**
PB09				IAML		01 03 37.2	
	comp=Z,198nm,0.9s						
AHML	**Horco Molle**	**3.06**	**147**	*e*P	**Pn**	**01 02 58.8**	**+2.0**
AHML				*e*S	**Sn**	**01 03 36.8**	**+0.2**
PB04	**IPOC Station P**	**3.30**	**304**	⇑⇑*e*P	**Pn**	**01 03 01.0**	**+1.2**
PB04				*i* S	**Sn**	**01 03 39.4**	**-2.5**
PB04				IAML		01 03 45.0	
	comp=N,165nm,0.2s						
PB04	**IPOC Station P**	**3.30**	**304**	*e*P	**Pn**	**01 03 00.8**	**+1.0**
PB04				*e*S	**Sn**	**01 03 40.5**	**-1.4**
PB04				IAML		01 03 41.3	
	comp=Z,130nm,0.2s						
AC01	**Pan de Azucar**	**3.63**	**237**	⇑*i*P	**Pn**	**01 03 04.0**	**+0.5**
AC01				*i* S	**Sn**	**01 03 46.2**	**-2.5**
AC01	**Pan de Azucar**	**3.63**	**237**	*e*P	**Pn**	**01 03 04.0**	**+0.5**
AC01				*e*S	**Sn**	**01 03 46.7**	**-2.0**
AC01				IAML		01 03 47.3	
	comp=Z,70nm,0.1s						
PB01	**IPOC Station P**	**3.80**	**326**	*e*P	**Pn**	**01 03 07.0**	**+1.2**
PB01				*i* S	**Sn**	**01 03 50.8**	**-2.0**
PB01	**IPOC Station P**	**3.80**	**326**	*e*P	**Pn**	**01 03 07.1**	**+1.3**
PB01				*e*S	**Sn**	**01 03 51.6**	**-1.2**
PB01				IAML		01 03 53.1	
	comp=Z,94nm,0.4s						
GO03	**Copiapo**	**4.33**	**218**	*e*P	**Pn**	**01 03 13.1**	**+0.8**
GO03				*e*S	**Sn**	**01 04 02.7**	**-1.7**
PATCX	**Punta Patache**	**4.35**	**321**	*e*P	**Pn**	**01 03 13.7**	**+1.1**
PATCX				*e*S	**Sn**	**01 04 01.6**	**-3.3**
PATCX				IAML		01 04 10.7	
	comp=Z,51nm,0.4s						
PB08	**IPOC Station P**	**4.45**	**336**	*e*P	**Pn**	**01 03 16.3**	**+2.2**
PB08				*e*S	**Sn**	**01 04 07.8**	**+0.2**
PB08				IAML		01 04 08.7	
	comp=Z,31nm,0.4s						
TA01	**Diego Aracena**	**4.56**	**322**	*e*P	**Pn**	**01 03 16.7**	**+1.6**
TA01				*e*S	**Sn**	**01 04 08.9**	**-0.7**
TA01				IAML		01 04 11.9	
	comp=Z,36nm,0.3s						
HMBC	**Humberstone**	**4.65**	**327**	*e*P	**Pn**	**01 03 16.9**	**+0.5**
HMBC				*e*S	**Sn**	**01 04 10.3**	**-1.4**
HMBC				IAML		01 04 13.1	
	comp=Z,76nm,0.5s						
ACLC	**CERRO LA CRUZ**	**5.19**	**178**	*e*P	**Pn**	**01 03 26.3**	**+3.2**
AC04	**Llanos de Chal**	**5.28**	**220**	*e*P	**Pn**	**01 03 24.0**	**-0.1**
AC04				*e*S	**Sn**	**01 04 24.0**	**-1.9**
AC04				IAML		01 04 24.9	
	comp=Z,24nm,0.7s						

*NOU **11** 01:07:04.6, 35.°19S×177.°71W, h28km, ML4.6/7, East of North Island, N.Z.*
*IDC **11** 01:07:18.8±1.0, 35.°42S×179.°64W, h0km, mb4.3/4, mbtmp4.3/7, ML4.2/3, MS3.8/8, Error ellipse: s-maj=33.5km s-min=24.9km az=107.0*
*NEIC **11** 01:07:19.2±2.5, 35.°7S±0.°1×179.°2W±0.°1, h10km±2km, mb4.3/8, Error ellipse: s-maj=22.3km s-min=16.6km az=16.0*
*WEL **11** 01:07:23.2±0.5, 36.°S±4.°×17.°9W±.°, h95km±26km, M4.1/44, mB4.7/14, ML4.9/41, MLv4.5/44, Mw(mB)3.9/14, Error ellipse: s-maj=9.3km s-min=4.7km az=112.9, confirmed*
ISC 11 01:07:22.4±0.7, 35.°70S±0.°06×179.°14W±0.°07, h35km, n120, σ1§70/145, mb4.5/9, MS3.8/7, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.77**	**227**		**Pn**	**01 08 04.0**	**-0.3**
MXZ	**Matakaoa Point**	**2.77**	**227**	P	**Pn**	**01 08 03.9**	**-0.3**
MXZ				S	**Sn**	**01 08 36.3**	**-0.1**
MXZ	**Matakaoa Point**	**2.77**	**227**	P	**Pn**	**01 08 03.9**	**-0.3**
PUZ	**Puketiti**	**3.15**	**221**	P	**Pn**	**01 08 09.8**	**+0.3**
PUZ				S	**Sn**	**01 08 47.5**	**+1.5**
HAZ	**Te Kaha**	**3.21**	**229**	P	**Pn**	**01 08 10.3**	**0.0**
HAZ				S	**Sn**	**01 08 46.8**	**-0.5**
TWGZ	**Tauwhareparae**	**3.38**	**222**	P	**Pn**	**01 08 12.9**	**+0.3**
TWGZ				S	**Sn**	**01 08 51.2**	**-0.4**
RUGZ	**Raukumara Rang**	**3.41**	**228**	P	**Pn**	**01 08 13.5**	**+0.3**
RUGZ				S	**Sn**	**01 08 52.4**	**0.0**
CNGZ	**Carnagh Statio**	**3.49**	**217**	P	**Pn**	**01 08 15.2**	**+1.0**
CNGZ				S	**Sn**	**01 08 54.7**	**+0.4**
TKGZ	**Te Karaka**	**3.64**	**220**	P	**Pn**	**01 08 16.8**	**+0.6**
TKGZ				S	**Sn**	**01 08 55.1**	**-2.9**
MWZ	**Matawai**	**3.74**	**224**	P	**Pn**	**01 08 17.8**	**+0.1**
MWZ				S	**Sn**	**01 08 59.0**	**-1.5**
RIGZ	**Rimuhau**	**3.89**	**219**	P	**Pn**	**01 08 19.0**	**-0.6**
RIGZ				S	**Sn**	**01 09 03.8**	**-0.3**
RAGZ	**Rawiri**	**3.92**	**224**	P	**Pn**	**01 08 20.0**	**-0.2**
RAGZ				S	**Sn**	**01 09 03.6**	**-1.4**
URZ	**Urewera**	**3.94**	**228**	Pn	**Pn**	**01 08 19.4**	**-0.9**
	18nm,0.3s,baz=347,slow=2.5,SNR=58						
URZ				Sn	**Sn**	**01 09 02.3**	**-3.0**
	20nm,0.3s,baz=297,slow=22,SNR=3.7						
	119nm,0.9s						
URZ	**Urewera**	**3.94**	**228**	P	**Pn**	**01 08 20.1**	**-0.2**
URZ				S	**Sn**	**01 09 03.7**	**-1.6**
URZ	**Urewera**	**3.94**	**228**	P	**Pn**	**01 08 20.0**	**-0.3**
PRGZ	**Paritu Road**	**4.00**	**216**	P	**Pn**	**01 08 20.9**	**-0.3**
PRGZ				S	**Sn**	**01 09 05.1**	**-1.7**
EDRZ	**Edgecumbe**	**4.08**	**233**	P	**Pn**	**01 08 22.3**	**-0.1**
EDRZ				S	**Sn**	**01 09 06.5**	**-2.5**
SNGZ	**Shannon Statio**	**4.16**	**221**	P	**Pn**	**01 08 23.6**	**+0.2**
SNGZ				S	**Sn**	**01 09 09.6**	**-1.3**
MHGZ	**Mahia Peninsul**	**4.17**	**213**	P	**Pn**	**01 08 24.0**	**+0.5**
MHGZ				S	**Sn**	**01 09 10.0**	**-1.0**
KNZ	**Kokohu**	**4.17**	**216**	P	**Pn**	**01 08 23.0**	**-0.5**
KNZ				S	**Sn**	**01 09 06.6**	**-4.5**
RTZ	**Ruatahuna**	**4.25**	**226**		**Pn**	**01 08 24.5**	**-0.1**
RTZ	**Ruatahuna**	**4.25**	**226**	P	**Pn**	**01 08 24.8**	**+0.1**
RTZ				S	**Sn**	**01 09 11.9**	**-1.2**
MKRZ	**Makatiti**	**4.28**	**234**	P	**Pn**	**01 08 25.5**	**+0.4**
KUZ	**Kuaotunu**	**4.28**	**254**	P	**Pn**	**01 08 24.5**	**-0.6**
KUZ	**Kuaotunu**	**4.28**	**254**	P	**Pn**	**01 08 24.6**	**-0.4**
TARZ	**Mount Tarawera**	**4.31**	**233**	P	**Pn**	**01 08 26.2**	**+0.8**
RAHZ	**Arahi**	**4.40**	**222**	P	**Pn**	**01 08 27.1**	**+0.5**
RAHZ				S	**Sn**	**01 09 16.0**	**-0.6**
GRZ	**Great Barrier**	**4.41**	**261**	P	**Pn**	**01 08 27.4**	**+0.5**
WHHZ	**Waihua**	**4.44**	**219**	P	**Pn**	**01 08 27.9**	**+0.8**
WHHZ				S	**Sn**	**01 09 18.0**	**+0.4**
MTHZ	**Maungataniwha**	**4.49**	**224**	P	**Pn**	**01 08 28.2**	**+0.3**
MTHZ				S	**Sn**	**01 09 18.3**	**-0.7**
NMHZ	**Naumai**	**4.68**	**222**	P	**Pn**	**01 08 31.2**	**+0.7**
NMHZ				S	**Sn**	**01 09 23.7**	**0.0**
ARHZ	**Aropaoanui**	**4.70**	**220**	P	**Pn**	**01 08 30.8**	**+0.1**
ARHZ				S	**Sn**	**01 09 23.3**	**-0.7**
MRHZ	**Matea Rd**	**4.72**	**227**	P	**Pn**	**01 08 31.1**	**-0.1**
MRHZ				S	**Sn**	**01 09 22.9**	**-1.8**
WIAZ	**Waiheke Island**	**4.75**	**255**	P	**Pn**	**01 08 31.4**	**-0.1**
TOZ	**Tahuroa Road**	**4.76**	**243**		**Pn**	**01 08 31.0**	**-0.5**
TOZ	**Tahuroa Road**	**4.76**	**243**	P	**Pn**	**01 08 31.0**	**-0.5**
MKAZ	**Moumakai**	**4.80**	**251**	P	**Pn**	**01 08 32.5**	**+0.3**
BKZ	**Black Stump Fm**	**4.90**	**224**		**Pn**	**01 08 32.5**	**-1.1**
BKZ	**Black Stump Fm**	**4.90**	**224**	P	**Pn**	**01 08 33.0**	**-0.6**
BKZ				S	**Sn**	**01 09 27.2**	**-1.9**
BKZ	**Black Stump Fm**	**4.90**	**224**	P	**Pn**	**01 08 32.7**	**-0.9**
MBAZ	**Motutapu North**	**4.94**	**256**	P	**Pn**	**01 08 34.2**	**+0.2**
MCHZ	**McNeill Hill**	**4.99**	**220**	P	**Pn**	**01 08 34.7**	**0.0**
MCHZ				S	**Sn**	**01 09 30.1**	**-1.1**
KWHZ	**Kaweka Forest**	**5.12**	**222**	P	**Pn**	**01 08 36.1**	**-0.5**
KWHZ				S	**Sn**	**01 09 32.7**	**-1.9**
RATZ	**Rangitukua**	**5.14**	**231**	P	**Pn**	**01 08 36.8**	**-0.1**
RITZ	**Rihia Road**	**5.15**	**229**	P	**Pn**	**01 08 37.2**	**+0.2**
RITZ				S	**Sn**	**01 09 30.8**	**-4.5**
KAHZ	**Kahuranaki**	**5.16**	**216**	P	**Pn**	**01 08 36.1**	**-1.1**
KAHZ				S	**Sn**	**01 09 32.7**	**-2.9**
AWAZ	**Awhitu Peninsu**	**5.20**	**253**	P	Pn	01 08 42.4	+4.9
KATZ	**Kakaramea**	**5.25**	**230**	P	**Pn**	**01 08 38.8**	**+0.3**
KRHZ	**Kereru**	**5.31**	**221**	P	**Pn**	**01 08 38.5**	**-0.6**
KRHZ				S	**Sn**	**01 09 35.7**	**-3.4**
TMVZ	**Te Maari**	**5.33**	**229**	P	**Pn**	**01 08 39.3**	**-0.3**
TMVZ				S	**Sn**	**01 09 35.3**	**-4.6**
NTVZ	**North Tongarir**	**5.34**	**229**	P	**Pn**	**01 08 39.5**	**-0.2**
ETVZ	**East Tongariro**	**5.34**	**229**	P	**Pn**	**01 08 39.0**	**-0.7**
KRVZ	**Karewarewa**	**5.36**	**229**	P	**Pn**	**01 08 39.9**	**-0.1**
OTVZ	**Oturere**	**5.39**	**229**	P	**Pn**	**01 08 39.8**	**-0.6**
NNVZ	**North Ngauruho**	**5.40**	**229**	P	**Pn**	**01 08 40.4**	**-0.1**
WTVZ	**West Tongariro**	**5.40**	**229**	P	**Pn**	**01 08 40.6**	**0.0**
SNVZ	**South Ngauruho**	**5.42**	**228**	P	**Pn**	**01 08 40.2**	**-0.6**
NGZ	**Ngauruhoe**	**5.43**	**229**	P	**Pn**	**01 08 40.7**	**-0.3**
TWVZ	**Taurewa**	**5.47**	**230**	P	**Pn**	**01 08 41.4**	**-0.1**
MOVZ	**Moawhango**	**5.49**	**226**	P	**Pn**	**01 08 40.8**	**-0.9**
WNVZ	**Wahianoa**	**5.53**	**228**	P	**Pn**	**01 08 41.3**	**-1.0**
TRVZ	**Turoa**	**5.54**	**228**	P	**Pn**	**01 08 44.7**	**+2.2**
HIZ	**Hauiti**	**5.56**	**238**	P	**Pn**	**01 08 43.1**	**+0.5**
WPHZ	**Waipukurau**	**5.58**	**217**	P	**Pn**	**01 08 41.5**	**-1.5**
PRHZ	**Porangahau**	**5.65**	**215**	P	**Pn**	**01 08 41.8**	**-2.0**
TSZ	**Takapari Road**	**5.82**	**220**	P	**Pn**	**01 08 44.9**	**-1.4**
ANWZ	**Angora Road**	**5.88**	**215**	P	Pn	01 08 54.3	+7.4
DVHZ	**Dannevirke**	**5.90**	**217**	P	**Pn**	**01 08 46.6**	**-0.7**
VRZ	**Vera Road**	**5.94**	**233**	P	**Pn**	**01 08 48.1**	**+0.3**
OUZ	**Omahuta**	**5.95**	**273**	P	**Pn**	**01 08 45.4**	**-2.5**
OUZ	**Omahuta**	**5.95**	**273**	P	**Pn**	**01 08 47.0**	**-0.9**
BFZ	**Birch Farm**	**6.16**	**215**		**Pn**	**01 08 48.5**	**-2.3**
BFZ	**Birch Farm**	**6.16**	**215**	P	**Pn**	**01 08 48.1**	**-2.6**
BFZ	**Birch Farm**	**6.16**	**215**	P	**Pn**	**01 08 48.5**	**-2.3**
PRWZ	**Pori Road**	**6.19**	**217**	P	**Pn**	**01 08 50.0**	**-1.3**
NEZ	**North Egmont**	**6.45**	**234**	P	**Pn**	**01 08 58.6**	**+3.7**
MRZ	**Mangatainoka R**	**6.46**	**218**		**Pn**	**01 08 52.5**	**-2.6**
MRZ	**Mangatainoka R**	**6.46**	**218**	P	**Pn**	**01 08 52.7**	**-2.3**
GLKZ	**Green Lake**	**6.50**	**9**	S	**Sn**	**01 10 04.3**	**-4.2**
TMWZ	**Te Maipa**	**6.66**	**214**	P	**Pn**	**01 08 54.3**	**-3.4**
HOWZ	**Holdsworth Sta**	**6.67**	**217**	P	**Pn**	**01 08 55.7**	**-2.2**
KIW	**Kapiti Island**	**6.96**	**220**	P	**Pn**	**01 09 00.4**	**-1.4**
PAWZ	**Paruwai Farm**	**7.09**	**215**	P	**Pn**	**01 09 00.1**	**-3.6**
CTZ	**Chatham Island**	**8.26**	**167**		**Pn**	**01 09 20.5**	**+0.9**
CTZ	**Chatham Island**	**8.26**	**167**	P	**Pn**	**01 09 19.7**	**+0.1**
CTZ				S	**Sn**	**01 10 45.4**	**-6.1**
MRNZ	**Matariki Terra**	**8.52**	**226**	P	**Pn**	**01 09 19.8**	**-3.4**
KHZ	**Kahutara**	**8.79**	**218**	P	**Pn**	**01 09 29.2**	**+2.3**
LTZ	**Lake Taylor**	**9.71**	**221**	P	**Pn**	**01 09 36.7**	**-2.8**
RPZ	**Rata Peaks**	**11.00**	**220**	Pn	**Pn**	**01 09 57.6**	**+0.5**
	0.5nm,0.3s,baz=12,slow=9.3,SNR=1.8						
RPZ				Sn	Sn	01 11 46.4	-12
	2.7nm,0.3s,baz=35,slow=18,SNR=9.4						
	2.4nm,0.3s						
JCZ	**Jackson Bay**	**12.47**	**224**	P	**Pn**	**01 10 16.1**	**-1.3**
MSVF	**Nonsavu**	**18.07**	**351**		**Pn**	**01 11 29.5**	**-1.3**
MSVF				IAmb	IAmb	01 11 44.7	
	comp=Z,19nm,1.1s						
MSVF	**Nonsavu**	**18.07**	**351**	P	**Pn**	**01 11 27.4**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=162,slow=19,SNR=1.4						
	comp=Z,6.3nm,0.9s						
DZM	**Mont Dzumac**	**18.51**	**313**	LR	LR	01 17 25.6	
	comp=Z,280nm,18.4s,baz=120,slow=34						
KOUNC	**Koumac, New Ca**	**20.96**	**312**	P	**P**	**01 12 02.1**	**-0.3**
KOUNC				IAmb	IAmb	01 12 14.6	
	comp=Z,22nm,1.0s						
STKA	**Stephens Creek**	**32.70**	**265**	LR	LR	01 27 42.1	
	comp=Z,93nm,18.1s,baz=211,slow=38						
COEN	**Coen**	**40.13**	**293**	P	**P**	**01 14 54.5**	**-0.5**
COEN				IAmb	IAmb	01 14 55.8	
	comp=Z,18nm,1.2s						
PMG	**Port Moresby**	**40.31**	**302**	LR	LR	01 30 46.1	
	comp=Z,126nm,18.0s,baz=160,slow=35						
AS31	**Alice Springs**	**42.16**	**273**	P	**P**	**01 15 10.7**	**-1.0**
AS31				IAmb	IAmb	01 15 29.2	
	comp=Z,1.3nm,0.5s						
ASAR	**Alice Springs**	**42.16**	**273**	P	**P**	**01 15 10.2**	**-1.5**
ASAR	**Alice Springs**	**42.16**	**273**	P	**P**	**01 15 09.6**	**-2.1**
	comp=Z,3.0nm,0.8s,baz=119,slow=7.3,SNR=24						
ASAR				LR	LR	01 32 53.5	
	comp=Z,149nm,18.9s,baz=146,slow=37						
	comp=Z,3.0nm,0.8s						
WR0	**Warramunga Arr**	**43.45**	**278**	P	**P**	**01 15 20.6**	**-1.5**
WR0

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OPRZ Ohinepanea      8.42 200  P          Pn          01 20 57.6 +3.2
MWZ  Matawai         8.64 194  P          Pn          01 20 56.0 -1.3
URZ  Urewera         8.66 196  P          Pn          01 20 54.7 -2.9
     19nm,0.3s,baz=32,slow=2.5,SNR=72
URZ                            S          S           01 22 17.0 -19
     19nm,0.5s,baz=167,slow=21,SNR=15
URZ  Urewera         8.66 196  P          Pn          01 20 55.3 -2.2
CNGZ Carnagh Statio  8.66 190  P          Pn          01 20 56.3 -1.2
TKGZ Te Karaka       8.68 192  P          Pn          01 20 57.7  0.0
TARZ Mount Tarawera  8.80 199  P          Pn          01 21 01.1 +1.8
MUGZ Murupara        8.95 197  P          Pn          01 21 01.0 -0.2
STKA Stephens Creek 33.00 257  P          P           01 25 08.2 +0.3
     0.7nm,0.3s,baz=121,slow=12,SNR=1.5
     0.7nm,0.3s
ASAR Alice Springs  41.51 267  P          P           01 26 19.6 +0.4
     0.2nm,0.4s,baz=106,slow=7.3,SNR=7.7
     0.2nm,0.4s
WRA  Warramunga Arr 42.46 273  P          P           01 26 27.2 +0.3
     0.5nm,0.3s,baz=113,slow=8.0,SNR=24
     0.5nm,0.3s
QSPA South Pole Qui 60.16 180  P          P           01 28 29.6 -7.6
     0.8nm,0.6s,baz=70,slow=0.9,SNR=7.5
     0.8nm,0.6s
FINES FINESS Array B 144.15 339  PKPbc    PKiKP       01 38 02.5 -2.3
     2.4nm,0.9s,baz=33,slow=3.3,SNR=11
MMAI Mount Meron Ar 149.85 285  PKPbc     PKiKP       01 38 16.8 -0.8
     0.7nm,0.4s,baz=79,slow=7.5,SNR=8.3
BRTR Keskin Array B 150.96 299  PKPbc     PKPbc       01 38 18.8 -0.5
     0.4nm,0.5s,baz=128,slow=3.1,SNR=5.9
```

*IDC **11** 01:22:46.8±1.2, 37.°33N×20.°46E, h0km, mb3.6/7, mbtmp3.5/12, ML0.8/2, Error ellipse: s-maj=21.4km s-min=18.5km az=167.0*
*THE **11** 01:22:50.4, 37.°47N×20.°48E, h0km±2km, ML3.4/16, Error ellipse: s-maj=2.7km s-min=0.6km az=233.0*
*ATH **11** 01:22:50.7, 37.°48N×20.°51E, h9km±1km, ML3.4/16, Error ellipse: s-maj=2.2km s-min=0.8km az=33.0*

ISC 11 01:22:48.6±1.4, 37.°40N±0.°04×20.°43E±0.°03, h8km±9km, n64, σ1§18/96, mb3.6/7, 5C-4D, Ionian Sea

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Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                  Op    ISC               h m s     ISC
LTHK Lithakia            0.45  46  P     Pg                01 22 57.4 +0.2
LTHK                              S     Sg                01 23 02.2 -0.9
     21µm,0.2s
LTHK Lithakia            0.45  46  P     Pg                01 22 57.6 +0.3
LTHK                              S     Sg                01 23 02.3 -0.9
LTHK                              AML   AML               01 23 03.1
     comp=E,39304µm,0.2s
LTHK                              AML   AML               01 23 03.2
     comp=N,40940µm,0.3s
PSDA Pessada-Kefalo      0.72  10  P     Pg                01 23 02.7 +0.2
PSDA                              S     Sb                01 23 12.8 -0.7
PSDA Pessada-Kefalo      0.72  10  P     Pb                01 23 02.9 -0.5
PSDA                              S     Sg                01 23 11.5 -0.4
RTZL Ratzakli, Kefa      0.73  22  P     Pg                01 23 02.6  0.0
RTZL                              S     Sg                01 23 12.0  0.0
     comp=N,2µm,0.6s
VLS  Valsamata           0.79   9  P     Pg                01 23 03.6 -0.1
VLS                               S     Sg                01 23 14.2 +0.3
     comp=N,2µm,0.3s
VLS  Valsamata           0.79   9  P     Pg                01 23 03.6 -0.1
VLS                               S     Sg                01 23 13.2 -0.7
VLS                               AML   AML               01 23 14.9
     comp=E,4646µm,0.3s
VLS                               AML   AML               01 23 17.6
     comp=N,4960µm,0.4s
LXRA Lixouri, Kepha      0.80   0  P     Pg                01 23 04.1 +0.2
LXRA                              S     Sg                01 23 14.8 +0.5
LXR1 Lixouri, Cepha      0.80   0  P     Pb                01 23 04.5 -0.2
LXR1                              S     Sb                01 23 15.4 -0.3
     comp=N,12µm,0.4s
DMLN Damoulianata-K      0.84 357  P     Pg                01 23 04.8 +0.2
DMLN                              S     Sb                01 23 16.6 -0.2
     comp=N,5µm,0.4s
DMLN Damoulianata-K      0.84 357  P     Pg                01 23 04.9 +0.2
DMLN                              S     Sb                01 23 16.1 -0.7
VSK1 VASILIKIADES        1.01   6  P     Pg                01 23 07.9 -0.1
VSK1                              S     Sg                01 23 21.2  0.0
     comp=N,2µm,0.7s
AMT  Artemida-Makis      1.02  82  P     Pg                01 23 08.3  0.0
AMT                               S     Sg                01 23 21.9 +0.3
AMT                               AML   AML               01 23 28.1
     comp=N,12466µm,0.6s
AMT                               AML   AML               01 23 33.2
     comp=E,13030µm,0.4s
RLS  Riolos of Patr      1.05  51  P     Pg                01 23 08.3 -0.5
RLS                               S     Sg                01 23 22.6 +0.2
     comp=E,2µm,0.5s
RLS  Riolos of Patr      1.05  51  P     Pg                01 23 08.3 -0.5
RLS                               S     Sg                01 23 22.1 -0.3
RLS                               AML   AML               01 23 23.7
     comp=N,3336µm,0.4s
RLS                               AML   AML               01 23 32.0
     comp=E,2736µm,0.6s
FSK  Fiskardo            1.06   6  P     Pg                01 23 08.6 -0.3
FSK                               S     Sb                01 23 23.2  0.0
     comp=E,2µm,1.0s
FSK  Fiskardo            1.06   6  P     Pg                01 23 08.6 -0.3
FSK                               S     Sg                01 23 21.9 -0.9
FSK                               AML   AML               01 23 27.4
     comp=N,5150µm,1.0s
FSK                               AML   AML               01 23 33.4
     comp=E,4423µm,0.9s
DRO  Drossia             1.16  61  P     Pg                01 23 10.7  0.0
DRO  Drossia             1.16  61  P     Pg                01 23 10.5 -0.2
DRO                               S     Sg                01 23 25.3 -0.4
DRO                               AML   AML               01 23 35.6
     comp=N,6712µm,0.7s
DRO                               AML   AML               01 23 35.8
     comp=E,6780µm,0.5s
PYL  PYLOS               1.16 115  P     Pn                01 23 12.3 +1.2
PYL                               S     Sn                01 23 29.6 +2.4
     comp=E,775nm,0.7s
PYL  PYLOS               1.16 115  P     Pn                01 23 12.1 +1.0
PYL                               S     Sn                01 23 27.3 +0.1
PYL                               AML   AML               01 23 31.1
     comp=E,1826µm,0.6s
PYL                               AML   AML               01 23 31.5
     comp=N,1042µm,0.4s
ITM  Ithomi              1.21 100  P     Pn                01 23 12.8 +0.9
ITM                               S     Sn                01 23 30.2 +1.7
     comp=N,1µm,0.8s
ITM  Ithomi              1.21 100  P     Pn                01 23 12.7 +0.9
ITM                               S     Sg                01 23 27.7 +0.2
ITM                               AML   AML               01 23 35.5
     comp=E,2577µm,0.7s
ITM                               AML   AML               01 23 39.2
     comp=N,2101µm,1.0s
EVGI Lefkada island      1.23   8  P     Pb                01 23 11.8 -0.3
EVGI                              S     Sn                01 23 29.1 +0.2
     comp=N,1µm,0.5s
EVGI Lefkada island      1.23   8  P     Pb                01 23 11.8 -0.3
DRAG Dragano-Lefkad      1.29   5  P     Pn                01 23 12.4 -0.5
DRAG                              S     Sn                01 23 31.0 +0.7
DRAG Dragano-Lefkad      1.29   5  P     Pn                01 23 12.5 -0.3
NYDR Nydri-Lefkada       1.33   9  P     Pn                01 23 13.3 -0.1
NYDR                              S     Sn                01 23 31.6 +0.3
     comp=N,870nm,0.7s
NYDR Nydri-Lefkada       1.33   9  P     Pn                01 23 13.3 -0.1
LKD2 Lefkada island      1.40   7  P     Pg                01 23 16.0 +0.6
LKD2                              S     Sg                01 23 35.5 +2.0
     comp=N,2µm,0.8s
LKD2 Lefkada island      1.40   7  P     Pn                01 23 14.2 -0.2
LKD2                              AML   AML               01 23 39.9
     comp=E,3622µm,0.7s
LKD2                              AML   AML               01 23 40.2
     comp=N,3068µm,1.0s
TSLK Tsoukalades, L      1.43   7  P     Pn                01 23 15.1 +0.2
TSLK                              S     Sg                01 23 36.2 +1.5
     comp=N,2µm,0.8s
TSLK Tsoukalades, L      1.43   7  P     Pb                01 23 15.2 -0.3
KLV  Kalavryta, Ach      1.51  64  P     Pb                01 23 16.8  0.0
KLV                               S     Sg                01 23 38.9 +1.9
     comp=N,668nm,1.1s
KLV  Kalavryta, Ach      1.51  64  P     Pn                01 23 16.2 +0.2
KLV                               AML   AML               01 23 45.5
     comp=N,1629µm,0.9s
KLV                               AML   AML               01 23 53.9
     comp=E,1034µm,1.3s
EFP  Efpalio             1.55  48  P     Pn                01 23 16.2 -0.3
EFP                               S     Sn                01 23 34.4 -2.4
EFP                               AML   AML               01 23 49.7
     comp=N,2714µm,0.7s
EFP                               AML   AML               01 23 50.0
     comp=E,2705µm,0.9s
GUR  Goura               1.61  70  P     Pn                01 23 18.0 +0.6
GUR                               S     Sg                01 23 40.6 +0.3
     comp=E,1µm,0.5s
GUR  Goura               1.61  70  P     Pn                01 23 17.7 +0.4
GUR                               AML   AML               01 23 48.5
     comp=E,2437µm,0.5s
GUR                               AML   AML               01 23 49.2
     comp=N,3321µm,0.5s
KALE Kalithea            1.68  53  P     Pn                01 23 18.3 +0.1
KALE                              S     Sn                01 23 38.3 -1.7
KALE                              AML   AML               01 23 49.6
     comp=E,2216µm,0.7s
KALE                              AML   AML               01 23 50.1
     comp=N,2209µm,0.5s
IGT  Igoumenitsa         2.13 358  P     Pn                01 23 25.2 +0.7
IGT                               AML   AML               01 24 04.8
     comp=E,712µm,0.5s
IGT                               AML   AML               01 24 10.7
     comp=N,400µm,0.7s
VIL2 Platees             2.39  69  P     Pn                01 23 28.6 +0.6
VIL2                              AML   AML               01 24 09.4
     comp=N,606µm,0.5s
VIL2                              AML   AML               01 24 15.2
     comp=E,726µm,0.7s
TIP  Timpagrande         3.39 303  ⇓P    Pb                01 23 47.0 -1.9
OHR  Ohrid               3.72   4  i Pn  Pn                01 23 49.9 +3.6
TIR  Tirane              3.97 354  ⇑P    Pb                01 23 58.9 +0.2
IDI  Anoyia              4.17 119  Pn    Pn                01 23 51.6 -1.0
     comp=E,0.1nm,0.3s,baz=308,slow=16,SNR=2.0
IDI                               Sn    Sn                01 24 41.3 -0.2
     comp=E,1.6nm,0.3s,baz=131,slow=20,SNR=8.6
     comp=E,6.3nm,0.9s
VAY  Valandovo           4.25  22  i Pn  Pn                01 23 54.7 +1.1
VAE  Valguarnera         4.79 273  Pn    Pn                01 24 02.5 +1.4
     comp=E,0.4nm,0.3s,baz=98,slow=14,SNR=2.1
VAE                               Sn    Sn                01 24 58.5 +1.7
     comp=E,0.8nm,0.3s,baz=164,slow=22,SNR=1.8
     comp=E,14nm,1.1s
PDG  Podgorica           5.10 350  ⇑P    Pb                01 24 12.8 -5.3
BOVS Bovan               6.30   8  ⇑P    Pn                01 24 21.5 -0.2
ELND Elena               6.92  35  ⇑P    Pn                01 24 32.7 +2.5
VOIR                     8.74  22  ⇓P    Pn                01 24 57.2 +1.9
MLR  Muntele Rosu        9.08  25  Pn    Pn                01 25 01.8 +1.8
     comp=E,3.3nm,0.8s,baz=286,slow=13
MLR  Muntele Rosu        9.08  25  ⇓P    Pn                01 25 04.3 +4.3
PLOR Plostina            9.64  27  ⇑P    Pn                01 25 10.7 +3.2
VRI  Vrincioaia          9.68  27  ⇓P    Pn                01 25 11.8 +3.7
BRTR Keskin Array B     10.60  73  Pn    Pn                01 25 22.8 +1.9
     comp=E,0.2nm,0.6s,baz=253,slow=14,SNR=1.7
AKASG Malin Array Be    14.71  23  Pn    Pn                01 26 17.5 +0.7
     comp=E,0.1nm,0.2s,baz=211,slow=8.5,SNR=1.7
HFS  Hagfors            23.16 351  P     P                 01 27 54.9 -0.2
     comp=E,2.2nm,0.7s,baz=180,slow=9.9,SNR=8.8
     comp=E,2.2nm,0.7s
EKA  Eskdalemuir Ar     24.02 326  P     P                 01 28 04.9 +1.2
     comp=E,1.4nm,0.7s,baz=127,slow=11,SNR=2.3
     comp=E,1.4nm,0.7s
FINES FINESS Array B    24.33   7  P     P                 01 28 05.5 -1.0
     comp=E,2.4nm,0.6s,baz=186,slow=10.0,SNR=6.8
     comp=E,2.4nm,0.6s
NOA  NORSAR Array B     24.37 349  P     P                 01 28 06.8 -0.1
     comp=E,0.7nm,0.8s,baz=152,slow=11,SNR=1.2
     comp=E,0.7nm,0.8s
TORD Torodi Ar. Bea     29.38 220  P     P                 01 28 51.3 -1.0
     comp=E,0.5nm,1.0s,baz=30,slow=9.4,SNR=2.1
     comp=E,0.5nm,1.0s
MKAR Makanchi Array     45.77  58  P     P                 01 31 09.8 -0.7
     comp=E,0.3nm,0.7s,baz=279,slow=8.4,SNR=4.3
     comp=E,0.3nm,0.7s
ZALV Zalesovo Beam      46.27  48  P     P                 01 31 13.5 -0.7
     comp=E,0.5nm,0.4s,baz=270,slow=8.8,SNR=5.0
     comp=E,0.5nm,0.4s
```

*NOU **11** 01:31:22.9, 35.°05S×177.°38W, h0km, MLv4.7/10, East of North Island, N.Z.*
*IDC **11** 01:31:43.0±1.4, 35.°55S×179.°41W, h0km, mb4.4/2, mbtmp4.3/4, ML4.0/2, MS2.8/1, Error ellipse: s-maj=44.5km s-min=31.4km az=135.0*
*WEL **11** 01:31:46.6±0.8, 36.°S±6.°×17.°9W±1.°1, h33km, M4.5/14, ML4.8/15, MLv4.5/14, Error ellipse: s-maj=15.7km s-min=4.1km az=115.8, confirmed*

ISC 11 01:31:47.5±1.0, 35.°64S±0.°07×179.°2W±0.°1, h47km, n39, σ1§38/51, East of North Island

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Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                  Op    ISC               h m s     ISC
MXZ  Matakaoa Point      2.80 226  P     Pn                01 32 29.1 -0.7
MXZ                               S     Sn                01 33 00.3 -2.0
MXZ  Matakaoa Point      2.80 226  P     Pn                01 32 29.5 -0.3
PUZ  Puketiti            3.19 220  P     Pn                01 32 34.9 -0.2
PUZ                               S     Sn                01 33 10.8 -1.3
HAZ  Te Kaha             3.24 229  P     Pn                01 32 35.4 -0.4
HAZ                               S     Sn                01 33 14.3 +1.1
TWGZ Tauwhareparae       3.42 221  P     Pn                01 32 38.3  0.0
TWGZ                              S     Sn                01 33 18.4 +0.9
RUGZ Raukumara Rang      3.44 227  P     Pn                01 32 39.0 +0.3
CNGZ Carnagh Statio      3.54 216  P     Pn                01 32 40.5 +0.6
CNGZ                              S     Sn                01 33 20.9 +0.5
TKGZ Te Karaka           3.68 220  P     Pn                01 32 42.3 +0.5
TKGZ                              S     Sn                01 33 23.8 -0.2
MWZ  Matawai             3.78 224  P     Pn                01 32 42.9 -0.3
MWZ                               S     Sn                01 33 24.3 -2.2
WHRZ Whale Island        3.81 233  P     Pn                01 32 45.2 +1.4
WHRZ                              S     Sn                01 33 26.8 -0.5
RIGZ Rimuhau             3.93 218  P     Pn                01 32 44.2 -1.1
RIGZ                              S     Sn                01 33 30.0 -0.1
URZ  Urewera             3.97 228  Pn    Pn                01 32 45.3 -0.5
     15nm,0.3s,baz=14,slow=2.6,SNR=36
URZ                               Sn    Sn                01 33 27.1 -4.1
     12nm,0.3s,baz=128,slow=7.5,SNR=3.0
     38nm,0.3s
URZ  Urewera             3.97 228  P     Pn                01 32 45.4 -0.4
URZ                               S     Sn                01 33 30.4 -0.7
URZ  Urewera             3.97 228  P     Pn                01 32 45.5 -0.4
PRGZ Paritu Road         4.04 215  P     Pn                01 32 46.2 -0.6
PRGZ                              S     Sn                01 33 32.3 -0.5
MYRZ Mayor Island        4.06 245  P     Pn                01 32 46.7 -0.4
OPRZ Ohinepanea          4.09 236  P     Pn                01 32 46.7 -0.7
EDRZ Edgecumbe           4.11 232  P     Pn                01 32 48.3 +0.5
TGRZ Tauranga            4.24 239  P     Pn                01 32 48.9 -0.5
KUZ  Kuaotunu            4.29 254  P     Pn                01 32 49.6 -0.6
BKZ  Black Stump Fm      4.94 223  P     Pn                01 32 58.3 -0.9
WCZ  Waipu Caves         5.30 265  P     Pn                01 33 04.1 +0.1
HIZ  Hauiti              5.58 237  P     Pn                01 33 08.4 +0.5
OUZ  Omahuta             5.94 272  P     Pn                01 33 12.3 -0.5
OUZ  Omahuta             5.94 272  P     Pn                01 33 12.4 -0.4
BFZ  Birch Farm          6.20 214  P     Pn                01 33 14.2 -2.2
GLKZ Green Lake          6.45  10  P     Pn                01 33 19.2 -0.6
GLKZ                              S     Sn                01 34 27.9 -4.1
KHEZ Kahui Hut           6.54 234  P     Pn                01 33 22.3 +1.1
SNZO South Karori        7.43 219  P     Pn                01 33 30.9 -2.3
KHZ  Kahutara            8.83 218  P     Pn                01 33 50.7 -1.8
RPZ  Rata Peaks         11.04 220  Pn    Pn                01 34 20.4 -2.2
     0.9nm,0.3s,baz=296,slow=17,SNR=2.1
RPZ                               Sn    Sn                01 36 12.4 -12
     0.9nm,0.3s,baz=1.4,slow=22,SNR=6.7
     2.5nm,0.3s
PPT  Papeete            31.81  63  LR    LR                01 50 15.9
     comp=Z,17nm,19.0s,baz=334,slow=35
ASAR Alice Springs      42.15 273  P     P                 01 39 35.5 -0.1
     2.1nm,0.7s,baz=115,slow=8.0,SNR=24
     2.1nm,0.7s
WRA  Warramunga Arr     43.61 278  P     P                 01 39 47.2 -0.2
     5.1nm,0.5s,baz=117,slow=7.7,SNR=16
     5.1nm,0.5s
FINES FINESS Array B   149.64 336  PKPbc PKiKP             01 51 33.1 +1.1
     3.7nm,0.7s,baz=46,slow=4.0,SNR=18
MMAI Mount Meron Ar    151.43 275  PKPbc PKiKP             01 51 38.4 +1.6
     0.6nm,0.3s,baz=88,slow=10,SNR=7.5
NOA  NORSAR Array B    153.73 349  PKPab PKPab             01 51 55.3 +1.8
     1.5nm,0.9s,baz=346,slow=6.8,SNR=4.2
BRTR Keskin Array B    153.82 289  PKPbc PKiKP             01 51 43.4 +1.8
     0.2nm,0.4s,baz=139,slow=3.3,SNR=4.5
TORD Torodi Ar. Bea    157.59 182  PKPab PKPab             01 52 13.1 +2.1
     0.3nm,0.5s,baz=174,slow=3.1,SNR=2.6
```

*NNC **11** 01:32:25.1±7.0, 37.°01N×71.°15E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=64.7km s-min=45.1km az=154.0*
*IDC **11** 01:32:34.6±8.8, 37.°28N×71.°45E, h134km±63km, mb3.8/1, mbtmp3.6/6, MS2.8/1, Error ellipse: s-maj=78.3km s-min=66.2km az=150.0*

ISC 11 01:32:28.2±2.6, 36.°9N±0.°2×71.°2E±0.°2, h100km, n10, σ1§67/12, 3C, Afghanistan-Tajikistan border region

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                  Op    ISC               h m s     ISC
KK31 Karatay Array       6.22 355  P     Pn                01 33 58.1 +0.7
     1.8nm,0.2s,baz=180,slow=12,SNR=65
KK31                              ⇑S    Sn                01 35 08.3 +1.2
     2.8nm,0.3s,baz=184,slow=24,SNR=7.3
AAK  Ala-Archa           6.28  23  P     Pn                01 33 58.3  0.0
     2.1nm,0.3s,baz=185,slow=4.5,SNR=10.0
AAK                               S     Sn                01 35 05.4 -3.2
     1.3nm,0.4s,baz=327,slow=22,SNR=9.7
TKM2 Tokmak 2            6.91  28  ⇑P    Pn                01 34 06.0 -0.9
     1.8nm,0.7s
TKM2                              ⇑S    Sn                01 35 26.0 +1.9
     0.7nm,0.5s
MKAR Makanchi Array     12.88  36  P     Pn                01 35 28.8 +1.4
     0.2nm,0.7s,baz=215,slow=11,SNR=2.0
KURBB Kurchatov Arra    14.70  19  P     Pn                01 35 52.3 +1.4
     0.5nm,0.6s,baz=206,slow=11,SNR=6.0
AB31 Akbulak array      14.81 330  P     Pn                01 35 51.5 -0.8
     0.1nm,0.2s,baz=153,slow=11,SNR=7.2
BVAR Borovoye Array     16.14 358  P     Pn                01 36 09.4 +0.5
     0.4nm,0.4s,baz=164,slow=12,SNR=2.8
ZALV Zalesovo Beam      19.49  25  P     P                 01 36 45.4 -1.7
     1.1nm,0.3s,baz=209,slow=9.9,SNR=8.9
CMAR Chiang Mai Arr     30.52 119  LR    LR                01 54 54.4
     comp=Z,18nm,19.9s,baz=125,slow=44
ARCES ARCESS Array B    40.84 337  P     P                 01 40 00.3 +0.7
     4.5nm,1.1s,baz=114,slow=9.0,SNR=1.6
     4.5nm,1.1s
```

IDC 11 01:32:51.9±6.3, 34.°65S×179.°88W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=291.8km s-min=66.0km az=165.0, South of Kermadec Islands

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                  Op    ISC               h m s     ISC
ASAR Alice Springs      41.50 273  P     P                 01 40 40.1 -1.0
     0.6nm,0.5s,baz=122,slow=8.8,SNR=1.2
     0.6nm,0.5s
WRA  Warramunga Arr     42.88 278  P     P                 01 40 52.8 +0.5
     2.3nm,0.5s,baz=120,slow=7.6,SNR=5.9
     2.3nm,0.5s
H03N3 Juan Fernandez    79.65 123  T     T                 03 12 46.2
     baz=236
H03N2 Juan Fernandez    79.66 123  T     T                 03 12 29.2
     baz=236
H03N1 Juan Fernandez    79.67 123  T     T                 03 12 51.2
     baz=236
FINES FINESS Array B    148.49 336 PKPbc PKPbc             01 52 39.1 -0.6
     2.1nm,0.7s,baz=35,slow=3.4,SNR=1.6
```

*IDC **11** 01:35:42.5±1.0, 32.°34N×69.°69E, h0km, mb3.7/14, mbtmp3.8/17, ML3.8/3, MS3.5/14, Error ellipse: s-maj=21.6km s-min=20.3km az=113.0*
*NDI **11** 01:35:44.7±3.3, 32.°32N×69.°37E, h10km, ML3.9, MW3.7, mb4.0(NEIC)*
*BJI **11** 01:35:45.8, 32.°07N×69.°98E, h30km, mb4.4/8, mB4.6/3*
*NEIC **11** 01:35:47.7±2.3, 32.°2N±0.°1×69.°7E±0.°1, h47km±9km, mb4.0/13, Error ellipse: s-maj=18.5km s-min=11.9km az=218.0*

ISC 11 01:35:44.4±0.5, 32.°28N±0.°05×69.°65E±0.°05, h10km, n75, σ2§08/77, mb3.9/17, MS3.3/13, Pakistan

```
Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                  Op    ISC               h m s     ISC
KBL  Kabul              2.32 347  Pn    Pb                01 36 26.2 -0.2
NIL  Nilore             3.32  65  P     Pn                01 36 40.2 +3.8
SRNI Srinagar           4.72  66  ex    Sg                01 38 19.8 +3.8
JASL Jaisalmer          5.44 168  eS    Sn                01 38 09.5 +1.2
DHRM DHARAMSHALA        5.63  88  eP    Pn                01 37 09.4 +1.0
DHRM                              eS    Sn                01 38 15.0 +1.7
DHRM                              IAML  IAML              01 38 54.4
     comp=N,406nm,0.8s
DHRM                              IAML  IAML              01 38 56.9
     comp=N,247nm,1.5s
BHK  Bhakra             5.82  97  ex    Pn                01 37 13.7 +2.9
BHK                               ex    Sn                01 38 19.4 +1.8
SIMJ Simiganj           6.39 355  Pn    Pn                01 37 20.6 +1.8
SMLA Simla              6.50  98  eP    Pn                01 37 23.6 +3.4
SMLA                              eS    Sn                01 38 36.1 +1.7
SMLA                              IAML  IAML              01 38 38.9
     comp=N,132nm,0.7s
SMLA                              IAML  IAML              01 38 40.1
     comp=N,127nm,0.3s
GAR  Garm               6.73   4  Pn    Pn                01 37 25.7 +2.2
KUDL Kundal             7.21 123  eP    Pn                01 37 32.0 +2.1
KUDL                              eS    Sn                01 38 48.6 -3.1
AJM  Ajmer              7.23 142  eP    Pn                01 37 32.9 +2.6
KLP  Kalpa              7.35  94  eP    Pn                01 37 35.8 +3.7
KLP                               eS    Sn                01 38 57.2 +1.5
KLP                               IAML  IAML              01 39 00.8
     comp=E,56nm,0.0s
KLP                               IAML  IAML              01 39 18.4
     comp=E,71nm,1.0s
SONA Sohna              7.57 120  eP    Pn                01 37 36.9 +2.0
SONA                              eS    Sn                01 38 58.5 -2.3
BTK  Batken             7.82   7  Pn    Pn                01 37 40.9 +2.5
JOSI Joshimath          8.64  99  eP    Pn                01 37 52.8 +3.1
JOSI                              eS    Sn                01 39 28.1 +0.9
JOSI                              IAML  IAML              01 39 33.3
     comp=E,70nm,0.6s
JOSI                              IAML  IAML              01 39 33.8
     comp=N,43nm,0.5s
KSH  Kashi              8.86  34  P     Pn                01 37 50.3 -2.3
KSH                               S     Sn                01 39 20.2 -12
ARSB Arslanbob          9.42  15  P     Pn                01 38 01.3 +1.0
LGTI Lohaghat           9.53 104  ex    Pn                01 37 58.7 -3.0
LGTI                              eS    Sn                01 39 44.1 -4.8
JHNI Jhansi            10.32 129  eS    Sn                01 40 04.3 -4.2
AML  Almayashu         10.35  17  P     Pn                01 38 14.1 +0.8
     SNR=54
NRN  Naryn             10.46  27  Pn    Pn                01 38 14.5 -0.2
KKAR Karatay Array     10.83   3        Pn                01 38 19.6  0.0
EKS2 Erkin-Say         10.87  16  P     Pn                01 38 21.8 +1.6
     SNR=8.1
AAK  Ala-Archa         11.03  19  P     Pn                01 38 23.1 +0.6
     SNR=13
AAK  Ala-Archa         11.03  19  Pn    Pn                01 38 22.9 +0.4
AAK  Ala-Archa         11.03  19  Pn    Pn                01 38 23.0 +0.6
     comp=N,2.7nm,0.3s,baz=186,slow=8.9,SNR=30
AAK                               Sn    Sn                01 40 22.0 -4.0
     comp=N,0.1nm,0.3s,baz=320,slow=18,SNR=2.4
     comp=N,8.1nm,0.5s
KBK  Karagaybulak      11.18  21  P     Pn                01 38 26.4 +2.0
     SNR=8.6
BHPL Bhopal            11.32 141  eP    Pn                01 38 27.7 +1.3
BHPL                              eS    Sn                01 40 28.4 -4.7
BOOM Boomskoye usch    11.35  24  Pn    Pn                01 38 27.0 +0.1
CHMS Chumysh           11.44  19  P     Pn                01 38 28.2 +0.4
     SNR=8.3
KDJ  Kajisay           11.52  29  Pn    Pn                01 38 30.0 +0.9
TKM2 Tokmak 2          11.62  22  P     Pn                01 38 32.0 +1.5
     SNR=17
WUS  Wushi             11.75  38        Pn                01 38 32.6 +0.4
WSAR Wadi Sarin        13.27 230  Pn    P                 01 39 06.8 +3.9
     comp=N,0.2nm,0.3s,baz=51,slow=5.1,SNR=1.3
WSAR                              Sn    Sn                01 41 08.1 -13
     comp=N,0.1nm,0.3s,baz=21,slow=8.6,SNR=1.4
AKL  Akola             13.27 148  eP    Pn                01 38 54.5 +1.5
MAKZ Makanchi          17.32  30  Pn    Pn                01 39 44.2 -2.0
MAKZ                              IAmb  IAmb              01 39 47.8
     comp=Z,6.6nm,1.0s
MK31 Makanchi Array    17.44  30        Pn                01 39 47.3 -0.5
MKAR Makanchi Array    17.44  30  Pn    Pn                01 39 46.1 -1.6
MKAR Makanchi Array    17.44  30  P     Pn                01 39 46.7 -1.1
     comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=16
MKAR                              LR    LR                01 47 05.4
     comp=Z,167nm,20.4s,baz=202,slow=39
     comp=Z,3.5nm,0.9s
WMQ  Urumqi            18.25  46  eP    Pn                01 39 58.0 +0.1
WMQ                               pmax  pmax
     comp=Z,25nm,0.7s
ABKAR Akbulak array    18.46 340        Pn                01 40 00.6 +0.3
KURBB Kurchatov Arra   19.48  17  P     P                 01 40 09.3 -2.0
     comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=7.7
     comp=Z,1.2nm,0.6s
KURK Kurchatov         19.58  17  P     P                 01 40 11.4 -1.0
AKTO Aktyubinsk        20.09 338  P     P                 01 40 17.8 -0.3
```

comp=Z,7.5nm,0.8s,baz=159,slow=12,SNR=14
AKTO LR LR 01 49 08.0
comp=Z,130nm,19.4s,baz=8.0,slow=40
comp=Z,7.5nm,0.8s
SHL Shillong 20.55 103 P **P 01 40 19.1 -4.4**
BVAR Borovoye Array 20.75 1 P **P 01 40 25.0 -0.2**
comp=Z,3.5nm,0.6s,baz=174,slow=8.3,SNR=18
BVAR LR LR 01 49 07.0
comp=Z,129nm,19.7s,baz=181,slow=39
comp=Z,3.5nm,0.6s
BRVK Borovoye 20.78 1 P **P 01 40 25.1 -0.4**
BRVK IAmb IAmb 01 40 28.8
comp=Z,7.7nm,0.7s
GNI Garni 21.54 298 P **P 01 40 36.7 +2.8**
comp=Z,4.8nm,0.8s,baz=167,slow=9.5,SNR=4.3
ZAA0 Zalesovo Array 24.23 22 P **P 01 41 00.1 -1.1**
ZAA0 IAmb IAmb 01 41 02.3
comp=Z,2.5nm,0.8s
ZALV Zalesovo Beam 24.23 22 P **P 01 40 59.7 -1.5**
comp=Z,2.2nm,0.4s,baz=226,slow=11,SNR=11
ZALV LR LR 01 51 02.8
comp=Z,63nm,18.3s,baz=230,slow=38
comp=Z,2.2nm,0.4s
ARTI Arti 25.35 345 LR LR 01 51 27.4
comp=Z,50nm,19.6s,baz=162,slow=37
BELG Belogornoye 25.69 328 LR LR 01 53 37.4
comp=Z,82nm,18.3s,baz=84,slow=42
KIRV Kirov 29.66 339 LR LR 01 53 52.2
comp=Z,48nm,19.1s,baz=136,slow=37
EIL Elat 29.79 274 LR LR 01 56 06.9
comp=Z,70nm,19.3s,baz=67,slow=41
BRTR Keskin Array B 29.92 295 P **P 01 41 52.5 -0.3**
comp=Z,0.1nm,0.4s,baz=130,slow=12,SNR=1.7
comp=Z,0.1nm,0.4s
SONM Songino Array 31.78 50 LR LR 01 57 04.4
comp=Z,116nm,18.3s,baz=229,slow=40
HHC Hu-ho-hao-te 34.46 64 *e*P **P 01 42 34.1 +1.6**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,56nm,4.5s
AKASG Malin Array Be 34.90 314 P **P 01 42 36.9 +0.9**
comp=Z,0.4nm,0.4s,baz=355,slow=38,SNR=2.8
AKASG LR LR 01 59 29.8
comp=Z,88nm,18.3s,baz=56,slow=41
comp=Z,0.4nm,0.4s
NRIK Noril'sk 38.47 10 P **P 01 43 03.8 -2.4**
comp=Z,1.6nm,0.6s,baz=228,slow=12,SNR=2.1
comp=Z,1.6nm,0.6s
FINES FINESS Array B 40.45 329 LR LR 02 01 30.6
comp=Z,67nm,19.5s,baz=181,slow=38
GERES GERESS Array B 44.58 309 P **P 01 43 55.3 -1.4**
comp=Z,0.7nm,0.7s,baz=82,slow=7.1,SNR=3.4
comp=Z,0.7nm,0.7s
ARCES ARCESS Array B 44.66 340 P **P 01 43 55.4 -1.6**
comp=Z,3.4nm,0.7s,baz=100,slow=6.7,SNR=8.4
comp=Z,3.4nm,0.7s
HFS Hagfors 45.78 325 LR LR 02 06 41.8
comp=Z,102nm,18.4s,baz=110,slow=41
NOA NORSAR Array B 47.16 326 P **P 01 44 16.2 -0.5**
comp=Z,0.3nm,0.6s,baz=102,slow=7.8,SNR=1.5
NOA LR LR 02 07 25.6
comp=Z,82nm,18.6s,baz=105,slow=40
comp=Z,0.3nm,0.6s
TIXI Tiksi 50.10 21 P **P 01 44 39.8 +0.6**
TIXI IAmb IAmb 01 44 40.1
comp=Z,2.8nm,0.7s
TORD Torodi Ar. Bea 64.55 270 P **P 01 46 21.2 -0.8**
comp=Z,0.7nm,0.8s,baz=47,slow=6.9,SNR=5.9
comp=Z,0.7nm,0.8s
C23K Itkillik River 74.08 13 P **P 01 47 21.2 +1.0**
TOLK Toolik Lake Re 75.28 14 P **P 01 47 28.1 +0.8**
BMAR Burnt Mountain 77.30 13 P **P 01 47 40.3 +1.6**
INK Inuvik 78.24 9 P **P 01 47 44.3 +0.4**
comp=Z,0.6nm,0.5s,baz=331,slow=19,SNR=4.7
comp=Z,0.6nm,0.5s
ILAR Eielson Array 79.14 15 P **P 01 47 48.4 -0.6**
comp=Z,0.2nm,0.5s,baz=293,slow=5.4,SNR=5.1
comp=Z,0.2nm,0.5s
H29M Whitestone 79.48 11 P **P 01 47 51.3 +0.5**
H29M IAmb IAmb 01 48 19.8
comp=Z,5.8nm,1.4s
WRA Warramunga Arr 80.76 121 P **P 01 47 58.9 +0.5**
comp=Z,0.4nm,0.5s,baz=324,slow=4.9,SNR=5.7
comp=Z,0.4nm,0.5s
ASAR Alice Springs 82.80 124 P **P 01 48 08.3 -0.8**
comp=Z,0.2nm,0.6s,baz=312,slow=5.7,SNR=1.5
comp=Z,0.2nm,0.6s
ULM Lac du Bonnet 96.84 351 LR LR 02 35 33.7
comp=Z,34nm,21.8s,baz=80,slow=37

*BJI **11** 01:49:56.0, 49.°40N×156.°46E, h50km, mb4.5/30, mB4.8/15, Ms4.2/10, Ms7 4.0/11*
*KRSC **11** 01:49:56.5±2.3, 49.°21N×157.°29E, h39km±38km, Ml4.8*
*MOS **11** 01:49:57.0±1.1, 49.°25N×156.°25E, h50km, mb4.7/13, Error ellipse: s-maj=8.7km s-min=3.3km az=78.0*
*IDC **11** 01:49:58.8±2.0, 49.°32N×156.°13E, h48km±18km, mb3.8/25, mbtmp4.1/31, ML4.8/5, MS3.6/23, Error ellipse: s-maj=16.7km s-min=12.0km az=150.0*
*NEIC **11** 01:50:00.8±2.1, 49.°5N±0.°1×155.°9E±0.°2, h44km±5km, mb4.6/46, Error ellipse: s-maj=19.8km s-min=10.2km az=136.0*

ISC 11 01:49:58.4±0.5, 49.°20N±0.°06×156.°44E±0.°06, h50km, n265, σ1.9 31/268, mb4.5/73, MS3.7/25, 14C-22D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.50**	**352**	*e*P	**Pn**	**01 50 22.2**	**-0.6**
SKR				*e*S	**Sn**	**01 50 42.4**	**+1.3**
SKR	**Severo-Kuril's**	**1.50**	**352**	⇓*i* PN	**Pn**	**01 50 22.1**	**-0.7**
SKR				*i* S	**Sn**	**01 50 41.1**	**-0.1**
SKR				pmax	pmax		
	comp=Z,2μm,0.7s						
SKR				smax	smax		
	comp=N,14μm,0.5s						
SKR				smax	smax		
	comp=E,8μm,0.5s						
PAU	**Pauzhetka**	**2.28**	**6**	*e*P	**Pn**	**01 50 33.6**	**+0.1**
PAU				*e*S	**Sn**	**01 51 01.3**	**+0.9**
PAU	**Pauzhetka**	**2.28**	**6**	PN	**Pn**	**01 50 33.6**	**+0.1**
PAU				S	**Sn**	**01 51 01.2**	**+0.9**
KDTR	**Khodutka, Kamc**	**2.81**	**21**	*e*P	**Pn**	**01 50 39.2**	**-1.6**
KDTR				*e*S	**Sn**	**01 51 12.1**	**-1.3**
KDTR	**Khodutka, Kamc**	**2.81**	**21**	PN	**Pn**	**01 50 39.2**	**-1.6**
KDTR				S	**Sn**	**01 51 12.1**	**-1.3**
ASAK	**Asacha**	**3.32**	**16**	*e*P	**Pn**	**01 50 48.4**	**+0.6**
ASAK	**Asacha**	**3.32**	**16**	PN	**Pn**	**01 50 48.4**	**+0.6**
MTVR	**Mutnovka**	**3.46**	**18**	*e*P	**Pn**	**01 50 49.7**	**-0.3**
MTVR				*e*S	**Sn**	**01 51 29.5**	**-0.3**
MTVR	**Mutnovka**	**3.46**	**18**	PN	**Pn**	**01 50 49.6**	**-0.3**
MTVR				S	**Sn**	**01 51 29.4**	**-0.3**
RUS	**Russkaya**	**3.49**	**21**	*e*P	**Pn**	**01 50 48.9**	**-1.3**
RUS				*e*S	**Sn**	**01 51 27.8**	**-2.3**
RUS	**Russkaya**	**3.49**	**21**	PN	**Pn**	**01 50 48.8**	**-1.3**
RUS				S	**Sn**	**01 51 27.8**	**-2.3**
GRL	**Gorelyy**	**3.51**	**17**	*e*P	**Pn**	**01 50 50.9**	**+0.3**
GRL				*e*S	**Sn**	**01 51 31.4**	**+0.6**
GRL	**Gorelyy**	**3.51**	**17**	PN	**Pn**	**01 50 50.8**	**+0.3**
GRL				S	**Sn**	**01 51 31.4**	**+0.6**
APC	**Apacha**	**3.75**	**7**	*e*P	**Pn**	**01 50 55.3**	**+1.5**
APC	**Apacha**	**3.75**	**7**	PN	**Pn**	**01 50 55.2**	**+1.5**
KRMR	**Karymshinskiy**	**3.79**	**16**	*e*P	**Pn**	**01 50 54.6**	**+0.4**
KRMR	**Karymshinskiy**	**3.79**	**16**	PN	**Pn**	**01 50 54.5**	**+0.4**
PEA0B	**Petropavlovsk-**	**3.99**	**11**		**Pn**	**01 50 57.8**	**+0.8**
PEA0B	**Petropavlovsk-**	**3.99**	**11**	*i* PN	**Pn**	**01 50 57.3**	**+0.3**
PETK	**Petropavlovsk-**	**3.99**	**11**	P	**Pn**	**01 50 56.9**	**-0.1**
	comp=E,18nm,0.5s,baz=182,slow=9.7,SNR=104						
PETK	**Petropavlovsk-**	**3.99**	**11**	PN	**Pn**	**01 50 56.8**	**-0.2**
PET	**Petropavlovsk**	**4.07**	**19**		**Pn**	**01 50 57.8**	**-0.3**
PET	**Petropavlovsk**	**4.07**	**19**	*e*P	**Pn**	**01 50 58.0**	**0.0**
PET				*e*S	**Sn**	**01 51 44.9**	**+0.5**
PET	**Petropavlovsk**	**4.07**	**19**	*e*PN	**Pn**	**01 50 58.1**	**0.0**
PET				*e*S	**Sn**	**01 51 45.9**	**+1.5**
PET				pmax	pmax		
	comp=Z,86nm,0.6s						
PET				smax	smax		
	comp=N,499nm,0.6s						
PET				smax	smax		
	comp=E,447nm,0.6s						
PET				MLR	MLR		
	comp=Z,400nm,16.0s						
PET				MLR	MLR		
	comp=Z,600nm,14.0s						
DALK	**Dalny**	**4.10**	**20**	*e*P	**Pn**	**01 50 58.3**	**-0.2**
DALK				*e*S	**Sn**	**01 51 44.8**	**-0.4**
DALK	**Dalny**	**4.10**	**20**	PN	**Pn**	**01 50 58.2**	**-0.2**
DALK				S	**Sn**	**01 51 44.7**	**-0.4**
UGLR	**Uglovaya**	**4.28**	**20**	*e*P	**Pn**	**01 51 01.9**	**+0.8**
UGLR				*e*S	**Sn**	**01 51 50.5**	**+0.7**
UGLR	**Uglovaya**	**4.28**	**20**	PN	**Pn**	**01 51 01.9**	**+0.8**
UGLR				S	**Sn**	**01 51 50.4**	**+0.7**
AVH	**Avacha**	**4.32**	**19**	*e*P	**Pn**	**01 51 02.5**	**+0.9**
AVH	**Avacha**	**4.32**	**19**	PN	**Pn**	**01 51 02.4**	**+0.9**
KOK	**Koryaka**	**4.32**	**18**	*e*P	**Pn**	**01 51 02.8**	**+1.1**
KOK				*e*S	**Sn**	**01 51 53.0**	**+2.3**
KOK	**Koryaka**	**4.32**	**18**	PN	**Pn**	**01 51 02.7**	**+1.1**
KOK				S	**Sn**	**01 51 53.0**	**+2.3**
SMAR	**Somma**	**4.33**	**19**	*e*P	**Pn**	**01 51 02.8**	**+0.9**
SMAR	**Somma**	**4.33**	**19**	PN	**Pn**	**01 51 02.7**	**+0.9**
KRER	**Koryakskii**	**4.36**	**19**	*e*P	**Pn**	**01 51 02.9**	**+0.7**
KRER	**Koryakskii**	**4.36**	**19**	PN	**Pn**	**01 51 02.8**	**+0.7**
SDLR	**Sedlovina**	**4.36**	**20**	*e*P	**Pn**	**01 51 01.8**	**-0.3**
SDLR	**Sedlovina**	**4.36**	**20**	PN	**Pn**	**01 51 01.8**	**-0.3**
NLC	**Nalytchevo**	**4.37**	**24**	*e*P	**Pn**	**01 51 00.7**	**-1.6**
NLC				*e*S	**Sn**	**01 51 48.0**	**-3.9**
NLC	**Nalytchevo**	**4.37**	**24**	PN	**Pn**	**01 51 00.6**	**-1.6**
KRX	**Arik**	**4.39**	**18**	*e*P	**Pn**	**01 51 03.5**	**+0.9**
KRX	**Arik**	**4.39**	**18**	PN	**Pn**	**01 51 03.4**	**+0.9**
SPN	**Mys Shipunski**	**4.50**	**29**	*e*P	**Pn**	**01 51 03.5**	**-0.6**
SPN				*e*S	**Sn**	**01 51 54.3**	**-0.8**
SPN	**Mys Shipunski**	**4.50**	**29**	PN	**Pn**	**01 51 03.4**	**-0.6**
SPN				S	**Sn**	**01 51 54.2**	**-0.8**
GNL	**Ganaly**	**4.59**	**11**	*e*P	**Pn**	**01 51 06.4**	**+1.0**
GNL	**Ganaly**	**4.59**	**11**	PN	**Pn**	**01 51 06.4**	**+1.0**
KII	**Karymskiy**	**5.19**	**20**	*e*P	**Pn**	**01 51 14.9**	**+1.4**
KII	**Karymskiy**	**5.19**	**20**	PN	**Pn**	**01 51 14.9**	**+1.4**
TUMD	**Tumrok D**	**6.48**	**21**	*e*P	**Pn**	**01 51 31.8**	**+0.6**
TUMR	**Tumrok**	**6.50**	**19**	*e*P	**Pn**	**01 51 32.3**	**+0.7**
TUMR	**Tumrok**	**6.50**	**19**	PN	**Pn**	**01 51 32.2**	**+0.7**
KMNR	**Kamenistaya**	**6.96**	**18**	*e*P	**Pn**	**01 51 38.7**	**+0.9**
KMNR	**Kamenistaya**	**6.96**	**18**	PN	**Pn**	**01 51 38.7**	**+0.9**
KUR	**Kuril'sk**	**7.06**	**239**	*e*PN	**Pn**	**01 51 37.6**	**-1.4**
KUR				pmax	pmax		
	comp=Z,88nm,0.4s						
KPT	**Kopyto**	**7.15**	**17**	*e*P	**Pn**	**01 51 42.1**	**+1.7**
KPT	**Kopyto**	**7.15**	**17**	PN	**Pn**	**01 51 42.1**	**+1.7**
KIRR	**Kirishev**	**7.17**	**18**	*e*P	**Pn**	**01 51 42.1**	**+1.5**
KIRR	**Kirishev**	**7.17**	**18**	PN	**Pn**	**01 51 42.1**	**+1.5**
BZMR	**Bezymyannaya**	**7.18**	**19**	*e*P	**Pn**	**01 51 42.2**	**+1.3**
BZMR	**Bezymyannaya**	**7.18**	**19**	PN	**Pn**	**01 51 42.1**	**+1.3**
BZWR	**Bezymyannyi-We**	**7.21**	**18**	*e*P	**Pn**	**01 51 42.2**	**+1.0**
BZWR	**Bezymyannyi-We**	**7.21**	**18**	PN	**Pn**	**01 51 42.2**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**7.23**	**19**	*e*P	**Pn**	**01 51 42.7**	**+1.3**
BZGR	**Bezymyannyi-Gr**	**7.23**	**19**	PN	**Pn**	**01 51 42.7**	**+1.3**
KBTR	**Krutoberegovo**	**8.01**	**26**	*e*P	**Pn**	**01 51 50.9**	**-1.2**
KBTR	**Krutoberegovo**	**8.01**	**26**	PN	**Pn**	**01 51 50.8**	**-1.2**
KBG	**Krutoberegovo**	**8.02**	**26**	*e*P	**Pn**	**01 51 51.5**	**-0.7**
KBG	**Krutoberegovo**	**8.02**	**26**	PN	**Pn**	**01 51 51.4**	**-0.7**
BKI	**Bering**	**8.39**	**41**	*e*S	Sn	01 53 21.6	-8.7
SHO	**Shikotan**	**8.50**	**235**	*e*PN	**Pn**	**01 51 58.4**	**-0.4**
SHO				pmax	pmax		
	comp=Z,46nm,0.5s						
SHO				pmax	pmax		
	comp=N,12nm,0.3s						
SHO				pmax	pmax		
	comp=E,24nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**8.92**	**239**	PN	**Pn**	**01 52 06.4**	**+1.8**
YUK				pmax	pmax		
	comp=Z,283nm,0.4s						
YUK				pmax	pmax		
	comp=N,50nm,0.2s						
YUK				pmax	pmax		
	comp=E,56nm,0.2s						
RUSJ	**Misakicho**	**9.23**	**241**	*e*PN	**Pn**	**01 52 11.2**	**+2.5**
NMR	**Nemuro--Hokkai**	**9.43**	**236**	*e*PN	**Pn**	**01 52 09.3**	**-2.2**
YSS	**Yuzh-Sakhalins**	**9.43**	**261**	*e*PN	**Pn**	**01 52 13.8**	**+2.3**
YSS				*e*S	**Sn**	**01 54 01.2**	**+5.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS				MLR	MLR		
	comp=E,300nm,13.0s						
YSS				MLR	MLR		
	comp=Z,600nm,13.0s						
JKA	**Kamikawa-asahi**	**10.78**	**247**	Pn	**Pn**	**01 52 30.0**	**0.0**
ASAJ	**Asahikawa**	**10.78**	**247**	P	**Pn**	**01 52 30.1**	**+0.1**
	comp=Z,7.5nm,0.3s,baz=73,slow=13,SNR=37						
	comp=Z,27nm,0.5s						
ASAJ	**Asahikawa**	**10.78**	**247**	PN	**Pn**	**01 52 30.0**	**0.0**
MA2	**Magadan**	**10.90**	**345**	Pn	**Pn**	**01 52 31.9**	**+0.4**
MA2	**Magadan**	**10.90**	**345**	P	**Pn**	**01 52 30.7**	**-0.9**
	comp=Z,1.6nm,0.3s,baz=143,slow=10,SNR=7.5						
	comp=Z,10.0nm,0.6s						
MA2	**Magadan**	**10.90**	**345**	PN	**Pn**	**01 52 31.9**	**+0.4**
SHEM	**Shemya Is, Ala**	**11.68**	**66**	P	**Pn**	**01 52 43.9**	**+1.8**
	comp=Z,3.7nm,0.3s,baz=260,slow=17,SNR=1.6						
SHEM				LR	LR	01 57 30.6	
	comp=Z,93nm,19.6s,baz=83,slow=38						
ERM	**Erimo**	**11.74**	**237**	Pn	**Pn**	**01 52 42.4**	**-0.8**
ERM	**Erimo**	**11.74**	**237**	*i* PN	**Pn**	**01 52 41.4**	**-1.7**
JSD	**Sado**	**17.21**	**236**		**P**	**01 53 57.1**	**+1.1**
USA0B	**Ussuriysk Arra**	**17.47**	**263**		**Pn**	**01 53 57.1**	**-1.1**
USA0B	**Ussuriysk Arra**	**17.47**	**263**	P	**Pn**	**01 53 57.1**	**-1.1**
USA0B				pmax	pmax		
	comp=Z,9.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**17.47**	**263**	P	**Pn**	**01 53 56.9**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=60,slow=12,SNR=8.9						
	comp=Z,2.7nm,0.5s						
MAJO	**Matsushiro**	**18.34**	**233**	P	**Pn**	**01 54 12.8**	**+3.8**
MAJO	**Matsushiro**	**18.34**	**233**	P	**Pn**	**01 54 12.8**	**+3.8**
MAJO				pmax	pmax		
	comp=Z,14nm,1.0s						
MJAR	**Matsushiro Arr**	**18.34**	**233**	P	**P**	**01 54 08.0**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=25,slow=13,SNR=6.5						
MJAR				LR	LR	02 02 13.4	
	comp=Z,138nm,18.7s,baz=48,slow=40						
MJAR	**Matsushiro Arr**	**18.34**	**233**	P	**P**	**01 54 08.0**	**-0.6**
MJB9	**Matsu-Tunnel**	**18.34**	**233**	P	**Pn**	**01 54 12.7**	**+3.7**
HEH	**HeiHe**	**18.75**	**284**	*e*P	**P**	**01 54 11.8**	**-1.1**
HEH				pmax	pmax		
	comp=Z,15nm,1.0s						
JGF	**Kuroka**	**19.50**	**233**	P	**P**	**01 54 21.2**	**-0.2**
JGF				IAmb	IAmb	01 55 00.4	
	comp=Z,39nm,1.5s						
YAK	**Yakutsk**	**19.64**	**321**	P	**P**	**01 54 20.7**	**-1.9**
	comp=Z,1.9nm,0.3s,baz=117,slow=21,SNR=4.6						
YAK				LR	LR	02 02 27.5	
	comp=Z,110nm,18.0s,baz=132,slow=38						
	comp=Z,8.7nm,0.4s						
YAK	**Yakutsk**	**19.64**	**321**	*e*P	**P**	**01 54 20.3**	**-2.3**
YAK				pmax	pmax		
	comp=Z,20nm,1.0s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.0s						
BNX	**BinXian**	**19.87**	**271**	⇑P	**P**	**01 54 23.1**	**-2.1**
BNX				pmax	pmax		
	comp=E,6.0nm,0.8s						
INU	**Inuyama**	**19.87**	**233**	P	**P**	**01 54 24.3**	**-1.0**
CN2	**Changchun**	**21.91**	**268**	*e*P	**P**	**01 54 40.7**	**-6.5**
KSRS	**Korea Array**	**23.69**	**251**	P	**P**	**01 55 04.5**	**-0.9**
	comp=E,2.6nm,0.7s,baz=45,slow=11,SNR=11						
KSRS				LR	LR	02 03 48.8	
	comp=E,94nm,18.6s,baz=30,slow=35						
	comp=E,2.6nm,0.7s						
KSAR	**Wonju Array Be**	**23.72**	**251**	P	**P**	**01 55 04.3**	**-1.4**
KSAR	**Wonju Array Be**	**23.72**	**251**	P	**P**	**01 55 04.3**	**-1.4**
JNU	**Nakatsue**	**24.89**	**239**	P	**P**	**01 55 18.4**	**+1.9**
JNU				IAmb	IAmb	01 56 00.4	
	comp=Z,35nm,1.5s						
JNU	**Nakatsue**	**24.89**	**239**	LR	LR	02 05 52.2	
	comp=Z,54nm,18.1s,baz=50,slow=38						
TIXI	**Tiksi**	**25.82**	**340**	P	**P**	**01 55 22.8**	**-1.7**
TIXI				IAmb	IAmb	01 55 24.3	
	comp=Z,8.9nm,0.7s						
TIXI	**Tiksi**	**25.82**	**340**	P	**P**	**01 55 22.2**	**-2.2**
	comp=Z,8.9nm,0.7s,baz=136,slow=11,SNR=30						
	comp=Z,8.9nm,0.7s						
TIXI	**Tiksi**	**25.82**	**340**	*ce*P	**P**	**01 55 21.9**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XLT	**XiLinHaoTe**	**28.01**	**275**	*e*P	**P**	**01 55 43.4**	**-1.1**
XLT				pP	pP	01 55 54.6	-2.4
XLT				sP	sP	01 55 59.0	-3.8
XLT				pmax	pmax		
	comp=Z,15nm,0.6s						
XLT				pmax	pmax		
	comp=Z,69nm,6.8s						
XLT				LR	LR		
	comp=Z,340nm,16.6s						
XLT				LR	LR		
	comp=Z,280nm,14.9s						
H19K	**Roundabout Mou**	**29.29**	**39**	P	**P**	**01 55 56.9**	**+1.4**
IMAR	**Indian Mountai**	**30.46**	**38**	P	**P**	**01 56 07.2**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**30.58**	**160**	T	T	02 29 07.3	
	baz=42,slow=74,SNR=13						
H11N1	**WAKE ISLAND Hy**	**30.60**	**160**	T	T	02 29 01.6	
	baz=352,slow=74,SNR=7.7						
H11N3	**WAKE ISLAND Hy**	**30.60**	**160**	T	T	02 29 53.7	
	SNR=8.4						
H11S1	**WAKE ISLAND Hy**	**31.72**	**161**	T	T	02 30 33.7	
	baz=347,slow=76,SNR=146						
H11S3	**WAKE ISLAND Hy**	**31.73**	**161**	T	T	02 30 34.5	
	baz=347,slow=76,SNR=179						
H11S2	**WAKE ISLAND Hy**	**31.74**	**161**	T	T	02 30 13.5	
	baz=347,slow=76,SNR=129						
ULN	**Ulaanbaatar**	**32.27**	**287**	*i* P	**P**	**01 56 22.6**	**+0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**32.39**	**272**	*e*P	**P**	**01 56 22.6**	**-0.7**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,4.0s						
HHC				LR	LR		
	comp=Z,110nm,13.7s						
HHC				LR	LR		
	comp=Z,160nm,14.3s						
HHC				LR	LR		
	comp=Z,190nm,13.3s						
SONM	**Songino Array**	**32.69**	**287**	P	**P**	**01 56 22.9**	**-2.9**
	comp=Z,0.3nm,0.4s,baz=76,slow=8.8,SNR=2.1						
SONM				LR	LR	02 10 57.4	
	comp=Z,132nm,18.3s,baz=56,slow=39						
	comp=Z,0.3nm,0.4s						
NJ2	**Nanjing**	**32.86**	**253**	*e*P	**P**	**01 56 26.2**	**-1.1**
NJ2				pP	**pP**	**01 56 38.0**	**-1.6**
NJ2				sP	**sP**	**01 56 43.9**	**-1.3**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,160nm,4.7s						
ILAR	**Eielson Array**	**33.23**	**41**	P	**P**	**01 56 30.7**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=270,slow=5.3,SNR=2.2						
	comp=Z,0.6nm,0.8s						
D25K	**Kavik River**	**33.71**	**33**	IAmb	IAmb	01 56 43.7	
	comp=Z,7.4nm,0.6s						
F28M	**Old Crow**	**36.04**	**36**	P	**P**	**01 56 56.9**	**+2.4**
F28M				IAmb	IAmb	01 56 59.6	
	comp=Z,6.4nm,1.1s						
WHN	**Wuhan**	**36.71**	**255**	P	**P**	**01 57 00.1**	**-0.4**
E29M	**Blow River**	**36.75**	**34**	P	**P**	**01 57 03.0**	**+2.5**
E29M				IAmb	IAmb	01 57 18.6	
	comp=Z,6.2nm,1.2s						
NRIK	**Noril'sk**	**37.85**	**327**	LR	LR	02 13 53.2	
	comp=Z,39nm,21.5s,baz=140,slow=38						
LZH	**Lanzhou**	**40.06**	**271**	*e*P	**P**	**01 57 29.3**	**+0.5**
LZH				pP	pP	01 57 37.5	-4.0
LZH				pmax	pmax		
	comp=Z,29nm,1.5s						
LZH				LR	LR		
	comp=Z,150nm,11.0s						
LZH				LR	LR		
	comp=Z,140nm,12.4s						
LZH				LR	LR		
	comp=Z,170nm,11.3s						
A36M	**Sachs Harbour**	**40.65**	**28**	P	**P**	**01 57 35.1**	**+2.1**
A36M				IAmb	IAmb	01 57 37.2	
	comp=Z,6.5nm,0.8s						
C36M	**Paulatuk**	**41.57**	**32**	P	**P**	**01 57 42.5**	**+2.0**
ZALV	**Zalesovo Beam**	**43.02**	**305**	P	**P**	**01 57 50.8**	**-1.8**
	comp=Z,1.4nm,0.6s,baz=59,slow=7.1,SNR=7.3						
ZALV				PcP	**PcP**	**01 59 42.9**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=130,slow=4.5,SNR=3.8						
ZALV				LR	LR	02 16 43.6	
	comp=Z,52nm,18.1s,baz=56,slow=38						
	comp=Z,1.4nm,0.6s						
WMQ	**Urumqi**	**46.13**	**291**	*e*P	**P**	**01 58 18.8**	**+1.1**
WMQ				LR	LR		
	comp=Z,64nm,18.9s						
EUNU	**Eureka**	**46.26**	**12**	P	**P**	**01 58 20.2**	**+2.0**
EUNU				IAmb	IAmb	01 58 38.4	
	comp=Z,4.3nm,0.7s						
PZH	**PanZhiHua**	**47.57**	**262**	P	**P**	**01 58 30.1**	**+1.0**
PZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,90nm,4.7s						
RES	**Resolute Bay**	**47.78**	**20**	P	**P**	**01 58 30.6**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=303,slow=8.0,SNR=7.9						
	comp=Z,1.3nm,0.6s						
MK31	**Makanchi Array**	**47.81**	**297**	P	**P**	**01 58 29.4**	**-1.2**
MK31	**Makanchi Array**	**47.81**	**297**	*ce*P	**P**	**01 58 29.2**	**-1.5**
MKAR	**Makanchi Array**	**47.81**	**297**	P	**P**	**01 58 29.9**	**-0.8**
MKAR	**Makanchi Array**	**47.81**	**297**	P	**P**	**01 58 28.9**	**-1.8**
	comp=Z,2.6nm,0.8s,baz=60,slow=7.2,SNR=16						
MKAR				LR	LR	02 19 54.3	
	comp=Z,164nm,19.3s,baz=26,slow=38						
	comp=Z,2.6nm,0.8s						
MKAR	**Makanchi Array**	**47.81**	**297**	*i* P	**P**	**01 58 29.8**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**47.88**	**303**	P	**P**	**01 58 29.9**	**-1.2**
KURK				IAmb	IAmb	01 58 31.1	
	comp=Z,8.0nm,0.8s						
KURK	**Kurchatov**	**47.88**	**303**	*ce*P	**P**	**01 58 29.7**	**-1.4**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KURBB	**Kurchatov Arra**	**47.98**	**303**	P	**P**	**01 58 30.3**	**-1.5**
	comp=Z,7.0nm,0.8s,baz=66,slow=8.5,SNR=29						
KURBB				PcP	**PcP**	**01 59 59.1**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=55,slow=4.9,

PDAR	**Pinedale Array**	**61.51 57**	P	**P**	**02 00 11.8**	**+1.6**
	comp=Z,0.6nm,0.9s,baz=321,slow=1.3,SNR=5.8					
	comp=Z,0.6nm,0.9s					
FINES	**FINESS Array B**	**62.75 336**	P	**P**	**02 00 16.5**	**-1.3**
	comp=Z,5.8nm,1.0s,baz=27,slow=6.5,SNR=7.7					
	comp=Z,5.8nm,1.0s					
FINES	**FINESS Array B**	**62.75 336**	*i* P	**P**	**02 00 17.2**	**-0.6**
FINES			pmax	pmax		
	comp=Z,6.0nm,1.0s					
OBN	**Obninsk**	**64.52 327**	*e*P	**P**	**02 00 27.5**	**-2.1**
OBN			*e*		02 01 01.4	
OBN			*e*		02 02 50.4	
OBN			*e*PPP	PPP	02 04 22.1	
OBN			pmax	pmax		
	comp=Z,2.0nm,0.9s					
NOA	**NORSAR Array B**	**66.59 342**	P	**P**	**02 00 42.5**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=24,slow=6.3,SNR=1.7					
NOA			LR	LR	02 34 24.0	
	comp=Z,49nm,19.4s,baz=320,slow=40					
	comp=Z,0.8nm,0.9s					
HFS	**Hagfors**	**66.91 341**	P	**P**	**02 00 44.0**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=43,slow=3.2,SNR=10.0					
HFS			LR	LR	02 32 49.1	
	comp=Z,47nm,18.8s,baz=332,slow=38					
	comp=Z,0.9nm,0.4s					
HFS	**Hagfors**	**66.91 341**	P	**P**	**02 00 44.0**	**-0.9**
KIV	**Kislovodsk**	**70.65 316**	*e*P	**P**	**02 01 07.6**	**-1.0**
KIV			pmax	pmax		
	comp=Z,6.0nm,1.0s					
KIV			MLR	MLR		
	comp=Z,22nm,17.0s					
AKASG	**Malin Array Be**	**70.71 328**	P	**P**	**02 01 06.2**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=33,slow=6.2,SNR=6.5					
AKASG			LR	LR	02 34 01.6	
	comp=Z,53nm,21.1s,baz=52,slow=38					
	comp=Z,0.7nm,0.3s					
AKASG	**Malin Array Be**	**70.71 328**	*i* P	**P**	**02 01 07.5**	**-1.2**
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.3s					
KBZ	**Khabaz**	**70.73 315**	P	**P**	**02 01 08.6**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=59,slow=8.8,SNR=12					
	comp=Z,3.1nm,0.7s					
DZM	**Mont Dzumac**	**71.51 170**	LR	LR	02 27 07.1	
	comp=Z,28nm,21.5s,baz=228,slow=31					
WRA	**Warramunga Arr**	**71.59 202**	P	**P**	**02 01 14.0**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=22,slow=6.9,SNR=3.0					
	comp=Z,1.4nm,0.9s					
GNI	**Garni**	**72.60 312**	LR	LR	02 36 10.8	
	comp=Z,39nm,18.3s,baz=7.0,slow=38					
TXAR	**Lajitas Array**	**74.37 63**	P	**P**	**02 01 31.9**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=308,slow=4.5,SNR=9.8					
	comp=Z,0.7nm,0.7s					
TXAR	**Lajitas Array**	**74.37 63**	P	**P**	**02 01 32.0**	**+1.0**
EKA	**Eskdalemuir Ar**	**74.44 348**	P	**P**	**02 01 30.0**	**-0.8**
	comp=Z,2.6nm,0.6s,baz=21,slow=5.0,SNR=8.7					
	comp=Z,2.6nm,0.6s					
EKA	**Eskdalemuir Ar**	**74.44 348**	P	**P**	**02 01 30.0**	**-0.8**
KOLS	**Kolonicke sedl**	**74.57 331**	*e*P	**P**	**02 01 32.5**	**+0.8**
KOLS	**Kolonicke sedl**	**74.57 331**	*e*P	**P**	**02 01 32.5**	**+0.8**
BURAR	**Bucovina Array**	**74.72 328**	⇑P	**P**	**02 01 33.0**	**+0.3**
BURAR	**Bucovina Array**	**74.72 328**	⇑P	**P**	**02 01 33.0**	**+0.3**
CLL	**Collm**	**75.11 337**	*i* P	**P**	**02 01 35.0**	**+0.3**
CLL			pmax	pmax		
	comp=Z,9.0nm,1.2s					
CLL	**Collm**	**75.11 337**	*i* P	**P**	**02 01 35.0**	**+0.3**
	comp=Z,9.0nm,1.2s					
LANS	**Liptovska Anna**	**75.25 332**	*e*P	**P**	**02 01 37.6**	**+1.9**
LANS	**Liptovska Anna**	**75.25 332**	*e*P	**P**	**02 01 37.6**	**+1.9**
MORC	**Moravsky Berou**	**75.26 334**	IAmb	IAmb	02 01 38.0	
	comp=Z,6.2nm,1.0s					
MORC	**Moravsky Berou**	**75.26 334**	*e*P	**P**	**02 01 36.9**	**+1.2**
MORC	**Moravsky Berou**	**75.26 334**	⇓P	**P**	**02 01 35.8**	**+0.1**
MORC	**Moravsky Berou**	**75.26 334**	⇓P	**P**	**02 01 35.8**	**+0.1**
ASAR	**Alice Springs**	**75.28 201**	P	**P**	**02 01 36.4**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=14,slow=5.7,SNR=4.6					
	comp=Z,0.5nm,0.9s					
CFR	**Carcaliu**	**75.75 325**	⇑P	**P**	**02 01 39.0**	**+0.5**
CFR	**Carcaliu**	**75.75 325**	⇑P	**P**	**02 01 39.0**	**+0.5**
VRAC	**Vranov**	**75.96 334**	LR	LR	02 38 52.2	
	comp=Z,79nm,19.6s,baz=12,slow=39					
VRAC	**Vranov**	**75.96 334**	*e*P	**P**	**02 01 40.4**	**+0.8**
VRAC	**Vranov**	**75.96 334**	⇓P	**P**	**02 01 40.2**	**+0.6**
VRAC	**Vranov**	**75.96 334**	⇓P	**P**	**02 01 40.2**	**+0.6**
VYHS	**Vyhne**	**76.03 332**	*e*P	**P**	**02 01 40.9**	**+0.8**
VYHS	**Vyhne**	**76.03 332**	*e*P	**P**	**02 01 40.9**	**+0.8**
KRUC	**Moravsky**	**76.24 334**	*e*P	**P**	**02 01 41.9**	**+0.7**
MLR	**Muntele Rosu**	**76.29 327**	P	**P**	**02 01 42.0**	**+0.3**
MLR			IAmb	IAmb	02 01 43.4	
	comp=Z,3.7nm,0.7s					
MLR	**Muntele Rosu**	**76.29 327**	LR	LR	02 37 38.2	
	comp=Z,53nm,18.7s,baz=334,slow=38					
MLR	**Muntele Rosu**	**76.29 327**	⇓P	**P**	**02 01 42.9**	**+1.1**
MLR	**Muntele Rosu**	**76.29 327**	⇓P	**P**	**02 01 42.9**	**+1.1**
ZVC	**Zvikov**	**76.51 336**	*e*P	**P**	**02 01 43.8**	**+1.1**
VOIR		**76.66 327**	⇑P	**P**	**02 01 44.4**	**+0.6**
VOIR		**76.66 327**	⇑P	**P**	**02 01 44.4**	**+0.6**
ARR	**Arges**	**76.87 327**	⇑P	**P**	**02 01 45.7**	**+0.7**
KHC	**Kasperske Hory**	**76.95 336**	IAmb	IAmb	02 01 47.4	
	comp=Z,6.6nm,1.1s					
KHC	**Kasperske Hory**	**76.95 336**	*e*P	**P**	**02 01 46.4**	**+1.1**
KHC	**Kasperske Hory**	**76.95 336**	*e*P	**P**	**02 01 46.4**	**+1.1**
CKRC	**Cesky Krumlov**	**77.04 335**	*e*P	**P**	**02 01 46.2**	**+0.4**
CKRC	**Cesky Krumlov**	**77.04 335**	*e*P	**P**	**02 01 46.2**	**+0.4**
GERES	**GERESS Array B**	**77.18 336**	P	**P**	**02 01 46.7**	**0.0**
	comp=Z,1.1nm,0.6s,baz=39,slow=6.3,SNR=6.3					
GERES			LR	LR	02 39 51.9	
	comp=Z,86nm,18.2s,baz=349,slow=39					
	comp=Z,1.1nm,0.6s					
MEM	**Membach**	**77.39 341**	*d*P	**P**	**02 01 48.8**	**+1.1**
	comp=Z,8.7nm,1.0s					
SURR	**Surduc**	**77.40 329**	⇓P	**P**	**02 01 48.3**	**+0.5**
CONA	**Conrad Observa**	**77.41 334**	*e*P	**P**	**02 01 49.2**	**+1.2**
	comp=Z,3.9nm,0.9s					
GZR	**Gura Zlata**	**77.49 329**	⇓P	**P**	**02 01 48.7**	**+0.3**
GZR	**Gura Zlata**	**77.49 329**	⇓P	**P**	**02 01 48.7**	**+0.3**
RONA	**Rosalia, Austr**	**77.50 334**	*i* P	**P**	**02 01 49.5**	**+1.1**
	comp=Z,3.5nm,0.9s					
BZS	**Buzias**	**77.69 329**	⇓P	**P**	**02 01 49.6**	**+0.2**
BZS	**Buzias**	**77.69 329**	⇓P	**P**	**02 01 49.6**	**+0.2**
BGES	**Gesves**	**77.79 342**	*d*P	**P**	**02 01 49.9**	**-0.1**
	comp=Z,5.7nm,0.8s					
UOSS	**Minazif**	**77.83 294**	P	**P**	**02 01 50.8**	**+0.3**
BMRD	**Maredsous**	**77.94 342**	*d*P	**P**	**02 01 51.7**	**+1.0**
BR131	**Keskin Array S**	**78.08 319**	P	**P**	**02 01 51.9**	**0.0**
BR131			IAmb	IAmb	02 01 53.4	
	comp=Z,7.6nm,1.1s					
BR131	**Keskin Array S**	**78.08 319**	P	**P**	**02 01 51.9**	**0.0**
BR131			pmax	pmax		
	comp=Z,8.0nm,1.1s					
BRTR	**Keskin Array B**	**78.08 319**	P	**P**	**02 01 52.1**	**+0.2**
BRTR	**Keskin Array B**	**78.08 319**	P	**P**	**02 01 52.4**	**+0.4**
	comp=Z,4.2nm,0.9s,baz=52,slow=2.9,SNR=22					
	comp=Z,4.2nm,0.9s					
MORH	**Mrgy, Hungar**	**78.12 332**	⇓P	**P**	**02 01 51.8**	**0.0**
ARSA	**Arzberg**	**78.12 334**	*e*P	**P**	**02 01 52.8**	**+1.0**
	comp=Z,4.3nm,1.2s					
DOU	**Dourbes**	**78.17 342**	*d*P	**P**	**02 01 51.8**	**-0.2**
BIOA	**Bad Ischl, Aus**	**78.25 335**	*e*P	**P**	**02 01 53.5**	**+0.9**
	comp=Z,12nm,1.4s					
KIRS	**Kirsehir-Merke**	**78.45 318**	⇓P	**P**	**02 01 54.8**	**+0.9**
LESA	**Schwarzleotal**	**78.76 336**	*e*P	**P**	**02 01 56.3**	**+0.8**
	comp=Z,3.4nm,0.7s					
SOKA	**Soboth**	**78.79 334**	*e*P	**P**	**02 01 56.5**	**+0.9**
	comp=Z,6.0nm,0.9s,SNR=4.5					
KBA	**Koelnbreinsper**	**78.89 335**	*e*P	**P**	**02 01 57.8**	**+1.5**
	comp=Z,10.0nm,0.6s					
OBKA	**Obir**	**79.08 334**	*e*P	**P**	**02 01 57.9**	**+0.7**
	comp=Z,3.4nm,0.7s					
WATA	**Walderalm**	**79.13 337**	*e*P	**P**	**02 01 58.6**	**+1.1**
	comp=Z,2.0nm,0.5s,SNR=4.3					
WTTA	**Wattenberg**	**79.18 336**	*i* P	**P**	**02 01 59.2**	**+1.3**
	comp=Z,11nm,1.0s,SNR=9.6					
RETA	**Reutte**	**79.20 337**	*e*P	**P**	**02 01 58.7**	**+0.9**
	comp=Z,6.2nm,1.0s					
MOTA	**Moosalm**	**79.25 337**	*i* P	**P**	**02 01 59.1**	**+0.9**
	comp=Z,7.8nm,0.9s					
SQTA	**Sankt Quirin**	**79.33 337**	*i* P	**P**	**02 01 59.6**	**+1.0**
	comp=Z,7.0nm,0.9s					
BOVS	**Bovan**	**79.40 328**	⇑P	**P**	**02 01 58.7**	**-0.2**
ABTA	**Abfaltersbach**	**79.42 336**	*e*P	**P**	**02 01 60.0**	**+0.9**
	comp=Z,7.3nm,1.2s,SNR=5.7					
DAVA	**Damuels**	**79.61 338**	*e*P	**P**	**02 02 01.5**	**+1.4**
	comp=Z,9.2nm,1.1s					
FETA	**Feichten**	**79.64 337**	*i* P	**P**	**02 02 01.1**	**+0.8**
	comp=Z,2.6nm,0.7s					
DAVOX	**Davos/Dischmat**	**80.08 337**	LR	LR	02 42 13.3	
	comp=Z,54nm,18.4s,baz=52,slow=39					
FUORN	**Ofenpass-Fuorn**	**80.13 337**	P	**P**	**02 02 04.6**	**+1.5**
CTI	**Castel Tesino**	**80.30 336**	IAmb	IAmb	02 02 04.8	
	comp=Z,5.7nm,1.1s					
TUE	**Stuetta**	**80.50 338**	P	**P**	**02 02 06.5**	**+1.4**
TUE			IAmb	IAmb	02 02 07.2	
	comp=Z,8.8nm,0.9s					
PDG	**Podgorica**	**81.30 329**	IAmb	IAmb	02 02 10.0	
	comp=Z,12nm,1.0s					
PDG	**Podgorica**	**81.30 329**	⇓P	**P**	**02 02 09.3**	**+0.2**
FDMO	**Fiordimonte**	**82.67 334**	IAmb	IAmb	02 02 21.2	
	comp=Z,6.0nm,0.8s					
MMAI	**Mount Meron Ar**	**82.80 313**	P	**P**	**02 02 18.1**	**+0.9**
	comp=Z,2.6nm,0.5s,baz=42,slow=7.0,SNR=17					
	comp=Z,2.6nm,0.5s					
RAYN	**Ar Rayn**	**85.15 301**	P	**P**	**02 02 30.2**	**+0.9**
RAYN			IAmb	IAmb	02 02 42.1	
	comp=Z,5.0nm,0.8s					
RAYN	**Ar Rayn**	**85.15 301**	⇑P	**P**	**02 02 30.0**	**+0.7**
EIL	**Elat**	**85.78 312**	LR	LR	02 45 00.9	
	comp=Z,22nm,18.1s,baz=249,slow=39					
H03N2	**Juan Fernandez**	**136.53 90**	T	T	04 41 42.2	
	baz=313,slow=77,SNR=2.6					
H03N1	**Juan Fernandez**	**136.54 90**	T	T	04 41 44.1	
	baz=313,slow=77,SNR=5.8					
H03N3	**Juan Fernandez**	**136.54 90**	T	T	04 41 41.9	
	baz=313,slow=77,SNR=3.2					
CPUP	**Villa Florida**	**145.32 61**	PKPbc	**PKPbc**	**02 09 31.0**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=349,slow=8.1,SNR=3.3					
ELIB	**Princess Elisa**	**148.97 206**	*d*PKP	**PKPbc**	**02 09 39.6**	**+0.2**
ELIB			*d*pPKP	**sPKPdf**	**02 09 55.5**	**+1.4**

ISK 11 01:54:03.5, 37°.44N×35°.87E, h9km, ML3.0/21
AFAD 11 01:54:03.4±0.0, 37°.41N×35°.76E, h5km±1km, ML2.9
GII 11 01:54:04.5±0.2, 37°.44N±0°.02×35°.303E±0°.007, h8km, Mws2.9, confirmed
ISC 11 01:54:03.1±1.2, 37°.43N±0°.02×35°.80E±0°.02, h4km±10km, n70, σ1§17/86, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.46**	**71**	P	**Pg**	**01 54 12.4**	**+0.4**
ANDN				*i* AML	AML	01 54 23.0	
	comp=N,2μm,0.3s						
ANDN				*i* AML	AML	01 54 26.0	
	comp=E,1μm,0.5s						
SAIM	**ADANA**	**0.59**	**22**	P	**Pg**	**01 54 15.0**	**+0.5**
SAIM				*i* AML	AML	01 54 26.0	
	comp=E,2μm,0.3s						
SAIM				*i* AML	AML	01 54 29.0	
	comp=N,1μm,0.2s						
CMRD	**Camardi-Nigde**	**0.68**	**290**	Pg	**Pb**	**01 54 18.1**	**+0.3**
CMRD				Sg	**Sn**	**01 54 28.9**	**-2.1**
KAMA	**Osmaniye**	**0.73**	**109**	P	**Pg**	**01 54 16.9**	**-0.4**
KAMA				*i* AML	AML	01 54 29.0	
	comp=E,423nm,0.9s						
KAMA				*i* AML	AML	01 54 31.0	
	comp=N,263nm,0.4s						
HASA	**Hatay-Hassa-Ha**	**0.87**	**141**	P	**Pg**	**01 54 20.0**	**+0.2**
HASA				*i* AML	AML	01 54 35.0	
	comp=N,1μm,0.4s						
HASA				*i* AML	AML	01 54 36.0	
	comp=E,1μm,0.7s						
KMRS	**Kahramanmaras**	**0.88**	**85**	Pg	**Pg**	**01 54 19.7**	**-0.3**
KMRS				Sg	**Sg**	**01 54 31.6**	**+0.2**
KHMR	**Kahramanmara**	**0.89**	**95**	P	**Pg**	**01 54 20.0**	**-0.1**
KHMR				S	**Sg**	**01 54 33.3**	**+1.7**
KHMR				*i* AML	AML	01 54 34.0	
	comp=N,345nm,0.8s						
KHMR				*i* AML	AML	01 54 34.0	
	comp=E,343nm,1.0s						
KAHM	**Kahramanmaras,**	**0.95**	**84**	P	**Pg**	**01 54 20.9**	**-0.4**
KAHM				S	**Sg**	**01 54 32.7**	**-0.9**
KAHM				*i* AML	AML	01 54 34.0	
	comp=E,236nm,0.6s						
KAHM				*i* AML	AML	01 54 36.0	
	comp=N,378nm,0.3s						
GAZ	**Gaziantep**	**1.15**	**102**	Pn	**Pg**	**01 54 25.0**	**-0.3**
GAZ				Sn	**Sg**	**01 54 40.8**	**+0.6**
NIG	**Nigde**	**1.16**	**306**	Pn	**Pn**	**01 54 26.0**	**-0.5**
NIG				Sn	**Sn**	**01 54 43.9**	**+0.9**
MERS	**Mersin**	**1.17**	**242**	Pn	**Pn**	**01 54 26.8**	**+0.5**
KUZU	**Kuzuini**	**1.21**	**122**	P	**Pn**	**01 54 26.3**	**-0.7**
KUZU				S	**Sb**	**01 54 41.6**	**-1.2**
KUZU				*i* AML	AML	01 54 43.0	
	comp=N,901nm,0.5s						
KUZU				*i* AML	AML	01 54 46.0	
	comp=E,807nm,0.4s						
GZT	**Gaziantep**	**1.41**	**92**	P	**Pn**	**01 54 28.4**	**-1.4**
GZT				*i* AML	AML	01 54 49.0	
	comp=E,328nm,0.4s						
GZT				S	**Sb**	**01 54 49.0**	**+0.6**
GZT				*i* AML	AML	01 54 57.0	
	comp=N,278nm,0.4s						
BNN	**Bunyan**	**1.42**	**1**	Pn	**Pn**	**01 54 29.8**	**-0.1**
BNN				Sn	**Sg**	**01 54 49.3**	**+0.5**
AKCA	**Adyaman/G¶l**	**1.54**	**76**	P	**Pn**	**01 54 32.1**	**+0.5**
AKCA				S	**Sn**	**01 54 52.2**	**0.0**
AKCA				*i* AML	AML	01 54 59.0	
	comp=N,326nm,1.0s						
AKCA				*i* AML	AML	01 55 01.0	
	comp=E,266nm,0.4s						
NZIP	**Nizip/Gaziante**	**1.54**	**104**	P	**Pn**	**01 54 30.2**	**-1.4**
NZIP				*i* AML	AML	01 55 02.0	
	comp=N,135nm,0.4s						
NZIP				*i* AML	AML	01 55 02.0	
	comp=E,186nm,0.7s						
KIZK	**Mersin**	**1.63**	**235**	Pn	**Pb**	**01 54 33.9**	**+0.1**
YESY	**Yesilyurt**	**1.67**	**283**	Pn	**Pg**	**01 54 34.8**	**-0.4**
CUGUR	**Gurin_SVAS**	**1.74**	**42**	P	**Pn**	**01 54 33.5**	**-0.8**
CUGUR				S	**Sg**	**01 54 59.8**	**+0.8**
CUGUR				*i* AML	AML	01 55 03.0	
	comp=E,570nm,0.4s						
CUGUR				*i* AML	AML	01 55 04.0	
	comp=N,331nm,0.6s						
DARE	**Darende-Malaty**	**1.75**	**49**	Pn	**Pn**	**01 54 34.2**	**-0.3**
SLFK	**Silifke-Mersin**	**1.81**	**236**	Pn	**Pb**	**01 54 36.5**	**-0.4**
AKCD	**Akcadag**	**1.89**	**62**	P	**Pn**	**01 54 35.8**	**-0.6**
AKCD				*i* AML	AML	01 55 06.0	
	comp=N,223nm,0.3s						
AKCD				*i* AML	AML	01 55 18.0	
	comp=E,173nm,0.5s						
KOZK	**Kozakli-Nevseh**	**1.92**	**338**	Pn	**Pb**	**01 54 37.5**	**-1.4**
KEBE	**Keben-Mersin**	**1.94**	**240**	Pn	**Pb**	**01 54 38.6**	**-0.5**
SULT	**Sultanhani-AKS**	**1.96**	**294**	Pn	**Pb**	**01 54 38.8**	**-0.8**
AZEY	**Adyaman-Merk**	**1.98**	**78**	P	**Pn**	**01 54 36.8**	**-0.8**
AZEY				S	**Sg**	**01 55 07.3**	**+0.5**
AZEY				*i* AML	AML	01 55 10.0	
	comp=E,92nm,0.3s						
AZEY				*i* AML	AML	01 55 13.0	
	comp=N,82nm,0.7s						
ATAB	**Bozova**	**1.99**	**88**	P	**Pn**	**01 54 36.1**	**-1.5**
ATAB				S	**Sb**	**01 55 05.0**	**0.0**
ATAB				*i* AML	AML	01 55 09.0	
	comp=N,184nm,0.4s						
ATAB				*i* AML	AML	01 55 09.0	
	comp=E,230nm,0.6s						
KRMN	**Karaman**	**2.04**	**264**	Pn	**Pb**	**01 54 39.8**	**-1.0**
IKL	**Isikli**	**2.07**	**236**	Pn	**Pb**	**01 54 40.3**	**-1.0**
TEVE	**Tevekalti-Mers**	**2.13**	**243**	Pn	**Pb**	**01 54 41.3**	**-1.1**
AKKU	**Akkuyu-Mersin**	**2.21**	**236**	Pn	**Pb**	**01 54 41.8**	**-1.8**
YOZ	**Yozgat**	**2.24**	**350**	Pn	**Pn**	**01 54 41.9**	**+0.7**
MAYA	**Malatya/Merkez**	**2.26**	**66**	P	**Pn**	**01 54 40.5**	**-1.0**
MAYA				*i* AML	AML	01 55 22.0	
	comp=N,69nm,0.4s						
MAYA				*i* AML	AML	01 55 26.0	
	comp=E,76nm,0.7s						
CUKAN	**kangal_SIVAS**	**2.29**	**34**	P	**Pn**	**01 54 41.6**	**-0.4**
CUKAN				*i* AML	AML	01 55 24.0	
	comp=E,43nm,0.5s						
CUKAN				*i* AML	AML	01 55 25.0	
	comp=N,37nm,0.5s						
SERE	**Sereflikochisa**	**2.32**	**311**	Pn	**Pn**	**01 54 43.1**	**+0.8**
BERE	**Bereket-Mersin**	**2.33**	**243**	Pn	**Pb**	**01 54 43.9**	**-2.0**
NARI	**Adyaman-Kaht**	**2.39**	**78**	P	**Pn**	**01 54 42.2**	**-1.1**
NARI				S	**Sb**	**01 55 18.0**	**+1.2**
NARI				*i* AML	AML	01 55 23.0	
	comp=N,80nm,1.0s						
NARI				*i* AML	AML	01 55 26.0	
	comp=E,61nm,1.0s						
URFA	**Urfa**	**2.41**	**89**	Pn	**Pn**	**01 54 42.8**	**-0.6**
HANM	**anlurfa/Hi**	**2.45**	**86**	P	**Pn**	**01 54 44.1**	**0.0**
HANM				S	**Sb**	**01 55 20.5**	**+1.9**
HANM				*i* AML	AML	01 55 24.0	
	comp=N,65nm,0.4s						
HANM				*i* AML	AML	01 55 31.0	
	comp=E,34nm,0.7s						
TEKE	**Tekeli-Mersin**	**2.51**	**240**	Pn	**Pb**	**01 54 46.6**	**-2.2**
KAMT	**Kaman**	**2.54**	**320**	Pn	**Pn**	**01 54 46.6**	**+1.3**
SANL	**SANLIURFA_Merk**	**2.56**	**95**	P	**Pn**	**01 54 44.6**	**-0.8**
SANL				S	**Sb**	**01 55 23.1**	**+1.7**
SANL				*i* AML	AML	01 55 32.0	
	comp=E,112nm,0.5s						
SANL				*i* AML	AML	01 55 33.0	
	comp=N,84nm,0.6s						
CHBY	**Cihanbeyli**	**2.57**	**297**	Pn	**Pn**	**01 54 47.2**	**+1.5**
SVSK	**Karacayir**	**2.66**	**20**	Pn	**Pn**	**01 54 46.9**	**+0.1**
KEMA	**Kemaliye**	**2.80**	**48**	P	**Pn**	**01 54 48.0**	**-0.9**
KEMA				*i* AML	AML	01 55 34.0	
	comp=N,34nm,0.8s						
KEMA				*i* AML	AML	01 55 43.0	
	comp=E,27nm,0.8s						
CSS	**Mathiatis**	**3.17**	**220**	P	**Pn**	**01 54 51.7**	**-2.2**
CSS	**Mathiatis**	**3.17**	**220**	S	**Sn**	**01 55 27.0**	**-5.2**
NATI	**Neve Ativ**	**4.16**	**181**	S	**Sn**	**01 55 58.1**	**+1.6**
NATI	**Neve Ativ**	**4.16**	**181**	P	**Pn**	**01 55 08.5**	**+1.1**
GEM	**Giv'at Ha'Em**	**4.21**	**182**	S	**Sn**	**01 55 59.1**	**+1.3**
GEM	**Giv'at Ha'Em**	**4.21**	**182**	P	**Pn**	**01 55 09.0**	**+0.9**
MMC7	**Mount Meron ar**	**4.41**	**184**	P	**Pn**	**01 55 12.0**	**+1.0**
MMA1	**Mount Meron ar**	**4.41**	**184**	P	**Pn**	**01 55 12.2**	**+1.2**
MMA0B	**Mount Meron ar**	**4.42**	**184**	P	**Pn**	**01 55 12.0**	**+1.0**
MMA0B	**Mount Meron ar**	**4.42**	**184**	S	**Sn**	**01 56 04.1**	**+1.1**
MMA3	**Mount Meron ar**	**4.42**	**184**	P	**Pn**	**01 55 12.2**	**+1.1**
KSHT	**Keshet**	**4.44**	**180**	P	**Pn**	**01 55 13.0**	**+1.7**
KSHT	**Keshet**	**4.44**	**180**	S	**Sn**	**01 56 05.2**	**+1.6**
OFRI	**`Ofer**	**4.84**	**188**	S	**Sn**	**01 56 13.9**	**+0.4**
OFRI	**`Ofer**	**4.84**	**188**	P	**Pn**	**01 55 17.2**	**+0.3**
MMLI	**Mount Malkishu**	**4.99**	**184**	P	**Pn**	**01 55 19.7**	**+0.8**
MMLI	**Mount Malkishu**	**4.99**	**184**	S	**Sn**	**01 56 17.7**	**+0.6**
HMDT	**Nahal Hemdat**	**5.17**	**183**	P	**Pn**	**01 55 22.8**	**+1.5**
HMDT	**Nahal Hemdat**	**5.17**	**183**	S	**Sn**	**01 56 22.3**	**+0.8**
SLTI	**Sal'it**	**5.21**	**187**	P	**Pn**	**01 55 22.6**	**+0.7**
SLTI	**Sal'it**	**5.21**	**187**	S	**Sn**	**01 56 22.9**	**+0.3**
SALP	**Salfit**	**5.37**	**186**	P	**Pn**	**01 55 24.9**	**+0.8**
SALP	**Salfit**	**5.37**	**186**	S	**Sn**	**01 56 26.9**	**+0.3**
DSI	**Dead Sea**	**5.86**	**184**	P	**Pn**	**01 55 31.6**	**+0.8**
DSI	**Dead Sea**	**5.86**	**184**	S	**Sn**	**01 56 38.7**	**+0.3**

IDC 11 02:11:03.2±4.4, 5°.62S×151°.48E, h0km, mb2.8/2, mbtmp2.9/2, Error ellipse: s-maj=182.2km s-min=57.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.92**	**228**	P	P	02 15 57.3	-1.1
	0.3nm,0.6s,baz=53,slow=9.9,SNR=1.9						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**24.66**	**222**	P	P	02 16 27.2	+1.1
	0.2nm,0.7s,baz=60,slow=8.7,SNR=2.3						
	0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.29**	**286**	PKPbc	PKPbc	02 30 54.4	-0.8
	0.3nm,0.6s,baz=60,slow=4.0,SNR=2.7						

IDC 11 02:19:14.5±1.5, 24°.55N×93°.63E, h0km, mb3.4/3, mbtmp3.5/4, ML4.0/1, Error ellipse: s-maj=42.0km s-min=30.7km az=61.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**2.60**	**225**	Pn	Pn	02 19 57.6	-0.3
	31nm,0.3s,baz=249,slow=19,SNR=1.6						
BRDH				Sn	Sn	02 20 21.5	-8.7
	60nm,0.3s,baz=175,slow=21,SNR=4.4						
	87nm,0.4s						
MKAR	**Makanchi Array**	**23.98**	**341**	P	P	02 24 30.7	0.0
	0.2nm,0.7s,baz=152,slow=9.4,SNR=1.2						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**59.38**	**135**	P	P	02 29 18.9	-0.1
	0.5nm,0.6s,baz=325,slow=7.4,SNR=6.4						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**61.83**	**138**	P	P	02 29 35.7	0.0
	0.6nm,0.5s,baz=319,slow=6.8,SNR=14						
	0.6nm,0.5s						

PRU 11 02:22:57.6, 42°.11N×19°.58E, h10km
*PDG 11 02:22:57.0±0.1

OHR	Ohrid	1.51	140	*e*Pg	Pb	02 23 25.7	+0.1
OHR				*e*Sg	Sg	02 23 47.5	+0.9
OHR	Ohrid	1.51	140	*i* Pn	Pg	02 23 26.6	-0.4
OHR				*i* Sn	Sg	02 23 49.6	+3.0
BBLS	Lazi&#263i	1.59	357	*e*Pg	Pb	02 23 26.8	-0.1
BBLS				*e*Sg	Sb	02 23 47.4	+0.6
BBLS	Lazi&#263i	1.59	357	⇑*i*Pn	Pb	02 23 26.6	-0.3
BBLS				*e*Sn	Sb	02 23 46.1	-0.7
BARS	Barje	1.78	72	*e*Pn	Pn	02 23 28.5	+0.5
BARS				*e*Sn	Sb	02 23 52.2	-0.1
GRUS	Gruza	1.83	28	*e*Pn	Pn	02 23 29.4	+0.7
GRUS				*e*Sn	Sn	02 23 52.2	+0.6
DIVS	Divibare	1.85	11	*e*Pn	Pn	02 23 29.5	+0.4
DIVS				*e*Sn	Sn	02 23 51.8	-0.4
HAPS	Han Pijesak,BI	1.85	347	*e*Pn	Pb	02 23 30.7	-0.8
HAPS				*e*Sn	Sb	02 23 53.4	-1.1
HAPS	Han Pijesak,BI	1.85	347	*e*Pn	Pb	02 23 30.4	-1.1
HAPS				*e*Sn	Sb	02 23 53.3	-1.2
LSTV	Lastovo	2.00	285	*e*Pn	Pn	02 23 30.9	-0.2
LSTV				Sn	Sn	02 23 56.2	+0.4
FNA	Florina	2.04	136	*e*Pn	Pb	02 23 33.5	-1.2
FNA				*e*Sn	Sb	02 24 00.1	+0.2
MAKA	Makarska	2.10	300	*e*Pn	Pn	02 23 33.4	+1.0
MAKA				Sn	Sn	02 23 59.8	+1.7
BOVS	Bovan	2.10	49	*e*Pn	Pn	02 23 31.9	-0.5
BOVS				*e*Sn	Sn	02 23 58.7	+0.5
BOVS	Bovan	2.10	49	⇑P	Pn	02 23 32.5	0.0
RICI	Ricice	2.13	305	*e*Pn	Pn	02 23 34.1	+1.2
RICI				Sn	Sb	02 24 01.2	-1.2
BOSS	Bosilegrad	2.20	83	*e*Pn	Pn	02 23 33.9	0.0
TEKS	Tekeris	2.27	0	*e*Pn	Pn	02 23 35.0	+0.3
TEKS				*e*Sn	Sn	02 24 02.3	-0.1
TEKS	Tekeris	2.27	0	*e*Pn	Pn	02 23 35.1	+0.3
TEKS				*e*Sn	Sn	02 24 02.7	+0.3
ZAPS	Zavoj	2.50	66	*e*Pn	Pn	02 23 38.6	+0.6
ZAGS	Zajecar	2.51	52	*e*Pn	Pn	02 23 39.3	+1.2
AVAS	Avala Beograd	2.52	16	*e*Pn	Pn	02 23 37.9	-0.3
MATE	Matera	2.67	233	⇓P	Pn	02 23 40.0	-0.2
BLKB	Belogradchik	2.68	59	⇑S	Sn	02 24 13.2	+0.7
VTS	Vitosha	2.77	82	*e*Pn	Pn	02 23 42.3	+0.5
KIJV	Kijevo	2.86	308	*e*Pn	Pn	02 23 44.4	+1.5
KIJV				Sn	Sn	02 24 19.0	+2.1
FRGS	Fruska Gora	2.88	4	*e*Pn	Pn	02 23 43.0	-0.2
FRGS	Fruska Gora	2.88	4	*e*Pn	Pn	02 23 43.2	0.0
FRGS				*e*Sn	Sn	02 24 18.0	+0.4
MDVR	Moldovita	2.96	32	*e*Pn	Pn	02 23 44.4	0.0
MDVR	Moldovita	2.96	32	⇑P	Pn	02 23 44.8	+0.4
BLY	Banja Luka	3.00	326	*e*Pn	Pn	02 23 46.1	+1.4
BLY	Banja Luka	3.00	326	*e*Pn	Pn	02 23 45.9	+1.2
BLY				*e*Sn	Sn	02 24 21.7	+1.4
A050A	Klekovaca	3.10	316	*e*Pn	Pn	02 23 47.4	+1.2
A050A				*e*Sn	Sn	02 24 23.8	+0.9
ZIRJ	Zirje	3.16	297	*e*Pn	Pn	02 23 47.8	+0.8
ZIRJ				Sn	Sn	02 24 25.3	+1.0
MORI	Morici	3.21	301	*e*Pn	Pn	02 23 48.9	+1.2
MORI				Sn	Sn	02 24 27.3	+1.7
A051A	Mrakovica	3.32	326	⇓*i*Pn	Pn	02 23 50.8	+1.5
A051A				*e*Sn	Sn	02 24 29.3	+0.8
HERR	Herculane	3.34	38	⇑P	Pn	02 23 49.5	0.0
HERR				⇑S	Sn	02 24 28.4	-0.5
BZS	Buzias	3.66	24	*e*Pn	Pn	02 23 54.1	+0.2
BZS	Buzias	3.66	24	⇑P	Pn	02 23 54.0	+0.1
BZS				⇑S	Sn	02 24 37.1	+0.3
DUGI	Dugi Otok	3.69	299	*e*Pn	Pn	02 23 54.9	+0.6
DUGI				Sn	Sn	02 24 37.8	+0.4
TIP	Timpagrande	3.74	215	⇑P	Pn	02 23 53.8	-1.3
VIRC	Vir	3.83	303	*e*Pn	Pn	02 23 57.0	+0.8
VIRC				Sn	Sn	02 24 41.6	+0.7
PLIT	Plitvice	3.84	314	*e*Pn	Pn	02 23 58.3	+1.9
PLIT				Sn	Sn	02 24 43.3	+2.1
GZR	Gura Zlata	3.90	36	⇑P	Pn	02 23 57.5	+0.2
GZR				⇓S	Sn	02 24 43.1	+0.3
SURR	Surduc	3.95	28	⇑P	Pn	02 23 57.3	-0.5
MORH	Mrgy, Hungar	3.98	351	*e*Pn	Pn	02 23 58.7	+0.4
MORH				*e*Sn	Sn	02 24 44.8	+0.1
MORH	Mrgy, Hungar	3.98	351	⇑P	Pn	02 23 58.8	+0.4
MORH				⇓S	Sn	02 24 45.2	+0.5
NVLJ	Novalja	4.08	306	*e*Pn	Pn	02 24 00.3	+0.6
NVLJ				Sn	Sn	02 24 47.1	0.0
RABC	Rab	4.24	307	*e*Pn	Pn	02 24 02.5	+0.8
SIRR	Siria	4.27	20	⇓P	Pn	02 24 02.2	-0.1
SIRR				⇑S	Sn	02 24 52.1	+0.3
LOT	Lotru	4.41	43	⇓P	Pn	02 24 04.5	+0.1
LOT				⇓S	Sn	02 24 54.6	-0.8
CRES	Cresnjevec Ost	4.60	322	*e*Pn	Pn	02 24 08.4	+1.6
CRES	Cresnjevec Ost	4.60	322	*e*Pn	Pn	02 24 07.6	+0.8
CRES				*e*Sn	Sn	02 24 59.4	-0.4
LOBO	Lobor	4.60	329	*e*Pn	Pn	02 24 08.2	+1.4
BEHE	Becsehely	4.63	336	*e*Pn	Pn	02 24 07.9	+0.7
BEHE				*e*Sn	Sn	02 24 59.9	-0.6
RIY	Rijeka	4.75	312	*e*Pn	Pn	02 24 10.1	+1.3
VISS	Visnje	4.88	318	*e*Pn	Pn	02 24 12.3	+1.7
VISS				*e*Sn	Sn	02 25 06.9	+0.2
VISS				IAML		02 25 44.4	
	comp=Z,3.7nm,0.4s						
CEY	Cerknica	5.04	315	*e*Pn	Pn	02 24 14.0	+1.1
CEY				*e*Sn	Sn	02 25 10.0	-0.9
DRGR		5.05	26	*e*Pn	Pn	02 24 13.6	+0.5
DRGR		5.05	26	⇓P	Pn	02 24 13.5	+0.5
DRGR				⇑S	Sn	02 25 11.1	-0.1
MARR	Marisel-Cluj	5.09	29	⇓P	Pn	02 24 13.1	-0.6
MARR				⇑S	Sn	02 25 12.4	+0.3
VOIR		5.09	50	⇓P	Pn	02 24 13.3	-0.4
SOKA	Soboth	5.44	325	*e*Pn	Pn	02 24 20.0	+1.6
	comp=Z,0.4nm,0.2s						
VOJS	Vojsko	5.52	315	*i* Pn	Pn	02 24 20.6	+1.0
VOJS				*e*Sn	Sn	02 25 22.6	-0.2
VOJS				IAML		02 25 26.3	
	comp=Z,1.8nm,0.2s						
OBKA	Obir	5.53	322	*e*Pn	Pn	02 24 21.1	+1.5
	comp=Z,0.8nm,0.2s						
OBKA	Obir	5.53	322	*e*Pn	Pn	02 24 20.3	+0.7
PSZ	Piszkesteto	5.64	3	⇑P	Pn	02 24 22.2	+1.0
ARSA	Arzberg	5.72	332	*e*Pn	Pn	02 24 23.7	+1.5
	comp=Z,1.0nm,0.3s						
ARSA	Arzberg	5.72	332	*e*Pn	Pn	02 24 22.3	0.0
ARSA				*e*Sn	Sn	02 25 26.3	-1.3
RONA	Rosalia, Austr	5.88	338	*i* Pn	Pn	02 24 26.7	+2.2
	comp=Z,0.8nm,0.2s						
MYKA	Terra Mystica	6.05	318	*e*Pn	Pn	02 24 27.4	+0.7
	comp=Z,0.7nm,0.3s						
CONA	Conrad Observa	6.21	337	*e*Pn	Pn	02 24 30.3	+1.4
	comp=Z,0.5nm,0.4s						
VRI	Vrincioaia	6.31	53	⇓P	Pn	02 24 29.6	-0.7
KBA	Koelnbreinsper	6.51	320	*e*Pn	Pn	02 24 33.5	+0.4
	comp=Z,1.1nm,0.3s						
MOA	Molln	6.70	328	*e*Pn	Pn	02 24 37.9	+2.4
	comp=Z,0.2nm,0.2s						
ABTA	Abfaltersbach	6.71	314	*e*Pn	Pn	02 24 35.5	-0.4
	comp=Z,1.2nm,0.3s,SNR=5.2						
BIOA	Bad Ischl, Aus	6.83	324	*e*Pn	Pn	02 24 38.0	+0.5
	comp=Z,0.8nm,0.3s						
LESA	Schwarzleotal	7.08	319	*e*Pn	Pn	02 24 41.7	+0.8
	comp=Z,0.7nm,0.2s						
WTTA	Wattenberg	7.50	314	*e*Pn	Pn	02 24 47.2	+0.4
	comp=Z,1.5nm,0.3s						
WATA	Walderalm	7.58	315	*e*Pn	Pn	02 24 48.3	+0.6
	comp=Z,0.5nm,0.3s						
SQTA	Sankt Quirin	7.70	313	*e*Pn	Pn	02 24 50.2	+0.7
	comp=Z,1.3nm,0.2s						
MOTA	Moosalm	7.83	313	*e*Pn	Pn	02 24 52.2	+0.8
	comp=Z,0.2nm,0.2s						
KHC	Kasperske Hory	8.01	331	*e*SN	Sn	02 26 24.7	+0.8

TAP ***11*** *02:28:24.7, 24°.08N×122°.65E, h31km, ML2.8, C*
JMA ***11*** *02:28:24.6±0.2, 24°.1N×122°.6E±0°.9, h32km, MV2.1/11, NW OFF ISHIGAKIJIMA IS*
ISC 11 02:28:24.5±1.1, 24°.00N±0°.04×122°.66E±0°.02, h32km±10km, n57, σ1°.06/92, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.34	290	*i* P	Pb	02 28 32.3	0.0
EOS4				*i* S	Sn	02 28 38.0	-0.3
EOS3	EOS3	0.42	312	P	Pn	02 28 33.9	-0.3
EOS3				S	Sn	02 28 41.3	+0.6
JYNG	Yonagunijimaku	0.52	30	P	Pb	02 28 34.8	-0.5
JYNG				S	Sn	02 28 42.0	-1.2
YOJ	Yonaguni jima	0.56	35	P	Pn	02 28 35.9	-0.2
YOJ				S	Sn	02 28 43.3	-1.0
YOJ	Yonaguni jima	0.56	35	*i* P	Pb	02 28 35.4	-0.5
YOJ				S	Sn	02 28 43.3	-1.0
EOS2	EOS2	0.57	317	P	Pn	02 28 36.7	+0.5
EOS2				*e*S	Sn	02 28 46.3	+1.9
EWUT	Wuta	0.92	299	*e*P	Pb	02 28 41.5	-0.4
EWUT				*e*S	Sb	02 28 54.9	+1.0
ESAO	Su ao	0.94	308	*e*P	Pb	02 28 41.5	-0.7
ESAO				*e*S	Sb	02 28 54.1	-0.3
ENA	Nanau	0.94	297	*e*P	Pb	02 28 41.7	-0.6
ENA				*e*S	Sb	02 28 54.9	+0.5
TWC	Suao	0.96	309	P	Pb	02 28 41.7	-0.8
TWC				S	Sb	02 28 54.2	-0.7
NACB	Ninganchiao	0.99	280	P	Pn	02 28 41.5	-0.6
NACB				*e*S	Sb	02 28 55.4	-0.5
IRIF	Iriomote-Funau	1.03	71	P	Pb	02 28 43.6	-0.2
NDS	Dongshan	1.07	306	P	Pb	02 28 44.2	-0.2
ETM	Tongmen	1.07	268	P	Pn	02 28 42.5	-0.7
ETM				S	Sn	02 28 56.7	-0.2
ETLH	Xiulin Townshi	1.10	281	P	Pn	02 28 43.4	-0.3
ETLH				*e*S	Sn	02 28 57.7	-0.1
LXIB	Xiulin Townshi	1.14	271	P	Pn	02 28 43.8	-0.5
LXIB				*e*S	Sn	02 28 58.3	-0.6
TWE	Neicheng	1.16	308	*e*P	Pb	02 28 45.4	-0.5
LATG	Datong	1.16	297	*e*P	Pb	02 28 45.0	-1.1
TWB1	Santiao Chiao	1.17	329	*e*P	Pb	02 28 44.9	-1.3
ENTT	Nioudou	1.18	303	*e*P	Pb	02 28 46.5	+0.1
WARBT	Fenglin Townsh	1.20	257	P	Pn	02 28 44.1	-0.9
WARBT				*e*S	Sn	02 28 58.8	-1.4
TIPB	Shuangxi	1.23	322	*e*P	Pb	02 28 46.3	-0.9
FUSB	Fushanzhiwuyua	1.23	308	*e*P	Pb	02 28 46.7	-0.6
FUSB				*e*S	Sb	02 29 04.7	+1.7
NNSB	Datong	1.24	290	*e*P	Pn	02 28 45.9	+0.2
HGSD	Ruisui	1.24	246	*e*P	Pn	02 28 45.2	-0.3
HGSD				*e*S	Sn	02 29 00.5	-0.7
JKRS	Kuro-shima	1.25	79	*e*P	Pb	02 28 46.9	-0.6
WHF	Hehuan Shan	1.28	277	*e*P	Pn	02 28 46.5	-0.1
WHF				*e*S	Sn	02 29 03.3	+0.5
SXI1	Grass Mountain	1.30	327	P	Pb	02 28 46.9	-1.5
SXI1				*e*S	Sb	02 29 04.3	-0.5
NWLT	Wulai	1.31	306	*e*P	Pb	02 28 48.1	-0.4
NWLT				*e*S	Sb	02 29 06.1	+1.1
FUSS	Fushou	1.32	281	P	Pn	02 28 47.1	+0.2
YHNB	Yeheng	1.35	300	*e*P	Pn	02 28 47.4	+0.3
OWD	Renai	1.36	268	*e*P	Pn	02 28 47.0	-0.3
OWD				*e*S	Sn	02 29 03.5	-0.8
NSK	Sanguang	1.36	300	*e*P	Pb	02 28 49.0	-0.4
YULB	Yu-li	1.39	244	*e*P	Pn	02 28 46.8	-0.8
YULB				*e*S	Sn	02 29 04.3	-0.5
JIJ	Ishigaki jima	1.40	75	*e*P	Pn	02 28 48.4	+0.7
JIJ				S	Sn	02 29 06.1	+1.0
TWF1	Yuli	1.41	243	*e*P	Pn	02 28 46.6	-1.3
TWF1				*e*S	Sn	02 29 05.1	-0.2
WUSB	Renai	1.41	270	*e*P	Pn	02 28 48.1	+0.1
VWDT	VWDT	1.41	260	*e*P	Pn	02 28 48.0	+0.1
VWDT				*e*S	Sn	02 29 05.1	-0.3
FULB	Fuli	1.49	238	*e*P	Pb	02 28 48.5	-0.5
NFF	Wufeng Townshi	1.54	294	*e*P	Pb	02 28 51.3	-1.1
NFF				*e*S	Sb	02 29 11.4	-0.2
SSLB	Suanglung	1.58	263	*e*P	Pn	02 28 50.4	+0.2
SSLB				*e*S	Sn	02 29 10.0	+0.4
WHP	Taichung City	1.59	280	*e*P	Pb	02 28 52.8	-0.5
WCS	Beigang Elemen	1.60	272	*e*P	Pn	02 28 51.2	+0.8
JISG	Ishigakijimahi	1.61	69	P	Pn	02 28 51.3	+0.6
JISG				S	Sn	02 29 11.2	+0.8
EDH	Donghe	1.61	231	*e*P	Pn	02 28 49.4	-1.3
EDH				*e*S	Sn	02 29 07.7	-2.7
SMLT	Sun Moon Lake	1.62	266	*e*P	Pn	02 28 50.7	-0.1
SMLT				*e*S	Sn	02 29 11.2	+0.6
LIOB	Emei	1.63	293	*e*P	Pb	02 28 52.6	-1.3
TYC	Yuchr	1.65	267	*e*P	Pn	02 28 51.8	+0.6
WHYT	Xinyi Township	1.68	260	*e*P	Pn	02 28 53.2	+1.5
ELDTW	Lidau	1.71	242	*e*S	Sn	02 29 12.9	-0.1
ALS	Alishan	1.77	254	*e*P	Pn	02 28 53.6	+0.5
WJS	Zhushan	1.78	265	*e*P	Pb	02 28 55.7	-0.8
WJS				*e*S	Sb	02 29 19.0	+0.6
CHN5	Tsauling	1.86	258	*e*P	Pn	02 28 55.1	+1.0
TPUB	Ta-pu	1.99	250	*e*P	Pn	02 28 58.3	+2.4
TPUB				*e*S	Sn	02 29 22.2	+2.5
CHN4	Tsaushan	2.00	252	*e*P	Pn	02 28 57.9	+1.8
CHN4				*e*S	Sb	02 29 23.7	-1.1
CHN1	Nanshi	2.12	248	*e*P	Pn	02 28 59.8	+2.2
CHN1				*e*S	Sn	02 29 26.1	+3.2
TWK	Hsinying	2.12	250	*e*P	Pn	02 29 00.0	+2.3
TWK				*e*S	Sn	02 29 26.0	+3.0

BJI ***11*** *02:32:38.5, 38°.05N×72°.88E, h148km, mb4.5/8, mB4.8/4*
NEIC ***11*** *02:32:40.1±1.4, 38°.00N±0°.06×72°.89E±0°.08, h148km±7km, mb4.2/12, Error ellipse: s-maj=9.9km s-min=8.7km az=108.0*
IDC ***11*** *02:32:41.2±2.4, 38°.07N×73°.05E, h162km±20km, mb3.4/14, mbtmp3.9/19, MS3.0/1, Error ellipse: s-maj=18.6km s-min=14.4km az=176.0*
NNC ***11*** *02:32:42.5±3.8, 38°.27N×72°.70E, h151km±54km, mb3.1, mpv4.0, Error ellipse: s-maj=40.3km s-min=23.5km az=173.0*
SOME ***11*** *02:32:46.8, 39°.35N×72°.07E, h15km*
ISC 11 02:32:39.2±0.5, 37°.99N±0°.04×72°.88E±0°.05, h150km, n81, σ2°.41/93, mb4.0/20, 1C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	1.71	331		Pn	02 33 11.9	+0.6
GAR	Garm	2.25	297	Pn	Pn	02 33 16.9	-0.5
BTK	Batken	2.61	323		Pn	02 33 22.6	+0.8
KSH	Kashi	2.86	57	P	Pn	02 33 20.9	-4.0
KSH				S	Sn	02 33 51.4	-8.7
KSH				smax	smax		
	comp=N,810nm,0.9s						
KSH				smax	smax		
	comp=E,590nm,0.8s						
SIMJ	Simiganj	3.12	284	Pn	Pn	02 33 27.1	-1.1
ARSB	Arslanbob	3.33	1		Pn	02 33 30.6	-0.3
AML	Almayashu	4.18	8	P	Pn	02 33 42.5	+0.3
	SNR=50						
NRN	Naryn	4.19	34		Pn	02 33 41.6	-0.7
NIL	Nilore	4.34	176		Pn	02 33 45.1	+1.1
UCH	Uchtor	4.41	16	P	Pn	02 33 45.8	+0.6
	SNR=12						
KBL	Kabul	4.63	223	Pn	Pn	02 33 49.1	+1.1
IUG	Iuzhnay	4.69	333	*e*P	Pn	02 33 48.6	+0.1
	9.9nm,0.1s						
IUG				*e*S	Sn	02 34 38.0	-4.6
	171nm,0.4s						
EKS2	Erkin-Say	4.71	8	P	Pn	02 33 49.6	+0.7
	SNR=33						
MRKS	Merke	4.75	3	*e*P	Pn	02 33 50.3	+0.9
	23nm,0.2s						
MRKS				*e*S	Sn	02 34 40.8	-3.4
	143nm,0.5s						
AAK	Ala-Archa	4.80	14	P	Pn	02 33 50.0	-0.1
	SNR=30						
AAK	Ala-Archa	4.80	14	P	Pn	02 33 50.9	+0.8
	29nm,0.6s,baz=205,slow=12,SNR=87						
AAK				S	Sn	02 34 45.1	-0.2
	66nm,0.6s,baz=354,slow=20,SNR=15						
KBK	Karagaybulak	4.92	18	P	Pn	02 33 52.7	+1.0
	SNR=13						
ULHL	Ulahol	4.97	30	P	Pn	02 33 53.2	+0.9
	SNR=15						
DZA	Taraz	5.03	347	*e*P	Pn	02 33 53.4	+0.3
	70nm,0.1s						
DZA				*e*S	Sn	02 34 46.4	-4.3
	207nm,0.3s						
BOOM	Boomskoye usch	5.07	27	Pn	Pn	02 33 54.0	+0.4
CHMS	Chumysh	5.20	15	P	Pn	02 33 56.3	+1.0
	SNR=17						
KDJ	Kajisay	5.29	37		Pn	02 33 56.9	+0.3
TARG	Taragay, Kyrgy	5.32	44		Pn	02 33 57.2	0.0
TKM2	Tokmak 2	5.34	22	P	Pn	02 33 57.8	+0.5
	SNR=23						
TKM2	Tokmak 2	5.34	22	⇓P	Pn	02 33 57.4	+0.1
	15nm,0.7s						
TKM2				⇓S	Sn	02 34 57.6	-0.7
	30nm,0.7s						
USP	Ospenovka	5.41	13	P	Pn	02 33 58.4	+0.4
	SNR=19						
KK31	Karatay Array	5.41	341	⇑P	Pn	02 33 57.8	-0.2
	6.6nm,0.3s,baz=162,slow=12,SNR=244						
KK31				⇓S	Sn	02 34 55.3	-4.4
	34nm,0.3s,baz=175,slow=24,SNR=6.2						
KKAR	Karatay Array	5.41	341	Pn	Pn	02 33 58.2	+0.2
KKAR	Karatay Array	5.41	341	Pn	Pn	02 33 58.2	+0.2
JMU	Jammu	5.52	162	*e*S	Sn	02 34 48.9	-13
JMU				IAML		02 35 04.9	
	comp=E,153nm,0.9s						
JMU				IAML		02 35 14.1	
	comp=E,170nm,0.7s						
BRLS	Boroldoy	5.54	336	*e*P	Pn	02 33 57.0	-2.7
	comp=E,16nm,0.2s						
BRLS				*e*S	Sn	02 34 53.0	-10
	comp=E,45nm,0.7s						
WUS	Wushi	5.85	55	Pn	Pn	02 34 04.1	+0.1
DHRM	DHARAMSHALA	6.38	153	*e*P	Pn	02 34 08.2	-3.0
DHRM				*e*S	Sn	02 35 17.1	-6.0
DHRM				IAML		02 35 25.1	
	comp=E,160nm,0.4s						
DHRM				IAML		02 35 29.5	
	comp=E,138nm,0.3s						
BHK	Bhakra	7.18	155	*ex*	Sn	02 35 36.3	-5.7
BHK				IAML		02 35 40.8	
	comp=N,80nm,0.8s						
BHK				IAML		02 35 43.7	
	comp=E,65nm,0.7s						
HNLY	HANLEY	7.20	134	*e*P	Pn	02 34 21.8	-0.6
HNLY				*e*S	Sn	02 35 40.8	-2.4
HNLY				IAML		02 35 51.6	
	comp=E,6.7nm,1.3s						
HNLY				IAML		02 35 51.9	
	comp=E,5.6nm,0.9s						
SMLA	Simla	7.71	151	*e*P	Pn	02 34 26.5	-2.1
SMLA				*e*S	Sn	02 35 46.1	-8.5
SMLA				IAML		02 35 50.3	
	comp=N,40nm,0.2s						
SMLA				IAML		02 35 50.4	
	comp=E,60nm,0.6s						
KLP	Kalpa	7.81	144	*e*P	Pn	02 34 31.1	+0.6
KLP				*e*S	Sn	02 35 53.2	-4.5
KLP				IAML		02 36 02.6	
	comp=E,49nm,0.4s						
KLP				IAML		02 36 05.0	
	comp=N,45nm,0.7s						
JOSI	Joshimath	9.25	141	*e*S	Sn	02 36 28.9	-3.2
KUDL	Kundal	10.28	162	*ex*	Pn	02 35 00.5	-2.4
KUDL				*ex*	Sn	02 36 45.7	-11
MAKZ	Makanchi	11.07	34		Pn	02 35 13.0	-0.2
MKAR	Makanchi Array	11.21	35	Pn	Pn	02 35 15.0	0.0
MKAR	Makanchi Array	11.21	35	P	Pn	02 35 15.2	+0.2
	comp=N,2.0nm,0.7s,baz=213,slow=12,SNR=15						
WMQ	Urumqi	12.62	58	*e*P	Pn	02 35 34.9	+1.4
KURBB	Kurchatov Arra	13.25	16	P	Pn	02 35 39.1	-2.3
	comp=N,1.6nm,0.8s,baz=204,slow=12,SNR=7.6						
KURBB				S	Sn	02 38 05.9	-2.0
	comp=N,0.3nm,0.7s,baz=206,slow=30,SNR=1.6						
JHNI	Jhansi	13.38	157	*ex*	Sn	02 38 00.8	-11
AB31	Akbulak array	14.62	324	P	Pn	02 35 58.4	-0.3
	comp=N,1.1nm,0.7s,baz=132,slow=13,SNR=12						
ABKAR	Akbulak array	14.62	324	P	Pn	02 35 58.8	+0.1
ABKAR	Akbulak array	14.62	324	Pn	Pn	02 35 58.6	-0.1
ALBI	Allahabad	14.74	146	*ex*	Sn	02 38 43.7	-0.4
BVAR	Borovoye Array	15.13	354	P	Pn	02 36 03.9	-1.2
	comp=N,1.0nm,0.5s,baz=153,slow=13,SNR=4.9						
BVAR				S	Sn	02 38 45.8	-7.3
	comp=N,2.1nm,0.8s,baz=160,slow=22,SNR=5.2						
AKTO	Aktyubinsk	16.34	324	⇓P	Pn	02 36 19.1	-0.7
	comp=N,2.6nm,0.9s						
AKTO	Aktyubinsk	16.34	324	P	P	02 36 20.6	+0.5
	comp=N,2.4nm,0.6s,baz=126,slow=10,SNR=5.9						
AKTO				S	S	02 39 12.3	-8.9
	comp=N,4.1nm,0.8s,baz=329,slow=17,SNR=8.2						
ZAA0	Zalesovo Array	17.94	23	P	P	02 36 38.5	+0.9
ZALV	Zalesovo Beam	17.94	23	P	P	02 36 38.2	+0.6
	comp=N,3.7nm,0.6s,baz=214,slow=11,SNR=18						
ZALV				S	S	02 39 52.5	-3.2
	comp=N,0.3nm,0.4s,baz=213,slow=21,SNR=1.8						
SHL	Shillong	20.31	122	P	P	02 37 03.9	+0.2
SHL				IAmb	IAmb	02 37 06.2	
	comp=Z,8.3nm,0.8s						
ARTI	Arti	20.79	337	P	P	02 37 09.4	+1.1
ARTI	Arti	20.79	337	P	P	02 37 09.1	+0.8
	comp=Z,4.7nm,0.7s,baz=178,slow=5.2,SNR=8.2						
	comp=Z,4.7nm,0.7s						
GNI	Garni	21.92	284	P	P	02 37 24.3	+3.6
	comp=Z,2.5nm,0.8s,baz=222,slow=16,SNR=2.1						
GNI				LR	LR	02 47 26.4	
	comp=Z,33nm,18.6s,baz=340,slow=40						
	comp=Z,2.5nm,0.8s						
SONM	Songino

0.2nm,0.4s,baz=344,slow=7.7,SNR=7.0
0.2nm,0.4s
MKAR Makanchi Array 56.32 326 P P 02 42 28.1 +0.3
0.6nm,0.4s,baz=119,slow=7.6,SNR=11
0.6nm,0.4s
KURBB Kurchatov Arra 60.54 328 P P 02 42 56.7 -0.4
0.9nm,0.5s,baz=128,slow=6.0,SNR=7.3
0.9nm,0.5s

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*NOU **11** 03:30:12.3, 40°.43S×174°.64E, h96km, MLv3.7/12, Cook Strait, New Zealand*
*WEL **11** 03:30:14.3±0.3, 40°.S±2°.×17°.5E±°., h34km±6km, M3.4/54, ML3.7/54, MLv3.4/54, Error ellipse: s-maj=3.1km s-min=2.4km az=107.3, confirmed*
ISC 11 03:30:13.3±1.3, 40°.44S±0°.03×174°.64E±0°.03, h70km±10km, n123, σ0°99/137, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.47**	**154**	P	**Pn**	**03 30 25.8**	**-0.1**
KIW				S	**Sn**	**03 30 34.3**	**-0.8**
OGWZ	**Otaki Gorge**	**0.55**	**133**	P	**Pn**	**03 30 26.7**	**+0.1**
OGWZ				S	**Sn**	**03 30 36.8**	**+0.4**
OHWZ	**Ohakea**	**0.57**	**66**	P	**Pn**	**03 30 26.9**	**+0.1**
OHWZ				S	**Sn**	**03 30 36.8**	**+0.1**
DUWZ	**D'Urville Isla**	**0.65**	**236**	P	**Pn**	**03 30 27.4**	**-0.4**
DUWZ				S	**Sn**	**03 30 37.7**	**-0.7**
WAZ	**Wanganui**	**0.74**	**21**	P	**Pn**	**03 30 28.3**	**-0.3**
WAZ				S	**Sn**	**03 30 39.6**	**-0.4**
CAW	**Cannon Point**	**0.74**	**154**	P	**Pn**	**03 30 29.0**	**+0.3**
MRZ	**Mangatainoka R**	**0.75**	**107**	P	**Pn**	**03 30 28.7**	**-0.1**
MRZ				S	**Sn**	**03 30 40.5**	**+0.3**
HOWZ	**Holdsworth Sta**	**0.81**	**125**	P	**Pn**	**03 30 29.6**	**+0.1**
TCW	**Tory Channel**	**0.81**	**200**	P	**Pn**	**03 30 30.0**	**+0.4**
TCW				S	**Sn**	**03 30 42.3**	**+0.7**
WEL	**Wellington**	**0.85**	**173**	P	**Pn**	**03 30 27.8**	**-2.2**
POWZ	**Post Office Ro**	**0.86**	**87**	P	**Pn**	**03 30 30.1**	**-0.1**
POWZ				S	**Sn**	**03 30 43.7**	**+1.0**
SNZO	**South Karori**	**0.87**	**177**	P	**Pn**	**03 30 31.2**	**+1.0**
MTW	**Mount Morrison**	**0.97**	**138**	P	**Pn**	**03 30 32.1**	**+0.7**
BHW	**Baring Head**	**0.98**	**170**	P	**Pn**	**03 30 32.2**	**+0.6**
LREZ	**Lake Rotokare**	**1.00**	**349**	P	**Pn**	**03 30 31.8**	**0.0**
LREZ				S	**Sn**	**03 30 46.1**	**+0.6**
TIWZ	**Tintock**	**1.01**	**110**	P	**Pn**	**03 30 32.9**	**+0.9**
PRWZ	**Pori Road**	**1.02**	**97**	P	**Pn**	**03 30 32.2**	**+0.1**
MSWZ	**Moikau Station**	**1.08**	**155**	P	**Pn**	**03 30 33.8**	**+1.0**
TSZ	**Takapari Road**	**1.08**	**70**	P	**Pn**	**03 30 32.8**	**-0.1**
PAWZ	**Paruwai Farm**	**1.11**	**148**	P	**Pn**	**03 30 34.0**	**+0.7**
TUWZ	**Tuamarina**	**1.12**	**208**	P	**Pn**	**03 30 33.7**	**+0.4**
TMWZ	**Te Maipa**	**1.16**	**125**	P	**Pn**	**03 30 34.5**	**+0.6**
PREZ	**Palmer Road**	**1.16**	**341**	P	**Pn**	**03 30 34.2**	**+0.4**
PREZ				S	**Sn**	**03 30 50.0**	**+0.8**
DVHZ	**Dannevirke**	**1.18**	**83**	P	**Pn**	**03 30 33.5**	**-0.6**
PLWZ	**Palliser**	**1.22**	**158**	P	**Pn**	**03 30 35.4**	**+0.7**
NNZ	**Nelson**	**1.23**	**231**	P	**Pn**	**03 30 35.1**	**+0.4**
NNZ				S	**Sn**	**03 30 52.6**	**+1.9**
MTVZ	**Mangateitei**	**1.24**	**31**	P	**Pn**	**03 30 34.6**	**-0.3**
TRWZ	**Traveller**	**1.24**	**141**	P	**Pn**	**03 30 37.1**	**+2.2**
KHEZ	**Kahui Hut**	**1.24**	**337**	P	**Pn**	**03 30 35.2**	**+0.2**
KHEZ				S	**Sn**	**03 30 52.1**	**+0.8**
KHEZ	**Kahui Hut**	**1.24**	**337**	P	**Pn**	**03 30 35.4**	**+0.4**
NEZ	**North Egmont**	**1.24**	**340**	P	**Pn**	**03 30 35.4**	**+0.4**
BFZ	**Birch Farm**	**1.25**	**102**	P	**Pn**	**03 30 34.5**	**-0.5**
BFZ	**Birch Farm**	**1.25**	**102**	P	**Pn**	**03 30 35.9**	**+0.9**
CPWZ	**Castlepoint**	**1.28**	**112**	P	**Pn**	**03 30 36.2**	**+0.9**
DREZ	**Durham Road**	**1.30**	**345**	P	**Pn**	**03 30 36.1**	**+0.5**
DREZ				S	**Sn**	**03 30 53.0**	**+0.7**
NBEZ	**Newall Road No**	**1.31**	**333**	P	**Pn**	**03 30 36.0**	**+0.2**
NBEZ				S	**Sn**	**03 30 53.2**	**+0.5**
VRZ	**Vera Road**	**1.32**	**4**	P	**Pn**	**03 30 35.9**	**0.0**
VRZ				S	**Sn**	**03 30 53.6**	**+0.8**
WNVZ	**Wahianoa**	**1.34**	**34**	P	**Pn**	**03 30 36.2**	**-0.1**
TRVZ	**Turoa**	**1.34**	**32**	P	**Pn**	**03 30 35.9**	**-0.5**
CMWZ	**Cape Campbell**	**1.34**	**194**	P	**Pn**	**03 30 37.9**	**+1.7**
MOVZ	**Moawhango**	**1.34**	**40**	P	**Pn**	**03 30 36.0**	**-0.3**
PKE	**Pukeiti**	**1.34**	**338**	P	**Pn**	**03 30 36.3**	**0.0**
WHVZ	**Whangaehu Hut**	**1.37**	**33**	P	**Pn**	**03 30 37.1**	**+0.3**
MAVZ	**Matarangi**	**1.37**	**31**	P	**Pn**	**03 30 37.3**	**+0.4**
FWVZ	**Far West T-bar**	**1.38**	**31**	P	**Pn**	**03 30 36.7**	**-0.2**
MHEZ	**Mangahewa**	**1.39**	**350**	P	**Pn**	**03 30 37.6**	**+0.8**
BSWZ	**Blackbirch Sta**	**1.40**	**204**	P	**Pn**	**03 30 37.8**	**+0.8**
TKNZ	**Takaka Hill**	**1.41**	**245**	P	**Pn**	**03 30 37.6**	**+0.6**
TUVZ	**Tukino**	**1.41**	**34**	P	**Pn**	**03 30 37.5**	**+0.2**
COVZ	**Chateau Observ**	**1.42**	**30**	P	**Pn**	**03 30 37.7**	**+0.3**
WPHZ	**Waipukurau**	**1.43**	**75**	P	**Pn**	**03 30 37.8**	**+0.4**
NGZ	**Ngauruhoe**	**1.47**	**31**	P	**Pn**	**03 30 38.1**	**+0.1**
SNVZ	**South Ngauruho**	**1.47**	**32**	P	**Pn**	**03 30 38.4**	**+0.3**
OTVZ	**Oturere**	**1.50**	**32**	P	**Pn**	**03 30 38.3**	**-0.2**
TWVZ	**Taurewa**	**1.50**	**24**	P	**Pn**	**03 30 37.8**	**-0.6**
NNVZ	**North Ngauruho**	**1.51**	**30**	P	**Pn**	**03 30 38.2**	**-0.4**
WTVZ	**West Tongariro**	**1.52**	**29**	P	**Pn**	**03 30 38.2**	**-0.3**
PRHZ	**Porangahau**	**1.54**	**84**	P	**Pn**	**03 30 38.8**	**0.0**
ETVZ	**East Tongariro**	**1.54**	**33**	P	**Pn**	**03 30 39.2**	**+0.2**
KRHZ	**Kereru**	**1.55**	**60**	P	**Pn**	**03 30 38.3**	**-0.7**
KRVZ	**Karewarewa**	**1.55**	**30**	P	**Pn**	**03 30 38.9**	**-0.2**
TMVZ	**Te Maari**	**1.56**	**32**	P	**Pn**	**03 30 39.1**	**-0.1**
NTVZ	**North Tongarir**	**1.56**	**31**	P	**Pn**	**03 30 39.3**	**0.0**
QRZ	**Quartz Range**	**1.65**	**256**	P	**Pn**	**03 30 40.3**	**0.0**
QRZ	**Quartz Range**	**1.65**	**256**	P	**Pn**	**03 30 40.2**	**0.0**
KATZ	**Kakaramea**	**1.68**	**29**	P	**Pn**	**03 30 40.9**	**+0.1**
KWHZ	**Kaweka Forest**	**1.71**	**54**	P	**Pn**	**03 30 41.3**	**+0.2**
MRNZ	**Matariki Terra**	**1.72**	**236**	P	**Pn**	**03 30 42.2**	**+1.1**
RITZ	**Rihia Road**	**1.74**	**33**	P	**Pn**	**03 30 42.0**	**+0.5**
PXZ	**Pawanui**	**1.75**	**77**	P	Pn	03 30 46.4	+4.8
RATZ	**Rangitukua**	**1.80**	**29**	P	**Pn**	**03 30 42.7**	**+0.4**
KAHZ	**Kahuranaki**	**1.83**	**70**	P	**Pn**	**03 30 42.6**	**-0.1**
THZ	**Tophouse**	**1.86**	**224**	P	**Pn**	**03 30 43.9**	**+0.8**
MCHZ	**McNeill Hill**	**1.87**	**58**	P	**Pn**	**03 30 42.9**	**-0.3**
BKZ	**Black Stump Fm**	**1.92**	**49**	P	**Pn**	**03 30 43.4**	**-0.4**
BKZ	**Black Stump Fm**	**1.92**	**49**	P	**Pn**	**03 30 43.3**	**-0.6**
WATZ	**Wairara**	**1.93**	**26**	P	**Pn**	**03 30 44.9**	**+0.9**
HIZ	**Hauiti**	**1.94**	**5**	P	**Pn**	**03 30 44.3**	**+0.2**
HIZ	**Hauiti**	**1.94**	**5**	P	**Pn**	**03 30 44.3**	**+0.2**
MRHZ	**Matea Rd**	**2.11**	**41**	P	**Pn**	**03 30 45.3**	**-1.2**
KHZ	**Kahutara**	**2.14**	**202**	P	**Pn**	**03 30 47.2**	**+0.4**
KHZ	**Kahutara**	**2.14**	**202**	P	**Pn**	**03 30 47.1**	**+0.4**
NMHZ	**Naumai**	**2.14**	**52**	P	**Pn**	**03 30 46.3**	**-0.7**
KUTZ	**Kaahu Road**	**2.16**	**26**	P	**Pn**	**03 30 48.8**	**+1.7**
ARHZ	**Aropaoanui**	**2.16**	**58**	P	**Pn**	**03 30 51.5**	**+4.3**
TLZ	**Tolley Road**	**2.22**	**19**	P	**Pn**	**03 30 48.0**	**0.0**
MTHZ	**Maungataniwha**	**2.33**	**48**	P	**Pn**	**03 30 48.2**	**-1.2**
RAHZ	**Arahi**	**2.43**	**52**	P	**Pn**	**03 30 53.4**	**+2.6**
DSZ	**Denniston Nort**	**2.51**	**238**	P	**Pn**	**03 30 51.9**	**+0.1**
TARZ	**Mount Tarawera**	**2.64**	**34**	P	**Pn**	**03 30 53.6**	**-0.1**
TOZ	**Tahuroa Road**	**2.79**	**14**	P	**Pn**	**03 30 55.6**	**0.0**
GVZ	**Greta Valley S**	**2.79**	**205**	P	**Pn**	**03 30 55.3**	**-0.4**
RAGZ	**Rawiri**	**2.90**	**49**	P	**Pn**	**03 31 01.2**	**+4.0**
URZ	**Urewera**	**2.90**	**42**	P	**Pn**	**03 30 54.9**	**-2.3**
URZ	**Urewera**	**2.90**	**42**	P	**Pn**	**03 30 55.0**	**-2.2**
LTZ	**Lake Taylor**	**2.93**	**216**	P	**Pn**	**03 30 57.3**	**-0.3**
RIGZ	**Rimuhau**	**2.97**	**55**	P	**Pn**	**03 30 56.1**	**-2.0**
MWZ	**Matawai**	**3.07**	**48**	P	**Pn**	**03 30 57.3**	**-2.2**
MKAZ	**Moumakai**	**3.36**	**7**	P	**Pn**	**03 31 03.4**	**0.0**
AWAZ	**Awhitu Peninsu**	**3.37**	**0**	P	**Pn**	**03 31 03.7**	**+0.1**
TWGZ	**Tauwhareparae**	**3.44**	**50**	P	**Pn**	**03 31 02.8**	**-1.8**
OXZ	**Oxford**	**3.47**	**213**	P	**Pn**	**03 31 03.4**	**-1.5**
OKCZ	**Okains Bay**	**3.48**	**199**	P	**Pn**	**03 31 03.7**	**-1.3**
ETAZ	**East Tamaki Re**	**3.49**	**4**	P	**Pn**	**03 31 05.5**	**+0.3**
AKCZ	**Akaroa Harbour**	**3.66**	**200**	P	**Pn**	**03 31 06.2**	**-1.3**
WIAZ	**Waiheke Island**	**3.67**	**6**	P	**Pn**	**03 31 07.9**	**+0.4**
RVAZ	**Riverhead Bore**	**3.67**	**359**	P	**Pn**	**03 31 07.5**	**-0.1**
MBAZ	**Motutapu North**	**3.67**	**3**	P	**Pn**	**03 31 08.0**	**+0.3**
KUZ	**Kuaotunu**	**3.79**	**13**	P	**Pn**	**03 31 08.9**	**-0.4**
KUZ	**Kuaotunu**	**3.79**	**13**	P	**Pn**	**03 31 08.9**	**-0.4**
ABAZ	**Army Bay**	**3.84**	**2**	P	**Pn**	**03 31 10.1**	**+0.1**
MHCZ	**Mount Hutt**	**3.84**	**216**	P	**Pn**	**03 31 08.6**	**-1.4**
WVZ	**Waitaha Valley**	**3.93**	**227**	P	**Pn**	**03 31 12.3**	**+1.1**
WACZ	**Wakanui South**	**4.07**	**210**	P	**Pn**	**03 31 12.3**	**-0.7**
ARCZ	**Arundel**	**4.34**	**215**	P	**Pn**	**03 31 16.2**	**-0.6**
FOZ	**Fox Glacier**	**4.74**	**228**	P	**Pn**	**03 31 20.9**	**-1.2**
TMZ	**Timaru**	**4.77**	**213**	P	**Pn**	**03 31 21.0**	**-1.7**
ODZ	**Otahua Downs**	**5.46**	**211**	P	**Pn**	**03 31 30.4**	**-1.6**
ODZ	**Otahua Downs**	**5.46**	**211**	P	**Pn**	**03 31 30.9**	**-1.1**
JCZ	**Jackson Bay**	**5.66**	**228**	P	**Pn**	**03 31 33.4**	**-1.5**
JCZ	**Jackson Bay**	**5.66**	**228**	P	**Pn**	**03 31 34.0**	**-0.9**
CTZ	**Chatham Island**	**7.29**	**120**	P	**Pn**	**03 31 56.5**	**-0.5**
CTZ	**Chatham Island**	**7.29**	**120**	P	**Pn**	**03 31 56.6**	**-0.4**
57nm,2.8s

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*IDC **11** 03:52:08.3±1.6, 6°.75S×128°.96E, h0km, mb3.7/3, mbtmp3.9/7, ML4.1/4, Error ellipse: s-maj=53.7km s-min=23.8km az=82.0*
ISC 11 03:52:23.4±1.2, 7°.58S±0°.08×128°.7E±0°.1, h150km, n7, σ2°37/11, mb3.4/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.65**	**242**	Pn	**Pn**	**03 53 43.9**	**-1.6**
2.8nm,0.3s,baz=4.8,slow=12,SNR=2.0
BATI | | | | Sn | **Sn** | **03 54 51.0** | **+1.3**
9.8nm,0.3s,baz=262,slow=13,SNR=2.5
26nm,0.6s
FITZ **Fitzroy Crossi** **10.88** **196** Pn **Pn** **03 54 55.9** **+0.8**
1.6nm,0.3s,baz=21,slow=9.8,SNR=27
FITZ | | | | Sn | **Sn** | **03 56 55.0** | **-0.5**
0.9nm,0.3s,baz=303,slow=17,SNR=2.4
3.2nm,0.3s
WRA **Warramunga Arr** **13.44** **157** Pn **Pn** **03 55 29.4** **+1.0**
0.7nm,0.3s,baz=331,slow=14,SNR=25
WRA | | | | Sn | **Sn** | **03 57 53.4** | **-3.9**
0.9nm,0.3s,baz=336,slow=22,SNR=6.7
2.4nm,0.7s
ASAR **Alice Springs** **16.75** **163** P **Pn** **03 56 14.2** **+4.8**
0.5nm,0.3s,baz=336,slow=10,SNR=38
ASAR | | | | S | **Sn** | **03 59 16.1** **-0.6**
0.4nm,0.5s,baz=352,slow=27,SNR=4.2
1.7nm,0.6s
MKAR **Makanchi Array** **68.02** **328** P **P** **04 03 06.6** **0.0**
0.6nm,0.6s,baz=139,slow=7.3,SNR=6.4
0.6nm,0.6s
KURBB **Kurchatov Arra** **72.35** **329** P **P** **04 03 32.4** **-0.4**
0.3nm,0.4s,baz=135,slow=4.9,SNR=7.5
0.3nm,0.4s
BVAR **Borovoye Array** **77.88** **328** P **P** **04 04 03.9** **-0.6**
0.3nm,0.5s,baz=122,slow=7.0,SNR=2.4
0.3nm,0.5s

IDC 11 04:02:29.2±1.3, 23°.05N×93°.67E, h0km, mb3.6/3, mbtmp3.6/3, MS3.1/1, Error ellipse: s-maj=37.9km s-min=22.7km az=21.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**1.91**	**259**	Pn	Pn	04 03 03.2	+0.2
26nm,0.3s,baz=250,slow=19,SNR=1.6
BRDH | | | | Sn | Sn | 04 03 27.9 | +0.1
20nm,0.3s,baz=67,slow=5.0,SNR=3.5
MKAR **Makanchi Array** **25.41** **342** P P 04 07 58.5 0.0
0.1nm,0.4s,baz=151,slow=7.4,SNR=1.6
0.1nm,0.4s
DAV **Davao City (W)** **34.55** **112** LR LR 04 24 32.2
comp=Z,27nm,18.0s,baz=324,slow=38
WRA **Warramunga Arr** **58.31** **134** P P 04 12 25.9 -0.3
0.8nm,0.6s,baz=322,slow=7.4,SNR=12
0.8nm,0.6s
ASAR **Alice Springs** **60.70** **137** P P 04 12 43.0 +0.2
1.1nm,0.5s,baz=321,slow=6.8,SNR=23
1.1nm,0.5s

KRSC 11 04:05:54.3±1.1, 49°.18N×157°.01E, h26km±19km, Ml4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.61**	**339**	*e*P	Pn	04 06 21.7	+0.7
SKR | | | | *e*S | Sb | 04 06 42.2 | -1.1
PAU **Pauzhetka** **2.29** **357** *e*P Pb 04 06 33.1 -1.9
PAU | | | | *e*S | Sb | 04 07 01.0 | -1.9
KDTR **Khodutka, Kamc** **2.72** **14** *e*P Pn 04 06 39.2 +2.9
KDTR | | | | *e*S | Sb | 04 07 12.2 | -3.0
ASAK **Asacha** **3.26** **10** *e*P Pb 04 06 48.0 -3.5
MTVR **Mutnovka** **3.39** **12** *e*P Pn 04 06 49.1 +3.5
MTVR | | | | *e*S | Sn | 04 07 29.2 | +4.2
RUS **Russkaya** **3.40** **16** *e*P Pn 04 06 48.8 +3.3
GRL **Gorelyy** **3.44** **11** *e*P Pn 04 06 50.2 +3.9
GRL | | | | *e*S | Sn | 04 07 30.5 | +4.2
KRMR **Karymshinskiy** **3.73** **11** *e*P Pn 04 06 54.3 +4.3
APC **Apacha** **3.75** **1** *e*P Pn 04 06 54.7 +4.3
PET **Petropavlovsk** **3.99** **14** *e*S Sn 04 07 44.5 +5.0
DALK **Dalny** **4.01** **15** *e*P Pn 04 06 58.4 +4.4
UGLR **Uglovaya** **4.20** **15** *e*P Pn 04 07 00.9 +4.3
AVH **Avacha** **4.23** **14** *e*P Pn 04 07 02.2 +5.1
SMAR **Somma** **4.24** **15** *e*P Pn 04 07 01.8 +4.4
KOK **Koryaka** **4.24** **13** *e*P Pn 04 07 02.3 +5.0
SDLR **Sedlovina** **4.27** **15** *e*P Pn 04 07 01.3 +3.6
KRER **Koryakskii** **4.27** **14** *e*P Pn 04 07 02.0 +4.2
KRX **Arik** **4.31** **13** *e*P Pn 04 07 02.9 +4.6
GNL **Ganaly** **4.56** **7** *e*P Pn 04 07 05.9 +4.3
KII **Karymskiy** **5.10** **16** *e*P Pn 04 07 11.9 +2.9

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*NEIC **11** 04:11:59.9±0.9, 19°.10N±0°.04×155°.48W±0°.04, h40km±2km, Error ellipse: s-maj=6.8km s-min=2.9km az=137.0*
HVO 11 04:12:00.9±1.0, 19°.10N±0°.03×155°.45W±0°.04, h39km±3km, ML2.2/4, ML2.5/24(NEIC), Error ellipse: s-maj=5.9km s-min=2.3km az=128.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.14**	**21**		Pn	04 12 07.2	-1.7
KHU **Kahuku** **0.21** **313** Pn Pn 04 12 07.6 -1.4
KHU | | | | Sn | Sn | 04 12 11.7 | -3.6
KHU | | | | IAML | | 04 12 12.9
comp=E,632nm,0.5s
KHU | | | | IAML | | 04 12 12.9
comp=N,569nm,1.8s
HLP **Hilina Pali** **0.24** **35** Pn Pn 04 12 08.1 -0.8
HLP | | | | IAML | | 04 12 14.7
comp=N,566nm,1.8s
HLP **Hilina Pali** **0.24** **35** Sn 04 12 13.3 -1.6
SDHHI **Sand Hill** **0.32** **28** Pn 04 12 08.5 -1.0
SDHHI | | | | Sn | | 04 12 14.1 -1.7
PUH **Pauahi** **0.35** **39** Pn Pn 04 12 08.5 -1.3
PUH | | | | Sn | | 04 12 14.2 -2.1
PUH | | | | IAML | | 04 12 21.3
comp=N,377nm,1.6s
UWE **Uwekahuna** **0.35** **25** Pn 04 12 08.7 -1.1
KNHH **Kane Nui o Ham** **0.39** **44** Pn 04 12 09.0 -1.1
MLH **Mauna Loa** **0.40** **9** Sn 04 12 14.8 -2.5
MLH **Mauna Loa** **0.40** **9** Pn 04 12 09.4 -1.0
MLH | | | | IAML | | 04 12 16.1
comp=N,280nm,0.6s
MLH **Mauna Loa** **0.40** **9** IAML 04 12 14.6
comp=E,292nm,3.4s
STCH **Steam Cracks** **0.42** **48** Pn 04 12 09.5 -1.1
NPOC **North of Pu'u** **0.43** **48** Pn 04 12 09.6 -1.2
ALEP **Alea Permanent** **0.47** **338** Pn 04 12 09.7 -1.9
HMH **Humu'ula Sheep** **0.50** **357** Pn 04 12 10.8 -1.2
HMH **Humu'ula Sheep** **0.50** **357** IAML 04 12 17.4
comp=E,426nm,0.7s
HMH | | | | IAML | | 04 12 31.6
comp=N,269nm,3.6s
JOKA **Jonika Flow** **0.54** **52** Pn 04 12 10.7 -1.5
JOKA **Jonika Flow** **0.54** **52** IAML 04 12 29.7
comp=N,290nm,3.1s
JOKA | | | | IAML | | 04 12 30.2
comp=E,231nm,3.6s

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*CATAC **11** 04:40:02.6±0.4, 13°.84N×91°.21W, h38km±9km, ML3.9*
*SNET **11** 04:40:04.7±1.3, 14°.17N×90°.95W, h32km±17km, ML3.7*
*GCG **11** 04:40:05.4±0.5, 14°.35N×91°.05W, h77km±7km, MD3.9*
ISC 11 04:40:02.9±1.7, 14°.06N±0°.06×91°.11W±0°.05, h88km±12km, n58, σ0°81/81, 3C-11D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.41**	**40**	*i* P	**Pn**	**04 40 15.9**	**-1.0**
ESSG | | | | *i* S | **Sn** | **04 40 26.8** | **-0.6**
ESSG | | | | IAML | | 04 40 33.2
comp=Z,4μm,1.0s
FUG **Fuego 3** **0.46** **34** *e*P **Pn** **04 40 17.5** **+0.1**
SULM **Suchitepequez,** **0.51** **298⇑** *e*P **Pn** **04 40 18.8** **+1.3**
SULM | | | | *e*S | **Sn** | **04 40 26.7** | **-1.6**
RTAL **Retalhuleu** **0.73** **309⇑** *i*P **Pn** **04 40 19.5** **-0.1**
RTAL | | | | *e*S | **Sn** | **04 40 31.9** | **-0.2**
RTAL | | | | IAML | | 04 40 37.1
comp=Z,1μm,0.2s
RTAL **Retalhuleu** **0.73** **309** *i* P **Pn** **04 40 20.5** **+0.9**
RTAL | | | | *i* S | **Sn** | **04 40 32.6** **+0.6**
RTAL | | | | IAML | | 04 40 36.9
comp=Z,3μm,1.0s
GUMI **Mixco** **0.74** **40** *i* P **Pn** **04 40 19.6** **-0.3**
GUMI | | | | *i* S | **Sn** | **04 40 34.1** **+1.6**
GUMI | | | | IAML | | 04 40 38.8
comp=Z,3μm,1.0s
STG3 **Santiaguito 3,** **0.79** **325** *e*P **Pn** **04 40 20.6** **+0.2**
STG3 | | | | *e*S | **Sn** | **04 40 32.6** **-0.7**
SOKI **Kika Raxquin** **0.81** **339** *i* P **Pn** **04 40 20.2** **-0.6**
SOKI | | | | *i* S | **Sn** | **04 40 33.7** **-0.4**
SOKI | | | | IAML | | 04 40 37.9
comp=Z,3μm,1.0s
NBG **Las Nubes** **0.90** **55** *e*P **Pn** **04 40 22.3** **+0.7**
NBG | | | | *e*S | **Sn** | **04 40 36.4** **+0.7**
QUIS **Sacapulas** **1.22** **1** *i* P **Pn** **04 40 24.7** **-0.5**
QUIS | | | | *i* S | **Sn** | **04 40 42.6** **+0.6**
QUIS | | | | IAML | | 04 40 45.0
comp=Z,670nm,1.0s
SLOZ **Alcaldia de Sa** **1.28** **92⇓** *e*P **Pn** **04 40 25.2** **-0.7**
LOAL **Lomas de Alarc** **1.29** **93** *e*P **Pn** **04 40 25.6** **-0.4**
LOAL **Lomas de Alarc** **1.29** **93** *i* P **Pn** **04 40 25.5** **-0.4**
LOAL | | | | *i* S | **Sn** | **04 40 44.4** **+1.1**
LOAL | | | | IAML | | 04 40 49.5
comp=Z,3μm,1.0s
NUBE **Las Nubes** **1.30** **97⇓** *i*P **Pn** **04 40 25.6** **-0.5**
NUBE **Las Nubes** **1.30** **97** *i* P **Pn** **04 40 25.4** **-0.8**
NUBE | | | | *i* S | **Sn** | **04 40 43.3** **-0.4**
NUBE | | | | IAML | | 04 40 47.9
comp=Z,2μm,1.0s
HUEH **Huehuetenango** **1.30** **343** *e*P **Pn** **04 40 26.1** **-0.2**
HUEH | | | | *e*S | **Sn** | **04 40 44.3** **+0.3**
HUEH | | | | IAML | | 04 40 52.5
comp=Z,707nm,0.6s
RTR **El Retiro** **1.43** **96⇓** *e*P **Pn** **04 40 27.6** **-0.2**
SBLS **San Blas** **1.46** **99** *e*P **Pn** **04 40 28.3** **0.0**
CEVE **Cerro Verde** **1.46** **99** *e*P **Pn** **04 40 28.3** **0.0**
CEVE | | | | IAML | | 04 40 51.5
comp=Z,4μm,0.2s
SNJE **San Jose** **1.47** **97** *e*P **Pn** **04 40 28.3** **-0.1**
UNIC **Universidad Ca** **1.51** **93** *i* P **Pn** **04 40 27.7** **-1.1**
UNIC | | | | *i* S | **Sn** | **04 40 47.8** **-0.6**
UNIC | | | | IAML | | 04 40 55.9
comp=Z,400nm,1.0s
JAYA **Jayaque - finc** **1.66** **104⇓** *i*P **Pn** **04 40 30.2** **-0.6**
JAYA | | | | IAML | | 04 40 57.3
comp=Z,1μm,0.3s
JAYA **Jayaque - finc** **1.66** **104** *i* P **Pn** **04 40 30.0** **-0.8**
JAYA | | | | *i* S | **Sn** | **04 40 51.4** **-0.5**
JAYA | | | | IAML | | 04 40 54.7
comp=Z,3μm,1.0s
CEDA **San Andres** **1.68** **99** *e*P **Pn** **04 40 30.8** **-0.1**
CEDA | | | | IAML | | 04 41 04.9
comp=Z,726nm,0.3s
MRL **Marmol** **1.71** **54⇓** *i*P **Pn** **04 40 31.7** **+0.2**
MRL | | | | ⇓*e*P **Pn** **04 40 31.7** **+0.2**
MRL | | | | *e*S **Sn** **04 40 52.0** **-1.1**
MTO3 **Montecristo** **1.72** **79⇓** *e*P **Pn** **04 40 30.5** **-1.2**
MTO3 **Montecristo** **1.72** **79** *i* P **Pn** **04 40 30.5** **-1.2**
MTO3 | | | | *i* S | **Sn** | **04 40 54.5** **+1.0**
MTO3 | | | | IAML | | 04 41 05.1
comp=Z,220nm,1.0s
PMON **Piamonte** **1.77** **101⇓** *e*P **Pn** **04 40 31.8** **-0.4**
PMON **Piamonte** **1.77** **101** *i* P **Pn** **04 40 31.8** **-0.4**
PMON | | | | *i* S | **Sn** | **04 40 56.1** **+1.6**
PMON | | | | IAML | | 04 40 59.8
comp=Z,1μm,1.0s
ESQI **Esquipulas** **1.78** **74⇓** *i*P **Pn** **04 40 31.6** **-0.7**
QUEZ **Alcaldia de Qu** **1.79** **97** *i* P **Pn** **04 40 31.1** **-1.3**
QUEZ | | | | *i* S | **Sn** | **04 40 56.0** **+1.2**
QUEZ | | | | IAML | | 04 41 27.2
comp=Z,2μm,1.0s
BOQS **Boqueron** **1.80** **100** *e*P **Pn** **04 40 32.5** **-0.1**
LALI **Alcalda de L** **1.82** **108** *e*P **Pn** **04 40 31.5** **-1.3**
LALI **Alcalda de L** **1.82** **108** *i* P **Pn** **04 40 31.8** **-0.9**
LALI | | | | IAML | | 04 40 33.6
comp=Z,290nm,1.0s
LALI | | | | *i* S | **Sn** | **04 40 56.1** **+0.6**
UEES **Universidad Ev** **1.84** **101** *e*P **Pn** **04 40 32.8** **-0.2**
UEES **Universidad Ev** **1.84** **101** *i* P **Pn** **04 40 32.9** **-0.2**
UEES | | | | IAML | | 04 40 34.8
comp=Z,470nm,1.0s
UEES | | | | *i* S | **Sn** | **04 40 58.3** **+2.2**
LOMA **Loma Larga** **1.92** **102** *e*P **Pn** **04 40 33.7** **-0.5**
LOMA **Loma Larga** **1.92** **102** *i* P **Pn** **04 40 33.5** **-0.7**
LOMA | | | | *i* S | **Sn** | **04 41 00.2** **+2.2**
LOMA | | | | IAML | | 04 41 01.5
comp=Z,870nm,1.0s
PANCS **Alcalda de** **1.92** **103⇑** *e*P **Pn** **04 40 33.7** **-0.4**
PANCS **Alcalda de** **1.92** **103** *i* P **Pn** **04 40 33.5** **-0.6**
PANCS | | | | *i* S | **Sn** | **04 40 56.4** **-1.5**
PANCS | | | | IAML | | 04 41 02.9
comp=Z,2μm,1.0s
LFU **La Fuente** **1.96** **99** *e*P **Pn** **04 40 34.2** **-0.4**
PAVA **Las Pavas** **2.13** **99⇓** *i*P **Pn** **04 40 36.7** **-0.2**
PAVA **Las Pavas** **2.13** **99** *i* P **Pn** **04 40 36.7** **-0.2**
PAVA | | | | IAML | | 04 40 36.9
comp=Z,2μm,1.0s
COEG **Centro de Oper** **2.21** **101** *e*P **Pn** **04 40 37.5** **-0.4**
COEG **Centro de Oper** **2.21** **101** *i* P **Pn** **04 40 37.6** **-0.2**
COEG | | | | IAML | | 04 40 39.1
comp=Z,290nm,1.0s
UESV **Universidad de** **2.29** **100** *i* P **Pn** **04 40 37.7** **-1.2**
UESV | | | | IAML | | 04 40 44.2
comp=Z,280nm,1.0s
TECO **Alcald

RMOT	Ramot	0.41 189	P		Pg	04 42 00.8	0.0
SPIR	Sapir Facility	0.43 203	P		Pg	04 42 01.0	-0.1
DQRL	Deir Qamar	0.46 342	*e*P		Pb	04 42 02.3	-0.3
DQRL			*e*S		Sb	04 42 09.8	+0.4
HNTI	Hanita	0.51 249	P		Pb	04 42 03.3	0.0
HNTI	Hanita	0.51 249	S		Sb	04 42 11.4	+0.9
HNTI	Hanita	0.51 249	P		Pb	04 42 03.3	0.0
SHMJ	Saham	0.54 178	P		Pg	04 42 02.8	-0.3
ZAHL	Zahle	0.61 12	*e*P		Pg	04 42 04.6	+0.2
BHL	Bhannes	0.64 354	*e*P		Pb	04 42 05.3	-0.4
BLGI	Bet Lehem HaGe	0.70 221	P		Pb	04 42 06.0	-0.6
MMLI	Mount Malkishu	0.86 198	P		Pg	04 42 08.5	-0.8
MMLI	Mount Malkishu	0.86 198	S		Sb	04 42 21.8	+1.0
MMLI	Mount Malkishu	0.86 198	⇑*i*P		Pg	04 42 09.0	-0.3
OFRI	`Ofer	0.90 225	P		Pb	04 42 09.6	-0.4
OFRI	`Ofer	0.90 225	S		Sn	04 42 23.3	-0.5
OFRI	`Ofer	0.90 225	⇑*i*P		Pb	04 42 09.7	-0.4
QRNJ	Al-Qirein	0.94 189	P		Pg	04 42 09.7	-0.9
HMDT	Nahal Hemdat	1.02 190	P		Pb	04 42 11.1	-1.0
HMDT	Nahal Hemdat	1.02 190	S		Sb	04 42 26.1	+0.7
HMDT	Nahal Hemdat	1.02 190	⇑*i*P		Pb	04 42 11.4	-0.7
HWQ	Hawqa	1.03 10	*e*P		Pg	04 42 12.1	-0.3
SLTI	Sal'it	1.18 210	P		Pb	04 42 14.3	-0.4
SLTI	Sal'it	1.18 210	S		Sn	04 42 31.8	+1.2
SLTI	Sal'it	1.18 210	⇑*i*P		Pb	04 42 14.4	-0.3
HSUJ	Al Zarqa	1.22 162	P		Pn	04 42 14.3	-1.0
SALP	Salfit	1.28 201	P		Pn	04 42 15.6	-0.5
BEIL	Beino	1.33 16	*e*P		Pn	04 42 16.9	+0.2
UJAP	Al Uja	1.33 190	P		Pn	04 42 15.5	-1.2
ASF	Jabal al Asfar	1.46 138	P		Pn	04 42 18.9	+0.2
DSI	Dead Sea	1.72 190	P		Pn	04 42 21.7	-0.4
DSI	Dead Sea	1.72 190	P		Pn	04 42 22.2	+0.1
AMAZ	Amatzia	1.86 202	P		Pn	04 42 24.8	+0.7
YTIR	Yattir	1.97 196	P		Pn	04 42 26.3	+0.7
YTIR	Yattir	1.97 196	P		Pn	04 42 26.4	+0.7
MDBI	Mazsada	1.97 190	P		Pn	04 42 25.9	+0.4
MSBI	Mazada	1.97 190	P		Pn	04 42 26.4	+0.9
LISJ	El Lisan	2.03 186	P		Pn	04 42 26.9	+0.6
KZIT	Kziot	2.61 206	P		Pn	04 42 35.1	+0.7
CSS	Mathiatis	2.62 311	P		Pb	04 42 36.5	-2.8
PRNI	Paran	2.97 192	P		Pn	04 42 40.2	+0.9
HSNJ	Maan	3.00 181	P		Pn	04 42 39.9	+0.1
KRMI	Paran Flat	3.25 196	P		Pn	04 42 44.6	+1.3
HRFI	Mount Harif	3.27 191	P		Pn	04 42 44.1	+0.6

*IDC **11** 04:44:04.7±3.1, 13°.92S×167°.07E, h111km±27km, mb3.8/8, mbtmp4.1/9, MS2.7/1, Error ellipse: s-maj=32.7km s-min=21.4km az=117.0*
*NEIC **11** 04:44:07.5±1.9, 13°.97S±0°.05×167°.3E±0°.2, h147km±14km, mb4.3/14, Error ellipse: s-maj=30.9km s-min=5.5km az=98.0*
*NOU **11** 04:44:09.7, 14°.30S×167°.01E, h0km, mb4.3/8, Vanuatu Islands*

ISC 11 04:44:08.5±0.7, 14°.04S±0°.08×167°.1E±0°.1, h150km, n36, σ1s55/39, mb4.0/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	2.07 173		P	Pn	04 44 43.1	-1.4
DVP	Devils Point	3.80 165		P	Pn	04 45 05.6	-0.6
KOUNC	Koumac, New Ca	7.02 202		Pn	Pn	04 45 48.9	-0.1
KOUNC	Koumac, New Ca	7.02 202		P	Pn	04 45 49.7	+0.8
YATNC	Mamie plateau,	7.98 182		P	Pn	04 46 01.7	0.0
DZM	Mont Dzumac	8.01 185			Pn	04 46 01.6	-0.6
DZM	Mont Dzumac	8.01 185		P	Pn	04 46 01.4	-0.8
	5.6nm,0.3s,baz=333,slow=16,SNR=3.2						
DZM				S	Sn	04 47 30.7	-0.9
	4.8nm,0.4s,baz=103,slow=22,SNR=1.6						
NOUC	Port Laguerre	8.05 186		P	Pn	04 46 04.9	+2.2
ONTNC	Ouen Toro	8.25 184		Pn	Pn	04 46 09.1	+3.8
HNR	Honiara	8.40 302		LR	LR	04 49 07.2	
	comp=Z,50nm,18.9s,baz=228,slow=36						
PINNC	Pines Island,	8.53 178		Pn	Pn	04 46 09.8	+0.8
EIDS	Eidsvold	18.84 231		P	Pn	04 48 18.7	-0.5
EIDS				IAmb	IAmb	04 48 19.4	
	comp=Z,8.6nm,0.6s						
ARMA	Armidale	21.68 219		P	P	04 48 48.8	+1.2
ARMA				IAmb	IAmb	04 49 29.7	
	comp=Z,6.6nm,1.1s						
COEN	Coen	23.25 267		P	P	04 49 01.9	-1.0
COEN				IAmb	IAmb	04 49 03.5	
	comp=Z,17nm,1.5s						
BKZ	Black Stump Fm	26.35 163		P	P	04 49 31.0	+0.3
BKZ				IAmb	IAmb	04 50 10.7	
	comp=Z,24nm,1.4s						
STKA	Stephens Creek	29.35 228		P	P	04 49 58.1	+0.7
STKA	Stephens Creek	29.35 228		P	P	04 49 58.5	+1.1
	comp=Z,3.7nm,0.5s,baz=41,slow=7.1,SNR=9.0						
	comp=Z,3.7nm,0.5s						
TOO	Toolangi	30.33 215		P	P	04 50 06.3	+0.2
TOO				IAmb	IAmb	04 50 47.4	
	comp=Z,6.9nm,1.4s						
WR0	Warramunga Arr	31.69 255		P	P	04 50 16.9	-1.2
WR0				IAmb	IAmb	04 50 40.7	
	comp=Z,6.0nm,1.2s						
WRA	Warramunga Arr	31.88 255		P	P	04 50 16.2	-3.6
WRA	Warramunga Arr	31.88 255		P	P	04 50 18.5	-1.3
	comp=Z,1.3nm,0.5s,baz=85,slow=9.3,SNR=21						
WRA				PcP	PcP	04 53 07.6	+0.5
	comp=Z,0.5nm,1.0s,baz=77,slow=3.5,SNR=1.8						
	comp=Z,1.3nm,0.5s						
AS31	Alice Springs	32.81 248		P	P	04 50 26.3	-1.6
ASAR	Alice Springs	32.81 248		P	P	04 50 26.6	-1.3
	comp=Z,1.0nm,0.5s,baz=73,slow=9.6,SNR=46						
ASAR				PcP	PcP	04 53 09.2	-0.4
	comp=Z,0.2nm,0.7s,baz=79,slow=2.0,SNR=2.0						
ASAR				ScP	ScP	04 56 45.2	+5.4
	comp=Z,1.0nm,1.1s,baz=84,slow=2.9,SNR=4.4						
	comp=Z,1.0nm,0.5s						
KNRA	Kununurra	37.10 263		P	P	04 51 03.8	-1.0
KNRA				IAmb	IAmb	04 51 17.2	
	comp=Z,23nm,1.4s						
FORT	Forrest	39.55 238		P	P	04 51 24.7	-0.3
FITZ	Fitzroy Crossi	40.02 259		P	P	04 51 27.9	-1.3
MBWA	Marble Bar	45.61 254		P	P	04 52 14.1	0.0
PETK	Petropavlovsk-	67.37 354		P	P	04 54 48.2	+0.9
	comp=Z,2.2nm,0.8s,baz=157,slow=7.8,SNR=1.6						
	comp=Z,2.2nm,0.8s						
CMAR	Chiang Mai Arr	74.56 294		P	P	04 55 32.8	+1.3
	comp=Z,1.3nm,0.3s,baz=123,slow=4.3,SNR=8.3						
	comp=Z,1.3nm,0.3s						
QSPA	South Pole Qui	75.98 180		P	P	04 55 38.8	-0.1
QSPA				IAmb	IAmb	04 56 14.6	
	comp=Z,3.7nm,1.1s						
SONM	Songino Array	81.87 324		P	P	04 56 10.6	-0.6
	comp=Z,0.6nm,0.8s,baz=122,slow=2.2,SNR=2.6						
	comp=Z,0.6nm,0.8s						
ILAR	Eielson Array	85.91 18		P	P	04 56 30.5	-0.7
	comp=Z,0.5nm,0.8s,baz=236,slow=6.1,SNR=3.0						
	comp=Z,0.5nm,0.8s						
MKAR	Makanchi Array	96.62 316		P	P	04 57 21.2	-0.3
	comp=Z,0.3nm,0.7s,baz=108,slow=3.7,SNR=2.8						
	comp=Z,0.3nm,0.7s						
ARCES	ARCESS Array B	119.56 345		PKP	PKPdf	05 02 39.5	-0.4
	comp=Z,0.5nm,0.3s,baz=80,slow=1.9,SNR=9.6						
FINES	FINESS Array B	125.04 338		PKP	PKPdf	05 02 50.7	+0.1
	comp=Z,1.8nm,0.9s,baz=77,slow=4.3,SNR=6.2						
KEST	Kesra	150.60 321		PKPbc	PKiKP	05 03 43.9	0.0
	comp=Z,2.8nm,0.7s,baz=0.0,slow=4.0,SNR=4.8						

*IDC **11** 05:33:22.4±2.4, 37°.53N×142°.30E, h0km, mb3.4/3, mbtmp3.3/4, ML2.5/1, Error ellipse: s-maj=45.7km s-min=37.4km az=60.0*
*JMA **11** 05:33:28.5±0.2, 37°.4N±0°.4×141°.9E±0°.9, h34km±3km, MV3.6/38, E OFF FUKUSHIMA PREF*
*NIED **11** 05:33:28.5, 37°.42N×141°.94E, h34km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr-1.11; Mθθ-0.22; Mϕϕ 1.34; Mrθ 0.47; Mrϕ 0.39; Mθϕ-0.12; Fault plane solution: M0 1.39000×1014 NP1: ϕs350.00000°, δ50.00000°, λ-124.00000°. NP2: ϕs217.00000°, δ50.00000°, λ-56.00000°.*

ISC 11 05:33:27.9±2.5, 37°.42N±0°.06×141°.92E±0°.10, h27km±15km, n22, σ0s97/24, mb3.5/3, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	Kawauchi	0.84 267		*i* P	Pn	05 33 44.2	+0.3
JFK				S	Sn	05 33 55.0	-0.4
JMST	Minamisoumatoc	0.88 291		*i* P	Pn	05 33 44.7	+0.3
JMST				S	Sn	05 33 56.0	-0.3
ONAJ	Iwakimizuishiy	0.95 251		*i* P	Pn	05 33 45.6	+0.1
JIKH	Ishinomakikobu	0.96 338		⇓*i*P	Pn	05 33 45.8	+0.2
JIKH				⇓S	Sn	05 33 57.5	-0.8
JMM	Marumori	1.00 297		*i* P	Pn	05 33 46.7	+0.6
JMM				S	Sn	05 33 59.5	+0.1
JIO	Ouri	1.13 336		⇓*i*P	Pn	05 33 48.4	+0.5
JIO				⇓S	Sn	05 34 01.9	-0.6
JOTO	OTAMA OYAMA	1.27 277		*i* P	Pb	05 33 51.3	+0.1
JOTO				S	Sb	05 34 07.5	+0.4
JOU	Okura	1.37 314		*i* P	Pb	05 33 52.8	-0.1
JOU				S	Sb	05 34 10.1	0.0
JMK	Ichinoseki	1.63 340		*i* P	Pn	05 33 56.0	+1.3
JYS	Shiratake	1.68 299		P	Pb	05 33 57.7	-0.3
JFY	Yanaizu	1.77 270		P	Pn	05 33 58.3	+1.7
JYK	Kaneyama	1.94 321		P	Pn	05 34 00.6	+1.5
MJAR	Matsushiro Arr	3.10 255		Pn	Pn	05 34 17.2	+2.2
	0.5nm,0.3s,baz=80,slow=16,SNR=12						
MJAR				Sn	Sb	05 34 57.6	-2.1
	0.4nm,0.3s,baz=84,slow=12,SNR=5.7						
	1.1nm,0.4s						
H11N2	WAKE ISLAND Hy	28.00 122		T	T	06 08 32.4	
	baz=317						
H11N1	WAKE ISLAND Hy	28.01 122		T	T	06 08 57.6	
	baz=317						
H11N3	WAKE ISLAND Hy	28.02 122		T	T	06 08 50.2	
	baz=317						
H11S1	WAKE ISLAND Hy	28.73 124		T	T	06 09 25.8	
	baz=316,slow=76,SNR=6.1						
H11S3	WAKE ISLAND Hy	28.73 124		T	T	06 09 33.2	
	baz=316,slow=76,SNR=7.1						
H11S2	WAKE ISLAND Hy	28.75 124		T	T	06 09 39.0	
	baz=316,slow=76,SNR=4.5						
MKAR	Makanchi Array	44.26 302		P	P	05 41 35.0	+0.1
	0.3nm,0.5s,baz=82,slow=8.5,SNR=2.9						
	0.3nm,0.5s						
KURBB	Kurchatov Arra	46.09 308		P	P	05 41 49.0	-0.4
	0.4nm,0.4s,baz=83,slow=8.2,SNR=2.9						
	0.4nm,0.4s						
WRA	Warramunga Arr	57.50 188		P	P	05 43 14.3	-0.3
	0.4nm,0.8s,baz=6.3,slow=7.4,SNR=2.1						
	0.4nm,0.8s						

IDC 11 05:51:05.0±1.8, 14°.84S×168°.07E, h0km, mb3.8/4, mbtmp3.8/5, ML3.5/1, MS3.2/1, Error ellipse: s-maj=57.0km s-min=29.0km az=125.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	7.36 192		Pn	Pn	05 52 53.9	+0.1
	0.8nm,0.3s,baz=306,slow=16,SNR=20						
DZM				Sn	Sn	05 54 14.5	-3.6
	0.7nm,0.3s,baz=300,slow=22,SNR=1.6						
	2.2nm,0.4s						
WRA	Warramunga Arr	32.55 256		P	P	05 57 37.7	-0.4
	0.5nm,0.6s,baz=86,slow=9.1,SNR=5.8						
	0.5nm,0.6s						
ASAR	Alice Springs	33.35 249		P	P	05 57 45.3	+0.2
	1.1nm,0.5s,baz=81,slow=8.9,SNR=26						
ASAR				LR	LR	06 10 08.2	
	comp=Z,41nm,18.6s,baz=134,slow=34						
	1.1nm,0.5s						
SONM	Songino Array	83.04 323		P	P	06 03 32.7	+0.2
	0.4nm,0.5s,baz=132,slow=6.4,SNR=2.5						
	0.4nm,0.5s						
ILAR	Eielson Array	86.39 18		P	P	06 03 48.8	-0.1
	0.5nm,0.6s,baz=236,slow=5.8,SNR=8.6						
	0.5nm,0.6s						

*JMA **11** 05:56:43.6±0.1, 38°.9N±0°.2×142°.1E±0°.5, h54km, MV3.4/40, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .
*IDC **11** 05:56:56.7±20.0, 38°.50N×141°.01E, h152km±124km, mb2.9/4, mbtmp3.3/5, ML1.9/1, Error ellipse: s-maj=297.6km s-min=23.2km az=65.0*

ISC 11 05:56:43.0±1.5, 38°.92N±0°.05×142°.1E±0°.1, h53km±10km, n22, σ0s74/25, mb3.2/4, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.38 295		*i* P	Pn	05 56 53.6	+0.4
OFUJ				S	Sn	05 57 00.7	+0.1
JKMT	Kesennumamotoy	0.51 258		*i* P	Pn	05 56 54.8	+0.2
JKMT				S	Sn	05 57 02.6	-0.3
JMK	Ichinoseki	0.70 273		⇓*i*P	Pn	05 56 57.0	+0.2
JMK				⇓S	Sn	05 57 06.6	-0.4
JIO	Ouri	0.76 232		⇓*i*P	Pn	05 56 57.8	+0.1
JIO				⇓S	Sn	05 57 07.9	-0.4
JOM	Ohasama	0.84 311		⇓*i*P	Pn	05 56 59.0	+0.2
JOM				⇓S	Sn	05 57 10.3	-0.1
JTH	Tanohata	1.04 349		P	Pn	05 57 01.9	+0.5
JTH				S	Sn	05 57 15.2	+0.4
JRG	Rokugo	1.25 293		⇓*i*P	Pn	05 57 04.2	+0.1
JRG				⇓S	Sn	05 57 20.1	+0.2
JOU	Okura	1.26 245		⇓*i*P	Pn	05 57 04.5	+0.1
JOU				⇓S	Sn	05 57 20.4	+0.1
JYK	Kaneyama	1.37 270		⇓*i*P	Pn	05 57 06.0	+0.2
JMM	Marumori	1.48 225		*i* P	Pn	05 57 07.1	-0.2
JANG	Nango	1.52 342		P	Pn	05 57 08.4	+0.5
JANG				S	Sn	05 57 26.6	0.0
MJAR	Matsushiro Arr	3.90 234		P	Pn	05 57 43.5	+3.0
	0.2nm,0.3s,baz=41,slow=12,SNR=10						
	1.6nm,0.3s						
H11N2	WAKE ISLAND Hy	28.70 125		T	T	06 33 01.8	
	baz=317,slow=75,SNR=11						
H11N1	WAKE ISLAND Hy	28.71 125		T	T	06 33 06.3	
	baz=317,slow=75,SNR=11						
H11N3	WAKE ISLAND Hy	28.72 125		T	T	06 33 12.7	
	baz=317,slow=75,SNR=11						
H11S1	WAKE ISLAND Hy	29.48 127		T	T	06 34 03.0	
	baz=318,slow=76,SNR=11						
H11S3	WAKE ISLAND Hy	29.48 127		T	T	06 34 10.5	
	baz=318,slow=76,SNR=14						
H11S2	WAKE ISLAND Hy	29.49 127		T	T	06 34 09.1	
	baz=318,slow=76,SNR=11						
MKAR	Makanchi Array	43.61 301		P	P	06 04 42.0	0.0
	0.2nm,0.5s,baz=82,slow=7.4,SNR=2.2						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	45.30 307		P	P	06 04 55.1	-0.3
	0.2nm,0.5s,baz=80,slow=8.2,SNR=4.2						
	0.2nm,0.5s						
WRA	Warramunga Arr	59.00 189		P	P	06 06 36.6	-0.7
	0.4nm,0.4s,baz=5.7,slow=7.0,SNR=9.6						
	0.4nm,0.4s						
ASAR	Alice Springs	62.73 188		P	P	06 07 02.0	-0.6
	0.1nm,0.6s,baz=0.0,slow=5.1,SNR=1.4						
	0.1nm,0.6s						

*NEIC **11** 06:44:55.3±1.3, 40°.41N±0°.03×116°.13W±0°.03, h10km±2km, Error ellipse: s-maj=5.4km s-min=3.6km az=350.0*

REN 11 06:44:56.1±1.0, 40°.46N±0°.04×116°.13W±0°.05, h8km±5km, ML3.3/24, ML3.0/86(NEIC), Error ellipse: s-maj=6.7km s-min=3.9km az=220.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELK	Elko	0.73 67		Pg	Pg	06 45 09.4	-0.8
ELK				Sg	Sg	06 45 18.8	-1.0
ELK				IAML		06 45 23.6	
	609nm,0.1s						
ELK				IAML		06 45 23.6	
	783nm,0.2s						
BMN	Battle Mountai	0.84 269		Pg	Pg	06 45 12.0	-0.1
BMN				Sg	Sg	06 45 22.8	-0.3
BMN				IAML		06 45 26.8	
	comp=E,446nm,0.3s						
BMN				IAML		06 45 27.0	
	comp=N,548nm,0.2s						
Q12A	Willow Creek R	1.73 144		Pn		06 45 25.7	-1.0
Q12A				Sg	Sn	06 45 49.2	+0.1
Q12A				IAML		06 45 55.6	
	comp=E,264nm,0.6s						
Q09A	Carvers	1.81 207		Pn		06 45 27.6	-0.2
SPR3	Spring Creek 3	2.01 136		Pn	Pn	06 45 30.5	-0.1
SPR3				IAML		06 46 02.9	
	comp=E,148nm,0.5s						
SPR3				IAML		06 46 03.1	
	comp=N,199nm,0.4s						
KVN	Kaiserville	2.07 228		Pn	Pn	06 45 30.6	-0.7
R11B	Troy Canyon, C	2.15 169		Pn	Pn	06 45 32.0	-0.4
BGU	Big Grassy Mou	2.40 78		Pn	Pn	06 45 35.7	-0.1
BGU				IAML		06 46 11.6	
	comp=N,72nm,0.7s						
BGU				IAML		06 46 12.1	
	comp=E,100nm,0.4s						
TPH	Tonopah	2.53 200			Pn	06 45 37.4	-0.2
DUG	Dugway, Tooele	2.54 95		Pn	Pn	06 45 37.8	-0.1
DUG				IAML		06 46 16.5	
	comp=E,97nm,0.7s						
DUG				IAML		06 46 21.8	
	comp=E,123nm,0.7s						
NV11	Mina Array Sit	2.56 219			Pn	06 45 37.7	-0.3
PSUT	Pine Spring	2.60 137		Pn	Pn	06 45 38.2	-0.5
PAHR	Pah Rah Range	2.61 254			Pn	06 45 37.7	-1.0
PAHR				IAML		06 46 20.9	
	comp=E,44nm,1.0s						
NVAR	Mina Array Bea	2.63 221			Pn	06 45 38.5	-0.6
NV09	Mina Array Sit	2.65 221			Pn	06 45 38.8	-0.5
NV08	Mina Array Sit	2.66 220			Pn	06 45 38.9	-0.6
WVOR	Wild Horse Val	2.73 317			Pn	06 45 42.7	+2.3
WVOR				IAML		06 46 22.9	
	comp=E,78nm,1.0s						
WVOR				IAML		06 46 29.0	
	comp=E,76nm,0.8s						
YERR	Yerington	2.82 240			Pn	06 45 41.0	-0.6
YERR				IAML		06 46 28.9	
	comp=E,74nm,0.7s						
YERR				IAML		06 46 30.1	
	comp=N,60nm,0.8s						
HVU	Hansel Valley	2.86 61			Pn	06 45 41.9	-0.2
LHV	Little Huntoon	2.87 221			Pn	06 45 42.0	-0.1
LHV				IAML		06 46 28.8	
	comp=N,46nm,0.5s						
LHV				IAML		06 46 39.5	
	comp=E,64nm,0.9s						
SPUT	South Promonto	2.91 72		Pn	Pn	06 45 44.4	+1.5
SPUT				IAML		06 46 29.4	
	comp=E,67nm,0.8s						
SPUT				IAML		06 46 30.0	
	comp=N,54nm,0.3s						
MFID	Camas Ranch	2.96 4			Pn	06 45 46.4	+2.8
MFID				IAML		06 46 30.4	
	comp=N,84nm,0.4s						
MFID				IAML		06 46 32.3	
	comp=N,64nm,0.4s						
PNTR	Pine Nut	3.00 244			Pn	06 45 43.5	-0.7
PNTR				IAML		06 46 35.4	
	comp=E,49nm,1.0s						
PNTR				IAML		06 46 39.2	
	comp=N,44nm,0.6s						
PRN	Pahroc Range	3.16 164		Pn	Pn	06 45 46.1	-0.1
MPK	Martis Peak	3.22 250		Pn	Pn	06 45 46.9	-0.4
MPK				IAML		06 46 45.0	
	comp=N,39nm,1.1s						
MPK				IAML		06 47 18.1	
	comp=E,52nm,1.4s						
WAKR	Walker	3.22 234		Pn	Pn	06 45 46.1	-1.1
WAKR				IAML		06 46 39.1	
	comp=N,24nm,0.4s						
WAKR				IAML		06 46 40.8	
	comp=E,38nm,0.7s						
HLID	Hailey	3.36 22		Pn	Pn	06 45 50.5	+1.5
J08A	Circle Bar Ran	3.39 330			Pn	06 45 52.2	+2.8
TPNV	Topopah Spring	3.50 182			Pn	06 45 51.0	0.0
TPNV				IAML		06 46 54.0	
	comp=E,54nm,0.5s						
TPNV				IAML		06 46 54.2	
	comp=E,42nm,0.7s						
GRAC	Grapevine Rang	3.59 196			Pn	06 45 51.6	-0.5
HWUT	Hardware Ranch	3.64 70		Pn	Pn	06 45 54.0	+1.1
HWUT				IAML		06 46 56.2	
	comp=E,16nm,0.8s						
WCT	Wildcat Mounta	3.68 186			Pn	06 45 53.3	0.0
WCT				IAML		06 46 56.1	
	comp=E,22nm,0.4s						
WCT				IAML		06 46 56.4	
	comp=N,15nm,0.4s						
NSP	Numbskull Pass	3.72 181			Pn	06 45 54.0	0.0
MCY	Mercury	3.79 178			Pn	06 45 55.0	+0.1
MTPU	Mount Pierson	3.90 127			Pn	06 45 54.3	-2.3
AMDNV	Amargosa	4.00 182			Pn	06 45 58.1	+0.5
SHPR	Sheep Range	4.02 169			Pn	06 45 58.0	-0.1
AFDM	Forest Hills D	4.03 250		Pn	Pn	06 45 57.5	-0.7
CMB	Columbia Colle	4.10 235		Pn	Pn	06 45 58.4	-0.7
PKCU	Pink Cliffs	4.23 134			Pn	06 46 02.1	+0.9
I07A	Izee	4.41 326			Pn	06 46 06.4	+3.0
I07A				IAML		06 47 20.2	
	comp=E,15nm,1.4s						
I07A				IAML		06 47 25.9	
	comp=N,9.6nm,1.4s						
V12A	Nelson	4.83 168			Pn	06 46 08.8	-0.4
V12A				IAML		06 47 32.4	
	comp=N,8.7nm,0.9s						
V12A				IAML		06 47 35.0	
	comp=E,8.8nm,0.6s						
FXWY	Fox Creek	4.95 48		Pn	Pn	06 46 15.5	+4.5
FXWY				IAML		06 47 12.1	
	comp=E,5.9nm,4.2s						
L04D	Klamath Falls	4.97 293		Pn	Pn	06 46 09.0	-2.2
WUAZ	Wupatki	6.20 141			LR	06 48 10.1	

*IDC **11** 06:47:42.8±0.5, 10°.38S×66°.39E, h0km, mb4.4/25, mbtmp4.4/25, MS4.2/43, Error ellipse: s-maj=16.2km s-min=13.6km az=61.0*
*NEIC **11** 06:47:45.0±2.0, 10°.50S±0°.05×66°.29E±0°.10, h10km±1km, mb4.9/63, Error ellipse: s-maj=16.3km s-min=8.1km az=87.0*
*GCMT **11** 06:47:47.0±0.2, 10°.54S±0°.02×66°.40E±0°.02, h12km, MW5.0/121, Moment Tensor Solution. s44, c47; s121, c174; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-3.65±.08; Mθθ 1.31±.09; Mϕϕ 2.33±.09; Mrθ-0.04±.34; Mθϕ-1.87±.07; Mrϕ-0.10±.32; Best double couple: M0 3.70600×1016 NP1: ϕs324.00000°, δ45.00000°, λ-88.00000°. NP2: ϕs141.00000°, δ45.00000°, λ-92.00000°. Principal axes: T 3.7590, Plg0.0000°, Azm53.0000°; N -0.1160, Plg2.0000°, Azm143.0000°; P -3.6530, Plg88.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 06:47:45.0±0.6, 10°.51S±0°.07×66°.27E±0°.06, h14km±3km, h14km: pP-P, n259, σ1s25/224, mb4.8/99, MS4.3/49, 20C-15D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	6.76 66		T	T	06 56 12.0	
	baz=245,slow=76,SNR=713						
H08S3	Diego Garcia H	6.77 66		T	T	06 56 14.3	
	baz=245,slow=76,SNR=1069						
H08S2	Diego Garcia H	6.78 66		T	T	06 56 12.4	
	baz=245,slow=76,SNR=

LSZ IAmb IAmb 06 55 07.9
comp=Z,22nm,1.2s
H04N2 CROZET ISLANDS 37.61 197 T T 07 35 06.4
baz=24,slow=75
H04N1 CROZET ISLANDS 37.62 197 T T 07 35 07.2
baz=24,slow=75
MATP Matopo 37.63 250 LR LR 07 09 08.8
comp=Z,283nm,19.9s,baz=62,slow=34
H04N3 CROZET ISLANDS 37.63 197 T T 07 35 42.2
baz=24,slow=75
LEM Lembang 41.02 88 LR LR 07 09 48.5
comp=Z,406nm,21.1s,baz=180,slow=32
LBTB Lobatse 41.15 244 P **P** **06 55 30.1 +0.6**
LBTB Lobatse 41.15 244 LR LR 07 10 18.5
comp=Z,587nm,21.0s,baz=71,slow=33
BRDH Bariadhala 41.30 37 LR LR 07 11 58.3
comp=Z,524nm,20.3s,baz=226,slow=35
BOSA Boshof 42.37 239 LR LR 07 12 02.3
comp=Z,330nm,18.2s,baz=66,slow=34
CMAR Chiang Mai Arr 43.22 48 P **P** **06 55 46.1 0.0**
comp=Z,1.4nm,0.3s,baz=245,slow=9.4,SNR=15
comp=Z,1.4nm,0.3s
CHTO Chiang Mai 43.45 48 P **P** **06 55 47.9 -0.1**
SHL Shillong 43.68 34 P **P** **06 55 49.8 -0.2**
SHL IAmb IAmb 06 55 57.6
comp=Z,30nm,1.2s
PHRA Phrae 44.20 49 P **P** **06 55 54.8 +0.7**
HRA Herat 44.81 355 P **P** **06 55 59.7 +0.8**
KBL Kabul 44.88 3 P **P** **06 55 59.6 +0.1**
KBL IAmb IAmb 06 56 07.6
comp=Z,10nm,0.9s
KSM Kuching 45.41 77 P **P** **06 56 04.4 +0.6**
KSM IAmb IAmb 06 57 32.4
comp=Z,16nm,1.0s
SUR Sutherland 47.13 235 LR LR 07 13 59.4
comp=Z,365nm,18.9s,baz=84,slow=33
SBUM Sibu 47.51 77 P **P** **06 56 20.6 +0.3**
TSUM Tsumeb 47.71 254 P **P** **06 56 23.0 +1.0**
SLVN Son La 48.66 49 P **P** **06 56 29.7 +0.5**
SLVN IAmb IAmb 06 56 37.0
comp=Z,15nm,1.2s
GAR Garm 49.40 4 P **P** **06 56 33.6 -1.0**
H01W3 Cape Leeuwin H 49.79 127 T T 07 49 52.1
baz=288,slow=75,SNR=37
H01W2 Cape Leeuwin H 49.80 127 T T 07 49 52.4
baz=288,slow=75,SNR=42
H01W1 Cape Leeuwin H 49.81 127 T T 07 49 53.5
baz=288,slow=75,SNR=35
EIL Elat 50.06 324 LR LR 07 14 54.5
comp=Z,93nm,21.9s,baz=74,slow=33
PZH PanZhiHua 50.41 42 P **P** **06 56 45.3 +2.8**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,4.3s
BTK Batken 50.49 5 P **P** **06 56 42.2 -0.6**
KSH Kashi 50.58 10 P **P** **06 56 39.7 -3.9**
KSH pP pP 06 56 46.9 +0.2
KSH pmax pmax
comp=Z,27nm,0.9s
NWAO Narrogin (SRO) 51.76 124 LR LR 07 13 34.9
comp=Z,141nm,21.1s,baz=304,slow=30
QIZ Qiongzhong 52.03 56 P **P** **06 56 55.2 +0.6**
QIZ S **S** **07 04 19.7 +1.5**
QIZ LR LR
comp=N,400nm,13.6s
QIZ LR LR
comp=E,490nm,15.9s
QIZ LR LR
comp=Z,470nm,20.4s
MMAI Mount Meron Ar 52.34 327 LR LR 07 16 28.4
comp=Z,80nm,21.8s,baz=72,slow=33
IUG Iuzhnay 52.51 4 *e*P **P** **06 56 55.7 -2.3**
comp=Z,4.7nm,0.6s
KAPI Kappang 53.22 88 LR LR 07 19 27.0
comp=Z,248nm,18.0s,baz=289,slow=36
DZA Taraz 53.34 5 *e*P **P** **06 57 02.0 -2.0**
comp=Z,5.3nm,0.5s
BRLS Borolday 53.38 3 *e*P **P** **06 57 00.4 -3.8**
AAK Ala-Archa 53.42 8 P **P** **06 57 04.2 -0.5**
AAK Ala-Archa 53.42 8 LR LR 07 19 21.9
comp=Z,197nm,18.3s,baz=163,slow=36
KKAR Karatay Array 53.49 4 P **P** **06 57 04.5 -0.6**
GURO Guroymak-BITLI 53.80 336 P **P** **06 57 08.1 +0.6**
GURO IAmb IAmb 06 57 16.3
comp=Z,27nm,1.3s
TNSS Tian-Shan 54.17 10 *e*P **P** **06 57 08.2 -2.4**
GNI Garni 54.21 340 P **P** **06 57 11.5 +0.9**
SGDS Sogindy 54.24 7 *e*P **P** **06 57 08.6 -2.0**
MDOK Medeo 54.31 10 *e*P **P** **06 57 09.0 -2.3**
AAA Alma-Ata 54.34 10 *e*P **P** **06 57 09.1 -2.2**
comp=Z,10nm,0.6s
SATY Saty 54.45 11 *e*P **P** **06 57 10.3 -1.9**
comp=Z,11nm,1.2s
UZB Uzynbulak 54.65 11 *e*P **P** **06 57 11.8 -1.9**
CD2 Chengdu 54.69 40 P **P** **06 57 15.1 +1.0**
CD2 sP sP 06 57 19.8 +1.4
CD2 S **S** **07 04 56.1 +2.0**
CD2 pmax pmax
comp=Z,20nm,0.9s
SHLS Shalkode 54.75 12 *e*P **P** **06 57 13.2 -1.2**
KPKS Kokpek 54.90 11 *e*P **P** **06 57 13.2 -2.2**
KUU Kurty 54.91 9 *e*P **P** **06 57 13.6 -1.8**
CHKK Chushkaly 54.98 9 *e*P **P** **06 57 13.7 -2.1**
KARS Kars 55.22 339 P **P** **06 57 19.0 +1.1**
ARPR Arapgir-MALATY 55.78 334 P **P** **06 57 22.7 +0.7**
ARPR IAmb IAmb 06 57 49.4
comp=Z,16nm,1.2s
TDK Taldyqorghan 56.33 10 *e*P **P** **06 57 23.5 -2.1**
comp=Z,10nm,0.9s
MAW Mawson 57.07 182 P **P** **06 57 32.0 +1.5**
comp=Z,8.6nm,1.2s,baz=359,slow=9.9,SNR=7.5
MAW LR LR 07 17 27.8
comp=Z,276nm,18.0s,baz=352,slow=31
comp=Z,8.6nm,1.2s
WMQ Urumqi 57.48 18 *e*P **P** **06 57 35.0 +1.2**
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ LR LR
comp=N,530nm,14.3s
WMQ LR LR
comp=E,500nm,19.9s
WMQ LR LR
comp=Z,440nm,20.9s
FITZ Fitzroy Crossi 57.83 105 LR LR 07 21 57.7
comp=Z,298nm,18.1s,baz=316,slow=36
KBZ Khabaz 58.02 340 P **P** **06 57 36.8 -0.7**
comp=Z,3.1nm,1.0s,baz=169,slow=5.2,SNR=5.2
KBZ LR LR 07 21 12.4
comp=Z,64nm,21.7s,baz=148,slow=35
comp=Z,3.1nm,1.0s
BR104 Keskin Array S 58.42 331 P **P** **06 57 40.3 -0.3**
comp=Z,7.2nm,1.2s,comp=Z,72nm
BRTR Keskin Array B 58.44 331 P **P** **06 57 39.9 -0.8**
BRTR Keskin Array B 58.44 331 P **P** **06 57 40.6 -0.1**
comp=Z,2.9nm,1.0s,baz=143,slow=10,SNR=9.8
comp=Z,2.9nm,1.0s
BR105 Keskin Array S 58.45 331 P **P** **06 57 40.4 -0.4**
comp=Z,7.6nm,1.2s,comp=Z,72nm
BR106 Keskin Array S 58.46 331 P **P** **06 57 40.5 -0.4**
comp=Z,4.9nm,1.1s
GTA Gaotai 58.64 30 P **P** **06 57 41.3 -0.8**
GTA pP pwP 06 57 48.6 -1.5
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA LR LR
comp=N,300nm,21.8s
GTA LR LR
comp=E,320nm,22.9s
GTA LR LR
comp=Z,510nm,22.5s
MAKZ Makanchi 58.76 13 P **P** **06 57 42.1 -0.6**
MAKZ IAmb IAmb 06 57 43.5
comp=Z,8.2nm,1.1s
MK31 Makanchi Array 58.82 13 P **P** **06 57 41.4 -1.7**
MK31 IAmb IAmb 06 57 49.2
comp=Z,15nm,1.8s
MKAR Makanchi Array 58.82 13 P **P** **06 57 41.1 -1.9**
comp=Z,1.7nm,0.7s,baz=203,slow=7.8,SNR=13
comp=Z,1.7nm,0.7s
ANTO Ankara 58.96 330 P **P** **06 57 44.5 +0.3**
ANTO IAmb IAmb 06 59 24.4
comp=Z,18nm,1.2s
ABKAR Akbulak array 59.77 355 P **P** **06 57 48.1 -1.4**
ABKAR IAmb IAmb 06 57 56.4
comp=Z,17nm,1.3s

WHN Wuhan 61.63 47 P P 06 58 08.6 +6.0
KURBB Kurchatov Arra 61.81 9 P **P** **06 58 02.2 -1.2**
comp=Z,8.3nm,1.0s,baz=206,slow=6.9,SNR=36
KURBB LR LR 07 23 46.4
comp=Z,224nm,20.0s,baz=166,slow=35
comp=Z,8.3nm,1.0s
SEM Semipalatinsk 61.88 10 *e*P **P** **06 58 02.1 -2.1**
comp=Z,6.0nm,1.1s
KURK Kurchatov 61.91 9 P **P** **06 58 02.8 -1.3**
KURK IAmb IAmb 06 58 10.9
comp=Z,14nm,0.9s
BVAR Borovoye Array 63.38 3 P **P** **06 58 12.9 -1.0**
comp=Z,6.9nm,0.9s,baz=179,slow=7.0,SNR=16
comp=Z,6.9nm,0.9s
TLBR Topalu 64.80 331 ⇓P **P** **06 58 23.0 -0.4**
BTO Baotou 64.95 36 *e*P **P** **06 58 25.5 +0.9**
BTO pP **sP** **06 58 29.4 +0.4**
BTO sP **pwP** **06 58 33.0 +0.4**
BTO PP **PP** **07 00 50.3 +2.5**
BTO S **S** **07 07 09.3 +3.1**
BTO Baotou 64.95 36 SS SS 07 11 03.4 -15
BTO pmax pmax
comp=Z,22nm,0.6s
BTO pmax pmax
comp=Z,140nm,4.0s
BTO LR LR
comp=N,410nm,13.3s
BTO LR LR
comp=E,400nm,12.3s
BTO LR LR
comp=Z,330nm,9.7s
HARR Harsova 64.96 331 ⇓P **P** **06 58 23.3 -1.1**
ASAR Alice Springs 65.45 111 P **P** **06 58 27.6 -0.6**
comp=Z,4.9nm,1.0s,baz=272,slow=5.8,SNR=29
comp=Z,4.9nm,1.0s
AS31 Alice Springs 65.45 111 P **P** **06 58 27.9 -0.3**
NJ2 Nanjing 65.69 48 *e*P **P** **06 58 29.8 +0.4**
NJ2 pP **sP** **06 58 33.5 -0.3**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
WRA Warramunga Arr 65.99 107 P **P** **06 58 31.1 -0.6**
comp=Z,6.8nm,0.9s,baz=275,slow=5.9,SNR=29
comp=Z,6.8nm,0.9s
WB2 Warramunga Arr 66.00 107 P **P** **06 58 31.5 -0.3**
HHC Hu-ho-hao-te 66.00 36 *e*P **P** **06 58 32.7 +1.3**
HHC sP pwP 06 58 38.8 -0.6
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,79nm,4.5s
HHC LR LR
comp=N,98nm,12.9s
HHC LR LR
comp=E,140nm,10.9s
HHC LR LR
comp=Z,190nm,13.0s
ZAA0 Zalesovo Array 66.11 12 P **P** **06 58 29.7 -2.0**
ZAA0 IAmb IAmb 06 58 37.9
comp=Z,8.3nm,0.9s
ZALV Zalesovo Beam 66.11 12 P **P** **06 58 29.8 -1.9**
comp=Z,7.5nm,1.0s,baz=214,slow=6.9,SNR=15
ZALV LR LR 07 27 54.9
comp=Z,152nm,18.3s,baz=188,slow=37
comp=Z,7.5nm,1.0s
WR0 Warramunga Arr 66.17 107 P **P** **06 58 32.9 0.0**
WR0 IAmb IAmb 06 58 34.6
comp=Z,5.8nm,0.8s
NEHR Nehoiu 66.29 330 ⇓P **P** **06 58 33.5 +0.4**
VRI Vrincioaia 66.40 331 ⇑P **P** **06 58 34.7 +0.9**
VRI Vrincioaia 66.40 331 P **P** **06 58 34.2 +0.4**
comp=Z,29nm,1.0s,comp=Z,261nm
PLOR Plostina 66.43 331 ⇑P **P** **06 58 34.2 +0.2**
PLOR3 Plostina Array 66.43 331 P **P** **06 58 34.2 +0.2**
comp=Z,32nm,1.1s
MLR Muntele Rosu 66.51 330 P **P** **06 58 35.4 +0.8**
MLR Muntele Rosu 66.51 330 ⇑P **P** **06 58 33.6 -1.0**
MLR Muntele Rosu 66.51 330 P **P** **06 58 34.1 -0.5**
comp=Z,15nm,1.3s
ELIB Princess Elisa 66.63 193 *d*P **P** **06 58 35.7 +0.7**
comp=Z,3.3nm,1.3s
COVR Voineasa-Covas 66.64 331 ⇑P **P** **06 58 35.5 +0.2**
TURR Turia 66.88 331 ⇑P **P** **06 58 36.9 0.0**
ONER Baraj Valea Uz 66.91 331 ⇑P **P** **06 58 34.9 -2.0**
VOIR 66.91 330 ⇑P **P** **06 58 36.2 -0.9**
VOIR 66.91 330 P **P** **06 58 36.6 -0.5**
comp=Z,10nm,1.4s
TESR Tescani 66.91 331 ⇑P **P** **06 58 36.7 -0.3**
TESR Tescani 66.91 331 P **P** **06 58 36.6 -0.4**
comp=Z,21nm,1.5s
ARTI Arti 66.97 355 P **P** **06 58 36.7 -0.4**
ARTI IAmb IAmb 06 58 38.6
comp=Z,18nm,1.3s
ARR Arges 67.07 329 ⇑P **P** **06 58 37.7 -0.4**
DOPR Dopca 67.12 330 ⇑P **P** **06 58 36.7 -1.6**
SORM Soroca 67.35 334 ⇓P **P** **06 58 38.4 -1.3**
SORM Soroca 67.35 334 P **P** **06 58 38.3 -1.3**
comp=Z,16nm,1.1s
PUK Puka 67.39 324 P **P** **06 58 39.8 -0.4**
PUK IAmb IAmb 06 58 40.5
comp=Z,12nm,1.1s
BOVS Bovan 67.41 327 ⇓P **P** **06 58 39.3 -0.9**
BBOO Buckleboo 67.43 121 P **P** **06 58 40.5 -0.2**
HERR Herculane 67.87 328 ⇑P **P** **06 58 42.4 -0.6**
PDG Podgorica 68.00 324 P **P** **06 58 43.9 -0.1**
PDG Podgorica 68.00 324 ⇓P **P** **06 58 48.1 +4.2**
GZR Gura Zlata 68.03 328 ⇓P **P** **06 58 44.0 -0.2**
SONM Songino Array 68.12 28 P **P** **06 58 44.3 -0.5**
comp=Z,4.9nm,0.9s,baz=224,slow=6.5,SNR=19
SONM LR LR 07 27 37.7
comp=Z,699nm,20.9s,baz=216,slow=35
comp=Z,4.9nm,0.9s
MDVR Moldovita 68.17 327 ⇑P **P** **06 58 42.6 -2.5**
TORD Torodi Ar. Bea 68.26 289 P **P** **06 58 46.1 0.0**
comp=Z,2.6nm,1.1s,baz=97,slow=5.6,SNR=8.2
TORD LR LR 07 28 35.3
comp=Z,77nm,18.7s,baz=125,slow=36
comp=Z,2.6nm,1.1s
BURAR Bucovina Array 68.39 331 ⇑P **P** **06 58 47.9 +1.4**
BUR08 Bucovina Ar. S 68.42 331 P **P** **06 58 46.5 -0.1**
BUR08 IAmb IAmb 06 58 55.0
comp=Z,13nm,1.4s
ULN Ulaanbaatar 68.44 28 P **P** **06 58 46.4 -0.5**
ULN IAmb IAmb 06 58 49.4
comp=Z,32nm,2.0s
KMPD K-Podol'skiy 68.51 333 P **P** **06 58 45.8 -1.2**
SURR Surduc 68.61 328 ⇓P **P** **06 58 47.7 0.0**
MARR Marisel-Cluj 68.74 330 ⇓P **P** **06 58 47.5 -1.1**
BZS Buzias 68.78 328 ⇑P **P** **06 58 48.5 -0.2**
AK09 Malin Array Si 68.85 336 P **P** **06 58 47.8 -1.3**
AK10 Malin Array Si 68.85 336 P **P** **06 58 47.8 -1.3**
AK06 Malin Array Si 68.86 336 P **P** **06 58 47.9 -1.3**
AK08 Malin Array Si 68.88 336 P **P** **06 58 48.0 -1.2**
AK05 Malin Array Si 68.89 336 P **P** **06 58 48.0 -1.3**
AK02 Malin Array Si 68.92 336 P **P** **06 58 47.9 -1.6**
AK12 Malin Array Si 68.93 336 P **P** **06 58 48.2 -1.3**
AK14 Malin Array Si 68.94 336 P **P** **06 58 48.2 -1.4**
AK01 Malin Array Si 68.94 336 P **P** **06 58 48.2 -1.4**
AK13 Malin Array Si 68.94 336 P **P** **06 58 48.1 -1.5**
AKASG Malin Array Be 68.94 336 P **P** **06 58 48.4 -1.2**
comp=Z,4.3nm,0.9s,baz=142,slow=5.2,SNR=20
comp=Z,4.3nm,0.9s
AKBB Malin Array Si 68.94 336 P **P** **06 58 48.5 -1.1**
AKBB Malin Array Si 68.94 336 P **P** **06 58 48.5 -1.1**
KIEV Kiev 68.94 336 P **P** **06 58 48.7 -1.0**
KIEV IAmb IAmb 06 58 56.5
comp=Z,19nm,1.2s
KIEV Kiev 68.94 336 ⇑P **P** **06 58 48.4 -1.3**
KIEV Kiev 68.94 336 P **P** **06 58 48.6 -1.0**
comp=Z,63nm,1.5s
AK11 Malin Array Si 68.95 336 P **P** **06 58 48.4 -1.3**
LUBAR Lubar, Ukraine 68.95 334 P **P** **06 58 48.4 -1.3**
KSV Kosov 68.96 332 P **P** **06 58 49.3 -0.6**
AK03 Malin Array Si 68.96 336 P **P** **06 58 48.4 -1.4**
AK16 Malin Array Si 68.97 336 P **P** **06 58 48.4 -1.4**
AK15 Malin Array Si 68.98 336 P **P** **06 58 48.5 -1.4**
AK04 Malin Array Si 68.98 336 P **P** **06 58 48.5 -1.4**
AK17 Malin Array Si 69.00 336 P **P** **06 58 48.6 -1.4**
AK18 Malin Array Si 69.02 336 P **P** **06 58 48.8 -1.3**
DRGR 69.02 330 ⇓P **P** **06 58 50.6 +0.2**
AK23 Malin Array Si 69.03 336 P **P** **06 58 49.1 -1.1**
AK19 Malin Array Si 69.05 336 P **P** **06 58 48.9 -1.4**
AK22 Malin Array Si 69.05 336 P **P** **06 58 48.9 -1.4**
AK20 Malin Array Si 69.06 336 P **P** **06 58 49.0 -1.4**
AK21 Malin Array Si 69.08 336 P **P** **06 58 49.0 -1.5**

SIRR Siria 69.20 329 ⇓P **P** **06 58 51.4 0.0**
BRIU Brid 69.94 331 P **P** **06 58 55.9 0.0**
KIRV Kirov 70.21 351 LR LR 07 30 36.2
comp=Z,123nm,20.4s,baz=148,slow=37
HOLU Holmets 70.38 331 P **P** **06 58 58.3 -0.2**
SHIU Shidnytsya 70.40 332 P **P** **06 58 59.0 +0.3**
KEST Kesra 70.65 314 LR LR 07 29 53.4
comp=Z,38nm,19.5s,baz=349,slow=36
JOW Kunigami 70.67 57 LR LR 07 29 41.6
comp=Z,301nm,20.1s,baz=190,slow=36
KOLS Kolonicke sedl 70.71 331 *e*P **P** **06 59 00.9 +0.3**
MORH Mrgy, Hungar 70.74 327 ⇓P **P** **06 59 00.9 +0.1**
MORH Mrgy, Hungar 70.74 327 P **P** **06 59 00.4 -0.4**
comp=Z,14nm,1.2s
INTR Introdacqua 70.93 321 P **P** **06 59 02.9 +0.7**
INTR IAmb IAmb 06 59 09.9
comp=Z,16nm,1.2s
CAMP Campotosto 71.53 322 P **P** **06 59 05.6 -0.3**
NRCA Norcia 71.88 322 P **P** **06 59 07.4 -0.5**
MPLH Magyarpolny 71.94 327 P **P** **06 59 07.7 -0.3**
comp=Z,41nm,1.1s
TROLL Troll, Antarti 72.09 197 ⇑P **P** **06 59 06.2 -2.6**
comp=Z,113nm,1.1s
VYHS Vyhne 72.11 329 *e*P **P** **06 59 08.9 -0.2**
STKA Stephens Creek 72.11 120 P **P** **06 59 09.2 -0.4**
comp=Z,2.6nm,0.9s,baz=260,slow=7.3,SNR=4.3
comp=Z,2.6nm,0.9s
LANS Liptovska Anna 72.22 330 *e*P **P** **06 59 10.7 +0.9**
OJC Ojcow 72.77 331 P **P** **06 59 11.8 -1.2**
MODS Modra-Piesok 72.83 328 *e*P **P** **06 59 14.0 +0.6**
DBIC Dimbokro 72.83 280 P **P** **06 59 14.1 -0.1**
comp=Z,20nm,1.3s,baz=90,slow=9.1,SNR=3.9
DBIC LR LR 07 29 40.1
comp=Z,258nm,20.4s,baz=97,slow=34
comp=Z,20nm,1.3s
RONA Rosalia, Austr 72.92 327 *e*P **P** **06 59 13.7 -0.3**
comp=Z,3.7nm,1.0s
ARSA Arzberg 73.07 327 *i* P **P** **06 59 14.5 -0.3**
comp=Z,5.7nm,1.1s
NACGM Naroch 73.12 337 *e*P **P** **06 59 12.2 -2.7**
comp=E,1μm,0.8s
CONA Conrad Observa 73.30 327 *e*P **P** **06 59 15.8 -0.4**
comp=E,9.9nm,1.2s
SNAA Sanae 73.57 198 P **P** **06 59 17.3 -0.2**
SNAA IAmb IAmb 07 00 49.4
comp=Z,20nm,2.0s
SNAA Sanae 73.57 198 ⇑P **P** **06 59 16.7 -0.7**
comp=Z,46nm,0.8s
SNAA Sanae 73.57 198 P **P** **06 59 18.0 +0.5**
comp=Z,2.9nm,1.0s,baz=23,slow=5.7,SNR=6.3
SNAA LR LR 07 24 27.8
comp=Z,247nm,21.6s,baz=14,slow=30
comp=Z,2.9nm,1.0s
MORC Moravsky Berou 73.58 329 *e*P **P** **06 59 17.4 -0.5**
MORC *e* 06 59 24.2
KRUC Moravsky 73.72 328 *e*P **P** **06 59 18.2 -0.4**
KRUC *e* 06 59 25.0
MYKA Terra Mystica 73.74 325 *e*P **P** **06 59 18.9 0.0**
comp=Z,15nm,1.6s
VRAC Vranov 73.77 329 *e*P **P** **06 59 18.7 -0.2**
VRAC *e* 06 59 25.7
MOA Molln 74.11 327 *e*P **P** **06 59 20.2 -0.7**
comp=Z,5.6nm,0.7s
KBA Koelnbreinsper 74.16 325 *e*P **P** **06 59 20.3 -1.1**
comp=Z,4.1nm,1.3s
BIOA Bad Ischl, Aus 74.36 326 *e*P **P** **06 59 21.6 -0.8**
comp=Z,3.4nm,0.7s
ABTA Abfaltersbach 74.44 325 *e*P **P** **06 59 23.4 +0.4**
comp=Z,8.5nm,0.9s,SNR=13
CKRC Cesky Krumlov 74.66 327 *e*P **P** **06 59 23.4 -0.7**
LESA Schwarzleotal 74.73 325 *e*P **P** **06 59 24.1 -0.6**
comp=Z,8.9nm,0.9s
VNA2 Neumayer--Watz 74.80 199 ⇑P **P** **06 59 21.9 -2.7**
comp=Z,3.0nm,0.8s,baz=68,slow=7.2
KSRS Korea Array 74.82 47 P **P** **06 59 23.6 -1.6**
comp=Z,2.8nm,1.1s,baz=252,slow=7.0,SNR=3.8
KSRS LR LR 07 32 29.5
comp=Z,195nm,18.6s,baz=230,slow=36
comp=Z,2.8nm,1.1s
GERES GERESS Array B 75.00 327 P **P** **06 59 25.4 -0.8**
comp=Z,2.2nm,0.8s,baz=124,slow=6.6,SNR=9.0
comp=Z,2.2nm,0.8s
VNA1 Neumayer--Stat 75.03 199 ⇑P P 06 59 19.2 -6.7
comp=Z,8.4nm,0.9s
ZVC Zvikov 75.09 328 *e*P **P** **06 59 26.4 -0.2**
ZVC *e*pP **pwP** **06 59 33.2 -1.5**
TOO Toolangi 75.16 126 P **P** **06 59 27.6 +0.2**
JNU Nakatsue 75.21 52 LR LR 07 31 17.9
comp=Z,222nm,20.1s,baz=320,slow=35
WTTA Wattenberg 75.23 325 *e*P **P** **06 59 27.4 -0.3**
comp=Z,12nm,0.9s,SNR=7.1
KHC Kasperske Hory 75.23 327 P **P** **06 59 26.7 -0.8**
KHC IAmb IAmb 06 59 34.3
comp=Z,8.4nm,1.0s
KHC Kasperske Hory 75.23 327 *e*P **P** **06 59 26.7 -0.8**
KHC *e*pP **sP** **06 59 33.5 +1.7**
WATA Walderalm 75.30 325 *e*P **P** **06 59 27.6 -0.4**
comp=Z,11nm,0.8s
SQTA Sankt Quirin 75.44 325 *e*P **P** **06 59 28.2 -0.6**
comp=Z,10nm,1.1s,SNR=9.7
MOTA Moosalm 75.57 325 *e*P **P** **06 59 28.8 -0.8**
comp=Z,14nm,1.0s
VNA3 Neumayer Olymp 75.59 199 ⇑P **P** **06 59 25.4 -3.8**
comp=Z,3.7nm,0.9s
FETA Feichten 75.61 324 *e*P **P** **06 59 29.8 0.0**
comp=Z,7.5nm,1.0s,SNR=11
FUORN Ofenpass-Fuorn 75.66 324 P **P** **06 59 30.1 -0.1**
FUORN IAmb IAmb 06 59 38.4
comp=Z,16nm,1.1s
RETA Reutte 75.84 325 *e*P **P** **06 59 29.8 -1.3**
comp=Z,6.7nm,1.0s
BRG Berggiesshubel 76.08 329 *e*P **P** **06 59 32.9 +0.7**
BRG Amp 06 59 34.0
comp=Z,6.4nm,1.1s
BRG Berggiesshubel 76.08 329 P P 06 59 39.6 +7.5
BRG Amp 06 59 41.6
comp=Z,13nm,1.1s
DAVA Damuels 76.24 324 *i* P **P** **06 59 33.0 -0.4**
comp=Z,15nm,1.0s
CLL Collm 76.81 329 *i* P **P** **06 59 36.1 -0.2**
comp=Z,14nm,1.3s
CLL *i* x x 06 59 43.7
QSPA South Pole Qui 79.54 180 P **P** **06 59 51.8 +0.3**
comp=Z,3.0nm,0.9s,baz=276,slow=3.2,SNR=6.6
QSPA LR LR 07 30 12.9
comp=Z,266nm,20.1s,baz=294,slow=32
comp=Z,3.0nm,0.9s
MDT Midelt 80.00 306 LR LR 07 37 04.2
comp=Z,80nm,18.7s,baz=124,slow=37
USRK Ussuriysk Ar. 80.51 42 P **P** **06 59 55.3 -1.6**
comp=Z,2.1nm,0.9s,baz=227,slow=9.6,SNR=3.2
USRK LR LR 07 36 35.5
comp=Z,125nm,18.6s,baz=225,slow=36
comp=Z,2.1nm,0.9s
BMRD Maredsous 80.69 325 *d*P **P** **06 59 58.9 +1.3**
comp=Z,10.0nm,0.9s
BMRD *d*PcP **PcP** **07 00 04.8 +0.4**
HFS Hagfors 81.82 336 P **P** **07 00 03.5 0.0**
comp=Z,13nm,0.9s,baz=145,slow=5.4,SNR=9.4
comp=Z,13nm,0.9s
ESDC Sonseca Array 81.87 313 P **P** **07 00 04.8 +0.5**
comp=Z,3.8nm,1.0s,baz=97,slow=4.0,SNR=14
comp=Z,3.8nm,1.0s
MJAR Matsushiro Arr 82.06 51 P **P** **07 00 04.8 -0.6**
comp=Z,3.1nm,0.8s,baz=234,slow=4.7,SNR=8.2
MJAR LR LR 07 35 35.9
comp=Z,210nm,20.1s,baz=218,slow=35
comp=Z,3.1nm,0.8s
BELA Belgrano 2 82.08 192 P **P** **07 00 06.6 +1.9**
BELA IAmb IAmb 07 00 17.4
comp=Z,13nm,1.6s
JHJ Hachijo jima 2 82.20 54 LR LR 07 33 58.3
comp=Z,144nm,21.9s,baz=264,slow=34
NB2 NORSAR Subarra 83.35 336 P **P** **07 00 09.4 -2.1**
comp=Z,36nm,2.0s,baz=127,slow=5.1
NB2 NORSAR Subarra 83.35 336 P **P** **07 00 09.4 -2.1**
baz=127,slow=5.1
NOA NORSAR Array B 83.35 336 P **P** **07 00 11.6 +0.1**
comp=Z,2.1nm,1.1s,baz=113,slow=5.3,SNR=1.5
comp=Z,2.1nm,1.1s
ARCES ARCESS Array B 84.70 347 LR LR 07 38 34.1
comp=Z,52nm,19.4s,baz=143,slow=36
BBTS Babate 85.77 286 LR LR 07 38 31.4
comp=Z,90nm,19.1s,baz=350,slow=36
YAK Yakutsk 87.27 25 LR LR 07 39 35.4
comp=Z,291nm,20.0s,baz=231,slow=36
ASAJ Asahikawa 87.61 44 LR LR 07 40 30.4

comp=Z,162nm,18.9s,baz=196,slow=36
TIXI Tiksi 91.64 16 P **P 07 00 50.0 -1.3**
TIXI IAmb IAmb 07 00 52.8
comp=Z,13nm,1.1s
TIXI Tiksi 91.64 16 LR LR 07 42 51.6
comp=Z,156nm,19.7s,baz=218,slow=36
DZM Mont Dzumac 95.36 114 LR LR 07 40 38.3
comp=Z,124nm,21.4s,baz=234,slow=33
MA2 Magadan 96.20 31 LR LR 07 45 33.0
comp=Z,100nm,18.3s,baz=250,slow=36
PMSA Palmer Station 96.25 199 LR LR 07 38 55.0
comp=Z,65nm,18.0s,baz=124,slow=32
ILAR Eielson Array 121.11 16 PKP **PKPdf 07 06 36.3 -0.8**
comp=Z,0.2nm,0.5s,baz=320,slow=3.9,SNR=2.8
LPAZ La Paz 127.61 240 PKP **PKiKP 07 06 52.1 -0.2**
comp=Z,1.5nm,0.8s,baz=79,slow=4.5,SNR=5.9
PDAR Pinedale Array 147.66 354 PKPbc **PKPdf 07 07 27.3 +0.1**
comp=Z,2.4nm,0.9s,baz=52,slow=2.6,SNR=12
NVAR Mina Array Bea 151.90 8 PKPbc **PKiKP 07 07 40.7 -0.1**
comp=Z,7.0nm,1.0s,baz=301,slow=1.3,SNR=24
TXAR Lajitas Array 159.04 335 PKPab **PKPab 07 08 19.9 -0.1**
comp=Z,1.8nm,0.9s,baz=44,slow=2.6,SNR=12

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*IDC **11** 07:07:29.4±0.7,29°.87N×80°.58E,h0km,mb4.2/23, mbtmp4.2/24,ML3.6/1,MS3.8/15,Error ellipse: s-maj=16.4km s-min=15.3km az=178.0*
*BJI **11** 07:07:30.0,29°.93N×80°.78E,h7km,mb4.5/38,mB4.7/12, Ms4.1/24,Ms7 3.9/25*
*NEIC **11** 07:07:31.8±1.8,29°.93N±0°.07×80°.65E±0°.06,h10km±1km, mb4.5/32,Error ellipse: s-maj=12.4km s-min=6.9km az=150.0*
*MOS **11** 07:07:31.1±1.4,29°.86N×80°.55E,h22km,mb4.8/22,Error ellipse: s-maj=9.2km s-min=4.4km az=119.3*
*NDI **11** 07:07:33.4,29°.77N×80°.63E,h10km,mb4.7,ML4.5, mb4.5(NEIC)*
*HYB **11** 07:07:40.9,28°.89N×80°.50E,h4km,ML4.9*
ISC 11 07:07:30.8±0.4,**29°.84N**±0°.03×**80°.64E**±0°.03,**h11**km±2km, **h11**km:**pP-P,n274,**σ1§**67**/300,**mb4.5**/74,**MS3.9**/23, **28C-31D,Nepal-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**0.46**	**232**	*e*Pg	**Pb**	**07 07 40.8**	**-0.3**
PTH				*i* Sg	**Sb**	**07 07 47.7**	**-0.4**
PTH				IAML		07 07 49.2	
	comp=E,21μm,0.1s						
PTH				IAML		07 07 54.0	
	comp=E,17μm,0.1s						
LGTI	**Lohaghat**	**0.51**	**221**	*e*Pg	**Pn**	**07 07 44.8**	**+0.7**
LGTI				*i* Sg	**Sn**	**07 07 53.7**	**+0.9**
LGTI				IAML		07 07 55.9	
	comp=E,5μm,0.1s						
LGTI				IAML		07 08 03.5	
	comp=E,15μm,0.3s						
JOSI	**Joshimath**	**1.18**	**308**	*e*P	**Pb**	**07 07 53.1**	**-0.2**
JOSI				*ex*	**Sb**	**07 08 06.8**	**-1.8**
JOSI				IAML		07 08 13.3	
	comp=N,28μm,0.6s						
JOSI				IAML		07 08 13.6	
	comp=E,32μm,0.6s						
TKRD	**Thakurdwara**	**1.70**	**247**	*e*P	**Pg**	**07 08 04.0**	**+0.6**
DDI	**Dehra Dun**	**2.29**	**283**	*e*P	**Pb**	**07 08 11.8**	**-0.3**
DDI				*e*S	**Sb**	**07 08 41.6**	**+1.1**
DDI				IAML		07 08 48.1	
	comp=E,11μm,0.5s						
DDI				IAML		07 08 48.4	
	comp=N,11μm,0.7s						
FRKB	**FARRUKHABAD**	**2.60**	**201**	*e*P	**Pn**	**07 08 14.0**	**+1.1**
KLP	**Kalpa**	**2.66**	**310**	*ex*	**Pb**	**07 08 20.7**	**+2.0**
KLP				*ex*	**Sg**	**07 08 55.5**	**-0.8**
KLP				IAML		07 09 02.0	
	comp=E,3μm,0.5s						
KLP				IAML		07 09 04.2	
	comp=N,3μm,0.5s						
MERT	**Meerut**	**2.67**	**252**	*e*P	**Pb**	**07 08 16.5**	**-2.2**
UGON	**Onchagaon**	**2.83**	**238**	*ex*	**Pn**	**07 08 14.4**	**-1.5**
UGON				*e*S	**Sn**	**07 08 52.9**	**+2.8**
BISR	**Bishrakh**	**3.07**	**246**	*e*P	**Pn**	**07 08 21.8**	**+2.6**
LKN	**LUCKNOW**	**3.07**	**176**	*ex*	**Pg**	**07 08 30.0**	**+0.4**
NDI	**New Delhi**	**3.20**	**250**	*e*P	**Pn**	**07 08 23.2**	**+2.2**
NDI				*e*P	**Pn**	**07 08 23.3**	**+2.2**
NDI				*i* x	**Pg**	**07 08 34.0**	**+1.8**
NDI				*i* x	x	07 08 34.1	
HNLY	**HANLEY**	**3.26**	**335**	*e*P	**Pb**	**07 08 26.6**	**-2.4**
HNLY				*i* x	**Pg**	**07 08 32.4**	**-0.9**
SMLA	**Simla**	**3.26**	**294**	*e*P	**Pn**	**07 08 24.8**	**+3.0**
SMLA				*i* x	x	07 08 30.9	
SMLA				*e*S	**Sn**	**07 09 04.3**	**+3.7**
SMLA				IAML		07 09 16.9	
	comp=E,5μm,0.5s						
SMLA				IAML		07 09 18.1	
	comp=N,5μm,0.4s						
SONA	**Sohna**	**3.49**	**244**	*e*P	**Pn**	**07 08 27.8**	**+2.8**
VLK	**Valmikinagar**	**3.79**	**131**	*ex*	**Pg**	**07 08 43.5**	**+0.1**
BHK	**Bhakra**	**3.96**	**294**	*ex*	**Pn**	**07 08 34.7**	**+3.1**
KUDL	**Kundal**	**4.00**	**246**	*e*P	**Pn**	**07 08 34.2**	**+2.1**
KUDL				*i* x	**Pg**	**07 08 47.4**	**-0.1**
BNDA	**BANDA**	**4.35**	**184**	*ex*	**Pg**	**07 08 54.2**	**+0.1**
DHRM	**DHARAMSHALA**	**4.43**	**304**	*e*P	**Pn**	**07 08 40.9**	**+2.7**
DHRM				*e*S	**Sn**	**07 09 32.2**	**+2.3**
DHRM				IAML		07 09 59.7	
	comp=N,2μm,0.2s						
DHRM				IAML		07 10 00.6	
	comp=E,2μm,0.5s						
ALBI	**Allahabad**	**4.63**	**167**	*e*P	**Pn**	**07 08 42.6**	**+1.9**
ALBI				*i* x	**Pg**	**07 09 00.0**	**+0.5**
JHNI	**Jhansi**	**4.73**	**204**	*e*P	**Pn**	**07 08 43.5**	**+1.3**
THN	**Thein Dam**	**4.95**	**303**	*e*P	**Pn**	**07 08 47.8**	**+2.7**
THN				*e*S	**Sn**	**07 09 43.0**	**+0.6**
THN				IAML		07 10 09.9	
	comp=E,2μm,0.6s						
THN				IAML		07 10 12.7	
	comp=N,979nm,0.3s						
GUNA	**GUNA**	**5.95**	**210**	*e*P	**Pn**	**07 08 59.6**	**+0.8**
GUNA				*e*S	**Sn**	**07 10 07.0**	**0.0**
AJM	**Ajmer**	**6.26**	**239**	*e*P	**Pn**	**07 09 06.2**	**+3.0**
BKNR	**BIKANER**	**6.70**	**256**	*e*P	**Pn**	**07 09 09.6**	**+0.4**
BHPL	**Bhopal**	**7.17**	**204**	*e*P	**Pn**	**07 09 16.1**	**+0.4**
BHPL				*e*S	**Sn**	**07 10 33.1**	**-4.1**
BHPL				*e*S	**Sn**	**07 10 35.0**	**-2.2**
BHPL				IAML		07 10 39.0	
	comp=N,178nm,0.3s						
NIL	**Nilore**	**7.35**	**303**		**Pn**	**07 09 18.3**	**+0.2**
NIL	**Nilore**	**7.35**	**303**	P	**Pn**	**07 09 18.3**	**+0.2**
GTK	**Tadong**	**7.44**	**108**	*e*P	**Pn**	**07 09 20.4**	**+0.9**
GTK				*e*S	**Sn**	**07 10 40.9**	**-3.1**
BOK	**Bokaro**	**7.63**	**141**	*e*P	**Pn**	**07 09 23.8**	**+1.8**
BOK				*e*S	**Sn**	**07 10 48.2**	**-0.2**
NRDN	**NARMADA NAGAR**	**7.74**	**204**	*ex*	x	07 09 32.8	
NRDN				IAmb	IAmb	07 09 33.7	
	comp=Z,53nm,0.8s						
NRDN				*ex*	x	07 11 03.2	
BLSP	**Bilaspur**	**7.79**	**170**	*e*P	**Pn**	**07 09 24.9**	**+0.7**
JHSG	**JHARSUGUGA**	**8.52**	**160**	*e*P	**Pn**	**07 09 34.9**	**+0.6**
NGP	**Nagpur**	**8.77**	**190**	*e*P	**Pn**	**07 09 37.6**	**0.0**
LSA	**Lhasa**	**9.14**	**88**	Pn	**Pn**	**07 09 43.0**	**-0.1**
LSA	**Lhasa**	**9.14**	**88**	P	**Pn**	**07 09 45.7**	**+2.6**
LSA				LR	LR		
	comp=Z,1μm,12.2s						
LSA				LR	LR		
	comp=Z,2μm,12.0s						
LSA	**Lhasa**	**9.14**	**88**	P	**Pn**	**07 09 43.0**	**-0.1**
AKL	**Akola**	**9.66**	**201**	*e*P	**Pn**	**07 09 50.4**	**+0.5**
AKL				IAmb	IAmb	07 09 51.8	
	comp=Z,68nm,0.5s						
AKL				*e*S	**Sn**	**07 11 33.7**	**-4.8**
KSH	**Kashi**	**10.39**	**340**	P	**Pn**	**07 09 59.1**	**-0.8**
KSH				S	**Sn**	**07 11 47.6**	**-8.8**
KSH				pmax	pmax		
	comp=Z,14nm,0.7s						
KSH				LR	LR		
	comp=Z,380nm,7.6s						
KSH				LR	LR		
	comp=Z,250nm,4.8s						
KSH				LR	LR		
	comp=Z,360nm,10.1s						
SHL	**Shillong**	**10.84**	**110**	Pn	**Pn**	**07 10 04.6**	**-1.5**
SHL	**Shillong**	**10.84**	**110**	P	**Pn**	**07 10 04.6**	**-1.5**
KBL	**Kabul**	**10.88**	**299**	Pn	**Pn**	**07 10 07.0**	**+0.3**
ZIRO	**ZIRO**	**11.83**	**98**	*ex*	x	07 10 36.4	
ZIRO				*ex*	**Sn**	**07 12 28.4**	**-3.4**
DRK	**Karamyk**	**12.05**	**325**	Pn	**Pn**	**07 10 23.3**	**+0.5**
DRK	**Karamyk**	**12.05**	**325**	P	**Pn**	**07 10 23.3**	**+0.5**
NRN	**Naryn**	**12.17**	**343**		**Pn**	**07 10 23.9**	**-0.5**
NRN	**Naryn**	**12.17**	**343**	P	**Pn**	**07 10 23.9**	**-0.5**
BRDH	**Bariadhala**	**12.18**	**123**	Pn	**Pn**	**07 10 23.9**	**-0.3**
	comp=Z,40nm,0.3s,baz=262,slow=19,SNR=4.3						
AZL	**Aizawl**	**12.36**	**117**	*e*P	**Pn**	**07 10 24.9**	**-1.9**
AZL				*ex*	**Sn**	**07 12 40.9**	**-3.8**
GAR	**Garm**	**12.49**	**320**	Pn	**Pn**	**07 10 27.6**	**-1.0**
HYB	**Hyderabad**	**12.51**	**189**	*e*P	**Pn**	**07 10 26.7**	**-2.2**
HYB				*e*S	Sn	07 12 37.5	-11
KOHI	**KOHIMA**	**12.61**	**106**	*e*P	**Pn**	**07 10 29.2**	**-1.2**
KOHI				*e*S	**Sn**	**07 12 44.3**	**-6.6**
MOKO	**MOKOCHONG**	**12.74**	**103**	*e*P	**Pn**	**07 10 31.8**	**-0.4**
MOKO				*e*S	**Sn**	**07 12 48.4**	**-5.9**
POO	**Poona**	**12.84**	**210**	*e*P	**Pn**	**07 10 31.1**	**-2.3**
POO				IAmb	IAmb	07 10 32.6	
	comp=Z,52nm,1.2s						
POO				*e*S	Sn	07 12 46.0	-10
BTK	**Batken**	**12.98**	**324**		**Pn**	**07 10 33.7**	**-1.6**
BTK	**Batken**	**12.98**	**324**	P	**Pn**	**07 10 33.7**	**-1.6**
SIMJ	**Simiganj**	**13.03**	**316**		**Pn**	**07 10 33.2**	**-2.7**
ARSB	**Arslanbob**	**13.04**	**334**		**Pn**	**07 10 33.7**	**-2.4**
ARSB	**Arslanbob**	**13.04**	**334**	P	**Pn**	**07 10 33.7**	**-2.4**
BOOM	**Boomskoye usch**	**13.18**	**345**	Pn	**Pn**	**07 10 37.5**	**-0.6**
BOOM	**Boomskoye usch**	**13.18**	**345**	P	**Pn**	**07 10 37.5**	**-0.6**
TKM2	**Tokmak 2**	**13.67**	**344**	*i* P	**Pn**	**07 10 45.2**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,8.0nm,1.2s						
AAK	**Ala-Archa**	**13.70**	**341**	P	**Pn**	**07 10 44.2**	**-0.9**
AAK	**Ala-Archa**	**13.70**	**341**	Pn	**Pn**	**07 10 43.6**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=175,slow=11,SNR=2.3						
AAK				Sn	**Sn**	**07 13 12.1**	**-5.3**
	comp=Z,0.1nm,0.3s,baz=316,slow=8.3,SNR=2.2						
	comp=Z,1.0nm,0.3s						
AAK	**Ala-Archa**	**13.70**	**341**	⇑*e*P	**Pn**	**07 10 46.9**	**+1.8**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KAD	**Karad**	**13.80**	**207**	*ex*	**Pn**	**07 10 43.2**	**-3.3**
KAD				IAmb	IAmb	07 10 45.1	
	comp=Z,6.6nm,0.6s						
WMQ	**Urumqi**	**15.05**	**20**	*e*P	**Pn**	**07 11 02.9**	**-0.6**
WMQ				pmax	pmax		
	comp=Z,44nm,0.7s						
WMQ				LR	LR		
	comp=Z,530nm,14.7s						
WMQ				LR	LR		
	comp=Z,490nm,19.3s						
WMQ				LR	LR		
	comp=Z,440nm,21.1s						
KK31	**Karatay Array**	**15.53**	**331**	*e*P	**Pn**	**07 11 07.0**	**-2.7**
KKAR	**Karatay Array**	**15.53**	**331**		**Pn**	**07 11 07.7**	**-2.0**
KKAR	**Karatay Array**	**15.53**	**331**	P	**Pn**	**07 11 07.7**	**-2.0**
HRA	**Herat**	**16.23**	**291**		**Pn**	**07 11 18.9**	**-0.1**
TNCH	**TengChong**	**16.58**	**103**	*e*P	**Pn**	**07 11 24.8**	**+1.3**
TNCH				sP	pP	07 11 30.3	+0.6
TNCH				pmax	pmax		
	comp=Z,210nm,3.7s						
MAKZ	**Makanchi**	**16.98**	**3**	P	**Pn**	**07 11 28.4**	**+0.2**
MAKZ	**Makanchi**	**16.98**	**3**	P	**Pn**	**07 11 28.4**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,18nm,1.1s						
MK31	**Makanchi Array**	**16.98**	**4**	P	**Pn**	**07 11 27.8**	**-0.5**
MK31	**Makanchi Array**	**16.98**	**4**	*de*P	**P**	**07 11 30.9**	**+0.7**
MKAR	**Makanchi Array**	**16.98**	**4**	Pn	**Pn**	**07 11 28.1**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=182,slow=12,SNR=35						
MKAR	**Makanchi Array**	**16.98**	**4**	*i* P	**P**	**07 11 29.3**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
PZH	**PanZhiHua**	**18.90**	**95**	P	**Pn**	**07 11 53.6**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
KOD	**Kodaikanal**	**19.73**	**189**	*e*P	**Pn**	**07 12 04.8**	**+2.4**
KOD				*ex*	S	07 15 32.2	-11
CHTO	**Chiang Mai**	**19.94**	**119**	P	**P**	**07 12 03.2**	**+0.3**
CHTO				IAmb	IAmb	07 12 10.8	
	comp=Z,16nm,0.9s						
CHTO	**Chiang Mai**	**19.94**	**119**	P	**P**	**07 12 03.2**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,16nm,0.9s						
CD2	**Chengdu**	**19.98**	**81**	P	**Pn**	**07 12 05.5**	**+0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=Z,290nm,12.7s						
CD2				LR	LR		
	comp=Z,420nm,9.5s						
CD2				LR	LR		
	comp=Z,350nm,10.2s						
CM31	**Chiang Mai Arr**	**20.15**	**120**	P	Pn	07 12 06.7	-0.4
CM31				IAmb	IAmb	07 12 24.0	
	comp=Z,20nm,0.9s						
CMAR	**Chiang Mai Arr**	**20.15**	**120**	P	Pn	07 12 06.8	-0.3
	comp=Z,6.5nm,0.8s,baz=325,slow=9.6,SNR=46						
	comp=Z,6.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.15**	**120**	*i* P	Pn	07 12 07.5	+0.4
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KMI	**Kunming**	**20.16**	**98**	⇓P	**P**	**07 12 06.4**	**+0.9**
KMI				pmax	pmax		
	comp=Z,27nm,0.7s						
KMI				LR	LR		
	comp=Z,290nm,19.1s						
LZH	**Lanzhou**	**20.42**	**66**	*e*P	Pn	07 12 10.5	+0.1
LZH				pP	sP	07 12 14.4	+0.4
LZH				S	Sn	07 15 59.5	-1.1
LZH				pmax	pmax		
	comp=Z,15nm,1.4s						
LZH				pmax	pmax		
	comp=Z,60nm,5.8s						
LZH				LR	LR		
	comp=Z,460nm,12.0s						
LZH				LR	LR		
	comp=Z,690nm,11.3s						
LZH				LR	LR		
	comp=Z,820nm,13.1s						
WSAR	**Wadi Sarin**	**20.74**	**257**	P	**P**	**07 12 12.5**	**+1.0**
	comp=Z,6.8nm,0.7s,baz=104,slow=13,SNR=8.6						
WSAR				LR	LR	07 21 48.3	
	comp=Z,139nm,18.7s,baz=97,slow=42						
	comp=Z,6.8nm,0.7s						
PHRA	**Phrae**	**21.11**	**118**	P	**P**	**07 12 15.9**	**+0.3**
UOSS	**Minazif**	**22.22**	**263**	P	**P**	**07 12 28.1**	**+0.6**
UOSS				IAmb	IAmb	07 12 35.5	
	comp=Z,15nm,1.1s						
SLVN	**Son La**	**22.60**	**107**	P	**P**	**07 12 33.7**	**+2.0**
SLVN				IAmb	IAmb	07 12 48.1	
	comp=Z,18nm,1.1s						
ZAA0	**Zalesovo Array**	**24.29**	**6**	P	**P**	**07 12 47.7**	**-0.3**
ZAA0				IAmb	IAmb	07 12 58.2	
	comp=Z,11nm,0.7s						
ZALV	**Zalesovo Beam**	**24.29**	**6**	P	**P**	**07 12 47.5**	**-0.5**
	comp=Z,4.4nm,0.6s,baz=194,slow=11,SNR=18						
	comp=Z,4.4nm,0.6s						
ZALV	**Zalesovo Beam**	**24.29**	**6**	*i* P	**P**	**07 12 48.7**	**+0.7**
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BVAR	**Borovoye Array**	**24.36**	**345**	P	**P**	**07 12 48.9**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=138,slow=9.6,SNR=8.6						
	comp=Z,2.6nm,0.6s						
BRVK	**Borovoye**	**24.41**	**345**	P	**P**	**07 12 49.4**	**+0.2**
BRVK	**Borovoye**	**24.41**	**345**	⇑*e*P	**P**	**07 12 50.3**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
AB31	**Akbulak array**	**24.97**	**327**	P	**P**	**07 12 54.9**	**+0.6**
ABKAR	**Akbulak array**	**24.97**	**327**	P	**P**	**07 12 55.3**	**+1.1**
ABKAR				IAmb	IAmb	07 12 56.9	
	comp=Z,9.0nm,0.7s						
BTO	**Baotou**	**26.19**	**58**	*e*P	**P**	**07 13 05.9**	**+0.3**
BTO				pP	**pP**	**07 13 10.3**	**+0.6**
BTO				sP	**sP**	**07 13 12.6**	**+1.1**
BTO				PP	**PnPn**	**07 13 46.3**	**+2.2**
BTO				S	**S**	**07 17 38.5**	**+1.0**
BTO				SS	**SnSn**	**07 18 42.2**	**+6.1**
BTO				pmax	pmax		
	comp=Z,17nm,0.6s						
BTO				pmax	pmax		
	comp=Z,180nm,4.7s						
BTO				LR	LR		
	comp=Z,260nm,6.1s						
BTO				LR	LR		
	comp=Z,300nm,9.4s						
BTO				LR	LR		
	comp=Z,460nm,11.3s						
AKTO	**Aktyubinsk**	**26.69**	**327**	LR	LR	07 24 42.7	
	comp=Z,377nm,19.4s,baz=238,slow=39						
AKTO	**Aktyubinsk**	**26.69**	**327**	P	**P**	**07 13 09.5**	**-0.3**
SONM	**Songino Array**	**26.74**	**41**	P	**P**	**07 13 11.9**	**+1.4**
	comp=Z,2.5nm,0.8s,baz=232,slow=10,SNR=8.0						
	comp=Z,2.5nm,0.8s						
ULN	**Ulaanbaatar**	**27.13**	**41**	⇓*e*P	**P**	**07 13 15.4**	**+1.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**27.38**	**58**	*e*P	**P**	**07 13 16.7**	**+0.4**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,45nm,4.4s						
HHC				LR	LR		
	comp=Z,140nm,10.2s						
HHC				LR	LR		
	comp=Z,150nm,12.5s						
HHC				LR	LR		
	comp=Z,160nm,14.0s						
MAK	**Makhachkala**	**29.51**	**305**	*e*P	P	07 13 29.8	-5.3
MAK				*e*S	**S**	**07 18 22.6**	**-6.9**
MAK				pmax	pmax		
	comp=Z,325nm,1.1s						
MAK				MLR	MLR		
	comp=Z,382nm,14.0s						
ARTI	**Arti**	**30.84**	**336**	P	**P**	**07 13 47.2**	**+0.6**
ARTI				IAmb	IAmb	07 13 58.8	
	comp=Z,6.5nm,1.0s						
ARTI	**Arti**	**30.84**	**336**	*c i*P	**P**	**07 13 48.1**	**+1.4**
ARTI						07 14 46.9	
ARTI				S	**S**	**07 18 53.9**	**+3.8**
ARTI				SS	**SnSn**	**07 20 31.9**	**+3.0**
ARTI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GNI	**Garni**	**30.97**	**299**	LR	LR	07 30 17.2	
	comp=Z,51nm,18.0s,baz=113,slow=44						
RAYN	**Ar Rayn**	**31.93**	**267**	P	**P**	**07 13 57.1**	**+0.4**
RAYN				IAmb	IAmb	07 13 59.0	
	comp=Z,11nm,1.3s						
RAYN	**Ar Rayn**	**31.93**	**267**	P	**P**	**07 13 57.1**	**+0.4**
RAYN				pmax	pmax		
	comp=Z,11nm,1.3s						
GSI	**Gunungsitoli**	**32.63**	**147**	P	**P**	**07 14 04.3**	**+1.5**
GSI	**Gunungsitoli**	**32.63**	**147**	P	**P**	**07 14 05.5**	**+2.7**
	comp=Z,51nm,0.8s,comp=Z,3μm						
NJ2	**Nanjing**	**32.74**	**76**	*e*P	**P**	**07 14 04.0**	**+0.3**
NJ2				pP	**pP**	**07 14 07.1**	**-0.9**
NJ2				sP	**sP**	**07 14 08.9**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,180nm,3.6s						
KBZ	**Khabaz**	**32.95**	**305**	P	**P**	**07 14 05.7**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=125,slow=6.7,SNR=7.2						
	comp=Z,3.4nm,0.9s						
KBZ	**Khabaz**	**32.95**	**305**	*de*P	**P**	**07 14 05.3**	**-0.1**
KBZ				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BELG	**Belogornoye**	**33.10**	**322**	LR	LR	07 29 23.3	
	comp=Z,144nm,20.0s,baz=164,slow=40						
SHA1	**Shidzhatmaz**	**33.13**	**305**	⇓*e*P	**P**	**07 14 08.2**	**+1.0**
KIV	**Kislovodsk**	**33.15**	**306**	*e*P	**P**	**07 14 05.4**	**-1.9**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,79nm,15.0s						
BKNI	**Bangkinang**	**35.20**	**143**	P	**P**	**07 14 26.5**	**+1.4**
KIRV	**Kirov**	**35.82**	**332**	⇑*e*P	**P**	**07 14 31.2**	**+1.2**
VRH	**Novokhopyorsk**	**35.89**	**318**	*e*P	**P**	**07 14 29.2**	**-1.6**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ANN	**Anapa**	**37.01**	**306**	*e*P	**P**	**07 14 39.0**	**-1.4**
ANN				*e**PP	**pP**	**07 14 42.3**	**-2.2**
ANN				*e*S	**S**	**07 20 25.1**	**-0.7**
ANN				pmax	pmax		
	comp=Z,26nm,0.7s						
VORD	**Divnogorie**	**37.25**	**316**	*e*P	**P**	**07 14 41.2**	**-1.2**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VSR	**Storozhevoye**	**37.41**	**317**	*e*P	**P**	**07 14 42.5**	**-1.2**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VORR	**Voronezh**	**37.53**	**317**	*e*P	**P**	**07 14 43.2**	**-1.5**
VORR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LPSR	**Galich'ya Gora**	**38.01**	**319**	*e*P	**P**	**07 14 47.9**	**-0.8**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BR104	**Keskin Array S**	**39.45**	**297**	P	**P**	**07 15 02.0**	**+0.8**
	comp=Z,3.4nm,0.9s						
BR131	**Keskin Array S**	**39.45**	**297**	P	**P**	**07 15 00.8**	**-0.5**
BR131	**Keskin Array S**	**39.45**	**297**	P	**P**	**07 15 00.8**	**-0.5**
BR131				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**39.45**	**297**	P	**P**	**07 15 00.8**	**-0.5**
BRTR	**Keskin Array B**	**39.45**	**297**	P	**P**	**07 15 01.1**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=107,slow=6.6,SNR=12						
	comp=Z,2.3nm,0.8s						
BRTR	**Keskin Array B**	**39.45**	**297**	*i* P	**P**	**07 15 01.7**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EIL	**Elat**	**39.46**	**282**	LR	LR	07 34 23.6	
	comp=Z,114nm,20.3s,baz=72,slow=41						
BR105	**Keskin Array S**	**39.47**	**297**	P	**P**	**07 15 01.4**	**0.0**
	comp=Z,3.9nm,0.9s						
BR106	**Keskin Array S**	**39.47**	**297**	P	**P**	**07 15 02.1**	**+0.7**
	comp=Z,3.6nm,0.9s						
NRIK	**Noril'sk**	**39.74**	**4**	P	**P**	**07 15 04.5**	**+1.4**
NRIK				IAmb	IAmb	07 15 16.7	
	comp=Z,13nm,1.2s						
NRIK	**Noril'sk**	**39.74**	**4**	P	**P**	**07 15 03.1**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=108,slow=6.4,SNR=3.6						
	comp=Z,1.5nm,0.5s						
NRIK	**Noril'sk**	**39.74**	**4**	⇓*e*P	**P**	**07 15 04.7**	**+1.6**
NRIK				pmax	pmax		
	comp=Z,13nm,1.3s						
KSRS	**Korea Array**	**39.76**	**66**	P	**P**	**07 15 03.8**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=278,slow=8.6,SNR=3.7						
	comp=Z,1.5nm,0.8s						
OBN	**Obninsk**	**40.20**	**322**	P	**P**	**07 15 07.5**	**+0.4**
OBN

comp=Z,7.5nm,0.9s
KIEV Kiev 43.40 314 ⇓P P 07 15 33.1 -0.2
KIEV Kiev 43.40 314 ⇓P P 07 15 33.1 -0.2
KIEV Kiev 43.40 314 P **P 07 15 33.3 0.0**
comp=Z,44nm,0.7s
AK11 Malin Array Si 43.42 314 P **P 07 15 33.5 0.0**
AK12 Malin Array Si 43.43 314 P **P 07 15 33.6 +0.1**
AK15 Malin Array Si 43.45 314 P **P 07 15 33.8 +0.1**
AK16 Malin Array Si 43.46 314 P **P 07 15 33.9 +0.1**
AK23 Malin Array Si 43.46 314 P **P 07 15 33.9 +0.1**
AK23 pP **sP 07 15 39.2 -0.4**
AK18 Malin Array Si 43.49 314 P **P 07 15 34.1 0.0**
AK22 Malin Array Si 43.50 314 P **P 07 15 34.1 0.0**
AK21 Malin Array Si 43.52 314 P **P 07 15 34.3 0.0**
AK19 Malin Array Si 43.53 314 P **P 07 15 34.4 +0.1**
CFR Carcaliu 43.61 306 ⇓P P 07 15 35.3 +0.3
CFR Carcaliu 43.61 306 ⇓P P 07 15 35.3 +0.3
SORM Soroca 43.65 310 ⇓P P 07 15 35.3 0.0
SORM Soroca 43.65 310 ⇓P P 07 15 35.3 0.0
SORM Soroca 43.65 310 P **P 07 15 35.4 0.0**
comp=Z,7.9nm,0.7s
VLDR Vladesti 43.67 307 ⇓P P 07 15 36.7 +1.1
HARR Harsova 43.74 305 ⇑P P 07 15 36.5 +0.4
HARR Harsova 43.74 305 ⇑P P 07 15 36.5 +0.4
ICOR Ion Corvin 43.82 304 ⇓P P 07 15 37.9 +1.1
LUBAR Lubar, Ukraine 44.22 312 P **P 07 15 39.3 -0.6**
MI29 MI29, Kamyanyy 44.22 313 P **P 07 15 39.2 -0.7**
comp=Z,77nm,1.3s
VRI Vrincioaia 44.62 306 ⇑P P 07 15 45.1 +1.9
VRI Vrincioaia 44.62 306 ⇑P P 07 15 45.1 +1.9
VRI Vrincioaia 44.62 306 P **P 07 15 44.6 +1.4**
comp=Z,4.6nm,0.8s,comp=Z,130nm
PLOR Plostina 44.67 306 ⇑P P 07 15 45.3 +1.6
PLOR Plostina 44.67 306 ⇑P P 07 15 45.3 +1.6
PLOR3 Plostina Array 44.68 306 P **P 07 15 45.2 +1.5**
comp=Z,14nm,1.1s
TESR Tescani 44.70 307 ⇓P P 07 15 43.9 0.0
MNK Minsk 44.86 319 *i* P **P 07 15 42.1 -2.9**
comp=E,21nm,0.8s
MNK *i* P **P 07 15 42.1 -2.9**
comp=N,15nm,0.7s
MNK *i* P **P 07 15 42.1 -2.9**
comp=Z,10.0nm,0.9s,baz=101
MNK *i* PP **PcP 07 17 25.8 -0.8**
MNK *i* PPP PPP 07 18 05.1
MNK *i* S **S 07 22 21.2 -1.1**
MNK *i* SS **SS 07 25 42.8 -0.4**
MNK *i* SSS SSS 07 26 27.5
MNK *i* LQ LQ 07 31 13.4
MNK *i* LR LR 07 33 58.2
MNK *i* LRM MLR 07 35 59.4
comp=N,298nm,15.1s
MNK *i* LRM MLR 07 36 03.2
comp=E,458nm,15.8s
MNK *i* LRM MLR 07 36 15.8
comp=Z,78nm,17.4s
MNK Minsk 44.86 319 *i* P **P 07 15 42.0 -2.9**
MNK *i* 07 17 25.7
MNK *i* PPP PPP 07 18 05.1
MNK *i* S **S 07 22 21.2 -1.1**
MNK *i* SS **SS 07 25 42.8 -0.4**
MNK *i* SSS SSS 07 26 27.5
MNK pmax pmax
comp=N,15nm,0.7s
MNK pmax pmax
comp=E,21nm,0.8s
MNK pmax pmax
comp=Z,10.0nm,0.9s
MNK MLR MLR
comp=N,298nm,15.0s
MNK MLR MLR
comp=E,458nm,16.0s
MNK MLR MLR
comp=Z,78nm,17.0s
ONER Baraj Valea Uz 44.87 307 ⇑P P 07 15 45.5 +0.4
KARP Karpathos 44.91 292 P **P 07 15 46.0 +0.3**
NEHR Nehoiu 44.91 306 ⇑P P 07 15 47.7 +2.1
COVR Voineasa-Covas 44.99 306 ⇓P P 07 15 47.9 +1.7
TURR Turia 45.12 307 ⇑P P 07 15 47.7 +0.5
MLR Muntele Rosu 45.16 306 P **P 07 15 48.9 +1.2**
MLR Muntele Rosu 45.16 306 LR LR 07 39 19.9
comp=Z,102nm,19.8s,baz=77,slow=42
MLR Muntele Rosu 45.16 306 ⇓P P 07 15 49.7 +2.0
MLR Muntele Rosu 45.16 306 P **P 07 15 48.9 +1.2**
MLR pmax pmax
comp=Z,22nm,0.9s
MLR Muntele Rosu 45.16 306 P **P 07 15 49.6 +2.0**
comp=Z,27nm,1.0s
OZUR 45.28 307 ⇑P P 07 15 43.2 -5.3
RNPP5 Staryi Chortor 45.55 314 P **P 07 15 51.1 +0.6**
DOPR Dopca 45.56 307 ⇑P P 07 15 52.1 +1.4
NACGM Naroch 45.56 319 *eP* P 07 15 56.5 +6.0
comp=Z,26nm,0.9s,baz=101
RNPP9 Sopachiv 45.57 314 P **P 07 15 51.2 +0.5**
RNPP8 Varash 45.59 314 P **P 07 15 51.4 +0.6**
BURAR Bucovina Array 45.72 309 ⇑P P 07 15 52.8 +0.7
BURAR Bucovina Array 45.72 309 ⇑P P 07 15 52.8 +0.7
VOIR 45.79 306 ⇓P P 07 15 53.3 +0.7
VOIR 45.79 306 ⇓P P 07 15 53.3 +0.7
VOIR 45.79 306 P **P 07 15 53.3 +0.7**
comp=Z,3.0nm,0.7s
ARR Arges 46.09 306 ⇑P P 07 15 54.9 0.0
ARCR ARCALIA 46.29 308 ⇓P P 07 15 46.8 -10
VSU Vasula 46.35 324 ⇓ *eP* **P 07 15 58.2 +1.5**
VSU pmax pmax
comp=Z,43nm,1.4s
BMR Baia Mare 46.88 309 ⇑P P 07 16 06.2 +5.1
BMR Baia Mare 46.88 309 ⇑P P 07 16 06.2 +5.1
MARR Marisel-Cluj 47.13 308 ⇓P P 07 16 04.6 +1.4
GZR Gura Zlata 47.39 306 ⇑P P 07 16 05.7 +0.6
DRGR 47.41 308 ⇓P P 07 16 06.8 +1.5
DRGR 47.41 308 ⇓P P 07 16 06.8 +1.5
FINES FINESS Array B 47.45 328 P **P 07 16 05.3 +0.1**
comp=Z,4.0nm,0.5s,baz=105,slow=8.0,SNR=39
comp=Z,4.0nm,0.5s
HOLU Holmets 47.64 310 P **P 07 16 08.5 +1.6**
HERR Herculane 47.66 305 ⇓P P 07 16 06.9 -0.3
SURR Surduc 47.84 306 ⇑P P 07 16 09.9 +1.4
LTVH Ltavrtes, Hu 47.96 309 ⇓P P 07 16 04.1 -5.3
SIRR Siria 48.15 307 ⇓P P 07 16 12.3 +1.4
BZS Buzias 48.20 306 ⇑P P 07 16 12.0 +0.7
BZS Buzias 48.20 306 ⇑P P 07 16 12.0 +0.7
BOVS Bovan 48.24 304 ⇓P P 07 16 11.0 -0.7
TIXI Tiksi 49.24 18 P **P 07 16 19.9 +1.0**
TIXI IAmb IAmb 07 16 37.3
comp=Z,4.2nm,0.8s
TIXI Tiksi 49.24 18 ⇓ *eP* **P 07 16 21.2 +2.3**
TIXI pmax pmax
comp=Z,11nm,2.2s
MORH Mrgy, Hungar 50.24 307 ⇑P P 07 16 27.4 +0.5
ARCES ARCESS Array B 50.35 338 P **P 07 16 27.4 0.0**
comp=Z,14nm,0.9s,baz=93,slow=6.8,SNR=16
comp=Z,14nm,0.9s
KMBO Kilima Mbogo 51.56 241 P **P 07 16 38.0 +0.5**
comp=Z,1.0nm,0.3s,baz=40,slow=12,SNR=5.6
comp=Z,1.0nm,0.3s
RONA Rosalia, Austr 51.74 309 *eP* **P 07 16 37.2 -1.1**
comp=Z,2.1nm,1.0s
CONA Conrad Observa 52.02 309 *eP* **P 07 16 41.0 +0.6**
comp=Z,6.0nm,1.2s
SOKA Soboth 52.69 308 *eP* **P 07 16 45.1 -0.3**
comp=Z,3.2nm,0.7s
BRG Berggiesshubel 53.07 313 *eP* **P 07 16 51.2 +3.1**
BRG Amp 07 16 54.6
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 53.07 313 *eP* **P 07 16 51.1 +3.1**
BRG pmax pmax
comp=Z,4.0nm,0.9s
MOA Molln 53.10 309 *eP* **P 07 16 48.4 +0.1**
comp=Z,2.0nm,0.7s
HFS Hagfors 53.21 325 P **P 07 16 48.9 0.0**
comp=Z,2.4nm,0.6s,baz=99,slow=9.5,SNR=7.0
HFS LR LR 07 40 54.0
comp=Z,159nm,19.6s,baz=116,slow=38
comp=Z,2.4nm,0.6s
GERES GERESS Array B 53.38 311 P **P 07 16 50.7 +0.3**
comp=Z,0.8nm,0.6s,baz=79,slow=7.2,SNR=5.1
comp=Z,0.8nm,0.6s
KHC Kasperske Hory 53.44 311 ⇓ *eP* **P 07 16 51.2 +0.4**
KHC pmax pmax
comp=Z,14nm,1.8s
CAMP Campotosto 54.41 303 P **P 07 16 58.6 +0.5**
CAMP IAmb IAmb 07 16 59.8
comp=Z,8.0nm,0.8s
NB2 NORSAR Subarra 54.47 326 P **P 07 16 58.1 -0.1**
comp=Z,6.7nm,1.1s,baz=92,slow=6.9
NOA NORSAR Array B 54.47 326 P **P 07 16 57.4 -0.8**
comp=Z,1.4nm,0.8s,baz=92,slow=7.2,SNR=4.0
NOA LR LR 07 41 33.2
comp=Z,177nm,19.8s,baz=105,slow=38
comp=Z,1.4nm,0.8s
NRCA Norcia 54.57 303 P **P 07 16 59.5 +0.3**
NRCA IAmb IAmb 07 17 06.8
comp=Z,6.3nm,0.8s
WTTA Wattenberg 54.93 309 *eP* **P 07 17 01.0 -0.9**
comp=Z,4.5nm,1.1s
SQTA Sankt Quirin 55.23 309 *eP* **P 07 17 03.5 -0.4**
comp=Z,2.5nm,0.5s
MOTA Moosalm 55.28 309 *eP* **P 07 17 03.7 -0.7**
comp=Z,9.7nm,1.2s
FETA Feichten 55.58 309 *eP* **P 07 17 06.0 -0.5**
comp=Z,2.0nm,0.6s
SEY Seymchan 55.62 32 ⇓ *eP* **P 07 17 07.7 +1.3**
SEY pmax pmax
comp=Z,18nm,1.9s
DAVA Damuels 56.11 309 *eP* **P 07 17 08.4 -1.9**
comp=Z,3.1nm,0.6s
KEST Kesra 59.03 296 P **P 07 17 31.1 +0.1**
comp=Z,5.4nm,0.6s,baz=193,slow=3.3,SNR=5.3
comp=Z,5.4nm,0.6s
EKA Eskdalemuir Ar 62.62 320 P **P 07 17 54.6 -0.3**
comp=Z,1.2nm,0.7s,baz=67,slow=8.6,SNR=2.3
comp=Z,1.2nm,0.7s
ESDC Sonseca Array 67.80 304 P **P 07 18 28.9 -0.1**
comp=Z,1.7nm,1.0s,baz=59,slow=7.6,SNR=5.5
comp=Z,1.7nm,1.0s
BORG Borgarnes 68.29 333 LR LR 07 49 08.8
comp=Z,45nm,21.1s,baz=25,slow=37
SHEM Shemya Is, Ala 68.84 41 LR LR 07 54 41.1
comp=Z,41nm,18.1s,baz=311,slow=41
TORD Torodi Ar. Bea 74.08 276 P **P 07 19 07.0 -0.4**
comp=Z,2.5nm,0.6s,baz=42,slow=5.6,SNR=18
TORD LR LR 07 56 41.9
comp=Z,64nm,19.3s,baz=132,slow=40
comp=Z,2.5nm,0.6s
SFJD Kangerlussuaq 76.70 342 LR LR 07 54 12.1
comp=Z,24nm,21.6s,baz=25,slow=37
BOSA Boshof 78.57 228 P **P 07 19 32.3 -0.4**
comp=Z,3.3nm,0.8s,baz=27,slow=4.0,SNR=5.5
comp=Z,3.3nm,0.8s
ILAR Eielson Array 78.71 19 P **P 07 19 32.9 0.0**
comp=Z,1.0nm,1.0s,baz=284,slow=3.6,SNR=6.4
comp=Z,1.0nm,1.0s
KDAK Kodiak Island 81.99 26 LR LR 08 00 26.0
comp=Z,116nm,18.4s,baz=136,slow=39
DBIC Dimbokro 82.82 274 P **P 07 19 56.2 +0.5**
comp=Z,10nm,1.0s,baz=48,slow=4.9,SNR=5.9
DBIC LR LR 07 59 29.9
comp=Z,80nm,19.1s,baz=360,slow=38
comp=Z,10nm,1.0s
BBB Bella Bella 94.53 17 LR LR 08 09 53.7
comp=Z,99nm,18.5s,baz=325,slow=40
QSPA South Pole Qui 119.64 180 PKP **PKiKP 07 26 20.6 +0.5**
comp=Z,0.6nm,0.8s,baz=293,slow=2.9,SNR=5.6
TXAR Lajitas Array 121.02 4 PKP **PKPdf 07 26 23.9 -0.2**
comp=Z,0.2nm,0.5s,baz=176,slow=1.1,SNR=6.8
LPAZ La Paz 148.37 288 PKPbc **PKPbc 07 27 17.9 -0.9**
comp=Z,1.9nm,0.8s,baz=86,slow=2.1,SNR=8.9

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*BJI **11** 07:13:35.4, 1.23N×127.42E, h134km, mb5.5/85, mB5.1/40*
*NEIC **11** 07:13:38.9±1.7, 1.51N±0.06×127.17E±0.07, h124km±4km, mb5.4/153, Mww5.1/12, Error ellipse: s-maj=10.3km s-min=8.0km az=72.0*
*IDC **11** 07:13:38.8±0.8, 1.53N×127.18E, h129km±6km, mb5.0/37, mbtmp5.4/42, MS3.8/16, Error ellipse: s-maj=11.5km s-min=6.5km az=80.0*
*NEIC **11** 07:13:38.7, 1.51N×127.16E, h130km*
*DJA **11** 07:13:38.8±0.1, 2.2N±2×12.7E±.1, h124km±2km, M5.3/81, mb5.7/81, mB5.8/64, MLv5.7/23, Mw5.2/34, Mw(mB)5.3/64, MwMwp5.0/8, Mwp5.2/8*
*NEIC **11** 07:13:38.7, 1.51N×127.56E, h130km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 1016Nm; Mrr=3.61; Mθθ=2.80; Mφφ=0.81; Mrθ=-2.11; Mθφ=0.77; Mφr=3.46; Fault plane solution: M0=4.78000×1016 NP1:φ=58.84000°, δ=70.32000°, λ=-112.09000°. NP2:φ=289.15000°, δ=29.25000°, λ=-43.57000°. Principal axes: T 3.4964, Plg22.0000°, Azm166.0000°; N 2.5645, Plg21.0000°, Azm67.0000°; P -6.0609, Plg59.0000°, Azm298.0000°;*
*MOS **11** 07:13:39.8±0.8, 1.49N×127.22E, h157km, mb5.3/73 Error ellipse: s-maj=7.6km s-min=4.1km az=17.6*
*GCMT **11** 07:13:39.9±0.1, 1.50N±0.01×127.10E±0.01, h127km±1km, MW5.2/130, Moment Tensor Solution. s90,c122; s130,c209; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=1.06±.13; Mθθ=2.93±.14; Mφφ=1.87±.15; Mrθ=3.13±.09; Mθφ=3.11±.14; Mφr=5.00±.10; Best double couple: M0=7.07300×1016 NP1:φ=28.00000°, δ=84.00000°, λ=-121.00000°. NP2:φ=289.00000°, δ=32.00000°, λ=-11.00000°. Principal axes: T 7.6620, Plg32.0000°, Azm144.0000°; N -1.1770, Plg31.0000°, Azm31.0000°; P -6.4850, Plg42.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 07:13:38.7±0.3, 1.47N±0.03×127.15E±0.04, h130km±2km, h130km:pP-P, n824, σ1923/921, mb5.4/203, 46C-63D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.73**	**162**	Pn	**Pn**	**07 13 59.0**	**-0.3**
TNTI				Sn	**Sn**	**07 14 14.4**	**-0.5**
TNTI	**Ternate**	**0.73**	**162**	P	**Pn**	**07 13 59.6**	**+0.3**
TNTI	**Ternate**	**0.73**	**162**	P	**Pn**	**07 13 59.7**	**+0.4**
TNTI				S	**Sn**	**07 14 15.4**	**+0.5**
LBMI	**Labuha**	**2.12**	**170**	P	**Pn**	**07 14 15.4**	**+1.2**
KMSI	**Cibinong**	**3.29**	**254**	P	**Pn**	**07 14 29.6**	**+0.5**
SANI	**Sanana**	**3.68**	**198**	P	**Pn**	**07 14 33.8**	**-0.5**
SANI	**Sanana**	**3.68**	**198**	P	**Pn**	**07 14 33.8**	**-0.5**
NLAI	**Namlea**	**4.68**	**181**	P	**Pn**	**07 14 48.1**	**+0.6**
SWI	**Sorong**	**4.72**	**119**	P	**Pn**	**07 14 49.7**	**+1.6**
LUWI	**Luwuk**	**5.04**	**240**	Pn	**Pn**	**07 14 51.1**	**-1.2**
LUWI	**Luwuk**	**5.04**	**240**	P	**Pn**	**07 14 52.4**	**+0.1**
LUWI	**Luwuk**	**5.04**	**240**	P	**Pn**	**07 14 51.8**	**-0.5**
	2μm,1.0s,24μm						
MSAI	**Masohi**	**5.11**	**160**	P	**Pn**	**07 14 55.6**	**+2.3**
	883nm,1.2s,8μm2.8nm						
AAI	**Ambon**	**5.23**	**168**	P	**Pn**	**07 14 56.1**	**+1.2**
	698nm,0.7s,12μm3.1nm						
DAV	**Davao City (W)**	**5.78**	**344**	Pn	**Pn**	**07 15 01.1**	**-1.1**
DAV	**Davao City (W)**	**5.78**	**344**	Sn	**Sn**	**07 16 05.4**	**-2.1**
DAV	**Davao City (W)**	**5.78**	**344**	P	**Pn**	**07 15 01.7**	**-0.5**
	492nm,0.4s,baz=165,slow=2.7,SNR=12						
DAV				S	**Sn**	**07 16 04.0**	**-3.5**
	715nm,0.4s,baz=61,slow=23,SNR=2.6						
DAV	**Davao City (W)**	**5.78**	**344**	P	**Pn**	**07 15 02.2**	**-0.1**
DAV	**Davao City (W)**	**5.78**	**344**	P	**Pn**	**07 15 02.6**	**+0.3**
DAV	**Davao City (W)**	**5.78**	**344**	P	**Pn**	**07 15 01.0**	**-1.3**
APSI	**Ampana**	**5.98**	**247**	P	**Pn**	**07 15 04.9**	**-0.1**
	2μm,1.2s,23μm						
TOLI2	**Tolitoli**	**6.37**	**267**	Pn	**Pn**	**07 15 09.9**	**-0.4**
TOLI2	**Tolitoli**	**6.37**	**267**	P	**Pn**	**07 15 10.5**	**+0.2**
BNDI	**Bandanaira**	**6.56**	**155**	P	**Pn**	**07 15 14.0**	**+1.2**
BNDI	**Bandanaira**	**6.56**	**155**	P	**Pn**	**07 15 14.4**	**+1.6**
	1μm,1.4s,3.9nm						
FAKI	**Fak Fak**	**6.71**	**131**	Pn	**Pn**	**07 15 15.0**	**+0.2**
FAKI	**Fak Fak**	**6.71**	**131**	P	**Pn**	**07 15 15.8**	**+0.9**
FAKI	**Fak Fak**	**6.71**	**131**	P	**Pn**	**07 15 16.5**	**+1.6**
KDI	**Kendari**	**7.04**	**220**	P	**Pn**	**07 15 19.9**	**+0.6**
	279nm,0.6s,6μm2.8nm						
MPSI	**Mapaga**	**7.33**	**261**	P	**Pn**	**07 15 23.7**	**+0.5**
RKPI	**Ransiki, Papua**	**7.63**	**113**	P	**Pn**	**07 15 30.7**	**+3.5**
	448nm,1.1s,10μm1.4nm						
KMPI	**Kaiana, Papua**	**8.30**	**128**	P	**Pn**	**07 15 37.5**	**+1.2**
	693nm,1.1s,8μm4μm						
TTSI	**Tana Toraja**	**8.59**	**239**	P	**Pn**	**07 15 40.2**	**+0.1**
BNSI	**Bone**	**9.14**	**230**	P	**Pn**	**07 15 47.3**	**-0.2**
	618nm,1.0s,5μm						
SPSI	**Sidrap Palu**	**9.14**	**234**	P	**Pn**	**07 15 48.6**	**+1.1**
MYLDM	**Lahad Datu**	**9.38**	**293**		**Pn**	**07 15 51.7**	**+0.9**
MYLDM	**Lahad Datu**	**9.38**	**293**	P	**Pn**	**07 15 51.4**	**+0.6**
BKSI	**Bulukumba**	**9.73**	**226**	P	**Pn**	**07 15 56.2**	**+0.7**
	228nm,0.6s,3μm						
KAPI	**Kappang**	**9.80**	**229**		**Pn**	**07 15 56.2**	**-0.3**
KAPI	**Kappang**	**9.80**	**229**	P	**Pn**	**07 15 58.1**	**+1.6**
	168nm,0.5s,baz=34,slow=8.8,SNR=79						
KAPI				S	**Sn**	**07 17 41.8**	**-3.0**
	76nm,0.5s,baz=77,slow=23,SNR=2.8						
BSSI	**Bau Bau, Buton**	**10.07**	**221**	P	**Pn**	**07 16 00.0**	**0.0**
SMKI	**Samarinda**	**10.12**	**259**	P	**Pn**	**07 16 01.3**	**+0.6**
	546nm,0.9s						
SAUI	**Saumlaki**	**10.26**	**156**	Pn	**Pn**	**07 16 01.6**	**-1.1**
SAUI	**Saumlaki**	**10.26**	**156**	P	**Pn**	**07 16 02.9**	**+0.2**
SAUI	**Saumlaki**	**10.26**	**156**	P	**Pn**	**07 16 02.3**	**-0.4**
BKB	**Balikpapan**	**10.60**	**255**	Pn	**Pn**	**07 16 06.7**	**-0.5**
BKB	**Balikpapan**	**10.60**	**255**	P	**Pn**	**07 16 07.0**	**-0.2**
BKB	**Balikpapan**	**10.60**	**255**	P	**Pn**	**07 16 06.5**	**-0.7**
	295nm,1.0s						
MMRI	**Maumere**	**11.17**	**206**	Pn	**Pn**	**07 16 16.6**	**+1.9**
SOEI	**Soe**	**11.52**	**194**	Pn	**Pn**	**07 16 21.5**	**+2.1**
SOEI	**Soe**	**11.52**	**194**	P	**Pn**	**07 16 20.2**	**+0.8**
SOEI	**Soe**	**11.52**	**194**	P	**Pn**	**07 16 21.8**	**+2.4**
	225nm,0.8s,3μm						
KKM	**Kota Kinabalu**	**11.81**	**293**		**Pn**	**07 16 23.0**	**-0.4**
KKM	**Kota Kinabalu**	**11.81**	**293**	P	**Pn**	**07 16 24.0**	**+0.6**
BATI	**Baumata**	**12.11**	**197**	P	**Pn**	**07 16 29.9**	**+2.7**
	75nm,0.7s,baz=26,slow=1.0,SNR=4.7						
BATI				S	**Sn**	**07 18 40.6**	**-0.1**
	47nm,0.9s,baz=121,slow=14,SNR=1.0						
BATI				LR	LR	07 21 14.8	
	comp=Z,325nm,21.9s,baz=32,slow=38						
MTKI	**Muara Teweh, K**	**12.48**	**259**	P	**Pn**	**07 16 31.6**	**-0.4**
	246nm,1.0s						
BASI	**Baing, Sumba**	**13.33**	**209**	P	**P**	**07 16 49.2**	**+1.4**
WBSI	**Waikabubak, Su**	**13.47**	**215**	P	**Pn**	**07 16 45.6**	**+0.7**
	171nm,0.9s						
GENI	**Genyem**	**13.63**	**107**	P	**Pn**	**07 16 48.5**	**+1.7**
GENI	**Genyem**	**13.63**	**107**	P	**Pn**	**07 16 48.0**	**+1.2**
PLAI	**Plampang**	**13.85**	**222**	P	**Pn**	**07 16 50.6**	**+0.9**
PLAI	**Plampang**	**13.85**	**222**	P	**P**	**07 16 51.7**	**-2.0**
	352nm,1.0s,3μm						
JAY	**Jayapura**	**14.12**	**106**	P	**Pn**	**07 16 52.0**	**-1.2**
	64nm,0.9s,baz=267,slow=8.3,SNR=12						
JAY				LR	LR	07 22 02.3	
	comp=Z,497nm,19.3s,baz=223,slow=36						
JAY	**Jayapura**	**14.12**	**106**	P	**Pn**	**07 16 53.2**	**0.0**
	295nm,0.8s,3μm						
DRS	**Darwin Rock St**	**14.31**	**165**	P	**Pn**	**07 16 53.9**	**-1.5**
MTN	**Manton Dam**	**14.76**	**165**	Pn	**Pn**	**07 16 59.2**	**-2.0**
MTN	**Manton Dam**	**14.76**	**165**	P	**Pn**	**07 16 59.2**	**-2.0**
	comp=Z,0.0nmcomp=Z,507nm,0.8s						
MTN	**Manton Dam**	**14.76**	**165**	P	**Pn**	**07 16 59.7**	**-1.5**
SBUM	**Sibu**	**14.95**	**274**		**Pn**	**07 17 03.4**	**-0.1**
SBUM	**Sibu**	**14.95**	**274**	P	**P**	**07 17 05.0**	**-0.9**
KDU	**Kakadu**	**15.03**	**160**	P	**Pn**	**07 17 02.3**	**-2.2**
SRBI	**Singaraja**	**15.22**	**231**	P	**P**	**07 17 09.0**	**+0.1**
	comp=Z,387nm,1.0s,comp=Z,4μm						
DNP	**Denpasar**	**15.59**	**230**	P	**P**	**07 17 15.0**	**+2.0**
KMMI	**Kalianget**	**15.64**	**237**	P	**P**	**07 17 14.6**	**+1.1**
	comp=Z,1μm,1.3s,comp=Z,12μm						
STKI	**Sintang**	**15.73**	**265**	P	**Pn**	**07 17 13.9**	**+0.6**
ABJI	**Asem Bagus**	**15.83**	**234**	P	**P**	**07 17 16.0**	**+0.4**
	comp=Z,330nm,1.3s,comp=Z,5μm						
JAGI	**Jajag, Banyuwa**	**16.29**	**232**	P	**P**	**07 17 21.5**	**+0.8**
JAGI	**Jajag, Banyuwa**	**16.29**	**232**	P	**P**	**07 17 21.9**	**+1.2**
JAGI	**Jajag, Banyuwa**	**16.29**	**232**	P	**P**	**07 17 22.2**	**+1.5**
	comp=Z,457nm,1.3s,comp=Z,6μmcomp=Z,3μm						
MMPI	**Merauke**	**16.48**	**127**	P	**P**	**07 17 24.6**	**+1.8**
GMJI	**Gumukmas**	**16.74**	**234**	P	**P**	**07 17 28.0**	**+2.3**
	comp=Z,421nm,1.4s,comp=Z,4μm						
KSM	**Kuching**	**16.83**	**270**	P	**Pn**	**07 17 28.0**	**+1.2**
GRJI	**Gresik**	**16.84**	**240**	P	**Pn**	**07 17 28.0**	**+1.1**
	comp=Z,289nm,1.0s,comp=Z,6μm						
KNRA	**Kununurra**	**17.11**	**175**	P	**P**	**07 17 29.3**	**-0.5**
KNRA	**Kununurra**	**17.11**	**175**	P	**P**	**07 17 29.3**	**-0.5**
	comp=Z,684nm,1.0s						
SZP	**Santa**	**17.28**	**338**	P	**Pn**	**07 17 32.8**	**+0.7**
TBJI	**Tambak Boyo**	**17.35**	**241**	P	**Pn**	**07 17 34.0**	**+1.0**
	comp=Z,553nm,0.9s,comp=Z,6μm						
NGJI	**Ngawi**	**17.94**	**241**	P	**Pn**	**07 17 41.9**	**+1.7**
	comp=Z,444nm,0.9s,comp=Z,5μm						
PWJI	**Pagerwojo**	**17.97**	**238**	P	**Pn**	**07 17 40.9**	**+0.4**
	comp=Z,619nm,0.8s,comp=Z,8μm						
PCJI	**Pacitan**	**18.59**	**239**	P	**Pn**	**07 17 47.9**	**0.0**
	comp=Z,974nm,1.0s,comp=Z,12μm						
SMRI	**Semarang**	**18.70**	**243**	P	**Pn**	**07 17 49.6**	**+0.5**
SMRI	**Semarang**	**18.70**	**243**	P	**Pn**	**07 17 49.9**	**+0.8**
SMRI	**Semarang**	**18.70**	**243**	P	**Pn**	**07 17 49.8**	**+0.7**
	comp=Z,701nm,1.1s,comp=Z,7μm						
UGM	**Wanagama**	**19.02**	**240**	P	**Pn**	**07 17 52.5**	**-0.4**
UGM	**Wanagama**	**19.02**	**240**	P	**Pn**	**07 17 53.6**	**+0.7**
UGM	**Wanagama**	**19.02**	**240**	P	**Pn**	**07 17 53.0**	**+0.1**
	comp=Z,517nm,0.8s,comp=Z,6μm						
FITZ	**Fitzroy Crossi**	**19.50**	**184**	P	**P**	**07 17 55.6**	**-0.3**
	comp=Z,76nm,0.7s,baz=13,slow=11,SNR=119						
FITZ				S	**S**	**07 21 19.6**	**-10**
	comp=Z,11nm,0.7s,baz=333,slow=16,SNR=1.4						
FITZ				ScP	**ScP**	**07 25 35.9**	**+0.3**
	comp=Z,12nm,0.7s,baz=314,slow=1.9,SNR=8.5						
FITZ	**Fitzroy Crossi**	**19.50**	**184**	P	**P**	**07 17 55.7**	**-0.2**
TPI	**Tanjungpandan**	**19.93**	**258**	P	**P**	**07 18 00.5**	**-0.1**
	comp=Z,229nm,1.0s						
KPJI	**Karang Pucung**	**20.17**	**244**	P	**P**	**07 18 04.0**	**+0.9**
	comp=Z,392nm,0.9s,comp=Z,5μm						
MANU	**Manus Island**	**20.52**	**100**	P	**P**	**07 18 06.7**	**-0.2**
CMJI	**Cimerak**	**20.79**	**243**	P	**P**	**07 18 09.2**	**-0.6**
	comp=Z,474nm,0.9s,comp=Z,4μm						
LEM	**Lembang**	**21.16**	**247**	P	**P**	**07 18 14.9**	**+1.0**
	comp=Z,445nm,0.9s,baz=65,slow=8.8,SNR=43						
	comp=Z,445nm,0.9s						
LEM	**Lembang**	**21.16**	**247**	P	**P**	**07 18 16.4**	**+2.4**
	comp=Z,550nm,0.9s,comp=Z,5μm						
LEM	**Lembang**	**21.16**	**247**	P	**P**	**07 18 15.0**	**+1.0**
GUMO	**Guam**	**21.27**	**55**	P	**P**	**07 18 14.0**	**-1.0**
	comp=Z,77nm,0.9s,baz=180,slow=19,SNR=2.5						
	comp=Z,77nm,0.9s						
BBJI	**Bungbulang**	**21.38**	**245**	P	**P**	**07 18 16.8**	**+0.6**
CNJI	**Cibinong**	**21.79**	**246**	P	**P**	**07 18 20.9**	**+0.4**
	comp=Z,448nm,1.1s,comp=Z,3μm						
TNG	**Tangerang**	**21.83**	**249**	P	**P**	**07 18 23.6**	**+2.7**
TWG	**Pinlang**	**22.03**	**345**	P	**P**	**07 18 20.3**	**-2.6**
COEN	**Coen**	**22.07**	**134**	P	**P**	**07 18 22.1**	**-1.4**
COEN	**Coen**	**22.07**	**134**	P	**P**	**07 18 21.8**	**-1.7**
SKJI	**Sukabumi**	**22.20**	**247**	P	**P**	**07 18 25.0**	**+0.2**
	comp=Z,745nm,1.0s,comp=Z,7μm						
WRAB	**Tennant Creek**	**22.41**	**162**	*c iP*	**P**	**07 18 26.3**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,211nm,0.9s						
WRA	**Warramunga Arr**	**22.42**	**162**	P	**P**	**07 18 25.2**	**-1.7**
WRA	**Warramunga Arr**	**22.42**	**162**	P	**P**	**07 18 26.1**	**-0.7**
	comp=Z,121nm,0.6s,baz=342,slow=10,SNR=356						
WRA				PcP	**PcP**	**07 22 17.0**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=333,slow=2.2,SNR=2.1						
WRA				ScP	**ScP**	**07 25 42.

TATO IAmb IAmb 07 18 43.0
comp=Z,162nm,0.8s
TATO Taipei 24.00 347 P **P** **07 18 42.4 +0.9**
TATO Taipei 24.00 347 P **P** **07 18 42.0 +0.5**
QIZ Qiongzhong 24.33 317 P **P** **07 18 45.1 +0.5**
QIZ S **S** **07 22 57.0 +2.4**
QIZ sS **sS** **07 23 41.2 -0.5**
QIZ pmax pmax
comp=Z,72nm,0.6s
QIZ LR LR
comp=Z,880nm,11.3s
QIZ LR LR
comp=Z,580nm,16.2s
QIZ LR LR
comp=Z,400nm,10.8s
QIZ Qiongzhong 24.33 317 P **P** **07 18 45.3 +0.7**
XMI Christmas Isla 24.42 241 P **P** **07 18 44.6 -0.8**
XMIS Christmas Isla 24.46 240 P **P** **07 18 45.8 -0.1**
XMIS Christmas Isla 24.46 240 P **P** **07 18 46.7 +0.8**
JMZ Minamidaito 2 24.52 9 P **P** **07 18 47.7 +1.5**
QZH Quanzhou 24.75 341 ⇓*i*P **P** **07 18 48.8 +0.5**
QZH S **S** **07 22 59.7 -1.5**
QZH sS **sS** **07 23 45.6 -2.7**
QZH pmax pmax
comp=Z,170nm,0.8s
QZH pmax pmax
comp=Z,360nm,2.8s
QZH LR LR
comp=Z,510nm,16.5s
MNAI Manna 24.86 256 P **P** **07 18 50.5 +1.0**
MNAI Manna 24.86 256 P **P** **07 18 52.0 +2.5**
comp=Z,377nm,1.0s
QIS Mount Isa 25.07 151 P **P** **07 18 51.6 +0.3**
JOW Kunigami 25.24 2 P **P** **07 18 52.5 -0.3**
JOW IAmb IAmb 07 19 29.9
comp=Z,140nm,1.0s
JOW Kunigami 25.24 2 P **P** **07 18 53.9 +1.1**
MTSU Mount Surprise 25.79 140 P **P** **07 18 58.6 +0.7**
AS31 Alice Springs 25.84 166 P **P** **07 18 57.4 -0.8**
ASAR Alice Springs 25.84 166 P **P** **07 18 57.3 -0.9**
ASAR Alice Springs 25.84 166 P **P** **07 18 58.0 -0.3**
comp=Z,31nm,0.7s,baz=356,slow=7.2,SNR=389
ASAR PcP **PcP** **07 22 24.6 +0.2**
comp=Z,4.4nm,0.8s,baz=317,slow=4.5,SNR=1.5
ASAR ScP **ScP** **07 25 52.0 -0.2**
comp=Z,15nm,0.7s,baz=345,slow=2.9,SNR=21
ASAR ScS **ScS** **07 29 39.8 -2.2**
comp=Z,1.8nm,0.8s,baz=337,slow=6.6,SNR=8.2
ASAR P3KPbc 07 51 47.4
comp=Z,0.6nm,0.8s,baz=148,slow=5.0,SNR=5.5
comp=Z,31nm,0.7s
AS01 Alice Springs 25.85 166 P **P** **07 18 58.0 -0.3**
BKNI Bangkinang 26.13 268 P **P** **07 19 00.5 -0.4**
IPM Ipoh 26.25 277 P **P** **07 19 01.2 -0.9**
IPM IAmb IAmb 07 19 06.8
comp=Z,99nm,1.0s
IPM Ipoh 26.25 277 P **P** **07 19 02.7 +0.6**
WRKA Warakurna 26.38 178 P **P** **07 19 03.3 +0.2**
SISI Saibi 28.19 264 P **P** **07 19 18.5 -0.9**
comp=Z,178nm,0.8s,comp=Z,2μm
RPSI Rantau Prapat 28.23 273 P **P** **07 19 19.3 -0.4**
RPSI IAmb IAmb 07 19 20.8
comp=Z,109nm,0.8s
TV1H Townsville Har 28.23 138 P **P** **07 19 20.8 +1.2**
PSI Prapat 28.23 273 P **P** **07 19 19.3 -0.6**
PSI pmax pmax
comp=Z,109nm,0.8s
SRIT Nakonsritamara 28.32 285 P **P** **07 19 20.7 +0.2**
SRIT IAmb IAmb 07 19 22.2
comp=Z,68nm,0.9s
SRIT Nakonsritamara 28.32 285 P **P** **07 19 21.3 +0.8**
CTAO Charters Tower 28.46 140 P **P** **07 19 22.4 +0.7**
CTAO IAmb IAmb 07 19 29.0
comp=Z,93nm,0.9s
CTAO Charters Tower 28.46 140 P **P** **07 19 23.0 +1.3**
CTAO Charters Tower 28.46 140 P **P** **07 19 22.4 +0.7**
CTAO pmax pmax
comp=Z,93nm,0.9s
NAYO Nakonayok 28.54 298 P **P** **07 19 23.2 +0.8**
GULI GuiLin 28.69 327 P **P** **07 19 24.6 +1.0**
GULI pmax pmax
comp=Z,30nm,1.1s
NONG Nongkai 28.76 306 P **P** **07 19 24.4 0.0**
AUAYR Ayr State High 28.87 137 P **P** **07 19 25.8 +0.5**
MEEK Meekatharra 29.13 196 P **P** **07 19 27.7 +0.1**
JCJ Chichijima 29.28 28 P **P** **07 19 28.3 -0.6**
JCJ IAmb IAmb 07 20 10.6
comp=Z,115nm,0.9s
KCSI Kotacane, Aceh 29.41 275 P **P** **07 19 29.5 -0.8**
comp=Z,130nm,0.8s
GSI Gunungsitoli 29.56 270 P **P** **07 19 30.1 -1.5**
GSI Gunungsitoli 29.56 270 P **P** **07 19 32.1 +0.5**
GSI Gunungsitoli 29.56 270 P **P** **07 19 30.4 -1.2**
comp=Z,213nm,0.8s,comp=Z,2μm
SSE Sheshan 30.00 350 P **P** **07 19 36.6 +1.4**
SSE S **S** **07 24 26.6 +2.9**
SSE pmax pmax
comp=Z,16nm,0.7s
SSE pmax pmax
comp=Z,81nm,3.8s
SSE LR LR
comp=Z,98nm,16.7s
SSE LR LR
comp=Z,140nm,16.6s
SLVN Son La 30.05 313 P **P** **07 19 35.9 +0.1**
SLVN IAmb IAmb 07 19 38.3
comp=Z,55nm,1.0s
SLVN Son La 30.05 313 P **P** **07 19 37.1 +1.3**
OOD Oodnadatta 30.23 165 P **P** **07 19 37.0 -0.3**
SRDT SRDT 30.51 296 P **P** **07 19 41.0 +1.1**
SNSI Sinabang, Aceh 30.82 272 P **P** **07 19 42.1 -0.5**
comp=Z,156nm,1.1s
PHRA Phrae 31.36 304 P **P** **07 19 47.5 +0.2**
WHN Wuhan 31.36 338 ⇓P **P** **07 19 49.2 +2.1**
WHN PcP **PcP** **07 22 39.2 +1.2**
WHN S **S** **07 24 47.8 +2.9**
WHN pmax pmax
comp=Z,240nm,0.9s
NJ2 Nanjing 31.41 346 ⇑P **P** **07 19 49.3 +1.8**
NJ2 pP **pP** **07 20 14.7 -0.2**
NJ2 pmax pmax
comp=Z,65nm,0.8s
JNU Nakatsue 31.68 6 P **P** **07 19 49.0 -0.9**
JNU Nakatsue 31.68 6 P **P** **07 19 49.6 -0.4**
GYA Guiyang 31.70 323 ⇑P **P** **07 19 51.8 +1.4**
GYA pmax pmax
comp=Z,110nm,1.0s
INKA Innaminka 31.85 157 P **P** **07 19 52.0 +0.5**
BSI Banda Aceh 32.03 278 P **P** **07 19 51.9 -1.4**
FORT Forrest 32.08 179 P **P** **07 19 52.9 -0.6**
FORT Forrest 32.08 179 P **P** **07 19 53.5 0.0**
MORW Morawa 32.17 198 P **P** **07 19 54.5 +0.2**
MORW IAmb IAmb 07 19 55.7
comp=Z,68nm,0.8s
MORW Morawa 32.17 198 P **P** **07 19 55.0 +0.7**
MULG Mulgathing 32.26 169 P **P** **07 19 54.8 -0.2**
QLP Quilpie 32.40 151 P **P** **07 19 57.0 +0.7**
CM31 Chiang Mai Arr 32.41 303 P **P** **07 19 57.0 +0.5**
CM31 IAmb IAmb 07 19 58.6
comp=Z,60nm,1.0s
CMAR Chiang Mai Arr 32.41 303 P **P** **07 19 57.0 +0.5**
CMAR Chiang Mai Arr 32.41 303 P **P** **07 19 57.4 +0.9**
comp=Z,23nm,0.9s,baz=126,slow=7.2,SNR=103
CMAR PcP **PcP** **07 22 41.9 +0.7**
comp=Z,4.2nm,0.7s,baz=139,slow=2.4,SNR=4.8
CMAR ScP **ScP** **07 26 14.1 +1.0**
comp=Z,7.7nm,0.9s,baz=154,slow=2.2,SNR=19
comp=Z,23nm,0.9s
CHTO Chiang Mai 32.58 304 P **P** **07 19 58.2 +0.2**
CHTO IAmb IAmb 07 19 59.8
comp=Z,57nm,0.9s
CHTO Chiang Mai 32.58 304 P **P** **07 19 58.2 +0.2**
CHTO pmax pmax
comp=Z,57nm,0.9s
JMN Monobe 32.70 10 P **P** **07 19 58.6 -0.4**
JMN IAmb IAmb 07 20 00.6
comp=Z,59nm,1.2s
JMN Monobe 32.70 10 P **P** **07 19 59.6 +0.7**
COCO West Island 33.02 245 P **P** **07 20 02.2 +0.3**
COCO West Island 33.02 245 P **P** **07 20 02.6 +0.8**
COCO West Island 33.02 245 P **P** **07 20 02.2 +0.3**
COCO pmax pmax
comp=Z,241nm,1.2s
COCO West Island 33.02 245 P **P** **07 20 02.3 +0.4**

KMBL Kambalda 33.04 188 P **P** **07 20 01.8 0.0**
ENH Enshi 33.19 331 P **P** **07 20 03.9 +0.8**
ENH Enshi 33.19 331 P **P** **07 20 04.0 +0.8**
ENH Enshi 33.19 331 P **P** **07 20 04.0 +0.8**
KMI Kunming 33.28 317 ⇓P **P** **07 20 06.0 +1.7**
KMI S **S** **07 25 13.4 -2.1**
KMI pmax pmax
comp=Z,110nm,1.3s
KMI LR LR
comp=Z,410nm,19.1s
KMI LR LR
comp=Z,340nm,19.7s
KMI LR LR
comp=Z,180nm,13.8s
LCRK Leigh Creek 33.45 162 P **P** **07 20 05.9 +0.5**
RK1H Rockhampton Ha 33.57 139 P **P** **07 20 07.5 +1.0**
KLBR Kellerberrin 34.07 194 P **P** **07 20 11.1 +0.3**
GD1S Gladstone Soft 34.33 139 P **P** **07 20 14.0 +0.9**
TJN Taejon 34.73 0 P **P** **07 20 16.4 0.0**
TJN Taejon 34.73 0 P **P** **07 20 17.3 +0.9**
TJN Taejon 34.73 0 P **P** **07 20 16.4 0.0**
TJN pmax pmax
comp=Z,415nm,1.4s
MUN Mundaring 34.85 196 P **P** **07 20 17.9 +0.4**
PZH PanZhiHua 34.86 318 P **P** **07 20 18.6 +0.7**
PZH S **S** **07 25 36.9 -2.7**
PZH pmax pmax
comp=Z,70nm,1.4s
PZH pmax pmax
comp=Z,150nm,4.4s
PZH LR LR
comp=Z,290nm,22.6s
PZH LR LR
comp=Z,280nm,17.5s
PZH LR LR
comp=Z,160nm,19.1s
INU Inuyama 34.94 14 P **P** **07 20 17.8 -0.4**
INU IAmb IAmb 07 20 57.4
comp=Z,72nm,1.0s
INU Inuyama 34.94 14 P **P** **07 20 18.4 +0.2**
INU Inuyama 34.94 14 P **P** **07 20 18.1 -0.1**
INU ScP **ScP** **07 26 21.2 -0.4**
BBOO Buckleboo 35.12 167 P **P** **07 20 19.2 -0.7**
BBOO IAmb IAmb 07 20 20.7
comp=Z,100nm,0.9s
BBOO Buckleboo 35.12 167 P **P** **07 20 19.3 -0.5**
JGF Kuroka 35.26 14 P **P** **07 20 20.4 -0.6**
JGF Kuroka 35.26 14 P **P** **07 20 21.7 +0.7**
EIDS Eidsvold 35.34 141 P **P** **07 20 21.5 -0.2**
EIDS Eidsvold 35.34 141 P **P** **07 20 21.6 -0.2**
NWAO Narrogin (SRO) 35.47 194 P **P** **07 20 23.1 +0.3**
NWAO Narrogin (SRO) 35.47 194 P **P** **07 20 23.1 +0.3**
NWAO Narrogin (SRO) 35.47 194 P **P** **07 20 23.7 +0.9**
NWAO Narrogin (SRO) 35.47 194 P **P** **07 20 23.1 +0.3**
NWAO pmax pmax
comp=Z,262nm,1.8s
NWAO Narrogin (SRO) 35.47 194 P **P** **07 20 23.1 +0.3**
LYN LuoYang 35.65 339 ⇓*i*P **P** **07 20 25.7 +1.4**
LYN pP pwP 07 20 55.5 +0.4
LYN PcP **PcP** **07 22 51.3 +1.2**
LYN S **S** **07 25 53.6 +2.4**
LYN SS **SnSn** **07 28 23.7 -3.8**
LYN pmax pmax
comp=Z,360nm,0.8s
LYN pmax pmax
comp=Z,660nm,3.5s
WHYH Whyalla 35.70 165 P **P** **07 20 24.7 -0.1**
TIA Tai'an 35.79 346 P **P** **07 20 26.0 +0.5**
TIA pmax pmax
comp=Z,63nm,0.9s
TIA pmax pmax
comp=Z,260nm,4.5s
TIA LR LR
comp=Z,220nm,13.5s
TIA LR LR
comp=Z,330nm,14.9s
TIA LR LR
comp=Z,360nm,14.7s
KSAR Wonju Array Be 35.80 1 P **P** **07 20 25.5 0.0**
KSAR Wonju Array Be 35.80 1 P **P** **07 20 25.5 0.0**
KSRS Korea Array 35.81 1 P **P** **07 20 26.2 +0.6**
comp=Z,34nm,0.6s,baz=177,slow=9.8,SNR=172
KSRS PcP **PcP** **07 22 51.2 +0.8**
comp=Z,3.6nm,0.8s,baz=175,slow=1.5,SNR=5.1
KSRS ScP **ScP** **07 26 24.8 0.0**
comp=Z,5.9nm,0.8s,baz=182,slow=3.5,SNR=15
comp=Z,34nm,0.6s
INCN Inchon 35.84 359 P **P** **07 20 26.1 +0.2**
INCN Inchon 35.84 359 P **P** **07 20 26.1 +0.2**
INCN pmax pmax
comp=Z,32nm,0.9s
KS19 Wonju Array Si 35.86 1 P **P** **07 20 26.1 +0.1**
KS19 IAmb IAmb 07 20 27.2
comp=Z,46nm,0.8s
STKA Stephens Creek 35.89 159 P **P** **07 20 26.0 -0.4**
STKA Stephens Creek 35.89 159 P **P** **07 20 26.6 +0.2**
comp=Z,96nm,0.7s,baz=333,slow=8.6,SNR=192
STKA PP **PP** **07 21 48.9 -1.7**
comp=Z,80nm,1.1s,baz=326,slow=11,SNR=7.9
comp=Z,96nm,0.7s
STKA Stephens Creek 35.89 159 P **P** **07 20 26.6 +0.2**
STKA Stephens Creek 35.89 159*d i*P **P** **07 20 25.8 -0.6**
MAJO Matsushiro 36.37 15 P **P** **07 20 29.0 -1.4**
MAJO IAmb IAmb 07 21 08.9
comp=Z,44nm,1.0s
MAJO Matsushiro 36.37 15 P **P** **07 20 29.6 -0.8**
MAJO Matsushiro 36.37 15 P **P** **07 20 29.0 -1.4**
MAJO pmax pmax
comp=Z,44nm,1.0s
MAJO Matsushiro 36.37 15 P **P** **07 20 29.1 -1.4**
MAJO pP **pP** **07 20 56.7 -1.6**
MAJO ScP **ScP** **07 26 26.2 -0.7**
MJAR Matsushiro Arr 36.37 15 P **P** **07 20 29.1 -1.4**
comp=Z,13nm,0.9s,baz=183,slow=9.5,SNR=36
MJAR ScP **ScP** **07 26 26.9 0.0**
comp=Z,4.4nm,0.7s,baz=176,slow=5.1,SNR=9.8
comp=Z,13nm,0.9s
MJB9 Matsu-Tunnel 36.37 15 P **P** **07 20 29.3 -1.1**
MJB9 IAmb IAmb 07 21 08.9
comp=Z,43nm,1.0s
HTT Hallett 36.45 163 P **P** **07 20 31.3 +0.1**
XAN Xi'an 36.61 334 P **P** **07 20 33.0 +0.4**
XAN PcP **PcP** **07 22 54.0 +1.0**
XAN ScP **ScP** **07 26 28.1 +0.2**
AULRC Lightning Ridg 36.62 149 P **P** **07 20 32.9 +0.3**
CD2 Chengdu 36.71 325 P **P** **07 20 33.7 +0.2**
CD2 S **S** **07 26 09.3 +1.7**
CD2 pmax pmax
comp=Z,120nm,1.0s
RKGY Rocky Gully 37.14 194 P **P** **07 20 38.5 +1.6**
CMSA Cobar Meteorol 37.25 153 P **P** **07 20 38.5 +0.5**
AUALB St Joseph's Co 37.30 193 P **P** **07 20 39.8 +1.5**
TW1H Toowoomba 1 Ha 37.45 142 P **P** **07 20 40.4 +0.6**
HNS HongShan 37.55 344 ⇓P **P** **07 20 41.0 +0.7**
HNS pmax pmax
comp=Z,63nm,1.2s
DL2 Dalian 37.60 353 P **P** **07 20 41.4 +0.7**
DL2 pmax pmax
comp=Z,120nm,0.8s
AUWSH Wavell State H 38.01 141 P **P** **07 20 44.9 +0.5**
AUMBR Murray Bridge 38.15 164 P **P** **07 20 46.1 +0.7**
JMM Marumori 38.33 18 P **P** **07 20 46.6 -0.4**
JMM IAmb IAmb 07 21 28.3
comp=Z,118nm,1.0s
JMM Marumori 38.33 18 P **P** **07 20 47.3 +0.4**
TIY Taiyuan 38.52 341 *e*P **P** **07 20 49.5 +0.8**
TIY pmax pmax
comp=Z,90nm,0.9s
GC1S Gold Coast 1 S 38.84 141 P **P** **07 20 51.9 +0.6**
AUDCS Dubbo College 39.21 151 P **P** **07 20 55.0 +0.6**
ARMA Armidale 39.37 146 P **P** **07 20 56.3 +0.5**
ARMA Armidale 39.37 146 P **P** **07 20 56.5 +0.6**
AUPHS Peel High Scho 39.48 147 P **P** **07 20 56.9 +0.2**
BJIT Baijiatuau 39.65 347 P **P** **07 20 57.9 0.0**
BJT IAmb IAmb 07 20 59.4
comp=Z,67nm,0.7s
BJT Baijiatuau 39.65 347 P **P** **07 20 58.8 +0.9**
BJT Baijiatuau 39.65 347 P **P** **07 20 57.9 0.0**
BJT pmax pmax
comp=Z,67nm,0.7s
BJT Baijiatuau 39.65 347 P **P** **07 20 58.5 +0.6**
BJT sP **sP** **07 21 38.7 -1.8**
BJT PcP **PcP** **07 23 03.6 +1.3**
BJI Beijing 39.67 347 P **P** **07 20 58.3 +0.3**

BJI PcP **PcP** **07 23 03.8 +1.5**
BJI ScP **ScP** **07 26 40.8 +1.5**
BJI pmax pmax
comp=Z,46nm,0.7s
BJI pmax pmax
comp=Z,83nm,3.7s
SNY Shenyang 40.30 356 ⇓P **P** **07 21 03.5 +0.3**
SNY S **S** **07 27 01.0 -0.1**
SNY pmax pmax
comp=Z,93nm,0.7s
SNY pmax pmax
comp=Z,72nm,3.9s
SNY LR LR
comp=Z,330nm,14.7s
SNY LR LR
comp=Z,290nm,19.8s
SNY LR LR
comp=Z,190nm,18.6s
BRDH Bariadhala 40.41 304 P **P** **07 21 05.8 +1.4**
comp=Z,148nm,0.4s,baz=89,slow=5.7,SNR=16
comp=Z,148nm,0.4s
ARPS Mount Arapiles 40.42 162 P **P** **07 21 05.2 +0.9**
LZH Lanzhou 40.66 331 ⇓P **P** **07 21 08.3 +1.8**
LZH pP pwP 07 21 40.1 +2.4
LZH sP sP 07 21 51.6 +2.4
LZH PcP **PcP** **07 23 07.4 +1.5**
LZH ScP **ScP** **07 26 44.6 +1.1**
LZH S **S** **07 27 08.0 +1.1**
LZH SS **SS** **07 30 16.8 +4.2**
LZH pmax pmax
comp=Z,250nm,1.5s
LZH pmax pmax
comp=Z,130nm,5.5s
LZH LR LR
comp=Z,360nm,14.8s
LZH LR LR
comp=Z,320nm,15.5s
LZH LR LR
comp=Z,130nm,15.8s
YNG Young 40.80 153 P **P** **07 21 09.1 +1.6**
AUMAG Moama Anglican 40.82 158 P **P** **07 21 09.0 +1.4**
MSHR Mys Shultsa 41.09 5*d i*P **P** **07 21 10.4 +0.8**
MSHR pmax pmax
comp=Z,104nm,0.9s
JTM Tenmabayashi 41.12 16 P **P** **07 21 10.6 +0.7**
JTM IAmb IAmb 07 21 49.2
comp=Z,149nm,1.3s
PSTR Posyet 41.13 4*c i*P **P** **07 21 11.1 +1.1**
MGCD Mangrove Creek 41.24 149 P **P** **07 21 12.4 +1.3**
SYDH Sydney Hard Ro 41.49 150 P **P** **07 21 14.1 +1.0**
SHL Shillong 41.57 308 P **P** **07 21 13.9 -0.2**
SHL Shillong 41.57 308 P **P** **07 21 14.7 +0.6**
SNR=40
SHL Shillong 41.57 308 P **P** **07 21 13.9 -0.2**
SHL pmax pmax
comp=Z,233nm,0.9s
HHC Hu-ho-hao-te 41.66 342 ⇓*i*P **P** **07 21 15.8 +1.3**
HHC sP sP 07 21 58.4 +1.0
HHC S **S** **07 27 25.2 +3.6**
HHC pmax pmax
comp=Z,31nm,0.9s
VLA Vladivostok 41.68 5*c i*P **P** **07 21 15.4 +0.9**
VLA pmax pmax
comp=Z,66nm,0.9s
RIV Riverview 41.75 149 P **P** **07 21 16.1 +0.9**
BRAT Ballarat 41.82 160 P **P** **07 21 16.5 +0.8**
CAN Canberra 41.92 153 P **P** **07 21 17.0 +0.3**
CAN IAmb IAmb 07 21 19.2
comp=Z,127nm,1.0s
CAN Canberra 41.92 153 P **P** **07 21 17.6 +0.9**
CAN Canberra 41.92 153 P **P** **07 21 17.0 +0.3**
CAN pmax pmax
comp=Z,127nm,1.0s
CAN Canberra 41.92 153 ⇑P **P** **07 21 18.0 +1.3**
CAN pP **pP** **07 21 45.8 -0.2**
CAN ScP **ScP** **07 26 50.4 +2.0**
BTO Baotou 41.94 340 *e*P **P** **07 21 17.8 +1.0**
BTO pP **pP** **07 21 45.5 +0.3**
BTO sP **sP** **07 22 02.6 +3.0**
BTO PP **PP** **07 22 58.3 +1.8**
BTO S **S** **07 27 27.6 +2.0**
BTO SS **SS** **07 30 35.8 -1.8**
BTO pmax pmax
comp=Z,39nm,0.6s
BTO pmax pmax
comp=Z,220nm,4.5s
BTO LR LR
comp=Z,280nm,7.0s
BTO LR LR
comp=Z,220nm,4.1s
BTO LR LR
comp=Z,280nm,15.5s
WOLH Wollongong Har 42.07 150 P **P** **07 21 19.0 +1.2**
CN2 Changchun 42.17 358 *e*P **P** **07 21 17.8 -0.7**
CN2 *e*S **S** **07 27 30.5 +1.7**
CN2 *e*SS **SS** **07 30 36.6 -5.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
TOO Toolangi 42.40 158 P **P** **07 21 21.3 +0.8**
TOO Toolangi 42.40 158 P **P** **07 21 21.3 +0.8**
TOO pmax pmax
comp=Z,45nm,1.6s
KOUNC Koumac, New Ca 42.45 123 P **P** **07 21 21.5 +0.4**
KOUNC Koumac, New Ca 42.45 123 P **P** **07 21 21.9 +0.8**
AUSMG Snowy Mountain 42.66 154 P **P** **07 21 23.9 +1.2**
USA0B Ussuriysk Arra 42.76 5 P **P** **07 21 23.2 -0.1**
USA0B IAmb IAmb 07 21 24.8
comp=Z,64nm,0.9s
USA0B Ussuriysk Arra 42.76 5 P **P** **07 21 23.2 -0.1**
USA0B pmax pmax
comp=Z,64nm,0.9s
USRK Ussuriysk Ar. 42.76 5 P **P** **07 21 23.6 +0.3**
USRK Ussuriysk Ar. 42.76 5 P **P** **07 21 23.8 +0.5**
comp=Z,50nm,0.8s,baz=192,slow=7.1,SNR=78
comp=Z,50nm,0.8s
MDJ Mudanjiang 43.02 3 P **P** **07 21 25.6 +0.4**
MDJ IAmb IAmb 07 21 27.6
comp=Z,88nm,1.0s
MDJ Mudanjiang 43.02 3 P **P** **07 21 25.7 +0.4**
MDJ pmax pmax
comp=Z,100nm,0.9s
MDJ Mudanjiang 43.02 3 P **P** **07 21 25.1 -0.2**
MDJ Mudanjiang 43.02 3 P **P** **07 21 25.8 +0.5**
XLT XiLinHaoTe 43.38 348 ⇓*i*P **P** **07 21 28.6 +0.2**
XLT sS sS 07 28 38.6 +2.5
XLT SS **SS** **07 31 02.4 -3.3**
XLT pmax pmax
comp=Z,87nm,0.8s
VLAKA Lakatoro 43.44 115 P **P** **07 21 30.2 +1.1**
BNX BinXian 44.09 0 ⇑P **P** **07 21 33.6 -0.2**
BNX pmax pmax
comp=Z,36nm,0.9s
LSA Lhasa 44.25 313 P **P** **07 21 37.7 +1.6**
LSA IAmb IAmb 07 21 39.0
comp=Z,76nm,0.7s
LSA Lhasa 44.25 313 P **P** **07 21 38.0 +1.9**
LSA Lhasa 44.25 313 P **P** **07 21 37.7 +1.6**
LSA pmax pmax
comp=Z,76nm,0.7s
LSA Lhasa 44.25 313 P **P** **07 21 37.9 +1.8**
LSA pP **pP** **07 22 06.0 +1.2**
NOUC Port Laguerre 44.82 124 P **P** **07 21 40.5 +0.4**
NOUC Port Laguerre 44.82 124 P **P** **07 21 40.3 +0.3**
DZM Mont Dzumac 44.92 124 *e*P **P** **07 21 40.8 -0.2**
comp=Z,184nm,1.2s
DZM *e*S **S** **07 28 04.0 -5.6**
comp=Z,64nm,26.3s
DZM *e*SS **SS** **07 31 32.9 -1.4**
comp=Z,219nm,26.6s
DZM *e*LR LR 07 34 28.2
comp=Z,563nm,28.8s
DZM Mont Dzumac 44.92 124 P **P** **07 21 41.2 +0.2**
DZM IAmb IAmb 07 21 43.0
comp=Z,82nm,1.1s
DZM Mont Dzumac 44.92 124 P **P** **07 21 42.6 +1.6**
DZM Mont Dzumac 44.92 124 P **P** **07 21 41.8 +0.8**
DZM pP **pP** **07 22 09.5 -1.0**
DZM sP **sP** **07 22 23.9 -1.1**
ONTNC Ouen Toro 45.03 124 P **P** **07 21 42.3 +0.6**
ONTNC IAmb IAmb 07 21 43.5
comp=Z,68nm,0.9s
ONTNC Ouen Toro 45.03 124 P **P** **07 21 42.6 +0.8**
GTA Gaotai 45.24 330 P **P** **07 21 44.5 +1.2**
GTA sP sP 07 22 27.4 +1.0

GTA PcP **PcP** **07 23 22.4 +1.2**
GTA ScP **ScP** **07 27 02.6 +0.6**
GTA S **S** **07 28 15.8 +1.9**
GTA ScS **ScS** **07 31 26.6 -0.4**
GTA pmax pmax
comp=Z,80nm,0.9s
YATNC Mamie plateau, 45.29 123 P **P** **07 21 44.6 +0.8**
GOMU GeErMu 45.71 323 P **P** **07 21 49.3 +1.9**
YSS Yuzh-Sakhalins 47.30 15 P **P** **07 21 59.1 0.0**
YSS IAmb IAmb 07 22 01.1
comp=Z,153nm,1.9s
YSS Yuzh-Sakhalins 47.30 15 P **P** **07 21 59.1 0.0**
YSS Yuzh-Sakhalins 47.30 15⇓ *e*P **P** **07 21 59.2 +0.1**
YSS pmax pmax
comp=Z,47nm,1.4s
KLR Kul'dur 47.74 4 P **P** **07 22 02.6 +0.2**
comp=Z,35nm,0.8s,baz=200,slow=4.5,SNR=20
comp=Z,35nm,0.8s
KLR Kul'dur 47.74 4 *ce*P **P** **07 22 02.4 -0.1**
KLR pmax pmax
comp=Z,57nm,1.0s
HIA Hailar 48.04 353 P **P** **07 22 05.4 +0.6**
HIA IAmb IAmb 07 22 06.5
comp=Z,72nm,1.4s
HIA Hailar 48.04 353 P **P** **07 22 05.4 +0.6**
HIA Hailar 48.04 353 P **P** **07 22 05.4 +0.6**
HIA pmax pmax
comp=Z,72nm,1.4s
HEH HeiHe 48.60 0 ⇓P **P** **07 22 09.1 0.0**
HEH ScP **ScP** **07 27 14.2 -1.4**
HEH pmax pmax
comp=Z,76nm,0.9s
ULN Ulaanbaatar 49.38 342 P **P** **07 22 15.5 +0.3**
ULN IAmb IAmb 07 22 17.3
comp=Z,102nm,1.0s
ULN Ulaanbaatar 49.38 342 P **P** **07 22 16.3 +1.0**
ULN Ulaanbaatar 49.38 342 *d i*P **P** **07 22 16.2 +1.0**
ULN pmax pmax
comp=Z,135nm,1.2s
ULN Ulaanbaatar 49.38 342 P **P** **07 22 16.2 +1.0**
ULN sP **sP** **07 22 58.7 -0.1**
ULN PcP **PcP** **07 23 36.7 +0.9**
ULN ScP **ScP** **07 27 18.9 -0.3**
SONM Songino Array 49.56 342 P **P** **07 22 17.2 +0.6**
SONM IAmb IAmb 07 22 18.4
comp=Z,50nm,1.0s
SONM Songino Array 49.56 342 P **P** **07 22 17.3 +0.8**
comp=Z,40nm,0.8s,baz=156,slow=8.9,SNR=154
SONM PcP **PcP** **07 23 37.1 +0.7**
comp=Z,11nm,0.8s,baz=152,slow=3.2,SNR=5.0
SONM ScP **ScP** **07 27 19.1 -0.8**
comp=Z,4.0nm,0.9s,baz=156,slow=5.0,SNR=4.6
SONM LR LR 07 45 06.0
comp=Z,133nm,20.5s,baz=154,slow=38
comp=Z,40nm,0.8s
SONM Songino Array 49.56 342 P **P** **07 22 17.2 +0.6**
SONM pmax pmax
comp=Z,50nm,1.0s
GRNR Gornyy 49.74 8⇓ *i*P **P** **07 22 18.4 +0.6**
GRNR pmax pmax
comp=Z,30nm,1.0s
HYB Hyderabad 50.30 291⇓ *e*P **P** **07 22 23.0 +0.5**
HYB IVmB_BB 07 22 23.4
comp=Z,2μm,1.1s
HYB *e*pP **pP** **07 22 51.7 -0.5**
HYB *e*PcP **PcP** **07 23 37.8 -1.8**
HYB *e*PP **PP** **07 24 20.3 +1.0**
HYB *e*ScP **ScP** **07 27 23.9 +0.2**
HYB *e*S **S** **07 29 26.6 +0.9**
HYB *e*ScS **ScS** **07 31 60.0 -1.2**
CIT Chita 51.65 349 *e*P **P** **07 22 32.6 +0.5**
CIT *e* 07 23 06.2
CIT *e* 07 23 28.8
CIT pmax pmax
comp=Z,146nm,0.9s
ZEA Zeya 52.09 0 *e*P **P** **07 22 34.9 -0.4**
ZEA *e* 07 23 28.3
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=Z,20nm,0.9s
FUNA Funafuti 52.82 102 P **P** **07 22 42.1 +0.8**
FUNA Funafuti 52.82 102 P **P** **07 22 42.6 +1.3**
FUNA Funafuti 52.82 102 P **P** **07 22 42.4 +1.1**
MSVF Nonsavu 53.62 113 P **P** **07 22 48.8 +1.6**
MSVF IAmb IAmb 07 22 50.1
comp=Z,101nm,1.0s
MSVF Nonsavu 53.62 113 LR LR 07 45 28.3
comp=Z,126nm,20.8s,baz=273,slow=36
MSVF Nonsavu 53.62 113 P **P** **07 22 48.8 +1.6**
MSVF Nonsavu 53.62 113 P **P** **07 22 48.8 +1.6**
MSVF pmax pmax
comp=Z,101nm,1.0s
MSVF Nonsavu 53.62 113 P **P** **07 22 48.7 +1.5**
IRK Irkutsk 54.09 343 *e*P **P** **07 22 48.6 -1.4**
IRK *e* 07 23 23.9
IRK pmax pmax
comp=Z,67nm,2.0s
KAAM Kaadhehdhoo 54.15 270 P **P** **07 22 52.1 +1.1**
KAAM Kaadhehdhoo 54.15 270 P **P** **07 22 52.0 +0.9**
MOY Mondy 54.63 340 *e*P **P** **07 22 55.3 +1.3**
MOY pmax pmax
comp=Z,72nm,1.7s
WMQ Urumqi 54.81 326 ⇓P **P** **07 22 56.8 +1.4**
WMQ S **S** **07 30 28.3 +1.9**
WMQ pmax pmax
comp=Z,150nm,1.3s
WMQ pmax pmax
comp=Z,490nm,4.5s
WMQ Urumqi 54.81 326 P **P** **07 22 56.7 +1.4**
DGTI Dogotuki 54.82 111 P **P** **07 22 56.4 +0.5**
DGAR Diego Garcia 55.27 260 P **P** **07 23 00.2 +1.2**
DGAR Diego Garcia 55.27 260 P **P** **07 23 00.3 +1.2**
DGAR pmax pmax
comp=Z,769nm,1.7s
LKBA Tubou, Lakemba 56.63 113 P **P** **07 23 09.6 +0.9**
BOD Bodaibo 57.15 352 *e*P **P** **07 23 11.5 -0.1**
BOD pmax pmax
comp=Z,80nm,0.9s
PEA0B Petropavlovsk- 57.36 21⇑ *e*P **P** **07 23 13.1 -0.2**
PETK Petropavlovsk- 57.36 21 P **P** **07 23 13.1 -0.2**
comp=Z,10nm,0.6s,baz=176,slow=2.8,SNR=22
comp=Z,10nm,0.6s
PET Petropavlovsk 57.65 22 P **P** **07 23 15.0 -0.2**
comp=Z,25nm,1.4s
WUS Wushi 58.52 319 IAmb IAmb 07 23 24.5
comp=Z,136nm,1.6s
WUS Wushi 58.52 319 P **P** **07 23 23.0 +1.2**
JCZ Jackson Bay 58.61 146 P **P** **07 23 23.0 +0.7**
FOZ Fox Glacier 58.86 145 P **P** **07 23 24.6 +0.7**
FOZ IAmb IAmb 07 23 25.2
comp=Z,27nm,1.0s
QRZ Quartz Range 58.92 141 P **P** **07 23 24.7 +0.4**
DSZ Denniston Nort 58.99 142 P **P** **07 23 25.2 +0.3**
HIZ Hauiti 59.21 138 P **P** **07 23 27.7 +1.3**
TOZ Tahuroa Road 59.26 136 P **P** **07 23 27.7 +1.0**
TOZ IAmb IAmb 07 23 28.8
comp=Z,48nm,0.8s
TKNZ Takaka Hill 59.31 141 P **P** **07 23 27.2 +0.2**
WHZ Wether Hill Ro 59.32 148 P **P** **07 23 27.2 +0.2**
WHZ IAmb IAmb 07 23 27.8
comp=Z,57nm,1.2s
INZ Inchbonnie 59.34 143 P **P** **07 23 26.9 -0.2**
INZ IAmb IAmb 07 23 29.3
comp=Z,50nm,1.0s
SHLS Shalkode 59.34 321 *e*P **P** **07 23 26.9 -0.6**
comp=Z,42nm,1.0s
SHLS Shalkode 59.34 321 *e*P **P** **07 23 26.8 -0.6**
SHLS pmax pmax
comp=Z,42nm,1.0s
MRNZ Matariki Terra 59.38 141 P **P** **07 23 27.2 -0.3**
LBZ Lake Benmore 59.60 145 P **P** **07 23 29.2 +0.3**
UZB Uzynbulak 59.62 321 *e*P **P** **07 23 30.3 +1.0**
comp=Z,33nm,1.2s
UZB *e*S **S** **07 31 31.5 +1.8**
UZB Uzynbulak 59.62 321 *e*P **P** **07 23 30.3 +1.0**
UZB *e*S **S** **07 31 31.4 +1.8**
UZB pmax pmax
comp=Z,33nm,1.2s
NIL Nilore 59.64 309 P **P** **07 23 30.2 +0.7**
NIL Nilore 59.64 309 P **P** **07 23 30.2 +0.7**
NIL pmax pmax
comp=Z,252nm,1.5s
NIL Nilore 59.64 309 P **P** **07 23 30.2 +0.7**
MK31 Makanchi Array 59.64 326 P **P** **07 23 29.8 +0.5**
MK31 Makanchi Array 59.64 326 *d i*P **P** **07 23 30.1 +0.9**
MKAR Makanchi Array 59.64 326 P **P** **07 23 29.7 +0.4**
MKAR Makanchi Array 59.64 326 P **P** **07 23 30.2 +1.0**
comp=Z,73nm,0.7s,baz=120,slow=8.6,SNR=558
MKAR ScP **ScP** **07 28 03.5 -0.6**
comp=Z,6.7nm,0.7s,baz=120,slow=4.7,SNR=9.5
MKAR LR LR 07 48 59.5
comp=Z,49nm,19.9s,baz=114,slow=36
comp=Z,73nm,0.7s
NNZ Nelson 59.67 141 P **P** **07 23 29.1 -0.4**
NNZ IAmb IAmb 07 23 30.6
comp=Z,49nm,1.0s
THZ Tophouse 59.68 142 P **P** **07 23 29.1 -0.5**
RPZ Rata Peaks 59.69 144 P **P** **07 23 29.5 -0.1**
TARG Taragay, Kyrgy 59.70 319 IAmb IAmb 07 23 42.6
comp=Z,34nm,0.8s
MAKZ Makanchi 59.83 326 P **P** **07 23 31.2 +0.7**
MAKZ Makanchi 59.83 326 P **P** **07 23 31.2 +0.7**
MAKZ pmax pmax
comp=Z,84nm,0.9s
MAKZ Makanchi 59.83 326 ⇓P **P** **07 23 31.2 +0.7**
MAKZ ScP **ScP** **07 28 03.9 -0.9**
LTZ Lake Taylor 59.87 143 P **P** **07 23 31.1 +0.2**
LTZ IAmb IAmb 07 23 31.9
comp=Z,57nm,1.1s
KSH Kashi 59.94 316 P **P** **07 23 33.8 +2.3**
KSH pmax pmax
comp=Z,53nm,1.2s
KSH pmax pmax
comp=Z,370nm,4.4s
SATY Saty 59.96 320 *e*P **P** **07 23 32.8 +1.1**
comp=Z,51nm,0.9s
SATY Saty 59.96 320 *e*P **P** **07 23 32.7 +1.1**
SATY pmax pmax
comp=Z,51nm,0.9s
KPKS Kokpek 59.99 321 *e*P **P** **07 23 32.8 +0.9**
comp=Z,30nm,0.8s
KPKS Kokpek 59.99 321 *e*P **P** **07 23 32.7 +0.9**
KPKS pmax pmax
comp=Z,31nm,0.8s
ZHN Zhinishke 60.00 321 *e*P **P** **07 23 32.9 +1.0**
comp=Z,16nm,0.6s
ZHN Zhinishke 60.00 321 *e*P **P** **07 23 32.9 +1.0**
ZHN pmax pmax
comp=Z,16nm,0.6s
OXZ Oxford 60.04 144 P **P** **07 23 31.8 -0.2**
OXZ IAmb IAmb 07 23 32.3
comp=Z,37nm,0.9s
TUWZ Tuamarina 60.15 141 P **P** **07 23 31.9 -0.8**
TCW Tory Channel 60.24 140 P **P** **07 23 32.8 -0.5**
KDJ Kajisay 60.31 319 P **P** **07 23 35.0 +0.9**
KDJ Kajisay 60.31 319 P **P** **07 23 35.0 +0.9**
KDJ pmax pmax
comp=Z,100nm,1.1s
KHZ Kahutara 60.43 142 P **P** **07 23 33.8 -0.9**
KHZ IAmb IAmb 07 23 35.0
comp=Z,61nm,0.8s
GVZ Greta Valley S 60.43 143 P **P** **07 23 34.9 +0.2**
GVZ IAmb IAmb 07 23 35.8
comp=Z,52nm,0.8s
YAK Yakutsk 60.44 1 P **P** **07 23 34.6 +0.3**
YAK Yakutsk 60.44 1 P **P** **07 23 34.0 -0.3**
comp=Z,116nm,0.7s,baz=335,slow=0.4,SNR=27
comp=Z,116nm,0.7s
YAK Yakutsk 60.44 1 *e*P **P** **07 23 34.3 0.0**
YAK *e* 07 24 17.1
YAK *e* 07 25 49.1
YAK *e*S **S** **07 31 39.7 +0.6**
YAK *e* 07 33 10.4
YAK *e*SS **SS** **07 35 40.0 +0.7**
YAK pmax pmax
comp=Z,153nm,1.0s
YAK pmax pmax
comp=N,42nm,1.3s
YAK pmax pmax
comp=E,12nm,1.7s
YAK pmax pmax
comp=Z,183nm,4.8s
YAK pmax pmax
comp=N,201nm,5.5s
YAK pmax pmax
comp=E,185nm,4.3s
YAK smax smax
comp=N,250nm,4.6s
YAK smax smax
comp=E,160nm,3.0s
YAK Yakutsk 60.44 1 P **P** **07 23 34.2 0.0**
YAK pP **pP** **07 24 04.4 -0.3**
YAK sP **PcP** **07 24 17.2 -0.6**
SNZO South Karori 60.56 140 P **P** **07 23 34.4 -1.2**
URZ Urewera 60.63 136 LR LR 07 50 49.4
comp=E,136nm,18.9s,baz=26,slow=37
BKZ Black Stump Fm 60.64 137 P **P** **07 23 35.6 -0.7**
RTZ Ruatahuna 60.71 137 P **P** **07 23 36.3 -0.4**
NRN Naryn 60.77 318 P **P** **07 23 38.0 +0.6**
NRN IAmb IAmb 07 23 39.4
comp=Z,47nm,1.0s
NRN Naryn 60.77 318 P **P** **07 23 38.0 +0.6**
NRN pmax pmax
comp=Z,47nm,1.0s
MA2 Magadan 60.78 14 *ce*P **P** **07 23 37.2 +0.5**
MA2 pmax pmax
comp=Z,43nm,1.7s
MA2 Magadan 60.78 14 P **P** **07 23 37.4 +0.6**
MRZ Mangatainoka R 60.79 139 P **P** **07 23 35.7 -1.4**
MRZ IAmb IAmb 07 23 37.0
comp=Z,44nm,0.8s
MDOK Medeo 60.88 320 *e*P **P** **07 23 39.0 +1.0**
MDOK Medeo 60.88 320 *e*P **P** **07 23 38.9 +1.0**
TNSS Tian-Shan 60.89 320 *e*P **P** **07 23 39.1 +0.8**
TNSS Tian-Shan 60.89 320 *e*P **P** **07 23 39.1 +0.8**
TDK Taldyqorghan 60.94 322 *e*P **P** **07 23 39.2 +1.1**
comp=Z,45nm,0.9s
TDK Taldyqorghan 60.94 322 *e*P **P** **07 23 39.2 +1.1**
TDK pmax pmax
comp=Z,45nm,0.9s
MSWZ Moikau Station 60.97 140 P **P** **07 23 37.4 -1.0**
ULHL Ulahol 60.98 319 P **P** **07 23 39.9 +1.2**
SNR=16
KRAR Krasnoyarsk 60.98 339⇑ *e*P **P** **07 23 38.5 +0.4**
AAA Alma-Ata 60.99 320 *e*P **P** **07 23 39.8 +1.2**
comp=Z,39nm,0.8s
AAA Alma-Ata 60.99 320 *e*P **P** **07 23 39.7 +1.2**
AAA pmax pmax
comp=Z,39nm,0.8s
PLWZ Palliser 61.05 140 P **P** **07 23 37.8 -1.1**
BFZ Birch Farm 61.24 139 P **P** **07 23 39.6 -0.6**
BFZ IAmb IAmb 07 23 40.9
comp=Z,34nm,0.8s
BOOM Boomskoye usch 61.29 319 P **P** **07 23 41.2 +0.5**
BOOM IAmb IAmb 07 23 43.1
comp=Z,52nm,1.2s
BOOM Boomskoye usch 61.29 319 P **P** **07 23 41.2 +0.5**
BOOM pmax pmax
comp=Z,53nm,1.2s
KUU Kurty 61.68 320 *e*P **P** **07 23 44.3 +1.2**
comp=Z,46nm,0.8s
KUU Kurty 61.68 320 *e*P **P** **07 23 44.3 +1.2**
KUU pmax pmax
comp=Z,46nm,0.8s
TKM2 Tokmak 2 61.71 319 P **P** **07 23 44.8 +1.2**
SNR=72
TKM2 Tokmak 2 61.71 319 *i*P **P** **07 23 44.5 +0.9**
TKM2 pmax pmax
comp=Z,52nm,0.7s
KBK Karagaybulak 62.02 319 P **P** **07 23 46.9 +1.3**
SNR=20
UCH Uchtor 62.11 318 P **P** **07 23 48.3 +1.7**
SNR=11
CHMS Chumysh 62.30 319 P **P** **07 23 48.1 +0.8**
SNR=6.8
AAK Ala-Archa 62.31 319 P **P** **07 23 48.1 +0.6**
AAK Ala-Archa 62.31 319 *i*P **P** **07 23 48.9 +1.4**
SNR=30
AAK Ala-Archa 62.31 319 P **P** **07 23 47.9 +0.4**
comp=Z,12nm,0.6s,baz=123,slow=6.0,SNR=36
comp=Z,12nm,0.6s
AAK Ala-Archa 62.31 319 P **P** **07 23 48.8 +1.2**
AAK Ala-Archa 62.31 319 *d i*P **P** **07 23 48.8 +1.2**
AAK pmax pmax
comp=Z,29nm,0.8s
AAK Ala-Archa 62.31 319 P **P** **07 23 48.7 +1.2**
AAK pP **pP** **07 24 18.0 0.0**
SGDS Sogindy 62.58 319 *e*P **P** **07 23 50.0 +0.7**
SGDS Sogindy 62.58 319 *e*P **P** **07 23 49.9 +0.7**
USP Ospenovka 62.58 319 P **P** **07 23 50.2 +1.0**
SNR=66
AML Almayashu 62.62 318 P **P** **07 23 51.5 +1.6**
SNR=30
ARSB Arslanbob 62.77 317 P **P** **07 23 51.4 +0.8**
ARSB Arslanbob 62.77 317 P **P** **07 23 51.4 +0.8**
ARSB pmax pmax
comp=Z,34nm,1.2s
ZAA0 Zalesovo Array 62.78 333 P **P** **07 23 49.4 -0.8**
ZAA0 IAmb IAmb 07 23 50.8
comp=Z,38nm,1.1s
ZALV Zalesovo Beam 62.78 333 P **P** **07 23 49.3 -0.9**
ZALV Zalesovo Beam 62.78 333 P **P** **07 23 49.6 -0.5**
comp=Z,15nm,0.6s,baz=114,slow=6.6,SNR=68
comp=Z,15nm,0.6s
EKS2 Erkin-Say 62.79 318 P **P** **07 23 52.3 +1.6**
SNR=40
KBL Kabul 63.23 308 P **P** **07 23 54.3 +0.4**
KBL Kabul 63.23 308 P **P** **07 23 54.5 +0.7**
SNR=28
KBL Kabul 63.23 308 P **P** **07 23 54.3 +0.4**
KBL pmax pmax
comp=Z,72nm,0.7s
GAR Garm 63.76 313 P **P** **07 23 57.3 +0.2**
KURBB Kurchatov Arra 63.86 328 P **P** **07 23 57.7 +0.3**
comp=Z,82nm,0.8s,baz=124,slow=6.0,SNR=166
KURBB S **S** **07 32 22.4 0.0**
comp=Z,0.5nm,1.0s,baz=124,slow=10,SNR=6.1
comp=Z,82nm,0.8s
KURK Kurchatov 63.86 328 P **P** **07 23 57.5 +0.1**
KURK Kurchatov 63.86 328 P **P** **07 23 57.9 +0.5**
KURK Kurchatov 63.86 328 P **P** **07 23 57.5 +0.1**
KURK pmax pmax
comp=Z,153nm,0.9s
KURK Kurchatov 63.86 328 ⇓P **P** **07 23 57.8 +0.5**
SEY Seymchan 64.13 13 *e*P **P** **07 23 58.9 0.0**
SEY pmax pmax
comp=Z,53nm,1.3s
DZA Taraz 64.53 318 *e*P **P** **07 24 02.8 +0.8**
comp=Z,22nm,0.6s
DZA Taraz 64.53 318 *e*P **P** **07 24 02.7 +0.8**
DZA pmax pmax
comp=Z,22nm,0.6s
SIMJ Simiganj 64.59 313 P **P** **07 24 02.8 +0.2**
SIMJ IAmb IAmb 07 24 04.4
comp=Z,71nm,0.9s
SIMJ Simiganj 64.59 313 P **P** **07 24 03.0 +0.4**
SIMJ pP **pP** **07 24 33.1 -0.2**
IUG Iuzhnay 65.12 316 *e*P **P** **07 24 06.9 +1.0**
comp=Z,30nm,0.7s
IUG Iuzhnay 65.12 316 *e*P **P** **07 24 06.8 +0.9**
IUG pmax pmax
comp=Z,30nm,0.7s
KK31 Karatay Array 65.16 318 *i*P **P** **07 24 06.6 +0.5**
KKAR Karatay Array 65.16 318 P **P** **07 24 05.9 -0.2**
KKAR Karatay Array 65.16 318 P **P** **07 24 06.3 +0.2**
KKAR IAmb IAmb 07 24 07.7
comp=Z,57nm,1.1s
KKAR Karatay Array 65.16 318 P **P** **07 24 06.3 +0.2**
KKAR pmax pmax
comp=Z,57nm,1.1s
BRLS Borolday 65.59 317 *e*P **P** **07 24 09.7 +0.9**
comp=Z,23nm,0.8s
BRLS Borolday 65.59 317 *e*P **P** **07 24 09.6 +0.8**
BRLS pmax pmax
comp=Z,23nm,0.8s
NGCH Negor - Chabah 67.75 297 P **P** **07 24 23.8 +1.0**
HRA Herat 68.59 306 P **P** **07 24 28.2 0.0**
HRA IAmb IAmb 07 24 29.8
comp=Z,42nm,1.0s
DRV Dumont d'Urvil 68.60 175 P **P** **07 24 26.9 -0.4**
CASY Casey 68.64 187 P **P** **07 24 28.1 +0.6**
CASY Casey 68.64 187 P **P** **07 24 27.8 +0.3**
CASY pP **pP** **07 24 57.0 -1.6**
JLN Jalan Bani Buh 68.86 293 P **P** **07 24 30.2 +0.4**
SNR=9.4
BVA0 Borovoye Array 69.43 327 *i*P **P** **07 24 32.7 0.0**
BVAR Borovoye Array 69.43 327 P **P** **07 24 32.9 +0.2**
comp=Z,64nm,0.9s,baz=124,slow=7.4,SNR=93
BVAR S **S** **07 33 27.7 -1.9**
comp=Z,2.5nm,0.9s,baz=128,slow=12,SNR=8.2
comp=Z,64nm,0.9s
BRVK Borovoye 69.50 327 P **P** **07 24 33.1 -0.1**
BRVK IAmb IAmb 07 24 34.5
comp=Z,81nm,0.9s
BRVK Borovoye 69.50 327 P **P** **07 24 33.5 +0.3**
BRVK Borovoye 69.50 327 *d i*P **P** **07 24 33.3 +0.1**
BRVK pmax pmax
comp=Z,157nm,1.7s
BRVK Borovoye 69.50 327 ⇓P **P** **07 24 33.3 +0.1**
WSAR Wadi Sarin 69.71 294 P **P** **07 24 35.4 +0.3**
comp=Z,25nm,0.6s,baz=114,slow=9.7,SNR=34
comp=Z,25nm,0.6s
MHTO MHTO 70.05 292 P **P** **07 24 37.6 +0.5**
SNR=35
TIXI Tiksi 70.08 1 P **P** **07 24 35.5 -0.8**
TIXI Tiksi 70.08 1 P **P** **07 24 35.4 -0.9**
comp=Z,16nm,0.7s,baz=207,slow=3.7,SNR=40
comp=Z,16nm,0.7s
TIXI Tiksi 70.08 1⇓ *i*P **P** **07 24 35.1 -1.2**
TIXI pmax pmax
comp=Z,30nm,0.9s
TIXI Tiksi 70.08 1 P **P** **07 24 35.4 -0.9**
JMDO Jabal Madar 70.08 293 P **P** **07 24 37.9 +0.5**
SNR=16
BIDO Bidbid 70.20 294 P **P** **07 24 38.8 +0.7**
SNR=20
SMDO Samad 70.22 294 P **P** **07 24 39.0 +0.7**
SNR=9.9
DQM DQM 70.34 291 P **P** **07 24 39.6 +0.7**
SNR=23
JASK Jask - Hormozg 70.75 297 P **P** **07 24 42.7 +1.4**
HOQ Hoqain 70.95 294 P **P** **07 24 43.2 +0.5**
SNR=14
BSY Bisya 70.96 293 P **P** **07 24 43.2 +0.6**
SNR=12
BILL Bilibino 71.62 14⇑ *e*P **P** **07 24 46.2 +0.5**
BILL 07 25 06.0
BILL *SP **sP** **07 25 29.0 -1.6**
BILL pmax pmax
comp=Z,17nm,1.9s
ARQ Araqi 71.65 294 P **P** **07 24 47.4 +0.6**
SNR=19
SOHO SOHO 71.73 295 *i*P **P** **07 24 47.4 +0.2**
SNR=5.9
SOHO SOHO 71.73 295 P **P** **07 24 47.8 +0.5**
MSEY Mahe Island 71.86 265 P **P** **07 24 48.3 0.0**
MSEY Mahe Island 71.86 265 P **P** **07 24 48.8 +0.5**
MSEY Mahe Island 71.86 265 P **P** **07 24 48.3 0.0**
MSEY pmax pmax
comp=Z,49nm,1.5s
MDH Madha 72.08 296 *i*P **P** **07 24 48.4 -0.9**
SNR=7.7
MDH Madha 72.08 296 P **P** **07 24 48.8 -0.6**
UOSS Minazif 72.12 296 P **P** **07 24 49.3 -0.3**
UOSS Minazif 72.12 296 *i*P **P** **07 24 49.5 -0.1**
SNR=19
UOSS Minazif 72.12 296 P **P** **07 24 49.8 +0.2**
HATD Hatta, Dubai 72.17 296 *i*P **P** **07 24 50.5 +0.6**
SNR=29
HATD Hatta, Dubai 72.17 296 P **P** **07 24 50.5 +0.6**
SNR=20
MSFE Esma-Masafi 72.21 296 *i*P **P** **07 24 51.2 +1.1**
SNR=24
MASF Masafi 72.21 296 P **P** **07 24 50.8 +0.6**
SNR=17
ASHO Ashiyiah 72.22 295 *i*P **P** **07 24 50.7 +0.5**
SNR=35
ASHO Ashiyiah 72.22 295 P **P** **07 24 50.8 +0.5**
SNR=18
SHME Shamm 72.31 297 *i*P **P** **07 24 51.4 +0.7**
SNR=20
SHME Shamm 72.31 297 P **P** **07 24 51.4 +0.7**
SNR=8.2
ALNE Al Ain 72.43 295 *i*P **P** **07 24 52.5 +1.1**
SNR=49
ALNE Al Ain 72.43 295 P **P** **07 24 52.6 +1.1**
SNR=64
DMTO DMTO 72.60 288 P **P** **07 24 52.8 +0.3**
NAZ Nazwa, Dubai 72.61 296 *i*P **P** **07 24 53.0 +0.5**
SNR=8.2
NAZ Nazwa, Dubai 72.61 296 P **P** **07 24 53.0 +0.5**
SNR=12

FAQ	Al Faqa, Dubai	72.65	295	*i* P		P	07 24 53.2	+0.5
	SNR=13							
FAQ	Al Faqa, Dubai	72.65	295	P		P	07 24 53.4	+0.7
	SNR=11							
UMQ	Umm Al-Quwin	72.68	296	*i* P		P	07 24 54.4	+1.5
	SNR=6.1							
UMQ	Umm Al-Quwin	72.68	296	P		P	07 24 54.2	+1.4
	SNR=6.6							
NRIK	Noril'sk	72.71	346	P		P	07 24 52.1	-0.1
NRIK				IAmb		IAmb	07 24 53.2	
	comp=Z,69nm,0.8s							
NRIK	Noril'sk	72.71	346	P		P	07 24 52.2	+0.1
	comp=Z,62nm,0.7s,baz=123,slow=6.0,SNR=125							
NRIK				S		S	07 34 05.0	-1.8
	comp=Z,1.0nm,0.4s,baz=345,slow=22,SNR=6.2							
	comp=Z,62nm,0.7s							
NRIK	Noril'sk	72.71	346	*d i* P		P	07 24 52.0	-0.1
NRIK				pmax		pmax		
	comp=Z,72nm,0.8s							
UMZA	Um Al Zommool	72.83	293	P		P	07 24 54.2	+0.4
ASUD	Al Ashush, Dub	72.87	295	*i* P		P	07 24 55.1	+1.1
	SNR=39							
ASUD	Al Ashush, Dub	72.87	295	P		P	07 24 55.2	+1.1
	SNR=18							
AJN	Ajban	73.18	295	*i* P		P	07 24 56.2	+0.4
	SNR=11							
AJN	Ajban	73.18	295	P		P	07 24 56.5	+0.7
	SNR=14							
RBK	Rabkut	73.29	288	P		P	07 24 57.0	+0.3
	SNR=13							
DOK	Doka	73.44	289	P		P	07 24 57.6	+0.1
	SNR=40							
WHFO	Wadi Hawf	73.73	288	P		P	07 24 58.9	-0.4
ABTO	Aybut	74.15	288	P		P	07 25 01.6	-0.1
AB31	Akbulak array	74.15	321	*i* P		P	07 25 00.8	-0.2
ABKAR	Akbulak array	74.15	321	P		P	07 25 00.9	-0.1
ABKAR				IAmb		IAmb	07 25 02.1	
	comp=Z,50nm,1.1s							
ABKAR	Akbulak array	74.15	321	P		P	07 25 00.7	-0.3
MZR	Muzera	74.40	293	*i* P		P	07 25 03.5	+0.5
	SNR=6.0							
MZR	Muzera	74.40	293	P		P	07 25 03.8	+0.8
	SNR=9.5							
RAR	Rarotonga	74.80	112	LR		LR	07 57 50.6	
	comp=Z,54nm,18.8s,baz=294,slow=36							
GHWR	Ruwais	75.03	294	P		P	07 25 07.3	+0.6
JRN	Qarnain Island	75.15	295	P		P	07 25 07.6	+0.3
AKTO	Aktyubinsk	75.68	322	P		P	07 25 09.8	+0.1
	comp=Z,48nm,0.8s,baz=96,slow=5.7,SNR=109							
AKTO				S		S	07 34 39.0	-1.7
	comp=Z,0.7nm,0.4s,baz=40,slow=15,SNR=6.2							
AKTO				LR		LR	08 02 13.4	
	comp=Z,51nm,19.0s,baz=96,slow=38							
	comp=Z,48nm,0.8s							
SVE	Sverdlovsk	76.09	329	*c i* P		P	07 25 11.9	-0.1
SVE				pmax		pmax		
	comp=Z,107nm,0.9s							
SLWR	Sila	76.12	294	P		P	07 25 13.6	+0.7
TRNA	Turayna	76.61	295	P		P	07 25 16.0	+0.5
SHMA	Al-Shehemyia	76.93	296	P		P	07 25 17.3	0.0
SMRA	Abu-Samra	76.97	295	P		P	07 25 17.9	+0.3
ARTI	Arti	77.14	328	P		P	07 25 16.6	-1.3
ARTI				IAmb		IAmb	07 25 18.1	
	comp=Z,45nm,0.9s							
ARTI	Arti	77.14	328	P		P	07 25 17.1	-0.7
	comp=Z,37nm,0.8s,baz=112,slow=2.7,SNR=40							
ARTI				LR		LR	08 00 14.2	
	comp=Z,46nm,21.0s,baz=157,slow=36							
	comp=Z,37nm,0.8s							
ARTI	Arti	77.14	328	*d i* P		P	07 25 16.8	-1.1
ARTI							07 28 09.7	
ARTI				S		S	07 34 57.2	+0.9
ARTI				SS		SS	07 39 51.0	-5.6
ARTI				pmax		pmax		
	comp=Z,53nm,1.0s							
SAKB	Bahrain	77.32	296	P		P	07 25 19.7	+0.1
VOI	Vohitsoka	81.60	248	P		P	07 25 43.6	+0.7
RAYN	Ar Rayn	81.75	293	P		P	07 25 43.4	-0.2
RAYN				IAmb		IAmb	07 25 44.9	
	comp=Z,59nm,0.9s							
RAYN	Ar Rayn	81.75	293	*i* P		P	07 25 44.0	+0.3
	SNR=46							
RAYN	Ar Rayn	81.75	293	P		P	07 25 44.0	+0.3
RAYN	Ar Rayn	81.75	293	P		P	07 25 43.4	-0.2
RAYN				pmax		pmax		
	comp=Z,59nm,1.0s							
MAW	Mawson	81.80	200	P		P	07 25 43.0	+0.2
	comp=Z,12nm,0.6s,baz=66,slow=5.7,SNR=40							
	comp=Z,12nm,0.6s							
KIRV	Kirov	82.36	329	P		P	07 25 45.8	-0.2
	comp=Z,67nm,0.7s,baz=153,slow=1.1,SNR=22							
KIRV				LR		LR	08 07 30.1	
	comp=Z,46nm,18.6s,baz=98,slow=39							
	comp=Z,67nm,0.7s							
KIRV	Kirov	82.36	329	*d i* P		P	07 25 45.6	-0.3
BELG	Belogornoye	82.44	323	P		P	07 25 46.1	-0.4
	comp=Z,65nm,1.0s,baz=101,slow=4.1,SNR=13							
	comp=Z,65nm,1.0s							
BELG	Belogornoye	82.44	323	*d i* P		P	07 25 46.1	-0.4
BELG				pmax		pmax		
	comp=Z,16nm,1.1s							
C19K	Lookout Ridge	82.70	20	IAmb		IAmb	07 26 00.3	
	comp=Z,80nm,1.4s							
G19K	Purcell Mounta	82.92	23	IAmb		IAmb	07 25 51.2	
	comp=Z,35nm,0.7s							
D19K	Kuna River	83.07	21	IAmb		IAmb	07 25 51.8	
	comp=Z,25nm,0.7s							
E19K	Redstone River	83.15	22	IAmb		IAmb	07 26 37.4	
	comp=Z,33nm,0.9s							
GNI	Garni	83.24	310	P		P	07 25 51.5	+0.3
	comp=Z,4.4nm,0.5s,baz=118,slow=6.0,SNR=4.8							
	comp=Z,4.4nm,0.5s							
GNI	Garni	83.24	310	*d i* P		P	07 25 51.7	+0.5
GNI				pmax		pmax		
	comp=Z,31nm,1.2s							
GNI	Garni	83.24	310	P		P	07 25 51.5	+0.3
	comp=Z,24nm,0.8s							
PPT	Papeete	84.03	108	LR		LR	08 00 21.0	
	comp=Z,18nm,19.9s,baz=304,slow=33							
NCK	Nalchik	84.31	313	⇑*e* P		P	07 25 57.0	+0.6
NCK				pmax		pmax		
	comp=Z,34nm,0.8s							
B21K	Ikpikpuk River	84.53	20	IAmb		IAmb	07 26 50.7	
	comp=Z,59nm,1.4s							
KARS	Kars	84.54	310	P		P	07 25 58.5	+0.8
KARS	Kars	84.54	310	P		P	07 25 58.5	+0.8
KARS				pmax		pmax		
	comp=Z,167nm,1.0s							
GOF	Gofitskoye	84.79	315	*c e* P		P	07 25 58.9	+0.2
KBZ	Khabaz	84.83	314	P		P	07 25 59.1	+0.2
	comp=Z,19nm,1.0s,baz=119,slow=2.0,SNR=26							
	comp=Z,19nm,1.0s							
KBZ	Khabaz	84.83	314	*d i* P		P	07 25 59.0	+0.1
KBZ				pmax		pmax		
	comp=Z,35nm,1.3s							
KIV	Kislovodsk	84.99	314	P		P	07 26 00.0	+0.1
KIV	Kislovodsk	84.99	314	⇓P		P	07 26 00.3	+0.5
KIV	Kislovodsk	84.99	314	*e* P		P	07 25 59.7	-0.2
KIV				pmax		pmax		
	comp=Z,19nm,1.1s							
KIV	Kislovodsk	84.99	314	P		P	07 26 00.0	+0.1
	comp=Z,18nm,0.8s							
SHA1	Shidzhatmaz	85.00	314	*d i* P		P	07 25 59.9	-0.2
BATM	Batumi	85.62	311	⇑P		P	07 26 02.8	-0.1
BATM	Batumi	85.62	311	⇑P		P	07 26 02.8	-0.1
BCA	Borcka	85.67	311	⇑P		P	07 26 03.4	+0.2
D23K	Nanushuk River	85.82	21	IAmb		IAmb	07 27 11.8	
	comp=Z,90nm,2.0s							
C23K	Itkillik River	85.94	20	IAmb		IAmb	07 26 49.7	
	comp=Z,84nm,1.7s							
VRH	Novokhopyorsk	85.99	321	*e* P		P	07 26 03.4	-1.1
VRH				pmax		pmax		
	comp=Z,59nm,1.2s							
VSLR	Vesyoloye	86.90	313	*c e* P		P	07 26 09.1	-0.1
VSLR				pmax		pmax		
	comp=Z,60nm,0.9s							
ILAR	Eielson Array	86.95	25	P		P	07 26 06.8	-2.2
	comp=Z,1.1nm,0.8s,baz=254,slow=5.0,SNR=8.1							
KTUT	Trabzon	87.06	311	⇑P		P	07 26 13.2	+3.2
SOC	Sochi	87.13	313	*e* P		P	07 26 07.0	-3.2
SOC				*e* SP		sP	07 26 59.5	+3.5
SOC				*e*			07 29 33.1	
SOC				*e* PPP		PPP	07 31 29.0	
SOC				*e* S		SKSac	07 36 21.0	-4.7
SOC				*e* SS		SS	07 42 24.4	-0.9
SOC				*e* SSS		SSS	07 45 59.6	
SOC				pmax		pmax		
	comp=Z,28nm,0.7s							
VORD	Divnogorie	87.51	321	*e* P		P	07 26 09.5	-2.4
VORD				pmax		pmax		
	comp=Z,10.0nm,0.9s							
KLMR	Klimovskoe	87.56	331	*e* P		P	07 26 08.4	-3.5
KLMR				*e*			07 29 34.2	
KLMR				pmax		pmax		
	comp=Z,36nm,1.0s							
VORR	Voronezh	87.57	321	*e* P		P	07 26 10.1	-2.1
VORR				pmax		pmax		
	comp=Z,30nm,0.8s							
VSR	Storozhevoye	87.59	321	*e* P		P	07 26 09.5	-2.8
VSR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
LPSR	Galich'ya Gora	87.75	322	*e* P		P	07 26 11.1	-1.9
LPSR				pmax		pmax		
	comp=Z,30nm,0.9s							
ARPR	Arapgir-MALATY	88.16	309	P		P	07 26 16.0	+0.6
ARPR				IAmb		IAmb	07 26 17.8	
	comp=Z,54nm,1.3s							
FURI	Furi	88.26	279	LR		LR	08 04 39.6	
	comp=Z,44nm,20.7s,baz=130,slow=35							
MOS	Moscow	88.52	326	*e* P		P	07 26 14.5	-2.1
MOS				pmax		pmax		
	comp=Z,34nm,0.6s							
ANN	Anapa	88.77	315	*e* P		P	07 26 16.6	-1.4
ANN				*e*			07 29 47.2	
ANN				*e* S		SKSac	07 36 33.2	-2.3
ANN				pmax		pmax		
	comp=Z,58nm,0.7s							
OBN	Obninsk	89.14	325	*c e* P		P	07 26 18.3	-1.1
OBN				*e*			07 29 50.2	
OBN				pmax		pmax		
	comp=Z,29nm,0.9s							
OBN	Obninsk	89.14	325	P		P	07 26 18.3	-1.1
	comp=Z,43nm,0.9s							
KIBK	Kibwezi	89.16	268	P		P	07 26 20.6	0.0
KIBK				IAmb		IAmb	07 26 22.8	
	comp=Z,26nm,0.9s							
KIBK	Kibwezi	89.16	268	P		P	07 26 21.8	+1.1
	SNR=6.0							
KMBO	Kilima Mbogo	89.92	269	P		P	07 26 25.1	+0.8
KMBO	Kilima Mbogo	89.92	269	*i* P		P	07 26 25.5	+1.1
	SNR=17							
KMBO	Kilima Mbogo	89.92	269	P		P	07 26 24.9	+0.6
	comp=Z,15nm,1.1s,baz=54,slow=6.6,SNR=24							
KMBO				LR		LR	08 05 13.7	
	comp=Z,43nm,19.8s,baz=90,slow=34							
	comp=Z,15nm,1.1s							
KMBO	Kilima Mbogo	89.92	269	P		P	07 26 25.6	+1.2
KMBO	Kilima Mbogo	89.92	269	*i* P		P	07 26 25.6	+1.2
KMBO				pmax		pmax		
	comp=Z,15nm,1.0s							
APA	Apatity	90.08	337	⇓*i* P		P	07 26 20.9	-2.7
APA				pmax		pmax		
	comp=Z,11nm,1.2s							
APA				MLR		MLR		
	comp=Z,400nm,19.0s							
BNN	Bunyan	90.10	309	P		P	07 26 24.3	-0.3
BNN				IAmb		IAmb	07 26 25.4	
	comp=Z,45nm,1.2s							
MMAI	Mount Meron Ar	90.67	303	P		P	07 26 27.4	+0.2
	comp=Z,6.1nm,0.7s,baz=83,slow=6.8,SNR=8.7							
	comp=Z,6.1nm,0.7s							
L29M	L29M	90.84	27	P		P	07 26 28.4	+1.0
QSPA	South Pole Qui	91.39	180	P		P	07 26 30.1	+0.2
QSPA				IAmb		IAmb	07 26 31.4	
	comp=Z,44nm,1.8s							
QSPA	South Pole Qui	91.39	180	P		P	07 26 29.0	-0.8
	comp=Z,5.6nm,0.7s,baz=264,slow=1.1,SNR=24							
QSPA				S		SKSac	07 36 48.8	-1.3
	comp=Z,5.2nm,1.1s,baz=104,slow=22,SNR=37							
	comp=Z,5.6nm,0.7s							
KIRS	Kirsehir-Merke	91.59	309	⇓P		P	07 26 30.5	-0.9
BR104	Keskin Array S	91.77	310	P		P	07 26 31.4	-0.9
	comp=Z,6.9nm,1.0s,comp=Z,51nm							
BR104				pP		pP	07 27 05.6	+0.7
	comp=Z,6.9nm,1.0s,comp=Z,51nm							
BR131	Keskin Array S	91.77	310	P		P	07 26 31.1	-1.2
BR131	Keskin Array S	91.77	310	P		P	07 26 31.1	-1.3
BR131				pmax		pmax		
	comp=Z,9.0nm,1.0s							
BRTR	Keskin Array B	91.77	310	P		P	07 26 31.0	-1.3
BRTR	Keskin Array B	91.77	310	P		P	07 26 31.1	-1.3
	comp=Z,5.0nm,0.9s,baz=116,slow=5.6,SNR=24							
	comp=Z,5.0nm,0.9s							
BR106	Keskin Array S	91.79	310	P		P	07 26 31.4	-1.0
	comp=Z,6.9nm,1.0s,comp=Z,47nm							
BR105	Keskin Array S	91.79	310	P		P	07 26 31.4	-1.0
	comp=Z,8.9nm,0.9s,comp=Z,63nm							
ARCES	ARCESS Array B	92.70	340	P		P	07 26 34.6	-1.1
	comp=Z,21nm,0.8s,baz=79,slow=6.3,SNR=27							
ARCES				LR		LR	08 12 01.4	
	comp=Z,59nm,18.4s,baz=115,slow=38							
	comp=Z,21nm,0.8s							
SPITS	Spitsbergen Ar	92.76	349	P		P	07 26 34.9	-1.0
	comp=Z,21nm,0.8s,baz=116,slow=5.7,SNR=8.9							
	comp=Z,21nm,0.8s							
TAOE	Nuku Hiva Isla	92.90	99	*e* LR		LR	07 56 43.5	
	comp=Z,100nm,25.6s							
FARO	Faro, Yukon	93.14	28	P		P	07 26 38.2	+0.2
FARO				IAmb		IAmb	07 27 26.5	
	comp=Z,21nm,1.2s							
AK09	Malin Array Si	93.87	321	P		P	07 26 39.8	-1.7
AK08	Malin Array Si	93.88	321	P		P	07 26 40.1	-1.5
AK10	Malin Array Si	93.89	321	P		P	07 26 40.5	-1.1
AK03	Malin Array Si	93.89	321	P		P	07 26 40.0	-1.6
AKASG	Malin Array Be	93.89	321	P		P	07 26 39.7	-1.9
	comp=Z,1.1nm,0.6s,baz=73,slow=4.2,SNR=13							
AKASG				PP		PP	07 30 28.6	-0.3
	comp=Z,2.0nm,0.8s,baz=72,slow=8.3,SNR=5.8							
	comp=Z,1.1nm,0.6s							
AKBB	Malin Array Si	93.89	321	⇓*i* P		P	07 26 39.9	-1.7
AKBB				pmax		pmax		
	comp=Z,12nm,1.7s							
AKBB	Malin Array Si	93.89	321	P		P	07 26 40.0	-1.7
AK01	Malin Array Si	93.90	321	P		P	07 26 40.0	-1.7
KIEV	Kiev	93.91	321	⇓P		P	07 26 39.8	-1.9
KIEV	Kiev	93.91	321	⇓P		P	07 26 39.8	-1.9
KIEV	Kiev	93.91	321	P		P	07 26 40.0	-1.7
	comp=Z,21nm,1.6s							
AK02	Malin Array Si	93.91	321	P		P	07 26 40.1	-1.6
AK06	Malin Array Si	93.93	321	P		P	07 26 39.9	-1.9
AK07	Malin Array Si	93.93	321	P		P	07 26 40.1	-1.7
AK04	Malin Array Si	93.93	321	P		P	07 26 40.1	-1.7
AK11	Malin Array Si	93.93	321	P		P	07 26 39.9	-1.9
AK12	Malin Array Si	93.95	321	P		P	07 26 40.0	-1.9
AK23	Malin Array Si	93.95	321	P		P	07 26 40.0	-1.9
PURM	Purcari	93.95	317	⇑P		P	07 26 41.0	-1.0
PURM	Purcari	93.95	317	P		P	07 26 40.3	-1.7
AK16	Malin Array Si	93.97	321	P		P	07 26 40.2	-1.8
AK14	Malin Array Si	93.98	321	P		P	07 26 40.3	-1.7
AK22	Malin Array Si	93.98	321	P		P	07 26 40.3	-1.7
AK18	Malin Array Si	93.99	321	P		P	07 26 40.3	-1.8
AK17	Malin Array Si	94.00	321	P		P	07 26 40.4	-1.7
FINES	FINESS Array B	94.01	332	P		P	07 26 40.5	-1.3
	comp=Z,5.6nm,0.8s,baz=69,slow=6.5,SNR=13							
FINES				LR		LR	08 13 18.5	
	comp=Z,47nm,18.4s,baz=68,slow=38							
	comp=Z,5.6nm,0.8s							
AK13	Malin Array Si	94.01	321	P		P	07 26 40.4	-1.7
AK20	Malin Array Si	94.03	321	P		P	07 26 40.5	-1.7
AK19	Malin Array Si	94.03	321	P		P	07 26 40.5	-1.7
MNK	Minsk	94.19	325	*i* P		P	07 26 41.6	-1.3
	comp=E,21nm,0.8s							
MNK				*i* P		P	07 26 41.6	-1.3
	comp=N,21nm,0.9s							
MNK				*i* P		P	07 26 41.6	-1.3
	comp=Z,18nm,0.8s,baz=82							
MNK				*i* pP		pP	07 27 13.2	-2.4
MNK				*i* PP		PP	07 30 28.2	-2.8
MNK				*i* PPP		PPP	07 32 29.7	
MNK				*i* S		SKSac	07 37 03.9	-1.9
MNK				*i* sS		ScS	07 38 03.8	+20
MNK				*i* SS		SS	07 44 05.8	-0.6
MNK				*i* SSS		SSS	07 47 50.2	
MNK				*i* LRM		MLR	08 11 09.4	
	comp=Z,107nm,18.4s							
MNK				*i* LRM		MLR	08 11 17.1	
	comp=N,1μm,16.3s							
MNK				*i* LRM		MLR	08 11 24.4	
	comp=E,3μm,22.9s							
MNK	Minsk	94.19	325	*i* P		P	07 26 41.6	-1.3
MNK				*i*			07 30 28.2	
MNK				*i* S		SKSac	07 37 03.9	-1.9
MNK				*i* SS		SS	07 44 05.8	-0.6
MNK				*i* SSS		SSS	07 47 50.2	
MNK				pmax		pmax		
	comp=E,21nm,0.8s							
MNK				pmax		pmax		
	comp=Z,18nm,0.8s							
MNK				pmax		pmax		
	comp=N,21nm,0.9s							
MNK				MLR		MLR		
	comp=Z,107nm,18.0s							
MNK				MLR		MLR		
	comp=N,1μm,16.0s							
MNK				MLR		MLR		
	comp=E,3μm,23.0s							
NACGM	Naroch	94.76	325	*e* P		P	07 26 45.4	-0.1
	comp=Z,9.0nm,0.8s,baz=80							
SORM	Soroca	94.79	318	⇓P		P	07 26 43.6	-2.1
SORM	Soroca	94.79	318	⇓P		P	07 26 43.6	-2.1
SORM	Soroca	94.79	318	P		P	07 26 44.0	-1.8
	comp=Z,8.1nm,1.2s,comp=Z,1μm							
LUBAR	Lubar, Ukraine	94.93	320	P		P	07 26 44.5	-1.9
C36M	Paulatuk	95.18	20	P		P	07 26 46.4	-0.7
VLDR	Vladesti	95.27	316	⇓P		P	07 26 47.9	-0.2
CFR	Carcaliu	95.32	315	⇓P		P	07 26 46.7	-1.5
CFR	Carcaliu	95.32	315	⇓P		P	07 26 46.7	-1.5
SCTR	Scanteiesti	95.35	316	⇑P		P	07 26 46.5	-1.9
TLBR	Topalu	95.46	315	⇑P		P	07 26 48.6	-0.4
HARR	Harsova	95.53	315	⇑P		P	07 26 48.8	-0.4
HARR	Harsova	95.53	315	⇑P		P	07 26 48.8	-0.4
ELIB	Princess Elisa	95.66	198	*d* P		P	07 26 50.7	+1.3
	comp=Z,9.6nm,0.9s							
RNPP9	Sopachiv	95.87	322	P		P	07 26 50.0	-0.6
RNPP5	Staryi Chortor	95.91	322	P		P	07 26 49.9	-0.9
PANC	Panciu	95.91	316	⇓P		P	07 26 50.9	-0.1
ODBI	Odobesti	95.99	316	⇓P		P	07 26 51.4	+0.1
GRER		96.10	316	⇑P		P	07 26 52.9	+1.0
TESR	Tescani	96.16	317	⇓P		P	07 26 51.6	-0.5
VRI	Vrincioaia	96.20	316	⇑P		P	07 26 51.9	-0.4
VRI	Vrincioaia	96.20	316	⇑P		P	07 26 51.9	-0.4
VRI	Vrincioaia	96.20	316	P		P	07 26 52.0	-0.3
	comp=Z,11nm,0.8s							
PLOR5	Plostina Array	96.25	316	P		P	07 26 53.0	+0.4
PLOR	Plostina	96.26	316	⇑P		P	07 26 51.4	-1.2
PLOR	Plostina	96.26	316	⇑P		P	07 26 51.4	-1.2
ONER	Baraj Valea Uz	96.36	317	⇑P		P	07 26 52.6	-0.4
MBAR	Mbarara	96.42	270	LR		LR	08 07 07.5	
	comp=Z,33nm,19.1s,baz=56,slow=33							
MBAR	Mbarara	96.42	270	P		P	07 26 54.8	+0.6
COVR	Voineasa-Covas	96.57	316	⇑P		P	07 26 52.9	-1.1
NEHR	Nehoiu	96.57	316	⇓P		P	07 26 54.1	+0.1
TURR	Turia	96.67	317	⇓P		P	07 26 51.6	-2.9
MLR	Muntele Rosu	96.80	316	⇓P		P	07 26 54.8	-0.4
MLR	Muntele Rosu	96.80	316	⇓P		P	07 26 54.8	-0.4
BUC1	Bucharest	96.92	315	⇑P		P	07 26 53.9	-1.6
BUC1	Bucharest	96.92	315	⇑P		P	07 26 53.9	-1.6
BURAR	Bucovina Array	96.95	318	P		P	07 26 55.4	-0.3
BURAR				IAmb		IAmb	07 26 56.8	
	comp=Z,9.7nm,0.9s							
BURAR	Bucovina Array	96.95	318	⇓P		P	07 26 55.6	-0.2
BURAR	Bucovina Array	96.95	318	⇓P		P	07 26 55.6	-0.2
SUW	Suwalki	97.00	325	P		P	07 26 54.1	-1.6
SUW	Suwalki	97.00	325	P		P	07 26 54.1	-1.6
SUW				pmax		pmax		
	comp=Z,26nm,0.8s							
DOPR	Dopca	97.11	317	⇑P		P	07 26 56.1	-0.3
ELND	Elena	97.25	313	⇑P		P	07 26 56.0	-1.1
CAVK	Edirne/Enez-Ca	97.36	311	⇓P		Pdif	07 27 08.3	+11
VOIR		97.43	316	⇓P		P	07 26 56.8	-1.2
VOIR		97.43	316	⇓P		P	07 26 56.8	-1.2
ARR	Arges	97.73	316	⇓P		P	07 26 58.7	-0.7
CJR	Cluj-Napoca	98.20	317	⇓P		P	07 26 49.0	-12
CBBR	Cluj-Babes-Bol	98.22	318	⇓P		Pdif	07 27 02.0	+0.6
MARR	Marisel-Cluj	98.53	318	⇑P		P	07 27 02.3	-0.6
KOLS	Kolonicke sedl	98.63	320	*i* P		P	07 27 02.3	-0.9
KOLS				*e*			07 31 08.3	
KOLS	Kolonicke sedl	98.63	320	*e* PDIFF		P	07 27 02.3	-0.9
KOLS	Kolonicke sedl	98.63	320	*e*			06 59 08.1	
KOLS	Kolonicke sedl	98.63	320	*e* PP		PP	07 31 08.3	+2.9
DRGR		98.78	318	⇓P		P	07 27 03.4	-0.6
DRGR		98.78	318	⇓P		P	07 27 03.4	-0.6
GZR	Gura Zlata	99.02	316	⇑P		Pdif	07 27 04.4	-0.6
SURR	Surduc	99.39	317	⇑P		Pdif	07 27 05.9	-0.7
DAG	Danmarks Havn	99.53	352	*i* P		Pdif	07 27 05.0	-1.6
SIRR	Siria	99.60	317	⇓P		Pdif	07 27 06.8	-0.8
LANS	Liptovska Anna	100.38	321	*i* P		Pdif	07 27 11.3	+0.3
LANS	Liptovska Anna	100.38	321	*e* PDIFF		Pdif	07 27 11.3	+0.3
VYHS	Vyhne	100.94	320	*e*			06 59 15.5	
VYHS	Vyhne	100.94	320	*e* PP		PP	07 31 27.7	+4.7
NB2	NORSAR Subarra	100.98	334	P		Pdif	07 27 11.4	-2.0
	comp=Z,6.5nm,0.9s,baz=68,slow=4.6							
NB2	NORSAR Subarra	100.98	334	P		Pdif	07 27 11.4	-2.0
	baz=68,slow=4.6							
NOA	NORSAR Array B	100.98	334	P		Pdif	07 27 11.7	-1.7
	comp=Z,3.7nm,0.8s,baz=68,slow=4.6,SNR=9.1							
NEEM	North Greenlan	101.17	360	*i* P		Pdif	07 27

comp=Z,0.7nm,0.8s,baz=121,slow=3.6,SNR=6.8
PDAR PKKPab **PKKPab 07 42 57.2 -0.9**
comp=Z,0.6nm,0.7s,baz=121,slow=6.2,SNR=6.0
ESDC Sonseca Array 119.41 318 PKP **PKPdf 07 32 13.0 -0.4**
comp=Z,0.2nm,0.4s,baz=280,slow=9.6,SNR=2.6
ESDC PP **PP 07 33 35.3 -0.8**
comp=Z,1.8nm,0.9s,baz=54,slow=7.1,SNR=5.7
TXAR Lajitas Array 122.62 53 PKP **PKiKP 07 32 20.5 +0.4**
comp=Z,0.8nm,0.8s,baz=220,slow=0.8,SNR=11
TXAR PKKPbc **PKKPab 07 42 15.2 +0.5**
comp=Z,0.9nm,0.8s,baz=101,slow=4.7,SNR=10
SCHQ Schefferville 122.71 10 PKP **PKiKP 07 32 19.6 +0.2**
comp=Z,3.9nm,0.8s,baz=263,slow=8.4,SNR=2.1
TORD Torodi Ar. Bea 123.99 287 PKP **PKPdf 07 32 22.9 +0.1**
comp=Z,6.6nm,0.8s,baz=36,slow=3.1,SNR=34
TORD PKKPab **PKKPab 07 42 09.2 +0.4**
comp=Z,0.8nm,0.6s,baz=286,slow=3.3,SNR=4.5
JCT Junction City 125.19 51 PKiKP PKiKP 07 32 25.7 +0.6
JCT Junction City 125.19 51 PKIKP **PKiKP 07 32 25.7 +0.6**
BRDY Brady 125.44 49 PKPdf **PKiKP 07 32 25.9 +0.4**
S39A Bolivar 126.00 40 PKPdf **PKiKP 07 32 26.7 +0.3**
DBIC Dimbokro 131.42 280 PKP **PKiKP 07 32 37.5 -0.4**
comp=Z,3.4nm,0.8s,baz=50,slow=0.5,SNR=2.5
DBIC SKPbc **SKPbc 07 35 50.5 +0.1**
comp=Z,18nm,0.8s,baz=65,slow=4.5,SNR=14
PLCA Paso Flores 137.76 160 PKP **PKPdf 07 32 49.0 +0.8**
comp=Z,4.0nm,0.7s,baz=109,slow=1.1,SNR=11
PLCA SKPbc **SKPbc 07 36 11.2 +0.9**
comp=Z,16nm,0.8s,baz=214,slow=2.7,SNR=38
PLCA Paso Flores 137.76 160 PKIKP **PKPdf 07 32 49.0 +0.8**
TRQA Tornquist 142.64 168 PKPdf 07 32 54.2 -2.9
TRQA Tornquist 142.64 168 PKIKP **PKPdf 07 32 54.2 -2.9**
MT03 Universidad Ad 144.10 154 PKPdf PKPbc 07 32 58.6 +0.5
LCO Las Campanas 147.76 150 PKPab **PKPbc 07 33 09.9 +0.5**
LCO Las Campanas 147.76 150 PKP2 **PKPbc 07 33 09.9 +0.5**
CPUP Villa Florida 154.91 170 PKiKP 07 33 26.8 +1.0
CPUP Villa Florida 154.91 170 PKPbc **PKPbc 07 33 25.0 -0.7**
comp=Z,5.3nm,0.9s,baz=166,slow=3.8,SNR=7.8
CPUP PKPab **PKPab 07 33 42.4 +1.0**
comp=Z,11nm,0.9s,baz=190,slow=3.9,SNR=13
LPAZ La Paz 158.95 135 PKP **PKPdf 07 33 22.9 -0.2**
comp=Z,1.7nm,0.8s,baz=46,slow=2.3,SNR=6.7
LPAZ PKPab **PKPab 07 34 00.7 +0.9**
comp=Z,3.7nm,1.0s,baz=273,slow=2.2,SNR=6.0
CZSB Cruzeiro do Su 159.27 108 *eP* **PKPdf 07 33 22.3 -0.6**
GDHS Morne Mazeau, 160.29 26 PKPdf 07 33 23.4 -0.6
BDFB Brasilia 165.13 198 PKPab **PKPab 07 34 26.9 +0.8**
comp=Z,4.2nm,0.8s,baz=150,slow=3.0,SNR=6.4

IDC 11 07:14:24.0±11.0, 29°.10N×80°.70E, h0km, mb3.7/3, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=215.2km s-min=76.6km az=138.0, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.71**	**4**	P	P	07 18 33.0	0.0
	0.2nm,0.3s,baz=179,slow=12,SNR=8.4						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**21.56**	**356**	P	P	07 19 14.2	-0.7
	0.7nm,0.6s,baz=184,slow=10,SNR=6.6						
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**25.01**	**6**	P	P	07 19 49.5	0.0
	0.6nm,0.3s,baz=194,slow=8.8,SNR=3.7						
	0.6nm,0.3s						
FINES	**FINESS Array B**	**48.10**	**328**	P	P	07 23 05.3	0.0
	3.5nm,0.9s,baz=123,slow=10,SNR=5.7						
	3.5nm,0.9s						

NOU 11 07:52:26.6, 15°.83S×167°.31E, h14km, MLv4.4/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.29**	**159**	P	Pb	07 52 34.0	+0.3
DVP	**Devils Point**	**2.06**	**156**	P	Pn	07 53 00.6	-0.3
LUES	**Luesalemba Tem**	**5.31**	**345**	P	Pn	07 53 46.1	+0.5
KOUNC	**Koumac, New Ca**	**5.50**	**211**	P	Pn	07 53 48.0	-0.2
YATNC	**Mamie plateau,**	**6.21**	**184**	P	Pn	07 53 56.4	-1.5
DZM	**Mont Dzumac**	**6.26**	**187**	P	Pn	07 53 59.2	+0.5
NOUC	**Port Laguerre**	**6.31**	**189**	P	Pn	07 53 59.6	+0.3

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*BGR **11** 08:01:38.4, 17°.90S×175°.81W, h33km*
*NEIC **11** 08:02:44.5±1.3, 18°.2S±0°.1×178°.0W±0°.1, h625km±8km, mb4.3/56, Error ellipse: s-maj=21.4km s-min=16.3km az=118.0*
*IDC **11** 08:02:45.0±1.0, 18°.29S×177°.93W, h640km±11km, mb3.4/14, mbtmp4.4/15, Error ellipse: s-maj=16.9km s-min=12.4km az=122.0*
*NOU **11** 08:02:47.7, 18°.74S×178°.40W, h604km, MLv3.8/10, Fiji Islands Region*
ISC 11 08:02:43.9±0.4, 18°.19S±0°.08×177°.89W±0°.09, h625km, n184, σ1§15/180, mb4.2/44, 26C-14D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBA	**Tubou, Lakemba**	**0.88**	**267**	P	**P**	**08 03 58.6**	**+1.3**
TAVE	**Taveuni**	**2.43**	**307**	P	**P**	**08 04 04.0**	**+1.6**
DGTI	**Dogotuki**	**2.95**	**309**	P	**P**	**08 04 05.8**	**+0.8**
FUTU	**Fugatoga**	**3.87**	**357**	P	**P**	**08 04 10.4**	**0.0**
MSVF	**Nonsavu**	**3.89**	**276**	P	**P**	**08 04 12.1**	**+1.5**
MSVF	**Nonsavu**	**3.89**	**276**	P	**P**	**08 04 12.5**	**+1.9**
	68nm,0.5s,baz=125,slow=11,SNR=76						
MSVF				S	**S**	**08 05 25.3**	**+4.0**
	19nm,1.0s,baz=121,slow=23,SNR=9.2						
MSVF	**Nonsavu**	**3.89**	**276**	P	**P**	**08 04 11.9**	**+1.3**
YSA	**Yasawairara**	**4.58**	**288**	P	**P**	**08 04 16.4**	**+1.1**
NIUE	**Niue**	**7.60**	**98**	P	P	08 04 48.2	+7.8
FUNA	**Funafuti**	**10.02**	**343**	P	**P**	**08 05 01.4**	**-2.1**
URZ	**Urewera**	**20.46**	**191**	P	**P**	**08 06 38.6**	**-1.8**
	4.4nm,0.3s,baz=343,slow=3.8,SNR=13						
	4.4nm,0.3s						
URZ	**Urewera**	**20.46**	**191**	P	**P**	**08 06 39.4**	**-1.0**
BKZ	**Black Stump Fm**	**21.46**	**192**	P	**P**	**08 06 46.8**	**-2.7**
BKZ				IAmb	IAmb	08 06 54.0	
	comp=Z,14nm,1.1s						
BKZ	**Black Stump Fm**	**21.46**	**192**	P	**P**	**08 06 46.7**	**-2.7**
	comp=Z,12nm,1.6s						
BFZ	**Birch Farm**	**22.97**	**191**	P	**P**	**08 07 03.3**	**+0.5**
MRZ	**Mangatainoka R**	**23.09**	**193**	P	**P**	**08 07 01.3**	**-2.5**
QRZ	**Quartz Range**	**24.02**	**198**	P	**P**	**08 07 11.6**	**-0.4**
THZ	**Tophouse**	**24.78**	**197**	P	**P**	**08 07 18.1**	**-0.6**
INZ	**Inchbonnie**	**26.08**	**198**	P	**P**	**08 07 29.0**	**-1.1**
ARMA	**Armidale**	**30.23**	**241**	P	**P**	**08 08 06.5**	**+0.1**
ARMA				IAmb	IAmb	08 08 28.6	
	comp=Z,11nm,1.4s						
COEN	**Coen**	**37.60**	**271**	P	**P**	**08 09 08.2**	**+0.4**
COEN				IAmb	IAmb	08 09 18.6	
	comp=Z,10nm,1.2s						
STKA	**Stephens Creek**	**38.93**	**242**	P	**P**	**08 09 18.3**	**0.0**
STKA	**Stephens Creek**	**38.93**	**242**	P	**P**	**08 09 18.5**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=59,slow=2.8,SNR=5.7						
	comp=Z,2.4nm,0.8s						
BBOO	**Buckleboo**	**43.70**	**241**	P	**P**	**08 09 55.2**	**-0.5**
WB0	**Warramunga Arr**	**45.04**	**260**	P	**P**	**08 10 05.5**	**-0.7**
WB0				IAmb	IAmb	08 10 06.3	
	comp=Z,4.9nm,0.8s						
WRA	**Warramunga Arr**	**45.07**	**260**	P	**P**	**08 10 05.7**	**-0.7**
WRA	**Warramunga Arr**	**45.07**	**260**	P	**P**	**08 10 06.0**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=96,slow=7.4,SNR=176						
WRA				PcP	**PcP**	**08 11 33.3**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=92,slow=3.6,SNR=7.7						
	comp=Z,2.7nm,0.3s						
AS31	**Alice Springs**	**45.19**	**254**	P	**P**	**08 10 07.1**	**-0.3**
ASAR	**Alice Springs**	**45.19**	**254**	P	**P**	**08 10 06.7**	**-0.7**
ASAR	**Alice Springs**	**45.19**	**254**	P	**P**	**08 10 07.2**	**-0.1**
	comp=Z,7.8nm,0.6s,baz=92,slow=7.6,SNR=136						
ASAR				PcP	**PcP**	**08 11 33.5**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=104,slow=4.0,SNR=16						
	comp=Z,7.8nm,0.6s						
FORT	**Forrest**	**50.34**	**245**	P	**P**	**08 10 44.3**	**-1.0**
KNRA	**Kununurra**	**50.95**	**264**	P	**P**	**08 10 49.5**	**-0.5**
KNRA				IAmb	IAmb	08 11 09.0	
	comp=Z,16nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.47**	**261**	P	**P**	**08 11 07.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**53.47**	**261**	P	**P**	**08 11 07.5**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=106,slow=4.5,SNR=11						
	comp=Z,1.0nm,0.3s						
MBWA	**Marble Bar**	**58.49**	**256**	P	**P**	**08 11 41.5**	**-0.7**
MBWA				IAmb	IAmb	08 11 53.6	
	comp=Z,30nm,1.3s						
SBA	**Scott Base**	**60.17**	**184**	P	**P**	**08 11 54.6**	**+2.1**
SBA				IAmb	IAmb	08 12 18.2	
	comp=Z,15nm,1.3s						
MJAR	**Matsushiro Arr**	**68.43**	**323**	P	**P**	**08 12 44.3**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=160,slow=6.2,SNR=4.6						
	comp=Z,1.4nm,0.5s						
UGM	**Wanagama**	**70.13**	**268**	P	**P**	**08 12 54.9**	**-0.9**
QSPA	**South Pole Qui**	**71.86**	**180**	P	**P**	**08 13 05.0**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=231,slow=1.0,SNR=10						
	comp=Z,0.7nm,0.7s						
SSLB	**Suanglung**	**72.81**	**303**	P	**P**	**08 13 09.2**	**-1.8**
TPUB	**Ta-pu**	**72.83**	**302**	P	**P**	**08 13 09.6**	**-1.5**
PEA0B	**Petropavlovsk-**	**74.08**	**345**	P	**P**	**08 13 16.9**	**-0.6**
PETK	**Petropavlovsk-**	**74.08**	**345**	P	**P**	**08 13 17.2**	**-0.3**
PETK	**Petropavlovsk-**	**74.08**	**345**	P	**P**	**08 13 17.4**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=103,slow=7.1,SNR=13						
	comp=Z,3.8nm,0.6s						
SAO	**San Andreas Ge**	**76.29**	**44**	P	**P**	**08 13 30.8**	**+0.6**
SAO				IAmb	IAmb	08 13 32.1	
	comp=Z,7.3nm,0.8s						
PMPB	**Monarch Peak**	**76.40**	**44**	P	**P**	**08 13 31.5**	**+0.7**
PMPB				IAmb	IAmb	08 13 38.9	
	comp=Z,17nm,1.2s						
VTX	**Valle De La Tr**	**77.32**	**51**	P	**P**	**08 13 36.7**	**+0.7**
ESJX	**Sierra Juarez**	**77.51**	**50**	P	**P**	**08 13 37.8**	**+0.7**
CMB	**Columbia Colle**	**77.71**	**43**	P	**P**	**08 13 38.2**	**+0.3**
OHAK	**Old Harbor**	**77.89**	**13**	P	**P**	**08 13 38.0**	**-0.3**
OMMB	**Old Mammoth Mi**	**78.38**	**44**	P	**P**	**08 13 42.0**	**+0.2**
YBH	**Yreka Blue Hor**	**78.43**	**39**	P	**P**	**08 13 43.1**	**+1.4**
YBH				IAmb	IAmb	08 13 49.5	
	comp=Z,12nm,1.4s						
WAKR	**Walker**	**78.59**	**43**	P	**P**	**08 13 43.2**	**+0.5**
WAKR				IAmb	IAmb	08 13 44.8	
	comp=Z,5.3nm,0.8s						
HUMO	**Hull Mountain**	**78.82**	**38**	P	**P**	**08 13 44.9**	**+1.2**
YERR	**Yerington**	**78.99**	**43**	P	**P**	**08 13 45.2**	**+0.4**
YERR				IAmb	IAmb	08 13 46.5	
	comp=Z,5.4nm,0.7s						
NVAR	**Mina Array Bea**	**79.29**	**44**	P	**P**	**08 13 47.3**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=226,slow=9.0,SNR=17						
	comp=Z,2.2nm,0.6s						
J05D	**Fort Rock, OR**	**80.24**	**38**	P	**P**	**08 13 52.1**	**+0.9**
J05D				IAmb	IAmb	08 13 53.2	
	comp=Z,11nm,0.9s						
PINE	**Pine Mountain**	**80.71**	**38**	P	**P**	**08 13 54.4**	**+0.7**
PINE				IAmb	IAmb	08 13 55.8	
	comp=Z,11nm,0.9s						
WVOR	**Wild Horse Val**	**81.30**	**40**	P	**P**	**08 13 56.6**	**0.0**
WVOR				IAmb	IAmb	08 13 58.5	
	comp=Z,5.5nm,1.1s						
TUC	**Tucson**	**81.48**	**52**	P	**P**	**08 13 58.8**	**+1.1**
TUC				IAmb	IAmb	08 14 00.5	
	comp=Z,6.3nm,1.1s						
I07A	**Izee**	**81.72**	**38**	P	**P**	**08 13 59.4**	**+0.7**
I07A				IAmb	IAmb	08 14 00.6	
	comp=Z,4.5nm,0.7s						
J08A	**Circle Bar Ran**	**81.92**	**39**	P	**P**	**08 14 00.8**	**+1.0**
J08A				IAmb	IAmb	08 14 01.5	
	comp=Z,11nm,1.3s						
GNW	**Green Mountain**	**81.93**	**34**	P	**P**	**08 14 00.3**	**+0.8**
LCMT	**Little Creek M**	**81.96**	**47**	P	**P**	**08 14 01.2**	**+1.0**
M19K	**Big River Lodg**	**81.99**	**11**	P	**P**	**08 13 59.2**	**-0.4**
CLRS	**Cowichan Lake**	**82.03**	**33**	P	**P**	**08 14 00.8**	**+0.8**
CLRS				IAmb	IAmb	08 14 39.1	
	comp=Z,23nm,1.5s						
K17K	**Iditarod**	**82.11**	**9**	P	**P**	**08 14 00.6**	**+0.5**
K17K				IAmb	IAmb	08 14 03.4	
	comp=Z,19nm,1.4s						
L19K	**White Mountain**	**82.16**	**11**	P	**P**	**08 14 00.7**	**+0.3**
BBB	**Bella Bella**	**82.33**	**28**	P	**P**	**08 14 01.9**	**+0.5**
BBB				IAmb	IAmb	08 14 35.2	
	comp=Z,17nm,1.4s						
J16K	**Anvik River**	**82.33**	**8**	P	**P**	**08 14 02.0**	**+0.7**
U15A	**North Rim**	**82.34**	**48**	P	**P**	**08 14 03.3**	**+1.0**
U15A				IAmb	IAmb	08 14 04.5	
	comp=Z,6.8nm,0.8s						
G08A	**Pilot Rock**	**82.73**	**38**	P	**P**	**08 14 04.9**	**+1.1**
MTPU	**Mount Pierson**	**83.20**	**46**	P	**P**	**08 14 07.3**	**+0.7**
MAW	**Mawson**	**83.76**	**200**	P	**P**	**08 14 08.6**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=180,slow=6.1,SNR=1.4						
	comp=Z,0.3nm,0.4s						
F10A	**Beach Ranch, E**	**84.12**	**38**	P	**P**	**08 14 10.7**	**0.0**
F10A				IAmb	IAmb	08 14 11.7	
	comp=Z,5.8nm,0.8s						
HLID	**Hailey**	**84.52**	**41**	P	**P**	**08 14 13.4**	**+0.7**
TX31	**Lajitas Ar. Si**	**85.73**	**57**	P	**P**	**08 14 20.1**	**+1.4**
TX31				IAmb	IAmb	08 14 21.5	
	comp=Z,6.5nm,0.9s						
TXAR	**Lajitas Array**	**85.73**	**57**	P	**P**	**08 14 19.6**	**+0.8**
TXAR	**Lajitas Array**	**85.73**	**57**	P	**P**	**08 14 20.4**	**+1.7**
	comp=Z,4.6nm,0.8s,baz=218,slow=6.1,SNR=68						
	comp=Z,4.6nm,0.8s						
ILAR	**Eielson Array**	**86.05**	**13**	P	**P**	**08 14 18.2**	**-1.1**
	comp=Z,1.8nm,0.4s,baz=220,slow=4.9,SNR=86						
	comp=Z,1.8nm,0.4s						
XLT	**XiLinHaoTe**	**86.29**	**319**	*eP*	**P**	**08 14 21.4**	**+0.3**
XLT				pP	pP	08 16 28.4	-5.3
XLT				sP	sP	08 17 24.1	-12
XLT				PP	**PP**	**08 17 54.3**	**-0.3**
XLT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,87nm,4.9s						
J26L	**Joseph Creek**	**86.56**	**14**	P	**P**	**08 14 21.9**	**+0.1**
J26L				IAmb	IAmb	08 14 24.0	
	comp=Z,3.7nm,0.7s						
YHL	**Hebgen Lake**	**87.17**	**41**	P	**P**	**08 14 26.6**	**+1.1**
YHL				IAmb	IAmb	08 14 27.9	
	comp=Z,7.3nm,0.9s						
PDAR	**Pinedale Array**	**87.22**	**43**	P	**P**	**08 14 26.0**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=204,slow=3.1,SNR=21						
	comp=Z,1.7nm,0.6s						
HHC	**Hu-ho-hao-te**	**87.83**	**314**	*eP*	**P**	**08 14 32.8**	**+4.4**
HHC				pmax	pmax		
	comp=Z,21nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,5.0s						
ELIB	**Princess Elisa**	**88.93**	**186**	*dP*	**P**	**08 14 32.9**	**-0.2**
	comp=Z,1.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.45**	**290**	P	**P**	**08 14 36.5**	**+0.2**
	comp=Z,1.9nm,0.2s,baz=96,slow=2.1,SNR=6.3						
	comp=Z,1.9nm,0.2s						
PZH	**PanZhiHua**	**89.73**	**298**	P	**P**	**08 14 37.8**	**+0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
SNAA	**Sanae**	**90.30**	**178**	P	**P**	**08 14 38.8**	**-0.5**
SNAA				IAmb	IAmb	08 14 50.4	
	comp=Z,5.1nm,1.4s						
R32A	**Long Quarter,**	**92.97**	**51**	P	**P**	**08 14 52.7**	**+0.6**
BVAR	**Borovoye Array**	**117.38**	**321**	PKP	**PKPdf**	**08 20 18.2**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=101,slow=2.3,SNR=10						
ARCES	**ARCESS Array B**	**126.68**	**350**	PKP	**PKPdf**	**08 20 36.0**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=57,slow=1.3,SNR=14						
FINES	**FINESS Array B**	**133.60**	**344**	PKP	**PKPdf**	**08 20 48.2**	**-2.0**
	comp=Z,1.3nm,0.6s,baz=113,slow=2.5,SNR=5.2						
HFS	**Hagfors**	**137.29**	**351**	PKhKP	PKPpre	08 20 45.7	
	comp=Z,5.4nm,1.1s,baz=46,slow=4.3,SNR=4.7						
AKASG	**Malin Array Be**	**141.04**	**333**	PKhKP	PKPpre	08 20 58.0	
	comp=Z,0.8nm,0.3s,baz=45,slow=4.1,SNR=11						
KIEV	**Kiev**	**141.05**	**333**	⇓P	PKPpre	08 20 57.4	
EKA	**Eskdalemuir Ar**	**142.71**	**5**	PKhKP	PKPpre	08 21 01.1	
	comp=Z,1.1nm,0.4s,baz=323,slow=2.8,SNR=14						
SORM	**Soroca**	**143.28**	**330**	⇑P	PKPab	08 21 05.7	-1.0
DIKM	**Dikmen**	**143.32**	**317**	⇑P	PKPab	08 21 07.5	+0.4
BSEG	**Bad Segeberg**	**143.77**	**352**	*e*PKPbc	PKPbc	08 21 07.9	-0.3
	baz=13,slow=2.8						
VLDR	**Vladesti**	**145.02**	**328**	⇑P	PKPbc	08 21 12.3	0.0
OJC	**Ojcow**	**145.05**	**340**		**PKPdf**	**08 21 11.5**	**+0.2**
BUR08	**Bucovina Ar. S**	**145.08**	**332**		**PKPbc**	**08 21 13.5**	**+0.9**
BURAR	**Bucovina Array**	**145.10**	**332**		**PKPab**	**08 21 13.7**	**-0.2**
FLTG	**Flechtingen**	**145.19**	**350**	*e*PKPbc	**PKPdf**	**08 21 12.2**	**+0.8**
	baz=13,slow=2.8						
GHRR		**145.21**	**329**	⇑P	**PKPdf**	**08 21 07.4**	**-4.2**
STHS	**Stebnicka Huta**	**145.24**	**338**	*e*PKP	**PKPdf**	**08 21 12.5**	**+0.9**
TESR	**Tescani**	**145.25**	**330**	⇑P	**PKPdf**	**08 21 12.4**	**+0.7**
KOLS	**Kolonicke sedl**	**145.26**	**336**	*e*PKP	**PKPbc**	**08 21 13.5**	**+0.5**
BR131	**Keskin Array S**	**145.33**	**315**		**PKPbc**	**08 21 13.9**	**+0.3**
BRTR	**Keskin Array B**	**145.33**	**315**		**PKPbc**	**08 21 13.7**	**0.0**
BRTR	**Keskin Array B**	**145.33**	**315**	PKPbc	**PKPdf**	**08 21 13.3**	**+1.1**
	comp=Z,7.2nm,1.1s,baz=132,slow=4.0,SNR=12						
KIRS	**Kirsehir-Merke**	**145.43**	**314**	⇑P	**PKPdf**	**08 21 13.2**	**+0.8**
CFR	**Carcaliu**	**145.44**	**327**	⇓P	**PKPdf**	**08 21 13.2**	**+1.1**
ONER	**Baraj Valea Uz**	**145.50**	**330**	⇑P	**PKPbc**	**08 21 14.3**	**+0.5**
VRI	**Vrincioaia**	**145.68**	**329**	⇓P	**PKPbc**	**08 21 14.0**	**-0.2**
OSTC	**Ostas**	**145.80**	**344**	⇑*e*PKP	**PKPbc**	**08 21 14.7**	**+0.3**
CHVC	**Chvalec**	**145.81**	**344**	⇑*e*PKP	**PKPbc**	**08 21 14.6**	**+0.1**
CLL	**Collm**	**145.85**	**348**		**PKPbc**	**08 21 14.7**	**+0.2**
CLL	**Collm**	**145.85**	**348**	*e*PKPbc	**PKPbc**	**08 21 14.5**	**-0.1**
	baz=13,slow=2.8						
CLL	**Collm**	**145.85**	**348**	*i* PKPbc	**PKPbc**	**08 21 14.4**	**-0.1**
	comp=Z,18nm,0.7s						
UPC	**Upice**	**145.90**	**344**	⇑*e*PKP	**PKPbc**	**08 21 14.8**	**+0.1**
COVR	**Voineasa-Covas**	**145.95**	**329**	⇓P	**PKPdf**	**08 21 14.4**	**+1.5**
DPC	**Dobruska-Polom**	**145.96**	**344**	⇑*e*PKP	**PKPbc**	**08 21 15.5**	**+0.6**
BRG	**Berggiesshubel**	**146.06**	**347**	*i* PKP	**PKPbc**	**08 21 15.4**	**+0.3**
BRG				Amp		08 21 16.0	
	comp=Z,6.5nm,0.7s						
BRG	**Berggiesshubel**	**146.06**	**347**	P	**PKPab**	**08 21 17.1**	**-0.3**
BRG				Amp		08 21 17.8	
	comp=Z,3.9nm,0.7s						
BRG	**Berggiesshubel**	**146.06**	**347**	*e*PKPbc	**PKPbc**	**08 21 15.1**	**0.0**
	baz=13,slow=2.8						
KRLC	**Kraliky**	**146.09**	**343**	⇑*e*PKP	**PKPbc**	**08 21 15.5**	**+0.2**
MANR	**Mangalia**	**146.11**	**325**	⇓P	**PKPdf**	**08 21 09.1**	**-4.1**
MORC	**Moravsky Berou**	**146.14**	**342**	*e*PKP	**PKPbc**	**08 21 15.6**	**+0.2**
MORC	**Moravsky Berou**	**146.14**	**342**	⇑P	**PKiKP**	**08 21 18.0**	**+0.3**
NEHR	**Nehoiu**	**146.21**	**329**	⇑P	**PKPbc**	**08 21 15.9**	**+0.2**
DOPR	**Dopca**	**146.25**	**330**	⇑P	**PKPbc**	**08 21 16.2**	**+0.4**
MLR	**Muntele Rosu**	**146.33**	**329**	PKPbc	**PKPbc**	**08 21 15.6**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=156,slow=5.8,SNR=6.7						
MLR	**Muntele Rosu**	**146.33**	**329**	⇓P	**PKPbc**	**08 21 15.7**	**-0.5**
MAUC	**Maruska**	**146.42**	**341**	⇑*e*PKP	**PKPbc**	**08 21 16.5**	**+0.3**
CJR	**Cluj-Napoca**	**146.50**	**333**	⇑P	**PKPdf**	**08 21 11.0**	**-2.9**
MMAI	**Mount Meron Ar**	**146.71**	**303**	PKPbc	**PKPbc**	**08 21 17.5**	**-0.1**
	comp=Z,3.6nm,0.5s,baz=65,slow=8.4,SNR=6.0						
PRU	**Pruhonice**	**146.75**	**345**	⇑*e*PKP	**PKPbc**	**08 21 17.2**	**+0.2**
VOIR		**146.80**	**330**	⇑P	**PKPbc**	**08 21 16.5**	**-0.9**
TANN	**Tannenbergstha**	**146.80**	**348**	*e*PKPbc	**PKPbc**	**08 21 17.2**	**0.0**
	baz=13,slow=2.8						
DRGR		**146.81**	**334**	⇓P	**PKPbc**	**08 21 17.2**	**-0.2**
VRAC	**Vranov**	**146.83**	**343**	PKPbc	**PKPbc**	**08 21 17.4**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=9,0,slow=4.5,SNR=5.0						
VRAC	**Vranov**	**146.83**	**343**	*e*PKP	**PKPbc**	**08 21 17.2**	**-0.1**
VRAC	**Vranov**	**146.83**	**343**	⇑P	**PKPbc**	**08 21 17.4**	**+0.1**
VYHS	**Vyhne**	**146.86**	**340**	*e*PKP	**PKPbc**	**08 21 17.8**	**+0.4**
JAVC	**Velka Javorina**	**146.91**	**341**	*e*PKP	**PKPbc**	**08 21 18.7**	**+1.1**
NKC	**Novy Kostel**	**146.98**	**348**	⇑*e*PKP	**PKPbc**	**08 21 17.8**	**+0.2**
KRUC	**Moravsky**	**147.11**	**343**	*e*PKP	**PKPbc**	**08 21 18.0**	**0.0**
MANZ	**Manzenberg**	**147.28**	**348**	*e*PKPbc	**PKPbc**	**08 21 18.5**	**+0.1**
	baz=13,slow=2.8						
ZVC	**Zvikov**	**147.34**	**345**	⇑*e*PKP	**PKPbc**	**08 21 18.8**	**+0.2**
ZVC				*e*PKPAB	**PKPab**	**08 21 22.7**	**0.0**
LOT	**Lotru**	**147.39**	**331**	⇓P	**PKPdf**	**08 21 10.1**	**-5.4**
MODS	**Modra-Piesok**	**147.46**	**341**	*e*PKP	**PKPbc**	**08 21 19.3**	**+0.3**
ROTZ	**Rotzenmuhle**	**147.47**	**348**	*e*PKPbc	**PKPbc**	**08 21 18.8**	**-0.1**
	baz=13,slow=2.8						
SIRR	**Siria**	**147.67**	**334**	⇑P	**PKPbc**	**08 21 19.4**	**-0.1**
KHC	**Kasperske Hory**	**147.78**	**346**		**PKPbc**	**08 21 20.0**	**+0.3**
KHC	**Kasperske Hory**	**147.78**	**346**	⇑*e*PKP	**PKPbc**	**08 21 19.8**	**+0.1**
GZR	**Gura Zlata**	**147.88**	**332**	⇓P	**PKPbc**	**08 21 19.8**	**-0.4**
SURR	**Surduc**	**147.88**	**333**	⇑P	**PKPbc**	**08 21 19.6**	**-0.5**
GEC2	**GERESS Array S**	**148.01**	**345**		**PKPbc**	**08 21 20.5**	**+0.1**

LXR1 Lixouri, Cepha 0.63 0 P Pg 08 11 27.7 -0.5
LXR1 S Sb 08 11 38.4 +1.1
comp=E,37μm,0.5s
DMLN Damoulianata-K 0.67 356 P Pg 08 11 27.6 -1.3
SMHA Samh 0.70 14 P Pg 08 11 28.2 -1.3
VSK1 VASILIKIADES 0.85 7 P Pg 08 11 31.1 -1.2
VSK1 S Sb 08 11 44.6 +1.1
comp=E,13μm,0.6s
FSK Fiskardo 0.90 7 P Pg 08 11 32.0 -1.2
FSK S Sb 08 11 46.1 +1.2
comp=E,7μm,1.0s
FSK Fiskardo 0.90 7 P Pg 08 11 32.3 -0.9
FSK AML AML 08 11 51.4
comp=E,16322μm,1.0s
FSK AML AML 08 11 52.0
comp=N,10182μm,0.6s
RLS Riolos of Patr 0.95 59 P Pg 08 11 33.4 -0.9
RLS S Sn 08 11 48.6 +0.5
comp=N,4μm,0.8s
RLS Riolos of Patr 0.95 59 P Pg 08 11 33.5 -0.8
RLS AML AML 08 11 54.4
comp=N,5498μm,0.8s
RLS AML AML 08 11 55.1
comp=E,10105μm,1.1s
AMT Artemida-Makis 1.01 92 P Pg 08 11 34.6 -0.9
AMT AML AML 08 11 56.4
comp=N,22086μm,0.5s
AMT AML AML 08 12 01.2
comp=E,27971μm,0.5s
EVGI Lefkada island 1.07 9 P Pb 08 11 35.2 -0.8
EVGI S Sn 08 11 52.1 +1.2
comp=E,4μm,0.6s
EVGI Lefkada island 1.07 9 P Pb 08 11 35.2 -0.8
DRO Drossia 1.08 69 P Pb 08 11 34.9 -1.4
DRO S Sn 08 11 53.2 +1.9
comp=E,6μm,0.5s
DRO Drossia 1.08 69 P Pb 08 11 35.7 -0.6
DRO AML AML 08 12 00.4
comp=E,13312μm,0.5s
DRO AML AML 08 12 01.4
comp=N,10320μm,0.5s
DRAG Dragano-Lefkad 1.12 6 P Pb 08 11 36.9 -0.1
NYDR Nydri-Lefkada 1.16 10 P Pb 08 11 36.3 -1.3
NYDR S Sn 08 11 56.1 +2.9
comp=N,4μm,0.7s
NYDR Nydri-Lefkada 1.16 10 P Pb 08 11 36.8 -0.8
LKD2 Lefkada island 1.23 8 P Pg 08 11 39.6 0.0
LKD2 S Sg 08 11 58.5 +2.9
comp=N,5μm,0.9s
LKD2 Lefkada island 1.23 8 P Pb 08 11 38.8 0.0
PYL PYLOS 1.24 122 P Pn 08 11 38.5 -0.2
PYL S Sn 08 11 57.1 +1.9
comp=N,2μm,0.6s
PYL PYLOS 1.24 122 P Pn 08 11 38.4 -0.3
PYL AML AML 08 12 01.9
comp=N,4066μm,0.5s
PYL AML AML 08 12 04.2
comp=E,5370μm,0.6s
ITM Ithomi 1.25 108 P Pb 08 11 38.8 -0.4
ITM S Sg 08 11 56.9 +0.6
comp=E,3μm,0.9s
ITM Ithomi 1.25 108 P Pb 08 11 39.1 -0.1
ITM AML AML 08 12 04.3
comp=E,4431μm,0.7s
ITM AML AML 08 12 04.8
comp=N,5900μm,1.0s
TSLK Tsoukalades, L 1.27 8 P Pg 08 11 40.2 0.0
TSLK S Sg 08 12 00.3 +3.5
comp=N,8μm,0.6s
TSLK Tsoukalades, L 1.27 8 P Pn 08 11 38.7 -0.4
KLV Kalavryta, Ach 1.44 70 P Pg 08 11 43.0 -0.6
KLV Kalavryta, Ach 1.44 70 P Pb 08 11 42.6 +0.2
KLV AML AML 08 12 13.5
comp=N,3356μm,1.1s
KLV AML AML 08 12 15.1
comp=E,2990μm,1.1s
EFP Efpalio 1.45 53 P Pb 08 11 42.5 0.0
EFP AML AML 08 12 11.5
comp=N,5333μm,1.3s
EFP AML AML 08 12 15.3
comp=E,3589μm,0.9s
ANX Ano Chora 1.56 48 P Pn 08 11 43.6 +0.5
ANX AML AML 08 12 15.9
comp=N,11179μm,0.5s
ANX AML AML 08 12 18.4
comp=E,8203μm,0.5s
GUR Goura 1.56 76 P Pb 08 11 44.6 +0.2
GUR Goura 1.56 76 P Pb 08 11 44.1 -0.4
GUR AML AML 08 12 16.4
comp=E,4711μm,0.9s
GUR AML AML 08 12 19.2
comp=N,5566μm,0.6s
KALE Kalithea 1.58 58 P Pb 08 11 44.5 -0.3
KALE AML AML 08 12 16.4
comp=N,4836μm,0.7s
KALE AML AML 08 12 19.2
comp=E,4242μm,0.4s
IGT Igoumenitsa 1.96 358 P Pn 08 11 49.8 +1.2
IGT AML AML 08 12 24.9
comp=E,2241μm,0.5s
IGT AML AML 08 12 25.7
comp=N,1924μm,0.5s
MAKR Makrakomi, Fth 1.97 42 P Pb 08 11 51.3 -0.1
MAKR AML AML 08 12 32.4
comp=E,4753μm,0.6s
MAKR AML AML 08 12 32.4
comp=N,5426μm,1.2s
AGG Agios Georgios 2.08 45 Pn Pb 08 11 52.3 -1.1
AGG Agios Georgios 2.08 45 P Pb 08 11 52.3 -1.1
AXAR Agios Charalam 2.12 55 P Pb 08 11 53.2 -0.8
AXAR AML AML 08 12 37.3
comp=N,6221μm,0.7s
AXAR AML AML 08 12 38.2
comp=E,4549μm,1.1s
KEK Kerkira 2.20 347 Pn Pb 08 11 55.0 -0.4
THL Klokotos Trika 2.35 31 P Pb 08 11 56.2 -1.6
THL AML AML 08 12 40.7
comp=E,1294μm,1.1s
THL AML AML 08 12 45.5
comp=N,1461μm,0.8s
KPRO Kipourio 2.49 17 P Pb 08 11 59.1 -1.2
TYRN Tyrnavos 2.56 33 P Pb 08 11 59.6 -1.9
SCTE Santa Cesarea 2.93 329 Pn Pn 08 12 02.2 +0.3
LIT Litokhoron 3.00 32 Pn Pn 08 12 04.1 +1.3
LIT Litokhoron 3.00 32 P Pn 08 12 04.1 +1.3
FNA Florina 3.29 13 Pn Pn 08 12 09.2 +2.2
FNA Florina 3.29 13 *e*Pn Pn 08 12 07.9 +0.9
FNA Florina 3.29 13 P Pn 08 12 09.2 +2.2
TIP Timpagrande 3.31 300 Pn Pn 08 12 06.9 -0.2
TIP Timpagrande 3.31 300 ||P Pg 08 12 20.6 +1.5
OHR Ohrid 3.55 4 *e*Pn Pn 08 12 12.0 +1.5
OHR *e*Sn Sn 08 12 54.0 +1.8
OHR Ohrid 3.55 4 *i* Pn Pn 08 12 13.4 +2.9
CEL Celeste 3.66 282 Pn Pb 08 12 10.9 -1.0
TIR Tirane 3.80 354 *e*Sn Sn 08 12 58.8 +0.5
TIR Tirane 3.80 354 ||P Pb 08 12 22.0 -0.6
VAY Valandovo 4.10 23 *e*Pn Pn 08 12 18.7 +0.8
VAY Valandovo 4.10 23 *i* Pn Pn 08 12 19.4 +1.5
IDI Anoyia 4.25 121 Pn Pn 08 12 19.4 -0.8
comp=N,3.6nm,0.7s,baz=294,slow=20,SNR=1.5
IDI Sn Sn 08 13 06.8 -2.8
comp=N,3.2nm,0.3s,baz=82,slow=19,SNR=5.0
IDI LR LR 08 13 36.7
comp=N,188nm,21.3s,baz=317,slow=35
SRS Serrai 4.31 34 *e*Pn Pn 08 12 21.7 +0.8
CUC Castrocucco 4.34 305 Pn Pn 08 12 22.0 +0.6
PUK Puka 4.49 355 Pn Pn 08 12 24.1 +0.7
VAE Valguarnera 4.79 271 Pn Pn 08 12 26.8 -0.7
comp=N,7.8nm,0.3s,baz=90,slow=8.1,SNR=1.9
VAE Sn Sn 08 13 22.9 +0.1
comp=N,4.6nm,0.3s,baz=61,slow=8.6,SNR=2.1
RAFF Raffo Rosso 4.85 268 Pn 08 12 26.2 -2.1
PDG Podgorica 4.94 350 *e*Sn Sn 08 13 24.9 -1.5
PDG Podgorica 4.94 350 *e*Pn Pn 08 12 33.8 +4.3
WDD Wied Dalam 5.05 252 Pn Pn 08 12 27.3 -3.8
BOSS Bosilegrad 5.17 17 *e*Pn Pn 08 12 33.0 +0.3
BARS Barje 5.35 11 *e*Pn Pn 08 12 35.6 +0.5
TREB Trebinje 5.38 343 *e*Pn Pn 08 12 33.5 -2.1
TREB *e*Sn Sn 08 13 33.4 -4.0
TREB Trebinje 5.38 343 *e*Pn Pn 08 12 32.5 -3.1
ALN Alexandroupoli 5.48 51 Pn Pn 08 12 38.8 +1.9
ALN Alexandroupoli 5.48 51 P Pn 08 12 38.8 +1.9
VTS Vitosha 5.48 22 *e*Pn Pn 08 12 38.8 +1.7
VTS *e*Sn Sn 08 13 40.1 +0.1

BRY Bratogost 5.52 345 *e*Pn Pn 08 12 38.1 +0.5
SELS Selova 5.67 5 *e*Pn Pn 08 12 38.8 -0.8
SELS *e*Sn Sn 08 13 42.5 -1.9
STON Ston 5.70 339 *e*Pn Pn 08 12 38.8 -1.1
STON Ston 5.70 339 *e*Pn Pn 08 12 38.5 -1.4
SJES Sjenica 5.70 357 *e*Pn Pn 08 12 40.7 +0.7
SJES *e*Sn Sn 08 13 43.4 -1.8
SJES Sjenica 5.70 357 *e*Pn Pn 08 12 41.4 +1.4
PAOL Paolisi 5.71 309 Pn Pn 08 12 41.5 +1.3
UPM Unac-Piva 5.75 349 *e*Pn Pn 08 12 44.1 +3.3
KARP Karpathos 5.78 108 Pn Pn 08 12 36.8 -4.3
ZAPS Zavoj 5.94 16 *e*Pn Pn 08 12 43.9 +0.6
IVAS Ivanjica 6.01 358 *e*Pn Pn 08 12 43.2 -1.0
RUDO Rudo 6.10 353 *e*Pn Pn 08 12 46.6 +1.2
BOVS Bovan 6.14 9 ||P Pn 08 12 51.1 +5.1
GRUS Gruza 6.32 2 *e*Pn Pn 08 12 49.4 +1.0
BBLS Lazi&#263i 6.34 353 *e*Pn Pn 08 12 49.0 +0.2
BBLS *e*Sn Sn 08 13 58.2 -2.8
BBLS Lazi&#263i 6.34 353 *e*Pn Pn 08 12 56.3 +7.5
DIVS Divibare 6.53 357 *e*Sn Sn 08 14 02.4 -3.4
HAPS Han Pijesak,Bl 6.61 351 *e*Pn Pn 08 12 51.9 -0.6
HAPS Han Pijesak,Bl 6.61 351 *e*Pn Pn 08 12 53.9 +1.4
INTR Introdacqua 6.70 313 Pn Pn 08 12 54.0 +0.1
ELND Elena 6.78 36 ||P Pn 08 12 58.2 +3.4
TEKS Tekeris 7.01 355 *e*Pn Pn 08 12 53.2 -4.7
MDVR Moldovita 7.27 7 ||P Pb 08 13 13.7 -8.1
CAMP Campotosto 7.32 315 Pn 08 13 05.0 +2.6
A050A Klekovaca 7.51 338 *e*Pn Pn 08 13 04.6 -0.3
BLY Banja Luka 7.58 342 *e*Pn Pn 08 13 05.4 -0.4
FRGS Fruska Gora 7.60 357 *e*Pn Pn 08 13 02.8 -3.2
NRCA Norcia 7.68 315 Pn 08 13 08.3 +1.1
FDMO Fiordimonte 7.83 317 Pn Pn 08 13 11.4 +2.2
A051A Mrakovica 7.90 341 *e*Pn Pn 08 13 07.8 -2.4
GZR Gura Zlata 8.01 12 ||P Pn 08 13 11.8 +0.1
GZR Gura Zlata 8.01 12 ||P Pn 08 13 11.8 +0.1
BZS Buzias 8.09 6 ||P Pn 08 13 18.8 +6.0
BZS Buzias 8.09 6 ||P Pn 08 13 18.8 +6.0
ARR Arges 8.40 21 ||P Pn 08 13 17.4 +0.3
VOIR 8.59 22 ||P Pn 08 13 21.3 +1.6
VOIR 8.59 22 ||P Pn 08 13 21.3 +1.6
ICOR Ion Corvin 8.60 38 ||P Pn 08 13 20.0 +0.3
SIRR Siria 8.74 6 ||P Pn 08 13 26.6 +4.9
MANR Mangalia 8.79 42 ||P Pn 08 13 13.7 -8.6
ISR Istrita 8.83 29 ||P Pn 08 13 26.2 +3.2
ISR Istrita 8.83 29 ||P Pn 08 13 26.2 +3.2
MLR Muntele Rosu 8.93 26 Pn 08 13 26.8 +2.4
MLR Muntele Rosu 8.93 26 Pn Pn 08 13 25.6 +1.3
comp=N,0.2nm,0.3s,baz=217,slow=10,SNR=7.9
comp=N,4.0nm,0.8s
MLR Muntele Rosu 8.93 26 ||P Pn 08 13 27.2 +2.8
MLR Muntele Rosu 8.93 26 ||P Pn 08 13 27.2 +2.8
CRES Cresnjevec Ost 9.05 337 *e*Pn Pn 08 13 22.8 -3.1
KEST Kesra 9.10 262 Pn Pn 08 13 28.9 +2.2
comp=N,0.1nm,0.3s,baz=101,slow=19,SNR=1.6
comp=N,4.1nm,1.0s
DOPR Dopca 9.17 22 ||P Pn 08 13 29.8 +2.2
CEY Cerknica 9.32 333 *e*Pn Pn 08 13 22.8 -6.8
TURR Turia 9.45 24 ||P Pn 08 13 31.5 +0.1
PLOR Plostina 9.49 27 ||P Pn 08 13 34.2 +2.2
PLOR Plostina 9.49 27 ||P Pn 08 13 34.2 +2.2
VRI Vrincioaia 9.53 28 ||P Pn 08 13 34.7 +2.2
VRI Vrincioaia 9.53 28 ||P Pn 08 13 34.7 +2.2
OBKA Obir 9.95 336 *e*Pn Pn 08 13 39.2 +0.9
comp=N,0.4nm,0.2s
OBKA Obir 9.95 336 *e*Pn Pn 08 13 39.5 +1.2
SOKA Soboth 9.95 338 *e*Pn Pn 08 13 39.6 +1.4
comp=N,1.6nm,0.4s
TEOL Teolo 10.19 323 Pn Pn 08 13 43.0 +1.5
BRTR Keskin Array B 10.55 74 Pn Pn 08 13 48.7 +2.0
baz=275,slow=0.6,SNR=1.3
BRTR LR LR 08 18 45.7
comp=N,194nm,20.0s,baz=284,slow=43
comp=N,0.4nm,0.5s
CTI Castel Tesino 10.71 325 Pn Pn 08 13 50.1 +1.4
CTI Castel Tesino 10.71 325 P Pn 08 13 50.1 +1.4
KBA Koelnbreinsper 10.85 333 *e*Pn Pn 08 13 52.1 +1.3
comp=N,0.5nm,0.4s
VYHS Vyhne 10.98 354 *e*PN Pn 08 13 48.1 -4.3
VYHS *e* 08 14 07.7
MOA Molln 11.23 338 *e*Pn Pn 08 13 56.9 +1.1
comp=N,1.5nm,0.4s
BIOA Bad Ischl, Aus 11.28 336 *e*Pn Pn 08 13 57.3 +0.8
comp=N,0.7nm,0.2s
LESA Schwarzleotal 11.38 332 *e*Pn Pn 08 14 00.6 +2.6
comp=N,0.5nm,0.3s
WTTA Wattenberg 11.66 329 *e*Pn Pn 08 14 07.4 +5.6
comp=N,1.0nm,0.4s
FUORN Ofenpass-Fuorn 11.77 323 Pn Pn 08 14 04.9 +1.5
DAVOX Davos/Dischmat 12.07 323 Pn Pn 08 14 09.7 +2.3
comp=N,0.1nm,0.3s,baz=147,slow=16,SNR=2.6
comp=N,5.3nm,1.3s
GERES GERESS Array B 12.29 339 Pn Pn 08 14 13.0 +2.7
comp=N,0.2nm,0.3s,baz=147,slow=11,SNR=5.4
comp=N,1.1nm,0.7s
KHC Kasperske Hory 12.58 339 *e*PN Pn 08 14 14.8 +0.5
KHC Kasperske Hory 12.58 339||*e*P Pn 08 14 19.5 +5.2
SENIN Lac Senin/Sane 13.13 316 Pn Pn 08 14 26.5 +4.6
LISJ El Lisan 13.93 112 P P 08 14 43.6 +2.9
EIL Elat 14.42 119 Pn Pn 08 14 37.6 -1.9
comp=N,0.3nm,0.3s,baz=352,slow=15,SNR=2.0
comp=N,3.0nm,0.8s
KIEV Kiev 14.54 23 Pn P 08 14 45.7 -1.8
KIEV Kiev 14.54 23 P P 08 14 45.7 -1.8
AKASG Malin Array Be 14.55 23 Pn Pn 08 14 40.2 -0.9
comp=N,0.2nm,0.3s,baz=216,slow=12,SNR=1.7
comp=N,0.1nm,0.3s
AKBB Malin Array Si 14.55 23 Pn P 08 14 45.9 -1.7
AKBB Malin Array Si 14.55 23||*e*P Pn 08 14 42.2 +1.1
AKBB pmax pmax
comp=Z,21nm,3.3s
HSNJ Maan 14.61 115 P P 08 14 49.7 +1.2
CLL Collm 14.71 341 *e*PP P 08 14 56.0 +6.6
VSLR Vesyoloye 16.01 62||*e*P Pn 08 15 02.0 +1.5
VSLR pmax pmax
comp=Z,21nm,1.1s
KIV Kislovodsk 18.00 62 *e*P Pn 08 15 24.0 -1.5
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,17nm,14.0s
KBZ Khabaz 18.10 63 LR LR 08 24 15.1
comp=Z,45nm,18.8s,baz=210,slow=43
NCK Nalchik 18.55 64||*e*P P 08 15 30.8 -1.2
NCK pmax pmax
comp=Z,12nm,0.3s
GNI Garni 19.09 75 LR LR 08 23 07.1
comp=Z,74nm,21.6s,baz=276,slow=38
ESDC Sonseca Array 19.17 284 P Pn 08 15 40.1 +0.4
comp=Z,1.4nm,1.1s,baz=86,slow=11,SNR=3.0
ESDC LR LR 08 22 36.1
comp=Z,36nm,19.1s,baz=90,slow=35
OBN Obninsk 20.70 27 *e*P P 08 15 55.4 +0.2
OBN *e*PPP PPP 08 16 20.9
OBN pmax pmax
comp=Z,3.0nm,0.7s
MDT Midelt 20.98 264 P P 08 15 58.6 0.0
comp=Z,0.8nm,0.6s,baz=61,slow=16,SNR=1.4
comp=Z,0.8nm,0.6s
VSU Vasula 21.31 9||*e*P P 08 16 05.0 +3.2
VSU pmax pmax
comp=Z,52nm,1.2s
MOS Moscow 21.56 27 *e*P P 08 16 17.2 +13
HFS Hagfors 22.99 351 P P 08 16 18.6 -1.1
comp=Z,2.5nm,0.7s,baz=165,slow=12,SNR=5.3
comp=Z,2.5nm,0.7s
EKA Eskdalemuir Ar 23.89 326 P P 08 16 29.6 +0.9
comp=Z,2.8nm,0.8s,baz=125,slow=8.7,SNR=2.9
comp=Z,2.8nm,0.8s
FINES FINESS Array B 24.16 7 P P 08 16 30.7 -0.4
comp=Z,2.8nm,0.7s,baz=171,slow=11,SNR=8.7
comp=Z,2.8nm,0.7s
FIA1 FINESS Array S 24.16 7 P P 08 16 31.3 +0.1
NOA NORSAR Array B 24.20 349 P P 08 16 32.5 +0.9
comp=Z,1.3nm,0.9s,baz=160,slow=8.8,SNR=2.4
comp=Z,1.3nm,0.9s
KLMR Klimovskoe 26.23 21 *e*P P 08 16 53.7 +3.7
KLMR pmax pmax
comp=Z,22nm,1.5s
KIRV Kirov 28.21 32 LR LR 08 28 49.2
comp=Z,45nm,21.3s,baz=258,slow=38
TORD Torodi Ar. Bea 29.51 219 P P 08 17 19.2 -0.5
comp=Z,1.0nm,0.8s,baz=29,slow=9.1,SNR=5.0
comp=Z,1.0nm,0.8s
AKTO Aktyubinsk 29.61 52 LR LR 08 32 19.0
comp=Z,54nm,18.1s,baz=143,slow=43
ARTI Arti 31.46 41 LR LR 08 31 17.1
comp=Z,47nm,18.5s,baz=230,slow=38
ARTI Arti 31.46 41*c i*P P 08 17 35.5 -1.0
ARTI S S 08 22 46.5 +2.8
ARTI SS SnSn 08 24 32.5 +4.4
ARTI pmax pmax
comp=Z,68nm,11.9s
ARCES ARCESS Array B 32.15 3 P P 08 17 41.5 -1.0
comp=Z,3.6nm,0.9s,baz=182,slow=12,SNR=4.1
comp=Z,3.6nm,0.9s
BRVK Borovoye 37.50 49||*e*P P 08 18 28.1 -0.8
BRVK pmax pmax
comp=Z,7.0nm,2.0s
BVAR Borovoye Array 37.57 49 P P 08 18 27.9 -1.5
comp=Z,0.5nm,0.7s,baz=309,slow=7.3,SNR=2.6
comp=Z,0.5nm,0.7s
DBIC Dimbokro 38.40 223 LR LR 08 35 01.3
comp=Z,64nm,18.0s,baz=81,slow=37
KURBB Kurchatov Arra 42.65 53 P P 08 19 10.0 -1.6
comp=Z,0.6nm,0.6s,baz=284,slow=8.8,SNR=4.6
comp=Z,0.6nm,0.6s
KURK Kurchatov 42.70 53 P P 08 19 10.0 -2.0
MK31 Makanchi Array 45.68 58 P P 08 19 35.0 -1.0
MK31 Makanchi Array 45.68 58||*e*P P 08 19 34.5 -1.5
MKAR Makanchi Array 45.68 58 P P 08 19 34.2 -1.8
comp=Z,0.7nm,0.6s,baz=274,slow=4.6,SNR=6.5
comp=Z,0.7nm,0.6s
MKAR Makanchi Array 45.68 58 *i* P P 08 19 35.0 -1.0
MKAR pmax pmax
comp=Z,1.0nm,0.6s
ZAA0 Zalesovo Array 46.15 48 P P 08 19 38.5 -1.1
ZAA0 IAmb IAmb 08 19 45.3
comp=Z,4.9nm,1.2s
ZALV Zalesovo Beam 46.15 48 P P 08 19 38.5 -1.1
comp=Z,0.8nm,0.3s,baz=267,slow=8.5,SNR=5.0
comp=Z,0.8nm,0.3s
TIXI Tiksi 60.25 20 LR LR 08 51 40.0
comp=Z,51nm,18.6s,baz=180,slow=40
LBTB Lobatse 62.44 175 LR LR 08 52 54.3
comp=Z,26nm,18.2s,baz=352,slow=40
HHC Hu-ho-hao-te 67.44 55 *e*P P 08 22 10.7 -0.3
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,110nm,4.2s
HHC LR LR
comp=N,110nm,11.8s
HHC LR LR
comp=E,520nm,12.6s
HHC LR LR
comp=Z,620nm,14.6s
PZH PanZhiHua 67.85 73 P P 08 22 13.5 -0.3
PZH pmax pmax
comp=Z,7.0nm,1.0s
PZH pmax pmax
comp=Z,110nm,5.0s
XLT XiLinHaoTe 68.72 51 *e*P P 08 22 19.5 +0.5
XLT pP sP 08 22 23.4 -0.9
XLT pmax pmax
comp=Z,7.0nm,0.8s
XLT LR LR
comp=N,10.0nm,13.2s
XLT LR LR
comp=E,250nm,16.6s
XLT LR LR
comp=Z,310nm,16.2s
KSRS Korea Array 79.77 50 P P 08 23 23.1 -0.2
comp=Z,1.2nm,0.8s,baz=306,slow=5.0,SNR=5.0
comp=Z,1.2nm,0.8s
CPUP Villa Florida 96.70 242 LR LR 09 07 50.6
comp=Z,39nm,21.4s,baz=32,slow=35

JMA 11 08:14:39.6±0.1, 36°.3N±0°.2×137°.9E±0°.3, h11km±1km, MV0.2/21, CENTRAL NAGANO PREF, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNG	**Nsakai**	**0.15**	**63**	*i* P	Pg	08 14 43.0	-0.1
JNG				*e*S	Sg	08 14 45.3	-0.2
MAT	**Matsushiro**	**0.30**	**47**	P	Pg	08 14 45.5	-0.2

*JMA **11** 08:26:33.1±0.3, 31°.N±1°.×14°.2E±°, h0km, MV4.6/73, MW4.6/73, NEAR TORISHIMA IS*
*NIED **11** 08:26:33.1, 31°.45N×142°.09E, h0km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr7.29; Mθθ-0.75; Mφφ-6.54; Mrθ-1.22; Mφθ1.28; Mφr3.30; Fault plane solution: M0 7.87000×10^15 NP1: φs345.00000°, δ58.00000°, λ86.00000°. NP2: φs171.00000°, δ32.00000°, λ96.00000°.*
*BJI **11** 08:26:34.5, 31°.40N×142°.17E, h25km, mb4.5/56, mB4.7/22, Ms4.4/41, Ms7 4.2/43*
*IDC **11** 08:26:35.8±0.5, 31°.38N×141°.80E, h0km, mb4.5/26, mbtmp4.5/31, ML3.5/4, MS3.6/30, Error ellipse: s-maj=16.2km s-min=11.4km az=73.0*
*MOS **11** 08:26:36.6±1.0, 31°.39N×141°.72E, h15km, mb5.0/33, Error ellipse: s-maj=11.2km s-min=5.1km az=121.7*
*NEIC **11** 08:26:37.7±2.3, 31°.43N±0°.05×141°.93E±0°.09, h10km±1km, mb4.9/52, Error ellipse: s-maj=14.1km s-min=6.8km az=64.0*

ISC 11 08:26:37.8±0.6, 31°.41N±0°.04×141°.90E±0°.06, h13km±3km, h13km:pP-P, n265, σ1$46/273, mb4.8/83, MS3.8/39, 12C-16D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.10**	**300**	P	**Pn**	**08 27 12.4**	**-0.2**
JHCJ	**Hachijojimakas**	**2.43**	**313**	P	**Pn**	**08 27 16.4**	**-0.8**
JHCJ				S	**Sn**	**08 27 47.8**	**+1.0**
JHJ2	**Mitsune**	**2.45**	**314**	Pn	**Pn**	**08 27 16.8**	**-0.6**
JHJ2	**Mitsune**	**2.45**	**314**	P	**Pn**	**08 27 17.8**	**+0.4**
JHJ2	**Mitsune**	**2.45**	**314**	P	**Pn**	**08 27 16.5**	**-0.9**
JHJ	**Hachijo jima 2**	**2.47**	**314**	Pn	**Pn**	**08 27 16.6**	**-1.1**
	46nm,0.3s,baz=180,slow=17,SNR=6.9						
JHJ				Sn	**Sn**	**08 27 46.5**	**-1.3**
	164nm,0.3s,baz=63,slow=23,SNR=6.3						
	268nm,0.6s						
JMKN	**Mikurajimanish**	**3.15**	**322**	S	**Sn**	**08 28 01.4**	**-3.1**
JMYK	**Miyake Tsubota**	**3.30**	**324**	S	**Sn**	**08 28 06.5**	**-1.7**
BSO1	**Boso 1**	**3.32**	**347**	P	**Pn**	**08 27 28.4**	**-0.6**
BSO3	**Boso 3**	**3.58**	**341**	P	**Pn**	**08 27 32.0**	**-0.7**
BSO4	**Boso 4**	**3.80**	**340**	*e*P	**Pn**	**08 27 35.6**	**-0.2**
BSO4				X		08 28 22.2	
CBIJ	**Chichi jima**	**4.31**	**177**	*e*P	**Pn**	**08 27 42.5**	**-0.5**
CBIJ				S	**Sn**	**08 28 32.5**	**-0.6**
JCJ	**Chichijima**	**4.31**	**177**	Pn	**Pn**	**08 27 42.9**	**-0.1**
JOD2	**Odawara 2**	**4.50**	**329**	P	**Pn**	**08 27 45.4**	**-0.3**
JOD2				S	**Sn**	**08 28 39.5**	**+1.6**
JSG	**Sagara**	**4.51**	**317**	Pn	**Pn**	**08 27 46.6**	**+0.9**
JYN	**Shimob**	**4.95**	**326**	P	**Pn**	**08 27 53.9**	**+2.1**
JYT	**Yasato**	**5.01**	**344**	*e*P	**Pn**	**08 27 52.2**	**-0.4**
JYT				*e*S	**Sn**	**08 28 50.2**	**-0.1**
JNY	**Yasuok**	**5.19**	**320**	P	**Pn**	**08 27 58.9**	**+3.8**
JRY	**Ryogami san**	**5.23**	**332**	P	**Pn**	**08 27 55.8**	**+0.2**
JIE	**Ise**	**5.28**	**306**	*e*P	**Pn**	**08 27 57.8**	**+1.5**
JHO	**Hitachi**	**5.30**	**348**	*e*P	**Pn**	**08 27 55.1**	**-1.5**
JHO				*e*S	**Sn**	**08 28 52.6**	**-4.9**
JAG	**Ashikaga**	**5.40**	**338**	P	**Pn**	**08 27 57.5**	**-0.5**
JAG				*e*S	**Sn**	**08 28 57.2**	**-2.7**
JAO	**Obara**	**5.46**	**316**	*e*P	**Pn**	**08 27 59.9**	**+0.9**
JKN2	**Miekihoku**	**5.51**	**302**	*e*P	**Pn**	**08 28 01.1**	**+1.5**
JGF	**Kuroka**	**5.64**	**319**		**Pn**	**08 28 02.0**	**+0.6**
JGF	**Kuroka**	**5.64**	**319**	P	**Pn**	**08 28 03.4**	**+2.0**
INU	**Inuyama**	**5.67**	**315**		**Pn**	**08 28 01.7**	**+0.1**
JTNC	**Tanabenakahech**	**5.83**	**296**	*e*P	**Pn**	**08 28 08.4**	**+4.6**
MJAR	**Matsushiro Arr**	**5.96**	**330**	Pn	**Pn**	**08 28 06.8**	**+1.0**
	1.0nm,0.3s,baz=147,slow=11,SNR=120						
MJAR				LR	LR	08 30 21.0	
	comp=Z,445nm,19.0s,baz=188,slow=38						
	25nm,0.7s						
MAJO	**Matsushiro**	**5.97**	**330**		**Pn**	**08 28 06.9**	**+1.2**
MAJO	**Matsushiro**	**5.97**	**330**	P	**Pn**	**08 28 07.6**	**+1.8**
MAJO	**Matsushiro**	**5.97**	**330**	*d i*P	**Pn**	**08 28 06.2**	**+0.4**
MJB9	**Matsu-Tunnel**	**5.97**	**330**		**Pn**	**08 28 06.8**	**+1.0**
JFK	**Kawauchi**	**6.00**	**352**	*e*P	**Pn**	**08 28 05.5**	**-0.8**
JMM	**Marumori**	**6.50**	**352**		**Pn**	**08 28 11.8**	**-1.3**
JMM	**Marumori**	**6.50**	**352**	P	**Pn**	**08 28 12.0**	**-1.1**
JMN	**Monobe**	**7.16**	**291**	Pn	**Pn**	**08 28 22.6**	**+0.5**
JMN	**Monobe**	**7.16**	**291**	P	**Pn**	**08 28 21.9**	**-0.2**
JSD	**Sado**	**7.25**	**337**	Pn	**Pn**	**08 28 23.0**	**-0.4**

JSD Sado 7.25 337 P **Pn 08 28 23.8 +0.4**
JMK Ichinoseki 7.54 356 P **Pn 08 28 26.0 -1.3**
JHS Saijyo 8.19 298 *e*P **Pn 08 28 40.3 +4.1**
JTM Tenmabayashi 9.38 356 Pn **Pn 08 28 51.0 -1.6**
JNU Nakatsue 9.49 283 Pn **Pn 08 28 56.8 +2.7**
JNU Nakatsue 9.49 283 Pn **Pn 08 28 56.5 +2.3**
0.5nm,0.3s,baz=97,slow=8.4,SNR=12
JNU LR LR 08 32 31.4
comp=Z,536nm,18.1s,baz=149,slow=38
ERM Erimo 10.63 5 Pn **Pn 08 29 08.0 -1.7**
ERM Erimo 10.63 5⇓ *e*P **Pn 08 29 09.0 -0.7**
JKA Kamikawa-asahi 12.69 2 Pn **Pn 08 29 35.1 -2.8**
ASAJ Asahikawa 12.69 2 Pn **Pn 08 29 35.3 -2.6**
1.0nm,0.3s,baz=221,slow=11,SNR=9.1
ASAJ Asahikawa 12.69 2 P **Pn 08 29 35.1 -2.8**
JOW Kunigami 12.76 252 LR LR 08 34 43.0
comp=Z,428nm,18.2s,baz=126,slow=38
KSRS Korea Array 13.01 301 Pn **Pn 08 29 43.2 +0.9**
0.2nm,0.3s,baz=115,slow=12,SNR=2.7
KSRS LR LR 08 34 26.9
comp=Z,214nm,18.6s,baz=115,slow=36
3.0nm,0.6s
MSHR Mys Shultsa 14.05 325⇓ *e*P **Pn 08 29 55.8 -0.7**
MSHR pmax pmax
comp=Z,27nm,1.4s
USRK Ussuriysk Ar. 14.96 331 Pn **Pn 08 30 09.0 +0.1**
comp=Z,0.2nm,0.3s,baz=148,slow=13,SNR=4.6
USRK LR LR 08 35 40.8
comp=Z,220nm,19.3s,baz=156,slow=36
comp=Z,3.1nm,0.7s
YSS Yuzh-Sakhalins 15.53 2⇓ *e*P **Pn 08 30 13.6 -2.8**
YSS pmax pmax
comp=Z,64nm,2.2s
MDJ Mudanjiang 16.34 327 P **Pn 08 30 26.0 -0.8**
MDJ S **Sn 08 33 32.4 +4.5**
MDJ PcP **PcP 08 35 19.8 +0.1**
MDJ pmax pmax
comp=Z,9.0nm,0.7s
MDJ LR LR
comp=Z,280nm,13.4s
MDJ LR LR
comp=Z,380nm,13.4s
MDJ LR LR
comp=Z,440nm,16.5s
GUMO Guam 17.95 171 P **P 08 30 48.2 +0.6**
comp=Z,158nm,1.0s,baz=337,slow=23,SNR=4.8
SNY Shenyang 17.98 310 ⇓P **Pn 08 30 46.6 -0.7**
SNY pmax pmax
comp=Z,49nm,0.7s
SNY LR LR
comp=Z,400nm,14.9s
SNY LR LR
comp=Z,490nm,13.9s
SNY LR LR
comp=Z,500nm,15.7s
YOJ Yonaguni jima 18.06 252 P **P 08 30 49.1 +0.3**
YOJ IAmb IAmb 08 30 50.4
comp=Z,90nm,0.7s
YOJ Yonaguni jima 18.06 252 P **P 08 30 49.2 +0.3**
YOJ pmax pmax
comp=Z,90nm,0.7s
BNX BinXian 18.21 326 ⇑P **Pn 08 30 47.6 -2.5**
BNX pmax pmax
comp=Z,7.0nm,0.8s
NACB Ninganchiao 19.34 253 P **P 08 31 02.3 -0.7**
TYV Tymovskoe 19.44 1 *e*P **Pn 08 31 09.3 +4.3**
TYV pmax pmax
comp=Z,30nm,1.5s
TYV pmax pmax
comp=Z,700nm,3.4s
NJ2 Nanjing 19.61 278 *e*P **P 08 31 06.2 +0.3**
NJ2 pP **sP 08 31 09.2 +0.3**
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
YULB Yu-li 19.94 251 P **P 08 31 08.9 -0.6**
YULB IAmb IAmb 08 31 10.7
comp=Z,37nm,0.8s
SSLB Suanglung 20.04 253 P **P 08 31 10.8 +0.2**
SSLB IAmb IAmb 08 31 12.7
comp=Z,59nm,1.0s
TPUB Ta-pu 20.53 252 P **P 08 31 16.5 +0.6**
TPUB IAmb IAmb 08 31 24.2
comp=Z,52nm,1.0s
TIA Tai'an 21.12 290 P **P 08 31 21.9 -0.3**
TIA pmax pmax
comp=Z,12nm,1.5s
TIA LR LR
comp=Z,360nm,15.5s
TIA LR LR
comp=Z,690nm,14.1s
TIA LR LR
comp=Z,780nm,15.3s
HEH HeiHe 21.71 334 *e*P **P 08 31 27.5 -0.9**
HEH pmax pmax
comp=Z,8.0nm,0.6s
BJI Beijing 22.53 300 P **P 08 31 35.8 -1.5**
BJI pmax pmax
comp=Z,6.0nm,0.9s
HNS HongShan 23.18 292 ⇑P **P 08 31 42.4 -1.7**
HNS pmax pmax
comp=Z,7.0nm,1.2s
HNS LR LR
comp=Z,120nm,12.6s
HNS LR LR
comp=Z,500nm,16.7s
HNS LR LR
comp=Z,560nm,15.9s
WHN Wuhan 23.62 275 P **P 08 31 51.8 +3.3**
WHN LR LR
comp=Z,1μm,18.2s
WHN LR LR
comp=Z,900nm,14.1s
WHN LR LR
comp=Z,1μm,13.5s
XLT XiLinHaoTe 23.84 309 *e*P **P 08 31 50.0 -0.6**
XLT pP sP 08 31 55.1 +1.4
XLT sP pP 08 31 57.5 +4.7
XLT PP **PnPn 08 32 24.3 +5.8**
XLT S **S 08 36 03.8 -2.4**
XLT pmax pmax
comp=Z,12nm,0.9s
XLT pmax pmax
comp=Z,82nm,3.2s
XLT LR LR
comp=Z,250nm,16.2s
XLT LR LR
comp=Z,310nm,16.6s
PETK Petropavlovsk- 24.52 23 LR LR 08 44 53.5
comp=Z,55nm,18.7s,baz=218,slow=45
ZEA Zeya 24.68 339 *e*P **P 08 31 59.5 +1.3**
ZEA *e*S **S 08 36 23.4 +4.0**
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,40nm,0.7s
ZEA pmax pmax
comp=Z,200nm,3.6s
ZEA smax smax
comp=E,200nm,13.8s
LYN LuoYang 24.85 285 P **P 08 31 57.8 -2.1**
LYN pmax pmax
comp=E,19nm,0.7s
LYN pmax pmax
comp=E,95nm,6.3s
LYN LR LR
comp=E,440nm,17.9s
LYN LR LR
comp=E,200nm,14.4s
LYN LR LR
comp=E,440nm,18.2s
H11N2 WAKE ISLAND Hy 25.31 111 T T 08 58 43.9
baz=307,slow=75
H11N1 WAKE ISLAND Hy 25.31 111 T T 08 58 56.8
baz=307
H11N3 WAKE ISLAND Hy 25.32 111 T T 08 58 29.0
baz=307,slow=75
H11S3 WAKE ISLAND Hy 25.82 114 T T 08 59 44.6
baz=308
H11S1 WAKE ISLAND Hy 25.82 114 T T 08 59 40.1
baz=308
H11S2 WAKE ISLAND Hy 25.84 114 T T 08 59 39.9
baz=308
HHC Hu-ho-hao-te 26.14 300 *e*P **P 08 32 10.7 -1.0**
HHC S **S 08 36 41.3 -1.8**
HHC pmax pmax
comp=E,18nm,0.7s
HHC pmax pmax
comp=E,63nm,4.0s
HHC LR LR
comp=E,110nm,13.6s
HHC LR LR
comp=E,520nm,13.4s
HHC LR LR
comp=E,620nm,14.2s
BTO Baotou 27.25 299 *e*P **P 08 32 22.0 +0.3**
BTO pP **sP 08 32 26.5 +1.6**
BTO sP **pwP 08 32 29.4 -2.5**
BTO PP **PnPn 08 33 05.1 -0.1**
BTO S **S 08 37 02.2 +1.6**
BTO pmax pmax
comp=E,34nm,0.8s
BTO pmax pmax
comp=E,230nm,5.9s
BTO LR LR
comp=E,490nm,10.5s
BTO LR LR
comp=E,980nm,16.1s
BTO LR LR
comp=E,1μm,14.9s
ULN Ulaanbaatar 31.14 312 P **P 08 32 56.2 -0.1**
ULN IAmb IAmb 08 32 57.8
comp=Z,11nm,0.8s
ULN Ulaanbaatar 31.14 312*c i*P **P 08 32 56.7 +0.4**
ULN pmax pmax
comp=Z,15nm,1.0s
QIZ Qiongzhong 31.40 255 P **P 08 32 57.8 -0.8**
QIZ S **S 08 38 06.0 +0.1**
QIZ LR LR
comp=Z,180nm,14.3s
QIZ LR LR
comp=Z,160nm,13.5s
QIZ LR LR
comp=Z,170nm,16.8s
SONM Songino Array 31.55 312 P **P 08 32 59.4 -0.4**
SONM IAmb IAmb 08 33 01.3
comp=Z,10nm,0.9s
SONM Songino Array 31.55 312 P **P 08 33 00.5 +0.7**
comp=Z,11nm,0.8s,baz=119,slow=8.6,SNR=41
SONM LR LR 08 45 53.4
comp=Z,106nm,18.9s,baz=19,slow=37
comp=Z,11nm,0.8s
YAK Yakutsk 31.64 349⇓ *e*P **P 08 33 02.2 +2.0**
YAK pmax pmax
comp=Z,13nm,0.7s
LZH Lanzhou 31.85 289 *e*P **P 08 33 01.6 -1.0**
LZH pmax pmax
comp=Z,12nm,1.4s
LZH pmax pmax
comp=Z,120nm,6.2s
LZH LR LR
comp=Z,340nm,14.1s
LZH LR LR
comp=Z,300nm,14.1s
LZH LR LR
comp=Z,380nm,13.4s
SEY Seymchan 32.24 9*d i*P **P 08 33 06.5 +1.0**
SEY pmax pmax
comp=Z,8.0nm,0.8s
CD2 Chengdu 32.54 279 P **P 08 33 08.2 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.3s
MYLDM Lahad Datu 34.11 225 P **P 08 33 22.2 -0.1**
GTA Gaotai 34.97 295 P **P 08 33 28.6 -1.1**
GTA sP sP 08 33 35.5 +2.6
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA LR LR
comp=Z,230nm,15.1s
GTA LR LR
comp=Z,330nm,13.9s
GTA LR LR
comp=Z,320nm,15.9s
PZH PanZhiHua 35.34 272 P **P 08 33 33.6 +0.5**
PZH pmax pmax
comp=Z,9.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.2s
TOLI2 Tolitoli 36.16 218 P **P 08 33 39.7 -0.3**
TOLI2 IAmb IAmb 08 34 56.3
comp=Z,17nm,1.0s
GOMU GeErMu 39.12 290 P **P 08 34 04.3 -1.1**
GOMU pP sP 08 34 09.3 +0.8
GOMU sP pwP 08 34 12.9 -2.6
GOMU pmax pmax
comp=Z,40nm,0.9s
BILL Bilibino 39.33 14⇓ *e*P **P 08 34 06.7 +0.5**
BILL pmax pmax
comp=Z,25nm,2.7s
PHRA Phrae 39.68 261 P **P 08 34 08.1 -1.7**
CHTO Chiang Mai 40.63 262 P **P 08 34 15.8 -1.9**
CMAR Chiang Mai Arr 40.79 262 P **P 08 34 17.8 -1.2**
CMAR Chiang Mai Arr 40.79 262 P **P 08 34 17.5 -1.5**
comp=Z,1.8nm,0.3s,baz=53,slow=7.3,SNR=14
CMAR LR LR 08 52 08.0
comp=Z,70nm,18.6s,baz=65,slow=38
comp=Z,1.8nm,0.3s
CMAR Chiang Mai Arr 40.79 262 P **P 08 34 17.8 -1.2**
TIXI Tiksi 40.91 354 P **P 08 34 17.1 -2.1**
TIXI Tiksi 40.91 354*d i*P **P 08 34 18.9 -0.3**
TIXI pmax pmax
comp=Z,8.0nm,1.8s
KAPI Kappang 41.94 214 P **P 08 34 27.8 -0.5**
KAPI IAmb IAmb 08 34 29.8
comp=Z,25nm,1.1s
KAPI Kappang 41.94 214 P **P 08 34 26.8 -1.6**
comp=Z,8.0nm,0.4s,baz=71,slow=11,SNR=5.8
KAPI LR LR 08 52 37.1
comp=Z,23nm,18.9s,baz=28,slow=37
comp=Z,8.0nm,0.4s
KAPI Kappang 41.94 214 P **P 08 34 27.8 -0.5**
KAPI pmax pmax
comp=Z,25nm,1.1s
WMQ Urumqi 43.96 302 *e*P **P 08 34 46.5 +1.9**
WMQ LR LR
comp=Z,150nm,14.7s
BATI Baumata 44.93 206 LR LR 08 52 10.6
comp=Z,38nm,21.2s,baz=338,slow=34
COEN Coen 45.13 178 P **P 08 34 54.9 +0.9**
COEN IAmb IAmb 08 34 56.4
comp=Z,17nm,0.8s
MTN Manton Dam 45.20 195 P **P 08 34 53.8 -0.8**
MTN IAmb IAmb 08 35 07.0
comp=Z,22nm,1.2s
ZAA0 Zalesovo Array 46.13 317 P **P 08 35 00.8 -0.8**
ZAA0 IAmb IAmb 08 35 16.0
comp=Z,10.0nm,0.9s
ZALV Zalesovo Beam 46.13 317 P **P 08 35 01.4 -0.2**
comp=Z,6.8nm,0.6s,baz=104,slow=8.4,SNR=22
ZALV PcP **PcP 08 36 37.6 +0.1**
comp=Z,2.5nm,0.6s,baz=105,slow=3.7,SNR=4.3
ZALV LR LR 08 53 26.5
comp=Z,51nm,20.1s,baz=92,slow=35
comp=Z,6.8nm,0.6s
MK31 Makanchi Array 47.62 307 P **P 08 35 13.2 -0.3**
MK31 IAmb IAmb 08 35 15.9
comp=Z,6.2nm,0.8s
MK31 Makanchi Array 47.62 307*d i*P **P 08 35 13.3 -0.2**
MKAR Makanchi Array 47.62 307 P **P 08 35 13.3 -0.1**
comp=Z,6.1nm,0.6s,baz=88,slow=9.1,SNR=47
MKAR LR LR 08 56 52.7
comp=Z,85nm,18.4s,baz=74,slow=38
comp=Z,6.1nm,0.6s
MAKZ Makanchi 47.84 307 P **P 08 35 14.8 -0.3**
MAKZ IAmb IAmb 08 35 17.2
comp=Z,7.8nm,0.7s
MAKZ Makanchi 47.84 307 P **P 08 35 14.8 -0.3**
MAKZ pmax pmax
comp=Z,8.0nm,0.7s
KNRA Kununurra 48.49 197 P **P 08 35 19.8 -0.6**
NRIK Noril'sk 48.56 337 P **P 08 35 19.7 -0.7**
NRIK IAmb IAmb 08 35 21.8
comp=Z,7.3nm,1.0s
NRIK Noril'sk 48.56 337 P **P 08 35 20.1 -0.2**
comp=Z,3.7nm,0.8s,baz=115,slow=12,SNR=7.6
NRIK LR LR 08 58 55.2
comp=Z,54nm,18.7s,baz=144,slow=40
comp=Z,3.7nm,0.8s
NRIK Noril'sk 48.56 337 P **P 08 35 19.7 -0.7**
NRIK pmax pmax
comp=Z,7.0nm,1.0s
SEM Semipalatinsk 48.83 312 *e*P **P 08 35 21.7 -1.2**
comp=Z,15nm,1.2s
SEM Semipalatinsk 48.83 312 *e*P **P 08 35 21.7 -1.2**
SEM pmax pmax
comp=Z,15nm,1.2s
KURK Kurchatov 49.85 312 P **P 08 35 30.0 -0.4**
KURK Kurchatov 49.85 312*c i*P **P 08 35 29.6 -0.9**
KURK pmax pmax
comp=Z,30nm,1.0s
KURBB Kurchatov Arra 49.92 312 P **P 08 35 30.4 -0.5**
comp=Z,11nm,0.7s,baz=87,slow=7.4,SNR=91
KURBB LR LR 08 57 12.9
comp=Z,132nm,18.5s,baz=167,slow=37
comp=Z,11nm,0.7s
SHLS Shalkode 49.99 302 *e*P **P 08 35 28.3 -3.5**
SHLS Shalkode 49.99 302 *e*P **P 08 35 28.3 -3.5**
UZB Uzynbulak 50.31 302 *e*P **P 08 35 33.2 -1.0**
UZB Uzynbulak 50.31 302 *e*P **P 08 35 33.2 -1.0**
TDK Taldyqorghan 50.49 305 *e*P **P 08 35 34.5 -0.9**
TDK Taldyqorghan 50.49 305 *e*P **P 08 35 34.5 -0.9**
KPKS Kokpek 50.51 303 *e*P **P 08 35 34.8 -0.9**
KPKS Kokpek 50.51 303 *e*P **P 08 35 34.7 -0.9**
SATY Saty 50.77 302 *e*P **P 08 35 36.5 -1.3**
SATY Saty 50.77 302 *e*P **P 08 35 36.4 -1.3**
KDAK Kodiak Island 51.11 39 LR LR 08 59 41.3
comp=Z,29nm,18.6s,baz=91,slow=39
WB0 Warramunga Arr 51.40 189 P **P 08 35 41.9 -0.4**
WRAB Tennant Creek 51.57 189*c i*P **P 08 35 43.5 -0.1**
WRAB pmax pmax
comp=Z,28nm,1.2s
WRA Warramunga Arr 51.58 189 P **P 08 35 43.5 -0.3**
comp=Z,14nm,0.7s,baz=5.0,slow=7.6,SNR=98
comp=Z,14nm,0.7s
FITZ Fitzroy Crossi 51.65 200 P **P 08 35 44.0 -0.3**
FITZ Fitzroy Crossi 51.65 200 P **P 08 35 44.4 +0.1**
comp=Z,5.6nm,0.7s,baz=18,slow=8.0,SNR=13
comp=Z,5.6nm,0.7s
CHKK Chushkaly 51.66 303 *e*P **P 08 35 43.4 -0.9**
CHKK Chushkaly 51.66 303 *e*P **P 08 35 43.3 -0.9**
MDOK Medeo 51.73 302 *e*P **P 08 35 44.0 -1.0**
MDOK Medeo 51.73 302 *e*P **P 08 35 44.0 -1.0**
AAA Alma-Ata 51.82 303 *e*P **P 08 35 44.7 -0.9**
AAA Alma-Ata 51.82 303 *e*P **P 08 35 44.6 -0.9**
TNSS Tian-Shan 51.83 302 *e*P **P 08 35 44.5 -1.5**
TNSS Tian-Shan 51.83 302 *e*P **P 08 35 44.5 -1.5**
KUU Kurty 52.12 303 *e*P **P 08 35 46.6 -1.1**
comp=Z,5.7nm,0.7s
KUU Kurty 52.12 303 *e*P **P 08 35 46.6 -1.1**
KUU pmax pmax
comp=Z,6.0nm,0.7s
E22K Anaktuvuk Pass 52.43 26 P **P 08 35 50.9 +1.2**
E22K IAmb IAmb 08 35 56.3
comp=Z,11nm,0.9s
BOOM Boomskoye usch 52.65 302 P **P 08 35 53.1 +1.2**
BOOM Boomskoye usch 52.65 302 P **P 08 35 53.1 +1.2**
BOOM pmax pmax
comp=Z,5.0nm,0.9s
KSH Kashi 53.24 298 P **P 08 36 00.4 +4.2**
KSH pmax pmax
comp=Z,5.0nm,0.7s
TOLK Toolik Lake Re 53.32 25 P **P 08 35 57.8 +1.5**
AAK Ala-Archa 53.67 302 P **P 08 35 59.9 +0.5**
AAK Ala-Archa 53.67 302 LR LR 08 59 26.3
comp=Z,74nm,18.4s,baz=73,slow=37
AAK Ala-Archa 53.67 302*de*P **P 08 35 59.7 +0.4**
AAK pmax pmax
comp=Z,4.0nm,0.6s
ILAR Eielson Array 54.08 30 P **P 08 36 02.2 +0.4**
comp=Z,4.6nm,0.9s,baz=264,slow=6.5,SNR=6.6
comp=Z,4.6nm,0.9s
KLU Klutina 54.50 34 P **P 08 36 04.5 -0.5**
BVAR Borovoye Array 54.75 315 P **P 08 36 06.8 0.0**
comp=Z,3.9nm,0.6s,baz=94,slow=8.9,SNR=15
BVAR LR LR 08 59 04.8
comp=Z,61nm,18.7s,baz=79,slow=36
comp=Z,3.9nm,0.6s
E25K Arctic Village 54.76 26 P **P 08 36 07.7 +1.0**
E25K IAmb IAmb 08 36 14.3
comp=Z,6.4nm,0.8s
BRVK Borovoye 54.81 316⇑ *e*P **P 08 36 06.9 -0.4**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
AS31 Alice Springs 55.30 189 P **P 08 36 10.6 -0.5**
AS31 IAmb IAmb 08 36 13.4
comp=Z,4.8nm,0.6s
ASAR Alice Springs 55.30 189 P **P 08 36 10.7 -0.4**
ASAR Alice Springs 55.30 189 P **P 08 36 11.2 +0.1**
comp=Z,6.4nm,0.6s,baz=16,slow=14,SNR=134
comp=Z,6.4nm,0.6s
ASAR Alice Springs 55.30 189 P **P 08 36 10.7 -0.4**
KKAR Karatay Array 56.43 304 P **P 08 36 18.9 -0.2**
KKAR IAmb IAmb 08 36 19.9
comp=Z,11nm,0.8s
KKAR Karatay Array 56.43 304 P **P 08 36 18.8 -0.2**
KKAR Karatay Array 56.43 304 P **P 08 36 18.9 -0.2**
KKAR pmax pmax
comp=Z,11nm,0.8s
F28M Old Crow 56.91 27 P **P 08 36 23.4 +1.3**
BRLS Boroloday 56.93 304 *e*P **P 08 36 23.0 +0.4**
BRLS Boroloday 56.93 304 *e*P **P 08 36 23.0 +0.4**
IUG Iuzhnay 57.00 303 *e*P **P 08 36 22.2 -1.2**
comp=Z,14nm,1.0s
IUG Iuzhnay 57.00 303 *e*P **P 08 36 22.1 -1.2**
IUG pmax pmax
comp=Z,14nm,1.0s
CHM Chimkent 57.27 303 *e*P **P 08 36 24.2 -0.8**
CHM Chimkent 57.27 303 *e*P **P 08 36 24.2 -0.8**
DZM Mont Dzumac 58.15 153 *e*LR LR 08 53 38.3
comp=Z,84nm,24.7s
EPYK Eagle Plains 58.24 28 P **P 08 36 32.8 +1.3**
EPYK IAmb IAmb 08 36 34.0
comp=Z,14nm,1.0s
M30M Minto, Yukon 58.70 32 P **P 08 36 36.0 +1.3**
M30M IAmb IAmb 08 36 41.1
comp=Z,13nm,1.1s
SIMJ Simiganj 58.70 299 P **P 08 36 35.1 -0.2**
F31M Tsiigehtchic 59.27 27 P **P 08 36 39.6 +1.0**
H31M Peel River 59.27 28 P **P 08 36 39.9 +1.2**
H31M IAmb IAmb 08 37 10.4
comp=Z,17nm,1.3s
N31M Braeburn, Yuko 59.34 34 P **P 08 36 41.1 +1.8**
N31M IAmb IAmb 08 36 45.7
comp=Z,14nm,0.9s
SVE Sverdlovsk 59.69 321 *e*P **P 08 36 41.0 -0.7**
SVE pmax pmax
comp=Z,22nm,1.0s
MSVF Nonsavu 59.94 139 LR LR 09 02 01.8
comp=Z,36nm,18.1s,baz=93,slow=35
ARTI Arti 61.01 321*c i*P **P 08 36 50.3 -0.4**
ARTI *PP **sP 08 36 54.9 +1.0**
ARTI 08 39 00.5
ARTI S **S 08 45 09.8 +1.1**
ARTI pmax pmax
comp=Z,15nm,0.7s
A36M Sachs Harbour 61.33 21 P **P 08 36 53.6 +1.0**
A36M IAmb IAmb 08 36 59.3
comp=Z,7.3nm,0.8s
ABKAR Akbulak array 61.95 313 P **P 08 36 56.8 -0.4**
AKTO Aktyubinsk 62.81 314 LR LR 09 03 50.9
comp=Z,48nm,19.3s,baz=300,slow=36
STKA Stephens Creek 62.95 180 P **P 08 37 04.8 +0.9**
comp=Z,1.9nm,0.8s,baz=348,slow=9.3,SNR=4.2
comp=Z,1.9nm,0.8s
FORT Forrest 63.23 193 P **P 08 37 06.2 +0.4**
KIRV Kirov 65.01 325*d i*P **P 08 37 17.5 +0.3**
YKA Yellowknife Ar 68.48 29 P **P 08 37 40.1 +0.8**
comp=Z,3.0nm,1.0s,baz=303,slow=6.4,SNR=4.5
comp=Z,3.0nm,1.0s
YKA Yellowknife Ar 68.48 29*ce*P **P 08 37 43.9 +4.6**
YKA pmax pmax
comp=Z,2.0nm,0.9s
KLMR Klimovskoe 68.75 329 *e*P **P 08 37 40.4 -0.6**
KLMR pmax pmax
comp=Z,17nm,1.5s
ARCES ARCESS Array B 69.40 340 P **P 08 37 45.2 +0.3**
comp=Z,2.9nm,0.8s,baz=69,slow=6.6,SNR=2.8
ARCES LR LR 09 12 50.0
comp=Z,73nm,19.0s,baz=128,slow=40
comp=Z,2.9nm,0.8s
OBN Obninsk 72.87 325 *e*P **P 08 38 05.7 -0.4**
OBN *e* 08 38 20.9
OBN *e* 08 40 46.9
OBN *e*PPP PPP 08 42 29.7
OBN *e*SSS SSS 08 55 22.6
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN MLR MLR

comp=Z,100nm,18.0s
YBH Yreka Blue Hor 73.51 51 LR LR 09 04 24.8
comp=Z,45nm,21.2s,baz=300,slow=31
FINES FINESS Array B 73.98 333 P **P** **08 38 12.7 +0.1**
comp=Z,4.0nm,0.7s,baz=72,slow=6.3,SNR=11
comp=Z,4.0nm,0.7s
FINES FINESS Array B 73.98 333 *i* P **P** **08 38 12.6 0.0**
FINES pmax pmax
comp=Z,4.0nm,0.7s
KBZ Khabaz 74.92 312 P **P** **08 38 19.2 +0.9**
comp=Z,4.4nm,0.8s,baz=58,slow=2.7,SNR=9.8
KBZ LR LR 09 14 06.8
comp=Z,50nm,18.0s,baz=36,slow=38
comp=Z,4.4nm,0.8s
KBZ Khabaz 74.92 312 *d i* P **P** **08 38 19.1 +0.8**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 74.94 312 *e*P **P** **08 38 17.1 -1.5**
KIV pmax pmax
comp=Z,13nm,1.1s
SHA1 Shidzhatmaz 75.06 312‖ *e*P **P** **08 38 19.7 +0.2**
GNI Garni 75.44 308 LR LR 09 12 58.6
comp=Z,26nm,18.2s,baz=340,slow=37
GNI Garni 75.44 308‖ *e*P **P** **08 38 23.3 +1.6**
GNI pmax pmax
comp=Z,17nm,1.4s
RAR Rarotonga 76.56 125 LR LR 09 05 19.8
comp=Z,37nm,21.0s,baz=330,slow=30
URZ Urewera 76.70 152 LR LR 09 12 18.0
comp=Z,26nm,18.8s,baz=28,slow=36
VSLR Vesyoloye 76.85 313⇑ *i* P **P** **08 38 30.6 +1.1**
VSLR pmax pmax
comp=Z,17nm,0.7s
MFID Camas Ranch 77.12 47 P **P** **08 38 32.1 +1.0**
MNK Minsk 77.39 327 *i* P **P** **08 38 30.4 -1.8**
MNK *i* P **P** **08 38 30.4 -1.8**
comp=N,25nm,0.9s
MNK *i* P **P** **08 38 30.4 -1.8**
comp=Z,14nm,0.9s,baz=53
MNK *i* PP **PP** **08 41 23.2 -2.9**
MNK *i* PPP PPP 08 43 10.6
MNK *i* S **S** **08 48 21.4 -0.8**
MNK *i* SS **SS** **08 53 20.1 +0.3**
MNK *i* SSS SSS 08 56 44.5
MNK *i* LQ LQ 09 07 20.7
MNK *i* LR LR 09 12 50.5
MNK *i* LRM MLR 09 14 25.2
comp=E,1μm,21.8s
MNK *i* LRM MLR 09 15 38.8
comp=N,665nm,20.7s
MNK *i* LRM MLR 09 16 36.2
comp=Z,137nm,17.4s
MNK Minsk 77.39 327 *i* P **P** **08 38 30.4 -1.8**
MNK *i* 08 41 23.1
MNK *i* PPP PPP 08 43 10.6
MNK *i* S **S** **08 48 21.3 -0.8**
MNK *i* SS **SS** **08 53 20.0 +0.3**
MNK *i* SSS SSS 08 56 44.5
MNK pmax pmax
comp=N,25nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.9s
MNK MLR MLR
comp=E,1μm,22.0s
MNK MLR MLR
comp=N,665nm,21.0s
MNK MLR MLR
comp=Z,137nm,17.0s
NACGM Naroch 77.66 328 *e*P **P** **08 38 36.8 +3.1**
ANN Anapa 77.75 315 *e*P **P** **08 38 31.9 -2.5**
ANN *e**PP **pP** **08 38 35.1 -1.7**
ANN *e* 08 41 24.7
ANN *e*S **S** **08 48 24.4 -2.0**
ANN pmax pmax
comp=Z,33nm,0.9s
KVN Kaiserville 77.88 52 P **P** **08 38 36.4 +0.8**
KVN Kaiserville 77.88 52 P **P** **08 38 36.4 +0.8**
KVN pmax pmax
comp=Z,3.0nm,0.9s
NVAR Mina Array Bea 78.06 52 P **P** **08 38 37.6 +1.0**
comp=Z,2.0nm,0.7s,baz=293,slow=5.6,SNR=13
comp=Z,2.0nm,0.7s
BOZ Bozeman (W) 78.51 43 P **P** **08 38 39.8 +0.9**
BOZ IAmb IAmb 08 38 44.0
comp=Z,13nm,1.6s
BOZ Bozeman (W) 78.51 43 P **P** **08 38 39.8 +0.9**
BOZ pmax pmax
comp=Z,13nm,1.6s
AKASG Malin Array Be 79.01 323 P **P** **08 38 40.9 -0.4**
comp=Z,4.2nm,0.8s,baz=50,slow=5.9,SNR=13
AKASG LR LR 09 16 32.2
comp=Z,92nm,18.2s,baz=58,slow=38
comp=Z,4.2nm,0.8s
AKBB Malin Array Si 79.01 323⇑ *e*P **P** **08 38 40.9 -0.4**
AKBB pmax pmax
comp=Z,7.0nm,1.0s
HFS Hagfors 79.38 336 P **P** **08 38 42.8 -0.3**
comp=Z,4.7nm,0.8s,baz=68,slow=8.0,SNR=5.2
comp=Z,4.7nm,0.8s
YMR Madison River 79.42 44 P **P** **08 38 45.6 +1.7**
YMR IAmb IAmb 08 38 47.7
comp=Z,24nm,1.9s
NB2 NORSAR Subarra 79.53 338 P **P** **08 38 43.6 -0.4**
comp=Z,2.6nm,0.7s,baz=41,slow=5.3
NOA NORSAR Array B 79.53 338 P **P** **08 38 43.9 -0.1**
comp=Z,4.1nm,0.8s,baz=41,slow=5.4,SNR=9.5
NOA LR LR 09 16 59.0
comp=Z,43nm,20.8s,baz=35,slow=38
comp=Z,4.1nm,0.8s
DUG Dugway, Tooele 80.75 48 P **P** **08 38 52.3 +1.2**
DUG Dugway, Tooele 80.75 48 P **P** **08 38 52.3 +1.2**
DUG pmax pmax
comp=Z,6.0nm,1.0s
HWUT Hardware Ranch 80.75 47 P **P** **08 38 52.6 +1.4**
PDAR Pinedale Array 81.33 45 P **P** **08 38 55.1 +0.8**
comp=Z,1.0nm,0.8s,baz=273,slow=2.3,SNR=12
comp=Z,1.0nm,0.8s
JLU Jordanelle 81.39 48 P **P** **08 38 56.1 +1.4**
SFJD Kangerlussuaq 81.44 5 LR LR 09 16 12.0
comp=Z,30nm,21.3s,baz=154,slow=36
PPT Papeete 81.78 116 LR LR 09 14 17.6
comp=Z,37nm,18.4s,baz=344,slow=35
PPT2 Papeete2 81.79 116 *e*LR LR 09 04 26.8
comp=Z,50nm,22.2s
BR131 Keskin Array S 82.91 312 *d i* P **P** **08 39 03.1 +0.5**
BRTR Keskin Array B 82.91 312 P **P** **08 39 03.0 +0.5**
comp=Z,2.6nm,0.9s,baz=40,slow=6.3,SNR=12
comp=Z,2.6nm,0.9s
O20A White River Ci 83.66 47 P **P** **08 39 07.7 +1.2**
STHS Stebnicka Huta 83.80 326 *e*P **P** **08 39 06.8 0.0**
STHS Stebnicka Huta 83.80 326 *e*P **P** **08 39 06.8 0.0**
TAOE Nuku Hiva Isla 84.43 104 *e*LR LR 09 05 00.8
comp=Z,74nm,26.6s
MORC Moravsky Berou 85.29 328 *e*P **P** **08 39 14.1 -0.2**
MMAI Mount Meron Ar 85.57 306 P **P** **08 39 16.8 +0.7**
comp=Z,0.8nm,0.3s,baz=40,slow=6.6,SNR=4.7
comp=Z,0.8nm,0.3s
VYHS Vyhne 85.59 326 *e*P **P** **08 39 16.1 +0.3**
VYHS Vyhne 85.59 326 *e*P **P** **08 39 16.1 +0.3**
JAVC Velka Javorina 85.88 327 *e*P **P** **08 39 18.1 +0.8**
VRAC Vranov 86.06 328 *e*P **P** **08 39 17.8 -0.3**
CLL Collm 86.17 331 *i* P **P** **08 39 18.4 -0.2**
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL Collm 86.17 331 *i* P **P** **08 39 18.4 -0.2**
comp=Z,9.0nm,1.2s
CLL AMS AMS 09 21 00.0
comp=Z,100nm,19.3s
KRUC Moravsky 86.33 328 *e*P **P** **08 39 18.5 -0.9**
MODS Modra-Piesok 86.41 327 *e*P **P** **08 39 21.1 +1.2**
MODS Modra-Piesok 86.41 327 *e*P **P** **08 39 21.1 +1.2**
KHC Kasperske Hory 87.55 329‖ *e*P **P** **08 39 25.3 -0.1**
KHC pmax pmax
comp=Z,32nm,4.0s
GERES GERESS Array B 87.70 329 P **P** **08 39 26.7 +0.4**
comp=Z,0.5nm,0.5s,baz=19,slow=9.3,SNR=3.4
comp=Z,0.5nm,0.5s
ANMO Albuquerque 87.89 50 LR LR 09 16 34.6
comp=Z,62nm,18.3s,baz=94,slow=34
ANMO Albuquerque 87.89 50 *ce*P **P** **08 39 29.2 +1.6**
ANMO pmax pmax
comp=Z,2.0nm,1.5s
TXAR Lajitas Array 93.21 53 P **P** **08 39 53.7 +1.4**
comp=Z,4.4nm,0.8s,baz=299,slow=3.0,SNR=59
comp=Z,4.4nm,0.8s
QSPA South Pole Qui 121.17 180 PKP **PKPdf** **08 45 27.9 -1.6**
comp=Z,1.8nm,1.0s,baz=19,slow=7.0,SNR=3.5
TORD Torodi Ar. Bea 121.52 313 PKP **PKPdf** **08 45 29.6 -2.1**
comp=Z,0.4nm,0.7s,baz=111,slow=32,SNR=3.4
LPAZ La Paz 148.81 68 PKPbc **PKPbc** **08 46 27.2 +0.8**
comp=Z,1.4nm,0.6s,baz=214,slow=6.0,SNR=7.4
PLCA Paso Flores 152.30 119 PKPbc **PKPbc** **08 46 32.1 -1.3**
comp=Z,1.5nm,0.8s,baz=185,slow=8.8,SNR=3.4

IDC 11 08:36:47.6±12.0, 30°.33N×139°.01E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=489.7km s-min=34.9km az=66.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.29**	**307**	P	P	08 45 14.8	-0.1
	0.2nm,0.6s,baz=79,slow=7.5,SNR=2.3						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**50.19**	**186**	P	P	08 45 45.4	+0.1
	0.3nm,0.5s,baz=3.5,slow=7.5,SNR=6.9						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**53.91**	**186**	P	P	08 46 12.6	-0.4
	0.2nm,0.6s,baz=7.6,slow=7.7,SNR=6.3						
	0.2nm,0.6s						

CATAC 11 08:46:34.8±0.5, 11°.46N×87°.17W, h10km, ML3.5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.91**	**39**	*i* P	Pn	08 46 53.5	-0.2
COPN				IAML		08 47 12.8	
	comp=Z,870nm,1.0s						
RA5A7	**El Crucero**	**0.99**	**58**	*i* P	Pb	08 46 54.1	-0.1
RA5A7				IAML		08 47 04.1	
	comp=Z,4μm,1.0s						
UNAN	**Cigeo UNAN**	**1.09**	**54**	*i* P	Pb	08 46 55.3	-0.5
UNAN				IAML		08 47 05.4	
	comp=Z,7μm,1.0s						
PACN	**AI O del Volca**	**1.10**	**20**	*i* P	Pn	08 46 56.2	-0.1
PACN				IAML		08 47 14.2	
	comp=Z,1μm,1.0s						
APQ2	**Apoyeque**	**1.10**	**49**	*i* P	Pn	08 46 56.3	0.0
APQ2				IAML		08 47 18.7	
	comp=Z,970nm,1.0s						
SABN	**Sabanita**	**1.10**	**64**	*i* P	Pb	08 46 55.4	-0.6
SABN				IAML		08 47 27.5	
	comp=Z,3μm,1.0s						
TISN	**Laguna Tiscapa**	**1.11**	**53**	*i* P	Pb	08 46 55.8	-0.4
TISN				IAML		08 47 05.7	
	comp=Z,110nm,1.0s						
CNGA	**AI SSO del Vol**	**1.12**	**24**	*i* P	Pb	08 46 56.0	-0.4
CNGA				IAML		08 47 23.0	
	comp=Z,2μm,1.0s						
MAS3	**AI N del Volca**	**1.12**	**60**	*i* P	Pb	08 46 54.9	-1.5
MAS3				IAML		08 47 18.7	
	comp=Z,960nm,1.0s						
MOMN	**Momotombo**	**1.12**	**33**	*i* P	Pn	08 46 56.8	+0.1
MOMN				IAML		08 47 03.3	
	comp=Z,41nm,1.0s						
R0529	**La Mascota**	**1.13**	**54**	*i* P	Pb	08 46 56.0	-0.4
R0529				IAML		08 47 03.8	
	comp=Z,990nm,1.0s						
MGAN	**Managua**	**1.13**	**53**	*i* P	Pb	08 46 56.3	-0.2
MGAN				IAML		08 47 06.1	
	comp=Z,790nm,1.0s						
NANN	**Nandasmo**	**1.13**	**65**	*i* P	Pb	08 46 56.4	-0.1
NANN				IAML		08 47 21.7	
	comp=Z,14μm,1.0s						
R4DEC	**Barrio San Lui**	**1.13**	**53**	*i* P	Pb	08 46 56.2	-0.3
R4DEC				IAML		08 47 06.1	
	comp=Z,800nm,1.0s						
NADN	**Granada**	**1.15**	**76**	*i* P	Pb	08 46 55.1	-1.7
NADN				*i* S	Sg	08 47 12.0	0.0
NADN				IAML		08 47 14.1	
	comp=Z,2μm,1.0s						
MOM2	**El Cardon**	**1.18**	**35**	*i* P	Pb	08 46 56.7	-0.6
MOM2				IAML		08 47 04.2	
	comp=Z,1μm,1.0s						
PLRN	**Geotermica Pol**	**1.18**	**20**	*i* P	Pb	08 46 56.7	-0.6
PLRN				IAML		08 47 24.2	
	comp=Z,700nm,1.0s						
WILN	**Americas 2**	**1.19**	**54**	*i* P	Pb	08 46 56.3	-1.1
WILN				IAML		08 47 04.3	
	comp=Z,580nm,1.0s						
ILCN	**San Idelfonso**	**1.20**	**23**	*i* P	Pb	08 46 56.8	-0.8
ILCN				IAML		08 47 04.3	
	comp=Z,530nm,1.0s						
CRIN	**San Cristobal**	**1.23**	**6**	*i* P	Pn	08 46 57.6	-0.6
CRIN				IAML		08 47 27.5	
	comp=Z,2μm,1.0s						
CONN	**Concepcion**	**1.52**	**86**	*i* P	Pn	08 46 59.7	-2.4
CONN				IAML		08 47 27.3	
	comp=Z,3μm,1.0s						
CSGN	**Cosiguina Volc**	**1.55**	**346**	*i* P	Pn	08 47 02.4	-0.2
CSGN				IAML		08 47 30.7	
	comp=Z,210nm,1.0s						
CARN	**Rivas**	**1.64**	**99**	*i* P	Pn	08 47 04.4	+0.7
CARN				*i* S	Sn	08 47 23.4	-1.5
CARN				IAML		08 47 41.2	
	comp=Z,680nm,1.0s						
LIMN	**Finca el Limon**	**1.77**	**26**	*i* P	Pn	08 47 05.1	-0.6
LIMN				IAML		08 47 19.3	
	comp=Z,250nm,1.0s						
CNCH	**Conchagua**	**1.91**	**340**	*i* P	Pn	08 47 07.3	-0.3
CNCH				IAML		08 47 41.9	
	comp=Z,760nm,1.0s						
LCND	**La Caada**	**1.96**	**339**	*i* P	Pn	08 47 07.3	-0.9
LCND				IAML		08 47 47.3	
	comp=Z,250nm,1.0s						
ACON	**Acoyapa**	**2.02**	**75**	*i* P	Pb	08 47 10.9	-0.8
ACON				IAML		08 47 28.6	
	comp=Z,170nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.30**	**27**	*i* P	Pn	08 47 12.9	-0.1
RCPN				IAML		08 47 25.1	
	comp=Z,0.7nm,1.0s						
RCVN	**Varilla2**	**2.31**	**24**	*i* P	Pn	08 47 13.1	0.0
RCVN				IAML		08 47 25.5	
	comp=Z,2μm,1.0s						
SCLA	**Alcaldia de Sa**	**2.69**	**326**	*i* P	Pn	08 47 17.3	-1.0
SCLA				*i* S	Sn	08 47 49.0	-2.0
SCLA				IAML		08 48 24.0	
	comp=Z,56nm,1.0s						
COEG	**Centro de Oper**	**2.71**	**322**	*i* P	Pn	08 47 18.4	-0.2
COEG				IAML		08 48 03.4	
	comp=Z,73nm,1.0s						
PMON	**Piamonte**	**3.06**	**317**	*i* P	Pn	08 47 26.1	+2.7
PMON				IAML		08 48 24.4	
	comp=Z,120nm,1.0s						
LCR2	**La Lucha 2**	**3.55**	**118**	*i* P	Pn	08 47 30.4	+0.1
LCR2				IAML		08 48 33.5	
	comp=Z,52nm,1.0s						

IDC 11 08:50:50.2±4.1, 31°.15N×141°.13E, h0km, mb3.8/5, mbtmp3.7/6, ML2.6/1, MS2.8/1, Error ellipse: s-maj=158.7km s-min=21.0km az=71.0
ISC 11 08:50:53.5±4.7, 31°.3N±0°.4×14°.2E±°, h35km, n7, σ0s45/6, mb3.7/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**5.93**	**332**	Pn	**Pn**	**08 52 18.8**	**0.0**
	0.2nm,0.3s,baz=148,slow=9.4,SNR=10						
	1.2nm,0.5s						
SONM	**Songino Array**	**31.44**	**312**	P	**P**	**08 57 11.9**	**+0.4**
	1.0nm,0.9s,baz=126,slow=8.0,SNR=4.0						
	1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**40.56**	**262**	LR	LR	09 15 59.5	
	comp=Z,12nm,18.5s,baz=310,slow=38						
MKAR	**Makanchi Array**	**47.49**	**307**	P	**P**	**08 59 24.8**	**-0.3**
	0.2nm,0.4s,baz=94,slow=12,SNR=4.1						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**49.81**	**312**	P	**P**	**08 59 42.4**	**-0.3**
	1.7nm,0.2s,baz=86,slow=7.4,SNR=5.2						
	1.7nm,0.2s						
WRA	**Warramunga Arr**	**51.47**	**189**	P	**P**	**08 59 55.1**	**-0.4**
	0.4nm,0.4s,baz=5.6,slow=7.6,SNR=10.0						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**55.19**	**189**	P	**P**	**09 00 23.3**	**+0.4**
	0.4nm,0.6s,baz=18,slow=12,SNR=8.7						
	0.4nm,0.6s						

JMA 11 08:53:25.1±0.3, 32°N±1°×14°2E±°, h46km, MV3.7/17, NEAR TORISHIMA IS
IDC 11 08:53:26.2±3.8, 31°.08N×140°.84E, h0km, mb3.4/4, mbtmp3.4/5, ML2.5/1, Error ellipse: s-maj=147.4km s-min=25.2km az=72.0
ISC 11 08:53:25.6±1.5, 31°.54N±0°.09×142°.2E±0°.3, h29km, n11, σ0s94/14, mb3.5/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.27**	**342**	*e*P	**Pn**	**08 54 15.0**	**+0.7**
CBIJ	**Chichi jima**	**4.43**	**180**	*e*P	**Pn**	**08 54 31.5**	**+0.7**
CBIJ				*e*S	**Sn**	**08 55 20.5**	**-0.9**
JOD2	**Odawara 2**	**4.53**	**326**	*e*P	**Pn**	**08 54 31.7**	**-0.5**
JHO	**Hitachi**	**5.24**	**346**	*e*P	**Pn**	**08 54 42.3**	**+0.4**
JHO				*e*S	**Sn**	**08 55 40.3**	**-0.9**
JRY	**Ryogami san**	**5.24**	**329**	*e*P	**Pn**	**08 54 43.1**	**+1.2**
JAG	**Ashikaga**	**5.38**	**336**	*e*P	**Pn**	**08 54 44.0**	**+0.1**
JAG				*e*S	**Sn**	**08 55 43.5**	**-1.2**
MJAR	**Matsushiro Arr**	**5.99**	**328**	Pn	**Pn**	**08 54 53.7**	**+1.5**
	0.1nm,0.3s,baz=157,slow=11,SNR=6.6						
	0.5nm,0.3s						
SONM	**Songino Array**	**31.65**	**311**	P	**P**	**08 59 45.6**	**-0.7**
	0.3nm,0.3s,baz=115,slow=13,SNR=2.3						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**47.75**	**307**	P	**P**	**09 02 00.6**	**+0.7**
	0.2nm,0.4s,baz=99,slow=9.1,SNR=2.1						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**51.74**	**189**	P	**P**	**09 02 30.4**	**0.0**
	0.3nm,0.4s,baz=5.3,slow=7.6,SNR=2.9						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**55.46**	**189**	P	**P**	**09 02 58.1**	**+0.5**
	0.3nm,0.9s,baz=1.7,slow=6.1,SNR=2.2						
	0.3nm,0.9s						

NEIC 11 09:03:49.5±1.1, 54°.74N±0°.07×156°.84W±0°.08, h10km±2km, Error ellipse: s-maj=11.9km s-min=6.0km az=154.0
AEIC 11 09:03:53.3±1.2, 54°.67N±0°.10×156°.8W±0°.1, h11km±8km, ML3.4, ML3.6/24(NEIC), Error ellipse: s-maj=15.1km s-min=7.8km az=161.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**1.32**	**29**		Pn	09 04 12.6	-5.0
CHIR					Sb	09 04 28.5	-6.5
CHIR	**Chirikof Islan**	**1.32**	**29**	IAML		09 04 34.2	
	comp=N,528nm,3.1s						
CNBA	**Chernabura Isl**	**1.65**	**276**		Pn	09 04 16.5	-5.7
CNBA	**Chernabura Isl**	**1.65**	**276**		Sn	09 04 34.9	-8.4
CNBA	**Chernabura Isl**	**1.65**	**276**	IAML		09 04 33.9	
	comp=E,170nm,3.8s						
CHGN	**Chignik**	**1.89**	**331**		Pn	09 04 20.1	-5.3
CHGN					Sn	09 04 42.4	-6.7
VNSG	**Veniaminof 6**	**1.97**	**319**		Pn	09 04 21.9	-4.8
VNKR	**Veniaminof 5**	**2.02**	**313**		Pn	09 04 22.5	-4.8
ANPB	**Aniakchak Plen**	**2.30**	**339**		Pn	09 04 26.4	-4.8
AZAC	**Aniakchak**	**2.38**	**340**		Pn	09 04 27.6	-4.7
SII	**Sitkinak Islan**	**2.39**	**37**		Pn	09 04 27.7	-4.7
SII	**Sitkinak Islan**	**2.39**	**37**	IAML		09 05 09.8	
	comp=E,307nm,3.4s						
SII				IAML		09 05 29.4	
	comp=N,380nm,3.3s						
PS1A	**Pavlof South-1**	**2.97**	**287**		Pn	09 04 35.5	-4.8
PLK4	**Peulik 4**	**2.97**	**4**	Pn	Pn	09 04 40.1	-0.4
PLK4				IAML		09 05 35.6	
	comp=N,186nm,2.8s						
PLK4				IAML		09 05 49.3	
	comp=E,172nm,2.5s						
PVV	**Pavlof Volcano**	**2.98**	**286**		Pn	09 04 35.7	-4.8
PS4A	**Pavlof South-4**	**3.01**	**285**		Pn	09 04 36.0	-4.9
PS4A					Sn	09 05 10.1	-6.9
HAG	**Hague Volcano**	**3.04**	**284**		Pn	09 04 37.2	-4.0
PN7A	**Pavlof North-7**	**3.11**	**286**		Pn	09 04 38.0	-4.3
S12K	**Black Hills**	**3.21**	**291**		Pn	09 04 39.0	-4.6
S12K	**Black Hills**	**3.21**	**291**		Sn	09 05 15.1	-6.8
S12K	**Black Hills**	**3.21**	**291**	IAML		09 05 08.7	
	comp=E,274nm,4.0s						
OHAK	**Old Harbor**	**3.21**	**36**		Pn	09 04 39.1	-4.5
OHAK					Sn	09 05 13.9	-7.9
OHAK	**Old Harbor**	**3.21**	**36**	IAML		09 06 04.5	
	comp=N,90nm,2.5s						
OHAK				IAML		09 06 14.6	
	comp=E,91nm,3.4s						
PLK5	**Peulik 5**	**3.33**	**359**		Pn	09 04 40.4	-4.8
KJL	**Kejulik**	**3.45**	**10**		Pn	09 04 42.2	-4.7
CNTC	**Contact Creek**	**3.63**	**7**		Pn	09 04 44.5	-5.0
ACHA	**Angle Creek He**	**3.63**	**12**	Pn	Pn	09 04 50.0	+0.5
ACHA				IAML		09 05 26.9	
	comp=N,45nm,3.9s						
FALS	**False Pass**	**3.86**	**275**		Pn	09 04 47.7	-4.9
KDAK	**Kodiak Island**	**3.89**	**35**		Pn	09 04 47.8	-5.1
KDAK	**Kodiak Island**	**3.89**	**35**	IAML		09 05 33.0	
	comp=N,110nm,4.6s						
KDAK				IAML		09 06 02.2	
	comp=N,115nm,3.6s						
ISLZ	**Isanotski Laza**	**4.04**	**274**		Pn	09 04 50.6	-4.4
ISNN	**Isanotski Nort**	**4.07**	**275**		Pn	09 04 51.5	-4.0
SSLN	**Shishaldin Nor**	**4.20**	**275**		Pn	09 04 53.1	-4.1
WESE	**West Dahl East**	**4.56**	**271**		Pn	09 04 58.1	-4.1
WEBT	**Westdahl Beart**	**4.65**	**272**		Pn	09 04 59.0	-4.4
P18K	**Big Mountain,**	**4.80**	**9**		Pn	09 04 59.7	-5.8
P18K	**Big Mountain,**	**4.80**	**9**	IAML		09 05 41.1	
	comp=E,68nm,4.3s						
P18K				IAML		09 08 15.2	
	comp=N,65nm,3.5s						
O14K	**Tigyukauivet M**	**5.21**	**334**	Pn	Pn	09 05 06.2	-4.9
AKSA	**Akutan Strait**	**5.25**	**268**		Pn	09 05 07.6	-4.1
O18K	**Koktuh Hills**	**5.26**	**9**	Pn	Pn	09 05 07.8	-4.0
AHB	**Akutan Harbor**	**5.33**	**268**		Pn	09 05 08.6	-4.1
ZRO	**Akutan Zero**	**5.42**	**268**		Pn	09 05 09.5	-4.5
ILSW	**Iliamna Southw**	**5.67**	**19**	Pn	Pn	09 05 13.0	-4.5
CNPM	**China Poot**	**5.72**	**29**		Pn	09 05 13.5	-4.6
UNV	**Unalaska Valle**	**5.78**	**266**		Pn	09 05 14.3	-4.5
MTBL	**Makushin Table**	**5.85**	**267**		Pn	09 05 15.4	-4.5
N17K	**Nushagak Hills**	**5.87**	**358**	Pn	Pn	09 05 15.5	-4.6
MSW	**Makushin Switc**	**5.92**	**267**		Pn	09 05 16.1	-4.8
MGOD	**Makushin Gods**	**6.00**	**266**		Pn	09 05 17.6	-4.4
BRLK	**Bradley Lake**	**6.01**	**30**	Pn	Pn	09 05 16.6	-5.6
MAPS	**Pakushin South**	**6.04**	**266**		Pn	09 05 18.1	-4.3
BRSE	**Bradley Lake S**	**6.04**	**30**		Pn	09 05 17.6	-4.8
N18K	**Kilae Creek**	**6.04**	**4**		Pn	09 05 17.8	-4.7
M16K	**Timber Creek**	**6.47**	**350**	Pn	Pn	09 05 23.8	-4.6
M17K	**Holitna River**	**6.76**	**357**	Pn	Pn	09 05 28.5	-3.7
SLKM	**Skilak Lake**	**6.82**	**28**		Pn	09 05 28.5	-4.7
M19K	**Big River Lodg**	**7.36**	**9**	Pn	Pn	09 05 36.6	-4.0
L14K	**Kuka Creek**	**7.39**	**337**	Pn	Pn	09 05 35.9	-5.0
RC01	**Rabbit Creek A**	**7.44**	**27**	Pn	Pn	09 05 37.9	-3.8
M20K	**Styx River**	**7.48**	**13**	Pn	Pn	09 05 38.2	-4.0
L19K	**White Mountain**	**7.59**	**7**	Pn	Pn	09 05 39.8	-4.0
PWL	**Port Wells**	**7.66**	**33**	Pn	Pn	09 05 41.1	-3.5
SKT	**Skwentna**	**7.82**	**18**	Pn	Pn	09 05 42.5	-4.4
FID	**Port Fidalgo**	**8.20**	**38**	Pn	Pn	09 05 48.2	-3.9
GHO	**Glory Hole Cre**	**8.22**	**27**	Pn	Pn	09 05 48.4	-4.0
SCM	**Sheep Creek Mo**	**8.72**	**31**	Pn	Pn	09 05 55.5	-3.8
KLU	**Klutina**	**8.91**	**36**	Pn	Pn	09 05 57.9	-4.0
CAST	**Castle Rocks**	**9.09**	**13**	Pn	Pn	09 05 59.5	-4.8
M24K	**Tolsona, Glenn**	**9.28**	**32**	Pn	Pn	09 06 03.9	-3.1
SNH	**Sunshine Point**	**9.30**	**48**	Pn	Pn	09 06 03.9	-3.3
N25K	**Chitina, Valde**	**9.45**	**38**	Pn	Pn	09 06 06.6	-2.7
GLB	**Gilahina Butte**	**9.63**	**40**	Pn	Pn	09 06 08.4	-3.3

IDC 11 09:09:36.5±1.6, 37°.93N×20°.70E, h0km, mb3.6/5, mbtmp3.6/5, MS2.9/2, Error ellipse: s-maj=49.3km s-min=28.1km az=120.0
ATH 11 09:09:37.5, 37°.64N×20°.47E, h6km±2km, ML3.6/10, Error ellipse: s-maj=2.9km s-min=0.8km az=33.0
THE 11 09:09:37.3, 37°.63N×20°.48E, h5km±13km, ML3.6/9, Error ellipse: s-maj=13.1km s-min=0.7km az=59.0
ISC 11 09:09:38.1±1.3, 37°.66N±0°.04×20°.51E±0°.05, h13km±7km, n45, σ1s12/68, mb3.7/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.26**	**78**	P	**Pg**	**09 09 43.5**	**-0.1**
LTHK				S

	comp=E,28958μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.46**	**7**	P	**Pg**	**09 09 47.0**	**-0.3**
PSDA				S	**Sg**	**09 09 53.7**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.46**	**7**	P	**Pg**	**09 09 46.9**	**-0.3**
PSDA				S	**Sg**	**09 09 54.1**	**+0.7**
RTZL	**Ratzakli, Kefa**	**0.47**	**26**	P	**Pg**	**09 09 47.2**	**-0.1**
RTZL				S	**Sg**	**09 09 54.1**	**+0.5**
VLS	**Valsamata**	**0.52**	**7**	P	**Pg**	**09 09 47.9**	**-0.5**
VLS				S	**Sg**	**09 09 55.8**	**+0.4**
	comp=E,7μm,0.7s						
VLS	**Valsamata**	**0.52**	**7**	P	**Pg**	**09 09 47.9**	**-0.5**
VLS				S	**Sg**	**09 09 55.2**	**-0.2**
VLS				AML	AML	09 09 59.5	
	comp=E,11678μm,0.3s						
VLS				AML	AML	09 10 00.7	
	comp=N,10943μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.55**	**354**	P	**Pg**	**09 09 48.8**	**0.0**
LXRA				S	**Sg**	**09 09 55.9**	**-0.2**
LXRA				AML	AML	09 10 01.4	
	comp=N,39147μm,0.4s						
LXRA				AML	AML	09 10 04.7	
	comp=E,25709μm,0.3s						
DMLN	**Damoulianata-K**	**0.59**	**349**	P	**Pg**	**09 09 48.8**	**-0.9**
DMLN				S	**Sg**	**09 09 58.0**	**+0.5**
SMHA	**Samh**	**0.60**	**10**	P	**Pg**	**09 09 48.9**	**-1.0**
SMHA				S	**Sg**	**09 09 58.2**	**+0.3**
SMHA				AML	AML	09 10 04.3	
	comp=N,38326μm,0.4s						
SMHA				AML	AML	09 10 04.3	
	comp=E,30834μm,0.5s						
VSK1	**VASILIKIADES**	**0.75**	**3**	P	**Pg**	**09 09 52.1**	**-0.6**
VSK1				S	**Sb**	**09 10 04.0**	**+0.7**
	comp=E,7μm,0.5s						
FSK	**Fiskardo**	**0.80**	**3**	P	**Pg**	**09 09 52.9**	**-0.8**
FSK				S	**Sb**	**09 10 05.3**	**+0.6**
	comp=E,5μm,0.7s						
FSK	**Fiskardo**	**0.80**	**3**	P	**Pg**	**09 09 52.9**	**-0.8**
FSK				S	**Sg**	**09 10 04.1**	**-0.1**
FSK				AML	AML	09 10 11.8	
	comp=E,4616μm,0.3s						
FSK				AML	AML	09 10 13.5	
	comp=N,5414μm,0.7s						
RLS	**Riolos of Patr**	**0.85**	**62**	P	**Pg**	**09 09 54.1**	**-0.6**
RLS				S	**Sb**	**09 10 07.0**	**+0.7**
	comp=N,4μm,0.6s						
RLS	**Riolos of Patr**	**0.85**	**62**	P	**Pg**	**09 09 54.0**	**-0.6**
RLS				S	**Sg**	**09 10 06.5**	**+0.6**
RLS				AML	AML	09 10 07.5	
	comp=N,8528μm,0.6s						
RLS				AML	AML	09 10 07.8	
	comp=E,6505μm,0.7s						
AMT	**Artemida-Makis**	**0.96**	**97**	P	**Pg**	**09 09 55.9**	**-0.8**
AMT				S	**Sb**	**09 10 09.6**	**+0.3**
AMT				AML	AML	09 10 20.5	
	comp=N,12873μm,0.3s						
AMT				AML	AML	09 10 23.3	
	comp=E,14560μm,0.4s						
EVGI	**Lefkada island**	**0.97**	**7**	P	**Pg**	**09 09 55.9**	**-0.9**
EVGI				S	**Sb**	**09 10 10.3**	**+0.7**
	comp=E,3μm,0.4s						
EVGI	**Lefkada island**	**0.97**	**7**	P	**Pg**	**09 09 55.7**	**-1.2**
EVGI				S	**Sb**	**09 10 10.3**	**+0.7**
DRO	**Drossia**	**0.99**	**72**	P	**Pg**	**09 09 56.5**	**-0.8**
DRO				S	**Sb**	**09 10 11.8**	**+1.5**
	comp=E,4μm,0.4s						
DRO	**Drossia**	**0.99**	**72**	P	**Pg**	**09 09 57.0**	**-0.3**
DRO				S	**Sb**	**09 10 11.3**	**+1.0**
DRO				AML	AML	09 10 15.2	
	comp=E,8659μm,0.4s						
DRO				AML	AML	09 10 16.6	
	comp=N,7083μm,0.4s						
DRAG	**Dragano-Lefkad**	**1.03**	**3**	P	**Pg**	**09 09 56.6**	**-1.3**
DRAG				S	**Sn**	**09 10 13.2**	**+0.6**
DRAG	**Dragano-Lefkad**	**1.03**	**3**	P	**Pg**	**09 09 56.7**	**-1.3**
NYDR	**Nydri-Lefkada**	**1.06**	**8**	P	**Pg**	**09 09 57.3**	**-1.4**
NYDR				S	**Sb**	**09 10 13.8**	**+1.5**
	comp=N,1μm,0.8s						
NYDR	**Nydri-Lefkada**	**1.06**	**8**	P	**Pg**	**09 09 57.7**	**-1.0**
LKD2	**Lefkada island**	**1.14**	**6**	P	**Pb**	**09 09 59.8**	**+0.1**
TSLK	**Tsoukalades, L**	**1.17**	**6**	P	**Pg**	**09 09 59.5**	**-1.2**
TSLK				S	**Sn**	**09 10 18.2**	**+2.0**
	comp=N,2μm,0.6s						
ITM	**Ithomi**	**1.22**	**112**	P	**Pg**	**09 10 00.9**	**-0.8**
ITM				S	**Sg**	**09 10 17.0**	**-0.6**
ITM				AML	AML	09 10 28.5	
	comp=E,1946μm,1.0s						
ITM				AML	AML	09 10 30.2	
	comp=N,1868μm,0.7s						
PYL	**PYLOS**	**1.24**	**127**	P	**Pn**	**09 10 01.4**	**+0.2**
PYL				S	**Sb**	**09 10 17.8**	**+0.4**
PYL				AML	AML	09 10 22.7	
	comp=N,1768μm,0.3s						
PYL				AML	AML	09 10 24.1	
	comp=E,2629μm,0.4s						
EFP	**Efpalio**	**1.34**	**55**	P	**Pn**	**09 10 02.7**	**+0.1**
KLV	**Kalavryta, Ach**	**1.35**	**73**	P	**Pn**	**09 10 02.2**	**-0.6**
ANX	**Ano Chora**	**1.45**	**50**	P	**Pn**	**09 10 03.6**	**-0.7**
GUR	**Goura**	**1.48**	**79**	P	**Pn**	**09 10 04.2**	**-0.4**
OHR	**Ohrid**	**3.46**	**4**	*i* Pn	**Pn**	**09 10 34.4**	**+2.6**
VAY	**Valandovo**	**3.99**	**23**	*i* Pn	**Pn**	**09 10 42.0**	**+3.0**
IDI	**Anoyia**	**4.25**	**123**	LR	LR	09 12 03.8	
	comp=E,54nm,21.3s,baz=292,slow=34						
SOKA	**Soboth**	**9.89**	**337**	*e*Pn	**Pn**	**09 11 59.5**	**-0.6**
	comp=E,0.6nm,0.2s						
OBKA	**Obir**	**9.89**	**335**	*e*Pn	**Pn**	**09 11 59.5**	**-0.6**
	comp=E,0.4nm,0.2s						
ABTA	**Abfaltersbach**	**10.84**	**329**	*e*Pn	**Pn**	**09 12 12.7**	**-0.4**
	comp=E,0.6nm,0.4s						
MOA	**Molln**	**11.17**	**338**	*e*Pn	**Pn**	**09 12 18.5**	**+1.0**
	comp=E,0.6nm,0.3s						
HFS	**Hagfors**	**22.91**	**351**	P	**P**	**09 14 40.0**	**-1.5**
	comp=E,3.4nm,0.8s,baz=159,slow=11,SNR=2.4						
	comp=E,3.4nm,0.8s						
FINES	**FINESS Array B**	**24.06**	**7**	P	**P**	**09 14 49.7**	**-3.2**
	comp=E,2.3nm,0.8s,baz=186,slow=9.4,SNR=6.5						
	comp=E,2.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.62**	**219**	P	**P**	**09 15 46.1**	**+2.8**
	comp=E,0.3nm,0.7s,baz=25,slow=10,SNR=2.3						
	comp=E,0.3nm,0.7s						
ARTI	**Arti**	**31.35**	**41**	LR	LR	09 28 14.0	
	comp=E,56nm,21.0s,baz=332,slow=36						
MKAR	**Makanchi Array**	**45.58**	**58**	P	**P**	**09 17 56.9**	**-0.9**
	comp=E,0.3nm,0.6s,baz=279,slow=8.0,SNR=2.0						
	comp=E,0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**46.05**	**48**	P	**P**	**09 17 58.3**	**-3.0**
	comp=E,0.3nm,0.3s,baz=293,slow=7.4,SNR=1.3						
	comp=E,0.3nm,0.3s						

IDC 11 09:16:20.4±1.4, 15°.77N×148°.34E, h0km, mb3.3/3, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=83.7km s-min=24.8km az=119.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.00**	**238**	Pn	Pn	09 17 23.8	+0.8
	4.5nm,0.3s,baz=340,slow=21,SNR=7.4						
GUMO				Sn	Sn	09 18 04.8	-5.8
	6.6nm,0.3s,baz=20,slow=22,SNR=1.5						
	42nm,1.0s						
WRA	**Warramunga Arr**	**38.07**	**202**	P	P	09 23 40.1	-0.8
	0.2nm,0.3s,baz=24,slow=8.6,SNR=12						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**41.66**	**200**	P	P	09 24 11.4	+0.6
	0.2nm,0.4s,baz=11,slow=9.6,SNR=2.2						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**65.17**	**25**	P	P	09 27 03.1	0.0
	0.3nm,0.6s,baz=248,slow=5.8,SNR=6.8						
	0.3nm,0.6s						

IDC 11 09:28:03.8±12.0, 10°.82S×47°.17E, h0km, mb3.8/2, mbtmp3.7/3, ML2.8/1, MS4.3/23, Error ellipse: s-maj=1152.0km s-min=36.5km az=39.0, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**13.78**	**314**	Pn	Pn	09 31 21.7	+0.9
	baz=176,slow=13,SNR=1.4						
KMBO				Sn	Sn	09 33 53.9	-0.9
	0.2nm,0.3s,baz=120,slow=17,SNR=1.5						
KMBO				LR	LR	09 36 02.0	
	comp=Z,1μm,18.2s,baz=100,slow=35						
	0.4nm,0.4s						
MBAR	**Mbarara**	**19.23**	**301**	LR	LR	09 39 15.4	
	comp=Z,1μm,18.6s,baz=126,slow=35						
FURI	**Furi**	**21.33**	**336**	LR	LR	09 40 51.8	
	comp=Z,529nm,21.2s,baz=167,slow=36						
TORD	**Torodi Ar. Bea**	**51.03**	**297**	LR	LR	09 58 39.8	
	comp=Z,608nm,18.2s,baz=126,slow=36						
DBIC	**Dimbokro**	**54.62**	**286**	LR	LR	10 00 21.3	
	comp=Z,447nm,18.4s,baz=115,slow=36						
MAW	**Mawson**	**57.67**	**173**	LR	LR	09 58 55.4	
	comp=Z,526nm,18.3s,baz=339,slow=32						
CMAR	**Chiang Mai Arr**	**58.78**	**61**	LR	LR	10 02 44.4	
	comp=Z,348nm,18.2s,baz=240,slow=35						
AKTO	**Aktyubinsk**	**61.73**	**8**	LR	LR	10 07 50.4	
	comp=Z,216nm,19.4s,baz=189,slow=39						
MDT	**Midelt**	**65.72**	**313**	LR	LR	10 07 46.0	
	comp=Z,173nm,19.4s,baz=138,slow=36						
DAVOX	**Davos/Dischmat**	**66.32**	**333**	LR	LR	10 11 25.5	
	comp=Z,83nm,18.0s,baz=256,slow=39						
NWAO	**Narrogin (SRO)**	**67.50**	**121**	LR	LR	10 04 53.9	
	comp=Z,324nm,19.1s,baz=274,slow=33						
ARTI	**Arti**	**67.61**	**7**	LR	LR	10 12 01.1	
	comp=Z,147nm,19.2s,baz=192,slow=39						
SNAA	**Sanae**	**67.87**	**195**	LR	LR	10 05 26.0	
	comp=Z,454nm,18.4s,baz=12,slow=33						
ESDC	**Sonseca Array**	**69.07**	**320**	LR	LR	10 10 05.7	
	comp=Z,158nm,18.2s,baz=126,slow=36						
KIRV	**Kirov**	**69.19**	**1**	LR	LR	10 13 32.8	
	comp=Z,191nm,18.8s,baz=181,slow=39						
ZALV	**Zalesovo Beam**	**71.98**	**22**	LR	LR	10 11 43.7	
	comp=Z,75nm,18.1s,baz=228,slow=36						
RCBR	**Riachuelo**	**82.14**	**266**	LR	LR	10 13 33.8	
	comp=Z,174nm,18.2s,baz=84,slow=33						
ASAR	**Alice Springs**	**82.77**	**113**	P	P	09 40 30.1	-0.3
	0.5nm,0.7s,baz=261,slow=5.2,SNR=9.1						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**83.75**	**109**	P	P	09 40 36.0	+0.5
	0.6nm,0.8s,baz=267,slow=4.3,SNR=3.9						
WRA				LR	LR	10 15 54.1	
	comp=Z,419nm,18.1s,baz=238,slow=34						
	0.6nm,0.8s						
JOW	**Kunigami**	**87.02**	**62**	LR	LR	10 18 42.1	
	comp=Z,45nm,19.8s,baz=264,slow=35						
STKA	**Stephens Creek**	**88.08**	**122**	LR	LR	10 16 00.6	
	comp=Z,78nm,18.7s,baz=209,slow=33						
JNU	**Nakatsue**	**90.64**	**57**	LR	LR	10 23 53.3	
	comp=Z,178nm,18.0s,baz=262,slow=37						
BDFB	**Brasilia**	**92.04**	**254**	LR	LR	10 18 10.8	
	comp=Z,330nm,18.0s,baz=124,slow=33						
CTA	**Charters Tower**	**94.71**	**111**	LR	LR	10 21 43.2	
	comp=Z,23nm,18.6s,baz=272,slow=34						

UPA 11 09:37:54.3±1.4, 8°.68N×83°.19W, h0km±8km, MW4.1, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	**Carate, Puerto**	**0.31**	**208**	*e*P	Pg	09 38 00.8	+0.6
PIRO				*e*S	Sg	09 38 06.3	+2.0
BRU2	**Volcan**	**0.51**	**77**	*e*P	Pb	09 38 06.3	+0.1
BRU2				*e*S	Sb	09 38 15.4	+1.2
PTPM	**Petroterminale**	**0.56**	**147**	*e*P	Pb	09 38 07.6	+0.5
PTPM				*e*S	Sb	09 38 15.8	+0.2
BCO2	**Palmira**	**0.66**	**87**	↓*i*P	Pb	09 38 08.3	-0.4
BCO2				*e*S	Sb	09 38 19.2	+0.7
LNBQ3	**Los Naranjos,**	**0.75**	**81**	*e*P	Pb	09 38 09.7	-0.7
CNI2	**El Empalme, Bo**	**1.02**	**44**	*e*P	Pg	09 38 13.0	-1.0
CNI2				*e*S	Sb	09 38 29.5	+0.5

IDC 11 10:16:06.9±1.4, 3°.56S×101°.53E, h0km, mb3.8/10, mbtmp3.8/10, Error ellipse: s-maj=57.9km s-min=17.7km az=53.0
DJA 11 10:16:12.3±0.4, 4°.S±6°.×10°.1E±°., h10km, M3.8/7, MLv3.8/7

ISC 11 10:16:13.7±1.0, 3°.7S±0°.2×101°.4E±0°.1, h50km, n28, σ1§11/17, mb3.9/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.66**	**302**	P	**Pn**	**10 16 41.1**	**+0.7**
MNAI	**Manna**	**1.69**	**115**	P	**Pn**	**10 16 41.7**	**+0.9**
PDSI	**Padang**	**2.89**	**341**	P	**Pn**	**10 16 58.9**	**+1.6**
LWLI	**Liwa**	**2.96**	**117**	P	**Pn**	**10 17 00.0**	**+1.7**
SISI	**Saibi**	**3.28**	**315**	P	**Pn**	**10 17 02.8**	**+0.2**
SISI				S	**Sn**	**10 17 42.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**22.11**	**354**	P	**P**	**10 21 04.9**	**-0.1**
	0.4nm,0.3s,baz=180,slow=9.7,SNR=1.4						
	0.4nm,0.3s						
H08S2	**Diego Garcia H**	**29.05**	**261**	T	T	10 51 56.7	
	baz=84,slow=76,SNR=29						
H08S3	**Diego Garcia H**	**29.06**	**261**	T	T	10 51 54.2	
	baz=84,slow=76,SNR=33						
H08S1	**Diego Garcia H**	**29.07**	**261**	T	T	10 51 56.1	
	baz=84,slow=76,SNR=21						
H01W3	**Cape Leeuwin H**	**33.24**	**161**	T	T	10 57 05.4	
	baz=338						
H01W2	**Cape Leeuwin H**	**33.25**	**161**	T	T	10 57 07.9	
	baz=338						
H01W1	**Cape Leeuwin H**	**33.25**	**161**	T	T	10 57 11.9	
	baz=338						
WRA	**Warramunga Arr**	**35.95**	**119**	P	**P**	**10 23 09.2**	**-0.6**
	0.4nm,0.4s,baz=306,slow=9.4,SNR=16						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**37.14**	**125**	P	**P**	**10 23 19.4**	**-0.5**
	0.6nm,0.3s,baz=301,slow=8.0,SNR=32						
	0.6nm,0.3s						
SONM	**Songino Array**	**51.46**	**4**	P	**P**	**10 25 13.5**	**-0.6**
	0.7nm,0.5s,baz=213,slow=6.3,SNR=4.3						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**53.00**	**344**	P	**P**	**10 25 24.9**	**-0.5**
	1.2nm,0.4s,baz=154,slow=9.4,SNR=16						
	1.2nm,0.4s						
USRK	**Ussuriysk Ar.**	**54.97**	**27**	P	**P**	**10 25 38.8**	**-1.0**
	0.9nm,0.7s,baz=257,slow=2.6,SNR=4.4						
	0.9nm,0.7s						
KURBB	**Kurchatov Arra**	**57.53**	**343**	P	**P**	**10 25 56.9**	**-1.0**
	0.2nm,0.3s,baz=164,slow=7.1,SNR=5.8						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**59.05**	**349**	P	**P**	**10 26 07.2**	**-1.3**
	1.0nm,0.4s,baz=188,slow=7.1,SNR=5.7						
	1.0nm,0.4s						
H04N2	**CROZET ISLANDS**	**60.34**	**218**	T	T	11 31 02.2	
	baz=61,slow=75,SNR=61						
H04N1	**CROZET ISLANDS**	**60.35**	**218**	T	T	11 31 03.9	
	baz=61,slow=75,SNR=57						
H04N3	**CROZET ISLANDS**	**60.35**	**218**	T	T	11 31 03.2	
	baz=61,slow=75,SNR=54						
H04S1	**CROZET ISLANDS**	**60.60**	**217**	T	T	11 31 36.3	
	baz=59,slow=75,SNR=2.9						
H04S3	**CROZET ISLANDS**	**60.61**	**217**	T	T	11 31 34.5	
	baz=59,slow=75,SNR=10						
H04S2	**CROZET ISLANDS**	**60.62**	**217**	T	T	11 31 53.2	
	baz=59,slow=75,SNR=4.8						
BVAR	**Borovoye Array**	**62.22**	**339**	P	**P**	**10 26 29.6**	**-0.5**
	0.5nm,0.4s,baz=150,slow=6.8,SNR=3.4						
	0.5nm,0.4s						
BRTR	**Keskin Array B**	**75.48**	**312**	P	**P**	**10 27 54.6**	**+1.6**
	0.6nm,0.8s,baz=52,slow=9.3,SNR=2.4						
	0.6nm,0.8s						
TXAR	**Lajitas Array**	**145.09**	**40**	PKP	**PKPdf**	**10 35 46.0**	**-0.5**
	0.6nm,0.5s,baz=273,slow=0.7,SNR=16						

IDC 11 10:23:26.3±6.8, 22°.54S×178°.38W, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=175.7km s-min=37.0km az=34.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.62**	**247**	P	P	10 30 34.5	0.0
	0.4nm,0.4s,baz=83,slow=16,SNR=1.4						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**43.74**	**259**	P	P	10 31 33.8	0.0
	1.9nm,0.7s,baz=96,slow=7.4,SNR=36						
	1.9nm,0.7s						
WRA	**Warramunga Arr**	**44.01**	**264**	P	P	10 31 36.1	+0.2
	1.8nm,0.4s,baz=102,slow=8.3,SNR=82						
	1.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**52.44**	**264**	P	P	10 32 40.4	-0.7
	2.8nm,0.8s,baz=108,slow=6.8,SNR=10						
	2.8nm,0.8s						
QSPA	**South Pole Qui**	**67.54**	**180**	P	P	10 34 24.4	+0.1
	0.6nm,0.7s,baz=238,slow=0.7,SNR=7.0						
	0.6nm,0.7s						

DJA 11 10:32:37.2±0.6, 8°.S±7°.×12°.8E±°., h136km±27km, M4.5/7, mb4.4/3, MLv4.5/7

ISC 11 10:32:38.5±1.1, 7°.5S±0°.1×127°.72E±0°.09, h162km, n20, σ1§72/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**4.06**	**237**	P	**Pn**	**10 33 39.1**	**-0.9**
SOEI	**Soe**	**4.06**	**237**	P	**Pn**	**10 33 38.7**	**-1.3**
BATI	**Baumata**	**4.80**	**236**	P	**Pn**	**10 33 48.6**	**-1.0**
FAKI	**Fak Fak**	**6.44**	**45**	P	**Pn**	**10 34 10.6**	**-0.6**
FAKI	**Fak Fak**	**6.44**	**45**	P	**Pn**	**10 34 10.3**	**-0.9**
	9.8nm,0.6s,0.1nm						
KDU	**Kakadu**	**6.93**	**138**	P	**Pn**	**10 34 14.6**	**-3.1**
BASI	**Baing, Sumba**	**7.54**	**249**	P	**Pn**	**10 34 23.0**	**-2.8**
PLAI	**Plampang**	**9.92**	**262**	P	**Pn**	**10 34 57.9**	**+0.4**
	27nm,0.9s						
FITZ	**Fitzroy Crossi**	**10.69**	**191**	P	**Pn**	**10 35 04.2**	**-3.2**
COEN	**Coen**	**16.46**	**114**	P	**Pn**	**10 36 21.5**	**+1.0**
AS01	**Alice Springs**	**17.11**	**160**	P	**Pn**	**10 36 27.9**	**-0.3**
QIS	**Mount Isa**	**17.31**	**140**	P	**Pn**	**10 36 31.1**	**+0.4**
WRKA	**Warakurna**	**17.41**	**178**	P	**Pn**	**10 36 31.9**	**+0.2**
MEEK	**Meekatharra**	**20.87**	**203**	P	**P**	**10 37 08.8**	**+0.8**
OOD	**Oodnadatta**	**21.51**	**160**	P	**P**	**10 37 15.8**	**+1.0**
FORT	**Forrest**	**23.12**	**179**	P	**P**	**10 37 32.2**	**+1.9**
MULG	**Mulgathing**	**23.39**	**166**	P	**P**	**10 37 34.4**	**+1.6**
INKA	**Innaminka**	**23.57**	**150**	P	**P**	**10 37 36.5**	**+2.0**
LCRK	**Leigh Creek**	**24.82**	**158**	P	**P**	**10 37 47.4**	**+1.6**
BBOO	**Buckleboo**	**26.31**	**164**	P	**P**	**10 38 00.5**	**+1.3**

DSN 11 10:36:05.9±1.6, 27°.30N×56°.37E, h15km, ML3.2/9, Error ellipse: s-maj=40.7km s-min=14.7km az=95.0
TEH 11 10:36:05.4, 27°.18N×56°.24E, h13km±28km, ML3.3
OMAN 11 10:36:06.9±0.1, 27°.23N×56°.31E, h15km±1km, mb3.8/6, ml3.1/17, Error ellipse: s-maj=2.0km s-min=1.1km az=348.0

ISC 11 10:36:06.1±1.0, 27°.19N±0°.03×56°.23E±0°.05, h13km±8km, n53, σ1§30/67, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.21**	**347**	Pg	**Pg**	**10 36 11.0**	**+0.1**
GENO				Sg	**Sg**	**10 36 14.4**	**+0.2**
IBND	**Bandar-abas**	**0.38**	**47**	Pg	**Pg**	**10 36 13.5**	**-0.2**
SHME	**Shamm**	**1.14**	**184**	*e*P	**Pg**	**10 36 28.2**	**+0.2**
	SNR=6.8						
SHME	**Shamm**	**1.14**	**184**	P	**Pg**	**10 36 28.2**	**+0.2**
	SNR=38						
SHME				S	**Sg**	**10 36 44.6**	**+1.8**
BANOM	**Banah**	**1.26**	**177**	P	**Pn**	**10 36 29.8**	**+0.2**
BANOM	**Banah**	**1.26**	**177**	P	**Pb**	**10 36 30.4**	**+0.6**
BANOM				S	**Sg**	**10 36 48.3**	**+1.5**
KHNJ	**Kahnooj**	**1.52**	**60**	Pg	**Pn**	**10 36 33.0**	**0.0**
LAR1	**LAR**	**1.71**	**287**	Pg	**Pb**	**10 36 36.7**	**-0.8**
UMQ	**Umm Al-Quwin**	**1.73**	**197**	P	**Pb**	**10 36 37.1**	**-0.7**
MASF	**Masafi**	**1.81**	**182**	P	**Pb**	**10 36 38.6**	**-0.6**
	SNR=14						
MASF				S	**Sg**	**10 37 03.1**	**-1.3**
MSFE	**Esma-Masafi**	**1.82**	**182**	*e*P	**Pn**	**10 36 37.0**	**-0.2**
	SNR=26						
MSFE				S	**Sb**	**10 37 03.1**	**+0.9**
MDH	**Madha**	**1.88**	**178**	*e*P	**Pn**	**10 36 37.8**	**-0.3**
	SNR=16						
MDH	**Madha**	**1.88**	**178**	P	**Pn**	**10 36 38.9**	**+0.9**
MDH				S	**Sn**	**10 37 02.4**	**+0.7**
JASK	**Jask - Hormozg**	**1.97**	**131**	P	**Pn**	**10 36 39.4**	**+0.2**
UOSS	**Minazif**	**2.23**	**180**	P	**Pn**	**10 36 43.6**	**+0.8**
UOSS	**Minazif**	**2.23**	**180**	Pn	**Pn**	**10 36 43.7**	**+0.9**
UOSS	**Minazif**	**2.23**	**180**	P	**Pn**	**10 36 44.0**	**+1.1**
UOSS				S	**Sb**	**10 37 12.7**	**-1.3**
NAZ	**Nazwa, Dubai**	**2.25**	**193**	P	**Pb**	**10 36 45.9**	**-0.7**
HATD	**Hatta, Dubai**	**2.36**	**182**	*e*P	**Pn**	**10 36 45.9**	**+1.4**
	SNR=10						
HATD	**Hatta, Dubai**	**2.36**	**182**	P	**Pn**	**10 36 46.0**	**+1.5**
HATD				S	**Sb**	**10 37 15.7**	**-1.8**
ASHO	**Ashiyiah**	**2.50**	**183**	*e*P	**Pn**	**10 36 48.2**	**+1.6**
	SNR=14						
ASHO	**Ashiyiah**	**2.50**	**183**	P	**Pn**	**10 36 48.0**	**+1.5**
	SNR=14						
ASHO				S	**Sb**	**10 37 20.3**	**-1.3**
FAQ	**Al Faqa, Dubai**	**2.50**	**193**	*e*P	**Pn**	**10 36 47.7**	**+1.2**
	SNR=9.3						
FAQ	**Al Faqa, Dubai**	**2.50**	**193**	P	**Pn**	**10 36 48.0**	**+1.6**
	SNR=9.3						
FAQ				S	**Sb**	**10 37 20.4**	**-1.2**
ASUD	**Al Ashush, Dub**	**2.68**	**198**	*e*P	**Pb**	**10 36 52.0**	**-1.9**
	SNR=7.5						
ASUD	**Al Ashush, Dub**	**2.68**	**198**	P	**Pn**	**10 36 51.3**	**+2.4**
	SNR=6.7						
ASUD				S	**Sb**	**10 37 24.0**	**-2.7**
KBAM	**BAM**	**2.76**	**45**	Pn	**Pn**	**10 36 51.6**	**+1.5**
TVBK	**TV Kerman**	**2.83**	**9**	Pn	**Pn**	**10 36 51.9**	**+0.6**
AJN	**Ajban**	**2.84**	**203**	P	**Pn**	**10 36 53.8**	**+2.6**
AJN				S	**Sn**	**10 37 26.8**	**+1.5**
CHMN	**Cheshme madani**	**2.90**	**23**	Pn	**Pn**	**10 36 53.6**	**+1.3**
SOHO	**SOHO**	**3.06**	**175**	P	**Pn**	**10 36 56.6**	**+2.5**
SOHO	**SOHO**	**3.06**	**175**	P	**Pn**	**10 36 54.9**	**+0.8**
ALNE	**Al Ain**	**3.15**	**188**	P	**Pn**	**10 36 57.1**	**+1.6**
KHGB	**Koh Gabri**	**3.18**	**4**	Pn	**Pn**	**10 36 57.6**	**+1.5**
ARQ	**Araqi**	**3.85**	**176**	P	**Pn**	**10 37 06.3**	**+1.3**
	SNR=8.8						
IMEH	**Mehriz**	**4.42**	**342**	Pn	**Pn**	**10

PB01				*e*S	**S**	**10 45 01.9**	**-1.3**
PB01				IAML		10 45 04.4	
	comp=Z,117nm,0.2s						
PB04	**IPOC Station P**	**3.58 280**	⇑	*i*P	**Pn**	**10 44 18.6**	**+1.0**
PB04	**IPOC Station P**	**3.58 280**		*e*P	**Pn**	**10 44 18.8**	**+1.2**
PB04				*e*S	**S**	**10 45 02.8**	**-2.0**
PB04				IAML		10 45 06.1	
	comp=Z,140nm,0.2s						
GO02	**Mina Guanaco**	**3.66 233**		*e*P	**Pn**	**10 44 19.8**	**+1.2**
GO02	**Mina Guanaco**	**3.66 233**		*e*P	**Pn**	**10 44 19.9**	**+1.2**
GO02				*e*S	**S**	**10 45 06.9**	**+0.3**
PB08	**IPOC Station P**	**3.87 317**	⇓	*i*P	**Pn**	**10 44 23.1**	**+1.9**
PB08	**IPOC Station P**	**3.87 317**		*e*P	**Pn**	**10 44 23.1**	**+1.9**
PB08				*e*S	**S**	**10 45 11.2**	**0.0**
PB08				IAML		10 45 12.2	
	comp=Z,34nm,0.3s						
PB14	**IPOC Station P**	**4.05 246**		*e*P	**Pn**	**10 44 24.1**	**+1.0**
PB14				*e*S	**S**	**10 45 13.3**	**-1.4**
PB14				IAML		10 45 16.4	
	comp=Z,59nm,0.4s						
PATCX	**Punta Patache**	**4.15 301**		*e*P	**Pn**	**10 44 25.3**	**+1.1**
PATCX				*e*S	**S**	**10 45 14.1**	**-2.5**
PATCX				IAML		10 45 15.3	
	comp=Z,36nm,0.2s						
PB11	**IPOC Station P**	**4.47 316**		*e*P	**Pn**	**10 44 28.4**	**+0.5**
PB11				*e*S	**S**	**10 45 21.2**	**-2.3**
PB11				IAML		10 45 23.3	
	comp=Z,77nm,0.2s						
AC01	**Pan de Azucar**	**4.97 230**		*e*P	**Pn**	**10 44 34.1**	**+0.3**
AC01				*e*S	**S**	**10 45 31.2**	**-3.1**
AC01				IAML		10 45 34.1	
	comp=Z,17nm,1.2s						

*TEH **11** 10:50:39.6,27.°17N×56.°28E,h10km±126km,ML3.2*
*OMAN **11** 10:50:40.8±0.4,27.°31N×56.°61E,h26km±17km,mb3.1/3, ml3.1/9,Error ellipse: s-maj=23.0km s-min=3.2km az=1.0*
*DSN **11** 10:50:42.7±1.0,27.°12N×56.°40E,h15km,ML3.0/8,Error ellipse: s-maj=29.2km s-min=8.2km az=104.0*
ISC 11 10:50:40.4±1.2,27.°36N±0.°05×56.°34E±0.°06,h30km±9km, n30,σ1§47/43,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.15**	**285**	Pg	**Pb**	**10 50 45.1**	**-1.2**
IBND	**Bandar-abas**	**0.20**	**64**	Pg	**Pb**	**10 50 47.6**	**+1.0**
SHME	**Shamm**	**1.32**	**188**	P	**Pn**	**10 51 02.4**	**-0.4**
SHME				S	**Sn**	**10 51 18.4**	**-0.9**
SHME	**Shamm**	**1.32**	**188**	P	**Pn**	**10 51 02.4**	**-0.4**
	SNR=6.7						
SHME				S	**Sn**	**10 51 19.0**	**-0.3**
KHNJ	**Kahnooj**	**1.35**	**64**	Pg	**Pb**	**10 51 07.0**	**+2.0**
BANOM	**Banah**	**1.43**	**181**	P	**Pn**	**10 51 04.2**	**-0.2**
BANOM	**Banah**	**1.43**	**181**	P	**Pn**	**10 51 04.5**	**+0.1**
BANOM				S	**Sn**	**10 51 22.4**	**+0.1**
MASF	**Masafi**	**1.99**	**185**	P	**Pn**	**10 51 12.8**	**+0.7**
MASF				S	**Sn**	**10 51 37.1**	**+1.1**
MSFE	**Esma-Masafi**	**2.00**	**185**	P	**Pn**	**10 51 12.5**	**+0.3**
JASK	**Jask - Hormozg**	**2.02**	**137**	Pn	**Pb**	**10 51 15.3**	**-1.2**
MDH	**Madha**	**2.06**	**181**	P	**Pn**	**10 51 13.6**	**+0.7**
MDH	**Madha**	**2.06**	**181**	P	**Pn**	**10 51 13.1**	**+0.1**
MDH				S	**Sn**	**10 51 38.7**	**+1.1**
NGRK	**Negar Kerman**	**2.30**	**9**	Pn	**Pb**	**10 51 21.4**	**0.0**
UOSS	**Minazif**	**2.41**	**183**	Pn	**Pn**	**10 51 17.8**	**0.0**
UOSS	**Minazif**	**2.41**	**183**	P	**Pn**	**10 51 18.0**	**+0.2**
UOSS				S	**Sn**	**10 51 47.5**	**+1.2**
NAZ	**Nazwa, Dubai**	**2.44**	**195**	P	**Pn**	**10 51 20.0**	**+1.7**
NAZ				S	**Sn**	**10 51 50.1**	**+3.0**
HATD	**Hatta, Dubai**	**2.53**	**184**	P	**Pn**	**10 51 21.3**	**+1.7**
HATD	**Hatta, Dubai**	**2.53**	**184**	P	**Pn**	**10 51 21.2**	**+1.7**
	SNR=7.8						
HATD				S	**Sn**	**10 51 51.5**	**+2.1**
KBAM	**BAM**	**2.57**	**46**	Pn	**Pb**	**10 51 26.0**	**+0.2**
ASHO	**Ashiyiah**	**2.68**	**185**	P	**Pn**	**10 51 21.9**	**+0.4**
ASHO	**Ashiyiah**	**2.68**	**185**	P	**Pn**	**10 51 22.4**	**+0.8**
	SNR=6.6						
ASHO				S	**Sn**	**10 51 54.5**	**+1.5**
FAQ	**Al Faqa, Dubai**	**2.69**	**195**	P	**Pn**	**10 51 22.6**	**+0.9**
FAQ	**Al Faqa, Dubai**	**2.69**	**195**	P	**Pn**	**10 51 22.9**	**+1.3**
FAQ				S	**Sn**	**10 51 55.3**	**+2.1**
CHMN	**Cheshme madani**	**2.71**	**23**	Pn	**Pb**	**10 51 27.5**	**-0.8**
ASUD	**Al Ashush, Dub**	**2.87**	**199**	P	**Pn**	**10 51 25.3**	**+1.1**
KHGB	**Koh Gabri**	**3.01**	**2**	Pn	**Pb**	**10 51 31.8**	**-1.6**
ALNE	**Al Ain**	**3.33**	**189**	P	**Pn**	**10 51 31.2**	**+0.7**
ALNE				S	**Sn**	**10 52 10.3**	**+1.2**
JLN	**Jalan Bani Buh**	**5.89**	**151**	P	**Pn**	**10 52 05.5**	**-0.2**
JLN				S	**Sn**	**10 53 07.8**	**-4.5**
MHTO	**MHTO**	**6.52**	**166**	P	**Pn**	**10 52 14.4**	**+0.1**
MHTO				S	**Sn**	**10 53 24.3**	**-3.4**
WHFO	**Wadi Hawf**	**9.69**	**195**	P	**Pn**	**10 52 57.3**	**-0.6**
	SNR=7.7						

*MOS **11** 10:50:46.9±0.9,37.°47N×72.°19E,h206km,mb4.1/15,Error ellipse: s-maj=9.8km s-min=4.5km az=85.9*
*IDC **11** 10:50:46.1±2.2,37.°35N×72.°28E,h188km±20km,mb3.6/15, mbtmp4.3/22,Error ellipse: s-maj=16.3km s-min=13.7km az=4.0*
*BJI **11** 10:50:46.4,37.°50N×72.°17E,h208km,mb4.4/10,mB4.8/4*
*NEIC **11** 10:50:47.9±0.7,37.°48N±0.°06×72.°18E±0.°10,h199km±4km, mb4.4/33,Error ellipse: s-maj=11.5km s-min=8.8km az=89.0*
*NNC **11** 10:50:51.5±2.8,37.°82N×72.°16E,h194km±30km,mb3.5, mpv4.2,Error ellipse: s-maj=27.9km s-min=14.6km az=8.0*
ISC 11 10:50:47.1±0.4,37.°42N±0.°04×72.°23E±0.°05,h200km,n156, σ1§71/173,mb4.2/39,12C-12D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**2.09**	**351**		**Pn**	**10 51 27.4**	**+0.6**
DRK	**Karamyk**	**2.09**	**351**	PN	**Pn**	**10 51 27.4**	**+0.6**
GAR	**Garm**	**2.18**	**317**	Pn	**Pn**	**10 51 27.7**	**+0.1**
SIMJ	**Simiganj**	**2.83**	**297**	Pn	**Pn**	**10 51 34.6**	**-0.3**
BTK	**Batken**	**2.86**	**338**	Pn	**Pn**	**10 51 36.2**	**+1.1**
BTK	**Batken**	**2.86**	**338**	PN	**Pn**	**10 51 36.2**	**+1.1**
KSH	**Kashi**	**3.61**	**53**	P	**Pn**	**10 51 40.0**	**-4.2**
KSH				S	Sn	10 52 17.6	-11
NIL	**Nilore**	**3.85**	**167**	Pn	**Pn**	**10 51 49.1**	**+1.9**
NIL	**Nilore**	**3.85**	**167**	PN	**Pn**	**10 51 49.1**	**+1.9**
KBL	**Kabul**	**3.86**	**223**	Pn	**Pn**	**10 51 48.2**	**+0.8**
KBL	**Kabul**	**3.86**	**223**	PN	**Pn**	**10 51 48.2**	**+0.8**
SRNI	**Srinagar**	**3.94**	**146**	*e*S	**Sn**	**10 52 34.1**	**-1.9**
SRNI				IAML		10 52 38.2	
	comp=N,1μm,0.3s						
SRNI				IAML		10 52 39.4	
	comp=E,2μm,0.1s						
ARSB	**Arslanbob**	**3.94**	**8**		**Pn**	**10 51 47.9**	**-0.4**
ARSB	**Arslanbob**	**3.94**	**8**	PN	**Pn**	**10 51 47.9**	**-0.4**
AML	**Almayashu**	**4.84**	**13**	P	**Pn**	**10 51 59.8**	**-0.1**
	SNR=287						
NRN	**Naryn**	**4.96**	**35**	Pn	**Pn**	**10 52 00.2**	**-1.1**
NRN	**Naryn**	**4.96**	**35**	PN	**Pn**	**10 52 00.2**	**-1.1**
UCH	**Uchtor**	**5.12**	**19**	P	**Pn**	**10 52 03.7**	**+0.4**
	SNR=8.4						
JMU	**Jammu**	**5.18**	**154**	*e*P	**Pn**	**10 52 04.9**	**+1.1**
JMU				*e*S	**Sn**	**10 53 01.9**	**-2.4**
JMU				IAML		10 53 08.2	
	comp=E,680nm,0.6s						
JMU				IAML		10 53 09.0	
	comp=N,439nm,0.4s						
EKS2	**Erkin-Say**	**5.37**	**12**	P	**Pn**	**10 52 06.6**	**+0.3**
	SNR=29						
AAK	**Ala-Archa**	**5.50**	**18**	P	**Pn**	**10 52 08.5**	**+0.5**
	SNR=71						
AAK	**Ala-Archa**	**5.50**	**18**	P	**Pn**	**10 52 08.4**	**+0.5**
	comp=N,41nm,0.3s,baz=186,slow=5.8,SNR=128						
AAK				S	**Sn**	**10 53 10.2**	**-1.6**
	comp=N,103nm,0.5s,baz=8.4,slow=19,SNR=18						
KBK	**Karagaybulak**	**5.63**	**21**	P	**Pn**	**10 52 10.8**	**+1.0**
	SNR=17						
FRU1	**Bishkek**	**5.69**	**18**		**Pn**	**10 52 10.6**	**+0.2**
FRU1	**Bishkek**	**5.69**	**18**	PN	**Pn**	**10 52 10.6**	**+0.2**
ULHL	**Ulahol**	**5.72**	**31**	P	**Pn**	**10 52 10.9**	**-0.1**
	SNR=21						
BOOM	**Boomskoye usch**	**5.81**	**28**		**Pn**	**10 52 12.1**	**+0.1**
BOOM	**Boomskoye usch**	**5.81**	**28**	PN	**Pn**	**10 52 12.1**	**+0.1**
KK31	**Karatay Array**	**5.83**	**348**	⇓P	**Pn**	**10 52 11.7**	**-0.4**
	comp=N,23nm,0.3s,baz=164,slow=11,SNR=484						
KK31				⇑S	**Sn**	**10 53 14.0**	**-5.4**
	comp=N,62nm,0.3s,baz=172,slow=24,SNR=17						
KK31	**Karatay Array**	**5.83**	**348**	PN	**Pn**	**10 52 11.5**	**-0.6**
KKAR	**Karatay Array**	**5.83**	**348**		**Pn**	**10 52 11.7**	**-0.4**
KKAR	**Karatay Array**	**5.83**	**348**	Pn	**Pn**	**10 52 11.9**	**-0.2**
KKAR	**Karatay Array**	**5.83**	**348**	PN	**Pn**	**10 52 11.7**	**-0.4**
CHMS	**Chumysh**	**5.90**	**18**	P	**Pn**	**10 52 13.1**	**+0.1**
	SNR=7.4						
CHMS	**Chumysh**	**5.90**	**18**	⇑P	**Pn**	**10 52 13.3**	**+0.3**
	comp=N,6.8nm,0.3s						
CHMS				⇓S	**Sn**	**10 53 17.7**	**-3.3**
	comp=N,121nm,0.7s						
CHMS	**Chumysh**	**5.90**	**18**	PN	**Pn**	**10 52 13.3**	**+0.3**
KDJ	**Kajisay**	**6.06**	**37**		**Pn**	**10 52 15.6**	**+0.4**
KDJ	**Kajisay**	**6.06**	**37**	PN	**Pn**	**10 52 15.6**	**+0.4**
TKM2	**Tokmak 2**	**6.07**	**24**	P	**Pn**	**10 52 15.7**	**+0.2**
	SNR=27						
TKM2	**Tokmak 2**	**6.07**	**24**	⇑P	**Pn**	**10 52 15.3**	**-0.1**
	comp=N,9.1nm,0.5s						
TKM2				⇓S	**Sn**	**10 53 22.1**	**-3.2**
	comp=N,17nm,0.6s						
TKM2	**Tokmak 2**	**6.07**	**24**	*i* PN	**Pn**	**10 52 15.2**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.4s						
TARG	**Taragay, Kyrgy**	**6.09**	**43**		**Pn**	**10 52 15.6**	**-0.2**
TARG	**Taragay, Kyrgy**	**6.09**	**43**	PN	**Pn**	**10 52 15.6**	**-0.2**
USP	**Ospenovka**	**6.09**	**16**	P	**Pn**	**10 52 15.2**	**-0.4**
	SNR=20						
DHRM	**DHARAMSHALA**	**6.15**	**146**	*e*P	**Pn**	**10 52 16.9**	**+0.4**
DHRM				*e*S	**Sn**	**10 53 23.5**	**-3.7**
DHRM				IAML		10 53 26.5	
	comp=E,660nm,0.7s						
DHRM				IAML		10 53 29.6	
	comp=E,703nm,0.4s						
WUS	**Wushi**	**6.60**	**53**		**Pn**	**10 52 22.0**	**-0.3**
MDOK	**Medeo**	**6.82**	**31**	⇓P	**Pn**	**10 52 24.9**	**-0.2**
	comp=E,14nm,0.5s						
MDOK	**Medeo**	**6.82**	**31**	PN	**Pn**	**10 52 24.8**	**-0.2**
BHK	**Bhakra**	**6.91**	**149**	*e*P	**Pn**	**10 52 26.6**	**+0.4**
BHK				*e*S	**Sn**	**10 53 41.5**	**-3.5**
BHK				IAML		10 53 43.8	
	comp=N,154nm,0.4s						
BHK				IAML		10 53 43.9	
	comp=E,289nm,0.4s						
HNLY	**HANLEY**	**7.21**	**128**	*e*P	**Pn**	**10 52 30.8**	**+0.2**
HNLY				*ex*	**Sn**	**10 53 50.1**	**-2.5**
HNLY				IAML		10 53 53.6	
	comp=E,38nm,1.1s						
SMLA	**Simla**	**7.49**	**145**	*e*P	**Pn**	**10 52 33.6**	**-0.1**
SMLA				*e*S	**Sn**	**10 53 53.9**	**-4.5**
SMLA				IAML		10 53 57.3	
	comp=E,617nm,0.4s						
SMLA				IAML		10 53 58.2	
	comp=E,282nm,0.1s						
KLP	**Kalpa**	**7.69**	**138**	*e*P	**Pn**	**10 52 37.0**	**+0.3**
KLP				*e*S	**Sn**	**10 53 56.6**	**-7.2**
KLP				IAML		10 54 03.2	
	comp=N,135nm,0.4s						
DDI	**Dehra Dun**	**8.57**	**144**	*e*P	**Pn**	**10 52 48.1**	**+0.2**
DDI				*e*S	**Sn**	**10 54 17.9**	**-6.4**
DDI				IAML		10 54 28.9	
	comp=E,206nm,0.4s						
DDI				IAML		10 54 30.0	
	comp=E,356nm,0.1s						
KUDL	**Kundal**	**9.92**	**158**	*ex*	**Pn**	**10 53 03.4**	**-1.9**
SONA	**Sohna**	**10.01**	**155**	*e*P	**Pn**	**10 53 08.2**	**+1.6**
AJM	**Ajmer**	**11.10**	**169**	*e*S	**Sn**	**10 55 17.9**	**-6.5**
MAKZ	**Makanchi**	**11.84**	**35**	⇑P	**Pn**	**10 53 27.9**	**-1.9**
	comp=E,2.8nm,0.5s						
MAKZ	**Makanchi**	**11.84**	**35**	Pn	**Pn**	**10 53 28.8**	**-1.1**
MAKZ	**Makanchi**	**11.84**	**35**	P	**Pn**	**10 53 28.8**	**-1.1**
MK31	**Makanchi Array**	**11.97**	**35**	⇑P	**Pn**	**10 53 31.9**	**+0.3**
	comp=E,2.4nm,0.5s,baz=210,slow=13,SNR=36						
MK31	**Makanchi Array**	**11.97**	**35**		**Pn**	**10 53 31.9**	**+0.3**
MK31	**Makanchi Array**	**11.97**	**35**	*d i*P	**Pn**	**10 53 32.0**	**+0.5**
MKAR	**Makanchi Array**	**11.97**	**35**		**Pn**	**10 53 31.7**	**+0.1**
MKAR	**Makanchi Array**	**11.97**	**35**	P	**Pn**	**10 53 31.8**	**+0.2**
	comp=E,1.6nm,0.5s,baz=203,slow=11,SNR=15						
MKAR	**Makanchi Array**	**11.97**	**35**	*ce*P	**Pn**	**10 53 32.2**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WMQ	**Urumqi**	**13.37**	**57**	*e*P	**P**	**10 53 51.4**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,32nm,0.9s						
KURBB	**Kurchatov Arra**	**13.95**	**17**	⇑P	**P**	**10 53 57.9**	**-0.2**
	comp=Z,22nm,0.7s						
KURBB	**Kurchatov Arra**	**13.95**	**17**	P	**Pn**	**10 53 54.6**	**-1.6**
	comp=Z,3.6nm,0.3s,baz=202,slow=11,SNR=81						
KURK	**Kurchatov**	**14.06**	**17**	⇓P	**P**	**10 53 59.4**	**+0.1**
	comp=Z,23nm,0.8s						
KURK	**Kurchatov**	**14.06**	**17**	P	**P**	**10 53 58.6**	**-0.7**
KURK	**Kurchatov**	**14.06**	**17**	⇓*e*P	**Pn**	**10 53 58.4**	**+0.9**
AB31	**Akbulak array**	**14.80**	**327**	⇑P	**Pn**	**10 54 06.6**	**-0.2**
	comp=Z,4.2nm,0.4s,baz=140,slow=12,SNR=155						
AB31	**Akbulak array**	**14.80**	**327**	P	**Pn**	**10 54 05.5**	**-1.2**
ABKAR	**Akbulak array**	**14.80**	**327**	P	**Pn**	**10 54 06.8**	**0.0**
NRDN	**NARMADA NAGAR**	**15.26**	**162**	*ex*	**Pn**	**10 54 18.0**	**+5.5**
NRDN				*ex*	x	10 56 56.4	
BVA0	**Borovoye Array**	**15.66**	**356**	⇑P	**P**	**10 54 16.9**	**-0.2**
	comp=Z,9.8nm,0.9s						
BVA0	**Borovoye Array**	**15.66**	**356**	P	**P**	**10 54 16.9**	**-0.2**
BVAR	**Borovoye Array**	**15.66**	**356**	P	**P**	**10 54 16.3**	**-0.7**
	comp=Z,5.7nm,0.4s,baz=161,slow=9.9,SNR=46						
BVAR				S	**S**	**10 57 07.7**	**-3.0**
	comp=Z,2.4nm,0.5s,baz=169,slow=24,SNR=7.5						
BRVK	**Borovoye**	**15.70**	**356**		**Pn**	**10 54 18.0**	**+0.4**
BRVK				IAmb	IAmb	10 54 19.1	
	comp=Z,7.0nm,0.6s						
BRVK	**Borovoye**	**15.70**	**356**	P	**Pn**	**10 54 18.0**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AKTO	**Aktyubinsk**	**16.52**	**326**	⇑P	**P**	**10 54 27.1**	**+0.5**
	comp=Z,11nm,0.5s						
AKTO	**Aktyubinsk**	**16.52**	**326**	P	**P**	**10 54 26.6**	**0.0**
	comp=Z,22nm,0.4s,baz=124,slow=8.5,SNR=43						
AKTO				S	**S**	**10 57 23.6**	**-5.4**
	comp=Z,5.4nm,0.6s,baz=47,slow=22,SNR=7.4						
WSAR	**Wadi Sarin**	**18.34**	**223**	P	**P**	**10 54 47.0**	**+0.3**
	comp=Z,4.5nm,0.8s,baz=101,slow=7.3,SNR=3.1						
ZAA0	**Zalesovo Array**	**18.68**	**24**	P	**P**	**10 54 50.6**	**+0.7**
ZALV	**Zalesovo Beam**	**18.68**	**24**	P	**P**	**10 54 50.2**	**+0.2**
	comp=Z,46nm,0.6s,baz=221,slow=10.0,SNR=239						
SHL	**Shillong**	**20.46**	**120**	P	**P**	**10 55 10.2**	**+0.6**
SHL				IAmb	IAmb	10 55 12.6	
	comp=Z,6.9nm,0.6s						
SHL	**Shillong**	**20.46**	**120**	P	**P**	**10 55 10.2**	**+0.6**
SHL				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ARTI	**Arti**	**21.13**	**338**	P	**P**	**10 55 14.6**	**-1.6**
ARTI				IAmb	IAmb	10 55 20.0	
	comp=Z,9.5nm,0.9s						
ARTI	**Arti**	**21.13**	**338**	*d i*P	**P**	**10 55 14.4**	**-1.8**
ARTI				*PP	**pP**	**10 55 46.0**	**-4.8**
ARTI				S	**S**	**10 58 56.6**	**-2.3**
ARTI				pmax	pmax		
	comp=Z,17nm,1.4s						
BELG	**Belogornoye**	**22.82**	**319**	⇓*e*P	**P**	**10 55 33.2**	**+0.7**
BELG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIV	**Kislovodsk**	**23.26**	**296**	*e*P	**P**	**10 55 36.7**	**0.0**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MOY	**Mondy**	**24.76**	**46**	*e*P	**P**	**10 55 52.9**	**+2.6**
KIRV	**Kirov**	**25.86**	**332**	⇑*e*P	**P**	**10 56 00.8**	**+0.8**
SONM	**Songino Array**	**27.00**	**56**	P	**P**	**10 56 10.9**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=266,slow=8.6,SNR=7.1						
SONM	**Songino Array**	**27.00**	**56**	P	**P**	**10 56 12.0**	**+1.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,1.2s						
PZH	**PanZhiHua**	**27.20**	**105**	P	**P**	**10 56 14.7**	**+2.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.2s						
OBN	**Obninsk**	**29.90**	**318**	*e*P	**P**	**10 56 35.3**	**-0.6**
OBN				*e**PP	**pP**	**10 57 14.7**	**-2.8**
OBN				*e**SP	**sP**	**10 57 39.6**	**-1.5**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.06**	**122**	P	**P**	**10 56 38.5**	**+0.8**
	comp=Z,0.4nm,0.2s,baz=316,slow=11,SNR=1.5						
	comp=Z,0.4nm,0.2s						
BRTR	**Keskin Array B**	**30.11**	**286**	P	**P**	**10 56 39.3**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=88,slow=6.0,SNR=2.0						
	comp=Z,0.4nm,0.5s						
HHC	**Hu-ho-hao-te**	**30.53**	**71**	*e*P	**P**	**10 56 42.8**	**+1.0**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,65nm,3.9s						
NRIK	**Noril'sk**	**33.05**	**10**	P	**P**	**10 57 04.2**	**+0.9**
NRIK				IAmb	IAmb	10 57 31.6	
	comp=Z,21nm,1.4s						
NRIK	**Noril'sk**	**33.05**	**10**	P	**P**	**10 57 04.5**	**+1.3**
	comp=Z,2.0nm,0.3s,baz=198,slow=5.9,SNR=7.8						
	comp=Z,2.0nm,0.3s						
NRIK	**Noril'sk**	**33.05**	**10**	⇑*i*P	**P**	**10 57 04.9**	**+1.6**
NRIK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKASG	**Malin Array Be**	**33.15**	**308**	P	**P**	**10 57 05.1**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=110,slow=8.1,SNR=4.3						
	comp=Z,0.3nm,0.3s						
AKASG	**Malin Array Be**	**33.15**	**308**	*i* P	**P**	**10 57 06.0**	**+1.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FIA1	**FINESS Array S**	**37.28**	**325**	P	**P**	**10 57 39.7**	**+0.3**
FINES	**FINESS Array B**	**37.28**	**325**	P	**P**	**10 57 40.4**	**+1.0**
	comp=Z,1.9nm,0.3s,baz=119,slow=9.4,SNR=22						
	comp=Z,1.9nm,0.3s						
KEV	**Kevo**	**40.32**	**338**	P	**P**	**10 58 04.6**	**0.0**
KEV	**Kevo**	**40.32**	**338**	P	**P**	**10 58 04.6**	**0.0**
KEV				pmax	pmax		
	comp=Z,25nm,1.1s						
ARCES	**ARCESS Array B**	**40.68**	**337**	P	**P**	**10 58 08.8**	**+1.3**
	comp=Z,2.4nm,0.4s,baz=112,slow=8.2,SNR=38						
	comp=Z,2.4nm,0.4s						
ARCES	**ARCESS Array B**	**40.68**	**337**	P	**P**	**10 58 07.9**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,25nm,1.5s						
HEH	**HeiHe**	**40.91**	**54**	*e*P	**P**	**10 58 11.5**	**+1.9**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK	**Yakutsk**	**42.65**	**36**	⇓*e*P	**P**	**10 58 22.6**	**-0.9**
YAK				pmax	pmax		
	comp=Z,23nm,1.7s						
HFS	**Hagfors**	**42.96**	**321**	P	**P**	**10 58 26.8**	**+0.8**
	comp=Z,6.1nm,0.5s,baz=98,slow=11,SNR=27						
	comp=Z,6.1nm,0.5s						
CLL	**Collm**	**43.39**	**308**	*i* P	**P**	**10 58 33.2**	**+3.6**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NC405	**NORSAR Array S**	**44.01**	**323**	P	**P**	**10 58 34.7**	**+0.3**
NC405				IAmb	IAmb	10 58 50.7	
	comp=Z,14nm,1.1s						
NC303	**NORSAR Array S**	**44.19**	**323**	P	**P**	**10 58 36.1**	**+0.3**
NC303				IAmb	IAmb	10 59 12.5	
	comp=Z,14nm,1.2s						
NB2	**NORSAR Subarra**	**44.25**	**322**	P	**P**	**10 58 36.9**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.25**	**322**	P	**P**	**10 58 37.0**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=94,slow=7.6,SNR=9.0						
	comp=Z,1.5nm,0.5s						
TIXI	**Tiksi**	**44.55**	**22**	P	**P**	**10 58 39.3**	**+0.7**
TIXI	**Tiksi**	**44.55**	**22**	⇓*i*P	**P**	**10 58 39.1**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KONO	**Kongsberg**	**45.00**	**320**	P	**P**	**10 58 42.1**	**-0.2**
KONO				IAmb	IAmb	10 59 18.5	
	comp=Z,30nm,1.2s						
KONO	**Kongsberg**	**45.00**	**320**	P	**P**	**10 58 42.1**	**-0.2**
KONO				pmax	pmax		
	comp=Z,30nm,1.2s						
SPB2	**Spitsbergen Ar**	**46.82**	**346**	P	**P**	**10 58 56.5**	**+0.2**
SPITS	**Spitsbergen Ar**	**46.83**	**346**	P	**P**	**10 58 58.1**	**+1.7**
	comp=Z,11nm,0.9s,baz=121,slow=9.8,SNR=6.3						
	comp=Z,11nm,0.9s						
SPITS	**Spitsbergen Ar**	**46.83**	**346**	P	**P**	**10 58 57.6**	**+1.3**
SPITS				pmax	pmax		
	comp=Z,32nm,1.2s						
EKA	**Eskdalemuir Ar**	**52.31**	**316**	P	**P**	**10 59 38.3**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=82,slow=6.8,SNR=2.2						
	comp=Z,1.7nm,0.8s						
SEY	**Seymchan**	**53.11**	**34**	⇓*e*P	**P**	**10 59 46.7**	**+3.0**
SEY				pmax	pmax		
	comp=Z,16nm,1.6s						
TORD	**Torodi Ar. Bea**	**66.72**	**269**	P	**P**	**11 01 16.6**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=49,slow=6.0,SNR=20						
	comp=Z,1.3nm,0.4s						
C18K	**Utukok River**	**67.09**	**19**	P	**P**	**11 01 18.8**	**+0.3**
B22K	**Teshekpuk Lake**	**67.61**	**15**	P	**P**	**11 01 22.2**	**+0.6**
B22K				IAmb	IAmb	11 01 55.1	
	comp=Z

baz=255,slow=75,SNR=7.0
H11N3 WAKE ISLAND Hy 22.68 68 T T 11 23 12.7
baz=255,slow=75,SNR=7.6
JNU Nakatsue 24.14 331 P **P** **10 59 41.1 +0.3**
JNU IAmb IAmb 11 00 21.5
comp=Z,18nm,1.4s
NACB Ninganchiao 24.71 302 P **P** **10 59 44.2 -1.9**
NACB IAmb IAmb 11 00 05.7
comp=Z,14nm,0.9s
MJAR Matsushiro Arr 24.72 348 P **P** **10 59 46.0 -0.2**
comp=Z,1.4nm,0.8s,baz=173,slow=8.8,SNR=5.1
MJAR LR LR 11 07 50.4
comp=Z,84nm,18.2s,baz=178,slow=32
comp=Z,1.4nm,0.8s
ASAJ Asahikawa 31.66 357 LR LR 11 15 23.4
comp=Z,17nm,18.6s,baz=168,slow=40
WB0 Warramunga Arr 33.48 198 P **P** **11 01 04.1 -0.1**
WB0 IAmb IAmb 11 01 04.5
comp=Z,8.0nm,0.6s
WR0 Warramunga Arr 33.62 197 P **P** **11 01 05.7 +0.3**
WR0 IAmb IAmb 11 01 06.1
comp=Z,8.6nm,0.7s
WRAB Tennant Creek 33.65 197 P **P** **11 01 05.6 0.0**
WB2 Warramunga Arr 33.66 197 P **P** **11 01 06.1 +0.4**
WB2 IAmb IAmb 11 01 06.6
comp=Z,13nm,0.8s
WRA Warramunga Arr 33.66 198 P **P** **11 01 05.2 -0.6**
WRA Warramunga Arr 33.66 198 P **P** **11 01 05.8 0.0**
comp=Z,9.3nm,0.7s,baz=21,slow=9.8,SNR=113
comp=Z,9.3nm,0.7s
AS31 Alice Springs 37.31 196 P **P** **11 01 37.5 +0.3**
AS31 IAmb IAmb 11 01 39.2
comp=Z,2.6nm,0.6s
ASAR Alice Springs 37.31 196 P **P** **11 01 37.1 -0.1**
ASAR Alice Springs 37.31 196 P **P** **11 01 37.3 +0.2**
comp=Z,2.8nm,0.6s,baz=21,slow=10,SNR=89
ASAR PcP **PcP** **11 03 57.5 +1.3**
comp=Z,0.4nm,0.7s,baz=45,slow=2.8,SNR=4.1
comp=Z,2.8nm,0.6s
CMAR Chiang Mai Arr 44.29 284 P **P** **11 02 36.5 +1.6**
comp=Z,1.1nm,0.8s,baz=80,slow=6.6,SNR=7.0
CMAR LR LR 11 21 37.5
comp=Z,12nm,18.9s,baz=90,slow=37
comp=Z,1.1nm,0.8s
BBOO Buckleboo 45.67 190 P **P** **11 02 45.1 -0.4**
BBOO IAmb IAmb 11 03 27.0
comp=Z,14nm,1.1s
SONM Songino Array 47.54 326 P **P** **11 03 01.2 +1.0**
SONM Songino Array 47.54 326 P **P** **11 03 00.1 0.0**
comp=Z,0.5nm,0.5s,baz=142,slow=7.1,SNR=3.9
SONM LR LR 11 23 09.8
comp=Z,50nm,18.0s,baz=36,slow=36
comp=Z,0.5nm,0.5s
MORW Morawa 49.56 213 P **P** **11 03 15.8 0.0**
MK31 Makanchi Array 62.14 317 P **P** **11 04 46.6 +0.8**
MKAR Makanchi Array 62.14 317 P **P** **11 04 46.6 +0.8**
MKAR Makanchi Array 62.14 317 P **P** **11 04 45.9 +0.1**
comp=Z,0.7nm,0.5s,baz=92,slow=8.4,SNR=11
comp=Z,0.7nm,0.5s
MAKZ Makanchi 62.35 317 P **P** **11 04 47.6 +0.4**
MAKZ IAmb IAmb 11 04 51.8
comp=Z,2.3nm,0.9s
KURBB Kurchatov Arra 65.34 320 P **P** **11 05 05.9 -0.8**
comp=Z,0.8nm,0.4s,baz=104,slow=6.9,SNR=8.5
comp=Z,0.8nm,0.4s
K20K Telida 66.35 26 P **P** **11 05 15.6 +2.6**
D22K Ayikyak River 68.86 20 P **P** **11 05 29.8 +1.0**
E22K Anaktuvuk Pass 68.89 21 P **P** **11 05 29.8 +0.7**
E22K IAmb IAmb 11 06 05.0
comp=Z,5.2nm,1.3s
ILAR Eielson Array 69.78 25 P **P** **11 05 33.4 -1.2**
comp=Z,0.5nm,0.6s,baz=247,slow=6.0,SNR=6.8
comp=Z,0.5nm,0.6s
BVAR Borovoye Array 70.68 322 P **P** **11 05 40.7 +0.4**
comp=Z,1.0nm,0.3s,baz=97,slow=8.6,SNR=12
comp=Z,1.0nm,0.3s
SIMJ Simiganj 71.12 307 P **P** **11 05 42.6 -0.9**
SIMJ IAmb IAmb 11 05 47.6
comp=Z,5.8nm,1.1s
E25K Arctic Village 71.12 22 P **P** **11 05 44.1 +1.4**
BMAR Burnt Mountain 71.33 23 P **P** **11 05 45.6 +1.6**
E27K Coleen River 72.59 22 P **P** **11 05 52.3 +0.7**
H29M Whitestone 73.54 24 P **P** **11 05 57.9 +0.7**
H29M IAmb IAmb 11 06 40.9
comp=Z,2.9nm,1.1s
F31M Tsiigehtchic 75.47 23 P **P** **11 06 08.9 +0.6**
F31M IAmb IAmb 11 06 15.0
comp=Z,4.3nm,1.2s
ABKAR Akbulak array 77.22 318 P **P** **11 06 18.8 +0.2**
ABKAR IAmb IAmb 11 06 26.3
comp=Z,1.6nm,0.8s
NLWA Neilton Lookou 82.06 43 P **P** **11 06 46.4 +1.3**
SPITS Spitsbergen Ar 85.18 351 P **P** **11 06 59.9 -0.5**
comp=Z,6.2nm,0.8s,baz=36,slow=12,SNR=7.4
comp=Z,6.2nm,0.8s
NVAR Mina Array Bea 87.91 51 P **P** **11 07 13.1 -1.7**
comp=Z,0.6nm,0.6s,baz=289,slow=4.7,SNR=6.6
comp=Z,0.6nm,0.6s
FINES FINESS Array B 92.12 335 P **P** **11 07 32.9 -0.7**
comp=Z,2.1nm,0.9s,baz=76,slow=7.3,SNR=4.4
comp=Z,2.1nm,0.9s
PDAR Pinedale Array 93.03 45 P **P** **11 07 37.5 -1.2**
comp=Z,0.2nm,0.6s,baz=270,slow=3.6,SNR=2.3
comp=Z,0.2nm,0.6s
BRTR Keskin Array B 97.66 313 P **P** **11 07 59.1 -0.6**
comp=Z,0.2nm,0.3s,baz=328,slow=5.1,SNR=1.7
comp=Z,0.2nm,0.3s
DBIC Dimbokro 144.18 300 PKP **PKPab** **11 13 58.5 -0.6**
comp=Z,2.8nm,0.6s,baz=36,slow=2.0,SNR=4.6

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*RSNC **11** 10:56:24.3±0.0, 10°N±9°×7°8W±°, h91km±10km, M2.9, mb3.8, ML2.6*
*UPA **11** 10:56:38.6±15.0, 8°82N×78°67W, h28km±367km*
ISC 11 10:56:19.7±1.4, 10°00N±0°07×78°36W±0°03, h100km, n19, σ2°01/34, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**1.48**	**167**	*e*P	**Pn**	**10 56 45.0**	**-0.8**
UPD2				*e*S	**Sn**	**10 57 03.1**	**-2.4**
UPA	**Univ. de Panam**	**1.54**	**229**	*e*P	**Sn**	**10 57 03.4**	**-3.3**
UPA				*e*S	**Sn**	**10 57 04.7**	**-2.0**
FRIJ	**El Hiral**	**1.55**	**240**	*e*P	**Pn**	**10 56 47.6**	**+0.9**
BCIP	**Isla Barro Col**	**1.68**	**241**	P	**Pn**	**10 56 49.0**	**+0.8**
BCIP				S	**Sn**	**10 57 07.8**	**-2.0**
BCIP	**Isla Barro Col**	**1.68**	**241**	*e*P	Pn	10 56 57.7	+10
BCIP				*e*S	**Sn**	**10 57 08.3**	**-1.5**
CAPC	**Capurgana**	**1.68**	**144**	P	**Pn**	**10 56 47.0**	**-1.2**
CAPC				S	**Sn**	**10 57 06.8**	**-3.1**
ZANG	**Zanguenga, Cho**	**1.81**	**235**	*e*P	**Pn**	**10 56 52.0**	**+2.1**
ZANG				*e*S	**Sn**	**10 57 13.2**	**+0.2**
APAC	**Apartado, Choc**	**2.72**	**140**	P	**Pn**	**10 57 01.7**	**-0.2**
APAC				S	**Sn**	**10 57 35.7**	**+1.5**
SJCC	**San Jacinto, C**	**3.13**	**92**	P	**Pn**	**10 57 08.8**	**+1.4**
SJCC				S	**Sn**	**10 57 41.7**	**-2.4**
UREC	**San Jos de Ur**	**3.57**	**128**	P	**Pn**	**10 57 14.2**	**+1.0**
UREC				S	**Sn**	**10 57 52.6**	**-2.0**
ARGC	**Ariguani, Magd**	**4.05**	**92**	P	**Pn**	**10 57 20.3**	**+0.6**
ARGC				S	**Sn**	**10 58 05.1**	**-1.1**
CNI2	**El Empalme, Bo**	**4.09**	**262**	*e*P	Pn	10 57 46.0	+26
CBOC	**Ciudad Bolivar**	**4.72**	**150**	P	**Pn**	**10 57 32.0**	**+3.2**
CBOC				S	**Sn**	**10 58 26.6**	**+4.1**
PTBC	**PUERTO BERRIO,**	**5.17**	**131**	P	**Pn**	**10 57 35.5**	**+0.7**
PTBC				S	**Sn**	**10 58 30.5**	**-2.7**
OCAC	**Ocana**	**5.27**	**109**	P	**Pn**	**10 57 37.7**	**+1.3**
OCAC	17nm,0.5s			S	**Sn**	**10 58 34.6**	**-1.4**
BRJC	**Barrancabermej**	**5.46**	**123**	P	**Pn**	**10 57 39.4**	**+0.6**
BRJC	19nm,0.5s			S	**Sn**	**10 58 39.5**	**-0.9**
PAMC	**Pamplona, Colo**	**6.18**	**115**	P	**Pn**	**10 57 50.6**	**+1.6**
PAMC				S	**Sn**	**10 58 57.8**	**-0.9**
URIC	**Uribia, Colomb**	**6.48**	**74**	P	**Pn**	**10 57 54.8**	**+2.2**
URIC				S	**Sn**	**10 59 02.4**	**-2.7**
RUSC	**La Rusia**	**6.63**	**128**	P	**Pn**	**10 57 57.8**	**+2.7**
RUSC				S	**Sn**	**10 59 08.2**	**-1.2**

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*KRNET **11** 10:57:10.1±0.1, 41°83N×78°38E, h29km, mb2.2*
*NNC **11** 10:57:13.3±1.2, 41°97N×78°41E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=8.5km s-min=4.7km az=154.0, Suspected Mining explosion.*

ISC 11 10:57:09.0±1.7, 41°77N±0°07×78°37E±0°06, h0km, n16, σ0°65/30, 16C-1D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.43**	**264**	⇑*i*P	**Pb**	**10 57 19.5**	**-0.2**
TARG				⇑*i*S	**Sb**	**10 57 26.0**	**-0.8**
PRZ	**Przheval'sk**	**0.71**	**2**	⇑*e*P	**Pg**	**10 57 22.9**	**+0.3**
PRZ				⇑*e*S	**Sg**	**10 57 32.7**	**+0.9**
KDJ	**Kajisay**	**0.96**	**292**	⇑*i*P	**Pg**	**10 57 27.7**	**+0.3**
KDJ				⇑*i*S	**Sg**	**10 57 40.4**	**+0.6**
SATY	**Saty**	**1.29**	**1**	P	**Pg**	**10 57 33.2**	**-0.4**
SATY	2.0nm,0.1s			S	**Sg**	**10 57 48.5**	**-1.8**
UZB	**Uzynbulak**	**1.46**	**19**	P	**Pg**	**10 57 37.2**	**+0.3**
UZB	4.8nm,0.2s			S	**Sg**	**10 57 55.3**	**-0.5**
TNSS	**Tian-Shan**	**1.65**	**321**	P	**Pg**	**10 57 40.9**	**+0.3**
TNSS	1.6nm,0.1s			S	**Sb**	**10 58 01.8**	**-0.1**
ULHL	**Ulahol**	**1.66**	**287**	⇑*i*P	**Pn**	**10 57 39.5**	**0.0**
ULHL				⇑*i*S	**Sn**	**10 58 00.7**	**-0.9**
MDOK	**Medeo**	**1.70**	**325**	⇑P	**Pb**	**10 57 41.4**	**+0.2**
MDOK	1.0nm,0.3s			Pg	**Pg**	**10 57 41.6**	**0.0**
MDOK	2.2nm,0.1s			Lg	Lg	10 58 03.2	
MDOK	4.8nm,0.2s			S	**Sg**	**10 58 03.6**	**0.0**
KPKS	**Kokpek**	**1.71**	**8**	P	**Pn**	**10 57 40.9**	**+0.8**
KPKS	3.4nm,0.2s			S	**Sn**	**10 58 02.3**	**-0.5**
NRN	**Naryn**	**1.81**	**260**	⇑*i*P	**Pn**	**10 57 42.3**	**+0.6**
NRN				⇑*i*S	**Sb**	**10 58 06.1**	**-0.5**
BOOM	**Boomskoye usch**	**1.95**	**292**	⇑*i*P	**Pn**	**10 57 43.8**	**+0.3**
BOOM				⇑*i*S	**Sn**	**10 58 07.8**	**-0.9**
KST	**Kastek**	**2.19**	**306**	Pg	**Pg**	**10 57 51.7**	**+0.8**
KST	18nm,0.4s			Lg	Lg	10 58 20.3	
CHKK	**Chushkaly**	**2.32**	**334**	Pg	**Pb**	**10 57 52.2**	**+0.6**
CHKK	21nm,0.4s			Lg	Lg	10 58 21.6	
TKM2	**Tokmak 2**	**2.35**	**300**	⇓P	**Pb**	**10 57 53.1**	**+0.6**
TKM2				⇑S	**Sg**	**10 58 24.6**	**-0.1**
TKM2	**Tokmak 2**	**2.35**	**300**	⇑*i*P	**Pn**	**10 57 49.5**	**+0.4**
TKM2				⇑*i*S	**Sn**	**10 58 18.0**	**-0.9**
ARXS	**Arharly**	**2.47**	**351**	Pg	**Pb**	**10 57 54.7**	**+0.3**
ARXS	15nm,0.2s			Lg	Lg	10 58 25.7	

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*VAO **11** 11:11:45.7±1.0, 13°30S×71°77W, h10km, mb4.3*
*NEIC **11** 11:11:46.1±2.6, 13°40S±0°07×71°83W±0°09, h47km±11km, mb4.2/10, Error ellipse: s-maj=12.4km s-min=10.0km az=69.0*
*IDC **11** 11:11:47.2±1.6, 13°60S×72°06W, h41km±16km, mb3.6/5, mbtmp3.9/10, ML3.5/5, MS3.1/2, Error ellipse: s-maj=24.3km s-min=10.4km az=36.0*
ISC 11 11:11:45.9±0.5, 13°44S±0°06×71°86W±0°06, h35km, n59, σ1°66/59, mb4.2/7, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.58**	**129**	Pn	**Pn**	**11 12 57.0**	**+3.7**
LPAZ	**La Paz**	**4.58**	**129**	P	**Pn**	**11 12 56.2**	**+3.0**
LPAZ	0.9nm,0.3s,baz=325,slow=14,SNR=15			S	**Sn**	**11 13 48.6**	**+3.0**
LPAZ	12nm,0.4s,baz=206,slow=21,SNR=1.1			Lg	Lg	11 14 10.6	
LPAZ	4.2nm,0.3s,baz=173,slow=20,SNR=3.5			LR	LR	11 14 49.1	
LPAZ	comp=Z,149nm,18.6s,baz=20,slow=39						
LPAZ	3.6nm,0.6s						
LPAZ	**La Paz**	**4.58**	**129**	*e*P	**Pn**	**11 12 56.9**	**+3.6**
PB18	**Visviri**	**4.72**	**151**	Pn	Pn	11 13 01.9	+6.8
NNA	**Nana**	**5.08**	**286**		**Pn**	**11 13 02.3**	**+2.7**
NNA	**Nana**	**5.08**	**286**	P	**Pn**	**11 13 00.1**	**+0.5**
NNA	2.2nm,0.3s,baz=105,slow=5.5,SNR=6.1			S	**Sn**	**11 13 54.0**	**-3.1**
NNA	6.8nm,0.4s,baz=259,slow=23,SNR=1.2						
NNA	12nm,0.7s						
CZSB	**Cruzeiro do Su**	**5.74**	**352**	Pn	**Pn**	**11 13 08.0**	**-0.6**
CZSB	**Cruzeiro do Su**	**5.74**	**352**	*e*P	**Pn**	**11 13 08.8**	**+0.1**
ETMB	**Extrema**	**6.60**	**57**	Pn	**Pn**	**11 13 21.2**	**+0.7**
ETMB	**Extrema**	**6.60**	**57**	*e*P	**Pn**	**11 13 21.4**	**+1.0**
GO01	**Chusmiza**	**6.70**	**158**		**Pn**	**11 13 24.0**	**+1.7**
TA02	**Huaiquique**	**6.99**	**167**		**Pn**	**11 13 25.9**	**+0.1**
HMBC	**Humberstone**	**7.05**	**165**		**Pn**	**11 13 26.0**	**-0.9**
PB08	**IPOC Station P**	**7.15**	**159**		**Pn**	**11 13 28.8**	**+0.4**
TA01	**Diego Aracena**	**7.26**	**167**		**Pn**	**11 13 29.7**	**+0.1**
PB01	**IPOC Station P**	**7.89**	**164**		**Pn**	**11 13 37.6**	**-0.7**
PB09	**IPOC Station P**	**8.67**	**164**		**Pn**	**11 13 48.9**	**-0.2**
ATAH	**Atahualpa**	**8.98**	**314**	P	**Pn**	**11 13 55.3**	**+1.7**
ATAH	0.8nm,0.3s,baz=329,slow=10,SNR=4.7			S	**Sn**	**11 15 36.2**	**+2.4**
ATAH	3.2nm,0.6s,baz=255,slow=18,SNR=1.3						
ATAH	2.7nm,0.4s						
TBTG	**Tabatinga, AM**	**9.39**	**12**	Pn	**Pn**	**11 13 58.3**	**-0.6**
TBTG	**Tabatinga, AM**	**9.39**	**12**	*e*P	**Pn**	**11 13 59.4**	**+0.5**
SAML	**Samuel**	**9.61**	**63**	Pn	**Pn**	**11 14 00.8**	**-0.9**
SAML	**Samuel**	**9.61**	**63**	*e*P	**Pn**	**11 14 02.1**	**+0.3**
SIV	**San Ignacio**	**10.73**	**105**	P	**Pn**	**11 14 18.6**	**+1.3**
SIV	0.1nm,0.3s,baz=311,slow=12,SNR=8.6			S	**Sn**	**11 16 16.5**	**+0.1**
SIV	3.8nm,0.6s,baz=2.2,slow=23,SNR=3.5						
SIV	1.7nm,0.5s						
VILB	**Vilhena**	**11.36**	**89**	Pn	**Pn**	**11 14 23.5**	**-2.3**
VILB	**Vilhena**	**11.36**	**89**	*e*P	**Pn**	**11 14 27.4**	**+1.5**
BBSD	**Serra de San D**	**11.47**	**110**	*e*P	**Pn**	**11 14 27.3**	**0.0**
PTLB	**Pontes e Lacer**	**12.48**	**101**	Pn	**Pn**	**11 14 40.6**	**-0.5**
PTLB	**Pontes e Lacer**	**12.48**	**101**	*e*P	**Pn**	**11 14 42.1**	**+1.0**
COHC	**Cochancay**	**13.13**	**326**	Pn	**Pn**	**11 14 47.7**	**-2.3**
MACA	**Manacapuru-AM**	**15.04**	**48**	Pn	**Pn**	**11 15 12.3**	**-3.7**
MACA	**Manacapuru-AM**	**15.04**	**48**	*e*P	**Pn**	**11 15 15.6**	**-0.4**
SALV	**Santo Antonio**	**15.83**	**101**	*e*P	**P**	**11 15 27.9**	**-1.7**
CLDB	**Colider**	**15.91**	**83**	*e*P	**P**	**11 15 28.3**	**-2.3**
CO06	**Fray Jorge**	**17.15**	**179**	P	**Pn**	**11 15 43.2**	**+0.3**
CO06				IAmb	IAmb	11 15 45.0	
CO06	comp=Z,13nm,1.1s						
ROSC	**El Rosal**	**18.33**	**352**	P	**Pn**	**11 16 00.1**	**+2.2**
ROSC	comp=Z,2.6nm,0.3s,baz=146,slow=23,SNR=2.7						
ROSC	comp=Z,6.4nm,0.4s						
CPUP	**Villa Florida**	**18.71**	**135**	LR	LR	11 24 49.9	
CPUP	comp=Z,95nm,19.6s,baz=36,slow=42						
BOAV	**Boa Vista**	**19.34**	**36**	*e*P	**Pn**	**11 16 09.7**	**0.0**
SNDB	**Serra Nova Dou**	**20.11**	**88**	*e*P	Pn	11 16 19.8	+0.9
MT09	**Talagante**	**20.26**	**178**	P	**P**	**11 16 18.2**	**-0.3**
MT09				IAmb	IAmb	11 16 41.0	
MT09	comp=Z,10nm,1.4s						
BO02	**Sierra Bellavi**	**21.28**	**178**	P	**P**	**11 16 27.3**	**-2.1**
ITQB	**Itaqui**	**21.44**	**141**	P	**P**	**11 16 31.1**	**0.0**
ITQB				IAmb	IAmb	11 16 34.1	
ITQB	comp=Z,13nm,0.8s						
BAUV	**El Baul**	**22.56**	**10**	P	**P**	**11 16 43.4**	**+0.2**
PLTB	**Pedras Altas**	**24.76**	**140**	P	**P**	**11 17 02.1**	**-2.2**
GO06	**Curarrehue**	**26.04**	**179**	P	**P**	**11 17 14.4**	**-1.7**
TRQA	**Tornquist**	**26.04**	**162**	P	**P**	**11 17 13.2**	**-2.8**
TRQA				IAmb	IAmb	11 17 34.1	
TRQA	comp=Z,14nm,1.2s						
PLCA	**Paso Flores**	**27.21**	**178**	P	**P**	**11 17 25.7**	**-0.9**
PLCA	comp=Z,1.0nm,0.8s,baz=356,slow=13,SNR=1.8						
PLCA	comp=Z,1.0nm,0.8s						
TXAR	**Lajitas Array**	**52.46**	**325**	P	**P**	**11 20 56.3**	**+0.8**
TXAR	comp=Z,0.2nm,0.7s,baz=146,slow=6.6,SNR=2.5						
TXAR	comp=Z,0.2nm,0.7s						
SNAA	**Sanae**	**70.77**	**162**	P	**P**	**11 22 57.4**	**-1.1**
SNAA				IAmb	IAmb	11 23 03.5	
SNAA	comp=Z,2.5nm,0.9s						
SNAA	**Sanae**	**70.77**	**162**	P	**P**	**11 22 58.1**	**-0.3**
SNAA	comp=Z,1.3nm,0.6s,baz=264,slow=9.7,SNR=7.2						
SNAA	comp=Z,1.3nm,0.6s						
QSPA	**South Pole Qui**	**76.70**	**180**	P	**P**	**11 23 33.8**	**+0.4**
QSPA				IAmb	IAmb	11 24 13.9	
QSPA	comp=Z,3.3nm,1.2s						
QSPA	**South Pole Qui**	**76.70**	**180**	P	**P**	**11 23 33.9**	**+0.6**
QSPA	comp=Z,1.1nm,0.6s,baz=239,slow=0.7,SNR=18						
QSPA	comp=Z,1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.52**	**73**	P	**P**	**11 23 41.3**	**+2.6**
TORD	comp=Z,0.8nm,0.7s,baz=276,slow=4.9,SNR=5.4						
TORD	comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**135.34**	**215**	PKP	**PKPdf**	**11 31 02.4**	**-0.5**
ASAR	comp=Z,0.1nm,0.3s,baz=101,slow=0.9,SNR=3.1						
ZALV	**Zalesovo Beam**	**135.59**	**20**	PKP	**PKiKP**	**11 31 03.6**	**-0.3**
ZALV	comp=Z,1.3nm,0.7s,baz=336,slow=3.3,SNR=5.6						
WRA	**Warramunga Arr**	**137.99**	**218**	PKP	**PKPdf**	**11 31 07.8**	**-0.1**
WRA	comp=Z,0.3nm,0.4s,baz=141,slow=1.6,SNR=6.6						
MKAR	**Makanchi Array**	**140.30**	**28**	PKhKP	PKPpre	11 31 07.9	
MKAR	comp=Z,0.5nm,0.7s,baz=36,slow=5.1,SNR=5.1						
MJAR	**Matsushiro Arr**	**144.59**	**316**	PKP	**PKPdf**	**11 31 18.4**	**-0.9**
MJAR	comp=Z,0.5nm,0.4s,baz=82,slow=2.5,SNR=2.4						
SONM	**Songino Array**	**145.68**	**2**	PKPbc	**PKPab**	**11 31 21.2**	**-0.4**
SONM	comp=Z,1.8nm,0.8s,baz=15,slow=0.6,SNR=9.7						
KSRS	**Korea Array**	**150.28**	**327**	PKPbc	**PKPbc**	**11 31 32.5**	**-1.3**
KSRS	comp=Z,0.8nm,1.0s,baz=93,slow=2.1,SNR=2.5						

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*NNC **11** 11:21:04.7±14.0, 42°73N×76°05E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=141.8km s-min=100.8km az=158.0*
SOME 11 11:21:04.0, 44°33N×81°43E, h10km, 2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.18**	**271**	*e*P	Pg	**11 21 27.9**	**+1.2**
DJR	0.7nm,0.1s			*e*S	Sn	**11 21 45.0**	**+2.2**
KAPS	**Kapalarasan**	**1.76**	**304**	*e*P	Pg	**11 21 37.5**	**-0.2**
KAPS				*e*S	Sg	**11 22 01.1**	**+0.6**
UZB	**Uzynbulak**	**2.11**	**237**	Pg	Pg	**11 21 43.9**	**-0.6**
UZB	4.1nm,0.2s			Lg	Lg	11 22 12.3	
UZB	3.1nm,0.4s						
UZB	**Uzynbulak**	**2.11**	**237**	*e*P	Pg	**11 21 43.5**	**-0.9**
UZB	4.1nm,0.2s			*e*S	Sg	**11 22 12.3**	**+0.4**
UZB	4.4nm,0.4s						
BLB	**Baldybastay**	**2.14**	**265**	Pg	Pg	**11 21 44.5**	**-0.4**
BLB	8.0nm,0.1s			Lg	Lg	11 22 13.9	
BLB	3.3nm,0.3s						
KPKS	**Kokpek**	**2.17**	**247**	Pg	Pb	**11 21 44.4**	**+1.1**
KPKS	2.6nm,0.2s			Lg	Lg	11 22 13.8	
KPKS	10nm,0.4s						
KPKS	**Kokpek**	**2.17**	**247**	*e*P	Pg	**11 21 44.6**	**-1.0**
KPKS	1.6nm,0.1s			*e*S	Sg	**11 22 14.1**	**+0.5**
KPKS	2.0nm,0.1s						
MK31	**Makanchi Array**	**2.53**	**13**	⇓Pn	Pb	**11 21 50.4**	**+0.9**
MK31	0.1nm,0.2s,baz=196,slow=16,SNR=5.2			⇓Sn	Sg	**11 22 23.5**	**-1.8**
MK31	0.2nm,0.2s,baz=193,slow=29,SNR=5.4						
SATY	**Saty**	**2.54**	**241**	*e*P	Pb	**11 21 49.8**	**+0.1**
SATY	0.9nm,0.2s			*e*S	Sb	**11 22 23.0**	**+1.9**
SATY	4.6nm,0.2s						

SJA 11 11:34:21.0±0.6, 27°04S×67°02W, h15km, ML3.8, MW3.8, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSA	**Cafayete**	**1.31**	**45**	*e*P	Pn	**11 34 43.9**	**-1.1**
FSA				*e*S	Sb	**11 35 00.9**	**-1.2**
AHML	**Horco Molle**	**1.52**	**81**	*e*P	Pb	**11 34 49.5**	**+0.5**
AHML				*e*S	Sg	**11 35 10.6**	**+0.5**
AHML				IAML		**11 35 15.2**	
AHML	comp=Z,761nm,0.4s						
CYA	**Choya**	**1.77**	**143**	*e*P	Pb	**11 34 53.5**	**+0.4**
CYA				*e*S	Sg	**11 35 19.3**	**+1.4**
CYA				IAML		**11 35 20.5**	
CYA	comp=Z,1μm,0.7s						
GUSE	**Guasayan**	**2.11**	**114**	*e*P	Pb	**11 34 58.2**	**-0.7**
ACLC	**CERRO LA CRUZ**	**2.38**	**179**	*e*P	Pb	**11 35 02.2**	**-1.5**
ACLC				IAML		**11 35 45.0**	
ACLC	comp=Z,406nm,0.5s						
SLA	**San Lorenzo**	**2.68**	**31**	*e*P	Pb	**11 35 06.9**	**-1.9**
SLA				*e*S	Sb	**11 35 41.6**	**+0.1**
SLA				IAML		**11 35 47.4**	
SLA	comp=Z,376nm,0.7s						
GO03	**Copiapo**	**2.92**	**258**	*e*P	Pb	**11 35 12.1**	**-0.7**
GO03				*e*S	Sb	**11 35 50.5**	**+2.3**
GO02	**Mina Guanaco**	**2.97**	**308**	*e*P	Pb	**11 35 12.8**	**-1.1**
AZAP	**Zapla**	**3.31**	**33**	*e*P	Pn	**11 35 15.5**	**+3.0**
AZAP				*e*S	Sb	**11 35 59.7**	**-0.1**
AZAP				IAML		**11 36 05.5**	
AZAP	comp=Z,795nm,0.4s						
AC01	**Pan de Azucar**	**3.33**	**285**	*e*P	Pb	**11 35 17.7**	**-2.0**
AC01				*e*S	Sg	**11 36 04.1**	**-3.8**
AVFE	**Valle Fertil**	**3.63**	**186**	*e*P	Pn	**11 35 19.8**	**+3.0**
AVFE				IAML		**11 36 17.3**	
AVFE	comp=Z,196nm,0.3s						
AC04	**Llanos de Chal**	**3.78**	**251**	*e*P	Pn	**11 35 22.6**	**+3.8**
LCO	**Las Campanas**	**3.80**	**238**	*e*P	Pn	**11 35 22.4**	**+3.0**
LCO				*e*S	Sg	**11 36 21.1**	**-2.1**
LCO				IAML		**11 36 27.2**	
LCO	comp=Z,67nm,0.9s						
ACCO	**Cerro Coronel**	**3.97**	**206**	*e*P	Pn	**11 35 25.7**	**+4.1**
ACHE	**Chepes**	**4.12**	**176**	*e*P	Pn	**11 35 25.9**	**+2.3**
GO04	**Tololo Observa**	**4.56**	**226**	*e*P	Pn	**11 35 32.9**	**+3.2**
CO03	**El Pedregal**	**4.97**	**219**	*e*P	Pn	**11 35 38.8**	**+3.5**
CO03				IAML		**11 36 59.3**	
CO03	comp=Z,81nm,0.6s						

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*NEIC **11** 11:36:05.3±1.2, 19°396N±0°007×155°261W±0°007, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.4km az=147.0*
HVO 11 11:36:04.6±1.0, 19°397N±0°005×155°260W±0°007, h2km±3km, ML2.5/16, ML2.1/26(NEIC), Error ellipse: s-maj=0.9km s-min=0.8km az=61.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**1**	Pg	Pg	**11 36 05.5**	**+0.3**
BYL					Sg	**11 36 06.2**	**+0.5**
HATHI	**Halema'uma'u T**	**0.03**	**358**	Pg	Pg	**11 36 05.8**	**+0.5**
HATHI				IAML		**11 36 06.1**	
HATHI	comp=N,2μm,0.2s						
HATHI					Sg	**11 36 06.5**	**+0.8**
OBL	**Observatory Le**	**0.03**	**312**		Pg	**11 36 07.1**	**+1.8**
SBLHI	**Steaming Bluff**	**0.03**	**346**		Pg	**11 36 06.9**	**+1.6**
UWB	**Uwekahuna Bluf**	**0.03**	**328**		Pg

JOKA				IAML		11 36 16.4	
	comp=E,202nm,0.9s						
HMH	**Humu'ula Sheep**	**0.29 314**			Pg	11 36 10.8	+0.6
HMH	**Humu'ula Sheep**	**0.29 314**		IAML		11 36 13.0	
	comp=E,276nm,3.8s						
HMH				IAML		11 36 15.8	
	comp=N,287nm,3.9s						
MWH	**Mokuaweoweo**	**0.33 285**			Pg	11 36 11.7	+0.7
MWH				IAML		11 36 20.9	
	comp=N,262nm,0.7s						
KHU	**Kahuku**	**0.37 246**			Pg	11 36 11.8	+0.1
KHU					Sb	11 36 18.6	-1.7
ALEP	**Alea Permanent**	**0.39 292**			Pg	11 36 12.4	+0.3
POHA	**Pohakuloa**	**0.44 324**			Pg	11 36 13.6	+0.5
POHA					Sg	11 36 20.1	+1.3
POHA	**Pohakuloa**	**0.44 324**		IAML		11 36 17.4	
	comp=N,157nm,4.8s						
POHA				IAML		11 36 26.6	
	comp=N,134nm,2.9s						
HUH	**Hualalai**	**0.61 298**			Pb	11 36 17.7	-0.5
HPAH	**Hawaii Prepara**	**0.75 327**	Pg		Pg	11 36 19.1	+0.1

IDC 11 11:52:04.2±7.9, 39°.42N×110°.53E, h0km, mb3.3/3, mbtmp3.3/4, Error ellipse: s-maj=187.5km s-min=25.7km az=86.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.93**	**342**	Pn	Pn	11 54 14.5	0.0
	1.2nm,0.7s,baz=154,slow=13,SNR=6.0						
SONM				Sn	Sn	11 55 56.5	+0.6
	0.1nm,0.3s,baz=74,slow=9.2,SNR=1.8						
SONM				Lg	Lg	11 56 43.7	
	0.1nm,0.3s,baz=314,slow=43,SNR=1.6						
ZALV	**Zalesovo Beam**	**22.68**	**318**	P	P	11 57 06.5	-0.5
	0.4nm,0.4s,baz=73,slow=11,SNR=1.7						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**23.17**	**209**	P	P	11 57 12.3	-0.1
	0.8nm,0.5s,baz=12,slow=11,SNR=9.5						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**25.05**	**307**	P	P	11 57 30.5	+0.6
	0.3nm,0.5s,baz=112,slow=8.8,SNR=4.2						
	0.3nm,0.5s						

BER 11 12:20:18.5±2.8, 71°.37N×11°.41W, h0km±32km, mb(Pn)4.2, ML2.3(DNK), Confirmed Earthquake
DNK 11 12:20:21.8±4.8, 71°.46N×11°.15W, h36km±35km, ML2.3
ISC 11 12:20:16.5±0.9, 71°.49N±0°.07×11°.44W±0°.05, h10km, n18, σ2s57/29, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**1.07**	**116**	*e*P	**Pn**	**12 20 37.6**	**0.0**
JMIC				*e*S	**Sb**	**12 20 49.9**	**-1.2**
JMIC				IAML		12 20 51.2	
	comp=Z,498nm,0.4s						
JMIC	**Jan Mayen**	**1.07**	**116**	*i* P	**Pn**	**12 20 37.5**	**0.0**
JMIC				*i* S	**Sb**	**12 20 49.8**	**-1.3**
JNW	**Jan Mayen West**	**1.08**	**114**	*e*P	**Pn**	**12 20 37.1**	**-0.4**
JNW				*e*S	**Sb**	**12 20 49.9**	**-1.3**
JNW				IAML		12 20 53.1	
	comp=Z,448nm,0.3s						
JNE	**Jan Mayen East**	**1.13**	**115**	*e*P	**Pn**	**12 20 38.1**	**-0.3**
JNE				*e*S	**Sg**	**12 20 50.9**	**-1.9**
JNE				IAML		12 20 55.7	
	comp=Z,535nm,0.3s						
SCO	**Scoresbysund**	**3.58**	**259**	*i* P	**Pn**	**12 21 14.0**	**+2.0**
SCO				*i* S	**Sn**	**12 21 53.5**	**-0.8**
SCO	**Scoresbysund**	**3.58**	**259**	*i* P	**Pn**	**12 21 14.0**	**+2.0**
SCO				*i* S	**Sn**	**12 21 53.5**	**-0.8**
DBG	**Daneborg**	**3.84**	**322**	*i* P	**Pn**	**12 21 16.8**	**+1.3**
DBG				*i* S	**Sn**	**12 21 57.0**	**-3.5**
DBG				IAML		12 21 58.7	
	comp=Z,19nm,0.5s						
DBG	**Daneborg**	**3.84**	**322**	*i* P	**Pn**	**12 21 16.8**	**+1.3**
DBG				*i* S	**Sn**	**12 21 57.0**	**-3.5**
DBG				IAML		12 21 58.7	
	comp=Z,19nm,0.5s						
DAG	**Danmarks Havn**	**5.67**	**343**	*i* P	**Pn**	**12 21 41.0**	**+0.5**
DAG				IAML		12 22 44.8	
	comp=Z,9.7nm,0.5s						
DAG	**Danmarks Havn**	**5.67**	**343**	*i* P	**Pn**	**12 21 41.0**	**+0.5**
DAG				*i* P	**Pn**	**12 21 41.0**	**+0.5**
DAG				IAML		12 22 44.8	
	comp=Z,9.7nm,0.5s						
SUMG	**Summit**	**8.38**	**290**	*i* P	**Pn**	**12 22 22.2**	**+4.1**
SUMG				*e*S	**Sn**	**12 23 47.2**	**-5.7**
SUMG	**Summit**	**8.38**	**290**	*i* P	**Pn**	**12 22 22.2**	**+4.1**
SUMG				*e*S	**Sn**	**12 23 47.2**	**-5.7**
HSPB	**Hornsund (broa**	**9.09**	**41**	*e*P	**Pn**	**12 22 29.2**	**+1.8**
BJO1	**Bjornoya**	**9.33**	**57**	*e*P	**Pn**	**12 22 34.1**	**+3.3**
KBS	**Kingsbay**	**9.46**	**28**	*i* P	**Pn**	**12 22 33.0**	**+0.5**
SPA0	**Spitsbergen Ar**	**9.77**	**35**	*e*P	**Pn**	**12 22 39.0**	**+2.3**
TRO	**Tromso**	**10.22**	**86**	*e*P	**Pn**	**12 22 44.6**	**+1.6**
NOR	**Nord**	**10.24**	**356**	*i* P	**Pn**	**12 22 45.5**	**+2.3**
NOR				*e*S	Sn	12 24 25.3	-12
NOR				IAML		12 24 42.0	
	comp=Z,8.5nm,0.7s						

IDC 11 12:52:28.3±0.8, 30°.53S×177°.84W, h0km, mb4.1/7, mbtmp4.1/7, MS3.0/1, Error ellipse: s-maj=26.3km s-min=17.5km az=95.0
NEIC 11 12:52:30.5±1.2, 30°.5S±0°.1×177°.7W±0°.2, h14km±3km, mb4.4/13, Error ellipse: s-maj=28.7km s-min=11.4km az=66.0
ISC 11 12:52:29.8±0.7, 30°.61S±0°.06×177°.9W±0°.1, h10km, n49, σ1s58/39, mb4.4/13, 4C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.35**	**0**		**Pg**	**12 52 54.6**	**-1.2**
RAO	**Raoul Island**	**1.35**	**0**	Pn	**Pn**	**12 52 53.6**	**-1.2**
	114nm,0.3s,baz=68,slow=23,SNR=3.4						
RAO				Sn	**Sg**	**12 53 12.3**	**-1.0**
	300nm,0.3s,baz=52,slow=21,SNR=4.3						
URZ	**Urewera**	**8.66**	**207**	Pn	**Pn**	**12 54 32.3**	**-2.9**
	0.6nm,0.3s,baz=350,slow=5.2,SNR=9.0						
URZ				Sn	**Sn**	**12 56 09.3**	**-3.7**
	2.6nm,0.3s,baz=278,slow=20,SNR=22						
DZM	**Mont Dzumac**	**16.38**	**298**	LR	LR	13 01 18.4	
	comp=Z,52nm,18.9s,baz=139,slow=32						
ARMA	**Armidale**	**26.20**	**263**	P	**P**	**12 58 08.5**	**+3.6**
CTAO	**Charters Tower**	**33.90**	**279**	P	**P**	**12 59 15.3**	**+2.2**
STKA	**Stephens Creek**	**34.50**	**257**	P	**P**	**12 59 20.3**	**+2.1**
STKA	**Stephens Creek**	**34.50**	**257**	P	**P**	**12 59 20.0**	**+1.8**
	9.7nm,0.6s,baz=97,slow=9.3,SNR=24						
	9.7nm,0.6s						
BBOO	**Buckleboo**	**38.98**	**254**	P	**P**	**12 59 57.0**	**+0.7**
COEN	**Coen**	**39.39**	**286**	P	**P**	**13 00 00.3**	**+0.3**
COEN				IAmb	IAmb	13 00 17.7	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**43.16**	**267**	P	**P**	**13 00 31.2**	**+0.2**
ASAR	**Alice Springs**	**43.16**	**267**	P	**P**	**13 00 30.3**	**-0.7**
ASAR	**Alice Springs**	**43.16**	**267**	P	**P**	**13 00 31.3**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=105,slow=7.1,SNR=39						
	comp=Z,0.9nm,0.5s						
WR0	**Warramunga Arr**	**43.99**	**272**	P	**P**	**13 00 38.2**	**+0.5**
WR0				IAmb	IAmb	13 00 52.0	
	comp=Z,9.7nm,1.4s						
WB2	**Warramunga Arr**	**44.16**	**272**	P	**P**	**13 00 39.3**	**+0.3**
WB2				IAmb	IAmb	13 00 40.0	
	comp=Z,4.9nm,0.7s						
WRAB	**Tennant Creek**	**44.17**	**272**	P	**P**	**13 00 39.3**	**+0.2**
WRAB				IAmb	IAmb	13 00 40.0	
	comp=Z,3.7nm,0.8s						
WRA	**Warramunga Arr**	**44.17**	**272**	P	**P**	**13 00 41.4**	**+2.3**
WRA	**Warramunga Arr**	**44.17**	**272**	P	**P**	**13 00 39.5**	**+0.4**
	comp=Z,2.7nm,0.3s,baz=111,slow=8.0,SNR=86						
	comp=Z,2.7nm,0.3s						
WB0	**Warramunga Arr**	**44.20**	**273**	P	**P**	**13 00 40.0**	**+0.7**
WB0				IAmb	IAmb	13 00 40.6	
	comp=Z,4.4nm,0.8s						
CASY	**Casey**	**54.99**	**208**	P	**P**	**13 02 00.0**	**-0.9**
CASY				IAmb	IAmb	13 02 01.3	
	comp=Z,3.8nm,0.8s						
QSPA	**South Pole Qui**	**59.50**	**180**		**P**	**13 02 35.2**	**+2.1**
QSPA	**South Pole Qui**	**59.50**	**180**	P	**P**	**13 02 34.9**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=351,slow=1.6,SNR=10.0						
	comp=Z,0.9nm,0.7s						
MAW	**Mawson**	**72.14**	**201**	P	**P**	**13 03 53.7**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=305,slow=13,SNR=2.2						
	comp=Z,0.6nm,0.7s						

TROLL	**Troll, Antarti**	**77.66**	**180**	⇑P	**P**	**13 04 28.5**	**+2.2**
	comp=Z,70nm,0.5s						
SNAA	**Sanae**	**77.94**	**178**	P	**P**	**13 04 28.0**	**+0.2**
SNAA				IAmb	IAmb	13 04 31.3	
	comp=Z,4.2nm,1.4s						
SNAA	**Sanae**	**77.94**	**178**	⇑P	**P**	**13 04 28.8**	**+1.0**
SNAA	**Sanae**	**77.94**	**178**	P	**P**	**13 04 28.1**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=215,slow=12,SNR=2.4						
	comp=Z,0.7nm,0.5s						
VNA3	**Neumayer Olymp**	**78.09**	**176**	⇑P	**P**	**13 04 29.6**	**+1.0**
VNA2	**Neumayer--Watz**	**78.53**	**177**	⇑P	**P**	**13 04 33.8**	**+2.9**
	baz=124,slow=3.4						
H03S2	**Juan Fernandez**	**80.29**	**123**	T	T	14 33 45.8	
	baz=238,slow=74,SNR=33						
H03S1	**Juan Fernandez**	**80.30**	**123**	T	T	14 33 47.5	
	baz=238,slow=74,SNR=28						
H03S3	**Juan Fernandez**	**80.31**	**123**	T	T	14 33 45.3	
	baz=238,slow=74,SNR=27						
H03N3	**Juan Fernandez**	**80.49**	**123**	T	T	14 34 04.3	
	baz=242,slow=73,SNR=14						
H03N2	**Juan Fernandez**	**80.49**	**123**	T	T	14 33 55.0	
	baz=242,slow=73,SNR=13						
H03N1	**Juan Fernandez**	**80.50**	**123**	T	T	14 34 05.9	
	baz=242,slow=73,SNR=21						
NVAR	**Mina Array Bea**	**88.35**	**43**	P	**P**	**13 05 23.3**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=198,slow=4.4,SNR=1.9						
	comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**121.28**	**314**	PKP	**PKPdf**	**13 11 22.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=90,slow=1.7,SNR=3.4						
BVAR	**Borovoye Array**	**126.60**	**316**	PKP	**PKPdf**	**13 11 33.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=90,slow=1.4,SNR=2.3						
H10S2	**ASCENSION HYDR**	**137.51**	**155**	T	T	15 46 15.2	
	baz=16,slow=74,SNR=12						
H10S3	**ASCENSION HYDR**	**137.51**	**155**	T	T	15 46 09.4	
	baz=204,slow=74,SNR=11						
H10N3	**ASCENSION HYDR**	**138.59**	**155**	T	T	15 47 31.5	
	baz=204,slow=75,SNR=12						
H10N1	**ASCENSION HYDR**	**138.60**	**155**	T	T	15 47 35.7	
	baz=204,slow=75,SNR=13						
H10N2	**ASCENSION HYDR**	**138.61**	**155**	T	T	15 47 34.6	
	baz=204,slow=75,SNR=14						
FINES	**FINESS Array B**	**145.36**	**340**	PKPbc	**PKPbc**	**13 12 06.7**	**-0.4**
	comp=Z,3.1nm,0.5s,baz=47,slow=5.1,SNR=28						
NB2	**NORSAR Subarra**	**148.97**	**351**	PKP	**PKPbc**	**13 12 17.3**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.97**	**351**	PKPbc	**PKPbc**	**13 12 16.2**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=16,slow=4.2,SNR=4.6						
HFS	**Hagfors**	**149.46**	**349**	PKPbc	**PKPbc**	**13 12 17.9**	**-0.7**
	comp=Z,2.3nm,0.8s,baz=54,slow=3.8,SNR=1.8						
AKASG	**Malin Array Be**	**151.51**	**323**	PKPbc	**PKPbc**	**13 12 22.3**	**-1.5**
	comp=Z,1.1nm,0.6s,baz=56,slow=2.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**162.62**	**179**	PKPab	**PKPab**	**13 13 19.8**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=182,slow=4.5,SNR=3.5						

ATH 11 12:54:01.4, 37°.57N×20°.68E, h11km±4km, ML2.7/7, Error ellipse: s-maj=5.0km s-min=1.0km az=32.0
THE 11 12:54:01.3, 37°.58N×20°.68E, h5km±7km, ML2.5/7, Error ellipse: s-maj=7.3km s-min=0.9km az=67.0
ISC 11 12:54:00.7±2.1, 37°.55N±0°.07×20°.66E±0°.06, h10km±10km, n20, σ0s38/35, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.16**	**49**	P	**Pg**	**12 54 04.5**	**+0.2**
KRI1				S	**Sg**	**12 54 06.3**	**-0.5**
	4μm,0.4s						
LTHK	**Lithakia**	**0.21**	**42**	P	**Pg**	**12 54 05.2**	**+0.2**
LTHK				S	**Sg**	**12 54 07.5**	**-0.5**
	8μm,0.2s						
LTHK	**Lithakia**	**0.21**	**42**	P	**Pg**	**12 54 05.2**	**+0.2**
LTHK				S	**Sg**	**12 54 07.9**	**-0.1**
LTHK				AML	AML	12 54 08.1	
	comp=N,15955μm,0.3s						
LTHK				AML	AML	12 54 08.1	
	comp=E,15379μm,0.1s						
RTZL	**Ratzakli, Kefa**	**0.53**	**9**	P	**Pg**	**12 54 10.9**	**-0.1**
RTZL				S	**Sg**	**12 54 18.0**	**0.0**
PSDA	**Pessada-Kefalo**	**0.56**	**354**	P	**Pg**	**12 54 11.3**	**-0.3**
PSDA				S	**Sb**	**12 54 20.2**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.56**	**354**	P	**Pg**	**12 54 11.6**	**0.0**
PSDA				S	**Sg**	**12 54 19.8**	**+0.8**
VLS	**Valsamata**	**0.62**	**355**	P	**Pg**	**12 54 12.7**	**-0.1**
VLS				S	**Sg**	**12 54 21.2**	**+0.1**
	comp=E,690nm,0.2s						
VLS	**Valsamata**	**0.62**	**355**	P	**Pg**	**12 54 12.7**	**-0.1**
VLS				S	**Sg**	**12 54 21.1**	**+0.1**
VLS				AML	AML	12 54 22.4	
	comp=N,1284μm,0.4s						
VLS				AML	AML	12 54 22.8	
	comp=E,1468μm,0.1s						
LXRA	**Lixouri, Kepha**	**0.67**	**345**	P	**Pg**	**12 54 13.6**	**0.0**
LXRA				S	**Sg**	**12 54 23.1**	**+0.7**
LXRA				AML	AML	12 54 28.9	
	comp=E,1768μm,0.3s						
LXRA				AML	AML	12 54 30.6	
	comp=N,1896μm,0.5s						
SMHA	**Samh**	**0.70**	**359**	P	**Pg**	**12 54 14.0**	**-0.2**
SMHA				AML	AML	12 54 28.0	
	comp=E,3124μm,0.5s						
SMHA				AML	AML	12 54 28.0	
	comp=N,2252μm,0.3s						
DMLN	**Damoulianata-K**	**0.72**	**342**	P	**Pg**	**12 54 14.6**	**0.0**
DMLN				S	**Sb**	**12 54 25.5**	**+0.2**
	comp=N,392nm,0.2s						
DMLN	**Damoulianata-K**	**0.72**	**342**	P	**Pg**	**12 54 14.7**	**0.0**
RLS	**Riolos of Patr**	**0.81**	**51**	P	**Pg**	**12 54 16.2**	**-0.1**
RLS				S	**Sb**	**12 54 27.9**	**0.0**
	comp=N,182nm,0.3s						
RLS	**Riolos of Patr**	**0.81**	**51**	P	**Pg**	**12 54 16.3**	**0.0**
RLS				S	**Sg**	**12 54 26.6**	**-0.3**
RLS				AML	AML	12 54 29.2	
	comp=N,380μm,0.3s						
RLS				AML	AML	12 54 29.2	
	comp=E,344μm,0.4s						
AMT	**Artemida-Makis**	**0.83**	**91**	P	**Pg**	**12 54 17.2**	**+0.4**
AMT				S	**Sg**	**12 54 27.8**	**+0.2**
VSK1	**VASILIKIADES**	**0.86**	**355**	P	**Pg**	**12 54 16.9**	**-0.3**
VSK1				S	**Sb**	**12 54 29.6**	**+0.4**
	comp=E,380nm,0.5s						
FSK	**Fiskardo**	**0.91**	**355**	P	**Pg**	**12 54 17.1**	**-1.1**
FSK				S	**Sg**	**12 54 30.4**	**+0.4**
	comp=E,270nm,0.4s						
FSK	**Fiskardo**	**0.91**	**355**	P	**Pg**	**12 54 17.8**	**-0.3**
FSK				AML	AML	12 54 32.5	
	comp=N,531μm,0.5s						
FSK				AML	AML	12 54 33.4	
	comp=E,565μm,0.2s						
DRO	**Drossia**	**0.92**	**64**	P	**Pg**	**12 54 18.8**	**+0.3**
ITM	**Ithomi**	**1.07**	**110**	P	**Pg**	**12 54 20.8**	**-0.5**

IDC 11 13:10:01.6±1.5, 7°.98S×158°.81E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=34.6km s-min=22.2km az=51.0
ISC 11 13:10:08.7±1.2, 8°.1S±0°.2×158°.9E±0°.2, h55km, n6, σ0s74/8, mb3.6/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.71**	**141**	Pn	**Pn**	**13 10 35.8**	**-0.4**
	31nm,0.3s,baz=282,slow=19,SNR=32						
HNR				Sn	**Sn**	**13 10 57.5**	**+0.7**
	115nm,0.3s,baz=211,slow=12,SNR=7.4						
WRA	**Warramunga Arr**	**26.49**	**241**	P	**P**	**13 15 42.1**	**+0.9**
	0.3nm,0.4s,baz=68,slow=9.2,SNR=13						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**28.48**	**234**	P	**P**	**13 15 59.0**	**0.0**
	0.2nm,0.5s,baz=61,slow=9.9,SNR=8.1						
ASAR				PcP	**PcP**	**13 19 09.1**	**-0.8**
	0.1nm,0.6s,baz=64,slow=2.2,SNR=1.3						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**28.59**	**212**	P	**P**	**13 15 59.6**	**-0.2**
	0.8nm,0.4s,baz=50,slow=7.9,SNR=4.0						
	0.8nm,0.4s						
SONM	**Songino Array**	**72.36**	**326**	P	**P**	**13 21 29.7**	**+0.7**
	0.7nm,0.8s,baz=132,slow=4.3,SNR=2.2						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**86.77**	**318**	P	**P**	**13 22 46.8**	**-0.4**
	0.2nm,0.5s,baz=91,slow=8.7,SNR=1.8						
	0.2nm,0.5s						

SDD 11 13:18:07.0±2.2, 19°.55N×63°.74W, h110km±239km, MD3.7, ML3.0, MW2.9, 5C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CELP	**Cerrillos**	**3.06**	**242**	⇑*e*Pg	Pn	13 18 52.9	-1.0
CELP				IAML		13 19 32.5	
	comp=N,16nm,0.2s						
AOPR	**Arecibo Observ**	**3.10**	**248**	‖*e*Pg	Pn	13 18 52.2	-2.1
AOPR				⇑*e*Sg	Sn	13 19 26.0	-4.8
AOPR				IAML		13 19 33.5	
	comp=N,37nm,0.2s						
MLPR	**Magueyes Islan**	**3.50**	**244**	⇑*e*Pg	Pn	13 18 58.2	-1.5
MLPR				⇑*e*Sg	Sn	13 19 36.4	-4.1
MLPR				IAML		13 20 20.4	
	comp=N,20nm,4.1s						
CRPR	**Cabo Rojo, PR**	**3.54**	**245**	*e*Pg	Pn	13 18 56.4	-3.8
CRPR				*e*Sg	Sn	13 19 34.7	-6.8
CRPR				IAML		13 19 55.7	
	comp=N,31nm,2.5s						
HATOM	**Hato Mayor del**	**5.39**	**263**	⇑*e*Pg	Pn	13 19 22.6	-2.6
HATOM				IAML		13 20 44.2	
	comp=N,11nm,3.2s						

WEL 11 13:23:08.7±0.8, 35°.5S±7°×17°.8E±°, h249km±8km, M4.1/54, mB4.6/3, ML4.4/51, MLv4.1/54, Mw(mB)3.8/3, Error ellipse: s-maj=11.9km s-min=6.7km az=57.5, confirmed
NOU 11 13:23:25.5, 36°.54S×176°.99E, h205km, MLv3.9/8, Off E. Coast of N. Island, N.Z.
ISC 11 13:23:07.1±2.6, 35°.3S±0°.1×178°.5E±0°.1, h250km, n90, σ1s30/103, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.24**	**183**	P	**Pn**	**13 23 52.7**	**+1.0**
MXZ				S	**S**	**13 24 27.7**	**+0.8**
HAZ	**Te Kaha**	**2.49**	**192**	P	**Pn**	**13 23 55.1**	**+1.0**
HAZ				S	**S**	**13 24 30.7**	**-0.7**
GRZ	**Great Barrier**	**2.61**	**248**	P	**Pn**	**13 23 55.2**	**-0.2**
KUZ	**Kuaotunu**	**2.63**	**237**	P	**Pn**	**13 23 55.9**	**+0.4**
KUZ	**Kuaotunu**	**2.63**	**237**	P	**Pn**	**13 23 56.0**	**+0.4**
RUGZ	**Raukumara Rang**	**2.71**	**193**	P	**Pn**	**13 23 57.0**	**+0.5**
PUZ	**Puketiti**	**2.75**	**183**	P	**Pn**	**13 23 57.6**	**+0.8**
PUZ				S	**S**	**13 24 35.1**	**-1.1**
TWGZ	**Tauwhareparae**	**2.87**	**188**	P	**Pn**	**13 23 59.7**	**+1.5**
TWGZ				S	**S**	**13 24 39.9**	**+1.2**
OPRZ	**Ohinepanea**	**2.95**	**211**	P	**Pn**	**13 24 01.4**	**+2.5**
TGRZ	**Tauranga**	**2.98**	**216**	P	**Pn**	**13 24 02.2**	**+2.9**
MARZ	**Manawahe**	**3.02**	**208**	P	**Pn**	**13 24 01.7**	**+1.9**
WIAZ	**Waiheke Island**	**3.07**	**241**	P	**Pn**	**13 24 00.8**	**+0.6**
MWZ	**Matawai**	**3.10**	**194**	P	**Pn**	**13 24 01.3**	**+0.7**
MWZ				S	**S**	**13 24 43.2**	**+0.2**
URZ	**Urewera**	**3.12**	**200**	P	**Pn**	**13 24 01.5**	**+0.7**
URZ				S	**S**	**13 24 43.5**	**0.0**
URZ	**Urewera**	**3.12**	**200**	P	**Pn**	**13 24 01.7**	**+0.9**
TKGZ	**Te Karaka**	**3.15**	**189**	P	**Pn**	**13 24 02.0**	**+0.9**
TKGZ				S	**S**	**13 24 43.4**	**-0.5**
CNGZ	**Carnagh Statio**	**3.16**	**184**	P	**Pn**	**13 24 02.7**	**+1.5**
MKAZ	**Moumakai**	**3.21**	**235**	P	**Pn**	**13 24 02.5**	**+0.7**
ABAZ	**Army Bay**	**3.21**	**246**	P	**Pn**	**13 24 02.6**	**+0.8**
KARZ	**Kaharoa**	**3.23**	**213**	P	**Pn**	**13 24 04.5**	**+2.5**
MBAZ	**Motutapu North**	**3.23**	**242**	P	**Pn**	**13 24 02.6**	**+0.6**
KMRZ	**Kaimai**	**3.23**	**218**	P	**Pn**	**13 24 05.3**	**+3.2**
RAGZ	**Rawiri**	**3.27**	**195**	P	**Pn**	**13 24 03.8**	**+1.2**
RAGZ				S	**S**	**13 24 46.8**	**+0.2**
ETAZ	**East Tamaki Re**	**3.29**	**239**	P	**Pn**	**13 24 03.7**	**+1.0**
TARZ	**Mount Tarawera**	**3.30**	**208**	P	**Pn**	**13 24 05.2**	**+2.3**
HLRZ	**Highlands Stat**	**3.38**	**209**	P	**Pn**	**13 24 05.8**	**+2.1**
TOZ	**Tahuroa Road**	**3.38**	**224**	P	**Pn**	**13 24 05.3**	**+1.6**
RRRZ	**Republican Roa**	**3.39**	**207**	P	**Pn**	**13 24 05.4**	**+1.6**
WCZ	**Waipu Caves**	**3.41**	**258**	P	**Pn**	**13 24 03.5**	**-0.5**
RIGZ	**Rimuhau**	**3.42**	**189**	P	**Pn**	**13 24 04.8**	**+0.6**
MUGZ	**Murupara**	**3.43**	**203**	P	**Pn**	**13 24 05.0**	**+0.8**
RVAZ	**Riverhead Bore**	**3.46**	**244**	P	**Pn**	**13 24 04.9**	**+0.4**
HSRZ	**Hossack Road**	**3.47**	**210**	P	**Pn**	**13 24 07.3**	**+2.6**
RTZ	**Ruatahuna**	**3.49**	**199**	P	**Pn**	**13 24 05.2**	**+0.2**
HRRZ	**Handcock Road**	**3.52**	**209**	P	**Pn**	**13 24 06.6**	**+1.3**
WTAZ	**Waiatarua**	**3.53**	**242**	P	**Pn**	**13 24 06.4**	**+1.0**
AWAZ	**Awhitu Peninsu**	**3.54**	**240**	P	**Pn**	**13 24 06.5**	**+1.0**
GRRZ	**Galatos Road**	**3.56**	**211**	P	**Pn**	**13 24 08.1**	**+2.4**
SNGZ	**Shannon Statio**	**3.56**	**194**	P	**Pn**	**13 24 06.6**	**+0.8**
SNGZ				S	**S**	**13 24 53.2**	**+0.7**
PRRZ	**Plateau Road**	**3.58**	**207**	P	**Pn**	**13 24 07.1**	**+1.2**
PRGZ	**Paritu Road**	**3.62**	**187**	P	**Pn**	**13 24 07.1**	**+0.7**
ALRZ	**Allen Road**	**3.65**	**207**	P	**Pn**	**13 24 08.0**	**+1.3**
KNZ	**Kokohu**	**3.74**	**189**	P	**Pn**	**13 24 08.3**	**+0.5**
RAHZ	**Arahi**	**3.75**	**197**	P	**Pn**	**13 24 08.5**	**+0.6**
RAHZ				S	**S**	**13 24 56.4**	**+0.1**
MTHZ	**Maungataniwha**	**3.75**	**200**	P	**Pn**	**13 24 08.2**	**+0.2**
MTHZ				S	**S**	**13 24 56.5**	**+0.2**
KUTZ	**Kaahu Road**	**3.80**	**213**	P	**Pn**	**13 24 10.9**	**+2.4**
TLZ	**Tolley Road**	**3.81**	**217**	P	**Pn**	**13 24 11

JCZ	Jackson Bay	1.59 293	P	Pg	13 29 02.3	+0.5
WVZ	Waitaha Valley	1.64 358	P	Pg	13 29 02.7	+0.1
MQZ	McQueen's Vall	1.66 53	P	Pn	13 29 00.1	-0.2
AKCZ	Akaroa Harbour	1.72 62	P	Pn	13 29 01.0	-0.3
MLZ	Mavora Lakes	2.02 250	P	Pb	13 29 07.8	-0.4
SYZ	Scrubby Hill	2.18 212	P	Pg	13 29 18.1	+5.1

TEH 11 13:30:19.5, 34°.46N×45°.74E, h10km±71km, ML2.8
ISN 11 13:30:20.4±1.1, 34°.49N×45°.79E, h10km±6km, ML2.8
ISC 11 13:30:19.9±1.2, 34°.47N±0°.06×45°.75E±0°.05, h10km±10km, n9, σ0°65/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.14	287	Pg	Pg	13 30 22.9	-0.2
GLG1	Gilan-e-Gharb	0.37	159	Pg	Pg	13 30 27.0	-0.4
IDHR	Dehrash	0.57	66	Pg	Pg	13 30 30.8	-0.3
IGHG	Ghaleghazi	0.69	101	Pg	Pg	13 30 33.4	+0.1
ILIN	Lien	1.10	65	Pg	Pg	13 30 40.8	-0.2
IBDR	Badra	1.36	174	ePg	Pn	13 30 45.0	0.0
IBDR				eSg	Sg	13 31 04.0	+0.4
IBDR				AML	AML	13 31 08.0	
	comp=N,101nm,0.4s						
IBDR				AML	AML	13 31 08.8	
	comp=E,157nm,0.6s						
SNQR	Sonqor, Kerman	1.60	75	Pg	Pb	13 30 49.8	+0.1
BHD	Baghdad	1.65	224	ePn	Pn	13 30 49.0	+0.1
BHD				eSn	Sn	13 31 10.5	+0.3
BHD				AML	AML	13 31 19.7	
	comp=E,276nm,0.5s						
RAFI	Al-Rafai	2.75	174	ePn	Pn	13 31 05.0	+0.9
RAFI				eSn	Sn	13 31 36.0	-1.4

ISN 11 13:32:21.5±1.0, 31°.36N×48°.22E, h15km±134km, ML3.3
TEH 11 13:32:22.8, 31°.34N×48°.20E, h15km±16km, ML3.0
ISC 11 13:32:24.3±1.2, 31°.35N±0°.07×48°.25E±0°.04, h10km, n22, σ0°49/25, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	Ahwaz	0.34	93	Pg	Pg	13 32 30.6	-0.5
RAFI	Al-Rafai	1.86	282	ePn	Pn	13 32 56.0	-0.2
RAFI				AML	AML	13 33 21.8	
	comp=E,481nm,0.4s						
RAFI				eSn	Sb	13 33 22.0	+0.3
RAFI				AML	AML	13 33 34.0	
	comp=N,261nm,0.5s						
IKFM	Kafar-mosalman	2.19	351	Pn	Pn	13 33 00.5	-0.3
JHBN	Jahan bin	2.24	66	Pn	Pn	13 33 02.0	+0.2
ZNGN	Zangian	2.35	70	Pn	Pn	13 33 03.5	+0.2
IPIR	Pirpir	2.61	59	Pn	Pn	13 33 07.1	+0.2
IBDR	Badra	2.63	312	ePn	Pn	13 33 07.0	+0.1
IBDR				eSn	Sn	13 33 40.5	+1.6
BDRS	Dareh Seyedi	2.65	11	Pn	Pn	13 33 07.2	-0.2
HSAM	Samen	2.87	6	Pn	Pn	13 33 10.2	-0.2
IGHG	Ghaleghazi	3.29	335	Pn	Pn	13 33 15.8	-0.3
IGAR	Garneh	3.39	71	Pn	Pn	13 33 17.4	-0.2
IKLH	Kolahrood	3.44	54	Pn	Pn	13 33 18.2	0.0
SNQR	Sonqor, Kerman	3.54	352	Pn	Pn	13 33 19.5	-0.1
IRAM	Ramesheh	3.56	82	Pn	Pn	13 33 20.1	+0.2
QAMS	Qamsar	3.57	47	Pn	Pn	13 33 20.5	+0.5
IDHR	Dehrash	3.69	335	Pn	Pn	13 33 20.6	-0.9
ILIN	Lien	3.72	343	Pn	Pn	13 33 21.8	-0.3
IZEF	Zefreh	3.79	65	Pn	Pn	13 33 22.9	-0.2
BHD	Baghdad	3.79	301	ePn	Pn	13 33 23.0	+0.2
BHD				eSn	Sn	13 34 07.0	-0.5
DSBU	Dashti - Bushe	3.96	138	Pn	Pn	13 33 25.1	-0.1
IQOM	Qom	4.21	33	Pn	Pn	13 33 28.4	-0.5
QABG	Abgarm-Qazvin	4.49	14	Pn	Pn	13 33 32.7	+0.1

IDC 11 13:33:50.1±1.9, 5°.90S×152°.17E, h0km, mb3.9/4, mbtmp3.9/5, ML1.8/1, Error ellipse: s-maj=97.5km s-min=25.8km az=131.0
ISC 11 13:33:57.5±2.3, 5°.2S±0°.7×151°.4E±0°.8, h35km, n6, σ0°98/7, mb3.6/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.88	225	Pn	Pn	13 35 23.4	+1.3
	1.4nm,0.3s,baz=52,slow=14,SNR=2.7						
PMG				Sn	Sn	13 36 27.9	-0.4
	3.3nm,0.3s,baz=146,slow=23,SNR=7.7						
	5.8nm,0.4s						
WRA	Warramunga Arr	22.09	227	P	P	13 38 48.9	-1.0
	1.7nm,0.7s,baz=57,slow=11,SNR=17						
	1.7nm,0.7s						
ASAR	Alice Springs	24.87	221	P	P	13 39 16.1	-1.0
	1.2nm,0.8s,baz=59,slow=8.8,SNR=22						
	1.2nm,0.8s						
FITZ	Fitzroy Crossi	28.19	241	P	P	13 39 46.8	-0.3
	2.5nm,0.4s,baz=55,slow=11,SNR=18						
	2.5nm,0.4s						
ILAR	Eielson Array	83.10	22	P	P	13 46 19.4	+0.1
	0.6nm,1.0s,baz=238,slow=5.0,SNR=4.6						
	0.6nm,1.0s						
TORD	Torodi Ar. Bea	149.07	287	PKPbc	PKPbc	13 53 43.4	+0.3
	1.1nm,0.6s,baz=64,slow=3.5,SNR=7.8						

UPA 11 13:40:20.6±1.8, 8°.65N×83°.24W, h18km±5km, MD3.3, ML3.4
UCR 11 13:40:20.9±1.2, 8°.63N×83°.23W, h22km±4km, MW3.6
ISC 11 13:40:20.7±1.0, 8°.63N±0°.04×83°.23W±0°.04, h26km±7km, n24, σ0°73/34, 8D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIME	Puerto Jimenez	0.12	227	eP	Pb	13 40 24.8	-0.9
JIME				eS	Sb	13 40 29.5	+0.5
PIRO	Carate, Puerto	0.24	205	i P	Pb	13 40 26.1	-0.9
PIRO				i S	Sb	13 40 31.8	+0.5
PIRO	Carate, Puerto	0.24	205	eP	Pb	13 40 26.1	-0.9
NELY	Ciudad Neily	0.28	85	⇓eP	Pb	13 40 27.2	-0.4
NELY				eS	Sb	13 40 33.3	+1.0
VITO	San Vito	0.32	53	⇓eP	Pb	13 40 28.3	0.0
EDP2	Potrero Grande	0.39	8	⇓eP	Pb	13 40 29.1	-0.1
LPPC	Paso Canoas	0.40	103	eP	Pb	13 40 29.7	+0.4
MLIR3	Monte Lirio, C	0.44	67	⇓eP	Pb	13 40 29.9	-0.1
MLIR3				i S	Sn	13 40 38.8	+0.2
PTPM	Petroterminale	0.55	140	eP	Pb	13 40 32.1	+0.4
PTPM				eS	Sn	13 40 41.6	+0.4
BURE	Buenos Aires	0.56	349	eP	Pb	13 40 31.6	-0.3
BRU2	Volcan	0.56	73	⇓iP	Pb	13 40 31.4	-0.6
BRU2				eS	Sn	13 40 41.1	-0.7
BRU2	Volcan	0.56	73	eP	Pb	13 40 31.5	-0.6
DRK0	Durika	0.63	359	⇓eP	Pb	13 40 32.4	-0.9
DRK0				eS	Sb	13 40 42.5	+0.6
DRK0	Durika	0.63	359	eP	Pb	13 40 32.5	-0.9
BCO2	Palmira	0.70	82	⇓iP	Pb	13 40 33.6	-0.8
BCO2				AMP		13 40 33.8	
	comp=Z,2μm,0.1s						
BCO2				eS	Sb	13 40 44.0	+0.1
DVD	David	0.80	104	⇓eP	Pb	13 40 34.7	-1.3
DVD				eS	Sb	13 40 46.8	+0.4
BUS1	Rivas	1.05	331	eP	Pn	13 40 39.1	-1.2
CNI2	El Empalme, Bo	1.09	43	eP	Pn	13 40 39.4	-1.0
CNI2				eS	Sb	13 40 55.5	+0.6
ABE2	San Pablo	1.34	323	eP	Pn	13 40 44.4	+0.3
LCR2	La Lucha 2	1.35	326	eP	Pn	13 40 44.4	+0.3
VTCV	VTCV, Calle Va	1.44	340	eP	Pn	13 40 45.8	+0.5
CVTV	Tajo	1.46	340	eP	Pn	13 40 46.3	+0.5
VTLA	Turrialba Volc	1.47	339	eP	Pn	13 40 46.3	+0.4
SOCE	Pocosol	2.22	322	eP	Pn	13 40 57.3	+1.4

IDC 11 13:49:10.4±9.1, 19°.66S×177°.12W, h256km±69km, mb3.0/3, mbtmp3.6/3, Error ellipse: s-maj=85.8km s-min=31.8km az=27.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	9.58	184	P	Pn	13 51 23.5	-0.1
	491nm,0.4s,baz=345,slow=20,SNR=6.0						
ASAR	Alice Springs	45.52	256	P	P	13 57 05.2	0.0
	0.5nm,0.6s,baz=86,slow=8.6,SNR=14						
ASAR				PcP	PcP	13 58 38.7	-0.6
	0.2nm,0.6s,baz=112,slow=4.7,SNR=5.2						
	0.5nm,0.6s						
WRA	Warramunga Arr	45.54	261	P	P	13 57 05.1	-0.2
	0.2nm,0.3s,baz=97,slow=7.7,SNR=18						
	0.2nm,0.3s						
QSPA	South Pole Qui	70.40	180	P	P	13 59 56.7	-0.1
	1.2nm,1.1s,baz=35,slow=1.3,SNR=2.5						
	1.2nm,1.1s						
AKASG	Malin Array Be	142.67	332	PKP	PKPdf	14 08 12.7	-0.2
	0.7nm,0.4s,baz=53,slow=2.3,SNR=7.5						

IDC 11 13:49:16.1±2.6, 31°.22N×48°.14E, h0km, mb4.0/9, mbtmp4.0/9, MS2.8/1, Error ellipse: s-maj=52.1km s-min=29.0km az=152.0
TEH 11 13:49:18.4, 31°.32N×48°.21E, h9km±23km, ML3.5
NEIC 11 13:49:19.1±1.3, 31°.31N±0°.04×48°.2E±0°.1, h10km±1km, mb4.4/21, Error ellipse: s-maj=18.7km s-min=3.1km az=246.0
ISN 11 13:49:19.1±0.7, 31°.35N×48°.27E, h24km±13km, ML3.2
ISC 11 13:49:18.6±0.7, 31°.28N±0°.07×48°.18E±0°.04, h10km, n71, σ1°14/73, mb4.3/18, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	Ahwaz	0.40	83	Pg	Pg	13 49 26.0	-0.5
RAFI	Al-Rafai	1.81	285	ePg	Pg	13 49 53.0	-0.4
RAFI				eSg	Sg	13 50 17.0	0.0
RAFI				AML	AML	13 50 27.9	
	comp=E,407nm,0.6s						
RAFI				AML	AML	13 50 33.0	
	comp=N,376nm,0.8s						
IKFM	Kafar-mosalman	2.25	353	Pn	Pn	13 49 57.5	+1.6
JHBN	Jahan bin	2.32	65	Pn	Pn	13 49 58.4	+1.2
ZNGN	Zangian	2.43	69	Pn	Pn	13 50 00.1	+1.4
IDOB	Doab	2.50	0	Pn	Pn	13 50 00.9	+1.4
IBDR	Badra	2.63	314	ePn	Pn	13 50 02.5	+1.3
IBDR				eSn	Sn	13 50 34.0	+0.8
IBDR				AML	AML	13 50 56.0	
	comp=E,140nm,0.6s						
IBDR				AML	AML	13 50 56.4	
	comp=N,124nm,0.8s						
IPIR	Pirpir	2.70	58	Pn	Pn	13 50 03.8	+1.5
IBRJ	Brojen	2.70	76	Pn	Pn	13 50 03.9	+1.5
BDRS	Dareh Seyedi	2.73	12	Pn	Pn	13 50 04.2	+1.4
ILBA	Ilam Baravizeh	2.87	325	Pn	Pn	13 50 06.0	+1.6
KLNJ	Kolanjah	2.94	94	Pn	Pn	13 50 07.0	+1.3
HSAM	Samen	2.94	7	Pn	Pn	13 50 07.2	+1.5
KCHF	Cheshme Sefid,	3.13	343	Pn	Pn	13 50 09.6	+1.4
IBZA	Bozab	3.19	355	Pn	Pn	13 50 10.8	+1.7
IGHG	Ghaleghazi	3.33	336	Pn	Pn	13 50 12.8	+1.9
GLG1	Gilan-e-Gharb	3.41	326	Pn	Pn	13 50 13.5	+1.6
IGAR	Garneh	3.47	70	Pn	Pn	13 50 14.2	+1.3
IKLH	Kolahrood	3.52	54	Pn	Pn	13 50 15.2	+1.6
SNQR	Sonqor, Kerman	3.59	353	Pn	Pn	13 50 16.8	+2.1
IRAM	Ramesheh	3.63	81	Pn	Pn	13 50 16.5	+1.4
QAMS	Qamsar	3.66	47	Pn	Pn	13 50 17.3	+1.8
IDHR	Dehrash	3.72	337	Pn	Pn	13 50 17.6	+1.2
ILIN	Lien	3.77	345	Pn	Pn	13 50 18.6	+1.6
BHD	Baghdad	3.78	303	ePn	Pn	13 50 18.0	+1.1
BHD				eSn	Sn	13 51 02.0	+0.6
IZEF	Zefreh	3.87	64	Pn	Pn	13 50 19.7	+1.2
DSBU	Dashti - Bushe	3.96	137	Pn	Pn	13 50 21.8	+2.4
KRSH	Karshahi	4.28	50	Pn	Pn	13 50 25.4	+1.4
IQOM	Qom	4.30	34	Pn	Pn	13 50 25.4	+1.1
QABG	Abgarm-Qazvin	4.57	15	Pn	Pn	13 50 29.8	+1.9
ISFB	Sefidab	4.59	47	Pn	Pn	13 50 29.1	+0.9
ISAD	Sadrabad	4.74	81	Pn	Pn	13 50 32.1	+1.7
IVRN	Varamin	4.75	38	Pn	Pn	13 50 31.0	+0.6
IGZV	Ghazvin	5.37	18	Pn	Pn	13 50 40.0	+1.1
KLST	Kelardasht - M	5.75	24	Pn	Pn	13 50 45.9	+1.6
IFIR	Firoozkooh	5.79	40	Pn	Pn	13 50 45.9	+1.1
MZPU	Pul - Mazandar	5.87	28	Pn	Pn	13 50 47.2	+1.4
RAYN	Ar Rayn	8.09	198		Pn	13 51 17.1	+1.0
UOSS	Minazif	9.49	130	Pn	Pn	13 51 36.0	+0.6
KARS	Kars	10.20	338	Pn	Pn	13 51 45.4	+0.3
GAZ	Gaziantep	10.81	306	Pn	Pn	13 51 54.3	+0.8
BZK	Bozkurt	15.57	317	P	P	13 53 02.6	+0.2
MDUB	Mudurnu	16.51	308	P	P	13 53 13.7	+0.7
AKASG	Malin Array Be	23.98	329	P	P	13 54 32.1	-1.0
	comp=N,0.4nm,0.3s,baz=143,slow=9.3,SNR=2.4						
	comp=N,0.4nm,0.3s						
AKBB	Malin Array Si	23.98	329	P	P	13 54 32.4	-0.7
KIEV	Kiev	23.98	329	P	P	13 54 32.4	-0.7
ARTI	Arti	26.10	13	LR	LR	14 07 47.4	
	comp=N,17nm,18.2s,baz=334,slow=42						
BVAR	Borovoye Array	27.05	30	P	P	13 55 00.7	-0.4
	comp=N,1.6nm,0.5s,baz=225,slow=8.7,SNR=7.6						
	comp=N,1.6nm,0.5s						
FINES	FINESS Array B	33.45	341	P	P	13 55 56.9	-0.6
	comp=N,3.5nm,0.9s,baz=143,slow=9.1,SNR=6.8						
	comp=N,3.5nm,0.9s						
FIA1	FINESS Array 5	33.45	341	P	P	13 55 56.8	-0.7
ZALV	Zalesovo Beam	34.63	38	P	P	13 56 07.4	-0.4
	comp=N,0.4nm,0.3s,baz=242,slow=8.2,SNR=3.6						
	comp=N,0.4nm,0.3s						
HFS	Hagfors	36.82	332	P	P	13 56 26.1	-0.3
	comp=N,1.8nm,0.3s,baz=125,slow=9.7,SNR=18						
	comp=N,1.8nm,0.3s						
NOA	NORSAR Array B	38.34	332	P	P	13 56 38.5	-0.9
	comp=N,0.4nm,0.6s,baz=131,slow=6.7,SNR=1.9						
	comp=N,0.4nm,0.6s						
ARCES	ARCESS Array B	40.40	348	P	P	13 56 56.0	-0.5
	comp=N,3.3nm,1.0s,baz=156,slow=8.9,SNR=1.9						
	comp=N,3.3nm,1.0s						
TORD	Torodi Ar. Bea	46.28	258	P	P	13 57 43.2	-1.4
	comp=N,0.2nm,0.5s,baz=60,slow=8.2,SNR=4.0						
	comp=N,0.2nm,0.5s						
SPITS	Spitsbergen Ar	49.03	352	P	P	13 58 04.5	-0.7
	comp=N,13nm,0.9s,baz=139,slow=8.0,SNR=7.9						
	comp=N,13nm,0.9s						
A36M	Sachs Harbour	76.91	358	P	P	14 01 10.6	0.0
A36M				IAmb	IAmb	14 01 11.4	
	comp=Z,3.4nm,0.9s						
B20K	Meade River	77.34	9	P	P	14 01 13.6	+0.5
B22K	Teshekpuk Lake	77.48	7	P	P	14 01 14.4	+0.6
C23K	Itkillik River	78.25	7	P	P	14 01 18.7	+0.6
D22K	Ayikyak River	78.95	8	P	P	14 01 22.5	+0.4
D22K				IAmb	IAmb	14 01 47.5	
	comp=Z,8.0nm,1.4s						
D23K	Nanushuk River	79.08	7	P	P	14 01 23.1	+0.4
D23K				IAmb	IAmb	14 02 00.5	
	comp=Z,4.6nm,1.3s						
E19K	Redstone River	79.71	10	P	P	14 01 25.7	-0.5
E22K	Anaktuvuk Pass	79.76	7	P	P	14 01 26.3	-0.2
E22K				IAmb	IAmb	14 01 44.7	
	comp=Z,7.1nm,1.4s						
F19K	Shaleruckik Mo	80.21	10	P	P	14 01 28.1	-0.8
E25K	Arctic Village	80.37	5	P	P	14 01 30.1	+0.3
E25K				IAmb	IAmb	14 01 30.5	
	comp=Z,1.6nm,0.9s						
E29M	Blow River	80.53	2	P	P	14 01 30.9	+0.3
E29M				IAmb	IAmb	14 02 10.6	
	comp=Z,2.7nm,1.4s						
F24K	Squaw Lake	80.76	6	P	P	14 01 32.3	+0.4
F24K				IAmb	IAmb	14 01 46.7	
	comp=Z,5.3nm,1.4s						
BMAR	Burnt Mountain	81.12	5	P	P	14 01 34.3	+0.5
F31M	Tsiigehtchic	81.57	1	P	P	14 01 36.0	-0.1
F31M				IAmb	IAmb	14 01 51.2	
	comp=Z,8.0nm,1.5s						
H21K	Melozitna Rive	82.02	9	P	P	14 01 38.7	+0.2
H21K				IAmb	IAmb	14 01 42.1	
	comp=Z,6.1nm,1.4s						

IDC 11 14:00:00.9±58.0, 17°.31S×174°.81W, h548km±126km, mb3.2/3, mbtmp4.1/4, Error ellipse: s-maj=886.9km s-min=128.5km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.83	265	P	P	14 01 47.3	0.0
	10nm,0.7s,baz=121,slow=13,SNR=8.4						
STKA	Stephens Creek	41.93	241	P	P	14 07 03.4	-0.7
	2.0nm,0.7s,baz=89,slow=14,SNR=4.3						
	2.0nm,0.7s						
WRA	Warramunga Arr	48.12	259	P	P	14 07 51.2	-0.4
	0.3nm,0.3s,baz=94,slow=6.9,SNR=21						
	0.3nm,0.3s						
ASAR	Alice Springs	48.25	254	P	P	14 07 53.0	+0.4
	3.8nm,0.4s,baz=89,slow=7.7,SNR=221						
	3.8nm,0.4s						

IDC 11 14:03:57.6±0.3, 15°.63N×49°.92W, h0km, mb5.6/46, mbtmp5.7/47, ML5.8/1, MS5.9/75, Error ellipse: s-maj=12.2km s-min=9.1km az=136.0
MOS 11 14:03:57.4±0.9, 15°.61N×49°.91W, h10km, mb6.3/61, MS5.8/46, Error ellipse: s-maj=8.4km s-min=4.4km az=53.3
NEIC 11 14:03:59.6±1.3, 15°.57N±0°.08×49°.87W±0°.09, h10km±1km, mb6.2/469, Ms_20 6.2/1068, Mwb6.1/102, Mww6.3/42, Error ellipse: s-maj=14.3km s-min=13.8km az=155.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}=0.75; $M_{\theta\theta}$1.69; $M_{\phi\phi}$-0.93; $M_{r\theta}$0.26; $M_{\theta\phi}$0.94; $M_{\phi r}$-0.47; Fault plane solution: $M_0$1.82000×10^{18} NP1: ϕ_s292.00000°, δ69.28000°, λ-25.99000°. NP2:ϕ_s31.78000°, δ65.80000°, λ-157.18000°. Principal axes: T 1.9950, Plg2.0000°, Azm342.0000°; N -0.4227, Plg57.0000°, Azm76.0000°; P -1.5723, Plg33.0000°, Azm251.0000°;
NEIC 11 14:03:59.6, 15°.56N×49°.86W, h10km
IPGP 11 14:03:59.0, 15°.56N×49°.87W, h8km, Mw6.3, Fault plane solution: NP1:ϕ_s282.00000°, δ57.00000°, λ-33.00000°. NP2:ϕ_s32.00000°, δ63.00000°, λ-142.00000°.
NEIC 11 14:03:59.6, 15°.86N×49°.97W, h12km, Moment Tensor Solution. Duration: 7s3 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.32; $M_{\theta\theta}$1.59; $M_{\phi\phi}$-0.27; $M_{r\theta}$-1.41; $M_{\theta\phi}$1.35; $M_{\phi r}$-2.43; Fault plane solution: $M_0$3.43000×10^{18} NP1:ϕ_s33.41000°, δ76.84000°, λ-113.82000°. NP2:ϕ_s276.13000°, δ27.02000°, λ-30.06000°. Principal axes: T 3.5753, Plg28.0000°, Azm142.0000°; N -0.2841, Plg23.0000°, Azm39.0000°; P -3.2911, Plg52.0000°, Azm276.0000°;
BJI 11 14:03:59.3, 15°.49N×50°.03W, h10km, mB6.2/65, Ms6.3/88, Ms7 6.2/87
NEIC 11 14:03:59.6, 15°.56N×49°.86W, h12km
GCMT 11 14:04:02.6±0.0, 15°.65N×49°.93W, h12km, MW6.2/165, Moment Tensor Solution. s165,c379; s165,c660; Duration: 3s2 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.56±.01; $M_{\theta\theta}$2.46±.01; $M_{\phi\phi}$-0.89±.01; $M_{r\theta}$-0.51±.03; $M_{\theta\phi}$1.69±.01; $M_{\phi r}$-0.76±.03; Best double couple: $M_0$2.71100×10^{18} NP1:ϕ_s35.00000°, δ66.00000°, λ-137.00000°. NP2:ϕ_s284.00000°, δ51.00000°, λ-31.00000°. Principal axes: T 3.2830, Plg9.0000°, Azm156.0000°; N -1.1430, Plg42.0000°, Azm58.0000°; P -2.1400, Plg47.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

ISC 11 14:03:58.7±0.4, 15°.49N±0°.03×50°.04W±0°.03, h8km±2km, h7km:pP-P, n2244, σ1°78/2061, mb6.2/471, MS6.2/643, 188C-153D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	Gun Hill	9.52	257		Pn	14 06 17.6	+1.3
BBGH	Gun Hill	9.52	257	⇓P	Pn	14 06 18.9	+2.6
BBGH	Gun Hill	9.52	257	eP	Pn	14 06 17.1	+0.9
BCHC	Barbados, Cave	9.59	257	eP	Pn	14 06 23.2	+6.0
ILAM	Ilet Lapin Mar	10.49	268	Pn	Pn	14 06 30.4	+0.8
H05S1	Guadeloupe/Mar	10.49	266	T	T	14 17 39.5	
	SNR=23						
MPOM	Morne Pois Mar	10.51	266	Pn	Pn	14 06 28.0	-1.8
MDP	Montagnes des	10.63	194	Pn	Pn	14 06 30.7	-0.8
	88nm,0.3s,baz=8.0,slow=16,SNR=375						
MDP				Sn	Sn	14 08 16.3	-15
	42nm,0.3s,baz=38,slow=11,SNR=2.3						
MDP				LR	LR	14 09 54.6	
	comp=Z,70μm,21.8s,baz=19,slow=33						
H05N1	Guadeloupe/Mar	10.64	276	T	T	14 17 26.2	
GDSD	La Dsirade Is	10.64	276	Pn	Pn	14 06 28.5	-3.1
BIM	Bigot	10.71	266		Pn	14 06 31.3	-1.2
FDF	Fort de France	10.76	267		Pn	14 06 31.6	-1.7
FDF	Fort de France	10.76	267	P	Pn	14 06 31.6	-1.7
ABD	La Joyeuse, An	11.06	277	Pn	Pn	14 06 35.8	-1.5
CBE	Ff, Capester	11.15	275		Pn	14 06 36.6	-2.0
TDBA	Terre de Bas,	11.18	273	Pn	Pn	14 06 36.2	-2.8
ANBD	Bethesda, Anti	11.37	279	eP	Pn	14 06 38.8	-2.8
ANWB	Willy Bob	11.47	283	⇑P	Pn	14 06 40.2	-2.7
ANWB	Willy Bob	11.47	283	eP	Pn	14 06 39.5	-3.4
GRGR	Grenville	11.77	255	⇓P	Pn	14 06 47.0	-0.1
SMRT	St. Maarten	12.75	283		Pn	14 06 57.5	-3.0
SABA	Saba	12.84	281	Pn	Pn	14 06 57.9	-3.8
PCRV	Puerto La Cruz	15.18	251	Pn	Pn	14 07 34.3	+0.7
	42nm,0.3s,baz=64,slow=5.2,SNR=109						
	303nm,0.6s						
HUMP	Col San Antoni	15.37	282	P	Pn	14 07 33.9	-2.2
SJG	San Juan	15.65	282	Pn	Pn	14 07 37.0	-2.7
	13nm,0.3s,baz=89,slow=11,SNR=38						
SJG				Sn	Sn	14 10 22.1	-11
	6.8nm,0.3s,baz=187,slow=12,SNR=11						
SJG				LR	LR	14 13 01.3	
	comp=Z,50μm,19.2s,baz=88,slow=35						
SJG	San Juan	15.65	282	⇑P	Pn	14 07 37.1	-2.7
AOPR	Arecibo Observ	16.25	282	eP	Pn	14 07 41.2	-6.3
BOAV	Boa Vista	16.61	219		Pn	14 07 52.0	-0.1
BOAV	Boa Vista	16.61	219	eP	Pn	14 07 51.8	-0.4
TMAB	Tom-Au,PA,Br	17.84	174	eP	Pn	14 08 06.3	-1.3
HATO	Hato, Curacao	18.66	262	P	Pn	14 08 18.8	+1.1
HATO				IAmb	IAmb	14 08 24.5	
	comp=Z,3μm,1.6s						
BAUV	El Baul	18.75	252		Pn	14 08 18.6	-0.1
ITTB	Itaituba	20.52	196	eP	Pn	14 08 39.1	-0.6
SDDR	Presa de Saban	20.59	283		P	14 08 38.9	+0.5
SDDR				IAmb	IAmb	14 08 54.4	
	comp=Z,795nm,0.9s						
SDDR	Presa de Saban	20.59	283	eP	P	14 08 37.2	-1.2
SDDR				eS	S	14 12 12.6	-17
SDDR				IAmb	IAmb	14 12 30.4	
	comp=Z,155nm,0.6s						
SDDR				IAmb	IAmb	14 12 34.

RCBR Riachuelo 25.39 145 P P 14 09 26.2 -0.6
RCBR pmax pmax
comp=Z,384nm,1.4s
RCBR Riachuelo 25.39 145 *e*P **P 14 09 26.6 -0.2**
SACV Santiago Islan 25.50 88 P **P 14 09 26.1 -1.8**
CHIV Chivirico 25.51 284 P **P 14 09 29.0 +1.1**
CHIV IAmb IAmb 14 09 60.0
comp=Z,620nm,1.3s
CHIV IAms_20 IAms_20 14 17 59.8
comp=Z,18µm,19.0s
CHIV Chivirico 25.51 284 *e*P **P 14 09 28.8 +1.0**
HOJ Hope 25.70 279 *i* P **P 14 09 33.0 +3.4**
STH Stony Hill 25.75 280 ⇑*i*P **P 14 09 33.2 +3.0**
STH Stony Hill 25.75 280 *e*P **P 14 09 32.3 +2.1**
LMGC Las Mercedes 26.07 284 *e*P **P 14 09 34.3 +1.4**
ROSC El Rosal 26.11 249 IAmb IAmb 14 10 02.7
comp=Z,849nm,1.1s
ROSC El Rosal 26.11 249 P **P 14 09 35.8 +1.9**
comp=Z,260nm,0.8s,baz=106,slow=2.9,SNR=33
ROSC LR LR 14 21 46.5
comp=Z,25µm,19.3s,baz=70,slow=41
comp=Z,260nm,0.8s
MTDJ Mount Denham 26.45 280 P **P 14 09 37.8 +1.3**
MTDJ IAmb IAmb 14 10 04.8
comp=Z,1µm,1.4s
MTDJ Mount Denham 26.45 280 *e*P **P 14 09 37.9 +1.3**
MTDJ Mount Denham 26.45 280 ⇓P **P 14 09 38.5 +2.0**
CLDB Colider 26.80 193 *e*P **P 14 09 40.7 +1.1**
SNDB Serra Nova Dou 27.31 183 *e*P **P 14 09 45.1 +0.9**
NBCA Caruaru-PE 27.35 149 *e*P **P 14 09 44.6 0.0**
SAML Samuel 27.55 209 P **P 14 09 47.9 +1.6**
SAML Samuel 27.55 209 P **P 14 09 47.9 +1.6**
SAML pmax pmax
comp=Z,314nm,1.3s
SAML MLR MLR
comp=Z,31µm,18.0s
SAML Samuel 27.55 209 *e*P **P 14 09 48.0 +1.6**
PDRB Porto dos Gac 27.73 194 *e*P **P 14 09 49.7 +1.8**
TBTG Tabatinga, AM 27.73 227 IAmb IAmb 14 10 35.2
comp=Z,1µm,1.6s
TBTG Tabatinga, AM 27.73 227 *e*P **P 14 09 50.0 +2.0**
SDBA SAO DESIDERIO 28.18 169 *e*P **P 14 09 51.8 -0.2**
NBAN Anadia - AL 28.47 151 *e*P **P 14 09 54.8 +0.3**
CAIB Caibarien 28.66 289 *e*P **P 14 09 57.3 +1.1**
NBLA Lagarto - SE 28.97 155 *e*P **P 14 09 58.2 -0.7**
MGV Manicaragua 29.07 288 *e*P **P 14 10 00.9 +1.0**
CALA Caldeira 29.70 35 *e*P **P 14 10 06.3 +1.0**
comp=Z,657nm,1.6s
HOR Horta 29.70 35 *e*P **P 14 10 09.5 +4.3**
comp=Z,450nm,1.4s
PCED Cedros 29.73 35 *e*P **P 14 10 09.8 +4.3**
comp=Z,634nm,1.6s
PCAN Candelaria 29.73 36 *e*P **P 14 10 06.5 +0.9**
comp=Z,453nm,1.7s
BCIP Isla Barro Col 29.76 261 ⇓P **P 14 10 08.1 +2.0**
PICO Pico 29.79 36 *e*P **P 14 10 06.0 -0.2**
comp=Z,964nm,2.1s
ETMB Extrema 29.81 214 P **P 14 10 07.8 +1.4**
ETMB IAmb IAmb 14 10 11.3
comp=Z,688nm,1.3s
ETMB IAms_20 IAms_20 14 22 27.2
comp=Z,52µm,18.0s
ETMB Extrema 29.81 214 *e*P **P 14 10 06.9 +0.4**
PPNO Prainha do Nor 29.86 36 *e*P **P 14 10 07.3 +0.5**
comp=Z,572nm,2.2s
PID Ribeirinha 29.92 36 *e*P **P 14 10 09.0 +1.7**
comp=Z,702nm,1.3s
VILB Vilhena 29.99 200 IAmb IAmb 14 10 16.4
comp=Z,617nm,1.4s
VILB Vilhena 29.99 200 *e*P **P 14 10 10.4 +2.4**
ROSA Rosais 30.05 35 *e*P **P 14 10 10.5 +2.1**
comp=Z,562nm,1.6s
PMAN Manadas 30.07 36 *e*P P 14 10 13.5 +4.9
comp=Z,498nm,1.7s
CAMR Camarioca 30.48 289 IAmb IAmb 14 10 20.9
comp=Z,924nm,1.3s
CAMR IAms_20 IAms_20 14 21 35.2
comp=Z,46µm,20.0s
CAMR Camarioca 30.48 289 *e*P **P 14 10 14.0 +1.7**
PSBA Serra de Santa 30.60 36 *e*P **P 14 10 14.1 +0.8**
comp=Z,1µm,1.4s
PSCM Serra do Cume 30.67 37 *e*P **P 14 10 15.0 +1.1**
comp=Z,447nm,1.4s
PAGU Agualva, Azore 30.68 37 *e*P **P 14 10 15.0 +1.0**
comp=Z,701nm,1.4s
PSMA Santa Maria 30.78 41 *e*P **P 14 10 13.8 -1.1**
comp=Z,610nm,1.4s
GDU01 Guandu, BA 30.81 160 *e*P **P 14 10 14.3 -1.0**
PSMN Pico do Norte, 30.83 41 *e*P **P 14 10 13.8 -1.5**
comp=Z,552nm,1.5s
JANB Januaria 30.87 169 *e*P **P 14 10 15.6 -0.3**
PDA Ponta Delgada 30.91 40 *e*P **P 14 10 15.3 -0.7**
comp=Z,753nm,1.7s
PSET Sete Cidades 30.93 39 *e*P **P 14 10 17.1 +0.9**
comp=Z,673nm,1.3s
BDFB Brasilia 30.99 176 P **P 14 10 18.4 +1.4**
BDFB IAmb IAmb 14 10 30.8
comp=Z,244nm,0.9s
BDFB Brasilia 30.99 176 P **P 14 10 17.6 +0.6**
comp=Z,94nm,1.1s,baz=0.2,slow=11,SNR=60
BDFB LR LR 14 23 11.1
comp=Z,38µm,19.8s,baz=352,slow=37
comp=Z,94nm,1.1s
CMLA Cha da Macela 31.01 40 *e*P **P 14 10 16.7 -0.2**
comp=Z,702nm,1.6s
ARAG Araguaiana, MT 31.04 183 *e*P **P 14 10 18.9 +1.6**
PCALD Caldeiras da R 31.05 40 *e*P **P 14 10 18.7 +1.4**
comp=Z,605nm,2.2s
PGRON Lagoa das Cont 31.11 40 *e*P **P 14 10 20.9 +3.1**
comp=Z,759nm,1.5s
V61A Roper 31.16 315 IAms_20 IAms_20 14 19 37.2
comp=Z,40µm,19.0s
BART Pico Bartolome 31.24 40 *e*P **P 14 10 19.9 +0.9**
comp=Z,634nm,1.6s
HAL Halifax 31.25 341 IAms_20 IAms_20 14 19 40.3
comp=Z,53µm,22.0s
Y60A Bolivia 31.38 311 IAms_20 IAms_20 14 19 57.5
comp=Z,47µm,20.0s
M65A Busby, Falmout 31.50 330 IAms_20 IAms_20 14 19 33.2
comp=Z,41µm,22.0s
M65A Busby, Falmout 31.50 330 P **P 14 10 20.9 -0.3**
baz=139
M65A S **S 14 15 31.2 +1.6**
baz=139
DWPF Disney Wildern 31.64 299 P **P 14 10 23.6 +1.0**
DWPF IAmb IAmb 14 10 29.0
comp=Z,397nm,1.4s
S61A Accomac 31.66 319 IAms_20 IAms_20 14 19 39.2
comp=Z,45µm,22.0s
SALV Santo Antonio 31.68 190 *e*P **P 14 10 24.9 +1.9**
L64A Middleborough 31.88 330 IAmb IAmb 14 10 31.0
comp=Z,480nm,1.4s
L64A IAms_20 IAms_20 14 20 15.2
comp=Z,32µm,18.0s
OTAV Otavalo 31.89 244 P **P 14 10 26.4 +1.0**
OTAV IAmb IAmb 14 10 31.5
comp=Z,568nm,1.6s
OTAV Otavalo 31.89 244 ⇓P **P 14 10 26.6 +1.2**
OTAV Otavalo 31.89 244 P **P 14 10 26.4 +1.0**
OTAV pmax pmax
comp=Z,569nm,1.6s
OTAV MLR MLR
comp=Z,10µm,22.0s
OTAV Otavalo 31.89 244 *e*P **P 14 10 27.2 +1.8**
PTLB Pontes e Lacer 32.02 197 P **P 14 10 27.2 +1.3**
PTLB IAmb IAmb 14 10 32.9
comp=Z,684nm,1.6s
PTLB Pontes e Lacer 32.02 197 *e*P **P 14 10 28.2 +2.2**
W59A Clinton 32.12 313 IAmb IAmb 14 10 33.6
comp=Z,918nm,2.0s
W59A IAms_20 IAms_20 14 20 27.9
comp=Z,48µm,20.0s
CZSB Cruzeiro do Su 32.20 226 P **P 14 10 28.6 +1.1**
CZSB Cruzeiro do Su 32.20 226 *e*P **P 14 10 28.9 +1.3**
CSU Charleston Sou 32.30 308 IAms_20 IAms_20 14 20 27.0
comp=Z,41µm,21.0s
BBTS Babate 32.34 87 LR LR 14 20 01.1
comp=Z,14µm,20.3s,baz=143,slow=30
CMC01 Camacan, BA 32.36 161 *e*P **P 14 10 29.9 +1.0**
P61A Hammonton 32.39 323 IAms_20 IAms_20 14 20 11.1
comp=Z,36µm,21.0s
Y58A Scranton 32.40 310 IAms_20 IAms_20 14 20 37.6
comp=Z,50µm,19.0s
NHSC New Hope 32.43 308 IAms_20 IAms_20 14 20 30.5
comp=Z,43µm,22.0s
X58A Rowland 32.46 311 IAmb IAmb 14 10 43.8
comp=Z,365nm,1.5s
X58A IAms_20 IAms_20 14 20 39.1
comp=Z,46µm,19.0s
T59A Double "B" Far 32.47 316 IAmb IAmb 14 11 39.0
comp=Z,590nm,1.9s
T59A IAms_20 IAms_20 14 19 52.8
comp=Z,46µm,22.0s
N62A Caumsett State 32.50 326 IAmb IAmb 14 10 36.4
comp=Z,434nm,1.2s
BRU2 Volcan 32.58 262 IAmb IAmb 14 10 38.3
comp=Z,381nm,1.2s
257A Skidaway Islan 32.62 306 IAms_20 IAms_20 14 21 07.7
comp=Z,41µm,20.0s
EMMW East Machias 32.65 337 P **P 14 10 30.9 -0.2**
EMMW IAmb IAmb 14 10 37.5
comp=Z,263nm,1.1s
HRV Adam Dziewonsk 32.66 330 P **P 14 10 31.1 -0.2**
HRV IAms_20 IAms_20 14 20 16.8
comp=Z,37µm,21.0s
HRV Adam Dziewonsk 32.66 330 ⇑P **P 14 10 32.3 +0.9**
HRV Adam Dziewonsk 32.66 330 P **P 14 10 31.1 -0.2**
HRV pmax pmax
comp=Z,206nm,1.2s
CPNY Central Park 32.67 325 IAms_20 IAms_20 14 20 15.3
comp=Z,39µm,21.0s
LMN Caledonia Moun 32.72 341 P **P 14 10 31.0 -0.8**
LMN IAmb IAmb 14 10 37.9
comp=Z,541nm,1.4s
LMN IAms_20 IAms_20 14 20 26.3
comp=Z,51µm,22.0s
GGN Saint George 32.77 338 IAmb IAmb 14 10 38.7
comp=Z,439nm,1.1s
PAL Palisades 32.79 326 IAmb IAmb 14 10 38.8
comp=Z,306nm,1.1s
V58A Windy Hill, Pi 32.91 313 IAmb IAmb 14 10 40.6
comp=Z,520nm,1.8s
V58A IAms_20 IAms_20 14 20 51.8
comp=Z,42µm,20.0s
BRNJ Basking Ridge 32.93 324 IAms_20 IAms_20 14 20 35.3
comp=Z,62µm,21.0s
656A Willston 32.94 300 IAmb IAmb 14 10 41.1
comp=Z,312nm,1.2s
656A IAms_20 IAms_20 14 21 46.6
comp=Z,33µm,20.0s
456A Hilliard 32.96 303 IAmb IAmb 14 10 40.5
comp=Z,513nm,1.3s
456A IAms_20 IAms_20 14 22 27.8
comp=Z,36µm,20.0s
Y57A Sumter 32.99 310 IAmb IAmb 14 10 41.4
comp=Z,989nm,2.0s
Y57A IAms_20 IAms_20 14 20 56.2
comp=Z,44µm,21.0s
CBN Corbin Frederi 33.05 318 IAmb IAmb 14 10 41.6
comp=Z,879nm,1.9s
TRNY Table Rock, Ra 33.06 325 IAmb IAmb 14 10 41.5
comp=Z,256nm,1.1s
TRNY IAms_20 IAms_20 14 20 27.6
comp=Z,35µm,21.0s
K62A Royalston 33.11 329 IAmb IAmb 14 10 42.0
comp=Z,585nm,1.7s
K62A IAms_20 IAms_20 14 20 31.7
comp=Z,38µm,21.0s
SIV San Ignacio 33.12 200 LR LR 14 23 31.8
comp=Z,22µm,19.7s,baz=42,slow=35
L61B Northampton 33.17 329 IAmb IAmb 14 10 42.5
comp=Z,473nm,1.2s
L61B Northampton 33.17 329 P **P 14 10 35.9 +0.1**
baz=137
L61B S **S 14 15 56.6 +0.9**
baz=137
W57A Gilead 33.22 312 IAmb IAmb 14 10 43.3
comp=Z,672nm,1.8s
W57A IAms_20 IAms_20 14 21 02.1
comp=Z,44µm,20.0s
ODNJ Ogdensburg 33.22 325 IAms_20 IAms_20 14 20 43.1
comp=Z,40µm,21.0s
R58B Mineral 33.24 318 IAmb IAmb 14 10 43.3
comp=Z,448nm,1.6s
R58B IAms_20 IAms_20 14 21 01.2
comp=Z,33µm,20.0s
IPMB Ipameri, GO 33.30 177 *e*P **P 14 10 37.8 +0.6**
BIRD Birdtown, Kers 33.32 311 IAmb IAmb 14 10 44.3
comp=Z,761nm,1.8s
BIRD IAms_20 IAms_20 14 21 05.9
comp=Z,53µm,20.0s
LUPA Lehigh Univers 33.33 324 IAmb IAmb 14 10 44.4
comp=Z,469nm,1.3s
LUPA IAms_20 IAms_20 14 21 00.0
comp=Z,40µm,20.0s
I63A Otisfield 33.40 333 IAmb IAmb 14 10 44.7
comp=Z,446nm,1.3s
I63A IAms_20 IAms_20 14 20 39.1
comp=Z,39µm,22.0s
ESPN Las Esperanzas 33.41 269 IAmb IAmb 14 10 45.0
comp=Z,636nm,1.5s
WVL Waterville 33.41 334 IAmb IAmb 14 10 43.7
comp=Z,297nm,1.3s
WVL IAms_20 IAms_20 14 20 39.3
comp=Z,47µm,22.0s
GUA01 Guaratinga, BA 33.43 162 *e*P **P 14 10 37.6 -0.6**
MACI Morro de la Ar 33.49 62 P **P 14 10 35.9 -3.1**
MACI IAmb IAmb 14 10 51.3
comp=Z,416nm,1.2s
MVL Millersville 33.51 322 IAmb IAmb 14 10 44.9
comp=Z,819nm,1.8s
LCR2 La Lucha 2 33.61 264 IAmb IAmb 14 10 45.9
comp=Z,384nm,1.6s
T57A Hurt 33.63 315 IAms_20 IAms_20 14 21 12.6
comp=Z,38µm,19.0s
HDC Heredia 33.66 265 *e*P **P 14 10 43.3 +2.8**
JSC Jenkinsville 33.75 309 IAms_20 IAms_20 14 20 57.4
comp=Z,50µm,22.0s
J61A Chester 33.78 330 IAmb IAmb 14 10 48.0
comp=Z,420nm,1.3s
PKME Peaks-Kenny Pk 33.83 335 IAmb IAmb 14 10 48.0
comp=Z,777nm,1.8s
PKME IAms_20 IAms_20 14 21 03.3
comp=Z,36µm,22.0s
PKME Peaks-Kenny Pk 33.83 335 ⇓P **P 14 10 41.9 +0.4**
S57A Dark Hollow, R 33.83 316 IAms_20 IAms_20 14 21 19.0
comp=Z,31µm,19.0s
TRY Troy 33.88 328 IAmb IAmb 14 10 48.9
comp=Z,508nm,1.3s
HNH Hanover 33.92 331 IAmb IAmb 14 10 49.2
comp=Z,366nm,1.1s
PMNB Patos De Minas 33.99 174 *e*P **P 14 10 43.9 +0.7**
SOCE Pocosol 34.06 266 IAmb IAmb 14 11 36.0
comp=Z,320nm,1.5s
H62A Milan 34.07 333 IAmb IAmb 14 10 50.7
comp=Z,367nm,1.2s
H62A IAms_20 IAms_20 14 20 59.8
comp=Z,41µm,22.0s
U56A King 34.08 313 IAmb IAmb 14 10 51.2
comp=Z,627nm,1.7s
U56A IAms_20 IAms_20 14 21 27.6
comp=Z,43µm,20.0s
BBSD Serra de San D 34.10 198 *e*P **P 14 10 45.8 +1.7**
DIAM Diamantina, MG 34.15 169 *e*P **P 14 10 45.1 +0.4**
C2SB Chapadao do Su 34.15 185 *e*P **P 14 10 46.2 +1.7**
LBNH Lisbon 34.16 331 IAmb IAmb 14 10 51.5
comp=Z,382nm,1.2s
LBNH Lisbon 34.16 331 ⇓P **P 14 10 45.5 +1.2**
KMSC Kings Mountain 34.19 311 IAmb IAmb 14 10 51.8
comp=Z,528nm,1.7s
KSPA Keystone Colle 34.19 325 IAmb IAmb 14 10 51.6
comp=Z,531nm,1.4s
P57A Homestead Farm 34.21 320 IAms_20 IAms_20 14 21 06.6
comp=Z,37µm,21.0s
EOSO Osorio 34.26 63 P **P 14 10 44.5 -1.1**
N58A Sunbury 34.26 323 IAmb IAmb 14 10 50.9
comp=Z,558nm,2.0s
N58A IAms_20 IAms_20 14 21 18.8
comp=Z,35µm,22.0s
G62A West of Eustis 34.31 334 IAms_20 IAms_20 14 21 18.0
comp=Z,47µm,22.0s
ACCN Adirondack Com 34.35 329 IAms_20 IAms_20 14 21 18.6
comp=Z,33µm,21.0s
PAULI Pauline 34.40 310 IAms_20 IAms_20 14 21 49.5
comp=Z,41µm,20.0s
JTS Las Juntas de 34.40 266 P **P 14 10 47.6 +0.8**
JTS Las Juntas de 34.40 266 LR LR 14 24 55.1
comp=Z,7µm,21.5s,baz=80,slow=36
JTS Las Juntas de 34.40 266 *d*/P **P 14 10 47.0 +0.1**
JTS pmax pmax
comp=Z,134nm,1.7s
JTS MLR MLR
comp=Z,6µm,12.0s
V55A Taylorsville 34.43 312 IAms_20 IAms_20 14 21 28.1
comp=Z,45µm,22.0s
TIGA Tifton 34.46 303 IAms_20 IAms_20 14 24 16.7
comp=Z,32µm,21.0s
HODGE Hodges 34.48 309 IAmb IAmb 14 10 54.4
comp=Z,710nm,1.7s
HODGE IAms_20 IAms_20 14 21 18.7
comp=Z,56µm,21.0s
154A Montrose 34.49 306 IAmb IAmb 14 10 54.8
comp=Z,575nm,1.2s
154A IAms_20 IAms_20 14 21 44.3
comp=Z,36µm,21.0s
NAN01 Guarapari, ES 34.53 163 *e*P **P 14 10 47.8 0.0**
BLA Blacksburg 34.53 315 IAmb IAmb 14 10 55.2
comp=Z,899nm,1.8s
BLA IAms_20 IAms_20 14 22 14.7
comp=Z,39µm,18.0s
BLA Blacksburg 34.53 315 ⇑P **P 14 10 49.2 +1.4**
FUL Funchal 34.56 54 *e*P **P 14 10 50.9 +2.9**
PMAR Madeira 34.57 54 P **P 14 10 51.8 +3.5**
BINY Binghamton 34.74 325 IAmb IAmb 14 10 56.5
comp=Z,343nm,1.1s
BINY Binghamton 34.74 325 ⇑P **P 14 10 50.4 +0.9**
553A Crawfordville 34.76 301 IAmb IAmb 14 10 57.4
comp=Z,471nm,1.1s
M57A Sunshine Farm, 34.82 323 IAmb IAmb 14 10 57.3
comp=Z,353nm,1.0s
M57A IAms_20 IAms_20 14 21 46.5
comp=Z,35µm,21.0s
SSPA Standing Stone 34.83 321 P **P 14 10 50.6 +0.4**
SSPA IAmb IAmb 14 10 57.3
comp=Z,382nm,1.4s
SSPA Standing Stone 34.83 321 ⇑P **P 14 10 51.0 +0.8**
J59A Piesco 34.83 328 IAmb IAmb 14 10 57.2
comp=Z,332nm,1.3s
ITRB Iturama 34.97 181 *e*P **P 14 10 53.5 +1.9**
GOGA Godfrey 35.07 307 IAms_20 IAms_20 14 22 33.6
comp=Z,41µm,18.0s
GOGA Godfrey 35.07 307 ⇓P **P 14 10 53.5 +1.1**
PMPS Porto Santo 35.15 54 *e*P **P 14 10 57.3 +4.2**
PMPS A A 14 11 04.0
comp=Z,605nm,1.7s
U54A Nelsons Funny 35.17 313 IAmb IAmb 14 11 00.8
comp=Z,867nm,1.6s
U54A IAms_20 IAms_20 14 22 02.8
comp=Z,42µm,20.0s
MGAN Managua 35.29 269 IAmb IAmb 14 11 02.4
comp=Z,739nm,1.4s
BG3 Lake Jocassee 35.30 309 IAmb IAmb 14 11 02.1
comp=Z,939nm,1.7s
BG3 IAms_20 IAms_20 14 21 44.4
comp=Z,52µm,22.0s
K57A Scipio Center 35.39 325 IAmb IAmb 14 11 01.9
comp=Z,352nm,1.0s
S54A Dingess, Beckl 35.44 315 IAmb IAmb 14 11 03.0
comp=Z,661nm,1.7s
MCWV Mont Chateau 35.47 319 IAmb IAmb 14 11 03.2
comp=Z,549nm,1.6s
MCWV IAms_20 IAms_20 14 22 51.0
comp=Z,30µm,20.0s
MCWV Mont Chateau 35.47 319 ⇑P **P 14 10 57.2 +1.5**
V53A Saluda 35.50 311 IAms_20 IAms_20 14 22 24.7
comp=Z,50µm,20.0s
352A Blakely 35.56 303 IAms_20 IAms_20 14 26 30.7
comp=Z,28µm,19.0s
J57A Williamstown 35.57 327 IAmb IAmb 14 11 03.7
comp=Z,568nm,1.4s
L56A Greenwood 35.58 324 IAmb IAmb 14 11 03.5
comp=Z,275nm,1.1s
L56A IAms_20 IAms_20 14 22 08.5
comp=Z,35µm,21.0s
Y52A Lilburn 35.70 307 IAms_20 IAms_20 14 22 53.3
comp=Z,38µm,19.0s
LONY Lake Ozonia 35.70 329 ⇓P **P 14 10 58.5 +0.8**
Q54A Coxs Mills 35.74 317 IAmb IAmb 14 11 05.6
comp=Z,585nm,1.8s
Q54A IAms_20 IAms_20 14 22 28.3
comp=Z,29µm,19.0s
152A Waverly Hall 35.78 305 IAmb IAmb 14 11 05.4
comp=Z,346nm,1.2s
RIB01 Linhares ES 35.86 164 *e*P **P 14 10 59.5 +0.3**
MNTQ Montreal, Queb 35.90 331 IAmb IAmb 14 11 05.7
comp=Z,324nm,1.1s
RPRD Ribas do Rio P 35.92 186 *e*P **P 14 11 02.0 +2.2**
ATAH Atahualpa 35.98 233 LR LR 14 26 23.2
comp=Z,26µm,19.9s,baz=45,slow=37
W52A Murphy 36.09 309 IAms_20 IAms_20 14 22 19.2
comp=Z,52µm,22.0s
O54A Avella 36.10 319 IAms_20 IAms_20 14 22 16.7
comp=Z,34µm,21.0s
AQDB Aquidauana 36.17 189 P **P 14 11 03.5 +1.7**
AQDB IAmb IAmb 14 11 16.7
comp=Z,275nm,0.9s
TKL Tuckaleechee C 36.20 310 IAmb IAmb 14 11 09.2
comp=Z,711nm,1.6s
TKL Tuckaleechee C 36.20 310 LR LR 14 22 57.1
comp=Z,45µm,21.8s,baz=114,slow=32
LPAZ La Paz 36.27 210 P **P 14 11 05.2 +1.6**
comp=Z,221nm,0.7s,baz=16,slow=9.0,SNR=359
LPAZ LR LR 14 26 27.2
comp=Z,20µm,18.8s,baz=28,slow=37
comp=Z,221nm,0.7s
LPAZ La Paz 36.27 210 ⇓P **P 14 11 05.2 +1.6**
LPAZ La Paz 36.27 210 *e*P **P 14 11 05.0 +1.4**
BDQN Bodoquena, MS 36.31 191 *e*P **P 14 11 05.1 +2.0**
BB19B Bebedouro 36.35 178 *e*P **P 14 11 05.0 +1.5**
P53A Whipple 36.37 317 IAms_20 IAms_20 14 22 26.0
comp=Z,36µm,22.0s
TZTN Tazewell 36.42 312 IAmb IAmb 14 11 11.5
comp=Z,898nm,1.6s
TZTN IAms_20 IAms_20 14 23 01.9
comp=Z,47µm,19.0s
TZTN Tazewell 36.42 312 ⇑P **P 14 11 05.5 +1.4**
J55A Hilton 36.46 325 IAms_20 IAms_20 14 22 55.6
comp=Z,27µm,20.0s
X51A Calhoun 36.58 308 IAmb IAmb 14 11 12.9
comp=Z,766nm,1.7s
X51A IAms_20 IAms_20 14 22 34.4
comp=Z,39µm,22.0s
BSCB Bom Sucesso 36.62 172 *e*P **P 14 11 06.1 +0.3**
TEIG Tepich 36.65 283 P **P 14 11 06.9 +0.8**
TEIG IAmb IAmb 14 11 13.4
comp=Z,603nm,1.4s
TEIG Tepich 36.65 283 LR LR 14 25 38.2
comp=Z,123nm,19.4s,baz=77,slow=35
TEIG Tepich 36.65 283 ⇓P **P 14 11 07.3 +1.2**
Q52A Bidwell 36.68 316 IAmb IAmb 14 11 13.0
comp=Z,1µm,1.8s
Q52A IAms_20 IAms_20 14 22 24.3
comp=Z,40µm,22.0s
N53A Lisbon 36.74 319 IAmb IAmb 14 11 13.9
comp=Z,517nm,1.5s
N53A IAms_20 IAms_20 14 22 35.6
comp=Z,33µm,22.0s
ICQ Pointe Anglais 36.74 341 IAms_20 IAms_20 14 23 00.7
comp=Z,41µm,22.0s
250A Grady 36.80 303 IAmb IAmb 14 11 14.6
comp=Z,1µm,1.6s
ALLY Alegheny Colle 36.80 321 IAmb IAmb 14 11 13.9
comp=Z,475nm,1.3s
ALLY IAms_20 IAms_20 14 22 50.0
comp=Z,41µm,22.0s
LDAQ Lac Daran 36.81 336 P **P 14 11 06.4 -0.9**
S51A Beattyville 36.95 313 IAms_20 IAms_20 14 23 07.7
comp=Z,44µm,20.0s
ERPA Erie 36.98 322 IAms_20 IAms_20 14 23 05.9
comp=Z,38µm,21.0s
ERPA Erie 36.98 322 ⇑P **P 14 11 09.7 +1.0**
O52A Adamsville 37.00 318 IAmb IAmb 14 11 15.8
comp=Z,650nm,1.6s
O52A IAms_20 IAms_20 14 23 58.6
comp=Z,27µm,19.0s
ALF01 Guarapari-ES 37.02 165 *e*P **P 14 11 09.7 +0.5**
W50A Signal Mountai 37.17 308 IAmb IAmb 14 11 17.2
comp=Z,475nm,1.3s
W50A IAms_20 IAms_20 14 22 52.9
comp=Z,41µm,22.0s
SSFO Shawnee State 37.17 315 IAmb IAmb 14 11 17.4
comp=Z,1µm,1.7s
SSFO IAms_20 IAms_20 14 23 47.6
comp=Z,34µm,18.0s
BRAL Brewton 37.20 301 IAmb IAmb 14 11 18.6
comp=Z,1µm,1.4s
BRAL IAms_20 IAms_20 14 23 31.3
comp=Z,31µm,20.0s
BRAL Brewton 37.20 301 ⇑P **P 14 11 12.7 +2.0**
Q51A Peebles 37.44 315 IAmb IAmb 14 11 19.6

comp=Z,668nm,1.6s
Q51A IAMs_20 IAMs_20 14 23 55.5
comp=Z,28μm,19.0s
M52A Chesterland 37.48 320 IAmb IAmb 14 11 19.5
comp=Z,435nm,1.3s
M52A IAMs_20 IAMs_20 14 22 59.1
comp=Z,34μm,22.0s
Y49A Blount Mountai 37.52 306 IAMs_20 IAMs_20 14 23 27.5
comp=Z,38μm,21.0s
T50A Nancy 37.56 311 IAMs_20 IAMs_20 14 23 39.1
comp=Z,42μm,19.0s
SWET Sewanee 37.64 308 IAmb IAmb 14 11 22.0
comp=Z,646nm,1.5s
SWET IAMs_20 IAMs_20 14 23 06.5
comp=Z,41μm,22.0s
LRAL Lakeview Retre 37.71 304 IAMs_20 IAMs_20 14 24 56.7
comp=Z,36μm,21.0s
LRAL Lakeview Retre 37.71 304 ⇑P **P 14 11 16.3 +1.3**
RCLB Rio Claro- Sao 37.75 176 *e*P **P 14 11 17.1 +1.7**
R50A Paris 37.76 314 IAMs_20 IAMs_20 14 23 44.2
comp=Z,44μm,19.0s
N51A Ashland 37.77 319 IAMs_20 IAMs_20 14 23 52.1
comp=Z,28μm,19.0s
ACSO Alum Creek Sta 37.80 317 IAMs_20 IAMs_20 14 23 43.0
comp=Z,31μm,20.0s
ACSO Alum Creek Sta 37.80 317 ⇑P **P 14 11 16.6 +1.0**
MTO3 Montecristo 37.98 274 IAmb IAmb 14 11 27.3
comp=Z,607nm,1.5s
U49A Red Boiling Sp 38.04 310 IAMs_20 IAMs_20 14 23 30.8
comp=Z,50μm,22.0s
PB18 Visviri 38.05 211 *i*P **P 14 11 20.2 +1.7**
NNA Nana 38.07 226 P **P 14 11 18.6 +0.3**
NNA Nana 38.07 226 LR LR 14 26 57.3
comp=Z,18μm,21.5s,baz=30,slow=36
NNA Nana 38.07 226 ⇓P **P 14 11 18.2 0.0**
NNA Nana 38.07 226 *d i*P **P 14 11 18.1 -0.1**
NNA pmax pmax
comp=Z,912nm,1.7s
NNA MLR MLR
comp=Z,25μm,17.0s
DUB01 Friburgo-RJ 38.08 168 *e*P **P 14 11 18.2 +0.1**
VAS01 Vassouras-RJ 38.08 170 *e*P **P 14 11 19.7 +1.5**
SADO Sadowa 38.16 326 LR LR 14 24 08.0
comp=Z,17μm,20.8s,baz=138,slow=32
SADO Sadowa 38.16 326 ⇑P **P 14 11 18.8 +0.2**
X48A Hartselle 38.22 306 IAMs_20 IAMs_20 14 23 50.0
comp=Z,40μm,22.0s
PETF Flores 38.23 278 IAmb IAmb 14 11 29.4
comp=Z,452nm,0.9s
CLTN Cedars of Leba 38.28 309 IAMs_20 IAMs_20 14 24 11.3
comp=Z,36μm,21.0s
R49A Shelbyville 38.36 313 IAmb IAmb 14 11 27.7
comp=Z,751nm,1.6s
R49A IAMs_20 IAMs_20 14 24 03.0
comp=Z,43μm,20.0s
VAO Valinhos 38.37 175 IAmb IAmb 14 11 28.9
comp=Z,1μm,1.9s
VAO Valinhos 38.37 175 *e*P **P 14 11 22.0 +1.3**
M50A Fremont 38.46 319 IAmb IAmb 14 11 35.0
comp=Z,705nm,1.7s
M50A IAMs_20 IAMs_20 14 24 13.2
comp=Z,27μm,19.0s
AMBA Amambai (Brazi 38.48 187 *e*P **P 14 11 23.4 +1.9**
V48A Smith Brothers 38.51 309 IAMs_20 IAMs_20 14 23 44.5
comp=Z,36μm,22.0s
MAN01 Angra dos Reis 38.58 171 *e*P **P 14 11 22.8 +0.5**
FRTB Fartura 38.59 179 *e*P **P 14 11 24.4 +1.9**
Z47A Carrollton 38.62 304 IAmb IAmb 14 11 30.1
comp=Z,681nm,1.4s
Z47A IAMs_20 IAMs_20 14 24 54.7
comp=Z,26μm,20.0s
LDASE Londrina, Braz 38.65 182 *e*P **P 14 11 24.8 +1.8**
O49A Covington 38.67 316 IAMs_20 IAMs_20 14 23 36.1
comp=Z,37μm,22.0s
FDPY Filadelfia 38.77 195 *e*P **P 14 11 26.4 +2.5**
PARB Paraibuna 38.83 174 *e*P **P 14 11 25.9 +1.5**
SLP01 Ubatuba-SP 38.87 173 *e*P **P 14 11 26.2 +1.4**
SPB Sao Paulo 38.92 176 IAMs_20 IAMs_20 14 27 56.1
comp=Z,26μm,19.0s
SPB Sao Paulo 38.92 176 *e*P **P 14 11 27.2 +2.1**
N49A Columbus Grove 38.94 317 IAMs_20 IAMs_20 14 23 56.1
comp=Z,38μm,22.0s
K50A Casco 38.95 321 IAmb IAmb 14 11 31.8
comp=Z,835nm,1.4s
K50A IAMs_20 IAMs_20 14 24 18.0
comp=Z,28μm,22.0s
P48A Milroy 39.06 315 IAMs_20 IAMs_20 14 25 04.6
comp=Z,31μm,18.0s
WCI Wyandotte Cave 39.12 312 P **P 14 11 27.9 +1.1**
WCI Wyandotte Cave 39.12 312 ⇑P **P 14 11 28.2 +1.4**
WCI Wyandotte Cave 39.12 312 P **P 14 11 27.9 +1.1**
WCI pmax pmax
comp=Z,663nm,2.0s
AP01 Chacalluta 39.14 211 ⇑*i*P **P 14 11 28.7 +1.6**
PLAL Pickwick Lake 39.20 307 IAmb IAmb 14 11 34.8
comp=Z,993nm,1.6s
PLAL IAMs_20 IAMs_20 14 24 29.8
comp=Z,36μm,22.0s
T47A Sharon Grove 39.20 310 IAmb IAmb 14 11 34.7
comp=Z,819nm,1.7s
T47A IAMs_20 IAMs_20 14 24 06.6
comp=Z,47μm,22.0s
346A Big Creek Wild 39.25 301 IAmb IAmb 14 11 35.8
comp=Z,888nm,1.3s
O48B Farmland 39.26 316 IAMs_20 IAMs_20 14 24 28.6
comp=Z,30μm,22.0s
O48B Farmland 39.26 316 P **P 14 11 28.2 +0.2**
baz=119
O48B S **S 14 17 27.8 -1.1**
baz=119
AAM Ann Arbor 39.33 320 IAmb IAmb 14 11 35.4
comp=Z,1μm,1.5s
AAM IAMs_20 IAMs_20 14 24 18.1
comp=Z,27μm,22.0s
AAM Ann Arbor 39.33 320 ⇑P **P 14 11 29.6 +1.1**
WVT Waverly 39.42 309 P **P 14 11 29.8 +0.5**
WVT Waverly 39.42 309 IAMs_20 IAMs_20 14 24 12.4
comp=Z,43μm,22.0s
WVT Waverly 39.42 309 ⇑P **P 14 11 29.9 +0.5**
WVT Waverly 39.42 309 P **P 14 11 29.8 +0.5**
WVT pmax pmax
comp=Z,474nm,1.4s
VLDQ Val d'Or 39.60 331 IAMs_20 IAMs_20 14 24 24.6
comp=Z,29μm,21.0s
L48A N Adams 39.63 319 IAmb IAmb 14 11 37.6
comp=Z,984nm,1.6s
L48A IAMs_20 IAMs_20 14 24 16.2
comp=Z,31μm,22.0s
GO01 Chusmiza 39.69 209 *e*P **P 14 11 31.4 -0.8**
BLO Bloomington 39.69 314 IAMs_20 IAMs_20 14 24 44.3
comp=Z,43μm,21.0s
I49A Point Hope 39.74 322 IAmb IAmb 14 11 38.1
comp=Z,486nm,1.2s
I49A IAMs_20 IAMs_20 14 24 49.7
comp=Z,35μm,20.0s
545A Edgard 39.80 298 IAMs_20 IAMs_20 14 31 11.4
comp=Z,32μm,18.0s
N47A Urbana 39.92 316 IAMs_20 IAMs_20 14 24 58.0
comp=Z,27μm,20.0s
PB11 IPOC Station P 39.99 209 P **P 14 11 33.7 -0.7**
PB11 IPOC Station P 39.99 209 *i*P **P 14 11 33.9 -0.5**
Y45A Yeager Farm, C 39.99 305 IAmb IAmb 14 11 41.5
comp=Z,1μm,1.7s
Y45A IAMs_20 IAMs_20 14 24 56.0
comp=Z,32μm,20.0s
USIN University of 40.00 311 IAmb IAmb 14 11 41.2
comp=Z,663nm,1.6s
PTGB Pitanga 40.01 183 *e*P **P 14 11 35.8 +1.5**
PB08 IPOC Station P 40.08 209 P **P 14 11 34.2 -1.2**
PB08 IPOC Station P 40.08 209 *i*P **P 14 11 35.0 -0.4**
PAPY Pozo Azul 40.14 192 *e*P **P 14 11 37.0 +1.7**
UTMT University of 40.27 308 IAmb IAmb 14 11 43.4
comp=Z,986nm,1.4s
UTMT IAMs_20 IAMs_20 14 24 38.2
comp=Z,45μm,22.0s
VBMS Vicksburg 40.33 302 IAmb IAmb 14 11 45.0
comp=Z,992nm,1.4s
VBMS IAMs_20 IAMs_20 14 28 06.1
comp=Z,33μm,19.0s
T45A Paducah 40.35 310 IAmb IAmb 14 11 44.0
comp=Z,518nm,1.2s
T45A IAMs_20 IAMs_20 14 24 41.1
comp=Z,39μm,22.0s
P46A Rosedale 40.37 314 IAmb IAmb 14 11 44.4
comp=Z,830nm,1.5s
P46A IAMs_20 IAMs_20 14 25 16.1
comp=Z,38μm,19.0s

YJA Yavi 40.39 202 ⇓*i*P **P 14 11 38.2 +0.2**
YJA Yavi 40.39 202 *e*P **P 14 11 38.1 +0.2**
CCIG Comitan 40.45 277 P **P 14 11 38.5 +0.2**
CCIG IAmb IAmb 14 11 46.9
comp=Z,469nm,1.2s
CCIG Comitan 40.45 277 ⇑P **P 14 11 39.3 +0.9**
HALT Halls 40.48 308 IAMs_20 IAMs_20 14 24 56.8
comp=Z,32μm,22.0s
HMBC Humberstone 40.54 209 *e*P **P 14 11 38.8 -0.1**
J47A Sunmer 40.55 320 IAmb IAmb 14 11 44.6
comp=Z,461nm,1.0s
J47A IAMs_20 IAMs_20 14 25 29.5
comp=Z,26μm,21.0s
GLAT Glass 40.57 308 IAmb IAmb 14 11 45.6
comp=Z,1μm,1.4s
GLAT IAMs_20 IAMs_20 14 25 33.0
comp=Z,32μm,21.0s
HICK Hickman 40.62 309 IAMs_20 IAMs_20 14 25 34.3
comp=Z,31μm,21.0s
OLIL Olney 40.62 312 IAmb IAmb 14 11 46.5
comp=Z,932nm,1.6s
SFIN Lafayette 40.63 315 IAmb IAmb 14 11 46.2
comp=Z,650nm,1.5s
SFIN IAMs_20 IAMs_20 14 24 47.9
comp=Z,43μm,22.0s
TA02 Huaiquique 40.65 210 IAmb IAmb 14 11 42.9
comp=Z,815nm,1.6s
TA02 Huaiquique 40.65 210 *e*P **P 14 11 38.9 -0.7**
LNXT Lenox 40.66 308 IAMs_20 IAMs_20 14 25 45.6
comp=Z,29μm,19.0s
SJPY San Joaquin 40.67 188 *e*P **P 14 11 40.9 +1.1**
MET Memphis--Engin 40.69 306 IAMs_20 IAMs_20 14 25 24.2
comp=Z,34μm,21.0s
HDBT Hernando Brdge 40.79 306 IAMs_20 IAMs_20 14 25 29.0
comp=Z,26μm,21.0s
L46A Eue Claire 40.86 318 IAmb IAmb 14 11 47.8
comp=Z,717nm,1.6s
L46A IAMs_20 IAMs_20 14 25 03.9
comp=Z,36μm,22.0s
TA01 Diego Aracena 40.93 210 IAmb IAmb 14 11 45.4
comp=Z,875nm,1.4s
TA01 Diego Aracena 40.93 210 *e*P **P 14 11 42.1 +0.1**
PVMO Portageville 40.93 308 IAMs_20 IAMs_20 14 25 09.5
comp=Z,34μm,22.0s
PEBM Pemiscott Bayo 40.95 308 IAMs_20 IAMs_20 14 25 55.2
comp=Z,30μm,19.0s
PB01 IPOC Station P 41.02 208 ⇓*i*P **P 14 11 42.9 +0.1**
GNAR Gosnell 41.02 307 IAMs_20 IAMs_20 14 25 24.0
comp=Z,33μm,22.0s
SIUC Southern Illin 41.03 310 IAmb IAmb 14 11 50.1
comp=Z,880nm,1.4s
S44A Carbondale 41.05 310 IAmb IAmb 14 11 50.1
comp=Z,851nm,1.4s
PARMO Parma 41.05 309 IAMs_20 IAMs_20 14 25 47.8
comp=Z,33μm,20.0s
PATCX Punta Patache 41.13 209 ⇓*i*P **P 14 11 43.8 0.0**
143A Socs Landing, 41.17 302 IAMs_20 IAMs_20 14 27 44.5
comp=Z,26μm,20.0s
CGM3 Cape Girardeau 41.21 309 IAmb IAmb 14 11 51.0
comp=Z,730nm,1.4s
CGM3 IAMs_20 IAMs_20 14 25 51.8
comp=Z,31μm,20.0s
SCHQ Schefferville 41.37 345 P **P 14 11 44.8 -0.4**
comp=Z,30nm,0.9s,baz=146,slow=7.0,SNR=17
SCHQ LR LR 14 26 53.4
comp=Z,44μm,20.5s,baz=166,slow=33
comp=Z,30nm,0.9s
SCHQ Schefferville 41.37 345 ⇑P **P 14 11 44.8 -0.4**
HBAR Harrisburg 41.38 307 IAmb IAmb 14 11 52.4
comp=Z,750nm,1.4s
HBAR IAMs_20 IAMs_20 14 25 46.7
comp=Z,31μm,22.0s
PB09 IPOC Station P 41.56 207 *i*P **P 14 11 48.0 +0.7**
PBMO Poplar Bluff 41.61 308 IAMs_20 IAMs_20 14 26 15.4
comp=Z,33μm,21.0s
M44A Midewin, Midew 41.72 316 IAMs_20 IAMs_20 14 26 36.8
comp=Z,27μm,18.0s
HQIL Hanson Quary C 41.78 317 IAMs_20 IAMs_20 14 27 53.4
comp=Z,28μm,20.0s
CCAR Cane Creek 41.78 304 IAMs_20 IAMs_20 14 25 38.6
comp=Z,30μm,21.0s
I45A Fountain 41.85 320 IAmb IAmb 14 12 02.8
comp=Z,1μm,1.9s
I45A IAMs_20 IAMs_20 14 26 18.7
comp=Z,28μm,20.0s
LCAR Lake Charles 41.93 307 IAMs_20 IAMs_20 14 25 51.0
comp=Z,31μm,22.0s
TIO Tiouine 41.94 61 P **P 14 11 49.5 -0.9**
L44A Lake County Fo 42.00 317 IAmb IAmb 14 11 57.2
comp=Z,893nm,1.4s
L44A IAMs_20 IAMs_20 14 26 12.0
comp=Z,27μm,20.0s
L44A Lake County Fo 42.00 317 P **P 14 11 51.2 +0.7**
baz=118
L44A S **S 14 18 10.5 +0.8**
baz=118
P43A Skaggs, Pawnee 42.00 313 IAmb IAmb 14 11 57.5
comp=Z,615nm,1.4s
P43A IAMs_20 IAMs_20 14 26 49.4
comp=Z,39μm,20.0s
E46A Sault Ste Mari 42.00 324 P **P 14 11 50.9 +0.4**
E46A IAmb IAmb 14 11 57.2
comp=Z,390nm,1.1s
FVM French Village 42.02 310 IAmb IAmb 14 11 57.8
comp=Z,502nm,1.4s
AZAP Zapla 42.11 201 *e*P **P 14 11 51.4 -0.4**
SLM Saint Louis 42.12 311 IAmb IAmb 14 11 58.4
comp=Z,530nm,1.4s
AF01 San Pedro de A 42.13 205 IAmb IAmb 14 12 32.0
comp=Z,851nm,1.3s
AF01 San Pedro de A 42.13 205 ⇓*i*P **P 14 11 52.0 -0.1**
H10N3 ASCENSION HYDR 42.15 121 T T 14 56 46.8
baz=303,slow=76,SNR=436
H10N2 ASCENSION HYDR 42.15 121 T T 14 56 37.3
baz=303,slow=76,SNR=705
CPUP Villa Florida 42.17 190 P **P 14 11 52.4 +0.4**
CPUP IAmb IAmb 14 11 56.5
comp=Z,583nm,1.6s
CPUP Villa Florida 42.17 190 P **P 14 11 52.8 +0.8**
comp=Z,44nm,0.6s,baz=12,slow=8.2,SNR=67
CPUP LR LR 14 29 39.8
comp=Z,11μm,18.0s,baz=10,slow=36
comp=Z,44nm,0.6s
CPUP Villa Florida 42.17 190 ⇑P **P 14 11 52.8 +0.8**
CPUP Villa Florida 42.17 190 P **P 14 11 52.4 +0.4**
CPUP pmax pmax
comp=Z,583nm,1.6s
H10N1 ASCENSION HYDR 42.17 121 T T 14 56 48.3
baz=303,slow=76,SNR=999
ASCN Ascension 42.32 121 IAMs_20 IAMs_20 14 24 47.3
comp=Z,21μm,19.0s
PFVI Vila Bisbo 42.34 51 *e*P **P 14 11 56.2 +2.8**
PFVI A A 14 12 00.8
comp=Z,420nm,2.2s
PFVI Vila Bisbo 42.34 51 P **P 14 11 54.2 +0.8**
AVE Averroes 42.34 57 P **P 14 11 55.7 +2.3**
PB04 IPOC Station P 42.44 208 IAmb IAmb 14 11 58.2
comp=Z,1μm,1.8s
PB04 IPOC Station P 42.44 208 *e*P **P 14 11 54.6 +0.1**
Z41A Richland Creek 42.45 303 IAmb IAmb 14 12 00.9
comp=Z,1μm,1.5s
Z41A IAMs_20 IAMs_20 14 27 35.2
comp=Z,27μm,19.0s
UALR University of 42.47 305 IAmb IAmb 14 12 08.9
comp=Z,652nm,1.6s
UALR IAMs_20 IAMs_20 14 26 31.7
comp=Z,33μm,20.0s
PB06 IPOC Station P 42.50 207 IAmb IAmb 14 11 59.0
comp=Z,434nm,1.2s
PB06 IPOC Station P 42.50 207 *e*P **P 14 11 55.5 +0.5**
ITAB Concordia 42.51 183 P **P 14 11 56.3 +1.5**
ITAB Concordia 42.51 183 *e*P **P 14 11 57.2 +2.4**
K43A Burlington 42.52 317 IAMs_20 IAMs_20 14 26 04.7
comp=Z,28μm,21.0s
MORF Marmelete 42.53 51 IAmb IAmb 14 12 08.0
comp=Z,681nm,1.7s
MORF Marmelete 42.53 51 *e*P **P 14 11 55.3 +0.3**
MORF A A 14 12 02.4
comp=Z,547nm,2.1s
MORF Marmelete 42.53 51 *e*P **P 14 11 53.9 -1.1**
MORF *e*S **S 14 18 16.8 -0.9**
MORF IAMs_20 IAMs_20 14 22 12.5
comp=N,43μm,36.8s
MORF Marmelete 42.53 51 *e*P **P 14 11 53.9 -1.1**
MORF *e*S **S 14 18 16.8 -0.9**
PTEO Sao Teotonio 42.55 51 *e*P **P 14 11 57.8 +2.7**
PTEO A A 14 12 01.5
comp=N,460nm,1.8s
WHAR Wooly Hollow 42.57 306 IAmb IAmb 14 12 02.0
comp=Z,826nm,1.4s
WHAR IAMs_20 IAMs_20 14 27 05.3
comp=Z,26μm,21.0s
FCAR Ozark Folk Cen 42.62 307 IAmb IAmb 14 12 01.3
comp=Z,599nm,1.6s
FCAR IAMs_20 IAMs_20 14 26 00.5
comp=Z,31μm,22.0s
H10S3 ASCENSION HYDR 42.63 122 T T 14 57 21.8
baz=299,slow=74,SNR=328
MAJ01 Sao Joao Batis 42.64 179 *e*P **P 14 11 57.1 +1.2**
PMAFR Mafra 42.64 49 P **P 14 11 55.5 -0.4**
LIS Lisbon 42.65 49 *e*P **P 14 11 59.2 +3.3**
LIS A A 14 12 03.3
comp=Z,922nm,1.8s
LIS Lisbon 42.65 49 *e*P **P 14 11 54.9 -1.1**
LIS *e*S **S 14 18 18.6 -0.7**
LIS IAMs_20 IAMs_20 14 22 13.8
comp=N,52μm,35.2s
LIS Lisbon 42.65 49 *e*P **P 14 11 54.8 -1.1**
LIS *e*S **S 14 18 18.6 -0.7**
H10S2 ASCENSION HYDR 42.65 122 T T 14 57 26.7
baz=281,slow=74,SNR=256
CCM Cathedral Cave 42.65 310 P **P 14 11 56.2 +0.3**
CCM IAmb IAmb 14 12 02.6
comp=Z,766nm,1.6s
CCM Cathedral Cave 42.65 310 IAMs_20 IAMs_20 14 26 02.0
comp=Z,41μm,22.0s
CCM Cathedral Cave 42.65 310 P **P 14 11 56.2 +0.3**
CCM pmax pmax
comp=Z,766nm,1.6s
SLA San Lorenzo 42.72 201 *e*P **P 14 11 55.9 -0.8**
WLAR White Oak Lake 42.80 303 IAMs_20 IAMs_20 14 28 56.6
comp=Z,36μm,20.0s
PACT Alcochete 42.90 49 *e*P **P 14 12 00.0 +2.1**
PACT A A 14 12 13.5
comp=Z,1μm,1.8s
PB15 IPOC Station P 42.90 207 IAMs_20 IAMs_20 14 30 23.6
comp=Z,20μm,18.0s
PB15 IPOC Station P 42.90 207 *i*P **P 14 11 59.0 +0.7**
PB15 IPOC Station P 42.90 207 *e*P **P 14 11 59.5 +1.2**
RTC Rabat Centre 42.96 57 P **P 14 11 57.6 -0.9**
CMIG Matias Romero 43.01 279 LR LR 14 27 53.5
comp=Z,5μm,22.0s,baz=68,slow=33
H43A Windswept, Lux 43.02 320 P **P 14 11 59.0 +0.2**
H43A IAmb IAmb 14 12 05.5
comp=Z,493nm,1.3s
H43A IAMs_20 IAMs_20 14 27 03.7
comp=Z,27μm,20.0s
MESJ Messejana 43.03 51 *e*P **P 14 12 01.9 +2.9**
MESJ A A 14 12 04.6
comp=Z,177nm,1.9s
MESJ Messejana 43.03 51 *e*P **P 14 11 58.0 -1.0**
MESJ *e*S **S 14 18 24.2 -0.8**
MESJ IAMs_20 IAMs_20 14 22 07.0
comp=N,29μm,33.2s
MESJ Messejana 43.03 51 ⇑P **P 14 12 01.8 +2.9**
MESJ Messejana 43.03 51 *e*P **P 14 11 58.0 -1.0**
MESJ *e*S **S 14 18 24.2 -0.8**
PBDV Barranco-do-Ve 43.05 52 *e*P **P 14 11 59.7 +0.5**
PBDV A A 14 12 05.8
comp=N,406nm,2.1s
L42A Oliver, Polo 43.09 316 IAMs_20 IAMs_20 14 27 27.9
comp=Z,26μm,18.0s
PCVE Castro Verde 43.10 51 *e*P **P 14 11 59.0 -0.5**
PCVE A A 14 12 07.2
comp=Z,518nm,1.9s
PCVE Castro Verde 43.10 51 P **P 14 11 58.2 -1.4**
MGMO Mountain Grove 43.12 308 IAmb IAmb 14 12 05.5
comp=Z,886nm,1.9s
MGMO IAMs_20 IAMs_20 14 27 01.5
comp=Z,35μm,20.0s
PSBE So Bento 43.20 48 *e*P **P 14 11 59.6 -0.8**
PSBE A A 14 12 06.8
comp=Z,601nm,2.0s
PVAQ Vaqueiros 43.26 51 P **P 14 11 59.0 -1.9**
PVAQ Vaqueiros 43.26 51 *e*P **P 14 12 00.3 -0.6**
PVAQ A A 14 12 08.6
comp=Z,417nm,2.0s
PVAQ *e*S **S 14 18 36.7 +8.3**
PVAQ *e*SS **SS 14 21 44.5 +2.9**
PVAQ *e*LR LR 14 23 38.1
PVAQ A A 14 25 59.6
comp=Z,17μm,20.0s
PVAQ Vaqueiros 43.26 51 P **P 14 12 00.1 -0.8**
PVAQ Vaqueiros 43.26 51 ⇑P **P 14 12 00.1 -0.8**
PBEJ Beja 43.35 51 *e*P **P 14 12 04.4 +2.8**
PBEJ A A 14 12 10.2
comp=Z,255nm,1.8s
N41A Harden Midland 43.36 314 IAMs_20 IAMs_20 14 27 31.4
comp=Z,28μm,20.0s
MIAR Mount Ida 43.39 304 IAMs_20 IAMs_20 14 26 38.1
comp=Z,28μm,20.0s
MIAR Mount Ida 43.39 304 ⇑P **P 14 12 02.6 +0.6**
EVO Evora 43.42 50 *e*P **P 14 12 01.5 -0.6**
EVO A A 14 12 09.2
comp=Z,419nm,2.0s
EVO Evora 43.42 50 P **P 14 12 00.1 -2.0**
PMTG Montargil 43.45 49 *e*P **P 14 12 01.7 -0.7**
PMTG A A 14 12 10.2
comp=Z,510nm,1.9s
I42A Draeger Farm, 43.45 319 IAMs_20 IAMs_20 14 26 34.3
comp=Z,35μm,22.0s
EGRO El Granado 43.48 51 P **P 14 12 02.0 -0.7**
R40A Maddies Statio 43.49 310 IAmb IAmb 14 12 09.0
comp=Z,607nm,1.4s
PCAS Casmilo, Conde 43.61 48 *e*P **P 14 12 02.6 -1.1**
PCAS A A 14 12 10.7
comp=Z,322nm,1.8s
NATX Nacogdoches 43.66 300 IAMs_20 IAMs_20 14 30 22.4
comp=Z,31μm,18.0s
NATX Nacogdoches 43.66 300 ⇓P **P 14 12 05.5 +1.4**
COI Coimbra 43.73 47 *e*P **P 14 12 04.9 +0.3**
COI A A 14 12 15.3
comp=Z,419nm,1.8s
COI Coimbra 43.73 47 ⇓P **P 14 12 04.8 +0.2**
P40A Paris 43.76 312 IAmb IAmb 14 12 11.3
comp=Z,622nm,1.4s
TER01 Tubaro-SC 43.77 179 *e*P **P 14 12 06.5 +1.6**
PESTR Estremoz 43.84 50 P **P 14 12 04.0 -1.6**
PESTR IAMs_20 IAMs_20 14 25 42.3
comp=Z,25μm,20.0s
PESTR Estremoz 43.84 50 *e*P **P 14 12 05.1 -0.5**
PESTR A A 14 12 13.1
comp=Z,288nm,2.0s
PESTR Estremoz 43.84 50 P **P 14 12 06.8 +1.2**
PESTR Estremoz 43.84 50 ⇑P **P 14 12 08.2 +2.6**
JFWS Jewell Farm 43.87 317 IAmb IAmb 14 12 19.5
comp=Z,504nm,1.4s
JFWS Jewell Farm 43.87 317 IAMs_20 IAMs_20 14 27 19.6
comp=Z,29μm,22.0s
JFWS Jewell Farm 43.87 317 ⇑P **P 14 12 06.3 +0.6**
F42A Maple Grove Fa 43.89 321 IAMs_20 IAMs_20 14 27 06.7
comp=Z,39μm,22.0s
PBAR Barrancos 44.02 51 *e*P **P 14 12 06.3 -0.7**
PBAR A A 14 12 12.5
comp=Z,258nm,1.8s
PBAR Barrancos 44.02 51 P **P 14 12 06.0 -1.0**
S39A Bolivar 44.09 309 IAmb IAmb 14 12 13.8
comp=Z,623nm,1.3s
S39A IAMs_20 IAMs_20 14 26 57.1
comp=Z,36μm,22.0s
SFS San Fernando 44.13 53 P **P 14 12 07.4 -0.5**
HHAR Hobbs 44.14 306 IAMs_20 IAMs_20 14 27 19.7
comp=Z,27μm,21.0s
HNVL Huntsville, TX 44.15 298 IAmb IAmb 14 12 15.8
comp=Z,752nm,1.5s
L40A Anamosa 44.16 315 IAmb IAmb 14 12 21.3
comp=Z,454nm,1.2s
L40A IAMs_20 IAMs_20 14 26 57.4
comp=Z,35μm,22.0s
FSA Cafayete 44.16 201 *e*P **P 14 12 06.5 -1.8**
EMIN Mina Concepcio 44.17 51 P **P 14 12 07.4 -0.8**
PMRV Marv??o 44.18 49 *e*P **P 14 12 06.6 -1.7**
PMRV A A 14 12 15.5
comp=Z,413nm,1.9s
PMRV *e*S **S 14 18 41.8 -0.1**
PMRV *e*SS **SS 14 22 03.5 +3.9**
PMRV *e*LR LR 14 23 56.6
PMRV A A 14 26 05.6
comp=Z,17μm,20.0s
Z38A Mt. Pleasant 44.23 302 IAMs_20 IAMs_20 14 28 55.4
comp=Z,27μm,20.0s
EBAD Badajoz 44.23 50 P **P 14 12 09.1 +0.4**

IFR Ifrane 44.25 58 P **P 14 12 08.4 -0.8**
PCBR Castelo Branco 44.27 48 *e*P **P 14 12 08.4 -0.5**
PCBR A A 14 12 16.8
comp=Z,419nm,1.9s
PVIS Viseu 44.29 47 *e*P **P 14 12 11.8 +2.6**
HKT Hockley 44.34 297 P **P 14 12 10.3 +0.8**
HKT IAmb IAmb 14 12 16.2
comp=Z,404nm,1.4s
HKT Hockley 44.34 297 ⇓P **P 14 12 10.7 +1.1**
HKT Hockley 44.34 297 *d i*P **P 14 12 10.5 +0.9**
HKT pmax pmax
comp=Z,382nm,1.4s
HKT MLR MLR
comp=Z,13μm,13.0s
MTE Manteigas 44.42 47 P **P 14 12 08.9 -1.3**
MTE IAmb IAmb 14 12 14.4
comp=Z,385nm,1.4s
MTE Manteigas 44.42 47 *e*P **P 14 12 06.4 -3.8**
MTE A A 14 12 25.3
comp=Z,421nm,1.7s
MTE *e*S **S 14 18 52.9 +7.5**
MTE *e*SS **ScS 14 22 06.9 -2.3**
MTE *e*LR LR 14 24 32.9
MTE A A 14 26 11.5
comp=Z,14μm,22.0s
MTE Manteigas 44.42 47 ⇑P **P 14 12 09.0 -1.3**
PGAV Gavieira, Arco 44.51 45 *e*P **P 14 12 13.8 +2.8**
PGAV A A 14 12 20.3
comp=Z,457nm,1.9s
PGAV *e*S **S 14 18 50.0 +3.2**
PGAV *e*SS **ScS 14 22 09.5 -0.4**
PGAV *e*LR LR 14 24 04.9
PGAV A A 14 27 19.8
comp=Z,8μm,18.0s
ESPR Espera 44.52 53 P **P 14 12 09.1 -1.9**
MDT Midelt 44.53 59 LR LR 14 27 12.3
comp=Z,11μm,20.9s,baz=272,slow=31
U38A Gravette 44.53 307 IAmb IAmb 14 12 17.2
comp=Z,463nm,1.8s
U38A IAMs_20 IAMs_20 14 27 32.0
comp=Z,27μm,21.0s
I40A Norwalk 44.55 318 IAmb IAmb 14 12 17.8
comp=Z,505nm,1.4s
I40A IAMs_20 IAMs_20 14 27 17.3
comp=Z,30μm,22.0s
PB14 IPOC Station P 44.55 207 P **P 14 12 12.0 +0.3**
PB14 IPOC Station P 44.55 207 P **P 14 12 10.6 -1.0**
AHML Horco Molle 44.57 200 *e*P **P 14 12 11.0 -0.5**
PCAB Cabril 44.58 46 *e*P P 14 12 05.1 -6.4
POLO Lamas de Olo 44.61 46 *e*P **P 14 12 10.7 -1.1**
POLO A A 14 12 19.9
comp=Z,182nm,1.7s
ECEU Ceuta 44.62 54 P **P 14 12 10.9 -1.0**
PVRL Vila Real 44.63 46 *e*P **P 14 12 14.6 +2.7**
PVRL A A 14 12 19.0
comp=Z,399nm,1.9s
CEU Ceuta 44.63 54 P **P 14 12 11.8 -0.1**
237A Washetta, Mont 44.66 300 IAMs_20 IAMs_20 14 31 34.0
comp=Z,25μm,18.0s
COWI Conover 44.67 321 IAmb IAmb 14 12 26.2
comp=Z,415nm,1.3s
COWI IAMs_20 IAMs_20 14 27 42.3
comp=Z,38μm,22.0s
COWI Conover 44.67 321 ⇑P **P 14 12 12.9 +0.8**
GO02 Mina Guanaco 44.67 206 P **P 14 12 12.8 +0.1**
GO02 IAmb IAmb 14 12 16.5
comp=Z,462nm,1.2s
GO02 Mina Guanaco 44.67 206 *e*P **P 14 12 13.7 +1.0**
GO02 Mina Guanaco 44.67 206 ⇓P **P 14 12 12.7 +0.1**
X37A Clayton 44.84 304 P **P 14 12 14.3 +0.7**
X37A IAmb IAmb 14 12 20.8
comp=Z,653nm,1.4s
X37A IAMs_20 IAMs_20 14 28 42.4
comp=Z,23μm,20.0s
LIJA Lijar 44.88 53 P **P 14 12 13.8 -0.2**
G40A Rib Lake 44.91 320 IAmb IAmb 14 12 21.0
comp=Z,465nm,1.2s
G40A IAMs_20 IAMs_20 14 28 12.9
comp=Z,30μm,18.0s
RLO Rose Lookout 44.95 306 IAmb IAmb 14 12 20.7
comp=Z,392nm,1.3s
RLO IAMs_20 IAMs_20 14 27 58.4
comp=Z,24μm,21.0s
MVO Moncorvo 45.06 47 *e*P **P 14 12 14.5 -0.9**
MVO A A 14 12 22.7
comp=Z,350nm,1.7s
MVO *e*S **S 14 19 01.5 +6.7**
MVO *e*SS **SS 14 22 17.1 +0.4**
MVO *e*LR LR 14 24 18.4
MVO A A 14 28 23.4
comp=Z,7μm,18.0s
DBIC Dimbokro 45.11 96 P **P 14 12 13.4 -2.7**
DBIC Dimbokro 45.11 96 *e*P **P 14 12 12.1 -3.9**
DBIC Dimbokro 45.11 96 P **P 14 12 13.8 -2.3**
comp=Z,41nm,0.8s,baz=286,slow=7.3,SNR=17
DBIC LR LR 14 27 12.9
comp=Z,14μm,21.2s,baz=272,slow=31
comp=Z,41nm,0.8s
DBIC Dimbokro 45.11 96 ⇓P **P 14 12 13.3 -2.7**
DBIC Dimbokro 45.11 96 P **P 14 12 14.4 -1.6**
ECAB El Cabril 45.20 51 P **P 14 12 14.3 -2.2**
PVLZ Pen de Vlez 45.29 56 P **P 14 12 15.9 -1.3**
ITQB Itaqui 45.34 188 P **P 14 12 18.0 +0.6**
ITQB Itaqui 45.34 188 *e*P **P 14 12 18.2 +0.7**
SCIA State Center 45.46 314 IAmb IAmb 14 12 24.1
comp=Z,467nm,1.3s
SCIA IAMs_20 IAMs_20 14 28 12.0
comp=Z,32μm,22.0s
SCIA State Center 45.46 314 ⇑P **P 14 12 19.0 +0.6**
TUL3 Leonard 45.49 305 IAMs_20 IAMs_20 14 28 55.5
comp=Z,24μm,20.0s
PBRG Braganca 45.50 46 *e*P **P 14 12 20.5 +1.7**
PBRG A A 14 12 24.3
comp=Z,367nm,1.7s
ECAL Calabor 45.56 46 P **P 14 12 17.3 -2.0**
EMAL Malaga-Limoner 45.59 53 P **P 14 12 18.9 -0.6**
IVI Ivigtut 45.68 1 IAmb IAmb 14 12 32.0
comp=Z,554nm,1.9s
IVI Ivigtut 45.68 1 *i*P **P 14 12 21.2 +1.5**
IVI IAmb IAmb 14 12 36.4
comp=Z,609nm,2.0s
NRS Narsarsuaq 45.73 3 P **P 14 12 19.2 -1.0**
NRS IAmb IAmb 14 12 32.1
comp=Z,552nm,1.9s
NRS Narsarsuaq 45.73 3 P **P 14 12 19.2 -1.0**
NRS pmax pmax
comp=Z,552nm,1.9s
NRS Narsarsuaq 45.73 3 *i*P **P 14 12 19.0 -1.2**
NRS IAmb IAmb 14 12 42.4
comp=Z,1μm,2.3s
CPSB Cacapava Do Su 45.74 184 *e*P **P 14 12 21.5 +0.8**
EADA Adamuz 45.87 52 P **P 14 12 20.9 -0.9**
EGOR Sierra Gorda, 45.93 53 P **P 14 12 21.0 -1.4**
435B Jarrell 45.96 298 IAmb IAmb 14 12 29.4
comp=Z,559nm,1.4s
435B IAMs_20 IAMs_20 14 33 11.6
comp=Z,23μm,18.0s
435B Jarrell 45.96 298 P **P 14 12 23.3 +0.7**
baz=98
435B S **S 14 19 10.7 +2.8**
baz=98
DEOK Depew 46.03 305 P **P 14 12 23.7 +0.6**
DEOK IAMs_20 IAMs_20 14 27 55.9
comp=Z,25μm,22.0s
WHTX Lake Whitney, 46.04 300 IAMs_20 IAMs_20 14 32 28.5
comp=Z,22μm,20.0s
Z35A Perchaven, San 46.10 301 IAMs_20 IAMs_20 14 31 31.1
comp=Z,26μm,19.0s
W35A Tecumseh 46.17 304 IAMs_20 IAMs_20 14 28 49.7
comp=Z,31μm,21.0s
LOOK Love County 46.17 302 IAMs_20 IAMs_20 14 30 15.7
comp=Z,26μm,20.0s
ELGU Los Guajares, 46.24 54 P **P 14 12 23.6 -1.2**
CYA Choya 46.26 199 *i*P **P 14 12 23.3 -1.5**
QUOK Quay 46.27 305 IAMs_20 IAMs_20 14 28 27.3
comp=Z,22μm,22.0s
FW06 Azle 46.29 301 IAMs_20 IAMs_20 14 31 56.0
comp=Z,31μm,19.0s
T35A Sooner Cattle 46.30 307 IAMs_20 IAMs_20 14 28 26.0
comp=Z,29μm,22.0s
OK052 Battle Ridge R 46.31 305 IAMs_20 IAMs_20 14 28 50.1
comp=Z,21μm,20.0s
OK031 S. Brethren Rd 46.33 305 IAMs_20 IAMs_20 14 28 39.7
comp=Z,22μm,21.0s
E38A The Farm, Brul 46.38 321 IAmb IAmb 14 12 39.0
comp=Z,286nm,1.4s
E38A IAMs_20 IAMs_20 14 28 34.6
comp=Z,37μm,22.0s
EMLI Melilla 46.40 56 P **P 14 12 25.8 -0.1**
WMELI Melilla 46.40 56 P **P 14 12 25.1 -0.8**
I37A Lemond, Waseca 46.41 317 IAMs_20 IAMs_20 14 29 39.9
comp=Z,22μm,20.0s
FW07 Weatherford 46.43 301 IAMs_20 IAMs_20 14 32 30.9
comp=Z,24μm,20.0s
PAB San Pablo 46.45 50 P **P 14 12 24.8 -1.6**
PAB San Pablo 46.45 50 ⇑P **P 14 12 25.0 -1.3**
PAB San Pablo 46.45 50 P **P 14 12 24.8 -1.6**
PAB pmax pmax
comp=Z,284nm,1.7s
EALB Alboran 46.48 55 P **P 14 12 26.4 -0.1**
OK048 Pawnee Station 46.52 306 IAMs_20 IAMs_20 14 28 44.7
comp=Z,20μm,21.0s
SPMN Marine on St. 46.53 319 IAmb IAmb 14 12 33.1
comp=Z,444nm,1.3s
SPMN IAMs_20 IAMs_20 14 28 29.9
comp=Z,30μm,21.0s
FNO Franklin 46.61 304 IAMs_20 IAMs_20 14 29 55.4
comp=Z,30μm,21.0s
FW03 Perrin-Whitt E 46.72 301 IAMs_20 IAMs_20 14 32 34.5
comp=Z,26μm,18.0s
ESDC Sonseca Array 46.77 50 P **P 14 12 27.7 -1.1**
comp=Z,29nm,1.0s,baz=253,slow=8.2,SNR=33
ESDC PcP **PcP 14 14 04.2 +2.1**
comp=Z,25nm,1.1s,baz=275,slow=3.8,SNR=7.9
ESDC LR LR 14 27 21.6
comp=Z,15μm,20.6s,baz=250,slow=30
comp=Z,29nm,1.0s
ESBB Sonseca Array 46.77 50 IAmb IAmb 14 12 34.5
comp=Z,307nm,1.6s
OK029 Liberty Lake 46.78 305 IAMs_20 IAMs_20 14 29 36.6
comp=Z,24μm,20.0s
CHAS Isla Isabel II 46.79 56 P **P 14 12 27.3 -1.7**
BLOK Blackwell 46.81 306 IAMs_20 IAMs_20 14 28 54.5
comp=Z,20μm,20.0s
EBER Berja 46.82 54 P **P 14 12 28.7 -0.8**
X34A Smith Ranch, M 46.82 303 IAMs_20 IAMs_20 14 29 24.0
comp=Z,30μm,19.0s
PSAL Palomas, Salto 46.87 189 *e*P **P 14 12 29.5 0.0**
AC06 Mina Casimiro 46.93 205 IAmb IAmb 14 12 34.4
comp=Z,583nm,1.8s
KSU1 Kansas State U 46.97 309 IAMs_20 IAMs_20 14 28 36.4
comp=Z,34μm,22.0s
KSU1 Kansas State U 46.97 309 ⇑P **P 14 12 30.3 -0.1**
EYMN Ely 46.98 322 P **P 14 12 30.9 +0.6**
EYMN IAmb IAmb 14 12 43.6
comp=Z,559nm,1.9s
EYMN Ely 46.98 322 IAMs_20 IAMs_20 14 29 02.4
comp=Z,25μm,21.0s
EYMN Ely 46.98 322 ⇓P **P 14 12 30.6 +0.2**
GO03 Copiapo 47.09 205 IAmb IAmb 14 12 34.7
comp=Z,325nm,1.2s
GO03 Copiapo 47.09 205 *e*P **P 14 12 31.4 0.0**
GO03 Copiapo 47.09 205 ⇓P **P 14 12 31.4 0.0**
PLTB Pedras Altas 47.10 184 IAmb IAmb 14 12 36.1
comp=Z,304nm,1.8s
PLTB IAMs_20 IAMs_20 14 32 58.4
comp=Z,20μm,20.0s
PLTB Pedras Altas 47.10 184 *e*P **P 14 12 31.8 +0.4**
833A Chaparral WMA, 47.24 294 P **P 14 12 33.3 +0.6**
baz=95
833A S **S 14 19 27.3 +1.0**
baz=95
CROK Carrier 47.35 306 IAMs_20 IAMs_20 14 29 21.8
comp=Z,19μm,21.0s
ENIJ Nijar 47.37 54 P **P 14 12 32.5 -1.0**
UCM Universidad Co 47.48 49 P **P 14 12 33.5 -0.9**
ACLC CERRO LA CRUZ 47.54 200 *i*P **P 14 12 34.6 -0.5**
WMOK Wichita Mounta 47.62 303 IAmb IAmb 14 12 41.6
comp=Z,307nm,1.2s
WMOK Wichita Mounta 47.62 303 ⇑P **P 14 12 35.1 -0.4**
CSTR Hydro, Custer 47.72 304 IAmb IAmb 14 12 43.4
comp=Z,258nm,1.3s
JCT Junction City 47.81 297 ⇓P **P 14 12 37.3 +0.1**
TLOR Lorca, Murcia 47.93 53 P **P 14 12 39.7 +1.8**
OK038 West end E0370 47.94 305 IAMs_20 IAMs_20 14 29 39.5
comp=Z,18μm,20.0s
ABTX Abilene, Hawle 47.96 300 IAMs_20 IAMs_20 14 33 29.5
comp=Z,23μm,18.0s
VAL Valentia 48.16 32 P **P 14 12 40.4 +1.0**
R32A Long Quarter, 48.37 308 IAMs_20 IAMs_20 14 29 39.6
comp=Z,32μm,22.0s
USTO Oran 48.40 56 P **P 14 12 45.0 +3.5**
ECSD EROS Data Cent 48.46 315 IAmb IAmb 14 12 46.8
comp=Z,240nm,1.3s
ECSD EROS Data Cent 48.46 315 ⇑P **P 14 12 41.5 -0.3**
LCO Las Campanas 48.54 204 ⇓P **P 14 12 42.9 0.0**
ODJA Bouhanifia 48.65 56 P **P 14 12 44.0 +0.5**
NUUK Nuuk 48.66 359 ⇓P **P 14 12 43.3 +0.3**
NUUK Nuuk 48.66 359 *i*P **P 14 12 42.5 -0.5**
NUUK IAmb IAmb 14 12 49.3
comp=Z,292nm,1.5s
AVFE Valle Fertil 48.85 200 *i*P **P 14 12 45.6 +0.6**
SMWD Samnorwood 48.86 303 IAmb IAmb 14 12 51.4
comp=Z,445nm,1.2s
F33A 5 Mile Ranch, 49.02 318 IAMs_20 IAMs_20 14 29 56.8
comp=Z,25μm,22.0s
SN05 Snyder 5 49.03 300 IAmb IAmb 14 12 52.4
comp=Z,358nm,1.4s
ACHE Chepes 49.05 199 *i*P **P 14 12 47.6 +0.9**
OJBR Djebel Berber 49.09 56 P **P 14 12 46.0 -0.9**
CO01 Juntas del Tor 49.16 203 IAmb IAmb 14 12 51.9
comp=Z,527nm,1.6s
CO01 IAMs_20 IAMs_20 14 34 45.2
comp=Z,17μm,19.0s
CBKS Cedar Bluff 49.25 308 IAMs_20 IAMs_20 14 30 39.7
comp=Z,29μm,21.0s
CBKS Cedar Bluff 49.25 308 ⇓P **P 14 12 48.4 +0.3**
ACCO Cerro Coronel 49.33 202 *i*P **P 14 12 49.8 +0.8**
OJGS Djebel Guires 49.40 56 P **P 14 12 47.0 -2.3**
OKGL Djebel Kef Gue 49.41 56 P **P 14 12 47.0 -2.4**
IGLA Glengowla, Co 49.43 31 P **P 14 12 50.1 +1.0**
GO04 Tololo Observa 49.61 204 *e*P **P 14 12 50.5 -0.6**
GO04 Tololo Observa 49.61 204 ⇓P **P 14 12 51.0 0.0**
DOCA Reserva Natura 49.67 202 *i*P **P 14 12 52.7 +1.1**
AGMN Agassiz Nation 49.75 321 IAmb IAmb 14 12 56.6
comp=Z,611nm,1.7s
AGMN Agassiz Nation 49.75 321 ⇑P **P 14 12 51.4 -0.2**
SAND Sanderson 49.76 296 IAmb IAmb 14 12 58.5
comp=Z,381nm,1.1s
RTLL Cerro Villicun 49.80 201 *e*P **P 14 12 53.0 +0.8**
ACRG Accra 49.84 96 P **P 14 12 50.4 -2.5**
ACRG IAmb IAmb 14 12 56.7
comp=Z,340nm,1.0s
ACRG IAMs_20 IAMs_20 14 32 44.3
comp=Z,15μm,18.0s
FRB Frobisher Bay 49.89 349 LR LR 14 33 23.7
comp=Z,12μm,18.8s,baz=150,slow=36
FRB Frobisher Bay 49.89 349 ⇓P **P 14 12 52.1 -0.3**
ZAIG Zacatecas 49.95 287 ⇓P **P 14 12 55.6 +1.6**
AMTX Amarillo 49.99 303 IAMs_20 IAMs_20 14 31 23.9
comp=Z,30μm,21.0s
AMTX Amarillo 49.99 303 ⇑P **P 14 12 53.7 -0.1**
SJA San Juan 50.01 201 *i*P **P 14 12 55.0 +1.1**
ZON Zonda 50.07 201 IAmb IAmb 14 12 58.5
comp=Z,631nm,1.7s
ZON Zonda 50.07 201 *i*P **P 14 12 53.4 -0.9**
TORD Torodi Ar. Bea 50.08 86 P **P 14 12 52.0 -2.7**
comp=Z,26nm,0.8s,baz=296,slow=8.0,SNR=158
TORD LR LR 14 30 49.2
comp=Z,11μm,21.1s,baz=270,slow=32
TORD PKPPKP **P'P'df 14 43 46.0 -3.4**
comp=Z,1.2nm,1.2s,baz=110,slow=1.9,SNR=2.9
comp=Z,26nm,0.8s
CO03 El Pedregal 50.16 203 IAmb IAmb 14 12 58.5
comp=Z,263nm,1.1s
CO03 El Pedregal 50.16 203 *i*P **P 14 12 56.0 +0.9**
K30B Basset 50.19 313 IAmb IAmb 14 13 01.4
comp=Z,302nm,1.1s
IWEX Carrickbyrne, 50.20 33 P **P 14 12 55.3 +0.3**
SUSD Miller 50.29 315 IAMs_20 IAMs_20 14 30 35.5
comp=Z,22μm,20.0s
ROSF Rostrenen 50.33 39 ⇑P **P 14 12 58.3 +2.2**
ODSA Odessa 50.34 299 IAmb IAmb 14 13 01.8
comp=Z,338nm,1.3s
MNHN Monahans 50.44 298 IAmb IAmb 14 13 03.1
comp=Z,476nm,1.6s
ISOG Isortoq, Green 50.57 6 *i*P **P 14 12 55.8 -1.7**
ISOG IAmb IAmb 14 13 08.1
comp=Z,240nm,1.2s
ULM Lac du Bonnet 50.61 323 P **P 14 12 57.1 -1.0**
comp=Z,72nm,0.7s,baz=110,slow=7.0,SNR=66
ULM LR LR 14 31 22.1
comp=Z,26μm,21.7s,baz=112,slow=32
comp=Z,72nm,0.7s
ULM Lac du Bonnet 50.61 323 ⇑P **P 14 12 57.1 -1.0**
MSTX Muleshoe 50.75 301 IAMs_20 IAMs_20 14 33 32.1
comp=Z,19μm,20.0s
ANGG Ammassalik, Gr 50.78 7 P **P 14 12 58.8 -0.4**
ANGG Ammassalik, Gr 50.78 7 ⇑P **P 14 13 01.9 +2.8**
ANGG Ammassalik, Gr 50.78 7 *i*P **P 14 13 00.0 +0.9**
ANGG IAmb IAmb 14 13 19.9
comp=Z,152nm,1.1s
AUSP Uspallata 50.93 201 *i*P **P 14 13 02.2 +1.1**
DY2G Dye2 51.01 2 ⇓P **P 14 13 00.2 -0.9**
DY2G Dye2 51.01 2 *i*P **P 14 12 59.2 -1.9**
DY2G IAmb IAmb 14 13 12.6
comp=Z,346nm,1.3s
TXAR Lajitas Array 51.06 295 P **P 14 13 02.4 +0.4**
TXAR Lajitas Array 51.06 295 P **P 14 13 03.0 +1.0**
comp=Z,16nm,0.6s,baz=111,slow=7.3,SNR=219
TXAR PcP **PcP 14 14 18.8 +0.8**
comp=Z,32nm,0.8s,baz=103,slow=4.8,SNR=4.7
TXAR LR LR 14 37 20.8
comp=Z,4μm,18.4s,baz=74,slow=39
TXAR P4KPbc 14 50 33.1
comp=Z,0.6nm,0.9s,baz=95,slow=4.9,SNR=6.0
comp=Z,16nm,0.6s
RSBS Rosebush, Pemb 51.08 34 *e*P **P 14 13 04.3 +2.6**
RTBA Rita Blanca 51.09 304 IAmb IAmb 14 13 08.4
comp=Z,585nm,1.3s
ALPN Alpine 51.10 297 IAmb IAmb 14 13 09.0
comp=Z,467nm,1.2s
IDGL Inch Island, C 51.27 30 P **P 14 13 01.9 -1.1**
ILTH Belurgan, Co L 51.28 31 P **P 14 13 02.5 -0.6**
CEST Esterri de Car 51.38 48 IAmb IAmb 14 13 10.8
comp=Z,662nm,1.6s
CEST IAMs_20 IAMs_20 14 30 50.3
comp=Z,16μm,21.0s
SFJD Kangerlussuaq 51.47 360 P **P 14 13 02.8 -1.5**
SFJD IAmb IAmb 14 13 28.3
comp=Z,566nm,1.8s
SFJD Kangerlussuaq 51.47 360 LR LR 14 31 06.6
comp=Z,11μm,21.6s,baz=182,slow=32
SFJD Kangerlussuaq 51.47 360 ⇓P **P 14 13 03.7 -0.7**
SFJD Kangerlussuaq 51.47 360 P **P 14 13 02.8 -1.5**
SFJD pmax pmax
comp=Z,566nm,1.8s
SFJD Kangerlussuaq 51.47 360 *i*P **P 14 13 02.4 -2.0**
SFJD IAmb IAmb 14 13 27.7
comp=Z,518nm,1.8s
OGNE Ogallala 51.47 310 ⇓P **P 14 13 05.0 +0.1**
KSCO Kaye Shedlock' 51.49 308 IAmb IAmb 14 13 11.3
comp=Z,756nm,1.6s
KSCO IAMs_20 IAMs_20 14 31 28.1
comp=Z,26μm,22.0s
MFF Saint Martin d 51.65 42 ⇑P **P 14 13 05.1 -0.9**
VA03 San Esteban 51.84 202 IAmb IAmb 14 13 12.6
comp=Z,470nm,1.1s
VA03 IAMs_20 IAMs_20 14 35 50.9
comp=Z,16μm,20.0s
WLF1 Llynfaes 51.91 33 *e*P **P 14 13 10.6 +2.8**
WLF1 IAmb IAmb 14 13 11.9
comp=Z,426nm,1.2s
WPS Cemaes, Angles 51.91 33 *e*P **P 14 13 09.8 +2.0**
WPS IAmb IAmb 14 13 12.5
comp=Z,234nm,1.3s
YLL Llanberis 51.96 33 *e*P **P 14 13 07.5 -0.7**
MCH1 Michaelchurch 52.06 35 *e*P **P 14 13 11.3 +2.3**
MCH1 IAmb IAmb 14 13 12.7
comp=Z,245nm,1.4s
MCH1 Michaelchurch 52.06 35 ⇑P **P 14 13 11.4 +2.3**
MONM Monmouth 52.10 35 *e*P **P 14 13 11.4 +2.1**
E28A Huff 52.14 317 IAMs_20 IAMs_20 14 33 05.3
comp=Z,19μm,20.0s
PEL Peldehue 52.23 202 IAmb IAmb 14 13 15.3
comp=Z,637nm,1.5s
PEL Peldehue 52.23 202 ⇓P **P 14 13 11.1 +0.6**
MTLF Montolieu 52.26 47 ⇓P **P 14 13 09.8 -0.9**
MT08 Bocatoma Ro 52.26 201 IAmb IAmb 14 13 25.0
comp=Z,498nm,1.8s
MT08 IAMs_20 IAMs_20 14 34 25.2
comp=Z,18μm,22.0s
MT08 Bocatoma Ro 52.26 201 *e*P **P 14 13 12.1 +1.2**
MT04 Ro Olivares 52.27 201 *e*P **P 14 13 12.0 +1.0**
MT10 Hacienda Santa 52.29 202 *e*P **P 14 13 11.9 +0.9**
IOMK Kirk Michael 52.30 32 *e*P **P 14 13 10.2 -0.5**
HLM1 Long Mynd 52.36 34 *e*P **P 14 13 13.9 +2.6**
MT14 Cerro Calın 52.40 202 *e*P **P 14 13 12.7 +0.9**
MT16 CCHEN 52.42 202 *e*P **P 14 13 12.4 +0.5**
MT05 Renca 52.47 202 *e*P **P 14 13 12.4 +0.2**
VA01 Torpederas 52.47 203 IAmb IAmb 14 13 16.9
comp=Z,779nm,1.6s
VA01 IAMs_20 IAMs_20 14 36 34.8
comp=Z,21μm,20.0s
MT03 Universidad Ad 52.48 202 P **P 14 13 12.9 +0.4**
MT03 Universidad Ad 52.48 202 *e*P **P 14 13 12.8 +0.4**
MT02 Curacav 52.49 202 IAmb IAmb 14 13 16.3
comp=Z,751nm,1.6s
MT02 Curacav 52.49 202 *e*P **P 14 13 12.7 +0.3**
GAL1 Galloway 52.53 31 *e*P **P 14 13 15.0 +2.6**
T25A Trinidad 52.53 305 IAmb IAmb 14 13 20.3
comp=Z,538nm,1.4s
T25A Trinidad 52.53 305 P **P 14 13 14.0 +0.9**
baz=99,SNR=140
T25A S **S 14 20 44.3 +3.8**
baz=99
LMEL Las Melosas 52.69 201 IAMs_20 IAMs_20 14 36 39.6
comp=Z,20μm,21.0s
LMEL Las Melosas 52.69 201 *e*P **P 14 13 14.2 +0.1**
MNTX Cornudas Mount 52.70 298 ⇓P **P 14 13 14.3 +0.2**
MT12 Pirque 52.71 202 *e*P **P 14 13 14.6 +0.6**
HPIG 52.74 292 IAmb IAmb 14 13 22.1
comp=Z,616nm,1.4s
HPIG 52.74 292 ⇓P **P 14 13 15.6 +0.9**
TAM Tamanrasset 52.74 73 IAMs_20 IAMs_20 14 35 13.2
comp=Z,14μm,18.0s
TAM Tamanrasset 52.74 73 ⇓P **P 14 13 14.2 -0.6**
NEWG New Galloway 52.89 31 *e*P **P 14 13 16.3 +1.2**
NEWG IAmb IAmb 14 13 18.8
comp=Z,292nm,1.3s
LAWE Loch Awe, Argy 52.91 29 *e*P **P 14 13 15.8 +0.6**
BORG Borgarnes 52.96 15 LR LR 14 31 26.6
comp=Z,5μm,18.2s,baz=220,slow=31
MAHO Mahon 52.96 52 IAmb IAmb 14 13 20.3
comp=Z,808nm,1.7s
VA05 Santo Domingo 53.03 203 IAmb IAmb 14 13 20.0
comp=Z,421nm,1.6s
MT01 Popeta 53.08 202 IAmb IAmb 14 13 20.3
comp=Z,501nm,1.4s
MT01 Popeta 53.08 202 *e*P **P 14 13 16.9 +0.2**
BRIGG Briggsdale 53.09 309 IAmb IAmb 14 13 23.3
comp=Z,296nm,1.2s
BRIGG IAMs_20 IAMs_20 14 33 42.4
comp=Z,22μm,19.0s
KESW Keswick, Cumbr 53.20 32 *e*P **P 14 13 16.9 -0.5**
KESW IAmb IAmb 14 13 21.8
comp=Z,276nm,1.2s
SET Setif 53.24 56 P **P 14 13 17.5 -0.6**
CKHR Kef el Ahmar 53.31 56 P **P 14 13 18.4 -0.3**
CWF Charnwood Fore 53.32 35 *e*P **P 14 13 20.9 +2.6**
LBWR Ladybower, Pea 53.38 34 *e*P **P 14 13 17.8 -1.0**
LBWR IAmb IAmb 14 13 22.8
comp=Z,546nm,1.1s
Q24A Divide 53.41 307 IAMs_20 IAMs_20 14 33 35.2
comp=Z,22μm,19.0s
Q24A Divide 53.41 307 P **P 14 13 20.4 +0.8**
baz=100,SNR=54
Q24A S **S 14 20 57.2 +4.7**
baz=100
SDCO Great Sand Dun 53.49 306 IAmb IAmb 14 13 27.3
comp=Z,277nm,1.2s
SDCO IAMs_20 IAMs_20 14 33 39.3
comp=Z,20μm,21.0s
SDCO Great Sand Dun 53.49 306 ⇓P **P 14 13 21.1 +1.0**
ESK Eskdalemuir 53.50 31 P **P 14 13 17.8 -1.8**
ESK Eskdalemuir 53.50 31 ⇑P **P 14 13 22.1 +2.5**
ESK Eskdalemuir 53.50 31 P **P 14 13 17.8 -1.8**
ESK pmax pmax
comp=Z,190nm,1.3s
EKA Eskdalemuir Ar 53.53 31 P **P 14 13 19.0 -0.8**
comp=Z,53nm,1.1s,baz=240,slow=6.7,SNR=16
EKA PcP **PcP 14 14 26.1 -0.5**
comp=Z,26nm,1.0s,baz=234,slow=2.4,SNR=5.6
comp=Z,53nm,1.1s
INVG Invergeldie, C 53.65 30 *e*P **P 14 13 20.6 -0.1**
EPT El Paso 53.66 298 IAmb IAmb 14 13 27.0

comp=Z,433nm,1.5s
EPT IAMs_20 IAMs_20 14 37 59.5
comp=Z,15µm,19.0s
CLF Chambon-Foret 53.67 41 ⇑P **P 14 13 23.3 +2.4**
DFRA Djebel Bou Aff 53.67 56 P **P 14 13 21.1 -0.2**
HPK Haverah Park 53.68 33 *e*P **P 14 13 23.4 +2.5**
RSSD Black Hills 53.69 314 P **P 14 13 21.5 0.0**
RSSD Black Hills 53.69 314 ⇑P **P 14 13 21.7 +0.2**
RSSD Black Hills 53.69 314 P **P 14 13 21.5 0.0**
RSSD pmax pmax
comp=Z,207nm,1.4s
SHEL Horse Pasture 53.74 124 IAMs_20 IAMs_20 14 30 17.2
comp=Z,15µm,20.0s
BO02 Sierra Bellavi 53.75 201 ⇑P **P 14 13 22.4 +0.7**
ANMO Albuquerque 53.89 302 P **P 14 13 23.5 +0.5**
ANMO Albuquerque 53.89 302 LR LR 14 35 22.6
comp=Z,23µm,19.8s,baz=259,slow=35
ANMO Albuquerque 53.89 302 *d i*P **P 14 13 24.0 +0.9**
ANMO pmax pmax
comp=Z,224nm,1.9s
ANMO MLR MLR
comp=Z,5µm,12.0s
ISCO Idaho Springs 53.91 308 IAmb IAmb 14 13 30.3
comp=Z,531nm,1.6s
ISCO Idaho Springs 53.91 308 ⇓P **P 14 13 24.4 +1.1**
ICESG Greenland Ices 53.98 5 ⇓P **P 14 13 21.9 -1.3**
ICESG Greenland Ices 53.98 5 *i*P **P 14 13 21.6 -1.6**
ICESG IAmb IAmb 14 13 36.2
comp=Z,305nm,1.3s
FCC Fort Churchill 54.02 333 IAmb IAmb 14 13 29.1
comp=Z,349nm,1.4s
LINV Loch Inver, As 54.02 28 *e*P **P 14 13 25.5 +2.2**
LINV IAmb IAmb 14 13 26.8
comp=Z,259nm,1.3s
CTEI Djebel Teioual 54.03 57 P **P 14 13 27.5 +3.5**
CASM Ain Smara 54.12 56 P **P 14 13 26.5 +1.9**
Y22D IRIS PASSCAL I 54.18 301 IAMs_20 IAMs_20 14 36 49.2
comp=Z,17µm,19.0s
Y22D IRIS PASSCAL I 54.18 301 P **P 14 13 26.4 +1.3**
baz=95,SNR=26
Y22D S **S 14 21 05.9 +3.0**
baz=95
CKFL Kef-Lekhel 54.32 56 P **P 14 13 25.4 -0.7**
GO05 Hualane 54.35 202 IAmb IAmb 14 13 29.7
comp=Z,643nm,1.9s
GO05 Hualane 54.35 202 ⇓P **P 14 13 26.4 +0.3**
N23A Red Feather La 54.36 309 IAmb IAmb 14 13 33.9
comp=Z,342nm,1.1s
N23A Red Feather La 54.36 309 P **P 14 13 27.2 +0.7**
baz=101,SNR=130
N23A S **S 14 21 06.7 +1.5**
baz=101
SSB Saint Sauveur 54.38 45 IAmb IAmb 14 13 31.3
comp=Z,320nm,1.5s
SSB Saint Sauveur 54.38 45 ⇓P **P 14 13 26.1 -0.1**
WACR West Acre 54.38 35 *e*P **P 14 13 25.1 -0.9**
WACR IAmb IAmb 14 13 29.4
comp=Z,343nm,0.9s
TRQA Tornquist 54.43 192 P **P 14 13 26.3 -0.2**
TRQA Tornquist 54.43 192 P **P 14 13 26.3 -0.2**
TRQA pmax pmax
comp=Z,219nm,2.0s
TRQA MLR MLR
comp=Z,14µm,20.0s
LOR Lormes 54.46 43 ⇓P **P 14 13 26.0 -0.8**
CAEH 'Ain El Ouahch 54.47 56 P **P 14 13 26.4 -0.7**
S22A 4UR Ranch, Cre 54.53 305 IAMs_20 IAMs_20 14 34 15.9
comp=Z,15µm,20.0s
S22A 4UR Ranch, Cre 54.53 305 P **P 14 13 29.0 +1.2**
baz=98,SNR=248
S22A S **S 14 21 10.2 +2.6**
baz=98
MCD Coleburn Disti 54.61 29 *e*P **P 14 13 28.2 +0.6**
MCD IAmb IAmb 14 13 30.8
comp=Z,183nm,1.2s
RUSF Rustrel 54.71 47 ⇑P P 14 13 34.1 +5.5
121A Cookes Peak, D 54.79 299 IAMs_20 IAMs_20 14 35 44.3
comp=Z,19µm,19.0s
121A Cookes Peak, D 54.79 299 P **P 14 13 31.0 +1.3**
baz=93,SNR=224
121A S **S 14 21 16.1 +5.0**
baz=93
ML02 Panimavida 54.84 201 IAMs_20 IAMs_20 14 41 14.8
comp=Z,14µm,19.0s
CMAH Djebel Manchou 54.91 56 P **P 14 13 29.0 -1.3**
ABSA Djebel Ababsia 54.92 56 P **P 14 13 29.5 -0.9**
DGMT Dagmar 54.99 319 ⇑P **P 14 13 31.0 +0.4**
K22A Casper 55.12 311 IAmb IAmb 14 13 37.3
comp=Z,266nm,1.3s
UMMG Uummannaq 55.19 359 *i*P **P 14 13 30.4 -1.1**
UMMG IAmb IAmb 14 13 45.3
comp=Z,478nm,1.8s
DOU Dourbes 55.78 39 *d*P **P 14 13 34.7 -1.5**
comp=Z,34nm,1.5s
MVCO Mesa Verde 55.78 305 IAmb IAmb 14 13 44.3
comp=Z,404nm,1.4s
MVCO Mesa Verde 55.78 305 ⇓P **P 14 13 37.7 +1.0**
BNI Bardonecchia 55.79 46 IAmb IAmb 14 13 54.4
comp=Z,614nm,1.9s
BNI IAMs_20 IAMs_20 14 33 56.2
comp=Z,13µm,19.0s
BNI Bardonecchia 55.79 46 ⇑P **P 14 13 36.5 0.0**
LAO LASA Array 55.82 316 IAmb IAmb 14 13 52.2
comp=Z,368nm,1.1s
LAO IAMs_20 IAMs_20 14 35 55.1
comp=Z,16µm,20.0s
LAO LASA Array 55.82 316 ⇑P **P 14 13 36.5 -0.2**
UCC Uccle 55.86 39 *d*P **P 14 13 35.3 -1.5**
comp=Z,62nm,1.3s
FFC Flin Flon 55.88 327 P **P 14 13 35.7 -1.2**
FFC Flin Flon 55.88 327 IAMs_20 IAMs_20 14 35 28.8
comp=Z,14µm,19.0s
FFC Flin Flon 55.88 327 ⇑P **P 14 13 36.0 -0.9**
FFC Flin Flon 55.88 327 P **P 14 13 35.7 -1.2**
FFC pmax pmax
comp=Z,123nm,1.2s
BMRD Maredsous 55.95 39 *d*P **P 14 13 35.6 -1.8**
comp=Z,30nm,1.4s
O20A White River Ci 55.96 308 IAMs_20 IAMs_20 14 34 25.5
comp=Z,23µm,21.0s
BGES Gesves 56.17 39 *d*P **P 14 13 38.6 -0.4**
comp=Z,59nm,1.6s
RCHB Rochefort 56.18 40 *d*P **P 14 13 37.3 -1.8**
comp=Z,44nm,2.0s
RCHB *d*x x 14 13 41.9
BCLA Clavier 56.31 39 *d*P **P 14 13 38.8 -1.3**
comp=Z,54nm,1.8s
BI05 Punta Hualpn 56.36 202 IAmb IAmb 14 13 44.7
comp=Z,585nm,1.7s
KEST Kesra 56.37 57 P **P 14 13 39.7 -1.1**
comp=Z,110nm,0.9s,baz=196,slow=2.6,SNR=30
KEST LR LR 14 37 01.6
comp=Z,13µm,18.1s,baz=259,slow=35
comp=Z,110nm,0.9s
SENIN Lac Senin/Sane 56.51 44 IAMs_20 IAMs_20 14 32 10.3
comp=Z,19µm,21.0s
BSTI Sart Tilman 56.52 39 *d*P **P 14 13 40.8 -0.7**
comp=Z,13nm,1.4s
WLF Walferdange 56.61 40 IAmb IAmb 14 13 46.6
comp=Z,342nm,1.6s
WLF Walferdange 56.61 40 P **P 14 13 41.7 -0.5**
WLF Walferdange 56.61 40 ⇑P **P 14 13 44.6 +2.5**
WLF Walferdange 56.61 40 *e*P **P 14 13 37.4 -4.8**
comp=Z,388nm,1.6s,baz=258,slow=7.2
WLF Walferdange 56.61 40 *d*P **P 14 13 41.1 -1.1**
comp=Z,44nm,1.6s
BEBN Eben Emael 56.65 39 *d*P **P 14 13 44.8 +2.4**
SLBS Sierra La Lagu 56.69 288 P **P 14 13 44.4 +1.1**
SLBS IAmb IAmb 14 13 49.5
comp=Z,609nm,1.9s
SLBS Sierra La Lagu 56.69 288 ⇓P **P 14 13 44.8 +1.5**
BHOU Houvegnez 56.72 39 *d*P **P 14 13 42.1 -0.9**
comp=Z,60nm,1.4s
X18A Snowflake 56.72 301 IAMs_20 IAMs_20 14 37 14.3
comp=Z,18µm,20.0s
VSL Villasalto 56.79 53 IAmb IAmb 14 13 47.9
comp=Z,250nm,1.1s
VSL Villasalto 56.79 53 ⇑P **P 14 13 42.1 -1.6**
MEM Membach 56.80 39 *d*P **P 14 13 41.8 -1.6**
comp=Z,56nm,1.5s
BTNL Ternell 56.86 39 *d*P **P 14 13 46.1 +2.1**
comp=Z,44nm,1.7s
ECH Echery 56.86 42 IAmb IAmb 14 13 48.2
comp=Z,310nm,1.7s
ECH Echery 56.86 42 ⇓P **P 14 13 42.9 -1.2**
PGF Pioggiola 56.95 49 ⇑P **P 14 13 43.8 -1.0**

LPIG La Paz 57.00 289 LR LR 14 38 57.8
comp=Z,2µm,21.2s,baz=86,slow=37
TUC Tucson 57.31 299 IAMs_20 IAMs_20 14 39 37.2
comp=Z,18µm,18.0s
TUC Tucson 57.31 299 ⇓P **P 14 13 48.7 +1.1**
PDAR Pinedale Array 57.34 311 P **P 14 13 47.5 -0.3**
comp=Z,17nm,0.7s,baz=114,slow=8.1,SNR=148
PDAR LR LR 14 36 07.0
comp=Z,18µm,21.9s,baz=96,slow=34
PDAR PKPPKP **P'P'df 14 43 33.6 -6.5**
comp=Z,0.6nm,1.1s,baz=95,slow=3.3,SNR=3.9
PDAR PKP2bc 14 43 48.5
comp=Z,1.7nm,1.2s,baz=253,slow=1.5,SNR=8.4
comp=Z,17nm,0.7s
BW06 Boulder Array 57.34 311 ⇓P **P 14 13 47.4 -0.4**
UPNV Upernavik 57.40 358 *i*P **P 14 13 47.5 +0.1**
UPNV IAmb IAmb 14 14 00.0
comp=Z,534nm,2.2s
HSIG 57.41 295 ⇓P **P 14 13 48.9 +0.7**
SUMG Summit 57.48 4 P **P 14 13 48.3 -0.2**
SUMG Summit 57.48 4 ⇓P **P 14 13 47.9 -0.6**
SUMG Summit 57.48 4 *i*P **P 14 13 47.2 -1.3**
SUMG IAmb IAmb 14 14 02.7
comp=Z,472nm,1.4s
RLMT Red Lodge 57.55 314 IAmb IAmb 14 14 03.4
comp=Z,386nm,1.3s
RLMT IAMs_20 IAMs_20 14 36 05.1
comp=Z,14µm,20.0s
RLMT Red Lodge 57.55 314 ⇓P **P 14 13 49.5 +0.3**
SRU San Rafael Swe 57.58 307 IAMs_20 IAMs_20 14 36 03.4
comp=Z,19µm,22.0s
SCO Scoresbysund 57.60 11 ⇑P **P 14 13 52.2 +3.4**
SCO Scoresbysund 57.60 11 *i*P **P 14 13 49.2 +0.3**
SCO IAmb IAmb 14 13 53.0
comp=Z,125nm,1.2s
BFO Black Forest 57.65 42 ⇑P **P 14 13 48.3 -1.3**
BFO Black Forest 57.65 42 *e*P **P 14 13 48.3 -1.3**
comp=Z,689nm,1.7s,baz=258,slow=7.2
BUG Bochum--Univer 57.80 38 *e*P **P 14 13 49.3 -1.2**
comp=Z,350nm,1.6s,baz=258,slow=7.2
TUE Stuetta 57.92 45 IAmb IAmb 14 13 56.4
comp=Z,496nm,1.7s
TUE Stuetta 57.92 45 ⇑P **P 14 13 51.0 -0.8**
TUE Stuetta 57.92 45 P **P 14 13 50.9 -0.8**
comp=Z,618nm,1.6s,comp=Z,16µm
BSUT Blindstream Ca 57.92 308 IAMs_20 IAMs_20 14 35 30.4
comp=Z,23µm,22.0s
WUAZ Wupatki 57.95 302 IAmb IAmb 14 13 59.9
comp=Z,365nm,1.2s
WUAZ IAMs_20 IAMs_20 14 36 52.7
comp=Z,23µm,21.0s
WUAZ Wupatki 57.95 302 ⇓P **P 14 13 53.4 +1.3**
Q16A Castle Valley 58.06 306 IAMs_20 IAMs_20 14 37 16.2
comp=Z,14µm,20.0s
TNS Taunus Mts 58.19 40 *e*P **P 14 13 52.4 -1.0**
comp=Z,1µm,2.2s,baz=258,slow=7.2
VLC Villacollemand 58.21 47 P **P 14 13 52.1 -1.6**
VLC Villacollemand 58.21 47 ⇑P **P 14 13 55.2 +1.6**
LKWY Lake 58.24 313 IAmb IAmb 14 14 12.3
comp=Z,448nm,1.4s
LKWY Lake 58.24 313 ⇓P **P 14 13 56.1 +2.0**
PRMA PARMA 58.26 47 IAMs_20 IAMs_20 14 34 04.7
comp=Z,20µm,20.0s
STU Stuttgart 58.31 42 *e*P **P 14 13 53.9 -0.3**
STU Stuttgart 58.31 42 *e*P **P 14 13 52.8 -1.4**
comp=Z,1µm,1.7s,baz=258,slow=7.2
SNOW Snow King Moun 58.32 312 IAmb IAmb 14 14 14.1
comp=Z,645nm,2.0s
GO06 Curarrehue 58.32 199 ⇑P **P 14 13 54.4 -0.1**
IBBN Ibbenburen 58.34 38 *e*P **P 14 13 53.4 -0.9**
comp=Z,1µm,2.1s,baz=258,slow=7.2
DAVOX Daun/Dischmat 58.34 44 P **P 14 13 54.1 -0.5**
comp=Z,60nm,1.0s,baz=261,slow=6.9,SNR=37
DAVOX LR LR 14 37 13.7
comp=Z,9µm,18.2s,baz=250,slow=34
comp=Z,60nm,1.0s
DAVA Damuels 58.44 44 *e*P **P 14 13 54.2 -1.2**
comp=Z,204nm,1.4s,SNR=48
DAVA Damuels 58.44 44 ⇑P **P 14 13 54.1 -1.2**
TPAW Teton Pass 58.46 312 IAmb IAmb 14 14 09.8
comp=Z,213nm,1.1s
AHID Auburn Hatcher 58.47 311 IAmb IAmb 14 14 01.2
comp=Z,275nm,1.4s
AHID Auburn Hatcher 58.47 311 ⇓P **P 14 13 55.6 -0.1**
EGMT Eagleton 58.47 317 IAmb IAmb 14 14 01.6
comp=Z,282nm,1.0s
EGMT IAMs_20 IAMs_20 14 36 20.0
comp=Z,18µm,20.0s
EGMT Eagleton 58.47 317 ⇑P **P 14 13 55.5 +0.1**
TCUT Toone Canyon 58.48 309 IAMs_20 IAMs_20 14 35 49.1
comp=Z,18µm,21.0s
LR03 Panguipulli 58.65 200 IAMs_20 IAMs_20 14 42 52.5
comp=Z,13µm,19.0s
LR03 Panguipulli 58.65 200 *e*P **P 14 13 56.9 +0.3**
HWUT Hardware Ranch 58.66 309 IAmb IAmb 14 14 03.4
comp=Z,372nm,1.2s
HWUT Hardware Ranch 58.66 309 ⇓P **P 14 13 57.0 0.0**
ZCCA Zocca 58.66 47 IAMs_20 IAMs_20 14 34 01.3
comp=Z,18µm,22.0s
UBR Ueberruh 58.67 43 *e*P **P 14 13 55.9 -0.9**
comp=Z,845nm,1.9s,baz=258,slow=7.2
OSSC Osservatorio P 58.73 48 IAmb IAmb 14 14 08.8
comp=Z,324nm,1.5s
U15A North Rim 58.74 303 IAMs_20 IAMs_20 14 36 56.7
comp=Z,18µm,20.0s
MTPU Mount Pierson 58.77 305 IAMs_20 IAMs_20 14 36 13.2
comp=Z,14µm,21.0s
PKCU Pink Cliffs 58.83 305 IAMs_20 IAMs_20 14 36 13.8
comp=Z,20µm,22.0s
YHB Horse Butte 58.83 313 IAMs_20 IAMs_20 14 36 49.1
comp=Z,21µm,19.0s
YHL Hebgen Lake 58.84 313 IAMs_20 IAMs_20 14 36 58.3
comp=Z,22µm,20.0s
FETA Feichten 58.96 44 *e*P **P 14 13 57.5 -1.4**
comp=Z,304nm,1.3s,SNR=110
RETA Reutte 59.07 44 *e*P **P 14 13 58.0 -1.6**
comp=Z,193nm,1.4s,SNR=71
LR05 Currie 59.08 200 IAMs_20 IAMs_20 14 40 50.8
comp=Z,12µm,19.0s
LR05 Currie 59.08 200 *e*P **P 14 14 00.5 +1.0**
PLCA Paso Flores 59.09 198 P **P 14 14 01.2 +1.6**
comp=Z,99nm,0.8s,baz=19,slow=7.6,SNR=92
PLCA LR LR 14 39 28.7
comp=Z,7µm,19.0s,baz=25,slow=36
comp=Z,99nm,0.8s
PLCA Paso Flores 59.09 198 ⇑P **P 14 14 01.1 +1.4**
PLCA Paso Flores 59.09 198 *e*P **P 14 14 01.2 +1.6**
KNB Kanab 59.21 304 IAMs_20 IAMs_20 14 37 11.8
comp=Z,17µm,21.0s
KULLO Kullorsuaq 59.23 358 ⇑P **P 14 14 02.1 +2.0**
KULLO Kullorsuaq 59.23 358 *i*P **P 14 13 57.4 -2.7**
KULLO IAmb IAmb 14 14 10.2
comp=Z,513nm,1.9s
LR04 Corral 59.24 201 IAMs_20 IAMs_20 14 40 43.0
comp=Z,13µm,20.0s
LR04 Corral 59.24 201 *e*P **P 14 14 01.0 +0.4**
MOTA Moosalm 59.27 44 *e*P **P 14 13 59.3 -1.8**
comp=Z,401nm,1.9s
BOZ Bozeman (W) 59.27 314 IAMs_20 IAMs_20 14 35 09.7
comp=Z,16µm,20.0s
BOZ Bozeman (W) 59.27 314 ⇑P **P 14 14 01.5 +0.4**
MGAB Montegabbione 59.27 49 ⇑P **P 14 13 59.7 -1.3**
SPUT South Promonto 59.28 309 IAMs_20 IAMs_20 14 37 01.3
comp=Z,17µm,20.0s
SQTA Sankt Quirin 59.32 44 *e*P **P 14 13 59.6 -1.8**
comp=Z,178nm,1.1s,SNR=125
KMY Karmoy 59.34 29 *e*P **P 14 14 00.8 -0.3**
KMY IVmBBB 14 14 09.5
comp=Z,2µm,3.3s
KMY IVMs_BB IVMs_BB 14 34 36.7
comp=Z,4µm,15.6s
DUG Dugway, Tooele 59.44 308 IAMs_20 IAMs_20 14 38 06.8
comp=Z,21µm,20.0s
DUG Dugway, Tooele 59.44 308 ⇓P **P 14 14 03.2 +0.8**
GTTG Gottingen 59.45 39 *e*P **P 14 14 01.1 -0.9**
comp=Z,325nm,1.5s,baz=258,slow=7.2
LCMT Little Creek M 59.54 304 IAMs_20 IAMs_20 14 36 59.8
comp=Z,22µm,22.0s
WATA Walderalm 59.58 44 *e*P **P 14 14 01.6 -1.7**
comp=Z,105nm,1.3s,SNR=81
CLTB Caltabellotta 59.61 55 ⇑P **P 14 14 02.9 -0.7**
WTTA Wattenberg 59.61 44 *e*P **P 14 14 01.7 -1.8**
comp=Z,181nm,1.3s,SNR=61
BGU Big Grassy Mou 59.68 309 IAMs_20 IAMs_20 14 36 38.9
comp=Z,19µm,21.0s
CLZ Clausthal 59.77 39 *e*P **P 14 14 03.2 -1.1**
comp=Z,294nm,1.6s,baz=258,slow=7.2

GRF Grafenberg Arr 59.81 41 *e*P **P 14 14 03.4 -1.2**
comp=Z,2µm,2.6s,baz=258,slow=7.2
GRF *e*L L 14 35 42.1
comp=Z,6µm,19.5s
LL04 Puerto Octay 59.82 199 IAMs_20 IAMs_20 14 41 13.5
comp=Z,13µm,20.0s
BER Bergen 59.84 28 *e*P **P 14 14 06.9 +2.4**
BER IVmB_BB 14 14 13.1
comp=Z,3µm,3.7s
BER *e*S **S 14 22 15.9 -0.3**
BER *e*ScS **ScS 14 23 59.8 +4.6**
BER *i* 14 28 51.4
BER IVMs_BB IVMs_BB 14 35 03.2
comp=Z,4µm,14.7s
SUE Sulen 59.85 27 *e*P **P 14 14 06.4 +1.8**
SUE IVmB_BB 14 14 08.0
comp=Z,2µm,1.6s
SUE *e*S **S 14 22 16.6 +0.2**
DLMT Dillon 59.91 314 IAMs_20 IAMs_20 14 37 40.5
comp=Z,19µm,18.0s
SNART Snartemo 59.96 31 *e*P **P 14 14 06.0 +0.6**
SNART IVmB_BB 14 14 15.8
comp=Z,4µm,2.1s
SNART IVMs_BB IVMs_BB 14 36 36.3
comp=Z,6µm,11.4s
W13A Hualapai Mount 59.98 302 IAMs_20 IAMs_20 14 38 10.6
comp=Z,20µm,20.0s
BLS5 Blasjo 59.99 29 *e*P **P 14 14 07.6 +1.9**
BLS5 IVmB_BB 14 14 14.9
comp=Z,2µm,2.5s
BLS5 *e*S **S 14 22 19.4 +1.0**
BLS5 *e*ScS **ScS 14 23 56.3 -0.2**
BLS5 *e*SS **SS 14 26 12.6 -2.0**
BLS5 IVMs_BB IVMs_BB 14 36 25.4
comp=Z,4µm,18.4s
ABTA Abfaltersbach 60.11 45 *e*P **P 14 14 05.0 -1.9**
comp=Z,86nm,1.2s,SNR=55
PSUT Pine Spring 60.12 306 IAMs_20 IAMs_20 14 37 05.8
comp=Z,13µm,22.0s
CAMP Campotosto 60.18 50 IAMs_20 IAMs_20 14 35 00.4
comp=Z,14µm,22.0s
FOO Floro 60.20 27 *e*P **P 14 14 06.5 -0.6**
FOO IVmBBB 14 14 10.4
comp=Z,2µm,2.7s
FOO *e*S **S 14 22 21.2 +0.3**
FOO *i* 14 29 11.2
FOO IVMs_BB IVMs_BB 14 33 17.1
comp=Z,4µm,20.0s
ODD1 Odda 60.25 29 *e*P **P 14 14 10.3 +2.8**
ODD1 IVmB_BB 14 14 18.3
comp=Z,2µm,2.1s
ODD1 *e*S **S 14 22 21.6 -0.2**
ODD1 *i* 14 29 08.0
ODD1 IVMs_BB IVMs_BB 14 34 33.5
comp=Z,3µm,16.3s
MOX Moxa 60.26 40 *e*P **P 14 14 06.5 -1.2**
comp=Z,369nm,1.9s,baz=258,slow=7.2
MOX *e*L L 14 34 47.6
comp=Z,8µm,20.8s
SSRD Sdr. Stenderup 60.31 34 *i*P **P 14 14 10.4 +2.6**
SSRD IAmb IAmb 14 14 21.5
comp=Z,2µm,2.2s
LESA Schwarzleotal 60.34 44 *e*P **P 14 14 06.1 -2.3**
comp=Z,54nm,1.3s
MUD Monsted U'grnd 60.35 33 ⇑P **P 14 14 10.4 +2.3**
MUD Monsted U'grnd 60.35 33 *i*P **P 14 14 08.7 +0.6**
MUD IAmb IAmb 14 14 19.6
comp=Z,819nm,1.7s
FLTG Flechtingen 60.40 38 ⇓P **P 14 14 07.6 -1.0**
FLTG Flechtingen 60.40 38 *e*P **P 14 14 07.2 -1.4**
comp=Z,534nm,1.7s,baz=258,slow=7.2
MANZ Manzenberg 60.43 41 *e*P **P 14 14 07.8 -1.1**
comp=Z,318nm,2.5s,baz=258,slow=7.2
ROTZ Rotzenmuhle 60.45 41 *e*P **P 14 14 07.7 -1.3**
comp=Z,229nm,2.3s,baz=258,slow=7.2
RJOB Jochberg 60.47 44 *e*P **P 14 14 07.6 -1.6**
comp=Z,222nm,1.6s,baz=258,slow=7.2
BLYC Blythe 60.48 300 IAMs_20 IAMs_20 14 41 08.0
comp=Z,19µm,18.0s
SPR3 Spring Creek 3 60.52 306 IAMs_20 IAMs_20 14 38 02.4
comp=Z,17µm,19.0s
HYA Hoyanger 60.53 28 *e*P **P 14 14 10.6 +1.3**
HYA IVmBBB 14 14 15.0
comp=Z,3µm,2.6s
HYA *e*S **S 14 22 26.8 +1.7**
HYA *i* 14 29 13.8
HYA IVMs_BB IVMs_BB 14 34 01.3
comp=Z,4µm,14.6s
VAE Valguarnera 60.55 56 P **P 14 14 09.6 -0.4**
comp=Z,87nm,1.1s,baz=5.4,slow=6.3,SNR=15
VAE LR LR 14 34 37.8
comp=Z,7µm,21.8s,baz=262,slow=30
comp=Z,87nm,1.1s
PLN Plauen 60.56 40 *e*P **P 14 14 08.5 -1.2**
comp=Z,999nm,2.4s,baz=258,slow=7.2
HOMB Homborsund 60.58 31 *e*P **P 14 14 12.4 +2.7**
HOMB IVmB_BB 14 14 14.4
comp=Z,3µm,2.6s
HOMB *e*S **S 14 22 26.9 +1.0**
HOMB *e*ScS **ScS 14 24 01.4 +0.6**
HOMB IVMs_BB IVMs_BB 14 35 29.3
comp=Z,4µm,21.6s
PTCC Patocco-Chiusa 60.63 45 ⇓P **P 14 14 08.0 -2.4**
NKC Novy Kostel 60.70 41 *e*P **P 14 14 10.0 -0.7**
NKC *e*S **S 14 22 33.2 +5.5**
NKC AMS AMS 14 37 20.0
comp=Z,11µm,16.0s
NKC Novy Kostel 60.70 41 *e*P **P 14 14 10.0 -0.7**
NKC *e*S **S 14 22 33.2 +5.5**
NKC MLR MLR
comp=Z,11µm,16.0s
KBA Koelnbreinsper 60.73 44 *e*P **P 14 14 09.1 -2.0**
comp=Z,51nm,1.4s,SNR=45
KBA Koelnbreinsper 60.73 44 ⇑P **P 14 14 09.3 -1.9**
GLA Glamis 60.73 299 IAMs_20 IAMs_20 14 41 50.7
comp=Z,12µm,18.0s
TANN Tannenbergstha 60.74 41 *e*P **P 14 14 10.0 -1.0**
comp=Z,977nm,2.1s,baz=258,slow=7.2
WET Wettzell 60.77 42 *e*P **P 14 14 09.8 -1.4**
comp=Z,560nm,2.0s,baz=258,slow=7.2
V12A Nelson 60.79 302 IAMs_20 IAMs_20 14 38 23.8
comp=Z,17µm,20.0s
JMIC Jan Mayen 60.84 14 LR LR 14 35 31.0
comp=Z,3µm,18.7s,baz=228,slow=31
MYKA Terra Mystica 60.86 45 *e*P **P 14 14 10.1 -1.8**
comp=Z,111nm,1.4s,SNR=22
CADS Cadrg 60.87 45 *i*P **P 14 14 10.0 -2.0**
Q12A Willow Creek R 60.91 306 IAMs_20 IAMs_20 14 40 27.7
comp=Z,15µm,19.0s
HLID Hailey 60.97 311 ⇓P **P 14 14 13.1 +0.2**
PRN Pahroc Range 61.00 304 IAMs_20 IAMs_20 14 38 21.4
comp=Z,21µm,21.0s
PRN Pahroc Range 61.00 304 ⇑P **P 14 14 14.9 +1.7**
BIOA Bad Ischl, Aus 61.02 44 *e*P **P 14 14 11.1 -1.9**
comp=Z,126nm,1.5s,SNR=67
MSO Missoula 61.05 315 ⇑P **P 14 14 13.2 -0.1**
DBG Daneborg 61.12 9 ⇓P **P 14 14 14.3 +1.2**
DBG Daneborg 61.12 9 *i*P **P 14 14 14.1 +1.0**
DBG IAmb IAmb 14 14 27.2
comp=Z,179nm,1.2s
OVD Ostervraa, Den 61.15 33 *i*P **P 14 14 13.6 0.0**
OVD IAmb IAmb 14 14 35.1
comp=Z,184nm,1.0s
LL01 San Ignacio de 61.16 199 ⇓P **P 14 14 14.5 +0.8**
KHC Kasperske Hory 61.22 42 *e*P **P 14 14 12.8 -1.4**
KHC *ex* x 14 14 22.5
KHC *e*S **S 14 22 35.6 +1.2**
KHC AMS AMS 14 38 50.0
comp=Z,8µm,16.2s
KHC Kasperske Hory 61.22 42 ⇑P **P 14 14 12.9 -1.4**
KHC Kasperske Hory 61.22 42 *e*P **P 14 14 12.8 -1.4**
KHC *e*S **S 14 22 35.6 +1.2**
KHC MLR MLR
comp=Z,8µm,16.2s
KHC Kasperske Hory 61.22 42 P **P 14 14 12.4 -1.9**
comp=Z,132nm,2.1s,comp=Z,4µm
GEC2 GERESS Array B 61.25 43 *e*P **P 14 14 13.0 -1.5**
comp=Z,374nm,1.6s,baz=258,slow=7.2
GERES GERESS Array B 61.25 43 P **P 14 14 11.5 -3.1**
comp=Z,23nm,1.0s,baz=264,slow=5.4,SNR=32
GERES PKPPKP **P'P'df 14 43 31.7 -2.0**
comp=Z,1.1nm,0.9s,baz=343,slow=4.2,SNR=5.1
comp=Z,23nm,1.0s
CLL Collm 61.25 40 *i*P **P 14 14 13.2 -1.2**
CLL *e*S **S 14 22 36.0 +1.3**
CLL pmax pmax

comp=Z,426nm,1.7s
CLL MLR MLR
comp=Z,9μm,19.0s
CLL Collm 61.25 40 *e*P **P 14 14 13.3 -1.2**
comp=Z,515nm,1.8s,baz=258,slow=7.2
CLL Collm 61.25 40 *i* P **P 14 14 13.2 -1.2**
comp=Z,426nm,1.7s
CLL *e*Plp 14 14 17.0
CLL *e*Pmax 14 14 24.0
CLL *e*PP **PP 14 16 24.0 -5.1**
CLL *e*S **S 14 22 36.0 +1.3**
CLL *e*S **S 14 22 36.0 +1.3**
comp=E,2μm,14.9s
CLL *e*ScS **ScS 14 24 11.0 +4.8**
CLL AMS AMS 14 36 00.0
CLL AMS AMS 14 37 00.0
comp=Z,9μm,19.0s
CLL *i* PKPPKPb**P'P'bc 14 43 39.1 -3.2**
comp=Z,25nm,1.7s
CLL R2 16 33 00.0
CLL R2 16 56 00.0
comp=Z,400nm,23.5s
CLL Collm 61.25 40 P **P 14 14 13.4 -1.0**
comp=Z,141nm,1.5s,comp=Z,4μm
CEY Cerknica 61.28 46⇓*i*P **P 14 14 13.0 -1.8**
AKN Aaknes 61.28 27 *e*P **P 14 14 14.4 -0.1**
AKN IVmB_BB 14 14 25.6
comp=Z,3μm,1.9s
AKN *e*S **S 14 22 34.2 -0.5**
AKN IVMs_BB IVMs_BB 14 37 40.1
comp=Z,4μm,18.7s
SKAR Skarslia 61.31 29 *e*P **P 14 14 16.5 +1.8**
SKAR IVmB_BB 14 14 26.9
comp=Z,3μm,1.8s
SKAR IVMs_BB IVMs_BB 14 34 50.1
comp=Z,5μm,14.7s
ELK Elko 61.33 308 LR LR 14 38 59.9
comp=Z,13μm,21.8s,baz=94,slow=34
ELK Elko 61.33 308⇓P **P 14 14 16.0 +0.5**
HSKC Hora Svate Kat 61.38 40 *e*P **P 14 14 13.9 -1.5**
HSKC *e*S **S 14 22 36.8 +0.3**
HSKC AMS AMS 14 37 30.0
comp=Z,7μm,15.8s
LJU Ljubljana 61.39 46 *e*P **P 14 14 14.2 -1.3**
LJU *i* pP **sP 14 14 17.7 +0.8**
LJU *i* S **S 14 22 35.4 -1.3**
LJU *e* 14 24 07.0
MOA Molln 61.46 44 *e*P **P 14 14 13.7 -2.2**
comp=Z,152nm,1.8s,SNR=43
R11B Troy Canyon, C 61.46 305 IAMs_20 IAMs_20 14 38 01.5
comp=Z,13μm,22.0s
R11B Troy Canyon, C 61.46 305 P **P 14 14 17.1 +0.8**
baz=92,SNR=195
R11B S **S 14 22 43.0 +4.7**
baz=92
OBKA Obir 61.47 45 *e*P **P 14 14 14.5 -1.5**
comp=Z,41nm,0.8s,SNR=53
OBKA Obir 61.47 45⇓*i*P **P 14 14 13.4 -2.7**
VTX Valle De La Tr 61.56 298 IAMs_20 IAMs_20 14 42 29.1
comp=Z,16μm,19.0s
S11A Rachel 61.56 305 IAMs_20 IAMs_20 14 37 53.2
comp=Z,20μm,21.0s
KONO Kongsberg 61.57 30 *e*P **P 14 14 16.2 -0.2**
KONO IVmB_BB 14 14 27.2
comp=Z,3μm,2.0s
KONO *e*S **S 14 22 38.1 -0.3**
KONO IVMs_BB IVMs_BB 14 37 15.9
comp=Z,4μm,13.5s
KONO Kongsberg 61.57 30⇑P **P 14 14 18.3 +1.9**
CKRC Cesky Krumlov 61.64 43 *e*P **P 14 14 15.2 -1.9**
CKRC *e*S **S 14 22 39.7 -0.1**
CKRC AMS AMS 14 38 10.0
comp=Z,12μm,17.4s
CKRC Cesky Krumlov 61.64 43 *e*P **P 14 14 15.2 -1.9**
CKRC *e*S **S 14 22 39.7 -0.1**
CKRC MLR MLR
comp=Z,12μm,17.4s
YUH Yuha Desert 61.66 299 IAMs_20 IAMs_20 14 42 21.2
comp=Z,12μm,19.0s
ZVC Zvikov 61.66 42 *e*P **P 14 14 15.3 -1.9**
ZVC AMS AMS 14 38 10.0
comp=Z,8μm,17.7s
MOL Molde 61.67 26 *e*P **P 14 14 18.6 +1.6**
MOL IVmB_BB 14 14 25.9
comp=Z,2μm,4.5s
MOL *e*S **S 14 22 41.4 +1.8**
LL02 Futaleuf 61.72 198⇓P **P 14 14 18.3 +0.7**
BRG Berggiesshubel 61.75 40 *i* P **P 14 14 16.7 -1.0**
BRG Amp 14 14 18.3
comp=Z,26nm,1.2s
BRG Berggiesshubel 61.75 40 P **P 14 14 22.1 +4.3**
BRG Amp 14 14 23.3
comp=Z,405nm,1.7s
BRG Berggiesshubel 61.75 40 *i* P **P 14 14 16.7 -1.0**
BRG 14 14 22.0
BRG S **S 14 22 45.0 +3.9**
BRG pmax pmax
comp=Z,27nm,1.2s
BRG pmax pmax
comp=Z,405nm,1.7s
BRG pmax pmax
comp=Z,122nm,1.4s
BRG smax smax
comp=N,2μm,12.9s
BRG Berggiesshubel 61.75 40 *e*P **P 14 14 16.8 -1.0**
comp=N,407nm,1.7s,baz=258,slow=7.2
CEL Celeste 61.76 55⇑P **P 14 14 16.1 -2.0**
CEL Celeste 61.76 55 P **P 14 14 16.1 -2.0**
comp=N,58nm,1.5s,comp=N,1μm
CUC Castrocucco 61.78 53⇑P **P 14 14 16.4 -1.9**
SOKA Soboth 61.82 45 *e*P **P 14 14 16.3 -2.1**
comp=N,29nm,1.3s,SNR=23
BOJS Bojanci 61.83 46 *i* P **P 14 14 17.1 -1.4**
BOJS *i* S **S 14 22 41.5 -0.7**
TULEG Thule 61.85 355⇓*i*P **P 14 14 20.7 +2.7**
TULEG IAmb IAmb 14 14 49.6
comp=Z,130nm,1.3s
COP Copenhagen 61.90 35 *i* P **P 14 14 18.7 +0.1**
COP IAmb IAmb 14 14 30.1
comp=Z,1μm,1.9s
LL07 Hotel Espejo d 61.90 199 IAMs_20 IAMs_20 14 42 22.5
comp=Z,15μm,19.0s
TPNV Topopah Spring 61.95 304 IAMs_20 IAMs_20 14 39 00.4
comp=Z,16μm,20.0s
TPNV Topopah Spring 61.95 304⇓P **P 14 14 21.3 +1.7**
RUE Ruedersdorf 61.96 38 *e*P **P 14 14 19.3 +0.2**
PRU Pruhonice 61.98 41 *e*P **P 14 14 21.5 +2.2**
PRU *e*S **S 14 22 45.3 +1.4**
PRU AMS AMS 14 38 50.0
comp=Z,10μm,17.2s
PRU Pruhonice 61.98 41 *e*P **P 14 14 21.5 +2.2**
PRU *e*S **S 14 22 45.3 +1.4**
PRU MLR MLR
comp=Z,10μm,17.2s
NEEM North Greenlan 61.98 360⇑P **P 14 14 18.4 -0.9**
NEEM North Greenlan 61.98 360 *i* P **P 14 14 19.5 +0.3**
NEEM IAmb IAmb 14 14 37.2
comp=Z,2μm,2.8s
CRES Cresnjevec Ost 62.01 46 *e*P **P 14 14 17.6 -2.0**
PVCC Panska Ves 62.08 41 *e*S **S 14 22 49.4 +4.1**
PVCC AMS AMS 14 38 20.0
comp=Z,7μm,15.3s
PFO Pinyon Flats O 62.09 300 IAMs_20 IAMs_20 14 41 35.6
comp=Z,11μm,19.0s
PFO Pinyon Flats O 62.09 300 LR LR 14 42 35.3
comp=Z,11μm,18.1s,baz=92,slow=37
PFO Pinyon Flats O 62.09 300*d i*P **P 14 14 21.6 +1.0**
PFO pmax pmax
comp=Z,224nm,1.3s
PFO MLR MLR
comp=Z,19μm,16.0s
GOPC GO Pecny, Ondr 62.12 41 *e*S **S 14 22 50.9 +5.1**
GOPC AMS AMS 14 39 10.0
comp=Z,8μm,19.0s
RGN Rugen 62.12 36 IAMs_20 IAMs_20 14 35 42.8
comp=Z,12μm,20.0s
MRVN Minervino Murg 62.13 52⇑P **P 14 14 20.9 +0.3**
DOMB Dombas 62.14 27 *e*P **P 14 14 19.5 -0.7**
DOMB IVmB_BB 14 14 31.4
comp=Z,2μm,2.1s
DOMB *e*S **S 14 22 47.6 +2.0**
DOMB IVMs_BB IVMs_BB 14 34 28.2
comp=Z,3μm,15.0s
OSL Oslo 62.20 30 IVmB_BB 14 14 32.6
comp=Z,3μm,2.2s
OSL *e*S **S 14 22 47.4 +1.0**
OSL IVMs_BB IVMs_BB 14 37 35.3
comp=Z,5μm,15.7s
GO07 Millado Hill, 62.22 199 IAMs_20 IAMs_20 14 42 31.8
comp=Z,17μm,20.0s
ARSA Arzberg 62.22 45 *e*P **P 14 14 18.7 -2.3**
comp=Z,114nm,1.3s,SNR=64
ARSA Arzberg 62.22 45⇑P **P 14 14 18.8 -2.3**
TKX Tecate 62.24 299 IAMs_20 IAMs_20 14 42 55.6
comp=Z,10μm,18.0s
WCT Wildcat Mounta 62.24 304 IAMs_20 IAMs_20 14 38 39.3
comp=Z,17μm,21.0s
GWY Greenwater Val 62.27 303 IAMs_20 IAMs_20 14 38 40.1
comp=Z,17μm,22.0s
CBX Cerro Bola 62.29 299 IAMs_20 IAMs_20 14 42 49.0
comp=Z,12μm,21.0s
TIP Timpagrande 62.47 54⇑P **P 14 14 21.6 -1.3**
TIP Timpagrande 62.47 54⇓P **P 14 14 20.3 -2.6**
TREC Trest 62.48 42 *e*P **P 14 14 21.4 -1.3**
TREC *e*S **S 14 22 51.9 +1.6**
TREC AMS AMS 14 38 10.0
comp=Z,9μm,17.6s
TREC Trest 62.48 42 *e*P **P 14 14 21.4 -1.3**
TREC *e*S **S 14 22 51.9 +1.6**
TREC MLR MLR
comp=Z,9μm,17.6s
MATE Matera 62.49 52 *e*P **P 14 14 22.8 -0.1**
MATE Matera 62.49 52⇑P **P 14 14 21.0 -1.9**
MATE Matera 62.49 52⇓P **P 14 14 20.6 -2.3**
CONA Conrad Observa 62.54 44 *e*P **P 14 14 21.6 -1.6**
comp=Z,163nm,1.8s,SNR=74
A050A Klekovaca 62.63 48 *e*P **P 14 14 22.1 -1.8**
Q09A Carvers 62.73 306 IAMs_20 IAMs_20 14 41 45.0
comp=Z,13μm,18.0s
NB2 NORSAR Subarra 62.77 29 P **P 14 14 23.6 -0.9**
comp=Z,791nm,2.0s,baz=252,slow=6.9
NB2 NORSAR Subarra 62.77 29 P **P 14 14 23.6 -0.9**
baz=252,slow=6.9
NOA NORSAR Array B 62.77 29 P **P 14 14 23.7 -0.8**
comp=Z,47nm,1.0s,baz=251,slow=6.9,SNR=23
NOA LR LR 14 37 31.9
comp=Z,7μm,18.1s,baz=250,slow=32
comp=Z,47nm,1.0s
RONA Rosalia, Austr 62.80 44 *e*P **P 14 14 23.2 -1.7**
comp=Z,151nm,1.5s,SNR=56
NC602 NORSAR Array S 62.83 29 *e*P **P 14 14 27.4 +2.5**
NC602 *e*S **S 14 22 56.4 +2.1**
NC602 IVMs_BB IVMs_BB 14 37 12.6
comp=Z,4μm,17.0s
GRAC Grapevine Rang 62.84 304 IAMs_20 IAMs_20 14 39 30.1
comp=Z,16μm,20.0s
ELS Elsinore Mount 62.90 300 IAMs_20 IAMs_20 14 40 48.1
comp=Z,12μm,21.0s
A051A Mrakovica 62.94 47⇓*i*P **P 14 14 24.3 -1.7**
BEHE Becsehely 62.99 45 IAMs_20 IAMs_20 14 37 40.7
comp=Z,10μm,18.0s
UPC Upice 62.99 41 *e*P **P 14 14 24.6 -1.5**
UPC *e*S **S 14 22 58.9 +2.2**
UPC AMS AMS 14 39 10.0
comp=Z,9μm,16.8s
UPC Upice 62.99 41 *e*P **P 14 14 24.6 -1.5**
UPC *e*S **S 14 22 58.9 +2.2**
UPC MLR MLR
comp=Z,9μm,16.8s
CHVC Chvalec 63.03 41 AMS AMS 14 39 10.0
comp=Z,8μm,17.8s
KRUC Moravsky 63.03 43 *e*P **P 14 14 25.0 -1.4**
KRUC *e*S **S 14 22 56.6 -0.7**
KRUC *e*PKPPKP **P'P'df 14 43 34.5 +3.8**
BLY Banja Luka 63.12 47 *e*P **P 14 14 25.5 -1.5**
BLY Banja Luka 63.12 47⇓P **P 14 14 28.5 +1.5**
OSTC Ostas 63.13 41 *e*P **P 14 14 26.0 -1.0**
OSTC AMS AMS 14 39 30.0
comp=Z,8μm,18.0s
OSTC Ostas 63.13 41 *e*P **P 14 14 26.0 -1.0**
OSTC MLR MLR
comp=Z,8μm,18.0s
BSD Bornholm Skovb 63.15 36 *e*P **P 14 14 27.7 +0.7**
BSD Bornholm Skovb 63.15 36 *i* P **P 14 14 28.0 +1.0**
BSD IAmb IAmb 14 14 36.8
comp=Z,617nm,2.1s
BMO Blue Mountains 63.16 313⇓P **P 14 14 26.8 -0.7**
DPC Dobruska-Polom 63.16 41 *e*P **P 14 14 26.1 -1.2**
DPC *e*S **S 14 22 59.5 +0.5**
DPC AMS AMS 14 39 40.0
comp=Z,10μm,17.8s
DPC Dobruska-Polom 63.16 41 *e*P **P 14 14 26.1 -1.2**
DPC *e*S **S 14 22 59.5 +0.5**
DPC MLR MLR
comp=Z,10μm,17.8s
DPC Dobruska-Polom 63.16 41 P **P 14 14 26.4 -0.9**
comp=Z,110nm,2.1s,comp=Z,3μm
VRAC Vranov 63.20 42 P **P 14 14 26.5 -1.0**
comp=Z,60nm,1.0s,baz=268,slow=6.7,SNR=26
comp=Z,60nm,1.0s
VRAC Vranov 63.20 42 *e*P **P 14 14 26.0 -1.5**
VRAC *e*S **S 14 22 59.4 +0.1**
VRAC *e*PKPPKP **P'P'df 14 43 32.5 +2.1**
VRAC Vranov 63.20 42⇑P **P 14 14 26.5 -1.0**
F10A Beach Ranch, E 63.20 314⇑P **P 14 14 27.1 -0.6**
KSP Ksiaz 63.22 41 *e*P **P 14 14 26.7 -0.9**
KSP Ksiaz 63.22 41⇑P **P 14 14 26.7 -0.9**
KSP Ksiaz 63.22 41 P **P 14 14 26.7 -0.9**
comp=Z,102nm,2.2s,comp=Z,4μm
DSP Deep Springs 63.33 304 IAMs_20 IAMs_20 14 39 11.9
comp=Z,20μm,22.0s
STON Ston 63.36 50⇓*i*P **P 14 14 26.6 -2.0**
NEW Newport 63.37 316 LR LR 14 39 46.6
comp=Z,19μm,21.7s,baz=95,slow=34
NEW Newport 63.37 316⇑P **P 14 14 28.3 -0.4**
DAG Danmarks Havn 63.40 8 P **P 14 14 26.7 -1.6**
DAG Danmarks Havn 63.40 8⇑P **P 14 14 26.9 -1.4**
DAG Danmarks Havn 63.40 8 *i* P **P 14 14 26.6 -1.7**
DAG IAmb IAmb 14 14 41.4
comp=Z,220nm,1.4s
KRLC Kraliky 63.42 41 *e*P **P 14 14 28.1 -0.9**
KRLC AMS AMS 14 40 10.0
comp=Z,8μm,16.6s
KRLC Kraliky 63.42 41 *e*P **P 14 14 28.1 -0.9**
KRLC MLR MLR
comp=Z,8μm,16.6s
KVN Kaiserville 63.45 306 IAMs_20 IAMs_20 14 39 57.1
comp=Z,14μm,19.0s
PASC Pasadena Art C 63.52 301 IAMs_20 IAMs_20 14 42 06.4
comp=Z,18μm,18.0s
MODS Modra-Piesok 63.53 43 *e*P **P 14 14 28.6 -1.2**
MODS *e* 14 30 00.6
MODS pmax pmax
comp=Z,1μm,2.0s
MODS Modra-Piesok 63.53 43 *e*P **P 14 14 28.6 -1.2**
MODS *e*S **S 14 23 06.8 +3.2**
MODS *e* 14 30 00.6
MODS *e* 14 43 31.7
MPLH Magyarpolny 63.58 45 P **P 14 14 29.0 -1.1**
comp=Z,388nm,1.6s,comp=Z,10μm
NVAR Mina Array Bea 63.60 305 P **P 14 14 30.8 +0.1**
comp=Z,13nm,0.7s,baz=83,slow=6.5,SNR=128
NVAR LR LR 14 42 30.6
comp=Z,6μm,18.9s,baz=94,slow=36
NVAR PKPPKP **P'P'df 14 43 24.7 -5.4**
comp=Z,0.4nm,0.7s,baz=262,slow=1.3,SNR=2.3
NVAR PKP2ab 14 43 39.1
comp=Z,4.7nm,1.2s,baz=228,slow=1.7,SNR=9.1
comp=Z,13nm,0.7s
SMOL Smolenice 63.65 43 *e*P **P 14 14 29.3 -1.2**
SMOL pmax pmax
comp=Z,154nm,1.8s
HFS Hagfors 63.69 30 P **P 14 14 28.7 -1.8**
comp=Z,131nm,1.1s,baz=252,slow=6.4,SNR=17
HFS LR LR 14 35 38.4
comp=Z,7μm,21.1s,baz=252,slow=30
comp=Z,131nm,1.1s
ISA Isabella, Lake 63.73 302 IAMs_20 IAMs_20 14 40 46.9
comp=Z,19μm,20.0s
LHV Little Huntoon 63.76 305 IAMs_20 IAMs_20 14 39 37.2
comp=Z,15μm,21.0s
TREB Trebinje 63.83 50 *e*P **P 14 14 29.5 -2.3**
JAVC Velka Javorina 63.85 43 *e*P **P 14 14 31.1 -0.8**
JAVC *e*PKPPKP **P'P'df 14 43 29.3 -0.1**
MORC Moravsky Berou 63.87 42 IAMs_20 IAMs_20 14 40 00.9
comp=Z,10μm,18.0s
MORC Moravsky Berou 63.87 42 *e*P **P 14 14 31.1 -0.9**
MORC *e*S **S 14 23 07.7 -0.1**
MORC *e*PKPPKP **P'P'df 14 43 33.2 +3.8**
MORC Moravsky Berou 63.87 42⇑P **P 14 14 31.1 -0.9**
MORC Moravsky Berou 63.87 42 P **P 14 14 31.3 -0.7**
KOVH Kovagotottos 63.87 46⇓P **P 14 14 30.6 -1.4**
HCY Herceg Novi 63.92 50 *e*P **P 14 14 30.1 -2.3**
COYC Coyhaique 63.97 197 IAMs_20 IAMs_20 14 43 21.0
comp=Z,13μm,21.0s
COYC Coyhaique 63.97 197⇓P **P 14 14 33.6 +1.1**
WVOR Wild Horse Val 63.97 310 IAMs_20 IAMs_20 14 40 32.5
comp=Z,18μm,19.0s
WVOR Wild Horse Val 63.97 310⇑P **P 14 14 33.4 +0.5**
BRY Bratogost 63.98 50 *e*P **P 14 14 31.3 -1.6**
MAUC Maruska 64.00 42 *e*P **P 14 14 32.6 -0.3**
MAUC *e*S **S 14 23 11.6 +2.1**
RES Resolute Bay 64.06 348 LR LR 14 40 11.4
comp=Z,31μm,20.9s,baz=130,slow=34
RES Resolute Bay 64.06 348⇑P **P 14 14 32.1 -0.7**
C09A Chrisman Ranch 64.09 316 IAMs_20 IAMs_20 14 39 11.9
comp=Z,16μm,20.0s
GKP Gorka Klasztor 64.16 38 *e*P **P 14 14 38.2 +4.5**
GKP Gorka Klasztor 64.16 38 *e*P **P 14 14 34.4 +0.7**
SRO Srobarova 64.17 44 *e*P **P 14 14 33.2 -0.7**
SRO pmax pmax
comp=Z,920nm,2.3s
SRO Srobarova 64.17 44 *e*P **P 14 14 33.2 -0.7**
NSS Namsos 64.22 25 *e*P **P 14 14 35.3 +1.4**
NSS IVmB_BB 14 14 43.9
comp=Z,3μm,2.4s
NSS *e*S **S 14 23 12.4 +1.0**
NSS IVMs_BB IVMs_BB 14 35 57.5
comp=Z,4μm,19.0s
MORH Mrgy, Hungar 64.26 46⇑P **P 14 14 33.4 -1.1**
MORH Mrgy, Hungar 64.26 46 P **P 14 14 33.3 -1.2**
comp=Z,113nm,2.4s,comp=Z,3μm
UPM Unac-Piva 64.26 49 *e*P **P 14 14 31.8 -3.0**
OKC Ostrava-Krasne 64.27 42 *e*P **P 14 14 33.9 -0.6**
OKC *e*S **S 14 23 14.9 +2.4**
OKC AMS AMS 14 40 10.0
comp=Z,6μm,15.6s
OKC Ostrava-Krasne 64.27 42 *e*P **P 14 14 33.9 -0.6**
OKC *e*S **S 14 23 14.9 +2.4**
OKC MLR MLR
comp=Z,6μm,15.6s
RAC Raciborz 64.32 42 *e*P **P 14 14 34.3 -0.6**
RAC *e*S **S 14 23 13.8 +0.6**
RAC AMS AMS 14 40 02.9
comp=Z,8.0nm,19.0s
RAC Raciborz 64.32 42 *e*P **P 14 14 34.3 -0.6**
RAC *e*S **S 14 23 13.8 +0.6**
HAPS Han Pijesak,Bl 64.33 48⇓*i*P **P 14 14 34.2 -1.0**
YERR Yerington 64.34 306 IAMs_20 IAMs_20 14 41 45.6
comp=Z,14μm,19.0s
PAHR Pah Rah Range 64.46 307 IAMs_20 IAMs_20 14 40 02.7
comp=Z,19μm,20.0s
D08A Wollman Farm, 64.46 315 IAMs_20 IAMs_20 14 41 40.9
comp=Z,13μm,18.0s
PDG Podgorica 64.48 50⇓*i*P **P 14 14 35.1 -1.0**
PDG Podgorica 64.48 50⇑P **P 14 14 35.7 -0.3**
PDG Podgorica 64.48 50⇓P **P 14 14 35.3 -0.8**
WAKR Walker 64.49 306 IAMs_20 IAMs_20 14 39 59.7
comp=Z,20μm,21.0s
E08A Dider Farm, El 64.52 314 IAMs_20 IAMs_20 14 41 10.3
comp=Z,19μm,20.0s
BCW Bitter Crk WRg 64.52 302 IAMs_20 IAMs_20 14 41 10.7
comp=Z,16μm,19.0s
VYHS Vyhne 64.58 43 *e*P **P 14 14 35.5 -1.1**
VYHS pmax pmax
comp=Z,858nm,2.1s
VYHS Vyhne 64.58 43 *e*P **P 14 14 35.5 -1.1**
VYHS *e*S **S 14 23 19.8 +3.3**
VYHS *e* 14 30 37.9
RUDO Rudo 64.61 49 *e*P **P 14 14 34.6 -2.4**
PNTR Pine Nut 64.62 306 IAMs_20 IAMs_20 14 41 54.0
comp=Z,14μm,19.0s
BBLS Lazi&#263i 64.65 49⇓*i*P **P 14 14 36.2 -1.1**
YKA Yellowknife Ar 64.71 332 P **P 14 14 35.8 -1.3**
comp=Z,6.0nm,0.5s,baz=186,slow=7.2,SNR=45
YKA LR LR 14 39 44.7
comp=Z,22μm,21.4s,baz=97,slow=33
YKA PKPPKP **P'P'df 14 43 24.0 -3.6**
comp=Z,0.8nm,0.8s,baz=288,slow=1.3,SNR=2.0
comp=Z,6.0nm,0.5s
TEKS Tekeris 64.77 48 *e*P P 14 14 32.6 -5.4
HAWA Hanford 64.83 314 IAMs_20 IAMs_20 14 41 08.8
comp=Z,18μm,20.0s
HAWA Hanford 64.83 314⇑P **P 14 14 38.4 +0.1**
KEK Kerkira 64.83 53⇓P **P 14 14 37.6 -0.8**
TIR Tirane 64.91 51⇑P **P 14 14 38.5 -0.5**
TIR Tirane 64.91 51 P **P 14 14 38.4 -0.5**
MPK Martis Peak 64.96 306 IAMs_20 IAMs_20 14 40 23.0
comp=Z,15μm,20.0s
FRGS Fruska Gora 65.00 47⇓*i*P **P 14 14 37.2 -2.3**
EMB Emerald Bay 65.01 306 IAMs_20 IAMs_20 14 39 52.4
comp=Z,19μm,22.0s
SJES Sjenica 65.04 49 *e*P **P 14 14 37.4 -2.5**
LANS Liptovska Anna 65.05 43 *e*P **P 14 14 39.5 -0.2**
LANS pmax pmax
comp=Z,121nm,2.0s
LANS Liptovska Anna 65.05 43 *e*P **P 14 14 39.5 -0.2**
F07A Phinny Hill Vi 65.08 314 IAMs_20 IAMs_20 14 40 37.3
comp=Z,15μm,19.0s
STOK Stokkvaagen 65.22 23 *e*P **P 14 14 42.2 +1.8**
STOK IVmB_BB 14 14 53.0
comp=Z,2μm,2.0s
PSZ Piszkesteto 65.23 44 *e*P **P 14 14 40.8 -0.2**
PSZ Piszkesteto 65.23 44⇑P **P 14 14 40.6 -0.4**
PSZ Piszkesteto 65.23 44⇑P **P 14 14 40.0 -1.0**
PSZ Piszkesteto 65.23 44 P **P 14 14 40.6 -0.4**
CMB Columbia Colle 65.24 305 IAMs_20 IAMs_20 14 41 20.5
comp=Z,15μm,21.0s
KONS Konsvik 65.31 23 IVmB_BB 14 14 45.4
comp=Z,2μm,2.3s
OJC Ojcow 65.36 42 *e*P **P 14 14 41.0 -0.7**
OJC Ojcow 65.36 42⇑P **P 14 14 41.1 -0.7**
OJC Ojcow 65.36 42 P **P 14 14 41.0 -0.7**
comp=Z,162nm,2.1s,comp=Z,5μm
MXC Moxie City 65.37 314 IAMs_20 IAMs_20 14 42 14.1
comp=Z,16μm,18.0s
G06A Carlson Farm, 65.54 313 IAMs_20 IAMs_20 14 42 26.6
comp=Z,15μm,19.0s
OHR Ohrid 65.61 52 *i* P **P 14 14 43.7 +0.2**
PMPB Monarch Peak 65.61 303 IAMs_20 IAMs_20 14 41 26.5
comp=Z,19μm,21.0s
NIE Niedzica 65.62 42 *e*P **P 14 14 44.4 +1.0**
AY03 Cochrane 65.65 197 IAMs_20 IAMs_20 14 43 25.5
comp=Z,16μm,21.0s
LTY Liberty 65.67 315 IAMs_20 IAMs_20 14 42 34.7
comp=Z,11μm,18.0s
KECS Kecovo 65.67 44 *e*P **P 14 14 43.4 -0.3**
KECS pmax pmax
comp=Z,202nm,1.7s
KECS Kecovo 65.67 44 *e*P **P 14 14 43.4 -0.3**
AFDM Forest Hills D 65.69 306 IAMs_20 IAMs_20 14 40 58.3
comp=Z,12μm,22.0s
MOR8 Moi Rana 65.72 24 *e*P **P 14 14 46.0 +2.3**
MOR8 IVmB_BB 14 14 48.2
comp=Z,2μm,2.7s
MOR8 *e*S **S 14 23 32.2 +2.3**
MOR8 IVMs_BB IVMs_BB 14 36 05.5
comp=Z,2μm,14.7s
BBGB Big Mountain B 65.79 303 IAMs_20 IAMs_20 14 41 24.3
comp=Z,17μm,20.0s
LOF Lofoten 66.00 22 *e*P **P 14 14 46.7 +1.3**
G05A Wamic 66.02 313 IAMs_20 IAMs_20 14 41 52.4
comp=Z,16μm,18.0s
FNA Florina 66.04 52⇑P **P 14 14 44.5 -1.8**
HATC Hat Creek Radi 66.06 308 IAMs_20 IAMs_20 14 41 46.8
comp=Z,17μm,20.0s
ORV Oroville 66.09 307 IAMs_20 IAMs_20 14 42 26.9
comp=Z,13μm,20.0s
SAO San Andreas Ge 66.11 304 IAMs_20 IAMs_20 14 41 43.8
comp=Z,18μm,21.0s
BEL Belsk 66.14 40 *e*P **P 14 14 46.6 0.0**
STHS Stebnicka Huta 66.23 43 *e*P **P 14 14 47.2 -0.1**
STHS pmax pmax
comp=Z,112nm,1.7s
STHS Stebnicka Huta 66.23 43 *e*P **P 14 14 47.2 -0.1**
HOOD Mount Hood Mea 66.26 313 IAMs_20 IAMs_20 14 42 49.7
comp=Z,14μm,18.0s
BZS Buzias 66.30 47⇑P **P 14 14 47.2 -0.6**
BZS Buzias 66.30 47⇓P **P 14 14 46.8 -1.0**
BZS Buzias 66.30 47 P **P 14 14 46.8 -1.0**
BOVS Bovan 66.31 49⇑P **P 14 14 46.6 -1.3**
MDVR Moldovita 66.34 48⇑P **P 14 14 47.3 -0.8**
SIRR Siria 66.35 46⇑P **P 14 14 47.4 -0.8**

FAUS	**Fauske**	**66.40**	**23**	*e*P		**P**		**14 14 49.6**	**+1.6**
FAUS				IVmB_BB				14 14 52.1	
	comp=Z,3μm,2.9s								
FAUS				*e*S		**S**		**14 23 42.2**	**+4.1**
FAUS				*i*				14 28 32.5	
FAUS				*i*				14 31 17.8	
FAUS				IVMsBB				14 35 46.5	
	comp=Z,2μm,13.9s								
STEI	**Steigen**	**66.54**	**22**	*e*P		**P**		**14 14 48.8**	**-0.1**
STEI				IVmB_BB				14 14 53.2	
	comp=Z,3μm,1.7s								
STEI				*e*S		**S**		**14 23 43.4**	**+3.6**
STEI				IVMs_BB		IVMs_BB		14 36 12.6	
	comp=Z,2μm,13.4s								
SURR	**Surduc**	**66.66**	**47**	⇑P		**P**		**14 14 49.5**	**-0.6**
L04D	**Klamath Falls**	**66.69**	**310**	IAMs_20		IAMs_20		14 41 41.3	
	comp=Z,14μm,19.0s								
GO08	**Villa O'Higgin**	**66.75**	**196**	IAMs_20		IAMs_20		14 44 17.5	
	comp=Z,13μm,20.0s								
AGG	**Agios Georgios**	**66.80**	**54**	⇑P		**P**		**14 14 50.6**	**-0.6**
F04A	**Amboy**	**66.82**	**314**	IAMs_20		IAMs_20		14 42 13.3	
	comp=Z,13μm,18.0s								
HERR	**Herculane**	**66.84**	**47**	⇑P		**P**		**14 14 50.4**	**-0.9**
UZHM	**Uzhgorod**	**66.88**	**43**	P		**P**		**14 14 51.3**	**-0.1**
KOLS	**Kolonicke sedl**	**66.88**	**43**	*e*P		**P**		**14 14 51.0**	**-0.5**
KOLS				pmax		pmax			
	comp=Z,211nm,1.9s								
KOLS	**Kolonicke sedl**	**66.88**	**43**	*e*P		**P**		**14 14 51.0**	**-0.5**
KOLS				*e*				14 43 33.0	
HOLU	**Holmets**	**66.93**	**44**	P		**P**		**14 14 51.2**	**-0.6**
VAY	**Valandovo**	**66.94**	**51**	*i* P		**P**		**14 14 51.2**	**-0.8**
YBH	**Yreka Blue Hor**	**66.99**	**309**	IAMs_20		IAMs_20		14 42 30.4	
	comp=Z,15μm,19.0s								
YBH	**Yreka Blue Hor**	**66.99**	**309**	LR		LR		14 43 21.2	
	comp=Z,13μm,19.7s,baz=94,slow=35								
O02D	**Mt. Diablo Mer**	**67.08**	**307**	IAMs_20		IAMs_20		14 41 27.8	
	comp=Z,16μm,22.0s								
DRGR		**67.09**	**45**	⇑P		**P**		**14 14 52.9**	**-0.1**
DRGR		**67.09**	**45**	P		**P**		**14 14 51.7**	**-1.2**
BERU	**Beregovo**	**67.09**	**44**	P		**P**		**14 14 51.9**	**-0.9**
GZR	**Gura Zlata**	**67.11**	**47**	⇑P		**P**		**14 14 52.2**	**-0.8**
GZR	**Gura Zlata**	**67.11**	**47**	P		**P**		**14 14 51.9**	**-1.2**
MUKU	**Mukachevo**	**67.13**	**44**	P		**P**		**14 14 52.2**	**-0.8**
GNW	**Green Mountain**	**67.14**	**315**	IAMs_20		IAMs_20		14 41 34.8	
	comp=Z,10μm,19.0s								
HUMO	**Hull Mountain**	**67.17**	**310**	⇑P		**P**		**14 14 53.0**	**-0.4**
KWP	**Kalwaria Pacla**	**67.20**	**42**	*e*P		**P**		**14 14 53.6**	**+0.1**
KWP	**Kalwaria Pacla**	**67.20**	**42**	⇓P		**P**		**14 14 53.8**	**+0.3**
KWP	**Kalwaria Pacla**	**67.20**	**42**	P		**P**		**14 14 53.1**	**-0.4**
	comp=Z,273nm,2.0s,comp=Z,7μm								
DEV	**Deva**	**67.20**	**46**	⇑P		**P**		**14 14 52.7**	**-0.9**
DEV	**Deva**	**67.20**	**46**	P		**P**		**14 14 52.6**	**-0.9**
MCCM	**Marconi Confer**	**67.21**	**305**	IAMs_20		IAMs_20		14 41 24.5	
	comp=Z,19μm,21.0s								
MCCM	**Marconi Confer**	**67.21**	**305**	⇑P		**P**		**14 14 55.4**	**+1.7**
PBUR	**Paburge**	**67.22**	**35**	*e*P		**P**		**14 14 53.8**	**+0.4**
F04D	**Rainier, OR**	**67.23**	**314**	IAMs_20		IAMs_20		14 42 35.3	
	comp=Z,15μm,18.0s								
EFI	**East Falkland**	**67.24**	**185**	IAMs_20		IAMs_20		14 45 53.7	
	comp=Z,15μm,20.0s								
EFI	**East Falkland**	**67.24**	**185**	*ce*P		**P**		**14 14 53.8**	**+0.3**
EFI				pmax		pmax			
	comp=Z,182nm,1.2s								
EFI				MLR		MLR			
	comp=Z,6μm,19.0s								
MESR	**Meseseni**	**67.26**	**45**	⇑P		**P**		**14 14 52.7**	**-1.2**
TRSU	**Trosnyk**	**67.30**	**44**	P		**P**		**14 14 53.7**	**-0.4**
HOPS	**Hopland Field**	**67.33**	**306**	IAMs_20		IAMs_20		14 43 27.6	
	comp=Z,13μm,19.0s								
BRIU	**Brid**	**67.35**	**44**	P		**P**		**14 14 52.7**	**-1.7**
KKB	**Krupnik**	**67.36**	**51**	P		**P**		**14 14 58.0**	**+3.3**
MARR	**Marisel-Cluj**	**67.37**	**46**	⇑P		**P**		**14 14 53.9**	**-0.9**
KORU	**Korolevo**	**67.42**	**44**	P		**P**		**14 14 53.8**	**-1.1**
COR	**Corvallis**	**67.42**	**312**	⇓P		**P**		**14 14 56.2**	**+1.3**
VTS	**Vitosha**	**67.43**	**50**	P		**P**		**14 14 58.5**	**+3.2**
VALD	**Valchedram**	**67.57**	**49**	P		**P**		**14 15 00.6**	**+4.7**
PLNA	**Plana**	**67.57**	**50**	P		**P**		**14 14 59.8**	**+3.7**
SLIT	**Slitere, Latvi**	**67.60**	**34**	*e*P		**P**		**14 14 56.7**	**+0.9**
NOR	**Nord**	**67.61**	**5**	⇑P		**P**		**14 14 54.1**	**-1.5**
NOR	**Nord**	**67.61**	**5**	*i* P		**P**		**14 14 53.6**	**-2.0**
NOR				IAmb		IAmb		14 15 08.2	
	comp=Z,128nm,1.1s								
F03A	**Seaside**	**67.61**	**314**	IAMs_20		IAMs_20		14 42 56.4	
	comp=Z,12μm,22.0s								
MEZ	**Mezhgor'ye**	**67.68**	**44**	P		**P**		**14 14 56.2**	**-0.4**
CJR	**Cluj-Napoca**	**67.70**	**46**	⇑P		**P**		**14 14 55.0**	**-1.8**
CJR	**Cluj-Napoca**	**67.70**	**46**	P		**P**		**14 14 55.0**	**-1.8**
KCPM	**Cahto Peak**	**67.70**	**307**	IAMs_20		IAMs_20		14 41 48.4	
	comp=Z,11μm,20.0s								
HEBO	**Mount Hebo**	**67.74**	**313**	IAMs_20		IAMs_20		14 42 11.0	
	comp=Z,11μm,20.0s								
SUW	**Suwalki**	**67.76**	**38**	*e*P		**P**		**14 14 55.7**	**-1.2**
SUW	**Suwalki**	**67.76**	**38**	*e*P		**P**		**14 14 56.3**	**-0.6**
RAF	**Rauma**	**67.77**	**30**	*e*P		**P**		**14 14 57.8**	**+1.0**
WISH	**Wishkah**	**67.78**	**315**	IAMs_20		IAMs_20		14 41 20.6	
	comp=Z,14μm,21.0s								
KHMM	**Horse Mountain**	**67.78**	**308**	IAMs_20		IAMs_20		14 42 35.3	
	comp=Z,16μm,20.0s								
MPEP	**Malo Peshtene**	**67.79**	**49**	P		**P**		**14 14 59.8**	**+2.5**
LOT	**Lotru**	**67.81**	**47**	⇓P		**P**		**14 14 56.0**	**-1.5**
MMB	**Musomishta**	**67.83**	**51**	P		**P**		**14 15 01.1**	**+3.4**
NLWA	**Neilton Lookou**	**67.85**	**315**	⇓P		**P**		**14 14 58.2**	**+0.6**
JCC	**Jacoby Creek,**	**68.00**	**308**	IAMs_20		IAMs_20		14 43 02.3	
	comp=Z,11μm,19.0s								
LVV	**L'vov**	**68.06**	**42**	P		**P**		**14 14 58.1**	**-0.8**
LVV	**L'vov**	**68.06**	**42**	P		**P**		**14 14 58.7**	**-0.2**
KMPM	**Mount Pierce**	**68.09**	**308**	IAMs_20		IAMs_20		14 44 41.6	
	comp=Z,12μm,19.0s								
RAKU	**Rahkiv**	**68.11**	**44**	P		**P**		**14 14 57.9**	**-1.4**
PGB	**Panagyurishte**	**68.12**	**50**	P		**P**		**14 15 03.1**	**+3.6**
ARCR	**ARCALIA**	**68.22**	**45**	⇑P		**P**		**14 14 58.9**	**-1.1**
VLAD	**Vladila**	**68.26**	**48**	⇑P		**P**		**14 14 59.6**	**-0.7**
TRO	**Tromso**	**68.30**	**21**	*e*P		**P**		**14 14 59.9**	**-0.2**
TRO				IVmB_BB				14 15 04.2	
	comp=Z,4μm,1.6s								
TRO				*e*S		**S**		**14 24 03.4**	**+2.5**
TRO				IVMs_BB		IVMs_BB		14 36 50.0	
	comp=Z,3μm,30.9s								
PABE	**Paberze**	**68.32**	**36**	*e*P		**P**		**14 15 00.2**	**-0.2**
C03A	**Quillayute Air**	**68.33**	**316**	IAMs_20		IAMs_20		14 40 07.0	
	comp=Z,14μm,21.0s								
VSVD	**Vaisvydziai**	**68.34**	**36**	*e*P		**P**		**14 15 00.8**	**+0.4**
STNU	**Starunia**	**68.34**	**43**	P		**P**		**14 14 59.6**	**-1.1**
ARR	**Arges**	**68.41**	**47**	⇑P		**P**		**14 15 00.3**	**-1.0**
VAF	**Ylistaro**	**68.48**	**28**	*e*P		**P**		**14 15 01.9**	**+0.6**
MTSE	**Matsula**	**68.51**	**33**	*e*P		**P**		**14 15 02.3**	**+0.8**
PLD	**Plovdiv**	**68.56**	**50**	P		**P**		**14 15 05.2**	**+3.0**
RZN	**Rozhen**	**68.56**	**51**	P		**P**		**14 15 05.7**	**+3.2**
VOIR		**68.71**	**47**	⇑P		**P**		**14 15 01.9**	**-1.2**
VOIR		**68.71**	**47**	P		**P**		**14 15 01.9**	**-1.2**
KSV	**Kosov**	**68.71**	**44**	P		**P**		**14 15 00.7**	**-2.4**
KOTAN	**Kotaneelee Air**	**68.74**	**329**	P		**P**		**14 15 03.0**	**0.0**
	baz=96,SNR=35								
KOTAN				S		**S**		**14 24 04.8**	**-1.7**
	baz=96								
JETT	**Jettan, Norway**	**68.79**	**21**	*e*P		**P**		**14 15 03.2**	**0.0**
JETT				IVmB_BB				14 15 07.1	
	comp=Z,3μm,2.6s								
JETT				IVMsBB				14 37 06.4	
	comp=Z,3μm,20.7s								
BURAR	**Bucovina Array**	**68.81**	**45**	⇓P		**P**		**14 15 03.3**	**-0.6**
BURAR	**Bucovina Array**	**68.81**	**45**	P		**P**		**14 15 03.2**	**-0.6**
WRGLY	**Wrigley**	**68.83**	**332**	P		**P**		**14 15 02.7**	**-0.7**
	baz=98,SNR=13								
WRGLY				S		**S**		**14 24 05.6**	**-1.8**
	baz=98								
DOPR	**Dopca**	**68.94**	**46**	⇑P		**P**		**14 15 03.4**	**-1.1**
MEF	**Metsahovi**	**68.96**	**31**	*e*P		**P**		**14 15 04.8**	**+0.5**
KDZ	**Kurdzhali**	**69.02**	**51**	P		**P**		**14 15 07.7**	**+2.6**
IDI	**Anoyia**	**69.04**	**58**	P		**P**		**14 15 04.4**	**-1.0**
IDI	**Anoyia**	**69.04**	**58**	P		**P**		**14 15 05.2**	**-0.2**
	comp=Z,247nm,1.0s,baz=303,slow=5.9,SNR=34								
IDI				LR		LR		14 43 03.7	
	comp=Z,5μm,21.9s,baz=274,slow=34								
	comp=Z,247nm,1.0s								
DIM	**Dimitrovgrad**	**69.18**	**51**	P		**P**		**14 15 10.8**	**+4.8**
OZUR		**69.21**	**46**	⇑P		**P**		**14 15 05.1**	**-1.1**
TOAD	**Toad River Com**	**69.22**	**327**	P		**P**		**14 15 06.0**	**-0.1**
	baz=94,SNR=46								
TOAD				S		**S**		**14 24 12.4**	**0.0**
	baz=94								
RNPP8	**Varash**	**69.26**	**41**	P		**P**		**14 15 05.2**	**-1.2**
GO09	**Cerro Castillo**	**69.27**	**195**	IAMs_20		IAMs_20		14 49 38.1	
	comp=Z,12μm,18.0s								
RNPP5	**Staryi Chortor**	**69.28**	**41**	P		**P**		**14 15 05.7**	**-0.8**
RNPP2	**Kostyukhnivka**	**69.28**	**41**	P		**P**		**14 15 06.3**	**-0.2**
RNPP9	**Sopachiv**	**69.29**	**40**	P		**P**		**14 15 05.6**	**-0.9**
MLR	**Muntele Rosu**	**69.34**	**47**	P		**P**		**14 15 06.4**	**-0.7**
	comp=Z,150nm,1.1s,baz=301,slow=6.0,SNR=35								
MLR				LR		LR		14 42 29.4	
	comp=Z,7μm,20.6s,baz=266,slow=33								
	comp=Z,150nm,1.1s								
MLR	**Muntele Rosu**	**69.34**	**47**	⇑P		**P**		**14 15 06.4**	**-0.7**
MLR	**Muntele Rosu**	**69.34**	**47**	P		**P**		**14 15 06.3**	**-0.8**
MLR	**Muntele Rosu**	**69.34**	**47**	P		**P**		**14 15 06.5**	**-0.7**
	comp=Z,452nm,1.7s,comp=Z,9μm								
ELND	**Elena**	**69.36**	**50**	⇑P		**P**		**14 15 06.8**	**-0.4**
TURR	**Turia**	**69.37**	**46**	⇑P		**P**		**14 15 05.9**	**-1.4**
KEF	**Keuruu**	**69.38**	**29**	*e*P		**P**		**14 15 07.0**	**+0.1**
APE	**Apeiranthos**	**69.42**	**56**	*e*P		**P**		**14 15 07.0**	**-0.7**
APE	**Apeiranthos**	**69.42**	**56**	⇓P		**P**		**14 15 06.5**	**-1.2**
APE	**Apeiranthos**	**69.42**	**56**	⇓P		**P**		**14 15 06.5**	**-1.2**
APE	**Apeiranthos**	**69.42**	**56**	P		**P**		**14 15 06.4**	**-1.2**
SZH	**Strazhitsa**	**69.42**	**49**	P		**P**		**14 15 10.8**	**+3.2**
COVR	**Voineasa-Covas**	**69.51**	**46**	⇑P		**P**		**14 15 08.1**	**0.0**
ALN	**Alexandroupoli**	**69.58**	**52**	⇓P		**P**		**14 15 07.6**	**-0.9**
HSPB	**Hornsund (broa**	**69.59**	**13**	*e*P		P		14 15 13.8	+5.8
HORU	**Horodok**	**69.61**	**43**	P		**P**		**14 15 08.2**	**-0.4**
BJO1	**Bjornoya**	**69.62**	**16**	IVmB_BB				14 15 11.6	
	comp=Z,3μm,3.7s								
BJO1				*e*S		**S**		**14 24 23.8**	**+7.4**
BJO1				*e*SS		**SS**		**14 28 46.3**	**+2.5**
BJO1				*i*				14 32 16.3	
ONER	**Baraj Valea Uz**	**69.63**	**46**	⇑P		**P**		**14 15 07.9**	**-0.8**
KBS	**Kingsbay**	**69.64**	**10**	*e*P		**P**		**14 15 12.4**	**+4.1**
KBS				IVmB_BB				14 15 16.3	
	comp=Z,3μm,4.5s								
KBS				*e*S		**S**		**14 24 24.6**	**+8.0**
KBS	**Kingsbay**	**69.64**	**10**	*i* P		**P**		**14 15 10.0**	**+1.8**
KMPD	**K-Podol'skiy**	**69.64**	**44**	P		**P**		**14 15 06.6**	**-2.1**
KTK1	**Kautokeino**	**69.67**	**22**	*e*P		**P**		**14 15 08.4**	**-0.2**
KTK1				IVmB_BB				14 15 12.4	
	comp=Z,2μm,1.3s								
KTK1				*e*S		**S**		**14 24 18.5**	**+1.3**
KTK1				*i*				14 28 55.9	
KTK1				IVMsBB				14 37 42.3	
	comp=Z,2μm,14.2s								
CAVK	**Edirne/Enez-Ca**	**69.69**	**52**	⇓P		**P**		**14 15 08.0**	**-1.2**
ARBE	**Arbavere**	**69.69**	**32**	*e*P		**P**		**14 15 09.9**	**+1.1**
LIRD	**Liard River Hi**	**69.71**	**328**	P		**P**		**14 15 09.2**	**+0.2**
	baz=94,SNR=47								
LIRD				S		**S**		**14 24 17.3**	**-0.7**
	baz=94								
ISR	**Istrita**	**69.77**	**47**	⇑P		**P**		**14 15 08.9**	**-0.8**
ISR	**Istrita**	**69.77**	**47**	P		**P**		**14 15 08.9**	**-0.8**
ISR	**Istrita**	**69.77**	**47**	P		**P**		**14 15 08.6**	**-1.1**
	comp=Z,112nm,1.6s,comp=Z,3μm								
TESR	**Tescani**	**69.80**	**46**	P		**P**		**14 15 09.1**	**-0.7**
	comp=Z,143nm,2.0s,comp=Z,5μm								
PLOR3	**Plostina Array**	**69.82**	**46**	P		**P**		**14 15 09.1**	**-0.9**
	comp=Z,145nm,1.6s,comp=Z,5μm								
PLOR	**Plostina**	**69.82**	**46**	⇑P		**P**		**14 15 09.3**	**-0.7**
PLOR	**Plostina**	**69.82**	**46**	P		**P**		**14 15 10.2**	**+0.2**
PLOR5	**Plostina Array**	**69.83**	**46**	P		**P**		**14 15 09.7**	**-0.4**
	comp=Z,143nm,2.6s,comp=Z,4μm								
JMB	**Yambol**	**69.86**	**50**	P		**P**		**14 15 13.1**	**+2.8**
VRI	**Vrincioaia**	**69.88**	**46**	⇑P		**P**		**14 15 09.7**	**-0.7**
VRI	**Vrincioaia**	**69.88**	**46**	P		**P**		**14 15 09.6**	**-0.7**
VRI	**Vrincioaia**	**69.88**	**46**	P		**P**		**14 15 08.9**	**-1.4**
	comp=Z,77nm,1.5s,comp=Z,968nm								
FINES	**FINESS Array B**	**69.89**	**30**	P		**P**		**14 15 09.1**	**-1.0**
	comp=Z,55nm,0.8s,baz=262,slow=5.9,SNR=45								
FINES				LR		LR		14 41 41.7	
	comp=Z,6μm,18.0s,baz=269,slow=32								
	comp=Z,55nm,0.8s								
NACGM	**Naroch**	**69.90**	**37**	*e*P		**P**		**14 15 09.6**	**-0.7**
	comp=E,11μm,1.1s								
MG02	**Cerro Sombrero**	**69.98**	**192**	IAMs_20		IAMs_20		14 48 26.7	
	comp=Z,12μm,20.0s								
MG02	**Cerro Sombrero**	**69.98**	**192**	⇑P		**P**		**14 15 12.8**	**+2.2**
C36M	**Paulatuk**	**69.99**	**339**	P		**P**		**14 15 10.8**	**+0.3**
	baz=99								
C36M				S		**S**		**14 24 15.3**	**-5.6**
	baz=99								
VSU	**Vasula**	**70.02**	**33**	⇑P		**P**		**14 15 09.3**	**-1.6**
VSU	**Vasula**	**70.02**	**33**	*c i* P		**P**		**14 15 09.3**	**-1.6**
VSU				pmax		pmax			
	comp=Z,327nm,1.4s								
VSU				MLR		MLR			
	comp=Z,2μm,13.0s								
HAMF	**Hammerfest**	**70.11**	**20**	*e*P		**P**		**14 15 10.6**	**-0.6**
HAMF				IVmB_BB				14 15 15.4	
	comp=Z,4μm,1.9s								
HAMF				*e*S		**S**		**14 24 24.6**	**+2.3**
HAMF				*e*SS		**SS**		**14 28 46.1**	**-5.4**
HAMF				*i*				14 32 14.4	
ODBI	**Odobesti**	**70.11**	**47**	⇑P		**P**		**14 15 10.3**	**-1.3**
ODBI	**Odobesti**	**70.11**	**47**	P		**P**		**14 15 10.4**	**-1.3**
	comp=Z,47nm,0.8s,comp=Z,664nm								
SPA0	**Spitsbergen Ar**	**70.17**	**12**	*e*P		**P**		**14 15 12.4**	**+0.8**
SPA0				IVmB_BB				14 15 21.4	
	comp=Z,3μm,3.8s								
SPITS	**Spitsbergen Ar**	**70.17**	**12**	P		**P**		**14 15 11.5**	**-0.1**
	comp=Z,89nm,1.1s,baz=247,slow=5.7,SNR=9.1								
	comp=Z,89nm,1.1s								
GHRR		**70.34**	**46**	P		**P**		**14 15 12.0**	**-1.1**
NEF	**NEVSHA**	**70.37**	**49**	P		**P**		**14 15 17.4**	**+4.0**
MI28	**Mi28,Pidlybu**	**70.41**	**41**	P		**P**		**14 15 12.5**	**-0.9**
	comp=Z,2μm,1.4s,comp=Z,49μm								
HOPE	**Hope Point**	**70.45**	**172**	IAMs_20		IAMs_20		14 41 22.5	
	comp=Z,14μm,22.0s								
LUBAR	**Lubar, Ukraine**	**70.47**	**42**	P		**P**		**14 15 12.3**	**-1.6**
PRD	**Provadia**	**70.48**	**49**	P		**P**		**14 15 16.7**	**+2.7**
MNK	**Minsk**	**70.53**	**37**	*i* P		**P**		**14 15 11.2**	**-3.0**
MNK	comp=E,33nm,0.9s			*i* P		**P**		**14 15 11.2**	**-3.0**
	comp=N,127nm,1.1s								
MNK				*i* P		**P**		**14 15 11.2**	**-3.0**
	comp=Z,244nm,1.0s,baz=269								
MNK				*i* PP		**PP**		**14 17 47.3**	**-2.8**
MNK				*i* PPP		PPP		14 19 29.4	
MNK				*i* S		**S**		**14 24 24.0**	**-3.8**
MNK				*i* SS		**SS**		**14 28 55.7**	**-3.0**
MNK				*i* SSS		SSS		14 32 15.3	
MNK				*i* LQ		LQ		14 38 06.0	
MNK				*i* LR		LR		14 42 05.8	
MNK				*i* LRM		MLR		14 43 17.0	
	comp=E,6μm,17.4s								
MNK				*i* LRM		MLR		14 43 28.4	
	comp=Z,11μm,16.9s								
MNK				*i* LRM		MLR		14 43 38.8	
	comp=N,8μm,17.5s								
MNK	**Minsk**	**70.53**	**37**	*i* P		**P**		**14 15 11.1**	**-3.0**
MNK				*i*				14 17 47.3	
MNK				*i* PPP		PPP		14 19 29.3	
MNK				*i* S		**S**		**14 24 24.0**	**-3.8**
MNK				*i* SS		**SS**		**14 28 55.7**	**-3.0**
MNK				pmax		pmax			
	comp=E,33nm,0.9s								
MNK				pmax		pmax			
	comp=Z,244nm,1.0s								
MNK				pmax		pmax			
	comp=N,127nm,1.1s								
ARA0	**ARCESS Array S**	**70.55**	**21**	*e*P		**P**		**14 15 12.6**	**-1.3**
ARA0				IAmb		IAmb		14 15 19.1	
	comp=Z,97nm,1.1s								
ARA0				*e*S		**S**		**14 24 28.5**	**+1.0**
ARA0				IVMsBB				14 38 20.0	
	comp=Z,3μm,18.8s								
ARCES	**ARCESS Array B**	**70.55**	**21**	P		**P**		**14 15 12.9**	**-1.1**
	comp=Z,235nm,1.2s,baz=252,slow=4.6,SNR=35								
ARCES				LR		LR		14 38 58.7	
	comp=Z,8μm,21.1s,baz=264,slow=30								
	comp=Z,235nm,1.2s								
MG04	**Isla Riesco**	**70.56**	**194**	IAMs_20		IAMs_20		14 47 12.1	
	comp=Z,15μm,20.0s								
BBB	**Bella Bella**	**70.63**	**320**	LR		LR		14 43 46.0	
	comp=Z,17μm,21.9s,baz=86,slow=34								
BBB	**Bella Bella**	**70.63**	**320**	⇑P		**P**		**14 15 15.4**	**+0.7**
ICOR	**Ion Corvin**	**70.71**	**48**	⇑P		**P**		**14 15 14.9**	**-0.5**
GO10	**Punta Arenas**	**70.72**	**193**	IAMs_20		IAMs_20		14 47 45.3	
	comp=Z,11μm,18.0s								
SCTR	**Scanteiesti**	**70.77**	**47**	⇑P		**P**		**14 15 14.3**	**-1.4**
HARR	**Harsova**	**70.77**	**48**	⇑P		**P**		**14 15 13.9**	**-1.9**
HARR	**Harsova**	**70.77**	**48**	P		**P**		**14 15 13.8**	**-1.9**
A36M	**Sachs Harbour**	**70.81**	**341**	P		**P**		**14 15 14.6**	**-0.9**
	baz=99,SNR=112								
A36M				S		**S**		**14 24 28.3**	**-2.1**
	baz=99								
VLDR	**Vladesti**	**70.82**	**46**	⇑P		**P**		**14 15 14.6**	**-1.5**
TLBR	**Topalu**	**70.86**	**48**	⇑P		**P**		**14 15 15.3**	**-1.0**
KARP	**Karpathos**	**70.86**	**57**	*e*P		**P**		**14 15 16.5**	**0.0**
KARP	**Karpathos**	**70.86**	**57**	⇓P		**P**		**14 15 14.8**	**-1.8**
KARP	**Karpathos**	**70.86**	**57**	P		**P**		**14 15 15.3**	**-1.3**
	comp=Z,798nm,2.0s,comp=Z,13μm								
CFR	**Carcaliu**	**70.89**	**47**	⇓P		**P**		**14 15 15.3**	**-1.2**
CFR	**Carcaliu**	**70.89**	**47**	P		**P**		**14 15 15.2**	**-1.2**
TGTN	**Hyland Airport**	**70.91**	**330**	P		**P**		**14 15 15.9**	**-0.5**
	baz=93,SNR=27								
TGTN				S		**S**		**14 24 32.7**	**+0.6**
	baz=93								
PSN	**Preselentsi**	**70.98**	**49**	P		**P**		**14 15 20.3**	**+3.3**
KEV	**Kevo**	**71.09**	**21**	⇑P		**P**		**14 15 17.1**	**-0.2**
WTLY	**Watson Lake, Y**	**71.11**	**329**	IAMs_20		IAMs_20		14 43 23.2	
	comp=Z,13μm,21.0s								
WTLY	**Watson Lake, Y**	**71.11**	**329**	P		**P**		**14 15 17.2**	**-0.3**
	baz=92,SNR=25								
WTLY				S		**S**		**14 24 35.9**	**+1.5**
	baz=92								
BAND	**Balkesir-Ban**	**71.18**	**52**	⇑P		**P**		**14 15 17.5**	**-0.8**
MG03	**Isla Dawson**	**71.24**	**193**	IAMs_20		IAMs_20		14 46 42.0	
	comp=Z,14μm,20.0s								
AK20	**Malin Array Si**	**71.26**	**41**	P		**P**		**14 15 17.0**	**-1.6**
AK19	**Malin Array Si**	**71.26**	**41**	P		**P**		**14 15 17.0**	**-1.6**
MILM	**Milestii Mici**	**71.28**	**45**	⇑P		**P**		**14 15 17.5**	**-1.3**
MILM	**Milestii Mici**	**71.28**	**45**	P		**P**		**14 15 17.5**	**-1.3**
AK21	**Malin Array Si**	**71.28**	**41**	P		**P**		**14 15 17.0**	**-1.7**
AK17	**Malin Array Si**	**71.29**	**41**	P		**P**		**14 15 17.1**	**-1.7**
AK13	**Malin Array Si**	**71.29**	**41**	P		**P**		**14 15 17.1**	**-1.7**
AK18	**Malin Array Si**	**71.30**	**41**	P		**P**		**14 15 17.1**	**-1.7**
AK22	**Malin Array Si**	**71.30**	**41**	P		**P**		**14 15 17.1**	**-1.7**
AK16	**Malin Array Si**	**71.32**	**41**	P		**P**		**14 15 17.2**	**-1.8**
AK14	**Malin Array Si**	**71.32**	**41**	P		**P**		**14 15 17.3**	**-1.7**
AK23	**Malin Array Si**	**71.33**	**41**	P		**P**		**14 15 17.3**	**-1.7**
AK15	**Malin Array Si**	**71.33**	**41**	P		**P**		**14 15 17.3**	**-1.7**
AK12	**Malin Array Si**	**71.35**	**41**	P		**P**		**14 15 17.4**	**-1.8**
AK04	**Malin Array Si**	**71.36**	**41**	P		**P**		**14 15 17.5**	**-1.7**
AK11	**Malin Array Si**	**71.36**	**41**	P		**P**		**14 15 17.5**	**-1.7**
AK06	**Malin Array Si**	**71.38**	**41**	P		**P**		**14 15 17.6**	**-1.8**
AK02	**Malin Array Si**	**71.39**	**41**	P		**

baz=88
T33K Petersburg 73.32 325 P **P 14 15 29.9 -0.9**
baz=87
T33K S **SKiKP 14 25 02.1 -0.7**
baz=87
INK Inuvik 73.33 337 LR LR 14 45 52.2
comp=Z,23μm,20.2s,baz=90,slow=34
INK Inuvik 73.33 337 P **P 14 15 29.7 -0.9**
baz=90,SNR=185
INK S **S 14 24 56.4 -3.0**
baz=90
INK Inuvik 73.33 337 ⇑P **P 14 15 29.6 -1.0**
F31M Tsiigehtchic 73.41 336 P **P 14 15 30.4 -0.7**
baz=90,SNR=105
F31M S **S 14 24 57.9 -2.5**
baz=90
U33K Whale Pass 73.45 325 IAms_20 IAms_20 14 49 50.6
comp=Z,9μm,18.0s
U33K Whale Pass 73.45 325 P **P 14 15 31.1 -0.4**
baz=87
U33K S **SKiKP 14 25 03.9 +0.9**
baz=87
U33K S **SKiKP 14 25 03.9 +0.9**
baz=87
CRAG Craig 73.49 324 IAms_20 IAms_20 14 52 16.7
comp=Z,9μm,19.0s
CRAG Craig 73.49 324 P **P 14 15 31.1 -0.7**
baz=86
CRAG S **SKiKP 14 25 03.1 0.0**
baz=86
MDUB Mudurnu 73.52 52 IAms_20 IAms_20 14 49 18.6
comp=Z,13μm,18.0s
MDUB Mudurnu 73.52 52 ⇑P **P 14 15 31.9 -0.6**
P32M Atlin 73.59 328 IAms_20 IAms_20 14 45 22.0
comp=Z,9μm,19.0s
P32M Atlin 73.59 328 P **P 14 15 32.7 +0.3**
baz=87,SNR=6.1
P32M S **SKiKP 14 25 04.3 +1.1**
baz=87
H31M Peel River 73.67 335 IAms_20 IAms_20 14 45 37.7
comp=Z,13μm,21.0s
H31M Peel River 73.67 335 P **P 14 15 31.8 -1.0**
baz=88,SNR=35
H31M S **SKiKP 14 25 01.7 -1.5**
baz=88
LVZ Lovozero 73.78 23 ⇑P **P 14 15 34.0 +0.7**
LVZ Lovozero 73.78 23*de*P **P 14 15 33.3 -0.1**
LVZ pmax pmax
comp=Z,210nm,1.4s
LVZ Lovozero 73.78 23 P **P 14 15 33.4 0.0**
comp=Z,159nm,2.0s,comp=Z,4μm
M31M Drury Creek, Y 73.81 331 IAms_20 IAms_20 14 45 38.9
comp=Z,15μm,21.0s
M31M Drury Creek, Y 73.81 331 P **P 14 15 33.5 -0.1**
baz=87,SNR=7.6
M31M S **S 14 25 04.6 -0.7**
baz=87
R32K Eaglecrest 74.08 327 IAms_20 IAms_20 14 46 29.0
comp=Z,13μm,18.0s
R32K Eaglecrest 74.08 327 P **P 14 15 34.5 -0.7**
baz=86
WHY Whitehorse 74.12 329 IAms_20 IAms_20 14 45 16.4
comp=Z,13μm,22.0s
WHY Whitehorse 74.12 329 P **P 14 15 34.7 -0.9**
baz=86
WHY S **S 14 25 09.3 +0.4**
baz=86
S32K Killisnoo 74.17 326 IAms_20 IAms_20 14 47 48.4
comp=Z,11μm,18.0s
S32K Killisnoo 74.17 326 P **P 14 15 35.0 -0.8**
baz=86
F30M Barrier River 74.19 337 P **P 14 15 35.1 -0.7**
baz=88,SNR=94
F30M S **S 14 25 06.7 -2.6**
baz=88
G30M tAoh Zraii Nji 74.39 336 IAms_20 IAms_20 14 45 31.4
comp=Z,15μm,21.0s
G30M tAoh Zraii Nji 74.39 336 P **P 14 15 35.9 -1.0**
baz=87,SNR=26
G30M S **S 14 25 08.8 -2.8**
baz=87
SKAG Skagway 74.42 328 IAms_20 IAms_20 14 44 29.9
comp=Z,9μm,21.0s
SKAG Skagway 74.42 328 P **P 14 15 37.3 +0.1**
baz=86,SNR=14
SKAG S **S 14 25 14.0 +2.0**
baz=86
SKAG Skagway 74.42 328 ⇓P **P 14 15 38.0 +0.8**
MAYO Mayo, Yukon 74.43 332 P **P 14 15 36.9 -0.3**
baz=86
MAYO S **S 14 25 12.3 +0.3**
baz=86
N31M Braeburn, Yuko 74.51 330 P **P 14 15 37.8 +0.1**
baz=86,SNR=16
N31M S **S 14 25 12.5 -0.6**
baz=86
I30M Mount Dempster 74.54 334 IAms_20 IAms_20 14 45 12.9
comp=Z,9μm,21.0s
I30M Mount Dempster 74.54 334 P **P 14 15 37.2 -0.7**
baz=86,SNR=50
I30M S **S 14 25 09.7 -3.8**
baz=86
J30M Hart River 74.56 333 P **P 14 15 37.3 -0.8**
baz=86,SNR=41
J30M S **S 14 25 11.1 -2.6**
baz=86
SIT Sitka 74.60 326 IAms_20 IAms_20 14 47 31.9
comp=Z,14μm,22.0s
SIT Sitka 74.60 326 P **P 14 15 38.1 -0.2**
baz=85
SIT S **S 14 25 17.4 +3.3**
baz=85
EPYK Eagle Plains 74.61 335 P **P 14 15 37.6 -0.7**
baz=86,SNR=17
EPYK S **S 14 25 12.1 -2.1**
baz=86
O30N Mendenhall 74.71 329 IAms_20 IAms_20 14 45 37.3
comp=Z,13μm,22.0s
O30N Mendenhall 74.71 329 P **P 14 15 38.9 -0.1**
baz=86,SNR=22
O30N S **S 14 25 16.0 +0.6**
baz=86
R31K City Hall, Gus 74.72 327 P **P 14 15 38.3 -0.6**
baz=85
ANTO Ankara 74.81 52 P **P 14 15 40.3 +0.3**
ANTO S **S 14 25 18.9 +1.5**
ANTO Ankara 74.81 52 ⇑P **P 14 15 39.8 -0.2**
ANTO Ankara 74.81 52 ⇑P **P 14 15 40.2 +0.2**
ANTO Ankara 74.81 52 P **P 14 15 39.7 -0.2**
ANTO Ankara 74.81 52 P **P 14 15 40.0 0.0**
comp=Z,138nm,2.0s,comp=Z,3μm
M30M Minto, Yukon 74.91 331 P **P 14 15 39.2 -0.8**
baz=85,SNR=22
M30M S **S 14 25 16.4 -1.1**
baz=85
TSUM Tsumeb 74.92 115 *e*P **P 14 15 40.9 -0.1**
TSUM IAmb IAmb 14 15 51.9
comp=Z,363nm,1.7s
TSUM Tsumeb 74.92 115 ⇑P **P 14 15 41.3 +0.4**
E29M Blow River 74.94 337 P **P 14 15 39.1 -1.0**
E29M Blow River 74.94 337 P **P 14 15 39.5 -0.5**
baz=86
E29M S **S 14 25 15.5 -2.1**
baz=86
PLBC Pleasant Camp 74.95 328 P **P 14 15 39.4 -0.8**
baz=85,SNR=6.5
PLBC S **S 14 25 21.6 +3.6**
baz=85
S31K Pelican 75.01 327 IAms_20 IAms_20 14 46 47.7
comp=Z,14μm,20.0s
S31K Pelican 75.01 327 P **P 14 15 40.2 -0.5**
baz=85
S31K S **S 14 25 22.0 +3.3**
baz=85
S31K S **S 14 25 22.0 +3.3**
baz=85
G29M Pine Creek 75.10 336 IAms_20 IAms_20 14 45 53.3
comp=Z,14μm,21.0s
G29M Pine Creek 75.10 336 P **P 14 15 40.5 -0.6**
baz=86
G29M S **S 14 25 17.4 -2.0**
baz=86
K29M Barlow Dome 75.13 333 P **P 14 15 40.9 -0.6**
baz=85,SNR=56
K29M S **S 14 25 19.6 -0.5**
baz=85
SIM Simferopol' 75.13 47*d i*P **P 14 15 41.4 -0.2**
SIM *e* 14 15 55.0
SIM *e*S **SKiKP 14 25 11.0 +5.0**
SIM pmax pmax
comp=Z,184nm,1.1s
SIM MLR MLR
comp=Z,2μm,15.1s
N30M Aishikik Lake 75.14 330 P **P 14 15 40.9 -0.5**
baz=85,SNR=11
N30M S **S 14 25 20.0 -0.1**
baz=85
D28M Stokes Point 75.18 338 P **P 14 15 40.9 -0.5**
baz=85,SNR=47
D28M S **S 14 25 16.9 -3.3**
baz=85
P30M Million Dollar 75.19 329 P **P 14 15 40.9 -0.9**
baz=85
P30M S **S 14 25 25.6 +4.8**
baz=85
H29M Whitestone 75.29 335 P **P 14 15 41.7 -0.5**
baz=85,SNR=71
H29M S **S 14 25 20.5 -1.1**
baz=85
J29N Klondike Camp 75.38 333 P **P 14 15 42.4 -0.4**
baz=85,SNR=27
J29N S **S 14 25 21.1 -1.7**
baz=85
HYT Haines Junctio 75.39 330 IAms_20 IAms_20 14 46 08.0
comp=Z,16μm,22.0s
HYT Haines Junctio 75.39 330 P **P 14 15 43.2 +0.2**
baz=84,SNR=17
HYT S **S 14 25 24.5 +1.3**
baz=84
BZK Bozkurt 75.44 50 IAms_20 IAms_20 14 53 32.3
comp=Z,8μm,18.0s
BR106 Keskin Array S 75.46 52 P **P 14 15 43.1 -0.7**
comp=Z,107nm,1.0s,comp=Z,1μm
BR105 Keskin Array S 75.46 52 P **P 14 15 43.0 -0.8**
comp=Z,117nm,1.1s,comp=Z,2μm
L29M L29M 75.47 332 P **P 14 15 43.1 -0.2**
baz=84,SNR=44
L29M S **S 14 25 21.6 -2.2**
baz=84
BR131 Keskin Array S 75.47 52*d i*P **P 14 15 42.8 -1.1**
BRTR Keskin Array B 75.47 52 P **P 14 15 42.6 -1.3**
comp=Z,102nm,0.9s,baz=279,slow=5.3,SNR=98
BRTR LR LR 14 45 42.2
comp=Z,3μm,21.9s,baz=266,slow=33
comp=Z,102nm,0.9s
BR104 Keskin Array S 75.48 52 P **P 14 15 43.1 -0.8**
comp=Z,150nm,1.3s,comp=Z,2μm
OBN Obninsk 75.52 36 IAms_20 IAms_20 14 46 10.2
comp=Z,12μm,18.0s
OBN Obninsk 75.52 36 P **P 14 15 43.7 +0.1**
comp=Z,141nm,0.7s,baz=136,slow=0.8,SNR=18
OBN LR LR 14 45 47.1
comp=Z,8μm,18.0s,baz=276,slow=33
comp=Z,141nm,0.7s
OBN Obninsk 75.52 36 ⇑P **P 14 15 43.3 -0.3**
OBN Obninsk 75.52 36 ⇑P **P 14 15 43.2 -0.4**
OBN Obninsk 75.52 36*c i*P **P 14 15 43.1 -0.5**
OBN *e* 14 15 53.6
OBN *e* 14 18 30.4
OBN *e*PPP PPP 14 20 17.0
OBN *e*S **S 14 25 23.6 -0.8**
OBN *e*SS **SS 14 30 14.8 +0.1**
OBN pmax pmax
comp=Z,253nm,1.0s
OBN MLR MLR
comp=Z,3μm,16.0s
OBN Obninsk 75.52 36 P **P 14 15 43.2 -0.4**
comp=Z,552nm,2.0s,comp=Z,10μm
E28M Babbage River 75.53 338 P **P 14 15 42.9 -0.6**
baz=84
E28M S **S 14 25 22.5 -1.7**
baz=84
P29M Windy Craggy 75.63 328 IAms_20 IAms_20 14 45 41.8
comp=Z,10μm,19.0s
P29M Windy Craggy 75.63 328 P **P 14 15 44.2 -0.1**
baz=84,SNR=8.6
P29M S **S 14 25 27.1 +1.5**
baz=84
M29M Somme Creek 75.69 331 P **P 14 15 44.1 -0.6**
baz=84,SNR=16
M29M S **S 14 25 25.5 -0.9**
baz=84
F28M Old Crow 75.75 337 P **P 14 15 44.1 -0.7**
baz=84,SNR=61
F28M S **S 14 25 24.7 -2.0**
baz=84
KIRS Kirsehir-Merke 75.77 53 ⇑P **P 14 15 44.5 -1.1**
YUK6 Outpost Mounta 75.80 330 P **P 14 15 44.5 -1.0**
baz=84,SNR=9.8
YUK6 S **S 14 25 28.7 +0.8**
baz=84
YUK4 Talbot Arm 75.89 330 P **P 14 15 45.4 -0.6**
baz=84,SNR=6.3
YUK4 S **S 14 25 28.3 -0.6**
baz=84
DAWY Dawson 75.93 333 P **P 14 15 45.6 -0.3**
baz=84,SNR=64
DAWY S **S 14 25 27.1 -1.7**
baz=84
CSS Mathiatis 75.94 57 ⇓P **P 14 15 46.2 -0.3**
CSS Mathiatis 75.94 57 P **P 14 15 46.1 -0.4**
comp=Z,205nm,1.5s,comp=Z,3μm
O29M Mount Kennedy 75.98 329 IAms_20 IAms_20 14 46 27.8
comp=Z,13μm,21.0s
O29M Mount Kennedy 75.98 329 P **P 14 15 45.6 -0.8**
baz=83,SNR=14
O29M S **S 14 25 31.0 +1.4**
baz=83
D27M Malcolm River 75.98 338 IAms_20 IAms_20 14 47 52.9
comp=Z,14μm,20.0s
D27M Malcolm River 75.98 338 P **P 14 15 46.0 -0.1**
baz=83
D27M S **S 14 25 27.0 -2.3**
baz=83
I28M Miner Creek 76.01 334 IAms_20 IAms_20 14 47 32.7
comp=Z,12μm,19.0s
I28M Miner Creek 76.01 334 P **P 14 15 45.4 -1.1**
baz=83,SNR=19
I28M S **S 14 25 26.9 -2.9**
baz=83
MOS Moscow 76.05 36 *e*P **P 14 15 45.6 -1.0**
MOS *e* 14 15 56.1
MOS *e* 14 18 40.5
MOS *e*PPP PPP 14 20 27.5
MOS *e*S **S 14 25 32.5 +2.2**
MOS *e* 14 26 06.5
MOS *e*SS **SS 14 30 27.1 +4.4**
MOS pmax pmax
comp=Z,675nm,1.4s
MOS pmax pmax
comp=E,144nm,0.8s
MOS pmax pmax
comp=N,192nm,1.0s
MOS pmax pmax
comp=Z,3μm,2.2s
MOS pmax pmax
comp=E,1μm,3.0s
MOS pmax pmax
comp=N,600nm,1.8s
MOS smax smax
comp=E,3μm,5.9s
MOS smax smax
comp=N,2μm,3.7s
MOS MLR MLR
comp=Z,2μm,18.0s
MOS MLR MLR
comp=E,2μm,19.0s
E27K Coleen River 76.33 337 P **P 14 15 47.5 -0.6**
baz=82
E27K S **S 14 25 31.3 -1.8**
baz=82
KLMR Klimovskoe 76.41 30*c i*P **P 14 15 47.5 -1.1**
KLMR *e* 14 15 57.3
KLMR S **S 14 25 35.7 +1.7**
KLMR pmax pmax
comp=Z,699nm,1.3s
KLMR pmax pmax
comp=Z,2μm,1.8s
DIKM Dikmen 76.41 50 ⇑P **P 14 15 48.1 -0.9**
YUK8 Steele Glacier 76.44 330 P **P 14 15 47.6 -1.5**
baz=82
YUK8 S **S 14 25 35.6 +0.6**
baz=82
PNL Peninsula 76.46 329 P **P 14 15 47.8 -1.2**
baz=82
PNL S **S 14 25 36.7 +2.0**
baz=82
G27K Doyon Strip 76.54 336 IAms_20 IAms_20 14 47 10.4
comp=Z,15μm,21.0s
G27K Doyon Strip 76.54 336 P **P 14 15 48.8 -0.5**
baz=82
G27K S **S 14 25 34.7 -0.7**
baz=82
BCPM Bancas Point 76.55 329 IAms_20 IAms_20 14 52 51.9
comp=Z,10μm,20.0s
H27K Steamboat Moun 76.56 335 P **P 14 15 48.7 -0.8**
baz=82,SNR=19
H27K S **S 14 25 33.9 -1.8**
baz=82
EGAK Eagle 76.61 334 IAms_20 IAms_20 14 48 09.5
comp=Z,10μm,20.0s
EGAK Eagle 76.61 334 P **P 14 15 48.7 -1.0**
baz=82,SNR=20
EGAK S **S 14 25 35.2 -1.0**
baz=82
EGAK Eagle 76.61 334 ⇑P **P 14 15 48.6 -1.0**
I27K Kandik River 76.68 335 P **P 14 15 49.4 -0.8**
baz=82,SNR=19
I27K S **S 14 25 34.9 -2.2**
baz=82
I27K S **S 14 25 34.9 -2.2**
baz=82
YUK3 Moose Creek 76.70 331 P **P 14 15 49.4 -1.2**
baz=82,SNR=10
YUK3 S **S 14 25 37.4 -0.4**
baz=82
O28M Mount Upton 76.71 330 P **P 14 15 49.4 -1.3**
baz=82,SNR=12
O28M S **S 14 25 39.1 +1.1**
baz=82
BVCY Beaver Creek 76.80 331 P **P 14 15 50.2 -0.6**
baz=82
BVCY S **S 14 25 38.9 +0.5**
baz=82
PINM Pinnacle 76.83 329 P **P 14 15 50.2 -0.9**
baz=82
PINM S **S 14 25 41.1 +2.1**
baz=82
C27K Jago River 76.89 339 P **P 14 15 50.1 -1.0**
baz=81
C27K S **S 14 25 38.3 -0.8**
baz=81
K27K Chicken 77.11 333 P **P 14 15 52.1 -0.4**
baz=81
K27K S **S 14 25 41.2 -0.4**
baz=81
K27K S **S 14 25 41.2 -0.4**
baz=81
L27K Beaver Creek, 77.14 332 P **P 14 15 52.5 -0.3**
baz=81,SNR=34
L27K S **S 14 25 42.1 -0.1**
baz=81
CTG Chitna Glacier 77.24 330 P **P 14 15 53.0 -0.5**
baz=81,SNR=11
CTG S **S 14 25 45.3 +1.8**
baz=81
LPSR Galich'ya Gora 77.24 39 *e*P **P 14 15 51.5 -1.9**
LPSR *e* 14 15 54.3
LPSR *e*S **S 14 25 44.8 +1.4**
LPSR pmax pmax
comp=Z,760nm,1.8s
LPSR pmax pmax
comp=Z,2μm,2.2s
LPSR smax smax
comp=N,3μm,15.3s
C26K Camden Bay 77.25 339 P **P 14 15 53.1 0.0**
baz=80
C26K S **S 14 25 41.6 -1.4**
baz=80
M27K Edge Creek, AK 77.28 331 P **P 14 15 53.2 -0.5**
baz=81,SNR=26
M27K S **S 14 25 43.2 -0.6**
baz=81
M27K S **S 14 25 43.2 -0.6**
baz=81
G26K Porcupine Rive 77.35 336 P **P 14 15 53.6 -0.1**
baz=80
G26K S **S 14 25 44.1 +0.1**
baz=80
F26K Sheenjek River 77.36 337 P **P 14 15 53.8 -0.1**
baz=80
F26K S **S 14 25 45.8 +1.5**
baz=80
ANN Anapa 77.49 47 *e*P **P 14 15 53.9 -1.1**
ANN *i* *PP **sP 14 15 57.4 +1.0**
ANN *e*S **S 14 25 45.8 -0.6**
ANN *e*SS **SS 14 30 42.4 -2.6**
ANN *e*SSS SSS 14 34 00.6
ANN pmax pmax
comp=Z,468nm,1.7s
ANN MLR MLR
comp=N,1μm,15.0s
ANN MLR MLR
comp=Z,3μm,14.0s
ANN MLR MLR
comp=E,512nm,10.0s
KZIT Kziot 77.53 61 ⇑P **P 14 15 55.3 -0.3**
VORR Voronezh 77.55 40 *e*P **P 14 15 53.6 -1.6**
VORR *e* 14 15 55.8
VORR *e*S **S 14 25 47.6 +0.7**
VORR pmax pmax
comp=Z,600nm,1.3s
VORR pmax pmax
comp=Z,990nm,1.4s
VORR smax smax
comp=N,110nm,4.0s
VSR Storozhevoye 77.60 40 *e*P **P 14 15 54.1 -1.4**
VSR *e* 14 15 56.0
VSR *e*S **S 14 25 46.7 -0.7**
VSR pmax pmax
comp=Z,500nm,1.3s
VSR pmax pmax
comp=Z,1μm,1.8s
VSR smax smax
comp=E,1μm,8.6s
MESA MESA 77.66 329 IAms_20 IAms_20 14 52 40.3
comp=Z,13μm,19.0s
MESA MESA 77.66 329 P **P 14 15 55.2 -0.7**
baz=80
J26L Joseph Creek 77.67 334 P **P 14 15 55.1 -0.7**
baz=80,SNR=26
J26L S **S 14 25 44.1 -3.9**
baz=80
J26L S **S 14 25 44.1 -3.9**
baz=80
VORD Divnogorie 77.72 40 *e*P **P 14 15 54.6 -1.6**
VORD *e* 14 15 56.8
VORD *e*S **S 14 25 46.7 -2.0**
VORD pmax pmax
comp=Z,180nm,0.8s
VORD pmax pmax
comp=Z,880nm,1.9s
VORD smax smax
comp=N,200nm,5.0s
M26K Nabesna, AK 77.78 332 P **P 14 15 55.7 -0.7**
baz=80
M26K S **S 14 25 48.9 -0.2**
baz=80
M26K S **S 14 25 48.9 -0.2**
baz=80
E25K Arctic Village 77.81 338 P **P 14 15 56.2 -0.2**
baz=79,SNR=36
E25K S **S 14 25 49.3 +0.1**
baz=79
L26K Log Cabin Wild 77.83 332 P **P 14 15 56.2 -0.4**
baz=80,SNR=17
L26K S **S 14 25 50.5 +0.9**
baz=80
L26K S **S 14 25 50.5 +0.9**
baz=80
D25K Kavik River 77.86 339 P **P 14 15 56.7 -0.1**
baz=78
D25K S **S 14 25 49.2 -0.6**
baz=78
F25K Christian Rive 77.94 337 P **P 14 15 57.5 +0.3**
baz=79
F25K S **S 14 25 49.7 -1.0**
baz=79
SCRK Sand Creek 77.95 333 P **P 14 15 56.5 -0.9**
baz=79,SNR=16
SCRK S **S 14 25 49.8 -1.2**
baz=79

MCARA	McCarthy VSAT	77.97	331	P	P	14 15 56.6 -0.9
	baz=80,SNR=20					
MCARA				S	S	14 25 51.0 -0.1
	baz=80					
MMAI	Mount Meron Ar	77.98	59	P	P	14 15 58.4 +0.3
	comp=N,100nm,0.9s,baz=356,slow=2.5,SNR=24					
MMAI				LR	LR	14 51 29.5
	comp=N,2µm,19.5s,baz=245,slow=37					
	comp=N,100nm,0.9s					
SALP	Salfit	77.98	60	⇓P	P	14 15 57.6 -0.4
FYU	Fort Yukon	77.98	336	IAMs_20	IAMs_20	14 48 04.6
	comp=Z,12µm,20.0s					
CRQE	Cirque	78.12	330	P	P	14 15 57.8 -0.6
	baz=80					
CRQE				S	S	14 25 51.5 -1.5
	baz=80					
GEM	Giv'at Ha'Em	78.16	59	⇓P	P	14 15 59.7 +0.7
EIL	Elat	78.23	62	LR	LR	14 50 15.4
	comp=Z,9µm,19.6s,baz=279,slow=36					
EIL	Elat	78.23	62	⇓P	P	14 15 58.9 -0.6
MSBI	Mazada	78.26	61	⇑P	P	14 15 60.0 +0.4
G25K	Bearman Lake	78.28	336	P	P	14 15 59.1 +0.1
	baz=78					
PRP	Porcupine Dome	78.30	335	P	P	14 15 59.0 -0.4
	baz=78,SNR=24					
PRP				S	S	14 25 52.4 -2.4
	baz=78					
BGLC	Bering Glacier	78.33	329	P	P	14 15 58.4 -0.9
	baz=79					
RIDG	Independent Ri	78.37	333	P	P	14 15 59.1 -0.6
	baz=79					
J25K	Salcha River,	78.42	334	IAMs_20	IAMs_20	14 47 41.4
	comp=Z,11µm,22.0s					
J25K	Salcha River,	78.42	334	P	P	14 15 59.1 -0.8
	baz=78,SNR=8.4					
J25K				S	S	14 25 52.7 -3.2
	baz=78					
J25K				S	S	14 25 52.7 -3.2
	baz=78					
C24K	Franklin Bluff	78.58	339	IAMs_20	IAMs_20	14 48 58.0
	comp=Z,14µm,22.0s					
C24K	Franklin Bluff	78.58	339	P	P	14 16 00.4 -0.2
	baz=76					
C24K				S	S	14 25 57.1 -0.2
	baz=76					
KOOLE	Kule	78.61	118	*i* P	P	14 16 01.7 -0.1
GAZ	Gaziantep	78.66	54	⇓P	P	14 16 01.8 0.0
N25K	Chitina, Valde	78.67	331	P	P	14 16 00.9 -0.5
	baz=78					
N25K				S	S	14 25 56.8 -2.0
	baz=78					
D24K	Happy Valley	78.75	339	IAMs_20	IAMs_20	14 50 40.7
	comp=Z,11µm,19.0s					
D24K	Happy Valley	78.75	339	P	P	14 16 01.3 -0.3
	baz=76,SNR=51					
D24K				S	S	14 25 58.7 -0.5
	baz=76					
K24K	Donnelly Dome	78.76	333	P	P	14 16 01.2 -0.5
	baz=78,SNR=15					
HARP	HAARP	78.77	332	P	P	14 16 01.3 -0.5
	baz=78,SNR=13					
HARP				S	S	14 25 57.0 -2.7
	baz=78					
PAX	Paxson	78.80	332	P	P	14 16 01.2 -0.8
	baz=78,SNR=19					
PAX				S	S	14 25 58.1 -2.0
	baz=78					
F24K	Squaw Lake	78.80	337	P	P	14 16 01.9 0.0
	baz=77					
F24K				S	S	14 26 00.3 +0.4
	baz=77					
BMRM	Bremner River	78.81	330	P	P	14 16 01.6 -0.5
	baz=78					
G24K	Hadweenzic Riv	78.83	336	P	P	14 16 01.8 -0.2
	baz=77					
G24K				S	S	14 26 00.4 +0.3
	baz=77					
GRTLG	Ghanzi	78.89	116	*i* P	P	14 16 02.9 -0.4
E24K	Your Creek	78.89	338	P	P	14 16 02.5 +0.1
	baz=76,SNR=170					
E24K				S	S	14 26 00.4 -0.4
	baz=76					
KAIM	Kayak Island	78.92	329	P	P	14 16 02.9 +0.2
	baz=78					
ILAR	Eielson Array	79.02	334	P	P	14 16 02.1 -1.0
	comp=Z,48nm,0.8s,baz=78,slow=4.6,SNR=151					
ILAR				PKKPbc	PKKPbc	14 34 58.5 +0.9
	comp=Z,1.1nm,0.7s,baz=253,slow=3.9,SNR=11					
ILAR				LR	LR	14 50 32.2
	comp=Z,7µm,19.8s,baz=60,slow=35					
	comp=Z,48nm,0.8s					
KOMG	Komaggas	79.09	125	*e*P	P	14 16 04.3 +0.2
KOMG				IAmb	IAmb	14 16 15.4
	comp=Z,289nm,1.4s					
HDA	Harding Lake	79.13	334	IAMs_20	IAMs_20	14 48 03.2
	comp=Z,12µm,22.0s					
HDA	Harding Lake	79.13	334	P	P	14 16 03.3 -0.4
	baz=77,SNR=16					
HDA				S	S	14 26 01.5 -1.9
	baz=77					
TOLK	Toolik Lake Re	79.14	338	P	P	14 16 03.4 -0.4
	baz=75,SNR=38					
TOLK				S	S	14 26 03.1 -0.4
	baz=75					
TOLK				S	S	14 26 03.1 -0.4
	baz=75					
POKR	Poker Plat Res	79.17	335	P	P	14 16 03.3 -0.6
	baz=77,SNR=19					
POKR				S	S	14 26 02.0 -1.8
	baz=77					
POKR				S	S	14 26 02.0 -1.8
	baz=77					
H24K	Noodor Dome	79.18	335	IAMs_20	IAMs_20	14 47 59.5
	comp=Z,10µm,21.0s					
H24K	Noodor Dome	79.18	335	P	P	14 16 03.9 -0.2
	baz=76,SNR=56					
H24K				S	S	14 26 03.7 -0.3
	baz=76					
H24K				S	S	14 26 03.7 -0.3
	baz=76					
VRH	Novokhopyorsk	79.18	40	*e*P	P	14 16 02.8 -1.4
VRH				*e*		14 16 05.8
VRH				*e*S	S	14 26 06.7 +2.3
VRH				pmax	pmax	
	comp=Z,510nm,1.3s					
VRH				pmax	pmax	
	comp=Z,1µm,1.8s					
VRH				smax	smax	
	comp=N,3µm,9.7s					
C23K	Itkillik River	79.19	340	IAmb	IAmb	14 16 12.1
	comp=Z,487nm,1.4s					
C23K	Itkillik River	79.19	340	P	P	14 16 03.9 0.0
	baz=75					
C23K				S	S	14 26 05.6 +1.8
	baz=75					
M24K	Tolsona, Glenn	79.30	332	IAMs_20	IAMs_20	14 51 07.4
	comp=Z,12µm,19.0s					
M24K	Tolsona, Glenn	79.30	332	P	P	14 16 04.3 -0.5
	baz=77					
M24K				S	S	14 26 03.8 -1.7
	baz=77					
E23K	Chandalar	79.31	338	P	P	14 16 04.6 -0.1
	baz=75					
E23K				S	S	14 26 05.6 +0.3
	baz=75					
KLU	Klutina	79.32	331	P	P	14 16 04.0 -0.9
	baz=77,SNR=10					
SOC	Sochi	79.32	48	*e*P	P	14 16 04.1 -1.1
SOC				*e*		14 19 05.5
SOC				*e*PPP	PPP	14 20 51.5
SOC				*e*S	S	14 26 04.6 -1.6
SOC				*e*SS	SS	14 31 07.0 -5.6
SOC				pmax	pmax	
	comp=Z,507nm,1.2s					
SOC				MLR	MLR	
	comp=Z,2µm,16.0s					
ASF	Jabal al Asfar	79.38	59	P	P	14 16 05.7 -0.1
	comp=Z,90nm,1.1s,baz=214,slow=0.0,SNR=13					
ASF				LR	LR	14 49 58.2
	comp=Z,2µm,21.9s,baz=333,slow=35					
	comp=Z,90nm,1.1s					
COLA	College	79.40	335	P	P	14 16 04.9 -0.3
	baz=76					
COLA				S	S	14 26 03.0 -3.2
	baz=76					
COLA	College	79.40	335	⇑P	P	14 16 04.8 -0.4
COLA	College	79.40	335	P	P	14 16 04.6 -0.6
CCB	Clear Creek Bu	79.44	334	IAMs_20	IAMs_20	14 50 52.2
	comp=Z,8µm,19.0s					
EYAK	Cordova Ski Ar	79.44	330	P	P	14 16 04.5 -0.9
	baz=77					
ERBR	Yeremizino-Bor	79.44	45	*e*P	P	14 16 05.7 -0.1
ERBR				*e**PP	sP	14 16 09.1 +1.9
ERBR				*e*S	S	14 26 08.9 +1.5
ERBR				pmax	pmax	
	comp=Z,226nm,1.0s					
ERBR				MLR	MLR	
	comp=Z,3µm,15.0s					
ERBR				MLR	MLR	
	comp=E,5µm,18.0s					
ERBR				MLR	MLR	
	comp=N,5µm,17.0s					
D23K	Nanushuk River	79.45	339	P	P	14 16 05.3 -0.1
	baz=74					
D23K				S	S	14 26 05.7 -0.9
	baz=74					
VSLR	Vesyoloye	79.57	48	*de*P	P	14 16 07.0 +0.4
VSLR				pmax	pmax	
	comp=Z,1µm,1.2s					
VSLR				MLR	MLR	
	comp=Z,575nm,10.0s					
WRH	Wood River Hil	79.60	334	IAMs_20	IAMs_20	14 53 25.5
	comp=Z,11µm,19.0s					
DHY	Denali Highway	79.62	333	P	P	14 16 06.2 -0.4
	baz=76,SNR=18					
DHY				S	S	14 26 06.8 -2.2
	baz=76					
COLD	Coldfoot	79.74	337	P	P	14 16 07.1 +0.1
	baz=74,SNR=80					
COLD				S	S	14 26 08.3 -1.5
	baz=74					
G23K	Bananza Creek	79.81	337	P	P	14 16 07.6 +0.2
	baz=74					
G23K				S	S	14 26 09.7 -0.9
	baz=74					
LABN	Labinsk	79.82	46	*e*P	P	14 16 08.3 +0.4
LABN				*e**PP	sP	14 16 10.8 +1.5
LABN				*e*S	S	14 26 14.1 +2.6
LABN				pmax	pmax	
	comp=Z,287nm,1.5s					
LABN				MLR	MLR	
	comp=N,5µm,16.0s					
LABN				MLR	MLR	
	comp=E,3µm,19.0s					
LABN				MLR	MLR	
	comp=Z,3µm,18.0s					
H23K	Yukon River	79.85	336	IAMs_20	IAMs_20	14 48 51.1
	comp=Z,12µm,22.0s					
H23K	Yukon River	79.85	336	P	P	14 16 07.6 0.0
	baz=75					
H23K				S	S	14 26 09.3 -1.8
	baz=75					
H23K				S	S	14 26 09.3 -1.8
	baz=75					
KTUT	Trabzon	79.87	50	⇓P	P	14 16 06.9 -1.4
SCM	Sheep Creek Mo	79.89	331	P	P	14 16 07.8 -0.2
	baz=76					
SCM				S	S	14 26 10.9 -0.9
	baz=76					
WAT6	Susitna Watana	79.90	332	P	P	14 16 07.5 -0.6
	baz=76,SNR=16					
WAT6				S	S	14 26 09.0 -3.0
	baz=76					
I23K	Minto, Yukon-K	79.95	335	P	P	14 16 08.2 0.0
	baz=75,SNR=34					
B22K	Teshekpuk Lake	79.97	340	P	P	14 16 08.2 0.0
	baz=72					
B22K				S	S	14 26 11.8 -0.3
	baz=72					
NEA2	Nenana	79.98	334	IAMs_20	IAMs_20	14 49 59.5
	comp=Z,9µm,20.0s					
NEA2	Nenana	79.98	334	P	P	14 16 07.9 -0.4
	baz=75,SNR=27					
NEA2				S	S	14 26 09.3 -3.1
	baz=75					
Q23K	Middleton Isla	79.99	329	P	P	14 16 06.9 -1.6
	baz=76					
GLI	Glacier Island	80.01	330	P	P	14 16 07.1 -1.5
	baz=76					
GLI				S	S	14 26 14.5 +1.6
	baz=76					
E22K	Anaktuvuk Pass	80.08	338	P	P	14 16 09.0 +0.1
	baz=73,SNR=93					
E22K				S	S	14 26 11.4 -2.0
	baz=73					
M23K	Glacier View	80.09	331	P	P	14 16 09.0 0.0
	baz=76					
M23K				S	S	14 26 12.9 -0.8
	baz=76					
MCK	McKinley	80.14	334	P	P	14 16 08.7 -0.6
	baz=75,SNR=23					
D22K	Ayikyak River	80.17	339	IAMs_20	IAMs_20	14 50 29.5
	comp=Z,13µm,20.0s					
D22K	Ayikyak River	80.17	339	P	P	14 16 09.8 +0.5
	baz=72					
D22K				S	S	14 26 14.5 +0.2
	baz=72					
WAT1	Susitna Watana	80.20	333	P	P	14 16 09.6 0.0
	baz=75					
WAT1				S	S	14 26 11.5 -3.3
	baz=75					
BWN	Browne	80.25	334	IAMs_20	IAMs_20	14 51 57.0
	comp=Z,12µm,18.0s					
A22K	Sinclair Lake	80.25	341	P	P	14 16 09.7 +0.1
	baz=71					
A22K				S	S	14 26 15.2 +0.2
	baz=71					
KGCAE	Kacgae	80.28	117	*i* P	P	14 16 11.2 +0.4
G22K	Bettles	80.31	337	P	P	14 16 10.0 -0.1
	baz=73					
SML	Sawmill	80.36	332	P	P	14 16 10.1 -0.4
	baz=75					
P23K	Montague Islan	80.37	330	P	P	14 16 10.0 -0.5
	baz=76					
F22K	John River	80.39	338	P	P	14 16 09.6 -1.0
	baz=73					
F22K				S	S	14 26 14.7 -2.0
	baz=73					
KNK	Knik Glacier	80.52	331	P	P	14 16 11.2 -0.2
	baz=75					
KNK				S	S	14 26 17.2 -1.1
	baz=75					
MLY	Manley	80.55	335	P	P	14 16 11.2 -0.2
	baz=74,SNR=27					
MLY				S	S	14 26 15.9 -2.5
	baz=74					
H22K	Ishtalitna Cre	80.56	336	P	P	14 16 11.6 +0.1
	baz=73,SNR=55					
H22K				S	S	14 26 18.2 -0.2
	baz=73					
H22K				S	S	14 26 18.2 -0.2
	baz=73					
B21K	Ikpikpuk River	80.59	340	P	P	14 16 10.4 -1.1
	baz=71,SNR=21					
B21K				S	S	14 26 18.7 +0.1
	baz=71					
PWL	Port Wells	80.60	331	P	P	14 16 11.1 -0.7
	baz=75					
A21K	Barrow	80.65	342	P	P	14 16 11.4 -0.3
	baz=69					
A21K				S	S	14 26 19.3 +0.2
	baz=69					
A21K				S	S	14 26 19.3 +0.2
	baz=69					
PMSA	Palmer Station	80.73	186	LR	LR	14 50 39.5
	comp=Z,6µm,22.0s,baz=10,slow=35					
PMSA	Palmer Station	80.73	186	⇓P	P	14 16 15.1 +3.0
PMSA	Palmer Station	80.73	186	*e*P	P	14 16 12.9 +0.8
E21K	Killik River	80.75	339	IAMs_20	IAMs_20	14 50 27.5
	comp=Z,10µm,20.0s					
E21K	Killik River	80.75	339	P	P	14 16 11.6 -0.9
	baz=71					
E21K				S	S	14 26 18.9 -1.6
	baz=71					
PMR	Palmer	80.78	331	P	P	14 16 12.2 -0.5
	baz=74					
C21K	Knifeblade Rid	80.80	339	P	P	14 16 12.3 -0.4
	baz=71,SNR=35					
C21K				S	S	14 26 20.4 -0.4
	baz=71					
TRF	Thorofare Moun	80.80	333	P	P	14 16 12.4 -0.6
	baz=74,SNR=43					
TRF				S	S	14 26 20.6 -0.8
	baz=74					
AUGR	Augrabies	80.88	123	*e*P	P	14 16 13.3 -0.6
AUGR				IAmb	IAmb	14 16 24.5
	comp=Z,397nm,1.7s					
BPAW	Bear Paw Mtn.	80.91	334	IAMs_20	IAMs_20	14 51 13.3
	comp=Z,8µm,18.0s					
BPAW	Bear Paw Mtn.	80.91	334	P	P	14 16 12.9 -0.5
	baz=73,SNR=18					
F21K	Alatna River	80.96	337	P	P	14 16 13.2 -0.4
	baz=72,SNR=10					
F21K				S	S	14 26 21.7 -1.0
	baz=72					
I21K	Tanana	81.01	335	P	P	14 16 13.8 -0.1
	baz=72,SNR=19					
CUT	Chulitna	81.08	332	P	P	14 16 14.1 -0.2
	baz=74,SNR=17					
CUT				S	S	14 26 25.0 +1.0
	baz=74					
CKGRV	CKGRV	81.12	115	*i* P	P	14 16 15.6 +0.2
BATM	Batumi	81.16	49	⇑P	P	14 16 14.9 -0.2
BATM	Batumi	81.16	49	P	P	14 16 14.9 -0.2
H21K	Melozitna Rive	81.19	336	IAMs_20	IAMs_20	14 49 41.5
	comp=Z,14µm,22.0s					
H21K	Melozitna Rive	81.19	336	P	P	14 16 14.6 -0.3
	baz=72,SNR=75					
H21K				S	S	14 26 24.2 -0.9
	baz=72					
H21K				S	S	14 26 24.2 -0.9
	baz=72					
G21K	Allakaket	81.19	337	IAMs_20	IAMs_20	14 51 06.3
	comp=Z,13µm,21.0s					
G21K	Allakaket	81.19	337	P	P	14 16 14.7 -0.1
	baz=71,SNR=108					
G21K				S	S	14 26 25.5 +0.4
	baz=71					
M22K	Willow	81.20	332	P	P	14 16 14.9 0.0
	baz=74,SNR=11					
RC01	Rabbit Creek A	81.20	331	P	P	14 16 14.6 -0.4
	baz=74					
RC01				S	S	14 26 27.0 +1.7
	baz=74					
MBAR	Mbarara	81.27	93	IAMs_20	IAMs_20	14 49 07.0
	comp=Z,8µm,19.0s					
MBAR	Mbarara	81.27	93	*e*P	P	14 16 15.6 -0.8
MBAR				IAmb	IAmb	14 16 26.6
	comp=Z,340nm,1.4s					
MBAR	Mbarara	81.27	93	LR	LR	14 49 59.4
	comp=Z,6µm,20.1s,baz=287,slow=34					
MBAR	Mbarara	81.27	93	P	P	14 16 16.6 +0.2
MBAR				S	S	14 26 28.3 +0.3
B20K	Meade River	81.29	341	IAmb	IAmb	14 16 21.4
	comp=Z,241nm,1.1s					
B20K				IAMs_20	IAMs_20	14 50 15.4
	comp=Z,14µm,22.0s					
B20K	Meade River	81.29	341	P	P	14 16 15.3 +0.1
	baz=69					
B20K				S	S	14 26 26.2 +0.4
	baz=69					
SEW	Seward	81.34	330	P	P	14 16 15.2 -0.4
	baz=74					
SEW				S	S	14 26 28.4 +1.7
	baz=74					
GOF	Gofitskoye	81.34	46	*ce*P	P	14 16 18.7 +2.6
KIV	Kislovodsk	81.35	47	*i* P	P	14 16 16.5 +0.2
	SNR=52					
KIV	Kislovodsk	81.35	47	P	P	14 16 17.2 +1.0
KIV				S	S	14 26 30.3 +2.6
KIV	Kislovodsk	81.35	47	⇑P	P	14 16 16.1 -0.2
KIV	Kislovodsk	81.35	47	*e*P	P	14 16 15.8 -0.4
KIV				*e*S	S	14 26 26.3 -1.4
KIV				pmax	pmax	
	comp=Z,306nm,1.0s					
KIV				pmax	pmax	
	comp=Z,232nm,4.6s					
KIV				MLR	MLR	
	comp=Z,2µm,19.0s					
KVAR	Kislovodsk Arr	81.35	47	P	P	14 16 16.0 -0.3
	comp=Z,14nm,1.0s,baz=241,slow=19,SNR=4.9					
KVAR				LR	LR	14 52 02.9
	comp=Z,2µm,19.0s,baz=140,slow=36					
	comp=Z,14nm,1.0s					
O22K	Cooper Landing	81.36	330	P	P	14 16 15.5 -0.3
	baz=74					
SHA1	Shidzhatmaz	81.38	47	*de*P	P	14 16 16.3 -0.3
KEIM	Keimoes	81.44	123	*e*P	P	14 16 17.8 +1.0
KEIM				IAmb	IAmb	14 16 28.5
	comp=Z,256nm,1.5s					
UPI	Upington	81.53	122	*e*P	P	14 16 16.8 -0.6
UPI				IAmb	IAmb	14 16 29.1
	comp=Z,327nm,1.4s					
CHUM	Lake Minchumin	81.54	334	P	P	14 16 15.7 -0.9
	baz=72,SNR=32					
CHUM				S	S	14 26 28.3 -0.3
	baz=72					
KBZ	Khabaz	81.55	47	P	P	14 16 17.4 +0.3
	comp=Z,116nm,1.0s,baz=288,slow=3.8,SNR=47					
KBZ				LR	LR	14 52 15.8
	comp=Z,2µm,18.8s,baz=286,slow=36					
	comp=Z,116nm,1.0s					
KBZ	Khabaz	81.55	47	*d i* P	P	14 16 16.7 -0.4
KBZ				pmax	pmax	
	comp=Z,300nm,1.5s					
KBZ				MLR	MLR	
	comp=Z,3µm,16.0s					
SUA	Susitna One	81.56	332	IAMs_20	IAMs_20	14 50 15.3
	comp=Z,12µm,21.0s					
SUA	Susitna One	81.56	332	P	P	14 16 16.1 -0.9
	baz=73					
CVNA	Calvinia	81.57	126	*e*P	P	14 16 17.7 +0.2
CVNA				IAmb	IAmb	14 16 28.7
	comp=Z,499nm,1.7s					
D20K	Etivluk River	81.57	339	P	P	14 16 16.3 -0.6
	baz=69					
D20K				S	S	14 26 29.1 +0.1
	baz=69					
CAST	Castle Rocks	81.58	334	P	P	14 16 16.6 -0.4
	baz=72,SNR=23					
CAST				S	S	14 26 31.2 +2.0
	baz=72					
E20K	Nigu River	81.59	339	P	P	14 16 16.6 -0.4
	baz=69,SNR=44					
E20K				S	S	14 26 28.2 -1.0
	baz=69					
PRTV	Porterville,We	81.70	128	*e*P	P	14 16 19.6 +1.5
PRTV				IAmb	IAmb	14 16 30.1
	comp=Z,186nm,1.2s					
SKT	Skwentna	81.77	332	P	P	14 16 17.8 -0.2
	baz=72,SNR=18					
SKT				S	S	14 26 34.2 +2.9
	baz=72					
KIRV	Kirov	81.77	31	P	P	14 16 16.4 -1.6
	comp=Z,56nm,0.6s,baz=300,slow=2.0,SNR=32					
KIRV				LR	LR	14 47 27.0
	comp=Z,11µm,21.7s,baz=290,slow=32					
	comp=Z,56nm,0.6s					
KIRV	Kirov	81.77	31	*d i* P	P	14 16 16.2 -1.8
PPLA	Purkeypile	81.78	333	P	P	14 16 17.6 -0.6
	baz=72,SNR=20					
F20K	Avaraart Lake	81.85	338	P	P	14 16 18.1 -0.1
	baz=70					
F20K				S	S	14 26 31.2 -0.5
	baz=70					
CER	Ceres	81.97	128	*e*P	P	14 16 20.3 +0.7
CER				IAmb	IAmb	14 16 30.6
	comp=Z,194nm,1.6s					
H20K	Anotleneega Mo	82.06	336	P	P	14 16 19.7 +0.2
	baz=70,SNR=48					
H20K				S	S	14 26 35.3 +1.2
	baz=70					
BRSE	Bradley Lake S	82.06	330	P	P	14 16 18.8 -0.8
	baz=73					
NCK	Nalchik	82.09	47	⇑*e*P	P	14 16 20.1 0.0
NCK				pmax	pmax	
	comp=Z,482nm,1.5s					
NCK				MLR	MLR	
	comp=Z,2µm,15.0s					
GURO	Guroymak-BITLI	82.10	52	⇑P	P	14 16 19.8 -0.6
I20K	Naagheneel	82.14	335	P	P	14 16 19.7 -0.1
	baz=70,SNR=16					
D19K	Kuna River	82.17	339	P	P	14 16 19.8 -0.2
D19K				IAmb	IAmb	14 16 27.5
	comp=Z,196nm,1.1s					
D19K	Kuna River	82.17	339	P	P	14 16 19.8 -0.2
	baz=68					
D19K				S	S	14 26 37.1 +1.9
	baz=68					
J20K	Nowinta River	82.21	335	IAMs_20	IAMs_20	14 52 18.5
	comp=Z,9µm,21.0s					
J20K	Nowinta River	82.21	335	P	P	14 16 19.8 -0.4
	baz=70,SNR=15					

J20K				S	S	14 26 35.8	+0.2
	baz=70						
J20K				S	S	14 26 35.8	+0.2
	baz=70						
E19K	**Redstone River**	**82.25**	**338**	P	P	**14 16 20.5**	**+0.1**
	baz=68,SNR=90						
E19K				S	S	**14 26 36.2**	**+0.3**
	baz=68						
N20K	**Mount Spurr**	**82.32**	**331**	P	P	**14 16 20.9**	**-0.1**
	baz=72,SNR=38						
SPCR	**Spurr Chakacha**	**82.32**	**331**	P	P	**14 16 20.5**	**-0.5**
	baz=72,SNR=35						
SPCR				S	S	**14 26 36.1**	**-0.9**
	baz=72						
SKOMA	**Sekoma**	**82.35**	**118**	*i* P	P	**14 16 21.8**	**0.0**
CNPM	**China Poot**	**82.37**	**330**	IAMs_20	IAMs_20	14 50 55.8	
	comp=Z,12μm,19.0s						
KARS	**Kars**	**82.40**	**50**	⇓P	P	**14 16 23.1**	**+1.2**
C19K	**Lookout Ridge**	**82.42**	**340**	P	P	**14 16 20.5**	**-0.9**
	baz=66						
C19K				S	S	**14 26 38.7**	**+1.0**
	baz=66						
GRD1	**Great Renaissa**	**82.42**	**81**	*e*P	P	**14 16 26.4**	**+4.0**
A19K	**Wainwright**	**82.44**	**341**	P	P	**14 16 20.8**	**-0.5**
	baz=65						
A19K				S	S	**14 26 39.1**	**+1.4**
	baz=65						
K20K	**Telida**	**82.45**	**334**	IAMs_20	IAMs_20	14 51 15.8	
	comp=Z,11μm,20.0s						
K20K	**Telida**	**82.45**	**334**	P	P	**14 16 21.0**	**-0.6**
	baz=70						
BELG	**Belogornoye**	**82.48**	**38**	P	P	**14 16 20.9**	**-0.9**
	comp=Z,362nm,1.1s,baz=337,slow=0.1,SNR=19						
BELG				LR	LR	14 50 34.1	
	comp=Z,11μm,18.0s,baz=293,slow=34						
	comp=Z,362nm,1.1s						
BELG	**Belogornoye**	**82.48**	**38***d*	*i*P	P	**14 16 20.4**	**-1.4**
BELG				pmax	pmax		
	comp=Z,119nm,1.3s						
M20K	**Styx River**	**82.52**	**332**	P	P	**14 16 21.1**	**-0.9**
	baz=71,SNR=24						
HOM	**Homer**	**82.53**	**330**	P	P	**14 16 20.4**	**-1.5**
	baz=72						
KDWAN	**Kaudwane**	**82.58**	**117**	*i* P	P	**14 16 23.1**	**+0.1**
L20K	**Farewell, AK**	**82.66**	**333**	P	P	**14 16 21.7**	**-0.9**
	baz=70,SNR=19						
H19K	**Roundabout Mou**	**82.66**	**336**	IAMs_20	IAMs_20	14 51 18.3	
	comp=Z,12μm,20.0s						
H19K	**Roundabout Mou**	**82.66**	**336**	P	P	**14 16 22.1**	**-0.4**
	baz=69						
H19K				S	SKSac	**14 26 42.3**	**-1.7**
	baz=69						
F19K	**Shaleruckik Mo**	**82.68**	**338**	P	P	**14 16 22.1**	**-0.5**
F19K				IAmb	IAmb	14 16 28.0	
	comp=Z,191nm,1.1s						
F19K				IAMs_20	IAMs_20	14 51 39.9	
	comp=Z,11μm,20.0s						
F19K	**Shaleruckik Mo**	**82.68**	**338**	P	P	**14 16 22.1**	**-0.5**
	baz=68						
F19K				S	S	**14 26 40.4**	**+0.1**
	baz=68						
G19K	**Purcell Mounta**	**82.68**	**337**	P	P	**14 16 22.4**	**-0.2**
	baz=68,SNR=25						
G19K				S	S	**14 26 41.1**	**+0.7**
	baz=68						
SUR	**Sutherland**	**82.75**	**126**	IAMs_20	IAMs_20	14 44 33.7	
	comp=Z,11μm,21.0s						
SUR	**Sutherland**	**82.75**	**126**	LR	LR	14 45 16.4	
	comp=Z,8μm,21.7s,baz=296,slow=30						
SUR	**Sutherland**	**82.75**	**126**	P	P	**14 16 25.7**	**+1.8**
SUR				S	S	**14 26 39.9**	**-2.6**
O20K	**Slope Mountain**	**82.86**	**330**	P	P	**14 16 23.0**	**-0.8**
	baz=71						
J19K	**Poorman**	**82.88**	**335**	IAMs_20	IAMs_20	14 50 38.2	
	comp=Z,10μm,21.0s						
J19K	**Poorman**	**82.88**	**335**	P	P	**14 16 23.3**	**-0.4**
	baz=69,SNR=29						
J19K				S	S	**14 26 42.5**	**0.0**
	baz=69						
J19K				S	S	**14 26 42.5**	**0.0**
	baz=69						
MATJ	**Matjiesfontein**	**82.92**	**127**	*e*P	P	**14 16 25.2**	**+0.6**
MATJ				IAmb	IAmb	14 16 35.7	
	comp=Z,568nm,1.6s						
ALKP	**Alkanpan, Nort**	**82.94**	**124**	*e*P	P	**14 16 24.8**	**+0.1**
SOOWA	**Sowa**	**82.99**	**113**	*i* P	P	**14 16 26.0**	**+0.8**
B18K	**Kokolik River**	**83.03**	**341**	P	P	**14 16 24.0**	**-0.4**
	baz=64						
B18K				S	SKSac	**14 26 46.1**	**-0.3**
	baz=64						
FRAZ	**Fraserburg**	**83.03**	**126**	*e*P	P	**14 16 25.6**	**+0.3**
FRAZ				IAmb	IAmb	14 16 35.9	
	comp=Z,227nm,1.5s						
M19K	**Big River Lodg**	**83.08**	**332**	P	P	**14 16 24.7**	**-0.1**
	baz=70						
M19K				S	S	**14 26 45.5**	**+0.9**
	baz=70						
M19K				S	S	**14 26 45.5**	**+0.9**
	baz=70						
LSZ	**Lusaka**	**83.08**	**108**	IAMs_20	IAMs_20	14 46 00.9	
	comp=Z,8μm,20.0s						
LSZ	**Lusaka**	**83.08**	**108**	*e*P	P	**14 16 26.2**	**+0.4**
LSZ				IAmb	IAmb	14 16 37.4	
	comp=Z,490nm,1.4s						
LSZ	**Lusaka**	**83.08**	**108**	P	P	**14 16 27.6**	**+1.8**
LSZ				S	SKSac	**14 26 47.2**	**-1.6**
LSZ	**Lusaka**	**83.08**	**108**	⇓P	P	**14 16 26.6**	**+0.8**
GCSA	**Galena City Sc**	**83.12**	**336**	P	P	**14 16 24.7**	**-0.2**
	baz=68,SNR=32						
GCSA				S	SKSac	**14 26 47.3**	**+0.2**
	baz=68						
C18K	**Utukok River**	**83.14**	**340**	P	P	**14 16 24.3**	**-0.7**
	baz=65						
C18K				S	SKSac	**14 26 47.9**	**+0.6**
	baz=65						
L19K	**White Mountain**	**83.19**	**333**	P	P	**14 16 25.2**	**-0.2**
	baz=70,SNR=21						
L19K				S	SKSac	**14 26 47.7**	**-0.1**
	baz=70						
L19K				S	SKSac	**14 26 47.7**	**-0.1**
	baz=70						
SYI	**Shuyak Island**	**83.22**	**329**	IAMs_20	IAMs_20	14 55 08.3	
	comp=Z,10μm,18.0s						
Q20K	**Shuyak Island**	**83.22**	**329**	P	P	**14 16 24.9**	**-0.7**
	baz=71						
P19K	**Oil Pt**	**83.29**	**330**	P	P	**14 16 25.9**	**-0.1**
	baz=71						
G18K	**Tagagawik**	**83.37**	**337**	IAMs_20	IAMs_20	14 52 54.4	
	comp=Z,10μm,19.0s						
G18K	**Tagagawik**	**83.37**	**337**	P	P	**14 16 25.7**	**-0.6**
	baz=67						
G18K				S	S	**14 26 48.2**	**+0.8**
	baz=67						
MERW	**Merweville**	**83.41**	**126**	*e*P	P	**14 16 26.9**	**-0.2**
MERW				IAmb	IAmb	14 16 38.0	
	comp=Z,654nm,1.7s						
TTA	**Tatalina**	**83.42**	**334**	IAMs_20	IAMs_20	14 50 59.8	
	comp=Z,13μm,22.0s						
TTA	**Tatalina**	**83.42**	**334**	P	P	**14 16 26.7**	**+0.1**
	baz=69						
TTA	**Tatalina**	**83.42**	**334**	⇑P	P	**14 16 26.8**	**+0.1**
F18K	**Selawik**	**83.46**	**338**	P	P	**14 16 26.2**	**-0.4**
	baz=66,SNR=32						
F18K				S	SKSac	**14 26 49.3**	**+0.1**
	baz=66						
E18K	**Tukpahlearik C**	**83.46**	**339**	P	P	**14 16 26.2**	**-0.5**
	baz=65,SNR=21						
E18K				S	S	**14 26 48.6**	**+0.4**
	baz=65						
N19K	**Bonanza Creek**	**83.49**	**331**	IAMs_20	IAMs_20	14 51 36.2	
	comp=Z,12μm,22.0s						
N19K	**Bonanza Creek**	**83.49**	**331**	P	P	**14 16 26.3**	**-0.8**
	baz=70,SNR=25						
J18K	**Innoko River**	**83.53**	**334**	P	P	**14 16 27.0**	**-0.1**
	baz=68						
J18K				S	SKSac	**14 26 50.4**	**+0.4**
	baz=68						
H18K	**Honhosa River**	**83.55**	**336**	IAMs_20	IAMs_20	14 52 29.7	
	comp=Z,10μm,20.0s						
H18K	**Honhosa River**	**83.55**	**336**	P	P	**14 16 26.9**	**-0.3**
	baz=67,SNR=31						
H18K				S	SKSac	**14 26 49.8**	**-0.2**
	baz=67						
KDAK	**Kodiak Island**	**83.58**	**328**	LR	LR	14 51 46.7	
	comp=Z,10μm,20.8s,baz=261,slow=34						
KDAK	**Kodiak Island**	**83.58**	**328**	P	P	**14 16 27.6**	**+0.2**
	baz=71						
KDAK	**Kodiak Island**	**83.58**	**328**	⇑P	P	**14 16 28.4**	**+1.0**
LPHEP	**Lephephe**	**83.61**	**116**	*i* P	P	**14 16 28.6**	**+0.3**
O19K	**Port Alsworth**	**83.63**	**331**	P	P	**14 16 27.0**	**-0.6**
	baz=70,SNR=15						
Q19K	**Cape Douglas,**	**83.73**	**330**	IAMs_20	IAMs_20	14 54 58.8	
	comp=Z,9μm,19.0s						
Q19K	**Cape Douglas,**	**83.73**	**330**	P	P	**14 16 27.9**	**-0.4**
	baz=70						
GNI	**Garni**	**83.75**	**50**	P	P	**14 16 29.4**	**+0.4**
GNI	**Garni**	**83.75**	**50**	P	P	**14 16 29.4**	**+0.4**
	comp=Z,280nm,1.1s,baz=298,slow=1.4,SNR=20						
GNI				LR	LR	14 52 39.5	
	comp=Z,2μm,20.5s,baz=290,slow=35						
	comp=Z,280nm,1.1s						
GNI	**Garni**	**83.75**	**50**	P	P	**14 16 29.1**	**+0.2**
GNI				S	SKSac	**14 26 52.2**	**-0.5**
GNI	**Garni**	**83.75**	**50**	⇑P	P	**14 16 29.3**	**+0.4**
GNI	**Garni**	**83.75**	**50***d*	*i*P	P	**14 16 28.9**	**0.0**
GNI				pmax	pmax		
	comp=Z,307nm,1.3s						
GNI				MLR	MLR		
	comp=Z,1μm,17.0s						
GRAN	**Grantham**	**83.78**	**126**	*e*P	P	**14 16 28.1**	**-0.9**
GRAN				IAmb	IAmb	14 16 40.6	
	comp=Z,189nm,1.2s						
M18K	**Stony River**	**83.86**	**332**	P	P	**14 16 28.6**	**-0.2**
	baz=69,SNR=15						
M18K				S	S	**14 26 52.8**	**+0.3**
	baz=69						
C17K	**DeLong Mountai**	**83.87**	**340**	P	P	**14 16 28.6**	**-0.2**
	baz=63						
C17K				S	S	**14 26 53.6**	**+1.2**
	baz=63						
SVW2	**Sparrevohn**	**83.89**	**332**	IAMs_20	IAMs_20	14 52 19.2	
	comp=Z,11μm,20.0s						
LBTB	**Lobatse**	**83.94**	**118**	*e*P	P	**14 16 29.6**	**-0.4**
LBTB				IAmb	IAmb	14 16 41.3	
	comp=Z,373nm,1.4s						
LBTB	**Lobatse**	**83.94**	**118**	LR	LR	14 46 45.5	
	comp=Z,12μm,20.4s,baz=286,slow=31						
LBTB	**Lobatse**	**83.94**	**118**	⇓P	P	**14 16 30.1**	**0.0**
RDOG	**Red Dog Mine**	**83.97**	**340**	P	P	**14 16 29.0**	**-0.3**
	baz=63,SNR=30						
RDOG				S	SKSac	**14 26 52.5**	**-0.1**
	baz=63						
L18K	**Granite Mounta**	**83.98**	**333**	P	P	**14 16 28.8**	**-0.6**
	baz=68,SNR=24						
E17K	**Hotham Inlet**	**84.03**	**339**	P	P	**14 16 29.0**	**-0.6**
	baz=64						
E17K				S	S	**14 26 54.2**	**+0.2**
	baz=64						
F17K	**Baldwin Pennin**	**84.10**	**338**	IAMs_20	IAMs_20	14 54 43.7	
	comp=Z,10μm,19.0s						
F17K	**Baldwin Pennin**	**84.10**	**338**	P	P	**14 16 29.4**	**-0.5**
	baz=64						
F17K				S	S	**14 26 55.5**	**+0.8**
	baz=64						
OHAK	**Old Harbor**	**84.12**	**328**	IAMs_20	IAMs_20	14 53 04.3	
	comp=Z,10μm,22.0s						
OHAK	**Old Harbor**	**84.12**	**328**	P	P	**14 16 30.0**	**-0.2**
	baz=70						
BRAK	**Brakfontein**	**84.15**	**125**	*e*P	P	**14 16 29.0**	**-1.9**
BRAK				IAmb	IAmb	14 16 41.6	
	comp=Z,337nm,1.7s						
BROLN	**Tlhalogang**	**84.15**	**114**	*i* P	P	**14 16 30.9**	**-0.3**
O18K	**Koktuh Hills**	**84.16**	**331**	P	P	**14 16 29.9**	**-0.6**
	baz=69,SNR=26						
O18K				S	S	**14 26 56.9**	**+1.3**
	baz=69						
O18K				S	S	**14 26 56.9**	**+1.3**
	baz=69						
N18K	**Kilae Creek**	**84.19**	**332**	IAMs_20	IAMs_20	14 52 07.6	
	comp=Z,11μm,21.0s						
N18K	**Kilae Creek**	**84.19**	**332**	P	P	**14 16 29.8**	**-0.8**
	baz=69,SNR=12						
N18K				S	S	**14 26 56.7**	**+0.9**
	baz=69						
N18K				S	S	**14 26 56.7**	**+0.9**
	baz=69						
D17K	**Noatak River**	**84.19**	**339**	P	P	**14 16 29.8**	**-0.6**
	baz=63,SNR=13						
D17K				S	S	**14 26 56.6**	**+1.0**
	baz=63						
H17K	**Granite Mounta**	**84.24**	**336**	P	P	**14 16 30.5**	**-0.2**
	baz=66,SNR=34						
H17K				S	S	**14 26 56.2**	**0.0**
	baz=66						
G17K	**Kiwalik Mounta**	**84.28**	**337**	P	P	**14 16 30.5**	**-0.4**
	baz=65,SNR=30						
G17K				S	S	**14 26 57.7**	**+1.1**
	baz=65						
P18K	**Big Mountain,**	**84.34**	**330**	P	P	**14 16 30.6**	**-0.8**
	baz=69						
P18K				S	S	**14 26 59.4**	**+2.0**
	baz=69						
SWZ	**Schweizer**	**84.47**	**120**	*e*P	P	**14 16 31.7**	**-1.0**
SWZ				IAmb	IAmb	14 16 44.0	
	comp=Z,551nm,1.5s						
K17K	**Iditarod**	**84.48**	**334**	P	P	**14 16 31.5**	**-0.5**
	baz=67,SNR=15						
K17K				S	S	**14 27 00.1**	**+1.4**
	baz=67						
Q18K	**Katmai Hardscr**	**84.50**	**330**	P	P	**14 16 31.8**	**-0.5**
	baz=69,SNR=12						
Q18K				S	S	**14 26 59.6**	**+0.4**
	baz=69						
J17K	**VABM Dome**	**84.53**	**335**	IAMs_20	IAMs_20	14 53 43.9	
	comp=Z,9μm,20.0s						
J17K	**VABM Dome**	**84.53**	**335**	P	P	**14 16 31.2**	**-1.0**
	baz=66,SNR=14						
J17K				S	S	**14 26 59.7**	**+0.5**
	baz=66						
J17K				S	S	**14 26 59.7**	**+0.5**
	baz=66						
R18K	**Karluk**	**84.60**	**328**	P	P	**14 16 31.4**	**-1.2**
	baz=70						
R18K				S	S	**14 27 00.5**	**+0.5**
	baz=70						
R18K				S	S	**14 27 00.5**	**+0.5**
	baz=70						
M17K	**Holitna River**	**84.61**	**333**	P	P	**14 16 31.7**	**-0.9**
	baz=67						
LODK	**Lodwar**	**84.67**	**88**	IAMs_20	IAMs_20	14 52 29.8	
	comp=Z,10μm,19.0s						
LODK	**Lodwar**	**84.67**	**88**	P	P	**14 16 35.0**	**+1.1**
	SNR=209						
C16K	**Lisburne Hills**	**84.67**	**340**	P	P	**14 16 32.6**	**-0.3**
	baz=61						
C16K				S	S	**14 27 00.3**	**-0.1**
	baz=61						
L17K	**Donlin**	**84.71**	**333**	P	P	**14 16 32.6**	**-0.5**
	baz=67,SNR=23						
L17K				S	S	**14 27 01.9**	**+1.0**
	baz=67						
MREMI	**Moremi**	**84.73**	**115**	*i* P	P	**14 16 34.1**	**+0.1**
BFON	**Badsfontein, M**	**84.78**	**125**	*e*P	P	**14 16 33.7**	**-0.4**
BFON				IAmb	IAmb	14 16 46.0	
	comp=Z,318nm,1.3s						
MRCO	**Marico , North**	**84.78**	**118**	*e*P	P	**14 16 33.7**	**-0.6**
MRCO				IAmb	IAmb	14 16 45.8	
	comp=Z,435nm,1.4s						
SII	**Sitkinak Islan**	**84.81**	**327**	IAMs_20	IAMs_20	14 51 15.6	
	comp=Z,11μm,20.0s						
SII	**Sitkinak Islan**	**84.81**	**327**	P	P	**14 16 33.3**	**-0.5**
	baz=70						
N17K	**Nushagak Hills**	**84.84**	**332**	P	P	**14 16 32.7**	**-1.1**
	baz=68						
KRI	**Karoi**	**84.86**	**109**	*e*P	P	**14 16 31.0**	**-3.9**
BOSA	**Boshof**	**84.90**	**121**	*e*P	P	**14 16 34.5**	**-0.3**
BOSA				IAmb	IAmb	14 16 46.0	
	comp=Z,243nm,1.3s						
BOSA	**Boshof**	**84.90**	**121**	P	P	**14 16 33.9**	**-1.0**
	comp=Z,19nm,1.0s,baz=334,slow=5.2,SNR=23						
BOSA				LR	LR	14 46 25.5	
	comp=Z,6μm,21.9s,baz=291,slow=30						
	comp=Z,19nm,1.0s						
BOSA	**Boshof**	**84.90**	**121**	⇑P	P	**14 16 34.1**	**-0.7**
ROOI	**Rooidraai Farm**	**84.93**	**126**	*e*P	P	**14 16 35.0**	**+0.1**
ROOI				IAmb	IAmb	14 16 46.5	
	comp=Z,208nm,1.4s						
MATP	**Matopo**	**84.97**	**113**	LR	LR	14 49 27.3	
	comp=Z,4μm,18.2s,baz=285,slow=32						
G16K	**Koyuk River**	**84.97**	**337**	P	P	**14 16 33.2**	**-1.2**
	baz=63,SNR=23						
G16K				S	S	**14 27 05.1**	**+1.7**
	baz=63						
I17K	**Unalakleet**	**84.99**	**335**	IAMs_20	IAMs_20	14 53 34.8	
	comp=Z,12μm,21.0s						
I17K	**Unalakleet**	**84.99**	**335**	P	P	**14 16 33.6**	**-0.8**
	baz=65						
I17K				S	S	**14 27 05.5**	**+1.9**
	baz=65						
P17K	**Kvichak River**	**84.99**	**330**	P	P	**14 16 34.3**	**-0.2**
	baz=68						
P17K				S	S	**14 27 03.0**	**-0.7**
	baz=68						
P17K				S	S	**14 27 03.0**	**-0.7**
	baz=68						
MAK	**Makhachkala**	**84.99**	**47***d*	*i*P	P	**14 16 30.4**	**-4.5**
MAK				*e*		14 16 37.9	
MAK				*e*		14 19 47.7	
MAK				*e*		14 26 51.6	
MAK				*e*SS	SS	14 32 30.3	-6.6
MAK				*e*SSS	SSS	14 36 01.5	
MAK				pmax	pmax		
	comp=Z,663nm,1.3s						
MAK				MLR	MLR		
	comp=Z,6μm,15.0s						
Q17K	**Contact Creek**	**85.06**	**329**	P	P	**14 16 33.9**	**-1.2**
	baz=68,SNR=12						
Q17K				S	S	**14 27 04.7**	**-0.1**
	baz=68						
O17K	**Koliganek Bris**	**85.08**	**331**	P	P	**14 16 33.3**	**-1.7**
	baz=68						
O17K				S	S	**14 27 04.1**	**-0.5**
	baz=68						
J16K	**Anvik River**	**85.20**	**335**	IAMs_20	IAMs_20	14 54 13.7	
	comp=Z,11μm,20.0s						
J16K	**Anvik River**	**85.20**	**335**	P	P	**14 16 33.7**	**-1.9**
	baz=65,SNR=8.8						
J16K				S	S	**14 27 06.9**	**+1.1**
	baz=65						
H16K	**Elim**	**85.27**	**336**	P	P	**14 16 34.2**	**-1.7**
	baz=63,SNR=10						
H16K				S	S	**14 27 06.9**	**+0.5**
	baz=63						
Q16K	**King Salmon**	**85.29**	**330**	P	P	**14 16 35.2**	**-0.8**
	baz=68,SNR=24						
Q16K				S	S	**14 27 06.8**	**+0.1**
	baz=68						
NHAM	**Northam, North**	**85.38**	**117**	*e*P	P	**14 16 38.5**	**+1.2**
NHAM				IAmb	IAmb	14 16 48.8	
	comp=Z,444nm,1.8s						
L16K	**Owhat River**	**85.39**	**333**	P	P	**14 16 35.9**	**-0.6**
	baz=66,SNR=17						
L16K				S	S	**14 27 07.9**	**+0.2**
	baz=66						
M16K	**Timber Creek**	**85.44**	**332**	P	P	**14 16 36.4**	**-0.4**
	baz=66,SNR=16						
M16K				S	S	**14 27 08.5**	**+0.2**
	baz=66						
LEPH	**Lephalale, Lim**	**85.45**	**116**	*e*P	P	**14 16 37.6**	**0.0**
LEPH				IAmb	IAmb	14 16 49.0	
	comp=Z,662nm,1.7s						
CRAIL	**Swartwater, Li**	**85.50**	**115**	*e*P	P	**14 16 37.1**	**-0.8**
PLK4	**Peulik 4**	**85.53**	**329**	IAMs_20	IAMs_20	14 53 09.5	
	comp=Z,11μm,20.0s						
R17L	**Mt. Peulik Vol**	**85.53**	**329**	P	P	**14 16 36.2**	**-1.2**
	baz=68						
R17L				S	S	**14 27 09.4**	**0.0**
	baz=68						
N16K	**Nishlik Lake**	**85.58**	**332**	P	P	**14 16 36.8**	**-0.7**
	baz=66,SNR=19						
N16K				S	S	**14 27 10.2**	**+0.5**
	baz=66						
GRAF	**Camdeboo Natio**	**85.59**	**125**	*e*P	P	**14 16 37.0**	**-1.1**
GRAF				IAmb	IAmb	14 16 55.3	
	comp=Z,523nm,1.7s						
O16K	**Kokwok River B**	**85.62**	**331**	P	P	**14 16 36.9**	**-0.8**
	baz=67						
O16K				S	S	**14 27 08.7**	**-1.2**
	baz=67						
F15K	**North Star Dit**	**85.67**	**338**	IAMs_20	IAMs_20	14 52 29.2	
	comp=Z,9μm,21.0s						
F15K	**North Star Dit**	**85.67**	**338**	P	P	**14 16 37.8**	**-0.1**
	baz=61,SNR=8.6						
F15K				S	S	**14 27 10.8**	**+0.4**
	baz=61						
G15K	**Niukluk**	**85.79**	**337**	P	P	**14 16 37.9**	**-0.5**
	baz=62						
G15K				S	S	**14 27 11.4**	**-0.1**
	baz=62						
P16K	**Nushagak River**	**85.79**	**330**	P	P	**14 16 38.0**	**-0.6**
	baz=67						
HVD	**Gariep Dam**	**85.80**	**123**	*e*P	P	**14 16 39.8**	**+0.5**
HVD				IAmb	IAmb	14 16 51.2	
	comp=Z,455nm,1.4s						
CHIR	**Chirikof Islan**	**85.82**	**327**	P	P	**14 16 38.1**	**-0.7**
	baz=68						
WDLM	**Western Deep L**	**85.97**	**119**	*e*P	P	**14 16 39.7**	**-0.6**
WDLM				IAmb	IAmb	14 16 50.7	
	comp=Z,206nm,1.5s						
HRAO	**HartRAO**	**86.02**	**118**	*e*P	P	**14 16 40.0**	**-0.5**
K15K	**Wolf Creek Mou**	**86.02**	**334**	P	P	**14 16 38.9**	**-0.8**
	baz=64						
K15K				S	S	**14 27 11.0**	**-2.9**
	baz=64						
PRYS	**Parys**	**86.08**	**119**	*e*P	P	**14 16 40.0**	**-0.8**
PRYS				IAmb	IAmb	14 16 51.9	
	comp=Z,202nm,1.6s						
R16K	**Pilot Point**	**86.16**	**329**	P	P	**14 16 40.2**	**-0.2**
	baz=67						
L15K	**Ungalak Mounta**	**86.27**	**334**	P	P	**14 16 41.1**	**+0.2**
	baz=64						
L15K				S	S	**14 27 16.5**	**+0.1**
	baz=64						
N15K	**Kwethluk River**	**86.30**	**332**	P	P	**14 16 40.7**	**-0.5**
	baz=65						
N15K				S	S	**14 27 15.7**	**-1.1**
	baz=65						
M15K	**Kasigluk River**	**86.35**	**333**	P	P	**14 16 40.8**	**-0.5**
	baz=64,SNR=7.5						
M15K				S	S	**14 27 16.9**	**-0.3**
	baz=64						
F14K	**Arctic Creek**	**86.40**	**338**	P	P	**14 16 39.4**	**-2.1**
	baz=60						
F14K				S	S	**14 27 19.3**	**+1.8**
	baz=60						
WLRA	**Wolmera**	**86.40**	**82**	*e*P	P	14 16 48.6	+5.7
FURI	**Furi**	**86.44**	**82**	LR	LR	14 53 11.6	
	comp=Z,17μm,20.1s,baz=284,slow=34						
BUFB	**Buffelsbos**	**86.46**	**127**	*e*P	P	**14 16 39.8**	**-2.5**
BUFB				IAmb	IAmb	14 16 53.0	
	comp=Z,225nm,1.5s						
ANM	**Nome**	**86.50**	**337**	P	P	**14 16 40.2**	**-1.8**
	baz=61						
ANM				S	S	**14 27 16.5**	**-1.9**
	baz=61						
WTBG	**Waterberg Wild**	**86.50**	**116**	*e*P	P	**14 16 44.3**	**+1.3**
WTBG				IAmb	IAmb	14 16 53.9	
	comp=Z,312nm,2.1s						
RUST	**Rust De Winter**	**86.52**	**117**	*e*P	P	**14 16 44.3**	**+1.4**
RUST				IAmb	IAmb	14 16 53.5	
	comp=Z,134nm,1.6s						
SOE	**Somerset East**	**86.59**	**125**	IAMs_20	IAMs_20	14 48 41.4	
	comp=Z,10μm,20.0s						
SOE	**Somerset East**	**86.59**	**125**	⇓P	P	**14 16 46.7**	**+3.6**
O15K	**Ungalikthiuk R**	**86.60**	**331**	P	P	**14 16 41.6**	**-1.0**
	baz=65						
O15K				S	S	**14 27 16.8**	**-2.8**
	baz=65						
J14K	**Nanvaranak Lak**	**86.65**	**335**	IAMs_20	IAMs_20	14 55 10.9	
	comp=Z,11μm,20.0s						
J14K	**Nanvaranak Lak**	**86.65**	**335**	P	P	**14 16 41.8**	**-0.9**
	baz=62,SNR=6.2						
J14K				S	S	**14 27 18.3**	**-1.6**
	baz=62						
DILA	**Dilla**	**86.70**	**84**	*e*P	P	**14 16 48.7**	**+4.5**
MUSN	**Musina, Limpop**	**86.75**	**114**	*e*P	P	**14 16 44.2**	**+0.1**
MUSN				IAmb	IAmb	14 16 55.9	
	comp=Z,537nm,1.5s						
SNKL	**Senekal, Frees**	**86.87**	**120**	*e*P	P	**14 16 43.8**	**-0.9**
SNKL				IAmb	IAmb	14 16 56.0	
	comp=Z,387nm,1.3s						
M14K	**Bethel**	**86.89**	**333**	P	P	**14 16 43.6**	**-0.3**
	baz=63,SNR=20						
M14K				S	S	**14 27 18.8**	**-3.5**
	baz=63						
TNA	**Tin City

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L14K                          S      S      14 27 20.0 -2.7
    baz=63
ARTI  Arti          87.07  32 IAMs_20 IAMs_20 14 50 27.5
    comp=Z,9μm,21.0s
ARTI  Arti          87.07  32 P      P      14 16 44.4 -0.6
    comp=Z,138nm,1.1s,baz=308,slow=5.1,SNR=19
ARTI                          LR     LR     14 50 51.6
    comp=Z,9μm,20.7s,baz=294,slow=32
    comp=Z,138nm,1.1s
ARTI  Arti          87.07  32c iP     P      14 16 44.3 -0.6
ARTI                                       14 20 11.6
ARTI                          S      SKSac  14 27 11.2 -1.4
ARTI                          pmax   pmax
    comp=Z,77nm,1.1s
CHGN  Chignik       87.09 328 IAMs_20 IAMs_20 14 53 10.7
    comp=Z,10μm,21.0s
CHGN  Chignik       87.09 328 P      P      14 16 44.1 -0.9
    baz=66
CHGN                          S      S      14 27 23.5 -0.9
    baz=66
NMMU  Nelson Mandela 87.12 126 eP     P      14 16 49.2 +3.6
N14K  Kuskokwak Cree 87.13 332 P      P      14 16 45.0 -0.2
    baz=64
O14K  Tigyukauivet M 87.23 331 P      P      14 16 45.0 -0.6
    baz=64,SNR=7.3
O14K                          S      S      14 27 26.1 +0.3
    baz=64
ANKE  Ethiopia-Afar 87.26  81 eP     P      14 16 51.9 +4.7
GRHM  Grahamstown, E 87.43 125 IAMs_20 IAMs_20 14 49 29.6
    comp=Z,10μm,20.0s
GRHM  Grahamstown, E 87.43 125 eP     P      14 16 46.5 -0.6
GRHM                          IAmb   IAmb   14 16 58.9
    comp=Z,270nm,1.4s
K13K  Kusilvak Mount 87.49 335 P      P      14 16 45.4 -1.4
    baz=61
K13K                          S      S      14 27 27.2 -0.9
    baz=61
M13K  Dall Lake     87.65 333 P      P      14 16 45.6 -2.0
    baz=62,SNR=6.3
M13K                          S      S      14 27 31.9 +2.3
    baz=62
S14K  Fog Glacier   87.67 328 P      P      14 16 46.2 -1.8
    baz=65
KMBO  Kilima Mbogo  87.68  92 IAMs_20 IAMs_20 14 52 52.0
    comp=Z,8μm,19.0s
KMBO  Kilima Mbogo  87.68  92 i P      P      14 16 53.3 +4.3
    SNR=48
KMBO  Kilima Mbogo  87.68  92 eP     P      14 16 51.5 +2.4
KMBO                          IAmb   IAmb   14 17 03.0
    comp=Z,3μm,2.6s
KMBO  Kilima Mbogo  87.68  92 P      P      14 16 49.6 +0.6
    comp=Z,13nm,1.0s,baz=281,slow=4.8,SNR=23
KMBO                          LR     LR     14 53 03.3
    comp=Z,7μm,21.1s,baz=284,slow=34
KMBO  Kilima Mbogo  87.68  92 P      P      14 16 53.3 +4.3
KMBO                          S      SKSac  14 27 17.1 -1.3
TEND  Ethiopian Broa 87.89  78 eP     P      14 16 54.1 +4.3
DULL  Dullstroom, Mp 87.98 117 eP     P      14 16 52.9 +2.7
DULL                          IAmb   IAmb   14 16 55.1
    comp=Z,146nm,1.8s
SVE   Sverdlovsk    88.02  31 eP     P      14 16 49.3 -0.2
SVE                           eS     SKSac  14 27 15.4 -3.0
SVE                           pmax   pmax
    comp=Z,279nm,2.1s
CHNA  Chernabura Isl 88.30 327 P      P      14 16 49.7 -1.1
    baz=65
CHNA                          S      S      14 27 37.4 +1.3
    baz=65
CNBA  Chernabura Isl 88.30 327 IAMs_20 IAMs_20 14 55 34.9
    comp=Z,9μm,19.0s
PILG  Pilgrimsrest, 88.31 116 eP     P      14 16 51.9 +0.2
PILG                          IAmb   IAmb   14 17 02.8
    comp=Z,277nm,1.7s
MOPA  Mopani        88.48 115 eP     P      14 16 53.4 +1.1
MOPA                          IAmb   IAmb   14 17 03.5
    comp=Z,911nm,1.6s
KIBK  Kibwezi       88.77  93 P      P      14 16 54.5 +0.5
KIBK  Kibwezi       88.77  93 P      P      14 16 55.7 +1.7
    SNR=74
RAYN  Ar Rayn       88.86  66 IAMs_20 IAMs_20 14 55 34.6
    comp=Z,8μm,19.0s
RAYN  Ar Rayn       88.86  66 i P      P      14 16 56.4 +2.1
    SNR=27
RAYN  Ar Rayn       88.86  66 P      P      14 16 54.5 +0.3
RAYN                          S      SKSac  14 27 21.5 -3.2
KSTD  Kokstad       88.90 122 eP     P      14 16 51.9 -2.4
KSTD                          IAmb   IAmb   14 17 00.1
    comp=Z,494nm,2.5s
M11K  Mekoryuk      88.91 334 P      P      14 16 51.9 -1.6
    baz=60
KBD   Kabd          89.12  60 P      P      14 16 58.4 +3.1
KBD                           S      SKSac  14 27 24.6 -1.5
S12K  Black Hills   89.19 328 P      P      14 16 53.0 -2.1
    baz=63
S12K                          S      S      14 27 44.2 -0.4
    baz=63
AKTO  Aktyubinsk    89.26  37 P      P      14 16 54.9 -0.6
    comp=Z,120nm,0.8s,baz=295,slow=4.5,SNR=105
AKTO                          LR     LR     14 54 47.6
    comp=Z,8μm,19.1s,baz=305,slow=34
    comp=Z,120nm,0.8s
AKTO  Aktyubinsk    89.26  37 P      P      14 16 54.8 -0.7
GAMB  Gambell       89.27 338 P      P      14 16 53.6 -1.6
    baz=55
ATD   Arta Tunnel   89.70  78 IAMs_20 IAMs_20 14 55 46.7
    comp=Z,7μm,19.0s
ATD   Arta Tunnel   89.70  78 LR     LR     14 56 08.3
    comp=Z,317nm,20.0s,baz=278,slow=35
POGA  Pongola       89.89 118 IAMs_20 IAMs_20 14 49 21.0
    comp=Z,12μm,22.0s
POGA  Pongola       89.89 118 eP     P      14 16 59.9 +1.1
POGA                          IAmb   IAmb   14 17 12.4
    comp=Z,409nm,2.0s
NRIK  Noril'sk      90.26  14 P      P      14 16 59.6 -0.2
    comp=Z,109nm,1.1s,baz=44,slow=1.9,SNR=19
NRIK                          PKPPKP P'P'df 14 42 40.2 -1.3
    comp=Z,0.9nm,0.5s,baz=102,slow=4.6,SNR=3.6
    comp=Z,109nm,1.1s
NRIK  Noril'sk      90.26  14c iP     P      14 16 59.3 -0.5
NRIK                          pmax   pmax
    comp=Z,163nm,1.2s
NRIK                          MLR    MLR
    comp=Z,4μm,18.0s
FALS  False Pass    90.27 328 P      P      14 16 57.9 -2.1
    baz=62
TEMBE Tembe Elephant 90.41 118 eP     P      14 17 08.0 +6.8
TEMBE                         IAmb   IAmb   14 17 14.0
    comp=Z,729nm,1.8s
VNA1  Neumayer--Stat 90.60 167 ⇑P     P      14 17 02.0 +1.0
    comp=Z,46nm,1.2s
VNA3  Neumayer Olymp 90.77 168 ⇑P     P      14 17 02.5 +0.6
    comp=Z,52nm,0.9s
AB31  Akbulak array 90.88  38 i P      P      14 17 02.3 -0.8
VNA2  Neumayer--Watz 91.00 167 ⇑P     P      14 17 05.5 +2.5
    comp=Z,17nm,0.8s,baz=308,slow=4.9
UNV   Unalaska Valle 92.34 328 P      P      14 17 08.5 -1.2
    baz=60
P08K  Saint George I 92.39 331 P      P      14 17 08.1 -1.8
    baz=57
SPIA  Saint Paul Isl 92.39 332 P      P      14 17 07.9 -2.0
    baz=56
TAOE  Nuku Hiva Isla 92.43 262 eP     P      14 17 09.5 -1.5
    comp=Z,272nm,24.0s
TAOE  Nuku Hiva Isla 92.43 262 ePP    PP     14 20 46.6 -5.6
    comp=Z,363nm,24.3s
TAOE                          eS     S      14 28 10.8 -5.1
    comp=Z,930nm,24.9s
TAOE  Nuku Hiva Isla 92.43 262 eLQ    LQ     14 42 59.1
    comp=Z,4μm,26.8s
TAOE                          eLR    LR     14 46 47.5
    comp=Z,6μm,27.6s
SAKB  Bahrain       92.50  62 P      P      14 17 15.4 +4.3
SAKB                          S      SKSac  14 27 41.4 -4.1
SNAA  Sanae         92.55 167 IAMs_20 IAMs_20 14 54 55.9
    comp=Z,9μm,19.0s
SNAA  Sanae         92.55 167 eP     P      14 17 09.3 -0.9
SNAA  Sanae         92.55 167 ⇑P     P      14 17 10.2  0.0
    comp=Z,459nm,0.9s
SNAA  Sanae         92.55 167 P      P      14 17 12.4 +2.2
    comp=Z,12nm,0.9s,baz=303,slow=4.2,SNR=18
SNAA                          PKKP   PKKPdf 14 34 23.3 -1.3
    comp=Z,2.1nm,0.9s,baz=284,slow=1.2,SNR=4.1
SNAA                          LR     LR     14 54 56.1
    comp=Z,5μm,20.2s,baz=316,slow=33
    comp=Z,12nm,0.9s
SNAA  Sanae         92.55 167 ⇓P     P      14 17 10.9 +0.6
SNAA  Sanae         92.55 167d iP    P      14 17 11.7 +1.5
SNAA                          pmax   pmax
    comp=Z,98nm,1.3s
SNAA                          MLR    MLR
    comp=Z,4μm,20.0s
BILL  Bilibino      92.66 347ceP     P      14 17 10.5 -0.4
BILL                          eP     sP     14 17 13.7 +1.3
BILL                          i *SP  pwP    14 17 15.3 -2.5
BILL                          pmax   pmax
    comp=Z,178nm,0.9s
BILL                          MLR    MLR
    comp=Z,9μm,17.0s
SHMA  Al-Shehemyia  92.90  62 P      P      14 17 15.4 +2.5
SHMA                          S      SKSac  14 27 43.7 -4.0
TIXI  Tiksi         93.08   0 P      P      14 17 12.3 -0.4
    comp=Z,79nm,1.1s,baz=41,slow=4.4,SNR=25
    comp=Z,79nm,1.1s
TIXI  Tiksi         93.08   0 ⇑P     P      14 17 11.7 -1.1
TIXI  Tiksi         93.08   0 ⇑i P   P      14 17 11.5 -1.3
TIXI                          pmax   pmax
    comp=Z,143nm,1.2s
TIXI                          MLR    MLR
    comp=Z,5μm,20.0s
SMRA  Abu-Samra     93.14  63 P      P      14 17 16.1 +2.1
    SNR=7.7
TRNA  Turayna       93.47  63 P      P      14 17 17.7 +2.1
TRNA                          S      SKSac  14 27 45.3 -5.7
NIKH  Nikolski High 94.00 328 P      P      14 17 15.7 -1.7
    baz=58
NIKH                          S      S      14 28 27.8 -0.4
    baz=58
TROLL Troll, Antarti 94.02 166 ⇑P     P      14 17 18.5 +1.4
    comp=Z,380nm,0.9s
SLWR  Sila          94.10  64 P      P      14 17 20.7 +2.3
SLWR                          S      SKSac  14 27 50.1 -4.2
BRVK  Borovoye      94.72  32 IAMs_20 IAMs_20 14 57 35.5
    comp=Z,7μm,19.0s
BRVK  Borovoye      94.72  32 P      P      14 17 19.9 -0.8
BRVK                          S      SKSac  14 27 54.7 -2.0
BRVK  Borovoye      94.72  32c iP    P      14 17 19.5 -1.2
BRVK                          pmax   pmax
    comp=Z,71nm,1.2s
BRVK                          MLR    MLR
    comp=Z,5μm,15.0s
BVA0  Borovoye Array 94.79  32 P      P      14 17 19.5 -1.6
BVAR  Borovoye Array 94.79  32 P      P      14 17 20.0 -1.0
    comp=Z,14nm,0.7s,baz=306,slow=3.6,SNR=37
BVAR                          PKKPbc PKKPdf 14 34 16.9 -1.2
    comp=Z,0.6nm,0.6s,baz=125,slow=3.2,SNR=2.9
BVAR                          LR     LR     14 55 26.6
    comp=Z,5μm,22.0s,baz=301,slow=33
    comp=Z,14nm,0.7s
JRN   Qarnain Island 94.81  63 P      P      14 17 24.4 +2.7
JRN                           S      SKSac  14 27 57.1 -1.1
GHWR  Ruwais        95.16  64 P      P      14 17 26.3 +3.0
GHWR                          S      SKSac  14 27 58.6 -1.5
NVL   N'lazarevskaya 95.72 163 eP     P      14 17 24.4 -0.3
NVL                           e              14 21 16.1
NVL                           ePPP   PPP    14 23 18.5
NVL                           eS     SKSac  14 28 02.2 +1.3
NVL                           eSS    SS     14 35 17.0 +5.4
NVL                           eSSS   SSS    14 38 53.2
NVL                           pmax   pmax
    comp=Z,41nm,1.1s
NVL                           MLR    MLR
    comp=Z,3μm,18.0s
MZR   Muzera        96.00  64 i P      P      14 17 28.9 +1.7
    SNR=7.4
MZR   Muzera        96.00  64 P      P      14 17 30.2 +3.0
MZR                           S      SKSac  14 28 03.4 -1.2
MZWR  Madinat Zayed 96.09  63 P      P      14 17 30.6 +3.0
MZWR                          S      SKSac  14 28 01.9 -3.1
AJN   Ajban         96.77  62 P      P      14 17 33.6 +3.0
AJN                           S      SKSac  14 28 04.6 -3.9
UMQ   Umm Al-Quwin  97.01  61 P      Pdif   14 17 35.6 +3.8
UMQ                           S      SKSac  14 28 07.0 -2.7
ASUD  Al Ashush, Dub 97.04  62 P      Pdif   14 17 35.2 +3.2
ASUD  Al Ashush, Dub 97.04  62 P      Pdif   14 17 35.2 +3.2
ASUD                          S      SKSac  14 28 07.4 -2.6
NAZ   Nazwa, Dubai  97.19  62 P      Pdif   14 17 35.0 +2.3
NAZ   Nazwa, Dubai  97.19  62 P      Pdif   14 17 34.9 +2.3
NAZ                           S      SKSac  14 28 07.6 -3.1
FAQ   Al Faqa, Dubai 97.22  62 P      Pdif   14 17 35.1 +2.3
FAQ   Al Faqa, Dubai 97.22  62 P      Pdif   14 17 35.2 +2.4
FAQ                           S      SKSac  14 28 08.7 -2.2
SHME  Shamm         97.22  61 i P      Pdif   14 17 34.7 +2.0
    SNR=7.6
SHME  Shamm         97.22  61 P      Pdif   14 17 34.9 +2.1
SHME                          S      SKSac  14 28 05.9 -5.0
MASF  Masafi        97.48  61 P      Pdif   14 17 36.1 +2.1
MASF                          S      SKSac  14 28 08.0 -4.3
MSFE  Esma-Masafi   97.48  61 i P      Pdif   14 17 36.7 +2.6
    SNR=5.7
UMZA  Um Al Zommool 97.56  64 P      Pdif   14 17 37.0 +2.7
UMZA                          S      SKSac  14 28 08.0 -4.6
ALNE  Al Ain        97.60  63 i P      Pdif   14 17 37.4 +2.9
    SNR=6.8
ALNE  Al Ain        97.60  63 P      Pdif   14 17 37.1 +2.6
ALNE                          S      SKSac  14 28 08.4 -4.5
MDH   Madha         97.62  61 P      Pdif   14 17 36.9 +2.3
ASHO  Ashiyiah      97.64  62 i P      Pdif   14 17 37.2 +2.5
    SNR=8.9
ASHO  Ashiyiah      97.64  62 P      Pdif   14 17 36.9 +2.2
ASHO                          S      SKSac  14 28 10.2 -3.0
HATD  Hatta, Dubai  97.65  62 i P      Pdif   14 17 37.3 +2.5
    SNR=7.5
HATD  Hatta, Dubai  97.65  62 P      Pdif   14 17 37.6 +2.8
HATD                          S      SKSac  14 28 07.7 -5.5
UOSS  Minazif       97.67  62 IAMs_20 IAMs_20 15 02 50.5
    comp=Z,5μm,20.0s
UOSS  Minazif       97.67  62 P      Pdif   14 17 37.5 +2.7
UOSS  Minazif       97.67  62 P      Pdif   14 17 36.9 +2.1
UOSS                          S      SKSac  14 28 07.8 -5.4
ABTO  Aybut         97.68  70 P      Pdif   14 17 37.3 +2.3
    SNR=14
ABTO                          S      SKSac  14 28 08.1 -5.5
WHFO  Wadi Hawf     97.93  69 P      Pdif   14 17 38.4 +2.3
    SNR=12
WHFO                          S      SKSac  14 28 08.2 -6.6
DOK   Doka          98.02  68 P      Pdif   14 17 38.7 +2.3
    SNR=8.9
DOK                           S      SKSac  14 28 09.2 -5.9
SOHO  SOHO          98.24  62 i P      Pdif   14 17 40.0 +2.7
    SNR=6.8
SOHO  SOHO          98.24  62 P      Pdif   14 17 39.4 +2.0
RBK   Rabkut        98.45  69 P      Pdif   14 17 40.7 +2.2
    SNR=6.7
ARQ   Araqi         98.51  63 P      Pdif   14 17 41.3 +2.7
ARQ                           S      SKSac  14 28 14.5 -3.1
ADK   Adak          98.54 330 IAMs_20 IAMs_20 15 01 46.9
    comp=Z,8μm,20.0s
JASK  Jask - Hormozg 98.74  60 P      Pdif   14 17 42.8 +3.3
JASK                          S      SKSac  14 28 16.4 -2.2
DMTO  DMTO          99.05  69 P      Pdif   14 17 42.9 +1.8
DMTO                          S      SKSac  14 28 16.0 -4.4
HOQ   Hoqain        99.10  62 P      Pdif   14 17 43.0 +1.8
BSY   Bisya         99.31  63 P      Pdif   14 17 45.9 +3.8
ELIB  Princess Elisa 99.56 162 dP     Pdif   14 17 44.1 +1.9
    comp=Z,4.8nm,1.3s
ELIB                          dPP    PP     14 21 50.1 +4.0
BIDO  Bidbid        99.82  62 P      Pdif   14 17 48.4 +4.0
SEY   Seymchan      99.89 350 LR     LR     15 03 54.5
    comp=Z,5μm,20.7s,baz=20,slow=36
SEY   Seymchan      99.89 350⇓eP     Pdif   14 17 45.5 +1.7
SEY                           pmax   pmax
    comp=Z,31nm,1.5s
SMDO  Samad         99.92  63 P      Pdif   14 17 48.9 +3.9
    SNR=9.3
JMDO  Jabal Madar   100.22  63 P      Pdif   14 17 47.1 +0.9
KURK  Kurchatov     100.26  30 P      Pdif   14 17 49.1 +3.4
KURK  Kurchatov     100.26  30⇓eP     Pdif   14 17 45.7  0.0
KURK                          pmax   pmax
    comp=Z,29nm,1.5s
KURK                          MLR    MLR
    comp=Z,3μm,15.0s
KURBB Kurchatov Arra 100.27  30 P      Pdif   14 17 44.5 -1.3
    comp=Z,3.9nm,0.7s,baz=309,slow=5.3,SNR=27
KURBB                         PKKPbc PKKPbc 14 34 02.6 -1.5
    comp=Z,0.3nm,0.4s,baz=142,slow=1.6,SNR=5.7
KURBB                         PKPPKP 14 42 14.9
    comp=Z,0.2nm,0.4s,baz=154,slow=1.7,SNR=4.7
MHTO  MHTO          100.60  65 P      Pdif   14 17 49.5 +1.6
    SNR=9.6
MHTO                          S      SKSac  14 28 22.8 -5.1
DQM   DQM           100.60  66 P      Pdif   14 17 49.0 +1.1
DQM                           S      SKSac  14 28 25.6 -2.3
ZALV  Zalesovo Beam 100.83  25 P      Pdif   14 17 47.8 -0.4
    comp=Z,8.9nm,1.1s,baz=319,slow=4.3,SNR=22
ZALV  Zalesovo Beam 100.83  25 i P      Pdif   14 17 49.7 +1.5
ZALV                          pmax   pmax
    comp=Z,9.0nm,1.0s
JLN   Jalan Bani Buh 101.43  63 P      Pdif   14 17 55.1 +3.5
VOI   Vohitsoka     101.82 110 IAMs_20 IAMs_20 15 00 36.4
    comp=Z,5μm,19.0s
GAR   Garm          102.32  43 IAMs_20 IAMs_20 15 05 30.2
    comp=Z,8μm,19.0s
YAK   Yakutsk       102.74   0 P      Pdif   14 17 56.2 -0.3
    comp=Z,5.0nm,0.7s,baz=225,slow=20,SNR=1.5
YAK   Yakutsk       102.74   0⇑eP     Pdif   14 17 56.3 -0.2
YAK                           pmax   pmax
    comp=Z,25nm,1.3s
YAK                           MLR    MLR
    comp=Z,4μm,20.0s
AAK   Ala-Archa     102.96  39 i Pdiff  Pdif   14 18 01.5 +3.4
    SNR=7.3
AAK   Ala-Archa     102.96  39 P      Pdif   14 18 01.9 +3.7
AAK   Ala-Archa     102.96  39deP     Pdif   14 17 59.5 +1.3
AAK                           pmax   pmax
    comp=Z,17nm,1.5s
AAK                           MLR    MLR
    comp=Z,3μm,16.0s
MA2   Magadan       103.31 349 IAMs_20 IAMs_20 15 09 30.4
    comp=Z,8μm,19.0s
PPT2  Papeete2      103.42 255 ePP    PP     14 22 10.1 -6.4
    comp=Z,435nm,25.5s
PPT2                          eS     Sdif   14 29 51.0 +1.5
    comp=Z,2μm,24.8s
PPT2                          eSS    SS     14 37 04.7 +2.8
    comp=Z,3μm,26.0s
PPT2  Papeete2      103.42 255 eLQ    LQ     14 47 30.9
    comp=Z,8μm,34.8s
PPT2                          eLR    LR     14 51 54.8
    comp=Z,12μm,36.5s
PPT2                          eLR    LR     14 52 00.5
    comp=Z,6μm,38.0s
KBU   Kabul Universi 103.79  48 PKP    PP     14 22 17.7 -0.7
TBI   Tubuai        104.46 249 eP     Pdif   14 18 05.3 +0.4
    comp=Z,643nm,27.5s
TBI   Tubuai        104.46 249 ePP    PKiKP  14 22 15.8 -5.5
    comp=Z,2μm,26.5s
TBI                           eS     Sdif   14 29 58.4 +0.6
    comp=Z,8μm,28.0s
TBI                           eSS    SS     14 37 15.3 -0.5
    comp=Z,5μm,28.8s
TBI   Tubuai        104.46 249 eLQ    LQ     14 48 00.3
    comp=Z,17μm,36.2s
TBI                           eLR    LR     14 52 22.4
    comp=Z,3μm,37.0s
TBI                           eLR    LR     14 52 27.4
    comp=Z,13μm,35.8s
MAKZ  Makanchi      104.50  32 IAMs_20 IAMs_20 15 03 28.4
    comp=Z,6μm,20.0s
MKAR  Makanchi Array 104.67  32 Pdiff  Pdif   14 18 04.8 -0.8
    comp=Z,0.9nm,0.7s,baz=344,slow=4.0,SNR=6.2
MKAR                          PKiKP  PKiKP  14 22 21.6 +0.4
    comp=Z,0.9nm,0.9s,baz=197,slow=29,SNR=2.0
MKAR                          PKKPbc PKKPbc 14 33 50.6 -0.5
    comp=Z,1.9nm,0.9s,baz=98,slow=6.2,SNR=10.0
KDJ   Kajisay       104.86  38 IAMs_20 IAMs_20 15 00 57.4
    comp=Z,7μm,22.0s
QSPA  South Pole Qui 105.46 180 IAMs_20 IAMs_20 15 02 10.3
    comp=Z,6μm,22.0s
QSPA  South Pole Qui 105.46 180 Pdiff  Pdif   14 18 10.0 +1.5
    comp=Z,1.2nm,1.1s,baz=87,slow=5.9,SNR=2.0
QSPA                          PKiKP  PKiKP  14 22 23.1 +1.1
    comp=Z,7.0nm,1.0s,baz=170,slow=19,SNR=3.1
QSPA                          PKKPbc PKKPbc 14 33 45.9 -4.3
    comp=Z,3.0nm,0.9s,baz=245,slow=1.1,SNR=3.5
QSPA                          PKKP   PKKPab 14 34 02.5 -0.9
    comp=Z,9.6nm,1.1s,baz=165,slow=3.0,SNR=4.3
KSH   Kashi         105.68  41 Pdif   Pdif   14 18 11.8 +1.5
KSH                           PP     PP     14 22 34.7 +2.6
KSH                           SKS    SKSac  14 28 52.3 +1.0
KSH                           S      Sdif   14 30 05.1 -2.8
KSH                           LR     LR
    comp=Z,3μm,19.9s
KSH                           LR     LR
    comp=Z,3μm,22.0s
KSH                           LR     LR
    comp=Z,5μm,24.0s
MSEY  Mahe Island   106.17  90 IAMs_20 IAMs_20 15 02 15.9
    comp=Z,7μm,19.0s
PET   Petropavlovsk 107.42 342 IAMs_20 IAMs_20 15 12 25.0
    comp=Z,5μm,20.0s
PET   Petropavlovsk 107.42 342 eP     Pdif   14 18 22.8 +5.3
PET                           e              14 22 44.9
PET                           e              14 28 56.8
PET                           ePS    PS     14 32 03.1 -2.7
PET                           ePPS   PPS    14 33 04.1
PET                           eSS    SS     14 37 51.6 -1.2
PET                           eSSS   SSS    14 41 53.7
PET                           MLR    MLR
    comp=Z,3μm,16.0s
PET                           MLR    MLR
    comp=Z,2μm,19.0s
WMQ   Urumqi        109.47  31 Pdif   Pdif   14 18 25.4 -1.6
WMQ                           SS     SS     14 38 19.6 -1.7
WMQ                           AMB    AMB
    comp=Z,670nm,5.3s
WMQ                           LR     LR
    comp=Z,4μm,18.3s
WMQ                           LR     LR
    comp=Z,4μm,17.5s
WMQ                           LR     LR
    comp=Z,5μm,19.1s
DHRM  DHARAMSHALA 110.07  47 ePP    PP     14 23 04.0 -0.6
BHK   Bhakra        110.62  47 ex     x      14 22 57.8
SMLA  Simla         111.31  47 ex     PP     14 23 07.6 -5.7
HNLY  HANLEY        111.61  45 ex     PP     14 23 14.9 -1.1
KLP   Kalpa         111.84  46 ex     PP     14 23 15.8 -1.7
AJM   Ajmer         111.96  53 ex     PP     14 23 02.0  -16
DDI   Dehra Dun     112.40  47 ex     PP     14 23 21.3 +0.1
KUDL  Kundal        112.47  50 ex     PP     14 23 06.8  -15
SONA  Sohna         112.85  50 ex     PP     14 23 00.2  -24
MAW   Mawson        112.89 157 PKiKP  PKiKP  14 22 35.5 -0.3
    comp=Z,4.3nm,0.8s,baz=285,slow=4.4,SNR=7.8
MAW                           PKKPbc PKKPbc 14 33 24.1 -1.4
    comp=Z,3.4nm,0.9s,baz=53,slow=6.8,SNR=7.2
JOSI  Joshimath     113.32  46 ex     PP     14 23 22.1 -5.8
SONM  Songino Array 113.54  17 PKiKP  PKiKP  14 22 36.8 -1.2
    comp=Z,0.8nm,0.6s,baz=342,slow=1.9,SNR=2.9
SONM                          PKKPbc PKKPbc 14 33 22.7 -0.5
    comp=Z,0.5nm,0.7s,baz=148,slow=3.1,SNR=2.0
ULN   Ulaanbaatar   113.69  17 IAMs_20 IAMs_20 15 16 06.2
    comp=Z,4μm,18.0s
ULN   Ulaanbaatar   113.69  17d iPKIKP PKiKP  14 22 36.8 -1.5
PTH   Pithoragarh   114.37  47 ex     x      14 22 48.7
HEH   HeiHe         114.51   2 Pdif   Pdif   14 18 49.8 +0.6
HEH                           PP     PP     14 23 37.6 +2.7
HEH                           SS     SS     14 39 29.7 +2.5
HEH                           AMB    AMB
    comp=Z,1μm,6.8s
HEH                           LR     LR
    comp=Z,4μm,17.9s
HEH                           LR     LR
    comp=Z,4μm,16.6s
HEH                           LR     LR
    comp=Z,6μm,18.6s
HIA   Hailar        114.90   7 IAMs_20 IAMs_20 15 17 36.6
    comp=Z,5μm,20.0s
POO   Poona         115.23  61 ex     x      14 23 20.7
JHNI  Jhansi        115.47  52 eP     PKiKP  14 22 40.9 -1.1
KLR   Kul'dur       115.55 359c iPKIKP PKiKP 14 22 41.1 -0.5
BHPL  Bhopal        115.80  54 ex     PP     14 23 38.0 -7.6
BHPL                          IAmb   IAmb   14 23 48.0
    comp=Z,28nm,1.2s
NRDN  NARMADA NAGAR 115.87  55 ex     PP     14 23 36.6 -9.4
GOA   Goa           116.58  64 ex     PP     14 23 41.5  -10
GOA                           i x      x      14 26 18.5
YSS   Yuzh-Sakhalins 116.80 350 eP     Pdif   14 19 04.3 +4.9
YSS                           i              14 22 44.5
YSS                           e              14 23 52.3
YSS                           e              14 26 17.0
YSS                           e              14 29 38.4
YSS                           ePS    PKKPdf 14 33 36.5 -1.0
YSS                           eSS    SS     14 40 01.0 +3.8
YSS                           eSSS   SSS    14 44 21.0
YSS                           pmax   pmax
    comp=Z,10.0nm,1.2s
YSS                           MLR    MLR
    comp=N,3μm,19.0s
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YSS				MLR	MLR			
	comp=Z,5μm,19.0s							
YSS				MLR	MLR			
	comp=E,3μm,17.0s							
KUR	**Kuril'sk**	**117.42**	**346**	*i* PKIKP	**PKPdf**	**14 22 44.8**	**-0.5**	
KUR				*e*		14 23 53.9		
KUR				*e*		14 33 34.5		
KUR				*e*PS	**PKKPdf**	**14 33 40.5**	**+4.2**	
KUR				MLR	MLR			
	comp=Z,7μm,21.0s							
ALBI	**Allahabad**	**117.99**	**50**	*e*P	**PKiKP**	**14 22 49.3**	**+2.4**	
GTA	**Gaotai**	**118.56**	**26**	PKP	**PKPdf**	**14 22 47.0**	**-0.8**	
GTA				PP	**PP**	**14 24 04.4**	**+0.6**	
GTA				SKKS		14 30 59.7		
GTA				SS	**SS**	**14 40 19.6**	**-1.6**	
GTA				LR	LR			
	comp=Z,2μm,20.7s							
GTA				LR	LR			
	comp=Z,2μm,21.1s							
GTA				LR	LR			
	comp=Z,5μm,19.1s							
GOMU	**GeErMu**	**118.79**	**32**	PKP	**PKiKP**	**14 22 50.4**	**+1.7**	
GOMU				AMB	AMB			
	comp=Z,950nm,8.9s							
GOMU				LR	LR			
	comp=Z,8μm,20.8s							
GOMU				LR	LR			
	comp=Z,5μm,19.6s							
GOMU				LR	LR			
	comp=Z,13μm,21.5s							
BNX	**BinXian**	**119.02**	**2**	⇑PKP	**PKPdf**	**14 22 48.1**	**-0.2**	
BNX				SS	SS	14 40 25.0	-1.0	
BNX				LR	LR			
	comp=Z,3μm,17.3s							
BNX				LR	LR			
	comp=Z,1μm,16.8s							
BNX				LR	LR			
	comp=Z,5μm,22.8s							
XLT	**XiLinHaoTe**	**119.56**	**12**	*e*PKP	**PKPdf**	**14 22 45.9**	**-3.7**	
XLT				SKKS		14 31 03.8		
XLT				AMB	AMB			
	comp=Z,660nm,7.2s							
XLT				LR	LR			
	comp=Z,450nm,17.9s							
XLT				LR	LR			
	comp=Z,3μm,18.7s							
XLT				LR	LR			
	comp=Z,6μm,18.7s							
MDJ	**Mudanjiang**	**120.19**	**0**	IAMs_20	IAMs_20	15 18 01.9		
	comp=Z,5μm,20.0s							
MDJ	**Mudanjiang**	**120.19**	**0**	PKP	**PKiKP**	**14 22 52.6**	**+1.9**	
MDJ				SS	SS	14 40 39.7	-1.4	
MDJ				AMB	AMB			
	comp=Z,1μm,11.5s							
MDJ				LR	LR			
	comp=Z,2μm,24.0s							
MDJ				LR	LR			
	comp=Z,2μm,21.3s							
MDJ				LR	LR			
	comp=Z,7μm,24.7s							
USA0B	**Ussuriysk Arra**	**120.58**	**358**	⇓*i* PKIKP	**PKiKP**	**14 22 52.3**	**+0.8**	
USRK	**Ussuriysk Ar.**	**120.58**	**358**	PKP	**PKPdf**	**14 22 51.0**	**-0.4**	
	comp=Z,3.7nm,0.7s,baz=8.1,slow=1.4,SNR=7.0							
USRK				PP	**PP**	**14 24 18.0**	**+0.9**	
	comp=Z,1.9nm,0.9s,baz=334,slow=21,SNR=1.8							
CN2	**Changchun**	**120.86**	**4**	*e*PKP	**PKPdf**	**14 22 50.4**	**-1.5**	
CN2				*e*PP	**PP**	**14 24 20.8**	**+1.8**	
CN2				SKKS		14 31 12.5		
CN2				*e*SS	**SS**	**14 40 47.5**	**-2.2**	
CN2				AMB	AMB			
	comp=Z,970nm,6.0s							
CN2				LR	LR			
	comp=Z,960nm,18.0s							
CN2				LR	LR			
	comp=Z,1μm,18.0s							
CN2				LR	LR			
	comp=Z,1μm,21.0s							
BTO	**Baotou**	**121.20**	**18**	*e*PKP	**PKPdf**	**14 22 50.5**	**-2.3**	
BTO				SKKS		14 31 13.1		
BTO				LR	LR			
	comp=Z,4μm,21.4s							
BTO				LR	LR			
	comp=Z,4μm,17.5s							
BTO				LR	LR			
	comp=Z,9μm,16.8s							
PAF	**Port-aux-Franc**	**121.22**	**139**	IAMs_20	IAMs_20	15 05 43.4		
	comp=Z,5μm,20.0s							
HHC	**Hu-ho-hao-te**	**121.41**	**16**	*e*PKP	**PKPdf**	**14 22 52.2**	**-1.1**	
HHC				SKKS		14 31 20.5		
HHC				AMB	AMB			
	comp=Z,460nm,10.6s							
HHC				LR	LR			
	comp=Z,3μm,19.2s							
HHC				LR	LR			
	comp=Z,3μm,20.8s							
HHC				LR	LR			
	comp=Z,6μm,17.1s							
GTK	**Tadong**	**121.51**	**44**	*e*P	**PKPdf**	**14 22 52.5**	**-1.4**	
GTK				*i* x	**PP**	**14 24 26.3**	**+1.5**	
LSA	**Lhasa**	**121.52**	**40**	PKP	**PKiKP**	**14 22 54.7**	**+0.3**	
KAAM	**Kaadhehdhoo**	**121.55**	**80**	IAMs_20	IAMs_20	15 13 50.3		
	comp=Z,6μm,19.0s							
BOK	**Bokaro**	**121.87**	**49**	*e*P	**PKiKP**	**14 22 58.2**	**+3.6**	
BOK				*i* x	**PP**	**14 24 26.2**	**-1.1**	
SALM	**Salem**	**122.10**	**65**	*e*P	**PKiKP**	**14 22 55.4**	**+0.1**	
SNY	**Shenyang**	**122.67**	**6**	⇓PKP	**PKPdf**	**14 22 54.5**	**-1.0**	
SNY				PP	**PP**	**14 24 35.4**	**+4.0**	
SNY				SS	SS	14 41 16.1	+3.3	
SNY				AMB	AMB			
	comp=Z,580nm,6.7s							
SNY				LR	LR			
	comp=Z,2μm,21.6s							
SNY				LR	LR			
	comp=Z,3μm,18.8s							
SNY				LR	LR			
	comp=Z,4μm,21.1s							
LZH	**Lanzhou**	**123.07**	**25**	*e*PKP	**PKiKP**	**14 22 58.4**	**+1.5**	
LZH				PP	**PP**	**14 24 36.0**	**+1.3**	
LZH				SKS	**SKSac**	**14 30 00.2**	**+1.4**	
LZH				SS	**SS**	**14 41 26.5**	**+7.6**	
LZH				AMB	AMB			
	comp=Z,440nm,6.2s							
LZH				LR	LR			
	comp=Z,4μm,16.5s							
LZH				LR	LR			
	comp=Z,2μm,17.2s							
LZH				LR	LR			
	comp=Z,6μm,16.1s							
JTM	**Tenmabayashi**	**123.08**	**350**	IAMs_20	IAMs_20	15 15 30.6		
	comp=Z,5μm,21.0s							
DGAR	**Diego Garcia**	**123.20**	**89**	IAMs_20	IAMs_20	15 09 05.7		
	comp=Z,5μm,20.0s							
MDRS	**Chennai**	**123.22**	**63**	*ex*	**PP**	**14 24 36.9**	**+0.1**	
BJI	**Beijing**	**123.29**	**13**	PKP	**PKiKP**	**14 22 58.9**	**+2.0**	
BJI				PP	**PP**	**14 24 37.0**	**+1.4**	
BJI				SKS	**SKSac**	**14 30 01.0**	**+2.1**	
BJI				SS	**SS**	**14 41 24.8**	**+4.0**	
BJI				AMB	AMB			
	comp=Z,260nm,5.0s							
BJI				LR	LR			
	comp=Z,2μm,18.8s							
BJI				LR	LR			
	comp=Z,2μm,19.6s							
BJI				LR	LR			
	comp=Z,3μm,21.6s							
BJT	**Baijiatuan**	**123.31**	**13**	IAMs_20	IAMs_20	15 12 55.0		
	comp=Z,5μm,22.0s							
TIY	**Taiyuan**	**124.58**	**17**	PKP	**PKiKP**	**14 23 01.9**	**+2.2**	
TIY				SKKS		14 31 41.8		
TIY				AMB	AMB			
	comp=Z,360nm,6.5s							
TIY				LR	LR			
	comp=Z,1μm,17.2s							
TIY				LR	LR			
	comp=Z,3μm,19.2s							
TIY				LR	LR			
	comp=Z,3μm,22.7s							
ZIRO	**ZIRO**	**124.73**	**40**	*ex*	x	14 22 50.7		
ZIRO				*i* x	**PP**	**14 24 46.3**	**-0.1**	
SHL	**Shillong**	**124.86**	**43**	*e*P	**PKPdf**	**14 23 00.4**	**+0.1**	
SHL				*i* x	**PP**	**14 24 48.6**	**+1.2**	
DL2	**Dalian**	**125.33**	**8**	PKP	**PKiKP**	**14 23 02.5**	**+1.5**	
DL2				PP	**PP**	**14 24 51.1**	**+1.8**	
DL2				S	**Sdif**	**14 32 51.7**	**+0.1**	
DL2				SS	**SS**	**14 41 50.9**	**+4.4**	
DL2				AMB	AMB			
	comp=Z,1μm,9.4s							
DL2				LR	LR			
	comp=Z,2μm,24.5s							
DL2				LR	LR			
	comp=Z,4μm,19.4s							
DL2				LR	LR			
	comp=Z,4μm,19.0s							
HNS	**HongShan**	**125.47**	**15**	⇓PKP	**PKiKP**	**14 23 01.6**	**+0.3**	
HNS				PP	**PP**	**14 24 52.2**	**+1.9**	
HNS				SKKS		14 31 49.9		
HNS				AMB	AMB			
	comp=Z,660nm,5.0s							
HNS				LR	LR			
	comp=Z,5μm,22.8s							
HNS				LR	LR			
	comp=Z,1μm,21.7s							
HNS				LR	LR			
	comp=Z,5μm,22.8s							
LKP	**Lekhapani**	**126.08**	**38**	*e*P	**PKPdf**	**14 23 02.5**	**+0.1**	
LKP				*i* x	**PP**	**14 24 52.8**	**-2.3**	
KOHI	**KOHIMA**	**126.18**	**41**	*e*P	**PKiKP**	**14 23 04.3**	**+1.0**	
KOHI				*i* x	**PP**	**14 24 52.2**	**-3.9**	
AZL	**Aizawl**	**126.64**	**44**	*e*P	**PKiKP**	**14 23 04.3**	**+0.1**	
AZL				*i* x	**PP**	**14 24 55.2**	**-4.1**	
IMP	**Imphal**	**126.71**	**42**	*e*P	**PKPdf**	**14 23 03.7**	**-0.1**	
IMP				*i* x	**PP**	**14 25 02.8**	**+3.3**	
XAN	**Xi'an**	**126.83**	**22**	⇑PKP	**PKiKP**	**14 23 05.0**	**+0.8**	
XAN				SS	SS	14 42 09.7	+3.8	
XAN				LR	LR			
	comp=Z,4μm,17.9s							
XAN				LR	LR			
	comp=Z,4μm,16.0s							
XAN				LR	LR			
	comp=Z,6μm,16.7s							
TIA	**Tai'an**	**127.17**	**13**	PKP	**PKiKP**	**14 23 05.8**	**+1.0**	
TIA				PP	**PP**	**14 25 02.0**	**+0.4**	
TIA				AMB	AMB			
	comp=Z,690nm,4.0s							
TIA				LR	LR			
	comp=Z,4μm,17.4s							
TIA				LR	LR			
	comp=Z,2μm,15.8s							
TIA				LR	LR			
	comp=Z,10μm,18.8s							
INCN	**Inchon**	**127.22**	**3**	IAMs_20	IAMs_20	15 22 22.4		
	comp=Z,5μm,20.0s							
KSRS	**Korea Array**	**127.31**	**2**	PKP	**PKPdf**	**14 23 04.3**	**-0.2**	
	comp=Z,2.9nm,0.7s,baz=5.3,slow=2.7,SNR=12							
KSRS				PP	**PP**	**14 25 05.8**	**+3.5**	
	comp=Z,1.3nm,1.1s,baz=259,slow=4.1,SNR=3.1							
CD2	**Chengdu**	**127.44**	**29**	PKP	**PKiKP**	**14 23 06.0**	**+0.5**	
CD2				PP	**PP**	**14 25 04.5**	**+0.7**	
CD2				SKS	**SKSac**	**14 30 14.7**	**+2.3**	
CD2				SS	**SS**	**14 42 14.8**	**+1.0**	
CD2				LR	LR			
	comp=Z,4μm,17.1s							
CD2				LR	LR			
	comp=Z,1μm,20.3s							
CD2				LR	LR			
	comp=Z,2μm,21.6s							
LYN	**LuoYang**	**127.53**	**18**	PKP	**PKiKP**	**14 23 08.7**	**+3.2**	
LYN				PP	**PP**	**14 25 11.4**	**+7.3**	
LYN				SKS	**SKSdf**	**14 30 17.7**	**+0.2**	
LYN				SKKS	**SKKSac**	**14 32 02.2**	**-1.5**	
LYN				AMB	AMB			
	comp=Z,500nm,3.6s							
LYN				LR	LR			
	comp=Z,3μm,19.2s							
LYN				LR	LR			
	comp=Z,5μm,19.6s							
LYN				LR	LR			
	comp=Z,9μm,24.4s							
MAJO	**Matsushiro**	**127.67**	**352**	IAMs_20	IAMs_20	15 18 06.1		
	comp=Z,5μm,22.0s							
MAJO	**Matsushiro**	**127.67**	**352**	*de*PKIKP	**PKPdf**	**14 23 04.2**	**-1.1**	
MJAR	**Matsushiro Arr**	**127.67**	**352**	PKP	**PKPdf**	**14 23 04.7**	**-0.6**	
	comp=Z,12nm,0.8s,baz=16,slow=1.5,SNR=28							
TNCH	**TengChong**	**129.39**	**38**	PKP	**PKPdf**	**14 23 08.4**	**-0.6**	
TNCH				SKS	**SKSac**	**14 30 14.9**	**-3.7**	
TNCH				SKKS	**SKKSac**	**14 32 14.8**	**-1.4**	
TNCH				SS	**SS**	**14 42 45.0**	**+6.1**	
TNCH				AMB	AMB			
	comp=Z,460nm,4.1s							
TNCH				LR	LR			
	comp=Z,830nm,23.8s							
TNCH				LR	LR			
	comp=Z,820nm,15.7s							
TNCH				LR	LR			
	comp=Z,2μm,20.2s							
JSG	**Sagara**	**129.51**	**351**	IAMs_20	IAMs_20	15 18 21.8		
	comp=Z,4μm,21.0s							
WAKE	**Wake Island**	**130.03**	**313**	IAMs_20	IAMs_20	15 13 55.0		
	comp=Z,6μm,21.0s							
PZH	**PanZhiHua**	**130.05**	**34**	PKP	**PKPdf**	**14 23 09.3**	**-0.9**	
PZH				sPKP		14 23 13.0		
PZH				PP	**PP**	**14 25 22.0**	**+0.7**	
PZH				SKKS		14 32 15.4		
PZH				SS	**SS**	**14 42 49.1**	**+2.4**	
PZH				AMB	AMB			
	comp=Z,590nm,6.8s							
PZH				LR	LR			
	comp=Z,2μm,23.5s							
PZH				LR	LR			
	comp=Z,2μm,20.2s							
PZH				LR	LR			
	comp=Z,3μm,18.8s							
ENH	**Enshi**	**130.41**	**23**	IAMs_20	IAMs_20	15 19 19.3		
	comp=Z,4μm,20.0s							
JMN	**Monobe**	**130.92**	**356**	IAMs_20	IAMs_20	15 23 01.7		
	comp=Z,4μm,20.0s							
NJ2	**Nanjing**	**131.55**	**13**	*e*PKP	**PKiKP**	**14 23 13.8**	**+0.1**	
NJ2				sPKP		14 23 16.6		
NJ2				PP	**PP**	**14 25 32.8**	**+2.6**	
NJ2				SS	SS	14 43 04.2	+0.5	
NJ2				AMB	AMB			
	comp=Z,650nm,4.7s							
NJ2				LR	LR			
	comp=Z,3μm,17.1s							
NJ2				LR	LR			
	comp=Z,3μm,19.9s							
NJ2				LR	LR			
	comp=Z,5μm,20.9s							
KMI	**Kunming**	**131.69**	**34**	⇓PKP	**PKPdf**	**14 23 12.0**	**-1.5**	
KMI				SKKS		14 32 23.5		
KMI				SS	**SS**	**14 43 04.2**	**-2.8**	
KMI				LR	LR			
	comp=Z,2μm,21.7s							
KMI				LR	LR			
	comp=Z,1μm,19.5s							
KMI				LR	LR			
	comp=Z,4μm,23.4s							
WHN	**Wuhan**	**131.83**	**18**	PKP	**PKiKP**	**14 23 15.0**	**+0.7**	
WHN				PP	**PP**	**14 25 35.9**	**+3.8**	
WHN				SS	SS	14 43 09.4	+2.1	
WHN				LR	LR			
	comp=Z,13μm,18.5s							
WHN				LR	LR			
	comp=Z,2μm,13.6s							
WHN				LR	LR			
	comp=Z,10μm,18.5s							
MXZ	**Matakaoa Point**	**132.09**	**233**	IAMs_20	IAMs_20	15 13 52.9		
	comp=Z,5μm,21.0s							
GYA	**Guiyang**	**132.55**	**29**	⇑PKP	**PKiKP**	**14 23 16.5**	**+0.5**	
GYA				PP	**PP**	**14 25 38.9**	**+1.7**	
GYA				SKKS		14 32 31.6		
GYA				SS	**SS**	**14 43 21.9**	**+4.9**	
GYA				LR	LR			
	comp=Z,2μm,19.2s							
GYA				LR	LR			
	comp=Z,2μm,20.5s							
GYA				LR	LR			
	comp=Z,5μm,19.5s							
BFZ	**Birch Farm**	**132.77**	**228**	IAMs_20	IAMs_20	15 17 54.7		
	comp=Z,4μm,20.0s							
RTZ	**Ruatahuna**	**132.83**	**231**	IAMs_20	IAMs_20	15 15 36.7		
	comp=Z,4μm,20.0s							
SSE	**Sheshan**	**132.93**	**10**	PKP	**PKPdf**	**14 23 08.0**	**-7.3**	
SSE				PP	**PP**	**14 25 39.0**	**0.0**	
SSE	**Sheshan**	**132.93**	**10**	SS	SS	14 43 21.2	+0.9	
SSE				AMB	AMB			
	comp=Z,120nm,6.1s							
SSE				LR	LR			
	comp=N,1μm,19.6s							
SSE				LR	LR			
	comp=E,1μm,19.0s							
MRZ	**Mangatainoka R**	**133.26**	**228**	IAMs_20	IAMs_20	15 16 05.5		
	comp=Z,4μm,20.0s							
CNSH	**ChangSha**	**133.56**	**21**	PKP	**PKiKP**	**14 23 17.8**	**0.0**	
CNSH				PP	**PP**	**14 25 46.7**	**+3.4**	
CNSH				SKS	**SKSdf**	**14 30 26.9**	**-1.7**	
CNSH				SS	**SS**	**14 43 31.9**	**+3.4**	
CNSH				AMB	AMB			
	comp=Z,530nm,4.2s							
CNSH				LR	LR			
	comp=Z,3μm,22.2s							
CNSH				LR	LR			
	comp=Z,2μm,19.7s							
CNSH				LR	LR			
	comp=Z,4μm,20.6s							
KHZ	**Kahutara**	**134.07**	**225**	IAMs_20	IAMs_20	15 21 18.7		
	comp=Z,4μm,20.0s							
MQZ	**McQueen's Vall**	**134.16**	**223**	IAMs_20	IAMs_20	15 18 55.7		
	comp=Z,5μm,21.0s							
GVZ	**Greta Valley S**	**134.20**	**224**	IAMs_20	IAMs_20	15 20 29.0		
	comp=Z,4μm,20.0s							
HIZ	**Hauiti**	**134.46**	**231**	IAMs_20	IAMs_20	15 14 35.7		
	comp=Z,4μm,20.0s							
CMAR	**Chiang Mai Arr**	**134.49**	**43**	PKhKP	PKPpre	14 23 09.1		
	comp=Z,0.6nm,0.3s,baz=304,slow=5.1,SNR=6.7							
CMAR				PKP	**PKPdf**	**14 23 17.1**	**-1.5**	
	comp=Z,5.3nm,0.8s,baz=297,slow=3.5,SNR=22							
CMAR				PP	**PP**	**14 25 50.6**	**+0.6**	
	comp=Z,4.1nm,0.9s,baz=322,slow=2.2,SNR=4.2							
NNZ	**Nelson**	**134.63**	**227**	IAMs_20	IAMs_20	15 21 40.7		
	comp=Z,4μm,20.0s							
THZ	**Tophouse**	**134.76**	**226**	IAMs_20	IAMs_20	15 20 07.9		
	comp=Z,5μm,20.0s							
LTZ	**Lake Taylor**	**134.79**	**224**	IAMs_20	IAMs_20	15 19 22.6		
	comp=Z,5μm,21.0s							
GULI	**GuiLin**	**135.19**	**26**	⇓PKP	**PKiKP**	**14 23 23.0**	**+1.7**	
GULI				PP	**PP**	**14 25 53.9**	**+0.1**	
GULI				SKS	**SKSdf**	**14 30 30.5**	**-1.1**	
GULI				SS	**SS**	**14 43 46.7**	**-1.8**	
GULI				LR	LR			
	comp=Z,750nm,18.0s							
GULI				LR	LR			
	comp=Z,500nm,19.9s							
GULI				LR	LR			
	comp=Z,1μm,19.9s							
RPZ	**Rata Peaks**	**135.21**	**223**	IAMs_20	IAMs_20	15 14 17.3		
	comp=Z,4μm,20.0s							
INZ	**Inchbonnie**	**135.37**	**224**	IAMs_20	IAMs_20	15 19 56.8		
	comp=Z,4μm,20.0s							
QRZ	**Quartz Range**	**135.37**	**227**	IAMs_20	IAMs_20	15 16 11.3		
	comp=Z,3μm,20.0s							
LBZ	**Lake Benmore**	**135.46**	**221**	IAMs_20	IAMs_20	15 17 40.0		
	comp=Z,3μm,20.0s							
DSZ	**Denniston Nort**	**135.52**	**225**	IAMs_20	IAMs_20	15 22 41.1		
	comp=Z,4μm,19.0s							
WKZ	**Wanaka**	**135.99**	**220**	IAMs_20	IAMs_20	15 23 06.7		
	comp=Z,4μm,20.0s							
JCJ	**Chichijima**	**136.04**	**344**	IAMs_20	IAMs_20	15 19 42.8		
	comp=Z,4μm,21.0s							
FOZ	**Fox Glacier**	**136.09**	**222**	IAMs_20	IAMs_20	15 14 54.7		
	comp=Z,4μm,20.0s							
PYZ	**Puysegur Point**	**136.71**	**217**	IAMs_20	IAMs_20	15 15 46.4		
	comp=Z,3μm,21.0s							
CMBY	**CAMPBELL BAY**	**137.88**	**61**	*e*P	**PKPdf**	**14 23 23.1**	**-1.9**	
CMBY				*i* x	x	14 24 12.1		
CMBY				*ex*	**PP**	**14 26 11.5**	**-0.5**	
JOW	**Kunigami**	**137.90**	**2**	IAMs_20	IAMs_20	15 28 17.2		
	comp=Z,4μm,20.0s							
QZH	**Quanzhou**	**138.31**	**16**	PKP	**PKPdf**	**14 23 24.8**	**-0.7**	
QZH				PP	**PP**	**14 26 15.2**	**+2.1**	
QZH				PKS	**PKSdf**	**14 26 58.0**	**-3.8**	
QZH				AMB	AMB			
	comp=Z,580nm,8.0s							
QZH				LR	LR			
	comp=Z,4μm,18.9s							
QZH				LR	LR			
	comp=Z,2μm,21.0s							
QZH				LR	LR			
	comp=Z,6μm,21.0s							
KNMB	**Chin-men Tao**	**138.72**	**16**	IAMs_20	IAMs_20	15 30 06.5		
	comp=Z,3μm,18.0s							
TATO	**Taipei**	**138.94**	**12**	IAMs_20	IAMs_20	15 27 23.6		
	comp=Z,4μm,20.0s							
YHNB	**Yeheng**	**139.22**	**12**	IAMs_20	IAMs_20	15 30 50.8		
	comp=Z,3μm,18.0s							
HKPS	**Hong Kong Po S**	**139.39**	**23**	IAMs_20	IAMs_20	15 34 31.5		
	comp=Z,5μm,20.0s							
NACB	**Ninganchiao**	**139.74**	**12**	IAMs_20	IAMs_20	15 32 34.4		
	comp=Z,3μm,20.0s							
SSLB	**Suanglung**	**139.99**	**13**	IAMs_20	IAMs_20	15 29 59.8		
	comp=Z,4μm,19.0s							
QIZ	**Qiongzhong**	**140.39**	**31**	IAMs_20	IAMs_20	15 34 37.1		
	comp=Z,3μm,20.0s							
QIZ	**Qiongzhong**	**140.39**	**31**	PKP	**PKPdf**	**14 23 26.6**	**-2.9**	
QIZ				PP	**PP**	**14 26 26.3**	**-0.1**	
QIZ				PKS	**PKSdf**	**14 27 05.4**	**-0.3**	
QIZ				SS	SS	14 44 50.7	+0.2	
QIZ				LR	LR			
	comp=Z,2μm,20.0s							
QIZ				LR	LR			
	comp=Z,2μm,22.7s							
QIZ				LR	LR			
	comp=Z,3μm,18.5s							
YULB	**Yu-li**	**140.44**	**13**	IAMs_20	IAMs_20	15 35 08.8		
	comp=Z,3μm,20.0s							
GSI	**Gunungsitoli**	**143.90**	**65**	IAMs_20	IAMs_20	15 25 16.4		
	comp=Z,5μm,21.0s							
ONTNC	**Ouen Toro**	**144.88**	**253**	IAMs_20	IAMs_20	15 38 01.0		
	comp=Z,3μm,22.0s							
DZM	**Mont Dzumac**	**144.91**	**254**	*e*P	**PKPab**	**14 23 32.3**	**-4.3**	
	comp=Z,1μm,24.6s							
DZM	**Mont Dzumac**	**144.91**	**254**	*e*PP	**PP**	**14 26 50.8**	**-4.6**	
	comp=Z,1μm,25.1s							
DZM	**Mont Dzumac**	**144.91**	**254**	*e*SS	SS	14 45 47.6	+1.7	
	comp=Z,1μm,29.6s							
DZM	**Mont Dzumac**	**144.91**	**254**	*e*LQ	LQ	15 05 01.7		
	comp=Z,4μm,29.3s							
DZM				*e*LR	LR	15 11 15.8		
	comp=Z,2μm,22.1s							
KOUNC	**Koumac, New Ca**	**147.02**	**256**	IAMs_20	IAMs_20	15 34 10.6		
	comp=Z,4μm,20.0s							
BKNI	**Bangkinang**	**147.39**	**64**	IAMs_20	IAMs_20	15 27 13.8		
	comp=Z,3μm,21.0s							
BKNI	**Bangkinang**	**147.39**	**64**	PKP	**PKPdf**	**14 23 39.8**	**-2.0**	
GUMO	**Guam**	**147.57**	**332**	IAMs_20	IAMs_20	15 26 57.5		
	comp=Z,4μm,21.0s							
COCO	**West Island**	**147.68**	**88**	IAMs_20	IAMs_20	15 26 28.6		
	comp=Z,4μm,20.0s							
TAU	**Tasmania Unive**	**148.88**	**205**	IAMs_20	IAMs_20	15 36 44.0		
	comp=Z,3μm,18.0s							
MYKOM	**Kota Tinggi**	**148.99**	**59**	IAMs_20	IAMs_20	15 28 47.6		
	comp=Z,4μm,20.0s							
MOO	**Moorlands**	**149.32**	**205**	P	**PKPbc**	**14 23 47.9**	**-0.6**	
HNR	**Honiara**	**150.13**	**278**	IAMs_20	IAMs_20	15 37 03.7		
	comp=Z,4μm,22.0s							
MNAI	**Manna**	**151.23**	**70**	IAMs_20	IAMs_20	15 28 24.3		
	comp=Z,4μm,21.0s							
PMBI	**Palembang**	**152.22**	**66**	IAMs_20	IAMs_20	15 25 58.2		
	comp=Z,4μm,22.0s							
RIV	**Riverview**	**153.55**	**223**	P	**PKPdf**	**14 23 54.5**	**+3.7**	
CAN	**Canberra**	**153.90**	**217**	IAMs_20	IAMs_20	15 34 28.7		
	comp=Z,3μm,19.0s							
CAN	**Canberra**	**153.90**	**217**	P	**PKPdf**	**14 23 54.5**	**+3.1**	
TOO	**Toolangi**	**154.06**	**209**	IAMs_20	IAMs_20	15 29 50.5		
	comp=Z,3μm,20.0s							
KKM	**Kota Kinabalu**	**154.64**	**33**	IAMs_20	IAMs_20	15 34 25.8		
	comp=Z,4μm,22.0s							
YNG	**Young**	**154.97**	**218**	P	**PKPdf**	**14 23 56.4**	**+3.6**	
ARMA	**Armidale**	**155.19**	**229**	P	**PKPdf**	**14 23 56.7**	**+3.4**	
RABL	**Rabaul**	**155.45**	**295**	IAMs_20	IAM

MORW	Morawa	161.35	139	P		PKPdf	14 24 01.5	+0.8
BBOO	Buckleboo	161.89	197	P		PKPdf	14 24 05.5	+4.4
QLP	Quilpie	162.72	228	P		PKPdf	14 24 04.8	+2.6
LUWI	Luwuk	163.99	27	PKP		PKPdf	14 24 00.9	-2.8
MEEK	Meekatharra	164.67	138	P		PKPdf	14 24 07.0	+3.0
FORT	Forrest	164.68	174	P		PKPdf	14 24 06.3	+2.4
MTSU	Mount Surprise	166.01	257	P		PKPdf	14 24 07.5	+2.1
SANI	Sanana	166.09	17	PKP		PKPdf	14 24 02.2	-3.3
MBWA	Marble Bar	168.76	122	P		PKPdf	14 24 08.8	+1.6
QIS	Mount Isa	169.53	240	P		PKPdf	14 24 09.5	+1.7
WRKA	Warakurna	170.37	171	P		PKPdf	14 24 09.5	+1.3
AS31	Alice Springs	171.06	204	P		PKPdf	14 24 10.3	+1.7
ASAR	Alice Springs	171.06	204	PKP		PKPdf	14 24 08.0	-0.6
	comp=Z,8.6nm,0.9s,baz=141,slow=1.5,SNR=33							
ASAR				PKPab		sPKPab	14 25 28.9	0.0
	comp=Z,16nm,1.1s,baz=162,slow=3.9,SNR=14							
SOEI	Soe	172.04	45	PKP		PKPdf	14 24 08.0	-1.4
WRA	Warramunga Arr	173.91	223	PKP		PKPdf	14 24 09.0	-0.9
	comp=Z,29nm,1.1s,baz=135,slow=1.2,SNR=36							
WRA				PKPab		PKPab	14 25 40.8	+0.5
	comp=Z,20nm,1.1s,baz=148,slow=4.5,SNR=21							
KDU	Kakadu	176.30	319	P		PKPdf	14 24 11.7	+1.1
MTN	Manton Dam	177.14	337	P		PKPdf	14 24 11.9	+1.1

*NEIC **11** 15:20:46.2±1.0,52°.4N±0°.2×173°.1W±0°.1,h183km±6km, mb4.3/19,ML3.8(AEIC),Error ellipse: s-maj=31.6km s-min=8.4km az=166.0*
*AEIC **11** 15:20:47.0±1.5,52°.3N±0°.2×173°.1W±0°.1,h184km±5km, Error ellipse: s-maj=30.0km s-min=8.3km az=165.0*
ISC 11 15:20:45.6±1.1,52°.3N±0°.1×173°.09W±0°.06,h185km±10km, n73,σ0§69/79,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	Korovin Southe	0.59	276		Pn	15 21 11.9	+0.5
KOSE					Sn	15 21 30.5	-0.8
KOFP	Korovin Flat P	0.62	269		Pn	15 21 12.1	+0.5
KOFP					Sn	15 21 31.8	+0.3
ATKA	Atka Island	0.69	263		Pn	15 21 11.8	0.0
ATKA	Atka Island	0.69	263	P	Pn	15 21 12.0	+0.2
KOWE	Korovin West	0.72	277		Pn	15 21 12.4	+0.3
GSTR	Great Sitkin T	1.84	265		Pn	15 21 21.2	-0.1
GSMY	Great Sitkin M	1.85	264		Pn	15 21 21.8	+0.4
GSTD	Great Sitkin T	1.90	264		Pn	15 21 22.4	+0.4
GSTD					Sn	15 21 48.9	-1.3
GSCK	Great Sitkin C	1.92	263		Pn	15 21 22.4	+0.3
CLCO	Concord Point,	2.11	75		Pn	15 21 24.9	+0.8
CLCO					Sn	15 21 54.8	+0.6
ADK	Adak	2.26	261		Pn	15 21 26.4	+0.7
ADK					Sn	15 21 55.8	-1.2
ADK	Adak	2.26	261	P	Pn	15 21 26.4	+0.7
KIWB	Kanaga Island	2.55	262		Pn	15 21 30.0	+0.9
NIKH	Nikolski High	2.67	73		Pn	15 21 30.9	+0.5
NIKH					Sn	15 22 04.4	-1.1
NIKH	Nikolski High	2.67	73	P	Pn	15 21 30.9	+0.5
OKWE	Okmok W'ng Wal	3.17	66		Pn	15 21 37.1	+0.7
OKNC	Okmok New Cone	3.23	67		Pn	15 21 38.0	+0.8
OKER	Okmok East Rim	3.27	67		Pn	15 21 38.4	+0.7
GAEA	Gareloi East	3.53	264		Pn	15 21 42.4	+1.4
MAPS	Pakushin South	4.01	65		Sn	15 22 33.4	-1.6
MSW	Makushin Switc	4.13	64		Pn	15 21 48.7	+0.3
UNV	Unalaska Valle	4.26	66		Sn	15 22 40.7	0.0
UNV	Unalaska Valle	4.26	66	P	Pn	15 21 50.5	+0.4
AKMO	Akutan Morgan	4.62	64		Pn	15 21 55.6	+1.0
LVA	Lava Point	4.63	63	Pn	Pn	15 21 55.5	+0.6
ZRO	Akutan Zero	4.64	64		Pn	15 21 55.7	+0.7
AKV	Akutan Volcano	4.66	64		Pn	15 21 56.1	+0.9
AKBBA	Akutan Broad B	4.67	64		Pn	15 21 55.9	+0.6
AHB	Akutan Harbor	4.74	64		Pn	15 21 57.0	+0.8
P08K	Saint George I	4.79	24		Sn	15 22 52.5	-0.3
WEBT	Westdahl Beart	5.49	62		Pn	15 22 06.9	+1.0
WESE	West Dahl East	5.54	63		Pn	15 22 07.2	+0.6
ISNN	Isanotski Nort	6.10	62		Pn	15 22 14.4	+0.5
FALS	False Pass	6.31	62		Pn	15 22 16.9	+0.4
FALS	False Pass	6.31	62	P	Pn	15 22 17.1	+0.6
PN7A	Pavlof North-7	7.27	60		Pn	15 22 29.3	+0.1
PS4A	Pavlof South-4	7.32	61		Pn	15 22 30.4	+0.7
S12K	Black Hills	7.34	58		Pn	15 22 29.9	-0.2
PVV	Pavlof Volcano	7.36	61		Pn	15 22 30.4	+0.1
CNBA	Chernabura Isl	8.43	67		Pn	15 22 43.2	-1.1
CHNA	Chernabura Isl	8.43	67	P	Pn	15 22 43.7	-0.6
CHGN	Chignik	9.47	59	Pn	Pn	15 22 56.4	-1.6
N15K	Kwethluk River	10.69	37	Pn	Pn	15 23 13.4	-0.4
CHIR	Chirikof Islan	10.85	64	P	Pn	15 23 15.0	-0.9
PLK4	Peulik 4	10.99	54	Pn	Pn	15 23 17.4	-0.4
ACHA	Angle Creek He	11.72	53	Pn	Pn	15 23 26.6	-0.6
N18K	Kilae Creek	12.65	42	P	P	15 23 43.7	+0.6
J17K	VABM Dome	13.36	28	P	P	15 23 51.0	0.0
ILSW	Iliamna Southw	13.49	47	P	P	15 23 52.5	0.0
M19K	Big River Lodg	13.95	39	Pn	Pn	15 23 54.2	-1.0
CNPM	China Poot	14.19	51	Pn	Pn	15 23 58.1	-0.1
BRLK	Bradley Lake	14.44	50	Pn	Pn	15 24 00.9	-0.4
SUA	Susitna One	15.21	44	P	Pn	15 24 11.1	+0.3
RC01	Rabbit Creek A	15.48	46		Pn	15 24 14.1	0.0
GHO	Glory Hole Cre	16.12	44	P	P	15 24 21.3	-0.4
GHO				IAmb	IAmb	15 24 39.3	
	comp=Z,14nm,1.2s						
KNK	Knik Glacier	16.18	46	P	P	15 24 22.2	0.0
KNK				IAmb	IAmb	15 24 57.6	
	comp=Z,45nm,1.5s						
KTH	Kantishna Hill	16.20	37	P	P	15 24 23.0	+0.5
KTH				IAmb	IAmb	15 24 26.7	
	comp=Z,9.7nm,1.0s						
SML	Sawmill	16.39	45	P	P	15 24 25.2	+0.7
FID	Port Fidalgo	16.84	49	P	P	15 24 29.1	-0.4
DHY	Denali Highway	17.34	41	P	P	15 24 35.4	+0.3
N25K	Chitina, Valde	17.98	48		P	15 24 42.0	0.0
N25K				IAmb	IAmb	15 24 48.7	
	comp=Z,30nm,1.4s						
COLA	College	18.05	36	P	P	15 24 43.9	+1.4
HDA	Harding Lake	18.14	38	P	P	15 24 43.4	-0.2
HDA				IAmb	IAmb	15 24 44.6	
	comp=Z,7.1nm,0.6s						
GLB	Gilahina Butte	18.29	48	P	P	15 24 45.9	+0.6
GLB				IAmb	IAmb	15 24 59.6	
	comp=Z,19nm,1.3s						
IL31		18.35	37	P	P	15 24 45.6	-0.1
IL31				IAmb	IAmb	15 24 48.3	
	comp=Z,9.9nm,1.2s						
H24K	Noodor Dome	18.57	33	P	P	15 24 48.6	+0.3
E21K	Killik River	18.61	22	P	P	15 24 49.3	+0.7
E21K				IAmb	IAmb	15 25 09.9	
	comp=Z,11nm,1.5s						
J25K	Salcha River,	18.84	38	P	P	15 24 50.9	-0.3
J25K				IAmb	IAmb	15 24 52.4	
	comp=Z,9.5nm,1.1s						
SCRK	Sand Creek	19.10	41	P	P	15 24 53.6	-0.5
SCRK				IAmb	IAmb	15 24 54.8	
	comp=Z,16nm,0.6s						
J26L	Joseph Creek	19.49	40	P	P	15 24 58.1	-0.2
J26L				IAmb	IAmb	15 24 59.5	
	comp=Z,11nm,0.6s						
DAWY	Dawson	21.02	43	P	P	15 25 15.8	+1.2
K29M	Barlow Dome	21.75	44	P	P	15 25 22.9	+0.7
CRAG	Craig	23.54	66	P	P	15 25 38.1	-0.7

*BGSI **11** 15:30:52.1±0.3,18°.80S×26°.66E,h15km,ML2.6*
*BUL **11** 15:30:58.0±2.2,18°.60S×28°.10E,h10km,MD3.0*
ISC 11 15:30:42.7±1.3,18°.32S±0°.04×27°.37E±0°.07,h10km,n9, σ1§64/15,Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSANE	Kasane	2.17	283	*i* P	Pn	15 31 20.1	+1.1
KSANE				IAML		15 31 45.2	
	comp=N,230nm,0.1s						
MATP	Matopo	2.35	153	*i* P	Pg	15 31 27.5	-0.2
MATP				*i* S	Sb	15 31 56.2	+1.8
MATP	Matopo	2.35	153	*i* P	Pg	15 31 28.3	+0.5
MATP				*i* S	Sb	15 31 54.0	-0.4
SOOWA	Sowa	2.48	206	*i* P	Pn	15 31 21.1	-2.2
SOOWA				IAML		15 31 54.4	
	comp=E,69nm,0.7s						
KRI	Karoi	2.60	56	*i* P	Pg	15 31 32.5	-0.1
KRI				*i* S	Sg	15 32 04.9	-1.5
KRI	Karoi	2.60	56	*i* P	Pg	15 31 33.7	+1.0
KRI				*i* S	Sb	15 32 01.8	+0.1
BROLN	Tlhalogang	2.77	181	*i* P	Pn	15 31 29.1	+1.8
BROLN				IAML		15 32 04.8	
	comp=E,40nm,0.1s						
CHIPN	CHIPINGE	5.33	112	*i* P	Pb	15 32 14.2	-1.9
CHIPN				*i* S	Sn	15 33 06.1	+2.0
CHIPN	CHIPINGE	5.33	112	*i* P	Pb	15 32 14.2	-1.9
CHIPN				*i* S	Sn	15 33 06.1	+2.0

*NOU **11** 15:34:59.2,35°.01S×177°.22W,h59km,mb5.0/10,East of North Island, N.Z.*
*WEL **11** 15:35:18.7±0.6,36°.5S°.5×17°.9W±°,h12km,M4.8/24, ML5.0/25,MLv4.8/24,Error ellipse: s-maj=11.1km s-min=3.9km az=118.1,confirmed*
*NEIC **11** 15:35:24.7±1.6,35°.7S±0°.1×179°.5W±0°.1,h42km±7km, mb4.9/25,Error ellipse: s-maj=17.1km s-min=11.3km az=216.0*
*IDC **11** 15:35:25.1±3.6,35°.48S×179°.64W,h42km±29km,mb4.0/8, mbtmp4.2/9,ML4.7/1,Error ellipse: s-maj=24.5km s-min=20.9km az=61.0*
ISC 11 15:35:23.2±0.6,35°.66S±0°.05×179°.28W±0°.06,h34km±1km, h34km:pP-P,n196,σ1§60/205,mb4.8/24,4C-3D,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.72	225	Pn	Pn	15 36 03.2	-1.2
MXZ	Matakaoa Point	2.72	225	P	Pn	15 36 02.2	-2.3
MXZ				S	Sn	15 36 35.3	-0.8
MXZ	Matakaoa Point	2.72	225	P	Pn	15 36 03.7	-0.8
PUZ	Puketiti	3.12	219	P	Pn	15 36 09.7	-0.3
PUZ				S	Sn	15 36 48.0	+2.0
HAZ	Te Kaha	3.15	228	P	Pn	15 36 09.4	-1.1
HAZ				S	Sn	15 36 46.2	-0.7
TWGZ	Tauwhareparae	3.34	220	P	Pn	15 36 12.9	-0.1
TWGZ				S	Sn	15 36 52.9	+1.3
RUGZ	Raukumara Rang	3.35	226	P	Pn	15 36 13.4	+0.1
CNGZ	Carnagh Statio	3.46	215	P	Pn	15 36 15.1	+0.4
CNGZ				S	Sn	15 36 54.6	+0.1
TKGZ	Te Karaka	3.60	219	P	Pn	15 36 16.4	-0.2
TKGZ				S	Sn	15 36 57.9	-0.1
MWZ	Matawai	3.70	223	P	Pn	15 36 17.2	-0.7
MWZ				S	Sn	15 37 00.7	+0.3
WHRZ	Whale Island	3.72	233	P	Pn	15 36 19.1	+0.8
WHRZ				S	Sn	15 37 01.9	+0.9
RIGZ	Rimuhau	3.85	217	P	Pn	15 36 19.1	-1.0
RIGZ				S	Sn	15 37 04.5	+0.3
RAGZ	Rawiri	3.87	222	P	Pn	15 36 19.8	-0.6
RAGZ				S	Sn	15 37 05.0	+0.2
URZ	Urewera	3.88	227	P	Pn	15 36 19.7	-0.8
	58nm,0.3s,baz=6.8,slow=1.5,SNR=358						
URZ				S	Sn	15 37 05.2	+0.3
	298nm,0.6s,baz=198,slow=20,SNR=9.9						
	148nm,0.4s						
URZ	Urewera	3.88	227	P	Pn	15 36 19.7	-0.8
URZ				S	Sn	15 37 03.8	-1.1
URZ	Urewera	3.88	227	P	Pn	15 36 20.1	-0.4
EDRZ	Edgecumbe	4.02	231	P	Pn	15 36 22.0	-0.4
EDRZ				S	Sn	15 37 07.9	-0.5
KNZ	Kokohu	4.14	215	P	Pn	15 36 22.7	-1.3
MHGZ	Mahia Peninsul	4.14	212	P	Pn	15 36 23.2	-0.9
KUZ	Kuaotunu	4.18	254	P	Pn	15 36 24.1	-0.5
RTZ	Ruatahuna	4.20	224	Pn	Pn	15 36 23.7	-1.2
MKRZ	Makatiti	4.21	233	P	Pn	15 36 25.8	+0.7
MUGZ	Murupara	4.23	227	P	Pn	15 36 24.1	-1.2
MUGZ				S	Sn	15 37 12.0	-1.5
TARZ	Mount Tarawera	4.24	231	P	Pn	15 36 25.8	+0.3
OMRZ	Omania	4.26	234	P	Pn	15 36 25.3	-0.4
HLRZ	Highlands Stat	4.35	232	P	Pn	15 36 26.9	0.0
WHHZ	Waihua	4.40	218	P	Pn	15 36 27.9	+0.3
WHHZ				S	Sn	15 37 17.9	+0.3
UTU	Utuhina	4.41	234	P	Pn	15 36 28.5	+0.7
HSRZ	Hossack Road	4.45	232	P	Pn	15 36 28.5	+0.1
PRRZ	Plateau Road	4.47	229	P	Pn	15 36 28.3	-0.3
HRRZ	Handcock Road	4.47	231	P	Pn	15 36 28.8	+0.1
ALRZ	Allen Road	4.54	229	P	Pn	15 36 29.5	-0.1
GRRZ	Galatos Road	4.56	233	P	Pn	15 36 29.8	-0.1
NMHZ	Naumai	4.64	221	P	Pn	15 36 29.9	-1.0
NMHZ				S	Sn	15 37 24.2	+0.6
ARHZ	Aropaoanui	4.66	218	P	Pn	15 36 30.2	-1.0
ARHZ				S	Sn	15 37 24.2	+0.1
TOZ	Tahuroa Road	4.67	242	Pn	Pn	15 36 30.4	-1.0
KUTZ	Kaahu Road	4.83	233	P	Pn	15 36 33.2	-0.3
WHTZ	Whakaora	4.84	230	P	Pn	15 36 33.9	+0.1
BKZ	Black Stump Fm	4.86	223	Pn	Pn	15 36 31.9	-2.0
BKZ	Black Stump Fm	4.86	223	P	Pn	15 36 32.4	-1.5
BKZ	Black Stump Fm	4.86	223	P	Pn	15 36 32.6	-1.3
CKHZ	Cape Kidnapper	4.93	215	P	Pn	15 36 32.9	-2.0
CKHZ				S	Sn	15 37 29.5	-1.1
TLZ	Tolley Road	4.93	236	P	Pn	15 36 34.3	-0.6
MCHZ	McNeill Hill	4.95	219	P	Pn	15 36 34.3	-0.9
MCHZ				S	Sn	15 37 30.4	-0.8
WATZ	Wairara	5.01	231	P	Pn	15 36 35.6	-0.4
KWHZ	Kaweka Forest	5.08	221	P	Pn	15 36 35.7	-1.3
RATZ	Rangitukua	5.08	229	P	Pn	15 36 36.5	-0.5
RITZ	Rihia Road	5.10	228	P	Pn	15 36 36.9	-0.3
KAHZ	Kahuranaki	5.13	215	P	Pn	15 36 35.1	-2.6
WCZ	Waipu Caves	5.19	265	P	Pn	15 36 37.8	-0.6
KATZ	Kakaramea	5.20	229	P	Pn	15 36 38.6	0.0
KRHZ	Kereru	5.27	220	P	Pn	15 36 38.0	-1.5
TMVZ	Te Maari	5.28	228	P	Pn	15 36 38.7	-1.1
NTVZ	North Tongarir	5.28	228	P	Pn	15 36 38.8	-1.0
ETVZ	East Tongariro	5.29	227	P	Pn	15 36 38.8	-1.1
KRVZ	Karewarewa	5.30	228	P	Pn	15 36 39.6	-0.6
PXZ	Pawanui	5.33	214	P	Pn	15 36 37.9	-2.4
OTVZ	Oturere	5.33	227	P	Pn	15 36 39.4	-1.1
NNVZ	North Ngauruho	5.34	228	P	Pn	15 36 40.2	-0.5
WTVZ	West Tongariro	5.35	228	P	Pn	15 36 40.1	-0.6
SNVZ	South Ngauruho	5.36	227	P	Pn	15 36 39.8	-1.2
NGZ	Ngauruhoe	5.38	228	P	Pn	15 36 40.2	-1.0
TUVZ	Tukino	5.40	227	P	Pn	15 36 40.5	-1.1
TWVZ	Taurewa	5.41	229	P	Pn	15 36 40.8	-0.9
COVZ	Chateau Observ	5.43	228	P	Pn	15 36 41.2	-0.6
MOVZ	Moawhango	5.44	225	P	Pn	15 36 40.2	-1.7
WHVZ	Whangaehu Hut	5.45	227	P	Pn	15 36 41.3	-0.9
FWVZ	Far West T-bar	5.46	227	P	Pn	15 36 41.3	-1.1
WNVZ	Wahianoa	5.48	226	P	Pn	15 36 41.2	-1.4
HIZ	Hauiti	5.49	237	Pn	Pn	15 36 42.0	-0.5
HIZ	Hauiti	5.49	237	P	Pn	15 36 42.4	-0.1
HIZ	Hauiti	5.49	237	P	Pn	15 36 42.6	+0.1
TRVZ	Turoa	5.49	227	P	Pn	15 36 41.7	-1.1
WPHZ	Waipukurau	5.55	216	P	Pn	15 36 40.7	-2.7
MTVZ	Mangateitei	5.59	227	P	Pn	15 36 43.6	-0.4
PRHZ	Porangahau	5.62	214	P	Pn	15 36 41.8	-2.5
TSZ	Takapari Road	5.79	219	P	Pn	15 36 44.2	-2.4
OUZ	Omahuta	5.83	272	P	Pn	15 36 46.4	-0.8
OUZ	Omahuta	5.83	272	P	Pn	15 36 46.7	-0.6
ANWZ	Angora Road	5.85	214	P	Pn	15 36 45.9	-1.6
DVHZ	Dannevirke	5.86	216	P	Pn	15 36 44.6	-3.1
VRZ	Vera Road	5.87	232	P	Pn	15 36 47.9	+0.1
BFZ	Birch Farm	6.13	214	Pn	Pn	15 36 48.2	-3.1
BFZ	Birch Farm	6.13	214	P	Pn	15 36 48.2	-3.1
BFZ	Birch Farm	6.13	214	P	Pn	15 36 48.6	-2.8
MHEZ	Mangahewa	6.13	234	P	Pn	15 36 56.4	+5.0
POWZ	Post Office Ro	6.13	218	P	Pn	15 36 49.5	-1.9
PRWZ	Pori Road	6.16	216	P	Pn	15 36 49.4	-2.3
LREZ	Lake Rotokare	6.29	231	P	Pn	15 36 54.0	+0.4
TIWZ	Tintock	6.37	215	P	Pn	15 36 52.1	-2.6
PREZ	Palmer Road	6.38	233	P	Pn	15 36 55.5	+0.7
NEZ	North Egmont	6.38	234	P	Pn	15 36 57.0	+2.0
PKE	Pukeiti	6.41	235	P	Pn	15 36 56.3	+1.0
MRZ	Mangatainoka R	6.43	217	Pn	Pn	15 36 52.0	-3.5
MRZ	Mangatainoka R	6.43	217	P	Pn	15 36 52.0	-3.5
KHEZ	Kahui Hut	6.45	234	P	Pn	15 36 57.6	+1.8
KHEZ	Kahui Hut	6.45	234	P	Pn	15 36 56.2	+0.4
GLKZ	Green Lake	6.48	11	P	Pn	15 36 49.9	-6.3
GLKZ				S	Sn	15 37 59.1	-10
TMWZ	Te Maipa	6.63	213	P	Pn	15 36 54.6	-3.6
HOWZ	Holdsworth Sta	6.64	216	P	Pn	15 36 55.9	-2.5
OGWZ	Otaki Gorge	6.75	219	P	Pn	15 36 57.6	-2.3
MTW	Mount Morrison	6.85	215	P	Pn	15 36 57.8	-3.4
KIW	Kapiti Island	6.92	220	P	Pn	15 36 58.9	-3.2
TRWZ	Traveller	6.96	213	P	Pn	15 36 58.7	-4.1
CAW	Cannon Point	7.02	218	P	Pn	15 36 60.0	-3.6
MSWZ	Moikau Station	7.17	215	Pn	Pn	15 37 01.0	-4.6
MSWZ	Moikau Station	7.17	215	P	Pn	15 37 01.2	-4.5
PLWZ	Palliser	7.29	214	Pn	Pn	15 37 02.8	-4.5
PLWZ	Palliser	7.29	214	P	Pn	15 37 03.2	-4.1
WEL	Wellington	7.30	218	P	Pn	15 37 05.8	-1.6
SNZO	South Karori	7.35	218	P	Pn	15 37 04.3	-3.8
	23nm,0.8s						
DUWZ	D'Urville Isla	7.41	224	P	Pn	15 37 05.8	-3.2
TCW	Tory Channel	7.50	220		Pn	15 37 04.9	-5.3
TCW	Tory Channel	7.50	220	P	Pn	15 37 04.9	-5.3
QRZ	Quartz Range	8.25	229	P	Pn	15 37 16.0	-4.5
QRZ	Quartz Range	8.25	229	P	Pn	15 37 19.6	-0.9
CTZ	Chatham Island	8.32	167	Pn	Pn	15 37 20.9	-0.5
CTZ	Chatham Island	8.32	167	P	Pn	15 37 20.4	-1.1
CTZ				S	Sn	15 38 48.4	-5.8
THZ	Tophouse	8.63	223		Pn	15 37 20.9	-4.8
GVZ	Greta Valley S	9.42	217	Pn	Pn	15 37 31.5	-5.0
OXZ	Oxford	10.18	219		Pn	15 37 42.2	-4.6
RPZ	Rata Peaks	10.96	220	P	Pn	15 37 51.6	-5.9
	8.2nm,0.6s,baz=316,slow=2.5,SNR=3.8						
RPZ				S	Sn	15 39 47.0	-12
	12nm,0.5s,baz=30,slow=18,SNR=9.5						
LBZ	Lake Benmore	11.87	220	Pn	Pn	15 38 05.1	-5.0
WHZ	Wether Hill Ro	14.06	219	Pn	Pn	15 38 36.1	-3.8
MSVF	Nonsavu	18.01	352	P	P	15 39 32.0	+0.8
MSVF	Nonsavu	18.01	352	P	Pn	15 39 27.0	-4.0
	4.3nm,0.8s,baz=222,slow=18,SNR=2.0						
ONTNC	Ouen Toro	18.21	313	P	Pn	15 39 31.8	-1.5
DZM	Mont Dzumac	18.40	314	P	P	15 39 35.6	+0.1
DZM	Mont Dzumac	18.40	314	P	P	15 39 35.4	-0.1
	8.2nm,0.6s,baz=162,slow=10,SNR=9.8						
KOUNC	Koumac, New Ca	20.85	312	P	P	15 40 02.4	+0.2
KOUNC				IAmb	IAmb	15 40 03.7	
	comp=Z,85nm,1.6s						
STKA	Stephens Creek	32.59	265	P	P	15 41 51.4	-0.2
	comp=Z,3.1nm,0.8s,baz=99,slow=8.2,SNR=6.3						
	comp=Z,3.1nm,0.8s						
CTAO	Charters Tower	33.98	288	P	P	15 42 03.2	-0.6
CTAO				IAmb	IAmb	15 42 14.5	
	comp=Z,20nm,1.1s						
CTAO	Charters Tower	33.98	288	P	P	15 42 03.1	-0.6
CTAO				pP	sP	15 42 13.5	-1.7
BBOO	Buckleboo	36.80	261	P	P	15 42 25.9	-1.9
COEN	Coen	40.01	293	P	P	15 42 54.2	-0.7
COEN				IAmb	IAmb	15 43 05.1	
	comp=Z,11nm,0.8s						
AS31	Alice Springs	42.04	273	P	P	15 43 09.8	-2.0
ASAR	Alice Springs	42.04	273	P	P	15 43 09.4	-2.3
ASAR	Alice Springs	42.04	273	P	P	15 43 09.8	-1.9
	comp=Z,3.0nm,0.4s,baz=116,slow=7.8,SNR=196						
ASAR				PcP	PcP	15 45 06.4	0.0
	comp=Z,0.3nm,0.6s,baz=118,slow=3.9,SNR=0.9						
ASAR				ScP	ScP	15 48 51.7	-2.4
	comp=Z,0.4nm,0.7s,baz=110,slow=3.9,SNR=2.8						
ASAR				S	S	15 49 18.0	-11
	comp=Z,0.6nm,0.9s,baz=116,slow=15,SNR=1.8						
	comp=Z,3.0nm,0.4s						
WR0	Warramunga Arr	43.33	279	P	P	15 43 20.4	-1.8
WB2	Warramunga Arr	43.49	278	P	P	15 43 21.7	-1.8
WRAB	Tennant Creek	43.50	278	P	P	15 43 21.6	-2.0
WRAB				IAmb	IAmb	15 43 23.1	
	comp=Z,24nm,0.6s						
WRA	Warramunga Arr	43.51	278	P	P	15 43 21.9	-1.7
WRA	Warramunga Arr	43.51	278	P	P	15 43 21.6	-2.0
	comp=Z,20nm,0.6s,baz=119,slow=7.6,SNR=220						
WRA				PcP	PcP	15 45 10.3	-0.9
	comp=Z,0.5nm,0.6s,baz=123,slow=3.4,SNR=1.8						
WB0	Warramunga Arr	43.55	279	P	P	15 43 22.2	-1.8
WB0				IAmb	IAmb	15 43 23.5	
	comp=Z,16nm,0.7s						
FORT	Forrest	43.89	261	P	P	15 43 24.7	-1.9
FORT				IAmb	IAmb	15 44 58.4	
	comp=Z,21nm,0.8s						
CCD	Concordia, Ant	47.62	197	P	P	15 43 58.5	+2.6
MTN	Manton Dam	49.98	284	P	P	15 44 12.9	-1.3
MTN				IAmb	IAmb	15 44 44.1	
	comp=Z,13nm,1.2s						
CASY	Casey	50.03	210	P	P	15 44 13.7	-0.2
CASY				IAmb	IAmb	15 44 34.4	
	comp=Z,5.5nm,0.8s						
CASY	Casey	50.03	210	P	P	15 44 15.4	+1.5
CASY				pP	pwP	15 44 27.4	-1.6
KNRA	Kununurra	50.26	279	P	P	15 44 14.5	-1.9
KNRA				IAmb	IAmb	15 44

MMAI	**Mount Meron Ar**	**151.32 275**	PKPbc	**PKPbc**	**15 55 13.6**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=103,slow=2.7,SNR=5.3					
BRTR	**Keskin Array B**	**153.72 289**		**PKPbc**	**15 55 17.8**	**-0.9**
BRTR	**Keskin Array B**	**153.72 289**	PKPbc	**PKPbc**	**15 55 18.3**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=90,slow=2.4,SNR=7.6					
NB2	**NORSAR Subarra**	**153.73 348**	PKP	**PKiKP**	**15 55 19.7**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=17,slow=2.6					
NOA	**NORSAR Array B**	**153.73 348**	PKPbc	**PKiKP**	**15 55 19.1**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=11,slow=3.2,SNR=5.5					
NOA			PKPab	**sPKPbc**	**15 55 29.8**	**-0.7**
	comp=Z,1.7nm,0.8s,baz=26,slow=3.4,SNR=4.4					
HFS	**Hagfors**	**154.11 345**	PKPbc	**PKPbc**	**15 55 18.4**	**-0.2**
	comp=Z,5.1nm,1.0s,baz=35,slow=2.5,SNR=2.3					
AKASG	**Malin Array Be**	**154.55 315**	PKPbc	**PKPbc**	**15 55 19.5**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=51,slow=2.7,SNR=3.1					
TORD	**Torodi Ar. Bea**	**157.57 182**	PKP	**PKPdf**	**15 55 17.4**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=170,slow=1.2,SNR=2.3					
BMRD	**Maredsous**	**165.07 350**	*d*PKP	**PKPab**	**15 56 19.9**	**-0.2**

*THE **11** 15:37:35.7, 38°.27N×20°.75E, $h12^{km}\pm1^{km}$, ML3.4/12, Error ellipse: s-maj=2.0km s-min=0.6km az=261.0*
*ATH **11** 15:37:35.5, 38°.27N×20°.79E, $h8^{km}\pm2^{km}$, ML3.5/11, Error ellipse: s-maj=2.3km s-min=0.6km az=251.0*
ISC 11 15:37:35.5±0.9, 38°.27N±0°.02×20.79E±0°.02, $h8^{km}\pm8^{km}$, n39, σ0°68/71, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMHA	**Samh**	**0.12**	**259**	P	**Pg**	**15 37 37.6**	**-0.5**
SMHA				S	**Sg**	**15 37 39.9**	**-0.1**
SMHA				AML	AML	15 37 40.2	
SMHA				AML	AML	15 37 40.2	
VLS	**Valsamata**	**0.19**	**239**	P	**Pg**	**15 37 39.0**	**-0.3**
VLS				S	**Sg**	**15 37 42.4**	**+0.4**
	50μm,0.1s						
VLS	**Valsamata**	**0.19**	**239**	P	**Pg**	**15 37 39.2**	**-0.1**
VLS				S	**Sg**	**15 37 42.0**	**0.0**
VLS				AML	AML	15 37 42.6	
VLS				AML	AML	15 37 42.9	
	comp=N,73488μm,0.1s						
RTZL	**Ratzakli, Kefa**	**0.20**	**185**	P	**Pg**	**15 37 39.8**	**+0.3**
RTZL				S	**Sg**	**15 37 43.9**	**+1.6**
VSK1	**VASILIKIADES**	**0.23**	**307**	P	**Pg**	**15 37 39.5**	**-0.6**
VSK1				S	**Sg**	**15 37 43.1**	**0.0**
	comp=N,12μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.23**	**226**	P	**Pg**	**15 37 39.9**	**-0.2**
PSDA				S	**Sg**	**15 37 43.5**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.23**	**226**	P	**Pg**	**15 37 39.9**	**-0.2**
PSDA				S	**Sg**	**15 37 43.4**	**+0.2**
FSK	**Fiskardo**	**0.26**	**316**	P	**Pg**	**15 37 40.1**	**-0.6**
FSK				S	**Sg**	**15 37 44.2**	**0.0**
	comp=N,16μm,0.1s						
FSK	**Fiskardo**	**0.26**	**316**	P	**Pg**	**15 37 40.1**	**-0.6**
FSK				S	**Sg**	**15 37 44.0**	**-0.2**
FSK				AML	AML	15 37 44.7	
	comp=N,16703μm,0.2s						
FSK				AML	AML	15 37 44.7	
	comp=E,44128μm,0.2s						
LXR1	**Lixouri, Cepha**	**0.29**	**255**	P	**Pg**	**15 37 41.1**	**-0.1**
LXR1				S	**Sg**	**15 37 46.0**	**+0.9**
LXRA	**Lixouri, Kepha**	**0.29**	**255**	P	**Pg**	**15 37 41.1**	**-0.2**
LXRA				S	**Sg**	**15 37 45.4**	**+0.3**
LXRA				AML	AML	15 37 46.6	
LXRA				AML	AML	15 37 49.3	
	comp=N,81512μm,0.2s						
DMLN	**Damoulianata-K**	**0.33**	**264**	P	**Pg**	**15 37 41.5**	**-0.6**
DMLN				S	**Sg**	**15 37 47.0**	**+0.5**
	comp=N,15μm,0.3s						
DMLN	**Damoulianata-K**	**0.33**	**264**	P	**Pg**	**15 37 41.5**	**-0.6**
DMLN				S	**Sg**	**15 37 46.8**	**+0.4**
EVGI	**Lefkada island**	**0.36**	**343**	P	**Pg**	**15 37 42.2**	**-0.4**
EVGI				S	**Sg**	**15 37 48.0**	**+0.6**
	comp=N,17μm,0.1s						
EVGI	**Lefkada island**	**0.36**	**343**	P	**Pg**	**15 37 42.2**	**-0.4**
EVGI				S	**Sg**	**15 37 48.0**	**+0.6**
DRAG	**Dragano-Lefkad**	**0.44**	**337**	P	**Pg**	**15 37 43.5**	**-0.7**
DRAG				S	**Sg**	**15 37 50.5**	**+0.5**
DRAG	**Dragano-Lefkad**	**0.44**	**337**	P	**Pg**	**15 37 43.5**	**-0.7**
DRAG				S	**Sg**	**15 37 50.4**	**+0.4**
NYDR	**Nydri-Lefkada**	**0.45**	**350**	P	**Pg**	**15 37 43.5**	**-0.6**
NYDR				S	**Sg**	**15 37 50.7**	**+0.7**
	comp=N,4μm,0.1s						
NYDR	**Nydri-Lefkada**	**0.45**	**350**	P	**Pg**	**15 37 43.6**	**-0.6**
NYDR				S	**Sg**	**15 37 50.6**	**+0.5**
LKD2	**Lefkada island**	**0.53**	**348**	P	**Pb**	**15 37 46.4**	**-0.6**
LKD2				S	**Sb**	**15 37 55.0**	**+0.2**
	comp=N,5μm,0.1s						
LKD2	**Lefkada island**	**0.53**	**348**	P	**Pg**	**15 37 46.0**	**+0.3**
LKD2				S	**Sg**	**15 37 53.2**	**+0.6**
LKD2				AML	AML	15 37 56.0	
	comp=N,10940μm,0.1s						
LKD2				AML	AML	15 37 56.1	
	comp=E,11158μm,0.2s						
TSLK	**Tsoukalades, L**	**0.56**	**349**	P	**Pg**	**15 37 45.8**	**-0.6**
TSLK				S	**Sb**	**15 37 55.0**	**-0.8**
	comp=E,3μm,0.4s						
TSLK	**Tsoukalades, L**	**0.56**	**349**	P	**Pg**	**15 37 45.8**	**-0.6**
TSLK				S	**Sg**	**15 37 53.5**	**-0.3**
TSLK				AML	AML	15 37 55.8	
	comp=E,4748μm,0.2s						
TSLK				AML	AML	15 37 56.5	
	comp=N,5475μm,0.3s						
LTHK	**Lithakia**	**0.56**	**177**	P	**Pg**	**15 37 45.9**	**-0.5**
LTHK				S	**Sb**	**15 37 55.0**	**-0.8**
LTHK	**Lithakia**	**0.56**	**177**	P	**Pg**	**15 37 45.9**	**-0.5**
RLS	**Riolos of Patr**	**0.57**	**112**	P	**Pg**	**15 37 46.7**	**+0.1**
RLS				S	**Sb**	**15 37 57.1**	**+1.0**
	comp=N,2μm,0.3s						
RLS	**Riolos of Patr**	**0.57**	**112**	P	**Pg**	**15 37 46.6**	**+0.1**
RLS				S	**Sg**	**15 37 54.8**	**+0.7**
RLS				AML	AML	15 37 57.8	
	comp=N,2327μm,0.3s						
RLS				AML	AML	15 37 58.0	
	comp=E,3719μm,0.3s						
KRI1	**kERI**	**0.61**	**178**	P	**Pg**	**15 37 46.8**	**-0.5**
KRI1				S	**Sb**	**15 37 56.5**	**-0.7**
	comp=E,2μm,0.3s						
DRO	**Drossia**	**0.79**	**114**	P	**Pg**	**15 37 50.3**	**-0.4**
DRO				S	**Sn**	**15 38 03.8**	**-1.2**
	comp=E,3μm,0.4s						
DRO	**Drossia**	**0.79**	**114**	P	**Pg**	**15 37 50.5**	**-0.3**
DRO				S	**Sg**	**15 38 01.4**	**+0.3**
DRO				AML	AML	15 38 11.7	
	comp=E,5769μm,0.3s						
DRO				AML	AML	15 38 13.3	
	comp=N,6264μm,0.4s						
EFP	**Efpalio**	**0.89**	**80**	P	**Pg**	**15 37 51.9**	**-0.7**
ANX	**Ano Chora**	**0.94**	**70**	P	**Pg**	**15 37 53.2**	**-0.4**
KLV	**Kalavryta, Ach**	**1.09**	**102**	P	**Pg**	**15 37 55.6**	**-0.9**
KLV				S	**Sn**	**15 38 13.5**	**+1.0**
KLV	**Kalavryta, Ach**	**1.09**	**102**	P	**Pg**	**15 37 55.7**	**-0.9**
KLV				S	**Sg**	**15 38 11.0**	**+0.2**
GUR	**Goura**	**1.27**	**105**	P	**Pn**	**15 37 58.5**	**-1.1**
GUR				S	**Sn**	**15 38 17.7**	**+0.8**
	comp=N,2μm,0.3s						
GUR	**Goura**	**1.27**	**105**	P	**Pn**	**15 37 58.8**	**-0.8**
GUR				S	**Sb**	**15 38 15.4**	**-0.8**
GUR				AML	AML	15 38 21.2	
	comp=E,4433μm,0.2s						
GUR				AML	AML	15 38 21.3	
	comp=N,3308μm,0.3s						
ITM	**Ithomi**	**1.41**	**140**	AML	AML	15 38 28.5	
	comp=N,463μm,0.8s						
ITM				AML	AML	15 38 36.5	
	comp=E,413μm,0.6s						
OHR	**Ohrid**	**2.83**	**0**	*i* Pn	**Pn**	**15 38 22.6**	**+1.5**
VAY	**Valandovo**	**3.34**	**24**	*i* Pn	**Pn**	**15 38 30.1**	**+2.1**

*MOS **11** 15:47:38.6±0.8, 56°.15N×161°.21E, $h108^{km}$, mb4.2/5, Error ellipse: s-maj=11.6km s-min=4.9km az=76.3*
*KRSC **11** 15:47:39.2±1.0, 56°.01N×161°.37E, $h100^{km}\pm9^{km}$, Ml4.1*
*IDC **11** 15:47:40.5±0.8, 56°.10N×161°.14E, $h108^{km}\pm7^{km}$, mb3.5/18, mbtmp3.9/22, Error ellipse: s-maj=14.8km s-min=13.4km az=160.0*
*NEIC **11** 15:47:40.7±0.7, 56°.12N±0°.09×161°.1E±0°.2, $h107^{km}\pm8^{km}$, mb4.1/28, Error ellipse: s-maj=14.1km s-min=12.9km az=139.0*
ISC 11 15:47:40.1±0.5, 56°.09N±0°.03×161°.28E±0°.03, $h106^{km}\pm3^{km}$, n153, σ0°91/197, mb4.0/32, 5C-4D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.28**	**256**	*e*P	**Pn**	**15 47 55.1**	**-0.4**
ZLN				*e*S	**Sn**	**15 48 06.9**	**-0.1**
ZLN	**Zelenaya**	**0.28**	**256**	PN	**Pn**	**15 47 55.0**	**-0.4**
ZLN				S	**Sn**	**15 48 06.8**	**-0.1**
CIRR	**Tsirk**	**0.30**	**276**	*e*P	**Pn**	**15 47 54.8**	**-0.8**
CIRR				*e*S	**Sn**	**15 48 06.9**	**-0.4**
CIRR	**Tsirk**	**0.30**	**276**	PN	**Pn**	**15 47 54.8**	**-0.8**
CIRR				S	**Sn**	**15 48 06.8**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**0.36**	**246**	*e*P	**Pn**	**15 47 55.4**	**-0.5**
BZGR				*e*S	**Sn**	**15 48 07.6**	**0.0**
BZGR	**Bezymyannyi-Gr**	**0.36**	**246**	PN	**Pn**	**15 47 55.3**	**-0.5**
BZGR				S	**Sn**	**15 48 07.6**	**0.0**
KLY	**Klyuchi**	**0.42**	**303**	*e*P	**Pn**	**15 47 55.0**	**-1.1**
KLY				*e*S	**Sn**	**15 48 06.8**	**-1.2**
KLY	**Klyuchi**	**0.42**	**303**	PN	**Pn**	**15 47 54.9**	**-1.1**
KLY				S	**Sn**	**15 48 06.7**	**-1.2**
KRSR	**Krestovskiy**	**0.42**	**289**	*e*P	**Pn**	**15 47 55.4**	**-0.9**
KRSR				*e*S	**Sn**	**15 48 07.5**	**-0.8**
KRSR	**Krestovskiy**	**0.42**	**289**	PN	**Pn**	**15 47 55.3**	**-0.9**
KRSR				S	**Sn**	**15 48 07.4**	**-0.8**
BZP	**Bezymyannyi-Pe**	**0.45**	**248**	*e*P	**Pn**	**15 47 55.6**	**-0.9**
BZP				*e*S	**Sn**	**15 48 07.5**	**-1.2**
BZWR	**Bezymyannyi-We**	**0.46**	**255**	*e*P	**Pn**	**15 47 56.0**	**-0.5**
BZWR				*e*S	**Sn**	**15 48 08.8**	**0.0**
BZWR	**Bezymyannyi-We**	**0.46**	**255**	PN	**Pn**	**15 47 56.0**	**-0.5**
BZWR				S	**Sn**	**15 48 08.7**	**0.0**
BZMR	**Bezymyannaya**	**0.47**	**252**	*e*P	**Pn**	**15 47 56.0**	**-0.5**
BZMR				*e*S	**Sn**	**15 48 08.6**	**-0.3**
BZMR	**Bezymyannaya**	**0.47**	**252**	PN	**Pn**	**15 47 56.0**	**-0.5**
BZMR				S	**Sn**	**15 48 08.5**	**-0.3**
BDR	**Baidarnaya**	**0.49**	**355**	*e*S	**Sn**	**15 48 09.5**	**+0.6**
SMKR	**Semkarok**	**0.51**	**12**	*e*P	**Pn**	**15 47 56.5**	**-0.2**
SMKR				*e*S	**Sn**	**15 48 09.8**	**+0.6**
SMKR	**Semkarok**	**0.51**	**12**	PN	**Pn**	**15 47 56.5**	**-0.2**
SMKR				S	**Sn**	**15 48 09.8**	**+0.6**
KIRR	**Kirishev**	**0.54**	**256**	*e*P	**Pn**	**15 47 56.3**	**-0.8**
KIRR				*e*S	**Sn**	**15 48 08.7**	**-1.0**
KIRR	**Kirishev**	**0.54**	**256**	PN	**Pn**	**15 47 56.2**	**-0.8**
KIRR				S	**Sn**	**15 48 08.7**	**-1.0**
SRKR	**Sorokina**	**0.57**	**354**	*e*P	**Pn**	**15 47 57.2**	**0.0**
SRKR				*e*S	**Sn**	**15 48 10.2**	**+0.2**
SRKR	**Sorokina**	**0.57**	**354**	PN	**Pn**	**15 47 57.2**	**0.0**
SRKR				S	**Sn**	**15 48 10.2**	**+0.2**
KPT	**Kopyto**	**0.61**	**259**	*e*P	**Pn**	**15 47 56.8**	**-0.7**
KPT				*e*S	**Sn**	**15 48 09.9**	**-0.6**
KPT	**Kopyto**	**0.61**	**259**	PN	**Pn**	**15 47 56.7**	**-0.7**
KPT				S	**Sn**	**15 48 09.8**	**-0.6**
KMNR	**Kamenistaya**	**0.67**	**241**	*e*P	**Pn**	**15 47 57.3**	**-0.7**
KMNR				*e*S	**Sn**	**15 48 10.9**	**-0.5**
KMNR	**Kamenistaya**	**0.67**	**241**	PN	**Pn**	**15 47 57.3**	**-0.7**
KMNR				S	**Sn**	**15 48 10.9**	**-0.5**
KBG	**Krutoberegovo**	**0.81**	**77**	*e*P	**Pn**	**15 47 58.5**	**-0.7**
KBG				*e*S	**Sn**	**15 48 13.0**	**-0.4**
KBG	**Krutoberegovo**	**0.81**	**77**	PN	**Pn**	**15 47 58.4**	**-0.7**
KBG				S	**Sn**	**15 48 13.0**	**-0.4**
KBTR	**Krutoberegovo**	**0.87**	**81**	*e*P	**Pn**	**15 47 58.9**	**-0.7**
KBTR				*e*S	**Sn**	**15 48 13.5**	**-0.9**
KBTR	**Krutoberegovo**	**0.87**	**81**	PN	**Pn**	**15 47 58.9**	**-0.7**
KBTR				S	**Sn**	**15 48 13.4**	**-0.9**
SRDR	**Sredinnyy**	**0.90**	**286**	*e*P	**Pn**	**15 47 59.7**	**-0.4**
SRDR				*e*S	**Sn**	**15 48 15.2**	**+0.1**
SRDR	**Sredinnyy**	**0.90**	**286**	PN	**Pn**	**15 47 59.7**	**-0.4**
SRDR				S	**Sn**	**15 48 15.2**	**+0.1**
TUMD	**Tumrok D**	**1.02**	**210**	*e*P	**Pn**	**15 48 00.4**	**-0.8**
TUMD				*e*S	**Sn**	**15 48 15.4**	**-1.7**
TUMR	**Tumrok**	**1.03**	**219**	*e*P	**Pn**	**15 48 01.2**	**-0.3**
TUMR				*e*S	**Sn**	**15 48 17.2**	**-0.3**
TUMR	**Tumrok**	**1.03**	**219**	PN	**Pn**	**15 48 01.1**	**-0.3**
TUMR				S	**Sn**	**15 48 17.2**	**-0.3**
ESO	**Esso**	**1.46**	**265**	*e*P	**Pn**	**15 48 05.9**	**-0.4**
ESO				*e*S	**Sn**	**15 48 25.9**	**-0.1**
ESO	**Esso**	**1.46**	**265**	PN	**Pn**	**15 48 05.8**	**-0.4**
ESO				S	**Sn**	**15 48 25.8**	**-0.1**
TIGL	**Tigil**	**2.21**	**321**	*e*P	**Pn**	**15 48 15.0**	**-0.5**
BKI	**Bering**	**2.80**	**106**	*e*P	**Pn**	**15 48 22.2**	**-1.1**
BKI				*e*S	**Sn**	**15 48 53.9**	**-2.6**
BKI	**Bering**	**2.80**	**106**	PN	**Pn**	**15 48 22.2**	**-1.1**
BKI				S	**Sn**	**15 48 53.9**	**-2.6**
PALN	**Palana**	**3.09**	**347**	*e*P	Pn	15 48 34.3	+7.1
PALN	**Palana**	**3.09**	**347**	PN	Pn	15 48 34.2	+7.0
KRX	**Arik**	**3.13**	**210**	*e*P	**Pn**	**15 48 28.1**	**+0.2**
KRX	**Arik**	**3.13**	**210**	PN	**Pn**	**15 48 28.0**	**+0.2**
NLC	**Nalytchevo**	**3.13**	**202**	*e*P	**Pn**	**15 48 27.5**	**-0.2**
NLC	**Nalytchevo**	**3.13**	**202**	PN	**Pn**	**15 48 27.4**	**-0.2**
KRER	**Koryakskii**	**3.15**	**209**	*e*P	**Pn**	**15 48 30.2**	**+1.9**
KRER	**Koryakskii**	**3.15**	**209**	PN	**Pn**	**15 48 30.1**	**+1.9**
SMAR	**Somma**	**3.17**	**208**	*e*P	**Pn**	**15 48 29.1**	**+0.5**
SMAR	**Somma**	**3.17**	**208**	PN	**Pn**	**15 48 29.0**	**+0.5**
AVH	**Avacha**	**3.19**	**209**	*e*P	**Pn**	**15 48 30.4**	**+1.8**
AVH	**Avacha**	**3.19**	**209**	PN	**Pn**	**15 48 30.3**	**+1.8**
KOK	**Koryaka**	**3.19**	**210**	*e*P	**Pn**	**15 48 29.7**	**+1.0**
KOK	**Koryaka**	**3.19**	**210**	PN	**Pn**	**15 48 29.6**	**+1.0**
UGLR	**Uglovaya**	**3.22**	**207**	*e*P	**Pn**	**15 48 30.0**	**+1.0**
UGLR	**Uglovaya**	**3.22**	**207**	PN	**Pn**	**15 48 30.0**	**+1.0**
OSSR	**Ossora**	**3.31**	**16**	*e*P	**Pn**	**15 48 30.7**	**+0.6**
OSSR	**Ossora**	**3.31**	**16**	PN	**Pn**	**15 48 30.7**	**+0.6**
DALK	**Dalny**	**3.40**	**207**	*e*P	**Pn**	**15 48 31.1**	**-0.2**
DALK	**Dalny**	**3.40**	**207**	PN	**Pn**	**15 48 31.0**	**-0.2**
PET	**Petropavlovsk**	**3.43**	**208**		**Pn**	**15 48 32.1**	**+0.4**
PET	**Petropavlovsk**	**3.43**	**208**	*e*P	**Pn**	**15 48 32.4**	**+0.8**
PET	**Petropavlovsk**	**3.43**	**208**	*e*PN	**Pn**	**15 48 31.8**	**+0.1**
PET				*e*S	**Sn**	**15 49 13.5**	**+2.0**
PET				pmax	pmax		
	comp=Z,69nm,0.6s						
PET				smax	smax		
	comp=E,81nm,0.4s						
PET				smax	smax		
	comp=N,103nm,0.6s						
PEA0B	**Petropavlovsk-**	**3.64**	**216**	Pn	**Pn**	**15 48 34.2**	**-0.3**
PEA0B	**Petropavlovsk-**	**3.64**	**216**	*e*PN	**Pn**	**15 48 34.8**	**+0.3**
PETK	**Petropavlovsk-**	**3.64**	**216**	Pn	**Pn**	**15 48 34.2**	**-0.3**
PETK	**Petropavlovsk-**	**3.64**	**216**	P	**Pn**	**15 48 34.3**	**-0.2**
	comp=N,21nm,0.9s,baz=39,slow=15,SNR=23						
PETK				S	**Sn**	**15 49 18.9**	**+2.3**
	comp=N,5.9nm,0.6s,baz=84,slow=21,SNR=1.9						
KRMR	**Karymshinskiy**	**3.74**	**211**	*e*P	**Pn**	**15 48 36.0**	**+0.1**
KRMR	**Karymshinskiy**	**3.74**	**211**	PN	**Pn**	**15 48 36.0**	**+0.1**
APC	**Apacha**	**3.98**	**219**	*e*P	**Pn**	**15 48 39.5**	**+0.5**
APC	**Apacha**	**3.98**	**219**	PN	**Pn**	**15 48 39.5**	**+0.5**
GRL	**Gorelyy**	**4.01**	**209**	*e*P	**Pn**	**15 48 40.6**	**+1.0**
GRL	**Gorelyy**	**4.01**	**209**	PN	**Pn**	**15 48 40.6**	**+1.0**
MTVR	**Mutnovka**	**4.04**	**208**	*e*P	**Pn**	**15 48 40.5**	**+0.5**
MTVR	**Mutnovka**	**4.04**	**208**	PN	**Pn**	**15 48 40.5**	**+0.5**
MA2	**Magadan**	**6.61**	**306**	Pn	**Pn**	**15 49 13.7**	**-1.0**
MA2	**Magadan**	**6.61**	**306**	P	**Pn**	**15 49 15.1**	**+0.5**
	comp=N,6.6nm,0.6s,baz=135,slow=20,SNR=1.4						
KIWB	**Kanaga Island**	**13.37**	**99**	Pn	**Pn**	**15 50 46.2**	**+0.9**
GSTR	**Great Sitkin T**	**13.86**	**97**	Pn	**Pn**	**15 50 53.3**	**+1.4**
YSS	**Yuzh-Sakhalins**	**14.67**	**239**	⇑*i*P	**Pn**	**15 50 59.6**	**-2.6**
YSS				pmax	pmax		
	comp=Z,45nm,1.8s						
YUK	**Yuzh-Kuril'sk**	**15.56**	**226**	⇑*i*P	**Pn**	**15 51 10.9**	**-2.5**
JKA	**Kamikawa-asahi**	**16.88**	**233**	P	**P**	**15 51 31.0**	**+1.1**
ASAJ	**Asahikawa**	**16.88**	**233**	P	**P**	**15 51 30.8**	**+0.9**
	comp=Z,6.1nm,0.7s,baz=90,slow=9.1,SNR=4.7						
ASAJ	**Asahikawa**	**16.88**	**233**	P	**P**	**15 51 31.0**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,45nm,1.4s						
YAK	**Yakutsk**	**17.18**	**303**	P	**P**	**15 51 32.6**	**-0.6**
YAK				IAmb	IAmb	15 51 34.1	
	comp=Z,9.4nm,0.6s						
YAK	**Yakutsk**	**17.18**	**303**	P	**Pn**	**15 51 33.3**	**+0.2**
	comp=Z,10.0nm,0.5s,baz=74,slow=2.1,SNR=7.3						
YAK	**Yakutsk**	**17.18**	**303**	‖*e*P	**P**	**15 51 32.5**	**-0.6**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TIXI	**Tiksi**	**20.71**	**331**	P	**P**	**15 52 12.4**	**+1.0**
TIXI				IAmb	IAmb	15 52 15.3	
	comp=Z,7.3nm,0.6s						
TIXI	**Tiksi**	**20.71**	**331**	P	**P**	**15 52 12.8**	**+1.4**
	comp=Z,5.1nm,0.6s,baz=125,slow=9.3,SNR=27						
	comp=E,5.1nm,0.6s						
TIXI	**Tiksi**	**20.71**	**331**	⇑*i*P	**P**	**15 52 12.7**	**+1.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
C19K	**Lookout Ridge**	**21.72**	**38**	P	**P**	**15 52 23.1**	**+0.7**
C19K				IAmb	IAmb	15 52 26.5	
	comp=Z,31nm,1.5s						
F19K	**Shaleruckih Mo**	**21.86**	**44**	P	**P**	**15 52 24.6**	**+0.8**
F19K				IAmb	IAmb	15 52 25.8	
	comp=Z,8.0nm,1.1s						
USA0B	**Ussuriysk Arra**	**22.03**	**250**	‖*e*P	**P**	**15 52 22.7**	**-3.1**
H19K	**Roundabout Mou**	**22.23**	**48**	P	**P**	**15 52 28.5**	**+0.8**
H19K				IAmb	IAmb	15 52 53.1	
	comp=Z,11nm,1.4s						
B20K	**Meade River**	**22.80**	**36**	P	**P**	**15 52 33.7**	**+0.3**
B20K				IAmb	IAmb	15 53 11.3	
	comp=Z,13nm,1.1s						
J20K	**Nowinta River**	**23.17**	**51**	P	**P**	**15 52 37.6**	**+0.6**
J20K				IAmb	IAmb	15 52 58.8	
	comp=Z,11nm,1.3s						
IMAR	**Indian Mountai**	**23.38**	**47**	P	**P**	**15 52 39.6**	**+0.7**
E21K	**Killik River**	**23.56**	**41**	P	**P**	**15 52 41.3**	**+0.7**
E21K				IAmb	IAmb	15 53 00.1	
	comp=Z,15nm,1.5s						
D22K	**Ayikyak River**	**24.10**	**40**	P	**P**	**15 52 46.1**	**+0.8**
D22K				IAmb	IAmb	15 53 11.1	
	comp=Z,9.7nm,1.5s						
B22K	**Teshekpuk Lake**	**24.12**	**36**	P	**P**	**15 52 46.1**	**+0.6**
B22K				IAmb	IAmb	15 53 10.5	
	comp=Z,6.2nm,1.1s						
E22K	**Anaktuvuk Pass**	**24.32**	**42**	P	**P**	**15 52 48.1**	**+0.7**
E22K				IAmb	IAmb	15 53 00.3	
	comp=Z,7.5nm,1.4s						
SYI	**Shuyak Island**	**24.74**	**65**	P	**P**	**15 52 51.2**	**0.0**
C23K	**Itkillik River**	**24.97**	**38**	P	**P**	**15 52 53.9**	**+0.7**
E23K	**Chandalar**	**25.13**	**42**	P	**P**	**15 52 55.5**	**+0.7**
E24K	**Your Creek**	**25.55**	**42**	P	**P**	**15 52 59.1**	**+0.5**
F24K	**Squaw Lake**	**25.76**	**43**	P	**P**	**15 53 00.6**	**0.0**
G24K	**Hadweenzic Riv**	**25.92**	**45**	P	**P**	**15 53 02.6**	**+0.6**
G24K				IAmb	IAmb	15 53 04.1	
	comp=Z,15nm,1.4s						
ILAR	**Eielson Array**	**26.28**	**50**	P	**P**	**15 53 05.3**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=262,slow=7.3,SNR=8.6						
	comp=Z,0.3nm,0.5s						
D25K	**Kavik River**	**26.39**	**39**	P	**P**	**15 53 06.3**	**+0.1**
BMAR	**Burnt Mountain**	**27.04**	**43**	P	**P**	**15 53 12.7**	**+0.7**
INK	**Inuvik**	**31.11**	**41**	P	**P**	**15 53 48.7**	**+0.8**
INK	**Inuvik**	**31.11**	**41**	P	**P**	**15 53 48.7**	**+0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM	**Songino Array**	**33.98**	**280**	P	**P**	**15 54 12.2**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=56,slow=9.0,SNR=2.1						
SONM				ScP	**ScP**	**16 00 22.2**	**-1.5**
	comp=Z,1.1nm,1.1s,baz=31,slow=8.7,SNR=3.5						
	comp=Z,0.4nm,0.5s						
C36M	**Paulatuk**	**34.22**	**37**	P	**P**	**15 54 15.8**	**+0.8**
C36M				IAmb	IAmb	15 54 16.9	
	comp=Z,3.3nm,0.8s						
YKA	**Yellowknife Ar**	**40.52**	**45**	PcP	**PcP**	**15 57 08.6**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=286,slow=4.2,SNR=1.8						
SPITS	**Spitsbergen Ar**	**44.30**	**350**	P	**P**	**15 55 38.6**	**0.0**
	comp=Z,5.8nm,0.6s,baz=28,slow=8.1,SNR=12						
SPITS				PcP	**PcP**	**15 57 20.7**	**-0.1**
	comp=Z,11nm,0.9s,baz=105,slow=2.0,SNR=2.3						
	comp=Z,5.8nm,0.6s						
SPITS	**Spitsbergen Ar**	**44.30**	**350**	P	**P**	**15 55 38.6**	**0.0**
SPITS				pmax	pmax		
	comp=Z,51nm,1.3s						
KURK	**Kurchatov**	**46.78**	**300**	P	**P**	**15 55 57.2**	**-1.2**
KURK				IAmb	IAmb	15 56 10.1	
	comp=Z,4.7nm,1.3s						
KURK	**Kurchatov**	**46.78**	**300**	*de*P	**P**	**15 55 58.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,2.5s						
KURBB	**Kurchatov Arra**	**46.89**	**300**	P

Nm; M_{rr}-0.25±.03; $M_{\theta\theta}$ 1.85±.04; $M_{\phi\phi}$-1.60±.03; $M_{r\theta}$0.37±.07; $M_{\theta\phi}$-1.00±.03; $M_{r\phi}$0.17±.07; Best double couple: $M_0$2.03500×10^17 NP1:ϕ_s240.00000°, δ89.00000°, λ-168.00000°. NP2:ϕ_s150.00000°, δ78.00000°, λ-1.00000°. Principal axes: T 2.1610, Plg8.0000°, Azm15.0000°; N -0.2500, Plg78.0000°, Azm245.0000°; P -1.9090, Plg9.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 11 15:56:57.9±0.5, 20°00'S±0°03'×66°29'E±0°03, h15km±2km, h15km:pP-P, n453, σ1§98/340, mb5.0/161, MS4.8/67, 45C-48D, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**2.76**	**275**		Pn	15 57 36.4	-5.3
H08S1	**Diego Carcia H**	**13.66**	**27**	Pn	**Pn**	**16 00 13.1**	**+2.1**
	baz=211,slow=9.8						
H08S1				T	T	16 14 03.0	
	baz=204,slow=76,SNR=487						
H08S2	**Diego Garcia H**	**13.67**	**27**	Pn	**Pn**	**16 00 13.5**	**+2.3**
	baz=211,slow=9.8						
H08S2				T	T	16 14 01.5	
	baz=204,slow=76,SNR=762						
H08S3	**Diego Garcia H**	**13.69**	**27**	Pn	**Pn**	**16 00 13.4**	**+2.1**
	baz=211,slow=9.8						
H08S3				T	T	16 14 12.7	
	baz=204,slow=76,SNR=554						
DGAR	**Diego Garcia**	**13.87**	**26**		**Pn**	**16 00 14.9**	**+0.9**
DGAR	**Diego Garcia**	**13.87**	**26**	*eP*	**Pn**	**16 00 16.8**	**+2.8**
ABPO	**Ambohimpanom**	**18.00**	**270**		**Pn**	**16 01 05.6**	**-2.3**
ABPO				IAmb	IAmb	16 01 13.9	
	comp=Z,162nm,1.6s						
ABPO	**Ambohimpanom**	**18.00**	**270**	P	**Pn**	**16 01 05.6**	**-2.3**
ABPO				pmax	pmax		
	comp=Z,162nm,1.7s						
OPO	**Ambohidratompo**	**18.09**	**271**	P	**P**	**16 01 11.1**	**+1.8**
	baz=77,slow=11,SNR=6.2						
	comp=Z,12nm,1.1s						
KAAM	**Kaadhehdhoo**	**21.40**	**19**	P	**P**	**16 01 45.9**	**+0.6**
H04N2	**CROZET ISLANDS**	**28.68**	**201**	T	T	16 33 02.8	
	baz=32,slow=75,SNR=515						
H04N1	**CROZET ISLANDS**	**28.69**	**201**	T	T	16 33 15.3	
	baz=32,slow=75,SNR=579						
H04N3	**CROZET ISLANDS**	**28.70**	**201**	T	T	16 33 16.5	
	baz=32,slow=75						
H04S1	**CROZET ISLANDS**	**29.24**	**200**	T	T	16 33 53.8	
	baz=70,slow=75,SNR=80						
H04S3	**CROZET ISLANDS**	**29.24**	**200**	T	T	16 33 53.9	
	baz=70,slow=75,SNR=93						
H04S2	**CROZET ISLANDS**	**29.26**	**200**	T	T	16 33 53.3	
	baz=70,slow=75,SNR=54						
KIBK	**Kibwezi**	**32.70**	**299**	P	**P**	**16 03 29.3**	**-0.8**
MUSN	**Musina, Limpop**	**34.01**	**260**	*e*P	P	16 03 47.0	+5.6
MUSN				IAmb	IAmb	16 04 27.6	
	comp=Z,42nm,2.1s						
KMBO	**Kilima Mbogo**	**34.04**	**300**	P	**P**	**16 03 41.0**	**-0.9**
KMBO	**Kilima Mbogo**	**34.04**	**300**	*e*P	P	16 03 46.6	+4.7
KMBO				IAmb	IAmb	16 03 48.1	
	comp=Z,20nm,1.0s						
KMBO	**Kilima Mbogo**	**34.04**	**300**	P	**P**	**16 03 44.0**	**+2.1**
	comp=Z,3.3nm,0.7s,baz=74,slow=5.7,SNR=10						
KMBO				LR	LR	16 15 03.1	
	comp=Z,1μm,21.4s,baz=108,slow=32						
	comp=Z,3.3nm,0.7s						
KRI	**Karoi**	**34.90**	**269**	*e*P	**P**	**16 03 52.8**	**+3.5**
RUST	**Rust De Winter**	**35.17**	**254**	*e*P	**P**	**16 03 52.1**	**+0.5**
RUST				IAmb	IAmb	16 04 02.2	
	comp=Z,11nm,1.0s						
CRAIL	**Swartwater, Li**	**35.48**	**259**	*e*P	**P**	**16 03 55.2**	**+1.0**
TSWA	**Tswaing Meteor**	**35.58**	**254**	*e*P	**P**	**16 03 56.5**	**+1.4**
TSWA				IAmb	IAmb	16 04 07.5	
	comp=Z,6.1nm,0.9s						
LEPH	**Lephalale, Lim**	**35.84**	**257**	*e*P	**P**	**16 03 59.7**	**+2.3**
LEPH				IAmb	IAmb	16 04 17.4	
	comp=Z,119nm,2.2s						
HRAO	**HartRAO**	**35.94**	**253**	*e*P	**P**	**16 03 58.7**	**+0.5**
SNKL	**Senekal, Frees**	**35.99**	**249**	*e*P	**P**	**16 04 01.2**	**+2.6**
SNKL				IAmb	IAmb	16 04 16.6	
	comp=Z,22nm,1.0s						
NYAT	**Nyati, Northwe**	**36.04**	**254**	*e*P	**P**	**16 04 00.2**	**+1.1**
NYAT				IAmb	IAmb	16 04 09.7	
	comp=Z,11nm,1.1s						
LSZ	**Lusaka**	**36.56**	**271**	P	**P**	**16 04 01.9**	**-1.7**
LSZ	**Lusaka**	**36.56**	**271**	*e*P	**P**	**16 04 05.3**	**+1.8**
LSZ				IAmb	IAmb	16 04 16.2	
	comp=Z,15nm,1.0s						
LSZ	**Lusaka**	**36.56**	**271**	P	**P**	**16 04 01.9**	**-1.7**
LSZ				pmax	pmax		
	comp=Z,15nm,1.0s						
MRCO	**Marico , North**	**37.10**	**254**	*e*P	**P**	**16 04 11.5**	**+3.4**
MRCO				IAmb	IAmb	16 04 18.7	
	comp=Z,14nm,1.0s						
LBTB	**Lobatse**	**37.83**	**255**	P	**P**	**16 04 12.0**	**-2.2**
LBTB	**Lobatse**	**37.83**	**255**	*e*P	**P**	**16 04 17.6**	**+3.4**
LBTB				IAmb	IAmb	16 04 25.3	
	comp=Z,16nm,0.9s						
LBTB	**Lobatse**	**37.83**	**255**	P	**P**	**16 04 12.0**	**-2.2**
LBTB				pmax	pmax		
	comp=Z,15nm,0.9s						
SWZ	**Schweizer**	**38.09**	**251**	*e*P	**P**	**16 04 19.9**	**+3.4**
SWZ				IAmb	IAmb	16 04 27.2	
	comp=Z,15nm,0.9s						
BOSA	**Boshof**	**38.22**	**249**	P	**P**	**16 04 16.1**	**-1.4**
BOSA	**Boshof**	**38.22**	**249**	*e*P	**P**	**16 04 18.9**	**+1.4**
BOSA				IAmb	IAmb	16 04 42.5	
	comp=Z,117nm,2.5s						
BOSA	**Boshof**	**38.22**	**249**	P	**P**	**16 04 19.6**	**+2.1**
	comp=Z,1.7nm,0.8s,baz=106,slow=6.5,SNR=5.0						
	comp=Z,1.7nm,0.8s						
BOSA	**Boshof**	**38.22**	**249**	P	**P**	**16 04 16.1**	**-1.4**
BOSA				pmax	pmax		
	comp=Z,15nm,1.3s						
LODK	**Lodwar**	**38.27**	**304**	P	**P**	**16 04 17.1**	**-0.9**
ATD	**Arta Tunnel**	**38.92**	**322**	LR	LR	16 17 56.1	
	comp=Z,39nm,21.1s,baz=136,slow=32						
HYB	**Hyderabad**	**39.08**	**19**	*e*P	**P**	**16 04 25.2**	**+0.5**
HYB				IVmB_BB		16 04 30.2	
	comp=Z,405nm,2.8s						
HYB				IVMs_BB	IVMs_BB	16 16 50.9	
	comp=Z,1μm,27.0s						
FURI	**Furi**	**39.54**	**314**	LR	LR	16 19 28.3	
	comp=Z,2μm,19.6s,baz=132,slow=34						
MBAR	**Mbarara**	**39.77**	**295**	LR	LR	16 18 51.6	
	comp=Z,656nm,21.5s,baz=116,slow=33						
ALKP	**Alkanpan, Nort**	**40.93**	**247**	*e*P	**P**	**16 04 42.9**	**+2.8**
FRAZ	**Fraserburg**	**41.80**	**244**	*e*P	**P**	**16 04 47.3**	**0.0**
FRAZ				IAmb	IAmb	16 04 48.0	
	comp=Z,112nm,2.1s						
IPM	**Ipoh**	**41.91**	**58**	P	**P**	**16 04 47.7**	**-0.5**
IPM	**Ipoh**	**41.91**	**58**	P	**P**	**16 04 48.8**	**+0.6**
LEM	**Lembang**	**42.14**	**78**	LR	LR	16 18 27.4	
	comp=Z,1μm,20.9s,baz=234,slow=31						
CVNA	**Calvinia**	**43.16**	**245**	*e*P	**P**	**16 05 00.5**	**+2.2**
CVNA				IAmb	IAmb	16 05 08.4	
	comp=Z,27nm,1.0s						
H01W2	**Cape Leeuwin H**	**44.56**	**120**	T	T	16 52 26.1	
	baz=281,slow=75,SNR=72						
H01W3	**Cape Leeuwin H**	**44.56**	**120**	T	T	16 52 27.2	
	baz=281,slow=75,SNR=65						
H01W1	**Cape Leeuwin H**	**44.58**	**120**	T	T	16 52 27.7	
	baz=281,slow=75,SNR=66						
NWAO	**Narrogin (SRO)**	**46.97**	**117**	LR	LR	16 20 25.2	
	comp=Z,1μm,21.9s,baz=238,slow=30						
KLBR	**Kellerberrin**	**47.37**	**115**	P	**P**	**16 05 34.1**	**+2.5**
	comp=Z,45nm,1.0s						
KLBR	**Kellerberrin**	**47.37**	**115**	P	**P**	**16 05 34.8**	**+3.2**
MAW	**Mawson**	**47.64**	**182**	P	**P**	**16 05 29.8**	**-3.2**
	comp=Z,2.8nm,0.9s,baz=23,slow=8.4,SNR=5.4						
MAW				LR	LR	16 20 16.4	
	comp=Z,2μm,21.6s,baz=30,slow=30						
	comp=Z,2.8nm,0.9s						
RAYN	**Ar Rayn**	**47.77**	**334**	P	**P**	**16 05 33.5**	**-1.2**
RAYN	**Ar Rayn**	**47.77**	**334**	P	**P**	**16 05 33.5**	**-1.2**
RAYN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BRDH	**Bariadhala**	**49.11**	**32**	LR	LR	16 25 45.9	
	comp=Z,1μm,19.8s,baz=194,slow=35						
CM31	**Chiang Mai Arr**	**49.86**	**42**	P	**P**	**16 05 50.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**49.86**	**42**	P	**P**	**16 05 49.0**	**-1.8**
CMAR				LR	LR	16 23 51.2	
	comp=Z,18nm,0.8s,baz=235,slow=8.7,SNR=78						
	comp=Z,1μm,21.3s,baz=225,slow=32						
	comp=Z,18nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.86**	**42**	*i* P	**P**	**16 05 51.2**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,19nm,0.9s						
CHTO	**Chiang Mai**	**50.13**	**42**	P	**P**	**16 05 52.9**	**0.0**
CHTO				IAmb	IAmb	16 05 58.1	
	comp=Z,17nm,1.0s						
CHTO	**Chiang Mai**	**50.13**	**42**	P	**P**	**16 05 52.9**	**0.0**
CHTO				pmax	pmax		
	comp=Z,17nm,1.0s						
SBUM	**Sibu**	**50.27**	**69**	P	**P**	**16 05 52.8**	**-1.2**
SBUM	**Sibu**	**50.27**	**69**	P	**P**	**16 05 54.0**	**-0.1**
UBPT	**Khong Chiam**	**52.08**	**51**	IAmb	IAmb	16 06 10.0	
	comp=Z,33nm,1.0s						
UBPT	**Khong Chiam**	**52.08**	**51**	P	**P**	**16 06 07.1**	**-0.5**
NIL	**Nilore**	**53.76**	**7**	P	**P**	**16 06 18.9**	**-0.8**
NIL				IAmb	IAmb	16 06 22.1	
	comp=Z,12nm,0.8s						
NIL	**Nilore**	**53.76**	**7**	P	**P**	**16 06 18.9**	**-0.8**
NIL				pmax	pmax		
	comp=Z,12nm,0.8s						
KAPI	**Kappang**	**54.03**	**81**	LR	LR	16 28 26.5	
	comp=Z,354nm,18.8s,baz=256,slow=35						
KBL	**Kabul**	**54.30**	**3**	P	**P**	**16 06 23.9**	**+0.1**
KBL				IAmb	IAmb	16 06 27.9	
	comp=Z,16nm,1.1s						
KBL	**Kabul**	**54.30**	**3**	P	**P**	**16 06 23.9**	**+0.1**
KBL				pmax	pmax		
	comp=Z,16nm,1.2s						
CASY	**Casey**	**54.30**	**160**	P	**P**	**16 06 22.2**	**-1.0**
TNCH	**TengChong**	**54.64**	**36**	P	**P**	**16 06 28.7**	**+2.2**
TNCH				pP	pwP	16 06 35.9	+1.3
TNCH				sP	sP	16 06 39.3	+7.5
TNCH				S	**S**	**16 14 04.1**	**-2.1**
TNCH				sS	sS	16 14 17.3	+4.3
TNCH				SS	**SS**	**16 17 50.5**	**+1.0**
TNCH				pmax	pmax		
	comp=Z,19nm,1.2s						
TNCH				pmax	pmax		
	comp=Z,120nm,3.3s						
TNCH				LR	LR		
	comp=Z,400nm,15.2s						
TNCH				LR	LR		
	comp=Z,560nm,17.9s						
TNCH				LR	LR		
	comp=Z,1μm,19.4s						
SLVN	**Son La**	**55.14**	**44**	IAmb	IAmb	16 06 33.2	
	comp=Z,28nm,1.0s						
SLVN	**Son La**	**55.14**	**44**	P	**P**	**16 06 32.2**	**+2.2**
FITZ	**Fitzroy Crossi**	**55.87**	**99**	P	**P**	**16 06 35.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**55.87**	**99**	P	**P**	**16 06 36.2**	**+0.8**
	comp=Z,338nm,1.0s						
FITZ	**Fitzroy Crossi**	**55.87**	**99**	LR	LR	16 29 18.8	
	comp=Z,678nm,18.4s,baz=275,slow=35						
FITZ	**Fitzroy Crossi**	**55.87**	**99**	P	**P**	**16 06 36.7**	**+1.3**
BATI	**Baumata**	**56.01**	**89**	LR	LR	16 26 35.2	
	comp=Z,559nm,21.8s,baz=253,slow=32						
FORT	**Forrest**	**56.22**	**114**	P	**P**	**16 06 40.3**	**+2.6**
	comp=Z,29nm,0.9s						
SOEI	**Soe**	**56.71**	**89**	P	**P**	**16 06 45.0**	**+3.4**
WRKA	**Warakurna**	**57.07**	**107**	P	**P**	**16 06 45.3**	**+1.4**
	comp=Z,31nm,1.4s						
WRKA	**Warakurna**	**57.07**	**107**	P	**P**	**16 06 45.8**	**+1.9**
MYLDM	**Lahad Datu**	**57.08**	**70**	IAmb	IAmb	16 07 00.9	
	comp=Z,23nm,0.9s						
MYLDM	**Lahad Datu**	**57.08**	**70**	P	**P**	**16 06 45.2**	**+1.2**
TOLI2	**Tolitoli**	**57.34**	**75**	IAmb	IAmb	16 06 56.9	
	comp=Z,22nm,0.9s						
TOLI2	**Tolitoli**	**57.34**	**75**	P	**P**	**16 06 46.7**	**+0.8**
ELIB	**Princess Elisa**	**57.48**	**195**	*d*P	**P**	**16 06 44.9**	**-1.2**
	comp=Z,6.8nm,1.0s						
PZH	**PanZhiHua**	**57.62**	**38**	P	**P**	**16 06 49.4**	**+1.7**
PZH				pmax	pmax		
	comp=Z,30nm,1.4s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
QIZ	**Qiongzhong**	**57.68**	**50**	P	**P**	**16 06 48.8**	**+0.7**
QIZ				S	**S**	**16 14 48.1**	**+1.7**
QIZ				LR	LR		
	comp=Z,610nm,15.1s						
QIZ				LR	LR		
	comp=Z,640nm,16.8s						
QIZ				LR	LR		
	comp=Z,490nm,28.6s						
EIL	**Elat**	**57.89**	**328**	LR	LR	16 28 11.2	
	comp=Z,558nm,21.9s,baz=134,slow=32						
LUWI	**Luwuk**	**58.30**	**78**	P	**P**	**16 06 51.7**	**-0.9**
LUWI	**Luwuk**	**58.30**	**78**	P	**P**	**16 06 56.0**	**+3.4**
SIMJ	**Simiganj**	**58.40**	**2**	P	**P**	**16 06 52.3**	**-0.6**
GAR	**Garm**	**58.81**	**4**	IAmb	IAmb	16 07 23.3	
	comp=Z,17nm,1.0s						
KNRA	**Kununurra**	**59.33**	**97**	P	**P**	**16 07 02.2**	**+2.4**
	comp=Z,24nm,1.5s						
KSH	**Kashi**	**59.89**	**9**	P	**P**	**16 06 59.2**	**-4.0**
KSH				pP	pP	16 07 05.8	-1.4
KSH				S	**S**	**16 15 08.7**	**-6.0**
KSH				pmax	pmax		
	comp=Z,53nm,0.9s						
KSH				LR	LR		
	comp=Z,1μm,21.3s						
KSH				LR	LR		
	comp=Z,1μm,16.5s						
KSH				LR	LR		
	comp=Z,2μm,22.7s						
BTK	**Batken**	**59.89**	**4**	IAmb	IAmb	16 07 08.8	
	comp=Z,32nm,1.5s						
MMAI	**Mount Meron Ar**	**60.42**	**330**	P	**P**	**16 07 08.1**	**+1.2**
	comp=Z,0.5nm,0.2s,baz=144,slow=7.5,SNR=2.1						
	comp=Z,0.5nm,0.2s						
GYA	**Guiyang**	**60.55**	**42**	⇓P	**P**	**16 07 09.7**	**+1.7**
GYA				pmax	pmax		
	comp=Z,14nm,1.2s						
SANI	**Sanana**	**60.90**	**81**	P	**P**	**16 07 12.3**	**+1.8**
MULG	**Mulgathing**	**61.42**	**114**	P	**P**	**16 07 16.5**	**+2.6**
NRN	**Naryn**	**61.78**	**8**	IAmb	IAmb	16 07 21.5	
	comp=Z,21nm,1.6s						
IUG	**Iuzhnay**	**61.93**	**3**	*e*P	**P**	**16 07 16.7**	**-0.3**
	comp=Z,16nm,1.1s						
IUG	**Iuzhnay**	**61.93**	**3**	*e*P	**P**	**16 07 16.7**	**-0.3**
IUG				pmax	pmax		
	comp=Z,15nm,1.1s						
GOMU	**GeErMu**	**62.07**	**26**	P	**P**	**16 07 19.6**	**+1.2**
GOMU				pP	pwP	16 07 28.7	+2.2
GOMU				pmax	pmax		
	comp=Z,13nm,1.1s						
CHM	**Chimkent**	**62.08**	**3**	*e*P	**P**	**16 07 17.8**	**-0.2**
	comp=Z,8.4nm,0.9s						
CHM	**Chimkent**	**62.08**	**3**	*e*P	**P**	**16 07 17.7**	**-0.2**
CHM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CD2	**Chengdu**	**62.11**	**36**	P	**P**	**16 07 18.9**	**+0.5**
CD2				S	**S**	**16 15 43.4**	**+0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CD2				LR	LR		
	comp=Z,870nm,15.9s						
CD2				LR	LR		
	comp=Z,700nm,17.8s						
CD2				LR	LR		
	comp=Z,1μm,18.4s						
ASAR	**Alice Springs**	**62.34**	**107**	P	**P**	**16 07 18.6**	**-1.6**
	comp=Z,8.5nm,0.8s,baz=266,slow=5.3,SNR=42						
ASAR				LR	LR	16 30 26.0	
	comp=Z,2μm,21.1s,baz=282,slow=32						
	comp=Z,8.5nm,0.8s						
AS31	**Alice Springs**	**62.34**	**107**	P	**P**	**16 07 18.9**	**-1.3**
AS31	**Alice Springs**	**62.34**	**107**	P	**P**	**16 07 19.9**	**-0.4**
	comp=Z,5.2nm,0.8s						
DZA	**Taraz**	**62.75**	**4**	*e*P	**P**	**16 07 22.0**	**-0.4**
	comp=Z,7.8nm,0.7s						
DZA	**Taraz**	**62.75**	**4**	*e*P	**P**	**16 07 22.0**	**-0.4**
DZA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
AAK	**Ala-Archa**	**62.78**	**7**	P	**P**	**16 07 23.1**	**+0.3**
AAK				IAmb	IAmb	16 07 29.5	
	comp=Z,20nm,1.2s						
AAK	**Ala-Archa**	**62.78**	**7**	LR	LR	16 33 14.5	
	comp=Z,954nm,19.0s,baz=163,slow=35						
AAK	**Ala-Archa**	**62.78**	**7**	*de*P	**P**	**16 07 22.2**	**-0.6**
AAK				pmax	pmax		
	comp=Z,21nm,1.2s						
BBOO	**Buckleboo**	**62.79**	**117**	P	**P**	**16 07 24.6**	**+1.5**
	comp=Z,22nm,1.5s						
BRLS	**Borolday**	**62.80**	**3**	*e*P	**P**	**16 07 20.6**	**-2.1**
	comp=Z,7.7nm,1.3s						
BRLS	**Borolday**	**62.80**	**3**	*e*P	**P**	**16 07 20.6**	**-2.1**
BRLS				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KKAR	**Karatay Array**	**62.91**	**3**	P	**P**	**16 07 22.4**	**-1.0**
KKAR	**Karatay Array**	**62.91**	**3**	P	**P**	**16 07 22.4**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GNI	**Garni**	**63.12**	**342**	P	**P**	**16 07 25.2**	**0.0**
GNI	**Garni**	**63.12**	**342**	LR	LR	16 33 18.9	
	comp=Z,487nm,19.4s,baz=138,slow=34						
GNI	**Garni**	**63.12**	**342**	*de*P	**P**	**16 07 26.9**	**+1.8**
GNI				pmax	pmax		
	comp=Z,31nm,1.1s						
GNI	**Garni**	**63.12**	**342**	P	P	16 07 31.1	+6.0
	comp=Z,20nm,1.4s						
OOD	**Oodnadatta**	**63.20**	**112**	P	**P**	**16 07 28.9**	**+3.1**
TNSS	**Tian-Shan**	**63.48**	**9**	*e*P	**P**	**16 07 27.2**	**-0.6**
TNSS	**Tian-Shan**	**63.48**	**9**	*e*P	**P**	**16 07 27.1**	**-0.6**
WRA	**Warramunga Arr**	**63.51**	**103**	P	**P**	**16 07 25.6**	**-2.4**
	comp=Z,4.1nm,0.8s,baz=259,slow=5.8,SNR=18						
WRA				LR	LR	16 32 14.0	
	comp=Z,1μm,19.4s,baz=295,slow=34						
	comp=Z,4.1nm,0.8s						
WRA	**Warramunga Arr**	**63.51**	**103**	P	**P**	**16 07 27.1**	**-0.9**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.5s						
WB2	**Warramunga Arr**	**63.52**	**103**	IAmb	IAmb	16 07 40.5	
	comp=Z,24nm,1.1s						
WRAB	**Tennant Creek**	**63.52**	**103**	P	**P**	**16 07 26.9**	**-1.2**
WRAB				IAmb	IAmb	16 07 32.3	
	comp=Z,26nm,1.2s						
WRAB	**Tennant Creek**	**63.52**	**103**	*de*P	**P**	**16 07 28.4**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,28nm,1.3s						
KDU	**Kakadu**	**63.59**	**95**	P	**P**	**16 07 26.6**	**-2.0**
KDU	**Kakadu**	**63.59**	**95**	P	**P**	**16 07 29.3**	**+0.8**
WB0	**Warramunga Arr**	**63.60**	**103**	IAmb	IAmb	16 07 32.7	
	comp=Z,27nm,1.4s						
SGDS	**Sogindy**	**63.60**	**7**	*e*P	**P**	**16 07 27.9**	**-0.3**
SGDS	**Sogindy**	**63.60**	**7**	*e*P	**P**	**16 07 27.8**	**-0.3**
MDOK	**Medeo**	**63.62**	**9**	*e*P	**P**	**16 07 28.1**	**-0.2**
MDOK	**Medeo**	**63.62**	**9**	*e*P	**P**	**16 07 28.1**	**-0.2**
AAA	**Alma-Ata**	**63.65**	**9**	*e*P	**P**	**16 07 28.2**	**-0.2**
	comp=Z,16nm,1.1s						
AAA	**Alma-Ata**	**63.65**	**9**	*e*P	**P**	**16 07 28.2**	**-0.2**
AAA				pmax	pmax		
	comp=Z,16nm,1.1s						
WR0	**Warramunga Arr**	**63.69**	**103**	IAmb	IAmb	16 07 41.0	
	comp=Z,13nm,1.1s						
SATY	**Saty**	**63.73**	**10**	*e*P	**P**	**16 07 28.8**	**-0.3**
	comp=Z,14nm,1.1s						
SATY	**Saty**	**63.73**	**10**	*e*P	**P**	**16 07 28.7**	**-0.3**
SATY				pmax	pmax		
	comp=Z,14nm,1.1s						
ZHN	**Zhinishke**	**63.84**	**10**	*e*P	**P**	**16 07 29.3**	**-0.5**
	comp=Z,5.4nm,0.8s						
ZHN	**Zhinishke**	**63.84**	**10**	*e*P	**P**	**16 07 29.2**	**-0.5**
ZHN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
UZB	**Uzynbulak**	**63.92**	**10**	*e*P	**P**	**16 07 30.0**	**-0.3**
UZB	**Uzynbulak**	**63.92**	**10**	*e*P	**P**	**16 07 29.9**	**-0.3**
SHLS	**Shalkode**	**64.00**	**11**	*e*P	**P**	**16 07 30.9**	**+0.1**
	comp=Z,6.6nm,1.0s						
SHLS	**Shalkode**	**64.00**	**11**	*e*P	**P**	**16 07 30.9**	**+0.1**
SHLS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KPKS	**Kokpek**	**64.17**	**10**	*e*P	**P**	**16 07 31.4**	**-0.5**
	comp=Z,5.7nm,1.1s						
KPKS	**Kokpek**	**64.17**	**10**	*e*P	**P**	**16 07 31.3**	**-0.5**
KPKS				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KUU	**Kurty**	**64.24**	**8**	*e*P	**P**	**16 07 31.9**	**-0.3**
	comp=Z,7.7nm,1.1s						
KUU	**Kurty**	**64.24**	**8**	*e*P	**P**	**16 07 31.9**	**-0.3**
KUU				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CHKK	**Chushkaly**	**64.29**	**9**	*e*P	**P**	**16 07 32.5**	**-0.1**
CHKK	**Chushkaly**	**64.29**	**9**	*e*P	**P**	**16 07 32.5**	**-0.1**
ARPR	**Arapgir-MALATY**	**64.35**	**336**	P	**P**	**16 07 34.5**	**+1.3**
ARPR				IAmb	IAmb	16 08 04.2	
	comp=Z,20nm,1.2s						
SNAA	**Sanae**	**64.63**	**199**	P	**P**	**16 07 33.7**	**-0.9**
SNAA				IAmb	IAmb	16 07 43.2	
	comp=Z,8.0nm,0.9s						
SNAA	**Sanae**	**64.63**	**199**	⇑P	**P**	**16 07 33.7**	**-0.9**
	comp=Z,144nm,0.7s						
SNAA	**Sanae**	**64.63**	**199**	P	**P**	**16 07 34.1**	**-0.4**
	comp=Z,4.7nm,0.9s,baz=91,slow=9.1,SNR=11						
SNAA				LR	LR	16 30 35.9	
	comp=Z,1μm,21.9s,baz=148,slow=31						
	comp=Z,4.7nm,0.9s						
SNAA	**Sanae**	**64.63**	**199**	⇓*e*P	**P**	**16 07 34.0**	**-0.6**
SNAA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ENH	**Enshi**	**65.00**	**41**	P	**P**	**16 07 38.9**	**+1.4**
HTT	**Hallett**	**65.09**	**118**	P	**P**	**16 07 39.8**	**+1.5**
	comp=Z,19nm,1.5s						
BCA	**Borcka**	**65.28**	**340**	⇑P	**P**	**16 07 40.1**	**+1.0**
BATM	**Batumi**	**65.39**	**340**	⇑P	**P**	**16 07 35.4**	**-4.4**
KTUT	**Trabzon**	**65.49**	**338**	⇓P	**P**	**16 07 43.4**	**+3.0**
TDK	**Taldyqorghan**	**65.62**	**9**	*e*P	**P**	**16 07 41.3**	**+0.1**
	comp=Z,8.5nm,0.9s						
TDK	**Taldyqorghan**	**65.62**	**9**	*e*P	**P**	**16 07 41.3**	**+0.1**
TDK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
VNA2	**Neumayer--Watz**	**65.92**	**200**	⇑P	**P**	**16 07 42.2**	**-0.7**
	comp=Z,11nm,0.7s,baz=78,slow=7.7						
LZH	**Lanzhou**	**66.14**	**33**	*e*P	**P**	**16 07 47.2**	**+2.3**

STKA Stephens Creek 67.56 117 P **P 16 07 52.4 -1.6**
comp=Z,3.5nm,0.7s,baz=289,slow=7.5,SNR=6.4
STKA LR LR 16 32 57.4
comp=Z,726nm,21.9s,baz=250,slow=32
comp=Z,3.5nm,0.7s
STKA Stephens Creek 67.56 117 P **P 16 07 57.3 +3.3**
STKA Stephens Creek 67.56 117⇓*eP* **P 16 07 50.5 -3.5**
IDI Anoyia 67.57 324 LR LR 16 35 23.0
comp=Z,178nm,21.0s,baz=108,slow=34
MAKZ Makanchi 67.99 12 P **P 16 07 57.1 +0.9**
MAKZ IAmb IAmb 16 08 01.4
comp=Z,12nm,1.3s
MAKZ Makanchi 67.99 12 P **P 16 07 57.1 +0.9**
MAKZ pmax pmax
comp=Z,12nm,1.3s
MK31 Makanchi Array 68.03 12 IAmb IAmb 16 08 01.7
comp=Z,9.3nm,1.1s
MK31 Makanchi Array 68.03 12*d i*P **P 16 07 57.0 +0.5**
MKAR Makanchi Array 68.03 12 P **P 16 07 54.8 -1.7**
MKAR Makanchi Array 68.03 12 P **P 16 07 54.6 -1.9**
comp=Z,5.4nm,0.9s,baz=189,slow=5.6,SNR=18
MKAR LR LR 16 36 55.1
comp=Z,801nm,19.3s,baz=174,slow=35
comp=Z,5.4nm,0.9s
MKAR Makanchi Array 68.03 12 *i* P **P 16 07 56.0 -0.5**
MKAR pmax pmax
comp=Z,5.0nm,0.9s
QIS Mount Isa 68.17 105 P **P 16 07 58.0 -0.1**
comp=Z,20nm,1.0s
TPUB Ta-pu 68.26 54 P **P 16 07 57.7 -0.8**
WHN Wuhan 68.26 44 P **P 16 08 00.1 +1.8**
WHN pmax pmax
comp=Z,96nm,1.3s
WHN LR LR
comp=Z,2μm,20.0s
SSLB Suanglung 68.78 53 P **P 16 08 04.2 +2.5**
ABKAR Akbulak array 69.17 356 IAmb IAmb 16 08 15.2
comp=Z,9.3nm,0.8s
ANN Anapa 69.66 338 *eP* **P 16 08 04.8 -1.8**
ANN *e**PP **pP 16 08 08.1 -2.6**
ANN *e*S **S 16 17 14.6 +0.1**
ANN *e*SS **SS 16 21 43.5 +0.2**
ANN pmax pmax
comp=Z,37nm,1.0s
LYN LuoYang 69.78 39 P P 16 08 14.1 +6.4
LYN pmax pmax
comp=Z,18nm,1.1s
QSPA South Pole Qui 70.11 180 P **P 16 08 07.4 -2.0**
QSPA South Pole Qui 70.11 180 P **P 16 08 07.3 -2.2**
comp=Z,11nm,1.0s,baz=274,slow=3.0,SNR=17
QSPA LR LR 16 36 13.0
comp=Z,841nm,18.9s,baz=306,slow=34
comp=Z,11nm,1.0s
AKTO Aktyubinsk 70.50 354 LR LR 16 38 09.5
comp=Z,428nm,20.6s,baz=114,slow=35
QLP Quilpie 70.90 112 P **P 16 08 16.3 +1.5**
comp=Z,31nm,1.1s
CMSA Cobar Meteorol 71.05 117 P **P 16 08 16.3 +0.7**
comp=Z,24nm,1.2s
CMSA Cobar Meteorol 71.05 117 P **P 16 08 19.2 +3.5**
KURBB Kurchatov Arra 71.14 8 P **P 16 08 14.6 -1.0**
comp=Z,6.4nm,1.0s,baz=204,slow=6.6,SNR=18
KURBB LR LR 16 36 51.5
comp=Z,854nm,21.8s,baz=167,slow=34
comp=Z,6.4nm,1.0s
KURK Kurchatov 71.24 8 P **P 16 08 15.0 -1.1**
KURK IAmb IAmb 16 08 22.3
comp=Z,16nm,1.1s
KURK Kurchatov 71.24 8*c i*P **P 16 08 15.6 -0.6**
KURK pmax pmax
comp=Z,18nm,1.1s
TORD Torodi Ar. Bea 71.57 292 P **P 16 08 19.0 0.0**
comp=Z,1.0nm,0.9s,baz=115,slow=6.3,SNR=4.5
TORD LR LR 16 38 51.3
comp=Z,527nm,20.4s,baz=116,slow=35
comp=Z,1.0nm,0.9s
NJ2 Nanjing 72.19 45 *eP* **P 16 08 24.2 +1.9**
NJ2 pP **sP 16 08 26.9 -0.8**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
NJ2 pmax pmax
comp=Z,250nm,3.6s
YNG Young 72.68 121 P **P 16 08 29.2 +3.7**
comp=Z,62nm,1.2s
YNG Young 72.68 121 P **P 16 08 29.6 +4.1**
BTO Baotou 72.72 33 *eP* **P 16 08 26.1 +0.6**
BTO pP **sP 16 08 30.7 -0.2**
BTO sP **pwP 16 08 33.5 -0.1**
BTO PP **PP 16 11 07.5 -0.2**
BTO S **S 16 17 53.3 +2.8**
BTO SS **SS 16 22 32.5 +1.7**
BTO pmax pmax
comp=Z,13nm,0.6s
BTO pmax pmax
comp=Z,280nm,4.7s
BTO LR LR
comp=Z,640nm,12.0s
BTO LR LR
comp=Z,1μm,16.7s
BTO LR LR
comp=Z,2μm,17.1s
BVAR Borovoye Array 72.80 3 P **P 16 08 24.4 -1.1**
comp=Z,4.7nm,0.8s,baz=148,slow=8.5,SNR=16
BVAR LR LR 16 40 05.0
comp=Z,636nm,18.9s,baz=174,slow=36
comp=Z,4.7nm,0.8s
BRVK Borovoye 72.83 3 P **P 16 08 24.5 -1.2**
BRVK IAmb IAmb 16 08 37.3
comp=Z,8.3nm,0.8s
BRVK Borovoye 72.83 3*de*P **P 16 08 25.5 -0.2**
BRVK pmax pmax
comp=Z,8.0nm,0.8s
ELND Elena 72.83 330⇓P **P 16 08 27.9 +1.9**
BELA Belgrano 2 72.86 193 P **P 16 08 25.0 -0.7**
CAN Canberra 72.94 122 P **P 16 08 31.0 +4.0**
HNS HongShan 73.05 39⇑P **P 16 08 28.9 +1.6**
HNS S **S 16 17 56.8 +2.7**
HNS pmax pmax
comp=Z,12nm,1.1s
HNS LR LR
comp=Z,710nm,21.0s
HNS LR LR
comp=Z,260nm,18.2s
HNS LR LR
comp=Z,730nm,21.2s
MTSU Mount Surprise 73.10 104 P **P 16 08 30.6 +2.5**
comp=Z,21nm,0.9s
MTSU Mount Surprise 73.10 104 P **P 16 08 31.9 +3.7**
HARR Harsova 73.28 332⇓P P 16 08 35.2 +6.7
HARR Harsova 73.28 332⇓P P 16 08 35.2 +6.7
AULRC Lightning Ridg 73.45 116 P **P 16 08 34.8 +4.8**
CFR Carcaliu 73.58 333⇑P **P 16 08 34.4 +4.1**
CFR Carcaliu 73.58 333⇑P **P 16 08 34.4 +4.1**
HHC Hu-ho-hao-te 73.71 34 *eP* **P 16 08 33.9 +2.6**
HHC pP sP 16 08 37.1 +0.3
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,160nm,5.9s
TIA Tai'an 73.72 41 P **P 16 08 35.6 +4.3**
TIA pmax pmax
comp=Z,16nm,1.4s
BELG Belogornoye 73.90 348 LR LR 16 40 55.4
comp=Z,532nm,21.9s,baz=135,slow=36
BELG Belogornoye 73.90 348⇓*iP* **P 16 08 34.4 +2.4**
BELG pmax pmax
comp=Z,5.0nm,0.9s
VRH Novokhopyorsk 74.11 344 *eP* **P 16 08 35.2 +2.0**
VRH pmax pmax
comp=Z,5.0nm,0.4s
ISR Istrita 74.23 332⇑P P 16 08 40.6 +6.4
ISR Istrita 74.23 332⇑P P 16 08 40.6 +6.4
ISR Istrita 74.23 332 P P 16 08 40.8 +6.6
comp=Z,29nm,1.0s
CTA Charters Tower 74.32 106 LR LR 16 38 51.8
comp=Z,67nm,18.9s,baz=262,slow=34
CTA Charters Tower 74.32 106 P **P 16 08 39.2 +3.9**
BISRR Bisoca 74.49 332⇓P P 16 08 46.5 +11
JAY Jayapura 74.50 87 LR LR 16 39 45.9
comp=Z,420nm,20.4s,baz=255,slow=35
PANC Panciu 74.56 333⇓P P 16 08 45.8 +10
NEHR Nehoiu 74.58 332⇑P P 16 08 45.5 +9.3
MILM Milestii Mici 74.69 334⇑P **P 16 08 41.2 +4.5**
MILM Milestii Mici 74.69 334⇑P **P 16 08 41.2 +4.5**
VRI Vrincioaia 74.73 333⇓P **P 16 08 38.1 +1.1**
VRI Vrincioaia 74.73 333⇓P **P 16 08 38.1 +1.1**

VRI Vrincioaia 74.73 333 P P 16 08 43.6 +6.6
comp=Z,27nm,0.9s,comp=Z,194nm
PLOR Plostina 74.75 332⇑P P 16 08 43.4 +6.2
PLOR Plostina 74.75 332⇑P P 16 08 43.4 +6.2
PLOR3 Plostina Array 74.76 332 P **P 16 08 41.4 +4.2**
comp=Z,26nm,1.1s
DBIC Dimbokro 74.78 283 P **P 16 08 37.9 -0.1**
comp=Z,5.1nm,0.8s,baz=114,slow=5.3,SNR=4.1
DBIC LR LR 16 40 28.6
comp=Z,722nm,18.5s,baz=108,slow=35
comp=Z,5.1nm,0.8s
MLR Muntele Rosu 74.78 332⇑P P 16 08 44.4 +6.9
MLR Muntele Rosu 74.78 332⇑P P 16 08 44.4 +6.9
VSR Storozhevoye 74.81 343 *eP* P 16 08 27.6 -10
VSR pmax pmax
comp=Z,10.0nm,0.8s
COVR Voineasa-Covas 74.94 332⇑P **P 16 08 40.2 +1.9**
MTUR Matau 74.97 331⇓P P 16 08 49.9 +11
VOIR 75.14 331⇓P **P 16 08 43.3 +3.8**
VOIR 75.14 331⇓P **P 16 08 43.3 +3.8**
VOIR 75.14 331 P P 16 08 45.7 +6.2
comp=Z,16nm,1.0s
TURR Turia 75.19 332⇑P **P 16 08 42.7 +3.0**
TESR Tescani 75.27 333⇑P **P 16 08 40.6 +0.5**
ARR Arges 75.28 331⇑P **P 16 08 41.7 +1.4**
OZUR 75.32 332⇓P P 16 08 45.5 +5.1
ZAA0 Zalesovo Array 75.35 11 IAmb IAmb 16 08 51.7
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 75.35 11 P **P 16 08 38.7 -1.7**
comp=Z,6.2nm,0.6s,baz=210,slow=6.0,SNR=23
ZALV LR LR 16 40 48.3
comp=Z,436nm,18.1s,baz=183,slow=35
comp=Z,6.2nm,0.6s
ZALV Zalesovo Beam 75.35 11 *i* P **P 16 08 39.9 -0.5**
ZALV pmax pmax
comp=Z,6.0nm,0.6s
BOVS Bovan 75.38 328⇑P **P 16 08 43.1 +2.4**
DOPR Dopca 75.40 332⇓P P 16 08 47.2 +6.3
AUPHS Peel High Scho 75.48 118 P **P 16 08 45.8 +3.9**
SORM Soroca 75.86 335⇑P P 16 08 48.4 +5.0
SORM Soroca 75.86 335⇑P P 16 08 48.4 +5.0
SORM Soroca 75.86 335 P P 16 08 48.6 +5.2
comp=Z,12nm,0.8s
HERR Herculane 75.95 329⇑P P 16 08 50.3 +6.3
JOW Kunigami 75.99 54 LR LR 16 35 19.4
comp=Z,170nm,21.6s,baz=219,slow=30
LPSR Galich'ya Gora 76.11 343 *eP* **P 16 08 43.9 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
GZR Gura Zlata 76.16 330⇓P **P 16 08 47.5 +2.2**
GZR Gura Zlata 76.16 330⇓P **P 16 08 47.5 +2.2**
MDVR Moldovita 76.21 329⇓P P 16 08 51.0 +5.4
ARMA Armidale 76.27 118 P **P 16 08 50.9 +4.4**
comp=Z,13nm,1.5s
ARMA Armidale 76.27 118 P **P 16 08 50.8 +4.3**
ARTI Arti 76.38 355 P **P 16 08 43.7 -2.5**
ARTI IAmb IAmb 16 08 57.5
comp=Z,9.6nm,0.7s
ARTI Arti 76.38 355*c i*P **P 16 08 45.9 -0.3**
ARTI 16 08 58.3
ARTI 16 11 32.8
ARTI S **S 16 18 32.6 +2.0**
ARTI pmax pmax
comp=Z,9.0nm,0.9s
ARTI MLR MLR
comp=Z,615nm,18.0s
SONM Songino Array 76.50 27 P **P 16 08 46.3 -1.0**
comp=Z,4.3nm,0.8s,baz=224,slow=5.3,SNR=19
SONM LR LR 16 42 37.2
comp=Z,584nm,19.3s,baz=209,slow=36
comp=Z,4.3nm,0.8s
SONM Songino Array 76.50 27 P **P 16 08 46.0 -1.3**
SONM pmax pmax
comp=Z,11nm,1.0s
ARCR ARCALIA 76.72 332⇑P **P 16 08 44.5 -3.9**
SURR Surduc 76.73 330⇓P **P 16 08 52.4 +3.9**
BURAR Bucovina Array 76.75 333⇓P **P 16 08 52.8 +4.2**
BURAR Bucovina Array 76.75 333⇓P **P 16 08 52.8 +4.2**
ULN Ulaanbaatar 76.80 27 P **P 16 08 47.5 -1.5**
ULN IAmb IAmb 16 09 01.5
comp=Z,11nm,1.1s
ULN Ulaanbaatar 76.80 27*c i*P **P 16 08 50.0 +1.0**
ULN pmax pmax
comp=Z,13nm,1.2s
BZS Buzias 76.87 330⇓P **P 16 08 50.5 +1.3**
BZS Buzias 76.87 330⇓P **P 16 08 50.5 +1.3**
MARR Marisel-Cluj 76.96 331⇑P **P 16 08 50.4 +0.5**
KMPD K-Podol'skiy 76.96 334 P P 16 08 55.0 +5.3
KMPD pP pwP 16 08 57.7 +0.1
DRGR 77.23 331⇓P P 16 08 58.4 +7.0
DRGR 77.23 331⇓P P 16 08 58.4 +7.1
KEST Kesra 77.31 316 P **P 16 08 52.5 +0.4**
comp=Z,6.2nm,1.2s,baz=74,slow=11,SNR=1.9
KEST LR LR 16 44 20.0
comp=Z,406nm,18.1s,baz=103,slow=37
comp=Z,6.2nm,1.2s
SIRR Siria 77.33 330⇑P **P 16 08 56.0 +4.2**
KSV Kosov 77.35 333 P P 16 08 57.5 +5.6
KSV Kosov 77.35 333 P P 16 08 57.5 +5.6
AK10 Malin Array Si 77.50 337 P P 16 08 58.2 +5.5
AK09 Malin Array Si 77.51 337 P P 16 08 57.7 +5.0
AK06 Malin Array Si 77.51 337 P P 16 08 58.4 +5.7
AK08 Malin Array Si 77.53 337 P P 16 08 57.5 +4.7
AK05 Malin Array Si 77.54 337 P P 16 08 57.6 +4.7
BMR Baia Mare 77.54 332⇑P **P 16 08 57.3 +4.4**
BMR Baia Mare 77.54 332⇑P **P 16 08 57.3 +4.4**
AK02 Malin Array Si 77.57 337 P P 16 08 57.7 +4.7
AK12 Malin Array Si 77.58 337 P P 16 08 57.8 +4.7
AK14 Malin Array Si 77.58 337 P P 16 08 57.8 +4.7
AK13 Malin Array Si 77.59 337 P P 16 08 57.8 +4.7
AK01 Malin Array Si 77.59 337 P P 16 08 57.9 +4.7
AKASG Malin Array Be 77.60 337 P **P 16 08 53.0 -0.2**
comp=Z,0.6nm,0.5s,baz=140,slow=4.3,SNR=8.3
comp=Z,0.6nm,0.5s
AKASG Malin Array Be 77.60 337 P **P 16 08 53.0 -0.2**
AKBB Malin Array Si 77.60 337 IAmb IAmb 16 09 03.4
comp=Z,21nm,0.8s
AKBB Malin Array Si 77.60 337⇓*eP* **P 16 08 53.2 0.0**
AKBB pmax pmax
comp=Z,25nm,0.9s
AKBB Malin Array Si 77.60 337 P P 16 08 57.9 +4.7
KIEV Kiev 77.60 337 P **P 16 08 53.4 +0.3**
KIEV IAmb IAmb 16 09 03.4
comp=Z,20nm,0.9s
KIEV Kiev 77.60 337⇓P **P 16 08 53.6 +0.4**
KIEV Kiev 77.60 337⇓P **P 16 08 53.6 +0.4**
KIEV Kiev 77.60 337 P P 16 08 57.9 +4.7
comp=Z,95nm,0.8s
AK11 Malin Array Si 77.60 337 P P 16 08 57.9 +4.7
AK16 Malin Array Si 77.62 337 P P 16 08 58.0 +4.7
AK03 Malin Array Si 77.62 337 P P 16 08 58.0 +4.7
AK15 Malin Array Si 77.63 337 P P 16 08 58.1 +4.7
AK04 Malin Array Si 77.64 337 P P 16 08 58.1 +4.7
AK17 Malin Array Si 77.65 337 P P 16 08 58.2 +4.8
AK18 Malin Array Si 77.67 337 P P 16 08 58.3 +4.7
AK23 Malin Array Si 77.69 337 P P 16 08 58.4 +4.7
AK19 Malin Array Si 77.69 337 P P 16 08 58.4 +4.7
AK20 Malin Array Si 77.71 337 P P 16 08 58.5 +4.7
MI30 MI30,Zelenitsa 78.02 336 P **P 16 08 59.5 +4.0**
XLT XiLinHaoTe 78.23 34 *eP* P 16 09 02.1 +5.1
XLT sP PcP 16 09 08.8 +2.4
XLT pmax pmax
comp=Z,11nm,1.3s
PMG Port Moresby 78.31 96 P **P 16 08 57.6 -0.5**
comp=Z,15nm,0.7s,baz=202,slow=19,SNR=0.4
PMG LR LR 16 40 20.5
comp=Z,782nm,21.0s,baz=252,slow=33
comp=Z,15nm,0.7s
MORH Mrgy, Hungar 78.74 328⇓P P 16 09 06.8 +7.2
OBN Obninsk 78.99 343 *eP* **P 16 09 01.4 +0.6**
OBN *e**PP **sP 16 09 04.6 -1.8**
OBN *e* 16 09 08.9
OBN *e* 16 11 58.5
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,577nm,22.0s
KOLS Kolonicke sedl 79.03 332 *eP* P 16 09 10.9 +10
MOS Moscow 79.27 344 *eP* **P 16 08 59.5 -2.8**
MOS *e* 16 11 58.0
MOS *e*S **S 16 18 57.3 -4.4**
KIRV Kirov 79.53 351 LR LR 16 43 51.0
comp=Z,454nm,21.3s,baz=137,slow=35
KIRV Kirov 79.53 351⇑*eP* **P 16 09 04.0 +0.4**

VYHS Vyhne 80.27 330 *eP* P 16 09 17.2 +9.3
LANS Liptovska Anna 80.44 331 *eP* P 16 09 17.1 +8.2
LANS pmax pmax
comp=Z,5.0nm,1.0s
LANS Liptovska Anna 80.44 331 *eP* P 16 09 17.1 +8.2
MODS Modra-Piesok 80.92 329 *eP* P 16 09 18.2 +6.8
MODS Modra-Piesok 80.92 329 *eP* P 16 09 18.2 +6.8
RONA Rosalia, Austr 80.93 328 *eP* **P 16 09 14.7 +3.2**
comp=Z,14nm,1.2s
OBKA Obir 81.01 327 *eP* **P 16 09 14.7 +2.7**
comp=Z,13nm,1.3s
ARSA Arzberg 81.01 328 *ep*P pP 16 09 16.1 0.0
comp=Z,5.5nm,0.8s
OJC Ojcow 81.07 332 *eP* P 16 09 21.1 +9.0
JAVC Velka Javorina 81.07 330 *eP* **P 16 09 14.2 +1.9**
JNU Nakatsue 81.15 50 LR LR 16 46 19.2
comp=Z,270nm,18.3s,baz=235,slow=37
MNK Minsk 81.16 338 *i* P **P 16 09 11.8 -0.8**
comp=E,16nm,0.9s
MNK *i* P **P 16 09 11.8 -0.8**
comp=N,21nm,1.0s
MNK *i* P **P 16 09 11.8 -0.8**
comp=Z,11nm,0.8s,baz=144
MNK *i* PP **PP 16 12 15.8 -2.4**
MNK *i* PPP PPP 16 14 06.2
MNK *i* S **S 16 19 22.4 +0.6**
MNK *i* SS **SS 16 24 39.9 +2.3**
MNK *i* SSS SSS 16 28 07.9
MNK *i* LQ LQ 16 39 43.7
MNK *i* LR LR 16 44 05.7
MNK *i* LRM MLR 16 45 50.9
comp=Z,470nm,18.5s
MNK *i* LRM MLR 16 48 14.3
comp=N,2μm,22.8s
MNK *i* LRM MLR 16 48 21.0
comp=E,1μm,23.6s
MNK Minsk 81.16 338 *i* P **P 16 09 11.7 -0.8**
MNK *i* 16 12 15.8
MNK *i* PPP PPP 16 14 06.1
MNK *i* S **S 16 19 22.3 +0.6**
MNK *i* SS **SS 16 24 39.8 +2.3**
MNK *i* SSS SSS 16 28 07.8
MNK pmax pmax
comp=N,21nm,1.0s
MNK pmax pmax
comp=E,16nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.8s
MNK MLR MLR
comp=Z,470nm,19.0s
MNK MLR MLR
comp=N,2μm,23.0s
MNK MLR MLR
comp=E,1μm,24.0s
CONA Conrad Observa 81.30 328 P **P 16 09 14.8 +1.2**
comp=E,11nm,0.9s,SNR=5.1
MAUC Maruska 81.35 330 *eP* P 16 09 22.8 +9.1
KSAR Wonju Array Be 81.36 45 P **P 16 09 13.2 -0.8**
KSRS Korea Array 81.39 45 P **P 16 09 12.1 -2.1**
comp=E,4.2nm,0.9s,baz=240,slow=5.4,SNR=14
KSRS LR LR 16 44 32.5
comp=E,493nm,20.1s,baz=245,slow=35
comp=E,4.2nm,0.9s
MORC Moravsky Berou 81.77 330 *eP* **P 16 09 19.3 +3.3**
MORC Moravsky Berou 81.77 330⇓P **P 16 09 16.2 +0.2**
MORC Moravsky Berou 81.77 330⇓P **P 16 09 16.2 +0.2**
KRUC Moravsky 81.82 329 *eP* **P 16 09 18.6 +2.4**
NACGM Naroch 81.87 338⇑*iP* P 16 09 25.8 +10
comp=Z,30nm,0.8s,baz=143
VRAC Vranov 81.89 330 *eP* **P 16 09 19.7 +3.1**
VRAC Vranov 81.89 330⇑P **P 16 09 17.5 +0.9**
VRAC Vranov 81.89 330⇑P **P 16 09 17.5 +0.9**
KBA Koelnbreinsper 82.01 327 *ep*P pP 16 09 20.7 -0.8
comp=Z,7.8nm,1.1s
MOA Molln 82.04 328 *eP* **P 16 09 19.2 +1.8**
comp=Z,21nm,1.4s
ABTA Abfaltersbach 82.23 326 *ep*P pP 16 09 21.8 -0.9
comp=Z,11nm,0.9s,SNR=5.0
TREC Trest 82.41 329 *eP* P 16 09 25.1 +5.8
TREC Trest 82.41 329 *eP* P 16 09 25.1 +5.8
SUW Suwalki 82.49 336 *eP* P 16 09 29.5 +10
LESA Schwarzleotal 82.58 327 *eP* **P 16 09 21.6 +1.3**
comp=Z,16nm,1.0s
DPC Dobruska-Polom 82.74 330 *eP* P 16 09 28.5 +7.5
DPC Dobruska-Polom 82.74 330 *eP* P 16 09 28.5 +7.5
OSTC Ostas 82.93 330 *eP* P 16 09 29.1 +7.1
OSTC Ostas 82.93 330 *eP* P 16 09 29.1 +7.1
GERES GERESS Array B 82.98 328 P **P 16 09 23.5 +1.1**
comp=Z,0.3nm,0.3s,baz=128,slow=5.4,SNR=2.5
comp=Z,0.3nm,0.3s
WTTA Wattenberg 83.02 326 *ep*P pP 16 09 25.9 -1.0
comp=Z,15nm,1.5s
WATA Walderalm 83.10 326 *ep*P pP 16 09 27.1 -0.1
comp=Z,13nm,1.2s
SQTA Sankt Quirin 83.22 326 *e*PcP **PcP 16 09 28.7 +0.6**
comp=Z,7.2nm,0.8s
KHC Kasperske Hory 83.23 328 *eP* P 16 09 31.8 +8.2
KHC Kasperske Hory 83.23 328⇑*eP* **P 16 09 23.9 +0.3**
KHC pmax pmax
comp=Z,18nm,1.2s
FETA Feichten 83.35 325 *ep*P pP 16 09 27.7 -0.8
comp=Z,15nm,1.2s,SNR=5.4
FUORN Ofenpass-Fuorn 83.35 325 IAmb IAmb 16 09 34.8
comp=Z,10.0nm,1.1s
MOTA Moosalm 83.35 326 *ep*P pP 16 09 28.0 -0.6
comp=Z,10nm,1.0s
CN2 Changchun 83.42 39 *eP* **P 16 09 24.9 +0.3**
CN2 *es*P pwP 16 09 31.8 -1.0
CN2 pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 83.42 347 *eP* **P 16 09 22.4 -1.8**
KLMR pmax pmax
comp=Z,29nm,1.1s
RETA Reutte 83.62 326 *eP* **P 16 09 28.6 +2.9**
comp=Z,2.9nm,0.7s
DAVA Damuels 83.97 325 *eP* **P 16 09 30.3 +2.7**
comp=Z,16nm,0.9s,SNR=4.3
BRG Berggiesshubel 84.21 330 *eP* P 16 09 37.9 +9.4
BRG Amp 16 09 40.0
comp=Z,5.2nm,1.0s
CLL Collm 84.94 330 *i* Px Px 16 09 42.2
comp=Z,9.0nm,1.0s
MDT Midelt 85.66 307 LR LR 16 49 49.6
comp=Z,642nm,18.4s,baz=110,slow=37
BNX BinXian 85.67 38⇓P **P 16 09 38.5 +2.5**
BNX pmax pmax
comp=Z,6.0nm,1.0s
PSTR Posyet 86.04 42⇑*eP* **P 16 09 37.0 -0.8**
MSHR Mys Shultsa 86.22 42⇓*eP* **P 16 09 37.9 -0.9**
MSHR pmax pmax
comp=Z,16nm,1.0s
RPZ Rata Peaks 86.54 135 LR LR 16 40 44.8
comp=Z,374nm,18.6s,baz=256,slow=30
INU Inuyama 86.68 51 P **P 16 09 41.0 -0.2**
INU IAmb IAmb 16 09 54.3
comp=Z,20nm,1.1s
INU Inuyama 86.68 51 P **P 16 09 44.8 +3.6**
VLA Vladivostok 86.96 42⇓*eP* **P 16 09 44.0 +1.6**
VLA pmax pmax
comp=Z,33nm,1.8s
FINES FINESS Array B 87.31 342 P **P 16 09 44.3 +0.7**
comp=Z,4.9nm,1.0s,baz=144,slow=5.3,SNR=6.8
comp=Z,4.9nm,1.0s
USRK Ussuriysk Ar. 87.58 41 P **P 16 09 44.0 -1.4**
comp=Z,0.9nm,0.6s,baz=238,slow=4.6,SNR=3.0
USRK LR LR 16 49 33.4
comp=Z,247nm,19.7s,baz=235,slow=36
comp=Z,0.9nm,0.6s
USRK Ussuriysk Ar. 87.58 41 P **P 16 09 44.0 -1.4**
JHJ Hachijo jima 2 87.74 54 LR LR 16 48 05.2
comp=Z,131nm,19.3s,baz=326,slow=35
MAJO Matsushiro 88.08 50 P **P 16 09 46.5 -1.5**
MAJO Matsushiro 88.08 50 P **P 16 09 51.6 +3.6**
MAJO Matsushiro 88.08 50⇓P **P 16 09 46.4 -1.5**
MJAR Matsushiro Arr 88.08 50 P **P 16 09 47.2 -0.7**
comp=Z,9.3nm,1.1s,baz=230,slow=4.3,SNR=12
MJAR LR LR 16 46 30.9
comp=Z,236nm,22.0s,baz=245,slow=34
comp=Z,9.3nm,1.1s
HEH HeiHe 88.23 34 *eP* **P 16 09 48.2 -0.1**
HEH pmax pmax
comp=Z,6.0nm,1.3s
ESDC Sonseca Array 88.34 313 P **P 16 09 50.7 +1.5**
comp=Z,0.5nm,0.7s,baz=115,slow=4.8,SNR=2.4
ESDC LR LR 16 51 03.8
comp=Z,196nm,18.3s,baz=101,slow=37

comp=Z,0.5nm,0.7s
BBTS Babate 88.39 286 LR LR 16 47 36.5
comp=Z,528nm,21.1s,baz=344,slow=34
ZEA Zeya 90.13 31 *e*P P 16 10 03.1 +6.0
ZEA pmax pmax
comp=Z,10.0nm,1.8s
ZEA MLR MLR
comp=E,300nm,13.0s
ZEA MLR MLR
comp=Z,400nm,16.0s
HNR Honiara 90.22 100 LR LR 16 48 11.8
comp=Z,269nm,19.0s,baz=254,slow=34
NRIK Noril'sk 90.39 7 P **P 16 09 58.0 0.0**
comp=Z,0.8nm,0.6s,baz=172,slow=7.1,SNR=1.7
NRIK LR LR 16 49 17.6
comp=Z,710nm,21.2s,baz=179,slow=35
comp=Z,0.8nm,0.6s
NRIK Noril'sk 90.39 7⇑ *e*P **P 16 09 57.5 -0.5**
NRIK pmax pmax
comp=Z,7.0nm,1.5s
DZM Mont Dzumac 91.53 114 *e*LR LR 16 39 15.0
comp=Z,1μm,23.3s
DZM Mont Dzumac 91.53 114 LR LR 16 48 27.6
comp=Z,618nm,20.1s,baz=232,slow=34
NOA NORSAR Array B 92.01 336 P **P 16 10 06.4 +0.6**
comp=Z,0.8nm,0.9s,baz=128,slow=4.8,SNR=1.6
comp=Z,0.8nm,0.9s
ARCES ARCESS Array B 93.89 347 P **P 16 10 15.8 +1.5**
comp=Z,1.4nm,0.9s,baz=138,slow=5.0,SNR=1.3
ARCES LR LR 16 54 01.3
comp=Z,300nm,18.6s,baz=108,slow=36
comp=Z,1.4nm,0.9s
ASAJ Asahikawa 94.33 45 LR LR 16 50 57.5
comp=Z,287nm,21.3s,baz=263,slow=34
YAK Yakutsk 95.81 25 LR LR 16 53 27.8
comp=Z,376nm,20.1s,baz=228,slow=35
YAK Yakutsk 95.81 25⇓ *e*P **P 16 10 22.3 -0.8**
YAK pmax pmax
comp=Z,17nm,2.5s
LPAZ La Paz 122.51 234 PKP **PKPdf 16 15 52.5 -1.9**
comp=Z,1.5nm,0.9s,baz=134,slow=7.1,SNR=2.1
TBI Tubuai 124.57 139 *e*LR LR 16 54 43.8
comp=Z,1μm,33.8s
PPT2 Papeete2 128.66 134 *e*LR LR 16 56 27.9
comp=Z,414nm,24.0s
PPT2 *e*LR LR 16 56 28.3
comp=Z,367nm,25.0s
ILAR Eielson Array 130.13 18 PKP **PKPdf 16 16 05.8 -0.9**
comp=Z,0.1nm,0.5s,baz=324,slow=1.5,SNR=3.4
YKA Yellowknife Ar 137.54 1 PKP **PKPdf 16 16 17.9 -2.7**
comp=Z,0.5nm,0.7s,baz=14,slow=1.7,SNR=1.7
TAOE Nuku Hiva Isla 141.27 135 *e*LR LR 17 02 16.4
comp=Z,287nm,22.4s
ULM Lac du Bonnet 146.66 339 PKPbc **PKPdf 16 16 37.8 +0.5**
comp=Z,17nm,1.0s,baz=9.0,slow=4.0,SNR=6.8
WCI Wyandotte Cave 150.11 313 PKPab 16 16 53.2 -1.1
U49A Red Boiling Sp 150.56 310 PKPab 16 16 54.7 -1.4
GNW Green Mountain 151.52 13 PKPab 16 16 58.3 -1.4
Q44A Meyer Farm, Va 151.56 317 PKPab 16 16 58.9 -1.3
NEW Newport 151.67 5 PKPab 16 16 58.2 -2.2
ECSD EROS Data Cent 152.35 333 PKPab 16 17 01.4 -2.0
LAO LASA Array 152.68 349 PKPab 16 17 02.5 -2.2
BPMT Black Pine Rid 153.63 360 PKPab 16 17 08.7 -0.2
PDAR Pinedale Array 157.03 352 PKP **PKPdf 16 16 51.9 -1.5**
comp=Z,0.4nm,1.0s,baz=41,slow=1.9,SNR=1.6
NVAR Mina Array Bea 161.21 11 PKP **PKPdf 16 16 56.1 -2.3**
comp=Z,0.4nm,0.7s,baz=349,slow=0.9,SNR=2.0
NVAR PKPab **PKPab 16 17 41.8 0.0**
comp=Z,0.3nm,0.6s,baz=352,slow=4.0,SNR=2.1
TXAR Lajitas Array 166.98 317 PKP **PKPdf 16 17 01.0 -2.7**
comp=Z,0.1nm,0.3s,baz=53,slow=0.9,SNR=2.0
TXAR PKPab **pPKPab 16 18 09.4 -2.2**
comp=Z,4.6nm,0.9s,baz=48,slow=4.8,SNR=5.6

IDC 11 16:01:03.4±2.2,20°.43S×178°.74W,h623km±24km,
mb2.7/4,mbtmp3.7/5,Error ellipse: s-maj=35.1km
s-min=29.8km az=127.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.05**	**311**	P	P	16 02 30.7	-0.4
	12nm,0.6s,baz=30,slow=20,SNR=18						
ASAR	**Alice Springs**	**43.86**	**257**	P	P	16 08 17.1	+0.2
	0.3nm,0.5s,baz=94,slow=6.6,SNR=5.4						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**43.92**	**262**	P	P	16 08 17.4	0.0
	1.0nm,0.8s,baz=97,slow=7.6,SNR=5.9						
	1.0nm,0.8s						
QSPA	**South Pole Qui**	**69.64**	**180**	P	P	16 11 11.9	+0.2
	1.1nm,0.5s,baz=40,slow=0.8,SNR=6.3						
	1.1nm,0.5s						
ILAR	**Eielson Array**	**88.40**	**13**	P	P	16 12 50.9	+0.9
	0.4nm,0.9s,baz=216,slow=4.8,SNR=5.6						
	0.4nm,0.9s						
AKASG	**Malin Array Be**	**142.61**	**331**	PKP	PKPdf	16 19 24.4	-2.3
	1.0nm,0.7s,baz=53,slow=2.3,SNR=8.8						

*LDG **11** 16:01:35.9,36°.68N×6°.35W,h30km*
*MDD **11** 16:01:35.2±0.2,36°.71N×6°.37W,h27km±2km,mb_Lg3.7/73,*
Error ellipse: s-maj=1.9km s-min=1.4km az=38.0
*IGIL **11** 16:01:35.8,36°.68N×6°.36W,h32km,ML3.1*
*SFS **11** 16:01:35.5,36°.72N×6°.35W,h30km,ML3.7/33,ML3.6/24,*
MLv3.5/33
*INMG **11** 16:01:36.4±1.3,36°.69N×6°.36W,h31km±3km,ML3.3,Error*
ellipse: s-maj=1.8km s-min=1.4km az=56.0
ISC 11 16:01:34.4±1.6,36°.75N±0°.03×6°.33W±0°.02,h36km±1km,
n122,σ1§71/219,1C,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFS	**San Fernando**	**0.30**	**161**	Pg	**Pn**	**16 01 43.2**	**+0.7**
SFS	**San Fernando**	**0.30**	**161**	Pg	**Pn**	**16 01 43.2**	**+0.7**
SFS				Sg	**Sn**	**16 01 48.1**	**-1.0**
ESPR	**Espera**	**0.40**	**73**	Sg	**Sn**	**16 01 51.4**	**+1.4**
ESPR				Pg	**Pn**	**16 01 44.7**	**+1.3**
ESPR	**Espera**	**0.40**	**73**	Pg	**Pn**	**16 01 44.7**	**+1.3**
ESPR				Sg	**Sn**	**16 01 50.7**	**+0.7**
ESPR				*i* Vmb_Lg		16 01 52.4	
ARNO	**Arenosillo**	**0.47**	**317**	Sg	**Sn**	**16 01 53.8**	**+2.1**
ARNO				Pg	**Pn**	**16 01 46.1**	**+1.5**
EXBAR	**Barbate**	**0.65**	**149**	Pg	**Pn**	**16 01 47.4**	**+0.3**
EXBAR				Sg	**Sn**	**16 01 55.8**	**-0.3**
EJIF	**Jimena Fronter**	**0.75**	**113**	Pg	**Pn**	**16 01 49.7**	**+1.2**
EJIF				Sg	**Sn**	**16 01 59.5**	**+0.8**
EXMOR	**Moron de la Fr**	**0.80**	**62**	Pg	**Pn**	**16 01 50.8**	**+1.7**
EXMOR				Sg	**Sn**	**16 02 00.1**	**+0.4**
EMIN	**Mina Concepcio**	**1.05**	**345**	Pg	**Pn**	**16 01 53.5**	**+1.0**
EMIN				Sg	**Sn**	**16 02 08.3**	**+2.3**
EMIN				*i* Vmb_Lg		16 02 09.8	
ECEU	**Ceuta**	**1.15**	**138**	Pg	**Pn**	**16 01 55.7**	**+1.8**
ECEU				Sg	**Sn**	**16 02 10.5**	**+2.2**
ECEU	**Ceuta**	**1.15**	**138**	Pn	**Pn**	**16 01 55.6**	**+1.8**
ECEU				Sn	**Sn**	**16 02 07.9**	**-0.4**
ECEU				*i* Vmb_Lg		16 02 11.7	
CEU	**Ceuta**	**1.15**	**138**	Sg	**Sn**	**16 02 11.5**	**+3.2**
CEU				Pg	**Pn**	**16 01 56.1**	**+2.2**
EGRO	**El Granado**	**1.21**	**311**	Pn	**Pn**	**16 01 55.8**	**+1.1**
EGRO	**El Granado**	**1.21**	**311**	Pg	**Pn**	**16 01 55.7**	**+1.1**
EGRO				Sg	**Sn**	**16 02 11.6**	**+1.8**
EGRO				*i* Vmb_Lg		16 02 14.2	
PVAQ	**Vaqueiros**	**1.29**	**301**	*e*P	**Pn**	**16 01 56.7**	**+0.9**
PVAQ				*e*S	**Sn**	**16 02 12.2**	**+0.4**
PVAQ				A	A	16 02 18.4	
	391nm,0.1s						
PVAQ	**Vaqueiros**	**1.29**	**301**	Pn	**Pn**	**16 01 56.6**	**+0.9**
PBDV	**Barranco-do-Ve**	**1.37**	**291**⇑	*e*P	**Pn**	**16 01 58.0**	**+1.0**
PBDV				*e*S	**Sn**	**16 02 14.4**	**+0.4**
PBDV				A	A	16 02 19.9	
	172nm,0.1s						
ECAB	**El Cabril**	**1.51**	**28**	Pn	**Pn**	**16 01 59.6**	**+0.8**
ECAB	**El Cabril**	**1.51**	**28**	Pn	**Pn**	**16 01 60.0**	**+1.1**
ECAB				Sn	**Sn**	**16 02 19.0**	**+1.7**
ECAB				*i* Vmb_Lg		16 02 24.2	
EMAL	**Malaga-Limoner**	**1.52**	**89**	Sn	**Sn**	**16 02 19.0**	**+1.4**
EMAL				Pn	**Pn**	**16 02 00.7**	**+1.6**
PBAR	**Barrancos**	**1.53**	**338**	*e*P	**Pn**	**16 02 00.3**	**+1.2**
PBAR				*e*S	**Sn**	**16 02 18.2**	**+0.4**
PBAR				A	A	16 02 24.7	
	262nm,0.2s						
PBAR	**Barrancos**	**1.53**	**338**	Pn	**Pn**	**16 02 00.3**	**+1.2**
PBAR				Sn	**Sn**	**16 02 18.1**	**+0.4**
PCVE	**Castro Verde**	**1.62**	**303**	*e*P	**Pn**	**16 02 01.4**	**+1.0**
PCVE				*e*S	**Sn**	**16 02 20.7**	**+0.6**
PCVE				A	A	16 02 26.1	
	165nm,0.1s						
PCVE	**Castro Verde**	**1.62**	**303**	Pn	**Pn**	**16 02 01.4**	**+1.0**
PBEJ	**Beja**	**1.77**	**317**	*e*P	**Pn**	**16 02 03.4**	**+1.0**
PBEJ				*e*S	**Sn**	**16 02 23.5**	**-0.1**
PBEJ				A	A	16 02 36.2	
	86nm,0.1s						
EGOR	**Sierra Gorda,**	**1.81**	**78**	Pn	**Pn**	**16 02 04.7**	**+1.5**
EGOR	**Sierra Gorda,**	**1.81**	**78**	Pn	**Pn**	**16 02 04.7**	**+1.5**
EGOR				Sn	**Sn**	**16 02 26.8**	**+1.8**
EGOR				*i* Vmb_Lg		16 02 34.8	
MESJ	**Messejana**	**1.86**	**306**	*e*P	**Pn**	**16 02 04.7**	**+1.0**
MESJ				*e*S	**Sn**	**16 02 25.4**	**-0.5**
MESJ				A	A	16 02 40.8	
	113nm,0.2s						
MESJ	**Messejana**	**1.86**	**306**	*e*P	**Pn**	**16 02 04.7**	**+1.0**
MESJ				*e*S	**Sn**	**16 02 25.3**	**-0.5**
MESJ				IAML		16 02 26.4	
	comp=E,74nm,0.1s						
MORF	**Marmelete**	**1.94**	**287**	*e*P	**Pn**	**16 02 05.5**	**+0.7**
MORF				*e*S	**Sn**	**16 02 27.7**	**-0.3**
MORF				A	A	16 02 28.7	
	comp=E,187nm,0.1s						
MORF	**Marmelete**	**1.94**	**287**	*e*P	**Pn**	**16 02 05.5**	**+0.7**
MORF				*e*S	**Sn**	**16 02 26.9**	**-1.1**
MORF				IAML		16 02 30.0	
	comp=N,274nm,0.2s						
EADA	**Adamuz**	**1.98**	**44**	Pn	**Pn**	**16 02 06.6**	**+1.2**
EADA	**Adamuz**	**1.98**	**44**	Pn	**Pn**	**16 02 06.5**	**+1.1**
EADA				Sn	**Sn**	**16 02 30.9**	**+1.8**
EADA				*i* Vmb_Lg		16 02 39.8	
PFVI	**Vila Bisbo**	**2.04**	**282**	*e*P	**Pn**	**16 02 06.8**	**+0.7**
PFVI				*e*S	**Sn**	**16 02 29.3**	**-1.0**
PFVI				A	A	16 02 30.9	
	comp=N,115nm,0.1s						
PFVI	**Vila Bisbo**	**2.04**	**282**	Pn	**Pn**	**16 02 06.6**	**+0.5**
PFVI				Sn	**Sn**	**16 02 29.2**	**-1.2**
PTEO	**Sao Teotonio**	**2.07**	**293**	*e*P	**Pn**	**16 02 07.8**	**+1.2**
PTEO				*e*S	**Sn**	**16 02 31.4**	**+0.3**
PTEO				A	A	16 02 47.6	
	comp=N,124nm,0.6s						
EBAD	**Badajoz**	**2.07**	**345**	Pn	**Pn**	**16 02 07.7**	**+1.1**
EBAD	**Badajoz**	**2.07**	**345**	Pn	**Pn**	**16 02 07.6**	**+0.9**
EBAD				Sn	**Sn**	**16 02 32.8**	**+1.6**
EBAD				*i* Vmb_Lg		16 02 44.4	
ELGU	**Los Guajares,**	**2.17**	**86**	Pn	**Pn**	**16 02 09.2**	**+1.2**
ELGU	**Los Guajares,**	**2.17**	**86**	Pn	**Pn**	**16 02 09.6**	**+1.5**
ELGU				Sn	**Sn**	**16 02 34.9**	**+1.1**
ELGU				*i* Vmb_Lg		16 02 41.6	
EVO	**Evora**	**2.22**	**324**	*e*P	**Pn**	**16 02 10.1**	**+1.4**
EVO				*e*S	**Sn**	**16 02 34.6**	**-0.3**
EVO				A	A	16 02 46.3	
	comp=N,246nm,0.1s						
EVO	**Evora**	**2.22**	**324**	Pn	**Pn**	**16 02 10.0**	**+1.4**
EVO				Sn	**Sn**	**16 02 34.3**	**-0.6**
EXGRA	**Granada**	**2.22**	**78**	Pn	**Pn**	**16 02 11.0**	**+2.2**
EXGRA				Sn	**Sn**	**16 02 37.4**	**+2.4**
EXCAB	**Granada**	**2.23**	**78**	Pn	**Pn**	**16 02 11.1**	**+2.3**
EXCAB				Sn	**Sn**	**16 02 37.6**	**+2.4**
PESTR	**Estremoz**	**2.34**	**335**	*e*P	**Pn**	**16 02 11.5**	**+1.2**
PESTR				S	**Sn**	**16 02 37.1**	**-0.6**
PESTR				A	A	16 02 57.8	
	comp=N,60nm,0.2s						
PESTR	**Estremoz**	**2.34**	**335**	Pn	**Pn**	**16 02 11.5**	**+1.2**
PESTR				Sn	**Sn**	**16 02 37.1**	**-0.6**
EQTA	**Presa de Quent**	**2.35**	**78**	Pn	**Pn**	**16 02 12.5**	**+1.9**
EQUE	**Quentar**	**2.36**	**78**	Pn	**Pn**	**16 02 11.8**	**+1.2**
EQUE				Sn	**Sn**	**16 02 38.8**	**+0.5**
EQUE				*i* Vmb_Lg		16 02 42.8	
E0802	**Ubeda,Jaen**	**2.67**	**61**	Pn	**Pn**	**16 02 15.6**	**+0.7**
E0802				Sn	**Sn**	**16 02 46.6**	**+0.5**
PMTG	**Montargil**	**2.76**	**328**	*e*P	**Pn**	**16 02 17.2**	**+1.2**
PMTG				S	**Sn**	**16 02 48.7**	**+0.6**
EBER	**Berja**	**2.76**	**86**	Pn	**Pn**	**16 02 17.6**	**+1.3**
EBER	**Berja**	**2.76**	**86**	Pn	**Pn**	**16 02 17.9**	**+1.6**
EBER				Sn	**Sn**	**16 02 48.5**	**0.0**
EBER				*i* Vmb_Lg		16 02 56.7	
EALB	**Alboran**	**2.78**	**106**	Pn	**Pn**	**16 02 16.4**	**+0.1**
EALB				Sn	**Sn**	**16 02 47.9**	**-0.7**
EALB	**Alboran**	**2.78**	**106**	Pn	**Pn**	**16 02 16.5**	**+0.2**
EALB				Sn	**Sn**	**16 02 47.7**	**-0.8**
EALB				*i* Vmb_Lg		16 02 48.6	
PMRV	**Marv??o**	**2.80**	**343**	*e*P	**Pn**	**16 02 18.0**	**+1.4**
PMRV				*e*S	**Sn**	**16 02 50.3**	**+1.1**
PMRV				A	A	16 03 07.5	
	comp=N,70nm,0.4s						
PACT	**Alcochete**	**2.83**	**316**	*e*P	**Pn**	**16 02 18.8**	**+1.8**
PACT				S	**Sn**	**16 02 49.8**	**0.0**
PACT				A	A	16 03 08.3	
	comp=N,78nm,0.3s						
LIS	**Lisbon**	**2.98**	**312**	*e*S	**Sn**	**16 02 54.8**	**+1.4**
EMEL	**Melilla**	**3.09**	**117**	Pn	**Pn**	**16 02 21.8**	**+1.2**
EMEL				Sn	**Sn**	**16 02 54.9**	**-1.5**
EMEL				*i* Vmb_Lg		16 03 04.3	
PAB	**San Pablo**	**3.20**	**29**	Pn	**Pn**	**16 02 23.8**	**+1.6**
PAB				Sn	**Sn**	**16 02 59.0**	**0.0**
PAB				*i* Vmb_Lg		16 03 18.2	
PMAFR	**Mafra**	**3.21**	**314**	*e*P	**Pn**	**16 02 23.7**	**+1.4**
PMAFR				*e*Sn	**Sn**	**16 02 58.4**	**-0.9**
PMAFR				A	A	16 03 07.5	
	comp=N,80nm,0.2s						
PMAFR	**Mafra**	**3.21**	**314**	Pn	**Pn**	**16 02 23.6**	**+1.3**
PMAFR				Sn	**Sn**	**16 02 59.2**	**-0.1**
PCBR	**Castelo Branco**	**3.21**	**344**	*e*P	**Pn**	**16 02 23.7**	**+1.4**
PCBR				*e*S	**Sn**	**16 02 57.8**	**-1.5**
PCBR				A	A	16 03 23.5	
	comp=N,44nm,0.6s						
ENIJ	**Nijar**	**3.31**	**85**	Pn	**Pn**	**16 02 24.5**	**+0.8**
ENIJ	**Nijar**	**3.31**	**85**	Pn	**Pn**	**16 02 24.3**	**+0.6**
ENIJ				Sn	**Sn**	**16 03 01.9**	**+0.1**
ENIJ				*i* Vmb_Lg		16 03 08.1	
EPLA	**Plasencia**	**3.31**	**3**	Pn	**Pn**	**16 02 25.6**	**+1.8**
EPLA				Sn	**Sn**	**16 03 01.8**	**-0.1**
EPLA				*i* Vmb_Lg		16 03 21.3	
IFR	**Ifrane**	**3.37**	**163**	Pn	**Pn**	**16 02 24.5**	**-0.2**
IFR				Sn	**Sn**	**16 02 59.7**	**-3.8**
PSBE	**So Bento**	**3.38**	**326**	*e*P	**Pn**	**16 02 26.2**	**+1.7**
PSBE				*e*S	**Sn**	**16 03 03.1**	**-0.3**
PSBE				A	A	16 03 06.0	
	comp=N,28nm,0.4s						
ESDC	**Sonseca Array**	**3.46**	**32**	Pn	**Pn**	**16 02 27.3**	**+1.5**
ESDC				Sn	**Sn**	**16 03 05.3**	**-0.2**
ESDC				*i* Vmb_Lg		16 03 30.5	
CHAS	**Isla Isabel II**	**3.53**	**115**	Pn	**Pn**	**16 02 26.4**	**-0.2**
CHAS				Sn	**Sn**	**16 03 04.1**	**-3.0**
AVE	**Averroes**	**3.56**	**195**	Sn	**Sn**	**16 03 05.3**	**-2.5**
PCAS	**Casmilo, Conde**	**3.71**	**333**	*e*P	**Pn**	**16 02 30.7**	**+1.6**
PCAS				*e*S	**Sn**	**16 03 11.6**	**0.0**
PCAS				A	A	16 03 43.1	
	comp=N,46nm,0.4s						
MTE	**Manteigas**	**3.77**	**346**	*e*P	**Pn**	**16 02 31.0**	**+1.1**
MTE				*e*S	**Sn**	**16 03 12.1**	**-0.9**
MTE				A	A	16 03 38.5	
	comp=N,63nm,0.6s						
COI	**Coimbra**	**3.82**	**335**	*e*S	**Sn**	**16 03 13.1**	**-1.1**
COI				A	A	16 03 43.7	
	comp=N,61nm,0.6s						
EZAR	**Zarzadilla de**	**3.86**	**72**	Pn	**Pn**	**16 02 32.8**	**+1.6**
EZAR				Sn	**Sn**	**16 03 15.6**	**+0.2**
EZAR				*i* Vmb_Lg		16 03 18.9	
EXBUL	**Bullas, Murcia**	**3.93**	**69**	Pn	**Pn**	**16 02 33.3**	**+1.1**
EXBUL				Sn	**Sn**	**16 03 17.7**	**+0.6**
EXMAZ	**Mazarron**	**4.10**	**77**	Sn	**Sn**	**16 03 19.4**	**-1.8**
PVIS	**Viseu**	**4.14**	**343**	*e*P	**Pn**	**16 02 36.4**	**+1.3**
PVIS				*e*S	**Sn**	**16 03 21.6**	**-0.7**
EMUR	**La Murta**	**4.20**	**73**	Pn	**Pn**	**16 02 36.7**	**+0.8**
EMUR	**La Murta**	**4.20**	**73**	Pn	**Pn**	**16 02 36.5**	**+0.6**
EMUR				Sn	**Sn**	**16 03 22.8**	**-0.9**
EMUR				*i* Vmb_Lg		16 03 26.7	
GUD	**Guadarrama**	**4.24**	**23**	Pn	**Pn**	**16 02 38.1**	**+1.6**
GUD				Sn	**Sn**	**16 03 23.3**	**-1.5**
GUD				*i* Vmb_Lg		16 03 46.4	
UCM	**Universidad Co**	**4.29**	**33**	Pn	**Pn**	**16 02 39.1**	**+1.9**
UCM				Sn	**Sn**	**16 03 24.7**	**-1.3**
CART	**Cartagena**	**4.33**	**77**	Pn	**Pn**	**16 02 37.7**	**0.0**
CART				Sn	**Sn**	**16 03 23.6**	**-3.4**
EJUZ	**Juzbado, Salam**	**4.34**	**4**	Pn	**Pn**	**16 02 40.5**	**+2.7**
EJUZ				Sn	**Sn**	**16 03 25.5**	**-1.7**
MVO	**Moncorvo**	**4.44**	**353**	*e*P	**Pn**	**16 02 40.9**	**+1.7**
MVO				*e*S	**Sn**	**16 03 28.3**	**-1.4**
MVO				A	A	16 04 05.0	
	comp=N,36nm,0.4s						
PVRL	**Vila Real**	**4.64**	**347**	*e*P	**Pn**	**16 02 43.2**	**+1.2**
PVRL				*e*S	**Sn**	**16 03 33.0**	**-1.7**
PVRL				A	A	16 03 35.4	
	comp=N,50nm,0.3s						
POLO	**Lamas de Olo**	**4.75**	**347**	*e*P	**Pn**	**16 02 44.9**	**+1.3**
POLO				*e*S	**Sn**	**16 03 35.1**	**-2.4**
POLO				A	A	16 03 38.1	
	comp=N,8.5nm,0.4s						
EVIV	**Cofrentes, Val**	**4.82**	**57**	Pn	**Pn**	**16 02 44.5**	**+0.1**
EVIV				Sn	**Sn**	**16 03 36.5**	**-2.5**
EVIV				*i* Vmb_Lg		16 03 38.5	
AFON	**Font Roja**	**4.97**	**66**	Pn	**Pn**	**16 02 46.6**	**0.0**
AFON				Sn	**Sn**	**16 03 42.1**	**-0.6**
AFON				*i* Vmb_Lg		16 03 47.1	
PBRG	**Braganca**	**5.06**	**356**	*e*P	**Pn**	**16 02 47.3**	**-0.4**
PBRG				*e*S	**Sn**	**16 03 42.9**	**-1.9**
PBRG				A	A	16 04 23.4	
	comp=N,14nm,0.3s						
ECHE	**Chera**	**5.09**	**55**	Pn	**Pn**	**16 02 48.6**	**+0.5**
ECHE	**Chera**	**5.09**	**55**	Pn	**Pn**	**16 02 48.3**	**+0.2**
ECHE				Sn	**Sn**	**16 03 43.7**	**-1.9**
ECHE				*i* Vmb_Lg		16 03 45.4	
PCAB	**Cabril**	**5.12**	**346**	*e*P	**Pn**	**16 02 50.1**	**+1.5**
PCAB				*e*S	**Sn**	**16 03 43.4**	**-3.1**
PCAB				A	A	16 04 26.9	
	comp=N,27nm,0.4s						
ECAL	**Calabor**	**5.19**	**357**	Pn	**Pn**	**16 02 52.7**	**+3.2**
ECAL				Sn	**Sn**	**16 03 45.5**	**-2.7**
ECAL				*i* Vmb_Lg		16 03 49.0	
EBEN2	**Beniarda presa**	**5.23**	**67**	Pn	**Pn**	**16 02 50.1**	**0.0**
EBEN2				Sn	**Sn**	**16 03 46.9**	**-2.2**
EBEN2				*i* Vmb_Lg		16 03 50.2	
ETOR	**Torete**	**5.26**	**38**	Pn	**Pn**	**16 02 51.8**	**+1.4**
ETOR				Sn	**Sn**	**16 03 48.2**	**-1.6**
ETOR				*i* Vmb_Lg		16 03 52.9	
ELOB	**Lobios**	**5.28**	**346**	Pn	**Pn**	**16 02 51.5**	**+0.7**
ELOB				Sn	**Sn**	**16 03 47.6**	**-2.9**
ELOB				*i* Vmb_Lg		16 03 54.6	
PGAV	**Gavieira, Arco**	**5.42**	**344**	*e*P	**Pn**	**16 02 53.9**	**+1.2**
PGAV				*e*S	**Sn**	**16 03 50.6**	**-3.2**
PGAV				A	A	16 04 42.7	
	comp=N,15nm,0.5s						
E0901	**Celadas (Terue**	**5.52**	**46**	Pn	**Pn**	**16 02 55.7**	**+1.7**
E0901				Sn	**Sn**	**16 03 56.2**	**0.0**
E0901				*i* Vmb_Lg		16 03 59.8	
EZAM	**Zamans**	**5.69**	**342**	Pn	**Pn**	**16 02 57.9**	**+1.5**
EZAM				Sn	**Sn**	**16 03 57.2**	**-3.2**
EZAM				*i* Vmb_Lg		16 04 06.8	
EMOS	**Mosqueruela**	**5.84**	**50**	Pn	**Pn**	**16 02 59.6**	**+1.1**
EMOS				Sn	**Sn**	**16 04 02.0**	**-2.2**
EMOS				*i* Vmb_Lg		16 04 05.7	
TIO	**Tiouine**	**5.86**	**188**	Pn	**Pn**	**16 02 59.0**	**+0.1**
TIO				Sn	**Sn**	**16 03 59.9**	**-5.0**
EAGO	**Agolada(Pontev**	**6.19**	**348**	Pn	**Pn**	**16 03 04.3**	**+1.0**
EAGO				Sn	**Sn**	**16 04 08.4**	**-4.4**
EAGO				*i* Vmb_Lg		16 04 10.3	
EIBI	**Ibiza**	**6.48**	**67**	Pn	**Pn**	**16 03 07.6**	**+0.4**
EIBI	**Ibiza**	**6.48**	**67**	Pn	**Pn**	**16 03 07.2**	**0.0**
EIBI				Sn	**Sn**	**16 04 16.1**	**-3.7**
EIBI				*i* Vmb_Lg		16 04 20.1	
EMAZ	**Mazaricos**	**6.52**	**343**	Pn	**Pn**	**16 03 08.2**	**+0.5**
EMAZ				Sn	**Sn**	**16 04 15.5**	**-5.2**
EMAZ				*i* Vmb_Lg		16 04 27.0	
EARI	**Arriondas**	**6.60**	**7**	Sn	**Sn**	**16 04 20.3**	**-2.5**
EARI				*i* Vmb_Lg		16 05 54.5	
ERTA	**Horta de San J**	**6.68**	**49**	Pn	**Pn**	**16 03 10.2**	**+0.2**
ERTA				Sn	**Sn**	**16 04 23.3**	**-1.5**
ERTA				*i* Vmb_Lg		16 05 54.8	
ESAC	**San Caprasio**	**6.73**	**41**	Pn	**Pn**	**16 03 08.1**	**-2.6**
ESAC				Sn	**Sn**	**16 04 22.5**	**-3.5**
ESAC				*i* Vmb_Lg		16 05 50.2	
ELAN	**Lanestosa**	**6.84**	**18**	Pn	**Pn**	**16 03 14.5**	**+2.3**
ELAN				Sn	**Sn**	**16 04 24.0**	**-4.7**
ELAN				*i* Vmb_Lg		16 05 40.2	
EORO	**Oroz-Betelu**	**7.25**	**31**	Pn	**Pn**	**16 03 19.6**	**+1.8**
EORO				Sn	**Sn**	**16 04 36.4**	**-2.4**
EORO				*i* Vmb_Lg		16 05 42.6	
EPOB	**Poblet**	**7.37**	**49**	Pn	**Pn**	**16 03 19.5**	**+0.1**
EPOB				Sn	**Sn**	**16 04 38.7**	**-3.0**
EPOB				*i* Vmb_Lg		16 05 50.2	
EALK	**Alkurruntz**	**7.44**	**28**	Pn	**Pn**	**16 03 22.0**	**+1.6**
EALK				Sn	**Sn**	**16 04 39.9**	**-3.8**
EALK				*i* Vmb_Lg		16 08 45.1	
SJPF	**Ste Jean**	**7.46**	**30**	*e*Pg	**Pn**	**16 03 21.9**	**+1.2**
SJPF				*e*Sg	**Sn**	**16 04 42.7**	**-1.3**
	comp=N,2.8nm,0.3s						
ETSF	**Etsaut**	**7.57**	**34**	*e*Pg	**Pn**	**16 03 24.1**	**+1.9**
ETSF				*e*Sg	**Sn**	**16 04 42.7**	**-4.1**
	comp=N,0.2nm,0.1s						
ECHI	**Chisagues Biel**	**7.75**	**38**	Pn	**Pn**	**16 03 26.4**	**+1.7**
ECHI				Sn	**Sn**	**16 04 47.9**	**-3.4**
ECHI				*i* Vmb_Lg		16 06 27.0	
ETOS	**Mallorca**	**7.80**	**65**	Pn	**Pn**	**16 03 25.4**	**+0.1**
ETOS		

W35A	**Tecumseh**	**0.75 101**	Pg	Pg	16 16 19.8	-0.3
WMOK	**Wichita Mounta**	**1.00 236**	IAmb_Lg		16 16 37.3	
	comp=Z,2.4nm,1.1s					
OK052	**Battle Ridge R**	**1.05 49**		Pg	16 16 25.4	-0.4
OK052			IAML		16 16 41.5	
	comp=Z,67nm,0.3s					
CROK	**Carrier**	**1.21 352**		Pb	16 16 28.2	-0.8
CROK			IAML		16 16 50.1	
	comp=E,48nm,0.2s					
QUOK	**Quay**	**1.22 45**		Pb	16 16 28.5	-0.7
LOOK	**Love County**	**1.39 159**		Pn	16 16 31.0	-0.5
OK038	**West end E0370**	**1.41 326**		Pn	16 16 30.9	-1.0
KAN17	**Caldwell West**	**1.74 0**	Pn	Pn	16 16 36.3	0.0
T35A	**Sooner Cattle**	**1.91 32**	Pn	Pn	16 16 37.7	-0.9
X37A	**Clayton**	**2.10 109**	IAmb_Lg		16 17 16.7	
	comp=Z,6.0nm,0.8s					
SN07	**Snyder 07**	**3.40 230**	IAmb_Lg		16 17 56.0	
	comp=Z,3.1nm,0.8s					

*NEIC **11** 16:16:30.1±0.6,31°.32S±0°.06×68°.60W±0°.06,h112km±5km, mb4.4/2,Error ellipse: s-maj=9.4km s-min=6.8km az=187.0*
*SJA **11** 16:16:30.3±0.7,31°.34S×68°.69W,h108km±2km,ML3.4, MW3.6*

ISC 11 16:16:30.0±0.8,31°.33S±0°.03×68°.64W±0°.04,h115km±5km, n60,σ1°.33/82,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.14**	**91**	*eP*	**Pn**	**16 16 46.0**	**0.0**
RTLL				*eS*	**Sn**	**16 16 57.8**	**-0.2**
SJA	**San Juan**	**0.21**	**161**	*eP*	**Pn**	**16 16 46.5**	**+0.3**
SJA				*eS*	**Sn**	**16 16 59.0**	**+0.7**
SJA				IAML		16 17 02.5	
	comp=Z,720nm,0.1s						
ZON	**Zonda**	**0.22**	**188**	Pn	**Pn**	**16 16 46.1**	**-0.1**
ZON				Sn	**Sn**	**16 16 57.1**	**-1.2**
ZON	**Zonda**	**0.22**	**188**	*eP*	**Pn**	**16 16 46.1**	**-0.1**
ZON				*eS*	**Sn**	**16 16 58.1**	**-0.3**
ZON				IAML		16 16 58.4	
	comp=Z,2μm,0.6s						
DOCA	**Reserva Natura**	**0.53**	**315**	*eP*	**Pn**	**16 16 47.9**	**-0.2**
DOCA				*eS*	**Sn**	**16 17 01.2**	**-0.5**
RTCV	**Cerro Valdivia**	**0.54**	**171**	*eP*	**Pn**	**16 16 48.0**	**+0.2**
RTCV				*eS*	**Sn**	**16 17 01.0**	**-0.2**
RTLS	**Leoncito**	**0.73**	**230**	*eP*	**Pn**	**16 16 49.5**	**+0.1**
RTLS				*eS*	**Sn**	**16 17 04.0**	**-0.2**
ACCO	**Cerro Coronel**	**0.82**	**334**	*eP*	**Pn**	**16 16 51.0**	**+0.7**
ACCO				*eS*	**Sn**	**16 17 06.4**	**+0.9**
AVFE	**Valle Fertil**	**1.22**	**57**	*eP*	**Pn**	**16 16 55.2**	**+1.3**
AVFE				*eS*	**Sn**	**16 17 13.8**	**+1.7**
AVFE				IAML		16 17 14.4	
	comp=Z,830nm,0.3s						
ACDV	**Cuesta del Vie**	**1.22**	**340**	*eP*	**Pn**	**16 16 55.3**	**+1.2**
ACDV				*eS*	**Sn**	**16 17 13.4**	**+1.0**
ACDV				IAML		16 17 13.5	
	comp=Z,652nm,0.2s						
AROD	**Rodeo**	**1.36**	**328**	*eP*	**Pn**	**16 16 57.0**	**+1.1**
AROD				*eS*	**Sn**	**16 17 16.6**	**+1.2**
ACHE	**Chepes**	**1.70**	**85**	*eP*	**Pn**	**16 17 01.6**	**+1.9**
CO03	**El Pedregal**	**1.82**	**285**	Pn	**Pn**	**16 17 01.6**	**+0.5**
CO03				Sn	**Sn**	**16 17 24.5**	**-0.3**
CO03	**El Pedregal**	**1.82**	**285**	*eP*	**Pn**	**16 17 01.7**	**+0.6**
CO03				*eS*	**Sn**	**16 17 25.1**	**+0.3**
CO01	**Juntas del Tor**	**1.84**	**317**		**Pn**	**16 17 02.5**	**+1.1**
CO01	**Juntas del Tor**	**1.84**	**317**	*eP*	**Pn**	**16 17 03.1**	**+1.6**
CO01				*eS*	**Sn**	**16 17 27.1**	**+1.7**
CO01				IAML		16 17 27.4	
	comp=Z,389nm,0.2s						
APLL	**PUNTA DE LOS L**	**2.04**	**63**	*eS*	Sn	16 17 49.1	+19
VA03	**San Esteban**	**2.17**	**228**		**Pn**	**16 17 06.0**	**+0.7**
VA03	**San Esteban**	**2.17**	**228**	*eP*	**Pn**	**16 17 06.2**	**+0.8**
VA03				*eS*	**Sn**	**16 17 34.3**	**+1.9**
VA03				IAML		16 17 40.3	
	comp=Z,235nm,0.2s						
GO04	**Tololo Observa**	**2.19**	**301**	Pn	**Pn**	**16 17 05.7**	**-0.1**
GO04	**Tololo Observa**	**2.19**	**301**	*eP*	**Pn**	**16 17 06.0**	**+0.2**
GO04				*eS*	**Sn**	**16 17 34.4**	**+1.2**
ACLC	**CERRO LA CRUZ**	**2.39**	**38**	*eP*	**Pn**	**16 17 09.8**	**+1.4**
ACLC				IAML		16 18 09.5	
	comp=Z,180nm,0.9s						
MT08	**Bocatoma Ro**	**2.41**	**209**	Pn	**Pn**	**16 17 08.9**	**+0.2**
MT08	**Bocatoma Ro**	**2.41**	**209**	*eP*	**Pn**	**16 17 10.7**	**+2.0**
MT08				IAML		16 17 42.0	
	comp=Z,154nm,0.9s						
MT04	**Ro Olivares**	**2.43**	**211**	*eP*	**Pn**	**16 17 10.7**	**+1.8**
MT04				*eS*	**Sn**	**16 17 43.2**	**+4.5**
MT04				IAML		16 17 53.1	
	comp=Z,67nm,0.4s						
PEL	**Peldehue**	**2.51**	**223**		**Pn**	**16 17 09.9**	**+0.2**
PEL	**Peldehue**	**2.51**	**223**	*eP*	**Pn**	**16 17 10.6**	**+0.8**
PEL				*eS*	**Sn**	**16 17 41.0**	**+0.7**
MT16	**CCHEN**	**2.63**	**217**		**Pn**	**16 17 11.5**	**+0.2**
CO05	**La Serena**	**2.64**	**301**		**Pn**	**16 17 10.5**	**-1.0**
CO06	**Fray Jorge**	**2.65**	**283**		**Pn**	**16 17 09.7**	**-1.8**
MT03	**Universidad Ad**	**2.68**	**216**	Pn	**Pn**	**16 17 12.4**	**+0.4**
MT03	**Universidad Ad**	**2.68**	**216**	*eP*	**Pn**	**16 17 13.1**	**+1.1**
MT03				*eS*	**Sn**	**16 17 46.0**	**+1.7**
MT03				IAML		16 17 51.7	
	comp=Z,117nm,0.1s						
MRA	**San Martin**	**2.71**	**114**	*eP*	**Pn**	**16 17 14.1**	**+1.6**
MRA				*eS*	**Sn**	**16 17 41.3**	**-3.9**
MRA				IAML		16 17 42.6	
	comp=Z,284nm,0.6s						
MT05	**Renca**	**2.72**	**220**		**Pn**	**16 17 12.9**	**+0.4**
MT05	**Renca**	**2.72**	**220**	*eP*	**Pn**	**16 17 13.3**	**+0.8**
MT05				*eS*	**Sn**	**16 17 46.5**	**+1.4**
MT05				IAML		16 17 51.1	
	comp=Z,134nm,0.6s						
LMEL	**Las Melosas**	**2.84**	**207**	*eP*	**Pn**	**16 17 16.9**	**+2.7**
MT02	**Curacav**	**2.86**	**227**		**Pn**	**16 17 13.8**	**-0.5**
MT02	**Curacav**	**2.86**	**227**	*eP*	**Pn**	**16 17 13.8**	**-0.5**
MT02				IAML		16 17 50.6	
	comp=Z,71nm,0.6s						
LCO	**Las Campanas**	**2.92**	**322**		**Pn**	**16 17 15.4**	**+0.1**
LCO	**Las Campanas**	**2.92**	**322**	*eP*	Pn	16 16 58.7	-17
LCO				*eS*	**Sn**	**16 17 50.7**	**+0.5**
LCO				IAML		16 17 53.7	
	comp=Z,468nm,0.2s						
VA01	**Torpederas**	**3.06**	**236**	Pn	**Pn**	**16 17 15.7**	**-1.1**
VA01	**Torpederas**	**3.06**	**236**	*eP*	**Pn**	**16 17 14.8**	**-2.1**
VA01				IAML		16 17 58.0	
	comp=Z,88nm,0.4s						
BO04	**La Punta**	**3.13**	**211**		**Pn**	**16 17 18.0**	**+0.1**
MT09	**Talagante**	**3.15**	**218**		**Pn**	**16 17 17.3**	**-0.9**
MT01	**Popeta**	**3.35**	**220**		**Pn**	**16 17 19.2**	**-1.6**
MT01	**Popeta**	**3.35**	**220**	*eP*	**Pn**	**16 17 19.5**	**-1.3**
MT01				*eS*	**Sn**	**16 17 59.3**	**-0.8**
MT01				IAML		16 18 02.5	
	comp=Z,57nm,0.2s						
BO01	**Tunca**	**3.69**	**213**	Pn	**Pn**	**16 17 23.6**	**-1.6**
BO01	**Tunca**	**3.69**	**213**	*eP*	**Pn**	**16 17 24.1**	**-1.1**
BO01				IAML		16 18 11.2	
	comp=Z,26nm,0.4s						
AC04	**Llanos de Chal**	**3.76**	**325**	Pn	**Pn**	**16 17 25.7**	**-0.6**
AC04	**Llanos de Chal**	**3.76**	**325**	*eP*	**Pn**	**16 17 26.4**	**+0.2**
BO02	**Sierra Bellavi**	**3.90**	**207**	Pn	**Pn**	**16 17 27.8**	**-0.3**
GO03	**Copiapo**	**3.97**	**339**	Pn	**Pn**	**16 17 29.3**	**+0.1**
GO03	**Copiapo**	**3.97**	**339**	*eP*	**Pn**	**16 17 29.6**	**+0.5**
GO03				*eS*	**Sn**	**16 18 13.7**	**-1.2**
AC06	**Mina Casimiro**	**4.23**	**339**		**Pn**	**16 17 32.1**	**-0.4**
TRQA	**Tornquist**	**8.67**	**143**	Pn	**Pn**	**16 18 32.2**	**-0.3**
PB09	**IPOC Station P**	**9.51**	**357**	Pn	**Pn**	**16 18 42.1**	**-1.9**
PB01	**IPOC Station P**	**10.27**	**356**	Pn	**Pn**	**16 18 50.7**	**-3.6**
PLTB	**Pedras Altas**	**12.84**	**96**	Pn	**Pn**	**16 19 27.0**	**-1.2**
BELA	**Belgrano 2**	**49.03**	**171**	P	**P**	**16 25 04.0**	**-0.6**
BELA				IAmb	IAmb	16 25 37.5	
	comp=Z,6.0nm,1.5s						
QSPA	**South Pole Qui**	**58.91**	**180**	P	**P**	**16 26 18.6**	**+1.9**
QSPA				IAmb	IAmb	16 26 24.9	
	comp=Z,5.3nm,1.3s						

IDC 11 16:21:43.2±5.2,6°.84S×130°.15E,h194km±50km,mb3.3/1, mbtmp3.5/5,Error ellipse: s-maj=49.3km s-min=21.6km az=58.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.23**	**242**	P	Pn	16 23 27.4	+0.9
	7.4nm,0.4s,baz=75,slow=12,SNR=2.2						
BATI				S	Sn	16 24 48.8	+0.3
	13nm,0.7s,baz=9.0,slow=19,SNR=2.0						
FITZ	**Fitzroy Crest**	**12.02**	**201**	P	Pn	16 24 27.9	-0.7
	0.6nm,0.3s,baz=35,slow=13,SNR=17						
FITZ				S	Sn	16 26 36.5	-6.0
	2.6nm,0.8s,baz=165,slow=16,SNR=2.0						
WRA	**Warramunga Arr**	**13.64**	**163**	P	Pn	16 24 48.6	-0.4
	0.3nm,0.7s,baz=344,slow=13,SNR=7.4						
WRA				S	Sn	16 27 15.6	-5.7
	0.4nm,0.5s,baz=340,slow=24,SNR=5.4						
ASAR	**Alice Springs**	**17.11**	**168**	P	P	16 25 30.1	+0.2
	0.4nm,1.0s,baz=355,slow=10,SNR=2.1						
ASAR				S	S	16 28 39.6	+1.4
	0.1nm,0.3s,baz=331,slow=38,SNR=1.4						
MKAR	**Makanchi Array**	**68.18**	**327**	P	P	16 32 22.6	0.0
	0.5nm,0.4s,baz=114,slow=8.1,SNR=6.7						
	0.5nm,0.4s						

DJA 11 16:22:02.1±0.8,3°.N±7°.×12°.6E±°,h52km±25km,M3.8/9, mb3.9/5,mB4.8/2,MLv3.7/9,Mw(mB)4.0/2,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.99**	**153**	P	Pn	16 22 49.1	+2.0
MRSI	**Marisa**	**5.04**	**234**	P	Pn	16 23 16.3	+1.1
	11nm,0.5s,0.1nm						
MRSI				S	Sn	16 24 14.0	+1.8
	11nm,0.5s,0.1nm						
SANI	**Sanana**	**5.47**	**180**	P	Pn	16 23 21.1	0.0
	6.3nm,0.6s,553nm0.1nm						
SANI				S	Sn	16 24 19.9	-2.9
	6.3nm,0.6s,553nm0.1nm						
LUWI	**Luwuk**	**5.53**	**216**	P	Pn	16 23 25.4	+3.5
	10nm,0.8s,1μm0.1nm						
NLAI	**Namlea**	**6.74**	**171**	P	Pn	16 23 37.9	-0.6

*IDC **11** 16:34:10.6±1.0,3°.09S×118°.99E,h0km,mb3.5/6, mbtmp3.5/7,ML4.2/2,Error ellipse: s-maj=45.1km s-min=16.1km az=63.0*
*DJA **11** 16:34:12.3±0.2,3°.S±2°.×11°.9E±°,h10km,M4.3/16,mb4.4/2, MLv4.2/16*
*NEIC **11** 16:34:14.7±1.7,3°.08S±0°.07×119°.06E±0°.09,h26km±2km, mb4.0/5,Error ellipse: s-maj=13.5km s-min=8.4km az=65.0*

ISC 11 16:34:12.2±0.7,2°.93S±0°.05×119°.44E±0°.05,h10km,n36, σ1°.22/36,mb3.9/9,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.40**	**107**	P	**Pg**	**16 34 18.9**	**-1.1**
TTSI				S	**Sg**	**16 34 25.5**	**+0.3**
SPSI	**Sidrap Palu**	**1.08**	**162**	P	**Pg**	**16 34 31.7**	**-1.3**
BNSI	**Bone**	**1.61**	**156**	P	**Pn**	**16 34 40.4**	**-0.2**
KAPI	**Kappang**	**2.10**	**172**	Pn	**Pn**	**16 34 47.4**	**0.0**
	22nm,0.3s,baz=338,slow=10,SNR=35						
KAPI				Sn	**Sn**	**16 35 14.5**	**+1.0**
	60nm,0.3s,baz=260,slow=18,SNR=14						
	95nm,0.5s						
BKSI	**Bulukumba**	**2.47**	**164**	P	**Pn**	**16 34 53.1**	**+0.5**
APSI	**Ampana**	**2.98**	**48**	P	**Pn**	**16 34 59.9**	**+0.4**
BKB	**Balikpapan**	**3.04**	**303**	Pn	**Pn**	**16 35 00.7**	**+0.4**
BKB	**Balikpapan**	**3.04**	**303**	P	**Pn**	**16 35 03.0**	**+2.7**
MPSI	**Mapaga**	**3.28**	**8**	P	**Pn**	**16 35 02.7**	**-0.9**
SMKI	**Samarinda**	**3.33**	**318**	P	**Pn**	**16 35 03.1**	**-1.2**
BSSI	**Bau Bau, Buton**	**3.36**	**162**	P	**Pn**	**16 35 07.1**	**+2.3**
LUWI	**Luwuk**	**3.82**	**61**	Pn	**Pn**	**16 35 11.1**	**0.0**
LUWI	**Luwuk**	**3.82**	**61**	P	**Pn**	**16 35 10.9**	**-0.2**
BBSI	**Bau Bau**	**4.03**	**129**	P	**Pn**	**16 35 13.7**	**-0.2**
MRSI	**Marisa**	**4.21**	**36**	P	**Pn**	**16 35 16.6**	**+0.2**
TOLI2	**Tolitoli**	**4.23**	**18**		**Pn**	**16 35 18.3**	**+1.5**
PLAI	**Plampang**	**6.09**	**196**	P	**Pn**	**16 35 39.6**	**-2.7**
	27nm,1.3s,0.2nm						
WBSI	**Waikabubak, Su**	**6.67**	**180**	P	**Pn**	**16 35 49.8**	**-0.5**
JAGI	**Jajag, Banyuwa**	**7.62**	**223**	Pn	Pn	16 35 58.3	-5.0
MYLDM	**Lahad Datu**	**8.11**	**353**	Pn	**Pn**	**16 36 12.7**	**+2.7**
KKM	**Kota Kinabalu**	**9.48**	**340**	Pn	**Pn**	**16 36 28.9**	**-0.1**
LEM	**Lembang**	**12.40**	**251**	Pn	Pn	16 37 00.6	-8.4
	5.4nm,0.3s,baz=269,slow=15,SNR=4.1						
WB0	**Warramunga Arr**	**22.21**	**140**	P	**P**	**16 39 10.1**	**+1.1**
WB0				IAmb	IAmb	16 39 28.0	
	comp=Z,4.5nm,1.1s						
WRA	**Warramunga Arr**	**22.30**	**140**	P	**P**	**16 39 11.5**	**+1.4**
WRA	**Warramunga Arr**	**22.30**	**140**	P	**P**	**16 39 11.3**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=320,slow=12,SNR=4.0						
	comp=Z,1.0nm,0.8s						
WB2	**Warramunga Arr**	**22.31**	**140**	P	**P**	**16 39 10.5**	**+0.4**
WB2				IAmb	IAmb	16 39 29.0	
	comp=Z,10nm,1.3s						
WR0	**Warramunga Arr**	**22.45**	**140**	P	**P**	**16 39 11.8**	**+0.3**
WR0				IAmb	IAmb	16 39 24.5	
	comp=Z,6.5nm,1.1s						
ASAR	**Alice Springs**	**24.91**	**147**	P	**P**	**16 39 35.9**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=328,slow=8.1,SNR=2.3						
	comp=Z,0.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.31**	**317**	P	**P**	**16 40 13.1**	**-2.1**
SONM	**Songino Array**	**51.83**	**349**	P	**P**	**16 43 20.1**	**-0.4**
SONM	**Songino Array**	**51.83**	**349**	P	**P**	**16 43 19.9**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=174,slow=8.6,SNR=6.5						
	comp=Z,1.6nm,0.9s						
MKAR	**Makanchi Array**	**59.33**	**331**	P	**P**	**16 44 15.0**	**+0.5**
MKAR	**Makanchi Array**	**59.33**	**331**	P	**P**	**16 44 14.3**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=132,slow=7.2,SNR=6.9						
	comp=Z,1.0nm,0.8s						
MSWZ	**Moikau Station**	**62.90**	**136**	P	**P**	**16 44 40.1**	**+1.3**
ZALV	**Zalesovo Beam**	**63.59**	**338**	P	**P**	**16 44 43.2**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=142,slow=7.3,SNR=1.9						
	comp=Z,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.79**	**332**	P	**P**	**16 44 44.8**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=138,slow=5.7,SNR=5.7						
	comp=Z,0.6nm,0.8s						

*CATAC **11** 16:35:10.6±1.1,12°.87N×88°.86W,h22km±10km,ML3.9*
*SNET **11** 16:35:11.2±1.3,12°.91N×88°.84W,h32km,ML4.2*

ISC 11 16:35:10.8±1.5,12°.88N±0°.06×88°.87W±0.04,h28km±12km, n59,σ0°.28/80,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.66**	**7**	*eP*	**Pn**	**16 35 24.4**	**0.0**
TECO				*eS*	**Sn**	**16 35 33.4**	**-0.5**
TECO	**Alcaldia de Te**	**0.66**	**7**	*i P*	**Pn**	**16 35 24.4**	**0.0**
TECO				*i* S	**Sn**	**16 35 33.9**	**0.0**
TECO				IAML		16 35 36.1	
	comp=Z,4μm,1.0s						
TECA	**Tecapa**	**0.71**	**30**	*eP*	**Pn**	**16 35 25.2**	**0.0**
TECA				*eP*	**Pb**	**16 35 25.4**	**+0.7**
TECA				*eS*	**Sn**	**16 35 35.0**	**-0.3**
SNVI	**San Vicente**	**0.73**	**2**	*eP*	**Pn**	**16 35 25.5**	**0.0**
SNVI				*eS*	**Sb**	**16 35 34.9**	**+0.1**
COEG	**Centro de Oper**	**0.74**	**359**	*eP*	**Pb**	**16 35 24.8**	**-0.4**
COEG				*eS*	**Sb**	**16 35 34.3**	**-0.7**
COEG	**Centro de Oper**	**0.74**	**359**	*i P*	**Pn**	**16 35 25.4**	**-0.1**
COEG				*i* S	**Sn**	**16 35 35.9**	**0.0**
COEG				IAML		16 35 41.4	
	comp=Z,6μm,1.0s						
LALI	**Alcalda de L**	**0.75**	**324**	*eP*	**Pb**	**16 35 25.5**	**+0.2**
LALI				*eS*	**Sb**	**16 35 35.6**	**+0.4**
UESV	**Universidad de**	**0.76**	**6**	*eP*	**Pn**	**16 35 25.8**	**+0.1**
UESV	**Universidad de**	**0.76**	**6**	*i P*	**Pn**	**16 35 25.8**	**+0.1**
UESV				IAML		16 35 26.4	
	comp=Z,9μm,1.0s						
UESV				*i* S	**Sn**	**16 35 36.8**	**+0.4**
LFRS	**El Faro**	**0.77**	**346**	*eP*	**Pb**	**16 35 25.6**	**-0.1**
LCY	**Lacayo**	**0.78**	**46**	*eP*	**Pn**	**16 35 26.0**	**-0.1**
PANCS	**Alcalda de**	**0.79**	**337**	*eP*	**Pn**	**16 35 26.4**	**+0.2**
PANCS				*eS*	**Sb**	**16 35 36.3**	**-0.1**
RANC	**El Ranchito**	**0.79**	**45**	*eP*	**Pn**	**16 35 26.1**	**-0.2**
RANC	**El Ranchito**	**0.79**	**45**	*i P*	**Pn**	**16 35 26.1**	**-0.2**
RANC				IAML		16 35 46.9	
	comp=Z,2μm,1.0s						
VSM	**San Miguel**	**0.80**	**46**	*eP*	**Pn**	**16 35 26.6**	**+0.2**
PQSS	**Presa 15 de Se**	**0.80**	**22**	*eP*	**Pn**	**16 35 26.4**	**+0.2**
PQSS				*eS*	**Sb**	**16 35 36.4**	**-0.2**
PQSS	**Presa 15 de Se**	**0.80**	**22**	*i P*	**Pn**	**16 35 26.7**	**+0.4**
PQSS				*i* S	**Sn**	**16 35 38.4**	**+1.1**
PQSS				IAML		16 35 40.2	
	comp=Z,5μm,1.0s						
LOMA	**Loma Larga**	**0.82**	**339**	*eP*	**Pb**	**16 35 26.7**	**+0.1**
LOMA				*eS*	**Sn**	**16 35 38.0**	**+0.1**
LOMA	**Loma Larga**	**0.82**	**339**	*i P*	**Pb**	**16 35 26.5**	**-0.1**
LOMA				IAML		16 35 39.7	
	comp=Z,6μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.83**	**9**	*eP*	**Pn**	**16 35 26.9**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.83**	**9**	*i P*	**Pn**	**16 35 26.8**	**0.0**
SCLA				IAML		16 35 47.2	
	comp=Z,2μm,1.0s						
BLLM	**Bellamira**	**0.83**	**47**	*eP*	**Pn**	**16 35 26.8**	**0.0**
BLLM				*eS*	**Sn**	**16 35 37.9**	**-0.3**
PAVA	**Las Pavas**	**0.83**	**355**	*eP*	**Pb**	**16 35 26.6**	**-0.2**
PAVA				*eS*	**Sb**	**16 35 37.8**	**+0.1**
PAVA	**Las Pavas**	**0.83**	**355**	*i P*	**Pn**	**16 35 26.9**	**0.0**
PAVA				*i* S	**Sn**	**16 35 38.7**	**+0.4**
PAVA				IAML		16 35 39.8	
	comp=Z,13μm,1.0s						
UDBS	**Universidad Do**	**0.88**	**341**	*eP*	**Pn**	**16 35 27.5**	**0.0**
UDBS				*eS*	**Sb**	**16 35 38.8**	**-0.1**
UDBS	**Universidad Do**	**0.88**	**341**	*i P*	**Pb**	**16 35 27.6**	**+0.1**
UDBS				IAML		16 35 43.9	
	comp=Z,5μm,1.0s						
SNET	**Serv Nac Est T**	**0.88**	**336**	*i P*	**Pb**	**16 35 27.7**	**+0.1**
SNET				IAML		16 35 45.2	
	comp=Z,6μm,1.0s						
LFU	**La Fuente**	**0.90**	**345**	*eP*	**Pb**	**16 35 27.8**	**0.0**
CNRM	**Centro Naciona**	**0.90**	**49**	*eP*	**Pb**	**16 35 27.8**	**0.0**
CNRM	**Centro Naciona**	**0.90**	**49**	*i P*	**Pb**	**16 35 27.9**	**0.0**
CNRM				IAML		16 35 44.7	
	comp=Z,8μm,1.0s						
UEES	**Universidad Ev**	**0.91**	**337**	*eP*	**Pn**	**16 35 27.8**	**0.0**
UEES	**Universidad Ev**	**0.91**	**337**	*i P*	**Pn**	**16 35 27.9**	**0.0**
UEES				IAML		16 35 42.6	
	comp=Z,2μm,1.0s						
PMON	**Piamonte**	**0.94**	**332**	*eP*	**Pn**	**16 35 28.1**	**-0.2**
PMON				*eS*	**Sb**	**16 35 40.8**	**+0.1**
PMON	**Piamonte**	**0.94**	**332**	*i P*	**Pn**	**16 35 28.0**	**-0.3**
PMON				IAML		16 35 48.8	
	comp=Z,4μm,1.0s						
PIC2	**El Picacho**	**0.94**	**336**	*eP*	**Pn**	**16 35 28.5**	**0.0**
BOQS	**Boqueron**	**0.94**	**335**	*eP*	**Pn**	**16 35 28.6**	**+0.1**
BOQS				*eS*	**Sb**	**16 35 41.0**	**+0.1**
JAYA	**Jayaque - finc**	**0.96**	**324**	*eP*	**Pn**	**16 35 28.6**	**0.0**
JAYA				*eS*	**Sb**	**16 35 41.0**	**-0.3**
JAYA	**Jayaque - finc**	**0.96**	**324**	*i P*	**Pn**	**16 35 28.3**	**-0.3**
JAYA				IAML		16 35 43.0	
	comp=Z,12μm,1.0s						
CNCH	**Conchagua**	**1.08**	**68**	*i P*	**Pn**	**16 35 30.0**	**-0.3**
CNCH				IAML		16 35 51.1	
	comp=Z,4μm,1.0s						
CAHU	**Cacacuatique**	**1.09**	**36**	*eP*	**Pn**	**16 35 30.4**	**-0.2**
CEVE	**Cerro Verde**	**1.20**	**322**	*eP*	**Pb**	**16 35 32.8**	**-0.3**
CEVE	**Cerro Verde**	**1.20**	**322**	*i P*	**Pb**	**16 35 32.7**	**-0.3**
CEVE				IAML		16 35 53.0	
	comp=Z,3μm,1.0s						
SBLS	**San Blas**	**1.21**	**323**	*eP*	**Pn**	**16 35 32.4**	**+0.3**
SNJE	**San Jose**	**1.22**	**324**	*eP*	**Pn**	**16 35 32.3**	**+0.1**
RTR	**El Retiro**	**1.27**	**323**	*eP*	**Pn**	**16 35 33.1**	**+0.3**
CSGN	**Cosiguina Volc**	**1.28**	**85**	*i P*	**Pn**	**16 35 33.4**	**+0.4**
CSGN				IAML		16 35 51.0	
	comp=Z,250nm,1.0s						
LLGN	**La Laguna**	**1.28**	**357**	*eP*	**Pn**	**16 35 32.6**	**-0.4**
LLGN				*eS*	**Sn**	**16 35 48.9**	**-0.4**
UNIC	**Universidad Ca**	**1.28**	**329**	*eP*	**Pn**	**16 35 33.1**	**+0.2**
UNIC	**Universidad Ca**	**1.28**	**329**	*i P*	**Pn**	**16 35 33.4**	**+0.4**
UNIC				IAML		16 35 33.9	
	comp=Z,520nm,1.0s						
NUBE	**Las Nubes**	**1.35**	**319**	*eP*	**Pn**	**16 35 34.1**	**0.0**
NUBE	**Las Nubes**	**1.35**	**319**	*i P*	**Pn**	**16 35 34.0**	**0.0**
NUBE				IAML		16 35 53.8	
	comp=Z,4μm,1.0s						
MTO3	**Montecristo**	**1.59**	**342**	*eP*	**Pn**	**16 35 37.6**	**+0.3**
MTO3	**Montecristo**	**1.59**	**342**	*i P*	**Pn**	**16 35 37.3**	**0.0**
MTO3				IAML		16 35 57.3	
	comp=Z,360nm,1.0s						
ESQI	**Esquipulas**	**1.73**	**345**	*eP*	**Pn**	**16 35 39.7**	**+0.5**
CRIN	**San Cristobal**	**1.78**	**95**	*i P*	**Pn**	**16 35 40.3**	**+0.4**
CRIN				IAML		16 36 08.1	
	comp=Z,1μm,1.0s						
PKGN	**Cerro Pekin**	**1.86**	**96**	*i P*	**Pn**	**16 35 40.7**	**-0.1**
PKGN				IAML		16 36 10.3	
	comp=Z,2μm,1.0s						
PLRN	**Geotermica Pol**	**2.07**	**98**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	Korovin West	0.33	142		Pn	16 50 20.9	+1.0
KOWE					Sn	16 50 38.4	+1.0
KONE	Korovin Northe	0.36	129		Pn	16 50 21.2	+1.1
KOKL	Mount Kliuchef	0.38	142		Pn	16 50 21.4	+1.2
KOSE	Korovin Southe	0.43	130		Pn	16 50 21.3	+1.0
KOFP	Korovin Flat P	0.46	139		Pn	16 50 21.4	+1.0
ATKA	Atka Island	0.48	151		Pn	16 50 20.3	-0.2
ATKA				Sn	Sn	16 50 37.7	-0.6
GSTR	Great Sitkin T	1.05	240		Pn	16 50 24.6	+0.6
GSTR				Sn	Sn	16 50 44.2	-0.5
GSMY	Great Sitkin M	1.07	238		Pn	16 50 25.0	+0.7
GSMY					Sn	16 50 44.9	-0.3
GSTD	Great Sitkin T	1.11	240		Pn	16 50 25.4	+0.7
GSTD					Sn	16 50 45.9	+0.1
GSCK	Great Sitkin C	1.15	238		Pn	16 50 25.7	+0.8
ADK	Adak	1.49	241		Pn	16 50 28.3	+0.4
ADK	Adak	1.49	241		Sn	16 50 52.0	+0.2
KIRH	Kanaga Island	1.71	246		Pn	16 50 31.3	+1.1
KIKV	Kanaga Island	1.76	246		Pn	16 50 32.1	+1.4
KIWB	Kanaga Island	1.76	245		Pn	16 50 31.5	+0.8
TAFP	Tanaga Falls P	2.21	252		Pn	16 50 37.0	+1.2
TAFP					Sn	16 51 06.8	+1.1
TASE	Tanaga Southea	2.27	251		Pn	16 50 37.6	+1.1
GAEA	Gareloi East	2.70	253		Pn	16 50 42.9	+1.5
GANO	Gareloi North	2.72	254		Pn	16 50 42.9	+1.2
CLCO	Concord Point,	2.96	85		Pn	16 50 45.8	+1.2
CLCO					Sn	16 51 22.1	+0.5
NIKH	Nikolski High	3.49	82		Pn	16 50 51.7	+0.4
NIKH					Sn	16 51 34.2	+0.7
NIKH	Nikolski High baz=266	3.49	82	Pn	Pn	16 50 51.0	-0.3
OKWR	Okmok West Rim	3.94	76		Pn	16 50 58.7	+1.7
OKCE	Okmok Cone E	3.96	76		Pn	16 50 58.4	+1.1
OKTU	Okmok Mt. Tuli	4.02	76		Pn	16 50 59.2	+1.1
MREP	Makushin Rep't	4.86	73		Pn	16 51 10.0	+1.1
MSW	Makushin Switc	4.86	71		Pn	16 51 09.9	+1.1
P08K	Saint George I baz=218	4.94	34	Pn	Pn	16 51 10.1	+0.2
UNV	Unalaska Valle	5.00	73		Pn	16 51 11.8	+1.1
UNV	Unalaska Valle baz=259	5.00	73	Pn	Pn	16 51 10.5	-0.3
AKMO	Akutan Morgan	5.34	71		Pn	16 51 16.7	+1.6
ZRO	Akutan Zero	5.36	71		Pn	16 51 17.0	+1.6
AKBBA	Akutan Broad B	5.39	71		Pn	16 51 17.1	+1.4
AHB	Akutan Harbor	5.46	71		Pn	16 51 18.1	+1.4
AKSA	Akutan Strait	5.53	71		Pn	16 51 19.8	+2.2
WECS	Westdahl Cape	6.14	68		Pn	16 51 27.9	+2.1
WESE	West Dahl East	6.24	69		Pn	16 51 29.1	+2.0
ISLZ	Isanotski Laza	6.79	68		Pn	16 51 35.8	+1.5
FALS	False Pass	6.99	67		Pn	16 51 39.0	+2.2
PN7A	Pavlof North-7	7.93	64		Pn	16 51 50.9	+1.6
HAG	Hague Volcano	7.95	65		Pn	16 51 51.2	+1.7
S12K	Black Hills	7.97	62		Pn	16 51 52.0	+2.1
S12K	Black Hills baz=252	7.97	62	Pn	Pn	16 51 49.7	-0.2
PS4A	Pavlof South-4	7.98	65		Pn	16 51 52.0	+2.0
PS1A	Pavlof South-1	8.06	65		Pn	16 51 53.5	+2.4
M11K	Mekoryuk baz=214	9.05	27	Pn	Pn	16 52 03.8	-0.1
CHNA	Chernabura Isl baz=262	9.16	70	Pn	Pn	16 52 04.8	-0.8
S14K	Fog Glacier baz=253	9.49	61	Pn	Pn	16 52 09.4	-0.6
M13K	Dall Lake baz=223	9.96	34	Pn	Pn	16 52 15.7	-0.2
CHGN	Chignik baz=255	10.10	62	Pn	Pn	16 52 17.1	-0.8
N14K	Kuskokwak Cree baz=230	10.23	39	Pn	Pn	16 52 18.3	-1.2
O15K	Ungalikthiuk R baz=238	10.55	46	Pn	Pn	16 52 22.9	-0.9
M14K	Bethel baz=226	10.68	35	Pn	Pn	16 52 24.9	-0.6
N15K	Kwethluk River baz=233	11.01	41	Pn	Pn	16 52 30.0	+0.3
M15K	Kasigluk River baz=229	11.11	38	Pn	Pn	16 52 31.6	+0.6
L15K	Ungalak Mounta baz=224	11.50	33	Pn	Pn	16 52 35.9	-0.2
R17L	Mt. Peulik Vol baz=252	11.56	57	Pn	Pn	16 52 37.0	+0.1
J14K	Nanvaranak Lak baz=215	11.72	26	Pn	Pn	16 52 39.2	+0.4
Q16K	King Salmon baz=246	11.78	52	Pn	Pn	16 52 39.0	-0.7
K15K	Wolf Creek Mou baz=221	11.94	31	Pn	Pn	16 52 41.4	-0.4
M16K	Timber Creek baz=232	11.97	39	Pn	Pn	16 52 42.6	+0.4
Q17K	Contact Creek baz=250	12.00	55	Pn	Pn	16 52 42.8	0.0
O17K	Koliganek Bris baz=241	12.06	47	Pn	Pn	16 52 43.4	+0.1
P17K	Kvichak River baz=245	12.10	50	Pn	Pn	16 52 42.9	-0.9
L16K	Owhat River baz=228	12.22	36	Pn	Pn	16 52 44.9	-0.4
N17K	Nushagak Hills baz=238	12.40	44	Pn	Pn	16 52 47.4	-0.3
SII	Sitkinak Islan baz=260	12.46	63	Pn	Pn	16 52 47.4	-1.0
Q18K	Katmai Hardscr baz=250	12.57	54	Pn	Pn	16 52 48.7	-1.3
P18K	Big Mountain, baz=246	12.74	50	Pn	Pn	16 52 50.8	-1.3
M17K	Holitna River baz=234	12.79	40	Pn	Pn	16 52 52.1	-0.5
L17K	Donlin baz=230	12.92	36	Pn	Pn	16 52 53.4	-0.9
O18K	Koktuh Hills baz=244	12.95	48	Pn	Pn	16 52 55.0	+0.4
J16K	Anvik River baz=221	12.97	29	Pn	Pn	16 52 54.7	-0.2
N18K	Kilae Creek baz=240	13.03	44	Pn	Pn	16 52 56.1	+0.3
OHAK	Old Harbor baz=258	13.06	61	Pn	Pn	16 52 54.8	-1.3
K17K	Iditarod baz=228	13.30	34	Pn	Pn	16 52 58.4	-0.7
Q19K	Cape Douglas, baz=251	13.33	53	Pn	Pn	16 52 58.6	-1.0
TNA	Tin City baz=196	13.41	12	Pn	Pn	16 53 00.5	+0.1
I17K	Unalakleet baz=219	13.41	27	Pn	Pn	16 53 00.4	0.0
M18K	Stony River baz=237	13.48	41	Pn	Pn	16 53 01.3	0.0
O19K	Port Alsworth	13.49	48	Pn	Pn	16 53 02.5	+1.0
O19K	Port Alsworth baz=245	13.49	48	Pn	Pn	16 53 01.8	+0.2
J17K	VABM Dome baz=224	13.52	31	Pn	Pn	16 53 02.7	+0.8
G15K	Niukluk baz=208	13.53	19	Pn	Pn	16 53 02.4	+0.5
F14K	Arctic Creek baz=202	13.55	15	Pn	Pn	16 53 02.0	-0.3
KDAK	Kodiak Island	13.55	59	Pn	Pn	16 53 01.2	-1.1
KDAK	Kodiak Island 36nm,0.4s,baz=104,slow=4.7,SNR=47	13.55	59	P	Pn	16 53 02.0	-0.4
KDAK				S	Sn	16 55 32.8	+0.2
KDAK	8.7nm,0.8s,baz=330,slow=20,SNR=1.4 Kodiak Island baz=257	13.55	59	Pn	Pn	16 53 01.9	-0.4
L18K	Granite Mounta baz=233	13.56	38	Pn	Pn	16 53 03.0	+0.6
N19K	Bonanza Creek	13.70	45	Pn	Pn	16 53 05.4	+1.2
N19K	Bonanza Creek baz=242	13.70	45	Pn	Pn	16 53 03.9	-0.3
P19K	Oil Pt baz=248	13.78	51	Pn	Pn	16 53 04.2	-1.0
O20K	Slope Mountain baz=248	14.23	50	Pn	Pn	16 53 09.8	-1.0
G16K	Koyuk River baz=211	14.23	21	Pn	Pn	16 53 10.6	-0.1
L19K	White Mountain	14.24	40	Pn	P	16 53 12.2	-1.1
L19K	White Mountain baz=236	14.24	40	Pn	Pn	16 53 10.0	-1.0
TTA	Tatalina baz=232	14.25	36	Pn	Pn	16 53 11.0	0.0
M19K	Big River Lodg baz=238	14.28	41	Pn	Pn	16 53 10.5	-1.0
J18K	Innoko River baz=229	14.34	34	Pn	Pn	16 53 11.6	-0.6
H17K	Granite Mounta baz=218	14.45	26	Pn	Pn	16 53 13.1	-0.3
G17K	Kiwalik Mounta baz=215	14.71	23	Pn	Pn	16 53 16.7	0.0
M20K	Styx River baz=241	14.78	43	Pn	Pn	16 53 17.7	0.0
L20K	Farewell, AK baz=237	14.79	40	Pn	Pn	16 53 17.9	+0.2
N20K	Mount Spurr baz=245	14.86	46	Pn	Pn	16 53 18.7	-0.1
SPCR	Spurr Chakacha baz=245	14.86	46	Pn	Pn	16 53 18.9	+0.2
BRSE	Bradley Lake S baz=252	15.00	52	Pn	Pn	16 53 19.5	-0.9
J19K	Poorman baz=229	15.06	33	Pn	Pn	16 53 20.9	-0.1
CAPN	Captain Cook N baz=248	15.16	48	Pn	Pn	16 53 21.5	-0.8
GCSA	Galena City Sc baz=225	15.16	30	Pn	Pn	16 53 21.9	-0.3
K20K	Telida baz=234	15.21	37	Pn	Pn	16 53 22.0	-0.9
F17K	Baldwin Pennin baz=212	15.36	20	Pn	Pn	16 53 24.1	-0.6
SKT	Skwentna	15.50	44		P	16 53 29.4	+2.2
SKT	Skwentna baz=243,SNR=7.2	15.50	44	Pn	Pn	16 53 25.7	-0.8
G18K	Tagagawik baz=218	15.53	25	Pn	Pn	16 53 26.3	-0.4
SUA	Susitna One baz=246	15.62	46	Pn	Pn	16 53 27.3	-0.7
PPLA	Purkeypile baz=239	15.67	40	Pn	Pn	16 53 27.6	-1.1
J20K	Nowinta River baz=232	15.67	34	Pn	Pn	16 53 27.6	-0.9
O22K	Cooper Landing	15.72	50		P	16 53 29.8	+0.2
O22K	Cooper Landing baz=251	15.72	50	Pn	Pn	16 53 27.7	-1.5
SEW	Seward baz=252	15.73	52	Pn	Pn	16 53 28.7	-0.6
E17K	Hotham Inlet baz=209	15.80	19	Pn	Pn	16 53 29.5	-0.5
F18K	Selawik baz=215	15.85	22	Pn	Pn	16 53 30.2	-0.4
H19K	Roundabout Mou baz=224	15.85	28	Pn	Pn	16 53 29.7	-1.0
RC01	Rabbit Creek A baz=249	15.92	48	Pn	Pn	16 53 30.5	-1.2
I20K	Naaghedeneel baz=229	15.96	32	Pn	Pn	16 53 31.4	-0.5
CAST	Castle Rocks	15.99	39		P	16 53 34.8	+2.2
CAST				IAmb	IAmb	16 53 40.6	
	comp=Z,10nm,0.7s						
CAST	Castle Rocks baz=238	15.99	39	Pn	Pn	16 53 31.5	-0.9
M22K	Willow baz=246	16.01	46	P	P	16 53 33.4	+0.6
D17K	Noatak River baz=206	16.12	16	Pn	P	16 53 34.4	+0.4
G19K	Purcell Mounta baz=221	16.13	26	Pn	P	16 53 34.7	+0.6
CHUM	Lake Minchumin baz=236	16.15	37	Pn	Pn	16 53 34.2	-0.1
CUT	Chulitna baz=244	16.22	43	Pn	Pn	16 53 34.7	-0.4
H20K	Anotleneega Mo baz=227	16.29	30	Pn	P	16 53 35.6	-0.4
C16K	Lisburne Hills baz=200	16.32	12	Pn	Pn	16 53 36.1	-0.2
E18K	Tukpahlearik C baz=211	16.33	19	Pn	P	16 53 36.1	-0.2
PMR	Palmer baz=248	16.38	47	Pn	P	16 53 36.1	-0.7
RDOG	Red Dog Mine baz=206	16.47	16	P	Pn	16 53 37.9	-0.3
F19K	Shaleruckik Mo baz=218	16.48	24	P	P	16 53 38.0	0.0
PWL	Port Wells baz=252	16.49	50	P	P	16 53 37.2	-1.0
KTH	Kantishna Hill	16.50	39	P	Pn	16 53 40.9	+2.2
KTH				IAmb	IAmb	16 53 43.6	
	comp=Z,16nm,0.7s						
KNK	Knik Glacier baz=250	16.62	48	P	P	16 53 38.6	-1.0
P23K	Montague Islan baz=256	16.69	53	P	P	16 53 39.2	-1.1
TRF	Thorofare Moun baz=241	16.70	40	P	P	16 53 39.8	-0.8
PETK	Petropavlovsk- comp=Z,3.6nm,0.8s,baz=112,slow=14,SNR=2.0	16.71	283	P	P	16 53 39.3	-1.3
BPAW	Bear Paw Mtn. baz=238	16.76	38	P	P	16 53 40.6	-0.5
C17K	DeLong Mountai baz=204	16.81	15	P	Pn	16 53 41.9	-0.4
SML	Sawmill baz=249	16.81	47	P	P	16 53 41.3	-0.4
I21K	Tanana	17.02	34	Pn	Pn	16 53 46.8	+1.9
I21K				IAmb	IAmb	16 53 49.1	
	comp=Z,17nm,1.2s						
I21K	Tanana baz=233	17.02	34	P	P	16 53 43.4	-0.5
H21K	Melozitna Rive baz=230	17.05	32	P	P	16 53 43.6	-0.6
GLI	Glacier Island baz=253	17.07	50	P	P	16 53 43.8	-0.8
M23K	Glacier View baz=250	17.08	47	P	P	16 53 44.2	-0.4
E19K	Redstone River baz=218	17.11	23	P	P	16 53 45.1	+0.2
WAT1	Susitna Watana baz=245	17.12	43	P	P	16 53 44.7	-0.4
F20K	Avaraat Lake baz=222	17.17	25	P	P	16 53 45.4	-0.1
RND	Reindeer	17.25	41	P	Pn	16 53 47.7	+0.1
SCM	Sheep Creek Mo baz=250	17.27	47	P	P	16 53 45.9	-0.8
WAT6	Susitna Watana baz=247	17.36	44	P	P	16 53 46.7	-1.1
MCK	McKinley baz=242,SNR=5.2	17.36	40	P	P	16 53 48.1	+0.3
MLY	Manley baz=235	17.37	35	P	P	16 53 47.9	+0.2
G21K	Allakaket baz=227	17.40	29	P	P	16 53 48.0	-0.1
EYAK	Cordova Ski Ar baz=256	17.63	52	P	P	16 53 50.5	-0.1
H22K	Ishtalitna Cre baz=232	17.66	32	P	P	16 53 50.8	-0.1
DHY	Denali Highway	17.71	43	P	Pn	16 53 52.5	-0.7
DHY	Denali Highway baz=246	17.71	43	P	P	16 53 50.9	-0.7
NEA2	Nenana baz=239	17.73	38	P	P	16 53 51.7	0.0
D19K	Kuna River baz=214	17.75	20	P	P	16 53 52.0	+0.1
KLU	Klutina	17.80	49	P	Pn	16 53 53.8	-0.3
KLU	Klutina baz=253	17.80	49	P	P	16 53 52.3	-0.2
M24K	Tolsona, Glenn baz=251	17.87	47	P	P	16 53 53.5	+0.2
F21K	Alatna River baz=225	17.90	27	P	P	16 53 53.9	+0.3
C19K	Lookout Ridge baz=210	17.98	18	P	P	16 53 54.7	+0.3
E20K	Nigu River baz=218	17.98	22	P	P	16 53 55.0	+0.5
BILL	Bilibino	17.99	336	P	Pn	16 53 56.1	-0.2
BILL				IAmb	IAmb	16 54 01.2	
	comp=Z,19nm,1.3s						
WRH	Wood River Hil	18.04	39	P	P	16 53 55.4	+0.3
WRH				IAmb	IAmb	16 53 59.1	
	comp=Z,8.3nm,0.7s						
KAIM	Kayak Island baz=260	18.14	54	P	P	16 53 57.0	+0.8
H23K	Yukon River	18.23	34	P	Pn	16 53 58.6	-0.5
H23K				IAmb	IAmb	16 54 00.9	
	comp=Z,11nm,0.9s						
H23K	Yukon River baz=235	18.23	34	P	Pn	16 53 58.4	-0.7
CCB	Clear Creek Bu	18.23	38	P	P	16 53 57.1	0.0
CCB				IAmb	IAmb	16 54 01.1	
	comp=Z,8.4nm,0.5s						
D20K	Etivluk River baz=217	18.25	21	P	Pn	16 53 58.9	-0.4
G22K	Bettles baz=229	18.27	30	P	Pn	16 53 59.1	-0.4
BMRM	Bremner River baz=256	18.27	51	P	Pn	16 53 58.7	-1.0
COLA	College	18.33	38	P	Pn	16 53 59.7	-0.5
COLA	College baz=240	18.33	38	P	Pn	16 53 59.7	-0.5
HARP	HAARP baz=251	18.42	46	P	P	16 54 00.3	+1.0
N25K	Chitina, Valde baz=254	18.44	49	P	Pn	16 54 00.7	-1.0
HDA	Harding Lake	18.45	40	P	Pn	16 54 00.7	-1.0
HDA	Harding Lake baz=243,SNR=16	18.45	40	P	Pn	16 54 00.9	-0.8
F22K	John River baz=227	18.46	28	P	P	16 54 00.6	+0.9
PAX	Paxson baz=249	18.48	45	P	Pn	16 54 01.2	-0.8
G23K	Bananza Creek baz=232	18.59	31	P	P	16 54 02.0	+0.9
POKR	Poker Plat Res baz=240	18.60	37	P	Pn	16 54 02.5	-1.0
IL31		18.64	39	IAmb	IAmb	16 54 05.5	
	comp=Z,9.6nm,0.5s						
ILAR	Eielson Array	18.64	39	P	P	16 54 00.5	-1.2
	comp=Z,4.3nm,0.6s,baz=227,slow=10,SNR=103						
ILAR				S	S	16 57 24.9	+0.1
	comp=Z,0.3nm,0.7s,baz=238,slow=17,SNR=2.5						
E21K	Killik River baz=222	18.66	24	P	P	16 54 02.8	+1.0
K24K	Donnelly Dome baz=246,SNR=8.3	18.66	42	P	P	16 54 02.7	+0.9
BGLC	Bering Glacier baz=260	18.74	54	P	P	16 54 03.5	+0.9
H24K	Noodor Dome comp=Z,18nm,0.8s	18.81	35	IAmb	IAmb	16 54 07.1	
H24K	Noodor Dome baz=238,SNR=8.9	18.81	35	P	P	16 54 04.3	+0.8
COLD	Coldfoot baz=231	18.86	30	P	Pn	16 54 05.3	-1.1
CRQE	Cirque baz=259	18.95	52	P	P	16 54 05.4	+0.3
E22K	Anaktuvuk Pass baz=226	19.00	26	P	P	16 54 05.6	+0.2
C21K	Knifeblade Rid baz=219	19.01	22	P	P	16 54 06.3	+0.8
RIDG	Independent Ri baz=248	19.02	43	P	P	16 54 05.9	+0.1
MCARA	McCarthy VSAT baz=257	19.11	50	P	P	16 54 07.1	+0.3
J25K	Salcha River,	19.16	40	P	P	16 54 08.3	+1.1
J25K	Salcha River, baz=245,SNR=11	19.16	40	P	P	16 54 07.9	+0.6
B20K	Meade River baz=214	19.20	18	P	P	16 54 08.4	+0.9
D22K	Ayikyak River baz=223	19.30	24	P	P	16 54 09.6	+0.9
M26K	Nabesna, AK baz=254	19.38	47	P	P	16 54 10.7	+1.0
MESA	MESA baz=262	19.41	54	P	P	16 54 10.7	+0.6
L26K	Log Cabin Wild comp=Z,6.7nm,0.6s	19.41	45	IAmb	IAmb	16 54 12.5	
L26K	Log Cabin Wild baz=252	19.41	45	P	P	16 54 11.2	+1.3
B21K	Ikpikpuk River baz=219	19.41	21	P	P	16 54 11.1	+1.3
G24K	Hadweenzic Riv baz=236	19.41	33	P	P	16 54 11.0	+1.0
SCRK	Sand Creek	19.46	42	P	P	16 54 11.3	+0.8
SCRK	Sand Creek baz=248,SNR=21	19.46	42	P	P	16 54 11.5	+0.9
PRP	Porcupine Dome baz=242	19.50	37	P	P	16 54 11.8	+0.8
E23K	Chandalar baz=230	19.56	28	P	Pn	16 54 13.2	-1.6
F24K	Squaw Lake baz=234	19.75	31	P	P	16 54 14.7	+1.1
H25L	Birch Creek baz=240	19.75	35	P	P	16 54 14.9	+1.4
J26L	Joseph Creek	19.83	41	P	P	16 54 15.2	+0.7
J26L	Joseph Creek baz=248,SNR=15	19.83	41	P	P	16 54 15.6	+1.1
D23K	Nanushuk River baz=226	19.87	25	P	P	16 54 15.9	+1.0
M27K	Edge Creek, AK baz=256	19.87	48	P	P	16 54 15.9	+0.9
E24K	Your Creek baz=232	19.90	29	P	P	16 54 16.8	+1.6
G25K	Bearman Lake baz=238	19.91	34	P	P	16 54 16.5	+1.3
TOLK	Toolik Lake Re baz=229	19.95	27	P	P	16 54 16.8	+1.1
L27K	Beaver Creek, baz=254	20.08	46	P	P	16 54 17.0	-0.1
B22K	Teshekpuk Lake baz=219	20.23	21	P	P	16 54 20.0	+1.4
PINM	Pinnacle baz=264	20.24	55	P	P	16 54 18.7	-0.2
K27K	Chicken comp=Z,11nm,0.6s	20.27	43	IAmb	IAmb	16 54 23.2	
K27K	Chicken baz=251,SNR=8.1	20.27	43	P	P	16 54 20.4	+1.3
BVCY	Beaver Creek baz=257	20.35	48	P	P	16 54 20.3	+0.3
O28M	Mount Upton baz=262	20.36	53	P	P	16 54 20.6	+0.2
YUK3	Moose Creek baz=259	20.40	50	P	P	16 54 21.8	+1.1
A22K	Sinclair Lake baz=216	20.44	18	P	P	16 54 22.7	+1.9
D24K	Happy Valley baz=229	20.50	26	P	P	16 54 22.7	+1.3
C23K	Itkillik River comp=Z,11nm,1.0s	20.50	24	IAmb	IAmb	16 54 26.5	
C23K	Itkillik River baz=225	20.50	24	P	P	16 54 22.2	+0.7
F25K	Christian Rive baz=237	20.50	32	P	P	16 54 22.4	+0.7
PNL	Peninsula baz=266	20.63	56	P	P	16 54 23.3	+0.3
YUK8	Steele Glacier baz=261	20.64	51	P	P	16 54 22.2	-1.2
G26K	Porcupine Rive baz=241	20.80	35	P	P	16 54 25.5	+0.8
E25K	Arctic Village baz=236,SNR=6.0	20.82	31	P	P	16 54 27.0	+2.0
EGAK	Eagle	20.89	41	P	P	16 54 26.6	+0.9
EGAK				IAmb	IAmb	16 54 29.5	
	comp=Z,24nm,1.4s						
EGAK	Eagle baz=250	20.89	41	P	P	16 54 26.4	+0.7
C24K	Franklin Bluff baz=228	20.90	25	P	P	16 54 26.7	+0.9
I27K	Kandik River baz=248	21.01	39	P	P	16 54 27.2	+0.2
F26K	Sheenjek River baz=239	21.04	33	P	P	16 54 28.2	+0.8
O29M	Mount Kennedy baz=265	21.09	54	P	P	16 54 27.8	-0.3
YUK4	Talbot Arm baz=262	21.18	52	P	P	16 54 30.3	+1.2
YUK6	Outpost Mounta baz=263	21.27	53	P	P	16 54 29.7	-0.4
D25K	Kavik River baz=232	21.28	28	P	P	16 54 31.2	+1.3
H27K	Steamboat Moun baz=246	21.29	38	P	P	16 54 30.6	+0.6
DAWY	Dawson	21.41	44	P	P	16 54 31.6	+0.3
DAWY				IAmb	IAmb	16 54 33.1	
	comp=Z,5.8nm,0.7s						
DAWY	Dawson baz=254	21.41	44	P	P	16 54 32.3	+1.0
M29M	Somme Creek baz=259	21.45	49	P	P	16 54 32.5	+0.7
P29M	Windy Craggy baz=267	21.47	56	P	P	16 54 32.2	+0.2
G27K	Doyon Strip baz=245	21.48	36	P	P	16 54 32.5	+0.4
I28M	Miner Creek	21.61	40	P	P	16 54 33.4	-0.1
I28M				IAmb	IAmb	16 54 36.7	
	comp=Z,10nm,0.9s						
I28M	Miner Creek baz=250,SNR=6.1	21.61	40	P	P	16 54 34.4	+0.9
HYT	Haines Junctio baz=264	21.67	53	P	P	16 54 34.5	+0.3
L29M	L29M baz=258	21.73	47	P	P	16 54 35.0	+0.3
P30M	Million Dollar baz=267	21.89	55	P	P	16 54 35.9	-0.5
N30M	Aishikik Lake baz=263	21.94	51	P	P	16 54 37.0	+0.1

J29N	**Klondike Camp**	**22.00**	**43**	P	**P**	**16 54 37.5**	**0.0**
	baz=255						
C26K	**Camden Bay**	**22.05**	**27**	P	**P**	**16 54 38.1**	**+0.3**
	baz=233						
E27K	**Coleen River**	**22.13**	**33**	P	**P**	**16 54 38.4**	**-0.3**
	baz=242						
K29M	**Barlow Dome**	**22.15**	**45**	P	**P**	**16 54 39.2**	**+0.2**
K29M				IAmb	IAmb	16 54 40.6	
	comp=Z,9.3nm,0.6s						
K29M	**Barlow Dome**	**22.15**	**45**	P	**P**	**16 54 38.7**	**-0.3**
	baz=257,SNR=6.4						
PLBC	**Pleasant Camp**	**22.16**	**57**	P	**P**	**16 54 37.5**	**-1.4**
	baz=269						
C27K	**Jago River**	**22.22**	**28**	P	**P**	**16 54 39.7**	**+0.3**
	baz=236						
M30M	**Minto, Yukon**	**22.23**	**49**	P	**P**	**16 54 38.8**	**-0.9**
	baz=261						
S31K	**Pelican**	**22.25**	**61**	P	**P**	**16 54 38.9**	**-0.9**
	baz=273						
O30N	**Mendenhall**	**22.36**	**53**	P	**P**	**16 54 40.7**	**-0.2**
	baz=266						
F28M	**Old Crow**	**22.45**	**35**	P	**P**	**16 54 42.9**	**+1.2**
F28M	**Old Crow**	**22.45**	**35**	P	**P**	**16 54 42.1**	**+0.4**
	baz=245,SNR=5.6						
H29M	**Whitestone**	**22.48**	**39**	P	**P**	**16 54 42.1**	**+0.2**
H29M				IAmb	IAmb	16 54 43.8	
	comp=Z,11nm,0.8s						
H29M	**Whitestone**	**22.48**	**39**	P	**P**	**16 54 42.0**	**+0.2**
	baz=250,SNR=5.6						
N31M	**Braeburn, Yuko**	**22.57**	**52**	P	**P**	**16 54 42.1**	**-0.8**
	baz=264						
SKAG	**Skagway**	**22.69**	**57**	P	**P**	**16 54 43.6**	**-0.3**
	baz=270						
SIT	**Sitka**	**22.81**	**63**	P	**P**	**16 54 44.9**	**-0.1**
	baz=276						
MAYO	**Mayo, Yukon**	**22.81**	**46**	P	**P**	**16 54 45.5**	**+0.5**
	baz=259						
J30M	**Hart River**	**22.83**	**44**	P	**P**	**16 54 46.2**	**+0.9**
J30M				IAmb	IAmb	16 54 47.7	
	comp=Z,8.5nm,0.8s						
J30M	**Hart River**	**22.83**	**44**	P	**P**	**16 54 45.5**	**+0.3**
	baz=256,SNR=6.2						
D27M	**Malcolm River**	**22.84**	**31**	P	**P**	**16 54 46.3**	**+1.0**
	baz=240						
G29M	**Pine Creek**	**22.84**	**37**	P	**P**	**16 54 45.7**	**+0.4**
	baz=249						
WHY	**Whitehorse**	**22.94**	**54**	P	**P**	**16 54 47.2**	**+0.9**
	baz=267						
I30M	**Mount Dempster**	**22.96**	**42**	IAmb	IAmb	16 54 48.6	
	comp=Z,8.8nm,0.9s						
I30M	**Mount Dempster**	**22.96**	**42**	P	**P**	**16 54 46.1**	**-0.4**
	baz=255,SNR=7.7						
E28M	**Babbage River**	**23.00**	**33**	P	**P**	**16 54 47.2**	**+0.6**
	baz=244						
R32K	**Eaglecrest**	**23.14**	**60**	P	**P**	**16 54 48.1**	**0.0**
	baz=273						
EPYK	**Eagle Plains**	**23.16**	**39**	P	**P**	**16 54 47.9**	**-0.2**
	baz=252						
S32K	**Killisnoo**	**23.17**	**62**	P	**P**	**16 54 48.1**	**-0.2**
	baz=275						
M31M	**Drury Creek, Y**	**23.29**	**50**	P	**P**	**16 54 49.3**	**-0.2**
	baz=264						
E29M	**Blow River**	**23.45**	**34**	IAmb	IAmb	16 54 54.2	
	comp=Z,14nm,1.1s						
E29M	**Blow River**	**23.45**	**34**	P	**P**	**16 54 51.7**	**+0.9**
	baz=246						
P32M	**Atlin**	**23.51**	**57**	P	**P**	**16 54 52.1**	**+0.7**
	baz=271						
G30M	**tAoh Zraii Nji**	**23.54**	**38**	P	**P**	**16 54 52.0**	**+0.4**
	baz=251						
D28M	**Stokes Point**	**23.58**	**31**	P	**P**	**16 54 53.0**	**+1.1**
	baz=243						
FARO	**Faro, Yukon**	**23.78**	**50**	P	**P**	**16 54 54.6**	**+0.7**
	baz=265						
N32M	**Quiet Lake**	**23.84**	**53**	P	**P**	**16 54 54.3**	**-0.1**
	baz=268						
F30M	**Barrier River**	**23.90**	**36**	P	**P**	**16 54 55.3**	**+0.4**
	baz=250						
H31M	**Peel River**	**23.93**	**41**	P	**P**	**16 54 55.7**	**+0.5**
	baz=256						
P33M	**Teslin, Yukon**	**23.96**	**55**	P	**P**	**16 54 55.6**	**+0.1**
	baz=270						
U33K	**Whale Pass**	**24.14**	**65**	P	**P**	**16 54 56.8**	**-0.2**
	baz=279						
CRAG	**Craig**	**24.25**	**67**	P	**P**	**16 54 57.6**	**-0.5**
	baz=281						
Q32M	**Nakina River**	**24.28**	**58**	P	**P**	**16 54 58.5**	**-0.1**
	baz=273						
WRAK	**Wrangell Islan**	**24.52**	**64**	P	**P**	**16 55 00.6**	**+0.1**
	baz=279						
F31M	**Tsiigehtchic**	**24.60**	**37**	P	**P**	**16 55 01.8**	**+0.7**
	baz=253						
R33M	**Jennings River**	**24.92**	**57**	P	**P**	**16 55 04.8**	**+0.5**
	baz=274						
S34M	**Telegraph Cree**	**24.97**	**60**	P	**P**	**16 55 04.7**	**+0.1**
	baz=277						
V35K	**Ketchikan**	**25.12**	**67**	P	**P**	**16 55 06.4**	**+0.4**
	baz=282						
T35M	**Bob Quinn**	**25.57**	**62**	P	**P**	**16 55 10.4**	**+0.3**
	baz=279						
C36M	**Paulatuk**	**28.52**	**35**	P	**P**	**16 55 36.7**	**+0.5**
	baz=260						
A36M	**Sachs Harbour**	**28.72**	**29**	P	**P**	**16 55 39.1**	**+1.1**
A36M	**Sachs Harbour**	**28.72**	**29**	P	**P**	**16 55 38.5**	**+0.5**
	baz=254						
B08A	**Colville Reser**	**34.67**	**74**	IAmb	IAmb	16 56 32.5	
	comp=Z,4.2nm,0.8s						
HAWA	**Hanford**	**35.53**	**78**	IAmb	IAmb	16 56 39.8	
	comp=Z,3.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**35.71**	**278**	PcP	**PcP**	**16 59 03.9**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=43,slow=3.3,SNR=4.7						
NEW	**Newport**	**36.02**	**73**	IAmb	IAmb	16 56 43.4	
	comp=Z,3.8nm,0.7s						
MJAR	**Matsushiro Arr**	**36.54**	**263**	P	**P**	**16 56 46.8**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=34,slow=6.5,SNR=18						
	comp=Z,3.1nm,0.8s						
H11S1	**WAKE ISLAND Hy**	**37.06**	**210**	T	T	17 36 31.4	
	baz=19,slow=74						
H11S2	**WAKE ISLAND Hy**	**37.08**	**210**	T	T	17 36 27.9	
	baz=19,slow=74						
H11S3	**WAKE ISLAND Hy**	**37.08**	**210**	T	T	17 36 26.5	
	baz=19						
PAHR	**Pah Rah Range**	**39.39**	**86**	P	**P**	**16 57 11.1**	**+0.9**
PNTR	**Pine Nut**	**39.64**	**87**	P	**P**	**16 57 14.1**	**+1.7**
YERR	**Yerington**	**39.93**	**87**	P	**P**	**16 57 16.4**	**+1.7**
WAKR	**Walker**	**40.11**	**88**	P	**P**	**16 57 18.0**	**+1.7**
WAKR				IAmb	IAmb	16 57 19.2	
	comp=Z,4.5nm,0.8s						
BOZ	**Bozeman (W)**	**40.62**	**74**	P	**P**	**16 57 20.6**	**+0.4**
NVAR	**Mina Array Bea**	**40.84**	**87**	P	**P**	**16 57 23.2**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=296,slow=7.5,SNR=16						
	comp=Z,2.2nm,0.7s						
OMMB	**Old Mammoth Mi**	**40.94**	**89**	P	**P**	**16 57 24.4**	**+1.2**
DSP	**Deep Springs**	**41.72**	**88**	P	**P**	**16 57 30.9**	**+1.7**
TPH	**Tonopah**	**41.73**	**87**	P	**P**	**16 57 30.9**	**+1.4**
KSRS	**Korea Array**	**42.21**	**273**	P	**P**	**16 57 33.1**	**0.0**
	comp=Z,0.6nm,0.7s,baz=93,slow=7.2,SNR=1.7						
	comp=Z,0.6nm,0.7s						
R11B	**Troy Canyon, C**	**42.55**	**85**	P	**P**	**16 57 36.4**	**+0.3**
	baz=310,SNR=5.6						
TPNV	**Topopah Spring**	**43.04**	**87**	IAmb	IAmb	16 57 42.5	
	comp=Z,5.2nm,0.7s						
PD31	**Pinedale Array**	**43.46**	**76**	P	**P**	**16 57 43.7**	**+0.3**
PDAR	**Pinedale Array**	**43.46**	**76**	P	**P**	**16 57 44.0**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=308,slow=3.7,SNR=27						
	comp=Z,2.4nm,0.6s						
NRIK	**Noril'sk**	**44.64**	**330**	P	**P**	**16 57 51.8**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=74,slow=8.4,SNR=5.5						
	comp=Z,1.9nm,0.6s						
N23A	**Red Feather La**	**46.74**	**76**	P	**P**	**16 58 08.7**	**-0.7**
	baz=309						
S22A	**4UR Ranch, Cre**	**48.23**	**80**	P	**P**	**16 58 20.4**	**-0.4**
	baz=311						
SONM	**Songino Array**	**48.40**	**298**	P	**P**	**16 58 22.1**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=56,slow=5.7,SNR=2.7						
SONM				PcP	**PcP**	**16 59 44.9**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=11,slow=1.5,SNR=2.2						
	comp=Z,0.3nm,0.4s						
HHC	**Hu-ho-hao-te**	**49.83**	**288**	*eP*	**P**	**16 58 37.1**	**+4.4**
HHC				pmax	pmax		
	comp=Z,19nm,0.6s						
HHC				pmax	pmax		
	comp=Z,96nm,4.8s						
T25A	**Trinidad**	**50.07**	**79**	P	**P**	**16 58 34.7**	**-0.1**
	baz=312						
121A	**Cookes Peak, D**	**51.16**	**85**	P	**P**	**16 58 42.7**	**-0.2**
	baz=314						
TXAR	**Lajitas Array**	**55.92**	**85**	P	**P**	**16 59 17.8**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=306,slow=5.0,SNR=11						
TXAR				PcP	**sP**	**17 00 12.3**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=296,slow=5.7,SNR=7.3						
	comp=Z,1.4nm,0.8s						
435B	**Jarrell**	**58.55**	**79**	P	**P**	**16 59 35.2**	**-0.5**
	baz=316						
O48B	**Farmland**	**59.01**	**63**	P	**P**	**16 59 38.2**	**-0.5**
	baz=315						
833A	**Chaparral WMA,**	**59.23**	**83**	P	**P**	**16 59 39.8**	**-0.7**
	baz=317						
KURBB	**Kurchatov Arra**	**60.11**	**315**	P	**P**	**16 59 46.0**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=47,slow=6.6,SNR=7.9						
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**61.26**	**310**	P	**P**	**16 59 53.4**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=53,slow=5.1,SNR=4.4						
	comp=Z,0.5nm,0.8s						
BVAR	**Borovoye Array**	**61.58**	**322**	P	**P**	**16 59 55.6**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=48,slow=7.1,SNR=22						
	comp=Z,2.9nm,0.6s						
L61B	**Northampton**	**63.90**	**54**	P	**P**	**17 00 10.6**	**-0.9**
	baz=318						
FINES	**FINESS Array B**	**65.10**	**349**	P	**P**	**17 00 18.6**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=188,slow=1.3,SNR=6.1						
	comp=Z,1.7nm,0.7s						
NOA	**NORSAR Array B**	**66.59**	**357**	P	**P**	**17 00 28.7**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=0.0,slow=6.4,SNR=1.9						
	comp=Z,0.5nm,0.5s						
HFS	**Hagfors**	**67.40**	**356**	P	**P**	**17 00 33.7**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=48,slow=2.2,SNR=14						
	comp=Z,1.9nm,0.6s						
ABKAR	**Akbulak array**	**68.47**	**325**	P	**P**	**17 00 40.7**	**+0.2**
ABKAR				IAmb	IAmb	17 00 42.2	
	comp=Z,8.5nm,1.4s						
CMAR	**Chiang Mai Arr**	**73.44**	**279**	P	**P**	**17 01 10.7**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=26,slow=7.3,SNR=6.6						
	comp=Z,0.6nm,0.5s						
AKASG	**Malin Array Be**	**75.10**	**345**	P	**P**	**17 01 19.3**	**-0.7**
	comp=Z,2.3nm,0.4s,baz=19,slow=6.0,SNR=14						
	comp=Z,2.3nm,0.4s						
WRA	**Warramunga Arr**	**84.75**	**227**	P	**P**	**17 02 11.6**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=31,slow=5.6,SNR=6.6						
	comp=Z,1.1nm,0.9s						
BRTR	**Keskin Array B**	**84.82**	**339**	P	**P**	**17 02 11.7**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=42,slow=2.5,SNR=3.8						
	comp=Z,0.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**87.30**	**235**	P	**P**	**17 02 24.3**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=344,slow=7.4,SNR=2.2						
	comp=Z,2.1nm,0.8s						
ASAR	**Alice Springs**	**88.20**	**226**	P	**P**	**17 02 28.4**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=28,slow=5.2,SNR=21						
	comp=Z,1.5nm,0.7s						
H03N2	**Juan Fernandez**	**119.01**	**108**	T	T	19 19 24.6	
	baz=317,slow=78						
H03N1	**Juan Fernandez**	**119.02**	**108**	T	T	19 19 29.6	
	baz=317,slow=78						
H03N3	**Juan Fernandez**	**119.03**	**108**	T	T	19 19 28.2	
	baz=317,slow=78						

SJA ***11*** *16:55:33.3±0.6, 22°.90S×66°.50W, h267km±3km*
NEIC ***11*** *16:55:35.3±1.7, 22°.92S±0°.06×66°.40W±0°.08, h222km±5km, mb4.7/232, Error ellipse: s-maj=11.2km s-min=8.8km az=82.0*
IDC ***11*** *16:55:36.2±1.1, 22°.88S×66°.29W, h228km±9km, mb4.4/15, mbtmp5.0/22, Error ellipse: s-maj=12.9km s-min=8.6km az=64.0*
BJI ***11*** *16:55:36.0, 23°.00S×66°.40W, h220km, mB5.2/4*
VAO ***11*** *16:55:36.0±0.3, 22°.91S×66°.40W, h232km, mb5.2*
GUC ***11*** *16:55:37.1±0.7, 22°.94S×66°.80W, h261km±11km, ML5.1*
ISC 11 16:55:35.6±0.5, 22°.91S±0°.03×66°.51W±0°.04, h229km±4km, n371,σ1$20/312, mb4.7/127, 14C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.17**	**52**	*i* P	**Pn**	**16 56 11.7**	**+1.6**
YJA	**Yavi**	**1.17**	**52**	*i* P	**Pn**	**16 56 12.2**	**+2.1**
YJA				*i* S	**S**	**16 56 40.9**	**+4.1**
YJA				*i* S	S	16 56 41.0	+4.2
YJA				IAML		16 56 44.6	
	comp=Z,1μm,0.9s						
SALTA		**1.32**	**173**	*i* P	**Pn**	**16 56 11.2**	**+0.1**
SALTA				*i* P		16 56 11.9	
AF01	**San Pedro de A**	**1.54**	**268**		**Pn**	**16 56 14.2**	**+1.6**
AF01	**San Pedro de A**	**1.54**	**268**	⇑*i* P	**Pn**	**16 56 14.5**	**+1.9**
AF01				IAML		16 56 57.8	
	comp=N,3μm,0.4s						
AF01	**San Pedro de A**	**1.54**	**268**	*i* P	**Pn**	**16 56 13.9**	**+1.3**
AF01				*i* S	**S**	**16 56 44.3**	**+2.9**
AF01				IAML		16 57 08.7	
	comp=Z,3μm,0.8s						
AZAP	**Zapla**	**1.86**	**135**	⇑*i* P	**Pn**	**16 56 15.8**	**+0.6**
AZAP				IAML		16 56 50.8	
	comp=Z,3μm,0.9s						
SLA	**San Lorenzo**	**2.02**	**153**	*i* P	**Pn**	**16 56 18.1**	**+1.4**
SLA				IAML		16 56 59.6	
	comp=Z,1μm,1.3s						
ALOL	**LOMAS DE OLMED**	**2.49**	**112**	*i* P	**Pn**	**16 56 21.8**	**+0.6**
PB15	**IPOC Station P**	**2.75**	**263**		**Pn**	**16 56 24.9**	**+0.8**
PB15	**IPOC Station P**	**2.75**	**263**	⇑*i* P	**Pn**	**16 56 25.0**	**+0.8**
PB15				*e* S	**S**	**16 57 01.6**	**-0.7**
PB09	**IPOC Station P**	**2.77**	**293**		**Pn**	**16 56 26.0**	**+1.6**
PB09	**IPOC Station P**	**2.77**	**293**	⇑*i* P	**Pn**	**16 56 26.1**	**+1.6**
PB09				*e* S	**S**	**16 57 02.5**	**-0.1**
PB09				IAML		16 57 06.2	
	comp=E,4μm,0.4s						
PB09	**IPOC Station P**	**2.77**	**293**	*i* P	**Pn**	**16 56 25.4**	**+0.9**
PB09				*i* S	**S**	**16 57 03.1**	**+0.5**
PB09				IAML		16 57 05.3	
	comp=Z,6μm,0.8s						
PB06	**IPOC Station P**	**2.84**	**274**		**Pn**	**16 56 25.8**	**+0.6**
PB06	**IPOC Station P**	**2.84**	**274**	⇑*e* P	**Pn**	**16 56 25.9**	**+0.7**
PB06				*e* S	**S**	**16 57 02.9**	**-1.0**
PB06				IAML		16 57 05.0	
	comp=N,9μm,0.1s						
FSA	**Cafayete**	**3.22**	**172**	*i* P	**Pn**	**16 56 30.1**	**+0.7**
PB01	**IPOC Station P**	**3.33**	**303**		**Pn**	**16 56 31.5**	**+0.7**
PB01	**IPOC Station P**	**3.33**	**303**	⇑*i* P	**Pn**	**16 56 31.5**	**+0.7**
PB01				*e* S	**S**	**16 57 12.7**	**-1.2**
PB01	**IPOC Station P**	**3.33**	**303**	*i* S	**S**	**16 57 13.8**	**-0.2**
PB01				IAML		16 57 14.9	
	comp=Z,2μm,0.2s						
PB04	**IPOC Station P**	**3.42**	**279**		**Pn**	**16 56 32.1**	**+0.4**
PB04	**IPOC Station P**	**3.42**	**279**	*i* P	**Pn**	**16 56 31.8**	**0.0**
PB04				*i* S	**S**	**16 57 15.3**	**-0.5**
PB04				IAML		16 57 18.1	
	comp=Z,5μm,0.2s						
GO02	**Mina Guanaco**	**3.60**	**231**		**Pn**	**16 56 34.2**	**+0.1**
GO02	**Mina Guanaco**	**3.60**	**231**	⇑*i* P	**Pn**	**16 56 34.3**	**+0.3**
GO02				*e* S	**S**	**16 57 18.6**	**-1.4**
GO02	**Mina Guanaco**	**3.60**	**231**	*i* P	**Pn**	**16 56 33.7**	**-0.4**
GO02				*i* S	**S**	**16 57 19.4**	**-0.6**
PB14	**IPOC Station P**	**3.96**	**244**		**Pn**	**16 56 38.2**	**0.0**
PB14	**IPOC Station P**	**3.96**	**244**	*i* P	**Pn**	**16 56 38.3**	**0.0**
PB14				*i* S	**S**	**16 57 26.2**	**-1.4**
PB14				IAML		16 57 28.9	
	comp=Z,4μm,0.2s						
PATCX	**Punta Patache**	**3.98**	**301**		**Pn**	**16 56 37.1**	**-1.2**
PATCX	**Punta Patache**	**3.98**	**301**	*i* P	**Pn**	**16 56 37.9**	**-0.4**
PATCX				*i* S	**S**	**16 57 26.1**	**-1.6**
PATCX				IAML		16 57 31.4	
	comp=Z,3μm,1.0s						
AHML	**Horco Molle**	**4.00**	**165**	*i* P	**Pn**	**16 56 38.8**	**+0.3**
AHML				IAML		16 58 16.0	
	comp=Z,67nm,1.7s						
GO01	**Chusmiza**	**4.08**	**322**		**Pn**	**16 56 41.0**	**+1.0**
HMBC	**Humberstone**	**4.09**	**309**		**Pn**	**16 56 39.4**	**-0.4**
HMBC	**Humberstone**	**4.09**	**309**	*i* P	**Pn**	**16 56 39.1**	**-0.7**
HMBC				*i* S	**S**	**16 57 29.0**	**-1.4**
HMBC				IAML		16 57 30.1	
	comp=Z,3μm,0.7s						
TA01	**Diego Aracena**	**4.14**	**304**		**Pn**	**16 56 39.6**	**-0.6**
TA01	**Diego Aracena**	**4.14**	**304**	⇑*i* P	**Pn**	**16 56 39.8**	**-0.3**
TA01				*e* S	**S**	**16 57 27.9**	**-3.2**
TA01	**Diego Aracena**	**4.14**	**304**	*i* P	**Pn**	**16 56 40.1**	**0.0**
TA01				*i* S	**S**	**16 57 29.4**	**-1.6**
TA01				IAML		16 57 38.0	
	comp=Z,2μm,0.6s						
TA02	**Huaiquique**	**4.28**	**307**		**Pn**	**16 56 41.0**	**-0.8**
TA02	**Huaiquique**	**4.28**	**307**	⇑*i* P	**Pn**	**16 56 41.5**	**-0.3**
TA02				*i* S	**S**	**16 57 32.0**	**-2.1**
TA02				IAML		16 57 36.4	
	comp=Z,2μm,0.1s						
PB11	**IPOC Station P**	**4.29**	**316**		**Pn**	**16 56 42.0**	**-0.2**
PB11	**IPOC Station P**	**4.29**	**316**	*i* P	**Pn**	**16 56 41.7**	**-0.6**
PB11				*i* S	**S**	**16 57 32.3**	**-2.5**
PB11				IAML		16 57 35.9	
	comp=Z,2μm,0.3s						
AC01	**Pan de Azucar**	**4.93**	**228**		**Pn**	**16 56 48.3**	**-1.6**
AC01	**Pan de Azucar**	**4.93**	**228**	*i* P	**Pn**	**16 56 48.9**	**-1.0**
AC01				IAML		16 57 48.8	
	comp=Z,1μm,0.7s						
GUSE	**Guasayan**	**5.18**	**163**	*i* P	**Pn**	**16 56 52.8**	**-0.1**
AC06	**Mina Casimiro**	**5.64**	**217**		**Pn**	**16 56 56.7**	**-2.0**
GO03	**Copiapo**	**5.76**	**215**		**Pn**	**16 56 58.4**	**-1.9**
AP01	**Chacalluta**	**5.77**	**321**		**Pn**	**16 56 59.9**	**-0.6**
PB18	**Visviri**	**5.98**	**332**		**Pn**	**16 57 02.7**	**-1.0**
FDPY	**Filadelfia**	**6.10**	**85**	*eP*	**Pn**	**16 57 04.6**	**0.0**
AC04	**Llanos de Chal**	**6.69**	**217**		**Pn**	**16 57 09.9**	**-2.2**
LPAZ	**La Paz**	**6.76**	**347**		**Pn**	**16 57 14.7**	**+1.0**
LPAZ	**La Paz**	**6.76**	**347**	P	**Pn**	**16 57 14.9**	**+1.2**
	comp=Z,80nm,0.4s,baz=155,slow=7.7,SNR=265						
LPAZ				S	**S**	**16 58 30.7**	**-1.1**
	comp=Z,134nm,1.0s,baz=282,slow=17,SNR=4.5						
LPAZ	**La Paz**	**6.76**	**347**	*eP*	**Pn**	**16 57 14.9**	**+1.2**
LCO	**Las Campanas**	**7.15**	**211**		**Pn**	**16 57 15.5**	**-2.7**
PAPY	**Pozo Azul**	**7.69**	**100**	*eP*	**Pn**	**16 57 24.0**	**-0.8**
BBSD	**Serra de San D**	**7.94**	**45**	*eP*	**Pn**	**16 57 27.1**	**-1.1**
MURT	**Porto Murtinho**	**8.33**	**83**	*eP*	**Pn**	**16 57 32.2**	**-0.9**
SIV	**San Ignacio**	**8.58**	**38**	P	**Pn**	**16 57 35.3**	**-1.1**
	comp=Z,141nm,0.7s,baz=218,slow=12,SNR=499						
ZON	**Zonda**	**8.82**	**192**		**Pn**	**16 57 36.6**	**-2.7**
CPUP	**Villa Florida**	**9.02**	**114**		**Pn**	**16 57 39.6**	**-2.3**
CPUP	**Villa Florida**	**9.02**	**114**	P	**Pn**	**16 57 40.0**	**-1.8**
	comp=Z,17nm,0.8s,baz=290,slow=12,SNR=31						
CPUP	**Villa Florida**	**9.02**	**114**	*eP*	**Pn**	**16 57 40.1**	**-1.8**
BDQN	**Bodoquena, MS**	**9.40**	**77**	*eP*	**Pn**	**16 57 45.8**	**-1.0**
SJPY	**San Joaquin**	**9.74**	**104**	*eP*	**Pn**	**16 57 49.8**	**-1.3**
PTLB	**Pontes e Lacer**	**10.17**	**44**		**Pn**	**16 57 55.6**	**-1.1**
PTLB	**Pontes e Lacer**	**10.17**	**44**	*eP*	**Pn**	**16 57 55.8**	**-0.9**
AQDB	**Aquidauana**	**10.33**	**78**		**Pn**	**16 57 57.9**	**-0.8**
AQDB	**Aquidauana**	**10.33**	**78**	*eP*	**Pn**	**16 57 58.0**	**-0.8**
AMBA	**Amambai (Brazi**	**10.61**	**92**	*eP*	**Pn**	**16 58 01.0**	**-1.3**
MT03	**Universidad Ad**	**11.12**	**198**		**Pn**	**16 58 07.0**	**-1.6**
ITQB	**Itaqui**	**11.13**	**129**		**Pn**	**16 58 07.4**	**-1.3**
ITQB	**Itaqui**	**11.13**	**129**	*eP*	**Pn**	**16 58 08.3**	**-0.4**
PSAL	**Palomas, Salto**	**11.36**	**138**	*eP*	**Pn**	**16 58 10.9**	**-0.7**
LMEL	**Las Melosas**	**11.37**	**196**		**Pn**	**16 58 10.3**	**-1.6**
VILB	**Vilhena**	**11.57**	**32**	Pn	**Pn**	**16 58 14.3**	**-0.2**
VA05	**Santo Domingo**	**11.61**	**202**	Pn	**Pn**	**16 58 12.3**	**-2.5**
RPRD	**Ribas do Rio P**	**12.15**	**81**	*eP*	**Pn**	**16 58 21.4**	**-0.2**
SALV	**Santo Antonio**	**12.35**	**58**	*eP*	**Pn**	**16 58 23.2**	**-1.0**
GO05	**Hualane**	**12.95**	**200**		**Pn**	**16 58 30.0**	**-1.5**
ETMB	**Extrema**	**13.02**	**1**		**Pn**	**16 58 31.9**	**-0.6**
ETMB	**Extrema**	**13.02**	**1**	*eP*	**Pn**	**16 58 32.0**	**-0.6**
PTGB	**Pitanga**	**13.34**	**101**	*eP*	**P**	**16 58 37.0**	**-1.5**
C2SB	**Chapadao do Su**	**13.42**	**75**	*eP*	**P**	**16 58 38.3**	**-1.0**
ITAB	**Concordia**	**13.72**	**111**		**Pn**	**16 58 39.7**	**-1.3**
ITAB	**Concordia**	**13.72**	**111**	*eP*	**Pn**	**16 58 40.6**	**-0.4**
CPSB	**Cacapava Do Su**	**13.86**	**125**	*eP*	**Pn**	**16 58 41.5**	**-1.2**
LDASE	**Londrina, Braz**	**14.16**	**95**	*eP*	**Pn**	**16 58 45.6**	**-1.0**
SAML	**Samuel**	**14.24**	**13**		**Pn**	**16 58 47.1**	**-0.5**
SAML	**Samuel**	**14.24**	**13**	*eP*	**Pn**	**16 58 47.8**	**+0.2**
PLTB	**Pedras Altas**	**14.45**	**130**	P	**Pn**	**16 58 48.6**	**-1.4**
PLTB	**Pedras Altas**	**14.45**	**130**	*eP*	**Pn**	**16 58 48.4**	**-1.6**
PDRB	**Porto dos Gac**	**14.60**	**41**	*eP*	**P**	**16 58 51.7**	**-0.7**
NNA	**Nana**	**14.66**	**316**	P	**Pn**	**16 58 53.5**	**+0.8**
NNA	**Nana**	**14.66**	**316**	P	**P**	**16 58 54.5**	**+1.4**
	comp=Z,76nm,0.7s,baz=159,slow=12,SNR=33						
NNA				S	**S**	**17 01 34.2**	**-0.8**
	comp=Z,9.6nm,0.7s,baz=192,slow=20,SNR=2.4						
BI05	**Punta Hualpn**	**14.95**	**201**	P	**P**	**16 58 54.9**	**-1.1**
ITRB	**Iturama**	**15.38**	**81**	*eP*	**Pn**	**16 59 01.1**	**-0.2**
CNLB	**Canela**	**15.43**	**118**	*eP*	**P**	**16 59 00.5**	**-1.0**
TRQA	**Tornquist**	**15.59**	**167**	P	**P**	**16 59 00.6**	**-2.5**
TRQA				IAmb	IAmb	16 59 04.1

LCR2	La Lucha 2	36.70	330	IAmb	IAmb	17 02 25.4	
	comp=Z,23nm,1.1s						
JTS	Las Juntas de	37.62	329	P	P	17 02 29.7	+0.9
JTS				IAmb	IAmb	17 02 33.1	
	comp=Z,22nm,1.1s						
FDF	Fort de France	37.78	8	P	P	17 02 29.3	-0.7
IGPR	InterUniversit	40.63	1	P	P	17 02 51.8	-1.7
IGPR				IAmb	IAmb	17 02 56.2	
	comp=Z,41nm,1.1s						
OBIP	Obispado Ponce	40.70	360	P	P	17 02 52.5	-1.6
OBIP				IAmb	IAmb	17 02 53.5	
	comp=Z,28nm,1.1s						
CELP	Cerrillos	40.73	360	P	P	17 02 54.4	0.0
CELP				IAmb	IAmb	17 02 57.8	
	comp=Z,22nm,0.6s						
SJG	San Juan	40.77	1	P	P	17 02 53.4	-1.2
SJG				IAmb	IAmb	17 02 57.8	
	comp=Z,26nm,1.0s						
MTO3	Montecristo	43.31	327	IAmb	IAmb	17 03 18.3	
	comp=Z,40nm,1.4s						
PETF	Flores	45.70	328	IAmb	IAmb	17 03 36.7	
	comp=Z,18nm,0.8s						
TEIG	Tepich	47.85	332	P	P	17 03 50.8	+0.2
TEIG				IAmb	IAmb	17 03 59.1	
	comp=Z,20nm,0.9s						
BELA	Belgrano 2	57.05	172	P	P	17 04 58.2	+0.9
BELA				IAmb	IAmb	17 04 59.2	
	comp=Z,21nm,0.8s						
VNA3	Neumayer Olymp	58.03	161	⇑P	P	17 05 05.2	+0.9
	comp=Z,44nm,0.8s						
VNA1	Neumayer--Stat	58.22	161	⇑P	P	17 05 07.0	+1.5
	comp=Z,57nm,0.9s						
VNA2	Neumayer--Watz	58.59	161	⇑P	P	17 05 08.9	+0.8
	comp=Z,43nm,0.7s,baz=284,slow=7.8						
BIRD	Birdtown, Kers	58.75	347	IAmb	IAmb	17 05 11.4	
	comp=Z,16nm,0.9s						
LRAL	Lakeview Retre	58.97	340	IAmb	IAmb	17 05 12.4	
	comp=Z,11nm,1.1s						
W57A	Gilead	59.15	347	IAmb	IAmb	17 05 13.9	
	comp=Z,19nm,0.8s						
PAULI	Pauline	59.23	345	IAmb	IAmb	17 05 18.9	
	comp=Z,14nm,0.9s						
KMSC	Kings Mountain	59.42	346	IAmb	IAmb	17 05 16.1	
	comp=Z,22nm,0.9s						
BG3	Lake Jocassee	59.66	344	IAmb	IAmb	17 05 22.0	
	comp=Z,12nm,1.0s						
X51A	Calhoun	59.76	342	IAmb	IAmb	17 05 17.8	
	comp=Z,15nm,0.8s						
SNAA	Sanae	60.23	161	P	P	17 05 19.9	+0.6
SNAA	Sanae	60.23	161	⇑P	P	17 05 19.9	+0.6
	comp=Z,641nm,0.6s						
SNAA	Sanae	60.23	161	P	P	17 05 20.1	+0.8
	comp=Z,30nm,0.7s,baz=283,slow=7.6,SNR=137						
	comp=Z,30nm,0.7s						
V53A	Saluda	60.27	345	IAmb	IAmb	17 05 21.6	
	comp=Z,12nm,0.9s						
X48A	Hartselle	60.29	340	P	P	17 05 19.6	-0.6
X48A				IAmb	IAmb	17 05 21.3	
	comp=Z,14nm,0.7s						
W50A	Signal Mountai	60.48	342	IAmb	IAmb	17 05 22.6	
	comp=Z,11nm,0.8s						
TKL	Tuckaleechee C	60.50	344	IAmb	IAmb	17 05 22.7	
	comp=Z,10nm,0.9s						
SWET	Sewanee	60.67	342	IAmb	IAmb	17 05 24.2	
	comp=Z,11nm,0.8s						
HNDO	Hondo	60.93	327	P	P	17 05 25.0	+0.4
HNDO				IAmb	IAmb	17 05 32.9	
	comp=Z,12nm,0.8s						
PLAL	Pickwick Lake	61.11	340	P	P	17 05 25.4	-0.2
PLAL				IAmb	IAmb	17 05 26.7	
	comp=Z,11nm,1.1s						
V48A	Smith Brothers	61.42	341	IAmb	IAmb	17 05 28.7	
	comp=Z,9.9nm,0.8s						
TROLL	Troll, Antarti	61.94	161	⇑P	P	17 05 31.9	+1.0
	comp=Z,2μm,0.6s						
JCT	Junction City	61.97	328	IAmb	IAmb	17 05 33.5	
	comp=Z,12nm,0.8s						
WVT	Waverly	62.09	341	P	P	17 05 31.0	-1.1
WVT				IAmb	IAmb	17 05 32.7	
	comp=Z,15nm,0.8s						
MIAR	Mount Ida	62.66	335	IAmb	IAmb	17 05 37.8	
	comp=Z,11nm,1.1s						
T47A	Sharon Grove	62.66	342	IAmb	IAmb	17 05 36.7	
	comp=Z,14nm,0.9s						
SAND	Sanderson	62.73	325	IAmb	IAmb	17 05 39.0	
	comp=Z,12nm,1.1s						
OZNA	Ozona	62.99	327	IAmb	IAmb	17 05 40.0	
	comp=Z,12nm,1.1s						
TXAR	Lajitas Array	63.07	324	P	P	17 05 40.1	+1.2
	comp=Z,1.6nm,0.7s,baz=148,slow=8.4,SNR=16						
	comp=Z,1.6nm,0.7s						
Q52A	Bidwell	63.29	346	IAmb	IAmb	17 05 41.3	
	comp=Z,14nm,0.8s						
PBMO	Poplar Bluff	63.52	339	IAmb	IAmb	17 05 45.2	
	comp=Z,14nm,0.8s						
WTFS	Witchita Falls	64.05	331	IAmb	IAmb	17 05 47.0	
	comp=Z,18nm,1.0s						
MNHN	Monahans	64.16	326	IAmb	IAmb	17 05 52.1	
	comp=Z,10nm,0.6s						
O52A	Adamsville	64.31	347	IAmb	IAmb	17 05 47.8	
	comp=Z,14nm,0.7s						
APMT	Aspermont	64.45	329	IAmb	IAmb	17 05 56.3	
	comp=Z,12nm,0.9s						
SN05	Snyder 5	64.45	328	IAmb	IAmb	17 05 49.6	
	comp=Z,12nm,0.7s						
FVM	French Village	64.61	339	IAmb	IAmb	17 05 53.2	
	comp=Z,9.6nm,0.7s						
SN07	Snyder 07	64.63	328	IAmb	IAmb	17 05 50.6	
	comp=Z,7.6nm,0.8s						
RLO	Rose Lookout	64.65	335	IAmb	IAmb	17 05 50.5	
	comp=Z,6.8nm,0.7s						
ACSO	Alum Creek Sta	64.67	346	IAmb	IAmb	17 05 50.0	
	comp=Z,18nm,0.8s						
ODSA	Odessa	64.67	326	IAmb	IAmb	17 05 50.8	
	comp=Z,12nm,0.6s						
POST	Post	64.91	328	IAmb	IAmb	17 06 00.1	
	comp=Z,9.8nm,0.9s						
VHRN	Van Horn	64.91	324	IAmb	IAmb	17 05 53.1	
	comp=Z,12nm,1.0s						
CCM	Cathedral Cave	64.95	339	P	P	17 05 50.6	-0.2
CCM				IAmb	IAmb	17 05 51.7	
	comp=Z,14nm,0.7s						
OK031	S. Brethren Rd	65.20	333	IAmb	IAmb	17 05 53.8	
	comp=Z,15nm,0.6s						
OK052	Battle Ridge R	65.22	333	IAmb	IAmb	17 05 54.5	
	comp=Z,32nm,1.2s						
QUOK	Quay	65.33	333	IAmb	IAmb	17 05 55.7	
	comp=Z,10nm,0.6s						
S39A	Bolivar	65.35	337	IAmb	IAmb	17 05 54.7	
	comp=Z,13nm,0.7s						
R40A	Maddies Statio	65.51	338	IAmb	IAmb	17 06 03.0	
	comp=Z,6.3nm,0.6s						
OK048	Pawnee Station	65.64	333	IAmb	IAmb	17 05 57.3	
	comp=Z,18nm,1.1s						
OK051	E0350 and S346	65.67	333	IAmb	IAmb	17 05 58.0	
	comp=Z,16nm,1.1s						
K57A	Scipio Center	65.96	352	IAmb	IAmb	17 05 58.8	
	comp=Z,25nm,0.9s						
SMWD	Samnorwood	65.98	330	IAmb	IAmb	17 06 06.0	
	comp=Z,12nm,0.7s						
CROK	Carrier	66.15	333	IAmb	IAmb	17 06 11.6	
	comp=Z,18nm,1.0s						
MSTX	Muleshoe	66.26	328	IAmb	IAmb	17 06 01.9	
	comp=Z,20nm,0.9s						
J57A	Williamstown	66.57	352	IAmb	IAmb	17 06 02.8	
	comp=Z,23nm,0.9s						
DBIC	Dimbokro	67.03	72	P	P	17 06 03.2	-1.4
DBIC	Dimbokro	67.03	72	P	P	17 06 03.5	-1.0
	comp=Z,37nm,0.7s,baz=230,slow=6.8,SNR=23						
	comp=Z,37nm,0.7s						
HSIG		67.06	318	P	P	17 06 04.9	+0.4
P38A	Dawn	67.14	338	IAmb	IAmb	17 06 05.7	
	comp=Z,14nm,0.6s						
QSPA	South Pole Qui	67.29	180	P	P	17 06 07.0	+1.5
	comp=Z,33nm,0.5s,baz=323,slow=0.5,SNR=430						
QSPA				S	S	17 14 43.5	+1.9
	comp=Z,2.0nm,1.0s,baz=33,slow=20,SNR=10.0						
	comp=Z,33nm,0.5s						
LONY	Lake Ozonia	67.61	354	IAmb	IAmb	17 06 09.6	
	comp=Z,30nm,1.1s						
121A	Cookes Peak, D	67.78	323	IAmb	IAmb	17 06 12.7	
	comp=Z,8.5nm,0.9s						
RTBA	Rita Blanca	68.23	329	IAmb	IAmb	17 06 15.6	
	comp=Z,17nm,1.2s						
MNTQ	Montreal, Queb	68.39	355	IAmb	IAmb	17 06 14.2	
	comp=Z,20nm,0.8s						
DUN6	Lazy B Ranch	68.53	322	IAmb	IAmb	17 06 17.2	
	comp=Z,20nm,1.0s						
ANMO	Albuquerque	68.90	326	P	P	17 06 16.7	+0.7
TRQ	Mont Tremblant	69.19	354	IAmb	IAmb	17 06 18.4	
	comp=Z,20nm,1.0s						
ACRG	Accra	70.67	75	P	P	17 06 25.6	-1.4
Q24A	Divide	71.40	329	IAmb	IAmb	17 06 40.8	
	comp=Z,8.2nm,0.8s						
N23A	Red Feather La	73.30	330	IAmb	IAmb	17 06 51.9	
	comp=Z,8.0nm,0.8s						
O20A	White River Ci	73.80	328	IAmb	IAmb	17 06 54.9	
	comp=Z,12nm,1.0s						
KNB	Kanab	73.88	323	IAmb	IAmb	17 06 55.7	
	comp=Z,13nm,0.9s						
SRU	San Rafael Swe	74.18	326	IAmb	IAmb	17 06 50.0	
	comp=Z,9.0nm,0.7s						
P18A	Preston Nutter	74.42	326	IAmb	IAmb	17 06 52.3	
	comp=Z,9.6nm,0.7s						
RDMU	Red Mountain	74.79	327	IAmb	IAmb	17 06 53.5	
	comp=Z,6.3nm,0.7s						
BSUT	Blindstream Ca	75.36	327	IAmb	IAmb	17 07 06.0	
	comp=Z,10nm,0.7s						
TORD	Torodi Ar. Bea	75.75	69	P	P	17 06 55.7	-1.0
	comp=Z,22nm,0.7s,baz=260,slow=5.4,SNR=144						
	comp=Z,22nm,0.7s						
JLU	Jordanelle	75.76	326	IAmb	IAmb	17 06 59.4	
	comp=Z,6.6nm,0.7s						
PDAR	Pinedale Array	76.45	329	P	P	17 07 01.2	+1.0
	comp=Z,2.3nm,0.6s,baz=131,slow=8.0,SNR=14						
	comp=Z,2.3nm,0.6s						
TPH	Tonopah	77.11	321	IAmb	IAmb	17 07 13.4	
	comp=Z,16nm,0.8s						
AHID	Auburn Hatcher	77.19	328	IAmb	IAmb	17 07 13.8	
	comp=Z,14nm,0.8s						
ULM	Lac du Bonnet	77.34	341	P	P	17 07 05.0	+0.2
	comp=Z,4.3nm,0.6s,baz=152,slow=5.6,SNR=13						
	comp=Z,4.3nm,0.6s						
SCHQ	Schefferville	77.42	360	P	P	17 07 05.1	0.0
	comp=Z,14nm,0.7s,baz=207,slow=4.8,SNR=11						
	comp=Z,14nm,0.7s						
TSUM	Tsumeb	77.51	106	P	P	17 07 05.5	-1.1
NVAR	Mina Array Bea	77.98	321	P	P	17 07 09.5	+0.6
	comp=Z,1.5nm,0.7s,baz=156,slow=5.5,SNR=12						
	comp=Z,1.5nm,0.7s						
FLWY	Flagg Ranch	77.99	329	IAmb	IAmb	17 07 11.9	
	comp=Z,8.9nm,0.7s						
RLMT	Red Lodge	78.12	331	IAmb	IAmb	17 07 12.1	
	comp=Z,6.8nm,0.7s						
YMP	Mirror Lake Pl	78.23	330	IAmb	IAmb	17 07 27.8	
	comp=Z,11nm,0.9s						
YNE	Yellowstone No	78.37	330	IAmb	IAmb	17 07 13.5	
	comp=Z,11nm,0.7s						
KOOLE	Kule	78.51	110	*i* P	P	17 07 11.6	-0.5
YMR	Madison River	78.56	329	IAmb	IAmb	17 07 23.5	
	comp=Z,10nm,0.9s						
YHB	Horse Butte	78.73	329	IAmb	IAmb	17 07 16.4	
	comp=Z,7.9nm,0.7s						
YHL	Hebgen Lake	78.80	329	IAmb	IAmb	17 07 16.5	
	comp=Z,7.1nm,0.6s						
PNTR	Pine Nut	79.17	321	IAmb	IAmb	17 07 25.3	
	comp=Z,10nm,0.7s						
HLID	Hailey	79.43	327	IAmb	IAmb	17 07 20.0	
	comp=Z,11nm,0.7s						
PAHR	Pah Rah Range	79.46	321	IAmb	IAmb	17 07 26.7	
	comp=Z,12nm,0.9s						
SOE	Somerset East	79.62	121	P	P	17 07 17.7	-0.2
GRHM	Grahamstown, E	80.06	122	P	P	17 07 19.7	-0.6
QNGWA	Qangwa	80.57	107	*i* P	P	17 07 23.1	-0.2
BOSA	Boshof	80.82	117	P	P	17 07 23.3	-1.1
BOSA				IAmb	IAmb	17 07 24.2	
	comp=Z,15nm,0.7s						
BOSA	Boshof	80.82	117	P	P	17 07 23.8	-0.7
	comp=Z,9.0nm,0.5s,baz=259,slow=3.2,SNR=32						
	comp=Z,9.0nm,0.5s						
PTEO	Sao Teotonio	81.03	43	*e*P	P	17 07 27.0	+2.0
PTEO				A	A	17 07 33.3	
	comp=Z,130nm,1.5s						
SKOMA	Sekoma	81.18	113	*i* P	P	17 07 25.5	-0.8
PBDV	Barranco-do-Ve	81.35	44	*e*P	P	17 07 27.4	+0.7
PBDV				A	A	17 07 29.7	
	comp=Z,93nm,1.4s						
J08A	Circle Bar Ran	81.40	324	IAmb	IAmb	17 07 29.9	
	comp=Z,9.0nm,0.7s						
PCVE	Castro Verde	81.52	43	*e*P	P	17 07 27.9	+0.3
PCVE				A	A	17 07 29.8	
	comp=Z,68nm,1.7s						
MESJ	Messejana	81.53	43	*e*P	P	17 07 27.8	+0.2
MESJ				A	A	17 07 29.9	
	comp=Z,114nm,1.3s						
MESJ				*i* LQ	LQ	17 08 20.9	
MESJ	Messejana	81.53	43	*e*P	P	17 07 27.7	+0.2
MESJ				IAmb	IAmb	17 07 29.9	
	comp=Z,100nm,1.2s						
PVAQ	Vaqueiros	81.58	44	*e*P	P	17 07 29.0	+1.1
PVAQ				A	A	17 07 30.0	
	comp=Z,57nm,1.6s						
PACT	Alcochete	81.72	42	*e*P	P	17 07 29.0	+0.5
PACT				A	A	17 07 29.9	
	comp=Z,327nm,1.2s						
PBEJ	Beja	81.86	43	*e*P	P	17 07 30.5	+1.1
PBEJ				A	A	17 07 31.2	
	comp=Z,48nm,0.9s						
CKGRV	CKGRV	82.17	110	*i* P	P	17 07 31.1	-0.5
PSBE	So Bento	82.20	41	*e*P	P	17 07 31.7	+0.6
PSBE				A	A	17 07 33.1	
	comp=Z,69nm,0.7s						
KDWAN	Kaudwane	82.21	112	*i* P	P	17 07 31.2	-0.6
PMTG	Montargil	82.28	42	*e*P	P	17 07 31.8	+0.3
PMTG				A	A	17 07 33.1	
	comp=Z,66nm,1.0s						
MAW	Mawson	82.34	163	P	P	17 07 32.4	+1.1
	comp=Z,15nm,0.6s,baz=214,slow=6.2,SNR=72						
	comp=Z,15nm,0.6s						
LBTB	Lobatse	82.41	114	P	P	17 07 31.9	-0.9
LBTB				IAmb	IAmb	17 07 33.2	
	comp=Z,10nm,0.7s						
PBAR	Barrancos	82.47	43	*e*P	P	17 07 33.5	+1.0
PBAR				A	A	17 07 34.1	
	comp=Z,34nm,0.9s						
PESTR	Estremoz	82.55	42	*e*P	P	17 07 33.9	+1.0
PESTR				A	A	17 07 34.6	
	comp=Z,41nm,1.1s						
F10A	Beach Ranch, E	82.55	327	IAmb	IAmb	17 07 36.2	
	comp=Z,8.2nm,0.8s						
PCAS	Casmilo, Conde	82.71	41	*e*P	P	17 07 34.4	+0.7
PCAS				A	A	17 07 35.4	
	comp=Z,74nm,1.1s						
PMRV	Marv??o	83.01	42	*e*P	P	17 07 35.4	+0.1
PMRV				A	A	17 07 39.8	
	comp=Z,32nm,1.8s						
PINE	Pine Mountain	83.03	324	IAmb	IAmb	17 07 38.5	
	comp=Z,6.9nm,0.7s						
PCBR	Castelo Branco	83.20	42	*e*P	P	17 07 36.6	+0.4
PCBR				A	A	17 07 36.9	
	comp=Z,37nm,1.2s						
PTO	Porto	83.32	40	*e*P	P	17 07 38.0	+1.3
PTO				A	A	17 07 38.7	
	comp=Z,140nm,1.6s						
MTE	Manteigas	83.50	41	*e*P	P	17 07 38.0	+0.2
I05D	Terrebonne, OR	83.60	324	IAmb	IAmb	17 07 41.0	
	comp=Z,6.7nm,0.7s						
PVRL	Vila Real	83.93	40	*e*P	P	17 07 40.6	+0.7
PVRL				A	A	17 07 42.4	
	comp=Z,83nm,1.4s						
POLO	Lamas de Olo	83.94	40	*e*P	P	17 07 40.5	+0.4
POLO				A	A	17 07 41.0	
	comp=Z,17nm,1.1s						
HAWA	Hanford	84.00	326	IAmb	IAmb	17 07 42.7	
	comp=Z,7.7nm,0.8s						
PCAB	Cabril	84.01	40	*e*P	P	17 07 40.3	0.0
PCAB				A	A	17 07 42.1	
	comp=Z,85nm,1.8s						
PGAV	Gavieira, Arco	84.02	40	*e*P	P	17 07 41.0	+0.5
PGAV				A	A	17 07 45.1	
	comp=Z,69nm,1.8s						
MVO	Moncorvo	84.27	41	*e*P	P	17 07 42.0	+0.3
MVO				A	A	17 07 43.8	
	comp=Z,85nm,1.5s						
C09A	Chrisman Ranch	84.33	328	IAmb	IAmb	17 07 44.0	
	comp=Z,10nm,0.8s						
KSANE	Kasane	84.72	107	*i* P	P	17 07 45.3	+0.7
PBRG	Braganca	84.83	40	*e*P	P	17 07 44.3	-0.1
PBRG				A	A	17 07 46.6	
	comp=Z,68nm,1.6s						
MREMI	Moremi	84.89	112	*i* P	P	17 07 45.7	+0.3
PAB	San Pablo	84.98	43	P	P	17 07 45.2	-0.1
LTY	Liberty	85.16	326	IAmb	IAmb	17 07 48.0	
	comp=Z,7.3nm,0.8s						
ESDC	Sonseca Array	85.30	43	P	P	17 07 47.3	+0.5
	comp=Z,23nm,0.9s,baz=240,slow=4.8,SNR=92						
	comp=Z,23nm,0.9s						
BROLN	Tlhalogang	85.36	111	*i* P	P	17 07 47.7	0.0
LSZ	Lusaka	88.36	106	P	P	17 08 01.1	-1.2
DY2G	Dye2	90.42	8	*i* P	P	17 08 10.6	-0.2
DY2G				IAmb	IAmb	17 08 12.7	
	comp=Z,28nm,0.8s						
CASY	Casey	91.06	179	P	P	17 08 14.9	+1.2
KEST	Kesra	92.39	52	P	P	17 08 20.7	+0.3
	comp=Z,15nm,0.9s,baz=332,slow=3.8,SNR=11						
	comp=Z,15nm,0.9s						
YKA	Yellowknife Ar	93.26	340	P	P	17 08 24.5	+0.9
	comp=Z,2.1nm,0.7s,baz=135,slow=4.0,SNR=8.0						
	comp=Z,2.1nm,0.7s						
ICESG	Greenland Ices	93.78	9	*i* P	P	17 08 26.4	0.0
ICESG				IAmb	IAmb	17 08 27.9	
	comp=Z,15nm,0.9s						
EKA	Eskdalemuir Ar	94.66	31	P	P	17 08 30.4	+0.1
	comp=Z,1.6nm,0.7s,baz=208,slow=2.8,SNR=4.1						
	comp=Z,1.6nm,0.7s						
SUMG	Summit	97.12	8	*i* P	Pdif	17 08 43.0	+1.4
SUMG				IAmb	IAmb	17 08 46.8	
	comp=Z,6.6nm,0.9s						
TUE	Stuetta	97.12	42	P	Pdif	17 08 42.2	+0.2
	comp=Z,39nm,1.4s						
KULLO	Kullorsuaq	97.44	2	*i* P	Pdif	17 08 54.8	+12
KULLO				IAmb	IAmb	17 08 57.5	
	comp=Z,12nm,0.9s						
FUORN	Ofenpass-Fuorn	97.76	43	IAmb	IAmb	17 08 48.9	
	comp=Z,8.4nm,1.4s						
DAVA	Damuels	97.80	42	*i* Pdiff	Pdif	17 08 45.1	+0.1
	comp=Z,1.5nm,0.4s						
FETA	Feichten	98.22	42	*i* Pdiff	Pdif	17 08 46.5	-0.2
	comp=Z,4.5nm,1.1s						
RETA	Reutte	98.43	42	*e*Pdiff	Pdif	17 08 47.6	0.0
	comp=Z,2.6nm,0.5s						
MOTA	Moosalm	98.58	42	*i* Pdiff	P	17 08 48.7	+0.3
	comp=Z,0.9nm,0.2s						
SQTA	Sankt Quirin	98.60	42	*i* Pdiff	P	17 08 48.4	0.0
	comp=Z,6.0nm,0.6s						
WTTA	Wattenberg	98.88	42	*e*Pdiff	P	17 08 49.8	0.0
	comp=Z,3.2nm,0.6s						
ABTA	Abfaltersbach	99.22	43	*e*Pdiff	Pdif	17 08 50.9	-0.3
	comp=Z,2.1nm,0.8s						
LESA	Schwarzleotal	99.59	43	*i* Pdiff	Pdif	17 08 53.1	+0.3
	comp=Z,0.3nm,0.3s						
KBA	Koelnbreinsper	99.88	43	*e*Pdiff	Pdif	17 08 54.1	-0.1
	comp=Z,1.3nm,0.5s						
BIOA	Bad Ischl, Aus	100.30	43	*e*Pdiff	Pdif	17 08 55.7	-0.2
	comp=Z,0.7nm,0.3s						
MOA	Molln	100.75	43	*i* Pdiff	Pdif	17 08 58.0	+0.1
	comp=Z,0.1nm,0.2s						
ILAR	Eielson Array	106.48	334	PP	PP	17 13 51.4	+0.6
	comp=Z,0.6nm,0.9s,baz=97,slow=7.4,SNR=5.1						
KBS	Kingsbay	110.12	12	*i* P	Pdif	17 09 47.6	+8.7
AKASG	Malin Array Be	110.93	43	PKiKP	PKiKP	17 13 41.1	-0.1
	comp=Z,2.2nm,0.6s,baz=258,slow=2.9,SNR=10						
FINES	FINESS Array B	111.06	31	PKiKP	PKiKP	17 13 41.4	+0.2
	comp=Z,2.2nm,1.1s,baz=279,slow=3.7,SNR=3.3						
BRTR	Keskin Array B	111.82	55	PKiKP	PKiKP	17 13 44.0	+0.6
	comp=Z,1.5nm,0.8s,baz=170,slow=3.2,SNR=9.5						
STKA	Stephens Creek	119.25	207	PKKPbc	PKKPbc	17 24 11.9	-0.1
	comp=Z,2.2nm,0.8s,baz=3.9,slow=5.8,SNR=4.2						
KBZ	Khabaz	119.25	52	PKP	PKiKP	17 13 57.5	0.0
	comp=Z,9.3nm,0.9s,baz=17,slow=0.7,SNR=15						
ASAR	Alice Springs	129.63	205	PKP	PKPdf	17 14 18.4	+0.4
	comp=Z,7.6nm,0.7s,baz=148,slow=2.3,SNR=70						
ASAR				SKPbc	SKPbc	17 17 18.9	+0.6
	comp=Z,3.5nm,0.8s,baz=150,slow=4.9,SNR=17						
ASAR				PKKP	PKKPdf	17 24 21.1	-0.2
	comp=Z,0.5nm,0.5s,baz=356,slow=1.8,SNR=17						
NRIK	Noril'sk	131.01	12	PKP	PKPdf	17 14 19.3	+0.2
	comp=Z,4.6nm,1.0s,baz=58,slow=1.2,SNR=7.5						
NRIK				SKPbc	SKPab	17 17 22.9	+0.6
	comp=Z,4.6nm,0.8s,baz=360,slow=1.7,SNR=9.0						
WRA	Warramunga Arr	132.80	207	PKhKP	PKPpre	17 14 13.3	
	comp=Z,0.3nm,0.7s,baz=143,slow=1.3,SNR=6.1						
WRA				PKP	PKPdf	17 14 24.8	+0.7
	comp=Z,4.1nm,0.6s,baz=162,slow=1.6,SNR=50						
WRA				SKPbc	SKPbc	17 17 30.4	+0.5
	comp=Z,15nm,0.9s,baz=152,slow=3.4,SNR=40						
PETK	Petropavlovsk-	135.02	324	PKP	PKiKP	17 14 28.4	-0.3
	comp=Z,4.2nm,0.7s,baz=72,slow=4.7,SNR=2.6						
PETK				SKPbc	SKPbc	17 17 36.2	+0.1
	comp=Z,8.2nm,0.8s,baz=85,slow=4.9,SNR=5.4						
BVAR	Borovoye Array	135.65	36	PKhKP	PKPpre	17 14 21.6	
	comp=Z,0.8nm,0.7s,baz=336,slow=3.3,SNR=4.9						
BVAR				PKP	PKPdf	17 14 27.9	-0.5
	comp=Z,9.6nm,0.8s,baz=298,slow=3.4,SNR=35						
BVAR				SKPab	SKPab	17 17 41.6	-1.5
	comp=Z,1.1nm,0.6s,baz=321,slow=3.7,SNR=4.4						
KURBB	Kurchatov Arra	141.23	36	PKhKP	PKPpre	17 14 33.9	
	comp=Z,3.4nm,0.6s,baz=302,slow=2.8,SNR=31						
KURBB				PKP	PKPdf	17 14 39.5	+0.9
	comp=Z,8.4nm,0.7s,baz=305,slow=2.7,SNR=21						
ZALV	Zalesovo Beam	142.22	28	PKhKP	PKPpre	17 14 36.6	
	comp=Z,9.9nm,0.6s,baz=309,slow=4.2,SNR=46						
ZALV				SKPbc	SKiKP	17 17 57.1	-0.5
	comp=Z,3.8nm,0.8s,baz=270,slow=1.5,SNR=5.8						
KSH	Kashi	144.19	54	PKP	PKPbc	17 14 43.3	+0.1
MKAR	Makanchi Array	145.40	39	PKPbc	PKPab	17 14 47.2	+0.2
	comp=Z,56nm,0.8s,baz=306,slow=3.6,SNR=308						
ASAJ

MASC	**Masc**	**1.94**	**2**	*i* P	Pn	17 10 34.4	-1.0
MASC				*e*S	Sn	17 10 57.3	-1.7
MASC				IAML		17 11 03.1	
comp=Z,35nm,2.8s							
QMBU	**Quimbuelo**	**2.02**	**346**	*e*P	Pn	17 10 34.6	-2.0
QMBU				*e*S	Sn	17 10 56.9	-4.1
QMBU				IAML		17 11 01.3	
comp=E,24nm,0.3s							
QMBU				IAML		17 11 02.9	
comp=N,19nm,0.2s							
RCC	**Rio Carpintero**	**2.19**	**323**	*e*P	Pn	17 10 37.1	-1.9
RCC				*e*S	Sn	17 11 02.3	-3.0
RCC				IAML		17 11 05.3	
comp=N,9.0nm,0.2s							
RCC				IAML		17 11 05.3	
comp=E,12nm,0.3s							
MARVS	**Santiago de Cu**	**2.32**	**320**	*e*P	Pn	17 10 39.6	-1.1
MARVS				*e*S	Sn	17 11 04.9	-3.5
MARVS				IAML		17 11 09.1	
comp=E,13nm,0.2s							
MARVS				IAML		17 11 09.9	
comp=N,15nm,0.3s							
LOBH	**Bahia de las A**	**2.56**	**98**	*i* P	Pb	17 10 48.5	-1.0
LOBH				*e*S	Sb	17 11 22.7	+2.1
LOBH				IAML		17 11 24.8	
comp=Z,55nm,1.5s							
PINC	**Pinares de May**	**2.65**	**328**	*e*P	Pn	17 10 43.3	-1.9
PINC				*e*Pg	Pb	17 10 44.4	-6.5
PINC				*e*S	Sn	17 11 12.3	-4.1
PINC				*e*Sg	Sb	17 11 15.9	-7.1
LODU1	**El Espartillar**	**2.69**	**87**	*i* P	Pb	17 10 51.0	-0.7
LODU1				*e*S	Sb	17 11 26.2	+1.9
LODU1				IAML		17 11 29.3	
comp=Z,30nm,1.0s							
LONE3	**El Aguacate, B**	**2.73**	**82**	*i* P	Pb	17 10 50.2	-2.2
LONE3				IAML		17 11 37.3	
comp=Z,15nm,3.0s							

BER ***11*** *17:15:29.6±1.2, 71°.25N×9°.33W, h22km±12km, ML2.9*
ISC 11 17:15:26.7±1.9, 71°.3N±0°.1×9°.7W±0°.1, h10km, n14, σ1§21/18, 2C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMI	**Jan Mayen**	**0.45**	**135**	*e*P	**Pb**	**17 15 37.7**	**+1.0**
JMI				*e*S	**Sb**	**17 15 44.1**	**+0.7**
JMI				IAML		17 15 44.8	
comp=Z,477nm,0.3s							
JNW	**Jan Mayen West**	**0.47**	**118**	⇑*i*P	**Pb**	**17 15 37.4**	**+0.4**
JNW				*e*S	**Sb**	**17 15 43.4**	**-0.5**
JNW				IAML		17 15 44.5	
comp=Z,1μm,0.3s							
JMIC	**Jan Mayen**	**0.47**	**124**	⇑*i*P	**Pb**	**17 15 37.4**	**+0.4**
JMIC				*e*S	**Sb**	**17 15 43.4**	**-0.6**
JMIC				IAML		17 15 44.8	
comp=Z,686nm,0.5s							
JNE	**Jan Mayen East**	**0.52**	**119**	*e*P	**Pb**	**17 15 38.1**	**+0.2**
JNE				*e*S	**Sb**	**17 15 44.5**	**-1.0**
JNE				IAML		17 15 47.5	
comp=Z,2μm,0.2s							
DAG	**Danmarks Havn**	**6.07**	**340**	*i* P	**Pn**	**17 16 55.0**	**-1.3**
LOF	**Lofoten**	**8.63**	**100**	*e*P	**Pn**	**17 17 28.1**	**-3.3**
HSPB	**Hornsund (broa**	**8.91**	**39**	*e*P	**Pn**	**17 17 35.3**	**+0.1**
BJO1	**Bjornoya**	**9.00**	**56**	*e*P	**Pn**	**17 17 37.8**	**+1.4**
KBS	**Kingsbay**	**9.41**	**26**	*e*P	**Pn**	**17 17 42.5**	**+0.4**
KONS	**Konsvik**	**9.46**	**109**	*e*P	**Pn**	**17 17 43.5**	**+0.7**
STOK	**Stokkvaagen**	**9.54**	**110**	*e*P	**Pn**	**17 17 43.7**	**-0.1**
SPA0	**Spitsbergen Ar**	**9.65**	**33**	*e*P	**Pn**	**17 17 46.6**	**+1.1**
TRO	**Tromso**	**9.68**	**86**	*e*P	**Pn**	**17 17 45.5**	**-0.3**
HOPEN	**Hopen**	**10.81**	**45**	*e*P	**Pn**	**17 18 02.6**	**+1.3**

DJA 11 17:30:11.5±0.4, 8°S±4°×11°6E±°, h11km±3km, M3.9/16, mb4.3/3, MLv3.7/16, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRBI	**Singaraja**	**0.87**	**284**	P	Pb	17 30 28.5	-0.1
SRBI				S	Sb	17 30 40.7	+0.5
DNP	**Denpasar**	**0.92**	**246**	P	Pn	17 30 30.1	-0.3
DNP				S	Sn	17 30 43.6	0.0
PLAI	**Plampang**	**1.78**	**107**	P	Pb	17 30 43.5	-0.6
ABJI	**Asem Bagus**	**1.88**	**285**	P	Pn	17 30 43.4	-0.1
JAGI	**Jajag, Banyuwa**	**1.90**	**265**	P	Pn	17 30 43.2	-0.6
KMMI	**Kalianget**	**2.42**	**301**	P	Pn	17 30 51.3	+0.3
BLJI	**Banyuglugur**	**2.50**	**283**	P	Pn	17 30 50.8	-1.4
GMJI	**Gumukmas**	**2.59**	**270**	P	Pn	17 30 53.2	-0.2
WBSI	**Waikabubak, Su**	**3.55**	**112**	P	Pn	17 31 07.0	+0.4
NGJI	**Ngawi**	**4.65**	**281**	P	Pn	17 31 21.3	-0.4
PCJI	**Pacitan**	**4.83**	**271**	P	Pn	17 31 24.5	+0.2
BASI	**Baing, Sumba**	**4.85**	**113**	P	Pn	17 31 23.2	-1.3
BSSI	**Bau Bau, Buton**	**4.89**	**64**	P	Pn	17 31 25.2	+0.2
BKSI	**Bulukumba**	**5.00**	**54**	P	Pn	17 31 26.9	+0.3
10.0nm,0.6s,0.0nm							
UGM	**Wanagama**	**5.50**	**274**	P	Pn	17 31 30.1	-3.3
BNSI	**Bone**	**5.58**	**46**	P	Pn	17 31 35.2	+0.6
12nm,0.9s,0.1nm							
SMRI	**Semarang**	**5.71**	**282**	P	Pn	17 31 36.3	0.0

NEIC ***11*** *17:45:56.8±2.2, 14°.33N±0°.10×91°.57W±0°.09, h76km±10km, mb4.1/26, Error ellipse: s-maj=17.2km s-min=8.0km az=223.0*
SNET ***11*** *17:45:56.9±0.8, 14°.33N×91°.51W, h92km±24km, ML4.1*
CATAC ***11*** *17:45:56.6±0.6, 14°.06N×91°.65W, h27km±5km, MB4.7, mb4.7, ML4.2*
IDC ***11*** *17:45:57.8±2.1, 14°.44N×91°.52W, h75km±19km, mb3.5/4, mbtmp3.8/8, Error ellipse: s-maj=23.7km s-min=14.3km az=36.0*
GCG ***11*** *17:46:00.1±0.7, 14°.37N×91°.50W, h48km±10km, MD3.9*
ISC 11 17:45:56.3±0.8, 14°.22N±0°.06×91°.66W±0°.05, h77km±6km, n104, σ1§19/119, mb4.1/14, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.13**	**47**	*i* P	**Pn**	**17 46 07.7**	**+0.1**
SULM				*e*S	**Sn**	**17 46 16.6**	**+0.7**
RTAL	**Retalhuleu**	**0.31**	**354**	Pn	**Pn**	**17 46 07.6**	**-0.9**
RTAL	**Retalhuleu**	**0.31**	**354**	*i* P	**Pn**	**17 46 07.4**	**-1.1**
RTAL				IAML		17 46 07.7	
comp=Z,7μm,1.0s							
RTAL				*i* S	**Sn**	**17 46 16.3**	**-1.0**
STG3	**Santiaguito 3,**	**0.50**	**10**	⇓*i*P	**Pn**	**17 46 10.1**	**0.0**
SOKI	**Kika Raxquin**	**0.65**	**23**	*i* P	**Pn**	**17 46 11.5**	**-0.3**
SOKI				*i* S	**Sn**	**17 46 23.2**	**0.0**
SOKI				IAML		17 46 24.7	
comp=Z,4μm,1.0s							
QUEO	**Labor Ovalle**	**0.67**	**12**	*i* P	**Pn**	**17 46 12.2**	**+0.4**
QUEO				*i* S	**Sn**	**17 46 23.9**	**+0.6**
QUEO				IAML		17 46 26.2	
comp=Z,9μm,1.0s							
ESSG	**Sabana Grande**	**0.82**	**78**	*i* P	**Pn**	**17 46 12.3**	**-1.0**
ESSG				*i* S	**Sn**	**17 46 24.5**	**-1.4**
ESSG				IAML		17 46 27.0	
comp=Z,11μm,1.0s							
FUG	**Fuego 3**	**0.83**	**74**	*e*P	**Pn**	**17 46 13.5**	**+0.1**
FUG				*e*S	**Sn**	**17 46 24.1**	**-2.0**
PCG	**Pacaya**	**1.04**	**80**	*e*P	**Pn**	**17 46 16.6**	**+0.6**
GUMI	**Mixco**	**1.10**	**68**	*i* P	**Pn**	**17 46 17.1**	**+0.4**
GUMI				*i* S	**Sn**	**17 46 32.9**	**+1.0**
GUMI				IAML		17 46 37.0	
comp=Z,16μm,1.0s							
HUEH	**Huehuetenango**	**1.11**	**8**		**Pn**	**17 46 17.1**	**+0.3**
HUEH	**Huehuetenango**	**1.11**	**8**	*i* P	**Pn**	**17 46 18.0**	**+1.2**
HUEH				*i* S	**Sn**	**17 46 35.0**	**+2.9**
HUEH				IAML		17 46 43.3	
comp=Z,4μm,1.0s							
QUIS	**Sacapulas**	**1.20**	**27**	*i* P	**Pn**	**17 46 18.9**	**+1.0**
QUIS				IAML		17 46 20.9	
comp=Z,2μm,1.0s							
QUIS				*i* S	**Sn**	**17 46 37.8**	**+3.7**
NBG	**Las Nubes**	**1.33**	**74**	*e*P	**Pn**	**17 46 21.2**	**+1.6**
NBG				*e*S	**Sn**	**17 46 40.0**	**+2.9**
SLOZ	**Alcaldia de Sa**	**1.83**	**96**	*e*P	**Pn**	**17 46 25.5**	**-0.6**
SLOZ				*e*S	**Sn**	**17 46 47.5**	**-1.0**
LOAL	**Lomas de Alarc**	**1.84**	**96**	*e*P	**Pn**	**17 46 26.2**	**+0.1**
LOAL				*e*S	**Sn**	**17 46 48.8**	**+0.1**
LOAL	**Lomas de Alarc**	**1.84**	**96**	*i* P	**Pn**	**17 46 26.2**	**+0.1**
LOAL				IAML		17 46 27.7	
comp=Z,4μm,1.0s							
NUBE	**Las Nubes**	**1.85**	**99**	*e*P	**Pn**	**17 46 26.0**	**-0.4**
NUBE				*e*S	**Sn**	**17 46 48.6**	**-0.6**
NUBE	**Las Nubes**	**1.85**	**99**	*i* P	**Pn**	**17 46 26.0**	**-0.4**
NUBE				IAML		17 46 54.2	
comp=Z,1μm,1.0s							
RTR	**El Retiro**	**1.98**	**99**	*e*P	**Pn**	**17 46 28.1**	**0.0**
SBLS	**San Blas**	**2.02**	**100**	*e*P	**Pn**	**17 46 28.8**	**+0.2**
CEVE	**Cerro Verde**	**2.02**	**101**	*e*P	**Pn**	**17 46 28.7**	**+0.1**
CEVE				*e*S	**Sn**	**17 46 53.5**	**+0.3**
CEVE	**Cerro Verde**	**2.02**	**101**	*i* P	**Pn**	**17 46 28.8**	**+0.1**
CEVE				IAML		17 46 30.6	
comp=Z,2μm,1.0s							
SNJE	**San Jose**	**2.03**	**100**	*e*P	**Pn**	**17 46 28.7**	**0.0**
UNIC	**Universidad Ca**	**2.06**	**96**	*e*P	**Pn**	**17 46 28.7**	**-0.4**
UNIC	**Universidad Ca**	**2.06**	**96**	*i* P	**Pn**	**17 46 28.9**	**-0.2**
UNIC				IAML		17 46 30.4	
comp=Z,440nm,1.0s							
CCIG	**Comitan**	**2.11**	**348**		**Pn**	**17 46 28.2**	**-1.6**
JAYA	**Jayaque - finc**	**2.22**	**104**	*e*P	**Pn**	**17 46 31.0**	**-0.3**
JAYA				IAML		17 47 01.0	
comp=Z,1μm,0.2s							
JAYA	**Jayaque - finc**	**2.22**	**104**	*i* P	**Pn**	**17 46 31.2**	**-0.1**
JAYA				IAML		17 47 00.9	
comp=Z,3μm,1.0s							
MTO3	**Montecristo**	**2.24**	**85**		**Pn**	**17 46 30.7**	**-0.9**
MTO3	**Montecristo**	**2.24**	**85**	*e*P	**Pn**	**17 46 31.1**	**-0.5**
MTO3	**Montecristo**	**2.24**	**85**	*i* P	**Pn**	**17 46 31.1**	**-0.5**
MTO3				IAML		17 46 52.5	
comp=Z,370nm,1.0s							
ESQI	**Esquipulas**	**2.28**	**81**		**Pn**	**17 46 31.2**	**-0.8**
ESQI	**Esquipulas**	**2.28**	**81**	*i* P	**Pn**	**17 46 32.0**	**0.0**
ESQI				IAML		17 46 53.8	
comp=Z,420nm,1.0s							
PMON	**Piamonte**	**2.33**	**102**	*e*P	**Pn**	**17 46 32.4**	**-0.3**
PMON	**Piamonte**	**2.33**	**102**	*i* P	**Pn**	**17 46 32.9**	**+0.1**
PMON				IAML		17 47 17.6	
comp=Z,1μm,1.0s							
BOQS	**Boqueron**	**2.36**	**101**	*e*P	**Pn**	**17 46 33.4**	**+0.1**
PIC2	**El Picacho**	**2.38**	**101**	*e*P	**Pn**	**17 46 33.1**	**-0.5**
LALI	**Alcalda de L**	**2.39**	**107**	*e*P	**Pn**	**17 46 33.0**	**-0.4**
LALI	**Alcalda de L**	**2.39**	**107**	*i* P	**Pn**	**17 46 33.3**	**-0.1**
LALI				IAML		17 46 34.8	
comp=Z,470nm,1.0s							
UEES	**Universidad Ev**	**2.41**	**102**	*e*P	**Pn**	**17 46 33.8**	**+0.1**
UEES	**Universidad Ev**	**2.41**	**102**	*i* P	**Pn**	**17 46 34.3**	**+0.6**
UEES				IAML		17 47 07.7	
comp=Z,800nm,1.0s							
SNET	**Serv Nac Est T**	**2.42**	**102**		**Pn**	**17 46 33.3**	**-0.6**
SNET	**Serv Nac Est T**	**2.42**	**102**	*e*P	**Pn**	**17 46 34.0**	**+0.2**
SNET				IAML		17 47 05.5	
comp=Z,788nm,0.3s							
LOMA	**Loma Larga**	**2.48**	**103**	*e*P	**Pn**	**17 46 34.2**	**-0.6**
LOMA	**Loma Larga**	**2.48**	**103**	*i* P	**Pn**	**17 46 34.9**	**+0.1**
LOMA				IAML		17 47 13.7	
comp=Z,670nm,1.0s							
PANCS	**Alcalda de**	**2.48**	**104**	*e*P	**Pn**	**17 46 34.3**	**-0.4**
PANCS	**Alcalda de**	**2.48**	**104**	*i* P	**Pn**	**17 46 34.8**	**0.0**
PANCS				IAML		17 47 07.6	
comp=Z,3μm,1.0s							
LFU	**La Fuente**	**2.52**	**100**	*e*P	**Pn**	**17 46 35.3**	**+0.1**
LFRS	**El Faro**	**2.59**	**103**	*e*P	**Pn**	**17 46 36.4**	**+0.1**
PAVA	**Las Pavas**	**2.69**	**100**	*e*P	**Pn**	**17 46 37.5**	**-0.1**
PAVA	**Las Pavas**	**2.69**	**100**	*i* P	**Pn**	**17 46 37.8**	**+0.2**
PAVA				IAML		17 46 38.0	
comp=Z,1μm,1.0s							
COEG	**Centro de Oper**	**2.77**	**102**	*e*P	**Pn**	**17 46 38.6**	**+0.1**
COEG	**Centro de Oper**	**2.77**	**102**	*i* P	**Pn**	**17 46 39.1**	**+0.5**
COEG				IAML		17 46 41.5	
comp=Z,910nm,1.0s							
SNVI	**San Vicente**	**2.81**	**102**	*e*P	**Pn**	**17 46 38.8**	**-0.4**
TECO	**Alcaldia de Te**	**2.88**	**103**	*e*P	**Pn**	**17 46 40.1**	**+0.1**
TECO	**Alcaldia de Te**	**2.88**	**103**	*i* P	**Pn**	**17 46 40.0**	**-0.1**
TECO				IAML		17 46 40.5	
comp=Z,430nm,1.0s							
SCLA	**Alcaldia de Sa**	**2.90**	**100**	*e*P	**Pn**	**17 46 40.1**	**-0.1**
SCLA	**Alcaldia de Sa**	**2.90**	**100**	*i* P	**Pn**	**17 46 40.2**	**-0.1**
SCLA				IAML		17 47 58.9	
comp=Z,300nm,1.0s							
PQSS	**Presa 15 de Se**	**3.07**	**101**	*e*P	**Pn**	**17 46 42.6**	**0.0**
PQSS	**Presa 15 de Se**	**3.07**	**101**	*i* P	**Pn**	**17 46 42.8**	**+0.2**
PQSS				IAML		17 46 45.1	
comp=Z,150nm,1.0s							
TECA	**Tecapa**	**3.15**	**103**	*e*P	**Pn**	**17 46 44.0**	**+0.1**
TECA				*e*P		17 46 44.0	
CMIG	**Matias Romero**	**4.22**	**313**	P	**Pn**	**17 46 59.2**	**+0.9**
comp=Z,17nm,0.3s,baz=165,slow=12,SNR=57							
CMIG				S	**Sn**	**17 47 46.4**	**0.0**
comp=Z,26nm,0.3s,baz=99,slow=19,SNR=2.4							
CRIN	**San Cristobal**	**4.73**	**108**		**Pn**	**17 47 06.0**	**+0.7**
CRIN	**San Cristobal**	**4.73**	**108**	*i* P	**Pn**	**17 47 06.2**	**+0.8**
CRIN				IAML		17 47 50.2	
comp=Z,720nm,1.0s							
PKGN	**Cerro Pekin**	**4.81**	**108**	*i* P	**Pn**	**17 47 06.4**	**+0.1**
PKGN				IAML		17 47 09.0	
comp=Z,520nm,1.0s							
PACN	**Al O del Volca**	**5.04**	**109**	*i* P	**Pn**	**17 47 09.7**	**+0.2**
PACN				IAML		17 47 34.4	
comp=Z,960nm,1.0s							
MOM2	**El Cardon**	**5.34**	**109**	*i* P	**Pn**	**17 47 13.7**	**+0.1**
MOM2				IAML		17 47 15.7	
comp=Z,87nm,1.0s							
MOM2				IAmb	IAmb	17 47 16.2	
comp=Z,50nm,0.5s							
MOM2				IVmB_BB		17 47 16.3	
comp=Z,870nm,1.0s							
TEIG	**Tepich**	**6.80**	**28**	Pn	**Pn**	**17 47 34.6**	**+1.2**
TEIG	**Tepich**	**6.80**	**28**	P	**Pn**	**17 47 32.7**	**-0.7**
comp=Z,0.6nm,0.3s,baz=218,slow=20,SNR=77							
TEIG				S	**Sn**	**17 48 44.6**	**-4.8**
comp=Z,0.3nm,0.5s,baz=308,slow=20,SNR=6.3							
JTS	**Las Juntas de**	**7.63**	**120**	P	**Pn**	**17 47 45.9**	**+1.0**
comp=Z,6.2nm,0.3s,baz=297,slow=16,SNR=13							
LCR2	**La Lucha 2**	**8.71**	**120**	Pn	**Pn**	**17 48 01.7**	**+1.8**
TXAR	**Lajitas Array**	**18.70**	**326**	P	**Pn**	**17 50 11.1**	**+1.1**
comp=Z,1.6nm,0.7s,baz=152,slow=11,SNR=18							
ALPN	**Alpine**	**19.50**	**328**		**Pn**	**17 50 18.3**	**-1.2**
MNHN	**Monahans**	**19.86**	**331**	P	**Pn**	**17 50 23.1**	**-0.5**
MNHN				IAmb	IAmb	17 50 24.6	
comp=Z,5.9nm,0.7s							
APMT	**Aspermont**	**20.52**	**339**	P	**P**	**17 50 28.7**	**+0.2**
APMT				IAmb	IAmb	17 50 30.1	
comp=Z,8.2nm,0.6s							
VHRN	**Van Horn**	**20.55**	**326**	P	Pn	17 50 30.1	-1.6
PLAL	**Pickwick Lake**	**20.93**	**8**	P	**P**	**17 50 30.6**	**-2.2**
PLAL				IAmb	IAmb	17 50 57.1	
comp=Z,15nm,1.5s							
DKNS	**Dickens**	**21.11**	**338**	P	**P**	**17 50 33.3**	**-1.5**
DKNS				IAmb	IAmb	17 50 41.6	
comp=Z,15nm,1.5s							
WMOK	**Wichita Mounta**	**21.42**	**344**	P	**P**	**17 50 37.7**	**-0.3**
FCAR	**Ozark Folk Cen**	**21.59**	**359**	P	**P**	**17 50 39.3**	**-0.5**
FCAR				IAmb	IAmb	17 51 07.2	
comp=Z,12nm,1.5s							
LCAR	**Lake Charles**	**21.77**	**1**	P	**P**	**17 50 39.5**	**-2.1**
LCAR				IAmb	IAmb	17 50 42.9	
comp=Z,6.1nm,0.6s							
WVT	**Waverly**	**22.09**	**8**	P	**P**	**17 50 42.9**	**-2.3**
SMWD	**Samnorwood**	**22.19**	**341**	P	**P**	**17 50 45.8**	**-0.6**
SMWD				IAmb	IAmb	17 50 48.2	
comp=Z,5.8nm,0.9s							
AMTX	**Amarillo**	**22.48**	**338**	P	**P**	**17 50 48.8**	**-0.6**
PBMO	**Poplar Bluff**	**22.50**	**3**	P	**P**	**17 50 47.7**	**-1.8**
V53A	**Saluda**	**22.80**	**19**	P	**P**	**17 50 52.0**	**-0.7**
V53A				IAmb	IAmb	17 51 02.3	
comp=Z,15nm,1.5s							
U49A	**Red Boiling Sp**	**22.82**	**12**	P	**P**	**17 50 51.1**	**-1.8**
U49A				IAmb	IAmb	17 50 52.0	
comp=Z,8.3nm,1.3s							
CGM3	**Cape Girardeau**	**23.06**	**4**	P	**P**	**17 50 53.4**	**-1.9**
TZTN	**Tazewell**	**23.39**	**17**	P	**P**	**17 50 56.6**	**-1.9**
TZTN				IAmb	IAmb	17 51 04.5	
comp=Z,25nm,1.5s							
S39A	**Bolivar**	**23.43**	**357**	P	**P**	**17 50 57.4**	**-1.4**
S39A				IAmb	IAmb	17 50 59.2	
comp=Z,5.1nm,0.5s							
S44A	**Carbondale**	**23.48**	**5**	P	**P**	**17 50 57.0**	**-2.2**
SIUC	**Southern Illin**	**23.51**	**5**	P	**P**	**17 50 57.1**	**-2.3**
SIUC				IAmb	IAmb	17 50 59.8	
comp=Z,7.9nm,0.5s							
CCM	**Cathedral Cave**	**23.75**	**1**	P	**P**	**17 50 59.4**	**-2.2**
CCM				IAmb	IAmb	17 51 02.0	
comp=Z,4.0nm,0.6s							
R40A	**Maddies Statio**	**23.99**	**359**	P	**P**	**17 51 01.1**	**-2.6**
PDAR	**Pinedale Array**	**32.36**	**335**	P	**P**	**17 52 18.2**	**-0.6**
comp=Z,0.2nm,0.7s,baz=144,slow=11,SNR=1.1							
comp=Z,0.2nm,0.7s							
NVAR	**Mina Array Bea**	**33.71**	**321**	P	**P**	**17 52 33.2**	**+2.6**
comp=Z,1.9nm,0.7s,baz=129,slow=8.9,SNR=17							
comp=Z,1.9nm,0.7s							
LPAZ	**La Paz**	**38.20**	**142**	P	**P**	**17 53 09.3**	**-0.1**
LPAZ				IAmb	IAmb	17 53 12.7	
comp=Z,1.8nm,0.6s							
LPAZ	**La Paz**	**38.20**	**142**	P	**P**	**17 53 11.8**	**+2.4**
comp=Z,1.6nm,0.5s,baz=333,slow=7.0,SNR=4.9							
comp=Z,1.6nm,0.5s							
F10A	**Beach Ranch, E**	**38.28**	**331**	P	**P**	**17 53 10.1**	**+0.8**
GHO	**Glory Hole Cre**	**62.35**	**333**	P	**P**	**17 56 11.0**	**+0.4**
ILAR	**Eielson Array**	**62.77**	**337**	P	**P**	**17 56 13.2**	**-0.1**
comp=Z,0.5nm,0.6s,baz=115,slow=5.5,SNR=13							
comp=Z,0.5nm,0.6s							
SKT	**Skwentna**	**63.58**	**333**	P	**P**	**17 56 18.7**	**0.0**
CMAR	**Chiang Mai Arr**	**145.89**	**342**	PKPbc	**PKPbc**	**18 05 27.9**	**0.0**
comp=Z,4.2nm,0.7s,baz=336,slow=3.5,SNR=36							

SJA ***11*** *17:46:16.0, 21°.33S×68°.07W, h187km, ML3.9*
IDC ***11*** *17:46:17.2±2.2, 21°.32S×67°.70W, h152km±22km, mb3.4/3, mbtmp3.9/7, Error ellipse: s-maj=24.4km s-min=18.9km az=97.0*
SCB ***11*** *17:46:17.7±0.9, 21°.33S×68°.02W, h160km±15km, ML3.8/3, MW3.6, Error ellipse: s-maj=9.9km s-min=7.5km az=1.0*
ISC 11 17:46:17.4±0.8, 21°.35S±0°.04×67°.98W±0°.06, h162km±8km, n46, σ0§97/60, mb3.6/3, 5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.26**	**249**	⇓*i*P	**Pn**	**17 46 46.6**	**+0.8**
PB09	**IPOC Station P**	**1.26**	**249**	*i* P	**Pn**	**17 46 46.0**	**+0.2**
PB09	**IPOC Station P**	**1.26**	**249**	Pg	**Pn**	**17 46 46.6**	**+0.8**
PB09				Sg	**Sn**	**17 47 07.6**	**+0.1**
PB09				IAML		17 47 09.3	
280nm,0.4s							
PB01	**IPOC Station P**	**1.44**	**282**	*i* P	**Pn**	**17 46 47.4**	**0.0**
PB01				*e*S	**Sn**	**17 47 10.6**	**+0.1**
PB01				IAML		17 47 11.5	
comp=N,1μm,0.1s							
PB01	**IPOC Station P**	**1.44**	**282**	*i* P	**Pn**	**17 46 46.8**	**-0.6**
PB01	**IPOC Station P**	**1.44**	**282**	Pg	**Pn**	**17 46 47.8**	**+0.4**
PB01				Sg	**Sn**	**17 47 10.3**	**-0.2**
PB01				IAML		17 47 11.4	
comp=N,894nm,0.4s							
PB06	**IPOC Station P**	**2.00**	**227**	⇓*i*P	**Pn**	**17 46 53.7**	**+0.3**
PB06				*e*S	**Sn**	**17 47 21.2**	**0.0**
PB06				IAML		17 47 22.1	
comp=E,1μm,0.3s							
PB06	**IPOC Station P**	**2.00**	**227**	*i* P	**Pn**	**17 46 53.2**	**-0.3**
GO01	**Chusmiza**	**2.03**	**326**	*e*P	**Pn**	**17 46 54.6**	**+0.5**
GO01				*e*S	**Sn**	**17 47 23.2**	**+0.8**
GO01	**Chusmiza**	**2.03**	**326**	*i* P	**Pn**	**17 46 54.1**	**0.0**
GO01	**Chusmiza**	**2.03**	**326**	Pg	**Pn**	**17 46 54.7**	**+0.6**
HMBC	**Humberstone**	**2.08**	**301**	⇓*i*P	**Pn**	**17 46 54.0**	**-0.4**
HMBC				*e*S	**Sn**	**17 47 21.5**	**-1.3**
HMBC	**Humberstone**	**2.08**	**301**	*i* P	**Pn**	**17 46 53.4**	**-1.0**
PATCX	**Punta Patache**	**2.10**	**284**	⇓*i*P	**Pn**	**17 46 54.5**	**0.0**
PATCX				*e*S	**Sn**	**17 47 22.3**	**-0.8**
PATCX				IAML		17 47 26.1	
comp=E,1μm,0.3s							
PATCX	**Punta Patache**	**2.10**	**284**	*i* P	**Pn**	**17 46 53.9**	**-0.6**
TA01	**Diego Aracena**	**2.20**	**290**	*e*P	**Pn**	**17 46 55.1**	**-0.5**
TA01				*e*S	**Sn**	**17 47 23.9**	**-1.2**
TA01				IAML		17 47 25.7	
comp=E,819nm,0.3s							
TA01	**Diego Aracena**	**2.20**	**290**	*i* P	**Pn**	**17 46 54.5**	**-1.1**
PB11	**IPOC Station P**	**2.23**	**315**	*e*P	**Pn**	**17 46 55.8**	**-0.3**
PB11				*e*S	**Sn**	**17 47 25.1**	**-0.9**
PB11				IAML		17 47 27.7	
comp=N,979nm,0.3s							
PB11	**IPOC Station P**	**2.23**	**315**	*i* P	**Pn**	**17 46 55.2**	**-1.0**
PB11	**IPOC Station P**	**2.23**	**315**	Pg	**Pn**	**17 46 56.0**	**-0.1**
PB11				Sg	**Sn**	**17 47 25.4**	**-0.6**
PB11				IAML		17 47 27.7	
comp=N,894nm,0.2s							
PB04	**IPOC Station P**	**2.24**	**244**	*i* P	**Pn**	**17 46 56.2**	**0.0**
PB04				*e*S	**Sn**	**17 47 25.4**	**-0.8**
PB04				IAML		17 47 28.6	
comp=N,542nm,0.1s							
PB04	**IPOC Station P**	**2.24**	**244**	*i* P	**Pn**	**17 46 55.6**	**-0.6**
TA02	**

*NEIC **11** 18:02:51.2±2.5, 19°.76N×0°.04×70°.89W×0°.06, h10km±1km, mb4.4/20, Error ellipse: s-maj=9.1km s-min=7.4km az=91.0*
*OSPL **11** 18:02:53.1±3.4, 19°.73N×70°.87W, h1km±13km, ML4.2*
*SDD **11** 18:02:53.5±3.1, 19°.72N×70°.81W, h23km±20km, MD4.4, ML4.5, MW4.5*
*SSNC **11** 18:02:54.9±1.4, 19°.73N×71°.03W, h20km±17km, ML4.4*
ISC 11 18:02:50.9±1.1, **19°.75N**±0°.02×**70°.84W**±0°.02, **h16**km±7km, **n124**, σ1°**66**/157, **mb4.2**/23, **MS3.6**/5, **14C-19D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.34**	**161**	⇓*e*Pg	**Pb**	**18 02 59.0**	**+0.5**
SC01				⇓*e*Sg	**Sb**	**18 03 05.2**	**+1.5**
SC01				IAML		18 03 09.8	
	comp=N,30μm,0.7s						
SC01	**Santiago de lo**	**0.34**	**161**	*i* P	**Pb**	**18 02 59.0**	**+0.5**
SC01				*e*S	**Sb**	**18 03 05.0**	**+1.3**
SC01				IAML		18 03 14.6	
	comp=Z,19μm,0.6s						
CADR	**Cabrera**	**0.85**	**95**	⇓*e*Pg	**Pn**	**18 03 08.0**	**-0.3**
CADR				⇓*e*Sg	**Sn**	**18 03 20.6**	**+0.2**
CADR				IAML		18 03 21.5	
	comp=N,14μm,0.2s						
SDDR	**Presa de Saban**	**0.87**	**209**		**Pb**	**18 03 07.6**	**-0.1**
SDDR	**Presa de Saban**	**0.87**	**209**	*e*P	**Pg**	**18 03 07.4**	**-0.4**
SDDR				*e*S	**Sg**	**18 03 18.9**	**-0.4**
SDDR				IAML		18 03 20.6	
	comp=N,8μm,0.5s						
SDDR				IAML		18 03 20.6	
	comp=N,8μm,0.3s						
SDDR	**Presa de Saban**	**0.87**	**209**	⇓*e*Pg	**Pb**	**18 03 07.5**	**-0.1**
SDDR				⇓*e*Sg	**Sb**	**18 03 19.4**	**+0.3**
SDDR				IAML		18 03 20.8	
	comp=N,9μm,0.7s						
SDDR	**Presa de Saban**	**0.87**	**209**	⇓*i* P	**Pg**	**18 03 07.4**	**-0.4**
SDDR	**Presa de Saban**	**0.87**	**209**	*i* P	**Pg**	**18 03 07.4**	**-0.4**
SDDR				*e*S	**Sb**	**18 03 19.4**	**+0.3**
SDDR				IAML		18 03 22.3	
	comp=Z,6μm,0.5s						
ABDR	**Alto Bandera**	**0.95**	**168**	⇓*e*Pg	**Pb**	**18 03 08.6**	**-0.7**
ABDR				⇑*e*Sg	**Sb**	**18 03 22.0**	**+0.2**
ABDR				IAML		18 03 22.3	
	comp=N,15μm,0.5s						
NADR	**Nagua**	**1.01**	**113**	⇓*e*Pg	**Pn**	**18 03 10.5**	**+0.1**
NADR				⇓*e*Sg	**Sn**	**18 03 25.4**	**+1.2**
NADR				IAML		18 03 31.3	
	comp=N,31μm,0.3s						
LONE3	**El Aguacate, B**	**1.28**	**207**	*i* P	**Pb**	**18 03 14.8**	**+0.1**
LONE3				*e*S	**Sg**	**18 03 33.0**	**+0.8**
LONE3				IAML		18 03 35.1	
	comp=Z,6μm,1.3s						
BANI	**BANI**	**1.42**	**161**	⇓*e*Pg	**Pn**	**18 03 16.7**	**+0.5**
BANI				⇓*e*Sg	**Sg**	**18 03 36.4**	**-0.5**
BANI				IAML		18 03 38.8	
	comp=N,9μm,0.6s						
LODU1	**El Espartillar**	**1.51**	**203**	*i* P	**Pg**	**18 03 19.3**	**-0.7**
SDD	**Santo Domingo**	**1.55**	**145**	⇑*e*Pg	**Pn**	**18 03 17.8**	**-0.1**
SDD				⇑*e*Sg	**Sn**	**18 03 38.0**	**+0.3**
SDD				IAML		18 03 43.0	
	comp=N,742nm,0.9s						
SDD	**Santo Domingo**	**1.55**	**145**	*i* P	**Pn**	**18 03 17.6**	**-0.3**
SDD				*e*S	**Sn**	**18 03 38.0**	**+0.3**
JIDR	**Jimani**	**1.57**	**218**	⇑*e*Pg	**Pg**	**18 03 20.3**	**-0.9**
JIDR				⇓*e*Sg	**Sg**	**18 03 42.0**	**+0.4**
JIDR				IAML		18 03 42.5	
	comp=N,10μm,0.7s						
PODR	**Polo**	**1.63**	**195**	⇓*e*Pg	**Pb**	**18 03 20.8**	**+0.1**
PODR				⇓*e*Sg	**Sg**	**18 03 42.9**	**-0.5**
PODR				IAML		18 03 48.6	
	comp=N,5μm,0.6s						
PODR	**Polo**	**1.63**	**195**	*i* P	**Pb**	**18 03 20.7**	**+0.1**
PODR				*e*S	**Sg**	**18 03 43.4**	**-0.1**
PODR				IAML		18 03 46.2	
	comp=Z,4μm,1.4s						
HATOM	**Hato Mayor del**	**1.68**	**124**	⇑*e*Pg	**Pn**	**18 03 20.6**	**+1.0**
HATOM				⇓*e*Sg	**Sb**	**18 03 43.3**	**+0.9**
HATOM				IAML		18 03 45.5	
	comp=N,5μm,0.3s						
GRTK	**Grand Turk**	**1.78**	**351**		**Pb**	**18 03 22.4**	**-0.7**
GRTK	**Grand Turk**	**1.78**	**351**	*e*P	**Pb**	**18 03 22.8**	**-0.3**
GRTK				*e*S	**Sb**	**18 03 45.4**	**+0.2**
GRTK				IAML		18 03 49.4	
	comp=N,12μm,0.3s						
GRTK				IAML		18 03 50.2	
	comp=N,8μm,0.4s						
GRTK	**Grand Turk**	**1.78**	**351**	⇑*e*Pg	**Pb**	**18 03 23.2**	**+0.1**
GRTK				⇑*e*Sg	**Sg**	**18 03 48.3**	**+0.1**
GRTK				IAML		18 03 50.0	
	comp=N,8μm,0.4s						
GRTK	**Grand Turk**	**1.78**	**351**	*i* P	**Pb**	**18 03 23.2**	**+0.1**
GRTK				*e*S	**Sg**	**18 03 47.5**	**-0.7**
GRTK				IAML		18 03 51.1	
	comp=Z,2μm,0.8s						
PAPH	**Port-au-Prince**	**1.84**	**229**		**Pb**	**18 03 23.8**	**-0.4**
PAPH	**Port-au-Prince**	**1.84**	**229**	*e*P	**Pb**	**18 03 23.7**	**-0.4**
PAPH				*e*S	**Sb**	**18 03 48.1**	**+1.2**
PAPH	**Port-au-Prince**	**1.84**	**229**	⇑*e*Pg	**Pb**	**18 03 24.1**	**-0.1**
PAPH				⇓*e*Sg	**Sg**	**18 03 48.6**	**-1.6**
PAPH				IAML		18 04 01.1	
	comp=N,4μm,0.8s						
PAPH	**Port-au-Prince**	**1.84**	**229**	*i* P	**Pb**	**18 03 23.7**	**-0.4**
PAPH				*e*S	**Sn**	**18 03 45.7**	**+0.9**
MIDR	**Miches**	**1.85**	**114**	⇑*e*Pg	**Pb**	**18 03 23.4**	**-1.0**
MIDR				⇑*e*Sg	**Sb**	**18 03 47.7**	**+0.2**
MIDR				IAML		18 03 49.7	
	comp=N,2μm,0.3s						
LOVI	**El Cajuil, Ovi**	**2.00**	**194**	*i* P	**Pb**	**18 03 27.1**	**+0.2**
LOBH	**Bahia de las A**	**2.02**	**202**	*i* P	**Pb**	**18 03 27.7**	**+0.4**
HIDR	**Higuey Centro**	**2.31**	**119**	⇑*e*Pg	**Pb**	**18 03 31.1**	**-1.2**
HIDR				⇑*e*Sg	**Sb**	**18 04 00.2**	**-0.5**
HIDR				IAML		18 04 02.6	
	comp=N,15μm,0.5s						
SADR	**Isla Saona**	**2.49**	**128**	⇑*e*Pg	**Pb**	**18 03 33.8**	**-1.5**
SADR				⇑*e*Sg	**Sb**	**18 04 04.9**	**-0.9**
SADR				IAML		18 04 16.4	
	comp=N,4μm,0.4s						
PCDR	**Punta Cana, DR**	**2.63**	**117**	Pn	**Pn**	**18 03 34.8**	**+2.1**
PCDR	**Punta Cana, DR**	**2.63**	**117**	⇑*e*Pg	**Pn**	**18 03 35.0**	**+2.4**
PCDR				⇓*e*Sg	**Sn**	**18 04 07.1**	**+2.8**
PCDR				IAML		18 04 09.5	
	comp=N,3μm,1.1s						
PCDR	**Punta Cana, DR**	**2.63**	**117**	*i* P	**Pn**	**18 03 35.1**	**+2.4**
PCDR				*e*S	**Sn**	**18 04 07.2**	**+2.8**
PCDR				IAML		18 04 23.9	
	comp=Z,2μm,0.6s						
MASC	**Masc**	**3.21**	**278**	*e*P	**Pn**	**18 03 40.3**	**-0.4**
MASC				*e*S	**Sn**	**18 04 18.4**	**-0.4**
MASC				IAML		18 04 34.6	
	comp=E,662nm,0.6s						
MASC				IAML		18 04 37.5	
	comp=N,562nm,0.7s						
MASC	**Masc**	**3.21**	**278**	*i* P	**Pn**	**18 03 40.9**	**+0.1**
MASC				IAML		18 04 34.7	
	comp=Z,442nm,0.7s						
AGPR	**Aguadilla, PR**	**3.75**	**109**	Pn	**Pn**	**18 03 49.5**	**+1.3**
AGPR	**Aguadilla, PR**	**3.75**	**109**	*i* P	**Pn**	**18 03 49.5**	**+1.3**
QMBU	**Quimbuelo**	**3.76**	**278**	*e*P	**Pn**	**18 03 47.5**	**-0.8**
QMBU				*e*Pg	**Pb**	**18 03 54.7**	**-2.3**
QMBU				*e*S	**Sn**	**18 04 31.3**	**-0.9**
QMBU				IAML		18 04 44.1	
	comp=E,578nm,0.6s						
QMBU				IAML		18 04 48.9	
	comp=N,394nm,0.3s						
PRSN	**Puerto Rico Se**	**3.82**	**113**		**Pn**	**18 03 50.9**	**+1.9**
CRPR	**Cabo Rojo, PR**	**3.94**	**115**		**Pn**	**18 03 52.2**	**+1.6**
CRPR	**Cabo Rojo, PR**	**3.94**	**115**	*i* P	**Pn**	**18 03 53.5**	**+2.8**
CRPR				*e*S	**Sn**	**18 04 37.9**	**+1.4**
CRPR				IAML		18 04 59.3	
	comp=Z,880nm,0.5s						
MOAC	**Moa**	**3.97**	**284**	*e*P	**Pn**	**18 03 50.7**	**-0.5**
NMDO	**Nuevo Mundo**	**3.97**	**282**	Pn	**Pn**	**18 03 50.2**	**-1.0**
NMDO	**Nuevo Mundo**	**3.97**	**282**	*e*P	**Pn**	**18 03 50.7**	**-0.5**
NMDO				*e*S	**Sn**	**18 04 37.8**	**+0.3**
MLPR	**Magueyes Islan**	**4.01**	**116**	Pn	**Pn**	**18 03 53.6**	**+1.9**
GTBY	**Guantanamo Bay**	**4.02**	**273**		**Pn**	**18 03 51.3**	**-0.5**
GTBY	**Guantanamo Bay**	**4.02**	**273**	*e*P	**Pn**	**18 03 51.5**	**-0.4**
GTBY	**Guantanamo Bay**	**4.02**	**273**	*i* P	**Pn**	**18 03 52.9**	**+1.0**
AOPR	**Arecibo Observ**	**4.11**	**109**		**Pn**	**18 03 53.1**	**0.0**
AOPR	**Arecibo Observ**	**4.11**	**109**	*e*P	**Pn**	**18 03 53.6**	**+0.5**
UUPR	**Utuado, UPR, P**	**4.17**	**110**		**Pn**	**18 03 54.8**	**+0.8**
OBIP	**Obispado Ponce**	**4.35**	**112**	Pn	**Pn**	**18 03 58.3**	**+1.9**
CELP	**Cerrillos**	**4.37**	**112**	Pn	**Pn**	**18 03 57.8**	**+1.2**
RCC	**Rio Carpintero**	**4.57**	**274**	*e*P	**Pn**	**18 03 58.7**	**-0.8**
GCPR	**Guaynabo City**	**4.72**	**107**		**Pn**	**18 04 01.2**	**-0.3**
SJG	**San Juan**	**4.73**	**109**	Pn	**Pn**	**18 04 01.6**	**0.0**
	comp=Z,15nm,0.3s,baz=319,slow=14,SNR=18						
SJG				Sn	**Sn**	**18 04 52.9**	**-3.2**
	comp=Z,128nm,0.3s,baz=90,slow=22,SNR=18						
SJG				LR	LR	18 06 02.0	
	comp=Z,303nm,19.7s,baz=254,slow=41						
	comp=Z,24nm,0.3s						
SJG	**San Juan**	**4.73**	**109**	*e*P	**Pn**	**18 04 01.8**	**+0.1**
MARVS	**Santiago de Cu**	**4.77**	**274**	*e*P	**Pn**	**18 04 01.2**	**-0.9**
IGPR	**InterUniversit**	**4.82**	**111**	Pn	**Pn**	**18 04 03.0**	**+0.1**
PDPR	**Patillas Dam,**	**4.88**	**110**		**Pn**	**18 04 04.2**	**+0.6**
HUMP	**Col San Antoni**	**4.99**	**108**		**Pn**	**18 04 05.7**	**+0.5**
HLGC	**Holguin**	**5.03**	**284**	*e*P	**Pn**	**18 04 07.2**	**+1.5**
CHIV	**Chivirico**	**5.25**	**273**	Pn	**Pn**	**18 04 07.8**	**-1.0**
CHIV	**Chivirico**	**5.25**	**273**	*e*P	**Pn**	**18 04 08.0**	**-0.7**
LMGC	**Las Mercedes**	**5.81**	**274**	*e*P	**Pn**	**18 04 15.1**	**-1.3**
AUA1	**Aruba**	**7.25**	**174**		**Pn**	**18 04 38.3**	**+2.1**
HATO	**Hato, Curacao**	**7.74**	**166**		**Pn**	**18 04 44.9**	**+2.0**
SKI	**Saint Kitts**	**8.05**	**106**	*e*P	**Pn**	**18 04 45.5**	**-1.8**
MBFL	**Flemmings, Mon**	**8.72**	**109**	*e*P	**Pn**	**18 04 56.4**	**-0.1**
MBWH		**8.75**	**109**	*e*P	**Pn**	**18 05 00.4**	**+3.5**
ANWB	**Willy Bob**	**8.83**	**102**	*e*P	**Pn**	**18 04 56.5**	**-1.4**
ANWB	**Willy Bob**	**8.83**	**102**	*e*S	**Sn**	**18 06 32.2**	**-4.9**
ANBD	**Bethesda, Anti**	**9.03**	**106**	*e*P	**Pn**	**18 04 59.3**	**-1.3**
ANBD	**Bethesda, Anti**	**9.03**	**106**	*e*S	**Sn**	**18 06 36.7**	**-5.3**
SDV	**Santo Domingo**	**10.80**	**179**	Pn	**Pn**	**18 05 26.4**	**+1.3**
SDV	**Santo Domingo**	**10.80**	**179**	Pn	**Pn**	**18 05 25.6**	**+0.4**
	comp=Z,3.5nm,0.3s,baz=11,slow=5.3,SNR=11						
SDV				Sn	**Sn**	**18 07 19.6**	**-6.2**
	comp=Z,0.9nm,0.3s,baz=336,slow=20,SNR=1.3						
SDV				LR	LR	18 09 57.5	
	comp=Z,181nm,19.2s,baz=1.0,slow=40						
	comp=Z,11nm,0.5s						
BAUV	**El Baul**	**11.08**	**165**	Pn	**Pn**	**18 05 29.4**	**+0.6**
PCRV	**Puerto La Cruz**	**11.24**	**147**	Pn	**Pn**	**18 05 32.2**	**+1.1**
	comp=Z,2.2nm,0.3s,baz=315,slow=4.0,SNR=19						
PCRV				Sn	**Sn**	**18 07 31.9**	**-4.7**
	comp=Z,2.3nm,0.3s,baz=25,slow=18,SNR=5.3						
	comp=Z,9.1nm,0.4s						
ROSC	**El Rosal**	**15.20**	**193**		**Pn**	**18 06 26.8**	**+1.4**
ROSC	**El Rosal**	**15.20**	**193**	Pn	**Pn**	**18 06 25.7**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=343,slow=20,SNR=1.9						
	comp=Z,4.9nm,0.3s						
JTS	**Las Juntas de**	**16.54**	**237**	Pn	**Pn**	**18 06 43.2**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=24,slow=14,SNR=2.3						
JTS				LR	LR	18 12 55.7	
	comp=Z,72nm,19.7s,baz=69,slow=37						
	comp=Z,1.2nm,0.3s						
S57A	**Dark Hollow, R**	**19.29**	**340**	P	**Pn**	**18 07 16.0**	**-0.1**
TKL	**Tuckaleechee C**	**19.52**	**327**	P	**Pn**	**18 07 19.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=131,slow=11,SNR=1.3						
TKL				S	**Sn**	**18 10 47.1**	**-11**
	comp=Z,3.1nm,0.7s,baz=281,slow=16,SNR=2.0						
	comp=Z,5.6nm,1.1s						
BOAV	**Boa Vista**	**19.98**	**148**	P	**P**	**18 07 22.5**	**-0.2**
BOAV				IAmb	IAmb	18 07 23.4	
	comp=Z,15nm,0.7s						
CCIG	**Comitan**	**20.54**	**264**		Pn	18 07 30.9	-0.4
OTAV	**Otavalo**	**20.77**	**202**	P	Pn	18 07 33.1	-1.1
OTAV				IAmb	IAmb	18 07 43.5	
	comp=Z,23nm,1.1s						
V48A	**Smith Brothers**	**21.25**	**322**	P	**P**	**18 07 38.3**	**+1.8**
Q52A	**Bidwell**	**21.55**	**335**	P	**P**	**18 07 41.5**	**+1.9**
MGMO	**Mountain Grove**	**25.51**	**317**	P	**P**	**18 08 20.9**	**+2.2**
MGMO				IAmb	IAmb	18 08 28.3	
	comp=Z,14nm,1.2s						
435B	**Jarrell**	**26.50**	**300**	P	**P**	**18 08 27.9**	**+0.2**
435B				IAmb	IAmb	18 08 31.0	
	comp=Z,8.3nm,0.8s						
WMOK	**Wichita Mounta**	**28.86**	**307**	P	**P**	**18 08 50.5**	**+1.7**
WMOK				IAmb	IAmb	18 08 51.2	
	comp=Z,4.0nm,0.7s						
ETMB	**Extrema**	**29.73**	**171**	P	**P**	**18 08 55.8**	**-0.8**
ETMB				IAmb	IAmb	18 09 05.1	
	comp=Z,6.8nm,1.0s						
TXAR	**Lajitas Array**	**31.26**	**294**	P	**P**	**18 09 12.1**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=105,slow=9.4,SNR=6.7						
	comp=Z,0.8nm,0.8s						
VHRN	**Van Horn**	**32.65**	**296**	P	**P**	**18 09 21.6**	**-0.9**
ANMO	**Albuquerque**	**34.86**	**303**	LR	LR	18 26 13.1	
	comp=Z,35nm,18.4s,baz=261,slow=40						
LPAZ	**La Paz**	**35.91**	**176**	P	**P**	**18 09 52.3**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=341,slow=9.5,SNR=3.7						
	comp=Z,1.0nm,0.6s						
LPIG	**La Paz**	**36.78**	**284**	LR	LR	18 25 51.5	
	comp=Z,51nm,20.9s,baz=44,slow=38						
SIV	**San Ignacio**	**36.79**	**164**	P	**P**	**18 09 56.7**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=348,slow=7.8,SNR=4.1						
	comp=Z,0.7nm,0.6s						
PB08	**IPOC Station P**	**39.68**	**178**	P	**P**	**18 10 21.1**	**-1.8**
PDAR	**Pinedale Array**	**39.79**	**314**	P	**P**	**18 10 24.9**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=104,slow=11,SNR=2.7						
PDAR				PcP	**PcP**	**18 12 29.9**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=113,slow=6.9,SNR=4.8						
	comp=Z,0.2nm,0.5s						
BDFB	**Brasilia**	**41.72**	**146**	P	**P**	**18 10 38.6**	**-0.9**
	comp=Z,2.9nm,0.5s,baz=334,slow=7.2,SNR=5.9						
	comp=Z,2.9nm,0.5s						
R11B	**Troy Canyon, C**	**42.81**	**305**	P	**P**	**18 10 47.6**	**-0.8**
DSP	**Deep Springs**	**44.48**	**304**	P	**P**	**18 11 01.2**	**-0.3**
DSP				IAmb	IAmb	18 11 25.1	
	comp=Z,6.4nm,1.3s						
NV11	**Mina Array Sit**	**44.81**	**305**	P	**P**	**18 11 05.5**	**+1.1**
NV11				IAmb	IAmb	18 11 08.3	
	comp=Z,3.5nm,0.8s						
KVN	**Kaiserville**	**44.89**	**306**	P	**P**	**18 11 05.6**	**+0.6**
KVN				IAmb	IAmb	18 11 08.4	
	comp=Z,4.3nm,1.0s						
NVAR	**Mina Array Bea**	**44.92**	**305**	P	**P**	**18 11 06.6**	**+1.2**
	comp=Z,3.4nm,0.9s,baz=96,slow=7.0,SNR=18						
	comp=Z,3.4nm,0.9s						
CO01	**Juntas del Tor**	**49.44**	**179**	P	**P**	**18 11 40.4**	**-0.1**
CO01				IAmb	IAmb	18 11 50.5	
	comp=Z,5.4nm,0.9s						
YKA	**Yellowknife Ar**	**52.17**	**336**	P	**P**	**18 12 02.2**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=115,slow=6.2,SNR=2.0						
	comp=Z,1.0nm,0.8s						
RES	**Resolute Bay**	**56.47**	**353**	LR	LR	18 35 17.3	
	comp=Z,49nm,21.6s,baz=8.0,slow=34						
ESDC	**Sonseca Array**	**60.06**	**55**	P	**P**	**18 12 59.0**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=283,slow=7.1,SNR=7.1						
ESDC				LR	LR	18 34 14.8	
	comp=Z,51nm,21.9s,baz=298,slow=31						
	comp=Z,0.7nm,0.6s						
PLCA	**Paso Flores**	**60.17**	**180**	P	**P**	**18 12 56.4**	**-1.6**
	comp=Z,1.6nm,0.8s,baz=347,slow=2.9,SNR=4.6						
	comp=Z,1.6nm,0.8s						
EKA	**Eskdalemuir Ar**	**61.31**	**37**	P	**P**	**18 13 06.9**	**+1.3**
	comp=Z,1.5nm,0.9s,baz=277,slow=6.1,SNR=1.9						
	comp=Z,1.5nm,0.9s						
INK	**Inuvik**	**61.80**	**338**	LR	LR	18 40 53.6	
	comp=Z,42nm,20.5s,baz=252,slow=37						
ILAR	**Eielson Array**	**66.37**	**333**	P	**P**	**18 13 39.8**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=84,slow=5.9,SNR=27						
	comp=Z,0.8nm,0.4s						
TORD	**Torodi Ar. Bea**	**69.44**	**83**	P	**P**	**18 14 00.0**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=299,slow=5.7,SNR=2.2						
	comp=Z,0.3nm,0.6s						
GERES	**GERESS Array B**	**71.86**	**44**	P	**P**	**18 14 14.5**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=270,slow=4.7,SNR=1.7						
	comp=Z,0.3nm,0.4s						
FINES	**FINESS Array B**	**76.11**	**29**	P	**P**	**18 14 39.1**	**+1.4**
	comp=Z,4.8nm,1.1s,baz=255,slow=5.1,SNR=4.7						
	comp=Z,4.8nm,1.1s						
BRTR	**Keskin Array B**	**88.16**	**48**	P	**P**	**18 15 41.7**	**+0.2**
	comp=Z,0.8nm,1.0s,baz=329,slow=6.9,SNR=2.4						
	comp=Z,0.8nm,1.0s						
PZH	**PanZhiHua**	**133.47**	**9**	PKP	**PKPdf**	**18 22 07.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**140.73**	**15**	PKP	**PKPdf**	**18 22 21.3**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=328,slow=3.3,SNR=2.4						
WRA	**Warramunga Arr**	**156.32**	**265**	PKP	**PKPdf**	**18 22 45.2**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=72,slow=1.3,SNR=6.3						
WRA				PKPab	**PKPab**	**18 23 14.4**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=84,slow=3.8,SNR=4.8						
ASAR	**Alice Springs**	**156.69**	**256**	PKP	**PKPdf**	**18 22 46.2**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=78,slow=1.7,SNR=6.4						
ASAR				PKPab	**PKPab**	**18 23 15.9**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=95,slow=4.3,SNR=11						

*IDC **11** 18:04:31.4±0.9, 37°.77N×20°.45E, h0km, mb3.8/16, mbtmp3.7/26, ML3.4/8, MS3.1/6, Error ellipse: s-maj=16.9km s-min=13.2km az=170.0*

*ATH **11** 18:04:32.0, 37°.59N×20°.34E, h7km±2km, ML3.9/20, Error ellipse: s-maj=2.7km s-min=0.8km az=44.0*
*BEO **11** 18:04:32.7±0.7, 37°.45N×20°.10E, h36km±1km, ML3.9/15*
*NEIC **11** 18:04:32.3±2.0, 37°.57N±0°.06×20°.39E±0°.08, h10km±1km, mb4.5/7, Error ellipse: s-maj=12.8km s-min=7.7km az=309.0*
*THE **11** 18:04:32.1, 37°.60N×20°.33E, h0km±3km, ML4.0/11, Error ellipse: s-maj=4.2km s-min=0.9km az=232.0*
*PDG **11** 18:04:35.0±0.9, 37°.74N×20°.34E, h2km±2km, ML3.9/11, Error ellipse: s-maj=1.5km s-min=3.1km az=0.0*
*NAO **11** 18:04:56.0, 39°.77N×19°.88E, h10km, mb4.3*
ISC 11 18:04:33.2±1.1, **37°.64N**±0°.03×**20°.36E**±0°.03, **h16**km±6km, **n193**, σ1°**65**/244, **mb4.0**/18, **22C-8D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.36**	**87**	P	**Pg**	**18 04 40.0**	**-0.6**
KRI1				S	**Sg**	**18 04 45.0**	**-0.7**
	36μm,0.5s						
LTHK	**Lithakia**	**0.38**	**80**	P	**Pg**	**18 04 40.1**	**-0.9**
LTHK				S	**Sg**	**18 04 45.3**	**-1.0**
LTHK				AML	AML	18 04 47.7	
	comp=N,30806μm,0.3s						
LTHK				AML	AML	18 04 47.8	
	comp=E,63404μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.50**	**20**	P	**Pg**	**18 04 42.5**	**-0.7**
PSDA				S	**Sg**	**18 04 50.1**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.50**	**20**	P	**Pg**	**18 04 42.5**	**-0.7**
PSDA				S	**Sg**	**18 04 49.7**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.54**	**37**	P	**Pg**	**18 04 43.1**	**-0.8**
RTZL				S	**Sb**	**18 04 51.9**	**0.0**
LXRA	**Lixouri, Kepha**	**0.56**	**6**	P	**Pg**	**18 04 44.1**	**-0.2**
LXRA				S	**Sb**	**18 04 52.5**	**+0.1**
LXRA				AML	AML	18 04 57.3	
	comp=N,60995μm,0.4s						
LXRA				AML	AML	18 04 59.2	
	comp=E,98044μm,0.4s						
LXR1	**Lixouri, Cepha**	**0.56**	**6**	P	**Pg**	**18 04 44.2**	**-0.1**
LXR1				S	**Sb**	**18 04 53.5**	**+1.0**
VLS	**Valsamata**	**0.56**	**19**	P	**Pg**	**18 04 43.5**	**-0.9**
VLS				S	**Sg**	**18 04 51.5**	**-0.4**
	comp=E,17μm,0.4s						
VLS	**Valsamata**	**0.56**	**19**	P	**Pg**	**18 04 43.1**	**-1.3**
VLS				S	**Sg**	**18 04 51.3**	**-0.6**
VLS				AML	AML	18 04 54.6	
	comp=E,27370μm,0.4s						
VLS				AML	AML	18 04 59.9	
	comp=N,38434μm,0.4s						
DMLN	**Damoulianata-K**	**0.59**	**1**	P	**Pg**	**18 04 44.6**	**-0.4**
DMLN				S	**Sb**	**18 04 54.1**	**+0.6**
	comp=N,23μm,0.6s						
DMLN	**Damoulianata-K**	**0.59**	**1**	P	**Pg**	**18 04 44.3**	**-0.6**
DMLN				S	**Sb**	**18 04 53.8**	**+0.3**
SMHA	**Samh**	**0.65**	**20**	P	**Pg**	**18 04 44.7**	**-1.3**
SMHA				S	**Sg**	**18 04 54.1**	**-0.5**
SMHA				AML	AML	18 05 01.3	
	comp=N,64660μm,0.3s						
SMHA				AML	AML	18 05 01.7	
	comp=E,94340μm,0.4s						
VSK1	**VASILIKIADES**	**0.78**	**12**	P	**Pg**	**18 04 47.5**	**-1.0**
VSK1				S	**Sb**	**18 04 59.4**	**+0.5**
	comp=E,18μm,0.4s						
FSK	**Fiskardo**	**0.83**	**11**	P	**Pb**	**18 04 48.5**	**-0.8**
FSK				S	**Sg**	**18 05 01.4**	**+1.1**
	comp=E,7μm,0.3s						
FSK	**Fiskardo**	**0.83**	**11**	P	**Pb**	**18 04 48.3**	**-0.9**
FSK				S	**Sg**	**18 05 01.3**	**+1.0**
FSK				AML	AML	18 05 05.2	
	comp=E,13492μm,0.3s						
FSK				AML	AML	18 05 07.6	
	comp=N,14705μm,0.4s						
RLS	**Riolos of Patr**	**0.97**	**64**	P	**Pb**	**18 04 50.8**	**-0.8**
RL

GUR AML AML 18 05 35.9
comp=E,2265µm,0.4s
GUR AML AML 18 05 36.8
comp=N,4169µm,0.6s
MAKR Makrakomi, Fth 1.95 45 P Pb 18 05 08.8 +0.4
MAKR AML AML 18 05 45.9
comp=E,4411µm,0.7s
MAKR AML AML 18 05 48.0
comp=N,5734µm,0.7s
AGG Agios Georgios 2.07 48 Pn Pb 18 05 10.0 -0.5
KEK Kerkira 2.11 348 Pn Pg 18 05 13.5 -0.2
AXAR Agios Charalam 2.13 57 P Pb 18 05 10.5 -0.9
AXAR AML AML 18 05 60.0
comp=N,5226µm,0.8s
AXAR AML AML 18 06 03.6
comp=E,3351µm,0.5s
VLI Velíai 2.25 113 P Pb 18 05 12.4 -1.1
SCTE Santa Cesarea 2.84 329 Pn Pn 18 05 18.7 +0.8
TIP Timpagrande 3.22 300 Pn Pn 18 05 24.6 +1.5
TIP Timpagrande 3.22 300 ⇑P Pn 18 05 24.7 +1.5
FNA Florina 3.23 14 Pn Pn 18 05 25.4 +2.1
FNA Florina 3.23 14 *e*Pn **Pn 18 05 24.8 +1.4**
FNA *e*Sn **Sn 18 06 02.8 +1.2**
OHR Ohrid 3.48 5 *e*Pn **Pn 18 05 28.6 +1.8**
OHR Ohrid 3.48 5 *i* Pn **Pn 18 05 29.7 +2.9**
CEL Celeste 3.59 281 Pn 18 05 28.8 +0.6
TIR Tirane 3.72 354 Pn Pn 18 05 31.1 +1.1
TIR Tirane 3.72 354 *e*Pn **Pn 18 05 31.1 +1.1**
TIR Tirane 3.72 354 ⇑P Pn 18 05 30.7 +0.7
VAY Valandovo 4.05 24 *e*Pn **Pn 18 05 35.7 +1.1**
VAY Valandovo 4.05 24 *i* Pn **Pn 18 05 37.3 +2.8**
MATE Matera 4.13 318 ⇑P Pn 18 05 35.5 -0.2
CUC Castrocucco 4.26 305 Pn Pn 18 05 39.6 +2.2
SRS Serrai 4.28 35 *e*Pn **Pn 18 05 38.7 +1.0**
IDI Anoyia 4.34 121 Pn Pn 18 05 40.6 +2.0
comp=E,2.1nm,0.3s,baz=290,slow=5.9,SNR=7.5
IDI Sn **Sn 18 06 29.2 +0.3**
comp=E,1.5nm,0.3s,baz=311,slow=23,SNR=3.5
PUK Puka 4.41 355 Pn Pn 18 05 40.3 +0.7
DRME Dracevica, Mon 4.63 349 ⇓*i*Pn Pn 18 05 42.9 +0.4
DRME *i* Sn **Sn 18 06 36.5 +0.6**
VAE Valguarnera 4.73 270 Pn Pn 18 05 46.3 +2.3
comp=E,16nm,0.9s,baz=68,slow=11,SNR=2.1
VAE Sn **Sn 18 06 38.4 -0.2**
comp=E,4.7nm,0.3s,baz=236,slow=10.0,SNR=6.6
BUM Brajici-Budva 4.79 347 ⇑*i*Pn Pn 18 05 44.9 +0.2
BUM *i* Sn **Sn 18 06 39.6 -0.3**
RAFF Raffo Rosso 4.79 267 Pn Pn 18 05 44.9 +0.1
PDG Podgorica 4.86 350 Pn Pn 18 05 46.1 +0.5
PDG Podgorica 4.86 350 *e*Pn **Pn 18 05 44.6 -1.0**
PDG *e*Sn **Sn 18 06 39.0 -2.5**
PDG Podgorica 4.86 350 *e*Pn **Pn 18 05 45.4 -0.2**
PDG Podgorica 4.86 350 ⇑P Pn 18 05 46.1 +0.5
PDG ⇑S **Sn 18 06 38.9 -2.5**
PDG Podgorica 4.86 350 ⇑*i*Pn Pn 18 05 46.7 +1.1
PDG *i* Sn **Sn 18 06 42.7 +1.2**
HCY Herceg Novi 5.01 344 *e*Pn **Pn 18 05 46.2 -1.5**
HCY Herceg Novi 5.01 344 ⇓*i*Pn Pn 18 05 46.8 -0.9
HCY *i* Sn **Sn 18 06 44.7 -0.6**
CEME Cevo 5.02 348 ⇓*i*Pn Pn 18 05 47.9 -0.1
CEME *i* Sn **Sn 18 06 45.7 0.0**
WDD Wied Dalam 5.02 251 Pn Pn 18 05 48.8 +0.9
BOSS Bosilegrad 5.11 18 *e*Pn **Pn 18 05 49.3 +0.1**
NKME Niksic 5.23 349 ⇑*i*Pn Pn 18 05 52.8 +2.0
NKME *i* Sn **Sn 18 06 50.5 -0.3**
IVA Berane 5.24 356 ⇓*i*Pn Pn 18 05 52.4 +1.5
IVA *i* Sn **Sn 18 06 52.0 -0.2**
KOME Kolasin 5.24 353 ⇓*i*Pn Pn 18 05 52.0 +1.0
KOME *i* Sn **Sn 18 06 51.1 -0.1**
BARS Barje 5.29 12 *e*Pn **Pn 18 05 51.2 -0.3**
TREB Trebinje 5.30 344 *e*Pn **Pn 18 05 50.6 -1.1**
TREB *e*Sn **Sn 18 06 49.4 -3.0**
TREB Trebinje 5.30 344 *e*Pn **Pn 18 05 50.6 -1.1**
BRY Bratogost 5.43 346 *e*Pn **Pn 18 05 52.8 -0.9**
BRY Bratogost 5.43 346 ⇓*i*Pn Pn 18 05 52.9 -0.8
BRY *i* Sn **Sn 18 06 55.7 -0.3**
VTS Vitosha 5.43 23 *e*Pn **Pn 18 05 54.7 +1.0**
ALN Alexandroupoli 5.48 52 Pn Pn 18 05 57.1 +3.0
SELS Selova 5.60 6 *e*Pn **Pn 18 05 55.1 -0.8**
STON Ston 5.61 340 *e*Pn **Pn 18 05 55.1 -0.8**
STON *e*Sn **Sn 18 06 56.3 -3.6**
STON Ston 5.61 340 *e*Pn **Pn 18 05 55.0 -0.8**
SJES Sjenica 5.62 357 *e*Pn **Pn 18 05 56.2 0.0**
SJES *e*Sn **Sn 18 06 59.4 -1.1**
SJES Sjenica 5.62 357 *e*Pn **Pn 18 05 56.6 +0.4**
PAOL Paolisi 5.62 309 Pn Pn 18 05 59.1 +2.9
UPM Unac-Piva 5.67 349 *e*Pn **Pn 18 05 56.7 -0.2**
UPM Unac-Piva 5.67 349 ⇑*i*Pn Pn 18 05 57.2 +0.3
UPM *i* Sn **Sn 18 07 00.0 -1.7**
PLE Pljevlja 5.73 353 ⇑*i*Pn Pn 18 05 58.3 +0.6
PLE *i* Sn **Sn 18 07 02.5 -0.7**
ZAPS Zavoj 5.88 16 *e*Pn **Pn 18 06 00.4 +0.6**
IVAS Ivanjica 5.93 359 *e*Pn **Pn 18 06 00.1 -0.3**
RUDO Rudo 6.02 353 *e*Pn **Pn 18 06 00.5 -1.1**
BOVS Bovan 6.07 9 *e*Pn **Pn 18 06 02.1 -0.2**
BOVS Bovan 6.07 9 ⇑P Pn 18 06 02.6 +0.3
GRUS Gruza 6.25 2 *e*Pn **Pn 18 06 04.4 -0.3**
BBLS Lazi&#263i 6.26 354 *e*Pn **Pn 18 06 04.4 -0.6**
BBLS *e*Sn **Sn 18 07 14.2 -2.0**
BBLS Lazi&#263i 6.26 354 *e*Pn **Pn 18 06 04.2 -0.8**
ZAGS Zajecar 6.33 12 *e*Pn **Pn 18 06 07.2 +1.4**
DIVS Divibare 6.46 358 *e*Pn **Pn 18 06 06.3 -1.4**
HAPS Han Pijesak,BI 6.53 351 *e*Pn **Pn 18 06 07.4 -1.2**
HAPS Han Pijesak,BI 6.53 351 *e*Pn **Pn 18 06 07.5 -1.2**
ELND Elena 6.75 37 ⇑P Pn 18 06 14.1 +2.4
TEKS Tekeris 6.93 355 *e*Pn **Pn 18 06 12.9 -1.2**
TEKS Tekeris 6.93 355 *e*Pn **Pn 18 06 11.9 -2.2**
A050A Klekovaca 7.42 338 *e*Pn **Pn 18 06 21.3 +0.4**
BLY Banja Luka 7.49 342 *e*Pn **Pn 18 06 20.7 -1.1**
BLY *e*Sn **Sn 18 07 42.4 -4.0**
BLY Banja Luka 7.49 342 *e*Pn **Pn 18 06 23.0 +1.2**
FRGS Fruska Gora 7.52 357 *e*Pn **Pn 18 06 21.0 -1.2**
NRCA Norcia 7.59 315 Pn Pn 18 06 25.9 +2.7
FDMO Fiordimonte 7.74 316 Pn 18 06 27.8 +2.6
A051A Mrakovica 7.81 342 *e*Pn **Pn 18 06 25.1 -1.1**
GZR Gura Zlata 7.95 12 ⇑P Pn 18 06 29.0 +0.8
BZS Buzias 8.02 6 *e*Pn **Pn 18 06 29.0 -0.1**
ARR Arges 8.36 21 ⇑P Pn 18 06 35.3 +1.6
VOIR 8.54 23 ⇑P Pn 18 06 38.4 +2.1
ISR Istrita 8.79 30 ⇑P Pn 18 06 42.4 +2.7
MLR Muntele Rosu 8.88 26 Pn Pn 18 06 41.3 +0.3
MLR Muntele Rosu 8.88 26 Pn Pn 18 06 40.5 -0.5
comp=E,0.2nm,0.3s,baz=229,slow=9.3,SNR=6.7
MLR LR LR 18 10 30.2
comp=E,108nm,21.8s,baz=214,slow=41
comp=E,9.2nm,1.1s
MLR Muntele Rosu 8.88 26 ⇓P Pn 18 06 44.0 +3.0
NEHR Nehoiu 8.96 28 ⇓P Pn 18 06 44.6 +2.7
CRES Cresnjevec Ost 8.96 337 *e*Pn **Pn 18 06 40.9 -1.0**
KEST Kesra 9.05 261 Pn Pn 18 06 45.1 +1.8
comp=E,0.1nm,0.3s,baz=75,slow=18,SNR=1.9
KEST LR LR 18 10 41.6
comp=E,113nm,19.7s,baz=185,slow=40
comp=E,1.9nm,0.6s
DOPR Dopca 9.12 23 ⇑P Pn 18 06 46.1 +1.9
BISRR Bisoca 9.22 29 ⇑P Pn 18 06 47.2 +1.7
CEY Cerknica 9.22 333 *e*Pn **Pn 18 06 45.7 +0.1**
SPBR Spulber 9.40 28 ⇑P Pn 18 06 49.7 +1.7
TURR Turia 9.40 25 ⇑P Pn 18 06 49.7 +1.7
PLOR Plostina 9.45 28 ⇑P Pn 18 06 50.3 +1.6
VRI Vrincioaia 9.49 28 ⇑P Pn 18 06 52.2 +2.9
OBKA Obir 9.85 336 *e*Pn **Pn 18 06 55.6 +1.3**
comp=E,1.2nm,0.3s
OBKA Obir 9.85 336 *e*Pn **Pn 18 06 53.6 -0.7**
SOKA Soboth 9.86 338 *e*Pn **Pn 18 06 55.2 +0.9**
comp=E,1.7nm,0.5s
TEOL Teolo 10.09 323 Pn Pn 18 07 01.3 +3.8
ARSA Arzberg 10.24 341 *e*Pn **Pn 18 07 02.2 +2.6**
comp=E,1.0nm,0.4s
RONA Rosalia, Austr 10.49 345 *e*Pn **Pn 18 07 06.8 +4.0**
comp=E,0.7nm,0.4s
BURAR Bucovina Array 10.59 18 Pn Pn 18 07 06.3 +2.0
BRTR Keskin Array B 10.59 75 Pn Pn 18 07 05.5 +1.1
baz=261,slow=12,SNR=2.7
BRTR LR LR 18 12 02.4
comp=E,259nm,18.7s,baz=312,slow=43
comp=E,0.6nm,0.9s
BUR08 Bucovina Ar. S 10.61 18 Pn 18 07 07.3 +2.7
CTI Castel Tesino 10.61 325 Pn Pn 18 07 07.8 +3.1
KBA Koelnbreinsper 10.76 333 *e*Pn **Pn 18 07 08.1 +1.4**
comp=E,0.1nm,0.2s
ABTA Abfaltersbach 10.80 330 *e*Pn **Pn 18 07 09.2 +2.0**
comp=E,0.4nm,0.3s
CONA Conrad Observa 10.80 344 *e*Pn **Pn 18 07 10.7 +3.5**
comp=E,0.8nm,0.4s
VYHS Vyhne 10.90 355 *e*PN **Pn 18 07 09.8 +1.2**
VYHS *e*SN **Sn 18 09 03.8 -6.4**
MOA Molln 11.14 338 *e*Pn **Pn 18 07 12.6 +0.8**
comp=E,0.6nm,0.3s
MOA Molln 11.14 338 *e*Pn **Pn 18 07 10.6 -1.2**
BIOA Bad Ischl, Aus 11.19 336 *e*Pn **Pn 18 07 15.4 +2.9**
comp=E,1.1nm,0.3s
LESA Schwarzleotal 11.29 332 *e*Pn **Pn 18 07 15.4 +1.4**
comp=E,2.6nm,0.4s
KOLS Kolonicke sedl 11.37 6 *e*PN **Pn 18 07 18.8 +3.9**
WTTA Wattenberg 11.57 329 *e*Pn **Pn 18 07 20.4 +2.7**
comp=E,0.2nm,0.2s
FETA Feichten 11.77 326 *e*Pn **Pn 18 07 25.1 +4.6**
comp=E,0.7nm,0.4s
MOTA Moosalm 11.85 328 *e*Pn **Pn 18 07 25.0 +3.3**
comp=E,4.3nm,0.8s
DAVOX Davos/Dischmat 11.98 323 Pn **Pn 18 07 23.6 +0.1**
comp=E,0.1nm,0.3s,baz=150,slow=20,SNR=1.6
DAVOX Sn **Sn 18 09 30.6 -6.2**
comp=E,0.2nm,0.3s,baz=308,slow=19,SNR=2.0
comp=E,0.4nm,0.3s
GERES GERESS Array B 12.20 339 Pn **Pn 18 07 25.7 -0.7**
comp=E,0.1nm,0.3s,baz=162,slow=13,SNR=1.7
GERES Sn **Sn 18 09 34.7 -7.3**
comp=E,0.5nm,0.3s,baz=158,slow=24,SNR=3.1
comp=E,0.3nm,0.3s
KHC Kasperske Hory 12.49 339 Pn **Pn 18 07 32.8 +2.5**
KHC Kasperske Hory 12.49 339 *e*PN Pn 18 07 35.9 +5.6
KHC *e*SN **Sn 18 09 43.7 -5.4**
AKASG Malin Array Be 14.51 23 Pn **Pn 18 07 56.7 -1.1**
comp=E,0.5nm,0.3s,baz=216,slow=12,SNR=4.8
comp=E,0.7nm,0.6s
EIL Elat 14.51 119 LR LR 18 15 59.6
comp=E,49nm,18.2s,baz=248,slow=47
SUW Suwalki 16.49 6 Pn **Pn 18 08 23.7 0.0**
SUW IAmb IAmb 18 08 30.9
comp=Z,29nm,1.0s
NACGM Naroch 17.81 12 *e*P **P 18 08 45.2 +4.3**
comp=Z,17nm,1.1s,baz=197
PABE Paberze 18.04 7 Pn **Pn 18 08 42.1 -0.9**
PABE IAmb IAmb 18 08 44.0
comp=Z,36nm,0.7s
KBZ Khabaz 18.11 63 P **P 18 08 44.8 +0.5**
comp=Z,0.1nm,0.3s,baz=243,slow=14,SNR=1.3
comp=Z,1.9nm,0.9s
ESDC Sonseca Array 19.09 284 P **P 18 08 55.3 0.0**
comp=Z,0.1nm,0.3s,baz=79,slow=10.0,SNR=2.3
comp=Z,0.4nm,0.8s
GNI Garni 19.13 75 LR LR 18 16 25.6
comp=Z,44nm,20.3s,baz=280,slow=38
MDT Midelt 20.93 264 P Pn 18 09 17.5 -0.4
comp=Z,2.2nm,0.8s,baz=90,slow=7.1,SNR=5.2
comp=Z,2.2nm,0.8s
PVAQ Vaqueiros 22.24 278 P **P 18 09 28.8 -0.5**
PVAQ IAmb IAmb 18 09 39.8
comp=Z,13nm,1.0s
HFS Hagfors 22.91 351 P **P 18 09 36.2 +0.1**
comp=Z,3.7nm,0.6s,baz=148,slow=12,SNR=13
comp=Z,3.7nm,0.6s
EKA Eskdalemuir Ar 23.80 326 P **P 18 09 44.4 -0.6**
comp=Z,1.7nm,0.7s,baz=115,slow=7.9,SNR=4.2
comp=Z,1.7nm,0.7s
BELG Belogornoye 24.08 43 P **P 18 09 47.2 -0.4**
comp=Z,13nm,0.9s,baz=304,slow=3.5,SNR=4.2
comp=Z,13nm,0.9s
FINES FINESS Array B 24.09 7 P **P 18 09 47.0 -0.8**
comp=Z,3.2nm,0.7s,baz=169,slow=9.6,SNR=16
comp=Z,3.2nm,0.7s
FIA1 FINESS Array S 24.09 7 P **P 18 09 47.5 -0.2**
NB2 NORSAR Subarra 24.12 349 P **P 18 09 49.2 +1.1**
comp=Z,36nm,2.5s,baz=162,slow=11
NOA NORSAR Array B 24.12 349 P **P 18 09 47.6 -0.5**
comp=Z,1.3nm,0.9s,baz=165,slow=11,SNR=3.1
comp=Z,1.3nm,0.9s
KIRV Kirov 28.17 33 LR LR 18 22 13.6
comp=Z,55nm,18.7s,baz=327,slow=38
TORD Torodi Ar. Bea 29.54 219 P **P 18 10 38.5 +1.4**
comp=Z,0.5nm,0.7s,baz=30,slow=9.2,SNR=5.0
comp=Z,0.5nm,0.7s
ARTI Arti 31.44 41 P **P 18 10 52.4 -1.2**
comp=Z,0.9nm,0.3s,baz=290,slow=12,SNR=2.5
comp=Z,0.9nm,0.3s
ARCES ARCESS Array B 32.07 3 P **P 18 10 58.7 -0.4**
comp=Z,3.2nm,1.1s,baz=185,slow=10.0,SNR=1.7
comp=Z,3.2nm,1.1s
KEV Kevo 32.37 4 P **P 18 11 00.7 -0.9**
KEV IAmb IAmb 18 11 06.8
comp=Z,12nm,1.1s
BVAR Borovoye Array 37.56 49 P **P 18 11 45.8 -0.8**
comp=Z,0.3nm,0.5s,baz=253,slow=7.6,SNR=2.7
comp=Z,0.3nm,0.5s
KURBB Kurchatov Arra 42.65 53 P **P 18 12 27.8 -1.0**
comp=Z,0.7nm,0.4s,baz=281,slow=9.1,SNR=1.3
comp=Z,0.7nm,0.4s
MKAR Makanchi Array 45.69 58 P **P 18 12 52.6 -0.7**
comp=Z,0.6nm,0.5s,baz=270,slow=7.8,SNR=9.5
comp=Z,0.6nm,0.5s
ZAA0 Zalesovo Array 46.14 48 P **P 18 12 55.4 -1.3**
ZAA0 IAmb IAmb 18 13 08.2
comp=Z,5.1nm,1.1s
ZALV Zalesovo Beam 46.14 48 P **P 18 12 55.9 -0.7**
comp=Z,1.3nm,0.5s,baz=280,slow=8.7,SNR=9.1
comp=Z,1.3nm,0.5s
SONM Songino Array 60.90 50 P **P 18 14 44.9 -0.3**
comp=Z,0.7nm,0.8s,baz=295,slow=11,SNR=2.5
comp=Z,0.7nm,0.8s
CMAR Chiang Mai Arr 70.09 82 P **P 18 15 45.3 +0.4**
comp=Z,0.3nm,0.3s,baz=300,slow=7.2,SNR=1.6
comp=Z,0.3nm,0.3s
KSRS Korea Array 79.77 50 P **P 18 16 41.3 +0.8**
comp=Z,0.6nm,0.6s,baz=335,slow=5.5,SNR=2.1
comp=Z,0.6nm,0.6s

*NEIC **11** 18:11:11.4±1.6, 15°.57N±0°.08×49°.7W±0°.1, h10km±2km, mb4.4/8, Error ellipse: s-maj=23.0km s-min=10.0km az=61.0*
*IDC **11** 18:11:13.2±1.1, 15°.57N×50°.01W, h0km, mb3.6/7, mbtmp3.8/9, ML4.3/2, Error ellipse: s-maj=31.3km s-min=23.0km az=86.0*
ISC 11 18:11:14.1±0.9, 15°.5N±0°.1×50°.0W±0°.1, h10km, n25, σ1°35/22, mb3.6/8, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**9.54**	**257**	Pn		**Pn**	**Pn**	**18 13 34.4**	**+2.8**
MPOM	**Morne Pois Mar**	**10.54**	**266**	Pn		**Pn**	**Pn**	**18 13 45.5**	**+0.3**
MDP	**Montagnes des**	**10.62**	**194**	Pn		**Pn**	**Pn**	**18 13 46.3**	**-0.1**
	2.2nm,0.3s,baz=8.1,slow=17,SNR=25								
MDP				Sn		Sn	Sn	18 15 34.9	-11
	3.5nm,0.3s,baz=268,slow=20,SNR=8.9								
	6.0nm,0.4s								
BIM	**Bigot**	**10.73**	**266**	Pn		**Pn**		**18 13 48.7**	**+0.8**
FDF	**Fort de France**	**10.79**	**268**	Pn		**Pn**		**18 13 48.8**	**+0.1**
CBE	**Ff, Capester**	**11.18**	**275**	Pn		**Pn**		**18 13 54.9**	**+0.8**
PCRV	**Puerto La Cruz**	**15.20**	**252**	Pn		**Pn**		**18 14 49.5**	**+0.5**
	1.4nm,0.3s,baz=33,slow=10.0,SNR=1.5								
	3.4nm,0.3s								
CELP	**Cerrillos**	**16.08**	**282**	P		**P**		**18 15 05.2**	**+1.4**
CELP				IAmb		IAmb	IAmb	18 15 30.1	
	comp=Z,52nm,1.5s								
CRPR	**Cabo Rojo, PR**	**16.57**	**281**				**P**	**18 15 08.4**	**-0.8**
CRPR				IAmb		IAmb	IAmb	18 15 17.1	
	comp=Z,50nm,1.1s								
BOAV	**Boa Vista**	**16.61**	**220**				**Pn**	**18 15 07.9**	**+0.6**
BAUV	**El Baul**	**18.77**	**252**	P		**P**	**P**	**18 15 31.6**	**-1.9**
ETMB	**Extrema**	**29.81**	**214**	P		**P**	**P**	**18 17 19.9**	**-1.5**
LPAZ	**La Paz**	**36.27**	**210**	P		**P**	**P**	**18 18 17.6**	**-0.9**
LPAZ				IAmb		IAmb	IAmb	18 18 21.6	
	comp=Z,4.0nm,0.9s								
LPAZ	**La Paz**	**36.27**	**210**	P		**P**	**P**	**18 18 20.4**	**+1.9**
	comp=Z,3.2nm,0.7s,baz=3.4,slow=8.4,SNR=14								
	comp=Z,3.2nm,0.7s								
H10N3	**ASCENSION HYDR**	**42.12**	**121**	T		T	T	19 03 56.6	
	baz=304								
H10N2	**ASCENSION HYDR**	**42.12**	**121**	T		T	T	19 03 59.2	
	baz=304								
H10N1	**ASCENSION HYDR**	**42.14**	**121**	T		T	T	19 04 00.9	
	baz=304								
TORD	**Torodi Ar. Bea**	**50.06**	**86**	P		**P**	**P**	**18 20 10.2**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=305,slow=8.6,SNR=2.5								
	comp=Z,0.4nm,0.9s								
TXAR	**Lajitas Array**	**51.09**	**295**	P		**P**	**P**	**18 20 17.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=95,slow=4.5,SNR=3.5								
	comp=Z,0.1nm,0.3s								
PDAR	**Pinedale Array**	**57.38**	**311**	P		**P**	**P**	**18 21 03.6**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=111,slow=9.9,SNR=2.2								
	comp=Z,0.3nm,0.6s								
TMUT	**Trail Mountain**	**58.16**	**307**	P		**P**	**P**	**18 21 06.6**	**-2.1**
GO06	**Curarrehue**	**58.31**	**199**	P		**P**	**P**	**18 21 07.1**	**-2.2**
GO06				IAmb		IAmb	IAmb	18 21 11.9	
	comp=Z,3.2nm,0.8s								
PLCA	**Paso Flores**	**59.07**	**198**	P		**P**	**P**	**18 21 16.0**	**+1.4**
	comp=Z,2.2nm,0.8s,baz=25,slow=9.0,SNR=6.3								
	comp=Z,2.2nm,0.8s								
NVAR	**Mina Array Bea**	**63.63**	**305**	P		**P**	**P**	**18 21 46.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=70,slow=7.8,SNR=2.2								
	comp=Z,0.1nm,0.3s								
ILAR	**Eielson Array**	**79.05**	**334**	P		**P**	**P**	**18 23 18.1**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=73,slow=5.6,SNR=4.5								
	comp=Z,0.6nm,0.8s								

*IDC **11** 18:28:07.5±1.3, 1°.13S×120°.68E, h0km, mb3.3/4, mbtmp3.4/5, ML3.6/1, Error ellipse: s-maj=70.0km s-min=22.2km az=66.0*
*DJA **11** 18:28:09.2±0.2, 1°.5±2°×12°0E±°, h10km, M3.8/14, mb4.0/3, MLv3.7/14*
ISC 11 18:28:08.9±1.0, 1°.23S±0°.05×120°.46E±0°.06, h10km, n18, σ0°64/19, mb3.4/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.23**	**75**	P		**Pn**	**Pn**	**18 28 32.2**	**-0.1**
MPSI	**Mapaga**	**1.65**	**340**	P		**Pn**	**Pn**	**18 28 37.5**	**-0.5**
TTSI	**Tana Toraja**	**1.91**	**199**	P		**Pn**	**Pn**	**18 28 41.6**	**0.0**
MRSI	**Marisa**	**2.25**	**41**	P		**Pn**	**Pn**	**18 28 46.5**	**+0.2**
MRSI				S		Sn	**Sn**	**18 29 14.9**	**+0.7**
LUWI	**Luwuk**	**2.32**	**85**	P		**Pn**	**Pn**	**18 28 47.1**	**-0.2**
SPSI	**Sidrap Palu**	**2.80**	**194**	P		**Pn**	**Pn**	**18 28 54.0**	**+0.1**
BNSI	**Bone**	**3.17**	**186**	P		**Pn**	**Pn**	**18 29 00.0**	**+1.1**
BKB	**Balikpapan**	**3.56**	**269**	P		**Pn**	**Pn**	**18 29 03.8**	**-0.4**
KAPI	**Kappang**	**3.83**	**191**	Pn		**Pn**	**Pn**	**18 29 09.0**	**+1.0**
	3.8nm,0.3s,baz=347,slow=9.9,SNR=7.4								
KAPI				Sn		**Sn**	**Sn**	**18 29 52.2**	**-0.8**
	0.4nm,0.3s,baz=196,slow=19,SNR=1.3								
	9.0nm,0.3s								
BKSI	**Bulukumba**	**4.08**	**185**	P		**Pn**	**Pn**	**18 29 11.6**	**+0.2**
BBSI	**Bau Bau**	**4.73**	**154**	P		**Pn**	**Pn**	**18 29 19.6**	**-0.8**
BSSI	**Bau Bau, Buton**	**4.88**	**180**	P		**Pn**	**Pn**	**18 29 22.5**	**0.0**
MTKI	**Muara Teweh, K**	**5.56**	**273**	P		Pn	Pn	18 29 17.0	-15
NLAI	**Namlea**	**6.93**	**107**	P		**Pn**	**Pn**	**18 29 50.6**	**-0.1**
	5.8nm,0.7s,0.0nm								
WRA	**Warramunga Arr**	**23.03**	**145**	P		**P**	**P**	**18 33 13.5**	**-1.0**
	0.7nm,0.8s,baz=322,slow=11,SNR=4.3								
	0.7nm,0.8s								
ASAR	**Alice Springs**	**25.84**	**151**	P		**P**	**P**	**18 33 41.2**	**+0.4**
	0.5nm,0.7s,baz=344,slow=15,SNR=7.8								
	0.5nm,0.7s								
MKAR	**Makanchi Array**	**58.36**	**330**	P		**P**	**P**	**18 38 05.3**	**+0.9**
	0.4nm,0.8s,baz=116,slow=6.6,SNR=2.6								
	0.4nm,0.8s								
KURBB	**Kurchatov Arra**	**62.78**	**331**	P		**P**	**P**	**18 38 34.2**	**-0.3**
	0.2nm,0.4s,baz=131,slow=6.4,SNR=1.9								
	0.2nm,0.4s								

IDC 11 18:30:43.6±7.4, 30°.42S×178°.53W, h0km, mb3.4/2, mbtmp3.4/2, MS2.3/1, Error ellipse: s-maj=312.1km s-min=57.0km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.35**	**280**	LR		LR	LR	18 48 34.9	
	comp=Z,6.0nm,22.0s,baz=298,slow=32								
ASAR	**Alice Springs**	**42.65**	**267**	P		P		18 38 42.1	-0.1
	0.1nm,0.4s,baz=105,slow=7.6,SNR=5.9								
	0.1nm,0.4s								
WRA	**Warramunga Arr**	**43.64**	**272**	P		P		18 38 49.8	-0.5
	0.3nm,0.3s,baz=111,slow=8.0,SNR=6.0								
	0.3nm,0.3s								
FINES	**FINESS Array B**	**145.01**	**340**	PKPbc		PKPbc	PKPbc	18 50 20.9	-0.6
	3.4nm,0.9s,baz=42,slow=4.3,SNR=8.2								

*IDC **11** 18:37:31.0±1.2, 24°.57S×175°.97W, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=39.6km s-min=33.3km az=144.0*
ISC 11 18:37:35.6±1.1, 24°.6S±0°.2×176°.0W±0°.2, h30km, n13, σ0°64/7, mb3.8/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.52**	**260**	P		**P**	**P**	**18 45 52.3**	**-0.5**
	1.3nm,1.0s,baz=92,slow=6.6,SNR=6.4								
	1.3nm,1.0s								
WRA	**Warramunga Arr**	**46.00**	**265**	P		**P**	**P**	**18 45 56.7**	**+0.1**
	1.0nm,0.9s,baz=103,slow=8.1,SNR=4.1								
	1.0nm,0.9s								
QSPA	**South Pole Qui**	**65.51**	**180**	P		**P**	**P**	**18 48 16.3**	**+0.3**
	2.2nm,1.0s,baz=35,slow=4.0,SNR=4.3								
	2.2nm,1.0s								
MJAR	**Matsushiro Arr**	**74.57**	**323**	P		**P**	**P**	**18 49 12.4**	**+0.7**
	0.4nm,0.5s,baz=151,slow=4.7,SNR=2.0								
	0.4nm,0.5s								
H03S2	**Juan Fernandez**	**82.19**	**124**	T		T	T	20 21 00.5	
	baz=247,slow=75,SNR=3.7								
H03S1	**Juan Fernandez**	**82.20**	**124**	T		T	T	20 21 07.8	
	baz=247,slow=75,SNR=4.3								
H03S3	**Juan Fernandez**	**82.21**	**124**	T		T	T	20 20 57.1	
	baz=247,slow=75,SNR=4.5								
H03N2	**Juan Fernandez**	**82.35**	**123**	T		T	T	20 21 08.2	
	baz=248								
H03N3	**Juan Fernandez**	**82.35**	**123**	T		T	T	20 21 07.9	
	baz=248								
H03N1	**Juan Fernandez**	**82.36**	**123**	T		T	T	20 21 03.4	
	baz=248								
NVAR	**Mina Array Bea**	**82.75**	**42**	P		**P**	**P**	**18 49 56.8**	**-0.2**
	0.8nm,0.8s,baz=229,slow=8.2,SNR=5.0								
	0.8nm,0.8s								
AKASG	**Malin Array Be**	**147.45**	**330**	PKPbc		**PKPbc**	**PKPbc**	**18 57 16.4**	**+0.1**
	0.5nm,0.6s,baz=48,slow=1.4,SNR=1.7								
BRTR	**Keskin Array B**	**150.88**	**308**	PKPbc		**PKPbc**	**PKPbc**	**18 57 24.7**	**-0.9**
	0.6nm,0.9s,baz=41,slow=4.8,SNR=2.4								

IDC 11 18:43:59.9±4.5, 17°.47S×178°.40W, h611km±21km, mb3.0/3, mbtmp4.0/4, Error ellipse: s-maj=121.1km s-min=76.0km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.39**	**265**	P		P	P	18

comp=N,280nm,0.3s
KAN01 Argonia South 0.46 32 Pg 18 44 41.8 +0.3
KAN01 Sg 18 44 48.1 +0.7
KAN01 IAML 18 44 48.4
comp=E,144nm,0.1s
KAN01 IAML 18 44 48.5
comp=N,218nm,0.1s
KAN08 Anthony NE Sta 0.46 9 Pg 18 44 42.0 +0.4
KAN08 Sg 18 44 48.5 +0.9
KAN09 Caldwell North 0.51 44 Pg 18 44 42.8 +0.3
KAN09 Sg 18 44 49.8 +0.6
KAN13 South Haven SW 0.53 62 Pg 18 44 43.0 +0.2
KAN13 Sg 18 44 50.2 +0.5
KAN13 IAML 18 44 50.7
comp=N,169nm,0.3s
KAN13 IAML 18 44 59.5
comp=E,130nm,0.3s
KAN12 Harper NE Stat 0.53 6 Pg 18 44 43.2 +0.4
KAN12 Sg 18 44 50.7 +0.9
KAN12 IAML 18 44 53.0
comp=E,160nm,0.3s
KAN12 IAML 18 44 56.0
comp=N,147nm,0.3s
OK038 West end E0370 0.62 242 Pg 18 44 44.5 0.0
OK038 Sg 18 44 53.4 +0.8
OK038 IAML 18 45 02.7
comp=N,196nm,0.4s
BLOK Blackwell 0.68 90 Pg 18 44 45.7 0.0
BLOK IAML 18 44 59.0
comp=E,106nm,0.2s
NOKA Waynoka 0.71 259 Pg 18 44 46.3 0.0
NOKA IAML 18 44 59.9
comp=N,90nm,0.4s
OK048 Pawnee Station 0.97 111 Pg 18 44 50.9 -0.3
OK048 Sg 18 45 03.7 0.0
OK051 E0350 and S346 1.02 105 Pg 18 44 51.8 -0.4
OK051 Sb 18 45 06.3 +0.1
OK029 Liberty Lake 1.09 153 Pg 18 44 53.1 -0.4
OK029 Sb 18 45 08.1 -0.1
OK029 IAML 18 45 15.0
comp=N,44nm,0.5s
CSTR Hydro, Custer 1.23 205 Pg Pg 18 44 54.7 -1.5
QUOK Quay 1.24 118 Pb 18 44 55.9 -0.5
QUOK Sg 18 45 12.5 -0.1
T35A Sooner Cattle 1.25 83 Pn 18 44 56.1 -0.5
T35A Sb 18 45 13.2 +0.2
T35A IAML 18 45 17.1
comp=E,41nm,0.2s
T35A IAML 18 45 17.1
comp=N,39nm,0.3s
OK052 Battle Ridge R 1.28 127 Pn 18 44 56.5 -0.4
OK052 Sb 18 45 13.5 -0.1
OK052 IAML 18 45 17.6
comp=N,58nm,0.2s
OK031 S. Brethren Rd 1.28 129 Pn 18 44 56.1 -0.8
OK031 Sb 18 45 13.5 -0.2
OK031 IAML 18 45 14.8
comp=N,55nm,0.1s
OK031 IAML 18 45 33.0
comp=N,43nm,2.7s
ELIS Ellis County 1.30 238 Pg 18 44 57.6 +0.1
ELIS Sn 18 45 14.9 0.0
ELIS IAML 18 45 15.8
comp=E,49nm,0.2s
ELIS IAML 18 45 33.2
comp=N,43nm,1.8s
DEOK Depew 1.56 126 Pn 18 44 59.6 -1.2
R32A Long Quarter, 1.73 343 Pn 18 45 03.0 -0.2
W35A Tecumseh 1.88 149 Pn 18 45 04.8 -0.3
TUL3 Leonard 2.02 114 Pn Pn 18 45 07.0 -0.1
WMOK Wichita Mounta 2.11 196 Pn Pn 18 45 09.4 +1.0

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*IDC **11** 19:00:35.0±0.8, 35°.12N×140°.19E, h0km, mb3.8/12, mbtmp3.8/16, ML3.1/4, MS3.7/7, Error ellipse: s-maj=21.4km s-min=14.1km az=80.0*
*NIED **11** 19:00:38.9, 35°.24N×140°.30E, h8km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=3.01; Mθθ0.74; Mφφ2.28; Mrθ0.27; Mθφ2.33; Mφr=2.28; Fault plane solution: M0=4.25000×10^14^ NP1:φs 12.00000°, δ63.00000°, λ=-117.00000°. NP2:φs=241.00000°, δ38.00000°, λ=-48.00000°.*
*JMA **11** 19:00:38.9±0.1, 35°.2N±0°.4×140°.3E±0°.7, h6km±2km, MV3.7/20, KUJUKURI COAST BOSO PEN*
JMA Felt III J1 at KUJUKURI COAST BOSO PEN .

ISC 11 19:00:37.8±0.8, 35°.16N±0°.04×140°.28E±0°.05, h17km±3km, n50, σ0°93/40, mb3.8/12, MS4.2/5, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.03**	**114**	⇓P	**Pg**	**19 00 40.9**	**+0.1**
KTR				⇓S	**Sg**	**19 00 43.2**	**+0.3**
JKUC	**kamogawauchiur**	**0.06**	**268**	P	**Pg**	**19 00 41.1**	**+0.1**
JKUC				*e*S	**Sg**	**19 00 43.4**	**+0.2**
BSO4	**Boso 4**	**0.18**	**164**	⇓P	**Pb**	**19 00 43.9**	**+1.4**
BSO4				⇓*e*X		19 00 47.5	
JCN	**Nagara**	**0.26**	**347**	P	**Pb**	**19 00 44.0**	**-0.1**
JCN				*e*S	**Sb**	**19 00 48.9**	**+0.6**
TATJ	**Tateyama 2**	**0.34**	**248**	P	**Pn**	**19 00 47.6**	**-0.3**
TATJ				*e*S	**Sn**	**19 00 56.0**	**+1.6**
BSO3	**Boso 3**	**0.41**	**152**	P	**Pn**	**19 00 48.5**	**-0.1**
BSO3				*e*X		19 00 54.0	
BSO1	**Boso 1**	**0.77**	**131**	P	**Pg**	**19 00 52.6**	**0.0**
BSO1				*e*X		19 01 05.2	
JIM2	**Oshima 3**	**0.82**	**238**	P	**Pb**	**19 00 53.5**	**-0.2**
JSG	**Sagara**	**1.79**	**255**	P	**Pn**	**19 01 08.8**	**+1.0**
JHJ	**Hachijo jima 2**	**2.08**	**191**	Pn	**Pn**	**19 01 12.0**	**+0.2**
	67nm,0.3s,baz=310,slow=18,SNR=20						
JHJ				Sn	**Sn**	**19 01 36.1**	**-1.2**
	92nm,0.3s,baz=56,slow=23,SNR=12						
	132nm,0.3s						
JHJ2	**Mitsune**	**2.08**	**191**	P	**Pn**	**19 01 12.4**	**+0.6**
MJAR	**Matsushiro Arr**	**2.17**	**310**	Pn	**Pn**	**19 01 13.2**	**+0.1**
	2.3nm,0.3s,baz=101,slow=15,SNR=73						
MJAR				Sn	**Sn**	**19 01 40.6**	**+1.0**
	2.6nm,0.3s,baz=41,slow=22,SNR=3.8						
	13nm,0.3s						
MAJO	**Matsushiro**	**2.17**	**310**	P	**Pn**	**19 01 13.8**	**+0.6**
JGF	**Kuroka**	**2.43**	**281**	P	**Pn**	**19 01 18.1**	**+1.4**
INU	**Inuyama**	**2.67**	**275**	P	**Pn**	**19 01 22.4**	**+2.4**
JMM	**Marumori**	**2.73**	**9**	P	**Pn**	**19 01 20.8**	**0.0**
JSD	**Sado**	**3.30**	**331**	P	**Pn**	**19 01 28.8**	**+0.2**
JTM	**Tenmabayashi**	**5.65**	**6**	P	**Pn**	**19 02 01.8**	**+0.9**
ERM	**Erimo**	**7.20**	**17**	P	**Pn**	**19 02 22.9**	**+0.7**
JNU	**Nakatsue**	**8.05**	**258**	Pn	**Pn**	**19 02 32.5**	**-1.4**
	0.2nm,0.3s,baz=98,slow=14,SNR=1.0						
	6.1nm,1.0s						
JCJ	**Chichijima**	**8.21**	**168**	P	**Pn**	**19 02 35.5**	**-0.5**
ASAJ	**Asahikawa**	**9.12**	**11**	Pn	**Pn**	**19 02 47.5**	**-1.1**
	0.3nm,0.3s,baz=219,slow=11,SNR=1.1						
	4.8nm,0.9s						
KSRS	**Korea Array**	**10.23**	**287**	LR	LR	19 07 15.0	
	comp=Z,67nm,18.6s,baz=105,slow=39						
JOW	**Kunigami**	**13.22**	**234**	LR	LR	19 07 40.9	
	comp=Z,58nm,19.3s,baz=232,slow=32						
H11N2	**WAKE ISLAND Hy**	**28.07**	**116**	T	T	19 35 38.9	
	baz=309,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.07**	**116**	T	T	19 35 43.1	
	baz=309,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.08**	**116**	T	T	19 35 37.8	
	baz=309,slow=75						
H11S3	**WAKE ISLAND Hy**	**28.70**	**118**	T	T	19 36 26.9	
	baz=312,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.70**	**118**	T	T	19 36 27.2	
	baz=312,slow=75						
H11S2	**WAKE ISLAND Hy**	**28.71**	**118**	T	T	19 36 26.9	
	baz=312,slow=75						
ZALV	**Zalesovo Beam**	**42.52**	**314**	P	**P**	**19 08 32.0**	**0.0**
	1.5nm,0.7s,baz=103,slow=6.7,SNR=5.5						
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**44.36**	**304**	P	**P**	**19 08 46.9**	**-0.1**
	0.8nm,0.6s,baz=89,slow=9.7,SNR=6.0						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**46.45**	**309**	P	**P**	**19 09 03.1**	**-0.4**
	2.5nm,0.4s,baz=86,slow=7.7,SNR=26						
	2.5nm,0.4s						
BVAR	**Borovoye Array**	**51.17**	**313**	P	**P**	**19 09 39.6**	**-0.1**
	0.3nm,0.4s,baz=78,slow=9.3,SNR=4.4						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**51.57**	**32**	P	**P**	**19 09 44.2**	**+1.7**
	0.7nm,0.9s,baz=275,slow=6.7,SNR=6.5						
	0.7nm,0.9s						
WRA	**Warramunga Arr**	**55.09**	**187**	P	**P**	**19 10 08.0**	**-0.9**
	1.3nm,0.6s,baz=2.4,slow=7.6,SNR=14						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**58.82**	**187**	P	**P**	**19 10 34.7**	**-0.6**
	0.3nm,0.6s,baz=15,slow=14,SNR=8.2						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**70.04**	**332**	P	**P**	**19 11 47.2**	**-1.0**
	2.3nm,0.8s,baz=66,slow=4.8,SNR=5.2						
	2.3nm,0.8s						
KBZ	**Khabaz**	**71.42**	**311**	LR	LR	19 46 43.2	
	comp=Z,118nm,19.6s,baz=120,slow=39						
KVAR	**Kislovodsk Arr**	**71.43**	**311**	LR	LR	19 45 25.0	
	comp=Z,92nm,21.4s,baz=86,slow=38						
GNI	**Garni**	**72.08**	**307**	LR	LR	19 44 36.7	
	comp=Z,118nm,21.4s,baz=102,slow=37						
AKASG	**Malin Array Be**	**75.21**	**322**	P	**P**	**19 12 18.0**	**-1.2**
	0.4nm,0.4s,baz=55,slow=5.5,SNR=2.6						
	0.4nm,0.4s						
NOA	**NORSAR Array B**	**75.55**	**337**	P	**P**	**19 12 20.4**	**-0.6**
	0.5nm,0.6s,baz=40,slow=5.9,SNR=2.0						
	0.5nm,0.6s						
NVAR	**Mina Array Bea**	**76.85**	**52**	P	**P**	**19 12 29.2**	**+0.1**
	0.1nm,0.3s,baz=270,slow=7.2,SNR=1.6						
	0.1nm,0.3s						
PDAR	**Pinedale Array**	**79.64**	**45**	P	**P**	**19 12 46.1**	**+1.6**
	0.2nm,0.4s,baz=291,slow=5.7,SNR=2.1						
	0.2nm,0.4s						
IDI	**Anoyia**	**87.57**	**312**	LR	LR	19 54 55.4	
	comp=Z,96nm,21.4s,baz=112,slow=37						
KEST	**Kesra**	**95.94**	**322**	LR	LR	20 03 01.0	
	comp=Z,91nm,18.8s,baz=349,slow=39						
H03N2	**Juan Fernandez**	**147.70**	**98**	T	T	22 05 10.8	
	baz=290,slow=76,SNR=5.7						
H03N3	**Juan Fernandez**	**147.71**	**98**	T	T	22 05 09.3	
	baz=290,slow=76,SNR=6.7						
H03N1	**Juan Fernandez**	**147.72**	**98**	T	T	22 05 08.7	
	baz=290,slow=76,SNR=6.5						

UCR 11 19:08:32.2±0.8, 6°.07N×82°.45W, h35km±440km, MW3.7, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**2.72**	**355**	*e*P	Pn	19 09 14.1	+0.5
DRK0	**Durika**	**3.27**	**346**	*e*P	Pn	19 09 21.8	+0.6
BUS1	**Rivas**	**3.69**	**340**	*e*P	Pn	19 09 27.6	+0.4
ABE2	**San Pablo**	**3.94**	**336**	*e*P	Pn	19 09 31.4	+0.9
LCR2	**La Lucha 2**	**3.96**	**337**	*e*P	Pn	19 09 31.0	+0.3
HDC	**Heredia**	**4.24**	**337**	*e*P	Pn	19 09 35.1	+0.6
JTS	**Las Juntas de**	**4.87**	**330**	*e*P	Pn	19 09 43.3	+0.2

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*IDC **11** 19:26:32.9±0.6, 27°.29N×65°.67E, h0km, mb4.0/26, mbtmp4.1/28, ML4.1/2, MS4.0/34, Error ellipse: s-maj=14.6km s-min=13.3km az=173.0*
*MOS **11** 19:26:34.3±1.8, 27°.26N×65°.85E, h18km, mb4.6/25, Error ellipse: s-maj=7.8km s-min=5.1km az=102.3*
*BJI **11** 19:26:36.0, 27°.40N×65°.90E, h10km, mb4.2/24, mB4.8/8, Ms4.3/22, Ms7 4.1/20*
*NEIC **11** 19:26:37.1±2.0, 27°.41N±0°.09×65°.67E±0°.08, h27km±4km, mb4.5/32, Error ellipse: s-maj=15.0km s-min=8.4km az=147.0*

ISC 11 19:26:34.2±0.4, 27°.26N±0°.05×65°.66E±0°.04, h10km, n259, σ29°39/255, mb4.3/76, MS4.0/39, 33C-17D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**4.48**	**246**	P	**Pn**	**19 27 43.8**	**+1.6**
	SNR=61						
NGCH				S	**Sn**	**19 28 33.1**	**-1.3**
JASL	**Jaisalmer**	**4.69**	**93**	*e*P	**Pn**	**19 27 47.0**	**+1.9**
JASL				*e*S	**Sn**	**19 28 41.5**	**+1.9**
JASK	**Jask - Hormozg**	**7.11**	**260**	P	**Pn**	**19 28 20.9**	**+2.5**
	SNR=14						
JASK				S	**Sn**	**19 29 38.8**	**-0.5**
WSAR	**Wadi Sarin**	**7.51**	**239**	Pn	**Pn**	**19 28 23.4**	**-0.6**
	7.9nm,0.3s,baz=99,slow=6.4,SNR=67						
WSAR				Sn	**Sn**	**19 29 42.1**	**-7.2**
	10nm,0.3s,baz=300,slow=18,SNR=9.1						
WSAR				LR	LR	19 32 02.3	
	comp=Z,467nm,19.8s,baz=88,slow=44						
	15nm,0.3s						
JLN	**Jalan Bani Buh**	**7.62**	**229**	P	**Pn**	**19 28 25.5**	**+0.1**
JLN				S	**Sn**	**19 29 48.2**	**-3.7**
HRA	**Herat**	**7.68**	**338**	Pn	**Pn**	**19 28 24.3**	**-2.1**
BIDO	**Bidbid**	**7.76**	**243**	P	**Pn**	**19 28 28.5**	**+1.3**
BIDO				S	**Sn**	**19 29 49.5**	**-5.8**
KBL	**Kabul**	**7.82**	**21**	Pn	**Pn**	**19 28 25.7**	**-2.5**
KBL	**Kabul**	**7.82**	**21**	P	**Pn**	**19 28 32.2**	**+3.9**
KBL	**Kabul**	**7.82**	**21**	P	**Pn**	**19 28 25.7**	**-2.5**
SMDO	**Samad**	**8.06**	**240**	P	**Pn**	**19 28 31.8**	**+0.3**
	SNR=6.6						
SMDO				S	**Sn**	**19 29 57.9**	**-5.0**
AJM	**Ajmer**	**8.06**	**94**	*e*P	**Pn**	**19 28 34.6**	**+3.1**
AJM				IAML		19 31 07.8	
	comp=N,87nm,3.3s						
AJM				IAML		19 31 15.9	
	comp=N,80nm,1.1s						
HOQ	**Hoqain**	**8.38**	**246**	P	**Pn**	**19 28 36.0**	**+0.1**
	SNR=8.4						
JMDO	**Jabal Madar**	**8.41**	**236**	P	**Pn**	**19 28 38.1**	**+1.8**
	SNR=16						
JMDO				S	**Sn**	**19 30 07.0**	**-4.4**
BANOM	**Banah**	**8.48**	**263**	P	**Pn**	**19 28 36.8**	**-0.4**
BANOM	**Banah**	**8.48**	**263**	P	**Pn**	**19 28 39.4**	**+2.2**
BANOM				S	**Sn**	**19 30 07.8**	**-5.2**
SHME	**Shamm**	**8.60**	**264**	*i* P	**Pn**	**19 28 39.7**	**+0.9**
	SNR=8.9						
SHME	**Shamm**	**8.60**	**264**	P	**Pn**	**19 28 40.4**	**+1.6**
	SNR=19						
SHME				S	**Sn**	**19 30 10.2**	**-5.6**
MDH	**Madha**	**8.62**	**259**	*i* P	**Pn**	**19 28 38.0**	**-1.1**
	SNR=8.1						
MDH	**Madha**	**8.62**	**259**	P	**Pn**	**19 28 39.1**	**0.0**
	SNR=8.2						
MDH				S	**Sn**	**19 30 11.9**	**-4.6**
MASF	**Masafi**	**8.73**	**260**	P	**Pn**	**19 28 41.1**	**+0.5**
MASF				S	**Sn**	**19 30 14.1**	**-4.9**
MSFE	**Esma-Masafi**	**8.73**	**260**	P	**Pn**	**19 28 40.0**	**-0.6**
SOHO	**SOHO**	**8.80**	**251**	P	**Pn**	**19 28 40.4**	**-1.1**
SOHO	**SOHO**	**8.80**	**251**	P	**Pn**	**19 28 41.9**	**+0.4**
SOHO				S	**Sn**	**19 30 13.9**	**-6.9**
UOSS	**Minazif**	**8.80**	**257**	P	**Pn**	**19 28 41.3**	**-0.3**
UOSS	**Minazif**	**8.80**	**257**	P	**Pn**	**19 28 40.7**	**-0.9**
UOSS	**Minazif**	**8.80**	**257**	P	**Pn**	**19 28 41.5**	**-0.1**
UOSS				S	**Sn**	**19 30 16.0**	**-4.9**
BSY	**Bisya**	**8.89**	**241**	P	**Pn**	**19 28 44.2**	**+1.3**
	SNR=19						
BSY				S	**Sn**	**19 30 18.5**	**-4.6**
HATD	**Hatta, Dubai**	**8.90**	**256**	P	**Pn**	**19 28 41.1**	**-1.9**
HATD	**Hatta, Dubai**	**8.90**	**256**	P	**Pn**	**19 28 45.0**	**+2.0**
HATD				S	**Sn**	**19 30 21.0**	**-2.3**
ASHO	**Ashiyiah**	**9.01**	**256**	*i* P	**Pn**	**19 28 44.6**	**+0.1**
	SNR=38						
ASHO	**Ashiyiah**	**9.01**	**256**	P	**Pn**	**19 28 45.0**	**+0.5**
	SNR=35						
ASHO				S	**Sn**	**19 30 22.6**	**-3.4**
UMQ	**Umm Al-Quwin**	**9.13**	**261**	P	**Pn**	**19 28 49.4**	**+3.4**
NIL	**Nilore**	**9.13**	**44**	Pn	**Pn**	**19 28 45.7**	**-0.4**
NIL	**Nilore**	**9.13**	**44**	P	**Pn**	**19 28 45.7**	**-0.4**
ARQ	**Araqi**	**9.14**	**247**	P	**Pn**	**19 28 49.1**	**+2.8**
	SNR=22						
ARQ				S	**Sn**	**19 30 26.7**	**-2.5**
NAZ	**Nazwa, Dubai**	**9.26**	**258**	P	**Pn**	**19 28 51.0**	**+3.1**
	SNR=5.9						
FAQ	**Al Faqa, Dubai**	**9.39**	**257**	P	**Pn**	**19 28 51.7**	**+2.0**
FAQ	**Al Faqa, Dubai**	**9.39**	**257**	P	**Pn**	**19 28 52.7**	**+3.0**
MHTO	**MHTO**	**9.40**	**230**	P	**Pn**	**19 28 50.7**	**+1.0**
	SNR=13						
MHTO				S	**Sn**	**19 30 31.5**	**-4.0**
ALNE	**Al Ain**	**9.49**	**253**	*i* P	**Pn**	**19 28 53.0**	**+2.0**
	SNR=8.7						
ALNE	**Al Ain**	**9.49**	**253**	P	**Pn**	**19 28 53.3**	**+2.3**
	SNR=9.2						
ALNE				S	**Sn**	**19 30 34.2**	**-3.6**
KUDL	**Kundal**	**9.64**	**82**	*e*S	**Sn**	**19 30 35.9**	**-5.6**
KUDL				IAML		19 30 43.4	
	comp=E,36nm,0.4s						
ASUD	**Al Ashush, Dub**	**9.66**	**257**	*i* P	**Pn**	**19 28 53.9**	**+0.6**
	SNR=8.5						
ASUD	**Al Ashush, Dub**	**9.66**	**257**	P	**Pn**	**19 28 56.1**	**+2.8**
	SNR=8.5						
ASUD				S	**Sn**	**19 30 39.4**	**-2.5**
AJN	**Ajban**	**9.97**	**257**	P	**Pn**	**19 28 59.9**	**+2.3**
BHK	**Bhakra**	**10.26**	**64**	*e*P	**Pn**	**19 29 01.6**	**0.0**
BHK				*e*S	**Sn**	**19 30 51.6**	**-5.1**
BHK				IAML		19 30 56.2	
	comp=N,86nm,0.6s						
NDI	**New Delhi**	**10.32**	**79**	*e*P	**Pn**	**19 29 06.6**	**+4.3**
NDI				*e*S	**Sn**	**19 30 52.4**	**-5.7**
DQM	**DQM**	**10.42**	**227**	P	**Pn**	**19 29 04.3**	**+0.5**
DQM				S	**Sn**	**19 30 54.9**	**-5.8**
DHRM	**DHARAMSHALA**	**10.50**	**59**	*e*P	**Pn**	**19 29 05.0**	**0.0**
DHRM				*e*S	**Sn**	**19 30 58.6**	**-4.2**
DHRM				IAML		19 31 06.6	
	comp=E,313nm,0.5s						
DHRM				IAML		19 31 09.9	
	comp=E,276nm,0.5s						
UMZA	**Um Al Zommool**	**10.54**	**247**	P	**Pn**	**19 29 07.0**	**+1.6**
SMLA	**Simla**	**10.77**	**66**	*e*P	**Pn**	**19 29 08.6**	**+0.1**
SMLA				*e*S	**Sn**	**19 31 02.5**	**-6.6**
SMLA				IAML		19 31 11.4	
	comp=E,112nm,0.5s						
SMLA				IAML		19 31 13.1	
	comp=E,122nm,0.1s						
BHPL	**Bhopal**	**11.38**	**108**	*e*P	**Pn**	**19 29 17.4**	**+0.5**
JHNI	**Jhansi**	**11.69**	**96**	*e*x	x	19 29 36.4	
JHNI				*e*S	**Sn**	**19 31 26.7**	**-5.1**
SIMJ	**Simiganj**	**11.71**	**13**	Pn	**Pn**	**19 29 19.7**	**-1.8**
GAR	**Garm**	**12.34**	**17**	Pn	**Pn**	**19 29 28.4**	**-1.7**
BTK	**Batken**	**13.46**	**17**	P	**Pn**	**19 29 46.1**	**+0.7**
SAKB	**Bahrain**	**13.59**	**268**	P	**Pn**	**19 29 48.4**	**+1.3**
DOK	**Doka**	**13.66**	**233**	P	**Pn**	**19 29 50.3**	**+2.3**
	SNR=9.2						
DMTO	**DMTO**	**13.71**	**228**	P	**Pn**	**19 29 51.4**	**+2.6**
	SNR=6.7						
WHFO	**Wadi Hawf**	**14.38**	**232**	P	**Pn**	**19 29 59.3**	**+1.3**
KSH	**Kashi**	**14.94**	**33**	P	Pn	19 29 58.9	-6.7
KSH				sP	P	19 30 07.4	-3.8
KSH				PP	**PnPn**	**19 30 13.0**	**-0.7**
KSH				pmax	pmax		
	comp=E,21nm,0.7s						
KSH				LR	LR		
	comp=E,1μm,15.8s						
KSH				LR	LR		
	comp=E,1μm,12.4s						
KSH				LR	LR		
	comp=E,1μm,17.9s						
ABTO	**Aybut**	**15.09**	**232**	P	**Pn**	**19 30 07.7**	**0.0**
ARSB	**Arslanbob**	**15.27**	**21**	Pn	**Pn**	**19 30 04.9**	**-5.1**
ARSB	**Arslanbob**	**15.27**	**21**	P	**Pn**	**19 30 04.9**	**-5.1**
ARSB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KBD	**Kabd**	**15.95**	**281**	P	**Pn**	**19 30 20.0**	**+1.2**
ARLS	**Aral**	**16.20**	**24**	P	**P**	**19 30 25.4**	**+0.1**
KKAR	**Karatay Array**	**16.29**	**13**	P	**P**	**19 30 25.3**	**-0.8**
NRN	**Naryn**	**16.50**	**28**	P	**P**	**19 30 27.6**	**-1.1**
NRN	**Naryn**	**16.50**	**28**	P	**P**	**19 30 27.6**	**-1.1**
NRN				pmax	pmax		
	comp=Z,18nm,1.2s						
AAK	**Ala-Archa**	**16.95**	**23**		**Pn**	**19 30 29.8**	**-1.9**
AAK	**Ala-Archa**	**16.95**	**23**	*i* P	**Pn**	**19 30 29.7**	**-1.9**
	SNR=7.4						
AAK	**Ala-Archa**	**16.95**	**23**	Pn	**Pn**	**19 30 29.7**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=214,slow=7.7,SNR=12						
AAK				Sn	Sn	19 33 26.6	-13
	baz=358,slow=20						
AAK				LR	LR	19 38 52.7	
	comp=Z,475nm,21.7s,baz=212,slow=44						
	comp=Z,5.5nm,0.9s						
RAYN	**Ar Rayn**	**18.58**	**263**	P	**P**	**19 30 50.5**	**-1.1**
RAYN	**Ar Rayn**	**18.58**	**263**	*i* P	**P**	**19 30 49.6**	**-2.0**
	SNR=6.4						
RAYN	**Ar Rayn**	**18.58**	**263**	P	**P**	**19 30 49.5**	**-2.0**
RAYN	**Ar Rayn**	**18.58**	**263**	P	**P**	**19 30 50.5**	**-1.1**
RAYN				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MAK	**Makhachkala**	**21.51**	**321**	*e*P	**P**	**19 31 22.2**	**-1.0**
MAK				*e*S	**S**	**19 35 20.8**	**-0.9**
MAK				pmax	pmax		
	comp=Z,349nm,1.8s						
MAK				MLR	MLR		
	comp=Z,168nm,16.0s						
GNI	**Garni**	**21.57**	**312**	P	**P**	**19 31 23.6**	**-0.5**
GNI				IAmb	IAmb	19 31 56.3	
	comp=Z,26nm,1.0s						
GNI	**Garni**	**21.57**	**312**	P	**P**	**19 31 24.1**	**0.0**
	comp=Z,16nm,1.0s,baz=116,slow=1.9,SNR=6.2						
	comp=Z,16nm,1.0s						
GNI	**Garni**	**21.57**	**312**	P	**P**	**19 31 26.0**	**+1.9**
GNI	**Garni**	**21.57**	**312**	*c i* P	**P**	**19 31 26.4**	**+2.3**
GNI				pmax	pmax		
	comp=Z,19nm,1.0s						
GNI	**Garni**	**21.57**	**312**	P	**P**	**19 31 26.3**	**+2.2**
	comp=Z,30nm,1.1s						
ABKAR	**Akbulak array**	**22.40**	**350**	P	**P**	**19 31 31.5**	**-1.2**
ABKAR				IAmb	IAmb	19 31 40.8	
	comp=Z,23nm,0.9s						
LSA	**Lhasa**	**22.53**	**78**	P	**P**	**19 31 39.5**	**+4.7**
LSA				LR	LR		
	comp=Z,730nm,18.2s						
LSA				LR	LR		
	comp=Z,330nm,12.7s						
MAKZ	**Makanchi**	**23.37**	**29**	P	**P**	**19 31 39.1**	**-3.8**
MAKZ				IAmb	IAmb	19 31 43.5	
	comp=Z,24nm,1.1s						
MAKZ	**Makanchi**	**23.37**	**29**	P	**P**	**19 31 39.1**	**-3.8**
MAKZ				pmax	pmax		
	comp=Z,24nm,1.2s						
MK31	**Makanchi Array**	**23.50**	**30**	P	**P**	**19 31 43.7**	**-0.5**
MK31				IAmb	IAmb	19 31 50.6	
	comp=Z,7.6nm,0.7s						
MK31	**Makanchi Array**	**23.50**	**30**	P	**P**	**19 31 43.7**	**-0.5**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MKAR	**Makanchi Array**	**23.50**	**30**	P	**P**	**19 31 42.6**	**-1.6**
	comp=Z,3.9nm,0.6s,baz=211,slow=8.7,SNR=23						
MKAR				LR	LR	19 42 54.3	
	comp=Z,671nm,19.4s,baz=168,slow=42						
	comp=Z,3.9nm,0.6s						
AKTO	**Aktyubinsk**	**23.87**	**348**	P	**P**	**19 31 47.5**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=159,slow=9.6,SNR=6.4						
AKTO				LR	LR	19 41 59.4	
	comp=Z,236nm,20.2s,baz=170,slow=39						
	comp=Z,2.6nm,0.8s						
NCK	**Nalchik**	**24.09**	**318**	⇓*e*P	**P**	**19 31 54.0**	**+4.0**
NCK				pmax	pmax		
	comp=Z,24nm,1.2s						
KBZ	**Khabaz**	**24.64**	**318**	P	**P**	**19 31 55.0**	**+0.1**
	comp=Z,10.0nm,0.9s,baz=163,slow=7.5,SNR=14						
	comp=Z,10.0nm,0.9s						
KBZ	**Khabaz**	**24.64**	**318**	⇓*e*P	**P**	**19 31 56.1**	**+1.2**
KBZ				pmax	pmax		
	comp=Z,11nm,1.0s						
SHA1	**

BRVK Borovoye 26.00 6 *c iP* **P 19 32 08.7 +1.6**
BRVK pmax pmax
comp=Z,23nm,1.1s
VSLR Vesyoloye 26.27 315⇑ *eP* **P 19 32 14.0 +4.3**
VSLR pmax pmax
comp=Z,31nm,0.9s
GOMU GeErMu 26.27 63 P **P 19 32 11.4 +1.2**
GOMU pP sP 19 32 20.1 +5.0
GOMU pmax pmax
comp=Z,6.0nm,0.8s
GOMU LR LR
comp=Z,2μm,18.4s
GOMU LR LR
comp=Z,370nm,16.4s
GOMU LR LR
comp=Z,690nm,19.4s
ATD Arta Tunnel 26.53 238 LR LR 19 44 29.0
comp=Z,5.6nm,18.1s,baz=11,slow=40
MMAI Mount Meron Ar 26.73 290 LR LR 19 46 15.9
comp=Z,611nm,18.8s,baz=46,slow=44
EIL Elat 27.06 282 LR LR 19 45 47.7
comp=Z,644nm,18.3s,baz=71,slow=43
BELG Belogornoye 28.51 337 LR LR 19 46 45.0
comp=Z,293nm,18.4s,baz=137,slow=43
BRTR Keskin Array B 29.29 303 P **P 19 32 35.6 -1.4**
BRTR Keskin Array B 29.29 303 P **P 19 32 37.1 +0.2**
comp=Z,0.5nm,0.9s,baz=96,slow=8.9,SNR=2.1
comp=Z,0.5nm,0.9s
TNCH TengChong 29.54 87 P **P 19 32 39.8 +0.4**
TNCH pmax pmax
comp=Z,5.0nm,2.9s
TNCH pmax pmax
comp=Z,43nm,4.2s
TNCH LR LR
comp=Z,250nm,13.9s
TNCH LR LR
comp=Z,140nm,9.1s
TNCH LR LR
comp=Z,130nm,9.8s
ARTI Arti 29.57 352 LR LR 19 45 48.1
comp=Z,435nm,18.2s,baz=170,slow=39
ZALV Zalesovo Beam 30.17 23 P **P 19 32 43.9 -0.5**
comp=Z,2.4nm,0.7s,baz=234,slow=10,SNR=12
ZALV LR LR 19 45 57.7
comp=Z,224nm,20.2s,baz=216,slow=39
comp=Z,2.4nm,0.7s
ZALV Zalesovo Beam 30.17 23 *i* P **P 19 32 43.9 -0.5**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
GTA Gaotai 30.82 58 P **P 19 32 52.3 +1.8**
GTA pP sP 19 32 57.7 +2.3
GTA pmax pmax
comp=Z,2.0nm,1.1s
GTA LR LR
comp=Z,310nm,12.7s
GTA LR LR
comp=Z,250nm,15.9s
GTA LR LR
comp=Z,310nm,19.5s
ISP Isparta 31.27 299⇓ *iP* **P 19 32 57.4 +3.0**
ISP pmax pmax
comp=Z,7.0nm,0.8s
FURI Furi 31.36 239 LR LR 19 46 46.2
comp=Z,116nm,19.6s,baz=42,slow=39
CHTO Chiang Mai 31.69 98 P **P 19 32 57.8 -0.4**
CHTO Chiang Mai 31.69 98 P **P 19 32 57.8 -0.4**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 31.82 99 P **P 19 32 59.1 -0.2**
comp=Z,0.7nm,0.6s,baz=284,slow=10,SNR=7.5
CMAR LR LR 19 48 12.9
comp=Z,156nm,18.9s,baz=270,slow=41
comp=Z,0.7nm,0.6s
CMAR Chiang Mai Arr 31.82 99 *ce* P **P 19 33 00.7 +1.4**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
KHAM Kharkiv 31.95 323 P **P 19 33 00.0 -0.2**
MSEY Mahe Island 33.24 199 P **P 19 33 11.8 +0.1**
MSEY lAmb lAmb 19 33 39.8
comp=Z,9.7nm,1.1s
MSEY Mahe Island 33.24 199 P **P 19 33 11.8 +0.1**
MSEY pmax pmax
comp=Z,10.0nm,1.1s
KIRV Kirov 33.30 345 LR LR 19 48 26.4
comp=Z,481nm,19.2s,baz=152,slow=40
TLCR 34.31 311⇑ P P 19 33 31.0 +10
TLCR 34.31 311⇑ P P 19 33 31.0 +10
OBN Obninsk 34.93 331 *eP* **P 19 33 28.1 +2.1**
OBN *e* 19 34 42.6
OBN *e* 19 35 59.9
OBN pmax pmax
comp=Z,5.0nm,1.0s
GHRR 35.53 312 P **P 19 33 33.2 +1.9**
SORM Soroca 35.65 316⇓ P P 19 33 37.2 +4.9
SORM Soroca 35.65 316⇓ P P 19 33 37.2 +4.9
VRI Vrincioaia 35.92 312⇑ P P 19 33 47.5 +13
VRI Vrincioaia 35.92 312⇑ P P 19 33 47.5 +13
PLOR Plostina 35.97 311⇓ P **P 19 33 38.0 +2.9**
PLOR Plostina 35.97 311⇓ P **P 19 33 38.0 +2.9**
NEHR Nehoiu 36.08 311⇑ P **P 19 33 39.8 +3.7**
AK06 Malin Array Si 36.15 320 P **P 19 33 35.7 -0.9**
AK05 Malin Array Si 36.16 320 P **P 19 33 35.8 -0.9**
TESR Tescani 36.17 313⇑ P **P 19 33 39.5 +2.7**
AKASG Malin Array Be 36.19 320 P **P 19 33 35.5 -1.4**
comp=Z,0.5nm,0.4s,baz=115,slow=7.2,SNR=9.7
AKASG LR LR 19 51 10.2
comp=Z,102nm,18.5s,baz=106,slow=41
comp=Z,0.5nm,0.4s
AKASG Malin Array Be 36.19 320 *ce* P **P 19 33 38.9 +2.0**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 36.19 320 P **P 19 33 35.0 -1.8**
AKBB Malin Array Si 36.19 320⇑ *eP* **P 19 33 40.4 +3.5**
AKBB pmax pmax
comp=Z,13nm,1.6s
KIEV Kiev 36.19 320 P **P 19 33 34.6 -2.3**
KIEV lAmb lAmb 19 33 41.5
comp=Z,14nm,1.4s
KIEV Kiev 36.19 320⇑ P **P 19 33 40.0 +3.1**
KIEV Kiev 36.19 320 P **P 19 33 34.6 -2.3**
KIEV pmax pmax
comp=Z,14nm,1.4s
AK12 Malin Array Si 36.20 320 P **P 19 33 37.0 0.0**
AK16 Malin Array Si 36.24 320 P **P 19 33 37.0 -0.3**
COVR Voineasa-Covas 36.27 311⇓ P **P 19 33 37.9 +0.2**
ONER Baraj Valea Uz 36.28 312⇓ P **P 19 33 40.3 +2.5**
MLR Muntele Rosu 36.34 311⇑ P **P 19 33 42.6 +4.2**
MLR Muntele Rosu 36.34 311⇑ P **P 19 33 42.6 +4.2**
TURR Turia 36.45 312⇑ P **P 19 33 40.0 +0.7**
DOPR Dopca 36.84 311⇑ P **P 19 33 43.1 +0.5**
VOIR 36.93 310⇑ P **P 19 33 42.9 -0.5**
VOIR 36.93 310⇑ P **P 19 33 42.9 -0.5**
VOIR 36.93 310 P **P 19 33 43.6 +0.2**
ARR Arges 37.19 310⇑ P **P 19 33 47.7 +2.0**
BURAR Bucovina Array 37.45 314⇑ P **P 19 33 47.5 -0.3**
BURAR Bucovina Array 37.45 314⇑ P **P 19 33 47.5 -0.3**
BUR08 Bucovina Ar. S 37.47 314 lAmb lAmb 19 34 16.6
comp=Z,14nm,1.5s
SONM Songino Array 37.71 46 P **P 19 33 50.8 +0.7**
comp=Z,1.1nm,0.6s,baz=252,slow=8.9,SNR=8.4
SONM LR LR 19 50 59.3
comp=Z,186nm,18.2s,baz=230,slow=39
comp=Z,1.1nm,0.6s
AGG Agios Georgios 37.80 299 P **P 19 33 50.5 -0.3**
AGG lAmb lAmb 19 34 29.1
comp=Z,6.4nm,0.7s
AGG Agios Georgios 37.80 299 P **P 19 33 50.6 -0.3**
AGG pmax pmax
comp=Z,6.0nm,0.7s
KLMR Klimovskoe 37.95 339 *eP* P 19 33 57.1 +5.4
KLMR pmax pmax
comp=Z,23nm,1.8s
ULN Ulaanbaatar 38.14 46 P **P 19 33 52.4 -1.4**
ULN Ulaanbaatar 38.14 46⇑ *eP* **P 19 33 54.0 +0.3**
ULN pmax pmax
comp=Z,4.0nm,1.6s
GZR Gura Zlata 38.47 310⇓ P P 19 34 03.1 +6.7
GZR Gura Zlata 38.47 310⇓ P P 19 34 03.1 +6.7
MORS Morshin 38.77 316 P **P 19 33 58.7 -0.1**
DRGR 38.85 312⇓ P **P 19 34 02.0 +2.4**
DRGR 38.85 312⇓ P **P 19 34 02.0 +2.4**
BOVS Bovan 38.87 307⇓ P P 19 33 54.1 -5.6
MDVR Moldovita 39.08 308⇑ P **P 19 34 00.6 -0.8**
KMBO Kilima Mbogo 39.29 229 P **P 19 34 04.9 +1.1**
comp=Z,1.0nm,0.8s,baz=43,slow=16,SNR=4.2
KMBO LR LR 19 51 05.8
comp=Z,92nm,20.5s,baz=88,slow=38
comp=Z,1.0nm,0.8s
KMBO Kilima Mbogo 39.29 229 *i* P **P 19 34 07.1 +3.3**
KMBO pmax pmax
comp=Z,1.0nm,0.7s
BZS Buzias 39.31 310⇑ P **P 19 34 05.8 +2.4**
BZS Buzias 39.31 310⇑ P **P 19 34 05.8 +2.4**
NACGM Naroch 39.45 325 *eP* P 19 33 52.6 -12
comp=Z,23nm,0.9s,baz=118
KWP Kalwaria Pacla 39.66 316 P **P 19 34 06.3 +0.1**
KWP lAmb lAmb 19 34 12.8
comp=Z,12nm,1.1s
KWP Kalwaria Pacla 39.66 316 P **P 19 34 06.4 +0.1**
KWP pmax pmax
comp=Z,12nm,1.1s
KOLS Kolonicke sedl 39.72 315 *eP* **P 19 34 07.9 +1.1**
KOLS pmax pmax
comp=Z,3.0nm,0.6s
KOLS Kolonicke sedl 39.72 315 *eP* **P 19 34 07.8 +1.0**
KOLS *e* 20 02 05.4
PDG Podgorica 40.47 304⇑ P P 19 34 17.9 +4.9
STHS Stebnicka Huta 40.51 315 *eP* **P 19 34 14.2 +0.9**
STHS pmax pmax
comp=Z,6.0nm,0.9s
STHS Stebnicka Huta 40.51 315 *eP* **P 19 34 14.2 +0.9**
STHS *e* 20 02 04.3
MORH Mrgy, Hungar 41.47 310⇑ P **P 19 34 21.8 +0.5**
VYHS Vyhne 41.81 313 *eP* **P 19 34 27.9 +3.9**
VYHS pmax pmax
comp=Z,6.0nm,1.3s
VYHS Vyhne 41.81 313 *eP* **P 19 34 27.9 +3.9**
SRO Srobarova 42.00 312 *eP* **P 19 34 29.1 +3.6**
SRO pmax pmax
comp=Z,13nm,0.9s
SRO Srobarova 42.00 312 *eP* **P 19 34 29.1 +3.6**
WHN Wuhan 42.50 74 P **P 19 34 32.0 +2.2**
MODS Modra-Piesok 42.79 313 *eP* **P 19 34 35.3 +3.2**
MODS Modra-Piesok 42.79 313 *eP* **P 19 34 35.3 +3.2**
CUC Castrocucco 42.88 300 P **P 19 34 32.8 -0.2**
MORC Moravsky Berou 42.93 315 *eP* **P 19 34 35.9 +2.7**
MORC Moravsky Berou 42.93 315⇑ P **P 19 34 33.5 +0.3**
MORC Moravsky Berou 42.93 315⇑ P **P 19 34 33.5 +0.3**
FINES FINESS Array B 43.18 333 P **P 19 34 36.3 +1.4**
comp=Z,2.8nm,0.8s,baz=144,slow=10,SNR=6.0
FINES LR LR 19 55 31.3
comp=Z,224nm,18.1s,baz=64,slow=40
comp=Z,2.8nm,0.8s
FINES FINESS Array B 43.18 333 *i* P **P 19 34 39.4 +4.5**
FINES pmax pmax
comp=Z,3.0nm,0.8s
RONA Rosalia, Austr 43.31 312 *eP* **P 19 34 37.7 +1.4**
comp=Z,3.4nm,1.0s
VRAC Vranov 43.43 314 *eP* **P 19 34 38.3 +1.1**
KRUC Moravsky 43.51 314 *eP* **P 19 34 40.0 +2.2**
CONA Conrad Observa 43.64 312 *eP* **P 19 34 39.3 +0.3**
comp=Z,4.0nm,1.8s
ARSA Arzberg 43.76 311 *eP* **P 19 34 40.6 +0.7**
comp=Z,2.8nm,1.2s
VAE Valguarnera 44.00 297 LR LR 19 54 40.1
comp=Z,82nm,19.9s,baz=129,slow=38
NRIK Noril'sk 44.02 11 P **P 19 34 41.7 +0.1**
comp=Z,0.7nm,0.3s,baz=211,slow=5.9,SNR=1.5
NRIK LR LR 19 55 56.6
comp=Z,145nm,18.5s,baz=174,slow=40
comp=Z,0.7nm,0.3s
NRIK Noril'sk 44.02 11⇑ *eP* **P 19 34 42.3 +0.7**
NRIK pmax pmax
comp=Z,23nm,3.3s
OBKA Obir 44.31 310 *eP* **P 19 34 45.9 +1.5**
comp=Z,4.0nm,1.0s
MOA Molln 44.69 312 *eP* **P 19 34 48.6 +1.3**
comp=Z,1.4nm,0.7s
BIOA Bad Ischl, Aus 45.09 311 *eP* **P 19 34 50.4 -0.1**
comp=Z,3.1nm,0.7s
KBA Koelnbreinsper 45.21 310 *eP* **P 19 34 51.7 +0.1**
comp=Z,1.8nm,0.6s
GERES GERESS Array B 45.21 313 P **P 19 34 51.8 +0.2**
comp=Z,2.1nm,0.9s,baz=72,slow=4.3,SNR=6.6
comp=Z,2.1nm,0.9s
BRG Berggiesshubel 45.41 316 Amp 19 35 02.4
comp=Z,4.3nm,1.1s
BRG Berggiesshubel 45.41 316 *eP* **P 19 34 54.2 +1.2**
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG Berggiesshubel 45.41 316 *eP* **P 19 34 54.2 +1.2**
LESA Schwarzleotal 45.70 311 *eP* **P 19 34 54.7 -0.7**
comp=Z,4.2nm,0.6s
ABTA Abfaltersbach 45.74 310 *eP* **P 19 34 55.4 -0.4**
comp=Z,3.0nm,0.8s
CLL Collm 46.08 316 *i* P **P 19 35 02.3 +4.0**
CLL pmax pmax
comp=Z,17nm,1.6s
CLL Collm 46.08 316 *i* pP **P 19 35 02.3 +4.0**
comp=Z,17nm,1.6s
CLL AMS AMS 19 57 00.0
comp=N,200nm,18.8s
CLL AMS AMS 19 57 00.0
comp=E,200nm,21.1s
CLL AMS AMS 19 57 00.0
comp=Z,100nm,20.4s
WTTA Wattenberg 46.38 310 *eP* **P 19 34 59.4 -1.6**
comp=Z,3.4nm,0.6s
SQTA Sankt Quirin 46.67 310 *eP* **P 19 35 01.8 -1.4**
comp=Z,2.8nm,0.7s
MOTA Moosalm 46.75 310 *eP* **P 19 35 02.7 -1.1**
comp=Z,3.1nm,0.5s
FETA Feichten 46.98 310 *eP* **P 19 35 05.9 +0.3**
comp=Z,3.9nm,1.0s
RETA Reutte 47.00 311 *eP* **P 19 35 04.3 -1.3**
comp=Z,2.5nm,0.8s
DAVA Damuels 47.58 310 *eP* **P 19 35 09.4 -0.9**
comp=Z,12nm,0.9s
TUE Stuetta 47.89 309 P **P 19 35 12.2 -0.6**
TUE lAmb lAmb 19 35 31.7
comp=Z,4.5nm,0.8s
HFS Hagfors 48.01 328 P **P 19 35 13.5 +0.3**
comp=Z,1.8nm,0.7s,baz=96,slow=13,SNR=1.4
HFS LR LR 19 56 35.2
comp=Z,208nm,19.7s,baz=103,slow=38
comp=Z,1.8nm,0.7s
ARCES ARCESS Array B 48.25 342 P **P 19 35 14.9 0.0**
comp=Z,2.3nm,0.8s,baz=133,slow=7.1,SNR=6.6
ARCES LR LR 19 57 39.0
comp=Z,283nm,18.5s,baz=128,slow=39
comp=Z,2.3nm,0.8s
ARCES ARCESS Array B 48.25 342 P **P 19 35 14.2 -0.8**
ARCES pmax pmax
comp=Z,21nm,1.5s
NOA NORSAR Array B 49.46 329 P **P 19 35 23.8 -0.6**
comp=Z,0.9nm,0.7s,baz=114,slow=7.3,SNR=2.5
comp=Z,0.9nm,0.7s
CN2 Changchun 50.32 54 *eP* P 19 35 26.3 -4.8
BNX BinXian 51.66 52⇓ P **P 19 35 41.0 -0.2**
BNX pmax pmax
comp=Z,3.0nm,1.5s
KSRS Korea Array 52.73 62 P **P 19 35 50.1 +0.9**
comp=Z,2.8nm,0.6s,baz=270,slow=7.7,SNR=10
KSRS LR LR 20 00 38.4
comp=Z,121nm,18.2s,baz=275,slow=39
comp=Z,2.8nm,0.6s
YAK Yakutsk 54.15 32 LR LR 20 01 34.9
comp=Z,229nm,20.5s,baz=250,slow=39
TIXI Tiksi 56.00 20 LR LR 20 04 05.4
comp=Z,161nm,18.9s,baz=222,slow=40
TIXI Tiksi 56.00 20⇓ *eP* **P 19 36 14.4 +1.9**
TIXI pmax pmax
comp=Z,9.0nm,2.5s
EKA Eskdalemuir Ar 56.10 320 P **P 19 36 13.3 -0.2**
comp=Z,0.4nm,0.4s,baz=98,slow=7.1,SNR=1.8
comp=Z,0.4nm,0.4s
JMIC Jan Mayen 59.33 338 LR LR 20 03 54.6
comp=Z,108nm,18.1s,baz=35,slow=38
MDT Midelt 60.07 294 LR LR 20 08 52.0
comp=Z,132nm,18.3s,baz=92,slow=42
TORD Torodi Ar. Bea 61.08 270 P **P 19 36 49.4 +0.6**
comp=Z,2.5nm,0.8s,baz=49,slow=7.4,SNR=19
TORD LR LR 20 06 33.1
comp=Z,155nm,19.5s,baz=68,slow=39
comp=Z,2.5nm,0.8s
YSS Yuzh-Sakhalins 62.09 49⇓ *eP* **P 19 36 52.2 -3.0**
YSS pmax pmax
comp=Z,43nm,1.5s
BORG Borgarnes 64.42 332 LR LR 20 07 53.8
comp=Z,160nm,19.6s,baz=80,slow=38
MA2 Magadan 64.48 34 LR LR 20 07 06.7
comp=Z,178nm,18.1s,baz=302,slow=38
LBTB Lobatse 64.75 220 LR LR 20 05 23.2
comp=Z,73nm,18.8s,baz=28,slow=36
BOSA Boshof 67.73 218 P **P 19 37 32.5 +0.3**
comp=Z,1.7nm,0.6s,baz=55,slow=6.8,SNR=5.2
BOSA LR LR 20 06 45.1
comp=Z,56nm,19.9s,baz=19,slow=36
comp=Z,1.7nm,0.6s
DBIC Dimbokro 69.66 267 LR LR 20 11 24.3
comp=Z,118nm,19.6s,baz=46,slow=39
D24K Happy Valley 80.63 12 P **P 19 38 44.2 -2.6**
WRA Warramunga Arr 81.38 118 P **P 19 38 51.2 -0.3**
comp=Z,1.0nm,1.0s,baz=321,slow=4.8,SNR=10
comp=Z,1.0nm,1.0s
E28M Babbage River 82.63 9 P **P 19 38 55.3 -2.1**
ASAR Alice Springs 83.07 121 P **P 19 39 00.8 +0.4**
comp=Z,0.7nm,0.8s,baz=314,slow=5.0,SNR=6.7
comp=Z,0.7nm,0.8s
ILAR Eielson Array 84.83 13 P **P 19 39 09.5 +0.8**
comp=Z,0.4nm,0.9s,baz=341,slow=5.2,SNR=2.8
comp=Z,0.4nm,0.9s
BBB Bella Bella 99.98 9 LR LR 20 29 48.7
comp=Z,74nm,19.4s,baz=224,slow=38

ROM 11 19:33:11.4±0.1, 44°.041N±0°.003×11°.629E±0°.004, h6km±1km, ML1.0/2, Error ellipse: s-maj=0.3km s-min=0.2km az=145.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD	**Lutirano**	**0.07**	**57**	P	Pg	19 33 13.3	+0.2
LMD				S	Sg	19 33 14.6	+0.3
LMD				AML	AML		
	comp=N,138μm,0.5s						
LMD				AML	AML		
	comp=E,116μm,0.3s						
BRIS	**BRISIGHELLA**	**0.14**	**322**	P	Pg	19 33 16.4	+2.1
SEI	**Scarperia**	**0.20**	**274**	P	Pg	19 33 15.8	+0.5
SEI				S	Sg	19 33 19.2	+1.3
SEI				AML	AML		
	comp=N,118μm,0.2s						
SEI				AML	AML		
	comp=E,46μm,1.3s						
SFI	**Santa Sofia**	**0.21**	**131**	P	Pg	19 33 16.2	+0.7
SFI				S	Sg	19 33 19.9	+1.6
RUFI	**Rufina**	**0.22**	**203**	P	Pg	19 33 16.4	+0.7
RUFI				S	Sg	19 33 20.4	+1.8
ASQU	**Asqua**	**0.27**	**155**	P	Pg	19 33 17.3	+0.6
ASQU				S	Sb	19 33 21.9	-1.7

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*NEIC **11** 19:42:06.1±1.7, 22°.5S±0°.1×174°.3W±0°.1, h10km±1km, mb5.0/32, Error ellipse: s-maj=23.2km s-min=7.0km az=137.0*
*IDC **11** 19:42:07.9±0.5, 22°.39S×175°.01W, h0km, mb4.4/15, mbtmp4.4/17, ML4.5/3, MS4.3/29, Error ellipse: s-maj=21.1km s-min=16.3km az=113.0*
*GCMT **11** 19:42:12.1±0.2, 22°.56S±0°.03×174°.21W±0°.01, h18km, MW5.0/104, Moment Tensor Solution. s34, c45; s104, c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.45±.19; $M_{\theta\theta}$-0.28±.12; $M_{\phi\phi}$-3.18±.12; $M_{r\theta}$1.18±.37; $M_{\theta\phi}$-0.30±.08; $M_{\phi r}$1.58±.24; Best double couple: $M_0$3.85700×10^{16} NP1:ϕ_s20.00000°, δ60.00000°, λ103.00000°. NP2:ϕ_s175.00000°, δ33.00000°, λ68.00000°. Principal axes: T 4.0800, Plg72.0000°, Azm321.0000°; N -0.4520, Plg11.0000°, Azm193.0000°; P -3.6330, Plg14.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **11** 19:42:14.3, 22°.02S×173°.99W, h107km, mb4.8/19, Tonga Islands Region*
ISC 11 19:42:06.6±0.3, 22°.55S±0°.06×174°.20W±0°.06, h10km, n170, σ2§52/139, mb4.9/42, MS4.4/31, 11C-6D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.28**	**50**	Pn	**Pn**	**19 43 24.4**	**-1.2**
NIUE				Sn	Sn	19 44 15.8	-11
NIUE	**Niue**	**5.28**	**50**	P	**Pn**	**19 43 24.5**	**-1.2**
RAO	**Raoul Island**	**7.47**	**206**	Pn	**Pn**	**19 43 54.3**	**-1.2**
RAO	**Raoul Island**	**7.47**	**206**	Pn	**Pn**	**19 43 54.1**	**-1.5**
RAO				Sn	**Sn**	**19 45 13.8**	**-6.5**
	62nm,0.3s,baz=245,slow=23,SNR=1.5						
DGTI	**Dogotuki**	**8.44**	**316**	P	**Pn**	**19 44 10.9**	**+1.8**
MSVF	**Nonsavu**	**8.71**	**302**	Pn	**Pn**	**19 44 13.7**	**+0.9**
	1.9nm,0.3s,baz=126,slow=11,SNR=12						
MSVF				LR	LR	19 47 07.5	
	comp=Z,3μm,19.0s,baz=118,slow=38						
MSVF	**Nonsavu**	**8.71**	**302**	P	**Pn**	**19 44 15.6**	**+2.8**
AFI	**Afiamalu**	**8.90**	**15**	Pn	**Pn**	**19 44 15.5**	**+0.2**
RAR	**Rarotonga**	**13.46**	**87**	Pn	**Pn**	**19 45 17.7**	**0.0**
	4.2nm,0.3s,baz=277,slow=8.3,SNR=13						
RAR				Sn	Sn	19 47 38.4	-9.1
	1.4nm,0.3s,baz=214,slow=19,SNR=2.8						
RAR	**Rarotonga**	**13.46**	**87**	P	**Pn**	**19 45 18.1**	**+0.4**
URZ	**Urewera**	**17.34**	**204**	P	**P**	**19 46 11.2**	**+1.0**
	1.2nm,0.3s,baz=254,slow=2.8,SNR=5.3						
URZ				S	Sn	19 49 05.1	-17
	3.6nm,0.7s,baz=62,slow=18,SNR=1.4						
	6.0nm,0.5s						
DZM	**Mont Dzumac**	**17.92**	**268**	*eP*	Pn	19 46 07.2	-8.9
	52nm,1.2s						
DZM				*e*LR	LR	19 49 54.9	
	1μm,26.9s						
DZM	**Mont Dzumac**	**17.92**	**268**	P	**Pn**	**19 46 14.2**	**-1.8**
DZM	**Mont Dzumac**	**17.92**	**268**	P	**Pn**	**19 46 10.7**	**-5.4**
	0.3nm,0.3s,baz=97,slow=17,SNR=3.9						
	4.5nm,1.0s						
BKZ	**Black Stump Fm**	**18.37**	**204**	P	**Pn**	**19 46 20.3**	**-1.2**
BKZ	**Black Stump Fm**	**18.37**	**204**	P	**P**	**19 46 27.7**	**+6.2**
	16nm,1.2s						
BFZ	**Birch Farm**	**19.80**	**202**	P	**P**	**19 46 36.4**	**-0.8**
BFZ	**Birch Farm**	**19.80**	**202**	P	**Pn**	**19 46 42.0**	**+3.3**
MRZ	**Mangatainoka R**	**20.02**	**203**	P	**P**	**19 46 39.1**	**-0.4**
TUWZ	**Tuamarina**	**21.30**	**205**	P	**P**	**19 46 50.9**	**-2.5**
TBI	**Tubuai**	**22.79**	**97**	*eP*	**P**	**19 47 04.9**	**-4.6**
	290nm,24.5s						
TBI				*e*S	Sn	19 51 32.6	-0.8
	3μm,28.0s						
TBI				*e*LR	LR	19 52 38.9	
	1μm,25.0s						
TBI				*e*LR	LR	19 52 43.7	
	5μm,28.5s						
PPT2	**Papeete2**	**23.64**	**82**	*eP*	**P**	**19 47 14.2**	**-4.1**
	118nm,35.5s						
PPT2				*e*S	Sn	19 51 47.7	-6.0
	870nm,24.8s						
PPT2				*e*LR	LR	19 53 00.6	
	1μm,28.0s						
PPT2				*e*LR	LR	19 53 01.4	
	939nm,29.8s						
JCZ	**Jackson Bay**	**25.65**	**209**	P	**P**	**19 47 38.8**	**+2.3**
HNR	**Honiara**	**28.00**	**294**	LR	LR	19 58 11.0	
	comp=Z,380nm,18.7s,baz=166,slow=35						
TAOE	**Nuku Hiva Isla**	**35.39**	**73**	*e*S	**S**	**19 54 32.0**	**-5.9**
	281nm,25.2s						
TAOE				*e*LR	LR	19 58 16.2	
	1μm,27.9s						
ALOT	**Alotau**	**35.91**	**284**	P	**P**	**19 49 06.0**	**-1.4**
CTA	**Charters Tower**	**36.85**	**266**	LR	LR	20 01 44.8	
	comp=Z,10nm,21.2s,baz=106,slow=33						
STKA	**Stephens Creek**	**40.16**	**247**	P	**P**	**19 49 41.2**	**-1.9**
	1.8nm,0.5s,baz=100,slow=12,SNR=5.5						
STKA				LR	LR	20 04 45.8	
	comp=Z,649nm,19.4s,baz=78,slow=34						
	1.8nm,0.5s						
STKA	**Stephens Creek**	**40.16**	**247**	P	**P**	**19 49 43.4**	**+0.3**
COEN	**Coen**	**41.25**	**274**	lAmb	lAmb	19 49 51.2	
	comp=Z,50nm,1.8s						
COEN				P	**P**	**19 49 51.5**	**-0.8**
LCRK	**Leigh Creek**	**43.05**	**249**	P	**P**	**19 50 06.5**	**-0.2**
BBOO	**Buckleboo**	**44.87**	**246**	P	**P**	**19 50 22.0**	**+0.7**
OOD	**Oodnadatta**	**45.41**	**253**	P	**P**	**19 50 24.5**	**-1.1**
MULG	**Mulgathing**	**46.65**	**249**	P	**P**	**19 50 35.4**	**0.0**
AS01	**Alice Springs**	**47.48**	**258**	P	**P**	**19 50 39.7**	**-2.4**
AS31	**Alice Springs**	**47.52**	**258**	P	**P**	**19 50 39.6**	**-2.8**
ASAR	**Alice Springs**	**47.52**	**258**	P	**P**	**19 50 39.8**	**-2.6**
ASAR	**Alice Springs**	**47.52**	**258**	P	**P**	**19 50 39.7**	**-2.7**
	comp=Z,11nm,0.9s,baz=104,slow=7.0,SNR=69						
ASAR				LR	LR	20 11 09.9	
	comp=Z,481nm,18.5s,baz=116,slow=37						

comp=Z,7.5nm,0.9s
GYA Guiyang 90.73 298 ⇓P **P 19 55 11.6 +1.3**
GYA pmax pmax
comp=Z,12nm,1.8s
K29M Barlow Dome 90.75 15 P **P 19 55 13.3 +3.8**
E22K Anaktuvuk Pass 91.91 8 P **P 19 55 18.2 +3.5**
XAN Xi'an 92.19 306 ⇓P **P 19 55 18.5 +1.7**
XAN pP pwP 19 55 23.6 -5.3
XAN pmax pmax
comp=Z,24nm,1.0s
ATAH Atahualpa 92.62 99 LR LR 20 28 37.7
comp=Z,280nm,18.6s,baz=199,slow=30
JTS Las Juntas de 93.20 80 LR LR 20 30 18.3
comp=Z,140nm,18.2s,baz=196,slow=31
HHC Hu-ho-hao-te 93.32 313 *e*P **P 19 55 24.3 +2.4**
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,160nm,4.8s
CMAR Chiang Mai Arr 94.12 288 P **P 19 55 26.1 +0.2**
CMAR Chiang Mai Arr 94.12 288 P **P 19 55 26.0 0.0**
comp=Z,1.9nm,0.5s,baz=132,slow=2.8,SNR=24
CMAR LR LR 20 36 48.1
comp=Z,44nm,19.5s,baz=150,slow=35
comp=Z,1.9nm,0.5s
CHTO Chiang Mai 94.25 288 P **P 19 55 26.1 -0.5**
CHTO IAmb IAmb 19 55 40.9
comp=Z,15nm,1.4s
BTO Baotou 94.26 312 *e*P **P 19 55 29.2 +3.0**
BTO pP pwP 19 55 50.9 +13
BTO sP PcP 19 55 58.6 +32
BTO PP **PP 19 59 13.8 +0.3**
BTO Baotou 94.26 312 S **S 20 06 32.8 -5.1**
PZH PanZhiHua 94.79 297 P **P 19 55 31.6 +2.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
YAK Yakutsk 95.35 337 LR LR 20 35 42.7
comp=Z,93nm,19.2s,baz=120,slow=34
TNCH TengChong 96.93 294 ⇓P **P 19 55 40.6 +1.7**
TNCH pmax pmax
comp=Z,7.0nm,2.9s
SONM Songino Array 99.62 318 LR LR 20 33 24.2
comp=Z,30nm,21.6s,baz=102,slow=31
WMQ Urumqi 110.94 310 *e*PKP **PKiKP 20 00 42.8 +2.6**
WMQ LR LR
comp=Z,99nm,23.9s
MKAR Makanchi Array 115.17 312 PKP **PKiKP 20 00 48.8 +0.7**
comp=Z,0.3nm,0.6s,baz=163,slow=1.5,SNR=2.3
KURBB Kurchatov Arra 117.95 316 PKP **PKiKP 20 00 54.8 +1.5**
comp=Z,0.4nm,0.7s,baz=89,slow=1.6,SNR=3.0
BVAR Borovoye Array 122.92 319 PKP **PKiKP 20 01 03.9 +0.9**
comp=Z,0.5nm,0.6s,baz=126,slow=1.4,SNR=4.7
ARCES ARCESS Array B 131.53 351 PKP **PKiKP 20 01 20.1 +0.4**
comp=Z,1.7nm,0.8s,baz=11,slow=1.2,SNR=7.8
FINES FINESS Array B 138.68 345 PKP **PKiKP 20 01 33.6 -0.8**
comp=Z,1.9nm,0.6s,baz=93,slow=4.2,SNR=6.0
HFS Hagfors 142.03 354 PKhKP PKPpre 20 01 33.9
comp=Z,1.8nm,0.6s,baz=20,slow=4.6,SNR=7.1
GURO Gurovymak-BITLI 145.22 306 **PKPbc 20 01 42.9 -1.6**
SUW Suwalki 145.94 342 *e*PKP **PKiKP 20 01 48.6 -0.9**
AKASG Malin Array Be 146.48 333 PKPbc **PKPab 20 01 48.7 0.0**
comp=Z,3.5nm,0.5s,baz=42,slow=3.9,SNR=21
KIEV Kiev 146.49 333 **PKPdf 20 01 44.3 -2.2**
EKA Eskdalemuir Ar 146.58 9 PKPbc **PKiKP 20 01 50.5 -0.4**
comp=Z,1.1nm,0.7s,baz=316,slow=3.0,SNR=2.2
BEL Belsk 148.55 342 *e*PKP **PKPab 20 02 00.1 +3.2**
BNN Bunyan 149.66 309 **PKiKP 20 01 57.2 -0.8**
KWP Kalwaria Pacla 149.86 338 *e*PKP **PKPab 20 02 03.2 +0.9**
OJC Ojcow 150.28 342 *e*PKP **PKPab 20 02 04.0 0.0**
KSP Ksiaz 150.59 346 *e*PKP **PKPab 20 02 05.6 +0.3**
CLL Collm 150.75 351 *e*PKPbc **PKPbc 20 01 58.0 -0.9**
CLL *i* x x 20 02 04.9
comp=Z,16nm,1.1s
CLL *i* x x 20 02 11.7
comp=Z,12nm,1.0s
BR131 Keskin Array S 150.83 312 **PKiKP 20 02 00.4 +0.1**
BRTR Keskin Array B 150.83 312 PKPbc **PKiKP 20 02 01.4 +1.0**
BRTR Keskin Array B 150.83 312 PKPbc **PKiKP 20 02 01.1 +0.7**
comp=Z,1.9nm,0.8s,baz=119,slow=2.8,SNR=12
NIE Niedzica 150.84 340 *e*PKP **PKPab 20 02 08.4 +2.0**
OSTC Ostas 150.88 346⇑ *e*PKP **PKiKP 20 02 01.6 +1.7**
BRG Berggiesshubel 151.02 349 *e*PKP **PKiKP 20 02 01.9 +1.7**
BRG Amp 20 02 03.2
comp=Z,4.3nm,0.7s
BRG Berggiesshubel 151.02 349 P **PKPab 20 02 06.2 -0.8**
BRG Amp 20 02 08.9
comp=Z,7.5nm,0.9s
BRG Berggiesshubel 151.02 349 P **PKPab 20 02 12.7 +5.6**
BRG Amp 20 02 15.0
comp=Z,10nm,1.1s
DPC Dobruska-Polom 151.05 346⇑ *e*PKP **PKiKP 20 02 02.2 +1.9**
KRLC Kraliky 151.20 345⇑ *e*PKP **PKiKP 20 02 02.7 +2.1**
MORC Moravsky Berou 151.29 344 *e*PKP **PKPdf 20 01 55.3 +0.9**
LANS Liptovska Anna 151.33 341 *e*PKP **PKiKP 20 02 03.2 +2.3**
LANS *e* 20 02 10.4
MAUC Maruska 151.59 343⇑ *e*PKP **PKiKP 20 02 03.3 +1.8**
MMAI Mount Meron Ar 151.89 298 PKPbc **PKiKP 20 02 04.5 +1.9**
comp=Z,2.8nm,0.6s,baz=70,slow=5.4,SNR=6.0
VRAC Vranov 151.96 345 *e*PKP **PKiKP 20 02 03.0 +0.8**
JAVC Velka Javorina 152.10 343 *e*PKP **PKiKP 20 02 02.6 0.0**
VYHS Vyhne 152.10 341 *e*PKP **PKiKP 20 02 05.4 +2.9**
VYHS *e* 20 02 14.8
KRUC Moravsky 152.24 345 *e*PKP **PKPbc 20 02 01.7 -0.7**
MODS Modra-Píesok 152.65 343 *e*PKP **PKPab 20 02 17.6 +3.6**
KHC Kasperske Hory 152.76 349⇑ *e*PKP **PKiKP 20 02 05.9 +2.0**
CKRC Cesky Krumlov 152.92 348⇑ *e*PKP **PKiKP 20 02 06.9 +2.7**
GERES GERESS Array B 153.02 348 PKPbc **PKiKP 20 02 05.7 +1.2**
comp=Z,0.7nm,0.8s,baz=343,slow=3.1,SNR=2.7
CONA Conrad Observa 153.42 345 pPKiKP **PKPab 20 02 12.8 -4.5**
comp=Z,6.9nm,1.5s
RONA Rosalia, Austr 153.53 344 *e*PKiKP **PKiKP 20 02 08.7 +3.2**
comp=Z,3.3nm,0.9s
KBA Koelnbreinsper 154.78 348 *e*PKP **PKiKP 20 02 10.8 +2.5**
comp=Z,3.6nm,1.0s
SOKA Soboth 154.79 345 *e*PKiKP **PKiKP 20 02 12.5 +4.2**
comp=Z,3.8nm,1.1s
RETA Reutte 154.80 352 *e*PKP **PKiKP 20 02 10.3 +2.1**
comp=Z,9.0nm,2.0s
WTTA Wattenberg 154.90 351 *ep*PKP **PKPab 20 02 28.7 +5.1**
comp=Z,7.8nm,1.6s
ABTA Abfaltersbach 155.25 349 *e*PKiKP PKPab 20 02 13.0 -12
comp=Z,6.0nm,1.1s
FETA Feichten 155.26 352 *ep*PKiKP PKPab 20 02 17.0 -8.2
comp=Z,8.1nm,1.5s
TORD Torodi Ar. Bea 169.87 157 PKPab **PKPab 20 03 34.6 +5.0**
comp=Z,0.7nm,0.9s,baz=165,slow=3.8,SNR=3.8

*IDC **11** 19:43:46.4±8.3, 13°.95N×121°.25E, h120km±81km, mb3.2/8, mbtmp3.5/8, MS3.9/2, Error ellipse: s-maj=40.7km s-min=16.0km az=66.0*
ISC 11 19:43:44.2±1.0, 14°.0N±0°.2×121°.3E±0°.2, h100km, n10, σ0°.79/9, mb3.5/8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.93**	**285**	P	**P**	**19 48 29.5**	**-0.2**
	0.4nm,0.3s,baz=97,slow=7.0,SNR=8.2						
	0.4nm,0.3s						
KSRS	**Korea Array**	**24.13**	**13**	P	**P**	**19 48 50.8**	**0.0**
	0.4nm,0.5s,baz=181,slow=11,SNR=1.9						
	0.4nm,0.5s						
PMG	**Port Moresby**	**34.60**	**131**	LR	LR	20 06 17.6	
	Z,294nm,19.3s,baz=130,slow=39						
SONM	**Songino Array**	**35.98**	**343**	P	**P**	**19 50 35.9**	**+0.4**
	0.3nm,0.5s,baz=162,slow=8.4,SNR=2.5						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**36.05**	**159**	P	**P**	**19 50 36.1**	**-0.2**
	0.5nm,0.7s,baz=341,slow=9.1,SNR=7.1						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**39.38**	**162**	P	**P**	**19 51 05.3**	**+1.0**
	0.6nm,0.5s,baz=339,slow=7.6,SNR=4.2						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**46.17**	**323**	P	**P**	**19 51 59.3**	**+0.4**
	0.5nm,0.7s,baz=112,slow=7.8,SNR=4.4						
MKAR				LR	LR	20 12 02.2	
	comp=Z,78nm,20.5s,baz=346,slow=37						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**49.10**	**332**	P	**P**	**19 52 21.3**	**-0.1**
	0.6nm,0.3s,baz=120,slow=6.8,SNR=4.2						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**50.30**	**326**	P	**P**	**19 52 30.5**	**0.0**
	0.5nm,0.6s,baz=128,slow=7.7,SNR=7.8						
	0.5nm,0.6s						
LPAZ	**La Paz**	**170.60**	**105**	PKP	**PKPdf**	**20 03 40.8**	**-1.5**
	1.5nm,0.3s,baz=269,slow=2.6,SNR=11						

*IDC **11** 19:48:56.7±1.1, 57°.05S×144°.77W, h0km, mb3.9/5, mbtmp3.9/5, MS4.1/10, Error ellipse: s-maj=55.1km s-min=24.3km az=8.0*
ISC 11 19:48:58.3±1.2, 57°.1S±0°.4×144°.8W±0°.2, h10km, n33, σ0°.96/6, mb4.0/5, MS4.1/10, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**31.26**	**291**	LR	LR	20 05 29.0	
	comp=Z,449nm,18.1s,baz=134,slow=32						
QSPA	**South Pole Qui**	**33.08**	**180**	LR	LR	20 07 35.3	
	comp=Z,239nm,18.6s,baz=56,slow=34						
TBI	**Tubuai**	**33.86**	**352**	*e*LR	LR	20 04 17.7	
	1μm,22.0s						
PMSA	**Palmer Station**	**37.38**	**136**	LR	LR	20 07 42.3	
	comp=Z,134nm,18.3s,baz=272,slow=30						
RAR	**Rarotonga**	**37.48**	**337**	LR	LR	20 08 10.7	
	comp=Z,158nm,19.8s,baz=172,slow=31						
PPT2	**Papeete2**	**39.58**	**353**	*e*LR	LR	20 06 46.4	
	241nm,24.2s						
PPT2				*e*LR	LR	20 06 52.7	
	263nm,22.2s						
PPT	**Papeete**	**39.60**	**353**	LR	LR	20 09 21.2	
	comp=Z,223nm,18.3s,baz=182,slow=31						
MSVF	**Nonsavu**	**48.06**	**309**	LR	LR	20 13 19.6	
	comp=Z,79nm,21.5s,baz=169,slow=30						
TAOE	**Nuku Hiva Isla**	**48.23**	**6**	*e*LR	LR	20 10 58.3	
	249nm,21.5s						
SNAA	**Sanae**	**48.81**	**165**	P	**P**	**19 57 43.2**	**+0.2**
	1.5nm,0.7s,baz=224,slow=6.8,SNR=6.2						
	1.5nm,0.7s						
PLCA	**Paso Flores**	**48.90**	**104**	P	**P**	**19 57 43.5**	**-0.6**
	1.8nm,1.1s,baz=233,slow=10,SNR=2.0						
	1.8nm,1.1s						
H03S2	**Juan Fernandez**	**49.43**	**91**	T	T	20 49 52.0	
	baz=220,slow=74,SNR=112						
H03S1	**Juan Fernandez**	**49.44**	**91**	T	T	20 49 53.3	
	baz=220,slow=74,SNR=120						
H03S3	**Juan Fernandez**	**49.45**	**91**	T	T	20 49 52.4	
	baz=220,slow=74,SNR=116						
DZM	**Mont Dzumac**	**49.70**	**294**	*e*LR	LR	20 12 01.2	
	144nm,24.7s						
H03N3	**Juan Fernandez**	**49.72**	**91**	T	T	20 50 08.3	
	baz=223,slow=72,SNR=101						
H03N2	**Juan Fernandez**	**49.73**	**91**	T	T	20 50 09.3	
	baz=223,slow=72,SNR=132						
H03N1	**Juan Fernandez**	**49.74**	**91**	T	T	20 50 07.7	
	baz=223,slow=72,SNR=207						
STKA	**Stephens Creek**	**55.17**	**264**	LR	LR	20 18 26.5	
	comp=Z,228nm,19.4s,baz=67,slow=32						
ASAR	**Alice Springs**	**65.81**	**264**	P	**P**	**19 59 43.0**	**-0.6**
	0.7nm,0.8s,baz=140,slow=6.1,SNR=8.7						
ASAR				LR	LR	20 24 49.9	
	comp=Z,258nm,19.4s,baz=137,slow=33						
	0.7nm,0.8s						
H01W1	**Cape Leeuwin H**	**67.00**	**241**	T	T	21 14 59.2	
	baz=143,slow=76,SNR=96						
H01W2	**Cape Leeuwin H**	**67.01**	**241**	T	T	21 15 02.2	
	baz=143,slow=76,SNR=102						
H01W3	**Cape Leeuwin H**	**67.02**	**241**	T	T	21 14 57.9	
	baz=143,slow=76,SNR=106						
WRA	**Warramunga Arr**	**68.57**	**266**	P	**P**	**20 00 02.2**	**+1.0**
	0.5nm,0.6s,baz=147,slow=5.6,SNR=7.5						
	0.5nm,0.6s						
LPAZ	**La Paz**	**69.22**	**88**	P	**P**	**20 00 06.6**	**+0.6**
	2.4nm,1.2s,baz=211,slow=2.4,SNR=4.4						
	2.4nm,1.2s						
FITZ	**Fitzroy Crossi**	**74.79**	**260**	LR	LR	20 30 55.4	
	comp=Z,220nm,18.1s,baz=126,slow=34						
KAPI	**Kappang**	**88.81**	**263**	LR	LR	20 41 11.2	
	comp=Z,87nm,18.2s,baz=150,slow=35						
H10S3	**ASCENSION HYDR**	**102.60**	**129**	T	T	21 58 08.8	
	baz=207,slow=74,SNR=14						
H10S2	**ASCENSION HYDR**	**102.60**	**129**	T	T	21 58 13.1	
	baz=13,slow=74,SNR=15						
H10N3	**ASCENSION HYDR**	**103.66**	**129**	T	T	21 59 19.0	
	baz=206,slow=75,SNR=14						
H10N1	**ASCENSION HYDR**	**103.67**	**129**	T	T	21 59 20.6	
	baz=206,slow=75,SNR=13						
H10N2	**ASCENSION HYDR**	**103.68**	**129**	T	T	21 59 20.8	
	baz=206,slow=75,SNR=15						
MKAR	**Makanchi Array**	**149.80**	**271**	PKPbc	**PKPbc**	**20 08 46.6**	**-0.9**
	1.4nm,0.8s,baz=119,slow=4.3,SNR=6.9						

NOU 11 19:59:14.4, 15°.84S×167°.31E, h9km, MLv4.5/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.28**	**158**	P	Pb	19 59 21.5	-0.2
DVP	**Devils Point**	**2.05**	**156**	P	Pn	19 59 49.8	+0.7
LUES	**Luesalemba Tem**	**5.32**	**345**	P	Pn	20 00 34.8	+0.7
KOUNC	**Koumac, New Ca**	**5.50**	**211**	P	Pn	20 00 35.3	-1.2
YATNC	**Mamie plateau,**	**6.20**	**184**	P	Pn	20 00 47.6	+1.4
DZM	**Mont Dzumac**	**6.25**	**187**	P	Pn	20 00 45.7	-1.3
NOUC	**Port Laguerre**	**6.30**	**189**	P	Pn	20 00 47.3	-0.2

*CATAC **11** 20:16:29.4±0.8, 10°.30N×86°.37W, h6km±5km, ML3.7*
*UCR **11** 20:16:31.1±1.1, 10°.36N×86°.38W, h30km±7km, MW4.1*
ISC 11 20:16:32.1±1.9, 10°.36N±0°.07×86°.32W±0°.07, h26km±15km, n39, σ1°.09/46, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.73**	**98**	*e*P	**Pb**	**20 16 45.1**	**-1.1**
DELF	**Filadelfia**	**0.76**	**84**	*e*P	**Pn**	**20 16 46.6**	**-0.5**
DELF				*e*S	**Sn**	**20 16 58.2**	**+0.5**
ELI1	**Hacienda Flor**	**0.80**	**70**	*e*P	**Pn**	**20 16 47.2**	**-0.5**
NICO	**Nicoya**	**0.89**	**105**	*e*P	**Pn**	**20 16 48.5**	**-0.4**
ERIA	**Liberia**	**0.90**	**73**	*e*P	**Pb**	**20 16 48.6**	**-0.6**
LCRUZ	**La Cruz**	**0.98**	**43**	*e*P	**Pn**	**20 16 50.2**	**0.0**
GPS2	**Hotel Rincn d**	**1.02**	**68**	*e*P	**Pb**	**20 16 49.8**	**-1.4**
VRLE	**La Escondida,**	**1.03**	**66**	*e*P	**Pb**	**20 16 49.8**	**-1.5**
VORI	**VORI**	**1.05**	**65**	*e*P	**Pb**	**20 16 50.4**	**-1.5**
CARN	**Rivas**	**1.13**	**44**	*i*P	**Pn**	**20 16 51.9**	**-0.4**
CARN				IAML		20 17 17.4	
	comp=Z,3μm,1.0s						
COLC	**Colonia**	**1.14**	**75**	*e*P	**Pn**	**20 16 51.5**	**-0.9**
CUI	**Cuipilapa**	**1.17**	**75**	*e*P	**Pn**	**20 16 52.1**	**-0.8**
JAPN	**AI SSO del Vol**	**1.31**	**28**	*i*P	**Pn**	**20 16 54.6**	**-0.2**
JAPN				IAML		20 17 10.0	
	comp=Z,1μm,1.0s						
JAPN				*i*S	**Sn**	**20 17 11.1**	**-0.4**
JUNT	**Juntas**	**1.34**	**93**	*e*P	**Pn**	**20 16 54.4**	**-0.8**
JTS	**Las Juntas de**	**1.34**	**93**	*e*P	**Pn**	**20 16 54.5**	**-0.8**
MORN	**AI O del Volca**	**1.35**	**29**	*i*P	**Pn**	**20 16 54.6**	**-0.7**
MORN				IAML		20 17 25.4	
	comp=Z,110nm,1.0s						
TENO	**El Achiote**	**1.36**	**76**	*e*P	**Pn**	**20 16 54.4**	**-1.0**
CONN	**Concepcion**	**1.37**	**30**	*i*P	**Pn**	**20 16 55.0**	**-0.6**
CONN				IAML		20 17 13.1	
	comp=Z,6μm,1.0s						
NADN	**Granada**	**1.40**	**11**	*i*P	**Pn**	**20 16 55.6**	**-0.4**
NADN				*i*S	**Sb**	**20 17 19.3**	**+4.1**
NADN				IAML		20 17 50.0	
	comp=Z,2μm,1.0s						
ARE1	**Arenal 1**	**1.57**	**86**	*e*P	**Pn**	**20 16 58.6**	**+0.2**
NANN	**Nandasmo**	**1.58**	**7**	*i*P	**Pb**	**20 16 59.3**	**-1.3**
NANN				IAML		20 17 42.3	
	comp=Z,13μm,1.0s						
SABN	**Sabanita**	**1.59**	**5**	*i*P	**Pn**	**20 16 58.5**	**-0.1**
SABN				IAML		20 17 54.1	
	comp=Z,2μm,1.0s						
RA5A7	**El Crucero**	**1.62**	**0**	*i*P	**Pn**	**20 16 58.5**	**-0.6**
RA5A7				IAML		20 17 55.8	
	comp=Z,2μm,1.0s						
MAS3	**AI N del Volca**	**1.66**	**5**	*i*P	**Pn**	**20 16 58.6**	**-0.9**
MAS3				IAML		20 17 30.1	
	comp=Z,600nm,1.0s						
SOCE	**Pocosol**	**1.67**	**89**	*i*P	**Pn**	**20 17 00.3**	**+0.5**
SOCE				IAML		20 17 15.7	
	comp=Z,490nm,1.0s						
SOCE				*i*S	**Sb**	**20 17 24.6**	**+1.7**
SOCE	**Pocosol**	**1.67**	**89**	*e*P	**Pn**	**20 16 59.8**	**0.0**
UNAN	**Cigeo UNAN**	**1.74**	**1**	*i*P	**Pb**	**20 17 02.1**	**-1.3**
UNAN				IAML		20 17 16.8	
	comp=Z,3μm,1.0s						
SAPS	**Ciudad Sandino**	**1.80**	**357**	*i*P	**Pb**	**20 17 03.5**	**-0.9**
SAPS				IAML		20 17 52.6	
	comp=Z,540nm,1.0s						

APQ2	**Apoyeque**	**1.82**	**360**	*i* P	**Pn**	**20 17 01.0**	**-0.8**
APQ2				IAML		20 17 15.1	
	comp=Z,520nm,1.0s						
COPN	**Copaltepe**	**1.82**	**352**	*i* P	**Pn**	**20 17 00.7**	**-1.1**
COPN				IAML		20 17 37.3	
	comp=Z,370nm,1.0s						
ACON	**Acoyapa**	**1.95**	**35**	*i* P	**Pn**	**20 17 02.4**	**-1.1**
ACON				*i* S	**Sb**	**20 17 31.1**	**+0.2**
ACON				IAML		20 17 48.4	
	comp=Z,250nm,1.0s						
ACON	**Acoyapa**	**1.95**	**35**	*e*P	**Pn**	**20 17 02.8**	**-0.7**
MOMN	**Momotombo**	**2.04**	**354**	*i* P	**Pn**	**20 17 03.7**	**-1.2**
MOMN				IAML		20 17 50.2	
	comp=Z,10.0nm,1.0s						
MOM2	**El Cardon**	**2.07**	**355**	*i* P	**Pn**	**20 17 04.4**	**-0.8**
MOM2				IAML		20 17 12.7	
	comp=Z,370nm,1.0s						
LCR2	**La Lucha 2**	**2.36**	**105**	*i* P	**Pn**	**20 17 10.2**	**+0.8**
LCR2				*i* S	**Sn**	**20 17 37.7**	**+0.1**
LCR2				IAML		20 17 55.9	
	comp=Z,120nm,1.0s						
PKGN	**Cerro Pekin**	**2.38**	**344**	*i* P	**Pb**	**20 17 13.2**	**-1.1**
PKGN				*i* S	**Sn**	**20 17 39.4**	**+1.6**
PKGN				IAML		20 17 47.8	
	comp=Z,630nm,1.0s						
LIMN	**Finca el Limon**	**2.68**	**359**	*i* P	**Pn**	**20 17 12.9**	**-0.8**
LIMN				IAML		20 18 08.6	
	comp=Z,110nm,1.0s						
CSGN	**Cosiguina Volc**	**2.87**	**335**	*i* P	**Pn**	**20 17 16.2**	**0.0**
CSGN				IAML		20 18 05.9	
	comp=Z,48nm,1.0s						
RCPN	**Sur Rio San Ju**	**3.15**	**4**	*i* P	**Pn**	**20 17 20.6**	**+0.4**
RCPN				IAML		20 17 37.8	
	comp=Z,0.4nm,1.0s						

*IDC **11** 20:18:23.4±0.6, 55°.56S×29°.58W, h0km, mb4.4/8, mbtmp4.4/9, ML4.0/1, MS4.0/15, Error ellipse: s-maj=28.5km s-min=17.0km az=58.0*
*NEIC **11** 20:18:26.6±2.1, 55°.6S±0°.1×29°.9W±0°.2, h21km±6km, mb4.6/24, Error ellipse: s-maj=19.4km s-min=13.3km az=199.0*
*GCMT **11** 20:18:27.6±0.2, 55°.74S±0°.03×29°.91W±0°.03, h19km, MW5.0/103, Moment Tensor Solution. s41,c51; s103,c144; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-3.78±.20; $M_{\theta\theta}$0.71±.13; $M_{\phi\phi}$3.06±.13; $M_{r\theta}$0.16±.40; $M_{\theta\phi}$0.98±.09; $M_{\phi r}$1.78±.26; Best double couple: $M_0$4.01400×10^16^ NP1:ϕ_s194.00000°, δ58.00000°, λ-96.00000°. NP2:ϕ_s25.00000°, δ32.00000°, λ-81.00000°. Principal axes: T 3.8110, Plg13.0000°, Azm288.0000°; N 0.4000, Plg5.0000°, Azm197.0000°; P -4.2170, Plg76.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 20:18:25.1±0.5, 55°.59S±0°.08×29°.92W±0°.08, h10km, n85, σ1§40/73, mb4.5/16, MS4.1/13, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.01**	**286**		**Pn**	**20 19 25.3**	**-1.1**
HOPE				Sn	**Sn**	**20 20 08.5**	**-4.9**
ESPZ	**Base Esperanza**	**15.71**	**229**	P	**P**	**20 22 09.8**	**-0.4**
ESPZ				IAmb	IAmb	20 22 25.3	
	comp=Z,64nm,1.1s						
VNA1	**Neumayer--Stat**	**17.82**	**156**	⇑P	**P**	**20 22 34.6**	**+1.1**
	comp=Z,20nm,0.8s						
VNA3	**Neumayer Olymp**	**17.96**	**159**	⇑P	**Pn**	**20 22 34.6**	**+0.1**
	comp=Z,21nm,0.7s						
VNA2	**Neumayer--Watz**	**18.22**	**156**	⇑P	**P**	**20 22 39.2**	**+1.3**
	comp=Z,11nm,0.6s,baz=320,slow=12						
PMSA	**Palmer Station**	**19.06**	**227**	LR	LR	20 28 34.3	
	comp=Z,356nm,20.1s,baz=71,slow=32						
SNAA	**Sanae**	**19.80**	**155**	P	**P**	**20 22 54.2**	**-1.2**
SNAA	**Sanae**	**19.80**	**155**	⇑P	**P**	**20 22 55.0**	**-0.4**
	comp=Z,224nm,0.7s						
SNAA	**Sanae**	**19.80**	**155**	P	**P**	**20 22 55.9**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=303,slow=8.7,SNR=48						
SNAA				LR	LR	20 28 44.7	
	comp=Z,520nm,20.8s,baz=234,slow=32						
	comp=Z,9.2nm,0.8s						
SMAI	**San Martin Ant**	**21.14**	**219**	P	**P**	**20 23 13.5**	**+3.8**
TROLL	**Troll, Antarti**	**21.36**	**153**	⇑P	**P**	**20 23 12.4**	**+0.2**
	comp=Z,639nm,0.7s						
MG03	**Isla Dawson**	**23.25**	**257**	P	**P**	**20 23 31.7**	**-0.6**
MG03				IAmb	IAmb	20 23 36.1	
	comp=Z,12nm,0.9s						
GO09	**Cerro Castillo**	**25.34**	**262**	P	**P**	**20 23 51.6**	**-0.1**
GO09				IAmb	IAmb	20 23 52.9	
	comp=Z,17nm,1.1s						
TRQA	**Tornquist**	**27.73**	**296**	P	**P**	**20 24 12.8**	**-0.7**
TRQA				IAmb	IAmb	20 24 17.3	
	comp=Z,14nm,1.1s						
PLTB	**Pedras Altas**	**29.06**	**315**	P	**P**	**20 24 25.6**	**+0.3**
PLCA	**Paso Flores**	**30.40**	**282**	LR	LR	20 36 37.7	
	comp=Z,458nm,19.2s,baz=137,slow=36						
QSPA	**South Pole Qui**	**34.67**	**180**	P	**P**	**20 25 14.9**	**+0.4**
QSPA	**South Pole Qui**	**34.67**	**180**	P	**P**	**20 25 15.3**	**+0.9**
	comp=Z,24nm,0.8s,baz=200,slow=3.7,SNR=41						
	comp=Z,24nm,0.8s						
PTGB	**Pitanga**	**34.86**	**323**	*e*P	**P**	**20 25 17.4**	**+1.0**
CPUP	**Villa Florida**	**35.37**	**314**	P	**P**	**20 25 19.6**	**-1.0**
CPUP				IAmb	IAmb	20 25 21.5	
	comp=Z,6.8nm,0.9s						
CPUP	**Villa Florida**	**35.37**	**314**	P	**P**	**20 25 21.1**	**+0.5**
	comp=Z,6.4nm,1.0s,baz=159,slow=8.5,SNR=9.2						
CPUP				LR	LR	20 37 23.8	
	comp=Z,184nm,21.7s,baz=166,slow=32						
	comp=Z,6.4nm,1.0s						
CPUP	**Villa Florida**	**35.37**	**314**	*e*P	**P**	**20 25 21.1**	**+0.5**
MT09	**Talagante**	**35.70**	**290**	P	**P**	**20 25 25.3**	**+1.6**
MT09				IAmb	IAmb	20 25 41.2	
	comp=Z,8.4nm,1.1s						
MT02	**Curacav**	**36.18**	**291**	P	**P**	**20 25 27.2**	**-0.4**
MT02				IAmb	IAmb	20 25 47.0	
	comp=Z,5.8nm,1.1s						
CO01	**Juntas del Tor**	**38.22**	**295**	P	**P**	**20 25 46.4**	**+1.2**
DIAM	**Diamantina, MG**	**38.67**	**339**	*e*P	**P**	**20 25 49.4**	**+0.5**
RPRD	**Ribas do Rio P**	**39.34**	**323**	*e*P	**P**	**20 25 55.6**	**+1.3**
GUA01	**Guaratinga, BA**	**39.66**	**345**	*e*P	**P**	**20 25 56.1**	**-0.9**
MURT	**Porto Murtinho**	**39.67**	**317**	*e*P	**P**	**20 25 58.9**	**+1.8**
IPMB	**Ipameri, GO**	**40.03**	**332**	*e*P	**P**	**20 26 01.9**	**+1.7**
AQDB	**Aquidauana**	**40.04**	**321**	*e*P	**P**	**20 26 01.4**	**+1.3**
BDQN	**Bodoquena, MS**	**40.45**	**319**	*e*P	**P**	**20 26 03.4**	**-0.1**
MAW	**Mawson**	**41.43**	**145**	P	**P**	**20 26 09.9**	**-1.2**
	comp=Z,2.6nm,0.7s,baz=216,slow=8.7,SNR=4.3						
MAW				LR	LR	20 41 48.2	
	comp=Z,281nm,18.6s,baz=242,slow=34						
	comp=Z,2.6nm,0.7s						
GO02	**Mina Guanaco**	**41.92**	**300**	P	**P**	**20 26 16.8**	**+0.8**
GO02				IAmb	IAmb	20 26 20.5	
	comp=Z,14nm,0.8s						
JANB	**Januaria**	**41.94**	**339**	*e*P	**P**	**20 26 17.1**	**+1.1**
SUR	**Sutherland**	**42.03**	**78**	LR	LR	20 40 35.5	
	comp=Z,226nm,18.5s,baz=192,slow=32						
BDFB	**Brasilia**	**42.23**	**334**	P	**P**	**20 26 19.7**	**+1.4**
	comp=Z,4.9nm,0.8s,baz=129,slow=6.1,SNR=7.1						
BDFB				LR	LR	20 43 27.3	
	comp=Z,352nm,18.9s,baz=152,slow=36						
	comp=Z,4.9nm,0.8s						
ARAG	**Araguaiana, MT**	**43.21**	**328**	*e*P	**P**	**20 26 27.9**	**+1.8**
SALV	**Santo Antonio**	**44.27**	**323**	*e*P	**P**	**20 26 35.9**	**+1.2**
SDBA	**SAO DESIDERIO**	**44.64**	**339**	*e*P	**P**	**20 26 38.2**	**+0.5**
BBSD	**Serra de San D**	**44.89**	**316**	*e*P	**P**	**20 26 39.8**	**+0.1**
PB01	**IPOC Station P**	**45.36**	**303**	P	**P**	**20 26 43.3**	**-0.1**
SIV	**San Ignacio**	**46.16**	**316**	LR	LR	20 44 27.6	
	comp=Z,138nm,20.0s,baz=118,slow=34						
GO01	**Chusmiza**	**46.40**	**305**	P	**P**	**20 26 53.0**	**+0.8**
PB11	**IPOC Station P**	**46.54**	**304**	P	**P**	**20 26 53.6**	**+0.7**
SNDB	**Serra Nova Dou**	**46.60**	**331**	*e*P	**P**	**20 26 55.3**	**+2.1**
BOSA	**Boshof**	**47.37**	**79**	P	**P**	**20 26 57.5**	**-1.7**
BOSA				IAmb	IAmb	20 27 07.2	
	comp=Z,3.2nm,0.8s						
BOSA	**Boshof**	**47.37**	**79**	P	**P**	**20 26 57.8**	**-1.5**
	comp=Z,1.9nm,0.6s,baz=216,slow=5.8,SNR=6.1						
BOSA				LR	LR	20 43 42.1	
	comp=Z,322nm,18.3s,baz=206,slow=32						
	comp=Z,1.9nm,0.6s						
VILB	**Vilhena**	**48.60**	**319**	*e*P	**P**	**20 27 10.8**	**+2.1**
PDRB	**Porto dos Gac**	**48.62**	**324**	*e*P	**P**	**20 27 10.8**	**+2.0**
LPAZ	**La Paz**	**48.86**	**308**	P	**P**	**20 27 11.8**	**+0.4**
LPAZ				IAmb	IAmb	20 27 23.6	
	comp=Z,6.8nm,0.8s						
LPAZ	**La Paz**	**48.86**	**308**	P	**P**	**20 27 12.8**	**+1.4**
	comp=Z,7.4nm,0.9s,baz=151,slow=5.9,SNR=18						
LPAZ				LR	LR	20 48 38.1	
	comp=Z,37nm,21.2s,baz=160,slow=37						
	comp=Z,7.4nm,0.9s						
LPAZ	**La Paz**	**48.86**	**308**	*e*P	**P**	**20 27 12.9**	**+1.4**
H10N1	**ASCENSION HYDR**	**49.17**	**20**	T	T	21 20 14.9	
	baz=191,slow=76,SNR=14						
H10N3	**ASCENSION HYDR**	**49.17**	**20**	T	T	21 20 17.6	
	baz=191,slow=76,SNR=20						
H10N2	**ASCENSION HYDR**	**49.18**	**20**	T	T	21 20 15.2	
	baz=191,slow=76,SNR=16						
LBTB	**Lobatse**	**50.37**	**76**	P	**P**	**20 27 20.8**	**-1.5**
NPGB	**Novo Progresso**	**52.47**	**327**	*e*P	**P**	**20 27 40.2**	**+2.3**
SAML	**Samuel**	**53.40**	**318**	P	**P**	**20 27 44.1**	**-0.7**
SAML				IAmb	IAmb	20 27 48.2	
	comp=Z,5.2nm,0.8s						
SAML	**Samuel**	**53.40**	**318**	*e*P	**P**	**20 27 45.1**	**+0.3**
ETMB	**Extrema**	**53.81**	**314**	*e*P	**P**	**20 27 49.5**	**+1.7**
ITTB	**Itaituba**	**55.12**	**328**	*e*P	**P**	**20 28 00.2**	**+2.9**
BOAV	**Boa Vista**	**62.99**	**325**	P	**P**	**20 28 51.4**	**-0.6**
BOAV				IAmb	IAmb	20 28 54.2	
	comp=Z,5.4nm,1.0s						
BOAV	**Boa Vista**	**62.99**	**325**	*e*P	**P**	**20 28 53.7**	**+1.7**
COHC	**Cochancay**	**66.12**	**304**	P	**P**	**20 29 11.7**	**-0.7**
OTAV	**Otavalo**	**68.13**	**306**	*e*P	**P**	**20 29 28.0**	**+2.3**
PCRV	**Puerto La Cruz**	**71.64**	**324**	LR	LR	21 02 54.1	
	comp=Z,157nm,19.3s,slow=37						
SDV	**Santo Domingo**	**72.61**	**318**	LR	LR	21 03 21.4	
	comp=Z,251nm,19.3s,baz=122,slow=37						
MBAR	**Mbarara**	**73.33**	**65**	LR	LR	20 59 44.9	
	comp=Z,152nm,18.4s,baz=165,slow=34						
TORD	**Torodi Ar. Bea**	**73.44**	**32**	P	**P**	**20 29 57.4**	**0.0**
	comp=Z,1.8nm,0.6s,baz=201,slow=5.9,SNR=20						
	comp=Z,1.8nm,0.6s						
SJG	**San Juan**	**79.56**	**325**	LR	LR	21 06 15.2	
	comp=Z,36nm,20.1s,baz=179,slow=36						
LTZ	**Lake Taylor**	**80.21**	**196**	P	**P**	**20 30 35.1**	**-0.3**
CMIG	**Matias Romero**	**90.61**	**300**	LR	LR	21 05 05.2	
	comp=Z,63nm,21.5s,baz=191,slow=31						
ESDC	**Sonseca Array**	**97.44**	**20**	P	**P**	**20 31 58.7**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=187,slow=4.6,SNR=1.7						
	comp=Z,0.3nm,0.4s						
FINES	**FINESS Array B**	**124.71**	**29**	PKP	**PKPdf**	**20 37 21.8**	**-1.6**
	comp=Z,2.3nm,0.8s,baz=187,slow=7.7,SNR=4.5						
CMAR	**Chiang Mai Arr**	**126.67**	**113**	PKP	**PKPdf**	**20 37 27.3**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=225,slow=3.6,SNR=6.8						
ARCES	**ARCESS Array B**	**131.09**	**23**	PKP	**PKPdf**	**20 37 33.6**	**-1.8**
	comp=Z,3.4nm,0.9s,baz=276,slow=1.6,SNR=3.6						
YKA	**Yellowknife Ar**	**134.80**	**319**	PKP	**PKPdf**	**20 37 42.5**	**0.0**
	comp=Z,0.9nm,0.7s,baz=132,slow=2.3,SNR=3.0						
BVAR	**Borovoye Array**	**135.84**	**59**	PKP	**PKPdf**	**20 37 44.2**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=176,slow=2.7,SNR=5.0						
MKAR	**Makanchi Array**	**138.21**	**73**	PKP	**PKPdf**	**20 37 49.2**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=289,slow=4.4,SNR=1.5						
KURBB	**Kurchatov Arra**	**138.51**	**66**	PKP	**PKPdf**	**20 37 49.9**	**+0.2**
	comp=Z,0.1nm,0.7s,baz=284,slow=3.7,SNR=1.4						
ZALV	**Zalesovo Beam**	**143.55**	**65**	PKPbc	PKPpre	20 37 54.3	
	comp=Z,0.5nm,0.5s,baz=204,slow=3.2,SNR=2.8						
INK	**Inuvik**	**144.47**	**322**	PKP	**PKPab**	**20 37 57.7**	**-0.6**
	comp=Z,3.9nm,0.8s,baz=77,slow=3.1,SNR=12						
ILAR	**Eielson Array**	**148.66**	**313**	PKPbc	**PKPbc**	**20 38 09.9**	**-1.0**
	comp=Z,4.6nm,0.8s,baz=128,slow=1.6,SNR=41						
SONM	**Songino Array**	**152.24**	**88**	PKPbc	**PKPbc**	**20 38 18.3**	**-1.8**
	comp=Z,1.6nm,0.7s,baz=226,slow=3.4,SNR=8.3						

*IDC **11** 20:35:14.8±0.7, 56°.20S×143°.37W, h0km, mb4.2/9, mbtmp4.2/9, MS4.2/27, Error ellipse: s-maj=28.2km s-min=18.1km az=8.0*
*NEIC **11** 20:35:15.4±2.6, 56°.2S±0°.2×143°.41W±0°.10, h10km±2km, mb4.7/7, Error ellipse: s-maj=35.4km s-min=9.0km az=356.0*
*GCMT **11** 20:35:19.4±0.2, 56°.43S±0°.02×143°.29W±0°.02, h16km±1km, MW5.0/97, Moment Tensor Solution. s34,c40; s97,c128; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.35±.14; $M_{\theta\theta}$3.39±.16; $M_{\phi\phi}$-3.04±.13; $M_{r\theta}$1.12±.41; $M_{\theta\phi}$2.12±.11; $M_{\phi r}$0.42±.38; Best double couple: $M_0$4.00400×10^16^ NP1:ϕ_s27.00000°, δ81.00000°, λ169.00000°. NP2: ϕ_s119.00000°, δ79.00000°, λ9.00000°. Principal axes: T 4.3300, Plg14.0000°, Azm343.0000°; N -0.6510, Plg76.0000°, Azm169.0000°; P -3.6780, Plg1.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 20:35:16.0±0.6, 56°.2S±0°.1×143°.4W±0°.1, h10km, n72, σ1§33/32, mb4.5/16, MS4.2/28, 5C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLWZ	**Palliser**	**30.34**	**281**	P	**P**	**20 41 24.1**	**-3.5**
CMWZ	**Cape Campbell**	**30.79**	**280**	P	**P**	**20 41 30.0**	**-1.5**
RPZ	**Rata Peaks**	**31.25**	**274**	LR	LR	20 51 19.1	
	comp=Z,544nm,19.7s,baz=126,slow=31						
URZ	**Urrera**	**31.69**	**288**	LR	LR	20 51 24.9	
	comp=Z,438nm,21.3s,baz=222,slow=31						
TBI	**Tubuai**	**33.12**	**350**	*e*S	S	20 47 22.8	+12
	886nm,44.5s						
TBI				*e*LR	LR	20 50 38.6	
	5μm,26.0s						
TBI				*e*LR	LR	20 50 40.5	
	2μm,25.2s						
QSPA	**South Pole Qui**	**33.94**	**180**	P	**P**	**20 42 00.8**	**+1.7**
QSPA	**South Pole Qui**	**33.94**	**180**	P	**P**	**20 41 59.8**	**+0.8**
	1.8nm,0.8s,baz=75,slow=7.0,SNR=4.1						
QSPA				LR	LR	20 53 57.2	
	comp=Z,576nm,18.1s,baz=64,slow=33						
	1.8nm,0.8s						
RAO	**Raoul Island**	**36.34**	**303**	LR	LR	20 54 59.6	
	comp=Z,84nm,19.2s,baz=110,slow=33						
RAR	**Rarotonga**	**37.01**	**334**	LR	LR	20 53 02.4	
	comp=Z,457nm,19.3s,baz=124,slow=29						
PMSA	**Palmer Station**	**37.48**	**136**	LR	LR	20 53 56.3	
	comp=Z,299nm,18.2s,baz=288,slow=30						
RPN	**Rapa Nui**	**37.95**	**54**	LR	LR	20 54 12.7	
	comp=Z,272nm,19.3s,baz=3.5,slow=30						
PPT2	**Papeete2**	**38.84**	**351**	*e*S	**S**	**20 48 41.9**	**+3.1**
	114nm,24.0s						
PPT2				*e*LR	LR	20 53 07.8	
	588nm,22.8s						
PPT2				*e*LR	LR	20 53 14.3	
	612nm,22.0s						
PPT	**Papeete**	**38.86**	**351**	LR	LR	20 53 54.9	
	comp=Z,485nm,21.9s,baz=184,slow=29						
CASY	**Casey**	**45.90**	**213**	P	**P**	**20 43 38.2**	**+0.2**
CASY				IAmb	IAmb	20 43 58.3	
	comp=Z,9.5nm,1.1s						
TAOE	**Nuku Hiva Isla**	**47.31**	**4**	*e*LR	LR	20 43 40.1	
	comp=Z,181nm,27.0s						
TAOE	**Nuku Hiva Isla**	**47.31**	**4**	*e*LR	LR	20 57 05.7	
	comp=Z,746nm,24.6s						
MSVF	**Nonsavu**	**48.12**	**307**	LR	LR	20 59 31.1	
	comp=Z,272nm,22.0s,baz=221,slow=30						
PLCA	**Paso Flores**	**48.38**	**104**	P	**P**	**20 43 58.3**	**+0.5**
	comp=Z,3.6nm,1.1s,baz=215,slow=9.7,SNR=4.5						
	comp=Z,3.6nm,1.1s						
H03S2	**Juan Fernandez**	**48.70**	**91**	T	T	21 36 13.8	
	baz=220,slow=74						
H03S1	**Juan Fernandez**	**48.71**	**91**	T	T	21 36 14.8	
	baz=220,slow=74						
VNA3	**Neumayer Olymp**	**48.72**	**162**	⇑P	**P**	**20 43 59.9**	**0.0**
	comp=Z,8.7nm,0.8s						
H03S3	**Juan Fernandez**	**48.72**	**91**	T	T	21 36 14.0	
	baz=220,slow=74						
H03N3	**Juan Fernandez**	**48.98**	**91**	T	T	21 36 31.0	
	baz=223,slow=72,SNR=332						
H03N2	**Juan Fernandez**	**48.99**	**91**	T	T	21 36 30.8	
	baz=223,slow=72,SNR=320						
H03N1	**Juan Fernandez**	**49.00**	**91**	T	T	21 36 30.3	
	baz=223,slow=72,SNR=342						
VNA2	**Neumayer--Watz**	**49.38**	**162**	⇑P	**P**	**20 44 05.1**	**+0.2**
	comp=Z,8.3nm,0.6s,baz=207,slow=6.8						
SNAA	**Sanae**	**49.44**	**165**	P	**P**	**20 44 04.8**	**-0.7**
SNAA				IAmb	IAmb	20 44 06.3	
	comp=Z,8.6nm,1.0s						
SNAA	**Sanae**	**49.44**	**165**	⇑P	**P**	**20 44 05.6**	**+0.1**
	comp=Z,95nm,0.6s						
SNAA	**Sanae**	**49.44**	**165**	P	**P**	**20 44 05.5**	**0.0**
	comp=Z,5.9nm,1.0s,baz=217,slow=6.7,SNR=29						
	comp=Z,5.9nm,1.0s						
VNA1	**Neumayer--Stat**	**49.47**	**162**	⇑P	**P**	**20 44 05.3**	**-0.3**
	comp=Z,11nm,0.7s						
TROLL	**Troll, Antarti**	**49.88**	**167**	⇑P	**P**	**20 44 09.1**	**+0.2**
	comp=Z,141nm,0.6s						
DZM	**Mont Dzumac**	**50.06**	**292**	*e*LR	LR	20 58 38.4	
	comp=Z,360nm,23.8s						
DZM	**Mont Dzumac**	**50.06**	**292**	LR	LR	21 02 25.8	
	comp=Z,190nm,18.2s,baz=125,slow=33						
BO02	**Sierra Bellavi**	**52.53**	**98**	P	**P**	**20 44 28.8**	**-0.5**
BO02				IAmb	IAmb	20 44 30.7	
	comp=Z,7.2nm,0.8s						
MT09	**Talagante**	**53.17**	**97**	P	**P**	**20 44 31.0**	**-3.0**
MT09				IAmb	IAmb	20 44 35.6	
	comp=Z,12nm,1.1s						
MAW	**Mawson**	**54.96**	**192**	P	**P**	**20 44 47.3**	**+0.8**
	comp=Z,4.5nm,1.0s,baz=177,slow=7.2,SNR=8.1						
MAW				LR	LR	21 06 20.7	
	comp=Z,296nm,18.2s,baz=152,slow=34						
	comp=Z,4.5nm,1.0s						
STKA	**Stephens Creek**	**56.02**	**262**	P	**P**	**20 44 56.0**	**+1.4**
	comp=Z,2.2nm,0.9s,baz=152,slow=13,SNR=3.7						
STKA				LR	LR	21 04 28.8	
	comp=Z,350nm,21.6s,baz=170,slow=31						
	comp=Z,2.2nm,0.9s						
CTA	**Charters Tower**	**62.62**	**275**	LR	LR	21 09 33.5	
	comp=Z,10nm,19.1s,baz=120,slow=33						
HNR	**Honiara**	**64.01**	**294**	LR	LR	21 09 16.2	
	comp=Z,76nm,18.6s,baz=143,slow=32						
CPUP	**Villa Florida**	**66.41**	**102**	P	**P**	**20 46 04.8**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=250,slow=8.0,SNR=4.7						
	comp=Z,2.1nm,0.8s						
AS31	**Alice Springs**	**66.65**	**262**	P	**P**	**20 46 06.8**	**+0.1**
AS31				IAmb	IAmb	20 46 16.5	
	comp=Z,2.5nm,1.1s						
ASAR	**Alice Springs**	**66.65**	**262**	P	**P**	**20 46 04.7**	**-2.1**
ASAR	**Alice Springs**	**66.65**	**262**	P	**P**	**20 46 06.9**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=139,slow=6.6,SNR=25						
	comp=Z,3.0nm,0.8s						
NNA	**Nana**	**67.14**	**77**	LR	LR	21 08 12.3	
	comp=Z,325nm,18.4s,baz=203,slow=30						
H01W1	**Cape Leeuwin H**	**68.07**	**240**	T	T	22 01 17.9	
	baz=143,slow=76,SNR=274						
H01W2	**Cape Leeuwin H**	**68.08**	**240**	T	T	22 01 17.4	
	baz=143,slow=76,SNR=197						
H01W3	**Cape Leeuwin H**	**68.09**	**240**	T	T	22 01 18.3	
	baz=143,slow=76,SNR=178						
LPAZ	**La Paz**	**68.44**	**87**	P	**P**	**20 46 18.4**	**-0.3**
LPAZ	**La Paz**	**68.44**	**87**	P	**P**	**20 46 18.7**	**0.0**
	comp=Z,3.6nm,1.0s,baz=226,slow=2.7,SNR=9.3						
	comp=Z,3.6nm,1.0s						
WRA	**Warramunga Arr**	**69.38**	**265**	P	**P**	**20 46 24.1**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=148,slow=5.5,SNR=9.7						
WRA				LR	LR	21 15 20.7	
	comp=Z,123nm,18.3s,baz=160,slow=35						
	comp=Z,1.5nm,0.8s						
PMG	**Port Moresby**	**70.83**	**282**	LR	LR	21 13 36.7	
	comp=Z,120nm,20.2s,baz=170,slow=32						
FITZ	**Fitzroy Crossi**	**75.68**	**259**	LR	LR	21 17 27.9	
	comp=Z,324nm,18.4s,baz=148,slow=34						
ROSC	**El Rosal**	**82.58**	**70**	LR	LR	21 17 07.2	
	comp=Z,203nm,21.0s,baz=230,slow=30						
KAPI	**Kappang**	**89.67**	**262**	LR	LR	21 26 27.0	
	comp=Z,209nm,19.7s,baz=156,slow=34						
SUR	**Sutherland**	**90.74**	**167**	LR	LR	21 23 00.9	
	comp=Z,78nm,21.3s,baz=177,slow=32						
PFO	**Pinyon Flats O**	**92.37**	**22**	LR	LR	21 21 45.8	
	comp=Z,118nm,18.1s,baz=217,slow=30						
LEM	**Lembang**	**94.73**	**250**	LR	LR	21 27 37.2	
	comp=Z,113nm,19.4s,baz=336,slow=33						
BOSA	**Boshof**	**94.96**	**170**	LR	LR	21 27 30.6	
	comp=Z,127nm,19.8s,baz=190,slow=33						
DAV	**Davao City (W)**	**96.38**	**273**	LR	LR	21 29 21.0	
	comp=Z,56nm,21.9s,baz=351,slow=34						
NVAR	**Mina Array Bea**	**96.66**	**20**	LR	LR	21 22 37.0	
	comp=Z,83nm,20.9s,baz=126,slow=29						
LBTB	**Lobatse**	**98.56**	**170**	LR	LR	21 30 02.3	
	comp=Z,102nm,19.9s,baz=192,slow=33						
YBH	**Yreka Blue Hor**	**99.14**	**16**	LR	LR	21 23 35.5	
	comp=Z,142nm,20.9s,baz=173,slow=29						
H10N3	**ASCENSION HYDR**	**103.61**	**128**	T	T	22 45 36.3	
	baz=206,slow=75,SNR=34						
H10N1	**ASCENSION HYDR**	**103.61**	**128**	T	T	22 45 36.8	
	baz=206,slow=75,SNR=38						
H10N2	**ASCENSION HYDR**	**103.63**	**128**	T	T	22 45 37.7	
	baz=206,slow=75,SNR=32						
ILAR	**Eielson Array**	**120.69**	**358**	PKP	**PKiKP**	**20 54 08.3**	**+1.7**
	comp=Z,0.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,0.5nm,0.2s						
KU6				SG	Sb	20 54 46.0	+0.1
KMNF	**Kaamanen**	**2.89**	**303**	SG	Sb	20 55 03.6	-0.1
KEV	**Kevo**	**3.21**	**313**	PN	Pn	20 54 28.1	+0.9
KEV				SG	Sb	20 55 12.9	0.0
RNF	**Rovaniemi**	**3.21**	**254**	PB	Pn	20 54 29.4	+2.2
	baz=70						
HEF	**Hetta**	**3.85**	**285**	SB	Sb	20 55 31.3	-0.1

HEL 11 20:54:00.5±0.3, 67.76N×20.29E, h0km, ML1.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.71**	**65**	PG	Pg	20 54 13.6	-0.5
LANU				SG	Sg	20 54 22.1	-1.1
KIF	**Kilpisjarvi**	**1.27**	**8**	*e*P	Pg	20 54 22.6	-2.1
PAJU	**Pajala**	**1.32**	**123**	PB	Sn	20 54 44.1	-0.3
PAJU	**Pajala**	**1.32**	**123**	PG	Pg	20 54 23.7	-2.0
	baz=304						
PAJU				SN	Sn	20 54 44.1	-0.3
ERTU	**Ertsjaerv**	**1.42**	**148**	PG	Pn	20 54 26.0	-1.5
HEF	**Hetta**	**1.42**	**61**	*e*P	Pn	20 54 24.6	-3.0
HEF	**Hetta**	**1.42**	**61**	PG	Pn	20 54 25.3	-2.3
HEF				MSG		20 54 43.3	
	comp=Z,1.7nm,0.2s						
HEF				SG	Sg	20 54 45.8	-0.3
HEF	**Hetta**	**1.42**	**61**	PG	Sg	20 54 45.8	-0.3
KLF	**Kolari**	**1.51**	**109**	PG	Pn	20 54 27.7	-1.1
KLF				MSG		20 54 45.9	
	comp=Z,1.7nm,0.2s						
KLF				SN	Sn	20 54 49.2	+0.2
KTK1	**Kautokeino**	**1.67**	**40**	PG	Pn	20 54 30.9	-0.1
KTK1				SG	Sn	20 54 51.3	-1.7
TRO	**Tromso**	**1.95**	**346**	PG	Pn	20 54 35.2	+0.4
TRO				SB	Sn	20 54 58.4	-1.5
KALU	**Kalix**	**2.26**	**146**	PB	Pn	20 54 39.5	+0.4
TOF	**Tornio**	**2.32**	**135**	PN	Pn	20 54 40.4	+0.6
TOF	**Tornio**	**2.32**	**135**	PG	Pn	20 54 40.4	+0.6
TOF				MSG		20 55 09.2	
	comp=Z,1.2nm,0.2s						
RNF	**Rovaniemi**	**2.51**	**115**	PB	Pn	20 54 44.2	+1.7
RNF				SG	Sb	20 55 19.2	+1.4
KMNF	**Kaamanen**	**2.84**	**57**	SG	Sb	20 55 26.9	-0.4
VRF	**Varrio**	**3.54**	**86**	PG	Pb	20 55 04.1	+0.1
HUSU	**Husum**	**4.46**	**186**	SN	Sn	20 55 59.6	-2.1

*CATAC **11** 21:02:16.2±0.4, 12.04N×87.13W, h29km±3km, ML4.3*
*UCR **11** 21:02:17.9±1.2, 12.12N×86.96W, h69km±19km, MW4.1*
*IDC **11** 21:02:18.6±2.0, 11.78N×87.34W, h94km±23km, mb3.3/2, mbtmp3.7/4, MS4.0/1, Error ellipse: s-maj=120.7km s-min=14.6km az=35.0*
*SNET **11** 21:02:19.8±1.0, 12.19N×87.41W, h21km±12km, ML4.0*

ISC 11 21:02:17.0±0.9, 12.12N±0.05×87.09W±0.04, h61km±8km, n81, σ0.9 90/116, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.49**	**83**	*i* P	**Pn**	**21 02 28.3**	**-0.6**
COPN				IAML		21 02 38.7	
	comp=Z,4μm,1.0s						
CNGA	**AI SSO del Vol**	**0.53**	**45**	*i* P	**Pn**	**21 02 29.4**	**0.0**
CNGA				*i* S	**Sn**	**21 02 39.0**	**+0.5**
CNGA				IAML		21 02 44.8	
	comp=Z,17μm,1.0s						
BC86	**Nagarote**	**0.53**	**74**	*i* P	**Pn**	**21 02 28.4**	**-1.0**
BC86				*i* S	**Sn**	**21 02 37.9**	**-0.5**
BC86				IAML		21 02 38.7	
	comp=Z,14μm,1.0s						
EVIJ	**El Viejo**	**0.54**	**357**	*i* P	**Pn**	**21 02 28.9**	**-0.6**
EVIJ				*i* S	**Sn**	**21 02 38.2**	**-0.3**
EVIJ				IAML		21 02 43.0	
	comp=Z,11μm,1.0s						
LEVN	**Ruinas Leon Vi**	**0.54**	**59**	*i* P	**Pn**	**21 02 29.5**	**0.0**
LEVN				*i* S	**Sn**	**21 02 39.7**	**+1.2**
LEVN				IAML		21 02 40.1	
	comp=Z,10μm,1.0s						
HERN	**Volcan Telica**	**0.55**	**27**	*i* P	**Pn**	**21 02 28.5**	**-1.2**
HERN				*i* S	**Sn**	**21 02 38.9**	**0.0**
HERN				IAML		21 02 39.1	
	comp=Z,11μm,1.0s						
PKGN	**Cerro Pekin**	**0.56**	**11**	*i* P	**Pn**	**21 02 29.8**	**+0.1**
PKGN				*i* S	**Sn**	**21 02 40.2**	**+1.3**
PKGN				IAML		21 02 42.8	
	comp=Z,32μm,1.0s						
PLRN	**Geotermica Pol**	**0.56**	**34**	*i* P	**Pn**	**21 02 29.2**	**-0.5**
PLRN				*i* S	**Sn**	**21 02 39.0**	**+0.1**
PLRN				IAML		21 02 43.8	
	comp=Z,12μm,1.0s						
CRIN	**San Cristobal**	**0.58**	**4**	*i* P	**Pn**	**21 02 30.2**	**+0.2**
CRIN				*i* S	**Sn**	**21 02 40.7**	**+1.2**
CRIN				IAML		21 02 47.0	
	comp=Z,20μm,1.0s						
CRIN	**San Cristobal**	**0.58**	**4**	*e*P	**Pn**	**21 02 30.0**	**0.0**
ILCN	**San Idelfonso**	**0.59**	**40**	*i* P	**Pn**	**21 02 30.0**	**-0.1**
ILCN				*i* S	**Sn**	**21 02 40.0**	**+0.4**
ILCN				IAML		21 02 42.7	
	comp=Z,4μm,1.0s						
BC84	**Volcan Momotom**	**0.60**	**63**	*i* P	**Pn**	**21 02 30.7**	**+0.5**
BC84				*i* S	**Sn**	**21 02 40.2**	**+0.4**
BC84				IAML		21 02 41.4	
	comp=Z,10μm,1.0s						
MOMN	**Momotombo**	**0.61**	**62**	*i* P	**Pn**	**21 02 29.9**	**-0.4**
MOMN				*i* S	**Sn**	**21 02 40.1**	**+0.1**
MOMN				IAML		21 02 42.7	
	comp=Z,360nm,1.0s						
MOM2	**El Cardon**	**0.67**	**62**	*i* P	**Pn**	**21 02 30.9**	**0.0**
MOM2				*i* S	**Sn**	**21 02 41.9**	**+0.8**
MOM2				IAML		21 02 43.9	
	comp=Z,7μm,1.0s						
SAPS	**Ciudad Sandino**	**0.67**	**86**	*i* P	**Pn**	**21 02 30.7**	**-0.3**
SAPS				IAML		21 02 44.4	
	comp=Z,40μm,1.0s						
APYN	**Apoyeque**	**0.73**	**81**	*i* P	**Pn**	**21 02 31.5**	**-0.2**
APYN				*i* S	**Sn**	**21 02 42.9**	**+0.4**
APYN				IAML		21 02 45.4	
	comp=Z,600nm,1.0s						
APQ2	**Apoyeque**	**0.75**	**84**	*i* P	**Pn**	**21 02 31.7**	**-0.2**
APQ2				*i* S	**Sn**	**21 02 43.2**	**+0.3**
APQ2				IAML		21 02 45.3	
	comp=Z,16μm,1.0s						
ABCN	**Banco Central**	**0.76**	**90**	*i* P	**Pn**	**21 02 32.1**	**0.0**
ABCN				*i* S	**Sn**	**21 02 43.2**	**+0.1**
ABCN				IAML		21 02 45.9	
	comp=Z,23μm,1.0s						
RA5A7	**El Crucero**	**0.77**	**99**	*i* P	**Pn**	**21 02 32.2**	**-0.1**
RA5A7				IAML		21 02 50.1	
	comp=Z,41μm,1.0s						
ALLN	**Telcor Managua**	**0.80**	**87**	*i* P	**Pn**	**21 02 32.2**	**-0.3**
ALLN				*i* S	**Sn**	**21 02 44.0**	**+0.1**
ALLN				IAML		21 02 44.9	
	comp=Z,26μm,1.0s						
USIM	**UNAN**	**0.80**	**90**	*i* P	**Pn**	**21 02 32.5**	**0.0**
USIM				*i* S	**Sn**	**21 02 43.9**	**0.0**
USIM				IAML		21 02 47.2	
	comp=Z,28μm,1.0s						
UNAN	**Cigeo UNAN**	**0.80**	**90**	*i* P	**Pn**	**21 02 32.8**	**+0.3**
UNAN				*i* S	**Sn**	**21 02 43.9**	**-0.1**
UNAN				IAML		21 02 47.7	
	comp=Z,49μm,1.0s						
TISN	**Laguna Tiscapa**	**0.80**	**88**	*i* P	**Pn**	**21 02 30.3**	**-2.3**
TISN				IAML		21 02 44.9	
	comp=Z,2μm,1.0s						
ENAN	**Enatrel Managu**	**0.81**	**90**	*i* P	**Pn**	**21 02 32.6**	**-0.1**
ENAN				*i* S	**Sn**	**21 02 44.1**	**-0.1**
ENAN				IAML		21 02 46.0	
	comp=Z,23μm,1.0s						
R4DEC	**Barrio San Lui**	**0.82**	**88**	*i* P	**Pn**	**21 02 32.8**	**0.0**
R4DEC				*i* S	**Sn**	**21 02 44.7**	**+0.3**
R4DEC				IAML		21 02 45.3	
	comp=Z,13μm,1.0s						
MGAN	**Managua**	**0.82**	**88**	*i* P	**Pn**	**21 02 32.8**	**0.0**
MGAN				*i* S	**Sn**	**21 02 44.5**	**0.0**
MGAN				IAML		21 02 45.3	
	comp=Z,13μm,1.0s						
MGAN	**Managua**	**0.82**	**88**	*e*P	**Pn**	**21 02 32.5**	**-0.3**
MGAN				*e*S	**Sn**	**21 02 44.3**	**-0.2**
MAFN	**Magfor**	**0.83**	**92**	*i* P	**Pn**	**21 02 32.7**	**-0.2**
MAFN				*i* S	**Sn**	**21 02 45.0**	**+0.3**
MAFN				IAML		21 02 47.1	
	comp=Z,48μm,1.0s						
R0529	**La Mascota**	**0.83**	**90**	*i* P	**Pn**	**21 02 32.7**	**-0.2**
R0529				IAML		21 02 48.3	
	comp=Z,14μm,1.0s						
BC87	**San Francisco**	**0.87**	**64**	*i* P	**Pn**	**21 02 33.5**	**+0.1**
BC87				*i* S	**Sn**	**21 02 46.9**	**+1.4**
BC87				IAML		21 02 48.3	
	comp=Z,12μm,1.0s						
WILN	**Americas 2**	**0.88**	**87**	*i* P	**Pn**	**21 02 33.2**	**-0.4**
WILN				*i* S	**Sn**	**21 02 46.2**	**+0.4**
WILN				IAML		21 02 47.1	
	comp=Z,6μm,1.0s						
MAS3	**AI N del Volca**	**0.90**	**96**	*i* P	**Pn**	**21 02 33.1**	**-0.7**
MAS3				IAML		21 02 46.5	
	comp=Z,32μm,1.0s						
AERN	**Aeropuerto Man**	**0.90**	**88**	*i* P	**Pn**	**21 02 33.4**	**-0.4**
AERN				*i* S	**Sn**	**21 02 46.5**	**+0.3**
AERN				IAML		21 02 49.2	
	comp=Z,9μm,1.0s						
SABN	**Sabanita**	**0.92**	**100**	*i* P	**Pn**	**21 02 33.6**	**-0.5**
SABN				IAML		21 02 48.6	
	comp=Z,11μm,1.0s						
MASN	**Masaya**	**0.93**	**98**	*i* S	**Sn**	**21 02 46.7**	**-0.2**
BRAN	**Las Pilas**	**0.94**	**50**	*i* P	**Pn**	**21 02 32.0**	**-2.3**
BRAN				*i* S	**Sn**	**21 02 43.1**	**-3.9**
BRAN				IAML		21 02 44.0	
	comp=Z,16μm,1.0s						
NANN	**Nandasmo**	**0.96**	**101**	*i* S	**Sn**	**21 02 48.4**	**+0.7**
CSGN	**Cosiguina Volc**	**0.97**	**332**	*i* S	**Sn**	**21 02 48.3**	**+0.4**
SBEN	**San Benito**	**1.03**	**79**	*i* P	**Pn**	**21 02 35.1**	**-0.3**
SBEN				*i* S	**Sn**	**21 02 50.1**	**+1.0**
SBEN				IAML		21 03 00.7	
	comp=Z,7μm,1.0s						
NADN	**Granada**	**1.10**	**109**	*i* P	**Pn**	**21 02 35.7**	**-0.7**
LIMN	**Finca el Limon**	**1.17**	**37**	*i* P	**Pn**	**21 02 37.8**	**+0.3**
LIMN				IAML		21 03 00.5	
	comp=Z,2μm,1.0s						
CNCH	**Conchagua**	**1.36**	**328**	*e*P	**Pn**	**21 02 40.0**	**0.0**
CNCH				*e*S	**Sn**	**21 02 57.5**	**+0.3**
CNCH				IAML		21 03 02.3	
	comp=Z,5μm,0.3s						
CNCH	**Conchagua**	**1.36**	**328**	*i* P	**Pn**	**21 02 40.2**	**+0.2**
CNCH				IAML		21 03 02.0	
	comp=Z,4μm,1.0s						
ARIN	**Rivas**	**1.39**	**118**	*i* P	**Pn**	**21 02 39.0**	**-1.3**
ARIN				IAML		21 03 00.6	
	comp=Z,6μm,1.0s						
JAPN	**AI SSO del Vol**	**1.50**	**113**	*i* P	**Pn**	**21 02 41.5**	**-0.2**
JAPN				IAML		21 03 11.1	
	comp=Z,2μm,1.0s						
CONN	**Concepcion**	**1.54**	**111**	*i* P	**Pn**	**21 02 41.3**	**-0.9**
CONN				IAML		21 03 04.3	
	comp=Z,12μm,1.0s						
RCVN	**Varillal2**	**1.70**	**31**	*i* P	**Pn**	**21 02 45.5**	**+1.0**
RCVN				IAML		21 03 08.7	
	comp=Z,27μm,1.0s						
RCPN	**Sur Rio San Ju**	**1.70**	**35**	*i* P	**Pn**	**21 02 46.2**	**+1.6**
RCPN				IAML		21 03 08.8	
	comp=Z,24nm,1.0s						
BLLM	**Bellamira**	**1.73**	**320**	*e*P	**Pn**	**21 02 45.3**	**+0.4**
VSM	**San Miguel**	**1.74**	**318**	*e*P	**Pn**	**21 02 46.0**	**+0.8**
LCY	**Lacayo**	**1.75**	**318**	*e*P	**Pn**	**21 02 45.8**	**+0.6**
RANC	**El Ranchito**	**1.75**	**318**	*e*P	**Pn**	**21 02 45.6**	**+0.3**
RANC	**El Ranchito**	**1.75**	**318**	*i* P	**Pn**	**21 02 45.6**	**+0.3**
RANC				IAML		21 03 11.2	
	comp=Z,1μm,1.0s						
LCRUZ	**La Cruz**	**1.76**	**126**	*e*P	**Pn**	**21 02 45.0**	**-0.3**
CARN	**Rivas**	**1.79**	**121**	*i* P	**Pn**	**21 02 45.3**	**-0.4**
CARN				IAML		21 03 17.0	
	comp=Z,2μm,1.0s						
ACON	**Acoyapa**	**1.88**	**94**	*i* P	**Pn**	**21 02 46.1**	**-0.7**
ACON				IAML		21 03 27.3	
	comp=Z,540nm,1.0s						
ACON	**Acoyapa**	**1.88**	**94**	*e*P	**Pn**	**21 02 46.0**	**-0.9**
TECA	**Tecapa**	**1.94**	**315**	*e*P	**Pn**	**21 02 48.5**	**+0.6**
PQSS	**Presa 15 de Se**	**2.07**	**316**	*e*P	**Pn**	**21 02 50.0**	**+0.5**
PQSS	**Presa 15 de Se**	**2.07**	**316**	*i* P	**Pn**	**21 02 50.0**	**+0.5**
PQSS				IAML		21 03 21.4	
	comp=Z,300nm,1.0s						
ELI1	**Hacienda Flor**	**2.10**	**134**	*e*P	**Pn**	**21 02 50.7**	**+0.8**
TECO	**Alcaldia de Te**	**2.17**	**311**	*e*P	**Pn**	**21 02 50.5**	**-0.3**
TECO				*e*S	**Sn**	**21 03 15.6**	**-1.0**
TECO	**Alcaldia de Te**	**2.17**	**311**	*i* P	**Pn**	**21 02 51.2**	**+0.4**
TECO				IAML		21 03 22.2	
	comp=Z,400nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.24**	**315**	*e*P	**Pn**	**21 02 52.7**	**+0.9**
SCLA	**Alcaldia de Sa**	**2.24**	**315**	*i* P	**Pn**	**21 02 52.8**	**+0.9**
SCLA				IAML		21 03 27.4	
	comp=Z,210nm,1.0s						
COEG	**Centro de Oper**	**2.30**	**311**	*e*P	**Pn**	**21 02 53.3**	**+0.7**
COEG				*e*S	**Sn**	**21 03 18.5**	**-1.4**
CUI	**Cuipilapa**	**2.38**	**127**	*e*P	**Pn**	**21 02 53.2**	**-0.6**
LFRS	**El Faro**	**2.44**	**308**	*e*P	**Pn**	**21 02 54.9**	**+0.3**
LOMA	**Loma Larga**	**2.53**	**307**	*e*P	**Pn**	**21 02 56.7**	**+0.8**
LOMA				*e*S	**Sn**	**21 03 24.7**	**-1.0**
PMON	**Piamonte**	**2.69**	**306**	*e*P	**Pn**	**21 02 57.9**	**0.0**
ESPN	**Las Esperanzas**	**2.73**	**88**	*e*P	**Pn**	**21 02 58.5**	**+0.1**
JAYA	**Jayaque - finc**	**2.76**	**304**	*e*P	**Pn**	**21 02 59.1**	**+0.1**
JAYA				*e*S	**Sn**	**21 03 28.4**	**-3.0**
JAYA				IAML		21 03 37.0	
	comp=Z,544nm,0.2s						
JAYA	**Jayaque - finc**	**2.76**	**304**	*i* P	**Pn**	**21 02 59.2**	**+0.1**
JAYA				*i* S	**Sn**	**21 03 29.6**	**-1.7**
JAYA				IAML		21 03 36.9	
	comp=Z,1μm,1.0s						
JTS	**Las Juntas de**	**2.77**	**131**	P	**Pn**	**21 02 60.0**	**+0.9**
	comp=Z,50nm,0.3s,baz=314,slow=15,SNR=32						
JTS				S	**Sn**	**21 03 34.8**	**+3.4**
	comp=Z,76nm,0.3s,baz=254,slow=20,SNR=9.5						
NUBE	**Las Nubes**	**3.17**	**304**	*e*P	**Pn**	**21 03 04.8**	**+0.2**
CMIG	**Matias Romero**	**9.02**	**304**	P	**Pn**	**21 04 26.0**	**+1.4**
	comp=Z,1.1nm,0.3s,baz=142,slow=12,SNR=4.4						
CMIG				S	**Sn**	**21 06 05.5**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=140,slow=15,SNR=1.2						
TXAR	**Lajitas Array**	**23.05**	**320**	P	**P**	**21 07 17.9**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=137,slow=9.8,SNR=26						
	comp=Z,2.1nm,0.6s						
PDAR	**Pinedale Array**	**36.23**	**332**	P	**P**	**21 09 14.4**	**0.0**
	comp=Z,0.3nm,0.5s,baz=124,slow=10,SNR=4.5						
	comp=Z,0.3nm,0.5s						
CPUP	**Villa Florida**	**47.94**	**143**	LR	LR	21 31 45.5	
	comp=Z,164nm,21.6s,baz=234,slow=37						
WRA	**Warramunga Arr**	**139.52**	**253**	PKP	**PKPdf**	**21 21 37.1**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=90,slow=3.2,SNR=6.9						
CMAR	**Chiang Mai Arr**	**149.04**	**349**	PKPbc	**PKPdf**	**21 21 55.8**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=14,slow=4.1,SNR=1.1						

GCMT 11 21:05:34.0±0.4, 49.79S±0.02×115.39W±0.04, h24km±2km, MW4.8/76, Moment Tensor Solution. s17,c18; s76,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr0.14±.18; Mθθ1.41±.15; Mφφ-1.55±.14; Mrθ-0.04±.20; Mθφ1.69±.11; Mφr0.12±.17; **Best double couple:** M0 2.25000×10^{16} **NP1:**φs201.00000°,δ88.00000°, λ-178.00000°. **NP2:**φs111.00000°,δ88.00000°, λ-2.00000°. **Principal axes:** T 2.1760, Plg0.0000°, Azm336.0000°; N 0.1460, Plg87.0000°, Azm242.0000°; P -2.3230, Plg3.0000°, Azm66.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**37.48**	**302**	*e*LR	LR	21 22 51.6	
	1μm,28.8s						
TBI				*e*LR	LR	21 22 52.1	
	2μm,26.0s						
PPT2	**Papeete2**	**42.26**	**307**	*e*LR	LR	21 24 57.7	
	239nm,21.8s						
PPT2				*e*LR	LR	21 25 03.8	
	285nm,21.8s						
TAOE	**Nuku Hiva Isla**	**45.73**	**325**	*e*LR	LR	21 26 34.4	
	538nm,25.7s						
DZM	**Mont Dzumac**	**65.93**	**264**	*e*LR	LR	21 36 15.9	
	169nm,23.9s						

IDC 11 21:16:34.0±1.6, 49.87S×115.83W, h0km, mb3.8/3, mbtmp3.8/3, MS3.6/7 Error ellipse: s-maj=65.2km s-min=52.6km az=133.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**30.63**	**139**	LR	LR	21 31 38.5	
	comp=Z,184nm,19.9s,baz=306,slow=30						
H03S2	**Juan Fernandez**	**31.43**	**73**	T	T	21 55 37.9	
	baz=226,slow=74,SNR=60						
H03S1	**Juan Fernandez**	**31.44**	**73**	T	T	21 55 39.2	
	baz=226,slow=74,SNR=45						
H03S3	**Juan Fernandez**	**31.45**	**73**	T	T	21 55 38.2	
	baz=226,slow=74,SNR=47						
H03N3	**Juan Fernandez**	**31.69**	**73**	T	T	21 55 55.3	
	baz=231,slow=72						
H03N2	**Juan Fernandez**	**31.70**	**73**	T	T	21 55 54.7	
	baz=231,slow=72						
H03N1	**Juan Fernandez**	**31.71**	**73**	T	T	21 55 51.0	
	baz=231,slow=72						
TBI	**Tubuai**	**37.29**	**303**	*e*LR	LR	21 33 58.7	
	494nm,24.0s						
QSPA	**South Pole Qui**	**40.33**	**180**	P	P	21 24 12.7	-0.2
	0.5nm,0.3s,baz=114,slow=7.5,SNR=1.0						
QSPA				LR	LR	21 38 45.9	
	comp=Z,65nm,20.3s,baz=64,slow=33						
	0.5nm,0.3s						
PPT2	**Papeete2**	**42.08**	**308**	*e*LR	LR	21 36 04.6	
	99nm,39.0s						
PPT2				*e*LR	LR	21 36 10.3	
	156nm,24.0s						
PPT	**Papeete**	**42.10**	**308**	LR	LR	21 36 24.0	
	comp=Z,76nm,21.7s,baz=182,slow=28						
RAR	**Rarotonga**	**44.85**	**293**	LR	LR	21 38 44.5	
	comp=Z,37nm,19.5s,baz=139,slow=30						
TAOE	**Nuku Hiva Isla**	**45.63**	**325**	*e*LR	LR	21 37 31.3	
	209nm,27.2s						
URZ	**Urewera**	**48.03**	**257**	LR	LR	21 40 17.2	
	comp=Z,89nm,20.0s,baz=290,slow=30						
LPAZ	**La Paz**	**50.90**	**66**	LR	LR	21 41 47.2	
	comp=Z,73nm,21.6s,baz=118,slow=30						
ATAH	**Atahualpa**	**52.85**	**49**	LR	LR	21 42 47.8	
	comp=Z,80nm,19.8s,baz=202,slow=30						
DZM	**Mont Dzumac**	**65.64**	**264**	*e*LR	LR	21 47 29.6	
	51nm,23.8s						
ASAR	**Alice Springs**	**84.33**	**240**	P	P	21 29 08.9	+1.0
	0.9nm,0.8s,baz=142,slow=4.9,SNR=7.6						
	0.9nm,0.8s						
H01W1	**Cape Leeuwin H**	**84.71**	**219**	T	T	23 04 00.4	
	baz=150,slow=75,SNR=26						
H01W2	**Cape Leeuwin H**	**84.71**	**219**	T	T	23 04 00.6	
	baz=150,slow=75,SNR=26						
H01W3	**Cape Leeuwin H**	**84.72**	**219**	T	T	23 04 01.5	
	baz=150,slow=75,SNR=17						
WRA	**Warramunga Arr**	**87.02**	**242**	P	P	21 29 19.9	-1.5
	0.3nm,0.8s,baz=142,slow=4.9,SNR=2.3						
	0.3nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**96.15**	**291**	T	T	23 17 08.5	
	baz=140,slow=76,SNR=74						
H11S3	**WAKE ISLAND Hy**	**96.16**	**291**	T	T	23 17 01.7	
	baz=140,slow=76,SNR=52						
H11S1	**WAKE ISLAND Hy**	**96.16**	**291**	T	T	23 17 03.9	
	baz=140,slow=76,SNR=46						
H11N3	**WAKE ISLAND Hy**	**96.97**	**292**	T	T	23 18 00.9	
	baz=142,slow=76,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**96.97**	**292**	T	T	23 18 05.2	
	baz=142,slow=76,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**96.98**	**292**	T	T	23 18 02.4	
	baz=142,slow=76,SNR=6.0						
GERES	**GERESS Array B**	**147.62**	**72**	PKPbc	PKPbc	21 36 18.4	-1.2
	2.6nm,1.1s,baz=230,slow=2.4,SNR=3.8						
BRTR	**Keskin Array B**	**156.23**	**104**	PKP	PKPdf	21 36 30.3	+0.2
	0.2nm,0.3s,baz=180,slow=0.4,SNR=2.1						

*IDC **11** 21:33:28.9±0.8, 62.50N×25.57W, h0km, mb3.7/13, mbtmp3.8/14, ML4.3/1, MS3.5/18, Error ellipse: s-maj=22.2km s-min=17.0km az=178.0*
*NEIC **11** 21:33:31.4±1.3, 62.52N±0.09×25.6W±0.2, h10km±1km, mb4.5/30, Error ellipse: s-maj=15.9km s-min=10.8km az=214.0*

ISC 11 21:33:30.3±0.5, 62.53N±0.08×25.53W±0.07, h6km, n64, σ1.9 12/50, mb4.3/28, MS3.6/13, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**2.92**	**38**	Pn	**Pn**	**21 34 14.9**	**-2.2**
	39nm,0.3s,baz=220,slow=9.7,SNR=50						
BORG				Sn	**Sn**	**21 34 51.4**	**-1.0**
	2.5nm,0.3s,baz=254,slow=19,SNR=1.1						
BORG				LR	LR	21 34 52.5	
	comp=Z,117nm,19.7s,baz=178,slow=28						
	357nm,0.7s						
SCO	**Scoresbysund**	**8.12**	**9**	Pn	**Pn**	**21 35 28.6**	**+0.1**
SUMG	**Summit**	**11.20**	**340**	Pn	**Pn**	**21 36 11.2**	**+0.2**
SFJD	**Kangerlussuaq**	**11.55**	**304**	LR	LR	21 39 58.3	
	comp=Z,262nm,19.3s,baz=93,slow=34						
KONO	**Kongsberg**	**17.09**	**84**	Pn	**P**	**21 37 30.6**	**-0.7**
KONO				IAmb	IAmb	21 37 46.2	
	comp=Z,25nm,1.1s						
NOA	**NORSAR Array B**	**17.29**	**78**	LR	LR	21 43 16.3	
	comp=Z,61nm,18.8s,baz=290,slow=34						
HFS	**Hagfors**	**18.77**	**80**	LR	LR	21 43 50.2	
	comp=Z,90nm,18.8s,baz=254,slow=33						
FRB	**Frobisher Bay**	**19.21**	**293**	LR	LR	21 44 42.8	
	comp=Z,260nm,19.2s,baz=116,slow=35						
ARCES	**ARCESS Array B**	**21.27**	**49**	P	**P**	**21 38 17.0**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=283,slow=6.1,SNR=4.1						
	comp=Z,2.2nm,0.8s						
SCHQ	**Schefferville**	**22.45**	**269**	P	**P**	**21 38 30.1**	**+0.4**
SCHQ				IAmb	IAmb	21 39 07.9	
	comp=Z,26nm,1.4s						
ECH	**Echery**	**23.12**	**113**	P	**P**	**21 38 37.0**	**+0.3**
ECH				IAmb	IAmb	21 38 37.9	
	comp=Z,30nm,1.5s						
CLL	**Collm**	**23.45**	**101**	*e*Px	**P**	**21 38 44.0**	**+3.9**
BFO	**Black Forest**	**23.53**	**111**

comp=Z,2.1nm,0.8s,baz=324,slow=7.3,SNR=9.5
comp=Z,2.1nm,0.8s
BBB Bella Bella 50.51 309 LR LR 22 03 55.2
comp=Z,64nm,20.6s,baz=92,slow=36
PD31 Pinedale Array 50.59 289 P **P** **21 42 27.9 -1.8**
PDAR Pinedale Array 50.59 289 P **P** **21 42 28.4 -1.4**
comp=Z,1.7nm,0.8s,baz=60,slow=7.0,SNR=9.1
comp=Z,1.7nm,0.8s
ZALV Zalesovo Beam 51.74 45 P **P** **21 42 37.2 -0.7**
comp=Z,0.2nm,0.3s,baz=358,slow=8.7,SNR=2.1
comp=Z,0.2nm,0.3s
KURBB Kurchatov Arra 52.33 51 P **P** **21 42 41.7 -0.6**
comp=Z,1.2nm,0.8s,baz=322,slow=7.5,SNR=10.0
comp=Z,1.2nm,0.8s
TORD Torodi Ar. Bea 52.99 146 P **P** **21 42 46.7 -0.9**
comp=Z,0.9nm,0.9s,baz=338,slow=11,SNR=5.1
comp=Z,0.9nm,0.9s
ANMO Albuquerque 55.58 280 LR LR 22 05 49.8
comp=Z,71nm,18.0s,baz=205,slow=35
MK31 Makanchi Array 56.89 51 P **P** **21 43 16.3 +0.7**
MKAR Makanchi Array 56.89 51 P **P** **21 43 15.8 +0.3**
comp=Z,1.3nm,0.8s,baz=339,slow=5.2,SNR=5.4
comp=Z,1.3nm,0.8s
KVN Kaiserville 57.34 292 P **P** **21 43 18.8 -0.2**
KVN IAmb IAmb 21 43 19.6
comp=Z,3.2nm,1.1s
NVAR Mina Array Bea 57.94 292 P **P** **21 43 22.6 -0.7**
comp=Z,0.2nm,0.6s,baz=56,slow=5.5,SNR=2.6
NVAR LR LR 22 07 21.4
comp=Z,95nm,18.6s,baz=88,slow=35
comp=Z,0.2nm,0.6s
BTK Batken 58.09 64 P **P** **21 43 25.0 +0.8**
BTK IAmb IAmb 21 43 30.0
comp=Z,2.8nm,1.0s
ALPN Alpine 58.11 275 P **P** **21 43 24.5 0.0**
ALPN IAmb IAmb 21 43 25.6
comp=Z,4.8nm,1.4s
GAR Garm 58.77 65 P **P** **21 43 30.0 +1.0**
GAR IAmb IAmb 21 43 35.0
comp=Z,6.6nm,0.9s
TXAR Lajitas Array 59.00 274 P **P** **21 43 30.9 +0.3**
comp=Z,0.2nm,0.6s,baz=62,slow=6.0,SNR=3.6
comp=Z,0.2nm,0.6s
BLYC Blythe 60.22 286 P **P** **21 43 38.1 -0.7**
BLYC IAmb IAmb 21 43 40.5
comp=Z,8.1nm,1.2s
PFO Pinyon Flats O 61.19 288 LR LR 22 11 12.3
comp=Z,47nm,19.1s,baz=98,slow=37
TKX Tecate 62.14 287 P **P** **21 43 51.3 -0.6**
ULN Ulaanbaatar 63.66 34 P **P** **21 44 03.4 +1.4**
ULN IAmb IAmb 21 44 06.5
comp=Z,3.5nm,1.1s
LPIG La Paz 66.53 277 LR LR 22 12 27.7
comp=Z,112nm,18.2s,baz=32,slow=35
CMAR Chiang Mai Arr 88.30 52 P **P** **21 46 22.5 -0.1**
comp=Z,0.4nm,0.3s,baz=325,slow=5.9,SNR=5.3
comp=Z,0.4nm,0.3s
ASAR Alice Springs 138.75 29 PKP **PKiKP** **21 52 58.2 -0.8**
comp=Z,0.1nm,0.4s,baz=347,slow=2.9,SNR=1.3
MAW Mawson 144.43 139 PKP **PKPab** **21 53 04.0 +0.2**
comp=Z,1.5nm,0.9s,baz=312,slow=7.5,SNR=4.6
QSPA South Pole Qui 152.44 180 PKPbc **PKPbc** **21 53 23.9 -1.7**
comp=Z,1.3nm,0.3s,baz=228,slow=1.1,SNR=2.9

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*IDC **11** 21:46:15.9±3.5, 36°.30N×141°.59E, h0km, mb3.4/2, mbtmp3.3/3, ML2.4/1, Error ellipse: s-maj=90.2km s-min=34.9km az=51.0*
*JMA **11** 21:46:31.3±0.2, 35°.7N±0°.6×140°.1E±0°.9, h69km±2km, MV2.7/40, CENTRAL CHIBA PREF*
ISC 11 21:46:31.1±1.0, 35°.59N±0°.05×140°.11E±0°.05, h79km±7km, n15, σ0§62/27, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.19**	**156**	P	**Pn**	**21 46 42.6**	**0.0**
JCN				S	**Sn**	**21 46 51.5**	**+0.4**
JSMT	**Sammumatsuo**	**0.28**	**80**	*e*P	**Pn**	**21 46 42.9**	**-0.1**
JSMT				S	**Sn**	**21 46 52.0**	**+0.1**
TOK	**Tokyo**	**0.30**	**288**	P	**Pn**	**21 46 43.4**	**+0.2**
TOK				S	**Sn**	**21 46 52.4**	**+0.4**
BSO3	**Boso 3**	**0.86**	**157**	P	**Pn**	**21 46 48.1**	**0.0**
BSO3				S	**Sn**	**21 47 01.7**	**+0.9**
JOD2	**Odawara 2**	**0.90**	**249**	*i* P	**Pn**	**21 46 48.8**	**0.0**
JOD2				S	**Sn**	**21 47 01.3**	**-0.7**
JAG	**Ashikaga**	**0.98**	**328**	*i* P	**Pn**	**21 46 49.4**	**-0.4**
JAG				S	**Sn**	**21 47 02.8**	**-1.1**
JIM2	**Oshima 3**	**1.03**	**213**	P	**Pn**	**21 46 50.2**	**-0.4**
JIM2				S	**Sn**	**21 47 04.2**	**-0.8**
JRY	**Ryogami san**	**1.07**	**294**	*i* P	**Pn**	**21 46 51.5**	**+0.6**
JRY				S	**Sn**	**21 47 05.8**	**+0.1**
BSO1	**Boso 1**	**1.18**	**142**	P	**Pn**	**21 46 51.6**	**-0.1**
BSO1				S	**Sn**	**21 47 07.9**	**+0.6**
JYN	**Shimob**	**1.28**	**266**	*i* P	**Pn**	**21 46 54.0**	**+0.4**
JYN				S	**Sn**	**21 47 10.7**	**+0.3**
JIZS	**Izushimoda**	**1.33**	**229**	*i* P	**Pn**	**21 46 54.4**	**+0.2**
JIZS				S	**Sn**	**21 47 11.2**	**-0.4**
JKT	**Katashina**	**1.36**	**330**	P	**Pn**	**21 46 54.6**	**0.0**
MJAR	**Matsushiro Arr**	**1.81**	**302**	Pn	**Pn**	**21 47 00.9**	**+0.6**
	0.7nm,0.3s,baz=126,slow=8.1,SNR=12						
MJAR				Sn	**Sn**	**21 47 24.1**	**+1.5**
	1.7nm,0.3s,baz=186,slow=34,SNR=6.5						
	3.7nm,0.3s						
MKAR	**Makanchi Array**	**44.01**	**303**	P	**P**	**21 54 29.8**	**-0.9**
	0.6nm,0.9s,baz=86,slow=9.6,SNR=5.2						
	0.6nm,0.9s						
WRA	**Warramunga Arr**	**55.50**	**187**	P	**P**	**21 55 58.6**	**+0.6**
	0.2nm,0.5s,baz=2.0,slow=7.6,SNR=5.0						
	0.2nm,0.5s						

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*IDC **11** 21:57:53.6±0.7, 56°.18S×143°.48W, h0km, mb4.1/10, mbtmp4.1/10, MS4.1/33, Error ellipse: s-maj=27.0km s-min=18.6km az=5.0*
*NEIC **11** 21:57:55.2±1.1, 56°.2S±0°.2×143°.7W±0°.2, h10km±1km, mb4.9/12, Error ellipse: s-maj=28.1km s-min=14.3km az=356.0*
*GCMT **11** 21:58:00.2±0.3, 56°.29S±0°.02×143°.32W±0°.03, h17km±1km, MW5.0/87, Moment Tensor Solution. s29,c34; s87,c108; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.03±.14; $M_{\theta\theta}$2.30±.15; $M_{\phi\phi}$-2.27±.13; $M_{r\theta}$2.61±.50; $M_{r\phi}$1.96±.10; $M_{\theta\phi}$0.35±.32; Best double couple: $M_0$3.82800×10^16^ NP1:ϕ_S115.00000°, δ81.00000°, λ33.00000°. NP2: ϕ_S19.00000°, δ57.00000°, λ169.00000°. Principal axes: T 4.4980, Plg30.0000°, Azm342.0000°; N -1.3380, Plg56.0000°, Azm129.0000°; P -3.1580, Plg16.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 21:57:55.3±0.5, 56°.2S±0°.1×143°.6W±0°.1, h10km, n83, σ0§86/41, mb4.6/17, MS4.1/34, 5C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTZ	**Chatham Island**	**24.40**	**287**	P	**P**	**22 03 12.6**	**-1.0**
PLWZ	**Palliser**	**30.27**	**281**	P	**P**	**22 04 05.0**	**-1.3**
TCW	**Tory Channel**	**31.05**	**281**	P	**P**	**22 04 12.0**	**-1.1**
RPZ	**Rata Peaks**	**31.18**	**274**	LR	LR	22 13 46.3	
	comp=Z,588nm,21.7s,baz=138,slow=30						
URZ	**Urewera**	**31.62**	**288**	LR	LR	22 14 01.9	
	comp=Z,342nm,20.9s,baz=226,slow=31						
TBI	**Tubuai**	**33.13**	**350**	*e*LR	LR	22 12 58.9	
	1μm,24.5s						
TBI				*e*LR	LR	22 13 03.3	
	3μm,24.5s						
QSPA	**South Pole Qui**	**33.92**	**180**	P	**P**	**22 04 39.4**	**+1.1**
QSPA	**South Pole Qui**	**33.92**	**180**	P	**P**	**22 04 38.8**	**+0.6**
	1.6nm,0.6s,baz=38,slow=1.6,SNR=5.7						
QSPA				LR	LR	22 16 36.3	
	comp=Z,424nm,18.5s,baz=66,slow=33						
	1.6nm,0.6s						
RAR	**Rarotonga**	**36.99**	**334**	LR	LR	22 15 49.9	
	comp=Z,320nm,19.9s,baz=132,slow=29						
PMSA	**Palmer Station**	**37.52**	**136**	LR	LR	22 16 05.2	
	comp=Z,268nm,19.4s,baz=268,slow=29						
RPN	**Rapa Nui**	**38.02**	**54**	LR	LR	22 17 50.6	
	comp=Z,122nm,18.7s,baz=358,slow=32						
PPT2	**Papeete2**	**38.84**	**351**	*e*S	**S**	**22 11 19.8**	**+1.5**
	66nm,28.5s						
PPT2				*e*LR	LR	22 15 46.0	
	497nm,23.0s						
PPT2				*e*LR	LR	22 15 52.4	
	514nm,22.0s						
PPT	**Papeete**	**38.86**	**351**	LR	LR	22 17 04.1	
	comp=Z,360nm,18.1s,baz=180,slow=30						
BELA	**Belgrano 2**	**39.42**	**162**	P	**P**	**22 05 24.8**	**+0.1**
TAOE	**Nuku Hiva Isla**	**47.33**	**5**	*e*LR	LR	22 19 57.3	
	423nm,22.2s						
MSVF	**Nonsavu**	**48.07**	**307**	LR	LR	22 21 57.4	
	comp=Z,227nm,21.8s,baz=144,slow=30						
PLCA	**Paso Flores**	**48.45**	**104**	P	**P**	**22 06 38.4**	**+0.7**
PLCA	**Paso Flores**	**48.45**	**104**	P	**P**	**22 06 37.2**	**-0.5**
	4.5nm,1.1s,baz=217,slow=8.5,SNR=5.4						
PLCA				LR	LR	22 22 21.5	
	comp=Z,77nm,19.0s,baz=222,slow=30						
	4.5nm,1.1s						
VNA3	**Neumayer Olymp**	**48.72**	**162**	⇑P	**P**	**22 06 38.6**	**-0.7**
	comp=Z,5.9nm,0.7s						
H03S2	**Juan Fernandez**	**48.77**	**91**	T	T	22 58 53.1	
	baz=220,slow=74,SNR=184						
H03S1	**Juan Fernandez**	**48.78**	**91**	T	T	22 58 54.4	
	baz=220,slow=74,SNR=170						
H03S3	**Juan Fernandez**	**48.79**	**91**	T	T	22 58 53.5	
	baz=220,slow=74,SNR=133						
H03N3	**Juan Fernandez**	**49.06**	**91**	T	T	22 59 07.3	
	baz=223,slow=72,SNR=163						
H03N2	**Juan Fernandez**	**49.07**	**91**	T	T	22 59 06.1	
	baz=223,slow=72,SNR=277						
H03N1	**Juan Fernandez**	**49.08**	**91**	T	T	22 59 06.2	
	baz=223,slow=72,SNR=413						
VNA2	**Neumayer--Watz**	**49.38**	**163**	⇑P	**P**	**22 06 43.8**	**-0.5**
	comp=Z,7.1nm,0.6s,baz=207,slow=8.0						
SNAA	**Sanae**	**49.44**	**165**	P	**P**	**22 06 44.4**	**-0.5**
SNAA				IAmb	IAmb	22 06 47.1	
	comp=Z,26nm,1.7s						
SNAA	**Sanae**	**49.44**	**165**	⇑P	**P**	**22 06 44.5**	**-0.5**
	comp=Z,74nm,0.5s						
SNAA	**Sanae**	**49.44**	**165**	P	**P**	**22 06 44.4**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=213,slow=9.7,SNR=49						
SNAA				LR	LR	22 26 29.4	
	comp=Z,147nm,19.6s,baz=178,slow=35						
	comp=Z,2.8nm,0.6s						
VNA1	**Neumayer--Stat**	**49.47**	**162**	⇑P	**P**	**22 06 44.5**	**-0.5**
	comp=Z,7.6nm,0.7s						
TROLL	**Troll, Antarti**	**49.87**	**167**	⇑P	**P**	**22 06 48.5**	**+0.3**
	comp=Z,193nm,0.9s						
DZM	**Mont Dzumac**	**50.00**	**292**	*e*LR	LR	22 21 22.7	
	comp=Z,263nm,24.1s						
DZM	**Mont Dzumac**	**50.00**	**292**	LR	LR	22 25 03.4	
	comp=Z,165nm,18.4s,baz=117,slow=33						
BO02	**Sierra Bellavi**	**52.60**	**98**	P	**P**	**22 07 08.7**	**-0.5**
BO02				IAmb	IAmb	22 07 09.8	
	comp=Z,12nm,1.1s						
MT09	**Talagante**	**53.24**	**97**	P	**P**	**22 07 13.1**	**-0.8**
MT09				IAmb	IAmb	22 07 22.4	
	comp=Z,14nm,1.1s						
MAW	**Mawson**	**54.93**	**192**	P	**P**	**22 07 27.0**	**+1.4**
	comp=Z,2.9nm,0.8s,baz=196,slow=6.7,SNR=5.6						
MAW				LR	LR	22 28 59.2	
	comp=Z,250nm,18.1s,baz=154,slow=34						
	comp=Z,2.9nm,0.8s						
STKA	**Stephens Creek**	**55.94**	**262**	P	**P**	**22 07 34.8**	**+1.4**
	comp=Z,2.4nm,0.7s,baz=132,slow=10,SNR=3.1						
STKA				LR	LR	22 27 46.2	
	comp=Z,233nm,19.2s,baz=179,slow=32						
	comp=Z,2.4nm,0.7s						
CTA	**Charters Tower**	**62.55**	**275**	LR	LR	22 32 29.3	
	comp=Z,8.7nm,18.6s,baz=114,slow=33						
HNR	**Honiara**	**63.95**	**294**	LR	LR	22 32 12.8	
	comp=Z,49nm,18.6s,baz=128,slow=32						
CPUP	**Villa Florida**	**66.48**	**102**	P	**P**	**22 08 43.6**	**-1.2**
	comp=Z,2.8nm,1.0s,baz=216,slow=9.6,SNR=4.2						
CPUP				LR	LR	22 33 26.6	
	comp=Z,120nm,18.8s,baz=196,slow=32						
	comp=Z,2.8nm,1.0s						
ASAR	**Alice Springs**	**66.58**	**262**	P	**P**	**22 08 44.0**	**-1.6**
ASAR	**Alice Springs**	**66.58**	**262**	P	**P**	**22 08 45.1**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=141,slow=6.1,SNR=18						
ASAR				LR	LR	22 33 49.5	
	comp=Z,273nm,20.7s,baz=152,slow=32						
	comp=Z,1.8nm,0.7s						
NNA	**Nana**	**67.21**	**77**	LR	LR	22 31 11.1	
	comp=Z,362nm,19.2s,baz=216,slow=30						
H01W1	**Cape Leeuwin H**	**68.00**	**240**	T	T	23 23 55.5	
	baz=143,slow=76						
H01W2	**Cape Leeuwin H**	**68.01**	**240**	T	T	23 24 01.5	
	baz=143,slow=76						
H01W3	**Cape Leeuwin H**	**68.02**	**240**	T	T	23 23 59.1	
	baz=143,slow=76						
NWAO	**Narrogin (SRO)**	**68.07**	**244**	LR	LR	22 30 38.7	
	comp=Z,136nm,21.6s,baz=238,slow=29						
LPAZ	**La Paz**	**68.51**	**87**	P	**P**	**22 08 58.9**	**+0.3**
LPAZ				IAmb	IAmb	22 09 13.1	
	comp=Z,12nm,1.3s						
LPAZ	**La Paz**	**68.51**	**87**	P	**P**	**22 08 58.3**	**-0.3**
	comp=Z,1.8nm,1.0s,baz=194,slow=5.9,SNR=4.6						
LPAZ				LR	LR	22 32 31.2	
	comp=Z,76nm,19.7s,baz=182,slow=30						
	comp=Z,1.8nm,1.0s						
WRA	**Warramunga Arr**	**69.31**	**265**	P	**P**	**22 09 01.6**	**-1.1**
WRA	**Warramunga Arr**	**69.31**	**265**	P	**P**	**22 09 02.3**	**-0.4**
	comp=Z,2.4nm,1.1s,baz=145,slow=5.7,SNR=11						
WRA				LR	LR	22 35 12.4	
	comp=Z,109nm,21.3s,baz=130,slow=32						
	comp=Z,2.4nm,1.1s						
WRAB	**Tennant Creek**	**69.31**	**265**	P	**P**	**22 09 01.9**	**-0.9**
WRAB				IAmb	IAmb	22 09 03.2	
	comp=Z,8.5nm,0.9s						
ATAH	**Atahualpa**	**70.41**	**73**	LR	LR	22 34 41.9	
	comp=Z,119nm,18.0s,baz=217,slow=31						
PMG	**Port Moresby**	**70.76**	**282**	LR	LR	22 35 54.1	
	comp=Z,91nm,20.3s,baz=164,slow=32						
VILB	**Vilhena**	**75.65**	**92**	P	**P**	**22 09 40.5**	**-0.1**
JAY	**Jayapura**	**80.01**	**281**	LR	LR	22 42 09.3	
	comp=Z,74nm,20.6s,baz=16,slow=33						
JTS	**Las Juntas de**	**82.00**	**58**	LR	LR	22 38 17.5	
	comp=Z,38nm,20.1s,baz=195,slow=30						
ROSC	**El Rosal**	**82.66**	**70**	LR	LR	22 40 07.2	
	comp=Z,126nm,19.9s,baz=212,slow=31						
LPIG	**La Paz**	**84.84**	**30**	LR	LR	22 37 47.4	
	comp=Z,67nm,20.9s,baz=212,slow=28						
SDV	**Santo Domingo**	**88.00**	**71**	LR	LR	22 44 56.9	
	comp=Z,60nm,18.2s,baz=226,slow=32						
TXAR	**Lajitas Array**	**91.73**	**34**	P	**P**	**22 11 03.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=189,slow=4.6,SNR=2.0						
	comp=Z,0.1nm,0.3s						
PFO	**Pinyon Flats O**	**92.42**	**22**	LR	LR	22 44 15.5	
	comp=Z,98nm,18.4s,baz=164,slow=30						
GMN	**Gold Mountain**	**95.81**	**21**	P	**P**	**22 11 21.6**	**+0.1**
GMN				IAmb	IAmb	22 14 03.0	
	comp=Z,9.0nm,1.8s						
ANMO	**Albuquerque**	**96.15**	**30**	LR	LR	22 46 03.4	
	comp=Z,58nm,19.9s,baz=6.0,slow=30						
DAV	**Davao City (W)**	**96.31**	**273**	LR	LR	22 52 19.1	
	comp=Z,41nm,21.3s,baz=102,slow=34						
NVAR	**Mina Array Bea**	**96.70**	**20**	LR	LR	22 44 31.6	
	comp=Z,77nm,21.6s,baz=212,slow=29						
YBH	**Yreka Blue Hor**	**99.18**	**16**	LR	LR	22 46 24.2	
	comp=Z,120nm,20.8s,baz=186,slow=29						
ELK	**Elko**	**99.54**	**21**	LR	LR	22 48 19.5	
	comp=Z,64nm,18.9s,baz=216,slow=30						
H10S3	**ASCENSION HYDR**	**102.60**	**128**	T	T	00 06 58.9	
	baz=207,slow=74,SNR=15						
H10S2	**ASCENSION HYDR**	**102.60**	**128**	T	T	00 06 59.1	
	baz=13,slow=74,SNR=24						
H10N3	**ASCENSION HYDR**	**103.66**	**128**	T	T	00 08 17.8	
	baz=206,slow=75,SNR=19						
H10N1	**ASCENSION HYDR**	**103.66**	**128**	T	T	00 08 18.3	
	baz=206,slow=75,SNR=27						
H10N2	**ASCENSION HYDR**	**103.67**	**128**	T	T	00 08 19.2	
	baz=206,slow=75,SNR=23						
ERM	**Erimo**	**115.69**	**308**	PKPdf	**PKPdf**	**22 16 36.4**	**-0.5**
MSEY	**Mahe Island**	**117.33**	**201**	PKPdf	**PKPdf**	**22 16 40.6**	**-0.5**
J18K	**Innoko River**	**119.80**	**353**	PKPdf	**PKiKP**	**22 16 45.0**	**+0.8**
ILAR	**Eielson Array**	**120.70**	**358**	PKP	**PKiKP**	**22 16 46.0**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=196,slow=1.6,SNR=4.3						
H21K	**Melozitna Rive**	**121.77**	**356**	PKPdf	**PKiKP**	**22 16 49.0**	**+1.0**
ESDC	**Sonseca Array**	**148.83**	**105**	PKPbc	**PKPbc**	**22 17 42.0**	**-0.4**
	comp=Z,1.8nm,1.0s,baz=257,slow=1.7,SNR=6.7						
MKAR	**Makanchi Array**	**150.47**	**271**	PKP	**PKPdf**	**22 17 40.6**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=184,slow=4.3,SNR=2.5						
ZALV	**Zalesovo Beam**	**152.68**	**286**	PKPbc	**PKPbc**	**22 17 50.6**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=90,slow=5.8,SNR=2.1						
KURBB	**Kurchatov Arra**	**154.62**	**275**	PKP	**PKPdf**	**22 17 48.2**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=122,slow=3.4,SNR=1.8						
BVAR	**Borovoye Array**	**160.22**	**275**	PKPab	**PKPab**	**22 18 33.4**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=108,slow=4.7,SNR=4.8						

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*IDC **11** 22:03:28.9±0.6, 37°.60N×20°.48E, h0km, mb4.0/21, mbtmp4.0/32, ML3.7/6, MS3.5/12, Error ellipse: s-maj=12.6km s-min=11.5km az=154.0*
*BEO **11** 22:03:29.8±2.3, 37°.31N±0°.05E, h54km±6km, ML3.9/11*
*THE **11** 22:03:29.9, 37°.57N±20°.38E, h0km±4km, ML3.9/7, Error ellipse: s-maj=4.8km s-min=0.8km az=239.0*
*ATH **11** 22:03:29.3, 37°.56N±20°.31E, h6km±2km, ML3.9/11, Error ellipse: s-maj=2.3km s-min=0.7km az=31.0*
*NEIC **11** 22:03:31.4±2.0, 37°.61N±0°.05×20°.40E±0°.05, h10km±1km, mb4.6/15, Error ellipse: s-maj=10.4km s-min=2.9km az=146.0*
*PDG **11** 22:03:31.6±0.8, 37°.59N×20°.31E, h4km±2km, ML4.0/11, Error ellipse: s-maj=1.1km s-min=2.0km az=0.0*
*NAO **11** 22:03:53.7, 39°.76N×19°.72E, h10km, mb4.1*
ISC 11 22:03:30.9±0.8, 37°.61N±0°.03×20°.41E±0°.03, h12km±4km, n223, σ1§56/274, mb4.3/30, MS3.5/6, 27C-4D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.33**	**81**	P	**Pg**	**22 03 37.1**	**-0.5**
KRI1				S	**Sg**	**22 03 42.1**	**+0.1**
	36μm,0.4s						
LTHK	**Lithakia**	**0.35**	**74**	P	**Pg**	**22 03 37.4**	**-0.6**
LTHK				S	**Sb**	**22 03 44.0**	**-0.6**
LTHK				AML	AML	22 03 44.7	
	comp=E,66546μm,0.3s						
LTHK				AML	AML	22 03 44.9	
	comp=N,32673μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.52**	**16**	P	**Pg**	**22 03 40.7**	**-0.4**
PSDA				S	**Sg**	**22 03 48.7**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.52**	**16**	P	**Pg**	**22 03 40.7**	**-0.4**
PSDA				S	**Sg**	**22 03 48.3**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.55**	**32**	P	**Pg**	**22 03 41.0**	**-0.6**
RTZL				S	**Sb**	**22 03 49.8**	**-0.3**
VLS	**Valsamata**	**0.58**	**14**	P	**Pg**	**22 03 41.4**	**-0.9**
VLS				S	**Sg**	**22 03 50.4**	**+0.4**
VLS	**Valsamata**	**0.58**	**14**	P	**Pg**	**22 03 41.6**	**-0.7**
VLS				S	**Sg**	**22 03 50.4**	**+0.4**
VLS				AML	AML	22 03 56.2	
	comp=E,11705μm,0.4s						
VLS				AML	AML	22 03 59.9	
	comp=N,11604μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.59**	**2**	P	**Pg**	**22 03 41.7**	**-0.6**
LXRA				S	**Sb**	**22 03 50.9**	**-0.4**
LXRA				AML	AML	22 04 00.5	
	comp=N,44937μm,0.5s						
LXRA				AML	AML	22 04 03.6	
	comp=E,47650μm,1.0s						
DMLN	**Damoulianata-K**	**0.63**	**358**	P	**Pg**	**22 03 42.8**	**-0.3**
DMLN				S	**Sb**	**22 03 52.3**	**-0.2**
SMHA	**Samh**	**0.67**	**16**	P	**Pg**	**22 03 43.1**	**-0.8**
SMHA				S	**Sb**	**22 03 53.4**	**-0.2**
VSK1	**VASILIKIADES**	**0.81**	**9**	P	**Pg**	**22 03 45.8**	**-0.7**
VSK1				S	**Sn**	**22 03 59.2**	**-0.7**
	comp=E,14μm,0.7s						
FSK	**Fiskardo**	**0.85**	**8**	P	**Pg**	**22 03 46.4**	**-1.0**
FSK				S	**Sn**	**22 04 00.2**	**-0.9**
	comp=E,6μm,0.7s						
FSK	**Fiskardo**	**0.85**	**8**	P	**Pg**	**22 03 46.4**	**-1.0**
FSK				S	**Sb**	**22 03 59.4**	**+0.4**
FSK				AML	AML	22 04 05.4	
	comp=N,8181μm,0.7s						
FSK				AML	AML	22 04 06.7	
	comp=E,12793μm,0.6s						
RLS	**Riolos of Patr**	**0.95**	**62**	P	**Pg**	**22 03 48.1**	**-1.1**
RLS				S	**Sb**	**22 04 02.5**	**+0.8**
RLS	**Riolos of Patr**	**0.95**	**62**	P	**Pg**	**22 03 48.2**	**-1.1**
RLS				S	**Sn**	**22 04 03.1**	**-0.3**
RLS				AML	AML	22 04 11.4	
	comp=N,11421μm,0.6s						
RLS				AML	AML	22 04 11.8	
	comp=E,10231μm,0.9s						
EVGI	**Lefkada island**	**1.03**	**11**	P	**Pb**	**22 03 49.7**	**-0.8**
EVGI				S	**Sn**	**22 04 06.9**	**+1.5**
EVGI	**Lefkada island**	**1.03**	**11**	P	**Pb**	**22 03 49.7**	**-0.8**
AMT	**Artemida-Makis**	**1.04**	**94**	P	**Pb**	**22 03 49.9**	**-0.8**
AMT				S	**Sn**	**22 04 05.2**	**-0.5**
AMT				AML	AML	22 04 14.4	
	comp=N,24526μm,0.8s						
AMT				AML	AML	22 04 15.1	
	comp=E,24624μm,0.9s						
DRAG	**Dragano-Lefkad**	**1.08**	**7**	P	**Pb**	**22 03 50.7**	**-0.8**
DRAG				S	**Sn**	**22 04 06.5**	**-0.1**
DRO	**Drossia**	**1.09**	**71**	P	**Pb**	**22 03 50.9**	**-0.7**
DRO	**Drossia**	**1.09**	**71**	P	**Pb**	**22 03 50.8**	**-0.8**
DRO				S	**Sn**	**22 04 07.8**	**+1.0**
DRO				AML	AML	22 04 14.2	
	comp=E,11865μm,0.5s						
DRO				AML	AML	22 04 25.8	
	comp=N,16714μm,0.9s						
NYDR	**Nydri-Lefkada**	**1.12**	**12**	P	**Pb**	**22 03 51.1**	**-1.1**
NYDR				S	**Sn**	**22 04 09.8**	**+2.1**
	comp=N,4μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.12**	**12**	P	**Pb**	**22 03 51.5**	**-0.7**
NYDR				S	**Sn**	**22 04 08.0**	**+0.3**
LKD2	**Lefkada island**	**1.19**	**9**	P	**Pg**	**22 03 53.8**	**0.0**
LKD2				S	**Sn**	**22 04 12.2**	**+2.7**
	comp=N,6μm,0.8s						
LKD2	**Lefkada island**	**1.19**	**9**	P	**Pn**	**22 03 53.0**	**-0.4**
LKD2				S	**Sn**	**22 04 09.5**	**0.0**
TSLK	**Tsoukalades, L**	**1.23**	**9**	P	**Pn**	**22 03 53.4**	**-0.4**
TSLK	**Tsoukalades, L**	**1.23**	**9**	P	**Pn**	**22 03 53.6**	**-0.2**
TSLK				S	**Sg**	**22 04 10.5**	**+0.1**
PYL	**PYLOS**	**1.28**	**123**	P	**Pn**	**22 03 54.0**	**-0.6**
PYL				S	**Sg**	**22 04 13.3**	**+1.1**
	comp=N,3μm,0.8s						
PYL	**PYLOS**	**1.28**	**123**	P	**Pn**	**22 03 54.0**	**-0.6**
PYL				S	**Sn**	**22 04 11.7**	**0.0**
PYL				AML	AML	22 04 16.4	
	comp=N,4723μm,0.8

comp=N,32nm,0.8s,baz=172,slow=6.6,SNR=11
VAE Sn **Sn** **22 05 38.1 +0.4**
comp=N,3.6nm,0.3s,baz=195,slow=15,SNR=2.2
VAE LR LR 22 06 49.0
comp=N,448nm,19.0s,baz=18,slow=41
BUM Brajici-Budva 4.83 347 ⇑i Pn **Pn** **22 04 45.1 +1.8**
BUM *i* Sn **Sn** **22 05 38.5 -0.6**
RAFF Raffo Rosso 4.83 267 Pn **Pn** **22 04 43.0 -0.3**
PDG Podgorica 4.89 350 Pn **Pn** **22 04 44.5 +0.3**
PDG Podgorica 4.89 350 *e*Pn **Pn** **22 04 44.4 +0.2**
PDG *e*Sn **Sn** **22 05 38.9 -1.8**
PDG Podgorica 4.89 350 *e*Pn **Pn** **22 04 44.5 +0.3**
PDG Podgorica 4.89 350 ⇑P **Pn** **22 04 44.8 +0.7**
PDG ⇑S **Sn** **22 05 40.4 -0.3**
PDG Podgorica 4.89 350 ⇑i Pn **Pn** **22 04 45.7 +1.5**
PDG *i* Sn **Sn** **22 05 40.0 -0.7**
PVY Plav 4.99 356 ⇑i Pn **Pn** **22 04 47.7 +2.1**
PVY *i* Sn **Sn** **22 05 43.1 -0.2**
WDD Wied Dalam 5.05 251 Pn **Pn** **22 04 46.6 +0.3**
HCY Herceg Novi 5.05 344 *e*Pn **Pn** **22 04 46.3 0.0**
HCY Herceg Novi 5.05 344 ⇑i Pn **Pn** **22 04 46.8 +0.5**
HCY *i* Sn **Sn** **22 05 43.8 -0.7**
BOSS Bosilegrad 5.13 17 *e*Pn **Pn** **22 04 48.6 +1.1**
IVA Berane 5.27 356 ⇓i Pn **Pn** **22 04 51.4 +2.0**
IVA *i* Sn **Sn** **22 05 50.0 -0.1**
NKME Niksic 5.27 348 ⇑i Pn **Pn** **22 04 51.3 +1.9**
NKME *i* Sn **Sn** **22 05 49.4 -0.6**
KOME Kolasin 5.28 353 *e*Pn **Pn** **22 04 51.5 +1.9**
KOME *i* Sn **Sn** **22 05 51.1 +0.8**
BARS Barje 5.31 11 *e*Pn **Pn** **22 04 50.3 +0.4**
TREB Trebinje 5.34 343 *e*Pn **Pn** **22 04 48.3 -2.0**
TREB *e*Sn **Sn** **22 05 47.8 -3.9**
TREB Trebinje 5.34 343 *e*Pn **Pn** **22 04 46.4 -3.9**
VTS Vitosha 5.45 23 *e*Pn **Pn** **22 04 53.0 +1.0**
ALN Alexandroupoli 5.47 51 **Pn** **22 04 52.7 +0.6**
BRY Bratogost 5.47 345 *e*Pn **Pn** **22 04 50.4 -1.9**
BRY Bratogost 5.47 345 ⇑i Pn **Pn** **22 04 53.4 +1.1**
BRY *i* Sn **Sn** **22 05 53.8 -1.4**
PLD Plovdiv 5.63 35 *e*Pn **Pn** **22 04 55.1 +0.8**
SELS Selova 5.63 5 *e*Pn **Pn** **22 04 54.6 +0.3**
STON Ston 5.65 339 *e*Pn **Pn** **22 04 53.2 -1.3**
STON *e*Sn **Sn** **22 05 54.6 -4.6**
STON Ston 5.65 339 *e*Pn **Pn** **22 04 53.1 -1.4**
SJES Sjenica 5.65 357 *e*Pn **Pn** **22 04 54.8 +0.1**
SJES Sjenica 5.65 357 *e*Pn **Pn** **22 04 53.2 -1.5**
PAOL Paolisi 5.67 309 Pn **Pn** **22 04 56.4 +1.4**
UPM Unac-Piva 5.70 349 *e*Pn **Pn** **22 04 58.0 +2.5**
UPM Unac-Piva 5.70 349 ⇓i Pn **Pn** **22 04 57.8 +2.3**
UPM *i* Sn **Sn** **22 06 00.4 -0.5**
PLE Pljevlja 5.76 353 ⇓i Pn **Pn** **22 04 58.9 +2.6**
PLE *i* Sn **Sn** **22 06 01.3 -1.1**
ZAPS Zavoj 5.90 16 *e*Pn **Pn** **22 04 59.3 +1.2**
IVAS Ivanjica 5.96 358 *e*Pn **Pn** **22 04 58.3 -0.6**
RUDO Rudo 6.05 353 *e*Pn **Pn** **22 04 58.2 -1.9**
BOVS Bovan 6.10 9 *e*Pn **Pn** **22 05 00.4 -0.3**
BOVS Bovan 6.10 9 ⇓P **Pn** **22 05 01.8 +1.1**
GRUS Gruza 6.27 2 *e*Pn **Pn** **22 05 03.2 0.0**
BBLS Lazi&#263i 6.29 353 *e*Pn **Pn** **22 05 03.1 -0.4**
BBLS *e*Sn **Sn** **22 06 09.8 -5.5**
BBLS Lazi&#263i 6.29 353 *e*Pn **Pn** **22 05 03.4 -0.1**
ZAGS Zajecar 6.35 12 *e*Pn **Pn** **22 05 04.3 +0.1**
DIVS Divibare 6.49 357 *e*Pn **Pn** **22 05 05.3 -0.9**
DIVS *e*Sn **Sn** **22 06 15.8 -4.3**
HAPS Han Pijesak,BI 6.56 351 *e*Pn **Pn** **22 05 05.8 -1.4**
HAPS *e*Sn **Sn** **22 06 16.1 -5.9**
HAPS Han Pijesak,BI 6.56 351 *e*Pn **Pn** **22 05 06.6 -0.6**
INTR Introdacqua 6.66 313 **Pn** **22 05 10.9 +2.4**
ELND Elena 6.76 36 ⇑P **Pn** **22 05 12.7 +2.9**
TEKS Tekeris 6.96 355 *e*Pn **Pn** **22 05 11.1 -1.5**
TEKS Tekeris 6.96 355 *e*Pn **Pn** **22 05 11.3 -1.3**
CAMP Campotosto 7.28 315 **Pn** **22 05 18.0 +0.9**
HERR Herculane 7.42 11 ⇑P **Pn** **22 05 20.4 +1.6**
A050A Klekovaca 7.46 338 *e*Pn **Pn** **22 05 19.9 +0.4**
BLY Banja Luka 7.53 342 *e*Pn **Pn** **22 05 18.1 -2.3**
BLY Banja Luka 7.53 342 *e*Pn **Pn** **22 05 21.4 +1.0**
FRGS Fruska Gora 7.55 357 *e*Pn **Pn** **22 05 19.5 -1.2**
ELL Elmali 7.63 94 **Pn** **22 05 22.1 +0.2**
NRCA Norcia 7.64 315 **Pn** **22 05 23.3 +1.4**
FDMO Fiordimonte 7.78 316 **Pn** **22 05 26.1 +2.2**
A051A Mrakovica 7.85 342 *e*Pn **Pn** **22 05 23.4 -1.4**
GZR Gura Zlata 7.97 12 ⇑P **Pn** **22 05 27.6 +1.1**
BZS Buzias 8.05 6 *e*Pn **Pn** **22 05 27.3 -0.2**
BZS Buzias 8.05 6 ⇑P **Pn** **22 05 28.9 +1.4**
ARR Arges 8.37 21 ⇑P **Pn** **22 05 33.7 +1.7**
VOIR 8.56 23 ⇑P **Pn** **22 05 36.9 +2.4**
MORH Mrgy, Hungar 8.70 352 ⇑P **Pn** **22 05 37.4 +1.0**
ISR Istrita 8.80 30 ⇑P **Pn** **22 05 41.0 +3.1**
MLR Muntele Rosu 8.90 26 **Pn** **22 05 38.9 -0.4**
MLR Muntele Rosu 8.90 26 Pn **Pn** **22 05 41.6 +2.4**
comp=N,25nm,0.9s
MLR LR LR 22 09 30.1
comp=N,240nm,19.3s,baz=238,slow=41
MLR Muntele Rosu 8.90 26 ⇑P **Pn** **22 05 42.8 +3.6**
CRES Cresnjevec Ost 9.00 337 *e*Pn **Pn** **22 05 39.5 -1.1**
KEST Kesra 9.08 261 **Pn** **22 05 42.8 +1.0**
KEST Kesra 9.08 261 Pn **Pn** **22 05 42.4 +0.6**
comp=N,0.6nm,0.3s,baz=67,slow=7.7,SNR=11
KEST Sn **Sn** **22 07 21.9 -2.1**
comp=N,0.1nm,0.3s,baz=34,slow=17,SNR=1.5
comp=N,7.3nm,0.8s
DOPR Dopca 9.14 22 ⇑P **Pn** **22 05 44.6 +2.1**
BISRR Bisoca 9.22 29 ⇑P **Pn** **22 05 46.8 +3.1**
CEY Cerknica 9.27 333 *e*Pn **Pn** **22 05 40.5 -3.8**
COVR Voineasa-Covas 9.29 26 ⇑P **Pn** **22 05 48.1 +3.5**
TURR Turia 9.41 25 ⇑P **Pn** **22 05 49.5 +3.3**
PLOR Plostina 9.41 28 ⇑P **Pn** **22 05 49.8 +2.9**
VRI Vrincioaia 9.50 28 ⇑P **Pn** **22 05 50.1 +2.7**
SOKA Soboth 9.90 338 *e*Pn **Pn** **22 05 52.8 -0.1**
comp=N,3.3nm,0.6s
OBKA Obir 9.90 336 *e*Pn **Pn** **22 05 53.3 +0.4**
comp=N,0.6nm,0.3s
OBKA Obir 9.90 336 *e*Pn **Pn** **22 05 52.0 -0.9**
ARSA Arzberg 10.28 341 *e*Pn **Pn** **22 05 59.5 +1.3**
comp=N,0.5nm,0.2s
RONA Rosalia, Austr 10.52 345 *e*Pn **Pn** **22 06 03.0 +1.5**
comp=N,0.4nm,0.3s
BRTR Keskin Array B 10.56 74 Pn **Pn** **22 06 03.7 +1.6**
comp=N,0.6nm,0.8s,baz=39,slow=8.0,SNR=0.9
BRTR LR LR 22 11 00.6
comp=N,395nm,19.7s,baz=276,slow=43
CTI Castel Tesino 10.66 325 **Pn** **22 06 03.1 -0.3**
KBA Koelnbreinsper 10.80 333 *e*Pn **Pn** **22 06 07.9 +2.5**
comp=N,0.3nm,0.3s
ABTA Abfaltersbach 10.84 330 *e*Pn **Pn** **22 06 09.0 +3.1**
comp=N,3.0nm,0.7s
VYHS Vyhne 10.94 354 *e*PN **Pn** **22 06 09.9 +2.8**
VYHS *e* 22 06 16.2
MOA Molln 11.18 338 *e*Pn **Pn** **22 06 10.8 +0.4**
comp=N,0.9nm,0.4s
BIOA Bad Ischl, Aus 11.23 336 *e*Pn **Pn** **22 06 11.2 0.0**
comp=N,0.6nm,0.3s
LESA Schwarzleotal 11.34 332 *e*Pn **Pn** **22 06 14.5 +1.9**
comp=N,0.6nm,0.3s
KOLS Kolonicke sedl 11.40 6 *e* Pn 22 06 24.4 +11
WTTA Wattenberg 11.61 329 *e*Pn **Pn** **22 06 16.1 -0.4**
comp=N,0.7nm,0.4s
WATA Walderalm 11.69 329 *e*Pn Pn 22 06 22.5 +5.0
comp=N,0.9nm,0.3s
FUORN Ofenpass-Fuorn 11.73 323 **Pn** **22 06 19.6 +1.4**
SQTA Sankt Quirin 11.76 328 *e*Pn **Pn** **22 06 19.4 +1.0**
comp=N,0.3nm,0.2s
FETA Feichten 11.81 326 *e*Pn Pn 22 06 24.1 +4.9
comp=N,2.5nm,0.6s
MOTA Moosalm 11.90 328 *e*Pn **Pn** **22 06 23.7 +3.3**
comp=N,2.0nm,0.6s
DAVOX Davos/Dischmat 12.03 323 Pn **Pn** **22 06 24.8 +2.6**
comp=N,0.1nm,0.3s,baz=144,slow=18,SNR=3.1
DAVOX Sn **Sn** **22 08 32.4 -3.8**
comp=N,0.1nm,0.3s,baz=132,slow=20,SNR=2.1
TUE Stuetta 12.07 321 **Pn** **22 06 23.2 +0.4**
GERES GERESS Array B 12.24 339 Pn **Pn** **22 06 25.7 +0.7**
comp=N,0.2nm,0.3s,baz=148,slow=13,SNR=4.5
GERES Sn **Sn** **22 08 38.6 -2.7**
comp=N,0.2nm,0.3s,baz=156,slow=22,SNR=2.1
comp=N,0.4nm,0.4s
KHC Kasperske Hory 12.53 339 *e*PN **Pn** **22 06 30.3 +1.4**
KHC *e*SN **Sn** **22 08 44.5 -3.9**
MMAI Mount Meron Ar 13.07 106 Pn **Pn** **22 06 35.8 -0.6**
comp=N,0.8nm,0.3s,baz=302,slow=8.3,SNR=2.4
MMAI Sn **Sn** **22 08 58.4 -3.4**
comp=N,0.8nm,0.3s,baz=319,slow=30,SNR=2.1
comp=N,0.8nm,0.5s
QRNJ Al-Qirein 13.50 108 P **P** **22 06 47.7 -3.7**

DSI Dead Sea 13.72 112 P **Pn** **22 06 46.2 +1.0**
GHAJ Ghor Haditha 13.99 112 **Pn** **22 06 48.9 0.0**
PRNI Paran 14.10 117 P **P** **22 06 56.6 -1.5**
ARPR Arapgir-MALATY 14.15 78 Pn **Pn** **22 06 51.7 +0.5**
ECH Echery 14.35 322 Pn **Pn** **22 06 54.4 +0.7**
MBRI Mt Berech 14.36 119 P **Pn** **22 06 54.0 -0.1**
EIL Elat 14.46 119 Pn **Pn** **22 06 53.9 -1.5**
comp=N,0.2nm,0.3s,baz=327,slow=11,SNR=4.4
EIL Sn Sn 22 09 22.6 -13
comp=N,0.3nm,0.3s,baz=238,slow=18,SNR=2.3
comp=N,9.2nm,1.0s
AQBJ Aqaba 14.50 119 P **Pn** **22 06 55.9 +0.1**
AKASG Malin Array Be 14.52 23 Pn **Pn** **22 06 55.2 -0.8**
comp=N,0.1nm,0.3s,baz=212,slow=12,SNR=4.7
comp=N,1.9nm,0.9s
ASF Jabal al Asfar 14.57 107 Pn **Pn** **22 06 58.7 +1.8**
baz=166,slow=0.1
CLL Collm 14.67 341 *e*Px Px 22 07 01.0
CLL *i* PP **PnPn** **22 07 06.9 +1.0**
comp=Z,17nm,1.7s
CLL *es*PP 22 07 11.0
SUW Suwalki 16.51 6 P **Pn** **22 07 23.1 +0.9**
SUW IAmb IAmb 22 07 33.8
comp=Z,60nm,1.0s
GURO Guroymak-BITLI 17.05 80 Pn **Pn** **22 07 28.8 -0.4**
NACGM Naroch 17.84 12 *e*P **P** **22 07 41.1 +1.8**
comp=Z,29nm,0.8s,baz=197
PABE Paberze 18.06 7 P **Pn** **22 07 41.0 -0.4**
PABE IAmb IAmb 22 07 47.5
comp=Z,87nm,1.2s
KBZ Khabaz 18.10 63 P **P** **22 07 44.7 +2.4**
comp=Z,4.0nm,1.0s,baz=256,slow=4.1,SNR=4.8
GNI Garni 19.10 75 P **Pn** **22 07 54.5 +0.2**
comp=Z,5.2nm,0.9s,baz=61,slow=19,SNR=2.3
GNI LR LR 22 15 49.3
comp=Z,105nm,20.4s,baz=280,slow=39
ESDC Sonseca Array 19.14 284 P **Pn** **22 07 55.0 +0.3**
baz=79,slow=11,SNR=14
ESDC LR LR 22 14 05.4
comp=Z,111nm,19.0s,baz=76,slow=33
comp=Z,3.6nm,1.0s
OBN Obninsk 20.67 27 P **P** **22 08 10.5 +0.3**
comp=Z,7.0nm,0.6s,baz=312,slow=14,SNR=2.3
comp=Z,7.0nm,0.6s
MDT Midelt 20.97 264 P **P** **22 08 14.7 +0.8**
comp=Z,3.5nm,0.9s,baz=99,slow=9.3,SNR=7.6
MDT LR LR 22 15 52.0
comp=Z,104nm,21.4s,baz=168,slow=35
comp=Z,3.5nm,0.9s
PBRG Braganca 21.27 290 *e*P **P** **22 08 20.5 +3.5**
MVO Moncorvo 21.46 288 *e*P **P** **22 08 20.3 +1.2**
PBAR Barrancos 21.64 280 *e*P **P** **22 08 23.5 +2.5**
PBAR A A 22 08 33.3
comp=Z,40nm,1.7s
PESTR Estremoz 22.00 282 *e*P **P** **22 08 29.3 +4.5**
POLO Lamas de Olo 22.04 289 *e*P **P** **22 08 26.3 +0.9**
PVIS Viseu 22.12 287 *e*P **P** **22 08 25.8 -0.4**
HFS Hagfors 22.95 351 P **P** **22 08 34.7 0.0**
comp=Z,4.5nm,0.7s,baz=171,slow=12,SNR=7.3
comp=Z,4.5nm,0.7s
EKA Eskdalemuir Ar 23.84 326 P **P** **22 08 44.1 +0.5**
comp=Z,4.5nm,1.0s,baz=140,slow=13,SNR=1.8
comp=Z,4.5nm,1.0s
FINES FINESS Array B 24.12 7 P **P** **22 08 45.8 -0.4**
comp=Z,6.5nm,0.9s,baz=175,slow=8.9,SNR=18
comp=Z,6.5nm,0.9s
NB2 NORSAR Subarra 24.16 349 P **P** **22 08 46.7 +0.1**
comp=Z,9.6nm,1.1s,baz=162,slow=11
NOA NORSAR Array B 24.16 349 P **P** **22 08 46.4 -0.2**
comp=Z,1.5nm,0.9s,baz=161,slow=10,SNR=5.5
comp=Z,1.5nm,0.9s
RAYN Ar Rayn 25.67 116 P **P** **22 09 01.4 +0.7**
TORD Torodi Ar. Bea 29.54 219 P **P** **22 09 35.0 -0.3**
comp=Z,1.9nm,0.6s,baz=26,slow=9.8,SNR=17
TORD LR LR 22 23 10.0
comp=Z,69nm,18.3s,baz=8.5,slow=40
comp=Z,1.9nm,0.6s
ARTI Arti 31.44 41 P **P** **22 09 51.1 -0.6**
ARTI IAmb IAmb 22 09 51.5
comp=Z,6.2nm,1.1s
ARCES ARCESS Array B 32.10 3 P **P** **22 09 57.2 -0.2**
comp=Z,0.9nm,0.5s,baz=184,slow=10,SNR=5.1
comp=Z,0.9nm,0.5s
BORG Borgarnes 36.56 331 LR LR 22 25 39.8
comp=Z,61nm,19.5s,baz=17,slow=36
BVAR Borovoye Array 37.55 49 P **P** **22 10 44.2 -0.4**
comp=Z,1.7nm,0.9s,baz=250,slow=4.3,SNR=4.2
comp=Z,1.7nm,0.9s
DBIC Dimbokro 38.42 223 P **P** **22 10 52.9 +0.5**
comp=Z,9.5nm,1.1s,baz=352,slow=8.5,SNR=4.4
DBIC LR LR 22 26 44.9
comp=Z,88nm,18.8s,baz=60,slow=36
comp=Z,9.5nm,1.1s
BBTS Babate 39.90 245 LR LR 22 28 43.8
comp=Z,91nm,20.8s,baz=322,slow=38
KMBO Kilima Mbogo 41.58 154 P **P** **22 11 19.1 +0.2**
comp=Z,0.2nm,0.3s,baz=339,slow=8.4,SNR=1.6
comp=Z,0.2nm,0.3s
KURBB Kurchatov Arra 42.64 53 P **P** **22 11 26.0 -0.9**
comp=Z,1.7nm,0.8s,baz=280,slow=8.6,SNR=8.7
comp=Z,1.7nm,0.8s
MKAR Makanchi Array 45.68 58 P **P** **22 11 50.8 -0.6**
comp=Z,0.9nm,0.5s,baz=266,slow=8.1,SNR=2.0
comp=Z,0.9nm,0.5s
ZAA0 Zalesovo Array 46.14 48 P **P** **22 11 53.9 -0.9**
ZAA0 IAmb IAmb 22 11 54.9
comp=Z,3.6nm,0.8s
ZALV Zalesovo Beam 46.14 48 P **P** **22 11 54.2 -0.6**
comp=Z,2.7nm,0.6s,baz=282,slow=7.4,SNR=12
comp=Z,2.7nm,0.6s
TIXI Tiksi 60.21 20 P **P** **22 13 38.7 +0.6**
TIXI IAmb IAmb 22 13 40.0
comp=Z,1.8nm,0.8s
SONM Songino Array 60.89 50 P **P** **22 13 43.0 -0.3**
comp=Z,1.5nm,0.8s,baz=294,slow=11,SNR=9.0
comp=Z,1.5nm,0.8s
BOSA Boshof 66.03 175 P **P** **22 14 14.6 -2.9**
comp=Z,1.7nm,0.8s,baz=270,slow=18,SNR=1.7
HHC Hu-ho-hao-te 67.43 55 *e*P **P** **22 14 26.6 +0.2**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,42nm,3.7s
PZH PanZhiHua 67.85 73 P **P** **22 14 30.8 +1.5**
PZH pmax pmax
comp=Z,6.0nm,1.1s
PZH pmax pmax
comp=Z,110nm,5.3s
A36M Sachs Harbour 68.06 349 P **P** **22 14 31.6 +1.9**
A36M IAmb IAmb 22 14 34.3
comp=Z,3.9nm,0.9s
CMAR Chiang Mai Arr 70.06 82 P **P** **22 14 41.5 -1.5**
comp=Z,1.2nm,0.8s,baz=306,slow=8.1,SNR=10
comp=Z,1.2nm,0.8s
HEH HeiHe 71.52 40 *e*P **P** **22 14 51.5 +0.1**
HEH pmax pmax
comp=Z,7.0nm,0.8s
E29M Blow River 73.07 352 P **P** **22 15 01.6 +1.3**
E29M IAmb IAmb 22 15 07.8
comp=Z,4.0nm,0.8s
CN2 Changchun 74.34 47 *e*P **P** **22 15 08.2 0.0**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
ULM Lac du Bonnet 76.10 324 P **P** **22 15 19.6 +1.4**
comp=Z,2.5nm,0.7s,baz=307,slow=5.1,SNR=3.1
comp=Z,2.5nm,0.7s
NJ2 Nanjing 77.18 59 *e*P **P** **22 15 24.4 -0.2**
NJ2 pP **sP** **22 15 28.5 -0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
ILAR Eielson Array 77.46 354 P **P** **22 15 27.4 +1.7**
comp=Z,0.5nm,0.9s,baz=358,slow=6.3,SNR=4.1
comp=Z,0.5nm,0.9s
USRK Ussuriysk Ar. 77.75 43 P **P** **22 15 27.2 -0.4**
comp=Z,2.2nm,0.8s,baz=57,slow=5.3,SNR=3.1
comp=Z,2.2nm,0.8s
KSRS Korea Array 79.76 50 P **P** **22 15 38.6 -0.1**
comp=Z,3.2nm,0.9s,baz=314,slow=4.6,SNR=7.0
comp=Z,3.2nm,0.9s
KDAK Kodiak Island 84.78 356 LR LR 22 53 58.9
comp=Z,199nm,21.8s,baz=10,slow=36
KAN09 Caldwell North 86.15 315 P **P** **22 16 12.9 +1.0**
LPAZ La Paz 98.62 256 P **P** **22 17 09.6 -1.2**
comp=Z,0.4nm,0.5s,baz=24,slow=10.0,SNR=1.7
comp=Z,0.4nm,0.5s
WRA Warramunga Arr 120.61 92 PKP **PKPdf** **22 22 22.8 -0.1**
comp=Z,0.5nm,0.9s,baz=338,slow=1.8,SNR=2.3

ISK 11 22:03:38.4, 39.°05N×31.°73E, h7km, ML1.9/20
AFAD 11 22:03:38.0±0.0, 39.°03N×31.°66E, h11km±1km, ML1.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTIK	**Konya-Celtik**	**0.01**	**273**	P	Pg	22 03 40.2	+0.2
CTIK				S	Sg	22 03 41.6	+0.2
KIZT	**Kizilcal**	**0.23**	**130**	Pg	Pg	22 03 42.7	-0.1
AUSIV	**SIVRIHISAR**	**0.42**	**348**	P	Pg	22 03 46.6	+0.3
AUSIV				S	Sg	22 03 51.8	-0.1
SVRH	**Sivrihisar-ESK**	**0.43**	**346**	Pg	Pg	22 03 47.1	+0.6
UCKU	**Afyonkarahisar**	**0.43**	**205**	P	Pb	22 03 47.4	-0.3
UCKU				S	Sg	22 03 53.0	+0.7
BYAT	**Afyon-Bayat**	**0.53**	**261**	P	Pb	22 03 49.9	+0.4
BYAT				S	Sg	22 03 56.0	+0.6
BYAT				*i* AML	AML	22 04 00.0	
	comp=E,67nm,0.3s						
BYAT				*i* AML	AML	22 04 05.0	
	comp=N,68nm,0.4s						
CIFT	**Cifteler, Eski**	**0.57**	**306**	Pg	Pb	22 03 49.9	-0.2
CIFT				Sg	Sb	22 03 58.3	+0.1
KDHN	**Kadinhani**	**0.62**	**145**	P	Pg	22 03 49.6	-0.5
KDHN				S	Sg	22 03 56.0	-2.3
KURO	**Afyon-Bolvadin**	**0.64**	**243**	P	Pb	22 03 51.7	+0.4
KURO				S	Sb	22 03 59.6	-0.6
SGAZ	**Eskisehir, Sey**	**0.81**	**308**	P	Pb	22 03 54.1	-0.1
SGAZ				S	Sg	22 04 03.8	-0.4
SGAZ				*i* AML	AML	22 04 10.0	
	comp=N,47nm,0.3s						
YVAC	**Isparta, Yalva**	**0.82**	**203**	P	Pb	22 03 54.5	+0.1
YVAC				S	Sg	22 04 04.4	-0.3
AUMIH	**MIHALICIK**	**0.85**	**351**	P	Pn	22 03 57.1	+1.0
AUMIH				S	Sb	22 04 06.7	+0.3
AUMIH				*i* AML	AML	22 04 11.0	
	comp=N,50nm,0.8s						
AUMIH				*i* AML	AML	22 04 16.0	
	comp=E,36nm,0.5s						
DOGA	**KONYA_Doganhis**	**0.92**	**179**	P	Pg	22 03 55.8	+0.1
DOGA				S	Sb	22 04 08.2	-0.2
SHUT	**Suhut-Afyon**	**0.99**	**242**	Pg	Pn	22 03 59.1	+1.2
LADK	**Ladik-KONYA**	**1.00**	**146**	Pg	Pg	22 03 56.9	-0.3
KULU	**Kulu**	**1.05**	**89**	Pg	Pg	22 03 58.1	-0.1
CHBY	**Cihanbeyli**	**1.06**	**114**	Pg	Pg	22 03 58.1	-0.3
AFYO	**Afyonkarahisar**	**1.09**	**258**	P	Pn	22 04 01.8	+2.4
AFYO				*i* AML	AML	22 04 49.0	
	comp=N,37nm,1.3s						
AFYO				*i* AML	AML	22 04 49.0	
	comp=E,37nm,1.3s						
AFSR	**Afar-Bala (An**	**1.17**	**69**	Pn	Pb	22 04 00.3	-0.1
AFYN	**Afyon-Dinar-K**	**1.18**	**230**	S	Sg	22 04 16.1	+0.1
LOD	**Lodumlu**	**1.21**	**45**	Pn	Pb	22 04 01.1	0.0
KONT	**Konya--Tatoy**	**1.22**	**153**	Pn	Pg	22 04 01.2	-0.1
ANTO	**Ankara**	**1.22**	**46**	Pn	Pn	22 04 01.0	-0.1
BORA	**Eskisehir**	**1.26**	**313**	P	Pg	22 04 02.5	+0.2
BORA				S	Sn	22 04 18.9	+0.1
BORA				*i* AML	AML	22 04 22.0	
	comp=E,19nm,0.5s						
SRCK	**Saricakaya, Es**	**1.29**	**322**	Pn	Pg	22 04 03.4	+0.7
YUVA	**Yuva-Kibriscik**	**1.36**	**1**	Pn	Pg	22 04 04.0	-0.1
BNAZ	**Uak-Banaz**	**1.43**	**256**	P	Pg	22 04 06.4	+0.9
BNAZ				S	Sg	22 04 25.5	+1.4
BNAZ				*i* AML	AML	22 04 31.0	
	comp=N,17nm,0.5s						
BNAZ				*i* AML	AML	22 04 32.0	
	comp=E,19nm,0.5s						
ANDZ	**Kutahya, Merke**	**1.45**	**290**	P	Pg	22 04 05.9	+0.1
ANDZ				*i* AML	AML	22 05 06.0	
	comp=N,20nm,2.7s						
MDUB	**Mudurnu**	**1.48**	**346**	Pn	Pb	22 04 05.9	+0.2
SERE	**Sereflikochisa**	**1.49**	**93**	Pn	Pb	22 04 05.6	-0.2
SEYD	**Seydisehir-KON**	**1.63**	**175**	Pn	Pb	22 04 08.4	+0.3
KAMT	**Kaman**	**1.63**	**77**	Pn	Pn	22 04 07.5	+0.7
GULT	**Gulveren**	**1.66**	**328**	Pn	Pb	22 04 08.6	0.0
SULT	**Sultanhani-AKS**	**1.68**	**119**	Pn	Pb	22 04 08.6	-0.3
BR131	**Keskin Array S**	**1.69**	**65**	Pn	Pn	22 04 08.1	+0.5
GDZ	**Gediz**	**1.69**	**273**	P	Pb	22 04 09.4	+0.1
GDZ				S	Sn	22 04 28.8	-0.7
TVSB	**Tavsanli**	**1.76**	**285**	Pn	Pb	22 04 10.6	+0.3
PASA	**Karahalli, USA**	**1.83**	**249**	P	Pg	22 04 14.4	+1.4

IDC 11 22:04:41.0±0.7, 35.°10N×81.°03E, h0km, mb3.9/11, mbtmp3.8/16, ML3.1/5, Error ellipse: s-maj=22.2km s-min=15.0km az=56.0
ISC 11 22:04:43.7±0.8, 35.°1N±0.°1×81.°1E±0.°1, h16km, n16, σ1§03/16, mb3.9/11, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**9.08**	**328**	Pn	Pn	**22 06 54.9**	**+0.8**
	0.2nm,0.3s,baz=120,slow=13,SNR=3.6						
AAK				Lg	Lg	22 09 19.7	
	0.5nm,0.3s,baz=324,slow=17,SNR=3.4						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**11.68**	**4**	Pn	Pn	**22 07 29.1**	**-0.5**
	0.5nm,0.3s,baz=183,slow=12,SNR=13						
MKAR				Sn	Sn	22 09 30.7	-9.0
	0.1nm,0.3s,baz=14,slow=30,SNR=1.9						
	2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**15.59**	**354**	Pn	Pn	**22 08 20.2**	**-2.4**
	baz=176,slow=12,SNR=9.3						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**18.99**	**7**	P	Pn	**22 09 05.2**	**+0.2**
	0.3nm,0.3s,baz=210,slow=11,SNR=5.3						
	1.3nm,0.6s						
BVAR	**Borovoye Array**	**19.43**	**340**	P	Pn	**22 09 10.1**	**-0.2**
	baz=143,slow=11,SNR=12						
	2.3nm,0.6s						
SONM	**Songino Array**	**22.69**	**48**	P	P	**22 09 46.5**	**+1.9**
	0.9nm,0.8s,baz=249,slow=12,SNR=4.2						
	0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**22.96**	**132**	P	P	**22 09 47.8**	**+0.4**
	0.5nm,0.3s,baz=328,slow=11,SNR=6.0						
	0.5nm,0.3s						
BRTR	**Keskin Array B**	**37.61**	**291**	P	P	**22 11 57.7**	**-0.1**
	0.5nm,0.8s,baz=83,slow=9.9,SNR=2.3						
	0.5nm,0.8s						
MLR	**Muntele Rosu**	**42.55**	**301**	P	P	**22 12 38.6**	**-0.1**
	1.2nm,0.8s,baz=115,slow=17,SNR=2.0						
	1.2nm,0.8s						
FINES	**FINESS Array B**	**43.26**	**325**	P	P	**22 12 43.3**	**-0.6**
	5.4nm,1.0s,baz=82,slow=2.9,SNR=2.5						
	5.4nm,1.0s						
ARCES	**ARCESS Array B**	**45.63**	**336**	P	P	**22 13 03.7**	**+0.8**
	3.5nm,0.9s,baz=86,slow=14,SNR=2.4						
	3.5nm,0.9s						
ILAR	**Eielson Array**	**73.59**	**19**	P	P	**22 16 14.2**	**-1.5**
	0.8nm,1.0s,baz=306,slow=5.4,SNR=4.7						
	0.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**73.95**	**275**	P	P	**22 16 18.3**	**-0.3**
	0.5nm,0.4s,baz=38,slow=6.2,SNR=7.0						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**74.51**	**129**	P	P	**22 16 21.5**	**-0.1**
	1.2nm,0.8s,baz=326,slow=5.7,SNR=13						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**76.97**	**131**	P	P	**22 16 35.6**	**0.0**
	0.8nm,0.6s,baz=318,slow=5.7,SNR=13						
	0.8nm,0.6s						
BOSA	**Boshof**	**82.43**	**227**	P	P	**22 17 05.2**	**-0.1**
	2.8nm,0.8s,baz=22,slow=5.7,SNR=7.9						
	2.8nm,0.8s						

**SOME 11 22:06:16.6, 41.°47N×78.°15E, h10km

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTBS	**Maitube**	**2.10**	**323**	*eP*	Pb	22 06 55.3	+0.5
	4.1nm,0.5s						
MTBS				*eS*	Sg	22 07 23.1	-0.8
	6.3nm,0.4s						
KST	**Kastek**	**2.26**	**315**	*eP*	Pb	22 06 58.2	+0.6
	4.8nm,0.7s						
KST				*eS*	Sg	22 07 28.5	-0.8
	11nm,0.6s						

IDC ***11*** *22:11:12.4±0.7,35.°10N×81.°09E,h0km,mb3.9/12, mbtmp3.9/17,ML3.0/5,MS3.6/22,Error ellipse: s-maj=21.4km s-min=14.5km az=63.0*
NEIC ***11*** *22:11:13.2±1.6,35.°12N±0.°03×81.°08E±0.°08,h10km±1km, mb4.4/30,Error ellipse: s-maj=11.4km s-min=5.2km az=95.0*

ISC 11 22:11:13.6±0.4,**34.°99N**±0.°05×**81.°09E**±0.°05,**h16**km,**n102**, σ1°**98**/82,**mb4.3**/26,**MS3.7**/20,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**4.60**	**197**	*eP*	**Pn**	**22 12 23.8**	**+1.1**
JOSI				IAML		22 12 50.1	
	comp=N,354nm,0.8s						
JOSI				IAML		22 12 52.0	
	comp=E,435nm,1.2s						
JOSI				IAML		22 12 54.1	
	comp=E,334nm,1.2s						
DHRM	**DHARAMSHALA**	**4.83**	**237**	*eP*	**Pn**	**22 12 27.3**	**+1.4**
DHRM				*eS*	**Sb**	**22 13 36.2**	**+0.1**
DHRM				IAML		22 14 03.8	
	comp=N,505nm,1.5s						
SMLA	**Simla**	**5.06**	**222**	*eP*	**Pn**	**22 12 30.6**	**+1.8**
SMLA				*eS*	**Sn**	**22 13 27.4**	**+0.4**
SMLA				IAML		22 13 40.0	
	comp=E,438nm,1.1s						
SRNI	**Srinagar**	**5.22**	**262**	*eP*	**Pn**	**22 12 32.7**	**+1.7**
BHK	**Bhakra**	**5.29**	**229**	*eP*	**Pn**	**22 12 29.2**	**-2.8**
BHK				*i* x	Sg	22 14 15.9	+13
DDI	**Dehra Dun**	**5.30**	**210**	*eP*	**Pn**	**22 12 34.5**	**+2.3**
LGTI	**Lohaghat**	**5.56**	**188**	*eP*	**Pn**	**22 12 39.0**	**+3.2**
LGTI				*ex*	**Sb**	**22 13 53.1**	**-3.7**
KSH	**Kashi**	**6.09**	**319**	P	**Pn**	**22 12 45.8**	**+2.7**
KSH				S	**Sn**	**22 13 58.1**	**+5.6**
KSH				pmax	pmax		
	comp=Z,24nm,0.7s						
KSH				LR	LR		
	comp=N,1μm,3.1s						
KSH				LR	LR		
	comp=E,2μm,5.3s						
KSH				LR	LR		
	comp=Z,1μm,7.9s						
WUS	**Wushi**	**6.38**	**347**	Pn	**Pn**	**22 12 45.7**	**-1.3**
NIL	**Nilore**	**6.62**	**261**		**Pn**	**22 12 50.5**	**+0.2**
TARG	**Taragay, Kyrgy**	**7.21**	**340**	Pn	**Pn**	**22 12 57.4**	**-1.3**
NRN	**Naryn**	**7.58**	**330**		**Pn**	**22 13 02.6**	**-1.1**
KDJ	**Kajisay**	**7.76**	**338**	Pn	**Pn**	**22 13 05.4**	**-0.7**
DRK	**Karamyk**	**8.66**	**304**	Pn	**Pn**	**22 13 16.2**	**-2.3**
ARSB	**Arslanbob**	**8.98**	**317**	Pn	**Pn**	**22 13 20.8**	**-2.0**
AAK	**Ala-Archa**	**9.21**	**328**	Pn	**Pn**	**22 13 23.4**	**-2.4**
AAK	**Ala-Archa**	**9.21**	**328**	Pn	**Pn**	**22 13 27.4**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=172,slow=10,0,SNR=2.6						
AAK				Lg	Lg	22 15 54.6	
	comp=Z,0.7nm,0.3s,baz=323,slow=18,SNR=3.9						
	comp=Z,1.9nm,0.6s						
FRU1	**Bishkek**	**9.29**	**329**	Pn	**Pn**	**22 13 26.1**	**-0.9**
GAR	**Garm**	**9.50**	**298**		**Pn**	**22 13 28.7**	**-1.1**
BTK	**Batken**	**9.60**	**305**	Pn	**Pn**	**22 13 29.6**	**-1.5**
KBL	**Kabul**	**9.92**	**271**	Pn	**Pn**	**22 13 36.0**	**+0.3**
GTK	**Tadong**	**9.99**	**138**	*i* Rg	Rg	22 17 26.3	
LSA	**Lhasa**	**10.01**	**119**	Pn	**Pn**	**22 13 37.2**	**0.0**
WMQ	**Urumqi**	**10.20**	**28**	*eP*	**Pn**	**22 13 41.7**	**+2.4**
WMQ				smax	smax		
	comp=N,33nm,1.5s						
WMQ				smax	smax		
	comp=E,33nm,1.5s						
WMQ				LR	LR		
	comp=N,520nm,6.7s						
WMQ				LR	LR		
	comp=E,740nm,16.5s						
WMQ				LR	LR		
	comp=Z,95nm,14.3s						
WMQ	**Urumqi**	**10.20**	**28**	Pn	Pn	22 13 52.9	+14
WMQ				Sn	Sn	22 15 45.8	+13
WMQ				smax	smax		
	comp=N,30nm,1.1s						
WMQ				smax	smax		
	comp=E,31nm,1.1s						
WMQ				LR	LR		
	comp=N,540nm,7.7s						
WMQ				LR	LR		
	comp=E,470nm,10.9s						
WMQ				LR	LR		
	comp=Z,100nm,10.1s						
SIMJ	**Simiganj**	**10.35**	**294**		**Pn**	**22 13 40.1**	**-1.5**
KKAR	**Karatay Array**	**11.54**	**318**	Pn	**Pn**	**22 13 56.1**	**-1.5**
MAKZ	**Makanchi**	**11.83**	**3**	Pn	**Pn**	**22 13 58.1**	**-3.5**
MK31	**Makanchi Array**	**11.83**	**4**	Pn	**Pn**	**22 14 00.1**	**-1.5**
MKAR	**Makanchi Array**	**11.83**	**4**	Pn	**Pn**	**22 14 00.1**	**-1.5**
MKAR	**Makanchi Array**	**11.83**	**4**	Pn	**Pn**	**22 14 00.4**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=183,slow=13,SNR=5.8						
MKAR				LR	LR	22 19 18.4	
	comp=Z,180nm,18.4s,baz=189,slow=42						
	comp=Z,1.3nm,0.5s						
BHPL	**Bhopal**	**12.13**	**196**	*i* x	x	22 18 36.2	
ZIRO	**ZIRO**	**13.20**	**121**	*i* Rg	x	22 18 50.6	
SHL	**Shillong**	**13.23**	**132**	*i* x	x	22 19 18.9	
KOHI	**KOHIMA**	**14.54**	**126**	*i* Rg	Rg	22 20 16.0	
IMP	**Imphal**	**15.04**	**129**	*i* Rg	Rg	22 20 34.3	
HRA	**Herat**	**15.52**	**273**	Pn	**Pn**	**22 14 50.7**	**-1.2**
GTA	**Gaotai**	**15.56**	**68**	P	**P**	**22 14 56.5**	**-0.2**
GTA				pP	pP	22 15 02.8	+0.2
GTA				pmax	pmax		
	comp=Z,2.0nm,1.7s						
GTA				pmax	pmax		
	comp=Z,3.0nm,1.4s						
GTA				LR	LR		
	comp=N,200nm,8.8s						
GTA				LR	LR		
	comp=E,330nm,10.4s						
GTA				LR	LR		
	comp=Z,340nm,10.0s						
KURBB	**Kurchatov Arra**	**15.74**	**354**	Pn	**Pn**	**22 14 51.0**	**-3.5**
	baz=178,slow=12,SNR=6.7						
KURBB				Lg	Lg	22 19 28.2	
	baz=182,slow=29,SNR=2.3						
KURBB				LR	LR	22 21 21.8	
	comp=Z,183nm,18.1s,baz=172,slow=39						
	comp=Z,1.2nm,0.8s						
KURK	**Kurchatov**	**15.82**	**354**	Pn	**Pn**	**22 14 52.3**	**-3.3**
LZH	**Lanzhou**	**18.55**	**80**	*eP*	**Pn**	**22 15 35.4**	**+5.4**
LZH				pP	sP	22 15 42.3	+3.8
LZH				sP	pP	22 15 45.1	+9.3
LZH				SS	S	22 19 31.8	+31
LZH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LZH				LR	LR		
	comp=N,450nm,11.0s						
LZH				LR	LR		
	comp=E,150nm,11.3s						
LZH				LR	LR		
	comp=Z,220nm,14.3s						
ZAA0	**Zalesovo Array**	**19.14**	**7**		**P**	**22 15 34.0**	**-1.9**
ZALV	**Zalesovo Beam**	**19.14**	**7**	P	**P**	**22 15 34.2**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=201,slow=10,SNR=2.7						
ZALV				LR	LR	22 23 42.4	
	comp=Z,46nm,20.1s,baz=222,slow=39						
	comp=Z,0.8nm,0.7s						
BVAR	**Borovoye Array**	**19.57**	**340**	P	**P**	**22 15 40.8**	**+0.2**
	baz=144,slow=10,SNR=10						
	comp=Z,3.5nm,0.8s						
BRVK	**Borovoye**	**19.63**	**340**	P	**P**	**22 15 40.4**	**-0.8**
BRVK				IAmb	IAmb	22 15 47.0	
	comp=Z,12nm,1.1s						
PZH	**PanZhiHua**	**19.64**	**110**	P	**P**	**22 15 36.3**	**-5.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,100nm,4.4s						
ABKAR	**Akbulak array**	**21.10**	**319**	P	**P**	**22 15 56.8**	**-0.4**
ABKAR				IAmb	IAmb	22 16 04.1	
	comp=Z,9.4nm,1.1s						
AKTO	**Aktyubinsk**	**22.79**	**320**	LR	LR	22 24 34.3	
	comp=Z,138nm,18.9s,baz=84,slow=35						
SONM	**Songino Array**	**22.80**	**48**	P	**P**	**22 16 16.0**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=241,slow=8.5,SNR=3.2						
	comp=Z,0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**22.86**	**131**	P	**P**	**22 16 19.4**	**+3.1**
	comp=Z,0.6nm,0.3s,baz=307,slow=12,SNR=7.4						
	comp=Z,0.6nm,0.3s						
ULN	**Ulaanbaatar**	**23.21**	**48**	P	**P**	**22 16 19.0**	**-1.0**
ULN				IAmb	IAmb	22 16 30.5	
	comp=Z,5.1nm,1.0s						
PHRA	**Phrae**	**23.64**	**129**	P	**P**	**22 16 26.1**	**+1.9**
ENH	**Enshi**	**24.34**	**93**	P	**P**	**22 16 29.5**	**-1.3**
ENH				IAmb	IAmb	22 17 04.5	
	comp=Z,10nm,1.4s						
HHC	**Hu-ho-hao-te**	**24.67**	**67**	*eP*	**P**	**22 16 28.1**	**-5.7**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,47nm,6.2s						
ARTI	**Arti**	**26.41**	**331**	P	**P**	**22 16 50.1**	**+0.9**
ARTI				IAmb	IAmb	22 16 54.1	
	comp=Z,6.9nm,1.0s						
ARTI	**Arti**	**26.41**	**331**	LR	LR	22 27 55.0	
	comp=Z,233nm,18.4s,baz=135,slow=38						
GNI	**Garni**	**29.13**	**291**	LR	LR	22 31 52.9	
	comp=Z,66nm,19.3s,baz=108,slow=43						
QIZ	**Qiongzhong**	**30.01**	**114**	P	**P**	**22 17 21.6**	**-0.1**
RAYN	**Ar Rayn**	**32.92**	**259**	P	**P**	**22 17 46.4**	**-1.0**
RAYN				IAmb	IAmb	22 17 54.1	
	comp=Z,4.4nm,1.0s						
NRIK	**Noril'sk**	**34.59**	**4**	P	**P**	**22 17 59.8**	**-1.5**
NRIK				IAmb	IAmb	22 18 06.5	
	comp=Z,11nm,1.3s						
NRIK	**Noril'sk**	**34.59**	**4**	P	**P**	**22 18 02.3**	**+1.0**
	comp=Z,3.8nm,0.8s,baz=231,slow=5.1,SNR=5.0						
	comp=Z,3.8nm,0.8s						
GSI	**Gunungsitoli**	**36.87**	**152**	P	**P**	**22 18 21.4**	**0.0**
KS19	**Wonju Array Si**	**37.52**	**72**	P	**P**	**22 18 26.8**	**0.0**
KS19				IAmb	IAmb	22 18 57.4	
	comp=Z,29nm,1.5s						
KSRS	**Korea Array**	**37.57**	**72**	LR	LR	22 34 09.5	
	comp=Z,25nm,21.9s,baz=335,slow=37						
BR131	**Keskin Array S**	**37.66**	**292**	P	**P**	**22 18 28.5**	**+0.3**
BRTR	**Keskin Array B**	**37.66**	**292**	P	**P**	**22 18 30.1**	**+1.9**
	comp=Z,1.1nm,0.8s,baz=67,slow=8.0,SNR=7.3						
	comp=Z,1.1nm,0.8s						
MMAI	**Mount Meron Ar**	**37.67**	**280**	LR	LR	22 36 02.9	
	comp=Z,110nm,19.8s,baz=36,slow=40						
EIL	**Elat**	**39.08**	**275**	LR	LR	22 37 22.9	
	comp=Z,97nm,18.3s,baz=66,slow=40						
USA0B	**Ussuriysk Arra**	**39.74**	**61**	P	**P**	**22 18 45.5**	**+0.2**
USA0B				IAmb	IAmb	22 19 26.1	
	comp=Z,5.4nm,1.0s						
USRK	**Ussuriysk Ar.**	**39.74**	**61**	LR	LR	22 36 25.0	
	comp=Z,59nm,20.4s,baz=276,slow=38						
AKASG	**Malin Array Be**	**40.27**	**309**	LR	LR	22 37 44.9	
	comp=Z,180nm,18.3s,baz=67,slow=40						
JNU	**Nakatsue**	**40.95**	**78**	LR	LR	22 37 39.4	
	comp=Z,44nm,18.4s,baz=300,slow=39						
JOW	**Kunigami**	**40.99**	**88**	LR	LR	22 38 26.4	
	comp=Z,45nm,19.4s,baz=315,slow=40						
ELL	**Elmali**	**41.11**	**288**	P	**P**	**22 18 56.8**	**-0.1**
MLR	**Muntele Rosu**	**42.62**	**302**	LR	LR	22 40 53.9	
	comp=Z,91nm,18.5s,baz=96,slow=42						
FINES	**FINESS Array B**	**43.38**	**325**	P	**P**	**22 19 15.2**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=98,slow=10,SNR=5.5						
	comp=Z,2.9nm,0.7s						
KARP	**Karpathos**	**43.56**	**287**	P	**P**	**22 19 15.4**	**-1.4**
TIXI	**Tiksi**	**44.26**	**20**	LR	LR	22 40 07.8	
	comp=Z,112nm,18.6s,baz=338,slow=39						
ARCES	**ARCESS Array B**	**45.77**	**336**	P	**P**	**22 19 34.4**	**+0.4**
	comp=Z,4.1nm,0.8s,baz=99,slow=7.5,SNR=5.6						
ARCES				LR	LR	22 39 46.5	
	comp=Z,142nm,18.1s,baz=189,slow=38						
	comp=Z,4.1nm,0.8s						
FURI	**Furi**	**46.62**	**246**	LR	LR	22 42 27.8	
	comp=Z,53nm,19.7s,baz=68,slow=40						
MORC	**Moravsky Berou**	**47.80**	**308**	P	**P**	**22 19 49.2**	**-0.9**
MORC				IAmb	IAmb	22 20 10.0	
	comp=Z,8.3nm,1.5s						
VRAC	**Vranov**	**48.47**	**308**	LR	LR	22 43 15.9	
	comp=Z,55nm,21.3s,baz=72,slow=40						
HFS	**Hagfors**	**49.30**	**322**	LR	LR	22 41 45.7	
	comp=Z,105nm,21.6s,baz=86,slow=37						
GERES	**GERESS Array B**	**50.42**	**308**	LR	LR	22 45 11.1	
	comp=Z,65nm,19.7s,baz=97,slow=40						
CLL	**Collm**	**50.45**	**311**	*eP*	**P**	**22 20 09.0**	**-1.4**
	comp=Z,3.0nm,0.8s						
CLL				L	L	22 43 00.0	
	comp=Z,100nm,20.9s						
NOA	**NORSAR Array B**	**50.49**	**324**	P	**P**	**22 20 10.9**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=88,slow=7.4,SNR=4.0						
NOA				LR	LR	22 42 40.2	
	comp=Z,103nm,18.6s,baz=90,slow=38						
	comp=Z,1.7nm,0.9s						
G24K	**Hadweenzic Riv**	**72.09**	**18**	P	**P**	**22 22 36.5**	**-0.2**
G24K				IAmb	IAmb	22 23 16.2	
	comp=Z,6.8nm,1.4s						
BMAR	**Burnt Mountain**	**72.24**	**17**	P	**P**	**22 22 37.0**	**-0.6**
ILAR	**Eielson Array**	**73.73**	**19**	P	**P**	**22 22 47.9**	**+1.4**
	comp=Z,1.2nm,1.0s,baz=306,slow=6.1,SNR=8.2						
	comp=Z,1.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**73.96**	**275**	P	**P**	**22 22 49.8**	**+1.2**
	comp=Z,2.4nm,1.0s,baz=38,slow=5.5,SNR=9.9						
	comp=Z,2.4nm,1.0s						
WB0	**Warramunga Arr**	**74.33**	**128**	P	**P**	**22 22 52.1**	**+1.6**
WB0				IAmb	IAmb	22 23 23.5	
	comp=Z,7.1nm,1.4s						
MATP	**Matopo**	**74.34**	**231**	LR	LR	22 56 55.4	
	comp=Z,90nm,18.6s,baz=240,slow=37						
WRA	**Warramunga Arr**	**74.42**	**129**	P	**P**	**22 22 52.3**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=326,slow=5.6,SNR=5.9						
	comp=Z,0.8nm,0.8s						
WB2	**Warramunga Arr**	**74.43**	**128**	P	**P**	**22 22 51.2**	**+0.1**
WB2				IAmb	IAmb	22 22 58.5	
	comp=Z,5.2nm,1.1s						
H29M	**Whitestone**	**74.65**	**15**	P	**P**	**22 22 52.7**	**+0.9**
H29M				IAmb	IAmb	22 22 56.8	
	comp=Z,12nm,1.5s						
SUA	**Susitna One**	**75.11**	**23**	P	**P**	**22 22 55.1**	**+0.4**
CNPM	**China Poot**	**76.39**	**25**	P	**P**	**22 23 01.1**	**-0.8**
ASAR	**Alice Springs**	**76.87**	**131**	P	**P**	**22 23 06.6**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=317,slow=5.6,SNR=6.4						
	comp=Z,0.6nm,0.7s						
BOSA	**Boshof**	**82.33**	**227**	P	**P**	**22 23 35.5**	**+0.8**
BOSA				IAmb	IAmb	22 23 37.5	
	comp=Z,11nm,1.2s						
BOSA	**Boshof**	**82.33**	**227**	P	**P**	**22 23 36.2**	**+1.5**
	comp=Z,4.1nm,1.0s,baz=67,slow=7.7,SNR=5.1						
	comp=Z,4.1nm,1.0s						
QSPA	**South Pole Qui**	**124.77**	**180**	PKP	**PKiKP**	**22 30 12.5**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=238,slow=2.8,SNR=2.2						
LPAZ	**La Paz**	**146.78**	**296**	PKPbc	**PKPab**	**22 30 57.4**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=4.2,slow=4.6,SNR=3.7						

IDC ***11*** *22:19:51.7±1.7,37.°18N×21.°13E,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=55.9km s-min=29.5km az=118.0*
ATH ***11*** *22:19:52.4,37.°52N×20.°39E,h8km±1km,ML3.4/24, Manual Solution by N.Liadopoulou This location: 2020/07/02 04:35:48 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
THE ***11*** *22:19:53.2,37.°56N×20.°42E,h2km±5km,ML3.5/7,Error ellipse: s-maj=5.6km s-min=1.2km az=21.0*

ISC 11 22:19:52.9±1.6,**37.°53N**±0.°05×**20.°43E**±0.°05,**h5**km±10km, **n51**,σ0°**91**/68,**mb3.7**/4,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.34**	**68**	P	**Pg**	**22 20 00.0**	**+0.6**
KRI1				S	**Sg**	**22 20 04.7**	**+0.9**
	19μm,0.4s						
LTHK	**Lithakia**	**0.37**	**62**	P	**Pg**	**22 20 00.3**	**+0.2**
LTHK				S	**Sg**	**22 20 05.5**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.59**	**12**	P	**Pg**	**22 20 04.0**	**-0.3**
PSDA				S	**Sg**	**22 20 11.8**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.59**	**12**	P	**Pg**	**22 20 04.1**	**-0.1**
PSDA				S	**Sg**	**22 20 12.8**	**+0.8**
RTZL	**Ratzakli, Kefa**	**0.61**	**27**	P	**Pg**	**22 20 04.3**	**-0.3**
RTZL				S	**Sg**	**22 20 12.4**	**0.0**
VLS	**Valsamata**	**0.66**	**11**	P	**Pg**	**22 20 05.2**	**-0.3**
VLS				S	**Sg**	**22 20 14.0**	**0.0**
VLS	**Valsamata**	**0.66**	**11**	P	**Pg**	**22 20 05.2**	**-0.3**
VLS				S	**Sg**	**22 20 14.5**	**+0.5**
LXRA	**Lixouri, Kepha**	**0.67**	**1**	P	**Pg**	**22 20 05.8**	**+0.1**
LXRA				S	**Sg**	**22 20 14.6**	**+0.3**
DMLN	**Damoulianata-K**	**0.70**	**357**	P	**Pg**	**22 20 06.6**	**+0.2**
SMHA	**Samh**	**0.74**	**14**	P	**Pg**	**22 20 06.1**	**-0.9**
VSK1	**VASILIKIADES**	**0.88**	**7**	P	**Pg**	**22 20 09.2**	**-0.6**
VSK1				S	**Sg**	**22 20 21.9**	**+0.7**
	4μm,0.6s						
FSK	**Fiskardo**	**0.93**	**7**	P	**Pg**	**22 20 10.0**	**-0.7**
FSK				S	**Sg**	**22 20 23.5**	**+0.7**
	2μm,0.4s						
FSK	**Fiskardo**	**0.93**	**7**	P	**Pg**	**22 20 10.1**	**-0.7**
FSK				S	**Sg**	**22 20 23.1**	**+0.2**
RLS	**Riolos of Patr**	**0.98**	**57**	P	**Pg**	**22 20 10.9**	**-0.7**
RLS	**Riolos of Patr**	**0.98**	**57**	P	**Pg**	**22 20 11.3**	**-0.3**
RLS				S	**Sb**	**22 20 25.3**	**-0.3**
AMT	**Artemida-Makis**	**1.02**	**90**	P	**Pb**	**22 20 12.6**	**-0.5**
EVGI	**Lefkada island**	**1.10**	**9**	P	**Pg**	**22 20 13.1**	**-0.9**
EVGI				S	**Sb**	**22 20 29.0**	**-0.1**
	2μm,0.4s						
EVGI	**Lefkada island**	**1.10**	**9**	P	**Pg**	**22 20 13.2**	**-0.9**
DRO	**Drossia**	**1.10**	**67**	P	**Pg**	**22 20 13.7**	**-0.3**
DRO				S	**Sb**	**22 20 29.8**	**+0.6**
	2μm,0.6s						
DRO	**Drossia**	**1.10**	**67**	P	**Pg**	**22 20 13.8**	**-0.3**
DRO				S	**Sg**	**22 20 28.4**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.15**	**6**	P	**Pg**	**22 20 14.1**	**-0.9**
NYDR	**Nydri-Lefkada**	**1.20**	**10**	P	**Pg**	**22 20 14.2**	**-1.6**
NYDR				S	**Sb**	**22 20 31.9**	**0.0**
	2μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.20**	**10**	P	**Pg**	**22 20 14.9**	**-0.9**
PYL	**PYLOS**	**1.23**	**121**	P	**Pb**	**22 20 16.3**	**-0.3**
ITM	**Ithomi**	**1.25**	**106**	P	**Pg**	**22 20 16.4**	**-0.4**
LKD2	**Lefkada island**	**1.27**	**8**	P	**Pb**	**22 20 17.3**	**0.0**
LKD2				S	**Sn**	**22 20 36.3**	**+1.5**
	2μm,0.6s						
LKD2	**Lefkada island**	**1.27**	**8**	P	**Pg**	**22 20 16.7**	**-0.5**
TSLK	**Tsoukalades, L**	**1.30**	**8**	P	**Pg**	**22 20 17.4**	**-0.5**
UPR	**University Cam**	**1.31**	**55**	P	**Pg**	**22 20 16.4**	**-1.6**
KLV	**Kalavryta, Ach**	**1.46**	**69**	P	**Pn**	**22 20 19.6**	**-0.4**
KLV	**Kalavryta, Ach**	**1.46**	**69**	P	**Pn**	**22 20 19.6**	**-0.4**
EFP	**Efpalio**	**1.47**	**52**	P	**Pn**	**22 20 19.4**	**-0.7**
GUR	**Goura**	**1.57**	**75**	P	**Pn**	**22 20 21.1**	**-0.6**
ANX	**Ano Chora**	**1.58**	**48**	P	**Pn**	**22 20 20.8**	**-1.0**
KALE	**Kalithea**	**1.60**	**57**	P	**Pn**	**22 20 21.4**	**-0.6**
IGT	**Igoumenitsa**	**2.00**	**358**	P	**Pn**	**22 20 26.6**	**-0.8**
LOUT	**Loutraki**	**2.07**	**77**	P	**Pn**	**22 20 28.3**	**-0.1**
JAN	**Janina**	**2.15**	**9**	P	**Pn**	**22 20 28.8**	**-0.6**
AXAR	**Agios Charalam**	**2.15**	**54**	P	**Pn**	**22 20 29.0**	**-0.5**
VLI	**Veliai**	**2.17**	**111**	P	**Pn**	**22 20 29.3**	**-0.4**
KEK	**Kerkira**	**2.23**	**347**	P	**Pn**	**22 20 30.0**	**-0.5**
VIL2	**Platees**	**2.35**	**72**	P	**Pn**	**22 20 32.0**	**-0.2**
THL	**Klokotos Trika**	**2.38**	**31**	P	**Pn**	**22 20 32.0**	**-0.6**
TYRN	**Tyrnavos**	**2.59**	**33**	P	**Pn**	**22 20 35.5**	**0.0**
VLY	**Voula,Athens**	**2.69**	**82**	P	**Pn**	**22 20 36.5**	**-0.4**
DION	**Dionisos Attik**	**2.83**	**78**	P	**Pn**	**22 20 38.8**	**-0.1**
SCTE	**Santa Cesarea**	**2.96**	**330**	P	**Pn**	**22 20 39.8**	**-0.8**
HFS	**Hagfors**	**23.02**	**351**	P	**P**	**22 25 02.7**	**+4.1**
	2.9nm,0.8s,baz=167,slow=14,SNR=2.5						
	2.9nm,0.8s						
FINES	**FINESS Array B**	**24.19**	**7**	P	**P**	**22 25 12.1**	**+2.1**
	2.1nm,0.9s,baz=170,slow=4.2,SNR=4.1						
	2.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**29.48**	**219**	P	**P**	**22 25 58.3**	**+0.3**
	0.4nm,0.8s,baz=25,slow=9.9,SNR=2.7						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**45.70**	**58**	P	**P**	**22 28 12.0**	**-2.8**
	0.7nm,0.8s,baz=288,slow=6.7,SNR=3.5						
	0.7nm,0.8s						

IDC ***11*** *22:19:55.8±1.4,30.°35S×177.°13W,h0km,mb3.8/4, mbtmp3.8/4,Error ellipse: s-maj=30.9km s-min=27.1km az=68.0*

ISC 11 22:19:59.1±1.2,**30.°3S**±0.°1×**177.°1W**±0.°2,**h24**km,**n9**, σ0°**96**/9,**mb3.7**/4,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.29**	**324**	Pn	**Pn**	**22 20 21.7**	**+0.1**
	440nm,0.3s,baz=99,slow=10,SNR=22						
RAO				Sn	**Sb**	**22 20 38.9**	**+0.1**
	578nm,0.3s,baz=108,slow=23,SNR=14						
URZ	**Urewera**	**9.28**	**210**	Sn	Sn	22 23 45.2	-10
	0.7nm,0.3s,baz=257,slow=21,SNR=6.7						
STKA	**Stephens Creek**	**35.29**	**257**	P	**P**	**22 26 53.4**	**+1.1**
	1.1nm,0.4s,baz=107,slow=11,SNR=3.4						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**43.93**	**266**	P	**P**	**22 28 03.5**	**-0.9**
	0.4nm,0.5s,baz=108,slow=7.3,SNR=6.0						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**44.91**	**272**	P	**P**	**22 28 10.8**	**-1.4**
	0.7nm,0.5s,baz=111,slow=8.1,SNR=16						
	0.7nm,0.5s						
NVAR	**Mina Array Bea**	**87.62**	**42**	P	**P**	**22 32 45.2**	**-0.4**
	0.1nm,0.3s,baz=186,slow=3.5,SNR=1.4						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**126.91**	**316**	PKP	**PKiKP**	**22 39 01.2**	**+0.2**
	0.3nm,0.5s,baz=80,slow=1.8,SNR=2.7			

JKK2 S **Sn** **22 52 59.0 -1.4**
JHR Hokuryu 0.62 312 *i* P **Pn** **22 52 41.8 0.0**
JHR S **Sn** **22 52 59.9 -0.5**
ASAJ Asahikawa 0.80 12 P **Pn** **22 52 42.2 -0.6**
25nm,0.3s,baz=223,slow=9.2,SNR=30
ASAJ S **Sn** **22 53 01.0 -1.4**
38nm,0.5s,baz=44,slow=26,SNR=12
JKA Kamikawa-asahi 0.80 12 Pn **Pn** **22 52 42.7 -0.2**
JKA Sn **Sn** **22 53 00.3 -2.1**
JEW Eniwo 0.83 234 *i* P **Pn** **22 52 42.9 -0.2**
JEW S **Sn** **22 53 01.1 -1.4**
JCH Churui 1.03 134 *i* P **Pn** **22 52 43.5 -1.1**
JCH S **Sn** **22 53 02.8 -2.4**
JAR Ashorobuto 1.03 91 *i* P **Pn** **22 52 44.6 +0.1**
JAR S **Sn** **22 53 05.3 +0.1**
JNBK Urakawa-nobuka 1.09 165 *i* P **Pn** **22 52 45.1 0.0**
JSS Shosan 1.13 341 P **Pn** **22 52 45.4 +0.1**
JSS S **Sn** **22 53 06.3 -0.5**
JTKR Abashiri--Toko 1.29 60 *i* P **Pn** **22 52 47.1 +0.4**
JTKR S **Sn** **22 53 09.2 +0.1**
ERM Erimo 1.44 156 Pn **Pn** **22 52 48.4 +0.2**
ERM Sn **Sn** **22 53 12.3 +0.6**
ERM Erimo 1.44 156 *c i* PN **Pn** **22 52 48.2 0.0**
JSE Soyaes 1.63 6 S **Sn** **22 53 13.8 -1.4**
JAK Akkeshi 1.74 100 P **Pn** **22 52 50.8 -0.4**
JAK S **Sn** **22 53 15.7 -1.3**
AKK Akkeshi 1.84 99 *e* P **Pn** **22 52 51.6 -0.6**
JWK2 Keihoku 2.01 351 P **Pn** **22 52 54.3 +0.2**
JOT Ohata 2.18 207 *i* P **Pn** **22 52 55.4 -0.6**
JOT S **Sn** **22 53 23.9 -1.8**
RUSJ Misakicho 2.23 69 *e* PN **Pn** **22 52 57.2 +0.6**
JRBN Rebuntou 2.29 336 P **Pn** **22 52 56.9 -0.3**
JRBN S **Sn** **22 53 26.9 -1.1**
NMR Nemuro--Hokkai 2.46 88 *i* P **Pn** **22 52 58.1 -1.1**
NMR *e* S **Sn** **22 53 28.7 -2.7**
NMR Nemuro--Hokkai 2.46 88 *d i* PN **Pn** **22 52 58.2 -1.0**
NMR *e* S **Sn** **22 53 28.3 -3.1**
YUK Yuzh-Kuril'sk 2.63 73 *e* P **Pn** **22 53 02.0 +0.7**
YUK AMB AMB 22 53 02.9
280nm,0.2s
YUK *e* S **Sn** **22 53 36.0 +0.8**
YUK A A 22 53 40.8
250nm,0.2s
YUK A A 22 53 40.8
190nm,0.2s
YUK Yuzh-Kuril'sk 2.63 73 *e* PN **Pn** **22 53 02.0 +0.7**
YUK *e* S **Sn** **22 53 34.7 -0.5**
YUK pmax pmax
comp=Z,276nm,0.2s
YUK pmax pmax
comp=E,85nm,0.3s
YUK pmax pmax
comp=N,40nm,0.2s
YUK smax smax
comp=E,194nm,0.1s
YUK smax smax
comp=N,247nm,0.2s
JTM Tenmabayashi 2.72 201 Pn **Pn** **22 53 01.7 -0.7**
SHO Shikotan 3.29 79 *i* P **Pn** **22 53 08.6 -0.8**
SHO AMB AMB 22 53 10.2
comp=N,70nm,0.1s
SHO *e* S **Sn** **22 53 46.5 -3.1**
SHO A A 22 53 50.2
comp=N,90nm,0.2s
SHO A A 22 53 50.2
comp=N,200nm,0.2s
SHO Shikotan 3.29 79⇑ *i* PN **Pn** **22 53 08.6 -0.8**
SHO *e* S **Sn** **22 53 45.9 -3.7**
SHO pmax pmax
comp=Z,71nm,0.1s
SHO pmax pmax
comp=N,16nm,0.2s
SHO pmax pmax
comp=E,18nm,0.2s
SHO smax smax
comp=E,204nm,0.2s
SHO smax smax
comp=N,86nm,0.1s
YSS Yuzh-Sakhalins 3.63 4 Pn **Pn** **22 53 12.8 -0.9**
YSS Yuzh-Sakhalins 3.63 4 *e* P **Pn** **22 53 14.1 +0.4**
YSS AMB AMB 22 53 14.9
comp=N,100nm,0.6s
YSS A A 22 53 57.3
comp=N,120nm,1.0s
YSS A A 22 53 57.3
comp=N,50nm,1.0s
YSS *e* S **Sn** **22 53 57.5 +0.1**
YSS Yuzh-Sakhalins 3.63 4⇑ *e* PN **Pn** **22 53 14.1 +0.4**
YSS *e* S **Sn** **22 53 56.4 -1.0**
YSS pmax pmax
comp=Z,100nm,0.6s
YSS smax smax
comp=N,120nm,1.0s
YSS smax smax
comp=E,50nm,0.9s
KUR Kuril'sk 4.38 62 *e* P **Pn** **22 53 24.5 +1.2**
KUR Kuril'sk 4.38 62 *e* PN **Pn** **22 53 23.8 +0.5**
JMM Marumori 5.59 193 Pn **Pn** **22 53 37.5 -1.6**
JSD Sado 6.14 212 Pn **Pn** **22 53 46.5 +0.1**
MJA0 Matsu Arr-Jizo 7.48 206 *e* PN **Pn** **22 54 04.0 -0.2**
MJA0 pmax pmax
comp=Z,2.0nm,0.6s
MAJO Matsushiro 7.49 207‖ *e* PN **Pn** **22 54 04.6 +0.3**
MJAR Matsushiro Arr 7.49 207 P **Pn** **22 54 05.1 +0.7**
comp=Z,1.9nm,0.5s,baz=15,slow=14,SNR=6.8
USA0B Ussuriysk Arra 7.56 280 Pn **Pn** **22 54 00.6 -4.5**
USA0B Ussuriysk Arra 7.56 280 PN **Pn** **22 54 00.6 -4.5**
USRK Ussuriysk Ar. 7.56 280 Pn **Pn** **22 54 02.8 -2.3**
USRK Ussuriysk Ar. 7.56 280 P **Pn** **22 54 03.7 -1.4**
comp=Z,3.7nm,0.8s,baz=83,slow=13,SNR=4.1
USRK Ussuriysk Ar. 7.56 280 PN **Pn** **22 54 02.8 -2.3**
KSRS Korea Array 12.47 247 P **Pn** **22 55 10.1 +0.7**
comp=Z,1.6nm,0.9s,baz=60,slow=12,SNR=2.1
PEA0B Petropavlovsk- 14.12 41 Pn **Pn** **22 55 30.4 +0.3**
PEA0B Petropavlovsk- 14.12 41 P **Pn** **22 55 30.4 +0.3**
PETK Petropavlovsk- 14.12 41 P **Pn** **22 55 29.8 -0.3**
comp=Z,6.5nm,1.0s,baz=221,slow=8.6,SNR=2.0
ZEA Zeya 14.41 322 *e* P **Pn** **22 55 34.2 +0.5**
YAK Yakutsk 20.18 343 P **P** **22 56 35.7 -3.0**
comp=Z,14nm,0.4s,baz=78,slow=2.5,SNR=3.0
SEY Seymchan 20.49 13 P **P** **22 56 40.5 -1.5**
comp=Z,3.2nm,0.3s,baz=188,slow=7.9,SNR=9.6
comp=Z,3.2nm,0.3s
SEY Seymchan 20.49 13 *e* P **P** **22 56 40.8 -1.2**
SEY Seymchan 20.49 13‖ *e* P **P** **22 56 40.8 -1.2**
SEY pmax pmax
comp=Z,76nm,5.2s
SONM Songino Array 25.42 293 P **P** **22 57 31.0 +1.4**
SONM Songino Array 25.42 293 P **P** **22 57 29.7 +0.1**
comp=Z,2.3nm,0.8s,baz=91,slow=7.7,SNR=9.7
SONM LR LR 23 09 26.3
comp=Z,53nm,18.7s,baz=128,slow=41
comp=Z,2.3nm,0.8s
SONM Songino Array 25.42 293 *e* P **P** **22 57 30.7 +1.1**
SONM pmax pmax
comp=Z,2.0nm,0.8s
H11N2 WAKE ISLAND Hy 31.26 131 T T 23 30 11.6
baz=326,slow=76,SNR=19
H11N1 WAKE ISLAND Hy 31.27 131 T T 23 30 24.8
baz=326,slow=76,SNR=21
H11N3 WAKE ISLAND Hy 31.28 131 T T 23 30 13.8
baz=326,slow=76,SNR=24
H11S1 WAKE ISLAND Hy 32.15 133 T T 23 31 21.4
baz=328
H11S3 WAKE ISLAND Hy 32.16 133 T T 23 31 14.8
baz=328
H11S2 WAKE ISLAND Hy 32.17 133 T T 23 31 22.7
baz=328
NRIK Noril'sk 37.95 332‖ *e* P **P** **22 59 16.6 -1.7**
ZALV Zalesovo Beam 38.46 307 P **P** **22 59 23.0 +0.2**
ZALV Zalesovo Beam 38.46 307 P **P** **22 59 23.3 +0.5**
comp=Z,3.5nm,0.6s,baz=86,slow=7.3,SNR=13
comp=Z,3.5nm,0.6s
MK31 Makanchi Array 41.67 296 P **P** **22 59 49.3 -0.1**
MK31 Makanchi Array 41.67 296 *c i* P **P** **22 59 49.7 +0.3**
MKAR Makanchi Array 41.67 296 P **P** **22 59 49.4 +0.1**
MKAR Makanchi Array 41.67 296 P **P** **22 59 49.5 +0.2**
comp=Z,1.5nm,0.5s,baz=82,slow=11,SNR=19
MKAR LR LR 23 17 09.7
comp=Z,36nm,19.9s,baz=58,slow=36
comp=Z,1.5nm,0.5s
MKAR Makanchi Array 41.67 296 *e* P **P** **22 59 49.9 +0.5**
MKAR Makanchi Array 41.67 296 *e* P **P** **22 59 49.9 +0.5**
MKAR pmax pmax
comp=Z,2.0nm,0.5s

KURK Kurchatov 42.86 303 P **P** **22 59 59.1 +0.3**
KURK IAmb IAmb 23 00 01.4
comp=Z,7.1nm,0.9s
KURK Kurchatov 42.86 303 *e* P **P** **23 00 00.0 +1.2**
KURK Kurchatov 42.86 303 *c i* P **P** **23 00 00.0 +1.2**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURBB Kurchatov Arra 42.94 303 P **P** **22 59 59.6 +0.1**
comp=Z,5.5nm,0.6s,baz=72,slow=8.9,SNR=29
comp=Z,5.5nm,0.6s
ILAR Eielson Array 43.87 36 P **P** **23 00 06.8 +0.1**
comp=Z,0.7nm,0.9s,baz=283,slow=5.6,SNR=5.7
comp=Z,0.7nm,0.9s
JAY Jayapura 45.66 182 LR LR 23 20 27.0
comp=Z,45nm,18.1s,baz=16,slow=37
BVAR Borovoye Array 47.05 308 P **P** **23 00 32.2 +0.3**
comp=Z,3.8nm,0.5s,baz=73,slow=9.1,SNR=32
BVAR PcP **PcP** **23 02 01.6 +0.5**
comp=Z,0.6nm,0.6s,baz=2.9,slow=2.9,SNR=3.0
comp=Z,3.8nm,0.5s
BRVK Borovoye 47.10 308 P **P** **23 00 33.0 +0.7**
BRVK IAmb IAmb 23 00 35.1
comp=Z,5.1nm,0.9s
BRVK Borovoye 47.10 308 *e* P **P** **23 00 32.8 +0.5**
BRVK Borovoye 47.10 308 *c e* P **P** **23 00 32.8 +0.5**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 48.37 294 P **P** **23 00 42.1 -0.2**
comp=Z,0.8nm,0.6s,baz=342,slow=7.3,SNR=1.9
comp=Z,0.8nm,0.6s
AAK Ala-Archa 48.37 294 *e* P **P** **23 00 42.3 -0.1**
AAK Ala-Archa 48.37 294‖ *e* P **P** **23 00 42.3 -0.1**
AAK pmax pmax
comp=Z,4.0nm,1.4s
C36M Paulatuk 51.45 27 P **P** **23 01 05.5 +0.5**
C36M IAmb IAmb 23 01 25.6
comp=Z,15nm,1.5s
ARTI Arti 52.35 316 P **P** **23 01 12.0 +0.2**
ARTI IAmb IAmb 23 01 13.0
comp=Z,6.1nm,0.6s
ARTI Arti 52.35 316 *c i* P **P** **23 01 11.9 +0.1**
ARTI *PP **pP** **23 01 51.5 +1.4**
ARTI S **S** **23 08 25.3 +1.4**
ARTI SS **SS** **23 11 58.0 -5.3**
ARTI pmax pmax
comp=Z,7.0nm,0.9s
SPITS Spitsbergen Ar 54.50 348 P **P** **23 01 26.6 -0.6**
comp=Z,7.4nm,0.7s,baz=70,slow=9.8,SNR=6.4
comp=Z,7.4nm,0.7s
SPITS Spitsbergen Ar 54.50 348 P **P** **23 01 26.6 -0.6**
SPITS pmax pmax
comp=Z,52nm,1.4s
ABKAR Abkulak array 54.58 307 P **P** **23 01 28.6 +0.5**
ABKAR Abkulak array 54.58 307 P **P** **23 01 28.4 +0.3**
ABKAR IAmb IAmb 23 01 29.3
comp=Z,3.0nm,1.0s
AKTO Aktyubinsk 55.13 309 P **P** **23 01 32.3 +0.2**
comp=Z,1.0nm,0.5s,baz=92,slow=9.4,SNR=3.7
comp=Z,1.0nm,0.5s
RES Resolute Bay 56.34 16 P **P** **23 01 40.0 -0.3**
RES IAmb IAmb 23 01 41.1
comp=Z,3.9nm,0.6s
RES Resolute Bay 56.34 16 P **P** **23 01 40.0 -0.3**
RES pmax pmax
comp=Z,4.0nm,0.6s
KEV Kevo 57.84 338 P **P** **23 01 51.0 +0.1**
KEV Kevo 57.84 338 P **P** **23 01 51.0 +0.1**
KEV pmax pmax
comp=Z,30nm,1.4s
ARCES ARCESS Array B 58.39 338 P **P** **23 01 54.9 +0.1**
ARCES IAmb IAmb 23 02 20.0
comp=Z,17nm,1.5s
ARCES ARCESS Array B 58.39 338 P **P** **23 01 54.4 -0.3**
comp=Z,0.8nm,0.5s,baz=60,slow=7.9,SNR=6.3
comp=Z,0.8nm,0.5s
ARCES ARCESS Array B 58.39 338 P **P** **23 01 54.9 +0.1**
ARCES pmax pmax
comp=Z,17nm,1.5s
WR0 Warramunga Arr 63.39 188 P **P** **23 02 29.4 +0.5**
WR0 IAmb IAmb 23 02 50.6
comp=Z,5.9nm,1.2s
OBN Obninsk 63.54 322 *e* P **P** **23 02 29.9 +0.3**
OBN *e* 23 03 04.4
OBN *e**PP **pP** **23 03 11.0 +1.7**
OBN *e* 23 04 51.2
OBN pmax pmax
comp=Z,4.0nm,0.9s
FIA1 FINESS Array S 63.61 331 P **P** **23 02 30.0 0.0**
FINES FINESS Array B 63.62 331 P **P** **23 02 30.0 0.0**
FINES FINESS Array B 63.62 331 P **P** **23 02 29.5 -0.5**
comp=Z,5.1nm,0.7s,baz=54,slow=6.5,SNR=26
comp=Z,5.1nm,0.7s
FINES FINESS Array B 63.62 331 *e* P **P** **23 02 29.7 -0.3**
FINES pmax pmax
comp=Z,5.0nm,0.7s
SUMG Summit 64.39 0 P **P** **23 02 36.3 +0.9**
SUMG Summit 64.39 0 P **P** **23 02 36.3 +0.9**
J01E Myrtle Point 64.43 54 P **P** **23 02 35.9 +0.2**
ASAR Alice Springs 67.12 188 LR LR 23 32 11.2
comp=Z,28nm,20.0s,baz=23,slow=36
KIV Kislovodsk 67.39 310 P **P** **23 02 55.2 +0.5**
KIV IAmb IAmb 23 03 17.0
comp=Z,13nm,1.3s
KIV Kislovodsk 67.39 310 *e* P **P** **23 02 52.5 -2.2**
KIV pmax pmax
comp=Z,5.0nm,1.0s
KBZ Khabaz 67.42 309 P **P** **23 02 55.5 +0.9**
comp=Z,2.0nm,0.9s,baz=66,slow=5.0,SNR=4.2
comp=Z,2.0nm,0.9s
KBZ Khabaz 67.42 309 *e* P **P** **23 02 56.1 +1.4**
KBZ Khabaz 67.42 309‖ *e* P **P** **23 02 56.1 +1.4**
KBZ pmax pmax
comp=Z,7.0nm,1.9s
NC405 NORSAR Array S 68.47 337 P **P** **23 03 00.8 -0.3**
NC405 IAmb IAmb 23 03 43.4
comp=Z,30nm,1.4s
NB201 NORSAR Array S 68.64 337 P **P** **23 03 02.1 0.0**
NB201 IAmb IAmb 23 03 28.0
comp=Z,29nm,1.5s
HFS Hagfors 68.67 335 P **P** **23 03 02.1 -0.1**
comp=Z,2.7nm,0.4s,baz=48,slow=6.8,SNR=23
comp=Z,2.7nm,0.4s
NB2 NORSAR Subarra 68.67 337 P **P** **23 03 02.1 -0.2**
comp=Z,0.5nm,0.3s,baz=34,slow=6.5
NOA NORSAR Array B 68.67 337 P **P** **23 03 02.1 -0.2**
comp=Z,0.7nm,0.5s,baz=43,slow=7.9,SNR=4.7
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 69.80 321 P **P** **23 03 09.6 +0.3**
AKASG Malin Array Be 69.80 321 P **P** **23 03 09.2 -0.1**
comp=Z,0.5nm,0.3s,baz=44,slow=6.3,SNR=11
comp=Z,0.5nm,0.3s
AKASG Malin Array Be 69.80 321 *e* P **P** **23 03 09.0 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB Malin Array Si 69.80 321 P **P** **23 03 09.1 -0.2**
AKBB IAmb IAmb 23 03 28.4
comp=Z,10nm,1.4s
AKBB Malin Array Si 69.80 321⇑ *e* P **P** **23 03 09.2 -0.1**
AKBB pmax pmax
comp=Z,10.0nm,2.8s
KIEV Kiev 69.81 321 P **P** **23 03 09.3 0.0**
KIEV IAmb IAmb 23 03 28.5
comp=Z,9.4nm,1.4s
KIEV Kiev 69.81 321 P **P** **23 03 09.3 0.0**
KIEV pmax pmax
comp=Z,9.0nm,1.5s
BORG Borgarnes 71.50 353 P **P** **23 03 20.6 +1.2**
BORG Borgarnes 71.50 353 P **P** **23 03 20.6 +1.2**
BORG pmax pmax
comp=Z,101nm,1.4s
PDAR Pinedale Array 72.79 47 P **P** **23 03 28.4 +0.7**
comp=Z,0.2nm,0.6s,baz=225,slow=1.1,SNR=2.1
comp=Z,0.2nm,0.6s
BUR08 Bucovina Ar. S 73.83 321 P **P** **23 03 34.0 +0.5**
BUR08 IAmb IAmb 23 04 07.9
comp=Z,5.9nm,1.4s
BURAR Bucovina Array 73.84 321 P **P** **23 03 34.3 +0.7**
BRTR Keskin Array B 75.25 311 P **P** **23 03 41.7 -0.2**
comp=Z,0.2nm,0.3s,baz=104,slow=4.7,SNR=1.6
comp=Z,0.2nm,0.3s
MMAI Mount Meron Ar 78.93 305 P **P** **23 04 03.5 +1.0**
comp=Z,3.0nm,0.9s,baz=38,slow=7.3,SNR=2.4
comp=Z,3.0nm,0.9s

*IDC **11** 22:53:00.4±2.3, 32°.43N×70°.22E, h0km, mb3.5/4,*
mbtmp3.7/7, ML3.4/3, MS3.1/1, Error ellipse: s-maj=59.9km s-min=26.6km az=80.0

ISC 11 22:53:05.6±1.9, 32°.4N±0°.1×70°.2E±0°.3, h35km, n8, σ0s97/8, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**10.74**	**17**	Pn		**Pn**	**22 55 38.4**	**+1.4**
	1.2nm,0.3s,baz=167,slow=5.3,SNR=20							
AAK				Sn		**Sn**	**22 57 35.6**	**-0.4**
	0.1nm,0.3s,baz=180,slow=20,SNR=1.9							
	2.6nm,0.3s							
MKAR	**Makanchi Array**	**17.07**	**29**	Pn		**Pn**	**22 57 01.7**	**+0.2**
	0.1nm,0.3s,baz=218,slow=14,SNR=5.5							
	1.1nm,0.8s							
KURBB	**Kurchatov Arra**	**19.19**	**16**	P		**P**	**22 57 25.0**	**-1.2**
	baz=204,slow=11,SNR=2.7							
	0.3nm,0.2s							
AKTO	**Aktyubinsk**	**20.11**	**337**	P		**P**	**22 57 36.2**	**0.0**
	2.4nm,0.7s,baz=150,slow=9.3,SNR=6.4							
	2.4nm,0.7s							
BVAR	**Borovoye Array**	**20.57**	**0**	P		**P**	**22 57 40.4**	**-0.9**
	1.5nm,0.6s,baz=164,slow=9.0,SNR=12							
	1.5nm,0.6s							
ZALV	**Zalesovo Beam**	**23.91**	**22**	P		**P**	**22 58 15.4**	**-0.6**
	0.7nm,0.4s,baz=226,slow=7.4,SNR=3.7							
	0.7nm,0.4s							
BELG	**Belogornoye**	**25.79**	**327**	LR		LR	23 09 26.2	
	comp=Z,40nm,19.2s,baz=332,slow=38							
WRA	**Warramunga Arr**	**80.46**	**121**	P		**P**	**23 05 14.2**	**+0.1**
	0.2nm,0.6s,baz=320,slow=5.0,SNR=5.2							
	0.2nm,0.6s							

SKHL 11 22:54:54.6±0.2, 55°.58N×130°.35E, h16km±5km, mb4.5/4, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BMKR	**Bomnak**	**1.23**	**225**	*e* Pg		Pn	22 55 17.1	0.0
BMKR					AMB	AMB	22 55 17.4	
	460nm,0.3s							
BMKR				*e* Sg		Sn	22 55 33.4	+0.1
BMKR					A	A	22 55 33.7	
	2μm,0.2s							
BMKR	**Bomnak**	**1.23**	**225**	*e* Pg		Pn	22 55 17.1	0.0
BMKR					AMB	AMB	22 55 17.4	
	460nm,0.3s							
BMKR				*e* Sg		Sn	22 55 33.4	+0.1
BMKR					A	A	22 55 33.7	
	2μm,0.2s							
ZEA	**Zeya**	**2.58**	**226**	*e* Pn		Pn	22 55 36.0	+0.4
ZEA				*e* Pg		Pb	22 55 40.4	0.0
ZEA					AMB	AMB	22 55 41.1	
	200nm,0.4s							
ZEA				*e* rx		rx	22 56 09.2	
ZEA				*e* Sg		Sb	22 56 14.0	+2.2
ZEA					A	A	22 56 16.7	
	1μm,0.4s							
OCTB	**Oktyabr'skiy**	**2.76**	**202**	*e* Pg		Pb	22 55 44.5	+1.1
OCTB					AMB	AMB	22 55 47.7	
	120nm,0.5s							
OCTB				*e* Sg		Sg	22 56 20.8	-2.3
OCTB					A	A	22 56 23.0	
	1μm,0.6s							
EKMR	**Ekimchan**	**2.94**	**148**	*e* Pg		Pb	22 55 47.8	+1.2
EKMR					AMB	AMB	22 55 50.7	
	27nm,0.6s							
EKMR				*e* Sg		Sg	22 56 26.8	-2.2
EKMR					A	A	22 56 32.3	
	329nm,1.0s							
EKMR	**Ekimchan**	**2.94**	**148**	*e* Pg		Pb	22 55 47.8	+1.2
EKMR					AMB	AMB	22 55 50.7	
	30nm,0.6s							
EKMR				*e* rx		rx	22 55 55.7	
EKMR				*e* Sg		Sg	22 56 26.8	-2.2
EKMR					A	A	22 56 32.3	
	330nm,1.0s							
TNDR	**Tynda**	**3.24**	**265**	*e* Pg		Pb	22 55 52.4	+0.7
TNDR				*e* Sg		Sg	22 56 36.8	-1.9
CLNS	**Chul'man**	**3.30**	**295**	*e* Pn		Pn	22 55 45.3	-0.3
CLNS				*e* Pg		Pb	22 55 53.2	+0.5
CLNS				*e* Sg		Sg	22 56 37.7	-2.7
GRNR	**Gornyy**	**6.04**	**140**	*e* Pn		Pn	22 56 25.1	+1.8
GRNR				*e* Sg		Sg	22 58 03.6	-4.8
GRNR					A	A	22 58 08.0	
	40nm,0.6s							
GRNR	**Gornyy**	**6.04**	**140**	*e* rx		rx	22 57 41.9	
GRNR				*e* Sg		Sg	22 58 03.6	-4.8
GRNR					A	A	22 58 08.0	
	40nm,0.6s							
TUP	**Tupik**	**6.09**	**263**	*e* Pg		Pb	22 56 44.1	+3.8
TUP					AMB	AMB	22 56 45.2	
	59nm,0.7s							
KLR	**Kul'dur**	**6.42**	**172**	*e* Pn		Pn	22 56 29.1	+0.7
KLR				*e* Sg		Sg	22 58 15.2	-5.2
NKL	**Nikolayevsk**	**6.51**	**108**	*e* Pn		Pn	22 56 32.2	+2.6
NKL				*e* Sg		Sg	22 58 16.5	-6.8
NKL					A	A	22 58 19.2	
	109nm,0.6s							
NKL	**Nikolayevsk**	**6.51**	**108**	*e* Pn		Pn	22 56 32.2	+2.6
NKL				*e* Sg		Sg	22 58 16.5	-6.8
NKL					A	A	22 58 19.2	
	110nm,0.6s							

IDC 11 23:02:42.6±5.9, 7°.92S×124°.67E, h180km±66km, mb2.8/1, mbtmp3.4/5, Error ellipse: s-maj=98.9km s-min=28.8km az=47.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.48**	**204**	P		Pn	23 03 26.3	+1.1
	35nm,0.4s,baz=57,slow=3.4,SNR=4.4							
BATI				S		Sn	23 03 58.5	+0.2
	43nm,0.3s,baz=99,slow=12,SNR=11							
FITZ	**Fitzroy Crossi**	**10.16**	**175**	P		Pn	23 05 03.2	-1.1
	1.5nm,0.4s,baz=351,slow=13,SNR=9.4							
FITZ				S		Sn	23 06 51.8	-5.7
	2.9nm,0.6s,baz=44,slow=23,SNR=6.3							
WRA	**Warramunga Arr**	**15.18**	**143**	P		Pn	23 06 07.8	-0.2
	0.4nm,0.4s,baz=321,slow=12,SNR=16							
WRA				S		Sn	23 08 52.0	-5.8
	0.3nm,0.4s,baz=308,slow=22,SNR=2.0							
ASAR	**Alice Springs**	**17.99**	**152**	P		Pn	23 06 40.9	-0.8
	0.2nm,0.4s,baz=326,slow=12,SNR=1.9							
MKAR	**Makanchi Array**	**66.22**	**330**	P		P	23 13 10.9	-0.2
	0.3nm,0.8s,baz=140,slow=6.3,SNR=1.5							
	0.3nm,0.8s							

*THE **11** 23:16:32.4, 37°.55N×20°.69E, h0km±11km, ML3.1/2, Error ellipse: s-maj=13.5km s-min=0.9km az=204.0*
*ATH **11** 23:16:33.0, 37°.58N×20°.70E, h10km±1km, ML2.8/14, Error ellipse: s-maj=3.0km s-min=1.1km az=36.0*

ISC 11 23:16:31.3±2.0, 37°.51N±0°.07×20°.65E±0°.05, h5km±14km, n40, σ0s70/50, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.20**	**41**	P		**Pg**	**23 16 35.5**	**+0.1**
KRI1				S		**Sg**	**23 16 37.1**	**-1.0**
	21μm,0.5s							
LTHK	**Lithakia**	**0.25**	**37**	P		**Pg**	**23 16 36.4**	**+0.1**
LTHK				S		**Sg**	**23 16 38.9**	**-0.6**
LTHK					AML	AML	23 16 39.5	
	comp=E,23093μm,0.3s							
LTHK					AML	AML	23 16 42.0	
	comp=N,32441μm,0.5s							
RTZL	**Ratzakli, Kefa**	**0.57**	**10**	P		**Pg**	**23 16 42.7**	**+0.3**
RTZL				S		**Sg**	**23 16 50.5**	**+0.6**
PSDA	**Pessada-Kefalo**	**0.61**	**355**	P		**Pg**	**23 16 43.6**	**+0.6**
PSDA				S		**Sg**	**23 16 52.0**	**+1.1**
PSDA	**Pessada-Kefalo**	**0.61**	**355**	P		**Pg**	**23 16 43.4**	**+0.4**
PSDA				S		**Sg**	**23 16 51.4**	**+0.5**
VLS	**Valsamata**	**0.67**	**356**	P		**Pg**	**23 16 44.5**	**+0.3**
VLS				S		**Sg**	**23 16 53.9**	**+1.0**
VLS	**Valsamata**	**0.67**	**356**	P		**Pg**	**23 16 44.5**	**+0.3**
VLS					AML	AML	23 17 01.6	
	comp=N,2866μm,0.7s							
VLS					AML	AML	23 17 01.6	
	comp=E,2384μm,0.4s							
LXRA	**Lixouri, Kepha**	**0.71**	**347**	P		**Pb**	**23 16 45.4**	**-0.8**
LXRA				S		**Sg**	**23 16 54.3**	**+0.1**
LXRA					AML	AML	23 17 02.8	
	comp=N,5909μm,0.9s							

LXRA				AML	AML	23 17 06.8	
	comp=E,6735μm,0.9s						
SMHA	**Samh**	**0.74**	**0**	P	**Pg**	**23 16 45.2**	**-0.4**
DMLN	**Damoulianata-K**	**0.76**	**344**	P	**Pb**	**23 16 46.9**	**-0.2**
AMT	**Artemida-Makis**	**0.84**	**88**	P	**Pb**	**23 16 48.1**	**-0.4**
AMT				AML	AML	23 17 07.6	
	comp=N,2617μm,0.4s						
AMT				AML	AML	23 17 10.7	
	comp=E,3338μm,0.4s						
RLS	**Riolos of Patr**	**0.85**	**50**	P	**Pg**	**23 16 47.5**	**-0.2**
RLS				S	**Sg**	**23 16 59.5**	**+0.8**
RLS	**Riolos of Patr**	**0.85**	**50**	P	**Pg**	**23 16 47.6**	**-0.1**
RLS				AML	AML	23 17 02.4	
	comp=N,655μm,0.7s						
RLS				AML	AML	23 17 07.6	
	comp=E,1087μm,0.5s						
VSK1	**VASILIKIADES**	**0.90**	**356**	P	**Pg**	**23 16 48.5**	**-0.2**
VSK1				S	**Sg**	**23 17 01.3**	**+0.9**
	comp=E,958nm,0.6s						
FSK	**Fiskardo**	**0.95**	**356**	P	**Pg**	**23 16 49.1**	**-0.5**
FSK				AML	AML	23 17 09.5	
	comp=N,1266μm,0.7s						
FSK				AML	AML	23 17 09.9	
	comp=E,1105μm,0.5s						
DRO	**Drossia**	**0.95**	**62**	P	**Pg**	**23 16 49.6**	**0.0**
DRO	**Drossia**	**0.95**	**62**	P	**Pg**	**23 16 49.7**	**0.0**
DRO				AML	AML	23 17 15.3	
	comp=N,1263μm,0.4s						
DRO				AML	AML	23 17 15.9	
	comp=E,1296μm,0.5s						
PYL	**PYLOS**	**1.07**	**125**	P	**Pn**	**23 16 53.3**	**+0.4**
PYL				AML	AML	23 17 15.5	
	comp=N,393μm,0.8s						
PYL				AML	AML	23 17 17.1	
	comp=E,547μm,0.7s						
ITM	**Ithomi**	**1.07**	**107**	P	**Pn**	**23 16 52.7**	**-0.4**
ITM				AML	AML	23 17 17.4	
	comp=E,433μm,0.6s						
ITM				AML	AML	23 17 24.4	
	comp=N,601μm,0.5s						
EVGI	**Lefkada island**	**1.11**	**0**	P	**Pg**	**23 16 51.7**	**-1.0**
EVGI				S	**Sb**	**23 17 08.2**	**+0.4**
EVGI	**Lefkada island**	**1.11**	**0**	P	**Pg**	**23 16 51.9**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.18**	**357**	P	**Pg**	**23 16 53.2**	**-0.7**
UPR	**University Cam**	**1.19**	**49**	P	**Pg**	**23 16 53.1**	**-1.0**
NYDR	**Nydri-Lefkada**	**1.20**	**2**	P	**Pg**	**23 16 53.3**	**-1.1**
LKD2	**Lefkada island**	**1.28**	**0**	P	**Pb**	**23 16 56.1**	**+0.2**
LKD2	**Lefkada island**	**1.28**	**0**	P	**Pb**	**23 16 56.2**	**+0.3**
LKD2				AML	AML	23 17 21.0	
	comp=E,1084μm,0.4s						
LKD2				AML	AML	23 17 23.3	
	comp=N,712μm,0.8s						
KLV	**Kalavryta, Ach**	**1.31**	**65**	P	**Pn**	**23 16 56.1**	**-0.2**
KLV	**Kalavryta, Ach**	**1.31**	**65**	P	**Pn**	**23 16 56.1**	**-0.2**
TSLK	**Tsoukalades, L**	**1.31**	**0**	P	**Pn**	**23 16 55.8**	**-0.6**
TSLK				AML	AML	23 17 22.5	
	comp=E,878μm,0.7s						
TSLK				AML	AML	23 17 24.1	
	comp=N,1216μm,0.9s						
EFP	**Efpalio**	**1.35**	**47**	P	**Pn**	**23 16 56.0**	**-0.9**
EFP				AML	AML	23 17 28.9	
	comp=E,359μm,0.7s						
EFP				AML	AML	23 17 30.4	
	comp=N,461μm,1.0s						
GUR	**Goura**	**1.41**	**72**	P	**Pg**	**23 16 58.4**	**0.0**
GUR				AML	AML	23 17 28.0	
	comp=N,574μm,0.5s						
GUR				AML	AML	23 17 31.1	
	comp=E,379μm,0.7s						
KALE	**Kalithea**	**1.47**	**53**	P	**Pn**	**23 16 58.1**	**-0.5**
ANX	**Ano Chora**	**1.48**	**42**	P	**Pn**	**23 16 58.3**	**-0.4**
ANX				AML	AML	23 17 28.4	
	comp=N,993μm,0.7s						
ANX				AML	AML	23 17 28.5	
	comp=E,1046μm,0.6s						
MAKR	**Makrakomi, Fth**	**1.90**	**37**	P	**Pn**	**23 17 05.2**	**+0.7**
LOUT	**Loutraki**	**1.91**	**75**	P	**Pb**	**23 17 06.7**	**+0.1**
AXAR	**Agios Charalam**	**2.02**	**51**	P	**Pb**	**23 17 07.7**	**-0.9**
IGT	**Igoumenitsa**	**2.04**	**353**	P	**Pb**	**23 17 07.4**	**-1.4**
VIL2	**Platees**	**2.19**	**71**	P	**Pb**	**23 17 12.2**	**+0.8**
THL	**Klokotos Trika**	**2.32**	**27**	P	**Pb**	**23 17 13.3**	**-0.3**
TYRN	**Tyrnavos**	**2.53**	**29**	P	**Pn**	**23 17 15.1**	**+2.1**

IDC 11 23:17:42.1±9.1, 35°.74N×70°.14E, h0km, mb3.5/3, mbtmp3.4/6, ML2.6/3, Error ellipse: s-maj=154.8km s-min=35.8km az=159.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.32**	**36**	Pn	Pn	23 21 06.4	+0.3
	baz=223,slow=17,SNR=2.4 1.2nm,1.0s						
KURBB	**Kurchatov Arra**	**16.07**	**20**	Pn	Pn	23 21 27.1	-2.3
	baz=201,slow=12,SNR=1.8 0.1nm,0.4s						
BVAR	**Borovoye Array**	**17.29**	**1**	P	Pn	23 21 43.4	-1.4
	baz=178,slow=10,SNR=4.1 0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**20.90**	**25**	P	P	23 22 26.2	+0.3
	0.3nm,0.3s,baz=217,slow=10,SNR=2.1 0.3nm,0.3s						
KBZ	**Khabaz**	**22.35**	**299**	P	P	23 22 42.0	+0.5
	1.0nm,0.8s,baz=86,slow=14,SNR=1.4 1.0nm,0.8s						
NRIK	**Noril'sk**	**35.01**	**11**	P	P	23 24 35.2	-0.7
	1.3nm,0.5s,baz=180,slow=6.1,SNR=2.2 1.3nm,0.5s						

*NEIC **11** 23:30:39.8±0.4, 36°.287N±0°.007×97°.51W±0°.01, h7km±5km, ML1.9/53, ML2.5/23, Error ellipse: s-maj=1.5km s-min=0.9km az=122.0*

NEIC 11 23:30:39.6±0.4, 36°.29N±0°.01×97°.52W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=2.1km az=98.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.43**	**300**		Pg	23 30 48.0	+0.1
CROK				Sg	Sg	23 30 54.7	+1.1
CROK				IAML		23 30 54.9	
	comp=E,89nm,0.3s						
OK048	**Pawnee Station**	**0.48**	**74**		Pg	23 30 49.2	+0.3
OK048				Sg	Sg	23 30 55.9	+0.7
BLOK	**Blackwell**	**0.53**	**27**	Pg	Pg	23 30 50.0	+0.1
BLOK				IAML		23 30 57.9	
	comp=E,90nm,0.3s						
OK051	**E0350 and S346**	**0.59**	**68**		Pg	23 30 51.2	+0.2
OK051				Sg	Sg	23 30 59.0	+0.3
GC02	**Grant County #**	**0.63**	**334**		Pg	23 30 51.9	+0.2
GC02				Sg	Sg	23 31 00.1	+0.3
BCOK	**Bluff Creek, N**	**0.63**	**187**		Pg	23 30 52.2	+0.5
BCOK					Sg	23 31 00.8	+0.9
OK031	**S. Brethren Rd**	**0.64**	**121**		Pg	23 30 52.3	+0.3
OK031				Sg	Sg	23 31 01.1	+0.8
OK031				IAML		23 31 01.2	
	comp=E,49nm,0.2s						
OK031				IAML		23 31 01.6	
	comp=E,66nm,0.3s						
OK052	**Battle Ridge R**	**0.65**	**116**		Pg	23 30 52.2	+0.1
OK052				Sg	Sg	23 31 01.3	+0.7
OK052				IAML		23 31 01.4	
	comp=E,49nm,0.2s						
QUOK	**Quay**	**0.67**	**100**		Pg	23 30 52.7	+0.3
QUOK					Sg	23 31 01.7	+0.6
QUOK				IAML		23 31 01.8	
	comp=N,56nm,0.5s						
KAN13	**South Haven SW**	**0.73**	**3**		Pg	23 30 53.8	+0.2
KAN13				IAML		23 31 03.9	
	comp=E,69nm,3.6s						
KAN13				IAML		23 31 12.8	
	comp=N,60nm,0.3s						
KAN14	**Manchester OK**	**0.76**	**332**		Pg	23 30 54.4	+0.2
KAN14					Sb	23 31 05.0	-0.9
KAN14				IAML		23 31 09.7	
	comp=E,69nm,0.1s						
KAN14				IAML		23 31 11.0	
	comp=N,48nm,0.1s						
KAN09	**Caldwell North**	**0.85**	**355**		Pg	23 30 56.1	+0.1
KAN09					Sg	23 31 07.7	+0.6
KAN01	**Argonia South**	**0.89**	**348**		Pg	23 30 56.9	+0.2
KAN01					Sb	23 31 09.2	-0.4
KAN01				IAML		23 31 13.9	
	comp=N,34nm,0.3s						
KAN01				IAML		23 31 19.2	
	comp=E,41nm,4.0s						
DEOK	**Depew**	**0.94**	**118**		Pg	23 30 57.5	-0.1
DEOK				IAML		23 31 03.9	
	comp=E,35nm,4.2s						
DEOK					Sg	23 31 10.2	+0.4
DEOK				IAML		23 31 12.7	
	comp=N,39nm,0.3s						
KAN08	**Anthony NE Sta**	**1.01**	**339**		Pg	23 30 58.7	-0.2
T35A	**Sooner Cattle**	**1.03**	**52**		Pg	23 30 59.3	0.0
T35A					Sg	23 31 12.6	-0.1
T35A				IAML		23 31 13.6	
	comp=N,37nm,0.2s						
T35A				IAML		23 31 13.7	
	comp=E,26nm,0.2s						
KAN12	**Harper NE Stat**	**1.08**	**339**		Pg	23 31 00.4	+0.1
NOKA	**Waynoka**	**1.19**	**287**		Pg	23 31 02.2	-0.2
NOKA					Sb	23 31 18.2	-0.2
W35A	**Tecumseh**	**1.25**	**155**		Pg	23 31 02.7	-0.9
W35A					Sg	23 31 19.7	0.0
W35A				IAML		23 31 21.0	
	comp=N,24nm,0.2s						
W35A				IAML		23 31 26.3	
	comp=E,26nm,1.8s						
TUL3	**Leonard**	**1.45**	**104**		Pn	23 31 06.0	-0.5
FW12	**Venus**	**3.79**	**175**		Pn	23 31 35.7	-3.0

*GII **11** 23:38:29.7±0.3, 36°.95N±0°.03×20°.175E±0°.008, h16km, confirmed*

*IDC **11** 23:38:34.0±0.5, 37°.81N×20°.59E, h0km, mb4.4/29, mbtmp4.3/42, ML4.0/11, MS4.3/72, Error ellipse: s-maj=10.3km s-min=9.6km az=110.0*

*MOS **11** 23:38:34.0±1.1, 37°.76N×20°.44E, h13km, mb4.9/47, MS4.5/18, Error ellipse: s-maj=4.6km s-min=2.7km az=75.8*

*THE **11** 23:38:34.1, 37°.61N×20°.47E, h2km±31km, ML4.8/16, Error ellipse: s-maj=31.6km s-min=0.7km az=0.0*

*MCSM **11** 23:38:35.9±0.2, 38°.N±2°×2°.0E±°, h10km, mB5.0, mb4.6, MLv4.8, Mw(mB)4.3*

*AFAD **11** 23:38:35.0±0.0, 37°.39N×20°.45E, h27km±76km, MW4.7*

*GCMT **11** 23:38:35.8±0.2, 37°.57N±0°.01×20°.52E±0°.01, h21km±1km, MW5.0/133, Moment Tensor Solution. s43,c53; s133,c211; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-0.47±.11; $M_{\theta\theta}$3.69±.10; $M_{\phi\phi}$-3.22±.09; $M_{r\theta}$-0.59±.18; $M_{\theta\phi}$1.70±.08; $M_{\phi r}$0.58±.17; Best double couple: $M_0$3.94800×10^16 NP1:ϕ_s121.00000°, δ85.00000°, λ-13.00000°. NP2:ϕ_s212.00000°, δ77.00000°, λ-175.00000°. Principal axes: T 4.1300, Plg6.0000°, Azm167.0000°; N -0.3690, Plg77.0000°, Azm282.0000°; P -3.7660, Plg12.0000°, Azm76.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BEO **11** 23:38:35.2±0.5, 37°.65N×20°.29E, h10km±8km, ML4.7/11*

*MED_RC **11** 23:38:35.0±0.2, 37°.61N×20°.59E, h20km, MW5.0/47, Moment Tensor Solution.Mantle waves: s47,c81; Duration: 1s1 Moment tensor: Scale 10^16Nm; M_{rr}-0.78±.18; $M_{\theta\theta}$4.01±.16; $M_{\phi\phi}$-3.23±.10; $M_{r\theta}$-0.33±.20; $M_{\theta\phi}$1.50±.10; $M_{\phi r}$0.05±.16; Best double couple: $M_0$3.93000×10^16 NP1:ϕ_s304.00000°, δ89.00000°, λ4.00000°. NP2:ϕ_s214.00000°, δ86.00000°, λ179.00000°. Principal axes: T 4.3300, Plg3.0000°, Azm169.0000°; N -0.8000, Plg86.0000°, Azm315.0000°; P -3.5300, Plg2.0000°, Azm79.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*UPSL **11** 23:38:35.1, 37°.63N×20°.51E, h7km, Mw4.9, Moment Tensor Solution. s7 Moment tensor: M_{rr}-0.16; $M_{\theta\theta}$1.79; $M_{\phi\phi}$-1.63; $M_{r\theta}$1.28; $M_{\theta\phi}$1.16; $M_{\phi r}$1.28; Fault plane solution: NP1:ϕ_s30.00000°, δ89.00000°, λ140.00000°. NP2: ϕ_s121.00000°, δ50.00000°, λ1.00000°.*

*NEIC **11** 23:38:35.8±1.8, 37°.75N±0°.03×20°.51E±0°.06, h10km±1km, mb4.8/129, Mwr4.8/14 Error ellipse: s-maj=9.1km s-min=4.0km az=239.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; M_{rr}-0.44; $M_{\theta\theta}$1.78; $M_{\phi\phi}$-1.33; $M_{r\theta}$0.16; $M_{\theta\phi}$-0.89; $M_{\phi r}$-0.87; Fault plane solution: $M_0$2.03000×10^16 NP1:ϕ_s326.59000°, δ77.47000°, λ-26.95000°. NP2:ϕ_s62.89000°, δ63.75000°, λ-166.00000°. Principal axes: T 2.0739, Plg9.0000°, Azm17.0000°; N -0.0835, Plg60.0000°, Azm123.0000°; P -1.9905, Plg28.0000°, Azm282.0000°;*

*ATH **11** 23:38:35.1, 37°.63N×20°.51E, h7km, Mw4.9, Moment Tensor Solution. s8 Moment tensor: M_{rr}-0.12; $M_{\theta\theta}$1.96; $M_{\phi\phi}$-1.84; $M_{r\theta}$0.93; $M_{\theta\phi}$0.72; $M_{\phi r}$0.94; Fault plane solution: NP1:ϕ_s35.00000°, δ89.00000°, λ147.00000°. NP2: ϕ_s126.00000°, δ57.00000°, λ1.00000°.*

*NAO **11** 23:38:35.0, 37°.71N×20°.43E, h10km, mb5.5*

*PDG **11** 23:38:35.2±0.2, 37°.67N×20°.51E, h9km, MD4.8/1, ML4.7/12, Error ellipse: s-maj=0.4km s-min=0.9km az=0.0*

*NEIC **11** 23:38:36.7, 37°.72N×20°.44E, h10km*

ISC 11 23:38:36.4±0.6, 37°.69N±0°.02×20°.56E±0°.02, h19km±2km, n963, σ1$89/1038, mb4.8/122, MS4.4/73, 57C-24D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.21**	**97**	P	**Pg**	**23 38 39.8**	**-1.8**
KRI1				S	**Sg**	**23 38 44.0**	**-1.1**
	729μm,0.6s						
LTHK	**Lithakia**	**0.22**	**84**	P	**Pg**	**23 38 39.9**	**-1.9**
LTHK				S	**Sg**	**23 38 44.3**	**-1.1**
	416μm,0.6s						
LTHK	**Lithakia**	**0.22**	**84**	P	**Pg**	**23 38 40.1**	**-1.7**
LTHK				S	**Sg**	**23 38 44.1**	**-1.3**
LTHK				AML	AML	23 38 44.9	
LTHK				AML	AML	23 38 46.3	
RTZL	**Ratzakli, Kefa**	**0.42**	**24**	P	**Pg**	**23 38 43.8**	**-1.4**
RTZL				S	**Sg**	**23 38 51.6**	**+0.6**
PSDA	**Pessada-Kefalo**	**0.43**	**3**	P	**Pg**	**23 38 43.8**	**-1.4**
PSDA				S	**Sg**	**23 38 51.1**	**0.0**
PSDA	**Pessada-Kefalo**	**0.43**	**3**	P	**Pg**	**23 38 44.3**	**-0.9**
PSDA				S	**Sg**	**23 38 51.3**	**+0.2**
VLS	**Valsamata**	**0.49**	**3**	P	**Pg**	**23 38 44.7**	**-1.7**
VLS				S	**Sb**	**23 38 53.7**	**+0.4**
	131μm,0.5s						
VLS	**Valsamata**	**0.49**	**3**	P	**Pg**	**23 38 45.2**	**-1.2**
VLS				S	**Sg**	**23 38 52.9**	**-0.1**
VLS				AML	AML	23 38 57.3	
VLS				AML	AML	23 38 58.7	
LXR1	**Lixouri, Cepha**	**0.52**	**350**	P	**Pg**	**23 38 45.9**	**-1.0**
LXR1				S	**Sb**	**23 38 55.6**	**+1.5**
	472μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.52**	**349**	P	**Pg**	**23 38 46.1**	**-0.8**
LXRA				S	**Sg**	**23 38 54.0**	**+1.0**
LXRA				AML	AML	23 39 02.7	
LXRA				AML	AML	23 39 04.8	
SMHA	**Samh**	**0.57**	**7**	P	**Pg**	**23 38 46.5**	**-1.3**
SMHA				S	**Sb**	**23 38 56.0**	**+0.7**
DMLN	**Damoulianata-K**	**0.57**	**345**	P	**Pg**	**23 38 46.2**	**-1.6**
DMLN				S	**Sb**	**23 38 56.4**	**+1.0**
	165μm,0.4s						
DMLN	**Damoulianata-K**	**0.57**	**345**	P	**Pg**	**23 38 46.9**	**-0.9**
DMLN				S	**Sg**	**23 38 55.2**	**-0.3**
VSK1	**VASILIKIADES**	**0.72**	**0**	P	**Pb**	**23 38 48.7**	**-1.7**
VSK1				S	**Sg**	**23 39 01.0**	**+0.8**
	96μm,0.8s						
FSK	**Fiskardo**	**0.77**	**0**	P	**Pb**	**23 38 49.5**	**-1.7**
FSK				S	**Sg**	**23 39 02.9**	**+1.1**
	68μm,0.8s						
FSK	**Fiskardo**	**0.77**	**0**	P	**Pb**	**23 38 50.3**	**-0.9**
FSK				S	**Sg**	**23 39 02.0**	**+0.2**
RLS	**Riolos of Patr**	**0.81**	**63**	P	**Pb**	**23 38 50.5**	**-1.4**
RLS				S	**Sg**	**23 39 03.9**	**+0.9**
	78μm,0.5s						
RLS	**Riolos of Patr**	**0.81**	**63**	P	**Pb**	**23 38 51.1**	**-0.7**
RLS				S	**Sb**	**23 39 02.8**	**+0.4**
RLS				AML	AML	23 39 04.9	
RLS				AML	AML	23 39 05.2	
AMT	**Artemida-Makis**	**0.93**	**99**	P	**Pb**	**23 38 53.1**	**-0.8**
AMT				S	**Sb**	**23 39 06.4**	**+0.6**
AMT				AML	AML	23 39 12.9	
AMT				AML	AML	23 39 14.7	
EVGI	**Lefkada island**	**0.94**	**5**	P	**Pb**	**23 38 52.9**	**-1.1**
EVGI				S	**Sn**	**23 39 07.6**	**+0.1**
	44μm,0.8s						
EVGI	**Lefkada island**	**0.94**	**5**	P	**Pb**	**23 38 53.0**	**-1.0**
EVGI				S	**Sg**	**23 39 07.0**	**0.0**
DRO	**Drossia**	**0.95**	**74**	P	**Pb**	**23 38 52.9**	**-1.4**
DRO				S	**Sn**	**23 39 09.7**	**+1.8**
	65μm,0.5s						
DRO	**Drossia**	**0.95**	**74**	P	**Pb**	**23 38 53.9**	**-0.4**
DRO				S	**Sg**	**23 39 07.9**	**+0.4**
DRO				AML	AML	23 39 15.0	
	comp=N,86424μm,0.5s						
DRO				AML	AML	23 39 18.5	
DRAG	**Dragano-Lefkad**	**0.99**	**1**	P	**Pb**	**23 38 53.7**	**-1.4**
DRAG				S	**Sn**	**23 39 10.4**	**+1.4**
DRAG	**Dragano-Lefkad**	**0.99**	**1**	P	**Pb**	**23 38 54.5**	**-0.6**
DRAG				S	**Sg**	**23 39 09.1**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.03**	**6**	P	**Pb**	**23 38 54.0**	**-1.6**
NYDR				S	**Sn**	**23 39 11.2**	**+1.4**
	comp=N,36μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.03**	**6**	P	**Pb**	**23 38 55.3**	**-0.4**
NYDR				S	**Sg**	**23 39 10.1**	**+0.2**
LKD2	**Lefkada island**	**1.10**	**4**	P	**Pb**	**23 38 56.6**	**-0.3**
LKD2				S	**Sg**	**23 39 13.2**	**+0.9**
	comp=N,43μm,0.7s						
LKD2	**Lefkada island**	**1.10**	**4**	P	**Pb**	**23 38 57.1**	**+0.2**
LKD2				S	**Sg**	**23 39 12.7**	**+0.4**
LKD2				AML	AML	23 39 19.4	
	comp=E,71613μm,0.6s						
LKD2				AML	AML	23 39 21.2	
	comp=N,83162μm,0.7s						
TSLK	**Tsoukalades, L**	**1.14**	**4**	P	**Pn**	**23 38 56.5**	**-0.9**
TSLK				S	**Sg**	**23 39 14.8**	**+1.4**
	comp=N,41μm,1.2s						
TSLK	**Tsoukalades, L**	**1.14**	**4**	P	**Pn**	**23 38 57.2**	**-0.2**
TSLK				S	**Sg**	**23 39 13.6**	**+0.1**
ITM	**Ithomi**	**1.20**	**115**	P	**Pn**	**23 38 57.5**	**-0.8**
ITM				S	**Sg**	**23 39 16.0**	**+0.6**
	comp=N,28μm,1.2s						
ITM	**Ithomi**	**1.20**	**115**	P	**Pn**	**23 38 57.9**	**-0.3**
ITM				S	**Sn**	**23 39 14.9**	**+0.8**
ITM				AML	AML	23 39 26.0	
	comp=E,43484μm,1.0s						
ITM				AML	AML	23 39 27.3	
	comp=N,60288μm,1.3s						
PYL	**PYLOS**	**1.23**	**130**	P	**Pn**	**23 38 57.5**	**-1.1**
PYL				S	**Sn**	**23 39 16.0**	**+1.2**
	comp=N,23μm,0.6s						
PYL	**PYLOS**	**1.23**	**130**	P	**Pn**	**23 38 58.2**	**-0.5**
PYL				S	**Sb**	**23 39 14.3**	**-0.3**
PYL				AML	AML	23 39 18.8	
	comp=N,40158μm,0.6s						
PYL				AML	AML	23 39 18.9	
	comp=E,55490μm,0.6s						
EFP	**Efpalio**	**1.29**	**55**	P	**Pn**	**23 39 00.0**	**+0.5**
EFP				S	**Sg**	**23 39 18.5**	**+0.1**
EFP				AML	AML	23 39 26.5	
	comp=N,66930μm,0.7s						
EFP				AML	AML	23 39 28.9	
	comp=E,40460μm,0.6s						
KLV	**Kalavryta, Ach**	**1.31**	**74**	P	**Pn**	**23 38 59.0**	**-0.8**
KLV				S	**Sg**	**23 39 19.8**	**+0.9**
	comp=E,22μm,1.1s						
KLV	**Kalavryta, Ach**	**1.31**	**74**	P	**Pn**	**23 39 00.6**	**+0.8**
KLV				S	**Sb**	**23 39 18.4**	**+1.5**
KLV				AML	AML	23 39 28.8	
	comp=N,28696μm,0.8s						
KLV				AML	AML	23 39 29.3	
	comp=E,45463μm,0.8s						
ANX	**Ano Chora**	**1.40**	**50**	P	**Pn**	**23 39 01.5**	**+0.4**
ANX				S	**Sg**	**23 39 21.6**	**-0.3**
ANX				AML	AML	23 39 28.7	
	comp=N,98178μm,0.7s						
ANX				AML	AML	23 39 29.8	
	comp=E,70015μm,0.7s						
KALE	**Kalithea**	**1.43**	**60**	P	**Pn**	**23 39 02.2**	**+0.7**
KALE				S	**Sg**	**23 39 22.5**	**-0.3**
KALE				AML	AML	23 39 31.3	
	comp=E,44560μm,0.6s						
KALE				AML	AML	23 39 31.6	
	comp=N,44543μm,0.6s						
GUR	**Goura**	**1.44**	**80**	P	**Pn**	**23 39 01.1**	**-0.4**
GUR	**Goura**	**1.44**	**80**	P	**Pb**	**23 39 02.7**	**+0.1**
GUR				S	**Sb**	**23 39 21.7**	**+1.1**
GUR				AML	AML	23 39 35.3	
	comp=E,47026μm,0.7s						
GUR				AML	AML	23 39 37.5	
	comp=N,67544μm,0.5s						
IGT	**Igoumenitsa**	**1.85**	**355**	P	**Pb**	**23 39 09.2**	**-0.5**
AGG	**Agios Georgios**	**1.93**	**46**	P	**Pb**	**23 39 11.1**	**+0.2**
AGG				S	**Sg**	**23 39 37.3**	**-1.2**
AGG	**Agios Georgios**	**1.93**	**46**	*e*P	**Pn**	**23 39 09.6**	**+1.3**
AGG	**Agios Georgios**	**1.93**	**46**		**Pb**	**23 39 10.3**	**-0.7**
AGG	**Agios Georgios**	**1.93**	**46**	P	**Pb**	**23 39 10.3**	**-0.7**
AXAR	**Agios Charalam**	**1.97**	**56**	P	**Pb**	**23 39 11.1**	**-0.6**
KEK	**Kerkira**	**2.11**	**344**	*e*P	**Pn**	**23 39 12.2**	**+1.5**
KEK	**Kerkira**	**2.11**	**344**		**Pn**	**23 39 10.6**	**-0.1**
VLI	**Veliai**	**2.13**	**116**	P	**Pn**	**23 39 12.8**	**+1.8**
THL	**Klokotos Trika**	**2.19**	**31**	P	**Pb**	**23 39 14.9**	**-0.6**
SCTE	**Santa Cesarea**	**2.89**	**326**	Pn	**Pn**	**23 39 21.2**	**-0.2**
FNA	**Florina**	**3.16**	**11**	P	**Pn**	**23 39 27.0**	**+1.8**
FNA				S	**Sn**	**23 39 59.4**	**-2.9**
FNA	**Florina**	**3.16**	**11**	*e*P	**Pn**	**23 39 26.7**	**+1.6**
FNA	**Florina**	**3.16**	**11**		**Pn**	**23 39 25.8**	**+0.6**
FNA	**Florina**	**3.16**	**11**	*e*Pn	**Pn**	**23 39 26.8**	**+1.6**
FNA				*e*Sn	**Sn**	**23 40 05.0**	**+2.7**
FNA	**Florina**	**3.16**	**11**	P	**Pn**	**23 39 25.8**	**+0.6**
TIP	**Timpagrande**	**3.33**	**298**	Pn	**Pn**	**23 39 26.9**	**-0.7**
TIP	**Timpagrande**	**3.33**	**298**	⇑P	**Pn**	**23 39 27.7**	**0.0**
TIP				⇑S	**Sn**	**23 40 07.2**	**+0.5**
TIP	**Timpagrande**	**3.33**	**298**	P	**Pn**	**23 39 27.1**	**-0.5**
OHR	**Ohrid**	**3.42**	**3**	*e*Pn	**Pn**	**23 39 30.8**	**+2.0**
OHR				*e*Sn	**Sn**	**23 40 10.6**	**+1.7**
OHR	**Ohrid**	**3.42**	**3**	*i* Pg	**Pn**	**23 39 31.2**	**+2.3**
HORT	**Hortiatis**	**3.51**	**33**	*e*P	**Pn**	**23 39 32.2**	**+2.1**
KNDR	**Palaiochora Ch**	**3.52**	**133**	*e*P	**Pn**	**23 39 31.9**	**+1.9**
IMMV	**Ieria Moni Meta**	**3.54**	**128**	*e*P	**Pn**	**23 39 32.5**	**+2.1**
TIR	**Tirane**	**3.69**	**352**	Pn	**Pn**	**23 39 32.8**	**+0.3**
TIR	**Tirane**	**3.69**	**352**	*e*Pn	**Pn**	**23 39 33.5**	**+1.0**
TIR				*e*Sn	**Sn**	**23 40 15.2**	**-0.3**
TIR	**Tirane**	**3.69**	**352**	⇑P	**Pn**	**23 39 33.8**	**+1.3**
TIR	**Tirane**	**3.69**	**352**	P	**Pn**	**23 39 32.8**	**+0.3**
CEL	**Celeste**	**3.73**	**280**		**Pn**	**23 39 32.3**	**-0.7**
CEL	**Celeste**	**3.73**	**280**	P	**Pn**	**23 39 32.5**	**-0.5**
OUR	**Ouranopolis**	**3.75**	**44**	*e*P	**Pn**	**23 39 35.7**	**+2.4**
VAY	**Valandov

PDG	Podgorica	4.84	348	⇑	iPn	Pn	23 39 47.8	-0.4
PDG					i Sn	Sn	23 40 42.9	-0.9
GOAD	anakkale-G¶	4.85	58		P	Pn	23 39 50.1	+1.8
GOAD					S	Sb	23 40 58.3	-0.4
GADA	Gvkgeada	4.86	57		eP	Pn	23 39 50.9	+2.4
VAE	Valguarnera	4.89	269		Pn	Pn	23 39 48.9	-0.1
	comp=N,60nm,0.8s,baz=163,slow=5.9,SNR=14							
VAE					Sn	Sn	23 40 43.4	-1.6
	comp=N,21nm,0.3s,baz=87,slow=3.9,SNR=8.6							
PVY	Plav	4.92	355	⇓	iPn	Pn	23 39 49.8	+0.3
PVY					i Sn	Sn	23 40 45.3	-0.7
RAFF	Raffo Rosso	4.95	266		Pn	Pn	23 39 48.4	-1.4
ECEA	Canakkale, Ece	4.97	60		P	Pn	23 39 45.8	-4.3
EZN	Ezine	4.99	63		P	Pn	23 39 50.4	+0.2
EZN	Ezine	4.99	63		eP	Pn	23 39 52.7	+2.4
EZN	Ezine	4.99	63		P	Pn	23 39 50.9	+0.6
	comp=N,125nm,0.8s,comp=N,2µmcomp=N,0.8nm							
HCY	Herceg Novi	5.01	342		ePn	Pn	23 39 49.2	-1.4
HCY	Herceg Novi	5.01	342	⇓	iPn	Pn	23 39 49.6	-1.0
HCY					i Sn	Sn	23 40 47.3	-0.7
CEME	Cevo	5.01	346	⇑	iPn	Pn	23 39 49.7	-1.0
CEME					i Sn	Sn	23 40 47.4	-0.7
DGB	zmir	5.02	84		P	Pn	23 39 51.2	+0.6
DGB					S	Sb	23 40 57.2	-6.3
BOSS	Bosilegrad	5.02	16		ePn	Pn	23 39 51.8	+1.0
AYVA	Ayvalik	5.08	70		P	Pn	23 39 52.6	+1.1
BAYC	CANAKKALE_Bayr	5.11	65		P	Pn	23 39 52.0	0.0
BLCB	Balcova	5.17	80		P	Pn	23 39 55.6	+2.9
BLCB					S	Sn	23 40 56.1	+4.3
BLCB	Balcova	5.17	80		eP	Pn	23 39 55.6	+2.9
DKL	Dikili	5.17	73		P	Pn	23 39 54.5	+1.7
DKL					S	Sn	23 40 53.9	+1.9
DKL	Dikili	5.17	73		eP	Pn	23 39 55.6	+2.8
WDD	Wied Dalam	5.18	251		Pn	Pn	23 39 52.8	-0.1
IVA	Berane	5.20	355	⇑	iPn	Pn	23 39 53.5	+0.2
IVA					i Sn	Sn	23 40 52.1	-0.7
BARS	Barje	5.21	10		ePn	Pn	23 39 54.0	+0.6
KOME	Kolasin	5.22	352	⇑	iPn	Pn	23 39 53.7	+0.2
KOME					i Sn	Sn	23 40 52.6	-0.6
NKME	Niksic	5.22	347	⇑	iPn	Pn	23 39 52.8	-0.7
NKME					i Sn	Sn	23 40 52.5	-0.7
ZKR	Zakros	5.24	118		eP	Pn	23 39 56.8	+3.1
ZEDA	zmir-Bergama	5.28	74		P	Pn	23 39 57.5	+3.2
CAVK	Edirne/Enez-Ca	5.29	54		P	Pn	23 39 55.8	+1.3
GCAM	G?zelcaml?	5.29	88		P	Pn	23 39 53.1	-1.3
GCAM	G?zelcaml?	5.29	88		eP	Pn	23 39 57.4	+2.9
TREB	Trebinje	5.30	342		ePn	Pn	23 39 53.4	-1.2
TREB					eSn	Sn	23 40 53.9	-1.2
TREB	Trebinje	5.30	342		ePn	Pn	23 39 53.2	-1.4
ENEZ	Enez	5.30	53		eP	Pn	23 39 57.4	+2.8
DDIM	Aydin, Didim	5.31	90		P	Pb	23 40 03.0	-5.7
ALN	Alexandroupoli	5.33	51		P	Pn	23 39 56.3	+1.3
ALN					S	Sn	23 40 59.5	+3.8
ALN	Alexandroupoli	5.33	51		eP	Pn	23 39 57.6	+2.7
ALN	Alexandroupoli	5.33	51			Pn	23 39 55.9	+1.0
ALN	Alexandroupoli	5.33	51		P	Pn	23 39 55.9	+1.0
VTS	Vitosha	5.33	22		ePn	Pn	23 39 56.6	+1.4
VTS					eSn	Sn	23 40 56.4	+0.2
GELI	Tayfur-Gelibol	5.34	58		eP	Pn	23 39 57.9	+2.8
KDZ	Kurdzhali	5.39	42		eP	Pn	23 39 58.8	+2.9
BODT	Bodrum	5.41	95		eP	Pn	23 39 58.5	+2.3
BUHA	Balikesir, Bur	5.42	68		P	Pn	23 39 55.9	-0.3
BRY	Bratogost	5.43	344		ePn	Pn	23 39 55.3	-1.2
BRY	Bratogost	5.43	344	⇑	iPn	Pn	23 39 55.3	-1.2
BRY					i Sn	Sn	23 40 57.0	-1.5
PLD	Plovdiv	5.50	35		eP	Pn	23 39 59.1	+1.9
PLD	Plovdiv	5.50	35		ePn	Pn	23 39 59.1	+1.9
ERIK	Erikli-Kesan	5.50	55		P	Pn	23 39 57.5	+0.2
ERIK	Erikli-Kesan	5.50	55		eP	Pn	23 40 01.1	+3.8
BDRM	Kayabasi	5.52	94		P	Pn	23 40 00.6	+3.0
BDRM					S	Sb	23 41 16.2	-1.9
LPK	Lapseki	5.52	59		eP	Pn	23 40 01.1	+3.5
SELS	Selova	5.54	4		ePn	Pn	23 39 58.0	+0.1
CANM	Can-anakkale	5.58	63		eP	Pn	23 40 01.4	+3.1
SJES	Sjenica	5.58	356		ePn	Pn	23 39 59.1	+0.5
SJES					eSn	Sn	23 41 00.8	-1.5
SJES	Sjenica	5.58	356		ePn	Pn	23 39 59.1	+0.5
YAZI	Mula-Dat§a-	5.60	98		P	Pn	23 39 55.0	-3.7
YAZI					S	Sn	23 41 08.1	+5.7
STON	Ston	5.62	338		ePn	Pn	23 39 57.6	-1.3
STON					eSn	Sn	23 40 59.0	-3.9
STON	Ston	5.62	338	⇑	iPn	Pn	23 39 57.8	-1.1
UPM	Unac-Piva	5.65	348		ePn	Pn	23 39 59.3	-0.3
UPM	Unac-Piva	5.65	348	⇑	iPn	Pn	23 39 58.7	-0.9
UPM					i Sn	Sn	23 41 01.7	-2.3
DAT	Datca	5.68	98		P	Pn	23 39 57.9	-2.0
DAT	Datca	5.68	98		eP	Pn	23 40 03.1	+3.1
PLE	Pljevlja	5.71	351	⇑	iPn	Pn	23 40 00.3	+0.1
PLE					i Sn	Sn	23 41 03.3	-2.0
PAOL	Paolisi	5.72	308			Pn	23 39 59.5	-0.9
KARP	Karpathos	5.72	110		eP	Pn	23 40 04.0	+3.5
KARP	Karpathos	5.72	110			Pn	23 40 01.9	+1.4
KARP	Karpathos	5.72	110		P	Pn	23 40 03.9	+3.5
KARP	Karpathos	5.72	110		P	Pn	23 40 02.1	+1.6
	comp=N,343nm,0.8s,comp=N,3µmcomp=N,1.4nm							
ZAPS	Zavoj	5.80	15		ePn	Pn	23 40 02.8	+1.3
AYDB	Zeytinkoy-Aydi	5.81	85		eP	Pn	23 40 04.9	+3.2
UKOP	Uzunkopru-Edir	5.83	52		eP	Pn	23 40 04.9	+3.1
STEP	BALIKESIR_Sava	5.86	71		P	Pn	23 40 03.5	+1.2
IZMR	zmir-demi	5.86	83		P	Pn	23 40 00.1	-2.3
IZMR					S	Sn	23 41 12.3	+3.3
BALY	Balya	5.89	67		P	Pn	23 40 01.3	-1.4
IVAS	Ivanjica	5.89	357		ePn	Pn	23 40 02.3	-0.4
KRBG	Karabiga-Canak	5.90	61		P	Pn	23 40 03.0	+0.1
KRBG	Karabiga-Canak	5.90	61		eP	Pn	23 40 05.8	+3.0
RKY	Sarkoy-Tekirda	5.95	58		P	Pn	23 40 05.9	+2.4
RKY	Sarkoy-Tekirda	5.95	58		eP	Pn	23 40 06.9	+3.3
SART	Tekirdag	5.95	58		P	Pn	23 40 04.0	+0.4
SART					S	Sn	23 41 07.8	-3.5
RUDO	Rudo	5.99	352		ePn	Pn	23 40 03.2	-0.9
BOVS	Bovan	6.00	8		ePn	Pn	23 40 03.7	-0.5
BOVS	Bovan	6.00	8	⇓	P	Pn	23 40 04.9	+0.7
GORD	Gordes-Manisa	6.12	76		eP	Pn	23 40 09.2	+3.4
NAZL	Nazilli-Aydin	6.13	85		eP	Pn	23 40 08.4	+3.2
BLKB	Belogradchik	6.14	15	⇓	P	Pn	23 40 08.0	+1.8
YER	Yerkesik	6.17	93		eP	Pn	23 40 09.5	+2.9
ESEN	Aydn-Nazilli	6.17	87		P	Pn	23 40 08.4	+1.9
MULA	Mugla, Merkez-	6.19	92		P	Pn	23 40 09.6	+2.7
GRUS	Gruza	6.20	1		ePn	Pn	23 40 06.4	-0.5
GRUS					eSn	Sn	23 41 15.9	-1.2
MRMT	Marmara Adasi	6.20	60		eP	Pn	23 40 10.1	+3.2
TURN	Turunc	6.20	96		P	Pn	23 40 08.3	+1.4
TURN					S	Sn	23 41 19.4	+2.1
TURN	Turunc	6.20	96		eP	Pn	23 40 10.1	+3.2
KIRA	zmir-Kiraz	6.22	83		P	Pn	23 40 09.4	+2.1
KIRA					S	Sn	23 41 15.8	-2.1
BBLS	Lazi&#263i	6.23	352		ePn	Pn	23 40 06.9	-0.5
BBLS	Lazi&#263i	6.23	352		ePn	Pn	23 40 06.8	-0.6
ZAGS	Zajecar	6.25	11		ePn	Pn	23 40 07.7	+0.1
EDC	Edincik	6.28	63		eP	Pn	23 40 10.9	+2.9
EDRB	Edirne	6.32	47		eP	Pn	23 40 11.8	+3.2
MANT	Manisa	6.36	80		P	Pn	23 40 11.8	+2.4
MANT	Manisa	6.36	80		Pn	Pn	23 40 10.6	+1.3
DIVS	Divibare	6.42	356		ePn	Pn	23 40 09.0	-1.0
KULA	Kula-Manisa	6.44	80		eP	Pn	23 40 13.9	+3.5
HAPS	Han Pijesak,BI	6.51	350		ePn	Pn	23 40 10.5	-0.7
HAPS	Han Pijesak,BI	6.51	350		ePn	Pn	23 40 10.6	-0.7
TRUS	Trudelj	6.53	359		ePn	Pn	23 40 10.6	-0.9
CRLT	Corlu	6.53	56		eP	Pn	23 40 14.9	+3.4
KCTX	Karacabey (Bur	6.60	65		eP	Pn	23 40 15.9	+3.5
ELND	Elena	6.62	36	⇑	P	Pn	23 40 14.9	+2.1
TAVA	DENIZLI_Tavas	6.64	89		P	Pn	23 40 20.9	+7.8
TAVA					S	Sn	23 41 26.1	-2.2
INTR	Introdacqua	6.70	312			Pn	23 40 14.4	+0.6
DNIZ	Denizli-Tavas-	6.73	88		P	Pn	23 40 14.7	+0.4
DNIZ					S	Sn	23 41 34.9	+4.5
DNZT	Denizli-Tavas-	6.75	91		P	Pn	23 40 17.6	+3.1
DNZT					S	Sn	23 41 31.2	+0.4
SIMA	Simav-Kutahya	6.76	76		eP	Pn	23 40 18.6	+3.8
SABU	Mula-Dalaman	6.76	95		P	Pn	23 40 16.4	+1.6
KUBS	Kucevo	6.77	7		ePn	Pn	23 40 13.7	-1.1
SLVT	Silivri	6.90	57		eP	Pn	23 40 19.6	+3.1
TEKS	Tekeris	6.90	354		ePn	Pn	23 40 14.9	-1.6
TEKS	Tekeris	6.90	354		ePn	Pn	23 40 15.2	-1.3
VLAD	Vladila	6.95	24	⇑	P	Pn	23 40 19.2	+2.1
CAEL	Denizli, Camel	7.00	92		P	Pn	23 40 22.3	+4.2
AVAS	Avala Beograd	7.00	360		ePn	Pn	23 40 16.7	-1.2
MDNY	Mudanya-Bursa	7.01	65		eP	Pn	23 40 21.7	+3.6
IZZE	Mula-Seydike	7.04	98		P	Pn	23 40 20.8	+2.3
IZZE					S	Sn	23 41 28.9	-9.2
ARMT	Armutlu	7.07	63		eP	Pn	23 40 22.2	+3.4
CTYL	Yalikoy Yolu	7.07	55		eP	Pn	23 40 21.9	+3.1
CTYL	Yalikoy Yolu	7.07	55		P	Pn	23 40 20.0	+1.2
	comp=N,70nm,0.7s,comp=N,0.3nm							
CTKS	Kestanelik-??a	7.10	58		eP	Pn	23 40 22.5	+3.3
MDVR	Moldovita	7.14	7	⇑	P	Pn	23 40 20.5	+0.6
SRE	Strehaia	7.25	15	⇑	P	Pn	23 40 22.5	+1.2
SRE	Strehaia	7.25	15		P	Pn	23 40 22.5	+1.2
BGKT	Bogazkoy	7.25	59		eP	Pn	23 40 24.8	+3.5
CAMP	Campotosto	7.31	314		Pn	Pn	23 40 23.0	+0.7
HERR	Herculane	7.32	10	⇑	P	Pn	23 40 22.8	+0.5
AKAS	Kas	7.39	99		Pn	Pn	23 40 22.9	-0.5
A050A	Klekovaca	7.44	337		ePn	Pn	23 40 23.9	-0.1
FRGS	Fruska Gora	7.48	356		ePn	Pn	23 40 21.7	-2.9
FRGS	Fruska Gora	7.48	356		ePn	Pn	23 40 21.1	-3.5
BLY	Banja Luka	7.50	341		ePn	Pn	23 40 23.9	-0.8
BLY					eSn	Sn	23 41 45.4	-3.8
BLY	Banja Luka	7.50	341		ePn	Pn	23 40 24.0	-0.8
ELL	Elmali	7.52	94		Pn	Pn	23 40 27.5	+2.3
ELL	Elmali	7.52	94		P	Pn	23 40 27.5	+2.3
NRCA	Norcia	7.67	314		Pn	Pn	23 40 27.0	-0.1
GUMA	Gualdo di Mace	7.69	317			Pn	23 40 28.1	+0.6
SGRR	Singureni	7.71	30	⇑	P	Pn	23 40 29.1	+1.6
FDMO	Fiordimonte	7.81	315			Pn	23 40 29.1	0.0
A051A	Mrakovica	7.81	341		ePn	Pn	23 40 27.7	-1.4
PRIJ	Prijedor	7.83	340		ePn	Pn	23 40 26.3	-3.0
CESX	Cesi	7.84	311			Pn	23 40 29.4	0.0
GZR	Gura Zlata	7.88	11	⇑	P	Pn	23 40 30.6	+0.6
GZR	Gura Zlata	7.88	11		P	Pn	23 40 30.6	+0.6
ISP	Isparta	7.89	86		Pn	Pn	23 40 31.7	+1.4
ISP	Isparta	7.89	86	⇑	iP	Pn	23 40 33.9	+3.6
ISP	Isparta	7.89	86		P	Pn	23 40 29.5	-0.9
BZS	Buzias	7.96	5		ePn	Pn	23 40 29.9	-1.2
BORA	Eskisehir	8.03	71		Pn	Pn	23 40 33.8	+1.6
LOT	Lotru	8.12	16	⇑	P	Pn	23 40 34.5	+1.2
SURR	Surduc	8.14	8	⇑	P	Pn	23 40 34.5	+0.9
ARR	Arges	8.26	20	⇑	P	Pn	23 40 36.9	+1.7
VOIR		8.44	22	⇑	P	Pn	23 40 40.0	+2.3
VOIR		8.44	22		P	Pn	23 40 40.0	+2.3
VOIR		8.44	22		P	Pn	23 40 38.7	+1.0
	comp=N,57nm,1.1s,comp=N,574nm							
SIRR	Siria	8.61	5	⇑	P	Pn	23 40 41.0	+1.0
MORH	Mrgy, Hungar	8.64	351		P	Pn	23 40 38.0	-2.4
	comp=N,20nm,0.9s							
ISR	Istrita	8.68	29	⇓	P	Pn	23 40 43.2	+2.2
ISR	Istrita	8.68	29		P	Pn	23 40 43.2	+2.2
MDUB	Mudurnu	8.73	68		Pn	Pn	23 40 43.5	+1.7
BOJS	Bojanci	8.76	335		iPn	Pn	23 40 41.2	-0.9
BOJS					eSn	Sn	23 42 15.2	-5.0
BOJS					e		23 42 32.8	
BOJS					IAML		23 44 53.8	
	comp=Z,6µm,7.8s							
MLR	Muntele Rosu	8.78	26			Pn	23 40 43.4	+1.0
MLR	Muntele Rosu	8.78	26		Pn	Pn	23 40 44.9	+2.5
	comp=Z,1.2nm,0.3s,baz=226,slow=8.9,SNR=42							
MLR					LR	LR	23 44 13.7	
	comp=Z,2µm,20.1s,baz=203,slow=39							
MLR	Muntele Rosu	8.78	26	⇑	P	Pn	23 40 45.2	+2.8
MLR	Muntele Rosu	8.78	26		P	Pn	23 40 45.2	+2.8
NEHR	Nehoiu	8.85	27	⇑	P	Pn	23 40 46.1	+2.8
CRES	Cresnjevec Ost	8.98	337		ePn	Pn	23 40 44.0	-1.0
DOPR	Dopca	9.02	22	⇑	P	Pn	23 40 47.6	+2.0
BISRR	Bisoca	9.10	28	⇓	P	Pn	23 40 49.5	+2.7
OSSC	Osservatorio P	9.17	312			Pn	23 40 48.0	+0.3
COVR	Voineasa-Covas	9.18	26	⇓	P	Pn	23 40 50.4	+2.6
MARR	Marisel-Cluj	9.18	11	⇑	P	Pn	23 40 49.4	+1.5
KEST	Kesra	9.21	261		Pn	Pn	23 40 48.4	0.0
KEST	Kesra	9.21	261		Pn	Pn	23 40 48.1	-0.3
	comp=Z,0.9nm,0.3s,baz=93,slow=8.2,SNR=19							
KEST					Sn	Sn	23 42 27.6	-3.9
	comp=Z,0.7nm,0.3s,baz=43,slow=16,SNR=2.1							
KEST					LR	LR	23 44 46.2	
	comp=Z,1µm,22.0s,baz=55,slow=40							
	comp=Z,9.4nm,0.7s							
BEHE	Becsehely	9.21	343		Pn	Pn	23 40 47.1	-1.2
DRGR		9.24	9		ePn	Pn	23 40 47.7	-0.9
DRGR		9.24	9	⇑	P	Pn	23 40 49.5	+0.8
DRGR		9.24	9		P	Pn	23 40 49.4	+0.8
CEY	Cerknica	9.26	332		ePn	Pn	23 40 48.4	-0.5
OZUR		9.26	23	⇑	P	Pn	23 40 50.8	+1.9
SPBR	Spulber	9.29	28	⇑	P	Pn	23 40 51.9	+2.6
CJR	Cluj-Napoca	9.30	13	⇑	P	Pn	23 40 50.7	+1.2
CJR	Cluj-Napoca	9.30	13		P	Pn	23 40 50.6	+1.2
PLOR	Plostina	9.34	27	⇑	P	Pn	23 40 52.6	+2.6
PLOR	Plostina	9.34	27		P	Pn	23 40 52.6	+2.6
VRI	Vrincioaia	9.38	27	⇑	P	Pn	23 40 53.2	+2.6
VRI	Vrincioaia	9.38	27		P	Pn	23 40 53.1	+2.6
VRI	Vrincioaia	9.38	27		P	Pn	23 40 51.8	+1.3
	comp=Z,60nm,1.0s,comp=Z,575nm							
ONER	Baraj Valea Uz	9.67	25	⇑	P	Pn	23 40 56.7	+2.2
MPLH	Magyarpolny	9.73	348		P	Pn	23 40 53.5	-1.9
	comp=Z,141nm,1.1s,comp=Z,1µm							
SABO	M.te Sabotino	9.77	330		Pn	Pn	23 40 55.3	-0.7
BR231	Keskin MP Arra	9.78	74		Pn	Pn	23 40 57.9	+1.7
GHRR		9.80	29		P	Pn	23 40 57.0	+0.8
ANTO	Ankara	9.80	73		Pn	Pn	23 40 57.7	+1.3
ANTO	Ankara	9.80	73		P	Pn	23 41 04.2	+7.8
ANTO	Ankara	9.80	73		P	Pn	23 40 57.7	+1.3
ANTO	Ankara	9.80	73		P	Pn	23 40 58.7	+2.3
	comp=Z,7.7nm,0.9s,comp=Z,245nm							
ZCCA	Zocca	9.83	316		Pn	Pn	23 40 56.9	+0.1
SOKA	Soboth	9.87	337		iPn	Pn	23 40 55.8	-1.5
	comp=Z,26nm,0.6s,SNR=38							
SOKA					eSn	Sn	23 42 40.4	-7.3
	comp=Z,42nm,0.7s							
OBKA	Obir	9.88	335		iPn	Pn	23 40 55.6	-1.9
	comp=Z,5.9nm,0.2s,SNR=19							
OBKA					Sn	Sn	23 42 43.3	-4.5
	comp=Z,162nm,0.8s							
OBKA	Obir	9.88	335		ePn	Pn	23 40 55.4	-2.0
TESR	Tescani	9.91	25	⇑	P	Pn	23 40 59.3	+1.6
TESR	Tescani	9.91	25		P	Pn	23 40 57.9	+0.1
	comp=Z,41nm,1.6s,comp=Z,620nm							
PSZ	Piszkesteto	10.24	357		Pn	Pn	23 41 01.8	-0.5
PSZ	Piszkesteto	10.24	357	⇑	P	Pn	23 41 02.4	0.0
PSZ	Piszkesteto	10.24	357		P	Pn	23 41 02.3	0.0
ARSA	Arzberg	10.25	340		ePn	Pn	23 41 00.9	-1.6
	comp=Z,8.1nm,0.4s,SNR=10							
ARSA					eSn	Sn	23 42 50.4	-6.5
	comp=Z,11nm,0.7s							
SRO	Srobarova	10.25	351		eP	Pn	23 41 03.7	+1.2
SRO					e		23 42 56.0	
SRO	Srobarova	10.25	351		ePN	Pn	23 41 03.7	+1.2
SRO					eSN	Sn	23 42 56.0	-0.8
MYKA	Terra Mystica	10.30	332		ePn	Pn	23 41 01.8	-1.4
	comp=Z,4.0nm,0.4s							
MYKA					eSn	Sn	23 42 51.6	-6.5
	comp=Z,35nm,0.6s							
BR105	Keskin Array S	10.41	75		P	Pn	23 41 06.9	+2.1
	comp=Z,14nm,0.8s,comp=Z,131nm							
BR106	Keskin Array S	10.41	75		P	Pn	23 41 07.6	+2.8
	comp=Z,15nm,0.8s,comp=Z,124nm							
BR104	Keskin Array S	10.43	75		P	Pn	23 41 07.8	+2.8
	comp=Z,14nm,1.1s,comp=Z,142nm							
BR131	Keskin Array S	10.43	75		Pn	Pn	23 41 05.5	+0.5
BR131	Keskin Array S	10.43	75	⇓	eP	Pn	23 41 07.7	+2.7
BRTR	Keskin Array B	10.43	75		Pn	Pn	23 41 06.8	+1.7
BRTR	Keskin Array B	10.43	75		Pn	Pn	23 41 09.2	+4.2
	comp=Z,0.8nm,0.3s,baz=254,slow=12,SNR=20							
	comp=Z,5.8nm,0.8s							
PRMA	PARMA	10.46	316			Pn	23 41 03.8	-1.5
RONA	Rosalia, Austr	10.48	344		ePn	Pn	23 41 03.4	-2.3
	comp=Z,4.3nm,0.6s,SNR=11							
BURAR	Bucovina Array	10.49	18	⇑	P	Pn	23 41 07.9	+2.0
BURAR	Bucovina Array	10.49	18		P	Pn	23 41 07.9	+2.0
BUR08	Bucovina Ar. S	10.52	17		Pn	Pn	23 41 04.9	-1.3
KORU	Korolevo	10.63	9		P	Pn	23 41 07.7	+0.1
BERU	Beregovo	10.65	8		P	Pn	23 41 08.7	+0.8
CSS	Mathiatis	10.66	101			Pn	23 41 06.8	-1.3
CSS	Mathiatis	10.66	101		P	Pn	23 41 06.5	-1.6
CSS	Mathiatis	10.66	101		P	Pn	23 41 04.5	-3.6
RAKU	Rahkiv	10.66	13		P	Pn	23 41 08.5	+0.4
CTI	Castel Tesino	10.66	324		Pn	Pn	23 41 06.2	-2.0
CTI	Castel Tesino	10.66	324		P	Pn	23 41 06.2	-2.0
ILGA	Ilgaz	10.73	68		Pn	Pn	23 41 09.4	+0.2
KBA	Koelnbreinsper	10.79	333		ePn	Pn	23 41 07.2	-2.8
	comp=Z,5.3nm,0.4s,SNR=15							
KBA					Sn	Sn	23 43 03.2	-7.0
	comp=Z,58nm,0.7s							
KECS	Kecovo	10.79	360		eP	Pn	23 41 10.7	+0.9
KECS	Kecovo	10.79	360		ePN	Pn	23 41 10.7	+0.9
BRIU	Brid	10.79	9		P	Pn	23 41 10.3	+0.4
CONA	Conrad Observa	10.80	343		ePn	Pn	23 41 08.0	-2.0
	comp=Z,2.6nm,0.5s							
ABTA	Abfaltersbach	10.84	329		ePn	Pn	23 41 09.5	-1.0
	comp=Z,1.8nm,0.4s							
ABTA					eSn	Sn	23 43 03.7	-7.5
	comp=Z,102nm,0.8s							
MUKU	Mukachevo	10.87	8		P	Pn	23 41 10.0	-0.9
VYHS	Vyhne	10.87	354		eP	Pn	23 41 10.5	-0.5
VYHS					e		23 43 09.7	
VYHS					MLR	MLR		
	comp=Z,3µm,20.8s							
VYHS	Vyhne	10.87	354		ePN	Pn	23 41 10.5	-0.5
VYHS					eSN	Sn	23 43 09.7	-2.4
VYHS					eL	L	23 46 12.9	
HOLU	Holmets	10.91	6		P	Pn	23 41 10.6	-0.9
MODS	Modra-Piesok	10.95	348		eP	Pn	23 41 12.1	+0.1
MODS					e		23 43 11.3	
MODS					MLR	MLR		
	comp=Z,12µm,15.0s							
MODS	Modra-Piesok	10.95	348		ePN	Pn	23 41 12.1	+0.1
MODS					eSN	Sn	23 43 11.3	-2.6
MODS					eSG		23 44 23.1	
MODS					eL	L	23 46 28.9	
MOA	Molln	11.15	338		ePn	Pn	23 41 13.2	-1.6
	comp=Z,7.9nm,0.3s,SNR=20							
MOA					eSn	Sn	23 43 13.7	-5.3
	comp=Z,26nm,0.6s							
PURM	Purcari	11.21	35		P	Pn	23 41 16.5	+0.9
	comp=Z,81nm,1.3s							
BIOA	Bad Ischl, Aus	11.21	335		ePn	Pn	23 41 14.7	-1.0
	comp=Z,6.4nm,0.3s,SNR=36							
BIOA					eSn	Sn	23 43 16.3	-4.2
	comp=Z,20nm,0.5s							
KOLS	Kolonicke sedl	11.31	6		eP	Pn	23 41 18.1	+1.2
KOLS	Kolonicke sedl	11.31	6		ePN	Pn	23 41 18.1	+1.2
LESA	Schwarzleotal	11.33	332		ePn	Pn	23 41 16.8	-0.5
	comp=Z,22nm,0.5s							
LESA					Sn	Sn	23 43 18.3	-5.0
	comp=Z,39nm,0.6s							
JAVC	Velka Javorina	11.36	350		ePN	Pn	23 41 17.5	-0.2
LANS	Liptovska Anna	11.48	356		eP	Pn	23 41 28.4	+9.0
LANS	Liptovska Anna	11.48	356		ePN	Pn	23 41 28.4	+9.0
RJ

PRU Pruhonice 13.03 343 *e*P **Pn 23 41 39.3 -1.2**
PRU MLR MLR
comp=Z,4μm,11.0s
SLTI Sal'it 13.06 110 P **Pn 23 41 43.9 +3.0**
SLTI Sal'it 13.06 110 P Pn 23 41 35.8 -5.1
SLTI Sal'it 13.06 110 S **Sn 23 44 00.6 -5.0**
SENIN Lac Senin/Sane 13.11 316 Pn **Pn 23 41 41.4 -0.4**
NATI Neve Ativ 13.13 105 P **Pn 23 41 38.3 -3.6**
NATI Neve Ativ 13.13 105 P **Pn 23 41 37.8 -4.1**
NATI Neve Ativ 13.13 105 S **Sn 23 44 05.0 -2.5**
UPC Upice 13.22 347 AMS AMS 23 48 00.0
comp=Z,5μm,12.3s
OSTC Ostas 13.23 348 AMS AMS 23 48 00.0
comp=Z,4μm,13.3s
GAZ Gaziantep 13.25 87 **Pn 23 41 44.4 +0.8**
SALP Salfit 13.25 111 P Pn 23 41 38.5 -5.1
SALP Salfit 13.25 111 S **Sn 23 44 06.0 -4.5**
LUBAR Lubar, Ukraine 13.28 21 P **Pn 23 41 43.7 -0.1**
KZIT Kziot 13.28 117 P **Pn 23 41 42.7 -1.3**
KZIT Kziot 13.28 117 P Pn 23 41 37.5 -6.5
KZIT Kziot 13.28 117 S **Sn 23 44 04.3 -6.9**
CHVC Chvalec 13.29 347 *e*PN **Pn 23 41 44.1 +0.1**
CHVC AMS AMS 23 48 00.0
comp=Z,4μm,12.0s
CHVC Chvalec 13.29 347 *e*P **Pn 23 41 44.1 +0.1**
CHVC MLR MLR
comp=Z,4μm,12.0s
KSHT Keshet 13.31 106 P **Pn 23 41 40.2 -4.2**
KSHT Keshet 13.31 106 S **Sn 23 44 09.0 -2.8**
AMAZ Amatzia 13.32 113 P **Pn 23 41 42.7 -1.8**
AMAZ Amatzia 13.32 113 P Pn 23 41 38.2 -6.3
AMAZ Amatzia 13.32 113 S **Sn 23 44 06.3 -5.8**
SHMJ Saham 13.38 107 P **Pn 23 41 44.3 -1.0**
QRNJ Al-Qirein 13.41 109 P **Pn 23 41 43.7 -2.0**
HMDT Nahal Hemdat 13.41 109 P **Pn 23 41 46.7 +0.9**
HMDT Nahal Hemdat 13.41 109 P Pn 23 41 40.5 -5.3
HMDT Nahal Hemdat 13.41 109 S **Sn 23 44 10.3 -4.0**
ROTZ Rotzenmuhle 13.49 336 *e*Pn **Pn 23 41 45.1 -1.6**
KSP Ksiaz 13.50 348 *e*P **Pn 23 41 43.4 -3.4**
KSP Ksiaz 13.50 348 P **Pn 23 41 45.2 -1.6**
comp=Z,17nm,1.8s
UJAP Al Uja 13.51 111 P **Pn 23 41 47.2 +0.1**
UJAP Al Uja 13.51 111 P Pn 23 41 41.5 -5.5
UJAP Al Uja 13.51 111 S **Sn 23 44 11.6 -5.0**
PVCC Panska Ves 13.53 343 AMS AMS 23 48 00.0
comp=Z,4μm,9.9s
YTIR Yattir 13.55 113 P **Pn 23 41 46.5 -1.3**
YTIR Yattir 13.55 113 P Pn 23 41 41.8 -5.9
YTIR Yattir 13.55 113 S **Sn 23 44 12.3 -5.6**
DSI Dead Sea 13.64 112 P **Pn 23 41 47.4 -1.4**
DSI Dead Sea 13.64 112 P Pn 23 41 42.9 -6.0
DSI Dead Sea 13.64 112 S **Sn 23 44 14.0 -5.9**
MANZ Manzenberg 13.71 336 *e*Pn **Pn 23 41 47.7 -2.0**
GRA1 Grafenberg Arr 13.75 334 Pn **Pn 23 41 52.8 +2.5**
GRF Grafenberg Arr 13.75 334 P **Pn 23 41 52.8 +2.5**
GRFO Grafenberg 13.75 334 Pn **Pn 23 41 53.4 +3.1**
GRFO Grafenberg 13.75 334 P **Pn 23 41 53.4 +3.1**
MSBI Mazada 13.76 113 P **Pn 23 41 49.9 -0.5**
MSBI Mazada 13.76 113 P Pn 23 41 44.5 -5.9
STU Stuttgart 13.81 327 Pn **Pn 23 41 50.9 -0.3**
STU Stuttgart 13.81 327 P **Pn 23 41 50.9 -0.3**
NKC Novy Kostel 13.82 338 AMS AMS 23 48 20.0
comp=Z,4μm,11.9s
BFO Black Forest 13.88 324 Pn **Pn 23 41 51.9 -0.1**
BFO Black Forest 13.88 324 P **Pn 23 41 51.9 -0.1**
LISJ El Lisan 13.88 113 P **Pn 23 41 50.6 -1.5**
GHAJ Ghor Haditha 13.91 113 **Pn 23 41 51.6 -1.0**
GHAJ Ghor Haditha 13.91 113 P **Pn 23 41 53.5 +0.9**
GHAJ Ghor Haditha 13.91 113 P Pn 23 41 46.4 -6.1
GHAJ Ghor Haditha 13.91 113 S **Sn 23 44 21.7 -4.8**
KRMI Paran Flat 13.97 119 P Pn 23 41 45.5 -7.9
KRMI Paran Flat 13.97 119 S **Sn 23 44 21.0 -7.0**
BRG Berggiesshubel 14.00 342 *e*P **Pn 23 41 52.5 -1.2**
BRG Amp 23 41 56.5
comp=Z,21nm,1.3s
BRG Berggiesshubel 14.00 342 P **P 23 42 05.4 +3.9**
BRG Amp 23 42 06.8
comp=Z,10nm,0.8s
BRG Berggiesshubel 14.00 342 *e*P **Pn 23 41 52.4 -1.2**
BRG pmax pmax
comp=Z,21nm,1.3s
BRG pmax pmax
comp=Z,10.0nm,0.9s
BRG MLR MLR
comp=N,2μm,12.2s
BRG MLR MLR
comp=Z,4μm,11.3s
BRG MLR MLR
comp=E,1μm,12.1s
PRNI Paran 14.03 117 P **Pn 23 41 53.8 -0.4**
PRNI Paran 14.03 117 P Pn 23 41 47.2 -7.0
PRNI Paran 14.03 117 S **Sn 23 44 22.3 -7.1**
RNPP5 Staryi Chortor 14.06 14 P **Pn 23 41 54.1 -0.3**
BEL Belsk 14.15 1 *e*P **P 23 42 05.7 +2.5**
RNPP8 Varash 14.15 14 P **Pn 23 41 55.8 +0.1**
MI28 Mi28,Pidlybu 14.17 19 P **Pn 23 41 55.3 -0.7**
comp=E,221nm,1.3s
RNPP9 Sopachiv 14.23 14 P **Pn 23 41 55.8 -1.0**
HRFI Mount Harif 14.24 118 P **Pn 23 41 55.1 -1.9**
HRFI Mount Harif 14.24 118 P Pn 23 41 50.5 -6.5
HRFI Mount Harif 14.24 118 S **Sn 23 44 27.7 -6.8**
AK07 Malin Array Si 14.27 23 P **Pn 23 41 56.7 -0.6**
AK13 Malin Array Si 14.28 22 P **Pn 23 41 56.9 -0.5**
AK06 Malin Array Si 14.29 23 P **Pn 23 41 57.0 -0.7**
MBRI Mt Berech 14.29 119 P **Pn 23 41 55.3 -2.6**
MBRI Mt Berech 14.29 119 P Pn 23 41 50.5 -7.4
MBRI Mt Berech 14.29 119 S **Sn 23 44 28.7 -7.3**
AK14 Malin Array Si 14.31 23 P **Pn 23 41 56.9 -0.9**
AK10 Malin Array Si 14.32 23 P **Pn 23 41 57.4 -0.7**
AK05 Malin Array Si 14.32 23 Pn **Pn 23 41 57.1 -1.0**
AK05 Malin Array Si 14.32 23 P **Pn 23 41 57.0 -1.1**
AK12 Malin Array Si 14.33 23 P **Pn 23 41 57.1 -1.1**
AK17 Malin Array Si 14.34 22 P **Pn 23 41 57.0 -1.3**
AK16 Malin Array Si 14.34 22 P **Pn 23 41 56.8 -1.5**
AK09 Malin Array Si 14.35 23 P **Pn 23 41 56.9 -1.5**
AK08 Malin Array Si 14.35 23 P **Pn 23 41 57.1 -1.4**
AK19 Malin Array Si 14.36 22 P **Pn 23 41 57.0 -1.5**
AK02 Malin Array Si 14.36 23 P **Pn 23 41 57.1 -1.5**
ECH Echery 14.36 321 Pn **Pn 23 41 56.4 -2.3**
ECH Echery 14.36 321 P **Pn 23 41 56.4 -2.3**
AK11 Malin Array Si 14.37 23 P **Pn 23 41 57.3 -1.4**
AK15 Malin Array Si 14.37 22 P **Pn 23 41 57.3 -1.4**
AK18 Malin Array Si 14.37 22 P **Pn 23 41 57.6 -1.2**
AK20 Malin Array Si 14.38 22 P **Pn 23 41 57.8 -1.0**
AK01 Malin Array Si 14.39 23 P **Pn 23 41 57.8 -1.2**
KIEV Kiev 14.39 23 **Pn 23 41 57.5 -1.5**
KIEV Kiev 14.39 23 **Pn 23 41 57.9 -1.1**
KIEV Kiev 14.39 23 P **Pn 23 41 58.4 -0.7**
KIEV Kiev 14.39 23 P **Pn 23 41 57.5 -1.5**
KIEV Kiev 14.39 23 P **Pn 23 41 58.0 -1.1**
comp=E,108nm,1.4s,comp=E,2μm
EIL Elat 14.40 120 Pn **Pn 23 41 55.1 -4.1**
comp=E,1.7nm,0.3s,baz=335,slow=6.0,SNR=13
EIL Sn Sn 23 44 23.4 -15
comp=E,1.4nm,0.3s,baz=298,slow=13,SNR=5.1
EIL Elat 14.40 120 P **Pn 23 41 58.3 -0.9**
EIL Elat 14.40 120 P Pn 23 41 51.9 -7.4
EIL Elat 14.40 120 S **Sn 23 44 30.3 -8.0**
AKASG Malin Array Be 14.40 23 Pn **Pn 23 41 58.5 -0.7**
AKASG Malin Array Be 14.40 23 Pn **Pn 23 41 57.9 -1.3**
comp=E,0.5nm,0.3s,baz=213,slow=12,SNR=31
AKASG LR LR 23 47 47.3
comp=E,2μm,18.4s,baz=201,slow=39
comp=E,11nm,1.0s
AKBB Malin Array Si 14.40 23 Pn **Pn 23 41 57.7 -1.5**
AKBB Malin Array Si 14.40 23 *ce*P **Pn 23 41 57.5 -1.7**
AKBB Malin Array Si 14.40 23 P **Pn 23 41 57.9 -1.3**
AK04 Malin Array Si 14.40 22 P **Pn 23 41 57.8 -1.4**
AK03 Malin Array Si 14.42 23 P **Pn 23 41 57.7 -1.8**
AQBJ Aqaba 14.43 119 P **Pn 23 41 57.5 -2.2**
MOX Moxa 14.44 337 *e*Pn **Pn 23 41 57.3 -2.4**
ASF Jabal al Asfar 14.48 107 Pn **Pn 23 42 02.1 +1.6**
comp=E,0.5nm,0.3s,baz=84,slow=0.2,SNR=3.0
comp=E,2.3nm,0.5s
ASF Jabal al Asfar 14.48 107 P **P 23 42 06.4 -0.7**
ANN Anapa 14.53 55 *e*P **Pn 23 41 59.2 -1.8**
ANN *e*S **Sn 23 44 41.7 +0.2**
ANN pmax pmax
comp=Z,17nm,0.7s
ANN MLR MLR
comp=Z,1μm,11.0s
ANN MLR MLR
comp=E,631nm,12.0s
ANN MLR MLR
comp=N,908nm,10.0s
HSNJ Maan 14.57 116 P **Pn 23 42 04.1 +2.4**
CLL Collm 14.63 341 **P 23 42 07.3 -1.3**
CLL Collm 14.63 341 P **P 23 42 07.3 -1.3**
CLL Collm 14.63 341 *es*P **Pn 23 42 05.0 +2.7**
CLL *i* PP **P 23 42 07.2 -1.3**
comp=Z,101nm,1.3s
CLL *e*Pmax 23 42 11.0
CLL AMS AMS 23 48 00.0
comp=Z,1μm,18.4s
CLL AMS AMS 23 48 00.0
CEST Esterri de Car 15.55 294 Pn **Pn 23 42 13.5 -1.2**
CEST IAmb IAmb 23 42 24.0
comp=Z,25nm,1.1s
SOC Sochi 15.68 62 *e*P **Pn 23 42 16.3 +0.1**
SOC *e* 23 45 13.6
GKP Gorka Klasztor 15.75 353 *e*P **P 23 42 22.0 +1.0**
WLF Walferdange 15.84 324 **P 23 42 21.8 -0.1**
WLF Walferdange 15.84 324 P **P 23 42 24.7 +2.7**
WLF Walferdange 15.84 324 P **P 23 42 21.8 -0.1**
WLF pmax pmax
comp=Z,166nm,1.1s
WLF Walferdange 15.84 324 *d*P **P 23 42 21.7 -0.1**
comp=Z,76nm,1.1s
VSLR Vesyoloye 15.87 63⇓ *e*P **P 23 42 21.0 -1.3**
VSLR pmax pmax
comp=Z,51nm,1.1s
MARD Mardin 16.05 85 Pn **Pn 23 42 22.6 +1.3**
SUW Suwalki 16.43 5 *e*P **Pn 23 42 25.6 -0.2**
SUW Suwalki 16.43 5 P **Pn 23 42 25.2 -0.5**
SUW Suwalki 16.43 5 *e*P **Pn 23 42 26.0 +0.3**
SUW Suwalki 16.43 5 P **Pn 23 42 25.2 -0.5**
SUW pmax pmax
comp=Z,310nm,1.0s
MEM Membach 16.57 326 *d*P **Pn 23 42 28.4 +0.8**
comp=Z,35nm,1.2s
ETRV Los Montesinos 16.84 278 P **P 23 42 35.8 +2.7**
DOU Dourbes 16.87 322 *d*P **Pn 23 42 31.6 +0.2**
comp=Z,21nm,1.3s
GURO Guroymak-BITLI 16.92 80 Pn **Pn 23 42 33.0 +0.7**
ECHE Chera 16.92 283 P **P 23 42 35.7 +1.6**
EMUR La Murta 17.24 277 P **Pn 23 42 36.0 -0.1**
UCC Uccle 17.45 324 **Pn 23 42 38.4 -0.2**
UCC Uccle 17.45 324 P **Pn 23 42 38.4 -0.2**
UCC pmax pmax
comp=Z,6.0nm,1.1s
UCC Uccle 17.45 324 *d*P **P 23 42 40.7 +1.0**
comp=Z,18nm,1.4s
MNK Minsk 17.55 14 *i* P **Pn 23 42 36.3 -3.6**
comp=E,101nm,1.1s
MNK *i* P **Pn 23 42 36.3 -3.6**
comp=N,37nm,0.9s
MNK *i* P **Pn 23 42 36.3 -3.6**
comp=Z,63nm,1.0s,baz=200
MNK *i* PP **sP 23 42 47.2 -0.5**
MNK *i* PPP PPP 23 42 54.8
MNK *i* S **Sn 23 45 51.2 -3.5**
MNK *i* SS **SnSn 23 46 06.0 -2.1**
MNK *i* SSS SSS 23 46 18.6
MNK *i* LQ LQ 23 47 46.5
MNK *i* LR LR 23 49 00.3
MNK *i* LRM MLR 23 50 21.3
comp=N,1μm,13.5s
MNK *i* LRM MLR 23 50 34.0
comp=Z,748nm,14.4s
MNK *i* LRM MLR 23 50 45.9
comp=E,830nm,14.6s
MNK Minsk 17.55 14 *i* P **Pn 23 42 36.2 -3.6**
MNK *i* S **Sn 23 45 51.1 -3.5**
MNK pmax pmax
comp=Z,63nm,1.0s
MNK pmax pmax
comp=E,101nm,1.1s
MNK pmax pmax
comp=N,37nm,0.9s
MNK MLR MLR
comp=N,1μm,13.0s
MNK MLR MLR
comp=Z,748nm,14.0s
MNK MLR MLR
comp=E,830nm,15.0s
KARS Kars 17.70 73 **Pn 23 42 42.3 +0.3**
KARS IAmb IAmb 23 42 53.4
comp=Z,57nm,0.9s
KARS Kars 17.70 73 P **Pn 23 42 42.3 +0.3**
KARS pmax pmax
comp=Z,57nm,0.9s
NACGM Naroch 17.74 12 *i* P **Pn 23 42 40.5 -1.7**
GEVA Gevas 17.74 81 Pn **Pn 23 42 41.8 -0.7**
SHA1 Shidzhatmaz 17.79 63 *de*P **P 23 42 45.7 +1.9**
BSD Bornholm Skovb 17.85 349 *i* P **P 23 42 47.2 +3.1**
BSD IAmb IAmb 23 43 03.1
comp=Z,32nm,1.0s
KIV Kislovodsk 17.86 63 **Pn 23 42 44.4 +0.5**
KIV Kislovodsk 17.86 63 P **P 23 42 45.1 +0.7**
KIV Kislovodsk 17.86 63 P **P 23 42 45.2 +0.7**
KIV S **S 23 46 07.5 -1.3**
KIV Kislovodsk 17.86 63 *e*P **P 23 42 45.1 +0.7**
KIV *e*S **S 23 46 08.5 -0.3**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,247nm,14.0s
KIV Kislovodsk 17.86 63 P **P 23 42 44.9 +0.5**
comp=Z,28nm,1.1s
KVAR Kislovodsk Arr 17.86 63 Pn **P 23 42 44.9 +0.4**
baz=270,slow=20
KVAR LR LR 23 51 05.6
comp=Z,778nm,19.6s,baz=80,slow=42
comp=Z,3.0nm,0.8s
KBZ Khabaz 17.96 63 P **Pn 23 42 45.1 +0.2**
comp=Z,0.3nm,0.3s,baz=194,slow=5.5,SNR=8.7
KBZ LR LR 23 52 02.2
comp=Z,618nm,19.6s,baz=261,slow=45
comp=Z,6.5nm,0.9s
KBZ Khabaz 17.96 63⇑ *e*P **P 23 42 48.0 +2.6**
KBZ pmax pmax
comp=Z,21nm,1.0s
PABE Paberze 17.97 6 Pn **Pn 23 42 43.7 -1.3**
PABE Paberze 17.97 6 *e*P **Pn 23 42 44.1 -0.9**
ENIJ Nijar 18.12 275 P **Pn 23 42 46.9 -0.1**
GOF Gofitskoye 18.38 59 *ce*P **P 23 42 50.2 +0.2**
NCK Nalchik 18.41 64⇓ *e*P **Pn 23 42 53.2 +2.7**
NCK pmax pmax
comp=Z,83nm,2.3s
EBER Berja 18.67 275 P **Pn 23 42 55.4 +1.5**
UCM Universidad Co 18.67 285 P **Pn 23 42 53.7 -0.1**
VORD Divnogorie 18.79 39 *e*P **P 23 42 54.8 +0.3**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD MLR MLR
comp=Z,970nm,9.0s
COP Copenhagen 18.82 346 *i* P **P 23 42 53.1 -1.7**
COP IAmb IAmb 23 43 01.0
comp=Z,122nm,1.0s
VSR Storozhevoye 18.88 38 *e*P **P 23 42 55.2 -0.3**
VSR pmax pmax
comp=Z,30nm,1.2s
VSR MLR MLR
comp=Z,3μm,11.0s
GNI Garni 18.97 75 P **P 23 42 56.6 -0.1**
GNI IAmb IAmb 23 43 09.1
comp=Z,68nm,1.5s
GNI Garni 18.97 75 P **P 23 42 57.2 +0.5**
GNI Garni 18.97 75 P **P 23 42 56.8 +0.1**
comp=Z,0.6nm,0.3s,baz=310,slow=6.3,SNR=8.6
comp=Z,13nm,0.9s
GNI Garni 18.97 75 P **Pn 23 42 57.9 +0.4**
GNI Garni 18.97 75 *c* *i* P **Pn 23 42 57.7 +0.2**
GNI pmax pmax
comp=Z,93nm,2.5s
GNI Garni 18.97 75 P **P 23 42 57.5 +0.8**
comp=Z,51nm,1.7s,comp=Z,814nm
VORR Voronezh 19.19 37 *e*P **P 23 42 59.6 +0.7**
VORR pmax pmax
comp=Z,20nm,0.5s
VORR MLR MLR
comp=Z,3μm,12.0s
ESBB Sonseca Array 19.23 284 **P 23 42 58.9 -0.7**
ESDC Sonseca Array 19.23 284 P **P 23 42 59.8 +0.2**
comp=Z,0.2nm,0.3s,baz=79,slow=11,SNR=19
comp=Z,4.0nm,0.8s
PAB San Pablo 19.54 283 P **P 23 43 02.0 -0.9**
PAB San Pablo 19.54 283 P **P 23 43 02.0 -0.9**
PAB pmax pmax
comp=Z,24nm,1.2s
NAX Nakhchivan 19.58 78 P **Pn 23 43 05.5 +0.8**
LPSR Galich'ya Gora 19.67 35 *e*P **P 23 43 02.8 -1.3**
LPSR pmax pmax
comp=Z,100nm,0.9s
LPSR MLR MLR
comp=Z,720nm,9.0s
TAM Tamanrasset 19.69 225 P **P 23 43 04.1 -0.6**
TAM Tamanrasset 19.69 225 P **P 23 43 04.1 -0.6**
TAM pmax pmax
comp=Z,6.0nm,1.1s
GANJ Ganja 20.17 74 P Pn 23 43 12.2 +0.5
VRH Novokhopyorsk 20.17 41 *e*P Pn 23 43 12.0 +0.5
VRH pmax pmax
comp=Z,40nm,0.7s
VRH MLR MLR
comp=Z,860nm,10.0s
MUD Monsted U'grnd 20.26 342 *i* P **P 23 43 10.6 +0.1**
MUD IAmb IAmb 23 43 12.7
comp=Z,225nm,1.3s
OBN Obninsk 20.55 27 P **P 23 43 12.9 -0.7**
OBN Obninsk 20.55 27 P **P 23 43 13.0 -0.6**
comp=Z,14nm,0.4s,baz=281,slow=14,SNR=3.6
OBN S **S 23 46 59.6 -2.8**
comp=Z,8.9nm,0.5s,baz=205,slow=21,SNR=2.6
OBN LR LR 23 51 13.0
comp=Z,1μm,19.9s,baz=212,slow=37
comp=Z,14nm,0.4s
OBN Obninsk 20.55 27 *de*P **P 23 43 13.2 -0.4**
OBN *i* *PP Pn 23 43 16.7 +0.9
OBN *e*PPP PPP 23 43 37.2
OBN *e*S **S 23 47 01.1 -1.3**
OBN *e* 23 47 21.9
OBN *e*SS **SnSn 23 47 24.8 +3.3**
OBN pmax pmax
comp=Z,117nm,1.7s
OBN MLR MLR
comp=Z,1μm,16.0s
OBN Obninsk 20.55 27 P **P 23 43 12.4 -1.2**
comp=Z,65nm,1.0s,comp=Z,1μm
MNGR Mingechevir, A 20.75 73 P Pn 23 43 18.2 -0.2
OVD Ostervraa, Den 20.80 344 *i* P **P 23 43 16.7 +0.4**
OVD IAmb IAmb 23 43 18.7
comp=Z,305nm,1.2s
SEKA Sheki 20.84 72 P Pn 23 43 20.0 +0.4
MDT Midelt 21.09 264 P **P 23 43 20.2 +0.4**
comp=Z,6.2nm,0.8s,baz=92,slow=11,SNR=14
comp=Z,6.2nm,0.8s
MTSE Matsula 21.15 5 *e*P **P 23 43 20.6 +0.6**
MAK Makhachkala 21.16 67 *e*P **P 23 43 16.1 -4.3**
MAK *e* 23 43 38.4
MAK *e*S **S 23 47 09.7 -5.3**
MAK pmax pmax
comp=Z,427nm,1.2s
MAK MLR MLR
comp=Z,696nm,10.0s
VSU Vasula 21.18 9 *c* *i* P **P 23 43 19.7 -0.7**
VSU pmax pmax
comp=Z,295nm,0.9s
PBRG Braganca 21.35 290 *e*P **P 23 43 23.0 +0.5**
PBRG A A 23 43 26.8
comp=Z,74nm,1.8s
MOS Moscow 21.41 27 *e*P **P 23 43 21.5 -1.4**
MOS *e* 23 43 41.4
MOS *e*S **S 23 47 16.4 -3.2**
MOS pmax pmax
comp=Z,73nm,1.0s
MOS pmax pmax
comp=E,37nm,0.8s
MOS pmax pmax
comp=N,49nm,0.9s
MOS pmax pmax
comp=Z,400nm,2.3s
MOS MLR MLR
comp=Z,1μm,11.0s
MVO Moncorvo 21.55 288 *e*P **P 23 43 25.6 +0.9**
MVO A A 23 43 42.0
comp=Z,72nm,1.3s
MVO *e*LR LR 23 52 04.5
MVO A A 23 52 51.9
comp=Z,529nm,18.0s
PBAR Barrancos 21.75 280 *e*P **P 23 43 27.7 +1.0**
PBAR A A 23 43 32.6
comp=Z,49nm,1.9s
PMRV Marv??o 21.89 283 *e*P **P 23 43 29.2 +0.9**
PMRV *e*LR LR 23 51 39.9
PMRV A A 23 56 16.4
comp=Z,573nm,16.0s
PCBR Castelo Branco 21.93 284 *e*P **P 23 43 29.1 +0.4**
PCBR A A 23 43 56.1
comp=Z,38nm,1.8s
MTE Manteigas 21.96 286 P **P 23 43 27.3 -1.8**
MTE IAmb IAmb 23 43 35.8
comp=Z,25nm,0.9s
MTE Manteigas 21.96 286 *e*P **P 23 43 31.5 +2.4**
MTE A A 23 43 56.1
comp=Z,106nm,2.0s
MTE *e*LR LR 23 51 43.8
MTE A A 23 53 37.3
comp=Z,452nm,18.0s
MTE Manteigas 21.96 286 *e*P **P 23 43 28.9 -0.2**
PESTR Estremoz 22.10 282 *e*P **P 23 43 32.0 +1.5**
PESTR A A 23 43 51.1
comp=Z,36nm,1.9s
POLO Lamas de Olo 22.13 288 *e*P **P 23 43 31.8 +0.8**
POLO A A 23 44 01.9
comp=Z,33nm,1.8s
LKRN Lenkeran, Azer 22.17 79 P **P 23 43 33.4 +2.1**
PVIS Viseu 22.21 287 *e*P **P 23 43 32.3 +0.5**
PCAB Cabril 22.31 289 *e*P **P 23 43 32.4 -0.4**
PVAQ Vaqueiros 22.39 278 A A 23 56 15.8
comp=Z,388nm,18.0s
PGAV Gavieira, Arco 22.50 290 *e*LR LR 23 52 17.3
PGAV A A 23 54 58.1
comp=Z,716nm,18.0s
PMTG Montargil 22.57 282 *e*P **P 23 43 36.8 +1.2**
PMTG A A 23 43 59.2
comp=Z,49nm,1.4s
COI Coimbra 22.63 285 P **P 23 43 34.8 -1.3**
COI IAmb IAmb 23 43 39.5
comp=Z,78nm,1.1s
COI Coimbra 22.63 285 *e*P **P 23 43 37.7 +1.5**
COI A A 23 43 39.6
comp=Z,141nm,1.4s
COI Coimbra 22.63 285 P **P 23 43 34.8 -1.3**
COI pmax pmax
comp=Z,78nm,1.2s
MEF Metsahovi 22.68 5 *e*P **P 23 43 36.2 -0.2**
PCAS Casmilo, Conde 22.70 285 *e*P **P 23 43 37.2 +0.2**
MESJ Messejana 22.72 279 *e*P **P 23 43 39.3 +2.2**
HFS Hagfors 22.89 351 P **P 23 43 37.7 -1.0**
comp=Z,52nm,0.8s,baz=168,slow=11,SNR=95
HFS LR LR 23 53 49.4
comp=Z,580nm,18.4s,baz=168,slow=40
comp=Z,52nm,0.8s
PUL Pulkovo 22.97 13⇑ *i* P **P 23 43 39.1 -0.4**
PUL pmax pmax
comp=Z,65nm,0.8s
KONO Kongsberg 23.08 346 P **P 23 43 39.5 -1.1**
KONO IAmb IAmb 23 43 41.0
comp=Z,30nm,1.0s
KONO Kongsberg 23.08 346 *e*P **P 23 43 39.2 -1.4**
KONO Kongsberg 23.08 346 *d* *i* P **P 23 43 40.3 -0.3**
KONO pmax pmax
comp=Z,35nm,1.0s
OSL Oslo 23.14 347 *e*P **P 23 43 41.0 -0.3**
AVE Averroes 23.15 268 P **P 23 43 42.6 +0.9**
RAF Rauma 23.37 1 *e*P **P 23 43 43.0 -0.6**
BLS5 Blasjo 23.57 342 *e*P **P 23 43 46.3 +0.7**
NC602 NORSAR Array S 23.76 349 P **P 23 43 46.5 -1.0**
NC602 NORSAR Array S 23.76 349 *e*P **P 23 43 47.1 -0.3**
EKA Eskdalemuir Ar 23.85 325 P **P 23 43 48.0 -0.3**
comp=Z,8.2nm,0.7s,baz=126,slow=13,SNR=20
comp=Z,8.2nm,0.7s
EKA Eskdalemuir Ar 23.85 325 P **P 23 43 48.0 -0.3**
ESK Eskdalemuir 23.86 325 P **P 23 43 47.1 -1.3**
ESK IAmb IAmb 23 44 04.2
comp=Z,60nm,1.3s
ESK Eskdalemuir 23.86 325 P **P 23 43 47.1 -1.3**
ESK pmax pmax
comp=Z,60nm,1.3s
BELG Belogornoye 23.94 43 LR LR 23 54 08.4
comp=Z,450nm,19.6s,baz=303,slow=39

BELG Belgornoye 23.94 43 *d iP* **P 23 43 48.8 -0.3**
BELG pmax pmax
comp=Z,13nm,0.9s
NAO01 NORSAR Array S 23.97 348 P **P 23 43 48.3 -1.0**
FINES FINESS Array B 24.03 7 P **P 23 43 48.9 -1.1**
comp=Z,34nm,1.0s,baz=174,slow=8.8,SNR=35
FINES S **S 23 48 06.6 +0.7**
comp=Z,7.9nm,0.9s,baz=167,slow=21,SNR=4.0
FINES LR LR 23 54 20.8
comp=Z,3μm,18.4s,baz=192,slow=40
comp=Z,34nm,1.0s
FINES FINESS Array B 24.03 7 *i P* **P 23 43 49.2 -0.7**
FINES pmax pmax
comp=Z,7.0nm,0.4s
FIA1 FINESS Array S 24.03 7 P **P 23 43 49.8 -0.1**
NC405 NORSAR Array S 24.10 349 P **P 23 43 49.9 -0.7**
NB201 NORSAR Array S 24.10 349 P **P 23 43 50.2 -0.4**
NB2 NORSAR Subarra 24.10 349 P **P 23 43 50.1 -0.6**
comp=Z,172nm,1.7s,baz=162,slow=9.3
NB2 NORSAR Subarra 24.10 349 P **P 23 43 50.1 -0.6**
baz=162,slow=9.3
NOA NORSAR Array B 24.10 349 P **P 23 43 49.9 -0.8**
comp=Z,11nm,1.0s,baz=161,slow=10,SNR=25
NOA LR LR 23 55 38.8
comp=Z,620nm,20.4s,baz=165,slow=43
comp=Z,11nm,1.0s
KBD Kabd 24.12 103 P **P 23 43 51.7 +0.6**
KBD S **S 23 48 08.6 +0.6**
NBO00 NORSAR Array S 24.16 348 P **P 23 43 50.8 -0.4**
NC303 NORSAR Array S 24.26 349 P **P 23 43 52.1 0.0**
SKAR Skarslia 24.29 345 *eP* **P 23 43 53.5 +1.2**
NC204 NORSAR Array S 24.40 349 P **P 23 43 53.5 +0.1**
KEF Keuruu 24.65 5 *eP* **P 23 43 55.5 -0.1**
HYA Hoyanger 25.17 344 *eP* **P 23 44 02.8 +2.5**
DOMB Dombas 25.40 347 *eP* **P 23 44 03.6 +1.2**
VAF Ylistaro 25.42 2 *eP* **P 23 44 02.9 +0.4**
RAYN Ar Rayn 25.60 116 P **P 23 44 05.9 +1.3**
RAYN IAmb IAmb 23 44 09.2
comp=Z,13nm,0.9s
RAYN Ar Rayn 25.60 116 P **P 23 44 05.8 +1.3**
RAYN Ar Rayn 25.60 116 P **P 23 44 02.9 -1.7**
RAYN S **S 23 48 34.9 +3.1**
RAYN Ar Rayn 25.60 116 P **P 23 44 05.9 +1.3**
RAYN pmax pmax
comp=Z,13nm,1.0s
AKN Aaknes 25.91 345 *eP* **P 23 44 07.8 +0.8**
KLMR Klimovskoe 26.08 21 *eP* **P 23 44 07.2 -1.4**
KLMR *eS* **S 23 48 38.6 -0.1**
KLMR pmax pmax
comp=Z,73nm,1.4s
KLMR MLR MLR
comp=Z,1μm,12.0s
JOF Joensuu 26.10 11 *eP* **P 23 44 10.2 +1.4**
KIRV Kirov 28.05 33 LR LR 23 55 46.1
comp=Z,995nm,18.8s,baz=233,slow=37
KIRV Kirov 28.05 33 *deP* **P 23 44 28.0 +1.7**
AKTO Aktyubinsk 29.45 52 LR LR 23 57 38.7
comp=Z,392nm,20.1s,baz=356,slow=39
TORD Torodi Ar. Bea 29.67 220 P **P 23 44 41.2 +0.1**
comp=Z,3.5nm,0.6s,baz=31,slow=9.1,SNR=37
comp=Z,3.5nm,0.6s
ABKAR Akbulak array 30.50 55 P **P 23 44 48.2 +0.1**
ABKAR IAmb IAmb 23 45 04.7
comp=Z,4.9nm,0.9s
GHWR Ruwais 30.77 107 P **P 23 44 51.4 +0.7**
PMAR Madeira 30.88 272 *eP* **P 23 44 53.8 +2.0**
LVZ Lovozero 31.27 10 P **P 23 44 55.4 +0.6**
LVZ Lovozero 31.27 10 P **P 23 44 55.4 +0.6**
LVZ pmax pmax
comp=Z,39nm,1.4s
ARTI Arti 31.30 41 P **P 23 44 53.6 -1.5**
ARTI IAmb IAmb 23 45 07.7
comp=Z,12nm,0.8s
ARTI Arti 31.30 41 LR LR 23 56 54.9
comp=Z,500nm,19.6s,baz=254,slow=35
ARTI Arti 31.30 41 P **P 23 44 53.6 -1.5**
ARTI pmax pmax
comp=Z,12nm,0.8s
KTK1 Kautokeino 31.41 2 *eP* **P 23 44 59.5 +3.5**
MZWR Madinat Zayed 31.65 106 P **P 23 44 59.1 +0.6**
MZR Muzera 31.77 108 P **P 23 44 58.3 -1.3**
MZR Muzera 31.77 108 P **P 23 44 59.1 -0.5**
MZR S **S 23 50 06.9 -2.0**
TRO Tromso 32.02 359 *eP* **P 23 45 01.4 +0.2**
ARCES ARCESS Array B 32.02 3 P **P 23 45 00.6 -0.7**
comp=Z,7.3nm,0.8s,baz=190,slow=11,SNR=28
ARCES LR LR 23 58 46.7
comp=Z,472nm,19.0s,baz=184,slow=38
comp=Z,7.3nm,0.8s
ARCES ARCESS Array B 32.02 3 P **P 23 45 00.8 -0.5**
ARCES pmax pmax
comp=Z,12nm,1.0s
SHME Shamm 32.19 101 P **P 23 45 01.4 -1.8**
SHME Shamm 32.19 101 P **P 23 45 02.9 -0.4**
SHME S **S 23 50 12.0 -3.2**
ASUD Al Ashush, Dub 32.29 104 P **P 23 45 04.1 0.0**
ASUD S **S 23 50 16.5 -0.4**
NAZ Nazwa, Dubai 32.36 103 P **P 23 45 05.0 +0.2**
MASF Masafi 32.54 102 P **P 23 45 07.6 +1.2**
MASF S **S 23 50 19.2 -1.7**
SVE Sverdlovsk 32.62 41 *eP* **P 23 45 06.6 -0.1**
SVE pmax pmax
comp=Z,31nm,1.2s
SVE MLR MLR
comp=Z,1μm,12.0s
MDH Madha 32.69 102 P **P 23 45 11.3 +3.7**
MDH S **S 23 50 20.3 -2.8**
UOSS Minazif 32.80 102 P **P 23 45 08.0 -0.7**
UOSS IAmb IAmb 23 45 11.7
comp=Z,15nm,0.9s
UOSS Minazif 32.80 102 P **P 23 45 07.9 -0.7**
UOSS Minazif 32.80 102 P **P 23 45 08.5 -0.1**
UOSS S **S 23 50 19.5 -5.3**
HATD Hatta, Dubai 32.80 103 P **P 23 45 07.5 -1.2**
HATD Hatta, Dubai 32.80 103 P **P 23 45 08.6 -0.1**
HATD S **S 23 50 22.6 -2.3**
ASHO Ashiyiah 32.82 103 P **P 23 45 07.5 -1.3**
ASHO Ashiyiah 32.82 103 P **P 23 45 08.9 0.0**
ASHO S **S 23 50 23.1 -2.1**
ALNE Al Ain 32.92 104 P **P 23 45 09.4 -0.3**
ALNE Al Ain 32.92 104 P **P 23 45 09.8 +0.2**
SNR=5.4
ALNE S **S 23 50 24.1 -2.7**
FURI Furi 33.01 146 **P 23 45 13.7 +2.8**
FURI Furi 33.01 146 LR LR 23 59 35.8
comp=Z,530nm,20.8s,baz=338,slow=38
UMZA Um Al Zommool 33.21 107 P **P 23 45 12.1 -0.1**
UMZA S **S 23 50 28.5 -2.6**
SOHO SOHO 33.48 103 P **P 23 45 13.9 -0.6**
SOHO SOHO 33.48 103 P **P 23 45 14.8 +0.3**
SOHO S **S 23 50 35.4 0.0**
JASK Jask - Hormozg 33.63 100 P **P 23 45 16.0 +0.2**
HRA Herat 33.67 83 P **P 23 45 15.7 -0.7**
ARQ Araqi 33.90 105 P **P 23 45 18.7 +0.5**
ARQ S **S 23 50 40.9 -1.1**
HOQ Hoqain 34.38 104 P **P 23 45 22.1 -0.3**
HOQ S **S 23 50 50.2 +0.9**
BSY Bisya 34.75 105 P **P 23 45 25.7 +0.1**
SNR=5.9
BSY S **S 23 50 53.6 -1.5**
DOK Doka 34.91 114 P **P 23 45 27.2 +0.2**
DOK S **S 23 50 57.0 -0.6**
WHFO Wadi Hawf 35.10 115 P **P 23 45 28.8 +0.1**
WHFO S **S 23 50 58.8 -1.9**
ABTO Aybut 35.14 116 P **P 23 45 29.3 +0.3**
SNR=5.5
SMDO Samad 35.23 104 P **P 23 45 29.6 -0.2**
SMDO S **S 23 50 59.6 -3.0**
JMDO Jabal Madar 35.65 105 P **P 23 45 33.3 -0.1**
JMDO S **S 23 51 08.8 -0.2**
RBK Rabkut 35.69 115 P **P 23 45 34.4 +0.6**
SNR=6.6
MHTO MHTO 36.33 107 P **P 23 45 39.7 +0.6**
SNR=6.9
MHTO S **S 23 51 19.3 0.0**
BORG Borgarnes 36.55 331 LR LR 00 03 40.3
comp=Z,383nm,18.5s,baz=129,slow=41
DQM DQM 36.63 108 P **P 23 45 41.4 -0.3**
JMIC Jan Mayen 36.64 345 LR LR 00 03 28.9
comp=Z,296nm,18.5s,baz=88,slow=41
LODK Lodwar 36.70 155 P **P 23 45 43.3 +0.8**
JLN Jalan Bani Buh 36.78 104 P **P 23 45 43.5 +0.6**
SNR=5.7
BRVK Borovoye 37.35 49 P **P 23 45 47.8 +0.2**
BRVK IAmb IAmb 23 46 01.7
comp=Z,16nm,0.9s
BRVK Borovoye 37.35 49 *ceP* **P 23 45 47.7 +0.2**
BRVK pmax pmax
comp=Z,20nm,1.0s
BVAR Borovoye Array 37.41 49 P **P 23 45 47.5 -0.6**
comp=Z,2.1nm,0.6s,baz=266,slow=5.9,SNR=8.9
BVAR LR LR 00 01 58.1
comp=Z,300nm,18.2s,baz=271,slow=38
comp=Z,2.1nm,0.6s
CHM Chimkent 37.44 67 *eP* **P 23 45 49.0 +0.5**
CHM Chimkent 37.44 67 *eP* **P 23 45 48.9 +0.5**
BRLS Borolday 37.49 66 *eP* **P 23 45 48.8 -0.2**
BRLS Borolday 37.49 66 *eP* **P 23 45 48.7 -0.2**
SIMJ Simiganj 37.75 73 P **P 23 45 50.7 -0.5**
IUG Iuzhnay 37.78 67 *eP* **P 23 45 51.8 +0.3**
comp=Z,8.8nm,0.8s
IUG Iuzhnay 37.78 67 *eP* **P 23 45 51.7 +0.3**
IUG pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 37.97 66 P **P 23 45 53.2 +0.3**
KKAR IAmb IAmb 23 45 56.6
comp=Z,11nm,1.4s
KKAR Karatay Array 37.97 66 P **P 23 45 53.2 +0.3**
KKAR pmax pmax
comp=Z,11nm,1.4s
DBIC Dimbokro 38.55 223 P **P 23 45 59.1 +1.1**
DBIC IAmb IAmb 23 46 02.9
comp=Z,32nm,1.4s
DBIC Dimbokro 38.55 223 P **P 23 45 57.9 -0.1**
comp=Z,6.1nm,0.8s,baz=26,slow=9.4,SNR=4.7
DBIC LR LR 00 02 54.0
comp=Z,328nm,18.2s,baz=21,slow=38
comp=Z,6.1nm,0.8s
DBIC Dimbokro 38.55 223 P **P 23 45 59.1 +1.1**
DBIC pmax pmax
comp=Z,33nm,1.4s
DZA Taraz 38.60 66 *eP* **P 23 45 59.0 +0.7**
DZA Taraz 38.60 66 *eP* **P 23 45 58.9 +0.7**
GAR Garm 38.66 72 P **P 23 45 59.7 +0.8**
GAR IAmb IAmb 23 46 03.8
comp=Z,42nm,1.3s
BTK Batken 38.78 70 P **P 23 45 59.2 -0.7**
BTK Batken 38.78 70 P **P 23 45 59.2 -0.7**
BTK pmax pmax
comp=Z,8.0nm,1.1s
MBAR Mbarara 39.24 164 P **P 23 46 05.4 +1.4**
MBAR Mbarara 39.24 164 LR LR 00 02 50.6
comp=Z,510nm,21.6s,baz=350,slow=37
MBAR Mbarara 39.24 164 P **P 23 46 05.4 +1.4**
MBAR pmax pmax
comp=Z,5.0nm,1.2s
DRK Karamyk 39.66 71 P **P 23 46 07.5 +0.1**
DRK Karamyk 39.66 71 P **P 23 46 07.5 +0.1**
DRK pmax pmax
comp=Z,14nm,1.3s
BBTS Babate 40.04 245 LR LR 00 04 34.7
comp=Z,818nm,19.9s,baz=305,slow=39
ARSB Arslanbob 40.11 68 P **P 23 46 11.5 +0.5**
ARSB Arslanbob 40.11 68 P **P 23 46 11.5 +0.5**
ARSB pmax pmax
comp=Z,5.0nm,1.2s
SPITS Spitsbergen Ar 40.64 359 P **P 23 46 15.6 +0.8**
comp=Z,3.7nm,0.7s,baz=155,slow=12,SNR=5.0
SPITS LR LR 00 05 32.4
comp=Z,1μm,18.5s,baz=142,slow=40
comp=Z,3.7nm,0.7s
SGDS Sogindy 40.87 64 *eP* **P 23 46 17.4 +0.2**
SGDS Sogindy 40.87 64 *eP* **P 23 46 17.4 +0.2**
AAK Ala-Archa 40.93 66 P **P 23 46 18.3 +0.5**
AAK Ala-Archa 40.93 66 LR LR 00 06 38.5
comp=Z,426nm,18.8s,baz=277,slow=41
AAK Ala-Archa 40.93 66 *deP* **P 23 46 19.5 +1.7**
AAK pmax pmax
comp=Z,9.0nm,1.2s
FRU1 Bishkek 40.99 65 P **P 23 46 18.6 +0.4**
FRU1 IAmb IAmb 23 46 32.2
comp=Z,11nm,0.5s
FRU1 Bishkek 40.99 65 P **P 23 46 18.6 +0.4**
FRU1 pmax pmax
comp=Z,11nm,0.5s
KBS Kingsbay 41.50 357 P **P 23 46 22.0 +0.2**
KBS Kingsbay 41.50 357 P **P 23 46 22.0 +0.2**
KBS pmax pmax
comp=Z,27nm,0.7s
KBS Kingsbay 41.50 357 *i P* **P 23 46 22.5 +0.7**
KMBO Kilima Mbogo 41.59 154 **P 23 46 24.1 +0.6**
KMBO Kilima Mbogo 41.59 154 P **P 23 46 23.5 -0.1**
KMBO IAmb IAmb 23 46 29.8
comp=Z,6.4nm,1.4s
KMBO Kilima Mbogo 41.59 154 P **P 23 46 25.4 +1.8**
comp=Z,1.1nm,0.7s,baz=298,slow=3.5,SNR=5.6
KMBO LR LR 00 05 19.4
comp=Z,291nm,18.6s,baz=326,slow=38
comp=Z,1.1nm,0.7s
NRN Naryn 42.29 67 P **P 23 46 29.4 +0.2**
NRN Naryn 42.29 67 P **P 23 46 29.4 +0.2**
NRN pmax pmax
comp=Z,4.0nm,0.9s
CHKK Chushkaly 42.47 63 *eP* **P 23 46 30.5 +0.3**
CHKK Chushkaly 42.47 63 *eP* **P 23 46 30.5 +0.3**
KURBB Kurchatov Arra 42.50 53 P **P 23 46 29.1 -1.2**
comp=Z,6.3nm,0.7s,baz=281,slow=8.8,SNR=32
KURBB LR LR 00 06 21.6
comp=Z,308nm,18.8s,baz=219,slow=39
comp=Z,6.3nm,0.7s
NIL Nilore 42.54 79 P **P 23 46 30.6 -0.3**
NIL IAmb IAmb 23 46 35.5
comp=Z,13nm,0.9s
NIL Nilore 42.54 79 P **P 23 46 30.6 -0.3**
NIL pmax pmax
comp=Z,13nm,0.9s
KURK Kurchatov 42.55 53 P **P 23 46 30.6 -0.1**
KURK IAmb IAmb 23 46 44.0
comp=Z,28nm,1.1s
KURK Kurchatov 42.55 53 *ceP* **P 23 46 30.0 -0.7**
KURK pmax pmax
comp=Z,11nm,1.0s
AAA Alma-Ata 42.55 64 *eP* **P 23 46 31.4 +0.4**
comp=Z,7.9nm,0.4s
AAA Alma-Ata 42.55 64 *eP* **P 23 46 31.3 +0.4**
AAA pmax pmax
comp=Z,8.0nm,0.4s
TNSS Tian-Shan 42.61 64 *eP* **P 23 46 32.0 +0.2**
TNSS Tian-Shan 42.61 64 *eP* **P 23 46 32.0 +0.2**
MDOK Medeo 42.66 64 *eP* **P 23 46 32.0 +0.1**
MDOK Medeo 42.66 64 *eP* **P 23 46 32.0 +0.1**
KSH Kashi 42.76 70 P **P 23 46 35.2 +2.4**
KSH pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 42.78 348 *eP* **P 23 46 30.3 -1.9**
DAG IAmb IAmb 23 46 42.0
comp=Z,3.0nm,1.1s
KIBK Kibwezi 43.00 154 P **P 23 46 36.4 +1.6**
TDK Taldyqorghan 43.23 61 *eP* **P 23 46 36.7 +0.2**
TDK Taldyqorghan 43.23 61 *eP* **P 23 46 36.6 +0.2**
SEM Semipalatinsk 43.61 53 *eP* **P 23 46 39.7 +0.1**
SEM Semipalatinsk 43.61 53 *eP* **P 23 46 39.7 +0.1**
KPKS Kokpek 43.75 63 *eP* **P 23 46 41.2 +0.4**
KPKS Kokpek 43.75 63 *eP* **P 23 46 41.1 +0.4**
UZB Uzynbulak 44.07 64 *eP* **P 23 46 43.8 +0.5**
UZB Uzynbulak 44.07 64 *eP* **P 23 46 43.8 +0.5**
SHLS Shalkode 44.38 64 *eP* **P 23 46 48.6 +2.9**
SHLS Shalkode 44.38 64 *eP* **P 23 46 48.6 +2.9**
WUS Wushi 44.70 66 P **P 23 46 49.7 +1.4**
WUS IAmb IAmb 23 46 52.2
comp=Z,11nm,1.2s
ICESG Greenland Ices 44.79 334 *i P* **P 23 46 46.4 -2.5**
ICESG IAmb IAmb 23 46 55.0
comp=Z,20nm,1.1s
SUMG Summit 45.29 339 P **P 23 46 52.2 -0.7**
SUMG IAmb IAmb 23 47 00.6
comp=Z,13nm,1.1s
SUMG Summit 45.29 339 P **P 23 46 52.2 -0.7**
SUMG Summit 45.29 339 *i P* **P 23 46 52.1 -0.8**
SUMG IAmb IAmb 23 47 00.2
comp=Z,8.6nm,0.9s
MK31 Makanchi Array 45.53 58 P **P 23 46 53.5 -1.3**
MK31 IAmb IAmb 23 47 13.8
comp=Z,4.9nm,0.6s
MK31 Makanchi Array 45.53 58 P **P 23 46 53.5 -1.3**
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 45.53 58 P **P 23 46 54.0 -0.8**
comp=Z,3.1nm,0.4s,baz=277,slow=6.7,SNR=34
MKAR LR LR 00 10 17.1
comp=Z,206nm,19.2s,baz=282,slow=42
comp=Z,3.1nm,0.4s
MKAR Makanchi Array 45.53 58 P **P 23 46 53.5 -1.3**
NOR Nord 45.97 353 *i P* **P 23 46 55.4 -2.3**
NOR IAmb IAmb 23 47 05.2
comp=Z,13nm,1.1s
ZAA0 Zalesovo Array 46.00 48 P **P 23 46 57.7 -0.5**
ZALV Zalesovo Beam 46.00 48 P **P 23 46 57.4 -0.9**
comp=Z,11nm,0.5s,baz=277,slow=9.1,SNR=37
ZALV LR LR 00 08 43.7
comp=Z,337nm,18.2s,baz=277,slow=39
comp=Z,11nm,0.5s
ZALV Zalesovo Beam 46.00 48 P **P 23 46 57.9 -0.4**
NRIK Noril'sk 47.22 26 P **P 23 47 08.7 +1.1**
NRIK IAmb IAmb 23 47 18.1
comp=Z,12nm,1.4s
NRIK Noril'sk 47.22 26 P **P 23 47 08.8 +1.2**
comp=Z,1.5nm,0.7s,baz=280,slow=6.1,SNR=3.4
NRIK LR LR 00 08 38.6
comp=Z,696nm,18.7s,baz=264,slow=38
comp=Z,1.5nm,0.7s
NRIK Noril'sk 47.22 26 ‖ *eP* **P 23 47 09.1 +1.5**
NRIK pmax pmax
comp=Z,16nm,1.9s
SFJD Kangerlussuaq 48.67 330 LR LR 00 08 57.3
comp=Z,404nm,18.1s,baz=88,slow=38
NEEM North Greenlan 49.55 344 *i P* **P 23 47 26.9 +1.0**
NEEM IAmb IAmb 23 47 33.4
comp=Z,9.3nm,1.1s
WMQ Urumqi 49.97 61 *eP* **P 23 47 31.9 +2.6**
WMQ LR LR
comp=N,690nm,19.1s
WMQ LR LR
comp=E,490nm,12.5s
WMQ LR LR
comp=Z,240nm,17.9s
LSZ Lusaka 53.17 171 P **P 23 47 54.6 +1.3**
LSZ Lusaka 53.17 171 P **P 23 47 55.4 +2.0**
LSZ Lusaka 53.17 171 P **P 23 47 54.7 +1.3**
LSZ pmax pmax
comp=Z,5.0nm,0.9s
FRB Frobisher Bay 56.58 328 LR LR 00 14 54.3
comp=Z,268nm,18.4s,baz=80,slow=39
SCHQ Schefferville 58.84 318 P **P 23 48 33.6 +0.1**
comp=Z,6.7nm,1.0s,baz=67,slow=6.1,SNR=9.3
SCHQ LR LR 00 13 53.4
comp=Z,232nm,18.2s,baz=152,slow=36
comp=Z,6.7nm,1.0s
GTA Gaotai 60.03 61 P **P 23 48 42.2 0.0**
GTA pmax pmax
comp=Z,3.0nm,1.3s
TIXI Tiksi 60.10 20 P **P 23 48 41.8 -0.1**
TIXI IAmb IAmb 23 48 51.0
comp=Z,6.5nm,0.8s
TIXI Tiksi 60.10 20 LR LR 00 18 51.7
comp=Z,1μm,18.0s,baz=322,slow=40
TIXI Tiksi 60.10 20 ‖ *eP* **P 23 48 42.3 +0.4**
TIXI pmax pmax
comp=Z,9.0nm,1.0s
RES Resolute Bay 60.25 344 P **P 23 48 42.5 -0.4**
RES IAmb IAmb 23 48 51.0
comp=Z,5.1nm,0.9s
RES Resolute Bay 60.25 344 LR LR 00 15 19.7
comp=Z,200nm,19.6s,baz=31,slow=37
RES Resolute Bay 60.25 344 P **P 23 48 42.5 -0.4**
RES pmax pmax
comp=Z,5.0nm,1.0s
SHL Shillong 60.61 79 P **P 23 48 44.8 -1.6**
SHL Shillong 60.61 79 P **P 23 48 44.8 -1.6**
SHL pmax pmax
comp=Z,22nm,1.2s
SONM Songino Array 60.75 50 P **P 23 48 46.6 -0.3**
comp=Z,2.8nm,0.8s,baz=282,slow=8.5,SNR=11
SONM LR LR 00 15 48.9
comp=Z,261nm,19.1s,baz=305,slow=37
comp=Z,2.8nm,0.8s
SONM Songino Array 60.75 50 P **P 23 48 47.2 +0.3**
SONM pmax pmax
comp=Z,10.0nm,1.4s
ULN Ulaanbaatar 61.13 50 P **P 23 48 50.6 +1.1**
ULN Ulaanbaatar 61.13 50 ‖ *eP* **P 23 48 50.3 +0.7**
ULN pmax pmax
comp=Z,4.0nm,0.9s
BRDH Bariadhala 61.91 82 LR LR 00 18 50.4
comp=Z,119nm,19.3s,baz=312,slow=39
LBTB Lobatse 62.55 175 P **P 23 49 01.4 +2.3**
LBTB IAmb IAmb 23 49 05.2
comp=Z,15nm,1.2s
LBTB Lobatse 62.55 175 P **P 23 49 01.4 +2.3**
LBTB pmax pmax
comp=Z,15nm,1.2s
LZH Lanzhou 64.40 63 *eP* P 23 49 06.7 -4.8
LZH sP pP 23 49 15.5 -1.8
LZH pmax pmax
comp=Z,17nm,1.5s
LZH LR LR
comp=N,310nm,14.1s
LZH LR LR
comp=E,210nm,15.5s
LZH LR LR
comp=Z,200nm,15.5s
YAK Yakutsk 65.52 29 LR LR 00 20 03.0
comp=Z,399nm,19.1s,baz=302,slow=38
YAK Yakutsk 65.52 29 *eP* **P 23 49 19.0 +0.9**
YAK *e*PP* **pwP 23 49 28.8 +4.8**
YAK *e* 23 49 50.8
YAK *e* 23 51 43.3
YAK *e*PPP PPP 23 53 15.9
YAK *e*S **S 23 58 04.5 +2.6**
YAK *e* 23 59 14.5
YAK pmax pmax
comp=Z,14nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.6s
YAK pmax pmax
comp=E,5.0nm,1.7s
YAK pmax pmax
comp=Z,123nm,3.6s
YAK pmax pmax
comp=N,161nm,2.5s
YAK pmax pmax
comp=E,219nm,4.2s
YAK smax smax
comp=N,90nm,3.3s
YAK smax smax
comp=E,150nm,4.1s
YAK MLR MLR
comp=Z,14nm,5.0s
YAK MLR MLR
comp=N,136nm,10.0s
YAK MLR MLR
comp=E,105nm,8.0s
BOSA Boshof 66.10 175 P **P 23 49 23.4 +1.1**
comp=E,6.1nm,1.0s,baz=95,slow=6.3,SNR=2.2
comp=E,6.1nm,1.0s
HHC Hu-ho-hao-te 67.29 55 *eP* **P 23 49 31.0 +1.0**
HHC pmax pmax
comp=Z,4.0nm,0.5s
HHC pmax pmax
comp=Z,120nm,3.7s
PZH PanZhiHua 67.72 73 P **P 23 49 34.3 +1.3**
PZH pmax pmax
comp=Z,8.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,4.7s
RCBR Riachuelo 67.99 243 LR LR 00 20 48.2
comp=Z,149nm,18.2s,baz=56,slow=37
A36M Sachs Harbour 68.01 349 P **P 23 49 34.4 +0.5**
A36M IAmb IAmb 23 49 44.8
comp=Z,9.7nm,0.8s
CHTO Chiang Mai 69.73 82 P **P 23 49 44.4 -1.0**
CHTO IAmb IAmb 23 49 49.0
comp=Z,13nm,1.1s
CHTO Chiang Mai 69.73 82 P **P 23 49 44.4 -1.0**
CHTO pmax pmax
comp=Z,13nm,1.2s
CM31 Chiang Mai Arr 69.93 82 P **P 23 49 46.7 +0.1**
CM31 IAmb IAmb 23 49 50.3
comp=Z,10nm,0.9s
CMAR Chiang Mai Arr 69.93 82 P **P 23 49 46.5 -0.2**
comp=Z,4.6nm,0.8s,baz=304,slow=7.6,SNR=23
comp=Z,4.6nm,0.8s
C36M Paulatuk 70.14 347 P **P 23 49 47.2 +0.1**
C36M IAmb IAmb 23 49 48.8
comp=Z,9.7nm,1.2s
SADO Sadowa 70.61 312 LR LR 00 19 41.1

comp=Z,113nm,18.3s,baz=70,slow=35
PHRA Phrae 70.92 81 P P 23 49 52.9 +0.2
MEDO Medina 71.09 310 P P 23 49 53.3 -0.1
MEDO IAmb IAmb 23 49 56.9
comp=Z,9.6nm,1.0s
HEH HeiHe 71.39 40 eP P 23 49 55.7 +0.7
HEH pmax pmax
comp=Z,16nm,1.1s
HEH LR LR
comp=N,2μm,17.8s
HEH LR LR
comp=E,1μm,18.1s
HEH LR LR
comp=Z,690nm,14.4s
BILL Bilibino 71.49 13⇑eP P 23 49 54.7 -0.6
BILL pmax pmax
comp=Z,18nm,1.8s
C27K Jago River 72.37 354 P P 23 50 01.2 +0.6
C27K IAmb IAmb 23 50 21.4
comp=Z,9.1nm,1.0s
D27M Malcolm River 72.51 353 P P 23 50 02.0 +0.4
D27M IAmb IAmb 23 50 14.3
comp=Z,6.2nm,0.9s
INK Inuvik 72.55 350 LR LR 00 25 26.8
comp=Z,190nm,19.4s,baz=36,slow=39
SEY Seymchan 72.58 21⇓eP P 23 50 01.5 -0.5
SEY pmax pmax
comp=Z,33nm,2.2s
D25K Kavik River 72.87 355 P P 23 50 04.4 +0.7
D25K IAmb IAmb 23 50 16.6
comp=Z,9.9nm,1.1s
E28M Babbage River 72.98 352 P P 23 50 04.6 +0.3
E28M IAmb IAmb 23 50 15.5
comp=Z,8.5nm,1.2s
E29M Blow River 73.02 352 P P 23 50 04.8 +0.4
E29M IAmb IAmb 23 50 06.8
comp=Z,18nm,1.2s
F31M Tsiigehtchic 73.39 350 P P 23 50 07.1 +0.4
E27K Coleen River 73.59 353 P P 23 50 08.6 +0.7
E27K IAmb IAmb 23 50 26.9
comp=Z,7.8nm,1.1s
MDP Montagnes des 73.61 264 LR LR 00 20 33.7
comp=Z,133nm,21.0s,baz=78,slow=34
YKA Yellowknife Ar 73.86 340 P P 23 50 09.6 +0.1
comp=Z,2.3nm,0.8s,baz=46,slow=6.4,SNR=6.4
YKA LR LR 00 24 07.2
comp=Z,291nm,18.9s,baz=35,slow=37
comp=Z,2.3nm,0.8s
YKA Yellowknife Ar 73.86 340 iP P 23 50 10.3 +0.8
YKA pmax pmax
comp=Z,3.0nm,0.9s
F28M Old Crow 73.98 352 P P 23 50 10.1 0.0
F28M IAmb IAmb 23 50 24.4
comp=Z,8.1nm,1.1s
E25K Arctic Village 73.99 355 P P 23 50 11.7 +1.4
E25K IAmb IAmb 23 50 29.3
comp=Z,16nm,1.4s
BNX BinXian 74.12 44 ⇑P P 23 50 12.9 +1.5
BNX pmax pmax
comp=Z,11nm,1.3s
CN2 Changchun 74.20 47 eP P 23 50 12.9 +1.0
CN2 pmax pmax
comp=Z,10.0nm,1.0s
G29M Pine Creek 74.44 351 P P 23 50 13.4 +0.5
G29M IAmb IAmb 23 50 24.9
comp=Z,16nm,0.9s
MA2 Magadan 74.73 24 LR LR 00 28 26.2
comp=Z,255nm,18.0s,baz=313,slow=40
F24K Squaw Lake 74.75 355 P P 23 50 15.7 +1.0
F24K IAmb IAmb 23 50 32.1
comp=Z,13nm,1.3s
H29M Whitestone 75.15 351 P P 23 50 17.4 +0.4
E19K Redstone River 75.16 359 P P 23 50 17.6 +0.5
E19K IAmb IAmb 23 50 26.9
comp=Z,9.8nm,0.9s
COLD Coldfoot 75.17 356 P P 23 50 18.0 +0.9
I30M Mount Dempster 75.85 350 P P 23 50 21.3 +0.1
I30M IAmb IAmb 23 50 36.6
comp=Z,9.6nm,1.0s
N49A Columbus Grove 75.86 311 P P 23 50 22.1 +0.6
N49A IAmb IAmb 23 50 40.0
comp=Z,14nm,1.4s
ULM Lac du Bonnet 76.11 324 P P 23 50 23.4 +0.7
comp=Z,4.1nm,1.0s,baz=59,slow=9.2,SNR=3.5
ULM LR LR 00 23 46.5
comp=Z,267nm,19.9s,baz=49,slow=36
comp=Z,4.1nm,1.0s
GCPR Guaynabo City 76.45 283 P P 23 50 23.5 -1.7
J30M Hart River 76.46 350 P P 23 50 25.9 +1.2
SJG San Juan 76.62 283 LR LR 00 20 16.7
comp=Z,65nm,19.1s,baz=39,slow=33
H21K Melozitna Rive 76.86 357 P P 23 50 27.4 +0.6
H21K IAmb IAmb 23 50 37.5
comp=Z,10nm,1.0s
NJ2 Nanjing 77.04 60 eP P 23 50 28.2 -0.1
NJ2 pmax pmax
comp=Z,12nm,0.6s
DAWY Dawson 77.34 351 P P 23 50 28.8 -0.7
DAWY IAmb IAmb 23 50 45.6
comp=Z,10nm,1.1s
ILAR Eielson Array 77.40 355 P P 23 50 30.5 +0.7
comp=Z,1.0nm,0.9s,baz=352,slow=3.4,SNR=8.9
ILAR LR LR 00 26 41.1
comp=Z,190nm,19.6s,baz=12,slow=37
comp=Z,1.0nm,0.9s
USRK Ussuriysk Ar. 77.61 43 P P 23 50 33.0 +1.6
comp=Z,3.0nm,0.7s,baz=298,slow=4.1,SNR=6.6
comp=Z,3.0nm,0.7s
USRK Ussuriysk Ar. 77.61 43 P P 23 50 33.0 +1.6
M29M Somme Creek 78.79 350 P P 23 50 37.9 +0.3
M29M IAmb IAmb 23 50 46.2
comp=Z,7.8nm,0.8s
TKL Tuckaleechee C 78.85 306 LR LR 00 24 44.1
comp=Z,150nm,18.8s,baz=58,slow=35
KSAR Wonju Array Be 79.60 51 P P 23 50 43.0 +0.6
KSRS Korea Array 79.62 51 P P 23 50 42.9 +0.4
comp=Z,2.9nm,0.5s,baz=317,slow=5.0,SNR=9.0
comp=Z,2.9nm,0.5s
R33M Jennings River 80.43 346 P P 23 50 47.5 +0.8
R33M IAmb IAmb 23 51 01.5
comp=Z,15nm,1.1s
ECSD EROS Data Cent 80.98 319 P P 23 50 50.9 +1.1
DLBC Dease Lake 81.12 345 LR LR 00 30 16.3
comp=Z,145nm,18.4s,baz=3.5,slow=38
YSS Yuzh-Sakhalins 81.14 36 eP P 23 50 47.3 -3.2
YSS MLR MLR
comp=Z,600nm,12.0s
YSS MLR MLR
comp=N,600nm,11.0s
PETK Petropavlovsk- 82.23 24 LR LR 00 32 01.5
comp=N,360nm,18.3s,baz=315,slow=39
ASAJ Asahikawa 83.15 38 LR LR 00 30 23.8
comp=N,286nm,18.7s,baz=329,slow=38
BDFB Brasilia 83.33 245 LR LR 00 29 05.3
comp=N,226nm,19.4s,baz=104,slow=36
EGMT Eagleton 83.88 329 P P 23 51 05.3 +0.4
JNU Nakatsue 84.27 52 LR LR 00 32 21.0
comp=N,340nm,19.4s,baz=324,slow=38
KDAK Kodiak Island 84.71 356 LR LR 00 30 24.9
comp=N,128nm,21.5s,baz=205,slow=37
SDV Santo Domingo 85.58 278 LR LR 00 25 23.5
comp=N,114nm,20.8s,baz=72,slow=33
T35A Sooner Cattle 85.71 314 P P 23 51 13.8 -0.5
T35A IAmb IAmb 23 51 25.6
comp=Z,13nm,1.0s
MJAR Matsushiro Arr 86.31 46 P P 23 51 17.9 +0.7
comp=Z,0.9nm,0.3s,baz=305,slow=7.1,SNR=4.5
MJAR LR LR 00 32 07.9
comp=Z,241nm,18.2s,baz=317,slow=37
comp=Z,0.9nm,0.3s
YNE Yellowstone No 86.38 327 P P 23 51 18.0 +0.3
YNE IAmb IAmb 23 51 28.5
comp=Z,8.8nm,1.0s
SOR Soroa 86.40 296 P P 23 51 16.0 -1.9
SOR Soroa 86.40 296 P P 23 51 16.0 -1.9
SOR pmax pmax
comp=Z,34nm,1.5s
BBB Bella Bella 86.42 341 LR LR 00 31 40.2
comp=Z,183nm,20.7s,baz=28,slow=37
NEW Newport 86.50 333 P P 23 51 17.1 -0.9
NEW IAmb IAmb 23 51 24.5
comp=Z,7.4nm,1.1s
NEW Newport 86.50 333 P P 23 51 17.1 -0.9
NEW pmax pmax
comp=Z,7.0nm,1.2s
BOZ Bozeman (W) 86.59 329 P P 23 51 18.4 -0.2
BOZ pmax pmax
comp=Z,3.0nm,0.9s
BPMT Black Pine Rid 86.64 330 P P 23 51 18.7 -0.3
YMP Mirror Lake Pl 86.66 327 P P 23 51 19.4 +0.3
YMP IAmb IAmb 23 51 31.9
comp=Z,7.3nm,1.3s
JOW Kunigami 86.70 58 LR LR 00 33 55.2
comp=Z,126nm,21.9s,baz=351,slow=38
SHEM Shemya Is, Ala 87.06 16 LR LR 00 34 06.2
comp=Z,112nm,18.8s,baz=312,slow=38
C09A Chrisman Ranch 87.31 334 P P 23 51 22.4 +0.5
PDAR Pinedale Array 87.97 326 P P 23 51 26.1 +0.7
comp=Z,0.8nm,1.0s,baz=46,slow=6.4,SNR=3.8
comp=Z,0.8nm,1.0s
BMO Blue Mountains 89.46 331 P P 23 51 31.8 -0.4
BMO IAmb IAmb 23 51 38.4
comp=Z,9.3nm,1.5s
BMO Blue Mountains 89.46 331 P P 23 51 31.8 -0.4
BMO pmax pmax
comp=Z,9.0nm,1.5s
RTBA Rita Blanca 89.49 318 P P 23 51 32.6 0.0
RTBA IAmb IAmb 23 51 38.2
comp=Z,7.0nm,1.1s
HWUT Hardware Ranch 89.79 326 P P 23 51 34.7 +0.7
HWUT IAmb IAmb 23 51 40.6
comp=Z,7.9nm,1.2s
SBUM Sibu 89.84 87 P P 23 51 33.9 -0.5
SBUM IAmb IAmb 23 51 40.2
comp=Z,6.9nm,1.5s
MFID Camas Ranch 90.09 330 P P 23 51 35.9 +0.6
MFID IAmb IAmb 23 51 42.4
comp=Z,5.2nm,1.1s
HVU Hansel Valley 90.18 327 P P 23 51 35.6 -0.1
HVU Hansel Valley 90.18 327 P P 23 51 35.6 -0.1
HVU pmax pmax
comp=Z,3.0nm,1.1s
ROSC El Rosal 90.93 277 LR LR 00 29 11.4
comp=Z,152nm,21.3s,baz=76,slow=33
PTLB Pontes e Lacer 91.39 252 P P 23 51 42.1 +0.7
PTLB IAmb IAmb 23 51 55.2
comp=Z,5.5nm,1.2s
DUG Dugway, Tooele 91.49 326 P P 23 51 41.4 -0.4
DUG IAmb IAmb 23 52 01.2
comp=Z,4.1nm,1.2s
DUG Dugway, Tooele 91.49 326 P P 23 51 41.4 -0.4
DUG pmax pmax
comp=Z,4.0nm,1.2s
PINE Pine Mountain 91.71 333 P P 23 51 42.9 0.0
PINE IAmb IAmb 23 51 50.4
comp=Z,11nm,1.5s
Q16A Castle Valley 91.78 324 P P 23 51 42.9 -0.4
Q16A IAmb IAmb 23 51 46.4
comp=Z,7.3nm,1.3s
ELK Elko 92.08 328 LR LR 00 34 14.7
comp=Z,216nm,18.6s,baz=31,slow=36
ANMO Albuquerque 92.59 319 LR LR 00 33 53.8
comp=Z,156nm,18.7s,baz=206,slow=36
SIV San Ignacio 93.19 252 LR LR 00 32 33.6
comp=Z,233nm,21.8s,baz=108,slow=35
DRIO Del Rio 93.48 312 P P 23 51 50.2 -0.8
DRIO IAmb IAmb 23 52 04.0
comp=Z,5.7nm,1.0s
YBH Yreka Blue Hor 94.14 333 LR LR 00 36 34.3
comp=Z,313nm,18.3s,baz=20,slow=37
NVAR Mina Array Bea 95.30 329 P P 23 51 59.5 0.0
comp=Z,0.2nm,0.5s,baz=333,slow=3.0,SNR=2.2
NVAR LR LR 00 35 16.4
comp=Z,283nm,21.7s,baz=36,slow=36
comp=Z,0.2nm,0.5s
TXAR Lajitas Array 95.33 314 P P 23 52 00.9 +1.3
comp=Z,0.4nm,0.8s,baz=69,slow=5.9,SNR=4.8
TXAR LR LR 00 34 52.9
comp=Z,114nm,18.5s,baz=42,slow=36
comp=Z,0.4nm,0.8s
JTS Las Juntas de 95.78 288 LR LR 00 31 15.1
comp=Z,104nm,18.6s,baz=43,slow=33
CPUP Villa Florida 96.84 242 LR LR 00 36 14.6
comp=Z,380nm,20.4s,baz=52,slow=36
CMIG Matias Romero 98.52 299 LR LR 00 34 23.5
comp=Z,50nm,20.4s,baz=28,slow=34
PFO Pinyon Flats O 98.56 325 LR LR 00 39 02.3
comp=Z,170nm,19.6s,baz=24,slow=37
LPAZ La Paz 98.76 256 LR LR 00 37 57.3
comp=Z,84nm,19.7s,baz=52,slow=36
WRA Warramunga Arr 120.49 93 PKP PKiKP 23 57 28.1 +1.0
comp=Z,0.5nm,0.7s,baz=302,slow=2.1,SNR=3.1
ASAR Alice Springs 122.09 96 PKP PKiKP 23 57 30.6 +0.4
comp=Z,0.6nm,0.8s,baz=299,slow=1.9,SNR=6.0
PPT2 Papeete2 158.18 334 eLR LR 00 51 44.6
comp=Z,162nm,24.5s
PPT2 eLR LR 00 51 52.8
comp=Z,155nm,23.2s
TBI Tubuai 163.34 326 eLR LR 00 54 12.7
comp=Z,595nm,26.5s

IDC 11 23:46:43.7±3.8, 5°.92S×147°.45E, h177km±21km, mb2.8/1, mbtmp3.6/4, Error ellipse: s-maj=60.8km s-min=23.6km az=73.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.47**	**185**	P	Pn	23 47 38.0	-0.1
	15nm,0.5s,baz=301,slow=12,SNR=4.5						
PMG				S	Sn	23 48 21.1	+0.6
	17nm,0.7s,baz=18,slow=20,SNR=2.2						
JAY	**Jayapura**	**7.53**	**296**	P	Pn	23 48 31.1	+0.2
	10nm,0.9s,baz=287,slow=23,SNR=6.2						
WRA	**Warramunga Arr**	**18.89**	**221**	P	P	23 50 50.1	-0.7
	0.8nm,0.6s,baz=40,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.94**	**215**	P	P	23 51 23.6	+0.2
	0.4nm,0.4s,baz=48,slow=8.1,SNR=8.4						
	0.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**145.51**	**285**	PKPbc	PKPdf	00 06 01.7	-0.1
	0.1nm,0.4s,baz=90,slow=5.0,SNR=1.4						

*BEO **12** 00:07:59.2±3.2, 36°.23N×20°.02E, h142km±2km, ML3.9/10*
*IDC **12** 00:08:10.9±1.4, 37°.71N×20°.73E, h0km, mb3.7/7, mbtmp3.7/9, ML3.5/2, MS3.1/3, Error ellipse: s-maj=28.7km s-min=22.6km az=128.0*
*THE **12** 00:08:12.2, 37°.59N×20°.48E, h0km±1km, ML3.6/18, Error ellipse: s-maj=2.0km s-min=0.4km az=234.0*
*ATH **12** 00:08:12.4, 37°.61N×20°.48E, h10km±1km, ML3.6/9, Error ellipse: s-maj=2.2km s-min=0.7km az=38.0*
ISC 12 00:08:12.8±1.1, 37°.64N±0°.03×20°.50E±0°.04, h14km±6km, n105, σ1§37/150, mb3.7/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.26**	**84**	P	**Pg**	**00 08 18.0**	**-0.3**
KRI1				S	**Sg**	**00 08 21.8**	**-0.2**
	27μm,0.4s						
LTHK	**Lithakia**	**0.28**	**75**	P	**Pg**	**00 08 18.2**	**-0.5**
LTHK				S	**Sg**	**00 08 22.4**	**-0.3**
	16μm,0.3s						
LTHK	**Lithakia**	**0.28**	**75**	P	**Pg**	**00 08 18.4**	**-0.4**
LTHK				S	**Sg**	**00 08 22.1**	**-0.6**
LTHK				AML	AML	00 08 22.5	
	comp=E,36524μm,0.4s						
LTHK				AML	AML	00 08 23.1	
	comp=N,35411μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.48**	**8**	P	**Pg**	**00 08 22.3**	**-0.1**
PSDA				S	**Sb**	**00 08 29.9**	**-0.1**
	comp=N,9μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.48**	**8**	P	**Pg**	**00 08 22.1**	**-0.3**
PSDA				S	**Sg**	**00 08 29.3**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.49**	**26**	P	**Pg**	**00 08 22.3**	**-0.2**
RTZL				S	**Sg**	**00 08 29.9**	**+0.8**
	comp=N,8μm,0.3s						
VLS	**Valsamata**	**0.55**	**8**	P	**Pg**	**00 08 23.2**	**-0.4**
VLS				S	**Sg**	**00 08 31.6**	**+0.7**
	comp=N,6μm,0.2s						
VLS	**Valsamata**	**0.55**	**8**	P	**Pg**	**00 08 23.2**	**-0.4**
VLS				S	**Sg**	**00 08 31.5**	**+0.6**
VLS				AML	AML	00 08 35.2	
	comp=E,11225μm,0.2s						
VLS				AML	AML	00 08 36.0	
	comp=N,13600μm,0.3s						
LXR1	**Lixouri, Cepha**	**0.57**	**355**	P	**Pb**	**00 08 24.2**	**-0.3**
LXR1				S	**Sb**	**00 08 33.5**	**+1.1**
	comp=N,28μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.57**	**355**	P	**Pg**	**00 08 23.9**	**-0.1**
LXRA				S	**Sg**	**00 08 32.0**	**+0.5**
LXRA				AML	AML	00 08 36.7	
	comp=E,27565μm,0.5s						
LXRA				AML	AML	00 08 39.4	
	comp=N,39433μm,0.6s						
DMLN	**Damoulianata-K**	**0.61**	**351**	P	**Pg**	**00 08 24.8**	**0.0**
DMLN				S	**Sb**	**00 08 34.6**	**+0.9**
	comp=N,8μm,0.5s						
DMLN	**Damoulianata-K**	**0.61**	**351**	P	**Pg**	**00 08 24.7**	**-0.1**
DMLN				S	**Sb**	**00 08 33.6**	**-0.1**
SMHA	**Samh**	**0.63**	**11**	P	**Pg**	**00 08 24.3**	**-0.8**
SMHA				S	**Sg**	**00 08 33.5**	**+0.1**
VSK1	**VASILIKIADES**	**0.77**	**4**	P	**Pg**	**00 08 27.4**	**-0.5**
VSK1				S	**Sb**	**00 08 39.4**	**+1.0**
	comp=N,6μm,0.4s						
FSK	**Fiskardo**	**0.82**	**4**	P	**Pg**	**00 08 28.2**	**-0.7**
FSK				S	**Sb**	**00 08 40.9**	**+1.0**
	comp=N,4μm,0.7s						
FSK	**Fiskardo**	**0.82**	**4**	P	**Pg**	**00 08 28.1**	**-0.7**
FSK				S	**Sg**	**00 08 39.9**	**+0.2**
FSK				AML	AML	00 08 45.4	
	comp=N,7163μm,0.7s						
FSK				AML	AML	00 08 46.0	
	comp=E,7200μm,0.4s						
RLS	**Riolos of Patr**	**0.88**	**61**	P	**Pg**	**00 08 28.7**	**-1.1**
RLS				S	**Sb**	**00 08 42.3**	**+1.0**
	comp=E,3μm,0.4s						
RLS	**Riolos of Patr**	**0.88**	**61**	P	**Pg**	**00 08 28.5**	**-1.3**
RLS				S	**Sg**	**00 08 41.5**	**+0.2**
RLS				AML	AML	00 08 43.1	
	comp=E,7112μm,0.5s						
RLS				AML	AML	00 08 43.3	
	comp=N,5865μm,0.4s						
AMT	**Artemida-Makis**	**0.97**	**96**	P	**Pg**	**00 08 30.7**	**-0.8**
AMT				S	**Sb**	**00 08 44.6**	**+0.6**
AMT				AML	AML	00 08 50.9	
	comp=N,27781μm,0.5s						
AMT				AML	AML	00 08 53.6	
	comp=E,15902μm,0.4s						
EVGI	**Lefkada island**	**0.99**	**7**	P	**Pg**	**00 08 31.1**	**-0.9**
EVGI				S	**Sn**	**00 08 46.5**	**+0.4**
	comp=E,4μm,0.2s						
EVGI	**Lefkada island**	**0.99**	**7**	P	**Pg**	**00 08 31.3**	**-0.7**
EVGI				S	**Sb**	**00 08 45.2**	**+0.5**
DRO	**Drossia**	**1.01**	**71**	P	**Pg**	**00 08 31.9**	**-0.5**
DRO	**Drossia**	**1.01**	**71**	P	**Pg**	**00 08 31.7**	**-0.7**
DRO				S	**Sb**	**00 08 46.0**	**+0.7**
DRO				AML	AML	00 08 54.8	
	comp=N,8918μm,0.5s						
DRO				AML	AML	00 08 54.9	
	comp=E,7414μm,0.6s						
AST1	**Astakos**	**1.02**	**27**	P	**Pg**	**00 08 32.0**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.05**	**3**	P	**Pg**	**00 08 32.1**	**-1.0**
DRAG				S	**Sn**	**00 08 48.1**	**+0.6**
DRAG	**Dragano-Lefkad**	**1.05**	**3**	P	**Pg**	**00 08 31.9**	**-1.1**
DRAG				S	**Sg**	**00 08 46.4**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.09**	**8**	P	**Pb**	**00 08 32.8**	**-0.6**
NYDR				S	**Sn**	**00 08 50.3**	**+1.9**
	comp=E,2μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.09**	**8**	P	**Pb**	**00 08 32.7**	**-0.7**
NYDR				S	**Sn**	**00 08 48.7**	**+0.3**
LKD2	**Lefkada island**	**1.16**	**6**	P	**Pg**	**00 08 35.3**	**+0.1**
LKD2				S	**Sn**	**00 08 53.4**	**+3.1**
	comp=E,2μm,0.5s						
LKD2	**Lefkada island**	**1.16**	**6**	P	**Pg**	**00 08 34.9**	**-0.3**
TSLK	**Tsoukalades, L**	**1.19**	**6**	P	**Pn**	**00 08 34.7**	**-0.4**
TSLK				S	**Sn**	**00 08 53.7**	**+2.6**
	comp=E,2μm,0.4s						
TSLK	**Tsoukalades, L**	**1.19**	**6**	P	**Pn**	**00 08 34.6**	**-0.4**
UPR	**University Cam**	**1.21**	**57**	P	**Pn**	**00 08 35.0**	**-0.2**
UPR				S	**Sn**	**00 08 53.9**	**+2.5**
ITM	**Ithomi**	**1.23**	**111**	P	**Pn**	**00 08 35.1**	**-0.4**
ITM				S	**Sn**	**00 08 53.4**	**+1.5**
	comp=E,1μm,0.5s						
ITM	**Ithomi**	**1.23**	**111**	P	**Pn**	**00 08 34.9**	**-0.6**
ITM				S	**Sn**	**00 08 52.3**	**+0.5**
ITM				AML	AML	00 09 00.3	
	comp=E,1576μm,0.4s						
ITM				AML	AML	00 09 02.6	
	comp=N,2610μm,0.5s						
PYL	**PYLOS**	**1.24**	**126**	P	**Pn**	**00 08 35.2**	**-0.4**
PYL				S	**Sn**	**00 08 53.3**	**+1.2**
	comp=N,2μm,0.4s						
PYL	**PYLOS**	**1.24**	**126**	P	**Pn**	**00 08 35.3**	**-0.4**
PYL				S	**Sg**	**00 08 51.9**	**-0.8**
PYL				AML	AML	00 08 55.6	
	comp=E,3328μm,0.4s						
PYL				AML	AML	00 08 55.8	
	comp=N,3306μm,0.3s						
EFP	**Efpalio**	**1.36**	**54**	P	**Pn**	**00 08 37.5**	**+0.1**
EFP				S	**Sg**	**00 08 58.5**	**+1.7**
	comp=N,1μm,0.4s						
EFP	**Efpalio**	**1.36**	**54**	P	**Pn**	**00 08 37.2**	**-0.2**
KLV	**Kalavryta, Ach**	**1.37**	**72**	P	**Pn**	**00 08 37.7**	**+0.1**
KLV				S	**Sg**	**00 08 58.6**	**+1.6**
	comp=N,610nm,0.8s						
KLV	**Kalavryta, Ach**	**1.37**	**72**	P	**Pn**	**00 08 37.5**	**-0.1**
ALIK	**Aliki, Aigiali**	**1.42**	**63**	P	**Pn**	**00 08 38.6**	**+0.4**
ANX	**Ano Chora**	**1.48**	**49**	P	**Pn**	**00 08 39.5**	**+0.5**
ANX	**Ano Chora**	**1.48**	**49**	P	**Pn**	**00 08 38.9**	**-0.1**
GUR	**Goura**	**1.49**	**78**	P	**Pn**	**00 08 39.7**	**+0.4**
GUR	**Goura**	**1.49**	**78**	P	**Pn**	**00 08 39.3**	**0.0**
KALE	**Kalithea**	**1.50**	**59**	P	**Pn**	**00 08 39.5**	**+0.1**
KALE	**Kalithea**	**1.50**	**59**	P	**Pn**	**00 08 39.7**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.88**	**43**	P	**Pn**	**00 08 45.8**	**+1.2**
IGT	**Igoumenitsa**	**1.90**	**356**	P	**Pn**	**00 08 46.1**	**+1.3**
LOUT	**Loutraki**	**1.99**	**79**	P	**Pn**	**00 08 47.4**	**+1.3**
KEK	**Kerkira**	**2.15**	**345**	P	**Pn**	**00 08 48.9**	**+0.7**
VLI	**Veliai**	**2.15**	**114**	P	**Pn**	**00 08 49.3**	**+1.0**
SRN	**Sarande**	**2.27**	**350**	P	**Pn**	**00 08 50.6**	**+0.7**
VILL	**Villia**	**2.29**	**76**	P	**Pn**	**00 08 51.7**	**+1.5**
TYRN	**Tyrnavos**	**2.48**	**33**	P	**Pb**	**00 08 55.2**	**-1.9**
LSK	**Leskovik**	**2.51**	**2**	P	**Pn**	**00 08 54.9**	**+1.6**
NEO	**Neokhori**	**2.71**	**51**	P	**Pn**	**00 08 57.3**	**+1.3**
DION	**Dionisos Attik**	**2.75**	**80**	P	**Pn**	**00 08 57.6**	**+1.0**
LIT	**Litokhoron**	**2.91**	**32**	P	**Pn**	**00 09 00.6**	**+1.9**
FNA	**Florina**	**3.22**	**12**	P	**Pn**	**00 09 04.7**	**+1.8**
FNA	**Florina**	**3.22**	**12**	*e*Pn	**Pn**	**00 09 04.8**	**+1.8**
OHR	**Ohrid**	**3.48**	**4**	*e*Pn	**Pn**	**00 09 08.6**	**+2.0**
OHR	**Ohrid**	**3.48**	**4**	*i* Pn	**Pn**	**00 09 09.2**	**+2.6**
TIR	**Tirane**	**3.74**	**353**	*e*Pn	**Pn**	**00 09 10.6**	**+0.5**
TIR				*e*Sn	**Sn**	**00 09 53.9**	**0.0**
SOH	**Sokhos**	**3.88**	**34**	P	**Pn**	**00 09 14.5**	**+2.5**
SRS	**Serrai**	**4.22**	**34**	*e*Pn	**Pn**	**00 09 17.9**	**+1.2**
SRS				*e*Sn	**Sn**	**00 10 04.4**	**-1.4**
PDG	**Podgorica**	**4.88**	**349**	*e*Pn	**Pn**	**00 09 25.6**	**-0.2**
PDG				*e*Sn	**Sn**	**00 10 19.0**	**-3.0**
BOSS	**Bosilegrad**	**5.09**	**17**	*e*Pn	**Pn**	**00 09 29.0**	**+0.4**
BARS	**Barje**	**5.27**	**11**	*e*Pn	**Pn**	**00 09 31.6**	**+0.5**
TREB	**Trebinje**	**5.33**	**343**	*e*Pn	**Pn**	**00 09 31.0**	**-1.0**
TREB				*e*Sn	**Sn**	**00 10 28.2**	**-5.0**
VTS	**Vitosha**	**5.40**	**22**	*e*Pn	**Pn**	**00 09 34.7**	**+1.7**
SELS	**Selova**	**5.60**	**5**	*e*Pn	**Pn**	**00 09 35.4**	**-0.2**
SJES	**Sjenica**	**5.63**	**356**	*e*Pn	**Pn**	**00 09 36.2**	**0.0**
SJES				*e*Sn	**Sn**	**00 10 39.3**	**-1.4**
ZAPS	**Zavoj**	**5.86**	**15**	*e*Pn	**Pn**	**00 09 41.0**	**+1.7**
IVAS	**Ivanjica**	**5.94**	**358**	*e*Pn	**Pn**	**00 09 39.7**	**-0.7**
GRUS	**Gruza**	**6.25**	**1**	*e*Pn	**Pn**	**00 09 44.5**	**0.0**
BBLS	**Lazi&#263i**	**6.28**	**353**	*e*Pn	**Pn**	**00 09 44.9**	**-0.1**
DIVS	**Divibare**	**6.47**	**357**	*e*Pn	**Pn**	**00 09 47.3**	**-0.3**
DIVS				*e*Sn	**Sn**	**00 10 57.9**	**-3.3**
HAPS	**Han Pijesak,BI**	**6.55**	**350**	*e*Pn	**Pn**	**00 09 47.1**	**-1.7**
BLY	**Banja Luka**	**7.53**	**342**	*e*Pn	**Pn**	**00 10 00.5**	**-1.6**
BOJS	**Bojanci**	**8.79**	**335**	*i* Pn	**Pn**	**00 10 19.1**	**-0.2**
GBRS	**Gornja Briga**	**8.96**	**333**	*i* Pn	**Pn**	**00 10 21.6**	**-0.2**
CRES	**Cresnjevec Ost**	**9.01**	**337**	*i* Pn	**Pn**	**00 10 21.8**	**-0.6**
KEST	**Kesra**	**9.16**	**261**	Pn	**Pn**	**00 10 27.4**	**+2.9**
	comp=N,0.1nm,0.3s,baz=74,slow=9.1,SNR=1.8						
	comp=N,2.1nm,0.8s						
SOKA	**Soboth**	**9.90**	**338**	*i* Pn	**Pn**	**00 10 34.0**	**-0.7**
	comp=N,2.1nm,0.5s						
SOKA				*e*Sn	**Sn**	**00 12 19.9**	**-5.8**
	comp=N,0.9nm,0.4s						
OBKA	**Obir**	**9.90**	**335**	*e*Pn	**Pn**	**00 10 34.5**	**-0.2**
	comp=N,1.9nm,0.4s						
OBKA				*i* Sn	**Sn**	**00 12 24.0**	**-1.8**
	comp=N,3.9nm,0.5s						
ARSA	**Arzberg**	**10.29**	**341**	*e*Pn	**Pn**	**00 10 39.6**	**-0.3**
	comp=N,1.4nm,0.3s						
RONA	**Rosalia, Austr**	**10.52**	**344**	*i* Pn	**Pn**	**00 10 44.0**	**+0.9**
	comp=N,0.7nm,0.4s						
KBA	**Koelnbreinsper**	**10.81**	**333**	*e*Pn	**Pn**	**00 10 48.1**	**+0.8**
	comp=N,0.3nm,0.3s						
KBA				*i* Sn	**Sn**	**00 12 44.8**	**-3.3**
	comp=N,1.4nm,0.5s						

MOA Molln 11.18 338 *e*Pn **Pn 00 10 52.7 +0.5**
comp=N,1.8nm,0.4s,SNR=5.8
MOA *i* Sn **Sn 00 12 52.2 -4.7**
comp=N,0.8nm,0.4s
BIOA Bad Ischl, Aus 11.24 336 *e*Pn **Pn 00 10 53.9 +1.0**
comp=N,1.1nm,0.3s
BIOA *i* Sn **Sn 00 12 58.2 -0.2**
comp=N,1.2nm,0.4s
LESA Schwarzleotal 11.35 332 *i* Pn **Pn 00 10 55.9 +1.4**
comp=N,1.2nm,0.3s
LESA *e*Sn **Sn 00 12 58.7 -2.4**
comp=N,1.9nm,0.6s
WTTA Wattenberg 11.63 329 *i* Sn **Sn 00 13 07.3 -0.7**
comp=N,4.0nm,0.8s
RETA Reutte 12.17 327 *i* Sn **Sn 00 13 21.6 +0.4**
comp=N,2.3nm,0.7s
GERES GERESS Array B 12.24 338 Pn **Pn 00 11 06.7 0.0**
comp=N,0.2nm,0.3s,baz=150,slow=14,SNR=3.5
comp=N,0.4nm,0.4s
GNI Garni 19.02 75 LR LR 00 20 27.0
comp=N,66nm,21.7s,baz=290,slow=39
MDT Midelt 21.04 264 LR LR 00 21 15.4
comp=N,36nm,18.7s,baz=76,slow=37
HFS Hagfors 22.93 351 P **P 00 13 15.9 -0.3**
comp=N,4.0nm,0.8s,baz=153,slow=10.0,SNR=6.1
comp=N,4.0nm,0.8s
FINES FINESS Array B 24.09 7 P **P 00 13 26.6 -0.9**
comp=N,2.6nm,0.8s,baz=171,slow=11,SNR=8.9
FINES LR LR 00 23 50.8
comp=N,78nm,21.1s,baz=56,slow=39
comp=N,2.6nm,0.8s
NOA NORSAR Array B 24.15 349 P **P 00 13 30.0 +1.8**
comp=N,0.4nm,0.6s,baz=160,slow=8.6,SNR=1.3
comp=N,0.4nm,0.6s
TORD Torodi Ar. Bea 29.60 219 P **P 00 14 19.1 +1.6**
comp=N,0.7nm,0.8s,baz=23,slow=9.9,SNR=4.8
comp=N,0.7nm,0.8s
KURBB Kurchatov Arra 42.57 53 P **P 00 16 06.7 -1.3**
comp=N,0.6nm,0.4s,baz=279,slow=8.7,SNR=2.4
comp=N,0.6nm,0.4s
MKAR Makanchi Array 45.60 58 P **P 00 16 30.5 -2.0**
comp=N,0.9nm,0.9s,baz=281,slow=6.5,SNR=2.6
comp=N,0.9nm,0.9s
ZALV Zalesovo Beam 46.07 48 P **P 00 16 35.2 -0.7**
comp=N,0.4nm,0.4s,baz=287,slow=7.8,SNR=2.3
comp=N,0.4nm,0.4s

IDC 12 00:12:39.3±1.9, 20°.49S×66°.34E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=58.1km s-min=33.3km az=93.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**14.08**	**26**	T	T	00 29 44.5	
	baz=204,slow=76,SNR=35						
H08S2	**Diego Garcia H**	**14.09**	**26**	T	T	00 29 46.8	
	baz=204,slow=76,SNR=44						
H08S3	**Diego Garcia H**	**14.10**	**26**	T	T	00 29 46.0	
	baz=204,slow=76,SNR=63						
H04N2	**CROZET ISLANDS**	**28.25**	**202**	T	T	00 48 44.7	
	baz=31,slow=75,SNR=37						
H04N1	**CROZET ISLANDS**	**28.25**	**202**	T	T	00 48 45.3	
	baz=31,slow=75,SNR=40						
H04N3	**CROZET ISLANDS**	**28.27**	**202**	T	T	00 48 45.2	
	baz=31,slow=75,SNR=40						
MAW	**Mawson**	**47.16**	**182**	P	P	00 21 12.9	-0.3
	1.0nm,0.9s,baz=5.7,slow=10,SNR=2.6						
	1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**50.20**	**42**	P	P	00 21 36.4	-0.8
	1.3nm,0.3s,baz=227,slow=7.3,SNR=2.1						
	1.3nm,0.3s						
ASAR	**Alice Springs**	**62.17**	**107**	P	P	00 23 03.6	+0.7
	0.5nm,0.7s,baz=263,slow=6.4,SNR=5.6						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**63.37**	**103**	P	P	00 23 10.3	-0.6
	0.6nm,0.9s,baz=255,slow=6.0,SNR=3.3						
	0.6nm,0.9s						
KURBB	**Kurchatov Arra**	**71.61**	**8**	P	P	00 24 02.7	+0.4
	0.3nm,0.2s,baz=204,slow=5.9,SNR=1.4						
	0.3nm,0.2s						

*IDC **12** 00:14:04.0±0.7, 26°.13S×70°.86E, h0km, mb4.0/13, mbtmp4.0/13, Error ellipse: s-maj=25.4km s-min=19.0km az=91.0*
*NEIC **12** 00:14:05.8±1.1, 26°.1S±0°.1×70°.78E±0°.04, h10km±1km, mb4.7/25, Error ellipse: s-maj=18.8km s-min=6.0km az=179.0*

ISC 12 00:14:05.3±0.5, 26°.08S±0°.10×70°.8E±0°.1, h11km, n51, σ0°72/42, mb4.4/24, 4C, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**9.29**	**311**	Pn	**Pn**	**00 16 19.5**	**+0.2**
H08S1	**Diego Carcia H**	**18.41**	**5**	T	T	00 37 20.4	
	baz=186,slow=75,SNR=75						
H08S2	**Diego Garcia H**	**18.41**	**5**	T	T	00 37 18.6	
	baz=186,slow=75,SNR=98						
H08S3	**Diego Garcia H**	**18.43**	**5**	T	T	00 37 19.9	
	baz=186,slow=75,SNR=122						
H04N2	**CROZET ISLANDS**	**25.11**	**212**	T	T	00 45 43.4	
	baz=44,slow=74						
H04N1	**CROZET ISLANDS**	**25.12**	**212**	T	T	00 45 48.3	
	baz=44,slow=74						
H04N3	**CROZET ISLANDS**	**25.13**	**212**	T	T	00 45 43.3	
	baz=44,slow=74						
MSEY	**Mahe Island**	**25.85**	**323**	P	**P**	**00 19 36.4**	**-0.7**
MSEY				IAmb	IAmb	00 19 42.8	
	comp=Z,21nm,1.3s						
KAAM	**Kaadhehdhoo**	**26.51**	**5**	P	**P**	**00 19 43.0**	**+0.1**
GSI	**Gunungsitoli**	**37.56**	**48**	P	**P**	**00 21 18.7**	**-1.3**
GSI				IAmb	IAmb	00 21 29.5	
	comp=Z,49nm,1.3s						
H01W2	**Cape Leeuwin H**	**38.13**	**114**	T	T	01 01 38.8	
	baz=271,slow=75,SNR=77						
H01W3	**Cape Leeuwin H**	**38.13**	**114**	T	T	01 01 38.8	
	baz=271,slow=75,SNR=67						
H01W1	**Cape Leeuwin H**	**38.15**	**114**	T	T	01 01 40.0	
	baz=271,slow=75,SNR=80						
BOSA	**Boshof**	**40.34**	**256**	P	**P**	**00 21 42.6**	**-0.6**
KMBO	**Kilima Mbogo**	**40.71**	**302**	P	**P**	**00 21 46.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**52.05**	**35**	P	**P**	**00 23 15.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**52.05**	**35**	P	**P**	**00 23 16.6**	**+1.3**
	comp=Z,1.9nm,0.3s,baz=227,slow=7.2,SNR=15						
	comp=Z,1.9nm,0.3s						
CHTO	**Chiang Mai**	**52.35**	**34**	P	**P**	**00 23 17.5**	**0.0**
ASAR	**Alice Springs**	**56.81**	**102**	P	**P**	**00 23 49.6**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=247,slow=6.7,SNR=7.9						
	comp=Z,0.9nm,0.6s						
WRA	**Warramunga Arr**	**58.33**	**98**	P	**P**	**00 24 00.5**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=253,slow=7.1,SNR=4.9						
	comp=Z,1.3nm,0.8s						
TROLL	**Troll, Antarti**	**58.72**	**200**	⇑P	**P**	**00 24 04.0**	**+1.1**
	comp=Z,76nm,0.8s						
SNAA	**Sanae**	**60.33**	**200**	⇑P	**P**	**00 24 14.0**	**+0.2**
	comp=Z,42nm,0.7s						
SNAA	**Sanae**	**60.33**	**200**	P	**P**	**00 24 14.5**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=102,slow=6.7,SNR=12						
	comp=Z,1.6nm,0.7s						
VNA2	**Neumayer--Watz**	**61.73**	**201**	⇑P	**P**	**00 24 23.7**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=78,slow=5.7						
VNA3	**Neumayer Olymp**	**62.48**	**201**	⇑P	**P**	**00 24 30.1**	**+1.7**
	comp=Z,2.5nm,0.8s						
QSPA	**South Pole Qui**	**64.05**	**180**	P	**P**	**00 24 40.0**	**+1.0**
QSPA				IAmb	IAmb	00 24 53.2	
	comp=Z,3.7nm,1.1s						
QSPA	**South Pole Qui**	**64.05**	**180**	P	**P**	**00 24 39.1**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=258,slow=9.3,SNR=7.3						
	comp=Z,1.2nm,0.3s						
SIMJ	**Simiganj**	**64.42**	**358**	P	**P**	**00 24 41.8**	**+0.1**
SIMJ				IAmb	IAmb	00 24 43.4	
	comp=Z,4.3nm,1.1s						
GAR	**Garm**	**64.75**	**360**	P	**P**	**00 24 43.2**	**-0.6**
GAR				IAmb	IAmb	00 24 44.5	
	comp=Z,9.1nm,1.4s						
BTK	**Batken**	**65.80**	**0**	P	**P**	**00 24 50.8**	**+0.3**
BTK				IAmb	IAmb	00 25 04.5	
	comp=Z,5.5nm,1.3s						
ARSB	**Arslanbob**	**67.10**	**2**	P	**P**	**00 24 59.6**	**+0.8**
NRN	**Naryn**	**67.35**	**4**	P	**P**	**00 25 00.8**	**0.0**
NRN				IAmb	IAmb	00 25 02.5	
	comp=Z,5.0nm,1.1s						
KKAR	**Karatay Array**	**68.84**	**360**	P	**P**	**00 25 10.1**	**+0.4**
GURO	**Guroymak-BITLI**	**69.71**	**336**	P	**P**	**00 25 15.3**	**0.0**
MKAR	**Makanchi Array**	**73.28**	**8**	P	**P**	**00 25 36.8**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=198,slow=6.2,SNR=6.6						
	comp=Z,2.0nm,0.9s						
BRTR	**Keskin Array B**	**74.07**	**331**	P	**P**	**00 25 43.0**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=148,slow=8.6,SNR=5.0						
	comp=Z,0.7nm,0.7s						
ACRG	**Accra**	**75.59**	**284**	P	**P**	**00 25 50.3**	**-0.4**
ABKAR	**Akbulak array**	**75.62**	**353**	P	**P**	**00 25 50.7**	**+0.7**
KURBB	**Kurchatov Arra**	**76.67**	**5**	P	**P**	**00 25 56.5**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=202,slow=6.2,SNR=7.4						
	comp=Z,1.4nm,0.9s						
KURK	**Kurchatov**	**76.77**	**5**	P	**P**	**00 25 56.6**	**+0.1**
KURK				IAmb	IAmb	00 25 58.6	
	comp=Z,4.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**77.65**	**291**	P	**P**	**00 26 03.1**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=109,slow=6.3,SNR=6.4						
	comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**78.77**	**360**	P	**P**	**00 26 08.3**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=155,slow=7.2,SNR=2.5						
	comp=Z,0.4nm,0.5s						
SONM	**Songino Array**	**80.24**	**23**	P	**P**	**00 26 16.5**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=209,slow=6.7,SNR=4.3						
	comp=Z,0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**80.62**	**8**	P	**P**	**00 26 17.8**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=168,slow=7.4,SNR=4.6						
	comp=Z,0.9nm,0.6s						
MLR	**Muntele Rosu**	**82.08**	**330**	P	**P**	**00 26 25.5**	**-0.3**
MLR				IAmb	IAmb	00 26 35.1	
	comp=Z,6.2nm,1.2s						
INCN	**Inchon**	**82.15**	**42**	P	**P**	**00 26 26.5**	**+0.3**
ASCN	**Ascension**	**82.22**	**265**	P	**P**	**00 26 26.0**	**-1.2**
ARTI	**Arti**	**82.82**	**353**	P	**P**	**00 26 28.9**	**-0.3**
ARTI				IAmb	IAmb	00 26 30.9	
	comp=Z,6.1nm,1.2s						
BHW	**Baring Head**	**82.91**	**133**	P	**P**	**00 26 29.5**	**-0.8**
AKASG	**Malin Array Be**	**84.81**	**335**	P	**P**	**00 26 40.1**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=126,slow=4.7,SNR=2.4						
	comp=Z,0.3nm,0.5s						
SUW	**Suwalki**	**89.72**	**334**	P	**P**	**00 27 02.1**	**-1.1**

*ATH **12** 00:17:37.8, 37°.62N×20°.50E, h12km±2km, ML3.1/17, Error ellipse: s-maj=3.4km s-min=1.1km az=39.0*
*THE **12** 00:17:38.0, 37°.62N×20°.51E, h3km±1km, ML3.2/17, Error ellipse: s-maj=1.6km s-min=0.6km az=13.0*

ISC 12 00:17:37.7±1.7, 37°.62N±0°.06×20°.49E±0°.06, h8km±9km, n48, σ0°66/70, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.27**	**80**	P	**Pg**	**00 17 43.4**	**+0.4**
KRI1				S	**Sg**	**00 17 46.6**	**0.0**
	14μm,0.3s						
LTHK	**Lithakia**	**0.29**	**71**	P	**Pg**	**00 17 43.6**	**+0.1**
LTHK				S	**Sg**	**00 17 47.2**	**-0.2**
	10μm,0.2s						
LTHK	**Lithakia**	**0.29**	**71**	P	**Pg**	**00 17 43.5**	**+0.1**
LTHK				S	**Sg**	**00 17 47.1**	**-0.2**
LTHK				AML	AML	00 17 49.0	
	comp=N,19375μm,0.2s						
LTHK				AML	AML	00 17 49.3	
	comp=E,17112μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.50**	**9**	P	**Pg**	**00 17 47.4**	**-0.1**
PSDA				S	**Sg**	**00 17 54.5**	**+0.4**
	comp=E,6μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.50**	**9**	P	**Pg**	**00 17 47.6**	**+0.2**
PSDA				S	**Sg**	**00 17 54.7**	**+0.6**
RTZL	**Ratzakli, Kefa**	**0.51**	**26**	P	**Pg**	**00 17 47.5**	**-0.1**
RTZL				S	**Sg**	**00 17 54.4**	**+0.1**
	comp=E,4μm,0.2s						
VLS	**Valsamata**	**0.56**	**8**	P	**Pg**	**00 17 48.5**	**-0.1**
VLS				S	**Sg**	**00 17 56.8**	**+0.7**
	comp=E,3μm,0.2s						
VLS	**Valsamata**	**0.56**	**8**	P	**Pg**	**00 17 48.6**	**-0.1**
VLS				S	**Sg**	**00 17 56.0**	**0.0**
VLS				AML	AML	00 17 57.1	
	comp=E,6982μm,0.3s						
VLS				AML	AML	00 18 00.1	
	comp=N,5663μm,0.3s						
LXR1	**Lixouri, Cepha**	**0.58**	**356**	P	**Pg**	**00 17 49.1**	**+0.1**
LXR1				S	**Sb**	**00 17 58.2**	**-0.4**
	comp=N,12μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.58**	**356**	P	**Pg**	**00 17 49.3**	**+0.3**
LXRA				S	**Sg**	**00 17 57.0**	**+0.4**
LXRA				AML	AML	00 18 01.8	
	comp=E,14922μm,0.3s						
LXRA				AML	AML	00 18 05.3	
	comp=N,11813μm,0.3s						
DMLN	**Damoulianata-K**	**0.63**	**352**	P	**Pg**	**00 17 50.3**	**+0.5**
DMLN				S	**Sg**	**00 17 59.2**	**+1.1**
	comp=N,4μm,0.4s						
DMLN	**Damoulianata-K**	**0.63**	**352**	P	**Pg**	**00 17 50.1**	**+0.3**
SMHA	**Samh**	**0.65**	**11**	P	**Pg**	**00 17 49.5**	**-0.7**
VSK1	**VASILIKIADES**	**0.79**	**4**	P	**Pg**	**00 17 52.6**	**-0.4**
VSK1				S	**Sb**	**00 18 04.4**	**-0.2**
	comp=N,2μm,0.2s						
FSK	**Fiskardo**	**0.84**	**4**	P	**Pg**	**00 17 53.4**	**-0.5**
FSK				S	**Sb**	**00 18 05.8**	**-0.3**
	comp=N,3μm,0.2s						
FSK	**Fiskardo**	**0.84**	**4**	P	**Pg**	**00 17 53.4**	**-0.5**
FSK				AML	AML	00 18 07.4	
	comp=E,6651μm,0.2s						
FSK				AML	AML	00 18 07.7	
	comp=N,3858μm,0.2s						
RLS	**Riolos of Patr**	**0.89**	**60**	P	**Pg**	**00 17 54.3**	**-0.5**
RLS				S	**Sg**	**00 18 06.8**	**+0.4**
	comp=N,1μm,0.4s						
RLS	**Riolos of Patr**	**0.89**	**60**	P	**Pg**	**00 17 54.4**	**-0.4**
RLS				AML	AML	00 18 07.9	
	comp=E,1923μm,0.5s						
RLS				AML	AML	00 18 08.1	
	comp=N,3390μm,0.4s						
AMT	**Artemida-Makis**	**0.97**	**95**	P	**Pg**	**00 17 56.0**	**-0.4**
AMT				AML	AML	00 18 13.4	
	comp=E,8992μm,0.4s						
AMT				AML	AML	00 18 15.5	
	comp=N,5693μm,0.6s						
EVGI	**Lefkada island**	**1.01**	**7**	P	**Pg**	**00 17 56.3**	**-0.8**
EVGI				S	**Sb**	**00 18 11.1**	**+0.2**
	comp=N,2μm,0.2s						
EVGI	**Lefkada island**	**1.01**	**7**	P	**Pg**	**00 17 56.5**	**-0.6**
DRO	**Drossia**	**1.02**	**71**	P	**Pg**	**00 17 57.0**	**-0.4**
DRO				S	**Sb**	**00 18 11.7**	**+0.4**
	comp=N,1μm,0.3s						
DRO	**Drossia**	**1.02**	**71**	P	**Pg**	**00 17 56.9**	**-0.5**
DRO				AML	AML	00 18 15.3	
	comp=N,1981μm,0.3s						
DRO				AML	AML	00 18 19.7	
	comp=E,2135μm,0.4s						
DRAG	**Dragano-Lefkad**	**1.07**	**4**	P	**Pg**	**00 17 57.2**	**-1.0**
DRAG				S	**Sb**	**00 18 13.1**	**+0.6**
DRAG	**Dragano-Lefkad**	**1.07**	**4**	P	**Pg**	**00 17 57.3**	**-1.0**
NYDR	**Nydri-Lefkada**	**1.11**	**9**	P	**Pg**	**00 17 57.9**	**-1.1**
NYDR				S	**Sb**	**00 18 14.1**	**+0.5**
	comp=E,518nm,0.4s						
NYDR	**Nydri-Lefkada**	**1.11**	**9**	P	**Pg**	**00 17 57.9**	**-1.1**
LKD2	**Lefkada island**	**1.18**	**6**	P	**Pg**	**00 18 00.5**	**+0.2**
LKD2				S	**Sn**	**00 18 18.1**	**+1.4**
	comp=E,628nm,0.3s						
LKD2	**Lefkada island**	**1.18**	**6**	P	**Pn**	**00 18 00.7**	**+0.2**
LKD2				AML	AML	00 18 24.0	
	comp=N,1284μm,0.3s						
LKD2				AML	AML	00 18 26.0	
	comp=E,1568μm,0.3s						
TSLK	**Tsoukalades, L**	**1.21**	**6**	P	**Pb**	**00 18 00.0**	**-0.9**
TSLK				S	**Sn**	**00 18 18.0**	**+0.4**
	comp=E,605nm,0.5s						
TSLK	**Tsoukalades, L**	**1.21**	**6**	P	**Pb**	**00 17 60.0**	**-0.9**
TSLK				AML	AML	00 18 22.0	
	comp=E,1218μm,0.6s						
TSLK				AML	AML	00 18 25.7	
	comp=N,1587μm,0.7s						
UPR	**University Cam**	**1.22**	**57**	P	**Pb**	**00 18 00.8**	**-0.2**
ITM	**Ithomi**	**1.23**	**110**	P	**Pb**	**00 18 01.0**	**-0.1**
ITM				AML	AML	00 18 23.3	
	comp=E,533μm,0.5s						
ITM				AML	AML	00 18 29.1	
	comp=N,533μm,0.4s						
PYL	**PYLOS**	**1.23**	**125**	P	**Pb**	**00 17 60.0**	**-1.2**
PYL				AML	AML	00 18 21.2	
	comp=N,444μm,0.5s						
PYL				AML	AML	00 18 22.8	
	comp=E,1019μm,0.6s						
EFP	**Efpalio**	**1.38**	**54**	P	**Pn**	**00 18 02.1**	**-1.1**
EFP				S	**Sg**	**00 18 23.2**	**+1.1**
	comp=E,335nm,0.3s						
EFP	**Efpalio**	**1.38**	**54**	P	**Pn**	**00 18 02.2**	**-1.0**
EFP				AML	AML	00 18 30.9	
	comp=E,658μm,0.3s						
EFP				AML	AML	00 18 33.9	
	comp=N,664μm,0.4s						
KLV	**Kalavryta, Ach**	**1.38**	**72**	P	**Pn**	**00 18 03.2**	**-0.1**
KLV	**Kalavryta, Ach**	**1.38**	**72**	P	**Pn**	**00 18 02.7**	**-0.7**
ANX	**Ano Chora**	**1.49**	**49**	P	**Pn**	**00 18 04.5**	**-0.4**
ANX				S	**Sg**	**00 18 25.5**	**-0.2**
	comp=N,692nm,0.5s						
ANX	**Ano Chora**	**1.49**	**49**	P	**Pn**	**00 18 04.8**	**-0.1**
ANX				AML	AML	00 18 29.4	
	comp=N,1633μm,0.6s						
ANX				AML	AML	00 18 32.5	
	comp=E,1344μm,0.5s						
GUR	**Goura**	**1.50**	**77**	P	**Pn**	**00 18 05.0**	**0.0**
GUR	**Goura**	**1.50**	**77**	P	**Pn**	**00 18 05.4**	**+0.4**
GUR				AML	AML	00 18 40.6	
	comp=N,932μm,0.5s						
GUR				AML	AML	00 18 41.1	
	comp=E,688μm,0.4s						
KALE	**Kalithea**	**1.52**	**59**	P	**Pn**	**00 18 04.4**	**-0.7**
KALE				AML	AML	00 18 32.6	
	comp=N,694μm,0.6s						
KALE				AML	AML	00 18 34.3	
	comp=E,498μm,0.4s						
MAKR	**Makrakomi, Fth**	**1.90**	**42**	P	**Pb**	**00 18 12.3**	**-0.4**
MAKR				AML	AML	00 18 44.1	
	comp=E,861μm,0.7s						
MAKR				AML	AML	00 18 46.0	
	comp=N,602μm,0.5s						
LOUT	**Loutraki**	**2.00**	**79**	P	**Pn**	**00 18 12.8**	**+1.0**
JAN	**Janina**	**2.06**	**8**	P	**Pb**	**00 18 14.2**	**-1.1**
AXAR	**Agios Charalam**	**2.06**	**55**	P	**Pn**	**00 18 13.9**	**+1.3**
AXAR				AML	AML	00 18 52.1	
	comp=N,761μm,0.9s						
AXAR				AML	AML	00 18 54.9	
	comp=E,524μm,0.8s						
VIL2	**Platees**	**2.28**	**74**	P	**Pn**	**00 18 17.2**	**+1.6**

*IDC **12** 00:20:26.0±0.6, 26°.09S×70°.95E, h0km, mb4.1/15, mbtmp4.1/15, MS4.0/47, Error ellipse: s-maj=22.7km s-min=16.5km az=90.0*
*NEIC **12** 00:20:37.5±1.8, 24°.5S±0°.2×70°.4E±0°.1, h10km±1km, mb4.8/40, Error ellipse: s-maj=27.4km s-min=17.5km az=206.0*

ISC 12 00:20:28.2±0.5, 26°.08S±0°.10×70°.6E±0°.1, h10km, n115, σ1°47/67, mb4.6/44, MS4.0/52, 6C, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**9.19**	**312**	Pn	Pn	00 22 32.6	-8.3
H08S1	**Diego Carcia H**	**18.42**	**6**	T	T	00 43 40.9	
	baz=186,slow=75,SNR=89						
H08S2	**Diego Garcia H**	**18.42**	**6**	T	T	00 43 41.0	
	baz=186,slow=75,SNR=124						
H08S3	**Diego Garcia H**	**18.44**	**6**	T	T	00 43 44.1	
	baz=186,slow=75,SNR=156						
H04N2	**CROZET ISLANDS**	**25.05**	**212**	T	T	00 51 54.9	
	baz=44,slow=74,SNR=166						
H04N1	**CROZET ISLANDS**	**25.05**	**212**	T	T	00 52 04.5	
	baz=44,slow=74,SNR=143						
H04N3	**CROZET ISLANDS**	**25.07**	**212**	T	T	00 52 04.7	
	baz=44,slow=74,SNR=162						
H01W2	**Cape Leeuwin H**	**38.25**	**114**	T	T	01 07 59.1	
	baz=271,slow=75,SNR=91						
H01W3	**Cape Leeuwin H**	**38.25**	**114**	T	T	01 07 59.2	
	baz=271,slow=75,SNR=82						
H01W1	**Cape Leeuwin H**	**38.27**	**114**	T	T	01 08 00.3	
	baz=271,slow=75,SNR=96						
BOSA	**Boshof**	**40.21**	**256**	LR	LR	00 41 37.9	
	comp=Z,504nm,19.9s,baz=106,slow=31						
LHMI	**Lhok Sumawe**	**40.25**	**43**	P	**P**	**00 28 05.9**	**+0.5**
LBTB	**Lobatse**	**40.50**	**261**	LR	LR	00 42 15.4	
	comp=Z,522nm,20.0s,baz=102,slow=32						
KMBO	**Kilima Mbogo**	**40.60**	**302**	P	**P**	**00 28 09.2**	**+0.6**
KMBO	**Kilima Mbogo**	**40.60**	**302**	P	**P**	**00 28 11.7**	**+3.0**
	1.1nm,0.7s,baz=108,slow=7.8,SNR=3.9						
KMBO				LR	LR	00 41 42.9	
	comp=Z,58nm,20.1s,baz=96,slow=31						
	1.1nm,0.7s						
NWAO	**Narrogin (SRO)**	**40.86**	**111**	LR	LR	00 42 05.7	
	comp=Z,136nm,18.7s,baz=294,slow=32						
MAW	**Mawson**	**41.81**	**184**	P	**P**	**00 28 18.5**	**+0.9**
	1.3nm,0.7s,baz=6.4,slow=7.8,SNR=2.8						
MAW				LR	LR	00 41 43.7	
	comp=Z,618nm,20.5s,baz=354,slow=30						
	1.3nm,0.7s						
SUR	**Sutherland**	**43.62**	**250**	LR	LR	00 43 11.3	
	comp=Z,583nm,21.2s,baz=96,slow=31						
MBAR	**Mbarara**	**46.02**	**297**	LR	LR	00 45 37.9	
	comp=Z,65nm,18.5s,baz=128,slow=33						
WSAR	**Wadi Sarin**	**50.39**	**346**	LR	LR	00 47 25.4	
	comp=Z,186nm,18.2s,baz=174,slow=32						
KAPI	**Kappang**	**51.36**	**75**	LR	LR	00 50 24.3	
	comp=Z,59nm,18.6s,baz=254,slow=35						
CMAR	**Chiang Mai Arr**	**52.12**	**35**	P	**P**	**00 29 38.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**52.12**	**35**	P	**P**	**00 29 38.5**	**-0.4**
	6.1nm,0.9s,baz=224,slow=7.3,SNR=23						
CMAR				LR	LR	00 47 41.3	
	comp=Z,194nm,21.9s,baz=215,slow=32						
	6.1nm,0.9s						
CHTO	**Chiang Mai**	**52.42**	**35**	P	**P**	**00 29 40.8**	**-0.3**
CHTO				IAmb	IAmb	00 29 42.8	
	comp=Z,12nm,1.1s						
PHRA	**Phrae**	**52.83**	**36**	P	**P**	**00 29 44.8**	**+0.7**
LUWI	**Luwuk**	**55.95**	**72**	P	P	00 30 14.0	+7.0
ASAR	**Alice Springs**	**56.94**	**102**	P	**P**	**00 30 11.3**	**-2.8**
	comp=Z,0.7nm,0.8s,baz=252,slow=6.3,SNR=3.8						
ASAR				LR	LR	00 52 43.6	
	comp=Z,93nm,18.4s,baz=292,slow=34						
	comp=Z,0.7nm,0.8s						
WRA	**Warramunga Arr**	**58.46**	**98**	P	**P**	**00 30 22.2**	**-2.6**
	comp=Z,0.9nm,0.9s,baz=256,slow=9.6,SNR=8.7						
WRA				LR	LR	00 54 22.8	
	comp=Z,121nm,18.5s,baz=310,slow=35						
	comp=Z,0.9nm,0.9s						
TROLL	**Troll, Antarti**	**58.68**	**200**	⇑P	**P**	**00 30 25.4**	**-0.2**
	comp=Z,80nm,0.7s						
QIZ	**Qiongzhong**	**58.83**	**44**	P	P	00 30 33.2	+6.0
QIZ				S	**S**	**00 38 32.8**	**-0.1**
QIZ				LR	LR		
	comp=N,280nm,14.5s			

comp=Z,43nm,20.6s,baz=94,slow=33
AAK Ala-Archa 68.47 3 P **P 00 31 29.9 -0.7**
AAK IAmb IAmb 00 31 33.0
comp=Z,12nm,1.4s
AAK Ala-Archa 68.47 3 LR LR 00 59 17.7
comp=Z,180nm,19.9s,baz=182,slow=34
KKAR Karatay Array 68.84 360 P **P 00 31 31.8 -0.9**
KKAR Karatay Array 68.84 360 P **P 00 31 32.0 -0.7**
KKAR IAmb IAmb 00 31 40.6
comp=Z,6.5nm,1.1s
CTA Charters Tower 68.94 103 LR LR 01 01 12.6
comp=Z,6.5nm,18.2s,baz=280,slow=36
LZH Lanzhou 69.32 28 *e*P **P 00 31 36.0 0.0**
LZH pP pwP 00 31 41.3 -1.1
LZH pmax pmax
comp=Z,14nm,1.2s
SSLB Suanglung 69.47 49 P **P 00 31 40.1 +3.0**
SSLB IAmb IAmb 00 31 43.4
comp=Z,11nm,1.0s
GURO Guroymak-BITLI 69.66 336 P **P 00 31 37.7 -0.3**
GURO IAmb IAmb 00 31 47.5
comp=Z,11nm,1.4s
GNI Garni 70.17 339 LR LR 01 00 17.5
comp=Z,90nm,20.3s,baz=156,slow=34
GAZ Gaziantep 70.34 332 P **P 00 31 41.6 -0.5**
GAZ IAmb IAmb 00 31 44.6
comp=Z,7.9nm,1.3s
GTA Gaotai 70.62 24 *e*P **P 00 31 44.9 +1.0**
GTA pmax pmax
comp=Z,5.0nm,1.2s
GTA LR LR
comp=N,140nm,18.9s
GTA LR LR
comp=E,120nm,20.4s
GTA LR LR
comp=Z,100nm,21.8s
WMQ Urumqi 71.30 13 *e*P **P 00 31 49.4 +1.6**
WMQ pP pwP 00 31 54.7 +0.4
WMQ pmax pmax
comp=Z,13nm,1.7s
WMQ LR LR
comp=N,320nm,24.3s
WMQ LR LR
comp=Z,170nm,21.3s
MK31 Makanchi Array 73.30 8 P **P 00 32 00.2 +0.6**
MK31 IAmb IAmb 00 32 06.3
comp=Z,6.8nm,1.2s
MKAR Makanchi Array 73.30 8 P **P 00 31 58.5 -1.2**
comp=Z,2.6nm,0.9s,baz=204,slow=5.3,SNR=7.9
MKAR LR LR 01 03 18.5
comp=Z,110nm,18.6s,baz=160,slow=35
comp=Z,2.6nm,0.9s
NJ2 Nanjing 73.86 41 *e*P P 00 32 09.0 +5.7
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
PMG Port Moresby 73.87 93 LR LR 01 02 52.3
comp=Z,96nm,20.4s,baz=242,slow=35
KBZ Khabaz 73.99 339 LR LR 01 02 53.6
comp=Z,89nm,19.7s,baz=156,slow=34
BRTR Keskin Array B 74.00 331 P **P 00 32 04.2 +0.1**
comp=Z,0.2nm,0.3s,baz=162,slow=8.4,SNR=4.1
BRTR LR LR 01 02 51.1
comp=Z,74nm,18.5s,baz=133,slow=34
comp=Z,0.2nm,0.3s
KVAR Kislovodsk Arr 74.26 339 LR LR 01 03 17.2
comp=Z,55nm,18.8s,baz=62,slow=35
HNS HongShan 75.51 35 ⇑P **P 00 32 12.7 0.0**
HNS pmax pmax
comp=Z,7.0nm,1.4s
ABKAR Akbulak array 75.60 353 P **P 00 32 13.1 +0.2**
ABKAR Akbulak array 75.60 353 P **P 00 32 13.3 +0.4**
ABKAR IAmb IAmb 00 32 15.1
comp=Z,9.9nm,1.2s
LHI Lord Howe Isla 75.60 118 P P 00 32 28.1 +15
TIA Tai'an 75.90 37 P **P 00 32 15.2 +0.2**
TIA pmax pmax
comp=Z,5.0nm,1.0s
HHC Hu-ho-hao-te 76.67 31 *e*P P 00 32 24.3 +4.9
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,120nm,4.6s
KURBB Kurchatov Arra 76.68 5 P **P 00 32 18.4 -0.6**
comp=Z,2.8nm,0.9s,baz=199,slow=6.3,SNR=16
KURBB LR LR 01 05 03.2
comp=Z,99nm,18.3s,baz=184,slow=35
comp=Z,2.8nm,0.9s
KURK Kurchatov 76.78 5 P **P 00 32 19.8 +0.2**
KURK IAmb IAmb 00 32 27.1
comp=Z,14nm,1.2s
AKTO Aktyubinsk 77.00 352 LR LR 01 04 58.7
comp=Z,67nm,18.5s,baz=34,slow=35
MANU Manus Island 77.18 86 P P 00 32 29.9 +7.0
TORD Torodi Ar. Bea 77.53 291 P P 00 32 29.1 +4.4
TORD Torodi Ar. Bea 77.53 291 P **P 00 32 25.3 +0.7**
comp=Z,0.5nm,0.6s,baz=107,slow=4.6,SNR=6.4
TORD LR LR 01 07 08.2
comp=Z,72nm,18.1s,baz=132,slow=36
comp=Z,0.5nm,0.6s
BVAR Borovoye Array 78.77 360 P **P 00 32 28.9 -1.7**
comp=Z,1.5nm,0.9s,baz=165,slow=6.0,SNR=4.0
BVAR LR LR 01 05 25.4
comp=Z,142nm,20.4s,baz=166,slow=34
comp=Z,1.5nm,0.9s
BRVK Borovoye 78.80 360 P **P 00 32 31.6 +0.7**
AGG Agios Georgios 78.95 324 P **P 00 32 32.5 +0.4**
DBIC Dimbokro 80.02 282 LR LR 01 06 27.1
comp=Z,117nm,19.7s,baz=126,slow=34
SONM Songino Array 80.30 24 P **P 00 32 39.4 +0.1**
SONM Songino Array 80.30 24 P **P 00 32 38.2 -1.1**
comp=Z,1.3nm,0.9s,baz=197,slow=4.6,SNR=6.1
SONM LR LR 01 06 52.1
comp=Z,78nm,20.4s,baz=195,slow=35
comp=Z,1.3nm,0.9s
ULN Ulaanbaatar 80.56 24 P **P 00 32 39.3 -1.4**
ZAA0 Zalesovo Array 80.64 8 P **P 00 32 40.9 +0.1**
ZALV Zalesovo Beam 80.64 8 P **P 00 32 40.9 +0.1**
ZALV Zalesovo Beam 80.64 8 P **P 00 32 39.7 -1.1**
comp=Z,1.3nm,0.7s,baz=209,slow=4.9,SNR=6.1
ZALV LR LR 01 08 30.7
comp=Z,75nm,18.1s,baz=154,slow=36
comp=Z,1.3nm,0.7s
BELG Belogornoye 80.69 346 LR LR 01 05 26.1
comp=Z,53nm,21.9s,baz=131,slow=33
TJN Taejon 81.95 43 P **P 00 32 52.4 +4.2**
CEL Celeste 82.01 320 P **P 00 32 49.2 +0.6**
CEL IAmb IAmb 00 32 50.4
comp=Z,12nm,1.0s
MLR Muntele Rosu 82.02 330 P **P 00 32 48.9 +0.4**
MLR IAmb IAmb 00 32 57.0
comp=Z,13nm,1.3s
MLR Muntele Rosu 82.02 330 P **P 00 32 48.7 +0.2**
comp=Z,3.6nm,1.2s,baz=187,slow=5.2,SNR=3.5
MLR LR LR 01 08 23.3
comp=Z,47nm,18.1s,baz=126,slow=35
comp=Z,3.6nm,1.2s
JNU Nakatsue 82.14 47 P **P 00 32 52.5 +3.1**
JNU Nakatsue 82.14 47 LR LR 01 10 21.3
comp=Z,46nm,18.0s,baz=200,slow=37
GUMO Guam 82.21 71 LR LR 01 07 26.2
comp=Z,26nm,19.6s,baz=88,slow=34
PUK Puka 82.41 324 P **P 00 32 50.3 -0.3**
PUK IAmb IAmb 00 32 59.0
comp=Z,8.5nm,1.5s
ARTI Arti 82.80 353 P **P 00 32 52.8 +0.7**
ARTI IAmb IAmb 00 32 59.5
comp=Z,4.8nm,0.8s
ARTI Arti 82.80 353 LR LR 01 07 35.1
comp=Z,57nm,20.6s,baz=154,slow=34
PMSA Palmer Station 82.87 198 LR LR 01 02 49.7
comp=Z,65nm,20.5s,baz=130,slow=31
KSRS Korea Array 82.99 42 LR LR 01 08 06.0
comp=Z,111nm,19.9s,baz=225,slow=35
PDG Podgorica 83.02 324 P **P 00 32 54.4 +0.8**
BUR08 Bucovina Ar. S 84.00 331 P **P 00 32 59.5 +0.8**
DZM Mont Dzumac 85.47 112 P P 00 33 20.2 +13
INTR Introdacqua 85.64 321 P **P 00 33 08.8 +1.8**
INTR IAmb IAmb 00 33 15.5
comp=Z,5.5nm,1.2s
KIRV Kirov 86.18 349 LR LR 01 10 48.1
comp=Z,39nm,18.5s,baz=157,slow=35
CAMP Campotosto 86.26 321 P **P 00 33 11.0 +0.8**
CAMP IAmb IAmb 00 33 23.4
comp=Z,5.9nm,1.2s
MNK Minsk 88.28 337 *i* P **P 00 33 19.0 -0.5**
comp=E,22nm,0.9s
MNK *i* P **P 00 33 19.0 -0.5**
comp=N,12nm,0.8s
MNK *i* P **P 00 33 19.0 -0.5**
comp=Z,7.0nm,0.9s,baz=142
MNK *i* PP **PP 00 36 41.8 -5.5**
MNK *i* PPP PPP 00 38 36.3
MNK *i* S **SKSac 00 43 45.4 -2.6**
MNK *i* SSS SSS 00 53 14.7
MNK *i* LR LR 01 13 03.7
MNK *i* LRM MLR 01 15 18.6
comp=Z,82nm,14.0s
MNK *i* LRM MLR 01 15 25.2
comp=E,2μm,26.7s
MNK *i* LRM MLR 01 15 25.2
comp=N,1μm,20.2s
MJAR Matsushiro Arr 89.02 48 LR LR 01 12 28.6
comp=N,58nm,19.7s,baz=250,slow=35
BBTS Babate 93.84 284 LR LR 01 15 04.2
comp=N,115nm,18.4s,baz=326,slow=35
FINES FINESS Array B 94.34 340 LR LR 01 14 38.5
comp=N,55nm,19.7s,baz=110,slow=34
ESDC Sonseca Array 95.38 312 LR LR 01 16 53.3
comp=N,59nm,19.0s,baz=264,slow=35
ASAJ Asahikawa 95.90 44 LR LR 01 13 48.2
comp=N,78nm,21.2s,baz=254,slow=34
HFS Hagfors 97.65 335 LR LR 01 17 20.2
comp=N,40nm,18.2s,baz=131,slow=35
NOA NORSAR Array B 99.17 335 LR LR 01 18 06.1
comp=N,22nm,19.7s,baz=130,slow=35
YAK Yakutsk 99.64 24 LR LR 01 18 43.3
comp=N,108nm,21.4s,baz=206,slow=35

*IDC **12** 00:22:23.4±1.1, 37.°48N×20.°74E, h0km, mb3.6/8, mbtmp3.5/11, ML0.6/1, Error ellipse: s-maj=22.0km s-min=19.9km az=125.0*
*ATH **12** 00:22:24.9, 37.°36N×20.°65E, h6km±3km, ML3.2/8, Error ellipse: s-maj=3.6km s-min=1.3km az=49.0*
*THE **12** 00:22:25.5, 37.°37N×20.°70E, h5km±1km, ML3.5/11, Error ellipse: s-maj=1.9km s-min=0.6km az=46.0*
ISC 12 00:22:26.0±1.2, 37.44N±0.03×20.75E±0.03, h17km±9km, n50, σ1§00/67, mb3.5/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.23**	**14**	P	**Pb**	**00 22 31.8**	**0.0**
KRI1				S	**Sb**	**00 22 36.2**	**+0.5**
17μm,0.4s							
LTHK	**Lithakia**	**0.28**	**15**	P	**Pb**	**00 22 32.5**	**-0.1**
LTHK				S	**Sb**	**00 22 37.5**	**+0.4**
21μm,0.3s							
LTHK	**Lithakia**	**0.28**	**15**	P	**Pb**	**00 22 32.1**	**-0.6**
LTHK				S	**Sb**	**00 22 37.3**	**+0.3**
LTHK				AML	AML	00 22 37.9	
comp=N,65423μm,0.3s							
LTHK				AML	AML	00 22 45.5	
comp=E,17877μm,0.5s							
RTZL	**Ratzakli, Kefa**	**0.64**	**2**	P	**Pb**	**00 22 38.6**	**-0.1**
RTZL				S	**Sn**	**00 22 49.0**	**-1.0**
comp=E,3μm,0.6s							
PSDA	**Pessada-Kefalo**	**0.69**	**349**	P	**Pb**	**00 22 39.5**	**-0.1**
PSDA				S	**Sn**	**00 22 50.8**	**-0.4**
comp=E,9μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.69**	**349**	P	**Pb**	**00 22 39.4**	**-0.2**
PSDA				S	**Sn**	**00 22 49.2**	**-2.0**
VLS	**Valsamata**	**0.75**	**350**	P	**Pg**	**00 22 40.4**	**-0.4**
VLS				S	**Sn**	**00 22 52.9**	**+0.1**
comp=E,2μm,0.3s							
VLS	**Valsamata**	**0.75**	**350**	P	**Pg**	**00 22 40.3**	**-0.4**
VLS				S	**Sn**	**00 22 51.6**	**-1.2**
VLS				AML	AML	00 22 59.9	
comp=E,4111μm,0.4s							
VLS				AML	AML	00 23 00.7	
comp=N,5356μm,0.6s							
AMT	**Artemida-Makis**	**0.77**	**83**	P	**Pg**	**00 22 40.7**	**-0.4**
AMT				S	**Sn**	**00 22 53.5**	**+0.1**
AMT				AML	AML	00 23 01.8	
comp=E,10024μm,0.4s							
AMT				AML	AML	00 23 03.1	
comp=N,5911μm,0.5s							
LXRA	**Lixouri, Kepha**	**0.80**	**342**	P	**Pg**	**00 22 41.5**	**-0.1**
LXR1	**Lixouri, Cepha**	**0.80**	**342**	P	**Pg**	**00 22 41.7**	**0.0**
LXR1				S	**Sn**	**00 22 54.3**	**+0.3**
comp=N,9μm,0.5s							
SMHA	**Samh**	**0.82**	**354**	P	**Pb**	**00 22 41.0**	**-0.7**
RLS	**Riolos of Patr**	**0.84**	**42**	P	**Pn**	**00 22 42.2**	**-0.9**
RLS				S	**Sn**	**00 22 55.7**	**+0.7**
comp=N,652nm,0.4s							
RLS	**Riolos of Patr**	**0.84**	**42**	P	**Pn**	**00 22 42.4**	**-0.7**
RLS				AML	AML	00 23 04.5	
comp=E,1308μm,0.5s							
RLS				AML	AML	00 23 13.0	
comp=N,1716μm,0.8s							
DMLN	**Damoulianata-K**	**0.85**	**340**	P	**Pg**	**00 22 42.6**	**-0.1**
DMLN				S	**Sn**	**00 22 56.1**	**+0.7**
comp=N,5μm,0.5s							
DMLN	**Damoulianata-K**	**0.85**	**340**	P	**Pg**	**00 22 42.3**	**-0.4**
DRO	**Drossia**	**0.92**	**56**	P	**Pn**	**00 22 43.8**	**-0.4**
DRO	**Drossia**	**0.92**	**56**	P	**Pn**	**00 22 43.8**	**-0.4**
DRO				AML	AML	00 23 02.9	
comp=E,3372μm,0.5s							
DRO				AML	AML	00 23 15.5	
comp=N,2177μm,0.4s							
PYL	**PYLOS**	**0.96**	**124**	P	**Pb**	**00 22 42.9**	**-1.3**
PYL				S	**Sg**	**00 22 57.8**	**+0.5**
comp=N,1μm,0.6s							
PYL	**PYLOS**	**0.96**	**124**	P	**Pb**	**00 22 43.3**	**-0.9**
PYL				AML	AML	00 23 01.1	
comp=E,2450μm,0.7s							
PYL				AML	AML	00 23 01.6	
comp=N,1592μm,0.5s							
ITM	**Ithomi**	**0.97**	**105**	P	**Pb**	**00 22 44.6**	**+0.1**
ITM	**Ithomi**	**0.97**	**105**	P	**Pb**	**00 22 44.2**	**-0.2**
ITM				AML	AML	00 23 06.5	
comp=N,1572μm,0.6s							
ITM				AML	AML	00 23 07.0	
comp=E,1489μm,0.6s							
VSK1	**VASILIKIADES**	**0.98**	**352**	P	**Pg**	**00 22 44.4**	**-0.7**
VSK1				S	**Sn**	**00 22 59.9**	**+1.4**
comp=E,3μm,0.5s							
FSK	**Fiskardo**	**1.03**	**352**	P	**Pn**	**00 22 45.3**	**-0.4**
FSK				S	**Sn**	**00 23 02.1**	**+2.4**
comp=E,1μm,0.6s							
FSK	**Fiskardo**	**1.03**	**352**	P	**Pb**	**00 22 45.0**	**-0.4**
FSK				AML	AML	00 23 05.8	
comp=E,3624μm,0.3s							
FSK				AML	AML	00 23 06.3	
comp=N,2498μm,0.6s							
UPR	**University Cam**	**1.18**	**44**	P	**Pg**	**00 22 50.4**	**+1.5**
EVGI	**Lefkada island**	**1.19**	**357**	P	**Pg**	**00 22 48.2**	**-0.8**
EVGI	**Lefkada island**	**1.19**	**357**	P	**Pb**	**00 22 47.8**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.25**	**354**	P	**Pb**	**00 22 48.6**	**-0.6**
KLV	**Kalavryta, Ach**	**1.27**	**61**	P	**Pg**	**00 22 49.4**	**-1.1**
NYDR	**Nydri-Lefkada**	**1.28**	**358**	P	**Pg**	**00 22 49.5**	**-1.2**
NYDR	**Nydri-Lefkada**	**1.28**	**358**	P	**Pg**	**00 22 49.6**	**-1.0**
EFP	**Efpalio**	**1.35**	**42**	P	**Pg**	**00 22 51.6**	**-0.5**
GUR	**Goura**	**1.36**	**68**	P	**Pb**	**00 22 50.7**	**-0.4**
TSLK	**Tsoukalades, L**	**1.39**	**357**	P	**Pg**	**00 22 52.2**	**-0.6**
KALE	**Kalithea**	**1.46**	**49**	P	**Pg**	**00 22 53.6**	**-0.5**
ANX	**Ano Chora**	**1.48**	**38**	P	**Pg**	**00 22 53.8**	**-0.8**
AGG	**Agios Georgios**	**2.02**	**38**	P	**Pb**	**00 23 02.3**	**+0.1**
IDI	**Anoyia**	**3.97**	**121**	Pn	**Pn**	**00 23 27.7**	**+1.6**
comp=N,0.2nm,0.3s,baz=295,slow=17,SNR=1.9							
IDI				Sn	**Sn**	**00 24 13.1**	**+0.7**
comp=N,1.4nm,0.3s,baz=342,slow=20,SNR=2.0							
comp=N,9.7nm,1.0s							
VAE	**Valguarnera**	**5.04**	**272**	Pn	**Pn**	**00 23 44.5**	**+3.7**
comp=N,1.4nm,0.3s,baz=178,slow=21,SNR=2.5							
VAE				Sn	**Sn**	**00 24 37.3**	**-1.4**
comp=N,1.8nm,0.3s,baz=151,slow=19,SNR=2.3							
MLR	**Muntele Rosu**	**8.94**	**24**	Pn	**Pn**	**00 24 36.9**	**+2.5**
comp=N,1.8nm,0.9s,baz=238,slow=13							
KEST	**Kesra**	**9.33**	**263**	Pn	**Pn**	**00 24 40.7**	**+1.0**
comp=N,2.7nm,0.9s,baz=76,slow=16,SNR=1.5							
HFS	**Hagfors**	**23.16**	**351**	P	**P**	**00 27 30.3**	**-1.0**
comp=N,1.8nm,0.6s,baz=161,slow=9.4,SNR=7.0							
comp=N,1.8nm,0.6s							
EKA	**Eskdalemuir Ar**	**24.14**	**326**	P	**P**	**00 27 40.5**	**-0.3**
comp=N,1.3nm,0.7s,baz=128,slow=5.4,SNR=3.8							
comp=N,1.3nm,0.7s							
FINES	**FINESS Array B**	**24.26**	**6**	P	**P**	**00 27 40.5**	**-1.4**
comp=N,5.0nm,1.0s,baz=184,slow=9.2,SNR=5.5							
comp=N,5.0nm,1.0s							
NOA	**NORSAR Array B**	**24.38**	**349**	P	**P**	**00 27 42.3**	**-0.8**
comp=N,0.7nm,0.8s,baz=158,slow=9.0,SNR=2.2							
comp=N,0.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**29.57**	**220**	P	**P**	**00 28 30.3**	**+0.2**
comp=N,0.3nm,0.6s,baz=30,slow=8.7,SNR=5.8							
comp=N,0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**42.53**	**53**	P	**P**	**00 30 19.2**	**-1.2**
comp=N,0.4nm,0.7s,baz=281,slow=8.6,SNR=2.2							
comp=N,0.4nm,0.7s							
MKAR	**Makanchi Array**	**45.54**	**58**	P	**P**	**00 30 43.9**	**-0.8**
comp=N,0.2nm,0.4s,baz=267,slow=8.5,SNR=2.0							
comp=N,0.2nm,0.4s							
ZALV	**Zalesovo Beam**	**46.05**	**48**	P	**P**	**00 30 48.4**	**-0.2**
comp=N,0.3nm,0.3s,baz=258,slow=7.0,SNR=2.0							
comp=N,0.3nm,0.3s							

*IDC **12** 00:25:07.8±1.0, 37.°75N×20.°42E, h0km, mb3.7/8, mbtmp3.6/17, ML3.6/6, MS3.6/2, Error ellipse: s-maj=17.8km s-min=14.6km az=163.0*
*BEO **12** 00:25:07.8±0.8, 37.°53N×20.°17E, h16km±4km, ML3.7/13*
*ATH **12** 00:25:08.8, 37.°65N×20.°51E, h8km±3km, ML3.7/9, Error ellipse: s-maj=3.9km s-min=0.7km az=34.0*
*THE **12** 00:25:09.1, 37.°66N×20.°53E, h2km±1km, ML3.7/16, Error ellipse: s-maj=2.0km s-min=0.5km az=41.0*
*PDG **12** 00:25:13.1±0.5, 37.°97N×20.°18E, h14km±2km, ML3.7/12, Error ellipse: s-maj=1.2km s-min=2.5km az=0.0*
ISC 12 00:25:08.9±1.0, 37.69N±0.03×20.51E±0.03, h13km±6km, n145, σ1§80/208, mb3.7/8, 6C-6D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.25**	**97**	P	**Pg**	**00 25 13.9**	**-0.3**
KRI1				S	**Sg**	**00 25 17.2**	**-0.6**
43μm,0.4s							
LTHK	**Lithakia**	**0.26**	**86**	P	**Pg**	**00 25 14.1**	**-0.4**
LTHK				S	**Sg**	**00 25 17.4**	**-0.8**
22μm,0.3s							
LTHK	**Lithakia**	**0.26**	**86**	P	**Pg**	**00 25 14.0**	**-0.4**
LTHK				S	**Sg**	**00 25 17.4**	**-0.8**
LTHK				AML	AML	00 25 17.9	
comp=E,74404μm,0.3s							
LTHK				AML	AML	00 25 20.2	
comp=N,41708μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.42**	**8**	P	**Pg**	**00 25 17.9**	**+0.5**
PSDA				S	**Sb**	**00 25 25.0**	**+0.4**
comp=N,11μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.42**	**8**	P	**Pg**	**00 25 17.9**	**+0.5**
PSDA				S	**Sb**	**00 25 24.7**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.44**	**29**	P	**Pg**	**00 25 17.7**	**+0.1**
RTZL				S	**Sb**	**00 25 24.5**	**-0.4**
comp=N,17μm,0.4s							
VLS	**Valsamata**	**0.49**	**8**	P	**Pg**	**00 25 18.9**	**+0.3**
VLS				S	**Sb**	**00 25 26.5**	**0.0**
comp=N,7μm,0.3s							
VLS	**Valsamata**	**0.49**	**8**	P	**Pg**	**00 25 18.9**	**+0.3**
VLS				S	**Sb**	**00 25 26.3**	**-0.2**
VLS				AML	AML	00 25 30.9	
comp=N,12687μm,0.4s							
VLS				AML	AML	00 25 30.9	
comp=E,19433μm,0.3s							
LXR1	**Lixouri, Cepha**	**0.51**	**354**	P	**Pb**	**00 25 19.8**	**0.0**
LXR1				S	**Sb**	**00 25 28.2**	**+1.1**
comp=E,64μm,0.4s							
LXRA	**Lixouri, Kepha**	**0.51**	**354**	P	**Pb**	**00 25 19.9**	**+0.1**
LXRA				S	**Sg**	**00 25 26.6**	**+0.8**
LXRA				AML	AML	00 25 32.4	
comp=E,59663μm,0.3s							
LXRA				AML	AML	00 25 36.2	
comp=N,84266μm,0.4s							
DMLN	**Damoulianata-K**	**0.56**	**349**	P	**Pb**	**00 25 20.6**	**0.0**
DMLN				S	**Sb**	**00 25 29.4**	**+1.0**
comp=N,30μm,0.5s							
DMLN	**Damoulianata-K**	**0.56**	**349**	P	**Pb**	**00 25 20.6**	**0.0**
DMLN				S	**Sb**	**00 25 29.3**	**+0.9**
SMHA	**Samh**	**0.57**	**11**	P	**Pg**	**00 25 19.7**	**-0.4**
SMHA				S	**Sb**	**00 25 28.5**	**-0.2**
VSK1	**VASILIKIADES**	**0.72**	**4**	P	**Pg**	**00 25 22.8**	**-0.1**
VSK1				S	**Sn**	**00 25 34.9**	**-0.7**
comp=N,9μm,0.5s							
FSK	**Fiskardo**	**0.77**	**3**	P	**Pg**	**00 25 23.7**	**-0.1**
FSK				S	**Sn**	**00 25 36.3**	**-0.5**
comp=N,4μm,0.2s							
FSK	**Fiskardo**	**0.77**	**3**	P	**Pg**	**00 25 23.7**	**-0.1**
FSK				S	**Sb**	**00 25 35.5**	**+1.0**
FSK				AML	AML	00 25 43.7	
comp=N,8273μm,0.6s							
FSK				AML	AML	00 25 45.2	
comp=E,10429μm,0.3s							
RLS	**Riolos of Patr**	**0.84**	**64**	P	**Pg**	**00 25 24.7**	**-0.5**
RLS				S	**Sb**	**00 25 36.7**	**+0.1**
comp=E,7μm,0.5s							
RLS	**Riolos of Patr**	**0.84**	**64**	P	**Pg**	**00 25 24.7**	**-0.5**
RLS				S	**Sb**	**00 25 36.9**	**+0.3**
RLS				AML	AML	00 25 38.0	
comp=N,14490μm,0.6s							
RLS				AML	AML	00 25 38.8	
comp=E,11763μm,0.5s							
EVGI	**Lefkada island**	**0.93**	**7**	P	**Pb**	**00 25 26.6**	**-0.4**
EVGI				S	**Sn**	**00 25 41.0**	**0.0**
comp=E,3μm,0.2s							
EVGI	**Lefkada island**	**0.93**	**7**	P	**Pb**	**00 25 26.5**	**-0.4**
EVGI				S	**Sb**	**00 25 40.3**	**+1.0**
AST1	**Astakos**	**0.96**	**28**	P	**Pb**	**00 25 27.1**	**-0.4**
AST1				S	**Sn**	**00 25 42.1**	**+0.4**
comp=E,4μm,0.6s							
AMT	**Artemida-Makis**	**0.97**	**99**	P	**Pb**	**00 25 26.9**	**-0.7**
AMT				S	**Sg**	**00 25 39.8**	**-0.5**
AMT				AML	AML	00 25 53.1	
comp=N,16836μm,0.5s							
AMT				AML	AML	00 25 54.1	
comp=E,13638μm,0.4s							
DRO	**Drossia**	**0.99**	**74**	P	**Pb**	**00 25 27.3**	**-0.6**
DRO				S	**Sn**	**00 25 42.2**	**-0.1**
comp=E,7μm,0.5s							
DRO	**Drossia**	**0.99**	**74**	P	**Pb**	**00 25 27.4**	**-0.6**
DRO				S	**Sg**	**00 25 41.4**	**+0.5**
DRO				AML	AML	00 25 44.1	
comp=E,14688μm,0.5s							
DRO				AML	AML	00 25 46.9	
comp=N,11691μm,0.5s							
DRAG	**Dragano-Lefkad**	**0.99**	**3**	P	**Pb**	**00 25 27.6**	**-0.4**
DRAG				S	**Sn**	**00 25 43.3**	**+0.9**
DRAG	**Dragano-Lefkad**	**0.99**	**3**	P	**Pb**	**00 25 27.8**	**-0.2**
DRAG				S	**Sn**	**00 25 42.3**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.03**	**8**	P	**Pb**	**00 25 28.0**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.03**	**8**	P	**Pb**	**00 25 28.5**	**-0.1**
LKD2	**Lefkada island**	**1.10**	**6**	P	**Pg**	**00 25 30.9**	**+0.7**
LKD2	**Lefkada island**	**1.10**	**6**	P	**Pg**	**00 25 30.8**	**+0.6**
TSLK	**Tsoukalades, L**	**1.14**	**6**	P	**Pb**	**00 25 30.3**	**-0.1**
TSLK				S	**Sn**	**00 25 48.6**	**+2.6**
comp=N,4μm,0.6s							
TSLK	**Tsoukalades, L**	**1.14**	**6**	P	**Pb**	**00 25 30.2**	**-0.3**
UPR	**University Cam**	**1.17**	**59**	P	**Pb**	**00 25 31.1**	**+0.1**
ITM	**Ithomi**	**1.24**	**114**	P	**Pb**	**00 25 32.0**	**-0.2**
ITM				S	**Sg**	**00 25 49.8**	**+0.8**
comp=N,2μm,0.7s							
ITM	**Ithomi**	**1.24**	**114**	P	**Pn**	**00 25 31.2**	**-0.8**
ITM				S	**Sn**	**00 25 48.0**	**-0.5**
ITM				AML	AML	00 26 00.5	
comp=E,2502μm,0.6s							
ITM				AML	AML	00 26 00.7	
comp=N,3212μm,0.7s							
PYL	**PYLOS**	**1.27**	**129**	P	**Pn**	**00 25 32.1**	**-0.2**
PYL				S	**Sg**	**00 25 50.4**	**+0.6**
comp=N,2μm,0.5s							
PYL	**PYLOS**	**1.27**	**129**	P	**Pn**	**00 25 31.5**	**-0.8**
PYL				S	**Sn**	**00 25 48.9**	**-0.3**
PYL				AML	AML	00 25 52.3	
comp=E,4657μm,0.6s							
PYL				AML	AML	00 25 56.3	
comp=N,2193μm,0.5s							
EFP	**Efpalio**	**1.32**	**56**	P	**Pb**	**00 25 33.4**	**-0.2**
KLV	**Kalavryta, Ach**	**1.35**	**74**	P	**Pn**	**00 25 33.3**	**-0.2**
KLV	**Kalavryta, Ach**	**1.35**	**74**	P	**Pn**	**00 25 33.1**	**-0.4**
ALIK	**Aliki, Aigiali**	**1.39**	**65**	P	**Pn**	**00 25 34.2**	**+0.2**
ANX	**Ano Chora**	**1.43**	**51**	P	**Pn**	**00 25 35.0**	**+0.3**
KALE	**Kalithea**	**1.47**	**61**	P	**Pn**	**00 25 35.2**	**+0.1**
GUR	**Goura**	**1.47**	**80**	P	**Pb**	**00 25 35.8**	**-0.4**
GUR	**Goura**	**1.47**	**80**	P	**Pb**	**00 25 35.7**	**-0.6**
EVR	**Evrytania**	**1.59**	**40**	P	**Pb**	**00 25 38.8**	**+0.5**
IGT	**Igoumenitsa**	**1.84**	**356**	P	**Pb**	**00 25 43.0**	**+0.5**
AGG	**Agios Georgios**	**1.95**	**47**	P	**Pb**	**00 25 44.6**	**+0.2**
LOUT	**Loutraki**	**1.98**	**81**	P	**Pb**	**00 25 44.6**	**-0.1**
THL	**Klokotos Trika**	**2.21**	**32**	P	**

TYRN	Tyrnavos	2.43	33	P		Pn	00 25 49.9 +1.7
PENT	Pentalofos	2.55	11	P		Pb	00 25 53.5 -1.1
NEO	Neokhori	2.67	52	P		Pn	00 25 53.3 +1.6
NEST	Nestorio	2.75	9	P		Pb	00 25 56.8 -1.2
FNA	Florina	3.16	12	P		Pn	00 26 00.1 +1.7
FNA	Florina	3.16	12	ePn		Pn	00 26 00.7 +2.3
FNA				eSn		Sn	00 26 39.4 +3.4
OHR	Ohrid	3.42	4	ePn		Pn	00 26 03.9 +1.9
OHR				eSn		Sn	00 26 44.4 +2.0
OHR	Ohrid	3.42	4	iPn		Pn	00 26 05.1 +3.1
TIR	Tirane	3.68	352	ePn		Pn	00 26 06.6 +1.0
TIR				eSn		Sn	00 26 49.6 +0.8
VAY	Valandovo	3.96	23	ePn		Pn	00 26 10.9 +1.6
VAY	Valandovo	3.96	23	iPn		Pn	00 26 12.2 +2.9
SRS	Serrai	4.17	34	ePn		Pn	00 26 13.9 +1.6
IDI	Anoyia	4.27	123	Pn		Pn	00 26 16.4 +2.7
	comp=N,2.9nm,0.6s,baz=332,slow=15,SNR=1.2						
IDI				Sn		Sn	00 27 06.0 +2.6
	comp=N,3.1nm,0.3s,baz=317,slow=17,SNR=5.7						
ULC	Ulcinj	4.38	348	⇑iPn		Pn	00 26 14.8 -0.3
ULC				iSn		Sn	00 27 03.3 -2.6
DRME	Dracevica, Mon	4.60	348	⇑iPn		Pn	00 26 18.3 +0.1
DRME				iSn		Sn	00 27 08.1 -3.4
BUM	Brajici-Budva	4.77	345	⇓iPn		Pn	00 26 20.5 0.0
BUM				iSn		Sn	00 27 13.1 -2.5
PDG	Podgorica	4.83	349	ePn		Pn	00 26 21.2 0.0
PDG				eSn		Sn	00 27 16.2 -0.8
PDG	Podgorica	4.83	349	ePn		Pn	00 26 21.0 -0.3
PDG	Podgorica	4.83	349	⇑iPn		Pn	00 26 21.3 0.0
PDG				iSn		Sn	00 27 14.5 -2.5
VAE	Valguarnera	4.85	269	Pn		Pn	00 26 22.7 +1.1
	comp=N,13nm,0.8s,baz=12,slow=16,SNR=1.8						
VAE				Sn		Sn	00 27 17.7 +0.1
	comp=N,1.2nm,0.3s,baz=30,slow=19,SNR=2.0						
PVY	Plav	4.91	355	⇓iPn		Pn	00 26 24.2 +1.6
PVY				iSn		Sn	00 27 17.1 -2.2
HCY	Herceg Novi	4.99	343	ePn		Pn	00 26 21.5 -2.1
HCY	Herceg Novi	4.99	343	⇑iPn		Pn	00 26 23.3 -0.3
HCY				iSn		Sn	00 27 17.6 -3.5
CEME	Cevo	5.00	346	⇑iPn		Pn	00 26 23.5 -0.2
CEME				iSn		Sn	00 27 19.1 -2.2
BOSS	Bosilegrad	5.03	17	ePn		Pn	00 26 25.5 +1.4
IVA	Berane	5.20	355	⇓iPn		Pn	00 26 27.1 +0.7
IVA				iSn		Sn	00 27 23.8 -2.4
NKME	Niksic	5.21	347	⇑iPn		Pn	00 26 26.0 -0.5
NKME				iSn		Sn	00 27 23.5 -2.9
KOME	Kolasin	5.21	352	⇓iPn		Pn	00 26 27.3 +0.7
KOME				iSn		Sn	00 27 24.6 -1.9
BARS	Barje	5.21	11	ePn		Pn	00 26 27.7 +1.1
TREB	Trebinje	5.28	342	ePn		Pn	00 26 26.2 -1.3
TREB				eSn		Sn	00 27 26.2 -2.0
TREB	Trebinje	5.28	342	ePn		Pn	00 26 25.9 -1.6
VTS	Vitosha	5.34	22	ePn		Pn	00 26 30.6 +2.1
BRY	Bratogost	5.42	344	ePn		Pn	00 26 29.2 -0.3
BRY	Bratogost	5.42	344	⇓iPn		Pn	00 26 28.4 -1.1
BRY				iSn		Sn	00 27 28.6 -3.1
SELS	Selova	5.54	5	ePn		Pn	00 26 31.1 0.0
SJES	Sjenica	5.58	356	ePn		Pn	00 26 32.0 +0.3
SJES				eSn		Sn	00 27 35.4 -0.3
SJES	Sjenica	5.58	356	ePn		Pn	00 26 32.5 +0.8
STON	Ston	5.60	338	ePn		Pn	00 26 31.7 -0.1
STON	Ston	5.60	338	ePn		Pn	00 26 31.0 -0.8
UPM	Unac-Piva	5.64	348	ePn		Pn	00 26 34.9 +2.3
UPM	Unac-Piva	5.64	348	⇓iPn		Pn	00 26 32.6 0.0
UPM				iSn		Sn	00 27 34.0 -3.3
ZAPS	Zavoj	5.81	16	ePn		Pn	00 26 36.4 +1.7
IVAS	Ivanjica	5.88	357	ePn		Pn	00 26 36.3 +0.5
RUDO	Rudo	5.98	352	ePn		Pn	00 26 36.3 -0.8
BOVS	Bovan	6.01	8	ePn		Pn	00 26 37.9 +0.5
GRUS	Gruza	6.19	1	ePn		Pn	00 26 39.9 -0.1
BBLS	Lazi&#263i	6.22	353	eSn		Sn	00 27 50.3 -1.2
BBLS	Lazi&#263i	6.22	353	ePn		Pn	00 26 43.8 +3.3
DIVS	Divibare	6.41	357	ePn		Pn	00 26 41.9 -1.2
DIVS				eSn		Sn	00 27 54.9 -1.3
HAPS	Han Pijesak,BI	6.50	350	ePn		Pn	00 26 43.9 -0.4
HAPS				eSn		Sn	00 27 55.7 -2.6
HAPS	Han Pijesak,BI	6.50	350	ePn		Pn	00 26 44.2 -0.1
TEKS	Tekeris	6.89	354	ePn		Pn	00 26 49.7 +0.1
A050A	Klekovaca	7.42	337	ePn		Pn	00 26 57.5 +0.6
FRGS	Fruska Gora	7.48	356	ePn		Pn	00 26 56.8 -0.9
FRGS	Fruska Gora	7.48	356	ePn		Pn	00 26 55.8 -1.9
BLY	Banja Luka	7.48	342	ePn		Pn	00 26 56.9 -0.8
BLY	Banja Luka	7.48	342	ePn		Pn	00 26 58.3 +0.6
A051A	Mrakovica	7.80	341	ePn		Pn	00 27 00.9 -1.2
MLR	Muntele Rosu	8.79	26	Pn		Pn	00 27 18.6 +2.8
	comp=N,7.3nm,0.9s,baz=156,slow=6.1						
CRES	Cresnjevec Ost	8.96	337	ePn		Pn	00 27 17.4 -0.6
KEST	Kesra	9.17	261	Pn		Pn	00 27 21.5 +0.5
	comp=N,0.2nm,0.3s,baz=88,slow=14,SNR=1.8						
KEST				Sn		Sn	00 29 04.3 +0.2
	comp=N,0.2nm,0.3s,baz=150,slow=20,SNR=1.8						
	comp=N,2.0nm,0.8s						
CEY	Cerknica	9.23	332	ePn		Pn	00 27 21.0 -0.7
SOKA	Soboth	9.85	337	iPn		Pn	00 27 30.1 -0.2
	comp=N,4.0nm,0.6s						
SOKA				eSn		Sn	00 29 13.6 -7.1
	comp=N,3.6nm,0.6s						
OBKA	Obir	9.86	335	iPn		Pn	00 27 32.6 +2.3
	comp=N,2.2nm,0.4s						
OBKA				eSn		Sn	00 29 17.2 -3.6
	comp=N,32nm,0.9s						
OBKA	Obir	9.86	335	ePn		Pn	00 27 29.7 -0.6
ARSA	Arzberg	10.23	341	iSn		Sn	00 29 25.4 -4.6
	comp=N,0.5nm,0.3s						
MYKA	Terra Mystica	10.28	332	iSn		Sn	00 29 26.8 -4.3
	comp=N,1.7nm,0.4s						
BRTR	Keskin Array B	10.46	75	Pn		Pn	00 27 43.4 +4.7
	comp=N,0.1nm,0.3s,baz=250,slow=14,SNR=1.5						
	comp=N,0.4nm,0.7s						
KBA	Koelnbreinsper	10.77	333	ePn		Pn	00 27 45.9 +3.0
	comp=N,1.7nm,0.7s						
KBA				iSn		Sn	00 29 39.0 -4.3
	comp=N,12nm,0.6s						
ABTA	Abfaltersbach	10.81	329	iPn		Pn	00 27 46.1 +2.7
	comp=N,0.9nm,0.4s						
ABTA				eSn		Sn	00 29 40.2 -4.1
	comp=N,14nm,0.7s						
MOA	Molln	11.13	338	iPn		Pn	00 27 48.8 +1.0
	comp=N,2.3nm,0.6s						
MOA				eSn		Sn	00 29 47.6 -4.5
	comp=N,3.5nm,0.6s						
BIOA	Bad Ischl, Aus	11.19	335	iPn		Pn	00 27 49.9 +1.3
	comp=N,1.1nm,0.3s						
BIOA				iSn		Sn	00 29 49.9 -3.6
	comp=N,2.9nm,0.6s						
LESA	Schwarzleotal	11.30	332	iPn		Pn	00 27 51.6 +1.5
	comp=N,3.4nm,0.6s						
LESA				eSn		Sn	00 29 53.7 -2.6
	comp=N,4.3nm,0.5s						
WTTA	Wattenberg	11.58	328	iPn		Pn	00 27 56.3 +2.2
	comp=N,1.0nm,0.3s						
WTTA				eSn		Sn	00 29 59.9 -3.4
	comp=N,8.2nm,0.6s						
WATA	Walderalm	11.66	329	iPn		Pn	00 27 58.9 +3.7
	comp=N,1.4nm,0.4s						
WATA				eSn		Sn	00 30 01.5 -3.8
	comp=N,13nm,0.8s						
SQTA	Sankt Quirin	11.73	327	eSn		Sn	00 30 05.5 -1.3
	comp=N,6.4nm,0.6s						
FETA	Feichten	11.79	325	iPn		Pn	00 28 01.0 +4.1
	comp=N,0.4nm,0.4s						
FETA				eSn		Sn	00 30 02.4 -5.9
	comp=N,4.0nm,0.7s						
MOTA	Moosalm	11.87	327	iPn		Pn	00 28 01.0 +3.0
	comp=N,0.5nm,0.3s						
MOTA				iSn		Sn	00 30 08.3 -2.0
	comp=N,6.5nm,0.6s						
VRAC	Vranov	11.95	348	Pn		Pn	00 28 00.2 +1.3
	comp=N,0.2nm,0.3s,baz=141,slow=13,SNR=2.1						
	comp=N,0.8nm,0.4s						
DAVOX	Davos/Dischmat	12.01	322	Sn		Sn	00 30 03.4 -10
	comp=N,0.2nm,0.3s,baz=156,slow=20,SNR=2.9						
GERES	GERESS Array B	12.19	338	Pn		Pn	00 28 02.1 -0.2
	comp=N,0.2nm,0.3s,baz=157,slow=13,SNR=2.4						
GERES				Sn		Sn	00 30 11.6 -6.5
	comp=N,0.4nm,0.3s,baz=152,slow=24,SNR=5.6						
	comp=N,0.3nm,0.4s						
KHC	Kasperske Hory	12.49	338	ePN		Pn	00 28 05.9 -0.4
KHC				eSN		Sn	00 30 19.8 -5.4
AKASG	Malin Array Be	14.41	23	Pn		Pn	00 28 32.1 -0.4
	comp=N,0.2nm,0.3s,baz=214,slow=12,SNR=1.7						
	comp=N,0.1nm,0.3s						
ESDC	Sonseca Array	19.19	283	P		Pn	00 29 32.9 -0.4
	comp=N,0.1nm,0.3s,baz=83,slow=10,SNR=2.2						
	comp=N,0.5nm,0.7s						
HFS	Hagfors	22.88	351	P		P	00 30 11.6 -0.3
	comp=N,2.6nm,0.6s,baz=143,slow=11,SNR=6.7						
	comp=N,2.6nm,0.6s						
EKA	Eskdalemuir Ar	23.82	325	P		P	00 30 20.8 -0.5
	comp=N,1.1nm,0.7s,baz=152,slow=9.0,SNR=1.7						
	comp=N,1.1nm,0.7s						
FINES	FINESS Array B	24.03	7	P		P	00 30 22.9 -0.3
	comp=N,1.5nm,0.5s,baz=164,slow=11,SNR=13						
	comp=N,1.5nm,0.5s						
NOA	NORSAR Array B	24.09	349	P		P	00 30 23.8 -0.1
	comp=N,0.6nm,0.7s,baz=151,slow=11,SNR=3.8						
	comp=N,0.6nm,0.7s						
TORD	Torodi Ar. Bea	29.65	219	P		P	00 31 15.2 +1.0
	comp=N,0.4nm,0.6s,baz=26,slow=9.9,SNR=4.6						
	comp=N,0.4nm,0.6s						
JMIC	Jan Mayen	36.62	345	LR		LR	00 48 42.8
	comp=N,28nm,18.1s,baz=53,slow=39						
KURBB	Kurchatov Arra	42.53	53	P		P	00 33 04.6 +0.7
	comp=N,0.4nm,0.4s,baz=278,slow=8.5,SNR=2.7						
	comp=N,0.4nm,0.4s						
MKAR	Makanchi Array	45.57	58	P		P	00 33 28.9 +0.5
	comp=N,0.7nm,0.5s,baz=272,slow=8.4,SNR=4.5						
	comp=N,0.7nm,0.5s						
ZALV	Zalesovo Beam	46.02	48	P		P	00 33 32.3 +0.5
	comp=N,1.4nm,0.5s,baz=278,slow=8.6,SNR=5.7						
	comp=N,1.4nm,0.5s						
LPAZ	La Paz	98.72	256	LR		LR	01 22 37.8
	comp=N,72nm,21.4s,baz=97,slow=35						

*TRN **12** 00:47:32.9, 11.°01N×62.°21W, h103km, MD4.1, North of Paria peninsula. Felt in Trinidad, MMI IV.*
*FUNV **12** 00:47:32.2, 11.°00N×62.°21W, h95km, MW4.1*
ISC 12 00:47:29.5±1.4, 10.°99N±0.°04×62.°27W±0.°04, h126km±12km, n28, σ1§82/49, 3C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	Mucurapo Girls	0.79	114	eP	Pn	00 47 50.9	+0.7
TRN	Trinidad (W)	0.92	112	⇑iP	Pn	00 47 52.1	+0.8
TRN				eS	Sn	00 48 05.2	-2.6
TPP	Pointe-a-Pierr	1.05	130	⇑iP	Pn	00 47 56.1	+3.6
TPP				eS	Sn	00 48 10.9	+0.9
GRFF	Grenada Fort F	1.17	26	eP	Pn	00 47 54.0	+0.1
GRFF				eS	Sn	00 48 10.3	-2.0
GRGR	Grenville	1.28	28	eP	Pn	00 47 55.3	+0.3
GRGR				eS	Sn	00 48 12.6	-1.8
TBH	Brigand Hill	1.29	113	⇓iP	Pn	00 47 58.2	+3.2
GRW	Mount Saint Ca	1.31	27	eP	Pn	00 47 56.1	+0.8
GRW				eS	Sn	00 48 13.6	-1.3
GRHS	Sauteurs	1.37	27	eP	Pn	00 47 56.3	+0.4
GRHS				eS	Sn	00 48 14.2	-1.8
GRSS	Sisters	1.45	26	eP	Pn	00 47 57.6	+0.8
GRSS				eS	Sn	00 48 16.3	-1.3
GCMP	Grenada, Carri	1.70	29	eP	Pn	00 48 00.1	+0.5
GCMP				eS	Sn	00 48 21.2	-1.5
TOSP	Speyside	1.73	80	⇑iP	Pn	00 48 00.3	+0.3
TOSP				eS	Sn	00 48 21.5	-1.8
CUMV	Cumana_UDO	1.97	254	eP	Pn	00 48 05.4	+2.5
CUMV				eS	Sn	00 48 28.3	-0.2
SVOC	Richmond Hill,	2.38	25	eP	Pn	00 48 10.1	+2.1
SVOC				eS	Sn	00 48 38.0	+0.3
SVT	Saint Vincent	2.39	25	eP	Pn	00 48 08.8	+0.7
SVT				eS	Sn	00 48 36.0	-1.7
PCRV	Puerto La Cruz	2.46	251	eP	Pn	00 48 10.0	+1.5
PCRV				eS	Sn	00 48 38.0	-1.5
SVB	Belmont	2.48	24	eP	Pn	00 48 11.5	+2.2
SVB				eS	Sn	00 48 40.0	+0.1
SLAC	Saint Lucia, A	3.18	25	eP	Pn	00 48 19.6	+1.1
SLAC				eS	Sn	00 48 54.8	-1.4
SLBI	Saint Lucia, B	3.27	23	eP	Pn	00 48 20.2	+0.7
SLBI				eS	Sn	00 48 57.6	-0.5
BBGH	Gun Hill	3.41	51	eP	Pn	00 48 23.3	+2.0
BBGH				eS	Sn	00 49 00.0	-1.4
BIM	Bigot	3.69	18	eP	Pn	00 48 26.1	+1.0
BIM				eS	Sn	00 49 07.0	-1.3
TACV	Tcata	4.75	260	eP	Pn	00 48 40.5	+1.2
LUEV	Luepa	5.18	171	eP	Pn	00 48 45.6	+0.4
LUEV				eS	Sn	00 49 40.6	-3.4
BENV	Beln	5.34	259	eP	Pn	00 48 49.8	+2.6
BENV				eS	Sn	00 49 45.1	-2.6
CACV	CAICARA DEL OR	5.42	231	eP	Pn	00 48 44.5	-3.7
CACV				eS	Sn	00 49 38.5	-11
BAUV	El Baul	6.04	251	eP	Pn	00 48 57.3	+0.8
BAUV				eS	Sn	00 50 01.4	-3.0
ANBD	Bethesda, Anti	6.04	5	eP	Pn	00 48 59.3	+2.8
MAPV	Macapo	6.19	260	eP	Pn	00 48 59.1	+0.4
MAPV				eS	Sn	00 50 05.0	-3.3
TEPV	Terepaima	6.88	262	eP	Pn	00 49 09.7	+1.7
TEPV				eS	Sn	00 50 19.8	-5.2

IDC 12 00:51:37.6±1.7, 37.°79N×20.°26E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=55.6km s-min=28.6km az=114.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	Hagfors	22.76	351	P	P	00 56 41.6	+0.5
	3.1nm,0.9s,baz=170,slow=11,SNR=5.3						
	3.1nm,0.9s						
FINES	FINESS Array B	23.96	7	P	P	00 56 52.7	-0.6
	2.3nm,0.8s,baz=178,slow=9.9,SNR=5.0						
	2.3nm,0.8s						
TORD	Torodi Ar. Bea	29.59	219	P	P	00 57 44.4	0.0
	0.2nm,0.7s,baz=22,slow=9.4,SNR=2.3						
	0.2nm,0.7s						
MKAR	Makanchi Array	45.68	58	P	P	01 00 00.1	+0.1
	0.4nm,0.7s,baz=270,slow=7.7,SNR=1.8						
	0.4nm,0.7s						

NOU 12 01:08:45.4, 16.°59S×166.°81E, h0km, MLv4.3/16, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	0.76	51	P	Pg	01 09 00.4	+0.4
DVP	Devils Point	1.73	131	P	Pn	01 09 16.0	-0.8
LIFNC	LIFOU	4.18	174	P	Pn	01 09 48.8	-1.7
KOUNC	Koumac, New Ca	4.61	211	P	Pn	01 09 56.8	+0.4
MARNC	Mare, Loyalty	5.00	167	P	Pn	01 10 02.1	+0.4
YATNC	Mamie plateau,	5.44	179	P	Pn	01 10 06.8	-1.0
DZM	Mont Dzumac	5.46	184	P	Pn	01 10 08.4	+0.2
NOUC	Port Laguerre	5.50	185	P	Pn	01 10 09.3	+0.6
ONTNC	Ouen Toro	5.70	183	P	Pn	01 10 12.1	+0.8
OUENC	Ouen Island, N	5.80	180	P	Pn	01 10 13.4	+0.7
LUES	Luesalemba Tem	5.96	351	P	Pn	01 10 15.2	+0.3

*TAP **12** 01:09:58.5, 24.°71N×122.°81E, h18km±1km, ML2.8, C*
*JMA **12** 01:09:59.0±0.2, 25.°N±1.°×122.°8E±0.°7, h18km±2km, MV2.1/10, NW OFF ISHIGAKIJIMA IS*
ISC 12 01:09:58.5±1.2, 24.°71N±0.°05×122.°81E±0.°02, h19km±2km, n38, σ0§43/66, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.29	154	P	Pg	01 10 04.9	0.0
JYNG				S	Sg	01 10 09.1	-0.1
YOJ	Yonaguni jima	0.31	143	P	Pb	01 10 05.4	-0.1
YOJ				S	Sg	01 10 09.8	0.0
YOJ	Yonaguni jima	0.31	143	⇓iP	Pb	01 10 05.3	-0.1
YOJ				iS	Sg	01 10 10.0	+0.1
EOS2	EOS2	0.60	241	eP	Pb	01 10 10.4	+0.2
EOS3	EOS3	0.61	227	P	Pb	01 10 10.7	+0.2
EOS3				eS	Sn	01 10 20.4	-1.0
EOS4	EOS4	0.74	217	eP	Pg	01 10 12.8	-0.1
EOS4				eS	Sg	01 10 22.9	+0.2
TWB1	Santiao Chiao	0.80	292	iP	Pb	01 10 13.8	-0.1
TWB1				S	Sb	01 10 24.0	-0.3
TWC	Suao	0.88	264	iP	Pb	01 10 14.9	-0.3
TWC				S	Sb	01 10 25.9	-0.5
ESAO	Su ao	0.89	262	eP	Pb	01 10 15.2	-0.1
ESAO				S	Sb	01 10 26.8	0.0
IRIF	Iriomote-Funau	0.92	114	P	Pb	01 10 15.6	-0.2
IRIF				S	Sg	01 10 28.8	+0.2
SXI1	Grass Mountain	0.93	295	P	Pb	01 10 16.1	+0.1
TIPB	Shuangxi	0.93	287	eP	Pb	01 10 15.8	-0.2
EWUT	Wuta	0.97	255	eP	Pb	01 10 16.4	-0.4
EWUT				eS	Sb	01 10 28.7	-0.5
NDS	Dongshan	1.00	266	P	Pb	01 10 17.3	+0.2
NDS				eS	Sb	01 10 29.8	-0.1
ENA	Nanau	1.01	254	P	Pb	01 10 17.2	-0.2
ENA				eS	Sb	01 10 29.6	-0.7
TWE	Neicheng	1.04	271	P	Pb	01 10 18.0	+0.2
TWE				eS	Sb	01 10 31.6	+0.5
EAHA	Aohua	1.04	249	eS	Sb	01 10 30.8	-0.5
FUSB	Fushanzhiwuyua	1.11	273	eP	Pn	01 10 19.4	+0.2
FUSB				eS	Sn	01 10 34.2	+0.2
HATJ	Hateruma jima	1.12	125	P	Pb	01 10 19.4	+0.2
HATJ				eS	Sg	01 10 34.6	-0.2
ENTT	Nioudou	1.13	267	eP	Pb	01 10 19.7	+0.2
ENTT				eS	Sb	01 10 33.9	+0.1
LATG	Datong	1.18	262	P	Pb	01 10 20.6	+0.3
LATG				eS	Sb	01 10 35.4	+0.1
NWLT	Wulai	1.19	274	eP	Pb	01 10 20.9	+0.4
NWLT				eS	Sn	01 10 36.0	+0.1
JKRS	Kuro-shima	1.19	113	eP	Pn	01 10 20.5	+0.3
JKRS				eS	Sn	01 10 36.2	+0.4
YM01	YM01	1.21	291	eP	Pn	01 10 20.1	-0.3
NACB	Ninganchiao	1.23	245	eP	Pb	01 10 21.0	-0.1
NACB				eS	Sb	01 10 35.9	-0.6
JIJ	Ishigaki jima	1.26	106	eP	Pn	01 10 21.0	-0.2
YHNB	Yeheng	1.30	269	eP	Pb	01 10 22.5	0.0
YHNB				eS	Sn	01 10 38.5	-0.2
ETLH	Xiulin Townshi	1.31	248	eP	Pg	01 10 23.3	-0.5
ETLH				eS	Sb	01 10 39.2	+0.3
NSK	Sanguang	1.32	269	eP	Pb	01 10 22.5	-0.2
NSK				eS	Sn	01 10 39.1	0.0
LXIB	Xiulin Townshi	1.44	242	eP	Pg	01 10 26.0	-0.5
LXIB				eS	Sb	01 10 43.3	+0.3
FUSS	Fushou	1.50	252	eP	Pb	01 10 26.0	+0.2
FUSS				eS	Sb	01 10 45.4	+0.8
WHF	Hehuan Shan	1.51	249	eP	Pb	01 10 26.6	+0.3
WHF				eS	Sb	01 10 45.4	+0.2
NFF	Wufeng Townshi	1.54	268	eP	Pb	01 10 26.0	-0.4
WARBT	Fenglin Townsh	1.63	233	eP	Pn	01 10 27.1	+0.9
WUSB	Renai	1.70	246	eP	Pb	01 10 29.4	+0.1
WHP	Taichung City	1.75	256	eP	Pb	01 10 31.1	+1.0
WHP				eS	Sb	01 10 53.1	+1.5
VWDT	VWDT	1.79	238	eP	Pb	01 10 30.3	-0.5
VWDT				eS	Sb	01 10 52.1	-0.7
YULB	Yu-li	1.90	227	eP	Pb	01 10 32.0	-0.6

*SDD **12** 01:25:17.4±2.7, 20.°36N×69.°96W, h33km±761km, MD3.3, ML2.4, MW4.2*
*OSPL **12** 01:25:18.1±0.6, 20.°64N×70.°87W, h28km, ML2.2*
ISC 12 01:25:14.5±3.4, 20.°3N±0.°2×70.°07W±0.°09, h10km, n10, σ1§47/12, 5C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NADR	Nagua	0.92	167	⇑eSg	Sb	01 25 44.5	-0.2
NADR				IAML		01 25 59.3	
	comp=E,247nm,1.4s						
NADR				IAML		01 26 20.0	
	comp=N,170nm,2.0s						
SC01	Santiago de lo	1.03	217	⇑eSg	Sb	01 25 49.9	+1.9
SC01				IAML		01 25 53.8	
	comp=E,64nm,0.3s						
SC01				IAML		01 25 55.4	
	comp=N,60nm,0.9s						
ABDR	Alto Bandera	1.53	200	IAML		01 25 58.3	
	comp=N,60nm,0.2s						
ABDR				IAML		01 25 58.9	
	comp=E,44nm,0.6s						
HATOM	Hato Mayor del	1.59	156	⇓ePg	Pb	01 25 43.7	-0.3
HATOM				IAML		01 26 04.1	
	comp=E,41nm,0.4s						
HATOM				IAML		01 26 05.8	
	comp=N,20nm,0.7s						
SDDR	Presa de Saban	1.71	223	iP	Pn	01 25 44.6	+0.2
SDDR				eS	Sn	01 26 03.8	-2.6
SDDR				IAML		01 26 05.0	
	comp=Z,12nm,0.7s						
SDD	Santo Domingo	1.79	175	⇑eSg	Sn	01 26 08.8	+0.5
SDD				IAML		01 26 09.9	
	comp=E,11nm,0.2s						
SDD				IAML		01 26 21.6	
	comp=N,12nm,1.8s						
HIDR	Higuey Centro	2.09	142	IAML		01 26 24.4	
	comp=E,72nm,0.2s						
LONE3	El Aguacate, B	2.10	219	iP	Pn	01 25 49.7	-0.1
LONE3				eS	Sn	01 26 14.0	-2.1
LONE3				IAML		01 26 16.1	
	comp=Z,10nm,1.0s						
LODU1	El Espartillar	2.31	215	iP	Pn	01 25 53.8	+1.2
LODU1				eS	Sn	01 26 19.8	-1.3
LODU1				IAML		01 26 26.2	
	comp=Z,41nm,1.3s						
JIDR	Jimani	2.43	224	⇑ePg	Pn	01 25 54.9	+0.6
JIDR				⇑eSg	Sn	01 26 24.9	+0.9
JIDR				IAML		01 26 31.6	
	comp=E,26nm,1.1s						
JIDR				IAML		01 26 55.8	
	comp=N,25nm,1.9s						

DJA 12 01:29:16.2±1.0, 4.°S±7.°×13.°4E±2.°0, h10km±19km, M3.9/6, mb3.7/1, mB5.2/2, MLv3.9/6, Mw(mB)4.6/2, Irian Jaya region

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

TEY				A	A	01 46 08.8	
	comp=N,210nm,0.4s						
TEY				A	A	01 46 08.8	
	comp=N,290nm,0.4s						
TEY	**Ternei**	**2.87**	**320**	*e*PN	**Pn**	**01 45 37.3**	**-0.2**
ERM	**Erimo**	**3.05**	**105**	Pn	**Pn**	**01 45 40.3**	**+0.4**
ERM	**Erimo**	**3.05**	**105**	*ce*PN	**Pn**	**01 45 41.0**	**+1.1**
AKK	**Akkeshi**	**4.15**	**86**	*e*P	**Pn**	**01 45 56.2**	**+1.2**
NEVR	**Nevel`sk**	**4.26**	**25**	*e*PN	**Pn**	**01 45 57.2**	**+0.6**
NMR	**Nemuro--Hokkai**	**4.81**	**82**	*e*P	**Pn**	**01 46 04.3**	**+0.2**
GRTR	**Gornotajezhnoj**	**5.21**	**282**	*e*P	**Pn**	**01 46 10.1**	**+0.4**
GRTR				AMB	AMB	01 46 10.7	
	comp=N,40nm,0.4s						
GRTR				*e*S	**Sn**	**01 47 06.3**	**-3.8**
GRTR				A	A	01 47 11.2	
	comp=N,10.0nm,0.4s						
GRTR				A	A	01 47 11.2	
	comp=N,20nm,0.4s						
VLA	**Vladivostok**	**5.37**	**275**	⇓*i*PN	**Pn**	**01 46 12.7**	**+0.9**
USA0B	**Ussuriysk Arra**	**5.41**	**287**	Pn	**Pn**	**01 46 12.2**	**-0.3**
USA0B	**Ussuriysk Arra**	**5.41**	**287**	*ce*PN	**Pn**	**01 46 12.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**5.41**	**287**	Pn	**Pn**	**01 46 12.2**	**-0.2**
	comp=N,2.5nm,0.3s,baz=93,slow=14,SNR=32						
USRK				Sn	**Sn**	**01 47 11.7**	**-3.3**
	comp=N,1.7nm,0.3s,baz=99,slow=27,SNR=5.6						
	comp=N,7.0nm,0.3s						
MSHR	**Mys Shultsa**	**5.93**	**270**	*d i*P	**Pn**	**01 46 19.6**	**+0.1**
MSHR				pmax	pmax		
	comp=Z,54nm,0.6s						
PSTR	**Posyet**	**6.18**	**271**	*e*P	**Pn**	**01 46 23.4**	**+0.4**
PSTR	**Posyet**	**6.18**	**271**	*d i*PN	**Pn**	**01 46 23.4**	**+0.4**
MJAR	**Matsushiro Arr**	**6.35**	**187**	LR	LR	01 48 46.5	
	comp=Z,98nm,18.6s,baz=25,slow=38						
KSRS	**Korea Array**	**10.18**	**242**	Pn	**Pn**	**01 47 21.5**	**+3.7**
	comp=Z,6.6nm,0.3s,baz=53,slow=14,SNR=61						
KSRS				LR	LR	01 50 45.0	
	comp=Z,80nm,20.5s,baz=65,slow=35						
KS19	**Wonju Array Si**	**10.19**	**242**	Pn	**Pn**	**01 47 20.7**	**+2.8**
KSAR	**Wonju Array Be**	**10.21**	**242**	Pn	**Pn**	**01 47 21.2**	**+3.0**
KSAR	**Wonju Array Be**	**10.21**	**242**	PN	**Pn**	**01 47 21.2**	**+3.0**
INCN	**Inchon**	**11.01**	**245**	Pn	**Pn**	**01 47 29.2**	**0.0**
INCN	**Inchon**	**11.01**	**245**	PN	**Pn**	**01 47 29.2**	**0.0**
JNU	**Nakatsue**	**11.72**	**217**	LR	LR	01 51 57.3	
	comp=Z,54nm,18.8s,baz=53,slow=37						
ZEA	**Zeya**	**13.46**	**328**	*e*PN	**P**	**01 48 14.5**	**+2.4**
ZEA				pmax	pmax		
	comp=E,10.0nm,0.3s						
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MA2	**Magadan**	**18.19**	**19**	LR	LR	01 57 14.2	
	comp=Z,45nm,18.0s,baz=94,slow=41						
JOW	**Kunigami**	**18.30**	**213**	LR	LR	01 54 58.1	
	comp=Z,19nm,20.9s,baz=44,slow=33						
YAK	**Yakutsk**	**20.02**	**347**	LR	LR	01 57 14.4	
	comp=Z,64nm,18.3s,baz=292,slow=37						
YAK	**Yakutsk**	**20.02**	**347**	⇑*e*P	**Pn**	**01 49 28.1**	**+2.0**
YAK				pmax	pmax		
	comp=Z,13nm,0.5s						
SEY	**Seymchan**	**21.54**	**17**	*e*P	**P**	**01 49 41.5**	**+0.7**
SEY	**Seymchan**	**21.54**	**17**	⇓*i*P	**P**	**01 49 41.5**	**+0.7**
SEY				pmax	pmax		
	comp=Z,19nm,1.1s						
ZALV	**Zalesovo Beam**	**36.89**	**307**	P	**P**	**01 52 00.6**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=102,slow=9.3,SNR=2.1						
	comp=Z,0.5nm,0.4s						
N15K	**Kwethluk River**	**39.93**	**43**	P	**P**	**01 52 26.9**	**+1.0**
G18K	**Tagagawik**	**40.62**	**34**	P	**P**	**01 52 31.1**	**-0.4**
G18K				IAmb	IAmb	01 52 58.9	
	comp=Z,18nm,1.5s						
D19K	**Kuna River**	**41.03**	**30**	P	**P**	**01 52 33.9**	**-0.9**
D19K				IAmb	IAmb	01 52 37.6	
	comp=Z,13nm,1.1s						
KURK	**Kurchatov**	**41.17**	**303**	P	**P**	**01 52 35.9**	**-0.2**
KURBB	**Kurchatov Arra**	**41.25**	**303**	P	**P**	**01 52 35.9**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=85,slow=10,SNR=1.7						
	comp=Z,0.5nm,0.3s						
E19K	**Redstone River**	**41.28**	**32**	P	**P**	**01 52 36.9**	**+0.1**
E19K				IAmb	IAmb	01 52 46.4	
	comp=Z,20nm,1.4s						
B20K	**Meade River**	**41.52**	**28**	P	**P**	**01 52 38.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**41.76**	**247**	LR	LR	02 11 13.5	
	comp=Z,16nm,18.5s,baz=60,slow=38						
B21K	**Ikpikpuk River**	**42.37**	**28**	P	**P**	**01 52 44.2**	**-1.5**
B21K				IAmb	IAmb	01 52 47.0	
	comp=Z,12nm,1.1s						
IMAR	**Indian Mountai**	**42.63**	**34**	P	**P**	**01 52 46.9**	**-1.0**
D22K	**Ayikyak River**	**43.03**	**30**	P	**P**	**01 52 51.0**	**-0.2**
D24K	**Happy Valley**	**44.42**	**29**	P	**P**	**01 53 00.5**	**-1.8**
E24K	**Your Creek**	**44.60**	**31**	P	**P**	**01 53 02.8**	**-1.1**
F24K	**Squaw Lake**	**44.87**	**31**	P	**P**	**01 53 04.7**	**-1.3**
COLA	**College**	**45.18**	**35**	⇓*e*P	**P**	**01 53 08.6**	**+0.3**
COLA				pmax	pmax		
	comp=Z,26nm,3.2s						
D25K	**Kavik River**	**45.28**	**29**	P	**P**	**01 53 08.0**	**-1.2**
BVAR	**Borovoye Array**	**45.52**	**308**	P	**P**	**01 53 10.8**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=86,slow=9.4,SNR=2.6						
	comp=Z,0.3nm,0.4s						
ILAR	**Eielson Array**	**45.60**	**35**	P	**P**	**01 53 11.6**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=268,slow=7.1,SNR=15						
	comp=Z,1.1nm,0.8s						
ILAR	**Eielson Array**	**45.60**	**35**	*e*P	**P**	**01 53 11.1**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
F25K	**Christian Rive**	**45.72**	**31**	P	**P**	**01 53 12.6**	**-0.1**
SCRK	**Sand Creek**	**46.98**	**36**	P	**P**	**01 53 21.8**	**-1.0**
SCRK				IAmb	IAmb	01 53 22.7	
	comp=Z,3.5nm,0.7s						
D27M	**Malcolm River**	**47.20**	**29**	P	**P**	**01 53 24.0**	**-0.4**
K27K	**Chicken**	**47.79**	**36**	P	**P**	**01 53 29.1**	**+0.1**
K27K				IAmb	IAmb	01 53 30.4	
	comp=Z,7.6nm,1.3s						
EGAK	**Eagle**	**48.01**	**35**	P	**P**	**01 53 29.8**	**-0.8**
L27K	**Beaver Creek,**	**48.13**	**37**	P	**P**	**01 53 31.7**	**+0.1**
I28M	**Miner Creek**	**48.36**	**34**	P	**P**	**01 53 34.3**	**+1.0**
I28M				IAmb	IAmb	01 53 34.9	
	comp=Z,3.6nm,0.9s						
E29M	**Blow River**	**48.46**	**29**	P	**P**	**01 53 34.4**	**+0.4**
E29M				IAmb	IAmb	01 53 37.0	
	comp=Z,3.2nm,1.1s						
H29M	**Whitestone**	**48.79**	**32**	P	**P**	**01 53 37.6**	**+1.0**
H29M				IAmb	IAmb	01 53 53.6	
	comp=Z,5.9nm,1.5s						
EPYK	**Eagle Plains**	**49.40**	**32**	P	**P**	**01 53 41.8**	**+0.5**
EPYK				IAmb	IAmb	01 53 44.0	
	comp=Z,5.9nm,1.0s						
INK	**Inuvik**	**50.05**	**29**	P	**P**	**01 53 46.2**	**+0.1**
INK				IAmb	IAmb	01 53 47.1	
	comp=Z,5.9nm,0.6s						
INK	**Inuvik**	**50.05**	**29**	P	**P**	**01 53 46.2**	**+0.1**
INK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HYT	**Haines Junctio**	**50.74**	**39**	P	**P**	**01 53 52.7**	**+1.1**
ARTI	**Arti**	**51.06**	**315**	LR	LR	02 19 37.8	
	comp=Z,27nm,19.1s,baz=326,slow=41						
ARTI	**Arti**	**51.06**	**315**	*d i*P	**P**	**01 53 54.4**	**+0.5**
ARTI						01 55 46.1	
ARTI				S	**S**	**02 01 13.8**	**+2.3**
ARTI				SS	**SS**	**02 04 46.6**	**+0.6**
ARTI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
N31M	**Braeburn, Yuko**	**51.30**	**38**	P	**P**	**01 53 57.1**	**+1.3**
A36M	**Sachs Harbour**	**51.54**	**23**	P	**P**	**01 53 57.4**	**+0.1**
A36M				IAmb	IAmb	01 53 59.5	
	comp=Z,4.2nm,0.9s						
C36M	**Paulatuk**	**52.91**	**26**	P	**P**	**01 54 08.0**	**+0.5**
C36M				IAmb	IAmb	01 54 11.6	
	comp=Z,7.8nm,1.4s						
KIRV	**Kirov**	**54.64**	**320**	⇓*i*P	**P**	**01 54 19.8**	**-0.5**
RES	**Resolute Bay**	**57.40**	**15**	P	**P**	**01 54 39.0**	**-0.9**
RES				IAmb	IAmb	01 54 40.2	
	comp=Z,5.9nm,0.8s						
RES	**Resolute Bay**	**57.40**	**15**	P	**P**	**01 54 39.0**	**-0.9**
RES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YKA	**Yellowknife Ar**	**59.67**	**31**	P	**P**	**01 54 56.0**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=306,slow=6.6,SNR=6.2						
	comp=Z,1.2nm,0.7s						
WRA	**Warramunga Arr**	**62.65**	**185**	P	**P**	**01 55 15.7**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=3.7,slow=7.1,SNR=3.2						
	comp=Z,0.4nm,0.8s						
FINES	**FINESS Array B**	**62.90**	**330**	P	**P**	**01 55 16.9**	**-0.8**
FINES	**FINESS Array B**	**62.90**	**330**	P	**P**	**01 55 17.6**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=53,slow=7.4,SNR=16						
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**62.90**	**330**	*i*P	**P**	**01 55 17.2**	**-0.5**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KIV	**Kislovodsk**	**65.89**	**308**	*e*P	**P**	**01 55 35.4**	**-2.3**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KBZ	**Khabaz**	**65.90**	**308**	P	**P**	**01 55 38.4**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=101,slow=5.2,SNR=2.2						
	comp=Z,1.5nm,0.8s						
I04A	**Tendick Farm,**	**67.06**	**51**	P	**P**	**01 55 45.6**	**+0.4**
PINE	**Pine Mountain**	**67.90**	**50**	P	**P**	**01 55 51.2**	**+0.5**
HFS	**Hagfors**	**68.10**	**334**	P	**P**	**01 55 51.4**	**0.0**
	comp=Z,2.7nm,1.0s,baz=56,slow=7.9,SNR=5.1						
	comp=Z,2.7nm,1.0s						
NB2	**NORSAR Subarra**	**68.17**	**336**	P	**P**	**01 55 51.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=39,slow=6.5						
NOA	**NORSAR Array B**	**68.17**	**336**	P	**P**	**01 55 51.9**	**0.0**
	comp=Z,2.4nm,0.9s,baz=39,slow=6.4,SNR=5.1						
	comp=Z,2.4nm,0.9s						
AKASG	**Malin Array Be**	**68.70**	**320**	P	**P**	**01 55 55.1**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=45,slow=6.7,SNR=12						
	comp=Z,2.2nm,0.7s						
AKBB	**Malin Array Si**	**68.70**	**320**	P	**P**	**01 55 55.0**	**-0.3**
AKBB	**Malin Array Si**	**68.70**	**320**	*de*P	**P**	**01 55 55.3**	**0.0**
AKBB				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIEV	**Kiev**	**68.71**	**320**	P	**P**	**01 55 55.0**	**-0.4**
KIEV	**Kiev**	**68.71**	**320**	P	**P**	**01 55 55.0**	**-0.4**
KIEV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
OVMT	**Ovando**	**70.07**	**44**	P	**P**	**01 56 03.6**	**-0.4**
DLMT	**Dillon**	**71.42**	**45**	P	**P**	**01 56 12.8**	**+0.5**
DLMT				IAmb	IAmb	01 56 13.9	
	comp=Z,3.2nm,0.7s						
BOZ	**Bozeman (W)**	**71.76**	**44**	P	**P**	**01 56 14.4**	**0.0**
BOZ	**Bozeman (W)**	**71.76**	**44**	P	**P**	**01 56 14.4**	**0.0**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KVN	**Kaiserville**	**72.58**	**53**	P	**P**	**01 56 19.9**	**+0.5**
KVN				IAmb	IAmb	01 56 20.8	
	comp=Z,3.2nm,0.8s						
KVN	**Kaiserville**	**72.58**	**53**	P	**P**	**01 56 19.9**	**+0.5**
KVN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BUR08	**Bucovina Ar. S**	**72.72**	**320**	P	**P**	**01 56 20.3**	**+0.3**
BUR08				IAmb	IAmb	01 56 58.3	
	comp=Z,5.8nm,1.4s						
BURAR	**Bucovina Array**	**72.73**	**320**	P	**P**	**01 56 20.4**	**+0.3**
NVAR	**Mina Array Bea**	**72.87**	**53**	P	**P**	**01 56 22.0**	**+0.8**
NVAR	**Mina Array Bea**	**72.87**	**53**	P	**P**	**01 56 21.9**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=289,slow=5.4,SNR=12						
	comp=Z,1.3nm,0.7s						
PD31	**Pinedale Array**	**74.79**	**45**	P	**P**	**01 56 31.9**	**-0.6**
PDAR	**Pinedale Array**	**74.79**	**45**	P	**P**	**01 56 32.0**	**-0.4**
PDAR	**Pinedale Array**	**74.79**	**45**	P	**P**	**01 56 32.4**	**0.0**
	comp=Z,1.6nm,0.6s,baz=272,slow=1.4,SNR=23						
	comp=Z,1.6nm,0.6s						
CLL	**Collm**	**75.23**	**328**	*i*P	**P**	**01 56 34.8**	**+0.3**
CLL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CLL	**Collm**	**75.23**	**328**	*i*P	**P**	**01 56 34.8**	**+0.3**
	comp=Z,8.0nm,0.9s						
KHC	**Kasperske Hory**	**76.72**	**327**	⇓*e*P	**P**	**01 56 43.4**	**+0.3**
KHC				pmax	pmax		
	comp=Z,19nm,1.9s						
GERES	**GERESS Array B**	**76.90**	**326**	P	**P**	**01 56 44.6**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=26,slow=10.0,SNR=3.9						
	comp=Z,1.1nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**80.07**	**327**	P	**P**	**01 57 02.2**	**+0.3**
FUORN				IAmb	IAmb	01 57 03.3	
	comp=Z,3.1nm,0.8s						
FDMO	**Fiordimonte**	**81.77**	**323**	P	**P**	**01 57 11.0**	**+0.2**
FDMO				IAmb	IAmb	01 57 11.8	
	comp=Z,2.1nm,0.7s						
NRCA	**Norcia**	**81.92**	**323**	P	**P**	**01 57 11.9**	**+0.3**
NRCA				IAmb	IAmb	01 57 12.9	
	comp=Z,2.4nm,0.7s						
TXAR	**Lajitas Array**	**87.85**	**51**	P	**P**	**01 57 41.4**	**-0.3**
	comp=Z,0.3nm,0.9s,baz=319,slow=3.6,SNR=2.6						
	comp=Z,0.3nm,0.9s						

*THE **12** 01:48:13.5, 37.°67N×20.°54E, h0km±4km, ML3.1/14, Error ellipse: s-maj=5.9km s-min=0.7km az=220.0*
*ATH **12** 01:48:14.1, 37.°72N×20.°59E, h15km±1km, ML2.9/8, Error ellipse: s-maj=1.9km s-min=0.7km az=234.0*
ISC 12 01:48:14.1±1.1, 37.°75N±0.°04×20.°62E±0.°05, h15km±6km, n24, σ0°42/45, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.17**	**103**	P	**Pg**	**01 48 18.3**	**-0.1**
LTHK				S	**Sg**	**01 48 21.6**	**+0.4**
KRI1	**kERI**	**0.18**	**119**	P	**Pg**	**01 48 18.2**	**-0.2**
KRI1				S	**Sg**	**01 48 21.3**	**0.0**
	15μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.37**	**355**	P	**Pb**	**01 48 22.1**	**-0.2**
PSDA				S	**Sb**	**01 48 28.6**	**+0.7**
VLS	**Valsamata**	**0.43**	**357**	P	**Pg**	**01 48 23.0**	**+0.3**
VLS				S	**Sb**	**01 48 30.1**	**+0.4**
VLS				AML	AML	01 48 31.3	
	comp=E,9735μm,0.3s						
VLS				AML	AML	01 48 31.4	
	comp=N,4430μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.47**	**342**	P	**Pb**	**01 48 24.0**	**-0.2**
LXRA				S	**Sb**	**01 48 31.1**	**+0.2**
SMHA	**Samh**	**0.50**	**2**	P	**Pg**	**01 48 24.0**	**-0.2**
SMHA				S	**Sb**	**01 48 31.6**	**-0.1**
DMLN	**Damoulianata-K**	**0.53**	**338**	P	**Pg**	**01 48 24.7**	**+0.1**
DMLN				S	**Sb**	**01 48 33.4**	**+0.9**
FSK	**Fiskardo**	**0.71**	**356**	P	**Pb**	**01 48 27.9**	**-0.2**
FSK				S	**Sb**	**01 48 38.2**	**+0.4**
FSK				AML	AML	01 48 41.5	
	comp=N,3366μm,0.2s						
FSK				AML	AML	01 48 42.9	
	comp=E,3538μm,0.2s						
RLS	**Riolos of Patr**	**0.74**	**65**	P	**Pb**	**01 48 28.5**	**-0.1**
RLS				S	**Sn**	**01 48 40.2**	**-0.6**
RLS				AML	AML	01 48 42.1	
	comp=N,1630μm,0.4s						
RLS				AML	AML	01 48 43.6	
	comp=E,1604μm,0.5s						
EVGI	**Lefkada island**	**0.87**	**2**	P	**Pb**	**01 48 30.9**	**0.0**
EVGI				S	**Sn**	**01 48 43.8**	**-0.5**
DRO	**Drossia**	**0.89**	**76**	P	**Pb**	**01 48 31.4**	**+0.3**
DRO				S	**Sb**	**01 48 42.9**	**+0.1**
AMT	**Artemida-Makis**	**0.89**	**104**	P	**Pb**	**01 48 30.9**	**-0.3**
AMT				S	**Sb**	**01 48 43.2**	**+0.3**
AMT				AML	AML	01 48 49.4	
	comp=N,3695μm,0.3s						
AMT				AML	AML	01 48 54.8	
	comp=E,3329μm,0.4s						
DRAG	**Dragano-Lefkad**	**0.94**	**358**	P	**Pb**	**01 48 31.8**	**-0.2**
DRAG				S	**Sg**	**01 48 44.4**	**-0.1**
NYDR	**Nydri-Lefkada**	**0.97**	**4**	P	**Pb**	**01 48 32.2**	**-0.4**
NYDR				S	**Sn**	**01 48 46.1**	**-0.4**
LKD2	**Lefkada island**	**1.04**	**2**	P	**Pn**	**01 48 34.1**	**0.0**
LKD2				S	**Sn**	**01 48 48.3**	**-0.1**
LKD2				AML	AML	01 48 57.2	
	comp=N,833μm,0.2s						
LKD2				AML	AML	01 49 00.7	
	comp=E,1515μm,0.3s						
TSLK	**Tsoukalades, L**	**1.08**	**1**	P	**Pb**	**01 48 34.4**	**0.0**
TSLK				S	**Sn**	**01 48 49.6**	**+0.3**
ITM	**Ithomi**	**1.18**	**118**	P	**Pn**	**01 48 36.0**	**-0.1**
ITM				S	**Sn**	**01 48 52.5**	**+0.7**
ITM				AML	AML	01 49 03.0	
	comp=E,445μm,0.7s						
ITM				AML	AML	01 49 04.6	
	comp=N,449μm,0.5s						
EFP	**Efpalio**	**1.22**	**56**	P	**Pb**	**01 48 37.3**	**+0.4**
EFP				S	**Sg**	**01 48 53.1**	**-0.5**
EFP				AML	AML	01 49 03.8	
	comp=N,1097μm,0.4s						
EFP				AML	AML	01 49 04.4	
	comp=E,759μm,0.4s						
PYL	**PYLOS**	**1.23**	**133**	P	**Pn**	**01 48 35.9**	**-0.8**
PYL				S	**Sb**	**01 48 53.6**	**+0.9**
PYL				AML	AML	01 48 56.4	
	comp=E,976μm,0.5s						
PYL				AML	AML	01 49 00.5	
	comp=N,474μm,0.6s						
KLV	**Kalavryta, Ach**	**1.24**	**76**	P	**Pn**	**01 48 36.9**	**0.0**
ANX	**Ano Chora**	**1.33**	**50**	P	**Pb**	**01 48 39.1**	**+0.4**
ANX				S	**Sg**	**01 48 56.1**	**-0.9**
KALE	**Kalithea**	**1.36**	**61**	P	**Pb**	**01 48 39.2**	**0.0**
KALE				S	**Sb**	**01 48 56.9**	**+0.4**
GUR	**Goura**	**1.37**	**82**	P	**Pb**	**01 48 39.6**	**+0.1**
EVR	**Evrytania**	**1.49**	**38**	P	**Pn**	**01 48 40.8**	**+0.3**

*IDC **12** 01:54:56.6±0.9, 71.°10N×8.°76W, h0km, mb3.7/10, mbtmp3.7/14, ML3.6/4, MS3.2/17, Error ellipse: s-maj=20.5km s-min=8.6km az=63.0*
*NAO **12** 01:54:57.1±2.1, 71.°20N×9.°59W, h27km±13km, ML4.5*
*BER **12** 01:54:57.7±3.7, 71.°31N×9.°64W, h0km±16km, mb(Pn)4.5, ML4.1, ML4.5(NAO), Confirmed Earthquake*
*NEIC **12** 01:54:58.7±2.0, 71.°37N±0.°06×9.°0W±0.°2, h10km±1km, mb4.3/19, Error ellipse: s-maj=11.9km s-min=10.7km az=271.0*
*DNK **12** 01:55:00.0±3.7, 71.°58N×10.°02W, h0km±42km, ML2.3*
ISC 12 01:54:58.1±0.4, 71.°38N±0.°04×8.°83W±0.°05, h10km, n149, σ2°05/142, mb4.1/26, MS3.2/16, 3C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.38**	**159**	⇑*i*P	**Pg**	**01 55 06.0**	**+0.5**
JNW				*e*S	**Sg**	**01 55 11.9**	**+1.5**
JNW				IAML		01 55 12.8	
	comp=Z,19μm,0.3s						
JMIC	**Jan Mayen**	**0.41**	**165**	Pg	**Pg**	**01 55 06.0**	**-0.1**
JMIC				Lg	Lg	01 55 12.1	
JMIC	**Jan Mayen**	**0.41**	**165**	⇑*i*P	**Pg**	**01 55 06.0**	**-0.1**
JMIC				*e*S	**Sg**	**01 55 12.0**	**+0.5**
JMIC				IAML		01 55 16.2	
	comp=Z,10μm,0.3s						
JMIC	**Jan Mayen**	**0.41**	**165**	Pn	**Pg**	**01 55 06.0**	**-0.1**
	comp=Z,5μm,0.3s,baz=309,slow=12,SNR=287						
JMIC				Sn	**Sg**	**01 55 11.7**	**+0.2**
	comp=Z,3μm,0.3s,baz=334,slow=18,SNR=15						
JNE	**Jan Mayen East**	**0.43**	**156**	⇑*i*P	**Pg**	**01 55 06.6**	**+0.1**
JNE				*e*S	**Sg**	**01 55 13.1**	**+1.1**
JNE				IAML		01 55 13.5	
	comp=Z,12μm,0.1s						
JMI	**Jan Mayen**	**0.46**	**176**	Pg	**Pg**	**01 55 06.2**	**-0.7**
JMI				Lg	Lg	01 55 12.5	
SCO	**Scoresbysund**	**4.39**	**264**	Pn	**Pn**	**01 56 02.5**	**-2.2**
SCO	**Scoresbysund**	**4.39**	**264**	*i* P	**Pn**	**01 56 00.7**	**-4.0**
SCO	**Scoresbysund**	**4.39**	**264**	*i* P	**Pn**	**01 56 00.7**	**-4.0**
DBG	**Daneborg**	**4.47**	**316**	Pn	**Pn**	**01 56 01.4**	**-4.4**
DBG				Sn	Sn	01 56 47.9	-10
DBG	**Daneborg**	**4.47**	**316**	*i* P	**Pn**	**01 56 01.4**	**-4.4**
DBG				*i* S	Sn	01 56 46.8	-11
DBG				IAML		01 56 50.5	
	comp=Z,13nm,0.3s						
DBG	**Daneborg**	**4.47**	**316**	*i* P	**Pn**	**01 56 01.4**	**-4.4**
DBG				*i* S	Sn	01 56 46.8	-11
DBG				IAML		01 56 50.5	
	comp=Z,13nm,0.3s						
DAG	**Danmarks Havn**	**6.04**	**338**	*i* P	**Pn**	**01 56 24.6**	**-2.7**
DAG				*i* S	Sn	01 57 26.8	-10
DAG				IAML		01 57 31.0	
	comp=Z,33nm,0.3s						
DAG	**Danmarks Havn**	**6.04**	**338**	*i* P	**Pn**	**01 56 24.6**	**-2.7**
DAG				*i* S	Sn	01 57 26.8	-10
DAG				IAML		01 57 31.0	
	comp=Z,33nm,0.3s						
BORG	**Borgarnes**	**8.12**	**221**	Pn	**Pn**	**01 56 58.1**	**+2.3**
BORG	**Borgarnes**	**8.12**	**221**	Pn	**Pn**	**01 56 58.4**	**+2.6**
	comp=Z,1.3nm,0.3s,baz=359,slow=8.3,SNR=7.7						
BORG				Sn	**Sn**	**01 58 24.6**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=187,slow=19,SNR=2.3						
LOF	**Lofoten**	**8.38**	**102**	Pn	**Pn**	**01 56 58.5**	**-0.9**
LOF	**Lofoten**	**8.38**	**102**	*e*P	**Pn**	**01 56 59.3**	**-0.1**
HSPB	**Hornsund (broa**	**8.64**	**38**	Pn	**Pn**	**01 57 03.2**	**+0.3**
HSPB	**Hornsund (broa**	**8.64**	**38**	*e*P	**Pn**	**01 57 03.4**	**+0.5**
BJO1	**Bjornoya**	**8.70**	**56**	Pn	**Pn**	**01 57 06.1**	**+2.5**
BJO1	**Bjornoya**	**8.70**	**56**	*e*P	**Pn**	**01 57 05.8**	**+2.2**
BRBA	**Barentsburg A**	**8.96**	**32**	Pn	**Pn**	**01 57 07.3**	**0.0**
BRBB	**Barentsburg B**	**8.98**	**31**	Pn	**Pn**	**01 57 08.1**	**+0.6**
STEI	**Steigen**	**9.03**	**101**	*e*P	**Pn**	**01 57 08.7**	**+0.5**
KBS	**Kingsbay**	**9.18**	**25**	Pn	**Pn**	**01 57 10.6**	**+0.3**
KBS				Sn	**Sn**	**01 58 46.9**	**-6.5**
KBS	**Kingsbay**	**9.18**	**25**	Pn	**Pn**	**01 57 09.8**	**-0.5**
KBS	**Kingsbay**	**9.18**	**25**	*e*P	**Pn**	**01 57 10.5**	**+0.3**
KBS	**Kingsbay**	**9.18**	**25**	*i* P	**Pn**	**01 57 10.2**	**0.0**
KBS				*e*S	**Sn**	**01 58 46.3**	**-7.0**
SUMG	**Summit**	**9.20**	**291**	Pn	**Pn**	**01 57 09.7**	**-1.3**
SUMG	**Summit**	**9.20**	**291**	*i* P	**Pn**	**01 57 07.2**	**-3.8**
SUMG				*e*S	Sn	01 58 40.9	-14
SUMG				IAML		01 58 48.4	

KEV	**Kevo**	**11.92**	**81**	*e*P	**Pn**	**01 57 50.0**	**+2.2**
BER	**Bergen**	**12.41**	**146**	*e*P	**Pn**	**01 57 52.1**	**-2.4**
NEEM	**North Greenlan**	**12.55**	**317**	*i* P	Pn	01 57 50.2	-6.4
NEEM	**North Greenlan**	**12.55**	**317**	*i* P	Pn	01 57 50.2	-6.4
SKAR	**Skarslia**	**12.72**	**139**	*e*P	**Pn**	**01 57 56.6**	**-2.3**
NC204	**NORSAR Array S**	**12.74**	**133**	Pn	**Pn**	**01 57 58.2**	**-0.9**
NOA	**NORSAR Array B**	**13.06**	**132**	Pn	Pn	01 57 59.4	-4.0
	baz=326,slow=13,SNR=1.8						
NOA				Sn	Sn	02 00 20.7	-7.8
	baz=292,slow=13,SNR=3.7						
	comp=Z,0.2nm,0.3s						
NRA0	**NORESS Array S**	**13.40**	**132**	Pn	**Pn**	**01 58 06.2**	**-1.8**
	baz=328,slow=10						
NRA0				Sn	Sn	02 00 28.4	-8.4
	baz=325,slow=28						
NRA0	**NORESS Array S**	**13.40**	**132**	Pn	**Pn**	**01 58 06.2**	**-1.8**
	baz=328,slow=10						
NRA0				Sn	Sn	02 00 28.4	-8.4
	baz=325,slow=28						
BLS5	**Blasjo**	**13.52**	**145**	*e*P	**Pn**	**01 58 07.2**	**-2.4**
KPL	**Plockton**	**14.16**	**173**	*e*P	**Pn**	**01 58 17.2**	**-1.2**
HFS	**Hagfors**	**14.45**	**130**	P	**Pn**	**01 58 19.6**	**-2.8**
	baz=318,slow=12						
HFS	**Hagfors**	**14.45**	**130**	P	**Pn**	**01 58 19.6**	**-2.8**
	baz=318,slow=12						
HFS	**Hagfors**	**14.45**	**130**	Pn	**Pn**	**01 58 19.8**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=326,slow=9.3,SNR=11						
HFS				Sn	Sn	02 00 54.3	-8.1
	comp=Z,0.3nm,0.3s,baz=341,slow=25,SNR=2.3						
HFS				LR	LR	02 03 14.2	
	comp=Z,69nm,19.6s,baz=324,slow=35						
	comp=Z,2.1nm,0.4s						
APA0	**Apatity Array**	**14.88**	**84**	P	**Pn**	**01 58 29.3**	**+1.1**
	baz=298,slow=12						
APA0	**Apatity Array**	**14.88**	**84**	P	**Pn**	**01 58 29.3**	**+1.1**
	baz=298,slow=12						
LVZ	**Lovozero**	**15.25**	**82**	Pn	**Pn**	**01 58 34.6**	**+1.4**
LVZ				IAmb	IAmb	01 58 43.6	
	comp=Z,26nm,1.1s						
EKA	**Eskdalemuir Ar**	**16.29**	**168**	Pn	**Pn**	**01 58 45.0**	**-1.7**
	baz=353,slow=12						
	comp=Z,1.2nm,0.4s						
ESK	**Eskdalemuir**	**16.31**	**168**	Pn	**Pn**	**01 58 46.1**	**-0.7**
ESK				IAmb	IAmb	01 58 58.2	
	comp=Z,40nm,1.4s						
FIA0	**FINESS Array S**	**16.84**	**108**	P	**Pn**	**01 58 54.4**	**+0.8**
	baz=321,slow=14						
FIA0	**FINESS Array S**	**16.84**	**108**	P	**Pn**	**01 58 54.4**	**+0.8**
	baz=321,slow=14						
FIA1	**FINESS Array S**	**16.84**	**108**	Pn	**Pn**	**01 58 54.2**	**+0.6**
FINES	**FINESS Array B**	**16.84**	**108**	Pn	**Pn**	**01 58 54.4**	**+0.8**
FINES	**FINESS Array B**	**16.84**	**108**	Pn	**Pn**	**01 58 54.5**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=319,slow=12,SNR=44						
FINES				Sn	Sn	02 01 51.6	-8.9
	comp=Z,0.1nm,0.3s,baz=319,slow=20,SNR=1.5						
PABE	**Paberze**	**21.18**	**121**	P	**P**	**01 59 43.5**	**+0.4**
CLL	**Collm**	**22.43**	**142**	*i* P	**P**	**01 59 56.5**	**-0.1**
	comp=Z,9.0nm,1.2s						
FRB	**Frobisher Bay**	**23.04**	**281**	LR	LR	02 08 35.6	
	comp=Z,57nm,19.7s,baz=90,slow=35						
RES	**Resolute Bay**	**23.25**	**318**	P	**P**	**02 00 07.8**	**+2.9**
RES				IAmb	IAmb	02 00 10.5	
	comp=Z,8.9nm,0.9s						
CLF	**Chambon-Foret**	**24.00**	**161**	P	**P**	**02 00 13.0**	**+0.5**
ECH	**Echery**	**24.42**	**154**	P	**P**	**02 00 16.9**	**+0.5**
ECH				IAmb	IAmb	02 00 39.5	
	comp=Z,11nm,1.3s						
KHC	**Kasperske Hory**	**24.61**	**143**	P	**P**	**02 00 18.9**	**+0.6**
MORC	**Moravsky Berou**	**24.82**	**137**	*e*P	**P**	**02 00 19.5**	**-0.6**
GEC2	**GERESS Array S**	**24.91**	**143**	P	**P**	**02 00 23.6**	**+2.6**
GEC2				IAmb	IAmb	02 00 30.1	
	comp=Z,6.4nm,1.2s						
GERES	**GERESS Array B**	**24.91**	**143**	P	**P**	**02 00 20.6**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=334,slow=7.9,SNR=7.8						
	comp=Z,1.8nm,0.8s						
OJC	**Ojcow**	**24.92**	**133**	P	**P**	**02 00 22.6**	**+1.7**
OJC				IAmb	IAmb	02 00 25.0	
	comp=Z,8.5nm,0.8s						
VRAC	**Vranov**	**25.06**	**138**	LR	LR	02 09 39.0	
	comp=Z,29nm,18.2s,baz=326,slow=36						
VRAC	**Vranov**	**25.06**	**138**	*e*P	**P**	**02 00 22.5**	**+0.3**
KRUC	**Moravsky**	**25.25**	**139**	*e*P	**P**	**02 00 22.1**	**-1.8**
RETA	**Reutte**	**25.69**	**148**	*e*P	**P**	**02 00 30.6**	**+2.6**
	comp=Z,8.6nm,1.7s						
LANS	**Liptovska Anna**	**25.84**	**134**	*e*P	**P**	**02 00 26.5**	**-2.8**
MOTA	**Moosalm**	**25.89**	**148**	*e*P	**P**	**02 00 33.0**	**+3.1**
	comp=Z,6.3nm,1.6s						
SQTA	**Sankt Quirin**	**26.02**	**148**	*e*P	**P**	**02 00 34.3**	**+3.2**
	comp=Z,9.1nm,1.6s						
FETA	**Feichten**	**26.14**	**149**	*e*pP	pP	02 00 35.3	+0.8
	comp=Z,3.5nm,1.1s						
CONA	**Conrad Observa**	**26.22**	**141**	*e*P	**P**	**02 00 36.6**	**+3.8**
	comp=Z,2.5nm,1.1s						
DAVOX	**Davos/Dischmat**	**26.23**	**150**	LR	LR	02 10 40.7	
	comp=Z,35nm,19.4s,baz=269,slow=36						
VYHS	**Vyhne**	**26.32**	**136**	*e*P	**P**	**02 00 37.2**	**+3.6**
KIRV	**Kirov**	**26.46**	**88**	LR	LR	02 10 15.6	
	comp=Z,41nm,19.9s,baz=320,slow=35						
KOLS	**Kolonicke sedl**	**26.71**	**131**	*e*P	**P**	**02 00 40.2**	**+3.1**
AKASG	**Malin Array Be**	**26.91**	**120**	P	**P**	**02 00 38.0**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=335,slow=9.4,SNR=3.3						
AKASG				LR	LR	02 11 19.2	
	comp=Z,42nm,19.5s,baz=181,slow=37						
	comp=Z,0.5nm,0.4s						
BUR08	**Bucovina Ar. S**	**28.64**	**128**	P	**P**	**02 00 57.2**	**+2.8**
BUR08				IAmb	IAmb	02 01 37.7	
	comp=Z,8.8nm,1.4s						
SCHQ	**Schefferville**	**29.44**	**267**	LR	LR	02 11 00.5	
	comp=Z,51nm,18.1s,baz=290,slow=33						
MLR	**Muntele Rosu**	**30.83**	**128**	LR	LR	02 14 00.1	
	comp=Z,68nm,18.1s,baz=341,slow=37						
BELG	**Belogornoye**	**31.00**	**97**	LR	LR	02 12 52.4	
	comp=Z,39nm,18.1s,baz=249,slow=35						
ESDC	**Sonseca Array**	**31.87**	**173**	P	**P**	**02 01 22.2**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=358,slow=9.8,SNR=8.2						
ESDC				LR	LR	02 12 50.0	
	comp=Z,44nm,18.3s,baz=289,slow=34						
	comp=Z,1.5nm,0.8s						
ABKAR	**Akbulak array**	**37.66**	**88**	P	**P**	**02 02 14.2**	**+1.3**
BVAR	**Borovoye Array**	**37.72**	**76**	P	**P**	**02 02 14.5**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=321,slow=11,SNR=2.7						
	comp=Z,0.6nm,0.6s						
BRTR	**Keskin Array B**	**38.23**	**123**	P	**P**	**02 02 20.3**	**+2.4**
BRTR	**Keskin Array B**	**38.23**	**123**	P	**P**	**02 02 18.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=331,slow=5.9,SNR=2.6						
	comp=Z,0.4nm,0.5s						
MDT	**Midelt**	**38.69**	**174**	LR	LR	02 18 05.8	
	comp=Z,32nm,18.3s,baz=310,slow=36						
I30M	**Mount Dempster**	**39.08**	**328**	P	**P**	**02 02 24.5**	**-0.2**
GNI	**Garni**	**41.03**	**110**	LR	LR	02 18 28.6	
	comp=Z,17nm,18.1s,baz=326,slow=34						
K27K	**Chicken**	**41.12**	**331**	P	**P**	**02 02 41.2**	**-0.3**
K27K				IAmb	IAmb	02 03 13.6	
	comp=Z,7.7nm,1.4s						
ILAR	**Eielson Array**	**41.13**	**334**	P	**P**	**02 02 41.8**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=25,slow=6.9,SNR=4.0						
	comp=Z,0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**41.26**	**63**	LR	LR	02 22 12.5	
	comp=Z,31nm,21.1s,baz=347,slow=40						
CCB	**Clear Creek Bu**	**41.38**	**335**	P	**P**	**02 02 44.8**	**+1.2**
CCB				IAmb	IAmb	02 03 06.6	
	comp=Z,5.1nm,1.4s						
KURBB	**Kurchatov Arra**	**42.32**	**71**	P	**P**	**02 02 52.0**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=331,slow=7.1,SNR=3.0						
	comp=Z,0.6nm,0.8s						
KKAR	**Karatay Array**	**46.51**	**83**	P	**P**	**02 03 26.1**	**+1.0**
MKAR	**Makanchi Array**	**46.86**	**70**	P	**P**	**02 03 27.9**	**+0.1**
MKAR	**Makanchi Array**	**46.86**	**70**	P	**P**	**02 03 28.2**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=323,slow=9.1,SNR=4.0						
	comp=Z,1.3nm,0.9s						
TAM	**Tamanrasset**	**49.31**	**162**	P	**P**	**02 03 46.9**	**-0.2**
TAM				IAmb	IAmb	02 03 48.6	
	comp=Z,2.3nm,0.8s						
SONM	**Songino Array**	**52.59**	**50**	LR	LR	02 28 17.1	
	comp=Z,37nm,19.9s,baz=238,slow=38						
PDAR	**Pinedale Array**	**53.37**	**296**	LR	LR	02 26 52.7	
	comp=Z,38nm,19.1s,baz=12,slow=36						
MIAR	**Mount Ida**	**56.02**	**278**	P	**P**	**02 04 36.3**	**-0.2**
ADK	**Adak**	**56.74**	**351**	P	**P**	**02 04 43.1**	**+1.8**
TORD	**Torodi Ar. Bea**	**58.55**	**168**	P	**P**	**02 04 53.4**	**-1.1**
TORD				IAmb	IAmb	02 04 54.5	
	comp=Z,2.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**58.55**	**168**	P	**P**	**02 04 53.6**	**-1.0**
	comp=Z,3.3nm,0.6s,baz=347,slow=8.0,SNR=34						
	comp=Z,3.3nm,0.6s						
HHC	**Hu-ho-hao-te**	**60.41**	**49**	*e*P	**P**	**02 05 07.8**	**+0.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,73nm,4.4s						
LZH	**Lanzhou**	**62.93**	**57**	*e*P	P	02 05 18.9	-5.5
LZH				sP	pP	02 05 25.0	-1.9
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
TXAR	**Lajitas Array**	**64.03**	**285**	P	**P**	**02 05 30.8**	**-0.8**
	comp=Z,0.2nm,0.9s,baz=12,slow=4.7,SNR=2.1						
	comp=Z,0.2nm,0.9s						
DBIC	**Dimbokro**	**64.69**	**176**	LR	LR	02 34 04.2	
	comp=Z,29nm,18.5s,baz=282,slow=36						
PZH	**PanZhiHua**	**71.39**	**62**	P	**P**	**02 06 19.7**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.4s						
ATAH	**Atahualpa**	**90.32**	**248**	LR	LR	02 45 31.0	
	comp=Z,28nm,19.6s,baz=63,slow=34						

*THE **12** 02:21:44.8, 37.°60N×20.°48E, h2km×33km, ML2.9/13, Error ellipse: s-maj=33.8km s-min=0.6km az=0.0*
*ATH **12** 02:21:45.1, 37.°62N×20.°51E, h12km±1km, ML3.0/13, Error ellipse: s-maj=3.1km s-min=1.1km az=42.0*
ISC 12 02:21:45.5±1.5, 37.°63N±0.°05×20.°54E±0.°06, h13km±7km, n42, σ0.°88/58, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.23**	**81**	P	**Pg**	**02 21 50.3**	**0.0**
KRI1				S	**Sg**	**02 21 54.2**	**+0.6**
	10μm,0.4s						
LTHK	**Lithakia**	**0.25**	**71**	P	**Pg**	**02 21 50.5**	**-0.3**
LTHK				S	**Sg**	**02 21 54.8**	**+0.4**
	6μm,0.3s						
LTHK	**Lithakia**	**0.25**	**71**	P	**Pg**	**02 21 50.5**	**-0.3**
LTHK				S	**Sg**	**02 21 55.0**	**+0.6**
LTHK				AML	AML	02 21 55.5	
	comp=N,14078μm,0.3s						
LTHK				AML	AML	02 21 57.5	
	comp=E,9108μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.48**	**22**	P	**Pg**	**02 21 54.7**	**-0.3**
RTZL				S	**Sb**	**02 22 02.5**	**-0.4**
	comp=E,1μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.49**	**4**	P	**Pg**	**02 21 54.5**	**-0.6**
PSDA				S	**Sb**	**02 22 02.0**	**-1.0**
	comp=E,2μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.49**	**4**	P	**Pg**	**02 21 54.8**	**-0.3**
PSDA				S	**Sb**	**02 22 02.1**	**-1.0**
VLS	**Valsamata**	**0.55**	**4**	P	**Pg**	**02 21 55.5**	**-0.8**
VLS				S	**Sb**	**02 22 04.2**	**-0.7**
	comp=E,1μm,0.3s						
VLS	**Valsamata**	**0.55**	**4**	P	**Pg**	**02 21 55.6**	**-0.7**
VLS				AML	AML	02 22 05.0	
	comp=N,3143μm,0.4s						
VLS				AML	AML	02 22 10.4	
	comp=E,2135μm,12.1s						
LXRA	**Lixouri, Kepha**	**0.58**	**352**	P	**Pg**	**02 21 56.5**	**-0.3**
LXRA				S	**Sg**	**02 22 04.3**	**-0.2**
LXRA				AML	AML	02 22 14.5	
	comp=N,8111μm,0.4s						
LXRA				AML	AML	02 22 15.1	
	comp=E,6016μm,0.6s						
LXR1	**Lixouri, Cepha**	**0.58**	**352**	P	**Pg**	**02 21 56.5**	**-0.3**
LXR1				S	**Sb**	**02 22 06.0**	**+0.4**
	comp=E,5μm,0.5s						
DMLN	**Damoulianata-K**	**0.62**	**348**	P	**Pg**	**02 21 57.1**	**-0.6**
DMLN				S	**Sb**	**02 22 06.9**	**-0.1**
	comp=E,2μm,0.4s						
DMLN	**Damoulianata-K**	**0.62**	**348**	P	**Pg**	**02 21 56.8**	**-0.8**
SMHA	**Samh**	**0.63**	**8**	P	**Pg**	**02 21 56.8**	**-1.0**
VSK1	**VASILIKIADES**	**0.78**	**2**	P	**Pg**	**02 21 59.9**	**-0.7**
VSK1				S	**Sb**	**02 22 11.7**	**+0.2**
	comp=E,1μm,0.8s						
FSK	**Fiskardo**	**0.83**	**1**	P	**Pg**	**02 22 00.5**	**-1.1**
FSK				S	**Sb**	**02 22 13.5**	**+0.6**
	comp=E,790nm,0.5s						
FSK	**Fiskardo**	**0.83**	**1**	P	**Pg**	**02 22 00.7**	**-0.9**
FSK				AML	AML	02 22 20.2	
	comp=E,1750μm,0.4s						
FSK				AML	AML	02 22 21.5	
	comp=N,1251μm,0.4s						
RLS	**Riolos of Patr**	**0.85**	**59**	P	**Pg**	**02 22 01.6**	**-0.4**
RLS				AML	AML	02 22 15.8	
	comp=E,1454μm,0.7s						
RLS				AML	AML	02 22 17.7	
	comp=N,1036μm,0.6s						
AMT	**Artemida-Makis**	**0.94**	**95**	P	**Pg**	**02 22 03.1**	**-0.5**
AMT				AML	AML	02 22 22.8	
	comp=E,3932μm,0.5s						
AMT				AML	AML	02 22 23.2	
	comp=N,2661μm,0.5s						
DRO	**Drossia**	**0.98**	**70**	P	**Pg**	**02 22 03.6**	**-0.9**
DRO				S	**Sn**	**02 22 19.7**	**+0.8**
	comp=N,755nm,0.5s						
DRO	**Drossia**	**0.98**	**70**	P	**Pg**	**02 22 03.8**	**-0.7**
DRO				AML	AML	02 22 26.8	
	comp=N,1287μm,0.4s						
DRO				AML	AML	02 22 27.7	
	comp=E,1709μm,0.7s						
EVGI	**Lefkada island**	**1.00**	**5**	P	**Pg**	**02 22 03.5**	**-1.2**
EVGI				S	**Sn**	**02 22 18.8**	**-0.4**
	comp=E,578nm,0.4s						
EVGI	**Lefkada island**	**1.00**	**5**	P	**Pg**	**02 22 03.5**	**-1.2**
DRAG	**Dragano-Lefkad**	**1.06**	**2**	P	**Pg**	**02 22 04.3**	**-1.5**
NYDR	**Nydri-Lefkada**	**1.09**	**7**	P	**Pg**	**02 22 05.1**	**-1.4**
LKD2	**Lefkada island**	**1.16**	**5**	P	**Pb**	**02 22 07.6**	**+0.1**
LKD2				S	**Sn**	**02 22 25.4**	**+2.1**
	comp=E,522nm,0.7s						
LKD2	**Lefkada island**	**1.16**	**5**	P	**Pb**	**02 22 07.5**	**+0.1**
UPR	**University Cam**	**1.19**	**56**	P	**Pn**	**02 22 08.0**	**+0.3**
ITM	**Ithomi**	**1.19**	**112**	P	**Pg**	**02 22 07.2**	**-1.2**
ITM				AML	AML	02 22 37.1	
	comp=N,922μm,1.2s						
ITM				AML	AML	02 22 38.8	
	comp=E,749μm,1.4s						
TSLK	**Tsoukalades, L**	**1.20**	**4**	P	**Pg**	**02 22 07.8**	**-0.8**
TSLK	**Tsoukalades, L**	**1.20**	**4**	P	**Pg**	**02 22 07.3**	**-1.3**
TSLK				AML	AML	02 22 33.4	
	comp=E,1487μm,1.2s						
TSLK				AML	AML	02 22 37.1	
	comp=N,1367μm,0.6s						
PYL	**PYLOS**	**1.21**	**127**	P	**Pg**	**02 22 07.8**	**-0.9**
PYL				S	**Sn**	**02 22 25.7**	**+1.4**
	comp=N,388nm,0.5s						
PYL	**PYLOS**	**1.21**	**127**	P	**Pg**	**02 22 07.6**	**-1.1**
PYL				AML	AML	02 22 28.6	
	comp=E,867μm,0.5s						
PYL				AML	AML	02 22 31.6	
	comp=N,677μm,0.6s						
KLV	**Kalavryta, Ach**	**1.34**	**71**	P	**Pn**	**02 22 10.1**	**+0.1**
EFP	**Efpalio**	**1.34**	**53**	P	**Pn**	**02 22 09.7**	**-0.3**
EFP				AML	AML	02 22 37.8	
	comp=N,720μm,0.7s						
EFP				AML	AML	02 22 40.2	
	comp=E,534μm,0.8s						
ANX	**Ano Chora**	**1.46**	**48**	P	**Pn**	**02 22 12.2**	**+0.6**
ANX				AML	AML	02 22 40.0	
	comp=N,1515μm,0.6s						
ANX				AML	AML	02 22 43.5	
	comp=E,829μm,0.6s						
GUR	**Goura**	**1.46**	**77**	P	**Pn**	**02 22 11.8**	**+0.1**
GUR				AML	AML	02 22 44.6	
	comp=E,633μm,1.0s						
GUR				AML	AML	02 22 46.3	
	comp=N,790μm,0.5s						
KALE	**Kalithea**	**1.48**	**58**	P	**Pn**	**02 22 12.2**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.87**	**42**	P	**Pb**	**02 22 18.8**	**-0.7**
IGT	**Igoumenitsa**	**1.91**	**355**	P	**Pn**	**02 22 18.8**	**+1.0**
AXAR	**Agios Charalam**	**2.02**	**55**	P	**Pb**	**02 22 21.1**	**-1.0**
THL	**Klokotos Trika**	**2.25**	**30**	P	**Pb**	**02 22 24.8**	**-1.2**
TYRN	**Tyrnavos**	**2.47**	**32**	P	**Pn**	**02 22 27.6**	**+2.1**

*IDC **12** 02:26:41.7±1.1, 28.°30N×105.°20E, h0km, mb3.5/6, mbtmp3.6/8, ML4.2/2, MS2.7/2, Error ellipse: s-maj=34.2km s-min=20.1km az=65.0*
ISC 12 02:26:44.3±1.0, 28.°3N±0.°1×105.°2E±0.°2, h19km, n8, σ0.°81/8, mb3.6/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.39**	**212**	Pn	**Pn**	**02 29 26.1**	**0.0**
	1.1nm,0.3s,baz=21,slow=12,SNR=5.5						
CMAR				LR	LR	02 34 08.0	
	comp=Z,25nm,18.3s,baz=50,slow=39						
	1.6nm,0.3s						
SONM	**Songino Array**	**19.49**	**2**	P	**Pn**	**02 31 12.3**	**+0.7**
	0.2nm,0.3s,baz=182,slow=12,SNR=5.2						
SONM				LR	LR	02 39 20.6	
	comp=Z,29nm,21.9s,baz=192,slow=39						
	1.0nm,0.7s						
KSRS	**Korea Array**	**21.09**	**59**	P	**P**	**02 31 27.0**	**-0.6**
	0.9nm,0.6s,baz=265,slow=11,SNR=1.8						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	**25.72**	**322**	P	**P**	**02 32 12.8**	**-0.6**
	1.8nm,0.9s,baz=127,slow=12,SNR=3.0						
	1.8nm,0.9s						
KURBB	**Kurchatov Arra**	**30.04**	**325**	P	**P**	**02 32 53.2**	**+1.3**
	0.4nm,0.6s,baz=129,slow=9.9,SNR=5.4						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**35.57**	**324**	P	**P**	**02 33 39.8**	**-0.5**
	0.5nm,0.7s,baz=165,slow=6.0,SNR=2.4						
	0.5nm,0.7s						
WRA	**Warramunga Arr**	**55.65**	**146**	P	**P**	**02 36 19.2**	**0.0**
	0.5nm,0.7s,baz=336,slow=8.5,SNR=4.9						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**58.63**	**149**	P	**P**	**02 36 40.8**	**+0.4**
	0.5nm,0.8s,baz=327,slow=6.6,SNR=2.9						
	0.5nm,0.8s						

*THE **12** 02:29:04.3, 36.°70N×21.°60E, h1km±2km, ML3.5/8, Error ellipse: s-maj=2.7km s-min=1.0km az=207.0*
*IDC **12** 02:29:07.0±1.4, 36.°38N×21.°55E, h78km±22km, mb3.5/9, mbtmp3.6/15, Error ellipse: s-maj=37.1km s-min=10.5km az=20.0*
*ATH **12** 02:29:06.6, 36.°81N×21.°75E, h16km±1km, ML3.5/7, Error ellipse: s-maj=3.1km s-min=1.5km az=230.0*
*NAO **12** 02:29:09.6, 37.°16N×21.°97E, h33km, mb3.4*
ISC 12 02:29:03.6±1.1, 36.°70N±0.°04×21.°57E±0.°04, h18km±4km, n71, σ1.°41/86, mb3.8/9, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.24**	**35**	P	**Pg**	**02 29 09.6**	**+0.5**
PYL				S	**Sg**	**02 29 12.2**	**-0.6**
	30μm,0.4s						
PYL	**PYLOS**	**0.24**	**35**	P	**Pg**	**02 29 09.6**	**+0.5**
PYL				S	**Sg**	**02 29 11.9**	**-0.9**
PYL				AML	AML	02 29 13.1	
	comp=N,71061μm,0.3s						
PYL				AML	AML	02 29 13.2	
	comp=E,57751μm,0.2s						
ITM	**Ithomi**	**0.56**	**31**	P	**Pb**	**02 29 14.8**	**0.0**
ITM				S	**Sb**	**02 29 22.9**	**+0.5**
	comp=E,6μm,0.1s						
ITM	**Ithomi**	**0.56**	**31**	P	**Pb**	**02 29 14.7**	**-0.1**
ITM				S	**Sb**	**02 29 20.0**	**-2.4**
ITM				AML	AML	02 29 24.2	
	comp=E,11371μm,0.1s						
ITM				AML	AML	02 29 24.2	
	comp=N,13829μm,0.3s						
AMT	**Artemida-Makis**	**0.84**	**7**	P	**Pb**	**02 29 20.0**	**+0.4**
AMT				S	**Sb**	**02 29 30.8**	**+0.3**
AMT				AML	AML	02 29 36.4	
	comp=E,54700μm,0.3s						
AMT				AML	AML	02 29 38.0	
	comp=N,57834μm,0.3s						
VLI	**Veliai**	**1.10**	**89**	P	**Pb**	**02 29 24.8**	**+0.9**
VLI				S	**Sb**	**02 29 40.0**	**+2.1**
	comp=N,1μm,0.5s						
VLI	**Veliai**	**1.10**	**89**	P	**Pb**	**02 29 24.9**	**+0.9**
VLI				S	**Sb**	**02 29 38.1**	**+0.2**
VLI				AML	AML	02 29 47.6	
	comp=N,3481μm,0.7s						
VLI				AML	AML	02 29 48.2	
	comp=E,2356μm,0.5s						
KRI1	**kERI**	**1.13**	**328**	P	**Pg**	**02 29 25.3**	**-0.2**
KRI1				S	**Sg**	**02 29 42.7**	**+2.3**
	comp=E,3μm,0.3s						
MNVA	**Monemvasia**	**1.18**	**90**	P	**Pb**	**02 29 26.8**	**+1.5**
DRO	**Drossia**	**1.25**	**5**	P	**Pn**	**02 29 26.9**	**+0.7**
DRO				S	**Sg**	**02 29 45.8**	**+1.6**
	comp=E,6μm,0.4s						
DRO	**Drossia**	**1.25**	**5**	P	**Pb**	**02 29 27.2**	**+0.5**
DRO				S	**Sn**	**02 29 43.1**	**+0.5**
DRO				AML	AML	02 29 51.5	
	comp=N,8701μm,0.4s						
DRO				AML	AML	02 29 54.5	
	comp=E,14664μm,0.5s						
RLS	**Riolos of Patr**	**1.36**	**356**	P	**Pb**	**02 29 29.0**	**+0.6**
RLS				S	**Sg**	**02 29 48.9**	**+1.4**
	comp=E,1μm,0.5s						
RLS	**Riolos of Patr**	**1.36**	**356**	P	**Pb**	**02 29 29.5**	**+1.1**
RLS				S	**Sn**	**02 29 45.9**	**+0.7**
RLS				AML	AML	02 29 54.7	
	comp=E,2794μm,0.5s						
RLS				AML	AML	02 29 57.3	
	comp=N,2158μm,0.4s						
GUR	**Goura**	**1.38**	**26**	P	**Pn**	**02 29 28.7**	**+0.7**
GUR				S	**Sb**	**02 29 49.1**	**+3.0**
	comp=N,2μm,0.3s						
GUR	**Goura**	**1.38**	**26**	P	**Pn**	**02 29 29.2**	**+1.2**
KLV	**Kalavryta, Ach**	**1.42**	**19**	P	**Pn**	**02 29 29.4**	**+0.9**
KLV				S	**Sg**	**02 29 51.3**	**+1.9**
	comp=N,800nm,0.4s						
KLV	**Kalavryta, Ach**	**1.42**	**19**	P	**Pn**	**02 29 29.7**	**+1.2**
KLV				S	**Sn**	**02 29 47.1**	**+0.4**
KLV				AML	AML	02 29 54.4	
	comp=E,1926μm,0.4s						
KLV

comp=N,0.4nm,0.3s,baz=156,slow=18,SNR=1.8
DAVOX S **Sn** **02 34 37.2 -2.1**
comp=N,0.7nm,0.5s,baz=174,slow=21,SNR=2.0
AKASG Malin Array Be 15.04 19 P **P** **02 32 38.7 -1.5**
comp=N,0.3nm,0.3s,baz=210,slow=9.1,SNR=8.1
HFS Hagfors 23.99 350 P **P** **02 34 16.2 -0.7**
comp=N,2.0nm,0.7s,baz=156,slow=11,SNR=6.2
comp=N,2.0nm,0.7s
FINES FINESS Array B 24.93 5 P **P** **02 34 24.7 -0.6**
comp=N,1.9nm,0.7s,baz=169,slow=11,SNR=6.5
comp=N,1.9nm,0.7s
EKA Eskdalemuir Ar 25.12 326 P **P** **02 34 26.6 -0.5**
comp=N,2.2nm,0.8s,baz=128,slow=9.1,SNR=2.3
comp=N,2.2nm,0.8s
NB2 NORSAR Subarra 25.23 348 P **P** **02 34 28.3 +0.1**
comp=Z,0.8nm,0.7s,baz=159,slow=10
NOA NORSAR Array B 25.23 348 P **P** **02 34 27.4 -0.8**
comp=Z,0.8nm,0.6s,baz=159,slow=9.0,SNR=4.8
comp=Z,0.8nm,0.6s
ARCES ARCESS Array B 32.96 3 P **P** **02 35 37.0 +0.2**
comp=Z,2.9nm,1.0s,baz=197,slow=9.1,SNR=4.0
comp=Z,2.9nm,1.0s
BVAR Borovoye Array 37.45 48 P **P** **02 36 15.3 -0.3**
comp=Z,0.4nm,0.5s,baz=291,slow=12,SNR=2.6
comp=Z,0.4nm,0.5s
KURBB Kurchatov Arra 42.45 52 P **P** **02 36 56.2 -1.0**
comp=Z,0.3nm,0.3s,baz=278,slow=8.7,SNR=2.4
comp=Z,0.3nm,0.3s
MKAR Makanchi Array 45.38 57 P **P** **02 37 19.7 -1.1**
comp=Z,0.4nm,0.6s,baz=268,slow=8.7,SNR=1.9
comp=Z,0.4nm,0.6s
ZALV Zalesovo Beam 46.07 47 P **P** **02 37 24.6 -1.5**
comp=Z,0.5nm,0.4s,baz=264,slow=5.4,SNR=2.5
comp=Z,0.5nm,0.4s

NEIC 12 02:34:08.3±1.1, 41°.38N±0°.02×100°.182W±0°.008, h5km±1km, ML2.1/4, Error ellipse: s-maj=2.9km s-min=2.0km az=0.0, Nebraska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K30B	**Basset**	**1.36**	**18**		Pn	02 34 33.5	-0.5
K30B				Sg	Sb	02 34 51.7	-0.4
OGNE	**Ogallala**	**1.46**	**253**		Pn	02 34 34.9	-0.5
OGNE					Sb	02 34 54.9	0.0
BGNE	**Belgrade**	**1.53**	**88**		Pn	02 34 36.3	+0.1
ECSD	**EROS Data Cent**	**3.54**	**47**	Pn	Pn	02 35 03.5	-0.3
N23A	**Red Feather La**	**4.38**	**266**	Pn	Pn	02 35 15.7	0.0
T25A	**Trinidad**	**5.36**	**219**	Pn	Pn	02 35 29.3	+0.3

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*BEO **12** 02:40:03.1±2.5, 36°.79N×20°.14E, h96km±7km, ML3.9/17*
*IDC **12** 02:40:07.2±1.1, 37°.57N×20°.56E, h0km, mb3.7/8, mbtmp3.6/14, ML3.7/5, MS2.6/1, Error ellipse: s-maj=19.4km s-min=19.0km az=73.0*
*THE **12** 02:40:08.7, 37°.58N×20°.39E, h0km±3km, ML3.7/13, Error ellipse: s-maj=4.2km s-min=0.6km az=224.0*
*NEIC **12** 02:40:08.9±1.9, 37°.52N±0°.05×20°.36E±0°.07, h10km±2km, mb4.3/1, Error ellipse: s-maj=11.1km s-min=5.2km az=231.0*
*ATH **12** 02:40:09.5, 37°.61N×20°.43E, h14km±1km, ML3.8/7, Error ellipse: s-maj=2.5km s-min=1.0km az=53.0*
ISC 12 02:40:09.5±1.1, 37°.62N±0°.03×20°.42E±0°.03, h14km±7km, n149, σ1°.34/179, mb3.8/9, 6C-1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.32**	**82**	P	**Pg**	**02 40 15.4**	**-0.7**
KRI1				S	**Sg**	**02 40 20.6**	**0.0**
29µm,0.4s							
LTHK	**Lithakia**	**0.35**	**74**	P	**Pg**	**02 40 15.8**	**-0.7**
LTHK				S	**Sg**	**02 40 21.2**	**-0.2**
25µm,0.4s							
LTHK	**Lithakia**	**0.35**	**74**	P	**Pg**	**02 40 15.9**	**-0.6**
LTHK				S	**Sg**	**02 40 21.3**	**0.0**
LTHK				AML	AML	02 40 22.2	
comp=E,71301µm,0.4s							
LTHK				AML	AML	02 40 22.5	
comp=N,19355µm,0.2s							
PSDA	**Pessada-Kefalo**	**0.51**	**15**	P	**Pg**	**02 40 19.2**	**-0.4**
PSDA				S	**Sg**	**02 40 27.0**	**+0.5**
comp=N,9µm,0.3s							
PSDA	**Pessada-Kefalo**	**0.51**	**15**	P	**Pg**	**02 40 19.2**	**-0.4**
PSDA				S	**Sg**	**02 40 27.1**	**+0.6**
RTZL	**Ratzakli, Kefa**	**0.54**	**32**	P	**Pg**	**02 40 19.5**	**-0.6**
RTZL				S	**Sg**	**02 40 28.2**	**+0.9**
comp=N,5µm,0.8s							
VLS	**Valsamata**	**0.58**	**14**	P	**Pg**	**02 40 20.2**	**-0.6**
VLS				S	**Sg**	**02 40 28.8**	**+0.3**
comp=N,5µm,0.2s							
VLS	**Valsamata**	**0.58**	**14**	P	**Pg**	**02 40 20.2**	**-0.6**
VLS				S	**Sg**	**02 40 28.7**	**+0.2**
VLS				AML	AML	02 40 30.5	
comp=E,12922µm,0.3s							
VLS				AML	AML	02 40 36.2	
comp=N,13810µm,0.3s							
LXRA	**Lixouri, Kepha**	**0.58**	**2**	P	**Pg**	**02 40 21.4**	**+0.5**
LXRA				S	**Sg**	**02 40 30.0**	**+1.3**
LXR1	**Lixouri, Cepha**	**0.58**	**2**	P	**Pg**	**02 40 21.3**	**+0.4**
LXR1				S	**Sb**	**02 40 30.2**	**+0.6**
comp=N,41µm,0.4s							
DMLN	**Damoulianata-K**	**0.62**	**357**	P	**Pg**	**02 40 21.3**	**-0.4**
DMLN				S	**Sg**	**02 40 31.0**	**+1.1**
comp=N,17µm,0.4s							
DMLN	**Damoulianata-K**	**0.62**	**357**	P	**Pg**	**02 40 21.7**	**+0.1**
DMLN				S	**Sg**	**02 40 30.2**	**+0.3**
SMHA	**Samh**	**0.66**	**16**	P	**Pg**	**02 40 21.5**	**-0.9**
SMHA				S	**Sg**	**02 40 31.2**	**+0.1**
SMHA				AML	AML	02 40 38.9	
comp=E,62314µm,0.4s							
SMHA				AML	AML	02 40 40.3	
comp=N,54504µm,0.3s							
VSK1	**VASILIKIADES**	**0.80**	**8**	P	**Pg**	**02 40 24.3**	**-0.7**
VSK1				S	**Sb**	**02 40 36.9**	**+1.1**
comp=N,8µm,0.5s							
FSK	**Fiskardo**	**0.85**	**8**	P	**Pg**	**02 40 25.3**	**-0.7**
FSK				S	**Sg**	**02 40 37.4**	**+0.3**
comp=N,5µm,0.4s							
FSK	**Fiskardo**	**0.85**	**8**	P	**Pg**	**02 40 25.3**	**-0.7**
FSK				S	**Sg**	**02 40 37.9**	**+0.8**
FSK				AML	AML	02 40 43.9	
comp=N,10225µm,0.4s							
FSK				AML	AML	02 40 47.1	
comp=E,10257µm,0.4s							
RLS	**Riolos of Patr**	**0.94**	**62**	P	**Pg**	**02 40 26.5**	**-1.2**
RLS				S	**Sb**	**02 40 41.5**	**+1.6**
comp=E,2µm,0.6s							
RLS	**Riolos of Patr**	**0.94**	**62**	P	**Pg**	**02 40 26.5**	**-1.2**
RLS				S	**Sg**	**02 40 39.4**	**-0.7**
RLS				AML	AML	02 40 46.1	
comp=E,6045µm,0.6s							
RLS				AML	AML	02 40 46.3	
comp=N,3307µm,0.4s							
EVGI	**Lefkada island**	**1.02**	**11**	P	**Pg**	**02 40 28.2**	**-1.0**
EVGI				S	**Sb**	**02 40 44.1**	**+1.9**
comp=N,4µm,0.4s							
EVGI	**Lefkada island**	**1.02**	**11**	P	**Pg**	**02 40 28.3**	**-0.8**
EVGI				S	**Sg**	**02 40 42.3**	**-0.2**
AMT	**Artemida-Makis**	**1.03**	**94**	P	**Pg**	**02 40 28.7**	**-0.7**
AMT				S	**Sg**	**02 40 41.1**	**-1.8**
AMT				AML	AML	02 40 49.1	
comp=N,17634µm,0.4s							
AMT				AML	AML	02 40 49.6	
comp=E,16430µm,0.3s							
DRAG	**Dragano-Lefkad**	**1.07**	**7**	P	**Pb**	**02 40 29.6**	**-0.2**
DRAG	**Dragano-Lefkad**	**1.07**	**7**	P	**Pb**	**02 40 29.1**	**-0.7**
DRAG				S	**Sg**	**02 40 42.9**	**-1.3**
DRO	**Drossia**	**1.08**	**72**	P	**Pb**	**02 40 29.5**	**-0.4**
DRO				S	**Sn**	**02 40 46.1**	**+1.2**
comp=E,4µm,0.5s							
DRO	**Drossia**	**1.08**	**72**	P	**Pb**	**02 40 29.6**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.12**	**11**	P	**Pb**	**02 40 29.7**	**-0.8**
NYDR				S	**Sn**	**02 40 47.8**	**+2.0**
comp=E,3µm,0.4s							
NYDR	**Nydri-Lefkada**	**1.12**	**11**	P	**Pb**	**02 40 30.1**	**-0.5**
NYDR				S	**Sb**	**02 40 44.8**	**-0.1**
LKD2	**Lefkada island**	**1.19**	**9**	P	**Pg**	**02 40 32.5**	**+0.2**
TSLK	**Tsoukalades, L**	**1.22**	**9**	P	**Pn**	**02 40 32.1**	**0.0**
TSLK	**Tsoukalades, L**	**1.22**	**9**	P	**Pn**	**02 40 31.5**	**-0.6**
TSLK				S	**Sb**	**02 40 47.2**	**-0.7**
TSLK				AML	AML	02 40 54.0	
comp=E,10992µm,0.6s							
TSLK				AML	AML	02 40 56.6	
comp=N,9355µm,0.5s							
UPR	**University Cam**	**1.27**	**58**	P	**Pb**	**02 40 33.6**	**+0.4**
ITM	**Ithomi**	**1.28**	**109**	P	**Pb**	**02 40 33.1**	**-0.2**
ITM	**Ithomi**	**1.28**	**109**	P	**Pb**	**02 40 32.8**	**-0.5**
PYL	**PYLOS**	**1.28**	**124**	P	**Pn**	**02 40 32.1**	**-0.8**
PYL	**PYLOS**	**1.28**	**124**	P	**Pn**	**02 40 32.3**	**-0.6**
EFP	**Efpalio**	**1.43**	**55**	P	**Pn**	**02 40 35.3**	**+0.4**
EFP	**Efpalio**	**1.43**	**55**	P	**Pn**	**02 40 35.3**	**+0.4**
KLV	**Kalavryta, Ach**	**1.44**	**72**	P	**Pn**	**02 40 35.6**	**+0.5**
KLV	**Kalavryta, Ach**	**1.44**	**72**	P	**Pn**	**02 40 35.5**	**+0.3**
ANX	**Ano Chora**	**1.54**	**50**	P	**Pn**	**02 40 37.5**	**+1.0**
GUR	**Goura**	**1.56**	**78**	P	**Pb**	**02 40 37.7**	**-0.5**
GUR	**Goura**	**1.56**	**78**	P	**Pn**	**02 40 37.3**	**+0.4**
KALE	**Kalithea**	**1.57**	**60**	P	**Pb**	**02 40 38.5**	**+0.2**
AGG	**Agios Georgios**	**2.06**	**46**		**Pb**	**02 40 46.2**	**-0.4**
AGG	**Agios Georgios**	**2.06**	**46**	P	**Pb**	**02 40 46.0**	**-0.6**
LOUT	**Loutraki**	**2.06**	**79**	P	**Pn**	**02 40 44.7**	**+1.0**
KEK	**Kerkira**	**2.15**	**347**	Pn	**Pn**	**02 40 45.8**	**+0.9**
VLI	**Veliai**	**2.21**	**113**	P	**Pb**	**02 40 48.1**	**-1.0**
THL	**Klokotos Trika**	**2.31**	**32**	P	**Pn**	**02 40 49.4**	**+2.3**
TYRN	**Tyrnavos**	**2.53**	**34**	P	**Pn**	**02 40 51.0**	**+0.9**
SCTE	**Santa Cesarea**	**2.88**	**329**		**Pn**	**02 40 54.9**	**-0.1**
FNA	**Florina**	**3.25**	**13**	Pn	**Pn**	**02 41 01.6**	**+1.6**
FNA	**Florina**	**3.25**	**13**	*e*Pn	**Pn**	**02 41 02.1**	**+2.1**
FNA				*e*Sn	**Sn**	**02 41 40.2**	**+1.7**
TIP	**Timpagrande**	**3.27**	**300**	Pn	**Pn**	**02 40 59.5**	**-0.8**
TIP	**Timpagrande**	**3.27**	**300**	⇑P	**Pn**	**02 41 00.2**	**-0.1**
OHR	**Ohrid**	**3.50**	**5**	*e*Pn	**Pn**	**02 41 06.4**	**+2.9**
OHR	**Ohrid**	**3.50**	**5**	*i* Pn	**Pn**	**02 41 06.4**	**+2.9**
CEL	**Celeste**	**3.63**	**282**		**Pn**	**02 41 05.1**	**-0.2**
TIR	**Tirane**	**3.75**	**354**	Pn	**Pn**	**02 41 08.5**	**+1.7**
TIR	**Tirane**	**3.75**	**354**	*e*Pn	**Pn**	**02 41 08.4**	**+1.5**
TIR				*e*Sn	**Sn**	**02 41 50.2**	**-0.6**
VAY	**Valandovo**	**4.06**	**24**	*e*Pn	**Pn**	**02 41 12.2**	**+1.1**
VAY	**Valandovo**	**4.06**	**24**	*i* Pn	**Pn**	**02 41 12.9**	**+1.8**
SRS	**Serrai**	**4.28**	**34**	*e*Pn	**Pn**	**02 41 15.0**	**+0.9**
IDI	**Anoyia**	**4.29**	**121**	Pn	**Pn**	**02 41 13.8**	**-0.6**
IDI	**Anoyia**	**4.29**	**121**	Pn	**Pn**	**02 41 14.2**	**-0.1**
comp=N,8.3nm,0.8s,baz=173,slow=20,SNR=1.2							
IDI				Sn	**Sn**	**02 42 04.1**	**-0.2**
comp=N,2.0nm,0.3s,baz=153,slow=23,SNR=1.8							
CUC	**Castrocucco**	**4.30**	**305**	Pn	**Pn**	**02 41 16.2**	**+1.7**
PUK	**Puka**	**4.44**	**355**		**Pn**	**02 41 17.9**	**+1.5**
VAE	**Valguarnera**	**4.77**	**270**	Pn	**Pn**	02 41 25.6	+4.7
comp=N,1.9nm,0.3s,baz=25,slow=2.4,SNR=2.3							
VAE				Sn	**Sn**	**02 42 18.5**	**+2.4**
comp=N,2.0nm,0.3s,baz=195,slow=22,SNR=2.6							
RAFF	**Raffo Rosso**	**4.83**	**267**	Pn	**Pn**	**02 41 20.8**	**-0.9**
PDG	**Podgorica**	**4.89**	**350**	Pn	**Pn**	**02 41 23.0**	**+0.5**
PDG	**Podgorica**	**4.89**	**350**	*e*Pn	**Pn**	**02 41 22.2**	**-0.3**
PDG				*e*Sn	**Sn**	**02 42 17.0**	**-1.8**
PDG	**Podgorica**	**4.89**	**350**	*e*Pn	**Pn**	**02 41 21.5**	**-1.0**
PDG	**Podgorica**	**4.89**	**350**	⇑P	**Pn**	**02 41 23.0**	**+0.5**
PDG				⇓S	**Sn**	**02 42 19.1**	**+0.2**
HCY	**Herceg Novi**	**5.04**	**344**	*e*Pn	**Pn**	**02 41 23.3**	**-1.4**
BOSS	**Bosilegrad**	**5.12**	**17**	*e*Pn	**Pn**	**02 41 26.6**	**+0.8**
BARS	**Barje**	**5.30**	**11**	*e*Pn	**Pn**	**02 41 28.8**	**+0.6**
TREB	**Trebinje**	**5.33**	**343**	*e*Pn	**Pn**	**02 41 27.7**	**-0.9**
TREB				*e*Sn	**Sn**	**02 42 26.5**	**-3.3**
TREB	**Trebinje**	**5.33**	**343**	*e*Pn	**Pn**	**02 41 27.0**	**-1.6**
VTS	**Vitosha**	**5.44**	**23**	*e*Pn	**Pn**	**02 41 31.6**	**+1.3**
VTS				*e*Sn	**Sn**	**02 42 30.9**	**-1.8**
ALN	**Alexandroupoli**	**5.46**	**51**	Pn	**Pn**	**02 41 30.4**	**0.0**
BRY	**Bratogost**	**5.47**	**345**	*e*Pn	**Pn**	**02 41 29.2**	**-1.4**
SELS	**Selova**	**5.62**	**5**	*e*Pn	**Pn**	**02 41 32.7**	**+0.1**
SELS				*e*Sn	**Sn**	**02 42 34.9**	**-2.1**
STON	**Ston**	**5.64**	**339**	*e*Pn	**Pn**	**02 41 31.8**	**-1.1**
STON				*e*Sn	**Sn**	**02 42 32.9**	**-4.5**
STON	**Ston**	**5.64**	**339**	*e*Pn	**Pn**	**02 41 31.6**	**-1.3**
SJES	**Sjenica**	**5.65**	**357**	*e*Pn	**Pn**	**02 41 34.1**	**+1.1**
SJES				*e*Sn	**Sn**	**02 42 37.1**	**-0.6**
SJES	**Sjenica**	**5.65**	**357**	*e*Pn	**Pn**	**02 41 33.8**	**+0.8**
PAOL	**Paolisi**	**5.67**	**309**	Pn	**Pn**	**02 41 34.9**	**+1.5**
UPM	**Unac-Piva**	**5.70**	**349**	*e*Pn	**Pn**	**02 41 35.0**	**+1.2**
ZAPS	**Zavoj**	**5.90**	**16**	*e*Pn	**Pn**	**02 41 37.4**	**+1.0**
IVAS	**Ivanjica**	**5.96**	**358**	*e*Pn	**Pn**	**02 41 37.9**	**+0.7**
RUDO	**Rudo**	**6.05**	**353**	*e*Pn	**Pn**	**02 41 39.0**	**+0.6**
BOVS	**Bovan**	**6.09**	**9**	⇑P	**Pn**	**02 41 40.0**	**+1.0**
GRUS	**Gruza**	**6.27**	**2**	*e*Pn	**Pn**	**02 41 42.5**	**+1.0**
GRUS				*e*Sn	**Sn**	**02 42 51.1**	**-1.8**
BBLS	**Lazi&#263i**	**6.29**	**353**	*e*Pn	**Pn**	**02 41 43.0**	**+1.2**
BBLS				*e*Sn	**Sn**	**02 42 50.9**	**-2.6**
DIVS	**Divibare**	**6.48**	**357**	*e*Sn	**Sn**	**02 42 54.5**	**-3.8**
HAPS	**Han Pijesak,BI**	**6.56**	**351**	*e*Sn	**Sn**	**02 42 57.2**	**-2.9**
HAPS	**Han Pijesak,BI**	**6.56**	**351**	*e*Pn	**Pn**	**02 41 45.6**	**+0.1**
TRUS	**Trudelj**	**6.60**	**360**	*e*Pn	**Pn**	**02 41 47.1**	**+1.1**
INTR	**Introdacqua**	**6.66**	**313**		**Pn**	**02 41 49.1**	**+2.1**
ELND	**Elena**	**6.75**	**36**	⇑P	**Pn**	**02 41 49.7**	**+1.7**
TEKS	**Tekeris**	**6.96**	**355**	*e*Pn	**Pn**	**02 41 50.4**	**-0.5**
AVAS	**Avala Beograd**	**7.07**	**1**	*e*Pn	**Pn**	**02 41 52.2**	**-0.3**
A050A	**Klekovaca**	**7.46**	**338**	*e*Pn	**Pn**	**02 41 58.6**	**+0.7**
BLY	**Banja Luka**	**7.53**	**342**	*e*Sn	**Sn**	**02 43 20.2**	**-3.7**
BLY	**Banja Luka**	**7.53**	**342**	*e*Pn	**Pn**	**02 41 59.9**	**+1.1**
FRGS	**Fruska Gora**	**7.55**	**357**	*e*Pn	**Pn**	**02 42 00.5**	**+1.5**
NRCA	**Norcia**	**7.64**	**315**		**Pn**	**02 42 01.9**	**+1.6**
FDMO	**Fiordimonte**	**7.78**	**316**	Pn	**Pn**	**02 42 02.9**	**+0.6**
A051A	**Mrakovica**	**7.84**	**341**	*e*Pn	**Pn**	**02 42 01.3**	**-1.9**
VOIR		**8.55**	**22**	⇑P	**Pn**	**02 42 15.1**	**+2.2**
MLR	**Muntele Rosu**	**8.89**	**26**		**Pn**	**02 42 18.5**	**+0.9**
MLR	**Muntele Rosu**	**8.89**	**26**	Pn	**Pn**	**02 42 19.8**	**+2.3**
comp=N,0.6nm,0.3s,baz=217,slow=6.2,SNR=20							
comp=N,6.2nm,0.7s							
CRES	**Cresnjevec Ost**	**9.00**	**337**	*e*Pn	**Pn**	**02 42 17.9**	**-1.0**
SKDS	**Skadanscina**	**9.26**	**331**	*e*Pn	**Pn**	**02 42 21.2**	**-1.3**
CEY	**Cerknica**	**9.27**	**333**	*e*Pn	**Pn**	**02 42 22.1**	**-0.5**
COVR	**Voineasa-Covas**	**9.29**	**26**	⇑P	**Pn**	**02 42 23.0**	**+0.1**
OBKA	**Obir**	**9.89**	**336**	*i* Pn	**Pn**	**02 42 33.3**	**+2.0**
comp=N,2.5nm,0.4s							
OBKA	**Obir**	**9.89**	**336**	*e*Pn	**Pn**	**02 42 28.7**	**-2.6**
SOKA	**Soboth**	**9.89**	**338**	*e*Pn	**Pn**	**02 42 30.8**	**-0.5**
comp=N,2.4nm,0.3s							
PRED	**Cave del Predi**	**10.18**	**332**	Pn	**Pn**	**02 42 38.1**	**+2.9**
ARSA	**Arzberg**	**10.28**	**341**	*i* Pn	Pn	02 42 42.3	+5.8
comp=N,0.9nm,0.4s							
CTI	**Castel Tesino**	**10.66**	**325**	Pn	**Pn**	**02 42 41.2**	**-0.5**
KBA	**Koelnbreinsper**	**10.80**	**333**	*e*Pn	Pn	02 42 49.0	+5.2
comp=N,0.3nm,0.2s							
CONA	**Conrad Observa**	**10.83**	**343**	*e*Pn	Pn	02 42 54.2	+10
comp=N,0.1nm,0.2s							
ABTA	**Abfaltersbach**	**10.84**	**330**	*i* Pn	Pn	02 42 49.1	+4.9
comp=N,0.4nm,0.3s							
MOA	**Molln**	**11.18**	**338**	*i* Pn	**Pn**	**02 42 49.1**	**+0.3**
comp=N,2.7nm,0.4s							
BIOA	**Bad Ischl, Aus**	**11.23**	**336**	*e*Pn	**Pn**	**02 42 52.8**	**+3.3**
comp=N,0.7nm,0.2s							
LESA	**Schwarzleotal**	**11.34**	**332**	*e*Pn	**Pn**	**02 42 54.4**	**+3.5**
comp=N,1.0nm,0.4s							
WTTA	**Wattenberg**	**11.61**	**329**	*e*Pn	Pn	02 43 00.3	+5.5
comp=N,0.6nm,0.3s							
SQTA	**Sankt Quirin**	**11.75**	**328**	*e*Pn	Pn	02 43 10.8	+14
comp=N,0.7nm,0.3s							
FETA	**Feichten**	**11.81**	**326**	*i* Pn	Pn	02 43 05.7	+8.2
comp=N,1.0nm,0.7s							
MOTA	**Moosalm**	**11.90**	**328**	*i* Pn	Pn	02 43 09.5	+11
comp=N,0.6nm,0.4s							
DAVOX	**Davos/Dischmat**	**12.03**	**323**	Pn	**Pn**	**02 43 03.3**	**+2.7**
comp=N,0.1nm,0.3s,baz=144,slow=19,SNR=1.9							
comp=N,1.0nm,0.8s							
GERES	**GERESS Array B**	**12.24**	**339**	Pn	**Pn**	**02 43 05.1**	**+1.8**
comp=N,0.1nm,0.3s,baz=160,slow=15,SNR=1.8							
comp=N,0.3nm,0.3s							
SENIN	**Lac Senin/Sane**	**13.08**	**316**	Pn	**Pn**	**02 43 17.0**	**+2.0**
AKASG	**Malin Array Be**	**14.51**	**23**	Pn	**Pn**	**02 43 33.7**	**-0.6**
comp=N,0.2nm,0.3s,baz=215,slow=11,SNR=2.2							
AKASG				LR	LR	02 50 45.9	
comp=N,24nm,20.0s,baz=198,slow=44							
comp=N,0.1nm,0.3s							
ESDC	**Sonseca Array**	**19.14**	**284**	P	**Pn**	**02 44 34.5**	**+1.4**
baz=79,slow=13,SNR=2.5							
comp=N,0.8nm,0.9s							
HFS	**Hagfors**	**22.94**	**351**	P	**P**	**02 45 13.2**	**+0.2**
comp=N,5.4nm,1.1s,baz=166,slow=13,SNR=4.7							
comp=N,5.4nm,1.1s							
EKA	**Eskdalemuir Ar**	**23.84**	**326**	P	**P**	**02 45 22.9**	**+0.9**
comp=N,1.1nm,0.6s,baz=121,slow=13,SNR=1.7							
comp=N,1.1nm,0.6s							
FINES	**FINESS Array B**	**24.11**	**7**	P	**P**	**02 45 24.4**	**0.0**
FINES	**FINESS Array B**	**24.11**	**7**	P	**P**	**02 45 24.1**	**-0.3**
comp=N,1.5nm,0.7s,baz=176,slow=9.3,SNR=7.5							
comp=N,1.5nm,0.7s							
TORD	**Torodi Ar. Bea**	**29.54**	**219**	P	**P**	**02 46 13.8**	**+0.1**
comp=N,0.6nm,0.7s,baz=27,slow=9.9,SNR=5.6							
comp=N,0.6nm,0.7s							
ABKAR	**Akbulak array**	**30.63**	**55**	P	**P**	**02 46 23.1**	**0.0**
ARCES	**ARCESS Array B**	**32.10**	**3**	P	**P**	**02 46 35.5**	**-0.2**
comp=N,1.5nm,0.8s,baz=185,slow=10.0,SNR=1.7							
comp=N,1.5nm,0.8s							
KURBB	**Kurchatov Arra**	**42.63**	**53**	P	**P**	**02 48 03.8**	**-1.4**
comp=N,0.3nm,0.5s,baz=277,slow=8.3,SNR=3.2							
comp=N,0.3nm,0.5s							
MK31	**Makanchi Array**	**45.67**	**58**	P	**P**	**02 48 28.6**	**-1.0**
MK31				IAmb	IAmb	02 48 44.2	
comp=Z,4.8nm,1.3s							
MKAR	**Makanchi Array**	**45.67**	**58**	P	**P**	**02 48 29.4**	**-0.3**
MKAR	**Makanchi Array**	**45.67**	**58**	P	**P**	**02 48 28.2**	**-1.4**
comp=Z,0.5nm,0.5s,baz=267,slow=7.9,SNR=7.6							
comp=Z,0.5nm,0.5s							
ZALV	**Zalesovo Beam**	**46.13**	**48**	P	**P**	**02 48 32.3**	**-0.8**
comp=Z,0.8nm,0.6s,baz=272,slow=7.9,SNR=2.7							
comp=Z,0.8nm,0.6s							

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*SJA **12** 02:57:18.0±0.7, 30°.82S×71°.66W, h23km±2km, ML3.2, MW3.5*
*GUC **12** 02:57:19.4±0.7, 30°.88S×71°.61W, h39km±2km, ML3.2*
ISC 12 02:57:17.8±1.3, 30°.85S±0°.02×71°.81W±0°.05, h24km±11km, n47, σ1°.81/80, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.23**	**41**	⇑*i* P	**Pn**	**02 57 25.9**	**+0.1**
CO06				*e*S	**Sb**	**02 57 30.7**	**+2.8**
CO06				IAML		02 57 31.0	
comp=E,7µm,0.3s							
CO03	**El Pedregal**	**0.97**	**90**	⇓*i* P	**Pn**	**02 57 34.2**	**-1.8**
CO03				*e*S	**Sb**	**02 57 45.5**	**-2.9**
CO03				IAML		02 57 46.7	
comp=E,3µm,0.2s							
CO03	**El Pedregal**	**0.97**	**90**	*e*P	**Pn**	**02 57 34.3**	**-1.8**
CO03				*e*S	**Sb**	**02 57 46.3**	**-2.1**
CO03				IAML		02 57 46.6	
comp=Z,809nm,0.3s							
CO05	**La Serena**	**1.05**	**28**	*e*P	**Pn**	**02 57 37.6**	**+0.5**
CO05				*e*S	**Sb**	**02 57 51.4**	**+0.6**
CO05				IAML		02 57 55.9	
comp=N,826nm,0.4s							
GO04	**Tololo Observa**	**1.10**	**53**	*e*P	**Pn**	**02 57 37.2**	**-0.9**
GO04				*e*S	**Sb**	**02 57 51.0**	**-1.5**
GO04	**Tololo Observa**	**1.10**	**53**	*e*P	**Pn**	**02 57 37.4**	**-0.7**
GO04				*e*S	**Sb**	**02 57 51.7**	**-0.8**
CO04	**Los Peladeros**	**1.39**	**149**	*i* P	**Pn**	**02 57 40.9**	**-1.1**
CO04				*e*S	**Sn**	**02 57 57.5**	**-2.3**
CO04				IAML		02 58 00.4	
comp=N,981nm,0.3s							
CO01	**Juntas del Tor**	**1.72**	**60**	*e*P	**Pn**	**02 57 47.0**	**+0.5**
CO01				IAML		02 58 08.3	
comp=N,329nm,0.2s							
CO01	**Juntas del Tor**	**1.72**	**60**	*e*P	**Pn**	**02 57 47.3**	**+0.7**
CO01				*e*S	**Sn**	**02 58 08.1**	**+0.2**
CO01				IAML		02 58 08.7	
comp=Z,181nm,0.2s							
LCO	**Las Campanas**	**2.07**	**28**	*e*P	**Pn**	**02 57 52.7**	**+1.3**
LCO				*i* S	**Sn**	**02 58 18.1**	**+1.5**
LCO	**Las Campanas**	**2.07**	**28**	*e*P	**Pn**	**02 57 52.8**	**+1.3**
LCO				*e*S	**Sn**	**02 58 18.3**	**+1.7**
LCO				IAML		02 58 26.9	
comp=Z,235nm,0.5s							
AROD	**Rodeo**	**2.13**	**72**	*e*P	**Pb**	**02 57 54.6**	**-1.4**
AROD				*e*S	**Sn**	**02 58 19.9**	**+1.8**
VA01	**Torpederas**	**2.17**	**176**	*e*P	**Pn**	**02 57 54.4**	**+1.9**
VA01				*i* S	**Sn**	**02

ACLC	**CERRO LA CRUZ**	**4.44**	**73**	*e*P		**Pn**	**02 58 25.7**	**+1.8**
ACLC				IAML			02 59 26.0	
	comp=Z,49nm,0.4s							

AFAD ***12*** *03:08:26.3±0.0, 38°.88N×26°.44E, h7km±2km, ML2.6*
ISK ***12*** *03:08:26.6, 38°.88N×26°.40E, h5km, ML2.4/35*
ISC 12 03:08:26.7±0.9, 38°.88N±0°.02×26°.42E±0°.03, h11km±8km, n57, σ0°78/79, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARB	**zmir-Karabur**	**0.22**	**181**	P	**Pg**	**03 08 31.3**	**0.0**
KARB				S	**Sg**	**03 08 34.3**	**-0.1**
FOCM	**Foa**	**0.30**	**125**	Pg	**Pg**	**03 08 32.6**	**-0.1**
FOCM				Sg	**Sg**	**03 08 37.6**	**+0.9**
CAND	**Candarli**	**0.31**	**76**	Pg	**Pb**	**03 08 33.6**	**-0.6**
CAND				Sg	**Sb**	**03 08 38.2**	**-1.1**
IZMD	**zmir-Dikili-**	**0.41**	**76**	P	**Pg**	**03 08 34.4**	**-0.4**
IZMD				S	**Sg**	**03 08 39.6**	**-0.7**
DKL	**Dikili**	**0.42**	**64**	Pg	**Pg**	**03 08 35.1**	**0.0**
DKL				Sg	**Sg**	**03 08 41.4**	**+0.7**
AYVA	**Ayvalik**	**0.47**	**27**	P	**Pg**	**03 08 35.6**	**-0.4**
AYVA				S	**Sg**	**03 08 42.0**	**-0.3**
ZEDA	**zmir-Bergama**	**0.52**	**81**	P	**Pg**	**03 08 36.7**	**-0.2**
ZEDA				S	**Sg**	**03 08 43.0**	**-0.2**
ZEDA				*i* AML	AML	03 08 44.0	
	comp=N,296nm,0.2s						
ZEDA				*i* AML	AML	03 08 44.0	
	comp=E,501nm,0.3s						
SIGR	**SIGRI**	**0.55**	**307**	Pg	**Pg**	**03 08 37.6**	**+0.3**
CESE	**eme**	**0.56**	**189**	Pg	**Pg**	**03 08 37.4**	**-0.1**
ZEYE	**Izmir, Urla-Ze**	**0.65**	**174**	P	**Pg**	**03 08 39.0**	**-0.2**
ZEYE				S	**Sb**	**03 08 48.5**	**-0.5**
ZEYE				*i* AML	AML	03 08 51.0	
	comp=E,358nm,0.4s						
ZEYE				*i* AML	AML	03 08 52.0	
	comp=N,340nm,0.3s						
KOCA	**Canakkale, Ayv**	**0.66**	**341**	P	**Pg**	**03 08 39.1**	**-0.3**
KOCA				S	**Sb**	**03 08 48.8**	**-0.5**
KOCA				*i* AML	AML	03 08 53.0	
	comp=N,174nm,0.3s						
BLCB	**Balcova**	**0.70**	**135**	Pg	**Pb**	**03 08 40.8**	**0.0**
BLCB				Sg	**Sb**	**03 08 50.8**	**+0.4**
BUHA	**Balikesir, Bur**	**0.80**	**39**	P	**Pg**	**03 08 41.5**	**-0.7**
BUHA				S	**Sb**	**03 08 53.3**	**-0.2**
BUHA				*i* AML	AML	03 08 56.0	
	comp=E,344nm,0.5s						
BUHA				*i* AML	AML	03 08 57.0	
	comp=N,167nm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.86**	**7**	P	**Pg**	**03 08 43.4**	**0.0**
BAYC				S	**Sg**	**03 08 54.7**	**+0.1**
BAYC				*i* AML	AML	03 08 56.0	
	comp=E,158nm,0.5s						
BAYC				*i* AML	AML	03 08 57.0	
	comp=N,164nm,0.4s						
EZNE	**Ezine-Canakkal**	**0.87**	**357**	Pg	**Pb**	**03 08 44.4**	**+0.5**
GMLD	**Gumuldur**	**0.90**	**154**	Pg	**Pg**	**03 08 43.9**	**0.0**
DGB	**zmir**	**0.91**	**156**	P	**Pg**	**03 08 43.6**	**-0.6**
DGB				S	**Sg**	**03 08 55.1**	**-0.8**
SOMA	**Soma-Manisa**	**0.91**	**72**	Pg	**Pb**	**03 08 45.0**	**+0.5**
SOMA				Sg	**Sn**	**03 08 58.6**	**0.0**
EZN	**Ezine**	**0.94**	**356**	Pg	**Pg**	**03 08 44.4**	**-0.5**
BOZC	**Bozcaada**	**1.00**	**344**	P	**Pg**	**03 08 45.0**	**-0.9**
BOZC				S	**Sg**	**03 08 58.8**	**-0.1**
BOZC				*i* AML	AML	03 09 01.0	
	comp=N,158nm,0.2s						
BOZC				*i* AML	AML	03 09 01.0	
	comp=E,155nm,0.2s						
AKHS	**Akhisar**	**1.09**	**90**	P	**Pb**	**03 08 47.8**	**+0.3**
AKS	**Akhisar**	**1.09**	**90**	Pn	**Pn**	**03 08 48.5**	**+0.6**
STEP	**BALIKESIR_Sava**	**1.13**	**64**	P	**Pg**	**03 08 48.0**	**-0.3**
STEP				S	**Sb**	**03 09 03.0**	**+0.2**
STEP				*i* AML	AML	03 09 05.0	
	comp=N,217nm,0.4s						
STEP				*i* AML	AML	03 09 06.0	
	comp=E,188nm,0.7s						
ECEA	**Canakkale, Ece**	**1.18**	**351**	P	**Pb**	**03 08 49.2**	**+0.2**
ECEA				S	**Sg**	**03 09 04.3**	**-0.2**
ECEA				*i* AML	AML	03 09 07.0	
	comp=E,147nm,0.7s						
ECEA				*i* AML	AML	03 09 08.0	
	comp=N,97nm,0.3s						
CNKL	**anakkale-Mer**	**1.18**	**359**	P	**Pg**	**03 08 48.8**	**-0.6**
CNKL				S	**Sb**	**03 09 04.8**	**+0.3**
CNKL				*i* AML	AML	03 09 06.0	
	comp=E,72nm,0.4s						
GOMA	**Golmarmara-Man**	**1.19**	**98**	Pn	**Pn**	**03 08 50.4**	**+1.2**
YENI	**Yenice-Canakka**	**1.23**	**31**	Pn	**Pn**	**03 08 51.1**	**+1.3**
BALY	**Balya**	**1.27**	**47**	P	**Pg**	**03 08 51.7**	**+0.7**
BALY				S	**Sg**	**03 09 07.0**	**-0.5**
GOAD	**anakkale-G¶**	**1.34**	**343**	P	**Pn**	**03 08 51.4**	**+0.2**
GCAM	**G?zelcaml?**	**1.34**	**151**	P	**Pn**	**03 08 51.5**	**+0.1**
GCAM				S	**Sb**	**03 09 07.7**	**-1.4**
GCAM	**G?zelcaml?**	**1.34**	**151**	Pn	**Pg**	**03 08 52.8**	**+0.3**
GADA	**Gvkgeada**	**1.37**	**343**	Pn	**Pb**	**03 08 52.3**	**0.0**
GORD	**Gordes-Manisa**	**1.37**	**88**	Pn	**Pg**	**03 08 53.4**	**+0.3**
IZMR	**zmir-demi**	**1.42**	**121**	P	**Pn**	**03 08 52.1**	**-0.3**
IZMR				S	**Sb**	**03 09 10.4**	**-0.7**
BKES	**Balkesir-Mer**	**1.45**	**54**	P	**Pn**	**03 08 52.8**	**0.0**
BKES				S	**Sn**	**03 09 10.7**	**-1.1**
AYDB	**Zeytinkoy-Aydi**	**1.49**	**128**	Pn	**Pb**	**03 08 54.7**	**+0.3**
LPK	**Lapseki**	**1.51**	**10**	Pn	**Pb**	**03 08 55.1**	**+0.4**
GELI	**Tayfur-Gelibol**	**1.51**	**2**	Pn	**Pg**	**03 08 55.3**	**-0.4**
GONE	**Gonen-Balikesi**	**1.52**	**40**	Pn	**Pb**	**03 08 55.3**	**+0.4**
KRBG	**Karabiga-Canak**	**1.66**	**24**	Pn	**Pb**	**03 08 57.5**	**+0.3**
KIRA	**zmir-Kiraz**	**1.70**	**113**	P	**Pb**	**03 08 58.0**	**0.0**
NAZL	**Nazilli-Aydin**	**1.73**	**121**	Pn	**Pb**	**03 08 58.1**	**-0.5**
ERIK	**Erikli-Kesan**	**1.79**	**2**	Pn	**Pn**	**03 08 58.5**	**+1.0**
KULA	**Kula-Manisa**	**1.79**	**101**	Pn	**Pb**	**03 08 59.3**	**-0.3**
EDC	**Edincik**	**1.84**	**37**	Pn	**Pb**	**03 09 00.2**	**-0.1**
ENEZ	**Enez**	**1.86**	**354**	Pn	**Pb**	**03 09 00.2**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.90**	**18**	Pn	**Pb**	**03 09 00.5**	**-0.8**
MRMT	**Marmara Adasi**	**1.94**	**28**	Pn	**Pn**	**03 09 01.1**	**+1.4**
BODT	**Bodrum**	**1.95**	**158**	Pn	**Pn**	**03 09 01.1**	**+1.4**
SIMA	**Simav-Kutahya**	**2.01**	**83**	Pn	**Pb**	**03 09 02.4**	**-0.9**
ALN	**Alexandroupoli**	**2.03**	**352**	Pn	**Pb**	**03 09 02.6**	**-1.0**
KCTX	**Karacabey (Bur**	**2.04**	**47**	Pn	**Pn**	**03 09 02.4**	**+1.4**
UKOP	**Uzunkopru-Edir**	**2.25**	**4**	Pn	**Pn**	**03 09 05.8**	**+2.0**
YER	**Yerkesik**	**2.28**	**139**	Pn	**Pn**	**03 09 05.8**	**+1.4**
MDNY	**Mudanya-Bursa**	**2.42**	**51**	Pn	**Pn**	**03 09 08.3**	**+2.2**
TVSB	**Tavsanli**	**2.43**	**76**	Pn	**Pn**	**03 09 08.5**	**+2.0**
ARMT	**Armutlu**	**2.53**	**48**	Pn	**Pb**	**03 09 10.2**	**-1.8**

IDC ***12*** *03:19:32.6±1.7, 42°.55S×15°.44W, h0km, mb4.2/3, mbtmp4.2/3, MS3.8/24, Error ellipse: s-maj=100.1km s-min=28.6km az=92.0*
ISC 12 03:19:34.1±1.3, 42°.5S±0°.2×15°.6W±0°.5, h10km, n39, σ1°25/9, mb4.2/6, MS3.9/24, 5C, Tristan da Cunha region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**28.46**	**175**	⇑P	**P**	**03 25 28.4**	**-0.4**
	comp=Z,2.8nm,0.8s						
VNA2	**Neumayer--Watz**	**28.79**	**174**	⇑P	**P**	**03 25 32.7**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=343,slow=11						
VNA3	**Neumayer Olymp**	**28.96**	**176**	⇑P	**P**	**03 25 33.9**	**+0.5**
	comp=Z,2.6nm,0.6s						
SNAA	**Sanae**	**29.91**	**172**	⇑P	**P**	**03 25 42.4**	**+0.6**
	comp=Z,32nm,1.1s						
SUR	**Sutherland**	**30.38**	**83**	LR	LR	03 36 06.5	
	comp=Z,192nm,18.6s,baz=234,slow=33						
TROLL	**Troll, Antarti**	**30.88**	**169**	⇑P	**P**	**03 25 52.3**	**+1.9**
	comp=Z,447nm,0.9s						
H10S2	**ASCENSION HYDR**	**33.42**	**2**	T	T	04 01 27.2	
	baz=39,slow=74,SNR=28						
H10S3	**ASCENSION HYDR**	**33.43**	**2**	T	T	04 01 24.8	
	baz=181,slow=74,SNR=26						
BOSA	**Boshof**	**35.62**	**81**	LR	LR	03 38 59.4	
	comp=Z,105nm,18.4s,baz=218,slow=33						
CPUP	**Villa Florida**	**37.64**	**282**	LR	LR	03 41 02.2	
	comp=Z,198nm,18.1s,baz=128,slow=34						
LBTB	**Lobatse**	**37.97**	**76**	LR	LR	03 40 22.5	
	comp=Z,106nm,18.6s,baz=228,slow=33						
BDFB	**Brasilia**	**38.60**	**304**	LR	LR	03 40 18.1	
	comp=Z,172nm,18.3s,baz=144,slow=32						
PLCA	**Paso Flores**	**40.55**	**253**	LR	LR	03 40 50.5	
	comp=Z,80nm,21.7s,baz=106,slow=32						
RCBR	**Riachuelo**	**40.74**	**328**	LR	LR	03 39 34.8	
	comp=Z,44nm,20.8s,baz=135,slow=29						
H04S2	**CROZET ISLANDS**	**46.82**	**120**	T	T	04 19 07.5	
	baz=250,slow=75,SNR=22						
H04S3	**CROZET ISLANDS**	**46.82**	**120**	T	T	04 19 10.7	
	baz=250,slow=75,SNR=20						
H04S1	**CROZET ISLANDS**	**46.84**	**120**	T	T	04 19 12.6	
	baz=250,slow=75,SNR=27						
SIV	**San Ignacio**	**46.95**	**290**	LR	LR	03 45 27.2	
	comp=Z,98nm,19.4s,baz=109,slow=33						
MAW	**Mawson**	**47.26**	**149**	P	**P**	**03 28 05.4**	**-1.5**
	comp=Z,2.0nm,1.0s,baz=263,slow=9.6,SNR=3.8						
MAW				LR	LR	03 44 07.9	
	comp=Z,88nm,21.3s,baz=274,slow=31						
	comp=Z,2.0nm,1.0s						
QSPA	**South Pole Qui**	**47.76**	**180**	P	**P**	**03 28 11.5**	**+0.3**
	comp=Z,5.7nm,0.6s,baz=219,slow=6.1,SNR=16						
	comp=Z,5.7nm,0.6s						
LPAZ	**La Paz**	**51.74**	**284**	LR	LR	03 49 43.8	
	comp=Z,214nm,19.8s,baz=107,slow=35						
TORD	**Torodi Ar. Bea**	**57.60**	**20**	P	**P**	**03 29 24.9**	**+0.7**
	comp=Z,1.6nm,1.0s,baz=198,slow=5.2,SNR=5.8						
TORD				LR	LR	03 49 23.6	
	comp=Z,38nm,18.3s,baz=330,slow=31						
	comp=Z,1.6nm,1.0s						
MDP	**Montagnes des**	**58.12**	**315**	LR	LR	03 52 06.3	
	comp=Z,124nm,19.1s,baz=122,slow=34						
MBAR	**Mbarara**	**58.80**	**58**	LR	LR	03 52 14.7	
	comp=Z,112nm,19.4s,baz=226,slow=33						
NNA	**Nana**	**60.89**	**281**	LR	LR	03 55 35.4	
	comp=Z,160nm,20.2s,baz=128,slow=36						
KMBO	**Kilima Mbogo**	**62.60**	**64**	LR	LR	03 55 03.3	
	comp=Z,87nm,18.6s,baz=264,slow=34						
ATAH	**Atahualpa**	**65.29**	**284**	LR	LR	03 59 02.8	
	comp=Z,32nm,18.2s,baz=148,slow=36						
ROSC	**El Rosal**	**71.00**	**296**	LR	LR	03 59 46.9	
	comp=Z,204nm,21.6s,baz=94,slow=34						
SDV	**Santo Domingo**	**71.64**	**301**	LR	LR	04 00 17.8	
	comp=Z,79nm,19.4s,baz=100,slow=34						
RPN	**Rapa Nui**	**74.82**	**247**	LR	LR	03 57 49.1	
	comp=Z,82nm,19.8s,baz=352,slow=31						
JTS	**Las Juntas de**	**82.15**	**292**	LR	LR	04 08 39.1	
	comp=Z,66nm,18.9s,baz=116,slow=36						
H01W2	**Cape Leeuwin H**	**90.27**	**141**	T	T	05 14 01.5	
	baz=216,slow=75,SNR=6.7						
H01W1	**Cape Leeuwin H**	**90.28**	**141**	T	T	05 14 05.1	
	baz=216,slow=75,SNR=5.6						
H01W3	**Cape Leeuwin H**	**90.28**	**141**	T	T	05 14 05.9	
	baz=216,slow=75,SNR=6.4						
NWAO	**Narrogin (SRO)**	**93.34**	**142**	LR	LR	04 07 05.3	
	comp=Z,45nm,19.6s,baz=275,slow=31						
CMIG	**Matias Romero**	**93.77**	**290**	LR	LR	04 13 50.8	
	comp=Z,45nm,18.1s,baz=152,slow=35						
MLR	**Muntele Rosu**	**95.10**	**28**	LR	LR	04 18 31.1	
	comp=Z,24nm,18.3s,baz=204,slow=37						
TKL	**Tuckaleechee C**	**99.63**	**310**	LR	LR	04 17 16.7	
	comp=Z,26nm,18.5s,baz=128,slow=35						
ILAR	**Eielson Array**	**144.84**	**326**	PKP	**PKPab**	**03 39 08.2**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=72,slow=1.2,SNR=8.6						

CATAC ***12*** *03:23:44.9±0.3, 15°.62N×90°.31W, h10km, ML3.5*
GCG ***12*** *03:23:47.7±0.6, 15°.36N×90°.07W, h11km±6km, MD3.6*
ISC 12 03:23:43.3±1.1, 15°.60N±0°.03×90°.20W±0°.03, h8km±13km, n19, σ1°12/36, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVCB	**Coban**	**0.24**	**236**	*i* P	**Pg**	**03 23 48.0**	**-0.1**
AVCB				*i* S	**Sg**	**03 23 51.3**	**-0.1**
AVCB				IAML		03 23 54.4	
	comp=Z,36μm,1.0s						
MRL	**Marmol**	**0.72**	**136**	*e*P	**Pg**	**03 23 57.4**	**+0.2**
MRL				*e*S	**Sg**	**03 24 05.7**	**-0.9**
QUIS	**Sacapulas**	**0.92**	**250**	*i* P	**Pg**	**03 23 59.7**	**-1.2**
QUIS				*i* S	**Sg**	**03 24 12.1**	**-0.7**
QUIS				IAML		03 24 15.8	
	comp=Z,2μm,1.0s						
NBG	**Las Nubes**	**1.02**	**188**	*e*P	**Pn**	**03 24 03.6**	**-0.5**
NBG				*e*S	**Sg**	**03 24 13.5**	**-2.7**
FUG	**Fuego 3**	**1.31**	**208**	*e*P	**Pg**	**03 24 09.2**	**+0.8**
FUG				*e*S	**Sg**	**03 24 25.7**	**+0.4**
ESQI	**Esquipulas**	**1.33**	**141**	*i* P	**Pg**	**03 24 08.9**	**+0.1**
ESQI				*i* S	**Sg**	**03 24 27.6**	**+1.6**
ESQI				IAML		03 24 30.9	
	comp=Z,910nm,1.0s						
PETF	**Flores**	**1.34**	**14**	*i* P	**Pb**	**03 24 08.8**	**+0.1**
PETF				*i* S	**Sg**	**03 24 27.5**	**+1.0**
PETF				IAML		03 24 29.1	
	comp=Z,1μm,1.0s						
SOKI	**Kika Raxquin**	**1.40**	**236**	*i* P	**Pn**	**03 24 09.0**	**-0.4**
SOKI				*i* S	**Sg**	**03 24 29.9**	**+1.5**
SOKI				IAML		03 24 33.3	
	comp=Z,720nm,1.0s						
MTO3	**Montecristo**	**1.45**	**146**	*i* P	**Pb**	**03 24 10.2**	**-0.4**
MTO3				*i* S	**Sg**	**03 24 30.6**	**+0.8**
MTO3				IAML		03 24 34.9	
	comp=Z,420nm,1.0s						
STG3	**Santiaguito 3,**	**1.59**	**236**	*e*P	**Pg**	**03 24 14.0**	**+0.1**
STG3				*e*S	**Sg**	**03 24 37.8**	**+3.2**
UNIC	**Universidad Ca**	**1.73**	**159**	*i* P	**Pb**	**03 24 15.2**	**-0.1**
UNIC				IAML		03 24 15.7	
	comp=Z,300nm,1.0s						
UNIC				*i* S	**Sg**	**03 24 39.5**	**+0.5**
NUBE	**Las Nubes**	**1.74**	**166**	*i* P	**Pg**	**03 24 16.0**	**-0.7**
NUBE				IAML		03 24 19.7	
	comp=Z,270nm,1.0s						
NUBE				*i* S	**Sg**	**03 24 41.0**	**+1.7**
RTAL	**Retalhuleu**	**1.80**	**234**	*i* P	**Pb**	**03 24 17.0**	**+0.5**
RTAL				*i* S	**Sg**	**03 24 42.5**	**+1.3**
RTAL				IAML		03 24 55.7	
	comp=Z,470nm,1.0s						
SULM	**Suchitepequez,**	**1.85**	**226**	*e*P	**Pg**	**03 24 18.4**	**-0.3**
CCIG	**Comitan**	**1.98**	**290**	*i* P	**Pb**	**03 24 18.6**	**-1.1**
CCIG				*i* S	**Sg**	**03 24 48.3**	**+1.2**
CCIG				IAML		03 24 52.5	
	comp=Z,520nm,1.0s						
PMON	**Piamonte**	**2.07**	**155**	*i* P	**Sg**	**03 24 51.0**	**+1.3**
JAYA	**Jayaque - finc**	**2.07**	**159**	*i* P	**Pb**	**03 24 21.3**	**+0.1**
JAYA				IAML		03 24 23.9	
	comp=Z,360nm,1.0s						
JAYA				*i* S	**Sg**	**03 24 50.7**	**+0.8**
COEG	**Centro de Oper**	**2.35**	**147**	*i* P	**Pb**	**03 24 26.1**	**+0.2**
COEG				*i* S	**Sg**	**03 24 58.2**	**-0.6**
COEG				IAML		03 25 03.0	
	comp=Z,140nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.37**	**143**	*i* P	**Pb**	**03 24 26.5**	**+0.3**
SCLA				*i* S	**Sg**	**03 24 58.9**	**-0.5**
SCLA				IAML		03 25 05.5	
	comp=Z,230nm,1.0s						

IDC ***12*** *03:31:15.3±1.4, 12°.68S×169°.53E, h646km±18km, mb3.4/9, mbtmp4.4/11, Error ellipse: s-maj=30.1km s-min=14.1km az=156.0*
NEIC ***12*** *03:31:16.6±1.9, 12°.9S±0°.1×169°.6E±0°.1, h657km±11km, mb4.3/63, Error ellipse: s-maj=23.2km s-min=16.5km az=146.0*
ISC 12 03:31:15.6±0.5, 12°.82S±0°.09×169°.50E±0°.08, h645km, n80, σ1°09/79, mb4.3/40, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOUNC	**Koumac, New Ca**	**9.17**	**212**	P	**P**	**03 33 29.3**	**+2.0**
MSVF	**Nonsavu**	**9.59**	**122**	P	**P**	**03 33 31.6**	**+0.2**
	32nm,0.7s,baz=275,slow=10,SNR=24						
DZM	**Mont Dzumac**	**9.65**	**197**	P	**P**	**03 33 32.9**	**+0.9**
DZM	**Mont Dzumac**	**9.65**	**197**	P	**P**	**03 33 33.4**	**+1.3**
	9.5nm,0.5s,baz=42,slow=16,SNR=12						
ONTNC	**Ouen Toro**	**9.87**	**197**	P	**P**	**03 33 35.3**	**+1.3**
PINNC	**Pines Island,**	**9.94**	**191**	P	**P**	**03 33 35.2**	**+0.6**
PMG	**Port Moresby**	**22.18**	**277**	P	**P**	**03 35 27.6**	**+0.7**
	18nm,0.7s,baz=92,slow=9.6,SNR=4.5						
	18nm,0.7s						
COEN	**Coen**	**25.63**	**264**	P	**P**	**03 35 58.5**	**+1.1**
COEN				IAmb	IAmb	03 36 17.2	
	comp=Z,16nm,1.3s						
RTZ	**Ruatahuna**	**26.54**	**167**	P	**P**	**03 36 03.8**	**-1.3**
QRZ	**Quartz Range**	**28.03**	**175**	P	**P**	**03 36 19.1**	**+1.2**
THZ	**Tophouse**	**28.99**	**175**	P	**P**	**03 36 26.2**	**0.0**
MQZ	**McQueen's Vall**	**30.90**	**176**	P	**P**	**03 36 41.0**	**-1.4**
STKA	**Stephens Creek**	**31.87**	**229**	P	**P**	**03 36 52.0**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=66,slow=4.8,SNR=3.4						
	comp=Z,1.5nm,0.7s						
WR0	**Warramunga Arr**	**34.23**	**253**	P	**P**	**03 37 11.1**	**+0.3**
WB0	**Warramunga Arr**	**34.35**	**254**	P	**P**	**03 37 11.9**	**+0.1**
WB2	**Warramunga Arr**	**34.41**	**253**	P	**P**	**03 37 12.6**	**+0.4**
WB2				IAmb	IAmb	03 37 13.2	
	comp=Z,4.6nm,0.7s						
WRAB	**Tennant Creek**	**34.41**	**253**	P	**P**	**03 37 12.4**	**+0.2**
WRAB				IAmb	IAmb	03 37 12.8	
	comp=Z,4.9nm,0.6s						
WRA	**Warramunga Arr**	**34.42**	**253**	P	**P**	**03 37 12.0**	**-0.4**
WRA	**Warramunga Arr**	**34.42**	**253**	P	**P**	**03 37 12.3**	**0.0**
	comp=Z,5.4nm,0.5s,baz=84,slow=8.6,SNR=48						
WRA				PcP	**PcP**	**03 39 27.7**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=77,slow=3.6,SNR=1.3						
WRA				S	**S**	**03 41 53.5**	**-3.7**
	comp=Z,0.4nm,0.6s,baz=260,slow=5.2,SNR=5.0						
WRA				ScP	**ScP**	**03 42 14.0**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=86,slow=3.7,SNR=7.9						
	comp=Z,5.4nm,0.5s						
AS31	**Alice Springs**	**35.39**	**247**	P	**P**	**03 37 20.7**	**+0.3**
ASAR	**Alice Springs**	**35.39**	**247**	P	**P**	**03 37 20.0**	**-0.4**
ASAR	**Alice Springs**	**35.39**	**247**	P	**P**	**03 37 20.9**	**+0.5**
	comp=Z,5.1nm,0.7s,baz=74,slow=9.4,SNR=64						
ASAR				PcP	**PcP**	**03 39 30.3**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=86,slow=3.0,SNR=5.4						
ASAR				S	**S**	**03 42 08.9**	**-2.8**
	comp=Z,1.3nm,0.7s,baz=77,slow=16,SNR=9.1						
ASAR				ScP	**ScP**	**03 42 18.1**	**+0.7**
	comp=Z,3.8nm,0.9s,baz=85,slow=3.7,SNR=19						
	comp=Z,5.1nm,0.7s						
BBOO	**Buckleboo**	**36.46**	**231**	P	**P**	**03 37 29.9**	**+1.0**
BBOO				IAmb	IAmb	03 38 09.0	
	comp=Z,21nm,1.4s						
FAKI	**Fak Fak**	**38.13**	**282**	P	**P**	**03 37 42.9**	**+0.2**
KNRA	**Kununurra**	**39.54**	**261**	P	**P**	**03 37 54.2**	**+0.2**
KNRA				IAmb	IAmb	03 37 55.1	
	comp=Z,8.0nm,0.7s						
FORT	**Forrest**	**42.13**	**238**	P	**P**	**03 38 13.9**	**-0.2**
PSA00	**Pilbara Seismi**	**48.06**	**252**	P	**P**	**03 39 00.1**	**+0.9**
PSA00				IAmb	IAmb	03 39 32.8	
	comp=Z,16nm,1.1s						
HHC	**Hu-ho-hao-te**	**75.57**	**318**	*e*P	**P**	**03 41 57.4**	**+1.0**
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,94nm,5.6s						
N15K	**Kwethluk River**	**76.72**	**15**	P	**P**	**03 42 01.9**	**-0.2**
M16K	**Timber Creek**	**77.74**	**15**	P	**P**	**03 42 08.1**	**+0.5**
M16K				IAmb	IAmb	03 42 32.5	
	comp=Z,22nm,1.4s						
M19K	**Big River Lodg**	**79.69**	**16**	P	**P**	**03 42 18.5**	**+0.6**
M20K	**Styx River**	**80.03**	**17**	P	**P**	**03 42 19.0**	**-0.8**
M20K				IAmb	IAmb	03 42 38.3	
	comp=Z,15nm,1.4s						
KCPM	**Cahto Peak**	**81.09**	**46**	P	**P**	**03 42 26.2**	**+0.5**
KCPM				IAmb	IAmb	03 42 26.9	
	comp=Z,11nm,0.8s						
CAST	**Castle Rocks**	**81.55**	**16**	P	**P**	**03 42 26.8**	**-0.6**
J20K	**Nowinta River**	**81.61**	**15**	P	**P**	**03 42 28.3**	**+0.6**
J20K				IAmb	IAmb	03 42 29.1	
	comp=Z,10nm,0.8s						
O02D	**Mt. Diablo Mer**	**81.85**	**46**	P	**P**	**03 42 30.5**	**+1.0**
O02D				IAmb	IAmb	03 42 31.5	
	comp=Z,9.4nm,0.8s						
F17K	**Baldwin Pennin**	**81.94**	**11**	P	**P**	**03 42 30.1**	**+0.9**
N25K	**Chitina, Valde**	**82.48**	**20**	P	**P**	**03 42 31.5**	**-0.7**
G19K	**Purcell Mounta**	**82.54**	**13**	P	**P**	**03 42 33.1**	**+0.8**
G19K				IAmb	IAmb	03 42 33.8	
	comp=Z,10nm,0.8s						
AFDM	**Forest Hills D**	**82.65**	**47**	P	**P**	**03 42 33.5**	**0.0**
HUMO	**Hull Mountain**	**82.74**	**43**	P	**P**	**03 42 34.4**	**+0.5**
HUMO				IAmb	IAmb	03 42 35.6	
	comp=Z,8.6nm,0.9s						
GRNC	**Granite Creek**	**82.87**	**22**	P	**P**	**03 42 34.1**	**-0.2**
F19K	**Shaleruckik Mo**	**82.98**	**12**	P	**P**	**03 42 34.9**	**+0.4**
F19K				IAmb	IAmb	03 42 35.8	
	comp=Z,9.9nm,0.8s						
H21K	**Melozitna Rive**	**83.15**	**15**	P	**P**	**03 42 34.9**	**-0.5**
H21K				IAmb	IAmb	03 42 55.7	
	comp=Z,9.9nm,1.4s						
IMAR	**Indian Mountai**	**83.18**	**14**	P	**P**	**03 42 35.3**	**-0.2**
WRH	**Wood River Hil**	**83.49**	**17**	P	**P**	**03 42 36.1**	**-0.9**
WRH				IAmb	IAmb	03 42 37.6	
	comp=Z,8.5nm,1.0s						
M26K	**Nabesna, AK**	**83.58**	**20**	P	**P**	**03 42 37.4**	**-0.3**
M26K				IAmb	IAmb	03 42 37.8	
	comp=Z,10nm,1.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.48**	**47**	Pn	**Pn**	**03 50 07.5**	**+2.0**
AFI				Sn	**Sn**	**03 50 32.5**	**-2.0**
NIUE	**Niue**	**4.94**	**135**	Pn	**Pn**	**03 50 40.8**	**+1.6**
MSVF	**Nonsavu**	**8.23**	**254**	Pn	**Pn**	**03 51 26.4**	**+2.0**
MSVF	**Nonsavu**	**8.23**	**254**	P	Pn	03 51 34.9	+11
	18nm,1.0s,baz=111,slow=13,SNR=5.4						
MSVF				LR	LR	03 54 28.4	
	comp=Z,73nm,19.6s,baz=294,slow=36						
PINNC	**Pines Island,**	**19.16**	**246**	P	**P**	**03 53 46.8**	**-0.1**
DZM	**Mont Dzumac**	**19.90**	**248**	P	**Pn**	**03 53 59.1**	**+2.1**
	11nm,0.9s,baz=78,slow=20,SNR=2.8						
BKZ	**Black Stump Fm**	**25.00**	**198**	P	**P**	**03 54 45.1**	**-1.6**
QRZ	**Quartz Range**	**27.84**	**203**	P	**P**	**03 55 12.5**	**+0.3**
LTZ	**Lake Taylor**	**29.64**	**201**	P	**P**	**03 55 28.4**	**+0.2**
LTZ				IAmb	IAmb	03 56 06.1	
	comp=Z,12nm,1.3s						
H11N3	**WAKE ISLAND Hy**	**39.98**	**331**	T	T	04 39 27.0	
	baz=153						
H11N1	**WAKE ISLAND Hy**	**39.99**	**331**	T	T	04 39 25.6	
	baz=153						
H11N2	**WAKE ISLAND Hy**	**40.00**	**331**	T	T	04 39 04.3	
	baz=153						
COEN	**Coen**	**41.73**	**266**	P	**P**	**03 57 12.0**	**0.0**
COEN				IAmb	IAmb	03 57 13.7	
	comp=Z,9.0nm,1.1s						
STKA	**Stephens Creek**	**43.72**	**240**	P	**P**	**03 57 27.0**	**-1.0**
STKA	**Stephens Creek**	**43.72**	**240**	P	**P**	**03 57 26.9**	**-1.0**
	comp=Z,2.5nm,0.5s,baz=99,slow=7.3,SNR=6.1						
	comp=Z,2.5nm,0.5s						
BBOO	**Buckleboo**	**48.50**	**240**	P	**P**	**03 58 03.8**	**-1.7**
WR0	**Warramunga Arr**	**49.37**	**257**	P	**P**	**03 58 11.9**	**-0.5**
WR0				IAmb	IAmb	03 58 26.0	
	comp=Z,9.7nm,1.4s						
WB0	**Warramunga Arr**	**49.52**	**257**	P	**P**	**03 58 12.1**	**-1.4**
WB0				IAmb	IAmb	03 58 12.2	
	comp=Z,6.1nm,1.1s						
WB2	**Warramunga Arr**	**49.55**	**257**	P	**P**	**03 58 12.2**	**-1.6**
WB2				IAmb	IAmb	03 58 19.3	
	comp=Z,8.5nm,1.3s						
WRA	**Warramunga Arr**	**49.56**	**257**	P	**P**	**03 58 12.1**	**-1.8**
WRA	**Warramunga Arr**	**49.56**	**257**	P	**P**	**03 58 12.2**	**-1.7**
	comp=Z,1.4nm,0.5s,baz=92,slow=6.8,SNR=32						
	comp=Z,1.4nm,0.5s						
AS31	**Alice Springs**	**49.82**	**252**	P	**P**	**03 58 14.2**	**-1.6**
AS31				IAmb	IAmb	03 58 15.9	
	comp=Z,2.7nm,0.7s						
ASAR	**Alice Springs**	**49.82**	**252**	P	**P**	**03 58 14.3**	**-1.5**
ASAR	**Alice Springs**	**49.82**	**252**	P	**P**	**03 58 14.7**	**-1.1**
	comp=Z,10nm,0.6s,baz=86,slow=8.5,SNR=116						
	comp=Z,10nm,0.6s						
KMRM	**Mail Ridge**	**72.38**	**38**	P	**P**	**04 00 49.4**	**+1.1**
O02D	**Mt. Diablo Mer**	**72.90**	**38**	P	**P**	**04 00 51.9**	**+0.4**
O02D				IAmb	IAmb	04 01 10.6	
	comp=Z,6.5nm,1.4s						
KRMB	**Red Mountain**	**73.09**	**37**	P	**P**	**04 00 53.8**	**+1.2**
KRMB				IAmb	IAmb	04 01 32.1	
	comp=Z,15nm,1.4s						
YBH	**Yreka Blue Hor**	**73.91**	**37**	P	**P**	**04 00 57.5**	**0.0**
YBH				IAmb	IAmb	04 01 02.8	
	comp=Z,5.2nm,1.3s						
QSPA	**South Pole Qui**	**74.43**	**180**	P	**P**	**04 01 00.4**	**+0.2**
QSPA	**South Pole Qui**	**74.43**	**180**	P	**P**	**04 00 60.0**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=49,slow=1.8,SNR=5.2						
	comp=Z,1.3nm,0.7s						
NVAR	**Mina Array Bea**	**74.65**	**42**	P	**P**	**04 01 01.9**	**0.0**
	comp=Z,0.7nm,0.8s,baz=227,slow=12,SNR=4.7						
	comp=Z,0.7nm,0.8s						
J05D	**Fort Rock, OR**	**75.73**	**37**	P	**P**	**04 01 08.0**	**0.0**
PINE	**Pine Mountain**	**76.21**	**36**	P	**P**	**04 01 11.6**	**+0.8**
PINE				IAmb	IAmb	04 01 15.9	
	comp=Z,6.9nm,1.4s						
SCM	**Sheep Creek Mo**	**79.96**	**12**	P	**P**	**04 01 30.6**	**-0.4**
VHRN	**Van Horn**	**80.47**	**54**	P	**P**	**04 01 34.8**	**+0.3**
TX31	**Lajitas Ar. Si**	**80.93**	**56**	P	**P**	**04 01 37.5**	**+0.5**
TXAR	**Lajitas Array**	**80.93**	**56**	P	**P**	**04 01 37.2**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=220,slow=8.2,SNR=4.4						
	comp=Z,0.2nm,0.6s						
WRH	**Wood River Hil**	**82.21**	**11**	P	**P**	**04 01 43.5**	**+0.7**
WRH				IAmb	IAmb	04 01 50.3	
	comp=Z,9.5nm,1.4s						
CCB	**Clear Creek Bu**	**82.42**	**11**	P	**P**	**04 01 42.8**	**-1.1**
CCB				IAmb	IAmb	04 02 16.6	
	comp=Z,5.2nm,1.3s						
PDAR	**Pinedale Array**	**82.58**	**42**	P	**P**	**04 01 44.8**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=204,slow=3.3,SNR=6.0						
	comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	**82.70**	**11**	P	**P**	**04 01 45.6**	**+0.2**
ILAR	**Eielson Array**	**82.70**	**11**	P	**P**	**04 01 44.5**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=227,slow=6.5,SNR=11						
	comp=Z,0.5nm,0.7s						
J25K	**Salcha River,**	**82.85**	**12**	P	**P**	**04 01 46.0**	**-0.2**
J25K				IAmb	IAmb	04 02 09.1	
	comp=Z,7.1nm,1.4s						
L29M	**L29M**	**83.20**	**15**	P	**P**	**04 01 48.1**	**0.0**
L29M				IAmb	IAmb	04 02 07.8	
	comp=Z,12nm,1.4s						
DAWY	**Dawson**	**83.69**	**14**	P	**P**	**04 01 50.9**	**+0.4**
D19K	**Kuna River**	**84.63**	**6**	P	**P**	**04 01 55.4**	**+0.2**
I28M	**Miner Creek**	**84.73**	**13**	P	**P**	**04 01 55.6**	**-0.2**
MAW	**Mawson**	**87.51**	**199**	P	**P**	**04 02 08.4**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=135,slow=5.7,SNR=2.8						
	comp=Z,1.0nm,0.5s						
ULM	**Lac du Bonnet**	**94.25**	**39**	P	**P**	**04 02 41.6**	**+0.4**
	comp=Z,4.5nm,1.0s,baz=245,slow=8.6,SNR=3.0						
	comp=Z,4.5nm,1.0s						
BRTR	**Keskin Array B**	**146.17**	**321**	PKPbc	**PKPdf**	**04 09 02.1**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=93,slow=2.4,SNR=2.1						
FUORN	**Ofenpass-Fuorn**	**148.92**	**355**	PKPbc	**PKPbc**	**04 09 09.2**	**-0.9**

*BEO **12** 04:02:23.6±2.8, 36°.83N×20°.05E, h92km±9km, ML3.4/12*
*IDC **12** 04:02:29.8±1.6, 37°.90N×20°.27E, h0km, mb3.7/5, mbtmp3.7/5, MS2.7/2, Error ellipse: s-maj=49.1km s-min=28.0km az=119.0*
*ATH **12** 04:02:31.0, 37°.70N×20°.54E, h10km±2km, ML3.5/7, Error ellipse: s-maj=2.4km s-min=0.9km az=52.0*
*THE **12** 04:02:30.1, 37°.64N×20°.49E, h0km±2km, ML3.4/16, Error ellipse: s-maj=2.9km s-min=0.6km az=228.0*

ISC 12 04:02:29.7±1.3, 37°.69N±0°.03×20°.46E±0°.04, h7km±8km, n91, σ1§18/129, mb3.8/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.29**	**96**	P	**Pg**	**04 02 35.7**	**+0.3**
KRI1				S	**Sg**	**04 02 39.0**	**-0.2**
	16μm,0.3s						
LTHK	**Lithakia**	**0.30**	**87**	P	**Pg**	**04 02 35.8**	**+0.2**
LTHK				S	**Sg**	**04 02 39.9**	**+0.2**
	22μm,0.3s						
LTHK	**Lithakia**	**0.30**	**87**	P	**Pg**	**04 02 35.8**	**+0.2**
LTHK				S	**Sg**	**04 02 39.7**	**0.0**
LTHK				AML	AML	04 02 42.4	
	comp=E,53696μm,0.4s						
LTHK				AML	AML	04 02 42.6	
	comp=N,29808μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.43**	**13**	P	**Pb**	**04 02 39.3**	**-0.4**
PSDA				S	**Sb**	**04 02 46.6**	**+0.2**
	comp=N,6μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.43**	**13**	P	**Pb**	**04 02 39.3**	**-0.4**
PSDA				S	**Sb**	**04 02 46.1**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.46**	**33**	P	**Pb**	**04 02 39.5**	**-0.6**
RTZL				S	**Sb**	**04 02 46.7**	**-0.4**
VLS	**Valsamata**	**0.49**	**12**	P	**Pb**	**04 02 40.3**	**-0.5**
VLS				S	**Sb**	**04 02 48.1**	**-0.2**
	comp=N,5μm,0.5s						
VLS	**Valsamata**	**0.49**	**12**	P	**Pb**	**04 02 40.3**	**-0.5**
VLS				S	**Sb**	**04 02 47.4**	**-0.9**
VLS				AML	AML	04 02 52.3	
	comp=E,9536μm,0.4s						
VLS				AML	AML	04 02 55.1	
	comp=N,10041μm,0.6s						
LXR1	**Lixouri, Cepha**	**0.51**	**358**	P	**Pb**	**04 02 41.1**	**+0.1**
LXR1				S	**Sb**	**04 02 49.9**	**+1.3**
	comp=N,22μm,0.7s						
LXRA	**Lixouri, Kepha**	**0.51**	**358**	P	**Pb**	**04 02 40.9**	**-0.1**
LXRA				S	**Sb**	**04 02 48.5**	**-0.1**
DMLN	**Damoulianata-K**	**0.55**	**353**	P	**Pb**	**04 02 41.6**	**-0.1**
DMLN				S	**Sb**	**04 02 51.2**	**+1.4**
	comp=N,12μm,0.6s						
DMLN	**Damoulianata-K**	**0.55**	**353**	P	**Pb**	**04 02 41.8**	**+0.1**
DMLN				S	**Sb**	**04 02 50.0**	**+0.2**
SMHA	**Samh**	**0.58**	**15**	P	**Pg**	**04 02 41.1**	**+0.2**
SMHA				S	**Sg**	**04 02 48.8**	**+0.4**
SMHA				AML	AML	04 02 54.3	
	comp=E,21416μm,0.4s						
SMHA				AML	AML	04 02 55.3	
	comp=N,19187μm,0.4s						
VSK1	**VASILIKIADES**	**0.72**	**7**	P	**Pb**	**04 02 44.3**	**-0.3**
VSK1				S	**Sn**	**04 02 56.1**	**-1.6**
	comp=N,5μm,0.7s						
FSK	**Fiskardo**	**0.77**	**6**	P	**Pb**	**04 02 45.2**	**-0.3**
FSK				S	**Sn**	**04 02 57.7**	**-1.2**
	comp=N,3μm,0.4s						
FSK	**Fiskardo**	**0.77**	**6**	P	**Pb**	**04 02 45.1**	**-0.3**
FSK				S	**Sg**	**04 02 54.3**	**-0.3**
FSK				AML	AML	04 03 01.2	
	comp=N,5965μm,0.5s						
FSK				AML	AML	04 03 08.7	
	comp=E,3916μm,0.6s						
RLS	**Riolos of Patr**	**0.88**	**65**	P	**Pg**	**04 02 46.3**	**-0.3**
RLS				S	**Sb**	**04 02 59.1**	**-0.1**
	comp=E,3μm,0.6s						
EVGI	**Lefkada island**	**0.94**	**10**	P	**Pg**	**04 02 48.0**	**+0.2**
EVGI				S	**Sn**	**04 03 02.2**	**-0.9**
	comp=E,2μm,0.3s						
EVGI	**Lefkada island**	**0.94**	**10**	P	**Pg**	**04 02 48.2**	**+0.4**
EVGI				S	**Sn**	**04 03 01.8**	**-1.3**
AST1	**Astakos**	**0.98**	**30**	P	**Pb**	**04 02 48.9**	**-0.2**
DRAG	**Dragano-Lefkad**	**0.99**	**5**	P	**Pg**	**04 02 49.0**	**+0.2**
DRAG	**Dragano-Lefkad**	**0.99**	**5**	P	**Pg**	**04 02 49.0**	**+0.2**
DRAG				S	**Sb**	**04 03 02.4**	**-0.2**
AMT	**Artemida-Makis**	**1.01**	**99**	P	**Pg**	**04 02 48.8**	**-0.3**
AMT				S	**Sg**	**04 03 00.6**	**-1.5**
DRO	**Drossia**	**1.03**	**75**	P	**Pg**	**04 02 49.0**	**-0.4**
DRO				S	**Sn**	**04 03 04.0**	**-1.2**
	comp=E,3μm,0.4s						
DRO	**Drossia**	**1.03**	**75**	P	**Pg**	**04 02 49.1**	**-0.3**
DRO				S	**Sg**	**04 03 02.1**	**-0.7**
DRO				AML	AML	04 03 08.7	
	comp=E,7082μm,0.5s						
DRO				AML	AML	04 03 13.3	
	comp=N,5239μm,0.4s						
NYDR	**Nydri-Lefkada**	**1.04**	**11**	P	**Pg**	**04 02 49.6**	**-0.1**
NYDR				S	**Sn**	**04 03 06.5**	**+1.1**
	comp=N,1μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.04**	**11**	P	**Pg**	**04 02 49.6**	**-0.1**
NYDR				S	**Sn**	**04 03 05.7**	**+0.2**
LKD2	**Lefkada island**	**1.11**	**8**	P	**Pn**	**04 02 52.3**	**+0.6**
LKD2				S	**Sn**	**04 03 09.0**	**+1.8**
	comp=N,1μm,0.6s						
TSLK	**Tsoukalades, L**	**1.14**	**8**	P	**Pb**	**04 02 51.6**	**-0.2**
TSLK				S	**Sn**	**04 03 10.0**	**+2.0**
	comp=N,2μm,0.8s						
TSLK	**Tsoukalades, L**	**1.14**	**8**	P	**Pb**	**04 02 51.7**	**-0.2**
TSLK				S	**Sn**	**04 03 07.9**	**-0.1**
TSLK				AML	AML	04 03 18.6	
	comp=E,4098μm,0.5s						
TSLK				AML	AML	04 03 21.9	
	comp=N,4514μm,0.9s						
UPR	**University Cam**	**1.21**	**60**	P	**Pg**	**04 02 52.9**	**0.0**
UPR	**University Cam**	**1.21**	**60**	P	**Pg**	**04 02 53.4**	**+0.5**
UPR				S	**Sb**	**04 03 07.4**	**-1.2**
ITM	**Ithomi**	**1.28**	**113**	P	**Pb**	**04 02 53.9**	**-0.2**
ITM	**Ithomi**	**1.28**	**113**	P	**Pg**	**04 02 54.2**	**0.0**
PYL	**PYLOS**	**1.30**	**127**	P	**Pn**	**04 02 53.8**	**-0.5**
PYL				S	**Sn**	**04 03 12.3**	**+0.4**
	comp=N,1μm,0.9s						
PYL	**PYLOS**	**1.30**	**127**	P	**Pn**	**04 02 53.6**	**-0.6**
PYL				S	**Sb**	**04 03 10.7**	**-0.6**
EFP	**Efpalio**	**1.36**	**57**	P	**Pn**	**04 02 54.8**	**-0.3**
EFP	**Efpalio**	**1.36**	**57**	P	**Pn**	**04 02 54.9**	**-0.3**
EFP				S	**Sb**	**04 03 11.2**	**-1.9**
EFP				AML	AML	04 03 20.6	
	comp=N,3178μm,0.6s						
EFP				AML	AML	04 03 26.2	
	comp=E,1727μm,0.5s						
KLV	**Kalavryta, Ach**	**1.39**	**75**	P	**Pn**	**04 02 55.0**	**-0.6**
KLV	**Kalavryta, Ach**	**1.39**	**75**	P	**Pn**	**04 02 55.2**	**-0.4**
ALIK	**Aliki, Aigiali**	**1.43**	**66**	P	**Pb**	**04 02 56.1**	**-0.5**
ANX	**Ano Chora**	**1.46**	**52**	P	**Pb**	**04 02 56.8**	**-0.5**
KALE	**Kalithea**	**1.50**	**62**	P	**Pn**	**04 02 57.1**	**0.0**
GUR	**Goura**	**1.51**	**80**	P	**Pn**	**04 02 57.4**	**+0.1**
EVR	**Evrytania**	**1.62**	**41**	P	**Pg**	**04 03 00.8**	**0.0**
IGT	**Igoumenitsa**	**1.84**	**357**	P	**Pb**	**04 03 03.4**	**-0.3**
IGT				S	**Sg**	**04 03 29.3**	**+0.4**
	comp=E,348nm,0.6s						
AGG	**Agios Georgios**	**1.98**	**47**	P	**Pn**	**04 03 03.2**	**-0.5**
THL	**Klokotos Trika**	**2.23**	**33**	P	**Pb**	**04 03 10.0**	**-0.4**
FNA	**Florina**	**3.17**	**13**	*e*Pn	**Pn**	**04 03 22.8**	**+2.7**
FNA				*e*Sn	**Sn**	**04 03 59.7**	**+1.6**
OHR	**Ohrid**	**3.42**	**4**	*e*Pn	**Pn**	**04 03 25.2**	**+1.6**
OHR				*e*Sn	**Sn**	**04 04 06.8**	**+2.3**
OHR	**Ohrid**	**3.42**	**4**	*i* Pn	**Pn**	**04 03 26.9**	**+3.3**
TIR	**Tirane**	**3.68**	**353**	*e*Pn	**Pn**	**04 03 28.5**	**+1.5**
TIR				*e*Sn	**Sn**	**04 04 10.7**	**+0.1**
VAY	**Valandovo**	**3.98**	**24**	*i* Pn	**Pg**	**04 03 44.8**	**-1.1**
SRS	**Serrai**	**4.19**	**34**	*e*Pn	**Pn**	**04 03 35.6**	**+1.5**
PDG	**Podgorica**	**4.82**	**349**	*e*Pn	**Pn**	**04 03 42.3**	**-0.4**
PDG				*e*Sn	**Sn**	**04 04 37.3**	**-1.5**
PDG	**Podgorica**	**4.82**	**349**	*e*Pn	**Pn**	**04 03 42.4**	**-0.3**
HCY	**Herceg Novi**	**4.98**	**343**	*e*Pn	Pn	04 03 38.2	-6.7
BOSS	**Bosilegrad**	**5.04**	**17**	*e*Pn	**Pn**	**04 03 46.7**	**+0.9**
BARS	**Barje**	**5.22**	**11**	*e*Pn	**Pn**	**04 03 48.8**	**+0.6**
TREB	**Trebinje**	**5.27**	**343**	*e*Pn	**Pn**	**04 03 48.3**	**-0.6**
TREB				*e*Sn	**Sn**	**04 04 46.2**	**-3.7**
TREB	**Trebinje**	**5.27**	**343**	*e*Pn	**Pn**	**04 03 47.4**	**-1.5**
VTS	**Vitosha**	**5.36**	**23**	*e*Pn	**Pn**	**04 03 52.4**	**+2.1**
VTS				*e*Sn	**Sn**	**04 04 51.7**	**-0.6**
BRY	**Bratogost**	**5.41**	**345**	*e*Pn	**Pn**	**04 03 48.3**	**-2.6**
SELS	**Selova**	**5.54**	**5**	*e*Pn	**Pn**	**04 03 53.5**	**+0.8**
SJES	**Sjenica**	**5.58**	**356**	*e*Pn	**Pn**	**04 03 53.9**	**+0.7**
SJES				*e*Sn	**Sn**	**04 04 56.1**	**-1.4**
SJES	**Sjenica**	**5.58**	**356**	*e*Pn	**Pn**	**04 03 54.7**	**+1.5**
STON	**Ston**	**5.58**	**339**	*e*Pn	**Pn**	**04 03 52.9**	**-0.3**
STON				*e*Sn	**Sn**	**04 04 52.4**	**-5.2**
STON	**Ston**	**5.58**	**339**	*e*Pn	**Pn**	**04 03 52.9**	**-0.3**
UPM	**Unac-Piva**	**5.63**	**348**	*e*Pn	**Pn**	**04 03 55.2**	**+1.2**
ZAPS	**Zavoj**	**5.82**	**16**	*e*Pn	**Pn**	**04 03 57.3**	**+0.9**
IVAS	**Ivanjica**	**5.88**	**358**	*e*Pn	**Pn**	**04 03 57.2**	**-0.1**
RUDO	**Rudo**	**5.98**	**352**	*e*Pn	**Pn**	**04 03 58.6**	**0.0**
BBLS	**Lazi&#263i**	**6.22**	**353**	*e*Sn	**Sn**	**04 05 11.6**	**-1.7**
BBLS	**Lazi&#263i**	**6.22**	**353**	*e*Pn	**Pn**	**04 04 05.3**	**+3.3**
DIVS	**Divibare**	**6.41**	**357**	*e*Sn	**Sn**	**04 05 15.1**	**-2.9**
HAPS	**Han Pijesak,BI**	**6.49**	**350**	*e*Pn	**Pn**	**04 04 04.9**	**-0.8**
HAPS	**Han Pijesak,BI**	**6.49**	**350**	*e*Pn	**Pn**	**04 04 05.1**	**-0.6**
A050A	**Klekovaca**	**7.40**	**338**	*e*Pn	**Pn**	**04 04 19.1**	**+0.9**
BLY	**Banja Luka**	**7.47**	**342**	*e*Pn	**Pn**	**04 04 20.2**	**+1.2**
A051A	**Mrakovica**	**7.78**	**341**	*e*Pn	**Pn**	**04 04 22.9**	**-0.6**
MLR	**Muntele Rosu**	**8.81**	**26**	LR	LR	04 09 17.7	
	comp=E,52nm,19.3s,baz=202,slow=47						
CRES	**Cresnjevec Ost**	**8.94**	**337**	*e*Pn	**Pn**	**04 04 38.5**	**-0.8**
SKDS	**Skadanscina**	**9.21**	**330**	*e*Pn	**Pn**	**04 04 41.8**	**-1.1**
CEY	**Cerknica**	**9.21**	**333**	*e*Pn	**Pn**	**04 04 43.6**	**+0.6**
OBKA	**Obir**	**9.84**	**335**	*e*Pn	**Pn**	**04 04 50.5**	**-1.2**
VRAC	**Vranov**	**11.94**	**348**	LR	LR	04 11 21.0	
	comp=E,31nm,18.6s,baz=258,slow=45						
HFS	**Hagfors**	**22.87**	**351**	P	**P**	**04 07 32.3**	**-1.2**
	comp=E,4.2nm,0.9s,baz=176,slow=12,SNR=4.7						
	comp=E,4.2nm,0.9s						
FINES	**FINESS Array B**	**24.03**	**7**	P	**P**	**04 07 44.3**	**-0.8**
	comp=E,7.1nm,1.1s,baz=189,slow=8.0,SNR=4.6						
	comp=E,7.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**29.62**	**219**	P	**P**	**04 08 37.5**	**+1.8**
	comp=E,0.2nm,0.8s,baz=28,slow=10,SNR=1.8						
	comp=E,0.2nm,0.8s						
MKAR	**Makanchi Array**	**45.60**	**58**	P	**P**	**04 10 51.8**	**+1.3**
	comp=E,0.4nm,0.6s,baz=268,slow=8.9,SNR=1.6						
	comp=E,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**46.05**	**48**	P	**P**	**04 10 54.6**	**+0.7**
	comp=E,0.4nm,0.4s,baz=289,slow=9.0,SNR=1.8						
	comp=E,0.4nm,0.4s						

*SJA **12** 04:12:54.0±0.6, 21°.12S×67°.35W, h210km±5km, ML3.6, MW3.4*
*SCB **12** 04:12:56.6±1.3, 21°.11S×67°.39W, h176km±12km, ML3.6/3, MW3.1, Error ellipse: s-maj=6.3km s-min=3.2km az=0.0*

ISC 12 04:12:55.3±1.6, 21°.16S±0°.04×67°.40W±0°.03, h198km±14km, n35, σ1§41/56, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.65**	**94**	Pg	**Pn**	**04 13 31.3**	**+0.6**
MOCB				Sg	**Sn**	**04 13 56.5**	**-1.6**
MOCB				IAML		04 13 57.8	
	248nm,0.4s						
PB09	**IPOC Station P**	**1.83**	**249**	*e*P	**Pn**	**04 13 32.9**	**+0.8**
PB09				*e*S	**Sn**	**04 14 01.4**	**+0.7**
PB09				IAML		04 14 03.4	
	comp=Z,112nm,0.5s						
PB09	**IPOC Station P**	**1.83**	**249**	Pg	**Pn**	**04 13 33.3**	**+1.2**
PB08	**IPOC Station P**	**1.92**	**301**	*e*P	**Pn**	**04 13 34.2**	**+0.8**
PB08				*e*S	**Sn**	**04 14 03.9**	**+1.1**
PB08	**IPOC Station P**	**1.92**	**301**	Pg	**Pn**	**04 13 34.1**	**+0.8**
AF01	**San Pedro de A**	**1.93**	**202**	*e*P	**Pn**	**04 13 30.0**	**-3.2**
AF01				*e*S	Sn	04 13 45.2	-18
PB01	**IPOC Station P**	**1.95**	**273**	*e*P	**Pn**	**04 13 35.5**	**+0.3**
PB01				*e*S	**Sn**	**04 14 02.1**	**-0.5**
PB01				IAML		04 14 05.2	
	comp=Z,232nm,0.2s						
PB01	**IPOC Station P**	**1.95**	**273**	Pg	**Pn**	**04 13 33.6**	**+0.3**
PB01				Sg	**Sn**	**04 14 01.1**	**-1.6**
PB01				IAML		04 14 03.9	
	comp=Z,182nm,0.3s						
YJA	**Yavi**	**2.03**	**120**	*e*P	**Pn**	**04 13 35.2**	**+0.7**
YJA				*e*S	**Sn**	**04 14 04.9**	**0.0**
GO01	**Chusmiza**	**2.24**	**311**	*e*P	**Pn**	**04 13 37.0**	**+0.3**
GO01				*e*S	**Sn**	**04 14 12.1**	**+3.2**
GO01	**Chusmiza**	**2.24**	**311**	Pg	**Pn**	**04 13 37.2**	**+0.5**
HMBC	**Humberstone**	**2.48**	**290**	*e*P	**Pn**	**04 13 38.7**	**-0.4**
HMBC				*e*S	**Sn**	**04 14 10.7**	**-2.4**
HMBC				IAML		04 14 14.7	
	comp=Z,347nm,0.4s						
PB11	**IPOC Station P**	**2.53**	**303**	*e*P	**Pn**	**04 13 39.6**	**+0.1**
PB11				*e*S	**Sn**	**04 14 13.4**	**-0.6**
PB11				IAML		04 14 15.0	
	comp=Z,275nm,0.2s						
PB11	**IPOC Station P**	**2.53**	**303**	Pg	**Pn**	**04 13 39.7**	**+0.1**
PB11				Sg	**Sn**	**04 14 12.2**	**-1.8**
PB11				IAML		04 14 16.2	
	comp=Z,284nm,0.2s						
PB06	**IPOC Station P**	**2.54**	**232**	*e*P	**Pn**	**04 13 40.1**	**+0.4**
PB06				*e*S	**Sn**	**04 14 14.7**	**+0.4**
PB06				IAML		04 14 19.8	
	comp=Z,59nm,0.2s						
PATCX	**Punta Patache**	**2.59**	**277**	*e*P	**Pn**	**04 13 40.6**	**+0.4**
PATCX				*e*S	**Sn**	**04 14 15.0**	**-0.2**
PATCX				IAML		04 14 15.2	
	comp=Z,179nm,0.2s						
SOEO	**Opoqueri**	**2.62**	**350**	Pg	**Pn**	**04 13 41.7**	**+0.7**
TA01	**Diego Aracena**	**2.66**	**282**	*e*P	**Pn**	**04 13 40.6**	**-0.3**
TA01				*e*S	**Sn**	**04 14 14.2**	**-2.2**
TA01				IAML		04 14 19.4	
	comp=Z,88nm,0.6s						
TA02	**Huaiquique**	**2.70**	**289**	*e*P	**Pn**	**04 13 41.8**	**+0.5**
TA02				*e*S	**Sn**	**04 14 15.5**	**-1.7**
TA02				IAML		04 14 17.1	
	comp=Z,299nm,0.1s						
PB15	**IPOC Station P**	**2.80**	**223**	*e*P	**Pn**	**04 13 43.8**	**+1.1**
PB15				*e*S	**Sn**	**04 14 21.4**	**+1.6**
PB15				IAML		04 14 24.6	
	comp=Z,193nm,0.2s						
PB15	**IPOC Station P**	**2.80**	**223**	Pg	**Pn**	**04 13 43.7**	**+1.0**
PB04	**IPOC Station P**	**2.81**	**245**	*e*P	**Pn**	**04 13 43.1**	**+0.4**
PB04				*e*S	**Sn**	**04 14 19.2**	**-0.7**
PB04				IAML		04 14 20.4	
	comp=Z,125nm,0.2s						
SOET	**ToroToro**	**3.38**	**27**	Pg	**Pn**	**04 13 49.7**	**-0.1**
AOEA	**Aiquile**	**3.60**	**35**	Pg	**Pn**	**04 13 52.2**	**-0.2**
AZAP	**Zapla**	**3.74**	**145**	*e*P	**Pn**	**04 13 54.3**	**+0.3**
AZAP				*e*S	**Sn**	**04 14 38.6**	**-1.5**
AZAP				IAML		04 14 40.1	
	comp=Z,60nm,0.3s						
SOTI	**Planta Incahua**	**3.75**	**70**	Pg	**Pn**	**04 13 54.1**	**0.0**
SLA	**San Lorenzo**	**3.96**	**154**	*e*P	**Pn**	**04 13 58.1**	**+1.5**
SLA				*e*S	**Sn**	**04 14 48.7**	**+3.8**
**AL

1.7nm,0.3s,baz=66,slow=12,SNR=1.9
PMG S **Sn** **04 35 28.7 +0.2**
10nm,0.6s,baz=284,slow=17,SNR=1.8
6.1nm,0.4s
DZM Mont Dzumac 20.11 148 LR LR 04 43 27.7
comp=Z,26nm,19.1s,baz=134,slow=35
WRA Warramunga Arr 24.86 232 P **P** **04 36 59.8 -0.1**
4.8nm,0.6s,baz=56,slow=9.7,SNR=43
WRA PcP **PcP** **04 40 34.6 +1.1**
0.2nm,0.5s,baz=61,slow=2.6,SNR=1.8
4.8nm,0.6s
H11S3 WAKE ISLAND Hy 26.22 26 T T 05 04 05.6
baz=207,slow=74,SNR=12
H11S2 WAKE ISLAND Hy 26.23 26 T T 05 04 03.7
baz=207,slow=74,SNR=5.8
H11S1 WAKE ISLAND Hy 26.24 26 T T 05 04 03.8
baz=207,slow=74,SNR=5.1
ASAR Alice Springs 27.38 226 P **P** **04 37 22.1 -0.4**
0.4nm,0.4s,baz=60,slow=9.1,SNR=6.5
0.4nm,0.4s
CMAR Chiang Mai Arr 60.02 295 P **P** **04 41 43.0 0.0**
1.3nm,0.3s,baz=111,slow=5.2,SNR=5.8
1.3nm,0.3s
MKAR Makanchi Array 82.06 319 P **P** **04 43 56.1 +0.4**
0.5nm,0.6s,baz=104,slow=6.1,SNR=2.7
0.5nm,0.6s
BVAR Borovoye Array 90.86 323 P **P** **04 44 38.3 -0.3**
0.3nm,0.4s,baz=104,slow=6.1,SNR=2.4
0.3nm,0.4s
TORD Torodi Ar. Bea 152.50 289 PKPbc **PKPbc** **04 51 31.3 -0.8**
0.2nm,0.4s,baz=65,slow=2.1,SNR=4.2

*IDC **12** 05:00:25.6±1.4, 37.°69N×20.°90E, h0km, mb3.7/8,*
mbtmp3.6/9, ML2.8/1, MS2.5/1, Error ellipse: s-maj=30.8km
s-min=24.6km az=139.0
*THE **12** 05:00:30.7, 37.°85N×21.°11E, h10km±2km, ML3.4/15, Error*
ellipse: s-maj=2.0km s-min=0.6km az=265.0
*ATH **12** 05:00:30.3, 37.°84N×21.°09E, h19km±2km, ML3.5/13, Error*
ellipse: s-maj=2.6km s-min=0.7km az=213.0
ISC 12 05:00:30.5±0.8, 37.°84N±0.°02×21.°08E±0.°02, h26km±6km,
n59, σ1§12/97, mb3.7/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.23**	**236**	P	**Pb**	**05 00 36.6**	**0.0**
LTHK				S	**Sb**	**05 00 40.0**	**-0.8**
25μm,0.4s							
LTHK	**Lithakia**	**0.23**	**236**	P	**Pb**	**05 00 36.4**	**-0.2**
LTHK				S	**Sb**	**05 00 39.7**	**-1.0**
LTHK				AML	AML	05 00 45.4	
comp=N,40987μm,0.3s							
LTHK				AML	AML	05 00 47.4	
comp=E,56133μm,0.3s							
KRI1	**kERI**	**0.27**	**230**	P	**Pb**	**05 00 37.0**	**-0.2**
KRI1				S	**Sb**	**05 00 41.5**	**-0.3**
comp=E,27μm,0.3s							
RTZL	**Ratzakli, Kefa**	**0.34**	**314**	P	**Pb**	**05 00 38.1**	**-0.1**
RTZL				S	**Sb**	**05 00 43.5**	**+0.1**
RLS	**Riolos of Patr**	**0.38**	**54**	P	**Pb**	**05 00 37.8**	**-0.9**
RLS				S	**Sb**	**05 00 43.5**	**-0.8**
comp=E,20μm,0.3s							
RLS	**Riolos of Patr**	**0.38**	**54**	P	**Pb**	**05 00 37.8**	**-0.9**
RLS				S	**Sb**	**05 00 43.5**	**-0.8**
RLS				AML	AML	05 00 44.3	
comp=N,42974μm,0.2s							
RLS				AML	AML	05 00 44.5	
comp=E,34627μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.48**	**305**	P	**Pb**	**05 00 39.2**	**-1.1**
PSDA				S	**Sb**	**05 00 46.2**	**-0.9**
comp=E,5μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.48**	**305**	P	**Pb**	**05 00 39.3**	**-1.1**
PSDA				S	**Sb**	**05 00 45.6**	**-1.4**
DRO	**Drossia**	**0.51**	**77**	P	**Pb**	**05 00 39.8**	**-1.1**
DRO				S	**Sb**	**05 00 47.9**	**-0.1**
comp=E,12μm,0.4s							
DRO	**Drossia**	**0.51**	**77**	P	**Pb**	**05 00 40.2**	**-0.8**
DRO				S	**Sb**	**05 00 46.9**	**-1.1**
DRO				AML	AML	05 00 49.5	
comp=E,26658μm,0.5s							
DRO				AML	AML	05 00 50.8	
comp=N,22135μm,0.4s							
VLS	**Valsamata**	**0.51**	**311**	P	**Pb**	**05 00 40.1**	**-0.9**
VLS				S	**Sb**	**05 00 48.2**	**+0.1**
comp=N,3μm,0.3s							
VLS	**Valsamata**	**0.51**	**311**	P	**Pb**	**05 00 40.1**	**-0.9**
VLS				S	**Sb**	**05 00 47.3**	**-0.9**
VLS				AML	AML	05 00 50.0	
comp=E,5646μm,0.2s							
VLS				AML	AML	05 00 50.0	
comp=N,5588μm,0.3s							
SMHA	**Samh**	**0.53**	**320**	P	**Pb**	**05 00 40.8**	**-0.5**
SMHA				S	**Sb**	**05 00 48.5**	**-0.1**
SMHA				AML	AML	05 00 53.2	
comp=E,21170μm,0.4s							
SMHA				AML	AML	05 00 56.4	
comp=N,22134μm,0.4s							
AMT	**Artemida-Makis**	**0.58**	**121**	P	**Pb**	**05 00 41.9**	**-0.3**
AMT				S	**Sb**	**05 00 49.0**	**-1.2**
AMT				AML	AML	05 00 52.1	
comp=N,49318μm,0.7s							
AMT				AML	AML	05 00 52.2	
comp=E,37595μm,0.4s							
DMLN	**Damoulianata-K**	**0.69**	**306**	P	**Pb**	**05 00 41.1**	**-2.8**
DMLN	**Damoulianata-K**	**0.69**	**306**	P	**Pb**	**05 00 42.2**	**-1.6**
AST1	**Astakos**	**0.70**	**1**	P	**Pb**	**05 00 44.0**	**-0.1**
AST1				S	**Sn**	**05 00 54.1**	**-0.7**
comp=E,2μm,0.3s							
UPR	**University Cam**	**0.71**	**51**	P	**Pb**	**05 00 44.0**	**-0.3**
UPR	**University Cam**	**0.71**	**51**	P	**Pb**	**05 00 43.7**	**-0.6**
UPR				S	**Sb**	**05 00 52.9**	**-0.8**
FSK	**Fiskardo**	**0.74**	**327**	P	**Pb**	**05 00 44.3**	**-0.5**
FSK	**Fiskardo**	**0.74**	**327**	P	**Pb**	**05 00 44.5**	**-0.3**
FSK				S	**Sb**	**05 00 54.5**	**0.0**
EVGI	**Lefkada island**	**0.85**	**337**	P	**Pb**	**05 00 46.2**	**-0.4**
EVGI				S	**Sn**	**05 00 59.6**	**+1.2**
comp=E,3μm,0.3s							
EVGI	**Lefkada island**	**0.85**	**337**	P	**Pb**	**05 00 46.2**	**-0.4**
EVGI				S	**Sb**	**05 00 56.9**	**-0.8**
KLV	**Kalavryta, Ach**	**0.87**	**76**	P	**Pb**	**05 00 45.9**	**-1.2**
KLV				S	**Sn**	**05 00 59.4**	**+0.3**
comp=E,1μm,0.3s							
KLV	**Kalavryta, Ach**	**0.87**	**76**	P	**Pb**	**05 00 45.8**	**-1.2**
KLV				S	**Sb**	**05 00 57.5**	**-0.7**
KLV				AML	AML	05 01 03.3	
comp=E,1927μm,0.2s							
KLV				AML	AML	05 01 04.0	
comp=N,2881μm,0.3s							
EFP	**Efpalio**	**0.88**	**48**	P	**Pb**	**05 00 46.2**	**-0.8**
EFP				S	**Sn**	**05 00 59.3**	**+0.2**
comp=N,3μm,0.5s							
EFP	**Efpalio**	**0.88**	**48**	P	**Pb**	**05 00 46.2**	**-0.8**
EFP				S	**Sb**	**05 00 57.4**	**-1.0**
EFP				AML	AML	05 01 01.8	
comp=E,6570μm,0.5s							
EFP				AML	AML	05 01 02.2	
comp=N,5929μm,0.6s							
ALIK	**Aliki, Aigiali**	**0.92**	**62**	P	**Pb**	**05 00 47.0**	**-0.7**
ALIK				S	**Sn**	**05 01 01.1**	**+1.0**
NYDR	**Nydri-Lefkada**	**0.92**	**341**	P	**Pb**	**05 00 47.4**	**-0.5**
NYDR				S	**Sn**	**05 01 01.0**	**+0.8**
comp=N,1μm,0.4s							
NYDR	**Nydri-Lefkada**	**0.92**	**341**	P	**Pb**	**05 00 47.4**	**-0.5**
NYDR				S	**Sn**	**05 01 00.7**	**+0.5**
DRAG	**Dragano-Lefkad**	**0.93**	**335**	P	**Pb**	**05 00 47.6**	**-0.5**
DRAG				S	**Sn**	**05 01 02.5**	**+2.0**
DRAG	**Dragano-Lefkad**	**0.93**	**335**	P	**Pb**	**05 00 47.6**	**-0.5**
DRAG				S	**Sn**	**05 01 00.1**	**-0.4**
ITM	**Ithomi**	**0.94**	**134**	P	**Pb**	**05 00 47.7**	**-0.5**
ITM				S	**Sn**	**05 01 02.2**	**+1.4**
comp=N,2μm,0.5s							
ITM	**Ithomi**	**0.94**	**134**	P	**Pb**	**05 00 47.8**	**-0.4**
ITM				S	**Sb**	**05 00 59.4**	**-0.9**
ITM				AML	AML	05 01 07.6	
comp=N,4443μm,0.7s							
ITM				AML	AML	05 01 10.1	
comp=E,3711μm,0.6s							
KALE	**Kalithea**	**1.00**	**56**	P	**Pb**	**05 00 48.1**	**-1.1**
KALE				S	**Sn**	**05 01 02.2**	**-0.1**
ANX	**Ano Chora**	**1.00**	**41**	P	**Pb**	**05 00 48.7**	**-0.6**
ANX				S	**Sn**	**05 01 02.5**	**+0.1**
ANX				AML	AML	05 01 05.9	
comp=E,4536μm,0.5s							
ANX				AML	AML	05 01 06.4	
comp=N,6147μm,0.5s							
GUR	**Goura**	**1.00**	**84**	P	**Pb**	**05 00 48.2**	**-1.1**
GUR	**Goura**	**1.00**	**84**	P	**Pb**	**05 00 47.9**	**-1.4**
GUR				S	**Sb**	**05 01 01.3**	**-0.8**
GUR				AML	AML	05 01 13.4	
comp=E,5219μm,0.5s							
GUR				AML	AML	05 01 14.5	
comp=N,4943μm,0.5s							
LKD2	**Lefkada island**	**1.00**	**341**	P	**Pn**	**05 00 50.3**	**+1.3**
LKD2				S	**Sn**	**05 01 05.4**	**+3.1**
comp=N,3μm,0.5s							
LKD2	**Lefkada island**	**1.00**	**341**	P	**Pn**	**05 00 49.3**	**+0.3**
LKD2				S	**Sn**	**05 01 02.0**	**-0.3**
TSLK	**Tsoukalades, L**	**1.04**	**341**	P	**Pn**	**05 00 49.5**	**+0.1**
TSLK				S	**Sn**	**05 01 05.7**	**+2.6**
comp=N,3μm,0.4s							
TSLK	**Tsoukalades, L**	**1.04**	**341**	P	**Pn**	**05 00 49.6**	**+0.1**
TSLK				S	**Sn**	**05 01 03.0**	**-0.1**
PYL	**PYLOS**	**1.08**	**151**	P	**Pn**	**05 00 50.0**	**0.0**
PYL				S	**Sn**	**05 01 06.2**	**+2.1**
comp=N,1μm,0.4s							
PYL	**PYLOS**	**1.08**	**151**	P	**Pn**	**05 00 49.5**	**-0.4**
PYL				S	**Sb**	**05 01 04.1**	**-0.1**
PYL				AML	AML	05 01 07.2	
comp=N,2300μm,0.3s							
PYL				AML	AML	05 01 10.2	
comp=E,2673μm,0.4s							
EVR	**Evrytania**	**1.22**	**28**	P	**Pb**	**05 00 53.2**	**+0.3**
EVR	**Evrytania**	**1.22**	**28**	P	**Pb**	**05 00 52.2**	**-0.8**
EVR				S	**Sb**	**05 01 07.3**	**-1.0**
EVR				AML	AML	05 01 18.1	
comp=E,1326μm,0.6s							
EVR				AML	AML	05 01 24.4	
comp=N,1347μm,0.5s							
AGG	**Ágios Georgios**	**1.54**	**39**	P	**Pb**	**05 00 57.9**	**-0.4**
IGT	**Igoumenitsa**	**1.79**	**341**	P	**Pb**	**05 01 01.9**	**-0.7**
BRTR	**Keskin Array B**	**9.98**	**75**	Pn	**Pn**	**05 02 56.8**	**+4.4**
comp=N,0.1nm,0.3s,baz=264,slow=14,SNR=2.1							
comp=N,0.3nm,0.5s							
MMAI	**Mount Meron Ar**	**12.63**	**108**	LR	LR	05 10 17.8	
comp=N,24nm,20.5s,baz=38,slow=46							
HFS	**Hagfors**	**22.80**	**350**	P	**P**	**05 05 32.6**	**+1.5**
comp=N,1.4nm,0.7s,baz=155,slow=14,SNR=1.6							
comp=N,1.4nm,0.7s							
FINES	**FINESS Array B**	**23.83**	**6**	P	**P**	**05 05 42.8**	**+1.5**
comp=N,3.2nm,0.8s,baz=181,slow=11,SNR=7.1							
comp=N,3.2nm,0.8s							
EKA	**Eskdalemuir Ar**	**23.96**	**325**	P	**P**	**05 05 40.8**	**-1.7**
comp=N,0.8nm,0.8s,baz=129,slow=10,SNR=1.4							
comp=N,0.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**30.05**	**220**	P	**P**	**05 06 34.9**	**-2.7**
comp=N,0.2nm,0.7s,baz=28,slow=9.9,SNR=4.7							
comp=N,0.2nm,0.7s							
ARCES	**ARCESS Array B**	**31.84**	**3**	P	**P**	**05 06 51.4**	**-1.6**
comp=N,1.9nm,1.0s,baz=189,slow=11,SNR=1.7							
comp=N,1.9nm,1.0s							
KURBB	**Kurchatov Arra**	**42.08**	**53**	P	**P**	**05 08 21.0**	**+1.0**
comp=N,0.6nm,0.2s,baz=275,slow=8.1,SNR=1.0							
comp=N,0.6nm,0.2s							
MKAR	**Makanchi Array**	**45.10**	**58**	P	**P**	**05 08 44.0**	**-0.5**
comp=N,0.4nm,0.5s,baz=274,slow=6.5,SNR=2.0							
comp=N,0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**45.59**	**48**	P	**P**	**05 08 48.4**	**+0.2**
comp=N,0.5nm,0.4s,baz=286,slow=6.3,SNR=2.2							
comp=N,0.5nm,0.4s							
MJAR	**Matsushiro Arr**	**85.91**	**46**	LR	LR	05 53 23.9	
comp=N,248nm,18.1s,baz=40,slow=37							

*NAO **12** 05:05:42.3±3.8, 71.°37N×11.°49W, ML2.8*
*BER **12** 05:05:46.9±0.4, 71.°44N×10.°92W, h0km±396km, mb(Pn)3.7,*
Confirmed Earthquake
ISC 12 05:05:46.1±4.1, 71.°4N±0.°2×10.°8W±0.°3, h10km, n9,
σ0§45/11, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**0.81**	**125**	Pg	**Pg**	**05 06 01.0**	**-0.8**
JMI				Lg	Lg	05 06 15.7	
JMI	**Jan Mayen**	**0.81**	**125**	*e*S	**Sn**	**05 06 15.8**	**+0.2**
JMIC	**Jan Mayen**	**0.84**	**119**	Pg	**Pb**	**05 06 03.7**	**+0.9**
JMIC				Lg	Lg	05 06 15.9	
JMIC	**Jan Mayen**	**0.84**	**119**	*e*P	**Pn**	**05 06 03.9**	**-0.1**
JMIC				*e*S	**Sn**	**05 06 16.1**	**-0.3**
JMIC				IAML		05 06 17.5	
comp=Z,132nm,0.2s							
JNW	**Jan Mayen West**	**0.84**	**116**	*e*P	**Pn**	**05 06 04.0**	**0.0**
JNW				*e*S	**Sn**	**05 06 16.6**	**+0.2**
JNW				IAML		05 06 19.5	
comp=Z,183nm,0.2s							
JNE	**Jan Mayen East**	**0.90**	**117**	*e*P	**Pn**	**05 06 04.7**	**-0.1**
JNE				*e*S	**Sn**	**05 06 17.6**	**-0.1**
JNE				IAML		05 06 20.3	
comp=Z,248nm,0.2s							
DBG	**Daneborg**	**4.04**	**321**	Pn	Pn	05 06 43.2	-4.7
DBG				Sn	Sn	05 07 24.4	-11
HSPB	**Hornsund (broa**	**9.01**	**40**	Pn	**Pn**	**05 07 55.8**	**-0.1**
SPA0	**Spitsbergen Ar**	**9.71**	**34**	Pn	**Pn**	**05 08 05.6**	**-0.1**
baz=215,slow=16							

*IDC **12** 05:49:27.5±0.8, 38.°98N×144.°85E, h0km, mb3.9/14,*
mbtmp3.9/18, ML3.6/4, MS3.3/9, Error ellipse:
s-maj=18.6km s-min=16.6km az=131.0
*NEIC **12** 05:49:30.9±1.5, 39.°06N±0.°07×144.°5E±0.°1, h10km±1km,*
mb4.6/49, Error ellipse: s-maj=16.5km s-min=11.2km
az=111.0
*JMA **12** 05:49:32.5±0.2, 39.°2N±0.°9×14°5E±°, h51km, MV4.3/38,*
FAR E OFF NORTH HONSHU
*NIED **12** 05:49:32.5, 39.°23N×144.°55E, h51km, MW4.1, Moment*
Tensor Solution. s3 Moment tensor: Scale 1015Nm;
Mrr-1.62; Mθθ0.01; Mφφ1.61; Mrθ-0.12; Mrφ0.32; Mθφ0.68;
Fault plane solution: M0 1.79000×10 15 NP1:
φs183.00000°, δ56.00000°, λ-99.00000°. NP2:φs19.00000°,
δ35.00000°, λ-77.00000°.
ISC 12 05:49:31.8±0.6, 39.°12N±0.°05×144.°57E±0.°06, h19km, n110,
σ1§47/119, mb4.5/40, MS3.3/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**2.18**	**283**	*i* P	**Pn**	**05 50 06.9**	**-0.1**
MIYJ				S	**Sn**	**05 50 31.9**	**-1.5**
JTH	**Tanohata**	**2.25**	**292**	*e*P	**Pn**	**05 50 07.5**	**-0.4**
JTH				S	**Sn**	**05 50 33.3**	**-1.8**
OFUJ	**Ofunato**	**2.25**	**270**	*e*P	**Pn**	**05 50 07.8**	**-0.3**
OFUJ				S	**Sn**	**05 50 34.2**	**-1.1**
JOM	**Ohasama**	**2.56**	**279**	*i* P	**Pn**	**05 50 13.0**	**+0.7**
JOM				S	**Sn**	**05 50 42.1**	**-0.8**
JMK	**Ichinoseki**	**2.61**	**267**	*i* P	**Pn**	**05 50 13.3**	**+0.4**
JMK				S	**Sn**	**05 50 43.7**	**-0.3**
JANG	**Nango**	**2.67**	**299**	*i* P	**Pn**	**05 50 12.9**	**-0.8**
JRG	**Rokugo**	**3.06**	**276**	P	**Pn**	**05 50 20.1**	**+1.0**
JRG				S	**Sn**	**05 50 55.9**	**+0.6**
ERM	**Erimo**	**3.09**	**340**	Pn	**Pn**	**05 50 18.1**	**-1.4**
JOU	**Okura**	**3.14**	**257**	*i* P	**Pn**	**05 50 20.7**	**+0.5**
JOU				S	**Sn**	**05 50 56.9**	**-0.4**
JTM	**Tenmabayashi**	**3.16**	**303**		**Pn**	**05 50 20.5**	**0.0**
JTM	**Tenmabayashi**	**3.16**	**303**	P	**Pn**	**05 50 21.1**	**+0.6**
JTM				S	**Sn**	**05 50 56.5**	**-1.2**
JMM	**Marumori**	**3.21**	**248**		**Pn**	**05 50 21.0**	**-0.2**
JAH	**Hinai**	**3.22**	**291**	P	**Pn**	**05 50 21.9**	**+0.6**
JAH				S	**Sn**	**05 50 59.4**	**+0.4**
JYK	**Kaneyama**	**3.28**	**268**	*e*P	**Pn**	**05 50 22.6**	**+0.4**
JYK				*e*S	**Sn**	**05 51 00.7**	**0.0**
JNBK	**Urakawa-nobuka**	**3.45**	**337**	*e*P	**Pn**	**05 50 23.2**	**-1.2**
JOT	**Ohata**	**3.52**	**311**	*e*P	**Pn**	**05 50 24.8**	**-0.5**
JOT				S	**Sn**	**05 51 04.6**	**-1.8**
JCH	**Churui**	**3.61**	**346**	*e*P	**Pn**	**05 50 25.2**	**-1.5**
JOTO	**OTAMA OYAMA**	**3.67**	**246**	P	**Pn**	**05 50 28.6**	**+1.1**
JOTO				S	**Sn**	**05 51 09.9**	**-0.4**
NEM2	**Nemuro 2**	**4.34**	**11**	P	**Pn**	**05 50 32.9**	**-3.8**
JTKR	**Abashiri--Toko**	**4.88**	**354**	P	**Pn**	**05 50 42.4**	**-1.6**
JTKR				S	**Sn**	**05 51 35.1**	**-4.8**
JSD	**Sado**	**5.06**	**260**	Pn	**Pn**	**05 50 45.7**	**-0.9**
ASAJ	**Asahikawa**	**5.21**	**344**	Pn	**Pn**	**05 50 48.9**	**+0.3**
2.1nm,0.3s,baz=196,slow=14,SNR=6.1							
ASAJ				Sn	**Sn**	**05 51 45.7**	**-2.5**
1.6nm,0.3s,baz=351,slow=27,SNR=7.0							
4.0nm,0.3s							
JRY	**Ryogami san**	**5.46**	**237**	P	**Pn**	**05 50 51.8**	**-0.3**
MJAR	**Matsushiro Arr**	**5.65**	**245**	Pn	**Pn**	**05 50 55.5**	**+0.7**
0.9nm,0.3s,baz=64,slow=12,SNR=16							
MJAR				Sn	**Sn**	**05 52 01.7**	**+2.6**
0.3nm,0.3s,baz=74,slow=40,SNR=1.5							
8.3nm,0.4s							
MAJO	**Matsushiro**	**5.65**	**245**		**Pn**	**05 50 53.6**	**-1.1**
MJB9	**Matsu-Tunnel**	**5.65**	**245**	Pn	**Pn**	**05 50 52.8**	**-1.9**
JGF	**Kuroka**	**6.73**	**241**	Pn	**Pn**	**05 51 09.5**	**0.0**
JHJ2	**Mitsune**	**7.12**	**214**	Pn	**Pn**	**05 51 13.3**	**-1.6**
JHJ	**Hachijo jima 2**	**7.13**	**214**	Pn	**Pn**	**05 51 12.8**	**-2.2**
4.9nm,0.3s,baz=51,slow=20,SNR=1.5							
JHJ				Sn	**Sn**	**05 52 27.5**	**-7.9**
25nm,0.3s,baz=243,slow=23,SNR=2.1							
95nm,0.9s							
USA0B	**Ussuriysk Arra**	**10.69**	**302**	Pn	**Pn**	**05 52 02.7**	**-1.1**
USRK	**Ussuriysk Ar.**	**10.69**	**302**		**Pn**	**05 52 02.1**	**-1.6**
USRK	**Ussuriysk Ar.**	**10.69**	**302**	Pn	**Pn**	**05 52 04.9**	**+1.1**
0.3nm,0.3s,baz=97,slow=12,SNR=7.9							
8.0nm,0.9s							
MDJ	**Mudanjiang**	**12.44**	**301**	Pn	**Pn**	**05 52 28.7**	**+1.0**
JNU	**Nakatsue**	**12.57**	**246**	Pn	**Pn**	**05 52 27.4**	**-2.2**
JNU	**Nakatsue**	**12.57**	**246**	LR	LR	05 57 43.2	
comp=Z,151nm,18.3s,baz=46,slow=39							
KSRS	**Korea Array**	**13.18**	**268**	LR	LR	05 57 15.6	
comp=Z,64nm,20.0s,baz=90,slow=35							
PETK	**Petropavlovsk-**	**16.65**	**29**	Pn	**Pn**	**05 53 25.2**	**+1.3**
SONM	**Songino Array**	**28.79**	**300**	P	**P**	**05 55 29.7**	**+1.2**
0.2nm,0.3s,baz=85,slow=4.6,SNR=1.5							
SONM				LR	LR	06 07 02.9	
comp=Z,52nm,19.5s,baz=78,slow=36							
0.2nm,0.3s							
G16K	**Koyuk River**	**39.98**	**31**	P	**P**	**05 57 05.7**	**+1.0**
J16K	**Anvik River**	**40.27**	**35**	P	**P**	**05 57 07.1**	**-0.1**
J16K				IAmb	IAmb	05 57 31.5	
comp=Z,24nm,1.2s							
C18K	**Utukok River**	**41.31**	**27**	P	**P**	**05 57 16.6**	**+0.9**
C18K				IAmb	IAmb	05 57 44.7	
comp=Z,24nm,1.4s							
H18K	**Honhosa River**	**41.57**	**32**	P	**P**	**05 57 18.8**	**+1.0**
H18K				IAmb	IAmb	05 57 19.7	
comp=Z,17nm,1.3s							
J18K	**Innoko River**	**42.03**	**35**	P	**P**	**05 57 21.9**	**+0.3**
D19K	**Kuna River**	**42.36**	**27**	P	**P**	**05 57 25.5**	**+1.2**
D19K				IAmb	IAmb	05 58 05.9	
comp=Z,13nm,1.2s							
ZALV	**Zalesovo Beam**	**42.40**	**311**	P	**P**	**05 57 25.6**	**+0.9**
comp=Z,0.5nm,0.4s,baz=82,slow=10,SNR=1.5							
ZALV				LR	LR	06 17 57.5	
comp=Z,17nm,18.3s,baz=80,slow=40							
comp=Z,0.5nm,0.4s							
E19K	**Redstone River**	**42.45**	**29**	P	**P**	**05 57 25.8**	**+0.8**
E19K				IAmb	IAmb	05 58 07.7	
comp=Z,20nm,1.4s							
B20K	**Meade River**	**43.05**	**25**	P	**P**	**05 57 30.5**	**+0.6**
IMAR	**Indian Mountai**	**43.59**	**32**	P	**P**	**05 57 34.8**	**+0.5**
B21K	**Ikpikpuk River**	**43.83**	**26**	P	**P**	**05 57 37.0**	**+0.9**
B21K				IAmb	IAmb	05 58 08.7	
comp=Z,9.7nm,1.3s							
H21K	**Melozitna Rive**	**43.94**	**32**	P	**P**	**05 57 37.8**	**+0.7**
H21K				IAmb	IAmb	05 57 54.5	
comp=Z,10nm,1.4s							
CAST	**Castle Rocks**	**44.10**	**35**	P	**P**	**05 57 39.3**	**+0.9**
CAST				IAmb	IAmb	05 57 39.5	
comp=Z,10nm,1.4s							
CMAR	**Chiang Mai Arr**	**44.42**	**256**	P	**P**	**05 57 42.1**	**+0.6**
comp=Z,0.9nm,0.3s,baz=36,slow=7.8,SNR=4.4							
comp=Z,0.9nm,0.3s							
G23K	**Bananza Creek**	**45.15**	**31**	P	**P**	**05 57 47.6**	**+0.8**
MKAR	**Makanchi Array**	**45.15**	**301**	P	**P**	**05 57 47.9**	**+0.9**
comp=Z,0.7nm,0.7s,baz=76,slow=9.6,SNR=4.0							
MKAR				LR	LR	06 17 14.7	
comp=Z,40nm,19.0s,baz=38,slow=37							
comp=Z,0.7nm,0.7s							
C23K	**Itkillik River**	**45.24**	**26**	P	**P**	**05 57 48.3**	**+0.9**
BWN	**Browne**	**45.28**	**34**	P	**P**	**05 57 47.7**	**-0.1**
WRH	**Wood River Hil**	**45.88**	**34**	P	**P**	**05 57 53.4**	**+0.9**
H24K	**Noodor Dome**	**45.98**	**32**	P	**P**	**05 57 53.7**	**+0.4**
IL31		**46.40**	**33**	P	**P**	**05 57 56.6**	**+0.1**
IL31				IAmb	IAmb	05 57 56.9	
comp=Z,3.9nm,0.8s							
ILAR	**Eielson Array**	**46.40**	**33**	P	**P**	**05 57 56.5**	**-0.1**
ILAR	**Eielson Array**	**46.40**	**33**	P	**P**	**05 57 55.7**	**-0.9**
comp=Z,2.2nm,0.8s,baz=256,slow=6.8,SNR=23							
comp=Z,2.2nm,0.8s							
KURK	**Kurchatov**	**46.64**	**307**	P	**P**	**05 58 00.9**	**+2.3**
D25K	**Kavik River**	**46.67**	**27**	P	**P**	**05 57 59.0**	**+0.3**
D25K				IAmb	IAmb	05 57 59.6	
comp=Z,4.8nm,1.0s							
KURBB	**Kurchatov Arra**	**46.71**	**307**	P	**P**	**05 57 59.5**	**+0.3**
comp=Z,1.9nm,0.8s,baz=80,slow=8.0,SNR=13							
comp=Z,1.9nm,0.8s							
F25K	**Christian Rive**	**46.89**	**30**	P	**P**	**05 58 02.1**	**+1.6**
F25K				IAmb	IAmb	05 58 36.1	
comp=Z,5.6nm,1.3s							
C27K	**Jago River**	**47.62**	**27**	P	**P**	**05 58 07.2**	**+1.1**
C27K				IAmb	IAmb	05 58 12.8	
comp=Z,9.5nm,1.5s							
L26K	**Log Cabin Wild**	**48.06**	**36**	P	**P**	**05 58 10.8**	**+1.2**
E27K	**Coleen River**	**48.41**	**29**	P	**P**	**05 58 13.9**	**+1.6**
K27K	**Chicken**	**48.53**	**34**	P	**P**	**05 58 14.1**	**+0.9**
K27K				IAmb	IAmb	05 58 23.5	
comp=Z,10.0nm,1.5s							
L27K	**Beaver Creek,**	**48.75**	**36**	P	**P**	**05 58 15.8**	**+0.9**
BCAR	**Beaver Creek A**	**48.77**	**36**	P	**P**	**05 58 16.0**	**+1.0**
E28M	**Babbage River**	**49.15**	**28**	P	**P**	**05 58 19.8**	**+1.9**
I28M	**Miner Creek**	**49.29**	**32**	P	**P**	**

comp=Z,0.3nm,0.6s
FLWY Flagg Ranch 72.96 47 P **P 06 01 00.7 +0.6**
NOA NORSAR Array B 73.20 338 LR LR 06 41 43.6
comp=Z,12nm,18.2s,baz=325,slow=43
AKASG Malin Array Be 74.14 323 P **P 06 01 06.4 -0.3**
comp=Z,0.7nm,0.4s,baz=48,slow=6.2,SNR=6.8
comp=Z,0.7nm,0.4s
AKBB Malin Array Si 74.14 323 P **P 06 01 07.4 +0.7**
KIEV Kiev 74.16 323 P **P 06 01 07.3 +0.6**
PDAR Pinedale Array 74.43 47 P **P 06 01 05.8 -3.1**
comp=Z,0.4nm,0.8s,baz=270,slow=0.5,SNR=3.1
comp=Z,0.4nm,0.8s
TXAR Lajitas Array 86.88 54 P **P 06 02 15.1 -0.5**
comp=Z,0.5nm,0.7s,baz=314,slow=4.2,SNR=6.2
comp=Z,0.5nm,0.7s
SNAA Sanae 143.46 197 PKhKP PKPpre 06 08 59.5
comp=Z,1.3nm,0.9s,baz=238,slow=6.5,SNR=7.1
PATCX Punta Patache 145.11 69 PKPbc **PKPbc 06 09 07.8 0.0**
VILB Vilhena 145.95 47 PKPbc **PKPbc 06 09 10.9 +0.4**

IDC 12 06:00:52.1±2.5, 54°.11N×86°.58E, h0km, mbtmp2.9/2, ML3.5/2, Error ellipse: s-maj=20.5km s-min=12.9km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**262**	I	I	06 06 40.0	
	baz=80,slow=354,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.05**	**262**	Pg	Pb	06 01 12.8	-0.3
	3.6nm,0.3s,baz=77,slow=17,SNR=11						
ZALV				Lg	Lg	06 01 26.0	
	3.8nm,0.3s,baz=78,slow=28,SNR=4.1						
KURBB	**Kurchatov Arra**	**6.04**	**238**	Pn	Pn	06 02 23.2	+0.6
	0.5nm,0.3s,baz=54,slow=13,SNR=13						
KURBB				Sn	Sn	06 03 32.2	-0.2
	baz=53,slow=22						
KURBB				Lg	Lg	06 04 04.2	
	baz=55,slow=29,SNR=2.1						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.82**	**202**	Pn	Pn	06 02 48.0	+1.0
	1.6nm,0.3s,baz=26,slow=16,SNR=46						
MKAR				Sn	Sn	06 04 14.8	-1.3
	0.1nm,0.3s,baz=29,slow=15,SNR=1.2						
	0.3nm,0.3s						

*IDC **12** 06:10:33.5±1.0, 31°.96N×132°.11E, h0km, mb3.5/5, mbtmp3.6/6, ML3.8/1, MS2.9/5, Error ellipse: s-maj=30.5km s-min=19.5km az=76.0*
*NIED **12** 06:10:39.0, 32°.05N×131°.95E, h32km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.24; $M_{\theta\theta}$-0.39; $M_{\phi\phi}$3.63; $M_{r\theta}$-1.57; $M_{\theta\phi}$-0.39; $M_{\phi r}$6.64; Fault plane solution: $M_0$7.65000×10^{14} NP1: ϕ_s167.00000°, δ77.00000°, λ-94.00000°. NP2:ϕ_s4.00000°, δ14.00000°, λ-74.00000°.*
*JMA **12** 06:10:39.0±0.1, 32°.1N±0°.4×132°.0E±0°.7, h32km±1km, MV3.5/40, HYUGANADA REGION*
JMA Felt I J1 at HYUGANADA REGION .
*NEIC **12** 06:10:40.5±1.7, 31°.89N±0°.03×131°.94E±0°.09, h35km±1km, mb4.5/21, Error ellipse: s-maj=12.4km s-min=5.7km az=263.0*

ISC 12 06:10:38.2±1.4, 31°.99N±0°.04×131°.96E±0°.05, h25km±11km, n54, σ1^{s}29/55, mb4.4/16, 5D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.47**	**304**	*e*P	**Pb**	**06 10 47.8**	**-0.1**
JTSN				S	**Sb**	**06 10 54.2**	**-0.3**
JHHC	**Hyugahichiya**	**0.53**	**329**	*i* P	**Pb**	**06 10 48.8**	**-0.2**
JHHC				S	**Sb**	**06 10 55.9**	**-0.5**
JNKG	**Nichinankitago**	**0.60**	**237**	*i* P	**Pn**	**06 10 51.2**	**+0.1**
JNKG				S	**Sn**	**06 10 59.9**	**0.0**
JNAR	**Kushima--Naru**	**0.75**	**232**	*i* P	**Pb**	**06 10 53.7**	**+1.0**
JNAR				S	**Sn**	**06 11 05.0**	**+1.3**
JTZ	**Takazaki**	**0.75**	**264**	*i* P	**Pn**	**06 10 52.5**	**-0.7**
JKIT	**Kitakata**	**0.77**	**326**	P	**Pn**	**06 10 52.8**	**-0.7**
JUS	**Usuki**	**1.09**	**351**	⇓P	**Pn**	**06 10 58.2**	**+0.3**
JUS				⇓*e*S	**Sn**	**06 11 12.4**	**+0.2**
JTO	**Tosashimizu**	**1.12**	**39**	⇓P	**Pn**	**06 10 57.6**	**-0.7**
JIU3	**Izumi3**	**1.12**	**300**	*i* P	**Pn**	**06 10 58.1**	**-0.3**
JIU3				S	**Sn**	**06 11 13.1**	**0.0**
UWA2	**Uwa jima 2**	**1.34**	**24**	⇓P	**Pn**	**06 11 01.0**	**-0.5**
UWA2				⇓S	**Sn**	**06 11 17.1**	**-1.4**
JNU	**Nakatsue**	**1.46**	**321**		**Pn**	**06 11 03.5**	**+0.5**
JNU				Sn	**Sb**	**06 11 23.6**	**+0.8**
JNU	**Nakatsue**	**1.46**	**321**		**Pn**	**06 11 03.4**	**+0.4**
	39nm,0.3s,baz=218,slow=7.9,SNR=183						
JNU				Sn	**Sb**	**06 11 23.0**	**+0.1**
	50nm,0.3s,baz=215,slow=21,SNR=6.5						
JNU				LR	LR	06 11 54.0	
	comp=Z,243nm,18.9s,baz=138,slow=52						
JMN	**Monobe**	**2.37**	**42**		**Pn**	**06 11 16.0**	**+0.5**
INU	**Inuyama**	**5.38**	**50**	Pn	**Pn**	**06 11 58.2**	**+1.3**
JGF	**Kuroka**	**5.76**	**50**	Pn	**Pn**	**06 12 03.6**	**+1.5**
JOW	**Kunigami**	**6.06**	**213**	Pn	**Pn**	**06 12 04.1**	**-2.2**
JOW	**Kunigami**	**6.06**	**213**	Pn	**Pn**	**06 12 04.0**	**-2.3**
	5.1nm,0.3s,baz=124,slow=22,SNR=11						
	14nm,0.3s						
KSRS	**Korea Array**	**6.39**	**330**	LR	LR	06 14 59.8	
	comp=Z,78nm,18.7s,baz=135,slow=41						
JHJ	**Hachijo jima 2**	**6.70**	**78**	LR	LR	06 13 35.3	
	comp=Z,21nm,20.2s,baz=98,slow=28						
ASAJ	**Asahikawa**	**14.71**	**32**	LR	LR	06 19 42.0	
	comp=Z,36nm,21.6s,baz=304,slow=37						
KLR	**Kul'dur**	**17.23**	**360**	LR	LR	06 21 05.6	
	comp=Z,440nm,21.1s,baz=22,slow=37						
CMAR	**Chiang Mai Arr**	**32.63**	**254**	LR	LR	06 31 52.4	
	comp=Z,23nm,19.4s,baz=70,slow=39						
H11N2	**WAKE ISLAND Hy**	**33.57**	**103**	T	T	06 53 23.3	
	baz=298						
H11N1	**WAKE ISLAND Hy**	**33.58**	**103**	T	T	06 53 04.4	
	baz=298						
H11N3	**WAKE ISLAND Hy**	**33.59**	**103**	T	T	06 53 13.7	
	baz=298						
WB0	**Warramunga Arr**	**51.51**	**177**	P	**P**	**06 19 41.4**	**-0.5**
WB0				IAmb	IAmb	06 19 56.5	
	comp=Z,7.5nm,1.5s						
WRA	**Warramunga Arr**	**51.68**	**177**	P	**P**	**06 19 42.7**	**-0.5**
WRA	**Warramunga Arr**	**51.68**	**177**	P	**P**	**06 19 42.1**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=352,slow=8.3,SNR=4.6						
	comp=Z,0.7nm,0.8s						
B20K	**Meade River**	**53.79**	**24**	P	**P**	**06 19 59.6**	**+1.4**
ASAR	**Alice Springs**	**55.37**	**178**	P	**P**	**06 20 09.4**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=17,slow=12,SNR=4.5						
	comp=Z,0.4nm,0.9s						
TOLK	**Toolik Lake Re**	**56.44**	**26**	P	**P**	**06 20 20.0**	**+2.5**
TOLK				IAmb	IAmb	06 20 22.2	
	comp=Z,5.0nm,0.8s						
H23K	**Yukon River**	**56.62**	**29**	P	**P**	**06 20 20.7**	**+2.0**
H23K				IAmb	IAmb	06 20 39.3	
	comp=Z,5.1nm,1.5s						
D24K	**Happy Valley**	**56.69**	**25**	P	**P**	**06 20 20.8**	**+1.7**
D24K				IAmb	IAmb	06 20 36.9	
	comp=Z,6.9nm,1.3s						
C24K	**Franklin Bluff**	**56.71**	**24**	P	**P**	**06 20 20.6**	**+1.3**
E24K	**Your Creek**	**56.88**	**26**	P	**P**	**06 20 22.2**	**+1.6**
E24K				IAmb	IAmb	06 21 02.8	
	comp=Z,6.0nm,1.4s						
F24K	**Squaw Lake**	**57.14**	**27**	P	**P**	**06 20 24.1**	**+1.7**
F24K				IAmb	IAmb	06 20 35.3	
	comp=Z,4.7nm,1.4s						
D25K	**Kavik River**	**57.55**	**25**	P	**P**	**06 20 26.9**	**+1.6**
ILAR	**Eielson Array**	**57.84**	**30**	P	**P**	**06 20 28.1**	**+0.7**
ILAR	**Eielson Array**	**57.84**	**30**	P	**P**	**06 20 25.6**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=268,slow=7.7,SNR=2.6						
	comp=Z,0.4nm,0.8s						
F25K	**Christian Rive**	**57.99**	**27**	P	**P**	**06 20 30.8**	**+2.4**
F25K				IAmb	IAmb	06 20 50.0	
	comp=Z,11nm,1.4s						
BMAR	**Burnt Mountain**	**58.42**	**27**	P	**P**	**06 20 33.3**	**+1.9**
SCRK	**Sand Creek**	**59.21**	**31**	P	**P**	**06 20 37.8**	**+0.8**
SCRK				IAmb	IAmb	06 21 11.1	
	comp=Z,5.8nm,1.4s						
I26K	**Coal Creek Min**	**59.32**	**29**	P	**P**	**06 20 37.6**	**-0.1**
E27K	**Coleen River**	**59.42**	**26**	P	**P**	**06 20 39.9**	**+1.5**
E27K				IAmb	IAmb	06 20 40.3	
	comp=Z,3.7nm,1.1s						
D27M	**Malcolm River**	**59.47**	**24**	P	**P**	**06 20 39.0**	**+0.3**
L27K	**Beaver Creek,**	**60.34**	**32**	P	**P**	**06 20 46.5**	**+1.8**
L27K				IAmb	IAmb	06 20 59.8	
	comp=Z,7.2nm,1.5s						
BCAR	**Beaver Creek A**	**60.35**	**32**	P	**P**	**06 20 46.7**	**+1.9**
I28M	**Miner Creek**	**60.61**	**29**	P	**P**	**06 20 48.6**	**+1.9**
L29M	**L29M**	**61.96**	**31**	P	**P**	**06 20 58.0**	**+2.3**
M29M	**Somme Creek**	**61.99**	**32**	P	**P**	**06 20 56.5**	**+0.5**
STKA	**Stephens Creek**	**64.17**	**171**	P	**P**	**06 21 10.4**	**-0.1**
C36M	**Paulatuk**	**65.16**	**22**	P	**P**	**06 21 17.7**	**+1.1**
C36M				IAmb	IAmb	06 21 20.8	
	comp=Z,4.9nm,1.3s						
NVAR	**Mina Array Bea**	**84.20**	**48**	P	**P**	**06 23 06.7**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=304,slow=6.4,SNR=2.8						
	comp=Z,0.4nm,0.8s						
PDAR	**Pinedale Array**	**86.66**	**40**	P	**P**	**06 23 19.5**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=326,slow=4.4,SNR=2.4						
	comp=Z,0.2nm,0.8s						

RSNC 12 06:16:46.3±0.0, 7°.N±1°.×7°.7W±°, h20km±2km, M3.4, mb4.4, mB4.7, ML3.8, Mw(mB)4.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.55**	**84**	P	Pb	06 16 54.1	-3.2
DBBC				S	Sb	06 17 01.5	-3.3
APAC	**Apartado, Choc**	**0.95**	**11**	P	Pb	06 17 03.8	-0.3
APAC				S	Sn	06 17 21.0	+3.5
SOLC	**Bahia Solano**	**0.97**	**222**	P	Pb	06 17 02.4	-2.1
SOLC				S	Sb	06 17 17.2	+0.3
PTAC	**Punta Ardita,**	**1.06**	**280**	P	Pb	06 17 04.9	-1.0
PTAC				S	Sn	06 17 20.4	+0.3
CBOC	**Ciudad Bolivar**	**1.32**	**146**	P	Pn	06 17 06.0	-3.8
CBOC				S	Sn	06 17 22.8	-4.0
MEDEC	**Medelln, Ant**	**1.35**	**120**	P	Pn	06 17 07.9	-2.3
MEDEC				S	Sn	06 17 25.8	-1.8
HELC	**Santa Helena**	**1.44**	**122**	P	Pn	06 17 08.1	-3.5
HELC				S	Sn	06 17 27.4	-2.8
UREC	**San Jos de Ur**	**1.45**	**57**	P	Pn	06 17 09.9	-1.5
UREC				S	Sb	06 17 30.4	-0.3
CAPC	**Capurgana**	**1.77**	**341**	P	Pn	06 17 13.9	-1.9
CAPC				S	Sb	06 17 39.9	+0.2
ZARC	**Zaragoza, Cauc**	**1.96**	**74**	P	Pn	06 17 17.2	-1.2
ZARC				S	Sn	06 17 42.9	+0.4
GUY2C	**Guyana, Caldas**	**2.21**	**141**	P	Pn	06 17 21.0	-1.3
GUY2C				S	Sn	06 17 50.6	+1.2
NIZA	**Niza - Manizal**	**2.28**	**146**	P	Pn	06 17 22.4	-0.7
NIZA				S	Sn	06 17 51.2	+0.3
PTBC	**PUERTO BERRIO,**	**2.33**	**100**	P	Pn	06 17 21.9	-1.6
PTBC				S	Sn	06 17 51.7	+0.2
NORC	**Norcasia**	**2.34**	**126**	P	Pn	06 17 23.5	-0.2
NORC				S	Sn	06 17 51.4	-0.4
RECRC	**Villamaria, Ca**	**2.43**	**145**	P	Pn	06 17 25.2	-0.2
SPBC	**San Pablo de B**	**2.97**	**116**	P	Pn	06 17 32.8	+0.4
SPBC				S	Sn	06 18 10.1	+2.5
MALC	**Bahia Malaga**	**2.98**	**191**	P	Pn	06 17 31.8	-0.7
YOTC	**Yotoco, Valle**	**2.99**	**172**	P	Pn	06 17 28.2	-4.5
YOTC				S	Sn	06 17 59.9	-8.1
BRJC	**Barrancabermej**	**2.99**	**90**	P	Pn	06 17 31.9	-0.8
BRJC				S	Sn	06 18 09.8	+1.8
ROSC	**El Rosal**	**3.21**	**131**	P	Pn	06 17 37.6	+1.6
ROSC				S	Sn	06 18 15.0	+1.0
SJCC	**San Jacinto, C**	**3.31**	**28**	P	Pn	06 17 36.0	-1.1
SJCC				S	Sn	06 18 14.0	-1.9
ORTC	**Ortega, Tolima**	**3.38**	**153**	P	Pn	06 17 38.0	-0.1
ORTC				S	Sn	06 18 20.7	+3.0
BARC	**Barichara**	**3.57**	**96**	P	Pn	06 17 41.0	+0.2
BARC				S	Sn	06 18 23.4	+0.8
CVER	**Cruz Verde, Cu**	**3.61**	**132**	P	Pn	06 17 43.0	+1.5
OCAC	**Ocana**	**3.64**	**69**	P	Pn	06 17 38.6	-3.1
OCAC				S	Sn	06 18 23.9	-0.3
JAMC	**Jamundi, Valle**	**3.72**	**179**	P	Pn	06 17 39.2	-3.7
JAMC				S	Sn	06 18 20.5	-5.8
PRAC	**Prado**	**3.73**	**150**	P	Pn	06 17 43.0	+0.2
BCIP	**Isla Barro Col**	**3.75**	**306**	P	Pn	06 17 41.4	-1.7
BCIP				S	Sn	06 18 25.5	-1.3
CHIC	**Chingaza**	**3.80**	**127**	P	Pn	06 17 45.4	+1.3
ARGC	**Ariguani, Magd**	**3.81**	**41**	P	Pn	06 17 44.1	+0.3
ARGC				S	Sn	06 18 24.4	-3.6
RUSC	**La Rusia**	**3.81**	**106**	P	Pn	06 17 43.8	-0.5
PAMC	**Pamplona, Colo**	**4.05**	**84**	P	Pn	06 17 47.8	+0.2
PAMC				S	Sn	06 18 34.8	+0.1
VILC	**Villavicencio,**	**4.16**	**133**	P	Pn	06 17 50.4	+1.5
GR1C	**Gorgona, Isla**	**4.17**	**200**	P	Pn	06 17 47.7	-1.2
BBAC	**Balboa, Cauca**	**4.93**	**186**	P	Pn	06 17 57.0	-2.5
BBAC				S	Sn	06 18 55.0	-1.1
TAMC	**Tame, Arauca**	**4.96**	**96**	P	Pn	06 17 59.9	+0.1
TAMC				S	Sn	06 18 56.4	-0.3
PTGC	**Puerto Gaitan,**	**5.36**	**121**	P	Pn	06 18 05.1	-0.1
FLOC	**Florencia**	**5.46**	**168**	P	Pn	06 18 05.0	-1.6
	15nm,0.6s,468nm						
FLOC				S	Sn	06 19 06.7	-2.1
	15nm,0.6s,468nm						
CRJC	**Cerrejon, Guaj**	**5.56**	**43**	P	Pn	06 18 07.3	-0.8
	67nm,0.5s						
CRJC				S	Sn	06 19 05.9	-5.6
	67nm,0.5s						
MACC	**Macarena, Meta**	**5.59**	**149**	P	Pn	06 18 07.5	-1.0
	45nm,0.6s						
GCUF	**Volcan Galeras**	**5.73**	**186**	P	Pn	06 18 09.0	-1.7
	8.0nm,0.4s						
GCUF				S	Sn	06 19 14.5	-1.6
	8.0nm,0.4s						
URIC	**Uribia, Colomb**	**6.66**	**45**	P	Pn	06 18 21.8	-1.3
URIC				S	Sn	06 19 31.2	-7.2

IDC 12 06:20:03.6±3.1, 54°.40N×86°.97E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=25.5km s-min=19.8km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**251**	I	I	06 27 40.0	
	0.1nm,0.8s,baz=69,slow=352,SNR=5.9						
ZALV	**Zalesovo Beam**	**1.34**	**251**	Pg	Pg	06 20 27.6	-1.7
	1.0nm,0.3s,baz=71,slow=16,SNR=10						
ZALV				Lg	Lg	06 20 46.3	
	0.8nm,0.3s,baz=73,slow=30,SNR=4.0						
KURBB	**Kurchatov Arra**	**6.39**	**237**	Pn	Pn	06 21 40.1	+1.2
	0.1nm,0.3s,baz=54,slow=14,SNR=8.5						
KURBB				Sn	Sn	06 22 52.3	-0.2
	baz=45,slow=27,SNR=1.3						
KURBB				Lg	Lg	06 23 25.8	
	baz=53,slow=33,SNR=1.5						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**8.17**	**203**	Pn	Pn	06 22 03.9	+0.6
	0.1nm,0.3s,baz=25,slow=14,SNR=1.6						
	0.2nm,0.3s						

*NEIC **12** 06:24:39.9±0.8, 45°.78N±0°.01×122°.70W±0°.02, h19km±2km, Error ellipse: s-maj=1.9km s-min=1.5km az=223.0*

SEA 12 06:24:40.5±0.9, 45°.78N±0°.01×122°.71W±0°.02, h18km±1km, ML2.0/17, ML2.0/24(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=112.0, Washington-Oregon border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSS	**Ross**	**0.12**	**163**		Pb	06 24 44.0	-0.3
ROSS					Sb	06 24 46.4	-0.3
HUBA	**Hudson Bay Hig**	**0.15**	**166**		Pg	06 24 44.1	-0.6
HUBA					Sg	06 24 47.6	0.0
F04A	**Amboy**	**0.25**	**53**		Pg	06 24 46.0	-0.3
F04A					Sg	06 24 50.1	-0.1
KEEL	**Keeler**	**0.27**	**210**		Pg	06 24 46.0	-0.4
KEEL					Sb	06 24 50.8	-0.2
BEAV	**Portland**	**0.27**	**201**		Pg	06 24 46.1	-0.4
F04D	**Rainier, OR**	**0.37**	**325**		Pg	06 24 47.8	-0.4
F04D					Sg	06 24 53.7	+0.2
ALST	**Alston**	**0.40**	**326**		Sg	06 24 54.7	+0.3
B023	**Clatskanie**	**0.42**	**322**		Pg	06 24 48.5	-0.7
B023					Sg	06 24 54.8	-0.2
MTMW	**Mount Mitchell**	**0.42**	**54**		Pg	06 24 48.7	-0.6
FL2	**Flat Top 2**	**0.49**	**31**		Pg	06 24 49.9	-0.5
BULL	**Bull Run Dam**	**0.51**	**131**		Pg	06 24 49.9	-0.9
BULL					Sg	06 24 57.0	-0.7
SWF2	**Southwest Flan**	**0.53**	**40**		Pg	06 24 50.6	-0.6
JLK	**June Lake**	**0.53**	**46**		Pg	06 24 51.0	-0.3
HSR	**South Ridge**	**0.54**	**43**		Pg	06 24 51.4	0.0
SEPW	**September Lobe**	**0.55**	**40**		Pg	06 24 51.4	-0.3
VALT	**Mount Saint He**	**0.56**	**40**		Pg	06 24 51.3	-0.6
ESD	**East Dome**	**0.57**	**43**		Pg	06 24 51.7	-0.3
CDFW	**Cedar Flats**	**0.57**	**54**		Pg	06 24 51.2	-0.7
BOLM	**Sugar Bowl**	**0.57**	**40**		Pg	06 24 51.6	-0.4
ERK	**Elk Rock**	**0.58**	**26**		Pg	06 24 51.2	-1.0
G04A	**Mulino**	**0.60**	**164**		Pg	06 24 51.5	-0.9
G04A					Sg	06 25 00.3	0.0
B201	**Coldwater, Mou**	**0.61**	**30**		Pg	06 24 51.6	-1.0
B201					Sg	06 25 00.0	-0.8
B202	**Windy Ridge, M**	**0.61**	**40**		Pg	06 24 51.6	-1.1
F03A	**Seaside**	**0.61**	**285**		Pg	06 24 51.7	-1.0
F03A				IAML		06 25 01.2	
	comp=N,159nm,0.4s						
TDL	**Tradedollar La**	**0.67**	**31**		Pg	06 24 52.6	-1.1
G03D	**McMinnville, O**	**0.69**	**215**	Pg	Pb	06 24 52.7	-1.4
G03D				IAML		06 25 04.5	
	comp=E,39nm,0.3s						
AWST	**Adams West**	**0.75**	**60**		Pb	06 24 54.3	-0.9
VLL	**Laurance Lake**	**0.79**	**113**		Pb	06 24 55.1	-0.7
TDH	**Tom, Dick, Har**	**0.81**	**127**		Pb	06 24 54.9	-1.4
PALME	**Palmer Lift, M**	**0.82**	**121**		Pb	06 24 55.7	-0.8
HOOD	**Mount Hood Mea**	**0.87**	**121**		Pb	06 24 56.4	-0.8
HOOD				IAML		06 25 08.2	
	comp=N,34nm,0.2s						
F05D	**White Salmon**	**0.88**	**83**		Pb	06 24 56.7	-0.6
SHRK	**Shell Rock**	**0.89**	**110**		Pb	06 24 56.6	-0.8
SHRK					Sb	06 25 09.0	0.0
HEBO	**Mount Hebo**	**0.93**	**233**	Pg	Pb	06 24 56.8	-1.4
HEBO				IAML		06 25 22.0	
	comp=E,70nm,2.2s						
HEBO				IAML		06 25 24.6	
	comp=N,47nm,1.7s						
VFP	**Flag Point**	**0.99**	**117**		Pb	06 24 58.3	-0.9
G05A	**Wamic**	**1.12**	**118**	Pn	Pn	06 25 01.0	-0.4
LON	**Longmire**	**1.15**	**32**		Pn	06 25 00.8	-1.1
H04A	**Detroit Lake**	**1.16**	**161**		Pn	06 25 00.5	-1.4
COR	**Corvallis**	**1.27**	**200**	Pn	Pn	06 25 02.5	-0.9
COR				IAML		06 25 23.8	
	comp=N,18nm,1.6s						
COR				IAML		06 25 42.1	
	comp=N,20nm,4.0s						
OBSR	**Observation Ro**	**1.28**	**29**		Pn	06 25 03.5	-0.4
D05A	**Enumclaw**	**1.49**	**19**	Pn	Pn	06 25 06.6	+0.1
BROR	**Big Rock Looko**	**1.52**	**173**		Pn	06 25 06.6	-0.3
WISH	**Wishkah**	**1.53**	**332**	Pn	Pn	06 25 06.0	-1.0
WISH				IAML		06 25 60.0	
	comp=E,39nm,3.0s						
G06A	**Carlson Farm,**	**1.56**	**110**	Pn	Pn	06 25 07.4	0.0
BUCK	**Buck Mountain**	**1.59**	**187**	Pn	Pn	06 25 07.8	-0.2
I05D	**Terrebonne, OR**	**1.74**	**146**	Pn	Pn	06 25 08.8	-1.1
GNW	**Green Mountain**	**1.79**	**357**	Pn	Pn	06 25 09.6	-1.0
GNW				IAML		06 25 56.6	
	comp=N,11nm,4.8s						
I02E	**Swisshome, OR**	**1.86**	**206**	Pn	Pn	06 25 11.9	+0.4
I04A	**Tendick Farm,**	**2.00**	**174**	Pn	Pn	06 25 12.9	-0.6
PINE	**Pine Mountain**	**2.35**	**147**	Pn	Pn	06 25 18.0	-0.5
I07A	**Izee**	**2.84**	**126**	Pn	Pn	06 25 25.2	+0.1

*IDC **12** 06:32:13.4±0.7, 37°.58N×20°.67E, h0km, mb4.1/18, mbtmp4.0/28, ML3.6/9, MS3.2/13, Error ellipse: s-maj=14.1km s-min=13.1km az=9.0*
*UPSL **12** 06:32:14.6, 37°.43N×20°.50E, h10km, Mw4.0, Moment Tensor Solution. s6 Moment tensor: M_{rr}1.19; $M_{\theta\theta}$-0.49; $M_{\phi\phi}$-0.70; $M_{r\theta}$0.06; $M_{\theta\phi}$0.52; $M_{\phi r}$0.70; Fault plane solution: NP1:ϕ_s340.00000°, δ60.00000°, λ109.00000°. NP2: ϕ_s126.00000°, δ35.00000°, λ61.00000°.*
*ATH **12** 06:32:14.6, 37°.43N×20°.50E, h10km±1km, ML3.9/18 Error ellipse: s-maj=2.5km s-min=1.0km az=32.0*
*MED_RC **12** 06:32:14.0±0.7, 37°.39N×20°.49E, h17km±3km, MW4.3/8, Moment Tensor Solution.Mantle waves: s8,c10; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M_{rr}3.74±1.02; $M_{\theta\theta}$-2.46±.62; $M_{\phi\phi}$-1.28±.50; $M_{r\theta}$0.30±.75; $M_{\theta\phi}$2.64±.25; $M_{\phi r}$-0.68±.64; Best double couple: $M_0$4.23000×10^{15} NP1:ϕ_s135.00000°, δ50.00000°, λ98.00000°. NP2: ϕ_s302.00000°, δ41.00000°, λ80.00000°. Principal axes: T 3.8300, Plg82.0000°, Azm94.0000°; N 0.8000, Plg6.0000°, Azm309.0000°; P -4.6300, Plg4.0000°, Azm219.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*PDG **12** 06:32:14.8±0.6, 37°.42N×20°.44E, h12km±1km, ML4.6/11 Error ellipse: s-maj=1.1km s-min=1.1km az=90.0*
*NEIC **12** 06:32:14.3±1.7, 37°.42N±0°.05×20°.57E±0°.05, h10km±1km, mb4.6/30, Error ellipse: s-maj=10.8km s-min=3.3km az=33.0*
*BEO **12** 06:32:15.6±3.1, 37°.25N×20°.32E, h47km, ML3.7/8*
*THE **12** 06:32:15.9, 37°.46N×20°.56E, h10km±31km, ML3.9/12, Error ellipse: s-maj=31.6km s-min=0.8km az=0.0*
*NAO **12** 06:32:26.9, 37°.71N×20°.43E, h10km, mb4.6*

ISC 12 06:32:15.9±0.6, 37°.50N±0°.03×20°.59E±0°.02, h20km±2km, n241, σ1^{s}51/286, mb4.5/33, MS3.1/5, 20C-13D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.24**	**47**	P	**Pb**	**06 32 21.2**	**-0.3**
KRI1				S	**Sb**	**06 32 25.6**	**+0.3**
	55µm,0.4s						
LTHK	**Lithakia**	**0.29**	**42**	P	**Pg**	**06 32 22.0**	**-0.4**
LTHK				S	**Sg**	**06 32 27.0**	**+0.2**
	29µm,0.4s						
LTHK	**Lithakia**	**0.29**	**42**

DRO AML AML 06 32 59.2
comp=N,16998μm,1.0s
PYL PYLOS 1.10 123 P **Pn 06 32 35.5 -0.7**
PYL S **Sg 06 32 52.2 +0.5**
comp=N,5μm,0.6s
PYL PYLOS 1.10 123 P **Pn 06 32 35.7 -0.6**
PYL S **Sb 06 32 49.9 -0.2**
PYL AML AML 06 32 54.8
comp=E,12972μm,0.6s
PYL AML AML 06 32 56.9
comp=N,7542μm,0.6s
ITM Ithomi 1.11 106 P **Pn 06 32 36.4 0.0**
ITM S **Sg 06 32 53.7 +1.6**
comp=N,6μm,0.7s
ITM Ithomi 1.11 106 P **Pb 06 32 36.5 0.0**
ITM S **Sg 06 32 52.9 +0.8**
ITM AML AML 06 32 57.2
comp=E,13479μm,0.7s
ITM AML AML 06 32 58.5
comp=N,10052μm,0.7s
EVGI Lefkada island 1.12 3 P **Pg 06 32 37.2 -0.6**
EVGI Lefkada island 1.12 3 P **Pb 06 32 36.7 0.0**
EVGI S **Sg 06 32 53.8 +1.3**
DRAG Dragano-Lefkad 1.19 359 P **Pb 06 32 37.5 -0.2**
NYDR Nydri-Lefkada 1.22 4 P **Pg 06 32 39.0 -0.5**
NYDR Nydri-Lefkada 1.22 4 P **Pb 06 32 38.3 0.0**
LKD2 Lefkada island 1.29 2 P **Pb 06 32 39.9 +0.3**
TSLK Tsoukalades, L 1.33 2 P **Pb 06 32 40.8 +0.6**
TSLK Tsoukalades, L 1.33 2 P **Pb 06 32 40.7 +0.6**
TSLK S **Sg 06 33 03.1 +4.1**
KLV Kalavryta, Ach 1.35 66 P **Pb 06 32 40.5 -0.1**
KLV Kalavryta, Ach 1.35 66 P **Pb 06 32 40.6 0.0**
KLV S **Sg 06 33 00.2 +0.5**
KLV AML AML 06 33 08.1
comp=N,3976μm,0.6s
KLV AML AML 06 33 15.5
comp=E,1986μm,0.6s
EFP Efpalio 1.39 48 P **Pb 06 32 41.2 -0.1**
EFP Efpalio 1.39 48 P **Pb 06 32 41.8 +0.5**
EFP S **Sg 06 33 02.3 +1.2**
EFP AML AML 06 33 12.1
comp=N,5891μm,0.6s
EFP AML AML 06 33 17.8
comp=E,5913μm,0.9s
ALIK Aliki, Aigiali 1.42 57 P **Pg 06 32 43.1 -0.3**
GUR Goura 1.46 72 P **Pb 06 32 42.1 -0.3**
GUR Goura 1.46 72 P **Pb 06 32 42.4 0.0**
KALE Kalithea 1.52 53 P **Pb 06 32 43.5 +0.1**
KALE Kalithea 1.52 53 P **Pb 06 32 43.6 +0.2**
KALE S **Sg 06 33 04.6 -0.4**
KALE AML AML 06 33 15.0
comp=N,8092μm,0.5s
KALE AML AML 06 33 15.4
comp=E,4700μm,0.6s
ANX Ano Chora 1.52 43 P **Pb 06 32 43.9 +0.4**
ANX Ano Chora 1.52 43 P **Pb 06 32 43.5 0.0**
ANX AML AML 06 33 15.2
comp=N,11173μm,0.7s
ANX AML AML 06 33 15.3
comp=E,8024μm,0.6s
EVR Evrytania 1.71 34 P **Pg 06 32 48.4 -0.5**
EVR Evrytania 1.71 34 P **Pg 06 32 48.4 -0.5**
EVR AML AML 06 33 18.6
comp=N,4286μm,0.9s
EVR AML AML 06 33 20.7
comp=E,3124μm,0.7s
MAKR Makrakomi, Fth 1.94 38 P **Pb 06 32 51.8 +1.1**
MAKR Makrakomi, Fth 1.94 38 P **Pb 06 32 51.7 +1.1**
MAKR AML AML 06 33 25.7
comp=E,6556μm,0.8s
MAKR AML AML 06 33 27.6
comp=N,8502μm,1.0s
VLI Veliai 2.03 112 P **Pb 06 32 51.6 -0.6**
VLI AML AML 06 33 36.1
comp=E,2699μm,0.8s
VLI AML AML 06 33 41.4
comp=N,2162μm,0.9s
IGT Igoumenitsa 2.04 354 P **Pg 06 32 53.9 -1.3**
IGT Igoumenitsa 2.04 354 P **Pb 06 32 51.9 -0.5**
IGT S **Sb 06 33 18.4 +1.0**
IGT AML AML 06 33 36.0
comp=E,2684μm,1.1s
IGT AML AML 06 33 38.0
comp=N,1850μm,0.7s
AGG Agios Georgios 2.05 41 **Pn 06 32 49.9 +0.5**
AGG Agios Georgios 2.05 41 P **Pb 06 32 52.8 +0.3**
AXAR Agios Charalam 2.06 52 P **Pb 06 32 52.9 +0.1**
AXAR Agios Charalam 2.06 52 P **Pb 06 32 52.0 -0.8**
KEK Kerkira 2.30 345 **Pn 06 32 52.2 -0.5**
THL Klokotos Trika 2.35 28 P **Pb 06 32 56.7 -0.9**
THL Klokotos Trika 2.35 28 P **Pb 06 32 56.4 -1.1**
TYRN Tyrnavos 2.56 30 P **Pb 06 32 59.2 -2.0**
TYRN AML AML 06 33 54.3
comp=N,1349μm,0.8s
TYRN AML AML 06 34 04.9
comp=E,1205μm,0.8s
SCTE Santa Cesarea 3.06 328 **Pn 06 33 02.7 -0.6**
FNA Florina 3.34 10 Pn **Pn 06 33 07.1 0.0**
FNA Florina 3.34 10 *e*Pn **Pn 06 33 09.7 +2.6**
TIP Timpagrande 3.45 300 Pn **Pn 06 33 07.8 -0.8**
TIP Timpagrande 3.45 300 ⇓P **Pn 06 33 04.1 -4.5**
OHR Ohrid 3.61 2 *e*Pn **Pn 06 33 13.3 +2.4**
OHR Ohrid 3.61 2 *i* Pn **Pn 06 33 14.6 +3.7**
CEL Celeste 3.79 283 **Pn 06 33 11.7 -1.7**
TIR Tirane 3.89 352 **Pn 06 33 14.5 -0.1**
TIR Tirane 3.89 352 *e*Pn **Pn 06 33 16.5 +1.9**
TIR Tirane 3.89 352 ⇑P **Pn 06 33 12.2 -2.3**
APE Apeiranthos 3.96 95 ⇑P Pn 06 33 07.1 -8.5
IDI Anoyia 4.11 121 Pn **Pn 06 33 16.3 -1.4**
IDI Anoyia 4.11 121 Pn **Pn 06 33 19.1 +1.4**
comp=E,6.7nm,0.4s,baz=305,slow=15,SNR=2.7
IDI Sn **Sn 06 34 06.5 +1.3**
comp=E,5.0nm,0.3s,baz=167,slow=21,SNR=5.0
SRS Serrai 4.30 32 *e*Pn **Pn 06 33 22.3 +2.0**
MATE Matera 4.37 317 ⇓P **Pn 06 33 17.6 -3.5**
CUC Castrocucco 4.49 305 Pn **Pn 06 33 21.6 -1.4**
PUK Puka 4.57 353 Pn **Pn 06 33 24.7 +0.7**
ULC Ulcinj 4.58 347 ⇑*i*Pn **Pn 06 33 24.5 +0.4**
ULC *i* Sn **Sn 06 34 18.9 +2.1**
DRME Dracevica, Mon 4.81 347 ⇓*i*Pn **Pn 06 33 28.0 +0.8**
DRME *i* Sn **Sn 06 34 24.6 +2.3**
VAE Valguarnera 4.92 272 Pn **Pn 06 33 33.4 +4.7**
comp=E,2.4nm,0.3s,baz=94,slow=12,SNR=1.9
VAE Sn **Sn 06 34 26.2 +1.2**
comp=E,3.8nm,0.3s,baz=99,slow=3.2,SNR=1.4
RAFF Raffo Rosso 4.97 269 **Pn 06 33 28.4 -1.1**
BUM Brajici-Budva 4.97 345 ⇑*i*Pn **Pn 06 33 29.9 +0.3**
BUM *i* Sn **Sn 06 34 27.6 +1.1**
PDG Podgorica 5.03 349 **Pn 06 33 29.9 -0.4**
PDG Podgorica 5.03 349 ⇑P **Pn 06 33 28.3 -2.0**
PDG Podgorica 5.03 349 ⇑*i*Pn **Pn 06 33 31.2 +0.9**
PDG *i* Sn **Sn 06 34 30.0 +2.1**
PVY Plav 5.12 355 ⇑*i*Pn **Pn 06 33 32.7 +1.1**
PVY *i* Sn **Sn 06 34 32.7 +2.6**
WDD Wied Dalam 5.15 253 Pn **Pn 06 33 30.1 -1.8**
BOSS Bosilegrad 5.20 16 *e*Pn **Pn 06 33 34.1 +1.5**
CEME Cevo 5.21 346 ⇓*i*Pn **Pn 06 33 33.6 +0.9**
CEME *i* Sn **Sn 06 34 34.4 +2.2**
BARS Barje 5.39 10 *e*Pn **Pn 06 33 36.6 +1.3**
IVA Berane 5.39 355 ⇓*i*Pn **Pn 06 33 36.2 +0.8**
IVA *i* Sn **Sn 06 34 39.1 +2.1**
KOME Kolasin 5.41 352 ⇑*i*Pn **Pn 06 33 37.9 +2.3**
KOME *i* Sn **Sn 06 34 39.7 +2.4**
NKME Niksic 5.41 347 ⇓*i*Pn **Pn 06 33 36.3 +0.7**
NKME *i* Sn **Sn 06 34 39.3 +2.0**
ALN Alexandroupoli 5.43 50 Pn **Pn 06 33 35.5 -0.2**
TREB Trebinje 5.49 342 *e*Pn **Pn 06 33 35.7 -0.9**
TREB *e*Sn **Sn 06 34 36.5 -2.7**
VTS Vitosha 5.50 21 *e*Pn **Pn 06 33 38.8 +1.9**
VTS *e*Sn **Sn 06 34 38.6 -1.1**
BRY Bratogost 5.62 344 *e*Pn **Pn 06 33 38.2 -0.4**
BRY *i* Sn **Sn 06 34 44.7 +2.1**
KARP Karpathos 5.64 108 Pn **Pn 06 33 37.8 -0.9**
KARP Karpathos 5.64 108 P **Pn 06 33 42.4 +3.7**
SELS Selova 5.73 4 *e*Pn **Pn 06 33 40.8 +0.9**
SJES Sjenica 5.78 356 *e*Pn **Pn 06 33 40.8 +0.1**
STON Ston 5.81 338 *e*Pn **Pn 06 33 39.5 -1.4**
STON *e*Sn **Sn 06 34 44.6 -2.3**
UPM Unac-Piva 5.84 348 ⇓*i*Pn **Pn 06 33 42.5 +0.9**
UPM *i* Sn **Sn 06 34 49.7 +1.6**
PAOL Paolisi 5.86 309 Pn **Pn 06 33 40.4 -1.3**
ZAPS Zavoj 5.98 14 *e*Pn **Pn 06 33 44.9 +1.6**

IVAS Ivanjica 6.08 357 *e*Pn **Pn 06 33 45.3 +0.5**
BOVS Bovan 6.19 8 *e*Pn **Pn 06 33 46.5 +0.3**
BOVS Bovan 6.19 8 ⇑P **Pn 06 33 44.6 -1.6**
GRUS Gruza 6.39 1 *e*Pn **Pn 06 33 48.8 -0.1**
BBLS Lazi&#263i 6.43 352 *e*Pn **Pn 06 33 50.0 +0.5**
ZAGS Zajecar 6.43 11 *e*Pn **Pn 06 33 50.6 +1.1**
DIVS Divibare 6.61 356 *e*Pn **Pn 06 33 51.8 -0.3**
DIVS *e*Sn **Sn 06 35 04.9 -2.0**
HAPS Han Pijesak,BI 6.70 350 *e*Pn **Pn 06 33 53.6 +0.3**
INTR Introdacqua 6.84 313 Pn **Pn 06 33 54.9 -0.4**
MDVR Moldovita 7.33 6 ⇑P **Pn 06 33 59.2 -2.7**
CAMP Campotosto 7.46 315 Pn **Pn 06 34 02.7 -1.1**
ELL Elmali 7.48 93 Pn **Pn 06 34 03.0 -1.1**
HERR Herculane 7.50 10 ⇑P **Pn 06 34 02.1 -2.1**
NRCA Norcia 7.82 315 Pn **Pn 06 34 08.5 -0.1**
GUMA Gualdo di Mace 7.85 317 Pn **Pn 06 34 08.8 -0.2**
FDMO Fordimonte 7.97 316 **Pn 06 34 09.5 -1.1**
CESX Cesi 7.99 312 Pn **Pn 06 34 09.5 -1.4**
GZR Gura Zlata 8.06 11 ⇑P **Pn 06 34 09.8 -2.1**
BZS Buzias 8.15 5 ⇓P **Pn 06 34 11.1 -1.9**
LOT Lotru 8.29 16 ⇑P **Pn 06 34 13.1 -2.0**
VOIR 8.61 21 ⇑P **Pn 06 34 17.5 -2.0**
ISR Istrita 8.83 29 ⇑P **Pn 06 34 19.8 -2.7**
MLR Muntele Rosu 8.94 25 Pn **Pn 06 34 24.1 0.0**
MLR Muntele Rosu 8.94 25 Pn **Pn 06 34 24.4 +0.3**
comp=E,0.1nm,0.3s,baz=187,slow=5.5,SNR=3.4
MLR LR LR 06 38 15.2
comp=E,173nm,20.0s,baz=202,slow=41
comp=E,3.3nm,0.9s
MLR Muntele Rosu 8.94 25 ⇑P **Pn 06 34 21.3 -2.7**
DOPR Dopca 9.19 21 ⇑P **Pn 06 34 25.0 -2.4**
KEST Kesra 9.21 262 Pn **Pn 06 34 27.4 -0.4**
KEST Kesra 9.21 262 Pn **Pn 06 34 30.2 +2.4**
comp=E,0.2nm,0.3s,baz=314,slow=10.0,SNR=3.1
KEST LR LR 06 38 44.2
comp=E,102nm,18.7s,baz=137,slow=42
comp=E,8.2nm,1.1s
BISRR Bisoca 9.26 28 ⇓P **Pn 06 34 26.3 -2.1**
OSSC Osservatorio P 9.32 313 Pn **Pn 06 34 29.4 +0.3**
MARR Marisel-Cluj 9.36 11 ⇑P **Pn 06 34 27.4 -2.4**
TURR Turia 9.46 24 ⇓P **Pn 06 34 28.3 -2.8**
PLOR Plostina 9.49 27 ⇑P **Pn 06 34 29.4 -2.2**
VRI Vrincioaia 9.54 27 ⇓P **Pn 06 34 30.3 -1.8**
ONER Baraj Valea Uz 9.83 24 ⇑P **Pn 06 34 34.3 -1.8**
SABO M.te Sabotino 9.95 331 Pn **Pn 06 34 36.8 -1.0**
ZCCA Zocca 9.98 316 Pn **Pn 06 34 37.5 -0.8**
SOKA Soboth 10.06 338 *i* Pn **Pn 06 34 40.2 +0.8**
comp=E,1.1nm,0.2s
OBKA Obir 10.06 335 *i* Pn **Pn 06 34 44.0 +4.6**
comp=E,1.7nm,0.3s
PSZ Piszkesteto 10.43 357 Pn **Pn 06 34 44.3 -0.1**
BRTR Keskin Array B 10.45 74 Pn **Pn 06 34 46.2 +1.4**
comp=E,0.2nm,0.3s,baz=256,slow=16,SNR=1.4
BRTR LR LR 06 38 50.3
comp=E,108nm,21.0s,baz=279,slow=38
comp=E,0.5nm,0.4s
MYKA Terra Mystica 10.48 333 *e*Pn **Pn 06 34 49.3 +4.2**
comp=E,0.8nm,0.2s
CSS Mathiatis 10.60 100 Pn **Pn 06 34 43.8 -2.9**
BURAR Bucovina Array 10.67 17 Pn **Pn 06 34 48.0 +0.3**
BUR08 Bucovina Ar. S 10.69 17 Pn **Pn 06 34 48.4 +0.4**
CTI Castel Tesino 10.84 325 Pn **Pn 06 34 49.3 -0.7**
KOLS Kolonicke sedl 11.50 6 *e*PN Pn 06 34 49.9 -9.0
LESA Schwarzleotal 11.51 332 *e*Pn **Pn 06 34 59.9 +0.8**
comp=E,0.7nm,0.2s
FUORN Ofenpass-Fuorn 11.91 323 Pn **Pn 06 35 03.1 -1.6**
FETA Feichten 11.99 326 *i* Pn **Pn 06 35 07.0 +1.2**
comp=E,2.2nm,0.6s
MOTA Moosalm 12.07 328 *i* Pn **Pn 06 35 07.7 +0.7**
comp=E,0.6nm,0.3s
VRAC Vranov 12.16 347 LR LR 06 40 38.5
comp=E,63nm,20.9s,baz=178,slow=42
DAVOX Davos/Dischmat 12.21 323 Pn **Pn 06 35 07.3 -1.5**
comp=E,0.2nm,0.3s,baz=153,slow=21,SNR=2.2
DAVOX Sn **Sn 06 37 21.4 -3.0**
comp=E,0.2nm,0.3s,baz=161,slow=19,SNR=1.6
comp=E,0.8nm,0.4s
TUE Stuetta 12.25 321 Pn **Pn 06 35 08.0 -1.5**
GERES GERESS Array B 12.40 338 Pn **Pn 06 35 11.3 0.0**
comp=E,0.2nm,0.3s,baz=159,slow=14,SNR=1.6
comp=E,0.5nm,0.3s
KHC Kasperske Hory 12.69 339 *e*PN **P 06 35 30.5 +4.0**
MMAI Mount Meron Ar 12.90 106 Pn **Pn 06 35 17.3 -1.0**
comp=E,0.3nm,0.3s,baz=265,slow=16,SNR=1.8
MMAI LR LR 06 41 29.2
comp=E,41nm,18.0s,baz=276,slow=43
comp=E,0.9nm,0.3s
SENIN Lac Senin/Sane 13.27 316 Pn **Pn 06 35 23.0 -0.4**
PRNI Paran 13.92 117 P **Pn 06 35 31.1 -1.0**
BFO Black Forest 14.05 324 Pn **Pn 06 35 32.5 -1.3**
MBRI Mt Berech 14.18 119 P **Pn 06 35 35.6 -0.1**
EIL Elat 14.28 119 Pn **Pn 06 35 37.1 +0.1**
comp=E,0.6nm,0.3s,baz=14,slow=16,SNR=2.4
EIL Sn Sn 06 37 59.2 -16
comp=E,0.4nm,0.3s,baz=126,slow=23,SNR=1.3
comp=E,3.0nm,0.4s
ASF Jabal al Asfar 14.40 107 P **Pn 06 35 37.9 -0.9**
AK05 Malin Array Si 14.49 22 Pn **Pn 06 35 39.5 -0.3**
ECH Echery 14.53 322 Pn **Pn 06 35 40.8 +0.4**
KIEV Kiev 14.56 22 Pn **Pn 06 35 41.7 +1.0**
AKASG Malin Array Be 14.57 22 Pn **Pn 06 35 41.5 +0.7**
AKASG Malin Array Be 14.57 22 Pn **Pn 06 35 39.5 -1.4**
comp=E,0.4nm,0.3s,baz=212,slow=9.2,SNR=1.7
AKASG LR LR 06 42 38.8
comp=E,139nm,18.1s,baz=216,slow=43
comp=E,1.0nm,0.6s
AKBB Malin Array Si 14.57 22 Pn **Pn 06 35 41.6 +0.7**
CLL Collm 14.82 341 Pn **Pn 06 35 44.7 +0.4**
CLL Collm 14.82 341 *e*P **Pn 06 35 46.0 +1.7**
CLL ⇓*i*PP **PnPn 06 35 53.0 +0.7**
comp=E,16nm,1.2s
CLL *e*sPP 06 35 58.0
WLF Walferdange 16.01 324 Pn **Pn 06 35 59.9 +0.1**
WLF Walferdange 16.01 324 *d*P **P 06 36 04.4 +1.2**
SUW Suwalki 16.61 5 **Pn 06 36 07.7 +0.2**
SUW IAmb IAmb 06 36 17.9
comp=E,46nm,0.9s
MNK Minsk 17.73 14 *i* P **Pn 06 36 17.9 -3.5**
comp=E,20nm,0.8s
MNK *i* P **Pn 06 36 17.9 -3.5**
comp=N,16nm,0.7s,baz=199
MNK *i* P **Pn 06 36 17.9 -3.5**
comp=E,13nm,0.6s
MNK *i* PP **sP 06 36 28.4 -0.5**
MNK *i* PPP PPP 06 36 36.1
MNK *i* S **Sn 06 39 35.5 -2.8**
MNK *i* SS **SnSn 06 39 50.5 -1.4**
MNK *i* LQ LQ 06 41 41.0
MNK *i* LR LR 06 43 34.8
MNK *i* LRM MLR 06 43 48.2
comp=N,1μm,18.2s
MNK *i* LRM MLR 06 44 30.2
comp=E,78nm,14.0s
MNK *i* LRM MLR 06 44 35.0
comp=E,739nm,18.5s
NACGM Naroch 17.92 12 *e*P **P 06 36 31.3 +7.0**
comp=E,28nm,1.0s,baz=196
KBZ Khabaz 18.02 63 P **P 06 36 27.1 +1.7**
comp=E,1.3nm,0.8s,baz=66,slow=15,SNR=2.1
KBZ LR LR 06 44 06.1
comp=E,50nm,19.1s,baz=216,slow=40
PABE Paberze 18.16 6 **Pn 06 36 26.7 0.0**
PABE IAmb IAmb 06 36 32.8
comp=E,55nm,0.8s
GNI Garni 18.99 75 LR LR 06 44 29.9
comp=E,83nm,20.7s,baz=284,slow=39
ESDC Sonseca Array 19.31 284 P **Pn 06 36 41.0 +0.2**
comp=E,0.1nm,0.3s,baz=77,slow=12,SNR=6.3
comp=E,1.7nm,0.9s
OBN Obninsk 20.70 27 P Pn 06 36 56.1 -1.0
OBN Obninsk 20.70 27 P **P 06 36 54.9 +0.2**
comp=Z,24nm,0.3s,baz=210,slow=11,SNR=5.0
comp=Z,24nm,0.3s
MDT Midelt 21.10 265 P **P 06 37 00.9 +1.5**
comp=Z,4.4nm,0.9s,baz=102,slow=9.9,SNR=6.0
comp=Z,4.4nm,0.9s
HFS Hagfors 23.08 351 P **P 06 37 19.9 -0.1**
comp=Z,5.6nm,0.7s,baz=155,slow=11,SNR=12
comp=Z,5.6nm,0.7s
EKA Eskdalemuir Ar 24.02 326 P **P 06 37 28.2 -1.1**
comp=Z,3.2nm,0.7s,baz=122,slow=7.6,SNR=7.0
comp=Z,3.2nm,0.7s
BELG Belogornoye 24.06 43 LR LR 06 47 58.0
comp=Z,55nm,19.8s,baz=275,slow=39
NAO01 NORSAR Array S 24.16 348 P **P 06 37 32.4 +1.8**

NAO01 IAmb IAmb 06 37 37.3
comp=Z,16nm,1.1s
FINES FINESS Array B 24.22 6 P **P 06 37 31.5 +0.5**
FINES FINESS Array B 24.22 6 P **P 06 37 30.7 -0.3**
comp=Z,3.6nm,0.6s,baz=174,slow=9.9,SNR=20
comp=Z,3.6nm,0.6s
FIA1 FINESS Array S 24.22 6 P **P 06 37 31.6 +0.5**
NC405 NORSAR Array S 24.29 350 P **P 06 37 32.3 +0.5**
NC405 IAmb IAmb 06 37 58.6
comp=Z,13nm,1.1s
NB201 NORSAR Array S 24.29 349 P **P 06 37 32.8 +1.0**
NB201 IAmb IAmb 06 37 55.0
comp=Z,14nm,1.1s
NB2 NORSAR Subarra 24.30 349 P **P 06 37 32.0 +0.1**
comp=Z,18nm,1.4s,baz=162,slow=9.3
NOA NORSAR Array B 24.30 349 P **P 06 37 32.1 +0.3**
comp=Z,2.0nm,0.8s,baz=161,slow=8.6,SNR=6.2
comp=Z,2.0nm,0.8s
NBO00 NORSAR Array S 24.36 348 P **P 06 37 31.8 -0.5**
NBO00 IAmb IAmb 06 37 41.9
comp=Z,17nm,1.1s
NC303 NORSAR Array S 24.45 349 P **P 06 37 32.0 -1.2**
NC303 IAmb IAmb 06 37 43.1
comp=Z,14nm,1.0s
KIRV Kirov 28.20 32 LR LR 06 49 05.1
comp=Z,48nm,20.5s,baz=250,slow=36
TORD Torodi Ar. Bea 29.54 220 P **P 06 38 20.8 +1.5**
comp=Z,0.9nm,0.7s,baz=28,slow=11,SNR=6.3
TORD LR LR 06 52 05.9
comp=Z,49nm,18.1s,baz=306,slow=40
comp=Z,0.9nm,0.7s
AKTO Aktyubinsk 29.55 52 LR LR 06 53 20.0
comp=Z,30nm,18.6s,baz=214,slow=43
ABKAR Akbulak array 30.59 55 P **P 06 38 28.6 +0.3**
ARTI Arti 31.43 41 P **P 06 38 34.9 -0.7**
ARTI IAmb IAmb 06 38 48.6
comp=Z,9.0nm,1.1s
ARCES ARCESS Array B 32.21 3 P **P 06 38 41.1 -1.2**
comp=Z,1.3nm,0.7s,baz=199,slow=7.1,SNR=6.7
comp=Z,1.3nm,0.7s
MACI Morro de la Ar 32.32 264 P **P 06 38 42.2 -1.8**
UOSS Minazif 32.73 102 P **P 06 38 46.3 -1.2**
UOSS IAmb IAmb 06 39 23.0
comp=Z,5.0nm,0.6s
CMLA Cha da Macela 36.23 285 P **P 06 39 17.6 0.0**
LODK Lodwar 36.52 155 P **P 06 39 19.7 -0.6**
BRVK Borovoye 37.45 49 P **P 06 39 27.8 0.0**
BVAR Borovoye Array 37.52 49 P **P 06 39 28.4 +0.1**
comp=Z,0.8nm,0.5s,baz=262,slow=7.0,SNR=5.6
comp=Z,0.8nm,0.5s
SIMJ Simiganj 37.78 73 P **P 06 39 29.6 -1.3**
KKAR Karatay Array 38.02 65 P **P 06 39 32.4 -0.4**
GAR Garm 38.69 72 P **P 06 39 38.3 -0.2**
GAR IAmb IAmb 06 39 40.0
comp=Z,6.2nm,0.6s
MBAR Mbarara 39.05 164 P **P 06 39 40.7 -1.1**
KURBB Kurchatov Arra 42.59 53 P **P 06 40 10.1 -0.3**
comp=Z,1.6nm,0.7s,baz=282,slow=8.6,SNR=11
comp=Z,1.6nm,0.7s
MK31 Makanchi Array 45.61 58 P **P 06 40 35.6 +0.8**
MKAR Makanchi Array 45.61 58 P **P 06 40 34.7 -0.1**
MKAR Makanchi Array 45.61 58 P **P 06 40 34.4 -0.5**
comp=Z,1.6nm,0.5s,baz=267,slow=8.1,SNR=15
comp=Z,1.6nm,0.5s
ZAA0 Zalesovo Array 46.11 48 P **P 06 40 38.7 +0.2**
ZAA0 IAmb IAmb 06 40 55.2
comp=Z,2.9nm,0.8s
ZALV Zalesovo Beam 46.11 48 P **P 06 40 38.5 -0.1**
ZALV Zalesovo Beam 46.11 48 P **P 06 40 38.2 -0.3**
comp=Z,2.2nm,0.4s,baz=272,slow=9.0,SNR=7.3
comp=Z,2.2nm,0.4s
SCHQ Schefferville 59.00 318 P **P 06 42 15.2 +1.2**
SCHQ Schefferville 59.00 318 P **P 06 42 14.3 +0.3**
comp=Z,8.9nm,1.1s,baz=208,slow=11,SNR=2.0
comp=Z,8.9nm,1.1s
SONM Songino Array 60.85 50 P **P 06 42 25.5 -1.5**
comp=Z,1.1nm,0.8s,baz=292,slow=7.6,SNR=4.6
comp=Z,1.1nm,0.8s
LZH Lanzhou 64.46 63 *e*P **P 06 42 47.0 -4.3**
LZH sP pP 06 42 52.0 -4.8
LZH pmax pmax
comp=Z,15nm,1.0s
BOSA Boshof 65.91 176 P **P 06 43 01.6 +1.2**
comp=Z,2.9nm,0.9s,baz=133,slow=21,SNR=2.5
comp=Z,2.9nm,0.9s
HHC Hu-ho-hao-te 67.38 55 *e*P **P 06 43 08.5 -1.4**
HHC pmax pmax
comp=Z,6.0nm,1.1s
HHC pmax pmax
comp=Z,160nm,5.0s
PZH PanZhiHua 67.75 73 P **P 06 43 13.7 +1.2**
PZH pmax pmax
comp=Z,8.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.1s
A36M Sachs Harbour 68.20 349 P **P 06 43 16.5 +2.0**
A36M IAmb IAmb 06 43 17.1
comp=Z,5.4nm,1.0s
CMAR Chiang Mai Arr 69.93 82 P **P 06 43 26.2 +0.2**
comp=Z,1.5nm,0.3s,baz=300,slow=6.1,SNR=1.4
comp=Z,1.5nm,0.3s
C36M Paulatuk 70.33 347 P **P 06 43 29.5 +1.8**
C36M IAmb IAmb 06 43 52.0
comp=Z,7.8nm,1.5s
GRHM Grahamstown, E 70.62 175 P **P 06 43 29.8 0.0**
HEH HeiHe 71.52 40 *e*P **P 06 43 36.4 +1.2**
HEH pmax pmax
comp=Z,8.0nm,1.0s
YKA Yellowknife Ar 74.05 340 P **P 06 43 50.8 +0.8**
comp=Z,1.1nm,0.8s,baz=354,slow=11,SNR=3.6
comp=Z,1.1nm,0.8s
NJ2 Nanjing 77.11 60 *e*P **P 06 44 07.1 -1.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
KSRS Korea Array 79.72 51 P **P 06 44 23.0 +0.6**
comp=Z,2.0nm,0.8s,baz=314,slow=5.3,SNR=3.1
comp=Z,2.0nm,0.8s
LEM Lembang 91.75 97 LR LR 07 32 12.3
comp=Z,86nm,18.6s,baz=358,slow=39
WRA Warramunga Arr 120.45 93 PKP **PKPdf 06 51 05.9 -0.5**
comp=Z,0.3nm,0.8s,baz=322,slow=2.0,SNR=1.7
ASAR Alice Springs 122.04 97 PKP **PKPdf 06 51 09.1 -0.3**
comp=Z,0.3nm,0.6s,baz=307,slow=2.0,SNR=4.7

IDC ***12*** *06:32:31.4±0.6,23°.94N×123°.30E,h0km,mb4.2/18, mbtmp4.1/20,ML3.3/2,MS3.5/21,Error ellipse: s-maj=22.9km s-min=14.2km az=65.0*
NEIC ***12*** *06:32:35.2±2.6,23°.78N±0°.05×123°.44E±0°.06,h26km±4km, mb4.7/68,Error ellipse: s-maj=8.5km s-min=6.3km az=46.0*
NIED ***12*** *06:32:35.6,23°.86N×123°.37E,h31km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.84; Mθθ-2.84; Mφφ1.00; Mrθ2.63; Mθφ-1.54; Mφr1.93; Fault plane solution: M0 4.26000×10^15 NP1:φ±51.00000°, δ73.00000°,λ71.00000°. NP2:φ±282.00000°,δ26.00000°, λ137.00000°.*
JMA ***12*** *06:32:35.6±0.2,23°.9N±0°.9×123°.4E±0°.4,h31km±1km, MD4.5/12,MV4.0/12,NEAR ISHIGAKIJIMA ISLAND*
JMA Felt I J1 at NEAR ISHIGAKIJIMA ISLAND.
ISC 12 06:32:34.6±1.2,23°.81N±0°.05×123°.37E±0°.03,h26km±8km, n153,σ1°.32/141,mb4.6/51,MS3.5/18,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.47**	**58**	P	**Pb**	**06 32 45.0**	**+0.6**
HATJ				S	**Sb**	**06 32 51.9**	**+0.9**
HATJ	**Hateruma jima**	**0.47**	**58**	A	A	06 32 45.0	
comp=E,77nm,0.7s,comp=N,72nm,1.5s							
IRIF	**Iriomote-Funau**	**0.62**	**32**	P	**Pb**	**06 32 46.9**	**0.0**
IRIF				S	**Sb**	**06 32 55.4**	**+0.1**
IRIF	**Iriomote-Funau**	**0.62**	**32**	A	A	06 32 46.9	
comp=E,25nm,0.9s,comp=N,33nm,2.2s							
JKRS	**Kuro-shima**	**0.72**	**54**	P	**Pn**	**06 32 49.1**	**-0.1**
JKRS				S	**Sn**	**06 32 59.3**	**-0.2**
JKRS	**Kuro-shima**	**0.72**	**54**	A	A	06 32 49.1	
comp=E,59nm,0.8s,comp=N,54nm,1.5s							
YOJ	**Yonaguni jima**	**0.73**	**333**		**Pb**	**06 32 48.8**	**+0.1**
YOJ				Sg	**Sb**	**06 32 57.5**	**-0.9**
YOJ	**Yonaguni jima**	**0.73**	**333**	P	**Pb**	**06 32 49.0**	**+0.3**
YOJ	**Yonaguni jima**	**0.73**	**333**	P	**Pb**	**06 32 48.9**	**+0.1**
YOJ				*e*S	**Sb**	**06 32 57.4**	**-0.9**
YOJ	**Yonaguni jima**	**0.73**	**333**	A	A	06 32 48.9	

comp=E,21nm,1.0s,comp=N,18nm,1.6s
JYNG Yonagunijimaku 0.75 329 *i* P **Pn 06 32 49.1 -0.4**
JYNG Yonagunijimaku 0.75 329 A A 06 32 49.1
comp=E,17nm,1.9s,comp=N,30nm,0.8s
JIJ Ishigaki jima 0.90 52 *i* P **Pn 06 32 51.5 -0.1**
JIJ S **Sn 06 33 03.1 -0.6**
JIJ Ishigaki jima 0.90 52 A A 06 32 51.5
comp=E,14nm,1.2s,comp=N,36nm,1.2s
JISG Ishigakijimahi 1.16 48 *i* P **Pn 06 32 55.5 +0.3**
JISG S **Sn 06 33 10.0 -0.1**
JISG Ishigakijimahi 1.16 48 A A 06 32 55.5
comp=E,21nm,0.8s,comp=N,27nm,1.6s
JTJ Tarama 1.47 55 P **Pn 06 33 00.8 +1.3**
JTJ S **Sb 06 33 19.9 +0.3**
JTJ Tarama 1.47 55 A A 06 33 00.8
comp=E,19nm,3.1s,comp=N,20nm,1.2s
NACB Ninganchiao 1.66 283 **Pn 06 33 02.9 +0.7**
NACB Sn **Sn 06 33 22.7 +0.1**
NACB Ninganchiao 1.66 283 P **Pn 06 33 02.8 +0.7**
JIRB Irabujima 1.93 58 P **Pn 06 33 07.2 +1.4**
JIRB Irabujima 1.93 58 A A 06 33 07.2
comp=E,7.0nm,1.5s,comp=N,10.0nm,2.4s
YULB Yu-li 1.95 258 **Pn 06 33 06.5 +0.5**
YULB Sn **Sn 06 33 29.6 -0.1**
YULB Yu-li 1.95 258 P **Pn 06 33 06.7 +0.7**
YHNB Yeheng 2.01 296 **Pn 06 33 08.9 +2.0**
YHNB Yeheng 2.01 296 P **Pn 06 33 09.0 +2.0**
JMJ2 Miyako jima3 2.01 62 A A 06 33 08.3
comp=E,10.0nm,1.5s,comp=N,11nm,2.0s
JMJ Miyako jima 2 2.02 60 P **Pb 06 33 14.1 +3.4**
JIKM Ikemajima 2.04 57 A A 06 33 08.6
comp=E,9.0nm,1.4s,comp=N,8.0nm,2.5s
TATO Taipei 2.07 305 **Pn 06 33 09.6 +1.8**
TATO Taipei 2.07 305 P **Pn 06 33 09.9 +2.1**
JOGS Gusukube 2.09 63 A A 06 33 09.4
comp=E,15nm,2.7s,comp=N,13nm,3.0s
SSLB Suanglung 2.21 270 **Pn 06 33 10.7 +0.9**
SSLB Suanglung 2.21 270 P **Pn 06 33 11.1 +1.4**
TWGBT Beinan 2.32 245 P **Pn 06 33 12.3 +1.1**
TWG Pinlang 2.33 246 **Pn 06 33 12.1 +0.8**
TPUB Ta-pu 2.56 259 **Pn 06 33 16.7 +2.1**
TPUB Ta-pu 2.56 259 P **Pn 06 33 16.9 +2.3**
KNMB Chin-men Tao 4.60 279 **Pn 06 33 43.4 +0.9**
JOW Kunigami 5.36 55 Pn **Pn 06 33 51.4 -1.7**
JOW Kunigami 5.36 55 Pn **Pn 06 33 52.2 -0.8**
comp=N,1.5nm,0.3s,baz=131,slow=25,SNR=7.1
JOW Sn **Sn 06 34 58.5 +4.6**
comp=N,1.5nm,0.3s,baz=86,slow=27,SNR=1.5
comp=N,7.8nm,0.6s
JMZ Minamidaito 2 7.41 73 Pn **Pn 06 34 18.5 -2.7**
KSRS Korea Array 14.15 15 Pn **Pn 06 35 51.1 -2.3**
comp=N,0.3nm,0.3s,baz=192,slow=11,SNR=2.3
KSRS LR LR 06 41 53.0
comp=N,183nm,19.2s,baz=190,slow=40
comp=N,0.6nm,0.4s
DAV Davao City (W) 16.78 172 LR LR 06 43 09.9
comp=N,106nm,18.9s,baz=343,slow=38
JHJ Hachijo jima 2 17.14 54 LR LR 06 42 57.9
comp=N,36nm,19.7s,baz=349,slow=37
MJAR Matsushiro Arr 18.02 42 LR LR 06 43 36.8
comp=N,104nm,21.3s,baz=215,slow=37
TOLI2 Tolitoli 22.70 187 P **P 06 37 32.6 -1.9**
GUMO Guam 22.73 113 LR LR 06 44 31.9
comp=N,115nm,21.7s,baz=339,slow=32
CMAR Chiang Mai Arr 23.38 262 P **P 06 37 41.5 0.0**
comp=N,0.6nm,0.3s,baz=59,slow=9.4,SNR=5.1
CMAR LR LR 06 47 55.2
comp=N,63nm,18.9s,baz=65,slow=40
comp=N,0.6nm,0.3s
LUWI Luwuk 24.71 181 P **P 06 37 50.4 -3.4**
ASAJ Asahikawa 25.66 33 LR LR 06 48 16.9
comp=N,146nm,20.7s,baz=178,slow=37
SONM Songino Array 27.52 335 P **P 06 38 18.3 -0.9**
SONM Songino Array 27.52 335 P **P 06 38 18.0 -1.2**
comp=N,2.4nm,0.9s,baz=142,slow=9.2,SNR=11
SONM LR LR 06 50 23.8
comp=N,203nm,19.2s,baz=150,slow=39
comp=N,2.4nm,0.9s
JAY Jayapura 31.13 145 LR LR 06 49 00.4
comp=N,161nm,21.2s,baz=357,slow=32
YAK Yakutsk 38.45 5 LR LR 06 57 32.7
comp=N,73nm,18.3s,baz=188,slow=39
PETK Petropavlovsk- 39.08 33 LR LR 06 55 32.0
comp=N,57nm,21.0s,baz=238,slow=35
KNRA Kununurra 39.59 172 P **P 06 40 04.4 +0.4**
MK31 Makanchi Array 40.00 315 P **P 06 40 07.3 0.0**
MKAR Makanchi Array 40.00 315 P **P 06 40 07.1 -0.2**
MKAR Makanchi Array 40.00 315 P **P 06 40 07.3 0.0**
comp=N,1.8nm,0.7s,baz=100,slow=9.6,SNR=13
MKAR PcP **PcP 06 42 12.2 +0.2**
comp=N,1.3nm,0.9s,baz=103,slow=3.1,SNR=2.2
MKAR LR LR 06 57 59.0
comp=N,78nm,20.1s,baz=80,slow=38
comp=N,1.8nm,0.7s
MAKZ Makanchi 40.21 315 P **P 06 40 09.5 +0.5**
PMG Port Moresby 40.38 142 P **P 06 40 08.8 -1.8**
PMG IAmb IAmb 06 40 35.3
comp=Z,33nm,1.4s
WAKE Wake Island 40.40 88 P **P 06 40 07.5 -3.3**
MA2 Magadan 40.59 21 LR LR 06 57 09.1
comp=Z,73nm,19.3s,slow=36
ZAA0 Zalesovo Array 41.66 326 P **P 06 40 20.3 -0.4**
ZALV Zalesovo Beam 41.66 326 P **P 06 40 19.5 -1.2**
ZALV Zalesovo Beam 41.66 326 P **P 06 40 19.7 -1.0**
comp=Z,3.0nm,0.6s,baz=110,slow=8.5,SNR=13
ZALV LR LR 06 58 54.3
comp=Z,147nm,18.9s,baz=90,slow=38
comp=Z,3.0nm,0.6s
KURK Kurchatov 43.67 320 P **P 06 40 37.1 0.0**
KURBB Kurchatov Arra 43.69 319 P **P 06 40 37.0 -0.2**
comp=Z,1.3nm,0.7s,baz=113,slow=7.8,SNR=7.2
comp=Z,1.3nm,0.7s
WRA Warramunga Arr 44.78 165 P **P 06 40 47.6 +1.3**
comp=Z,1.8nm,0.7s,baz=348,slow=8.9,SNR=11
WRA PcP **PcP 06 42 29.0 +0.8**
comp=Z,0.2nm,0.6s,baz=355,slow=3.8,SNR=0.8
comp=Z,1.8nm,0.7s
WB2 Warramunga Arr 44.78 165 P **P 06 40 47.0 +0.7**
WR0 Warramunga Arr 44.84 165 P **P 06 40 46.2 -0.6**
PSA00 Pilbara Seismi 45.24 185 P **P 06 40 48.8 -1.0**
PSA00 IAmb IAmb 06 40 58.6
comp=Z,11nm,1.1s
GAR Garm 47.11 302 P **P 06 41 06.3 +1.6**
GAR IAmb IAmb 06 41 07.0
comp=Z,6.2nm,0.8s
KKAR Karatay Array 47.29 307 P **P 06 41 06.7 +0.8**
KKAR PcP **PcP 06 42 37.6 +0.8**
TIXI Tiksi 47.97 2 LR LR 07 03 49.4
comp=Z,127nm,19.7s,baz=203,slow=39
SIMJ Simiganj 48.12 301 P **P 06 41 12.7 +0.1**
KBL Kabul 48.13 296 P **P 06 41 14.5 +1.7**
KBL IAmb IAmb 06 41 15.7
comp=Z,8.5nm,1.0s
ASAR Alice Springs 48.29 167 P **P 06 41 16.0 +2.2**
comp=Z,1.0nm,0.6s,baz=353,slow=15,SNR=24
ASAR LR LR 07 01 56.1
comp=Z,18nm,20.8s,baz=347,slow=36
comp=Z,1.0nm,0.6s
HNR Honiara 48.67 128 LR LR 07 00 34.9
comp=Z,38nm,20.1s,baz=226,slow=34
BVAR Borovoye Array 49.23 320 P **P 06 41 20.4 -0.3**
comp=Z,0.8nm,0.5s,baz=118,slow=8.6,SNR=4.1
BVAR PcP **PcP 06 42 44.0 +0.5**
comp=Z,0.8nm,0.5s,baz=73,slow=4.8,SNR=2.9
comp=Z,0.8nm,0.5s
ABKAR Akbulak array 55.13 314 P **P 06 42 05.2 +0.5**
ARTI Arti 56.70 323 P **P 06 42 15.6 -0.2**
ARTI IAmb IAmb 06 42 16.9
comp=Z,3.9nm,0.6s
STKA Stephens Creek 58.05 162 P **P 06 42 27.1 +1.5**
comp=Z,2.4nm,0.6s,baz=339,slow=10,SNR=5.0
STKA LR LR 07 08 03.0
comp=Z,34nm,19.4s,baz=29,slow=37
comp=Z,2.4nm,0.6s
L14K Kuka Creek 61.72 32 P **P 06 42 52.0 +1.6**
DZM Mont Dzumac 61.92 134 LR LR 07 05 25.6
comp=Z,45nm,21.4s,baz=24,slow=32
ONTNC Ouen Toro 62.10 134 P **P 06 42 51.6 -1.8**
K15K Wolf Creek Mou 62.29 31 P **P 06 42 56.1 +1.8**
F17K Baldwin Pennin 62.58 26 P **P 06 42 57.9 +1.8**
N15K Kwethluk River 62.98 33 P **P 06 43 00.3 +1.3**
J17K VABM Dome 63.43 29 P **P 06 43 03.6 +1.7**
M16K Timber Creek 63.52 32 P **P 06 43 04.3 +1.8**
G18K Tagagawik 63.62 27 P **P 06 43 02.3 -0.7**
K17K Iditarod 63.79 30 P **P 06 43 04.0 -0.2**
D19K Kuna River 63.87 24 P **P 06 43 05.1 +0.4**

E19K Redstone River 64.19 25 P **P 06 43 06.9 +0.1**
E19K IAmb IAmb 06 43 10.3
comp=Z,16nm,1.4s
B21K Ikpikpuk River 65.13 22 P **P 06 43 14.6 +1.8**
E21K Killik River 65.40 24 P **P 06 43 16.8 +2.1**
E21K IAmb IAmb 06 43 23.9
comp=Z,5.2nm,0.9s
J20K Nowinta River 65.59 28 P **P 06 43 17.8 +1.9**
J20K IAmb IAmb 06 43 18.6
comp=Z,5.3nm,0.8s
M19K Big River Lodg 65.66 31 P **P 06 43 17.2 +0.7**
M19K IAmb IAmb 06 43 18.2
comp=Z,8.6nm,1.1s
H21K Melozitna Rive 66.04 27 P **P 06 43 21.0 +2.2**
H21K IAmb IAmb 06 43 43.9
comp=Z,11nm,1.4s
D23K Nanushuk River 66.57 23 P **P 06 43 23.9 +1.8**
D23K IAmb IAmb 06 43 24.9
comp=Z,6.9nm,0.8s
TOLK Toolik Lake Re 67.00 23 P **P 06 43 26.2 +1.2**
TOLK IAmb IAmb 06 43 27.2
comp=Z,5.7nm,0.8s
G23K Bananza Creek 67.05 26 P **P 06 43 26.6 +1.3**
G23K IAmb IAmb 06 43 41.0
comp=Z,7.0nm,1.3s
C24K Franklin Bluff 67.19 22 P **P 06 43 27.2 +1.1**
C24K IAmb IAmb 06 43 28.1
comp=Z,8.6nm,0.8s
KBZ Khabaz 67.27 309 P **P 06 43 27.4 +0.4**
comp=Z,3.4nm,0.9s,baz=40,slow=6.2,SNR=4.1
comp=Z,3.4nm,0.9s
MSVF Nosavu 67.47 123 LR LR 07 13 25.4
comp=Z,36nm,18.1s,baz=155,slow=36
E24K Your Creek 67.47 24 P **P 06 43 29.1 +1.2**
E24K IAmb IAmb 06 43 30.3
comp=Z,4.1nm,0.7s
F24K Squaw Lake 67.78 25 P **P 06 43 31.4 +1.5**
F24K IAmb IAmb 06 43 33.0
comp=Z,7.0nm,0.7s
D25K Kavik River 68.05 23 P **P 06 43 32.7 +1.1**
D25K IAmb IAmb 06 43 33.7
comp=Z,4.2nm,0.8s
WRH Wood River Hil 68.17 28 P **P 06 43 32.0 -0.3**
WRH IAmb IAmb 06 43 45.0
comp=Z,8.7nm,1.4s
ILAR Eielson Array 68.63 27 P **P 06 43 36.1 +0.9**
comp=Z,0.4nm,0.5s,baz=290,slow=5.8,SNR=10
comp=Z,0.4nm,0.5s
C27K Jago River 68.92 22 P **P 06 43 38.2 +1.2**
C27K IAmb IAmb 06 43 50.2
comp=Z,13nm,1.4s
BMAR Burnt Mountain 69.05 24 P **P 06 43 40.3 +2.5**
F26K Sheenjek River 69.16 24 P **P 06 43 40.5 +2.0**
F26K IAmb IAmb 06 43 41.3
comp=Z,3.8nm,0.8s
D27M Malcolm River 69.95 22 P **P 06 43 44.8 +1.4**
D27M IAmb IAmb 06 43 45.5
comp=Z,3.8nm,0.8s
E27K Coleen River 69.98 23 P **P 06 43 44.6 +1.0**
SCRK Sand Creek 70.03 28 P **P 06 43 44.0 -0.1**
SCRK IAmb IAmb 06 44 08.8
comp=Z,9.2nm,1.5s
J26L Joseph Creek 70.08 27 P **P 06 43 44.3 0.0**
E28M Babbage River 70.62 23 P **P 06 43 47.0 -0.4**
E28M IAmb IAmb 06 43 49.6
comp=Z,5.5nm,0.7s
F28M Old Crow 70.76 24 P **P 06 43 50.0 +1.6**
F28M IAmb IAmb 06 43 58.8
comp=Z,6.4nm,1.1s
K27K Chicken 70.83 28 P **P 06 43 49.7 +1.0**
M26K Nabesna, AK 70.84 29 P **P 06 43 50.4 +1.4**
M26K IAmb IAmb 06 43 58.8
comp=Z,14nm,1.4s
EGAK Eagle 71.02 27 P **P 06 43 49.1 -0.8**
BCAR Beaver Creek A 71.21 29 P **P 06 43 53.0 +1.8**
G29M Pine Creek 71.65 24 P **P 06 43 54.5 +0.8**
DAWY Dawson 71.96 27 P **P 06 43 56.9 +1.2**
DAWY IAmb IAmb 06 44 05.2
comp=Z,7.0nm,1.1s
CTGM Chitina Glacie 71.99 31 P **P 06 43 54.9 -1.1**
CTGM IAmb IAmb 06 44 08.7
comp=Z,11nm,1.0s
EPYK Eagle Plains 72.31 25 P **P 06 43 57.1 -0.7**
EPYK IAmb IAmb 06 43 59.2
comp=Z,5.4nm,0.9s
FINES FINESS Array B 72.77 330 P **P 06 44 00.9 +0.4**
FINES FINESS Array B 72.77 330 P **P 06 44 00.7 +0.2**
comp=Z,3.4nm,0.6s,baz=66,slow=6.5,SNR=8.0
comp=Z,3.4nm,0.6s
I30M Mount Dempster 72.82 26 P **P 06 44 02.1 +1.2**
I30M IAmb IAmb 06 44 03.5
comp=Z,9.8nm,1.3s
J30M Hart River 73.06 26 P **P 06 44 03.7 +1.4**
M30M Minto, Yukon 73.54 28 P **P 06 44 04.0 -1.1**
M30M IAmb IAmb 06 44 15.8
comp=Z,11nm,1.2s
BNN Bunyan 73.64 306 P **P 06 44 06.6 +0.4**
A36M Sachs Harbour 73.88 18 P **P 06 44 07.4 +0.5**
A36M IAmb IAmb 06 44 09.4
comp=Z,4.6nm,0.8s
AKASG Malin Array Be 74.47 319 P **P 06 44 10.2 -0.5**
comp=Z,2.5nm,0.7s,baz=59,slow=6.1,SNR=11
comp=Z,2.5nm,0.7s
ASF Jabal al Asfar 74.90 299 LR LR 07 20 21.5
comp=Z,2μm,21.2s,baz=334,slow=38
BR131 Keskin Array S 75.00 307 P **P 06 44 15.5 +1.4**
BR131 IAmb IAmb 06 44 16.0
comp=Z,8.1nm,0.9s
BRTR Keskin Array B 75.00 307 P **P 06 44 15.2 +1.1**
BRTR Keskin Array B 75.00 307 P **P 06 44 14.8 +0.7**
comp=Z,4.4nm,0.7s,baz=112,slow=5.4,SNR=15
comp=Z,4.4nm,0.7s
SKAG Skagway 75.32 31 P **P 06 44 15.4 0.0**
C36M Paulatuk 75.49 20 P **P 06 44 16.8 +0.6**
C36M IAmb IAmb 06 44 16.8
comp=Z,4.7nm,0.7s
BURAR Bucovina Array 78.01 317 P **P 06 44 32.3 +1.3**
MLR Muntele Rosu 78.34 315 P **P 06 44 34.3 +1.4**
MLR IAmb IAmb 06 44 34.8
comp=Z,4.3nm,0.7s
HFS Hagfors 78.86 331 P **P 06 44 35.4 +0.1**
comp=Z,2.8nm,0.7s,baz=97,slow=3.6,SNR=4.1
comp=Z,2.8nm,0.7s
NB2 NORSAR Subarra 79.48 333 P **P 06 44 38.6 -0.1**
comp=Z,1.5nm,0.6s,baz=57,slow=5.6
NOA NORSAR Array B 79.48 333 P **P 06 44 38.0 -0.7**
comp=Z,2.0nm,0.6s,baz=57,slow=5.8,SNR=7.8
comp=Z,2.0nm,0.6s
NC204 NORSAR Array S 79.55 333 P **P 06 44 37.4 -1.7**
URZ Urewera 79.69 140 LR LR 07 19 52.0
comp=Z,33nm,18.5s,baz=18,slow=36
YKA Yellowknife Ar 82.53 23 P **P 06 44 55.3 +0.4**
comp=Z,1.1nm,0.7s,baz=308,slow=5.5,SNR=7.9
comp=Z,1.1nm,0.7s
GERES GERESS Array B 84.39 321 P **P 06 45 04.9 0.0**
comp=Z,1.4nm,0.6s,baz=85,slow=2.8,SNR=6.4
comp=Z,1.4nm,0.6s
HOPE Hope Point 146.03 201 PKPdf **PKPdf 06 52 10.2 -0.7**

CATAC ***12*** *06:49:32.8±0.7, 13°.79N×90°.78W, h29km±11km, ML3.3*
SNET ***12*** *06:49:33.6±0.8, 13°.93N×90°.61W, h85km±14km, ML3.5*
GCG ***12*** *06:49:35.6±0.6, 13°.84N×90°.80W, h60km±16km, MD3.4*
ISC 12 06:49:32.8±1.9,**13°.79N**±0°.09×**90°.71W**±0°.05,**h89**km±17km,
n35,σ0°.87/61,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.60**	**348**	*i* P	**Pn**	**06 49 47.8**	**-0.6**
PCG	**Pacaya**	**0.60**	**9**	*e* P	**Pn**	**06 49 49.2**	**+0.5**
FUG	**Fuego 3**	**0.66**	**349**	*e* P	**Pn**	**06 49 49.8**	**+0.6**
NBG	**Las Nubes**	**0.86**	**24**	*e* P	**Pn**	**06 49 52.1**	**+0.8**
NBG				*e* S	**Sn**	**06 50 06.2**	**+1.2**
NUBE	**Las Nubes**	**0.91**	**83**	*i* P	**Pn**	**06 49 50.9**	**-0.6**
NUBE	**Las Nubes**	**0.91**	**83**	*i* P	**Pn**	**06 49 51.0**	**-0.6**
NUBE				*i* S	**Sn**	**06 50 04.7**	**-0.9**
NUBE				IAML		06 50 06.5	
comp=Z,570nm,1.0s
SULM Suchitepequez, 0.98 301 *e* P **Pn 06 49 53.2 +1.0**
SULM *e* S **Sn 06 50 04.6 -2.1**
CEVE Cerro Verde 1.05 88 *e* P **Pn 06 49 53.2 -0.1**
CEVE *e* S **Sn 06 50 09.2 +0.5**
CEVE IAML 06 50 10.7
comp=Z,2μm,0.2s
CEVE Cerro Verde 1.05 88 *i* P **Pn 06 49 53.2 -0.1**
CEVE *i* S **Sn 06 50 08.8 +0.1**
CEVE IAML 06 50 10.5
comp=Z,2μm,1.0s
UNIC Universidad Ca 1.14 80 *i* P **Pn 06 49 53.4 -0.8**
UNIC IAML 06 49 55.3
comp=Z,270nm,1.0s
UNIC *i* S **Sn 06 50 11.0 +0.8**
RTAL Retalhuleu 1.20 307 *i* P **Pn 06 49 54.0 -0.9**
RTAL *i* S **Sn 06 50 11.8 +0.3**
RTAL IAML 06 50 14.3
comp=Z,360nm,1.0s
JAYA Jayaque - finc 1.23 96 *e* P **Pn 06 49 54.9 -0.4**
JAYA *e* S **Sn 06 50 11.3 -1.0**
JAYA IAML 06 50 13.2
comp=Z,731nm,0.2s
JAYA Jayaque - finc 1.23 96 *i* P **Pn 06 49 54.9 -0.4**
JAYA *i* S **Sn 06 50 12.3 0.0**
JAYA IAML 06 50 13.1
comp=Z,2μm,1.0s
STG3 Santiaguito 3, 1.24 318 *e* P **Pn 06 49 56.3 +0.8**
STG3 *e* S **Sn 06 50 12.2 -0.3**
CEDA San Andres 1.27 89 *i* P **Pn 06 49 55.5 -0.2**
CEDA *i* S **Sn 06 50 13.1 0.0**
CEDA IAML 06 50 21.7
comp=Z,860nm,1.0s
PMON Piamonte 1.35 93 *i* P **Pn 06 49 56.7 -0.1**
PMON *i* S **Sn 06 50 15.3 +0.4**
PMON IAML 06 50 22.2
comp=Z,650nm,1.0s
ITCA Escuela Especi 1.39 95 *i* P **Pn 06 49 57.4 +0.1**
ITCA *i* S **Sn 06 50 16.2 +0.4**
ITCA IAML 06 50 18.0
comp=Z,2μm,1.0s
UEES Universidad Ev 1.43 93 *i* P **Pn 06 49 57.3 -0.4**
UEES *i* S **Sn 06 50 17.9 +1.4**
UEES IAML 06 50 21.2
comp=Z,280nm,1.0s
MTO3 Montecristo 1.44 65 *i* P **Pn 06 49 57.3 -0.6**
MTO3 Montecristo 1.44 65 *i* P **Pn 06 49 57.5 -0.5**
MTO3 *i* S **Sn 06 50 16.2 -0.7**
MTO3 IAML 06 50 17.4
comp=Z,110nm,1.0s
SNET Serv Nac Est T 1.44 94 *i* P **Pn 06 49 55.1 -2.7**
SNET *i* S **Sn 06 50 17.6 +0.9**
PANCS Alcalda de 1.50 97 *i* P **Pn 06 49 58.4 -0.1**
LOMA Loma Larga 1.50 96 *e* P **Pn 06 49 58.2 -0.4**
LOMA IAML 06 50 22.6
comp=Z,456nm,0.2s
LOMA Loma Larga 1.50 96 *i* P **Pn 06 49 58.7 +0.1**
LOMA *i* S **Sn 06 50 19.6 +1.4**
LOMA IAML 06 50 22.4
comp=Z,500nm,1.0s
UDBS Universidad Do 1.51 93 *i* P **Pn 06 49 58.6 -0.1**
UDBS *i* S **Sn 06 50 19.3 +1.0**
UDBS IAML 06 50 20.9
comp=Z,390nm,1.0s
ESQI Esquipulas 1.53 60 *e* P **Pn 06 49 58.7 -0.2**
ESQI *e* S **Sn 06 50 16.9 -1.9**
ESQI IAML 06 50 20.9
ESQI Esquipulas 1.53 60 *i* P **Pn 06 49 58.8 -0.2**
ESQI *i* S **Sn 06 50 19.3 +0.5**
ESQI IAML 06 50 19.7
comp=Z,150nm,1.0s
PAVA Las Pavas 1.72 92 *i* P **Pn 06 50 01.3 -0.2**
PAVA IAML 06 50 05.5
comp=Z,390nm,1.0s
PAVA *i* S **Sn 06 50 22.9 -0.3**
LLGN La Laguna 1.75 78 *i* P **Pn 06 50 01.1 -0.7**
LLGN IAML 06 50 14.3
comp=Z,1μm,1.0s
COEG Centro de Oper 1.78 95 *e* P **Pn 06 50 02.3 +0.1**
COEG IAML 06 50 04.6
comp=Z,298nm,0.3s
COEG *e* S **Sn 06 50 24.8 +0.2**
COEG Centro de Oper 1.78 95 *i* P **Pn 06 50 02.2 0.0**
COEG IAML 06 50 04.0
comp=Z,280nm,1.0s
COEG *i* S **Sn 06 50 25.0 +0.4**
UESV Universidad de 1.87 95 *i* P **Pn 06 50 03.5 +0.2**
UESV IAML 06 50 05.1
comp=Z,190nm,1.0s
UESV *i* S **Sn 06 50 28.4 +1.8**
TECO Alcaldia de Te 1.89 98 *i* P **Pn 06 50 03.6 0.0**
TECO IAML 06 50 03.7
comp=Z,95nm,1.0s
TECO *i* S **Sn 06 50 28.3 +1.3**
SCLA Alcaldia de Sa 1.92 92 *i* P **Pn 06 50 04.4 +0.4**
SCLA IAML 06 50 24.7
comp=Z,67nm,1.0s
SCLA *i* S **Sn 06 50 25.8 -2.0**
PQSS Presa 15 de Se 2.09 94 *i* P **Pn 06 50 06.3 +0.1**
PQSS IAML 06 50 08.9
comp=Z,63nm,1.0s

NAO ***12*** *06:50:06.0, 35°.11N×23°.25E, h10km, mb4.6*
IDC ***12*** *06:50:27.0±0.5, 37°.33N×20°.71E, h0km, mb4.2/22, mbtmp4.1/35, ML4.0/11, MS4.1/71, Error ellipse: s-maj=11.8km s-min=11.4km az=125.0*
UPSL ***12*** *06:50:27.7, 37°.14N×20°.55E, h10km, Mw4.8, Moment Tensor Solution. s8 Moment tensor: Mrr-0.31; Mθθ-0.21; Mφφ0.53; Mrθ0.39; Mφθ1.83; Mφr0.22; Fault plane solution: NP1:φs84.00000°, δ88.00000°, λ12.00000°. NP2:φs354.00000°, δ78.00000°, λ178.00000°.*
GII ***12*** *06:50:27.2±0.5, 36°.66N×20°.90E, h10km, confirmed*
ATH ***12*** *06:50:27.7, 37°.14N×20°.54E, h10km, Mw4.8, Moment Tensor Solution. s9 Moment tensor: Mrr-0.40; Mθθ-0.03; Mφφ0.43; Mrθ0.27; Mφθ1.68; Mφr0.30; Fault plane solution: NP1:φs87.00000°, δ83.00000°, λ7.00000°. NP2:φs356.00000°, δ83.00000°, λ173.00000°.*
MED_RC ***12*** *06:50:27.0±0.3, 37°.12N×20°.58E, h17km±1km, MW4.8/53, Moment Tensor Solution.Mantle waves: s53,c70; Duration: 1ŝ1 Moment tensor: Scale 10^16Nm; Mrr0.10±.10; Mθθ-0.60±.08; Mφφ0.50±.07; Mrθ-0.36±.15; Mφθ2.25±.07; Mφr0.20±.15; Best double couple: M0:2.35000×10^16 NP1:φs83.00000°, δ85.00000°, λ-8.00000°. NP2:φs174.00000°, δ82.00000°, λ-175.00000°. Principal axes: T 2.2700, Plg2.0000°, Azm128.0000°; N 0.1700, Plg81.0000°, Azm230.0000°; P -2.4300, Plg9.0000°, Azm38.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
MOS ***12*** *06:50:27.7±1.2, 37°.39N×20°.58E, h17km, mb4.6/20, MS4.1/9 Error ellipse: s-maj=5.8km s-min=3.2km az=78.6*
NEIC ***12*** *06:50:28.7, 37°.35N×20°.57E, h10km*
NEIC ***12*** *06:50:28.2±1.8, 37°.33N±0°.06×20°.59E±0°.07, h10km±1km, mb4.8/74, Mwr4.8/11, Error ellipse: s-maj=10.0km s-min=9.2km az=194.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.20; Mθθ0.08; Mφφ-0.29; Mrθ0.71; Mφθ-1.90; Mφr-0.47; Fault plane solution: M0:2.10000×10^16 NP1:φs179.71000°, δ70.96000°, λ14.32000°. NP2:φs84.95000°, δ76.48000°, λ160.40000°. Principal axes: T 2.1680, Plg23.0000°, Azm41.0000°; N -0.1505, Plg66.0000°, Azm232.0000°; P -2.0175, Plg4.0000°, Azm133.0000°;*
THE ***12*** *06:50:28.1, 37°.17N×20°.57E, h4km, ML4.5/14 Error ellipse: s-maj=1.2km s-min=0.5km az=52.0*
PDG ***12*** *06:50:28.1±0.7, 37°.18N×20°.52E, h15km±2km, ML4.6/13, Error ellipse: s-maj=1.3km s-min=1.3km az=90.0*
MCSM ***12*** *06:50:30.4±0.5, 37°.N±4°×2°.0E±°, h18km±4km, mB4.8, mb4.7, MLv4.8, Mw(mB)4.1*
BEO ***12*** *06:50:31.1±0.5, 37°.40N×20°.46E, h11km±9km, ML4.4/19*
GCMT ***12*** *06:50:32.2±0.3, 37°.26N±0°.02×20°.46E±0°.02, h22km±1km, MW4.9/113, Moment Tensor Solution. s19,c22; s113,c150; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.18±.13; Mθθ-0.17±.11; Mφφ0.35±.10; Mrθ0.79±.18; Mφθ2.74±.10; Mφr0.53±.17; Best double couple: M0:2.89300×10^16 NP1:φs88.00000°, δ83.00000°, λ15.00000°. NP2:φs356.00000°, δ75.00000°, λ173.00000°. Principal axes: T 3.1040, Plg16.0000°, Azm313.0000°; N -0.4230, Plg73.0000°, Azm113.0000°; P -2.6810, Plg5.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-function rate function*
ISC 12 06:50:28.8±0.8,**37°.22N**±0°.02×**20°.62E**±0°.02,**h16**km±5km,
n668,σ1ŝ68/651,**mb4.7**/78,**MS4.2**/68,**42C-19D**,**Ionian**

Code	Sea Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.47**	**20**	P	**Pg**	**06 50 38.1**	**-0.1**
KRI1				S	**Sb**	**06 50 46.0**	**+0.7**
	155μm,0.6s						
LTHK	**Lithakia**	**0.52**	**20**	P	**Pg**	**06 50 38.8**	**-0.3**
LTHK				S	**Sb**	**06 50 47.4**	**+0.7**
	135μm,0.3s						
LTHK	**Lithakia**	**0.52**	**20**	P	**Pg**	**06 50 39.5**	**+0.4**
LTHK				S	**Sb**	**06 50 47.6**	**+0.8**
LTHK				AML	AML	06 50 48.3	
LTHK				AML	AML	06 50 48.4	
RTZL	**Ratzakli, Kefa**	**0.86**	**8**	P	**Pg**	**06 50 45.0**	**-0.6**
RTZL				S	**Sn**	**06 50 58.9**	**+0.4**
	17μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.89**	**358**	P	**Pg**	**06 50 45.8**	**-0.3**
PSDA				S	**Sn**	**06 50 59.8**	**+0.6**
	32μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.89**	**358**	P	**Pg**	**06 50 46.1**	**0.0**
PSDA				S	**Sn**	**06 51 00.3**	**+1.2**
AMT	**Artemida-Makis**	**0.93**	**70**	P	**Pg**	**06 50 46.5**	**-0.3**
AMT				S	**Sn**	**06 51 00.6**	**+0.5**
AMT				AML	AML	06 51 06.6	
AMT				AML	AML	06 51 08.5	
VLS	**Valsamata**	**0.95**	**359**	P	**Pg**	**06 50 46.7**	**-0.6**
VLS				S	**Sn**	**06 51 01.4**	**+0.6**
	14μm,0.4s						
VLS	**Valsamata**	**0.95**	**359**	P	**Pg**	**06 50 46.9**	**-0.4**
VLS				S	**Sb**	**06 51 00.8**	**+1.5**
VLS				AML	AML	06 51 03.1	
	comp=E,29306μm,0.4s						
VLS				AML	AML	06 51 12.0	
	comp=N,41876μm,0.6s						
PYL	**PYLOS**	**0.96**	**110**	P	**Pg**	**06 50 46.1**	**-1.3**
PYL				S	**Sb**	**06 51 00.7**	**+1.3**
	comp=N,19μm,0.8s						
PYL	**PYLOS**	**0.96**	**110**	P	**Pg**	**06 50 46.2**	**-1.2**
PYL				S	**Sg**	**06 50 59.3**	**-0.7**
PYL				AML	AML	06 51 03.9	
	comp=E,30636μm,0.4s						
PYL				AML	AML	06 51 11.0	
	comp=N,41045μm,1.0s						
DMLN	**Damoulianata-K**	**1.03**	**349**	P	**Pg**	**06 50 48.7**	**-0.1**
DMLN				S	**Sn**	**06 51 04.7**	**+2.0**
	comp=N,65μm,0.9s						
DMLN	**Damoulianata-K**	**1.03**	**349**	P	**Pb**	**06 50 49.3**	**+1.1**
DMLN				S	**Sn**	**06 51 03.5**	**+0.8**
ITM	**Ithomi**	**1.05**	**92**	P	**Pg**	**06 50 48.2**	**-0.9**
ITM				S	**Sn**	**06 51 04.3**	**+1.2**
	comp=N,23μm,0.6s						
ITM	**Ithomi**	**1.05**	**92**	P	**Pg**	**06 50 48.3**	**-0.8**
ITM				S	**Sn**	**06 51 04.1**	**+0.9**
ITM				AML	AML	06 51 13.6	
	comp=E,41703μm,0.7s						
ITM				AML	AML	06 51 14.9	
	comp=N,53024μm,0.6s						
RLS	**Riolos of Patr**	**1.07**	**39**	P	**Pg**	**06 50 49.0**	**-0.6**
RLS				S	**Sn**	**06 51 06.6**	**+2.9**
	comp=N,12μm,0.6s						
RLS	**Riolos of Patr**	**1.07**	**39**	P	**Pg**	**06 50 49.0**	**-0.6**
RLS				S	**Sn**	**06 51 05.3**	**+1.6**
RLS				AML	AML	06 51 13.1	
	comp=E,25446μm,0.6s						
RLS				AML	AML	06 51 22.8	
	comp=N,18467μm,0.7s						
DRO	**Drossia**	**1.14**	**50**	P	**Pb**	**06 50 49.6**	**-0.4**
DRO				S	**Sn**	**06 51 08.1**	**+2.8**
	comp=N,32μm,0.6s						
DRO	**Drossia**	**1.14**	**50**	P	**Pb**	**06 50 49.8**	**-0.2**
DRO				S	**Sn**	**06 51 07.2**	**+1.9**
DRO				AML	AML	06 51 13.0	
	comp=N,59400μm,0.7s						
DRO				AML	AML	06 51 16.3	
	comp=E,69629μm,0.5s						
VSK1	**VASILIKIADES**	**1.19**	**358**	P	**Pb**	**06 50 50.6**	**-0.3**
VSK1				S	**Sn**	**06 51 09.4**	**+2.9**
	comp=E,32μm,0.8s						
FSK	**Fiskardo**	**1.23**	**358**	P	**Pn**	**06 50 51.3**	**-0.1**
FSK				S	**Sn**	**06 51 10.5**	**+2.8**
	comp=E,21μm,0.8s						
FSK	**Fiskardo**	**1.23**	**358**	P	**Pn**	**06 50 52.1**	**+0.8**
FSK				S	**Sn**	**06 51 09.9**	**+2.2**
FSK				AML	AML	06 51 17.1	
	comp=E,43438μm,0.7s						
FSK				AML	AML	06 51 18.5	
	comp=N,39676μm,0.9s						
AST1	**Astakos**	**1.37**	**16**	P	**Pn**	**06 50 53.5**	**+0.3**
EVGI	**Lefkada island**	**1.40**	**1**	P	**Pn**	**06 50 54.2**	**+0.6**
EVGI				S	**Sg**	**06 51 14.0**	**+0.1**
	comp=N,14μm,0.8s						
EVGI	**Lefkada island**	**1.40**	**1**	P	**Pn**	**06 50 54.8**	**+1.2**
EVGI				S	**Sg**	**06 51 14.8**	**+0.8**
UPR	**University Cam**	**1.41**	**41**	P	**Pb**	**06 50 55.7**	**+1.0**
DRAG	**Dragano-Lefkad**	**1.46**	**359**	P	**Pn**	**06 50 55.5**	**+1.0**
DRAG	**Dragano-Lefkad**	**1.46**	**359**	P	**Pb**	**06 50 56.0**	**+0.5**
DRAG				S	**Sb**	**06 51 15.3**	**+1.4**
KLV	**Kalavryta, Ach**	**1.47**	**56**	P	**Pn**	**06 50 55.4**	**+0.7**
KLV				S	**Sg**	**06 51 15.7**	**-0.5**
	comp=N,7μm,0.8s						
KLV	**Kalavryta, Ach**	**1.47**	**56**	P	**Pn**	**06 50 55.8**	**+1.1**
NYDR	**Nydri-Lefkada**	**1.49**	**3**	P	**Pn**	**06 50 55.7**	**+0.9**
NYDR	**Nydri-Lefkada**	**1.49**	**3**	P	**Pn**	**06 50 55.8**	**+0.9**
NYDR				S	**Sg**	**06 51 16.7**	**-0.2**
GUR	**Goura**	**1.55**	**62**	P	**Pn**	**06 50 57.0**	**+1.2**
GUR	**Goura**	**1.55**	**62**	P	**Pn**	**06 50 57.2**	**+1.5**
GUR				S	**Sg**	**06 51 19.2**	**+0.5**
LKD2	**Lefkada island**	**1.56**	**1**	P	**Pb**	**06 50 58.3**	**+0.9**
LKD2	**Lefkada island**	**1.56**	**1**	P	**Pb**	**06 50 58.4**	**+1.1**
ALIK	**Aliki, Aigiali**	**1.57**	**48**	P	**Pb**	**06 50 57.9**	**+0.4**
EFP	**Efpalio**	**1.58**	**40**	P	**Pn**	**06 50 57.2**	**+1.1**
EFP	**Efpalio**	**1.58**	**40**	P	**Pn**	**06 50 57.7**	**+1.6**
TSLK	**Tsoukalades, L**	**1.60**	**1**	P	**Pn**	**06 50 57.8**	**+1.4**
TSLK	**Tsoukalades, L**	**1.60**	**1**	P	**Pn**	**06 50 57.9**	**+1.4**
TSLK				S	**Sg**	**06 51 20.8**	**+0.4**
KALE	**Kalithea**	**1.68**	**46**	P	**Pn**	**06 50 59.0**	**+1.5**
KALE	**Kalithea**	**1.68**	**46**	P	**Pb**	**06 51 00.3**	**+1.0**
ANX	**Ano Chora**	**1.71**	**37**	P	**Pn**	**06 50 59.6**	**+1.5**
ANX	**Ano Chora**	**1.71**	**37**	P	**Pb**	**06 51 00.2**	**+0.2**
VLI	**Veliai**	**1.93**	**104**	P	**Pn**	**06 51 02.1**	**+1.2**
VLI	**Veliai**	**1.93**	**104**	P	**Pb**	**06 51 03.2**	**-0.3**
EVR	**Evrytania**	**1.94**	**29**	P	**Pb**	**06 51 05.2**	**+1.4**
EVR	**Evrytania**	**1.94**	**29**	P	**Pb**	**06 51 04.9**	**+1.1**
EVR				S	**Sg**	**06 51 31.6**	**+0.5**
MAKR	**Makrakomi, Fth**	**2.15**	**33**	P	**Pb**	**06 51 07.2**	**-0.2**
MAKR	**Makrakomi, Fth**	**2.15**	**33**	P	**Pb**	**06 51 07.4**	**0.0**
AXAR	**Agios Charalam**	**2.23**	**46**	P	**Pn**	**06 51 07.3**	**+2.2**
AXAR	**Agios Charalam**	**2.23**	**46**	P	**Pb**	**06 51 08.1**	**-0.6**
AGG	**Agios Georgios**	**2.25**	**36**	*e*P	**Pn**	**06 51 07.9**	**+2.5**
AGG	**Agios Georgios**	**2.25**	**36**	Pn	**Pn**	**06 51 02.8**	**-2.5**
AGG	**Agios Georgios**	**2.25**	**36**	P	**Pn**	**06 51 07.8**	**+2.4**
AGG	**Agios Georgios**	**2.25**	**36**	P	**Pn**	**06 51 02.8**	**-2.5**
IGT	**Igoumenitsa**	**2.32**	**355**	P	**Pn**	**06 51 08.2**	**+1.9**
VILL	**Villia**	**2.34**	**65**	P	**Pn**	**06 51 07.6**	**+1.0**
JAN	**Janina**	**2.44**	**4**	P	**Pn**	**06 51 09.9**	**+2.0**
JAN	**Janina**	**2.44**	**4**	P	**Pb**	**06 51 11.3**	**-1.0**
ANKY	**Antikythira Is**	**2.55**	**121**	P	**Pn**	**06 51 10.4**	**+0.9**
ANKY	**Antikythira Is**	**2.55**	**121**	P	**Pn**	**06 51 11.1**	**+1.6**
KEK	**Kerkira**	**2.57**	**346**	P	**Pn**	**06 51 12.7**	**+3.0**
KEK	**Kerkira**	**2.57**	**346**		**Pn**	**06 51 08.0**	**-1.7**
KEK	**Kerkira**	**2.57**	**346**	P	**Pn**	**06 51 11.3**	**+1.6**
THL	**Klokotos Trika**	**2.58**	**25**	P	**Pn**	**06 51 12.0**	**+2.1**
VLY	**Voula,Athens**	**2.60**	**75**	P	**Pn**	**06 51 10.5**	**+0.3**
SRN	**Sarande**	**2.70**	**350**	P	**Pn**	**06 51 12.2**	**+0.7**
PTL	**Penteli**	**2.71**	**71**	P	**Pn**	**06 51 12.8**	**+1.1**
DION	**Dionisos Attik**	**2.77**	**71**	P	**Pn**	**06 51 13.3**	**+0.8**
KPRO	**Kipourio**	**2.79**	**12**	P	**Pn**	**06 51 16.0**	**+3.2**
TYRN	**Tyrnavos**	**2.79**	**27**	P	**Pn**	**06 51 14.5**	**+1.8**
LSK	**Leskovik**	**2.92**	**360**	P	**Pn**	**06 51 16.8**	**+2.1**
NEO	**Neokhori**	**2.92**	**44**	P	**Pn**	**06 51 16.1**	**+1.5**
PENT	**Pentalofos**	**3.00**	**8**	P	**Pn**	**06 51 19.1**	**+3.4**
MHLO	**Agia Marina, M**	**3.08**	**99**	P	**Pn**	**06 51 17.2**	**+0.5**
KYMI	**Kymi, Euboea I**	**3.10**	**62**	P	**Pn**	**06 51 17.7**	**+0.8**
KARY	**Karystos**	**3.14**	**74**	P	**Pn**	**06 51 18.1**	**+0.5**
KNDR	**Palaiochora Ch**	**3.18**	**128**	*e*P	**Pn**	**06 51 20.3**	**+2.2**
NEST	**Nestorio**	**3.21**	**6**	P	**Pn**	**06 51 21.9**	**+3.3**
KZN	**Kozani**	**3.21**	**16**	P	**Pn**	**06 51 21.1**	**+2.5**
AOS	**Alonnisos**	**3.22**	**52**	P	**Pn**	**06 51 19.7**	**+1.0**
LIT	**Litokhoron**	**3.23**	**26**	P	**Pn**	**06 51 20.2**	**+1.4**
IMMV	**Iera Moni Meta**	**3.24**	**122**	*e*P	**Pn**	**06 51 20.3**	**+1.4**
IMMV	**Iera Moni Meta**	**3.24**	**122**	P	**Pn**	**06 51 20.0**	**+1.1**
SCTE	**Santa Cesarea**	**3.31**	**330**		**Pn**	**06 51 18.9**	**-0.9**
FNA	**Florina**	**3.60**	**9**	*i* P	**Pn**	**06 51 25.9**	**+1.9**
FNA	**Florina**	**3.60**	**9**		**Pn**	**06 51 23.9**	**-0.1**
FNA	**Florina**	**3.60**	**9**	P	**Pn**	**06 51 25.5**	**+1.5**
FNA	**Florina**	**3.60**	**9**	*e*Pn	**Pn**	**06 51 25.7**	**+1.7**
FNA				*e*Sn	**Sn**	**06 52 06.7**	**+0.4**
FNA	**Florina**	**3.60**	**9**	P	**Pn**	**06 51 23.9**	**-0.1**
TIP	**Timpagrande**	**3.61**	**304**	Pn	**Pn**	**06 51 25.0**	**+0.9**
TIP	**Timpagrande**	**3.61**	**304**	⇑P	Pn	06 51 19.5	-4.6
TIP	**Timpagrande**	**3.61**	**304**	P	**Pn**	**06 51 23.3**	**-0.8**
PAIG	**Paliouri**	**3.61**	**41**	P	**Pn**	**06 51 24.9**	**+0.8**
GVD	**Gavdhos**	**3.69**	**129**	*e*P	**Pn**	**06 51 29.5**	**+4.4**
CEL	**Celeste**	**3.88**	**287**		**Pn**	**06 51 27.8**	**-0.1**
CEL	**Celeste**	**3.88**	**287**	P	**Pn**	**06 51 27.7**	**-0.1**
OHR	**Ohrid**	**3.89**	**2**	*e*Pn	**Pn**	**06 51 29.5**	**+1.6**
OHR				*e*Sn	**Sn**	**06 52 11.1**	**-2.1**
OHR	**Ohrid**	**3.89**	**2**	*i* Pn	**Pn**	**06 51 30.7**	**+2.8**
HORT	**Hortiatis**	**3.89**	**29**	*e*P	**Pn**	**06 51 28.1**	**+0.2**
HORT	**Hortiatis**	**3.89**	**29**	P	**Pn**	**06 51 29.0**	**+1.1**
APE	**Apeiranthos**	**3.93**	**91**	*e*P	**Pn**	**06 51 28.3**	**-0.2**
APE	**Apeiranthos**	**3.93**	**91**	*e*P	**Pn**	**06 51 32.2**	**+3.7**
APE	**Apeiranthos**	**3.93**	**91**	⇑P	**Pn**	**06 51 30.3**	**+1.8**
APE	**Apeiranthos**	**3.93**	**91**	P	**Pn**	**06 51 30.3**	**+1.8**
THR6	**Thira Island,**	**3.94**	**101**	P	**Pn**	**06 51 29.4**	**+0.9**
IDI	**Anoyia**	**3.96**	**118**	*e*P	**Pn**	**06 51 31.6**	**+2.7**
IDI	**Anoyia**	**3.96**	**118**	Pn	**Pn**	**06 51 27.4**	**-1.5**
IDI	**Anoyia**	**3.96**	**118**	P	**Pn**	**06 51 28.9**	**0.0**
IDI	**Anoyia**	**3.96**	**118**	Pn	**Pn**	**06 51 29.5**	**+0.6**
	comp=N,12nm,0.5s,baz=291,slow=18,SNR=2.2						
IDI				Sn	**Sn**	**06 52 11.5**	**-3.5**
	comp=N,15nm,0.3s,baz=89,slow=22,SNR=4.4						
OUR	**Ouranopolis**	**4.07**	**39**	*e*P	**Pn**	**06 51 28.9**	**-1.4**
TIR	**Tirane**	**4.16**	**352**	Pn	**Pn**	**06 51 32.5**	**+0.9**
TIR	**Tirane**	**4.16**	**352**	*e*Pn	**Pn**	**06 51 33.2**	**+1.6**
TIR				*e*Sn	**Sn**	**06 52 18.0**	**-1.9**
TIR	**Tirane**	**4.16**	**352**	⇓P	**Pn**	**06 51 30.4**	**-1.2**
TIR	**Tirane**	**4.16**	**352**	P	**Pn**	**06 51 30.3**	**-1.2**
TIR	**Tirane**	**4.16**	**352**	P	**Pn**	**06 51 33.5**	**+1.9**
SOH	**Sokhos**	**4.18**	**30**	P	**Pn**	**06 51 33.3**	**+1.4**
KNT	**Kendrikon**	**4.32**	**24**	P	**Pn**	**06 51 35.3**	**+1.6**
KOKK	**Kokkinochori,**	**4.45**	**35**	P	**Pn**	**06 51 36.4**	**+0.8**
SRS	**Serrai**	**4.53**	**30**	P	**Pn**	**06 51 37.5**	**+0.9**
SRS	**Serrai**	**4.53**	**30**	*e*Pn	**Pn**	**06 51 37.9**	**+1.3**
SRS				*e*Sn	**Sn**	**06 52 28.2**	**-0.7**
SIGR	**SIGRI**	**4.58**	**63**	*e*P	Pn	06 51 27.2	-10
MATE	**Matera**	**4.58**	**320**	*e*P	**Pn**	**06 51 37.4**	**0.0**
MATE	**Matera**	**4.58**	**320**	⇑P	**Pn**	**06 51 35.2**	**-2.2**
CUC	**Castrocucco**	**4.67**	**308**	Pn	**Pn**	**06 51 36.1**	**-2.5**
PUK	**Puka**	**4.85**	**354**		**Pn**	**06 51 38.9**	**-2.2**
ULC	**Ulcinj**	**4.85**	**348**	⇑*i*Pn	**Pn**	**06 51 40.9**	**-0.2**
ULC				*i* Sn	**Sn**	**06 52 37.4**	**+0.5**
VAE	**Valguarnera**	**4.95**	**275**	Pn	**Pn**	**06 51 45.7**	**+3.2**
	comp=N,42nm,0.3s,baz=355,slow=18,SNR=20						
VAE				Sn	**Sn**	**06 52 38.6**	**-0.8**
	comp=N,28nm,0.3s,baz=205,slow=16,SNR=6.4						
RAFF	**Raffo Rosso**	**4.99**	**272**	Pn	**Pn**	**06 51 43.0**	**0.0**
ZKR	**Zakros**	**5.00**	**113**	*e*P	**Pn**	**06 51 45.7**	**+2.6**
DRME	**Dracevica, Mon**	**5.08**	**348**	⇑*i*Pn	**Pn**	**06 51 44.8**	**+0.6**
DRME				*i* Sn	**Sn**	**06 52 43.0**	**+0.5**
GADA	**Gvkgeada**	**5.08**	**53**	*e*P	**Pn**	**06 51 44.7**	**+0.4**
WDD	**Wied Dalam**	**5.10**	**258**	Pn	**Pn**	**06 51 44.4**	**-0.1**
EZN	**Ezine**	**5.18**	**58**	P	**Pn**	**06 51 45.7**	**+0.2**
EZN	**Ezine**	**5.18**	**58**	P	**Pn**	**06 51 49.4**	**+3.9**
	comp=N,74nm,0.8s,comp=N,1μmcomp=N,0.4nm						
BUM	**Brajici-Budva**	**5.24**	**346**	⇓*i*Pn	**Pn**	**06 51 46.6**	**+0.1**
BUM				*i* Sn	**Sn**	**06 52 47.3**	**+0.7**
GCAM	**G?zelcaml?**	**5.29**	**83**	*e*P	**Pn**	**06 51 47.9**	**+0.8**
PDG	**Podgorica**	**5.30**	**349**	Pn	**Pn**	**06 51 45.6**	**-1.7**
PDG	**Podgorica**	**5.30**	**349**	*e*Pn	**Pn**	**06 51 48.2**	**+0.9**
PDG				*e*Sn	**Sn**	**06 52 45.4**	**-2.6**
PDG	**Podgorica**	**5.30**	**349**	*e*Pn	**Pn**	**06 51 45.4**	**-1.9**
PDG	**Podgorica**	**5.30**	**349**	⇑P	**Pn**	**06 51 46.5**	**-0.8**
PDG	**Podgorica**	**5.30**	**349**	⇑*i*Pn	**Pn**	**06 51 47.1**	**-0.2**
PDG				*i* Sn	**Sn**	**06 52 48.8**	**+0.8**
BODT	**Bodrum**	**5.35**	**90**	*e*P	**Pn**	**06 51 48.8**	**+0.8**
PVY	**Plav**	**5.39**	**355**	⇓*i*Pn	**Pn**	**06 51 49.8**	**+1.2**
PVY				*i* Sn	**Sn**	**06 52 51.1**	**+0.8**
BOSS	**Bosilegrad**	**5.46**	**15**	*e*Pn	**Pn**	**06 51 50.4**	**+1.0**
BOSS				*e*Sn	**Sn**	**06 52 48.9**	**-3.0**
HCY	**Herceg Novi**	**5.47**	**343**	*e*Pn	**Pn**	**06 51 49.0**	**-0.5**
HCY	**Herceg Novi**	**5.47**	**343**	⇓*i*Pn	**Pn**	**06 51 48.8**	**-0.7**
HCY				*i* Sn	**Sn**	**06 52 50.4**	**-1.7**
CEME	**Cevo**	**5.47**	**347**	⇓*i*Pn	**Pn**	**06 51 49.6**	**-0.1**
CEME				*i* Sn	**Sn**	**06 52 52.6**	**+0.2**
KARP	**Karpathos**	**5.54**	**106**	*e*P	**Pn**	**06 51 52.8**	**+2.2**
KARP	**Karpathos**	**5.54**	**106**		**Pn**	**06 51 51.7**	**+1.2**
KARP	**Karpathos**	**5.54**	**106**	*e*P	**Pn**	**06 51 50.7**	**+0.1**
KARP	**Karpathos**	**5.54**	**106**	P	**Pn**	**06 51 54.5**	**+3.9**
	comp=N,188nm,0.7s,comp=N,2μmcomp=N,1.1nm						
ENEZ	**Enez**	**5.56**	**49**	*e*P	**Pn**	**06 51 51.6**	**+0.8**
GELI	**Tayfur-Gelibol**	**5.57**	**53**	*e*P	**Pn**	**06 51 52.0**	**+1.1**
ALN	**Alexandroupoli**	**5.60**	**47**	*e*P	**Pn**	**06 51 51.6**	**+0.3**
ALN	**Alexandroupoli**	**5.60**	**47**		**Pn**	**06 51 51.1**	**-0.2**
ALN	**Alexandroupoli**	**5.60**	**47**	P	**Pn**	**06 51 51.1**	**-0.2**
DAT	**Datca**	**5.60**	**93**	*e*P	**Pn**	**06 51 52.7**	**+1.3**
BARS	**Barje**	**5.66**	**9**	*e*Pn	**Pn**	**06 51 52.7**	**+0.5**
BARS				*e*Sn	**Sn**	**06 52 53.5**	**-3.4**
IVA	**Berane**	**5.67**	**355**	⇑*i*Pn	**Pn**	**06 51 53.5**	**+1.1**
IVA				*i* Sn	**Sn**	**06 52 57.5**	**+0.3**
NKME	**Niksic**	**5.68**	**348**	⇑*i*Pn	**Pn**	**06 51 53.0**	**+0.5**
NKME				*i* Sn	**Sn**	**06 52 57.6**	**+0.2**
KOME	**Kolasin**	**5.68**	**352**	⇑*i*Pn	**Pn**	**06 51 53.5**	**+0.9**
KOME				*i* Sn	**Sn**	**06 52 58.2**	**+0.7**
LPK	**Lapseki**	**5.74**	**55**	*e*P	**Pn**	**06 51 54.9**	**+1.6**
ERIK	**Erikli-Kesan**	**5.74**	**51**	*e*P	**Pn**	**06 51 55.0**	**+1.7**
VTS	**Vitosha**	**5.75**	**20**	*e*Pn	**Pn**	**06 51 54.8**	**+1.2**
VTS				*e*Sn	**Sn**	**06 52 57.2**	**-2.1**
TREB	**Trebinje**	**5.76**	**343**	*e*Pn	**Pn**	**06 51 52.6**	**-1.0**
TREB				*e*Sn	**Sn**	**06 52 55.0**	**-4.2**
TREB	**Trebinje**	**5.76**	**343**	*e*Pn	**Pn**	**06 51 52.5**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**5.82**	**81**	*e*P	**Pn**	**06 51 56.4**	**+1.6**
BRY	**Bratogost**	**5.89**	**345**	*e*Pn	**Pn**	**06 51 54.4**	**-1.1**
BRY	**Bratogost**	**5.89**	**345**	⇓*i*Pn	**Pn**	**06 51 54.9**	**-0.6**
BRY				*i* Sn	**Sn**	**06 53 00.4**	**-2.3**
SELS	**Selova**	**6.00**	**4**	*e*Pn	**Pn**	**06 51 57.3**	**+0.4**
SELS				*e*Sn	**Sn**	**06 53 00.3**	**-5.0**
PAOL	**Paolisi**	**6.05**	**311**	Pn	**Pn**	**06 51 57.1**	**-0.4**
SJES	**Sjenica**	**6.05**	**356**	*e*Pn	**Pn**	**06 51 58.6**	**+0.9**
SJES				*e*Sn	**Sn**	**06 53 03.3**	**-3.3**
SJES	**Sjenica**	**6.05**	**356**	*e*Pn	**Pn**	**06 51 58.5**	**+0.9**
STON	**Ston**	**6.07**	**339**	*e*Pn	**Pn**	**06 51 57.0**	**-0.8**
STON				*e*Sn	**Sn**	**06 53 01.5**	**-5.3**
STON	**Ston**	**6.07**	**339**	*e*Pn	**Pn**	**06 51 56.5**	**-1.3**
UKOP	**Uzunkopru-Edir**	**6.09**	**48**	*e*P	**Pn**	**06 51 57.9**	**-0.1**
KRBG	**Karabiga-Canak**	**6.10**	**57**	*i* P	**Pn**	**06 51 55.1**	**-3.2**
UPM	**Unac-Piva**	**6.12**	**348**	*e*Pn	**Pn**	**06 51 59.3**	**+0.7**
UPM	**Unac-Piva**	**6.12**	**348**	⇓*i*Pn	**Pn**	**06 51 59.3**	**+0.7**
UPM				*i* Sn	**Sn**	**06 53 08.6**	**+0.3**
PLE	**Pljevlja**	**6.17**	**352**	⇑*i*Pn	**Pn**	**06 52 00.1**	**+0.8**
PLE				*i* Sn	**Sn**	**06 53 09.9**	**+0.3**
ZAPS	**Zavoj**	**6.24**	**14**	*e*Pn	**Pn**	**06 52 01.4**	**+1.2**
IVAS	**Ivanjica**	**6.36**	**357**	*e*Pn	**Pn**	**06 52 01.6**	**-0.2**
RUDO	**Rudo**	**6.46**	**352**	*e*Pn	**Pn**	**06 52 02.1**	**-1.1**
BOVS	**Bovan**	**6.46**	**7**	*e*Pn	**Pn**	**06 52 02.6**	**-0.6**
BOVS	**Bovan**	**6.46**	**7**	⇑P	**Pn**	**06 52 03.6**	**+0.4**
GRUS	**Gruza**	**6.66**	**1**	*e*Pn	**Pn**	**06 52 05.6**	**-0.3**
GRUS				*e*Sn	**Sn**	**06 53 17.0**	**-4.4**
ZAGS	**Zajecar**	**6.70**	**10**	*e*Pn	**Pn**	**06 52 06.0**	**-0.4**
BBLS	**Lazi&#263i**	**6.70**	**352**	*e*Pn	**Pn**	**06 52 06.8**	**+0.3**
BBLS	**Lazi&#263i**	**6.70**	**352**	*e*Pn	**Pn**	**06 52 06.0**	**-0.5**
DIVS	**Divibare**	**6.88**	**356**	*e*Pn	**Pn**	**06 52 08.8**	**-0.3**
DIVS				*e*Sn	**Sn**	**06 53 21.5**	**-5.6**
HAPS	**Han Pijesak,BI**	**6.97**	**350**	*e*Pn	**Pn**	**06 52 10.3**	**0.0**
HAPS				*e*Sn	**Sn**	**06 53 24.9**	**-4.4**
HAPS	**Han Pijesak,BI**	**6.97**	**350**	*e*Pn	**Pn**	**06 52 10.4**	**+0.1**
ELND	**Elena**	**6.98**	**34**	⇓P	**Pn**	**06 52 11.6**	**+1.3**
TRUS	**Trudelj**	**7.00**	**359**	*e*Pn	**Pn**	**06 52 10.1**	**-0.4**
INTR	**Introdacqua**	**7.05**	**315**		**Pn**	**06 52 12.0**	**+0.7**
KUBS	**Kucevo**	**7.23**	**6**	*e*Pn	**Pn**	**06 52 12.3**	**-1.4**
AKAS	**Kas**	**7.29**	**95**	Pn	**Pn**	**06 52 15.4**	**+0.8**
VLAD	**Vladila**	**7.36**	**22**	⇑P	**Pn**	**06 52 16.6**	**+1.2**
TEKS	**Tekeris**	**7.37**	**354**	*e*Pn	**Pn**	**06 52 14.3**	**-1.3**
TEKS	**Tekeris**	**7.37**	**354**	*e*Pn	**Pn**	**06 52 13.5**	**-2.1**
AVAS	**Avala Beograd**	**7.47**	**359**	*e*Pn	**Pn**	**06 52 16.4**	**-0.6**
MDVR	**Moldovita**	**7.60**	**6**	⇑P	**Pn**	**06 52 18.2**	**-0.6**
CAMP	**Campotosto**	**7.67**	**316**		**Pn**	**06 52 17.1**	**-2.8**
HERR	**Herculane**	**7.77**	**10**	⇑P	**Pn**	**06 52 21.4**	**+0.3**
A050A	**Klekovaca**	**7.88**	**338**	*e*Pn	**Pn**	**06 52 24.0**	**+1.2**
FRGS	**Fruska Gora**	**7.95**	**356**	*e*Pn	**Pn**	**06 52 22.2**	**-1.4**
FRGS	**Fruska Gora**	**7.95**	**356**	*e*Pn	**Pn**	**06 52 22.1**	**-1.6**
BLY	**Banja Luka**	**7.95**	**342**	*e*Pn	**Pn**	**06 52 25.0**	**+1.4**
NRCA	**Norcia**	**8.03**	**317**		**Pn**	**06 52 23.9**	**-0.9**
GUMA	**Gualdo di Mace**	**8.07**	**319**		**Pn**	**06 52 25.0**	**-0.2**
BORA	**Eskisehir**	**8.15**	**68**	Pn	**Pn**	**06 52 25.5**	**-1.0**
FDMO	**Fiordimonte**	**8.18**	**318**		**Pn**	**06 52 27.3**	**+0.5**
CESX	**Cesi**	**8.19**	**314**	Pn	**Pn**	**06 52 25.0**	**-1.9**
A051A	**Mrakovica**	**8.27**	**341**	*e*Pn	**Pn**	**06 52 27.1**	**-1.0**
GZR	**Gura Zlata**	**8.32**	**11**	⇑P	**Pn**	**06 52 29.2**	**+0.3**
GZR	**Gura Zlata**	**8.32**	**11**	P	**Pn**	**06 52 29.1**	**+0.3**
BZS	**Buzias**	**8.42**	**5**	*e*Pn	**Pn**	**06 52 28.3**	**-1.8**
BZS	**Buzias**	**8.42**	**5**	⇑P	**Pn**	**06 52 29.5**	**-0.5**
BZS	**Buzias**	**8.42**	**5**	P	**Pn**	**06 52 29.5**	**-0.5**
LOT	**Lotru**	**8.55**	**15**	⇑P	**Pn**	**06 52 32.9**	**+1.0**
SURR	**Surduc**	**8.60**	**7**	⇑P	**Pn**	**06 52 32.1**	**-0.4**
TNR	**Turnu Rosu**	**8.86**	**17**	⇑P	**Pn**	**06 52 35.8**	**-0.3**
TNR	**Turnu Rosu**	**8.86**	**17**	P	**Pn**	**06 52 35.7**	**-0.3**
VOIR		**8.86**	**21**	⇓P	**Pn**	**06 52 37.1**	**+1.0**
VOIR		**8.86**	**21**	P	**Pn**	**06 52 37.1**	**+1.0**
MDUB	**Mudurnu**	**8.87**	**65**	Pn	**Pn**	**06 52 35.4**	**-1.0**
ISR	**Istrita

SNOP Sinop 12.23 62 Pn **Pn 06 53 19.7 -2.5**
MOTA Moosalm 12.31 328 *i* Pn **Pn 06 53 25.4 +1.9**
comp=N,3.9nm,0.6s
VRAC Vranov 12.43 348 Pn **Pn 06 53 24.3 -0.6**
comp=N,0.6nm,0.3s,baz=143,slow=5.2,SNR=2.5
VRAC LR LR 06 59 08.7
comp=N,1µm,18.8s,baz=170,slow=42
comp=N,2.7nm,0.4s
VRAC Vranov 12.43 348 *e*PN **Pn 06 53 23.8 -1.1**
DAVOX Davos/Dischmat 12.44 324 Pn **Pn 06 53 24.9 -0.3**
comp=N,0.3nm,0.3s,baz=124,slow=20,SNR=4.3
DAVOX Sn Sn 06 55 31.4 -12
comp=N,0.5nm,0.3s,baz=338,slow=22,SNR=1.1
DAVOX LR LR 06 59 11.5
comp=N,1µm,19.2s,baz=118,slow=42
comp=N,4.6nm,0.6s
CKRC Cesky Krumlov 12.47 340 *e*PN **Pn 06 53 25.4 -0.1**
CKRC AMS AMS 06 59 00.0
comp=N,2µm,10.1s
CKRC Cesky Krumlov 12.47 340 *e*P **Pn 06 53 25.4 -0.1**
CKRC MLR MLR
comp=Z,2µm,10.1s
TUE Stuetta 12.48 321 Pn 06 53 22.8 -3.0
TUE Stuetta 12.48 321 P **Pn 06 53 26.9 +1.1**
comp=Z,52nm,1.2s
GEC2 GERESS Array S 12.66 339 Pn **Pn 06 53 28.0 -0.2**
GERES GERESS Array B 12.66 339 Pn **Pn 06 53 28.2 0.0**
comp=Z,0.6nm,0.3s,baz=162,slow=9.1,SNR=6.6
GERES Sn Sn 06 55 37.2 -12
comp=Z,0.2nm,0.3s,baz=156,slow=25,SNR=2.5
comp=Z,0.9nm,0.3s
MORC Moravsky Berou 12.74 351 Pn **Pn 06 53 26.1 -3.2**
MORC Moravsky Berou 12.74 351 P **Pn 06 53 26.1 -3.2**
SIM Simferopol' 12.77 49 *e*P **Pn 06 53 31.0 +1.4**
MMC7 Mount Meron ar 12.80 105 P Pn 06 53 24.5 -5.6
DAVA Damuels 12.81 325 *i* Pn **Pn 06 53 30.5 +0.3**
comp=Z,2.9nm,0.4s
MMA0B Mount Meron ar 12.81 105 P Pn 06 53 25.0 -5.3
MMA0B Mount Meron ar 12.81 105 S Sn 06 55 44.4 -8.2
MMAI Mount Meron Ar 12.81 105 Pn **Pn 06 53 27.8 -2.5**
comp=Z,1.5nm,0.3s,baz=305,slow=12,SNR=2.7
MMAI Sn Sn 06 55 42.8 -10
comp=Z,2.5nm,0.3s,baz=297,slow=22,SNR=2.1
MMAI LR LR 07 00 36.7
comp=Z,546nm,19.5s,baz=253,slow=48
comp=Z,2.4nm,0.4s
GEM Giv'at Ha'Em 12.94 104 P **Pn 06 53 31.5 -0.5**
GEM Giv'at Ha'Em 12.94 104 P Pn 06 53 26.8 -5.2
GEM Giv'at Ha'Em 12.94 104 S Sn 06 55 47.4 -8.2
KHC Kasperske Hory 12.95 339 Pn 06 53 29.1 -3.1
KHC Kasperske Hory 12.95 339 *e*PN **Pn 06 53 32.8 +0.7**
KHC *e*SN Sn 06 55 48.1 -7.8
KHC AMS AMS 06 59 20.0
comp=Z,2µm,10.7s
KHC Kasperske Hory 12.95 339 *ce*P **Pn 06 53 31.2 -0.9**
KHC pmax pmax
comp=Z,17nm,1.3s
KHC Kasperske Hory 12.95 339 P **Pn 06 53 32.9 +0.8**
comp=Z,9.8nm,0.4s
NATI Neve Ativ 12.98 103 P Pn 06 53 27.3 -5.2
NATI Neve Ativ 12.98 103 S Sn 06 55 48.6 -7.8
OJC Ojcow 13.01 358 Pn **Pn 06 53 29.9 -2.9**
OJC Ojcow 13.01 358 P **Pn 06 53 29.9 -2.9**
SALP Salfit 13.05 109 P **Pn 06 53 34.3 +0.7**
MMLI Mount Malkishu 13.06 107 P Pn 06 53 28.3 -5.4
MMLI Mount Malkishu 13.06 107 S Sn 06 55 49.4 -9.3
KRLC Kraliky 13.14 349 AMS AMS 07 00 00.0
comp=Z,2µm,12.2s
WET Wettzell 13.18 337 P **Pn 06 53 35.3 +0.2**
HMDT Nahal Hemdat 13.22 108 P **Pn 06 53 35.7 -0.2**
HMDT Nahal Hemdat 13.22 108 P Pn 06 53 30.0 -5.8
HMDT Nahal Hemdat 13.22 108 S Sn 06 55 51.1 -11
QRNJ Al-Qirein 13.23 107 P **Pn 06 53 35.8 0.0**
GAZ Gaziantep 13.24 85 Pn **Pn 06 53 36.1 0.0**
YTIR Yattir 13.33 112 P Pn 06 53 31.5 -5.9
YTIR Yattir 13.33 112 S Sn 06 55 55.3 -10
GOPC GO Pecny, Ondr 13.37 344 AMS AMS 07 00 20.0
comp=Z,1µm,10.0s
DSI Dead Sea 13.43 110 P **Pn 06 53 38.5 -0.1**
DSI Dead Sea 13.43 110 P Pn 06 53 32.3 -6.3
DSI Dead Sea 13.43 110 S Sn 06 55 57.9 -10
SENIN Lac Senin/Sane 13.48 317 Pn **Pn 06 53 38.3 -1.2**
DPC Dobruska-Polom 13.48 348 AMS AMS 07 00 10.0
comp=Z,1µm,12.7s
PRU Pruhonice 13.49 343 AMS AMS 07 00 40.0
comp=Z,1µm,9.6s
MSBI Mazada 13.54 111 P **Pn 06 53 40.4 +0.3**
MSBI Mazada 13.54 111 P Pn 06 53 33.5 -6.6
MSBI Mazada 13.54 111 S Sn 06 55 59.9 -10
LISJ El Lisan 13.66 112 P **Pn 06 53 42.9 +1.1**
LUBAR Lubar, Ukraine 13.70 22 P **Pn 06 53 46.0 +3.8**
KRMI Paran Flat 13.71 117 P Pn 06 53 35.8 -6.8
KRMI Paran Flat 13.71 117 S Sn 06 56 03.4 -11
PRNI Paran 13.78 116 P **Pn 06 53 41.1 -2.4**
PRNI Paran 13.78 116 P Pn 06 53 36.8 -6.7
PRNI Paran 13.78 116 S Sn 06 56 05.9 -10
SLE Schleitheim 13.80 324 P **Pn 06 53 44.7 +1.0**
HRFI Mount Harif 13.98 117 P **Pn 06 53 44.1 -2.1**
HRFI Mount Harif 13.98 117 P Pn 06 53 39.3 -7.0
HRFI Mount Harif 13.98 117 S Sn 06 56 10.1 -11
PVCC Panska Ves 13.99 344 AMS AMS 07 00 20.0
comp=Z,900nm,13.2s
MBRI Mt Berech 14.03 118 P **Pn 06 53 46.1 -0.9**
MBRI Mt Berech 14.03 118 P Pn 06 53 40.3 -6.7
MBRI Mt Berech 14.03 118 S Sn 06 56 11.4 -11
ARPR Arapgir-MALATY 14.07 77 Pn **Pn 06 53 46.5 -1.0**
EIL Elat 14.13 118 Pn **Pn 06 53 47.0 -1.3**
comp=Z,1.6nm,0.3s,baz=330,slow=5.3,SNR=13
EIL Sn Sn 06 56 05.5 -19
comp=Z,0.5nm,0.3s,baz=246,slow=22,SNR=1.7
comp=Z,7.2nm,0.6s
EIL Elat 14.13 118 P **Pn 06 53 45.8 -2.5**
EIL Elat 14.13 118 P Pn 06 53 41.0 -7.3
EIL Elat 14.13 118 S Sn 06 56 13.1 -12
AQBJ Aqaba 14.17 118 P **Pn 06 53 49.7 +0.9**
GRA1 Grafenberg Arr 14.19 334 Pn **Pn 06 53 46.1 -2.9**
GRF Grafenberg Arr 14.19 334 P **Pn 06 53 46.1 -2.9**
GRFO Grafenberg 14.19 334 Pn **Pn 06 53 45.8 -3.2**
GRFO Grafenberg 14.19 334 P **Pn 06 53 45.8 -3.2**
STU Stuttgart 14.23 328 Pn **Pn 06 53 48.3 -1.2**
STU Stuttgart 14.23 328 P **Pn 06 53 48.3 -1.2**
NKC Novy Kostel 14.27 338 AMS AMS 07 00 00.0
comp=Z,2µm,9.9s
BFO Black Forest 14.28 325 Pn **Pn 06 53 48.6 -1.7**
BFO Black Forest 14.28 325 P **Pn 06 53 48.6 -1.7**
ASF Jabal al Asfar 14.31 106 Pn **Pn 06 53 50.4 -0.3**
comp=Z,0.3nm,0.3s,baz=167,slow=0.0,SNR=2.2
ASF Sn **Sn 06 56 25.4 -3.8**
comp=Z,0.4nm,0.3s,baz=317,slow=0.1,SNR=7.7
comp=Z,2.5nm,0.7s
ASF Jabal al Asfar 14.31 106 P **Pn 06 53 49.0 -1.8**
BRG Berggiesshubel 14.46 343 *e*P **P 06 53 59.7 +0.4**
BRG Amp 06 54 02.3
comp=Z,5.1nm,0.9s
BRG Berggiesshubel 14.46 343 *e*P **P 06 53 59.7 +0.4**
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,34nm,1.8s
BRG MLR MLR
comp=N,699nm,11.3s
BRG MLR MLR
comp=Z,1µm,10.2s
BRG MLR MLR
comp=E,1µm,9.6s
MI28 Mi28,Pidlybu 14.60 18 P **Pn 06 53 57.9 +3.3**
comp=E,277nm,0.6s
RNPP9 Sopachiv 14.67 13 P **Pn 06 53 58.5 +3.0**
AK07 Malin Array Si 14.68 22 P **Pn 06 53 59.3 +3.7**
AK13 Malin Array Si 14.69 22 P **Pn 06 53 59.5 +3.7**
AK06 Malin Array Si 14.71 22 P **Pn 06 53 59.4 +3.4**
AK14 Malin Array Si 14.72 22 P **Pn 06 53 59.5 +3.3**
AK05 Malin Array Si 14.74 22 Pn **Pn 06 53 54.4 -2.0**
AK05 Malin Array Si 14.74 22 P **Pn 06 53 59.8 +3.4**
ECH Echery 14.76 322 Pn 06 53 54.6 -2.2
ECH Echery 14.76 322 P **Pn 06 53 54.6 -2.2**
AK01 Malin Array Si 14.80 22 P **Pn 06 53 59.9 +2.6**
KIEV Kiev 14.80 22 Pn **Pn 06 53 54.1 -3.2**
KIEV Kiev 14.80 22 P **Pn 06 53 54.1 -3.2**
KIEV Kiev 14.80 22 P **Pn 06 54 00.1 +2.8**
comp=E,63nm,0.8s
AKASG Malin Array Be 14.82 22 Pn **Pn 06 53 56.6 -0.8**
AKASG Malin Array Be 14.82 22 Pn **Pn 06 53 55.6 -1.8**
comp=E,1.0nm,0.3s,baz=205,slow=9.4,SNR=3.7
AKASG LR LR 07 00 44.0
comp=E,864nm,20.1s,baz=206,slow=42
comp=E,1.0nm,0.5s
AKBB Malin Array Si 14.82 22 Pn 06 53 56.0 -1.5
AKBB Malin Array Si 14.82 22 *ce*P **Pn 06 53 58.4 +0.9**
AKBB pmax pmax
comp=Z,6.0nm,0.3s
AKBB Malin Array Si 14.82 22 P **Pn 06 53 59.0 +1.5**
AK04 Malin Array Si 14.82 22 P **Pn 06 53 59.0 +1.5**
CLL Collm 15.09 341 Pn **Pn 06 53 57.3 -3.8**
CLL Collm 15.09 341 P **Pn 06 53 57.3 -3.8**
CLL Collm 15.09 341 *e*PP **P 06 54 09.0 +2.7**
CLL *i* sPP 06 54 11.5
comp=Z,54nm,1.6s
KOPT Kop Dagi 15.79 74 Pn **Pn 06 54 09.3 -1.3**
SOC Sochi 15.86 60 *e*P **Pn 06 54 08.6 -2.7**
SOC *e* 06 57 03.9
SOC MLR MLR
comp=Z,411nm,15.0s
WLF Walferdange 16.24 325 Pn **Pn 06 54 14.1 -2.0**
WLF Walferdange 16.24 325 P **Pn 06 54 14.1 -2.0**
WLF pmax pmax
comp=Z,57nm,1.8s
WLF Walferdange 16.24 325 *d*P **P 06 54 22.1 +3.0**
comp=Z,21nm,1.2s
SUW Suwalki 16.89 5 Pn 06 54 22.0 -2.2
SUW IAmb IAmb 06 54 29.6
comp=Z,66nm,1.0s
SUW Suwalki 16.89 5 *e*P **P 06 54 26.9 +0.7**
SUW Suwalki 16.89 5 P **Pn 06 54 22.0 -2.2**
SUW pmax pmax
comp=Z,66nm,1.0s
MEM Membach 16.98 327 *d*P **P 06 54 30.4 +3.2**
DOU Dourbes 17.27 323 *d*P P 06 54 39.3 +8.8
SHA1 Shidzhatmaz 17.96 62 *i* P **Pn 06 54 38.4 +0.4**
MNK Minsk 17.99 14 *i* P **Pn 06 54 34.9 -3.1**
comp=E,25nm,0.7s
MNK *i* P **Pn 06 54 34.9 -3.1**
comp=N,11nm,0.6s
MNK *i* P **Pn 06 54 34.9 -3.1**
comp=Z,19nm,0.6s,baz=199
MNK *i* PP **pwP 06 54 45.5 -0.5**
MNK *i* PPP PPP 06 54 53.2
MNK *i* S **Sn 06 57 54.1 -4.1**
MNK *i* SS **S 06 58 09.1 +4.9**
MNK *i* SSS SSS 06 58 21.8
MNK *i* LQ LQ 06 59 52.3
MNK *i* LR LR 07 00 44.2
MNK *i* LRM MLR 07 02 21.7
comp=Z,479nm,16.7s
MNK *i* LRM MLR 07 02 50.4
comp=E,1µm,24.6s
MNK *i* LRM MLR 07 03 03.8
comp=N,2µm,21.4s
MNK Minsk 17.99 14 *i* P **Pn 06 54 34.9 -3.1**
MNK *i* S **Sn 06 57 54.0 -4.1**
MNK pmax pmax
comp=Z,19nm,0.6s
MNK pmax pmax
comp=N,11nm,0.6s
MNK pmax pmax
comp=E,25nm,0.7s
MNK MLR MLR
comp=Z,479nm,17.0s
MNK MLR MLR
comp=E,1µm,25.0s
MNK MLR MLR
comp=N,2µm,21.0s
KIV Kislovodsk 18.03 61 Pn 06 54 38.5 -0.2
KIV Kislovodsk 18.03 61 *e*P **Pn 06 54 38.7 0.0**
KIV *e*S **Sn 06 58 00.8 +1.3**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,148nm,14.0s
KVAR Kislovodsk Arr 18.04 61 P **P 06 54 41.0 +1.8**
comp=Z,6.4nm,0.9s,baz=249,slow=20,SNR=1.5
KBZ Khabaz 18.13 62 P **P 06 54 41.8 +1.8**
comp=Z,7.4nm,0.8s,baz=295,slow=5.9,SNR=12
KBZ LR LR 07 01 48.2
comp=Z,356nm,20.6s,baz=250,slow=38
KBZ Khabaz 18.13 62 *i* P **P 06 54 41.4 +1.4**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
NACGM Naroch 18.18 11 *e*P **Pn 06 54 41.2 +0.9**
comp=Z,39nm,0.9s
PABE Paberze 18.43 6 P 06 54 40.4 -2.8
PABE IAmb IAmb 06 54 45.1
comp=Z,48nm,0.8s
PABE Paberze 18.43 6 *e*P **P 06 54 43.9 +0.6**
GNI Garni 19.05 74 P **P 06 54 48.8 -1.6**
GNI Garni 19.05 74 LR LR 07 02 11.4
comp=Z,528nm,19.7s,baz=285,slow=37
GNI Garni 19.05 74 *i* P **P 06 54 50.7 +0.3**
GNI pmax pmax
comp=Z,13nm,0.8s
VORD Divnogorie 19.13 38 *e*P **Pn 06 54 52.6 +0.8**
VORD pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 19.22 37 *e*P **P 06 54 52.2 +0.2**
VSR pmax pmax
comp=Z,5.0nm,0.9s
ESBB Sonseca Array 19.39 285 P **P 06 54 52.5 -1.5**
ESDC Sonseca Array 19.39 285 P **P 06 54 53.3 -0.7**
ESDC Sonseca Array 19.39 285 P **P 06 54 55.2 +1.2**
comp=Z,0.1nm,0.3s,baz=83,slow=12,SNR=9.5
comp=Z,1.4nm,0.7s
VORR Voronezh 19.54 36 *e*P **P 06 54 54.5 -0.9**
VORR pmax pmax
comp=Z,86nm,0.4s
NAX Nakhchivan 19.64 77 P **P 06 54 55.3 -1.4**
PAB San Pablo 19.69 284 P **P 06 54 56.0 -1.3**
PAB San Pablo 19.69 284 P **P 06 54 56.0 -1.3**
PAB pmax pmax
comp=Z,20nm,1.6s
GANJ Ganja 20.26 72 P **P 06 55 03.3 -0.2**
VRH Novokhopyorsk 20.50 40 *e*P **P 06 55 00.8 -5.0**
VRH pmax pmax
comp=Z,9.0nm,0.4s
OBN Obninsk 20.94 26 P **P 06 55 08.2 -2.4**
comp=Z,17nm,0.4s,baz=8.0,slow=21,SNR=1.5
OBN LR LR 07 03 33.9
comp=Z,567nm,18.4s,baz=212,slow=38
comp=Z,17nm,0.4s
OBN Obninsk 20.94 26 *de*P **P 06 55 10.5 -0.1**
OBN *e* 06 55 30.6
OBN *e*S **S 06 58 59.5 -3.7**
OBN pmax pmax
comp=Z,11nm,0.5s
OBN MLR MLR
comp=Z,615nm,16.0s
SEKA Sheki 20.95 71 P **P 06 55 12.0 +1.1**
MDT Midelt 21.10 265 P **P 06 55 13.4 +0.8**
comp=Z,7.7nm,0.9s,baz=84,slow=12,SNR=8.8
MDT LR LR 07 04 37.5
comp=Z,266nm,20.4s,baz=81,slow=40
comp=Z,7.7nm,0.9s
MAK Makhachkala 21.31 66 *e*P **P 06 55 11.3 -3.4**
MAK *e*S **S 06 59 06.4 -4.3**
MAK pmax pmax
comp=Z,363nm,1.4s
MAK MLR MLR
comp=Z,449nm,16.0s
PBRG Braganca 21.55 291 *e*P **P 06 55 20.6 +3.2**
VSU Vasula 21.63 9 *i* P **P 06 55 17.6 -0.4**
VSU pmax pmax
comp=Z,46nm,0.8s
MVO Moncorvo 21.75 289 *e*P **P 06 55 20.0 +0.5**
MVO A A 06 55 36.4
comp=Z,60nm,1.4s
MOS Moscow 21.80 26 *e*P **P 06 55 19.1 -0.8**
MOS *e* 06 55 40.6
MOS pmax pmax
comp=Z,33nm,0.6s
MOS MLR MLR
comp=Z,700nm,14.0s
PBAR Barrancos 21.88 281 *e*P **P 06 55 23.8 +3.0**
PBAR A A 06 55 31.3
comp=Z,35nm,1.4s
PMRV Marv??o 22.05 284 *e*P **P 06 55 25.1 +2.4**
PCBR Castelo Branco 22.10 285 *e*P **P 06 55 24.0 +0.8**
PCBR A A 06 55 45.5
comp=Z,43nm,1.8s
MTE Manteigas 22.13 287 P **P 06 55 23.3 -0.4**
MTE IAmb IAmb 06 55 24.5
comp=Z,100nm,1.9s
MTE Manteigas 22.13 287 *e*P **P 06 55 23.9 +0.2**
MTE A A 06 55 38.6
comp=Z,51nm,1.6s
PESTR Estremoz 22.24 283 *e*P **P 06 55 27.0 +2.2**
EVO Evora 22.60 282 *e*P **P 06 55 31.0 +2.4**
PMTG Montargil 22.72 284 *e*P **P 06 55 31.6 +1.7**
PMTG A A 06 55 47.7
comp=Z,40nm,1.9s
COI Coimbra 22.80 286 P **P 06 55 28.9 -1.8**
COI Coimbra 22.80 286 P **P 06 55 28.9 -1.8**
COI pmax pmax
comp=Z,136nm,1.6s
HFS Hagfors 23.35 351 P **P 06 55 36.5 +0.3**
comp=Z,8.1nm,0.6s,baz=156,slow=11,SNR=26
HFS LR LR 07 05 02.6
comp=Z,547nm,21.1s,baz=168,slow=38
comp=Z,8.1nm,0.6s
NC602 NORSAR Array S 24.23 349 P **P 06 55 42.2 -2.3**
NC602 IAmb IAmb 06 56 01.4
comp=Z,25nm,1.2s
BELG Belogornoye 24.24 43 LR LR 07 05 54.6
comp=Z,250nm,20.1s,baz=245,slow=38
BELG Belogornoye 24.24 43 *i* P **P 06 55 44.7 0.0**
BELG pmax pmax
comp=Z,3.0nm,0.3s
EKA Eskdalemuir Ar 24.25 326 P **P 06 55 45.6 +0.8**
comp=Z,0.7nm,0.3s,baz=124,slow=12,SNR=10.0
comp=Z,0.7nm,0.3s
NAO01 NORSAR Array S 24.43 348 P **P 06 55 46.5 +0.1**
NAO01 IAmb IAmb 06 55 54.9
comp=Z,23nm,1.0s
FINES FINESS Array B 24.49 6 P **P 06 55 45.6 -1.2**
FINES FINESS Array B 24.49 6 P **P 06 55 46.6 -0.3**
comp=Z,3.9nm,0.5s,baz=175,slow=8.4,SNR=16
FINES LR LR 07 06 37.9
comp=Z,709nm,19.2s,baz=192,slow=40
comp=Z,3.9nm,0.5s
FINES FINESS Array B 24.49 6 *ce*P **P 06 55 46.5 -0.3**
FINES pmax pmax
comp=Z,5.0nm,0.7s
NC405 NORSAR Array S 24.56 350 P **P 06 55 47.1 -0.6**
NC405 IAmb IAmb 06 56 02.7
comp=Z,21nm,1.1s
NB201 NORSAR Array S 24.57 349 P **P 06 55 46.5 -1.1**
NB201 IAmb IAmb 06 55 52.8
comp=Z,85nm,1.8s
NB2 NORSAR Subarra 24.57 349 P **P 06 55 47.9 +0.2**
comp=Z,6.8nm,0.8s,baz=158,slow=9.3
NOA NORSAR Array B 24.57 349 P **P 06 55 47.9 +0.2**
comp=Z,3.1nm,0.7s,baz=158,slow=9.0,SNR=16
NOA LR LR 07 06 21.4
comp=Z,522nm,19.4s,baz=170,slow=39
comp=Z,3.1nm,0.7s
NBO00 NORSAR Array S 24.63 348 P **P 06 55 47.2 -1.0**
NBO00 IAmb IAmb 06 55 56.9
comp=Z,22nm,1.0s
NC303 NORSAR Array S 24.72 349 P **P 06 55 49.6 +0.5**
NC303 IAmb IAmb 06 56 01.7
comp=Z,25nm,1.1s
NC204 NORSAR Array S 24.86 349 P **P 06 55 50.9 +0.5**
NC204 IAmb IAmb 06 56 05.0
comp=Z,20nm,1.1s
RAYN Ar Rayn 25.35 116 P **P 06 55 56.2 +1.1**
RAYN IAmb IAmb 06 55 59.1
comp=Z,20nm,1.3s
RAYN Ar Rayn 25.35 116 P **P 06 55 56.2 +1.1**
RAYN pmax pmax
comp=Z,20nm,1.3s
KLMR Klimovskoe 26.50 21 *e*P **P 06 56 05.1 0.0**
KLMR pmax pmax
comp=Z,28nm,1.4s
KLMR MLR MLR
comp=Z,479nm,9.0s
KIRV Kirov 28.42 32 *ce*P **P 06 56 22.0 -0.3**
TORD Torodi Ar. Bea 29.34 220 P **P 06 56 31.6 +0.7**
TORD Torodi Ar. Bea 29.34 220 P **P 06 56 31.8 +0.9**
comp=Z,2.1nm,0.5s,baz=30,slow=9.7,SNR=21
TORD LR LR 07 09 34.8
comp=Z,353nm,18.6s,baz=29,slow=39
comp=Z,2.1nm,0.5s
AKTO Aktyubinsk 29.70 52 LR LR 07 12 27.4
comp=Z,341nm,18.1s,baz=272,slow=45
ABKAR Akbulak array 30.73 54 P **P 06 56 42.9 0.0**
PMAR Madeira 30.94 273 *e*P **P 06 56 45.0 -0.2**
ARTI Arti 31.62 41 P **P 06 56 50.0 -0.8**
ARTI IAmb IAmb 06 56 53.9
comp=Z,12nm,0.9s
ARTI Arti 31.62 41 LR LR 07 10 28.5
comp=Z,339nm,19.3s,baz=248,slow=38
ARTI Arti 31.62 41 *c i* P **P 06 56 49.8 -0.9**
ARTI **Pn** 06 57 50.9
ARTI S **S 07 02 01.1 +2.2**
ARTI SS **SnSn 07 03 45.0 +0.2**
ARTI pmax pmax
comp=Z,12nm,0.9s
ARTI MLR MLR
comp=Z,464nm,14.0s
ARCES ARCESS Array B 32.48 3 P **P 06 56 57.8 -0.3**
comp=Z,2.4nm,0.8s,baz=192,slow=10,SNR=7.6
ARCES LR LR 07 11 49.6
comp=Z,502nm,18.9s,baz=181,slow=40
comp=Z,2.4nm,0.8s
UOSS Minazif 32.66 102 P **P 06 56 59.5 -0.6**
UOSS IAmb IAmb 06 57 09.2
comp=Z,9.7nm,0.7s
SVE Sverdlovsk 32.94 41 *e*P **P 06 57 02.4 +0.1**
WSAR Wadi Sarin 35.43 102 LR LR 07 14 07.8
comp=Z,232nm,21.2s,baz=349,slow=40
LODK Lodwar 36.26 155 P **P 06 57 31.1 -0.4**
BORG Borgarnes 36.98 332 LR LR 07 15 48.0
comp=Z,179nm,18.4s,baz=118,slow=41
JMIC Jan Mayen 37.10 345 LR LR 07 13 49.5
comp=Z,126nm,19.7s,baz=112,slow=38
BRVK Borovoye 37.62 49 P **P 06 57 42.0 -0.5**
BRVK Borovoye 37.62 49 *ce*P **P 06 57 44.2 +1.6**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BVAR Borovoye Array 37.68 49 P **P 06 57 43.0 -0.1**
comp=Z,1.9nm,0.6s,baz=276,slow=5.6,SNR=7.4
BVAR LR LR 07 15 28.7
comp=Z,228nm,18.1s,baz=259,slow=40
comp=Z,1.9nm,0.6s
SIMJ Simiganj 37.84 73 P **P 06 57 43.7 -1.1**
SIMJ IAmb IAmb 06 58 02.1
comp=Z,12nm,1.1s
KKAR Karatay Array 38.12 65 P **P 06 57 46.8 -0.2**
KKAR Karatay Array 38.12 65 P **P 06 57 47.2 +0.2**
KKAR IAmb IAmb 06 58 26.1
comp=Z,2.1nm,0.8s
KKAR Karatay Array 38.12 65 P **P 06 57 46.8 -0.2**
KKAR 06 57 47.2
KKAR pmax pmax
comp=Z,2.0nm,0.8s
DBIC Dimbokro 38.25 224 P **P 06 57 48.4 +0.2**
DBIC IAmb IAmb 06 58 18.1
comp=Z,21nm,1.3s
DBIC Dimbokro 38.25 224 P **P 06 57 50.0 +1.8**
comp=Z,3.1nm,0.7s,baz=38,slow=9.8,SNR=4.9
DBIC LR LR 07 14 34.9
comp=Z,239nm,18.1s,baz=30,slow=38
comp=Z,3.1nm,0.7s
DBIC Dimbokro 38.25 224 P **P 06 57 48.4 +0.2**
DBIC pmax pmax
comp=Z,21nm,1.3s
GAR Garm 38.76 72 P **P 06 57 52.5 0.0**
GAR IAmb IAmb 06 58 10.4
comp=Z,19nm,1.0s
MBAR Mbarara 38.79 164 LR LR 07 15 14.3
comp=Z,323nm,19.9s,baz=358,slow=38
BTK Batken 38.90 70 P **P 06 57 52.8 -0.8**
BTK Batken 38.90 70 P **P 06 57 52.8 -0.8**
BTK pmax pmax
comp=Z,9.0nm,1.2s
BBTS Babate 39.89 246 LR LR 07 16 25.5
comp=Z,297nm,18.8s,baz=298,slow=39
ARSB Arslanbob 40.24 67 P **P 06 58 05.7 +0.8**
ARSB Arslanbob 40.24 67 P **P 06 58 05.7 +0.8**
ARSB pmax pmax
comp=Z,3.0nm,1.1s
AAK Ala-Archa 41.08 65 LR LR 07 17 18.0
comp=Z,189nm,21.0s,baz=289,slow=39
AAK Ala-Archa 41.08 65 *ce*P **P 06 58 13.2 +1.4**
AAK pmax pmax
comp=Z,6.0nm,1.0s
SPA1 Spitsbergen Ar 41.10 359 P **P 06 58 12.2 +0.8**

KMBO	**Kilima Mbogo**	**41.16**	**154**	P	**P**	**06 58 15.7**	**+3.0**
KMBO				IAmb	IAmb	06 58 49.0	
comp=Z,11nm,1.0s							
KMBO	**Kilima Mbogo**	**41.16**	**154**	P	**P**	**06 58 14.8**	**+2.1**
comp=Z,0.9nm,0.3s,baz=2.1,slow=5.7,SNR=5.2							
KMBO				LR	LR	07 18 37.9	
comp=Z,211nm,18.2s,baz=310,slow=41							
comp=Z,0.9nm,0.3s							
KMBO	**Kilima Mbogo**	**41.16**	**154**	*i* P	**P**	**06 58 13.9**	**+1.2**
KMBO				pmax	pmax		
comp=Z,1.0nm,0.3s							
BOOM	**Boomskoye usch**	**42.16**	**65**	P	**P**	**06 58 21.6**	**+0.9**
BOOM				IAmb	IAmb	06 59 15.1	
comp=Z,20nm,1.3s							
BOOM	**Boomskoye usch**	**42.16**	**65**	P	**P**	**06 58 21.6**	**+0.9**
BOOM				pmax	pmax		
comp=Z,20nm,1.3s							
KIBK	**Kibwezi**	**42.56**	**154**	P	**P**	**06 58 25.6**	**+1.5**
NIL	**Nilore**	**42.58**	**78**	P	**P**	**06 58 25.1**	**+1.0**
NIL				IAmb	IAmb	06 58 39.8	
comp=Z,12nm,0.8s							
NIL	**Nilore**	**42.58**	**78**	P	**P**	**06 58 25.1**	**+1.0**
NIL				pmax	pmax		
comp=Z,12nm,0.9s							
KURBB	**Kurchatov Arra**	**42.74**	**53**	P	**P**	**06 58 24.5**	**-0.6**
comp=Z,2.3nm,0.5s,baz=278,slow=8.7,SNR=34							
KURBB				LR	LR	07 19 10.5	
comp=Z,393nm,19.9s,baz=207,slow=40							
comp=Z,2.3nm,0.5s							
KURK	**Kurchatov**	**42.79**	**53**	P	**P**	**06 58 25.1**	**-0.4**
KURK				IAmb	IAmb	06 59 56.1	
comp=Z,8.1nm,0.2s							
KURK	**Kurchatov**	**42.79**	**53**	*ce*P	**P**	**06 58 26.8**	**+1.4**
KURK				pmax	pmax		
comp=Z,6.0nm,1.3s							
KSH	**Kashi**	**42.88**	**69**	P	**P**	**06 58 25.7**	**-0.8**
KSH				pmax	pmax		
comp=Z,4.0nm,1.2s							
MK31	**Makanchi Array**	**45.74**	**58**	P	**P**	**06 58 49.1**	**-0.1**
MK31	**Makanchi Array**	**45.74**	**58**	P	**P**	**06 58 49.1**	**-0.1**
MK31				pmax	pmax		
comp=Z,3.0nm,0.7s							
MKAR	**Makanchi Array**	**45.74**	**58**	P	**P**	**06 58 48.7**	**-0.5**
MKAR	**Makanchi Array**	**45.74**	**58**	P	**P**	**06 58 48.4**	**-0.8**
comp=Z,2.2nm,0.3s,baz=273,slow=7.9,SNR=41							
MKAR				PcP	**PcP**	**07 00 28.4**	**+1.6**
comp=Z,0.7nm,0.6s,baz=277,slow=5.6,SNR=1.0							
MKAR				LR	LR	07 20 34.9	
comp=Z,286nm,21.2s,baz=268,slow=40							
comp=Z,2.2nm,0.3s							
MKAR	**Makanchi Array**	**45.74**	**58**	*ce*P	**P**	**06 58 48.9**	**-0.3**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.3s							
ZAA0	**Zalesovo Array**	**46.28**	**47**	P	**P**	**06 58 53.4**	**+0.1**
ZAA0				IAmb	IAmb	06 59 28.2	
comp=Z,5.0nm,0.7s							
ZALV	**Zalesovo Beam**	**46.28**	**47**	P	**P**	**06 58 53.0**	**-0.3**
ZALV	**Zalesovo Beam**	**46.28**	**47**	P	**P**	**06 58 52.3**	**-1.0**
comp=Z,3.2nm,0.5s,baz=273,slow=8.9,SNR=14							
ZALV				LR	LR	07 20 51.1	
comp=Z,392nm,18.0s,baz=292,slow=40							
comp=Z,3.2nm,0.5s							
NRIK	**Noril'sk**	**47.62**	**26**	LR	LR	07 19 56.5	
comp=Z,370nm,20.9s,baz=272,slow=37							
NRIK	**Noril'sk**	**47.62**	**26**	*i* P	**P**	**06 59 04.2**	**+0.7**
NRIK				pmax	pmax		
comp=Z,2.0nm,1.0s							
SFJD	**Kangerlussuaq**	**49.10**	**331**	LR	LR	07 20 56.5	
comp=Z,201nm,20.1s,baz=66,slow=37							
WMQ	**Urumqi**	**50.16**	**60**	*e*P	**P**	**06 59 26.2**	**+2.7**
WMQ				LR	LR		
comp=N,470nm,16.9s							
WMQ				LR	LR		
comp=E,520nm,19.7s							
WMQ				LR	LR		
comp=Z,240nm,24.1s							
FRB	**Frobisher Bay**	**57.00**	**328**	LR	LR	07 26 15.9	
comp=Z,235nm,18.2s,baz=96,slow=38							
SCHQ	**Schefferville**	**59.21**	**318**	P	**P**	**07 00 28.3**	**-0.6**
SCHQ	**Schefferville**	**59.21**	**318**	P	**P**	**07 00 28.3**	**-0.6**
comp=Z,3.9nm,0.8s,baz=252,slow=18,SNR=1.4							
SCHQ				LR	LR	07 25 51.9	
comp=Z,101nm,18.2s,baz=314,slow=36							
comp=Z,3.9nm,0.8s							
TIXI	**Tiksi**	**60.52**	**20**	*i* P	**P**	**07 00 38.5**	**+1.0**
TIXI				pmax	pmax		
comp=Z,2.0nm,0.9s							
SHL	**Shillong**	**60.66**	**79**	P	**P**	**07 00 38.2**	**-1.3**
SHL	**Shillong**	**60.66**	**79**	P	**P**	**07 00 38.2**	**-1.3**
SHL				pmax	pmax		
comp=Z,41nm,1.6s							
RES	**Resolute Bay**	**60.70**	**344**	LR	LR	07 27 19.4	
comp=Z,140nm,19.8s,baz=20,slow=36							
SONM	**Songino Array**	**61.01**	**50**	P	**P**	**07 00 42.1**	**+0.7**
comp=Z,0.4nm,0.5s,baz=299,slow=9.5,SNR=2.4							
SONM				LR	LR	07 30 48.9	
comp=Z,293nm,20.0s,baz=298,slow=40							
comp=Z,0.4nm,0.5s							
BRDH	**Bariadhala**	**61.93**	**82**	LR	LR	07 31 17.0	
comp=Z,142nm,18.1s,baz=328,slow=40							
LBTB	**Lobatse**	**62.08**	**175**	LR	LR	07 32 08.1	
comp=Z,211nm,18.8s,baz=359,slow=40							
G65A	**Princeton**	**63.65**	**308**	P	**P**	**07 00 58.4**	**-0.6**
LZH	**Lanzhou**	**64.57**	**63**	*e*P	**P**	**07 01 03.2**	**-2.2**
LZH				pP	pP	07 01 08.7	-1.3
LZH				pmax	pmax		
comp=Z,12nm,1.1s							
LZH				LR	LR		
comp=N,280nm,15.1s							
LZH				LR	LR		
comp=E,280nm,17.2s							
LZH				LR	LR		
comp=Z,210nm,18.9s							
BOSA	**Boshof**	**65.63**	**176**	P	**P**	**07 01 15.0**	**+2.9**
BOSA	**Boshof**	**65.63**	**176**	P	**P**	**07 01 14.7**	**+2.6**
comp=Z,1.5nm,0.6s,baz=5.8,slow=6.0,SNR=4.6							
BOSA				LR	LR	07 32 45.9	
comp=Z,429nm,18.2s,baz=4.5,slow=39							
comp=Z,1.5nm,0.6s							
BOSA	**Boshof**	**65.63**	**176**	P	**P**	**07 01 15.0**	**+2.9**
BOSA				pmax	pmax		
comp=Z,34nm,1.8s							
YAK	**Yakutsk**	**65.90**	**29**	LR	LR	07 31 01.1	
comp=Z,304nm,19.7s,baz=306,slow=37							
YAK	**Yakutsk**	**65.90**	**29**	*i* P	**P**	**07 01 14.1**	**+0.7**
YAK				pmax	pmax		
comp=Z,14nm,0.5s							
CD2	**Chengdu**	**67.06**	**68**	P	**P**	**07 01 21.6**	**+0.2**
CD2				pmax	pmax		
comp=Z,20nm,0.8s							
HHC	**Hu-ho-hao-te**	**67.52**	**55**	*e*P	**P**	**07 01 23.7**	**-0.5**
HHC				pmax	pmax		
comp=Z,8.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,77nm,4.5s							
HHC				LR	LR		
comp=N,170nm,12.8s							
HHC				LR	LR		
comp=E,170nm,15.1s							
HHC				LR	LR		
comp=Z,140nm,12.4s							
PZH	**PanZhiHua**	**67.81**	**73**	P	**P**	**07 01 26.1**	**-0.2**
PZH				pmax	pmax		
comp=Z,90nm,1.0s							
PZH				pmax	pmax		
comp=Z,100nm,5.5s							
RCBR	**Riachuelo**	**67.83**	**244**	LR	LR	07 32 02.1	
comp=Z,88nm,18.4s,baz=58,slow=37							
A36M	**Sachs Harbour**	**68.48**	**349**	P	**P**	**07 01 31.3**	**+1.7**
A36M				IAmb	IAmb	07 02 12.2	
comp=Z,8.9nm,1.1s							
SUR	**Sutherland**	**69.24**	**180**	LR	LR	07 34 07.3	
comp=Z,209nm,18.3s,baz=354,slow=38							
CMAR	**Chiang Mai Arr**	**69.95**	**82**	P	**P**	**07 01 39.1**	**-0.5**
comp=Z,1.5nm,0.3s,baz=301,slow=8.0,SNR=14							
CMAR				LR	LR	07 36 54.2	
comp=Z,56nm,21.1s,baz=285,slow=40							
comp=Z,1.5nm,0.3s							
CMAR	**Chiang Mai Arr**	**69.95**	**82**	*i* P	**P**	**07 01 39.5**	**-0.1**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
C36M	**Paulatuk**	**70.61**	**347**	P	**P**	**07 01 42.3**	**-0.4**
C36M				IAmb	IAmb	07 02 46.8	
comp=Z,12nm,1.4s							
SADO	**Sadowa**	**70.95**	**312**	LR	LR	07 32 55.8	
comp=Z,82nm,18.0s,baz=58,slow=36							
HEH	**HeiHe**	**71.71**	**40**	*e*P	**P**	**07 01 51.8**	**+2.0**
HEH				pmax	pmax		
comp=Z,6.0nm,0.8s							
BILL	**Bilibino**	**71.93**	**13**	*i* P	**P**	**07 01 50.4**	**-0.4**
BILL				pmax	pmax		
comp=Z,3.0nm,1.1s							
INK	**Inuvik**	**73.02**	**350**	P	**P**	**07 01 56.9**	**-0.3**
INK				IAmb	IAmb	07 04 00.0	
comp=Z,15nm,1.9s							
INK	**Inuvik**	**73.02**	**350**	LR	LR	07 36 02.4	
comp=Z,90nm,20.5s,baz=255,slow=38							
INK	**Inuvik**	**73.02**	**350**	P	**P**	**07 01 56.9**	**-0.3**
INK				pmax	pmax		
comp=Z,15nm,1.9s							
C23K	**Itkillik River**	**73.06**	**357**	P	**P**	**07 01 57.5**	**0.0**
B20K	**Meade River**	**73.07**	**359**	P	**P**	**07 01 56.8**	**-0.7**
E29M	**Blow River**	**73.48**	**352**	P	**P**	**07 02 00.7**	**+0.7**
E29M				IAmb	IAmb	07 02 23.3	
comp=Z,18nm,1.4s							
F31M	**Tsiigehtchic**	**73.86**	**350**	P	**P**	**07 02 03.1**	**+0.9**
F31M				IAmb	IAmb	07 02 44.4	
comp=Z,24nm,1.6s							
YKA	**Yellowknife Ar**	**74.31**	**340**	LR	LR	07 36 05.2	
comp=Z,90nm,20.7s,baz=2.0,slow=37							
F28M	**Old Crow**	**74.44**	**352**	P	**P**	**07 02 05.6**	**-0.1**
KLR	**Kul'dur**	**74.56**	**39**	*i* P	**P**	**07 02 07.5**	**+0.8**
KLR				pmax	pmax		
comp=Z,2.0nm,1.0s							
SABA	**Saba**	**74.77**	**281**	P	**P**	**07 02 08.3**	**-0.1**
E22K	**Anaktuvuk Pass**	**74.81**	**357**	P	**P**	**07 02 08.0**	**+0.2**
E22K				IAmb	IAmb	07 02 22.5	
comp=Z,8.0nm,1.2s							
MA2	**Magadan**	**75.14**	**24**	LR	LR	07 40 22.0	
comp=Z,265nm,18.1s,baz=307,slow=40							
EPYK	**Eagle Plains**	**75.27**	**351**	P	**P**	**07 02 10.3**	**-0.2**
H31M	**Peel River**	**75.48**	**350**	P	**P**	**07 02 12.3**	**+0.6**
H29M	**Whitestone**	**75.62**	**351**	P	**P**	**07 02 11.8**	**-0.7**
F21K	**Alatna River**	**75.78**	**358**	P	**P**	**07 02 13.3**	**-0.1**
F21K				IAmb	IAmb	07 04 20.9	
comp=Z,12nm,0.9s							
I30M	**Mount Dempster**	**76.31**	**350**	P	**P**	**07 02 18.2**	**+1.6**
I30M				IAmb	IAmb	07 03 33.4	
comp=Z,29nm,1.9s							
ULM	**Lac du Bonnet**	**76.51**	**324**	LR	LR	07 35 36.4	
comp=Z,125nm,20.0s,baz=61,slow=35							
I28M	**Miner Creek**	**76.54**	**352**	P	**P**	**07 02 17.8**	**0.0**
I28M				IAmb	IAmb	07 03 39.5	
comp=Z,18nm,1.7s							
SJG	**San Juan**	**76.76**	**283**	LR	LR	07 33 22.3	
comp=Z,37nm,19.4s,baz=53,slow=34							
J30M	**Hart River**	**76.92**	**350**	P	**P**	**07 02 21.4**	**+1.3**
J30M				IAmb	IAmb	07 02 38.1	
comp=Z,5.1nm,0.9s							
NJ2	**Nanjing**	**77.23**	**60**	*e*P	**P**	**07 02 22.4**	**+0.2**
NJ2				pmax	pmax		
comp=Z,9.0nm,0.7s							
K29M	**Barlow Dome**	**77.78**	**350**	P	**P**	**07 02 23.5**	**-1.4**
DAWY	**Dawson**	**77.81**	**351**	P	**P**	**07 02 24.6**	**-0.3**
DAWY				IAmb	IAmb	07 03 36.6	
comp=Z,25nm,1.9s							
COLA	**College**	**77.83**	**355**	P	**P**	**07 02 24.4**	**-0.6**
COLA	**College**	**77.83**	**355**	P	**P**	**07 02 24.4**	**-0.6**
COLA				pmax	pmax		
comp=Z,35nm,1.7s							
ILAR	**Eielson Array**	**77.86**	**355**	P	**P**	**07 02 25.8**	**+0.6**
comp=Z,0.3nm,0.9s,baz=348,slow=2.6,SNR=1.9							
comp=Z,0.3nm,0.9s							
USRK	**Ussuriysk Ar.**	**77.92**	**43**	LR	LR	07 40 46.5	
comp=Z,341nm,18.1s,baz=331,slow=39							
BCAR	**Beaver Creek A**	**79.06**	**352**	P	**P**	**07 02 30.7**	**-1.1**
TKL	**Tuckaleechee C**	**79.16**	**307**	LR	LR	07 37 20.7	
comp=Z,70nm,18.9s,baz=26,slow=36							
M29M	**Somme Creek**	**79.25**	**350**	P	**P**	**07 02 32.9**	**-0.1**
M29M				IAmb	IAmb	07 04 24.2	
comp=Z,34nm,1.8s							
KSRS	**Korea Array**	**79.88**	**51**	P	**P**	**07 02 36.6**	**-0.1**
comp=Z,1.4nm,0.6s,baz=313,slow=6.0,SNR=4.1							
KSRS				LR	LR	07 42 06.7	
comp=Z,195nm,18.1s,baz=285,slow=39							
comp=Z,1.4nm,0.6s							
MCARA	**McCarthy VSAT**	**80.84**	**352**	P	**P**	**07 02 41.0**	**-0.5**
CTGM	**Chitina Glacie**	**81.05**	**351**	P	**P**	**07 02 42.9**	**+0.1**
DLBC	**Dease Lake**	**81.58**	**345**	LR	LR	07 41 16.8	
comp=Z,123nm,18.2s,baz=356,slow=37							
PETK	**Petropavlovsk-**	**82.64**	**24**	LR	LR	07 45 24.6	
comp=Z,170nm,18.6s,baz=322,slow=40							
BDFB	**Brasilia**	**83.17**	**245**	LR	LR	07 40 51.6	
comp=Z,265nm,19.2s,baz=29,slow=36							
ASAJ	**Asahikawa**	**83.49**	**38**	LR	LR	07 44 42.4	
comp=Z,157nm,18.5s,baz=358,slow=39							
JNU	**Nakatsue**	**84.52**	**52**	LR	LR	07 45 49.3	
comp=Z,139nm,18.1s,baz=329,slow=39							
KDAK	**Kodiak Island**	**85.18**	**356**	LR	LR	07 44 23.5	
comp=Z,61nm,18.5s,baz=213,slow=38							
MJAR	**Matsushiro Arr**	**86.60**	**46**	LR	LR	07 46 16.5	
comp=Z,147nm,18.1s,baz=328,slow=39							
BBB	**Bella Bella**	**86.87**	**341**	LR	LR	07 45 26.4	
comp=Z,90nm,18.6s,baz=24,slow=38							
JOW	**Kunigami**	**86.90**	**59**	P	**P**	**07 03 12.8**	**-0.2**
NEW	**Newport**	**86.94**	**333**	P	**P**	**07 03 12.9**	**0.0**
NEW				IAmb	IAmb	07 03 45.6	
comp=Z,11nm,1.6s							
NEW	**Newport**	**86.94**	**333**	LR	LR	07 43 24.8	
comp=Z,68nm,19.5s,baz=16,slow=37							
NEW	**Newport**	**86.94**	**333**	P	**P**	**07 03 12.9**	**0.0**
NEW				pmax	pmax		
comp=Z,11nm,1.6s							
SHEM	**Shemya Is, Ala**	**87.49**	**16**	LR	LR	07 46 09.5	
comp=Z,62nm,18.3s,baz=34,slow=38							
PDAR	**Pinedale Array**	**88.38**	**326**	P	**P**	**07 03 21.2**	**+1.0**
comp=Z,0.2nm,0.6s,baz=60,slow=5.3,SNR=2.4							
PDAR				LR	LR	07 45 19.0	
comp=Z,76nm,18.9s,baz=32,slow=37							
comp=Z,0.2nm,0.6s							
JHJ	**Hachijo jima 2**	**89.94**	**47**	LR	LR	07 47 39.1	
comp=Z,109nm,19.5s,baz=332,slow=38							
ANMO	**Albuquerque**	**92.97**	**319**	LR	LR	07 46 00.3	
comp=Z,88nm,19.0s,baz=205,slow=36							
YBH	**Yreka Blue Hor**	**94.57**	**333**	LR	LR	07 47 49.4	
comp=Z,119nm,20.5s,baz=16,slow=36							
TXAR	**Lajitas Array**	**95.68**	**314**	P	**P**	**07 03 54.2**	**+0.1**
comp=Z,0.2nm,0.7s,baz=75,slow=3.8,SNR=1.9							
comp=Z,0.2nm,0.7s							
NVAR	**Mina Array Bea**	**95.72**	**329**	LR	LR	07 48 37.3	
comp=Z,126nm,18.2s,baz=34,slow=36							
LHV	**Little Huntoon**	**95.96**	**329**	P	**P**	**07 03 54.3**	**-0.6**
LHV				IAmb	IAmb	07 03 58.6	
comp=Z,2.9nm,0.8s							
JTS	**Las Juntas de**	**95.97**	**288**	LR	LR	07 42 48.2	
comp=Z,48nm,21.6s,baz=46,slow=33							
CPUP	**Villa Florida**	**96.67**	**242**	LR	LR	07 46 37.9	
comp=Z,168nm,21.9s,baz=52,slow=35							
LPAZ	**La Paz**	**98.69**	**256**	LR	LR	07 50 08.4	
comp=Z,53nm,20.6s,baz=61,slow=36							
PFO	**Pinyon Flats O**	**98.97**	**325**	LR	LR	07 51 41.9	
comp=Z,81nm,18.2s,baz=24,slow=37							
WRA	**Warramunga Arr**	**120.42**	**93**	PKP	**PKPdf**	**07 09 20.5**	**+0.8**
comp=Z,0.6nm,0.9s,baz=291,slow=2.6,SNR=2.6							
ASAR	**Alice Springs**	**121.99**	**97**	PKP	**PKPdf**	**07 09 23.0**	**+0.3**
comp=Z,0.4nm,0.7s,baz=289,slow=2.0,SNR=5.6							
TAOE	**Nuku Hiva Isla**	**146.82**	**323**	*e*LR	LR	07 58 19.2	
comp=Z,75nm,24.5s							
DZM	**Mont Dzumac**	**146.89**	**73**	*e*LR	LR	07 58 32.5	
comp=Z,102nm,25.9s							
PPT2	**Papeete2**	**158.62**	**334**	*e*LR	LR	08 03 51.3	
comp=Z,60nm,22.5s							
TBI	**Tubuai**	**163.75**	**326**	*e*LR	LR	08 06 19.5	
comp=Z,560nm,28.2s							

SDD **12** *07:04:36.0±2.6, 19°.90N×71°.41W, h31km±69km, MD3.5, ML3.5, MW3.7*
OSPL **12** *07:04:38.7±2.0, 19°.69N×71°.34W, h0km±6km, ML3.1*
SSNC **12** *07:04:38.0±1.5, 19°.74N×71°.18W, h20km±17km, MD3.7, ML3.3*

ISC 12 07:04:37.0±0.9, 19°.73N±0°.03×71°.34W±0°.02, h14km±7km, n43, σ1°29/68, 17C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.18**	**47**	*i* P	**Pg**	**07 04 41.4**	**+0.1**
LOPP1				*e*S	**Sg**	**07 04 46.3**	**+2.1**
LOPP1				IAML		07 04 50.2	
comp=Z,6μm,0.6s							
LODA1	**ITESIL, Dajabo**	**0.39**	**242**	*i* P	**Pg**	**07 04 44.0**	**-0.9**
LODA1				*e*S	**Sg**	**07 04 50.3**	**+0.1**
LODA1				IAML		07 04 53.4	
comp=Z,2μm,0.3s							
SC01	**Santiago de lo**	**0.65**	**117**	⇓*e*Pg	**Pg**	**07 04 49.3**	**-0.5**
SC01				⇑*e*Sg	**Sb**	**07 05 00.0**	**+0.8**
SC01				IAML		07 05 03.2	
comp=N,1μm,0.3s							
SC01				IAML		07 05 04.3	
comp=E,918nm,0.2s							
SC01	**Santiago de lo**	**0.65**	**117**	*i* P	**Pg**	**07 04 49.4**	**-0.4**
SC01				*e*S	**Sg**	**07 04 58.9**	**+0.4**
SC01				IAML		07 05 05.6	
comp=Z,769nm,0.3s							
SDDR	**Presa de Saban**	**0.74**	**176**	*e*P	**Pg**	**07 04 50.9**	**-0.7**
SDDR				*e*S	**Sg**	**07 05 00.6**	**-0.8**
SDDR				IAML		07 05 01.1	
comp=Z,1μm,0.3s							
SDDR				IAML		07 05 02.1	
comp=Z,1μm,0.3s							
SDDR	**Presa de Saban**	**0.74**	**176**	*i* P	**Pg**	**07 04 50.9**	**-0.7**
SDDR				*e*S	**Sg**	**07 05 00.7**	**-0.8**
SDDR				IAML		07 05 02.7	
comp=Z,718nm,0.6s							
LONE3	**El Aguacate, B**	**1.12**	**186**	*i* P	**Pg**	**07 04 57.8**	**-1.0**
LONE3				*e*S	**Sg**	**07 05 11.7**	**-1.8**
LONE3				IAML		07 05 16.2	
comp=Z,251nm,0.8s							
ABDR	**Alto Bandera**	**1.14**	**143**	⇑*e*Pg	**Pg**	**07 04 56.8**	**-2.2**
ABDR				IAML		07 05 15.2	
comp=N,529nm,0.6s							
NEDR	**Neiba UASD**	**1.24**	**183**	⇑*e*Pg	**Pg**	**07 04 59.8**	**-1.2**
NEDR				⇑*e*Sg	**Sg**	**07 05 16.6**	**-0.5**
NEDR				IAML		07 05 17.4	
comp=N,328nm,0.3s							
NEDR				IAML		07 05 17.6	
comp=E,353nm,0.3s							
CADR	**Cabrera**	**1.32**	**92**	⇑*e*Pg	**Pg**	**07 05 00.7**	**-1.8**
CADR				⇑*e*Sg	**Sg**	**07 05 18.4**	**-1.3**
CADR				IAML		07 05 19.8	
comp=E,2μm,0.4s							
CADR				IAML		07 05 20.8	
comp=N,2μm,0.5s							
JIDR	**Jimani**	**1.32**	**201**	⇓*e*Pg	**Pn**	**07 05 01.3**	**+0.2**
JIDR				⇑*e*Sg	**Sg**	**07 05 19.2**	**-0.5**
JIDR				IAML		07 05 20.9	
comp=N,576nm,0.5s							
JIDR				IAML		07 05 28.6	
comp=N,494nm,0.4s							
LODU1	**El Espartillar**	**1.38**	**185**	*i* P	**Pn**	**07 05 02.3**	**+0.5**
LODU1				IAML		07 05 21.4	
comp=Z,364nm,0.5s							
LONA1	**Toro Cenizo, N**	**1.44**	**104**	*e*S	**Sg**	**07 05 22.1**	**-1.2**
LONA1				IAML		07 05 25.2	
comp=Z,869nm,0.6s							
NADR	**Nagua**	**1.45**	**105**	⇑*e*Pg	**Pn**	**07 05 02.4**	**-0.5**
NADR				⇑*e*Sg	**Sn**	**07 05 23.3**	**+1.6**
NADR				IAML		07 05 25.9	
comp=E,1μm,0.2s							
NADR				IAML		07 05 27.9	
comp=N,2μm,0.2s							
PAPH	**Port-au-Prince**	**1.50**	**217**	*e*P	**Pn**	**07 05 04.7**	**+1.1**
PAPH				*e*S	**Sn**	**07 05 25.3**	**+2.3**
PAPH				IAML		07 05 31.3	
comp=N,139nm,0.3s							
PAPH				IAML		07 05 34.4	
comp=E,174nm,0.2s							
PAPH	**Port-au-Prince**	**1.50**	**217**	*i* P	**Pn**	**07 05 04.8**	**+1.1**
PAPH				IAML		07 05 32.3	
comp=Z,106nm,0.3s							
PODR	**Polo**	**1.56**	**178**	⇑*e*Pg	**Pn**	**07 05 05.1**	**+0.6**
PODR				⇑*e*Sg	**Sn**	**07 05 26.7**	**+2.1**
PODR				IAML		07 05 32.1	
comp=N,294nm,0.8s							
PODR				IAML		07 05 32.2	
comp=N,259nm,0.8s							
PODR	**Polo**	**1.56**	**178**	*i* P	**Pn**	**07 05 05.1**	**+0.6**
PODR				*e*S	**Sn**	**07 05 26.5**	**+1.9**
PODR				IAML		07 05 29.9	
comp=Z,199nm,0.3s							
BANI	**BANI**	**1.62**	**145**	⇑*e*Pg	**Pn**	**07 05 05.6**	**+0.3**
BANI				IAML		07 05 34.2	
comp=N,756nm,0.2s							
BANI				IAML		07 05 34.5	
comp=E,630nm,0.3s							
GRTK	**Grand Turk**	**1.78**	**6**	*e*P	**Pb**	**07 05 09.4**	**-0.1**
GRTK				*e*S	**Sb**	**07 05 31.3**	**-0.5**
GRTK				IAML		07 05 35.5	
comp=E,834nm,0.3s							
GRTK				IAML		07 05 36.2	
comp=E,560nm,0.2s							
GRTK	**Grand Turk**	**1.78**	**6**	*i* P	**Pb**	**07 05 09.5**	**-0.1**
GRTK				*e*S	**Sb**	**07 05 31.5**	**-0.3**
GRTK				IAML		07 05 35.6	
comp=Z,113nm,0.3s							
SDD	**Santo Domingo**	**1.85**	**133**	⇑*e*Pg	**Pn**	**07 05 09.1**	**+0.7**
SDD				⇓*e*Sg	**Sn**	**07 05 34.1**	**+2.6**
SDD				IAML		07 05 35.0	
comp=N,46nm,0.3s							
SDD				IAML		07 05 35.6	
comp=E,37nm,0.3s							
SDD	**Santo Domingo**	**1.85**	**133**	*i* P	**Pn**	**07 05 09.8**	**+1.5**
SDD				*e*S	**Sn**	**07 05 32.5**	**+0.9**
LOBH	**Bahia de las A**	**1.88**	**189**	*i* P	**Pn**	**07 05 10.3**	**+1.6**
LOBH				IAML		07 05 52.9	
comp=Z,112nm,0.5s							
LOVI	**El Cajuil, Ovi**	**1.92**	**181**	*i* P	**Pn**	**07 05 11.1**	**+1.8**
LOVI				IAML		07 05 51.5	
comp=Z,133nm,1.2s							
HATOM	**Hato Mayor del**	**2.08**	**117**	⇑*e*Pg	**Pn**	**07 05 11.2**	**-0.3**
HATOM				⇓*e*Sg	**Sn**	**07 05 37.7**	**+0.6**
HATOM				IAML		07 05 39.2	
comp=Z,292nm,0.7s							
HATOM				IAML		07 05 39.7	
comp=N,302nm,0.2s							
HIDR	**Higuey Centro**	**2.73**	**114**	⇑*e*Pg	**Pn**	**07 05 21.4**	**+0.9**
HIDR				⇑*e*Sg	**Sn**	**

1.5nm,0.4s
WRA Warramunga Arr 41.64 272 P P 07 21 48.2 -0.3
1.8nm,0.5s,baz=108,slow=8.8,SNR=23
WRA PcP PcP 07 23 32.7 -1.1
1.6nm,1.0s,baz=106,slow=3.4,SNR=9.4
1.8nm,0.5s
FINES FINESS Array B 143.03 339 PKP PKPbc 07 33 18.7 +0.8
1.4nm,0.5s,baz=34,slow=3.1,SNR=7.8
AKASG Malin Array Be 148.75 322 PKPbc PKiKP 07 33 35.4 -0.2
0.5nm,0.5s,baz=68,slow=1.3,SNR=1.8

*THE **12** 08:01:49.0, 37°.61N×20°.48E, h4km±1km, ML3.4/16, Error ellipse: s-maj=1.5km s-min=0.4km az=34.0*
*IDC **12** 08:01:49.6±1.5, 37°.88N×20°.50E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=38.5km s-min=26.8km az=128.0*
*ATH **12** 08:01:50.2, 37°.67N×20°.54E, h15km±1km, ML3.4/9, Error ellipse: s-maj=2.0km s-min=0.8km az=233.0*
ISC 12 08:01:50.2±1.1, 37°.68N±0°.03×20°.56E±0°.04, h11km±6km, n52, σ0s72/83, mb3.8/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.21**	**96**	P	**Pg**	**08 01 54.7**	**0.0**
KRI1				S	**Sg**	**08 01 58.1**	**+0.4**
32μm,0.4s							
LTHK	**Lithakia**	**0.23**	**83**	P	**Pg**	**08 01 54.9**	**0.0**
LTHK				S	**Sg**	**08 01 58.8**	**+0.7**
18μm,0.7s							
LTHK	**Lithakia**	**0.23**	**83**	P	**Pg**	**08 01 54.9**	**0.0**
LTHK				S	**Sg**	**08 01 58.1**	**0.0**
LTHK				AML	AML	08 01 59.2	
comp=E,43545μm,0.3s							
LTHK				AML	AML	08 02 04.3	
comp=N,34655μm,0.7s							
RTZL	**Ratzakli, Kefa**	**0.43**	**24**	P	**Pg**	**08 01 58.8**	**+0.1**
RTZL				S	**Sb**	**08 02 06.8**	**+0.5**
comp=N,4μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.43**	**3**	P	**Pg**	**08 01 58.9**	**+0.2**
PSDA				S	**Sb**	**08 02 06.3**	**0.0**
comp=N,7μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.43**	**3**	P	**Pg**	**08 01 58.9**	**+0.2**
PSDA				S	**Sb**	**08 02 05.9**	**-0.4**
VLS	**Valsamata**	**0.49**	**3**	P	**Pg**	**08 01 59.9**	**0.0**
VLS				S	**Sb**	**08 02 08.1**	**-0.1**
comp=N,6μm,0.4s							
VLS	**Valsamata**	**0.49**	**3**	P	**Pg**	**08 01 59.8**	**-0.1**
VLS				S	**Sb**	**08 02 07.8**	**-0.4**
VLS				AML	AML	08 02 08.8	
comp=E,9668μm,0.3s							
VLS				AML	AML	08 02 12.1	
comp=N,13320μm,0.5s							
LXRA	**Lixouri, Kepha**	**0.52**	**350**	P	**Pg**	**08 02 00.7**	**+0.3**
LXRA				S	**Sb**	**08 02 08.9**	**-0.1**
DMLN	**Damoulianata-K**	**0.57**	**345**	P	**Pg**	**08 02 00.5**	**-0.9**
DMLN				S	**Sb**	**08 02 10.6**	**+0.1**
comp=N,9μm,0.5s							
DMLN	**Damoulianata-K**	**0.57**	**345**	P	**Pg**	**08 02 01.1**	**-0.3**
DMLN				S	**Sb**	**08 02 09.7**	**-0.7**
VSK1	**VASILIKIADES**	**0.72**	**1**	P	**Pg**	**08 02 03.9**	**-0.4**
VSK1				S	**Sb**	**08 02 15.8**	**+1.0**
comp=N,4μm,0.4s							
FSK	**Fiskardo**	**0.77**	**0**	P	**Pg**	**08 02 04.5**	**-0.7**
FSK				S	**Sn**	**08 02 17.3**	**-1.4**
comp=N,3μm,0.5s							
FSK	**Fiskardo**	**0.77**	**0**	P	**Pg**	**08 02 04.9**	**-0.3**
FSK				S	**Sb**	**08 02 16.7**	**+0.5**
FSK				AML	AML	08 02 19.2	
comp=E,7900μm,0.2s							
FSK				AML	AML	08 02 22.7	
comp=N,4363μm,0.4s							
RLS	**Riolos of Patr**	**0.81**	**62**	P	**Pg**	**08 02 05.7**	**-0.2**
RLS				S	**Sn**	**08 02 18.7**	**-0.9**
comp=N,2μm,0.5s							
RLS	**Riolos of Patr**	**0.81**	**62**	P	**Pg**	**08 02 05.7**	**-0.2**
RLS				S	**Sg**	**08 02 16.6**	**0.0**
RLS				AML	AML	08 02 19.6	
comp=N,3954μm,0.5s							
RLS				AML	AML	08 02 22.6	
comp=E,3481μm,0.4s							
AMT	**Artemida-Makis**	**0.93**	**99**	P	**Pg**	**08 02 07.5**	**-0.6**
AMT				S	**Sb**	**08 02 21.2**	**+0.5**
AMT				AML	AML	08 02 28.8	
comp=E,15452μm,0.6s							
AMT				AML	AML	08 02 30.4	
comp=N,9083μm,0.6s							
EVGI	**Lefkada island**	**0.94**	**5**	P	**Pg**	**08 02 07.7**	**-0.6**
EVGI				S	**Sn**	**08 02 22.4**	**-0.4**
comp=N,2μm,0.4s							
EVGI	**Lefkada island**	**0.94**	**5**	P	**Pg**	**08 02 07.5**	**-0.8**
EVGI				S	**Sb**	**08 02 20.9**	**-0.1**
DRO	**Drossia**	**0.95**	**73**	P	**Pg**	**08 02 08.6**	**0.0**
DRO				S	**Sn**	**08 02 23.6**	**+0.4**
comp=N,3μm,0.7s							
DRO	**Drossia**	**0.95**	**73**	P	**Pg**	**08 02 08.5**	**-0.1**
DRO				S	**Sg**	**08 02 20.7**	**-0.3**
DRO				AML	AML	08 02 28.0	
comp=E,5228μm,0.6s							
DRO				AML	AML	08 02 32.6	
comp=N,5020μm,0.6s							
DRAG	**Dragano-Lefkad**	**1.00**	**1**	P	**Pg**	**08 02 08.6**	**-0.8**
DRAG				S	**Sn**	**08 02 24.9**	**+0.6**
DRAG	**Dragano-Lefkad**	**1.00**	**1**	P	**Pg**	**08 02 08.7**	**-0.8**
DRAG				S	**Sn**	**08 02 24.4**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.03**	**6**	P	**Pb**	**08 02 09.2**	**-1.0**
NYDR				S	**Sn**	**08 02 25.6**	**+0.5**
comp=N,1μm,0.8s							
NYDR	**Nydri-Lefkada**	**1.03**	**6**	P	**Pb**	**08 02 09.2**	**-1.0**
LKD2	**Lefkada island**	**1.11**	**4**	P	**Pn**	**08 02 12.0**	**+0.3**
LKD2				S	**Sn**	**08 02 28.8**	**+1.8**
comp=N,1μm,0.4s							
TSLK	**Tsoukalades, L**	**1.14**	**4**	P	**Pb**	**08 02 11.3**	**-0.7**
ITM	**Ithomi**	**1.20**	**114**	P	**Pn**	**08 02 11.9**	**-1.1**
ITM				S	**Sn**	**08 02 30.2**	**+0.9**
comp=N,885nm,0.6s							
ITM	**Ithomi**	**1.20**	**114**	P	**Pn**	**08 02 12.0**	**-1.1**
ITM				S	**Sb**	**08 02 26.8**	**-1.8**
ITM				AML	AML	08 02 38.7	
comp=N,2046μm,0.6s							
ITM				AML	AML	08 02 41.0	
comp=E,1489μm,0.5s							
PYL	**PYLOS**	**1.23**	**129**	P	**Pn**	**08 02 12.2**	**-1.2**
PYL				S	**Sg**	**08 02 30.5**	**+0.6**
comp=E,1μm,0.8s							
PYL	**PYLOS**	**1.23**	**129**	P	**Pn**	**08 02 12.4**	**-0.9**
PYL				S	**Sg**	**08 02 30.0**	**+0.1**
PYL				AML	AML	08 02 35.3	
comp=E,2582μm,0.5s							
PYL				AML	AML	08 02 36.9	
comp=N,1562μm,0.5s							
EFP	**Efpalio**	**1.30**	**55**	P	**Pn**	**08 02 13.9**	**-0.4**
EFP				S	**Sg**	**08 02 34.1**	**+2.0**
comp=N,1μm,0.8s							
EFP	**Efpalio**	**1.30**	**55**	P	**Pn**	**08 02 14.2**	**-0.1**
KLV	**Kalavryta, Ach**	**1.31**	**74**	P	**Pn**	**08 02 13.8**	**-0.8**
KLV	**Kalavryta, Ach**	**1.31**	**74**	P	**Pn**	**08 02 14.3**	**-0.3**
ALIK	**Aliki, Aigiali**	**1.36**	**64**	P	**Pn**	**08 02 15.2**	**+0.1**
ANX	**Ano Chora**	**1.41**	**49**	P	**Pn**	**08 02 15.8**	**-0.2**
ANX				S	**Sn**	**08 02 34.1**	**-0.5**
ANX				AML	AML	08 02 43.1	
comp=N,5230μm,0.6s							
ANX				AML	AML	08 02 49.6	
comp=E,2506μm,0.5s							
GUR	**Goura**	**1.44**	**79**	P	**Pn**	**08 02 16.4**	**+0.1**
GUR	**Goura**	**1.44**	**79**	P	**Pn**	**08 02 16.2**	**-0.1**
IGT	**Igoumenitsa**	**1.85**	**355**	P	**Pb**	**08 02 23.5**	**-0.6**
VLI	**Veliai**	**2.13**	**116**	P	**Pn**	**08 02 26.3**	**+0.5**
VLI	**Veliai**	**2.13**	**116**	P	**Pb**	**08 02 28.8**	**-0.1**
THL	**Klokotos Trika**	**2.20**	**31**	P	**Pb**	**08 02 29.0**	**-1.0**
KPRO	**Kipourio**	**2.35**	**15**	P	**Pb**	**08 02 31.9**	**-0.8**
FINES	**FINESS Array B**	**24.03**	**7**	P	**P**	**08 07 04.1**	**-0.8**
comp=E,1.3nm,0.5s,baz=171,slow=10,SNR=8.9							
comp=E,1.3nm,0.5s							
NOA	**NORSAR Array B**	**24.11**	**349**	P	**P**	**08 07 05.0**	**-0.7**
comp=E,0.2nm,0.3s,baz=163,slow=10,SNR=2.4							
comp=E,0.2nm,0.3s							
TORD	**Torodi Ar. Bea**	**29.66**	**220**	P	**P**	**08 07 58.1**	**+2.1**
comp=E,0.6nm,0.8s,baz=27,slow=9.6,SNR=2.3							
comp=E,0.6nm,0.8s							
ARCES	**ARCESS Array B**	**32.02**	**3**	P	**P**	**08 08 15.8**	**-0.5**
comp=E,1.0nm,0.8s,baz=182,slow=9.9,SNR=1.3							
comp=E,1.0nm,0.8s							
BVAR	**Borovoye Array**	**37.42**	**49**	P	**P**	**08 09 02.6**	**-0.5**
comp=E,0.6nm,0.5s,baz=246,slow=7.2,SNR=3.5							
comp=E,0.6nm,0.5s							
KURBB	**Kurchatov Arra**	**42.50**	**53**	P	**P**	**08 09 45.9**	**+0.5**
comp=E,0.7nm,0.3s,baz=279,slow=8.8,SNR=4.2							
comp=E,0.7nm,0.3s							
MKAR	**Makanchi Array**	**45.54**	**58**	P	**P**	**08 10 10.3**	**+0.5**
comp=E,0.7nm,0.6s,baz=270,slow=7.4,SNR=6.0							
comp=E,0.7nm,0.6s							
ZALV	**Zalesovo Beam**	**46.00**	**48**	P	**P**	**08 10 14.0**	**+0.7**
comp=E,1.2nm,0.5s,baz=281,slow=8.4,SNR=6.5							
comp=E,1.2nm,0.5s							

IDC 12 08:04:51.7±3.0, 53°.96N×86°.52E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=24.5km s-min=14.5km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**270**	I	I	08 12 01.8	
0.1nm,1.2s,baz=90,slow=341,SNR=2.1							
ZALV	**Zalesovo Beam**	**1.01**	**270**	Pg	Pg	08 05 10.5	-0.5
0.5nm,0.3s,baz=85,slow=17,SNR=4.6							
ZALV				Lg	Lg	08 05 24.7	
0.9nm,0.3s,baz=85,slow=36,SNR=3.2							
KURBB	**Kurchatov Arra**	**5.94**	**239**	Pn	Pn	08 06 22.3	+1.5
0.1nm,0.3s,baz=54,slow=13,SNR=3.9							
0.3nm,0.3s							
MKAR	**Makanchi Array**	**7.67**	**202**	Pn	Pn	08 06 45.1	+0.4
0.1nm,0.3s,baz=24,slow=13,SNR=2.7							
0.8nm,0.9s							

*IDC **12** 08:26:56.2±1.1, 2°.83S×119°.74E, h0km, mb3.9/4, mbtmp3.9/5, ML4.2/1, MS3.0/9, Error ellipse: s-maj=57.5km s-min=17.5km az=72.0*
*DJA **12** 08:26:57.9±0.3, 3°.5±2°.×11°.9E±°, h10km, M4.3/12, mb4.4/2, MLv4.2/12*
*NEIC **12** 08:27:02.8±2.3, 3°.08S±0°.03×119°.81E±0°.08, h35km±2km, mb4.0/5, Error ellipse: s-maj=12.9km s-min=5.6km az=91.0*
ISC 12 08:26:59.9±1.0, 2°.85S±0°.05×119°.79E±0°.06, h29km±7km, n35, σ2s14/32, mb4.1/7, MS2.8/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.19**	**171**	P	**Pb**	**08 27 05.2**	**-0.7**
TTSI				S	**Sb**	**08 27 12.0**	**+2.0**
SPSI	**Sidrap Palu**	**1.10**	**181**	P	**Pn**	**08 27 17.2**	**-2.3**
BNSI	**Bone**	**1.57**	**168**	P	**Pb**	**08 27 27.3**	**-1.0**
BNSI				S	**Sb**	**08 27 49.1**	**+1.3**
KAPI	**Kappang**	**2.15**	**181**		**Pn**	**08 27 33.0**	**-0.9**
KAPI	**Kappang**	**2.15**	**181**	Pn	**Pn**	**08 27 33.3**	**-0.5**
78nm,0.3s,baz=356,slow=14,SNR=73							
KAPI				Sn	**Sb**	**08 28 01.6**	**-2.8**
74nm,0.3s,baz=199,slow=20,SNR=15							
KAPI				LR	LR	08 28 39.8	
comp=Z,319nm,19.4s,baz=266,slow=48							
244nm,0.3s							
APSI	**Ampana**	**2.68**	**44**	P	**Pb**	**08 27 45.6**	**-1.6**
MPSI	**Mapaga**	**3.17**	**2**	P	**Pn**	**08 27 48.4**	**+0.5**
BKB	**Balikpapan**	**3.29**	**299**	Pn	**Pb**	**08 27 54.7**	**-3.0**
BSSI	**Bau Bau, Buton**	**3.34**	**168**	P	**Pn**	**08 27 52.4**	**+2.1**
LUWI	**Luwuk**	**3.48**	**59**		**Pb**	**08 27 56.8**	**-4.1**
LUWI	**Luwuk**	**3.48**	**59**	P	**Pb**	**08 27 57.3**	**-3.6**
MRSI	**Marisa**	**3.95**	**33**	P	**Pn**	**08 28 00.0**	**+1.4**
TOLI2	**Tolitoli**	**4.06**	**14**		**Pn**	**08 28 04.4**	**+4.2**
PLAI	**Plampang**	**6.26**	**199**	P	**Pn**	**08 28 28.4**	**-2.1**
25nm,0.9s,0.1nm							
WBSI	**Waikabubak, Su**	**6.75**	**183**	P	**Pn**	**08 28 36.2**	**-1.1**
JAGI	**Jajag, Banyuwa**	**7.91**	**225**	Pn	**Pn**	**08 28 51.8**	**-1.3**
SOEI	**Soe**	**8.17**	**147**	Pn	**Pn**	**08 28 54.6**	**-2.3**
BATI	**Baumata**	**8.26**	**152**	LR	LR	08 32 42.1	
comp=Z,160nm,19.8s,baz=14,slow=42							
DAV	**Davao City (W)**	**11.43**	**30**	LR	LR	08 34 40.7	
comp=Z,28nm,21.0s,baz=28,slow=41							
FITZ	**Fitzroy Crossi**	**16.20**	**160**	LR	LR	08 37 33.6	
comp=Z,52nm,19.4s,baz=322,slow=39							
WB0	**Warramunga Arr**	**22.05**	**141**	P	**P**	**08 31 53.9**	**+1.4**
WRA	**Warramunga Arr**	**22.14**	**141**	P	**P**	**08 31 53.6**	**0.0**
3.0nm,1.0s,baz=321,slow=11,SNR=10.0							
3.0nm,1.0s							
WRAB	**Tennant Creek**	**22.14**	**141**	P	**P**	**08 31 52.0**	**-1.5**
WRAB				IAmb	IAmb	08 31 58.1	
comp=Z,6.2nm,1.1s							
WB2	**Warramunga Arr**	**22.15**	**141**	P	**P**	**08 31 53.0**	**-0.7**
WB2				IAmb	IAmb	08 32 04.2	
comp=Z,8.8nm,1.2s							
WR0	**Warramunga Arr**	**22.28**	**141**	P	**P**	**08 31 54.0**	**-1.1**
WR0				IAmb	IAmb	08 32 02.8	
comp=Z,11nm,1.4s							
ASAR	**Alice Springs**	**24.79**	**148**	P	**P**	**08 32 20.1**	**+0.5**
ASAR	**Alice Springs**	**24.79**	**148**	P	**P**	**08 32 20.8**	**+1.2**
comp=Z,1.5nm,0.9s,baz=336,slow=9.3,SNR=13							
ASAR				PcP	**PcP**	**08 35 57.9**	**+2.0**
comp=Z,0.4nm,0.9s,baz=354,slow=1.9,SNR=4.2							
ASAR				LR	LR	08 41 43.3	
comp=Z,50nm,18.2s,baz=304,slow=36							
comp=Z,1.5nm,0.9s							
CMAR	**Chiang Mai Arr**	**29.49**	**317**	LR	LR	08 46 45.9	
comp=Z,22nm,18.2s,baz=140,slow=40							
JOW	**Kunigami**	**30.63**	**15**	LR	LR	08 44 52.3	
comp=Z,23nm,20.7s,baz=145,slow=35							
STKA	**Stephens Creek**	**35.42**	**147**	LR	LR	08 49 22.0	
comp=Z,39nm,18.8s,baz=23,slow=38							
KSRS	**Korea Array**	**40.81**	**10**	LR	LR	08 52 26.6	
comp=Z,10nm,19.7s,baz=155,slow=38							
SONM	**Songino Array**	**51.82**	**349**	P	**P**	**08 36 05.5**	**0.0**
comp=Z,2.3nm,0.8s,baz=168,slow=8.0,SNR=8.6							
comp=Z,2.3nm,0.8s							
MK31	**Makanchi Array**	**59.44**	**331**	P	**P**	**08 37 02.8**	**+2.7**
MKAR	**Makanchi Array**	**59.44**	**331**	P	**P**	**08 37 03.0**	**+2.9**
MKAR	**Makanchi Array**	**59.44**	**331**	P	**P**	**08 37 00.4**	**+0.3**
comp=Z,1.1nm,0.6s,baz=141,slow=7.8,SNR=7.0							
comp=Z,1.1nm,0.6s							

IDC 12 08:28:39.9±1.1, 19°.99N×121°.73E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=60.7km s-min=21.1km az=71.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.56**	**162**	P	P	08 36 28.9	-0.6
1.0nm,0.4s,baz=342,slow=9.0,SNR=23							
1.0nm,0.4s							
MKAR	**Makanchi Array**	**41.76**	**319**	P	P	08 36 30.9	0.0
0.5nm,0.8s,baz=107,slow=8.8,SNR=2.0							
0.5nm,0.8s							
H11S3	**WAKE ISLAND Hy**	**42.38**	**84**	T	T	09 22 21.1	
baz=280,slow=75,SNR=6.4							
H11S1	**WAKE ISLAND Hy**	**42.39**	**84**	T	T	09 22 22.7	
baz=280,slow=75,SNR=4.6							
H11S2	**WAKE ISLAND Hy**	**42.40**	**84**	T	T	09 22 23.3	
baz=280,slow=75,SNR=5.8							
ZALV	**Zalesovo Beam**	**44.06**	**329**	P	P	08 36 49.0	-0.4
0.4nm,0.3s,baz=116,slow=9.8,SNR=1.3							
0.4nm,0.3s							
ASAR	**Alice Springs**	**44.99**	**164**	P	P	08 36 57.5	+0.3
0.7nm,0.4s,baz=352,slow=6.6,SNR=19							
0.7nm,0.4s							
ILAR	**Eielson Array**	**72.71**	**27**	P	P	08 40 09.6	+0.1
0.2nm,0.6s,baz=266,slow=4.6,SNR=5.8							
0.2nm,0.6s							

IDC 12 08:34:12.6±2.5, 54°.67N×83°.73E, h0km, mbtmp2.8/2, ML2.1/2, Error ellipse: s-maj=20.3km s-min=11.8km az=171.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**138**	I	I	08 40 00.0	
baz=319,slow=345,SNR=0.2							
ZALV	**Zalesovo Beam**	**0.96**	**138**	Pg	Pg	08 34 30.8	-0.2
2.4nm,0.3s,baz=328,slow=18,SNR=12							
ZALV				Lg	Lg	08 34 44.5	
6.3nm,0.3s,baz=320,slow=31,SNR=23							
KURBB	**Kurchatov Arra**	**5.14**	**220**	Pn	Pn	08 35 30.5	-0.3
baz=40,slow=13,SNR=3.5							
KURBB				Lg	Lg	08 36 54.5	
baz=36,slow=32,SNR=2.3							
0.2nm,0.5s							
MKAR	**Makanchi Array**	**7.94**	**187**	Pn	Pn	08 36 10.0	+0.8
baz=8.7,slow=14,SNR=2.4							
1.9nm,1.1s							

IDC 12 08:46:37.9±2.9, 54°.27N×85°.91E, h0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=19.9km s-min=10.6km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.72**	**244**	I	I	08 51 32.9	
baz=63,slow=350,SNR=7.1							
ZALV	**Zalesovo Beam**	**0.72**	**244**	Pg	Pg	08 46 50.2	-1.5
0.3nm,0.3s,baz=61,slow=17,SNR=2.5							
ZALV				Lg	Lg	08 47 02.2	
2.3nm,0.3s,baz=64,slow=30,SNR=9.3							
KURBB	**Kurchatov Arra**	**5.80**	**234**	Pn	Pn	08 48 06.3	+1.1
baz=50,slow=13,SNR=2.5							
0.3nm,0.3s							
MKAR	**Makanchi Array**	**7.83**	**199**	Pn	Pn	08 48 34.1	+1.0
0.1nm,0.3s,baz=22,slow=12,SNR=1.7							
0.2nm,0.3s							

IDC 12 09:01:47.9±2.5, 14°.69S×178°.05W, h396km±26km, mb3.3/3, mbtmp4.1/4, Error ellipse: s-maj=125.4km s-min=26.8km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.82**	**231**	P	Pn	09 03 07.4	-0.6
23nm,0.5s,baz=217,slow=23,SNR=30							
MSVF				S	S	09 04 14.0	+1.1
5.5nm,0.8s,baz=208,slow=23,SNR=1.6							
WRA	**Warramunga Arr**	**45.64**	**256**	P	P	09 09 30.8	-0.4
0.6nm,0.5s,baz=77,slow=6.0,SNR=39							
0.6nm,0.5s							
ASAR	**Alice Springs**	**46.07**	**251**	P	P	09 09 34.5	0.0
5.9nm,0.4s,baz=84,slow=8.5,SNR=175							
ASAR				PcP	PcP	09 11 03.7	+0.4
0.3nm,0.4s,baz=98,slow=3.9,SNR=4.3							
5.9nm,0.4s							
ILAR	**Eielson Array**	**82.69**	**13**	P	P	09 13 28.2	+0.3
0.5nm,0.6s,baz=221,slow=4.9,SNR=6.9							
0.5nm,0.6s							
ARCES	**ARCESS Array B**	**123.22**	**350**	PKP	PKPdf	09 19 56.7	-1.0
3.4nm,1.0s,baz=46,slow=2.6,SNR=4.1							

*IDC **12** 09:03:04.2±10.0, 21°.75N×143°.73E, h239km±86km, mb3.2/6, mbtmp3.8/6, Error ellipse: s-maj=144.5km s-min=18.6km az=78.0*
ISC 12 09:03:05.2±3.0, 21°.7N±0°.3×143°.8E±0°.8, h250km, n6, σ0s43/6, mb3.5/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.80**	**322**	P	**P**	**09 07 27.3**	**-0.3**
1.2nm,0.6s,baz=148,slow=8.6,SNR=6.0							
1.2nm,0.6s							
WRA	**Warramunga Arr**	**42.44**	**193**	P	**P**	**09 10 35.8**	**-0.1**
0.4nm,0.3s,baz=13,slow=8.6,SNR=11							
0.4nm,0.3s							
MKAR	**Makanchi Array**	**55.06**	**313**	P	**P**	**09 12 11.7**	**+0.4**
0.4nm,0.7s,baz=85,slow=10.0,SNR=2.1							
0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**57.86**	**317**	P	**P**	**09 12 31.1**	**+0.2**
0.8nm,0.6s,baz=95,slow=7.6,SNR=3.4							
0.8nm,0.6s							
BVAR	**Borovoye Array**	**62.99**	**319**	P	**P**	**09 13 04.9**	**-0.5**
0.6nm,0.3s,baz=90,slow=7.2,SNR=2.3							
0.6nm,0.3s							
FINES	**FINESS Array B**	**83.37**	**335**	P	**P**	**09 15 04.2**	**+0.1**
0.7nm,0.4s,baz=57,slow=5.1,SNR=6.9							
0.7nm,0.4s							

*EST **12** 09:03:24.7±0.1, 59°.24N×27°.74E, h0km, ML1.4(HEL), Explosion*
*LVSN **12** 09:03:32.3±7.3, 59°.68N×27°.15E, h0km±49km, ML1.6*
HEL 12 09:03:24.1±0.4, 59°.22N×27°.81E, h0km, ML1.4, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	**0.16**	**12**	*e*P	Pg	09 03 27.1	0.0
EE04				*e*S	Sg	09 03 29.4	+0.2
EE03	**Tooma soojaam,**	**0.87**	**247**	*e*P	Pg	09 03 39.4	-1.2
EE03				*e*S	Sg	09 03 50.9	-1.0
VSU	**Vasula**	**0.94**	**217**	AML	AML	09 04 06.8	
comp=Z,9.9nm,0.9s							
VSU				AML	AML	09 04 11.1	
comp=N,18nm,0.4s							
VSU				*e*S	Sn	09 04 11.6	+13
VSU				AML	AML	09 04 13.1	
comp=E,25nm,0.4s							
VSU	**Vasula**	**0.94**	**217**	*e*P	Pg	09 03 41.6	-0.5
ARBE	**Arbavere**	**0.96**	**284**	*e*P	Pg	09 03 40.5	-1.9
ARBE				*e*S	Sg	09 03 53.6	-1.3
ARBE				AML	AML	09 04 02.8	
comp=N,78nm,0.6s							
ARBE				AML	AML	09 04 04.5	
comp=Z,53nm,0.6s							
ARBE				AML	AML	09 04 07.5	
comp=E,65nm,1.1s							
ARBE	**Arbavere**	**0.96**	**284**	*e*P	Pg	09 03 41.5	-1.0
ARBE				*e*S	Sg	09 03 53.3	-1.6
VJF	**Virojoki**	**1.33**	**355**	*e*P	Pg	09 03 47.9	-1.7
VJF				*e*SB	Sg	09 04 05.3	-1.5
VJF				MSG		09 04 10.7	
comp=Z,2.9nm,0.1s							
EE07	**Piusa Caves, O**	**1.39**	**188**	*e*P	Pn	09 03 50.1	-0.6
EE07				*e*PN	Pb	09 03 51.7	+0.8
EE07				*e*S	Sg	09 04 07.8	-1.0
EE08	**Sarghaua, Vand**	**1.45**	**248**	*e*P	Pn	09 03 50.0	-1.5
EE08				*e*S	Sg	09 04 08.3	-2.2
EE02	**Kiisa, Saku**	**1.60**	**270**	*e*PG	Pn	09 03 53.0	-0.6
EE02				*e*S	Sn	09 04 12.7	-2.2
PVF	**Pernaja**	**1.66**	**324**	*e*PG	Pn	09 03 53.8	-0.6
PVF				MSG		09 04 13.6	
comp=Z,1.6nm,0.2s							
PVF				*e*SG	Sn	09 04 14.4	-1.8
HEL1	**Helsinki**	**1.77**	**304**	*e*PN	Pn	09 03 55.8	-0.1
HEL1				*e*S	Sn	09 04 17.0	-2.0
HEL1				MSG		09 04 18.8	
comp=Z,2.2nm,0.1s							
MEF	**Metsahovi**	**2

JAGI	**Jajag, Banyuwa**	**0.75 301**	P	Pn	09 32 57.5	+0.9
JAGI			S	Sn	09 33 08.4	+1.5
SRBI	**Singaraja**	**0.87 28**	P	Pn	09 32 58.2	-0.1
SRBI			S	Sn	09 33 10.0	+0.2
ABJI	**Asem Bagus**	**1.20 332**	P	Pn	09 33 04.4	+1.6
GMJI	**Gumukmas**	**1.46 293**	P	Pn	09 33 07.0	+0.6
BLJI	**Banyuglugur**	**1.63 313**	P	Pn	09 33 08.6	-0.1
BLJI			S	Sn	09 33 28.4	0.0
KMMI	**Kalianget**	**1.98 335**	P	Pn	09 33 15.4	+1.9
PLAI	**Plampang**	**2.94 90**	P	Pn	09 33 26.6	-0.2
PLAI			S	Sn	09 34 02.5	+1.6
PWJI	**Pagerwojo**	**3.08 285**	P	Pn	09 33 28.4	-0.2
PWJI			S	Sn	09 34 05.2	+0.9
PCJI	**Pacitan**	**3.64 280**	P	Pn	09 33 36.8	+0.4
PCJI			S	Sn	09 34 18.3	+0.1
UGM	**Wanagama**	**4.33 282**	P	Pn	09 33 46.1	+0.1
UGM			S	Sn	09 34 36.3	+1.0
CMJI	**Cimerak**	**6.38 279**	P	Pn	09 34 13.6	-0.4
	92nm,1.2s					

NAO ***12*** *09:47:32.0±0.9, 71°.49N×13°.51E, ML4.5*
IDC ***12*** *09:47:33.2±0.4, 71°.48N×13°.32E, h0km, mb4.1/24, mbtmp4.3/33, ML4.4/10, MS3.3/28, Error ellipse: s-maj=9.9km s-min=7.2km az=84.0*
NEIC ***12*** *09:47:34.5±1.5, 71°.46N±0°.07×13°.6E±0°.2, h10km±1km, mb4.6/65, Error ellipse: s-maj=12.2km s-min=10.5km az=224.0*
BER ***12*** *09:47:36.2±3.5, 71°.54N×13°.60E, h18km±14km, ML3.6, ML4.5(NAO), Confirmed Earthquake*
DNK ***12*** *09:47:38.6±4.0, 71°.12N×13°.90E, h15km*
KOLA ***12*** *09:47:39.4, 71°.89N×15°.85E, h0km, ML2.4, Error ellipse: s-maj=207.9km s-min=50.0km az=80.0, Norwegian sea*
UPP ***12*** *09:47:39.1±2.6, 71°.26N×14°.44E, h0km, ML3.9*
FCIAR ***12*** *09:47:40.0, 71°.81N×14°.44E, h10km, station SVZ has station magnitude of 4.49*

ISC 12 09:47:34.2±0.3, 71°.53N±0°.03×13°.47E±0°.04, h10km, n353, σ2s65/396, mb4.4/90, MS3.2/23, 8D, Norwegian Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRO	**Tromso**	**2.64 134**	Pn	**Pn**	**09 48 15.7**	**-1.0**
TRO			Sn	**Sn**	**09 48 44.5**	**-4.2**
TRO	**Tromso**	**2.64 134**	⇓*i*P	**Pn**	**09 48 15.8**	**-1.0**
TRO			*e*S	**Sn**	**09 48 44.5**	**-4.2**
TRO			IAML		09 48 48.0	
	comp=Z,1μm,0.4s					
JETT	**Jettan, Norway**	**3.05 127**	Pn	**Pn**	**09 48 21.9**	**-0.6**
JETT			Sn	**Sn**	**09 48 56.0**	**-3.0**
JETT	**Jettan, Norway**	**3.05 127**	Pn	**Pn**	**09 48 21.9**	**-0.6**
JETT			Sn	**Sn**	**09 48 56.0**	**-3.0**
JETT			IAML		09 48 58.8	
	comp=Z,1μm,0.4s					
BJO1	**Bjornoya**	**3.40 26**	Pn	**Pn**	**09 48 26.1**	**-1.0**
BJO1			Sn	**Sn**	**09 49 01.9**	**-5.6**
BJO1	**Bjornoya**	**3.40 26**	*e*P	**Pn**	**09 48 26.2**	**-0.9**
BJO1			*e*S	**Sn**	**09 49 02.0**	**-5.4**
BJO1			IAML		09 49 03.5	
	comp=Z,135nm,0.3s					
BJO1	**Bjornoya**	**3.40 26**	*e*P	**Pn**	**09 48 26.0**	**-1.2**
BJO1			*e*S	**Sn**	**09 49 01.4**	**-6.0**
LOF	**Lofoten**	**3.42 180**	Pn	**Pn**	**09 48 25.2**	**-2.3**
LOF			Sn	**Sn**	**09 49 02.3**	**-5.7**
LOF	**Lofoten**	**3.42 180**	*e*P	**Pn**	**09 48 25.1**	**-2.3**
LOF			*e*S	**Sn**	**09 49 02.2**	**-5.7**
LOF			IAML		09 49 06.2	
	comp=Z,531nm,0.4s					
HAMF	**Hammerfest**	**3.44 100**	Pn	**Pn**	**09 48 26.3**	**-1.5**
HAMF			Sn	**Sn**	**09 49 03.6**	**-4.9**
HAMF	**Hammerfest**	**3.44 100**	*e*P	**Pn**	**09 48 26.2**	**-1.5**
HAMF			*e*S	**Sn**	**09 49 03.2**	**-5.3**
HAMF			IAML		09 49 05.0	
	comp=Z,573nm,0.4s					
KIF	**Kilpisjarvi**	**3.55 132**	Pn	**Pn**	**09 48 28.6**	**-0.6**
KIF			Sn	**Sn**	**09 49 07.9**	**-3.3**
KIF	**Kilpisjarvi**	**3.55 132**	⇓*i*P	**Pn**	**09 48 28.9**	**-0.3**
KIF			*e*S	**Sn**	**09 49 07.6**	**-3.6**
STEI	**Steigen**	**3.67 170**	*e*P	**Pn**	**09 48 29.7**	**-1.2**
STEI			*e*S	**Sn**	**09 49 09.8**	**-4.3**
STEI			IAML		09 49 11.5	
	comp=Z,446nm,0.3s					
KOVU	**Salmi**	**4.05 142**	P	**Pn**	**09 48 36.2**	**+0.1**
KOVU			S	**Sn**	**09 49 20.3**	**-3.2**
KOVU	**Salmi**	**4.05 142**	P	**Pn**	**09 48 36.2**	**+0.1**
KOVU			S	**Sn**	**09 49 20.3**	**-3.2**
KTK1	**Kautokeino**	**4.16 123**	*e*P	**Pn**	**09 48 38.2**	**+0.5**
KTK1			*e*S	**Sn**	**09 49 23.3**	**-3.1**
KTK1			IAML		09 49 26.0	
	comp=Z,317nm,0.3s					
FAUS	**Fauske**	**4.22 170**	*e*P	**Pn**	**09 48 37.6**	**-0.9**
FAUS			*e*S	**Sn**	**09 49 23.3**	**-4.3**
FAUS			IAML		09 49 27.1	
	comp=Z,489nm,0.3s					
KUA	**Kurravaara**	**4.31 143**	P	**Pn**	**09 48 39.6**	**-0.1**
KUA			S	**Sn**	**09 49 25.6**	**-4.4**
KUA	**Kurravaara**	**4.31 143**	P	**Pn**	**09 48 39.6**	**-0.1**
KUA			S	**Sn**	**09 49 25.6**	**-4.4**
ARA0	**ARCESS Array S**	**4.50 111**	Pn	**Pn**	**09 48 41.8**	**-0.5**
	baz=309,slow=12					
ARA0			Sn	**Sn**	**09 49 29.8**	**-4.7**
	baz=297,slow=22					
ARA0	**ARCESS Array S**	**4.50 111**	Pn	**Pn**	**09 48 41.8**	**-0.5**
	baz=309,slow=12					
ARA0			Sn	**Sn**	**09 49 29.8**	**-4.7**
	baz=297,slow=22					
ARA0			IAML		09 49 33.1	
	comp=Z,172nm,0.4s					
ARCES	**ARCESS Array B**	**4.50 111**	Pn	**Pn**	**09 48 41.8**	**-0.4**
ARCES	**ARCESS Array B**	**4.50 111**	Pn	**Pn**	**09 48 42.0**	**-0.3**
	comp=Z,57nm,0.3s,baz=309,slow=12,SNR=2380					
ARCES			Sn	**Sn**	**09 49 29.5**	**-5.0**
	comp=Z,53nm,0.3s,baz=308,slow=18,SNR=11					
	comp=Z,136nm,0.2s					
LANU	**Lannavaara**	**4.58 136**	P	**Pn**	**09 48 43.2**	**-0.2**
LANU			S	**Sn**	**09 49 32.2**	**-4.3**
LANU	**Lannavaara**	**4.58 136**	P	**Pn**	**09 48 43.2**	**-0.2**
LANU			S	**Sn**	**09 49 32.2**	**-4.3**
HEF	**Hetta**	**4.70 127**	Pn	**Pn**	**09 48 45.0**	**-0.1**
HEF			Sn	**Sn**	**09 49 35.2**	**-4.3**
HEF	**Hetta**	**4.70 127**	*e*P	**Pn**	**09 48 44.9**	**-0.1**
HEF			*e*S	**Sn**	**09 49 35.3**	**-4.3**
KEV	**Kevo**	**4.84 105**	Pn	**Pn**	**09 48 46.3**	**-0.7**
KEV			Sn	**Sn**	**09 49 38.0**	**-4.9**
KEV	**Kevo**	**4.84 105**	Pn	**Pn**	**09 48 46.1**	**-0.9**
KEV			Sn	**Sn**	**09 49 39.2**	**-3.7**
KEV	**Kevo**	**4.84 105**	*e*P	**Pn**	**09 48 46.2**	**-0.7**
KEV			*e*S	**Sn**	**09 49 38.3**	**-4.7**
KONS	**Konsvik**	**5.06 182**	Pn	**Pn**	**09 48 48.3**	**-1.6**
KONS			Sn	**Sn**	**09 49 42.7**	**-5.6**
KONS	**Konsvik**	**5.06 182**	*e*P	**Pn**	**09 48 48.5**	**-1.4**
KONS			*e*S	**Sn**	**09 49 42.6**	**-5.7**
KONS			IAML		09 49 43.9	
	comp=E,330nm,0.5s					
MASU	**Masugnsbyn**	**5.07 140**	P	**Pn**	**09 48 50.3**	**+0.1**
MASU	**Masugnsbyn**	**5.07 140**	P	**Pn**	**09 48 50.3**	**+0.1**
DUNU	**Dundret**	**5.09 147**	P	**Pn**	**09 48 50.5**	**+0.1**
DUNU	**Dundret**	**5.09 147**	P	**Pn**	**09 48 50.5**	**+0.1**
STOK	**Stokkvaagen**	**5.23 182**	Pn	**Pn**	**09 48 50.9**	**-1.4**
STOK			Sn	**Sn**	**09 49 46.9**	**-5.6**
STOK	**Stokkvaagen**	**5.23 182**	*e*P	**Pn**	**09 48 51.0**	**-1.2**
STOK			*e*S	**Sn**	**09 49 46.5**	**-6.0**
STOK			IAML		09 49 51.3	
	comp=Z,175nm,0.4s					
MOR8	**Moi Rana**	**5.40 176**	*e*P	**Pn**	**09 48 52.8**	**-1.8**
MOR8			*e*S	**Sn**	**09 49 49.9**	**-6.9**
MOR8			IAML		09 49 55.2	
	comp=Z,211nm,0.3s					
VADS	**Vadso**	**5.42 98**	*e*P	**Pn**	**09 48 54.3**	**-0.6**
VADS			*e*S	**Sn**	**09 49 51.8**	**-5.4**
VADS			IAML		09 49 55.5	
	comp=Z,425nm,0.5s					
HSPB	**Hornsund (broa**	**5.53 5**	Pn	**Pn**	**09 48 54.6**	**-1.8**
HSPB			Sn	**Sn**	**09 49 52.2**	**-7.7**
HSPB	**Hornsund (broa**	**5.53 5**	P	**Pn**	**09 48 54.8**	**-1.6**
HSPB			S	**Sn**	**09 49 53.3**	**-6.6**
HSPB	**Hornsund (broa**	**5.53 5**	*e*P	**Pn**	**09 48 55.0**	**-1.4**
HSPB			*e*S	**Sn**	**09 49 52.2**	**-7.7**
HSPB			IAML		09 49 55.6	
	comp=Z,17nm,0.4s					
HOPEN	**Hopen**	**5.92 27**	Pn	**Pn**	**09 49 00.9**	**-0.8**
HOPEN			Sn	**Sn**	**09 50 02.0**	**-7.4**
HOPEN	**Hopen**	**5.92 27**	*e*P	**Pn**	**09 49 01.4**	**-0.3**
HOPEN			*i*		09 49 06.0	
HOPEN			*e*S	**Sn**	**09 50 01.9**	**-7.5**
HOPEN			IAML		09 50 05.6	
	comp=Z,62nm,0.3s					
HOPEN	**Hopen**	**5.92 27**	*e*P	**Pn**	**09 49 00.6**	**-1.1**
HOPEN			*e*S	**Sn**	**09 50 01.0**	**-8.5**
HARU	**Harads**	**6.03 150**	P	**Pn**	**09 49 02.7**	**-0.6**
HARU	**Harads**	**6.03 150**	P	**Pn**	**09 49 02.7**	**-0.6**
BRBB	**Barentsburg B**	**6.60 1**	Pn	**Pn**	**09 49 11.0**	**-0.2**
BRBB			Sn	**Sn**	**09 50 21.4**	**-4.9**
BRBB	**Barentsburg B**	**6.60 1**	P	**Pn**	**09 49 12.5**	**+1.4**
BRBB			S	**Sn**	**09 50 20.0**	**-6.3**
BRBB	**Barentsburg B**	**6.60 1**	*e*P	**Pn**	**09 49 10.8**	**-0.4**
BRBB			*e*S	**Sn**	**09 50 20.8**	**-5.5**
LILU	**Lilltraesk**	**6.70 156**	P	**Pn**	**09 49 11.8**	**-0.7**
LILU			S	**Sn**	**09 50 21.9**	**-6.7**
LILU	**Lilltraesk**	**6.70 156**	P	**Pn**	**09 49 11.8**	**-0.7**
LILU			S	**Sn**	**09 50 21.9**	**-6.7**
SPB2	**Spitsbergen Ar**	**6.72 5**		**Pn**	**09 49 12.8**	**0.0**
SPA0	**Spitsbergen Ar**	**6.73 5**	Pn	**Pn**	**09 49 12.1**	**-0.8**
	baz=180,slow=16					
SPA0			Sn	**Sn**	**09 50 23.2**	**-6.2**
SPA0	**Spitsbergen Ar**	**6.73 5**	Pn	**Pn**	**09 49 12.1**	**-0.8**
	baz=180,slow=16					
SPA0			Sn	**Sn**	**09 50 23.2**	**-6.2**
SPA0	**Spitsbergen Ar**	**6.73 5**	*e*P	**Pn**	**09 49 12.2**	**-0.7**
SPA0			*e*S	**Sn**	**09 50 22.2**	**-7.2**
SPITS	**Spitsbergen Ar**	**6.73 5**	P	**Pn**	**09 49 12.5**	**-0.3**
SPITS			S	**Sn**	**09 50 24.2**	**-5.1**
SPITS	**Spitsbergen Ar**	**6.73 5**	Pn	**Pn**	**09 49 12.8**	**0.0**
	baz=170,slow=16					
SPITS			Sn	**Sn**	**09 50 22.8**	**-6.6**
	baz=170,slow=26					
	comp=Z,2.2nm,0.3s					
KALU	**Kalix**	**6.73 143**	P	**Pn**	**09 49 12.4**	**-0.5**
KALU	**Kalix**	**6.73 143**	P	**Pn**	**09 49 12.4**	**-0.5**
JNE	**Jan Mayen East**	**7.02 276**	*e*P	**Pn**	**09 49 15.2**	**-1.7**
JNW	**Jan Mayen West**	**7.05 276**	*e*P	**Pn**	**09 49 15.7**	**-1.6**
JNW			*e*S	**Sn**	**09 50 31.1**	**-6.2**
JNW			IAML		09 50 44.7	
	comp=Z,27nm,0.7s					
NSS	**Namsos**	**7.06 185**	*e*P	**Pn**	**09 49 17.5**	**+0.1**
NSS			*e*S	**Sn**	**09 50 33.0**	**-4.5**
NSS			IAML		09 50 42.9	
	comp=Z,67nm,0.4s					
JMIC	**Jan Mayen**	**7.09 276**	Pn	**Pn**	**09 49 15.9**	**-1.9**
JMIC	**Jan Mayen**	**7.09 276**	*e*P	**Pn**	**09 49 15.9**	**-1.9**
JMIC			IAML		09 49 16.1	
	comp=Z,187nm,0.2s					
JMIC	**Jan Mayen**	**7.09 276**	Pn	**Pn**	**09 49 15.9**	**-1.9**
	comp=Z,60nm,0.3s,baz=142,slow=24,SNR=17					
JMIC			LR	LR	09 51 34.6	
	comp=Z,198nm,18.9s,baz=62,slow=34					
JMIC	**Jan Mayen**	**7.09 276**	*i* P	**Pn**	**09 49 15.1**	**-2.7**
JMI	**Jan Mayen**	**7.17 276**	Pn	**Pn**	**09 49 17.4**	**-1.5**
JMI	**Jan Mayen**	**7.17 276**	*e*P	**Pn**	**09 49 17.4**	**-1.5**
JMI			IAML		09 49 18.3	
	comp=Z,173nm,0.3s					
KBS	**Kingsbay**	**7.45 358**	Pn	**Pn**	**09 49 23.5**	**+0.8**
KBS			Sn	**Sn**	**09 50 41.6**	**-5.5**
KBS	**Kingsbay**	**7.45 358**	Pn	**Pn**	**09 49 23.9**	**+1.2**
KBS	**Kingsbay**	**7.45 358**	P	**Pn**	**09 49 23.6**	**+0.8**
KBS			S	**Sn**	**09 50 41.0**	**-6.0**
KBS	**Kingsbay**	**7.45 358**	*e*P	**Pn**	**09 49 22.2**	**-0.5**
KBS			*e*S	**Sn**	**09 50 38.4**	**-8.7**
KBS			IAML		09 50 48.5	
	comp=Z,18nm,0.6s					
KBS	**Kingsbay**	**7.45 358**	*e*P	**Pn**	**09 49 23.3**	**+0.6**
KBS			*e*S	**Sn**	**09 50 40.3**	**-6.8**
KBS	**Kingsbay**	**7.45 358**	*i* P	**Pn**	**09 49 22.7**	**0.0**
APA0	**Apatity Array**	**7.86 111**	Pn	**Pn**	**09 49 26.0**	**-2.4**
	baz=327,slow=16					
APA0			Sn	**Sn**	**09 50 48.2**	**-9.0**
	baz=312,slow=28					
APA0	**Apatity Array**	**7.86 111**	Pn	**Pn**	**09 49 26.0**	**-2.4**
	baz=327,slow=16					
APA0			Sn	**Sn**	**09 50 48.2**	**-9.0**
	baz=312,slow=28					
LVZ	**Lovozero**	**8.18 106**		**Pn**	**09 49 31.0**	**-1.8**
LVZ	**Lovozero**	**8.18 106**	P	**Pn**	**09 49 31.0**	**-1.8**
	comp=Z,139nm,0.7s,comp=Z,0.8nm					
VAF	**Ylistaro**	**9.22 153**	*e*P	**Pn**	**09 49 45.7**	**-1.3**
MOL	**Molde**	**9.29 197**	*e*P	**Pn**	**09 49 45.4**	**-2.5**
MOL			*e*S	Sn	09 51 21.5	-11
MOL			IAML		09 51 26.6	
	comp=Z,54nm,0.5s					
DOMB	**Dombas**	**9.69 192**	*e*P	**Pn**	**09 49 51.5**	**-2.0**
DOMB			*e*S	Sn	09 51 29.7	-12
DOMB			IAML		09 51 32.1	
	comp=Z,11nm,0.6s					
AKN	**Aaknes**	**9.72 198**	Pn	**Pn**	**09 49 52.4**	**-1.6**
AKN			Sn	Sn	09 51 31.6	-11
AKN	**Aaknes**	**9.72 198**	Pn	**Pn**	**09 49 52.4**	**-1.6**
AKN			Sn	Sn	09 51 31.6	-11
DAG	**Danmarks Havn**	**10.09 316**	*i* P	**Pn**	**09 49 57.6**	**-1.2**
DAG			*e*P		09 49 59.5	
DAG			IAmb	IAmb	09 50 00.2	
	comp=Z,1.3nm,0.3s					
DAG	**Danmarks Havn**	**10.09 316**	*i* P	**Pn**	**09 49 57.6**	**-1.2**
DAG			IAmb	IAmb	09 50 00.2	
	comp=Z,1.3nm,0.3s					
DBG	**Daneborg**	**10.19 301**	Pn	**Pn**	**09 50 00.6**	**+0.4**
DBG	**Daneborg**	**10.19 301**	*e*P	**Pn**	**09 50 00.2**	**0.0**
NC204	**NORSAR Array S**	**10.36 187**	Pn	**Pn**	**09 50 01.8**	**-0.8**
NC303	**NORSAR Array S**	**10.38 186**		**Pn**	**09 50 02.1**	**-0.8**
KEF	**Keuruu**	**10.39 149**	*e*P	**Pn**	**09 50 02.1**	**-0.9**
NC405	**NORSAR Array S**	**10.49 185**		**Pn**	**09 50 03.7**	**-0.7**
FOO	**Floro**	**10.51 203**	*e*P	**Pn**	**09 50 03.4**	**-1.2**
NB201	**NORSAR Array S**	**10.56 186**		**Pn**	**09 50 04.5**	**-1.0**
NB2	**NORSAR Subarra**	**10.58 186**	Pn	**Pn**	**09 50 04.5**	**-1.2**
	baz=1.0,slow=14					
NB2	**NORSAR Subarra**	**10.58 186**	Pn	**Pn**	**09 50 04.5**	**-1.2**
	baz=1.0,slow=14					
NOA	**NORSAR Array B**	**10.58 186**	Pn	**Pn**	**09 50 04.6**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=0.5,slow=12,SNR=19					
NOA			Sn	**Sn**	**09 52 02.2**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=3.5					
NOA			LR	LR	09 53 50.2	
	comp=Z,55nm,18.6s,baz=350,slow=36					
	comp=Z,6.9nm,0.6s					
NBO00	**NORSAR Array S**	**10.60 187**		**Pn**	**09 50 05.4**	**-0.6**
NAO01	**NORSAR Array S**	**10.78 187**		**Pn**	**09 50 06.8**	**-1.6**
HYA	**Hoyanger**	**10.80 199**	*e*P	**Pn**	**09 50 07.0**	**-1.6**
NC602	**NORSAR Array S**	**10.87 185**	Pn	**Pn**	**09 50 08.8**	**-0.8**
NRA0	**NORESS Array S**	**10.87 185**	Pn	**Pn**	**09 50 08.6**	**-1.0**
	slow=14					
NRA0			Sn	**Sn**	**09 52 03.6**	**-7.5**
	slow=22					
NRA0	**NORESS Array S**	**10.87 185**	Pn	**Pn**	**09 50 08.6**	**-1.0**
	slow=14					
NRA0			Sn	**Sn**	**09 52 03.6**	**-7.5**
	slow=22					
JOF	**Joensuu**	**11.01 133**	*e*P	**Pn**	**09 50 08.1**	**-3.3**
RAF	**Rauma**	**11.05 159**	*e*P	**Pn**	**09 50 10.1**	**-1.9**
SUE	**Sulen**	**11.07 203**	*e*P	**Pn**	**09 50 10.3**	**-2.0**
SKAR	**Skarslia**	**11.09 193**	*e*P	**Pn**	**09 50 10.6**	**-2.1**
FIA1	**FINESS Array S**	**11.27 148**	Pn	**Pn**	**09 50 13.9**	**-1.2**
FIA0	**FINESS Array S**	**11.27 148**	Pn	**Pn**	**09 50 12.9**	**-2.1**
	baz=346,slow=12					
FIA0			Sn	Sn	09 52 09.8	-11
	baz=344,slow=22					
FIA0	**FINESS Array S**	**11.27 148**	Pn	**Pn**	**09 50 12.9**	**-2.1**
	baz=346,slow=12					
FIA0			Sn	Sn	09 52 09.8	-11
	baz=344,slow=22					
FINES	**FINESS Array B**	**11.27 148**	Pn	**Pn**	**09 50 13.6**	**-1.5**
FINES	**FINESS Array B**	**11.27 148**	Pn	**Pn**	**09 50 13.2**	**-1.9**
	comp=Z,3.5nm,0.3s,baz=350,slow=11,SNR=60					
FINES			Sn	Sn	09 52 08.9	-12
	comp=Z,11nm,0.3s,baz=346,slow=24,SNR=11					
	comp=Z,12nm,0.4s					
HFS	**Hagfors**	**11.45 179**	Pn	**Pn**	**09 50 16.4**	**-1.1**
	baz=9.5,slow=12					
HFS			Sn	Sn	09 52 15.9	-9.3
	baz=10,slow=22					
HFS	**Hagfors**	**11.45 179**	Pn	**Pn**	**09 50 16.4**	**-1.1**
	baz=9.5,slow=12					
HFS			Sn	Sn	09 52 15.9	-9.3
	baz=10,slow=22					
HFS	**Hagfors**	**11.45 179**	Pn	**Pn**	**09 50 16.5**	**-1.0**
	comp=Z,6.1nm,0.3s,baz=8.9,slow=10,SNR=92					
HFS			Sn	**Sn**	**09 52 16.4**	**-8.9**
	comp=Z,6.1nm,0.3s,baz=21,slow=22,SNR=9.7					
HFS			LR	LR	09 54 30.7	
	comp=Z,112nm,18.1s,baz=352,slow=37					
	comp=Z,16nm,0.4s					
SCO	**Scoresbysund**	**11.48 282**	Pn	**Pn**	**09 50 18.0**	**+0.2**
SCO	**Scoresbysund**	**11.48 282**	*i* P	**Pn**	**09 50 16.5**	**-1.4**
SCO	**Scoresbysund**	**11.48 282**	*i* P	**Pn**	**09 50 16.5**	**-1.4**
KONO	**Kongsberg**	**12.04 189**	Pn	**Pn**	**09 50 23.7**	**-1.8**
OMEGA	**Omega**	**12.06 26**	*e*P	**Pn**	**09 50 24.5**	**-1.3**
OMEGA			*e*S	Sn	09 52 27.4	-13
ZFI2	**Zemlya Franca-**	**12.06 26**	*e*P	**Pn**	**09 50 25.2**	**-0.7**
ZFI2			*e*S	Sn	09 52 27.9	-12
MEF	**Metsahovi**	**12.17 153**	*e*P	**Pn**	**09 50 25.1**	**-2.3**
BLS5	**Blasjo**	**12.49 197**	*e*P	**Pn**	**09 50 30.3**	**-1.4**
LRW	**Lerwick**	**12.86 215**	Pn	**Pn**	**09 50 34.9**	**-1.9**
LRW			Sn	Sn	09 52 49.2	-10
LRW	**Lerwick**	**12.86 215**	*e*P	**Pn**	**09 50 33.6**	**-3.1**
ARBE	**Arbavere**	**13.16 151**	*e*P	Pn	09 50 34.5	-6.3
SNART	**Snartemo**	**13.50 194**	*i* P	**Pn**	**09 50 43.0**	**-2.5**
MTSE	**Matsula**	**13.55 156**	*e*P	**Pn**	**09 50 42.8**	**-3.3**
TJOU	**Tjoern**	**13.58 184**	*i* P	**Pn**	**09 50 41.8**	**-4.7**
TJOU	**Tjoern**	**13.58 184**	*i* P	**Pn**	**09 50 41.8**	**-4.7**
ONAU	**Onsala**	**14.21 183**	*i* P	**Pn**	**09 50 52.7**	**-2.4**
ONAU	**Onsala**	**14.21 183**	*i* P	**Pn**	**09 50 52.7**	**-2.4**
BORG	**Borgarnes**	**14.42 259**	Pn	**Pn**	**09 50 58.6**	**+0.6**
BORG	**Borgarnes**	**14.42 259**	Pn	**Pn**	**09 50 57.9**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=330,slow=21,SNR=1.1					
BORG			Sn	**Sn**	**09 53 37.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=80,slow=7.3,SNR=1.5					
BORG			LR	LR	09 55 03.1	
	comp=Z,86nm,20.7s,baz=7.6,slow=31					
	comp=Z,34nm,1.1s					
SLIT	**Slitere, Latvi**	**14.43 161**	*e*P	Pn	09 50 53.2	-5.1
FABU	**Falkenberg**	**14.59 182**	*i* P	**Pn**	**09 50 58.2**	**-2.2**
FABU	**Falkenberg**	**14.59 182**	*i* P	**Pn**	**09 50 58.2**	**-2.2**
KLMR	**Klimovskoe**	**14.83 123**	*e*P	**Pn**	**09 50 59.2**	**-4.4**
	comp=Z,32nm,1.2s					
KLMR			*e*S	Sn	09 53 31.2	-16
DEL	**Delary**	**15.12 179**	*i* P	**Pn**	**09 51 04.3**	**-3.3**
DEL	**Delary**	**15.12 179**	*i* P	**Pn**	**09 51 04.3**	**-3.3**
MUD	**Monsted U'grnd**	**15.25 189**	*i* P	**Pn**	**09 51 07.0**	**-2.2**
MUD	**Monsted U'grnd**	**15.25 189**	*i* P	**Pn**	**09 51 07.0**	**-2.2**
BLEU	**Blekinge**	**15.32 175**	*i* P	**Pn**	**09 51 07.8**	**-2.4**
BLEU	**Blekinge**	**15.32 175**	*i* P	**Pn**	**09 51 07.8**	**-2.4**
SUMG	**Summit**	**15.63 298**	Pn	**Pn**	**09 51 16.1**	**+1.6**
LUNU	**Lund**	**15.96 180**	*i* P	**Pn**	**09 51 16.0**	**-2.5**
LUNU	**Lund**	**15.96 180**	*i* P	**Pn**	**09 51 16.0**	**-2.5**
BSD	**Bornholm Skovb**	**16.49 177**	*i* P	**Pn**	**09 51 22.0**	**-3.3**
BSD			IAmb	IAmb	09 51 25.3	
	comp=Z,3.5nm,0.3s					
BSD	**Bornholm Skovb**	**16.49 177**	*e*P	Pn	09 51 10.9	-14
BSD	**Bornholm Skovb**	**16.49 177**	*i* P	**Pn**	**09 51 22.0**	**-3.3**
BSD			IAmb	IAmb	09 51 25.3	
	comp=Z,3.5nm,0.3s					
NACGM	**Naroch**	**17.65 154**	*e*P	**P**	**09 51 41.6**	**+0.8**
	comp=Z,21nm,0.9s,baz=347					
EKA	**Eskdalemuir Ar**	**17.75 212**	P	**Pn**	**09 51 39.3**	**-1.8**
EKA	**Eskdalemuir Ar**	**17.75 212**	P	**Pn**	**09 51 39.3**	**-1.8**
EKA	**Eskdalemuir Ar**	**17.75 212**	P	**P**	**09 51 41.5**	**-0.4**
	baz=28,slow=12					
	comp=Z,1.6nm,0.5s					
ESK	**Eskdalemuir**	**17.78 213**	P	**P**	**09 51 41.7**	**-0.5**
MNK	**Minsk**	**18.20 152**	*i* P	**Pn**	**09 51 46.4**	**-0.2**
	comp=E,24nm,0.7s					
MNK			*i* P	**Pn**	**09 51 46.4**	**-0.2**
	comp=N,29nm,0.8s					
MNK			*i* P	**Pn**	**09 51 46.4**	**-0.2**
	comp=Z,17nm,0.8s,baz=345					
MNK			*i* PP	**PnPn**	**09 51 57.6**	**+0.1**
MNK			*i* PPP	PPP	09 52 05.3	
MNK			*i* S	**Sn**	**09 55 10.0**	**+0.6**
MNK			*i* SS	**SnSn**	**09 55 25.1**	**+2.5**
MNK			*i* SSS	SSS	09 55 37.9	
MNK			*i* LQ	LQ	09 57 11.0	
MNK			*i* LR	LR	09 58 11.2	
MNK			*i* LRM	MLR	09 58 26.5	
	comp=E,1μm,18.6s					
MNK			*i* LRM	MLR	09 58 26.5	
	comp=N,1μm,19.3s					
MNK			*i* LRM	MLR	09 58 40.8	
	comp=Z,117nm,16.1s					
OBN	**Obninsk**	**19.23 137**	P	**P**	**09 51 56.7**	**-1.3**
	comp=Z,5.5nm,0.3s,baz=146,slow=5.7,SNR=2.3					
	comp=Z,18nm,0.4s					
OBN	**Obninsk**

GEC2	GERESS Array S	22.76	180	P	P	09 52 35.7	-0.7
GERES	GERESS Array B	22.76	180	P	P	09 52 36.1	-0.3
	comp=Z,5.1nm,0.7s,baz=0.0,slow=7.3,SNR=17						
	comp=Z,5.1nm,0.7s						
CKRC	Cesky Krumlov	22.79	179	eP	P	09 52 37.3	+0.7
JAVC	Velka Javorina	22.83	173	eP	P	09 52 38.1	+1.0
SHIU	Shidnytsya	22.84	163	P	P	09 52 37.5	+0.3
KOLS	Kolonicke sedl	23.04	165	eP	P	09 52 41.0	+1.8
HORU	Horodok	23.18	158	P	P	09 52 40.0	-0.6
VYHS	Vyhne	23.25	171	eP	P	09 52 41.8	+0.5
VYHS	Vyhne	23.25	171	ePN	P	09 52 51.0	+10
MODS	Modra-Piesok	23.30	174	eP	P	09 52 40.5	-1.4
KECS	Kecovo	23.35	168	eP	P	09 52 43.5	+1.1
BFO	Black Forest	23.40	189	P	P	09 52 42.9	0.0
BFO				IAmb	IAmb	09 52 45.2	
	comp=Z,13nm,0.9s						
HOLU	Holmets	23.45	165	P	P	09 52 44.1	+0.8
STNU	Starunia	23.46	161	P	P	09 52 44.3	+0.8
NRIK	Noril'sk	23.48	59	P	P	09 52 43.8	+0.3
NRIK				IAmb	IAmb	09 52 54.1	
	comp=Z,12nm,0.8s						
NRIK	Noril'sk	23.48	59	P	P	09 52 45.6	+2.2
	comp=Z,2.4nm,0.5s,baz=318,slow=9.6,SNR=5.3						
NRIK				LR	LR	10 05 29.3	
	comp=Z,52nm,18.1s,baz=322,slow=46						
	comp=Z,2.4nm,0.5s						
ECH	Echery	23.58	191	P	P	09 52 44.3	-0.3
CONA	Conrad Observa	23.70	176	i pP	pP	09 52 47.3	-1.1
	comp=Z,6.9nm,0.9s						
MOA	Molln	23.76	179	epP	pP	09 52 50.3	+1.5
	comp=Z,4.1nm,0.9s						
PSZ	Piszkesteto	23.88	169	P	P	09 52 45.3	-2.3
PSZ				IAmb	IAmb	09 52 58.1	
	comp=Z,12nm,1.1s						
NDNU	Novodnistrovsk	23.90	157	P	P	09 52 48.2	+0.5
SRO	Srobarova	23.90	172	eP	P	09 52 49.8	+2.1
KSV	Kosov	23.91	161	P	P	09 52 49.8	+2.0
BIOA	Bad Ischl, Aus	23.91	180	eP	P	09 52 48.8	+1.0
	comp=Z,0.3nm,0.3s						
RONA	Rosalia, Austr	23.94	175	i P	P	09 52 49.2	+1.0
	comp=Z,8.4nm,1.1s						
NSLU	Nyzhne Selyshc	23.97	162	P	P	09 52 48.2	-0.1
ARTI	Arti	24.04	105	P	P	09 52 50.0	+1.0
ARTI	Arti	24.04	105	LR	LR	10 01 19.5	
	comp=Z,75nm,21.1s,baz=360,slow=34						
RETA	Reutte	24.15	184	eP	P	09 52 50.7	+0.5
	comp=Z,1.6nm,0.7s						
LESA	Schwarzleotal	24.18	181	epP	pP	09 52 52.0	-0.9
	comp=Z,7.7nm,1.7s						
WATA	Walderalm	24.29	183	i P	P	09 52 51.4	-0.1
	comp=Z,7.7nm,0.7s						
MOTA	Moosalm	24.29	184	i P	P	09 52 52.6	+1.0
	comp=Z,5.5nm,0.8s						
WTTA	Wattenberg	24.36	183	i pP	pP	09 52 53.6	-1.0
	comp=Z,6.3nm,0.9s						
ARSA	Arzberg	24.38	177	i pP	pP	09 52 53.8	-0.8
	comp=Z,3.2nm,0.6s						
DAVA	Damuels	24.38	186	i P	P	09 52 50.9	-1.4
	comp=Z,13nm,1.0s						
BELG	Belogornoye	24.40	124	LR	LR	10 02 18.8	
	comp=Z,83nm,20.0s,baz=344,slow=36						
SQTA	Sankt Quirin	24.41	184	epP	pP	09 52 54.3	-0.8
	comp=Z,3.2nm,0.6s						
SORM	Soroca	24.48	155	P	P	09 52 53.4	+0.4
	comp=Z,36nm,0.6s						
KBA	Koelnbreinsper	24.53	180	epP	pP	09 52 55.2	-0.9
	comp=Z,4.9nm,0.7s						
BUR08	Bucovina Ar. S	24.59	161	P	P	09 52 54.8	+0.6
FETA	Feichten	24.62	185	i P	P	09 52 54.2	-0.3
	comp=Z,1.9nm,0.7s						
ABTA	Abfaltersbach	24.86	182	i P	P	09 52 58.1	+1.5
	comp=Z,3.1nm,0.8s						
SOKA	Soboth	24.94	177	epP	pP	09 53 00.9	+1.1
	comp=Z,4.9nm,0.9s						
MYKA	Terra Mystica	24.98	180	i P	P	09 52 59.2	+1.6
	comp=Z,6.3nm,0.8s						
OBKA	Obir	25.10	178	epP	pP	09 53 01.7	+0.5
	comp=Z,3.9nm,0.9s						
CTI	Castel Tesino	25.57	183	P	P	09 53 02.9	-0.2
CTI				IAmb	IAmb	09 53 04.8	
	comp=Z,5.9nm,0.7s						
TESR	Tescani	25.87	159	P	P	09 53 07.5	+1.9
	comp=Z,16nm,0.7s						
TEOL	Teolo	26.26	183	P	P	09 53 07.9	-1.3
RES	Resolute Bay	27.49	327	LR	LR	10 03 26.8	
	comp=Z,46nm,19.6s,baz=12,slow=35						
OSSC	Osservatorio P	28.11	183	P	P	09 53 26.4	+0.6
NRCA	Norcia	28.77	181	P	P	09 53 26.8	-5.0
AKTO	Aktyubinsk	29.08	113	LR	LR	10 05 31.3	
	comp=Z,88nm,18.0s,baz=298,slow=37						
BVAR	Borovoye Array	30.63	97	P	P	09 53 49.5	+1.4
	comp=Z,3.1nm,0.6s,baz=323,slow=9.4,SNR=16						
BVAR				LR	LR	10 05 41.3	
	comp=Z,70nm,20.0s,baz=339,slow=36						
	comp=Z,3.1nm,0.6s						
ABKAR	Akbulak array	30.70	111	P	P	09 53 49.9	+1.2
FNA	Florina	31.08	168	P	P	09 53 52.3	+0.1
FNA				IAmb	IAmb	09 53 54.0	
	comp=Z,8.7nm,0.7s						
KBZ	Khabaz	31.34	137	P	P	09 53 56.9	+2.5
	comp=Z,1.0nm,0.6s,baz=49,slow=14,SNR=1.6						
KBZ				LR	LR	10 06 43.0	
	comp=Z,83nm,19.0s,baz=324,slow=37						
	comp=Z,1.0nm,0.6s						
VSL	Villasalto	32.17	186	P	P	09 54 01.7	-0.1
VSL				IAmb	IAmb	09 54 43.9	
	comp=Z,17nm,1.2s						
ESDC	Sonseca Array	33.13	205	P	P	09 54 10.0	-0.3
	comp=Z,3.3nm,0.8s,baz=6.7,slow=8.3,SNR=22						
	comp=Z,3.3nm,0.8s						
PAB	San Pablo	33.31	206	P	P	09 54 12.4	+0.6
PAB				IAmb	IAmb	09 54 13.9	
	comp=Z,7.7nm,0.8s						
BR106	Keskin Array S	33.47	151	P	P	09 54 14.7	+1.5
	comp=Z,3.8nm,0.9s						
BR106				pP	sP	09 54 16.6	-0.1
	comp=Z,3.8nm,0.9s						
BRTR	Keskin Array B	33.48	151	P	P	09 54 14.5	+1.2
BRTR	Keskin Array B	33.48	151	P	P	09 54 15.3	+2.0
	comp=Z,2.5nm,0.6s,baz=341,slow=6.8,SNR=11						
	comp=Z,2.5nm,0.6s						
BR105	Keskin Array S	33.48	151	P	P	09 54 14.8	+1.4
	comp=Z,5.7nm,0.8s						
BR104	Keskin Array S	33.49	151	P	P	09 54 14.6	+1.1
	comp=Z,4.5nm,0.8s						
A36M	Sachs Harbour	34.28	339	P	P	09 54 21.1	+1.3
A36M				IAmb	IAmb	09 55 04.7	
	comp=Z,11nm,1.4s						
ZALV	Zalesovo Beam	34.43	82	P	P	09 54 22.5	+1.2
	comp=Z,2.2nm,0.5s,baz=322,slow=9.4,SNR=7.2						
ZALV				LR	LR	10 12 00.3	
	comp=Z,23nm,18.5s,baz=314,slow=42						
	comp=Z,2.2nm,0.5s						
ARPR	Arapgir-MALATY	34.88	145	P	P	09 54 25.4	-0.2
GNI	Garni	35.16	136	LR	LR	10 09 11.8	
	comp=Z,53nm,19.0s,baz=350,slow=37						
KURK	Kurchatov	35.23	91	P	P	09 54 29.6	+1.4
KURK				IAmb	IAmb	09 54 32.7	
	comp=Z,5.5nm,1.0s						
KURBB	Kurchatov Arra	35.28	91	P	P	09 54 30.2	+1.5
	comp=Z,3.0nm,0.8s,baz=330,slow=7.7,SNR=8.6						
	comp=Z,3.0nm,0.8s						
KEST	Kesra	35.93	186	P	P	09 54 35.3	+0.8
	comp=Z,3.5nm,0.5s,baz=286,slow=7.6,SNR=4.3						
	comp=Z,3.5nm,0.5s						
SCHQ	Schefferville	36.47	286	P	P	09 54 39.4	+0.5
	comp=Z,4.2nm,0.8s,baz=209,slow=8.0,SNR=1.4						
SCHQ				LR	LR	10 07 50.9	
	comp=Z,91nm,21.2s,baz=284,slow=33						
	comp=Z,4.2nm,0.8s						
C36M	Paulatuk	36.60	336	P	P	09 54 40.8	+1.0
C36M				IAmb	IAmb	09 54 44.6	
	comp=Z,9.0nm,1.4s						
INK	Inuvik	38.69	341	P	P	09 54 58.2	+0.8
D23K	Nanushuk River	39.35	351	P	P	09 55 05.4	+2.4
D23K				IAmb	IAmb	09 55 29.9	
	comp=Z,11nm,1.5s						
KKAR	Karatay Array	39.43	105	P	P	09 55 05.7	+1.7
F31M	Tsiigehtchic	39.55	341	P	P	09 55 05.2	+0.6
F31M				IAmb	IAmb	09 55 13.7	
	comp=Z,11nm,1.4s						
TOLK	Toolik Lake Re	39.62	350	P	P	09 55 06.3	+1.0
MAKZ	Makanchi	39.73	91	P	P	09 55 08.2	+1.8
MK31	Makanchi Array	39.84	90	P	P	09 55 08.7	+1.4
MKAR	Makanchi Array	39.84	90	P	P	09 55 08.1	+0.8
MKAR	Makanchi Array	39.84	90	P	P	09 55 09.1	+1.8
	comp=Z,1.9nm,0.6s,baz=352,slow=6.0,SNR=16						
MKAR				LR	LR	10 13 13.9	
	comp=Z,27nm,19.2s,baz=7.5,slow=39						
	comp=Z,1.9nm,0.6s						
E25K	Arctic Village	39.90	348	P	P	09 55 09.0	+1.5
F28M	Old Crow	39.96	344	P	P	09 55 09.3	+1.2
MMAI	Mount Meron Ar	40.32	151	P	P	09 55 12.4	+0.9
	comp=Z,0.7nm,0.4s,baz=352,slow=7.6,SNR=2.2						
MMAI				LR	LR	10 12 58.4	
	comp=Z,26nm,18.9s,baz=45,slow=38						
	comp=Z,0.7nm,0.4s						
G29M	Pine Creek	40.49	343	IAmb	IAmb	09 55 14.6	
	comp=Z,8.6nm,0.8s						
FCC	Fort Churchill	40.64	310	P	P	09 55 16.1	+2.4
AAK	Ala-Archa	41.09	101	LR	LR	10 11 34.3	
	comp=Z,42nm,19.6s,baz=333,slow=35						
YKA	Yellowknife Ar	41.56	327	P	P	09 55 21.9	+0.6
	comp=Z,1.1nm,0.9s,baz=31,slow=9.6,SNR=4.5						
	comp=Z,1.1nm,0.9s						
GAR	Garm	43.12	107	P	P	09 55 36.0	+1.6
ILAR	Eielson Array	43.30	348	P	P	09 55 37.2	+1.8
	comp=Z,1.5nm,0.8s,baz=0.8,slow=6.5,SNR=25						
ILAR				PcP	PcP	09 57 24.5	+0.5
	comp=Z,0.6nm,0.6s,baz=347,slow=3.3,SNR=5.8						
	comp=Z,1.5nm,0.8s						
DAWY	Dawson	43.40	343	P	P	09 55 37.8	+1.5
EIL	Elat	43.54	152	LR	LR	10 17 25.2	
	comp=Z,30nm,18.6s,baz=249,slow=41						
WMQ	Urumqi	44.22	87	eP	P	09 55 45.2	+2.1
WMQ				pmax	pmax		
	comp=Z,11nm,0.7s						
KSH	Kashi	44.39	101	P	P	09 55 49.5	+4.9
KSH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SONM	Songino Array	46.41	68	P	P	09 56 02.5	+2.0
	comp=Z,1.8nm,0.7s,baz=316,slow=7.9,SNR=7.5						
SONM				LR	LR	10 19 09.0	
	comp=Z,30nm,18.0s,baz=100,slow=41						
	comp=Z,1.8nm,0.7s						
ULN	Ulaanbaatar	46.58	68	P	P	09 56 03.8	+1.9
ULN				IAmb	IAmb	09 56 05.4	
	comp=Z,5.5nm,0.8s						
ULM	Lac du Bonnet	48.78	306	LR	LR	10 15 25.2	
	comp=Z,51nm,19.6s,baz=324,slow=34						
HEH	HeiHe	49.93	50	eP	P	09 56 28.5	+1.0
HEH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
RAYN	Ar Rayn	51.38	141	P	P	09 56 39.0	+0.2
RAYN				IAmb	IAmb	09 56 40.8	
	comp=Z,4.5nm,0.6s						
GTA	Gaotai	52.04	79	P	P	09 56 45.9	+2.2
GTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PETK	Petropavlovsk-	53.11	26	P	P	09 56 52.2	+1.0
	comp=Z,2.8nm,0.8s,baz=354,slow=7.1,SNR=1.6						
	comp=Z,2.8nm,0.8s						
GOMU	GeErMu	53.41	85	P	P	09 56 56.6	+2.5
GOMU				pP	pwP	09 57 01.9	+2.8
GOMU				sP	sP	09 57 05.4	+7.7
GOMU				pmax	pmax		
	comp=Z,20nm,0.7s						
BNX	BinXian	54.12	52	⇓P	P	09 56 59.7	+0.9
BNX				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LLLB	Lillooet	54.12	326	P	P	09 57 00.5	+1.7
HHC	Hu-ho-hao-te	54.30	68	eP	P	09 57 01.6	+1.3
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,54nm,4.2s						
LZH	Lanzhou	56.35	77	eP	P	09 57 15.4	+0.3
LZH				pP	sP	09 57 18.9	+0.2
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
USA0B	Ussuriysk Arra	56.70	49	P	P	09 57 17.4	+0.1
USA0B				IAmb	IAmb	09 57 54.7	
	comp=Z,6.9nm,1.0s						
USRK	Ussuriysk Ar.	56.70	49	P	P	09 57 18.2	+0.9
	comp=Z,2.6nm,0.6s,baz=343,slow=6.2,SNR=7.6						
	comp=Z,2.6nm,0.6s						
E08A	Dider Farm, El	57.56	323	P	P	09 57 24.2	+0.8
E08A				IAmb	IAmb	09 57 34.0	
	comp=Z,3.8nm,0.7s						
T50A	Nancy	57.90	291	P	P	09 57 25.7	-0.2
V53A	Saluda	58.55	288	P	P	09 57 30.6	+0.1
U49A	Red Boiling Sp	58.65	291	P	P	09 57 31.6	+0.4
U49A				IAmb	IAmb	09 57 38.3	
	comp=Z,4.8nm,1.1s						
TORD	Torodi Ar. Bea	58.79	193	P	P	09 57 32.1	-0.2
TORD				IAmb	IAmb	09 57 33.8	
	comp=Z,5.1nm,0.9s						
TORD	Torodi Ar. Bea	58.79	193	P	P	09 57 32.8	+0.5
	comp=Z,6.6nm,0.8s,baz=356,slow=9.1,SNR=39						
	comp=Z,6.6nm,0.8s						
PD31	Pinedale Array	59.11	314	P	P	09 57 35.2	+0.6
PD31				IAmb	IAmb	09 57 45.3	
	comp=Z,3.9nm,1.1s						
PDAR	Pinedale Array	59.11	314	P	P	09 57 35.2	+0.6
PDAR	Pinedale Array	59.11	314	P	P	09 57 34.7	+0.1
	comp=Z,0.8nm,0.9s,baz=27,slow=7.8,SNR=7.6						
	comp=Z,0.8nm,0.9s						
XAN	Xi'an	59.80	73	⇓P	P	09 57 40.8	+1.6
XAN				pP	pwP	09 57 47.5	+3.2
XAN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
O20A	White River Ci	61.31	312	P	P	09 57 50.5	+0.9
KSRS	Korea Array	62.03	55	LR	LR	10 30 03.1	
	comp=Z,12nm,18.7s,baz=325,slow=41						
Y45A	Yeager Farm, C	62.22	294	P	P	09 57 55.9	+0.3
LRAL	Lakeview Retre	62.25	291	P	P	09 57 54.8	-1.0
LRAL				IAmb	IAmb	09 58 04.2	
	comp=Z,3.9nm,0.7s						
YBH	Yreka Blue Hor	62.84	324	LR	LR	10 25 10.6	
	comp=Z,40nm,18.5s,baz=2.5,slow=36						
WMOK	Wichita Mounta	64.01	302	P	P	09 58 08.6	+1.1
WMOK				IAmb	IAmb	09 58 09.2	
	comp=Z,5.1nm,0.8s						
MVCO	Mesa Verde	64.15	311	P	P	09 58 09.6	+1.0
MVCO				IAmb	IAmb	09 58 23.3	
	comp=Z,4.8nm,0.9s						
PZH	PanZhiHua	64.58	83	P	P	09 58 12.4	+1.0
PZH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,110nm,4.7s						
NJ2	Nanjing	64.61	65	eP	P	09 58 11.6	+0.2
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NVAR	Mina Array Bea	65.17	320	P	P	09 58 16.0	+0.7
	comp=Z,0.7nm,0.9s,baz=35,slow=5.4,SNR=3.5						
	comp=Z,0.7nm,0.9s						
MJAR	Matsushiro Arr	65.44	47	P	P	09 58 18.0	+1.2
	comp=Z,3.6nm,0.9s,baz=340,slow=7.7,SNR=5.7						
MJAR				LR	LR	10 30 31.2	
	comp=Z,24nm,18.5s,baz=24,slow=39						
	comp=Z,3.6nm,0.9s						
BRDY	Brady	67.32	301	P	P	09 58 29.0	+0.1
OZNA	Ozona	68.25	303	P	P	09 58 35.2	+0.4
JHJ	Hachijo jima 2	69.08	46	LR	LR	10 33 07.5	
	comp=Z,14nm,18.1s,baz=41,slow=40						
VHRN	Van Horn	69.39	306	P	P	09 58 42.0	0.0
VHRN				IAmb	IAmb	09 58 47.8	
	comp=Z,8.9nm,1.3s						
TX31	Lajitas Ar. Si	70.43	304	P	P	09 58 48.7	+0.4
TX31				IAmb	IAmb	09 58 58.3	
	comp=Z,2.4nm,0.8s						
TXAR	Lajitas Array	70.43	304	P	P	09 58 49.0	+0.6
TXAR	Lajitas Array	70.43	304	P	P	09 58 48.6	+0.3
	comp=Z,1.4nm,0.7s,baz=46,slow=5.3,SNR=15						
	comp=Z,1.4nm,0.7s						
CMAR	Chiang Mai Arr	71.20	88	P	P	09 58 52.5	-0.6
	comp=Z,0.8nm,0.3s,baz=340,slow=7.7,SNR=2.4						
CMAR				LR	LR	10 34 24.7	
	comp=Z,9.7nm,19.5s,baz=355,slow=40						
	comp=Z,0.8nm,0.3s						
WRA	Warramunga Arr	118.37	67	PKP	PKPdf	10 06 20.7	-0.6
	comp=Z,0.3nm,0.5s,baz=338,slow=2.0,SNR=7.5						
ASAR	Alice Springs	121.76	68	PKP	PKPdf	10 06 27.3	-0.4
	comp=Z,1.0nm,0.5s,baz=359,slow=1.7,SNR=36						
PLCA	Paso Flores	126.22	250	PKP	PKiKP	10 06 36.6	+0.4
	comp=Z,2.0nm,0.9s,baz=24,slow=3.3,SNR=5.1						
MAW	Mawson	142.75	151	PKP	PKPdf	10 07 03.4	-2.1
	comp=Z,1.0nm,0.8s,baz=304,slow=13,SNR=2.5						
SNAA	Sanae	143.36	189	PKhKP	PKPpre	10 07 03.8	
	comp=Z,0.7nm,0.5s,baz=20,slow=0.5,SNR=9.9						
QSPA	South Pole Qui	161.46	180	PKPab	PKPab	10 08 16.9	-1.0
	comp=Z,0.6nm,0.5s,baz=75,slow=1.4,SNR=7.2						

ROM 12 09:53:17.9±0.2, 42°.900N±0°.003×12°.862E±0°.004, h9km±1km, ML1.1/10, 1C-2D, Error ellipse: s-maj=0.3km s-min=0.1km az=297.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESI	CESI - Serrava	0.11	17	P	Pg	09 53 21.3	+0.7
CESI				S	Sg	09 53 23.3	+0.7
CESI				AML	AML		
	comp=N,714μm,0.3s						
CESI				AML	AML		
	comp=E,369μm,0.2s						
CESI				AML	AML		
	comp=E,369μm,1.8s						
FEMA	Monte Fema	0.15	66	P	Pg	09 53 22.2	+0.9
FEMA				S	Sg	09 53 24.6	+0.9
NRCA	Norcia	0.20	110	⇓P	Pg	09 53 22.6	+0.6
NRCA				S	Sg	09 53 25.8	+1.0
NRCA				AML	AML		
	comp=E,72μm,0.5s						
NRCA				AML	AML		
	comp=N,75μm,1.2s						
NRCA				AML	AML		
	comp=E,72μm,1.5s						
ASSB	Assisi San Ben	0.21	314	P	Pg	09 53 22.8	+0.6
ASSB				S	Sg	09 53 26.1	+1.0
ASSB				AML	AML		
	comp=E,59μm,1.1s						
ASSB				AML	AML		
	comp=N,54μm,0.5s						
ASSB				AML	AML		
	comp=E,59μm,0.9s						
GAVE	Gavelli	0.21	173	⇓P	Pg	09 53 22.9	+0.7
GAVE				S	Sg	09 53 26.5	+1.3
GAVE				AML	AML		
	comp=N,217μm,0.5s						
GAVE				AML	AML		
	comp=E,248μm,0.1s						
FDMO	Fiordimonte	0.21	50	⇑P	Pg	09 53 22.9	+0.6
FDMO				S	Sg	09 53 26.4	+1.1
FDMO				AML	AML		
	comp=E,91μm,0.9s						
FDMO				AML	AML		
	comp=N,93μm,0.2s						
FDMO				AML	AML		
	comp=E,91μm,1.1s						
FDMO	Fiordimonte	0.21	50	P	Sg	09 53 26.4	+1.0
MML1	Montelago di S	0.23	21	P	Pg	09 53 23.1	+0.6
MML1				S	Sg	09 53 27.2	+1.4
MOMA	Monte Martano	0.23	246	P	Pg	09 53 23.5	+0.8
MOMA				S	Sg	09 53 27.4	+1.5
MOMA				AML	AML		
	comp=E,56μm,1.3s						
MOMA				AML	AML		
	comp=N,39μm,1.1s						
MOMA				AML	AML		
	comp=N,39μm,0.9s						

VAO 12 09:54:18.8±1.5, 20°.95S×69°.23W, h78km±7km, mb4.4
SJA 12 09:54:22.3±0.8, 20°.79S×69°.12W, h110km±3km, ML3.9, MW3.8
GUC 12 09:54:24.1±0.6, 20°.80S×69°.04W, h102km±3km, ML4.0
IDC 12 09:54:24.7±2.7, 20°.80S×68°.76W, h117km±24km, mb3.5/6, mbtmp3.8/9, Error ellipse: s-maj=28.8km s-min=22.5km az=110.0

ISC 12 09:54:22.9±0.6, 20°.75S±0°.03×69°.05W±0°.05, h107km±5km, n62, σ1$47/90, mb3.6/5, 7C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.51	234	⇑eP	Pn	09 54 39.7	+0.1
PB01				eS	Sn	09 54 51.9	-0.2
PB01				IAML		09 54 52.7	
	comp=E,18μm,0.3s						
PB01	IPOC Station P	0.51	234	eP	Pn	09 54 39.5	-0.1
PB01				IAML	Sn	09 54 52.3	+0.2
	comp=Z,4μm,0.2s						
PB01				eS	Sn	09 54 52.3	+0.2
PB08	IPOC Station P	0.61	351	⇓eP	Pn	09 54 41.6	+0.9
PB08				eS	Sn	09 54 55.1	+1.1
PB08				IAML		09 54 55.5	
	comp=E,8μm,0.3s						
PB08	IPOC Station P	0.61	351	eP	Pn	09 54 41.5	+0.7
PB08				eS	Sn	09 54 55.3	+1.3
PB08				IAML		09 54 56.3	
	comp=Z,3μm,0.1s						
PX03	IPOC Station P	0.64	302	⇑eP	Pn	09 54 40.3	-0.3
PX03				eS	Sn	09 54 54.4	+0.5
PX03				IAML		09 54 54.6	
	comp=N,10μm,0.2s						
PATCX	Punta Patache	1.04	266	⇑eP	Pn	09 54 44.7	+0.3
PATCX				eS	Sn	09 55 01.0	+0.6
PATCX				IAML		09 55 02.8	
	comp=N,2μm,0.2s						
PATCX	Punta Patache	1.04	266	eP	Pn	09 54 44.6	+0.3
PATCX				eS	Sn	09 55 02.2	+1.7
PATCX				IAML		09 55 04.5	
	comp=Z,1μm,0.3s						
PB09	IPOC Station P	1.06	190	⇑eP	Pn	09 54 45.3	+0.5
PB09				eS	Sn	09 55 00.8	-0.3
PB09				IAML		09 55 03.4	
	comp=E,2μm,0.5s						
PB09	IPOC Station P	1.06	190	eP	Pn	09 54 45.3	+0.5
PB09				eS	Sn	09 55 00.4	-0.8
PB09				IAML		09 55 03.1	
	comp=Z,1μm,0.5s						
TA01	Diego Aracena	1.07	279	⇑eP	Pn	09 54 44.9	+0.2
TA01				eS	Sn	09 55 01.4	+0.3
TA01				IAML		09 55 02.9	
	comp=E,3μm,0.2s						
TA01	Diego Aracena	1.07	279	eP	Pn	09 54 44.8	+0.2
TA01				eS	Sn	09 55 00.7	-0.3
GO01	Chusmiza	1.08	353	i P	Pn	09 54 46.2	+0.9
GO01				i S	Sn	09 55 03.5	+1.4
GO01	Chusmiza	1.08	353	eP	Pn	09 54 45.5	+0.2
GO01				eS	Sn	09 55 04.0	+2.0
TA02	Huaiquique	1.12	295	⇑eP	Pn	09 54 45.6	+0.5
TA02				eS	Sn	09 55 02.0	+0.1
TA02				IAML		09 55 06.0	
	comp=N,10μm,0.1s						
TA02	Huaiquique	1.12	295	eP	Pn	09 54 45.0	-0.1
TA02				eS	Sn	09 55 03.7	+1.8
TA02				IAML		09 55 06.5	
	comp=Z,3μm,0.1s						
PB11	IPOC Station P

AZAP Zapla 5.05 134 *eP* **Pn 09 55 37.7 +1.0**
FDPY Filadelfia 8.61 102 *eP* **Pn 09 56 21.1 -3.7**
BBSD Serra de San D 8.73 68 *eP* **Pn 09 56 24.5 -2.0**
SIV San Ignacio 8.93 59 P **Pn 09 56 26.8 -2.3**
comp=Z,4.9nm,0.6s,baz=247,slow=11,SNR=14
MURT Porto Murtinho 10.71 97 *eP* **Pn 09 56 50.4 -2.8**
PTLB Pontes e Lacer 10.79 62 *eP* **Pn 09 56 53.5 -0.9**
VILB Vilhena 11.48 49 *eP* **Pn 09 57 03.1 -0.5**
BDQN Bodoquena, MS 11.52 91 *eP* **Pn 09 57 02.2 -2.0**
AQDB Aquidauana 12.50 91 *eP* **Pn 09 57 15.6 -1.6**
SALV Santo Antonio 13.56 71 *eP* **Pn 09 57 30.7 -0.4**
PDRB Porto dos Gac 14.91 54 *eP* **Pn 09 57 48.2 -0.1**
LDASE Londrina, Braz 16.83 102 *eP* **P 09 58 13.1 +0.5**
ARAG Araguaiana, MT 17.12 76 *eP* **Pn 09 58 17.6 +1.9**
NPGB Novo Progresso 19.01 46 *eP* **Pn 09 58 37.7 -0.7**
SNDB Serra Nova Dou 19.12 66 *eP* **P 09 58 36.7 -1.1**
MACA Manacapuru-AM 19.29 26 *eP* **P 09 58 40.1 +0.6**
MAJ01 Sao Joao Batis 19.45 114 *eP* **P 09 58 41.2 0.0**
IPMB Ipameri, GO 19.85 86 *eP* **P 09 58 45.3 -0.4**
PLCA Paso Flores 19.96 183 P **P 09 58 47.1 +0.4**
comp=Z,1.0nm,0.7s,baz=16,slow=12,SNR=4.9
BDFB Brasilia 20.61 79 P **P 09 58 52.4 -1.6**
comp=Z,3.4nm,0.4s,baz=206,slow=8.0,SNR=5.6
comp=Z,3.4nm,0.4s
ITTB Itaituba 20.80 40 *eP* **P 09 58 54.2 -1.7**
PMNB Patos De Minas 21.41 88 *eP* **P 09 59 01.5 -1.0**
BSCB Bom Sucesso 22.68 95 *eP* **P 09 59 15.8 0.0**
MAN01 Angra dos Reis 23.38 100 *eP* **P 09 59 22.2 -0.1**
SMTB Santa Maria do 23.84 63 *eP* **P 09 59 27.2 +0.7**
DIAM Diamantina, MG 24.04 89 *eP* **P 09 59 28.2 -0.2**
JANB Januaria 24.20 81 *eP* **P 09 59 29.4 -0.4**
BOAV Boa Vista 24.47 21 *eP* **P 09 59 32.7 +0.6**
SDBA SAO DESIDERIO 24.56 74 *eP* **P 09 59 33.7 +0.7**
TXAR Lajitas Array 59.94 325 P **P 10 04 19.4 +1.2**
comp=Z,0.1nm,0.5s,baz=152,slow=5.9,SNR=1.8
comp=Z,0.1nm,0.5s
DBIC Dimbokro 68.65 74 P **P 10 05 14.6 -0.7**
comp=Z,4.6nm,0.8s,baz=168,slow=8.4,SNR=3.0
comp=Z,4.6nm,0.8s
QSPA South Pole Qui 69.44 180 P **P 10 05 20.3 +0.8**
comp=Z,1.1nm,1.0s,baz=252,slow=4.3,SNR=2.1
comp=Z,1.1nm,1.0s
TORD Torodi Ar. Bea 77.23 71 P **P 10 06 04.9 -1.0**
comp=Z,0.7nm,0.3s,baz=258,slow=5.5,SNR=14
TORD pP **pP 10 06 33.8 -0.6**
comp=Z,0.9nm,0.8s,baz=262,slow=5.1,SNR=3.7
comp=Z,0.7nm,0.3s
ESDC Sonseca Array 85.39 45 P **P 10 06 49.3 +0.8**
comp=Z,0.2nm,0.3s,baz=247,slow=5.8,SNR=1.7
comp=Z,0.2nm,0.3s

CATAC ***12*** *09:58:26.2±0.9, 13°.66N×91°.19W, h6km±7km, ML3.4*
SNET ***12*** *09:58:27.8±0.8, 14°.21N×91°.04W, h105km±44km, ML3.8*
GCG ***12*** *09:58:32.3±0.7, 14°.36N×91°.07W, h69km±6km, MD3.4*
ISC 12 09:58:29.8±1.9, 14°.2N±0°.1×91°.06W±0°.05, h87km±15km, n26, σ1§05/40, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.32**	**44**	*i P*	**Pn**	**09 58 41.5**	**-1.6**
ESSG				*i S*	**Sn**	**09 58 53.4**	**+0.5**
ESSG				IAML		09 58 55.8	
comp=Z,740nm,1.0s							
FUG	**Fuego 3**	**0.37**	**35**	*eP*	**Pn**	**09 58 43.7**	**+0.3**
FUG				*eS*	**Sn**	**09 58 53.3**	**-0.3**
SULM	**Suchitepequez,**	**0.51**	**288**	*eP*	**Pn**	**09 58 45.0**	**+0.7**
SULM				*eS*	**Sn**	**09 58 54.4**	**-0.6**
RTAL	**Retalhuleu**	**0.72**	**301**	*i P*	**Pn**	**09 58 45.5**	**-0.7**
RTAL				*i S*	**Sn**	**09 58 58.6**	**+0.1**
RTAL				IAML		09 58 59.3	
comp=Z,550nm,1.0s							
STG3	**Santiaguito 3,**	**0.75**	**319**	*eP*	**Pn**	**09 58 46.9**	**+0.2**
STG3				*eS*	**Sn**	**09 58 59.5**	**+0.3**
NBG	**Las Nubes**	**0.82**	**58**	*eP*	**Pn**	**09 58 48.4**	**+0.8**
NBG				*eS*	**Sn**	**09 59 01.0**	**+0.2**
SLOZ	**Alcaldia de Sa**	**1.25**	**95**	*eP*	**Pn**	**09 58 51.4**	**-0.9**
SLOZ				*eS*	**Sn**	**09 59 10.3**	**+1.1**
NUBE	**Las Nubes**	**1.27**	**101**	*i P*	**Pn**	**09 58 51.9**	**-0.8**
NUBE				*eS*	**Sn**	**09 59 09.8**	**0.0**
NUBE	**Las Nubes**	**1.27**	**101**	*i P*	**Pn**	**09 58 51.8**	**-0.8**
NUBE				IAML		09 58 52.2	
comp=Z,400nm,1.0s							
NUBE				*i S*	**Sn**	**09 59 10.0**	**+0.2**
RTR	**El Retiro**	**1.40**	**100**	*eP*	**Pn**	**09 58 53.9**	**-0.3**
CEVE	**Cerro Verde**	**1.43**	**103**	*eP*	**Pn**	**09 58 54.1**	**-0.6**
CEVE				IAML		09 59 17.8	
comp=Z,936nm,0.2s							
CEVE	**Cerro Verde**	**1.43**	**103**	*i P*	**Pn**	**09 58 54.4**	**-0.4**
CEVE				*i S*	**Sn**	**09 59 16.2**	**+2.6**
CEVE				IAML		09 59 17.6	
comp=Z,790nm,1.0s							
SNJE	**San Jose**	**1.44**	**101**	*eP*	**Pn**	**09 58 54.1**	**-0.7**
JAYA	**Jayaque - finc**	**1.64**	**107**	*i P*	**Pn**	**09 58 56.6**	**-0.8**
JAYA	**Jayaque - finc**	**1.64**	**107**	*i P*	**Pn**	**09 58 56.4**	**-1.0**
JAYA				*i S*	**Sn**	**09 59 17.4**	**-0.8**
JAYA				IAML		09 59 21.0	
comp=Z,620nm,1.0s							
MTO3	**Montecristo**	**1.67**	**81**	*eP*	**Pn**	**09 58 56.6**	**-1.1**
MTO3	**Montecristo**	**1.67**	**81**	*i P*	**Pn**	**09 58 56.7**	**-1.1**
ESQI	**Esquipulas**	**1.72**	**76**	*eP*	**Pn**	**09 58 57.5**	**-0.8**
ESQI	**Esquipulas**	**1.72**	**76**	*i P*	**Pn**	**09 58 57.6**	**-0.7**
PMON	**Piamonte**	**1.75**	**104**	*i P*	**Pn**	**09 58 58.1**	**-0.6**
PMON				*i S*	**Sn**	**09 59 23.1**	**+2.4**
PMON				IAML		09 59 32.0	
comp=Z,240nm,1.0s							
UEES	**Universidad Ev**	**1.82**	**103**	*i P*	**Pn**	**09 58 59.3**	**-0.3**
UEES				IAML		09 59 01.9	
comp=Z,130nm,1.0s							
PANCS	**Alcalda de**	**1.90**	**106**	*i P*	**Pn**	**09 58 59.7**	**-1.0**
PANCS				*i S*	**Sn**	**09 59 26.3**	**+2.1**
PANCS				IAML		09 59 39.6	
comp=Z,2μm,1.0s							
PAVA	**Las Pavas**	**2.11**	**102**	*i P*	**Pn**	**09 59 02.6**	**-0.8**
PAVA				IAML		09 59 03.1	
comp=Z,470nm,1.0s							
COEG	**Centro de Oper**	**2.18**	**104**	*i P*	**Pn**	**09 59 04.4**	**0.0**
COEG				*i S*	**Sn**	**09 59 29.1**	**-1.7**
COEG				IAML		10 00 08.7	
comp=Z,250nm,1.0s							
TECO	**Alcaldia de Te**	**2.30**	**105**	*i P*	**Pn**	**09 59 04.5**	**-1.4**
TECO				IAML		09 59 05.2	
comp=Z,42nm,1.0s							
PKGN	**Cerro Pekin**	**4.24**	**110**	*i P*	**Pn**	**09 59 32.6**	**+0.6**

ISN ***12*** *10:03:24.8±1.1, 30°.62N×48°.15E, h7km±265km, ML3.0*
TEH ***12*** *10:03:26.4, 30°.85N×48°.27E, h8km±45km, ML3.0*
ISC 12 10:03:27.2±1.4, 30°.86N±0°.09×48°.27E±0°.05, h10km, n21, σ1§76/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.56**	**34**	Pg	**Pg**	**10 03 37.5**	**-0.7**
ABEH	**Behbahan**	**1.73**	**98**	Pg	**Pb**	**10 03 58.8**	**-0.2**
RAFI	**Al-Rafai**	**2.04**	**295**	*e*Pn	**Pn**	**10 04 02.0**	**+0.4**
RAFI				*e*Sn	**Sb**	**10 04 28.5**	**-1.2**
JHBN	**Jahan bin**	**2.46**	**56**	Pn	**Pb**	**10 04 09.6**	**-2.1**
ZNGN	**Zangian**	**2.53**	**60**	Pn	**Pn**	**10 04 09.9**	**+1.2**
IKFM	**Kafar-mosalman**	**2.68**	**352**	Pn	**Pn**	**10 04 11.5**	**+1.2**
IBRJ	**Brojen**	**2.76**	**67**	Pn	**Pn**	**10 04 13.1**	**+1.3**
KLNJ	**Kolanjah**	**2.85**	**86**	Pn	**Pn**	**10 04 14.2**	**+1.1**
IPIR	**Pirpir**	**2.88**	**50**	Pn	**Pn**	**10 04 14.9**	**+1.5**
IBDR	**Badra**	**3.00**	**319**	*e*Pn	**Pn**	**10 04 16.0**	**+1.2**
IBDR				*e*Sn	**Sb**	**10 04 53.5**	**-3.8**
BDRS	**Dareh Seyedi**	**3.12**	**9**	Pn	**Pn**	**10 04 18.8**	**+2.0**
HSAM	**Samen**	**3.35**	**5**	Pn	**Pn**	**10 04 21.5**	**+1.6**
IRAM	**Ramesheh**	**3.64**	**74**	Pn	**Pn**	**10 04 24.6**	**+0.7**
IKLH	**Kolahrood**	**3.72**	**48**	Pn	**Pn**	**10 04 26.4**	**+1.4**
IGHG	**Ghaleghazi**	**3.74**	**338**	Pn	**Pn**	**10 04 26.9**	**+1.7**
QAMS	**Qamsar**	**3.90**	**42**	Pn	**Pn**	**10 04 29.5**	**+2.1**
IZEF	**Zefreh**	**4.00**	**59**	Pn	**Pn**	**10 04 29.5**	**+0.6**
BHD	**Baghdad**	**4.08**	**307**	*e*Pn	**Pn**	**10 04 31.0**	**+1.3**
BHD				*e*Sn	**Sn**	**10 05 19.0**	**+1.4**
KRSH	**Karshahi**	**4.50**	**46**	Pn	**Pn**	**10 04 37.6**	**+2.0**
IRAZ	**Razeghan**	**4.74**	**17**	Pn	**Pn**	**10 04 40.5**	**+1.6**
IKRK	**Kirkuk**	**5.60**	**325**	*e*Pn	**Pn**	**10 04 52.5**	**+2.0**
IKRK				*e*Sn	**Sn**	**10 05 57.5**	**+2.6**

IDC ***12*** *10:32:46.1±1.0, 23°.58S×63°.86W, h0km, mb3.6/5, mbtmp3.7/8, ML3.8/3, MS3.2/2, Error ellipse: s-maj=31.8km s-min=20.2km az=56.0*
SJA ***12*** *10:32:47.6±0.7, 23°.47S×64°.08W, h13km, ML4.1, MW4.0*
VAO ***12*** *10:32:52.4±1.2, 23°.16S×63°.86W, h19km±12km, mb4.6*
ISC 12 10:32:48.4±0.6, 23°.41S±0°.04×64°.00W±0°.06, h10km, n45, σ1§93/48, mb3.8/5, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALOL	**LOMAS DE OLMED**	**0.40**	**178**	*eP*	**Pg**	**10 32 54.9**	**-1.5**
ALOL				*eS*	**Sg**	**10 33 01.2**	**-0.5**
ASTB	**Santa Barbara**	**0.68**	**218**	*eP*	Pg	10 32 58.1	-3.5
AZAP	**Zapla**	**1.27**	**230**	*eP*	Pn	10 33 09.3	-3.2
AZAP				*eS*	**Sb**	**10 33 27.0**	**-2.1**
AZAP				IAML		10 33 29.0	
comp=Z,14μm,0.5s							
YJA	**Yavi**	**1.87**	**311**	*eP*	**Pn**	**10 33 22.1**	**+1.3**
YJA				*eS*	**Sn**	**10 33 47.8**	**+3.1**
YJA				IAML		10 33 48.8	
comp=Z,1μm,0.6s							
SLA	**San Lorenzo**	**1.90**	**226**	*eP*	**Pn**	**10 33 19.4**	**-1.6**
SLA				*eS*	**Sn**	**10 33 46.0**	**+0.8**
SLA				IAML		10 33 50.9	
comp=Z,976nm,0.9s							
FSA	**Cafayete**	**3.24**	**213**	*eP*	**Pn**	**10 33 38.2**	**-1.3**
FSA				*eS*	**Sn**	**10 34 19.1**	**+1.0**
AHML	**Horco Molle**	**3.57**	**200**	*eP*	**Pn**	**10 33 42.9**	**-1.0**
AHML				*eS*	**Sb**	**10 34 38.3**	**+3.2**
AHML				IAML		10 34 42.1	
comp=Z,262nm,0.5s							
FDPY	**Filadelfia**	**3.90**	**74**	*eP*	**Pn**	**10 33 49.9**	**+1.4**
GUSE	**Guasayan**	**4.52**	**190**	*eP*	Pn	10 33 54.0	-3.0
GUSE				*eS*	**Sn**	**10 34 51.1**	**+1.4**
PAPY	**Pozo Azul**	**5.33**	**98**	*eP*	**Pn**	**10 34 09.8**	**+1.8**
MURT	**Porto Murtinho**	**6.16**	**75**	*eP*	**Pn**	**10 34 19.3**	**-0.1**
CPUP	**Villa Florida**	**6.71**	**117**	Pn	**Pn**	**10 34 25.3**	**-1.8**
comp=Z,1.6nm,0.3s,baz=300,slow=11,SNR=26							
CPUP				Lg	Lg	10 36 14.4	
comp=Z,2.1nm,0.3s,baz=325,slow=13,SNR=1.4							
comp=Z,11nm,0.6s							
BBSD	**Serra de San D**	**6.96**	**28**	*eP*	**Pn**	**10 34 29.4**	**-1.2**
BDQN	**Bodoquena, MS**	**7.34**	**68**	*eP*	**Pn**	**10 34 36.2**	**+0.4**
SJPY	**San Joaquin**	**7.37**	**104**	*eP*	**Pn**	**10 34 36.1**	**-0.1**
SIV	**San Ignacio**	**7.88**	**21**	Pn	**Pn**	**10 34 43.3**	**+0.1**
comp=Z,0.2nm,0.3s,baz=199,slow=11,SNR=31							
SIV				Sn	**Sn**	**10 36 09.7**	**-2.9**
comp=Z,0.2nm,0.3s,baz=112,slow=19,SNR=1.6							
SIV				Lg	Lg	10 36 56.8	
comp=Z,0.4nm,0.3s,baz=264,slow=18,SNR=4.1							
comp=Z,6.1nm,0.5s							
LPAZ	**La Paz**	**8.09**	**330**	Pn	**Pn**	**10 34 47.1**	**+0.5**
comp=Z,0.1nm,0.3s,baz=87,slow=10,SNR=2.5							
LPAZ				Sn	**Sn**	**10 36 15.8**	**-2.5**
comp=Z,0.5nm,0.3s,baz=202,slow=14,SNR=2.9							
comp=Z,0.6nm,0.3s							
LPAZ	**La Paz**	**8.09**	**330**	*eP*	**Pn**	**10 34 47.5**	**+1.0**
AQDB	**Aquidauana**	**8.23**	**71**	*eP*	**Pn**	**10 34 48.7**	**+0.6**
AMBA	**Amambai (Brazi**	**8.30**	**88**	*eP*	**Pn**	**10 34 48.5**	**-0.4**
ITQB	**Itaqui**	**9.07**	**135**	*eP*	**Pn**	**10 35 04.0**	**+4.5**
PTLB	**Pontes e Lacer**	**9.15**	**31**	*eP*	**Pn**	**10 35 00.1**	**-0.5**
RPRD	**Ribas do Rio P**	**9.99**	**75**	*eP*	**Pn**	**10 35 13.8**	**+1.7**
SALV	**Santo Antonio**	**10.81**	**48**	*eP*	Pn	10 35 21.4	-2.0
PTGB	**Pitanga**	**10.98**	**99**	*eP*	**Pn**	**10 35 28.7**	**+3.0**
VILB	**Vilhena**	**11.01**	**20**	*eP*	**Pn**	**10 35 24.8**	**-1.4**
VILB				*eS*	**Sn**	**10 37 26.0**	**-3.4**
ITAB	**Concordia**	**11.38**	**112**	*eP*	**Pn**	**10 35 34.1**	**+2.9**
CPSB	**Cacapava Do Su**	**11.71**	**129**	*eP*	**Pn**	**10 35 39.8**	**+4.2**
LDASE	**Londrina, Braz**	**11.83**	**92**	*eP*	**Pn**	**10 35 39.0**	**+1.7**
LDASE				*eS*	**Sn**	**10 37 49.7**	**+0.2**
CNLB	**Canela**	**13.16**	**119**	*eP*	**Pn**	**10 35 59.0**	**+3.4**
ITRB	**Iturama**	**13.21**	**76**	*eP*	**Pn**	**10 35 56.7**	**+0.4**
FRTB	**Fartura**	**13.26**	**93**	*eP*	**Pn**	**10 35 58.1**	**+1.2**
PDRB	**Porto dos Gac**	**13.62**	**32**	*eP*	**Pn**	**10 36 01.6**	**-0.3**
ETMB	**Extrema**	**13.69**	**351**	*eP*	Pn	10 36 00.6	-2.1
ARAG	**Araguaiana, MT**	**13.80**	**58**	*eP*	**Pn**	**10 36 04.7**	**+0.4**
MACA	**Manacapuru-AM**	**20.39**	**10**	*eP*	**P**	**10 37 26.2**	**+0.7**
ATAH	**Atahualpa**	**21.30**	**317**	LR	LR	10 46 58.4	
comp=Z,52nm,19.0s,baz=86,slow=40							
SNAA	**Sanae**	**59.00**	**161**	P	**P**	**10 42 46.1**	**-2.0**
comp=Z,1.1nm,0.9s,baz=325,slow=5.1,SNR=3.7							
comp=Z,1.1nm,0.9s							
TXAR	**Lajitas Array**	**64.86**	**322**	P	**P**	**10 43 30.3**	**+2.2**
comp=Z,0.1nm,0.7s,baz=94,slow=5.4,SNR=1.5							
comp=Z,0.1nm,0.7s							
DBIC	**Dimbokro**	**65.01**	**70**	LR	LR	11 10 22.5	
comp=Z,22nm,19.0s,baz=137,slow=35							
QSPA	**South Pole Qui**	**66.79**	**180**	P	**P**	**10 43 38.1**	**-1.9**
comp=Z,0.3nm,0.7s,baz=62,slow=2.7,SNR=1.5							
comp=Z,0.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**73.79**	**68**	P	**P**	**10 44 22.0**	**-1.6**
comp=Z,0.6nm,0.6s,baz=255,slow=4.4,SNR=4.0							
comp=Z,0.6nm,0.6s							
MAW	**Mawson**	**81.16**	**162**	P	P	10 45 01.3	-2.6
comp=Z,0.7nm,0.8s,baz=247,slow=13,SNR=1.7							
comp=Z,0.7nm,0.8s							
ZALV	**Zalesovo Beam**	**141.56**	**29**	PKP	**PKPdf**	**10 52 19.0**	**-0.6**
comp=Z,0.7nm,0.4s,baz=260,slow=4.4,SNR=4.1							
MKAR	**Makanchi Array**	**144.30**	**41**	PKP	**PKPab**	**10 52 22.9**	**+0.2**
comp=Z,2.0nm,0.9s,baz=284,slow=4.9,SNR=5.7							

KRNET ***12*** *10:36:35.8±0.1, 43°.31N×78°.75E, h16km, mb3.4*
NNC ***12*** *10:36:35.5±0.4, 43°.31N×78°.75E, h2km±2km, mb3.4, mpv3.6, Error ellipse: s-maj=3.4km s-min=2.7km az=166.0*
SOME ***12*** *10:36:35.5, 43°.30N×78°.75E, h15km*
ISC 12 10:36:36.0±0.8, 43°.32N±0°.02×78°.74E±0°.02, h10km±6km, n50, σ0§83/93, 13C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek**	**0.16**	**345**	P	**Pg**	**10 36 39.7**	**+0.2**
KPKS				S	**Sg**	**10 36 42.5**	**+0.5**
808nm,0.2s							
KPKS	**Kokpek**	**0.16**	**345**	*eP*	**Pg**	**10 36 39.7**	**+0.2**
KPKS				*eS*	**Sg**	**10 36 42.5**	**+0.5**
725nm,0.1s							
KPKS	**Kokpek**	**0.16**	**345**	*eP*	**Pg**	**10 36 39.7**	**+0.2**
KPKS				*eS*	**Sg**	**10 36 42.5**	**+0.5**
ZHN	**Zhinishke**	**0.27**	**237**	P	**Pg**	**10 36 41.3**	**-0.1**
113nm,0.1s							
ZHN				S	**Sg**	**10 36 45.3**	**+0.2**
1μm,0.2s							
ZHN	**Zhinishke**	**0.27**	**237**	*eP*	**Pg**	**10 36 41.3**	**-0.1**
113nm,0.1s							
ZHN				*eS*	**Sg**	**10 36 45.3**	**+0.2**
1μm,0.2s							
ZHN	**Zhinishke**	**0.27**	**237**	*eP*	**Pg**	**10 36 41.3**	**-0.1**
ZHN				*eS*	**Sg**	**10 36 45.3**	**+0.2**
UZB	**Uzynbulak**	**0.27**	**129**	P	**Pg**	**10 36 40.9**	**-0.6**
53nm,0.1s							
UZB				S	**Sg**	**10 36 44.6**	**-0.5**
1μm,0.1s							
UZB	**Uzynbulak**	**0.27**	**129**	*eP*	**Pg**	**10 36 40.9**	**-0.6**
53nm,0.1s							
UZB				*eS*	**Sg**	**10 36 44.6**	**-0.5**
1μm,0.1s							
UZB	**Uzynbulak**	**0.27**	**129**	*eP*	**Pg**	**10 36 40.9**	**-0.6**
UZB				*eS*	**Sg**	**10 36 44.6**	**-0.5**
SATY	**Saty**	**0.35**	**224**	P	**Pg**	**10 36 42.9**	**-0.2**
146nm,0.1s							
SATY				S	**Sg**	**10 36 48.2**	**+0.5**
2μm,0.2s							
SATY	**Saty**	**0.35**	**224**	*eP*	**Pg**	**10 36 42.9**	**-0.2**
146nm,0.1s							
SATY				*eS*	**Sg**	**10 36 48.2**	**+0.5**
2μm,0.2s							
SATY	**Saty**	**0.35**	**224**	*eP*	**Pg**	**10 36 42.9**	**-0.2**
SATY				*eS*	**Sg**	**10 36 48.2**	**+0.5**
KURS	**Kuram**	**0.45**	**293**	P	**Pg**	**10 36 44.8**	**0.0**
15nm,0.2s							
KURS				S	**Sb**	**10 36 51.6**	**-1.3**
35nm,0.3s							
KURS	**Kuram**	**0.45**	**293**	*eP*	**Pg**	**10 36 44.8**	**0.0**
15nm,0.2s							
KURS				*eS*	**Sb**	**10 36 51.6**	**-1.3**
35nm,0.3s							
KURS	**Kuram**	**0.45**	**293**	*eP*	**Pg**	**10 36 44.8**	**0.0**
KURS				*eS*	**Sb**	**10 36 51.6**	**-1.3**
SHLS	**Shalkode**	**0.55**	**106**	P	**Pn**	**10 36 51.3**	**+1.1**
36nm,0.2s							
SHLS				S	**Sn**	**10 37 02.8**	**+3.3**
106nm,0.3s							
SHLS	**Shalkode**	**0.55**	**106**	*eP*	**Pn**	**10 36 50.8**	**+0.6**
36nm,0.2s							
SHLS				*eS*	**Sn**	**10 37 01.9**	**+2.4**
56nm,0.1s							
BLB	**Baldybastay**	**0.81**	**347**	P	**Pg**	**10 36 51.1**	**-0.4**
169nm,0.1s							
BLB				S	**Sg**	**10 37 02.0**	**0.0**
56nm,0.2s							
PRZ	**Przheval'sk**	**0.87**	**197**	⇑*iP*	**Pg**	**10 36 52.2**	**-0.5**
PRZ				⇑*iS*	**Sb**	**10 37 04.0**	**-1.1**
ARXS	**Arharly**	**1.11**	**324**	P	**Pb**	**10 36 56.6**	**-0.8**
4.9nm,0.1s							
ARXS				S	**Sb**	**10 37 11.6**	**-0.6**
70nm,0.1s							
ARXS	**Arharly**	**1.11**	**324**	*eP*	**Pb**	**10 36 56.5**	**-1.0**
4.9nm,0.1s							
ARXS				*eS*	**Sb**	**10 37 11.6**	**-0.6**
70nm,0.1s							
MDOK	**Medeo**	**1.24**	**264**	⇓P	**Pb**	**10 36 58.9**	**-0.8**
2.3nm,0.3s							
MDOK				Pg	**Pb**	**10 36 59.0**	**-0.8**
6.5nm,0.3s							
MDOK				Lg	Lg	10 37 15.8	
12nm,0.4s							
MDOK				⇑S	**Sg**	**10 37 16.6**	**+0.5**
9.5nm,0.5s							
MDOK	**Medeo**	**1.24**	**264**	*eP*	**Pb**	**10 36 59.0**	**-0.8**
11nm,0.2s							
MDOK				*eS*	**Sg**	**10 37 15.8**	**-0.3**
17nm,0.2s							
MDOK	**Medeo**	**1.24**	**264**	*eP*	**Pb**	**10 36 59.0**	**-0.8**
MDOK				*eS*	**Sg**	**10 37 15.8**	**-0.3**
DJR	**Jarkent**	**1.27**	**36**	P	**Pb**	**10 36 59.2**	**-1.0**
9.7nm,0.1s							
DJR				S	**Sg**	**10 37 16.2**	**-0.8**
46nm,0.1s							
DJR	**Jarkent**	**1.27**	**36**	*eP*	**Pb**	**10 36 59.2**	**-1.0**
9.7nm,0.1s							
DJR				*eS*	**Sg**	**10 37 16.1**	**-0.8**
46nm,0.1s							
TNSS	**Tian-Shan**	**1.34**	**259**	P	**Pb**	**10 37 00.7**	**-0.8**
7.2nm,0.2s							
TNSS				S	**Sg**	**10 37 18.7**	**-0.4**
7.3nm,0.2s							
TNSS	**Tian-Shan**	**1.34**	**259**	*eP*	**Pb**	**10 37 00.7**	**-0.8**
8.7nm,0.1s							
TNSS				*eS*	**Sg**	**10 37 18.7**	**-0.4**
10nm,0.1s							
TNSS	**Tian-Shan**	**1.34**	**259**	*eP*	**Pb**	**10 37 00.7**	**-0.8**
TNSS				*eS*	**Sg**	**10 37 18.8**	**-0.4**
CHKK	**Chushkaly**	**1.38**	**294**	P	**Pb**	**10 37 01.2**	**-0.8**
7.1nm,0.1s							
CHKK				S	**Sb**	**10 37 19.5**	**-0.2**
121nm,0.2s							
CHKK	**Chushkaly**	**1.38**	**294**	*eP*	**Pb**	**10 37 01.2**	**-0.8**
7.1nm,0.1s							
CHKK				*eS*	**Sb**	**10 37 19.5**	**-0.2**
121nm,0.2s							
CHKK	**Chushkaly**	**1.38**	**294**	*eP*	**Pb**	**10 37 01.2**	**-0.8**
CHKK				*eS*	**Sb**	**10 37 19.5**	**-0.2**
KDJ	**Kajisay**	**1.65**	**225**	⇑*iP*	**Pb**	**10 37 06.3**	**-0.3**
KDJ				⇑*iS*	**Sg**	**10 37 28.5**	**-0.5**
MTBS	**Maitube**	**1.70**	**265**	P	**Pb**	**10 37 07.0**	**-0.4**
35nm,0.2s							
MTBS				S	**Sg**	**10 37 30.1**	**-0.5**
44nm,0.3s							
MTBS	**Maitube**	**1.70**	**265**	*eP*	**Pb**	**10 37 07.0**	**-0.4**
35nm,0.2s							
MTBS				*eS*	**Sg**	**10 37 30.1**	**-0.5**
44nm,0.3s							
MTBS	**Maitube**	**1.70**	**265**	*eP*	**Pb**	**10 37 07.0**	**-0.4**
MTBS				*eS*	**Sg**	**10 37 30.1**	**-0.5**
KUU	**Kurty**	**1.84**	**289**	P	**Pb**	**10 37 08.9**	**-0.8**
3.5nm,0.1s							
KUU				S	**Sb**	**10 37 32.4**	**-0.4**
44nm,0.2s							
KUU	**Kurty**	**1.84**	**289**	*eP*	**Pb**	**10 37 08.3**	**-1.4**
3.5nm,0.1s							
KUU				*eS*	**Sb**	**10 37 32.4**	**-0.4**
44nm,0.2s							
KAPS	**Kapalarasan**	**2.02**	**12**	Pg	**Pb**	**10 37 12.2**	**-0.7**
5.3nm,0.1s							
KAPS				Lg	Lg	10 37 39.3	
113nm,0.2s							
KAPS	**Kapalarasan**	**2.02**	**12**	*eP*	**Pb**	**10 37 12.4**	**-0.5**
5.3nm,0.1s							
KAPS				*eS*	**Sg**	**10 37 39.3**	**-1.6**
113nm,0.2s							
KST	**Kastek**	**2.05**	**263**	Pg	**Pb**	**10 37 12.4**	**-1.0**
10nm,0.4s							
KST				Lg	Lg	10 37 40.4	
19nm,0.4s							
KST	**Kastek**	**2.05**	**263**	*eP*	**Pb**	**10 37 12.4**	**-1.0**
10nm,0.4s							
KST

Fault plane solution: NP1:ϕ_s301.18000°, δ61.98000°, λ67.20000°.
CATAC ***12*** *10:47:53.2±0.3, 8°.63N×83°.25W, h12^{km}±3^{km}, ML4.2*
UPA ***12*** *10:47:53.4±1.7, 8°.65N×83°.25W, h5^{km}, ML4.6, MW4.7*
ISC 12 10:47:52.1±0.7, 8°.56N±0°.03×83°.34W±0°.03, h31^{km}±4^{km}, n72, $\sigma_1$$^{\circ}$44/107, mb3.5/4, 7C-17D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIME	**Puerto Jimenez**	**0.02**	**153**	↑eP	**Pb**	**10 47 56.7**	**-0.5**
JIME				eS	**Sb**	**10 48 00.0**	**-0.6**
PTJ1	**Puerto Jimnez**	**0.04**	**125**	i P	**Pb**	**10 47 56.7**	**-0.6**
PTJ1				IAML		10 47 56.9	
	comp=Z,160μm,1.0s						
PTJ1				i S	**Sb**	**10 48 00.4**	**-0.3**
PTJ1	**Puerto Jimnez**	**0.04**	**125**	↑iP	**Pb**	**10 47 56.6**	**-0.6**
PTJ1	**Puerto Jimnez**	**0.04**	**125**	↑eP	**Pb**	**10 47 56.6**	**-0.6**
PTJ1				eS	**Sb**	**10 48 00.1**	**-0.7**
NELY	**Ciudad Neily**	**0.40**	**77**	↓eP	**Pb**	**10 48 00.4**	**-0.5**
NELY				eS	**Sb**	**10 48 06.5**	**-0.5**
VITO	**San Vito**	**0.44**	**55**	↓eP	**Pb**	**10 48 01.5**	**-0.3**
VITO				eS	**Sb**	**10 48 08.5**	**+0.1**
CDITO	**Canoas**	**0.46**	**88**	i P	**Pb**	**10 48 01.4**	**-0.5**
CDITO				i S	**Sb**	**10 48 08.2**	**-0.4**
CDITO				IAML		10 48 14.6	
	comp=Z,7μm,1.0s						
EDP2	**Potrero Grande**	**0.48**	**19**	eP	**Pb**	**10 48 02.0**	**-0.2**
EDP2				eS	**Sn**	**10 48 09.5**	**-0.8**
LPPC	**Paso Canoas**	**0.49**	**93**	↓eP	**Pb**	**10 48 01.7**	**-0.7**
PTPM	**Petroterminale**	**0.57**	**128**	↑iP	**Pn**	**10 48 04.5**	**+0.4**
PTPM				eS	**Sn**	**10 48 14.7**	**+2.1**
BURE	**Buenos Aires**	**0.61**	**360**	↑eP	**Pn**	**10 48 04.3**	**-0.4**
BURE				eS	**Sn**	**10 48 13.2**	**-0.4**
OCHAL	**Ojochal**	**0.62**	**330**	i P	**Pb**	**10 48 04.1**	**-0.4**
OCHAL				i S	**Sn**	**10 48 14.2**	**+0.6**
BRU2	**Volcan**	**0.68**	**70**	i P	**Pb**	**10 48 05.1**	**-0.5**
BRU2				i S	**Sb**	**10 48 14.6**	**-0.2**
BRU2				IAML		10 48 24.0	
	comp=Z,6μm,1.0s						
BRU2	**Volcan**	**0.68**	**70**	↓iP	**Pb**	**10 48 05.1**	**-0.5**
BRU2				i S	**Sn**	**10 48 15.7**	**+0.2**
BRU2	**Volcan**	**0.68**	**70**	↓eP	**Pb**	**10 48 05.0**	**-0.5**
DRK0	**Durika**	**0.70**	**7**	↓iP	**Pb**	**10 48 05.6**	**-0.5**
DRK0				eS	**Sn**	**10 48 15.6**	**-0.5**
DRK0	**Durika**	**0.70**	**7**	↓eP	**Pb**	**10 48 05.5**	**-0.5**
BCO2	**Palmira**	**0.81**	**79**	↓eP	**Pb**	**10 48 07.3**	**-0.5**
BCO2				eS	**Sn**	**10 48 20.4**	**+1.6**
PTAR3	**Potrerillos Ar**	**0.84**	**81**	↓iP	**Pb**	**10 48 07.7**	**-0.5**
PTAR3				eS	**Sb**	**10 48 19.3**	**0.0**
DVD	**David**	**0.89**	**98**	eP	**Pn**	**10 48 08.9**	**+0.4**
DVD				eS	**Sn**	**10 48 22.0**	**+1.7**
ZELE	**Perez Zeledon**	**0.89**	**336**	eP	**Pb**	**10 48 09.2**	**+0.2**
LNBQ3	**Los Naranjos,**	**0.91**	**75**	eP	**Pn**	**10 48 08.6**	**-0.4**
LNBQ3				eS	**Sn**	**10 48 21.7**	**+0.5**
LOCO3	**Loma Colorada,**	**0.92**	**99**	eP	**Pn**	**10 48 09.3**	**+0.3**
LOCO3				eS	**Sn**	**10 48 23.6**	**+2.4**
PEDE3	**Pedregal, Chir**	**0.92**	**101**	eP	**Pn**	**10 48 09.3**	**+0.4**
PEDE3				eS	**Sn**	**10 48 21.8**	**+0.7**
LOMA3	**Las Lomas, Chi**	**0.94**	**98**	eP	**Pn**	**10 48 09.6**	**+0.3**
LOMA3				eS	**Sn**	**10 48 23.6**	**+1.9**
BUS1	**Rivas**	**1.07**	**338**	↓eP	**Pb**	**10 48 12.0**	**-0.3**
LLNJ	**Naranjito**	**1.18**	**320**	↓eP	**Pb**	**10 48 13.3**	**-0.6**
CNI2	**El Empalme, Bo**	**1.21**	**45**	eP	**Pn**	**10 48 13.1**	**+0.2**
CNI2				eS	**Sn**	**10 48 28.2**	**-0.1**
CHGR2	**Aguacate**	**1.24**	**72**	eP	**Pn**	**10 48 13.4**	**+0.1**
CHGR2				eS	**Sb**	**10 48 29.9**	**-0.6**
RGM0	**Gandoca**	**1.25**	**35**	i P	**Pb**	**10 48 16.0**	**+0.9**
RGM0				i S	**Sb**	**10 48 32.8**	**+1.9**
RGM0	**Gandoca**	**1.25**	**35**	eP	**Pb**	**10 48 15.5**	**+0.3**
RGM0				AMP		10 48 16.4	
	comp=Z,22μm,0.5s						
RGM0				eS	**Sb**	**10 48 31.2**	**+0.3**
RGM0	**Gandoca**	**1.25**	**35**	↓eP	**Pb**	**10 48 15.4**	**+0.3**
RAZU	**San Marcos de**	**1.29**	**328**	eP	**Pb**	**10 48 15.7**	**-0.1**
ABE2	**San Pablo**	**1.34**	**328**	eP	**Pb**	**10 48 16.9**	**+0.1**
LCR2	**La Lucha 2**	**1.35**	**331**	i P	**Pb**	**10 48 16.4**	**-0.5**
LCR2				i S	**Sb**	**10 48 35.2**	**+1.3**
LCR2				IAML		10 48 38.2	
	comp=Z,3μm,1.0s						
LCR2	**La Lucha 2**	**1.35**	**331**	↓eP	**Pb**	**10 48 16.2**	**-0.6**
TURIB	**Turrialba**	**1.38**	**346**	↓eP	**Pb**	**10 48 16.5**	**-0.9**
PCAYA	**Pacayas**	**1.43**	**341**	eP	**Pb**	**10 48 17.7**	**-0.6**
RAFA	**San Farael, Vo**	**1.47**	**341**	i P	**Pb**	**10 48 18.6**	**-0.4**
RAFA				i S	**Sb**	**10 48 38.1**	**+0.7**
RAFA				IAML		10 48 40.4	
	comp=Z,21μm,1.0s						
VICA	**Volcano Irazu**	**1.50**	**341**	eP	**Pb**	**10 48 18.9**	**-0.7**
LCOCO	**El Coco**	**1.53**	**352**	↓eP	**Pb**	**10 48 19.4**	**-0.4**
LCOCO				eS	**Sb**	**10 48 39.7**	**+0.8**
IRES	**Siquirres**	**1.54**	**354**	↓eP	**Pb**	**10 48 19.6**	**-0.4**
RVLA	**Villa Bonita**	**1.56**	**351**	↓eP	**Pb**	**10 48 19.7**	**-0.7**
HDC	**Heredia**	**1.62**	**332**	eP	**Pb**	**10 48 21.1**	**-0.4**
BELE	**Belen**	**1.64**	**329**	eP	**Pb**	**10 48 21.1**	**-0.7**
TCS1	**Tacares**	**1.75**	**327**	i S	**Pn**	**10 48 23.2**	**+2.7**
SRA1	**San Ramn**	**1.89**	**323**	eP	**Pb**	**10 48 24.9**	**-1.1**
TRT2	**Tortugero**	**2.02**	**349**	i P	**Pb**	**10 48 26.6**	**-1.6**
TRT2				IAML		10 49 01.9	
	comp=Z,2μm,1.0s						
SOCE	**Pocosol**	**2.21**	**325**	i P	**Pb**	**10 48 30.1**	**-1.3**
SOCE				IAML		10 49 06.1	
	comp=Z,3μm,1.0s						
GMAL	**Guarumal, Vera**	**2.23**	**111**	↓eP	**Pn**	**10 48 29.4**	**+2.4**
GMAL				eS	**Sb**	**10 48 58.2**	**-0.7**
GMAL	**Guarumal, Vera**	**2.23**	**111**	↑eP	**Pn**	**10 48 28.0**	**+1.1**
ARE1	**Arenal 1**	**2.33**	**324**	eP	**Pb**	**10 48 31.8**	**-1.7**
JTS	**Las Juntas de**	**2.35**	**317**	Pn	**Pb**	**10 48 32.4**	**-1.4**
	comp=Z,28nm,0.3s,baz=94,slow=17,SNR=73						
JTS				Sn	**Sb**	**10 49 00.4**	**-1.9**
	comp=Z,32nm,0.3s,baz=104,slow=23,SNR=4.6						
JTS				LR	LR	10 49 29.1	
	comp=Z,127nm,21.9s,baz=151,slow=39						
	comp=Z,122nm,0.5s						
JTS	**Las Juntas de**	**2.35**	**317**	eP	**Pb**	**10 48 32.8**	**-0.9**
JTS				eS	**Sb**	**10 49 02.6**	**+0.3**
JTS	**Las Juntas de**	**2.35**	**317**	eP	**Pb**	**10 48 31.0**	**-2.7**
COVE	**Coope Vega, Sa**	**2.39**	**334**	i P	**Pb**	**10 48 33.7**	**-0.8**
COVE				i S	Sn	10 48 41.8	-16
CALO3	**Calobre, Verag**	**2.48**	**95**	eP	**Pb**	**10 48 33.5**	**-2.5**
CALO3				eS	**Sb**	**10 49 04.0**	**-2.1**
CRIS3	**El Cristo, Coc**	**2.71**	**96**	eP	**Pn**	**10 48 36.5**	**+3.0**
CRIS3				eS	**Sb**	**10 49 09.7**	**-3.0**
CACAO	**El Cacao, Vera**	**2.73**	**116**	eP	**Pb**	**10 48 38.0**	**-2.3**
CACAO				AMP		10 48 41.0	
	comp=Z,1μm,0.3s						
CACAO				eS	**Sn**	**10 49 10.2**	**+4.3**
CHIT3	**Chitre**	**2.95**	**102**	eP	**Pn**	**10 48 39.8**	**+3.0**
CHIT3				eS	**Sn**	**10 49 15.2**	**+3.9**
BCIP	**Isla Barro Col**	**3.51**	**80**	i P	**Pn**	**10 48 45.5**	**+0.9**
BCIP				IAML		10 50 05.8	
	comp=Z,200nm,1.0s						
BCIP	**Isla Barro Col**	**3.51**	**80**	eP	**Pn**	**10 48 46.9**	**+2.3**
BCIP				eS	**Sn**	**10 49 28.2**	**+3.1**
ACON	**Acoyapa**	**3.84**	**332**	i P	**Pn**	**10 48 52.4**	**+3.3**
ACON				IAML		10 49 12.8	
	comp=Z,160nm,1.0s						
ACON	**Acoyapa**	**3.84**	**332**	eP	**Pn**	**10 48 52.1**	**+3.0**
CMIG	**Matias Romero**	**14.09**	**308**	Pn	**Pn**	**10 51 09.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=99,slow=19,SNR=2.0						
	comp=Z,1.2nm,0.7s						
NVAR	**Mina Array Bea**	**43.27**	**319**	P	**P**	**10 55 49.2**	**-2.1**
	comp=Z,0.3nm,0.8s,baz=125,slow=8.1,SNR=1.4						
NVAR				LR	LR	11 14 49.0	
	comp=Z,22nm,18.1s,baz=87,slow=38						
	comp=Z,0.3nm,0.8s						
PLCA	**Paso Flores**	**50.45**	**167**	P	**P**	**10 56 50.2**	**+3.2**
	comp=Z,2.1nm,0.8s,baz=329,slow=5.9,SNR=6.5						
	comp=Z,2.1nm,0.8s						
YKA	**Yellowknife Ar**	**58.44**	**344**	P	**P**	**10 57 43.6**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=125,slow=7.5,SNR=1.9						
	comp=Z,0.4nm,0.8s						
ILAR	**Eielson Array**	**71.19**	**336**	P	**P**	**10 59 06.3**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=121,slow=4.3,SNR=2.0						
	comp=Z,0.3nm,0.8s						
ASAR	**Alice Springs**	**141.35**	**243**	PKP	**PKPdf**	**11 07 21.7**	**+0.9**
	comp=Z,2.2nm,0.9s,baz=92,slow=2.6,SNR=1.4						
WRA	**Warramunga Arr**	**141.87**	**249**	PKP	**PKPdf**	**11 07 20.7**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=90,slow=2.5,SNR=2.2						
CMAR	**Chiang Mai Arr**	**153.06**	**355**	PKPbc	**PKPbc**	**11 07 45.9**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=0.0,slow=1.9,SNR=1.7						

STR 12 11:00:01.4±1.1, 50°N±4°×°±°, h0^{km}, MLv1.9/9, Error ellipse: s-maj=0.0km s-min=0.0km az=63.7, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABH	**Alteburg**	**0.37**	**308**	Pg	Pg	11 00 08.4	-0.1
ABH				Sg	Sg	11 00 13.8	+0.6
LEMB	**Lembach**	**0.64**	**194**	Pg	Pg	11 00 13.2	-0.5
LEMB				Sg	Sg	11 00 23.0	+1.1
VOEL	**Voellerdingen**	**0.89**	**220**	Pg	Pg	11 00 17.9	-0.7
VOEL				Sg	Sg	11 00 30.2	+0.1
CIEL	**Dossenheim-sur**	**0.92**	**207**	Pg	Pg	11 00 18.7	-0.3
CIEL				Sg	Sb	11 00 32.1	-0.9
BABA	**Baden-Baden-Ne**	**0.95**	**172**	Pg	Pg	11 00 20.0	+0.4
HOHE	**HOHENGOEFT**	**1.05**	**199**	Pg	Pg	11 00 21.6	+0.1
WLF	**Walferdange**	**1.20**	**271**	Pg	Pg	11 00 24.2	-0.1
WLF				Sg	Sb	11 00 41.0	+0.1
WLS	**Welschbruch**	**1.31**	**199**	Pg	Pg	11 00 25.9	-0.6
ECH	**Echery**	**1.54**	**201**	Pg	Pn	11 00 29.9	-0.3
XAFF	**Xaffevillers**	**1.54**	**216**	Pg	Pn	11 00 29.8	-0.4

IDC ***12*** *11:15:03.9±1.1, 37°.22N×20°.60E, h0^{km}, mb3.7/10, mbtmp3.6/14, ML3.8/2, MS3.1/7, Error ellipse: s-maj=22.1km s-min=17.8km az=175.0*
ATH ***12*** *11:15:04.7, 37°.56N×20°.40E, h16^{km}±1^{km}, ML3.6/7, Manual Solution by I.Dede This location: 2020/09/16 07:32:13 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
THE ***12*** *11:15:05.7, 37°.60N×20°.52E, h28^{km}±1^{km}, ML2.9/3, Error ellipse: s-maj=3.2km s-min=1.0km az=50.0*
ISC 12 11:15:07.6±0.9, 37°.59N±0°.04×20°.61E±0°.04, h24^{km}±6^{km}, n43, $\sigma_2$$^{\circ}$06/47, mb3.6/10, MS3.4/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.18**	**66**	P	**Pb**	**11 15 12.2**	**-0.7**
KRI1				S	**Sb**	**11 15 17.1**	**+0.6**
	3μm,0.3s						
LTHK	**Lithakia**	**0.21**	**56**	P	**Pb**	**11 15 12.7**	**-0.6**
LTHK				S	**Sb**	**11 15 17.3**	**+0.1**
	5μm,0.2s						
LTHK	**Lithakia**	**0.21**	**56**	P	**Pb**	**11 15 12.5**	**-0.9**
LTHK				S	**Sb**	**11 15 17.6**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.50**	**14**	P	**Pb**	**11 15 16.4**	**-1.4**
RTZL				S	**Sn**	**11 15 24.7**	**-2.5**
PSDA	**Pessada-Kefalo**	**0.53**	**357**	P	**Pb**	**11 15 16.0**	**-2.2**
PSDA	**Pessada-Kefalo**	**0.53**	**357**	P	**Pb**	**11 15 16.0**	**-2.2**
PSDA				S	**Sb**	**11 15 24.0**	**-1.4**
VLS	**Valsamata**	**0.59**	**358**	P	**Pb**	**11 15 17.0**	**-2.3**
VLS				S	**Sb**	**11 15 25.5**	**-1.7**
	740nm,0.2s						
VLS	**Valsamata**	**0.59**	**358**	P	**Pb**	**11 15 17.1**	**-2.2**
VLS				S	**Sb**	**11 15 25.6**	**-1.7**
LXRA	**Lixouri, Kepha**	**0.63**	**347**	P	**Pb**	**11 15 17.5**	**-2.4**
LXRA				S	**Sb**	**11 15 26.8**	**-1.5**
SMHA	**Samh**	**0.66**	**2**	P	**Pb**	**11 15 18.4**	**-2.2**
DMLN	**Damoulianata-K**	**0.68**	**344**	P	**Pb**	**11 15 18.4**	**-2.4**
DMLN	**Damoulianata-K**	**0.68**	**344**	P	**Pb**	**11 15 18.1**	**-2.7**
RLS	**Riolos of Patr**	**0.82**	**55**	P	**Pn**	**11 15 23.4**	**-0.3**
FSK	**Fiskardo**	**0.87**	**357**	P	**Pb**	**11 15 22.3**	**-1.7**
AMT	**Artemida-Makis**	**0.87**	**93**	P	**Pn**	**11 15 25.3**	**+0.9**
DRO	**Drossia**	**0.94**	**67**	P	**Pn**	**11 15 25.5**	**+0.1**
EVGI	**Lefkada island**	**1.03**	**2**	P	**Pb**	**11 15 25.2**	**-1.5**
DRAG	**Dragano-Lefkad**	**1.09**	**358**	P	**Pb**	**11 15 25.6**	**-2.3**
ITM	**Ithomi**	**1.12**	**111**	P	**Pn**	**11 15 26.8**	**-1.0**
ITM				S	**Sb**	**11 15 41.4**	**-1.1**
ITM	**Ithomi**	**1.12**	**111**	P	**Pn**	**11 15 27.0**	**-0.9**
NYDR	**Nydri-Lefkada**	**1.12**	**3**	P	**Pn**	**11 15 26.5**	**-1.3**
PYL	**PYLOS**	**1.14**	**127**	P	**Pn**	**11 15 25.2**	**-2.8**
PYL	**PYLOS**	**1.14**	**127**	P	**Pn**	**11 15 25.5**	**-2.5**
IDI	**Anoyia**	**4.14**	**122**	Pn	**Pn**	**11 16 07.4**	**-2.0**
	2.7nm,0.3s,baz=336,slow=20,SNR=1.9						
IDI				Sn	**Sn**	**11 16 55.3**	**-1.9**
	2.4nm,0.3s,baz=269,slow=22,SNR=2.4						
VAE	**Valguarnera**	**4.93**	**271**	Pn	**Pn**	**11 16 21.8**	**+1.6**
	10nm,0.4s,baz=189,slow=19,SNR=2.3						
VAE				Sn	**Sn**	**11 17 17.7**	**+1.2**
	1.3nm,0.3s,baz=90,slow=20,SNR=1.7						
MLR	**Muntele Rosu**	**8.85**	**25**	Pn	Pn	11 17 19.0	+5.0
	0.3nm,0.3s,baz=244,slow=12,SNR=2.6						
MLR				LR	LR	11 21 16.1	
	comp=Z,64nm,21.0s,baz=209,slow=40						
	2.0nm,0.7s						
VRAC	**Vranov**	**12.07**	**347**	LR	LR	11 23 38.1	
	comp=Z,59nm,18.9s,baz=167,slow=41						
DAVOX	**Davos/Dischmat**	**12.14**	**323**	LR	LR	11 23 46.9	
	comp=Z,45nm,18.8s,baz=76,slow=42						
AKASG	**Malin Array Be**	**14.48**	**22**	LR	LR	11 25 21.8	
	comp=Z,76nm,19.8s,baz=234,slow=42						
ESDC	**Sonseca Array**	**19.30**	**284**	P	**Pn**	**11 19 30.7**	**-1.3**
	0.1nm,0.3s,baz=87,slow=11,SNR=1.4						
	0.3nm,0.4s						
HFS	**Hagfors**	**22.99**	**351**	P	**P**	**11 20 13.7**	**+3.4**
	1.3nm,0.6s,baz=155,slow=11,SNR=1.7						
	1.3nm,0.6s						
FINES	**FINESS Array B**	**24.12**	**6**	P	**P**	**11 20 24.8**	**+3.5**
	4.7nm,1.0s,baz=224,slow=11,SNR=1.7						
	4.7nm,1.0s						
NOA	**NORSAR Array B**	**24.21**	**349**	P	**P**	**11 20 26.3**	**+4.1**
	0.6nm,0.8s,baz=157,slow=9.1,SNR=2.1						
	0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.62**	**220**	P	**P**	**11 21 07.9**	**-3.2**
	0.6nm,0.8s,baz=31,slow=10.0,SNR=3.0						
	0.6nm,0.8s						
ARCES	**ARCESS Array B**	**32.12**	**3**	P	**P**	**11 21 35.7**	**+3.1**
	1.9nm,0.9s,baz=180,slow=9.7,SNR=1.5						
	1.9nm,0.9s						
BVAR	**Borovoye Array**	**37.44**	**49**	P	**P**	**11 22 22.0**	**+3.2**
	0.4nm,0.5s,baz=247,slow=7.3,SNR=1.7						
	0.4nm,0.5s						
DBIC	**Dimbokro**	**38.51**	**223**	LR	LR	11 37 50.8	
	comp=Z,26nm,21.5s,baz=27,slow=36						
KURBB	**Kurchatov Arra**	**42.52**	**53**	P	**P**	**11 23 02.9**	**+2.0**
	0.5nm,0.7s,baz=279,slow=8.5,SNR=5.2						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**45.55**	**58**	P	**P**	**11 23 24.9**	**-0.4**
	0.2nm,0.3s,baz=269,slow=7.5,SNR=4.5						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**46.03**	**48**	P	**P**	**11 23 29.0**	**+0.1**
	0.4nm,0.3s,baz=263,slow=12,SNR=1.7						
	0.4nm,0.3s						
YAK	**Yakutsk**	**65.59**	**29**	LR	LR	11 59 32.9	
	comp=Z,20nm,18.1s,baz=12,slow=40						
CMAR	**Chiang Mai Arr**	**69.90**	**82**	P	**P**	**11 26 18.2**	**+1.3**
	0.2nm,0.3s,baz=297,slow=6.0,SNR=2.3						
	0.2nm,0.3s						
PDAR	**Pinedale Array**	**88.08**	**326**	LR	LR	12 08 58.0	
	comp=Z,15nm,18.3s,baz=26,slow=37						

NEIC ***12*** *11:21:33.9±2.6, 35°.1N±0°.1×26°.36E±0°.07, h10^{km}±2^{km}, mb3.9/11, Error ellipse: s-maj=19.8km s-min=10.3km az=182.0*
GII ***12*** *11:21:36.8±0.5, 34°.99N±0°.04×26°.53E±0°.01, h40^{km}, Mws3.7, confirmed*
AFAD ***12*** *11:21:37.0±0.0, 35°.11N×26°.77E, h6^{km}±2^{km}, ML3.1*
ISK ***12*** *11:21:38.8, 35°.18N×26°.33E, h26^{km}, ML3.6/26*
ATH ***12*** *11:21:39.6, 35°.18N×26°.32E, h28^{km}±1^{km}, ML3.8/6, Manual Solution by A.Moschou This location: 2020/09/11 05:04:53 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*
THE ***12*** *11:21:39.5, 35°.35N×26°.23E, h0^{km}±1^{km}, ML3.7/4, Error ellipse: s-maj=1.4km s-min=0.9km az=6.0*
IDC ***12*** *11:21:40.5±1.3, 35°.14N×26°.23E, h72^{km}±11^{km}, mb3.8/17, mbtmp4.0/23, MS3.0/4, Error ellipse: s-maj=20.2km s-min=12.3km az=156.0*
ISC 12 11:21:35.0±0.5, 34°.96N±0°.04×26°.37E±0°.02, h29^{km}, n187, $\sigma_2$$^{\circ}$04/221, mb4.0/19, MS3.0/3, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.20**	**323**	Pg	**Pn**	**11 21 44.0**	**+1.9**
ZKR	**Zakros**	**0.20**	**323**	P	**Pn**	**11 21 44.0**	**+1.9**
ZKR				S	**Sb**	**11 21 49.0**	**+3.7**
	40μm,0.3s						
ZKR	**Zakros**	**0.20**	**323**	P	**Pn**	**11 21 44.0**	**+1.9**
ZKR				S	**Sb**	**11 21 48.1**	**+2.8**
SIT2	**Siteia**	**0.33**	**320**	P	**Pn**	**11 21 45.2**	**+1.4**
SIT2				S	**Sn**	**11 21 49.5**	**-0.2**
AGNA	**Agios Nikolaos**	**0.58**	**294**	P	**Pn**	**11 21 48.9**	**+1.6**
AGNA				S	**Sn**	**11 21 56.7**	**+0.8**
KARP	**Karpathos**	**0.88**	**48**	Pg	**Pb**	**11 21 54.6**	**+2.9**
KARP	**Karpathos**	**0.88**	**48**	Pn	**Pb**	**11 21 54.1**	**+2.3**
KARP	**Karpathos**	**0.88**	**48**	P	**Pb**	**11 21 54.4**	**+2.6**
KARP				S	**Sn**	**11 22 07.8**	**+4.5**
	8μm,0.6s						
KARP	**Karpathos**	**0.88**	**48**	P	**Pb**	**11 21 54.7**	**+2.9**
KARP	**Karpathos**	**0.88**	**48**	P	**Pb**	**11 21 54.7**	**+2.9**
KARP				S	**Sn**	**11 22 05.1**	**+1.8**
IDI	**Anoyia**	**1.25**	**286**	Pn	**Pb**	**11 21 59.8**	**+1.7**
IDI	**Anoyia**	**1.25**	**286**	Pn	**Pb**	**11 21 59.7**	**+1.7**
IDI	**Anoyia**	**1.25**	**286**	P	**Pb**	**11 21 59.9**	**+1.8**
IDI				S	**Sb**	**11 22 17.0**	**+3.1**
	3μm,0.9s						
IDI	**Anoyia**	**1.25**	**286**	P	**Pb**	**11 21 59.9**	**+1.8**
	254nm,0.3s,baz=111,slow=15,SNR=332						
IDI				S	**Sb**	**11 22 15.7**	**+1.8**
	1μm,0.6s,baz=168,slow=20,SNR=14						
IDI	**Anoyia**	**1.25**	**286**	P	**Pb**	**11 21 59.7**	**+1.7**
PRNS	**Prines Rethymn**	**1.58**	**286**	P	**Pb**	**11 22 05.7**	**+2.1**
PRNS	**Prines Rethymn**	**1.58**	**286**	P	**Pb**	**11 22 05.9**	**+2.3**
THR6	**Thira Island,**	**1.60**	**331**	P	**Pb**	**11 22 03.3**	**-0.7**
THR8	**Santorini-Mono**	**1.62**	**334**	P	**Pn**	**11 22 03.0**	**+1.4**
THR9	**Santorini-Faro**	**1.62**	**330**	P	**Pn**	**11 22 02.5**	**+0.9**
THR9	**Santorini-Faro**	**1.62**	**330**	P	**Pn**	**11 22 02.7**	**+1.1**
THR3	**Thira Island,**	**1.65**	**332**	P	**Pn**	**11 22 03.5**	**+1.5**
THR3	**Thira Island,**	**1.65**	**332**	P	**Pn**	**11 22 03.9**	**-0.9**
THR2	**Thira island,**	**1.67**	**333**	P	**Pb**	**11 22 04.5**	**-0.6**
THR5	**Thira Island,**	**1.68**	**331**	P	**Pn**	**11 22 04.3**	**+1.9**
SAP3	**Santorini-Thir**	**1.69**	**331**	P	**Pn**	**11 22 04.1**	**+1.4**
CMBO	**Columbo, Santo**	**1.70**	**333**	P	**Pn**	**11 22 02.6**	**-0.1**
CMBO				S	**Sn**	**11 22 22.3**	**-1.3**
	3μm,0.5s						
NISR	**Nisiros**	**1.77**	**20**	P	**Pb**	**11 22 05.8**	**-0.9**
NISR	**Nisiros**	**1.77**	**20**	P	**Pb**	**11 22 06.5**	**-0.2**
GVD	**Gavdhos**	**1.88**	**267**	Pn	**Pb**	**11 22 10.3**	**+1.7**
GVD	**Gavdhos**	**1.88**	**267**	P	**Pb**	**11 22 11.0**	**+2.4**
GVD	**Gavdhos**	**1.88**	**267**	P	**Pb**	**11 22 09.6**	**+1.0**
ARG	**Arkhangelos**	**1.91**	**48**	P	**Pb**	**11 22 09.3**	**+0.1**
ARG	**Arkhangelos**	**1.91**	**48**	P	**Pb**	**11 22 09.2**	**+0.1**
YAZI	**Mula-Dat§a-**	**1.94**	**27**	P	**Pn**	**11 22 08.3**	**+2.3**
YAZI				S	**Sn**	**11 22 30.9**	**+1.6**
YAZI				*i* AML	AML	11 22 34.0	
	comp=E,184nm,0.7s						
YAZI				*i* AML	AML	11 22 35.0	
	comp=N,219nm,1.2s						
IMMV	**Iera Moni Meta**	**2.02**	**285**	Pn	**Pb**	**11 22 11.5**	**+0.5**
IMMV	**Iera Moni Meta**	**2.02**	**285**	P	**Pb**	**11 22 10.9**	**-0.1**
IMMV	**Iera Moni Meta**	**2.02**	**285**	P	**Pb**	**11 22 11.1**	**+0.1**
DAT	**Datca**	**2.03**	**29**	P	**Pb**	**11 22 10.2**	**-1.0**
DAT				S	**Sn**	**11 22 33.8**	**+2.1**
DAT				*i* AML	AML	11 22 40.0	
	comp=E,205nm,1.0s						
DAT				*i* AML	AML	11 22 50.0	
	comp=N,220nm,0.6s						
DAT	**Datca**	**2.03**	**29**	Pn	**Pn**	**11 22 09.8**	**+2.5**
DAT	**Datca**	**2.03**	**29**	P	**Pb**	**11 22 09.9**	**-1.3**
APE	**Apeiranthos**	**2.21**	**342**	Pn	**Pn**	**11 22 11.3**	**+1.4**
APE	**Apeiranthos**	**2.21**	**342**	P	**Pn**	**11 22 11.4**	**+1.5**
APE	**Apeiranthos**

comp=E,21nm,0.8s
PASA *i* AML AML 11 23 51.0
comp=N,21nm,0.7s
USAK Uak-Merkez 4.31 29 P **Pn** **11 22 41.3 +2.6**
USAK S **Sn** **11 23 31.7 +3.6**
USAK *i* AML AML 11 23 32.0
comp=E,33nm,1.0s
AGG Agios Georgios 5.19 323 Pn **Pn** **11 22 54.8 +4.1**
AGG Agios Georgios 5.19 323 Pn **Pn** **11 22 49.6 -1.1**
CSS Mathiatis 5.72 88 Pn **Pn** **11 22 57.9 -0.1**
CSS Mathiatis 5.72 88 P **Pn** **11 23 00.7 +2.7**
CSS Mathiatis 5.72 88 P **Pn** **11 22 57.8 -0.1**
CSS Mathiatis 5.72 88 S **Sn** **11 24 01.3 -1.4**
ALN Alexandroupoli 5.94 358 Pn **Pn** **11 23 00.1 -0.9**
LIT Litokhoron 5.99 330 Pn **Pn** **11 23 01.4 -0.3**
FNA Florina 7.03 327 Pn **Pn** **11 23 15.2 -0.8**
KEK Kerkira 7.06 314 Pn **Pn** **11 23 15.5 -0.9**
BRTR Keskin Array B 7.50 48 P Pn 11 23 27.4 +4.9
1.0nm,0.6s,baz=227,slow=14,SNR=3.3
BRTR LR LR 11 27 07.8
comp=Z,70nm,20.1s,baz=242,slow=44
HNTI Hanita 7.55 102 P **Pn** **11 23 25.1 +2.0**
MMA0 Mount Meron ar 7.75 102 P **Pn** **11 23 27.7 +1.7**
MMA0B Mount Meron ar 7.75 102 S **Sn** **11 24 51.7 -1.1**
MMA0B Mount Meron ar 7.75 102 P **Pn** **11 23 25.9 -0.1**
MMAI Mount Meron Ar 7.75 102 P **Pn** **11 23 29.0 +3.0**
2.2nm,0.4s,baz=284,slow=12,SNR=2.1
MMAI S **Sn** **11 24 52.2 -0.6**
1.6nm,0.4s,baz=245,slow=19,SNR=1.4
GEM Giv'at Ha'Em 7.91 100 P **Pn** **11 23 29.7 +1.7**
GEM Giv'at Ha'Em 7.91 100 S **Sn** **11 24 55.1 -1.4**
GEM Giv'at Ha'Em 7.91 100 P **Pn** **11 23 28.1 0.0**
NATI Neve Ativ 7.95 100 P **Pn** **11 23 30.0 +1.4**
NATI Neve Ativ 7.95 100 S **Sn** **11 24 56.8 -0.8**
NATI Neve Ativ 7.95 100 P **Pn** **11 23 28.6 0.0**
SCTE Santa Cesarea 8.09 311 Pn **Pn** **11 23 29.6 -0.9**
HMDT Nahal Hemdat 8.10 107 P **Pn** **11 23 32.1 +1.4**
HMDT Nahal Hemdat 8.10 107 S **Sn** **11 25 00.2 -1.1**
HMDT Nahal Hemdat 8.10 107 P **Pn** **11 23 30.5 -0.2**
YTIR Yattir 8.16 114 P **Pn** **11 23 33.9 +2.3**
YTIR Yattir 8.16 114 S **Sn** **11 25 02.2 -0.8**
YTIR Yattir 8.16 114 P **Pn** **11 23 31.7 +0.1**
DSI Dead Sea 8.27 112 P **Pn** **11 23 34.9 +1.9**
DSI Dead Sea 8.27 112 S **Sn** **11 25 04.2 -1.2**
DSI Dead Sea 8.27 112 P **Pn** **11 23 33.0 0.0**
MDBI Mazsada 8.37 113 P **Pn** **11 23 33.9 -0.5**
MDBI Mazsada 8.37 113 S **Sn** **11 25 06.0 -1.9**
MSBI Mazada 8.37 113 P **Pn** **11 23 34.2 -0.2**
MSBI Mazada 8.37 113 S **Sn** **11 25 06.6 -1.2**
KRMI Paran Flat 8.55 122 P **Pn** **11 23 38.7 +1.8**
PRNI Paran 8.61 120 S **Sn** **11 25 12.7 -1.1**
PRNI Paran 8.61 120 P **Pn** **11 23 39.7 +2.1**
PUK Puka 8.71 326 Pn **Pn** **11 23 37.9 -1.1**
TIP Timpagrande 8.76 302 Pn **Pn** **11 23 38.9 -0.9**
HRFI Mount Harif 8.81 121 S **Sn** **11 25 18.2 -0.6**
HRFI Mount Harif 8.81 121 P **Pn** **11 23 40.5 0.0**
MBRI Mt Berech 8.87 123 P **Pn** **11 23 44.8 +3.5**
MBRI Mt Berech 8.87 123 P **Pn** **11 23 41.4 +0.1**
MBRI Mt Berech 8.87 123 S **Sn** **11 25 19.9 -0.5**
EIL Elat 8.97 124 P **Pn** **11 23 45.7 +3.0**
3.0nm,0.3s,baz=343,slow=2.5,SNR=15
EIL S **Sn** **11 25 19.6 -3.1**
3.3nm,0.3s,baz=265,slow=20,SNR=2.2
EIL Elat 8.97 124 S **Sn** **11 25 22.0 -0.8**
EIL Elat 8.97 124 P **Pn** **11 23 42.8 +0.1**
CEL Celeste 9.04 294 Pn **Pn** **11 23 43.4 -0.3**
CUC Castrocucco 9.77 304 Pn **Pn** **11 23 52.2 -1.5**
RAFF Raffo Rosso 9.97 287 Pn **Pn** **11 23 55.3 -1.1**
VAE Valguarnera 9.98 288 S **Sn** **11 25 42.9 -4.6**
11nm,0.5s,baz=136,slow=11,SNR=1.9
FDMO Fiordimonte 13.10 312 Pn **Pn** **11 24 37.1 -1.9**
KEST Kesra 13.92 278 P **Pn** **11 24 53.5 +3.1**
3.5nm,0.9s,baz=112,slow=21,SNR=1.7
KEST S **Sn** **11 27 17.8 -6.1**
1.9nm,0.5s,baz=91,slow=12,SNR=1.5
CASP Castiglione de 14.37 308 **Pn** **11 24 58.8 +2.3**
SOKA Soboth 14.50 327 *i* Pn **Pn** **11 24 59.3 +1.1**
9.0nm,0.9s
CONA Conrad Observa 15.15 332 *i* Pn **P** **11 25 12.1 +0.4**
3.2nm,1.0s
KBZ Khabaz 15.48 51 P **P** **11 25 20.1 +4.7**
3.3nm,0.8s,baz=255,slow=11,SNR=5.1
KBZ S **Sn** **11 27 56.8 -4.9**
1.2nm,0.8s,baz=261,slow=15,SNR=1.8
KBA Koelnbreinsper 15.57 325 *e*Pn **P** **11 25 16.2 -0.4**
1.1nm,0.5s
KIEV Kiev 15.87 7 **Pn** **11 25 16.0 -0.2**
KIEV IAmb IAmb 11 25 34.1
comp=Z,8.2nm,1.4s
AKASG Malin Array Be 15.88 7 P **P** **11 25 18.8 -0.9**
comp=Z,2.5nm,0.3s,baz=200,slow=11,SNR=2.9
AKBB Malin Array Si 15.88 7 P **Pn** **11 25 17.5 +1.3**
AKBB IAmb IAmb 11 25 34.1
comp=Z,9.2nm,1.4s
VRAC Vranov 16.05 336 P **Pn** **11 25 20.2 +1.7**
comp=Z,3.5nm,0.6s,baz=246,slow=18,SNR=2.8
LESA Schwarzleotal 16.13 325 *e*Pn **P** **11 25 22.7 0.0**
comp=Z,1.1nm,0.5s
WTTA Wattenberg 16.53 323 *e*Pn **P** **11 25 27.9 +0.7**
comp=Z,8.4nm,1.5s
GERES GERESS Array B 16.74 330 P **Pn** **11 25 27.5 +0.1**
comp=Z,1.3nm,0.7s,baz=125,slow=8.3,SNR=5.0
FUORN Ofenpass-Fuorn 16.83 319 **Pn** **11 25 26.8 -1.9**
FETA Feichten 16.83 320 *i* Pn **P** **11 25 30.1 -0.4**
comp=Z,4.2nm,1.4s
MOTA Moosalm 16.85 322 *e*Pn **P** **11 25 31.5 +0.8**
comp=Z,5.0nm,0.8s
KHC Kasperske Hory 17.02 330 Pn **Pn** **11 25 28.6 -2.2**
RETA Reutte 17.12 322 *i* Pn **Pn** **11 25 30.1 -2.1**
comp=Z,2.0nm,0.6s
DAVOX Davos/Dischmat 17.14 319 P **Pn** **11 25 32.7 +0.2**
comp=Z,1.4nm,0.6s,baz=198,slow=9.6,SNR=2.6
TUE Stuetta 17.25 317 **Pn** **11 25 31.2 -2.7**
TUE IAmb IAmb 11 25 40.0
comp=Z,8.4nm,1.3s
DAVA Damuels 17.45 320 *e*Pn **Pn** **11 25 33.4 -2.9**
comp=Z,11nm,1.1s
BNI Bardonecchia 18.10 310 P **Pn** **11 25 43.4 -0.9**
BNI IAmb IAmb 11 26 14.9
comp=Z,12nm,1.3s
SENIN Lac Senin/Sane 18.36 314 P **P** **11 25 46.0 -1.5**
CLL Collm 18.98 334 *i* P **P** **11 25 53.9 -0.1**
SSB Saint Sauveur 19.56 308 P **P** **11 25 59.7 -0.8**
SSB IAmb IAmb 11 26 32.5
comp=Z,15nm,1.4s
MNK Minsk 19.57 3 *i* P **P** **11 25 59.6 -0.9**
comp=E,21nm,0.8s
MNK *i* P **P** **11 25 59.6 -0.9**
comp=N,20nm,0.8s
MNK *i* P **P** **11 25 59.6 -0.9**
comp=Z,8.0nm,0.7s,baz=184
MNK *i* PP **sP** **11 26 13.6 +1.8**
MNK *i* PPP PPP 11 26 21.4
MNK *i* S **S** **11 29 37.9 -1.7**
MNK *i* SS **SnSn** **11 29 53.9 -1.2**
MNK *i* SSS SSS 11 30 06.8
MNK *i* LR LR 11 34 10.2
MNK *i* LRM MLR 11 35 21.9
comp=Z,52nm,12.5s
MNK *i* LRM MLR 11 35 25.7
comp=E,739nm,15.0s
MNK *i* LRM MLR 11 35 26.7
comp=N,490nm,14.6s
ESDC Sonseca Array 24.51 290 P **P** **11 26 51.7 -0.3**
comp=N,1.7nm,0.7s,baz=83,slow=9.2,SNR=7.6
comp=N,1.7nm,0.7s
MDT Midelt 25.75 274 LR LR 11 37 48.5
comp=N,48nm,19.3s,baz=40,slow=38
HFS Hagfors 26.51 346 P **P** **11 27 09.3 -0.4**
comp=N,10nm,1.2s,baz=160,slow=18,SNR=1.7
HFS LR LR 11 40 13.7
comp=N,44nm,18.7s,baz=138,slow=42
comp=N,10nm,1.2s
EKA Eskdalemuir Ar 28.78 324 P **P** **11 27 28.9 -1.2**
comp=N,1.4nm,0.5s,baz=129,slow=10,SNR=4.6
comp=N,1.4nm,0.5s
TORD Torodi Ar. Bea 31.13 232 P **P** **11 27 52.9 +1.7**
comp=N,1.3nm,0.4s,baz=35,slow=9.1,SNR=19
comp=N,1.3nm,0.4s
ARCES ARCESS Array B 34.64 359 P **P** **11 28 19.2 -2.1**
comp=N,0.9nm,0.4s,baz=174,slow=9.1,SNR=18
comp=N,0.9nm,0.4s
BVAR Borovoye Array 35.78 46 P **P** **11 28 31.2 -0.1**
comp=N,0.7nm,0.5s,baz=263,slow=3.2,SNR=2.9
comp=N,0.7nm,0.5s

DBIC Dimbokro 40.22 233 P **P** **11 29 10.3 +1.1**
comp=N,1.5nm,0.3s,baz=24,slow=8.8,SNR=6.1
comp=N,1.5nm,0.3s
KURBB Kurchatov Arra 40.48 51 P **P** **11 29 12.4 +1.5**
comp=N,2.2nm,0.5s,baz=277,slow=8.8,SNR=24
comp=N,2.2nm,0.5s
KURK Kurchatov 40.54 51 P **P** **11 29 11.7 +0.3**
KURK IAmb IAmb 11 29 13.6
comp=Z,4.1nm,1.0s
MKAR Makanchi Array 43.06 56 P **P** **11 29 33.8 +1.6**
comp=Z,1.7nm,0.6s,baz=269,slow=7.8,SNR=14
comp=Z,1.7nm,0.6s
ZAA0 Zalesovo Array 44.43 46 P **P** **11 29 43.6 +0.5**
ZAA0 IAmb IAmb 11 29 44.4
comp=Z,2.1nm,0.7s
ZALV Zalesovo Beam 44.43 46 P **P** **11 29 43.7 +0.6**
comp=Z,2.0nm,0.5s,baz=268,slow=8.4,SNR=9.4
ZALV LR LR 11 53 52.4
comp=Z,19nm,19.4s,baz=298,slow=44
comp=Z,2.0nm,0.5s
SONM Songino Array 58.85 51 P **P** **11 31 31.8 +0.8**
comp=Z,0.6nm,0.4s,baz=287,slow=7.6,SNR=4.2
comp=Z,0.6nm,0.4s
SCHQ Schefferville 63.98 320 P **P** **11 32 04.7 -0.8**
SCHQ Schefferville 63.98 320 P **P** **11 32 05.3 -0.1**
comp=Z,4.0nm,0.6s,baz=66,slow=4.8,SNR=5.5
comp=Z,4.0nm,0.6s
CMAR Chiang Mai Arr 65.61 84 P **P** **11 32 15.7 -0.9**
comp=Z,0.4nm,0.4s,baz=318,slow=7.7,SNR=1.3
comp=Z,0.4nm,0.4s
USRK Ussuriysk Ar. 76.28 45 P **P** **11 33 20.1 -0.8**
comp=Z,1.6nm,0.7s,baz=336,slow=8.4,SNR=4.3
comp=Z,1.6nm,0.7s
YKA Yellowknife Ar 77.94 343 P **P** **11 33 29.4 -0.5**
comp=Z,0.7nm,0.7s,baz=37,slow=4.4,SNR=2.1
comp=Z,0.7nm,0.7s
ILAR Eielson Array 80.46 357 P **P** **11 33 42.7 -1.0**
comp=Z,1.0nm,1.0s,baz=354,slow=4.3,SNR=5.8
comp=Z,1.0nm,1.0s
PDAR Pinedale Array 92.79 329 P **P** **11 34 44.5 -0.6**
comp=Z,0.3nm,0.7s,baz=31,slow=4.2,SNR=2.4
comp=Z,0.3nm,0.7s
ASAR Alice Springs 117.04 101 PKP **PKPdf** **11 40 17.7 +0.3**
comp=Z,0.2nm,0.7s,baz=295,slow=1.6,SNR=1.3

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*NEIC **12** 11:25:05.2±0.7, 36°.369N±0°.010×97°.71W±0°.01, h7km±5km, mb_Lg2.8/1, ML2.0/51, ML2.5/20, Error ellipse: s-maj=1.5km s-min=1.3km az=50.0*
NEIC 12 11:25:04.8±0.5, 36°.375N±0°.010×97°.698W±0°.006, h1km±2km, Error ellipse: s-maj=1.4km s-min=0.7km az=188.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.26**	**300**		Pg	11 25 10.6	+0.8
CROK					Sg	11 25 14.6	+1.3
CROK				IAML		11 25 14.8	
	comp=E,236nm,0.6s						
GC02	**Grant County #**	**0.49**	**345**		Pg	11 25 14.9	+0.7
GC02					Sg	11 25 22.0	+1.4
BLOK	**Blackwell**	**0.55**	**45**		Pg	11 25 16.0	+0.8
BLOK				IAML		11 25 25.9	
	comp=E,76nm,0.4s						
OK048	**Pawnee Station**	**0.61**	**86**		Pg	11 25 17.1	+0.7
OK048					Sg	11 25 25.7	+1.3
KAN14	**Manchester OK**	**0.62**	**340**		Pg	11 25 17.3	+0.6
KAN14					Sg	11 25 25.8	+1.2
KAN14				IAML		11 25 31.7	
	comp=N,79nm,0.1s						
KAN14				IAML		11 25 31.8	
	comp=E,79nm,0.1s						
KAN17	**Caldwell West**	**0.67**	**355**		Pg	11 25 18.3	+0.7
KAN17					Sb	11 25 27.9	-1.2
KAN17				IAML		11 25 32.4	
	comp=N,72nm,0.3s						
KAN17				IAML		11 25 36.9	
	comp=E,77nm,0.2s						
OK051	**E0350 and S346**	**0.71**	**79**		Pg	11 25 19.1	+0.7
OK051					Sb	11 25 28.9	-1.2
OK051				IAML		11 25 30.7	
	comp=E,53nm,0.1s						
OK051				IAML		11 25 33.5	
	comp=E,68nm,0.2s						
KAN09	**Caldwell North**	**0.76**	**5**	Pg	Pg	11 25 19.6	+0.2
ADOK	**Arcadia Dam**	**0.77**	**160**	Pg	Pg	11 25 19.6	+0.1
KAN01	**Argonia South**	**0.78**	**356**		Pb	11 25 20.4	-0.7
OK031	**S. Brethren Rd**	**0.81**	**121**	Pg	Pg	11 25 20.6	+0.2
OK031				IAML		11 25 34.3	
	comp=E,48nm,0.3s						
OK031				IAML		11 25 36.0	
	comp=E,66nm,2.2s						
OK052	**Battle Ridge R**	**0.82**	**117**		Pg	11 25 21.0	+0.5
OK052					Sg	11 25 31.9	+0.9
OK052				IAML		11 25 34.2	
	comp=E,44nm,0.2s						
QUOK	**Quay**	**0.82**	**104**		Pg	11 25 21.2	+0.6
QUOK					Sg	11 25 32.1	+0.8
QUOK				IAML		11 25 35.7	
	comp=E,56nm,0.2s						
QUOK				IAML		11 25 35.9	
	comp=N,59nm,0.2s						
KAN12	**Harper NE Stat**	**0.95**	**345**		Pg	11 25 23.4	+0.4
KAN12					Sb	11 25 37.2	0.0
CSTR	**Hydro, Custer**	**1.08**	**228**	Pg	Pb	11 25 26.3	0.0
T35A	**Sooner Cattle**	**1.10**	**60**		Pg	11 25 26.1	+0.3
T35A				IAML		11 25 45.9	
	comp=E,24nm,0.2s						
T35A				IAML		11 25 48.0	
	comp=N,25nm,1.8s						
DEOK	**Depew**	**1.11**	**118**		Pg	11 25 25.9	-0.1
DEOK					Sb	11 25 41.0	-0.6
FNO	**Franklin**	**1.14**	**168**		Pg	11 25 26.5	-0.1
FNO					Sb	11 25 42.1	-0.4
FNO				IAML		11 26 01.8	
	comp=E,31nm,2.2s						
W35A	**Tecumseh**	**1.39**	**151**		Pn	11 25 30.6	-0.7
W35A					Sb	11 25 49.8	0.0
BGNE	**Belgrade**	**5.04**	**356**	IAmb_Lg		11 27 47.0	
	comp=Z,18nm,0.7s						

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*SOME **12** 11:30:56.7, 44°.77N×82°.07E, h15km*
*NNC **12** 11:30:57.6±1.3, 44°.68N×82°.07E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=13.7km s-min=3.9km az=125.0, Suspected Mining explosion.*
ISC 12 11:30:55.4±1.5, 44°.71N±0°.06×82°.17E±0°.09, h0km, n16, σ0°.85/26, 1C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.75**	**258**	P	**Pg**	**11 31 28.8**	**0.0**
	5.7nm,0.2s						
DJR				S	**Sg**	**11 31 52.3**	**+0.9**
	13nm,0.4s						
DJR	**Jarkent**	**1.75**	**258**	*e*P	**Pb**	**11 31 28.3**	**0.0**
	5.7nm,0.2s						
DJR				*e*S	**Sb**	**11 31 51.0**	**+0.2**
	12nm,0.2s						
KAPS	**Kapalarasan**	**2.08**	**287**	Pg	**Pb**	**11 31 34.2**	**+0.2**
	1.4nm,0.1s						
KAPS				Lg	Lg	11 32 01.3	
	24nm,0.3s						
KAPS	**Kapalarasan**	**2.08**	**287**	*e*P	**Pb**	**11 31 33.5**	**-0.5**
	1.4nm,0.1s						
KAPS				*e*S	**Sb**	**11 31 59.9**	**-0.5**
	26nm,0.2s						
MK31	**Makanchi Array**	**2.08**	**2**	⇓Pn	**Pb**	**11 31 34.6**	**+0.5**
	10nm,0.3s,baz=182,slow=14,SNR=324						
MK31				⇑Sn	**Sg**	**11 32 02.6**	**+0.3**
	8.2nm,0.5s,baz=182,slow=26,SNR=19						
MAKZ	**Makanchi**	**2.10**	**356**	⇓Pn	**Pb**	**11 31 34.3**	**0.0**
	5.6nm,0.5s						
MAKZ				⇓Sn	**Sg**	**11 32 02.6**	**-0.3**
	12nm,0.4s						
SHLS	**Shalkode**	**2.50**	**233**	Pg	**Pn**	**11 31 37.8**	**+0.4**
	12nm,0.2s						
SHLS				Lg	Lg	11 32 08.1	
	30nm,0.4s						
SHLS	**Shalkode**	**2.50**	**233**	*e*P	**Pn**	**11 31 37.8**	**+0.4**
	12nm,0.2s						
SHLS				*e*S	**Sn**	**11 32 07.2**	**-1.5**
	30nm,0.4s						
UZB	**Uzynbulak**	**2.76**	**237**	Pg	**Pg**	**11 31 47.1**	**-1.2**
	6.2nm,0.3s						
UZB				Lg	Lg	11 32 23.0	
	8.3nm,0.4s						
UZB	**Uzynbulak**	**2.76**	**237**	*e*P	**Pg**	**11 31 47.1**	**-1.2**
	6.2nm,0.3s						
UZB				*e*S	**Sg**	**11 32 23.0**	**-1.1**
	8.3nm,0.4s						
KPKS	**Kokpek**	**2.81**	**245**	Pg	**Pb**	**11 31 47.0**	**+0.6**
	22nm,1.0s						
KPKS				Lg	Lg	11 32 23.1	
	24nm,0.3s						
KPKS	**Kokpek**	**2.81**	**245**	*e*P	**Pb**	**11 31 47.0**	**+0.6**
	22nm,1.0s						
KPKS				*e*S	**Sb**	**11 32 23.1**	**+1.7**
	24nm,0.3s						
ARXS	**Arharly**	**3.15**	**262**	Pg	**Pb**	**11 31 52.4**	**+0.1**
	2.6nm,0.2s						
ARXS				Lg	Lg	11 32 32.5	
	12nm,0.3s						
ARXS	**Arharly**	**3.15**	**262**	*e*P	**Pb**	**11 31 52.4**	**+0.1**
	2.6nm,0.2s						
ARXS				*e*S	**Sb**	**11 32 32.5**	**+1.2**
	12nm,0.3s						
SATY	**Saty**	**3.19**	**240**	Pg	**Pb**	**11 31 53.2**	**+0.3**
	46nm,1.4s						
SATY				Lg	Lg	11 32 34.0	
	21nm,0.8s						
SATY	**Saty**	**3.19**	**240**	*e*P	**Pb**	**11 31 53.2**	**+0.3**
	46nm,1.4s						
SATY				*e*S	**Sb**	**11 32 34.0**	**+1.7**
	21nm,0.8s						

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*WEL **12** 11:31:51.6±0.4, 42°.5S±3°.×17°.4E±°, h19km±3km, M3.0/21, ML3.3/22, MLv3.0/21, Error ellipse: s-maj=4.6km s-min=2.7km az=132.1, confirmed*
*NOU **12** 11:31:52.0, 42°.09S×174°.34E, h28km, MLv3.6/11, Off E. Coast of S. Island, N.Z.*
ISC 12 11:31:51.4±1.1, 42°.10S±0°.03×174°.36E±0°.03, h26km±9km, n82, σ1°.00/96, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEKS	**Kekerengu Vall**	**0.31**	**297**	P	**Pb**	**11 31 58.9**	**+0.2**
KEKS				S	**Sb**	**11 32 02.4**	**-1.3**
WDFS	**Ward Fire Stat**	**0.32**	**329**	P	**Pb**	**11 31 59.2**	**+0.5**
WDFS				S	**Sb**	**11 32 04.1**	**+0.4**
CMWZ	**Cape Campbell**	**0.36**	**343**	P	**Pn**	**11 32 00.3**	**-0.7**
CMWZ				S	**Sn**	**11 32 06.1**	**-1.2**
SEDS	**Seddon Fire St**	**0.47**	**334**	P	**Pb**	**11 32 01.5**	**+0.3**
BSWZ	**Blackbirch Sta**	**0.53**	**317**	P	**Pb**	**11 32 02.0**	**0.0**
BSWZ				S	**Sb**	**11 32 09.2**	**-0.1**
KIKS	**Kaikoura**	**0.60**	**237**	P	**Pn**	**11 32 04.9**	**+0.8**
KIKS				S	**Sn**	**11 32 14.5**	**+1.5**
MGCS	**Blenheim Marlb**	**0.67**	**332**	P	**Pb**	**11 32 03.2**	**-1.2**
MGCS				S	**Sb**	**11 32 12.2**	**-1.0**
KHZ	**Kahutara**	**0.68**	**242**	P	**Pn**	**11 32 05.9**	**+0.5**
KHZ				S	**Sn**	**11 32 15.6**	**+0.4**
KHZ	**Kahutara**	**0.68**	**242**	P	**Pn**	**11 32 05.8**	**+0.4**
TUWZ	**Tuamarina**	**0.74**	**335**	P	**Pb**	**11 32 05.8**	**+0.2**
TUWZ				S	**Sb**	**11 32 15.1**	**-0.2**
BWRS	**Waikakaho Road**	**0.74**	**333**	P	**Pb**	**11 32 05.6**	**0.0**
BHW	**Baring Head**	**0.79**	**29**	P	**Pn**	**11 32 07.2**	**+0.4**
SNZO	**South Karori**	**0.83**	**19**	P	**Pn**	**11 32 07.7**	**+0.3**
PLWZ	**Palliser**	**0.85**	**52**	P	**Pn**	**11 32 08.6**	**+0.8**
WEL	**Wellington**	**0.87**	**21**	P	**Pn**	**11 32 08.4**	**+0.5**
WEL				S	**Sn**	**11 32 19.6**	**-0.1**
BOWS	**Bowen St Turnb**	**0.88**	**21**	P	**Pb**	**11 32 07.6**	**-0.4**
BOWS				S	**Sb**	**11 32 19.3**	**0.0**
TCW	**Tory Channel**	**0.89**	**356**	P	**Pb**	**11 32 07.9**	**-0.3**
TCW				S	**Sb**	**11 32 19.5**	**-0.2**
MSWZ	**Moikau Station**	**0.95**	**45**	P	**Pn**	**11 32 09.8**	**+0.6**
PAWZ	**Paruwai Farm**	**1.07**	**49**	P	**Pn**	**11 32 11.3**	**+0.5**
CAW	**Cannon Point**	**1.12**	**29**	P	**Pn**	**11 32 11.9**	**+0.4**
THZ	**Tophouse**	**1.13**	**287**	P	**Pn**	**11 32 11.5**	**-0.1**
THZ				S	**Sn**	**11 32 27.4**	**+1.0**
NNZ	**Nelson**	**1.15**	**320**	P	**Pn**	**11 32 11.0**	**-0.7**
NNZ				S	**Sn**	**11 32 27.0**	**+0.5**
TRWZ	**Traveller**	**1.22**	**55**	P	**Pn**	**11 32 13.7**	**+0.9**
MTW	**Mount Morrison**	**1.27**	**43**	P	**Pn**	**11 32 13.7**	**+0.2**
KIW	**Kapiti Island**	**1.30**	**19**	P	**Pn**	**11 32 14.4**	**+0.5**
GVZ	**Greta Valley S**	**1.31**	**228**	P	**Pn**	**11 32 14.8**	**+0.8**
DUWZ	**D'Urville Isla**	**1.34**	**346**	P	**Pn**	**11 32 14.6**	**+0.2**
MRNZ	**Matariki Terra**	**1.39**	**300**	P	**Pn**	**11 32 15.3**	**+0.3**
OGWZ	**Otaki Gorge**	**1.42**	**26**	P	**Pn**	**11 32 15.9**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.48**	**36**	P	**Pn**	**11 32 17.0**	**+0.6**
TKNZ	**Takaka Hill**	**1.49**	**315**	P	**Pn**	**11 32 16.4**	**-0.1**
TMWZ	**Te Maipa**	**1.52**	**50**	P	**Pn**	**11 32 17.1**	**+0.1**
AMCZ	**Amberley**	**1.66**	**229**	P	**Pn**	**11 32 19.4**	**+0.7**
LTZ	**Lake Taylor**	**1.69**	**245**	P	**Pn**	**11 32 19.7**	**+0.4**
MRZ	**Mangatainoka R**	**1.71**	**33**	P	**Pn**	**11 32 19.6**	**+0.2**
TIWZ	**Tintock**	**1.75**	**42**	P	**Pn**	**11 32 20.5**	**+0.4**
QRZ	**Quartz Range**	**1.87**	**312**	P	**Pn**	**11 32 22.2**	**+0.5**
QRZ	**Quartz Range**	**1.87**	**312**	P	**Pn**	**11 32 21.9**	**+0.2**
OKCZ	**Okains Bay**	**1.88**	**210**	P	**Pn**	**11 32 22.5**	**+0.6**
DSZ	**Denniston Nort**	**1.94**	**280**	P	**Pn**	**11 32 23.4**	**+0.8**
PRWZ	**Pori Road**	**1.96**	**39**	P	**Pb**	**11 32 30.1**	**+3.7**
BFZ	**Birch Farm**	**2.01**	**46**	P	**Pn**	**11 32 23.3**	**-0.3**
BFZ	**Birch Farm**	**2.01**	**46**	P	**Pn**	**11 32 23.9**	**+0.3**
POWZ	**Post Office Ro**	**2.01**	**32**	P	**Pn**	**11 32 24.4**	**+0.8**
MQZ	**McQueen's Vall**	**2.04**	**217**	P	**Pn**	**11 32 23.7**	**-0.2**
AKCZ	**Akaroa Harbour**	**2.07**	**210**	P	**Pn**	**11 32 24.7**	**+0.3**
OXZ	**Oxford**	**2.10**	**234**	P	**Pn**	**11 32 24.6**	**-0.3**
INZ	**Inchbonnie**	**2.25**	**253**	P	**Pn**	**11 32 27.6**	**+0.7**
TSZ	**Takapari Road**	**2.37**	**31**	P	**Pn**	**11 32 28.5**	**-0.1**
WAZ	**Wanganui**	**2.39**	**12**	P	**Pn**	**11 32 31.0**	**+2.1**
MHCZ	**Mount Hutt**	**2.50**	**234**	P	**Pn**	**11 32 30.3**	**-0.1**
WACZ	**Wakanui South**	**2.61**	**224**	P	**Pn**	**11 32 31.9**	**0.0**
KHEZ	**Kahui Hut**	**2.81**	**355**	P	**Pb**	**11 32 40.7**	**-0.2**
KHEZ	**Kahui Hut**	**2.81**	**355**	P	**Pn**	**11 32 34.8**	**0.0**
NEZ	**North Egmont**	**2.83**	**356**	P	**Pb**	**11 32 41.8**	**+0.5**
WVZ	**Waitaha Valley**	**2.84**	**249**	P	**Pn**	**11 32 36.3**	**+1.2**
MOVZ	**Moawhango**	**2.89**	**22**	P	**Pn**	**11 32 36.8**	**+0.8**
RPZ	**Rata Peaks**	**2.91**	**235**	P	**Pn**	**11 32 36.3**	**+0.2**
RPZ	**Rata Peaks**	**2.91**	**235**	P	**Pn**	**11 32 36.2**	**+0.1**
PKE	**Pukeiti**	**2.92**	**354**	P	**Pb**	**11 32 41.0**	**-1.7**
WNVZ	**Wahianoa**	**2.92**	**19**	P	**Pn**	**11 32 37.8**	**+1.4**
ARCZ	**Arundel**	**2.97**	**231**	P	**Pn**	**11 32 36.8**	**-0.1**
VRZ	**Vera Road**	**2.99**	**6**	P	**Pn**	**11 32 38.9**	**+1.8**
TUVZ	**Tukino**	**3.00**	**20**	P	**Pn**	**11 32 39.1**	**+1.8**
SNVZ	**South Ngauruho**	**3.07**	**19**	P	**Pn**	**11 32 39.4**	**+1.1**
OTVZ	**Oturere**	**3.10**	**19**	P	**Pn**	**11 32 39.8**	**+1.1**
NNVZ	**North Ngauruho**	**3.12**	**18**	P	**Pn**	**11 32 40.2**	**+1.2**
ETVZ	**East Tongariro**	**3.13**	**20**	P	**Pn**	**11 32 40.6**	**+1.4**
TMVZ	**Te Maari**	**3.15**	**19**	P	**Pn**	**11 32 40.6**	**+1.1**
NTVZ	**North Tongarir**	**3.16**	**19**	P	**Pn**	**11 32 40.7**	**+1.1**
TMZ	**Timaru**	**3.35**	**226**	P	**Pn**	**11 32 42.3**	**+0.3**
BKZ	**Black Stump Fm**	**3.35**	**30**	P	**Pn**	**11 32 41.5**	**-0.7**
BKZ	**Black Stump Fm**	**3.35**	**30**	P	**Pn**	**11 32 42.3**	**+0.2**
HIZ	**Hauiti**	**3.60**	**6**	P	**

PB06	IPOC Station P	2.17	261	eP	Pn	11 34 26.4	+0.3
PB06				eS	Sn	11 34 57.1	-0.3
PB06				IAML		11 34 58.6	
	comp=N,66nm,0.2s						
PB15	IPOC Station P	2.20	248	eP	Pn	11 34 26.7	+0.2
PB15				eS	Sn	11 34 57.3	-0.9
PB15	IPOC Station P	2.20	248	i P	Pn	11 34 31.8	+5.2
PB15				eS	Sn	11 34 59.2	+1.0
PB15	IPOC Station P	2.20	248	Pg	Pn	11 34 27.2	+0.7
PB15				Sg	Sn	11 34 57.5	-0.7
PB15				IAML		11 35 00.0	
	comp=N,323nm,0.3s						
PB01	IPOC Station P	2.47	302	i P	Pn	11 34 29.7	+0.3
PB01				eS	Sn	11 35 02.0	-1.4
PB01				IAML		11 35 04.8	
	comp=N,84nm,0.2s						
PB01	IPOC Station P	2.47	302	Pg	Pn	11 34 29.7	+0.3
PB04	IPOC Station P	2.68	271	i P	Pn	11 34 31.8	-0.1
SLA	San Lorenzo	2.82	146	i P	Pn	11 34 27.6	-5.8
SLA				eS	Sn	11 34 52.3	-18
SLA				IAML		11 35 33.8	
	comp=Z,8.6nm,2.9s						
PB08	IPOC Station P	2.86	321	eP	Pn	11 34 35.1	+1.0
PB08				eS	Sn	11 35 11.6	-0.1
PB08				IAML		11 35 14.8	
	comp=E,31nm,0.2s						
PB08	IPOC Station P	2.86	321	Pg	Pn	11 34 35.6	+1.5
PB08				Sg	Sn	11 35 11.9	+0.2
PB08				IAML		11 35 15.5	
	comp=E,21nm,0.2s						
GO01	Chusmiza	3.26	326	eP	Pn	11 34 38.0	-1.0
GO01	Chusmiza	3.26	326	Pg	Pn	11 34 40.0	+1.0
PB11	IPOC Station P	3.45	319	eP	Pn	11 34 40.5	-0.5
PB11	IPOC Station P	3.45	319	Pg	Pn	11 34 41.1	+0.2
GO02	Mina Guanaco	3.49	217	i P	Pn	11 34 41.7	+0.2
FSA	Cafayete	3.88	163	i P	Pn	11 34 40.6	-5.6

*IDC **12** 11:59:32.2±1.1, 17.05S×67.04E, h0km, mb4.1/6, mbtmp4.1/6, MS3.3/17, Error ellipse: s-maj=34.1km s-min=27.4km az=39.0*

ISC 12 11:59:34.3±1.0, 17.05S±0.2×67.0E±0.2, h13km, n29, σ1§13/6, mb4.2/6, MS3.4/17, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	10.76	31	T	T	12 13 09.0	
	baz=209,slow=76,SNR=278						
H08S2	Diego Garcia H	10.77	31	T	T	12 13 13.3	
	baz=209,slow=76,SNR=252						
H08S3	Diego Garcia H	10.78	31	T	T	12 13 10.8	
	baz=209,slow=76,SNR=712						
H04N2	CROZET ISLANDS	31.68	200	T	T	12 39 10.8	
	baz=30,slow=75,SNR=520						
H04N1	CROZET ISLANDS	31.69	200	T	T	12 39 11.8	
	baz=30,slow=75,SNR=499						
H04N3	CROZET ISLANDS	31.70	200	T	T	12 39 10.6	
	baz=30,slow=75,SNR=455						
KMBO	Kilima Mbogo	33.24	295	P	P	12 06 11.0	-0.8
	0.9nm,0.3s,baz=60,slow=20,SNR=1.5						
KMBO				LR	LR	12 17 48.4	
	comp=Z,71nm,18.0s,baz=86,slow=33						
	0.9nm,0.3s						
MBAR	Mbarara	39.23	291	LR	LR	12 21 05.3	
	comp=Z,70nm,18.1s,baz=98,slow=33						
LBTB	Lobatse	39.31	251	LR	LR	12 20 25.6	
	comp=Z,89nm,20.1s,baz=52,slow=32						
BOSA	Boshof	39.96	246	LR	LR	12 20 22.1	
	comp=Z,52nm,20.9s,baz=26,slow=31						
WSAR	Wadi Sarin	40.84	348	LR	LR	12 19 53.7	
	comp=Z,31nm,21.5s,baz=200,slow=30						
SUR	Sutherland	44.30	241	LR	LR	12 22 40.4	
	comp=Z,17nm,21.1s,baz=360,slow=31						
H01W3	Cape Leeuwin H	45.53	122	T	T	12 56 32.7	
	baz=281,slow=75,SNR=187						
H01W2	Cape Leeuwin H	45.53	122	T	T	12 56 32.8	
	baz=281,slow=75,SNR=273						
H01W1	Cape Leeuwin H	45.55	122	T	T	12 56 33.9	
	baz=281,slow=75,SNR=271						
CMAR	Chiang Mai Arr	47.25	43	P	P	12 08 07.5	0.0
	0.5nm,0.3s,baz=234,slow=8.0,SNR=6.5						
CMAR				LR	LR	12 24 41.4	
	comp=Z,27nm,21.9s,baz=225,slow=32						
	0.5nm,0.3s						
KAPI	Kappang	53.00	83	LR	LR	12 30 56.4	
	comp=Z,20nm,18.1s,baz=269,slow=36						
BATI	Baumata	55.35	91	LR	LR	12 28 22.8	
	comp=Z,29nm,21.4s,baz=256,slow=31						
FITZ	Fitzroy Crossi	55.73	101	LR	LR	12 29 43.7	
	comp=Z,42nm,20.8s,baz=220,slow=32						
ASAR	Alice Springs	62.62	108	P	P	12 09 57.9	-1.0
	1.5nm,0.8s,baz=272,slow=5.4,SNR=20						
ASAR				LR	LR	12 34 41.2	
	comp=Z,75nm,18.5s,baz=268,slow=34						
	1.5nm,0.8s						
DAV	Davao City (W)	62.67	72	LR	LR	12 35 33.3	
	comp=Z,21nm,20.4s,baz=275,slow=34						
WRA	Warramunga Arr	63.57	104	P	P	12 10 04.5	-0.6
	2.7nm,0.9s,baz=266,slow=6.2,SNR=16						
	2.7nm,0.9s						
KURBB	Kurchatov Arra	68.12	8	P	P	12 10 34.7	+1.0
	0.3nm,0.2s,baz=205,slow=6.3,SNR=2.1						
	0.3nm,0.2s						
QSPA	South Pole Qui	73.07	180	P	P	12 11 04.9	+0.9
	2.2nm,1.0s,baz=220,slow=2.7,SNR=4.4						
	2.2nm,1.0s						
JOW	Kunigami	73.74	55	LR	LR	12 39 46.4	
	comp=Z,21nm,21.9s,baz=30,slow=33						
KSRS	Korea Array	78.84	45	LR	LR	12 45 14.5	
	comp=Z,3.9nm,22.0s,baz=220,slow=35						
MJAR	Matsushiro Arr	85.68	50	LR	LR	12 49 57.6	
	comp=Z,17nm,20.5s,baz=110,slow=35						
ESDC	Sonseca Array	86.79	313	LR	LR	12 50 57.8	
	comp=Z,27nm,18.1s,baz=274,slow=36						
TIXI	Tiksi	97.66	16	LR	LR	12 56 54.7	
	comp=Z,19nm,20.9s,baz=336,slow=35						

*GII **12** 12:23:45.7±0.3, 28.841N±0.003×34.698E±0.001, h2km, Md2.8/4, Mws2.7/7, confirmed*
*SGS **12** 12:23:46.8, 28.81N×34.70E, h13km, Ml2.4*

ISC 12 12:23:46.1±1.3, 28.82N±0.03×34.69E±0.07, h10km±10km, n45, σ0§67/52, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAQS	Haql	0.30	41	P	Pb	12 23 53.2	-0.5
HAQS	Haql	0.30	41	S	Sb	12 23 58.1	-0.7
TAYS	Tayyib Ism	0.31	149	P	Pg	12 23 52.9	+0.6
TAYS	Tayyib Ism	0.31	149	S	Sg	12 23 57.6	+1.2
JMOS	Jabal al Moall	0.51	47	S	Sg	12 24 03.5	+0.9
JMOS	Jabal al Moall	0.51	47	P	Pg	12 23 56.2	+0.2
RSHS		0.53	170	P	Pg	12 23 56.2	-0.1
BDAS	Al Bad`	0.53	137	P	Pg	12 23 56.4	0.0
HQLS		0.58	34	P	Pg	12 23 57.3	0.0
JLOS		0.71	97	P	Pg	12 23 59.4	-0.4
ELOT	Eilot	0.80	17	P	Pg	12 24 01.0	-0.5
ELOT				S	Sb	12 24 12.9	0.0
AYUS	`Aynunah	0.81	141	P	Pg	12 24 01.0	-0.7
KRABS	KRABS	0.87	145	P	Pg	12 24 02.2	-0.7
EIL	Elat	0.88	15	P	Pg	12 24 03.2	+0.2
EIL				S	Sb	12 24 15.8	+0.6
EIL	Elat	0.88	15	S	Sb	12 24 14.9	-0.3
EIL	Elat	0.88	15	P	Pg	12 24 02.0	-1.0
BEOR	Beer Ora	0.93	16	P	Pg	12 24 03.4	-0.5
BEOR				S	Sb	12 24 16.7	+0.1
AQBJ	Aqaba	0.96	19	P	Pg	12 24 04.3	-0.2
AQBJ				S	Sb	12 24 17.8	+0.2
MBRI	Mt Berech	0.99	11	P	Pg	12 24 05.2	+0.1
MBRI	Mt Berech	0.99	11	P	Pg	12 24 04.7	-0.5
MBRI	Mt Berech	0.99	11	S	Sb	12 24 18.7	+0.1
ELFZ	Elifaz	1.01	16	P	Pg	12 24 04.9	-0.7
ELFZ				S	Sg	12 24 18.8	+0.1
YTVT	Yotvata	1.12	17	P	Pg	12 24 06.1	-1.4
YTVT				S	Sg	12 24 22.1	0.0
LOTA	Lotan	1.21	16	P	Pb	12 24 08.2	-1.0
LOTA				S	Sg	12 24 25.1	-0.1
HRFI	Mount Harif	1.25	14	P	Pb	12 24 09.1	-0.7
HRFI	Mount Harif	1.25	14	S	Sb	12 24 26.3	+0.3
HRFI	Mount Harif	1.25	14	P	Pb	12 24 09.1	-0.7
KRMI	Paran Flat	1.29	1	P	Pn	12 24 09.6	-0.7
KRMI	Paran Flat	1.29	1	S	Sb	12 24 27.4	+0.2
KRMI	Paran Flat	1.29	1	P	Pn	12 24 09.7	-0.5
MWLHS	Almuwaylih	1.29	146	P	Pn	12 24 09.4	-0.9
WTBKS	WTBKS	1.30	124	P	Pn	12 24 09.3	-1.2
PRNI	Paran	1.55	10	P	Pn	12 24 13.3	-0.5
PRNI	Paran	1.55	10	S	Sb	12 24 35.3	+0.6
PRNI	Paran	1.55	10	P	Pn	12 24 13.5	-0.3
HSNJ	Maan	1.67	31	P	Pn	12 24 16.4	+0.8
TBKS	Tabuk	1.73	110	P	Pn	12 24 16.8	+0.5
ZFRI	Zfri	1.78	14	S	Sb	12 24 41.0	-0.2
ZFRI	Zfri	1.78	14	P	Pn	12 24 16.3	-0.7
KZIT	Kziot	2.10	353	P	Pn	12 24 22.2	+0.9
KZIT	Kziot	2.10	353	S	Sn	12 24 49.0	+1.5
KZIT	Kziot	2.10	353	P	Pn	12 24 21.4	+0.2
MSBI	Mazada	2.55	13	P	Pn	12 24 27.9	+0.4
YTIR	Yattir	2.56	8	S	Sn	12 25 00.4	+1.4
YTIR	Yattir	2.56	8	P	Pn	12 24 28.0	+0.2

IDC 12 12:40:51.4±12.0, 15.42S×164.89E, h0km, mb3.5/3, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=220.0km s-min=34.9km az=50.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.78	168	Pn	Pn	12 42 32.6	+0.4
	0.5nm,0.3s,baz=47,slow=13,SNR=15						
DZM				Sn	Sn	12 43 49.6	-0.6
	baz=323,slow=20,SNR=1.1						
	6.6nm,0.9s						
STKA	Stephens Creek	26.81	228	P	P	12 46 33.7	+0.3
	0.6nm,0.5s,baz=65,slow=14,SNR=1.2						
	0.6nm,0.5s						
WRA	Warramunga Arr	29.43	257	P	P	12 46 56.8	-0.1
	0.5nm,1.0s,baz=84,slow=8.5,SNR=2.3						
	0.5nm,1.0s						
ASAR	Alice Springs	30.28	249	P	P	12 47 04.3	-0.1
	0.3nm,0.5s,baz=79,slow=9.5,SNR=12						
	0.3nm,0.5s						

*SJA **12** 12:41:12.6±0.6, 24.17S×66.96W, h206km±5km, ML3.4, MW3.6*
*GUC **12** 12:41:14.7±0.7, 24.16S×67.05W, h195km±10km, ML4.0*

ISC 12 12:41:11.5±1.7, 24.21S±0.04×66.95W±0.04, h211km±14km, n27, σ1§69/47, 3C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.41	111	i/i P	Pn	12 41 47.7	+2.1
SLA	San Lorenzo	1.41	111	eP	Pn	12 41 47.8	+2.1
SLA				eS	S	12 42 12.3	+0.3
SLA				IAML		12 42 13.6	
	comp=Z,74nm,0.8s						
AF01	San Pedro de A	1.69	318	eP	Pn	12 41 45.2	-3.0
AF01				IAML		12 42 40.8	
	comp=Z,126nm,0.1s						
AZAP	Zapla	1.72	91	eP	Pn	12 41 48.2	-0.2
AZAP				eS	S	12 42 13.8	-3.1
FSA	Cafayete	2.09	155	eP	Pn	12 41 53.9	+2.0
FSA				eS	S	12 42 21.3	-1.9
YJA	Yavi	2.42	33	eP	Pn	12 41 57.8	+2.1
YJA	Yavi	2.42	33	eP	Pn	12 41 58.3	+2.5
YJA				eS	S	12 42 29.9	+0.1
PB15	IPOC Station P	2.52	293	i/i P	Pn	12 41 57.8	+1.3
PB15				eS	S	12 42 30.1	-1.0
PB15				IAML		12 42 33.2	
	comp=E,1μm,0.1s						
PB15	IPOC Station P	2.52	293	eP	Pn	12 41 57.6	+1.1
PB15				eS	S	12 42 30.8	-0.4
GO02	Mina Guanaco	2.58	248	i/i P	Pn	12 41 58.8	+1.5
GO02				eS	S	12 42 32.4	-0.2
GO02				IAML		12 42 33.1	
	comp=N,659nm,0.2s						
GO02	Mina Guanaco	2.58	248	eP	Pn	12 41 58.8	+1.5
GO02				eS	S	12 42 32.9	+0.3
ALOL	LOMAS DE OLMED	2.75	82	eP	Pn	12 41 56.0	-2.9
PB06	IPOC Station P	2.83	301	i/i P	Pn	12 42 01.3	+1.3
PB06				eS	S	12 42 36.1	-1.4
PB06	IPOC Station P	2.83	301	eP	Pn	12 42 01.1	+1.1
PB06				eS	S	12 42 37.3	-0.2
PB06				IAML		12 42 39.9	
	comp=Z,180nm,0.4s						
AHML	Horco Molle	2.95	151	eP	Pn	12 42 02.9	+1.7
AHML				eS	S	12 42 40.5	+0.7
PB14	IPOC Station P	3.17	262	eP	Pn	12 42 05.0	+0.9
PB14				IAML		12 42 44.5	
	comp=E,95nm,0.3s						
PB14	IPOC Station P	3.17	262	eP	Pn	12 42 05.2	+1.1
PB14				eS	S	12 42 43.9	-0.9
PB14				IAML		12 42 44.2	
	comp=Z,91nm,0.2s						
PB09	IPOC Station P	3.20	318	eP	Pn	12 42 06.3	+2.0
PB09				eS	S	12 42 44.5	-0.7
PB09				IAML		12 42 45.7	
	comp=N,93nm,0.4s						
PB09	IPOC Station P	3.20	318	eS	S	12 42 45.2	0.0
PB09				IAML		12 42 46.9	
	comp=Z,63nm,0.2s						
PB04	IPOC Station P	3.48	302	eP	Pn	12 42 08.7	+1.1
PB04				eS	S	12 42 49.1	-2.1
PB04	IPOC Station P	3.48	302	eP	Pn	12 42 08.8	+1.1
PB04				eS	S	12 42 50.7	-0.5
PB04				IAML		12 42 53.5	
	comp=Z,119nm,0.5s						
AC01	Pan de Azucar	3.82	239	eP	Pn	12 42 12.2	+0.6
AC01				eS	S	12 42 56.8	-1.6
AC01				IAML		12 43 01.8	
	comp=Z,44nm,0.2s						
PB01	IPOC Station P	3.93	323	eP	Pn	12 42 14.0	+1.0
GO03	Copiapo	4.48	221	eP	Pn	12 42 21.0	+1.4
GO03				eS	S	12 43 12.7	-0.4
TA01	Diego Aracena	4.70	320	eP	Pn	12 42 23.1	+0.6
TA01				eS	S	12 43 16.1	-2.0
TA01				IAML		12 43 21.2	
	comp=Z,16nm,0.3s						
GO01	Chusmiza	4.98	335	eP	Pn	12 42 27.9	+1.4
GO01				eS	S	12 43 24.9	-0.4
AC04	Llanos de Chal	5.43	222	eP	Pn	12 42 32.2	+0.6
AC04				eS	S	12 43 29.9	-4.9
AC04				eS	S	12 43 34.0	-0.8
AC04				IAML		12 43 35.9	
	comp=Z,23nm,0.3s						

*IDC **12** 12:46:06.0±3.9, 44.55N×141.12E, h243km±40km, mb3.2/12, mbtmp3.8/13, Error ellipse: s-maj=20.8km s-min=16.8km az=31.0*
*JMA **12** 12:46:05.2±0.4, 45.1N×141.1E×14.1E±., h258km±3km, MV3.4/36, NW OFF HOKKAIDO*

ISC 12 12:46:06.2±0.7, 44.53N±0.06×141.25E±0.09, h249km±6km, n31, σ0§95/36, mb3.4/12, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYG	Yagishiri	0.16	128	P	Pn	12 46 38.2	-0.1
JSS	Shosan	0.45	106	P	Pn	12 46 39.3	+0.5
JRR	Rishiri	0.61	4	P	Pn	12 46 39.4	+0.2
JRR				eS	S	12 47 06.9	+1.6
JHR	Hokuryu	0.86	156	P	Pn	12 46 41.0	+0.6
JRBN	Rebuntou	0.91	352	P	Pn	12 46 40.1	-0.4
JWK2	Keihoku	0.92	30	i P	Pn	12 46 40.3	-0.3
JWK2				S	S	12 47 06.7	-1.1
JSE	Soyaes	1.05	65	P	Pn	12 46 40.8	-0.5
ASAJ	Asahikawa	1.05	112	P	Pn	12 46 41.2	-0.2
ASAJ				eS	S	12 47 08.7	-0.4
JAB	Ashibetsu	1.24	145	P	Pn	12 46 43.2	+0.6
JISS	Ishikarishitsu	1.26	174	P	Pn	12 46 43.7	+1.0
JKK2	Kamakawa 2	1.26	121	i P	Pn	12 46 42.9	+0.1
JEW	Eniwo	1.69	175	eP	Pn	12 46 46.9	+0.9
JTKR	Abashiri--Toko	1.99	105	P	Pn	12 46 49.1	+0.7
JAR	Ashorobuto	2.20	123	P	Pn	12 46 51.1	+0.7
JCH	Churui	2.45	140	P	Pn	12 46 52.1	-0.8
JCH				S	S	12 47 26.5	-3.3
JNBK	Urakawa-nobuka	2.50	153	P	Pn	12 46 53.8	+0.4
JNBK				S	S	12 47 32.1	+1.4
JOSM	Okushiri--Mats	2.76	208	P	Pn	12 46 56.2	+0.1
JOT	Ohata	3.15	183	P	Pn	12 47 00.3	+0.1
MJAR	Matsushiro Arr	8.30	197	P	Pn	12 48 02.8	-0.5
	0.6nm,0.3s,baz=10,slow=13,SNR=2.4						
SONM	Songino Array	24.23	290	P	P	12 51 00.2	-0.2
	2.1nm,0.6s,baz=92,slow=8.2,SNR=11						
	2.1nm,0.6s						
ZALV	Zalesovo Beam	37.11	305	P	P	12 52 51.8	-0.8
	0.3nm,0.3s,baz=73,slow=11,SNR=1.7						
	0.3nm,0.3s						
MKAR	Makanchi Array	40.43	295	P	P	12 53 20.0	-0.2
	0.6nm,0.7s,baz=81,slow=8.9,SNR=2.5						
	0.6nm,0.7s						
KURBB	Kurchatov Arra	41.62	302	P	P	12 53 29.4	-0.4
	2.5nm,0.2s,baz=76,slow=8.8,SNR=4.6						
	2.5nm,0.2s						
ILAR	Eielson Array	43.38	36	P	P	12 53 43.8	+0.1
	0.3nm,0.8s,baz=270,slow=8.1,SNR=4.1						
	0.3nm,0.8s						
BVAR	Borovoye Array	45.68	307	P	P	12 54 02.1	+0.1
	1.0nm,0.4s,baz=65,slow=8.4,SNR=6.3						
	1.0nm,0.4s						
WRA	Warramunga Arr	64.47	187	P	P	12 56 17.3	+1.2
	0.6nm,0.8s,baz=349,slow=7.1,SNR=1.8						
	0.6nm,0.8s						
HFS	Hagfors	67.24	335	P	P	12 56 32.9	-0.4
	0.7nm,0.3s,baz=38,slow=7.3,SNR=4.4						
	0.7nm,0.3s						
ASAR	Alice Springs	68.19	187	P	P	12 56 39.3	-0.4
	0.2nm,0.8s,baz=354,slow=7.5,SNR=2.6						
	0.2nm,0.8s						
AKASG	Malin Array Be	68.36	321	P	P	12 56 39.5	-1.0
	0.5nm,0.4s,baz=44,slow=6.6,SNR=3.6						
	0.5nm,0.4s						
NVAR	Mina Array Bea	70.69	55	P	P	12 56 56.9	+1.6
	0.4nm,0.7s,baz=317,slow=7.8,SNR=1.9						
	0.4nm,0.7s						
PDAR	Pinedale Array	72.56	47	P	P	12 57 07.2	+0.9
	0.6nm,0.5s,baz=296,slow=1.4,SNR=7.1						
	0.6nm,0.5s						

*NEIC **12** 13:14:32.1±0.5, 36.37N±0.01×97.71W±0.01, h7km±5km, ML2.1/47, ML2.5/23, Error ellipse: s-maj=1.7km s-min=1.1km az=203.0*

NEIC 12 13:14:32.0±0.5, 36.37N±0.01×97.71W±0.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.8km az=257.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	Carrier	0.26	301		Pg	13 14 37.2	0.0
CROK					Sg	13 14 41.5	+0.9
CROK				IAML		13 14 41.7	
	comp=E,292nm,0.3s						
GC02	Grant County #	0.50	346		Pg	13 14 41.9	+0.2
GC02					Sg	13 14 48.9	+0.8
BLOK	Blackwell	0.56	45		Pg	13 14 43.0	+0.2
BLOK				IAML		13 14 52.8	
	comp=E,78nm,0.2s						
OK048	Pawnee Station	0.62	85		Pg	13 14 44.1	+0.2
OK048					Sg	13 14 52.6	+0.7
KAN14	Manchester OK	0.62	341		Pg	13 14 44.1	+0.1
KAN14					Sg	13 14 52.7	+0.6
KAN14				IAML		13 14 55.8	
	comp=N,65nm,0.1s						
KAN14				IAML		13 14 55.9	
	comp=E,73nm,0.1s						
KAN13	South Haven SW	0.67	16		Pg	13 14 45.1	+0.2
KAN13					Sg	13 14 54.3	+0.7
KAN13				IAML		13 14 54.7	
	comp=N,100nm,0.3s						
OK051	E0350 and S346	0.71	79		Pg	13 14 45.8	+0.1
OK051				IAML		13 15 00.3	
	comp=N,84nm,0.2s						
OK051				IAML		13 15 02.2	
	comp=N,70nm,0.9s						
KAN09	Caldwell North	0.77	5		Pg	13 14 46.7	-0.1
KAN09					Sg	13 14 57.4	+0.6
KAN01	Argonia South	0.79	357		Pg	13 14 47.1	0.0
KAN01				IAML		13 14 51.8	
	comp=E,87nm,3.9s						
KAN01					Sg	13 14 57.8	+0.4
KAN01				IAML		13 15 05.3	
	comp=N,64nm,0.9s						
OK052	Battle Ridge R	0.82	117		Pg	13 14 47.9	+0.1
OK052					Sg	13 14 58.9	+0.5
OK052				IAML		13 15 01.1	
	comp=N,38nm,0.3s						
OK052				IAML		13 15 01.3	
	comp=N,94nm,0.3s						
QUOK	Quay	0.83	103		Pg	13 14 47.9	0.0
KAN12	Harper NE Stat	0.96	346		Pg	13 14 50.2	-0.2
NOKA	Waynoka	1.02	285		Pg	13 14 51.2	-0.4
NOKA					Sg	13 15 05.2	+0.2
T35A	Sooner Cattle	1.10	60		Pg	13 14 52.9	-0.3
T35A					Sb	13 15 08.4	0.0
T35A				IAML		13 15 12.8	
	comp=E,24nm,0.2s						
DEOK	Depew	1.11	118		Pg	13 14 52.9	-0.4
DEOK					Sg	13 15 07.9	+0.2
DEOK				IAML		13 15 10.0	
	comp=N,44nm,0.4s						
DEOK				IAML		13 15 13.1	
	comp=E,49nm,0.7s						
FNO	Franklin	1.14	167		Pg	13 14 53.4	-0.4
FNO				IAML		13 15 08.8	
	comp=E,57nm,4.4s						
W35A	Tecumseh	1.39	151		Pn	13 14 57.5	-0.6

*IDC **12** 14:12:14.8±1.1, 13.48N×89.84W, h0km, mb4.2/12, mbtmp4.2/14, ML3.8/2, MS3.6/21, Error ellipse: s-maj=32.5km s-min=15.7km az=38.0*
*CATAC **12** 14:12:16.3±0.5, 12.84N×90.45W, h18km±4km, ML4.4*
*SNET **12** 14:12:20.0±3.7, 13.02N×90.30W, h10km, ML4.3*
*NEIC **12** 14:12:21.0±1.9, 13.11N±0.07×90.32W±0.06, h35km±2km, mb4.5/91, Error ellipse: s-maj=13.5km s-min=8.6km az=210.0*
*GCG **12** 14:12:21.3±2.1, 13.27N×90.43W, h10km±65km, MD4.3*
*UCR **12** 14:12:27.4±0.5, 13.07N×89.45W, h0km±111km, MW4.2*

ISC 12 14:12:16.2±1.7, 12.91N±0.05×90.44W±0.04, h12km±9km, n172, σ1§23/139, mb4.4/54, MS3.7/20, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	Las Nubes	1.18	33	i P	Pg	14 12 38.0	-0.9
NUBE				i S	Sg	14 12 55.1	+0.9
NUBE				IAML		14 13 03.1	
	comp=Z,4μm,1.0s						
CEVE	Cerro Verde	1.21	41	eP	Pg	14 12 38.7	-0.8
CEVE				eS	Sb	14 12 57.1	+2.2
CEVE	Cerro Verde	1.21	41	i P	Pg	14 12 38.6	-0.9
CEVE				i S	Sg	14 12 56.0	+0.7
CEVE				IAML		14 13 00.2	
	comp=Z,10μm,1.0s						
JAYA	Jayaque - finc	1.21	52	eP	Pb	14 12 38.6	-0.7
JAYA				eS	Sb	14 12 57.0	+2.0
JAYA	Jayaque - finc	1.21	52	i P	Pb	14 12 38.7	-0.5
JAYA				i S	Sg	14 12 56.0	+0.6
JAYA				IAML		14 12 59.7	
	comp=Z,10μm,1.0s						
LALI	Alcalda de L	1.23	62	eP	Pb	14 12 38.8	-0.6
LALI	Alcalda de L	1.23	62	i P	Pb	14 12 38.6	-0.8
LALI				i S	Sb	14 12 56.0

LOMA				*i* S	**Sb**	**14 13 01.8**	**+0.6**
LOMA				IAML		14 13 07.0	
	comp=Z,3μm,1.0s						
PCG	**Pacaya**	**1.48**	**354**	*e*P	**Pn**	**14 12 42.9**	**-0.1**
PCG				*e*S	**Sn**	**14 12 57.3**	**-5.2**
LFRS	**El Faro**	**1.52**	**62**	*e*P	**Pn**	**14 12 42.8**	**-0.5**
ESSG	**Sabana Grande**	**1.52**	**345**	*i* P	**Pn**	**14 12 42.7**	**-0.6**
ESSG				*i* S	**Sn**	**14 13 03.8**	**+0.7**
ESSG				IAML		14 13 06.0	
	comp=Z,3μm,1.0s						
FUG	**Fuego 3**	**1.58**	**346**	*e*P	**Pn**	**14 12 44.0**	**-0.3**
JUAM	**Asuncion Mita**	**1.59**	**26**	*i* P	**Pn**	**14 12 44.5**	**+0.3**
JUAM				IAML		14 12 44.8	
	comp=Z,4μm,1.0s						
JUAM				*i* S	**Sn**	**14 13 05.7**	**+1.0**
PAVA	**Las Pavas**	**1.66**	**61**	*i* P	**Pn**	**14 12 45.5**	**+0.2**
PAVA				*i* S	**Sn**	**14 13 07.5**	**+0.8**
PAVA				IAML		14 13 16.4	
	comp=Z,4μm,1.0s						
COEG	**Centro de Oper**	**1.67**	**65**	*e*P	**Pn**	**14 12 45.4**	**0.0**
COEG	**Centro de Oper**	**1.67**	**65**	*i* P	**Pn**	**14 12 45.1**	**-0.3**
COEG				IAML		14 12 53.1	
	comp=Z,2μm,1.0s						
COEG				*i* S	**Sn**	**14 13 07.7**	**+0.8**
NBG	**Las Nubes**	**1.67**	**3**	*e*P	**Pn**	**14 12 46.3**	**+0.7**
TECO	**Alcaldia de Te**	**1.73**	**69**	*i* P	**Pn**	**14 12 45.7**	**-0.5**
TECO				*i* S	**Sn**	**14 13 08.3**	**+0.1**
TECO				IAML		14 13 17.0	
	comp=Z,1μm,1.0s						
UESV	**Universidad de**	**1.76**	**65**	*i* P	**Pn**	**14 12 46.5**	**-0.1**
UESV				*i* S	**Sn**	**14 13 09.7**	**+0.7**
UESV				IAML		14 13 19.7	
	comp=Z,3μm,1.0s						
SULM	**Suchitepequez,**	**1.77**	**322**	*e*P	Pn	14 12 44.9	-1.9
SULM				*e*S	**Sb**	**14 13 14.0**	**+3.2**
MTO3	**Montecristo**	**1.81**	**35**		**Pn**	**14 12 47.2**	**-0.3**
MTO3	**Montecristo**	**1.81**	**35**	*i* P	**Pn**	**14 12 47.5**	**0.0**
MTO3				IAML		14 12 57.6	
	comp=Z,3μm,1.0s						
MTO3				*i* S	**Sn**	**14 13 12.0**	**+1.4**
SCLA	**Alcaldia de Sa**	**1.84**	**64**	*i* P	**Pn**	**14 12 48.2**	**+0.5**
SCLA				*i* S	**Sn**	**14 13 12.2**	**+1.2**
SCLA				IAML		14 13 39.0	
	comp=Z,1μm,1.0s						
LLGN	**La Laguna**	**1.91**	**49**	*i* P	**Pn**	**14 12 49.1**	**+0.3**
LLGN				*i* S	**Sn**	**14 13 14.8**	**+1.9**
LLGN				IAML		14 13 21.3	
	comp=Z,2μm,1.0s						
ESQI	**Esquipulas**	**1.96**	**33**		**Pn**	**14 12 49.3**	**0.0**
ESQI	**Esquipulas**	**1.96**	**33**	*i* P	**Pn**	**14 12 49.8**	**+0.4**
ESQI				*i* S	**Sn**	**14 13 16.2**	**+2.2**
ESQI				IAML		14 13 37.6	
	comp=Z,6μm,1.0s						
RTAL	**Retalhuleu**	**2.02**	**323**		**Pn**	**14 12 51.1**	**+1.0**
STG3	**Santiaguito 3,**	**2.10**	**329**	*e*P	**Pn**	**14 12 52.0**	**+0.5**
SOKI	**Kika Raxquin**	**2.12**	**334**	*i* P	**Pn**	**14 12 51.3**	**-0.6**
SOKI				*i* S	**Sn**	**14 13 19.2**	**+0.7**
SOKI				IAML		14 13 27.3	
	comp=Z,2μm,1.0s						
RANC	**El Ranchito**	**2.15**	**76**	*i* P	**Pn**	**14 12 52.5**	**+0.4**
RANC				*i* S	**Sn**	**14 13 19.3**	**+0.4**
RANC				IAML		14 13 37.4	
	comp=Z,2μm,1.0s						
BLLM	**Bellamira**	**2.21**	**76**	*e*P	**Pn**	**14 12 53.0**	**+0.2**
MRL	**Marmol**	**2.28**	**19**	*e*P	**Pn**	**14 12 55.0**	**+1.0**
QUIS	**Sacapulas**	**2.45**	**345**	*i* P	**Pn**	**14 12 57.2**	**+0.9**
QUIS				*i* S	**Sn**	**14 13 27.1**	**+0.8**
QUIS				IAML		14 13 32.2	
	comp=Z,1μm,1.0s						
LCND	**La Caada**	**2.51**	**81**	*i* P	**Pn**	**14 12 57.3**	**+0.4**
LCND				*i* S	**Sn**	**14 13 28.4**	**+0.9**
LCND				IAML		14 13 35.7	
	comp=Z,950nm,1.0s						
CNCH	**Conchagua**	**2.56**	**81**	*e*P	**Pn**	**14 12 58.2**	**+0.5**
CNCH	**Conchagua**	**2.56**	**81**	*i* P	**Pn**	**14 12 57.6**	**-0.1**
CNCH				*i* S	**Sn**	**14 13 28.7**	**-0.2**
CNCH				IAML		14 13 40.5	
	comp=Z,2μm,1.0s						
HUEH	**Huehuetenango**	**2.61**	**337**		**Pn**	**14 12 59.2**	**+0.7**
CSGN	**Cosiguina Volc**	**2.81**	**88**	*i* P	**Pn**	**14 13 00.5**	**-0.5**
CSGN				*i* S	**Sn**	**14 13 35.3**	**+0.4**
CSGN				IAML		14 13 45.7	
	comp=Z,250nm,1.0s						
TGUH	**Tegucigalpa,Un**	**3.28**	**69**		**Pn**	**14 13 07.8**	**+0.1**
CRIN	**San Cristobal**	**3.31**	**93**		**Pn**	**14 13 08.2**	**+0.3**
CRIN	**San Cristobal**	**3.31**	**93**	*i* P	**Pn**	**14 13 08.2**	**+0.3**
CRIN				*i* S	**Sn**	**14 13 46.6**	**-0.7**
CRIN				IAML		14 13 55.0	
	comp=Z,2μm,1.0s						
CRIN	**San Cristobal**	**3.31**	**93**	*e*P	**Pn**	**14 13 08.1**	**+0.2**
PKGN	**Cerro Pekin**	**3.38**	**94**	*i* P	**Pn**	**14 13 08.6**	**-0.3**
PKGN				*i* S	**Sn**	**14 13 48.8**	**-0.2**
PKGN				IAML		14 13 51.8	
	comp=Z,1μm,1.0s						
PACN	**Al O del Volca**	**3.58**	**96**	*i* P	**Pn**	**14 13 12.0**	**+0.4**
PACN				*i* S	**Sn**	**14 13 53.4**	**-0.4**
PACN				IAML		14 13 55.9	
	comp=Z,350nm,1.0s						
CCIG	**Comitan**	**3.74**	**334**		**Pn**	**14 13 15.0**	**+1.1**
COPN	**Copaltepe**	**3.82**	**100**	*i* P	**Pn**	**14 13 14.7**	**-0.2**
COPN				IAML		14 14 28.1	
	comp=Z,320nm,1.0s						
MOMN	**Momotombo**	**3.83**	**97**	*i* P	**Pn**	**14 13 14.8**	**-0.3**
MOMN				*i* S	**Sn**	**14 13 59.4**	**-0.8**
MOMN				IAML		14 14 02.9	
	comp=Z,16nm,1.0s						
MOM2	**El Cardon**	**3.88**	**96**	*i* P	**Pn**	**14 13 16.1**	**+0.3**
MOM2				*i* S	**Sn**	**14 14 01.0**	**-0.4**
MOM2				IAML		14 14 19.0	
	comp=Z,220nm,1.0s						
LIMN	**Finca el Limon**	**3.97**	**87**	*i* P	**Pn**	**14 13 16.5**	**-0.6**
LIMN				IAML		14 14 38.5	
	comp=Z,240nm,1.0s						
RCPN	**Sur Rio San Ju**	**4.27**	**81**	*i* P	**Pn**	**14 13 22.4**	**+1.2**
ACON	**Acoyapa**	**5.22**	**100**	Pn	**Pn**	**14 13 34.6**	**+0.4**
COLC	**Colonia**	**5.58**	**113**	*e*P	**Pn**	**14 13 41.2**	**+2.0**
CUI	**Cuipilapa**	**5.62**	**113**	*e*P	**Pn**	**14 13 41.7**	**+2.0**
JTS	**Las Juntas de**	**5.97**	**115**		**Pn**	**14 13 46.1**	**+1.7**
JTS	**Las Juntas de**	**5.97**	**115**	Pn	Pn	14 13 43.1	-1.4
	comp=Z,4.4nm,0.3s,baz=306,slow=19,SNR=4.2						
JTS				Lg	Lg	14 15 16.0	
	baz=197,slow=19						
	comp=Z,10nm,0.3s						
JTS	**Las Juntas de**	**5.97**	**115**	*e*P	**Pn**	**14 13 46.4**	**+1.9**
CMIG	**Matias Romero**	**5.98**	**315**	Pn	**Pn**	**14 13 44.0**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=137,slow=9.2,SNR=8.5						
CMIG				Sn	**Sn**	**14 14 54.7**	**+1.6**
	comp=Z,1.8nm,0.3s,baz=135,slow=22,SNR=2.0						
	comp=Z,3.4nm,0.3s						
LCR2	**La Lucha 2**	**7.05**	**116**	Pn	**Pn**	**14 14 01.8**	**+2.3**
LCR2	**La Lucha 2**	**7.05**	**116**	*e*P	**Pn**	**14 14 02.2**	**+2.7**
BUS1	**Rivas**	**7.36**	**116**	*e*P	**Pn**	**14 14 07.1**	**+3.1**
TEIG	**Tepich**	**7.57**	**16**	Pn	Pn	14 13 55.7	-11
	baz=197,slow=20,SNR=2.2						
DRK0	**Durika**	**7.93**	**116**	*e*P	**Pn**	**14 14 14.5**	**+2.9**
PIRO	**Carate, Puerto**	**8.29**	**122**	*e*P	**Pn**	**14 14 20.5**	**+4.2**
BRU2	**Volcan**	**8.63**	**117**	Pn	**Pn**	**14 14 24.8**	**+3.6**
SOR	**Soroa**	**12.11**	**35**	Pn	**Pn**	**14 15 08.6**	**0.0**
JCT	**Junction City**	**19.52**	**335**	P	**P**	**14 16 44.0**	**+0.4**
SDV	**Santo Domingo**	**19.85**	**100**	LR	LR	14 25 08.3	
	comp=Z,124nm,20.0s,baz=262,slow=40						
HPIG		**19.96**	**317**	Pn	**P**	**14 16 51.2**	**+2.5**
SAND	**Sanderson**	**20.13**	**329**	P	**P**	**14 16 50.7**	**+0.5**
TXAR	**Lajitas Array**	**20.45**	**325**	P	**P**	**14 16 54.6**	**+0.7**
TXAR	**Lajitas Array**	**20.45**	**325**	P	**P**	**14 16 54.0**	**+0.1**
	comp=Z,4.6nm,0.7s,baz=144,slow=9.4,SNR=18						
	comp=Z,4.6nm,0.7s						
OZNA	**Ozona**	**20.46**	**333**	P	**P**	**14 16 54.2**	**+0.2**
ALPN	**Alpine**	**21.24**	**327**	P	**P**	**14 17 03.1**	**+0.6**
ALPN				IAmb	IAmb	14 17 04.9	
	comp=Z,23nm,0.8s						
MNHN	**Monahans**	**21.57**	**330**	P	**P**	**14 17 06.0**	**+0.1**
MNHN				IAmb	IAmb	14 17 08.3	
	comp=Z,21nm,0.8s						
X48A	**Hartselle**	**21.67**	**8**	P	**P**	**14 17 06.8**	**0.0**
X37A	**Clayton**	**22.05**	**349**	P	**P**	**14 17 09.8**	**-1.0**
X37A				IAmb	IAmb	14 17 12.6	
	comp=Z,26nm,1.1s						
PECS	**Pecos**	**22.15**	**328**	P	**P**	**14 17 12.7**	**+0.5**
APMT	**Aspermont**	**22.17**	**338**	P	**P**	**14 17 11.3**	**-0.9**
APMT				IAmb	IAmb	14 17 20.4	
	comp=Z,8.4nm,0.7s						
VHRN	**Van Horn**	**22.29**	**325**	P	**P**	**14 17 13.5**	**-0.2**
VHRN				IAmb	IAmb	14 17 15.3	
	comp=Z,20nm,0.8s						
SWET	**Sewanee**	**22.58**	**10**	P	**P**	**14 17 15.3**	**-1.4**
V48A	**Smith Brothers**	**22.97**	**8**	P	**P**	**14 17 19.5**	**-1.1**
V48A				IAmb	IAmb	14 17 21.7	
	comp=Z,15nm,1.2s						
ATAH	**Atahualpa**	**23.23**	**148**	LR	LR	14 26 01.7	
	comp=Z,76nm,18.8s,baz=320,slow=35						
WVT	**Waverly**	**23.24**	**5**	P	**P**	**14 17 22.0**	**-1.5**
CLTN	**Cedars of Leba**	**23.38**	**8**	IAmb	IAmb	14 17 33.8	
	comp=Z,30nm,1.4s						
TKL	**Tuckaleechee C**	**23.44**	**14**	P	P	14 17 19.1	-6.3
	comp=Z,3.6nm,0.7s,baz=194,slow=17,SNR=1.9						
TKL				LR	LR	14 27 20.9	
	comp=Z,217nm,19.0s,baz=196,slow=40						
	comp=Z,3.6nm,0.7s						
SMWD	**Samnorwood**	**23.82**	**340**	P	**P**	**14 17 28.8**	**-0.4**
SMWD				IAmb	IAmb	14 17 31.1	
	comp=Z,16nm,0.9s						
SIUC	**Southern Illin**	**24.73**	**2**	IAmb	IAmb	14 18 11.9	
	comp=Z,24nm,1.1s						
S39A	**Bolivar**	**24.82**	**355**	IAmb	IAmb	14 17 37.5	
	comp=Z,10nm,0.8s						
WCI	**Wyandotte Cave**	**25.49**	**8**	P	**P**	**14 17 41.8**	**-2.5**
WUAZ	**Wupatki**	**29.39**	**324**	IAmb	IAmb	14 18 22.4	
	comp=Z,6.8nm,0.9s						
U15A	**North Rim**	**30.56**	**324**	IAmb	IAmb	14 18 34.4	
	comp=Z,8.6nm,1.3s						
HMU	**Henry Mountain**	**30.80**	**328**	IAmb	IAmb	14 18 38.6	
	comp=Z,13nm,1.2s						
ECSD	**EROS Data Cent**	**31.18**	**351**	IAmb	IAmb	14 18 34.2	
	comp=Z,4.9nm,0.8s						
KNB	**Kanab**	**31.28**	**324**	IAmb	IAmb	14 18 48.2	
	comp=Z,12nm,1.2s						
PKCU	**Pink Cliffs**	**31.29**	**325**	IAmb	IAmb	14 18 39.9	
	comp=Z,12nm,1.1s						
BOAV	**Boa Vista**	**31.39**	**107**	P	**P**	**14 18 36.8**	**-0.6**
PFO	**Pinyon Flats O**	**31.41**	**315**	LR	LR	14 32 21.7	
	comp=Z,98nm,18.9s,baz=165,slow=38						
MTPU	**Mount Pierson**	**31.65**	**326**	IAmb	IAmb	14 18 42.7	
	comp=Z,8.1nm,0.8s						
PRN	**Pahroc Range**	**32.85**	**322**	IAmb	IAmb	14 19 02.9	
	comp=Z,7.1nm,1.2s						
PSUT	**Pine Spring**	**32.92**	**325**	IAmb	IAmb	14 18 53.0	
	comp=Z,4.2nm,0.8s						
SADO	**Sadowa**	**33.19**	**15**	LR	LR	14 33 02.4	
	comp=Z,155nm,18.8s,baz=252,slow=38						
TCUT	**Toone Canyon**	**33.56**	**331**	IAmb	IAmb	14 18 59.9	
	comp=Z,6.8nm,0.7s						
R11B	**Troy Canyon, C**	**33.79**	**323**	IAmb	IAmb	14 19 01.5	
	comp=Z,6.3nm,1.2s						
HWUT	**Hardware Ranch**	**34.02**	**331**	IAmb	IAmb	14 19 09.9	
	comp=Z,6.3nm,1.1s						
PDAR	**Pinedale Array**	**34.05**	**334**	P	P	14 18 58.5	-2.1
	comp=Z,0.5nm,0.7s,baz=131,slow=11,SNR=5.1						
PDAR				PcP	**PcP**	**14 21 38.2**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=141,slow=4.4,SNR=3.8						
	comp=Z,0.5nm,0.7s						
BGU	**Big Grassy Mou**	**34.21**	**329**	IAmb	IAmb	14 19 03.1	
	comp=Z,3.9nm,0.9s						
DSP	**Deep Springs**	**34.62**	**320**	P	**P**	**14 19 06.5**	**+1.2**
DSP				IAmb	IAmb	14 19 18.5	
	comp=Z,6.8nm,1.3s						
SAML	**Samuel**	**34.70**	**127**	P	P	14 19 04.7	-1.6
SAML				IAmb	IAmb	14 19 11.2	
	comp=Z,4.1nm,1.0s						
LOHW	**Long Hollow**	**35.18**	**334**	IAmb	IAmb	14 19 11.2	
	comp=Z,4.2nm,0.9s						
TPAW	**Teton Pass**	**35.23**	**334**	IAmb	IAmb	14 19 15.3	
	comp=Z,11nm,1.2s						
ELK	**Elko**	**35.23**	**326**	IAmb	IAmb	14 19 13.8	
	comp=Z,4.5nm,0.8s						
NVAR	**Mina Array Bea**	**35.47**	**321**	P	**P**	**14 19 13.0**	**0.0**
NVAR	**Mina Array Bea**	**35.47**	**321**	P	**P**	**14 19 14.2**	**+1.2**
	comp=Z,4.1nm,0.7s,baz=133,slow=7.9,SNR=31						
NVAR				PcP	**PcP**	**14 21 43.5**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=122,slow=3.3,SNR=6.4						
NVAR				LR	LR	14 35 42.1	
	comp=Z,97nm,20.1s,baz=128,slow=40						
	comp=Z,4.1nm,0.7s						
LHV	**Little Huntoon**	**35.49**	**320**	P	**P**	**14 19 14.3**	**+1.5**
BMN	**Battle Mountai**	**36.12**	**324**	IAmb	IAmb	14 19 20.5	
	comp=Z,6.4nm,0.9s						
YMR	**Madison River**	**36.19**	**335**	IAmb	IAmb	14 19 29.4	
	comp=Z,11nm,1.4s						
YHL	**Hebgen Lake**	**36.43**	**335**	IAmb	IAmb	14 19 32.6	
	comp=Z,6.1nm,1.1s						
PNTR	**Pine Nut**	**36.68**	**321**	IAmb	IAmb	14 19 28.0	
	comp=Z,7.2nm,0.9s						
PAHR	**Pah Rah Range**	**36.92**	**322**	IAmb	IAmb	14 19 45.8	
	comp=Z,7.3nm,1.2s						
DLMT	**Dillon**	**37.44**	**334**	IAmb	IAmb	14 19 40.7	
	comp=Z,11nm,1.2s						
MFID	**Camas Ranch**	**37.45**	**329**	IAmb	IAmb	14 19 35.6	
	comp=Z,11nm,1.4s						
ULM	**Lac du Bonnet**	**37.50**	**354**	P	P	14 19 25.5	-4.3
	comp=Z,8.3nm,0.9s,baz=159,slow=9.1,SNR=7.7						
	comp=Z,8.3nm,0.9s						
WVOR	**Wild Horse Val**	**38.25**	**326**	IAmb	IAmb	14 19 38.2	
	comp=Z,8.1nm,1.1s						
PLID	**Pearl Lake**	**38.76**	**331**	IAmb	IAmb	14 19 41.0	
	comp=Z,6.6nm,1.0s						
MSO	**Missoula**	**39.17**	**334**	IAmb	IAmb	14 19 46.1	
	comp=Z,11nm,1.2s						
O02D	**Mt. Diablo Mer**	**39.31**	**320**	P	**P**	**14 19 45.7**	**+0.4**
I07A	**Izee**	**39.82**	**327**	IAmb	IAmb	14 19 50.0	
	comp=Z,6.4nm,1.1s						
F10A	**Beach Ranch, E**	**40.00**	**331**	IAmb	IAmb	14 19 51.8	
	comp=Z,10nm,0.8s						
YBH	**Yreka Blue Hor**	**40.16**	**322**	LR	LR	14 39 26.1	
	comp=Z,62nm,18.7s,baz=156,slow=41						
PINE	**Pine Mountain**	**40.41**	**325**	P	**P**	**14 19 54.1**	**-0.5**
PINE				IAmb	IAmb	14 19 55.3	
	comp=Z,6.9nm,0.9s						
NEW	**Newport**	**41.65**	**333**	LR	LR	14 41 42.5	
	comp=Z,87nm,18.8s,baz=132,slow=43						
H04A	**Detroit Lake**	**41.67**	**326**	P	P	14 20 03.8	-0.9
FFC	**Flin Flon**	**42.70**	**350**	P	P	14 20 10.9	-2.0
FFC				IAmb	IAmb	14 20 11.7	
	comp=Z,7.2nm,0.8s						
SCHQ	**Schefferville**	**45.73**	**19**	P	P	14 20 32.4	-4.9
	comp=Z,6.6nm,0.7s,baz=224,slow=8.1,SNR=10						
SCHQ				LR	LR	14 38 46.7	
	comp=Z,81nm,18.8s,baz=276,slow=35						
	comp=Z,6.6nm,0.7s						
YKA	**Yellowknife Ar**	**52.44**	**346**	P	P	14 21 26.2	-2.2
	comp=Z,2.7nm,0.8s,baz=150,slow=7.5,SNR=8.6						
	comp=Z,2.7nm,0.8s						
FRB	**Frobisher Bay**	**53.05**	**12**	LR	LR	14 45 11.7	
	comp=Z,126nm,18.0s,baz=138,slow=38						
PLCA	**Paso Flores**	**56.46**	**162**	LR	LR	14 42 22.2	
	comp=Z,60nm,18.7s,baz=20,slow=32						
SFJD	**Kangerlussuaq**	**60.10**	**17**	LR	LR	14 48 08.9	
	comp=Z,87nm,19.0s,baz=178,slow=36						
RES	**Resolute Bay**	**61.82**	**359**	P	P	14 22 31.4	-3.3
RES	**Resolute Bay**	**61.82**	**359**	LR	LR	14 51 33.0	
	comp=Z,63nm,19.3s,baz=356,slow=38						
F28M	**Old Crow**	**63.39**	**341**	P	P	14 22 43.4	-2.0
ILAR	**Eielson Array**	**64.44**	**337**	P	P	14 22 49.8	-2.4
	comp=Z,1.5nm,0.9s,baz=122,slow=5.2,SNR=12						
	comp=Z,1.5nm,0.9s						
PPT	**Papeete**	**65.76**	**244**	LR	LR	14 44 53.1	
	comp=Z,72nm,18.6s,baz=146,slow=29						
PPT2	**Papeete2**	**65.77**	**244**	*e*LR	LR	14 42 43.2	
	comp=Z,56nm,27.5s						
PPT2				*e*LR	LR	14 42 52.5	
	comp=Z,107nm,25.8s						
D25K	**Kavik River**	**66.33**	**341**	P	P	14 23 03.0	-1.5
D25K				IAmb	IAmb	14 23 04.1	
	comp=Z,5.7nm,1.1s						
BORG	**Borgarnes**	**69.53**	**25**	LR	LR	14 53 32.4	
	comp=Z,51nm,18.5s,baz=292,slow=36						
JMIC	**Jan Mayen**	**75.25**	**20**	LR	LR	14 55 47.5	
	comp=Z,22nm,21.6s,baz=250,slow=35						
EKA	**Eskdalemuir Ar**	**77.96**	**36**	P	P	14 24 09.9	-4.4
	comp=Z,1.2nm,0.6s,baz=258,slow=4.2,SNR=4.5						
	comp=Z,1.2nm,0.6s						
ESDC	**Sonseca Array**	**79.20**	**52**	P	P	14 24 17.7	-3.8
	comp=Z,0.8nm,0.6s,baz=260,slow=5.1,SNR=5.7						
	comp=Z,0.8nm,0.6s						
MDT	**Midelt**	**79.66**	**59**	LR	LR	14 53 54.0	
	comp=Z,65nm,20.6s,baz=314,slow=32						
SPITS	**Spitsbergen Ar**	**80.85**	**12**	P	P	14 24 27.1	-2.6
	comp=Z,10nm,1.0s,baz=343,slow=9.0,SNR=1.4						
	comp=Z,10nm,1.0s						
NOA	**NORSAR Array B**	**84.37**	**29**	LR	LR	15 03 23.4	
	comp=Z,20nm,18.0s,baz=255,slow=37						
HFS	**Hagfors**	**85.81**	**29**	LR	LR	15 03 41.3	
	comp=Z,32nm,18.1s,baz=299,slow=36						
ARCES	**ARCESS Array B**	**86.69**	**18**	LR	LR	15 02 43.7	
	comp=Z,15nm,18.4s,baz=226,slow=35						
TORD	**Torodi Ar. Bea**	**89.15**	**77**	P	P	14 25 09.9	-2.6
	comp=Z,0.4nm,0.6s,baz=298,slow=6.4,SNR=2.8						
	comp=Z,0.4nm,0.6s						
FINES	**FINESS Array B**	**90.83**	**25**	LR	LR	15 07 58.2	
	comp=Z,39nm,18.0s,baz=268,slow=37						
KURBB	**Kurchatov Arra**	**116.01**	**8**	PKP	**PKiKP**	**14 30 58.4**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=344,slow=1.0,SNR=4.9						
BOSA	**Boshof**	**118.52**	**116**	PKP	**PKPdf**	**14 31 03.1**	**-1.6**
	comp=Z,2.8nm,0.9s,baz=333,slow=4.0,SNR=2.1						
MKAR	**Makanchi Array**	**120.22**	**6**	PKP	**PKPdf**	**14 31 06.4**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=282,slow=5.0,SNR=2.0						
TIA	**Tai'an**	**124.65**	**333**	PKP	PKPdf	14 31 11.0	-5.3
WRA	**Warramunga Arr**	**136.59**	**255**	PKhKP	PKPpre	14 31 36.6	
	comp=Z,0.4nm,0.8s,baz=91,slow=3.1,SNR=2.7						
ASAR	**Alice Springs**	**136.72**	**249**	PKhKP	PKPpre	14 31 36.7	
	comp=Z,0.3nm,0.7s,baz=114,slow=3.5,SNR=2.1						
PZH	**PanZhiHua**	**139.08**	**343**	PKP	**PKPdf**	**14 31 42.5**	**-1.4**
CMAR	**Chiang Mai Arr**	**147.49**	**343**	PKPbc	**PKPdf**	**14 31 59.5**	**+0.8**
	comp=Z,4.8nm,0.9s,baz=338,slow=3.5,SNR=28						

BER ***12*** *14:29:47.1±1.8, 71°.13N×9°.42W, h0km±43km, ML3.4, Confirmed Earthquake*
DNK ***12*** *14:29:50.4±2.3, 71°.45N×10°.88W, h0km±122km, ML1.3*

ISC 12 14:29:42.8±1.1, 71°.3N±0°.1×9°.4W±0°.2, h10km, n7, σ1s64/13, 1D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.44**	**135**	*e*P	**Pn**	**14 29 54.4**	**-0.8**
JNW				*e*		14 29 54.5	
	baz=285,slow=2.7						
JNW				*e*S	**Sb**	**14 30 00.1**	**+0.8**
JNW				IAML		14 30 01.4	
	comp=Z,4μm,0.3s						
JMIC	**Jan Mayen**	**0.46**	**141**	*e*P	**Pn**	**14 29 54.5**	**-0.9**
JMIC				*e*S	**Sb**	**14 29 59.9**	**+0.2**
JMIC				IAML		14 30 00.9	
	comp=Z,2μm,0.2s						
JMI	**Jan Mayen**	**0.47**	**153**	*e*P	**Pn**	**14 29 54.8**	**-0.7**
JMI				*e*S	**Sb**	**14 30 00.5**	**+0.5**
JNE	**Jan Mayen East**	**0.50**	**135**	||*i*P	**Pn**	**14 29 55.0**	**-0.9**
JNE				*e*S	**Sb**	**14 30 00.9**	**-0.1**
JNE				IAML		14 30 04.3	
	comp=Z,3μm,0.2s						
DBG	**Daneborg**	**4.38**	**318**	*i* P	**Pn**	**14 30 51.4**	**+2.2**
DBG				*i* S	**Sn**	**14 31 37.3**	**-2.8**
DBG				IAML		14 31 39.5	
	comp=Z,2.1nm,0.2s						
DAG	**Danmarks Havn**	**6.01**	**339**	*i* P	**Pn**	**14 31 14.4**	**+2.7**
DAG				*i* S	**Sn**	**14 32 18.8**	**-1.6**
DAG				IAML		14 32 22.7	
	comp=Z,1.5nm,0.1s						
NEEM	**North Greenlan**	**12.46**	**318**	*i* P	**Pn**	**14 32 40.5**	**+0.3**

DJA 12 14:32:58.5±0.5, 8°S±5°×12°0E±°, h165km±9km, M3.7/8, mb3.9/1, MLv3.6/8, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.60**	**202**	P	Pn	14 33 30.7	+0.4
WBSI				S	Sn	14 33 55.2	+0.2
BSSI	**Bau Bau, Buton**	**2.05**	**13**	P	Pn	14 33 34.9	-0.3
BASI	**Baing, Sumba**	**2.13**	**165**	P	Pn	14 33 35.9	-0.2
BASI				S	Sn	14 34 05.4	+0.2
MMRI	**Maumere**	**2.26**	**103**	P	Pn	14 33 38.9	+1.4
PLAI	**Plampang**	**2.31**	**253**	P	Pn	14 33 39.0	+0.9
PLAI				S	Sn	14 34 08.8	0.0
BATI	**Baumata**	**4.15**	**120**	P	Pn	14 34 01.1	0.0
SOEI	**Soe**	**4.50**	**111**	P	Pn	14 34 06.1	+0.3
JAGI	**Jajag, Banyuwa**	**5.81**	**266**	P	Pn	14 34 23.2	+0.4

IDC ***12*** *14:49:09.7±0.6, 6°.27N×123°.74E, h0km, mb4.3/15, mbtmp4.4/17, MLA.6/1, MS3.6/14, Error ellipse: s-maj=19.7km s-min=12.4km az=

CHTO	Chiang Mai	27.21	300	P	P	14 54 55.0	-1.3
MBWA	Marble Bar	27.52	188	P	P	14 54 58.8	-0.1
MBWA				IAmb	IAmb	14 55 11.2	
comp=Z,53nm,1.4s							
WB0	Warramunga Arr	27.89	158	P	P	14 55 01.0	-1.3
WB0				IAmb	IAmb	14 55 02.2	
comp=Z,11nm,0.7s							
WRAB	Tennant Creek	28.02	158	P	P	14 55 02.4	-1.1
WRAB				IAmb	IAmb	14 55 03.6	
comp=Z,10.0nm,0.7s							
WRA	Warramunga Arr	28.03	158	P	P	14 55 01.6	-1.9
WRA	Warramunga Arr	28.03	158	P	P	14 55 02.2	-1.3
comp=Z,8.3nm,0.7s,baz=337,slow=9.9,SNR=66							
comp=Z,8.3nm,0.7s							
WB2	Warramunga Arr	28.03	158	P	P	14 55 02.4	-1.2
WB2				IAmb	IAmb	14 55 03.7	
comp=Z,14nm,0.7s							
WR0	Warramunga Arr	28.12	158	P	P	14 55 02.6	-1.8
WR0				IAmb	IAmb	14 55 37.6	
comp=Z,14nm,1.1s							
PZH	PanZhiHua	29.09	316	P	P	14 55 15.3	+2.1
PZH				pmax	pmax		
comp=Z,8.0nm,1.0s							
PZH				pmax	pmax		
comp=Z,100nm,5.6s							
TIA	Tai'an	30.44	349	P	P	14 55 26.0	+1.2
TIA				pmax	pmax		
comp=Z,5.0nm,0.7s							
JHJ	Hachijo jima 2	30.61	27	LR	LR	15 09 18.1	
comp=Z,71nm,18.2s,baz=212,slow=40							
CD2	Chengdu	30.89	325	P	P	14 55 29.7	+0.8
CD2				S	S	15 00 33.0	+2.1
CD2				pmax	pmax		
comp=Z,10.0nm,1.1s							
CD2				LR	LR		
comp=N,240nm,15.9s							
CD2				LR	LR		
comp=E,300nm,11.2s							
CD2				LR	LR		
comp=Z,270nm,14.9s							
KSRS	Korea Array	31.29	6	P	P	14 55 31.7	-0.6
comp=Z,2.5nm,0.9s,baz=185,slow=10,SNR=8.0							
KSRS				LR	LR	15 09 26.8	
comp=Z,50nm,18.4s,baz=145,slow=39							
comp=Z,2.5nm,0.9s							
AS31	Alice Springs	31.33	162	P	P	14 55 32.4	-0.4
ASAR	Alice Springs	31.34	162	P	P	14 55 32.4	-0.5
ASAR	Alice Springs	31.34	162	P	P	14 55 32.5	-0.3
comp=Z,3.2nm,0.7s,baz=353,slow=7.2,SNR=48							
ASAR				PcP	PcP	14 58 25.6	-0.8
comp=Z,0.7nm,0.7s,baz=357,slow=3.7,SNR=2.7							
comp=Z,3.2nm,0.7s							
LZH	Lanzhou	34.87	331	eP	P	14 56 03.4	-0.4
LZH				sP	pP	14 56 13.5	+0.9
LZH				pmax	pmax		
comp=Z,19nm,1.2s							
LZH				LR	LR		
comp=N,180nm,17.5s							
LZH				LR	LR		
comp=E,300nm,17.2s							
LZH				LR	LR		
comp=Z,200nm,17.2s							
SHL	Shillong	36.02	306	P	P	14 56 13.2	-0.6
SHL				IAmb	IAmb	14 56 22.8	
comp=Z,9.0nm,0.8s							
HHC	Hu-ho-hao-te	36.14	344	eP	P	14 56 15.9	+1.3
HHC				pmax	pmax		
comp=Z,20nm,0.6s							
HHC				pmax	pmax		
comp=Z,150nm,5.1s							
CN2	Changchun	37.43	2	eP	P	14 56 27.2	+1.8
CN2				pmax	pmax		
comp=Z,10.0nm,0.6s							
MDJ	Mudanjiang	38.56	7	P	P	14 56 37.0	+2.2
MDJ				pmax	pmax		
comp=Z,8.0nm,1.9s							
HNR	Honiara	39.27	113	P	P	14 56 41.6	+0.4
HNR	Honiara	39.27	113	LR	LR	15 12 03.3	
comp=Z,43nm,21.9s,baz=212,slow=35							
GTA	Gaotai	39.45	330	P	P	14 56 42.7	+0.1
GTA				pP	pP	14 56 51.3	-0.2
GTA				pmax	pmax		
comp=Z,5.0nm,2.3s							
GTA				LR	LR		
comp=N,140nm,19.9s							
GTA				LR	LR		
comp=E,180nm,16.7s							
GTA				LR	LR		
comp=Z,190nm,19.9s							
BBOO	Buckleboo	40.56	164	P	P	14 56 52.3	+0.6
BBOO				IAmb	IAmb	14 57 05.6	
comp=Z,26nm,1.0s							
STKA	Stephens Creek	41.55	157	P	P	14 56 59.8	0.0
STKA	Stephens Creek	41.55	157	P	P	14 56 59.9	+0.1
comp=Z,20nm,0.8s,baz=342,slow=9.5,SNR=52							
comp=Z,20nm,0.8s							
ULN	Ulaanbaatar	43.86	344	P	P	14 57 18.7	+0.1
ULN				IAmb	IAmb	14 57 22.8	
comp=Z,15nm,1.2s							
SONM	Songino Array	44.02	343	P	P	14 57 19.8	0.0
SONM				IAmb	IAmb	14 57 23.3	
comp=Z,12nm,1.3s							
SONM	Songino Array	44.02	343	P	P	14 57 19.8	0.0
comp=Z,4.3nm,1.0s,baz=162,slow=9.4,SNR=11							
comp=Z,4.3nm,1.0s							
WMQ	Urumqi	48.99	326	eP	P	14 58 02.0	+3.2
WMQ				pP	pP	14 58 06.6	-1.3
WMQ				ScP	ScP	15 03 15.5	+0.4
WMQ				pmax	pmax		
comp=Z,9.0nm,0.7s							
WMQ				LR	LR		
comp=Z,120nm,20.9s							
MK31	Makanchi Array	53.82	326	P	P	14 58 35.0	+0.1
MK31				IAmb	IAmb	14 58 43.6	
comp=Z,5.8nm,0.9s							
MKAR	Makanchi Array	53.82	326	P	P	14 58 34.4	-0.5
MKAR	Makanchi Array	53.82	326	P	P	14 58 35.2	+0.3
comp=Z,2.1nm,0.7s,baz=120,slow=8.5,SNR=9.4							
comp=Z,2.1nm,0.7s							
NIL	Nilore	54.06	307	P	P	14 58 36.1	-0.8
ZALV	Zalesovo Beam	57.03	334	P	P	14 58 56.6	-1.2
comp=Z,1.0nm,0.4s,baz=124,slow=7.2,SNR=6.3							
comp=Z,1.0nm,0.4s							
MA2	Magadan	57.05	16	P	P	14 58 55.9	-2.0
comp=Z,63nm,2.0s							
KURBB	Kurchatov Arra	58.05	328	P	P	14 59 03.8	-1.2
comp=Z,4.4nm,0.9s,baz=126,slow=6.0,SNR=22							
comp=Z,4.4nm,0.9s							
KURK	Kurchatov	58.05	328	P	P	14 59 04.7	-0.3
GAR	Garm	58.06	312	P	P	14 59 05.1	-0.4
SIMJ	Simiganj	58.91	312	P	P	14 59 10.8	-0.6
SIMJ				IAmb	IAmb	14 59 20.9	
comp=Z,13nm,1.2s							
KKAR	Karatay Array	59.39	317	P	P	14 59 13.6	-1.0
BVAR	Borovoye Array	63.62	327	P	P	14 59 41.8	-1.1
comp=Z,6.6nm,1.1s,baz=123,slow=7.1,SNR=14							
comp=Z,6.6nm,1.1s							
BRVK	Borovoye	63.69	327	P	P	14 59 42.9	-0.4
BRVK				IAmb	IAmb	14 59 47.1	
comp=Z,14nm,1.1s							
TIXI	Tiksi	65.41	2	LR	LR	15 31 21.6	
comp=Z,47nm,19.2s,baz=202,slow=39							
NRIK	Noril'sk	67.31	347	IAmb	IAmb	15 00 09.6	
comp=Z,13nm,1.4s							
NRIK	Noril'sk	67.31	347	P	P	15 00 04.7	-1.8
comp=Z,2.1nm,0.4s,baz=112,slow=8.8,SNR=5.0							
comp=Z,2.1nm,0.4s							
ABKAR	Akbulak array	68.35	321	P	P	15 00 12.5	-0.8
AKTO	Aktyubinsk	69.87	322	LR	LR	15 32 55.2	
comp=Z,88nm,20.0s,baz=293,slow=38							
ARTI	Arti	71.33	328	P	P	15 00 31.2	-0.3
ARTI				IAmb	IAmb	15 00 39.4	
comp=Z,25nm,1.7s							
WRH	Wood River Hil	83.61	26	P	P	15 01 39.5	-0.5
ILAR	Eielson Array	84.12	26	P	P	15 01 41.0	-1.7
comp=Z,1.0nm,0.8s,baz=239,slow=5.5,SNR=7.8							
comp=Z,1.0nm,0.8s							
MAW	Mawson	85.10	200	P	P	15 01 46.9	-0.5
comp=Z,1.5nm,1.0s,baz=65,slow=12,SNR=1.7							
comp=Z,1.5nm,1.0s							
KMBO	Kilima Mbogo	86.66	269	P	P	15 01 56.1	-0.6
KMBO				IAmb	IAmb	15 02 06.8	
comp=Z,12nm,1.5s							
KMBO	Kilima Mbogo	86.66	269	P	P	15 01 57.0	+0.3
comp=Z,1.3nm,0.8s,baz=64,slow=5.5,SNR=5.3							
comp=Z,1.3nm,0.8s							
ARCES	ARCESS Array B	87.08	340	LR	LR	15 48 14.1	
comp=Z,33nm,18.2s,baz=206,slow=41							
SPITS	Spitsbergen Ar	87.45	349	LR	LR	15 45 56.6	
comp=Z,35nm,19.3s,baz=244,slow=39							
NOA	NORSAR Array B	95.23	333	LR	LR	15 48 47.6	
comp=Z,26nm,18.1s,baz=330,slow=38							
GERES	GERESS Array B	98.29	321	LR	LR	15 52 00.8	
comp=Z,27nm,18.5s,baz=334,slow=38							

*IDC **12** 14:54:56.7±0.5, 6°.30N×123°.79E, h0km, mb4.4/19, mbtmp4.5/21, ML4.4/2, Error ellipse: s-maj=17.0km s-min=11.6km az=67.0*
*DJA **12** 14:55:00.2±2.5, 6°.N±4°×12°.4E±°, h15km±19km, M4.7/15, mB5.6/2, mb4.7/15, MLv4.7/6, Mw(mB)5.2/2*
*NEIC **12** 14:55:02.8±1.6, 6°.27N±0°.03×123°.80E±0°.06, h35km±2km, mb4.7/38, Error ellipse: s-maj=10.4km s-min=3.0km az=63.0*

ISC 12 14:55:02.3±0.4, 6°.25N±0°.05×123°.80E±0°.05, h35km, n87, σ1§02/82, mb4.6/36, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.95	65	Pn	Pn	14 55 33.0	+0.2
DAV	Davao City (W)	1.95	65	Pn	Pn	14 55 32.5	-0.3
229nm,0.3s,baz=230,slow=3.6,SNR=22							
DAV				Sn	Sn	14 55 58.9	+2.8
213nm,0.3s,baz=294,slow=20,SNR=4.1							
DAV				LR	LR	14 56 28.9	
comp=Z,3μm,19.1s,baz=221,slow=48							
MYLDM	Lahad Datu	5.38	259	Pn	Pn	14 56 19.9	-0.2
TOLI2	Tolitoli	5.93	211	Pn	Pn	14 56 26.5	-1.1
MRSI	Marisa	6.03	198	P	Pn	14 56 19.3	-10
MPSI	Mapaga	7.05	214	P	Pn	14 56 44.0	+1.0
46nm,0.9s,0.2nm							
LUWI	Luwuk	7.32	188	P	Pn	14 56 36.6	-10
APSI	Ampana	7.43	197	P	Pn	14 56 45.9	-2.4
KKM	Kota Kinabalu	7.54	269	Pn	Pn	14 56 49.3	-0.6
SANI	Sanana	8.53	165	P	Pn	14 57 02.0	-1.4
SBUM	Sibu	12.15	252	Pn	Pn	14 57 54.2	+1.2
FAKI	Fak Fak	12.41	137	Pn	Pn	14 57 56.7	0.0
FAKI	Fak Fak	12.41	137	P	Pn	14 57 56.4	-0.2
18nm,1.0s							
BATI	Baumata	16.35	180	Pn	Pn	14 58 49.6	+0.4
1.0nm,0.3s,baz=0.0,slow=5.1,SNR=2.1							
6.3nm,0.4s							
KMMI	Kalianget	16.46	217	P	P	14 58 54.0	+1.0
TPUB	Ta-pu	17.23	350	P	P	14 59 01.5	0.0
TPUB				IAmb	IAmb	14 59 24.9	
comp=Z,69nm,1.5s							
YHNB	Yeheng	18.46	353	P	Pn	14 59 15.8	+0.3
YHNB				IAmb	IAmb	14 59 21.0	
comp=Z,74nm,1.3s							
GENI	Genyem	18.55	118	P	Pn	14 59 16.6	0.0
QIZ	Qiongzhong	18.60	314	P	P	14 59 15.4	-1.3
QIZ				S	Sn	15 02 44.8	+0.5
QIZ				pmax	pmax		
comp=Z,330nm,10.8s							
QIZ				LR	LR		
comp=N,190nm,9.0s							
QIZ				LR	LR		
comp=E,250nm,10.0s							
QIZ				LR	LR		
comp=Z,210nm,12.2s							
JAY	Jayapura	18.99	117	P	P	14 59 21.0	-0.1
comp=Z,1.8nm,0.3s,baz=315,slow=1.4,SNR=19							
comp=Z,32nm,0.7s							
JAY	Jayapura	18.99	117	P	P	14 59 20.8	-0.3
comp=Z,47nm,0.8s							
UGM	Wanagama	19.32	223	Pn	Pn	14 59 27.2	+1.3
UGM	Wanagama	19.32	223	P	Pn	14 59 27.5	+1.6
PPBI	Pangkal Pinang	19.52	245	P	P	14 59 27.2	+0.4
KPJI	Karang Pucung	20.05	228	P	Pn	14 59 34.3	-0.3
comp=Z,30nm,1.1s							
MTN	Manton Dam	20.32	159	P	P	14 59 36.3	+0.8
MYKOM	Kota Tinggi	20.38	258	P	P	14 59 37.0	+0.8
MYKOM				IAmb	IAmb	14 59 38.8	
comp=Z,29nm,0.8s							
LEM	Lembang	20.72	231	P	P	14 59 40.9	+0.8
comp=Z,23nm,0.7s,baz=21,slow=19,SNR=4.3							
comp=Z,23nm,0.7s							
JOW	Kunigami	20.91	11		P	14 59 41.7	-0.1
JOW	Kunigami	20.91	11	P	P	14 59 42.0	+0.2
comp=Z,11nm,0.7s,baz=216,slow=12,SNR=7.5							
comp=Z,11nm,0.7s							
KNRA	Kununurra	22.33	167	P	P	14 59 58.2	+1.1
KNRA				IAmb	IAmb	15 00 04.2	
comp=Z,32nm,1.3s							
LWLI	Liwa	22.66	241	P	P	15 00 03.8	+2.9
IPM	Ipoh	22.74	267	P	P	15 00 01.7	+0.1
SRIT	Nakonsritamara	24.11	277	P	P	15 00 15.2	+0.2
SRIT				IAmb	IAmb	15 00 25.6	
comp=Z,26nm,1.2s							
MANU	Manus Island	24.93	109	P	P	15 00 22.6	+0.1
PHRA	Phrae	26.00	300	P	P	15 00 32.4	+0.2
NJ2	Nanjing	26.08	350	eP	P	15 00 35.8	+3.1
NJ2				pmax	pmax		
comp=Z,7.0nm,0.6s							
GSI	Gunungsitoli	26.62	260	P	P	15 00 37.3	-0.5
GSI				IAmb	IAmb	15 00 41.3	
comp=Z,33nm,0.9s							
GSI	Gunungsitoli	26.62	260	P	P	15 00 37.3	-0.5
CMAR	Chiang Mai Arr	27.10	299	P	P	15 00 41.4	-0.7
CMAR	Chiang Mai Arr	27.10	299	P	P	15 00 41.8	-0.3
comp=Z,2.0nm,0.8s,baz=117,slow=7.6,SNR=16							
comp=Z,2.0nm,0.8s							
CHTO	Chiang Mai	27.24	300	P	P	15 00 41.7	-1.6
MBWA	Marble Bar	27.53	188	P	P	15 00 45.5	-0.4
WB0	Warramunga Arr	27.88	158	IAmb	IAmb	15 00 49.2	
comp=Z,11nm,0.8s							
PMG	Port Moresby	28.00	124	P	P	15 00 49.4	-0.7
comp=Z,10nm,0.7s,baz=221,slow=11,SNR=3.0							
comp=Z,10nm,0.7s							
WRAB	Tennant Creek	28.01	158	P	P	15 00 49.2	-1.0
WRAB				IAmb	IAmb	15 00 50.5	
comp=Z,10nm,0.8s							
WRA	Warramunga Arr	28.02	159	P	P	15 00 49.4	-0.8
WRA	Warramunga Arr	28.02	159	P	P	15 00 49.5	-0.7
comp=Z,9.3nm,0.8s,baz=336,slow=9.9,SNR=38							
comp=Z,9.3nm,0.8s							
WB2	Warramunga Arr	28.02	158	IAmb	IAmb	15 00 50.6	
comp=Z,14nm,0.8s							
WR0	Warramunga Arr	28.11	158	IAmb	IAmb	15 00 54.2	
comp=Z,22nm,1.5s							
PZH	PanZhiHua	29.12	316	P	P	15 01 01.8	+1.7
PZH				pmax	pmax		
comp=Z,10.0nm,0.9s							
PZH				pmax	pmax		
comp=Z,100nm,5.4s							
TIA	Tai'an	30.44	349	P	P	15 01 11.4	-0.2
TIA				pmax	pmax		
comp=Z,5.0nm,1.0s							
KSRS	Korea Array	31.29	6	P	P	15 01 18.4	-0.6
comp=Z,3.1nm,0.8s,baz=187,slow=9.9,SNR=9.4							
comp=Z,3.1nm,0.8s							
AS31	Alice Springs	31.33	162	P	P	15 01 19.3	-0.3
ASAR	Alice Springs	31.33	162	P	P	15 01 19.1	-0.4
ASAR	Alice Springs	31.33	162	P	P	15 01 19.5	-0.1
comp=Z,3.0nm,0.8s,baz=335,slow=6.9,SNR=27							
ASAR				PcP	PcP	15 04 12.6	-0.7
comp=Z,0.9nm,0.8s,baz=352,slow=3.8,SNR=4.2							
comp=Z,3.0nm,0.8s							
SHL	Shillong	36.04	306	IAmb	IAmb	15 02 01.3	
comp=Z,15nm,0.9s							
HHC	Hu-ho-hao-te	36.15	344	eP	P	15 02 00.0	-1.4
HHC				pmax	pmax		
comp=Z,13nm,0.6s							
HHC				pmax	pmax		
comp=Z,58nm,4.0s							
GTA	Gaotai	39.46	330	P	P	15 02 30.3	+0.8
GTA				pP	pwP	15 03 04.3	+20
GTA				pmax	pmax		
comp=Z,6.0nm,1.1s							
STKA	Stephens Creek	41.54	157	P	P	15 02 47.1	+0.6
STKA	Stephens Creek	41.54	157	P	P	15 02 47.0	+0.6
comp=Z,23nm,0.8s,baz=352,slow=8.0,SNR=46							
comp=Z,23nm,0.8s							
ULN	Ulaanbaatar	43.87	344	P	P	15 03 05.8	+0.4
ULN				IAmb	IAmb	15 03 09.7	
comp=Z,12nm,1.1s							
SONM	Songino Array	44.03	343	P	P	15 03 05.9	-0.8
comp=Z,5.6nm,0.9s,baz=164,slow=10,SNR=13							
comp=Z,5.6nm,0.9s							
TOO	Toolangi	48.06	157	P	P	15 03 39.8	+1.4
TOO				IAmb	IAmb	15 03 52.8	
comp=Z,9.8nm,1.4s							
WMQ	Urumqi	49.01	326	eP	P	15 03 48.2	+2.5
WMQ				LR	LR		
comp=Z,120nm,18.5s							
MK31	Makanchi Array	53.84	326	IAmb	IAmb	15 04 25.3	
comp=Z,7.0nm,1.3s							
MKAR	Makanchi Array	53.84	326	P	P	15 04 21.2	-0.6
MKAR	Makanchi Array	53.84	326	P	P	15 04 21.8	0.0
comp=Z,0.8nm,0.5s,baz=121,slow=7.6,SNR=16							
comp=Z,0.8nm,0.5s							
MAKZ	Makanchi	54.02	326	P	P	15 04 22.8	-0.4
MAKZ				IAmb	IAmb	15 04 33.4	
comp=Z,11nm,1.2s							
NIL	Nilore	54.09	307	P	P	15 04 23.9	+0.1
PETK	Petropavlovsk-	54.29	24	P	P	15 04 23.8	-1.1
comp=Z,4.0nm,0.9s,baz=198,slow=2.2,SNR=2.0							
comp=Z,4.0nm,0.9s							
ZALV	Zalesovo Beam	57.04	334	P	P	15 04 43.8	-0.9
ZALV	Zalesovo Beam	57.04	334	P	P	15 04 44.1	-0.6
comp=Z,1.3nm,0.4s,baz=139,slow=5.3,SNR=7.8							
comp=Z,1.3nm,0.4s							
KURBB	Kurchatov Arra	58.06	328	P	P	15 04 51.9	0.0
comp=Z,5.0nm,0.8s,baz=129,slow=7.1,SNR=35							
comp=Z,5.0nm,0.8s							
KURK	Kurchatov	58.07	328	P	P	15 04 51.6	-0.3
SIMJ	Simiganj	58.94	312	P	P	15 04 58.4	0.0
SIMJ				IAmb	IAmb	15 05 08.5	
comp=Z,9.1nm,1.1s							
KKAR	Karatay Array	59.41	317	P	P	15 05 01.2	-0.3
BVAR	Borovoye Array	63.63	327	P	P	15 05 28.7	-1.1
comp=Z,6.3nm,0.9s,baz=105,slow=9.4,SNR=24							
comp=Z,6.3nm,0.9s							
BRVK	Borovoye	63.71	327	P	P	15 05 30.2	0.0
NRIK	Noril'sk	67.32	347	P	P	15 05 52.1	-1.2
NRIK				IAmb	IAmb	15 05 56.4	
comp=Z,11nm,1.1s							
NRIK	Noril'sk	67.32	347	P	P	15 05 52.1	-1.2
comp=Z,4.3nm,0.6s,baz=129,slow=6.5,SNR=7.2							
comp=Z,4.3nm,0.6s							
ABKAR	Akbulak array	68.37	321	P	P	15 05 59.7	-0.6
ABKAR				IAmb	IAmb	15 06 09.7	
comp=Z,7.4nm,1.0s							
RAYN	Ar Rayn	76.82	293	P	P	15 06 50.6	-0.5
ILAR	Eielson Array	84.10	26	P	P	15 07 27.3	-2.0
comp=Z,1.0nm,0.8s,baz=243,slow=5.3,SNR=14							
comp=Z,1.0nm,0.8s							
MAW	Mawson	85.11	200	P	P	15 07 34.0	-0.3
comp=Z,2.8nm,1.1s,baz=18,slow=3.2,SNR=2.8							
comp=Z,2.8nm,1.1s							
KMBO	Kilima Mbogo	86.69	269	P	P	15 07 43.9	+0.3
comp=Z,0.7nm,0.4s,baz=62,slow=12,SNR=4.3							
comp=Z,0.7nm,0.4s							
FINES	FINESS Array B	88.25	332	P	P	15 07 49.3	-0.4
comp=Z,4.3nm,1.0s,baz=38,slow=7.0,SNR=4.1							
comp=Z,4.3nm,1.0s							

*IDC **12** 15:00:30.6±5.7, 37°.21N×19°.94E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=117.9km s-min=47.4km az=28.0*
*THE **12** 15:00:34.3, 37°.65N×20°.52E, h5km±1km, ML3.4/11, Error ellipse: s-maj=1.4km s-min=0.5km az=38.0*
*ATH **12** 15:00:35.2, 37°.70N×20°.58E, h13km±1km, ML3.3/11, Error ellipse: s-maj=3.5km s-min=1.1km az=41.0*

ISC 12 15:00:35.8±1.2, 37°.73N±0°.05×20°.59E±0°.06, h11km±6km, n46, σ1§00/62, mb3.8/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.19	110	P	Pg	15 00 39.3	-0.5
KRI1				S	Sb	15 00 42.9	+0.3
25μm,0.4s							
LTHK	Lithakia	0.19	95	P	Pg	15 00 39.5	-0.4
LTHK				S	Sg	15 00 42.4	-0.3
14μm,0.4s							
LTHK	Lithakia	0.19	95	P	Pg	15 00 39.3	-0.6
LTHK				S	Sb	15 00 43.0	+0.3
LTHK				AML	AML	15 00 43.6	
comp=N,29372μm,0.4s							
LTHK				AML	AML	15 00 47.2	
comp=E,24542μm,0.4s							
RTZL	Ratzakli, Kefa	0.38	22	P	Pb	15 00 43.5	-1.0
RTZL				S	Sb	15 00 50.4	0.0
comp=E,5μm,0.4s							
PSDA	Pessada-Kefalo	0.39	359	P	Pg	15 00 43.4	0.0
PSDA				S	Sb	15 00 50.1	-0.6
comp=E,10μm,0.4s							
PSDA	Pessada-Kefalo	0.39	359	P	Pg	15 00 43.4	0.0
PSDA				S	Sb	15 00 50.1	-0.6
VLS	Valsamata	0.45	360	P	Pg	15 00 44.3	-0.3
VLS				S	Sb	15 00 52.0	-0.5
comp=E,9μm,0.4s							
VLS	Valsamata	0.45	360	P	Pg	15 00 44.4	-0.2
VLS				S	Sb	15 00 52.1	-0.5
VLS				AML	AML	15 00 52.7	
comp=E,20757μm,0.3s							
VLS				AML	AML	15 00 56.6	
comp=N,14053μm,0.4s							
LXRA	Lixouri, Kepha	0.49	345	P	Pg	15 00 45.4	+0.1
LXRA				S	Sb	15 00 53.5	-0.1
SMHA	Samh	0.53	5	P	Pg	15 00 45.3	-0.8
DMLN	Damoulianata-K	0.54	341	P	Pg	15 00 46.0	-0.4
DMLN				S	Sb	15 00 54.8	-0.4
comp=N,6μm,0.4s							
DMLN	Damoulianata-K	0.54	341	P	Pg	15 00 45.9	-0.4
VSK1	VASILIKIADES	0.68	358	P	Pg	15 00 48.5	-0.5
VSK1				S	Sb	15 00 59.6	+0.4
comp=N,6μm,0.2s							
FSK	Fiskardo	0.73	358	P	Pg	15 00 49.3	-0.6
FSK				S	Sn	15 01 01.4	-1.9
comp=N,4μm,0.2s							
FSK	Fiskardo	0.73	358	P	Pg	15 00 49.4	-0.6
FSK				AML	AML	15 01 03.1	
comp=N,5751μm,0.2s							
FSK				AML	AML	15 01 03.2	
comp=E,8106μm,0.2s							
RLS	Riolos of Patr	0.77	64	P	Pb	15 00 50.2	-0.9
RLS				S	Sn	15 01 02.8	-1.3
comp=E,930nm,0.5s							
RLS	Riolos of Patr	0.77	64	P	Pb	15 00 50.3	-0.9
RLS				AML	AML	15 01 04.0	
comp=E,1924μm,0.6s							
RLS				AML	AML	15 01 12.0	
comp=N,2780μm,0.6s							
EVGI	Lefkada island	0.90	3	P	Pg	15 00 52.2	-0.8
EVGI	Lefkada island	0.90	3	P	Pg	15 00 52.4	-0.6
AMT	Artemida-Makis	0.91	102	P	Pg	15 00 52.2	-1.0
AMT				AML	AML	15 01 10.6	
comp=N,12770μm,0.2s							
AMT				AML	AML	15 01 12.8	
comp=E,11461μm,0.5s							
DRO	Drossia	0.91	75	P	Pb	15 00 52.6	-1.0
DRO	Drossia	0.91	75	P	Pb	15 00 52.7	-1.0
DRO				AML	AML	15 01 20.9	
comp=N,3447μm,0.5s							
DRO				AML

ANX				AML	AML	15 01 30.2	
	comp=N,3888μm,0.5s						
ANX				AML	AML	15 01 32.9	
	comp=E,2652μm,0.5s						
KALE	**Kalithea**	**1.39**	**61**	P	**Pb**	**15 01 00.6**	**-1.2**
KALE	**Kalithea**	**1.39**	**61**	P	**Pb**	**15 01 00.5**	**-1.3**
KALE				AML	AML	15 01 35.6	
	comp=N,1381μm,0.6s						
KALE				AML	AML	15 01 39.5	
	comp=E,1019μm,0.5s						
GUR	**Goura**	**1.40**	**81**	P	**Pb**	**15 01 01.2**	**-0.8**
GUR				AML	AML	15 01 33.4	
	comp=E,1417μm,0.5s						
GUR				AML	AML	15 01 36.9	
	comp=N,1492μm,0.5s						
HFS	**Hagfors**	**22.86**	**351**	P	**P**	**15 05 39.1**	**+0.3**
	comp=N,2.6nm,0.8s,baz=164,slow=11,SNR=1.9						
	comp=N,2.6nm,0.8s						
FINES	**FINESS Array B**	**23.99**	**6**	P	**P**	**15 05 52.4**	**+2.3**
	comp=N,2.0nm,0.7s,baz=171,slow=9.8,SNR=4.4						
	comp=N,2.0nm,0.7s						
MKAR	**Makanchi Array**	**45.49**	**58**	P	**P**	**15 08 57.2**	**+2.1**
	comp=N,0.3nm,0.5s,baz=274,slow=7.8,SNR=4.8						
	comp=N,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**45.95**	**48**	P	**P**	**15 09 00.0**	**+1.5**
	comp=N,0.4nm,0.3s,baz=282,slow=7.1,SNR=1.9						
	comp=N,0.4nm,0.3s						
ILAR	**Eielson Array**	**77.36**	**355**	P	**P**	**15 12 29.9**	**-0.4**
	comp=N,0.2nm,0.5s,baz=16,slow=6.7,SNR=4.3						
	comp=N,0.2nm,0.5s						

TRN 12 15:16:45.2, 15°.46N×61°.18W, h147km, MD3.5, East of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBG	**Guadaloupe-3**	**0.59**	**312**	*eP*	Pn	15 17 07.7	+0.9
TBG				*eS*	Sn	15 17 24.1	+1.0
ANBD	**Bethesda, Anti**	**1.68**	**341**	*eP*	Pn	15 17 17.5	+1.0
ANBD				*eS*	Sn	15 17 41.0	+0.5
ANWB	**Willy Bob**	**2.28**	**345**	*eP*	Pn	15 17 24.1	+0.7
ANWB				*eS*	Sn	15 17 54.0	+1.1

*IDC **12** 15:19:22.6±0.9, 42°.48S×16°.03W, h0km, mb4.2/8, mbtmp4.2/8, MS3.8/19, Error ellipse: s-maj=26.3km s-min=21.3km az=47.0*
*NEIC **12** 15:19:24.6±1.0, 42°.5S±0°.1×16°.1W±0°.2, h10km±1km, mb4.4/7, Error ellipse: s-maj=25.0km s-min=23.2km az=70.0*

ISC 12 15:19:23.9±0.6, 42°.5S±0°.1×16°.1W±0°.1, h10km, n43, σ0°.78/23, mb4.2/11, MS3.9/19, 4C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**28.84**	**174**	⇑P	**P**	**15 25 21.7**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=343,slow=11						
VNA3	**Neumayer Olymp**	**29.00**	**176**	⇑P	**P**	**15 25 22.5**	**-1.0**
	comp=Z,5.6nm,1.0s						
SNAA	**Sanae**	**29.98**	**172**	P	**P**	**15 25 32.5**	**+0.3**
SNAA				IAmb	IAmb	15 25 34.3	
	comp=Z,5.4nm,1.4s						
SNAA	**Sanae**	**29.98**	**172**	⇑P	**P**	**15 25 31.7**	**-0.5**
	comp=Z,22nm,1.0s						
SNAA	**Sanae**	**29.98**	**172**	P	**P**	**15 25 32.5**	**+0.3**
	comp=Z,1.6nm,1.1s,baz=4.5,slow=7.3,SNR=2.3						
	comp=Z,1.6nm,1.1s						
SUR	**Sutherland**	**30.79**	**83**	LR	LR	15 35 46.3	
	comp=Z,155nm,18.4s,baz=216,slow=32						
TROLL	**Troll, Antarti**	**30.96**	**169**	⇑P	**P**	**15 25 40.7**	**-0.2**
	comp=Z,435nm,0.9s						
H10S2	**ASCENSION HYDR**	**33.43**	**3**	T	T	16 01 12.7	
	baz=181,slow=74,SNR=48						
H10S3	**ASCENSION HYDR**	**33.43**	**3**	T	T	16 01 13.2	
	baz=39,slow=74,SNR=68						
H10N3	**ASCENSION HYDR**	**34.54**	**3**	T	T	16 02 36.8	
	baz=274,slow=74,SNR=36						
H10N2	**ASCENSION HYDR**	**34.56**	**3**	T	T	16 02 37.2	
	baz=180,slow=74,SNR=13						
BOSA	**Boshof**	**36.03**	**81**	P	**P**	**15 26 25.6**	**+0.1**
	comp=Z,4.0nm,1.0s,baz=334,slow=4.6,SNR=3.3						
BOSA				LR	LR	15 38 48.8	
	comp=Z,91nm,20.0s,baz=224,slow=32						
	comp=Z,4.0nm,1.0s						
BELA	**Belgrano 2**	**36.28**	**187**	P	**P**	**15 26 27.0**	**0.0**
BELA				IAmb	IAmb	15 26 28.3	
	comp=Z,5.2nm,1.2s						
CPUP	**Villa Florida**	**37.24**	**282**	P	**P**	**15 26 35.4**	**-0.3**
CPUP				IAmb	IAmb	15 26 47.7	
	comp=Z,7.5nm,1.4s						
CPUP	**Villa Florida**	**37.24**	**282**	P	**P**	**15 26 36.4**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=116,slow=8.5,SNR=3.3						
CPUP				LR	LR	15 40 04.5	
	comp=Z,172nm,19.1s,baz=184,slow=33						
	comp=Z,1.4nm,0.7s						
GO10	**Punta Arenas**	**37.52**	**234**	P	**P**	**15 26 38.1**	**+0.3**
BDFB	**Brasilia**	**38.26**	**305**	LR	LR	15 39 31.1	
	comp=Z,176nm,18.3s,baz=137,slow=32						
LBTB	**Lobatse**	**38.37**	**76**	LR	LR	15 39 27.1	
	comp=Z,98nm,19.6s,baz=222,slow=31						
PLCA	**Paso Flores**	**40.16**	**253**	LR	LR	15 40 14.6	
	comp=Z,62nm,21.5s,baz=108,slow=31						
RCBR	**Riachuelo**	**40.52**	**329**	LR	LR	15 42 01.2	
	comp=Z,44nm,18.1s,baz=88,slow=34						
SIV	**San Ignacio**	**46.56**	**291**	P	**P**	**15 27 52.9**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=115,slow=11,SNR=4.0						
SIV				LR	LR	15 45 05.5	
	comp=Z,120nm,19.6s,baz=111,slow=33						
	comp=Z,0.5nm,0.3s						
GO02	**Mina Guanaco**	**46.89**	**274**	P	**P**	**15 27 53.8**	**-1.1**
H04S2	**CROZET ISLANDS**	**47.18**	**120**	T	T	16 18 46.1	
	baz=250,slow=75,SNR=50						
H04S3	**CROZET ISLANDS**	**47.18**	**120**	T	T	16 18 55.8	
	baz=250,slow=75,SNR=63						
H04S1	**CROZET ISLANDS**	**47.20**	**120**	T	T	16 18 47.0	
	baz=250,slow=75,SNR=49						
MAW	**Mawson**	**47.48**	**149**	P	**P**	**15 27 58.1**	**-0.3**
	comp=Z,2.0nm,1.1s,baz=308,slow=11,SNR=2.2						
MAW				LR	LR	15 43 57.7	
	comp=Z,77nm,21.7s,baz=268,slow=31						
	comp=Z,2.0nm,1.1s						
QSPA	**South Pole Qui**	**47.77**	**180**	P	**P**	**15 28 01.4**	**+0.5**
QSPA				IAmb	IAmb	15 28 02.6	
	comp=Z,11nm,0.9s						
QSPA	**South Pole Qui**	**47.77**	**180**	P	**P**	**15 28 01.5**	**+0.5**
	comp=Z,8.6nm,0.8s,baz=215,slow=4.3,SNR=36						
QSPA				LR	LR	15 44 51.7	
	comp=Z,36nm,21.1s,baz=208,slow=32						
	comp=Z,8.6nm,0.8s						
DBIC	**Dimbokro**	**49.99**	**15**	P	**P**	**15 28 18.4**	**+0.1**
LPAZ	**La Paz**	**51.34**	**284**	P	**P**	**15 28 29.8**	**+0.4**
	comp=Z,2.7nm,0.3s,baz=76,slow=1.8,SNR=4.9						
LPAZ				LR	LR	15 49 32.8	
	comp=Z,212nm,19.9s,baz=113,slow=35						
	comp=Z,2.7nm,0.3s						
SAML	**Samuel**	**53.01**	**295**	P	**P**	**15 28 38.7**	**-2.4**
TORD	**Torodi Ar. Bea**	**57.73**	**21**	P	**P**	**15 29 15.0**	**+0.1**
	comp=Z,2.3nm,1.0s,baz=191,slow=4.4,SNR=7.4						
	comp=Z,2.3nm,1.0s						
MDP	**Montagnes des**	**57.83**	**316**	LR	LR	15 51 35.5	
	comp=Z,86nm,19.5s,baz=84,slow=33						
MBAR	**Mbarara**	**59.14**	**58**	LR	LR	15 52 13.8	
	comp=Z,84nm,18.4s,baz=220,slow=33						
NNA	**Nana**	**60.49**	**281**	LR	LR	15 55 34.3	
	comp=Z,103nm,19.8s,baz=150,slow=36						
KMBO	**Kilima Mbogo**	**62.97**	**64**	LR	LR	15 54 43.4	
	comp=Z,64nm,19.3s,baz=94,slow=34						
ATAH	**Atahualpa**	**64.89**	**284**	LR	LR	15 57 45.6	
	comp=Z,100nm,21.9s,baz=143,slow=36						
ROSC	**El Rosal**	**70.62**	**296**	LR	LR	16 00 36.5	
	comp=Z,180nm,18.1s,baz=94,slow=35						
JTS	**Las Juntas de**	**81.77**	**292**	LR	LR	16 07 55.5	
	comp=Z,72nm,19.1s,baz=64,slow=36						
NWAO	**Narrogin (SRO)**	**93.60**	**142**	LR	LR	16 06 34.6	
	comp=Z,36nm,20.1s,baz=294,slow=30						
ILAR	**Eielson Array**	**144.60**	**326**	PKP	**PKPab**	**15 38 57.6**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=67,slow=1.4,SNR=16						
SCM	**Sheep Creek Mo**	**145.46**	**321**	PKPbc	**PKPab**	**15 39 02.6**	**+1.1**
B20K	**Meade River**	**146.08**	**337**	PKPdf	**PKPbc**	**15 39 02.9**	**+0.1**

*MDD **12** 15:36:30.3±0.8, 37°.76N×2°.73E, h20km±7km, Mb4.1/17, M_mb3.4/17, Error ellipse: s-maj=6.5km s-min=3.0km az=135.0*

ISC 12 15:36:27.8±2.6, 37°.8N±0°.1×2°.66E±0°.10, h10km, n17, σ1°.54/31, 11C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIBI	**Ibiza**	**1.60**	**320**	Pn	**Pn**	**15 36 57.5**	**+1.5**
EIBI				Sn	**Sn**	**15 37 16.4**	**-0.3**
EIBI	**Ibiza**	**1.60**	**320**	Pn	**Pn**	**15 36 57.6**	**+1.5**
EIBI				⇑*i*Vmb_V		15 36 59.3	
	630nm,SNR=1.9						
EIBI				Sn	**Sn**	**15 37 16.0**	**-0.7**
ETOS	**Mallorca**	**1.96**	**3**	Pn	**Pn**	**15 37 02.1**	**+1.1**
ETOS	**Mallorca**	**1.96**	**3**	Pn	**Pn**	**15 37 02.1**	**+1.1**
ETOS				⇑*i*Vmb_V		15 37 03.5	
	470nm,SNR=1.6						
ETOS				Sn	**Sn**	**15 37 23.8**	**-1.8**
EBEN2	**Beniarda presa**	**2.41**	**292**	Pn	**Pn**	**15 37 07.9**	**+0.7**
EBEN2				⇑*i*Vmb_V		15 37 10.2	
	500nm,SNR=1.3						
EBEN2				Sn	**Sn**	**15 37 35.7**	**-1.1**
ECOL	**Islas Columbre**	**2.59**	**324**	Pn	**Pn**	**15 37 10.9**	**+1.1**
ECOL				Sn	**Sn**	**15 37 41.3**	**0.0**
AFON	**Font Roja**	**2.66**	**290**	Pn	**Pn**	**15 37 12.0**	**+1.1**
AFON				⇑*i*Vmb_V		15 37 14.1	
	183nm,SNR=1.1						
AFON				Sn	**Sn**	**15 37 43.1**	**-0.2**
CART	**Cartagena**	**2.92**	**267**	Pn	**Pn**	**15 37 14.6**	**+0.4**
CART				Sn	**Sn**	**15 37 47.0**	**-2.3**
EVIV	**Cofrentes, Val**	**3.30**	**297**	Pn	**Pn**	**15 37 20.4**	**+0.8**
EVIV				⇑*i*Vmb_V		15 37 23.2	
	199nm,SNR=1.4						
EVIV				Sn	**Sn**	**15 37 56.9**	**-2.0**
ECHE	**Chera**	**3.35**	**303**	Pn	**Pn**	**15 37 22.2**	**+1.9**
ECHE	**Chera**	**3.35**	**303**	Pn	**Pn**	**15 37 21.8**	**+1.6**
ECHE				⇑*i*Vmb_V		15 37 23.1	
	361nm,SNR=2.0						
ECHE				Sn	**Sn**	**15 38 00.0**	**-0.1**
EMOS	**Mosqueruela**	**3.53**	**317**	Pn	**Pn**	**15 37 24.2**	**+1.4**
EMOS				⇑*i*Vmb_V		15 37 25.0	
	180nm,SNR=1.0						
EMOS				Sn	**Sn**	**15 38 03.6**	**-1.1**
ERTA	**Horta de San J**	**3.62**	**331**	Pn	**Pn**	**15 37 24.4**	**+0.4**
ERTA				⇑*i*Vmb_V		15 37 27.8	
	354nm,SNR=1.8						
ERTA				Sn	**Sn**	**15 38 04.3**	**-2.4**
EMIR	**Miracle**	**4.19**	**348**	Pn	**Pn**	**15 37 32.2**	**+0.5**
EMIR				⇑*i*Vmb_V		15 37 34.4	
	343nm,SNR=1.3						
EMIR				Sn	**Sn**	**15 38 20.5**	**-0.3**
EJON	**La Jonquera**	**4.63**	**2**	Pn	**Pn**	**15 37 39.3**	**+1.4**
EJON	**La Jonquera**	**4.63**	**2**	Pn	**Pn**	**15 37 39.3**	**+1.4**
EJON				⇑*i*Vmb_V		15 37 39.9	
	262nm,SNR=1.1						
EJON				Sn	**Sn**	**15 38 29.2**	**-2.6**
EALK	**Alkurruntz**	**6.27**	**331**	Pn	**Pn**	**15 38 02.8**	**+2.5**
EALK				⇑*i*Vmb_V		15 38 03.2	
	153nm,SNR=1.0						
EALK				Sn	**Sn**	**15 39 09.0**	**-3.0**

*UPA **12** 15:37:51.4±0.4, 8°.84N×82°.91W, h31km±3km, ML3.9*
*UCR **12** 15:37:51.6±1.1, 8°.79N×82°.93W, h33km±2km, MW3.6*

ISC 12 15:37:51.4±1.0, 8°.80N±0°.04×82°.93W±0°.03, h33km±3km, n17, σ0°.72/31, 3C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NELY	**Ciudad Neily**	**0.15**	**186**	⇑*i*P	**Pb**	**15 37 57.7**	**+0.1**
NELY				*eS*	**Sb**	**15 38 02.6**	**+0.9**
BRU2	**Volcan**	**0.24**	**91**	⇓*i*P	**Pn**	**15 37 58.4**	**+0.2**
BRU2				*eS*	**Sb**	**15 38 03.9**	**+0.5**
BRU2	**Volcan**	**0.24**	**91**	⇓*i*P	**Pn**	**15 37 58.5**	**+0.2**
BRU2				*eS*	**Sb**	**15 38 03.9**	**+0.5**
EDP2	**Potrero Grande**	**0.33**	**312**	*eP*	**Pb**	**15 37 59.5**	**-0.1**
EDP2				*eS*	**Sb**	**15 38 06.2**	**+1.1**
BCO2	**Palmira**	**0.40**	**101**	*eP*	**Pb**	**15 38 00.5**	**-0.2**
BCO2				AMP		15 38 00.8	
	comp=Z,9μm,0.1s						
BCO2				*eS*	**Sn**	**15 38 07.5**	**0.0**
JIME	**Puerto Jimenez**	**0.47**	**237**	*eP*	**Pb**	**15 38 01.4**	**-0.1**
JIME				*eS*	**Sn**	**15 38 09.3**	**+0.3**
LNBQ3	**Los Naranjos,**	**0.48**	**91**	*eP*	**Pb**	**15 38 01.2**	**-0.7**
DRK0	**Durika**	**0.56**	**326**	*eP*	**Pb**	**15 38 02.4**	**-0.7**
DRK0				*eS*	**Sb**	**15 38 10.3**	**-0.7**
DRK0	**Durika**	**0.56**	**326**	⇑*eP*	**Pb**	**15 38 02.3**	**-0.7**
DRK0				*eS*	**Sb**	**15 38 10.4**	**-0.7**
DVD	**David**	**0.59**	**127**	*eP*	**Pn**	**15 38 03.1**	**-0.4**
DVD				*eS*	**Sn**	**15 38 12.2**	**+0.2**
LOCO3	**Loma Colorada,**	**0.64**	**127**	*eP*	**Pn**	**15 38 03.9**	**-0.1**
LOMA3	**Las Lomas, Chi**	**0.65**	**124**	*eP*	**Pn**	**15 38 03.7**	**-0.5**
CHGR2	**Aguacate**	**0.79**	**80**	*eP*	**Pn**	**15 38 05.7**	**-0.5**
CHGR2				*eS*	**Sn**	**15 38 15.9**	**-1.0**
BRIBI	**Bribri**	**0.82**	**5**	*eP*	**Pb**	**15 38 07.8**	**+0.4**
BRIBI				*eS*	**Sb**	**15 38 20.2**	**+2.0**
BUS1	**Rivas**	**1.10**	**313**	⇑*eP*	**Pn**	**15 38 10.5**	**-0.4**
BUS1				*eS*	**Sn**	**15 38 24.9**	**-0.4**
LCR2	**La Lucha 2**	**1.42**	**312**	⇓*eP*	**Pn**	**15 38 15.1**	**0.0**
LCR2				*eS*	**Sn**	**15 38 32.3**	**-0.4**
VICA	**Volcano Irazu**	**1.49**	**323**	*eP*	**Pb**	**15 38 20.2**	**+1.5**
VICA				*eS*	**Sb**	**15 38 36.9**	**-0.5**

IDC 12 15:38:29.2±2.3, 12°.16N×92°.76E, h0km, mb3.2/3, mbtmp3.2/4, Error ellipse: s-maj=69.7km s-min=29.8km az=68.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.65**	**43**	Pn	Pn	15 40 35.4	-0.3
	0.4nm,0.5s,baz=238,slow=15,SNR=5.0						
MKAR	**Makanchi Array**	**35.64**	**348**	P	P	15 45 29.2	+0.3
	0.4nm,0.8s,baz=159,slow=7.8,SNR=1.6						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**51.89**	**127**	P	P	15 47 39.6	-0.3
	0.3nm,0.9s,baz=310,slow=7.8,SNR=1.5						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**53.72**	**132**	P	P	15 47 53.4	-0.1
	0.2nm,0.8s,baz=307,slow=6.5,SNR=6.2						
	0.2nm,0.8s						

*MEX **12** 15:54:52.9±0.7, 15°.52N×97°.77W, h16km±9km, MD4.7*
*IDC **12** 15:54:53.8±1.4, 15°.90N×97°.52W, h0km, mb3.9/6, mbtmp3.9/9, ML3.9/3, MS3.5/23, Error ellipse: s-maj=26.8km s-min=16.4km az=10.0*
*NEIC **12** 15:54:59.2±1.8, 16°.0N±0°.1×97°.38W±0°.08, h20km±5km, mb4.4/75, Error ellipse: s-maj=17.4km s-min=9.4km az=201.0*

ISC 12 15:54:51.4±1.5, 15°.65N±0°.05×97°.73W±0°.03, h3km±9km, n158, σ2°.40/175, mb4.5/32, MS3.6/21, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.66**	**58**	*i* P	**Pg**	**15 55 04.8**	**+0.7**
PEIG				*eS*	**Sb**	**15 55 14.8**	**-0.4**
PNIG	**Pinotepa**	**0.84**	**333**	*i* P	**Pg**	**15 55 07.6**	**+0.2**
PNIG				*eS*	**Sg**	**15 55 18.2**	**-0.1**
YOIG	**Yosondua**	**1.22**	**8**	*i* P	**Pb**	**15 55 13.9**	**-1.4**
YOIG				*eS*	**Sb**	**15 55 29.9**	**-1.6**
HUIG	**Huatulco**	**1.56**	**85**	*eP*	**Pn**	**15 55 17.8**	**-2.3**
HUIG				*eS*	**Sn**	**15 55 35.7**	**-5.2**
TXIG	**Tlaxiaco**	**1.60**	**359**	*i* P	**Pn**	**15 55 19.6**	**-1.3**
TXIG				*eS*	**Sn**	**15 55 39.7**	**-2.5**
VHO	**Vista Hermosa**	**1.71**	**34**	*eP*	**Pn**	**15 55 20.5**	**-1.8**
VHO				*eS*	**Sn**	**15 55 42.4**	**-2.4**
OXBJ	**Oaxaca**	**1.71**	**34**	*eP*	Pn	15 55 17.9	-4.5
OXBJ				*i* S	**Sn**	**15 55 43.8**	**-1.0**
CRIG	**Cruz Grande**	**1.73**	**309**	*eP*	**Pn**	**15 55 20.7**	**-1.8**
CRIG				*eS*	**Sn**	**15 55 40.8**	**-4.3**
MGIG	**Malinaltepec**	**1.80**	**331**	*eP*	**Pn**	**15 55 22.6**	**-1.0**
MGIG				*eS*	**Sn**	**15 55 43.5**	**-3.6**
HLIG	**Huajuapan de L**	**2.17**	**358**	*eP*	**Pn**	**15 55 28.5**	**-0.3**
HLIG				*eS*	**Sn**	**15 55 54.5**	**-1.9**
FTIG	**Fresnillo de T**	**2.28**	**350**	*eP*	**Pn**	**15 55 29.7**	**-0.4**
FTIG				*i* S	**Sn**	**15 55 57.4**	**-1.5**
HMTT	**Tlapaneco**	**2.29**	**340**	*eP*	**Pn**	**15 55 30.5**	**+0.4**
HMTT				*eS*	**Sn**	**15 55 55.9**	**-3.0**
DAIG	**Los Arroyos**	**2.30**	**307**	*eP*	**Pn**	**15 55 28.8**	**-1.5**
DAIG				*eS*	**Sn**	**15 55 54.6**	**-4.5**
TOIG	**Toxpalan**	**2.52**	**14**	*eP*	**Pn**	**15 55 32.8**	**-0.6**
TOIG				*eS*	**Sn**	**15 56 03.7**	**-0.9**
NEUV	**Arroyo Zacate**	**2.76**	**42**	*eP*	**Pn**	**15 55 35.2**	**-1.4**
NEUV				*eS*	**Sn**	**15 56 08.9**	**-1.6**
TPIG	**Tehuac#an**	**2.78**	**7**	*eP*	**Pb**	**15 55 39.4**	**-2.5**
TPIG				*eS*	**Sn**	**15 56 10.1**	**-1.2**
CAIG	**El Cayaco**	**2.81**	**300**	*eP*	**Pn**	**15 55 34.8**	**-2.4**
CAIG				*eS*	**Sn**	**15 56 06.1**	**-5.6**
CMIG	**Matias Romero**	**3.08**	**62**	Pn	**Pn**	**15 55 38.5**	**-2.6**
	11nm,0.3s,baz=254,slow=11,SNR=85						
CMIG				Sn	**Sn**	**15 56 13.9**	**-4.6**
	14nm,0.3s,baz=60,slow=21,SNR=2.5						
CMIG				Lg	Lg	15 56 24.3	
	32nm,0.3s,baz=338,slow=21,SNR=6.6						
	73nm,0.6s						
CMIG	**Matias Romero**	**3.08**	**62**	*eP*	**Pn**	**15 55 39.2**	**-1.9**
CMIG				*i* S	**Sn**	**15 56 16.6**	**-1.9**
PLIG	**Platanillo**	**3.22**	**328**	*eP*	**Pn**	**15 55 43.7**	**+0.8**
PLIG				*i* S	**Sn**	**15 56 19.6**	**-2.3**
PBCV	**Popocatepetl**	**3.42**	**347**	*eP*	**Pb**	**15 55 49.9**	**-2.9**
PBCV				*eS*	**Sn**	**15 56 25.8**	**-1.3**
YAIG	**Yautepec**	**3.45**	**338**	*eP*	**Pn**	**15 55 47.6**	**+1.4**
YAIG				*eS*	**Sn**	**15 56 25.4**	**-2.3**
YAIG				*i* S	Sb	15 56 25.5	-10
PBXN	**Popocatepetl**	**3.46**	**345**	*eP*	Pn	15 55 35.8	-11
PBXN				*eP*	Pb	15 55 47.9	-5.8
PBXN				*i* S	Sn	15 56 14.4	-14
PBXN				*i* S	Sb	15 56 24.3	-12
PBPN	**Popocatepetl**	**3.48**	**346**	*eP*	**Pn**	**15 55 48.6**	**+1.5**
PBPN				*eP*	Pb	15 55 49.0	-5.1
PBPN				*i* S	**Sn**	**15 56 24.5**	**-4.6**
PBPN				*eS*	Sb	15 56 27.5	-10
PPM	**Popocatepetl**	**3.51**	**346**	*eP*	**Pn**	**15 55 48.2**	**+0.9**
PPM				*eS*	**Sn**	**15 56 27.2**	**-2.4**
ARIG	**Puente Sto Nin**	**3.63**	**317**	*eP*	**Pn**	**15 55 46.2**	**-2.3**
ARIG				*eS*	**Sn**	**15 56 29.1**	**-2.8**
MAVM	**Malinalco, Edo**	**3.70**	**333**	*eP*	Pn	15 55 41.5	-8.3
MAVM				*eS*	**Sn**	**15 56 25.6**	**-8.4**
CARR	**Arriaga**	**3.72**	**80**	*eP*	**Pn**	**15 55 47.5**	**-2.3**
CARR				*eS*	**Sn**	**15 56 26.6**	**-7.6**
MPVM	**San Francisco**	**3.74**	**341**	*eP*	**Pn**	**15 55 50.8**	**+0.4**
MPVM				*i* S	**Sn**	**15 56 33.1**	**-2.0**
TLVM	**San Miguel Top**	**3.80**	**339**	*eP*	**Pn**	**15 55 51.3**	**+0.1**
TLVM				*i* S	**Sn**	**15 56 34.0**	**-2.6**
PMUV	**Sontecomapan**	**3.81**	**40**	*eP*	**Pn**	**15 55 49.0**	**-2.1**
PMUV				*i* S	**Sn**	**15 56 37.7**	**+1.2**
UXUV	**UXUV**	**3.82**	**64**	*eP*	**Pn**	**15 55 49.5**	**-1.6**
UXUV				*eS*	**Sn**	**15 56 34.5**	**-2.0**
XCVM	**Xochimilco**	**3.83**	**340**	*eP*	**Pn**	**15 55 53.2**	**+1.7**
XCVM				*i* S	**Sn**	**15 56 35.9**	**-1.3**
THVM	**De Xico**	**3.83**	**342**	*eP*	**Pn**	**15 55 50.4**	**-1.2**
THVM				*i* S	**Sn**	**15 56 35.5**	**-1.9**
CNCY	**Coyoacan**	**3.90**	**339**	*eP*	**Pn**	**15 55 52.2**	**-0.4**
CNCY				*eS*	**Sn**	**15 56 39.8**	**+0.7**
AOVM	**Tlapan**	**3.91**	**337**	*eP*	**Pn**	**15 55 52.5**	**-0.4**
AOVM				*i* S	**Sn**	**15 56 38.2**	**-1.3**
UNM	**Universidad Na**	**3.92**	**340**	Pn	**Pn**	**15 55 54.6**	**+1.9**
UNM	**Universidad Na**	**3.92**	**340**	*eP*	**Pn**	**15 55 50.0**	**-2.7**
UNM				*i* S	**Sn**	**15 56 37.5**	**-1.9**
COVM	**Coyoacan**	**3.93**	**340**	*eP*	**Pn**	**15 55 50.8**	**-2.2**
COVM				*eS*	**Sn**	**15 56 36.4**	**-3.4**
INVM	**La Marquesa**	**3.96**	**337**	*eP*	**Pn**	**15 55 55.4**	**+2.0**
INVM				*i* S	**Sn**	**15 56 38.7**	**-1.9**
TUIG	**Tuzandepetl**	**3.96**	**53**	*eP*	**Pn**	**15 55 50.6**	**-2.5**
TUIG				*eS*	**Sn**	**15 56 38.6**	**-1.4**
BJVM	**Benito Juarez**	**3.96**	**340**	*eP*	**Pn**	**15 55 51.7**	**-1.6**
BJVM				*eS*	**Sn**	**15 56 37.7**	**-2.7**
CJVM	**Cuajimalpa**	**3.98**	**338**	*eP*	**Pn**	**15 55 51.7**	**-2.0**
CJVM				*i* S	**Sn**	**15 56 37.7**	**-3.3**
PBVM	**Pinon**	**3.99**	**341**	*eP*	**Pn**	**15 55 53.6**	**+0.1**
PBVM				*eS*	**Sn**	**15 56 37.7**	**-3.1**
MHVM	**Bosque de Chap**	**4.00**	**340**	*eP*	**Pn**	**15 55 51.7**	**-2.2**
MHVM				*i* S	**Sn**	**15 56 38.7**	**-2.8**
CTVM	**Cuauhtemoc**	**4.02**	**340**	*i* P	**Pn**	**15 55 52.2**	**-2.0**
CTVM				*i* S	**Sn**	**15 56 39.1**	**-2.8**
APVM	**Azcapotzalco**	**4.08**	**340**	*eP*	**Pn**	**15 55 51.2**	**-3.7**
APVM				*i* S	**Sn**	**15 56 41.0**	**-2.3**
ZIIG	**Zihuatanejo**	**4.08**	**299**	*eP*	Pn	15 55 48.6	-6.1
ZIIG				*i* S	**Sn**	**15 56 37.2**	**-5.9**
PCIG		**4.34**	**89**	*eP*	**Pn**	**15 55 56.6**	**-1.7**
PCIG				*eS*	**Sn**	**15 56 43.1**	**-6.4**
CXUV	**Coxquihui**	**4.51**	**2**	*eP*	**Pn**	**15 56 03.6**	**+3.0**
CXUV				*eS*	**

ABTX			IAmb	IAmb	15 58 55.1	
	comp=Z,26nm,0.9s					
PLPT	**Palo Pinto**	**17.10 358**		**P**	**15 58 54.4**	**+1.0**
PLPT			IAmb	IAmb	15 58 55.9	
	comp=Z,33nm,0.9s					
POST	**Post**	**17.68 350**	P	**P**	**15 59 01.4**	**+1.6**
POST			IAmb	IAmb	15 59 02.9	
	comp=Z,42nm,0.9s					
DKNS	**Dickens**	**18.18 351**		**P**	**15 59 05.8**	**+0.5**
MIAR	**Mount Ida**	**19.19 10**	P	**P**	**15 59 15.9**	**-0.4**
AMTX	**Amarillo**	**19.48 350**	P	**Pn**	**15 59 20.7**	**-0.1**
AMTX			IAmb	IAmb	15 59 24.1	
	comp=Z,28nm,1.0s					
SMWD	**Samnorwood**	**19.51 354**	P	**Pn**	**15 59 21.4**	**+0.3**
SMWD			IAmb	IAmb	15 59 23.0	
	comp=Z,25nm,1.1s					
DUN6	**Lazy B Ranch**	**19.75 330**	IAmb	IAmb	15 59 57.4	
	comp=Z,36nm,1.2s					
TUL3	**Leonard**	**20.26 5**	P	Pn	15 59 29.5	-0.4
ANMO	**Albuquerque**	**20.76 339**	P	Pn	15 59 36.0	0.0
ANMO	**Albuquerque**	**20.76 339**	P	Pn	15 59 35.1	-0.9
	comp=Z,7.9nm,0.9s,baz=111,slow=8.6,SNR=12					
	comp=Z,7.9nm,0.9s					
X48A	**Hartselle**	**21.05 25**	P	**P**	**15 59 35.8**	**-0.8**
SWET	**Sewanee**	**22.17 26**	IAmb	IAmb	15 59 49.1	
	comp=Z,15nm,0.7s					
WVT	**Waverly**	**22.23 22**	P	**P**	**15 59 48.4**	**-0.9**
WVT			IAmb	IAmb	15 59 51.4	
	comp=Z,14nm,0.9s					
V48A	**Smith Brothers**	**22.26 24**	P	**P**	**15 59 48.3**	**-1.3**
V48A			IAmb	IAmb	16 00 06.2	
	comp=Z,23nm,1.3s					
S39A	**Bolivar**	**22.30 9**	P	**P**	**15 59 49.9**	**-0.2**
S39A			IAmb	IAmb	16 00 05.9	
	comp=Z,13nm,1.1s					
W50A	**Signal Mountai**	**22.43 27**	IAmb	IAmb	15 59 59.2	
	comp=Z,17nm,0.8s					
CPCT	**Cooper Cave**	**23.00 29**	IAmb	IAmb	15 59 59.7	
	comp=Z,23nm,1.2s					
CCM	**Cathedral Cave**	**23.05 13**	P	**P**	**15 59 57.8**	**-0.1**
CCM			IAmb	IAmb	16 00 03.4	
	comp=Z,9.1nm,0.8s					
SDCO	**Great Sand Dun**	**23.06 344**	IAmb	IAmb	16 00 07.2	
	comp=Z,17nm,1.4s					
S44A	**Carbondale**	**23.21 17**	IAmb	IAmb	16 00 11.7	
	comp=Z,27nm,1.3s					
WUAZ	**Wupatki**	**23.26 331**	IAmb	IAmb	16 00 05.2	
	comp=Z,11nm,0.9s					
T47A	**Sharon Grove**	**23.26 22**	IAmb	IAmb	16 00 01.3	
	comp=Z,17nm,0.8s					
U49A	**Red Boiling Sp**	**23.35 25**	IAmb	IAmb	16 00 02.0	
	comp=Z,25nm,1.1s					
BG3	**Lake Jocassee**	**23.40 32**	IAmb	IAmb	16 00 03.1	
	comp=Z,12nm,0.8s					
MVCO	**Mesa Verde**	**23.51 338**	P	**P**	**16 00 04.5**	**+1.6**
MVCO			IAmb	IAmb	16 00 18.2	
	comp=Z,18nm,1.4s					
TKL	**Tuckaleechee C**	**23.52 29**	LR	LR	16 10 33.2	
	comp=Z,56nm,20.5s,baz=164,slow=40					
PAULI	**Pauline**	**23.85 34**	IAmb	IAmb	16 00 07.1	
	comp=Z,15nm,0.9s					
U15A	**North Rim**	**24.43 331**	IAmb	IAmb	16 00 16.9	
	comp=Z,13nm,1.0s					
PFO	**Pinyon Flats O**	**24.62 320**	LR	LR	16 10 18.9	
	comp=Z,67nm,19.0s,baz=114,slow=38					
WCI	**Wyandotte Cave**	**24.65 22**	P	**P**	**16 00 12.6**	**-0.7**
ISCO	**Idaho Springs**	**25.03 346**	IAmb	IAmb	16 00 21.3	
	comp=Z,11nm,0.9s					
KNB	**Kanab**	**25.15 331**	IAmb	IAmb	16 00 33.5	
	comp=Z,19nm,1.2s					
S51A	**Beattyville**	**25.23 27**	IAmb	IAmb	16 00 19.6	
	comp=Z,13nm,0.8s					
PKCU	**Pink Cliffs**	**25.27 332**	IAmb	IAmb	16 00 26.2	
	comp=Z,11nm,0.8s					
MTPU	**Mount Pierson**	**25.70 333**	IAmb	IAmb	16 00 30.6	
	comp=Z,10nm,0.9s					
SRU	**San Rafael Swe**	**25.93 337**	IAmb	IAmb	16 00 30.9	
	comp=Z,7.3nm,0.9s					
Q16A	**Castle Valley**	**26.02 336**	IAmb	IAmb	16 00 41.8	
	comp=Z,9.9nm,1.2s					
O20A	**White River Ci**	**26.07 341**	IAmb	IAmb	16 00 41.2	
	comp=Z,12nm,1.0s					
P18A	**Preston Nutter**	**26.28 338**	IAmb	IAmb	16 00 38.7	
	comp=Z,8.1nm,1.0s					
PDAR	**Pinedale Array**	**28.87 342**	P	**P**	**16 00 53.2**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=137,slow=11,SNR=1.5					
PDAR			LR	LR	16 12 53.6	
	comp=Z,81nm,21.4s,baz=150,slow=38					
	comp=Z,0.2nm,0.4s					
NVAR	**Mina Array Bea**	**29.04 325**	P	**P**	**16 00 56.0**	**+2.9**
	comp=Z,1.3nm,0.8s,baz=144,slow=8.9,SNR=7.2					
NVAR			LR	LR	16 13 16.6	
	comp=Z,99nm,19.8s,baz=128,slow=38					
	comp=Z,1.3nm,0.8s					
SADO	**Sadowa**	**33.01 25**	LR	LR	16 17 22.8	
	comp=Z,55nm,18.8s,baz=90,slow=41					
YBH	**Yreka Blue Hor**	**33.76 325**	LR	LR	16 16 45.5	
	comp=Z,103nm,19.9s,baz=159,slow=39					
F10A	**Beach Ranch, E**	**34.37 336**	IAmb	IAmb	16 01 44.0	
	comp=Z,5.2nm,0.9s					
ULM	**Lac du Bonnet**	**34.55 2**	LR	LR	16 15 50.9	
	comp=Z,53nm,20.1s,baz=68,slow=37					
NEW	**Newport**	**36.23 338**	LR	LR	16 18 07.7	
	comp=Z,133nm,20.9s,baz=162,slow=39					
ETMB	**Extrema**	**40.18 127**	P	P	16 02 34.8	+5.5
ETMB			IAmb	IAmb	16 02 38.5	
	comp=Z,9.9nm,1.4s					
LPAZ	**La Paz**	**43.13 136**	P	**P**	**16 02 57.9**	**+3.8**
	comp=Z,0.5nm,0.4s,baz=316,slow=7.9,SNR=2.1					
	comp=Z,0.5nm,0.4s					
SCHQ	**Schefferville**	**45.82 24**	LR	LR	16 23 18.3	
	comp=Z,74nm,21.7s,baz=308,slow=38					
YKA	**Yellowknife Ar**	**48.29 350**	LR	LR	16 25 27.3	
	comp=Z,65nm,18.4s,baz=300,slow=38					
DLBC	**Dease Lake**	**48.98 338**	LR	LR	16 24 35.7	
	comp=Z,135nm,18.2s,baz=130,slow=36					
H03N2	**Juan Fernandez**	**52.00 160**	T	T	17 00 27.2	
	baz=337,slow=77,SNR=12					
H03N1	**Juan Fernandez**	**52.01 160**	T	T	17 00 06.4	
	baz=337,slow=77,SNR=13					
H03N3	**Juan Fernandez**	**52.02 160**	T	T	17 00 27.6	
	baz=337,slow=77,SNR=7.5					
F28M	**Old Crow**	**58.59 342**	P	**P**	**16 04 50.6**	**+1.3**
A36M	**Sachs Harbour**	**58.63 350**	P	**P**	**16 04 50.5**	**+1.0**
RES	**Resolute Bay**	**59.06 1**	LR	LR	16 34 00.5	
	comp=Z,46nm,18.0s,baz=23,slow=40					
ILAR	**Eielson Array**	**59.19 338**	P	**P**	**16 04 54.4**	**+0.9**
	comp=Z,1.8nm,1.1s,baz=134,slow=4.0,SNR=12					
ILAR			LR	LR	16 33 31.7	
	comp=Z,98nm,18.3s,baz=314,slow=39					
	comp=Z,1.8nm,1.1s					
SFJD	**Kangerlussuaq**	**59.72 19**	LR	LR	16 34 23.8	
	comp=Z,14nm,19.8s,baz=185,slow=40					
BORG	**Borgarnes**	**70.17 26**	LR	LR	16 38 41.6	
	comp=Z,30nm,18.8s,baz=282,slow=38					
JMIC	**Jan Mayen**	**75.08 20**	LR	LR	16 42 12.4	
	comp=Z,19nm,18.1s,baz=274,slow=38					
SPITS	**Spitsbergen Ar**	**79.56 11**	LR	LR	16 47 07.7	
	comp=Z,45nm,19.3s,baz=276,slow=40					
ESDC	**Sonseca Array**	**83.02 51**	P	**P**	**16 07 19.3**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=298,slow=5.7,SNR=6.2					
ESDC			LR	LR	16 40 53.0	
	comp=Z,52nm,18.8s,baz=266,slow=33					
	comp=Z,1.0nm,0.7s					
NOA	**NORSAR Array B**	**85.30 28**	LR	LR	16 48 34.5	
	comp=Z,10nm,18.2s,baz=290,slow=38					
TIXI	**Tiksi**	**87.45 347**	LR	LR	16 50 34.6	
	comp=Z,30nm,19.2s,baz=334,slow=38					
VAE	**Valguarnera**	**97.27 48**	LR	LR	16 52 24.8	
	comp=Z,33nm,18.6s,baz=327,slow=36					
PZH	**PanZhiHua**	**134.03 335**	PKP	**PKiKP**	**16 14 14.3**	**+1.8**
CMAR	**Chiang Mai Arr**	**142.34 334**	PKP	**PKiKP**	**16 14 30.1**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=317,slow=3.7,SNR=2.6					

JMA ***12*** *16:50:55.4±0.1, 35°.9N±0°.7×135°.8E±0°.6, h334km±1km, MV3.1/40, E PART OF WAKASA BAY*
IDC ***12*** *16:50:55.1±0.6, 35°.96N×135°.90E, h345km±7km, mb3.1/16, mbtmp3.9/22, Error ellipse: s-maj=14.0km s-min=10.7km az=73.0*

ISC 12 16:50:54.4±0.6, 36°.01N±0°.07×135°.82E±0°.06, h334km±6km, n37, σ1°.59/47, mb3.4/16, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.50**	**165**	P	**Pn**	**16 51 37.9**	**+1.0**
JFM				*e*S	**S**	**16 52 11.4**	**+0.5**
JKY	**Yasaka**	**0.70**	**237**	P	**Pn**	**16 51 38.5**	**+1.1**
JWT	**Wachi**	**0.81**	**205**	P	**Pn**	**16 51 38.6**	**+0.8**
JWT				*e*S	**S**	**16 52 11.9**	**-0.6**
JYTA	**Yamagatataniai**	**0.85**	**119**	P	**Pn**	**16 51 38.7**	**+0.8**
JYTA				*e*S	**S**	**16 52 12.5**	**-0.1**
JKSM	**Kasumi**	**1.03**	**246**	P	**Pn**	**16 51 39.5**	**+1.0**
JKSM				S	**S**	**16 52 14.2**	**+0.3**
JIE	**Ise**	**1.77**	**156**	P	**Pn**	**16 51 43.4**	**+0.7**
JWY	**Kouya**	**1.80**	**186**	P	**Pn**	**16 51 43.4**	**+0.4**
JWY				*e*S	**S**	**16 52 20.7**	**-1.2**
JSZ	**Suzu**	**1.89**	**40**	*e*P	**Pn**	**16 51 45.1**	**+1.8**
MAT	**Matsushiro**	**2.00**	**74**	*e*P	**Pn**	**16 51 45.5**	**+1.4**
MJAR	**Matsushiro Arr**	**2.00**	**74**	P	**Pn**	**16 51 46.1**	**+1.9**
	3.5nm,0.4s,baz=243,slow=5.4,SNR=24						
MJAR				S	**S**	**16 52 25.9**	**+1.8**
	1.6nm,0.4s,baz=329,slow=18,SNR=2.4						
JOI	**OKI**	**2.10**	**278**	*e*P	**Pn**	**16 51 46.5**	**+1.5**
JTNC	**Tanabenakahech**	**2.20**	**185**	P	**Pn**	**16 51 45.7**	**-0.1**
JTNC				*e*S	**S**	**16 52 25.4**	**-1.6**
JYN	**Shimob**	**2.27**	**102**	P	**Pn**	**16 51 46.6**	**+0.3**
JHS	**Saijyo**	**2.43**	**246**	P	**Pn**	**16 51 48.3**	**+0.7**
JAI	**Aioi**	**2.49**	**207**	P	**Pn**	**16 51 48.5**	**+0.4**
JAI				*e*S	**S**	**16 52 30.1**	**-1.1**
JHJ	**Hachijo jima 2**	**4.36**	**130**	P	**Pn**	**16 52 08.6**	**+2.2**
	84nm,0.8s,baz=288,slow=19,SNR=1.5						
JHJ				S	**S**	**16 53 07.4**	**+3.2**
	168nm,1.0s,baz=343,slow=13,SNR=1.6						
JNU	**Nakatsue**	**5.00**	**236**	P	**Pn**	**16 52 14.0**	**+0.7**
	29nm,0.5s,baz=39,slow=5.5,SNR=63						
KSRS	**Korea Array**	**6.50**	**285**	P	**Pn**	**16 52 32.5**	**+2.0**
	1.8nm,0.8s,baz=100,slow=11,SNR=4.3						
USRK	**Ussuriysk Ar.**	**8.69**	**341**	P	**Pn**	**16 52 58.8**	**+2.5**
	9.8nm,0.5s,baz=154,slow=11,SNR=37						
ASAJ	**Asahikawa**	**9.61**	**31**	P	**Pn**	**16 53 06.8**	**-0.6**
	6.5nm,0.3s,baz=227,slow=12,SNR=52						
ASAJ				S	**S**	**16 54 49.7**	**-6.7**
	7.6nm,0.8s,baz=188,slow=28,SNR=3.5						
JOW	**Kunigami**	**11.19**	**217**	P	**Pn**	**16 53 25.8**	**-1.0**
	5.1nm,0.6s,baz=16,slow=11,SNR=2.9						
SONM	**Songino Array**	**24.72**	**308**	P	**P**	**16 55 48.6**	**+2.2**
	2.5nm,0.5s,baz=111,slow=9.2,SNR=11						
	2.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**36.89**	**252**	P	**P**	**16 57 33.2**	**+0.9**
	0.4nm,0.4s,baz=57,slow=6.6,SNR=2.4						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**39.31**	**314**	P	**P**	**16 57 52.2**	**+0.4**
	0.4nm,0.3s,baz=101,slow=7.9,SNR=3.7						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**40.85**	**302**	P	**P**	**16 58 05.0**	**+0.5**
	1.4nm,0.6s,baz=88,slow=11,SNR=13						
	1.4nm,0.6s						
NRIK	**Noril'sk**	**42.37**	**337**	P	**P**	**16 58 16.1**	**-0.2**
	1.1nm,0.4s,baz=120,slow=7.5,SNR=3.8						
	1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**43.09**	**308**	P	**P**	**16 58 22.3**	**0.0**
	1.8nm,0.8s,baz=90,slow=8.2,SNR=9.8						
	1.8nm,0.8s						
BVAR	**Borovoye Array**	**47.92**	**312**	P	**P**	**16 58 59.6**	**-0.2**
	0.5nm,0.4s,baz=94,slow=10,SNR=5.7						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**52.74**	**32**	P	**P**	**16 59 35.9**	**+0.4**
	0.5nm,1.1s,baz=278,slow=6.3,SNR=5.6						
	0.5nm,1.1s						
WRA	**Warramunga Arr**	**55.67**	**182**	P	**P**	**16 59 55.4**	**-1.5**
	0.1nm,0.3s,baz=0.4,slow=7.6,SNR=7.7						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**59.38**	**182**	P	**P**	**17 00 21.4**	**-1.2**
	0.1nm,0.3s,baz=355,slow=5.3,SNR=7.5						
	0.1nm,0.3s						
ARCES	**ARCESS Array B**	**63.32**	**338**	P	**P**	**17 00 48.5**	**+0.4**
	2.4nm,0.9s,baz=76,slow=8.5,SNR=1.9						
	2.4nm,0.9s						
FINES	**FINESS Array B**	**67.56**	**331**	P	**P**	**17 01 15.1**	**0.0**
	0.9nm,0.4s,baz=69,slow=6.3,SNR=10						
	0.9nm,0.4s						
AKASG	**Malin Array Be**	**72.27**	**320**	P	**P**	**17 01 43.8**	**+0.1**
	0.3nm,0.4s,baz=61,slow=5.2,SNR=2.2						
	0.3nm,0.4s						
HFS	**Hagfors**	**73.08**	**334**	P	**P**	**17 01 47.7**	**-0.6**
	1.1nm,0.6s,baz=48,slow=2.1,SNR=5.8						
	1.1nm,0.6s						
NOA	**NORSAR Array B**	**73.31**	**335**	P	**P**	**17 01 49.5**	**-0.1**
	0.7nm,0.6s,baz=38,slow=5.8,SNR=2.3						
	0.7nm,0.6s						
EKA	**Eskdalemuir Ar**	**82.48**	**338**	P	**P**	**17 02 39.8**	**0.0**
	0.3nm,0.3s,baz=34,slow=4.1,SNR=3.5						
	0.3nm,0.3s						

GII ***12*** *16:58:27.6±0.3, 28°.438N±0°.002×34°.745E±0°.001, h3km, Md3.2/2, Mws3.0/3, confirmed*
SGS ***12*** *16:58:30.4, 28°.51N×34°.67E, h13km, Ml2.9*

ISC 12 16:58:30.5±1.1, 28°.52N±0°.04×34°.72E±0°.07, h16km±7km, n39, σ0°.86/42, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAYS	**Tayyib Ism**	**0.14**	**76**	S	**Sg**	**16 58 37.6**	**+0.7**
TAYS	**Tayyib Ism**	**0.14**	**76**	P	**Pg**	**16 58 34.5**	**+0.1**
RSHS		**0.23**	**162**	S	**Sg**	**16 58 39.3**	**+0.1**
RSHS		**0.23**	**162**	P	**Pg**	**16 58 35.5**	**-0.2**
BDAS	**Al Bad`**	**0.35**	**104**	P	**Pb**	**16 58 37.9**	**-0.5**
BDAS	**Al Bad`**	**0.35**	**104**	S	**Sb**	**16 58 43.5**	**-0.2**
HAQS	**Haql**	**0.56**	**18**	P	**Pb**	**16 58 41.6**	**-0.4**
AYUS	**`Aynunah**	**0.58**	**124**	P	**Pb**	**16 58 41.8**	**-0.6**
JLOS		**0.71**	**72**	S	**Sb**	**16 58 54.9**	**+0.5**
JLOS				P	**Pb**	**16 58 44.3**	**-0.4**
HQLS		**0.84**	**21**	P	**Pg**	**16 58 46.0**	**-0.8**
ELOT	**Eilot**	**1.08**	**11**	P	**Pg**	**16 58 50.3**	**-1.2**
EIL	**Elat**	**1.17**	**10**	P	**Pb**	**16 58 50.7**	**-1.6**
EIL				S	**Sn**	**16 59 09.0**	**+1.1**
EIL	**Elat**	**1.17**	**10**	S	**Sn**	**16 59 08.5**	**+0.6**
EIL	**Elat**	**1.17**	**10**	P	**Pb**	**16 58 50.8**	**-1.6**
BEOR	**Beer Ora**	**1.21**	**11**	P	**Pn**	**16 58 51.9**	**-0.9**
AQBJ	**Aqaba**	**1.24**	**13**	P	**Pb**	**16 58 53.4**	**-0.2**
AQBJ				S	**Sn**	**16 59 10.7**	**+1.0**
MBRI	**Mt Berech**	**1.28**	**8**	P	**Pg**	**16 58 54.6**	**-0.7**
MBRI	**Mt Berech**	**1.28**	**8**	P	**Pn**	**16 58 53.1**	**-0.8**
MBRI	**Mt Berech**	**1.28**	**8**	S	**Sn**	**16 59 12.5**	**+1.6**
ELFZ	**Elifaz**	**1.30**	**11**	P	**Pn**	**16 58 53.2**	**-0.9**
YTVT	**Yotvata**	**1.40**	**12**	P	**Pn**	**16 58 54.7**	**-0.8**
LOTA	**Lotan**	**1.50**	**12**	P	**Pn**	**16 58 56.6**	**-0.3**
HRFI	**Mount Harif**	**1.54**	**10**	P	**Pn**	**16 58 56.5**	**-0.9**
HRFI	**Mount Harif**	**1.54**	**10**	S	**Sb**	**16 59 18.5**	**+0.5**
HRFI	**Mount Harif**	**1.54**	**10**	P	**Pn**	**16 58 56.6**	**-0.9**
KRMI	**Paran Flat**	**1.59**	**0**	P	**Pb**	**16 58 59.9**	**+0.2**
KRMI	**Paran Flat**	**1.59**	**0**	P	**Pn**	**16 58 57.6**	**-0.6**
KRMI	**Paran Flat**	**1.59**	**0**	S	**Sb**	**16 59 20.3**	**+0.7**
PRNI	**Paran**	**1.84**	**8**	P	**Pn**	**16 59 01.1**	**-0.5**
PRNI	**Paran**	**1.84**	**8**	S	**Sn**	**16 59 26.2**	**+1.6**
PRNI	**Paran**	**1.84**	**8**	P	**Pn**	**16 59 01.2**	**-0.4**
HSNJ	**Maan**	**1.93**	**26**	P	**Pb**	**16 59 04.9**	**-0.5**
KZIT	**Kziot**	**2.40**	**353**	P	**Pn**	**16 59 10.5**	**+1.3**
KZIT	**Kziot**	**2.40**	**353**	P	**Pn**	**16 59 08.6**	**-0.6**
NTKR	**Neot Hakikar**	**2.48**	**13**	P	**Pn**	**16 59 09.9**	**-0.3**
BIDS	**Bi'r al Bayda'**	**2.58**	**129**	P	**Pn**	**16 59 11.2**	**-0.4**
MSBI	**Mazada**	**2.84**	**11**	P	**Pn**	**16 59 15.6**	**+0.4**
YTIR	**Yattir**	**2.86**	**7**	P	**Pn**	**16 59 16.8**	**+1.2**
AMAZ	**Amatzia**	**3.01**	**3**	P	**Pn**	**16 59 18.2**	**+0.6**

CATAC 12 17:12:45.6±0.5, 11°.32N×87°.28W, h32km±10km, ML3.6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.08**	**38**	*i* P	Pn	17 13 03.7	-0.9
COPN				IAML		17 13 23.2	
	comp=Z,750nm,1.0s						
BC86	**Nagarote**	**1.17**	**37**	IAML		17 13 03.3	
	comp=Z,6μm,1.0s						
BC86				*i* P	Pn	17 13 05.9	+0.2
BC86				*i* S	Sn	17 13 20.9	+0.4
SAPS	**Ciudad Sandino**	**1.20**	**45**	*i* P	Pn	17 13 06.3	+0.1
SAPS				IAML		17 13 42.6	
	comp=Z,930nm,1.0s						
ABCN	**Banco Central**	**1.23**	**50**	*i* P	Pn	17 13 07.0	+0.3
ABCN				*i* S	Sn	17 13 22.0	-0.2
ABCN				IAML		17 13 34.9	
	comp=Z,6μm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.25**	**31**	*i* P	Pn	17 13 06.8	-0.1
LEVN				*i* S	Sn	17 13 22.6	0.0
LEVN				IAML		17 13 52.2	
	comp=Z,780nm,1.0s						
UNAN	**Cigeo UNAN**	**1.26**	**51**	*i* P	Pn	17 13 07.2	+0.2
UNAN				IAML		17 13 17.6	
	comp=Z,4μm,1.0s						
UNAN				*i* S	Sb	17 13 24.4	-0.3
USIM	**UNAN**	**1.26**	**51**	*i* P	Pn	17 13 07.6	+0.6
USIM				*i* S	Sb	17 13 24.0	-0.7
USIM				IAML		17 14 04.7	
	comp=Z,6μm,1.0s						
SABN	**Sabanita**	**1.26**	**60**	*i* P	Pn	17 13 06.7	-0.3
SABN				IAML		17 13 51.8	
	comp=Z,2μm,1.0s						
ENAN	**Enatrel Managu**	**1.27**	**52**	*i* P	Pn	17 13 07.1	0.0
ENAN				*i* S	Sb	17 13 24.3	-0.6
ENAN				IAML		17 14 02.9	
	comp=Z,5μm,1.0s						
APQ2	**Apoyeque**	**1.27**	**47**	*i* P	Pn	17 13 07.4	+0.2
APQ2				*i* S	Sb	17 13 24.4	-0.7
APQ2				IAML		17 13 28.1	
	comp=Z,570nm,1.0s						
TISN	**Laguna Tiscapa**	**1.28**	**50**	*i* P	Pn	17 13 07.5	+0.2
TISN				IAML		17 13 12.4	
	comp=Z,54nm,1.0s						
APYN	**Apoyeque**	**1.28**	**45**	*i* P	Pn	17 13 07.4	+0.1
APYN				*i* S	Sn	17 13 24.2	+0.8
APYN				IAML		17 13 29.2	
	comp=Z,21nm,1.0s						
MAS3	**Al N del Volca**	**1.28**	**57**	*i* P	Pn	17 13 07.1	-0.2
MAS3				*i* S	Sn	17 13 24.2	+0.7
MAS3				IAML		17 13 29.8	
	comp=Z,1μm,1.0s						
MASN	**Masaya**	**1.28**	**59**	*i* P	Pn	17 13 07.6	+0.2
MASN				*i* S	Sn	17 13 23.7	+0.2
MASN				IAML		17 13 29.9	
	comp=Z,430nm,1.0s						
NANN	**Nandasmo**	**1.28**	**61**	*i* P	Pn	17 13 07.6	+0.2
NANN				IAML		17 13 22.6	
	comp=Z,9μm,1.0s						
NANN				*i* S	Sb	17 13 24.7	-0.8
NADN	**Granada**	**1.29**	**71**	*i* P	Pn	17 13 07.1	-0.3
NADN				*i* S	Sb	17 13 24.6	-0.9
MOMN	**Momotombo**	**1.30**	**34**	*i* P	Pn	17 13 06.8	-0.8
MOMN				*i* S	Sn	17 13 24.5	+0.7
MOMN				IAML		17 13 35.4	
	comp=Z,25nm,1.0s						
MGAN	**Managua**	**1.30**	**51**	*i* P	Pn	17 13 07.6	+0.1
MGAN				IAML		17 13 19.7	
	comp=Z,590nm,1.0s						
MGAN				*i* S	Sb	17 13 25.0	-0.8
R4DEC	**Barrio San Lui**	**1.30**	**51**	*i* P	Pn	17 13 07.6	+0.1
R4DEC				IAML		17 13 19.7	
	comp=Z,610nm,1.0s						
R4DEC				*i* S	Sb	17 13 24.8	-1.0
PLRN	**Geotermica Pol**	**1.35**	**22**	*i* P	Pn	17 13 07.4	-0.8
PLRN				*i* S	Sn	17 13 25.9	+0.8
HERN	**Volcan Telica**	**1.35**	**19**	*i* P	Pn	17 13 07.9	-0.4
HERN				*i* S	Sn	17 13 25.1	-0.1
HERN				IAML		17 13 34.6	
	comp=Z,510nm,1.0s						
MOM2	**El Cardon**	**1.35**	**35**	*i* P	Pn	17 13 07.9	-0.4
MOM2				IAML		17 13 15.5	
	comp=Z,750nm,1.0s						
MOM2				*i* S	Sn	17 13 25.5	+0.4
WILN	**Americas 2**	**1.35**	**52**	*i* P	Pn	17 13 07.7	-0.6
WILN				*i* S	Sb	17 13 26.6	-0.7
WILN				IAML		17 13 31.3	
	comp=Z,400nm,1.0s						
PKGN	**Cerro Pekin**	**1.37**	**12**	*i* P	Pn	17 13 08.6	+0.1
PKGN				IAML		17 13 18.8	
	comp=Z,1μm,1.0s						
PKGN				*i* S	Sn	17 13 26.7	+1.1
CRIN	**San Cristobal**	**1.39**	**9**	*i* P	Pn	17 13 09.0	+0.2
CRIN				*i* S	Sn	17 13 25.9	-0.2
CRIN				IAML		17 13 41.7	
	comp=Z,1μm,1.0s						
JAPN	**Al SSO del Vol**	**1.58**	**83**	*i* P	Pn	17 13 11.2	-0.2
JAPN				*i* S	Sn	17 13 30.9	+0.2
JAPN				IAML		17 13 38.4	
	comp=Z,350nm,1.0s						
MORN	**Al O del Volca**	**1.61**	**82**	*i* P	Pn	17 13 12.5	+0.6
MORN				*i* S	Sn	17 13 30.2	-1.4
MORN				IAML		17 13 38.7	
	comp=Z,81nm,1.0s						
CONN	**Concepcion**	**1.64**	**81**	*i* P	Pn	17 13 12.2	0.0
CONN				IAML		17 13 27.6	
	comp=Z,2μm,1.0s						
CONN				*i* S	Sn	17 13 33.4	+1.3
BRAN	**Las Pilas**	**1.66**	**33**	*i* P	Pn	17 13 06.9	-5.6
BRAN				*i* S	Sn	17 13 23.1	-10
BRAN				IAML		17 13 54.4	
	comp=Z,3μm,1.0s						
CSGN	**Cosiguina Volc**	**1.67**	**350**	*i* P	Pn	17 13 12.9	+0.2
CSGN				*i* S	Sn	17 13 33.4	+0.4

LALI			*i* S		**Sb**	17 40 07.8	-0.7
LALI			IAML			17 40 20.6	
comp=Z,150nm,1.0s							
SBLS	**San Blas**	0.91	35⇑	*e*P	**Pn**	17 39 55.4	-0.6
SBLS			*e*S		**Sb**	17 40 12.0	+3.1
SNJE	**San Jose**	0.95	35⇑	*e*P	**Pn**	17 39 55.8	-0.7
RTR	**El Retiro**	0.95	32	*e*P	**Pn**	17 39 55.9	-0.6
SLOZ	**Alcaldia de Sa**	1.00	21	*e*P	**Pn**	17 39 55.9	-1.2
SLOZ			*e*S		**Sb**	17 40 14.3	+3.0
CEDA	**San Andres**	1.03	46	*i* P	**Pn**	17 39 57.8	+0.3
CEDA			IAML			17 40 04.5	
comp=Z,3μm,1.0s							
CEDA			*i* S		**Sb**	17 40 11.6	-0.4
PMON	**Piamonte**	1.03	53	*e*P	**Pn**	17 39 57.0	-0.5
PMON	**Piamonte**	1.03	53	*i* P	**Pn**	17 39 57.8	+0.3
PMON			*i* S		**Sb**	17 40 11.3	-0.8
PMON			IAML			17 40 22.1	
comp=Z,940nm,1.0s							
ITCA	**Escuela Especi**	1.04	56	*i* P	**Pb**	17 39 58.4	-0.5
ITCA			*i* S		**Sb**	17 40 11.7	-0.6
ITCA			IAML			17 40 49.2	
comp=Z,2μm,1.0s							
UNIC	**Universidad Ca**	1.07	34	*i* P	**Pn**	17 39 57.6	-0.5
UNIC			IAML			17 39 58.0	
comp=Z,360nm,1.0s							
UNIC			*i* S		**Sb**	17 40 12.4	-0.8
SNET	**Serv Nac Est T**	1.08	56	*i* P	**Pn**	17 39 58.1	-0.1
SNET			*i* S		**Sn**	17 40 11.9	-0.2
SNET			IAML			17 41 05.4	
comp=Z,1μm,1.0s							
PANCS	**Alcalda de**	1.09	61	*i* P	**Pn**	17 39 58.8	+0.5
PANCS			*i* S		**Sn**	17 40 12.1	-0.1
PANCS			IAML			17 40 52.0	
comp=Z,3μm,1.0s							
UEES	**Universidad Ev**	1.09	55	*i* P	**Pn**	17 39 58.7	+0.3
UEES			IAML			17 40 30.5	
comp=Z,540nm,1.0s							
SEMO	**Seminario San**	1.10	56	*i* P	**Pb**	17 39 59.1	-0.8
SEMO			*i* S		**Sn**	17 40 12.6	+0.1
SEMO			IAML			17 41 04.5	
comp=Z,4μm,1.0s							
LOMA	**Loma Larga**	1.11	60	*i* P	**Pn**	17 39 58.6	0.0
LOMA			*i* S		**Sn**	17 40 12.8	-0.1
LOMA			IAML			17 40 23.4	
comp=Z,500nm,1.0s							
QUEZ	**Alcaldia de Qu**	1.14	49	*i* P	**Pn**	17 39 59.0	0.0
QUEZ			*i* S		**Sb**	17 40 14.5	-0.6
QUEZ			IAML			17 40 32.2	
comp=Z,3μm,1.0s							
UDBS	**Universidad Do**	1.16	57	*i* P	**Pn**	17 39 59.3	0.0
UDBS			*i* S		**Sb**	17 40 14.8	-0.9
UDBS			IAML			17 40 23.4	
comp=Z,520nm,1.0s							
LFRS	**El Faro**	1.19	63	*e*P	**Pn**	17 39 59.5	-0.3
PAVA	**Las Pavas**	1.34	62	*i* P	**Pn**	17 40 01.9	+0.1
PAVA			*i* S		**Sn**	17 40 19.2	+0.6
PAVA			IAML			17 40 29.7	
comp=Z,480nm,1.0s							
COEG	**Centro de Oper**	1.35	67	*e*P	**Pn**	17 40 01.7	-0.2
COEG	**Centro de Oper**	1.35	67	*i* P	**Pn**	17 40 01.7	-0.2
COEG			*i* S		**Sn**	17 40 19.5	+0.7
COEG			IAML			17 40 29.9	
comp=Z,230nm,1.0s							
TECO	**Alcaldia de Te**	1.42	71	*i* P	**Pn**	17 40 02.3	-0.4
TECO			*i* S		**Sn**	17 40 21.1	+0.9
TECO			IAML			17 40 28.1	
comp=Z,170nm,1.0s							
UESV	**Universidad de**	1.44	67	*i* P	**Pn**	17 40 03.3	+0.2
UESV			*i* S		**Sn**	17 40 21.2	+0.3
UESV			IAML			17 40 34.5	
comp=Z,270nm,1.0s							
MTO3	**Montecristo**	1.52	31	*i* P	**Pn**	17 40 04.1	-0.3
MTO3			IAML			17 40 05.5	
comp=Z,400nm,1.0s							
MTO3			*i* S		**Sn**	17 40 22.6	-0.5
SCLA	**Alcaldia de Sa**	1.52	66	*e*P	**Pn**	17 40 04.7	+0.5
SCLA	**Alcaldia de Sa**	1.52	66	*i* P	**Pn**	17 40 05.0	+0.8
SCLA			*i* S		**Sn**	17 40 22.8	-0.1
SCLA			IAML			17 40 35.3	
comp=Z,160nm,1.0s							
LLGN	**La Laguna**	1.59	48	*i* P	**Pn**	17 40 04.4	-0.9
LLGN			*i* S		**Sn**	17 40 24.5	-0.3
LLGN			IAML			17 40 30.2	
comp=Z,390nm,1.0s							
ESQI	**Esquipulas**	1.67	28	*i* P	**Pn**	17 40 06.8	+0.5
ESQI			IAML			17 40 16.3	
comp=Z,380nm,1.0s							
ESQI			*i* S		**Sn**	17 40 27.1	+0.5
LCY	**Lacayo**	1.85	79	*e*P	**Pn**	17 40 09.0	+0.3
RANC	**El Ranchito**	1.85	79	*i* P	**Pn**	17 40 09.3	+0.4
RANC			*i* S		**Sn**	17 40 31.9	+0.7
RANC			IAML			17 40 45.5	
comp=Z,150nm,1.0s							
LCND	**La Caada**	2.22	84	*e*P	**Pn**	17 40 13.6	-0.2
LCND	**La Caada**	2.22	84	*i* P	**Pn**	17 40 13.6	-0.2
LCND			*i* S		**Sn**	17 40 40.5	+0.4
LCND			IAML			17 40 54.7	
comp=Z,110nm,1.0s							
CNCH	**Conchagua**	2.27	85	*e*P	**Pn**	17 40 13.9	-0.7
CNCH	**Conchagua**	2.27	85	*i* P	**Pn**	17 40 15.5	+0.9
CNCH			*i* S		**Sn**	17 40 41.7	+0.2
CNCH			IAML			17 40 57.7	
comp=Z,260nm,1.0s							
CHIHN	**Chmisales**	2.71	40	*i* P	**Pn**	17 40 20.9	+0.2
CHIHN			*i* S		**Sn**	17 40 52.0	-0.5

NEIC ***12*** *17:53:44.9±1.8, 18°.7S±0°.1×175°.4W±0°.1, h199km±8km, mb5.0/34, Error ellipse: s-maj=21.1km s-min=11.6km az=205.0*

NOU ***12*** *17:53:47.9, 18°.55S×175°.03W, h251km, mb5.0/28, Tonga Islands*

IDC ***12*** *17:53:53.1±1.8, 18°.67S×175°.50W, h283km±15km, mb4.2/19, mbtmp4.8/21, Error ellipse: s-maj=15.6km s-min=10.8km az=147.0*

ISC 12 17:53:44.5±0.3**, 18°.56S**±0°.06×**175°.34W**±0°.06**, h205**km**, n212,** σ1.8**51/217, mb4.8**/51**, 6C-1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**5.00**	**327**	Pn		**Pn**	**17 54 59.2**	**+0.2**
NIUE	**Niue**	**5.15**	**97**	Pn		**Pn**	**17 55 03.0**	**+2.0**
NIUE				Sn		**S**	**17 56 02.1**	**+1.2**
NIUE	**Niue**	**5.15**	**97**	P		**Pn**	**17 55 03.3**	**+2.3**
DGTI	**Dogotuki**	**5.21**	**295**	P		Pn	17 55 09.3	+7.6
AFI	**Afiamalu**	**5.75**	**37**			**Pn**	**17 55 08.5**	**-0.3**
AFI				Sn		**S**	**17 56 09.9**	**-5.1**
AFI	**Afiamalu**	**5.75**	**37**	P		**Pn**	**17 55 09.3**	**+0.6**
MSVF	**Nonsavu**	**6.34**	**276**	Pn		Pn	17 55 23.4	+7.1
MSVF	**Nonsavu**	**6.34**	**276**	P		Pn	17 55 23.8	+7.5
142nm,0.7s,baz=138,slow=19,SNR=106								
MSVF	**Nonsavu**	**6.34**	**276**	P		Pn	17 55 24.1	+7.8
RAR	**Rarotonga**	**14.88**	**103**	P		**P**	**17 57 06.9**	**+1.2**
RAR	**Rarotonga**	**14.88**	**103**	P		P	17 57 14.1	+8.3
12nm,0.6s,baz=243,slow=16,SNR=1.9								
PINNC	**Pines Island,**	**16.61**	**253**	P		**Pn**	**17 57 28.3**	**+2.3**
VLAKA	**Lakatoro**	**16.64**	**276**	P		**Pn**	**17 57 29.4**	**+3.1**
DZM	**Mont Dzumac**	**17.44**	**255**	P		**Pn**	**17 57 36.9**	**+1.1**
14nm,0.8s,baz=86,slow=17,SNR=8.2								
KUZ	**Kuaotunu**	**19.75**	**202**	P		**Pn**	**17 58 01.0**	**-2.0**
OPRZ	**Ohinepanea**	**20.48**	**199**	P		**P**	**17 58 08.9**	**+2.3**
MARZ	**Manawahe**	**20.58**	**198**	P		Pn	17 58 10.6	-2.6
URZ	**Urewera**	**20.71**	**197**	P		**P**	**17 58 06.6**	**-2.4**
29nm,0.3s,baz=357,slow=2.0,SNR=36								
URZ				S		**S**	**18 01 42.1**	**-6.3**
6.9nm,0.5s,baz=324,slow=14,SNR=8.1								
URZ	**Urewera**	**20.71**	**197**	P		**P**	**17 58 08.9**	**-0.1**
TOZ	**Tahuroa Road**	**20.72**	**201**	P		**P**	**17 58 10.4**	**+1.3**
KARZ	**Kaharoa**	**20.74**	**199**	P		**P**	**17 58 12.3**	**+2.9**
MKRZ	**Makatiti**	**20.78**	**198**	P		**P**	**17 58 12.8**	**+3.0**
RAGZ	**Rawiri**	**20.85**	**196**	P		**P**	**17 58 12.6**	**+2.1**
TARZ	**Mount Tarawera**	**20.86**	**198**	P		**P**	**17 58 13.1**	**+2.4**
RIGZ	**Rimuhau**	**20.96**	**195**	P		**P**	**17 58 13.2**	**+1.6**
MUGZ	**Murupara**	**21.01**	**197**	P		**P**	**17 58 12.1**	**0.0**
HRRZ	**Handcock Road**	**21.07**	**199**	P		**P**	**17 58 13.7**	**+0.9**
RTZ	**Ruatahuna**	**21.08**	**197**	P		**P**	**17 58 12.3**	**-0.6**
RTZ	**Ruatahuna**	**21.08**	**197**	P		**P**	**17 58 14.2**	**+1.3**
PRGZ	**Paritu Road**	**21.13**	**195**	P		**P**	**17 58 16.4**	**+3.0**
SNGZ	**Shannon Statio**	**21.14**	**196**	P		**P**	**17 58 14.8**	**+1.3**
KNZ	**Kokohu**	**21.28**	**195**	P		**P**	**17 58 16.5**	**+1.6**
RAHZ	**Arahi**	**21.33**	**196**	P		**P**	**17 58 16.1**	**+0.6**
MTHZ	**Maungataniwha**	**21.34**	**197**	P		**P**	**17 58 15.6**	**0.0**
MHGZ	**Mahia Peninsul**	**21.34**	**195**	P		**P**	**17 58 17.2**	**+1.5**
MRHZ	**Matea Rd**	**21.44**	**198**	P		**P**	**17 58 17.5**	**+0.8**
NMHZ	**Naumai**	**21.57**	**197**	P		**P**	**17 58 18.4**	**+0.3**
HIZ	**Hauiti**	**21.64**	**201**	P		**P**	**17 58 19.9**	**+1.2**
HIZ	**Hauiti**	**21.64**	**201**	P		**P**	**17 58 20.9**	**+2.2**
RATZ	**Rangitukua**	**21.66**	**199**	P		**P**	**17 58 19.1**	**+0.2**
ARHZ	**Aropaoanui**	**21.68**	**196**	P		**P**	**17 58 20.1**	**+1.1**
BKZ	**Black Stump Fm**	**21.73**	**197**	P		**P**	**17 58 17.9**	**-1.7**
BKZ	**Black Stump Fm**	**21.73**	**197**	P		**P**	**17 58 18.9**	**-0.7**
BKZ	**Black Stump Fm**	**21.73**	**197**	P		**P**	**17 58 20.7**	**+1.1**
KATZ	**Kakaramea**	**21.79**	**199**	P		**P**	**17 58 21.5**	**+1.2**
TMVZ	**Te Maari**	**21.91**	**199**	P		**P**	**17 58 21.0**	**-0.5**
ETVZ	**East Tongariro**	**21.93**	**199**	P		**P**	**17 58 21.1**	**-0.6**
MCHZ	**McNeill Hill**	**21.93**	**197**	P		**P**	**17 58 23.3**	**+1.8**
WTVZ	**West Tongariro**	**21.95**	**199**	P		**P**	**17 58 21.7**	**-0.1**
NNVZ	**North Ngauruho**	**21.95**	**199**	P		**P**	**17 58 22.9**	**+1.0**
TWVZ	**Taurewa**	**21.95**	**199**	P		**P**	**17 58 21.4**	**-0.5**
OTVZ	**Oturere**	**21.97**	**199**	P		**P**	**17 58 20.6**	**-1.5**
KWHZ	**Kaweka Forest**	**21.99**	**197**	P		**P**	**17 58 21.6**	**-0.5**
SNVZ	**South Ngauruho**	**22.00**	**199**	P		**P**	**17 58 21.2**	**-1.2**
NGZ	**Ngauruhoe**	**22.00**	**199**	P		**P**	**17 58 22.6**	**+0.2**
CKHZ	**Cape Kidnapper**	**22.03**	**196**	P		**P**	**17 58 25.6**	**+3.1**
TUVZ	**Tukino**	**22.07**	**199**	P		**P**	**17 58 21.9**	**-1.2**
FWVZ	**Far West T-bar**	**22.09**	**199**	P		**P**	**17 58 23.2**	**-0.1**
WNVZ	**Wahianoa**	**22.14**	**199**	P		**P**	**17 58 21.8**	**-1.9**
MOVZ	**Moawhango**	**22.16**	**199**	P		**P**	**17 58 22.7**	**-1.1**
KRHZ	**Kereru**	**22.20**	**197**	P		**P**	**17 58 25.4**	**+1.2**
KAHZ	**Kahuranaki**	**22.21**	**196**	P		**P**	**17 58 25.9**	**+1.7**
PXZ	**Pawanui**	**22.43**	**196**	P		**P**	**17 58 27.3**	**+1.1**
NEZ	**North Egmont**	**22.58**	**202**	P		**P**	**17 58 30.4**	**+2.7**
BFZ	**Birch Farm**	**23.21**	**196**	P		**P**	**17 58 32.1**	**-1.1**
BFZ	**Birch Farm**	**23.21**	**196**	P		**P**	**17 58 32.6**	**-0.5**
MRZ	**Mangatainoka R**	**23.37**	**198**			**P**	**17 58 33.9**	**-0.8**
MSWZ	**Moikau Station**	**24.17**	**197**	P		**P**	**17 58 39.7**	**-2.2**
SNZO	**South Karori**	**24.23**	**199**	P		**P**	**17 58 40.1**	**-2.4**
SNZO				IAmb	IAmb		17 58 51.2	
comp=Z,32nm,0.6s								
BHW	**Baring Head**	**24.27**	**198**	P		**P**	**17 58 41.0**	**-1.8**
BHW				IAmb	IAmb		17 58 50.9	
comp=Z,16nm,0.7s								
TCW	**Tory Channel**	**24.27**	**199**	P		**P**	**17 58 41.6**	**-1.2**
QRZ	**Quartz Range**	**24.52**	**203**	P		**P**	**17 58 45.9**	**+0.8**
QRZ	**Quartz Range**	**24.52**	**203**	P		**P**	**17 58 46.6**	**+1.5**
TUWZ	**Tuamarina**	**24.57**	**200**	P		**P**	**17 58 45.7**	**+0.2**
BSWZ	**Blackbirch Sta**	**24.85**	**199**	P		**P**	**17 58 48.4**	**+0.3**
MRNZ	**Matariki Terra**	**24.94**	**202**	P		**P**	**17 58 48.0**	**-1.0**
ALEG	**Aligegeo Malai**	**25.21**	**290**	P		**P**	**17 58 55.2**	**+3.5**
THZ	**Tophouse**	**25.21**	**201**	P		**P**	**17 58 52.4**	**+1.0**
THZ				IAmb	IAmb		17 59 00.1	
comp=Z,31nm,0.5s								
KHZ	**Kahutara**	**25.59**	**199**	P		**P**	**17 58 56.9**	**+2.1**
KHZ				IAmb	IAmb		17 59 02.1	
comp=Z,20nm,0.6s								
GVZ	**Greta Valley S**	**26.25**	**200**	P		**P**	**17 59 03.3**	**+2.6**
LTZ	**Lake Taylor**	**26.34**	**201**			**P**	**17 59 00.7**	**-0.8**
INZ	**Inchbonnie**	**26.57**	**202**			**P**	**17 59 03.2**	**-0.3**
INZ				IAmb	IAmb		17 59 03.7	
comp=Z,30nm,0.7s								
OXZ	**Oxford**	**26.90**	**201**	P		**P**	**17 59 06.1**	**-0.4**
RPZ	**Rata Peaks**	**27.58**	**202**			**P**	**17 59 14.6**	**+2.1**
RPZ				IAmb	IAmb		17 59 21.0	
comp=Z,22nm,0.6s								
CTAO	**Charters Tower**	**36.22**	**261**	P		**P**	**18 00 27.6**	**-0.5**
CTAO				IAmb	IAmb		18 00 30.2	
comp=Z,14nm,0.6s								
CTAO	**Charters Tower**	**36.22**	**261**	P		**P**	**18 00 28.5**	**+0.4**
CTAO	**Charters Tower**	**36.22**	**261**	P		**P**	**18 00 27.6**	**-0.5**
PMG	**Port Moresby**	**37.44**	**279**	P		**P**	**18 00 39.7**	**+1.3**
comp=Z,23nm,0.9s,baz=83,slow=10,SNR=5.9								
comp=Z,23nm,0.9s								
PMG	**Port Moresby**	**37.44**	**279**	P		**P**	**18 00 39.8**	**+1.3**
QLP	**Quilpie**	**38.05**	**250**	P		**P**	**18 00 43.3**	**-0.1**
STKA	**Stephens Creek**	**40.90**	**243**	P		**P**	**18 01 05.8**	**-1.0**
comp=Z,1.7nm,0.3s,baz=73,slow=7.4,SNR=19								
comp=Z,1.7nm,0.3s								
OOD	**Oodnadatta**	**45.70**	**249**	P		**P**	**18 01 46.7**	**+1.4**
JAY	**Jayapura**	**45.89**	**285**	P		**P**	**18 01 47.0**	**+0.1**
comp=Z,22nm,0.8s,baz=115,slow=6.8,SNR=12								
comp=Z,22nm,0.8s								
GENI	**Genyem**	**46.35**	**285**	P		**P**	**18 01 52.1**	**+1.6**
comp=Z,44nm,0.9s								
MULG	**Mulgathing**	**47.19**	**246**	P		**P**	**18 01 57.3**	**+0.5**
WR0	**Warramunga Arr**	**47.20**	**260**	P		**P**	**18 01 55.7**	**-1.3**
WB0	**Warramunga Arr**	**47.36**	**260**	P		**P**	**18 01 57.0**	**-1.3**
WB0				IAmb	IAmb		18 01 58.1	
comp=Z,22nm,0.6s								
WB2	**Warramunga Arr**	**47.37**	**260**	P		**P**	**18 01 57.2**	**-1.2**
WB2				IAmb	IAmb		18 01 58.2	
comp=Z,23nm,0.5s								
WRAB	**Tennant Creek**	**47.38**	**260**	P		**P**	**18 01 57.2**	**-1.2**
WRAB				IAmb	IAmb		18 01 58.2	
comp=Z,20nm,0.6s								
WRA	**Warramunga Arr**	**47.38**	**260**	P		**P**	**18 01 57.2**	**-1.3**
WRA	**Warramunga Arr**	**47.38**	**260**	P		**P**	**18 01 57.6**	**-0.8**
comp=Z,16nm,0.5s,baz=98,slow=7.4,SNR=354								
WRA				PcP		**PcP**	**18 03 25.3**	**-0.5**
comp=Z,1.6nm,0.8s,baz=91,slow=4.1,SNR=3.5								
WRA				S	S		18 08 27.6	-9.4
comp=Z,0.5nm,0.8s,baz=96,slow=13,SNR=2.8								
comp=Z,16nm,0.5s								
AS01	**Alice Springs**	**47.39**	**255**	P		**P**	**18 01 57.8**	**-0.7**
comp=Z,97nm,0.8s								
AS31	**Alice Springs**	**47.43**	**255**	P		**P**	**18 01 58.3**	**-0.5**
ASAR	**Alice Springs**	**47.43**	**255**	P		**P**	**18 01 58.0**	**-0.8**
ASAR	**Alice Springs**	**47.43**	**255**	P		**P**	**18 01 58.4**	**-0.5**
comp=Z,50nm,0.7s,baz=88,slow=8.7,SNR=636								
ASAR				PcP		**PcP**	**18 03 25.6**	**-0.3**
comp=Z,2.1nm,0.8s,baz=96,slow=5.2,SNR=4.6								
ASAR				S		**S**	**18 08 31.1**	**-6.5**
comp=Z,1.5nm,0.7s,baz=89,slow=15,SNR=16								
comp=Z,50nm,0.7s								
KDU	**Kakadu**	**50.46**	**269**	P		**P**	**18 02 21.6**	**-0.3**
MTN	**Manton Dam**	**51.70**	**268**	P		**P**	**18 02 30.3**	**-0.8**
MTN				IAmb	IAmb		18 02 31.2	
comp=Z,37nm,0.8s								
MTN	**Manton Dam**	**51.70**	**268**	P		**P**	**18 02 30.7**	**-0.4**
FORT	**Forrest**	**52.38**	**245**	P		**P**	**18 02 34.6**	**-1.2**
WRKA	**Warakurna**	**52.43**	**252**	P		**P**	**18 02 35.9**	**-0.5**
KNRA	**Kununurra**	**53.32**	**264**	P		**P**	**18 02 42.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**55.80**	**260**	P		**P**	**18 03 00.5**	**-0.2**
FITZ	**Fitzroy Crossi**	**55.80**	**260**	P		**P**	**18 02 59.9**	**-0.8**
comp=Z,3.2nm,0.3s,baz=57,slow=7.4,SNR=23								
comp=Z,3.2nm,0.3s								
SOEI	**Soe**	**58.99**	**270**	P		**P**	**18 03 24.1**	**+0.9**
SOEI	**Soe**	**58.99**	**270**	P		**P**	**18 03 25.2**	**+2.0**
BATI	**Baumata**	**59.44**	**269**	P		**P**	**18 03 27.0**	**+0.8**
comp=Z,32nm,0.7s,baz=149,slow=5.9,SNR=11								
comp=Z,32nm,0.7s								
TNTI	**Ternate**	**59.45**	**282**	P		**P**	**18 03 27.6**	**+1.3**
SANI	**Sanana**	**59.73**	**279**	P		**P**	**18 03 27.9**	**-0.2**
SBA	**Scott Base**	**59.98**	**184**	P		**P**	**18 03 30.9**	**+2.1**
SBA	**Scott Base**	**59.98**	**184**	P		**P**	**18 03 30.8**	**+1.9**
MBWA	**Marble Bar**	**60.74**	**256**	P		**P**	**18 03 33.9**	**-1.1**
LUWI	**Luwuk**	**63.09**	**279**	P		**P**	**18 03 50.6**	**0.0**
LUWI				IAmb	IAmb		18 03 51.9	
comp=Z,29nm,0.8s								
LUWI	**Luwuk**	**63.09**	**279**	P		**P**	**18 03 52.3**	**+1.6**
comp=Z,41nm,1.1s								
CCD	**Concordia, Ant**	**64.97**	**195**	P		**P**	**18 04 02.7**	**+0.3**
MJAR	**Matsushiro Arr**	**70.19**	**322**	P		**P**	**18 04 35.1**	**0.0**
comp=Z,9.1nm,0.8s,baz=153,slow=6.1,SNR=20								
comp=Z,9.1nm,0.8s								
MAJO	**Matsushiro**	**70.20**	**322**	P		**P**	**18 04 35.4**	**+0.3**
JOW	**Kunigami**	**70.90**	**308**	P		**P**	**18 04 39.7**	**+0.1**
comp=Z,9.7nm,0.8s,baz=171,slow=8.0,SNR=5.0								
comp=Z,9.7nm,0.8s								
QSPA	**South Pole Qui**	**71.50**	**180**	P		**P**	**18 04 43.1**	**+0.3**
QSPA	**South Pole Qui**	**71.50**	**180**	P		**P**	**18 04 43.0**	**+0.3**
comp=Z,6.7nm,0.7s,baz=9.1,slow=0.8,SNR=42								
comp=Z,6.7nm,0.7s								
QSPA	**South Pole Qui**	**71.50**	**180**	P		**P**	**18 04 43.3**	**+0.6**
JNU	**Nakatsue**	**72.64**	**315**	P		**P**	**18 04 49.8**	**-0.1**
comp=Z,14nm,0.8s,baz=133,slow=6.2,SNR=8.6								
comp=Z,14nm,0.8s								
ASAJ	**Asahikawa**	**73.27**	**330**	P		**P**	**18 04 54.3**	**+1.0**
comp=Z,9.6nm,0.8s,baz=169,slow=7.2,SNR=4.7								
comp=Z,9.6nm,0.8s								
YULB	**Yu-li**	**74.58**	**302**	P		**P**	**18 05 00.6**	**-0.7**
YULB				IAmb	IAmb		18 05 02.1	
comp=Z,114nm,2.0s								
NACB	**Ninganchiao**	**74.71**	**302**	IAmb	IAmb		18 05 03.6	
comp=Z,43nm,1.0s								
NACB	**Ninganchiao**	**74.71**	**302**	P		**P**	**18 05 03.0**	**+0.9**
TPUB	**Ta-pu**	**75.08**	**301**	P		**P**	**18 05 04.2**	**0.0**
PETK	**Petropavlovsk-**	**75.08**	**344**	P		**P**	**18 05 03.5**	**0.0**
comp=Z,2.8nm,0.6s,baz=97,slow=9.4,SNR=4.7								
comp=Z,2.8nm,0.6s								
LEM	**Lembang**	**75.61**	**268**	P		**P**	**18 05 07.8**	**+0.2**
comp=Z,24nm,0.7s,baz=139,slow=19,SNR=6.2								
comp=Z,24nm,0.7s								
KSM	**Kuching**	**75.66**	**276**	P		**P**	**18 05 06.4**	**-1.3**
KSM				IAmb	IAmb		18 05 09.1	
comp=Z,21nm,0.9s								
KSM	**Kuching**	**75.66**	**276**	P		**P**	**18 05 08.3**	**+0.6**
comp=Z,26nm,0.9s								
KSRS	**Korea Array**	**77.14**	**317**	P		**P**	**18 05 16.5**	**+1.0**
comp=Z,5.1nm,0.8s,baz=138,slow=6.4,SNR=16								
comp=Z,5.1nm,0.8s								
NVAR	**Mina Array Bea**	**77.90**	**42**	P		**P**	**18 05 20.8**	**+0.8**
comp=Z,0.6nm,0.7s,baz=229,slow=6.8,SNR=5.0								
comp=Z,0.6nm,0.7s								
MDJ	**Mudanjiang**	**80.41**	**324**	P		**P**	**18 05 34.8**	**+1.6**
MDJ				pmax	pmax			
comp=Z,11nm,0.9s								
MDJ				pmax	pmax			
comp=Z,97nm,6.1s								
NJ2	**Nanjing**	**80.61**	**308**	*e*P		**P**	**18 05 37.5**	**+3.0**
NJ2				pmax	pmax			
comp=Z,11nm,0.5s								
BNX	**BinXian**	**82.33**	**324**	⇑P		**P**	**18 05 44.0**	**+0.8**
BNX				pmax	pmax			
comp=Z,13nm,0.8s								
CN2	**Changchun**	**82.33**	**321**	*e*P		**P**	**18 05 44.5**	**+1.2**
CN2				pmax	pmax			
comp=Z,10.0nm,0.7s								
TIA	**Tai'an**	**83.85**	**311**	P		**P**	**18 05 52.1**	**+0.9**
TIA				pmax	pmax			
comp=Z,4.0nm,0.4s								
IPM	**Ipoh**	**85.39**	**276**	P		**P**	**18 05 59.1**	**-0.3**
ILAR	**Eielson Array**	**85.89**	**12**	P		**P**	**18 06 00.1**	**-0.6**
comp=Z,2.5nm,1.1s,baz=236,slow=6.8,SNR=10.0								
comp=Z,2.5nm,1.1s								
HNS	**HongShan**	**86.12**	**311**	⇓P		**P**	**18 06 03.8**	**+1.4**
HNS				pmax	pmax			
comp=Z,10.0nm,1.1s								
LYN	**LuoYang**	**86.51**	**308**	P		**P**	**18 06 05.8**	**+1.4**
LYN				pmax	pmax			
comp=Z,17nm,0.5s								
ENH	**Enshi**	**87.06**	**303**	IAmb	IAmb		18 06 09.7	
comp=Z,60nm,1.7s								
GYA	**Guiyang**	**87.90**	**299**	P		**P**	**18 06 12.4**	**+1.0**
GYA				pP	pwP		18 07 11.1	+6.6
GYA				pmax	pmax			
comp=Z,9.0nm,1.2s								
TROLL	**Troll, Antarti**	**89.65**	**179**	⇑P		**P**	**18 06 18.0**	**-0.8**
comp=Z,53nm,0.5s								
HHC	**Hu-ho-hao-te**	**89.82**	**313**	*e*P		**P**	**18 06 22.1**	**+2.0**
HHC				pmax	pmax			
comp=Z,12nm,0.5s								
HHC				pmax	pmax			
comp=Z,52nm,4.0s								
SNAA	**Sanae**	**89.86**	**178**	⇑P		**P**	**18 06 18.8**	**-0.9**
comp=Z,18nm,0.7s								
SNAA	**Sanae**	**89.86**	**178**	P		**P**	**18 06 18.6**	**-1.1**
comp=Z,0.5nm,0.7s,baz=191,slow=8.1,SNR

ABTA	Abfaltersbach	151.15	349	*i* PKP	PKPbc	18 13 13.0	-0.5
	comp=Z,5.5nm,0.6s						
FETA	Feichten	151.18	351	*i* PKP	PKiKP	18 13 13.9	-0.2
	comp=Z,2.7nm,0.8s						
FUORN	Ofenpass-Fuorn	151.63	352		PKPbc	18 13 14.8	0.0
ESDC	Sonseca Array	157.67	18	PKP	PKPdf	18 13 14.2	-2.5
	comp=Z,0.2nm,0.3s,baz=341,slow=2.7,SNR=2.0						
ESDC				PKPab	PKPab	18 13 50.1	+0.2
	comp=Z,0.2nm,0.4s,baz=336,slow=2.8,SNR=4.0						

UCR 12 18:15:37.9±1.0, 8°70N×83°32W, h30km±4km, MW3.6, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIME	Puerto Jimenez	0.16	181	*e*P	Pb	18 15 43.5	-0.2
PTJ1	Puerto Jimnez	0.16	173	*e*P	Pb	18 15 43.4	-0.3
PTJ1				*e*S	Sb	18 15 48.5	+0.9
BURE	Buenos Aires	0.47	358	*e*P	Pb	18 15 47.7	-0.2
DRK0	Durika	0.57	8	*e*P	Pb	18 15 48.7	-0.8
BRU2	Volcan	0.63	81	*e*P	Pb	18 15 50.0	-0.6
BUS1	Rivas	0.95	334	*e*P	Pn	18 15 54.8	-0.8
LCR2	La Lucha 2	1.24	327	*e*P	Pn	18 15 59.4	0.0

IDC 12 18:24:18.4±4.4, 15°29S×176°82W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=194.6km s-min=33.5km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.25	239	P	P	18 32 06.5	+1.0
	0.4nm,0.3s,baz=86,slow=15,SNR=1.3						
	0.4nm,0.3s						
WRA	Warramunga Arr	46.66	257	P	P	18 32 48.7	-0.4
	0.5nm,0.7s,baz=94,slow=7.6,SNR=13						
	0.5nm,0.7s						
ASAR	Alice Springs	47.01	252	P	P	18 32 51.3	-0.5
	2.4nm,0.4s,baz=89,slow=7.8,SNR=118						
	2.4nm,0.4s						
ILAR	Eielson Array	83.01	12	P	P	18 36 45.1	0.0
	0.2nm,0.6s,baz=221,slow=5.1,SNR=5.8						
	0.2nm,0.6s						

*VAO **12** 18:29:06.8±0.7, 21°29S×69°22W, h79km±5km, mb4.9*
*SJA **12** 18:29:13.4±0.7, 21°11S×68°95W, h117km±5km, ML4.5, MW4.3*
*NEIC **12** 18:29:14.4±1.5, 21°08S±0°04×68°95W±0°07, h113km±5km, mb4.5/52, Error ellipse: s-maj=9.8km s-min=5.7km az=76.0*
*IDC **12** 18:29:15.2±0.5, 20°95S×68°62W, h118km±4km, mb4.0/10, mbtmp4.4/13, MS3.2/3, Error ellipse: s-maj=15.1km s-min=12.1km az=78.0*
*GUC **12** 18:29:15.2±0.6, 21°11S×68°96W, h112km±3km, ML4.5*
ISC 12 18:29:13.7±0.4, 21°06S±0°03×68°81W±0°04, h114km±3km, h115km; pP-P, n188, σ164/203, mb4.3/31, 18C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.63	271		Pn	18 29 31.6	-0.6
PB01	IPOC Station P	0.63	271	⇑*i*P	Pn	18 29 31.7	-0.4
PB01				*e*S	Sn	18 29 44.5	-1.4
PB01				IAML		18 29 46.0	
	comp=E,35μm,0.4s						
PB01	IPOC Station P	0.63	271	*e*P	Pn	18 29 31.6	-0.4
PB01				*e*S	Sn	18 29 45.2	-0.7
PB01				IAML		18 29 45.7	
	comp=Z,10μm,0.2s						
PB09	IPOC Station P	0.84	209	Pn	Pn	18 29 33.6	-0.4
PB09				Sn	Sn	18 29 49.1	-0.1
PB09	IPOC Station P	0.84	209	⇑*e*P	Pn	18 29 34.0	0.0
PB09				*e*S	Sn	18 29 48.6	-0.6
PB09	IPOC Station P	0.84	209	*e*P	Pn	18 29 33.4	-0.5
PB09				IAML		18 29 50.2	
	comp=Z,7μm,0.6s						
PB08	IPOC Station P	0.97	340	Pn	Pn	18 29 36.4	+1.0
PX03	IPOC Station P	1.01	310	*e*P	Pn	18 29 35.0	-0.5
PX03				*e*S	Sn	18 29 51.3	-0.6
PX03				IAML		18 29 53.8	
	comp=N,20μm,0.1s						
TA01	Diego Aracena	1.37	291		Pn	18 29 38.6	-0.7
TA01	Diego Aracena	1.37	291	⇑*e*P	Pn	18 29 38.7	-0.7
TA01				*e*S	Sn	18 29 57.0	-1.8
TA01				IAML		18 29 57.8	
	comp=N,12μm,0.2s						
TA01	Diego Aracena	1.37	291	*e*P	Pn	18 29 38.0	-1.3
TA01				*e*S	Sn	18 29 57.7	-1.0
TA01				IAML		18 29 59.1	
	comp=Z,4μm,0.3s						
GO01	Chusmiza	1.43	345	Pn	Pn	18 29 41.4	+0.9
GO01	Chusmiza	1.43	345	*e*P	Pn	18 29 41.6	+1.1
GO01				*e*S	Sn	18 30 02.3	+1.6
GO01				IAML		18 30 03.7	
	comp=N,7μm,0.2s						
GO01	Chusmiza	1.43	345	*e*P	Pn	18 29 41.9	+1.4
GO01				*e*S	Sn	18 30 03.6	+2.9
TA02	Huaiquique	1.47	302	Pn	Pn	18 29 39.7	-0.7
TA02				Sn	Sn	18 29 59.2	-1.4
TA02	Huaiquique	1.47	302	⇑*e*P	Pn	18 29 39.8	-0.6
TA02				*e*S	Sn	18 29 59.2	-1.4
TA02	Huaiquique	1.47	302	*e*P	Pn	18 29 39.9	-0.4
TA02				*e*S	Sn	18 30 00.5	-0.1
TA02				IAML		18 30 03.2	
	comp=Z,5μm,0.1s						
PB11	IPOC Station P	1.51	328	Pn	Pn	18 29 41.3	+0.2
PB11	IPOC Station P	1.51	328	⇑*e*P	Pn	18 29 41.5	+0.3
PB11				*e*S	Sn	18 30 01.9	-0.1
PB11				IAML		18 30 03.9	
	comp=N,10μm,0.2s						
PB11	IPOC Station P	1.51	328	*e*P	Pn	18 29 40.8	-0.4
PB11				*e*S	Sn	18 30 02.6	+0.7
PB11				IAML		18 30 03.5	
	comp=Z,5μm,0.7s						
PB04	IPOC Station P	1.78	224		Pn	18 29 43.3	-1.1
PB04	IPOC Station P	1.78	224	⇑*e*P	Pn	18 29 43.5	-0.9
PB04				*e*S	Sn	18 30 04.9	-2.8
PB04				IAML		18 30 13.0	
	comp=E,4μm,0.4s						
PB04	IPOC Station P	1.78	224	*e*P	Pn	18 29 38.0	-6.4
PB04				*e*P		18 29 43.5	
PB04				*e*S	Sn	18 30 05.7	-2.1
PB04				IAML		18 30 11.1	
	comp=Z,3μm,0.9s						
PB06	IPOC Station P	1.79	203	Pn	Pn	18 29 43.9	-0.5
PB06	IPOC Station P	1.79	203	⇑*e*P	Pn	18 29 44.1	-0.3
PB06				*e*S	Sn	18 30 06.3	-1.5
PB06				IAML		18 30 07.4	
	comp=E,5μm,0.4s						
PB06	IPOC Station P	1.79	203	*e*P	Pn	18 29 44.2	-0.2
PB06				*e*S	Sn	18 30 06.9	-1.0
PB06				IAML		18 30 11.2	
	comp=Z,3μm,0.4s						
AF01	San Pedro de A	1.98	163	Pn	Pn	18 29 47.5	+0.6
AF01	San Pedro de A	1.98	163	*e*P	Pn	18 29 48.5	+1.6
AF01				*e*S	Sn	18 30 13.7	+1.5
AF01				IAML		18 30 50.5	
	comp=E,3μm,0.6s						
PB15	IPOC Station P	2.23	196	Pn	Pn	18 29 49.7	-0.3
PB15	IPOC Station P	2.23	196	⇑*e*P	Pn	18 29 49.8	-0.3
PB15				*e*S	Sn	18 30 16.7	-1.2
PB15	IPOC Station P	2.23	196	*e*P	Pn	18 29 50.1	+0.1
PB15				*e*S	Sn	18 30 16.6	-1.2
PB15				IAML		18 30 21.6	
	comp=Z,5μm,0.4s						
PX02	IPOC Station P	2.46	328	*e*P	Pn	18 29 51.5	-1.4
AP01	Chacalluta	3.04	331	Pn	Pn	18 29 59.4	-1.0
AP01	Chacalluta	3.04	331	*e*P	Pn	18 30 00.6	+0.3
AP01				*e*S	Sn	18 30 29.8	-6.5
AP01				IAML		18 30 52.9	
	comp=N,2μm,0.7s						
AP01	Chacalluta	3.04	331	*e*P	Pn	18 30 00.0	-0.3
AP01				IAML		18 31 06.0	
	comp=Z,586nm,0.3s						
YJA	Yavi	3.26	111	*e*P	Pn	18 30 01.7	-2.0
YJA				*e*S	Sn	18 30 43.2	+1.0
PB18	Visviri	3.51	349		Pn	18 30 05.7	-1.5
PB14	IPOC Station P	3.85	202	Pn	Pn	18 30 08.6	-2.8
PB14	IPOC Station P	3.85	202	*e*P	Pn	18 30 09.4	-2.0
PB14				*e*S	Sn	18 30 39.3	-17
PB14	IPOC Station P	3.85	202	*e*P	Pn	18 30 09.6	-1.8
PB14				*e*S	Sn	18 30 52.7	-3.3
PB14				IAML		18 31 19.8	
	comp=Z,426nm,0.7s						
GO02	Mina Guanaco	4.15	190	Pn	Pn	18 30 13.8	-1.6
GO02	Mina Guanaco	4.15	190	*e*P	Pn	18 30 14.7	-0.8
GO02	Mina Guanaco	4.15	190	*e*P	Pn	18 30 14.6	-0.9
LPAZ	La Paz	4.79	8	Pn	Pn	18 30 25.3	+1.0
LPAZ	La Paz	4.79	8	P	Pn	18 30 22.6	-1.8
	comp=Z,0.9nm,0.4s,baz=2.2,slow=2.9,SNR=3.1						
LPAZ				S	Sn	18 31 11.4	-7.7
	comp=Z,67nm,1.1s,baz=210,slow=2.2,SNR=3.7						
LPAZ	La Paz	4.79	8	*e*P	Pn	18 30 28.2	+3.9
LPAZ	La Paz	4.79	8	*e*P	Pn	18 30 27.8	+3.4
AC01	Pan de Azucar	5.33	198	Pn	Pn	18 30 28.4	-2.7
AC01	Pan de Azucar	5.33	198	*e*P	Pn	18 30 28.0	-3.0
AC06	Mina Casimiro	6.43	192	Pn	Pn	18 30 42.7	-3.3
GO03	Copiapo	6.64	191	Pn	Pn	18 30 45.9	-2.9
FDPY	Filadelfia	8.33	100	*e*P	Pn	18 31 09.5	-2.2
BBSD	Serra de San D	8.65	65	*e*P	Pn	18 31 14.0	-2.1
SIV	San Ignacio	8.90	57	P	Pn	18 31 18.0	-1.5
	comp=Z,92nm,0.7s,baz=243,slow=11,SNR=233						
SIV				S	Sn	18 32 53.3	-4.8
	comp=Z,2.6nm,0.6s,baz=319,slow=17,SNR=1.1						
CO01	Juntas del Tor	8.96	187	Pn	Pn	18 31 16.4	-4.0
GO04	Tololo Observa	9.25	191	Pn	Pn	18 31 19.9	-4.5
CO06	Fray Jorge	9.91	194	Pn	Pn	18 31 26.5	-6.5
PTLB	Pontes e Lacer	10.75	60	Pn	Pn	18 31 43.6	-0.8
PTLB	Pontes e Lacer	10.75	60	*e*P	Pn	18 31 43.1	-1.4
VILB	Vilhena	11.52	47	Pn	Pn	18 31 54.1	-0.7
VILB	Vilhena	11.52	47	*e*P	Pn	18 31 53.9	-0.9
CPUP	Villa Florida	11.75	119	Pn	Pn	18 31 56.0	-1.9
CPUP	Villa Florida	11.75	119	P	Pn	18 31 56.2	-1.6
	comp=Z,4.9nm,0.8s,baz=291,slow=11,SNR=10						
AQDB	Aquidauana	12.28	90	Pn	Pn	18 32 02.0	-2.7
AQDB	Aquidauana	12.28	90	*e*P	Pn	18 32 02.9	-1.9
SJPY	San Joaquin	12.34	111	*e*P	Pn	18 32 02.2	-3.4
AMBA	Amambai (Brazi	12.95	101	*e*P	Pn	18 32 11.3	-2.3
SAML	Samuel	13.20	25		Pn	18 32 13.3	-3.5
SAML	Samuel	13.20	25	*e*P	Pn	18 32 13.4	-3.5
SALV	Santo Antonio	13.45	70	*e*P	Pn	18 32 19.5	-0.6
RPRD	Ribas do Rio P	14.14	90	*e*P	Pn	18 32 28.3	-0.8
PDRB	Porto dos Gac	14.91	53	*e*P	Pn	18 32 37.8	-1.0
C2SB	Chapadao do Su	15.19	84	*e*P	Pn	18 32 42.7	+0.4
H03N1	Juan Fernandez	15.25	214	T	T	18 48 13.5	
	baz=34,slow=72,SNR=10						
H03N2	Juan Fernandez	15.26	214	T	T	18 48 03.2	
	baz=34,slow=72,SNR=4.2						
H03N3	Juan Fernandez	15.27	214	T	T	18 48 14.4	
	baz=34,slow=72,SNR=5.4						
BI02	San Fabin de	15.70	187	Pn	Pn	18 32 48.2	-0.4
PTGB	Pitanga	15.85	106	*e*P	Pn	18 32 49.8	-0.8
CLDB	Colider	16.08	53	*e*P	Pn	18 32 53.5	+0.1
ITAB	Concordia	16.41	115	Pn	P	18 32 57.4	-0.6
ITAB				IAmb	IAmb	18 33 00.2	
	comp=Z,46nm,0.9s						
ITAB	Concordia	16.41	115	*e*P	Pn	18 32 56.2	-1.1
LDASE	Londrina, Braz	16.55	101	*e*P	P	18 32 59.2	-0.5
CPSB	Cacapava Do Su	16.67	127	*e*P	Pn	18 32 57.6	-2.9
ARAG	Araguaiana, MT	16.98	75	*e*P	P	18 33 04.5	0.0
ITRB	Iturama	17.35	89	*e*P	Pn	18 33 08.6	-0.3
TRQA	Tornquist	17.94	162		Pn	18 33 14.9	-1.0
FRTB	Fartura	17.97	101	*e*P	Pn	18 33 15.5	-0.9
BB19B	Bebedouro	18.93	94	*e*P	P	18 33 25.5	-0.4
SNDB	Serra Nova Dou	19.05	64	*e*P	P	18 33 27.4	+0.2
NPGB	Novo Progresso	19.06	45	*e*P	P	18 33 25.9	-1.4
LR05	Currie	19.31	187	P	Pn	18 33 30.6	-1.3
LR05				IAmb	IAmb	18 34 09.5	
	comp=Z,26nm,1.2s						
TER01	Tubaro-SC	19.34	117	*e*P	P	18 33 29.9	-0.4
MACA	Manacapuru-AM	19.47	25	P	P	18 33 32.0	+0.3
MACA	Manacapuru-AM	19.47	25	*e*P	P	18 33 32.2	+0.5
IPMB	Ipameri, GO	19.65	85	*e*P	P	18 33 34.2	+0.5
PLCA	Paso Flores	19.67	184	Pn	Pn	18 33 37.9	+1.6
PLCA	Paso Flores	19.67	184	P	Pn	18 33 38.0	+1.7
	comp=Z,5.6nm,0.7s,baz=3.5,slow=11,SNR=20						
PLCA	Paso Flores	19.67	184	*e*P	P	18 33 24.3	-9.5
RCLB	Rio Claro- Sao	19.81	98	*e*P	P	18 33 35.5	0.0
SPB	Sao Paulo	19.93	101	P	P	18 33 36.0	-0.7
SPB				IAmb	IAmb	18 33 41.8	
	comp=Z,70nm,1.5s						
SPB	Sao Paulo	19.93	101	*e*P	P	18 33 37.4	+0.7
LL04	Puerto Octay	20.03	188	P	P	18 33 37.3	-0.2
LL04				IAmb	IAmb	18 33 38.9	
	comp=Z,18nm,1.1s						
VAO	Valinhos	20.34	100	P	P	18 33 39.9	-1.2
VAO	Valinhos	20.34	100	*e*P	P	18 33 40.2	-1.0
BDFB	Brasilia	20.45	78	P	P	18 33 41.9	-0.5
BDFB				IAmb	IAmb	18 33 47.0	
	comp=Z,21nm,0.6s						
BDFB	Brasilia	20.45	78	P	P	18 33 42.9	+0.4
	comp=Z,18nm,0.5s,baz=258,slow=10,SNR=14						
	comp=Z,18nm,0.5s						
ITTB	Itaituba	20.90	39	*e*P	P	18 33 45.9	-1.1
COHC	Cochancay	21.10	330	P	P	18 33 50.2	+1.0
PMNB	Patos De Minas	21.20	87	*e*P	P	18 33 50.1	-0.3
PARB	Paraibuna	21.59	100	*e*P	P	18 33 55.6	+1.1
BSCB	Bom Sucesso	22.43	94	*e*P	P	18 34 02.6	-0.7
PRPB	Parauapebas	23.61	54	*e*P	P	18 34 13.6	-1.0
SMTB	Santa Maria do	23.78	63	*e*P	P	18 34 16.9	+0.8
DIAM	Diamantina, MG	23.82	88	*e*P	P	18 34 17.6	+1.0
JANB	Januaria	24.03	80	*e*P	P	18 34 18.8	+0.4
SDBA	SAO DESIDERIO	24.43	73	*e*P	P	18 34 22.8	+0.8
BOAV	Boa Vista	24.68	20	P	P	18 34 25.2	+1.1
BOAV				IAmb	IAmb	18 34 27.2	
	comp=Z,12nm,0.8s						
BOAV	Boa Vista	24.68	20	*e*P	P	18 34 22.1	-2.1
CAM01	Campos-RJ	25.27	97	*e*P	P	18 34 30.0	+0.5
ALF01	Guarapari-ES	26.24	94	*e*P	P	18 34 37.3	-0.9
ROSC	El Rosal	26.30	348	P	P	18 34 40.5	+1.2
	comp=Z,4.7nm,0.5s,baz=110,slow=19,SNR=2.0						
	comp=Z,4.7nm,0.5s						
NAN01	Guarapari, ES	27.22	88	*e*P	P	18 34 47.9	+0.8
TMAB	Tom-Au,PA,Br	27.43	50	*e*P	P	18 34 49.8	+0.9
GUA01	Guaratinga, BA	27.79	86	*e*P	P	18 34 52.8	+0.6
GDU01	Guandu, BA	28.80	80	*e*P	P	18 35 00.6	-0.6
NBMA	Muriti-CE	32.07	69	*e*P	P	18 35 29.1	-0.9
NBPB	Pedra_Branca-C	32.26	66	*e*P	P	18 35 32.5	+0.8
RCBR	Riachuelo	35.29	69	P	P	18 35 58.2	+0.2
RCBR	Riachuelo	35.29	69	LR	LR	18 51 32.8	
	comp=Z,27nm,18.7s,baz=241,slow=38						
RCBR	Riachuelo	35.29	69	*e*P	P	18 35 58.2	+0.2
MTO3	Montecristo	40.61	328	P	P	18 36 44.1	+1.4
MTO3				IAmb	IAmb	18 36 45.5	
	comp=Z,9.0nm,1.0s						
346A	Big Creek Wild	55.78	339	P	P	18 38 37.8	-1.1
X48A	Hartselle	57.86	342	P	P	18 38 53.8	+0.3
TXAR	Lajitas Array	60.32	325	P	P	18 39 11.4	+0.7
	comp=Z,0.9nm,0.7s,baz=147,slow=10,SNR=2.5						
TXAR				pP	pP	18 39 39.2	-0.2
	comp=Z,0.7nm,0.6s,baz=121,slow=9.8,SNR=2.7						
	comp=Z,0.9nm,0.7s						
VNA3	Neumayer Olymp	60.46	161	⇑P	P	18 39 12.1	+1.1
	comp=Z,1.3nm,0.9s						
VNA3				⇑pP	pP	18 39 41.5	+1.5
	comp=Z,2.0nm,0.8s						
VNA1	Neumayer--Stat	60.67	161	⇑P	P	18 39 11.8	-0.6
	comp=Z,3.2nm,0.8s						
VNA1				⇑pP	pP	18 39 36.2	-5.1
	comp=Z,6.5nm,1.3s						
VNA2	Neumayer--Watz	61.04	161	⇑P	P	18 39 15.9	+0.9
	comp=Z,1.3nm,0.8s,baz=279,slow=5.9						
VNA2				⇑pP	pP	18 39 45.0	+1.0
	comp=Z,1.8nm,0.8s,baz=291,slow=3.9						
MNHN	Monahans	61.44	327	P	P	18 39 18.7	+0.5
MNHN				IAmb	IAmb	18 39 48.0	
	comp=Z,6.7nm,0.9s						
VHRN	Van Horn	62.16	325	P	P	18 39 24.3	+1.1
VHRN				IAmb	IAmb	18 39 24.6	
	comp=Z,4.3nm,0.6s						
CCM	Cathedral Cave	62.47	340	P	P	18 39 25.2	+0.3
SNAA	Sanae	62.67	161	P	P	18 39 27.1	+1.2
SNAA				IAmb	IAmb	18 40 10.3	
	comp=Z,7.3nm,1.1s						
SNAA	Sanae	62.67	161	⇑P	P	18 39 26.8	+0.9
	comp=Z,33nm,0.7s						
SNAA				⇑pP	pP	18 39 54.9	-0.2
	comp=Z,45nm,0.8s						
SNAA	Sanae	62.67	161	P	P	18 39 26.6	+0.7
	comp=Z,1.5nm,0.8s,baz=265,slow=6.2,SNR=9.1						
SNAA				pP	pP	18 39 56.1	+1.1
	comp=Z,3.8nm,1.1s,baz=270,slow=6.2,SNR=5.5						
SNAA				sP	sP	18 40 08.4	+0.4
	comp=Z,3.9nm,1.0s,baz=281,slow=7.3,SNR=5.3						
	comp=Z,1.5nm,0.8s						
S39A	Bolivar	62.83	338	P	P	18 39 27.9	+0.6
TROLL	Troll, Antarti	64.38	161	⇑P	P	18 39 38.6	+1.3
	comp=Z,48nm,0.5s						
TROLL				⇑pP	pP	18 40 07.0	+0.4
	comp=Z,122nm,0.9s						
SDCO	Great Sand Dun	67.92	329	IAmb	IAmb	18 40 03.0	
	comp=Z,9.2nm,1.4s						
DBIC	Dimbokro	68.52	74	P	P	18 40 04.7	+0.4
DBIC				IAmb	IAmb	18 40 05.9	
	comp=Z,11nm,1.0s						
DBIC	Dimbokro	68.52	74	P	P	18 40 04.6	+0.2
	comp=Z,5.8nm,0.8s,baz=241,slow=4.5,SNR=5.9						
	comp=Z,5.8nm,0.8s						
Q24A	Divide	68.72	330	IAmb	IAmb	18 40 08.0	
	comp=Z,5.0nm,1.0s						
QSPA	South Pole Qui	69.13	180	P	P	18 40 09.1	+1.6
	comp=Z,3.3nm,0.8s,baz=138,slow=0.6,SNR=8.7						
QSPA				pP	pP	18 40 38.1	+1.0
	comp=Z,2.9nm,0.9s,baz=138,slow=5.1,SNR=4.5						
	comp=Z,3.3nm,0.8s						
CBX	Cerro Bola	70.08	318	P	P	18 40 11.7	-2.0
KNB	Kanab	71.12	324	IAmb	IAmb	18 40 24.0	
	comp=Z,9.9nm,1.0s						
SRU	San Rafael Swe	71.46	327	IAmb	IAmb	18 40 24.7	
	comp=Z,5.9nm,0.8s						
Q16A	Castle Valley	71.64	326	IAmb	IAmb	18 40 27.0	
	comp=Z,6.1nm,0.7s						
P18A	Preston Nutter	71.71	327	IAmb	IAmb	18 40 26.7	
	comp=Z,5.2nm,0.7s						
GWY	Greenwater Val	72.72	321	IAmb	IAmb	18 40 32.6	
	comp=Z,4.7nm,0.9s						
TPNV	Topopah Spring	73.00	322	IAmb	IAmb	18 40 35.0	
	comp=Z,6.1nm,1.0s						
R11B	Troy Canyon, C	73.61	323	IAmb	IAmb	18 40 38.4	
	comp=Z,6.0nm,1.4s						
PDAR	Pinedale Array	73.78	330	P	P	18 40 36.5	+0.8
	comp=Z,0.7nm,0.8s,baz=131,slow=4.5,SNR=4.9						
PDAR				pP	pP	18 41 07.7	+2.0
	comp=Z,0.4nm,0.6s,baz=130,slow=9.6,SNR=2.9						
	comp=Z,0.7nm,0.8s						
HWUT	Hardware Ranch	73.86	328	IAmb	IAmb	18 40 40.0	
	comp=Z,3.3nm,0.8s						
ULM	Lac du Bonnet	74.92	342	P	P	18 40 41.4	-0.5
	comp=Z,4.0nm,0.7s,baz=158,slow=4.5,SNR=5.0						
	comp=Z,4.0nm,0.7s						
OMMB	Old Mammoth Mi	75.06	321	IAmb	IAmb	18 40 46.9	
	comp=Z,5.0nm,1.1s						
NVAR	Mina Array Bea	75.20	322	P	P	18 40 45.6	+1.6
	comp=Z,1.3nm,0.8s,baz=151,slow=7.1,SNR=7.9						
NVAR				pP	pP	18 41 15.3	+1.6
	comp=Z,0.9nm,0.8s,baz=148,slow=7.1,SNR=2.9						
	comp=Z,1.3nm,0.8s						
YNE	Yellowstone No	75.71	331	IAmb	IAmb	18 40 49.8	
	comp=Z,8.7nm,0.9s						
HLID	Hailey	76.72	328	IAmb	IAmb	18 40 56.0	
	comp=Z,4.8nm,1.0s						
TORD	Torodi Ar. Bea	77.12	70	P	P	18 40 55.2	0.0
TORD				IAmb	IAmb	18 41 02.6	
	comp=Z,6.7nm,0.7s						
TORD	Torodi Ar. Bea	77.12	70	P	P	18 40 55.1	-0.1
	comp=Z,4.5nm,0.8s,baz=260,slow=4.8,SNR=20						
TORD				pP	pP	18 41 24.9	-0.5
	comp=Z,1.7nm,0.6s,baz=259,slow=4.9,SNR=2.2						
TORD				sP	sP	18 41 37.8	-0.4
	comp=Z,3.4nm,0.8s,baz=262,slow=5.0,SNR=3.2						
	comp=Z,4.5nm,0.8s						
PLID	Pearl Lake	78.61	328	IAmb	IAmb	18 41 05.9	
	comp=Z,5.0nm,1.0s						
MDT	Midelt	81.39	50	LR	LR	19 18 18.7	
	comp=Z,21nm,18.2s,baz=354,slow=36						
LBTB	Lobatse	85.12	115	LR	LR	19 19 03.9	
	comp=Z,11nm,18.2s,baz=250,slow=35						
ESDC	Sonseca Array	85.45	44	P	P	18 41 43.1	+4.4
	comp=Z,1.0nm,1.0s,baz=236,slow=4.3,SNR=3.4						
H11S2	WAKE ISLAND Hyl	27.92	277	T	T	21 08 13.1	
	baz=102,slow=74,SNR=49						
H11S1	WAKE ISLAND Hyl	27.92	277	T	T	21 08 15.0	
	baz=102,slow=74,SNR=34						
H11S3	WAKE ISLAND Hyl	27.93	277	T	T	21 08 14.3	
	baz=102,slow=74,SNR=36						
H11N3	WAKE ISLAND Hyl	27.98	279	T	T	21 08 12.7	
	baz=103						
H11N2	WAKE ISLAND Hyl	28.00	279	T	T	21 08 13.4	
	baz=103						
H11N1	WAKE ISLAND Hyl	28.00	279	T	T	21 08 12.1	
	baz=103						
ASAR	Alice Springs	130.35	208	PKP	PKiKP	18 48 12.3	0.0
	comp=Z,1.0nm,1.0s,baz=131,slow=1.7,SNR=6.2						
WRA	Warramunga Arr	133.38	211	PKP	PKPdf	18 48 16.6	-0.6
	comp=Z,0.4nm,0.7s,baz=173,slow=1.7,SNR=5.1						
WRA				pPKP	pPKPd

	comp=E,1μm,0.1s						
W35A	Tecumseh	1.25	180		Pg	18 39 41.8	-0.9
W35A				IAML		18 40 03.0	
	comp=N,567nm,0.3s						
KAN12	Harper NE Stat	1.27	315		Pg	18 39 42.6	-0.5
RLO	Rose Lookout	1.51	98		Pn	18 39 46.3	-0.2
CSTR	Hydro, Custer	1.65	243		Pn	18 39 48.0	-0.5
NOKA	Waynoka	1.67	279		Pn	18 39 49.1	+0.3
X34A	Smith Ranch, M	1.96	204		Pn	18 39 52.2	-0.4
X34A				IAmb_Lg		18 40 24.1	
	comp=Z,72nm,0.7s						
U38A	Gravette	2.01	88		Pn	18 39 53.2	-0.2
ELIS	Ellis County	2.08	261		Pb	18 39 56.2	-0.9
X37A	Clayton	2.19	145		Pn	18 39 56.7	+0.9
X37A				IAmb_Lg		18 40 32.5	
	comp=Z,85nm,0.7s						
WMOK	Wichita Mounta	2.27	224		Pn	18 39 57.0	0.0
HHAR	Hobbs	2.37	92		Pn	18 39 59.4	+1.0
LOOK	Love County	2.42	186		Pn	18 39 58.7	-0.3
R32A	Long Quarter,	2.49	325	Pn	Pb	18 40 02.7	-1.4
KSU1	Kansas State U	2.70	4		Pb	18 40 05.6	-2.0
WTFS	Witchita Falls	2.94	207		Pn	18 40 08.7	+2.6
S39A	Bolivar	3.12	65	IAmb_Lg		18 41 02.9	
	comp=Z,52nm,0.8s						
MIAR	Mount Ida	3.27	124	IAmb_Lg		18 41 11.2	
	comp=Z,41nm,0.7s						
FW06	Azle	3.47	190	IAmb_Lg		18 41 15.4	
	comp=Z,37nm,0.9s						
Z38A	Mt. Pleasant	3.50	153	IAmb_Lg		18 41 15.8	
	comp=Z,45nm,0.8s						
MGMO	Mountain Grove	3.77	77	IAmb_Lg		18 41 18.7	
	comp=Z,29nm,0.8s						
FCAR	Ozark Folk Cen	3.88	96		Pn	18 40 19.1	+0.1
WHAR	Wooly Hollow	3.89	105		Pn	18 40 20.1	+1.0
WHAR				IAmb_Lg		18 41 23.1	
	comp=Z,48nm,0.8s						
UALR	University of	4.03	112	IAmb_Lg		18 41 34.3	
	comp=Z,36nm,0.8s						
WLAR	White Oak Lake	4.11	130	IAmb_Lg		18 41 38.9	
	comp=Z,32nm,0.8s						
AMTX	Amarillo	4.20	250	IAmb_Lg		18 41 33.0	
	comp=Z,36nm,0.8s						
ABTX	Abilene, Hawle	4.41	212	IAmb_Lg		18 41 40.9	
	comp=Z,26nm,0.9s						
Z41A	Richland Creek	4.59	132	IAmb_Lg		18 41 55.0	
	comp=Z,23nm,0.8s						
SN07	Snyder 07	4.67	226	IAmb_Lg		18 41 56.8	
	comp=Z,22nm,0.8s						
CCM	Cathedral Cave	4.79	68	IAmb_Lg		18 41 50.8	
	comp=Z,47nm,0.8s						
SN05	Snyder 5	4.83	224	IAmb_Lg		18 41 52.6	
	comp=Z,27nm,0.9s						
BGNE	Belgrade	5.10	349	IAmb_Lg		18 42 07.9	
	comp=Z,39nm,0.8s						
KSCO	Kaye Shedlock'	5.25	301	IAmb_Lg		18 42 17.7	
	comp=Z,22nm,0.7s						
FVM	French Village	5.38	71	IAmb_Lg		18 42 08.6	
	comp=Z,22nm,0.7s						
SGCY	Sterling City	5.70	219	IAmb_Lg		18 42 30.8	
	comp=Z,33nm,0.9s						
143A	Socs Landing,	5.83	128	IAmb_Lg		18 42 38.5	
	comp=Z,26nm,0.8s						
CGM3	Cape Girardeau	5.86	79	IAmb_Lg		18 42 24.6	
	comp=Z,20nm,0.8s						
OGNE	Ogallala	6.07	320	IAmb_Lg		18 42 34.5	
	comp=Z,24nm,0.8s						
SCIA	State Center	6.19	26	IAmb_Lg		18 42 52.9	
	comp=Z,25nm,0.7s						
SIUC	Southern Illin	6.26	76	IAmb_Lg		18 42 45.9	
	comp=Z,24nm,0.7s						
JCT	Junction City	6.39	203	IAmb_Lg		18 42 57.5	
	comp=Z,20nm,0.8s						
OZNA	Ozona	6.51	214	IAmb_Lg		18 42 54.8	
	comp=Z,16nm,1.0s						
K30B	Basset	6.61	342	IAmb_Lg		18 42 59.2	
	comp=Z,26nm,0.7s						
SAND	Sanderson	7.79	216	IAmb_Lg		18 43 40.7	
	comp=Z,19nm,1.2s						
N23A	Red Feather La	8.39	305	IAmb_Lg		18 43 49.8	
	comp=Z,22nm,0.8s						
RSSD	Black Hills	9.45	327	IAmb_Lg		18 44 29.5	
	comp=Z,9.1nm,0.9s						

*IDC **12** 18:47:00.1±0.9, 37°.73N×20°.49E, h0km, mb3.6/9, mbtmp3.6/19, ML3.6/8, MS2.8/1, Error ellipse: s-maj=18.8km s-min=14.2km az=0.0*
*THE **12** 18:47:01.8, 37°.57N×20°.40E, h1km±2km, ML3.5/8, Error ellipse: s-maj=3.2km s-min=0.6km az=237.0*
*BEO **12** 18:47:01.9±0.7, 37°.68N×20°.13E, h0km, ML3.5/13*
*ATH **12** 18:47:01.7, 37°.57N×20°.39E, h8km±2km, ML3.5/11, Error ellipse: s-maj=3.6km s-min=1.1km az=41.0*

ISC 12 18:47:02.6±1.0, 37°.63N±0°.03×20°.46E±0°.04, h18km±5km, n96, σ1°61/113, mb3.6/11, 10C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.29	83	P	Pg	18 47 08.6	-0.3
KRI1				S	Sg	18 47 13.3	+0.1
	32μm,0.6s						
LTHK	Lithakia	0.31	75	P	Pg	18 47 09.1	-0.2
LTHK				S	Sg	18 47 14.0	+0.1
	22μm,0.5s						
LTHK	Lithakia	0.31	75	P	Pg	18 47 08.9	-0.4
LTHK				S	Sg	18 47 14.1	+0.3
LTHK				AML	AML	18 47 15.5	
	comp=E,61186μm,0.5s						
LTHK				AML	AML	18 47 18.2	
	comp=N,21502μm,0.3s						
PSDA	Pessada-Kefalo	0.49	12	P	Pb	18 47 12.4	-0.4
PSDA	Pessada-Kefalo	0.49	12	P	Pb	18 47 12.5	-0.2
PSDA				S	Sb	18 47 19.7	+0.1
RTZL	Ratzakli, Kefa	0.51	29	P	Pb	18 47 12.6	-0.4
RTZL				S	Sb	18 47 21.8	+1.7
	comp=N,3μm,0.6s						
VLS	Valsamata	0.56	11	P	Pb	18 47 13.3	-0.5
VLS				S	Sb	18 47 22.5	+1.0
	comp=N,4μm,0.5s						
VLS	Valsamata	0.56	11	P	Pb	18 47 13.3	-0.5
VLS				S	Sb	18 47 22.0	+0.5
VLS				AML	AML	18 47 25.9	
	comp=E,6389μm,0.4s						
VLS				AML	AML	18 47 29.3	
	comp=N,7666μm,0.3s						
LXRA	Lixouri, Kepha	0.57	358	P	Pb	18 47 14.0	0.0
LXRA				S	Sb	18 47 22.5	+0.7
DMLN	Damoulianata-K	0.61	354	P	Pb	18 47 14.4	-0.4
DMLN	Damoulianata-K	0.61	354	P	Pb	18 47 13.8	-0.9
DMLN				S	Sb	18 47 24.1	+1.1
SMHA	Samh	0.64	13	P	Pb	18 47 14.5	-0.7
VSK1	VASILIKIADES	0.78	6	P	Pb	18 47 17.5	-0.2
VSK1				S	Sb	18 47 29.3	+1.3
	comp=N,7μm,0.8s						
FSK	Fiskardo	0.83	6	P	Pb	18 47 18.4	-0.1
FSK				S	Sn	18 47 31.4	+0.1
	comp=N,2μm,0.5s						
FSK	Fiskardo	0.83	6	P	Pb	18 47 18.0	-0.5
FSK				AML	AML	18 47 38.0	
	comp=N,4350μm,0.6s						
FSK				AML	AML	18 47 41.4	
	comp=E,5171μm,0.3s						
RLS	Riolos of Patr	0.91	62	P	Pg	18 47 19.6	-0.6
RLS	Riolos of Patr	0.91	62	P	Pg	18 47 19.7	-0.5
RLS				AML	AML	18 47 39.4	
	comp=E,3027μm,0.8s						
RLS				AML	AML	18 47 40.0	
	comp=N,4877μm,0.5s						
AMT	Artemida-Makis	1.00	95	P	Pg	18 47 21.4	-0.6
AMT				AML	AML	18 47 46.1	
	comp=N,18116μm,0.6s						
AMT				AML	AML	18 47 46.3	
	comp=E,19524μm,0.5s						
EVGI	Lefkada island	1.00	9	P	Pb	18 47 21.3	-0.2
EVGI	Lefkada island	1.00	9	P	Pb	18 47 21.2	-0.2
DRO	Drossia	1.04	72	P	Pg	18 47 22.5	-0.3
DRO	Drossia	1.04	72	P	Pg	18 47 22.4	-0.5
DRO				AML	AML	18 47 52.8	
	comp=E,7510μm,0.5s						
DRO				AML	AML	18 47 58.7	
	comp=N,7098μm,0.6s						
DRAG	Dragano-Lefkad	1.06	5	P	Pb	18 47 22.3	-0.1
DRAG	Dragano-Lefkad	1.06	5	P	Pn	18 47 22.9	+0.3
NYDR	Nydri-Lefkada	1.10	10	P	Pb	18 47 22.8	-0.3
NYDR				S	Sn	18 47 40.7	+2.9
	comp=N,2μm,0.7s						
NYDR	Nydri-Lefkada	1.10	10	P	Pb	18 47 22.9	-0.3
LKD2	Lefkada island	1.17	8	P	Pn	18 47 25.4	+1.3
TSLK	Tsoukalades, L	1.20	7	P	Pn	18 47 25.4	+0.8
TSLK	Tsoukalades, L	1.20	7	P	Pg	18 47 24.1	-1.8
UPR	University Cam	1.24	58	P	Pn	18 47 26.5	+1.5
ITM	Ithomi	1.25	111	P	Pg	18 47 25.8	-1.0
ITM	Ithomi	1.25	111	P	Pg	18 47 25.3	-1.5
ITM				AML	AML	18 47 52.1	
	comp=E,3547μm,0.6s						
ITM				AML	AML	18 47 56.3	
	comp=N,2614μm,0.8s						
PYL	PYLOS	1.26	125	P	Pg	18 47 25.5	-1.4
PYL				S	Sg	18 47 43.5	+0.1
	comp=N,2μm,0.6s						
PYL	PYLOS	1.26	125	P	Pg	18 47 25.2	-1.7
EFP	Efpalio	1.39	55	P	Pn	18 47 28.6	+1.4
EFP	Efpalio	1.39	55	P	Pn	18 47 28.1	+0.9
EFP				AML	AML	18 47 57.4	
	comp=E,1727μm,0.9s						
EFP				AML	AML	18 48 10.9	
	comp=N,2010μm,0.6s						
KLV	Kalavryta, Ach	1.40	72	P	Pn	18 47 28.4	+1.0
KLV	Kalavryta, Ach	1.40	72	P	Pn	18 47 28.0	+0.7
KLV				AML	AML	18 47 59.5	
	comp=N,1766μm,1.0s						
KLV				AML	AML	18 48 01.2	
	comp=E,1656μm,1.3s						
ANX	Ano Chora	1.50	50	P	Pb	18 47 30.4	+0.4
ANX	Ano Chora	1.50	50	P	Pn	18 47 29.7	+1.0
ANX				AML	AML	18 48 03.5	
	comp=N,5206μm,0.7s						
ANX				AML	AML	18 48 05.6	
	comp=E,4240μm,0.5s						
GUR	Goura	1.52	78	P	Pn	18 47 29.4	+0.3
KALE	Kalithea	1.53	60	P	Pn	18 47 30.1	+1.0
KALE				AML	AML	18 48 03.0	
	comp=N,2374μm,0.6s						
KALE				AML	AML	18 48 03.2	
	comp=E,2435μm,0.7s						
FNA	Florina	3.23	12	ePn	Pn	18 47 54.4	+1.9
FNA				eSn	Sn	18 48 34.7	+4.2
TIP	Timpagrande	3.29	299	⇑P	Pn	18 47 54.0	+0.6
OHR	Ohrid	3.49	4	ePn	Pn	18 47 56.1	+0.1
OHR	Ohrid	3.49	4	i Pn	Pn	18 47 59.8	+3.8
TIR	Tirane	3.74	353	eSn	Sn	18 48 43.2	+0.2
TIR	Tirane	3.74	353	⇑P	Pb	18 48 07.1	-1.1
VAY	Valandovo	4.03	23	ePn	Pn	18 48 05.8	+2.4
VAY	Valandovo	4.03	23	i Pn	Pn	18 48 06.0	+2.6
SRS	Serrai	4.25	34	ePn	Pn	18 48 08.5	+2.1
IDI	Anoyia	4.27	122	Pn	Pn	18 48 08.0	+1.2
	comp=E,10nm,0.9s,baz=328,slow=16,SNR=7.8						
IDI				Sn	Sn	18 48 57.2	+1.1
	comp=E,2.8nm,0.3s,baz=348,slow=13,SNR=2.6						
VAE	Valguarnera	4.81	270	Pn	Pn	18 48 13.4	-0.7
	comp=E,4.4nm,0.5s,baz=168,slow=14,SNR=1.4						
VAE				Sn	Sn	18 49 13.1	+3.7
	comp=E,2.2nm,0.3s,baz=176,slow=19,SNR=2.2						
PDG	Podgorica	4.88	349	ePn	Pn	18 48 14.8	-0.3
PDG				eSn	Sn	18 49 10.6	-0.6
PDG	Podgorica	4.88	349	⇑P	Pn	18 48 18.6	+3.5
BOSS	Bosilegrad	5.10	17	ePn	Pn	18 48 18.0	-0.2
BARS	Barje	5.28	11	ePn	Pn	18 48 21.1	+0.4
TREB	Trebinje	5.33	343	ePn	Pn	18 48 20.8	-0.5
TREB				eSn	Sn	18 49 20.2	-2.0
VTS	Vitosha	5.42	22	ePn	Pn	18 48 24.6	+2.0
SELS	Selova	5.61	5	ePn	Pn	18 48 25.2	+0.1
SJES	Sjenica	5.64	356	ePn	Pn	18 48 26.8	+1.2
SJES				eSn	Sn	18 49 28.1	-1.8
STON	Ston	5.64	339	ePn	Pn	18 48 24.6	-1.0
ZAPS	Zavoj	5.88	16	ePn	Pn	18 48 28.7	-0.1
IVAS	Ivanjica	5.95	358	ePn	Pn	18 48 30.0	+0.2
BOVS	Bovan	6.07	9	ePn	Pn	18 48 32.5	+1.0
BOVS	Bovan	6.07	9	⇑P	Pn	18 48 33.2	+1.7
GRUS	Gruza	6.25	2	eSn	Sn	18 49 43.8	-1.2
BBLS	Lazi&#263i	6.28	353	eSn	Sn	18 49 42.1	-3.6
DIVS	Divibare	6.47	357	ePn	Pn	18 48 37.0	0.0
TRUS	Trudelj	6.59	360	eSn	Sn	18 49 50.7	-2.5
ELND	Elena	6.72	36	⇑P	Pn	18 48 43.4	+3.1
TEKS	Tekeris	6.95	354	eSn	Sn	18 49 58.0	-4.1
VOIR		8.52	22	⇑P	Pn	18 49 07.5	+2.3
MLR	Muntele Rosu	8.86	26	Pn	Pn	18 49 07.7	-2.2
	comp=E,0.2nm,0.3s,baz=68,slow=20,SNR=1.7						
	comp=E,0.8nm,0.5s						
MLR	Muntele Rosu	8.86	26	⇑P	Pn	18 49 14.9	+5.0
NEHR	Nehoiu	8.93	27	⇑P	Pn	18 49 13.1	+2.3
KEST	Kesra	9.13	261	Pn	Pn	18 49 14.0	+0.5
	comp=E,0.3nm,0.3s,baz=294,slow=10.0,SNR=2.7						
	comp=E,3.4nm,0.8s						
PLOR	Plostina	9.42	27	⇑P	Pn	18 49 21.6	+4.1
VRI	Vrincioaia	9.46	28	⇑P	Pn	18 49 23.4	+5.4
BRTR	Keskin Array B	10.52	74	Pn	Pn	18 49 36.7	+4.1
	comp=E,0.1nm,0.3s,baz=275,slow=12,SNR=2.0						
	comp=E,0.3nm,0.6s						
GERES	GERESS Array B	12.24	338	Pn	Pn	18 49 54.9	-1.1
	comp=E,0.1nm,0.3s,baz=137,slow=16,SNR=1.9						
	comp=E,0.3nm,0.4s						
EIL	Elat	14.44	119	Pn	Pn	18 50 26.7	+0.6
	comp=E,0.3nm,0.3s,baz=40,slow=9.9,SNR=2.9						
EIL				Sn	Sn	18 53 00.8	-4.9
	comp=E,0.3nm,0.3s,baz=302,slow=15,SNR=2.3						
	comp=E,3.4nm,0.7s						
KVAR	Kislovodsk Arr	17.96	62	P	Pn	18 51 10.6	-0.8
	baz=340,slow=3.1						
	comp=E,2.9nm,0.5s						
GNI	Garni	19.06	75	P	P	18 51 24.8	+0.7
	comp=E,0.2nm,0.3s,baz=124,slow=16,SNR=2.7						
GNI				LR	LR	18 59 16.6	
	comp=E,26nm,19.4s,baz=259,slow=39						
	comp=E,4.7nm,0.8s						
ESDC	Sonseca Array	19.17	284	P	P	18 51 26.0	+0.8
	comp=E,0.1nm,0.3s,baz=75,slow=11,SNR=4.4						
	comp=E,0.9nm,0.9s						
HFS	Hagfors	22.93	351	P	P	18 52 05.4	-0.1
	comp=E,2.2nm,0.8s,baz=162,slow=10,SNR=1.7						
	comp=E,2.2nm,0.8s						
EKA	Eskdalemuir Ar	23.85	326	P	P	18 52 15.9	+1.3
	comp=E,0.2nm,0.4s,baz=136,slow=16,SNR=1.7						
	comp=E,0.2nm,0.4s						
FINES	FINESS Array B	24.10	7	P	P	18 52 16.1	-0.7
	comp=E,3.7nm,0.9s,baz=148,slow=11,SNR=5.9						
	comp=E,3.7nm,0.9s						
NOA	NORSAR Array B	24.14	349	P	P	18 52 20.4	+3.0
	comp=E,0.7nm,0.8s,baz=162,slow=10,SNR=1.7						
TORD	Torodi Ar. Bea	29.57	219	P	P	18 53 07.1	+0.6
	comp=E,0.7nm,0.7s,baz=29,slow=9.6,SNR=4.6						
	comp=E,0.7nm,0.7s						
BVAR	Borovoye Array	37.51	49	P	P	18 54 15.4	+0.1
	comp=E,0.3nm,0.5s,baz=253,slow=4.4,SNR=2.0						
	comp=E,0.3nm,0.5s						
KURBB	Kurchatov Arra	42.60	53	P	P	18 54 54.2	-3.3
	comp=E,0.5nm,0.4s,baz=275,slow=8.7,SNR=1.5						
MKAR	Makanchi Array	45.63	58	P	P	18 55 21.3	-0.6
	comp=E,0.5nm,0.5s,baz=274,slow=7.1,SNR=11						
	comp=E,0.5nm,0.5s						
ZALV	Zalesovo Beam	46.09	48	P	P	18 55 24.9	-0.5
	comp=E,0.9nm,0.5s,baz=284,slow=8.6,SNR=4.1						
	comp=E,0.9nm,0.5s						
SONM	Songino Array	60.84	50	P	P	18 57 14.0	+0.1
	comp=E,0.5nm,0.8s,baz=266,slow=5.8,SNR=3.1						
	comp=E,0.5nm,0.8s						
CMAR	Chiang Mai Arr	70.02	82	P	P	18 58 11.8	-1.7
	comp=E,0.3nm,0.6s,baz=293,slow=7.8,SNR=2.6						
	comp=E,0.3nm,0.6s						

*ISN **12** 18:57:27.7±0.4, 34°.60N×46°.23E, h8km±5km, ML2.7*
*TEH **12** 18:57:28.5, 34°.60N×46°.23E, h8km±39km, ML2.7*

ISC 12 18:57:28.3±1.0, 34°.60N±0°.04×46°.22E±0°.03, h12km±10km, n15, σ0°56/21, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.17	54	Pg	Pg	18 57 32.1	-0.1
IDHR				Sg	Sg	18 57 35.2	+0.2
IGHG	Ghaleghazi	0.40	134	Pg	Pb	18 57 36.6	-0.7
KGS1	Ghasr-e-Shirin	0.53	260	Pg	Pg	18 57 38.9	+0.2
KGS1				Sg	Sb	18 57 47.4	+0.2
GLG1	Gilan-e-Gharb	0.55	208	Pg	Pg	18 57 39.2	+0.1
ILIN	Lien	0.69	62	Pg	Pg	18 57 41.5	-0.1
KCHF	Cheshme Sefid,	0.75	116	Pg	Pg	18 57 42.3	-0.5
KCHF				Sg	Sb	18 57 54.6	+1.0
SNQR	Sonqor, Kerman	1.18	77	Pg	Pb	18 57 50.9	+0.1
IBZA	Bozab	1.36	95	Pg	Pg	18 57 54.2	-0.2
IBDR	Badra	1.51	189	ePn	Pg	18 57 57.0	-0.2
IBDR				eSn	Sg	18 58 18.0	+1.2
IKFM	Kafar-mosalman	1.72	128	Pg	Pg	18 58 01.2	-0.2
IKRK	Kirkuk	1.74	298	ePn	Pb	18 58 00.0	-0.1
IKRK				eSn	Sg	18 58 24.0	-0.2
HSAM	Samen	2.00	101	Pn	Pg	18 58 05.8	-0.9
BHD	Baghdad	2.03	230	ePn	Pb	18 58 04.0	-1.0
BHD				eSn	Sb	18 58 30.5	+0.3
BDRS	Dareh Seyedi	2.29	106	Pn	Pb	18 58 09.7	-0.1
HAGD	Aghdareh	2.41	84	Pn	Pb	18 58 11.8	0.0

*IDC **12** 18:59:23.4±1.5, 11°.37S×163°.10E, h0km, mb3.8/6, mbtmp3.9/8, ML3.7/2, MS2.8/1, Error ellipse: s-maj=32.9km s-min=25.9km az=92.0*

ISC 12 18:59:28.5±1.1, 11°.48S±0°.1×163°.1E±0°.1, h35km, n8, σ1°70/9, mb3.6/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.70	302	Pn	Pn	19 00 21.6	-1.6
	16nm,0.3s,baz=157,slow=4.5,SNR=4.0						
HNR				Sn	Sn	19 01 07.3	+1.7
	39nm,0.3s,baz=198,slow=23,SNR=6.3						
	82nm,0.5s						
DZM	Mont Dzumac	11.08	164	Pn	Pn	19 02 04.9	+0.3
	0.2nm,0.3s,baz=307,slow=18,SNR=7.3						
DZM				LR	LR	19 05 30.1	
	comp=Z,57nm,20.9s,baz=26,slow=33						
	4.1nm,0.8s						
STKA	Stephens Creek	28.47	221	P	P	19 05 21.5	+1.2
	2.5nm,0.9s,baz=51,slow=11,SNR=4.5						
	2.5nm,0.9s						
WRA	Warramunga Arr	28.97	249	P	P	19 05 23.5	-1.5
	0.6nm,0.8s,baz=80,slow=9.6,SNR=2.5						
	0.6nm,0.8s						
ASAR	Alice Springs	30.36	242	P	P	19 05 36.0	-1.4
	0.5nm,0.5s,baz=62,slow=10,SNR=23						
	0.5nm,0.5s						
SONM	Songino Array	77.46	325	P	P	19 11 22.6	+2.2
	0.6nm,1.0s,baz=160,slow=7.4,SNR=2.4						
	0.6nm,1.0s						
ILAR	Eielson Array	84.67	19	P	P	19 11 57.1	-1.2
	0.3nm,0.8s,baz=211,slow=6.2,SNR=2.2						
	0.3nm,0.8s						
MKAR	Makanchi Array	92.04	317	P	P	19 12 34.1	+0.2
	0.7nm,0.7s,baz=107,slow=4.5,SNR=5.2						
	0.7nm,0.7s						

*JMA **12** 19:21:19.9±0.2, 25°.N±2°.×122°.8E±0°.5, h110km±1km, MV2.4/17, NW OFF ISHIGAKIJIMA IS*
*TAP **12** 19:21:20.1, 24°.56N×122°.83E, h111km, ML2.8, C*

ISC 12 19:21:20.5±1.4, 24°.57N±0°.05×122°.86E±0°.02, h108km±8km, n81, σ0°71/143, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.14	147	eP	Pn	19 21 35.5	+0.1
JYNG				eS	Sn	19 21 47.0	+0.4
YOJ	Yonaguni jima	0.18	129	⇓eP	Pn	19 21 35.4	-0.1
YOJ				S	Sn	19 21 47.1	+0.3
EOS3	EOS3	0.57	240	P	Pn	19 21 38.2	+0.8
EOS3				S	Sn	19 21 51.4	+1.3
EOS2	EOS2	0.59	255	P	Pn	19 21 37.6	0.0
EOS2				S	Sn	19 21 51.3	+0.9
EOS4	EOS4	0.67	228	P	Pn	19 21 38.3	+0.4
EOS4				S	Sn	19 21 51.8	+0.7
IRIF	Iriomote-Funau	0.83	107	P	Pn	19 21 39.8	0.0
IRIF				eS	Sn	19 21 54.1	-0.2
TWC	Suao	0.92	272	i P	Pn	19 21 40.2	-0.4
ESAO	Su ao	0.92	270	eS	Sn	19 21 55.5	-0.4
EWUT	Wuta	0.99	263	eP	Pn	19 21 40.5	-0.8
HATJ	Hateruma jima	1.00	121	eP	Pn	19 21 42.0	+0.5
HATJ				eS	Sn	19 21 58.2	+0.8
TIPB	Shuangxi	1.02	293	eP	Pn	19 21 41.2	-0.5
TIPB				eS	Sn	19 21 56.4	-1.3
ENA	Nanau	1.03	262	i P	Pn	19 21 41.7	-0.1
ENA				i S	Sn	19 21 57.5	-0.3
SXI1	Grass Mountain	1.03	300	eP	Pn	19 21 41.6	-0.3
SXI1				eS	Sn	19 21 59.1	+1.0
NDS	Dongshan	1.04	274	eP	Pn	19 21 42.3	+0.4
EAHA	Aohua	1.05	257	eP	Pn	19 21 41.7	-0.2
EAHA				eS	Sn	19 21 57.9	-0.3
TWE	Neicheng	1.09	278	i P	Pn	19 21 41.8	-0.7
TWE				S	Sn	19 21 57.6	-1.5
JKRS	Kuro-shima	1.10	107	eP	Pn	19 21 43.0	+0.5
JKRS				eS	Sn	19 21 59.5	+0.3
FUSB	Fushanzhiwuyua	1.17	279	P	Pn	19 21 43.7	+0.3
FUSB				eS	Sn	19 21 59.6	-1.2
ENTT	Nioudou	1.18	273	i P	Pn	19 21 43.7	+0.3
ENTT				eS	Sn	19 22 01.1	+0.4
JIJ	Ishigaki jima	1.19	100	P	Pn	19 21 43.5	0.0
JIJ				eS	Sn	19 21 59.8	-1.1
LATG	Datong	1.21	268	P	Pn	19 21 44.0	+0.1
LATG				S	Sn	19 22 00.8	-0.8
NACB	Ninganchiao	1.22	251	P	Pn	19 21 43.4	-0.5
NACB				eS	Sn	19 22 00.8	-0.8
TWA	Mucha	1.23	290	eP	Pn	19 21 44.2	+0.3
NWLT	Wulai	1.25	280	eP	Pn	19 21 44.2	0.0
TWD	Chiawan	1.25	247	P	Pn	19 21 43.6	-0.6
TWD				S	Sn	19 22 01.2	-1.0
YM01	YM01	1.30	296	P	Pn	19 21 44.7	-0.1
YM01				S	Sn	19 22 03.2	-0.1
ETLH	Xiulin Townshi	1.31	254	eP	Pn	19 21 45.0	+0.1
ETLH				S	Sn	19 22 02.8	-0.7
JISG	Ishigakijimahi	1.32	89	P	Pn	19 21 44.8	-0.2
JISG				S	Sn	19 22 02.5

YULB			*e*S		**Sn**	**19 22 14.1**	**-1.0**
TWF1	**Yuli**	**1.88 230**	*e*P		**Pn**	**19 21 51.9**	**+0.1**
TWF1			*e*S		**Sn**	**19 22 14.6**	**-1.1**
SSLB	**Suanglung**	**1.91 246**	*e*P		**Pn**	**19 21 52.5**	**+0.2**
SSLB			*e*S		**Sn**	**19 22 17.2**	**+0.7**
CHKH	**Chenggong**	**1.92 225**	*e*P		**Pn**	**19 21 53.1**	**+0.7**
CHKH			*e*S		**Sn**	**19 22 15.8**	**-0.9**
FULB	**Fuli**	**1.98 227**	*e*P		**Pn**	**19 21 54.1**	**+0.9**
FULB			*e*S		**Sn**	**19 22 18.8**	**+0.7**
CHKT	**Chengkung**	**2.01 223**	*e*P		**Pn**	**19 21 54.0**	**+0.6**
CHKT			*e*S		**Sn**	**19 22 17.1**	**-1.5**
WHYT	**Xinyi Township**	**2.03 245**	*e*P		**Pn**	**19 21 54.7**	**+0.9**
WHYT			*e*S		**Sn**	**19 22 20.3**	**+1.0**
JIRB	**Irabujima**	**2.12 83**	*e*P		**Pn**	**19 21 54.7**	**-0.2**
JIRB			*e*S		**Sn**	**19 22 20.4**	**-0.8**
EDH	**Donghe**	**2.14 222**	*e*P		**Pn**	**19 21 54.7**	**-0.4**
EDH			*e*S		**Sn**	**19 22 20.6**	**-1.1**
ELDTW	**Lidau**	**2.18 231**	*e*P		**Pn**	**19 21 55.8**	**+0.1**
ELDTW			*e*S		**Sn**	**19 22 22.0**	**-0.7**
JIKM	**Ikemajima**	**2.20 80**	*e*P		**Pn**	**19 21 56.0**	**+0.1**
JIKM			*e*S		**Sn**	**19 22 22.8**	**-0.3**
CHN5	**Tsauling**	**2.22 244**	*e*P		**Pn**	**19 21 57.3**	**+1.1**
JMJ2	**Miyako jima3**	**2.25 85**	*e*P		**Pn**	**19 21 56.8**	**+0.2**
JMJ2			*e*S		**Sn**	**19 22 24.1**	**-0.1**
LDUT	**Ludao**	**2.28 214**	*e*P		**Pn**	**19 21 56.5**	**-0.5**
LDUT			*e*S		**Sn**	**19 22 23.9**	**-1.0**
JOGS	**Gusukube**	**2.33 85**	*e*P		**Pn**	**19 21 57.9**	**+0.4**
JOGS			*e*S		**Sn**	**19 22 25.9**	**0.0**
WCKO	**Fanlu**	**2.35 242**	*e*P		**Pn**	**19 21 59.3**	**+1.4**
STYH	**Taoyuan**	**2.36 234**	*e*P		**Pn**	**19 21 59.5**	**+1.5**
TPUB	**Ta-pu**	**2.40 239**	*e*P		**Pn**	**19 21 60.0**	**+1.4**
CHN4	**Tsaushan**	**2.40 240**	*e*P		**Pn**	**19 21 59.8**	**+1.2**
WTK	**Tuku**	**2.42 249**	*e*P		**Pn**	**19 21 59.5**	**+0.7**
WTP	**Ta-pu**	**2.44 238**	*e*P		**Pn**	**19 21 59.6**	**+0.4**
TWK	**Hsinying**	**2.53 240**	*e*P		**Pn**	**19 22 01.6**	**+1.4**
SGST	**Jiashian**	**2.56 235**	*e*P		**Pn**	**19 22 00.9**	**+0.3**
SLGT	**Liugui**	**2.57 233**	*e*P		**Pn**	**19 22 02.6**	**+1.9**

TAP 12 19:21:35.1, 25°.06N×121°.67E, h135km, ML2.7, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NHY	**Taipei**	**0.09 258**		*e*P	Pn	19 21 53.3	-0.2
TWA	**Mucha**	**0.11 225**		*e*P	Pn	19 21 53.3	-0.2
YM01	**YM01**	**0.13 314**		*e*P	Pn	19 21 53.0	-0.5
YM01				*e*S	Sn	19 22 07.3	-0.2
ZUZH	**Zhuzihu**	**0.15 313**		*e*P	Pn	19 21 53.1	-0.5
TIPB	**Shuangxi**	**0.17 121**		P	Pn	19 21 53.6	0.0
TIPB				S	Sn	19 22 08.2	+0.6
FUSB	**Fushanzhiwuyua**	**0.31 194**		*e*P	Pn	19 21 52.9	-1.2
FUSB				S	Sn	19 22 07.8	-0.5
NWLT	**Wulai**	**0.32 208**		P	Pn	19 21 53.1	-1.0
NWLT				*e*S	Sn	19 22 07.0	-1.4
TWE	**Neicheng**	**0.34 180**		*e*P	Pn	19 21 53.5	-0.6
TWE				S	Sn	19 22 08.2	-0.1
ENTT	**Nioudou**	**0.43 193**		P	Pn	19 21 54.4	-0.2
ENTT				S	Sn	19 22 08.2	-0.9
YHNB	**Yeheng**	**0.47 215**		P	Pn	19 21 54.5	-0.2
YHNB				S	Sn	19 22 08.8	-0.8
NSK	**Sanguang**	**0.47 217**		*i*P	Pn	19 21 54.5	-0.2
NSK				*i*S	Sn	19 22 08.3	-1.3
TWC	**Suao**	**0.48 160**		P	Pn	19 21 54.4	-0.4
TWC				S	Sn	19 22 09.6	+0.2
LATG	**Datong**	**0.54 194**		*e*P	Pn	19 21 55.0	-0.2
LATG				*e*S	Sn	19 22 10.2	-0.1
EWUT	**Wuta**	**0.62 171**		P	Pn	19 21 57.5	+1.9
EWUT				*e*S	Sn	19 22 10.5	-0.4
ENA	**Nanau**	**0.63 174**		*e*P	Pn	19 21 55.7	+0.1
ENA				S	Sn	19 22 10.9	-0.2
NFF	**Wufeng Townshi**	**0.66 230**		*e*P	Pn	19 21 55.7	-0.2
NNS	**Nan Shan**	**0.67 204**		*i*P	Pn	19 21 56.1	+0.1
NNS				S	Sn	19 22 12.3	+0.4
NNSB	**Datong**	**0.68 203**		P	Pn	19 21 56.0	-0.1
NNSB				*e*S	Sn	19 22 12.2	+0.2
LIOB	**Emei**	**0.72 235**		P	Pn	19 21 56.2	0.0
LIOB				*e*S	Sn	19 22 11.5	-0.7
NSTT	**Nanjuang**	**0.74 235**		*i*P	Pn	19 21 56.7	+0.3
EOS2	**EOS2**	**0.82 141**		*i*P	Pn	19 21 58.2	+1.4
EOS2				*i*S	Sn	19 22 12.1	-1.2
ETLH	**Xiulin Townshi**	**0.86 191**		*e*P	Pn	19 21 56.5	-1.0
ETLH				*e*S	Sn	19 22 14.2	-0.3
NACB	**Ninganchiao**	**0.88 184**		P	Pn	19 21 56.5	-1.1
NACB				S	Sn	19 22 13.5	-1.0
FUSS	**Fushou**	**0.90 206**		*e*P	Pn	19 21 58.2	+0.3
FUSS				*e*S	Sn	19 22 15.2	0.0
TWT	**Tachien**	**0.92 209**		*i*P	Pn	19 21 58.6	+0.6
TWT				S	Sn	19 22 15.9	+0.6
TDCB	**Techi**	**0.93 210**		*e*P	Pn	19 21 58.4	+0.3
TDCB				*e*S	Sn	19 22 16.4	+0.9
EOS3	**EOS3**	**0.97 142**		S	Sn	19 22 15.1	-0.4
WHF	**Hehuan Shan**	**0.98 202**		P	Pn	19 21 59.0	+0.1
WHF				S	Sn	19 22 17.6	+0.7
WHP	**Taichung City**	**1.02 220**		P	Pn	19 21 59.2	+0.3
LXIB	**Xiulin Townshi**	**1.06 193**		*e*P	Pn	19 21 59.1	-0.2
LXIB				*e*S	Sn	19 22 18.1	+0.5
WUSB	**Renai**	**1.17 205**		*e*P	Pn	19 22 01.1	+0.7
WUSB				*e*S	Sn	19 22 20.4	+0.8
OWD	**Renai**	**1.19 202**		*e*P	Pn	19 22 00.6	0.0
OWD				*e*S	Sn	19 22 20.5	+0.7
WCS	**Beigang Elemen**	**1.21 215**		*e*P	Pn	19 22 00.5	-0.1
WCS				*e*S	Sn	19 22 19.0	-1.0
ESL	**Shilin**	**1.26 190**		*e*P	Pn	19 22 01.4	+0.4
SHUL	**Shoufeng**	**1.27 184**		*e*P	Pn	19 22 00.5	-0.7
SMLT	**Sun Moon Lake**	**1.36 211**		*e*P	Pn	19 22 02.7	+0.4
TYC	**Yuchr**	**1.37 213**		*e*P	Pn	19 22 02.4	+0.3
VWDT	**VWDT**	**1.39 200**		*e*P	Pn	19 22 02.6	+0.2
SSLB	**Suanglung**	**1.42 207**		*e*P	Pn	19 22 02.2	-0.7
WHYT	**Xinyi Township**	**1.55 209**		*e*P	Pn	19 22 03.9	-0.3
HGSD	**Ruisui**	**1.57 188**		*e*P	Pn	19 22 04.9	+0.4
EHY	**Hungye**	**1.58 192**		*e*P	Pn	19 22 04.6	+0.1
ALS	**Alishan**	**1.73 207**		*e*P	Pn	19 22 07.0	+0.4

*IDC **12** 19:43:36.1±0.8, 27°.91N×52°.83E, h0km, mb4.0/18, mbtmp3.9/21, ML3.7/3, MS2.9/3, Error ellipse: s-maj=18.7km s-min=15.1km az=178.0*
*NEIC **12** 19:43:38.9±0.9, 28°.00N±0°.08×52°.9E±0°.1, h10km±1km, mb4.1/19, Error ellipse: s-maj=19.0km s-min=9.2km az=233.0*
*TEH **12** 19:43:38.3, 28°.00N×52°.90E, h16km±21km, ML3.8*
*DSN **12** 19:43:43.5±1.3, 27°.54N×52°.93E, h15km, ML3.1/10, Error ellipse: s-maj=21.3km s-min=9.4km az=15.0*
*OMAN **12** 19:43:44.5±1.6, 27°.78N×53°.05E, h30km±22km, mb3.5/13, ml3.6/14, Error ellipse: s-maj=16.8km s-min=4.9km az=176.0*

ISC 12 19:43:38.5±0.4, 27°.98N±0°.04×52°.92E±0°.03, h14km, n137, σ1§63/168, mb4.0/29, MS2.7/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.51**	**12**	Pg	**Pg**	**19 43 47.5**	**-1.1**
JHRM	**Jahrom**	**0.78**	**47**	Pg	**Pg**	**19 43 53.2**	**-0.5**
LAR1	**LAR**	**1.32**	**103**	Pg	**Pb**	**19 44 04.1**	**+1.0**
DSBU	**Dashti - Bushe**	**1.52**	**285**	Pg	**Pb**	**19 44 06.9**	**+0.4**
AHBU	**AHRAM**	**1.69**	**302**	Pg	**Pn**	**19 44 08.9**	**+1.4**
SHI	**Shiraz**	**1.70**	**348**	Pg	**Pn**	**19 44 08.6**	**+0.7**
KAZ2	**Kazeron-Fars-I**	**1.97**	**326**	Pn	**Pn**	**19 44 12.4**	**+0.8**
SHMA	**Al-Shehemyia**	**2.74**	**220**	P	**Pb**	**19 44 26.1**	**-1.2**
	SNR=9.7						
SHMA				S	**Sb**	**19 45 00.1**	**-0.7**
SAKB	**Bahrain**	**2.92**	**228**	P	**Pn**	**19 44 28.3**	**+3.9**
SAKB				S	**Sb**	**19 45 03.8**	**-2.0**
KLNJ	**Kolanjah**	**3.24**	**339**	Pn	**Pn**	**19 44 29.8**	**+0.6**
SHME	**Shamm**	**3.45**	**123**	P	**Pn**	**19 44 33.5**	**+1.6**
SHME	**Shamm**	**3.45**	**123**	P	**Pn**	**19 44 34.1**	**+2.3**
TRNA	**Turayna**	**3.57**	**206**	P	**Pn**	**19 44 36.7**	**+3.2**
	SNR=21						
SMRA	**Abu-Samra**	**3.73**	**211**	P	**Pn**	**19 44 39.0**	**+3.3**
SMRA				S	**Sn**	**19 45 23.5**	**+4.1**
NGRK	**Negar Kerman**	**3.73**	**63**	Pn	**Pn**	**19 44 37.9**	**+1.9**
IRAM	**Ramesheh**	**3.85**	**353**	Pn	**Pn**	**19 44 38.9**	**+1.3**
NAZ	**Nazwa, Dubai**	**3.86**	**140**	P	**Pn**	**19 44 37.2**	**-0.2**
NAZ	**Nazwa, Dubai**	**3.86**	**140**	P	**Pn**	**19 44 40.2**	**+2.8**
NAZ				S	**Sn**	**19 45 23.7**	**+1.1**
AJN	**Ajban**	**3.87**	**151**	P	**Pn**	**19 44 39.7**	**+2.1**
MASF	**Masafi**	**3.89**	**131**	P	**Pn**	**19 44 40.1**	**+2.2**
	SNR=9.8						
MASF				S	**Sn**	**19 45 24.9**	**+1.5**
MSFE	**Esma-Masafi**	**3.89**	**131**	*i*P	**Pn**	**19 44 38.1**	**+0.1**
	SNR=9.8						
TVBK	**TV Kerman**	**3.91**	**58**	Pn	**Pn**	**19 44 40.5**	**+2.0**
KHGB	**Koh Gabri**	**3.92**	**52**	Pn	**Pn**	**19 44 40.1**	**+1.6**
ASUD	**Al Ashush, Dub**	**3.97**	**147**	*i*P	**Pn**	**19 44 41.2**	**+2.2**
	SNR=18						
ASUD	**Al Ashush, Dub**	**3.97**	**147**	P	**Pn**	**19 44 42.0**	**+3.0**
	SNR=18						
ASUD				S	**Sn**	**19 45 26.1**	**+0.7**
GHWR	**Ruwais**	**4.00**	**181**	P	**Pn**	**19 44 42.4**	**+3.0**
GHWR				S	**Sn**	**19 45 28.8**	**+2.8**
FAQ	**Al Faqa, Dubai**	**4.01**	**143**	P	**Pn**	**19 44 42.5**	**+3.0**
FAQ				S	**Sn**	**19 45 26.9**	**+0.5**
MDH	**Madha**	**4.03**	**131**	P	**Pn**	**19 44 40.7**	**+0.9**
MDH	**Madha**	**4.03**	**131**	P	**Pn**	**19 44 42.0**	**+2.2**
MDH				S	**Sn**	**19 45 27.2**	**+0.4**
SLWR	**Sila**	**4.04**	**196**	P	**Pn**	**19 44 42.6**	**+2.6**
SLWR				S	**Sn**	**19 45 30.7**	**+3.5**
UOSS	**Minazif**	**4.21**	**135**	Pn	**Pn**	**19 44 43.4**	**+1.0**
UOSS	**Minazif**	**4.21**	**135**	P	**Pn**	**19 44 42.6**	**+0.3**
UOSS	**Minazif**	**4.21**	**135**	Pn	**Pn**	**19 44 43.6**	**+1.2**
UOSS	**Minazif**	**4.21**	**135**	P	**Pn**	**19 44 44.0**	**+1.7**
UOSS				S	**Sn**	**19 45 32.3**	**+0.9**
HATD	**Hatta, Dubai**	**4.26**	**137**	P	**Pn**	**19 44 45.0**	**+2.1**
HATD	**Hatta, Dubai**	**4.26**	**137**	P	**Pn**	**19 44 46.6**	**+3.7**
HATD				S	**Sn**	**19 45 33.1**	**+0.6**
ASHO	**Ashiyiah**	**4.32**	**139**	*i*P	**Pn**	**19 44 44.7**	**+0.9**
	SNR=22						
ASHO				S	**Sn**	**19 45 31.2**	**-2.9**
ASHO	**Ashiyiah**	**4.32**	**139**	P	**Pn**	**19 44 46.0**	**+2.2**
	SNR=22						
ASHO				S	**Sn**	**19 45 34.2**	**+0.2**
ZRDN	**Zarand Kerman**	**4.34**	**46**	Pn	**Pn**	**19 44 45.9**	**+1.6**
ICHK	**Chekchek**	**4.44**	**16**	Pn	**Pn**	**19 44 47.2**	**+1.5**
CHMN	**Cheshme madani**	**4.46**	**64**	Pn	**Pn**	**19 44 47.8**	**+1.8**
IGAR	**Gharneh**	**4.48**	**350**	Pn	**Pn**	**19 44 47.2**	**+1.0**
ZNGN	**Zangian**	**4.50**	**337**	Pn	**Pn**	**19 44 47.0**	**+0.4**
KRM1	**Kerman Provinc**	**4.56**	**55**	Pn	**Pn**	**19 44 48.9**	**+1.7**
ALNE	**Al Ain**	**4.66**	**146**	*i*P	**Pn**	**19 44 49.8**	**+1.3**
	SNR=9.0						
ALNE	**Al Ain**	**4.66**	**146**	P	**Pn**	**19 44 51.1**	**+2.7**
	SNR=9.0						
ALNE				S	**Sn**	**19 45 42.1**	**-0.3**
JASK	**Jask - Hormozg**	**4.89**	**114**	Pn	**Pn**	**19 44 53.0**	**+1.4**
JASK	**Jask - Hormozg**	**4.89**	**114**	P	**Pn**	**19 44 53.2**	**+1.6**
	SNR=7.4						
JASK				S	**Sn**	**19 45 48.2**	**+0.2**
IZEF	**Zefreh**	**4.93**	**354**	Pn	**Pn**	**19 44 53.5**	**+1.0**
MZR	**Muzera**	**4.98**	**174**	P	**Pn**	**19 44 56.1**	**+3.2**
MZR				S	**Sn**	**19 45 51.5**	**+1.3**
KBAM	**BAM**	**5.00**	**75**	Pn	**Pn**	**19 44 55.0**	**+1.8**
IPIR	**Pirpir**	**5.01**	**340**	Pn	**Pn**	**19 44 54.6**	**+1.0**
SOHO	**SOHO**	**5.02**	**139**	*i*P	**Pn**	**19 44 54.3**	**+0.9**
	SNR=15						
SOHO	**SOHO**	**5.02**	**139**	P	**Pn**	**19 44 55.2**	**+1.8**
SOHO				S	**Sn**	**19 45 50.5**	**-0.6**
IKLH	**Kolahrood**	**5.45**	**348**	Pn	**Pn**	**19 45 00.3**	**+0.8**
UMZA	**Um Al Zommool**	**5.62**	**158**	P	**Pn**	**19 45 03.5**	**+1.9**
UMZA				S	**Sn**	**19 46 05.6**	**-0.3**
ARQ	**Araqi**	**5.65**	**144**	P	**Pn**	**19 45 04.0**	**+2.0**
	SNR=17						
ARQ				S	**Sn**	**19 46 06.0**	**-0.7**
QAMS	**Qamsar**	**5.89**	**347**	Pn	**Pn**	**19 45 06.6**	**+1.0**
HOQ	**Hoqain**	**5.90**	**137**	Pn	**Pn**	**19 45 07.5**	**+2.0**
HOQ	**Hoqain**	**5.90**	**137**	P	**Pn**	**19 45 06.8**	**+1.3**
	SNR=7.9						
HOQ				S	**Sn**	**19 46 12.5**	**-0.4**
TPRV	**Parvadeh(Tabas**	**5.99**	**32**	Pn	**Pn**	**19 45 08.7**	**+1.8**
KRSH	**Karshahi**	**6.01**	**354**	Pn	**Pn**	**19 45 08.1**	**+0.9**
ISFB	**Sefidab**	**6.38**	**355**	Pn	**Pn**	**19 45 12.7**	**+0.5**
BIDO	**Bidbid**	**6.46**	**132**	P	**Pn**	**19 45 14.2**	**+1.0**
BIDO				S	**Sn**	**19 46 25.2**	**-1.4**
BSY	**Bisya**	**6.49**	**142**	P	**Pn**	**19 45 15.2**	**+1.6**
	SNR=12						
BSY				S	**Sn**	**19 46 24.8**	**-2.6**
TKDS	**Koohdasht(Taba**	**6.68**	**32**	Pn	**Pn**	**19 45 17.8**	**+1.5**
SMDO	**Samad**	**6.74**	**135**	P	**Pn**	**19 45 18.4**	**+1.3**
	SNR=29						
SMDO				S	**Sn**	**19 46 33.2**	**-0.5**
WSAR	**Wadi Sarin**	**6.98**	**131**	Pn	**Pn**	**19 45 20.9**	**+0.5**
	0.9nm,0.3s,baz=317,slow=6.0,SNR=45						
WSAR				Sn	**Sn**	**19 46 36.3**	**-3.4**
	0.6nm,0.3s,baz=227,slow=16,SNR=2.0						
	4.4nm,0.4s						
IQOM	**Qom**	**7.03**	**347**	Pn	**Pn**	**19 45 21.9**	**+0.7**
IVRN	**Varamin**	**7.07**	**352**	Pn	**Pn**	**19 45 22.8**	**+1.1**
HSAM	**Samen**	**7.24**	**330**	Pn	**Pn**	**19 45 24.5**	**+0.4**
JMDO	**Jabal Madar**	**7.29**	**139**	P	**Pn**	**19 45 25.4**	**+0.8**
JMDO				S	**Sn**	**19 46 43.9**	**-3.3**
IDMV	**Damavand**	**7.62**	**355**	Pn	**Pn**	**19 45 30.1**	**+0.7**
RAYN	**Ar Rayn**	**8.03**	**238**	Pn	**Pn**	**19 45 35.0**	**+0.3**
RAYN	**Ar Rayn**	**8.03**	**238**	*i*P	**Pn**	**19 45 35.5**	**+0.8**
	SNR=21						
RAYN	**Ar Rayn**	**8.03**	**238**	Pn	**Pn**	**19 45 35.9**	**+1.2**
RAYN	**Ar Rayn**	**8.03**	**238**	P	**Pn**	**19 45 36.2**	**+1.5**
RAYN				S	**Sn**	**19 47 06.6**	**+1.2**
JLN	**Jalan Bani Buh**	**8.26**	**133**	P	**Pn**	**19 45 38.5**	**+0.6**
	SNR=8.5						
JLN				S	**Sn**	**19 47 07.3**	**-3.7**
MHTO	**MHTO**	**8.34**	**145**	P	**Pn**	**19 45 40.0**	**+1.1**
MHTO				S	**Sn**	**19 47 08.6**	**-4.4**
IGHG	**Ghaleghazi**	**8.35**	**321**	Pn	**Pn**	**19 45 40.3**	**+0.9**
SRVN	**Saravan**	**8.42**	**92**	Pn	**Pn**	**19 45 42.1**	**+1.9**
DQM	**DQM**	**9.05**	**151**	P	**Pn**	**19 45 50.0**	**+1.1**
DQM				S	**Sn**	**19 47 26.3**	**-4.3**
DOK	**Doka**	**9.38**	**173**	P	**Pn**	**19 45 53.7**	**+0.4**
DOK				S	**Sn**	**19 47 37.4**	**-1.3**
WHFO	**Wadi Hawf**	**10.04**	**175**	P	**Pn**	**19 46 03.0**	**+0.6**
	SNR=14						
WHFO				S	**Sn**	**19 47 54.1**	**-0.8**
DMTO	**DMTO**	**10.38**	**169**	P	**Pn**	**19 46 07.2**	**+0.2**
DMTO				S	**Sn**	**19 48 03.8**	**+0.6**
RBK	**Rabkut**	**10.49**	**173**	P	**Pn**	**19 46 11.7**	**+3.1**
ABTO	**Aybut**	**10.58**	**178**	P	**Pn**	**19 46 10.3**	**+0.5**
ABTO				S	**Sn**	**19 48 04.9**	**-3.2**
MMAI	**Mount Meron Ar**	**15.91**	**293**	Pn	**Pn**	**19 47 21.3**	**-0.9**
	0.7nm,0.3s,baz=102,slow=14,SNR=2.5						
	0.2nm,0.3s						
SIMJ	**Simiganj**	**17.13**	**47**	Pn	**Pn**	**19 47 36.0**	**-1.6**
BNN	**Bunyan**	**17.88**	**312**	Pn	**Pn**	**19 47 44.5**	**-2.5**
BNN				IAmb	IAmb	19 47 52.6	
	comp=Z,9.2nm,0.9s						
GAR	**Garm**	**18.17**	**48**		**Pn**	**19 47 50.1**	**-0.4**
GAR				IAmb	IAmb	19 47 58.9	
	comp=Z,6.8nm,0.9s						
NIL	**Nilore**	**18.34**	**67**	P	**P**	**19 47 53.5**	**+0.9**
NIL				IAmb	IAmb	19 47 54.6	
	comp=Z,19nm,1.0s						
DRK	**Karamyk**	**19.40**	**49**	P	**P**	**19 48 04.9**	**+0.4**
DRK				IAmb	IAmb	19 48 07.7	
	comp=Z,7.8nm,0.7s						
BRTR	**Keskin Array B**	**19.80**	**311**	P	**P**	**19 48 07.7**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=121,slow=12,SNR=4.4						
	comp=Z,0.6nm,0.6s						
BR131	**Keskin Array S**	**19.80**	**311**	P	**P**	**19 48 09.2**	**+0.6**
KKAR	**Karatay Array**	**20.74**	**39**	P	**P**	**19 48 18.9**	**+0.3**
ELL	**Elmali**	**21.28**	**300**	P	**P**	**19 48 25.6**	**+0.9**
ABKAR	**Akbulak array**	**21.93**	**12**	P	**P**	**19 48 31.7**	**+0.4**
ABKAR	**Akbulak array**	**21.93**	**12**	P	**P**	**19 48 31.5**	**+0.2**
AAK	**Ala-Archa**	**22.80**	**44**	LR	LR	19 59 41.0	
	comp=Z,24nm,18.6s,baz=350,slow=42						
FURI	**Furi**	**23.25**	**218**	LR	LR	19 57 39.2	
	comp=Z,24nm,18.4s,baz=40,slow=36						
BRVK	**Borovoye**	**28.17**	**22**	P	**P**	**19 49 31.0**	**+0.7**
BRVK				IAmb	IAmb	19 49 38.7	
	comp=Z,2.2nm,0.9s						
BVAR	**Borovoye Array**	**28.18**	**23**	P	**P**	**19 49 31.3**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=217,slow=6.7,SNR=11						
	comp=Z,1.7nm,0.7s						
ARTI	**Arti**	**28.66**	**6**	LR	LR	20 04 05.7	
	comp=Z,31nm,18.4s,baz=46,slow=43						
AKASG	**Malin Array Be**	**28.94**	**328**	P	**P**	**19 49 36.7**	**-0.4**
	comp=Z,0.1nm,0.2s,baz=130,slow=7.4,SNR=1.7						
	comp=Z,0.1nm,0.2s						
MKAR	**Makanchi Array**	**29.70**	**43**	P	**P**	**19 49 44.8**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=219,slow=6.9,SNR=4.4						
	comp=Z,1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**29.80**	**34**	P	**P**	**19 49 45.8**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=232,slow=8.7,SNR=22						
	comp=Z,2.1nm,0.7s						
ZAA0	**Zalesovo Array**	**34.89**	**33**	P	**P**	**19 50 29.5**	**+0.2**
ZALV	**Zalesovo Beam**	**34.89**	**33**	P	**P**	**19 50 28.7**	**-0.6**
ZALV	**Zalesovo Beam**	**34.89**	**33**	P	**P**	**19 50 29.9**	**+0.6**
	comp=Z,5.4nm,0.6s,baz=239,slow=9.6,SNR=22						
	comp=Z,5.4nm,0.6s						
KBA	**Koelnbreinsper**	**36.24**	**313**	*i*P	**P**	**19 50 41.7**	**+0.4**
	comp=Z,1.0nm,0.6s						
ABTA	**Abfaltersbach**	**36.69**	**312**	*i*P	**P**	**19 50 45.7**	**+0.7**
	comp=Z,0.9nm,0.4s						
WTTA	**Wattenberg**	**37.41**	**312**	*i*P	**P**	**19 50 50.3**	**-0.9**
	comp=Z,1.2nm,0.2s						
SQTA	**Sankt Quirin**	**37.68**	**312**	*i*P	**P**	**19 50 53.4**	**0.0**
	comp=Z,0.7nm,0.2s						
MOTA	**Moosalm**	**37.78**	**312**	*i*P	**P**	**19 50 54.0**	**-0.4**
	comp=Z,1.0nm,0.4s						
FETA	**Feichten**	**37.94**	**312**	*i*P	**P**	**19 50 55.8**	**+0.1**
	comp=Z,0.7nm,0.4s						
FINES	**FINESS Array B**	**37.96**	**339**	P	**P**	**19 50 55.7**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=139,slow=7.9,SNR=14						
	comp=Z,2.6nm,0.8s						
DAVA	**Damuels**	**38.57**	**312**	*i*P	**P**	**19 51 00.9**	**-0.1**
	comp=Z,6.6nm,0.6s						
HFS	**Hagfors**	**41.68**	**332**	P	**P**	**19 51 26.4**	**0.0**
	comp=Z,1.7nm,0.4s,baz=133,slow=6.3,SNR=11						
	comp=Z,1.7nm,0.4s						
CHTO	**Chiang Mai**	**43.00**	**92**	P	**P**	**19 51 38.2**	**+0.5**
CHTO				IAmb	IAmb	19 51 39.4	
	comp=Z,2.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**43.13**	**92**	P	**P**	**19 51 39.4**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=288,slow=9.8,SNR=3.1						
	comp=Z,0.7nm,0.4s						
NB2	**NORSAR Subarra**	**43.20**	**332**	P	**P**	**19 51 38.3**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=120,slow=8.6						
NOA	**NORSAR Array B**	**43.20**	**332**	P	**P**	**19 51 38.0**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=120,slow=8.2,SNR=4.6						
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**44.52**	**347**	P	**P**	**19 51 48.9**	**-0.4**
	comp=Z,3.5nm,1.0s,baz=142,slow=7.4,SNR=3.6						
	comp=Z,3.5nm,1.0s						
SONM	**Songino Array**	**45.61**	**49**	P	**P**	**19 51 59.2**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=262,slow=7.1,SNR=3.5						
	comp=Z,0.5nm,0.8s						
ESDC	**Sonseca Array**	**47.96**	**299**	P	**P**	**19 52 16.9**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=58,slow=6.9,SNR=1.9						
	comp=Z,0.2nm,0.5s						
EKA	**Eskdalemuir Ar**	**48.32**	**321**	P	**P**	**19 52 18.2**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=105,slow=8.1,SNR=2.0						
	comp=Z,0.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**49.84**	**264**	P	**P**	**19 52 31.6**	**+0.2**
TORD				IAmb	IAmb	19 52 44.8	
	comp=Z,2.1nm,1.4s						
TORD	**Torodi Ar. Bea**	**49.84**	**264**	P	**P**	**19 52 31.4**	**0.0**
	comp=Z,1.2nm,0.7s,baz=50,slow=7.7,SNR=11						
	comp=Z,1.2nm,0.7s						
DBIC	**Dimbokro**	**58.52**	**260**	P	**P**	**19 53 33.3**	**-1.5**
	comp=Z,2.7nm,0.9s,baz=50,slow=6.1,SNR=3.8						
	comp=Z,2.7nm,0.9s						
LBTB	**Lobatse**	**58.89**	**209**	P	**P**	**19 53 37.

GO01				*e*S	**Sn**	**19 55 02.3 +2.2**
GO01				*e*S		19 55 02.5
GO01	**Chusmiza**	**1.70**	**21**	*e*P	**Pn**	**19 54 40.4 +1.1**
GO01				*e*S	**Sn**	**19 55 02.7 +2.5**
PB15	**IPOC Station P**	**1.97**	**170**	*e*P	**Pn**	**19 54 42.7 +0.1**
PB15				*e*S	**Sn**	**19 55 08.9 +2.7**
PB15	**IPOC Station P**	**1.97**	**170**	*e*P	**Pn**	**19 54 42.6 0.0**
PB15				*e*S	**Sn**	**19 55 08.4 +2.2**
PB15				IAML		19 55 17.4
	comp=Z,2μm,0.2s					
AF01	**San Pedro de A**	**2.29**	**138**	*e*P	**Pn**	**19 54 49.9 +2.8**
AF01	**San Pedro de A**	**2.29**	**138**	*e*P	**Pn**	**19 54 49.5 +2.4**
AF01				IAML		19 55 35.6
	comp=Z,1μm,0.4s					
AP01	**Chacalluta**	**2.92**	**351**	*e*P	**Pn**	**19 54 57.5 +2.1**
AP01				IAML		19 55 48.5
	comp=Z,590nm,0.8s					
PB14	**IPOC Station P**	**3.38**	**189**	*e*P	**Pn**	**19 55 05.3 +3.2**
PB14				*e*S	Sn	19 55 54.4 +13
PB18	**Visviri**	**3.67**	**6**	*i* P	Pn	19 55 13.8 +7.5
GO02	**Mina Guanaco**	**3.89**	**176**	⇑*i*P	**Pn**	**19 55 08.1 -0.9**
LPAZ	**La Paz**	**5.21**	**19**	Pn	**Pn**	**19 55 31.3 +3.8**
	comp=Z,1.3nm,0.3s,baz=189,slow=6.7,SNR=28					
LPAZ				Sn	**Sn**	**19 56 29.6 +3.0**
	baz=241,slow=12					
	comp=Z,8.8nm,0.6s					
SIV	**San Ignacio**	**9.84**	**59**	Pn	**Pn**	**19 56 29.0 -1.4**
	comp=Z,0.2nm,0.3s,baz=250,slow=8.7,SNR=19					
SIV				Sn	**Sn**	**19 58 14.0 -5.4**
	baz=339,slow=22					
	comp=Z,5.2nm,0.4s					
H03N1	**Juan Fernandez**	**14.54**	**212**	T	T	20 12 06.6
	baz=40,slow=74					
H03N2	**Juan Fernandez**	**14.55**	**212**	T	T	20 12 02.4
	baz=40					
H03N3	**Juan Fernandez**	**14.56**	**212**	T	T	20 12 25.4
	baz=40,slow=74					
TORD	**Torodi Ar. Bea**	**78.11**	**71**	P	**P**	**20 06 02.9 -2.5**
	comp=Z,0.8nm,0.7s,baz=259,slow=4.3,SNR=5.3					
	comp=Z,0.8nm,0.7s					
H11S2	**WAKE ISLAND Hyl**	**26.97**	**278**	T	T	22 32 44.2
	baz=103,slow=74,SNR=8.7					
H11S1	**WAKE ISLAND Hyl**	**26.98**	**278**	T	T	22 32 45.2
	baz=103,slow=74,SNR=15					
H11S3	**WAKE ISLAND Hyl**	**26.99**	**278**	T	T	22 32 30.0
	baz=103,slow=74,SNR=12					
H11N3	**WAKE ISLAND Hyl**	**27.05**	**279**	T	T	22 32 44.4
	baz=102,slow=74,SNR=11					
H11N2	**WAKE ISLAND Hyl**	**27.07**	**279**	T	T	22 32 49.0
	baz=102,slow=74,SNR=11					
H11N1	**WAKE ISLAND Hyl**	**27.07**	**279**	T	T	22 32 32.7
	baz=102,slow=74,SNR=7.0					
MKAR	**Makanchi Array**	**145.95**	**35**	PKPbc	**PKPdf**	**20 13 43.7 -0.8**
	comp=Z,0.9nm,0.7s,baz=313,slow=4.4,SNR=6.7					

IDC ***12*** *19:55:46.3±1.2,5.'36S×146.'35E,h142km±12km,mb4.2/15, mbtmp4.7/20,MS3.2/9,Error ellipse: s-maj=17.6km s-min=7.6km az=97.0*

NEIC ***12*** *19:55:49.2±1.6,5.'27S±0.'08×146.'24E±0.'09,h160km±7km, mb4.7/89,Error ellipse: s-maj=13.7km s-min=11.1km az=74.0*

DJA ***12*** *19:55:52.9±1.2,6.'S±8.'×14.'6E±1.'2,h110km±11km, M4.9/11,mB5.1/7,mb5.0/11,MLv5.2/3,Mw(mB)4.5/7*

ISC 12 19:55:47.8±0.3,5.'35S±0.'05×146.'26E±0.'06,h150km,n380, σ0.80/354,mb4.7/65,7C-2D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.47**	**19**		**Pn**	**19 56 41.6 +0.3**		
PMG	**Port Moresby**	**4.13**	**168**		**Pn**	**19 56 48.0 -1.8**		
PMG	**Port Moresby**	**4.13**	**168**	P	**Pn**	**19 56 47.9 -1.9**		
	58nm,0.7s,baz=348,slow=8.9,SNR=22							
PMG				S	**Sn**	**19 57 34.3 -3.7**		
	333nm,0.4s,baz=184,slow=23,SNR=32							
PMG	**Port Moresby**	**4.13**	**168**	P	**Pn**	**19 56 47.9 -1.9**		
RABL	**Rabaul**	**6.00**	**79**		**Pn**	**19 57 15.1 +0.5**		
JAY	**Jayapura**	**6.21**	**297**	P	**Pn**	**19 57 16.4 -1.1**		
	143nm,0.5s,baz=149,slow=9.5,SNR=68							
JAY	**Jayapura**	**6.21**	**297**	P	**Pn**	**19 57 16.3 -1.2**		
	206nm,0.8s,2μm0.7nm							
MMPI	**Merauke**	**6.60**	**242**	P	**Pn**	**19 57 20.1 -2.5**		
GENI	**Genyem**	**6.66**	**294**	P	**Pn**	**19 57 23.9 +0.4**		
GENI	**Genyem**	**6.66**	**294**	P	**Pn**	**19 57 22.4 -1.1**		
COEN	**Coen**	**9.07**	**199**	Pn	**Pn**	**19 57 56.7 +1.1**		
COEN	**Coen**	**9.07**	**199**	P	**Pn**	**19 57 56.8 +1.1**		
RKPI	**Ransiki, Papua**	**12.64**	**287**	P	**Pn**	**19 58 43.2 +0.6**		
	111nm,0.6s							
MTSU	**Mount Surprise**	**12.85**	**188**	P	**Pn**	**19 58 46.4 +1.3**		
TATA	**Tatamba Isabel**	**13.78**	**103**	P	**P**	**19 59 00.7 0.0**		
HNR	**Honiara**	**14.17**	**107**	P	**Pn**	**19 59 00.3 -1.7**		
	25nm,0.5s,baz=296,slow=18,SNR=1.6							
FAKI	**Fak Fak**	**14.18**	**279**	Pn	**Pn**	**19 58 58.7 -3.4**		
FAKI	**Fak Fak**	**14.18**	**279**	P	**Pn**	**19 59 01.1 -1.0**		
FAKI	**Fak Fak**	**14.18**	**279**	P	**Pn**	**19 59 00.8 -1.3**		
	21nm,0.7s							
CTA	**Charters Tower**	**14.65**	**180**	LR	LR	20 05 19.7		
	comp=Z,4.3nm,18.7s,baz=20,slow=39							
CTAO	**Charters Tower**	**14.65**	**180**		**Pn**	**19 59 08.1 +0.1**		
CTAO	**Charters Tower**	**14.65**	**180**	P	**Pn**	**19 59 09.3 +1.3**		
ALEG	**Aligegeo Malai**	**14.72**	**104**	P	**Pn**	**19 59 11.3 +2.4**		
KDU	**Kakadu**	**15.43**	**241**	P	**Pn**	**19 59 17.8 +0.1**		
SWI	**Sorong**	**15.62**	**286**	P	**Pn**	**19 59 20.0 -0.1**		
	57nm,0.6s,715nm							
QIS	**Mount Isa**	**16.44**	**203**	P	**Pn**	**19 59 32.4 +2.4**		
MTN	**Manton Dam**	**16.68**	**242**	P	**P**	**19 59 32.4 -0.3**		
MTN	**Manton Dam**	**16.68**	**242**	P	**P**	**19 59 33.6 +0.9**		
DRS	**Darwin Rock St**	**16.72**	**244**	P	**P**	**19 59 34.4 +1.3**		
WB0	**Warramunga Arr**	**18.40**	**218**	P	**P**	**19 59 53.1 +1.5**		
WR0	**Warramunga Arr**	**18.46**	**217**	P	**P**	**19 59 53.2 +0.9**		
WR0				IAmb	IAmb	19 59 55.1		
	comp=Z,26nm,0.8s							
WRAB	**Tennant Creek**	**18.55**	**218**	P	**P**	**19 59 54.4 +1.1**		
WB2	**Warramunga Arr**	**18.56**	**218**	P	**P**	**19 59 54.5 +1.1**		
WB2				IAmb	IAmb	19 59 55.7		
	comp=Z,20nm,0.8s							
WRA	**Warramunga Arr**	**18.57**	**218**	P	**P**	**19 59 53.6 +0.2**		
WRA	**Warramunga Arr**	**18.57**	**218**	P	**P**	**19 59 54.6 +1.2**		
	comp=Z,22nm,0.8s,baz=38,slow=11,SNR=48							
WRA				S	**S**	**20 03 16.9 -0.6**		
	comp=Z,1.7nm,0.7s,baz=42,slow=19,SNR=4.7							
WRA				LR	LR	20 07 23.4		
	comp=Z,84nm,21.3s,baz=20,slow=37							
GUMO	**Guam**	**18.87**	**356**	P	**P**	**19 59 56.0 -0.6**		
	comp=Z,70nm,0.7s,baz=203,slow=12,SNR=4.1							
GUMO				LR	LR	20 05 56.9		
	comp=Z,37nm,18.3s,baz=186,slow=32							
KNRA	**Kununurra**	**20.01**	**238**		**P**	**20 00 09.3 +0.3**		
KNRA				IAmb	IAmb	20 00 13.6		
	comp=Z,19nm,0.7s							
EIDS	**Eidsvold**	**20.43**	**167**		**P**	**20 00 14.8 +1.3**		
EIDS				IAmb	IAmb	20 00 18.4		
	comp=Z,19nm,0.8s							
SANI	**Sanana**	**20.49**	**278**	P	**P**	**20 00 17.0 +2.8**		
AS31	**Alice Springs**	**21.75**	**212**		**P**	**20 00 28.6 +0.9**		
ASAR	**Alice Springs**	**21.75**	**212**	P	**P**	**20 00 28.9 +1.2**		
ASAR	**Alice Springs**	**21.75**	**212**	P	**P**	**20 00 28.8 +1.1**		
	comp=Z,21nm,0.8s,baz=48,slow=7.9,SNR=218							
ASAR				S	**S**	**20 04 20.0 +1.4**		
	comp=Z,3.5nm,0.8s,baz=25,slow=21,SNR=8.6							
ASAR				LR	LR	20 09 35.6		
	comp=Z,101nm,19.6s,baz=42,slow=38							
	comp=Z,21nm,0.8s							
SOEI	**Soe**	**22.23**	**257**	P	**P**	**20 00 32.3 -0.4**		
SOEI				IAmb	IAmb	20 01 12.3		
	comp=Z,36nm,0.9s							
BATI	**Baumata**	**22.89**	**256**	LR	LR	20 10 49.0		
	comp=Z,68nm,20.0s,baz=136,slow=39							
FITZ	**Fitzroy Crossi**	**23.79**	**236**	P	**P**	**20 00 47.4 +0.4**		
DAV	**Davao City (W)**	**24.04**	**301**	LR	LR	20 10 52.1		
	comp=Z,19nm,18.9s,baz=335,slow=38							
ARMA	**Armidale**	**25.44**	**169**	P	**P**	**20 01 03.1 +1.1**		
ARMA				IAmb	IAmb	20 01 04.3		
	comp=Z,11nm,0.8s							
STKA	**Stephens Creek**	**26.75**	**189**	P	**P**	**20 01 14.1 +0.5**		
STKA	**Stephens Creek**	**26.75**	**189**	P	**P**	**20 01 14.4 +0.9**		
	comp=Z,4.6nm,0.6s,baz=359,slow=8.2,SNR=4.1							
STKA				LR	LR	20 11 58.1		
	comp=Z,54nm,20.6s,baz=21,slow=36							
	comp=Z,4.6nm,0.6s							
BBOO	**Buckleboo**	**28.93**	**198**	P	**P**	**20 01 33.5 +0.5**		
BBOO				IAmb	IAmb	20 01 43.7		
	comp=Z,13nm,1.1s							
MBWA	**Marble Bar**	**30.14**	**236**	P	**P**	**20 01 43.4 -0.4**		
MBWA				IAmb	IAmb	20 02 02.5		
	comp=Z,19nm,1.3s							
PSA00	**Pilbara Seismi**	**30.24**	**235**	P	**P**	**20 01 44.6 -0.1**		
PSA00				IAmb	IAmb	20 02 03.1		
	comp=Z,22nm,1.3s							
FORT	**Forrest**	**30.54**	**212**	P	**P**	**20 01 47.9 +0.7**		
TOO	**Toolangi**	**32.08**	**181**	P	**P**	**20 02 01.4 +0.7**		
JOW	**Kunigami**	**36.42**	**332**	P	**P**	**20 02 38.8 +0.6**		
NWAO	**Narrogin (SRO)**	**38.52**	**221**	LR	LR	20 18 55.5		
	comp=Z,64nm,20.5s,baz=225,slow=36							
MJAR	**Matsushiro Arr**	**42.35**	**350**	P	**P**	**20 03 26.0 -1.1**		
	comp=Z,4.5nm,0.9s,baz=165,slow=8.8,SNR=7.4							
	comp=Z,4.5nm,0.9s							
URZ	**Urewera**	**43.11**	**144**	LR	LR	20 20 28.4		
	comp=Z,44nm,18.8s,baz=42,slow=34							
RTZ	**Ruatahuna**	**43.27**	**144**	P	**P**	**20 03 35.4 +0.7**		
RTZ				IAmb	IAmb	20 03 37.6		
	comp=Z,16nm,0.8s							
TUWZ	**Tuamarina**	**43.61**	**150**	P	**P**	**20 03 38.3 +1.1**		
TCW	**Tory Channel**	**43.62**	**149**	P	**P**	**20 03 37.6 +0.3**		
MRZ	**Mangatainoka R**	**43.90**	**148**	P	P	20 03 36.7 -2.9		
RPZ	**Rata Peaks**	**44.01**	**154**	P	**P**	**20 03 41.3 +0.9**		
NJ2	**Nanjing**	**45.44**	**327**	*e*P	**P**	**20 03 51.6 -0.2**		
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.5s							
KSRS	**Korea Array**	**45.89**	**340**	P	**P**	**20 03 55.4 +0.1**		
	comp=Z,6.3nm,0.9s,baz=164,slow=9.7,SNR=15							
KSRS				LR	LR	20 20 22.1		
	comp=Z,14nm,21.4s,baz=85,slow=32							
	comp=Z,6.3nm,0.9s							
KSAR	**Wonju Array Be**	**45.89**	**340**	P	**P**	**20 03 54.3 -1.0**		
WHN	**Wuhan**	**46.97**	**321**	P	**P**	**20 04 04.8 +1.0**		
TIA	**Tai'an**	**49.54**	**329**	P	**P**	**20 04 23.2 -0.3**		
TIA				pmax	pmax			
	comp=Z,9.0nm,0.6s							
USRK	**Ussuriysk Ar.**	**50.97**	**347**	P	**P**	**20 04 34.1 +0.1**		
	comp=Z,5.3nm,0.5s,baz=163,slow=7.7,SNR=15							
	comp=Z,5.3nm,0.5s							
HNS	**HongShan**	**51.70**	**328**	⇓P	**P**	**20 04 39.7 0.0**		
HNS				pmax	pmax			
	comp=Z,36nm,0.7s							
MDJ	**Mudanjiang**	**51.95**	**345**	P	**P**	**20 04 41.3 0.0**		
MDJ				pmax	pmax			
	comp=Z,7.0nm,1.3s							
MDJ				pmax	pmax			
	comp=Z,300nm,7.4s							
CMAR	**Chiang Mai Arr**	**52.29**	**298**	P	**P**	**20 04 44.9 +0.5**		
CMAR	**Chiang Mai Arr**	**52.29**	**298**	P	**P**	**20 04 45.2 +0.8**		
	comp=Z,4.6nm,0.8s,baz=124,slow=5.5,SNR=46							
	comp=Z,4.6nm,0.8s							
CHTO	**Chiang Mai**	**52.43**	**299**	P	**P**	**20 04 45.0 -0.4**		
XAN	**Xi'an**	**52.72**	**321**	⇑P	**P**	**20 04 47.4 +0.1**		
XAN				pP	pP	20 04 55.8 -26		
XAN				pmax	pmax			
	comp=Z,29nm,0.9s							
PZH	**PanZhiHua**	**53.48**	**309**	P	**P**	**20 04 54.6 +1.5**		
PZH				pmax	pmax			
	comp=Z,8.0nm,1.2s							
PZH				pmax	pmax			
	comp=Z,100nm,5.6s							
BNX	**BinXian**	**53.58**	**344**	⇑P	**P**	**20 04 53.1 -0.2**		
BNX				pmax	pmax			
	comp=Z,12nm,1.3s							
HHC	**Hu-ho-hao-te**	**55.90**	**329**	*e*P	**P**	**20 05 12.1 +1.9**		
HHC				pmax	pmax			
	comp=Z,8.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,120nm,5.4s							
LZH	**Lanzhou**	**57.24**	**319**	*e*P	**P**	**20 05 20.8 +0.9**		
LZH				pP	pP	20 05 55.4 +0.4		
LZH				pmax	pmax			
	comp=Z,17nm,1.0s							
PETK	**Petropavlovsk-**	**59.04**	**8**	P	**P**	**20 05 31.8 -0.1**		
	comp=Z,11nm,0.9s,baz=167,slow=6.3,SNR=11							
	comp=Z,11nm,0.9s							
SHL	**Shillong**	**61.05**	**303**	P	**P**	**20 05 45.2 -1.2**		
GTA	**Gaotai**	**61.77**	**320**	P	**P**	**20 05 51.4 +0.5**		
GTA				pP	PcP	20 06 29.6 -1.0		
GTA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ULN	**Ulaanbaatar**	**63.19**	**332**	P	**P**	**20 06 01.0 +0.8**		
ULN				IAmb	IAmb	20 06 01.6		
	comp=Z,7.1nm,0.8s							
SONM	**Songino Array**	**63.48**	**331**	P	**P**	**20 06 02.6 +0.5**		
SONM				IAmb	IAmb	20 06 03.4		
	comp=Z,12nm,1.5s							
SONM	**Songino Array**	**63.48**	**331**	P	**P**	**20 06 02.3 +0.2**		
	comp=Z,3.4nm,0.8s,baz=153,slow=8.1,SNR=15							
	comp=Z,3.4nm,0.8s							
P08K	**Saint George I**	**71.48**	**24**	P	**P**	**20 06 52.4 +0.5**		
	baz=227							
SPIA	**Saint Paul Isl**	**71.60**	**23**	P	**P**	**20 06 52.8 +0.3**		
	baz=226							
WMQ	**Urumqi**	**71.82**	**319**	*e*P	**P**	**20 06 55.1 +0.8**		
WMQ				pmax	pmax			
	comp=Z,10.0nm,1.5s							
FALS	**False Pass**	**73.03**	**28**	P	**P**	**20 07 01.2 +0.1**		
	baz=233							
S12K	**Black Hills**	**74.15**	**27**	P	**P**	**20 07 07.9 +0.2**		
	baz=234							
CHNA	**Chernabura Isl**	**74.82**	**29**	P	**P**	**20 07 12.6 +1.0**		
	baz=237							
M11K	**Mekoryuk**	**75.32**	**22**	P	**P**	**20 07 15.5 +1.3**		
	baz=229							
S14K	**Fog Glacier**	**75.64**	**28**	P	**P**	**20 07 16.8 +0.4**		
	baz=236							
GAMB	**Gambell**	**75.79**	**18**	P	**P**	**20 07 16.9 +0.1**		
	baz=224							
M13K	**Dall Lake**	**76.43**	**23**	P	**P**	**20 07 20.9 +0.3**		
	baz=232							
MKAR	**Makanchi Array**	**76.53**	**321**	P	**P**	**20 07 20.7 -0.8**		
MKAR	**Makanchi Array**	**76.53**	**321**	P	**P**	**20 07 21.1 -0.5**		
	comp=Z,2.7nm,0.6s,baz=99,slow=8.5,SNR=24							
	comp=Z,2.7nm,0.6s							
O14K	**Tigyukauivet M**	**76.58**	**25**	P	**P**	**20 07 21.1 -0.3**		
	baz=234							
MAKZ	**Makanchi**	**76.73**	**321**	P	**P**	**20 07 21.9 -0.8**		
N14K	**Kuskokwak Cree**	**76.80**	**24**	P	**P**	**20 07 22.5 -0.2**		
	baz=234							
O15K	**Ungalikthiuk R**	**77.14**	**25**	P	**P**	**20 07 25.5 +0.9**		
	baz=236							
M14K	**Bethel**	**77.19**	**23**	P	**P**	**20 07 25.1 +0.3**		
	baz=233							
R16K	**Pilot Point**	**77.25**	**27**	P	**P**	**20 07 25.9 +0.7**		
	baz=238							
L14K	**Kuka Creek**	**77.26**	**23**	P	**P**	**20 07 26.0 +0.8**		
	baz=233							
CHIR	**Chirikof Islan**	**77.28**	**29**	P	**P**	**20 07 24.9 -0.5**		
	baz=240							
N15K	**Kwethluk River**	**77.60**	**24**	P	**P**	**20 07 27.7 +0.5**		
	baz=235							
M15K	**Kasigluk River**	**77.66**	**24**	P	**P**	**20 07 28.4 +0.9**		
	baz=235							
TIXI	**Tiksi**	**77.70**	**354**	P	**P**	**20 07 25.4 -2.0**		
J14K	**Nanvaranak Lak**	**77.81**	**21**	P	**P**	**20 07 28.8 +0.6**		
	baz=232							
R17L	**Mt. Peulik Vol**	**77.84**	**28**	P	**P**	**20 07 29.0 +0.5**		
	baz=239							
P16K	**Nushagak River**	**77.85**	**26**	P	**P**	**20 07 29.0 +0.5**		
	baz=237							
L15K	**Ungalak Mounta**	**77.92**	**23**	P	**P**	**20 07 29.8 +1.0**		
	baz=234							
ZALV	**Zalesovo Beam**	**78.07**	**328**	P	**P**	**20 07 28.0 -1.9**		
ZALV	**Zalesovo Beam**	**78.07**	**328**	P	**P**	**20 07 28.3 -1.6**		
	comp=Z,4.7nm,0.5s,baz=117,slow=5.6,SNR=19							
	comp=Z,4.7nm,0.5s							
O16K	**Kokwok River B**	**78.11**	**25**	P	**P**	**20 07 30.5 +0.6**		
	baz=237							
TNA	**Tin City**	**78.20**	**18**	P	**P**	**20 07 31.0 +0.7**		
	baz=227							
Q16K	**King Salmon**	**78.25**	**27**	P	**P**	**20 07 30.9 +0.2**		
	baz=239							
K15K	**Wolf Creek Mou**	**78.27**	**22**	P	**P**	**20 07 31.3 +0.5**		
	baz=234							
N16K	**Nishlik Lake**	**78.31**	**24**	P	**P**	**20 07 31.6 +0.5**		
	baz=236							
SII	**Sitkinak Islan**	**78.34**	**29**	P	**P**	**20 07 31.8 +0.4**		
	baz=241							
ANM	**Nome**	**78.34**	**19**	P	**P**	**20 07 31.6 +0.4**		
	baz=230							
Q17K	**Contact Creek**	**78.38**	**27**	P	**P**	**20 07 31.8 +0.1**		
	baz=239							
M16K	**Timber Creek**	**78.54**	**24**	P	**P**	**20 07 33.1 +0.8**		
	baz=236							
P17K	**Kvichak River**	**78.62**	**26**	P	**P**	**20 07 32.9 +0.2**		
	baz=239							
F14K	**Arctic Creek**	**78.64**	**18**	P	**P**	**20 07 33.2 +0.4**		
	baz=228							
O17K	**Koliganek Bris**	**78.64**	**26**	P	**P**	**20 07 33.7 +0.9**		
	baz=238							
R18K	**Karluk**	**78.70**	**28**	P	**P**	**20 07 33.6 +0.4**		
	baz=241							
L16K	**Owhat River**	**78.72**	**23**	P	**P**	**20 07 34.2 +0.9**		
	baz=236							
NIL	**Nilore**	**78.95**	**306**	P	**P**	**20 07 34.6 -0.6**		
NIL				IAmb	IAmb	20 07 35.5		
	comp=Z,9.7nm,0.7s							
Q18K	**Katmai Hardscr**	**78.98**	**27**	P	**P**	**20 07 35.5 +0.6**		
	baz=240							
N17K	**Nushagak Hills**	**79.00**	**25**	P	**P**	**20 07 35.2 +0.4**		
	baz=238							
G15K	**Niukluk**	**79.06**	**19**	P	**P**	**20 07 35.5 +0.4**		
	baz=231							
OHAK	**Old Harbor**	**79.09**	**29**	P	**P**	**20 07 35.5 +0.1**		
	baz=242							
J16K	**Anvik River**	**79.20**	**22**	P	**P**	**20 07 36.1 +0.2**		
	baz=234							
P18K	**Big Mountain,**	**79.25**	**26**	P	**P**	**20 07 36.5 +0.2**		
	baz=240							
F15K	**North Star Dit**	**79.32**	**19**	P	**P**	**20 07 36.8 +0.3**		
	baz=230							
M17K	**Holitna River**	**79.36**	**24**	P	**P**	**20 07 37.8 +1.0**		
	baz=238							
L17K	**Donlin**	**79.42**	**23**	P	**P**	**20 07 38.1 +1.0**		
	baz=236							
H16K	**Elim**	**79.44**	**20**	P	**P**	**20 07 37.4 +0.3**		
	baz=232							
O18K	**Koktuh Hills**	**79.49**	**26**	P	**P**	**20 07 38.1 +0.6**		
	baz=240							
I17K	**Unalakleet**	**79.53**	**21**	P	**P**	**20 07 38.2 +0.6**		
	baz=234							
N18K	**Kilae Creek**	**79.62**	**25**	P	**P**	**20 07 38.6 +0.4**		
	baz=239							
KDAK	**Kodiak Island**	**79.69**	**28**	P	**P**	**20 07 39.1 +0.5**		
	baz=242							
Q19K	**Cape Douglas,**	**79.73**	**27**	P	**P**	**20 07 39.3 +0.4**		
	baz=241							
K17K	**Iditarod**	**79.74**	**23**	P	**P**	**20 07 39.4 +0.5**		
	baz=236							
J17K	**VABM Dome**	**79.83**	**22**	P	**P**	**20 07 39.7 +0.5**		
	baz=236							
G16K	**Koyuk River**	**79.86**	**19**	P	**P**	**20 07 40.0 +0.6**		
	baz=232							
M18K	**Stony River**	**80.07**	**24**	P	**P**	**20 07 41.4 +0.7**		
	baz=239							
L18K	**Granite Mounta**	**80.10**	**24**	P	**P**	**20 07 41.8 +1.0**		
	baz=238							
Q20K	**Shuyak Island**	**80.16**	**28**	P	**P**	**20 07 41.5 +0.3**		
	baz=242							
P19K	**Oil Pt**	**80.27**	**27**	P	**P**	**20 07 42.0 +0.3**		
	baz=242							
KURBB	**Kurchatov Arra**	**80.27**	**323**	P	**P**	**20 07 41.2 -0.7**		
	comp=Z,1.8nm,0.7s,baz=113,slow=4.3,SNR=20							
	comp=Z,1.8nm,0.7s							
N19K	**Bonanza Creek**	**80.29**	**25**	P	**P**	**20 07 42.3 +0.4**		
	baz=240							
H17K	**Granite Mounta**	**80.42**	**20**	IAmb	IAmb	20 07 44.1		
	comp=Z,18nm,0.7s							
H17K	**Granite Mounta**	**80.42**	**20**	P	**P**	**20 07 42.9 +0.5**		
	baz=235							
G17K	**Kiwalik Mounta**	**80.50**	**20**	P	**P**	**20 07 43.4 +0.6**		
	baz=234							
TTA	**Tatalina**	**80.75**	**23**	P	**P**	**20 07 45.0 +0.8**		
	baz=239							
J18K	**Innoko River**	**80.76**	**22**	P	**P**	**20 07 44.8 +0.5**		
	baz=238							
L19K	**White Mountain**	**80.82**	**24**	P	**P**	**20 07 45.0 +0.3**		
	baz=240							
F17K	**Baldwin Pennin**	**80.86**	**19**	P	**P**	**20 07 45.4 +0.7**		
	baz=233							
M19K	**Big River Lodg**	**80.87**	**24**	P	**P**	**20 07 45.8 +0.9**		
	baz=240							
HOM	**Homer**	**80.98**	**27**	P	**P**	**20 07 46.4 +0.9**		
	baz=243							
D17K	**Noatak River**	**81.07**	**17**	P	**P**	**20 07 46.5 +0.7**		
	baz=231							
E17K	**Hotham Inlet**	**81.07**	**18**	P	**P**	**20 07 46.3 +0.5**		
	baz=232							
H18K	**Honhosa River**	**81.08**	**21**	P	**P**	**20 07 46.4 +0.4**		
	baz=236							
RDOG	**Red Dog Mine**	**81.34**	**17**	P	**P**	**20 07 48.1 +0.8**		
	baz=231							
L20K	**Farewell, AK**	**81.36**	**24**	P	**P**	**20 07 48.4 +0.9**		
	baz=241							
M20K	**Styx River**	**81.38**	**25**	P	**P**	**20 07 48.1 +0.5**		
	baz=241							
GCSA	**Galena City Sc**	**81.39**	**21**	P	**P**	**20 07 47.7 +0.2**		
	baz=238							
G18K	**Tagagawik**	**81.40**	**20**	P	**P**	**20 07 47.6 0.0**		
	baz=236							
N20K	**Mount Spurr**	**81.45**	**25**	P	**P**	**20 07 48.7 +0.7**		
	baz=242							
SPCR	**Spurr Chakacha**	**81.45**	**25**	P	**P**	**20 07 48.8 +0.8**		
	baz=242							
J19K	**Poorman**	**81.45**	**22**	P	**P**	**20 07 48.4 +0.5**		
	baz=239							
F18K	**Selawik**	**81.47**	**19**	P	**P**	**20 07 48.3 +0.4**		
	baz=235

baz=241
Q23K Middleton Isla 83.34 28 P P 20 07 57.9 +0.2
baz=248
SML Sawmill 83.38 26 P P 20 07 57.8 -0.2
baz=246
I21K Tanana 83.41 22 P P 20 07 58.4 +0.4
baz=242
SIMJ Simiganj 83.43 310 P P 20 07 57.9 -1.1
G21K Allakaket 83.50 20 P P 20 07 59.0 +0.5
baz=240
E20K Nigu River 83.51 18 P P 20 07 59.5 +0.9
baz=238
GLI Glacier Island 83.56 27 P P 20 07 59.2 +0.4
baz=247
D20K Etivluk River 83.62 18 P P 20 07 59.1 0.0
baz=237
M23K Glacier View 83.64 26 P P 20 07 59.7 +0.3
baz=246
WAT1 Susitna Watana 83.72 25 P P 20 07 60.0 +0.3
baz=245
MLY Manley 83.80 22 P P 20 08 00.0 -0.1
baz=243,SNR=8.9
SCM Sheep Creek Mo 83.83 26 P P 20 07 59.9 -0.4
baz=247
RND Reindeer 83.83 24 P P 20 07 59.5 -0.8
MCK McKinley 83.94 24 P P 20 08 00.4 -0.4
baz=245,SNR=7.0
WAT6 Susitna Watana 83.95 25 P P 20 08 00.9 -0.2
baz=246
H22K Ishtalitna Cre 83.96 21 P P 20 08 01.2 +0.3
baz=242
EYAK Cordova Ski Ar 84.04 27 P P 20 08 01.2 -0.1
baz=248
B20K Meade River 84.17 17 P P 20 08 02.3 +0.6
baz=237
NEA2 Nenana 84.25 23 IAmb IAmb 20 08 02.1
comp=Z,11nm,0.7s
NEA2 Nenana 84.25 23 P P 20 08 02.4 +0.1
baz=245
DHY Denali Highway 84.31 25 IAmb IAmb 20 08 03.4
comp=Z,16nm,0.8s
DHY Denali Highway 84.31 25 P P 20 08 02.3 -0.5
baz=246
E21K Killik River 84.31 19 P P 20 08 03.0 +0.4
baz=240
KLU Klutina 84.32 27 P P 20 08 02.7 -0.2
baz=248
I23K Minto, Yukon-K 84.38 23 IAmb IAmb 20 08 02.9
comp=Z,8.3nm,0.9s
I23K Minto, Yukon-K 84.38 23 P P 20 08 02.7 -0.2
baz=244
G22K Bettles 84.39 21 P P 20 08 03.2 +0.2
baz=242
C21K Knifeblade Rid 84.42 18 P P 20 08 03.4 +0.3
baz=239
NRIK Noril'sk 84.44 342 IAmb IAmb 20 08 03.4
comp=Z,10nm,0.8s
NRIK Noril'sk 84.44 342 P P 20 08 02.9 -0.3
comp=Z,9.1nm,0.7s,baz=135,slow=5.5,SNR=12
comp=Z,9.1nm,0.7s
F22K John River 84.44 20 P P 20 08 03.5 +0.2
baz=242
M24K Tolsona, Glenn 84.44 26 P P 20 08 03.4 0.0
baz=248
WRH Wood River Hil 84.58 23 P P 20 08 02.6 -1.4
WRH IAmb IAmb 20 08 03.6
comp=Z,16nm,0.9s
H23K Yukon River 84.61 22 P P 20 08 04.2 +0.1
baz=244
QSPA South Pole Qui 84.61 180 P P 20 08 04.1 -0.2
QSPA South Pole Qui 84.61 180 P P 20 08 04.4 +0.1
comp=Z,15nm,0.6s,baz=342,slow=1.5,SNR=51
comp=Z,15nm,0.6s
B21K Ikpikpuk River 84.71 18 P P 20 08 04.8 +0.3
baz=239
BMRM Bremner River 84.72 27 P P 20 08 04.9 0.0
baz=249
G23K Bananza Creek 84.82 21 IAmb IAmb 20 08 06.3
comp=Z,11nm,0.8s
G23K Bananza Creek 84.82 21 P P 20 08 05.2 0.0
baz=244
COLA College 84.84 23 P P 20 08 04.3 -1.0
COLA College 84.84 23 P P 20 08 05.4 +0.2
baz=246
E22K Anaktuvuk Pass 84.86 19 IAmb IAmb 20 08 06.2
comp=Z,8.8nm,0.7s
E22K Anaktuvuk Pass 84.86 19 P P 20 08 05.4 +0.1
baz=242,SNR=6.6
D22K Ayikyak River 84.94 19 P P 20 08 06.2 +0.5
baz=241
N25K Chitina, Valde 84.95 27 P P 20 08 06.1 +0.1
baz=249
COLD Coldfoot 84.99 20 P P 20 08 06.2 +0.2
baz=244,SNR=5.5
HARP HAARP 84.99 26 P P 20 08 06.5 +0.4
baz=248
HDA Harding Lake 85.01 24 IAmb IAmb 20 08 07.6
comp=Z,24nm,1.4s
HDA Harding Lake 85.01 24 P P 20 08 05.4 -0.7
baz=247,SNR=6.5
POKR Poker Plat Res 85.11 23 P P 20 08 06.1 -0.5
baz=246
ILAR Eielson Array 85.18 23 P P 20 08 05.0 -2.0
ILAR Eielson Array 85.18 23 P P 20 08 05.2 -1.7
comp=Z,20nm,0.6s,baz=252,slow=5.0,SNR=290
H24K Noodor Dome 85.23 22 IAmb IAmb 20 08 08.1
comp=Z,6.7nm,0.7s
H24K Noodor Dome 85.23 22 P P 20 08 07.1 -0.2
baz=246
K24K Donnelly Dome 85.25 24 P P 20 08 07.4 0.0
baz=248
A22K Sinclair Lake 85.32 16 P P 20 08 08.3 +0.8
baz=239
CRQE Cirque 85.34 28 P P 20 08 08.0 0.0
baz=250
B22K Teshekpuk Lake 85.43 17 P P 20 08 08.3 +0.2
baz=240
E23K Chandalar 85.56 20 IAmb IAmb 20 08 10.2
comp=Z,7.7nm,0.7s
E23K Chandalar 85.56 20 P P 20 08 09.3 +0.4
baz=244
MCARA McCarthy VSAT 85.58 27 P P 20 08 09.5 +0.5
baz=250
RIDG Independent Ri 85.61 25 P P 20 08 09.5 +0.3
baz=249
D23K Nanushuk River 85.62 19 P P 20 08 09.8 +0.8
baz=243
MESA MESA 85.69 28 P P 20 08 09.6 -0.2
baz=252
J25K Salcha River, 85.72 24 P P 20 08 09.1 -0.7
baz=248,SNR=18
G24K Hadweenzic Riv 85.73 21 P P 20 08 09.7 +0.1
baz=246
BVAR Borovoye Array 85.81 324 P P 20 08 08.8 -1.6
comp=Z,7.8nm,1.0s,baz=110,slow=6.2,SNR=23
comp=Z,7.8nm,1.0s
TOLK Toolik Lake Re 85.83 19 IAmb IAmb 20 08 11.0
comp=Z,7.4nm,0.8s
TOLK Toolik Lake Re 85.83 19 P P 20 08 10.4 +0.2
baz=244
BRVK Borovoye 85.88 324 P P 20 08 08.7 -2.0
F24K Squaw Lake 85.92 21 IAmb IAmb 20 08 12.1
comp=Z,10nm,0.7s
F24K Squaw Lake 85.92 21 P P 20 08 11.5 +0.9
baz=246
M26K Nabesna, AK 85.93 26 P P 20 08 11.1 +0.3
baz=250
E24K Your Creek 85.95 20 P P 20 08 11.4 +0.6
baz=245
L26K Log Cabin Wild 85.99 26 P P 20 08 11.3 +0.3
baz=250,SNR=5.7
PRP Porcupine Dome 86.00 23 P P 20 08 11.3 +0.1
baz=248
C23K Itkillik River 86.04 18 P P 20 08 11.8 +0.7
baz=243
SCRK Sand Creek 86.05 25 P P 20 08 11.7 +0.3
baz=250
CTG Chitna Glacier 86.22 28 P P 20 08 12.7 +0.3
baz=252
D24K Happy Valley 86.30 19 P P 20 08 13.1 +0.7
baz=245
J26L Joseph Creek 86.41 24 IAmb IAmb 20 08 13.9
comp=Z,9.6nm,0.8s
J26L Joseph Creek 86.41 24 P P 20 08 13.1 -0.1
baz=250,SNR=7.1
M27K Edge Creek, AK 86.41 26 P P 20 08 13.7 +0.4
baz=252
PINM Pinnacle 86.47 29 P P 20 08 14.0 +0.5
baz=253
C24K Franklin Bluff 86.58 18 P P 20 08 14.1 +0.4
baz=245
L27K Beaver Creek, 86.66 26 P P 20 08 14.8 +0.4
baz=252
O28M Mount Upton 86.70 28 P P 20 08 15.2 +0.3
baz=253
F25K Christian Rive 86.74 21 P P 20 08 15.2 +0.6
baz=248
PNL Peninsula 86.76 29 P P 20 08 15.5 +0.6
baz=254
K27K Chicken 86.86 25 P P 20 08 15.8 +0.6
baz=251
YUK3 Moose Creek 86.87 27 P P 20 08 15.7 +0.1
baz=253
BVCY Beaver Creek 86.88 26 P P 20 08 15.8 +0.3
baz=252
E25K Arctic Village 86.97 20 P P 20 08 16.2 +0.5
baz=248
YUK8 Steele Glacier 87.04 28 P P 20 08 16.8 +0.2
baz=253
D25K Kavik River 87.16 19 P P 20 08 17.0 +0.3
baz=247
G26K Porcupine Rive 87.18 22 P P 20 08 17.3 +0.6
baz=250
F26K Sheenjek River 87.31 21 IAmb IAmb 20 08 19.9
comp=Z,15nm,1.2s
F26K Sheenjek River 87.31 21 P P 20 08 17.9 +0.5
baz=249
O29M Mount Kennedy 87.33 29 P P 20 08 18.3 +0.6
baz=254
EGAK Eagle 87.48 24 IAmb IAmb 20 08 18.9
comp=Z,10nm,0.8s
EGAK Eagle 87.48 24 P P 20 08 18.7 +0.6
baz=252
I27K Kandik River 87.56 23 P P 20 08 18.6 0.0
baz=252,SNR=6.1
P29M Windy Craggy 87.56 30 P P 20 08 19.3 +0.5
baz=255
YUK4 Talbot Arm 87.58 28 P P 20 08 19.7 +0.7
baz=254,SNR=5.3
YUK6 Outpost Mounta 87.60 28 P P 20 08 19.4 +0.2
baz=255
H27K Steamboat Moun 87.79 23 P P 20 08 20.1 +0.4
baz=252,SNR=6.7
C26K Camden Bay 87.87 19 P P 20 08 20.4 +0.5
baz=248
S31K Pelican 87.92 31 P P 20 08 20.7 +0.3
baz=257
G27K Doyon Strip 87.93 22 P P 20 08 20.6 +0.3
baz=252
M29M Somme Creek 87.96 27 P P 20 08 20.9 +0.3
baz=254
HYT Haines Junctio 87.98 28 P P 20 08 20.8 0.0
baz=255
DAWY Dawson 88.00 25 IAmb IAmb 20 08 21.9
comp=Z,13nm,0.9s
DAWY Dawson 88.00 25 P P 20 08 21.0 +0.2
baz=254,SNR=8.7
P30M Million Dollar 88.06 29 P P 20 08 21.5 +0.3
baz=256
C27K Jago River 88.15 19 IAmb IAmb 20 08 22.9
comp=Z,12nm,0.9s
C27K Jago River 88.15 19 P P 20 08 21.8 +0.5
baz=250
I28M Miner Creek 88.18 24 P P 20 08 21.8 +0.1
baz=253
SIT Sitka 88.19 32 P P 20 08 22.1 +0.4
baz=257
L29M L29M 88.28 26 P P 20 08 22.5 +0.4
baz=255,SNR=5.1
N30M Aishikik Lake 88.33 28 P P 20 08 22.6 +0.2
baz=256
E27K Coleen River 88.39 21 IAmb IAmb 20 08 24.0
comp=Z,7.5nm,0.8s
E27K Coleen River 88.39 21 P P 20 08 22.9 +0.4
baz=252
J29N Klondike Camp 88.60 25 IAmb IAmb 20 08 25.1
comp=Z,9.9nm,1.0s
J29N Klondike Camp 88.60 25 P P 20 08 24.0 +0.4
baz=255
O30N Mendenhall 88.64 29 P P 20 08 24.0 +0.2
baz=257
SKAG Skagway 88.71 30 P P 20 08 24.5 +0.4
baz=257
K29M Barlow Dome 88.74 26 P P 20 08 24.5 +0.2
baz=255
M30M Minto, Yukon 88.74 27 P P 20 08 24.5 +0.3
baz=256
F28M Old Crow 88.83 22 P P 20 08 24.8 +0.3
baz=253
R32K Eaglecrest 88.87 31 P P 20 08 24.7 -0.2
baz=258
D27M Malcolm River 88.94 20 P P 20 08 25.6 +0.6
baz=252
N31M Braeburn, Yuko 88.95 28 P P 20 08 25.4 +0.1
baz=257
H29M Whitestone 89.01 23 P P 20 08 25.5 +0.1
baz=254
CRAG Craig 89.07 34 P P 20 08 26.3 +0.4
baz=259
U33K Whale Pass 89.19 34 P P 20 08 26.1 -0.3
baz=259
WHY Whitehorse 89.19 29 P P 20 08 26.7 +0.2
baz=258
E28M Babbage River 89.24 21 P P 20 08 26.9 +0.4
baz=253
G29M Pine Creek 89.33 22 P P 20 08 27.5 +0.6
baz=255
J30M Hart River 89.42 25 IAmb IAmb 20 08 28.6
comp=Z,8.0nm,0.7s
J30M Hart River 89.42 25 P P 20 08 27.8 +0.3
baz=256
I30M Mount Dempster 89.56 24 P P 20 08 28.6 +0.5
baz=256
WRAK Wrangell Islan 89.67 33 P P 20 08 29.2 +0.6
baz=260
EPYK Eagle Plains 89.69 23 IAmb IAmb 20 08 28.9
comp=Z,9.5nm,0.8s
EPYK Eagle Plains 89.69 23 P P 20 08 28.7 +0.1
baz=256
D28M Stokes Point 89.72 20 P P 20 08 29.1 +0.5
baz=254
E29M Blow River 89.76 21 P P 20 08 29.1 +0.2
baz=255
G30M tAoh Zraii Nji 90.03 23 P P 20 08 30.0 -0.2
baz=256
P33M Teslin, Yukon 90.11 30 P P 20 08 31.1 +0.4
baz=260
FARO Faro, Yukon 90.23 28 P P 20 08 31.6 +0.3
baz=259
F30M Barrier River 90.34 22 P P 20 08 31.8 +0.2
baz=257
H31M Peel River 90.51 24 IAmb IAmb 20 08 32.4
comp=Z,5.4nm,0.7s
H31M Peel River 90.51 24 P P 20 08 32.2 -0.2
baz=254
F31M Tsiigehtchic 91.08 22 IAmb IAmb 20 08 35.1
comp=Z,10.0nm,1.2s
F31M Tsiigehtchic 91.08 22 P P 20 08 35.2 +0.3
baz=259
MMPY Sheldon Lake, 91.26 27 P P 20 08 36.0 0.0
baz=261
INK Inuvik 91.33 21 P P 20 08 36.3 +0.3
baz=259
TOAD Toad River Com 93.77 31 P P 20 08 47.9 +0.2
baz=266
KOTAN Kotaneelee Air 94.45 30 P P 20 08 50.6 -0.1
baz=267
A36M Sachs Harbour 94.58 18 P P 20 08 51.2 +0.2
baz=267
ELIB Princess Elisa 94.62 195 *d*P P 20 08 51.2 -0.3
comp=Z,5.6nm,0.8s
BELA Belgrano 2 96.89 180 P P 20 09 01.3 -0.2
TROLL Troll, Antarti 99.29 191 ⇑Pdiff Pdif 20 09 11.9 -0.6
comp=Z,141nm,0.7s
SNAA Sanae 100.51 190 Pdif Pdif 20 09 17.1 -0.8
SNAA Sanae 100.51 190 ⇑Pdiff Pdif 20 09 17.0 -0.9
comp=Z,17nm,0.5s
SNAA Sanae 100.51 190 P Pdif 20 09 17.2 -0.7
comp=Z,1.1nm,0.9s,baz=63,slow=4.5,SNR=10
VNA2 Neumayer--Watz 101.88 189 ⇑Pdiff Pdif 20 09 23.0 -0.9
comp=Z,1.6nm,0.6s,baz=142,slow=2.2
VNA3 Neumayer Olymp 101.91 188 ⇑Pdiff Pdif 20 09 22.4 -1.7
comp=Z,1.5nm,0.6s
VNA1 Neumayer--Stat 102.25 188 ⇑Pdiff Pdif 20 09 23.9 -1.7
comp=Z,2.9nm,0.8s
MNK Minsk 110.56 327 *i* P Pdif 20 10 01.6 -1.2
comp=E,20nm,0.8s
MNK *i* P Pdif 20 10 01.6 -1.2
comp=N,11nm,0.7s
MNK *i* P Pdif 20 10 01.6 -1.2
comp=Z,7.0nm,0.8s,baz=69
MNK *i* pP pPdif 20 10 37.4 -3.1
MNK *i* PP PP 20 14 39.7 -0.9
MNK *i* PPP PPP 20 17 00.4
MNK *i* SKS SKSdf 20 21 00.2 -0.3
MNK *i* SS SS 20 29 59.1 +1.7
MNK *i* SSS SSS 20 34 08.2
MNK *i* LR LR 20 57 02.3
MNK *i* LRM MLR 20 59 28.6
comp=Z,97nm,15.4s
MNK *i* LRM MLR 20 59 42.2
comp=N,659nm,18.6s
MNK *i* LRM MLR 20 59 44.1
comp=E,964nm,18.8s
TORD Torodi Ar. Bea 144.21 285 PKP PKPab 20 15 04.2 -0.9
comp=E,5.4nm,0.8s,baz=60,slow=4.1,SNR=36
DBIC Dimbokro 151.24 274 PKPbc PKPbc 20 15 23.5 -1.2
comp=E,1.7nm,0.5s,baz=77,slow=2.5,SNR=4.6

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*DJA **12** 20:28:03.0±0.3, 1°S±2°×12°0E±°, h10km, M3.9/10, MLv3.9/10*
*IDC **12** 20:28:11.7±1.2, 2°17S×120°89E, h0km, mb3.7/4, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=35.0km s-min=17.3km az=93.0*
ISC 12 20:28:02.2±1.4, 1°37S±0°06×120°1E±0°1, h10km, n13, σ1§43/13, mb3.7/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.63**	**74**	P	**Pn**	**20 28 31.4**	**+0.5**
TTSI	**Tana Toraja**	**1.68**	**189**	P	**Pn**	**20 28 30.2**	**-1.5**
TTSI				S	**Sn**	**20 28 53.4**	**+0.1**
MPSI	**Mapaga**	**1.71**	**354**	P	**Pn**	**20 28 32.2**	**+0.2**
SPSI	**Sidrap Palu**	**2.59**	**187**	P	**Pn**	**20 28 45.5**	**+1.3**
MRSI	**Marisa**	**2.61**	**45**	P	**Pn**	**20 28 44.8**	**+0.4**
LUWI	**Luwuk**	**2.71**	**83**	P	**Pn**	**20 28 45.7**	**0.0**
BNSI	**Bone**	**3.01**	**180**	P	**Pn**	**20 28 51.5**	**+1.6**
KAPI	**Kappang**	**3.63**	**185**	Pn	**Pn**	**20 29 00.5**	**+2.0**
6.7nm,0.3s,baz=2.0,slow=9.7,SNR=5.2							
KAPI				Sn	**Sn**	**20 29 38.7**	**-2.8**
3.0nm,0.3s,baz=72,slow=16,SNR=1.2							
KAPI				Lg	Lg	20 29 48.8	
4.6nm,0.3s,baz=11,slow=23,SNR=4.8							
17nm,0.3s							
BKSI	**Bulukumba**	**3.92**	**179**	P	**Pn**	**20 29 02.9**	**+0.4**
WRA	**Warramunga Arr**	**23.13**	**144**	P	**P**	**20 33 08.1**	**-0.6**
0.6nm,0.8s,baz=321,slow=11,SNR=4.1							
0.6nm,0.8s							
ASAR	**Alice Springs**	**25.90**	**150**	P	**P**	**20 33 35.6**	**+1.1**
0.4nm,0.7s,baz=345,slow=16,SNR=6.6							
0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**62.73**	**332**	P	P	20 38 45.2	+18
1.0nm,0.6s,baz=126,slow=7.1,SNR=9.1							
1.0nm,0.6s							
ARCES	**ARCESS Array B**	**92.89**	**339**	P	P	20 41 32.0	+17
2.9nm,1.1s,baz=74,slow=6.7,SNR=1.3							
2.9nm,1.1s							

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*IDC **12** 20:38:55.5±0.6, 1°79S×120°34E, h0km, mb4.2/13, mbtmp4.3/16, ML3.8/3, MS3.4/29, Error ellipse: s-maj=35.4km s-min=12.0km az=68.0*
*NEIC **12** 20:38:58.9±2.2, 1°76S±0°05×120°47E±0°06, h10km±1km, mb4.7/49, Error ellipse: s-maj=11.0km s-min=9.1km az=89.0*
*DJA **12** 20:38:58.6±0.2, 2°S±2°×12°0E±°, h10km, M4.8/23, mb4.9/12, mB5.2/7, MLv5.0/23, Mw(mB)4.5/7*
ISC 12 20:38:57.8±0.4, 1°78S±0°05×120°41E±0°06, h10km, n110, σ1§30/98, mb4.6/35, MS3.4/27, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.39**	**205**	P	**Pn**	**20 39 22.3**	**-0.9**
APSI	**Ampana**	**1.51**	**55**	P	**Pn**	**20 39 25.0**	**+0.1**
MPSI	**Mapaga**	**2.17**	**346**	P	**Pn**	**20 39 32.4**	**-1.5**
SPSI	**Sidrap Palu**	**2.26**	**196**	P	**Pn**	**20 39 36.9**	**+1.7**
LUWI	**Luwuk**	**2.47**	**73**	Pn	**Pn**	**20 39 37.8**	**-0.3**
LUWI	**Luwuk**	**2.47**	**73**	P	**Pn**	**20 39 37.6**	**-0.5**
BNSI	**Bone**	**2.62**	**187**	P	**Pn**	**20 39 42.6**	**+2.4**
MRSI	**Marisa**	**2.72**	**34**	P	**Pn**	**20 39 40.6**	**-0.9**
TOLI2	**Tolitoli**	**2.90**	**7**		**Pn**	**20 39 44.8**	**+0.8**
KAPI	**Kappang**	**3.28**	**192**	Pn	**Pn**	**20 39 50.9**	**+1.7**
KAPI	**Kappang**	**3.28**	**192**	Pn	**Pn**	**20 39 50.0**	**+0.8**
29nm,0.3s,baz=350,slow=8.4,SNR=69							
KAPI				Lg	Lg	20 40 36.8	
29nm,0.3s,baz=119,slow=23,SNR=5.6							
KAPI				LR	LR	20 40 46.7	
comp=Z,342nm,21.6s,baz=9.5,slow=34							
104nm,0.4s							
SMKI	**Samarinda**	**3.47**	**292**	P	**Pn**	**20 39 54.2**	**+2.4**
BKSI	**Bulukumba**	**3.53**	**185**	P	**Pn**	**20 39 54.0**	**+1.3**
BKB	**Balikpapan**	**3.55**	**278**	Pn	**Pn**	**20 39 52.7**	**-0.3**
BKB	**Balikpapan**	**3.55**	**278**	P	**Pn**	**20 39 52.7**	**-0.3**
BBSI	**Bau Bau**	**4.26**	**150**	P	**Pn**	**20 40 04.2**	**+1.4**
KMSI	**Cibinong**	**4.27**	**57**	P	**Pn**	**20 40 04.5**	**+1.6**
BSSI	**Bau Bau, Buton**	**4.33**	**179**	P	**Pn**	**20 40 05.7**	**+1.9**
MTKI	**Muara Teweh, K**	**5.58**	**279**	P	**Pn**	**20 40 19.0**	**-1.9**
SANI	**Sanana**	**5.58**	**93**	P	**Pn**	**20 40 19.3**	**-1.6**
27nm,0.4s							
NLAI	**Namlea**	**6.84**	**102**	P	**Pn**	**20 40 39.9**	**+1.7**
41nm,0.8s,726nm							
MYLDM	**Lahad Datu**	**7.17**	**345**	Pn	**Pn**	**20 40 45.1**	**+2.2**
WBSI	**Waikabubak, Su**	**7.87**	**187**	P	**Pn**	**20 40 55.0**	**+2.5**
65nm,0.8s,0.3nm							
SOEI	**Soe**	**8.80**	**154**	Pn	**Pn**	**20 41 07.7**	**+2.4**
SOEI	**Soe**	**8.80**	**154**	P	**Pn**	**20 41 09.7**	**+4.4**
79nm,1.0s							
KKM	**Kota Kinabalu**	**8.83**	**332**	Pn	**Pn**	**20 41 06.3**	**+0.6**
BATI	**Baumata**	**8.97**	**159**	Pn	**Pn**	**20 41 09.0**	**+1.4**
1.8nm,0.3s,baz=349,slow=16,SNR=4.0							
BATI				LR	LR	20 45 39.4	
comp=Z,335nm,19.6s,baz=326,slow=45							
19nm,0.6s							
JAGI	**Jajag, Banyuwa**	**9.11**	**223**	Pn	**Pn**	**20 41 10.9**	**+1.5**
STKI	**Sintang**	**9.12**	**282**	P	Pn	20 41 24.9	+15
SBUM	**Sibu**	**9.21**	**297**		**Pn**	**20 41 08.6**	**-2.1**
SWI	**Sorong**	**10.88**	**85**	P	**Pn**	**20 41 34.7**	**+0.9**
FAKI	**Fak Fak**	**11.88**	**96**	Pn	**Pn**	**20 41 48.8**	**+1.3**
FAKI	**Fak Fak**	**11.88**	**96**	P	**Pn**	**20 41 48.4**	**+1.0**
SAUI	**Saumlaki**	**12.47**	**120**	Pn	**Pn**	**20 41 55.2**	**-0.3**
KNRA	**Kununurra**	**16.08**	**150**	Pn	**Pn**	**20 42 42.0**	**-2.1**
FITZ	**Fitzroy Crossi**	**17.01**	**163**	Pn	**Pn**	**20 42 54.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**17.01**	**163**	P	**Pn**	**20 42 56.2**	**+0.3**
0.1nm,0.3s,baz=337,slow=13,SNR=4.0							
FITZ				LR	LR	20 51 11.9	
comp=Z,150nm,19.2s,baz=354,slow=43							
4.5nm,1.0s							
MBWA	**Marble Bar**	**19.27**	**182**	P	**P**	**20 43 23.4**	**+0.7**
IPM	**Ipoh**	**20.34**	**288**	P	**P**	**20 43 35.2**	**+0.6**
RPSI	**Rantau Prapat**	**21.94**	**282**	P	**P**	**20 43 52.8**	**+1.1**
WB0	**Warramunga Arr**	**22.51**	**144**	P	**P**	**20 43 57.1**	**-0.7**
WB0				IAmb	IAmb	20 43 58.0	
comp=Z,22nm,1.0s							
WRAB	**Tennant Creek**	**22.61**	**144**	P	**P**	**20 43 58.0**	**-0.9**
WRAB				IAmb	IAmb	20 43 59.1	
comp=Z,25nm,0.8s							
WRA	**Warramunga Arr**	**22.61**	**144**	P	**P**	**20 43 58.0**	**-0.9**
comp=Z,17nm,0.9s,baz=320,slow=11,SNR=86							
WRA				PcP	**PcP**	**20 47 50.4**	**-1.8**
comp=Z,0.3nm,0.8s,baz=320,slow=2.1,SNR=1.3							
WRA				LR	LR	20 54 58.9	
comp=Z,131nm,18.5s,baz=14,slow=42							
comp=Z,17nm,0.9s							
WB2	**Warramunga Arr**	**22.62**	**144**	P	**P**	**20 43 58.0**	**-1.0**
WB2				IAmb	IAmb	20 43 59.1	
comp=Z,29nm,0.8s							
WR0	**Warramunga Arr**	**22.74**	**144**	P	**P**	**20 43 59.7**	**-0.6**
WR0				IAmb	IAmb	20 44 14.5	
comp=Z,22nm,0.9s							
GSI	**Gunungsitoli**	**23.04**	**277**	P	**P**	**20 44 04.2**	**+0.7**
GSI				IAmb	IAmb	20 44 05.0	
comp=Z,46nm,1.3s							
LHMI	**Lhok Sumawe**	**24.45**	**287**	P	**P**	**20 44 16.3**	**-0.8**
TPUB	**Ta-pu**	**24.93**	**0**	P	**P**	**20 44 20.4**	**-0.9**
YULB	**Yu-li**	**25.04**	**2**	P	**P**	**20 44 23.7**	**+1.4**
YULB				IAmb	IAmb	20 44 40.5	
comp=Z,18nm,0.8s							
AS31	**Alice Springs**	**25.38**	**150**	P	**P**	**20 44 24.8**	**-0.7**
ASAR	**Alice Springs**	**25.38**	**150**	P	**P**	**20 44 23.9**	**-1.6**

ASAR	**Alice Springs**	**25.38**	**150**	P	**P**	**20 44 24.9**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=335,slow=9.8,SNR=26						
ASAR				PcP	**PcP**	**20 47 57.0**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=337,slow=1.6,SNR=5.7						
ASAR				LR	LR	20 54 17.2	
	comp=Z,131nm,21.1s,baz=324,slow=36						
	comp=Z,2.6nm,0.8s						
SSLB	**Suanglung**	**25.42**	**1**	P	**P**	**20 44 24.7**	**-1.1**
PMG	**Port Moresby**	**27.66**	**107**	P	**P**	**20 44 47.3**	**+1.2**
PMG				IAmb	IAmb	20 44 48.9	
	comp=Z,14nm,0.8s						
PMG	**Port Moresby**	**27.66**	**107**	LR	LR	20 57 44.5	
	comp=Z,56nm,20.9s,baz=287,slow=41						
CM31	**Chiang Mai Arr**	**29.17**	**315**	IAmb	IAmb	20 45 02.4	
	comp=Z,12nm,1.1s						
CMAR	**Chiang Mai Arr**	**29.17**	**315**	P	**P**	**20 44 59.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**29.17**	**315**	P	**P**	**20 44 59.3**	**-0.3**
	comp=Z,5.7nm,0.9s,baz=141,slow=6.8,SNR=13						
CMAR				LR	LR	21 00 00.2	
	comp=Z,78nm,18.1s,baz=130,slow=43						
	comp=Z,5.7nm,0.9s						
CHTO	**Chiang Mai**	**29.40**	**315**	P	**P**	**20 45 01.2**	**-0.4**
JOW	**Kunigami**	**29.44**	**14**	LR	LR	20 55 58.1	
	comp=Z,78nm,21.6s,baz=240,slow=35						
NWAO	**Narrogin (SRO)**	**31.12**	**185**	LR	LR	20 58 33.5	
	comp=Z,84nm,19.1s,baz=222,slow=38						
ENH	**Enshi**	**33.54**	**343**	P	**P**	**20 45 38.5**	**+0.6**
ENH				IAmb	IAmb	20 45 44.8	
	comp=Z,11nm,1.0s						
STKA	**Stephens Creek**	**35.99**	**148**	P	**P**	**20 45 58.7**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=318,slow=10,SNR=6.6						
STKA				LR	LR	21 02 02.6	
	comp=Z,99nm,18.0s,baz=345,slow=38						
	comp=Z,4.7nm,0.8s						
SHL	**Shillong**	**38.75**	**316**	P	**P**	**20 46 22.9**	**+0.2**
SHL				IAmb	IAmb	20 46 26.9	
	comp=Z,11nm,1.0s						
KSRS	**Korea Array**	**39.66**	**9**	P	**P**	**20 46 29.4**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=191,slow=8.6,SNR=2.2						
KSRS				LR	LR	21 04 05.7	
	comp=Z,25nm,19.9s,baz=180,slow=38						
	comp=Z,0.8nm,0.7s						
HNR	**Honiara**	**40.04**	**102**	LR	LR	21 04 28.3	
	comp=Z,29nm,21.1s,baz=276,slow=38						
MJAR	**Matsushiro Arr**	**41.57**	**22**	LR	LR	21 02 29.4	
	comp=Z,32nm,20.3s,baz=208,slow=34						
BJT	**Baijiatuau**	**41.78**	**355**	P	**P**	**20 46 48.1**	**+0.7**
BJT				IAmb	IAmb	20 46 54.3	
	comp=Z,13nm,0.6s						
LSA	**Lhasa**	**41.97**	**321**	P	**P**	**20 46 49.6**	**-0.2**
LSA				IAmb	IAmb	20 46 55.9	
	comp=Z,9.1nm,0.6s						
CAN	**Canberra**	**42.65**	**145**	P	**P**	**20 46 53.9**	**-0.9**
CAN				IAmb	IAmb	20 47 03.2	
	comp=Z,11nm,0.9s						
MDJ	**Mudanjiang**	**46.92**	**9**	P	**P**	**20 47 27.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**46.94**	**11**	P	**P**	**20 47 29.0**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=197,slow=6.7,SNR=2.9						
USRK				LR	LR	21 07 34.1	
	comp=Z,36nm,19.9s,baz=98,slow=37						
	comp=Z,1.2nm,0.6s						
ASAJ	**Asahikawa**	**49.82**	**21**	LR	LR	21 09 17.8	
	comp=Z,18nm,18.8s,baz=242,slow=37						
ULN	**Ulaanbaatar**	**50.80**	**348**	P	**P**	**20 48 00.1**	**+1.5**
ULN				IAmb	IAmb	20 48 05.4	
	comp=Z,7.9nm,0.8s						
SONM	**Songino Array**	**50.91**	**348**	P	**P**	**20 48 00.3**	**+1.0**
SONM	**Songino Array**	**50.91**	**348**	P	**P**	**20 47 58.8**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=164,slow=8.0,SNR=7.7						
SONM				LR	LR	21 11 40.0	
	comp=Z,35nm,18.0s,baz=334,slow=39						
	comp=Z,1.6nm,0.7s						
NIL	**Nilore**	**56.64**	**313**	P	**P**	**20 48 41.2**	**-0.2**
MK31	**Makanchi Array**	**58.81**	**330**	P	**P**	**20 48 56.7**	**+0.2**
MK31				IAmb	IAmb	20 49 04.6	
	comp=Z,6.7nm,0.8s						
MKAR	**Makanchi Array**	**58.81**	**330**	P	**P**	**20 48 57.0**	**+0.6**
MKAR	**Makanchi Array**	**58.81**	**330**	P	**P**	**20 48 55.7**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=128,slow=7.7,SNR=21						
MKAR				LR	LR	21 18 17.2	
	comp=Z,17nm,18.4s,baz=113,slow=40						
	comp=Z,2.3nm,0.6s						
KBL	**Kabul**	**60.15**	**312**	P	**P**	**20 49 05.5**	**-0.7**
AAK	**Ala-Archa**	**60.51**	**322**	LR	LR	21 17 35.3	
	comp=Z,30nm,21.9s,baz=116,slow=38						
DRK	**Karamyk**	**60.53**	**318**	P	**P**	**20 49 10.6**	**+1.8**
ARSB	**Arslanbob**	**60.73**	**321**	P	**P**	**20 49 11.5**	**+1.6**
ARSB				IAmb	IAmb	20 49 18.2	
	comp=Z,7.2nm,1.5s						
GAR	**Garm**	**61.30**	**317**	IAmb	IAmb	20 49 23.7	
	comp=Z,7.1nm,0.8s						
SIMJ	**Simiganj**	**62.03**	**316**	P	**P**	**20 49 19.9**	**+1.1**
SIMJ				IAmb	IAmb	20 49 26.3	
	comp=Z,4.6nm,1.1s						
ZAA0	**Zalesovo Array**	**62.90**	**337**	IAmb	IAmb	20 49 30.9	
	comp=Z,6.6nm,0.9s						
ZALV	**Zalesovo Beam**	**62.90**	**337**	P	**P**	**20 49 25.6**	**+1.5**
ZALV	**Zalesovo Beam**	**62.90**	**337**	P	**P**	**20 49 22.0**	**-2.1**
	comp=Z,2.4nm,0.8s,baz=144,slow=5.6,SNR=9.8						
	comp=Z,2.4nm,0.8s						
PETK	**Petropavlovsk-**	**62.95**	**24**	P	**P**	**20 49 24.9**	**+0.5**
	comp=Z,7.7nm,1.1s,baz=245,slow=5.6,SNR=1.8						
PETK				LR	LR	21 15 09.6	
	comp=Z,33nm,21.7s,baz=120,slow=34						
	comp=Z,7.7nm,1.1s						
URZ	**Urewera**	**63.19**	**133**	LR	LR	21 17 38.8	
	comp=Z,37nm,18.7s,baz=24,slow=37						
KKAR	**Karatay Array**	**63.22**	**321**	P	**P**	**20 49 27.2**	**+0.7**
KURBB	**Kurchatov Arra**	**63.24**	**332**	P	**P**	**20 49 25.0**	**-1.4**
	comp=Z,2.2nm,0.8s,baz=141,slow=5.9,SNR=15						
	comp=Z,2.2nm,0.8s						
KURK	**Kurchatov**	**63.26**	**332**	P	**P**	**20 49 27.1**	**+0.6**
YAK	**Yakutsk**	**64.03**	**5**	LR	LR	21 20 49.1	
	comp=Z,20nm,18.1s,baz=166,slow=39						
BVAR	**Borovoye Array**	**68.70**	**330**	P	**P**	**20 50 01.2**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=131,slow=9.1,SNR=11						
	comp=Z,2.5nm,0.8s						
BRVK	**Borovoye**	**68.77**	**330**	P	**P**	**20 50 03.5**	**+1.5**
BRVK				IAmb	IAmb	20 50 11.1	
	comp=Z,5.4nm,0.9s						
ABKAR	**Akbulak array**	**72.57**	**323**	P	**P**	**20 50 24.7**	**-0.5**
TIXI	**Tiksi**	**73.51**	**3**	P	**P**	**20 50 31.1**	**+0.8**
TIXI				IAmb	IAmb	20 50 35.6	
	comp=Z,4.1nm,0.8s						
GURO	**Guroymak-BITLI**	**82.03**	**309**	P	**P**	**20 51 19.2**	**+0.5**
FURI	**Furi**	**82.11**	**279**	LR	LR	21 27 00.8	
	comp=Z,23nm,18.1s,baz=45,slow=35						
QSPA	**South Pole Qui**	**88.16**	**180**	P	**P**	**20 51 47.5**	**-1.4**
QSPA	**South Pole Qui**	**88.16**	**180**	P	**P**	**20 51 47.1**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=282,slow=2.4,SNR=5.8						
QSPA				LR	LR	21 31 11.1	
	comp=Z,36nm,18.8s,baz=339,slow=36						
	comp=Z,0.9nm,0.3s						
BRTR	**Keskin Array B**	**88.64**	**310**	LR	LR	21 40 01.5	
	comp=Z,24nm,18.3s,baz=331,slow=41						
PPT	**Papeete**	**89.48**	**107**	LR	LR	21 32 24.4	
	comp=Z,25nm,19.0s,baz=14,slow=36						
MBAR	**Mbarara**	**89.65**	**269**	LR	LR	21 32 41.3	
	comp=Z,19nm,19.1s,baz=98,slow=36						
KDAK	**Kodiak Island**	**89.89**	**32**	LR	LR	21 34 59.0	
	comp=Z,19nm,19.2s,baz=83,slow=37						
MNK	**Minsk**	**92.91**	**324**	*i* P	**P**	**20 52 10.0**	**-1.1**
	comp=E,19nm,0.9s						
MNK				*i* P	**P**	**20 52 10.0**	**-1.1**
	comp=N,17nm,1.0s						
MNK				*i* P	**P**	**20 52 10.0**	**-1.1**
	comp=Z,11nm,0.8s,baz=89						
MNK				*i* PP	**PP**	**20 55 52.7**	**-0.8**
MNK				*i* PPP	PPP	20 57 52.5	
MNK				*i* S	**SKSac**	**21 02 43.7**	**-1.4**
MNK				*i* PS	**PS**	**21 04 30.4**	**+0.4**
MNK				*i* SS	**SS**	**21 09 32.1**	**+1.7**
MNK				*i* SSS	SSS	21 13 12.1	
MNK				*i* LQ	LQ	21 26 36.2	
MNK				*i* LR	LR	21 31 49.3	
MNK				*i* LRM	MLR	21 33 57.4	
	comp=N,1μm,18.6s						
MNK				*i* LRM	MLR	21 33 59.4	
	comp=Z,162nm,16.7s						
MNK				*i* LRM	MLR	21 34 05.1	
	comp=E,2μm,19.9s						
BOSA	**Boshof**	**93.68**	**241**	LR	LR	21 28 36.4	
	comp=E,45nm,20.6s,baz=82,slow=32						
SUR	**Sutherland**	**97.16**	**237**	LR	LR	21 30 56.4	
	comp=E,24nm,19.7s,baz=123,slow=32						

TRN 12 21:05:13.0, 17°.91N×63°.41W, h132km, MD3.5, South-west of St. Maarten., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**0.86**	**132**	*e*P	Pn	21 05 36.0	+1.1
SKI				*e*S	Sn	21 05 53.0	+1.7
ANWB	**Willy Bob**	**1.56**	**99**	*e*P	Pn	21 05 42.7	+0.8
ANWB				*e*S	Sn	21 06 04.6	+0.7
MBWH		**1.64**	**135**	*e*P	Pn	21 05 43.2	+0.4
MBWH				*e*S	Sn	21 06 06.1	+0.5
ANBD	**Bethesda, Anti**	**1.79**	**118**	*e*P	Pn	21 05 47.0	+2.5
ANBD				*e*S	Sn	21 06 10.5	+1.9

*CATAC **12** 21:07:14.8±0.5, 13°.28N×89°.85W, h26km±3km, ML3.7*
*GCG **12** 21:07:15.8±0.3, 13°.52N×90°.19W, h119km, MD3.7*
*SNET **12** 21:07:15.0±0.9, 13°.26N×89°.87W, h33km±3km, ML3.5*
ISC 12 21:07:15.0±1.5, 13°.28N±0°.06×89°.88W±0°.05, h32km±10km, n62, σ0°.63/90, 2C-8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.56**	**48**	‖*e*P	**Pb**	**21 07 26.6**	**-0.1**
JAYA				*e*S	**Sn**	**21 07 35.7**	**+0.5**
JAYA	**Jayaque - finc**	**0.56**	**48**	*i* P	**Pb**	**21 07 26.6**	**-0.1**
JAYA				IAML		21 07 26.9	
	comp=Z,8μm,1.0s						
JAYA				*i* S	**Sn**	**21 07 35.8**	**+0.6**
LALI	**Alcalda de L**	**0.58**	**69**	*e*P	**Pb**	**21 07 26.5**	**-0.3**
LALI				*e*S	**Sb**	**21 07 35.0**	**-0.1**
LALI	**Alcalda de L**	**0.58**	**69**	*i* P	**Pb**	**21 07 26.7**	**-0.2**
LALI				*i* S	**Sb**	**21 07 34.9**	**-0.1**
LALI				IAML		21 07 35.1	
	comp=Z,1μm,1.0s						
CEVE	**Cerro Verde**	**0.60**	**24**	‖*i*P	**Pb**	**21 07 27.2**	**-0.1**
CEVE	**Cerro Verde**	**0.60**	**24**	*i* P	**Pb**	**21 07 27.3**	**-0.1**
CEVE				*i* S	**Sn**	**21 07 38.5**	**+2.2**
CEVE				IAML		21 07 45.6	
	comp=Z,3μm,1.0s						
SBLS	**San Blas**	**0.61**	**24**	‖*i*P	**Pb**	**21 07 27.4**	**-0.2**
NUBE	**Las Nubes**	**0.63**	**9**	‖*i*P	**Pb**	**21 07 27.4**	**-0.3**
NUBE	**Las Nubes**	**0.63**	**9**	*i* P	**Pb**	**21 07 27.5**	**-0.3**
NUBE				*i* S	**Sn**	**21 07 37.0**	**+0.1**
NUBE				IAML		21 07 38.9	
	comp=Z,4μm,1.0s						
SNJE	**San Jose**	**0.65**	**24**	‖*e*P	**Pb**	**21 07 27.7**	**-0.3**
RTR	**El Retiro**	**0.66**	**20**	‖*i*P	**Pn**	**21 07 28.1**	**-0.2**
PMON	**Piamonte**	**0.70**	**52**	*e*P	**Pn**	**21 07 28.4**	**-0.3**
PMON	**Piamonte**	**0.70**	**52**	*i* P	**Pn**	**21 07 28.2**	**-0.6**
PMON				*i* S	**Sn**	**21 07 39.5**	**+1.0**
PMON				IAML		21 07 48.2	
	comp=Z,4μm,1.0s						
CEDA	**San Andres**	**0.70**	**42**	*e*P	**Pn**	**21 07 28.4**	**-0.3**
ITCA	**Escuela Especi**	**0.70**	**56**	*i* P	**Pn**	**21 07 28.3**	**-0.5**
ITCA				IAML		21 07 28.7	
	comp=Z,6μm,1.0s						
ITCA				*i* S	**Sb**	**21 07 36.7**	**-1.8**
BOQS	**Boqueron**	**0.74**	**52**	*e*P	**Pn**	**21 07 29.1**	**-0.3**
SNET	**Serv Nac Est T**	**0.75**	**57**	*e*P	**Pn**	**21 07 29.2**	**-0.2**
SNET	**Serv Nac Est T**	**0.75**	**57**	*i* P	**Pn**	**21 07 29.0**	**-0.4**
SNET				IAML		21 07 29.3	
	comp=Z,7μm,1.0s						
SNET				*i* S	**Sb**	**21 07 40.3**	**+0.6**
SLOZ	**Alcaldia de Sa**	**0.75**	**7**	*e*P	**Pn**	**21 07 29.2**	**-0.2**
PANCS	**Alcalda de**	**0.76**	**64**	*e*P	**Pn**	**21 07 28.7**	**-0.8**
PANCS	**Alcalda de**	**0.76**	**64**	*i* P	**Pn**	**21 07 28.5**	**-1.0**
PANCS				*i* S	**Sb**	**21 07 39.8**	**-0.1**
PANCS				IAML		21 07 40.7	
	comp=Z,8μm,1.0s						
UEES	**Universidad Ev**	**0.76**	**55**	*e*P	**Pn**	**21 07 29.1**	**-0.5**
UEES	**Universidad Ev**	**0.76**	**55**	*i* P	**Pn**	**21 07 29.0**	**-0.5**
UEES				*i* S	**Sn**	**21 07 38.6**	**-1.4**
UEES				IAML		21 07 46.6	
	comp=Z,2μm,1.0s						
PIC2	**El Picacho**	**0.76**	**52**	*e*P	**Pn**	**21 07 29.6**	**-0.1**
UNIC	**Universidad Ca**	**0.77**	**25**	*i* P	**Pn**	**21 07 29.4**	**-0.3**
UNIC				IAML		21 07 30.1	
	comp=Z,770nm,1.0s						
UNIC				*i* S	**Sb**	**21 07 41.5**	**+1.2**
LOMA	**Loma Larga**	**0.78**	**62**	‖*e*P	**Pn**	**21 07 29.3**	**-0.6**
LOMA				*e*S	**Sb**	**21 07 41.8**	**+1.1**
LOMA	**Loma Larga**	**0.78**	**62**	*i* P	**Pn**	**21 07 29.4**	**-0.5**
LOMA				*i* S	**Sb**	**21 07 41.7**	**+1.1**
LOMA				IAML		21 07 43.7	
	comp=Z,2μm,1.0s						
UESS	**Universidad de**	**0.79**	**56**	*e*P	**Pn**	**21 07 30.1**	**+0.1**
QUEZ	**Alcaldia de Qu**	**0.81**	**47**	*i* P	**Pn**	**21 07 30.0**	**-0.2**
QUEZ				*i* S	**Sb**	**21 07 42.9**	**+1.5**
QUEZ				IAML		21 07 48.4	
	comp=Z,6μm,1.0s						
LFRS	**El Faro**	**0.87**	**66**	↑*e*P	**Pn**	**21 07 30.5**	**-0.5**
LFU	**La Fuente**	**0.88**	**58**	*e*P	**Pn**	**21 07 31.1**	**-0.1**
PAVA	**Las Pavas**	**1.01**	**65**	*e*P	**Pn**	**21 07 33.3**	**+0.2**
PAVA	**Las Pavas**	**1.01**	**65**	*i* P	**Pn**	**21 07 33.0**	**-0.1**
PAVA				*i* S	**Sb**	**21 07 47.0**	**-0.2**
PAVA				IAML		21 07 50.1	
	comp=Z,2μm,1.0s						
COEG	**Centro de Oper**	**1.03**	**71**	*e*P	**Pn**	**21 07 33.0**	**-0.3**
COEG	**Centro de Oper**	**1.03**	**71**	*i* P	**Pn**	**21 07 32.7**	**-0.6**
COEG				IAML		21 07 34.3	
	comp=Z,1μm,1.0s						
COEG				*i* S	**Sb**	**21 07 48.0**	**+0.4**
TECO	**Alcaldia de Te**	**1.10**	**76**	*e*P	**Pn**	**21 07 33.7**	**-0.5**
TECO	**Alcaldia de Te**	**1.10**	**76**	*i* P	**Pn**	**21 07 34.0**	**-0.2**
TECO				IAML		21 07 34.5	
	comp=Z,680nm,1.0s						
TECO				*i* S	**Sn**	**21 07 48.4**	**+0.1**
UESV	**Universidad de**	**1.12**	**71**	*i* P	**Pn**	**21 07 34.3**	**-0.2**
UESV				*i* S	**Sb**	**21 07 49.9**	**-0.3**
UESV				IAML		21 07 55.7	
	comp=Z,1μm,1.0s						
SCLA	**Alcaldia de Sa**	**1.20**	**69**	*e*P	**Pn**	**21 07 35.7**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.20**	**69**	*i* P	**Pn**	**21 07 35.9**	**+0.4**
SCLA				*i* S	**Sb**	**21 07 53.0**	**+0.7**
SCLA				IAML		21 07 57.5	
	comp=Z,340nm,1.0s						
MTO3	**Montecristo**	**1.22**	**24**	‖*e*P	**Pn**	**21 07 35.8**	**-0.3**
MTO3	**Montecristo**	**1.22**	**24**	*i* P	**Pn**	**21 07 35.7**	**-0.4**
MTO3				IAML		21 07 36.8	
	comp=Z,560nm,1.0s						
MTO3				*i* S	**Sn**	**21 07 52.2**	**+0.5**
LLGN	**La Laguna**	**1.27**	**46**	*e*P	**Pn**	**21 07 36.3**	**-0.2**
LLGN	**La Laguna**	**1.27**	**46**	*i* P	**Pn**	**21 07 36.3**	**-0.2**
LLGN				*i* S	**Sn**	**21 07 52.9**	**+0.4**
LLGN				IAML		21 08 37.0	
	comp=Z,700nm,1.0s						
TECA	**Tecapa**	**1.36**	**81**	↑*e*P	**Pn**	**21 07 37.5**	**-0.4**
ESQI	**Esquipulas**	**1.38**	**22**	*e*P	**Pn**	**21 07 38.1**	**0.0**
ESQI	**Esquipulas**	**1.38**	**22**	*i* P	**Pn**	**21 07 38.4**	**+0.3**
ESQI				IAML		21 07 39.8	
	comp=Z,420nm,1.0s						
ESQI				*i* S	**Sn**	**21 07 53.5**	**-1.8**
NBG	**Las Nubes**	**1.38**	**341**	*e*P	**Pb**	**21 07 39.5**	**-0.9**
NBG				*e*S	**Sb**	**21 07 58.0**	**+0.2**
FUG	**Fuego 3**	**1.49**	**321**	*e*P	**Pn**	**21 07 39.6**	**-0.1**
LCY	**Lacayo**	**1.55**	**84**	*e*P	**Pn**	**21 07 40.7**	**+0.2**
RANC	**El Ranchito**	**1.56**	**84**	*e*P	**Pn**	**21 07 40.4**	**-0.1**
RANC	**El Ranchito**	**1.56**	**84**	*i* P	**Pn**	**21 07 41.2**	**+0.6**
RANC				*i* S	**Sn**	**21 07 59.0**	**-0.7**
RANC				IAML		21 08 09.5	
	comp=Z,450nm,1.0s						
BLLM	**Bellamira**	**1.60**	**84**	*e*P	**Pn**	**21 07 41.3**	**+0.1**
CAHU	**Cacacuatique**	**1.69**	**73**	*e*P	**Pn**	**21 07 42.5**	**-0.1**
LCND	**La Caada**	**1.94**	**89**	*e*P	**Pn**	**21 07 45.7**	**0.0**
LCND	**La Caada**	**1.94**	**89**	*i* P	**Pn**	**21 07 45.5**	**-0.2**
LCND				*i* S	**Sn**	**21 08 08.0**	**-0.9**
LCND				IAML		21 08 17.3	
	comp=Z,430nm,1.0s						
CNCH	**Conchagua**	**1.99**	**90**	*e*P	**Pn**	**21 07 46.5**	**-0.1**
CNCH	**Conchagua**	**1.99**	**90**	*i* P	**Pn**	**21 07 46.9**	**+0.4**
CNCH				*i* S	**Sn**	**21 08 10.2**	**-0.3**
CNCH				IAML		21 08 19.8	
	comp=Z,1μm,1.0s						
STG3	**Santiaguito 3,**	**2.17**	**311**	*e*P	**Pn**	**21 07 49.4**	**+0.2**
PKGN	**Cerro Pekin**	**2.89**	**102**	*i* P	**Pn**	**21 07 59.6**	**+0.8**
PKGN				*i* S	**Sn**	**21 08 32.8**	**+0.3**
PKGN				IAML		21 08 39.9	
	comp=Z,660nm,1.0s						
COPN	**Copaltepe**	**3.39**	**108**	*i* P	**Pn**	**21 08 06.5**	**+0.8**
COPN				IAML		21 08 58.4	
	comp=Z,69nm,1.0s						
RCVN	**Varilla12**	**3.60**	**85**	*i* P	**Pn**	**21 08 08.5**	**-0.2**

IDC 12 21:28:10.9±1.9, 4°.25N×123°.16E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=143.1km s-min=26.8km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.34**	**174**	P	P	21 33 10.0	-0.5
	3.3nm,1.0s,baz=3.9,slow=9.2,SNR=7.7						
	3.3nm,1.0s						
WRA	**Warramunga Arr**	**26.43**	**156**	P	P	21 33 49.9	+0.3
	0.9nm,0.4s,baz=336,slow=9.5,SNR=23						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**29.66**	**160**	P	P	21 34 18.4	0.0
	0.4nm,0.3s,baz=338,slow=7.5,SNR=14						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**55.14**	**327**	P	P	21 37 45.1	-0.1
	0.2nm,0.5s,baz=129,slow=7.2,SNR=1.7						
	0.2nm,0.5s						

*NEIC **12** 21:30:49.2±0.4, 35°.796N±0°.009×96°.97W±0°.02, h9km±9km, ML2.1/40, ML2.6/22, Error ellipse: s-maj=1.9km s-min=1.1km az=64.0*
NEIC 12 21:30:49.1±0.4, 35°.79N±0°.01×96°.96W±0°.02, h11km±7km, Error ellipse: s-maj=2.0km s-min=1.6km az=84.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK031	**S. Brethren Rd**	**0.19**	**31**		Pg	21 30 53.4	+0.2
OK031				IAML		21 30 56.6	
	595nm,0.3s						
DEOK	**Depew**	**0.38**	**82**	Pg	Pg	21 30 56.9	+0.3
DEOK				IAML		21 31 03.3	
	comp=E,287nm,0.1s						
QUOK	**Quay**	**0.43**	**28**	Pg	Pg	21 30 57.4	-0.2
QUOK				Sg	Sg	21 31 03.6	+0.3
QUOK				IAML		21 31 04.2	
	comp=E,251nm,0.2s						
OK048	**Pawnee Station**	**0.62**	**1**	Pg	Pg	21 31 01.1	-0.1
OK048				Sg	Sg	21 31 09.4	0.0
OK048				IAML		21 31 09.8	
	comp=E,83nm,0.4s						
W35A	**Tecumseh**	**0.64**	**174**	Pg	Pg	21 31 01.2	-0.3
W35A				IAML		21 31 10.8	
	comp=E,129nm,0.7s						
FNO	**Franklin**	**0.64**	**214**	Pg	Pg	21 31 01.1	-0.4
FNO				Sg	Sg	21 31 10.3	+0.3
OK051	**E0350 and S346**	**0.72**	**8**	Pg	Pg	21 31 02.8	-0.2
OK051				Sg	Sg	21 31 12.2	-0.3
TUL3	**Leonard**	**0.96**	**82**	Pg	Pg	21 31 06.9	-0.6
TUL3				Sg	Sb	21 31 20.3	-0.1
TUL3				IAML		21 31 20.5	
	comp=N,51nm,0.4s						
CROK	**Carrier**	**1.09**	**311**	Pg	Pb	21 31 09.5	-0.5
CROK				Sg	Sb	21 31 24.0	-0.2
CROK				IAML		21 31 26.8	
	comp=E,69nm,0.2s						
T35A	**Sooner Cattle**	**1.18**	**18**	Pg	Pb	21 31 11.1	-0.4
GC02	**Grant County #**	**1.28**	**326**		Pn	21 31 12.4	-0.6
RLO	**Rose Lookout**	**1.61**	**76**		Pn	21 31 17.7	+0.2
X37A	**Clayton**	**1.77**	**132**	Pn	Pn	21 31 18.3	-1.3
MIAR	**Mount Ida**	**3.04**	**113**	Pn	Pn	21 31 36.6	-0.5
S39A	**Bolivar**	**3.48**	**56**	Pn	Pn	21 31 42.6	-0.6

DJA 12 21:53:09.4±4.1, 4°S±47°×13°9E±1°8, h29km±72km, M3.7/3, mb3.9/1, MLv3.6/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.62**	**37**	P	Pn	21 53 36.0	0.0
GENI				S	Sn	21 53 56.5	+0.6
JAY	**Jayapura**	**2.04**	**48**	P	Pn	21 53 41.8	0.0
FAKI	**Fak Fak**	**7.01**	**278**	P	Pn	21 54 49.9	-0.3

*IDC **12** 22:06:55.6±13.0, 56°.03S×27°.68W, h141km±114km, mb3.7/1, mbtmp4.1/2, ML4.3/1, MS3.1/1, Error ellipse: s-maj=85.8km s-min=41.8km az=102.0*
ISC 12 22:06:55.5±1.9, 56°.15±0°.2×28°.0W±0°.6, h150km, n10, σ0°.42/9, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.92**	**157**	⇑P	**Pn**	**22 10 43.3**	**+0.3**
	comp=Z,0.1nm,0.2s						
VNA3	**Neumayer Olymp**	**17.09**	**160**	⇑P	**P**	**22 10 44.0**	**-0.4**
	comp=Z,0.6nm,0.5s						
VNA2	**Neumayer--Watz**	**17.32**	**157**	⇑P	**Pn**	**22 10 47.4**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=315,slow=13						
SNAA	**Sanae**	**18.88**	**155**	⇑P	**P**	**22 11 04.3**	**+0.3**
	comp=Z,52nm,0.3s						
SNAA	**Sanae**	**18.88**	**155**	P	**P**	**22 11 04.6**	**+0.6**
	comp=Z,

ITM					AML	AML	22 22 49.6		
	comp=E,2400μm,0.5s								
ITM					AML	AML	22 22 50.0		
	comp=N,2324μm,0.5s								
DMLN	**Damoulianata-K**	**1.10**	**353**		P	**Pg**	**22 22 26.6**	**-0.1**	
DMLN					S	**Sb**	**22 22 42.6**	**+0.3**	
	comp=N,5μm,0.8s								
DMLN	**Damoulianata-K**	**1.10**	**353**		P	**Pg**	**22 22 26.3**	**-0.4**	
SMHA	**Samh**	**1.10**	**4**		P	**Pg**	**22 22 25.7**	**-1.1**	
SMHA					S	**Sb**	**22 22 41.9**	**-0.5**	
SMHA					AML	AML	22 22 47.8		
	comp=N,11324μm,0.5s								
SMHA					AML	AML	22 22 49.8		
	comp=E,12988μm,0.5s								
RLS	**Riolos of Patr**	**1.16**	**38**		P	**Pg**	**22 22 27.2**	**-0.7**	
RLS	**Riolos of Patr**	**1.16**	**38**		P	**Pg**	**22 22 27.6**	**-0.3**	
RLS					AML	AML	22 22 50.7		
	comp=N,2015μm,0.6s								
RLS					AML	AML	22 22 50.8		
	comp=E,2040μm,0.5s								
DRO	**Drossia**	**1.22**	**48**		P	**Pg**	**22 22 28.1**	**-0.9**	
DRO					S	**Sg**	**22 22 45.1**	**+0.2**	
	comp=E,3μm,0.4s								
DRO	**Drossia**	**1.22**	**48**		P	**Pg**	**22 22 28.1**	**-0.9**	
DRO					AML	AML	22 22 51.2		
	comp=N,6267μm,0.4s								
DRO					AML	AML	22 22 57.3		
	comp=E,6543μm,0.4s								
VSK1	**VASILIKIADES**	**1.26**	**0**		P	**Pg**	**22 22 28.9**	**-0.9**	
FSK	**Fiskardo**	**1.31**	**0**		P	**Pn**	**22 22 29.9**	**-1.1**	
FSK					S	**Sn**	**22 22 49.8**	**+0.7**	
	comp=E,3μm,1.1s								
EVGI	**Lefkada island**	**1.47**	**3**		P	**Pn**	**22 22 32.9**	**-0.4**	
EVGI	**Lefkada island**	**1.47**	**3**		P	**Pn**	**22 22 32.5**	**-0.8**	
UPR	**University Cam**	**1.50**	**40**		P	**Pb**	**22 22 34.2**	**-0.1**	
KLV	**Kalavryta, Ach**	**1.55**	**54**		P	**Pn**	**22 22 34.0**	**-0.4**	
KLV	**Kalavryta, Ach**	**1.55**	**54**		P	**Pn**	**22 22 33.7**	**-0.7**	
KLV					AML	AML	22 23 04.9		
	comp=E,947μm,0.6s								
KLV					AML	AML	22 23 08.2		
	comp=N,1053μm,0.8s								
NYDR	**Nydri-Lefkada**	**1.57**	**4**		P	**Pn**	**22 22 34.6**	**0.0**	
NYDR	**Nydri-Lefkada**	**1.57**	**4**		P	**Pn**	**22 22 34.3**	**-0.3**	
GUR	**Goura**	**1.62**	**60**		P	**Pn**	**22 22 35.1**	**-0.4**	
EFP	**Efpalio**	**1.67**	**40**		P	**Pn**	**22 22 36.2**	**+0.3**	
TSLK	**Tsoukalades, L**	**1.68**	**3**		P	**Pn**	**22 22 36.5**	**+0.4**	
TSLK	**Tsoukalades, L**	**1.68**	**3**		P	**Pn**	**22 22 36.5**	**+0.4**	
TSLK					AML	AML	22 23 06.1		
	comp=N,2498μm,0.6s								
TSLK					AML	AML	22 23 12.0		
	comp=E,2171μm,0.8s								
KALE	**Kalithea**	**1.77**	**45**		P	**Pn**	**22 22 37.8**	**+0.4**	
KALE	**Kalithea**	**1.77**	**45**		P	**Pn**	**22 22 37.7**	**+0.3**	
KALE					AML	AML	22 23 14.4		
	comp=N,1202μm,0.4s								
KALE					AML	AML	22 23 15.9		
	comp=E,1445μm,0.8s								
ANX	**Ano Chora**	**1.80**	**36**		P	**Pn**	**22 22 38.4**	**+0.5**	
VLI	**Veliai**	**1.96**	**102**		P	**Pb**	**22 22 41.4**	**-0.6**	
MAKR	**Makrakomi, Fth**	**2.24**	**33**		P	**Pb**	**22 22 45.8**	**-1.1**	
MAKR					AML	AML	22 23 28.6		
	comp=E,1921μm,0.8s								
MAKR					AML	AML	22 23 34.7		
	comp=N,1349μm,1.0s								
AXAR	**Agios Charalam**	**2.32**	**45**		P	**Pn**	**22 22 45.8**	**+0.9**	
AXAR	**Agios Charalam**	**2.32**	**45**		P	**Pn**	**22 22 46.1**	**+1.2**	
AGG	**Agios Georgios**	**2.34**	**36**		P	**Pn**	**22 22 46.4**	**+1.2**	
THL	**Klokotos Trika**	**2.67**	**25**		P	**Pn**	**22 22 50.5**	**+0.7**	
OHR	**Ohrid**	**3.96**	**3**	*i*	Pn	**Pn**	**22 23 08.7**	**+1.1**	

*IDC **12** 22:37:24.8±0.5,3.˚14S×103.˚56W,h0km,mb4.8/25, mbtmp4.8/25,MS4.9/53,Error ellipse: s-maj=20.4km s-min=10.4km az=62.0*

*MOS **12** 22:37:25.9±1.0,2.˚96S×103.˚31W,h10km,mb5.3/30, MS4.9/10,Error ellipse: s-maj=12.1km s-min=7.0km az=92.3*

*NEIC **12** 22:37:27.7,3.˚10S×103.˚38W,h16km*

*NEIC **12** 22:37:27.7,3.˚00S×103.˚28W,h16km,Moment Tensor Solution. Duration: 3s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.26; $M_{\theta\theta}$0.57; $M_{\phi\phi}$2.69; $M_{r\theta}$-0.53; $M_{\theta\phi}$0.85; $M_{\phi r}$-1.60; Fault plane solution: $M_0$3.55000×10^{17} NP1:ϕ_s18.89000°, δ59.15000°,λ-90.39000°. NP2:ϕ_s199.66000°,δ30.85000°, λ-89.34000°. Principal axes: T 3.4120, Plg14.0000°, Azm109.0000°; N 0.2748, Plg0.0000°, Azm19.0000°; P -3.6868, Plg76.0000°, Azm288.0000°;*

*NEIC **12** 22:37:27.5±1.9,3.˚08S±0.˚10×103.˚4W±0.˚1,h10km±1km, mb5.2/544,Ms_20 5.0/346,Mww5.6/28 Error ellipse: s-maj=22.1km s-min=15.9km az=251.0*

*GCMT **12** 22:37:28.5±0.1,2.˚99S±0.˚01×103.˚43W±0.˚01,h12km, MW5.6/158,Moment Tensor Solution. s146,c277; s158,c328; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}-2.97±.03; $M_{\theta\theta}$0.11±.02; $M_{\phi\phi}$2.86±.03; $M_{r\theta}$0.55±.07; $M_{\theta\phi}$0.56±.02; $M_{\phi r}$-0.46±.07; Best double couple: $M_0$3.05400×10^{17} NP1:ϕ_s360.00000°,δ49.00000°, λ-105.00000°. NP2:ϕ_s202.00000°,δ43.00000°, λ-73.00000°. Principal axes: T 2.9910, Plg3.0000°, Azm100.0000°; N 0.1240, Plg11.0000°, Azm10.0000°; P -3.1170, Plg78.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 22:37:27.6±2.3,3.˚09S±0.˚06×103.˚41W±0.˚06,h18km±12km, n939,σ1s05/606,mb5.2/294,MS5.0/230,16C-2D,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**21.07**	**13**	P	**P**	**22 42 12.8**	**+1.6**
CMIG	**Matias Romero**	**21.75**	**23**	P	**P**	**22 42 19.7**	**+1.3**
	14nm,1.0s,baz=213,slow=5.9,SNR=15						
CMIG				LR	LR	22 48 48.7	
	comp=Z,2μm,20.8s,baz=195,slow=31						
	14nm,1.0s						
HUEH	**Huehuetenango**	**21.76**	**32**	P	**P**	**22 42 19.6**	**+0.8**
SNET	**Serv Nac Est T**	**21.81**	**40**	P	**P**	**22 42 20.4**	**+1.3**
CCIG	**Comitan**	**22.24**	**30**	P	**P**	**22 42 25.3**	**+1.4**
CCIG				IAmb	IAmb	22 42 30.5	
	comp=Z,123nm,1.2s						
MTO3	**Montecristo**	**22.27**	**38**	P	**P**	**22 42 25.2**	**+0.9**
ESQI	**Esquipulas**	**22.40**	**38**	P	**P**	**22 42 27.3**	**+1.8**
JTS	**Las Juntas de**	**22.68**	**54**	P	**P**	**22 42 29.5**	**+1.0**
JTS				IAmb	IAmb	22 42 34.6	
	comp=Z,111nm,1.7s						
JTS	**Las Juntas de**	**22.68**	**54**	*i* P	**P**	**22 42 28.9**	**+0.4**
JTS				pmax	pmax		
	comp=Z,212nm,4.0s						
MOIG	**Morelia**	**22.73**	**5**	P	**P**	**22 42 30.4**	**+1.2**
MOIG				IAmb	IAmb	22 42 33.9	
	comp=Z,101nm,1.1s						
SOCE	**Pocosol**	**23.01**	**54**	P	**P**	**22 42 33.6**	**+1.7**
SOCE				IAmb	IAmb	22 42 39.3	
	comp=Z,282nm,1.8s						
LCR2	**La Lucha 2**	**23.16**	**56**	P	**P**	**22 42 34.6**	**+1.0**
HDC	**Heredia**	**23.21**	**56**	P	**P**	**22 42 34.6**	**+0.6**
HDC				IAMs_20	IAMs_20	22 49 01.7	
	comp=Z,4μm,21.0s						
TGUH	**Tegucigalpa,Un**	**23.37**	**43**	P	**P**	**22 42 35.9**	**+0.2**
TGUH				IAmb	IAmb	22 42 41.5	
	comp=Z,112nm,1.2s						
ACON	**Acoyapa**	**23.50**	**50**	P	**P**	**22 42 37.6**	**+0.7**
ACON				IAmb	IAmb	22 42 41.0	
	comp=Z,63nm,1.3s						
BRU2	**Volcan**	**23.79**	**60**	P	**P**	**22 42 40.3**	**+0.4**
JRQG	**Juriquilla Cam**	**23.82**	**7**	P	**P**	**22 42 41.6**	**+1.5**
PETF	**Flores**	**23.96**	**34**	P	**P**	**22 42 41.4**	**+0.2**
PETF				IAmb	IAmb	22 42 44.8	
	comp=Z,121nm,1.6s						
OTAV	**Otavalo**	**25.17**	**83**	P	**P**	**22 42 52.6**	**-0.2**
OTAV	**Otavalo**	**25.17**	**83**	P	**P**	**22 42 52.7**	**-0.2**
OTAV				pmax	pmax		
	comp=Z,35nm,1.2s						
OTAV				MLR	MLR		
	comp=Z,600nm,18.0s						
OTAV	**Otavalo**	**25.17**	**83**	*e*P	**P**	**22 42 53.9**	**+1.1**
ATAH	**Atahualpa**	**25.24**	**100**	P	**P**	**22 42 56.0**	**+2.6**
	comp=Z,23nm,1.1s,baz=275,slow=12,SNR=12						
ATAH				LR	LR	22 50 25.6	
	comp=Z,8μm,19.8s,baz=273,slow=31						
	comp=Z,23nm,1.1s						
ZAIG	**Zacatecas**	**25.71**	**2**	P	**P**	**22 42 57.8**	**+0.4**
BCIP	**Isla Barro Col**	**26.46**	**62**	IAMs_20	IAMs_20	22 51 01.9	
	comp=Z,5μm,22.0s						
SLBS	**Sierra La Lagu**	**27.36**	**347**	IAMs_20	IAMs_20	22 51 07.7	
	comp=Z,4μm,18.0s						
NNA	**Nana**	**27.76**	**110**	IAMs_20	IAMs_20	22 51 26.2	
	comp=Z,5μm,18.0s						
NNA	**Nana**	**27.76**	**110**	LR	LR	22 51 29.6	
	comp=Z,5μm,18.6s,baz=279,slow=30						
LPIG	**La Paz**	**27.85**	**346**	LR	LR	22 51 41.2	
	comp=Z,1μm,18.7s,baz=172,slow=31						
HPIG		**29.93**	**356**	P	**P**	**22 43 36.0**	**+1.0**
ROSC	**El Rosal**	**30.11**	**75**	P	**P**	**22 43 39.1**	**+2.0**
	comp=Z,3.3nm,0.4s,baz=298,slow=12,SNR=5.1						
ROSC				LR	LR	22 53 27.1	
	comp=Z,5μm,18.7s,baz=234,slow=32						
	comp=Z,3.3nm,0.4s						
CZSB	**Cruzeiro do Su**	**30.91**	**100**	P	**P**	**22 43 44.3**	**+0.6**
CZSB	**Cruzeiro do Su**	**30.91**	**100**	*e*P	**P**	**22 43 46.0**	**+2.3**
833A	**Chaparral WMA,**	**31.47**	**7**	P	**P**	**22 43 48.9**	**+0.5**
833A				IAmb	IAmb	22 43 51.9	
	comp=Z,31nm,1.1s						
833A	**Chaparral WMA,**	**31.47**	**7**	P	**P**	**22 43 50.1**	**+1.7**
	baz=188						
735A	**Kenedy**	**32.21**	**9**	P	**P**	**22 43 55.2**	**+0.3**
TXAR	**Lajitas Array**	**32.24**	**360**	P	**P**	**22 43 56.0**	**+0.7**
TXAR				PcP	**PcP**	**22 46 43.2**	**-0.5**
TXAR	**Lajitas Array**	**32.24**	**360**	P	**P**	**22 43 55.7**	**+0.4**
	comp=Z,6.3nm,0.9s,baz=184,slow=11,SNR=15						
TXAR				PcP	**PcP**	**22 46 44.3**	**+0.6**
	comp=Z,3.4nm,0.9s,baz=174,slow=5.0,SNR=7.4						
TXAR				LR	LR	22 55 44.9	
	comp=Z,375nm,19.9s,baz=176,slow=34						
	comp=Z,6.3nm,0.9s						
TX31	**Lajitas Ar. Si**	**32.24**	**360**	P	**P**	**22 43 56.0**	**+0.7**
DRIO	**Del Rio**	**32.44**	**5**	P	**P**	**22 43 57.2**	**+0.2**
HNDO	**Hondo**	**32.67**	**7**	P	**P**	**22 43 59.4**	**+0.4**
HNDO				IAmb	IAmb	22 44 04.0	
	comp=Z,50nm,1.2s						
HSIG		**32.73**	**348**	P	**P**	**22 44 00.6**	**+1.0**
HSIG				IAmb	IAmb	22 44 02.3	
	comp=Z,29nm,1.2s						
HSIG				IAMs_20	IAMs_20	22 53 49.8	
	comp=Z,2μm,20.0s						
SAND	**Sanderson**	**32.88**	**2**	P	**P**	**22 44 01.9**	**+1.0**
SAND				IAmb	IAmb	22 44 04.4	
	comp=Z,45nm,1.3s						
SAND				PcP	**PcP**	**22 46 44.9**	**-0.6**
MLDN	**Muldoon**	**33.24**	**10**	P	**P**	**22 44 05.1**	**+1.1**
ALPN	**Alpine**	**33.27**	**360**	P	**P**	**22 44 05.1**	**+0.7**
ALPN				IAmb	IAmb	22 44 07.9	
	comp=Z,41nm,1.1s						
TBTG	**Tabatinga, AM**	**33.45**	**93**	P	**P**	**22 44 07.6**	**+1.6**
TBTG				IAmb	IAmb	22 44 12.1	
	comp=Z,39nm,0.9s						
JCT	**Junction City**	**33.56**	**6**	P	**P**	**22 44 06.8**	**+0.1**
JCT				IAmb	IAmb	22 44 09.7	
	comp=Z,35nm,1.0s						
JCT	**Junction City**	**33.56**	**6**	P	**P**	**22 44 06.8**	**+0.1**
JCT				pmax	pmax		
	comp=Z,35nm,1.0s						
HKT	**Hockley**	**33.64**	**12**	*i* P	**P**	**22 44 08.0**	**+0.7**
HKT				pmax	pmax		
	comp=Z,30nm,1.5s						
VHRN	**Van Horn**	**33.72**	**358**	P	**P**	**22 44 08.5**	**+0.3**
OZNA	**Ozona**	**33.89**	**4**	P	**P**	**22 44 10.1**	**+0.5**
OZNA				PcP	**PcP**	**22 46 48.1**	**-0.1**
435B	**Jarrell**	**34.14**	**9**	P	**P**	**22 44 11.5**	**-0.3**
435B				IAmb	IAmb	22 44 14.7	
	comp=Z,33nm,1.1s						
435B	**Jarrell**	**34.14**	**9**	P	**P**	**22 44 13.4**	**+1.7**
	baz=190						
PECS	**Pecos**	**34.27**	**359**	P	**P**	**22 44 14.0**	**+1.0**
BRDY	**Brady**	**34.44**	**7**	P	**P**	**22 44 14.0**	**-0.4**
BRDY				PcP	**PcP**	**22 46 49.0**	**-0.8**
SDV	**Santo Domingo**	**34.77**	**70**	P	**P**	**22 44 17.8**	**+0.1**
SDV				IAMs_20	IAMs_20	22 55 48.2	
	comp=Z,4μm,22.0s						
SDV	**Santo Domingo**	**34.77**	**70**	LR	LR	22 56 10.0	
	comp=Z,4μm,21.5s,baz=242,slow=32						
SDV	**Santo Domingo**	**34.77**	**70**	*e*P	**P**	**22 44 18.8**	**+1.0**
SGCY	**Sterling City**	**34.88**	**3**	P	**P**	**22 44 17.9**	**-0.3**
SGCY				IAmb	IAmb	22 44 20.1	
	comp=Z,39nm,1.1s						
ODSA	**Odessa**	**35.02**	**1**	P	**P**	**22 44 19.6**	**+0.1**
ODSA				IAmb	IAmb	22 44 23.0	
	comp=Z,41nm,1.0s						
CHIV	**Chivirico**	**35.05**	**48**	IAMs_20	IAMs_20	22 55 04.7	
	comp=Z,898nm,22.0s						
545A	**Edgard**	**35.19**	**20**	IAMs_20	IAMs_20	22 54 38.6	
	comp=Z,3μm,20.0s						
NATX	**Nacogdoches**	**35.64**	**13**	P	**P**	**22 44 25.5**	**+0.8**
121A	**Cookes Peak, D**	**35.67**	**354**	IAmb	IAmb	22 44 28.9	
	comp=Z,30nm,1.0s						
121A	**Cookes Peak, D**	**35.67**	**354**	P	**P**	**22 44 26.3**	**+1.1**
	baz=172,SNR=17						
ABTX	**Abilene, Hawle**	**35.70**	**5**	IAmb	IAmb	22 44 27.9	
	comp=Z,51nm,1.0s						
PIX	**Pinacate**	**35.76**	**345**	IAmb	IAmb	22 44 29.2	
	comp=Z,26nm,1.0s						
AP01	**Chacalluta**	**35.76**	**118**	IAMs_20	IAMs_20	22 55 09.8	
	comp=Z,3μm,19.0s						
SN05	**Snyder 5**	**35.85**	**4**	IAmb	IAmb	22 44 28.9	
	comp=Z,42nm,1.2s						
TUC	**Tucson**	**35.89**	**349**	P	**P**	**22 44 28.1**	**+1.1**
TUC	**Tucson**	**35.89**	**349**	IAMs_20	IAMs_20	22 55 40.4	
	comp=Z,2μm,20.0s						
TUC	**Tucson**	**35.89**	**349**	P	**P**	**22 44 28.1**	**+1.1**
TUC				pmax	pmax		
	comp=Z,19nm,1.3s						
TUC				MLR	MLR		
	comp=Z,2μm,20.0s						
POST	**Post**	**36.00**	**3**	P	**P**	**22 44 27.9**	**0.0**
POST				IAmb	IAmb	22 44 30.4	
	comp=Z,29nm,1.0s						
PLPT	**Palo Pinto**	**36.03**	**7**	IAmb	IAmb	22 44 31.0	
	comp=Z,53nm,1.1s						
VTX	**Valle De La Tr**	**36.26**	**342**	IAMs_20	IAMs_20	22 55 25.1	
	comp=Z,3μm,22.0s						
PB18	**Visviri**	**36.26**	**116**	IAMs_20	IAMs_20	22 55 45.0	
	comp=Z,3μm,21.0s						
APMT	**Aspermont**	**36.35**	**5**	IAmb	IAmb	22 44 32.8	
	comp=Z,27nm,1.1s						
NMDO	**Nuevo Mundo**	**36.47**	**49**	IAMs_20	IAMs_20	22 58 57.3	
	comp=Z,933nm,20.0s						
TA02	**Huaiquique**	**36.66**	**120**	IAMs_20	IAMs_20	22 55 18.6	
	comp=Z,3μm,20.0s						
TA01	**Diego Aracena**	**36.74**	**121**	IAMs_20	IAMs_20	22 55 56.6	
	comp=Z,3μm,19.0s						
MSTX	**Muleshoe**	**36.86**	**1**	IAmb	IAmb	22 44 38.6	
	comp=Z,72nm,1.2s						
MSTX				IAMs_20	IAMs_20	22 57 48.1	
	comp=Z,3μm,22.0s						
ESJX	**Sierra Juarez**	**36.88**	**342**	IAMs_20	IAMs_20	22 55 44.5	
	comp=Z,3μm,22.0s						
PB11	**IPOC Station P**	**36.88**	**119**	IAMs_20	IAMs_20	22 55 27.3	
	comp=Z,3μm,20.0s						
WTFS	**Witchita Falls**	**36.95**	**7**	IAmb	IAmb	22 44 38.8	
	comp=Z,57nm,1.1s						
TAOE	**Nuku Hiva Isla**	**36.96**	**259**	*e*S	**S**	**22 50 21.6**	**+0.3**
	comp=Z,816nm,26.6s						
TAOE				*e*LR	LR	22 54 34.2	
	comp=Z,8μm,24.8s						
LPAZ	**La Paz**	**37.08**	**113**	P	**P**	**22 44 39.6**	**+1.6**
	comp=Z,5.6nm,0.9s,baz=282,slow=7.0,SNR=4.9						
LPAZ				LR	LR	22 57 05.7	
	comp=Z,2μm,21.0s,baz=294,slow=32						
	comp=Z,5.6nm,0.9s						
LPAZ	**La Paz**	**37.08**	**113**	*e*P	**P**	**22 44 39.4**	**+1.4**
Y22D	**IRIS PASSCAL I**	**37.11**	**355**	P	**P**	**22 44 38.8**	**+1.4**
	baz=174						
BAUV	**El Baul**	**37.23**	**71**	P	**P**	**22 44 37.5**	**-1.0**
GO01	**Chusmiza**	**37.25**	**119**	IAMs_20	IAMs_20	22 55 42.1	
	comp=Z,3μm,21.0s						
LOOK	**Love County**	**37.35**	**9**	P	**P**	**22 44 39.7**	**+0.5**
LOOK				IAmb	IAmb	22 44 45.7	
	comp=Z,46nm,0.9s						
PB08	**IPOC Station P**	**37.46**	**120**	IAMs_20	IAMs_20	22 55 44.7	
	comp=Z,3μm,20.0s						
YUH	**Yuha Desert**	**37.47**	**343**	IAMs_20	IAMs_20	22 56 31.2	
	comp=Z,2μm,19.0s						
PB04	**IPOC Station P**	**37.51**	**123**	IAMs_20	IAMs_20	22 55 59.9	
	comp=Z,2μm,20.0s						
Z41A	**Richland Creek**	**37.52**	**15**	IAmb	IAmb	22 44 43.9	
	comp=Z,82nm,1.4s						
GLA	**Glamis**	**37.53**	**344**	IAmb	IAmb	22 44 46.2	
	comp=Z,56nm,1.4s						
ETMB	**Extrema**	**37.54**	**102**	P	**P**	**22 44 40.9**	**-0.2**
ETMB				IAmb	IAmb	22 44 44.6	
	comp=Z,68nm,1.7s						
ETMB				PcP	**PcP**	**22 46 58.2**	**-1.1**
ETMB	**Extrema**	**37.54**	**102**	*e*P	**P**	**22 44 42.3**	**+1.1**
AMTX	**Amarillo**	**37.80**	**2**	IAmb	IAmb	22 44 46.2	
	comp=Z,42nm,1.1s						
AMTX				IAMs_20	IAMs_20	22 58 40.0	
	comp=Z,3μm,20.0s						
WLAR	**White Oak Lake**	**37.85**	**14**	IAmb	IAmb	22 44 48.5	
	comp=Z,46nm,0.9s						
X34A	**Smith Ranch, M**	**37.85**	**8**	IAmb	IAmb	22 44 47.6	
	comp=Z,43nm,1.0s						
WMOK	**Wichita Mounta**	**37.88**	**6**	P	**P**	**22 44 43.6**	**-0.2**
WMOK	**Wichita Mounta**	**37.88**	**6**	P	**P**	**22 44 43.6**	**-0.2**
WMOK				pmax	pmax		
	comp=Z,23nm,1.2s						
H03N2	**Juan Fernandez**	**37.88**	**146**	T	T	23 24 58.2	
	baz=322,slow=77,SNR=25						
H03N1	**Juan Fernandez**	**37.90**	**146**	T	T	23 25 00.0	
	baz=322,slow=77,SNR=40						
H03N3	**Juan Fernandez**	**37.90**	**146**	T	T	23 24 55.9	
	baz=322,slow=77,SNR=27						
Y14A	**Wickenburg**	**37.92**	**347**	IAmb	IAmb	22 44 49.4	
	comp=Z,48nm,1.3s						
ANMO	**Albuquerque**	**37.94**	**356**	P	**P**	**22 44 44.3**	**-0.2**
ANMO	**Albuquerque**	**37.94**	**356**	P	**P**	**22 44 46.0**	**+1.5**
	comp=Z,10nm,1.0s,baz=334,slow=9.0,SNR=14						
ANMO				LR	LR	22 58 12.8	
	comp=Z,486nm,20.4s,baz=350,slow=33						
	comp=Z,10nm,1.0s						
ANMO	**Albuquerque**	**37.94**	**356**	*ce*P	**P**	**22 44 45.2**	**+0.7**
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
656A	**Willston**	**37.97**	**30**	IAMs_20	IAMs_20	22 58 19.3	
	comp=Z,2μm,21.0s						
VA04	**Juan Fernndez**	**38.09**	**146**	IAMs_20	IAMs_20	22 55 51.0	
	comp=Z,2μm,18.0s						
SMWD	**Samnorwood**	**38.11**	**4**	IAmb	IAmb	22 44 48.9	
	comp=Z,75nm,1.2s						
BLYC	**Blythe**	**38.11**	**345**	IAMs_20	IAMs_20	22 57 02.2	
	comp=Z,2μm,20.0s						
PB06	**IPOC Station P**	**38.15**	**124**	IAMs_20	IAMs_20	22 56 07.9	
	comp=Z,2μm,20.0s						
X37A	**Clayton**	**38.23**	**11**	IAmb	IAmb	22 44 49.7	
	comp=Z,51nm,1.1s						
PB14	**IPOC Station P**	**38.35**	**127**	IAMs_20	IAMs_20	22 55 55.0	
	comp=Z,4μm,22.0s						
PB15	**IPOC Station P**	**38.45**	**124**	IAMs_20	IAMs_20	22 56 55.9	
	comp=Z,2μm,20.0s						
250A	**Grady**	**38.49**	**24**	IAmb	IAmb	22 44 52.6	
	comp=Z,74nm,1.3s						
PFO	**Pinyon Flats O**	**38.52**	**342**	P	**P**	**22 44 50.0**	**+0.6**
PFO				IAMs_20	IAMs_20	22 57 03.2	
	comp=Z,1μm,19.0s						
PFO	**Pinyon Flats O**	**38.52**	**342**	P	**P**	**22 44 50.6**	**+1.2**
	comp=Z,25nm,1.1s,baz=130,slow=4.6,SNR=13						
PFO				LR	LR	22 56 56.6	
	comp=Z,2μm,21.2s,baz=145,slow=30						
	comp=Z,25nm,1.1s						
PFO	**Pinyon Flats O**	**38.52**	**342**	P	**P**	**22 44 50.0**	**+0.6**
PFO				pmax	pmax		
	comp=Z,32nm,1.2s						
PFO				MLR	MLR		
	comp=Z,1μm,19.0s						
FNO	**Franklin**	**38.56**	**8**	IAmb	IAmb	22 44 52.4	
	comp=Z,37nm,1.0s						
MIAR	**Mount Ida**	**38.56**	**13**	IAmb	IAmb	22 44 52.4	
	comp=Z,60nm,1.1s						
AC01	**Pan de Azucar**	**38.94**	**129**	IAMs_20	IAMs_20	22 56 30.8	
	comp=Z,3μm,20.0s						
WUAZ	**Wupatki**	**39.12**	**350**	P	**P**	**22 44 54.8**	**+0.4**
WUAZ				PcP	**PcP**	**22 47 03.3**	**-0.7**
GO02	**Mina Guanaco**	**39.25**	**127**	IAMs_20	IAMs_20	22 56 51.0	
	comp=Z,3μm,20.0s						
OK031	**S. Brethren Rd**	**39.32**	**8**	IAmb	IAmb	22 45 00.0	
	comp=Z,77nm,1.3s						
AF01	**San Pedro de A**	**39.41**	**123**	IAMs_20	IAMs_20	22 56 43.4	
	comp=Z,3μm,21.0s						
TUL3	**Leonard**	**39.45**	**10**	P	**P**	**22 44 56.8**	**-0.1**
TUL3				IAmb	IAmb	22 45 00.9	
	comp=Z,71nm,1.1s						
QUOK	**Quay**	**39.55**	**9**	IAmb	IAmb	22 45 01.7	
	comp=Z,42nm,1.1s						
WHAR	**Wooly Hollow**	**39.58**	**14**	IAmb	IAmb	22 45 04.0	
	comp=Z,54nm,1.5s						
CROK	**Carrier**	**39.71**	**7**	IAmb	IAmb	22 45 01.4	
	comp=Z,55nm,1.0s						
RLO	**Rose Lookout**	**39.83**	**11**	IAMs_20	IAMs_20	23 03 20.6	
	comp=Z,3μm,21.0s						
T25A	**Trinidad**	**40.03**	**359**	P	**P**	**22 45 03.6**	**+1.6**
	baz=178,SNR=8.3						
Y49A	**Blount Mountai**	**40.09**	**22**	P	**P**	**22 45 02.0**	**-0.3**
Y49A				IAmb	IAmb	22 46 28.9	
	comp=Z,80nm,2.0s						
KAN14	**Manchester OK**	**40.16**	**7**	IAmb	IAmb	22 45 05.1	
	comp=Z,62nm,1.1s						
GSC	**Goldstone, Bar**	**40.20**	**343**	IAMs_20	IAMs_20	22 57 40.6	
	comp=Z,2μm,20.0s						
KAN17	**Caldwell West**	**40.27**	**7**	IAmb	IAmb	22 45

WVT IAmb IAmb 22 45 17.2
comp=Z,51nm,1.1s
WVT Waverly 41.64 19 P P 22 45 14.9 -0.2
WVT pmax pmax
comp=Z,51nm,1.1s
PRN Pahroc Range 41.72 346 IAmb IAmb 22 45 21.5
comp=Z,40nm,1.1s
CBKS Cedar Bluff 41.83 4 IAmb IAmb 22 45 20.3
comp=Z,53nm,0.9s
Q24A Divide 41.87 358 IAmb IAmb 22 45 22.1
comp=Z,36nm,1.1s
Q24A Divide 41.87 358 P P 22 45 18.2 +0.9
baz=177,SNR=12
KSCO Kaye Shedlock' 41.90 1 IAmb IAmb 22 45 20.4
comp=Z,32nm,1.0s
KSCO IAms_20 IAms_20 23 01 20.3
comp=Z,2μm,19.0s
UUPR Utuado, UPR, P 41.91 58 P P 22 45 16.6 -0.9
UUPR IAmb IAmb 22 45 18.6
comp=Z,42nm,1.1s
GRAC Grapevine Rang 41.94 343 P P 22 45 19.4 +1.8
GRAC IAmb IAmb 22 45 21.8
comp=Z,63nm,1.2s
GRAC IAms_20 IAms_20 22 58 34.7
comp=Z,2μm,22.0s
CELP Cerrillos 41.95 59 P P 22 45 16.9 -1.0
CELP IAmb IAmb 22 45 18.5
comp=Z,40nm,1.2s
VA01 Torpederas 42.08 139 IAms_20 IAms_20 22 58 00.8
comp=Z,3μm,20.0s
S11A Rachel 42.11 345 IAmb IAmb 22 45 24.9
comp=Z,58nm,1.1s
S11A IAms_20 IAms_20 22 59 33.2
comp=Z,2μm,19.0s
CSU Charleston Sou 42.13 30 IAms_20 IAms_20 23 00 59.5
comp=Z,2μm,19.0s
CGM3 Cape Girardeau 42.17 16 IAmb IAmb 22 45 23.4
comp=Z,48nm,1.0s
NHSC New Hope 42.18 30 IAms_20 IAms_20 23 00 49.7
comp=Z,2μm,21.0s
CPCT Cooper Cave 42.23 23 IAmb IAmb 22 45 22.4
comp=Z,37nm,1.1s
IGPR InterUniversit 42.30 59 IAms_20 IAms_20 23 00 44.8
comp=Z,1μm,21.0s
TCRU Three Creeks R 42.32 349 P P 22 45 22.8 +2.0
TCRU IAms_20 IAms_20 22 59 54.7
comp=Z,1μm,19.0s
SJG San Juan 42.33 59 IAms_20 IAms_20 23 01 02.5
comp=Z,2μm,22.0s
SJG San Juan 42.33 59 LR LR 23 01 24.1
comp=Z,2μm,21.9s,baz=224,slow=34
PMPB Monarch Peak 42.34 339 IAmb IAmb 22 45 26.0
comp=Z,38nm,1.2s
PMPB IAms_20 IAms_20 22 58 44.3
comp=Z,3μm,20.0s
R40A Maddies Statio 42.44 13 IAmb IAmb 22 45 24.0
comp=Z,46nm,1.1s
KSU1 Kansas State U 42.45 8 IAmb IAmb 22 45 24.2
comp=Z,57nm,1.1s
CCM Cathedral Cave 42.46 14 P P 22 45 21.4 -0.2
CCM IAmb IAmb 22 45 23.4
comp=Z,41nm,1.1s
CCM Cathedral Cave 42.46 14 P P 22 45 21.5 -0.2
CCM pmax pmax
comp=Z,41nm,1.1s
VA05 Santo Domingo 42.49 139 IAms_20 IAms_20 22 58 13.6
comp=Z,3μm,20.0s
SRU San Rafael Swe 42.50 352 IAmb IAmb 22 45 25.7
comp=Z,36nm,1.1s
HUMP Col San Antoni 42.60 59 IAms_20 IAms_20 23 01 05.7
comp=Z,2μm,21.0s
FVM French Village 42.60 15 IAmb IAmb 22 45 25.2
comp=Z,39nm,1.1s
JSC Jenkinsville 42.62 27 IAmb IAmb 22 45 26.6
comp=Z,80nm,1.7s
JSC IAms_20 IAms_20 23 01 50.5
comp=Z,1μm,19.0s
VA03 San Esteban 42.65 138 IAms_20 IAms_20 22 58 31.8
comp=Z,3μm,20.0s
S44A Carbondale 42.65 17 IAmb IAmb 22 45 27.6
comp=Z,80nm,1.5s
TKL Tuckaleechee C 42.71 24 P P 22 45 24.0 +0.3
comp=Z,24nm,1.1s,baz=206,slow=11,SNR=8.1
TKL LR LR 23 02 51.7
comp=Z,354nm,20.3s,baz=200,slow=36
comp=Z,24nm,1.1s
ISCO Idaho Springs 42.73 358 P P 22 45 25.5 +1.3
ISCO IAmb IAmb 22 45 29.3
comp=Z,52nm,1.2s
ISCO Idaho Springs 42.73 358 P P 22 45 25.5 +1.3
ISCO pmax pmax
comp=Z,52nm,1.2s
R11B Troy Canyon, C 42.74 346 IAms_20 IAms_20 22 59 59.8
comp=Z,1μm,18.0s
R11B Troy Canyon, C 42.74 346 P P 22 45 25.7 +1.5
baz=162
TMUT Trail Mountain 42.78 351 IAmb IAmb 22 45 30.1
comp=Z,48nm,1.2s
PEL Peldehue 42.79 138 IAms_20 IAms_20 22 58 35.6
comp=Z,2μm,20.0s
Y57A Sumter 42.81 29 IAms_20 IAms_20 23 01 09.5
comp=Z,1μm,21.0s
MT01 Popeta 42.86 139 IAms_20 IAms_20 22 58 07.3
comp=Z,3μm,22.0s
MT05 Renca 42.90 138 IAms_20 IAms_20 22 59 02.5
comp=Z,2μm,18.0s
P18A Preston Nutter 42.97 352 IAmb IAmb 22 45 35.8
comp=Z,36nm,1.0s
MT16 CCHEN 43.07 138 IAms_20 IAms_20 22 58 43.9
comp=Z,3μm,19.0s
Y58A Scranton 43.07 29 IAms_20 IAms_20 23 01 37.4
comp=Z,1μm,20.0s
V53A Saluda 43.11 25 IAmb IAmb 22 45 29.7
comp=Z,36nm,1.1s
MT03 Universidad Ad 43.12 138 P P 22 45 26.5 -0.8
MT03 IAmb IAmb 22 45 29.5
comp=Z,27nm,0.8s
MT03 IAms_20 IAms_20 22 58 34.1
comp=Z,2μm,19.0s
GO05 Hualane 43.15 141 P P 22 45 26.9 -0.6
GO05 IAms_20 IAms_20 22 58 16.0
comp=Z,2μm,22.0s
BOAV Boa Vista 43.22 83 P P 22 45 27.7 -0.5
BOAV Boa Vista 43.22 83 *eP* **P 22 45 28.4 +0.2**
O20A White River Ci 43.24 355 P P 22 45 29.9 +1.6
BO01 Tunca 43.29 140 IAms_20 IAms_20 22 58 18.8
comp=Z,3μm,22.0s
BIRD Birdtown, Kers 43.30 28 IAms_20 IAms_20 23 01 47.3
comp=Z,2μm,20.0s
KMSC Kings Mountain 43.31 27 IAmb IAmb 22 45 30.9
comp=Z,36nm,1.2s
BO04 La Punta 43.35 139 IAms_20 IAms_20 22 58 51.4
comp=Z,2μm,21.0s
P38A Dawn 43.46 11 IAmb IAmb 22 45 31.9
comp=Z,44nm,1.1s
BI05 Punta Hualpn 43.54 144 IAms_20 IAms_20 22 58 25.3
comp=Z,2μm,20.0s
NVAR Mina Array Bea 43.55 343 P P 22 45 31.1 +0.3
comp=Z,12nm,1.0s,baz=165,slow=7.6,SNR=14
NVAR PcP **PcP 22 47 19.8 +1.3**
comp=Z,7.4nm,1.1s,baz=156,slow=4.9,SNR=5.2
NVAR LR LR 22 59 56.0
comp=Z,1μm,19.1s,baz=162,slow=31
comp=Z,12nm,1.0s
MPU Maple Canyon 43.55 351 IAmb IAmb 22 45 34.5
comp=Z,53nm,1.1s
NLU North Lily Min 43.56 350 IAms_20 IAms_20 23 00 39.6
comp=Z,1μm,20.0s
TZTN Tazewell 43.56 23 IAmb IAmb 22 45 32.0
comp=Z,41nm,1.1s
SIV San Ignacio 43.57 110 P P 22 45 31.3 +0.2
comp=Z,4.1nm,1.1s,baz=290,slow=10,SNR=8.2
SIV PcP **PcP 22 47 19.3 +0.5**
comp=Z,8.0nm,1.1s,baz=321,slow=3.6,SNR=3.9
SIV LR LR 23 01 27.3
comp=Z,6μm,20.3s,baz=302,slow=33
comp=Z,4.1nm,1.1s
Q09A Carvers 43.61 344 IAms_20 IAms_20 22 59 39.8
comp=Z,2μm,21.0s
BO02 Sierra Bellavi 43.74 140 IAms_20 IAms_20 22 59 03.6
comp=Z,2μm,21.0s
X58A Rowland 43.76 29 IAmb IAmb 22 45 34.4
comp=Z,36nm,1.0s
X58A IAms_20 IAms_20 23 01 58.5
comp=Z,1μm,20.0s
VILB Vilhena 43.83 105 P **P 22 45 33.0 -0.2**
VILB Vilhena 43.83 105 *eP* **P 22 45 35.3 +2.1**
N23A Red Feather La 43.83 357 P **P 22 45 34.4 +1.2**
baz=176,SNR=42
OGNE Ogallala 43.84 2 IAms_20 IAms_20 23 02 31.8
comp=Z,2μm,19.0s
Q44A Meyer Farm, Va 43.84 16 IAmb IAmb 22 45 35.5
comp=Z,59nm,1.1s
DUG Dugway, Tooele 43.93 350 IAmb IAmb 22 45 39.3
comp=Z,40nm,1.1s
W57A Gilead 43.93 28 IAms_20 IAms_20 23 02 17.1
comp=Z,2μm,21.0s
OLIL Olney 43.95 17 IAmb IAmb 22 45 36.0
comp=Z,54nm,1.0s
V55A Taylorsville 43.95 26 IAmb IAmb 22 45 36.2
comp=Z,42nm,1.1s
ML02 Panimavida 43.95 142 IAms_20 IAms_20 22 58 57.3
comp=Z,2μm,21.0s
WAKR Walker 43.96 342 IAmb IAmb 22 45 39.9
comp=Z,37nm,1.2s
WCI Wyandotte Cave 44.06 19 P P 22 45 34.0 -0.6
WCI IAmb IAmb 22 45 36.8
comp=Z,30nm,1.1s
WCI Wyandotte Cave 44.06 19 P P 22 45 34.0 -0.6
WCI pmax pmax
comp=Z,30nm,1.1s
KVN Kaiserville 44.06 344 IAms_20 IAms_20 22 59 53.8
comp=Z,1μm,20.0s
JLU Jordanelle 44.10 351 IAms_20 IAms_20 23 00 50.7
comp=Z,1μm,21.0s
GRGR Grenville 44.17 69 IAms_20 IAms_20 23 01 38.2
comp=Z,2μm,21.0s
CTU Camp Tracy 44.23 351 IAmb IAmb 22 45 44.9
comp=Z,23nm,1.0s
U54A Nelsons Funny 44.26 25 IAmb IAmb 22 45 38.3
comp=Z,32nm,1.2s
BBSD Serra de San D 44.27 111 *eP* **P 22 45 36.7 0.0**
YERR Yerington 44.34 342 IAmb IAmb 22 45 42.7
comp=Z,37nm,1.2s
P43A Skaggs, Pawnee 44.40 15 P **P 22 45 37.5 +0.2**
R49A Shelbyville 44.50 21 IAmb IAmb 22 45 40.0
comp=Z,52nm,1.1s
S51A Beattyville 44.50 23 IAmb IAmb 22 47 25.1
comp=Z,27nm,1.1s
BI02 San Fabin de 44.63 142 IAmb IAmb 22 45 42.0
comp=Z,29nm,1.1s
BI02 IAms_20 IAms_20 22 59 29.1
comp=Z,2μm,20.0s
BGU Big Grassy Mou 44.67 350 IAmb IAmb 22 45 44.9
comp=Z,31nm,1.2s
W59A Clinton 44.69 29 IAms_20 IAms_20 23 02 25.1
comp=Z,1μm,21.0s
U56A King 44.74 27 IAmb IAmb 22 45 42.3
comp=Z,39nm,1.1s
R50A Paris 44.79 21 IAmb IAmb 22 45 43.2
comp=Z,43nm,1.1s
MCCM Marconi Confer 44.81 338 IAms_20 IAms_20 22 59 20.7
comp=Z,2μm,20.0s
BLO Bloomington 44.84 19 P P 22 45 40.6 -0.3
BLO IAmb IAmb 22 45 41.9
comp=Z,63nm,1.4s
BLO Bloomington 44.84 19 P P 22 45 40.6 -0.3
BLO pmax pmax
comp=Z,63nm,1.4s
AFDM Forest Hills D 44.86 341 IAms_20 IAms_20 23 00 06.7
comp=Z,1μm,20.0s
MPK Martis Peak 44.87 342 IAmb IAmb 22 45 47.2
comp=Z,44nm,1.3s
V58A Windy Hill, Pi 44.87 28 IAms_20 IAms_20 23 02 09.9
comp=Z,1μm,22.0s
ELK Elko 44.94 347 P P 22 45 41.6 -0.3
comp=Z,5.4nm,0.9s,baz=180,slow=6.1,SNR=12
comp=Z,5.4nm,0.9s
SPUT South Promonto 44.95 350 IAmb IAmb 22 45 46.2
comp=Z,29nm,1.2s
PAHR Pah Rah Range 45.05 343 IAmb IAmb 22 45 46.6
comp=Z,29nm,1.0s
HWUT Hardware Ranch 45.10 351 IAmb IAmb 22 45 46.5
comp=Z,40nm,1.1s
HWUT IAms_20 IAms_20 23 01 18.1
comp=Z,2μm,20.0s
BMN Battle Mountai 45.12 345 IAmb IAmb 22 45 47.4
comp=Z,29nm,1.1s
PTLB Pontes e Lacer 45.28 109 P P 22 45 43.5 -1.2
PTLB IAmb IAmb 22 45 47.5
comp=Z,20nm,1.0s
PTLB IAms_20 IAms_20 23 02 25.1
comp=Z,2μm,22.0s
PTLB Pontes e Lacer 45.28 109 *eP* **P 22 45 44.3 -0.4**
HVU Hansel Valley 45.46 350 IAmb IAmb 22 45 49.2
comp=Z,28nm,1.0s
P48A Milroy 45.46 20 IAmb IAmb 22 45 46.8
comp=Z,30nm,1.1s
ORV Oroville 45.58 340 IAmb IAmb 22 45 50.6
comp=Z,43nm,1.1s
ORV IAms_20 IAms_20 23 00 28.0
comp=Z,2μm,19.0s
LR04 Corral 45.60 147 IAms_20 IAms_20 22 59 27.7
comp=Z,2μm,20.0s
K22A Casper 45.61 357 IAmb IAmb 22 45 49.9
comp=Z,32nm,1.0s
K22A IAms_20 IAms_20 23 02 54.7
comp=Z,2μm,21.0s
HOPS Hopland Field 45.63 338 IAmb IAmb 22 45 52.7
comp=Z,28nm,1.1s
HOPS IAms_20 IAms_20 22 59 49.4
comp=Z,3μm,21.0s
K30B Basset 45.68 4 IAms_20 IAms_20 23 03 32.4
comp=Z,2μm,19.0s
SFIN Lafayette 45.77 17 IAmb IAmb 22 45 53.0
comp=Z,31nm,1.4s
P49A Miami Univ. Ec 45.77 20 P **P 22 45 47.6 -0.6**
baz=206
T57A Hurt 45.78 27 IAmb IAmb 22 45 49.8
comp=Z,39nm,1.4s
PDAR Pinedale Array 45.98 354 P **P 22 45 50.2 +0.1**
PDAR Pinedale Array 45.98 354 P **P 22 45 49.6 -0.5**
comp=Z,26nm,1.1s,baz=165,slow=6.2,SNR=64
PDAR PcP **PcP 22 47 26.7 -0.1**
comp=Z,4.6nm,1.1s,baz=143,slow=3.5,SNR=3.5
PDAR LR LR 23 02 06.0
comp=Z,425nm,19.5s,baz=170,slow=32
comp=Z,26nm,1.1s
LR03 Panguipulli 46.01 146 P **P 22 45 50.5 +0.3**
LR03 IAms_20 IAms_20 22 59 58.7
comp=Z,2μm,20.0s
AHID Auburn Hatcher 46.17 352 IAmb IAmb 22 45 58.1
comp=Z,25nm,1.1s
O48B Farmland 46.27 19 IAmb IAmb 22 45 54.1
comp=Z,22nm,0.8s
O48B Farmland 46.27 19 P **P 22 45 51.6 -0.6**
baz=206
BBGH Gun Hill 46.42 69 IAms_20 IAms_20 23 05 03.9
comp=Z,3μm,21.0s
KCPM Cahto Peak 46.43 338 IAmb IAmb 22 45 59.0
comp=Z,23nm,1.0s
GO06 Curarrehue 46.47 146 IAms_20 IAms_20 23 00 06.7
comp=Z,2μm,19.0s
S57A Dark Hollow, R 46.55 27 IAmb IAmb 22 45 56.2
comp=Z,18nm,1.1s
T59A Double "B" Far 46.56 29 IAmb IAmb 22 45 56.4
comp=Z,31nm,1.2s
T59A IAms_20 IAms_20 23 02 33.7
comp=Z,2μm,22.0s
L42A Oliver, Polo 46.59 14 IAmb IAmb 22 45 55.9
comp=Z,25nm,1.0s
LR05 Currie 46.62 147 IAms_20 IAms_20 23 00 18.7
comp=Z,2μm,20.0s
N47A Urbana 46.66 19 P **P 22 45 53.7 -1.5**
HATC Hat Creek Radi 46.70 341 IAms_20 IAms_20 23 01 08.7
comp=Z,2μm,21.0s
TPAW Teton Pass 46.86 352 IAmb IAmb 22 46 13.4
comp=Z,21nm,1.1s
LL04 Puerto Octay 46.88 148 IAms_20 IAms_20 23 00 36.5
comp=Z,2μm,21.0s
LOHW Long Hollow 46.94 353 IAmb IAmb 22 46 02.0
comp=Z,40nm,1.3s
RSSD Black Hills 47.00 359 P **P 22 45 58.2 +0.1**
RSSD Black Hills 47.00 359 IAms_20 IAms_20 23 04 39.4
comp=Z,1μm,19.0s
RSSD Black Hills 47.00 359 P **P 22 45 58.2 +0.1**
RSSD pmax pmax
comp=Z,43nm,1.1s
RSSD MLR MLR
comp=Z,2μm,19.0s
ACSO Alum Creek Sta 47.00 21 IAmb IAmb 22 45 58.9
comp=Z,24nm,1.1s
PDRB Porto dos Gac 47.01 103 *eP* **P 22 45 58.2 -0.2**
ECSD EROS Data Cent 47.01 7 IAmb IAmb 22 47 31.0
comp=Z,20nm,1.1s
FXWY Fox Creek 47.02 352 IAmb IAmb 22 46 01.0
comp=Z,34nm,1.1s
LL03 Petrohue 47.04 148 IAms_20 IAms_20 23 00 40.9
comp=Z,2μm,21.0s
LL06 Loncomilla 47.19 150 IAms_20 IAms_20 23 00 12.7
comp=Z,3μm,21.0s
N49A Columbus Grove 47.19 20 IAmb IAmb 22 47 31.8
comp=Z,24nm,1.2s
L44A Lake County Fo 47.20 16 P **P 22 45 59.1 -0.3**
baz=201
R58B Mineral 47.20 28 IAms_20 IAms_20 23 04 06.7
comp=Z,1μm,22.0s
KMPM Mount Pierce 47.27 338 P **P 22 46 01.2 +1.1**
KMPM IAmb IAmb 22 46 05.4
comp=Z,31nm,1.1s
WVOR Wild Horse Val 47.36 345 IAmb IAmb 22 46 05.9
comp=Z,36nm,1.2s
WVOR IAms_20 IAms_20 23 01 50.2
comp=Z,1μm,21.0s
HLID Hailey 47.48 349 IAmb IAmb 22 46 06.0
comp=Z,38nm,1.2s
PPT Papeete 47.48 249 LR LR 23 00 52.0
comp=Z,3μm,19.8s,baz=50,slow=30
PPT2 Papeete2 47.49 249 *eP* **P 22 45 59.9 -2.3**
comp=Z,172nm,25.8s
PPT2 Papeete2 47.49 249 *ePP* **PP 22 47 50.0 -3.7**
comp=Z,151nm,25.5s
PPT2 *eS* **S 22 52 54.7 -1.8**
comp=Z,2μm,25.0s
PPT2 *eSS* **SS 22 56 24.3 -0.3**
comp=Z,3μm,29.0s
PPT2 *eLR* LR 22 59 20.9
comp=Z,6μm,27.2s
PPT2 *eLR* LR 22 59 23.3
comp=Z,9μm,26.5s
KHMM Horse Mountain 47.53 339 IAmb IAmb 22 46 07.5
comp=Z,30nm,1.2s
KHMM IAms_20 IAms_20 23 01 59.6
comp=Z,2μm,19.0s
JCC Jacoby Creek, 47.58 339 P **P 22 46 03.4 +1.0**
JCC IAmb IAmb 22 46 06.1
comp=Z,32nm,1.1s
ITTB Itaituba 47.59 93 *eP* **P 22 46 01.9 -1.0**
H17A Grant Village 47.70 353 IAmb IAmb 22 46 10.6
comp=Z,25nm,1.2s
LL07 Hotel Espejo d 47.72 150 IAms_20 IAms_20 23 00 27.7
comp=Z,2μm,21.0s
PLCA Paso Flores 47.76 146 P **P 22 46 03.9 -0.1**
comp=Z,10nm,0.9s,baz=313,slow=9.7,SNR=18
PLCA PcP **PcP 22 47 33.7 +0.7**
comp=Z,4.0nm,0.9s,baz=321,slow=3.3,SNR=4.4
PLCA LR LR 23 01 08.5
comp=Z,2μm,19.7s,baz=319,slow=30
comp=Z,10nm,0.9s
PLCA Paso Flores 47.76 146 *eP* **P 22 46 04.9 +0.9**
N51A Ashland 47.83 22 IAmb IAmb 22 46 06.0
comp=Z,24nm,1.0s
KRPM Rodgers 47.88 339 IAmb IAmb 22 46 08.7
comp=Z,28nm,1.0s
YBH Yreka Blue Hor 47.94 341 IAmb IAmb 22 46 09.2
comp=Z,16nm,1.1s
YBH IAms_20 IAms_20 23 01 39.4
comp=Z,1μm,21.0s
YBH Yreka Blue Hor 47.94 341 P **P 22 46 05.1 -0.2**
comp=Z,14nm,1.0s,baz=141,slow=4.7,SNR=25
YBH LR LR 23 02 01.1
comp=Z,1μm,21.4s,baz=170,slow=31
comp=Z,14nm,1.0s
YMP Mirror Lake Pl 47.99 354 IAmb IAmb 22 46 19.8
comp=Z,28nm,1.0s
NPGB Novo Progresso 48.01 97 *eP* **P 22 46 03.5 -2.8**
YNR Norris Junctio 48.03 353 P **P 22 46 06.4 +0.2**
YNR IAmb IAmb 22 46 24.2
comp=Z,26nm,1.2s
MURT Porto Murtinho 48.15 116 *eP* **P 22 46 06.8 -0.4**
I40A Norwalk 48.16 12 IAmb IAmb 22 46 10.1
comp=Z,30nm,1.1s
KRMB Red Mountain 48.16 339 IAmb IAmb 22 46 12.4
comp=Z,32nm,1.1s
KRMB IAms_20 IAms_20 23 02 18.3
comp=Z,1μm,19.0s
J08A Circle Bar Ran 48.19 345 IAmb IAmb 22 46 11.9
comp=Z,34nm,1.1s
J08A IAms_20 IAms_20 23 03 01.9
comp=Z,2μm,20.0s
L04D Klamath Falls 48.24 341 P **P 22 46 07.0 -0.7**
L04D IAmb IAmb 22 46 10.5
comp=Z,30nm,1.2s
KSXB Camp Six Broad 48.42 340 IAmb IAmb 22 46 12.5
comp=Z,31nm,1.0s
KSXB IAms_20 IAms_20 23 02 27.2
comp=Z,1μm,20.0s
K04D Chiloquin, OR 48.44 342 IAms_20 IAms_20 23 02 17.5
comp=Z,2μm,21.0s
BDQN Bodoquena, MS 48.61 115 *eP* **P 22 46 10.8 +0.1**
SALV Santo Antonio 48.62 108 *eP* **P 22 46 12.8 +1.9**
LL02 Futaleuf 48.80 149 P **P 22 46 11.8 0.0**
LL02 IAms_20 IAms_20 23 01 13.3
comp=Z,2μm,19.0s
TBI Tubuai 48.85 241 *eP* **P 22 46 14.5 +2.0**
comp=Z,778nm,41.8s
TBI *eS* **S 22 53 17.7 +2.2**
comp=Z,7μm,26.8s
TBI *eSS* **SS 22 56 47.3 +0.9**
comp=Z,2μm,27.0s
TBI *eLR* LR 23 00 04.1
comp=Z,22μm,29.2s
TBI *eLR* LR 23 00 04.5
comp=Z,4μm,29.5s
SDMD Soldier's Deli 48.85 27 IAmb IAmb 22 46 14.3
comp=Z,43nm,1.9s
J05D Fort Rock, OR 48.88 343 IAmb IAmb 22 46 17.8
comp=Z,35nm,1.2s
J05D IAms_20 IAms_20 23 03 07.3
comp=Z,1μm,19.0s
KBO Bosley Butte 48.88 339 IAmb IAmb 22 46 19.5
comp=Z,31nm,1.3s
KBO IAms_20 IAms_20 23 02 23.4
comp=Z,1μm,20.0s
DLMT Dillon 48.93 351 IAmb IAmb 22 46 17.5
comp=Z,37nm,1.3s
BOZ Bozeman (W) 49.02 352 IAmb IAmb 22 46 17.9
comp=Z,26nm,1.4s
J04A Umpqua Nationa 49.10 342 P **P 22 46 15.5 +1.1**
J04A IAms_20 IAms_20 23 02 57.2
comp=Z,1μm,20.0s
K02D Willamette Mer 49.12 340 IAmb IAmb 22 46 19.4
comp=Z,36nm,1.2s
I07A Izee 49.13 345 IAms_20 IAms_20 23 03 10.9
comp=Z,1μm,22.0s
PINE Pine Mountain 49.26 343 IAms_20 IAms_20 23 02 46.3
comp=Z,2μm,22.0s
PLID Pearl Lake 49.26 348 IAmb IAmb 22 46 17.5
comp=Z,22nm,1.1s
SSPA Standing Stone 49.38 26 P **P 22 46 15.6 -0.7**
SSPA IAmb IAmb 22 46 18.4
comp=Z,39nm,1.3s
J01E Myrtle Point 49.62 340 IAms_20 IAms_20 23 02 59.5
comp=Z,967nm,19.0s
LAO LASA Array 49.62 357 IAmb IAmb 22 46 21.1
comp=Z,41nm,1.2s
I04A Tendick Farm, 49.70 342 IAmb IAmb 22 46 23.0
comp=Z,40nm,1.4s
CPUP Villa Florida 49.82 122 P **P 22 46 19.9 0.0**
CPUP IAmb IAmb 22 46 22.1
comp=Z,24nm,0.8s
CPUP Villa Florida 49.82 122 P **P 22 46 20.3 +0.3**
comp=Z,26nm,0.9s,baz=293,slow=8.8,SNR=39
CPUP PcP **PcP 22 47 41.0 +0.4**
comp=Z,1.0nm,0.4s,baz=287,slow=3.5,SNR=2.8
CPUP LR LR 23 03 58.0
comp=Z,1μm,21.5s,baz=304,slow=32
comp=Z,26nm,0.9s
I05D Terrebonne, OR 49.87 343 IAms_20 IAms_20 23 03 43.6
comp=Z,2μm,19.0s
P61A Hammonton 50.02 29 IAms_20 IAms_20 23 05 27.3
comp=Z,1μm,18.0s
G08A Pilot Rock 50.12 346 IAms_20 IAms_20 23 04 07.0
comp=Z,1μm,20.0s
BUCK Buck Mountain 50.24 342 P **P 22 46 23.8 +0.9**
BUCK IAms_20 IAms_20 23 03 06.3
comp=Z,2μm,21.0s
M57A Sunshine Farm, 50.28 26 IAmb IAmb 22 46 24.4
comp=Z,42nm,1.3s
M57A IAms_20 IAms_20 23 06 28.2
comp=Z,2μm,19.0s
F10A Beach Ranch, E 50.36 348 IAmb IAmb 22 46 44.8
comp=Z,22nm,1.1s
F10A IAms_20 IAms_20 23 04 19.5

comp=Z,916nm,20.0s
COYC Coyhaique 50.42 152 IAMs_20 IAMs_20 23 02 23.2
comp=Z,2µm,21.0s
I02E Swisshome, OR 50.43 341 IAMs_20 IAMs_20 23 02 54.5
comp=Z,2µm,22.0s
H04A Detroit Lake 50.44 343 IAmb IAmb 22 46 28.4
comp=Z,41nm,1.1s
SJPY San Joaquin 50.44 120 *eP* **P 22 46 25.5 +0.8**
G06A Carlson Farm, 50.50 344 IAmb IAmb 22 46 29.6
comp=Z,31nm,1.1s
G06A IAMs_20 IAMs_20 23 04 04.2
comp=Z,2µm,20.0s
COWI Conover 50.59 13 IAmb IAmb 22 46 27.0
comp=Z,52nm,1.2s
COR Corvallis 50.69 342 P **P 22 46 27.4 +1.3**
COR Corvallis 50.69 342 IAMs_20 IAMs_20 23 03 19.2
comp=Z,2µm,22.0s
COR Corvallis 50.69 342 P **P 22 46 27.4 +1.3**
COR pmax pmax
comp=Z,78nm,1.2s
COR MLR MLR
comp=Z,2µm,22.0s
G05A Wamic 50.70 344 IAmb IAmb 22 46 48.5
comp=Z,29nm,1.1s
G05A IAMs_20 IAMs_20 23 04 02.3
comp=Z,2µm,20.0s
L56A Greenwood 50.76 25 IAmb IAmb 22 46 28.6
comp=Z,32nm,1.1s
AMBA Amambai (Brazi 50.83 117 *eP* **P 22 46 28.1 +0.5**
HOOD Mount Hood Mea 50.86 343 IAMs_20 IAMs_20 23 04 23.8
comp=Z,2µm,19.0s
F07A Phinny Hill Vi 50.93 345 IAmb IAmb 22 46 33.0
comp=Z,64nm,1.5s
E09A Wood Farm, Sta 51.08 347 IAMs_20 IAMs_20 23 04 58.4
comp=Z,1µm,21.0s
G03D McMinnville, O 51.24 342 IAMs_20 IAMs_20 23 03 39.7
comp=Z,2µm,22.0s
MEDO Medina 51.25 23 IAmb IAmb 22 46 31.9
comp=Z,25nm,1.0s
HAWA Hanford 51.29 346 IAmb IAmb 22 46 35.2
comp=Z,36nm,1.1s
PSAL Palomas, Salto 51.34 128 *eP* **P 22 46 30.8 -0.5**
DGMT Dagmar 51.35 359 P **P 22 46 30.9 -0.2**
MDP Montagnes des 51.37 81 LR LR 23 06 35.8
comp=Z,3µm,18.8s,baz=274,slow=34
RPRD Ribas do Rio P 51.39 114 *eP* **P 22 46 32.5 +0.6**
HEBO Mount Hebo 51.39 342 IAMs_20 IAMs_20 23 04 02.8
comp=Z,1µm,22.0s
TRQA Tornquist 51.40 138 P **P 22 46 30.3 -1.4**
TRQA Tornquist 51.40 138 P **P 22 46 30.3 -1.4**
TRQA pmax pmax
comp=Z,11nm,1.0s
TRQA MLR MLR
comp=Z,2µm,18.0s
BINY Binghamton 51.48 26 IAmb IAmb 22 46 34.0
comp=Z,24nm,1.0s
PAL Palisades 51.48 28 IAmb IAmb 22 46 33.1
comp=Z,28nm,1.1s
ITQB Itaqui 51.58 126 IAmb IAmb 22 46 35.1
comp=Z,21nm,0.9s
J55A Hilton 51.59 24 IAmb IAmb 22 46 34.4
comp=Z,32nm,1.1s
AGMN Agassiz Nation 51.60 6 IAmb IAmb 22 46 34.2
comp=Z,37nm,1.1s
F04A Amboy 51.64 343 IAmb IAmb 22 46 37.4
comp=Z,33nm,1.2s
K57A Scipio Center 51.68 25 IAmb IAmb 22 46 35.2
comp=Z,36nm,1.2s
D08A Wollman Farm, 51.77 347 IAmb IAmb 22 46 38.4
comp=Z,28nm,1.1s
EYMN Ely 51.88 10 P **P 22 46 34.1 -1.0**
L59A Walton 51.89 27 IAmb IAmb 22 46 37.1
F04D Rainier, OR 51.95 343 IAMs_20 IAMs_20 23 04 08.5
comp=Z,2µm,22.0s
F03A Seaside 51.98 342 IAMs_20 IAMs_20 23 04 25.2
comp=Z,1µm,22.0s
LON Longmire 52.22 344 IAmb IAmb 22 46 41.6
comp=Z,32nm,1.1s
LON IAMs_20 IAMs_20 23 06 19.5
comp=Z,917nm,19.0s
ARAG Araguaiana, MT 52.28 107 *eP* **P 22 46 40.3 +1.7**
C09A Chrisman Ranch 52.33 347 P **P 22 46 38.9 +0.5**
C09A IAMs_20 IAMs_20 23 05 46.4
comp=Z,1µm,20.0s
SNDB Serra Nova Dou 52.34 103 *eP* **P 22 46 38.4 -0.7**
SADO Sadowa 52.35 22 IAmb IAmb 22 46 40.2
comp=Z,17nm,0.8s
SADO Sadowa 52.35 22 P **P 22 46 38.1 -0.4**
comp=Z,21nm,1.0s,baz=212,slow=5.4,SNR=8.6
SADO LR LR 23 09 12.8
comp=Z,476nm,18.6s,baz=242,slow=36
comp=Z,21nm,1.0s
LTY Liberty 52.38 345 IAMs_20 IAMs_20 23 05 25.8
comp=Z,2µm,20.0s
PECO Prince Edward 52.48 24 IAmb IAmb 22 46 41.8
comp=Z,30nm,1.3s
NEW Newport 52.52 348 IAmb IAmb 22 46 43.6
comp=Z,44nm,1.1s
NEW Newport 52.52 348 P **P 22 46 39.6 -0.3**
comp=Z,30nm,1.0s,baz=158,slow=9.0,SNR=21
NEW LR LR 23 06 29.6
comp=Z,849nm,19.1s,baz=176,slow=33
comp=Z,30nm,1.0s
D05A Enumclaw 52.67 344 IAmb IAmb 22 46 59.6
comp=Z,31nm,1.2s
D05A IAMs_20 IAMs_20 23 06 24.5
comp=Z,1µm,18.0s
DELO Deloro Mine 52.71 23 IAmb IAmb 22 46 42.6
comp=Z,22nm,0.9s
UCCT U. Connecticut 52.90 29 IAmb IAmb 22 46 45.1
comp=Z,27nm,1.2s
TRY Troy 52.94 27 IAmb IAmb 22 46 44.4
comp=Z,23nm,1.1s
B08A Colville Reser 53.09 347 P **P 22 46 43.2 -0.8**
L61B Northampton 53.18 28 P **P 22 46 44.2 -0.6**
baz=220
GNW Green Mountain 53.24 344 IAmb IAmb 22 46 48.4
comp=Z,22nm,1.1s
NLWA Neilton Lookou 53.38 343 IAmb IAmb 22 46 50.1
comp=Z,48nm,1.2s
NLWA IAMs_20 IAMs_20 23 05 34.5
comp=Z,1µm,20.0s
ACCN Adirondack Com 53.45 27 IAmb IAmb 22 46 50.3
comp=Z,37nm,1.3s
ULM Lac du Bonnet 53.52 6 P **P 22 46 46.9 -0.2**
comp=Z,44nm,1.0s,baz=190,slow=8.7,SNR=23
ULM LR LR 23 08 37.7
comp=Z,1µm,18.5s,baz=182,slow=35
comp=Z,44nm,1.0s
PTGB Pitanga 53.88 118 *eP* **P 22 46 50.2 -0.1**
WBO Williamsburg 54.05 24 IAmb IAmb 22 46 52.4
comp=Z,30nm,1.3s
ITRB Iturama 54.31 112 *eP* **P 22 46 54.6 +1.1**
LDASE Londrina, Braz 54.39 117 *eP* **P 22 46 54.5 +0.4**
PGC Sidney 54.40 344 IAmb IAmb 22 46 57.9
comp=Z,30nm,1.1s
PGC IAMs_20 IAMs_20 23 06 28.1
comp=Z,935nm,22.0s
CPSB Cacapava Do Su 54.42 126 *eP* **P 22 46 54.5 +0.3**
VT1 Waterbury 54.61 27 P **P 22 46 54.5 -0.7**
VT1 IAmb IAmb 22 46 56.2
comp=Z,27nm,1.2s
FRNY Flat Rock 54.63 26 IAmb IAmb 22 46 58.2
comp=Z,22nm,1.3s
CLRS Cowichan Lake 54.75 343 IAmb IAmb 22 46 58.1
comp=Z,24nm,1.2s
CLRS IAMs_20 IAMs_20 23 06 01.2
comp=Z,1µm,21.0s
PLTB Pedras Altas 54.76 127 IAMs_20 IAMs_20 23 06 56.3
comp=Z,1µm,21.0s
MNTQ Montreal, Queb 55.15 25 IAmb IAmb 22 47 00.1
comp=Z,19nm,1.0s
TRQ Mont Tremblant 55.34 24 IAmb IAmb 22 47 03.1
comp=Z,28nm,1.3s
SMTB Santa Maria do 55.77 99 *eP* **P 22 47 04.0 -0.2**
FRTB Fartura 55.77 116 *eP* **P 22 47 04.3 +0.2**
LLLB Lillooet 55.79 346 IAMs_20 IAMs_20 23 07 32.7
comp=Z,1µm,20.0s
VLDQ Val d'Or 55.81 21 IAmb IAmb 22 47 06.0
comp=Z,42nm,1.5s
BDFB Brasilia 55.90 107 P **P 22 47 04.8 -0.4**
comp=Z,10.0nm,0.9s,baz=274,slow=7.4,SNR=11
BDFB LR LR 23 09 08.3
comp=Z,2µm,21.1s,baz=297,slow=34
comp=Z,10.0nm,0.9s
IPMB Ipameri, GO 56.03 110 *eP* **P 22 47 05.7 -0.3**

CBB Campbell River 56.19 343 IAmb IAmb 22 47 10.8
comp=Z,31nm,1.1s
BB19B Bebedouro 56.25 113 *eP* **P 22 47 07.9 +0.3**
RCLB Rio Claro- Sao 57.41 115 *eP* **P 22 47 16.9 +1.1**
FFC Flin Flon 57.62 1 P **P 22 47 15.3 -1.2**
FFC IAmb IAmb 22 47 18.0
comp=Z,26nm,1.0s
FFC Flin Flon 57.62 1 P **P 22 47 15.3 -1.2**
FFC pmax pmax
comp=Z,26nm,1.0s
RAR Rarotonga 57.63 247 LR LR 23 05 13.2
comp=Z,1µm,19.0s,baz=96,slow=29
SPB Sao Paulo 57.74 116 IAMs_20 IAMs_20 23 10 24.4
comp=Z,1µm,20.0s
SPB Sao Paulo 57.74 116 *eP* **P 22 47 18.5 +0.5**
GGN Saint George 57.99 30 IAmb IAmb 22 47 20.9
comp=Z,38nm,1.1s
VAO Valinhos 58.04 115 IAmb IAmb 22 47 24.6
comp=Z,37nm,1.3s
VAO Valinhos 58.04 115 *eP* **P 22 47 20.6 +0.4**
D62A Allapoint, All 58.38 27 IAmb IAmb 22 47 23.0
comp=Z,27nm,1.1s
SDBA SAO DESIDERIO 58.60 103 *eP* **P 22 47 24.4 +0.2**
BBB Bella Bella 58.91 343 LR LR 23 09 02.1
comp=Z,511nm,21.6s,baz=163,slow=32
JANB Januaria 59.39 106 *eP* **P 22 47 29.8 +0.1**
V35K Ketchikan 62.68 342 P **P 22 47 51.3 +0.2**
baz=148
CRAG Craig 63.26 342 P **P 22 47 55.0 -0.1**
baz=146
T35M Bob Quinn 63.70 344 P **P 22 47 58.1 +0.1**
baz=150
U33K Whale Pass 63.80 342 P **P 22 47 57.7 -0.9**
baz=147
WRAK Wrangell Islan 63.82 343 P **P 22 47 58.6 -0.1**
baz=148
GUA01 Guaratinga, BA 63.84 107 *eP* **P 22 47 59.3 -0.4**
GDU01 Guandu, BA 63.87 104 *eP* **P 22 47 59.1 -0.7**
TOAD Toad River Com 64.14 348 P **P 22 48 00.6 -0.3**
baz=156,SNR=6.0
S34M Telegraph Cree 64.75 344 P **P 22 48 05.4 +0.6**
baz=149
LIRD Liard River Hi 64.84 347 P **P 22 48 06.0 +0.7**
baz=155
DLBC Dease Lake 64.91 345 P **P 22 48 05.8 -0.1**
comp=Z,26nm,1.1s,baz=166,slow=7.2,SNR=13
DLBC LR LR 23 14 12.6
comp=Z,756nm,19.2s,baz=141,slow=34
comp=Z,26nm,1.1s
DLBC Dease Lake 64.91 345 P **P 22 48 06.6 +0.7**
baz=150,SNR=11
KOTAN Kotaneelee Air 65.08 349 P **P 22 48 06.2 -0.7**
baz=157,SNR=8.4
SCHQ Schefferville 65.15 22 LR LR 23 15 43.6
comp=Z,782nm,19.9s,baz=215,slow=35
SIT Sitka 65.27 341 P **P 22 48 07.8 -0.3**
baz=144
S32K Killisnoo 65.38 342 P **P 22 48 08.3 -0.5**
baz=145
Q32M Nakina River 65.96 344 P **P 22 48 11.9 -1.0**
baz=148
YKA Yellowknife Ar 65.96 354 P **P 22 48 11.6 -0.9**
YKA Yellowknife Ar 65.96 354 P **P 22 48 12.3 -0.2**
comp=Z,12nm,0.9s,baz=167,slow=6.2,SNR=16
YKA LR LR 23 15 53.4
comp=Z,597nm,21.4s,baz=172,slow=35
comp=Z,12nm,0.9s
R33M Jennings River 65.98 345 P **P 22 48 13.1 +0.2**
baz=150
R32K Eaglecrest 66.02 343 P **P 22 48 13.3 +0.3**
baz=146
S31K Pelican 66.29 342 P **P 22 48 14.4 -0.3**
baz=144
P32M Atlin 66.89 344 P **P 22 48 18.2 -0.4**
baz=147
P33M Teslin, Yukon 67.17 345 IAmb IAmb 22 49 15.9
comp=Z,24nm,1.6s
P33M Teslin, Yukon 67.17 345 P **P 22 48 20.5 0.0**
baz=148
SKAG Skagway 67.24 343 P **P 22 48 20.4 -0.3**
baz=145
RCBR Riachuelo 67.33 95 LR LR 23 16 49.2
comp=Z,2µm,19.1s,baz=274,slow=35
PLBC Pleasant Camp 67.55 343 P **P 22 48 23.0 +0.3**
baz=144
PMSA Palmer Station 67.72 163 LR LR 23 10 14.9
comp=Z,782nm,19.2s,baz=322,slow=29
WRGLY Wrigley 67.84 350 P **P 22 48 25.5 +0.9**
baz=158
N32M Quiet Lake 68.04 345 P **P 22 48 25.8 -0.1**
baz=148
P29M Windy Craggy 68.10 342 P **P 22 48 26.7 +0.4**
baz=143
WHY Whitehorse 68.11 344 P **P 22 48 27.4 +1.0**
baz=146
P30M Milln Dollar 68.26 343 P **P 22 48 27.2 -0.1**
baz=144
O30N Mendenhall 68.54 343 P **P 22 48 29.3 +0.2**
baz=145
PNL Peninsula 68.65 341 P **P 22 48 31.5 +1.8**
baz=141
O29M Mount Kennedy 68.89 342 P **P 22 48 32.8 +1.5**
baz=142
HYT Haines Junctio 68.99 343 IAmb IAmb 22 48 58.0
comp=Z,28nm,1.3s
HYT Haines Junctio 68.99 343 P **P 22 48 33.4 +1.5**
baz=143
FARO Faro, Yukon 69.02 346 P **P 22 48 33.5 +1.5**
baz=148
N31M Braeburn, Yuko 69.04 344 P **P 22 48 33.1 +1.0**
baz=145,SNR=6.0
PINM Pinnacle 69.26 341 P **P 22 48 34.5 +0.9**
baz=140
M31M Drury Creek, Y 69.26 345 IAmb IAmb 22 48 35.8
comp=Z,28nm,1.5s
M31M Drury Creek, Y 69.26 345 P **P 22 48 35.0 +1.5**
baz=147
YUK6 Outpost Mounta 69.34 343 P **P 22 48 35.1 +0.9**
baz=142
N30M Aishikik Lake 69.38 343 IAmb IAmb 22 48 38.4
comp=Z,26nm,1.2s
N30M Aishikik Lake 69.38 343 P **P 22 48 35.6 +1.3**
baz=144
YUK4 Talbot Arm 69.74 343 P **P 22 48 37.7 +1.0**
baz=142
O28M Mount Upton 69.76 342 P **P 22 48 38.1 +1.1**
baz=140
MESA MESA 69.88 341 P **P 22 48 38.3 +0.8**
baz=138
YUK8 Steele Glacier 70.03 342 P **P 22 48 38.6 +0.1**
baz=141
M30M Minto, Yukon 70.20 344 P **P 22 48 38.7 -0.6**
M30M IAmb IAmb 22 48 43.9
comp=Z,25nm,1.4s
M30M Minto, Yukon 70.20 344 P **P 22 48 39.9 +0.6**
baz=144
M29M Somme Creek 70.56 344 IAmb IAmb 22 48 45.4
comp=Z,23nm,1.3s
M29M Somme Creek 70.56 344 P **P 22 48 42.2 +0.7**
baz=143
YUK3 Moose Creek 70.62 342 P **P 22 48 42.7 +0.6**
baz=140
CRQE Cirque 70.68 341 P **P 22 48 43.0 +0.6**
baz=138
Q23K Middleton Isla 70.87 338 P **P 22 48 44.1 +0.8**
baz=134
L29M L29M 71.00 344 P **P 22 48 45.4 +1.2**
baz=143
MCARA McCarthy VSAT 71.13 341 P **P 22 48 46.2 +1.3**
baz=138
VRDI Verde Repeater 71.15 341 IAMs_20 IAMs_20 23 12 35.0
comp=Z,958nm,20.0s
BVCY Beaver Creek 71.23 343 P **P 22 48 46.4 +0.9**
baz=140
BMRM Bremner River 71.35 340 P **P 22 48 47.5 +1.2**
baz=136,SNR=7.0
K29M Barlow Dome 71.43 345 IAmb IAmb 22 49 00.2
comp=Z,17nm,1.1s
K29M Barlow Dome 71.43 345 P **P 22 48 47.8 +0.9**
baz=144,SNR=5.5
EYAK Cordova Ski Ar 71.44 339 P **P 22 48 47.8 +1.0**
baz=135
M27K Edge Creek, AK 71.50 342 IAmb IAmb 22 48 53.3
comp=Z,28nm,1.1s
M27K Edge Creek, AK 71.50 342 P **P 22 48 48.2 +0.9**
baz=139
FRB Frobisher Bay 71.55 16 LR LR 23 19 50.3
comp=Z,288nm,19.9s,baz=207,slow=36

P23K Montague Islan 71.65 338 P **P 22 48 48.8 +0.7**
baz=133
J30M Hart River 71.72 346 IAMs_20 IAMs_20 23 13 23.6
comp=Z,853nm,19.0s
N25K Chitina, Valde 71.81 341 P **P 22 48 49.9 +0.8**
baz=136
M26K Nabesna, AK 71.88 342 P **P 22 48 50.5 +1.1**
baz=138
BCAR Beaver Creek A 72.01 343 P **P 22 48 50.3 +0.1**
L27K Beaver Creek, 72.02 343 IAmb IAmb 22 48 54.5
comp=Z,20nm,1.1s
L27K Beaver Creek, 72.02 343 P **P 22 48 51.6 +1.3**
baz=139
J29N Klondike Camp 72.10 345 IAmb IAmb 22 48 55.2
comp=Z,31nm,1.2s
J29N Klondike Camp 72.10 345 P **P 22 48 51.4 +0.6**
baz=143
DAWY Dawson 72.10 344 P **P 22 48 51.0 +0.2**
DAWY IAmb IAmb 22 48 55.0
comp=Z,22nm,1.2s
DAWY Dawson 72.10 344 P **P 22 48 51.5 +0.7**
baz=142,SNR=8.6
GLI Glacier Island 72.15 339 P **P 22 48 52.0 +1.0**
baz=134
KLU Klutina 72.17 340 P **P 22 48 52.1 +0.8**
baz=135
OHAK Old Harbor 72.23 334 P **P 22 48 52.1 +0.5**
baz=127
SII Sitkinak Islan 72.24 333 P **P 22 48 52.3 +0.6**
baz=126
KDAK Kodiak Island 72.27 335 LR LR 23 12 56.8
comp=Z,1µm,19.7s,baz=337,slow=30
KDAK Kodiak Island 72.27 335 P **P 22 48 52.1 +0.3**
baz=128
I30M Mount Dempster 72.27 346 P **P 22 48 51.1 -0.8**
baz=145
H31M Peel River 72.28 347 P **P 22 48 51.7 -0.1**
baz=147
L26K Log Cabin Wild 72.45 342 IAmb IAmb 22 48 56.9
comp=Z,17nm,1.2s
L26K Log Cabin Wild 72.45 342 P **P 22 48 53.5 +0.6**
baz=138
CHIR Chirikof Islan 72.47 332 P **P 22 48 53.1 0.0**
baz=124
SEW Seward 72.49 338 P **P 22 48 54.0 +0.9**
baz=131
MENT Mentasta 72.50 342 IAmb IAmb 22 48 57.1
comp=Z,24nm,1.1s
HARP HAARP 72.56 341 P **P 22 48 54.6 +1.1**
baz=136
PWL Port Wells 72.58 339 IAMs_20 IAMs_20 23 11 44.7
comp=Z,1µm,22.0s
PWL Port Wells 72.58 339 P **P 22 48 54.3 +0.7**
baz=132
M24K Tolsona, Glenn 72.69 340 P **P 22 48 54.8 +0.4**
baz=135
Q20K Shuyak Island 72.70 336 P **P 22 48 54.7 +0.4**
baz=128
BRSE Bradley Lake S 72.75 337 P **P 22 48 55.1 +0.5**
baz=130
K27K Chicken 72.83 343 P **P 22 48 56.3 +1.3**
baz=139
O22K Cooper Landing 72.84 338 P **P 22 48 55.9 +0.8**
baz=131
SCM Sheep Creek Mo 72.89 340 P **P 22 48 56.4 +0.8**
baz=134
R18K Karluk 72.94 334 P **P 22 48 56.2 +0.4**
baz=126
KNK Knik Glacier 73.00 339 P **P 22 48 56.6 +0.4**
baz=132
M23K Glacier View 73.00 340 P **P 22 48 56.7 +0.5**
baz=133
HOM Homer 73.05 337 P **P 22 48 57.5 +1.1**
baz=129
PAX Paxson 73.07 341 P **P 22 48 57.5 +0.8**
baz=136
EGAK Eagle 73.14 344 IAmb IAmb 22 49 01.0
comp=Z,34nm,1.2s
SML Sawmill 73.22 339 P **P 22 48 57.8 +0.3**
baz=133
EPYK Eagle Plains 73.30 347 IAmb IAmb 22 49 01.9
comp=Z,31nm,1.1s
EPYK Eagle Plains 73.30 347 P **P 22 48 58.8 +1.0**
baz=145,SNR=12
I28M Miner Creek 73.34 345 P **P 22 48 58.9 +0.8**
baz=142
SCRK Sand Creek 73.35 343 P **P 22 48 59.0 +0.7**
baz=137
PMR Palmer 73.36 339 P **P 22 48 58.5 +0.3**
PMR Palmer 73.36 339 P **P 22 48 58.5 +0.3**
baz=132
PMR Palmer 73.36 339 P **P 22 48 58.5 +0.3**
PMR pmax pmax
comp=Z,57nm,1.5s
Q19K Cape Douglas, 73.41 335 P **P 22 48 58.6 0.0**
baz=127
RIDG Independent Ri 73.43 342 P **P 22 48 59.4 +0.7**
baz=136,SNR=7.8
WAT6 Susitna Watana 73.54 340 P **P 22 49 00.1 +0.6**
baz=133,SNR=10.0
F31M Tsiigehtchic 73.55 348 P **P 22 49 00.2 +1.0**
baz=148
H29M Whitestone 73.56 346 P **P 22 49 00.1 +0.7**
baz=143
J26L Joseph Creek 73.61 343 IAmb IAmb 22 49 03.8
comp=Z,22nm,1.1s
J26L Joseph Creek 73.61 343 P **P 22 49 00.3 +0.5**
baz=138
C36M Paulatuk 73.65 353 IAmb IAmb 22 49 05.5
comp=Z,51nm,1.9s
C36M Paulatuk 73.65 353 P **P 22 49 00.7 +1.0**
baz=158
DHY Denali Highway 73.77 341 IAmb IAmb 22 49 38.7
comp=Z,36nm,1.4s
DHY Denali Highway 73.77 341 P **P 22 49 02.0 +1.2**
baz=134
K24K Donnelly Dome 73.77 342 P **P 22 49 01.6 +0.9**
baz=136
Q18K Katmai Hardscr 73.82 335 P **P 22 49 01.5 +0.4**
baz=126
M22K Willow 73.82 339 P **P 22 49 01.8 +0.9**
baz=131
R17L Mt. Peulik Vol 73.83 333 P **P 22 49 01.9 +0.8**
baz=124
SUA Susitna One 73.86 338 P **P 22 49 02.1 +0.8**
baz=130
CHNA Chernabura Isl 73.86 330 P **P 22 49 01.8 +0.5**
baz=120
I27K Kandik River 73.90 344 P **P 22 49 02.0 +0.6**
baz=140
Q17K Contact Creek 73.97 334 P **P 22 49 02.8 +0.8**
baz=124
WAT1 Susitna Watana 73.99 340 P **P 22 49 03.3 +1.3**
baz=133
G29M Pine Creek 74.04 347 IAmb IAmb 22 49 06.2
comp=Z,36nm,1.1s
G29M Pine Creek 74.04 347 P **P 22 49 02.8 +0.6**
baz=144,SNR=11
CHGN Chignik 74.05 332 P **P 22 49 03.2 +0.9**
baz=122
I26K Coal Creek Min 74.10 344 IAmb IAmb 22 49 06.3
comp=Z,30nm,1.3s
I26K Coal Creek Min 74.10 344 P **P 22 49 02.7 +0.2**
baz=138
F30M Barrier River 74.12 348 P **P 22 49 03.4 +0.8**
baz=146
SPU Mount Spurr 74.16 338 IAmb IAmb 22 49 05.9
comp=Z,27nm,1.4s
J25K Salcha River, 74.23 343 P **P 22 49 04.1 +0.7**
baz=136
N20K Mount Spurr 74.23 338 P **P 22 49 04.0 +0.5**
baz=129
SPCR Spurr Chakacha 74.23 338 P **P 22 49 04.3 +0.9**
baz=129
INK Inuvik 74.25 349 P **P 22 49 03.0 -0.2**
INK IAmb IAmb 22 49 07.4
comp=Z,36nm,1.4s
INK Inuvik 74.25 349 LR LR 23 20 07.5
comp=Z,643nm,18.3s,baz=160,slow=34
INK Inuvik 74.25 349 P **P 22 49 03.4 +0.2**
baz=149,SNR=13
INK Inuvik 74.25 349 P **P 22 49 03.0 -0.2**
INK pmax pmax
comp=Z,36nm,1.4s
CUT Chulitna 74.30 339 P **P 22 49 04.2 +0.5**
baz=131
SKT Skwentna 74.47 339 IAmb IAmb 22 49 08.6
comp=Z,35nm,1.4s

SKT	**Skwentna**	74.47 339	P	P	22 49 04.8	0.0
	baz=130					
HDA	**Harding Lake**	74.56 342	IAmb	IAmb	22 49 08.8	
	comp=Z,24nm,1.4s					
HDA	**Harding Lake**	74.56 342	P	P	22 49 05.1	-0.1
	baz=134					
S14K	**Fog Glacier**	74.58 331	P	P	22 49 05.8	+0.2
	baz=121					
O18K	**Koktuh Hills**	74.60 336	IAmb	IAmb	22 49 08.4	
	comp=Z,40nm,1.2s					
O18K	**Koktuh Hills**	74.60 336	P	P	22 49 05.7	+0.1
	baz=126					
MCK	**McKinley**	74.73 341	P	P	22 49 06.3	0.0
	baz=132,SNR=6.8					
P17K	**Kvichak River**	74.74 335	P	P	22 49 06.9	+0.6
	baz=124					
IL31		74.80 342	IAmb	IAmb	22 49 10.0	
	comp=Z,32nm,1.1s					
ILAR	**Eielson Array**	74.80 342	P	P	22 49 05.9	-0.7
ILAR	**Eielson Array**	74.80 342	P	P	22 49 06.1	-0.5
	comp=Z,20nm,1.1s,baz=153,slow=4.3,SNR=44					
	comp=Z,20nm,1.1s					
ILAR	**Eielson Array**	74.80 342	P	P	22 49 05.9	-0.7
G27K	**Doyon Strip**	74.84 345	P	P	22 49 07.7	+0.8
	baz=140					
N19K	**Bonanza Creek**	74.88 337	IAmb	IAmb	22 49 10.4	
	comp=Z,30nm,1.2s					
N19K	**Bonanza Creek**	74.88 337	P	P	22 49 07.4	+0.1
	baz=126					
PRP	**Porcupine Dome**	74.93 343	P	P	22 49 07.5	+0.1
PRP			IAMs_20	IAMs_20	23 16 17.7	
	comp=Z,975nm,18.0s					
PRP	**Porcupine Dome**	74.93 343	P	P	22 49 07.6	+0.1
	baz=136,SNR=22					
WRH	**Wood River Hil**	74.96 342	IAmb	IAmb	22 49 10.6	
	comp=Z,39nm,1.2s					
RAO	**Raoul Island**	74.98 241	LR	LR	23 13 59.0	
	comp=Z,452nm,21.2s,baz=132,slow=29					
TRF	**Thorofare Moun**	74.99 340	P	P	22 49 08.5	+0.6
	baz=131					
M20K	**Styx River**	75.00 338	IAmb	IAmb	22 49 20.6	
	comp=Z,51nm,1.8s					
M20K	**Styx River**	75.00 338	P	P	22 49 08.6	+0.6
	baz=128					
F28M	**Old Crow**	75.04 346	IAmb	IAmb	22 49 11.4	
	comp=Z,21nm,1.3s					
F28M	**Old Crow**	75.04 346	P	P	22 49 08.5	+0.5
	baz=142					
COLA	**College**	75.17 342	P	P	22 49 09.0	+0.3
	baz=134					
POKR	**Poker Plat Res**	75.21 342	P	P	22 49 09.0	+0.1
	baz=134					
E29M	**Blow River**	75.21 347	P	P	22 49 09.7	+0.8
	baz=144					
PPLA	**Purkeypile**	75.29 339	P	P	22 49 09.9	+0.2
	baz=129					
P16K	**Nushagak River**	75.31 334	P	P	22 49 09.9	+0.2
	baz=123					
O17K	**Koliganek Bris**	75.34 335	P	P	22 49 10.2	+0.5
	baz=124					
NEA2	**Nenana**	75.36 341	IAmb	IAmb	22 49 13.6	
	comp=Z,38nm,1.2s					
NEA2	**Nenana**	75.36 341	P	P	22 49 10.2	+0.4
	baz=132,SNR=10					
N18K	**Kilae Creek**	75.36 336	P	P	22 49 10.1	+0.2
N18K	**Kilae Creek**	75.36 336	P	P	22 49 10.2	+0.3
	baz=125					
M19K	**Big River Lodg**	75.49 338	P	P	22 49 10.7	+0.1
	baz=127					
G26K	**Porcupine Rive**	75.50 345	P	P	22 49 10.9	+0.3
	baz=138					
S12K	**Black Hills**	75.52 330	P	P	22 49 10.7	-0.2
	baz=118					
CAST	**Castle Rocks**	75.59 340	IAmb	IAmb	22 49 14.7	
	comp=Z,32nm,1.2s					
CAST	**Castle Rocks**	75.59 340	P	P	22 49 10.8	-0.4
	baz=129,SNR=7.9					
L20K	**Farewell, AK**	75.65 338	P	P	22 49 11.6	0.0
	baz=127					
BPAW	**Bear Paw Mtn.**	75.65 340	P	P	22 49 11.7	+0.2
	baz=130					
O16K	**Kokwok River B**	75.67 335	P	P	22 49 11.4	-0.3
	baz=123					
E28M	**Babbage River**	75.75 347	P	P	22 49 12.9	+0.9
	baz=143					
N17K	**Nushagak Hills**	75.80 336	P	P	22 49 13.3	+0.9
	baz=124					
M18K	**Stony River**	75.80 337	P	P	22 49 12.3	0.0
	baz=125					
I23K	**Minto, Yukon-K**	75.82 342	IAmb	IAmb	22 49 15.0	
	comp=Z,32nm,1.2s					
I23K	**Minto, Yukon-K**	75.82 342	P	P	22 49 13.2	+0.7
	baz=132					
L19K	**White Mountain**	75.83 338	IAmb	IAmb	22 49 16.1	
	comp=Z,31nm,1.2s					
L19K	**White Mountain**	75.83 338	P	P	22 49 12.6	0.0
	baz=126					
H24K	**Noodor Dome**	75.84 343	P	P	22 49 12.5	-0.1
	baz=134					
E27K	**Coleen River**	75.89 346	P	P	22 49 12.7	-0.1
	baz=140					
CHUM	**Lake Minchumin**	75.96 340	P	P	22 49 12.9	-0.4
	baz=129					
G25K	**Bearman Lake**	75.99 344	P	P	22 49 14.3	+0.9
	baz=136					
BMAR	**Burnt Mountain**	76.06 345	P	P	22 49 14.7	+0.8
F26K	**Sheenjek River**	76.15 345	IAmb	IAmb	22 49 18.6	
	comp=Z,22nm,1.2s					
F26K	**Sheenjek River**	76.15 345	P	P	22 49 15.1	+0.8
	baz=138					
D28M	**Stokes Point**	76.16 348	P	P	22 49 14.4	+0.2
	baz=144					
MLY	**Manley**	76.18 341	P	P	22 49 14.4	-0.2
	baz=131,SNR=9.4					
O15K	**Ungalikthiuk R**	76.20 334	P	P	22 49 14.9	+0.2
	baz=121					
K20K	**Telida**	76.25 339	IAmb	IAmb	22 49 18.2	
	comp=Z,28nm,1.1s					
K20K	**Telida**	76.25 339	P	P	22 49 15.6	+0.7
	baz=127					
A36M	**Sachs Harbour**	76.26 353	IAMs_20	IAMs_20	23 22 00.7	
	comp=Z,621nm,19.0s					
A36M	**Sachs Harbour**	76.26 353	P	P	22 49 14.6	-0.2
	baz=158					
G24K	**Hadweenzic Riv**	76.33 343	IAmb	IAmb	22 49 18.1	
	comp=Z,43nm,1.4s					
G24K	**Hadweenzic Riv**	76.33 343	P	P	22 49 15.7	+0.4
	baz=134					
H23K	**Yukon River**	76.34 342	P	P	22 49 15.9	+0.5
	baz=132					
M17K	**Holitna River**	76.39 336	P	P	22 49 16.4	+0.7
	baz=124					
N16K	**Nishlik Lake**	76.43 335	P	P	22 49 16.4	+0.4
	baz=122					
F25K	**Christian Rive**	76.46 345	IAmb	IAmb	22 49 20.8	
	comp=Z,17nm,1.1s					
F25K	**Christian Rive**	76.46 345	P	P	22 49 17.3	+1.1
	baz=136,SNR=11					
L18K	**Granite Mounta**	76.56 337	P	P	22 49 17.4	+0.7
	baz=125					
D27M	**Malcolm River**	76.57 347	IAmb	IAmb	22 49 20.9	
	comp=Z,21nm,1.4s					
D27M	**Malcolm River**	76.57 347	P	P	22 49 17.5	+0.8
	baz=141					
TTA	**Tatalina**	76.71 338	P	P	22 49 18.0	+0.4
	baz=125					
J20K	**Nowinta River**	76.78 340	IAmb	IAmb	22 49 21.4	
	comp=Z,25nm,1.2s					
J20K	**Nowinta River**	76.78 340	P	P	22 49 17.8	-0.1
	baz=127					
N15K	**Kwethluk River**	76.83 335	P	P	22 49 18.2	0.0
	baz=121					
E25K	**Arctic Village**	76.83 345	IAMs_20	IAMs_20	23 21 17.9	
	comp=Z,811nm,20.0s					
E25K	**Arctic Village**	76.83 345	P	P	22 49 19.2	+1.1
	baz=136,SNR=6.4					
H22K	**Ishtalitna Cre**	76.95 342	P	P	22 49 19.6	+0.7
	baz=130					
UNV	**Unalaska Valle**	77.02 327	P	P	22 49 20.6	+1.2
	baz=114					
F24K	**Squaw Lake**	77.02 344	P	P	22 49 20.1	+0.9
	baz=134					
G23K	**Bananza Creek**	77.08 343	P	P	22 49 20.2	+0.6
	baz=132					
L17K	**Donlin**	77.14 337	P	P	22 49 20.5	+0.5
	baz=123					
J19K	**Poorman**	77.19 339	P	P	22 49 20.7	+0.5
	baz=126					
H21K	**Melozitna Rive**	77.25 341	IAmb	IAmb	22 49 24.2	
	comp=Z,33nm,1.2s					
H21K	**Melozitna Rive**	77.25 341	P	P	22 49 21.3	+0.7
	baz=129					
I20K	**Naaghedeneel**	77.27 340	P	P	22 49 20.9	+0.2
	baz=127					
J18K	**Innoko River**	77.28 338	P	P	22 49 21.4	+0.7
	baz=125					
M15K	**Kasigluk River**	77.35 335	P	P	22 49 22.3	+1.1
	baz=121					
L16K	**Owhat River**	77.38 336	P	P	22 49 22.9	+1.6
	baz=122					
N14K	**Kuskokwak Cree**	77.39 334	P	P	22 49 22.6	+1.2
	baz=120					
K17K	**Iditarod**	77.45 337	P	P	22 49 23.0	+1.2
	baz=123					
COLD	**Coldfoot**	77.47 343	P	P	22 49 23.3	+1.5
	baz=132,SNR=13					
C27K	**Jago River**	77.49 347	IAmb	IAmb	22 49 37.0	
	comp=Z,25nm,1.6s					
C27K	**Jago River**	77.49 347	P	P	22 49 21.8	-0.1
	baz=139					
E24K	**Your Creek**	77.57 344	IAmb	IAmb	22 51 55.1	
	comp=Z,25nm,1.9s					
E24K			IAMs_20	IAMs_20	23 21 20.1	
	comp=Z,717nm,20.0s					
E24K	**Your Creek**	77.57 344	P	P	22 49 22.6	+0.3
	baz=134					
G22K	**Bettles**	77.66 343	P	P	22 49 23.3	+0.6
	baz=130					
IMAR	**Indian Mountai**	77.76 341	P	P	22 49 23.0	-0.4
RES	**Resolute Bay**	77.83 2	P	P	22 49 22.4	-1.2
RES	**Resolute Bay**	77.83 2	LR	LR	23 22 11.2	
	comp=Z,794nm,21.7s,baz=196,slow=34					
RES	**Resolute Bay**	77.83 2	P	P	22 49 22.4	-1.2
RES			pmax	pmax		
	comp=Z,36nm,1.1s					
H20K	**Anotleneega Mo**	77.83 340	P	P	22 49 24.4	+0.6
	baz=127					
E23K	**Chandalar**	77.87 344	IAmb	IAmb	22 49 29.0	
	comp=Z,26nm,1.2s					
E23K	**Chandalar**	77.87 344	P	P	22 49 24.6	+0.6
	baz=132					
D25K	**Kavik River**	77.90 346	IAmb	IAmb	22 49 26.7	
	comp=Z,18nm,1.2s					
D25K			IAMs_20	IAMs_20	23 18 21.9	
	comp=Z,982nm,21.0s					
D25K	**Kavik River**	77.90 346	P	P	22 49 24.6	+0.4
	baz=136					
M14K	**Bethel**	77.92 335	P	P	22 49 24.4	+0.1
	baz=119					
NIKH	**Nikolski High**	77.97 326	P	P	22 49 25.4	+0.6
	baz=112					
C26K	**Camden Bay**	77.99 346	P	P	22 49 25.4	+0.9
	baz=137					
G21K	**Allakaket**	78.01 342	IAmb	IAmb	22 49 28.9	
	comp=Z,22nm,1.1s					
G21K	**Allakaket**	78.01 342	P	P	22 49 25.3	+0.5
	baz=128					
GCSA	**Galena City Sc**	78.07 339	P	P	22 49 26.0	+0.9
	baz=125					
J17K	**VABM Dome**	78.12 338	P	P	22 49 26.2	+0.8
	baz=123					
MSVF	**Nonsavu**	78.15 253	LR	LR	23 15 40.6	
	comp=Z,612nm,20.6s,baz=45,slow=29					
L15K	**Ungalak Mounta**	78.18 336	P	P	22 49 26.8	+1.0
	baz=120					
F22K	**John River**	78.24 343	P	P	22 49 27.5	+1.4
	baz=130					
TOLK	**Toolik Lake Re**	78.25 344	P	P	22 49 26.3	+0.2
	baz=133					
M13K	**Dall Lake**	78.36 334	P	P	22 49 27.8	+1.1
	baz=118					
H19K	**Roundabout Mou**	78.38 340	P	P	22 49 27.4	+0.6
	baz=126					
F21K	**Alatna River**	78.45 342	P	P	22 49 28.6	+1.4
	baz=129					
K15K	**Wolf Creek Mou**	78.51 336	P	P	22 49 29.1	+1.5
	baz=120					
L14K	**Kuka Creek**	78.52 335	P	P	22 49 29.1	+1.5
	baz=119					
E22K	**Anaktuvuk Pass**	78.54 343	IAmb	IAmb	22 49 32.1	
	comp=Z,20nm,1.4s					
E22K	**Anaktuvuk Pass**	78.54 343	P	P	22 49 29.3	+1.6
	baz=130					
J16K	**Anvik River**	78.65 337	P	P	22 49 29.0	+0.7
	baz=121					
C24K	**Franklin Bluff**	78.77 345	IAmb	IAmb	22 49 31.4	
	comp=Z,31nm,1.4s					
C24K	**Franklin Bluff**	78.77 345	P	P	22 49 30.0	+1.2
	baz=134					
D23K	**Nanushuk River**	78.77 344	P	P	22 49 30.3	+1.3
D23K			IAmb	IAmb	22 49 34.0	
	comp=Z,29nm,1.3s					
D23K	**Nanushuk River**	78.77 344	P	P	22 49 30.0	+1.1
	baz=132					
H18K	**Honhosa River**	78.82 339	P	P	22 49 30.4	+1.1
	baz=124					
G19K	**Purcell Mounta**	78.95 340	IAmb	IAmb	22 49 35.1	
	comp=Z,21nm,1.2s					
G19K	**Purcell Mounta**	78.95 340	P	P	22 49 31.1	+1.1
	baz=125					
I17K	**Unalakleet**	79.00 338	P	P	22 49 31.6	+1.3
	baz=121					
F20K	**Avaraart Lake**	79.03 342	IAmb	IAmb	22 49 35.4	
	comp=Z,34nm,1.4s					
F20K	**Avaraart Lake**	79.03 342	P	P	22 49 32.2	+1.8
	baz=126					
SFJD	**Kangerlussuaq**	79.16 19	LR	LR	23 24 15.7	
	comp=Z,364nm,20.0s,baz=220,slow=36					
H17K	**Granite Mounta**	79.26 339	P	P	22 49 32.9	+1.2
	baz=122					
D22K	**Ayikyak River**	79.26 344	P	P	22 49 32.6	+1.0
	baz=130					
C23K	**Itkillik River**	79.33 345	P	P	22 49 32.9	+1.0
	baz=132					
G18K	**Tagagawik**	79.34 340	IAmb	IAmb	22 49 37.2	
	comp=Z,28nm,1.3s					
G18K	**Tagagawik**	79.34 340	P	P	22 49 32.4	+0.3
	baz=123					
E21K	**Killik River**	79.35 343	IAmb	IAmb	22 49 36.5	
	comp=Z,21nm,1.1s					
E21K	**Killik River**	79.35 343	P	P	22 49 33.8	+1.6
	baz=128					
J14K	**Nanvaranak Lak**	79.55 336	P	P	22 49 34.8	+1.5
	baz=118					
F19K	**Shaleruckik Mo**	79.57 341	P	P	22 49 34.4	+1.1
	baz=124					
M11K	**Mekoryuk**	79.61 333	P	P	22 49 34.5	+0.9
	baz=116					
K13K	**Kusilvak Mount**	79.62 335	P	P	22 49 34.2	+0.5
	baz=117					
P08K	**Saint George I**	79.70 329	P	P	22 49 34.7	+0.5
	baz=112					
E19K	**Redstone River**	79.75 342	P	P	22 49 35.3	+0.9
	baz=125					
G17K	**Kiwalik Mounta**	79.82 339	P	P	22 49 35.8	+1.1
	baz=122					
URZ	**Urewera**	79.83 232	LR	LR	23 16 44.0	
	comp=Z,1µm,21.9s,baz=181,slow=30					
E20K	**Nigu River**	79.90 342	P	P	22 49 36.5	+1.3
	baz=126					
H16K	**Elim**	79.96 338	P	P	22 49 35.9	+0.4
	baz=120					
C21K	**Knifeblade Rid**	80.03 344	P	P	22 49 36.0	+0.2
	baz=128					
F18K	**Selawik**	80.06 340	P	P	22 49 36.4	+0.5
	baz=123					
B21K	**Ikpikpuk River**	80.27 344	P	P	22 49 37.4	+0.4
	baz=128					
D20K	**Etivluk River**	80.29 343	P	P	22 49 38.8	+1.5
	baz=126					
G16K	**Koyuk River**	80.38 339	P	P	22 49 39.3	+1.6
	baz=120					
B22K	**Teshekpuk Lake**	80.39 345	P	P	22 49 39.4	+1.7
	baz=129					
F17K	**Baldwin Pennin**	80.52 340	P	P	22 49 39.7	+1.2
	baz=121					
D19K	**Kuna River**	80.62 342	P	P	22 49 39.7	+0.7
	baz=124					
G15K	**Niukluk**	80.81 338	P	P	22 49 41.6	+1.6
	baz=118					
E18K	**Tukpahlearik C**	80.82 341	P	P	22 49 41.1	+1.0
	baz=122					
E17K	**Hotham Inlet**	81.05 340	P	P	22 49 43.3	+2.0
	baz=121					
ANM	**Nome**	81.11 337	P	P	22 49 43.0	+1.4
	baz=117					
B20K	**Meade River**	81.21 344	P	P	22 49 43.6	+1.5
	baz=125					
A22K	**Sinclair Lake**	81.21 345	P	P	22 49 43.3	+1.2
	baz=128					
F15K	**North Star Dit**	81.37 338	P	P	22 49 43.9	+0.8
	baz=118					
C19K	**Lookout Ridge**	81.40 342	P	P	22 49 44.4	+1.2
	baz=123					
C18K	**Utukok River**	81.65 342	P	P	22 49 46.1	+1.5
	baz=121					
RDOG	**Red Dog Mine**	81.90 341	P	P	22 49 46.7	+0.9
	baz=120					
C17K	**DeLong Mountai**	82.19 341	P	P	22 49 48.3	+0.9
	baz=120					
B18K	**Kokolik River**	82.21 342	P	P	22 49 48.2	+0.9
	baz=121					
TNA	**Tin City**	82.52 338	P	P	22 49 49.6	+0.6
	baz=115					
BELA	**Belgrano 2**	82.61 169	P	P	22 49 50.0	+0.6
C16K	**Lisburne Hills**	82.80 341	P	P	22 49 50.8	+0.4
	baz=117					
THZ	**Tophouse**	83.24 228	P	P	22 49 54.6	+1.2
EUNU	**Eureka**	83.49 3	P	P	22 49 54.4	+0.4
RPZ	**Rata Peaks**	84.65 227	LR	LR	23 21 01.3	
	comp=Z,1µm,19.0s,baz=104,slow=31					
SUMG	**Summit**	85.62 16	P	P	22 50 05.5	+0.2
SUMG	**Summit**	85.62 16	P	P	22 50 05.5	+0.2
SUMG			pmax	pmax		
	comp=Z,43nm,1.2s					
QSPA	**South Pole Qui**	86.96 180	P	P	22 50 12.3	+0.6
QSPA	**South Pole Qui**	86.96 180	P	P	22 50 12.6	+0.9
	comp=Z,37nm,0.9s,baz=124,slow=1.8,SNR=88					
QSPA			LR	LR	23 21 27.4	
	comp=Z,246nm,21.4s,baz=126,slow=30					
	comp=Z,37nm,0.9s					
SBA	**Scott Base**	86.97 192	P	P	22 50 13.0	+1.7
SBA	**Scott Base**	86.97 192	P	P	22 50 13.0	+1.7
SBA			pmax	pmax		
	comp=Z,93nm,1.9s					
BBTS	**Babate**	87.76 75	LR	LR	23 23 57.4	
	comp=Z,545nm,19.6s,baz=141,slow=32					
SHEM	**Shemya Is, Ala**	87.88 323	LR	LR	23 20 32.4	
	comp=Z,1µm,21.7s,baz=118,slow=30					
VNA3	**Neumayer Olymp**	88.31 161	⇑P	P	22 50 18.3	+0.4
	comp=Z,14nm,0.8s					
VNA1	**Neumayer--Stat**	88.82 161	⇑P	P	22 50 20.7	+0.4
	comp=Z,8.8nm,0.9s					
DZM	**Mont Dzumac**	88.99 248	*e*SS	SS	23 07 01.9	-1.6
	comp=Z,519nm,27.1s					
DZM	**Mont Dzumac**	88.99 248	*e*LR	LR	23 18 35.9	
	comp=Z,1µm,23.1s					
DZM	**Mont Dzumac**	88.99 248	LR	LR	23 21 26.0	
	comp=Z,524nm,21.2s,baz=102,slow=30					
VNA2	**Neumayer--Watz**	89.08 161	⇑P	P	22 50 21.7	+0.2
	comp=Z,7.1nm,0.8s,baz=284,slow=3.1					
SNAA	**Sanae**	90.41 162	P	P	22 50 27.8	-0.1
SNAA	**Sanae**	90.41 162	⇑P	P	22 50 28.3	+0.5
	comp=Z,77nm,0.9s					
SNAA	**Sanae**	90.41 162	P	P	22 50 28.0	+0.2
	comp=Z,4.0nm,0.9s,baz=266,slow=2.9,SNR=13					
SNAA			LR	LR	23 22 57.0	
	comp=Z,177nm,20.4s,baz=248,slow=30					
	comp=Z,4.0nm,0.9s					
SNAA	**Sanae**	90.41 162	*ce*P	P	22 50 29.0	+1.2
SNAA			pmax	pmax		
	comp=Z,22nm,2.7s					
H11N3	**WAKE ISLAND Hy**	90.72 290	T	T	00 30 57.8	
	baz=93,slow=74,SNR=30					
H11N2	**WAKE ISLAND Hy**	90.74 290	T	T	00 30 58.2	
	baz=93,slow=74,SNR=38					
H11N1	**WAKE ISLAND Hy**	90.74 290	T	T	00 30 54.0	
	baz=93,slow=74,SNR=29					
H11S2	**WAKE ISLAND Hy**	90.85 288	T	T	00 31 07.6	
	baz=94,slow=75,SNR=38					
H11S1	**WAKE ISLAND Hy**	90.86 288	T	T	00 31 07.3	
	baz=94,slow=75,SNR=25					
H11S3	**WAKE ISLAND Hy**	90.87 288	T	T	00 31 04.1	
	baz=94,slow=75,SNR=30					
TROLL	**Troll, Antarti**	91.97 163	⇑P	P	22 50 36.1	+0.9
	comp=Z,266nm,0.9s					
BILL	**Bilibino**	92.96 338	IAMs_20	IAMs_20	23 22 39.7	
	comp=Z,480nm,21.0s					
BILL	**Bilibino**	92.96 338	*i* P	P	22 50 40.1	+0.5
BILL			pmax	pmax		
	comp=Z,10.0nm,1.8s					
JMIC	**Jan Mayen**	94.50 19	LR	LR	23 31 50.0	
	comp=Z,306nm,21.8s,baz=261,slow=34					
HNR	**Honiara**	96.04 260	IAMs_20	IAMs_20	23 23 60.0	
	comp=Z,715nm,21.0s					
HNR	**Honiara**	96.04 260	LR	LR	23 24 22.1	
	comp=Z,662nm,22.0s,baz=118,slow=29					
PET	**Petropavlovsk**	97.23 323	*i* P	P	22 50 59.7	+0.3
PET			pmax	pmax		
	comp=Z,50nm,1.2s					
ELIB	**Princess Elisa**	97.79 165	*d*P	P	22 51 02.5	+0.8
	comp=Z,2.6nm,1.1s					
PETK	**Petropavlovsk-**	97.80 323	LR	LR	23 27 29.6	
	comp=Z,708nm,20.5s,baz=99,slow=31					
DBIC	**Dimbokro**	98.84 84	P	P	22 51 06.1	-1.5
	comp=Z,6.1nm,1.0s,baz=260,slow=4.0,SNR=5.1					
DBIC			LR	LR	23 33 33.8	
	comp=Z,728nm,18.7s,baz=249,slow=34					
	comp=Z,6.1nm,1.0s					
SPITS	**Spitsbergen Ar**	98.89 10	LR	LR	23 36 32.2	
	comp=Z,483nm,20.1s,baz=262,slow=36					
MDT	**Midelt**	99.07 57	LR	LR	23 30 59.4	
	comp=Z,166nm,19.5s,baz=287,slow=32					
ESDC	**Sonseca Array**	99.24 50	LR	LR	23 28 44.9	
	comp=Z,187nm,21.6s,baz=276,slow=31					
TAM	**Tamanrasset**	108.64 67	IAMs_20	IAMs_20	23 36 50.5	
	comp=Z,548nm,22.0s					
NACGM	**Naroch**	114.58 29	*e*PKP	PKiKP	22 56 03.7	-3.0
TIP	**Timpagrande**	115.07 48	IAMs_20	IAMs_20	23 38 46.9	
	comp=Z,293nm,20.0s					
MNK	**Minsk**	115.33 29	*i* P	Pdif	22 52 18.8	-1.2
	comp=E,15nm,0.8s					
MNK			*i* P	Pdif	22 52 18.8	-1.2
	comp=N,10.0nm,0.7s					
MNK			*i* P	Pdif	22 52 18.8	-1.2
	comp=Z,9.0nm,0.7s,baz=304					
MNK			*i* PP	PP	22 57 08.0	-0.8
MNK			*i* PPP	PPP	22 59 33.9	
MNK			*i* SKS	SKSdf	23 03 19.6	0.0
MNK			*i* PS	PKKPab	23 06 48.1	-0.3
MNK			*i* SS	SS	23 13 07.2	+1.7
MNK			*i* SSS	SSS	23 17 23.7	
MNK			*i* LR	LR	23 41 56.0	
MNK			*i* LRM	MLR	23 45 07.2	
	comp=Z,132nm,16.1s					
MNK			*i* LRM	MLR	23 45 12.0	
	comp=N,2µm,19.1s					
MNK			*i* LRM	MLR	23 45 13.0	
	comp=E,2µm,18.9s					
MNK	**Minsk**	115.33 29	*i* P	Pdif	22 52 18.7	-1.2
MNK			*i*		22 57 07.9	
MNK			*i* PPP	PPP	22 59 33.8	
MNK			*i*		23 03 19.5	
MNK			*i* PS	PKKPab	23 06 48.1	-0.3
MNK			*i* SS	SS	23 13 07.2	+1.6
MNK			*i* SSS	SSS	23 17 23.7	
MNK			pmax	pmax		
	comp=Z,9.0nm,0.7s					
MNK			pmax	pmax		
	comp=N,10.0nm,0.7s					
MNK			pmax	pmax		
	comp=E,15nm,0.8s					
MNK			MLR	MLR		
	comp=Z,132nm,16.0s					
MNK			MLR	MLR		
	comp=N,2µm,19.0s					
MNK			MLR	MLR		
	comp=E,2µm,19.0s					
AKASG	**Malin Array Be**	118.13 32	PKP	PKPdf	22 56 12.2	-1.5
	comp=E,0.7nm,0.7s,baz=277,slow=0.8,SNR=2.3					
ASAR	**Alice Springs**	118.23 241	PKP	PKPdf	22 56 13.4	-1.4
	comp=E,1.3nm,1.0s,baz=98,slow=2.7,SNR=9.3					
ASAR			PP	PP	22 57 30.6	+0.4
	comp=E,0.6nm,0.9s,baz=96,slow=7.7,SNR=4.1					
WRA	**Warramunga Arr**	118.89 245		PKPdf	22 56 15.0	-1.1
WRA	**Warramunga Arr**	118.89 245	PKP	PKPdf	22 56 14.3	-1.8
	comp=E,1.8nm,0.9s,baz=108,slow=0.8,SNR=9.3					
WRA	**Warramunga Arr**	118.89 245	*e*PKIKP	PKPdf	22 56 14.9	-1.2
WRA			pmax	pmax		
	comp=Z,2.0nm,0.9s					
OBN	**Obninsk**	118.89 25	‖*e*PKIKP	PKPdf	22 56 14.9	-0.1
OBN			*e*		22 57 37.6	
OBN			*e*PPP	PPP	23 00 04.1	

OBN				*i*			23 03 20.8
OBN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
OBN				MLR	MLR		
	comp=Z,235nm,19.0s						
CN2	**Changchun**	**120.83**	**321**	*e*PKP	**PKPdf**	**22 56 16.5**	**-2.7**
CN2				*e*PP	**PP**	**22 57 49.1**	**+1.8**
CN2				*e*SS	SS	23 14 15.0	-2.7
CN2				AMB	AMB		
	comp=Z,100nm,8.0s						
CN2				LR	LR		
	comp=Z,400nm,20.0s						
CN2				LR	LR		
	comp=Z,600nm,20.0s						
CN2				LR	LR		
	comp=Z,700nm,21.0s						
KSRS	**Korea Array**	**121.93**	**313**	PKP	**PKPdf**	**22 56 21.1**	**-0.3**
	comp=Z,3.4nm,0.9s,baz=297,slow=0.7,SNR=8.0						
KSAR	**Wonju Array Be**	**121.96**	**313**	PKPdf	**PKPdf**	**22 56 20.7**	**-0.8**
KSAR	**Wonju Array Be**	**121.96**	**313**	PKIKP	**PKPdf**	**22 56 20.7**	**-0.8**
ARTI	**Arti**	**124.89**	**12**	PKPdf	**PKPdf**	**22 56 26.2**	**-0.4**
ARTI	**Arti**	**124.89**	**12**	IAMs_20	IAMs_20	23 49 35.5	
	comp=Z,276nm,22.0s						
ARTI	**Arti**	**124.89**	**12**	*i* PKIKP	**PKPdf**	**22 56 27.1**	**+0.5**
ARTI						22 58 17.9	
ARTI						23 03 38.4	
BELG	**Belogornoye**	**125.29**	**21**	*i* PKIKP	**PKPdf**	**22 56 27.1**	**-0.3**
BRTR	**Keskin Array B**	**126.71**	**41**	PKPdf	**PKPdf**	**22 56 30.4**	**-0.4**
BRTR	**Keskin Array B**	**126.71**	**41**	PKP	**PKPdf**	**22 56 30.6**	**-0.2**
	comp=Z,3.9nm,0.9s,baz=198,slow=0.8,SNR=8.3						
SOC	**Sochi**	**128.12**	**34**	*i* PKIKP	**PKPdf**	**22 56 32.4**	**-0.7**
SOC				*e*		22 58 33.7	
SOC				*e*PPP	PPP	23 01 21.7	
SOC				*e*		23 03 35.4	
SOC				*e*PS	**PS**	**23 08 41.5**	**-1.9**
SOC				*e*SSS	SSS	23 20 34.3	
ULN	**Ulaanbaatar**	**128.25**	**334**	PKPdf	**PKPdf**	**22 56 32.9**	**-0.6**
ULN	**Ulaanbaatar**	**128.25**	**334**	IAMs_20	IAMs_20	23 51 14.4	
	comp=Z,352nm,20.0s						
ULN	**Ulaanbaatar**	**128.25**	**334***c*	*i*PKIKP	**PKPdf**	**22 56 34.4**	**+0.9**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**128.56**	**335**	PKP	**PKPdf**	**22 56 34.1**	**0.0**
	comp=Z,5.0nm,1.0s,baz=32,slow=1.9,SNR=18						
ZALV	**Zalesovo Beam**	**128.85**	**354**	PKPdf	**PKPdf**	**22 56 33.3**	**-0.9**
ZALV	**Zalesovo Beam**	**128.85**	**354**	PKP	**PKPdf**	**22 56 33.8**	**-0.4**
	comp=Z,6.8nm,0.8s,baz=11,slow=3.0,SNR=20						
ZALV				PP	**PP**	**22 58 38.9**	**-1.1**
	comp=Z,2.4nm,0.9s,baz=347,slow=6.1,SNR=4.9						
TNTI	**Ternate**	**129.20**	**268**	IAMs_20	IAMs_20	23 42 19.2	
	comp=Z,357nm,22.0s						
KIV	**Kislovodsk**	**129.46**	**31**	*i* PKIKP	**PKPdf**	**22 56 36.9**	**+1.1**
KIV				*e*		22 58 44.8	
KIV				*e*SS	SS	23 16 07.6	+1.8
KIV				*e*SSS	SSS	23 20 56.0	
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KBZ	**Khabaz**	**129.73**	**32**	PKP	**PKPdf**	**22 56 37.3**	**+1.1**
	comp=Z,8.7nm,1.2s,baz=213,slow=6.0,SNR=4.0						
BRVK	**Borovoye**	**129.92**	**5***c*	*i* PKIKP	**PKPdf**	**22 56 36.9**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,18nm,1.3s						
BVAR	**Borovoye Array**	**129.96**	**5**	PKP	**PKPdf**	**22 56 37.0**	**+0.6**
	comp=Z,13nm,1.0s,baz=349,slow=1.5,SNR=38						
BVAR				PP	**PP**	**22 58 45.3**	**-2.0**
	comp=Z,4.3nm,1.0s,baz=343,slow=4.6,SNR=5.3						
NCK	**Nalchik**	**130.26**	**31**	*i* PKIKP	**PKPdf**	**22 56 37.1**	**-0.2**
HHC	**Hu-ho-hao-te**	**130.96**	**325**	*e*PKP	**PKPdf**	**22 56 34.5**	**-4.3**
HHC				LR	LR		
	comp=Z,200nm,15.3s						
HHC				LR	LR		
	comp=Z,450nm,19.4s						
HHC				LR	LR		
	comp=Z,580nm,18.2s						
NJ2	**Nanjing**	**130.98**	**311**	*e*PKP	**PKPdf**	**22 56 40.5**	**+1.6**
HNS	**HongShan**	**131.15**	**319**	⇑PKP	**PKPdf**	**22 56 40.6**	**+1.5**
HNS				LR	LR		
	comp=Z,240nm,17.5s						
HNS				LR	LR		
	comp=Z,440nm,17.8s						
HNS				LR	LR		
	comp=Z,400nm,17.5s						
ABKAR	**Akbulak array**	**131.86**	**15**	PKPdf	**PKPdf**	**22 56 40.3**	**+0.2**
BTO	**Baotou**	**132.00**	**326**	*e*PKP	**PKPdf**	**22 56 42.1**	**+1.3**
BTO				AMB	AMB		
	comp=Z,360nm,5.2s						
BTO				LR	LR		
	comp=Z,600nm,10.6s						
BTO				LR	LR		
	comp=Z,810nm,11.9s						
BTO				LR	LR		
	comp=Z,1μm,16.8s						
GHAJ	**Ghor Haditha**	**132.26**	**49**	IAMs_20	IAMs_20	00 01 29.3	
	comp=Z,346nm,19.0s						
KURK	**Kurchatov**	**132.51**	**358**	PKPdf	**PKPdf**	**22 56 41.6**	**+0.4**
KURK	**Kurchatov**	**132.51**	**358***c*	*i* PKIKP	**PKPdf**	**22 56 42.5**	**+1.3**
KURK				pmax	pmax		
	comp=Z,15nm,1.3s						
KURBB	**Kurchatov Arra**	**132.60**	**358**	PKP	**PKPdf**	**22 56 41.2**	**-0.2**
	comp=Z,5.0nm,0.8s,baz=353,slow=1.6,SNR=24						
KURBB				PP	**PP**	**22 59 04.0**	**-0.2**
	comp=Z,0.8nm,0.2s,baz=358,slow=6.1,SNR=4.3						
MAK	**Makhachkala**	**132.61**	**29**	*i* P	**Pdif**	**22 53 32.5**	**-4.6**
MAK				*e*		22 59 00.9	
MAK				*e*PPP	PPP	23 01 54.4	
MAK				*e*		23 03 45.6	
MAK				*e*SS	SS	23 16 42.9	-0.9
MAK				pmax	pmax		
	comp=Z,408nm,1.1s						
SEM	**Semipalatinsk**	**132.75**	**357**	*e*PKiKP	**PKPdf**	**22 56 41.0**	**-1.0**
SEM				*e*PP	**PP**	**22 59 03.9**	**-1.6**
SEM	**Semipalatinsk**	**132.75**	**357**	*i* PKIKP	**PKPdf**	**22 56 41.0**	**-1.0**
SEM				*e*		22 59 03.9	
MMRI	**Maumere**	**133.02**	**255**	IAMs_20	IAMs_20	23 46 07.9	
	comp=Z,299nm,22.0s						
LUWI	**Luwuk**	**133.65**	**266**	IAMs_20	IAMs_20	23 52 06.1	
	comp=Z,247nm,20.0s						
TOLI2	**Tolitoli**	**135.79**	**268**	IAMs_20	IAMs_20	23 49 39.9	
	comp=Z,258nm,22.0s						
MK31	**Makanchi Array**	**136.18**	**354***c*	*i*PKIKP	**PKPdf**	**22 56 48.5**	**+0.2**
MKAR	**Makanchi Array**	**136.18**	**354**	PKhKP	PKPpre	22 56 35.1	
	comp=Z,0.9nm,0.8s,baz=298,slow=2.6,SNR=5.0						
MKAR				PKP	**PKPdf**	**22 56 47.5**	**-0.8**
	comp=Z,9.6nm,0.9s,baz=347,slow=1.0,SNR=27						
MKAR	**Makanchi Array**	**136.18**	**354***c*	*i* PKIKP	**PKPdf**	**22 56 47.7**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAKZ	**Makanchi**	**136.20**	**355**	PKPdf	**PKPdf**	**22 56 47.7**	**-0.6**
MAKZ	**Makanchi**	**136.20**	**355**	PKIKP	**PKPdf**	**22 56 47.7**	**-0.6**
MAKZ				MLR	MLR		
	comp=Z,500nm,22.0s						
GRD1	**Great Renaissa**	**138.06**	**77**	*e*P	**PKPdf**	**22 56 53.9**	**+1.2**
GTA	**Gaotai**	**138.13**	**333**	PKP	**PKPdf**	**22 56 53.9**	**+1.6**
GTA				LR	LR		
	comp=Z,310nm,17.9s						
GTA				LR	LR		
	comp=Z,550nm,19.9s						
GTA				LR	LR		
	comp=Z,800nm,20.7s						
TDK	**Taldyqorghan**	**138.23**	**358**	*e*PKiKP	**PKPdf**	**22 56 51.8**	**-0.3**
TDK	**Taldyqorghan**	**138.23**	**358**	*i* PKIKP	**PKPdf**	**22 56 51.8**	**-0.3**
WMQ	**Urumqi**	**138.26**	**348**	*e*PKP	**PKPdf**	**22 56 53.0**	**+0.7**
WMQ				LR	LR		
	comp=Z,360nm,19.7s						
WMQ				LR	LR		
	comp=Z,290nm,23.5s						
WMQ				LR	LR		
	comp=Z,360nm,15.7s						
LZH	**Lanzhou**	**138.62**	**326**	*e*PKP	**PKPdf**	**22 56 52.7**	**-0.6**
LZH				SS	SS	23 18 02.8	+6.1
LZH				LR	LR		
	comp=Z,360nm,20.6s						
LZH				LR	LR		
	comp=Z,600nm,17.2s						
LZH				LR	LR		
	comp=Z,1μm,20.6s						
LODK	**Lodwar**	**138.84**	**88**	*e*P	**PKPdf**	**22 56 55.6**	**+1.4**
LODK				IAMs_20	IAMs_20	23 54 16.9	
	comp=Z,1μm,20.1s						
KPKS	**Kokpek**	**139.75**	**358**	*e*PKiKP	**PKPdf**	**22 56 55.1**	**0.0**
KPKS				*e*PP	**PP**	**22 59 47.9**	**-1.5**
KPKS	**Kokpek**	**139.75**	**358**	*i* PKIKP	**PKPdf**	**22 56 55.1**	**0.0**
KPKS				*e*		22 59 47.8	
SGDS	**Sogindy**	**139.77**	**2**	*e*PKiKP	**PKPdf**	**22 56 54.9**	**-0.2**
SGDS	**Sogindy**	**139.77**	**2**	*i* PKIKP	**PKPdf**	**22 56 54.9**	**-0.2**
BRLS	**Borolday**	**139.78**	**8**	*e*PKiKP	**PKPdf**	**22 56 55.5**	**+0.4**
BRLS				*e*PP	**PP**	**22 59 49.0**	**-0.4**
BRLS	**Borolday**	**139.78**	**8**	*i* PKIKP	**PKPdf**	**22 56 55.4**	**+0.4**
BRLS				*e*		22 59 49.0	
SHLS	**Shalkode**	**140.02**	**357**	*e*PKiKP	**PKPdf**	**22 56 55.4**	**-0.2**
SHLS	**Shalkode**	**140.02**	**357**	*i* PKIKP	**PKPdf**	**22 56 55.4**	**-0.2**
UZB	**Uzynbulak**	**140.05**	**357**	*e*PKiKP	**PKPdf**	**22 56 55.9**	**+0.1**
UZB	**Uzynbulak**	**140.05**	**357**	*i* PKIKP	**PKPdf**	**22 56 55.8**	**+0.1**
DZA	**Taraz**	**140.09**	**6**	*e*PKiKP	**PKPdf**	**22 56 56.1**	**+0.4**
DZA	**Taraz**	**140.09**	**6**	*i* PKIKP	**PKPdf**	**22 56 56.0**	**+0.4**
MDOK	**Medeo**	**140.09**	**359**	*e*PKiKP	**PKPdf**	**22 56 55.7**	**-0.1**
MDOK	**Medeo**	**140.09**	**359**	*i* PKIKP	**PKPdf**	**22 56 55.7**	**-0.1**
SATY	**Saty**	**140.17**	**358**	*e*PKiKP	**PKPdf**	**22 56 55.7**	**-0.2**
SATY	**Saty**	**140.17**	**358**	*i* PKIKP	**PKPdf**	**22 56 55.7**	**-0.2**
CHM	**Chimkent**	**140.44**	**8**	*e*PKiKP	**PKPdf**	**22 56 56.5**	**+0.2**
CHM	**Chimkent**	**140.44**	**8**	*i* PKIKP	**PKPdf**	**22 56 56.4**	**+0.2**
KMBO	**Kilima Mbogo**	**140.46**	**95**	PKhKP	PKPpre	22 56 52.1	
	comp=Z,1.4nm,0.7s,baz=312,slow=3.7,SNR=4.3						
KMBO	**Kilima Mbogo**	**140.46**	**95**	*e*P	**PKPdf**	**22 56 58.5**	**+1.1**
KMBO	**Kilima Mbogo**	**140.46**	**95***c*	*i* PKIKP	**PKiKP**	**22 57 00.2**	**+0.3**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**140.58**	**2***c*	*i* PKIKP	**PKiKP**	**22 56 59.4**	**+0.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
IUG	**Iuzhnay**	**140.67**	**8**	*e*PKiKP	**PKPdf**	**22 56 57.4**	**+0.6**
IUG	**Iuzhnay**	**140.67**	**8**	*i* PKIKP	**PKPdf**	**22 56 57.4**	**+0.6**
DILA	**Dilla**	**141.70**	**84**	*e*P	**PKPdf**	**22 56 57.4**	**-2.1**
WLRA	**Wolmera**	**141.88**	**79**	*e*P	**PKPdf**	**22 56 55.6**	**-4.4**
FURI	**Furi**	**141.88**	**80**	*e*P	**PKPdf**	**22 56 54.5**	**-5.5**
WUS	**Wushi**	**141.99**	**357**	IAMs_20	IAMs_20	00 00 11.4	
	comp=Z,386nm,21.0s						
CD2	**Chengdu**	**142.27**	**320**	PKP	**PKPdf**	**22 56 59.0**	**-0.9**
CD2				SKS	**SKSdf**	**23 04 08.9**	**-0.6**
CD2				LR	LR		
	comp=Z,250nm,16.9s						
CD2				LR	LR		
	comp=Z,290nm,20.7s						
CD2				LR	LR		
	comp=Z,300nm,20.4s						
DESE	**Dese**	**142.51**	**76**	*e*P	**PKPdf**	**22 56 58.0**	**-3.2**
ANKE	**Ethiopia-Afar**	**142.83**	**78**	*e*P	**PKPdf**	**22 56 58.7**	**-3.1**
GYA	**Guiyang**	**142.97**	**312**	PKP	**PKPdf**	**22 57 01.3**	**-0.1**
GYA				SS	SS	23 18 50.5	+2.0
GYA				LR	LR		
	comp=Z,340nm,18.9s						
GYA				LR	LR		
	comp=Z,270nm,20.6s						
GYA				LR	LR		
	comp=Z,340nm,21.8s						
GOMU	**GeErMu**	**143.00**	**335**	PKP	**PKPdf**	**22 56 58.8**	**-2.7**
TEND	**Ethiopian Broa**	**143.71**	**74**	*e*P	PKPbc	22 57 01.4	+1.0
RAYN	**Ar Rayn**	**143.72**	**53**	PKPdf	PKPab	22 56 59.8	+0.3
RAYN	**Ar Rayn**	**143.72**	**53**	PKIKP	PKPab	22 56 59.8	+0.3
KSH	**Kashi**	**143.74**	**1**	PKP	PKPbc	22 57 01.4	+1.6
KSH				PP	**PP**	**23 00 16.7**	**+3.1**
KSH				LR	LR		
	comp=Z,400nm,20.6s						
KSH				LR	LR		
	comp=Z,370nm,21.6s						
KSH				LR	LR		
	comp=Z,540nm,22.0s						
QIZ	**Qiongzhong**	**143.83**	**298**	PKP	PKPbc	22 57 02.0	+1.4
QIZ				PP	**PP**	**23 00 16.8**	**+0.9**
QIZ				SS	SS	23 19 02.6	+3.4
QIZ				LR	LR		
	comp=Z,340nm,21.2s						
QIZ				LR	LR		
	comp=Z,260nm,17.6s						
QIZ				LR	LR		
	comp=Z,500nm,18.5s						
SIMJ	**Simiganj**	**143.93**	**10**	PKPdf	PKPab	22 57 00.1	+0.2
SBUM	**Sibu**	**144.40**	**270**	PKPdf	**PKPab**	**22 57 02.0**	**-0.3**
SBUM				IAMs_20	IAMs_20	00 02 09.3	
	comp=Z,175nm,20.0s						
ATD	**Arta Tunnel**	**145.53**	**74**	*e*P	**PKPab**	**22 57 08.0**	**+1.6**
HARA	**HARA**	**146.34**	**78**	*e*P	**PKPdf**	**22 57 06.0**	**-1.7**
PZH	**PanZhiHua**	**146.48**	**316**	PKPbc	**PKPdf**	**22 57 08.5**	**+1.0**
PZH				PP	**PP**	**23 00 33.1**	**+2.0**
PZH				AMB	AMB		
	comp=Z,140nm,7.3s						
PZH				LR	LR		
	comp=Z,270nm,22.1s						
PZH				LR	LR		
	comp=Z,350nm,21.4s						
PZH				LR	LR		
	comp=Z,400nm,21.6s						
KMI	**Kunming**	**146.63**	**313**	⇑PKPbc	**PKPbc**	**22 57 10.8**	**+1.4**
KMI				LR	LR		
	comp=Z,350nm,23.2s						
KMI				LR	LR		
	comp=Z,370nm,26.4s						
KMI				LR	LR		
	comp=Z,850nm,26.2s						
KBL	**Kabul**	**147.93**	**12**		**PKPdf**	**22 57 12.1**	**+2.3**
KBL	**Kabul**	**147.93**	**12**	PKP2	**PKPdf**	**22 57 12.1**	**+2.3**
NIL	**Nilore**	**149.44**	**5**	PKPbc	**PKPdf**	**22 57 13.4**	**+1.4**
NIL	**Nilore**	**149.44**	**5**	PKIKP	**PKPdf**	**22 57 13.4**	**+1.4**
LSA	**Lhasa**	**150.14**	**334**	IAMs_20	IAMs_20	00 04 06.1	
	comp=Z,293nm,20.0s						
LSA	**Lhasa**	**150.14**	**334**	PKPbc	**PKPdf**	**22 57 09.4**	**-4.4**
CHTO	**Chiang Mai**	**153.12**	**307**	PKPdf	**PKPdf**	**22 57 18.1**	**+0.1**
CHTO	**Chiang Mai**	**153.12**	**307**	PKIKP	**PKPdf**	**22 57 18.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**153.31**	**307**	PKPdf	**PKPdf**	**22 57 17.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**153.31**	**307**	PKP	**PKPdf**	**22 57 18.0**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=299,slow=1.6,SNR=14						
CMAR				PKPbc	**PKPbc**	**22 57 26.3**	**+0.5**
	comp=Z,9.0nm,0.9s,baz=13,slow=1.3,SNR=35						
CMAR				PP	**PP**	**23 01 10.2**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=37,slow=5.8,SNR=4.3						

IDC ***12*** *22:39:55.3±1.0, 37°.55N×20°.65E, h0km, mb3.6/8, mbtmp3.5/14, ML3.5/3, MS3.7/2, Error ellipse: s-maj=19.2km s-min=17.2km az=167.0*
ATH ***12*** *22:39:57.0, 37°.58N×20°.41E, h13km±2km, ML3.5/12, Error ellipse: s-maj=3.7km s-min=1.1km az=43.0*
THE ***12*** *22:39:57.0, 37°.58N×20°.42E, h10km±1km, ML3.5/9, Error ellipse: s-maj=2.1km s-min=0.8km az=52.0*
ISC 12 22:39:57.9±1.1, 37°.61N±0°.04×20°.50E±0°.04, h17km±6km, n66, σ1°.28/83, mb3.5/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.26**	**78**	P	**Pg**	**22 40 04.0**	**+0.4**
KRI1				S	**Sg**	**22 40 08.5**	**+1.0**
	15μm,0.8s						
LTHK	**Lithakia**	**0.28**	**69**	P	**Pg**	**22 40 04.1**	**0.0**
LTHK				S	**Sg**	**22 40 09.1**	**+0.8**
	13μm,0.8s						
LTHK	**Lithakia**	**0.28**	**69**	P	**Pg**	**22 40 04.5**	**+0.4**
LTHK				S	**Sg**	**22 40 09.3**	**+1.0**
LTHK				AML	AML	22 40 10.1	
	comp=E,27095μm,0.3s						
LTHK				AML	AML	22 40 11.5	
	comp=N,14432μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.51**	**7**	P	**Pg**	**22 40 07.4**	**-0.7**
PSDA				S	**Sg**	**22 40 15.1**	**+0.1**
	comp=N,7μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.51**	**7**	P	**Pg**	**22 40 07.5**	**-0.7**
PSDA				S	**Sg**	**22 40 15.8**	**+0.8**
RTZL	**Ratzakli, Kefa**	**0.51**	**24**	P	**Pg**	**22 40 08.1**	**-0.1**
RTZL				S	**Sb**	**22 40 17.0**	**+1.4**
	comp=N,4μm,0.7s						
VLS	**Valsamata**	**0.57**	**7**	P	**Pg**	**22 40 08.5**	**-0.8**
VLS				S	**Sg**	**22 40 17.6**	**+0.6**
	comp=N,4μm,0.4s						
VLS	**Valsamata**	**0.57**	**7**	P	**Pg**	**22 40 08.6**	**-0.8**
VLS				S	**Sg**	**22 40 16.8**	**-0.2**
VLS				AML	AML	22 40 23.4	
	comp=E,8816μm,0.5s						
VLS				AML	AML	22 40 24.7	
	comp=N,8605μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.59**	**355**	P	**Pg**	**22 40 09.0**	**-0.7**
LXRA				S	**Sg**	**22 40 17.6**	**-0.1**
LXRA				AML	AML	22 40 25.6	
	comp=E,17755μm,0.5s						
LXRA				AML	AML	22 40 26.7	
	comp=N,25771μm,0.4s						
DMLN	**Damoulianata-K**	**0.64**	**351**	P	**Pg**	**22 40 09.9**	**-0.6**
DMLN				S	**Sg**	**22 40 18.9**	**-0.2**
	comp=N,6μm,0.6s						
DMLN	**Damoulianata-K**	**0.64**	**351**	P	**Pg**	**22 40 09.7**	**-0.8**
DMLN				S	**Sg**	**22 40 18.8**	**-0.2**
SMHA	**Samh**	**0.65**	**10**	P	**Pg**	**22 40 09.5**	**-1.2**
SMHA				S	**Sg**	**22 40 19.3**	**-0.1**
SMHA				AML	AML	22 40 25.7	
	comp=N,28001μm,0.5s						
SMHA				AML	AML	22 40 26.1	
	comp=E,28702μm,0.3s						
VSK1	**VASILIKIADES**	**0.80**	**3**	P	**Pg**	**22 40 13.0**	**-0.5**
VSK1				S	**Sb**	**22 40 24.9**	**+1.0**
	comp=E,4μm,0.6s						
FSK	**Fiskardo**	**0.85**	**3**	P	**Pg**	**22 40 13.7**	**-0.8**
FSK				S	**Sb**	**22 40 26.5**	**+1.2**
	comp=E,2μm,0.4s						
FSK	**Fiskardo**	**0.85**	**3**	P	**Pg**	**22 40 13.3**	**-1.2**
FSK				S	**Sb**	**22 40 26.4**	**+1.1**
FSK				AML	AML	22 40 32.9	
	comp=E,5787μm,0.4s						
FSK				AML	AML	22 40 33.0	
	comp=N,4248μm,0.3s						
RLS	**Riolos of Patr**	**0.89**	**59**	P	**Pg**	**22 40 14.9**	**-0.2**
RLS	**Riolos of Patr**	**0.89**	**59**	P	**Pg**	**22 40 15.1**	**-0.1**
RLS				AML	AML	22 40 35.4	
	comp=N,2343μm,0.5s						
RLS				AML	AML	22 40 35.9	
	comp=E,2590μm,0.5s						
AMT	**Artemida-Makis**	**0.96**	**94**	P	**Pg**	**22 40 16.5**	**0.0**
AMT				AML	AML	22 40 39.4	
	comp=N,12221μm,0.8s						
AMT				AML	AML	22 40 42.3	
	comp=E,11743μm,0.8s						
DRO	**Drossia**	**1.02**	**70**	P	**Pb**	**22 40 16.9**	**-0.1**
DRO	**Drossia**	**1.02**	**70**	P	**Pb**	**22 40 17.3**	**+0.2**
DRO				AML	AML	22 40 43.7	
	comp=N,4947μm,0.6s						
DRO				AML	AML	22 40 44.9	
	comp=E,4858μm,0.5s						
EVGI	**Lefkada island**	**1.02**	**7**	P	**Pg**	**22 40 16.5**	**-1.1**
EVGI				S	**Sn**	**22 40 32.5**	**+1.2**
	comp=E,3μm,0.3s						
EVGI	**Lefkada island**	**1.02**	**7**	P	**Pg**	**22 40 16.5**	**-1.1**
DRAG	**Dragano-Lefkad**	**1.08**	**3**	P	**Pb**	**22 40 16.8**	**-1.2**
NYDR	**Nydri-Lefkada**	**1.11**	**8**	P	**Pb**	**22 40 18.2**	**-0.5**
LKD2	**Lefkada island**	**1.19**	**6**	P	**Pb**	**22 40 20.3**	**+0.4**
LKD2				AML	AML	22 40 43.6	
	comp=E,5347μm,0.7s						
LKD2				AML	AML	22 40 46.7	
	comp=N,3022μm,0.7s						
ITM	**Ithomi**	**1.21**	**110**	P	**Pn**	**22 40 18.8**	**-1.2**
ITM	**Ithomi**	**1.21**	**110**	P	**Pn**	**22 40 18.4**	**-1.7**
PYL	**PYLOS**	**1.22**	**125**	P	**Pn**	**22 40 17.5**	**-2.6**
PYL				AML	AML	22 40 43.2	
	comp=E,1963μm,0.7s						
PYL				AML	AML	22 40 53.4	
	comp=N,1333μm,0.9s						
TSLK	**Tsoukalades, L**	**1.22**	**6**	P	**Pn**	**22 40 20.3**	**+0.1**
TSLK	**Tsoukalades, L**	**1.22**	**6**	P	**Pn**	**22 40 20.1**	**0.0**
KLV	**Kalavryta, Ach**	**1.38**	**71**	P	**Pn**	**22 40 22.8**	**+0.5**
KLV	**Kalavryta, Ach**	**1.38**	**71**	P	**Pn**	**22 40 22.2**	**-0.2**
KLV				AML	AML	22 40 51.7	
	comp=E,916μm,1.0s						
KLV				AML	AML	22 40 52.5	
	comp=N,1155μm,0.7s						
EFP	**Efpalio**	**1.38**	**53**	P	**Pn**	**22 40 23.5**	**+1.2**
ANX	**Ano Chora**	**1.49**	**48**	P	**Pn**	**22 40 24.9**	**+1.0**
ANX				AML	AML	22 40 55.3	
	comp=N,3926μm,0.5s						
ANX				AML	AML	22 40 58.1	
	comp=E,2991μm,0.6s						
KALE	**Kalithea**	**1.51**	**58**	P	**Pn**	**22 40 25.0**	**+0.8**
IDI	**Anoyia**	**4.23**	**122**	Pn	**Pn**	**22 40 58.6**	**-2.9**
	comp=E,14nm,1.1s,baz=317,slow=18,SNR=1.6						
IDI				Sn	**Sn**	**22 41 49.1**	**-1.4**
	comp=E,0.8nm,0.3s,baz=90,slow=15,SNR=1.3						
VAE	**Valguarnera**	**4.84**	**270**	Pn	**Pn**	**22 41 11.2**	**+1.2**
	comp=E,4.4nm,0.5s,baz=47,slow=16,SNR=2.4						
VAE				Sn	**Sn**	**22 42 10.8**	**+5.1**
	comp=E,1.5nm,0.3s,baz=131,slow=15,SNR=1.8						
PDG	**Podgorica**	**4.91**	**349**	*e*Pn	**Pn**	**22 41 10.7**	**-0.2**
TREB	**Trebinje**	**5.36**	**343**	*e*Pn	**Pn**	**22 41 14.3**	**-2.8**
BRY	**Bratogost**	**5.50**	**345**	*e*Pn	**Pn**	**22 41 18.9**	**-0.2**
SJES	**Sjenica**	**5.66**	**356**	*e*Pn	**Pn**	**22 41 22.3**	**+1.0**
STON	**Ston**	**5.68**	**339**	*e*Pn	**Pn**	**22 41 19.7**	**-1.7**
UPM	**Unac-Piva**	**5.72**	**348**	*e*Pn	**Pn**	**22 41 23.5**	**+1.3**
RUDO	**Rudo**	**6.07**	**352**	*e*Pn	**Pn**	**22 41 27.5**	**+0.8**
BBLS	**Lazi&#263i**	**6.31**	**353**	*e*Pn	**Pn**	**22 41 34.3**	**+4.2**
HAPS	**Han Pijesak,Bl**	**6.58**	**350**	*e*Pn	**Pn**	**22 41 33.8**	**-0.1**
A050A	**Klekovaca**	**7.49**	**338**	*e*Pn	**Pn**	**22 41 46.7**	**+0.3**
BLY	**Banja Luka**	**7.56**	**342**	*e*Pn	**Pn**	**22 41 48.9**	**+1.7**
A051A	**Mrakovica**	**7.88**	**341**	*e*Pn	**Pn**	**22 41 49.8**	**-1.8**
MLR	**Muntele Rosu**	**8.87**	**26**	Pn	**Pn**	**22 42 06.7**	**+1.4**
	comp=E,4.4nm,0.8s						
MLR				LR	LR	22 45 58.8	
	comp=E

PB15					Sn	Sn	22 41 55.3	+0.7
PB15	**IPOC Station P**	**1.13**	**359**		*e*P	Pn	22 41 38.6	+0.7
PB15					*i* S	Sn	22 41 55.5	+0.9
PB15	**IPOC Station P**	**1.13**	**359**		*e*P	Pn	22 41 38.6	+0.7
PB15					*e*S	Sn	22 41 56.0	+1.5
PB06	**IPOC Station P**	**1.64**	**356**		Pn	Pn	22 41 44.8	+0.9
PB06					Sn	Sn	22 42 05.7	+0.5
PB06	**IPOC Station P**	**1.64**	**356**	⇑	*i*P	Pn	22 41 45.1	+1.1
PB06					*i* S	Sn	22 42 06.0	+0.8
PB06	**IPOC Station P**	**1.64**	**356**		*e*P	Pn	22 41 45.0	+1.0
PB06					*e*S	Sn	22 42 06.7	+1.4
PB06					IAML		22 42 09.0	
comp=Z,1μm,0.3s								
AF01	**San Pedro de A**	**1.82**	**41**		Pn	Pn	22 41 47.0	+0.7
AF01					Sn	Sn	22 42 10.3	+0.7
AF01	**San Pedro de A**	**1.82**	**41**	⇑	*i*P	Pn	22 41 47.1	+0.7
AF01					*e*S	Sn	22 42 10.3	+0.7
AF01					IAML		22 42 15.5	
comp=N,3μm,0.2s								
AF01	**San Pedro de A**	**1.82**	**41**		*e*P	Pn	22 41 47.2	+0.8
AF01					*e*S	Sn	22 42 10.5	+0.9
AF01					IAML		22 42 19.4	
comp=Z,2μm,0.4s								
AC01	**Pan de Azucar**	**2.07**	**210**		Pn	Pn	22 41 49.4	+0.1
AC01					Sn	Sn	22 42 14.8	-0.1
AC01	**Pan de Azucar**	**2.07**	**210**	⇑	*i*P	Pn	22 41 49.6	+0.3
AC01					*e*S	Sn	22 42 15.1	+0.2
AC01	**Pan de Azucar**	**2.07**	**210**		*e*P	Pn	22 41 49.6	+0.3
AC01					*e*S	Sn	22 42 17.4	+2.5
AC01					IAML		22 42 26.4	
comp=Z,270nm,0.2s								
PB04	**IPOC Station P**	**2.10**	**342**		Pn	Pn	22 41 50.1	+0.2
PB04					Sn	Sn	22 42 14.4	-1.4
PB04	**IPOC Station P**	**2.10**	**342**	⇑	*i*P	Pn	22 41 50.5	+0.6
PB04					IAML		22 42 30.9	
comp=N,999nm,0.3s								
PB04	**IPOC Station P**	**2.10**	**342**		*e*P	Pn	22 41 50.1	+0.2
PB04					*e*S	Sn	22 42 09.7	-6.2
PB04					IAML		22 42 29.1	
comp=Z,557nm,0.2s								
PB09	**IPOC Station P**	**2.55**	**5**		Pn	Pn	22 41 56.4	+0.7
PB09	**IPOC Station P**	**2.55**	**5**	⇑	*i*P	Pn	22 41 57.0	+1.2
PB09					IAML		22 42 32.1	
comp=E,558nm,0.6s								
PB09	**IPOC Station P**	**2.55**	**5**		*e*P	Pn	22 41 57.0	+1.2
PB09					*e*S	Sn	22 42 17.0	-9.3
PB09					IAML		22 42 38.0	
comp=Z,479nm,1.1s								
AC06	**Mina Casimiro**	**3.10**	**195**		Pn	Pn	22 42 02.2	-0.8
AC06	**Mina Casimiro**	**3.10**	**195**		*e*P	Pn	22 42 02.5	-0.5
PB01	**IPOC Station P**	**3.29**	**360**		Pn	Pn	22 42 05.9	+0.3
PB01	**IPOC Station P**	**3.29**	**360**	⇑	*i*P	Pn	22 42 05.7	+0.2
PB01	**IPOC Station P**	**3.29**	**360**		*e*P	Pn	22 42 05.7	+0.2
PB01					*e*S	Sn	22 42 33.4	-10
PB01					IAML		22 42 51.0	
comp=Z,280nm,0.6s								
GO03	**Copiapo**	**3.31**	**192**		Pn	Pn	22 42 05.5	-0.3
GO03	**Copiapo**	**3.31**	**192**		*e*P	Pn	22 42 05.5	-0.3
GO03	**Copiapo**	**3.31**	**192**		*e*P	Pn	22 42 05.7	0.0
GO03					*e*S	Sn	22 42 44.0	-0.3
TA01	**Diego Aracena**	**3.82**	**350**		Pn	Pn	22 42 11.1	-1.5
TA01	**Diego Aracena**	**3.82**	**350**		*e*P	Pn	22 42 11.7	-0.9
TA01					*e*S	Sn	22 43 00.4	+3.8
TA01					IAML		22 43 08.6	
comp=Z,171nm,0.9s								
AZAP	**Zapla**	**4.01**	**89**		*e*P	Pn	22 42 16.4	+1.0
HMBC	**Humberstone**	**4.07**	**354**		Pn	Pn	22 42 15.3	-0.8
TA02	**Huaiquique**	**4.10**	**351**		Pn	Pn	22 42 14.8	-1.6
AC04	**Llanos de Chal**	**4.11**	**200**		Pn	Pn	22 42 17.2	+0.8
AC04	**Llanos de Chal**	**4.11**	**200**		*e*P	Pn	22 42 15.2	-1.2
AC04					IAML		22 43 24.4	
comp=Z,108nm,0.7s								
PB08	**IPOC Station P**	**4.19**	**4**		Pn	Pn	22 42 17.4	-0.7
PB08	**IPOC Station P**	**4.19**	**4**		*e*P	Pn	22 42 17.8	-0.2
PB08					*e*S	Sn	22 43 22.5	+16
PB08					IAML		22 43 31.1	
comp=Z,80nm,0.3s								
YJA	**Yavi**	**4.22**	**60**		*e*P	Pn	22 42 20.5	+2.1
AC05	**El Transito**	**4.53**	**189**		Pn	Pn	22 42 21.4	-0.9
PB11	**IPOC Station P**	**4.57**	**358**		Pn	Pn	22 42 21.7	-1.2
PB11	**IPOC Station P**	**4.57**	**358**		*e*P	Pn	22 42 21.9	-0.9
PB11					*e*S	Sn	22 43 16.0	+1.1
PB11					IAML		22 43 50.7	
comp=Z,109nm,0.5s								
GO01	**Chusmiza**	**4.66**	**3**		Pn	Pn	22 42 23.4	-1.0
GO01	**Chusmiza**	**4.66**	**3**		*e*P	Pn	22 42 24.0	-0.4
GO01					*e*S	Sn	22 43 34.9	+17
LCO	**Las Campanas**	**4.78**	**193**		Pn	Pn	22 42 23.5	-2.2
LCO	**Las Campanas**	**4.78**	**193**		*e*P	Pn	22 42 18.7	-7.1
LCO					IAML		22 43 31.6	
comp=Z,153nm,0.9s								
CO01	**Juntas del Tor**	**5.64**	**186**		Pn	Pn	22 42 36.8	-0.6
GO04	**Tololo Observa**	**5.92**	**191**		Pn	Pn	22 42 39.1	-2.2
CO03	**El Pedregal**	**6.56**	**189**		Pn	Pn	22 42 47.5	-2.3
LPAZ	**La Paz**	**8.11**	**9**		Pn	Pn	22 43 11.6	+0.2
LPAZ	**La Paz**	**8.11**	**9**		P	Pn	22 43 11.3	-0.1
comp=Z,1.0nm,0.3s,baz=210,slow=9.1,SNR=12								
comp=Z,2.7nm,0.5s								
MT01	**Popeta**	**9.61**	**189**		Pn	Pn	22 43 27.2	-4.0
SIV	**San Ignacio**	**11.45**	**45**		P	Pn	22 43 51.2	-5.0
comp=Z,0.1nm,0.3s,baz=236,slow=9.2,SNR=31								
comp=Z,11nm,0.5s								
PTLB	**Pontes e Lacer**	**13.13**	**50**		Pn	Pn	22 44 18.5	0.0
VILB	**Vilhena**	**14.32**	**39**		Pn	Pn	22 44 31.1	-3.0
TRQA	**Tornquist**	**15.08**	**157**			P	22 44 46.9	+0.5
TRQA					IAmb	IAmb	22 44 51.2	
comp=Z,8.5nm,1.2s								
BDFB	**Brasilia**	**21.91**	**71**		P	P	22 45 58.9	-2.3
comp=Z,1.5nm,0.4s,baz=240,slow=8.1,SNR=2.3								
comp=Z,1.5nm,0.4s								
MACA	**Manacapuru-AM**	**22.70**	**23**		P	P	22 46 08.7	-0.6
MACA					IAmb	IAmb	22 46 10.5	
comp=Z,12nm,0.4s								
BOAV	**Boa Vista**	**27.96**	**19**		P	P	22 46 54.0	-3.2
BOAV					IAmb	IAmb	22 47 19.1	
comp=Z,8.8nm,1.0s								
SNAA	**Sanae**	**59.77**	**160**		P	P	22 51 09.7	-0.3
comp=Z,1.1nm,1.0s,baz=337,slow=16,SNR=1.4								
comp=Z,1.1nm,1.0s								
LPIG	**La Paz**	**62.35**	**318**		P	P	22 51 30.9	+2.9
comp=Z,31nm,0.3s,baz=166,slow=4.2,SNR=4.2								
QSPA	**South Pole Qui**	**65.86**	**180**		P	P	22 51 52.8	+2.3
comp=Z,1.9nm,0.6s,baz=147,slow=3.3,SNR=8.6								
comp=Z,1.9nm,0.6s								
TORD	**Torodi Ar. Bea**	**78.79**	**70**		P	P	22 53 08.7	+0.6
comp=Z,0.6nm,0.5s,baz=258,slow=4.4,SNR=9.4								
comp=Z,0.6nm,0.5s								
MAW	**Mawson**	**81.76**	**163**		P	P	22 53 24.8	+1.7
comp=Z,1.1nm,0.6s,baz=258,slow=12,SNR=2.2								
comp=Z,1.1nm,0.6s								
ASAR	**Alice Springs**	**127.16**	**207**		PKP	PKiKP	23 00 10.7	+0.9
comp=Z,0.4nm,0.5s,baz=131,slow=2.7,SNR=7.6								
H11S2	**WAKE ISLAND Hyl**	**27.68**	**275**		T	T	01 20 21.1	
baz=108,slow=75,SNR=7.1								
H11S1	**WAKE ISLAND Hyl**	**27.69**	**275**		T	T	01 20 16.7	
baz=108,slow=75,SNR=6.4								
H11S3	**WAKE ISLAND Hyl**	**27.69**	**275**		T	T	01 20 14.5	
baz=108,slow=75,SNR=7.7								
H11N3	**WAKE ISLAND Hyl**	**27.83**	**277**		T	T	01 20 28.4	
baz=107								
H11N2	**WAKE ISLAND Hyl**	**27.85**	**277**		T	T	01 20 21.2	
baz=107								
H11N1	**WAKE ISLAND Hyl**	**27.85**	**277**		T	T	01 20 28.7	
baz=107								
WRA	**Warramunga Arr**	**130.25**	**210**		PKP	PKiKP	23 00 16.6	+0.6
comp=Z,0.2nm,0.3s,baz=152,slow=1.7,SNR=5.0								
ZALV	**Zalesovo Beam**	**144.72**	**26**		PKP	PKiKP	23 00 42.1	-2.1
comp=Z,1.6nm,0.6s,baz=303,slow=3.0,SNR=7.2								
MKAR	**Makanchi Array**	**148.20**	**38**		PKPbc	PKPab	23 00 52.0	-1.3
comp=Z,0.5nm,0.6s,baz=342,slow=3.7,SNR=6.0								

THE ***12*** *22:57:25.7,37°.58N×20°.60E,h2km±2km,ML2.7/9,Error ellipse: s-maj=2.1km s-min=0.8km az=10.0*
ATH ***12*** *22:57:26.0,37°.57N×20°.58E,h5km±2km,MLZ.6/16,Error ellipse: s-maj=2.7km s-min=1.0km az=39.0*

ISC 12 22:57:26.3±1.7,37°.60N±0°.05×20°.62E±0°.05,h6km±9km, n37,σ0°75/56,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.17**	**67**	P	**Pg**	22 57 29.8	0.0
KRI1				S	**Sg**	22 57 31.9	-0.3
11μm,0.3s							

LTHK	**Lithakia**	**0.21**	**57**	P	**Pg**	22 57 30.4	0.0
LTHK				S	**Sg**	22 57 32.7	-0.6
13μm,0.4s							
LTHK	**Lithakia**	**0.21**	**57**	P	**Pg**	22 57 30.4	0.0
LTHK				S	**Sg**	22 57 33.1	-0.2
LTHK				AML	AML	22 57 33.6	
comp=N,29320μm,0.4s							
LTHK				AML	AML	22 57 34.3	
comp=E,18375μm,0.2s							
RTZL	**Ratzakli, Kefa**	**0.50**	**14**	P	**Pg**	22 57 35.5	-0.4
RTZL				S	**Sg**	22 57 43.2	+0.8
comp=E,1μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.52**	**357**	P	**Pg**	22 57 36.2	-0.1
PSDA				S	**Sg**	22 57 43.7	+0.6
comp=E,1μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.52**	**357**	P	**Pg**	22 57 36.5	+0.2
PSDA				S	**Sg**	22 57 44.5	+1.4
VLS	**Valsamata**	**0.58**	**358**	P	**Pg**	22 57 37.1	-0.4
VLS				S	**Sg**	22 57 45.9	+0.8
comp=E,860nm,0.3s							
VLS	**Valsamata**	**0.58**	**358**	P	**Pg**	22 57 37.2	-0.4
VLS				S	**Sg**	22 57 45.8	+0.7
VLS				AML	AML	22 57 46.8	
comp=N,1648μm,0.2s							
VLS				AML	AML	22 57 52.7	
comp=E,1772μm,0.5s							
LXRA	**Lixouri, Kepha**	**0.62**	**347**	P	**Pg**	22 57 38.8	+0.6
LXRA				S	**Sg**	22 57 47.1	+0.8
SMHA	**Samh**	**0.66**	**2**	P	**Pg**	22 57 38.2	-0.7
SMHA				S	**Sg**	22 57 48.0	+0.6
DMLN	**Damoulianata-K**	**0.67**	**344**	P	**Pg**	22 57 39.2	0.0
DMLN				S	**Sg**	22 57 48.5	+0.6
RLS	**Riolos of Patr**	**0.82**	**55**	P	**Pg**	22 57 41.2	-0.8
RLS				S	**Sg**	22 57 53.6	+1.0
comp=E,310nm,0.4s							
RLS	**Riolos of Patr**	**0.82**	**55**	P	**Pg**	22 57 41.5	-0.5
RLS				S	**Sg**	22 57 53.5	+0.8
RLS				AML	AML	22 57 54.6	
comp=E,690μm,0.4s							
RLS				AML	AML	22 57 55.2	
comp=N,543μm,0.5s							
FSK	**Fiskardo**	**0.86**	**357**	P	**Pg**	22 57 41.4	-1.5
FSK				S	**Sg**	22 57 55.0	+0.9
comp=N,512nm,0.6s							
FSK	**Fiskardo**	**0.86**	**357**	P	**Pg**	22 57 41.9	-1.0
FSK				S	**Sb**	22 57 55.7	+0.3
FSK				AML	AML	22 57 59.6	
comp=N,555μm,0.6s							
FSK				AML	AML	22 58 01.3	
comp=E,1282μm,0.6s							
AMT	**Artemida-Makis**	**0.87**	**94**	P	**Pg**	22 57 43.0	0.0
AMT				S	**Sg**	22 57 55.3	+0.9
AMT				AML	AML	22 57 59.7	
comp=E,1448μm,0.2s							
AMT				AML	AML	22 58 03.5	
comp=N,2056μm,0.4s							
DRO	**Drossia**	**0.94**	**67**	P	**Pg**	22 57 44.1	-0.2
DRO				S	**Sb**	22 57 57.8	+0.1
comp=N,438nm,0.4s							
DRO	**Drossia**	**0.94**	**67**	P	**Pg**	22 57 44.5	+0.2
DRO				S	**Sb**	22 57 58.1	+0.4
DRO				AML	AML	22 58 00.7	
comp=N,804μm,0.3s							
DRO				AML	AML	22 58 01.9	
comp=E,708μm,0.5s							
EVGI	**Lefkada island**	**1.02**	**2**	P	**Pg**	22 57 44.8	-1.2
EVGI	**Lefkada island**	**1.02**	**2**	P	**Pg**	22 57 45.4	-0.6
DRAG	**Dragano-Lefkad**	**1.09**	**358**	P	**Pg**	22 57 46.3	-0.9
NYDR	**Nydri-Lefkada**	**1.12**	**3**	P	**Pg**	22 57 46.3	-1.5
NYDR	**Nydri-Lefkada**	**1.12**	**3**	P	**Pg**	22 57 46.9	-0.9
ITM	**Ithomi**	**1.12**	**111**	P	**Pg**	22 57 47.6	-0.3
ITM				AML	AML	22 58 14.4	
comp=N,310μm,0.4s							
ITM				AML	AML	22 58 14.7	
comp=E,216μm,0.4s							
PYL	**PYLOS**	**1.14**	**127**	P	**Pg**	22 57 47.7	-0.4
PYL				AML	AML	22 58 06.8	
comp=E,412μm,0.5s							
PYL				AML	AML	22 58 07.1	
comp=N,230μm,0.4s							
LKD2	**Lefkada island**	**1.19**	**2**	P	**Pg**	22 57 49.2	0.0
LKD2				AML	AML	22 58 12.4	
comp=E,565μm,0.7s							
LKD2				AML	AML	22 58 12.8	
comp=N,1284μm,0.7s							
TSLK	**Tsoukalades, L**	**1.23**	**1**	P	**Pg**	22 57 48.8	-1.1
TSLK	**Tsoukalades, L**	**1.23**	**1**	P	**Pg**	22 57 48.9	-0.9
KLV	**Kalavryta, Ach**	**1.30**	**69**	P	**Pg**	22 57 50.7	-0.5
KLV				AML	AML	22 58 18.5	
comp=E,108μm,0.4s							
KLV				AML	AML	22 58 20.5	
comp=N,159μm,0.7s							
EFP	**Efpalio**	**1.31**	**50**	P	**Pn**	22 57 50.3	-0.9
EFP				S	**Sn**	22 58 10.0	+1.0
comp=N,148nm,1.1s							
EFP	**Efpalio**	**1.31**	**50**	P	**Pn**	22 57 50.1	-1.1
EFP				AML	AML	22 58 18.9	
comp=E,232μm,0.4s							
EFP				AML	AML	22 58 19.6	
comp=N,252μm,0.6s							
GUR	**Goura**	**1.41**	**75**	P	**Pn**	22 57 52.3	-0.3
GUR				AML	AML	22 58 23.2	
comp=N,383μm,0.4s							
GUR				AML	AML	22 58 23.3	
comp=E,315μm,0.5s							
ANX	**Ano Chora**	**1.43**	**46**	P	**Pn**	22 57 51.8	-1.1
ANX	**Ano Chora**	**1.43**	**46**	P	**Pn**	22 57 52.0	-0.9
ANX				AML	AML	22 58 18.3	
comp=E,379μm,0.5s							
ANX				AML	AML	22 58 18.6	
comp=N,605μm,0.6s							
KALE	**Kalithea**	**1.44**	**56**	P	**Pn**	22 57 52.0	-1.0
KALE				AML	AML	22 58 25.9	
comp=N,294μm,0.6s							
KALE				AML	AML	22 58 26.0	
comp=E,311μm,0.5s							
EVR	**Evrytania**	**1.62**	**35**	P	**Pn**	22 57 54.9	-0.6
EVR				AML	AML	22 58 26.3	
comp=N,124μm,0.5s							
EVR				AML	AML	22 58 27.1	
comp=E,186μm,0.9s							
MAKR	**Makrakomi, Fth**	**1.85**	**40**	P	**Pn**	22 57 58.9	+0.4
MAKR				AML	AML	22 58 34.8	
comp=N,492μm,1.0s							
MAKR				AML	AML	22 58 37.2	
comp=E,378μm,0.6s							

TEH 12 22:58:34.2,29°.02N×60°.10E,h8km±51km,ML3.5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHDN	**Zahedan**	**0.73**	**58**	Pg	Pg	22 58 48.5	+0.2
KBAM	**BAM**	**1.45**	**275**	Pg	Pg	22 59 01.9	-0.1
KHNJ	**Kahnooj**	**2.36**	**244**	Pn	Pn	22 59 15.0	+1.7
CHMN	**Cheshme madani**	**2.39**	**291**	Pn	Pn	22 59 15.3	+1.3
SRVN	**Saravan**	**2.58**	**128**	Pn	Pn	22 59 18.5	+2.0
KRM1	**Kerman Provinc**	**2.87**	**302**	Pn	Pn	22 59 22.0	+1.5
NGRK	**Negar Kerman**	**3.01**	**283**	Pn	Pn	22 59 24.9	+2.4
BSRN	**Basiran**	**3.06**	**344**	Pn	Pn	22 59 25.3	+2.3
TVBK	**TV Kerman**	**3.07**	**289**	Pn	Pn	22 59 25.5	+2.2
CHBR	**Chabahar**	**3.42**	**174**	Pn	Pn	22 59 29.6	+1.8
KHGB	**Koh Gabri**	**3.43**	**294**	Pn	Pn	22 59 30.4	+2.2
IKOO	**Kooshah**	**3.53**	**345**	Pn	Pn	22 59 31.2	+1.7
ZRDN	**Zarand Kerman**	**3.66**	**303**	Pn	Pn	22 59 33.9	+2.7
JASK	**Jask - Hormozg**	**3.71**	**213**	Pn	Pn	22 59 33.7	+1.8
IDAH	**Dahanechab**	**3.72**	**357**	Pn	Pn	22 59 34.0	+1.9
NGCH	**Negor - Chabah**	**3.76**	**166**	Pn	Pn	22 59 34.3	+1.8
GENO	**Geno**	**3.82**	**246**	Pn	Pn	22 59 36.2	+2.6
ITEG	**Tejag**	**4.04**	**344**	Pn	Pn	22 59 39.3	+2.8
AFRZ	**Afriz**	**4.49**	**348**	Pn	Pn	22 59 45.5	+2.9
TPRV	**Parvadeh(Tabas**	**4.96**	**325**	Pn	Pn	22 59 50.6	+1.6
TKDS	**Koohdasht(Taba**	**5.25**	**332**	Pn	Pn	22 59 56.2	+3.2

BGS ***12*** *23:05:59.4±0.6,52°.23N×2°.72W,h15km±2km,ML2.3*
STR ***12*** *23:06:02.6±1.0,52°N±7°×±°,h10km,MLv2.9/6,Error ellipse: s-maj=0.0km s-min=0.0km az=54.7,preliminary*

ISC 12 23:05:58.7±1.0,52°.22N±0°.02×2°.72W±0°.03,h19km±2km, n28,σ0°80/38,2C-1D,United Kingdom

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

MCH1	**Michaelchurch**	**0.28**	**218**	⇑ *i*P	**Pb**	23 06 05.5	+0.5
MCH1				*e*S	**Sg**	23 06 09.8	+0.6
MCH1				IAML		23 06 10.1	
comp=N,1μm,0.1s							
MCH1				IAML		23 06 10.2	
comp=E,1μm,0.1s							
MCH1	**Michaelchurch**	**0.28**	**218**	Pg	**Pb**	23 06 05.4	+0.5
MCH1				Sg	**Sg**	23 06 09.9	+0.6
HLM1	**Long Mynd**	**0.32**	**342**	*e*P	**Pg**	23 06 05.8	+0.3
HLM1				*e*S	**Sg**	23 06 10.6	+0.3
HLM1				IAML		23 06 10.8	
comp=E,262nm,0.1s							
HLM1				IAML		23 06 10.9	
comp=N,313nm,0.2s							
MONM	**Monmouth**	**0.38**	**188**	⇑ *i*P	**Pb**	23 06 07.2	+0.3
MONM				*e*S	**Sb**	23 06 13.0	+0.5
MONM				IAML		23 06 13.2	
comp=E,209nm,0.1s							
MONM				IAML		23 06 13.3	
comp=N,448nm,0.2s							
STRD	**Stroud**	**0.56**	**142**	*e*P	**Pb**	23 06 09.9	+0.1
STRD				*e*S	**Sg**	23 06 18.1	+0.6
STRD				IAML		23 06 18.4	
comp=N,109nm,0.1s							
STRD				IAML		23 06 19.1	
comp=E,99nm,0.1s							
OLDB	**Oldbury-Upon-S**	**0.57**	**169**	*e*P	**Pg**	23 06 10.2	+0.2
OLDB				*e*S	**Sg**	23 06 18.0	+0.3
OLDB				IAML		23 06 18.9	
comp=E,522nm,0.4s							
OLDB				IAML		23 06 18.9	
comp=N,248nm,0.3s							
FOEL	**Foel Wylfa**	**0.73**	**337**	⇓ *i*P	**Pb**	23 06 12.9	+0.1
FOEL				*e*S	**Sb**	23 06 22.6	+0.1
FOEL				IAML		23 06 23.8	
comp=E,79nm,0.3s							
FOEL				IAML		23 06 24.1	
comp=N,88nm,0.4s							
SWN1	**Swindon**	**0.91**	**141**	*e*P	**Pg**	23 06 16.5	+0.1
SWN1	**Swindon**	**0.91**	**141**	Sg	**Sn**	23 06 29.3	+0.3
SWN1	**Swindon**	**0.91**	**141**	Pg	**Pg**	23 06 16.5	+0.1
STNC	**Stoke**	**0.93**	**20**	*e*P	**Pb**	23 06 15.9	-0.3
STNC				*e*S	**Sb**	23 06 28.2	+0.1
STNC				IAML		23 06 29.3	
comp=E,150nm,0.3s							
STNC				IAML		23 06 30.0	
comp=N,144nm,0.3s							
CWF	**Charnwood Fore**	**1.01**	**58**	*e*P	**Pb**	23 06 17.0	-0.6
CWF				*e*S	**Sb**	23 06 30.0	-0.5
CWF				IAML		23 06 30.6	
comp=E,43nm,0.2s							
CWF				IAML		23 06 32.1	
comp=N,52nm,0.2s							
RSBS	**Rosebush, Pemb**	**1.27**	**259**	*e*P	**Pn**	23 06 21.6	+0.1
LBWR	**Ladybower, Pea**	**1.33**	**27**	*e*P	**Pn**	23 06 22.5	+0.2
WPS	**Cemaes, Angles**	**1.60**	**318**	*e*P	**Pn**	23 06 26.3	+0.4
WPS				IAML		23 06 48.7	
comp=E,18nm,0.3s							
WPS				IAML		23 06 48.8	
comp=N,18nm,0.3s							
HTL	**Hartland**	**1.65**	**223**	Sn	**Sb**	23 06 49.3	+0.6
HTL	**Hartland**	**1.65**	**223**	Pn	**Pn**	23 06 26.6	+0.1
DYA	**Yadsworthy**	**1.94**	**203**	Sn	**Sn**	23 06 54.4	0.0
DYA	**Yadsworthy**	**1.94**	**203**	Pn	**Pn**	23 06 30.6	0.0
WACR	**West Acre**	**2.11**	**75**	*e*P	**Pn**	23 06 33.6	+0.6
IOMK	**Kirk Michael**	**2.33**	**332**	*e*P	**Pn**	23 06 36.1	+0.2
CCA1	**Carnmenellis**	**2.57**	**219**	Sn	**Sn**	23 07 07.8	-2.3
CCA1	**Carnmenellis**	**2.57**	**219**	Pn	**Pn**	23 06 38.7	-0.6
ELSH	**Elham, Standar**	**2.63**	**113**	Sn	**Sn**	23 07 12.1	+0.7
JSA	**Saint Aubin**	**3.06**	**173**	Sn	**Sn**	23 07 20.3	-1.6
JSA	**Saint Aubin**	**3.06**	**173**	Pn	**Pn**	23 06 45.7	-0.2
LOCF	**Locquirec - 29**	**3.60**	**190**	Pn	**Pn**	23 06 52.9	-0.5
LOCF				Sn	**Sn**	23 07 32.5	-2.7
PLEF	**Pleven - 22200**	**3.74**	**176**	Sn	**Sn**	23 07 37.3	-1.4

MOS ***12*** *23:10:32.9,41°.79N×46°.04E,h8km,MPVA3.2*
AZER ***12*** *23:10:32.1,41°.63N×46°.08E,h3km,ml2.3*
NORS ***12*** *23:10:33.9,41°.89N×45°.89E,h1km,MPVA3.2*
DRS ***12*** *23:10:33.8,41°.84N×46°.10E,h4km*

ISC 12 23:10:33.5±1.1,41°.77N±0°.02×46°.04E±0°.02,h2km±10km, n36,σ1°12/71,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKTA	**Zakatala**	**0.46**	**107**	P	**Pg**	23 10 42.5	+0.3
ZKTA				S	**Sb**	23 10 49.8	-1.7
KMKR	**Kumukh**	**0.87**	**65**	*e*Pg	**Pb**	23 10 50.9	-0.5
KMKR				*e*Sg	**Sn**	23 11 03.5	-2.7
QZX	**Qazax, Azerbai**	**0.87**	**215**	P	**Pg**	23 10 50.0	-0.2
QZX				S	**Sg**	23 11 02.0	+0.4
BTLR	**Botlikh**	**0.90**	**9**	*i* Pg	**Pn**	23 10 52.0	-1.2
BTLR				*e*Sg	**Sn**	23 11 04.7	-2.1
XNZR	**Khunzakh**	**0.91**	**33**	*e*Pg	**Pn**	23 10 52.5	-1.0
XNZR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.20**	**195**	P	Pn	23 13 40.1	-0.7
BARC				S	Sn	23 13 56.1	-0.7
BRJC	**Barrancabermej**	**0.64**	**287**	P	Pn	23 13 42.0	-0.2
BRJC				S	Sn	23 13 59.2	-0.1
PAMC	**Pamplona, Colo**	**0.69**	**38**	P	Pn	23 13 43.0	-0.2
PAMC				S	Sn	23 14 00.3	-0.7
RUSC	**La Rusia**	**0.89**	**177**	P	Pn	23 13 43.8	-0.8
RUSC				S	Sn	23 14 02.7	-0.8
PTBC	**PUERTO BERRIO,**	**1.34**	**259**	P	Pn	23 13 46.5	-1.5
PTBC				S	Sn	23 14 08.1	-1.5
TAMC	**Tame, Arauca**	**1.38**	**105**	P	Pn	23 13 48.3	-0.1
TAMC				S	Sn	23 14 09.9	-0.3
OCAC	**Ocana**	**1.45**	**353**	P	Pn	23 13 48.6	-0.7
OCAC				S	Sn	23 14 10.6	-1.3
SPBC	**San Pablo de B**	**1.47**	**220**	P	Pn	23 13 48.9	-0.5
SPBC				S	Sn	23 14 11.1	-0.9
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	P	Pn	23 13 53.0	-0.4
ZARC				S	Sn	23 14 18.7	-0.6
NORC	**Norcasia**	**2.12**	**235**	P	Pn	23 13 55.9	-0.6
NORC				S	Sn	23 14 24.3	-0.5
CHIC	**Chingaza**	**2.23**	**196**	P	Pn	23 13 57.7	-0.5
CHIC				S	Sn	23 14 26.7	-1.1
ROSC	**El Rosal**	**2.27**	**211**	P	Pn	23 13 59.5	+0.8
ROSC				S	Sn	23 14 28.3	-0.3
CVER	**Cruz Verde, Cu**	**2.44**	**203**	P	Pn	23 14 01.1	+0.2
CVER				S	Sn	23 14 32.6	+0.1
HELC	**Santa Helena**	**2.46**	**256**	P	Pn	23 14 00.6	-0.3
HELC				S	Sn	23 14 32.1	-0.4
GUY2C	**Guyana, Caldas**	**2.71**	**235**	P	Pn	23 14 04.3	+0.1
GUY2C				S	Sn	23 14 39.2	+0.8
VILC	**Villavicencio,**	**2.72**	**192**	P	Pn	23 14 03.2	-0.7
VILC				S	Sn	23 14 37.4	-0.7
PTGC	**Puerto Gaitan,**	**2.76**	**159**	P	Pn	23 14 02.8	-1.5
PTGC				S	Sn	23 14 35.9	-2.8
CBOC	**Ciudad Bolivar**	**3.01**	**252**	P	Pn	23 14 07.7	+0.1
CBOC				S	Sn	23 14 45.5	+1.0
DBBC	**Dabeiba**	**3.07**	**274**	P	Pn	23 14 07.7	-0.5
DBBC				S	Sn	23 14 44.4	-1.3
SDV	**Santo Domingo**	**3.23**	**50**	P	Pn	23 14 09.6	-0.9
SDV				S	Sn	23 14 47.6	-2.1
ARGC	**Ariguani, Magd**	**3.24**	**340**	P	Pn	23 14 11.1	+0.7
ARGC				S	Sn	23 14 49.5	-0.1
PRAC	**Prado**	**3.52**	**210**	P	Pn	23 14 13.2	-0.8
PRAC				S	Sn	23 14 56.3	+0.2
ORTC	**Ortega, Tolima**	**3.55**	**216**	P	Pn	23 14 14.5	+0.1
APAC	**Apartado, Choc**	**3.59**	**288**	P	Pn	23 14 14.1	-0.8
APAC				S	Sn	23 14 56.5	-1.2
PLMC	**San Jos del P**	**3.65**	**239**	P	Pn	23 14 15.6	-0.1
PLMC				S	Sn	23 14 58.8	-0.3
SJCC	**San Jacinto, C**	**3.69**	**327**	P	Pn	23 14 14.8	-1.4
SJCC				S	Sn	23 14 56.1	-4.0
URMC	**La Uribe, Meta**	**3.73**	**200**	P	Pn	23 14 16.6	-0.2
URMC				S	Sn	23 15 00.6	-0.5
CRJC	**Cerrejon, Guaj**	**4.21**	**3**	P	Pn	23 14 20.8	-2.2
CRJC				S	Sn	23 15 08.7	-3.5
YOTC	**Yotoco, Valle**	**4.25**	**229**	P	Pn	23 14 22.6	-0.9
YOTC				S	Sn	23 15 13.0	0.0
CAPC	**Capurgana**	**4.57**	**294**	P	Pn	23 14 26.4	-1.2
CAPC				S	Sn	23 15 15.6	-4.8
MACC	**Macarena, Meta**	**4.67**	**189**	P	Pn	23 14 26.6	-2.4
MACC				S	Sn	23 15 20.4	-2.5
JAMC	**Jamundi, Valle**	**5.01**	**225**	P	Pn	23 14 33.2	-0.4
	7.6nm,0.5s						
JAMC				S	Sn	23 15 32.5	+1.3
	7.6nm,0.5s						
URIC	**Uribia, Colomb**	**5.01**	**13**	P	Pn	23 14 30.9	-2.5
	25nm,1.1s						
URIC				S	Sn	23 15 27.9	-3.0
	25nm,1.1s						
MALC	**Bahia Malaga**	**5.01**	**237**	P	Pn	23 14 33.7	+0.2
	176nm,1.2s						

*GUC **12** 23:30:54.0±0.7, 22°.18S×67°.86W, h223km±9km, ML4.3*
*IDC **12** 23:30:55.0±2.1, 22°.15S×67°.06W, h168km±20km, mb3.7/4, mbtmp4.2/9, Error ellipse: s-maj=22.0km s-min=16.7km az=75.0*
*NEIC **12** 23:30:54.6±1.8, 22°.24S±0°.06×67°.55W±0°.09, h203km±12km, mb4.3/5, Error ellipse: s-maj=12.0km s-min=9.1km az=85.0*
*SJA **12** 23:30:54.4±0.6, 22°.19S×67°.38W, h176km±6km, ML3.9, MW3.9*
*SCB **12** 23:30:56.3±1.2, 22°.20S×67°.26W, h127km±35km, ML4.1/2, MW2.9, Error ellipse: s-maj=7.8km s-min=4.9km az=2.0*
*VAO **12** 23:30:57.8±0.8, 21°.95S×67°.00W, h176km±7km, mb4.3*

ISC 12 23:30:54.2±0.6, **22°.18S**±0°.04×**67°.35W**±0°.04, **h179**km±7km, **n115**, σ1$52/149, **mb4.0**/7, **14C-2D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.08**	**225**	Pn	**Pn**	**23 31 24.0**	**+1.2**
AF01	**San Pedro de A**	**1.08**	**225**	*e*P	**Pn**	**23 31 24.5**	**+1.6**
AF01				*e*S	**Sn**	**23 31 43.1**	**-1.9**
AF01				IAML		23 32 14.6	
	comp=Z,411nm,0.7s						
YJA	**Yavi**	**1.71**	**90**	*i* P	**Pn**	**23 31 30.1**	**+1.4**
YJA	**Yavi**	**1.71**	**90**	*e*P	**Pn**	**23 31 30.0**	**+1.4**
YJA				*e*S	**Sn**	**23 31 56.4**	**+1.2**
YJA				IAML		23 31 56.8	
	comp=Z,251nm,0.5s						
PB09	**IPOC Station P**	**1.79**	**282**	Pn	**Pn**	**23 31 30.0**	**+0.8**
PB09				Sn	**Sn**	**23 31 57.4**	**+1.1**
PB09	**IPOC Station P**	**1.79**	**282**	⇑*i*P	**Pn**	**23 31 30.3**	**+1.1**
PB09				*e*S	**Sn**	**23 31 57.4**	**+1.1**
PB09	**IPOC Station P**	**1.79**	**282**	*e*P	**Pn**	**23 31 29.6**	**+0.4**
PB09				*e*S	**Sn**	**23 31 57.8**	**+1.4**
PB09				IAML		23 31 58.0	
	comp=Z,580nm,0.4s						
PB09	**IPOC Station P**	**1.79**	**282**	Pg	**Pn**	**23 31 30.4**	**+1.2**
PB06	**IPOC Station P**	**2.12**	**255**		**Pn**	**23 31 32.6**	**0.0**
PB06	**IPOC Station P**	**2.12**	**255**	⇑*i*P	**Pn**	**23 31 32.9**	**+0.3**
PB06				*e*S	**Sn**	**23 32 01.9**	**-0.7**
PB06				IAML		23 32 05.4	
	comp=E,528nm,0.3s						
PB06	**IPOC Station P**	**2.12**	**255**	*e*P	**Pn**	**23 31 33.0**	**+0.3**
PB06				*e*S	Sn	23 31 46.1	-16
PB06				IAML		23 32 11.6	
	comp=Z,525nm,0.6s						
PB15	**IPOC Station P**	**2.21**	**242**		**Pn**	**23 31 33.8**	**+0.1**
PB15				Sn	**Sn**	**23 32 04.2**	**-0.1**
PB15	**IPOC Station P**	**2.21**	**242**	⇑*i*P	**Pn**	**23 31 34.3**	**+0.6**
PB15				*e*S	**Sn**	**23 32 04.3**	**-0.1**
PB15	**IPOC Station P**	**2.21**	**242**	*e*P	**Pn**	**23 31 34.3**	**+0.6**
PB15				*e*S	**Sn**	**23 32 03.7**	**-0.8**
PB15	**IPOC Station P**	**2.21**	**242**	Pg	**Pn**	**23 31 34.8**	**+1.1**
SALTA		**2.24**	**156**	*i* P	**Pn**	**23 31 36.2**	**+1.8**
PB01	**IPOC Station P**	**2.28**	**299**		**Pn**	**23 31 35.0**	**+0.5**
PB01				Sn	**Sn**	**23 32 05.6**	**-0.3**
PB01	**IPOC Station P**	**2.28**	**299**	⇑*i*P	**Pn**	**23 31 34.9**	**+0.4**
PB01				*e*S	**Sn**	**23 32 05.5**	**-0.3**
PB01				IAML		23 32 06.3	
	comp=N,841nm,0.2s						
PB01	**IPOC Station P**	**2.28**	**299**	*e*P	**Pn**	**23 31 34.3**	**-0.2**
PB01				*e*S	**Sn**	**23 32 06.5**	**+0.7**
PB01				IAML		23 32 07.9	
	comp=Z,392nm,0.2s						
PB01	**IPOC Station P**	**2.28**	**299**	Pg	**Pn**	**23 31 35.5**	**+1.0**
PB01				Sg	**Sn**	**23 32 05.5**	**-0.3**
PB01				IAML		23 32 07.1	
	comp=Z,616nm,0.6s						
PB04	**IPOC Station P**	**2.59**	**266**		**Pn**	**23 31 37.9**	**-0.2**
PB04				Sn	**Sn**	**23 32 10.8**	**-1.5**
PB04	**IPOC Station P**	**2.59**	**266**	*e*P	**Pn**	**23 31 38.2**	**0.0**
PB04				*e*S	**Sn**	**23 32 10.6**	**-1.7**
PB04				IAML		23 32 12.9	
	comp=N,1μm,0.3s						
PB04	**IPOC Station P**	**2.59**	**266**	*e*P	**Pn**	**23 31 38.5**	**+0.4**
PB04				*e*S	**Sn**	**23 32 10.8**	**-1.5**
PB04				IAML		23 32 13.4	
	comp=Z,1μm,0.2s						
PB08	**IPOC Station P**	**2.63**	**320**		**Pn**	**23 31 40.0**	**+1.1**
PB08	**IPOC Station P**	**2.63**	**320**	⇑*i*P	**Pn**	**23 31 40.5**	**+1.6**
PB08	**IPOC Station P**	**2.63**	**320**	*e*P	**Pn**	**23 31 39.8**	**+0.9**
PB08				IAML		23 32 16.1	
	comp=Z,142nm,0.3s						
PB08	**IPOC Station P**	**2.63**	**320**	Pg	**Pn**	**23 31 40.5**	**+1.6**
PX03	**IPOC Station P**	**2.76**	**309**	⇓*i*P	**Pn**	**23 31 39.9**	**-0.2**
PX03				*e*S	**Sn**	**23 32 14.5**	**-1.3**
PX03				IAML		23 32 17.0	
	comp=N,852nm,0.4s						
AZAP	**Zapla**	**2.93**	**134**	*e*P	**Pn**	**23 31 43.3**	**+1.1**
AZAP				*e*S	**Sn**	**23 32 24.2**	**+4.6**
AZAP				IAML		23 32 26.8	
	comp=Z,177nm,0.8s						
GO01	**Chusmiza**	**3.03**	**325**		**Pn**	**23 31 44.8**	**+1.1**
GO01	**Chusmiza**	**3.03**	**325**	⇑*i*P	**Pn**	**23 31 44.9**	**+1.1**
GO01				*e*S	**Sn**	**23 32 24.6**	**+2.4**
GO01	**Chusmiza**	**3.03**	**325**	*e*P	**Pn**	**23 31 44.9**	**+1.1**
GO01				*e*S	**Sn**	**23 32 26.0**	**+3.7**
GO01	**Chusmiza**	**3.03**	**325**	Pg	**Pn**	**23 31 45.3**	**+1.5**
SLA	**San Lorenzo**	**3.05**	**146**	⇑*i*P	**Pn**	**23 31 45.2**	**+1.6**
SLA	**San Lorenzo**	**3.05**	**146**	*e*P	**Pn**	**23 31 45.5**	**+1.9**
TA01	**Diego Aracena**	**3.08**	**301**	Pn	**Pn**	**23 31 43.6**	**-0.3**
TA01				Sn	**Sn**	**23 32 20.4**	**-2.1**
TA01	**Diego Aracena**	**3.08**	**301**	⇑*i*P	**Pn**	**23 31 43.3**	**-0.6**
TA01				*e*S	**Sn**	**23 32 20.1**	**-2.5**
TA01				IAML		23 32 21.8	
	comp=E,819nm,0.2s						
TA01	**Diego Aracena**	**3.08**	**301**	*e*P	**Pn**	**23 31 43.4**	**-0.5**
TA01				*e*S	**Sn**	**23 32 20.6**	**-2.0**
TA01				IAML		23 32 21.2	
	comp=Z,318nm,0.8s						
TA02	**Huaiquique**	**3.21**	**306**	Pn	**Pn**	**23 31 44.8**	**-0.6**
TA02	**Huaiquique**	**3.21**	**306**	*e*P	**Pn**	**23 31 45.1**	**-0.4**
TA02				*e*S	**Sn**	**23 32 24.1**	**-1.3**
TA02				IAML		23 32 28.4	
	comp=Z,269nm,0.5s						
PB11	**IPOC Station P**	**3.23**	**318**	Pn	**Pn**	**23 31 45.7**	**-0.1**
PB11	**IPOC Station P**	**3.23**	**318**	⇑*i*P	**Pn**	**23 31 45.7**	**-0.1**
PB11				*e*S	**Sn**	**23 32 24.4**	**-1.6**
PB11	**IPOC Station P**	**3.23**	**318**	*e*P	Pn	23 31 33.9	-12
PB11				*e*S	**Sn**	**23 32 25.4**	**-0.6**
PB11				IAML		23 32 28.2	
	comp=Z,214nm,0.2s						
ALOL	**LOMAS DE OLMED**	**3.51**	**118**	*e*P	**Pn**	**23 31 49.8**	**+0.7**
GO02	**Mina Guanaco**	**3.61**	**214**		**Pn**	**23 31 51.0**	**+0.3**
GO02	**Mina Guanaco**	**3.61**	**214**	⇓*i*P	**Pn**	**23 31 51.2**	**+0.6**
GO02				*e*S	**Sn**	**23 32 33.4**	**-1.4**
GO02	**Mina Guanaco**	**3.61**	**214**	*e*P	**Pn**	**23 31 50.6**	**0.0**
GO02				*e*S	**Sn**	**23 32 33.5**	**-1.2**
SOEO	**Opoqueri**	**3.63**	**352**	Pg	**Pn**	**23 31 53.5**	**+2.3**
PB14	**IPOC Station P**	**3.71**	**228**	Pn	**Pn**	**23 31 51.8**	**-0.2**
PB14	**IPOC Station P**	**3.71**	**228**	*i* P	**Pn**	**23 31 52.2**	**+0.3**
PB14				*e*S	**Sn**	**23 32 33.7**	**-3.4**
FSA	**Cafayete**	**4.11**	**162**	*e*P	**Pn**	**23 31 58.6**	**+1.8**
FSA				*e*S	Sn	23 32 29.6	-16
SOTI	**Planta Incahua**	**4.17**	**57**	Pg	**Pn**	**23 31 58.7**	**+1.0**
AOEA	**Aiquile**	**4.45**	**27**	Pg	**Pn**	**23 32 01.8**	**+0.4**
AOEA	**Aiquile**	**4.45**	**27**	Pg	**Pn**	**23 32 02.0**	**+0.6**
AOEA				Sg	**Sn**	**23 32 52.6**	**-1.4**
AOEA				IAML		23 32 58.1	
	comp=Z,266nm,0.4s						
AP01	**Chacalluta**	**4.71**	**323**	Pn	**Pn**	**23 32 03.6**	**-0.9**
AP01	**Chacalluta**	**4.71**	**323**	*e*P	**Pn**	**23 32 04.3**	**-0.2**
AP01				*e*S	**Sn**	**23 32 59.3**	**-0.3**
AP01				IAML		23 33 08.7	
	comp=Z,170nm,0.2s						
AC01	**Pan de Azucar**	**4.94**	**216**	Pn	**Pn**	**23 32 06.3**	**-1.1**
PB18	**Visviri**	**4.99**	**336**	Pn	**Pn**	**23 32 09.7**	**+1.1**
SOEJ	**Jacaque**	**5.24**	**351**	Pg	**Pn**	**23 32 14.2**	**+2.4**
BBOD	**La Paz, Gloria**	**5.64**	**348**	Pg	**Pn**	**23 32 19.2**	**+2.2**
AC06	**Mina Casimiro**	**5.83**	**207**		**Pn**	**23 32 16.3**	**-2.7**
LPAZ	**La Paz**	**5.91**	**353**		**Pn**	**23 32 21.7**	**+1.1**
LPAZ	**La Paz**	**5.91**	**353**	P	**Pn**	**23 32 22.2**	**+1.6**
	comp=Z,34nm,0.4s,baz=152,slow=5.6,SNR=201						
LPAZ				S	**Sn**	**23 33 29.6**	**+1.0**
	comp=Z,19nm,0.6s,baz=352,slow=13,SNR=7.3						
LPAZ	**La Paz**	**5.91**	**353**	Pg	**Pn**	**23 32 22.4**	**+1.8**
LPAZ	**La Paz**	**5.91**	**353**	*e*P	**Pn**	**23 32 22.2**	**+1.6**
LPAZ				*e*S	**Sn**	**23 33 28.0**	**-0.5**
GO03	**Copiapo**	**5.99**	**205**	Pn	**Pn**	**23 32 19.5**	**-1.6**
LCO	**Las Campanas**	**7.44**	**203**		**Pn**	**23 32 38.3**	**-2.1**
BBSD	**Serra de San D**	**8.06**	**53**	*e*P	**Pn**	**23 32 46.3**	**-2.1**
CO01	**Juntas del Tor**	**8.15**	**197**	Pn	**Pn**	**23 32 48.5**	**-1.2**
GO04	**Tololo Observa**	**8.54**	**201**	Pn	**Pn**	**23 32 52.4**	**-2.4**
SIV	**San Ignacio**	**8.55**	**45**	P	**Pn**	**23 32 52.7**	**-2.2**
	comp=Z,68nm,0.4s,baz=224,slow=10,SNR=393						
SIV				S	**Sn**	**23 34 24.6**	**-6.0**
	comp=Z,23nm,0.4s,baz=306,slow=20,SNR=7.5						
MURT	**Porto Murtinho**	**9.06**	**89**	*e*P	**Pn**	**23 32 59.5**	**-2.0**
MURT				*e*S	**Sn**	**23 34 38.7**	**-4.0**
CO03	**El Pedregal**	**9.13**	**198**	Pn	**Pn**	**23 32 59.9**	**-2.5**
BDQN	**Bodoquena, MS**	**10.04**	**82**	*e*P	**Pn**	**23 33 13.6**	**-0.6**
CPUP	**Villa Florida**	**10.04**	**116**	P	**Pn**	**23 33 12.4**	**-1.8**
	comp=Z,3.3nm,0.9s,baz=284,slow=12,SNR=5.8						
PTLB	**Pontes e Lacer**	**10.26**	**51**		**Pn**	**23 33 16.7**	**-0.5**
PTLB	**Pontes e Lacer**	**10.26**	**51**	*e*P	**Pn**	**23 33 15.1**	**-2.2**
SJPY	**San Joaquin**	**10.69**	**107**	*e*P	**Pn**	**23 33 24.0**	**+1.2**
VA03	**San Esteban**	**10.92**	**194**		**Pn**	**23 33 22.2**	**-3.6**
VILB	**Vilhena**	**11.43**	**38**		**Pn**	**23 33 32.5**	**+0.1**
VILB	**Vilhena**	**11.43**	**38**	*e*P	**Pn**	**23 33 32.1**	**-0.3**
MT09	**Talagante**	**11.99**	**195**	Pn	**Pn**	**23 33 37.8**	**-1.8**
ETMB	**Extrema**	**12.34**	**5**	*e*P	**Pn**	**23 33 43.0**	**-1.1**
SALV	**Santo Antonio**	**12.67**	**62**	*e*P	**Pn**	**23 33 47.5**	**-0.8**
PTGB	**Pitanga**	**14.26**	**103**	*e*P	**P**	**23 34 09.6**	**-0.8**
PDRB	**Porto dos Gac**	**14.61**	**46**	*e*P	**Pn**	**23 34 11.8**	**-0.9**
ITAB	**Concordia**	**14.72**	**113**	P	**P**	**23 34 15.1**	**-0.2**
ITAB	**Concordia**	**14.72**	**113**	*e*P	**P**	**23 34 15.0**	**-0.3**
CPSB	**Cacapava Do Su**	**14.92**	**126**	*e*P	**P**	**23 34 17.1**	**-0.4**
LDASE	**Londrina, Braz**	**15.03**	**98**	*e*P	**Pn**	**23 34 18.1**	**+0.3**
PLTB	**Pedras Altas**	**15.52**	**131**		**Pn**	**23 34 22.8**	**-0.9**
PLTB				IAmb	IAmb	23 34 23.6	
	comp=Z,11nm,1.0s						
ITRB	**Iturama**	**16.07**	**84**	*e*P	**P**	**23 34 30.6**	**+0.2**
FRTB	**Fartura**	**16.45**	**97**	*e*P	**Pn**	**23 34 35.3**	**+0.2**
BB19B	**Bebedouro**	**17.54**	**90**	*e*P	**P**	**23 34 47.0**	**+0.4**
GO06	**Curarrehue**	**17.70**	**191**	Pn	**P**	**23 34 48.7**	**+0.5**
SNDB	**Serra Nova Dou**	**18.39**	**59**	*e*P	**P**	**23 34 55.5**	**-0.2**
IPMB	**Ipameri, GO**	**18.46**	**80**	*e*P	**P**	**23 34 56.9**	**+0.4**
PLCA	**Paso Flores**	**18.69**	**188**	P	**P**	**23 35 00.7**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=90,slow=7.1,SNR=2.1						
VAO	**Valinhos**	**18.85**	**96**	P	**P**	**23 35 01.3**	**+0.6**
VAO	**Valinhos**	**18.85**	**96**	*e*P	**P**	**23 35 01.1**	**+0.4**
NPGB	**Novo Progresso**	**18.98**	**39**	*e*P	**P**	**23 35 01.1**	**-1.1**
BDFB	**Brasilia**	**19.41**	**74**	P	**P**	**23 35 07.7**	**+0.8**
BDFB				IAmb	IAmb	23 35 08.2	
	comp=Z,5.4nm,0.6s						
BDFB	**Brasilia**	**19.41**	**74**	P	**P**	**23 35 06.1**	**-0.8**
	comp=Z,5.1nm,0.5s,baz=256,slow=11,SNR=11						
MACA	**Manacapuru-AM**	**19.98**	**20**	P	**P**	**23 35 13.2**	**+0.2**
MACA				IAmb	IAmb	23 35 15.5	
	comp=Z,10nm,0.5s						
MACA	**Manacapuru-AM**	**19.98**	**20**	*e*P	**P**	**23 35 13.4**	**+0.4**
ITTB	**Itaituba**	**20.98**	**34**	*e*P	**P**	**23 35 22.7**	**-1.0**
VNA3	**Neumayer Olymp**	**58.97**	**161**	⇑P	**P**	**23 40 37.7**	**+3.2**
	comp=Z,1.5nm,0.7s						
VNA1	**Neumayer--Stat**	**59.16**	**161**	⇑P	**P**	**23 40 35.7**	**+0.1**
	comp=Z,1.9nm,0.8s						
VNA2	**Neumayer--Watz**	**59.53**	**161**	⇑P	**P**	**23 40 40.3**	**+2.0**
	comp=Z,1.9nm,0.7s,baz=280,slow=7.6						
SNAA	**Sanae**	**61.17**	**161**	⇑P	**P**	**23 40 51.3**	**+1.9**
	comp=Z,18nm,0.8s						
SNAA	**Sanae**	**61.17**	**161**	P	**P**	**23 40 51.0**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=274,slow=9.6,SNR=9.8						
	comp=Z,0.8nm,0.8s						
TROLL	**Troll, Antarti**	**62.88**	**161**	⇑P	**P**	**23 41 02.7**	**+1.8**
	comp=Z,63nm,0.7s						
PDAR	**Pinedale Array**	**75.42**	**329**	P	**P**	**23 42 20.8**	**+2.3**
	comp=Z,0.2nm,0.4s,baz=129,slow=12,SNR=2.7						
	comp=Z,0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**76.23**	**69**	P	**P**	**23 42 24.1**	**+0.8**
	comp=Z,6.4nm,0.4s,baz=257,slow=5.5,SNR=176						
	comp=Z,6.4nm,0.4s						
BOSA	**Boshof**	**81.85**	**117**	P	**P**	**23 42 54.1**	**+0.2**
	comp=Z,3.6nm,1.1s,baz=185,slow=9.5,SNR=1.9						
	comp=Z,3.6nm,1.1s						

IDC 12 23:31:53.2±12.0, **5°.42S×149°.98E, h192**km±94km, **mb3.1**/3, **mbtmp3.7**/4, **Error ellipse: s-maj=106.2km s-min=27.3km az=86.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**9.69**	**287**	P	Pn	23 34 07.5	-1.2
	2.9nm,0.3s,baz=128,slow=18,SNR=6.7						
JAY				S	Sn	23 35 59.5	+2.4
	3.1nm,0.6s,baz=158,slow=20,SNR=1.3						
WRA	**Warramunga Arr**	**20.97**	**225**	P	P	23 36 22.9	+1.3
	0.7nm,0.3s,baz=47,slow=9.7,SNR=22						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**23.85**	**219**	P	P	23 36 48.0	-1.2
	0.7nm,0.4s,baz=50,slow=8.2,SNR=11						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**78.96**	**320**	P	P	23 43 36.1	+0.4
	0.4nm,0.8s,baz=108,slow=3.2,SNR=2.0						
	0.4nm,0.8s						

*NEIC **12** 23:37:55.0±2.4, 11°.18S±0°.09×163°.45E±0°.07, h10km±2km, mb4.5/12, Error ellipse: s-maj=15.8km s-min=9.2km az=332.0*
*IDC **12** 23:37:55.3±0.8, 11°.37S×163°.22E, h0km, mb4.3/13, mbtmp4.3/15, ML4.2/2, MS3.8/8, Error ellipse: s-maj=23.7km s-min=18.2km az=95.0*
*NOU **12** 23:38:01.2, 10°.99S×163°.31E, h40km, mb4.8/14, Solomon Islands*

ISC 12 23:37:57.5±0.6, **11°.27S**±0°.08×**163°.24E**±0°.06, **h10**km, **n56**, σ1$69/41, **mb4.4**/17, **MS4.0**/6, **4C, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**1.54**	**301**	P	**Pn**	**23 38 23.7**	**-1.3**
LUES	**Luesalemba Tem**	**2.69**	**77**	P	**Pn**	**23 38 40.3**	**-0.6**
ALEG	**Aligegeo Malai**	**3.54**	**315**	P	**Pn**	**23 38 51.7**	**-0.9**
HNR	**Honiara**	**3.72**	**299**	Pn	Pn	23 38 53.4	-1.6
HNR				Sn	**Sn**	**23 39 39.7**	**+0.7**
HNR	**Honiara**	**3.72**	**299**	Pn	**Pn**	**23 38 55.6**	**+0.5**
	98nm,0.3s,baz=179,slow=6.2,SNR=7.9						
HNR				Sn	**Sn**	**23 39 41.2**	**+2.3**
	156nm,0.3s,baz=7.1,slow=23,SNR=8.0						
HNR				LR	LR	23 40 14.3	
	comp=Z,280nm,20.0s,baz=146,slow=37						
	374nm,0.5s						
HNR	**Honiara**	**3.72**	**299**	P	**Pn**	**23 38 56.7**	**+1.7**
TATA	**Tatamba Isabel**	**4.43**	**310**	P	**Pn**	**23 39 04.6**	**-0.3**
VLAKA	**Lakatoro**	**6.29**	**140**	P	**Pn**	**23 39 34.1**	**+3.6**
DZM	**Mont Dzumac**	**11.17**	**164**	Pn	Pn	23 40 33.2	-4.3
DZM	**Mont Dzumac**	**11.17**	**164**	Pn	**Pn**	**23 40 35.3**	**-2.2**
	0.4nm,0.3s,baz=107,slow=22,SNR=1.7						
DZM				LR	LR	23 44 15.6	
	comp=Z,397nm,21.1s,baz=323,slow=34						
	7.4nm,1.1s						
MTSU	**Mount Surprise**	**19.53**	**247**	P	**P**	**23 42 27.7**	**+2.4**
COEN	**Coen**	**19.77**	**260**	P	**P**	**23 42 25.7**	**-2.3**
COEN				IAmb	IAmb	23 42 31.2	
	comp=Z,27nm,1.1s						
AUDCS	**Dubbo College**	**24.83**	**211**	P	**P**	**23 43 23.2**	**+3.1**
CMSA	**Cobar Meteorol**	**25.89**	**216**	P	**P**	**23 43 30.8**	**+1.1**
INKA	**Innaminka**	**26.72**	**229**	P	**P**	**23 43 39.0**	**+1.7**
STKA	**Stephens Creek**	**28.63**	**221**	P	**P**	**23 43 52.3**	**-2.0**
STKA	**Stephens Creek**	**28.63**	**221**	P	**P**	**23 43 52.3**	**-2.0**
	comp=Z,6.4nm,0.9s,baz=39,slow=11,SNR=12						
STKA				LR	LR	23 54 18.3	
	comp=Z,156nm,20.1s,baz=22,slow=34						
	comp=Z,6.4nm,0.9s						
STKA	**Stephens Creek**	**28.63**	**221**	P	**P**	**23 43 55.8**	**+1.5**
WR0	**Warramunga Arr**	**28.92**	**249**	P	P	23 43 53.5	-3.6
WB0	**Warramunga Arr**	**29.02**	**250**	P	**P**	**23 43 56.7**	**-1.2**
WB0				IAmb	IAmb	23 44 10.3	
	comp=Z,14nm,1.5s						
WB2	**Warramunga Arr**	**29.09**	**249**	P	**P**	**23 43 58.0**	**-0.6**
WB2				IAmb	IAmb	23 44 06.6	
	comp=Z,5.9nm,1.1s						
WRA	**Warramunga Arr**	**29.11**	**249**	P	P	23 43 56.3	-2.5
WRA	**Warramunga Arr**	**29.11**	**249**	P	**P**	**23 43 57.3**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=79,slow=8.9,SNR=7.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.34**	**77**	P	**Pg**	**00 07 26.2**	**-0.3**
KRI1				S	**Sg**	**00 07 31.1**	**-0.1**
	28μm,0.5s						
LTHK	**Lithakia**	**0.36**	**70**	P	**Pg**	**00 07 26.6**	**-0.4**
LTHK				S	**Sg**	**00 07 31.7**	**-0.4**
	23μm,0.3s						
LTHK	**Lithakia**	**0.36**	**70**	P	**Pg**	**00 07 26.6**	**-0.4**
LTHK				S	**Sg**	**00 07 31.1**	**-1.0**
LTHK				AML	AML	00 07 32.2	
	comp=E,56381μm,0.4s						
LTHK				AML	AML	00 07 33.7	
	comp=N,33323μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.55**	**15**	P	**Pg**	**00 07 30.1**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.55**	**15**	P	**Pg**	**00 07 30.1**	**-0.3**
PSDA				S	**Sg**	**00 07 38.3**	**+0.7**
RTZL	**Ratzakli, Kefa**	**0.57**	**30**	P	**Pg**	**00 07 30.4**	**-0.4**
RTZL				S	**Sb**	**00 07 39.1**	**-0.1**
VLS	**Valsamata**	**0.61**	**14**	P	**Pg**	**00 07 31.1**	**-0.5**
VLS				S	**Sg**	**00 07 39.1**	**-0.6**
	comp=N,9μm,0.6s						
VLS	**Valsamata**	**0.61**	**14**	P	**Pg**	**00 07 31.1**	**-0.5**
VLS				S	**Sg**	**00 07 38.9**	**-0.7**
VLS				AML	AML	00 07 45.0	
	comp=N,20161μm,0.5s						
VLS				AML	AML	00 07 46.4	
	comp=E,15404μm,0.3s						
LXR1	**Lixouri, Cepha**	**0.61**	**2**	P	**Pb**	**00 07 32.2**	**+0.2**
LXR1				S	**Sb**	**00 07 41.3**	**+0.8**
	comp=E,37μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.61**	**2**	P	**Pg**	**00 07 31.4**	**-0.2**
LXRA				S	**Sg**	**00 07 39.8**	**0.0**
LXRA				AML	AML	00 07 49.0	
	comp=E,41648μm,0.3s						
LXRA				AML	AML	00 07 51.6	
	comp=N,46655μm,0.4s						
DMLN	**Damoulianata-K**	**0.65**	**358**	P	**Pg**	**00 07 32.4**	**0.0**
DMLN				S	**Sb**	**00 07 42.1**	**+0.5**
	comp=N,17μm,0.5s						
DMLN	**Damoulianata-K**	**0.65**	**358**	P	**Pg**	**00 07 31.9**	**-0.5**
DMLN				S	**Sb**	**00 07 41.7**	**0.0**
SMHA	**Samh**	**0.69**	**16**	P	**Pg**	**00 07 32.0**	**-1.1**
SMHA				S	**Sg**	**00 07 42.4**	**+0.2**
SMHA				AML	AML	00 07 49.1	
	comp=E,47862μm,0.4s						
SMHA				AML	AML	00 07 52.8	
	comp=N,66371μm,0.4s						
VSK1	**VASILIKIADES**	**0.83**	**9**	P	**Pg**	**00 07 35.3**	**-0.5**
VSK1				S	**Sb**	**00 07 47.8**	**+1.0**
	comp=N,12μm,0.7s						
FSK	**Fiskardo**	**0.88**	**8**	P	**Pb**	**00 07 36.2**	**-0.4**
FSK				S	**Sb**	**00 07 48.0**	**-0.2**
	comp=N,7μm,0.6s						
FSK	**Fiskardo**	**0.88**	**8**	P	**Pb**	**00 07 36.2**	**-0.4**
FSK				S	**Sb**	**00 07 48.1**	**0.0**
FSK				AML	AML	00 07 56.0	
	comp=E,16468μm,0.7s						
FSK				AML	AML	00 07 57.6	
	comp=N,9982μm,0.5s						
RLS	**Riolos of Patr**	**0.96**	**60**	P	**Pb**	**00 07 37.1**	**-0.9**
RLS	**Riolos of Patr**	**0.96**	**60**	P	**Pb**	**00 07 37.3**	**-0.7**
RLS				S	**Sg**	**00 07 51.5**	**+0.6**
AMT	**Artemida-Makis**	**1.04**	**93**	P	**Pb**	**00 07 38.7**	**-0.5**
AMT				S	**Sg**	**00 07 53.1**	**-0.1**
AMT				AML	AML	00 08 02.3	
	comp=N,11444μm,0.5s						
AMT				AML	AML	00 08 04.1	
	comp=E,18389μm,0.8s						
EVGI	**Lefkada island**	**1.05**	**11**	P	**Pb**	**00 07 39.1**	**-0.4**
EVGI	**Lefkada island**	**1.05**	**11**	P	**Pb**	**00 07 39.1**	**-0.4**
AST1	**Astakos**	**1.10**	**29**	P	**Pg**	**00 07 40.7**	**-0.1**
DRO	**Drossia**	**1.10**	**70**	P	**Pb**	**00 07 39.8**	**-0.5**
DRO	**Drossia**	**1.10**	**70**	P	**Pb**	**00 07 39.8**	**-0.5**
DRO				AML	AML	00 08 05.0	
	comp=E,7194μm,0.6s						
DRO				AML	AML	00 08 07.5	
	comp=N,5517μm,0.8s						
DRAG	**Dragano-Lefkad**	**1.10**	**7**	P	**Pb**	**00 07 39.8**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.15**	**11**	P	**Pn**	**00 07 40.8**	**-0.3**
LKD2	**Lefkada island**	**1.22**	**9**	P	**Pg**	**00 07 43.5**	**+0.4**
TSLK	**Tsoukalades, L**	**1.25**	**9**	P	**Pn**	**00 07 42.5**	**-0.1**
TSLK	**Tsoukalades, L**	**1.25**	**9**	P	**Pn**	**00 07 42.1**	**-0.5**
PYL	**PYLOS**	**1.27**	**122**	P	**Pn**	**00 07 42.7**	**-0.1**
PYL	**PYLOS**	**1.27**	**122**	P	**Pn**	**00 07 42.6**	**-0.1**
ITM	**Ithomi**	**1.28**	**108**	P	**Pb**	**00 07 43.2**	**-0.1**
ITM	**Ithomi**	**1.28**	**108**	P	**Pn**	**00 07 42.9**	**-0.1**
ANX	**Ano Chora**	**1.56**	**49**	P	**Pn**	**00 07 47.7**	**+0.8**
ANX				AML	AML	00 08 19.7	
	comp=N,8166μm,0.7s						
ANX				AML	AML	00 08 21.0	
	comp=E,5161μm,0.6s						
KALE	**Kalithea**	**1.59**	**59**	P	**Pn**	**00 07 47.9**	**+0.7**
KALE				AML	AML	00 08 21.1	
	comp=N,2423μm,0.7s						
KALE				AML	AML	00 08 21.7	
	comp=E,2939μm,0.6s						
AGG	**Agios Georgios**	**2.08**	**46**	Pn	**Pb**	**00 07 57.0**	**-0.1**
AXAR	**Agios Charalam**	**2.13**	**56**	P	**Pb**	**00 07 57.0**	**-0.9**
KEK	**Kerkira**	**2.18**	**348**	Pn	**Pb**	**00 07 58.4**	**-0.3**
SCTE	**Santa Cesarea**	**2.91**	**329**		**Pn**	**00 08 06.5**	**+1.2**
SCTE				Sn	**Sn**	**00 08 42.9**	**+2.9**
LIT	**Litokhoron**	**2.99**	**32**		**Pn**	**00 08 08.6**	**+2.1**
TIP	**Timpagrande**	**3.28**	**300**	Pn	**Pn**	**00 08 11.3**	**+0.8**
TIP	**Timpagrande**	**3.28**	**300**	⇓P	**Pn**	**00 08 11.6**	**+1.1**
FNA	**Florina**	**3.28**	**13**	Pn	**Pn**	**00 08 13.8**	**+3.2**
FNA	**Florina**	**3.28**	**13**	*e*Pn	**Pn**	**00 08 13.0**	**+2.5**
FNA				*e*Sn	**Sn**	**00 08 51.9**	**+2.6**
OHR	**Ohrid**	**3.53**	**5**	*e*Pn	**Pb**	**00 08 16.1**	**+2.1**
OHR				*e*Sn	**Sn**	**00 08 56.7**	**+1.2**
OHR	**Ohrid**	**3.53**	**5**	*i* Pn	**Pb**	**00 08 21.6**	**-0.3**
CEL	**Celeste**	**3.63**	**282**	Pn	**Pn**	**00 08 15.7**	**+0.4**
TIR	**Tirane**	**3.78**	**354**		**Pn**	**00 08 20.7**	**+3.3**
TIR	**Tirane**	**3.78**	**354**	*e*Pn	**Pn**	**00 08 18.8**	**+1.5**
TIR				*e*Sn	**Sn**	**00 09 01.1**	**-0.4**
TIR	**Tirane**	**3.78**	**354**	⇓P	**Pn**	**00 08 20.9**	**+3.6**
VAY	**Valandovo**	**4.09**	**24**	*i* Pn	**Pn**	**00 08 24.2**	**+2.6**
MATE	**Matera**	**4.20**	**318**	⇓P	**Pn**	**00 08 25.1**	**+2.0**
IDI	**Anoyia**	**4.28**	**121**	Pn	**Pn**	**00 08 19.8**	**-4.5**
IDI	**Anoyia**	**4.28**	**121**	Pn	**Pn**	**00 08 23.5**	**-0.7**
	comp=E,0.1nm,0.3s,baz=315,slow=5.7,SNR=1.9						
IDI				Sn	**Sn**	**00 09 13.7**	**-0.3**
	comp=E,1.3nm,0.3s,baz=142,slow=19,SNR=1.7						
	comp=E,14nm,1.0s						
SRS	**Serrai**	**4.30**	**34**	*e*Pn	**Pn**	**00 08 25.9**	**+1.4**
CUC	**Castrocucco**	**4.32**	**305**		**Pn**	**00 08 26.3**	**+1.6**
ULC	**Ulcinj**	**4.46**	**349**	⇓*i*Pn	**Pn**	**00 08 26.4**	**-0.3**
ULC				*i* Sn	**Sn**	**00 09 17.2**	**-1.2**
PUK	**Puka**	**4.47**	**355**		**Pn**	**00 08 28.6**	**+1.8**
DRME	**Dracevica, Mon**	**4.69**	**349**	⇑*i*Pn	**Pn**	**00 08 30.7**	**+0.9**
DRME				*i* Sn	**Sn**	**00 09 22.6**	**-1.4**
VAE	**Valguarnera**	**4.77**	**271**	Pn	**Pn**	**00 08 33.7**	**+2.7**
	comp=E,0.6nm,0.3s,baz=149,slow=17,SNR=2.2						
VAE				Sn	**Sn**	**00 09 25.4**	**-0.5**
	comp=E,1.3nm,0.3s,baz=270,slow=20,SNR=1.5						
	comp=E,4.7nm,0.5s						
RAFF	**Raffo Rosso**	**4.83**	**268**	Pn	**Pn**	**00 08 30.9**	**-0.8**
BUM	**Brajici-Budva**	**4.85**	**347**	*e*Pn	**Pn**	**00 08 32.8**	**+0.7**
BUM				*i* Sn	**Sn**	**00 09 26.3**	**-1.7**
PDG	**Podgorica**	**4.92**	**350**	Pn	Pn	00 08 38.2	+5.2
PDG	**Podgorica**	**4.92**	**350**	*e*Sn	**Sn**	**00 09 27.0**	**-2.6**
PDG	**Podgorica**	**4.92**	**350**	*e*Pn	**Pn**	**00 08 33.9**	**+1.0**
PDG	**Podgorica**	**4.92**	**350**	⇑P	Pn	00 08 39.1	+6.2
PDG	**Podgorica**	**4.92**	**350**	⇓*i*Pn	**Pn**	**00 08 32.9**	**0.0**
PDG				*i* Sn	**Sn**	**00 09 27.9**	**-1.7**
PVY	**Plav**	**5.01**	**356**	⇑*i*Pn	**Pn**	**00 08 35.5**	**+1.1**
PVY				*i* Sn	**Sn**	**00 09 30.2**	**-1.9**
HCY	**Herceg Novi**	**5.07**	**344**	*e*Pn	**Pn**	**00 08 34.2**	**-0.9**
HCY	**Herceg Novi**	**5.07**	**344**	⇓*i*Pn	**Pn**	**00 08 35.4**	**+0.3**
HCY				*i* Sn	**Sn**	**00 09 32.1**	**-1.3**
CEME	**Cevo**	**5.08**	**347**	⇑*i*Pn	**Pn**	**00 08 35.4**	**+0.1**
CEME				*i* Sn	**Sn**	**00 09 31.9**	**-1.9**
BOSS	**Bosilegrad**	**5.16**	**17**	*e*Pn	**Pn**	**00 08 37.2**	**+1.0**
NKME	**Niksic**	**5.29**	**348**	⇓*i*Pn	**Pn**	**00 08 38.7**	**+0.5**
NKME				*i* Sn	**Sn**	**00 09 36.9**	**-2.0**
IVA	**Berane**	**5.29**	**356**	⇑*i*Pn	**Pn**	**00 08 38.8**	**+0.6**
IVA				*i* Sn	**Sn**	**00 09 36.3**	**-2.7**
KOME	**Kolasin**	**5.30**	**353**	⇑*i*Pn	**Pn**	**00 08 38.8**	**+0.5**
KOME				*i* Sn	**Sn**	**00 09 37.0**	**-2.2**
BARS	**Barje**	**5.33**	**11**	*e*Pn	**Pn**	**00 08 38.3**	**-0.4**
TREB	**Trebinje**	**5.36**	**344**	*e*Pn	**Pn**	**00 08 38.4**	**-0.7**
TREB				*e*Sn	**Sn**	**00 09 37.0**	**-3.5**
TREB	**Trebinje**	**5.36**	**344**	*e*Pn	**Pn**	**00 08 37.9**	**-1.1**
VTS	**Vitosha**	**5.47**	**22**	*e*Pn	**Pn**	**00 08 42.4**	**+1.7**
VTS				*e*Sn	**Sn**	**00 09 42.8**	**-0.7**
ALN	**Alexandroupoli**	**5.49**	**51**	Pn	**Pn**	**00 08 44.0**	**+3.3**
BRY	**Bratogost**	**5.50**	**346**	*e*Pn	**Pn**	**00 08 44.7**	**+3.6**
BRY	**Bratogost**	**5.50**	**346**	⇓*i*Pn	**Pn**	**00 08 41.5**	**+0.4**
BRY				*i* Sn	**Sn**	**00 09 42.0**	**-2.1**
SELS	**Selova**	**5.65**	**5**	*e*Pn	**Pn**	**00 08 43.8**	**+0.7**
SELS				*e*Sn	**Sn**	**00 09 48.3**	**+0.6**
STON	**Ston**	**5.67**	**339**	*e*Pn	**Pn**	**00 08 42.7**	**-0.6**
STON				*e*Sn	**Sn**	**00 09 44.3**	**-3.8**
STON	**Ston**	**5.67**	**339**	*e*Pn	**Pn**	**00 08 42.2**	**-1.1**
SJES	**Sjenica**	**5.68**	**357**	*e*Pn	**Pn**	**00 08 44.0**	**+0.5**
SJES				*e*Sn	**Sn**	**00 09 46.4**	**-2.1**
SJES	**Sjenica**	**5.68**	**357**	*e*Pn	**Pn**	**00 08 45.5**	**+2.0**
PAOL	**Paolisi**	**5.69**	**309**	Pn	**Pn**	**00 08 45.8**	**+2.2**
UPM	**Unac-Piva**	**5.73**	**349**	*e*Pn	Pn	00 08 50.5	+6.3
UPM	**Unac-Piva**	**5.73**	**349**	⇑*i*Pn	**Pn**	**00 08 44.9**	**+0.7**
UPM				*i* Sn	**Sn**	**00 09 47.3**	**-2.5**
PLE	**Pljevlja**	**5.79**	**353**	*e*Pn	**Pn**	**00 08 45.5**	**+0.5**
PLE				*i* Sn	**Sn**	**00 09 47.7**	**-3.5**
ZAPS	**Zavoj**	**5.93**	**16**	*e*Pn	**Pn**	**00 08 48.3**	**+1.4**
IVAS	**Ivanjica**	**5.99**	**358**	*e*Pn	**Pn**	**00 08 47.5**	**-0.2**
RUDO	**Rudo**	**6.08**	**353**	*e*Pn	**Pn**	**00 08 50.2**	**+1.3**
BOVS	**Bovan**	**6.12**	**9**	⇓P	**Pn**	**00 08 52.4**	**+2.9**
GRUS	**Gruza**	**6.30**	**2**	*e*Pn	**Pn**	**00 08 51.8**	**-0.1**
GRUS				*e*Sn	**Sn**	**00 10 02.0**	**-1.6**
BBLS	**Lazi&#263i**	**6.32**	**353**	*e*Pn	**Pn**	**00 08 51.6**	**-0.7**
BBLS				*e*Sn	**Sn**	**00 10 01.7**	**-2.5**
BBLS	**Lazi&#263i**	**6.32**	**353**	*e*Pn	**Pn**	**00 08 53.9**	**+1.6**
DIVS	**Divibare**	**6.51**	**357**	*e*Pn	**Pn**	**00 08 54.1**	**-0.8**
DIVS				*e*Sn	**Sn**	**00 10 05.8**	**-3.2**
HAPS	**Han Pijesak,BI**	**6.59**	**351**	*e*Pn	**Pn**	**00 08 56.3**	**+0.3**
INTR	**Introdacqua**	**6.68**	**313**		**Pn**	**00 08 59.0**	**+1.9**
ELND	**Elena**	**6.78**	**36**	⇓P	**Pn**	**00 09 01.3**	**+2.8**
CAMP	**Campotosto**	**7.29**	**315**		**Pn**	**00 09 08.6**	**+2.9**
HERR	**Herculane**	**7.44**	**11**	⇑P	**Pn**	**00 09 09.5**	**+1.9**
A050A	**Klekovaca**	**7.49**	**338**	*e*Pn	**Pn**	**00 09 09.0**	**+0.7**
BLY	**Banja Luka**	**7.56**	**342**	*e*Pn	**Pn**	**00 09 10.1**	**+0.9**
BLY				*e*Sn	**Sn**	**00 10 30.6**	**-3.9**
BLY	**Banja Luka**	**7.56**	**342**	*e*Pn	**Pn**	**00 09 11.9**	**+2.7**
FRGS	**Fruska Gora**	**7.58**	**357**	*e*Pn	**Pn**	**00 09 08.1**	**-1.4**
ELL	**Elmali**	**7.63**	**93**	Pn	**Pn**	**00 09 09.0**	**-1.4**
NRCA	**Norcia**	**7.65**	**315**	Pn	**Pn**	**00 09 13.3**	**+2.7**
GUMA	**Gualdo di Mace**	**7.69**	**318**	Pn	**Pn**	**00 09 12.6**	**+1.6**
FDMO	**Fiordimonte**	**7.80**	**317**	Pn	**Pn**	**00 09 13.9**	**+1.3**
A051A	**Mrakovica**	**7.87**	**342**	*e*Pn	**Pn**	**00 09 13.2**	**-0.4**
BZS	**Buzias**	**8.07**	**6**	⇓P	Pn	00 09 22.7	+6.4
VOIR		**8.58**	**22**	⇑P	**Pn**	**00 09 26.1**	**+2.8**
MORH	**Mrgy, Hungar**	**8.72**	**352**	⇑P	**Pn**	**00 09 28.7**	**+3.6**
MLR	**Muntele Rosu**	**8.92**	**26**		Pn	00 09 33.2	+5.2
MLR	**Muntele Rosu**	**8.92**	**26**	Pn	**Pn**	**00 09 30.0**	**+2.0**
	comp=E,3.6nm,0.6s,baz=201,slow=14						
MLR	**Muntele Rosu**	**8.92**	**26**	⇑P	**Pn**	**00 09 32.5**	**+4.5**
CRES	**Cresnjevec Ost**	**9.03**	**337**	*e*Pn	**Pn**	**00 09 28.4**	**-0.9**
CEY	**Cerknica**	**9.29**	**333**	*e*Pn	**Pn**	**00 09 35.2**	**+2.2**
PLOR	**Plostina**	**9.48**	**27**	⇓P	**Pn**	**00 09 40.0**	**+4.4**
VRI	**Vrincioaia**	**9.52**	**28**	⇓P	**Pn**	**00 09 39.6**	**+3.5**
SABO	**M.te Sabotino**	**9.80**	**331**		**Pn**	**00 09 44.2**	**+4.2**
OBKA	**Obir**	**9.92**	**336**	*i* Sn	**Sn**	**00 11 29.4**	**-3.4**
	comp=E,5.0nm,0.6s						
OBKA	**Obir**	**9.92**	**336**	*e*Pn	**Pn**	**00 09 41.0**	**-0.7**
SOKA	**Soboth**	**9.92**	**338**	*e*Pn	**Pn**	**00 09 43.3**	**+1.7**
	comp=E,2.1nm,0.5s						
SOKA				*i* Sn	**Sn**	**00 11 26.8**	**-5.9**
	comp=E,2.3nm,0.5s						
KBA	**Koelnbreinsper**	**10.82**	**333**	*i* Sn	**Sn**	**00 11 49.5**	**-5.5**
	comp=E,1.7nm,0.6s						
ABTA	**Abfaltersbach**	**10.86**	**330**	*i* Pn	Pn	00 09 59.9	+5.4
	comp=E,0.9nm,0.6s						
ABTA				*i* Sn	**Sn**	**00 11 52.4**	**-3.4**
	comp=E,4.3nm,0.8s						
VYHS	**Vyhne**	**10.96**	**354**	*e*PN	**Pn**	**00 09 59.1**	**+3.2**
MODS	**Modra-Piesok**	**11.02**	**349**	*e*PN	**Pn**	**00 09 59.0**	**+2.3**
MOA	**Molln**	**11.20**	**338**	*i* Pn	**Pn**	**00 10 03.3**	**+4.2**
	comp=E,0.5nm,0.2s						
MOA				*e*Sn	**Sn**	**00 11 59.1**	**-4.9**
	comp=E,1.2nm,0.3s						
MOA	**Molln**	**11.20**	**338**	*e*Pn	**Pn**	**00 09 59.3**	**+0.2**
BIOA	**Bad Ischl, Aus**	**11.26**	**336**	*i* Pn	Pn	00 10 05.3	+5.5
	comp=E,1.5nm,0.3s						
BIOA				*e*Sn	**Sn**	**00 12 01.4**	**-4.0**
	comp=E,3.0nm,0.5s						
LESA	**Schwarzleotal**	**11.36**	**332**	*e*Pn	Pn	00 10 06.7	+5.3
	comp=E,3.6nm,0.5s						
LESA				*i* Sn	**Sn**	**00 12 05.3**	**-2.7**
	comp=E,2.3nm,0.5s						
DAVOX	**Davos/Dischmat**	**12.05**	**323**	Sn	**Sn**	**00 12 18.3**	**-6.7**
	comp=E,0.2nm,0.3s,baz=330,slow=20,SNR=1.7						
GERES	**GERESS Array B**	**12.26**	**339**	Sn	Sn	00 12 21.2	-8.9
	comp=E,0.3nm,0.3s,baz=148,slow=24,SNR=2.8						
DAVA	**Damuels**	**12.41**	**325**	*i* Pn	**Pn**	**00 10 20.1**	**+4.2**
	comp=E,1.2nm,0.6s						
DAVA				*e*Sn	**Sn**	**00 12 30.8**	**-3.1**
	comp=E,4.8nm,0.7s						
HSUJ	**Al Zarqa**	**14.06**	**108**	P	Pn	00 10 28.5	-10
SWQJ	**Swaqa**	**14.38**	**111**	P	Pn	00 10 32.2	-11
ESDC	**Sonseca Array**	**19.14**	**284**	P	**Pn**	**00 11 45.1**	**+1.9**
	comp=E,1.1nm,0.9s,baz=79,slow=12,SNR=7.3						
HFS	**Hagfors**	**22.97**	**351**	P	**P**	**00 12 24.5**	**+1.2**
	comp=E,2.4nm,0.8s,baz=159,slow=12,SNR=2.2						
	comp=E,2.4nm,0.8s						
EKA	**Eskdalemuir Ar**	**23.86**	**326**	P	**P**	**00 12 32.9**	**+0.7**
	comp=E,2.8nm,0.8s,baz=131,slow=9.7,SNR=3.7						
	comp=E,2.8nm,0.8s						
FINES	**FINESS Array B**	**24.14**	**7**	P	**P**	**00 12 37.1**	**+2.3**
FINES	**FINESS Array B**	**24.14**	**7**	P	**P**	**00 12 36.9**	**+2.2**
	comp=E,4.6nm,0.8s,baz=172,slow=11,SNR=8.9						
	comp=E,4.6nm,0.8s						
NC405	**NORSAR Array S**	**24.18**	**350**	P	**P**	**00 12 37.0**	**+1.9**
NB201	**NORSAR Array S**	**24.18**	**349**	P	**P**	**00 12 39.6**	**+4.5**
NB201				IAmb	IAmb	00 12 54.7	
	comp=Z,8.9nm,1.1s						
NOA	**NORSAR Array B**	**24.18**	**349**	P	**P**	**00 12 37.7**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=153,slow=9.4,SNR=1.3						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.51**	**219**	P	**P**	**00 13 22.5**	**-1.0**
	comp=Z,0.8nm,1.1s,baz=39,slow=8.9,SNR=2.3						
	comp=Z,0.8nm,1.1s						
ARCES	**ARCESS Array B**	**32.13**	**3**	P	**P**	**00 13 46.1**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=189,slow=11,SNR=1.7						
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**42.66**	**53**	P	**P**	**00 15 15.5**	**+0.1**
	comp=Z,0.7nm,0.2s,baz=284,slow=8.5,SNR=1.4						
	comp=Z,0.7nm,0.2s						
MKAR	**Makanchi Array**	**45.69**	**58**	P	**P**	**00 15 38.7**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=280,slow=6.8,SNR=1.7						
	comp=Z,0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**46.15**	**48**	P	**P**	**00 15 42.4**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=282,slow=7.2,SNR=2.1						
	comp=Z,0.5nm,0.3s						

*IDC **13** 00:07:17.4±1.2,27°.95N×65°.81E,h0km,mb3.7/10, mbtmp3.8/10,Error ellipse: s-maj=28.4km s-min=26.4km az=52.0*

ISC 13 00:07:22.4±0.9,**27°.89N**±0°.10×**65°.76E**±0°.09,**h35**km,**n28,** σ1§**82**/47,**mb3.7**/10,**Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**4.84**	**240**	P	**Pn**	**00 08 34.5**	**+1.6**
NGCH	SNR=12						
JASK	**Jask - Hormozg**	**7.33**	**256**	P	**Pn**	**00 09 29.2**	**+1.5**
JLN	**Jalan Bani Buh**	**8.11**	**227**	P	**Pn**	**00 09 17.4**	**-0.3**
JLN				S	**Sn**	**00 10 47.0**	**-1.2**
BIDO	**Bidbid**	**8.14**	**239**	P	**Pn**	**00 09 19.9**	**+1.7**
BIDO				S	**Sn**	**00 10 47.5**	**-1.6**
SMDO	**Samad**	**8.46**	**237**	P	**Pn**	**00 09 23.3**	**+0.6**
SMDO				P	**Pn**	**00 09 23.3**	**+0.6**
SMDO				S	**Sn**	**00 10 52.9**	**-4.2**
SMDO				S	**Sn**	**00 10 52.9**	**-4.2**
HOQ	**Hoqain**	**8.74**	**242**	P	**Pn**	**00 09 26.6**	**+0.2**
	SNR=16						
SHME	**Shamm**	**8.77**	**260**	P	**Pn**	**00 09 28.6**	**+1.8**
SHME				P	**Pn**	**00 09 28.6**	**+1.8**
JMDO	**Jabal Madar**	**8.85**	**233**	P	**Pn**	**00 09 29.1**	**+1.2**
	SNR=22						
JMDO				S	**Sn**	**00 11 04.2**	**-2.2**
UOSS	**Minazif**	**9.05**	**253**	P	**Pn**	**00 09 30.3**	**-0.4**
UOSS				P	**Pn**	**00 09 30.3**	**-0.4**
UOSS				S	**Sn**	**00 11 10.2**	**-1.2**
UOSS				S	**Sn**	**00 11 10.2**	**-1.2**
SOHO	**SOHO**	**9.10**	**248**	P	**Pn**	**00 09 31.5**	**+0.2**
SOHO				S	**Sn**	**00 11 10.1**	**-2.4**
HATD	**Hatta, Dubai**	**9.16**	**253**	P	**Pn**	**00 09 32.8**	**+0.7**
ASHO	**Ashiyiah**	**9.27**	**252**	P	**Pn**	**00 09 35.1**	**+1.3**
	SNR=8.0						
ASHO				S	**Sn**	**00 11 14.9**	**-1.9**
BSY	**Bisya**	**9.28**	**238**	P	**Pn**	**00 09 36.2**	**+2.3**
BSY				P	**Pn**	**00 09 36.2**	**+2.3**
BSY				S	**Sn**	**00 11 16.9**	**-0.2**
BSY				S	**Sn**	**00 11 16.9**	**-0.2**
ARQ	**Araqi**	**9.49**	**244**	P	**Pn**	**00 09 39.7**	**+3.0**
ARQ				S	**Sn**	**00 11 23.7**	**+1.5**
ALNE	**Al Ain**	**9.78**	**249**	P	**Pn**	**00 09 43.6**	**+2.9**
	SNR=31						
ALNE				S	**Sn**	**00 11 29.7**	**+0.4**
MHTO	**MHTO**	**9.88**	**228**	P	**Pn**	**00 09 45.6**	**+3.6**
MZR	**Muzera**	**12.11**	**249**	P	**Pn**	**00 10 13.4**	**+0.8**
MZR				P	**Pn**	**00 10 13.4**	**+0.8**
DOK	**Doka**	**14.11**	**232**	P	**Pn**	**00 10 36.6**	**-3.3**
MKAR	**Makanchi Array**	**22.91**	**30**	P	**P**	**00 12 20.7**	**-2.5**
	1.3nm,0.6s,baz=212,slow=11,SNR=15						
	1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**24.69**	**20**	P	**P**	**00 12 40.4**	**+0.4**
	0.6nm,0.2s,baz=211,slow=8.6,SNR=1.8						
	0.6nm,0.2s						
BVAR	**Borovoye Array**	**25.34**	**7**	P	**P**	**00 12 45.6**	**-0.3**
	1.6nm,0.6s,baz=172,slow=9.7,SNR=11						
	1.6nm,0.6s						
FINES	**FINESS Array B**	**42.66**	**333**	P	**P**	**00 15 15.2**	**-0.1**
	4.9nm,1.0s,baz=128,slow=11,SNR=1.9						
	4.9nm,1.0s						
HFS	**Hagfors**	**47.53**	**328**	P	**P**	**00 15 54.4**	**+0.3**
	0.8nm,0.6s,baz=120,slow=8.5,SNR=1.5						
	0.8nm,0.6s						
ARCES	**ARCESS Array B**	**47.69**	**342**	P	**P**	**00 15 55.2**	**+0.1**
	2.1nm,0.8s,baz=119,slow=9.4,SNR=4.8						
	2.1nm,0.8s						
ESDC	**Sonseca Array**	**57.81**	**301**	P	**P**	**00 17 10.4**	**-0.2**
	0.3nm,0.7s,baz=71,slow=8.3,SNR=2.2						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**61.16**	**270**	P	**P**	**00 17 34.2**	**+0.3**
	0.4nm,1.0s,baz=62,slow=7.6,SNR=2.2						
	0.4nm,1.0s						
WRA	**Warramunga Arr**	**81.59**	**118**	P	**P**	**00 19 38.4**	**+1.4**
	0.3nm,0.6s,baz=318,slow=4.4,SNR=2.0						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**83.32**	**121**	P	**P**	**00 19 45.9**	**-0.2**
	0.3nm,0.6s,baz=308,slow=5.2,SNR=2.5						
	0.3nm,0.6s						

*IDC **13** 00:19:48.9±1.4,34°.15N×83°.78E,h0km,mb3.6/6, mbtmp3.6/8,ML2.8/1

TA02	**Huaiquique**	**1.66 303**		**Pn**	**00 20 54.1**	**+0.3**
TA02			Sn	**Sn**	**00 21 16.0**	**+0.2**
TA02	**Huaiquique**	**1.66 303**	⇑*i*P	**Pn**	**00 20 54.1**	**+0.3**
TA02			*i*S	**Sn**	**00 21 15.5**	**-0.3**
TA02			IAML		00 21 17.6	
	comp=E,8μm,0.1s					
TA02	**Huaiquique**	**1.66 303**	*i*P	**Pn**	**00 20 54.0**	**+0.1**
TA02			*e*S	**Sn**	**00 21 15.7**	**-0.1**
TA02			IAML		00 21 17.2	
	comp=Z,2μm,0.2s					
PB11	**IPOC Station P**	**1.70 326**		**Pn**	**00 20 55.2**	**+0.7**
PB11			Sn	**Sn**	**00 21 17.7**	**+0.6**
PB11	**IPOC Station P**	**1.70 326**	⇑*e*P	**Pn**	**00 20 55.1**	**+0.5**
PB11			*e*S	**Sn**	**00 21 17.2**	**+0.1**
PB11			IAML		00 21 19.3	
	comp=N,5μm,0.3s					
PB11	**IPOC Station P**	**1.70 326**	*i*P	**Pn**	**00 20 55.0**	**+0.5**
PB11			*e*S	**Sn**	**00 21 15.7**	**-1.3**
PB11			IAML		00 21 19.0	
	comp=Z,2μm,0.3s					
PB06	**IPOC Station P**	**1.74 209**		**Pn**	**00 20 55.6**	**+0.5**
PB06			Sn	**Sn**	**00 21 18.4**	**+0.4**
PB06	**IPOC Station P**	**1.74 209**	⇑*e*P	**Pn**	**00 20 55.8**	**+0.7**
PB06			*e*S	**Sn**	**00 21 18.3**	**+0.3**
PB06			IAML		00 21 19.7	
	comp=E,4μm,0.4s					
PB06	**IPOC Station P**	**1.74 209**	*i*P	**Pn**	**00 20 55.6**	**+0.5**
PB06			*e*S	**Sn**	**00 21 18.6**	**+0.6**
PB06			IAML		00 21 19.8	
	comp=Z,1μm,0.3s					
PB04	**IPOC Station P**	**1.80 230**		**Pn**	**00 20 56.0**	**+0.1**
PB04			Sn	**Sn**	**00 21 18.6**	**-0.8**
PB04	**IPOC Station P**	**1.80 230**	*e*P	**Pn**	**00 20 55.9**	**+0.1**
PB04			*i*S	**Sn**	**00 21 18.7**	**-0.6**
PB04			IAML		00 21 27.0	
	comp=N,2μm,0.2s					
PB04	**IPOC Station P**	**1.80 230**	*i*P	**Pn**	**00 20 55.4**	**-0.5**
PB04			*e*S	**Sn**	**00 21 19.6**	**+0.2**
PB04			IAML		00 21 27.0	
	comp=Z,2μm,0.4s					
AF01	**San Pedro de A**	**1.82 166**		**Pn**	**00 20 57.7**	**+1.6**
AF01	**San Pedro de A**	**1.82 166**	*e*P	**Pn**	**00 20 57.7**	**+1.6**
PB15	**IPOC Station P**	**2.16 200**		**Pn**	**00 21 01.0**	**+0.7**
PB15	**IPOC Station P**	**2.16 200**	*e*P	**Pn**	**00 21 01.4**	**+1.1**
PB15			*e*S	**Sn**	**00 21 28.0**	**+0.6**
PB15	**IPOC Station P**	**2.16 200**	*i*P	**Pn**	**00 21 00.8**	**+0.5**
YJA	**Yavi**	**3.08 109**	*i*P	**Pn**	**00 21 14.9**	**+2.4**
AP01	**Chacalluta**	**3.22 330**		**Pn**	**00 21 14.7**	**+0.8**
AP01	**Chacalluta**	**3.22 330**	*e*P	**Pn**	**00 21 14.8**	**+0.8**
AP01	**Chacalluta**	**3.22 330**	*i*P	**Pn**	**00 21 14.1**	**+0.2**
AP01			IAML		00 22 04.4	
	comp=Z,860nm,0.5s					
PB18	**Visviri**	**3.66 348**		**Pn**	**00 21 21.1**	**+0.8**
PB14	**IPOC Station P**	**3.79 205**	Pn	**Pn**	**00 21 22.6**	**+0.7**
PB14	**IPOC Station P**	**3.79 205**	*e*P	**Pn**	**00 21 22.5**	**+0.7**
PB14			IAML		00 22 28.0	
	comp=E,154nm,0.4s					
PB14	**IPOC Station P**	**3.79 205**	*i*P	**Pn**	**00 21 22.2**	**+0.3**
PB14			IAML		00 22 31.7	
	comp=Z,205nm,0.4s					
GO02	**Mina Guanaco**	**4.06 192**	Pn	**Pn**	**00 21 25.3**	**-0.1**
GO02	**Mina Guanaco**	**4.06 192**	*i*P	**Pn**	**00 21 25.2**	**-0.1**
AZAP	**Zapla**	**4.49 133**	*i*P	**Pn**	**00 21 32.4**	**+1.3**
SLA	**San Lorenzo**	**4.56 141**	*i*P	**Pn**	**00 21 34.2**	**+2.1**
SLA			IAML		00 22 31.7	
	comp=Z,15nm,1.5s					
LPAZ	**La Paz**	**4.89 6**		**Pn**	**00 21 38.5**	**+1.5**
LPAZ	**La Paz**	**4.89 6**	P	**Pn**	**00 21 39.0**	**+2.0**
	comp=Z,14nm,0.4s,baz=203,slow=5.4,SNR=37					
LPAZ	**La Paz**	**4.89 6**	*e*P	**Pn**	**00 21 36.3**	**-0.7**
ALOL	**LOMAS DE OLMED**	**5.05 122**	*i*P	**Pn**	**00 21 39.3**	**+0.8**
AC01	**Pan de Azucar**	**5.26 199**		**Pn**	**00 21 39.7**	**-1.6**
AC06	**Mina Casimiro**	**6.34 194**		**Pn**	**00 21 55.8**	**-0.2**
GO03	**Copiapo**	**6.54 192**	Pn	**Pn**	**00 21 57.6**	**-1.1**
FDPY	**Filadelfia**	**8.17 99**	*e*P	**Pn**	**00 22 19.1**	**-1.6**
BBSD	**Serra de San D**	**8.57 64**	*e*P	**Pn**	**00 22 23.5**	**-2.7**
SIV	**San Ignacio**	**8.85 56**	P	**Pn**	**00 22 27.6**	**-2.4**
	comp=Z,34nm,0.5s,baz=249,slow=9.9,SNR=183					
CO01	**Juntas del Tor**	**8.86 188**	Pn	**Pn**	**00 22 28.7**	**-1.5**
GO04	**Tololo Observa**	**9.16 192**	Pn	**Pn**	**00 22 30.8**	**-3.6**
CO03	**El Pedregal**	**9.79 190**		**Pn**	**00 22 38.2**	**-4.5**
MURT	**Porto Murtinho**	**10.30 95**	*e*P	**Pn**	**00 22 46.7**	**-2.8**
PTLB	**Pontes e Lacer**	**10.68 59**	Pn	**Pn**	**00 22 52.6**	**-2.2**
PTLB	**Pontes e Lacer**	**10.68 59**	*e*P	**Pn**	**00 22 51.8**	**-3.0**
BDQN	**Bodoquena, MS**	**11.15 88**	*e*P	**Pn**	**00 22 57.8**	**-3.4**
VILB	**Vilhena**	**11.50 46**	Pn	**Pn**	**00 23 04.4**	**-1.3**
VILB	**Vilhena**	**11.50 46**	*e*P	**Pn**	**00 23 03.5**	**-2.2**
ETMB	**Extrema**	**11.54 12**	Pn	**Pn**	**00 23 05.8**	**-0.5**
CPUP	**Villa Florida**	**11.56 118**	Pn	**Pn**	**00 23 06.7**	**+0.2**
CPUP	**Villa Florida**	**11.56 118**	P	**Pn**	**00 23 04.5**	**-2.1**
	comp=Z,3.0nm,0.8s,baz=304,slow=12,SNR=6.4					
VA03	**San Esteban**	**11.66 188**	Pn	**Pn**	**00 23 08.3**	**+0.5**
AQDB	**Aquidauana**	**12.13 89**	Pn	**Pn**	**00 23 15.9**	**+1.8**
SJPY	**San Joaquin**	**12.16 111**	*e*P	**Pn**	**00 23 12.9**	**-1.5**
MT02	**Curacav**	**12.23 190**		**Pn**	**00 23 14.9**	**-0.4**
LMEL	**Las Melosas**	**12.69 186**	Pn	**Pn**	**00 23 21.4**	**-0.1**
AMBA	**Amambai (Brazi**	**12.79 100**	*e*P	**Pn**	**00 23 21.0**	**-1.7**
MT01	**Popeta**	**12.84 190**		**Pn**	**00 23 22.3**	**-1.0**
BO04	**La Punta**	**12.88 187**	P	**P**	**00 23 31.6**	**+1.5**
SAML	**Samuel**	**13.26 24**	Pn	**Pn**	**00 23 28.9**	**+0.1**
BO01	**Tunca**	**13.34 189**		**Pn**	**00 23 29.7**	**0.0**
SALV	**Santo Antonio**	**13.36 69**	*e*P	**Pn**	**00 23 28.5**	**-1.7**
BO02	**Sierra Bellavi**	**13.69 187**		**Pn**	**00 23 34.5**	**+0.2**
RPRD	**Ribas do Rio P**	**14.00 90**	*e*P	**Pn**	**00 23 36.2**	**-2.1**
ML02	**Panimavida**	**14.73 189**		**Pn**	**00 23 47.7**	**+0.1**
PDRB	**Porto dos Gac**	**14.87 52**	*e*P	**Pn**	**00 23 47.4**	**-2.1**
C2SB	**Chapadao do Su**	**15.06 84**	*e*P	**Pn**	**00 23 49.9**	**-2.0**
BI02	**San Fabin de**	**15.60 188**		**Pn**	**00 23 58.0**	**-0.5**
BI02			IAmb	IAmb	00 23 59.7	
	comp=Z,12nm,0.8s					
PTGB	**Pitanga**	**15.68 106**	*e*P	**Pn**	**00 23 59.6**	**0.0**
CLDB	**Colider**	**16.04 52**	*e*P	**Pn**	**00 24 02.5**	**-1.7**
ITAB	**Concordia**	**16.23 115**	P	**P**	**00 24 07.1**	**-0.2**
ITAB			IAmb	IAmb	00 24 08.4	
	comp=Z,19nm,0.6s					
ITAB	**Concordia**	**16.23 115**	*e*P	**Pn**	**00 24 05.9**	**-0.4**
LDASE	**Londrina, Braz**	**16.38 101**	*e*P	**Pn**	**00 24 06.7**	**-1.6**
CPSB	**Cacapava Do Su**	**16.48 127**	*e*P	**Pn**	**00 24 09.1**	**-0.3**
ARAG	**Araguaiana, MT**	**16.87 74**	*e*P	**Pn**	**00 24 12.6**	**-1.8**
PLTB	**Pedras Altas**	**17.08 131**	P	**P**	**00 24 16.7**	**0.0**
ITRB	**Iturama**	**17.21 88**	*e*P	**P**	**00 24 16.5**	**-1.7**
TRQA	**Tornquist**	**17.78 163**	P	**P**	**00 24 24.7**	**+0.4**
FRTB	**Fartura**	**17.80 100**	*e*P	**P**	**00 24 24.4**	**-0.3**
GO06	**Curarrehue**	**18.50 187**		**Pn**	**00 24 33.9**	**+0.1**
BB19B	**Bebedouro**	**18.77 93**	*e*P	**P**	**00 24 34.2**	**-1.3**
SNDB	**Serra Nova Dou**	**18.97 64**	*e*P	**P**	**00 24 36.5**	**-1.1**
LR05	**Currie**	**19.20 188**	P	**P**	**00 24 39.0**	**-0.8**
LR05			IAmb	IAmb	00 24 42.3	
	comp=Z,20nm,0.8s					
IPMB	**Ipameri, GO**	**19.52 84**	*e*P	**P**	**00 24 42.2**	**-1.4**
MACA	**Manacapuru-AM**	**19.52 24**	P	**P**	**00 24 41.3**	**-2.1**
MACA			IAmb	IAmb	00 24 45.1	
	comp=Z,7.9nm,0.7s					
MACA	**Manacapuru-AM**	**19.52 24**	*e*P	**P**	**00 24 41.9**	**-1.6**
PLCA	**Paso Flores**	**19.56 184**	P	**P**	**00 24 44.6**	**+0.8**
PLCA			IAmb	IAmb	00 24 50.0	
	comp=Z,11nm,0.8s					
PLCA	**Paso Flores**	**19.56 184**	P	**Pn**	**00 24 45.1**	**-1.1**
	comp=Z,8.7nm,0.8s,baz=356,slow=12,SNR=17					
PLCA	**Paso Flores**	**19.56 184**	*e*P	**Pn**	**00 24 45.8**	**-0.4**
RCLB	**Rio Claro- Sao**	**19.65 97**	*e*P	**P**	**00 24 44.0**	**-1.0**
VAO	**Valinhos**	**20.18 99**	P	**P**	**00 24 49.5**	**-1.1**
VAO	**Valinhos**	**20.18 99**	*e*P	**P**	**00 24 49.5**	**-1.1**
BDFB	**Brasilia**	**20.33 78**	P	**P**	**00 24 52.1**	**-0.3**
BDFB			IAmb	IAmb	00 24 52.6	
	comp=Z,8.2nm,0.6s					
BDFB	**Brasilia**	**20.33 78**	P	**P**	**00 24 51.3**	**-1.1**
	comp=Z,6.2nm,0.4s,baz=256,slow=11,SNR=17					
	comp=Z,6.2nm,0.4s					
LL01	**San Ignacio de**	**21.37 188**	P	**P**	**00 25 03.3**	**+0.2**
LL01			IAmb	IAmb	00 25 06.8	
	comp=Z,14nm,0.9s					
DIAM	**Diamantina, MG**	**23.68 87**	*e*P	**P**	**00 25 25.9**	**-0.6**
SMTB	**Santa Maria do**	**23.71 62**	*e*P	**P**	**00 25 26.4**	**-0.3**
JANB	**Januaria**	**23.91 79**	*e*P	**P**	**00 25 26.9**	**-1.6**
SDBA	**SAO DESIDERIO**	**24.32 73**	*e*P	**P**	**00 25 31.8**	**-0.5**
BOAV	**Boa Vista**	**24.75 20**	P	**P**	**00 25 36.7**	**+0.7**
MG03	**Isla Dawson**	**32.64 182**	P	**P**	**00 26 47.5**	**+1.7**
RCBR	**Riachuelo**	**35.20 69**	P	**P**	**00 27 08.4**	**-0.1**
RCBR			IAmb	IAmb	00 27 10.5	
	comp=Z,6.3nm,1.1s					
CELP	**Cerrillos**	**39.07 3**	P	**P**	**00 27 41.9**	**+0.9**
VNA3	**Neumayer Olymp**	**60.30 161**	⇑P	**P**	**00 30 22.3**	**+1.1**
	comp=Z,0.6nm,0.4s					
VNA2	**Neumayer--Watz**	**60.87 161**	⇑P	**P**	**00 30 25.2**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=292,slow=3.7					
SNAA	**Sanae**	**62.50 161**	⇑P	**P**	**00 30 37.2**	**+1.1**
	comp=Z,39nm,0.5s					
SNAA	**Sanae**	**62.50 161**	P	**P**	**00 30 36.8**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=272,slow=8.8,SNR=31					
	comp=Z,1.8nm,0.6s					
DBIC	**Dimbokro**	**68.41 73**	P	**P**	**00 31 14.7**	**-0.3**
	comp=Z,4.4nm,0.6s,baz=222,slow=5.1,SNR=8.7					
	comp=Z,4.4nm,0.6s					
QSPA	**South Pole Qui**	**69.01 180**	P	**P**	**00 31 19.4**	**+1.4**
	comp=Z,2.4nm,0.6s,baz=146,slow=0.8,SNR=7.6					
	comp=Z,2.4nm,0.6s					
PDAR	**Pinedale Array**	**73.96 330**	pP	pP	00 32 19.0	+0.9
	comp=Z,0.4nm,0.7s,baz=129,slow=7.1,SNR=4.4					
TORD	**Torodi Ar. Bea**	**77.02 70**	P	**P**	**00 32 05.8**	**-0.1**
	comp=Z,2.7nm,0.4s,baz=255,slow=5.2,SNR=66					
	comp=Z,2.7nm,0.4s					
MAW	**Mawson**	**84.56 163**	P	**P**	**00 32 46.5**	**+1.5**
	comp=Z,1.7nm,0.5s,baz=225,slow=6.4,SNR=13					
	comp=Z,1.7nm,0.5s					
WRA	**Warramunga Arr**	**133.35 210**	PKP	**PKiKP**	**00 39 29.5**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=158,slow=1.8,SNR=7.5					
ZALV	**Zalesovo Beam**	**141.56 25**	PKP	**PKPdf**	**00 39 43.0**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=318,slow=3.9,SNR=2.1					
MKAR	**Makanchi Array**	**145.24 36**	PKPbc	**PKPab**	**00 39 49.8**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=1.4,slow=3.1,SNR=6.3					
MKAR			pPKP	**pPKPdf**	**00 40 22.4**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=335,slow=3.9,SNR=5.1					
PZH	**PanZhiHua**	**169.74 57**	PKP	**PKPdf**	**00 40 18.1**	**-1.7**

*HEL **13** 00:23:28.8±0.4, 67°.76N×20°.20E, h0km, ML1.2, Suspected explosion*

UPP 13 00:23:28.9±0.0, 67°.82N×20°.21E, h0km, ML2.1, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**20**	P	Pg	00 23 31.9	+0.3
KUA				S	Sg	00 23 34.0	+0.4
RATU	**Laukkuluspa**	**0.23**	**272**	P	Pg	00 23 33.6	+0.2
RATU				S	Sg	00 23 36.9	+0.5
KOVU	**Salmi**	**0.41**	**358**	P	Pg	00 23 36.7	0.0
KOVU				S	Sg	00 23 42.2	+0.3
DUNU	**Dundret**	**0.71**	**169**	P	Pg	00 23 42.3	-0.2
LANU	**Lannavaara**	**0.71**	**70**	P	Pg	00 23 42.4	-0.1
LANU				S	Sg	00 23 52.0	+0.2
LANU	**Lannavaara**	**0.71**	**70**	PG	Pg	00 23 42.4	-0.1
LANU				SG	Sg	00 23 51.6	-0.1
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	00 23 43.6	-0.1
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	00 23 52.2	+0.1
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 23 54.2	-1.0
PAJU	**Pajala**	**1.38**	**124**	PN	Pg	00 23 54.2	-1.1
	baz=303						
PAJU				SN	Sg	00 24 12.7	-0.4
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	00 23 55.3	-0.7
HEF	**Hetta**	**1.42**	**64**	PG	Pn	00 23 54.9	-1.1
	baz=249						
HEF				MSG		00 24 12.3	
	comp=Z,1.6nm,0.2s						
HEF				SN	Sn	00 24 15.3	0.0
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	00 23 56.1	-0.8
ERTU	**Ertsjaerv**	**1.49**	**148**	PN	Pn	00 23 56.0	-0.8
ERTU				SN	Sb	00 24 16.8	0.0
KLF	**Kolari**	**1.56**	**110**	PN	Pn	00 23 57.2	-0.6
KLF				MSG		00 24 15.2	
	comp=Z,1.8nm,0.2s						
KLF				SN	Sg	00 24 18.9	0.0
KTK1	**Kautokeino**	**1.64**	**42**	PG	Pn	00 23 59.0	0.0
KTK1				SN	Sg	00 24 22.9	+1.4
HARU	**Harads**	**1.69**	**169**	P	Pn	00 23 59.9	+0.3
TRO	**Tromso**	**1.88**	**346**	SG	Sb	00 24 28.1	0.0
KALU	**Kalix**	**2.33**	**146**	PG	Pn	00 24 09.5	+1.2
	baz=325						
TOF	**Tornio**	**2.38**	**135**	PG	Pn	00 24 10.5	+1.4
TOF				MSG		00 24 38.2	
	comp=Z,1.1nm,0.2s						
TOF				SG	Sb	00 24 42.1	-0.3
RNF	**Rovaniemi**	**2.57**	**116**	PG	Pn	00 24 13.4	+1.7
RNF				SG	Sb	00 24 47.2	-0.5
KMNF	**Kaamanen**	**2.84**	**59**	PB	Pb	00 24 18.0	-2.3
KMNF				SB	Sn	00 24 52.2	+2.0
RAJF	**Raja-Jooseppi**	**3.10**	**74**	PG	Pb	00 24 25.4	+0.6
RAJF				SG	Sb	00 25 02.4	-0.8
KEV	**Kevo**	**3.15**	**49**	SN	Sn	00 24 59.1	+1.3
RANF	**Ranua**	**3.16**	**122**	PG	Pb	00 24 26.5	+0.6
	baz=310						
OLKF	**Oulanka, Finla**	**3.90**	**108**	PG	Pb	00 24 39.3	+0.9
	baz=294						
KU6	**Riekki**	**4.21**	**111**	PG	Pb	00 24 44.6	+0.8
	baz=298						

DJA 13 00:33:28.1±0.4, 1°N±3°×12°7E±°, h10km, M3.6/7, MLv3.6/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.51**	**186**	P	Pg	00 33 38.3	+0.3
TNTI				S	Sb	00 33 46.6	0.0
LBMI	**Labuha**	**1.91**	**178**	P	Pn	00 34 00.2	-0.5
LBMI				S	Sn	00 34 24.3	-0.5

*IDC **13** 00:41:59.0±1.0, 47°.31N×80°.62E, h0km, mb3.2/1, mbtmp3.2/4, ML2.5/3, Error ellipse: s-maj=18.7km s-min=7.3km az=42.0*

*NNC **13** 00:41:59.0±0.6, 47°.40N×80°.64E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=5.3km s-min=5.1km az=67.0*

*SOME **13** 00:42:00.7, 47°.45N×80°.47E, h5km*

ISC 13 00:41:58.3±0.7, 47°.41N±0°.02×80°.53E±0°.03, h7km±5km, n66, σ2=29/100, 17C-9D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.16**	**121**	⇑P	**Pn**	**00 42 19.2**	**-1.7**
	15nm,0.2s						
MAKZ				⇑S	**Sb**	**00 42 33.0**	**-2.9**
	70nm,0.2s						
MK31	**Makanchi Array**	**1.35**	**117**	⇑P	**Pg**	**00 42 22.9**	**-1.3**
	11nm,0.2s,baz=306,slow=16,SNR=1764						
MK31				S	**Sb**	**00 42 39.2**	**-2.3**
	67nm,0.2s,baz=299,slow=28,SNR=23						
MKAR	**Makanchi Array**	**1.35**	**117**	Pg	**Pg**	**00 42 23.0**	**-1.2**
	34nm,0.3s,baz=299,slow=15,SNR=755						
MKAR				Lg	Lg	00 42 39.2	
	75nm,0.3s,baz=294,slow=29,SNR=47						
KAPS	**Kapalarasan**	**2.28**	**201**	Pg	**Pg**	**00 42 42.1**	**+0.1**
	42nm,0.2s						
KAPS				Lg	Lg	00 43 10.8	
	522nm,0.2s						
KAPS	**Kapalarasan**	**2.28**	**201**	*e*P	**Pg**	**00 42 42.0**	**+0.1**
	42nm,0.2s						
KAPS				*e*S	**Sg**	**00 43 10.8**	**-0.7**
	522nm,0.2s						
TDK	**Taldyqorghan**	**2.83**	**212**	Pg	**Pg**	**00 42 52.9**	**+0.4**
	75nm,0.3s						
TDK				Lg	Lg	00 43 29.0	
	118nm,0.2s						
TDK	**Taldyqorghan**	**2.83**	**212**	*e*P	**Pg**	**00 42 52.9**	**+0.4**
	75nm,0.3s						
TDK				*e*S	**Sg**	**00 43 29.0**	**0.0**
	118nm,0.2s						
ZSN	**Zaisan**	**2.94**	**88**	Pg	**Pg**	**00 42 52.7**	**-2.0**
	16nm,0.4s						
ZSN				Lg	Lg	00 43 28.4	
	38nm,0.6s						
ZSN	**Zaisan**	**2.94**	**88**	*e*P	**Pg**	**00 42 53.2**	**-1.4**
	16nm,0.4s						
ZSN				*e*S	**Sg**	**00 43 31.4**	**-1.3**
	53nm,0.3s						
SEM	**Semipalatinsk**	**3.00**	**357**	Pg	**Pg**	**00 42 56.0**	**+0.3**
SEM				Lg	Lg	00 43 34.7	
SEM	**Semipalatinsk**	**3.00**	**357**	*e*P	**Pg**	**00 42 56.0**	**+0.3**
SEM				*e*S	**Sg**	**00 43 34.7**	**0.0**
DJR	**Jarkent**	**3.13**	**190**	*e*P	**Pg**	**00 42 57.3**	**-0.9**
	2.4nm,0.2s						
DJR				*e*S	**Sg**	**00 43 36.9**	**-1.7**
	101nm,0.4s						
KURBB	**Kurchatov Arra**	**3.47**	**338**	⇓Pn	**Pn**	**00 42 54.1**	**+1.4**
	3.2nm,0.5s						
KURBB				⇑Pg	**Pg**	**00 43 03.3**	**-1.4**
	14nm,0.3s						
KURBB				⇑Sn	**Sb**	**00 43 37.5**	**-4.8**
	31nm,0.6s						
KURBB				⇑Lg	Lg	00 43 52.0	
	216nm,0.6s						
KURBB	**Kurchatov Arra**	**3.47**	**338**	Pn	**Pb**	**00 42 56.0**	**-4.0**
	0.3nm,0.3s,baz=156,slow=13,SNR=17						
KURBB				Pg	**Pg**	**00 43 02.3**	**-2.4**
	1.7nm,0.3s,baz=152,slow=19,SNR=38						
KURBB				Sn	**Sb**	**00 43 37.2**	**-5.2**
	2.2nm,0.3s,baz=160,slow=19,SNR=4.2						
KURBB				Lg	Lg	00 43 49.1	
	4.0nm,0.3s,baz=155,slow=36,SNR=3.2						
	1.2nm,0.3s						
KURK	**Kurchatov**	**3.53**	**340**	⇓Pn	**Pn**	**00 42 50.9**	**-2.6**
	1.1nm,0.4s						
KURK				⇑Pg	**Pg**	**00 43 03.3**	**-2.7**
	3.5nm,0.3s						
KURK				⇓Sn	**Sn**	**00 43 36.8**	**+1.3**
	11nm,0.5s						
KURK				⇑Lg	Lg	00 43 53.7	
	40nm,0.5s						
BLB	**Baldybastay**	**3.62**	**204**	Pg	**Pg**	**00 43 06.4**	**-1.1**
	54nm,0.2s						
BLB				Lg	Lg	00 43 54.0	
	260nm,0.4s						
ARXS	**Arharly**	**3.72**	**212**	Pg	**Pg**	**00 43 08.3**	**-1.2**
	15nm,0.2s						
ARXS				Lg	Lg	00 43 56.9	
	2.8nm,0.5s						
ARXS	**Arharly**	**3.72**	**212**	*e*P	**Pg**	**00 43 08.3**	**-1.2**
	15nm,0.2s						
ARXS				*e*S	**Sg**	**00 43 56.9**	**-0.7**
	2.8nm,0.5s						
KPKS	**Kokpek**	**4.16**	**199**	Pg	**Pg**	**00 43 16.5**	**-1.4**
	12nm,0.3s						
KPKS				Lg	Lg	00 44 09.8	
	89nm,0.3s						
KPKS	**Kokpek**	**4.16**	**199**	*e*P	**Pg**	**00 43 16.5**	**-1.4**
	12nm,0.3s						
KPKS				*e*S	**Sg**	**00 44 09.8**	**-1.9**
	89nm,0.3s						
KURS	**Kuram**	**4.26**	**204**	Pg	**Pg**	**00 43 19.6**	**-0.3**
	7.8nm,0.4s						
KURS				Lg	Lg	00 44 15.2	
	33nm,0.3s						
KURS	**Kuram**	**4.26**	**204**	*e*P	**Pg**	**00 43 19.6**	**-0.3**
	7.8nm,0.4s						
KURS				*e*S	**Sg**	**00 44 15.2**	**+0.1**
	33nm,0.3s						
SHLS	**Shalkode**	**4.32**	**190**	Pg	**Pg**	**00 43 18.0**	**-3.0**
	7.2nm,0.5s						
SHLS				Lg	Lg	00 44 12.2	
	117nm,0.5s						
SHLS	**Shalkode**	**4.32**	**190**	*e*P	**Pg**	**00 43 18.0**	**-3.0**
	7.2nm,0.5s						
SHLS				*e*S	**Sg**	**00 44 12.2**	**-4.9**
	117nm,0.5s						
UZB	**Uzynbulak**	**4.40**	**195**	Pg	**Pg**	**00 43 21.3**	**-1.2**
	4.0nm,0.4s						
UZB				Lg	Lg	00 44 18.0	
	39nm,0.6s						
UZB	**Uzynbulak**	**4.40**	**195**	*e*P	**Pg**	**00 43 21.3**	**-1.2**
	4.0nm,0.4s						
UZB				*e*S	**Sg**	**00 44 18.0**	**-1.5**
	39nm,0.6s						
ZHN	**Zhinishke**	**4.50**	**200**	Pg	**Pg**	**00 43 23.3**	**-1.1**
	4.7nm,0.1s						
ZHN				Lg	Lg	00 44 21.2	
	86nm,0.4s						
ZHN	**Zhinishke**	**4.50**	**200**	*e*P	**Pg**	**00 43 23.3**	**-1.1**
	4.7nm,0.1s						
ZHN				*e*S	**Sg**	**00 44 21.2**	**-1.4**
	86nm,0.4s						
KUU	**Kurty**	**4.59**	**221**	Pg	**Pg**	**00 43 24.2**	**-1.9**
	9.5nm,0.2s						
KUU				Lg	Lg	00 44 23.0	
	44nm,0.3s						
KUU	**Kurty**	**4.59**	**221**	*e*P	**Pg**	**00 43 24.2**	**-1.9**
	9.5nm,0.2s						
KUU				*e*S	**Sg**	**00 44 23.0**	**-2.4**
	44nm,0.3s						
SATY	**Saty**	**4.61**	**200**	Pg	**Pg**	**00 43 24.0**	**-2.5**
	5.3nm,0.2s						
SATY				Lg	Lg	00 44 23.2	
	59nm,0.3s						
SATY	**Saty**	**4.61**	**200**	*e*P	**Pg**	**00 43 24.0**	**-2.5**
	5.3nm,0.2s						
SATY				*e*S	**Sg**	**00 44 23.2**	**-2.9**
	59nm,0.3s						
KNDC	**Almaty**	**4.89**	**212**	⇑Lg	Lg	00 44 35.9	
	48nm,0.6s						
MDOK	**Medeo**	**4.91**	**211**	⇑Pn	**Pn**	**00 43

CHMS			⇑Lg	Lg	00 45 10.5		
	15nm,0.6s						
KBK	**Karagaybulak**	**6.19 222**	P	**Pn**	**00 43 33.5**	**+3.3**	
	SNR=14						
AAK	**Ala-Archa**	**6.41 224**	P	**Pn**	**00 43 36.6**	**+3.3**	
	SNR=8.7						
EKS2	**Erkin-Say**	**6.74 228**	P	**Pn**	**00 43 41.0**	**+3.3**	
	SNR=20						
MRKS	**Merke**	**6.96 231**	Pg	**Pg**	**00 44 08.6**	**-3.0**	
	2.2nm,0.3s						
MRKS			Lg	Lg	00 45 39.0		
	9.2nm,0.4s						
ZALV	**Zalesovo Beam**	**7.08 21**	Pn	**Pn**	**00 43 45.0**	**+2.7**	
	0.8nm,0.3s,baz=207,slow=13,SNR=11						
ZALV			Sn	**Sn**	**00 45 04.2**	**+1.2**	
	2.7nm,0.3s,baz=214,slow=27,SNR=10						
ZALV			Lg	Lg	00 45 40.8		
	1.4nm,0.3s,baz=193,slow=27,SNR=3.7						
	2.3nm,0.3s						
AML	**Almayashu**	**7.18 225**	P	Pn	00 43 48.4	+4.4	
	SNR=10						
KK31	**Karatay Array**	**8.28 242**	⇑Pn	**Pn**	**00 43 60.0**	**+1.3**	
	0.2nm,0.2s,baz=63,slow=12,SNR=5.6						
KK31			⇓Sn	Sn	00 45 42.2	+10	
	0.5nm,0.3s						
KK31			⇑Lg	Lg	00 46 22.7		
	4.3nm,0.5s,baz=49,slow=27,SNR=3.9						
BVA0	**Borovoye Array**	**8.59 315**	⇓Lg	Lg	00 46 30.5		
	3.1nm,0.5s,baz=132,slow=24,SNR=4.0						
BVAR	**Borovoye Array**	**8.59 315**	Pn	**Pn**	**00 44 06.2**	**+3.2**	
	baz=127,slow=11,SNR=6.2						
BVAR			Sn	**Sn**	**00 45 39.4**	**-0.6**	
	0.1nm,0.3s,baz=131,slow=19,SNR=3.5						
BVAR			Lg	Lg	00 46 34.2		
	0.2nm,0.3s,baz=125,slow=30,SNR=3.9						
	0.3nm,0.3s						
BRLS	**Boroldaу**	**8.73 244**	Pg	**Pg**	**00 44 45.0**	**-0.3**	
	0.7nm,0.2s						
BRLS			Lg	Lg	00 46 42.4		
	6.6nm,0.9s						
IUG	**Iuzhnay**	**9.13 239**	Pg	Pn	00 44 48.3	+38	
	9.0nm,1.4s						
IUG			Lg	Lg	00 46 47.5		
	46nm,2.1s						
AB31	**Akbulak array**	**13.82 285**	P	**Pn**	**00 45 14.9**	**+0.5**	
	0.1nm,0.2s,baz=328,slow=7.6,SNR=6.0						
BTO	**Baotou**	**22.19 97**	*e*P	**P**	**00 46 54.2**	**-0.8**	
BTO			pP	**sP**	**00 46 59.1**	**+1.0**	
BTO			sP	**pP**	**00 47 00.8**	**+3.6**	
BTO			PP	**PnPn**	**00 47 19.6**	**+2.5**	
BTO			S	**S**	**00 50 59.2**	**-0.4**	
BTO			SS	**SnSn**	**00 51 35.8**	**+10**	
BTO			pmax	pmax			
	comp=Z,17nm,0.6s						
BTO			pmax	pmax			
	comp=Z,220nm,6.3s						
BTO			LR	LR			
	comp=N,230nm,5.3s						
BTO			LR	LR			
	comp=E,440nm,5.2s						
BTO			LR	LR			
	comp=Z,190nm,7.0s						
TORD	**Torodi Ar. Bea**	**72.90 271**	P	**P**	**00 53 29.2**	**+0.9**	
	comp=Z,0.1nm,0.3s,baz=40,slow=6.0,SNR=1.8						
	comp=Z,0.1nm,0.3s						

IDC ***13*** *00:42:40.6±1.4, 28°.40S×68°.62W, h0km, mb4.0/3, mbtmp3.9/5, ML4.0/2, MS3.0/1, Error ellipse: s-maj=56.3km s-min=29.5km az=116.0*
SJA ***13*** *00:42:43.4±0.8, 28°.32S×68°.65W, h23km±6km, ML4.0, MW4.0*

ISC 13 00:42:40.7±1.3**, 28°.36S**±0°.02×**68°.62W**±0°.03**, h2**km±9km**, n41**, σ1§**56**/68**, mb3.8**/3**, 3C-1D, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiapo**	**1.62**	**298**	⇑*e*P	**Pg**	**00 43 11.6**	**-0.2**
GO03				*e*S	**Sb**	**00 43 32.5**	**+0.2**
GO03	**Copiapo**	**1.62**	**298**	*e*P	**Pg**	**00 43 11.6**	**-0.2**
GO03				*e*S	**Sg**	**00 43 33.2**	**+0.5**
AC06	**Mina Casimiro**	**1.83**	**303**	⇑*e*P	**Pg**	**00 43 15.4**	**-0.5**
AC06				*e*S	**Sg**	**00 43 39.0**	**-0.5**
ACDV	**Cuesta del Vie**	**1.86**	**193**	*e*S	**Sg**	**00 43 41.3**	**+0.8**
ACDV				IAML		00 43 43.3	
	comp=Z,583nm,0.6s						
LCO	**Las Campanas**	**1.94**	**250**	*e*P	**Pb**	**00 43 16.5**	**-0.5**
LCO				*e*S	**Sb**	**00 43 41.8**	**0.0**
LCO				IAML		00 43 49.6	
	comp=Z,3μm,0.4s						
LCO	**Las Campanas**	**1.94**	**250**	*e*P	**Pb**	**00 43 16.6**	**-0.4**
LCO				*e*S	**Sb**	**00 43 42.3**	**+0.5**
LCO				IAML		00 43 48.1	
	comp=Z,1μm,0.7s						
AROD	**Rodeo**	**1.95**	**202**	*e*P	**Pb**	**00 43 17.2**	**0.0**
AROD				*e*S	**Sg**	**00 43 44.4**	**+0.9**
CO01	**Juntas del Tor**	**2.06**	**218**	⇓*e*P	**Pb**	**00 43 19.5**	**+0.4**
CO01				*i* S	**Sb**	**00 43 45.8**	**+0.4**
CO01				IAML		00 43 50.8	
	comp=E,510nm,0.4s						
CO01	**Juntas del Tor**	**2.06**	**218**	*e*P	**Pb**	**00 43 19.7**	**+0.6**
CO01				*e*S	**Sb**	**00 43 46.5**	**+1.1**
AC04	**Llanos de Chal**	**2.17**	**273**	*e*P	**Pb**	**00 43 20.7**	**0.0**
AC04				*e*S	**Sb**	**00 43 47.8**	**-0.3**
AC04				IAML		00 43 51.4	
	comp=N,1μm,0.4s						
AC04	**Llanos de Chal**	**2.17**	**273**	*e*P	**Pb**	**00 43 20.1**	**-0.7**
AC04				*e*S	**Sb**	**00 43 48.9**	**+0.8**
AC04				IAML		00 43 51.2	
	comp=Z,737nm,0.5s						
ACCO	**Cerro Coronel**	**2.26**	**190**	*e*P	**Pb**	**00 43 22.5**	**+0.1**
ACCO				*e*S	**Sb**	**00 43 51.2**	**+0.2**
CYA	**Choya**	**2.48**	**93**	*e*P	**Pb**	**00 43 25.6**	**-0.6**
CYA				*e*S	**Sn**	**00 43 52.0**	**-1.2**
CYA				IAML		00 44 01.6	
	comp=Z,1μm,0.5s						
AVFE	**Valle Fertil**	**2.51**	**156**	*e*P	**Pb**	**00 43 25.1**	**-1.4**
AVFE				*e*S	**Sb**	**00 43 57.5**	**-0.5**
AVFE				IAML		00 44 00.3	
	comp=Z,1μm,0.4s						
DOCA	**Reserva Natura**	**2.61**	**189**	*e*P	**Pb**	**00 43 27.9**	**-0.6**
DOCA				*e*S	**Sn**	**00 43 58.6**	**+1.7**
GO04	**Tololo Observa**	**2.63**	**226**	*e*P	**Pb**	**00 43 28.4**	**-0.3**
GO04				*e*S	**Sb**	**00 44 00.9**	**-0.6**
GO04				IAML		00 44 11.2	
	comp=N,2μm,0.4s						
GO04	**Tololo Observa**	**2.63**	**226**	*e*P	**Pb**	**00 43 27.7**	**-1.0**
CO05	**La Serena**	**2.77**	**235**	*e*P	**Pb**	**00 43 30.4**	**-0.6**
CO05				*e*S	**Sb**	**00 44 04.0**	**-1.4**
CO05				IAML		00 44 11.0	
	comp=N,537nm,0.4s						
AC01	**Pan de Azucar**	**2.82**	**321**	*i* P	**Pb**	**00 43 31.9**	**0.0**
AC01				*i* S	**Sb**	**00 44 08.2**	**+1.4**
AC01				IAML		00 44 12.8	
	comp=E,451nm,0.5s						
AC01	**Pan de Azucar**	**2.82**	**321**	*e*P	**Pb**	**00 43 30.7**	**-1.1**
AC01				*e*S	**Sg**	**00 44 09.8**	**-1.6**
AC01				IAML		00 44 11.3	
	comp=Z,350nm,0.3s						
RTLL	**Cerro Villicun**	**2.96**	**178**	*e*P	**Pb**	**00 43 32.5**	**-1.8**
RTLL				*e*S	**Sn**	**00 44 07.0**	**+2.0**
CO03	**El Pedregal**	**3.06**	**216**	⇑*e*P	**Pb**	**00 43 34.5**	**-1.5**
CO03				*e*S	**Sb**	**00 44 12.4**	**-1.5**
CO03				IAML		00 44 19.5	
	comp=E,597nm,0.3s						
CO03	**El Pedregal**	**3.06**	**216**	*e*P	**Pb**	**00 43 34.4**	**-1.6**
CO03				*e*S	**Sb**	**00 44 13.5**	**-0.4**
CO03				IAML		00 44 26.1	
	comp=Z,269nm,0.9s						
ZON	**Zonda**	**3.18**	**181**	*e*P	**Pb**	**00 43 34.9**	**-3.1**
ZON				*e*S	**Sb**	**00 44 14.1**	**-3.1**
ZON				IAML		00 44 24.9	
	comp=Z,253nm,0.6s						
FSA	**Cafayete**	**3.25**	**47**	*e*P	**Pb**	**00 43 38.4**	**-0.8**
FSA				*e*S	**Sg**	**00 44 26.5**	**+1.4**
GO02	**Mina Guanaco**	**3.30**	**345**	*e*S	**Sb**	**00 44 22.6**	**+1.7**
GO02				IAML		00 44 31.6	
	comp=E,458nm,0.8s						
AHML	**Horco Molle**	**3.31**	**63**	*e*P	**Pb**	**00 43 37.5**	**-2.7**
AHML				*e*S	**Sn**	**00 44 14.3**	**+0.7**
AHML				IAML		00 44 30.5	
	comp=Z,367nm,0.3s						
RTLS	**Leoncito**	**3.48**	**190**	*e*S	**Sb**	**00 44 27.5**	**+1.3**
RTCV	**Cerro Valdivia**	**3.49**	**179**	*e*P	**Pb**	**00 43 40.6**	**-2.8**
VA03	**San Esteban**	**4.70**	**200**	*e*P	**Pn**	**00 43 52.3**	**-0.5**
VA03				*e*S	**Sb**	**00 45 03.8**	**+2.8**
VA03				IAML		00 45 09.6	
	comp=Z,224nm,0.9s						
MRA	**San Martin**	**4.76**	**149**	*e*P	**Pn**	**00 43 56.0**	**+2.4**
MRA				*e*S	**Sb**	**00 45 07.0**	**+4.2**
MRA				IAML		00 45 21.4	
	comp=Z,104nm,0.9s						
MT02	**Curacav**	**5.34**	**203**	*e*P	**Pn**	**00 43 59.0**	**-2.5**
MT02				*e*S	**Sb**	**00 45 22.0**	**+2.5**
MT02				IAML		00 45 38.3	
	comp=Z,92nm,1.1s						
CPUP	**Villa Florida**	**10.24**	**81**	Pn	**Pn**	**00 45 09.6**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=252,slow=7.3,SNR=3.1						
CPUP				Sn	**Sn**	**00 46 59.0**	**-5.3**
	comp=Z,0.7nm,0.3s,baz=252,slow=19,SNR=1.6						
	comp=Z,2.9nm,0.4s						
PLCA	**Paso Flores**	**12.45**	**187**	Lg	Lg	00 49 14.8	
	baz=28,slow=19,SNR=2.0						
PLCA				LR	LR	00 50 11.0	
	comp=Z,68nm,18.9s,baz=339,slow=36						
SIV	**San Ignacio**	**14.15**	**31**	Pn	**Pn**	**00 46 04.1**	**+1.8**
	baz=209,slow=13,SNR=2.1						
	comp=Z,0.8nm,0.8s						
SNAA	**Sanae**	**55.76**	**160**	P	**P**	**00 52 18.3**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=296,slow=9.7,SNR=2.1						
	comp=Z,0.9nm,0.9s						
QSPA	**South Pole Qui**	**61.86**	**180**	P	**P**	**00 53 01.7**	**+0.4**
	comp=Z,0.8nm,0.2s,baz=171,slow=1.6,SNR=4.4						
	comp=Z,0.8nm,0.2s						
TORD	**Torodi Ar. Bea**	**79.49**	**69**	P	**P**	**00 54 49.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=243,slow=4.1,SNR=8.2						
	comp=Z,0.7nm,0.6s						
WRA	**Warramunga Arr**	**127.10**	**207**	PKP	**PKPdf**	**01 01 47.2**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=177,slow=1.7,SNR=1.7						
ZALV	**Zalesovo Beam**	**147.90**	**30**	PKPbc	**PKPbc**	**01 02 26.9**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=313,slow=4.7,SNR=2.2						
MKAR	**Makanchi Array**	**150.75**	**43**	PKPbc	**PKPbc**	**01 02 34.1**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=292,slow=2.8,SNR=4.5						

KRSC 13 00:45:13.5±1.1**, 49°.75N**×**156°.64E, h98**km±16km**, Ml4.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.99**	**340**	*e*P	Pn	00 45 35.0	+1.3
SKR				*e*S	Sn	00 45 50.1	+1.3
PAU	**Pauzhetka**	**1.72**	**4**	*e*P	Pn	00 45 44.6	+2.2
PAU				*e*S	Sn	00 46 06.6	+2.3
KDTR	**Khodutka, Kamc**	**2.25**	**23**	*e*P	Pn	00 45 51.2	+2.0
KDTR				*e*S	Sn	00 46 18.5	+1.9
ASAK	**Asacha**	**2.75**	**16**	*e*P	Pn	00 45 58.2	+2.3
MTVR	**Mutnovka**	**2.90**	**19**	*e*P	Pn	00 46 00.6	+2.6
MTVR				*e*S	Sn	00 46 34.6	+2.4
RUS	**Russkaya**	**2.93**	**23**	*e*P	Pn	00 46 00.2	+1.9
RUS				*e*S	Sn	00 46 33.6	+0.9
GRL	**Gorelyy**	**2.95**	**17**	*e*P	Pn	00 46 01.2	+2.6
GRL				*e*S	Sn	00 46 35.7	+2.5
KRMR	**Karymshinskiy**	**3.22**	**16**	*e*S	Sn	00 46 41.9	+2.3
KOK	**Koryaka**	**3.76**	**19**	*e*P	Pn	00 46 12.1	+2.7
KRER	**Koryakskii**	**3.79**	**20**	*e*P	Pn	00 46 12.3	+2.3
SDLR	**Sedlovina**	**3.80**	**21**	*e*P	Pn	00 46 11.8	+1.8
KRX	**Arik**	**3.83**	**18**	*e*P	Pn	00 46 12.7	+2.3
SPN	**Mys Shipunski**	**3.96**	**31**	*e*S	Sn	00 46 59.2	+1.7

KRNET ***13*** *00:52:14.8±0.1, 39°.50N×72°.23E, h24km, mb3.4*
SOME ***13*** *00:52:17.7, 39°.73N×72°.40E, h0km*
NNC ***13*** *00:52:17.3±2.0, 39°.60N×72°.31E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=15.9km s-min=8.8km az=177.0*

ISC 13 00:52:15.8±0.9**, 39°.47N**±0°.05×**72°.15E**±0°.03**, h22**km±7km**, n52, σ2§54/76, 44C-11D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.27**	**272**	⇑*i*P	**Pb**	**00 52 21.6**	**-0.8**
DRK				⇑*i*S	**Sb**	**00 52 27.1**	**+0.1**
OHH	**Osh**	**1.16**	**25**	⇑*i*P	**Pb**	**00 52 35.4**	**-1.8**
OHH				⇑*i*S	**Sn**	**00 52 50.5**	**-1.4**
BTK	**Batken**	**1.18**	**300**	⇓*e*P	**Pb**	**00 52 37.2**	**-0.3**
BTK				⇓*i*S	**Sb**	**00 52 54.1**	**+1.7**
GAR	**Garm**	**1.50**	**252**	⇑*i*P	**Pb**	**00 52 43.2**	**+0.2**
GAR				⇑*i*S	**Sb**	**00 53 04.1**	**+2.5**
SALK	**Salom-Alik**	**1.90**	**42**	⇑*e*P	**Pb**	**00 52 47.8**	**-2.1**
SALK				⇑*e*S	**Sb**	**00 53 11.9**	**-1.5**
ARSB	**Arslanbob**	**1.96**	**19**	⇑*i*P	**Pb**	**00 52 48.5**	**-2.3**
ARSB				⇑*e*S	**Sb**	**00 53 12.9**	**-1.9**
TRKS	**Terek-Say**	**2.19**	**340**	⇑*i*P	**Pn**	**00 52 51.4**	**+0.3**
TRKS				⇑*i*S	**Sn**	**00 53 18.4**	**+0.8**
ARK	**Arkit**	**2.33**	**357**	⇑*i*P	**Pb**	**00 52 54.2**	**-2.9**
ARK				⇑*i*S	**Sb**	**00 53 22.9**	**-2.6**
ARLS	**Aral**	**2.90**	**34**	⇓*i*P	**Pn**	**00 53 01.4**	**+0.6**
ARLS				⇓*i*S	**Sn**	**00 53 35.6**	**+0.5**
AML	**Almayashu**	**2.90**	**23**	P	Pb	00 53 02.8	-4.3
	SNR=76						
AML	**Almayashu**	**2.90**	**23**	⇑*e*P	**Pn**	**00 53 01.9**	**+0.9**
AML				⇑*i*S	**Sn**	**00 53 36.2**	**+0.8**
MNAS	**Manas**	**3.02**	**5**	⇑*e*P	**Pn**	**00 53 03.8**	**+1.4**
MNAS				⇑*i*S	**Sn**	**00 53 39.4**	**+1.4**
IUG	**Iuzhnay**	**3.12**	**330**	Pg	**Pb**	**00 53 13.6**	**+3.0**
	121nm,0.5s						
IUG				Lg	Lg	00 53 54.5	
	92nm,0.4s						
IUG	**Iuzhnay**	**3.12**	**330**	*e*P	**Pb**	**00 53 13.6**	**+3.0**
	121nm,0.5s						
IUG				*e*S	**Sb**	**00 53 54.2**	**+6.0**
	90nm,0.3s						
UCH	**Uchtor**	**3.28**	**32**	⇑*i*P	**Pn**	**00 53 07.2**	**+0.9**
UCH				⇑*i*S	**Sn**	**00 53 45.3**	**+0.4**
MRKS	**Merke**	**3.37**	**14**	Pg	**Pb**	**00 53 16.9**	**+2.1**
	9.0nm,0.3s						
MRKS				Lg	Lg	00 54 00.3	
	69nm,0.4s						
MRKS	**Merke**	**3.37**	**14**	*e*P	**Pb**	**00 53 17.0**	**+2.1**
	7.4nm,0.3s						
MRKS				*e*S	**Sb**	**00 54 00.2**	**+4.8**
	72nm,0.4s						
EKS2	**Erkin-Say**	**3.42**	**21**	P	Pb	00 53 10.8	-4.8
	SNR=17						
EKS2	**Erkin-Say**	**3.42**	**21**	⇓*i*P	**Pn**	**00 53 09.0**	**+1.2**
EKS2				⇓*i*S	**Sn**	**00 53 48.5**	**+0.8**
CHM	**Chimkent**	**3.44**	**327**	*e*P	Pb	00 53 21.4	+5.4
	48nm,0.4s						
CHM				*e*S	Sb	00 54 07.2	+10
	186nm,0.6s						
NRN	**Naryn**	**3.53**	**55**	⇓*e*P	**Pn**	**00 53 10.0**	**+0.4**
NRN				⇓*i*S	**Sn**	**00 53 50.0**	**-0.8**
AAK	**Ala-Archa**	**3.62**	**29**	P	Pb	00 53 13.4	-5.9
	SNR=6.6						
AAK	**Ala-Archa**	**3.62**	**29**	⇑*i*P	**Pn**	**00 53 11.8**	**+1.1**
AAK				⇑*i*S	**Sn**	**00 53 53.4**	**+0.5**
KBK	**Karagaybulak**	**3.82**	**33**	⇑*i*P	**Pn**	**00 53 14.5**	**+1.1**
KBK				⇑*i*S	**Sn**	**00 53 57.9**	**+0.2**
FRU1	**Bishkek**	**3.82**	**29**	⇑*i*P	**Pn**	**00 53 14.5**	**+1.1**
FRU1				⇑*i*S	**Sn**	**00 53 58.2**	**+0.5**
KK31	**Karatay Array**	**3.83**	**342**	⇑Pn	**Pn**	**00 53 16.1**	**+2.7**
	2.8nm,0.2s,baz=149,slow=12,SNR=83						
KK31				⇑Pg	Pb	00 53 28.3	+5.6
	5.2nm,0.4s,baz=151,slow=14,SNR=6.4						
KK31				⇓Sn	**Sb**	**00 54 03.1**	**-5.6**
	6.1nm,0.3s,baz=146,slow=23,SNR=3.6						
KK31				⇑Lg	Lg	00 54 18.6	
	3.6nm,0.2s						
KKAR	**Karatay Array**	**3.83**	**342**	⇑*i*P	**Pn**	**00 53 15.1**	**+1.7**
KKAR				⇑*i*S	**Sn**	**00 53 59.3**	**+1.5**
BRLS	**Boroldaу**	**3.96**	**335**	Pg	**Pb**	**00 53 25.6**	**+0.7**
	8.3nm,0.4s						
BRLS				Lg	Lg	00 54 14.8	
	8.4nm,0.5s						
BRLS	**Boroldaу**	**3.96**	**335**	*e*P	**Pb**	**00 53 25.6**	**+0.7**
	8.3nm,0.3s						
BRLS				*e*S	**Sb**	**00 54 14.8**	**+2.5**
	7.9nm,0.3s						
CHMS	**Chumysh**	**4.03**	**28**	P	**Pn**	**00 53 18.9**	**+2.7**
	SNR=14						
CHMS	**Chumysh**	**4.03**	**28**	⇑Pn	**Pn**	**00 53 18.8**	**+2.7**
	17nm,0.4s						
CHMS				⇓Sn	**Sb**	**00 54 07.4**	**-7.0**
	9.6nm,0.4s						
CHMS				⇓Lg	Lg	00 54 19.0	
	15nm,0.6s						
CHMS	**Chumysh**	**4.03**	**28**	⇑*i*P	**Pn**	**00 53 17.3**	**+1.1**
CHMS				⇑*i*S	**Sn**	**00 54 02.8**	**+0.1**
ULHL	**Ulahol**	**4.16**	**47**	⇑*i*P	**Pn**	**00 53 19.1**	**+1.0**
ULHL				⇑*i*S	**Sn**	**00 54 05.8**	**-0.4**
USP	**Ospenovka**	**4.18**	**24**	P	**Pn**	**00 53 20.3**	**+2.0**
	SNR=20						
USP	**Ospenovka**	**4.18**	**24**	⇑*e*P	**Pn**	**00 53 19.5**	**+1.2**
USP				⇑*i*S	**Sn**	**00 54 06.7**	**+0.2**
TKM2	**Tokmak 2**	**4.32**	**36**	⇑Pn	**Pn**	**00 53 22.2**	**+2.0**
	2.9nm,0.7s						
TKM2				⇑Pg	**Pb**	**00 53 33.8**	**+2.7**
	2.9nm,0.5s						
TKM2				⇑Lg	Lg	00 54 27.5	
	22nm,0.7s						
TKM2	**Tokmak 2**	**4.32**	**36**	⇑*i*P	**Pn**	**00 53 21.3**	**+1.0**
TKM2				⇑*i*S	**Sn**	**00 54 09.9**	**-0.1**
KST	**Kastek**	**4.58**	**38**	Pg	**Pb**	**00 53 38.3**	**+2.7**
	13nm,0.7s						
KST				Lg	Lg	00 54 36.1	
	28nm,0.5s						
KST	**Kastek**	**4.58**	**38**	*e*P	**Pb**	**00 53 38.2**	**+2.7**
	12nm,0.7s						
KST				*e*S	**Sb**	**00 54 36.1**	**+5.8**
	28nm,0.5s						
DGS	**Degeres**	**4.65**	**35**	Pg	**Pb**	**00 53 38.4**	**+1.8**
	4.8nm,0.5s						
DGS				Lg	Lg	00 54 36.9	
	38nm,0.8s						
MTBS	**Maitube**	**4.87**	**40**	*e*P	Pb	00 53 43.3	+2.9
	1.7nm,0.3s						
MTBS				*e*S	**Sb**	**00 54 45.0**	**+6.3**
	15nm,0.5s						
KRBS	**Karabastau**	**4.98**	**31**	Pg	**Pb**	**00 53 44.0**	**+1.8**
	2.6nm,0.4s						
KRBS				Lg	Lg	00 54 46.1	
	11nm,0.4s						
TNSS	**Tian-Shan**	**5.08**	**44**	Pg	**Pb**	**00 53 45.8**	**+1.7**
	4.3nm,0.3s						
TNSS				Lg	Lg	00 54 48.9	
	10nm,0.4s						
TNSS	**Tian-Shan**	**5.08**	**44**	*e*P	**Pb**	**00 53 45.8**	**+1.7**
	4.7nm,0.4s						
TNSS				*e*S	**Sb**	**00 54 48.9**	**+4.2**
	12nm,0.6s						
MDOK	**Medeo**	**5.21**	**43**	*e*P	**Pb**	**00 53 47.9**	**+1.5**
	9.6nm,0.9s						
MDOK				*e*S	**Sb**	**00 54 52.8**	**+4.3**
	20nm,0.6s						
KUU	**Kurty**	**5.42**	**34**	Pg	**Pb**	**00 53 52.1**	**+2.4**
	2.7nm,0.1s						
KUU				Lg	Lg	00 54 59.9	
	45nm,0.7s						
KUU	**Kurty**	**5.42**	**34**	*e*P	**Pb**	**00 53 52.1**	**+2.4**
	2.7nm,0.1s						
KUU				*e*S	**Sb**	**00 54 59.9**	**+5.7**
	45nm,0.7s						
KURS	**Kuram**	**6.04**	**46**	*e*P	Pb	00 54 04.2	+3.8
	10.0nm,1.5s						
KURS				*e*S	Sb	00 55 20.9	+8.6
	7.5nm,1.1s						
KPKS	**Kokpek**	**6.32**	**49**	*e*P	Pb	00 54 08.5	+3.4
	6.7nm,1.1s						
KPKS				*e*S	Sb	00 55 28.6	+8.2
	11nm,0.8s						
ARXS	**Arharly**	**6.36**	**40**	Pg	Pb	00 54 09.2	+3.5
	2.7nm,0.5s						
ARXS				Lg	Lg	00 55 29.9	
	11nm,0.6s						
ARXS	**Arharly**	**6.36**	**40**	*e*P	Pb	00 54 09.2	+3.5
	2.7nm,0.5s						
ARXS				*e*S	Sb	00 55 29.9	+8.6
	11nm,0.6s						
AB31	**Akbulak array**	**13.09**	**322**	⇑P	**Pn**	**00 55 18.6**	**-1.7**
	0.5nm,0.4s,baz=128,slow=12,SNR=27						

JMA ***13*** *01:20:22.2±0.2, 35°.7N±0°.6×140°.0E±0°.8, h69km±1km, MV2.7/29, CENTRAL CHIBA PREF*

ISC 13 01:20:23.0±1.3**, 35°.63N**±0°.05×**140°.01E**±0°.06**, h70**km**, n11, σ1§00/15, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.26**	**144**	P	**Pn**	**01 20 33.9**	**0.0**
JCN				*e*S	**Sn**	**01 20 43.2**	**+1.4**
BSO3	**Boso 3**	**0.92**	**154**	*e*S	**Sn**	**01 20 53.3**	**+0.3**
JAG	**Ashikaga**	**0.92**	**330**	P	**Pn**	**01 20 39.7**	**-0.8**
JAG				*e*S	**Sn**	**01 20 52.5**	**-0.9**
JRY	**Ryogami san**	**0.98**	**294**	P	**Pn**	**01 20 41.4**	**+0.1**
JIM2	**Oshima 3**	**1.02**	**208**	P	**Pn**	**01 20 40.4**	**-1.5**
JIM2				*e*S	**Sn**	**01 20 54.8**	**-1.1**
JYN	**Shimob**	**1.21**	**264**	*e*P	**Pn**	**01 20 43.6**	**-0.6**
JYN				*e*S	**Sn**	**01 21 00.1**	**+0.1**
MAJO	**Matsushiro**	**1.73**	**303**	P	**Pn**	**01 20 51.5**	**+0.5**
JGF	**Kuroka**	**2.17**	**270**	P	**Pn**	**01 20 59.0**	**+2.1**
JMM	**Marumori**	**2.32**	**15**	P	**Pn**	**01 20 59.0**	**0.0**
JHJ2	**Mitsune**	**2.51**	**184**	P	**Pn**	**01 21 01.9**	**+0.3**
JSD	**Sado**	**2.79**	**330**	P	**Pn**	**01 21 05.0**	**-0.3**

IDC ***13*** *01:21:41.7±1.0, 24°.08N×109°.18W, h0km, mb4.0/5, mbtmp4.1/11, ML3.2/5, MS3.8/49, Error ellipse: s-maj=18.5km s-min=11.4km az=1.0*
MEX ***13*** *01:21:42.8±1.2, 24°.13N×109°.16W, h18km±16km, MD4.4*
NEIC ***13*** *01:21:42.3±1.9, 24°.16N±0°.10×109°.08W±0°.08, h10km±1km, mb4.3/121, Error ellipse: s-maj=18.2km s-min=9.3km az=150.0*
GCMT ***13

CSIG *eS* **Sn** **01 22 53.3 -3.8**
NE80 Navojoa 2.66 357 *eP* **Pn** **01 22 24.9 +0.3**
NE80 IAML 01 23 32.6
comp=E,443nm,0.9s
NE77 Loreto B.C.S 2.72 311 *eP* **Pn** **01 22 24.3 -1.0**
PDIG Papasquiaro 3.44 76 **Pn** **01 22 35.9 +0.3**
PDIG **Sn** **01 23 11.1 -5.8**
PDIG Papasquiaro 3.44 76 *eP* **Pn** **01 22 35.9 +0.3**
PDIG *eS* **Sn** **01 23 11.1 -5.8**
HPIG 4.08 48 Pn **Pn** **01 22 44.9 +0.5**
BCIG La Boquilla 4.66 44 **Pn** **01 22 53.1 +0.9**
BCIG La Boquilla 4.66 44 *eP* **Pn** **01 22 53.1 +0.9**
ZAIG Zacatecas 6.16 102 Pn **Pn** **01 23 11.7 -1.1**
TX31 Lajitas Ar. Si 7.01 42 Pn **Pn** **01 23 25.3 +0.9**
TXAR Lajitas Array 7.01 42 Pn **Pn** **01 23 26.6 +2.2**
TXAR Lajitas Array 7.01 42 Pn **Pn** **01 23 25.1 +0.7**
comp=E,0.8nm,0.3s,baz=219,slow=13,SNR=17
TXAR Sn **Sn** **01 24 43.1 -1.5**
comp=E,3.1nm,0.3s,baz=312,slow=32,SNR=10
TXAR Lg Lg 01 25 17.8
comp=E,0.8nm,0.3s,baz=221,slow=30,SNR=2.5
TXAR LR LR 01 26 37.5
comp=E,234nm,21.9s,baz=220,slow=41
VHRN Van Horn 7.46 28 Pn **Pn** **01 23 32.9 +2.2**
DUN6 Lazy B Ranch 8.28 360 Pn **Pn** **01 23 41.4 -0.5**
121A Cookes Peak, D 8.34 8 Pn **Pn** **01 23 42.8 +0.1**
833A Chaparral WMA, 9.59 63 Pn **Pn** **01 23 59.4 -0.4**
HNDO Hondo 10.21 57 Pn **Pn** **01 24 08.3 0.0**
BLYC Blythe 10.60 335 Pn **Pn** **01 24 16.2 +2.6**
ANMO Albuquerque 10.91 11 Pn **Pn** **01 24 21.7 +3.7**
ANMO Albuquerque 10.91 11 Pn **Pn** **01 24 21.9 +3.9**
comp=E,0.1nm,0.3s,baz=173,slow=9.8,SNR=9.8
ANMO Lg Lg 01 27 27.5
comp=E,0.1nm,0.3s,baz=114,slow=20,SNR=1.3
comp=E,3.7nm,1.0s
MSTX Muleshoe 11.15 28 Pn **Pn** **01 24 19.6 -1.6**
PFO Pinyon Flats O 11.35 327 Pn Pn 01 24 29.4 +5.4
comp=E,0.1nm,0.3s,baz=164,slow=15,SNR=1.8
PFO LR LR 01 28 41.7
comp=E,225nm,18.9s,baz=150,slow=37
comp=E,2.6nm,1.0s
WUAZ Wupatki 11.41 350 Pn **Pn** **01 24 27.1 +2.2**
W13A Hualapai Mount 11.59 340 **Pn** **01 24 28.9 +1.5**
DKNS Dickens 11.79 35 Pn **Pn** **01 24 30.9 +1.0**
APMT Aspermont 11.98 39 Pn **Pn** **01 24 32.1 -0.4**
435B Jarrell 12.10 55 Pn **Pn** **01 24 33.9 -0.2**
U15A North Rim 12.46 348 Pn Pn 01 24 45.9 +6.6
MVCO Mesa Verde 12.94 2 Pn **Pn** **01 24 49.4 +3.6**
SHPR Sheep Range 13.30 338 Pn Pn 01 24 56.4 +5.8
T25A Trinidad 13.46 16 Pn Pn 01 24 58.4 +5.5
HMU Henry Mountain 13.73 354 Pn Pn 01 25 01.4 +4.8
MTPU Mount Pierson 14.01 350 Pn **P** **01 25 06.3 -2.3**
MSU Marysvale 14.47 350 Pn **Pn** **01 25 11.3 +4.6**
Q16A Castle Valley 14.74 354 **P** **01 25 15.5 -1.1**
GMN Gold Mountain 14.78 334 **P** **01 25 16.0 -1.2**
PSUT Pine Spring 14.81 345 **P** **01 25 17.6 +0.1**
SRU San Rafael Swe 14.87 356 Pn **Pn** **01 25 14.2 +2.0**
Q24A Divide 15.05 12 Pn **Pn** **01 25 14.8 +0.1**
Q24A IAmb IAmb 01 25 26.2
comp=Z,17nm,1.0s
CMIG Matias Romero 15.06 116 Pn **Pn** **01 25 16.0 +1.3**
baz=320,slow=10,SNR=5.0
CMIG LR LR 01 30 54.9
comp=Z,774nm,20.4s,baz=286,slow=37
comp=Z,6.2nm,1.2s
R11B Troy Canyon, C 15.11 340 Pn **Pn** **01 25 16.5 +1.1**
R11B IAmb IAmb 01 25 22.9
comp=Z,16nm,1.4s
TMUT Trail Mountain 15.12 354 Pn **Pn** **01 25 16.7 +1.1**
TMUT IAmb IAmb 01 25 26.9
comp=Z,16nm,1.2s
DSP Deep Springs 15.14 332 Pn **Pn** **01 25 16.6 +1.1**
MZP Montezuma Peak 15.18 334 Pn **Pn** **01 25 18.3 +2.0**
P17A Butcher Ranch, 15.25 355 Pn **Pn** **01 25 17.3 +0.1**
P17A IAmb IAmb 01 25 24.6
comp=Z,24nm,1.2s
P18A Preston Nutter 15.37 357 Pn **Pn** **01 25 21.7 +2.8**
P18A IAmb IAmb 01 25 29.8
comp=Z,35nm,1.2s
TPH Tonopah 15.44 335 Pn **Pn** **01 25 22.4 +2.7**
Q12A Willow Creek R 15.54 343 Pn **Pn** **01 25 23.0 +2.1**
ISCO Idaho Springs 15.78 10 Pn **Pn** **01 25 25.9 +1.6**
ISCO IAmb IAmb 01 25 34.8
comp=Z,28nm,1.3s
OMMB Old Mammoth Mi 15.80 330 Pn **Pn** **01 25 26.1 +1.6**
O20A White River Ci 15.86 2 Pn **Pn** **01 25 27.2 +2.0**
O20A IAmb IAmb 01 25 41.7
comp=Z,54nm,1.3s
DEOK Depew 15.87 40 Pn **Pn** **01 25 26.6 +1.5**
DEOK IAmb IAmb 01 25 45.8
comp=Z,50nm,1.2s
NLU North Lily Min 15.87 352 Pn **Pn** **01 25 26.0 +0.7**
MPU Maple Canyon 15.87 353 Pn **Pn** **01 25 27.9 +2.6**
MPU IAmb IAmb 01 25 41.8
comp=Z,27nm,1.4s
LHV Little Huntoon 16.11 332 **P** **01 25 31.7 +0.2**
NV11 Mina Array Sit 16.12 333 **P** **01 25 32.1 +0.2**
NVAR Mina Array Bea 16.17 333 **Pn** **01 25 31.9 +2.6**
NVAR Mina Array Bea 16.17 333 Pn **P** **01 25 34.6 +2.0**
comp=Z,0.1nm,0.3s,baz=161,slow=12,SNR=2.8
NVAR LR LR 01 31 54.7
comp=Z,240nm,19.5s,baz=150,slow=38
comp=Z,8.6nm,1.0s
DUG Dugway, Tooele 16.21 350 Pn **Pn** **01 25 30.8 +1.1**
RDMU Red Mountain 16.29 359 Pn **Pn** **01 25 32.4 +1.6**
RDMU IAmb IAmb 01 25 39.8
comp=Z,32nm,1.3s
JLU Jordanelle 16.43 354 Pn **Pn** **01 25 34.7 +2.1**
CBKS Cedar Bluff 16.55 26 **Pn** **01 25 36.2 +2.3**
CTU Camp Tracy 16.55 353 **Pn** **01 25 36.5 +2.4**
CTU IAmb IAmb 01 25 41.2
comp=Z,34nm,1.3s
KVN Kaiserville 16.62 335 **Pn** **01 25 37.4 +2.3**
WAKR Walker 16.73 331 **P** **01 25 39.2 +0.6**
BRIGG Briggsdale 16.77 13 **P** **01 25 39.5 +0.4**
BRIGG IAmb IAmb 01 25 45.8
comp=Z,27nm,1.0s
CMB Columbia Colle 16.79 328 **Pn** **01 25 39.1 +2.1**
N23A Red Feather La 16.81 8 Pn **Pn** **01 25 38.9 +1.5**
TCUT Toone Canyon 16.94 354 IAmb IAmb 01 25 46.3
comp=Z,32nm,1.1s
MIAR Mount Ida 16.95 49 Pn **Pn** **01 25 39.9 +1.0**
BGU Big Grassy Mou 16.96 350 IAmb IAmb 01 25 52.4
comp=Z,31nm,1.4s
YERR Yerington 17.04 332 IAmb IAmb 01 25 59.1
comp=Z,30nm,1.5s
ELK Elko 17.25 344 Pn **Pn** **01 25 44.1 +1.2**
ELK Elko 17.25 344 P **P** **01 25 46.0 +1.5**
comp=Z,0.1nm,0.3s,baz=184,slow=8.8,SNR=21
comp=Z,8.1nm,1.0s
PNTR Pine Nut 17.28 331 **Pn** **01 25 45.0 +1.7**
HWUT Hardware Ranch 17.44 354 Pn **Pn** **01 25 46.0 +0.8**
HWUT IAmb IAmb 01 25 51.9
comp=Z,38nm,1.1s
PD31 Pinedale Array 18.48 359 P **P** **01 25 59.2 +1.2**
PD31 IAmb IAmb 01 26 03.1
comp=Z,35nm,1.2s
PDAR Pinedale Array 18.48 359 P **Pn** **01 25 59.9 +1.8**
PDAR Pinedale Array 18.48 359 P **Pn** **01 26 01.5 +3.4**
comp=Z,22nm,1.1s,baz=162,slow=10,SNR=74
PDAR LR LR 01 33 25.8
comp=Z,155nm,21.9s,baz=186,slow=38
K22A Casper 18.48 6 P **Pn** **01 25 59.3 +1.3**
AHID Auburn Hatcher 18.55 355 P **Pn** **01 26 00.4 +1.5**
AHID IAmb IAmb 01 26 04.7
comp=Z,42nm,1.5s
FCAR Ozark Folk Cen 18.68 48 P **P** **01 26 00.0 0.0**
FCAR IAmb IAmb 01 26 01.1
comp=Z,23nm,1.3s
S39A Bolivar 19.00 41 P **P** **01 26 04.1 +0.6**
S39A IAmb IAmb 01 26 33.1
comp=Z,18nm,1.2s
SNOW Snow King Moun 19.22 356 P **Pn** **01 26 08.4 +1.3**
SNOW IAmb IAmb 01 26 16.5
comp=Z,21nm,1.1s
TPAW Teton Pass 19.26 356 P **P** **01 26 07.7 +1.0**
TPAW IAmb IAmb 01 26 20.9
comp=Z,19nm,1.1s
MGMO Mountain Grove 19.32 44 P **P** **01 26 07.0 -0.1**
FXWY Fox Creek 19.41 356 P **Pn** **01 26 10.7 +1.3**
FXWY IAmb IAmb 01 26 16.1
comp=Z,21nm,1.4s
LCAR Lake Charles 19.44 49 P **P** **01 26 08.2 -0.2**
MOOW Moose Ponds 19.50 356 P **P** **01 26 10.3 +1.0**
HATC Hat Creek Radi 19.51 331 P **P** **01 26 10.6 +1.3**
HATC IAmb IAmb 01 26 26.3
comp=Z,35nm,1.1s
HLID Hailey 19.76 348 P **Pn** **01 26 14.2 +0.7**
HLID IAmb IAmb 01 26 33.9
comp=Z,18nm,1.4s
WVOR Wild Horse Val 19.80 339 P **Pn** **01 26 14.8 +0.9**
WVOR IAmb IAmb 01 26 20.6
comp=Z,23nm,1.4s
FLWY Flaggs Ranch 19.84 357 P **P** **01 26 14.3 +1.5**
MFID Camas Ranch 19.91 345 P **Pn** **01 26 15.7 +0.5**
R40A Maddies Statio 20.02 42 P **P** **01 26 16.1 +1.4**
R40A IAmb IAmb 01 26 27.1
comp=Z,14nm,1.0s
KMRM Mail Ridge 20.13 326 P **P** **01 26 11.8 -4.2**
KMRM IAmb IAmb 01 26 36.1
comp=Z,15nm,0.9s
H17A Grant Village 20.14 357 P **P** **01 26 16.7 +0.4**
H17A IAmb IAmb 01 26 33.4
comp=Z,26nm,1.2s
RSSD Black Hills 20.25 11 P Pn 01 26 19.6 +0.3
RSSD IAmb IAmb 01 26 25.4
comp=Z,14nm,1.1s
YMR Madison River 20.43 356 P **P** **01 26 19.9 +0.5**
YMR IAmb IAmb 01 26 35.9
comp=Z,19nm,1.2s
YNR Norris Junctio 20.46 357 P **P** **01 26 20.2 +0.4**
YNR IAmb IAmb 01 26 32.5
comp=Z,25nm,1.2s
YMP Mirror Lake Pl 20.47 358 P **P** **01 26 21.8 +2.0**
YHB Horse Butte 20.53 356 P **P** **01 26 20.3 -0.2**
YHB IAmb IAmb 01 26 31.6
comp=Z,17nm,1.3s
YHH Holmes Hill 20.55 356 P **P** **01 26 22.5 +1.7**
J08A Circle Bar Ran 20.57 340 P **P** **01 26 19.8 -1.0**
J08A IAmb IAmb 01 26 30.2
comp=Z,22nm,1.2s
KHMM Horse Mountain 20.63 327 P **P** **01 26 21.9 +0.4**
KHMM IAmb IAmb 01 26 27.0
comp=Z,17nm,1.1s
YHL Hebgen Lake 20.63 356 P **P** **01 26 22.0 +0.4**
YHL IAmb IAmb 01 26 30.5
comp=Z,17nm,1.2s
YNE Yellowstone No 20.73 358 P **P** **01 26 22.2 -0.5**
YNE IAmb IAmb 01 26 38.2
comp=Z,16nm,1.0s
JCC Jacoby Creek, 20.73 326 P **P** **01 26 22.6 +0.1**
JCC IAmb IAmb 01 26 36.4
comp=Z,20nm,1.2s
YBH Yreka Blue Hor 20.81 330 P **P** **01 26 25.0 +1.6**
comp=Z,0.4nm,0.5s,baz=146,slow=10,SNR=2.4
YBH LR LR 01 34 05.8
comp=Z,109nm,20.4s,baz=170,slow=36
RLMT Red Lodge 20.83 360 P **P** **01 26 23.6 -0.2**
RLMT IAmb IAmb 01 26 43.4
comp=Z,23nm,1.3s
KRPM Rodgers 20.99 327 P **P** **01 26 24.8 -0.5**
KRPM IAmb IAmb 01 26 42.3
comp=Z,23nm,1.0s
KRMB Red Mountain 21.21 328 P **P** **01 26 28.9 +1.2**
KRMB IAmb IAmb 01 26 41.1
comp=Z,12nm,1.0s
DLMT Dillon 21.26 353 P **P** **01 26 29.9 +1.7**
DLMT IAmb IAmb 01 26 47.0
comp=Z,14nm,1.1s
BOZ Bozeman (W) 21.41 355 P **P** **01 26 31.1 +1.3**
KSXB Camp Six Broad 21.43 329 P **P** **01 26 30.2 +0.1**
J05D Fort Rock, OR 21.47 335 P **P** **01 26 29.6 -0.9**
J05D IAmb IAmb 01 26 49.5
comp=Z,15nm,1.3s
PLID Pearl Lake 21.54 347 P **P** **01 26 32.5 +1.1**
BMO Blue Mountains 21.62 344 P **P** **01 26 33.1 +1.0**
SUSD Miller 21.78 20 P **P** **01 26 33.6 -0.1**
WVT Waverly 21.80 52 P **P** **01 26 34.8 +0.8**
WVT IAmb IAmb 01 26 45.7
comp=Z,12nm,0.9s
I05D Terrebonne, OR 22.41 336 P **P** **01 26 41.3 +0.8**
I05D IAmb IAmb 01 26 46.1
comp=Z,23nm,1.3s
LAO LASA Array 22.51 5 P **P** **01 26 42.4 +0.8**
T47A Sharon Grove 22.72 51 IAmb IAmb 01 26 55.8
comp=Z,14nm,1.0s
FPAL Fort Paine 22.83 58 IAmb IAmb 01 26 56.8
comp=Z,9.3nm,0.8s
MSO Missoula 22.87 351 IAmb IAmb 01 27 00.1
comp=Z,13nm,1.1s
OVMT Ovando 22.99 353 P **P** **01 26 46.9 +0.2**
EGMT Eagleton 23.74 359 P **P** **01 26 54.0 -0.1**
CPCT Cooper Cave 23.99 57 P **P** **01 26 56.0 -0.6**
GOGA Godfrey 24.18 62 IAmb IAmb 01 27 04.1
comp=Z,10nm,1.0s
T50A Nancy 24.36 53 P **P** **01 27 01.3 +1.2**
TKL Tuckaleechee C 24.63 57 LR LR 01 37 35.0
comp=Z,476nm,19.7s,baz=253,slow=38
LON Longmire 24.67 339 IAmb IAmb 01 27 15.1
comp=Z,6.9nm,0.8s
NEW Newport 24.81 347 IAmb IAmb 01 27 16.8
comp=Z,5.4nm,0.8s
NEW Newport 24.81 347 P **P** **01 27 05.8 +1.8**
comp=Z,5.5nm,1.1s,baz=172,slow=9.2,SNR=5.0
NEW LR LR 01 38 08.5
comp=Z,183nm,19.4s,baz=173,slow=40
comp=Z,5.5nm,1.1s
S51A Beattyville 25.52 52 P **P** **01 27 09.8 -0.7**
JTS Las Juntas de 26.83 117 LR LR 01 36 51.9
comp=Z,194nm,20.1s,baz=308,slow=34
ULM Lac du Bonnet 27.92 18 LR LR 01 38 12.1
comp=Z,192nm,20.8s,baz=177,slow=35
BBB Bella Bella 31.45 337 LR LR 01 41 09.2
comp=Z,171nm,20.1s,baz=178,slow=37
SADO Sadowa 31.78 42 LR LR 01 41 33.5
comp=Z,426nm,18.1s,baz=245,slow=37
DLBC Dease Lake 37.28 342 LR LR 01 45 09.8
comp=Z,238nm,18.4s,baz=152,slow=38
YKA Yellowknife Ar 38.42 356 P **P** **01 29 05.7 +2.5**
comp=Z,1.7nm,0.9s,baz=171,slow=8.0,SNR=2.4
YKA LR LR 01 47 31.4
comp=Z,248nm,18.8s,baz=143,slow=40
comp=Z,1.7nm,0.9s
ROSC El Rosal 38.60 114 LR LR 01 46 02.4
comp=Z,176nm,21.4s,baz=352,slow=38
SDV Santo Domingo 39.73 106 P **P** **01 29 14.7 -0.3**
SDV Santo Domingo 39.73 106 LR LR 01 48 19.4
comp=Z,154nm,19.1s,baz=323,slow=40
SJG San Juan 40.37 90 LR LR 01 47 53.6
comp=Z,67nm,19.5s,baz=254,slow=39
BAUV El Baul 41.98 104 P **P** **01 29 33.4 0.0**
SCHQ Schefferville 43.61 34 LR LR 01 48 59.8
comp=Z,284nm,18.3s,baz=224,slow=37
TAOE Nuku Hiva Isla 44.74 226 *eLR* LR 01 42 08.9
comp=Z,236nm,27.5s
KDAK Kodiak Island 45.62 329 LR LR 01 47 48.9
comp=Z,49nm,20.1s,baz=331,slow=34
INK Inuvik 46.53 348 P **P** **01 30 10.2 +1.1**
INK Inuvik 46.53 348 LR LR 01 50 51.4
comp=Z,204nm,19.4s,baz=208,slow=38
ILAR Eielson Array 47.31 339 P **P** **01 30 17.9 +2.6**
comp=Z,1.1nm,0.9s,baz=158,slow=7.0,SNR=9.8
ILAR LR LR 01 51 12.6
comp=Z,111nm,18.1s,baz=101,slow=37
comp=Z,1.1nm,0.9s
F28M Old Crow 47.35 345 P **P** **01 30 16.9 +1.2**
CZSB Cruzeiro do Su 47.64 127 P **P** **01 30 18.0 -0.5**
A36M Sachs Harbour 48.64 353 P **P** **01 30 26.9 +1.4**
RES Resolute Bay 51.04 5 LR LR 01 52 35.6
comp=Z,133nm,18.0s,baz=196,slow=36
BOAV Boa Vista 51.64 107 P **P** **01 30 48.4 -0.7**
ETMB Extrema 53.83 124 P **P** **01 31 03.7 -1.5**
ETMB IAmb IAmb 01 31 05.7
comp=Z,2.8nm,0.8s
LPAZ La Paz 56.75 131 P **P** **01 31 27.8 +0.8**
comp=Z,2.2nm,1.0s,baz=359,slow=11,SNR=3.7
LPAZ LR LR 01 53 01.8
comp=Z,70nm,20.9s,baz=338,slow=33
comp=Z,2.2nm,1.0s
PPT Papeete 57.34 227 LR LR 01 50 34.6
comp=Z,16nm,18.6s,baz=17,slow=30
PPT2 Papeete2 57.35 227 *eLR* LR 01 48 06.2
comp=Z,187nm,30.2s
PPT2 *eLR* LR 01 48 13.2
comp=Z,277nm,26.8s
MDP Montagnes des 57.40 100 LR LR 01 59 45.1
comp=Z,49nm,18.8s,baz=277,slow=40
TBI Tubuai 61.44 223 *eLR* LR 01 50 00.7
comp=Z,478nm,27.0s
H03N2 Juan Fernandez 64.15 152 T T 02 41 55.1
baz=331,slow=77
H03N1 Juan Fernandez 64.16 152 T T 02 42 03.6
baz=331,slow=77
H03N3 Juan Fernandez 64.16 152 T T 02 42 01.2
baz=331,slow=77
RAR Rarotonga 66.88 232 LR LR 01 52 58.8
comp=Z,111nm,21.6s,baz=65,slow=28
BDFB Brasília 71.57 117 LR LR 02 05 58.7
comp=Z,66nm,19.3s,baz=321,slow=37
SPITS Spitsbergen Ar 73.12 10 LR LR 02 05 43.2
comp=Z,143nm,20.3s,baz=278,slow=36
PLCA Paso Flores 73.90 150 P **P** **01 33 19.0 +1.8**
comp=Z,2.1nm,1.1s,baz=350,slow=7.3,SNR=3.0
comp=Z,2.1nm,1.1s
RCBR Riachuelo 77.19 102 LR LR 02 10 28.1
comp=Z,20nm,18.3s,baz=252,slow=38
ARCES ARCESS Array B 80.97 15 LR LR 02 10 36.3
comp=Z,42nm,20.9s,baz=319,slow=36
YAK Yakutsk 82.13 336 LR LR 02 13 09.5
comp=Z,28nm,18.6s,baz=29,slow=38
MSVF Nonsavu 82.38 247 LR LR 02 01 48.9
comp=Z,84nm,21.1s,baz=48,slow=29
NOA NORSAR Array B 82.38 25 LR LR 02 10 00.7
comp=Z,52nm,20.0s,baz=310,slow=35
HFS Hagfors 83.91 25 LR LR 02 11 07.2
comp=Z,52nm,19.4s,baz=304,slow=35
ESDC Sonseca Array 85.65 48 LR LR 02 09 50.2
comp=Z,128nm,21.6s,baz=293,slow=34
BBTS Babate 86.36 76 LR LR 02 13 45.4
comp=Z,57nm,18.6s,baz=148,slow=36
MDT Midelt 88.39 55 LR LR 02 14 09.8
comp=Z,38nm,19.1s,baz=340,slow=36
GERES GERESS Array B 91.14 34 LR LR 02 15 39.1
comp=Z,54nm,18.1s,baz=308,slow=35
VRAC Vranov 92.28 32 LR LR 02 15 45.5
comp=Z,68nm,19.6s,baz=306,slow=35
URZ Urewera 92.95 229 LR LR 02 07 18.8
comp=Z,64nm,21.2s,baz=139,slow=30
JHJ Hachijo jima 2 93.11 308 LR LR 02 19 18.3
comp=Z,24nm,18.1s,baz=191,slow=37
DZM Mont Dzumac 94.07 248 *eLR* LR 02 05 09.2
comp=Z,3μm,27.9s
DZM Mont Dzumac 94.07 248 LR LR 02 09 06.0
comp=Z,73nm,19.2s,baz=81,slow=30
HNR Honiara 94.69 262 LR LR 02 11 23.3
comp=Z,82nm,19.0s,baz=344,slow=32
KIRV Kirov 95.57 11 LR LR 02 20 33.6
comp=Z,40nm,18.7s,baz=351,slow=37
KEST Kesra 96.67 46 LR LR 02 16 14.7
comp=Z,52nm,21.7s,baz=337,slow=34
AKASG Malin Array Be 96.79 25 LR LR 02 18 13.3
comp=Z,34nm,21.3s,baz=320,slow=35
GUMO Guam 98.63 289 LR LR 02 10 25.1
comp=Z,38nm,21.1s,baz=84,slow=30
VAE Valguarnera 98.82 42 LR LR 02 20 46.9
comp=Z,70nm,18.7s,baz=324,slow=36
ARTI Arti 98.99 7 LR LR 02 25 09.2
comp=Z,60nm,18.2s,baz=348,slow=38
WRA Warramunga Arr 121.52 261 PKP **PKPdf** **01 40 36.5 +0.1**
comp=Z,0.4nm,0.8s,baz=71,slow=1.6,SNR=2.7

NEIC ***13*** *01:25:32.8±1.7, 37°.20N±0°.04×20°.42E±0°.07, h10km±1km, mb4.7/16, Error ellipse: s-maj=9.9km s-min=6.6km az=264.0*
BEO ***13*** *01:25:33.5±2.5, 37°.15N×20°.11E, h61km±7km, ML3.6/14*
PDG ***13*** *01:25:33.9±0.2, 37°.56N×20°.32E, h17km, ML3.8/13, Error ellipse: s-maj=0.6km s-min=1.3km az=0.0*
IDC ***13*** *01:25:33.8±1.0, 37°.65N×20°.57E, h0km, mb3.7/11, mbtmp3.6/16, ML0.8/2, MS2.7/1, Error ellipse: s-maj=20.4km s-min=16.6km az=169.0*
ATH ***13*** *01:25:35.5, 37°.56N×20°.39E, h8km±3km, ML3.9/12, Error ellipse: s-maj=3.3km s-min=1.1km az=47.0*
THE ***13*** *01:25:35.5, 37°.57N×20°.39E, h1km±3km, ML3.9/13, Error ellipse: s-maj=3.9km s-min=0.5km az=223.0*
NAO ***13*** *01:26:00.2, 39°.45N×20°.18E, h10km, mb3.9*
ISC 13 01:25:36.3±1.0, 37°.61N±0°.03×20°.43E±0°.03, h17km±6km, n149, σ1§64/196, mb3.9/16, 10C-14D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.31**	**80**	P		**Pg**		**01 25 42.5**	**-0.6**
KRI1				S		**Sg**		**01 25 47.7**	**+0.1**
50μm,0.5s									
LTHK	**Lithakia**	**0.34**	**72**	P		**Pg**		**01 25 42.9**	**-0.6**
LTHK				S		**Sg**		**01 25 48.0**	**-0.4**
45μm,0.5s									
LTHK	**Lithakia**	**0.34**	**72**	P		**Pg**		**01 25 42.8**	**-0.6**
LTHK				S		**Sg**		**01 25 47.9**	**-0.5**
LTHK				AML		AML		01 25 48.8	
LTHK				AML		AML		01 25 48.9	
comp=N,43182μm,0.5s									
PSDA	**Pessada-Kefalo**	**0.52**	**14**	P		**Pg**		**01 25 46.3**	**-0.5**
PSDA				S		**Sg**		**01 25 54.3**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.52**	**14**	P		**Pg**		**01 25 46.4**	**-0.4**
PSDA				S		**Sb**		**01 25 54.5**	**+0.2**
RTZL	**Ratzakli, Kefa**	**0.54**	**30**	P		**Pg**		**01 25 46.7**	**-0.5**
RTZL				S		**Sb**		**01 25 55.5**	**+0.6**
comp=N,9μm,0.8s									
VLS	**Valsamata**	**0.58**	**13**	P		**Pg**		**01 25 47.2**	**-0.8**
VLS				S		**Sg**		**01 25 56.3**	**+0.5**
comp=N,9μm,0.6s									
VLS	**Valsamata**	**0.58**	**13**	P		**Pg**		**01 25 47.3**	**-0.6**
VLS				S		**Sg**		**01 25 56.0**	**+0.2**
VLS				AML		AML		01 26 00.4	
comp=E,16457μm,0.4s									
VLS				AML		AML		01 26 01.8	
comp=N,17518μm,0.4s									
LXR1	**Lixouri, Cepha**	**0.59**	**1**	P		**Pg**		**01 25 47.1**	**-1.0**
LXR1				S		**Sb**		**01 25 56.8**	**+0.4**
comp=N,40μm,0.5s									
LXRA	**Lixouri, Kepha**	**0.59**	**1**	P		**Pg**		**01 25 48.0**	**-0.1**
LXRA				S		**Sg**		**01 25 56.4**	**+0.4**
LXRA				AML		AML		01 26 05.7	
comp=N,46286μm,0.5s									
LXRA				AML		AML		01 26 05.7	
comp=E,27543μm,0.3s									
DMLN	**Damoulianata-K**	**0.63**	**356**	P		**Pg**		**01 25 48.4**	**-0.4**
DMLN				S		**Sb**		**01 25 58.1**	**+0.6**
comp=E,14μm,0.6s									
DMLN	**Damoulianata-K**	**0.63**	**356**	P		**Pg**		**01 25 48.5**	**-0.4**
SMHA	**Samh**	**0.67**	**15**	P		**Pg**		**01 25 48.3**	**-1.2**
SMHA				S		**Sg**		**01 25 58.4**	**0.0**
SMHA				AML		AML		01 26 05.4	
comp=N,46254μm,0.4s									
SMHA				AML		AML		01 26 05.6	
comp=E,56746μm,0.6s									
VSK1	**VASILIKIADES**	**0.81**	**8**	P		**Pb**		**01 25 51.5**	**-0.5**
VSK1				S		**Sg**		**01 26 03.9**	**+1.1**
comp=E,11μm,0.8s									
FSK	**Fiskardo**	**0.86**	**7**	P		**Pb**		**01 25 52.3**	**-0.5**
FSK				S		**Sn**		**01 26 05.6**	**-0.2**
comp=E,6μm,0.8s									
FSK	**Fiskardo**	**0.86**	**7**	P		**Pb**		**01 25 52.2**	**-0.5**
FSK				S		**Sg**		**01 26 04.8**	**+0.4**
FSK				AML		AML		01 26 09.8	
comp=N,10566μm,0.6s									
FSK				AML		AML		01 26 13.2	
comp=E,14069μm,0.9s									
RLS	**Riolos of Patr**	**0.94**	**61**	P		**Pb**		**01 25 53.7**	**-0.4**
RLS				S		**Sn**		**01 26 08.5**	**+0.8**
RLS	**Riolos of Patr**	**0.94**	**61**	P		**Pb**		**01 25 53.6**	**-0.6**
RLS				AML		AML		01 26 12.7	
comp=E,7189μm,0.5s									
RLS				AML		AML		01 26 15.7	
comp=N,6198μm,1.3s									
AMT	**Artemida-Makis**	**1.02**	**94**	P		**Pb**		**01 25 55.0**	**-0.6**
AMT				AML		AML		01 26 18.0	
comp=N,25815μm,0.6s									
AMT				AML		AML		01 26 19.7	
comp=E,24235μm,0.8s									
EVGI	**Lefkada island**	**1.03**	**10**	P		**Pb**		**01 25 55.5**	**-0.2**
EVGI				S		**Sn**		**01 26 11.4**	**+1.4**
comp=E,5μm,0.5s									
EVGI	**Lefkada island**	**1.03**	**10**	P		**Pb**		**01 25 55.4**	**-0.3**
EVGI				S		**Sn**		**01 26 10.3**	**+0.3**
AST1	**Astakos**	**1.07**	**29**	P		**Pb**		**01 25 56.3**	**-0.1**
AST1				S		**Sg**		**01 26 12.3**	**+1.2**
comp=E,6μm,0.6s									
DRO	**Drossia**	**1.07**	**71**	P		**Pb**		**01 25 56.5**	**0.0**
DRO				S		**Sn**		**01 26 13.2**	**+2.1**
comp=E,6μm,0.7s									
DRO	**Drossia**	**1.07**	**71**	P		**Pb**		**01 25 56.2**	**-0.3**
DRAG	**Dragano-Lefkad**	**1.08**	**6**	P		**Pb**		**01 25 56.5**	**-0.1**

DRAG	**Dragano-Lefkad**	**1.08**	**6**	P	**Pb**	**01 25 55.9**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.12**	**11**	P	**Pn**	**01 25 56.9**	**-0.4**
NYDR				S	**Sg**	**01 26 14.5**	**+1.6**
comp=E,4μm,0.6s							
NYDR	**Nydri-Lefkada**	**1.12**	**11**	P	**Pn**	**01 25 56.8**	**-0.4**
NYDR				S	**Sg**	**01 26 13.3**	**+0.4**
LKD2	**Lefkada island**	**1.19**	**9**	P	**Pg**	**01 25 59.7**	**+0.2**
LKD2	**Lefkada island**	**1.19**	**9**	P	**Pg**	**01 25 59.6**	**+0.2**
LKD2				AML	AML	01 26 22.3	
comp=E,16276μm,0.7s							
LKD2				AML	AML	01 26 22.7	
comp=N,13388μm,0.8s							
TSLK	**Tsoukalades, L**	**1.23**	**8**	P	**Pn**	**01 25 58.9**	**+0.2**
TSLK				S	**Sg**	**01 26 17.9**	**+1.7**
comp=N,7μm,0.7s							
TSLK	**Tsoukalades, L**	**1.23**	**8**	P	**Pn**	**01 25 59.0**	**+0.2**
TSLK				AML	AML	01 26 21.8	
comp=E,15046μm,0.7s							
TSLK				AML	AML	01 26 23.3	
comp=N,10824μm,0.5s							
PYL	**PYLOS**	**1.27**	**124**	P	**Pn**	**01 25 58.9**	**-0.3**
PYL	**PYLOS**	**1.27**	**124**	P	**Pn**	**01 25 58.6**	**-0.7**
ITM	**Ithomi**	**1.27**	**109**	P	**Pb**	**01 25 59.6**	**-0.1**
ITM	**Ithomi**	**1.27**	**109**	P	**Pb**	**01 25 59.7**	**-0.1**
ITM				AML	AML	01 26 24.1	
comp=E,2581μm,1.8s							
ITM				AML	AML	01 26 26.5	
comp=N,2539μm,0.6s							
UPR	**University Cam**	**1.27**	**57**	P	**Pb**	**01 26 00.0**	**+0.3**
KLV	**Kalavryta, Ach**	**1.43**	**72**	P	**Pb**	**01 26 02.2**	**-0.4**
KLV				AML	AML	01 26 31.1	
comp=N,3933μm,0.8s							
KLV				AML	AML	01 26 33.9	
comp=E,2614μm,0.8s							
ANX	**Ano Chora**	**1.54**	**50**	P	**Pb**	**01 26 04.1**	**-0.3**
ANX				AML	AML	01 26 31.6	
comp=N,11543μm,0.6s							
ANX				AML	AML	01 26 33.6	
comp=E,10980μm,0.7s							
AGG	**Agios Georgios**	**2.06**	**46**		**Pb**	**01 26 12.6**	**-0.6**
KEK	**Kerkira**	**2.16**	**347**		**Pb**	**01 26 15.2**	**+0.2**
SCTE	**Santa Cesarea**	**2.90**	**329**	Pn	**Pn**	**01 26 23.7**	**+2.0**
LIT	**Litokhoron**	**2.96**	**32**		**Pn**	**01 26 24.5**	**+1.8**
FNA	**Florina**	**3.26**	**13**	Pn	**Pn**	**01 26 28.7**	**+2.0**
FNA	**Florina**	**3.26**	**13**	*e*Pn	**Pn**	**01 26 28.9**	**+2.2**
FNA				*e*Sn	**Sn**	**01 27 08.9**	**+3.8**
TIP	**Timpagrande**	**3.28**	**300**		**Pn**	**01 26 27.3**	**+0.2**
TIP	**Timpagrande**	**3.28**	**300**	⇓P	**Pn**	**01 26 27.0**	**-0.1**
OHR	**Ohrid**	**3.51**	**5**	*e*Pn	**Pn**	**01 26 32.8**	**+2.6**
OHR	**Ohrid**	**3.51**	**5**	*i* Pn	**Pb**	**01 26 38.8**	**+0.7**
CEL	**Celeste**	**3.64**	**282**	Pn	**Pn**	**01 26 30.9**	**-1.1**
TIR	**Tirane**	**3.76**	**354**	Pn	**Pn**	**01 26 35.7**	**+2.2**
TIR	**Tirane**	**3.76**	**354**	*e*Pn	**Pn**	**01 26 34.2**	**+0.7**
TIR				*e*Sn	**Sn**	**01 27 19.1**	**+1.7**
TIR	**Tirane**	**3.76**	**354**	⇑P	**Pn**	**01 26 34.3**	**+0.7**
VAY	**Valandovo**	**4.06**	**23**	*e*Pn	**Pn**	**01 26 38.1**	**+0.4**
VAY	**Valandovo**	**4.06**	**23**	*i* Pn	**Pn**	**01 26 39.7**	**+2.0**
MATE	**Matera**	**4.20**	**318**	⇑P	**Pn**	**01 26 40.8**	**+1.3**
IDI	**Anoyia**	**4.28**	**121**	Pn	Pn	01 26 35.3	-5.4
IDI	**Anoyia**	**4.28**	**121**	Pn	**Pn**	**01 26 40.8**	**+0.1**
comp=E,0.2nm,0.3s,baz=278,slow=18,SNR=1.5							
IDI				Sn	**Sn**	**01 27 29.2**	**-1.1**
comp=E,1.3nm,0.3s,baz=343,slow=18,SNR=1.9							
comp=E,13nm,1.0s							
SRS	**Serrai**	**4.28**	**34**	*e*Pn	**Pn**	**01 26 42.5**	**+1.8**
CUC	**Castrocucco**	**4.32**	**305**		**Pn**	**01 26 41.4**	**+0.1**
ULC	**Ulcinj**	**4.45**	**349**	⇑*i*Pn	**Pn**	**01 26 42.8**	**-0.2**
ULC				*i* Sn	**Sn**	**01 27 34.2**	**-0.1**
PUK	**Puka**	**4.45**	**355**	Pn	**Pn**	**01 26 44.3**	**+1.2**
DRME	**Dracevica, Mon**	**4.67**	**349**	⇓*i*Pn	**Pn**	**01 26 45.4**	**-0.7**
DRME				*i* Sn	**Sn**	**01 27 39.1**	**-0.8**
VAE	**Valguarnera**	**4.78**	**270**	Pn	**Pn**	**01 26 49.2**	**+1.5**
comp=E,0.2nm,0.3s,baz=190,slow=11,SNR=2.1							
VAE				Sn	**Sn**	**01 27 43.8**	**+1.1**
comp=E,0.5nm,0.3s,baz=17,slow=19,SNR=1.2							
comp=E,9.1nm,0.9s							
BUM	**Brajici-Budva**	**4.83**	**346**	⇓*i*Pn	**Pn**	**01 26 47.9**	**-0.5**
BUM				*i* Sn	**Sn**	**01 27 43.5**	**-0.5**
RAFF	**Raffo Rosso**	**4.84**	**267**	Pn	**Pn**	**01 26 46.7**	**-1.8**
PDG	**Podgorica**	**4.90**	**350**		**Pn**	**01 26 49.9**	**+0.7**
PDG	**Podgorica**	**4.90**	**350**	*e*Pn	**Pn**	**01 26 49.0**	**-0.1**
PDG				*e*Sn	**Sn**	**01 27 44.4**	**-1.1**
PDG	**Podgorica**	**4.90**	**350**	⇓P	**Pn**	**01 26 50.6**	**+1.4**
PDG	**Podgorica**	**4.90**	**350**	⇑*i*Pn	**Pn**	**01 26 49.1**	**-0.1**
PDG				*i* Sn	**Sn**	**01 27 45.1**	**-0.4**
PVY	**Plav**	**5.00**	**356**	⇑*i*Pn	**Pn**	**01 26 50.4**	**-0.2**
PVY				*i* Sn	**Sn**	**01 27 47.2**	**-0.8**
HCY	**Herceg Novi**	**5.06**	**344**	⇑*i*Pn	**Pn**	**01 26 51.3**	**-0.1**
HCY				*i* Sn	**Sn**	**01 27 48.3**	**-1.1**
CEME	**Cevo**	**5.07**	**347**	⇓*i*Pn	**Pn**	**01 26 51.7**	**+0.1**
CEME				*i* Sn	**Sn**	**01 27 48.1**	**-1.6**
BOSS	**Bosilegrad**	**5.13**	**17**	*e*Pn	**Pn**	**01 26 52.8**	**+0.4**
IVA	**Berane**	**5.28**	**356**	⇑*i*Pn	**Pn**	**01 26 54.3**	**-0.1**
IVA				*i* Sn	**Sn**	**01 27 54.5**	**-0.4**
NKME	**Niksic**	**5.28**	**348**	⇓*i*Pn	**Pn**	**01 26 54.2**	**-0.2**
NKME				*i* Sn	**Sn**	**01 27 54.1**	**-0.7**
KOME	**Kolasin**	**5.28**	**353**	⇑*i*Pn	**Pn**	**01 26 54.1**	**-0.5**
KOME				*i* Sn	**Sn**	**01 27 54.9**	**-0.2**
BARS	**Barje**	**5.31**	**11**	*e*Pn	**Pn**	**01 26 55.5**	**+0.6**
BARS				*e*Sn	**Sn**	**01 27 55.2**	**-0.4**
TREB	**Trebinje**	**5.35**	**343**	*e*Pn	**Pn**	**01 26 54.2**	**-1.1**
TREB				*e*Sn	**Sn**	**01 27 53.3**	**-3.2**
VTS	**Vitosha**	**5.45**	**22**	*e*Sn	**Sn**	**01 27 59.1**	**-0.1**
ALN	**Alexandroupoli**	**5.46**	**51**	Pn	**Pn**	**01 26 58.1**	**+1.2**
BRY	**Bratogost**	**5.48**	**345**	⇓*i*Pn	**Pn**	**01 26 56.2**	**-1.1**
BRY				*i* Sn	**Sn**	**01 27 58.8**	**-1.2**
SELS	**Selova**	**5.63**	**5**	*e*Pn	**Pn**	**01 26 58.8**	**-0.5**
STON	**Ston**	**5.66**	**339**	*e*Pn	**Pn**	**01 26 58.6**	**-1.0**
STON				*e*Sn	**Sn**	**01 28 01.0**	**-3.1**
SJES	**Sjenica**	**5.66**	**357**	*e*Pn	**Pn**	**01 27 01.1**	**+1.4**
SJES				*e*Sn	**Sn**	**01 28 03.3**	**-1.0**
UPM	**Unac-Piva**	**5.71**	**349**	⇓*i*Pn	**Pn**	**01 27 00.5**	**0.0**
UPM				*i* Sn	**Sn**	**01 28 04.8**	**-0.9**
PLE	**Pljevlja**	**5.77**	**352**	⇓*i*Pn	**Pn**	**01 27 01.2**	**-0.1**
PLE				*i* Sn	**Sn**	**01 28 05.8**	**-1.3**
ZAPS	**Zavoj**	**5.91**	**16**	*e*Pn	**Pn**	**01 27 04.5**	**+1.5**
IVAS	**Ivanjica**	**5.97**	**358**	*e*Pn	**Pn**	**01 27 05.6**	**+1.7**
BOVS	**Bovan**	**6.10**	**9**	⇓P	**Pn**	**01 27 07.2**	**+1.6**
GRUS	**Gruza**	**6.28**	**2**	*e*Pn	**Pn**	**01 27 08.3**	**+0.2**
GRUS				*e*Sn	**Sn**	**01 28 17.4**	**-2.0**
DIVS	**Divibare**	**6.49**	**357**	*e*Pn	**Pn**	**01 27 10.7**	**-0.5**
DIVS				*e*Sn	**Sn**	**01 28 21.7**	**-3.2**
INTR	**Introdacqua**	**6.67**	**313**	Pn	**Pn**	**01 27 11.9**	**-1.8**
HERR	**Herculane**	**7.42**	**11**	⇓P	**Pn**	**01 27 26.1**	**+2.4**
NRCA	**Norcia**	**7.65**	**315**	Pn	**Pn**	**01 27 28.4**	**+1.4**
FDMO	**Fiordimonte**	**7.80**	**316**	Pn	**Pn**	**01 27 30.1**	**+1.1**
BZS	**Buzias**	**8.05**	**6**	⇓P	**Pn**	**01 27 35.3**	**+2.8**
VOIR		**8.55**	**22**	⇓P	**Pn**	**01 27 41.9**	**+2.4**
SIRR	**Siria**	**8.70**	**6**	⇑P	**Pn**	**01 27 43.8**	**+2.4**
MORH	**Mrgy, Hungar**	**8.70**	**352**	⇓P	**Pn**	**01 27 42.2**	**+0.9**
MLR	**Muntele Rosu**	**8.89**	**26**	Pn	**Pn**	**01 27 46.9**	**+2.8**
MLR	**Muntele Rosu**	**8.89**	**26**	Pn	**Pn**	**01 27 46.6**	**+2.5**
comp=E,0.3nm,0.3s,baz=225,slow=7.1,SNR=11							
MLR				LR	LR	01 31 34.6	
comp=E,54nm,20.4s,baz=190,slow=41							
KEST	**Kesra**	**9.10**	**261**	Pn	**Pn**	**01 27 48.9**	**+2.0**
comp=E,1.3nm,0.7s,baz=96,slow=10,SNR=1.4							
COVR	**Voineasa-Covas**	**9.29**	**26**	⇑P	**Pn**	**01 27 53.0**	**+3.5**
SABO	**M.te Sabotino**	**9.79**	**331**	Pn	**Pn**	**01 27 56.7**	**+0.3**
SOKA	**Soboth**	**9.91**	**338**	*e*Pn	**Pn**	**01 28 00.6**	**+2.6**
comp=E,4.0nm,0.6s							
SOKA				*i* Sn	**Sn**	**01 29 41.6**	**-7.1**
comp=E,2.4nm,0.6s							
OBKA	**Obir**	**9.91**	**336**	*i* Pn	Pn	01 28 03.0	+5.0
comp=E,1.4nm,0.4s							
OBKA				*e*Sn	**Sn**	**01 29 46.2**	**-2.6**
comp=E,7.2nm,0.6s							
TEOL	**Teolo**	**10.15**	**322**	Pn	**Pn**	**01 28 03.7**	**+2.4**
CTI	**Castel Tesino**	**10.67**	**325**	Pn	**Pn**	**01 28 09.9**	**+1.4**
KBA	**Koelnbreinsper**	**10.81**	**333**	*i* Sn	**Sn**	**01 30 08.0**	**-3.1**
comp=E,2.3nm,0.6s							
ABTA	**Abfaltersbach**	**10.85**	**330**	*i* Sn	**Sn**	**01 30 07.6**	**-4.3**
comp=E,5.1nm,0.7s							
VYHS	**Vyhne**	**10.94**	**354**	*e*PN	Pn	01 28 22.0	+10
VYHS				*e*SN	**Sn**	**01 30 05.5**	**-8.5**
MOA	**Molln**	**11.19**	**338**	*i* Pn	Pn	01 28 21.2	+5.7
comp=E,1.6nm,0.3s							
MOA				*i* Sn	**Sn**	**01 30 17.3**	**-2.8**
comp=E,1.8nm,0.6s							
BIOA	**Bad Ischl, Aus**	**11.24**	**336**	*e*Pn	**Pn**	**01 28 20.4**	**+4.2**
comp=E,1.2nm,0.3s							
BIOA				*i* Sn	**Sn**	**01 30 18.3**	**-3.1**
comp=E,2.1nm,0.5s							
LESA	**Schwarzleotal**	**11.35**	**332**	*i* Pn	Pn	01 28 22.5	+4.8
comp=E,1.7nm,0.5s							
LESA				*e*Sn	**Sn**	**01 30 20.1**	**-4.0**
comp=E,2.1nm,0.7s							
FUORN	**Ofenpass-Fuorn**	**11.74**	**323**	Pn	**Pn**	**01 28 26.4**	**+3.2**
SQTA	**Sankt Quirin**	**11.77**	**328**	*i* Sn	**Sn**	**01 30 32.7**	**-1.7**
comp=E,2.4nm,0.6s							
RETA	**Reutte**	**12.17**	**327**	*i* Sn	**Sn**	**01 30 44.1**	**0.0**
comp=E,1.3nm,0.5s							
DAVA	**Damuels**	**12.41**	**325**	*i* Sn	**Sn**	**01 30 50.5**	**+0.4**
comp=E,6.7nm,0.8s							
AKASG	**Malin Array Be**	**14.52**	**23**	Pn	**Pn**	**01 29 00.7**	**-0.2**
comp=E,0.4nm,0.7s,baz=212,slow=12,SNR=3.6							
CEST	**Esterri de Car**	**15.49**	**295**	Pn	**Pn**	**01 29 12.8**	**-1.2**
CEST				IAmb	IAmb	01 29 19.6	
comp=Z,24nm,1.4s							
CLF	**Chambon-Foret**	**16.87**	**314**		**P**	**01 29 32.6**	**-0.9**
KIV	**Kislovodsk**	**17.98**	**62**		**Pn**	**01 29 44.4**	**-1.1**
PABE	**Paberze**	**18.07**	**7**	P	**P**	**01 29 47.5**	**+0.8**
PABE				IAmb	IAmb	01 30 07.8	
comp=Z,35nm,1.2s							
ESDC	**Sonseca Array**	**19.15**	**284**	P	**Pn**	**01 30 00.5**	**+0.8**
comp=Z,1.4nm,1.0s,baz=83,slow=11,SNR=7.1							
SFS	**San Fernando**	**21.27**	**275**	P	**P**	**01 30 19.6**	**-2.1**
HFS	**Hagfors**	**22.95**	**351**	P	**P**	**01 30 38.4**	**-1.2**
comp=Z,1.6nm,0.6s,baz=156,slow=11,SNR=2.2							
comp=Z,1.6nm,0.6s							
EKA	**Eskdalemuir Ar**	**23.85**	**326**	P	**P**	**01 30 47.3**	**-1.2**
comp=Z,3.0nm,0.9s,baz=136,slow=9.8,SNR=2.9							
comp=Z,3.0nm,0.9s							
ESK	**Eskdalemuir**	**23.86**	**326**	P	**P**	**01 30 47.8**	**-0.8**
ESK				IAmb	IAmb	01 30 48.1	
comp=Z,39nm,1.3s							
FINES	**FINESS Array B**	**24.12**	**7**	P	**P**	**01 30 50.9**	**0.0**
FINES	**FINESS Array B**	**24.12**	**7**	P	**P**	**01 30 50.8**	**-0.2**
comp=Z,3.5nm,0.9s,baz=183,slow=12,SNR=4.2							
comp=Z,3.5nm,0.9s							
NB2	**NORSAR Subarra**	**24.16**	**349**	P	**P**	**01 30 57.1**	**+5.7**
comp=Z,7.1nm,1.4s,baz=162,slow=11							
NOA	**NORSAR Array B**	**24.16**	**349**	P	**P**	**01 30 51.9**	**+0.5**
comp=Z,0.5nm,0.8s,baz=162,slow=10,SNR=1.6							
comp=Z,0.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**29.54**	**219**	P	**P**	**01 31 41.1**	**+1.0**
comp=Z,0.8nm,0.8s,baz=27,slow=10,SNR=4.9							
comp=Z,0.8nm,0.8s							
LVZ	**Lovozero**	**31.37**	**10**	P	**P**	**01 31 56.9**	**+1.0**
ARTI	**Arti**	**31.43**	**41**	P	**P**	**01 31 55.6**	**-0.9**
ARTI				IAmb	IAmb	01 32 02.5	
comp=Z,5.9nm,1.2s							
ARCES	**ARCESS Array B**	**32.11**	**3**	P	**P**	**01 32 01.8**	**-0.4**
comp=Z,1.4nm,0.9s,baz=191,slow=9.2,SNR=1.4							
comp=Z,1.4nm,0.9s							
BVAR	**Borovoye Array**	**37.54**	**49**	P	**P**	**01 32 48.9**	**-0.4**
comp=Z,0.3nm,0.7s,baz=259,slow=9.7,SNR=2.0							
comp=Z,0.3nm,0.7s							
SPB3	**Spitsbergen Ar**	**40.71**	**359**	P	**P**	**01 33 15.9**	**+0.3**
SPB3				IAmb	IAmb	01 33 34.0	
comp=Z,42nm,1.1s							
KBS	**Kingsbay**	**41.58**	**358**	P	**P**	**01 33 23.1**	**+0.5**
KBS				IAmb	IAmb	01 33 23.4	
comp=Z,29nm,0.9s							
KURBB	**Kurchatov Arra**	**42.63**	**53**	P	**P**	**01 33 30.5**	**-1.0**
comp=Z,0.5nm,0.6s,baz=280,slow=8.6,SNR=4.9							
comp=Z,0.5nm,0.6s							
MK31	**Makanchi Array**	**45.66**	**58**	P	**P**	**01 33 55.4**	**-0.6**
MKAR	**Makanchi Array**	**45.66**	**58**	P	**P**	**01 33 55.1**	**-0.9**
MKAR	**Makanchi Array**	**45.66**	**58**	P	**P**	**01 33 54.6**	**-1.3**
comp=Z,0.4nm,0.5s,baz=275,slow=7.1,SNR=7.0							
comp=Z,0.4nm,0.5s							
ZALV	**Zalesovo Beam**	**46.13**	**48**	P	**P**	**01 33 58.1**	**-1.3**
comp=Z,1.0nm,0.6s,baz=264,slow=9.7,SNR=3.9							
comp=Z,1.0nm,0.6s							
NRS	**Narsarsuaq**	**46.45**	**322**	P	**P**	**01 34 01.5**	**-0.4**
SFJD	**Kangerlussuaq**	**48.69**	**330**	P	**P**	**01 34 20.8**	**+1.6**
SFJD				IAmb	IAmb	01 34 59.2	
comp=Z,30nm,1.2s							
VOI	**Vohitsoka**	**64.19**	**153**	P	**P**	01 36 04.2	-6.1
CMAR	**Chiang Mai Arr**	**70.04**	**82**	P	**P**	**01 36 46.4**	**-1.1**
comp=Z,1.1nm,0.3s,baz=303,slow=7.3,SNR=2.2							
comp=Z,1.1nm,0.3s							

*JMA **13** 01:30:03.4±0.3,24°.N±2°.×122°.4E±0°.6, h58km±4km, MV1.8/12, TAIWAN REGION*
*TAP **13** 01:30:04.4,24°.53N×122°.28E, h8km, ML2.6, C*
ISC 13 01:30:03.1±1.0,**24°.58N**±0°.03×**122°.40E**±0°.03,**h13**km±7km, **n52**,σ0°.81/88,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.22**	**224**	*i* P	**Pg**	**01 30 08.1**	**+0.3**
EOS2				*i* S	**Sg**	**01 30 11.7**	**+0.6**
EOS3	**EOS3**	**0.30**	**195**	*i* P	**Pg**	**01 30 09.8**	**+0.5**
EOS3				*i* S	**Sg**	**01 30 14.0**	**+0.6**
EOS4	**EOS4**	**0.47**	**190**	P	**Pb**	**01 30 12.7**	**-0.3**
EOS4				*e*S	**Sg**	**01 30 19.1**	**+0.8**
EGS		**0.50**	**302**	*e*P	**Pb**	**01 30 14.5**	**+0.7**
EGS				*e*S	**Sb**	**01 30 22.1**	**+1.0**
TWC	**Suao**	**0.51**	**273**	*e*P	**Pg**	**01 30 12.8**	**-0.2**
TWC				*e*S	**Sg**	**01 30 19.5**	**-0.2**
ESAO	**Su ao**	**0.51**	**269**	*e*P	**Pg**	**01 30 12.6**	**-0.5**
ESAO				*e*S	**Sg**	**01 30 18.6**	**-1.2**
JYNG	**Yonagunijimaku**	**0.51**	**105**	*e*P	**Pn**	**01 30 15.3**	**-0.8**
JYNG				*e*S	**Sn**	**01 30 24.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.57**	**102**	*e*P	**Pn**	**01 30 16.3**	**-0.6**
YOJ				*e*S	**Sn**	**01 30 26.0**	**-0.2**
YOJ	**Yonaguni jima**	**0.57**	**102**	P	**Pn**	**01 30 16.4**	**-0.5**
YOJ				*e*S	**Sn**	**01 30 26.0**	**-0.2**
TWB1	**Santiao Chiao**	**0.57**	**319**	*e*P	**Pb**	**01 30 15.6**	**+0.7**
TWB1				*e*S	**Sb**	**01 30 22.6**	**-0.3**
EWUT	**Wuta**	**0.58**	**257**	*e*P	**Pg**	**01 30 14.1**	**-0.5**
EWUT				*e*S	**Sg**	**01 30 21.0**	**-1.3**
ENA	**Nanau**	**0.62**	**256**	*e*P	**Pg**	**01 30 14.8**	**-0.4**
ENA				S	**Sg**	**01 30 21.4**	**-2.1**
NDS	**Dongshan**	**0.63**	**275**	*e*P	**Pb**	**01 30 15.9**	**0.0**
NDS				*e*S	**Sb**	**01 30 24.1**	**-0.5**
TIPB	**Shuangxi**	**0.65**	**307**	P	**Pb**	**01 30 16.6**	**+0.2**
TIPB				*e*S	**Sb**	**01 30 25.0**	**-0.5**
EAHA	**Aohua**	**0.65**	**248**	*e*P	**Pg**	**01 30 14.3**	**-1.5**
EAHA				*e*S	**Sg**	**01 30 22.6**	**-1.9**
TWE	**Neicheng**	**0.68**	**282**	*e*P	**Pg**	**01 30 16.3**	**-0.1**
TWE				*e*S	**Sg**	**01 30 25.4**	**0.0**
SXI1	**Grass Mountain**	**0.70**	**317**	P	**Pn**	**01 30 18.1**	**-0.7**
SXI1				*e*S	**Sb**	**01 30 28.1**	**+1.3**
FUSB	**Fushanzhiwuyua**	**0.76**	**284**	P	**Pb**	**01 30 18.6**	**+0.3**
FUSB				*e*S	**Sb**	**01 30 28.1**	**-0.5**
ENTT	**Nioudou**	**0.76**	**275**	*e*P	**Pb**	**01 30 18.7**	**+0.4**
ENTT				*e*S	**Sg**	**01 30 27.9**	**0.0**
LATG	**Datong**	**0.80**	**267**	*e*P	**Pg**	**01 30 18.3**	**-0.3**
LATG				S	**Sg**	**01 30 28.4**	**-0.7**
NACB	**Ninganchiao**	**0.84**	**241**	P	**Pg**	**01 30 18.4**	**-1.0**
NACB				S	**Sg**	**01 30 28.9**	**-1.5**
NWLT	**Wulai**	**0.84**	**284**	*e*P	**Pb**	**01 30 20.1**	**+0.4**
NWLT				*e*S	**Sg**	**01 30 29.5**	**-1.0**
TWA	**Mucha**	**0.84**	**298**	*e*P	**Pg**	**01 30 18.7**	**-0.7**
TWA				*e*S	**Sg**	**01 30 28.5**	**-2.0**
TWD	**Chiawan**	**0.89**	**236**	*e*P	**Pn**	**01 30 21.3**	**-0.1**
ETLH	**Xiulin Townshi**	**0.92**	**246**	*e*P	**Pg**	**01 30 19.6**	**-1.3**
ETLH				*e*S	**Sg**	**01 30 31.5**	**-1.4**
TATO	**Taipei**	**0.92**	**295**	*e*P	**Pb**	**01 30 21.0**	**0.0**
TATO				*e*S	**Sb**	**01 30 33.4**	**+0.3**
YHNB	**Yeheng**	**0.94**	**276**	*e*P	**Pn**	**01 30 21.8**	**-0.3**
YHNB				*e*S	**Sg**	**01 30 33.5**	**0.0**
YM01	**YM01**	**0.94**	**307**	*e*P	**Pn**	**01 30 22.9**	**+0.8**
YM01				*e*S	**Sn**	**01 30 35.0**	**-0.6**
YM08	**YM08**	**0.95**	**309**	*e*P	**Pn**	**01 30 23.7**	**+1.4**
YM08				*e*S	**Sn**	**01 30 37.1**	**+1.3**
NSK	**Sanguang**	**0.95**	**276**	P	**Pn**	**01 30 22.1**	**-0.2**
NSK				S	**Sg**	**01 30 33.7**	**-0.4**
ETM	**Tongmen**	**1.03**	**234**	*e*P	**Pg**	**01 30 23.0**	**0.0**
LXIB	**Xiulin Townshi**	**1.06**	**238**	*e*P	**Pn**	**01 30 23.8**	**0.0**
LXIB				*e*S	**Sn**	**01 30 38.6**	**0.0**
SHUL	**Shoufeng**	**1.10**	**224**	*e*P	**Pn**	**01 30 25.2**	**+0.9**
FUSS	**Fushou**	**1.11**	**253**	*e*P	**Pg**	**01 30 24.0**	**-0.4**
FUSS				*e*S	**Sg**	**01 30 37.2**	**-1.8**
WHF	**Hehuan Shan**	**1.12**	**247**	*e*P	**Pg**	**01 30 23.8**	**-1.0**
KSHI	**Guanxi Townshi**	**1.13**	**280**	*e*P	**Pn**	**01 30 26.2**	**+1.5**
NFF	**Wufeng Townshi**	**1.17**	**273**	*e*P	**Pg**	**01 30 25.7**	**0.0**
NFF				*e*S	**Sg**	**01 30 40.9**	**-0.1**
IRIF	**Iriomote-Funau**	**1.23**	**101**	*e*S	**Sn**	**01 30 43.3**	**+0.7**
LIOB	**Emei**	**1.26**	**273**	*e*P	**Pg**	**01 30 28.8**	**+1.4**
WARBT	**Fenglin Townsh**	**1.27**	**227**	*e*P	**Pn**	**01 30 26.1**	**-0.5**
WARBT				*e*S	**Sg**	**01 30 44.6**	**+0.7**
OWD	**Renai**	**1.28**	**241**	*e*P	**Pn**	**01 30 26.7**	**-0.2**
OWD				*e*S	**Sb**	**01 30 44.0**	**+0.4**
WUSB	**Renai**	**1.31**	**244**	*e*P	**Pn**	**01 30 27.2**	**-0.1**
WHP	**Taichung City**	**1.36**	**257**	*e*P	**Pg**	**01 30 30.6**	**+1.3**
HATJ	**Hateruma jima**	**1.38**	**112**	*e*S	**Sn**	**01 30 46.8**	**+0.5**
HGSD	**Ruisui**	**1.41**	**220**	*e*P	**Pn**	**01 30 28.9**	**+0.5**
VWDT	**VWDT**	**1.42**	**235**	*e*P	**Pn**	**01 30 28.7**	**+0.1**
VWDT				*e*S	**Sb**	**01 30 48.1**	**+0.7**
JKRS	**Kuro-shima**	**1.50**	**103**	*e*S	**Sn**	**01 30 49.6**	**+0.4**
SSLB	**Suanglung**	**1.54**	**239**	*e*P	**Pn**	**01 30 30.8**	**+0.4**
TYC	**Yuchr**	**1.56**	**245**	*e*P	**Pb**	**01 30 31.8**	**-0.1**
JIJ	**Ishigaki jima**	**1.60**	**97**	*e*S	**Sn**	**01 30 51.4**	**-0.3**
WHYT	**Xinyi Township**	**1.67**	**238**	*e*P	**Pn**	**01 30 32.3**	**+0.2**
WHYT				*e*S	**Sb**	**01 30 55.7**	**+1.1**
JISG	**Ishigakijimahi**	**1.74**	**89**	*e*S	**Sn**	**01 30 55.4**	**+0.3**

*ATH **13** 01:44:54.1,37°.25N×20°.59E, h10km±1km, ML3.4/14, Error ellipse: s-maj=1.9km s-min=0.9km az=234.0*
*THE **13** 01:44:54.2,37°.26N×20°.60E, h0km±2km, ML3.5/14, Error ellipse: s-maj=2.6km s-min=0.9km az=223.0*
*IDC **13** 01:44:55.5±1.8,37°.66N×20°.46E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=76.6km s-min=30.7km az=124.0*
ISC 13 01:44:54.0±1.6,**37°.25N**±0°.05×**20°.59E**±0°.05,**h7**km±9km, **n54**,σ0°.95/80,**mb3.7**/3,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.45**	**24**	P	**Pg**	**01 45 03.0**	**+0.3**
KRI1				S	**Sg**	**01 45 09.1**	**+0.6**
13μm,0.3s							
LTHK	**Lithakia**	**0.49**	**23**	P	**Pg**	**01 45 03.8**	**+0.2**
LTHK				S	**Sg**	**01 45 10.3**	**+0.3**
10μm,0.4s							
LTHK	**Lithakia**	**0.49**	**23**	P	**Pg**	**01 45 03.8**	**+0.2**
LTHK				S	**Sg**	**01 45 10.3**	**+0.3**
LTHK				AML	AML	01 45 10.9	
comp=E,12672μm,0.3s							
LTHK				AML	AML	01 45 11.1	
comp=N,22145μm,0.4s							
RTZL	**Ratzakli, Kefa**	**0.83**	**10**	P	**Pg**	**01 45 09.6**

EVR				AML	AML	01 46 00.0	
	comp=N,1424μm,0.6s						
MAKR	**Makrakomi, Fth**	**2.13**	**34**	P	**Pb**	**01 45 31.8**	**-1.2**
AXAR	**Agios Charalam**	**2.22**	**47**	P	**Pb**	**01 45 33.0**	**-1.5**
IGT	**Igoumenitsa**	**2.29**	**355**	P	**Pn**	**01 45 33.3**	**+1.2**
KEK	**Kerkira**	**2.53**	**346**	P	**Pn**	**01 45 37.0**	**+1.5**
THL	**Klokotos Trika**	**2.56**	**25**	P	**Pn**	**01 45 37.6**	**+1.7**
KPRO	**Kipourio**	**2.76**	**12**	P	**Pb**	**01 45 41.1**	**-2.7**
PENT	**Pentalofos**	**2.97**	**8**	P	**Pb**	**01 45 44.4**	**-2.9**
NEST	**Nestorio**	**3.18**	**6**	P	**Pn**	**01 45 47.3**	**+2.8**
FINES	**FINESS Array B**	**24.46**	**6**	P	**P**	**01 50 12.2**	**-1.0**
	comp=N,1.7nm,0.8s,baz=204,slow=9.1,SNR=4.2						
	comp=N,1.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.35**	**220**	P	P	01 51 02.3	+4.7
	comp=N,0.2nm,0.5s,baz=31,slow=9.2,SNR=2.8						
	comp=N,0.2nm,0.5s						
MKAR	**Makanchi Array**	**45.74**	**58**	P	**P**	**01 53 17.3**	**+1.4**
	comp=N,0.8nm,1.0s,baz=286,slow=6.7,SNR=1.9						
	comp=N,0.8nm,1.0s						

IDC 13 01:50:09.2±1.9, 0°.08S×123°.86E, h0^{km}, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=190.2km s-min=28.4km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.25**	**153**	P	P	01 55 07.4	-0.6
	0.8nm,0.5s,baz=331,slow=10,SNR=9.1						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**25.40**	**158**	P	P	01 55 39.0	+0.5
	0.3nm,0.5s,baz=345,slow=6.7,SNR=4.2						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**59.13**	**328**	P	P	02 00 11.8	0.0
	0.3nm,0.5s,baz=133,slow=7.6,SNR=2.3						
	0.3nm,0.5s						

*MDD **13** 02:07:13.7±0.7, 39°.11N×5°.35E, h29^{km}±7^{km}, Mb4.1/15, M_mb3.5/15, Error ellipse: s-maj=4.8km s-min=2.9km az=158.0*
*LDG **13** 02:07:14.5±0.2, 39°.21N×5°.37E, h20^{km}, Ml2.6/18, Error ellipse: s-maj=5.3km s-min=3.2km az=165.0*
*STR **13** 02:07:17.5±0.8, 40°.N±5°.×°.±°., h10^{km}, MLv3.4/37, Error ellipse: s-maj=0.0km s-min=0.0km az=159.8, preliminary*
ISC 13 02:07:09.7±1.4, 39°.21N±0°.06×5°.35E±0°.03, h10^{km}, n78, σ2^{s}57/117, 10C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETOS	**Mallorca**	**2.04**	**287**	P	**Pn**	**02 07 45.5**	**+1.4**
ETOS				⇑*i*Vmb_V		02 07 47.1	
	349nm,SNR=1.2						
ETOS				S	**Sn**	**02 08 08.1**	**-1.6**
EIBI	**Ibiza**	**3.12**	**268**	P	**Pn**	**02 08 00.4**	**+1.4**
EIBI				⇑*i*Vmb_V		02 08 06.7	
	388nm,SNR=1.8						
EIBI				S	**Sn**	**02 08 32.6**	**-3.7**
VSL	**Villasalto**	**3.13**	**83**	P	**Pn**	**02 08 00.1**	**+0.9**
VSL				S	**Sn**	**02 08 35.5**	**-1.2**
EJON	**La Jonquera**	**3.74**	**331**	P	**Pn**	**02 08 08.5**	**+1.0**
EJON				⇑*i*Vmb_V		02 08 15.6	
	390nm,SNR=1.3						
EJON				S	**Sn**	**02 08 49.3**	**-2.2**
SJAF	**Saint Jean de**	**3.77**	**331**	P	**Pn**	**02 08 08.8**	**+0.9**
SJAF				S	**Sn**	**02 08 50.2**	**-2.2**
FILF	**Fillols**	**3.96**	**329**	P	**Pn**	**02 08 12.8**	**+2.2**
FILF				S	**Sn**	**02 08 57.1**	**0.0**
EMIR	**Miracle**	**3.97**	**314**	P	**Pn**	**02 08 13.0**	**+2.2**
EMIR				⇑*i*Vmb_V		02 08 20.8	
	398nm,SNR=1.3						
EMIR				S	**Sn**	**02 08 56.5**	**-0.9**
LMR	**La Mourre**	**4.21**	**12**	*e*Pn	**Pn**	**02 08 16.1**	**+2.1**
LMR				*e*Sn	**Sn**	**02 09 00.8**	**-2.4**
	3.9nm,0.2s						
ERTA	**Horta de San J**	**4.23**	**296**	P	**Pn**	**02 08 16.4**	**+2.2**
ERTA				⇑*i*Vmb_V		02 08 21.2	
	149nm,SNR=1.2						
ERTA				S	**Sn**	**02 09 01.9**	**-1.7**
CLAF	**Gruissan**	**4.28**	**337**	P	**Pn**	**02 08 15.3**	**+0.4**
CLAF				S	**Sn**	**02 09 01.5**	**-3.3**
CARF	**Carcanieres**	**4.28**	**326**	P	**Pn**	**02 08 16.8**	**+1.8**
CARF				S	**Sn**	**02 09 04.2**	**-0.9**
PGF	**Pioggiola**	**4.33**	**38**	*e*Pn	**Pn**	**02 08 18.0**	**+2.3**
PGF				*e*Sn	**Sn**	**02 09 02.0**	**-4.4**
	3.4nm,0.3s						
PGF	**Pioggiola**	**4.33**	**38**	S	**Sn**	**02 09 02.2**	**-4.2**
PGF	**Pioggiola**	**4.33**	**38**	P	**Pn**	**02 08 18.3**	**+2.5**
ARTF	**Artigues**	**4.39**	**4**	P	**Pn**	**02 08 19.0**	**+2.6**
PAND	**Andorre**	**4.39**	**320**	P	**Pn**	**02 08 18.7**	**+2.1**
PAND				S	**Sn**	**02 09 07.2**	**-0.7**
FNEB	**Nbias**	**4.43**	**327**	P	**Pn**	**02 08 18.9**	**+1.9**
TRIGF	**Trigance**	**4.60**	**10**	P	**Pn**	**02 08 22.0**	**+2.6**
TRIGF				S	**Sn**	**02 09 12.3**	**-0.7**
EMOS	**Mosqueruela**	**4.63**	**286**	⇑*i*Vmb_V		02 08 21.5	
	162nm,SNR=1.1						
EMOS				P	**Pn**	**02 08 21.8**	**+1.9**
EMOS				S	**Sn**	**02 09 12.2**	**-1.6**
DUNF	**Dun**	**4.66**	**326**	P	**Pn**	**02 08 22.3**	**+2.3**
BSTF	**la Bastide-des**	**4.67**	**3**	P	**Pn**	**02 08 22.6**	**+2.3**
CALF	**Calern**	**4.69**	**14**	P	**Pn**	**02 08 23.2**	**+2.5**
CALF				S	**Sn**	**02 09 13.8**	**-1.4**
RUSF	**Rustrel**	**4.73**	**1**	P	**Pn**	**02 08 23.8**	**+2.7**
RUSF				S	**Sn**	**02 09 15.9**	**-0.1**
SALF	**Salau**	**4.74**	**320**	P	**Pn**	**02 08 24.6**	**+3.2**
SALF				S	**Sn**	**02 09 16.4**	**-0.1**
MTLF	**Montolieu**	**4.76**	**331**	*e*Pn	**Pn**	**02 08 22.4**	**+1.0**
MTLF				*e*Sn	**Sn**	**02 09 13.8**	**-2.8**
	1.5nm,0.3s						
MTLF	**Montolieu**	**4.76**	**331**	S	**Sn**	**02 09 14.1**	**-2.5**
MTLF	**Montolieu**	**4.76**	**331**	P	**Pn**	**02 08 22.6**	**+1.2**
SMRF	**Simiane la Rot**	**4.77**	**2**	*e*Pn	**Pn**	**02 08 24.7**	**+3.1**
SMRF				*e*Sn	**Sn**	**02 09 14.3**	**-2.6**
	2.1nm,0.3s						
BLAF	**les Blancs**	**4.77**	**6**	P	**Pn**	**02 08 24.4**	**+2.8**
BLAF				S	**Sn**	**02 09 15.9**	**-1.0**
SALSA	**La sagne**	**4.78**	**12**	P	**Pn**	**02 08 24.7**	**+2.9**
SALSA				S	**Sn**	**02 09 16.1**	**-1.1**
MVIF	**Mont Vial**	**4.88**	**16**	P	**Pn**	**02 08 25.9**	**+2.7**
MVIF				S	**Sn**	**02 09 17.3**	**-2.5**
SBF	**Sospel**	**4.91**	**18**	*e*Pn	**Pn**	**02 08 25.2**	**+1.6**
SBF				*e*Sn	**Sn**	**02 09 17.4**	**-3.0**
	5.1nm,0.2s						
ECHE	**Chera**	**4.91**	**276**	⇑*i*Vmb_V		02 08 30.8	
	180nm,SNR=1.5						
ECHE				S	**Sn**	**02 09 18.6**	**-1.9**
MLS	**Moulis**	**4.94**	**321**	P	**Pn**	**02 08 27.6**	**+3.7**
MLS				S	**Sn**	**02 09 21.3**	**+0.2**
LASF	**Ste Croix**	**4.99**	**348**	*e*Pn	**Pn**	**02 08 25.9**	**+1.2**
LASF				*e*Sn	**Sn**	**02 09 19.4**	**-3.0**
	0.3nm,0.1s						
TURF	**col de Turini**	**5.00**	**17**	P	**Pn**	**02 08 27.0**	**+2.0**
TURF				S	**Sn**	**02 09 19.4**	**-3.5**
EVIV	**Cofrentes, Val**	**5.02**	**273**	⇑*i*Vmb_V		02 08 28.9	
	111nm,SNR=0.9						
EVIV				S	**Sn**	**02 09 20.9**	**-2.4**
MELF	**Melles**	**5.04**	**318**	P	**Pn**	**02 08 28.9**	**+3.4**
SPIF	**crte de Spivo**	**5.05**	**16**	P	**Pn**	**02 08 28.3**	**+2.8**
SPIF				S	**Sn**	**02 09 22.0**	**-1.9**
SAOF	**Saorge**	**5.05**	**18**	P	**Pn**	**02 08 27.5**	**+2.0**
ESAC	**San Caprasio**	**5.10**	**301**	P	**Pn**	**02 08 25.5**	**-0.8**
ESAC				⇑*i*Vmb_V		02 08 29.9	
	331nm,SNR=1.6						
ISO	**Isola**	**5.13**	**14**	P	**Pn**	**02 08 29.9**	**+3.2**
ECHI	**Chisagues Biel**	**5.21**	**313**	P	**Pn**	**02 08 30.5**	**+2.7**
ECHI				⇑*i*Vmb_V		02 08 35.8	
	154nm,SNR=2.4						
ECHI				S	**Sn**	**02 09 28.7**	**+0.6**
ECHI	**Chisagues Biel**	**5.21**	**313**	P	**Pn**	**02 08 30.1**	**+2.3**
STV	**Saint Anna di V**	**5.25**	**16**	P	**Pn**	**02 08 31.7**	**+3.5**
RORO	**Rocca Rossa**	**5.30**	**22**	P	**Pn**	**02 08 31.5**	**+2.5**
GBOS	**Grotte di Boss**	**5.36**	**20**	P	**Pn**	**02 08 33.1**	**+3.2**
EPF	**Esparros**	**5.38**	**317**	*e*Pn	**Pn**	**02 08 33.0**	**+3.0**
EPF				*e*Sn	**Sn**	**02 09 28.8**	**-3.2**
	0.5nm,0.2s						
SURF	**Saint Ours**	**5.38**	**11**	P	**Pn**	**02 08 34.0**	**+3.8**
SURF				S	**Sn**	**02 09 31.6**	**-0.7**
VIEF	**Viey**	**5.45**	**314**	P	**Pn**	**02 08 34.0**	**+2.9**
PZZ	**Stroppo**	**5.46**	**13**	S	**Sn**	**02 09 34.2**	**+0.1**
PZZ	**Stroppo**	**5.46**	**13**	P	**Pn**	**02 08 34.9**	**+3.7**
LABF	**Labassere**	**5.53**	**316**	P	**Pn**	**02 08 35.6**	**+3.4**
MBDF	**Montbardon**	**5.62**	**10**	*e*Pn	**Pn**	**02 08 37.1**	**+3.7**
MBDF				*e*Sn	**Sn**	**02 09 34.4**	**-3.6**
VIVF	**Saint-Julien-l**	**5.67**	**355**	*e*Pn	**Pn**	**02 08 36.0**	**+2.0**
VIVF				*e*Sn	**Sn**	**02 09 35.9**	**-3.2**
	1.2nm,0.2s						
CANF	**Canfranc**	**5.69**	**311**	P	**Pn**	**02 08 37.5**	**+3.2**
ORIF	**Oris-en-Rattie**	**5.72**	**4**	*e*Pn	**Pn**	**02 08 35.7**	**+0.9**
ORIF				*e*Sn	**Sn**	**02 09 38.4**	**-2.1**
	1.1nm,0.3s						
ETSF	**Etsaut**	**5.79**	**311**	*e*Pn	**Pn**	**02 08 38.3**	**+2.6**
ETSF				*e*Sn	**Sn**	**02 09 39.7**	**-2.5**
	0.2nm,0.4s						
RRL	**Rocca Remolon**	**5.81**	**10**	P	**Pn**	**02 08 40.5**	**+4.4**
ATE	**Arette**	**5.99**	**312**	P	**Pn**	**02 08 41.7**	**+3.3**
MONQ	**Montcuq**	**6.02**	**330**	P	**Pn**	**02 08 41.0**	**+2.2**
SSB	**Saint Sauveur**	**6.10**	**355**	P	**Pn**	**02 08 42.2**	**+2.4**
CAF	**Calviac**	**6.21**	**338**	*e*Pn	**Pn**	**02 08 43.8**	**+2.3**
CAF				*e*Sn	**Sn**	**02 09 48.9**	**-3.7**
	0.3nm,0.2s						
LBL	**Lubilhac**	**6.22**	**346**	P	**Pn**	**02 08 44.0**	**+2.4**
SJPF	**Ste Jean**	**6.31**	**310**	*e*Pn	**Pn**	**02 08 44.1**	**+1.3**
SJPF				*e*Sn	**Sn**	**02 09 51.3**	**-3.7**
LPL	**La Plagne**	**6.39**	**9**	*e*Pn	**Pn**	**02 08 48.5**	**+4.5**
OGSM	**Saint Maurice**	**6.40**	**2**	P	**Pn**	**02 08 47.6**	**+3.5**
OSSF	**Osses**	**6.42**	**311**	P	**Pn**	**02 08 47.6**	**+3.3**
COLF	**Collangettes**	**6.42**	**350**	P	**Pn**	**02 08 46.6**	**+2.2**
EALK	**Alkurruntz**	**6.54**	**310**	P	**Pn**	**02 08 49.2**	**+3.1**
RJF	**Les Rejaudoux**	**6.72**	**336**	*e*Pn	**Pn**	**02 08 49.8**	**+1.4**
RJF				*e*Sn	**Sn**	**02 10 00.6**	**-4.5**
	0.6nm,0.2s						
VERF	**Verneugheol**	**6.87**	**343**	P	**Pn**	**02 08 52.6**	**+2.0**
AGO	**Saint Agoulin**	**7.03**	**347**	P	**Pn**	**02 08 54.8**	**+2.1**
TCF	**Toulx Ste Croi**	**7.44**	**343**	*e*Pn	**Pn**	**02 09 00.2**	**+1.8**
TCF				*e*Sn	**Sn**	**02 10 17.2**	**-5.6**
	0.4nm,0.2s						
SMF	**Signal de Mont**	**7.52**	**352**	*e*Pn	**Pn**	**02 09 00.3**	**+1.0**
BGF	**Bois d'Agland**	**7.57**	**347**	*e*Pn	**Pn**	**02 09 01.7**	**+1.6**
AVF	**Avril sur Loir**	**7.72**	**350**	*e*Pn	**Pn**	**02 09 04.2**	**+2.1**
ECH	**Echery**	**9.10**	**8**	P	**Pn**	**02 09 22.8**	**+1.8**

*THE **13** 02:07:53.6, 37°.29N×20°.61E, h0^{km}±2^{km}, ML3.6/7, Error ellipse: s-maj=2.5km s-min=0.6km az=225.0*
*ATH **13** 02:07:54.0, 37°.29N×20°.69E, h13^{km}±4^{km}, ML3.5/6, Manual Solution by I.Dede This location: 2020/09/16 07:37:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
ISC 13 02:07:53.6±1.9, 37°.30N±0°.06×20°.68E±0°.07, h13^{km}±11^{km}, n28, σ0^{s}82/43, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.37**	**17**	P	**Pb**	**02 08 01.7**	**-0.4**
KRI1				S	**Sb**	**02 08 08.1**	**+0.3**
	14μm,0.3s						
LTHK	**Lithakia**	**0.42**	**17**	P	**Pb**	**02 08 02.5**	**-0.4**
LTHK				S	**Sb**	**02 08 09.0**	**-0.2**
	22μm,0.3s						
LTHK	**Lithakia**	**0.42**	**17**	P	**Pb**	**02 08 02.6**	**-0.3**
LTHK				S	**Sb**	**02 08 08.7**	**-0.5**
RTZL	**Ratzakli, Kefa**	**0.77**	**5**	P	**Pb**	**02 08 08.6**	**-0.3**
RTZL				S	**Sb**	**02 08 19.8**	**+0.5**
	3μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.81**	**354**	P	**Pb**	**02 08 09.1**	**-0.5**
PSDA				S	**Sn**	**02 08 21.6**	**-1.0**
PSDA	**Pessada-Kefalo**	**0.81**	**354**	P	**Pb**	**02 08 09.4**	**-0.2**
PSDA				S	**Sn**	**02 08 21.6**	**-1.0**
AMT	**Artemida-Makis**	**0.85**	**74**	P	**Pn**	**02 08 10.8**	**-0.5**
VLS	**Valsamata**	**0.88**	**355**	P	**Pb**	**02 08 10.6**	**-0.1**
VLS				S	**Sn**	**02 08 23.6**	**-0.6**
	3μm,0.1s						
VLS	**Valsamata**	**0.88**	**355**	P	**Pb**	**02 08 10.5**	**-0.2**
VLS				S	**Sn**	**02 08 23.4**	**-0.8**
LXR1	**Lixouri, Cepha**	**0.92**	**348**	P	**Pb**	**02 08 11.3**	**-0.1**
LXR1				S	**Sn**	**02 08 25.0**	**-0.2**
	6μm,0.3s						
PYL	**PYLOS**	**0.94**	**115**	P	**Pn**	**02 08 12.2**	**-0.2**
PYL				S	**Sn**	**02 08 27.3**	**+1.6**
	560nm,0.4s						
PYL	**PYLOS**	**0.94**	**115**	P	**Pn**	**02 08 12.3**	**-0.2**
SMHA	**Samh**	**0.95**	**358**	P	**Pn**	**02 08 12.9**	**+0.3**
DMLN	**Damoulianata-K**	**0.96**	**345**	P	**Pb**	**02 08 12.0**	**-0.2**
DMLN				S	**Sn**	**02 08 25.8**	**-0.6**
	3μm,0.5s						
DMLN	**Damoulianata-K**	**0.96**	**345**	P	**Pn**	**02 08 13.1**	**+0.3**
RLS	**Riolos of Patr**	**0.98**	**39**	P	**Pn**	**02 08 12.6**	**-0.4**
RLS				S	**Sn**	**02 08 27.9**	**+1.2**
RLS	**Riolos of Patr**	**0.98**	**39**	P	**Pb**	**02 08 12.1**	**-0.3**
ITM	**Ithomi**	**1.00**	**97**	P	**Pn**	**02 08 13.6**	**+0.3**
ITM	**Ithomi**	**1.00**	**97**	P	**Pn**	**02 08 13.6**	**+0.3**
DRO	**Drossia**	**1.04**	**51**	P	**Pn**	**02 08 13.5**	**-0.4**
DRO	**Drossia**	**1.04**	**51**	P	**Pn**	**02 08 13.9**	**0.0**
VSK1	**VASILIKIADES**	**1.11**	**355**	P	**Pn**	**02 08 14.6**	**-0.2**
VSK1				S	**Sn**	**02 08 31.8**	**+1.9**
FSK	**Fiskardo**	**1.16**	**355**	P	**Pn**	**02 08 15.4**	**-0.1**
FSK				S	**Sn**	**02 08 32.5**	**+1.4**
EVGI	**Lefkada island**	**1.32**	**359**	P	**Pg**	**02 08 18.4**	**-0.6**
EVGI				S	**Sg**	**02 08 38.8**	**+2.7**
KLV	**Kalavryta, Ach**	**1.38**	**57**	P	**Pg**	**02 08 19.2**	**-1.0**
NYDR	**Nydri-Lefkada**	**1.41**	**0**	P	**Pb**	**02 08 19.5**	**-0.2**
GUR	**Goura**	**1.46**	**64**	P	**Pg**	**02 08 20.7**	**-1.0**
TSLK	**Tsoukalades, L**	**1.52**	**359**	P	**Pg**	**02 08 22.0**	**-0.8**

IDC 13 02:11:35.8±3.1, 5°.18S×150°.83E, h0^{km}, mb3.3/2, mbtmp3.5/3, ML1.6/1, MS3.0/1, Error ellipse: s-maj=132.5km s-min=36.0km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.56**	**221**	Pn	Pn	02 13 00.7	+0.8
	1.3nm,0.3s,baz=48,slow=16,SNR=1.7						
PMG				Sn	Sn	02 14 06.0	+1.5
	1.9nm,0.3s,baz=86,slow=19,SNR=1.4						
	3.6nm,0.3s						
WRA	**Warramunga Arr**	**21.75**	**226**	P	P	02 16 29.2	+0.1
	0.6nm,0.5s,baz=51,slow=10,SNR=8.7						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**24.57**	**220**	P	P	02 16 57.3	-0.5
	0.3nm,0.3s,baz=58,slow=8.8,SNR=9.6						
	0.3nm,0.3s						
KAPI	**Kappang**	**30.96**	**269**	LR	LR	02 32 53.3	
	comp=Z,28nm,19.8s,baz=312,slow=41						
TORD	**Torodi Ar. Bea**	**148.55**	**287**	PKPbc	PKPbc	02 31 25.3	-0.5
	1.2nm,0.6s,baz=97,slow=2.8,SNR=14						

*IPEC **13** 02:20:25.3±0.2, 51°.45N×16°.31E, h1^{km}, ML2.2/5, Error ellipse: s-maj=1.6km s-min=1.0km az=37.0*
*DNK **13** 02:20:25.5±1.3, 51°.52N×16°.19E, h4^{km}±4^{km}, ML1.9*
*PRU **13** 02:20:27.8, 51°.37N×16°.25E, h0^{km}*
*VIE **13** 02:20:27.4±0.7, 51°.33N×16°.42E, h0^{km}, mb2.2/3, ml2.7/2, Error ellipse: s-maj=6.4km s-min=4.2km az=70.0, Suspected Mining induced.*
ISC 13 02:20:24.6±0.8, 51°.49N±0°.03×16°.23E±0°.02, h0^{km}, n36, σ1^{s}29/70, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**176**	*e*Pg	**Pg**	**02 20 37.3**	**+0.3**
KSP				*e*Sg	**Sg**	**02 20 45.2**	**-0.2**
CHVC	**Chvalec**	**0.91**	**187**	*e*PG	**Pg**	**02 20 42.6**	**+0.6**
CHVC				*e*SG	**Sg**	**02 20 54.2**	**+0.4**
OSTC	**Ostas**	**0.94**	**181**	*e*PG	**Pg**	**02 20 42.8**	**+0.3**
OSTC				*e*SG	**Sg**	**02 20 54.3**	**-0.3**
UPC	**Upice**	**0.99**	**188**	*e*PG	**Pg**	**02 20 43.9**	**+0.3**
UPC				*e*SG	**Sg**	**02 20 56.7**	**+0.2**
	comp=Z,66nm,0.3s						
DPC	**Dobruska-Polom**	**1.14**	**177**	*e*PG	**Pg**	**02 20 46.5**	**0.0**
DPC				*e*SG	**Sg**	**02 21 00.2**	**-1.1**
PIVO	**Bartosovice**	**1.32**	**171**	*e*Pg	**Pg**	**02 20 49.8**	**-0.1**
	baz=353						
PIVO				*e*Sg	**Sg**	**02 21 05.1**	**-1.9**
	27nm,0.3s,baz=353						
PVCC	**Panska Ves**	**1.42**	**228**	*e*PG	**Pb**	**02 20 52.5**	**+0.5**
PVCC				*e*SG	**Sb**	**02 21 11.0**	**+0.3**
	comp=Z,96nm,0.3s						
KRLC	**Kraliky**	**1.46**	**166**	*e*PG	**Pn**	**02 20 52.1**	**-0.2**
KRLC				*e*SG	**Sg**	**02 21 10.8**	**-0.7**
	comp=Z,23nm,0.5s						
BRG	**Berggiesshubel**	**1.57**	**248**	Pg	**Pg**	**02 20 55.4**	**+0.8**
BRG				Sg	**Sg**	**02 21 15.8**	**+0.9**
BRG				Amp		02 21 18.1	
	comp=Z,17nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.82**	**211**	*e*PG	**Pb**	**02 20 59.1**	**+0.2**
PRU	**Pruhonice**	**1.85**	**216**	*e*PG	**Pb**	**02 20 59.5**	**+0.3**
PRU				*e*SG	**Sb**	**02 21 23.0**	**+0.1**
	comp=Z,26nm,0.7s						
MORC	**Moravsky Berou**	**1.91**	**154**	*e*Pn	**Pn**	**02 20 58.2**	**-0.2**
	baz=335						
MORC				*e*Sg	**Sn**	**02 21 23.0**	**-0.1**
	comp=Z,13nm,0.4s,baz=335						
MORC	**Moravsky Berou**	**1.91**	**154**	*e*PN	**Pn**	**02 20 58.3**	**-0.2**
MORC				*e*SG	**Sn**	**02 21 23.1**	**-0.1**
HSKC	**Hora Svate Kat**	**1.98**	**244**	*e*PG	**Pb**	**02 21 01.8**	**+0.4**
CLL	**Collm**	**2.03**	**266**	*i* Pg	**Pg**	**02 21 04.4**	**+0.9**
CLL				*i* Sg	**Sg**	**02 21 31.8**	**+2.0**
	comp=Z,9.0nm,0.3s						
OKC	**Ostrava-Krasne**	**2.06**	**143**	*e*SG	**Sb**	**02 21 28.8**	**-0.1**
VRAC	**Vranov**	**2.20**	**174**	*e*Pn	**Pn**	**02 21 02.4**	**0.0**
	baz=355						
VRAC				*e*Sg	**Sb**	**02 21 32.8**	**-0.2**
	comp=Z,11nm,0.5s,baz=355						
TREC	**Trest**	**2.25**	**192**	*e*SG	**Sb**	**02 21 35.3**	**+0.8**
ZVC	**Zvikov**	**2.43**	**213**	*e*PG	**Pb**	**02 21 10.0**	**+0.8**
KRUC	**Moravsky**	**2.43**	**177**	*e*Pn	**Pn**	**02 21 05.3**	**-0.3**
	baz=359						
KRUC				*e*Sg	**Sb**	**02 21 40.6**	**+0.9**
	comp=Z,11nm,0.6s,baz=359						
OJC	**Ojcow**	**2.59**	**118**	*e*Pg	**Pg**	**02 21 14.4**	**+0.1**
OJC				*e*Sg	**Sg**	**02 21 49.3**	**+1.3**
NKC	**Novy Kostel**	**2.71**	**244**	*e*PN	**Pn**	**02 21 10.1**	**+0.7**
NKC				*e*PG	**Pg**	**02 21 16.1**	**-0.3**
NKC				*e*SG	**Sg**	**02 21 52.5**	**+1.0**
	comp=Z,15nm,0.4s						
KHC	**Kasperske Hory**	**2.91**	**217**	*e*PN	**Pn**	**02 21 13.2**	**+1.0**
KHC				*e*PG	**Pb**	**02 21 18.6**	**+1.2**
KHC				*e*SG	**Sg**	**02 21 56.6**	**-1.4**
	comp=Z,8.7nm,0.5s						
CKRC	**Cesky Krumlov**	**2.94**	**206**	*e*PG	**Pb**	**02 21 19.3**	**+1.3**
CKRC				*e*SG	**Sg**	**02 21 57.3**	**-1.9**
	comp=Z,9.4nm,0.4s						
LANS	**Liptovska Anna**	**3.13**	**137**	*e*PG	**Pg**	**02 21 23.2**	**-1.4**
LANS				*e*SG	**Sg**	**02 22 04.9**	**-0.2**
MODS	**Modra-Piesok**	**3.19**	**167**	*e*PN	**Pb**	**02 21 20.5**	**-1.7**
MODS				*e*PG	**Pg**	**02 21 26.0**	**+0.2**
MODS				*e*SG	**Sg**	**02 22 06.6**	**-0.5**
NIE	**Niedzica**	**3.33**	**127**	*e*Pg	**Pg**	**02 21 28.9**	**+0.5**
NIE				*e*Sg	**Sg**	**02 22 14.6**	**+3.1**
VYHS	**Vyhne**	**3.44**	**150**	*e*PN	**Pg**	**02 21 29.9**	**-0.6**
VYHS				*e*PG	Pb	02 21 36.7	+10
VYHS				*e*SG	**Sg**	**02 22 14.3**	**-0.7**
CONA	**Conrad Observa**	**3.57**	**184**	*i* Pn	**Pn**	**02 21 22.5**	**+1.1**
	comp=Z,0.6nm,0.2s						
CONA				*e*Sg	**Sg**	**02 22 18.8**	**-0.6**
	comp=Z,4.5nm,0.3s						
BSD	**Bornholm Skovb**	**3.71**	**348**	*i* P	**Pn**	**02 21 23.3**	**+0.1**
BSD				*i* S	**Sn**	**02 22 04.9**	**-2.7**
BSD				IAML		02 22 09.6	
	comp=Z,1.4nm,0.2s						
MOA	**Molln**	**3.86**	**200**	*i* Pn	**Pn**	**02 21 26.4**	**+1.1**
	comp=Z,0.1nm,0.1s						
MOA				*e*Sg	**Sg**	**02 22 27.6**	**-1.0**
	comp=Z,3.1nm,0.3s						
LUNU	**Lund**	**4.47**	**339**	*i* P	**Pn**	**02 21 33.7**	**+0.2**
LUNU				*i* S	**Sn**	**02 22 24.1**	**-2.0**
KOLS	**Kolonicke sedl**	**4.65**	**121**	*e*PN	**Pn**	**02 21 38.2**	**+2.1**
KOLS				*e*PG	**Pg**	**02 21 57.7**	**+4.0**
BLEU	**Blekinge**	**4.83**	**357**	*i* P	**Pn**	**02 21 39.2**	**+0.7**
BLEU				*i* S	**Sn**	**02 22 32.6**	**-2.5**
DEL	**Delary**	**5.18**	**345**	*i* P	**Pn**	**02 21 43.9**	**+0.7**
DEL				*i* S	**Sn**	**02 22 41.7**	**-2.0**
FABU	**Falkenberg**	**5.89**	**341**	*i* P	**Pn**	**02 21 52.2**	**-0.9**
FABU				*i* S	**Sn**	**02 22 57.0**	**-4.2**

*IDC **13** 02:33:18.5±5.7, 22°.18S×68°.43W, h0^{km}, mb3.8/1, mbtmp3.7/2, ML3.8/1,

AP01	Chacalluta	3.23	332	eP	Pn	02 34 22.6 +0.8
AP01				eS	Sn	02 34 58.9 -0.5
AP01				IAML		02 35 07.1
	comp=Z,188nm,0.7s					
PB14	IPOC Station P	3.72	204	eP	Pn	02 34 31.9 +3.4
PB14				eS	Sn	02 35 21.9 +10
PB14				IAML		02 35 22.2
	comp=Z,67nm,0.9s					
LPAZ	La Paz	4.95	7	Pn	Pn	02 34 47.3 +1.8
	comp=Z,1.4nm,0.3s,baz=190,slow=5.7,SNR=20					
	comp=Z,3.1nm,0.4s					
LPAZ	La Paz	4.95	7	eP	Pn	02 34 47.4 +1.8
TORD	Torodi Ar. Bea	77.10	70	P	P	02 45 14.7 -1.2
	comp=Z,0.8nm,0.9s,baz=252,slow=4.9,SNR=5.8					
	comp=Z,0.8nm,0.9s					
MKAR	Makanchi Array	145.31	36	PKPbc	PKPab	02 52 59.2 -0.1
	comp=Z,0.5nm,0.7s,baz=312,slow=2.5,SNR=2.5					

IDC 13 02:57:37.4±3.5, 24°.74N×45°.96W, h0km, mb3.7/5, mbtmp3.7/5, MS3.4/23, Error ellipse: s-maj=134.6km s-min=33.4km az=21.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	San Juan	19.91	255	LR	LR	03 10 11.7	
	comp=Z,34nm,18.2s,baz=12,slow=38						
SADO	Sadowa	33.47	315	LR	LR	03 15 30.8	
	comp=Z,56nm,19.4s,baz=64,slow=32						
SCHQ	Schefferville	33.80	338	LR	LR	03 17 12.7	
	comp=Z,23nm,20.1s,baz=298,slow=35						
TKL	Tuckaleechee C	34.26	297	LR	LR	03 16 11.3	
	comp=Z,84nm,18.3s,baz=128,slow=32						
MDT	Midelt	36.94	68	LR	LR	03 15 37.0	
	comp=Z,43nm,19.7s,baz=358,slow=29						
FRB	Frobisher Bay	41.74	345	LR	LR	03 21 04.4	
	comp=Z,56nm,20.2s,baz=85,slow=34						
DBIC	Dimbokro	43.23	108	LR	LR	03 20 42.7	
	comp=Z,51nm,20.1s,baz=286,slow=32						
H10N2	ASCENSION HYDR	44.60	133	T	T	03 53 28.4	
	baz=317,slow=75,SNR=41						
H10N3	ASCENSION HYDR	44.60	133	T	T	03 53 28.4	
	baz=317,slow=75,SNR=41						
H10N1	ASCENSION HYDR	44.62	133	T	T	03 53 29.8	
	baz=317,slow=75,SNR=51						
H10S3	ASCENSION HYDR	45.31	134	T	T	03 54 28.1	
	baz=263,slow=74,SNR=42						
H10S2	ASCENSION HYDR	45.33	134	T	T	03 54 20.2	
	baz=317,slow=74,SNR=40						
ULM	Lac du Bonnet	45.97	317	LR	LR	03 24 44.6	
	comp=Z,42nm,18.2s,baz=26,slow=35						
CMIG	Matias Romero	46.14	270	LR	LR	03 24 16.4	
	comp=Z,35nm,20.3s,baz=111,slow=35						
TORD	Torodi Ar. Bea	46.31	95	P	P	03 06 05.2 -0.1	
	0.8nm,0.9s,baz=304,slow=7.4,SNR=3.7						
TORD				LR	LR	03 23 09.1	
	comp=Z,59nm,18.2s,baz=332,slow=33						
	0.8nm,0.9s						
ANMO	Albuquerque	52.76	296	LR	LR	03 28 29.1	
	comp=Z,23nm,18.9s,baz=237,slow=35						
PDAR	Pinedale Array	54.60	306	P	P	03 07 07.9 -0.1	
	0.3nm,0.8s,baz=102,slow=8.4,SNR=2.4						
PDAR				LR	LR	03 28 42.5	
	comp=Z,15nm,19.6s,baz=68,slow=34						
	0.3nm,0.8s						
RES	Resolute Bay	55.95	346	LR	LR	03 30 14.3	
	comp=Z,32nm,21.2s,baz=354,slow=35						
YKA	Yellowknife Ar	58.51	330	LR	LR	03 31 53.3	
	comp=Z,40nm,20.3s,baz=300,slow=35						
NEW	Newport	59.61	313	LR	LR	03 30 51.5	
	comp=Z,63nm,21.4s,baz=74,slow=34						
PFO	Pinyon Flats O	61.14	296	LR	LR	03 32 45.2	
	comp=Z,25nm,19.2s,baz=92,slow=34						
NVAR	Mina Array Bea	61.69	302	LR	LR	03 32 36.7	
	comp=Z,66nm,21.2s,baz=80,slow=34						
YBH	Yreka Blue Hor	64.41	306	LR	LR	03 34 33.3	
	comp=Z,36nm,20.5s,baz=17,slow=34						
BBB	Bella Bella	66.15	318	LR	LR	03 36 37.5	
	comp=Z,46nm,18.5s,baz=344,slow=35						
ILAR	Eielson Array	72.41	334	P	P	03 09 05.3 +0.1	
	0.9nm,1.0s,baz=59,slow=5.2,SNR=5.5						
ILAR				LR	LR	03 40 18.8	
	comp=Z,62nm,19.4s,baz=148,slow=35						
	0.9nm,1.0s						
MBAR	Mbarara	78.18	96	LR	LR	03 42 59.3	
	comp=Z,25nm,19.1s,baz=275,slow=35						
BVAR	Borovoye Array	84.95	33	P	P	03 10 14.6 +0.2	
	0.3nm,0.5s,baz=298,slow=3.1,SNR=2.1						
	0.3nm,0.5s						
SUR	Sutherland	85.32	129	LR	LR	03 38 39.6	
	comp=Z,24nm,21.3s,baz=316,slow=29						
BOSA	Boshof	86.61	124	LR	LR	03 45 02.1	
	comp=Z,23nm,18.3s,baz=3.0,slow=33						
KURBB	Kurchatov Arra	90.41	32	P	P	03 10 40.5 -0.2	
	0.6nm,0.9s,baz=323,slow=5.3,SNR=5.1						
	0.6nm,0.9s						

IDC 13 03:02:44.6±2.4, 30°.26S×177°.91W, h46km±20km, mb3.8/3, mbtmp4.0/4, ML3.4/1, MS3.1/1, Error ellipse: s-maj=38.4km s-min=18.5km az=109.0

ISC 13 03:02:43.9±1.5, 30°.36S±0°.10×177°.9W±0°.3, h46km, n18, σ1§47/10, mb4.1/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.11	358	P	Pn	03 03 02.8	-0.2
	524nm,0.2s,baz=197,slow=20,SNR=12						
RAO				S	Sn	03 03 15.7	-1.4
	4μm,0.3s,baz=231,slow=22,SNR=17						
URZ	Urewera	8.90	206	P	Pn	03 04 50.1	+0.3
	0.4nm,0.3s,baz=350,slow=3.9,SNR=1.3						
URZ				S	Sn	03 06 25.9	-2.8
	7.7nm,0.6s,baz=246,slow=23,SNR=6.9						
	2.9nm,0.7s						
DZM	Mont Dzumac	16.30	297	LR	LR	03 11 22.6	
	comp=Z,60nm,18.7s,baz=100,slow=32						
STKA	Stephens Creek	34.59	257	P	P	03 09 30.3	+1.9
	2.1nm,0.5s,baz=90,slow=10,SNR=5.7						
	2.1nm,0.5s						
ASAR	Alice Springs	43.21	267	P	P	03 10 40.8	+0.1
	0.7nm,0.6s,baz=105,slow=7.7,SNR=9.5						
	0.7nm,0.6s						
WRA	Warramunga Arr	44.20	272	P	P	03 10 48.4	-0.2
	1.6nm,0.4s,baz=111,slow=8.0,SNR=26						
	1.6nm,0.4s						
H03S2	Juan Fernandez	80.40	124	T	T	04 44 09.1	
	baz=239,slow=74,SNR=7.3						
H03S1	Juan Fernandez	80.41	124	T	T	04 44 26.7	
	baz=239,slow=74,SNR=9.5						
H03S3	Juan Fernandez	80.42	123	T	T	04 44 25.9	
	baz=239,slow=74,SNR=13						
H03N3	Juan Fernandez	80.59	123	T	T	04 44 32.7	
	baz=236,slow=74						
H03N2	Juan Fernandez	80.59	123	T	T	04 44 29.2	
	baz=236						
H03N1	Juan Fernandez	80.61	123	T	T	04 44 19.2	
	baz=236,slow=74						
H10N3	ASCENSION HYDR	138.80	155	T	T	05 57 45.1	
	baz=203,slow=75,SNR=4.8						
H10N1	ASCENSION HYDR	138.80	155	T	T	05 57 53.9	
	baz=203,slow=75,SNR=5.5						
H10N2	ASCENSION HYDR	138.82	155	T	T	05 57 55.6	
	baz=203,slow=75,SNR=4.9						
FINES	FINESS Array B	145.14	340	PKPbc	PKPbc	03 22 14.5	-0.7
	1.6nm,0.4s,baz=59,slow=2.9,SNR=16						
AKASG	Malin Array Be	151.33	323	PKPbc	PKPbc	03 22 31.9	-0.1
	0.8nm,0.6s,baz=66,slow=2.2,SNR=5.7						
TORD	Torodi Ar. Bea	162.87	179	PKPab	PKPab	03 23 31.8	+1.1
	0.3nm,0.7s,baz=172,slow=3.4,SNR=1.7						

BGR 13 03:08:43.7±0.6, 51°.51N×16°.17E, h1km, ML3.0/13, Error ellipse: s-maj=10.0km s-min=4.4km az=23.0
IPEC 13 03:08:43.6±0.2, 51°.52N×16°.15E, h1km, ML2.8/5, Error ellipse: s-maj=1.8km s-min=1.0km az=44.0
DNK 13 03:08:43.9±1.3, 51°.69N×16°.29E, h0km, ML2.7, ML2.4(UPP), Suspected explosion
IDC 13 03:08:44.2±0.8, 51°.47N×16°.04E, h0km, mb3.2/1, mbtmp3.4/8, ML2.8/7, Error ellipse: s-maj=12.5km s-min=7.5km az=124.0
PRU 13 03:08:46.5, 51°.42N×16°.10E, h0km
VIE 13 03:08:47.0±0.5, 51°.31N×15°.85E, h0km, mb2.7/15, ml2.8/13, ms3.6/1, Error ellipse: s-maj=3.8km s-min=2.6km az=40.0, Suspected Mining induced.
UPP 13 03:08:47.0±3.5, 51°.82N×16°.15E, h0km, ML2.4

ISC 13 03:08:41.6±0.6, 51°.58N±0°.03×16°.12E±0°.02, h0km, n77, σ1§66/148, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.74	171	ePg	Pb	03 08 57.0	-0.4
KSP				eSg	Sg	03 09 06.2	+0.8
KSP	Ksiaz	0.74	171	ePg	Pb	03 08 57.0	-0.4
CHVC	Chvalec	0.99	182	ePG	Pb	03 09 01.8	+0.2
CHVC				eSG	Sg	03 09 13.1	-0.3
OSTC	Ostas	1.02	177	ePG	Pb	03 09 02.6	+0.4
OSTC				eSG	Sg	03 09 14.9	+0.5
	comp=Z,143nm,0.3s						
UPC	Upice	1.07	184	ePG	Pb	03 09 03.4	+0.4
UPC				eSG	Sg	03 09 16.1	+0.1
	comp=Z,181nm,0.3s						
DPC	Dobruska-Polom	1.23	174	ePG	Pb	03 09 06.0	+0.2
DPC				eSG	Sg	03 09 21.1	-0.1
	comp=Z,88nm,0.6s						
DPC	Dobruska-Polom	1.23	174	ePg	Pg	03 09 05.8	+0.5
DPC				eSg	Sb	03 09 23.3	+1.0
PIVO	Bartosovice	1.42	169	ePn	Pb	03 09 09.5	+0.6
	baz=350						
PIVO				eSg	Sg	03 09 26.1	-1.0
	102nm,0.4s,baz=350						
PVCC	Panska Ves	1.43	224	ePG	Pb	03 09 10.0	+0.8
PVCC				eSG	Sn	03 09 29.0	+0.6
BRG	Berggiesshubel	1.54	244	Pn	Pn	03 09 10.8	+0.5
BRG				Pg	Pg	03 09 12.3	+1.3
BRG				Sg	Sg	03 09 32.5	+1.5
BRG				Amp		03 09 34.3	
	comp=Z,92nm,0.4s						
KRLC	Kraliky	1.56	164	ePG	Pb	03 09 11.6	+0.2
KRLC				eSG	Sn	03 09 30.9	-0.7
	comp=Z,46nm,0.3s						
RICC	Richard	1.64	232	eSG	Sg	03 09 34.8	+0.5
FBE	Freiberg	1.86	250	ePn	Pg	03 09 18.0	+0.8
FBE				eSg	Sg	03 09 42.8	+1.6
GOPC	GO Pecny, Ondr	1.87	207	ePG	Pb	03 09 16.8	+0.2
PRU	Pruhonice	1.88	213	ePG	Pb	03 09 17.4	+0.6
PRU				eSG	Sb	03 09 41.2	+0.4
	comp=Z,67nm,0.5s						
HSKC	Hora Svate Kat	1.95	241	ePG	Pg	03 09 19.3	+0.3
HSKC				eSG	Sb	03 09 43.8	+0.9
	comp=Z,74nm,0.3s						
CLL	Collm	1.97	263	ePn	Pn	03 09 17.1	+0.9
CLL				ePg	Pg	03 09 20.2	+0.9
CLL	Collm	1.97	263	iPn	Pn	03 09 17.1	+0.9
	comp=Z,6.0nm,0.4s						
CLL				iPg	Pg	03 09 20.3	+0.9
CLL				ex	x	03 09 25.0	
CLL				eSg	Sg	03 09 47.0	+2.2
	comp=Z,54nm,0.5s						
MORC	Moravsky Berou	2.02	153	ePn	Pn	03 09 17.6	+0.7
	baz=334						
MORC				eSg	Sb	03 09 44.8	0.0
	comp=Z,65nm,0.5s,baz=334						
MORC	Moravsky Berou	2.02	153	ePN	Pn	03 09 17.7	+0.8
MORC				eSG	Sb	03 09 44.9	+0.1
MORC	Moravsky Berou	2.02	153	ePn	Pn	03 09 17.8	+0.8
MORC				eSg	Sg	03 09 46.4	+0.1
OKC	Ostrava-Krasne	2.17	143	eSG	Sb	03 09 49.5	+0.4
OKC	Ostrava-Krasne	2.17	143	eSg	Sg	03 09 51.0	-0.2
VRAC	Vranov	2.29	172	Pn	Pn	03 09 21.6	+0.9
	comp=Z,1.4nm,0.3s,baz=351,slow=12,SNR=10						
VRAC				Lg	Lg	03 09 52.4	
	comp=Z,7.6nm,0.3s,baz=68,slow=19,SNR=7.7						
	comp=Z,6.3nm,0.4s						
VRAC	Vranov	2.29	172	ePn	Pn	03 09 21.7	+1.0
	baz=353						
VRAC				eSg	Sb	03 09 53.4	+0.8
	comp=Z,56nm,0.5s,baz=353						
TREC	Trest	2.32	190	eSG	Sb	03 09 54.4	+0.9
KRUC	Moravsky	2.52	176	ePn	Pn	03 09 24.9	+1.1
	baz=356						
KRUC				eSg	Sb	03 10 00.7	+1.4
	comp=Z,45nm,0.6s,baz=356						
TANN	Tannenbergstha	2.59	245	ePn	Pn	03 09 26.1	+1.3
TANN				eSg	Sg	03 10 04.5	-0.1
NKC	Novy Kostel	2.68	241	ePN	Pn	03 09 27.9	+1.8
NKC				ePG	Pg	03 09 33.6	+0.6
NKC				eSG	Sg	03 10 09.8	+2.0
	comp=Z,95nm,0.4s						
OJC	Ojcow	2.70	119	ePg	Pg	03 09 34.1	+0.8
OJC				eSg	Sg	03 10 09.6	+1.4
JAVC	Velka Javorina	2.90	159	ePn	Pn	03 09 30.1	+1.1
	baz=340						
KHC	Kasperske Hory	2.94	215	ePN	Pn	03 09 30.2	+0.6
KHC				ePG	Pb	03 09 36.6	+1.7
KHC				eSG	Sb	03 10 13.6	+2.3
	comp=Z,36nm,0.5s						
CKRC	Cesky Krumlov	2.99	204	ePN	Pn	03 09 32.2	+1.9
CKRC				ePG	Pg	03 09 38.2	-0.8
CKRC				eSG	Sg	03 10 16.6	-1.1
	comp=Z,32nm,0.4s						
ROTZ	Rotzenmuhle	3.08	235	ePn	Pn	03 09 32.9	+1.4
ROTZ				ePg	Pg	03 09 39.5	-1.1
ROTZ				eSg	Sg	03 10 21.7	+1.3
GEC2	GERESS Array S	3.14	211	ePn	Pn	03 09 34.3	+1.8
GEC2				ePg	Pb	03 09 40.4	+2.0
GERES	GERESS Array B	3.14	211	Pn	Pn	03 09 33.0	+0.5
	comp=Z,2.3nm,0.3s,baz=30,slow=14,SNR=27						
GERES				Pg	Pb	03 09 40.3	+1.9
	comp=Z,5.5nm,0.3s,baz=30,slow=20,SNR=31						
GERES				Sn	Sn	03 10 10.6	-0.1
	comp=Z,3.2nm,0.3s,baz=31,slow=28,SNR=4.7						
GERES				Lg	Lg	03 10 19.1	
	comp=Z,7.7nm,0.3s,baz=27,slow=28,SNR=9.4						
	comp=Z,4.1nm,0.4s						
WET	Wettzell	3.20	222	ePn	Pn	03 09 34.5	+1.3
WET				ePg	Pb	03 09 40.5	+1.2
LANS	Liptovska Anna	3.24	137	ePN	Pn	03 09 35.9	+2.2
LANS				ePG	Pg	03 09 47.1	+3.4
LANS				eSG	Sg	03 10 24.8	-0.8
MODS	Modra-Piesok	3.29	166	ePG	Pg	03 09 44.9	+0.2
MODS				eSG	Sg	03 10 27.5	+0.2
NIE	Niedzica	3.43	127	ePg	Pg	03 09 49.2	+1.8
NIE				eSg	Sg	03 10 32.4	+0.5
VYHS	Vyhne	3.55	149	ePN	Pn	03 09 39.5	+1.6
VYHS				ePG	Pg	03 09 50.7	+1.1
VYHS				eSG	Sg	03 10 34.9	-0.6
CLZ	Clausthal	3.58	277	ePn	Pn	03 09 41.2	+2.7
BSD	Bornholm Skovb	3.62	349	iP	Pn	03 09 40.5	+1.7
BSD				iS	Sn	03 10 21.0	-1.2
BSD				IAML		03 10 26.1	
	comp=Z,3.7nm,0.3s						
GRF	Grafenberg Arr	3.64	241	eSg	Sg	03 10 40.0	+1.4
CONA	Conrad Observa	3.66	183	iPn	Pn	03 09 40.8	+1.3
	comp=Z,2.6nm,0.3s,SNR=9.1						
CONA				eSg	Sg	03 10 38.0	-1.0
	comp=Z,13nm,0.3s						
RONA	Rosalia, Austr	3.88	178	iPn	Pn	03 09 44.5	+1.9
	comp=Z,0.4nm,0.1s						
RONA				eSg	Sg	03 10 46.3	+0.1
	comp=Z,18nm,0.5s						
MOA	Molln	3.92	199	iPn	Pn	03 09 44.4	+1.4
	comp=Z,6.6nm,0.3s,SNR=6.5						
MOA				eSg	Sg	03 10 47.6	+0.2
	comp=Z,17nm,0.3s						
STHS	Stebnicka Huta	3.92	121	ePN	Pn	03 09 45.8	+2.7
STHS				ePG	Pg	03 09 59.4	+2.7
STHS				eSG	Sg	03 10 49.7	+2.2
KECS	Kecovo	4.18	136	eSG	Sg	03 10 56.5	+0.5
BIOA	Bad Ischl, Aus	4.21	203	iPn	Pn	03 09 48.3	+1.2
	comp=Z,6.6nm,0.3s,SNR=5.6						
BIOA				eSg	Sg	03 10 55.9	-0.9
	comp=Z,29nm,0.6s						
ARSA	Arzberg	4.35	185	iPn	Pn	03 09 51.4	+2.5
	comp=Z,1.3nm,0.2s						
ARSA				Sg	Sg	03 10 58.9	-2.3
	comp=Z,18nm,0.6s						
LUNU	Lund	4.37	340	iP	Pn	03 09 50.0	+0.9
LUNU				iS	Sn	03 10 39.9	-0.8
COP	Copenhagen	4.67	333	iS	Sn	03 10 46.5	-1.5
COP				IAML		03 10 58.1	
	comp=Z,16nm,0.1s						
LESA	Schwarzleotal	4.72	210	iPn	Pn	03 09 55.2	+1.1
	comp=Z,1.1nm,0.2s						
LESA				eSg	Sg	03 11 10.4	-2.8
	comp=Z,13nm,0.4s						
BLEU	Blekinge	4.74	358	iP	Pn	03 09 57.2	+2.9
BLEU				iS	Sn	03 10 47.6	-2.3
KOLS	Kolonicke sedl	4.75	121	ePN	Pn	03 09 56.2	+1.7
KOLS				ePG	Pg	03 10 16.2	+3.5
KOLS				eSG	Sg	03 11 14.9	+0.7
KBA	Koelnbreinsper	4.85	203	ePn	Pn	03 09 57.7	+1.7
	comp=Z,4.5nm,0.5s,SNR=11						
KBA				eSg	Sg	03 11 17.5	+0.1
	comp=Z,10nm,0.5s						
DEL	Delary	5.08	346	P	Pn	03 10 00.3	+1.4
DEL				S	Sn	03 10 56.2	-2.1
DEL	Delary	5.08	346	iP	Pn	03 10 00.1	+1.2
DEL				P	Pn	03 10 00.3	+1.4
DEL				S	Sn	03 10 56.2	-2.1
DEL				iS	Sn	03 10 56.5	-1.7
WATA	Walderalm	5.17	217	ePn	Pn	03 10 01.6	+1.2
	comp=Z,2.6nm,0.3s						
WTTA	Wattenberg	5.21	216	iPn	Pn	03 10 03.1	+2.1
	comp=Z,0.9nm,0.2s						
WTTA				eSg	Sg	03 11 30.6	+1.6
	comp=Z,7.1nm,0.5s						
MOTA	Moosalm	5.35	220	iPn	Pn	03 10 03.9	+1.1
	comp=Z,1.7nm,0.3s						
RETA	Reutte	5.38	223	iPn	Pn	03 10 04.1	+1.0
	comp=Z,1.5nm,0.3s,SNR=4.8						
RETA				eSg	Sg	03 11 33.2	-1.0
	comp=Z,5.1nm,0.4s						
ABTA	Abfaltersbach	5.38	207	iPn	Pn	03 10 04.7	+1.5
	comp=Z,1.3nm,0.4s						
ABTA				Sg	Sg	03 11 33.0	-1.3
	comp=Z,8.5nm,0.5s						
SSRD	Sdr. Stenderup	5.50	318	iS	Sn	03 11 08.3	-0.3
SSRD				IAML		03 11 13.7	
	comp=Z,5.2nm,0.2s						
FETA	Feichten	5.76	220	iPn	Pn	03 10 09.6	+1.1
	comp=Z,0.7nm,0.3s						
FETA				Sg	Sg	03 11 46.3	-0.3
	comp=Z,4.1nm,0.7s						
FABU	Falkenberg	5.79	341	P	Pn	03 10 09.8	+1.1
FABU	Falkenberg	5.79	341	iP	Pn	03 10 09.6	+0.9
FABU				P	Pn	03 10 09.8	+1.1
FABU				iS	Sn	03 11 13.1	-2.6
DAVA	Damuels	5.91	226	iPn	Pn	03 10 11.1	+0.5
	comp=Z,1.1nm,0.2s						
DAVA				eSg	Sg	03 11 52.4	+1.0
	comp=Z,6.9nm,0.5s						
DAVOX	Davos/Dischmat	6.30	223	Pn	Pn	03 10 17.4	+1.4
	comp=Z,0.4nm,0.3s,baz=38,slow=14,SNR=6.5						
DAVOX				Sn	Sn	03 11 25.4	-3.4
	comp=Z,0.2nm,0.3s,baz=336,slow=20,SNR=1.4						
DAVOX				Lg	Lg	03 12 01.5	
	comp=Z,0.5nm,0.3s,baz=272,slow=20,SNR=2.5						
	comp=Z,2.2nm,0.6s						
ONAU	Onsala	6.33	339	iS	Sn	03 11 24.7	-4.2
AKASG	Malin Array Be	8.29	91	Pn	Pn	03 10 43.8	+0.7
	comp=Z,0.6nm,0.3s,baz=286,slow=12,SNR=4.1						
AKASG				Sn	Sn	03 12 12.6	-4.8
	comp=Z,1.1nm,0.3s,baz=283,slow=24,SNR=2.9						
AKASG				Lg	Lg	03 13 08.0	
	comp=Z,0.5nm,0.3s,baz=271,slow=27,SNR=1.1						
	comp=Z,0.3nm,0.4s						
HFS	Hagfors	8.69	352	Pn	Pn	03 10 48.8	+0.4
	comp=Z,0.1nm,0.3s,baz=168,slow=15,SNR=1.6						
HFS				Sn	Sn	03 12 22.2	-4.8
	comp=Z,0.2nm,0.3s,baz=174,slow=28,SNR=1.3						
	comp=Z,2.9nm,1.0s						
FINES	FINESS Array B	11.30	25	Pn	Pn	03 11 24.1	-0.1
	comp=Z,0.1nm,0.3s,baz=209,slow=10,SNR=2.1						
FINES				Sn	Sn	03 13 22.8	-8.3
	comp=Z,0.1nm,0.3s,baz=217,slow=21,SNR=2.2						
	comp=Z,3.3nm,0.8s						
EKA	Eskdalemuir Ar	12.08	296	Pn	Pn	03 11 33.4	-1.4
	baz=102,slow=14						
ARCES	ARCESS Array B	18.56	10	Pn	P	03 12 58.5	-1.1
	comp=Z,0.1nm,0.3s,baz=196,slow=13,SNR=1.9						
	comp=Z,1.3nm,0.8s						
TORD	Torodi Ar. Bea	40.06	202	P	P	03 16 20.1	+1.5
	comp=Z,0.3nm,0.7s,baz=5.1,slow=10,SNR=2.5						
	comp=Z,0.3nm,0.7s						

IDC 13 03:27:11.5±1.2, 17°.33S×174°.28W, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=52.4km s-min=23.5km az=134.0

ISC 13 03:27:27.7±1.2, 17°.6S±0°.3×174°.3W±0°.3, h139km, n6, σ0§35/6, mb3.4/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	21.89	198	P	P	03 32 09.4	-0.1
	6.4nm,0.3s,baz=41,slow=3.4,SNR=9.7						
	6.4nm,0.3s						
WRA	Warramunga Arr	48.56	259	P	P	03 35 57.4	+0.1
	0.3nm,0.7s,baz=98,slow=6.0,SNR=4.0						
	0.3nm,0.7s						
ASAR	Alice Springs	48.66	254	P	P	03 35 58.1	+0.1
	1.6nm,0.6s,baz=89,slow=8.5,SNR=16						
	1.6nm,0.6s						
NVAR	Mina Array Bea	76.54	42	P	P	03 39 03.4	+0.5
	0.3nm,0.8s,baz=225,slow=8.7,SNR=2.8						
	0.3nm,0.8s						
PDAR	Pinedale Array	84.48	42	P	P	03 39 45.1	-0.1
	0.3nm,0.6s,baz=185,slow=4.4,SNR=2.9						
	0.3nm,0.6s						
ILAR	Eielson Array	84.79	11	P	P	03 39 45.6	-0.3
	0.3nm,0.5s,baz=227,slow=6.1,SNR=8.6						
	0.3nm,0.5s						

SJA 13 03:31:04.0, 28°.94S×69°.92W, h125km, ML2.7
GUC 13 03:31:05.4±0.9, 28°.91S×69°.84W, h114km±7km, ML2.7

ISC 13 03:31:04.3±1.6, 28°.94S±0°.04×69°.83W±0°.05, h123km±12km, n34, σ0§90/44, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.77	264	eP	Pn	03 31 25.1	+0.3
LCO				eS	Sn	03 31 39.8	-0.5
LCO	Las Campanas	0.77	264	iP	Pn	03 31 24.7	-0.1
CO01	Juntas del Tor	1.06	193	eP	Pn	03 31 28.4	+0.9
CO01				eS	Sn	03 31 45.4	+0.3
CO01				IAML		03 31 46.6	
	comp=E,81nm,0.3s						
CO01	Juntas del Tor	1.06	193	iP	Pn	03 31 27.9	+0.4
AROD	Rodeo	1.26	166	iP	Pn	03 31 30.6	+1.0
AROD	Rodeo	1.26	166	iP	Pn	03 31 30.4	+0.7
AROD				eS	Sn	03 31 48.0

RTLS	Leoncito	2.89	171	*i* P	Pn	03 31 51.6	+2.0
CO04	Los Peladeros	3.25	197	*e*P	Pn	03 31 54.7	+0.4
CO04				IAML		03 32 51.7	
	comp=N,25nm,0.3s						
GO02	Mina Guanaco	3.77	3	*i* P	Pn	03 32 02.1	+0.9
VA03	San Esteban	3.86	189	*i* P	Pn	03 32 03.0	+0.8
MT02	Curacav	4.45	194	*i* P	Pn	03 32 08.9	-1.1
MT04	Ro Olivares	4.46	183	*i* P	Pn	03 32 11.8	+1.5
MRA	San Martin	4.96	135	*i* P	Pn	03 32 17.2	+0.4
MT01	Popeta	5.06	194	*i* P	Pn	03 32 17.1	-1.1

*THE **13** 04:05:27.4, 37°.66N×20°.89E, h15km, ML2.7/5, Error ellipse: s-maj=1.5km s-min=0.8km az=230.0*
*ATH **13** 04:05:27.2, 37°.65N×20°.88E, h15km±1km, ML2.2/3, Error ellipse: s-maj=2.2km s-min=1.2km az=28.0*

ISC 13 04:05:27.0±1.0, 37°.66N±0°.04×20°.91E±0°.04, h16km±6km, n27, σ0°41/39, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.07	272	P		Pg	04 05 30.3	+0.2
KRI1				S		Sg	04 05 32.4	+0.2
	9μm,0.4s							
LTHK	Lithakia	0.08	310	P		Pg	04 05 29.9	-0.2
LTHK				S		Sg	04 05 32.0	-0.2
	13μm,0.2s							
LTHK	Lithakia	0.08	310	P		Pg	04 05 29.9	-0.2
LTHK				S		Sg	04 05 32.1	-0.1
RTZL	Ratzakli, Kefa	0.43	345	P		Pg	04 05 35.5	-0.2
RTZL				S		Sb	04 05 42.7	+0.2
	1μm,0.3s							
PSDA	Pessada-Kefalo	0.52	330	P		Pg	04 05 37.0	-0.4
PSDA				S		Sb	04 05 45.1	-0.1
PSDA	Pessada-Kefalo	0.52	330	P		Pg	04 05 36.9	-0.4
PSDA				S		Sb	04 05 45.1	-0.1
VLS	Valsamata	0.58	334	P		Pg	04 05 37.9	-0.5
VLS				S		Sg	04 05 46.3	+0.2
	422nm,0.3s							
VLS	Valsamata	0.58	334	P		Pg	04 05 37.9	-0.5
VLS				S		Sg	04 05 46.5	+0.3
RLS	Riolos of Patr	0.59	48	P		Pg	04 05 38.3	-0.4
RLS				S		Sb	04 05 47.9	+0.7
RLS	Riolos of Patr	0.59	48	P		Pg	04 05 38.1	-0.7
RLS				S		Sb	04 05 47.8	+0.6
RLS				AML		AML	04 05 50.0	
	comp=N,1143μm,0.3s							
RLS				AML		AML	04 05 51.0	
	comp=E,706μm,0.3s							
SMHA	Samh	0.63	341	P		Pb	04 05 39.9	+0.3
SMHA				S		Sg	04 05 47.5	-0.2
AMT	Artemida-Makis	0.65	101	P		Pb	04 05 40.4	+0.5
DRO	Drossia	0.70	65	P		Pb	04 05 41.5	+0.6
DRO	Drossia	0.70	65	P		Pb	04 05 41.4	+0.6
DMLN	Damoulianata-K	0.72	324	P		Pb	04 05 41.7	+0.5
DMLN				S		Sb	04 05 51.1	+0.3
	comp=E,590nm,0.4s							
DMLN	Damoulianata-K	0.72	324	P		Pb	04 05 41.7	+0.5
VSK1	VASILIKIADES	0.80	340	P		Pg	04 05 42.6	+0.1
FSK	Fiskardo	0.84	341	P		Pb	04 05 43.3	0.0
ITM	Ithomi	0.94	120	P		Pn	04 05 45.6	0.0
ITM				AML		AML	04 06 04.8	
	comp=N,353μm,0.4s							
ITM				AML		AML	04 06 06.0	
	comp=E,295μm,0.6s							
EVGI	Lefkada island	0.98	348	P		Pb	04 05 45.3	-0.4
EVGI	Lefkada island	0.98	348	P		Pb	04 05 45.8	+0.1
PYL	PYLOS	1.01	139	P		Pb	04 05 46.0	-0.1
PYL	PYLOS	1.01	139	P		Pb	04 05 45.5	-0.6
KLV	Kalavryta, Ach	1.05	68	P		Pb	04 05 47.0	+0.1
KLV				AML		AML	04 06 08.1	
	comp=N,150μm,0.6s							
KLV				AML		AML	04 06 08.5	
	comp=E,173μm,0.7s							
NYDR	Nydri-Lefkada	1.07	351	P		Pb	04 05 46.5	-0.6
EFP	Efpalio	1.10	45	P		Pb	04 05 47.1	-0.6
ANX	Ano Chora	1.23	40	P		Pn	04 05 49.6	0.0

*ATH **13** 04:16:25.8, 37°.14N×20°.48E, h8km±2km, ML3.4/8, Error ellipse: s-maj=2.5km s-min=1.2km az=49.0*
*THE **13** 04:16:26.5, 37°.18N×20°.51E, h6km±1km, ML3.4/9, Error ellipse: s-maj=1.5km s-min=0.7km az=54.0*
*IDC **13** 04:16:28.6±1.7, 37°.63N×20°.81E, h0km, mb3.6/5, mbtmp3.5/6, ML3.7/1, MS2.9/5, Error ellipse: s-maj=41.0km s-min=27.0km az=123.0*

ISC 13 04:16:26.9±1.7, 37°.19N±0°.05×20°.54E±0°.05, h7km±9km, n51, σ0°85/63, mb3.5/5, MS3.0/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.52	25	P		Pg	04 16 37.0	0.0
KRI1				S		Sb	04 16 45.4	-0.8
	12μm,0.6s							
LTHK	Lithakia	0.57	25	P		Pg	04 16 37.7	-0.3
LTHK				S		Sg	04 16 46.3	+0.9
	9μm,0.6s							
LTHK	Lithakia	0.57	25	P		Pg	04 16 37.7	-0.3
LTHK				S		Sg	04 16 46.3	+0.9
LTHK				AML		AML	04 16 46.7	
	comp=N,17174μm,0.4s							
LTHK				AML		AML	04 16 47.2	
	comp=E,8932μm,0.3s							
RTZL	Ratzakli, Kefa	0.91	12	P		Pg	04 16 43.6	-0.7
RTZL				S		Sb	04 16 57.1	-0.1
	comp=E,2μm,0.7s							
PSDA	Pessada-Kefalo	0.93	2	P		Pg	04 16 44.0	-0.7
PSDA				S		Sg	04 16 57.1	+0.4
PSDA	Pessada-Kefalo	0.93	2	P		Pg	04 16 44.4	-0.3
VLS	Valsamata	0.99	2	P		Pg	04 16 45.0	-0.9
VLS				S		Sb	04 16 59.9	+0.3
	comp=E,2μm,0.9s							
VLS	Valsamata	0.99	2	P		Pg	04 16 44.9	-0.9
VLS				S		Sg	04 16 58.8	+0.1
VLS				AML		AML	04 17 02.1	
	comp=E,2379μm,0.3s							
VLS				AML		AML	04 17 08.6	
	comp=N,4367μm,0.7s							
AMT	Artemida-Makis	0.99	69	P		Pg	04 16 45.7	-0.3
AMT				S		Sb	04 17 00.5	+0.7
AMT				AML		AML	04 17 07.6	
	comp=N,14363μm,0.5s							
AMT				AML		AML	04 17 10.6	
	comp=E,15082μm,0.6s							
PYL	PYLOS	1.01	106	P		Pg	04 16 45.1	-1.1
PYL				S		Sb	04 17 00.9	+0.8
	comp=E,2μm,1.0s							
PYL	PYLOS	1.01	106	P		Pg	04 16 45.2	-1.1
PYL				AML		AML	04 17 02.4	
	comp=E,2021μm,0.5s							
PYL				AML		AML	04 17 07.9	
	comp=N,3608μm,0.7s							
LXRA	Lixouri, Kepha	1.01	356	P		Pg	04 16 45.9	-0.5
LXR1	Lixouri, Cepha	1.01	356	P		Pg	04 16 46.0	-0.4
DMLN	Damoulianata-K	1.06	353	P		Pg	04 16 46.0	-1.2
DMLN	Damoulianata-K	1.06	353	P		Pg	04 16 46.3	-0.9
ITM	Ithomi	1.11	90	P		Pg	04 16 47.4	-0.7
ITM				S		Sb	04 17 04.1	+1.0
	comp=N,1μm,0.6s							
ITM	Ithomi	1.11	90	P		Pg	04 16 47.5	-0.7
ITM				AML		AML	04 17 05.8	
	comp=N,2585μm,0.4s							
ITM				AML		AML	04 17 10.5	
	comp=E,2225μm,0.6s							
RLS	Riolos of Patr	1.14	40	P		Pg	04 16 47.5	-1.2
RLS				S		Sn	04 17 05.3	+0.1
RLS	Riolos of Patr	1.14	40	P		Pg	04 16 47.5	-1.2
DRO	Drossia	1.21	50	P		Pg	04 16 48.9	-1.1
DRO				S		Sb	04 17 06.5	+0.7
	comp=E,2μm,0.7s							
DRO	Drossia	1.21	50	P		Pg	04 16 48.6	-1.3
DRO				S		Sn	04 17 07.0	+0.2
DRO				AML		AML	04 17 10.0	
	comp=N,3497μm,0.5s							
DRO				AML		AML	04 17 12.1	
	comp=E,4250μm,0.4s							
FSK	Fiskardo	1.27	1	P		Pn	04 16 50.2	-0.9
FSK				S		Sn	04 17 08.4	0.0
	comp=E,2μm,0.8s							
FSK	Fiskardo	1.27	1	P		Pn	04 16 50.2	-0.9
FSK				S		Sn	04 17 08.3	0.0
FSK				AML		AML	04 17 17.7	
	comp=E,3261μm,0.9s							
FSK				AML		AML	04 17 19.5	
	comp=N,2795μm,0.6s							
EVGI	Lefkada island	1.43	4	P		Pn	04 16 52.9	-0.5
EVGI				S		Sb	04 17 12.1	-0.3
	comp=N,1μm,0.5s							
EVGI	Lefkada island	1.43	4	P		Pn	04 16 52.8	-0.5
UPR	University Cam	1.48	42	P		Pb	04 16 54.5	-0.2
DRAG	Dragano-Lefkad	1.49	1	P		Pn	04 16 54.1	-0.1
NYDR	Nydri-Lefkada	1.53	5	P		Pn	04 16 54.8	+0.2
NYDR	Nydri-Lefkada	1.53	5	P		Pn	04 16 54.7	+0.1
KLV	Kalavryta, Ach	1.54	56	P		Pn	04 16 54.6	-0.2
LKD2	Lefkada island	1.60	3	P		Pn	04 16 56.1	+0.5
GUR	Goura	1.62	62	P		Pn	04 16 55.6	-0.3
GUR	Goura	1.62	62	P		Pn	04 16 55.7	-0.3
TSLK	Tsoukalades, L	1.64	3	P		Pn	04 16 56.7	+0.6
EFP	Efpalio	1.65	41	P		Pn	04 16 56.4	+0.2
EFP	Efpalio	1.65	41	P		Pn	04 16 56.3	+0.2
EFP				AML		AML	04 17 30.9	
	comp=N,927μm,0.5s							
EFP				AML		AML	04 17 30.9	
	comp=E,728μm,0.8s							
KALE	Kalithea	1.75	46	P		Pb	04 16 59.1	-0.2
ANX	Ano Chora	1.78	38	P		Pn	04 16 58.7	+0.6
EVR	Evrytania	2.00	30	P		Pb	04 17 03.7	+0.1
MAKR	Makrakomi, Fth	2.21	34	P		Pn	04 17 05.7	+1.6
AXAR	Agios Charalam	2.30	46	P		Pn	04 17 06.9	+1.6
OHR	Ohrid	3.92	3	*i* Pn		Pn	04 17 29.4	+1.8
VRAC	Vranov	12.45	348	LR		LR	04 25 07.7	
	comp=E,50nm,18.4s,baz=170,slow=43							
MMAI	Mount Meron Ar	12.86	104	LR		LR	04 26 01.6	
	comp=E,36nm,19.8s,baz=262,slow=45							
ESDC	Sonseca Array	19.34	285	P		Pn	04 20 56.6	+2.7
	comp=E,0.1nm,0.3s,baz=84,slow=12,SNR=2.3							
	comp=E,0.4nm,0.8s							
HFS	Hagfors	23.38	351	P		P	04 21 34.6	-1.3
	comp=E,3.6nm,1.0s,baz=146,slow=10,SNR=2.7							
	comp=E,3.6nm,1.0s							
FINES	FINESS Array B	24.53	6	P		P	04 21 46.0	-0.8
	comp=E,4.1nm,1.0s,baz=183,slow=7.7,SNR=1.6							
	comp=E,4.1nm,1.0s							
NOA	NORSAR Array B	24.59	349	P		P	04 21 46.4	-1.0
	comp=E,0.4nm,0.7s,baz=163,slow=10,SNR=1.5							
NOA				LR		LR	04 32 19.8	
	comp=E,21nm,18.3s,baz=345,slow=39							
	comp=E,0.4nm,0.7s							
TORD	Torodi Ar. Bea	29.27	220	P		P	04 22 36.8	+7.0
	comp=E,0.3nm,0.5s,baz=27,slow=10,SNR=1.3							
	comp=E,0.3nm,0.5s							
MKAR	Makanchi Array	45.81	58	P		P	04 24 48.3	-1.0
	comp=E,0.3nm,0.5s,baz=274,slow=6.3,SNR=1.9							
MKAR				LR		LR	04 47 48.6	
	comp=E,16nm,19.1s,baz=304,slow=41							
	comp=E,0.3nm,0.5s							
LBTB	Lobatse	62.05	175	LR		LR	04 58 46.3	
	comp=E,12nm,19.5s,baz=61,slow=41							

*IDC **13** 04:16:35.7±2.9, 30°.37S×177°.75W, h0km, mb4.1/3, mbtmp4.0/4, ML3.3/1, Error ellipse: s-maj=66.4km s-min=23.8km az=112.0*
*NEIC **13** 04:16:45.1±2.1, 29°.92S±0°.07×178°.0W±0°.2, h56km±7km, mb4.4/11, Error ellipse: s-maj=19.0km s-min=9.8km az=85.0*

ISC 13 04:16:44.8±0.8, 29°.97S±0°.09×178°.2W±0°.2, h50km, n29, σ1°46/21, mb4.2/10, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.77	20	Pn		Pn	04 16 58.4	-1.1
RAO						Sn	04 17 09.9	-0.2
RAO	Raoul Island	0.77	20	Pn		Pn	04 16 59.1	-0.3
	174nm,0.3s,baz=73,slow=19,SNR=12							
RAO				Sn		Sn	04 17 13.2	+3.2
	440nm,0.3s,baz=44,slow=19,SNR=7.5							
URZ	Urewera	9.12	204	Pn		Pn	04 18 45.1	-8.8
	0.3nm,0.3s,baz=345,slow=4.0,SNR=0.9							
URZ				Sn		Sn	04 20 24.3	-11
	0.7nm,0.3s,baz=295,slow=20,SNR=6.3							
	2.0nm,0.6s							
RTZ	Ruatahuna	9.49	203	Pn		Pn	04 18 60.0	+1.1
HNR	Honiara	28.88	311	P		P	04 22 39.5	+0.6
STKA	Stephens Creek	34.39	256	P		P	04 23 27.9	+0.6
STKA	Stephens Creek	34.39	256	P		P	04 23 27.6	+0.3
	2.4nm,0.6s,baz=84,slow=9.1,SNR=4.7							
	2.4nm,0.6s							
BBOO	Buckleboo	38.90	254	P		P	04 24 05.2	-0.5
BBOO				IAmb		IAmb	04 24 31.5	
	comp=Z,34nm,1.5s							
ASAR	Alice Springs	42.94	267	P		P	04 24 39.7	+0.6
	comp=Z,0.4nm,0.3s,baz=106,slow=7.6,SNR=8.9							
	comp=Z,0.4nm,0.3s							
WR0	Warramunga Arr	43.71	272	P		P	04 24 46.4	+1.1
WR0				IAmb		IAmb	04 25 04.0	
	comp=Z,7.8nm,1.4s							
WB2	Warramunga Arr	43.88	272	P		P	04 24 47.1	+0.4
WB2				IAmb		IAmb	04 24 47.8	
	comp=Z,7.6nm,1.4s							
WRA	Warramunga Arr	43.89	272	P		P	04 24 46.8	0.0
WRA	Warramunga Arr	43.89	272	P		P	04 24 47.3	+0.5
	comp=Z,1.3nm,0.3s,baz=109,slow=7.9,SNR=34							
	comp=Z,1.3nm,0.3s							
WB0	Warramunga Arr	43.91	272	P		P	04 24 47.7	+0.7
WB0				IAmb		IAmb	04 24 57.9	
	comp=Z,4.4nm,1.1s							
CASY	Casey	55.43	208	P		P	04 26 10.3	-3.5
CASY				IAmb		IAmb	04 26 27.6	
	comp=Z,15nm,1.2s							
QSPA	South Pole Qui	60.13	180	P		P	04 26 47.8	+0.8
QSPA				IAmb		IAmb	04 26 50.8	
	comp=Z,2.1nm,0.8s							
SNAA	Sanae	78.58	179	P		P	04 28 42.9	+2.1
SNAA				IAmb		IAmb	04 28 56.8	
	comp=Z,3.4nm,1.3s							
H03S2	Juan Fernandez	80.86	124	T		T	05 58 04.0	
	baz=238,slow=74,SNR=4.3							
H03S1	Juan Fernandez	80.87	124	T		T	05 58 20.2	
	baz=238,slow=74,SNR=5.3							
H03S3	Juan Fernandez	80.88	124	T		T	05 58 01.4	
	baz=238,slow=74,SNR=5.4							
H03N3	Juan Fernandez	81.05	123	T		T	05 58 15.9	
	baz=236							
H03N2	Juan Fernandez	81.05	123	T		T	05 58 13.0	
	baz=236							
H03N1	Juan Fernandez	81.06	123	T		T	05 58 11.2	
	baz=236							
KIWB	Kanaga Island	81.48	1	P		P	04 28 54.3	-2.0
ADK	Adak	81.52	1	P		P	04 28 55.7	-0.7
H10N3	ASCENSION HYDR	139.28	155	T		T	07 11 51.8	
	baz=203,slow=75,SNR=4.5							
H10N1	ASCENSION HYDR	139.28	155	T		T	07 11 55.1	
	baz=203,slow=75,SNR=4.4							
H10N2	ASCENSION HYDR	139.29	155	T		T	07 11 51.5	
	baz=203,slow=75,SNR=5.1							
FINES	FINESS Array B	144.68	340	PKPbc		PKPab	04 36 13.0	-1.0
	comp=Z,1.2nm,0.5s,baz=42,slow=3.6,SNR=10							

IDC 13 04:26:58.8±1.7, 53°.81N×85°.60E, h0km, mbtmp2.8/2, ML2.0/2, Error ellipse: s-maj=12.2km s-min=6.5km az=95.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.48	287	I		I	04 29 53.1	
	0.1nm,0.8s,baz=107,slow=349,SNR=3.5							
ZALV	Zalesovo Beam	0.48	287	Pg		Pg	04 27 07.9	-0.1
	1.1nm,0.3s,baz=107,slow=18,SNR=9.1							
ZALV				Lg		Lg	04 27 14.7	
	2.8nm,0.3s,baz=105,slow=33,SNR=50							
ZALV				Rg		Rg	04 27 16.8	
	111nm,1.0s,baz=105,slow=34,SNR=50							
KURBB	Kurchatov Arra	5.39	237	Pn		Pn	04 28 21.2	+0.7
	baz=46,slow=2.7,SNR=1.4							
KURBB				Lg		Lg	04 29 50.8	
	0.1nm,0.3s,baz=52,slow=33,SNR=5.0							
	0.4nm,0.4s							
MKAR	Makanchi Array	7.34	198	Pn		Pn	04 28 48.3	+1.1
	0.1nm,0.3s,baz=22,slow=13,SNR=6.3							
MKAR				Lg		Lg	04 30 51.3	
	0.1nm,0.3s,baz=22,slow=27,SNR=5.4							
	0.6nm,0.5s							

*IDC **13** 04:32:24.4±1.7, 37°.39N×20°.94E, h0km, mb3.5/3, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=44.4km s-min=29.5km az=139.0*
*THE **13** 04:32:27.8, 37°.29N×20°.71E, h9km±1km, ML3.1/9, Error ellipse: s-maj=2.2km s-min=0.6km az=55.0*
*ATH **13** 04:32:27.7, 37°.30N×20°.75E, h7km±3km, ML3.2/8, Error ellipse: s-maj=3.4km s-min=1.1km az=310.0*

ISC 13 04:32:27.4±1.3, 37°.30N±0°.04×20°.72E±0°.05, h18km±7km, n37, σ0°62/54, mb3.5/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.38	12	P		Pg	04 32 35.3	0.0
KRI1				S		Sg	04 32 40.8	+0.2
	12μm,0.5s							
LTHK	Lithakia	0.42	13	P		Pg	04 32 36.0	-0.2
LTHK				S		Sg	04 32 42.0	0.0
	9μm,0.1s							
LTHK	Lithakia	0.42	13	P		Pg	04 32 36.0	-0.2
LTHK				S		Sg	04 32 41.6	-0.4
LTHK				AML		AML	04 32 42.9	
	comp=N,19994μm,0.1s							
LTHK				AML		AML	04 32 43.1	
	comp=E,14452μm,0.2s							
RTZL	Ratzakli, Kefa	0.78	3	P		Pb	04 32 42.2	-0.3
RTZL				S		Sg	04 32 54.0	+0.9
	comp=E,908nm,0.2s							
AMT	Artemida-Makis	0.82	73	P		Pb	04 32 43.1	-0.2
AMT				AML		AML	04 32 59.5	
	comp=E,12539μm,0.4s							
AMT				AML		AML	04 33 00.7	
	comp=N,8652μm,0.5s							
PSDA	Pessada-Kefalo	0.82	353	P		Pb	04 32 43.2	-0.1
PSDA				S		Sn	04 32 55.7	-0.3
PSDA	Pessada-Kefalo	0.82	353	P		Pb	04 32 43.2	-0.1
PSDA				S		Sg	04 32 55.0	+0.6
VLS	Valsamata	0.89	353	P		Pb	04 32 44.2	-0.1
VLS				S		Sn	04 32 58.1	+0.5
	comp=N,1μm,0.3s							
VLS	Valsamata	0.89	353	P		Pb	04 32 44.2	-0.1
VLS				S		Sb	04 32 56.4	+0.5
VLS				AML		AML	04 32 59.0	
	comp=E,2522μm,0.1s							
VLS				AML		AML	04 32 60.0	
	comp=N,2559μm,0.2s							
PYL	PYLOS	0.91	116	P		Pg	04 32 44.7	-0.4
PYL				S		Sn	04 32 58.8	+0.7
	comp=N,532nm,0.7s							
PYL	PYLOS	0.91	116	P		Pg	04 32 44.8	-0.4
PYL				AML		AML	04 33 00.3	
	comp=N,1107μm,0.5s							
PYL				AML		AML	04 33 08.5	
	comp=E,1266μm,0.5s							
LXRA	Lixouri, Kepha	0.93	346	P		Pg	04 32 45.4	-0.1
SMHA	Samh	0.96	357	P		Pb	04 32 44.8	-0.7
SMHA				S		Sb	04 32 58.5	+0.7
RLS	Riolos of Patr	0.97	38	P		Pb	04 32 45.2	-0.5
RLS	Riolos of Patr	0.97	38	P		Pb	04 32 45.1	-0.5
RLS				S		Sb	04 32 58.9	+0.8
RLS				AML		AML	04 33 03.0	
	comp=E,1825μm,0.6s							
RLS				AML		AML	04 33 03.7	
	comp=N,1688μm,0.6s							
ITM	Ithomi	0.97	96	P		Pg	04 32 46.7	+0.4
ITM				S		Sn	04 33 00.7	+1.1
	comp=N,682nm,0.7s							
ITM	Ithomi	0.97	96	P		Pb	04 32 45.7	-0.1
DMLN	Damoulianata-K	0.98	344	P		Pg	04 32 46.4	-0.1
DMLN				S		Sn	04 33 01.0	+1.1
	comp=N,3μm,0.5s							
DMLN	Damoulianata-K	0.98	344	P		Pg	04 32 46.4	-0.1
DMLN				S		Sn	04 32 59.8	-0.1
DRO	Drossia	1.03	50	P		Pb	04 32 46.2	-0.5
DRO	Drossia	1.03	50	P		Pb	04 32 46.3	-0.5
DRO				AML		AML	04 33 06.6	
	comp=E,3270μm,0.4s							
DRO				AML		AML	04 33 12.5	
	comp=N,2745μm,0.4s							
FSK	Fiskardo	1.17	354	P		Pb	04 32 49.0	-0.1
FSK				S		Sg	04 33 06.4	+1.0
	comp=N,832nm,0.4s							
FSK	Fiskardo	1.17	354	P		Pb	04 32 49.0	-0.1
FSK				S		Sg	04 33 06.3	+1.0
FSK				AML		AML	04 33 07.8	
	comp=N,1065μm,0.4s							
FSK				AML		AML	04 33 08.6	
	comp=E,1543μm,0.2s							
UPR	University Cam	1.30	40	P		Pg	04 32 52.9	+0.4
EVGI	Lefkada island	1.32	358	P		Pb	04 32 51.7	-0.1
EVGI				S		Sg	04 33 10.5	+0.2
	comp=E,500nm,0.2s							
EVGI	Lefkada island	1.32	358	P		Pb	04 32 51.8	-0.1
KLV	Kalavryta, Ach	1.36	56	P		Pn	04 32 52.0	+0.4
GUR	Goura	1.44	63	P		Pn	04 32 53.2	+0.4
GUR				AML		AML	04 33 25.3	
	comp=N,1345μm,0.4s							
GUR				AML		AML	04 33 28.8	
	comp=E,969μm,0.5s							
EFP	Efpalio	1.47	39	P		Pb	04 32 55.1	+0.8
LKD2	Lefkada island	1.49	358	P		Pg	04 32 56.1	-0.1
TSLK	Tsoukalades, L	1.53	358	P		Pg	04 32 56.3	-0.6
ANX	Ano Chora	1.61	36	P		Pb	04 32 56.3	-0.4
EVR	Evrytania	1.83	28	P		Pg	04 33 02.0	-0.7
ESDC	Sonseca Array	19.45	285	P		Pn	04 36 54.7	+0.3
	baz=78,slow=12,SNR=2.3							
	comp=E,0.2nm,0.5s							
HFS	Hagfors	23.30	351	P		P	04 37 32.7	-1.3
	comp=E,1.9nm,0.8s,baz=177,slow=12,SNR=1.9							
	comp=E,1.9nm,0.8s							
TORD	Torodi Ar. Bea	29.45	220	P		P	04 38 31.4	+1.0
	comp=E,0.3nm,0.6s,baz=28,slow=9.8,SNR=3.0							
	comp=E,0.3nm,0.6s							
MKAR	Makanchi Array	45.64	58	P		P	04 40 44.9	-1.9
	comp=E,0.3nm,0.5s,baz=273,slow=6.1,SNR=4.7							
	comp=E,0.3nm,0.5s							

*ATH **13** 04:41:26.5, 37°.62N×20°.56E, h6km±2km, ML3.3/12, Error ellipse: s-maj=3.9km s-min=1.3km az=39.0*
*THE **13** 04:41:26.2, 37°.60N×20°.55E, h6km±2km, ML3.4/12, Error ellipse: s-maj=2.7km s-min=0.6km az=55.0*

ISC 13 04:41:27.0±1.3, 37°.66N±0°.05×20°.63E±0°.05, h15km±6km, n39, σ0°71/57, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.15	88	P		Pb	04 41 30.8	-0.7
KRI1				S		Sg	04 41 34.2	+0.7
	23μm,0.5s							
LTHK	Lithakia	0.17	72	P		Pb	04 41 31.1	-0.8
LTHK				S		Sg	04 41 34.8	+0.8
	15μm,0.4s							
LTHK	Lithakia	0.17

RLS	**Riolos of Patr**	**0.77**	**59**	P	**Pb**	**04 41 42.3**	**+0.1**
RLS				S	**Sn**	**04 41 54.5**	**-0.2**
RLS	**Riolos of Patr**	**0.77**	**59**	P	**Pb**	**04 41 42.1**	**0.0**
RLS				AML	AML	04 41 56.1	
	comp=N,2640μm,0.5s						
RLS				AML	AML	04 41 56.2	
	comp=E,2250μm,0.4s						
FSK	**Fiskardo**	**0.80**	**356**	P	**Pg**	**04 41 41.9**	**-0.7**
FSK				S	**Sn**	**04 41 54.9**	**-0.6**
	comp=E,3μm,0.4s						
FSK	**Fiskardo**	**0.80**	**356**	P	**Pg**	**04 41 42.0**	**-0.6**
FSK				AML	AML	04 41 56.9	
	comp=E,7761μm,0.2s						
FSK				AML	AML	04 41 57.1	
	comp=N,3526μm,0.3s						
AMT	**Artemida-Makis**	**0.86**	**98**	P	**Pb**	**04 41 43.5**	**-0.2**
AMT				AML	AML	04 42 05.5	
	comp=E,10549μm,0.3s						
AMT				AML	AML	04 42 06.5	
	comp=N,12238μm,0.3s						
DRO	**Drossia**	**0.90**	**71**	P	**Pn**	**04 41 44.7**	**-0.5**
DRO				S	**Sn**	**04 41 59.7**	**+1.7**
	comp=N,2μm,0.3s						
DRO	**Drossia**	**0.90**	**71**	P	**Pb**	**04 41 44.5**	**+0.1**
DRO				AML	AML	04 42 08.6	
	comp=N,3314μm,0.3s						
DRO				AML	AML	04 42 08.8	
	comp=E,3667μm,0.4s						
EVGI	**Lefkada island**	**0.96**	**1**	P	**Pg**	**04 41 45.0**	**-0.6**
EVGI				S	**Sn**	**04 42 00.2**	**+0.8**
	comp=E,2μm,0.4s						
EVGI	**Lefkada island**	**0.96**	**1**	P	**Pg**	**04 41 45.1**	**-0.6**
DRAG	**Dragano-Lefkad**	**1.02**	**357**	P	**Pb**	**04 41 45.9**	**-0.6**
DRAG				S	**Sn**	**04 42 02.4**	**+1.4**
DRAG	**Dragano-Lefkad**	**1.02**	**357**	P	**Pb**	**04 41 45.8**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.05**	**3**	P	**Pb**	**04 41 46.5**	**-0.5**
NYDR				S	**Sn**	**04 42 03.4**	**+1.7**
	comp=E,965nm,0.6s						
NYDR	**Nydri-Lefkada**	**1.05**	**3**	P	**Pb**	**04 41 46.5**	**-0.5**
LKD2	**Lefkada island**	**1.13**	**1**	P	**Pg**	**04 41 49.2**	**+0.3**
LKD2	**Lefkada island**	**1.13**	**1**	P	**Pg**	**04 41 49.1**	**+0.3**
LKD2				AML	AML	04 42 17.2	
	comp=N,3377μm,0.7s						
LKD2				AML	AML	04 42 18.5	
	comp=E,1924μm,0.5s						
ITM	**Ithomi**	**1.14**	**114**	P	**Pn**	**04 41 48.5**	**+0.1**
ITM				AML	AML	04 42 14.5	
	comp=E,1630μm,0.7s						
ITM				AML	AML	04 42 17.2	
	comp=N,1420μm,0.7s						
TSLK	**Tsoukalades, L**	**1.17**	**1**	P	**Pb**	**04 41 48.5**	**-0.4**
TSLK	**Tsoukalades, L**	**1.17**	**1**	P	**Pb**	**04 41 48.2**	**-0.7**
PYL	**PYLOS**	**1.17**	**130**	P	**Pb**	**04 41 48.3**	**-0.6**
PYL				S	**Sn**	**04 42 05.9**	**+1.4**
	comp=N,1μm,0.7s						
PYL	**PYLOS**	**1.17**	**130**	P	**Pb**	**04 41 48.2**	**-0.6**
KLV	**Kalavryta, Ach**	**1.26**	**72**	P	**Pg**	**04 41 50.5**	**-0.8**
KLV				AML	AML	04 42 18.7	
	comp=E,573μm,0.8s						
KLV				AML	AML	04 42 24.7	
	comp=N,549μm,0.6s						
ANX	**Ano Chora**	**1.38**	**47**	P	**Pb**	**04 41 52.6**	**0.0**
ANX				AML	AML	04 42 23.6	
	comp=N,3848μm,0.5s						
ANX				AML	AML	04 42 30.6	
	comp=E,2115μm,0.7s						
GUR	**Goura**	**1.38**	**78**	P	**Pg**	**04 41 52.7**	**-0.9**
GUR				AML	AML	04 42 30.0	
	comp=N,1774μm,0.5s						
GUR				AML	AML	04 42 31.0	
	comp=E,1789μm,0.5s						
KALE	**Kalithea**	**1.40**	**58**	P	**Pg**	**04 41 53.1**	**-0.9**
KALE				AML	AML	04 42 23.9	
	comp=E,752μm,0.4s						
KALE				AML	AML	04 42 27.0	
	comp=N,1467μm,0.5s						
IGT	**Igoumenitsa**	**1.89**	**353**	P	**Pb**	**04 42 00.2**	**-0.9**

*IDC **13** 04:50:01.6±1.8, 13°.39N×90°.08W, h0km, mb3.9/9, mbtmp3.9/10, ML3.4/1, MS3.7/22, Error ellipse: s-maj=47.0km s-min=26.7km az=24.0*
*CATAC **13** 04:50:02.9±0.3, 12°.81N×90°.84W, h60km, ML4.2*
*GCG **13** 04:50:02.7±0.6, 12°.94N×90°.66W, h109km±42km, MD4.0*
*SNET **13** 04:50:04.2±1.0, 13°.01N×90°.62W, h16km, ML4.1*
*NEIC **13** 04:50:08.3±1.9, 13°.19N±0°.08×90°.54W±0°.07, h38km±11km, mb4.3/31, Error ellipse: s-maj=13.6km s-min=8.0km az=214.0*

ISC 13 04:50:03.6±1.9, 13°.04N±0°.05×90°.65W±0°.04, h16km±11km, n170, σ1$23/192, mb4.3/22, MS3.7/22, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**1.01**	**37**	*i* P	**Pn**	**04 50 23.5**	**+0.3**
FAME				IAML		04 50 36.3	
	comp=Z,2.4nm,1.0s						
FAME				*i* S	**Sn**	**04 50 38.5**	**+1.3**
NUBE	**Las Nubes**	**1.21**	**44**	*e* P	**Pb**	**04 50 25.8**	**-0.5**
NUBE				*e* S	**Sn**	**04 50 42.6**	**+0.4**
NUBE	**Las Nubes**	**1.21**	**44**	*i* P	**Pb**	**04 50 25.6**	**-0.6**
NUBE				*i* S	**Sn**	**04 50 45.8**	**+3.6**
NUBE				IAML		04 50 53.7	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**1.27**	**52**	*e* P	**Pn**	**04 50 27.0**	**0.0**
CEVE				*e* S	**Sn**	**04 50 45.6**	**+1.8**
CEVE	**Cerro Verde**	**1.27**	**52**	*i* P	**Pn**	**04 50 27.0**	**0.0**
CEVE				*i* S	**Sn**	**04 50 46.9**	**+3.0**
CEVE				IAML		04 50 51.6	
	comp=Z,4μm,1.0s						
SBLS	**San Blas**	**1.28**	**51**	*e* P	**Pn**	**04 50 27.0**	**-0.1**
SLOZ	**Alcaldia de Sa**	**1.29**	**40**	*e* P	**Pn**	**04 50 27.1**	**0.0**
SLOZ				*e* S	**Sn**	**04 50 45.7**	**+1.5**
RTR	**El Retiro**	**1.30**	**49**	*e* P	**Pn**	**04 50 27.3**	**0.0**
RTR				*e* S	**Sn**	**04 50 46.0**	**+1.5**
SNJE	**San Jose**	**1.31**	**51**	*e* P	**Pn**	**04 50 27.4**	**-0.1**
JAYA	**Jayaque - finc**	**1.32**	**62**	*e* P	**Pn**	**04 50 27.2**	**-0.4**
JAYA				*e* S	**Sg**	**04 50 46.0**	**-0.4**
JAYA	**Jayaque - finc**	**1.32**	**62**	*i* P	**Pn**	**04 50 27.6**	**0.0**
JAYA				*i* S	**Sg**	**04 50 48.6**	**+2.2**
JAYA				IAML		04 50 52.2	
	comp=Z,4μm,1.0s						
PCG	**Pacaya**	**1.35**	**2**	*e* P	**Pn**	**04 50 28.0**	**0.0**
ESSG	**Sabana Grande**	**1.35**	**353**	*i* P	**Pn**	**04 50 27.4**	**-0.6**
ESSG				*i* S	**Sg**	**04 50 47.4**	**0.0**
ESSG				IAML		04 50 52.1	
	comp=Z,2μm,1.0s						
LALI	**Alcalde de L**	**1.37**	**71**	*e* P	**Pn**	**04 50 27.4**	**-0.8**
LALI				*e* S	**Sn**	**04 50 46.2**	**+0.2**
LALI	**Alcalde de L**	**1.37**	**71**	*i* P	**Pn**	**04 50 27.3**	**-0.8**
LALI				*i* S	**Sg**	**04 50 47.6**	**-0.3**
LALI				IAML		04 50 56.2	
	comp=Z,530nm,1.0s						
FUG	**Fuego 3**	**1.42**	**352**	*e* P	**Pb**	**04 50 30.1**	**+0.2**
UNIC	**Universidad Ca**	**1.43**	**49**	*e* P	**Pn**	**04 50 28.9**	**0.0**
UNIC	**Universidad Ca**	**1.43**	**49**	*i* P	**Pn**	**04 50 28.7**	**-0.3**
UNIC				*i* S	**Sg**	**04 50 49.5**	**-0.2**
UNIC				IAML		04 51 08.4	
	comp=Z,900nm,1.0s						
CEDA	**San Andres**	**1.44**	**58**	*e* P	**Pn**	**04 50 29.1**	**0.0**
CEDA	**San Andres**	**1.44**	**58**	*i* P	**Pn**	**04 50 29.1**	**0.0**
CEDA				*i* S	**Sg**	**04 50 51.7**	**+1.6**
CEDA				IAML		04 50 55.4	
	comp=Z,6μm,1.0s						
PMON	**Piamonte**	**1.46**	**62**	*e* P	**Pn**	**04 50 29.4**	**-0.1**
PMON				*e* S	**Sg**	**04 50 51.0**	**+0.1**
PMON	**Piamonte**	**1.46**	**62**	*i* P	**Pn**	**04 50 30.1**	**+0.6**
PMON				IAML		04 50 58.2	
	comp=Z,2μm,1.0s						
ITCA	**Escuela Especi**	**1.48**	**64**	*i* P	**Pn**	**04 50 29.8**	**+0.1**
ITCA				*i* S	**Sg**	**04 50 53.4**	**+2.0**
ITCA				IAML		04 51 00.5	
	comp=Z,5μm,1.0s						
BOQS	**Boqueron**	**1.50**	**62**	*e* P	**Pn**	**04 50 30.3**	**+0.1**
SNET	**Serv Nac Est T**	**1.52**	**65**		**Pn**	**04 50 30.5**	**+0.2**
SNET	**Serv Nac Est T**	**1.52**	**65**	*e* P	**Pn**	**04 50 30.3**	**0.0**
SNET	**Serv Nac Est T**	**1.52**	**65**	*i* P	**Pn**	**04 50 31.0**	**+0.7**
SNET				*i* S	**Sg**	**04 50 51.8**	**-1.0**
SNET				IAML		04 51 09.7	
	comp=Z,3μm,1.0s						
PIC2	**El Picacho**	**1.53**	**62**	*e* P	**Pn**	**04 50 30.4**	**-0.2**
UEES	**Universidad Ev**	**1.53**	**64**	*e* P	**Pn**	**04 50 30.7**	**+0.3**
UEES	**Universidad Ev**	**1.53**	**64**	*i* P	**Pn**	**04 50 30.8**	**+0.3**
UEES				IAML		04 51 06.5	
	comp=Z,920nm,1.0s						
SEMO	**Seminario San**	**1.54**	**64**	*i* P	**Pn**	**04 50 30.8**	**+0.3**
SEMO				*i* S	**Sg**	**04 50 53.3**	**0.0**
SEMO				IAML		04 51 01.2	
	comp=Z,4μm,1.0s						
PANCS	**Alcalda de**	**1.54**	**68**	*e* P	**Pn**	**04 50 30.3**	**-0.2**
PANCS	**Alcalda de**	**1.54**	**68**	*i* P	**Pn**	**04 50 31.3**	**+0.8**
PANCS				IAML		04 51 30.4	
	comp=Z,3μm,1.0s						
SULM	**Suchitepequez,**	**1.54**	**325**	*e* P	**Pn**	**04 50 31.0**	**+0.5**
GCG4	**OSOP**	**1.55**	**4**	*i* P	**Pn**	**04 50 31.0**	**+0.3**
GCG4				IAML		04 50 58.9	
	comp=Z,2μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.56**	**59**	*e* P	**Pn**	**04 50 31.2**	**+0.5**
QUEZ	**Alcaldia de Qu**	**1.56**	**59**	*i* P	**Pb**	**04 50 32.1**	**0.0**
QUEZ				*i* S	**Sg**	**04 50 53.5**	**-0.4**
QUEZ				IAML		04 51 06.5	
	comp=Z,9μm,1.0s						
LOMA	**Loma Larga**	**1.56**	**67**	*e* P	**Pn**	**04 50 30.6**	**-0.3**
LOMA	**Loma Larga**	**1.56**	**67**	*i* P	**Pn**	**04 50 30.8**	**-0.1**
LOMA				IAML		04 51 01.1	
	comp=Z,1μm,1.0s						
NBG	**Las Nubes**	**1.57**	**11**	*e* P	**Pb**	**04 50 33.0**	**+0.5**
JUAM	**Asuncion Mita**	**1.58**	**35**	*i* P	**Pn**	**04 50 31.8**	**+0.7**
JUAM				*i* S	**Sg**	**04 50 53.9**	**-0.9**
JUAM				IAML		04 51 02.6	
	comp=Z,1μm,1.0s						
GUMI	**Mixco**	**1.59**	**1**	*i* P	**Pn**	**04 50 31.5**	**+0.2**
GUMI				*i* S	**Sg**	**04 50 53.6**	**-1.3**
GUMI				IAML		04 51 03.5	
	comp=Z,3μm,1.0s						
LFRS	**El Faro**	**1.65**	**69**	*e* P	**Pn**	**04 50 31.9**	**-0.3**
RTAL	**Retalhuleu**	**1.79**	**326**	Pn	**Pn**	**04 50 33.1**	**-0.9**
RTAL	**Retalhuleu**	**1.79**	**326**	*i* P	**Pn**	**04 50 33.4**	**-0.6**
RTAL				*i* S	**Sn**	**04 50 58.2**	**+1.7**
RTAL				IAML		04 51 22.9	
	comp=Z,1μm,1.0s						
PAVA	**Las Pavas**	**1.80**	**68**	*e* P	**Pn**	**04 50 34.3**	**+0.2**
PAVA	**Las Pavas**	**1.80**	**68**	*i* P	**Pn**	**04 50 35.2**	**+1.1**
PAVA				*i* S	**Sg**	**04 51 00.1**	**-1.5**
PAVA				IAML		04 51 19.0	
	comp=Z,2μm,1.0s						
COEG	**Centro de Oper**	**1.82**	**71**	*e* P	**Pn**	**04 50 34.5**	**+0.1**
COEG	**Centro de Oper**	**1.82**	**71**	*i* P	**Pn**	**04 50 34.5**	**+0.1**
COEG				IAML		04 50 42.6	
	comp=Z,990nm,1.0s						
COEG				*i* S	**Sg**	**04 51 06.3**	**+4.1**
MTO3	**Montecristo**	**1.84**	**43**	Pn	**Pn**	**04 50 35.4**	**+0.5**
MTO3	**Montecristo**	**1.84**	**43**	*e* P	**Pn**	**04 50 35.4**	**+0.5**
MTO3	**Montecristo**	**1.84**	**43**	*i* P	**Pn**	**04 50 35.7**	**+0.8**
MTO3				*i* S	**Sg**	**04 51 00.9**	**-2.2**
MTO3				IAML		04 51 04.1	
	comp=Z,2μm,1.0s						
TECO	**Alcaldia de Te**	**1.89**	**74**	*e* P	**Pn**	**04 50 34.9**	**-0.4**
TECO	**Alcaldia de Te**	**1.89**	**74**	*i* P	**Pn**	**04 50 35.3**	**0.0**
TECO				*i* S	**Sg**	**04 51 06.1**	**+1.7**
TECO				IAML		04 51 08.4	
	comp=Z,430nm,1.0s						
STG3	**Santiaguito 3,**	**1.89**	**332**	*e* P	**Pn**	**04 50 36.2**	**+0.8**
UESV	**Universidad de**	**1.91**	**72**	*e* P	**Pn**	**04 50 35.9**	**+0.3**
UESV	**Universidad de**	**1.91**	**72**	*i* P	**Pn**	**04 50 36.1**	**+0.5**
UESV				*i* S	**Sg**	**04 51 08.7**	**+3.6**
UESV				IAML		04 51 25.7	
	comp=Z,780nm,1.0s						
SOKI	**Kika Raxquin**	**1.92**	**338**	*i* P	**Pn**	**04 50 35.4**	**-0.7**
SOKI				*i* S	**Sn**	**04 51 01.2**	**+1.1**
SOKI				IAML		04 51 14.1	
	comp=Z,2μm,1.0s						
ESQI	**Esquipulas**	**1.98**	**40**	Pn	**Pn**	**04 50 37.0**	**+0.5**
ESQI	**Esquipulas**	**1.98**	**40**	*e* P	**Pn**	**04 50 37.4**	**+0.8**
ESQI	**Esquipulas**	**1.98**	**40**	*i* P	**Pb**	**04 50 38.2**	**-1.1**
ESQI				*i* S	**Sg**	**04 51 06.2**	**-1.1**
ESQI				IAML		04 51 10.3	
	comp=Z,4μm,1.0s						
SCLA	**Alcaldia de Sa**	**1.98**	**70**	*e* P	**Pn**	**04 50 36.8**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.98**	**70**	*i* P	**Pn**	**04 50 37.8**	**+1.2**
SCLA				*i* S	**Sg**	**04 51 05.4**	**-2.1**
SCLA				IAML		04 51 23.9	
	comp=Z,560nm,1.0s						
LLGN	**La Laguna**	**2.00**	**56**	*i* P	**Pn**	**04 50 38.1**	**+1.2**
LLGN				*i* S	**Sg**	**04 51 07.7**	**-0.4**
LLGN				IAML		04 51 14.3	
	comp=Z,2μm,1.0s						
PQSS	**Presa 15 de Se**	**2.12**	**74**	*e* P	**Pn**	**04 50 38.4**	**0.0**
PQSS	**Presa 15 de Se**	**2.12**	**74**	*i* P	**Pn**	**04 50 38.8**	**+0.4**
PQSS				*i* S	**Sb**	**04 51 07.9**	**+0.2**
PQSS				IAML		04 51 23.0	
	comp=Z,390nm,1.0s						
TECA	**Tecapa**	**2.14**	**77**	*e* P	**Pn**	**04 50 39.0**	**+0.1**
TECA				*e* P		04 50 39.0	
MRL	**Marmol**	**2.24**	**25**	*e* P	**Pn**	**04 50 40.9**	**+0.6**
QUIS	**Sacapulas**	**2.28**	**349**	*i* P	**Pn**	**04 50 43.0**	**+2.2**
QUIS				*i* S	**Sn**	**04 51 10.8**	**+2.1**
QUIS				IAML		04 51 16.3	
	comp=Z,2μm,1.0s						
LCY	**Lacayo**	**2.33**	**80**	*e* P	**Pn**	**04 50 41.8**	**+0.4**
RANC	**El Ranchito**	**2.33**	**80**	*e* P	**Pn**	**04 50 41.7**	**+0.2**
RANC	**El Ranchito**	**2.33**	**80**	*i* P	**Pn**	**04 50 42.4**	**+0.9**
RANC				*i* S	**Sb**	**04 51 14.2**	**+0.1**
RANC				IAML		04 51 23.3	
	comp=Z,540nm,1.0s						
VSM	**San Miguel**	**2.34**	**80**	*e* P	**Pn**	**04 50 42.6**	**+0.8**
BLLM	**Bellamira**	**2.38**	**80**	*e* P	**Pn**	**04 50 42.5**	**+0.3**
HUEH	**Huehuetenango**	**2.42**	**340**	Pn	**Pn**	**04 50 44.8**	**+2.1**
HUEH	**Huehuetenango**	**2.42**	**340**	*i* P	**Pn**	**04 50 44.5**	**+1.8**
HUEH				*i* S	**Sb**	**04 51 17.6**	**+1.0**
HUEH				IAML		04 51 20.3	
	comp=Z,2μm,1.0s						
AVCB	**Coban**	**2.43**	**6**	*i* P	**Pn**	**04 50 45.3**	**+2.4**
AVCB				IAML		04 52 38.0	
	comp=Z,4μm,1.0s						
CNRM	**Centro Naciona**	**2.45**	**79**	*i* P	**Pn**	**04 50 43.6**	**+0.6**
CNRM				IAML		04 51 26.7	
	comp=Z,3μm,1.0s						
CAHU	**Cacacuatique**	**2.48**	**73**	*e* P	**Pn**	**04 50 44.4**	**+0.7**
LCND	**La Caada**	**2.70**	**84**	*e* P	**Pn**	**04 50 46.4**	**-0.1**
LCND	**La Caada**	**2.70**	**84**	*i* P	**Pn**	**04 50 46.8**	**+0.3**
LCND				*i* S	**Sn**	**04 51 21.7**	**+2.8**
LCND				IAML		04 51 37.4	
	comp=Z,430nm,1.0s						
CNCH	**Conchagua**	**2.75**	**85**	*e* P	**Pn**	**04 50 47.2**	**-0.1**
CNCH	**Conchagua**	**2.75**	**85**	*i* P	**Pn**	**04 50 47.4**	**+0.1**
CNCH				*i* S	**Sb**	**04 51 26.0**	**-0.2**
CNCH				IAML		04 51 39.9	
	comp=Z,980nm,1.0s						
MARCA	**Marcala la Paz**	**2.78**	**66**	*i* P	**Pn**	**04 50 49.3**	**+1.7**
INTHN	**La Esperanza I**	**2.78**	**63**	*i* P	**Pn**	**04 50 49.3**	**+1.5**
AMPH	**Amapala**	**2.92**	**85**	*i* P	**Pn**	**04 50 49.7**	**+0.2**
AMPH				*i* S	**Sn**	**04 51 27.1**	**+2.8**
CSGN	**Cosiguina Volc**	**3.01**	**91**	*i* P	**Pn**	**04 50 51.1**	**+0.3**
CSGN				IAML		04 51 40.9	
	comp=Z,110nm,1.0s						
CHIHN	**Chmisales**	**3.07**	**46**	*i* P	**Pn**	**04 50 52.8**	**+1.0**
TGUH	**Tegucigalpa,Un**	**3.44**	**72**	Pn	**Pn**	**04 50 56.8**	**+0.1**
TGUH	**Tegucigalpa,Un**	**3.44**	**72**	*i* P	**Pn**	**04 50 57.4**	**+0.7**
TGUH				IAML		04 51 32.3	
	comp=Z,270nm,1.0s						
CRIN	**San Cristobal**	**3.53**	**95**	Pn	**Pn**	**04 50 57.6**	**-0.3**
CRIN	**San Cristobal**	**3.53**	**95**	*i* P	**Pn**	**04 50 58.2**	**+0.3**
CRIN				IAML		04 51 51.5	
	comp=Z,670nm,1.0s						
CCIG	**Comitan**	**3.53**	**336**	Pn	**Pn**	**04 51 00.3**	**+2.2**
PKGN	**Cerro Pekin**	**3.60**	**95**	*i* P	**Pn**	**04 50 58.3**	**-0.5**
PKGN				IAML		04 51 46.4	
	comp=Z,570nm,1.0s						
YUSH	**Yuscaran**	**3.81**	**76**	*i* P	**Pn**	**04 51 02.6**	**+0.7**
ILCN	**San Idelfonso**	**3.88**	**96**	*i* P	**Pn**	**04 51 01.9**	**-0.8**
ILCN				IAML		04 52 00.9	
	comp=Z,51nm,1.0s						
CNGA	**Al SSO del Vol**	**3.89**	**98**	*i* P	**Pn**	**04 51 03.5**	**+0.7**
CNGA				IAML		04 52 00.6	
	comp=Z,130nm,1.0s						
PETF	**Flores**	**3.93**	**11**	Pn	**Pn**	**04 51 03.3**	**-0.1**
PETF	**Flores**	**3.93**	**11**	*i* P	**Pn**	**04 51 05.6**	**+2.2**
PETF				IAML		04 52 13.1	
	comp=Z,250nm,1.0s						
COPN	**Copaltepe**	**4.05**	**102**	*i* P	**Pn**	**04 51 01.4**	**-3.6**
COPN				IAML		04 51 57.3	
	comp=Z,140nm,1.0s						
MOMN	**Momotombo**	**4.06**	**98**	*i* P	**Pn**	**04 51 05.5**	**+0.3**
MOMN				IAML		04 52 07.2	
	comp=Z,6.3nm,1.0s						
LIMN	**Finca el Limon**	**4.17**	**89**	*i* P	**Pn**	**04 51 06.4**	**-0.4**
LIMN				IAML		04 51 16.4	
	comp=Z,150nm,1.0s						
RCVN	**Varillal2**	**4.37**	**82**	*i* P	**Pn**	**04 51 09.2**	**-0.4**
RCVN				IAML		04 51 10.8	
	comp=Z,2μm,1.0s						
MGAN	**Managua**	**4.39**	**101**	Pn	**Pn**	**04 51 10.3**	**+0.6**
RCPN	**Sur Rio San Ju**	**4.46**	**83**	*i* P	**Pn**	**04 51 10.9**	**+0.1**
RCPN				IAML		04 51 12.7	
	comp=Z,0.3nm,1.0s						
ACON	**Acoyapa**	**5.45**	**101**	Pn	**Pn**	**04 51 24.0**	**-0.3**
CMIG	**Matias Romero**	**5.74**	**315**	Pn	**Pn**	**04 51 28.5**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=151,slow=9.6,SNR=13						
CMIG				Sn	**Sn**	**04 52 34.3**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=98,slow=15,SNR=5.2						
	comp=Z,2.1nm,0.3s						
JTS	**Las Juntas de**	**6.21**	**115**	Pn	**Pn**	**04 51 36.1**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=325,slow=3.6,SNR=11						
JTS				Sn	**Sn**	**04 52 42.6**	**-2.9**
	comp=Z,1.4nm,0.3s,baz=292,slow=21,SNR=1.5						
LCR2	**La Lucha 2**	**7.29**	**116**	Pn	**Pn**	**04 51 51.9**	**+2.2**
TLIG	**Tlapa**	**8.87**	**301**	Pn	**Pn**	**04 52 14.3**	**+3.0**
ROSC	**El Rosal**	**18.06**	**115**		**P**	**04 54 16.1**	**+1.3**
ROSC	**El Rosal**	**18.06**	**115**	P	**P**	**04 54 15.8**	**+1.0**
	comp=Z,6.9nm,0.8s,baz=291,slow=12,SNR=7.7						
SAND	**Sanderson**	**19.91**	**330**	P	**P**	**04 54 35.4**	**+0.7**
TXAR	**Lajitas Array**	**20.23**	**325**	P	**P**	**04 54 39.6**	**+1.4**
TXAR	**Lajitas Array**	**20.23**	**325**	P	**P**	**04 54 39.0**	**+0.7**
	comp=Z,3.6nm,0.9s,baz=148,slow=10,SNR=8.1						
	comp=Z,3.6nm,0.9s						
TX31	**Lajitas Ar. Si**	**20.23**	**325**	P	**P**	**04 54 38.0**	**-0.3**
ALPN	**Alpine**	**21.02**	**327**	P	**P**	**04 54 47.2**	**+0.3**
ALPN				IAmb	IAmb	04 54 50.0	
	comp=Z,14nm,0.9s						
MNHN	**Monahans**	**21.36**	**330**	P	**P**	**04 54 51.4**	**+1.0**
MNHN				IAmb	IAmb	04 54 52.9	
	comp=Z,15nm,0.9s						
LPIG	**La Paz**	**21.61**	**303**	LR	LR	05 03 21.8	
	comp=Z,116nm,18.8s,baz=178,slow=37						
PECS	**Pecos**	**21.93**	**328**	P	**P**	**04 54 56.4**	**-0.2**
VHRN	**Van Horn**	**22.07**	**325**	P	**P**	**04 54 57.1**	**-1.0**
VHRN				IAmb	IAmb	04 54 59.9	
	comp=Z,14nm,1.0s						
TKL	**Tuckaleechee C**	**23.36**	**14**	P	**P**	**04 55 08.6**	**-2.9**
	comp=Z,4.8nm,0.9s,baz=198,slow=9.6,SNR=2.8						
TKL				LR	LR	05 05 17.8	
	comp=Z,336nm,18.4s,baz=184,slow=40						
	comp=Z,4.8nm,0.9s						
ATAH	**Atahualpa**	**23.45**	**148**	LR	LR	05 03 44.5	
	comp=Z,107nm,18.4s,baz=335,slow=35						
T47A	**Sharon Grove**	**24.06**	**7**	P	**P**	**04 55 17.3**	**-0.9**
121A	**Cookes Peak, D**	**24.95**	**324**	P	**P**	**04 55 27.1**	**+0.5**
121A				IAmb	IAmb	04 55 31.1	
	comp=Z,17nm,1.0s						
WCI	**Wyandotte Cave**	**25.39**	**8**	P	**P**	**04 55 29.0**	**-1.3**
ECSD	**EROS Data Cent**	**31.02**	**352**	P	**P**	**04 56 19.5**	**-1.1**
ECSD				IAmb	IAmb	04 56 47.8	
	comp=Z,8.0nm,1.4s						
PFO	**Pinyon Flats O**	**31.17**	**315**	LR	LR	05 10 41.3	
	comp=Z,100nm,20.7s,baz=128,slow=40						
P18A	**Preston Nutter**	**31.63**	**330**	P	**P**	**04 56 27.5**	**+1.1**
P18A				IAmb	IAmb	04 56 31.9	
	comp=Z,3.9nm,0.7s						
SADO	**Sadowa**	**33.12**	**15**	LR	LR	05 10 50.6	
	comp=Z,310nm,18.4s,baz=248,slow=38						
R11B	**Troy Canyon, C**	**33.56**	**323**	P	**P**	**04 56 44.3**	**+1.1**
R11B				IAmb	IAmb	04 56 47.2	
	comp=Z,6.6nm,1.4s						
HWUT	**Hardware Ranch**	**33.80**	**331**	P	**P**	**04 56 46.1**	**+0.8**
PDAR	**Pinedale Array**	**33.84**	**335**	P	**P**	**04 56 45.7**	**0.0**
	comp=Z,0.7nm,1.0s,baz=138,slow=7.3,SNR=2.7						
	comp=Z,0.7nm,1.0s						
SNOW	**Snow King Moun**	**34.92**	**334**	P	**P**	**04 56 55.4**	**+0.5**
SAML	**Samuel**	**34.95**	**127**	P	**P**	**04 56 56.7**	**+1.5**
SAML				IAmb	IAmb	04 57 02.8	
	comp=Z,3.4nm,0.9s						
LOHW	**Long Hollow**	**34.97**	**334**	P	**P**	**04 56 56.2**	**+0.8**
LOHW				IAmb	IAmb	04 56 56.4	
	comp=Z,2.9nm,1.0s						
ELK	**Elko**	**35.01**	**327**	P	**P**	**04 56 55.7**	**-0.1**
NVAR	**Mina Array Bea**	**35.24**	**321**	P	**P**	**04 56 59.5**	**+1.7**
	comp=Z,1.5nm,0.8s,baz=139,slow=7.9,SNR=10.0						
NVAR				PcP

az=152.0
ISC 13 05:05:46.9±1.4, 37.1N±0.1×71.5E±0.1, h106km, n26, σ1§13/29, mb3.8/8, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.33**	**18**	P	**Pn**	**05 07 05.1**	**+0.7**
	SNR=189						
EKS2	**Erkin-Say**	**5.85**	**17**	P	**Pn**	**05 07 12.5**	**+1.2**
	SNR=12						
AAK	**Ala-Archa**	**6.02**	**22**	P	**Pn**	**05 07 14.8**	**+1.2**
	SNR=28						
AAK	**Ala-Archa**	**6.02**	**22**	P	**Pn**	**05 07 14.4**	**+0.8**
	8.6nm,0.3s,baz=193,slow=7.2,SNR=131						
AAK				S	**Sn**	**05 08 20.5**	**-0.7**
	40nm,0.9s,baz=347,slow=22,SNR=9.0						
	24nm,0.4s						
KK31	**Karatay Array**	**6.06**	**353**	⇓P	**Pn**	**05 07 14.7**	**+0.8**
	22nm,0.5s,baz=179,slow=13,SNR=249						
KK31				⇓S	**Sn**	**05 08 19.9**	**-1.9**
	20nm,0.6s,baz=175,slow=22,SNR=7.4						
CHMS	**Chumysh**	**6.43**	**22**	P	**Pn**	**05 07 19.8**	**+0.8**
	SNR=18						
CHMS	**Chumysh**	**6.43**	**22**	⇑P	**Pn**	**05 07 19.3**	**+0.3**
	24nm,0.6s						
CHMS				⇑S	**Sn**	**05 08 30.0**	**-0.8**
	34nm,0.8s						
USP	**Ospenovka**	**6.60**	**20**	P	**Pn**	**05 07 22.0**	**+0.6**
	SNR=9.5						
TKM2	**Tokmak 2**	**6.64**	**27**	P	**Pn**	**05 07 23.1**	**+1.0**
	SNR=5.2						
TKM2	**Tokmak 2**	**6.64**	**27**	⇓P	**Pn**	**05 07 22.9**	**+0.8**
	7.7nm,0.5s						
TKM2				⇑S	**Sn**	**05 08 35.3**	**-1.0**
	13nm,0.9s						
MKAR	**Makanchi Array**	**12.61**	**36**	P	**Pn**	**05 08 41.7**	**-0.6**
	0.1nm,0.3s,baz=226,slow=18,SNR=5.7						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**14.46**	**18**	P	**Pn**	**05 09 03.7**	**-2.5**
	0.4nm,0.6s,baz=208,slow=11,SNR=3.2						
AB31	**Akbulak array**	**14.76**	**329**	P	**Pn**	**05 09 09.2**	**-0.9**
	0.4nm,0.3s,baz=163,slow=10,SNR=35						
BVAR	**Borovoye Array**	**15.96**	**358**	P	**Pn**	**05 09 25.9**	**+0.8**
	baz=162,slow=10,SNR=6.4						
	1.1nm,0.6s						
AKTO	**Aktyubinsk**	**16.46**	**328**	⇑P	**P**	**05 09 32.6**	**+0.4**
	1.9nm,0.7s						
AKTO	**Aktyubinsk**	**16.46**	**328**	P	**Pn**	**05 09 32.1**	**+0.7**
	0.7nm,0.3s,baz=141,slow=10,SNR=9.2						
	1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**19.23**	**25**	P	**P**	**05 10 02.3**	**-0.2**
	0.8nm,0.3s,baz=224,slow=10,SNR=17						
	7.2nm,0.6s						
SONM	**Songino Array**	**27.71**	**56**	P	**P**	**05 11 25.8**	**+0.7**
	1.3nm,0.6s,baz=248,slow=7.6,SNR=3.1						
	1.3nm,0.6s						
FINES	**FINESS Array B**	**37.21**	**326**	P	**P**	**05 12 49.1**	**+1.6**
	2.1nm,0.8s,baz=125,slow=7.3,SNR=3.4						
	2.1nm,0.8s						
ARCES	**ARCESS Array B**	**40.75**	**337**	P	**P**	**05 13 18.1**	**+1.2**
	2.1nm,0.8s,baz=102,slow=8.5,SNR=3.7						
	2.1nm,0.8s						
HFS	**Hagfors**	**42.84**	**321**	P	**P**	**05 13 35.2**	**+1.1**
	1.9nm,0.5s,baz=83,slow=12,SNR=9.8						
	1.9nm,0.5s						
NB2	**NORSAR Subarra**	**44.13**	**323**	P	**P**	**05 13 45.4**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=92,slow=7.9						
NOA	**NORSAR Array B**	**44.13**	**323**	P	**P**	**05 13 45.2**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=96,slow=7.8,SNR=6.0						
	comp=Z,1.1nm,0.6s						
ESDC	**Sonseca Array**	**57.51**	**298**	sP	sP	05 15 54.2	-10
	comp=Z,0.8nm,0.8s,baz=62,slow=7.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**66.09**	**269**	P	**P**	**05 16 21.1**	**-1.9**
	comp=Z,0.1nm,0.4s,baz=52,slow=5.9,SNR=2.1						
	comp=Z,0.1nm,0.4s						
ILAR	**Eielson Array**	**74.12**	**16**	P	**P**	**05 17 10.4**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=344,slow=3.0,SNR=2.7						
	comp=Z,0.4nm,0.8s						

*CATAC **13** 05:06:47.1±0.5, 12.93N×90.69W, h10km±3km, ML3.7*
*SNET **13** 05:06:48.4±0.8, 13.01N×90.60W, h17km±5km, ML3.3*
*GCG **13** 05:07:03.9±0.3, 14.22N×90.90W, h28km±5km, MD3.8*
ISC 13 05:06:48.1±2.5, 13.01N±0.07×90.67W±0.05, h14km±12km, n63, σ0§91/96, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**1.05**	**38**	*i* S	**Sb**	**05 07 21.9**	**+0.2**
NUBE	**Las Nubes**	**1.24**	**44**	*e*P	**Pn**	**05 07 09.8**	**-1.5**
NUBE				*e*S	**Sb**	**05 07 26.3**	**-1.1**
NUBE	**Las Nubes**	**1.24**	**44**	*i* P	**Pn**	**05 07 09.7**	**-1.5**
NUBE				*i* S	**Sg**	**05 07 28.8**	**+0.5**
NUBE				IAML		05 07 33.8	
	comp=Z,620nm,1.0s						
CEVE	**Cerro Verde**	**1.30**	**51**	*e*P	**Pn**	**05 07 11.1**	**-1.1**
CEVE				*e*S	**Sb**	**05 07 28.6**	**-0.7**
CEVE				IAML		05 07 32.8	
	comp=Z,1μm,0.3s						
CEVE	**Cerro Verde**	**1.30**	**51**	*i* P	**Pn**	**05 07 11.5**	**-0.7**
CEVE				*i* S	**Sg**	**05 07 30.9**	**+0.6**
CEVE				IAML		05 07 37.6	
	comp=Z,1μm,1.0s						
SBLS	**San Blas**	**1.31**	**51**	*e*P	**Pn**	**05 07 11.2**	**-1.1**
SLOZ	**Alcaldia de Sa**	**1.33**	**40**	*e*P	**Pn**	**05 07 10.9**	**-1.4**
SLOZ				*e*S	**Sn**	**05 07 28.9**	**-1.0**
RTR	**El Retiro**	**1.33**	**48**	*e*P	**Pn**	**05 07 11.3**	**-1.2**
RTR				*e*S	**Sn**	**05 07 29.7**	**-0.4**
SNJE	**San Jose**	**1.34**	**50**	*e*P	**Pn**	**05 07 11.4**	**-1.3**
JAYA	**Jayaque - finc**	**1.35**	**62**	*e*P	**Pn**	**05 07 11.3**	**-1.4**
JAYA				*e*S	**Sn**	**05 07 29.2**	**-1.4**
JAYA				IAML		05 07 39.2	
	comp=Z,671nm,0.3s						
JAYA	**Jayaque - finc**	**1.35**	**62**	*i* P	**Pn**	**05 07 12.0**	**-0.8**
JAYA				*i* S	**Sg**	**05 07 32.6**	**+0.8**
JAYA				IAML		05 07 39.1	
	comp=Z,2μm,1.0s						
LALI	**Alcalda de L**	**1.40**	**70**	*i* P	**Pn**	**05 07 13.4**	**+0.2**
LALI				*i* S	**Sb**	**05 07 32.9**	**+1.1**
LALI				IAML		05 07 46.5	
	comp=Z,180nm,1.0s						
FUG	**Fuego 3**	**1.44**	**353**	*e*P	**Pn**	**05 07 10.8**	**-3.2**
UNIC	**Universidad Ca**	**1.46**	**48**	*e*P	**Pn**	**05 07 13.2**	**-1.0**
UNIC	**Universidad Ca**	**1.46**	**48**	*i* P	**Pn**	**05 07 13.0**	**-1.2**
UNIC				*i* S	**Sn**	**05 07 33.0**	**-0.1**
UNIC				IAML		05 07 36.6	
	comp=Z,340nm,1.0s						
CEDA	**San Andres**	**1.47**	**57**	*i* P	**Pn**	**05 07 14.3**	**0.0**
CEDA				*i* S	**Sg**	**05 07 35.8**	**+0.2**
CEDA				IAML		05 07 44.2	
	comp=Z,2μm,1.0s						
PMON	**Piamonte**	**1.49**	**62**	*e*P	**Pn**	**05 07 13.8**	**-0.9**
PMON	**Piamonte**	**1.49**	**62**	*i* P	**Pn**	**05 07 14.5**	**-0.2**
PMON				IAML		05 07 44.9	
	comp=Z,750nm,1.0s						
ITCA	**Escuela Especi**	**1.51**	**64**	*i* P	**Pn**	**05 07 15.0**	**+0.1**
ITCA				*i* S	**Sb**	**05 07 35.3**	**+0.2**
ITCA				IAML		05 07 44.8	
	comp=Z,2μm,1.0s						
BOQS	**Boqueron**	**1.53**	**62**	*e*P	**Pn**	**05 07 15.0**	**-0.3**
SNET	**Serv Nac Est T**	**1.56**	**64**	*i* P	**Pn**	**05 07 15.0**	**-0.5**
SNET				IAML		05 07 29.5	
	comp=Z,1μm,1.0s						
SNET				*i* S	**Sb**	**05 07 36.9**	**+0.5**
UEES	**Universidad Ev**	**1.56**	**63**	*i* P	**Pn**	**05 07 15.7**	**+0.1**
UEES				IAML		05 07 24.8	
	comp=Z,300nm,1.0s						
UEES				*i* S	**Sb**	**05 07 37.8**	**+1.2**
PANCS	**Alcalda de**	**1.57**	**67**	*i* P	**Pn**	**05 07 15.9**	**+0.2**
PANCS				*i* S	**Sn**	**05 07 35.8**	**-0.1**
PANCS				IAML		05 07 50.3	
	comp=Z,2μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.59**	**59**	*i* P	**Pn**	**05 07 15.8**	**-0.1**
QUEZ				IAML		05 07 26.7	
	comp=Z,2μm,1.0s						
QUEZ				*i* S	**Sb**	**05 07 37.8**	**+0.5**
LOMA	**Loma Larga**	**1.59**	**66**	*e*P	**Pn**	**05 07 15.5**	**-0.6**
LOMA	**Loma Larga**	**1.59**	**66**	*i* P	**Pn**	**05 07 16.9**	**+0.9**
LOMA				*i* S	**Sb**	**05 07 38.2**	**+0.7**
LOMA				IAML		05 07 50.1	
	comp=Z,440nm,1.0s						
NBG	**Las Nubes**	**1.60**	**11**	*e*P	**Pb**	**05 07 17.2**	**-0.4**
GUMI	**Mixco**	**1.61**	**2**	*i* P	**Pn**	**05 07 16.6**	**+0.2**
GUMI				*i* S	**Sg**	**05 07 39.6**	**-0.6**
GUMI				IAML		05 08 33.7	
	comp=Z,2μm,1.0s						
JUAM	**Asuncion Mita**	**1.62**	**35**	*i* P	**Pn**	**05 07 17.2**	**+0.9**
JUAM				*i* S	**Sb**	**05 07 38.9**	**+0.7**
JUAM				IAML		05 07 41.7	
	comp=Z,550nm,1.0s						
PAVA	**Las Pavas**	**1.83**	**67**	*e*P	**Pn**	**05 07 18.2**	**-1.1**
PAVA	**Las Pavas**	**1.83**	**67**	*i* P	**Pn**	**05 07 19.1**	**-0.2**
PAVA				IAML		05 07 38.3	
	comp=Z,450nm,1.0s						
COEG	**Centro de Oper**	**1.85**	**71**	*e*P	**Pn**	**05 07 18.5**	**-1.0**
COEG				IAML		05 07 52.4	
	comp=Z,205nm,0.4s						
COEG	**Centro de Oper**	**1.85**	**71**	*i* P	**Pn**	**05 07 19.1**	**-0.4**
COEG				IAML		05 07 28.5	
	comp=Z,300nm,1.0s						
COEG				*i* S	**Sb**	**05 07 45.3**	**+0.5**
MTO3	**Montecristo**	**1.88**	**43**	*e*P	**Pn**	**05 07 19.4**	**-0.7**
MTO3	**Montecristo**	**1.88**	**43**	*i* P	**Pn**	**05 07 19.9**	**-0.2**
MTO3				*i* S	**Sb**	**05 07 45.1**	**-0.8**
MTO3				IAML		05 07 50.2	
	comp=Z,270nm,1.0s						
STG3	**Santiaguito 3,**	**1.90**	**333**	*e*P	**Pn**	**05 07 19.6**	**-0.7**
TECO	**Alcaldia de Te**	**1.91**	**74**	*e*P	**Pn**	**05 07 19.0**	**-1.4**
TECO				*e*S	**Sn**	**05 07 42.9**	**-1.4**
TECO	**Alcaldia de Te**	**1.91**	**74**	*i* P	**Pn**	**05 07 19.5**	**-0.9**
TECO				*i* S	**Sn**	**05 07 43.6**	**-0.7**
TECO				IAML		05 07 54.2	
	comp=Z,140nm,1.0s						
SOKI	**Kika Raxquin**	**1.94**	**339**	*i* P	**Pn**	**05 07 20.7**	**-0.3**
SOKI				*i* S	**Sn**	**05 07 46.0**	**+0.6**
SOKI				IAML		05 07 52.9	
	comp=Z,440nm,1.0s						
UESV	**Universidad de**	**1.94**	**71**	*i* P	**Pn**	**05 07 20.5**	**-0.2**
UESV				*i* S	**Sn**	**05 07 45.5**	**+0.6**
UESV				IAML		05 07 55.2	
	comp=Z,250nm,1.0s						
ESQI	**Esquipulas**	**2.01**	**40**	*e*P	**Pn**	**05 07 21.6**	**-0.2**
ESQI	**Esquipulas**	**2.01**	**40**	*i* P	**Pn**	**05 07 21.8**	**0.0**
ESQI				*i* S	**Sn**	**05 07 48.1**	**+1.3**
ESQI				IAML		05 07 54.2	
	comp=Z,650nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.01**	**70**	*i* P	**Pn**	**05 07 22.3**	**+0.5**
SCLA				*i* S	**Sb**	**05 07 48.9**	**-0.6**
SCLA				IAML		05 07 52.3	
	comp=Z,130nm,1.0s						
LLGN	**La Laguna**	**2.03**	**55**	*i* P	**Pn**	**05 07 22.3**	**+0.2**
LLGN				*i* S	**Sn**	**05 07 48.6**	**+1.2**
LLGN				IAML		05 08 07.8	
	comp=Z,1μm,1.0s						
TECA	**Tecapa**	**2.17**	**77**	*e*P	**Pn**	**05 07 23.4**	**-0.6**
MRL	**Marmol**	**2.27**	**25**	*e*P	**Pb**	**05 07 29.0**	**-0.1**
QUIS	**Sacapulas**	**2.30**	**350**	*i* P	**Pn**	**05 07 27.3**	**+1.4**
QUIS				IAML		05 07 36.9	
	comp=Z,370nm,1.0s						
QUIS				*i* S	**Sb**	**05 07 57.4**	**-0.6**
LCY	**Lacayo**	**2.35**	**80**	*e*P	**Pn**	**05 07 25.3**	**-1.2**
RANC	**El Ranchito**	**2.36**	**79**	*i* P	**Pn**	**05 07 27.1**	**+0.5**
RANC				IAML		05 07 40.5	
	comp=Z,240nm,1.0s						
BLLM	**Bellamira**	**2.41**	**79**	*e*P	**Pn**	**05 07 26.2**	**-1.0**
HUEH	**Huehuetenango**	**2.43**	**341**	*i* P	**Pn**	**05 07 28.5**	**+0.8**
HUEH				*i* S	**Sn**	**05 07 59.3**	**+1.9**
HUEH				IAML		05 08 07.5	
	comp=Z,410nm,1.0s						
LCND	**La Caada**	**2.73**	**83**	*e*P	**Pn**	**05 07 30.6**	**-0.9**
LCND				IAML		05 08 12.1	
	comp=Z,85nm,0.4s						
LCND	**La Caada**	**2.73**	**83**	*i* P	**Pn**	**05 07 31.5**	**0.0**
LCND				IAML		05 08 18.2	
	comp=Z,120nm,1.0s						
CNCH	**Conchagua**	**2.78**	**84**	*e*P	**Pn**	**05 07 31.4**	**-1.0**
CNCH	**Conchagua**	**2.78**	**84**	*i* P	**Pn**	**05 07 32.0**	**-0.3**
CNCH				IAML		05 08 13.2	
	comp=Z,250nm,1.0s						
MARCA	**Marcala la Paz**	**2.81**	**66**	*i* P	**Pn**	**05 07 33.1**	**+0.3**
INTHN	**La Esperanza I**	**2.81**	**62**	*i* P	**Pn**	**05 07 33.7**	**+0.7**
INTHN				*i* S	**Sn**	**05 08 08.3**	**+1.5**
AMPH	**Amapala**	**2.95**	**84**	*i* P	**Pn**	**05 07 32.8**	**-1.8**
AMPH				*i* S	**Sn**	**05 08 11.1**	**+1.3**
CSGN	**Cosiguina Volc**	**3.03**	**90**	*i* P	**Pn**	**05 07 35.7**	**-0.1**
CSGN				IAML		05 07 52.4	
	comp=Z,31nm,1.0s						
CSGN				*i* S	**Sn**	**05 08 12.7**	**+0.6**
CHIHN	**Chmisales**	**3.11**	**46**	*i* P	**Pn**	**05 07 36.8**	**-0.2**
CRIN	**San Cristobal**	**3.54**	**95**	*i* P	**Pn**	**05 07 42.6**	**-0.3**
CRIN				IAML		05 08 35.1	
	comp=Z,270nm,1.0s						
PKGN	**Cerro Pekin**	**3.62**	**95**	*i* P	**Pn**	**05 07 43.2**	**-0.6**
PKGN				IAML		05 09 07.9	
	comp=Z,330nm,1.0s						
YUSH	**Yuscaran**	**3.84**	**75**	*i* P	**Pn**	**05 07 46.0**	**-1.0**

*IDC **13** 05:20:21.4±1.0, 37.70N×20.90E, h0km, mb4.1/11, mbtmp3.9/15, ML3.6/4, MS3.3/9, Error ellipse: s-maj=19.8km s-min=17.4km az=162.0*
*NAO **13** 05:20:22.6, 37.62N×20.81E, h10km, mb4.6*
*NEIC **13** 05:20:22.3±1.8, 37.45N±0.09×20.75E±0.08, h10km±1km, mb4.3/13, Error ellipse: s-maj=15.5km s-min=9.9km az=163.0*
*ATH **13** 05:20:22.9, 37.67N×20.72E, h11km±1km, ML3.8/8, Error ellipse: s-maj=2.1km s-min=0.8km az=37.0*
*BEO **13** 05:20:22.3±0.8, 37.48N×20.38E, h22km±5km, ML3.7/11*
*PDG **13** 05:20:22.2±0.3, 37.70N×20.74E, h12km, ML3.8/12, Error ellipse: s-maj=0.9km s-min=1.2km az=0.0*
*THE **13** 05:20:23.1, 37.67N×20.76E, h8km±3km, ML3.7/10, Error ellipse: s-maj=3.5km s-min=0.6km az=75.0*
ISC 13 05:20:22.8±0.9, 37.69N±0.03×20.74E±0.03, h9km±5km, n156, σ1§42/199, mb4.1/15, MS3.5/4, 5C-7D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.07**	**110**	P	**Pg**	**05 20 24.9**	**0.0**
LTHK	**Lithakia**	**0.08**	**73**	P	**Pg**	**05 20 24.4**	**-0.6**
LTHK	**Lithakia**	**0.08**	**73**	P	**Pg**	**05 20 24.5**	**-0.6**
RTZL	**Ratzakli, Kefa**	**0.39**	**4**	P	**Pg**	**05 20 30.8**	**+0.3**
RTZL				S	**Sb**	**05 20 37.5**	**-0.6**
	11μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.45**	**344**	P	**Pg**	**05 20 31.9**	**+0.4**
PSDA				S	**Sb**	**05 20 39.0**	**-0.7**
PSDA	**Pessada-Kefalo**	**0.45**	**344**	P	**Pg**	**05 20 32.0**	**+0.4**
PSDA				S	**Sb**	**05 20 38.9**	**-0.7**
VLS	**Valsamata**	**0.51**	**347**	P	**Pg**	**05 20 32.8**	**+0.2**
VLS				S	**Sb**	**05 20 40.6**	**-0.8**
	9μm,0.5s						
VLS	**Valsamata**	**0.51**	**347**	P	**Pg**	**05 20 32.9**	**+0.2**
VLS				S	**Sb**	**05 20 40.6**	**-0.8**
VLS				AML	AML	05 20 43.6	
	comp=E,14733μm,0.5s						
VLS				AML	AML	05 20 46.3	
	comp=N,17979μm,0.4s						
LXR1	**Lixouri, Cepha**	**0.57**	**335**	P	**Pg**	**05 20 33.9**	**+0.1**
LXR1				S	**Sb**	**05 20 43.4**	**+0.3**
	comp=N,46μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.57**	**335**	P	**Pg**	**05 20 34.1**	**+0.3**
LXRA				S	**Sg**	**05 20 41.5**	**+0.2**
SMHA	**Samh**	**0.57**	**353**	P	**Pg**	**05 20 33.4**	**-0.5**
SMHA				S	**Sg**	**05 20 41.3**	**-0.1**
DMLN	**Damoulianata-K**	**0.62**	**333**	P	**Pg**	**05 20 35.2**	**+0.3**
DMLN				S	**Sb**	**05 20 45.4**	**+0.6**
	comp=N,20μm,0.7s						
DMLN	**Damoulianata-K**	**0.62**	**333**	P	**Pg**	**05 20 35.3**	**+0.4**
DMLN				S	**Sg**	**05 20 43.8**	**+0.7**
RLS	**Riolos of Patr**	**0.69**	**57**	P	**Pg**	**05 20 35.9**	**-0.2**
RLS	**Riolos of Patr**	**0.69**	**57**	P	**Pg**	**05 20 36.0**	**-0.1**
RLS				S	**Sb**	**05 20 46.1**	**-0.5**
RLS				AML	AML	05 20 48.8	
	comp=E,14570μm,0.3s						
RLS				AML	AML	05 20 49.5	
	comp=N,8352μm,0.3s						
VSK1	**VASILIKIADES**	**0.74**	**349**	P	**Pg**	**05 20 37.0**	**0.0**
VSK1				S	**Sb**	**05 20 48.0**	**0.0**
	comp=N,11μm,0.7s						
FSK	**Fiskardo**	**0.79**	**350**	P	**Pg**	**05 20 37.5**	**-0.5**
FSK				S	**Sb**	**05 20 50.0**	**+0.6**
	comp=N,6μm,0.8s						
FSK	**Fiskardo**	**0.79**	**350**	P	**Pg**	**05 20 37.8**	**-0.2**
FSK				S	**Sg**	**05 20 48.4**	**+0.2**
FSK				AML	AML	05 20 54.3	
	comp=E,13024μm,0.6s						
FSK				AML	AML	05 21 01.3	
	comp=N,10565μm,0.9s						
AMT	**Artemida-Makis**	**0.79**	**101**	P	**Pg**	**05 20 38.2**	**+0.2**
AMT				S	**Sb**	**05 20 48.8**	**-0.7**
AMT				AML	AML	05 20 54.4	
	comp=N,38316μm,0.6s						
AMT				AML	AML	05 20 55.5	
	comp=E,32639μm,0.5s						
DRO	**Drossia**	**0.82**	**71**	P	**Pg**	**05 20 38.4**	**-0.2**
DRO	**Drossia**	**0.82**	**71**	P	**Pg**	**05 20 38.8**	**+0.3**
DRO				S	**Sb**	**05 20 50.8**	**+0.5**
DRO				AML	AML	05 20 55.4	
	comp=N,9862μm,0.4s						
DRO				AML	AML	05 21 03.3	
	comp=E,18556μm,0.5s						
EVGI	**Lefkada island**	**0.94**	**356**	P	**Pg**	**05 20 40.5**	**-0.4**
EVGI				S	**Sb**	**05 20 53.7**	**-0.1**
	comp=E,4μm,0.5s						
EVGI	**Lefkada island**	**0.94**	**356**	P	**Pg**	**05 20 40.5**	**-0.4**
EVGI				S	**Sg**	**05 20 53.5**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.01**	**353**	P	**Pg**	**05 20 41.7**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.01**	**353**	P	**Pg**	**05 20 41.6**	**-0.5**
DRAG				S	**Sb**	**05 20 56.5**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.03**	**358**	P	**Pg**	**05 20 41.9**	**-0.7**
NYDR				S	**Sn**	**05 20 58.2**	**+0.2**
	comp=E,3μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.03**	**358**	P	**Pg**	**05 20 41.7**	**-0.9**
ITM	**Ithomi**	**1.07**	**118**	P	**Pg**	**05 20 43.3**	**-0.2**
ITM	**Ithomi**	**1.07**	**118**	P	**Pg**	**05 20 43.2**	**-0.2**
LKD2	**Lefkada island**	**1.10**	**357**	P	**Pb**	**05 20 44.1**	**0.0**
LKD2				S	**Sg**	**05 20 57.6**	**-0.8**
LKD2				AML	AML	05 21 13.7	
	comp=N,5886μm,0.7s						
LKD2				AML	AML	05 21 16.2	
	comp=E,9137μm,1.1s						
PYL	**PYLOS**	**1.12**	**134**	P	**Pb**	**05 20 43.5**	**-1.0**
PYL				S	**Sn**	**05 21 00.6**	**+0.2**
	comp=E,968nm,0.9s						
PYL	**PYLOS**	**1.12**	**134**	P	**Pb**	**05 20 43.7**	**-0.7**
TSLK	**Tsoukalades, L**	**1.14**	**357**	P	**Pb**	**05 20 44.0**	**-0.7**
TSLK				S	**Sn**	**05 21 02.1**	**+1.3**
	comp=E,4μm,0.8s						
TSLK	**Tsoukalades, L**	**1.14**	**357**	P	**Pb**	**05 20 44.1**	**-0.6**
TSLK				S	**Sb**	**05 20 58.4**	**-1.2**
KLV	**Kalavryta, Ach**	**1.18**	**72**	P	**Pb**	**05 20 44.6**	**-0.7**
EFP	**Efpalio**	**1.18**	**51**	P	**Pb**	**05 20 44.6**	**-0.8**
EFP				S	**Sn**	**05 21 02.3**	**+0.5**
EFP				AML	AML	05 21 12.5	
	comp=N,5928μm,1.2s						
EFP				AML	AML	05 21 17.4	
	comp=E,5195μm,0.7s						
GUR	**Goura**	**1.30**	**78**	P	**Pn**	**05 20 47.1**	**-0.1**
ANX	**Ano Chora**	**1.30**	**45**	P	**Pn**	**05 20 47.2**	**-0.1**
ANX				S	**Sg**	**05 21 05.6**	**+0.9**
ANX				AML	AML	05 21 15.9	
	comp=N,9089μm,0.6s						
ANX				AML	AML	05 21 17.0	
	comp=E,10530μm,1.0s						
KALE	**Kalithea**	**1.31**	**57**	P	**Pn**	**05 20 46.5**	**-0.9**
AGG	**Agios Georgios**	**1.83**	**43**		**Pb**	**05 20 56.6**	**+0.1**
KEK	**Kerkira**	**2.15**	**340**	Pn	**Pb**	**05 21 01.3**	**-0.7**
LIT	**Litokhoron**	**2.77**	**29**	Pn	**Pn**	**05 21 09.1**	**+1.6**
SCTE	**Santa Cesarea**	**2.97**	**324**		**Pn**	**05 21 10.3**	**+0.2**
FNA	**Florina**	**3.13**	**9**	Pn	**Pn**	**05 21 14.8**	**+2.3**
FNA	**Florina**	**3.13**	**9**	*e*Pn	**Pn**	**05 21 14.8**	**+2.3**
OHR	**Ohrid**	**3.42**	**1**	*e*Pn	**Pn**	**05 21 18.2**	**+1.8**
OHR	**Ohrid**	**3.42**	**1**	*i* Pn	**Pb**	**05 21 22.5**	**-1.2**
TIP	**Timpagrande**	**3.46**	**297**	Pn	**Pn**	**05 21 16.9**	**-0.1**
TIR	**Tirane**	**3.72**	**350**	Pn	**Pn**	**05 21 22.8**	**+2.4**
TIR	**Tirane**	**3.72**	**350**	*e*Pn	**Pn**	**05 21 21.5**	**+1.0**
CEL	**Celeste**	**3.87**	**280**	Pn	**Pn**	**05 21 22.3**	**-0.3**
VAY	**Valandovo**	**3.90**	**21**	*e*Pn	**Pn**	**05 21 25.5**	**+2.6**
VAY	**Valandovo**	**3.90**	**21**	*i* Pn	**Pn**	**05 21 26.3**	**+3.4**
SRS	**Serrai**	**4.08**	**32**	*e*Pn	**Pn**	**05 21 27.0**	**+1.6**
IDI	**Anoyia**	**4.11**	**124**	Pn	**Pn**	**05 21 27.5**	**+1.5**
	comp=E,0.6nm,0.3s,baz=339,slow=18,SNR=1.7						
IDI				Sn	**Sn**	**05 22 15.7**	**+1.5**
	comp=E,2.1nm,0.3s,baz=270,slow=20,SNR=4.1						
PUK	**Puka**	**4.40**	**352**	Pn	**Pn**	**05 21 30.4**	**+0.5**
ULC	**Ulcinj**	**4.42**	**345**	⇑*i*Pn	**Pn**	**05 21 30.3**	**+0.1**
ULC				*i* Sn	**Sn**	**05 22 21.8**	**0.0**
CUC	**Castrocucco**	**4.48**	**302**	Pn	**Pn**	**05 21 32.1**	**+1.1**
DRME	**Dracevica, Mon**	**4.65**	**346**	⇑*i*Pn	**Pn**	**05 21 33.8**	**+0.5**
DRME				*i* Sn	**Sn**	**05 22 27.8**	**+0.4**
BUM	**Brajici-Budva**	**4.82**	**344**	⇓*i*Pn	**Pn**	**05 21 35.8**	**+0.1**
BUM				*i* Sn	**Sn**	**05 22 32.3**	**+0.6**
PDG	**Podgorica**	**4.87**	**347**	*e*Pn	**Pn**	**05 21 35.7**	**-0.6**
PDG				*e*Sn	**Sn**	**05 22 32.9**	**+0.1**
PDG	**Podgorica**	**4.87**	**347**	*e*Pn	**Pn**	**05 21 36.0**

comp=E,2.6nm,0.5s
WTTA Wattenberg 11.69 328 *e*Sn **Sn 05 25 18.3 -2.2**
comp=E,9.9nm,0.8s
WATA Walderalm 11.77 328 *e*Sn **Sn 05 25 22.2 -0.2**
comp=E,4.7nm,0.4s
FUORN Ofenpass-Fuorn 11.83 322 Pn **Pn 05 23 15.8 +3.9**
FETA Feichten 11.90 325 *i* Sn **Sn 05 25 21.5 -4.2**
comp=E,2.3nm,0.6s
MOTA Moosalm 11.98 327 *i* Sn **Sn 05 25 26.9 -0.7**
comp=E,4.8nm,0.7s
VRAC Vranov 12.00 347 LR LR 05 27 58.1
comp=E,33nm,18.1s,baz=168,slow=38
DAVOX Davos/Dischmat 12.13 322 Pn **Pn 05 23 19.9 +4.0**
comp=E,0.2nm,0.3s,baz=163,slow=19,SNR=1.9
DAVOX Sn **Sn 05 25 25.9 -5.4**
comp=E,0.2nm,0.3s,baz=311,slow=20,SNR=1.8
TUE Stuetta 12.18 320 Pn **Pn 05 23 18.1 +1.4**
GERES GERESS Array B 12.27 338 Pn **Pn 05 23 17.6 -0.2**
comp=E,0.3nm,0.3s,baz=170,slow=18,SNR=2.4
GERES LR LR 05 28 31.7
comp=E,52nm,20.8s,baz=142,slow=40
comp=E,0.4nm,0.3s
SENIN Lac Senin/Sane 13.21 315 Pn **Pn 05 23 32.4 +1.6**
KIEV Kiev 14.34 22 P **P 05 23 54.0 +0.9**
AKASG Malin Array Be 14.35 22 Pn **Pn 05 23 45.9 -0.2**
comp=E,0.2nm,0.3s,baz=207,slow=12,SNR=4.1
AKASG LR LR 05 30 27.7
comp=E,265nm,18.1s,baz=232,slow=42
comp=E,0.2nm,0.5s
AKBB Malin Array Si 14.35 22 P **P 05 23 54.0 +0.8**
CLL Collm 14.68 341 *e*PP **P 05 23 59.0 +2.1**
CLL L L 05 30 00.0
comp=Z,100nm,18.0s
WLF Walferdange 15.92 323 P **P 05 24 12.2 +1.5**
WLF IAmb IAmb 05 24 15.7
comp=Z,32nm,1.1s
GNI Garni 18.83 75 LR LR 05 32 44.7
comp=Z,46nm,19.4s,baz=287,slow=40
ESDC Sonseca Array 19.37 284 P **Pn 05 24 49.6 -0.4**
baz=84,slow=9.6,SNR=5.2
comp=Z,1.2nm,0.9s
HFS Hagfors 22.91 351 P **P 05 25 26.6 -0.2**
comp=Z,7.1nm,0.5s,baz=154,slow=11,SNR=35
comp=Z,7.1nm,0.5s
EKA Eskdalemuir Ar 23.93 325 P **P 05 25 38.1 +1.2**
comp=Z,3.9nm,0.7s,baz=127,slow=9.2,SNR=8.7
comp=Z,3.9nm,0.7s
FINES FINESS Array B 24.02 6 P **P 05 25 37.1 -0.6**
comp=Z,2.7nm,0.7s,baz=176,slow=9.1,SNR=8.7
FINES LR LR 05 36 04.9
comp=Z,102nm,19.3s,baz=258,slow=39
comp=Z,2.7nm,0.7s
NC405 NORSAR Array S 24.13 349 P **P 05 25 37.1 -1.7**
NC405 IAmb IAmb 05 26 03.4
comp=Z,14nm,1.2s
NB2 NORSAR Subarra 24.13 349 P **P 05 25 38.3 -0.6**
comp=Z,22nm,1.7s,baz=161,slow=9.3
NOA NORSAR Array B 24.13 349 P **P 05 25 38.8 -0.1**
comp=Z,1.2nm,0.7s,baz=157,slow=8.8,SNR=12
comp=Z,1.2nm,0.7s
RAYN Ar Rayn 25.47 117 P **P 05 25 47.0 -4.3**
TORD Torodi Ar. Bea 29.76 220 P **P 05 26 30.5 +0.7**
comp=Z,1.0nm,0.7s,baz=31,slow=9.5,SNR=6.9
comp=Z,1.0nm,0.7s
ABKAR Akbulak array 30.38 55 P **P 05 26 34.1 -1.0**
ABKAR IAmb IAmb 05 26 54.4
comp=Z,4.3nm,1.4s
ARCES ARCESS Array B 32.01 3 P **P 05 26 48.8 -0.4**
comp=Z,1.8nm,0.8s,baz=191,slow=11,SNR=13
comp=Z,1.8nm,0.8s
FURI Furi 32.93 146 LR LR 05 41 23.7
comp=Z,29nm,20.4s,baz=106,slow=38
BVAR Borovoye Array 37.31 49 P **P 05 27 34.8 -0.3**
comp=Z,1.4nm,0.5s,baz=256,slow=6.1,SNR=5.8
comp=Z,1.4nm,0.5s
KKAR Karatay Array 37.84 66 P **P 05 27 39.6 -0.1**
KKAR Karatay Array 37.84 66 P **P 05 27 39.6 -0.1**
KURBB Kurchatov Arra 42.39 53 P **P 05 28 16.3 -1.0**
comp=Z,0.9nm,0.3s,baz=280,slow=9.1,SNR=4.4
comp=Z,0.9nm,0.3s
MK31 Makanchi Array 45.42 58 P **P 05 28 40.7 -1.1**
MKAR Makanchi Array 45.42 58 P **P 05 28 40.3 -1.5**
MKAR Makanchi Array 45.42 58 P **P 05 28 40.5 -1.3**
comp=Z,0.8nm,0.5s,baz=271,slow=7.2,SNR=15
comp=Z,0.8nm,0.5s
ZAA0 Zalesovo Array 45.89 48 P **P 05 28 44.2 -1.2**
ZALV Zalesovo Beam 45.89 48 P **P 05 28 44.3 -1.2**
comp=Z,3.7nm,0.5s,baz=280,slow=8.5,SNR=15
comp=Z,3.7nm,0.5s
EUNU Eureka 56.03 348 P **P 05 30 03.5 +2.0**
EUNU IAmb IAmb 05 30 15.6
comp=Z,5.4nm,1.4s
BOSA Boshof 66.09 176 LR LR 06 02 10.7
comp=Z,35nm,18.5s,baz=10.0,slow=38
CMAR Chiang Mai Arr 69.79 82 P **P 05 31 33.1 -0.7**
CMAR Chiang Mai Arr 69.79 82 P **P 05 31 32.8 -1.1**
comp=Z,0.8nm,0.3s,baz=303,slow=8.4,SNR=7.1
comp=Z,0.8nm,0.3s
F31M Tsiigehtchic 73.42 350 P **P 05 31 55.4 +0.6**
F31M IAmb IAmb 05 31 57.8
comp=Z,2.8nm,0.8s
DAWY Dawson 77.37 351 P **P 05 32 18.8 +1.0**
SKT Skwentna 80.48 356 P **P 05 32 35.3 +0.5**
ASAJ Asahikawa 83.07 38 LR LR 06 15 07.2
comp=Z,27nm,18.2s,baz=68,slow=40
WRA Warramunga Arr 120.35 93 PKP **PKPdf 05 39 14.0 -1.0**
comp=Z,0.3nm,0.8s,baz=313,slow=2.2,SNR=1.8

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*KRSC **13** 05:20:21.6±0.9, 54°.26N×164°.13E, h50km±36km, Ml3.7*
*IDC **13** 05:20:23.6±2.1, 54°.55N×163°.59E, h0km, mb3.8/4, mbtmp3.8/4, ML1.7/1, Error ellipse: s-maj=66.2km s-min=23.1km az=166.0*
ISC 13 05:20:25.8±1.0, **54°.58N**±0°.08×**163°.83E**±0°.05, **h25**km, **n20,** σ**1**§**74/25, mb3.8/4, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.39**	**62**	*e*P	**Pn**	**05 20 47.7**	**-1.9**
BKI				*e*S	**Sn**	**05 21 04.5**	**-2.6**
KBTR	**Krutoberegovo**	**1.73**	**341**	*e*P	**Pb**	**05 20 55.2**	**-1.7**
KBTR				*e*S	**Sb**	**05 21 19.8**	**+1.6**
TUMD	**Tumrok D**	**2.08**	**289**	*e*P	**Pb**	**05 21 00.8**	**-2.0**
TUMD				*e*S	**Sb**	**05 21 28.8**	**+0.7**
TUMR	**Tumrok**	**2.24**	**290**	*e*P	**Pb**	**05 21 03.7**	**-1.9**
TUMR				*e*S	**Sb**	**05 21 33.8**	**+0.9**
ZLN	**Zelenaya**	**2.25**	**311**	*e*P	**Pb**	**05 21 04.8**	**-1.1**
BZGR	**Bezymyannyi-Gr**	**2.25**	**309**	*e*P	**Pb**	**05 21 04.0**	**-1.8**
BZP	**Bezymyannyi-Pe**	**2.31**	**307**	*e*P	**Pb**	**05 21 04.6**	**-2.3**
KMNR	**Kamenistaya**	**2.37**	**301**	*e*P	**Pb**	**05 21 06.1**	**-1.8**
SDLR	**Sedlovina**	**3.20**	**248**	*e*P	**Pn**	**05 21 12.9**	**-1.7**
SMAR	**Somma**	**3.25**	**248**	*e*P	**Pn**	**05 21 14.1**	**-1.2**
KRER	**Koryakskii**	**3.26**	**249**	*e*P	**Pn**	**05 21 14.4**	**-1.1**
KRMR	**Karymshinskiy**	**3.81**	**245**	*e*P	**Pn**	**05 21 22.6**	**-0.3**
PETK	**Petropavlovsk-**	**3.92**	**250**	Pn	**Pn**	**05 21 23.4**	**-0.9**
	0.3nm,0.3s,baz=87,slow=13,SNR=1.4						
PETK				Sn	**Sn**	**05 22 09.3**	**-0.2**
	0.3nm,0.3s,baz=244,slow=23,SNR=2.6						
MTVR	**Mutnovka**	**3.97**	**240**	*e*P	**Pn**	**05 21 23.3**	**-1.8**
GRL	**Gorelyy**	**3.98**	**242**	*e*P	**Pn**	**05 21 23.6**	**-1.7**
ASAK	**Asacha**	**4.17**	**241**	*e*P	**Pn**	**05 21 26.6**	**-1.2**
ILAR	**Eielson Array**	**26.19**	**47**	P	**P**	**05 26 00.6**	**+2.6**
	0.4nm,0.9s,baz=250,slow=9.1,SNR=4.6						
	0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**48.91**	**303**	P	**P**	**05 29 09.4**	**+0.1**
	1.0nm,0.2s,baz=57,slow=7.8,SNR=4.8						
	1.0nm,0.2s						
BVAR	**Borovoye Array**	**51.18**	**309**	P	**P**	**05 29 27.7**	**+1.3**
	1.0nm,0.5s,baz=47,slow=6.5,SNR=5.2						
	1.0nm,0.5s						
TXAR	**Lajitas Array**	**68.04**	**70**	P	**P**	**05 31 25.6**	**+2.5**
	0.3nm,0.6s,baz=306,slow=7.7,SNR=1.3						
	0.3nm,0.6s						

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*IDC **13** 05:25:05.6±1.4, 7°.42S×127°.37E, h0km, mb3.9/3, mbtmp4.0/7, ML4.0/4, MS2.7/4, Error ellipse: s-maj=47.0km s-min=21.8km az=70.0*
*DJA **13** 05:25:13.4±1.2, 7°.5±5°.×12°.7E±°, h10km, M4.1/7, mb4.2/2, MLv4.0/7*
ISC 13 05:25:07.8±1.0, **7°.25S**±0°.10×**127°.18E**±0°.08, **h10**km, **n30,** σ**1**§**40/28, mb4.1/5, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**3.81**	**229**	P	**Pn**	**05 26 08.1**	**+1.5**
SOEI	**Soe**	**3.81**	**229**	P	**Pn**	**05 26 07.7**	**+1.1**
BATI	**Baumata**	**4.55**	**230**	Pn	**Pn**	**05 26 17.3**	**+0.5**
	22nm,0.3s,baz=38,slow=3.6,SNR=4.8						
BATI				Sn	**Sn**	**05 27 08.7**	**-1.1**
	3.7nm,0.3s,baz=118,slow=21,SNR=1.7						
BATI				LR	LR	05 28 12.7	
	comp=Z,100nm,21.5s,baz=135,slow=41						
	58nm,0.4s						
BATI	**Baumata**	**4.55**	**230**	P	**Pn**	**05 26 17.2**	**+0.5**
BATI				S	**Sn**	**05 27 07.1**	**-2.7**
BSSI	**Bau Bau, Buton**	**6.74**	**279**	P	**Pn**	**05 26 45.3**	**-1.5**
BKSI	**Bulukumba**	**7.27**	**285**	P	**Pn**	**05 26 53.3**	**-0.9**
	17nm,0.8s,0.1nm						
KDU	**Kakadu**	**7.51**	**136**	P	**Pn**	**05 26 57.5**	**+0.1**
BNSI	**Bone**	**7.58**	**292**	P	**Pn**	**05 26 56.6**	**-1.9**
KAPI	**Kappang**	**7.71**	**286**	LR	LR	05 29 53.1	
	comp=Z,39nm,18.1s,baz=123,slow=36						
PLAI	**Plampang**	**9.44**	**260**	P	**Pn**	**05 27 25.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**10.88**	**188**	Pn	Pn	05 27 39.9	-3.8
	0.6nm,0.3s,baz=27,slow=10,SNR=13						
FITZ				Sn	Sn	05 29 34.7	-11
	2.8nm,0.3s,baz=171,slow=22,SNR=11						
	1.4nm,0.3s						
DAV	**Davao City (W)**	**14.32**	**354**	LR	LR	05 34 39.8	
	comp=Z,33nm,19.4s,baz=346,slow=40						
WRA	**Warramunga Arr**	**14.40**	**152**	Pn	Pn	05 28 26.7	-5.2
	0.7nm,0.3s,baz=326,slow=13,SNR=25						
WRA				Sn	Sn	05 30 56.5	-15
	0.2nm,0.3s,baz=326,slow=24,SNR=2.9						
	1.1nm,0.4s						
COEN	**Coen**	**17.07**	**114**	P	**Pn**	**05 29 05.8**	**-0.9**
ASAR	**Alice Springs**	**17.55**	**159**	P	**Pn**	**05 29 09.3**	**-3.4**
	0.3nm,0.3s,baz=336,slow=13,SNR=18						
ASAR				S	Sn	05 32 15.9	-12
	0.8nm,0.6s,baz=331,slow=23,SNR=4.8						
ASAR				LR	LR	05 37 00.7	
	comp=Z,29nm,19.4s,baz=76,slow=41						
	1.4nm,0.6s						
AS01	**Alice Springs**	**17.57**	**159**	P	**Pn**	**05 29 13.4**	**+0.5**
QIS	**Mount Isa**	**17.88**	**139**	P	**Pn**	**05 29 16.7**	**-0.1**
MEEK	**Meekatharra**	**20.93**	**202**	P	**P**	**05 29 52.5**	**+1.7**
XMI	**Christmas Isla**	**21.47**	**260**	P	**P**	**05 29 58.9**	**+2.2**
OOD	**Oodnadatta**	**21.96**	**159**	P	**P**	**05 30 01.7**	**-0.2**
FORT	**Forrest**	**23.42**	**178**	P	**P**	**05 30 17.1**	**0.0**
	15nm,2.3s						
MULG	**Mulgathing**	**23.80**	**165**	P	**P**	**05 30 20.8**	**-0.1**
INKA	**Innaminka**	**24.09**	**149**	P	**P**	**05 30 24.6**	**+1.0**
LCRK	**Leigh Creek**	**25.29**	**157**	P	**P**	**05 30 34.4**	**-0.1**
BBOO	**Buckleboo**	**26.74**	**163**	P	**P**	**05 30 47.2**	**-0.4**
	9.9nm,0.8s						
STKA	**Stephens Creek**	**27.95**	**153**	P	**P**	**05 30 56.1**	**-2.3**
	2.9nm,0.5s,baz=330,slow=12,SNR=5.8						
	2.9nm,0.5s						
HTT	**Hallett**	**28.23**	**159**	P	**P**	**05 31 01.5**	**+0.4**
ARPS	**Mount Arapiles**	**32.28**	**158**	P	**P**	**05 31 37.3**	**+0.5**
MKAR	**Makanchi Array**	**66.93**	**328**	P	**P**	**05 36 01.3**	**+0.8**
	0.6nm,0.8s,baz=128,slow=8.2,SNR=4.3						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**71.29**	**330**	P	**P**	**05 36 28.3**	**+1.0**
	0.3nm,0.5s,baz=128,slow=6.0,SNR=3.5						
	0.3nm,0.5s						

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*IDC **13** 05:47:40.9±0.7, 33°.47N×89°.35E, h0km, mb4.0/12, mbtmp4.1/14, ML3.6/3, MS3.3/5, Error ellipse: s-maj=33.5km s-min=14.1km az=49.0*
*NEIC **13** 05:47:43.2±1.6, 33°.59N±0°.08×89°.22E±0°.06, h10km±2km, mb4.1/16, Error ellipse: s-maj=13.2km s-min=8.6km az=167.0*
*MOS **13** 05:47:48.1±1.5, 33°.42N×89°.27E, h74km, mb4.8/11, Error ellipse: s-maj=17.2km s-min=7.0km az=119.4*
ISC 13 05:47:43.3±0.5, **33°.55N**±0°.05×**89°.18E**±0°.06, **h10**km, **n68,** σ**1**§**99/72, mb4.3/24, MS3.5/5, 5C, Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.18**	**156**	Pn	**Pn**	**05 48 49.1**	**+1.5**
LSA	**Lhasa**	**4.18**	**156**	P	**Pn**	**05 48 50.5**	**+2.9**
LSA				S	**Sg**	**05 50 00.4**	**+2.7**
LSA				LR	LR		
	comp=N,950nm,8.7s						
LSA				LR	LR		
	comp=Z,1μm,7.6s						
LSA	**Lhasa**	**4.18**	**156**	P	**Pn**	**05 48 49.1**	**+1.5**
GOMU	**GeErMu**	**5.33**	**59**	P	Pn	05 49 09.0	+5.7
GOMU				pP	Pb	05 49 12.6	-4.2
GOMU				sP	Pg	05 49 14.6	-11
GOMU				S	**Sb**	**05 50 21.5**	**+0.5**
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.4s						
GOMU				LR	LR		
	comp=N,1μm,5.0s						
GOMU				LR	LR		
	comp=E,740nm,5.5s						
GOMU				LR	LR		
	comp=Z,490nm,5.6s						
WUS	**Wushi**	**11.00**	**317**	Pn	**Pn**	**05 50 21.2**	**+0.4**
MK31	**Makanchi Array**	**14.23**	**340**	*ce*P	**P**	**05 51 12.7**	**+0.4**
MKAR	**Makanchi Array**	**14.23**	**340**	Pn	**Pn**	**05 51 03.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=151,slow=15,SNR=2.4						
MKAR	**Makanchi Array**	**14.23**	**340**	*e*P	**P**	**05 51 13.8**	**+1.5**
KMI	**Kunming**	**14.49**	**122**	⇑P	**Pn**	**05 51 11.0**	**+2.4**
KMI				pP	P	05 51 21.5	+6.1
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,100nm,3.8s						
KMI				LR	LR		
	comp=N,270nm,9.2s						
KMI				LR	LR		
	comp=E,280nm,10.5s						
KMI				LR	LR		
	comp=Z,350nm,10.8s						
AAK	**Ala-Archa**	**14.68**	**312**	Pn	**P**	**05 51 15.6**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=122,slow=17,SNR=3.3						
AAK				LR	LR	05 57 37.9	
	comp=Z,56nm,20.7s,baz=74,slow=40						
AAK	**Ala-Archa**	**14.68**	**312**	*ce*P	**P**	**05 51 19.8**	**+2.4**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BTK	**Batken**	**16.07**	**299**	P	**P**	**05 51 31.9**	**-0.9**
BTK				IAmb	IAmb	05 51 38.1	
	comp=Z,19nm,0.8s						
BTK	**Batken**	**16.07**	**299**	P	**P**	**05 51 31.9**	**-0.9**
BTK				pmax	pmax		
	comp=Z,19nm,0.9s						
GAR	**Garm**	**16.15**	**295**	Pn	**Pn**	**05 51 30.6**	**+0.1**
GAR				IAmb	IAmb	05 51 38.2	
	comp=Z,17nm,1.2s						
CHTO	**Chiang Mai**	**17.07**	**147**		**Pn**	**05 51 43.1**	**+1.0**
CHTO				IAmb	IAmb	05 51 44.4	
	comp=Z,29nm,1.5s						
CHTO	**Chiang Mai**	**17.07**	**147**	P	**Pn**	**05 51 43.1**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,29nm,1.5s						
SIMJ	**Simiganj**	**17.07**	**293**	P	**P**	**05 51 43.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**17.38**	**147**	Pn	**Pn**	**05 51 45.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**17.38**	**147**	P	**Pn**	**05 51 44.6**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=331,slow=12,SNR=26						
CMAR				LR	LR	05 58 33.7	
	comp=Z,30nm,19.6s,baz=340,slow=38						
	comp=Z,6.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.38**	**147**	P	**Pn**	**05 51 45.6**	**-0.4**
KKAR	**Karatay Array**	**17.45**	**309**	P	**P**	**05 51 47.6**	**-0.3**
KKAR	**Karatay Array**	**17.45**	**309**	P	**P**	**05 51 47.7**	**-0.3**
ENH	**Enshi**	**17.55**	**95**	P	**Pn**	**05 51 47.2**	**-0.8**
SLVN	**Son La**	**17.83**	**129**	P	**Pn**	**05 51 50.8**	**-0.8**
SLVN				IAmb	IAmb	05 51 54.5	
	comp=Z,20nm,1.1s						
PHRA	**Phrae**	**17.95**	**144**	P	**Pn**	**05 51 52.9**	**-0.2**
BTO	**Baotou**	**18.04**	**61**	*e*P	**P**	**05 51 57.8**	**+3.2**
BTO				pP	sP	05 52 12.8	+12
BTO				PP	PnPn	05 52 19.9	+15
BTO				sP	pP	05 52 27.1	+28
BTO				S	**Sn**	**05 55 14.0**	**-1.4**
BTO				pmax	pmax		
	comp=Z,20nm,0.5s						
BTO				pmax	pmax		
	comp=Z,130nm,5.2s						
BTO				LR	LR		
	comp=N,220nm,6.3s						
BTO				LR	LR		
	comp=E,290nm,4.7s						
BTO				LR	LR		
	comp=Z,340nm,8.5s						
KURBB	**Kurchatov Arra**	**18.77**	**339**	P	**P**	**05 52 02.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=146,slow=13,SNR=23						
	comp=Z,3.7nm,0.8s						
KURK	**Kurchatov**	**18.83**	**339**	P	**P**	**05 52 01.4**	**-1.6**
KURK	**Kurchatov**	**18.83**	**339**	*i* P	**Pn**	**05 52 07.8**	**+4.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.5s						
ULN	**Ulaanbaatar**	**19.63**	**38**	P	**Pn**	**05 52 12.1**	**-1.3**
ULN	**Ulaanbaatar**	**19.63**	**38**	*ce*P	**Pn**	**05 52 12.2**	**-1.3**
ULN				pmax	pmax		
	comp=Z,12nm,1.7s						
ZAA0	**Zalesovo Array**	**20.63**	**353**	P	**P**	**05 52 20.9**	**-1.7**
ZAA0				IAmb	IAmb	05 52 26.5	
	comp=Z,4.9nm,0.8s						
ZALV	**Zalesovo Beam**	**20.63**	**353**	P	**P**	**05 52 20.9**	**-1.7**
ZALV	**Zalesovo Beam**	**20.63**	**353**	P	**P**	**05 52 22.9**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=170,slow=11,SNR=17						
	comp=Z,4.2nm,0.6s						
ZALV	**Zalesovo Beam**	**20.63**	**353**	*e*P	Pn	05 52 24.6	-0.4
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BVAR	**Borovoye Array**	**23.66**	**331**	P	**P**	**05 52 55.1**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=140,slow=9.2,SNR=4.0						
BVAR				LR	LR	06 03 18.8	
	comp=Z,152nm,18.1s,baz=325,slow=39						
	comp=Z,1.5nm,0.6s						
BRVK	**Borovoye**	**23.73**	**331**	*i* P	**P**	**05 52 58.1**	**+2.7**
BRVK				pmax	pmax		
	comp=Z,9.0nm,2.1s						
ABKAR	**Akbulak array**	**26.75**	**315**	P	**P**	**05 53 22.3**	**-0.7**
ABKAR				IAmb	IAmb	05 53 52.4	
	comp=Z,3.6nm,1.1s						
CN2	**Changchun**	**29.90**	**59**	*e*P	P	05 53 44.0	-7.1
CN2				*ep*P	sP	05 54 08.4	+11
KSRS	**Korea Array**	**31.63**	**72**	P	**P**	**05 54 04.4**	**-2.0**
	comp=Z,1.8nm,0.8s,baz=284,slow=9.7,SNR=4.2						
	comp=Z,1.8nm,0.8s						
JOW	**Kunigami**	**34.30**	**91**	LR	LR	06 08 55.4	
	comp=Z,130nm,19.1s,baz=304,slow=37						
NRIK	**Noril'sk**	**35.86**	**359**	*i* P	**P**	**05 54 44.7**	**+1.9**
NRIK				pmax	pmax		
	comp=Z,18nm,3.0s						
KIV	**Kislovodsk**	**37.28**	**300**	*e*P	**P**	**05 54 57.4**	**+2.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,16nm,16.0s						
VRH	**Novokhopyorsk**	**38.49**	**312**	*e*P	**P**	**05 55 04.0**	**-1.3**
VRH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
VORD	**Divnogorie**	**39.97**	**311**	*e*P	**P**	**05 55 16.3**	**-1.5**
VORD				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VSR	**Storozhevoye**	**40.08**	**312**	*e*P	**P**	**05 55 17.0**	**-1.7**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LPSR	**Galich'ya Gora**	**40.40**	**314**	*e*P	**P**	**05 55 20.6**	**-0.7**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLMR	**Klimovskoe**	**41.91**	**326**	*e*P	**P**	**05 55 33.1**	**-0.5**
KLMR				pmax	pmax		
	comp=Z,18nm,1.0s						
OBN	**Obninsk**	**42.14**	**317**	*i* P	**P**	**05 55 36.7**	**+1.2**
OBN				*i*		05 55 50.4	
OBN				*i*		05 57 28.4	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
DAV	**Davao City (W)**	**42.74**	**120**	LR	LR	06 14 01.2	
	comp=Z,41nm,19.4s,baz=330,slow=37						
DGAR	**Diego Garcia**	**43.72**	**204**	*ce*P	**P**	**05 55 44.5**	**-4.2**
DGAR				pmax	pmax		
	comp=Z,160nm,1.7s						
BRTR	**Keskin Array B**	**44.39**	**295**	P	**P**	**05 55 56.2**	**+2.0**
	comp=Z,1.1nm,0.5s,baz=65,slow=8.1,SNR=3.8						
	comp=Z,1.1nm,0.5s						
BRTR	**Keskin Array B**	**44.39**	**295**	*e*P	**P**	**05 55 57.2**	**+3.0**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**46.34**	**310**	P	**P**	**05 56 09.0**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=81,slow=7.4,SNR=17						
	comp=Z,2.1nm,0.7s						
AKASG	**Malin Array Be**	**46.34**	**310**	*e*P	**P**	**05 56 08.3**	**-1.0**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MNK	**Minsk**	**47.10**	**316**	*i* P	**P**	**05 56 14.5**	**-0.7**
	comp=E,11nm,0.8s,baz=90						
MNK				*i* P	**P**	**05 56 14.5**	**-0.7**
	comp=N,15nm,0.7s						
MNK				*i* P	**P**	**05 56 14.5**	**-0.7**
	comp=Z,12nm,0.9s						
MNK				*i* pP	sP	05 56 38.2	+16
MNK				*i* sP	pP	05 56 49.8	+30
MNK				*i* PP	**PP**	**05 58 06.8**	**+1.1**
MNK				*i* PPP	PPP	05 58 55.5	
MNK				*i* S	**S**	**06 03 02.1**	**-5.1**
MNK				*i* sS	sS	06 03 43.5	+28
MNK				*i* SS	**SS**	**06 06 41.0**	**+7.2**
MNK				*i* LQ	LQ	06 12 58.3	
MNK				*i* LR	LR	06 15 18.9	
MNK				*i* LRM	MLR	06 16 35.2	
	comp=Z,69nm,14.6s						
MNK				*i* LRM	MLR	06 18 16.9	
	comp=E,455nm,14.2s						
MNK				*i* LRM	MLR	06 18 19.9	
	comp=N,480nm,12.5s						
MNK	**Minsk**	**47.10**	**316**	*i* P	**P**	**05 56 14.5**	**-0.7**
MNK				*i* *PP	sP	05 56 38.2	+16
MNK				*i*		05 57 43.1	
MNK				*i*		05 58 06.7	
MNK				*i* PPP	PPP	05 58 55.5	
MNK				*i* S	**S**	**06 03 02.0**	**-5.1**
MNK				pmax	pmax		
	comp=Z,12nm,0.9s						
MNK				pmax	pmax		
	comp=E,11nm,0.8s						
MNK				pmax	pmax		
	comp=N,15nm,0.7s						
MNK				MLR	MLR		
	comp=Z,69nm,15.0s						
MNK				MLR	MLR		
	comp=E,455nm,14.0s						
MNK				MLR	MLR		
	comp=N,480nm,12.0s						
FINES	**FINESS Array B**	**48.40**	**325**	P	**P**	**05 56 24.9**	**-0.3**
	comp=N,3.2nm,0.6s,baz=104,slow=8.0,SNR=11						
	comp=N,3.2nm,0.6s						
FINES	**FINESS Array B**	**48.40**	**325**	*e*P	**P**	**05 56 25.7**	**+0.5**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HFS	**Hagfors**	**54.48**	**323**	P	**P**	**05 57 10.6**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=76,slow=6.1,SNR=2.4						
	comp=Z,2.6nm,0.9s						
BILL	**Bilibino**	**54.56**	**27**	*i* P	**P**	**05 57 11.2**	**0.0**
BILL				pmax	pmax		
	comp=Z,14nm,1.6s						
NOA	**NORSAR Array B**	**55.58**	**325**	P	**P**	**05 57 19.8**	**+1.0**
	comp=Z,0.5nm

JMI	**Jan Mayen**	**0.37 319**	*e*P	Pb	05 52 44.2	-1.1
JMI			*e*S	Sb	05 52 50.5	-1.1
JMIC	**Jan Mayen**	**0.38 334**	*e*P	Pg	05 52 44.0	+0.9
JMIC			*e*S	Sb	05 52 50.0	-1.9
JMIC			IAML		05 52 53.2	
	comp=Z,97nm,0.5s					
JNW	**Jan Mayen West**	**0.41 339**	*e*P	Pg	05 52 43.8	+0.1
JNW			*e*S	Sg	05 52 50.0	+1.0
JNW			IAML		05 52 50.8	
	comp=Z,171nm,0.2s					

NEIC ***13*** *05:58:12.8±0.9, 18°.26N±0°.01×67°.09W±0°.01, h10km±1km, ML2.1/30, Md2.6/19(RSPR), Error ellipse: s-maj=2.7km s-min=2.3km az=208.0*
RSPR ***13*** *05:58:12.5±0.5, 18°.26N±0°.01×67°.096W±0°.009, h15km±2km, Error ellipse: s-maj=2.1km s-min=1.2km az=195.0*
SDD ***13*** *05:58:12.6±0.3, 18°.25N×67°.10W, h18km±2km, MD2.8, ML2.1, MW2.4*
OSPL ***13*** *05:58:13.0±0.3, 18°.26N×67°.07W, h13km±4km, ML2.2*

ISC 13 05:58:11.9±0.9, 18°.25N±0°.02×67°.09W±0°.02, h19km±2km, n39, σ0§35/51, 4C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRSN	**Puerto Rico Se**	**0.06**	**235**	Pg	**Pg**	**05 58 15.3**	**0.0**
PRSN				IAML		05 58 17.7	
	comp=N,971nm,0.3s						
PRSN				IAML		05 58 17.9	
	comp=E,1μm,0.2s						
PRSN	**Puerto Rico Se**	**0.06**	**235**	⇓*e*Pg	**Pg**	**05 58 15.3**	**0.0**
PRSN				*e*Sg	**Sg**	**05 58 17.3**	**-0.3**
PRSN				IAML		05 58 17.7	
	comp=N,908nm,0.1s						
PRSN				IAML		05 58 17.9	
	comp=E,1μm,0.1s						
LSP	**Las Mesas**	**0.07**	**174**		**Pg**	**05 58 15.8**	**+0.3**
LSP					**Sg**	**05 58 18.2**	**+0.3**
AGPR	**Aguadilla, PR**	**0.22**	**356**		**Pg**	**05 58 17.3**	**+0.1**
AGPR					**Sg**	**05 58 21.0**	**+0.3**
AGPR	**Aguadilla, PR**	**0.22**	**356**	⇑*e*Pg	**Pg**	**05 58 17.3**	**+0.1**
AGPR				*e*Sg	**Sg**	**05 58 21.1**	**+0.3**
AGPR				IAML		05 58 21.1	
	comp=E,276nm,0.3s						
AGPR				IAML		05 58 22.9	
	comp=N,209nm,0.3s						
AGPR	**Aguadilla, PR**	**0.22**	**356**	*i* P	**Pg**	**05 58 17.3**	**+0.1**
AGPR				*e*S	**Sg**	**05 58 20.6**	**-0.2**
AGPR				IAML		05 58 21.9	
	comp=Z,140nm,0.3s						
CRPR	**Cabo Rojo, PR**	**0.24**	**183**		**Pg**	**05 58 17.8**	**+0.3**
CRPR					**Sg**	**05 58 21.3**	**-0.1**
CRPR	**Cabo Rojo, PR**	**0.24**	**183**	IAML		05 58 22.1	
	comp=E,254nm,0.2s						
CRPR				IAML		05 58 22.1	
	comp=N,230nm,0.2s						
CRPR	**Cabo Rojo, PR**	**0.24**	**183**	⇓*e*Pg	**Pg**	**05 58 18.0**	**+0.4**
CRPR				*e*Sg	**Sg**	**05 58 21.6**	**+0.2**
CRPR				IAML		05 58 22.0	
	comp=E,351nm,0.2s						
CRPR				IAML		05 58 22.1	
	comp=N,326nm,0.2s						
CRPR	**Cabo Rojo, PR**	**0.24**	**183**	*i* P	**Pg**	**05 58 17.9**	**+0.4**
CRPR				*e*S	**Sg**	**05 58 21.6**	**+0.2**
CRPR				IAML		05 58 21.9	
	comp=Z,424nm,0.3s						
MLPR	**Magueyes Islan**	**0.28**	**170**		**Pg**	**05 58 18.4**	**+0.2**
MLPR					**Sg**	**05 58 22.7**	**+0.1**
MLPR	**Magueyes Islan**	**0.28**	**170**	IAML		05 58 22.9	
	comp=E,320nm,0.3s						
MLPR	**Magueyes Islan**	**0.28**	**170**	⇑*e*Pg	**Pg**	**05 58 18.4**	**+0.2**
MLPR				*e*Sg	**Sg**	**05 58 22.7**	**+0.1**
MLPR				IAML		05 58 22.8	
	comp=E,303nm,0.3s						
MLPR				IAML		05 58 23.8	
	comp=N,135nm,0.2s						
AOPR	**Arecibo Observ**	**0.34**	**74**		**Pg**	**05 58 19.3**	**+0.2**
AOPR					**Sg**	**05 58 24.1**	**0.0**
AOPR	**Arecibo Observ**	**0.34**	**74**	IAML		05 58 24.6	
	comp=N,262nm,0.2s						
AOPR				IAML		05 58 27.6	
	comp=E,354nm,0.3s						
AOPR	**Arecibo Observ**	**0.34**	**74**	⇑*e*Pg	**Pg**	**05 58 19.3**	**+0.2**
AOPR				*e*Sg	**Sg**	**05 58 24.2**	**+0.2**
AOPR				IAML		05 58 25.1	
	comp=N,197nm,0.1s						
AOPR				IAML		05 58 26.9	
	comp=E,310nm,0.2s						
GBPR	**Guanica, Bosqu**	**0.34**	**143**		**Pg**	**05 58 19.6**	**+0.4**
GBPR					**Sb**	**05 58 25.4**	**+0.8**
UUPR	**Utuado, UPR, P**	**0.35**	**90**		**Pg**	**05 58 19.6**	**+0.2**
UUPR					**Sg**	**05 58 24.8**	**+0.2**
IDE	**Isla Desecheo**	**0.39**	**291**		**Pg**	**05 58 20.0**	**+0.1**
IDE					**Sg**	**05 58 25.7**	**+0.2**
OBIP	**Obispado Ponce**	**0.51**	**114**		**Pg**	**05 58 22.0**	**-0.2**
OBIP					**Sg**	**05 58 29.1**	**0.0**
CELP	**Cerrillos**	**0.52**	**110**		**Pg**	**05 58 22.3**	**-0.1**
CELP					**Sg**	**05 58 29.6**	**+0.2**
CELP	**Cerrillos**	**0.52**	**110**	IAML		05 58 29.9	
	comp=E,97nm,0.2s						
CELP				IAML		05 58 31.2	
	comp=N,159nm,0.3s						
CELP	**Cerrillos**	**0.52**	**110**	⇓*e*Pg	**Pg**	**05 58 22.4**	**0.0**
CELP				*e*Sg	**Sg**	**05 58 29.7**	**+0.2**
CELP				IAML		05 58 31.1	
	comp=N,172nm,0.2s						
CELP				IAML		05 58 31.3	
	comp=E,100nm,0.2s						
EMPR	**Esperanza - Ma**	**0.58**	**67**		**Pg**	**05 58 23.9**	**+0.4**
EMPR	**Esperanza - Ma**	**0.58**	**67**	IAML		05 58 27.2	
	comp=E,151nm,2.5s						
EMPR	**Esperanza - Ma**	**0.58**	**67**		**Sb**	**05 58 32.7**	**+1.4**
SJG	**San Juan**	**0.91**	**99**		**Pb**	**05 58 28.7**	**-0.4**
SJG	**San Juan**	**0.91**	**99**	IAML		05 58 42.6	
	comp=E,58nm,0.1s						
SJG				IAML		05 58 43.1	
	comp=E,52nm,0.2s						
SJG	**San Juan**	**0.91**	**99**	⇑*e*Pg	**Pb**	**05 58 28.7**	**-0.4**
GCPR	**Guaynabo City**	**0.96**	**86**		**Pb**	**05 58 29.7**	**-0.3**
GCPR					**Sb**	**05 58 42.4**	**+0.1**
GCPR	**Guaynabo City**	**0.96**	**86**	IAML		05 58 44.2	
	comp=N,69nm,0.2s						
GCPR				IAML		05 58 44.8	
	comp=E,52nm,0.2s						
IGPR	**InterUniversit**	**0.98**	**107**		**Pb**	**05 58 29.9**	**-0.4**
IGPR					**Sb**	**05 58 42.7**	**-0.2**
IGPR	**InterUniversit**	**0.98**	**107**	IAML		05 58 43.7	
	comp=N,83nm,0.2s						
PDPR	**Patillas Dam,**	**1.04**	**103**	Pn	**Pb**	**05 58 30.7**	**-0.7**
HUMP	**Col San Antoni**	**1.19**	**95**		**Pn**	**05 58 33.1**	**-0.4**
HUMP					**Sb**	**05 58 48.6**	**-0.3**
HUMP	**Col San Antoni**	**1.19**	**95**	IAML		05 58 51.4	
	comp=N,42nm,0.2s						
PCDR	**Punta Cana, DR**	**1.25**	**282**		**Pn**	**05 58 34.5**	**0.0**
PCDR	**Punta Cana, DR**	**1.25**	**282**		**Sb**	**05 58 50.4**	**-0.3**
PCDR	**Punta Cana, DR**	**1.25**	**282**	*i* P	**Pn**	**05 58 34.7**	**+0.3**
PCDR				IAML		05 58 57.7	
	comp=Z,132nm,1.2s						

BEO ***13*** *06:04:24.5±2.8, 36°.94N×20°.36E, h60km±9km, ML3.5/11*
IDC ***13*** *06:04:25.0±0.8, 37°.45N×20°.88E, h0km, mb4.0/13, mbtmp3.9/20, ML3.7/6, MS3.0/4, Error ellipse: s-maj=16.0km s-min=13.6km az=144.0*
THE ***13*** *06:04:26.8, 37°.35N×20°.66E, h0km±1km, ML3.8/12, Error ellipse: s-maj=2.3km s-min=0.7km az=226.0*
ATH ***13*** *06:04:27.1, 37°.36N×20°.70E, h11km±1km, ML3.9/6, Error ellipse: s-maj=2.2km s-min=1.0km az=227.0*
NEIC ***13*** *06:04:27.5±2.9, 37°.38N±0°.07×20°.73E±0°.07, h10km±2km, mb4.6/6, Error ellipse: s-maj=11.7km s-min=9.4km az=185.0*
NAO ***13*** *06:04:45.3, 39°.14N×19°.81E, h10km, mb4.0*

ISC 13 06:04:27.8±1.0, 37°.39N±0°.03×20°.73E±0°.03, h18km±5km, n109, σ1§43/143, mb3.9/13, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.28**	**14**	P	**Pg**	**06 04 33.6**	**-0.4**
KRI1				S	**Sg**	**06 04 38.3**	**+0.1**
	38μm,0.3s						
LTHK	**Lithakia**	**0.33**	**15**	P	**Pg**	**06 04 34.4**	**-0.4**
LTHK				S	**Sg**	**06 04 39.6**	**0.0**
	46μm,0.2s						
LTHK	**Lithakia**	**0.33**	**15**	P	**Pg**	**06 04 34.5**	**-0.3**
LTHK				S	**Sg**	**06 04 39.1**	**-0.4**
LTHK				AML	AML	06 04 39.8	
	comp=N,98690μm,0.3s						
LTHK				AML	AML	06 04 41.2	
	comp=E,78307μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.68**	**3**	P	**Pg**	**06 04 40.4**	**-0.9**
RTZL				S	**Sb**	**06 04 51.3**	**+1.0**
PSDA	**Pessada-Kefalo**	**0.73**	**351**	P	**Pg**	**06 04 41.2**	**-0.9**
PSDA	**Pessada-Kefalo**	**0.73**	**351**	P	**Pg**	**06 04 41.4**	**-0.7**
PSDA				S	**Sb**	**06 04 52.0**	**+0.4**
VLS	**Valsamata**	**0.79**	**352**	P	**Pg**	**06 04 42.1**	**-1.2**
VLS				S	**Sb**	**06 04 55.3**	**+1.8**
	comp=E,5μm,0.3s						
VLS	**Valsamata**	**0.79**	**352**	P	**Pg**	**06 04 42.4**	**-0.9**
VLS				S	**Sb**	**06 04 54.1**	**+0.6**
VLS				AML	AML	06 04 57.0	
	comp=N,10467μm,0.2s						
VLS				AML	AML	06 04 57.2	
	comp=E,8775μm,0.2s						
AMT	**Artemida-Makis**	**0.79**	**80**	P	**Pg**	**06 04 43.0**	**-0.3**
AMT				S	**Sb**	**06 04 54.1**	**+0.6**
AMT				AML	AML	06 05 02.8	
	comp=N,34095μm,0.5s						
AMT				AML	AML	06 05 04.0	
	comp=E,42441μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.84**	**344**	P	**Pb**	**06 04 43.8**	**-0.1**
LXRA				S	**Sb**	**06 04 55.4**	**+0.6**
SMHA	**Samh**	**0.86**	**356**	P	**Pg**	**06 04 43.1**	**-1.5**
SMHA				S	**Sb**	**06 04 56.7**	**+1.3**
RLS	**Riolos of Patr**	**0.89**	**41**	P	**Pg**	**06 04 43.8**	**-1.2**
RLS	**Riolos of Patr**	**0.89**	**41**	P	**Pg**	**06 04 43.9**	**-1.1**
RLS				S	**Sg**	**06 04 56.1**	**-0.6**
DMLN	**Damoulianata-K**	**0.89**	**342**	P	**Pg**	**06 04 44.4**	**-0.8**
DMLN				S	**Sb**	**06 04 57.0**	**+0.7**
	comp=E,8μm,0.7s						
DMLN	**Damoulianata-K**	**0.89**	**342**	P	**Pb**	**06 04 44.6**	**-0.2**
DMLN				S	**Sb**	**06 04 57.1**	**+0.8**
PYL	**PYLOS**	**0.95**	**121**	P	**Pg**	**06 04 45.3**	**-1.0**
PYL				S	**Sn**	**06 04 59.7**	**+0.3**
	comp=E,6μm,0.5s						
PYL	**PYLOS**	**0.95**	**121**	P	**Pg**	**06 04 45.2**	**-1.0**
PYL				S	**Sb**	**06 04 59.0**	**+1.0**
PYL				AML	AML	06 05 00.9	
	comp=N,12318μm,0.5s						
PYL				AML	AML	06 05 01.5	
	comp=E,11794μm,0.5s						
DRO	**Drossia**	**0.96**	**54**	P	**Pg**	**06 04 45.2**	**-1.2**
DRO				S	**Sn**	**06 05 01.2**	**+1.6**
	comp=E,8μm,0.6s						
DRO	**Drossia**	**0.96**	**54**	P	**Pg**	**06 04 45.4**	**-1.0**
DRO				S	**Sn**	**06 05 00.4**	**+0.8**
ITM	**Ithomi**	**0.98**	**102**	P	**Pg**	**06 04 45.7**	**-1.1**
ITM				S	**Sn**	**06 05 01.4**	**+1.3**
	comp=E,4μm,0.8s						
ITM	**Ithomi**	**0.98**	**102**	P	**Pg**	**06 04 46.0**	**-0.8**
ITM				S	**Sn**	**06 05 00.3**	**+0.2**
ITM				AML	AML	06 05 08.8	
	comp=E,8415μm,0.5s						
ITM				AML	AML	06 05 09.7	
	comp=N,6462μm,0.5s						
VSK1	**VASILIKIADES**	**1.02**	**353**	P	**Pg**	**06 04 46.5**	**-1.2**
VSK1				S	**Sn**	**06 05 02.4**	**+1.2**
	comp=N,7μm,0.6s						
FSK	**Fiskardo**	**1.07**	**353**	P	**Pb**	**06 04 47.2**	**-0.7**
FSK				S	**Sn**	**06 05 04.1**	**+1.7**
	comp=N,4μm,0.8s						
FSK	**Fiskardo**	**1.07**	**353**	P	**Pb**	**06 04 47.4**	**-0.4**
FSK				S	**Sb**	**06 05 02.7**	**+1.1**
EVGI	**Lefkada island**	**1.23**	**357**	P	**Pn**	**06 04 49.9**	**-0.2**
EVGI				S	**Sn**	**06 05 09.4**	**+3.1**
	comp=N,3μm,0.4s						
EVGI	**Lefkada island**	**1.23**	**357**	P	**Pn**	**06 04 50.1**	**-0.1**
EVGI				S	**Sb**	**06 05 06.7**	**+0.6**
DRAG	**Dragano-Lefkad**	**1.29**	**355**	P	**Pn**	**06 04 51.2**	**+0.2**
DRAG				S	**Sg**	**06 05 11.1**	**+1.4**
DRAG	**Dragano-Lefkad**	**1.29**	**355**	P	**Pn**	**06 04 50.8**	**-0.3**
KLV	**Kalavryta, Ach**	**1.30**	**60**	P	**Pn**	**06 04 51.1**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.32**	**359**	P	**Pn**	**06 04 51.4**	**+0.1**
NYDR				S	**Sg**	**06 05 12.5**	**+2.0**
	comp=N,2μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.32**	**359**	P	**Pb**	**06 04 52.1**	**+0.1**
GUR	**Goura**	**1.39**	**67**	P	**Pn**	**06 04 52.4**	**0.0**
LKD2	**Lefkada island**	**1.40**	**358**	P	**Pg**	**06 04 54.6**	**-0.1**
LKD2				S	**Sg**	**06 05 13.9**	**+1.0**
	comp=N,4μm,0.7s						
TSLK	**Tsoukalades, L**	**1.43**	**358**	P	**Pb**	**06 04 54.4**	**+0.4**
TSLK	**Tsoukalades, L**	**1.43**	**358**	P	**Pb**	**06 04 53.9**	**-0.1**
ANX	**Ano Chora**	**1.52**	**38**	P	**Pn**	**06 04 55.1**	**+0.9**
ANX				S	**Sg**	**06 05 18.0**	**+1.0**
ANX				AML	AML	06 05 23.0	
	comp=E,6495μm,0.7s						
ANX				AML	AML	06 05 25.6	
	comp=N,5430μm,0.6s						
AGG	**Agios Georgios**	**2.06**	**37**		**Pb**	**06 05 04.4**	**-0.3**
KEK	**Kerkira**	**2.43**	**343**		**Pb**	**06 05 09.2**	**-1.8**
LIT	**Litokhoron**	**3.03**	**26**		**Pn**	**06 05 16.4**	**+1.5**
SCTE	**Santa Cesarea**	**3.21**	**327**	Pn	**Pn**	**06 05 17.8**	**+0.5**
FNA	**Florina**	**3.42**	**8**	Pn	**Pn**	**06 05 22.1**	**+1.7**
FNA	**Florina**	**3.42**	**8**	*e*Pn	**Pn**	**06 05 22.0**	**+1.7**
FNA				*e*Sn	**Sn**	**06 06 03.1**	**+2.6**
TIP	**Timpagrande**	**3.60**	**301**	Pn	**Pn**	**06 05 23.2**	**+0.4**
OHR	**Ohrid**	**3.71**	**1**	*e*Pn	**Pn**	**06 05 25.9**	**+1.6**
OHR				*e*Sn	**Sn**	**06 06 07.9**	**+0.2**
OHR	**Ohrid**	**3.71**	**1**	*i* Pn	**Pn**	**06 05 27.1**	**+2.8**
CEL	**Celeste**	**3.92**	**284**		**Pn**	**06 05 27.8**	**+0.5**
IDI	**Anoyia**	**3.96**	**121**	Pn	**Pn**	**06 05 29.3**	**+1.5**
IDI	**Anoyia**	**3.96**	**121**	Pn	**Pn**	**06 05 28.1**	**+0.3**
	comp=N,15nm,1.0s,baz=350,slow=13,SNR=1.4						
IDI				Sn	**Sn**	**06 06 11.8**	**-2.0**
	comp=N,4.6nm,0.3s,baz=86,slow=19,SNR=5.7						
TIR	**Tirane**	**4.01**	**351**	Pn	**Pn**	**06 05 28.6**	**+0.3**
VAY	**Valandovo**	**4.17**	**19**	*e*Pn	**Pn**	**06 05 31.4**	**+0.8**
VAY	**Valandovo**	**4.17**	**19**	*i* Pn	**Pn**	**06 05 31.9**	**+1.3**
SRS	**Serrai**	**4.33**	**30**	*e*Pn	**Pn**	**06 05 33.8**	**+1.0**
CUC	**Castrocucco**	**4.64**	**306**		**Pn**	**06 05 38.4**	**+1.3**
PUK	**Puka**	**4.69**	**352**	Pn	**Pn**	**06 05 39.3**	**+1.6**
VAE	**Valguarnera**	**5.03**	**273**	Pn	**Pn**	**06 05 46.8**	**+4.4**
	comp=N,3.8nm,0.3s,baz=162,slow=21,SNR=3.6						
VAE				Sn	**Sn**	**06 06 39.4**	**-0.8**
	comp=N,8.2nm,0.3s,baz=19,slow=20,SNR=2.8						
RAFF	**Raffo Rosso**	**5.08**	**270**		**Pn**	**06 05 43.6**	**+0.5**
PDG	**Podgorica**	**5.16**	**348**		**Pn**	**06 05 45.0**	**+0.9**
PDG	**Podgorica**	**5.16**	**348**	*e*Sn	**Sn**	**06 06 41.7**	**-1.4**
WDD	**Wied Dalam**	**5.23**	**255**	Pn	**Pn**	**06 05 46.4**	**+1.3**
BOSS	**Bosilegrad**	**5.27**	**14**	*e*Pn	**Pn**	**06 05 46.5**	**+0.8**
ALN	**Alexandroupoli**	**5.41**	**48**	Pn	**Pn**	**06 05 48.8**	**+1.2**
BARS	**Barje**	**5.48**	**8**	*e*Pn	**Pn**	**06 05 48.8**	**+0.2**
KARP	**Karpathos**	**5.50**	**108**	Pn	**Pn**	**06 05 49.6**	**+0.8**
KARP	**Karpathos**	**5.50**	**108**	P	**Pn**	**06 05 52.3**	**+3.4**
VTS	**Vitosha**	**5.56**	**19**	*e*Pn	**Pn**	**06 05 50.8**	**+1.0**
TREB	**Trebinje**	**5.62**	**342**	*e*Sn	**Sn**	**06 06 50.8**	**-3.8**
SELS	**Selova**	**5.83**	**3**	*e*Pn	**Pn**	**06 05 53.2**	**-0.1**
SJES	**Sjenica**	**5.89**	**355**	*e*Pn	**Pn**	**06 05 54.6**	**+0.3**
SJES				*e*Sn	**Sn**	**06 06 57.9**	**-3.5**
STON	**Ston**	**5.94**	**338**	*e*Pn	**Pn**	**06 05 53.2**	**-1.7**
STON				*e*Sn	**Sn**	**06 06 57.6**	**-4.9**
ZAPS	**Zavoj**	**6.05**	**13**	*e*Pn	**Pn**	**06 05 57.5**	**+1.1**
IVAS	**Ivanjica**	**6.19**	**356**	*e*Pn	**Pn**	**06 05 58.6**	**+0.2**
IVAS				*e*Sn	**Sn**	**06 07 06.8**	**-2.0**
BOVS	**Bovan**	**6.28**	**6**	*e*Pn	**Pn**	**06 05 58.5**	**-1.0**
GRUS	**Gruza**	**6.49**	**360**	*e*Pn	**Pn**	**06 06 01.0**	**-1.4**
BBLS	**Lazi&#263i**	**6.54**	**352**	*e*Pn	**Pn**	**06 06 03.2**	**0.0**
DIVS	**Divibare**	**6.72**	**355**	*e*Pn	**Pn**	**06 06 05.1**	**-0.6**
DIVS				*e*Sn	**Sn**	**06 07 18.6**	**-3.2**
TEKS	**Tekeris**	**7.21**	**353**	*e*Pn	**Pn**	**06 06 10.8**	**-1.5**
NRCA	**Norcia**	**7.97**	**315**		**Pn**	**06 06 24.4**	**+1.6**
GUMA	**Gualdo di Mace**	**8.00**	**317**	Pn	**Pn**	**06 06 25.8**	**+2.6**
FDMO	**Fiordimonte**	**8.12**	**316**	Pn	**Pn**	**06 06 26.8**	**+2.0**
MLR	**Muntele Rosu**	**8.99**	**24**		**Pn**	**06 06 36.5**	**-0.3**
MLR	**Muntele Rosu**	**8.99**	**24**	Pn	**Pn**	**06 06 37.6**	**+0.8**
	comp=N,0.2nm,0.3s,baz=203,slow=7.7,SNR=1.9						
MLR				LR	LR	06 10 38.1	
	comp=N,74nm,21.2s,baz=218,slow=42						
	comp=N,3.6nm,0.7s						
KEST	**Kesra**	**9.31**	**263**	Pn	**Pn**	**06 06 43.7**	**+2.6**
	comp=N,0.2nm,0.3s,baz=122,slow=19,SNR=2.9						
KEST				LR	LR	06 11 14.0	
	comp=N,50nm,18.6s,baz=249,slow=43						
	comp=N,4.1nm,0.8s						
GERES	**GERESS Array B**	**12.54**	**338**	Pn	**Pn**	**06 07 25.0**	**-0.3**
	comp=N,0.2nm,0.3s,baz=226,slow=56,SNR=2.3						
	comp=N,0.6nm,0.5s						
SHMJ	**Saham**	**13.16**	**106**	P	**Pn**	**06 07 37.2**	**+3.3**
EIL	**Elat**	**14.13**	**119**	Pn	**Pn**	**06 07 45.4**	**-1.7**
	comp=N,0.3nm,0.3s,baz=315,slow=10.0,SNR=1.1						
EIL				Sn	Sn	06 10 11.8	-12
	comp=N,0.5nm,0.3s,baz=336,slow=16,SNR=4.1						
	comp=N,3.0nm,0.7s						
AKASG	**Malin Array Be**	**14.62**	**22**	Pn	**Pn**	**06 07 52.5**	**-1.1**
	comp=N,0.9nm,0.3s,baz=210,slow=9.8,SNR=4.2						
	comp=N,1.0nm,0.6s						
CLL	**Collm**	**14.96**	**341**	*i* PP	**P**	**06 08 06.4**	**+2.8**
	comp=Z,5.0nm,1.0s						
CLL				L	L	06 16 00.0	
	comp=Z,100nm,19.5s						
SUW	**Suwalki**	**16.71**	**5**		**Pn**	**06 08 20.1**	**-0.7**
SUW				IAmb	IAmb	06 08 25.2	
	comp=Z,40nm,0.8s						
PABE	**Paberze**	**18.25**	**6**	P	**Pn**	**06 08 38.8**	**-1.1**
PABE				IAmb	IAmb	06 08 39.4	
	comp=Z,30nm,0.7s						
ESDC	**Sonseca Array**	**19.44**	**284**	P	**Pn**	**06 08 55.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=81,slow=12,SNR=6.6						
	comp=Z,1.3nm,0.9s						
MDT	**Midelt**	**21.20**	**265**	P	**P**	**06 09 13.6**	**+1.0**
	comp=Z,4.6nm,0.9s,baz=112,slow=7.1,SNR=7.9						
	comp=Z,4.6nm,0.9s						
HFS	**Hagfors**	**23.20**	**351**	P	**P**	**06 09 32.7**	**-0.7**
	comp=Z,3.8nm,0.6s,baz=139,slow=9.7,SNR=10						
	comp=Z,3.8nm,0.6s						
EKA	**Eskdalemuir Ar**	**24.17**	**326**	P	**P**	**06 09 42.8**	**0.0**
	comp=Z,4.1nm,0.7s,baz=124,slow=8.8,SNR=5.6						
	comp=Z,4.1nm,0.7s						
FINES	**FINESS Array B**	**24.31**	**6**	P	**P**	**06 09 43.0**	**-1.1**
	comp=Z,2.0nm,0.6s,baz=167,slow=9.6,SNR=9.2						
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**24.42**	**349**	P	**P**	**06 09 44.7**	**-0.4**
	comp=Z,6.4nm,1.1s,baz=162,slow=10						
NOA	**NORSAR Array B**	**24.42**	**349**	P	**P**	**06 09 44.8**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=157,slow=8.9,SNR=7.1						
	comp=Z,1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.53**	**220**	P	**P**	**06 10 31.7**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=28,slow=10,SNR=9.1						
	comp=Z,0.9nm,0.5s						
ARTI	**Arti**	**31.43**	**41**	LR	LR	06 22 46.1	
	comp=Z,38nm,18.2s,baz=37,slow=35						
ARCES	**ARCESS Array B**	**32.31**	**3**	P	**P**	**06 10 52.7**	**-2.6**
	comp=Z,0.9nm,0.8s,baz=212,slow=15,SNR=1.0						
	comp=Z,0.9nm,0.8s						
BVAR	**Borovoye Array**	**37.50**	**49**	P	**P**	**06 11 39.4**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=262,slow=7.1,SNR=3.0						
	comp=Z,0.6nm,0.4s						
KKAR	**Karatay Array**	**37.97**	**65**	P	**P**	**06 11 43.7**	**-0.7**
DBIC	**Dimbokro**	**38.43**	**224**	P	**P**	**06 11 49.4**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=20,slow=8.6,SNR=5.2						
	comp=Z,2.6nm,0.6s						
KURBB	**Kurchatov Arra**	**42.57**	**53**	P	**P**	**06 12 21.2**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=280,slow=8.8,SNR=11						
	comp=Z,1.7nm,0.7s						
MK31	**Makanchi Array**	**45.58**	**58**	P	**P**	**06 12 45.0**	**-1.6**
MKAR	**Makanchi Array**	**45.58**	**58**	P	**P**	**06 12 45.4**	**-1.3**
MKAR	**Makanchi Array**	**45.58**	**58**	P	**P**	**06 12 45.2**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=271,slow=7.4,SNR=19						
	comp=Z,1.1nm,0.5s						
ZALV	**Zalesovo Beam**	**46.09**	**48**	P	**P**	**06 12 49.2**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=268,slow=8.6,SNR=6.1						
	comp=Z,1.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**69.83**	**82**	P	**P**	**06 15 36.9**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=318,slow=8.8,SNR=4.4						
	comp=Z,0.8nm,0.3s						
KSRS	**Korea Array**	**79.70**	**51**	LR	LR	06 54 55.2	
	comp=Z,9.6nm,18.5s,baz=0.0,slow=38						

VAO ***13*** *06:17:21.9±2.4, 26°.58S×71°.45W, h10km, mb4.3*
SJA ***13*** *06:17:51.5±0.6, 26°.25S×69°.23W, h116km±5km, ML4.2, MW4.3*
GUC ***13*** *06:17:52.1±0.8, 26°.25S×69°.22W, h114km±9km, ML4.1*
NEIC ***13*** *06:17:52.6±2.2, 26°.24S±0°.05×69°.3W±0°.1, h114km±15km, mb4.1/4, Error ellipse: s-maj=17.3km s-min=7.2km az=101.0*
IDC ***13*** *06:17:53.0±1.0, 26°.18S×68°.99W, h105km±7km, mb3.6/4, mbtmp3.9/7, Error ellipse: s-maj=35.3km s-min=20.0km az=112.0*

**ISC 13 06:17:52.0±0.6, 26°.27S±0°.03×69°.26W±0°.05, h111km±6km, n96, σ1§65/120, mb4.0/7, 5C, Northern Chile

CO01	**Juntas del Tor**	**3.77**	**191**		**Pn**	**06 18 50.2**	**+1.7**
CO01	**Juntas del Tor**	**3.77**	**191**	*eP*	**Pn**	**06 18 50.2**	**+1.7**
CO01	**Juntas del Tor**	**3.77**	**191**	*eP*	**Pn**	**06 18 50.4**	**+1.9**
CO01				*eS*	Sn	06 19 23.0	-9.1
AROD	**Rodeo**	**3.89**	**183**	*eP*	**Pn**	**06 18 52.9**	**+2.7**
AROD				*eS*	**Sn**	**06 19 35.4**	**+0.3**
PB04	**IPOC Station P**	**4.00**	**348**	Pn	**Pn**	**06 18 50.9**	**-0.7**
PB04	**IPOC Station P**	**4.00**	**348**	*eP*	**Pn**	**06 18 50.7**	**-0.9**
PB04				*eS*	**Sn**	**06 19 37.7**	**-0.1**
PB04				IAML		06 20 02.1	
	comp=Z,379nm,1.5s						
CO05	**La Serena**	**4.04**	**205**		**Pn**	**06 18 51.5**	**-0.4**
CO05	**La Serena**	**4.04**	**205**	*eP*	**Pn**	**06 18 51.4**	**-0.4**
GO04	**Tololo Observa**	**4.12**	**199**	Pn	**Pn**	**06 18 53.0**	**-0.2**
GO04	**Tololo Observa**	**4.12**	**199**	*eP*	**Pn**	**06 18 53.0**	**-0.2**
GO04	**Tololo Observa**	**4.12**	**199**	*eP*	**Pn**	**06 18 52.5**	**-0.7**
GO04				*eS*	**Sn**	**06 19 37.7**	**-2.9**
ACCO	**Cerro Coronel**	**4.30**	**178**	*eP*	**Pn**	**06 18 57.8**	**+2.0**
ACCO				*eS*	**Sn**	**06 19 43.0**	**-2.2**
AZAP	**Zapla**	**4.31**	**63**	*eP*	**Pn**	**06 18 57.4**	**+1.7**
PB09	**IPOC Station P**	**4.45**	**0**		**Pn**	**06 18 57.6**	**-0.1**
PB09	**IPOC Station P**	**4.45**	**0**	*eP*	**Pn**	**06 18 57.8**	**+0.1**
PB09				*eS*	Sn	06 19 34.5	-14
PB09				IAML		06 20 02.2	
	comp=Z,287nm,0.6s						
AVFE	**Valle Fertil**	**4.65**	**161**	*eP*	**Pn**	**06 19 01.2**	**+1.0**
AVFE				*eS*	**Sn**	**06 19 52.6**	**-0.6**
DOCA	**Reserva Natura**	**4.66**	**178**	*eP*	**Pn**	**06 19 02.0**	**+1.4**
DOCA				*eS*	**Sn**	**06 19 53.5**	**-0.4**
CO03	**El Pedregal**	**4.72**	**195**	Pn	**Pn**	**06 19 01.1**	**-0.1**
CO03	**El Pedregal**	**4.72**	**195**	*eP*	**Pn**	**06 19 00.5**	**-0.7**
CO03				*eS*	**Sn**	**06 19 55.3**	**+0.3**
CO03				IAML		06 20 38.6	
	comp=Z,83nm,0.8s						
CO06	**Fray Jorge**	**4.86**	**205**		**Pn**	**06 19 01.6**	**-1.3**
RTLL	**Cerro Villicun**	**5.09**	**172**	*eP*	**Pn**	**06 19 07.1**	**+1.0**
RTLL				*eS*	**Sn**	**06 20 02.2**	**-1.5**
PB01	**IPOC Station P**	**5.21**	**358**	*eS*	**Sn**	**06 20 05.1**	**-1.6**
PB01				IAML		06 20 32.5	
	comp=Z,90nm,0.7s						
TA01	**Diego Aracena**	**5.74**	**351**	Pn	**Pn**	**06 19 14.5**	**-0.4**
HMBC	**Humberstone**	**5.99**	**354**		**Pn**	**06 19 16.5**	**-2.0**
TA02	**Huaiquique**	**6.03**	**352**		**Pn**	**06 19 19.1**	**+0.3**
PB08	**IPOC Station P**	**6.10**	**1**		**Pn**	**06 19 19.7**	**-0.5**
PB11	**IPOC Station P**	**6.49**	**357**		**Pn**	**06 19 22.8**	**-2.4**
GO01	**Chusmiza**	**6.57**	**1**	Pn	**Pn**	**06 19 25.0**	**-1.6**
MT03	**Universidad Ad**	**7.28**	**188**	Pn	**Pn**	**06 19 36.6**	**+0.8**
MT09	**Talagante**	**7.63**	**191**		**Pn**	**06 19 38.4**	**-2.1**
BO02	**Sierra Bellavi**	**8.60**	**188**		**Pn**	**06 19 51.7**	**-1.9**
LPAZ	**La Paz**	**9.99**	**6**	Pn	**Pn**	**06 20 12.5**	**-0.6**
LPAZ	**La Paz**	**9.99**	**6**	P	**Pn**	**06 20 12.2**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=158,slow=1.6,SNR=2.4						
BI02	**San Fabin de**	**10.50**	**189**	Pn	**Pn**	**06 20 21.3**	**+1.9**
CPUP	**Villa Florida**	**10.70**	**93**	P	**Pn**	**06 20 18.0**	**-4.1**
	comp=Z,2.5nm,1.0s,baz=272,slow=13,SNR=3.4						
MURT	**Porto Murtinho**	**11.59**	**69**	*eP*	**Pn**	**06 20 34.7**	**+0.6**
BBSD	**Serra de San D**	**12.09**	**43**	*eP*	**Pn**	**06 20 36.1**	**-4.6**
SIV	**San Ignacio**	**12.76**	**38**	P	**Pn**	**06 20 46.2**	**-3.3**
	comp=Z,2.3nm,0.5s,baz=235,slow=8.8,SNR=18						
TRQA	**Tornquist**	**13.26**	**154**	Pn	**Pn**	**06 20 55.7**	**-0.3**
PLTB	**Pedras Altas**	**14.74**	**115**	Pn	**Pn**	**06 21 15.0**	**0.0**
ITAB	**Concordia**	**15.33**	**97**		**P**	**06 21 24.7**	**+0.1**
ITAB				IAmb	IAmb	06 21 26.1	
	comp=Z,16nm,1.3s						
RPRD	**Ribas do Rio P**	**15.40**	**71**	*eP*	**P**	**06 21 24.4**	**-1.0**
SALV	**Santo Antonio**	**16.31**	**53**	*eP*	**Pn**	**06 21 34.1**	**-0.6**
LDASE	**Londrina, Braz**	**16.71**	**84**	*eP*	**P**	**06 21 39.7**	**-0.3**
SAML	**Samuel**	**18.17**	**20**	P	**Pn**	**06 21 57.3**	**+0.2**
ITRB	**Iturama**	**18.57**	**73**	*eP*	**Pn**	**06 22 01.3**	**-0.7**
SNDB	**Serra Nova Dou**	**22.10**	**53**	*eP*	**P**	**06 22 35.9**	**-2.5**
GO08	**Villa O'Higgin**	**22.31**	**186**	P	**P**	**06 22 42.9**	**+2.7**
GO08				IAmb	IAmb	06 22 47.1	
	comp=Z,9.7nm,1.1s						
BDFB	**Brasilia**	**22.45**	**66**	P	**P**	**06 22 40.9**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=257,slow=7.2,SNR=3.5						
	comp=Z,1.8nm,0.6s						
MACA	**Manacapuru-AM**	**24.41**	**21**	P	**P**	**06 23 01.4**	**+1.2**
ITTB	**Itaituba**	**25.34**	**33**	*eP*	**P**	**06 23 01.6**	**-7.1**
VNA3	**Neumayer Olymp**	**55.70**	**160**	⇑P	**P**	**06 27 18.1**	**+1.7**
	comp=Z,0.9nm,0.7s						
VNA2	**Neumayer--Watz**	**56.29**	**160**	⇑P	**P**	**06 27 22.2**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=278,slow=7.6						
SNAA	**Sanae**	**57.91**	**160**	⇑P	**P**	**06 27 32.4**	**+0.3**
	comp=Z,3.6nm,0.4s						
SNAA	**Sanae**	**57.91**	**160**	P	**P**	**06 27 33.8**	**+1.7**
	comp=Z,1.0nm,0.6s,baz=267,slow=10.0,SNR=14						
	comp=Z,1.0nm,0.6s						
QSPA	**South Pole Qui**	**63.94**	**180**	P	**P**	**06 28 15.1**	**+2.0**
	comp=Z,0.9nm,0.7s,baz=215,slow=0.8,SNR=10						
	comp=Z,0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**79.28**	**70**	P	**P**	**06 29 46.9**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=266,slow=4.7,SNR=6.9						
TORD				pP	**pP**	**06 30 14.7**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=266,slow=4.9,SNR=4.9						
	comp=Z,1.5nm,0.6s						
WRA	**Warramunga Arr**	**128.67**	**209**	PKP	**PKiKP**	**06 36 49.0**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=147,slow=1.3,SNR=2.4						
KURBB	**Kurchatov Arra**	**145.41**	**37**	PKPbc	**PKPdf**	**06 37 15.9**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=302,slow=3.6,SNR=2.2						
KURBB				pPKPbc	pPKPab	06 37 44.3	-3.5
	comp=Z,0.7nm,0.7s,baz=303,slow=3.5,SNR=2.2						
MKAR	**Makanchi Array**	**149.57**	**40**	PKPbc	**PKiKP**	**06 37 30.0**	**+0.7**
	comp=Z,0.8nm,1.0s,baz=289,slow=4.4,SNR=3.7						
MKAR				pPKPbc	**pPKPdf**	**06 37 57.2**	**+2.1**
	comp=Z,0.7nm,0.7s,baz=313,slow=3.4,SNR=4.0						

*IDC **13** 06:32:59.5±1.9, 3°.28N×126°.78E, h0km, mb3.4/5, mbtmp3.4/5, Error ellipse: s-maj=194.3km s-min=21.9km az=68.0*
*DJA **13** 06:33:12.8±0.3, 3°N±3°×12°6E±°, h10km, M3.7/7, mb3.8/1, MLv3.6/7*

ISC 13 06:33:00.2±1.9, 3°.4N±0°.2×127°.2E±0°.8, h10km, n6, σ1§44/6, mb3.6/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.60**	**177**	P	**Pg**		**06 33 49.7**	**-0.5**
WRA	**Warramunga Arr**	**24.22**	**163**	P	**P**		**06 38 18.5**	**+1.1**
	0.2nm,0.4s,baz=340,slow=9.7,SNR=5.0							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**27.67**	**167**	P	**P**		**06 38 49.0**	**+0.4**
	0.3nm,0.7s,baz=342,slow=8.8,SNR=1.6							
	0.3nm,0.7s							
MKAR	**Makanchi Array**	**58.11**	**325**	P	**P**		**06 42 55.3**	**+1.2**
	0.3nm,0.4s,baz=120,slow=7.3,SNR=5.3							
	0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**61.11**	**333**	P	**P**		**06 43 12.8**	**-1.8**
	0.5nm,0.3s,baz=146,slow=8.2,SNR=2.4							
	0.5nm,0.3s							
KURBB	**Kurchatov Arra**	**62.29**	**327**	P	**P**		**06 43 22.6**	**0.0**
	0.2nm,0.4s,baz=128,slow=6.1,SNR=2.7							
	0.2nm,0.4s							

RSNC 13 06:49:24.5±0.4, 12°N±7°×7°1W±°, h0km, M2.7, mb3.8, ML2.6, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AUA1	**Aruba**	**0.51**	**73**	P	Pg		06 49 33.1	-1.2
AUA1				S	Sg		06 49 40.5	-0.4
URIC	**Uribia, Colomb**	**1.59**	**246**	P	Pn		06 49 52.8	-1.1
URIC				S	Sg		06 50 15.8	+0.1
CRJC	**Cerrejon, Guaj**	**2.68**	**240**	P	Pn		06 50 09.2	+0.2
CRJC				S	Sn		06 50 42.2	0.0
ARGC	**Ariguani, Magd**	**4.43**	**236**	P	Pn		06 50 34.8	+1.8
ARGC				S	Sn		06 51 25.7	+0.3
OCAC	**Ocana**	**4.94**	**214**	P	Pn		06 50 40.0	-0.2
OCAC				S	Sn		06 51 38.2	0.0
SJCC	**San Jacinto, C**	**5.20**	**242**	P	Pn		06 50 44.8	+1.2
SJCC				S	Sn		06 51 40.4	-3.9

*KRSC **13** 06:57:53.9±1.7, 53°.10N×156°.89E, h277km±16km, Ml4.0*
*IDC **13** 06:57:54.8±0.7, 53°.71N×156°.46E, h259km±10km, mb3.3/8, mbtmp3.9/8, Error ellipse: s-maj=36.5km s-min=16.0km az=171.0*

ISC 13 06:57:54.2±0.8, 53°2N±0°.1×156°.8E±0°.1, h274km±8km, n29, σ1§46/34, mb3.3/8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**0.38**	**140**	*eP*	**Pn**		**06 58 30.5**	**+0.8**
PETK	**Petropavlovsk-**	**0.58**	**100**	P	**Pn**		**06 58 30.4**	**+0.2**
	8.4nm,0.3s,baz=79,slow=4.3,SNR=112							
PETK				S	**S**		**06 58 59.2**	**+0.7**
	3.6nm,0.6s,baz=133,slow=8.3,SNR=2.2							
KRMR	**Karymshinskiy**	**0.92**	**114**	*eP*	**Pn**		**06 58 32.3**	**+0.9**
GRL	**Gorelyy**	**1.04**	**129**	*eP*	**Pn**		**06 58 33.5**	**+1.3**
ASAK	**Asacha**	**1.09**	**140**	*eP*	**Pn**		**06 58 33.5**	**+1.1**
KOK	**Koryaka**	**1.14**	**85**	*eP*	**Pn**		**06 58 34.0**	**+1.4**
MTVR	**Mutnovka**	**1.14**	**130**	*eP*	**Pn**		**06 58 33.7**	**+0.9**
KRX	**Arik**	**1.15**	**82**	*eP*	**Pn**		**06 58 34.0**	**+1.2**
PET	**Petropavlovsk**	**1.16**	**99**	*eP*	**Pn**		**06 58 33.6**	**+0.9**
AVH	**Avacha**	**1.20**	**87**	*eP*	**Pn**		**06 58 34.5**	**+1.6**
KRER	**Koryakskii**	**1.20**	**85**	*eP*	**Pn**		**06 58 34.4**	**+1.2**
DALK	**Dalny**	**1.22**	**98**	*eP*	**Pn**		**06 58 33.7**	**+0.7**
DALK				*eS*	**S**		**06 59 04.4**	**+0.7**
SMAR	**Somma**	**1.23**	**87**	*eP*	**Pn**		**06 58 34.5**	**+1.1**
UGLR	**Uglovaya**	**1.25**	**90**	*eP*	**Pn**		**06 58 34.7**	**+1.4**
SDLR	**Sedlovina**	**1.28**	**86**	*eP*	**Pn**		**06 58 34.5**	**+1.0**
RUS	**Russkaya**	**1.33**	**126**	*eP*	**Pn**		**06 58 33.7**	**0.0**
RUS				*eS*	**S**		**06 59 03.9**	**-1.0**
NLC	**Nalytchevo**	**1.56**	**91**	*eP*	**Pn**		**06 58 36.3**	**+1.1**
KDTR	**Khodutka, Kamc**	**1.63**	**150**	*eP*	**Pn**		**06 58 35.2**	**-0.6**
KDTR				*eS*	**S**		**06 59 06.0**	**-2.7**
PAU	**Pauzhetka**	**1.75**	**179**	*eP*	**Pn**		**06 58 37.5**	**+0.8**
SPN	**Mys Shipunski**	**1.98**	**92**	*eP*	**Pn**		**06 58 38.1**	**-0.4**
SPN				*eS*	**S**		**06 59 10.4**	**-3.2**
KBTR	**Krutoberegovo**	**4.62**	**47**	*eP*	**Pn**		**06 59 06.2**	**+0.1**
ILAR	**Eielson Array**	**30.16**	**45**	P	**P**		**07 03 39.0**	**+0.4**
	0.4nm,0.7s,baz=263,slow=6.4,SNR=6.7							
	0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**46.04**	**300**	P	**P**		**07 05 48.3**	**-2.2**
	0.5nm,0.3s,baz=62,slow=7.4,SNR=4.6							
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**46.27**	**294**	P	**P**		**07 05 50.5**	**-1.8**
	0.3nm,0.4s,baz=48,slow=7.0,SNR=4.8							
	0.3nm,0.4s							
SPITS	**Spitsbergen Ar**	**46.66**	**350**	P	**P**		**07 05 54.0**	**-0.9**
	10nm,0.9s,baz=90,slow=8.6,SNR=5.7							
	10nm,0.9s							
BVAR	**Borovoye Array**	**48.72**	**307**	P	**P**		**07 06 09.3**	**-1.6**
	0.9nm,0.4s,baz=63,slow=8.6,SNR=5.7							
	0.9nm,0.4s							
CMAR	**Chiang Mai Arr**	**56.25**	**255**	P	**P**		**07 07 09.5**	**+3.1**
	2.5nm,0.3s,baz=22,slow=6.0,SNR=4.5							
	2.5nm,0.3s							
PDAR	**Pinedale Array**	**59.20**	**59**	P	**P**		**07 07 28.0**	**+1.2**
	0.5nm,0.7s,baz=282,slow=2.0,SNR=5.3							
	0.5nm,0.7s							
TXAR	**Lajitas Array**	**72.42**	**65**	P	**P**		**07 08 51.7**	**+0.9**
	0.2nm,0.4s,baz=310,slow=6.4,SNR=4.7							
	0.2nm,0.4s							

*NOU **13** 07:01:34.8, 16°.97S×167°.77E, h16km, MLv4.9/23, Vanuatu Islands*
*NEIC **13** 07:01:38.7±1.4, 16°.96S±0°.05×167°.6E±0°.1, h35km±2km, mb4.5/16, Error ellipse: s-maj=19.3km s-min=4.6km az=109.0*
*IDC **13** 07:01:42.7±3.6, 17°.23S×167°.47E, h69km±29km, mb4.2/5, mbtmp4.5/7, ML4.8/2, MS3.5/10, Error ellipse: s-maj=28.5km s-min=23.9km az=166.0*

ISC 13 07:01:36.0±0.7, 17°.00S±0°.06×167°.69E±0°.09, h25km, n59, σ1§28/50, mb4.4/14, MS3.5/8, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.92**	**344**	P	**Pn**		**07 01 52.0**	**-1.3**
MARNC	**Mare, Loyalty**	**4.47**	**176**	P	**Pn**		**07 02 41.2**	**-1.0**
KOUNC	**Koumac, New Ca**	**4.78**	**222**		**Pn**		**07 02 47.4**	**+0.9**
KOUNC	**Koumac, New Ca**	**4.78**	**222**	P	**Pn**		**07 02 47.3**	**+0.9**
YATNC	**Mamie plateau,**	**5.09**	**188**	P	**Pn**		**07 02 49.6**	**-1.2**
DZM	**Mont Dzumac**	**5.18**	**193**	*e*Pn	**Pn**		**07 02 51.7**	**-0.4**
	95nm,1.2s							
DZM				*e*Sn	**Sn**		**07 03 50.8**	**-0.3**
	177nm,0.8s							
DZM				*e*LR	LR		07 04 02.7	
	518nm,23.9s							
DZM	**Mont Dzumac**	**5.18**	**193**		**Pn**		**07 02 52.4**	**+0.3**
DZM	**Mont Dzumac**	**5.18**	**193**	P	**Pn**		**07 02 52.5**	**+0.4**
	27nm,0.3s,baz=18,slow=20,SNR=322							
DZM				S	**Sn**		**07 03 50.6**	**-0.5**
	77nm,0.4s,baz=308,slow=23,SNR=13							
DZM				LR	LR		07 04 18.0	
	comp=Z,72nm,20.6s,baz=46,slow=32							
	60nm,0.3s							
DZM	**Mont Dzumac**	**5.18**	**193**	P	**Pn**		**07 02 52.0**	**-0.1**
NOUC	**Port Laguerre**	**5.24**	**194**	P	**Pn**		**07 02 53.0**	**+0.2**
ONTNC	**Ouen Toro**	**5.41**	**192**		**Pn**		**07 02 55.8**	**+0.7**
ONTNC	**Ouen Toro**	**5.41**	**192**	P	**Pn**		**07 02 55.8**	**+0.7**
OUENC	**Ouen Island, N**	**5.45**	**188**	P	**Pn**		**07 02 56.7**	**+1.0**
PINNC	**Pines Island,**	**5.59**	**182**	Pn	**Pn**		**07 02 58.6**	**+1.0**
PINNC	**Pines Island,**	**5.59**	**182**	P	**Pn**		**07 02 58.8**	**+1.2**
LUES	**Luesalemba Tem**	**6.53**	**344**	P	**Pn**		**07 03 11.4**	**+0.9**
MSVF	**Nonsavu**	**9.93**	**96**	Pn	Pn		07 04 06.2	+9.0
MSVF	**Nonsavu**	**9.93**	**96**	P	Pn		07 04 06.3	+9.1
	0.3nm,0.3s,baz=265,slow=10,SNR=5.4							
MSVF				LR	LR		07 07 10.1	
	comp=Z,631nm,18.3s,baz=315,slow=32							
	16nm,0.9s							
HNR	**Honiara**	**10.64**	**314**	LR	LR		07 08 12.8	
	comp=Z,55nm,20.9s,baz=187,slow=37							
EIDS	**Eidsvold**	**17.57**	**239**	P	**P**		**07 05 41.8**	**+1.6**
ARMA	**Armidale**	**19.83**	**225**	P	**Pn**		**07 06 07.4**	**+0.6**
ARMA				IAmb	IAmb		07 06 11.6	
	comp=Z,29nm,1.5s							
ARMA	**Armidale**	**19.83**	**225**	P	**Pn**		**07 06 07.2**	**+0.4**
CTA	**Charters Tower**	**20.55**	**258**	LR	LR		07 13 31.9	
	comp=Z,10nm,18.0s,baz=92,slow=35							
PMG	**Port Moresby**	**21.34**	**288**	LR	LR		07 13 39.0	
	comp=Z,201nm,18.6s,baz=182,slow=34							
CMSA	**Cobar Meteorol**	**24.66**	**230**	P	**P**		**07 06 56.4**	**+1.5**
INKA	**Innaminka**	**27.05**	**242**	P	**P**		**07 07 17.5**	**+1.0**
STKA	**Stephens Creek**	**27.90**	**233**	P	**P**		**07 07 24.2**	**+0.2**
STKA	**Stephens Creek**	**27.90**	**233**	P	**P**		**07 07 24.9**	**+0.8**
	comp=Z,7.1nm,0.9s,baz=59,slow=5.3,SNR=11							
STKA				LR	LR		07 18 51.3	
	comp=Z,81nm,18.2s,baz=25,slow=37							
	comp=Z,7.1nm,0.9s							
RAR	**Rarotonga**	**31.00**	**103**	LR	LR		07 18 33.8	
	comp=Z,39nm,20.5s,baz=294,slow=32							
WR0	**Warramunga Arr**	**31.55**	**259**	P	**P**		**07 07 56.3**	**-0.3**
WB0	**Warramunga Arr**	**31.68**	**260**	P	**P**		**07 07 57.1**	**-0.7**
WB0				IAmb	IAmb		07 08 10.0	
	comp=Z,4.6nm,0.9s							
WB2	**Warramunga Arr**	**31.72**	**259**	P	**P**		**07 07 57.4**	**-0.7**
WRAB	**Tennant Creek**	**31.72**	**259**	P	**P**		**07 07 57.3**	**-0.8**
WRAB				IAmb	IAmb		07 08 20.6	
	comp=Z,6.5nm,1.2s							
WRA	**Warramunga Arr**	**31.73**	**259**	P	**P**		**07 07 57.5**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=91,slow=9.1,SNR=12							
WRA				LR	LR		07 19 53.1	
	comp=Z,89nm,20.1s,baz=72,slow=35							
	comp=Z,1.5nm,0.8s							
AS01	**Alice Springs**	**32.27**	**253**	P	**P**		**07 08 03.1**	**+0.2**
AS31	**Alice Springs**	**32.31**	**253**	P	**P**		**07 08 03.0**	**-0.3**
AS31				IAmb	IAmb		07 08 04.1	
	comp=Z,7.1nm,0.8s							
ASAR	**Alice Springs**	**32.31**	**253**	P	**P**		**07 08 03.1**	**-0.2**
	comp=Z,21nm,0.8s,baz=78,slow=8.8,SNR=209							
ASAR				LR	LR		07 20 37.2	
	comp=Z,166nm,19.4s,baz=82,slow=35							
	comp=Z,21nm,0.8s							
BBOO	**Buckleboo**	**32.56**	**235**	P	**P**		**07 08 05.3**	**0.0**
KNRA	**Kununurra**	**37.33**	**266**	P	**P**		**07 08 45.5**	**-1.1**
WRKA	**Warakurna**	**37.52**	**251**	P	**P**		**07 08 48.1**	**-0.2**
FORT	**Forrest**	**38.53**	**242**	P	**P**		**07 08 55.3**	**-1.4**
FORT				IAmb	IAmb		07 09 22.0	
	comp=Z,9.7nm,0.8s							
FORT	**Forrest**	**38.53**	**242**	P	**P**		**07 08 56.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**40.04**	**262**	P	**P**		**07 09 09.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**40.04**	**262**	LR	LR		07 25 37.3	
	comp=Z,141nm,18.1s,baz=98,slow=36							
TBI	**Tubuai**	**40.61**	**106**	*e*LR	LR		07 20 52.6	
	comp=Z,584nm,28.8s							
PPT2	**Papeete2**	**40.75**	**97**	*e*S	S		07 15 35.7	+11
	comp=Z,20nm,24.5s							
PPT2				*e*SS	**SnSn**		**07 18 38.2**	**+5.2**
	comp=Z,28nm,25.2s							
PPT2				*e*LR	LR		07 20 41.3	
	comp=Z,95nm,26.2s							
PPT2				*e*LR	LR		07 21 00.5	
	comp=Z,127nm,26.2s							
MEEK	**Meekatharra**	**46.32**	**249**	P	**P**		**07 10 00.5**	**+0.4**
DAV	**Davao City (W)**	**48.01**	**296**	P	**P**		**07 10 14.4**	**+1.1**
TAOE	**Nuku Hiva Isla**	**51.36**	**88**	*e*LR	LR		07 25 38.7	
	comp=Z,108nm,24.1s							
SBA	**Scott Base**	**60.88**	**180**	P	**P**		**07 11 47.5**	**+1.5**
SBA				IAmb	IAmb		07 11 50.8	
	comp=Z,7.9nm,1.4s							
QSPA	**South Pole Qui**	**73.05**	**180**	P	**P**		**07 13 03.9**	**+0.1**
QSPA				IAmb	IAmb		07 13 05.7	
	comp=Z,11nm,1.3s							
QSPA	**South Pole Qui**	**73.05**	**180**	P	**P**		**07 13 04.1**	**+0.3**
	comp=Z,5.4nm,0.9s,baz=13,slow=4.1,SNR=27							
	comp=Z,5.4nm,0.9s							
BELA	**Belgrano 2**	**84.44**	**175**	P	**P**		**07 14 05.1**	**-1.0**
BELA				IAmb	IAmb		07 14 05.8	
	comp=Z,4.3nm,0.8s							
NVAR	**Mina Array Bea**	**88.44**	**49**	P	**P**		**07 14 25.9**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=247,slow=4.6,SNR=3.6							
LPIG	**La Paz**	**89.79**	**65**	LR	LR		07 48 15.3	
	comp=Z,41nm,18.5s,baz=249,slow=31							
SNAA	**Sanae**	**91.32**	**183**	P	**P**		**07 14 37.4**	**-1.9**
SNAA	**Sanae**	**91.32**	**183**	P	**P**		**07 14 38.2**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=192,slow=4.0,SNR=5.1							
	comp=Z,1.0nm,0.9s							
VNA3	**Neumayer Olymp**	**91.97**	**181**	⇑P	**P**		**07 14 38.2**	**-4.0**
	comp=Z,0.8nm,0.6s							
VNA2	**Neumayer--Watz**	**92.24**	**182**	⇑P	P		07 14 38.4	-5.0
	comp=Z,0.4nm,0.7s,baz=167,slow=0.7							

*IDC **13** 07:14:40.3±2.2, 15°.48N×146°.31E, h54km±18km, mb4.1/13, mbtmp4.3/14, ML4.3/1, MS3.3/13, Error ellipse: s-maj=27.1km s-min=12.5km az=91.0*
*NEIC **13** 07:14:41.1±1.0, 15°.4N±0°.1×146°.2E±0°.2, h57km±8km, mb4.8/41, Error ellipse: s-maj=28.5km s-min=2.4km az=125.0*

ISC 13 07:14:40.2±0.5, 15°.43N±0°.07×146°.1E±0°.1, h50km, n85, σ0§87/76, mb4.7/35, MS3.2/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.21**	**214**	P	**Pn**		**07 15 15.7**	**+1.3**
	71nm,0.3s,baz=176,slow=11,SNR=7.1							
GUMO				S	**Sn**		**07 15 41.0**	**+0.5**
	499nm,0.3s,baz=34,slow=24,SNR=18							
GUMO				LR	LR		07 16 13.2	
	comp=Z,554nm,18.6s,baz=70,slow=40							
	154nm,0.3s							
H11S3	**WAKE ISLAND Hy**	**19.89**	**78**	T	T		07 40 06.2	
	baz=264,slow=74							
H11S1	**WAKE ISLAND Hy**	**19.90**	**78**	T	T		07 40 10.2	
	baz=264,slow=74							
H11S2	**WAKE ISLAND Hy**	**19.90**	**78**	T	T		07 40 10.2	
	baz=264							
JOW	**Kunigami**	**20.14**	**307**	LR	LR		07 25 36.3	
	comp=Z,133nm,21.1s,baz=96,slow=32							
H11N1	**WAKE ISLAND Hy**	**20.23**	**75**	T	T		07 40 30.6	
	baz=263,slow=75,SNR=11							
H11N2	**WAKE ISLAND Hy**	**20.24**	**75**	T	T		07 40 27.3	
	baz=263,slow=75,SNR=16							
H11N3	**WAKE ISLAND Hy**	**20.25**	**75**	T	T		07 40 28.3	
	baz=263,slow=75,SNR=16							
MJAR	**Matsushiro Arr**	**22.18**	**343**	LR	LR		07 27 34.5	
	comp=Z,96nm,19.3s,baz=161,slow=35							
JNU	**Nakatsue**	**22.40**	**325**	LR	LR		07 27 31.8	
	comp=Z,38nm,19.5s,baz=146,slow=34

D19K	**Kuna River**	**63.52**	**20**	P	**P**	**07 25 04.5**	**-0.6**
D19K				IAmb	IAmb	07 25 07.8	
comp=Z,18nm,1.3s							
KURK	**Kurchatov**	**63.99**	**319**	P	**P**	**07 25 08.0**	**-0.3**
KURK				IAmb	IAmb	07 25 09.7	
comp=Z,7.8nm,0.6s							
KURK	**Kurchatov**	**63.99**	**319**	P	**P**	**07 25 08.1**	**-0.3**
KURBB	**Kurchatov Arra**	**64.04**	**319**	P	**P**	**07 25 08.8**	**+0.1**
comp=Z,5.1nm,0.4s,baz=98,slow=6.8,SNR=52							
comp=Z,5.1nm,0.4s							
GHO	**Glory Hole Cre**	**64.73**	**28**	P	**P**	**07 25 12.3**	**-0.9**
PWL	**Port Wells**	**64.78**	**29**	P	**P**	**07 25 11.6**	**-1.9**
NRIK	**Noril'sk**	**64.81**	**340**	P	**P**	**07 25 11.9**	**-1.6**
comp=Z,2.5nm,0.6s,baz=114,slow=8.6,SNR=4.9							
comp=Z,2.5nm,0.6s							
SML	**Sawmill**	**65.01**	**28**	P	**P**	**07 25 14.1**	**-0.8**
IL31		**66.39**	**25**	P	**P**	**07 25 22.6**	**-1.1**
IL31				IAmb	IAmb	07 25 40.3	
comp=Z,12nm,1.5s							
ILAR	**Eielson Array**	**66.39**	**25**	P	**P**	**07 25 22.1**	**-1.7**
comp=Z,1.1nm,0.5s,baz=253,slow=5.7,SNR=26							
comp=Z,1.1nm,0.5s							
TOLK	**Toolik Lake Re**	**66.47**	**21**	P	**P**	**07 25 24.3**	**+0.1**
TOLK				IAmb	IAmb	07 25 42.0	
comp=Z,9.4nm,1.4s							
J26L	**Joseph Creek**	**67.72**	**26**	P	**P**	**07 25 32.4**	**+0.1**
J26L				IAmb	IAmb	07 25 49.5	
comp=Z,10nm,1.4s							
D25K	**Kavik River**	**67.77**	**21**	P	**P**	**07 25 33.0**	**+0.6**
D25K				IAmb	IAmb	07 25 49.6	
comp=Z,4.4nm,0.8s							
BMAR	**Burnt Mountain**	**67.94**	**23**	P	**P**	**07 25 33.6**	**+0.1**
BCAR	**Beaver Creek A**	**68.25**	**28**	P	**P**	**07 25 35.4**	**-0.2**
BVAR	**Borovoye Array**	**69.26**	**321**	P	**P**	**07 25 41.9**	**-0.1**
comp=Z,4.6nm,0.5s,baz=103,slow=7.8,SNR=15							
comp=Z,4.6nm,0.5s							
BRVK	**Borovoye**	**69.33**	**321**	P	**P**	**07 25 42.3**	**-0.1**
BRVK				pP	**pwP**	**07 25 58.5**	**0.0**
DAWY	**Dawson**	**69.45**	**27**	P	**P**	**07 25 42.4**	**-0.6**
DAWY				IAmb	IAmb	07 25 45.9	
comp=Z,14nm,1.5s							
HYT	**Haines Junctio**	**70.00**	**30**	P	**P**	**07 25 46.7**	**+0.1**
HYT				IAmb	IAmb	07 26 05.8	
comp=Z,15nm,1.0s							
H29M	**Whitestone**	**70.14**	**25**	P	**P**	**07 25 46.9**	**-0.3**
H29M				IAmb	IAmb	07 26 08.6	
comp=Z,13nm,1.4s							
G31M	**Satah River**	**71.84**	**24**	P	**P**	**07 25 57.3**	**-0.1**
G31M				IAmb	IAmb	07 26 25.7	
comp=Z,6.3nm,0.9s							
A36M	**Sachs Harbour**	**75.02**	**19**	P	**P**	**07 26 15.8**	**-0.2**
ABKAR	**Akbulak array**	**76.02**	**318**	P	**P**	**07 26 22.0**	**-0.2**
ABKAR	**Akbulak array**	**76.02**	**318**	P	**P**	**07 26 21.7**	**-0.5**
ABKAR				IAmb	IAmb	07 26 23.0	
comp=Z,1.8nm,0.8s							
EUNU	**Eureka**	**80.88**	**8**	P	**P**	**07 26 48.4**	**-0.2**
SPITS	**Spitsbergen Ar**	**82.44**	**351**	LR	LR	08 10 35.3	
comp=Z,15nm,18.0s,baz=10,slow=41							
RES	**Resolute Bay**	**82.48**	**14**	P	**P**	**07 26 56.0**	**-1.0**
NVAR	**Mina Array Bea**	**84.82**	**52**	P	**P**	**07 27 12.2**	**+2.2**
comp=Z,0.6nm,0.5s,baz=263,slow=5.5,SNR=7.0							
KBZ	**Khabaz**	**88.74**	**315**	LR	LR	08 09 28.1	
comp=Z,28nm,21.3s,baz=98,slow=37							
CLL	**Collm**	**102.01**	**332**	*e*PP	**PP**	**07 32 41.0**	**+1.0**
LPAZ	**La Paz**	**147.04**	**96**	PKPbc	**PKPdf**	**07 34 18.6**	**+1.5**
comp=Z,0.6nm,0.5s,baz=0.9,slow=9.2,SNR=3.1							

BJI ***13*** *07:33:56.4,5°.04S×137°.56E,h10km,mb5.0/59,mB5.2/21, Ms4.4/9,Ms7 4.2/11*
MOS ***13*** *07:34:02.8±0.8,4°.64S×137°.07E,h25km,mb5.1/23,Error ellipse: s-maj=10.6km s-min=6.5km az=115.9*
NEIC ***13*** *07:34:03.1±1.7,4°.67S±0°.08×137°.10E±0°.09,h10km±1km, mb5.3/73,Error ellipse: s-maj=16.4km s-min=12.4km az=227.0*
DJA ***13*** *07:34:05.6±1.2,5°S±3°×13°7E±°,h19km±10km,M5.0/35, mb5.2/35,mB5.3/18,MLv5.4/11,Mw(mB)4.8/18, MwMwp5.1/1,Mwp5.3/1*
IDC ***13*** *07:34:08.0±2.1,4°.66S×137°.14E,h53km±20km,mb4.5/20, mbtmp4.8/25,ML3.8/3,MS3.7/37,Error ellipse: s-maj=15.1km s-min=11.6km az=98.0*
ISC 13 07:34:06.4±0.3,**4.70S**±0°.04×**137°.12E**±0°.04,**h35**km,**n307**, σ**1**§**42**/300,**mb5.1**/106,**MS3.8**/33,**7C-10D,Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**3.56**	**287**	P	**Pn**	**07 35 00.2**	**+1.0**
GENI	**Genyem**	**3.70**	**56**	P	**Pn**	**07 35 03.0**	**+1.9**
GENI	**Genyem**	**3.70**	**56**	P	**Pn**	**07 35 02.8**	**+1.7**
TABU	**Tabubil**	**4.13**	**98**	P	**Pn**	**07 35 08.8**	**+1.7**
JAY	**Jayapura**	**4.19**	**59**	P	**Pn**	**07 35 08.9**	**+1.0**
8.9nm,0.3s,baz=222,slow=12,SNR=26							
JAY				S	**Sn**	**07 35 56.7**	**+1.0**
145nm,0.5s,baz=78,slow=16,SNR=5.6							
JAY				LR	LR	07 36 50.8	
comp=Z,499nm,20.2s,baz=268,slow=39							
36nm,0.4s							
JAY	**Jayapura**	**4.19**	**59**	P	**Pn**	**07 35 08.8**	**+0.9**
RKPI	**Ransiki, Papua**	**4.32**	**317**	P	**Pn**	**07 35 10.5**	**+0.8**
MMPI	**Merauke**	**4.95**	**139**	P	**Pn**	**07 35 20.6**	**+2.3**
FAKI	**Fak Fak**	**5.17**	**290**	Pn	**Pn**	**07 35 21.5**	**0.0**
FAKI	**Fak Fak**	**5.17**	**290**	P	**Pn**	**07 35 21.4**	**0.0**
FAKI	**Fak Fak**	**5.17**	**290**	P	**Pn**	**07 35 21.1**	**-0.3**
218nm,0.8s,3μm							
SAUI	**Saumlaki**	**6.64**	**240**	P	**Pn**	**07 35 41.4**	**-0.2**
289nm,0.6s,3.6nm							
SWI	**Sorong**	**6.99**	**303**	P	**Pn**	**07 35 45.4**	**-0.9**
288nm,0.7s,4μm1.0nm							
BNDI	**Bandanaira**	**7.19**	**271**	P	**Pn**	**07 35 51.0**	**+1.8**
245nm,0.6s							
KDU	**Kakadu**	**9.16**	**210**	P	**Pn**	**07 36 16.7**	**+0.4**
comp=Z,282nm,0.7s							
KDU	**Kakadu**	**9.16**	**210**	P	**Pn**	**07 36 16.5**	**+0.3**
DRS	**Darwin Rock St**	**9.84**	**218**	P	**Pn**	**07 36 27.0**	**+1.6**
MTN	**Manton Dam**	**10.02**	**216**	Pn	**Pn**	**07 36 28.7**	**+0.8**
MTN	**Manton Dam**	**10.02**	**216**	P	**Pn**	**07 36 28.2**	**+0.2**
comp=Z,131nm,0.5s							
MTN	**Manton Dam**	**10.02**	**216**	P	**Pn**	**07 36 29.1**	**+1.1**
COEN	**Coen**	**10.96**	**147**	Pn	**Pn**	**07 36 40.8**	**-0.1**
COEN	**Coen**	**10.96**	**147**	P	**Pn**	**07 36 40.8**	**-0.1**
comp=Z,200nm,0.6s							
COEN	**Coen**	**10.96**	**147**	P	**Pn**	**07 36 40.5**	**-0.4**
PMG	**Port Moresby**	**11.00**	**116**	Pn	**Pn**	**07 36 43.0**	**+1.5**
PMG	**Port Moresby**	**11.00**	**116**	P	**Pn**	**07 36 42.8**	**+1.3**
comp=Z,8.9nm,0.3s,baz=38,slow=0.5,SNR=13							
PMG				S	**Sn**	**07 38 36.9**	**-6.5**
comp=Z,24nm,0.3s,baz=275,slow=19,SNR=2.6							
PMG				LR	LR	07 41 43.2	
comp=Z,421nm,19.7s,baz=246,slow=41							
comp=Z,36nm,0.5s							
PMG	**Port Moresby**	**11.00**	**116**	P	**Pn**	**07 36 42.8**	**+1.3**
PMG	**Port Moresby**	**11.00**	**116**	P	**Pn**	**07 36 42.9**	**+1.4**
PMG	**Port Moresby**	**11.00**	**116**	*de*P	**Pn**	**07 36 41.3**	**-0.2**
PMG				pmax	pmax		
comp=Z,37nm,0.5s							
SANI	**Sanana**	**11.42**	**283**	P	**Pn**	**07 36 46.2**	**-1.0**
SANI	**Sanana**	**11.42**	**283**	P	**Pn**	**07 36 45.6**	**-1.6**
comp=Z,77nm,0.7s,comp=Z,698nm							
KNRA	**Kununurra**	**13.65**	**216**	Pn	**Pn**	**07 37 16.4**	**-1.2**
KNRA	**Kununurra**	**13.65**	**216**	P	**Pn**	**07 37 16.0**	**-1.7**
comp=Z,85nm,0.6s							
SOEI	**Soe**	**13.70**	**248**	P	**Pn**	**07 37 18.4**	**-0.1**
SOEI	**Soe**	**13.70**	**248**	P	**Pn**	**07 37 19.7**	**+1.2**
comp=Z,188nm,0.9s,comp=Z,2μm							
BATI	**Baumata**	**14.41**	**247**	P	**Pn**	**07 37 30.2**	**+2.1**
comp=Z,21nm,0.3s,baz=173,slow=16,SNR=1.6							
BATI				S	**Sn**	**07 40 08.2**	**+1.3**
comp=Z,38nm,0.5s,baz=354,slow=9.9,SNR=1.6							
BATI	**Baumata**	**14.41**	**247**	P	**Pn**	**07 37 28.6**	**+0.5**
comp=Z,158nm,0.7s							
MTSU	**Mount Surprise**	**15.09**	**153**	P	**Pn**	**07 37 35.4**	**-1.9**
MTSU	**Mount Surprise**	**15.09**	**153**	P	**Pn**	**07 37 35.7**	**-1.5**
WB0	**Warramunga Arr**	**15.21**	**190**	Pn	**Pn**	**07 37 34.9**	**-3.8**
WR0	**Warramunga Arr**	**15.37**	**189**	Pn	**Pn**	**07 37 37.4**	**-3.5**
WRAB	**Tennant Creek**	**15.38**	**190**	Pn	**Pn**	**07 37 37.6**	**-3.3**
WRAB	**Tennant Creek**	**15.38**	**190**	*d*iP	**Pn**	**07 37 36.8**	**-4.1**
WRAB				pmax	pmax		
comp=Z,14nm,0.9s							
WB2	**Warramunga Arr**	**15.38**	**190**	Pn	**Pn**	**07 37 37.6**	**-3.5**
WRA	**Warramunga Arr**	**15.39**	**190**	P	**Pn**	**07 37 36.9**	**-4.2**
comp=Z,23nm,0.7s,baz=16,slow=14,SNR=44							
WRA				S	**Sn**	**07 40 31.7**	**+1.2**
comp=Z,32nm,0.8s,baz=11,slow=23,SNR=5.1							
WRA				LR	LR	07 44 11.5	
comp=Z,1μm,18.0s,baz=9.0,slow=39							
APSI	**Ampana**	**15.90**	**283**	P	**P**	**07 37 52.4**	**+1.3**
comp=Z,143nm,1.0s,comp=Z,1μm							
QIS	**Mount Isa**	**15.94**	**171**	P	**Pn**	**07 37 45.8**	**-2.5**
MRSI	**Marisa**	**16.01**	**288**	P	**Pn**	**07 37 49.3**	**+0.1**
comp=Z,64nm,0.9s,comp=Z,1μm							
DAV	**Davao City (W)**	**16.41**	**315**	LR	LR	07 44 45.8	
comp=Z,91nm,20.8s,baz=142,slow=39							
BSSI	**Bau Bau, Buton**	**16.62**	**264**	P	**P**	**07 37 58.3**	**-0.7**
comp=Z,56nm,0.8s							
BKSI	**Bulukumba**	**16.94**	**267**	P	**P**	**07 38 02.0**	**-0.6**
BNSI	**Bone**	**16.96**	**270**	P	**Pn**	**07 38 01.9**	**+0.7**
comp=Z,58nm,1.0s							
TV1H	**Townsville Har**	**17.28**	**148**	P	**P**	**07 38 06.3**	**+0.1**
KAPI	**Kappang**	**17.31**	**268**	P	**P**	**07 38 06.4**	**-0.3**
comp=Z,1.1nm,0.3s,baz=31,slow=22,SNR=2.0							
KAPI				LR	LR	07 45 13.4	
comp=Z,73nm,19.6s,baz=88,slow=38							
comp=Z,3.6nm,0.3s							
TOLI2	**Tolitoli**	**17.31**	**289**	P	**P**	**07 38 07.2**	**+0.4**
TOLI2	**Tolitoli**	**17.31**	**289**	P	**P**	**07 38 07.8**	**+1.1**
FITZ	**Fitzroy Crossi**	**17.41**	**219**		**Pn**	**07 38 04.5**	**-2.3**
FITZ	**Fitzroy Crossi**	**17.41**	**219**	P	**Pn**	**07 38 03.9**	**-2.8**
FITZ	**Fitzroy Crossi**	**17.41**	**219**	P	**Pn**	**07 38 04.1**	**-2.7**
comp=Z,13nm,0.6s,baz=46,slow=11,SNR=36							
FITZ				LR	LR	07 45 40.0	
comp=Z,281nm,18.1s,baz=38,slow=40							
FITZ	**Fitzroy Crossi**	**17.41**	**219**	P	**Pn**	**07 38 04.9**	**-1.9**
CTA	**Charters Tower**	**17.69**	**151**	LR	LR	07 45 23.9	
comp=Z,38nm,19.8s,baz=330,slow=38							
CTA	**Charters Tower**	**17.69**	**151**	P	**P**	**07 38 11.4**	**+0.5**
CTAO	**Charters Tower**	**17.69**	**151**	P	**P**	**07 38 11.5**	**+0.7**
CTAO	**Charters Tower**	**17.69**	**151**	P	**P**	**07 38 11.5**	**+0.7**
CTAO	**Charters Tower**	**17.69**	**151**	P	**P**	**07 38 11.5**	**+0.7**
CTAO				pmax	pmax		
comp=Z,71nm,1.2s							
MPSI	**Mapaga**	**17.92**	**286**	P	**P**	**07 38 14.6**	**+1.2**
WBSI	**Waikabubak, Su**	**18.25**	**253**	P	**Pn**	**07 38 18.3**	**+1.1**
comp=Z,60nm,0.7s							
AS01	**Alice Springs**	**19.10**	**189**	P	**Pn**	**07 38 27.2**	**-0.2**
comp=Z,200nm,1.0s							
AS31	**Alice Springs**	**19.10**	**189**	P	**P**	**07 38 25.8**	**-0.7**
AS31				IAmb	IAmb	07 38 29.5	
comp=Z,68nm,0.5s							
AS31	**Alice Springs**	**19.10**	**189**	P	**P**	**07 38 26.2**	**-0.2**
comp=Z,100nm,0.5s							
ASAR	**Alice Springs**	**19.11**	**189**	P	**P**	**07 38 26.4**	**0.0**
ASAR	**Alice Springs**	**19.11**	**189**	P	**Pn**	**07 38 26.9**	**-0.6**
comp=Z,104nm,0.6s,baz=13,slow=11,SNR=586							
ASAR				S	**Sn**	**07 41 57.9**	**-2.7**
comp=Z,12nm,0.9s,baz=11,slow=21,SNR=4.0							
ASAR				LR	LR	07 46 09.3	
comp=Z,867nm,19.8s,baz=14,slow=38							
ASAR	**Alice Springs**	**19.11**	**189**	P	**P**	**07 38 26.4**	**0.0**
PLAI	**Plampang**	**19.64**	**257**	P	**P**	**07 38 32.2**	**-0.1**
comp=Z,48nm,1.0s							
GUMO	**Guam**	**19.74**	**23**	LR	LR	07 45 51.0	
comp=Z,125nm,21.6s,baz=196,slow=36							
SMKI	**Samarinda**	**20.33**	**281**	P	Pn	07 38 43.4	+1.3
MYLDM	**Lahad Datu**	**21.03**	**298**	P	**P**	**07 38 49.0**	**+1.6**
MYLDM	**Lahad Datu**	**21.03**	**298**	P	**P**	**07 38 49.2**	**+1.8**
WRKA	**Warakurna**	**21.92**	**202**	P	**P**	**07 38 57.1**	**+0.2**
comp=Z,100nm,0.8s							
WRKA	**Warakurna**	**21.92**	**202**	P	**P**	**07 38 57.4**	**+0.5**
SRBI	**Singaraja**	**22.02**	**260**	P	**P**	**07 38 59.6**	**+1.5**
comp=Z,40nm,0.9s							
MTKI	**Muara Teweh, K**	**22.50**	**279**	P	**P**	**07 39 04.7**	**+1.4**
QLP	**Quilpie**	**22.80**	**163**	P	**P**	**07 39 06.9**	**+0.7**
comp=Z,745nm,0.7s							
QLP	**Quilpie**	**22.80**	**163**	P	**P**	**07 39 07.8**	**+1.6**
TATA	**Tatamba Isabel**	**22.83**	**100**	P	**P**	**07 39 08.7**	**+2.0**
OOD	**Oodnadatta**	**23.00**	**183**	P	**P**	**07 39 09.4**	**+1.1**
INKA	**Innaminka**	**23.17**	**172**	P	**P**	**07 39 11.2**	**+1.2**
KKM	**Kota Kinabalu**	**23.45**	**297**	P	**P**	**07 39 13.4**	**+0.4**
comp=Z,44nm,1.0s							
MBWA	**Marble Bar**	**23.51**	**224**	P	**P**	**07 39 13.0**	**-0.4**
MBWA				IAmb	IAmb	07 39 26.9	
comp=Z,75nm,1.0s							
MBWA	**Marble Bar**	**23.51**	**224**	P	**P**	**07 39 13.5**	**+0.1**
comp=Z,84nm,1.0s							
MBWA	**Marble Bar**	**23.51**	**224**	P	**P**	**07 39 14.0**	**+0.6**
PSAC1	**Pilbara Seismi**	**23.70**	**224**	P	**P**	**07 39 15.7**	**+0.5**
comp=Z,42nm,1.0s							
PSA00	**Pilbara Seismi**	**23.70**	**223**	P	**P**	**07 39 15.5**	**+0.2**
PSA00	**Pilbara Seismi**	**23.70**	**223**	P	**P**	**07 39 14.6**	**-0.7**
PSA00				IAmb	IAmb	07 39 28.7	
comp=Z,15nm,1.1s							
PSA00	**Pilbara Seismi**	**23.70**	**223**	P	**P**	**07 39 15.4**	**+0.1**
comp=Z,34nm,0.8s							
PSA00	**Pilbara Seismi**	**23.70**	**223**	P	**P**	**07 39 16.2**	**+0.9**
ALEG	**Aligegeo Malai**	**23.75**	**101**	P	**P**	**07 39 18.1**	**+2.3**
EIDS	**Eidsvold**	**24.53**	**148**	P	**P**	**07 39 22.9**	**0.0**
EIDS	**Eidsvold**	**24.53**	**148**	P	**P**	**07 39 24.2**	**+1.3**
comp=Z,28nm,0.9s							
EIDS	**Eidsvold**	**24.53**	**148**	P	**P**	**07 39 26.2**	**+3.3**
MULG	**Mulgathing**	**25.61**	**186**	P	**P**	**07 39 33.0**	**+0.4**
LCRK	**Leigh Creek**	**25.63**	**178**	P	**P**	**07 39 33.1**	**+0.3**
AULRC	**Lightning Ridg**	**26.66**	**159**	P	**P**	**07 39 43.8**	**+1.7**
FORT	**Forrest**	**27.31**	**197**	P	**P**	**07 39 47.8**	**-0.1**
FORT	**Forrest**	**27.31**	**197**	P	**P**	**07 39 47.8**	**-0.1**
comp=Z,115nm,0.8s							
FORT	**Forrest**	**27.31**	**197**	P	**P**	**07 39 49.3**	**+1.4**
STKA	**Stephens Creek**	**27.36**	**172**	P	**P**	**07 39 48.5**	**+0.1**
STKA	**Stephens Creek**	**27.36**	**172**	P	**P**	**07 39 48.3**	**0.0**
comp=Z,5.4nm,0.6s							
STKA	**Stephens Creek**	**27.36**	**172**	P	**P**	**07 39 48.4**	**0.0**
comp=Z,4.6nm,0.5s,baz=350,slow=9.2,SNR=15							
STKA				LR	LR	07 51 44.9	
comp=Z,359nm,18.2s,baz=8.7,slow=39							
comp=Z,4.6nm,0.5s							
STKA	**Stephens Creek**	**27.36**	**172**	P	**P**	**07 39 50.4**	**+2.0**
STKA	**Stephens Creek**	**27.36**	**172**	‖*e*P	**P**	**07 39 47.9**	**-0.5**
CMSA	**Cobar Meteorol**	**27.88**	**164**	P	**P**	**07 39 54.7**	**+1.6**
comp=Z,39nm,0.9s							
CMSA	**Cobar Meteorol**	**27.88**	**164**	P	**P**	**07 39 55.4**	**+2.3**
BBOO	**Buckleboo**	**27.98**	**182**	P	**P**	**07 39 53.9**	**0.0**
BBOO				IAmb	IAmb	07 40 27.4	
comp=Z,33nm,0.8s							
HTT	**Hallett**	**28.63**	**177**	P	**P**	**07 39 59.8**	**0.0**
comp=Z,25nm,0.9s							
HTT	**Hallett**	**28.63**	**177**	P	**P**	**07 40 00.6**	**+0.8**
KMBL	**Kambalda**	**30.14**	**207**	P	**P**	**07 40 14.4**	**+1.2**
AUMBR	**Murray Bridge**	**30.35**	**176**	P	**P**	**07 40 16.0**	**+1.1**
MORW	**Morawa**	**31.41**	**217**	P	**P**	**07 40 23.4**	**-0.9**
MORW				IAmb	IAmb	07 40 35.8	
comp=Z,61nm,1.9s							
ARPS	**Mount Arapiles**	**32.21**	**173**	P	**P**	**07 40 32.1**	**+0.8**
KLBR	**Kellerberrin**	**32.34**	**212**	P	**P**	**07 40 32.1**	**-0.5**
comp=Z,43nm,0.7s							
KLBR	**Kellerberrin**	**32.34**	**212**	P	**P**	**07 40 32.9**	**+0.3**
DZM	**Mont Dzumac**	**33.23**	**124**	*e*LR	LR	07 49 26.8	
comp=Z,180nm,29.8s							
DZM	**Mont Dzumac**	**33.23**	**124**	LR	LR	07 54 25.2	
comp=Z,133nm,18.6s,baz=318,slow=37							
TOO	**Toolangi**	**33.60**	**168**	P	**P**	**07 40 45.2**	**+1.7**
TOO	**Toolangi**	**33.60**	**168**	P	**P**	**07 40 45.2**	**+1.7**
TOO				pmax	pmax		
comp=Z,17nm,1.5s							
NWAO	**Narrogin (SRO)**	**33.66**	**211**	P	**P**	**07 40 44.1**	**0.0**
NWAO				IAmb	IAmb	07 41 34.1	
comp=Z,65nm,1.8s							
NWAO	**Narrogin (SRO)**	**33.66**	**211**	LR	LR	07 55 45.0	
comp=Z,506nm,18.7s,baz=346,slow=38							
NWAO	**Narrogin (SRO)**	**33.66**	**211**	P	**P**	**07 40 44.1**	**0.0**
NWAO				pmax	pmax		
comp=Z,65nm,1.8s							
QIZ	**Qiongzhong**	**35.74**	**312**	P	**P**	**07 41 02.4**	**+0.2**
QIZ				S	**S**	**07 46 40.6**	**+3.4**
QIZ				pmax	pmax		
comp=Z,190nm,4.1s							
QIZ				LR	LR		
comp=Z,130nm,17.4s							
QIZ				LR	LR		
comp=Z,140nm,17.9s							
QIZ				LR	LR		
comp=Z,160nm,17.3s							
IPM	**Ipoh**	**37.19**	**284**	P	**P**	**07 41 15.4**	**+0.7**
comp=Z,24nm,1.0s							
JHJ	**Hachijo jima 2**	**37.70**	**4**	LR	LR	07 53 53.2	
comp=Z,108nm,20.2s,baz=230,slow=32							
JNU	**Nakatsue**	**38.08**	**351**	P	**P**	**07 41 21.0**	**-1.0**
comp=Z,6.5nm,0.5s,baz=202,slow=8.8,SNR=5.6							
comp=Z,6.5nm,0.5s							
SRIT	**Nakonsritamara**	**39.67**	**289**	P	**P**	**07 41 35.3**	**-0.3**
SRIT				IAmb	IAmb	07 41 36.8	
comp=Z,50nm,1.2s							
SRIT	**Nakonsritamara**	**39.67**	**289**	P	**P**	**07 41 36.2**	**+0.6**
comp=Z,33nm,1.0s							
SURA	**Surathani**	**39.83**	**290**	P	**P**	**07 41 38.0**	**+1.2**
comp=Z,25nm,0.4s							
NAYO	**Nakonayok**	**40.22**	**299**	P	**P**	**07 41 41.3**	**+1.3**
NJ2	**Nanjing**	**40.48**	**336**	*e*P	**P**	**07 41 43.1**	**+1.2**
NJ2				pmax	pmax		
comp=Z,14nm,0.5s							
MJAR	**Matsushiro Arr**	**41.04**	**1**	P	**P**	**07 41 45.1**	**-1.5**
comp=Z,2.4nm,0.6s,baz=172,slow=8.7,SNR=3.1							
MJAR				LR	LR	07 56 17.6	
comp=Z,87nm,20.3s,baz=171,slow=32							
comp=Z,2.4nm,0.6s							
SLVN	**Son La**	**41.59**	**310**	P	**P**	**07 41 50.0**	**-1.4**
SLVN	**Son La**	**41.59**	**310**	P	**P**	**07 41 52.7**	**+1.4**
SRDT	**SRDT**	**42.17**	**297**	P	**P**	**07 41 57.1**	**+1.0**
comp=Z,24nm,1.1s							
GYA	**Guiyang**	**42.77**	**318**	P	**P**	**07 42 01.6**	**+0.6**
GYA				pmax	pmax		
comp=Z,110nm,5.0s							
KSRS	**Korea Array**	**42.81**	**349**	P	**P**	**07 41 59.9**	**-1.0**
comp=Z,8.1nm,1.0s,baz=167,slow=10.0,SNR=14							
KSRS				LR	LR	07 57 21.2	
comp=Z,52nm,21.7s,baz=175,slow=33							
comp=Z,8.1nm,1.0s							
PHRA	**Phrae**	**43.05**	**303**	P	**P**	**07 42 03.3**	**+0.1**
ENH	**Enshi**	**43.69**	**324**	P	**P**	**07 42 08.4**	**+0.1**
CM31	**Chiang Mai Arr**	**44.10**	**303**	P	**P**	**07 42 11.7**	**-0.1**
CM31				IAmb	IAmb	07 42 12.8	
comp=Z,27nm,0.8s							
CMAR	**Chiang Mai Arr**	**44.10**	**303**	P	**P**	**07 42 11.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**44.10**	**303**	P	**P**	**07 42 11.8**	**+0.1**
comp=Z,18nm,0.8s,baz=126,slow=6.1,SNR=89							
comp=Z,18nm,0.8s							
CMAR	**Chiang Mai Arr**	**44.10**	**303**	P	**P**	**07 42 11.5**	**-0.2**
CHTO	**Chiang Mai**	**44.27**	**303**	P	**P**	**07 42 12.8**	**-0.3**
CHTO				IAmb	IAmb	07 42 13.8	
comp=Z,27nm,0.8s							
CHTO	**Chiang Mai**	**44.27**	**303**	P	**P**	**07 42 12.8**	**-0.3**
CHTO				pmax	pmax		
comp=Z,27nm,0.8s							
KMI	**Kunming**	**44.66**	**313**	⇑P	**P**	**07 42 16.3**	**-0.1**
KMI				pmax	pmax		
comp=Z,19nm,1.4s							
TIA	**Tai'an**	**44.80**	**337**	P	**P**	**07 42 15.5**	**-1.5**
TIA				pmax	pmax		
comp=Z,11nm,0.7s							
LYN	**LuoYang**	**45.44**	**331**	P	**P**	**07 42 20.8**	**-1.3**
LYN				pmax	pmax		
comp=Z,16nm,0.8s							
PZH	**PanZhiHua**	**46.21**	**314**	P	**P**	**07 42 30.0**	**+1.6**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,100nm,4.4s							
HNS	**HongShan**	**46.80**	**335**	⇓P	**P**	**07 42 31.9**	**-0.8**
HNS				S	**S**	**07 49 19.5**	**-1.2**
HNS				pmax	pmax		
comp=Z,9.0nm,1.1s							
HNS				LR	LR		
comp=Z,240nm,19.0s							
HNS				LR	LR		
comp=Z,290nm,19.9s							
CD2	**Chengdu**	**47.64**	**320**	P	**P**	**07 42 38.8**	**-0.7**
CD2				pmax	pmax		
comp=Z,20nm,0.7s							
JCZ	**Jackson Bay**	**48.09**	**149**	P	**P**	**07 42 45.1**	**+2.2**
MRNZ	**Matariki Terra**	**48.47**	**144**	P	**P**	**07 42 46.6**	**+0.9**
ASAJ	**Asahikawa**	**48.85**	**5**	P	**P**	**07 42 47.7**	**-0.8**
comp=Z,9.0nm,0.8s,baz=229,slow=13,SNR=4.1							
ASAJ				LR	LR	08 03 41.5	
comp=Z,21nm,19.4s,baz=196,slow=36							
comp=Z,9.0nm,0.8s			

PETK **Petropavlovsk- 60.16 14** P **P 07 44 10.6 +0.1**
PETK **Petropavlovsk- 60.16 14** P **P 07 44 10.8 +0.3**
comp=Z,4.9nm,0.7s,baz=175,slow=5.0,SNR=8.3
PETK LR LR 08 09 50.4
comp=Z,17nm,19.5s,baz=196,slow=36
comp=Z,4.9nm,0.7s
HYB Hyderabad 61.84 292 *e*P **P 07 44 22.1 -0.5**
RAR Rarotonga 63.26 111 LR LR 08 11 28.1
comp=Z,19nm,18.4s,baz=221,slow=35
WMQ Urumqi 65.60 323 *e*P **P 07 44 47.1 +0.1**
WMQ PcP **PcP 07 45 21.0 +2.6**
WMQ pmax pmax
comp=Z,30nm,1.1s
YAK Yakutsk 66.79 356 LR LR 08 10 57.4
comp=Z,76nm,21.4s,baz=147,slow=33
YAK Yakutsk 66.79 356 *e*P **P 07 44 54.3 +0.2**
YAK *e**PP **sP 07 45 07.9 -1.1**
YAK *e* 07 45 28.9
YAK *e* 07 47 16.9
YAK *e*S **S 07 53 43.5 -0.3**
YAK *e**SS **sS 07 54 04.4 +2.7**
YAK *e*SS **SS 07 58 03.1 +0.7**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK smax smax
comp=E,119nm,2.5s
YAK smax smax
comp=N,148nm,2.8s
ZSN Zaisan 69.25 325 *e*P **P 07 45 08.8 -1.1**
comp=N,6.0nm,0.9s
ZSN Zaisan 69.25 325 *e*P **P 07 45 08.8 -1.1**
ZSN pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 70.41 323 P **P 07 45 16.9 -0.2**
MK31 IAmb IAmb 07 45 17.8
comp=Z,15nm,0.8s
MK31 Makanchi Array 70.41 323*c i*P **P 07 45 16.5 -0.6**
MKAR Makanchi Array 70.41 323 P **P 07 45 16.8 -0.4**
MKAR Makanchi Array 70.41 323 P **P 07 45 16.9 -0.3**
comp=Z,25nm,0.7s,baz=115,slow=8.0,SNR=173
MKAR LR LR 08 16 00.6
comp=Z,42nm,21.9s,baz=88,slow=36
comp=Z,25nm,0.7s
SHLS Shalkode 70.45 319 *e*P **P 07 45 14.7 -2.8**
comp=Z,7.6nm,0.7s
SHLS Shalkode 70.45 319 *e*P **P 07 45 14.7 -2.8**
SHLS pmax pmax
comp=Z,8.0nm,0.7s
MAKZ Makanchi 70.61 323 P **P 07 45 18.0 -0.3**
MAKZ Makanchi 70.61 323 P **P 07 45 18.0 -0.3**
MAKZ pmax pmax
comp=Z,34nm,0.7s
UZB Uzynbulak 70.73 319 *e*P **P 07 45 18.0 -1.4**
UZB Uzynbulak 70.73 319 *e*P **P 07 45 17.9 -1.4**
TARG Taragay, Kyrgy 70.93 317 P **P 07 45 21.1 +0.3**
TARG IAmb IAmb 07 45 24.5
comp=Z,18nm,1.2s
TARG Taragay, Kyrgy 70.93 317 P **P 07 45 21.2 +0.3**
TARG pmax pmax
comp=Z,18nm,1.2s
KPKS Kokpek 71.09 319 *e*P **P 07 45 20.1 -1.4**
comp=Z,15nm,1.1s
KPKS Kokpek 71.09 319 *e*P **P 07 45 20.0 -1.4**
KPKS pmax pmax
comp=Z,15nm,1.1s
SATY Saty 71.10 319 *e*P **P 07 45 20.3 -1.3**
comp=Z,7.9nm,0.6s
SATY Saty 71.10 319 *e*P **P 07 45 20.2 -1.3**
SATY pmax pmax
comp=Z,8.0nm,0.6s
KSH Kashi 71.31 314 P **P 07 45 24.0 +1.1**
KSH sP pP 07 45 35.4 +1.6
KSH pmax pmax
comp=Z,15nm,0.8s
TDK Taldyqorghan 71.95 320 *e*P **P 07 45 25.1 -1.4**
TDK Taldyqorghan 71.95 320 *e*P **P 07 45 25.1 -1.4**
MDOK Medeo 72.04 318 *e*P **P 07 45 25.8 -1.5**
MDOK Medeo 72.04 318 *e*P **P 07 45 25.7 -1.5**
AAA Alma-Ata 72.15 318 *e*P **P 07 45 26.6 -1.2**
AAA Alma-Ata 72.15 318 *e*P **P 07 45 26.5 -1.2**
BOOM Boomskoye usch 72.51 317 P **P 07 45 30.1 0.0**
BOOM Boomskoye usch 72.51 317 P **P 07 45 30.1 0.0**
BOOM pmax pmax
comp=Z,156nm,1.7s
PPT2 Papeete2 72.69 107 *e*LR LR 08 07 45.2
comp=Z,120nm,31.8s
ZAA0 Zalesovo Array 72.87 331 P **P 07 45 30.2 -1.5**
ZALV Zalesovo Beam 72.87 331 P **P 07 45 30.3 -1.4**
comp=Z,9.1nm,0.8s,baz=109,slow=5.6,SNR=30
ZALV LR LR 08 17 10.7
comp=Z,53nm,21.5s,baz=99,slow=36
comp=Z,9.1nm,0.8s
TBI Tubuai 72.93 113 *e*LR LR 08 07 50.7
comp=Z,652nm,31.8s
AAK Ala-Archa 73.55 317 P **P 07 45 36.2 0.0**
comp=Z,6.5nm,0.7s,baz=57,slow=21,SNR=4.0
AAK LR LR 08 19 33.6
comp=Z,35nm,20.9s,baz=104,slow=37
comp=Z,6.5nm,0.7s
AAK Ala-Archa 73.55 317*de*P **P 07 45 36.7 +0.5**
AAK pmax pmax
comp=Z,12nm,1.3s
KURK Kurchatov 74.44 326 P **P 07 45 40.2 -0.8**
KURK Kurchatov 74.44 326*c i*P **P 07 45 40.0 -1.0**
KURK pmax pmax
comp=Z,19nm,1.3s
KURBB Kurchatov Arra 74.45 326 P **P 07 45 40.2 -0.9**
comp=Z,11nm,0.8s,baz=120,slow=4.9,SNR=70
comp=Z,11nm,0.8s
BTLS Baital 74.78 319 *e*P **P 07 45 42.0 -1.2**
comp=Z,5.6nm,0.9s
BTLS Baital 74.78 319 *e*P **P 07 45 41.9 -1.2**
BTLS pmax pmax
comp=Z,6.0nm,0.9s
KBL Kabul 74.86 308 P **P 07 45 43.2 -0.9**
KBL Kabul 74.86 308 P **P 07 45 43.2 -0.9**
KBL pmax pmax
comp=Z,12nm,0.9s
BTK Batken 75.21 313 P **P 07 45 45.6 -0.3**
GAR Garm 75.23 312 P **P 07 45 45.8 -0.3**
GAR IAmb IAmb 07 45 46.6
comp=Z,27nm,0.7s
BILL Bilibino 75.41 11⇓*e*P **P 07 45 45.8 -0.5**
BILL pmax pmax
comp=Z,4.0nm,1.0s
DZA Taraz 75.81 316 *e*P **P 07 45 47.8 -1.4**
DZA Taraz 75.81 316 *e*P **P 07 45 47.7 -1.4**
SIMJ Simiganj 76.10 312 P **P 07 45 50.3 -0.7**
SIMJ IAmb IAmb 07 45 51.5
comp=Z,15nm,0.9s
TIXI Tiksi 76.40 357 LR LR 08 17 01.9
comp=Z,72nm,21.7s,baz=190,slow=34
TIXI Tiksi 76.40 357⇓*e*P **P 07 45 50.3 -1.5**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
KKAR Karatay Array 76.45 316 P **P 07 45 52.0 -0.8**
KKAR Karatay Array 76.45 316 P **P 07 45 51.9 -0.8**
KKAR Karatay Array 76.45 316 P **P 07 45 51.9 -0.8**
KKAR pmax pmax
comp=Z,7.0nm,0.8s
IUG Iuzhnay 76.46 315 *e*P **P 07 45 51.6 -1.4**
comp=Z,12nm,1.0s
IUG Iuzhnay 76.46 315 *e*P **P 07 45 51.6 -1.4**
IUG pmax pmax
comp=Z,12nm,1.0s
MAW Mawson 79.69 202 P **P 07 46 10.2 0.0**
comp=Z,1.5nm,0.9s,baz=75,slow=19,SNR=1.5
MAW LR LR 08 18 03.2
comp=Z,83nm,20.9s,baz=74,slow=33
comp=Z,1.5nm,0.9s
BVAR Borovoye Array 80.04 326 P **P 07 46 11.9 -0.5**
comp=Z,16nm,0.5s,baz=116,slow=6.8,SNR=68
BVAR LR LR 08 23 51.1
comp=Z,20nm,20.4s,baz=325,slow=37
comp=Z,16nm,0.5s
BRVK Borovoye 80.11 326 P **P 07 46 12.4 -0.3**
BRVK IAmb IAmb 07 46 13.2
comp=Z,22nm,0.7s
BRVK Borovoye 80.11 326*c i*P **P 07 46 12.0 -0.8**
BRVK pmax pmax
comp=Z,26nm,0.8s
HRA Herat 80.25 306 P **P 07 46 13.1 -1.1**
NRIK Noril'sk 81.18 344 P **P 07 46 17.2 -0.9**
NRIK Noril'sk 81.18 344 P **P 07 46 17.3 -0.9**
comp=Z,9.5nm,0.8s,baz=139,slow=5.5,SNR=16
comp=Z,9.5nm,0.8s
NRIK Noril'sk 81.18 344 P **P 07 46 17.2 -0.9**
NRIK pmax pmax
comp=Z,13nm,0.9s
KDAK Kodiak Island 83.61 30 LR LR 08 20 59.2
comp=Z,75nm,19.1s,baz=97,slow=34
E18K Tukpahlearik C 84.04 20 P **P 07 46 33.3 +0.2**
E18K IAmb IAmb 07 46 34.5
comp=Z,25nm,0.9s
G18K Tagagawik 84.05 22 P **P 07 46 33.5 +0.3**
G18K IAmb IAmb 07 49 18.7
comp=Z,62nm,1.8s
C18K Utukok River 84.42 19 P **P 07 46 35.1 +0.1**
M20K Styx River 84.74 27 P **P 07 46 37.0 +0.2**
M20K IAmb IAmb 07 46 38.1
comp=Z,18nm,0.8s
J20K Nowinta River 85.12 24 P **P 07 46 39.5 +1.0**
J20K IAmb IAmb 07 46 40.8
comp=Z,11nm,0.7s
ABKAR Akbulak array 85.22 320 P **P 07 46 38.0 -1.4**
ABKAR Akbulak array 85.22 320 P **P 07 46 38.3 -1.1**
ABKAR IAmb IAmb 07 46 39.5
comp=Z,11nm,0.8s
E19K Redstone River 85.22 21 P **P 07 46 40.0 +0.9**
QSPA South Pole Qui 85.25 180 P **P 07 46 39.5 0.0**
QSPA South Pole Qui 85.25 180 P **P 07 46 39.1 -0.3**
comp=Z,5.0nm,0.9s,baz=325,slow=5.0,SNR=8.2
QSPA LR LR 08 24 44.6
comp=Z,124nm,19.1s,baz=17,slow=36
comp=Z,5.0nm,0.9s
D19K Kuna River 85.36 20 P **P 07 46 40.4 +0.6**
D19K IAmb IAmb 07 46 40.9
comp=Z,23nm,0.9s
F20K Avaraart Lake 85.59 21 P **P 07 46 42.0 +1.1**
F20K IAmb IAmb 07 46 42.6
comp=Z,20nm,0.8s
CAST Castle Rocks 85.72 25 P **P 07 46 41.1 -0.5**
CAST IAmb IAmb 07 46 43.2
comp=Z,12nm,0.7s
IMAR Indian Mountai 85.93 23 P **P 07 46 42.0 -0.5**
G21K Allakaket 86.21 22 P **P 07 46 44.6 +0.6**
G21K IAmb IAmb 07 46 49.8
comp=Z,43nm,1.6s
PMR Palmer 86.45 27 P **P 07 46 44.7 -0.5**
PMR Palmer 86.45 27 P **P 07 46 44.7 -0.5**
PMR pmax pmax
comp=Z,102nm,1.8s
AKTO Aktyubinsk 86.68 321 P **P 07 46 46.1 -0.5**
comp=Z,5.3nm,0.8s,baz=92,slow=4.8,SNR=13
comp=Z,5.3nm,0.8s
MLY Manley 86.79 24 P **P 07 46 46.7 -0.2**
MLY IAmb IAmb 07 46 48.8
comp=Z,12nm,0.8s
RND Reindeer 87.09 26 P **P 07 46 47.9 -0.6**
RND Reindeer 87.09 26 P **P 07 46 47.9 -0.6**
RND pmax pmax
comp=Z,37nm,0.8s
SCM Sheep Creek Mo 87.35 27 P **P 07 46 49.4 -0.3**
SCM Sheep Creek Mo 87.35 27 P **P 07 46 49.4 -0.3**
SCM pmax pmax
comp=Z,152nm,1.7s
E22K Anaktuvuk Pass 87.39 21 P **P 07 46 50.1 +0.4**
E22K IAmb IAmb 07 46 51.8
comp=Z,20nm,0.8s
ARTI Arti 87.67 327 P **P 07 46 49.4 -1.8**
comp=Z,5.5nm,0.6s,baz=139,slow=2.9,SNR=8.9
ARTI LR LR 08 27 41.1
comp=Z,43nm,21.7s,baz=70,slow=37
comp=Z,5.5nm,0.6s
ARTI Arti 87.67 327*c i*P **P 07 46 48.7 -2.6**
ARTI 07 50 12.4
ARTI S **SKSac 07 57 16.5 -0.1**
ARTI SS **SS 08 03 16.6 -0.9**
ARTI pmax pmax
comp=Z,6.0nm,0.7s
WRH Wood River Hil 87.71 25 P **P 07 46 50.7 -0.6**
CCB Clear Creek Bu 87.88 25 P **P 07 46 51.3 -0.8**
COLA College 87.92 24 P **P 07 46 51.3 -1.0**
COLA IAmb IAmb 07 46 52.7
comp=Z,20nm,0.8s
COLA College 87.92 24*ce*P **P 07 46 52.0 -0.3**
COLA pmax pmax
comp=Z,19nm,0.8s
D23K Nanushuk River 88.05 20 P **P 07 46 53.7 +0.9**
D23K IAmb IAmb 07 46 55.7
comp=Z,9.5nm,0.8s
E23K Chandalar 88.14 21 P **P 07 46 54.0 +0.5**
E23K IAmb IAmb 07 46 55.4
comp=Z,16nm,0.9s
H24K Noodor Dome 88.17 23 P **P 07 46 53.9 +0.3**
H24K IAmb IAmb 07 46 54.9
comp=Z,16nm,0.8s
HDA Harding Lake 88.18 25 P **P 07 46 52.6 -0.9**
HDA IAmb IAmb 07 46 54.5
comp=Z,16nm,0.8s
IL31 88.29 25 P **P 07 46 52.5 -1.5**
ILAR Eielson Array 88.29 25 P **P 07 46 52.9 -1.2**
comp=Z,18nm,0.8s,baz=264,slow=4.3,SNR=147
ILAR LR LR 08 33 16.2
comp=Z,7.2nm,18.0s,baz=280,slow=40
comp=Z,18nm,0.8s
C23K Itkillik River 88.35 19 P **P 07 46 53.5 -0.7**
C23K IAmb IAmb 07 46 56.2
comp=Z,9.5nm,0.8s
F24K Squaw Lake 88.62 22 P **P 07 46 56.2 +0.5**
F24K IAmb IAmb 07 46 57.6
comp=Z,12nm,0.8s
J25K Salcha River, 88.89 25 P **P 07 46 56.4 -0.6**
J25K IAmb IAmb 07 46 57.2
comp=Z,21nm,1.2s
BMAR Burnt Mountain 89.84 22 P **P 07 47 01.5 +0.2**
BCAR Beaver Creek A 90.13 27 P **P 07 47 03.5 +0.7**
EGAK Eagle 90.69 25 P **P 07 47 06.0 +0.6**
EGAK IAmb IAmb 07 47 06.7
comp=Z,6.2nm,0.8s
ELIB Princess Elisa 92.74 197 *d*P **P 07 47 17.1 +2.1**
comp=Z,2.8nm,0.6s
KIRV Kirov 92.78 328 LR LR 08 30 49.1
comp=Z,37nm,21.9s,baz=76,slow=37
BELG Belogornoye 93.38 322 LR LR 08 33 57.5
comp=Z,33nm,18.6s,baz=82,slow=38
GNI Garni 94.82 310 LR LR 08 34 16.9
comp=Z,16nm,21.9s,baz=68,slow=38
BBB Bella Bella 96.61 38 LR LR 08 22 19.5
comp=Z,44nm,20.2s,baz=293,slow=30
SNAA Sanae 99.45 192 LR LR 08 31 46.3
comp=Z,170nm,19.5s,baz=188,slow=35
AK09 Malin Array Si 104.91 321 P **Pdif 07 48 09.8 0.0**
PLCA Paso Flores 128.16 153 PKP **PKPdf 07 53 08.6 -1.0**
comp=Z,1.9nm,1.0s,baz=229,slow=4.4,SNR=5.4
TORD Torodi Ar. Bea 135.23 284 PKP **PKPdf 07 53 22.3 -1.2**
comp=Z,1.4nm,0.8s,baz=95,slow=2.2,SNR=7.2
CPUP Villa Florida 146.12 156 PKPbc **PKPbc 07 53 43.9 +0.2**
comp=Z,2.3nm,0.8s,baz=126,slow=0.2,SNR=5.9
LPAZ La Paz 147.46 130 PKPbc **PKPdf 07 53 46.9 +0.9**
comp=Z,1.6nm,0.8s,baz=160,slow=1.1,SNR=5.0
ROSC El Rosal 148.67 88 PKPbc **PKPdf 07 53 49.5 +1.7**
comp=Z,6.7nm,0.3s,baz=141,slow=18,SNR=3.8

*IDC **13** 07:52:07.1±1.5, 0°.47N×124°.63E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=186.6km s-min=22.4km az=64.0*
*DJA **13** 07:52:08.9±1.4, 1°.N±6°×12°6E±°, h15km±14km, M3.4/6, MLv3.4/6*
ISC 13 07:52:07.5±1.2, 1°.4N±0°.2×126°.4E±0°.1, h10km, n7, σ1°01/7, mb3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.12**	**122**	P	**Pb**	**07 52 29.8**	**+0.9**
KMSI	**Cibinong**	**2.56**	**252**	P	**Pn**	**07 52 49.8**	**+0.7**
SANI	**Sanana**	**3.42**	**187**	P	**Pn**	**07 53 01.1**	**+0.2**
WRA	**Warramunga Arr**	**22.55**	**160**	P	**P**	**07 57 07.1**	**-0.9**
	0.7nm,0.3s,baz=334,slow=11,SNR=12						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**25.92**	**164**	P	**P**	**07 57 38.9**	**-1.3**
	0.3nm,0.7s,baz=343,slow=10,SNR=7.3						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**59.32**	**326**	P	**P**	**08 02 09.2**	**-0.5**
	0.2nm,0.7s,baz=143,slow=6.3,SNR=1.6						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**63.56**	**328**	P	**P**	**08 02 38.3**	**0.0**
	0.4nm,0.7s,baz=124,slow=6.4,SNR=4.5						
	0.4nm,0.7s						

*IDC **13** 08:05:29.3±1.5, 5°.77S×147°.46E, h0km, mb3.8/3, mbtmp3.9/5, ML4.1/1, Error ellipse: s-maj=60.0km s-min=23.7km az=106.0*
ISC 13 08:05:38.5±1.4, 6°.0S±0°.1×147°.5E±0°.4, h77km, n6, σ0°95/7, mb3.6/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.44**	**186**	Pn	**Pn**	**08 06 28.7**	**-1.1**
	35nm,0.5s,baz=324,slow=8.7,SNR=13						
PMG				Sn	**Sn**	**08 07 10.8**	**+1.3**
	11nm,0.3s,baz=216,slow=23,SNR=2.2						
WRA	**Warramunga Arr**	**18.91**	**222**	P	**P**	**08 09 52.8**	**-0.5**
	0.6nm,0.3s,baz=46,slow=12,SNR=21						
	3.5nm,0.7s						
ASAR	**Alice Springs**	**21.95**	**215**	P	**P**	**08 10 26.2**	**+0.1**
	3.2nm,0.5s,baz=47,slow=9.0,SNR=77						
	3.2nm,0.5s						
STKA	**Stephens Creek**	**26.37**	**191**	P	**P**	**08 11 07.8**	**+0.1**
	2.0nm,0.9s,baz=344,slow=12,SNR=5.2						
	2.0nm,0.9s						
ILAR	**Eielson Array**	**85.24**	**23**	P	**P**	**08 18 06.5**	**+0.1**
	0.3nm,0.6s,baz=258,slow=4.5,SNR=4.4						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**145.60**	**285**	PKPbc	**PKPab**	**08 25 10.4**	**+0.6**
	0.4nm,0.7s,baz=72,slow=1.9,SNR=3.6						

*SOME **13** 08:20:37.0, 39°.53N×75°.17E, h15km*
*NNC **13** 08:20:41.0±7.8, 39°.44N×74°.73E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=57.9km s-min=29.8km az=162.0*
ISC 13 08:20:48.4±2.7, 39°.8N±0°.1×74°.68E±0°.06, h10km, n12, σ3°07/19, 1C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**3.13**	**340**	Pg	**Pb**	**08 21 40.0**	**-4.2**
	1.9nm,0.2s						
MRKS				Lg	Lg	08 22 24.5	
	5.5nm,0.4s						
MRKS	**Merke**	**3.13**	**340**	*e*P	**Pb**	**08 21 40.0**	**-4.2**
	1.9nm,0.2s						
MRKS				*e*S	**Sb**	**08 22 24.5**	**+2.1**
	5.5nm,0.4s						
TKM2	**Tokmak 2**	**3.18**	**12**	⇓Pn	**Pn**	**08 21 38.6**	**-0.1**
	2.8nm,0.4s						
TKM2				⇓Sn	**Sb**	**08 22 26.2**	**+2.2**
	4.7nm,0.6s						
KST	**Kastek**	**3.37**	**16**	Pg	**Pb**	**08 21 44.7**	**-3.6**
	4.5nm,0.5s						
KST				Lg	Lg	08 22 32.8	
	16nm,0.6s						
KST	**Kastek**	**3.37**	**16**	*e*P	**Pn**	**08 21 41.0**	**-0.1**
	6.2nm,0.9s						
KST				*e*S	**Sn**	**08 22 26.5**	**+5.2**
	18nm,0.7s						
TNSS	**Tian-Shan**	**3.64**	**27**	Pg	**Pb**	**08 21 53.1**	**0.0**
TNSS				Lg	Lg	08 22 46.6	
TNSS	**Tian-Shan**	**3.64**	**27**	*e*P	**Pn**	**08 21 45.9**	**+0.7**
	2.3nm,0.7s						
TNSS				*e*S	**Sb**	**08 22 34.8**	**-2.7**
	4.4nm,1.7s						
IUG	**Iuzhnay**	**4.22**	**305**	Pg	**Pb**	**08 22 03.2**	**+0.4**
	20nm,1.2s						
IUG				Lg	Lg	08 23 04.9	
	14nm,0.8s						
IUG	**Iuzhnay**	**4.22**	**305**	*e*P	**Pb**	**08 22 03.2**	**+0.4**
	20nm,1.2s						
IUG				*e*S	**Sg**	**08 23 04.9**	**+0.9**
	14nm,0.8s						
KK31	**Karatay Array**	**4.54**	**318**	⇑Pn	**Pn**	**08 21 53.3**	**-3.9**
	0.4nm,0.3s,baz=138,slow=14,SNR=10						
KK31				⇓Sn	**Sn**	**08 22 55.8**	**+5.7**
	0.4nm,0.3s,baz=135,slow=27						
BRLS	**Borolday**	**4.86**	**313**	Pg	**Pb**	**08 22 13.0**	**-0.6**
	1.8nm,0.4s						
BRLS				Lg	Lg	08 23 21.4	
	2.4nm,0.6s						
BRLS	**Borolday**	**4.86**	**313**	*e*P	**Pb**	**08 22 12.9**	**-0.6**
	1.8nm,0.6s						
BRLS				*e*S	**Sg**	**08 23 21.2**	**-3.1**
	2.3nm,0.5s						

*CATAC **13** 08:21:07.2±0.6, 8°.15N×83°.66W, h72km±9km, ML4.2*
*UPA **13** 08:21:10.4±0.4, 8°.40N×83°.17W, h13km±2km*
*UCR **13** 08:21:11.2±1.1, 8°.37N×83°.17W, h27km±2km, MW4.1, Fault plane solution: NP1:φs259.21000°, δ66.07000°, λ26.34000°.*
ISC 13 08:21:10.7±1.5, 8°32N±0°.07×83°20W±0°.03, h27km±8km, n60, σ1°17/80, 3C-14D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIME	**Puerto Jimenez**	**0.25**	**331**⇑	*e*P	**Pb**	**08 21 17.1**	**-0.1**
JIME				*e*S	**Sb**	**08 21 23.0**	**+1.3**
CDITO	**Canoas**	**0.41**	**52**	*i* P	**Pb**	**08 21 18.8**	**-0.8**
CDITO				*i* P	**Pn**	**08 21 25.2**	**+4.3**
CDITO				IAML		08 21 30.0	
	comp=Z,6μm,1.0s						
NELY	**Ciudad Neily**	**0.42**	**38**⇓	*e*P	**Pb**	**08 21 18.8**	**-0.9**
NELY				*e*S	**Sb**	**08 21 25.2**	**-0.6**
LPPC	**Paso Canoas**	**0.42**	**59**⇓	*e*P	**Pb**	**08 21 18.8**	**-0.9**
LPPC				*e*S	**Sb**	**08 21 25.1**	**-0.7**
VITO	**San Vito**	**0.55**	**25**⇓	*e*P	**Pb**	**08 21 21.1**	**-0.9**
BRU2	**Volcan**	**0.69**	**47**	*e*P	**Pb**	**08 21 23.2**	**-1.1**
BRU2				*e*S	**Sb**	**08 21 33.1**	**-0.5**
BRU2	**Volcan**	**0.69**	**47**⇓	*e*P	**Pb**	**08 21 23.2**	**-1.1**
BRU2				*e*S	**Sb**	**08 21 32.8**	**-0.8**
EDP2	**Potrero Grande**	**0.69**	**2**⇓	*e*P	**Pb**	**08 21 23.3**	**-1.0**
EDP2				*e*S	**Sb**	**08 21 33.2**	**-0.4**
BCO2	**Palmira**	**0.78**	**59**	*e*P	**Pb**	**08 21 24.7**	**-1.1**
BCO2				*e*S	**Sb**	**08 21 35.8**	**-0.3**
BURE	**Buenos Aires**	**0.86**	**351**⇓	*e*P	**Pb**	**08 21 26.0**	**-1.1**
OCHAL	**Ojochal**	**0.89**	**331**	*i* P	**Pb**	**08 21 26.3**	**-1.3**
OCHAL				*i* S	**Sb**	**08 21 38.6**	**-0.5**
OCHAL				IAML		08 21 40.1	
	comp=Z,5μm,1.0s						
DRK0	**Durika**	**0.94**	**358**	*i* P	**Pb**	**08 21 26.9**	**-1.6**
DRK0				*i* S	**Sb**	**08 21 39.0**	**-1.7**
DRK0	**Durika**	**0.94**	**358**	*e*P	**Pb**	**08 21 26.8**	**-1.8**
DRK0				*e*S	**Sb**	**08 21 39.2**	**-1.5**
DRK0	**Durika**	**0.94**	**358**⇓	*e*P	**Pb**	**08 21 26.8**	**-1.8**
ZELE	**Perez Zeledon**	**1.16**	**335**	*e*P	**Pn**	**08 21 30.8**	**-0.5**
CHGR2	**Aguacate**	**1.22**	**59**	*e*P	**Pn**	**08 21 31.1**	**-0.9**
CHGR2				*e*S	**Sn**	**08 21 46.3**	**-1.3**
BUS1	**Rivas**	**1.34**	**336**⇑	*e*P	**Pn**	**08 21 33.2**	**-0.9**
BRIBI	**Bribri**	**1.34**	**15**⇓	*e*P	**Pn**	**08 21 34.0**	**+0.2**
RGM0	**Gandoca**	**1.40**	**25**	*i* P	**Pb**	**08 21 35.3**	**-0.9**
RGM0				IAML		08 21 36.3	
	comp=Z,2μm,1.0s						
RGM0				*i* S	**Sb**	**08 21 54.0**	**+0.5**
RGM0	**Gandoca**	**1.40**	**25**	*e*P	**Pb**	**08 21 35.2**	**-0.9**
LLNJ	**Naranjito**	**1.45**	**322**⇑	*e*P	**Pn**	**08 21 35.0**	**-0.2**
RAZU	**San Marcos de**	**1.56**	**329**	*e*P	**Pn**	**08 21 37.1**	**+0.3**
ABE2	**San Pablo**	**1.61**	**329**	*e*P	**Pn**	**08 21 37.8**	**+0.1**
LCR2	**La Lucha 2**	**1.62**	**331**	*i* P	**Pn**	**08 21 37.8**	**+0.1**
LCR2				*i* S	**Sn**	**08 21 59.1**	**+1.2**
LCR2				IAML		08 22 00.9	
	comp=Z,2μm,1.0s						
LCR2	**La Lucha 2**	**1.62**	**331**	*e*P	**Pn**	**08 21 37.4**	**-0.3**
RITA	**Parrita**	**1.64**	**317**	*e*P	**Pn**	**08 21 38.5**	**+0.8**
REPA	**Paraso**	**1.64**	**336**⇓	*e*P	**Pn**	**08 21 37.7**	**-0.2**
TURIB	**Turrialba**	**1.65**	**343**	*e*P	**Pn**	**08 21 37.7**	**-0.3**
VINA	**Juan Vinas**	**1.66**	**341**⇓	*e*P	**Pn**	**08 21 38.0**	**-0.1**
PCAYA	**Pacayas**	**1.70**	**339**⇓	*e*P	**Pn**	**08 21 38.9**	**+0.1**
RVSTA	**Santa Teresita**	**1.71**	**345**	*e*P	**Pn**	**08 21 39.2**	**+0.4**
VTCV	**VTCV, Calle Va**	**1.73**	**343**	*e*P	**Pn**	**08 21 39.5**	**+0.3**
RAFA	**San Farael, Vo**	**1.74**	**340**	*i* P	**Pn**	**08 21 39.8**	**+0.4**
RAFA				*i* S	**Sn**	**08 22 01.9**	**+1.0**
RAFA				IAML		08 22 06.5	
	comp=Z,7μm,1.0s						
RAFA	**San Farael, Vo**	**1.74**	**340**	*e*P	**Pn**	**08 21 39.5**	**+0.1**
ACOS	**Acosta**	**1.75**	**327**	*e*P	**Pn**	**08 21 39.7**	**+0.3**
TAAN	**Batan**	**1.76**	**355**⇓	*e*P	**Pn**	**08 21 40.0**	**+0.5**
VICA	**Volcano Irazu**	**1.77**	**339**	*e*P	**Pn**	**08 21 40.0**	**0.0**
LCOCO	**El Coco**	**1.79**	**349**	*e*P	**Pn**	**08 21 40.4**	**+0.5**

IRES	Siquirres	1.79	350	eP	Pn	08 21 40.7	+0.8
LUJA	Lujan	1.81	332	eP	Pn	08 21 41.7	+1.4
SJS	Escuela Geolog	1.82	333	eP	Pn	08 21 40.6	+0.2
RVLA	Villa Bonita	1.82	348	eP	Pn	08 21 41.0	+0.7
CORON	Coronado	1.82	334	eP	Pn	08 21 41.0	+0.5
LUPE	Guadalupe	1.83	333	eP	Pn	08 21 40.8	+0.3
DOMI	Santo Domingo	1.87	332	eP	Pn	08 21 42.0	+0.9
BELE	Belen	1.91	330	eP	Pn	08 21 42.2	+0.5
GMAL	Guarumal, Vera	2.03	106	eP	Pn	08 21 42.6	-0.5
TCS1	Tacares	2.03	328	i P	Pn	08 21 44.3	+1.0
TCS1				i S	Sb	08 22 11.1	-0.7
TCS1				IAML		08 22 12.6	
	comp=Z,14μm,1.0s						
TCS1	Tacares	2.03	328	eP	Pn	08 21 44.2	+1.0
TRT2	Tortugero	2.29	347	i P	Pn	08 21 47.2	+0.5
TRT2				i S	Sn	08 22 16.1	+2.1
SOCE	Pocosol	2.48	326	i P	Pb	08 21 52.3	-2.4
SOCE				i S	Sb	08 22 23.5	-1.4
SOCE				IAML		08 22 29.6	
	comp=Z,1μm,1.0s						
JTS	Las Juntas de	2.61	319	eP	Pn	08 21 51.5	+0.3
COVE	Coope Vega, Sa	2.66	334	i P	Pn	08 21 54.3	+2.4
COVE				i S	Sb	08 22 29.1	-0.9
COVE				IAML		08 22 44.5	
	comp=Z,530nm,1.0s						
ZANG	Zanguenga, Cho	3.36	79	eP	Pn	08 22 02.1	+0.7
BCIP	Isla Barro Col	3.43	76	i P	Pn	08 22 03.7	+1.2
BCIP				IAML		08 22 53.8	
	comp=Z,210nm,1.0s						
BCIP	Isla Barro Col	3.43	76	eP	Pn	08 22 03.3	+0.8
JAPN	Al SSO del Vol	4.01	323	i P	Pn	08 22 12.8	+2.3
JAPN				i S	Pg	08 22 26.5	
JAPN				IAML		08 22 33.8	
	comp=Z,88nm,1.0s						
ACON	Acoyapa	4.11	332	i P	Pn	08 22 13.5	+1.7
ACON				i S	Sn	08 23 01.7	+2.6
ACON				IAML		08 23 22.1	
	comp=Z,88nm,1.0s						
ACON	Acoyapa	4.11	332	eP	Pn	08 22 12.8	+1.0
ALLN	Telcor Managua	4.87	322	i S	Pn	08 22 23.6	+1.4

*ISK **13** 08:25:54.2, 37°.43N×42°.74E, h8km, ML2.5/6*
*AFAD **13** 08:25:54.4±0.0, 37°.39N×42°.78E, h7km±3km, ML2.1*
ISC 13 08:25:54.6±1.4, 37°.44N±0°.04×42°.84E±0°.03, h3km±11km, n16, σ0°91/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	Sırnak	0.34	279	P	Pg	08 26 00.6	-0.6
SIRN				i AML	AML	08 26 05.0	
	comp=N,610nm,0.3s						
SIRN				S	Sg	08 26 05.9	+0.1
SIRN				i AML	AML	08 26 08.0	
	comp=E,384nm,0.4s						
PERV	Siirt/Pervari-	0.56	335	P	Pg	08 26 05.5	+0.3
PERV				S	Sb	08 26 14.0	-1.5
PERV				i AML	AML	08 26 14.0	
	comp=N,186nm,0.4s						
PERV				i AML	AML	08 26 15.0	
	comp=E,367nm,0.5s						
CUKT	Cukurca	0.64	107	Pg	Pb	08 26 08.2	-0.3
CUKT				Sg	Sb	08 26 18.9	+0.9
HAKT	HAKKARI	0.70	80	P	Pb	08 26 08.9	-0.7
HAKT				S	Sb	08 26 20.1	+0.4
HAKT				i AML	AML	08 26 23.0	
	comp=E,111nm,0.5s						
HAKT				i AML	AML	08 26 25.0	
	comp=N,86nm,0.5s						
GEVA	Gevas	0.89	11	P	Pb	08 26 13.1	+0.4
GEVA				S	Sn	08 26 26.0	-1.6
GEVA				i AML	AML	08 26 31.0	
	comp=E,22nm,0.5s						
GEVA				i AML	AML	08 26 33.0	
	comp=N,24nm,0.5s						
AKDM	Akdamar-Van	0.89	7	Pg	Pb	08 26 12.0	-0.8
AKDM				Sg	Sb	08 26 25.7	+0.5
SRTM	Siirt_Merkez	0.91	307	P	Pg	08 26 12.5	+0.4
SRTM				S	Sb	08 26 25.4	-0.3
SRTM				i AML	AML	08 26 32.0	
	comp=E,51nm,0.6s						
SRTM				i AML	AML	08 26 34.0	
	comp=N,64nm,0.9s						
BLIS	Bitlis-Merkez	1.13	330	P	Pn	08 26 17.8	+0.4
BLIS				S	Sn	08 26 34.6	+1.0
BLIS				i AML	AML	08 26 36.0	
	comp=N,28nm,0.3s						
BLIS				i AML	AML	08 27 04.0	
	comp=E,19nm,1.5s						
MIDY	Mardin/Midyat-	1.15	269	P	Pb	08 26 17.3	+0.2
MIDY				i AML	AML	08 26 34.0	
	comp=E,54nm,0.8s						
MIDY				S	Sn	08 26 34.5	+0.5
MIDY				i AML	AML	08 26 35.0	
	comp=N,64nm,0.3s						
GURO	Guroymak-BITLI	1.28	330	Pn	Pg	08 26 19.1	0.0
BTMN	Batman	1.32	290	P	Pg	08 26 19.8	-0.1
BTMN				S	Sn	08 26 40.0	+1.7
BTMN				i AML	AML	08 26 41.0	
	comp=N,62nm,0.3s						
BTMN				i AML	AML	08 26 41.0	
	comp=E,46nm,0.6s						
MARD	Mardin	1.65	266	P	Pn	08 26 25.4	+0.9
MARD				S	Sb	08 26 47.4	+0.6
MARD				i AML	AML	08 26 48.0	
	comp=E,59nm,0.4s						
MARD				i AML	AML	08 26 58.0	
	comp=N,61nm,0.6s						
MUSM	Mu-Merkez	1.65	321	P	Pb	08 26 25.8	0.0
MUSM				S	Sg	08 26 48.2	+0.4
MUSM				i AML	AML	08 26 50.0	
	comp=E,21nm,0.3s						
MUSM				i AML	AML	08 26 51.0	
	comp=N,14nm,0.5s						
MLAZ	Malazgirt-MUS	1.71	352	Pn	Pn	08 26 25.4	-0.1
MAZI	Mazidag	1.90	271	Pn	Pn	08 26 26.7	-1.4
MAZI				Sn	Sn	08 26 50.6	-2.0
TASB	TASBURUN-IGDIR	2.76	23	Pn	Pn	08 26 40.4	+0.5

IDC 13 08:31:59.3±1.7, 54°.73N×83°.81E, h0km, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=14.2km s-min=9.9km az=10.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	0.98	143	I	I	08 37 40.0	
	0.6nm,0.9s,baz=319,slow=326,SNR=1.4						
ZALV	Zalesovo Beam	0.98	143	Pg	Pg	08 32 17.1	-0.9
	2.3nm,0.3s,baz=325,slow=17,SNR=16						
ZALV				Lg	Lg	08 32 32.3	
	10nm,0.3s,baz=325,slow=30,SNR=28						
KURBB	Kurchatov Arra	5.22	220	Pn	Pn	08 33 18.4	-0.1
	baz=35,slow=15,SNR=2.2						
KURBB				Pg	Pg	08 33 36.1	-3.1
	0.1nm,0.3s,baz=39,slow=16,SNR=6.9						
KURBB				Sn	Sn	08 34 18.9	-0.4
	baz=38,slow=24,SNR=1.4						
KURBB				Lg	Lg	08 34 46.3	
	0.1nm,0.3s,baz=38,slow=32,SNR=2.3						
	0.2nm,0.3s						
MKAR	Makanchi Array	8.00	188	Pn	Pn	08 33 57.0	+0.2
	0.1nm,0.3s,baz=7.7,slow=14,SNR=3.0						
MKAR				Sn	Sn	08 35 27.1	-0.8
	0.1nm,0.3s,baz=9.5,slow=25,SNR=2.0						
MKAR				Lg	Lg	08 36 12.7	
	0.2nm,0.3s,baz=4.7,slow=32,SNR=6.2						
	0.4nm,0.7s						
BVAR	Borovoye Array	8.12	263	Pn	Pn	08 33 57.3	-1.0
	0.1nm,0.3s,baz=66,slow=13,SNR=5.7						
	0.9nm,0.4s						

*IDC **13** 08:48:30.4±1.2, 26°.33S×71°.70E, h0km, mb3.8/6, mbtmp3.8/6, MS3.4/3, Error ellipse: s-maj=40.6km s-min=29.0km az=87.0*
ISC 13 08:48:31.8±1.3, 26°.35S±0°.2×71°.7E±0°.3, h10km, n17, σ1°21/6, mb4.1/6, MS3.6/3, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Carcia H	18.56	2	T	T	09 11 40.0	
	baz=186,slow=75,SNR=27						
H08S2	Diego Garcia H	18.56	2	T	T	09 11 36.2	
	baz=186,slow=75,SNR=19						
H08S3	Diego Garcia H	18.57	2	T	T	09 11 40.7	
	baz=186,slow=75,SNR=32						
H04N2	CROZET ISLANDS	25.39	213	T	T	09 20 01.5	
	baz=44,slow=74,SNR=719						
H04N1	CROZET ISLANDS	25.40	214	T	T	09 19 57.0	
	baz=44,slow=74,SNR=644						
H04N3	CROZET ISLANDS	25.41	213	T	T	09 20 02.6	
	baz=44,slow=74,SNR=756						
H01W2	Cape Leeuwin H	37.30	114	T	T	09 36 05.4	
	baz=271,slow=75,SNR=12						
H01W3	Cape Leeuwin H	37.30	114	T	T	09 35 57.6	
	baz=271,slow=75,SNR=16						
H01W1	Cape Leeuwin H	37.31	114	T	T	09 35 58.7	
	baz=271,slow=75,SNR=15						
CMAR	Chiang Mai Arr	51.76	34	P	P	08 57 38.4	-1.4
	1.0nm,0.3s,baz=209,slow=7.2,SNR=0.9						
CMAR				LR	LR	09 17 04.0	
	comp=Z,14nm,19.1s,baz=240,slow=33						
	1.0nm,0.3s						
ASAR	Alice Springs	55.97	102	P	P	08 58 10.9	+0.2
	0.2nm,0.6s,baz=245,slow=6.4,SNR=5.0						
	0.2nm,0.6s						
WRA	Warramunga Arr	57.49	98	P	P	08 58 22.2	+0.7
	0.2nm,0.5s,baz=252,slow=6.8,SNR=1.6						
	0.2nm,0.5s						
SNAA	Sanae	60.42	201	P	P	08 58 40.8	-0.4
	1.6nm,1.0s,baz=110,slow=4.7,SNR=3.9						
	1.6nm,1.0s						
MKAR	Makanchi Array	73.37	8	P	P	09 00 04.1	+0.4
	1.4nm,0.8s,baz=197,slow=4.2,SNR=9.1						
	1.4nm,0.8s						
KURBB	Kurchatov Arra	76.81	4	P	P	09 00 24.6	+1.3
	1.1nm,0.7s,baz=182,slow=6.0,SNR=10						
	1.1nm,0.7s						
ZALV	Zalesovo Beam	80.71	8	LR	LR	09 33 27.3	
	comp=Z,42nm,21.8s,baz=328,slow=33						
ASAJ	Asahikawa	95.39	43	LR	LR	09 45 06.5	
	comp=Z,18nm,18.8s,baz=358,slow=36						

*IDC **13** 09:06:09.5±0.8, 71°.35N×9°.59W, h0km, mb4.0/12, mbtmp4.1/17, ML4.0/4, MS3.5/44, Error ellipse: s-maj=16.2km s-min=8.3km az=54.0*
*REY **13** 09:06:11.4, 71°.06N×9°.89W, h10km*
*NAO **13** 09:06:11.7±2.1, 71°.25N×9°.50W, h23km±14km, ML4.8*
*NEIC **13** 09:06:12.1±1.6, 71°.30N±0°.07×9°.3W±0°.2, h10km, mb4.4/61, Error ellipse: s-maj=11.3km s-min=11.2km az=218.0*
*BER **13** 09:06:12.3±3.7, 71°.31N×9°.65W, h0km±11km, mb(Pn)4.8, ML4.4, ML4.8(NAO), Confirmed Earthquake*
*DNK **13** 09:06:13.2±4.7, 71°.46N×9°.80W, h4km±42km, ML2.3*
*GCMT **13** 09:06:13.1±0.4, 71°.23N±0°.03×9°.39W±0°.06, h25km±1km, MW4.7/79, Moment Tensor Solution. s9,c9; s79,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.03±.09; $M_{\theta\theta}$1.11±.08; $M_{\phi\phi}$-1.15±.07; $M_{r\theta}$-0.39±.15; $M_{\theta\phi}$1.05±.07; $M_{r\phi}$0.16±.17; Best double couple: $M_0$1.59900×10^{16} NP1:ϕ_s294.00000°, δ89.00000°, λ15.00000°. NP2: ϕ_s203.00000°, δ75.00000°, λ179.00000°. Principal axes: T 1.5850, Plg11.0000°, Azm160.0000°; N 0.0200, Plg75.0000°, Azm297.0000°; P -1.6140, Plg10.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 13 09:06:10.9±0.4, 71°.34N±0°.03×9°.25W±0°.04, h10km, n302, σ2°51/327, mb4.4/53, MS3.5/42, 5C-9D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	Jan Mayen West	0.41	140	⇑i P	Pb	09 06 20.5	+0.2
JNW				eS	Sb	09 06 26.3	-0.3
JNW				IAML		09 06 26.5	
	comp=Z,42μm,0.2s						
JMIC	Jan Mayen	0.43	146	Pg	Pb	09 06 20.7	+0.1
JMIC				Lg	Lg	09 06 26.8	
JMIC	Jan Mayen	0.43	146	⇑i P	Pb	09 06 20.5	-0.1
JMIC				eS	Sb	09 06 26.5	-0.6
JMIC				IAML		09 06 28.4	
	comp=Z,27μm,0.3s						
JMIC	Jan Mayen	0.43	146	LR	LR	09 06 18.7	
	comp=Z,239nm,18.8s,baz=144,slow=18						
JMIC				Pg	Pg	09 06 19.7	+0.4
	comp=Z,8μm,0.3s,baz=342,slow=4.0,SNR=2528						
JMIC				Lg	Lg	09 06 26.5	
	comp=Z,8μm,0.3s,baz=18,slow=20,SNR=27						
JMI	Jan Mayen	0.45	158	Pg	Pb	09 06 20.9	+0.1
JMI				Lg	Lg	09 06 27.2	
JMI	Jan Mayen	0.45	158	⇑i P	Pb	09 06 20.7	-0.1
JMI				eS	Sb	09 06 26.9	-0.7
JMI				IAML		09 06 27.8	
	comp=Z,17μm,0.3s						
JNE	Jan Mayen East	0.47	139	⇑i P	Pb	09 06 21.1	-0.1
JNE				eS	Sb	09 06 27.2	-1.0
JNE				IAML		09 06 28.9	
	comp=Z,40μm,0.3s						
SCO	Scoresbysund	4.26	264	Pn	Pn	09 07 15.5	-0.2
SCO	Scoresbysund	4.26	264	eP	Pn	09 07 13.4	-2.3
SCO				i S	Sn	09 08 01.6	-3.7
SCO				IAML		09 08 03.9	
	comp=Z,2.0nm,0.3s						
SCO	Scoresbysund	4.26	264	eP	Pn	09 07 13.4	-2.3
SCO				i S	Sn	09 08 01.6	-3.7
SCO				IAML		09 08 03.9	
	comp=Z,2.0nm,0.3s						
DBG	Daneborg	4.41	318	Pn	Pn	09 07 15.7	-1.9
DBG				Sn	Sn	09 08 01.4	-7.5
DBG	Daneborg	4.41	318	i P	Pn	09 07 15.8	-1.9
DBG				i S	Sn	09 08 01.3	-7.6
DBG				IAML		09 08 19.2	
	comp=Z,25nm,0.3s						
DBG	Daneborg	4.41	318	i P	Pn	09 07 15.8	-1.9
DBG				i S	Sn	09 08 01.3	-7.6
DBG				IAML		09 08 19.2	
	comp=Z,25nm,0.3s						
ILEI	Leirhofn	5.60	211	P	Pn	09 07 30.6	-3.5
ILEI				S	Sn	09 08 34.3	-4.2
IGRI	Grimsey	5.76	217	S	Sn	09 08 38.1	-4.1
IGRI				P	Pn	09 07 34.6	-1.6
IGIL	Gilhagi	5.88	209	P	Pn	09 07 34.5	-3.5
IGIL				S	Sn	09 08 41.9	-3.5
DAG	Danmarks Havn	6.03	339	i P	Pn	09 07 39.0	-1.0
DAG				i S	Sn	09 08 42.9	-6.0
DAG				IAML		09 08 44.0	
	comp=Z,52nm,0.3s						
DAG	Danmarks Havn	6.03	339	i P	Pn	09 07 39.0	-1.0
DAG				i S	Sn	09 08 42.9	-6.0
DAG				IAML		09 08 44.0	
	comp=Z,52nm,0.3s						
IHED	Heoinshofoi	6.04	213	P	Pn	09 07 37.0	-3.1
IDIM	Dimmadalss	6.09	211	P	Pn	09 07 38.2	-2.5
IDIM				S	Sn	09 08 46.9	-3.5
IGHA	Grjothals	6.15	210	P	Pn	09 07 38.6	-3.1
IGHA				S	Sn	09 08 48.7	-3.3
ISKI	Skildingahlsh	6.19	211	P	Pn	09 07 39.9	-2.3
ISKI				S	Sn	09 08 50.0	-2.9
IGRS	Grimsstaoir	6.26	207	P	Pn	09 07 40.4	-2.8
IGRS				S	Sn	09 08 51.9	-2.7
IKVO	Krokottuvotn	6.31	210	P	Pn	09 07 41.4	-2.4
IKVO				S	Sn	09 08 54.6	-1.2
IHLA	Hella	6.36	216	S	Sn	09 08 52.5	-4.6
IREN	Reynihlio	6.37	210	P	Pn	09 07 41.9	-2.8
IREN				S	Sn	09 08 55.6	-1.8
IMEL	Melhnausar	6.40	209	P	Pn	09 07 42.3	-2.9
IMEL				S	Sn	09 08 55.2	-2.9
IHRN	Hraun	6.57	222	P	Pn	09 07 50.6	+3.2
IADA	Aoalbol	6.77	203	P	Pn	09 07 47.5	-2.7
IADA				S	Sn	09 09 03.9	-3.4
IMKO	Mokollar	6.91	206	P	Pn	09 07 51.1	-1.1
IVSH	V-Sauoahnukur	6.99	203	P	Pn	09 07 50.6	-2.7
IVSH				S	Sn	09 09 11.1	-1.7
IKRE	Kreppuhraun	7.11	205	P	Pn	09 07 52.5	-2.3
IDYN	Dyngjuhals	7.24	209	P	Pn	09 07 55.0	-1.7
IVON	Vonarskard	7.41	210	P	Pn	09 08 02.1	+3.1
IBJK	Bruarjokull	7.46	206	P	Pn	09 07 57.5	-2.2
IDJK	Dyngjujokull	7.49	207	P	Pn	09 07 58.4	-1.9
BORG	Borgarnes	8.00	220	Pn	Pn	09 08 07.5	+0.4
BORG	Borgarnes	8.00	220	Pn	Pn	09 08 09.6	+2.5
	comp=Z,2.7nm,0.3s,baz=7.3,slow=8.0,SNR=14						
BORG				Sn	Sn	09 09 36.8	-0.7
	comp=Z,0.6nm,0.3s,baz=21,slow=14,SNR=1.3						
BORG				LR	LR	09 10 37.0	
	comp=Z,311nm,21.1s,baz=27,slow=34						
LOF	Lofoten	8.51	101	Pn	Pn	09 08 12.8	-1.1
LOF	Lofoten	8.51	101	eP	Pn	09 08 13.2	-0.7
LOF				eS	Sn	09 09 43.8	-5.9
LOF				IAML		09 09 53.9	
	comp=Z,16nm,0.5s						
HSPB	Hornsund (broa	8.75	39	Pn	Pn	09 08 17.6	+0.5
HSPB	Hornsund (broa	8.75	39	eP	Pn	09 08 17.8	+0.6
BJO1	Bjornoya	8.82	56	Pn	Pn	09 08 20.6	+2.4
BJO1	Bjornoya	8.82	56	eP	Pn	09 08 21.1	+2.8
BRBA	Barentsburg A	9.06	32	Pn	Pn	09 08 21.6	+0.1
BRBA				Sn	Sn	09 09 56.6	-6.7
BRBB	Barentsburg B	9.08	32	Pn	Pn	09 08 22.2	+0.5
BRBB				Sn	Sn	09 09 57.6	-6.2
SUMG	Summit	9.09	291	Pn	Pn	09 08 23.6	+1.3
SUMG	Summit	9.09	291	i P	Pn	09 08 22.6	+0.3
SUMG				i S	Sn	09 09 54.8	-10
SUMG				IAML		09 10 05.7	
	comp=Z,3.3nm,0.3s						
SUMG	Summit	9.09	291	i P	Pn	09 08 22.6	+0.3
SUMG				i S	Sn	09 09 54.8	-10
SUMG				IAML		09 10 05.7	
	comp=Z,3.3nm,0.3s						
STEI	Steigen	9.15	100	Pn	Pn	09 08 22.2	-0.5
STEI				Sn	Sn	09 09 59.3	-6.3
STEI	Steigen	9.15	100	eP	Pn	09 08 22.6	-0.2
STEI				eS	Sn	09 09 58.6	-7.1
STEI				IAML		09 10 04.6	
	comp=Z,18nm,0.6s						
KBS	Kingsbay	9.27	26	Pn	Pn	09 08 25.2	+0.9
KBS				Sn	Sn	09 10 01.4	-7.0
KBS	Kingsbay	9.27	26		Pn	09 08 24.1	-0.2
KBS	Kingsbay	9.27	26	eP	Pn	09 08 25.0	+0.7
KBS				eS	Sn	09 09 58.2	-10
KBS				IAML		09 10 10.6	
	comp=Z,36nm,0.5s						
KBS	Kingsbay	9.27	26	i P	Pn	09 08 24.2	-0.1
KBS				i S	Sn	09 10 00.9	-7.4
KONS	Konsvik	9.36	110	Pn	Pn	09 08 24.9	-0.7
KONS				Sn	Sn	09 10 03.4	-7.3
KONS	Konsvik	9.36	110	eP	Pn	09 08 25.2	-0.4
KONS				eS	Sn	09 10 01.3	-9.4
KONS				IAML		09 10 07.2	
	comp=Z,34nm,0.4s						
STOK	Stokkvaagen	9.44	111	Pn	Pn	09 08 26.4	-0.3
STOK				Sn	Sn	09 10 05.2	-7.5
STOK	Stokkvaagen	9.44	111	eP	Pn	09 08 26.2	-0.4
STOK				eS	Sn	09 10 04.4	-8.3
STOK				IAML		09 10 09.2	
	comp=Z,57nm,0.4s						
FAUS	Fauske	9.48	103	eP	Pn	09 08 26.6	-0.6
FAUS				eS	Sn	09 10 06.9	-6.7
FAUS				IAML		09 10 16.8	
	comp=Z,16nm,0.7s						
SPB3	Spitsbergen Ar	9.49	33	Pn	Pn	09 08 29.2	+1.8
SPB4	Spitsbergen Ar	9.49	33	Pn	Pn	09 08 29.5	+2.1
SPA3	Spitsbergen Ar	9.50	33	Pn	Pn	09 08 29.4	+1.9
SPA0	Spitsbergen Ar	9.50	33	Pn	Pn	09 08 29.6	+2.2
	baz=229,slow=16						
SPA0				Sn	Sn	09 10 13.8	-0.3
	baz=245,slow=28						
SPA0	Spitsbergen Ar	9.50	33	Pn	Pn	09 08 29.3	+1.8
SPA0	Spitsbergen Ar	9.50	33	Pn	Pn	09 08 29.6	+2.2
	baz=229,slow=16						
SPA0				Sn	Sn	09 10 13.8	-0.3
	baz=245,slow=28						
SPA2	Spitsbergen Ar	9.50	33	Pn	Pn	09 08 29.4	+2.0
SPB2	Spitsbergen Ar	9.50	33		Pn	09 08 29.3	+1.8
SPITS	Spitsbergen Ar	9.50	33	Pn	Pn	09 08 28.8	+1.3
	comp=Z,43nm,0.3s,baz=228,slow=13,SNR=920						
SPITS				Sn	Sn	09 10 13.6	-0.5
	baz=237,slow=31						
SPA1	Spitsbergen Ar	9.50	33	Pn	Pn	09 08 29.4	+1.9
TRO	Tromso	9.53	87	Pn	Pn	09 08 27.6	-0.3
TRO				Sn	Sn	09 10 13.2	-1.7
TRO	Tromso	9.53	87	eP	Pn	09 08 27.7	-0.2
TRO				eS	Sn	09 10 11.6	-3.2
TRO				IAML		09 10 20.2	
	comp=Z,14nm,0.4s						
MOR8	Moi Rana	9.98	110	eP	Pn	09 08 35.5	+1.4
MOR8				eS	Sn	09 10 21.0	-5.0
MOR8				IAML		09 10 26.8	
	comp=Z,62nm,0.4s						
JETT	Jettan, Norway	10.04	86	Pn	Pn	09 08 35.5	+0.6
JETT				Sn	Sn	09 10 27.5	+0.1
JETT	Jettan, Norway	10.04	86	Pn	Pn	09 08 35.5	+0.6
JETT				Sn	Sn	09 10 27.5	+0.1
KIF	Kilpisjarvi	10.40	88	Pn	Pn	09 08 40.1	+0.3
KIF				Sn	Sn	09 10 33.3	-2.9
KIF	Kilpisjarvi	10.40	88	eP	Pn	09 08 40.6	+0.8
KIF				eS	Sn	09 10 33.0	-3.2
NSS	Namsos	10.44	120	eP	Pn	09 08 39.9	-0.5
NSS				eS	Sn	09 10 27.7	-10
NSS				IAML		09 10 37.4	
	comp=Z,39nm,0.5s						
NOR	Nord	10.44	354	Pn	Pn	09 08 40.5	+0.2
NOR				Sn	Sn	09 10 28.8	-8.4
NOR	Nord	10.44	354	i P	Pn	09 08 39.7	-0.6
NOR				eS	Sn	09 10 24.3	-13
NOR				IAML		09 10 34.9	
	comp=Z,34nm,0.3s						
KOVU	Salmi	10.57	93	P	Pn	09 08 43.4	+1.2
RATU	Laukkuluspa	10.60	95	P	Pn	09 08 43.1	+0.6
HOPEN	Hopen	10.65	46	Pn	Pn	09 08 45.1	+1.9
HOPEN	Hopen	10.65	46	eP	Pn	09 08 44.9	+1.7
HAMF	Hammerfest	10.68	78	Pn	Pn	09 08 44.6	+1.0
HAMF	Hammerfest	10.68	78	eP	Pn	09 08 44.5	+0.8
KUA	Kurravaara	10.77	94	P	Pn	09 08 45.4	+0.5
MOL	Molde	10.94	135	eP	Pn	09 08 46.1	-1.0
MOL				e		09 10 36.0	
AKN	Aaknes	11.16	137	Pn	Pn	09 08 47.8	-2.5
AKN				Sn	Sn	09 10 44.6	-10
AKN	Aaknes	11.16	137	eP	Pn	09 08 49.6	-0.7
AKN				eS	Sn	09 10 45.1	-10
AKN				IAML		09 10 50.7	
	comp=Z,77nm,0.4s						
KTK1	Kautokeino	11.18	86	eP	Pn	09 08 51.5	+1.0
LANU	Lannavaara	11.25	92	P	Pn	09 08 52.2	+0.7
FOO	Floro	11.28	143	eP	Pn	09 08 50.2	-1.6
DUNU	Dundret	11.30	97	P	Pn	09 08 53.5	+1.3
MASU	Masugnsbyn	11.57	94	P	Pn	09 08 56.7	+0.8
HEF	Hetta	11.60	89	Pn	Pn	09 08 56.8	+0.5
HEF	Hetta	11.60	89	eP	Pn	09 08 56.7	+0.4
ARA0	ARCESS Array S	11.68	82	Pn	Pn	09 08 58.6	+1.3
	baz=288,slow=12						
ARA0	ARCESS Array S	11.68	82	Pn	Pn	09 08 58.6	+1.3
	baz=288,slow=12						
ARCES	ARCESS Array B	11.

NOA NORSAR Array B 13.13 132 Pn **Pn** **09 09 16.2 -1.1**
comp=Z,0.1nm,0.3s,baz=328,slow=12,SNR=5.2
NOA Sn Sn 09 11 33.0 -10
comp=Z,0.1nm,0.3s,baz=328,slow=22,SNR=5.0
NOA LR LR 09 13 44.5
comp=Z,95nm,19.1s,baz=335,slow=34
comp=Z,0.6nm,0.5s
ODD1 Odda 13.14 143 *e*P **Pn** **09 09 16.2 -1.2**
NC405 NORSAR Array S 13.19 130 Pn **Pn** **09 09 16.9 -1.1**
NRA0 NORESS Array S 13.48 132 Pn **Pn** **09 09 21.6 -0.3**
baz=342,slow=16
NRA0 NORESS Array S 13.48 132 Pn **Pn** **09 09 21.6 -0.3**
baz=342,slow=16
BLS5 Blasjo 13.56 144 *e*P **Pn** **09 09 21.9 -1.2**
KONO Kongsberg 14.00 137 Pn **Pn** **09 09 29.5 +0.5**
KPL Plockton 14.14 172 *e*P **Pn** **09 09 31.8 +0.9**
HFS Hagfors 14.53 129 P **Pn** **09 09 34.4 -1.9**
baz=317,slow=12
HFS Hagfors 14.53 129 P **Pn** **09 09 34.4 -1.9**
baz=317,slow=12
HFS Hagfors 14.53 129 Pn **Pn** **09 09 34.6 -1.7**
comp=Z,0.5nm,0.3s,baz=331,slow=11,SNR=11
HFS Sn **Sn** **09 12 09.9 -7.2**
comp=Z,0.6nm,0.3s,baz=340,slow=20,SNR=3.6
APA0 Apatity Array 15.02 84 P **Pn** **09 09 42.5 -0.3**
baz=299,slow=10
APA0 Apatity Array 15.02 84 P **Pn** **09 09 42.5 -0.3**
baz=299,slow=10
LVZ Lovozero 15.39 81 Pn **Pn** **09 09 48.5 +0.7**
LVZ Lovozero 15.39 81 P **Pn** **09 09 48.0 +0.2**
comp=Z,44nm,2.4s
EKB Eskdalemuir 16.28 168 Pn **Pn** **09 09 59.1 -0.2**
EKB IAmb IAmb 09 10 04.1
comp=Z,71nm,1.5s
EKA Eskdalemuir Ar 16.29 168 Pn **Pn** **09 09 59.9 +0.6**
baz=350,slow=14
comp=Z,2.4nm,0.4s
ESK Eskdalemuir 16.30 168 Pn **Pn** **09 09 59.2 -0.4**
ESK IAmb IAmb 09 10 40.3
comp=Z,30nm,1.2s
FIA0 FINESS Array S 16.96 108 P **P** **09 10 09.3 -0.4**
baz=318,slow=12
FIA0 FINESS Array S 16.96 108 P **P** **09 10 09.3 -0.4**
baz=318,slow=12
FIA1 FINESS Array S 16.96 108 Pn **P** **09 10 09.2 -0.6**
FINES FINESS Array B 16.96 108 Pn **P** **09 10 08.9 -0.9**
FINES FINESS Array B 16.96 108 Pn **Pn** **09 10 08.2 +0.3**
comp=Z,1.7nm,0.3s,baz=319,slow=12,SNR=47
FINES Sn **Sn** **09 13 07.0 -9.1**
comp=Z,0.4nm,0.3s,baz=321,slow=22,SNR=2.5
comp=Z,3.4nm,0.3s
EUNU Eureka 19.12 329 P **P** **09 10 32.0 -1.6**
PABE Paberze 21.28 121 P **P** **09 10 58.2 +1.2**
UCC Uccle 21.53 156 P **P** **09 10 59.8 +0.1**
UCC Uccle 21.53 156 *d*P **P** **09 11 00.5 +0.7**
BEBN Eben Emael 21.71 154 *d*P **P** **09 11 03.3 +1.6**
comp=Z,63nm,0.7s
BSTI Sart Tilman 21.90 154 *d*P **P** **09 11 05.3 +1.5**
MEM Membach 21.94 153 *d*P **P** **09 11 05.3 +1.1**
comp=Z,36nm,1.0s
BTNL Ternell 21.98 153 *d*P **P** **09 11 06.0 +1.3**
comp=Z,26nm,1.0s
BCLA Clavier 22.03 155 *d*P **P** **09 11 06.3 +1.2**
comp=Z,12nm,1.3s
BMRD Maredsous 22.07 156 *d*P **P** **09 11 06.6 +1.0**
comp=Z,25nm,1.0s
RCHB Rochefort 22.27 155 *d*P **P** **09 11 09.9 +2.2**
SUW Suwalki 22.39 124 *e*P **P** **09 11 10.9 +2.0**
SUW Suwalki 22.39 124 P **P** **09 11 09.1 +0.2**
CLL Collm 22.48 142 P **P** **09 11 11.2 +1.3**
CLL IAmb IAmb 09 11 12.7
comp=Z,12nm,1.0s
CLL Collm 22.48 142 *i*P **P** **09 11 10.9 +1.0**
comp=Z,21nm,1.4s
CLL *ex* x 09 11 15.0
CLL *ex* x 09 11 24.0
CLL *e*S **S** **09 15 18.0 +1.7**
CLL Collm 22.48 142 P **P** **09 11 10.8 +0.9**
comp=Z,10.0nm,1.9s
NACGM Naroch 22.59 118 *e*P **P** **09 11 12.4 +1.3**
comp=Z,32nm,1.0s,baz=331
WLF Walferdange 22.89 154 *d*P **P** **09 11 16.5 +2.2**
FRB Frobisher Bay 22.91 281 LR LR 09 19 40.0
comp=Z,172nm,18.9s,baz=58,slow=36
BRG Berggiesshubel 23.08 140 *e*P **P** **09 11 19.1 +2.8**
BRG Amp 09 11 19.8
comp=Z,3.6nm,0.7s
BRG Berggiesshubel 23.08 140 P P 09 11 23.9 +7.7
BRG Amp 09 11 24.6
comp=Z,11nm,1.1s
RES Resolute Bay 23.19 318 P **P** **09 11 17.4 +0.2**
RES IAmb IAmb 09 11 25.3
comp=Z,17nm,0.9s
MNK Minsk 23.26 117 *i*P **P** **09 11 19.3 +1.3**
comp=E,13nm,0.8s
MNK *i*P **P** **09 11 19.3 +1.3**
comp=N,18nm,0.8s,baz=331
MNK *i*P **P** **09 11 19.3 +1.3**
comp=Z,23nm,0.8s
MNK *i*PP **PnPn** **09 11 45.3 +1.8**
MNK *i*PPP PPP 09 11 53.2
MNK *i*S **S** **09 15 33.2 +3.3**
MNK *i*SS **SnSn** **09 16 09.0 +5.7**
MNK *i*SSS SSS 09 16 22.5
MNK *i*LQ LQ 09 18 29.9
MNK *i*LR LR 09 19 11.7
MNK *i*LRM MLR 09 20 15.7
comp=N,383nm,13.2s
MNK *i*LRM MLR 09 20 20.8
comp=Z,80nm,12.7s
MNK *i*LRM MLR 09 20 25.1
comp=E,707nm,14.7s
KSP Ksiaz 23.61 137 *e*P **P** **09 11 22.9 +1.4**
GRFO Grafenberg 23.68 146 P **P** **09 11 22.2 -0.1**
GRFO IAmb IAmb 09 11 37.5
comp=Z,14nm,0.8s
DPC Dobruska-Polom 24.08 137 *e*P **P** **09 11 28.2 +2.1**
DPC Dobruska-Polom 24.08 137 P **P** **09 11 27.2 +1.1**
comp=Z,9.2nm,1.5s
KRLC Kraliky 24.44 137 *e*P **P** **09 11 31.0 +1.6**
ECH Echery 24.45 153 P **P** **09 11 30.0 +0.5**
ECH IAmb IAmb 09 11 32.6
comp=Z,9.2nm,0.9s
BFO Black Forest 24.51 151 P **P** **09 11 31.4 +1.3**
BFO IAmb IAmb 09 11 55.6
comp=Z,18nm,1.4s
KHC Kasperske Hory 24.67 142 *e*P **P** **09 11 33.5 +2.0**
MORC Moravsky Berou 24.89 136 P **P** **09 11 35.3 +1.9**
MORC Moravsky Berou 24.89 136 *e*P **P** **09 11 35.4 +1.9**
GEC2 GERESS Array S 24.96 142 P **P** **09 11 35.2 +1.0**
GEC2 IAmb IAmb 09 11 37.3
comp=Z,7.5nm,1.0s
GERES GERESS Array B 24.96 142 P **P** **09 11 33.9 -0.3**
comp=Z,5.5nm,0.8s,baz=338,slow=10.0,SNR=10
GERES LR LR 09 20 32.7
comp=Z,51nm,18.1s,baz=9.5,slow=34
comp=Z,5.5nm,0.8s
OJC Ojcow 25.00 132 *e*P **P** **09 11 35.6 +1.2**
OJC Ojcow 25.00 132 P **P** **09 11 36.3 +1.9**
VRAC Vranov 25.12 138 LR LR 09 20 54.5
comp=Z,77nm,18.6s,baz=337,slow=35
VRAC Vranov 25.12 138 *e*P **P** **09 11 37.8 +2.3**
KRUC Moravsky 25.31 138 *e*P **P** **09 11 38.6 +1.4**
RNPP9 Sopachiv 25.45 123 P **P** **09 11 39.4 +0.9**
RNPP8 Varash 25.51 123 P **P** **09 11 39.9 +0.9**
NIE Niedzica 25.86 132 *e*P **P** **09 11 47.2 +4.9**
NIE Niedzica 25.86 132 P **P** **09 11 43.2 +0.9**
comp=Z,9.0nm,1.1s
NIE pP **sP** **09 11 47.0 +1.0**
comp=Z,9.0nm,1.1s
LANS Liptovska Anna 25.91 134 *e*P **P** **09 11 45.3 +2.5**
STHS Stebnicka Huta 26.09 131 *e*P **P** **09 11 49.6 +5.3**
MODS Modra-Piesok 26.15 138 *e*P **P** **09 11 49.7 +4.8**
KWP Kalwaria Pacla 26.25 129 P **P** **09 11 46.6 +0.8**
comp=Z,53nm,0.6s,comp=Z,2μm
DAVOX Davos/Dischmat 26.27 149 LR LR 09 22 40.3
comp=Z,60nm,18.6s,baz=316,slow=38
SENIN Lac Senin/Sane 26.28 154 P **P** **09 11 46.8 +0.5**
VYHS Vyhne 26.39 135 *e*P **P** **09 11 52.1 +5.1**
TUE Stuetta 26.48 150 P **P** **09 11 48.8 +0.7**
comp=Z,26nm,1.0s
FUORN Ofenpass-Fuorn 26.48 149 P **P** **09 11 47.5 -0.7**
KIRV Kirov 26.59 88 LR LR 09 21 17.5
comp=Z,59nm,18.6s,baz=324,slow=34
KOLS Kolonicke sedl 26.79 130 *e*P **P** **09 11 54.9 +4.3**

AK20 Malin Array Si 26.91 120 P **P** **09 11 52.5 +0.8**
AK19 Malin Array Si 26.93 120 P **P** **09 11 52.7 +0.8**
AK18 Malin Array Si 26.95 120 P **P** **09 11 52.7 +0.7**
AK04 Malin Array Si 26.97 119 P **P** **09 11 53.0 +0.8**
AK17 Malin Array Si 26.98 120 P **P** **09 11 53.1 +0.8**
SSB Saint Sauveur 26.98 158 P **P** **09 11 53.8 +1.4**
SSB IAmb IAmb 09 12 01.7
comp=Z,6.7nm,0.8s
AK03 Malin Array Si 26.99 119 P **P** **09 11 53.2 +0.8**
AK15 Malin Array Si 26.99 120 P **P** **09 11 53.2 +0.8**
AK16 Malin Array Si 27.00 120 P **P** **09 11 53.3 +0.8**
AKASG Malin Array Be 27.01 119 P **P** **09 11 53.0 +0.4**
comp=Z,0.6nm,0.4s,baz=334,slow=9.6,SNR=4.1
AKASG LR LR 09 21 54.5
comp=Z,89nm,19.4s,baz=291,slow=35
comp=Z,0.6nm,0.4s
AKBB Malin Array Si 27.01 119 P **P** **09 11 52.4 -0.2**
AKBB IAmb IAmb 09 12 01.4
comp=Z,12nm,0.9s
AKBB Malin Array Si 27.01 119 P **P** **09 11 53.4 +0.8**
MORS Morshin 27.01 128 P **P** **09 11 53.5 +0.9**
KIEV Kiev 27.01 119 P **P** **09 11 52.5 -0.1**
KIEV IAmb IAmb 09 12 01.5
comp=Z,11nm,0.9s
AK01 Malin Array Si 27.02 119 P **P** **09 11 53.4 +0.8**
AK14 Malin Array Si 27.04 120 P **P** **09 11 53.7 +0.9**
CTI Castel Tesino 27.28 147 P **P** **09 11 56.1 +1.0**
CTI IAmb IAmb 09 12 02.2
comp=Z,13nm,1.1s
BUR08 Bucovina Ar. S 28.72 127 P **P** **09 12 08.3 +0.3**
BUR08 IAmb IAmb 09 12 23.2
comp=Z,6.6nm,0.9s
SCHQ Schefferville 29.30 266 LR LR 09 22 35.6
comp=Z,163nm,19.0s,baz=316,slow=34
NRIK Noril'sk 29.35 46 LR LR 09 26 13.5
comp=Z,56nm,18.8s,baz=324,slow=41
MLR Muntele Rosu 30.91 128 LR LR 09 25 14.9
comp=Z,208nm,18.8s,baz=314,slow=37
BELG Belogornoye 31.13 97 LR LR 09 24 20.7
comp=Z,52nm,18.2s,baz=325,slow=35
ARTI Arti 31.24 83 P **P** **09 12 30.6 +0.5**
ARTI Arti 31.24 83 P **P** **09 12 30.7 +0.6**
comp=Z,1.9nm,0.5s,baz=304,slow=3.6,SNR=1.7
ARTI LR LR 09 24 27.2
comp=Z,51nm,21.0s,baz=282,slow=35
comp=Z,1.9nm,0.5s
ESDC Sonseca Array 31.86 172 P **P** **09 12 36.7 +1.0**
ESDC Sonseca Array 31.86 172 P **P** **09 12 36.5 +0.7**
comp=Z,2.4nm,0.8s,baz=354,slow=8.9,SNR=14
ESDC LR LR 09 25 38.2
comp=Z,64nm,18.6s,baz=326,slow=37
comp=Z,2.4nm,0.8s
FNA Florina 34.27 137 P **P** **09 12 57.1 +0.2**
INK Inuvik 35.75 328 LR LR 09 28 38.0
comp=Z,128nm,20.6s,baz=281,slow=38
D27M Malcolm River 36.08 333 P **P** **09 13 14.1 +2.1**
D27M IAmb IAmb 09 13 39.0
comp=Z,6.6nm,1.1s
VAE Valguarnera 36.08 147 LR LR 09 27 57.9
comp=Z,102nm,18.7s,baz=98,slow=36
AKTO Aktyubinsk 36.15 89 P **P** **09 13 13.6 +0.7**
comp=Z,3.3nm,1.0s,baz=335,slow=5.9,SNR=5.6
comp=Z,3.3nm,1.0s
AGG Agios Georgios 36.17 136 P **P** **09 13 14.5 +1.3**
LDAQ Lac Daran 36.62 264 P **P** **09 13 17.6 +0.7**
C24K Franklin Bluff 36.67 338 P **P** **09 13 17.4 +0.5**
C24K IAmb IAmb 09 13 40.0
comp=Z,7.2nm,0.8s
C23K Itkillik River 36.78 339 P **P** **09 13 20.8 +2.8**
C23K IAmb IAmb 09 13 46.4
comp=Z,16nm,1.4s
YKA Yellowknife Ar 36.97 312 LR LR 09 26 47.6
comp=Z,73nm,21.7s,baz=308,slow=34
KEST Kesra 37.00 154 LR LR 09 28 00.1
comp=Z,104nm,20.1s,baz=15,slow=35
G31M Satah River 37.12 328 P **P** **09 13 21.9 +1.0**
G31M IAmb IAmb 09 13 30.6
comp=Z,8.3nm,1.1s
E27K Coleen River 37.14 333 P **P** **09 13 22.0 +0.9**
F28M Old Crow 37.41 331 P **P** **09 13 24.5 +1.1**
D23K Nanushuk River 37.62 338 P **P** **09 13 26.5 +1.4**
D23K IAmb IAmb 09 13 30.8
comp=Z,12nm,1.4s
G29M Pine Creek 37.76 330 P **P** **09 13 27.9 +1.5**
G29M IAmb IAmb 09 13 36.0
comp=Z,7.4nm,1.1s
TOLK Toolik Lake Re 37.79 338 P **P** **09 13 27.5 +0.9**
TOLK IAmb IAmb 09 13 39.7
comp=Z,9.9nm,1.4s
ABKAR Akbulak array 37.80 88 P **P** **09 13 26.9 +0.1**
BVAR Borovoye Array 37.86 76 P **P** **09 13 29.4 +2.1**
comp=Z,2.1nm,0.9s,baz=319,slow=4.2,SNR=5.6
BVAR PP **PnPn** **09 14 55.7 +1.1**
comp=Z,2.2nm,0.8s,baz=325,slow=7.4,SNR=4.7
comp=Z,2.1nm,0.9s
BRTR Keskin Array B 38.32 122 LR LR 09 30 20.1
comp=Z,79nm,18.8s,baz=324,slow=38
E23K Chandalar 38.35 337 P **P** **09 13 33.2 +1.8**
E23K IAmb IAmb 09 13 41.7
comp=Z,7.5nm,1.2s
H29M Whitestone 38.45 330 P **P** **09 13 33.2 +1.0**
H29M IAmb IAmb 09 13 34.6
comp=Z,9.2nm,1.4s
MDT Midelt 38.67 174 LR LR 09 27 49.7
comp=Z,106nm,21.6s,baz=345,slow=34
I30M Mount Dempster 39.04 328 P **P** **09 13 37.9 +0.7**
I28M Miner Creek 39.42 330 P **P** **09 13 41.7 +1.3**
I28M IAmb IAmb 09 13 54.9
comp=Z,10nm,1.5s
J30M Hart River 39.62 327 P **P** **09 13 43.6 +1.5**
E19K Redstone River 39.79 341 P **P** **09 13 44.8 +1.5**
E19K IAmb IAmb 09 14 20.0
comp=Z,15nm,1.5s
G21K Allakaket 40.29 339 P **P** **09 13 49.4 +1.9**
F19K Shaleruckik Mo 40.45 341 P **P** **09 13 50.3 +1.5**
H23K Yukon River 40.46 336 P **P** **09 13 51.6 +2.6**
K29M Barlow Dome 40.50 328 P **P** **09 13 50.6 +1.2**
K29M IAmb IAmb 09 14 02.3
comp=Z,10nm,1.4s
IMAR Indian Mountai 40.83 339 P **P** **09 13 53.6 +1.6**
H21K Melozitna Rive 41.03 338 P **P** **09 13 55.8 +2.1**
H21K IAmb IAmb 09 14 27.1
comp=Z,9.0nm,1.4s
K27K Chicken 41.08 331 P **P** **09 13 56.1 +2.0**
K27K IAmb IAmb 09 14 13.3
comp=Z,9.9nm,1.4s
F17K Baldwin Pennin 41.17 343 P **P** **09 13 57.4 +2.7**
FARO Faro, Yukon 41.23 324 P **P** **09 13 58.2 +2.8**
FARO IAmb IAmb 09 14 19.1
comp=Z,11nm,1.5s
ZALV Zalesovo Beam 41.39 63 P **P** **09 13 57.5 +0.8**
comp=Z,1.7nm,0.9s,baz=335,slow=6.5,SNR=4.9
comp=Z,1.7nm,0.9s
SCRK Sand Creek 41.43 332 P **P** **09 13 59.6 +2.6**
HDA Harding Lake 41.46 334 P **P** **09 13 59.7 +2.6**
M30M Minto, Yukon 41.55 326 P **P** **09 14 01.1 +3.2**
M30M IAmb IAmb 09 14 07.4
comp=Z,16nm,1.5s
BCAR Beaver Creek A 41.94 330 P **P** **09 14 02.7 +1.6**
ULM Lac du Bonnet 42.43 288 LR LR 09 30 26.9
comp=Z,82nm,18.8s,baz=312,slow=34
KURBB Kurchatov Arra 42.45 71 P **P** **09 14 06.0 +0.6**
comp=Z,1.5nm,0.9s,baz=335,slow=7.0,SNR=5.7
KURBB PP **PP** **09 15 45.2 +1.8**
comp=Z,1.4nm,0.9s,baz=329,slow=10,SNR=5.0
comp=Z,1.5nm,0.9s
KKAR Karatay Array 46.64 82 P **P** **09 14 40.5 +1.5**
MK31 Makanchi Array 47.00 70 P **P** **09 14 44.1 +2.4**
MKAR Makanchi Array 47.00 70 P **P** **09 14 43.1 +1.3**
MKAR Makanchi Array 47.00 70 P **P** **09 14 42.4 +0.6**
comp=Z,3.0nm,1.0s,baz=341,slow=6.7,SNR=9.9
MKAR PP **PP** **09 16 34.7 +2.9**
comp=Z,0.5nm,0.8s,baz=348,slow=13,SNR=2.1
MKAR LR LR 09 36 43.8
comp=Z,54nm,19.1s,baz=333,slow=39
comp=Z,3.0nm,1.0s
N49A Columbus Grove 47.06 272 P **P** **09 14 43.4 +1.1**
EIL Elat 48.16 125 LR LR 09 37 02.2
comp=Z,33nm,19.2s,baz=251,slow=38
KDAK Kodiak Island 48.61 335 LR LR 09 38 09.8
comp=Z,50nm,18.1s,baz=249,slow=40
MA2 Magadan 48.62 13 LR LR 09 32 09.2
comp=Z,39nm,21.3s,baz=172,slow=32
BBB Bella Bella 49.43 315 LR LR 09 38 25.0
comp=Z,65nm,18.1s,baz=348,slow=39
NEW Newport 50.33 304 LR LR 09 35 27.6

comp=Z,73nm,21.3s,baz=24,slow=35
TKL Tuckaleechee C 51.73 269 LR LR 09 35 57.1
comp=Z,64nm,20.1s,baz=38,slow=35
CPCT Cooper Cave 52.16 269 P **P** **09 15 23.5 +2.3**
CPCT IAmb IAmb 09 15 34.3
comp=Z,8.2nm,1.2s
SONM Songino Array 52.71 50 LR LR 09 40 26.2
comp=Z,66nm,18.9s,baz=309,slow=39
PDAR Pinedale Array 53.26 295 P **P** **09 15 28.6 -0.9**
comp=Z,0.6nm,0.8s,baz=25,slow=4.5,SNR=4.1
PDAR LR LR 09 38 33.3
comp=Z,64nm,18.7s,baz=16,slow=37
comp=Z,0.6nm,0.8s
YBH Yreka Blue Hor 57.86 306 LR LR 09 39 48.9
comp=Z,88nm,19.6s,baz=5.0,slow=35
TORD Torodi Ar. Bea 58.55 167 P **P** **09 16 08.7 +1.4**
TORD IAmb IAmb 09 16 09.1
comp=Z,5.7nm,1.0s
TORD Torodi Ar. Bea 58.55 167 P **P** **09 16 07.5 +0.2**
comp=Z,6.7nm,0.7s,baz=352,slow=8.5,SNR=43
TORD LR LR 09 42 00.4
comp=Z,32nm,19.0s,baz=321,slow=37
comp=Z,6.7nm,0.7s
HHC Hu-ho-hao-te 60.54 48 *e*P **P** **09 16 21.5 +0.6**
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,70nm,3.5s
CN2 Changchun 60.72 36 *e*P **P** **09 16 20.0 -2.0**
WSAR Wadi Sarin 61.12 103 LR LR 09 46 17.7
comp=Z,39nm,18.2s,baz=350,slow=39
SJG San Juan 62.63 244 LR LR 09 39 19.5
comp=Z,18nm,21.1s,baz=7.5,slow=32
TXAR Lajitas Array 63.91 284 P **P** **09 16 44.0 +0.4**
comp=Z,0.3nm,0.7s,baz=23,slow=9.8,SNR=2.6
TXAR LR LR 09 43 48.1
comp=Z,42nm,18.1s,baz=16,slow=35
comp=Z,0.3nm,0.7s
DBIC Dimbokro 64.66 175 LR LR 09 45 29.3
comp=Z,38nm,18.2s,baz=10.0,slow=36
KSRS Korea Array 67.33 36 LR LR 09 48 12.8
comp=Z,25nm,18.2s,baz=250,slow=37
MJAR Matsushiro Arr 69.95 27 LR LR 09 48 13.1
comp=Z,27nm,18.6s,baz=353,slow=36
NJ2 Nanjing 70.65 45 *e*P **P** **09 17 26.5 +0.3**
NJ2 pmax pmax
comp=Z,13nm,0.6s
PZH PanZhiHua 71.52 62 P **P** **09 17 33.6 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,4.6s
CMIG Matias Romero 72.55 272 LR LR 09 52 16.8
comp=Z,28nm,18.4s,baz=355,slow=38
SDV Santo Domingo 72.69 245 LR LR 09 47 09.8
comp=Z,24nm,19.7s,baz=80,slow=34
MBAR Mbarara 76.31 139 LR LR 09 56 51.7
comp=Z,48nm,18.5s,baz=268,slow=40
KMBO Kilima Mbogo 78.29 132 LR LR 09 56 28.5
comp=Z,13nm,18.7s,baz=90,slow=38
CMAR Chiang Mai Arr 78.31 67 LR LR 09 58 41.5
comp=Z,8.8nm,18.4s,baz=355,slow=40
PHRA Phrae 78.65 66 P **P** **09 18 15.4 +2.7**
ASAR Alice Springs 127.88 44 PKP **PKPdf** **09 25 15.0 -1.1**
comp=Z,0.5nm,1.1s,baz=343,slow=2.9,SNR=2.8

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*IDC **13** 09:09:31.2±1.2, 6°.18S×143°.00E, h0km, mb3.9/6, mbtmp3.9/9, ML2.2/2, Error ellipse: s-maj=36.1km s-min=16.7km az=73.0*

ISC 13 09:09:35.9±0.8, **6°.44S**±0°.09×**143°.08E**±0°.10, **h35**km, **n11**, σ3^{s}**11**/13, **mb3.9/6**, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.56**	**329**	Pn	**Pn**		**09 10 38.5**	**-4.0**
	0.6nm,0.3s,baz=160,slow=13,SNR=2.1							
JAY				Lg	Lg		09 11 47.2	
	1.1nm,0.3s,baz=151,slow=19,SNR=3.0							
	4.3nm,0.7s							
PMG	**Port Moresby**	**5.00**	**126**	Pn	**Pn**		**09 10 49.2**	**+0.8**
	2.0nm,0.3s,baz=307,slow=5.1,SNR=2.7							
PMG				Sn	**Sn**		**09 11 40.8**	**-4.3**
	4.0nm,0.3s,baz=297,slow=11,SNR=2.4							
	9.6nm,0.5s							
WRA	**Warramunga Arr**	**15.89**	**211**	Pn	**Pn**		**09 13 15.2**	**-1.8**
	0.2nm,0.3s,baz=30,slow=13,SNR=7.9							
WRA				Sn	**Sn**		**09 16 06.9**	**-5.2**
	0.1nm,0.3s,baz=34,slow=27,SNR=4.5							
WRA				Lg	Lg		09 18 00.3	
	0.1nm,0.3s,baz=31,slow=27,SNR=5.2							
ASAR	**Alice Springs**	**19.27**	**206**	P	**P**		**09 13 59.1**	**+1.4**
	1.2nm,0.6s,baz=34,slow=9.9,SNR=23							
ASAR				Lg	Lg		09 19 48.7	
	baz=28,slow=30,SNR=2.4							
FITZ	**Fitzroy Crossi**	**20.59**	**234**	P	**P**		**09 14 12.9**	**+0.9**
	7.7nm,1.0s,baz=57,slow=15,SNR=4.0							
FITZ				Lg	Lg		09 20 24.2	
	baz=0.0,slow=1.0,SNR=2.3							
	7.7nm,1.0s							
STKA	**Stephens Creek**	**25.35**	**183**	P	**P**		**09 15 03.5**	**+3.8**
	1.8nm,0.7s,baz=0.0,slow=11,SNR=4.0							
	1.8nm,0.7s							
CMAR	**Chiang Mai Arr**	**50.07**	**300**	P	**P**		**09 18 30.0**	**+2.3**
	1.1nm,0.3s,baz=98,slow=7.6,SNR=1.6							
MKAR	**Makanchi Array**	**75.39**	**322**	P	**P**		**09 21 15.6**	**-0.4**
	0.7nm,0.8s,baz=101,slow=7.5,SNR=4.4							
	0.7nm,0.8s							
KURBB	**Kurchatov Arra**	**79.27**	**324**	P	**P**		**09 21 35.5**	**-2.2**
	0.2nm,0.2s,baz=110,slow=5.6,SNR=1.7							
	0.2nm,0.2s							
QSPA	**South Pole Qui**	**83.53**	**180**	P	**P**		**09 22 02.2**	**+2.0**
	2.1nm,0.9s,baz=9.0,slow=2.3,SNR=5.4							
	2.1nm,0.9s							
BVAR	**Borovoye Array**	**84.85**	**325**	P	**P**		**09 22 07.8**	**+1.0**
	1.0nm,0.8s,baz=105,slow=5.1,SNR=3.8							
	1.0nm,0.8s							

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*NEIC **13** 09:19:03.1±1.7, 61°.56N±0°.02×146°.39W±0°.03, h24km±9km, Error ellipse: s-maj=2.7km s-min=1.6km az=148.0*
*AEIC **13** 09:19:04.1±1.6, 61°.56N±0°.02×146°.40W±0°.01, h21km±6km, ML3.3, ML3.5/184(NEIC), Error ellipse: s-maj=2.5km s-min=0.4km az=199.0*

ISC 13 09:19:03.4±0.9, **61°.55N**±0°.02×**146°.39W**±0°.02, **h32**km±7km, **n223**, σ1^{s}**23**/231, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KLU	**Klutina**	**0.23**	**105**	Pg	**Pb**		**09 19 09.9**	**-0.5**
KLU					**Sb**		**09 19 15.3**	**+0.3**
KLU				IAML			09 19 15.8	
	comp=E,9μm,0.5s							
KLU	**Klutina**	**0.23**	**105**	P	**Pb**		**09 19 09.9**	**-0.5**
	baz=284							
KLU				S	**Sb**		**09 19 15.4**	**+0.3**
	baz=284							
DIV	**Divide**	**0.52**	**145**		**Pb**		**09 19 13.0**	**-1.3**
DIV	**Divide**	**0.52**	**145**		**Sb**		**09 19 21.0**	**-0.8**
SCM	**Sheep Creek Mo**	**0.53**	**303**		**Pb**		**09 19 13.3**	**-1.1**
SCM					**Sb**		**09 19 21.6**	**-0.4**
SCM	**Sheep Creek Mo**	**0.53**	**303**	P	**Pb**		**09 19 13.5**	**-0.9**
	baz=123							
SCM				S	**Sb**		**09 19 21.6**	**-0.4**
	baz=123							
M24K	**Tolsona, Glenn**	**0.56**	**11**	Pg	**Pb**		**09 19 14.2**	**-0.9**
M24K					**Sb**		**09 19 23.1**	**+0.1**
M24K				IAML			09 19 23.8	
	comp=E,4μm,0.7s							
M24K				IAML			09 19 23.8	
	comp=N,4μm,0.7s							
M24K	**Tolsona, Glenn**	**0.56**	**11**	P	**Pb**		**09 19 14.1**	**-0.9**
	baz=192							
M24K				S	**Sb**		**09 19 23.3**	**+0.3**
	baz=192							
M23K	**Glacier View**	**0.68**	**291**		**Pb**		**09 19 15.7**	**-1.2**
M23K					**Sb**		**09 19 25.1**	**-0.9**
M23K	**Glacier View**	**0.68**	**291**	P	**Pb**		**09 19 15.4**	**-1.5**
	baz=111							
M23K				S	**Sb**		**09 19 25.1**	**-0.9**
	baz=111							
GLI	**Glacier Island**	**0.76**	**207**		**Pb**		**09 19 17.1**	**-1.0**
GLI					**Sb**		**09 19 28.1**	**0.0**
GLI				IAML			09 19 29.3	
	comp=E,2μm,0.6s							
GLI				IAML			09 19 29.4	
	comp=N,2μm,0.5s							

GLI	**Glacier Island**	0.76 207	P	Pb	09 19 17.0	-1.2
	baz=26					
GLI			S	Sb	09 19 28.2	0.0
	baz=26					
FID	**Port Fidalgo**	0.81 183		Pb	09 19 18.4	-0.6
FID				Sn	09 19 30.6	+1.2
FID			IAML		09 19 33.4	
	comp=N,2μm,0.5s					
FID			IAML		09 19 34.2	
	comp=E,2μm,0.3s					
N25K	**Chitina, Valde**	0.86 86		Pb	09 19 18.2	-1.8
N25K				Sb	09 19 29.6	-1.6
N25K	**Chitina, Valde**	0.86 86	P	Pb	09 19 18.2	-1.8
	baz=267					
N25K			S	Sb	09 19 29.6	-1.6
	baz=267					
SML	**Sawmill**	0.96 286		Pb	09 19 19.6	-1.9
SML				Sb	09 19 32.4	-1.6
SML			IAML		09 19 33.0	
	comp=N,904nm,0.8s					
SML	**Sawmill**	0.96 286	P	Pb	09 19 19.6	-1.9
	baz=105					
SML			S	Sb	09 19 32.3	-1.6
	baz=105					
KNK	**Knik Glacier**	1.00 263		Pb	09 19 21.0	-1.2
KNK				Sb	09 19 34.3	-0.8
KNK			IAML		09 19 35.0	
	comp=N,948nm,0.7s					
KNK			IAML		09 19 38.2	
	comp=E,1μm,0.3s					
KNK	**Knik Glacier**	1.00 263	P	Pb	09 19 21.0	-1.2
	baz=81					
KNK			S	Sb	09 19 34.3	-0.8
	baz=81					
HARP	**HAARP**	1.03 34		Pn	09 19 21.1	-0.5
HARP				Sb	09 19 35.4	-0.6
HARP	**HAARP**	1.03 34	P	Pn	09 19 21.1	-0.5
	baz=215					
HARP			S	Sb	09 19 35.3	-0.6
	baz=215					
BMRM	**Bremner River**	1.05 123		Pn	09 19 20.7	-1.2
EYAK	**Cordova Ski Ar**	1.06 162		Pn	09 19 21.9	0.0
EYAK	**Cordova Ski Ar**	1.06 162	P	Pn	09 19 21.9	0.0
	baz=342					
WACK	**Wrangell Chich**	1.07 65		Pn	09 19 21.7	-0.8
WACK				Sb	09 19 36.4	-1.0
HIN	**Hinchinbrook I**	1.16 183		Pn	09 19 23.9	+0.5
HIN			IAML		09 19 45.8	
	comp=N,947nm,0.6s					
PWL	**Port Wells**	1.17 234	Pn	Pn	09 19 23.7	+0.2
PWL				Sb	09 19 40.1	+0.2
PWL			IAML		09 19 41.6	
	comp=E,639nm,0.6s					
PWL			IAML		09 19 42.1	
	comp=N,754nm,0.4s					
PWL	**Port Wells**	1.17 234	P	Pn	09 19 23.7	+0.2
	baz=52					
PWL			S	Sb	09 19 40.3	+0.4
	baz=52					
WAZA	**Wrangell Mount**	1.19 63		Pn	09 19 23.6	-0.4
WAT6	**Susitna Watana**	1.21 329		Pn	09 19 22.9	-1.3
GHO	**Glory Hole Cre**	1.23 281		Pn	09 19 23.8	-0.5
GLB	**Gilahina Butte**	1.25 94		Pn	09 19 24.0	-0.6
GOAT	**Goat Mountain**	1.27 140		Pn	09 19 25.3	+0.3
PMR	**Palmer**	1.31 273		Pn	09 19 25.4	0.0
PMR			IAML		09 19 44.6	
	comp=E,998nm,0.5s					
PMR	**Palmer**	1.31 273	P	Pn	09 19 25.4	0.0
	baz=91					
RAGM	**Ragged Mountai**	1.44 144		Pn	09 19 27.7	+0.5
VRDI	**Verde Repeater**	1.45 102		Pn	09 19 27.3	-0.2
VRDI			IAML		09 19 48.6	
	comp=N,764nm,0.9s					
VRDI			IAML		09 19 50.0	
	comp=E,440nm,0.5s					
PAX	**Paxson**	1.49 17		Pn	09 19 27.4	-0.5
PAX	**Paxson**	1.49 17	P	Pn	09 19 27.4	-0.5
	baz=198					
DHY	**Denali Highway**	1.59 344		Pn	09 19 29.0	-0.5
DHY			IAML		09 19 52.2	
	comp=N,692nm,0.4s					
DHY			IAML		09 19 53.3	
	comp=E,639nm,0.3s					
DHY	**Denali Highway**	1.59 344	P	Pn	09 19 29.0	-0.5
	baz=163					
HMT	**Hamilton**	1.60 139		Pn	09 19 29.9	+0.4
MCARA	**McCarthy VSAT**	1.63 95		Pn	09 19 30.0	+0.2
MCARA	**McCarthy VSAT**	1.63 95	P	Pn	09 19 30.6	+0.8
	baz=277					
WAT1	**Susitna Watana**	1.63 323		Pn	09 19 29.7	-0.2
WAT1	**Susitna Watana**	1.63 323	P	Pn	09 19 29.7	-0.2
	baz=141					
P23K	**Montague Islan**	1.64 198		Pn	09 19 30.5	+0.6
RC01	**Rabbit Creek A**	1.68 255		Pn	09 19 31.5	+1.0
RC01			IAML		09 19 58.7	
	comp=E,655nm,0.5s					
RC01	**Rabbit Creek A**	1.68 255	P	Pn	09 19 31.4	+1.0
	baz=72					
WAT7	**Susitna Watana**	1.72 319		Pn	09 19 31.3	+0.1
BERG	**Berg Lake**	1.75 130		Pn	09 19 32.6	+1.1
CRQM	**Cirque**	1.77 115		Pn	09 19 32.5	+0.6
CRQM			IAML		09 20 03.2	
	comp=E,662nm,0.8s					
NICHA	**Nichawak Mount**	1.78 137		Pn	09 19 33.2	+1.3
M22K	**Willow**	1.79 278		Pn	09 19 33.1	+1.1
M22K	**Willow**	1.79 278	P	Pn	09 19 33.1	+1.1
	baz=95					
M26K	**Nabesna, AK**	1.82 61		Pn	09 19 33.3	+0.9
M26K			IAML		09 19 57.6	
	comp=E,316nm,0.5s					
M26K			IAML		09 19 58.0	
	comp=N,610nm,0.5s					
MENT	**Mentasta**	1.87 41		Pn	09 19 33.8	+0.6
MENT			IAML		09 19 59.7	
	comp=N,556nm,0.3s					
MENT			IAML		09 20 15.5	
	comp=E,358nm,0.6s					
KHIT	**Khitrov Hills**	1.90 125		Pn	09 19 33.8	+0.3
KAIM	**Kayak Island**	1.90 148	Pn	Pn	09 19 32.7	-0.8
KAIM			IAML		09 20 10.4	
	comp=E,294nm,1.4s					
TGL	**Tana Glacier**	1.91 113		Pn	09 19 33.8	+0.1
PTPK	**Patty Peak**	1.93 99		Pn	09 19 34.9	+0.7
O22K	**Cooper Landing**	1.95 238		Pn	09 19 34.4	+0.3
GRIN	**Grindle Hills**	1.97 129		Pn	09 19 36.6	+2.0
CUT	**Chulitna**	2.02 297		Pn	09 19 36.2	+1.1
CUT	**Chulitna**	2.02 297	P	Pn	09 19 36.3	+1.1
	baz=114					
BALM	**Baldy**	2.02 103		Pn	09 19 35.6	+0.3
KIAG	**Kiagna River**	2.05 106		Pn	09 19 35.9	+0.2
L26K	**Log Cabin Wild**	2.05 43		Pn	09 19 36.0	+0.3
WAX	**Waxell Ridge**	2.05 121		Pn	09 19 35.6	-0.1
SEW	**Seward**	2.09 227		Pn	09 19 35.8	-0.3
SUA	**Susitna One**	2.09 269		Pn	09 19 36.3	+0.1
SUA			IAML		09 20 06.3	
	comp=E,413nm,0.7s					
SUA			IAML		09 20 06.4	
	comp=N,284nm,0.9s					
SUA	**Susitna One**	2.09 269	P	Pn	09 19 37.5	+1.3
	baz=86					
Q23K	**Middleton Isla**	2.13 179	Pn	Pn	09 19 37.4	+0.7
Q23K			IAML		09 19 53.5	
	comp=E,352nm,1.2s					
Q23K			IAML		09 20 29.5	
	comp=N,351nm,1.4s					
MID	**Middleton Isla**	2.13 179		Pn	09 19 37.7	+1.0
MID			IAML		09 20 16.7	
	comp=E,313nm,1.2s					
MID			IAML		09 20 20.0	
	comp=N,354nm,1.5s					
SLKM	**Skilak Lake**	2.14 242		Pn	09 19 38.2	+1.4
RND	**Reindeer**	2.18 330		Pn	09 19 38.6	+1.1
RND			IAML		09 20 06.8	
	comp=E,358nm,0.7s					
RND			IAML		09 20 17.5	
	comp=N,218nm,0.5s					
ISLE	**Juniper Island**	2.19 114		Pn	09 19 39.1	+1.5
K24K	**Donnelly Dome**	2.28 7		Pn	09 19 40.4	+1.7
K24K	**Donnelly Dome**	2.28 7	P	Pn	09 19 40.4	+1.7
	baz=188					
M27K	**Edge Creek, AK**	2.28 67		Pn	09 19 40.3	+1.4
RIDG	**Independent Ri**	2.31 17		Pn	09 19 40.6	+1.4
RIDG			IAML		09 20 10.2	
	comp=N,346nm,1.1s					
RIDG			IAML		09 20 10.3	
	comp=E,333nm,0.7s					
RIDG	**Independent Ri**	2.31 17	P	Pn	09 19 40.7	+1.4
	baz=199					
BAGL	**Bagley Icefiel**	2.35 115		Pn	09 19 40.0	+0.3
DOT	**Dot Lake**	2.36 26		Pn	09 19 41.4	+1.4
GRNC	**Granite Creek**	2.40 108		Pn	09 19 41.3	+0.7
GRNC			IAML		09 20 18.3	
	comp=E,220nm,0.7s					
SKT	**Skwentna**	2.48 282		Pn	09 19 42.3	+0.7
SKT			IAML		09 20 17.8	
	comp=E,253nm,0.3s					
SKT	**Skwentna**	2.48 282	P	Pn	09 19 42.2	+0.7
	baz=98					
MCK	**McKinley**	2.48 333		Pn	09 19 42.5	+0.9
MCK	**McKinley**	2.48 333	P	Pn	09 19 43.2	+1.6
	baz=151					
CTG	**Chitna Glacier**	2.51 101	P	Pn	09 19 43.5	+1.4
	baz=286					
CTGM	**Chitina Glacie**	2.52 101		Pn	09 19 43.1	+0.9
YAH	**Yahtse**	2.56 116	Pn	Pn	09 19 43.4	+0.5
YAH			IAML		09 20 21.6	
	comp=E,250nm,0.8s					
MESA	**MESA**	2.58 120		Pn	09 19 43.3	+0.3
STLK	**Strandline Lak**	2.61 271		Pn	09 19 43.6	+0.3
L27K	**Beaver Creek,**	2.62 53		Pn	09 19 44.2	+0.8
TRF	**Thorofare Moun**	2.62 318		Pn	09 19 44.5	+0.8
TRF			IAML		09 20 25.1	
	comp=N,161nm,0.6s					
TRF			IAML		09 20 29.5	
	comp=E,143nm,0.7s					
TRF	**Thorofare Moun**	2.62 318	P	Pn	09 19 44.8	+1.1
	baz=135					
BCAR	**Beaver Creek A**	2.63 53		Pn	09 19 44.4	+0.8
YUK2	**White River**	2.66 83		Pn	09 19 44.7	+0.7
SCRK	**Sand Creek**	2.67 23	Pn	Pn	09 19 44.7	+0.4
SCRK	**Sand Creek**	2.67 23	P	Pn	09 19 44.7	+0.4
	baz=206					
LOGN	**Logan Glacier**	2.71 103		Pn	09 19 45.6	+0.8
LOGN			IAML		09 20 26.1	
	comp=E,141nm,0.6s					
LOGN			IAML		09 20 26.1	
	comp=N,191nm,0.7s					
SPCG	**Spurr Capps Gl**	2.72 267		Pn	09 19 46.6	+1.7
BVCY	**Beaver Creek**	2.75 69		Pn	09 19 46.7	+1.4
BVCY	**Beaver Creek**	2.75 69	P	Pn	09 19 46.7	+1.4
	baz=254					
RKAV	**Rock Avalanche**	2.77 115		Pn	09 19 48.9	+3.3
TABL	**Table Mountain**	2.79 111		Pn	09 19 46.9	+0.9
TABL			IAML		09 20 29.1	
	comp=E,125nm,1.0s					
TABL			IAML		09 20 30.4	
	comp=N,154nm,0.6s					
BRSE	**Bradley Lake S**	2.81 232		Pn	09 19 46.7	+0.7
BRSE	**Bradley Lake S**	2.81 232	P	Pn	09 19 46.8	+0.7
	baz=48					
YUK3	**Moose Creek**	2.84 83		Pn	09 19 47.3	+0.6
YUK3	**Moose Creek**	2.84 83	P	Pn	09 19 47.8	+1.1
	baz=268					
BRLK	**Bradley Lake**	2.85 233		Pn	09 19 47.6	+1.0
BRLK			IAML		09 20 29.6	
	comp=E,160nm,0.6s					
BRLK			IAML		09 20 29.9	
	comp=N,159nm,0.6s					
HDA	**Harding Lake**	2.88 355		Pn	09 19 48.2	+1.3
HDA	**Harding Lake**	2.88 355	IAML		09 20 26.9	
	comp=E,182nm,0.5s					
HDA			IAML		09 20 36.8	
	comp=N,165nm,0.5s					
KTH	**Kantishna Hill**	2.90 316	Pn	Pn	09 19 48.6	+1.2
KTH			IAML		09 20 28.2	
	comp=N,179nm,0.8s					
KTH			IAML		09 20 41.1	
	comp=E,125nm,1.2s					
BWN	**Browne**	2.98 333		Pn	09 19 49.5	+1.1
PPLA	**Purkeypile**	3.03 299		Pn	09 19 49.9	+0.7
PPLA	**Purkeypile**	3.03 299	P	Pn	09 19 50.5	+1.3
	baz=114					
WRH	**Wood River Hil**	3.03 346		Pn	09 19 50.5	+1.5
WRH			IAML		09 20 41.5	
	comp=E,102nm,1.1s					
WRH			IAML		09 20 41.6	
	comp=N,87nm,1.3s					
J25K	**Salcha River,**	3.11 8		Pn	09 19 50.4	+0.2
J25K	**Salcha River,**	3.11 8	IAML		09 20 44.5	
	comp=E,84nm,0.5s					
O28M	**Mount Upton**	3.11 102		Pn	09 19 51.2	+0.8
CNPM	**China Poot**	3.14 232	Pn	Pn	09 19 50.8	+0.2
CNPM			IAML		09 20 37.6	
	comp=N,93nm,1.1s					
CNPM			IAML		09 20 42.5	
	comp=E,103nm,0.6s					
CCB	**Clear Creek Bu**	3.17 349	Pn	Pn	09 19 52.9	+1.9
CCB			IAML		09 20 31.8	
	comp=E,94nm,0.4s					
K27K	**Chicken**	3.18 37		Pn	09 19 51.6	+0.5
M20K	**Styx River**	3.22 279		Pn	09 19 52.5	+0.7
M20K	**Styx River**	3.22 279	IAML		09 20 42.0	
	comp=E,90nm,0.8s					
M20K			IAML		09 20 44.1	
	comp=N,72nm,0.7s					
J26L	**Joseph Creek**	3.23 22		Pn	09 19 52.5	+0.7
J26L	**Joseph Creek**	3.23 22	IAML		09 20 53.5	
	comp=N,74nm,0.5s					
CAST	**Castle Rocks**	3.24 308	Pn	Pn	09 19 53.6	+1.7
CAST			IAML		09 20 38.1	
	comp=E,107nm,0.4s					
CAST			IAML		09 20 46.9	
	comp=N,105nm,1.4s					
IL31		3.24 356		Pn	09 19 51.9	0.0
ILAR	**Eielson Array**	3.24 356		Pn	09 19 52.7	+0.8
REF	**Redoubt East F**	3.25 254		Pn	09 19 52.1	-0.2
NEA2	**Nenana**	3.28 339		Pn	09 19 53.6	+1.0
NEA2	**Nenana**	3.28 339	IAML		09 20 40.7	
	comp=E,69nm,0.7s					
NEA2			IAML		09 20 46.9	
	comp=N,91nm,1.2s					
BPAW	**Bear Paw Mtn.**	3.31 322		Pn	09 19 53.6	+0.6
BPAW			IAML		09 20 47.8	
	comp=E,125nm,1.1s					
BPAW			IAML		09 20 47.9	
	comp=N,157nm,0.7s					
RDWB	**Redoubt West**	3.31 254		Pn	09 19 54.0	+0.9
O20K	**Slope Mountain**	3.39 247		Pn	09 19 54.6	+0.5
COLA	**College**	3.40 349		Pn	09 19 54.2	+0.2
CHUM	**Lake Minchumin**	3.59 313		Pn	09 19 57.2	+0.5
POKR	**Poker Plat Res**	3.61 353		Pn	09 19 58.4	+1.4
POKR			IAML		09 20 44.4	
	comp=N,54nm,0.9s					
POKR	**Poker Plat Res**	3.61 353	P	Pn	09 19 58.7	+1.7
	baz=172					
L20K	**Farewell, AK**	3.65 288		Pn	09 19 57.5	-0.1
ILSW	**Iliamna Southw**	3.67 248	Pn	Pn	09 19 58.9	+1.0
M29M	**Somme Creek**	3.85 73		Pn	09 20 01.4	+1.0
I23K	**Minto, Yukon-K**	3.85 341		Pn	09 20 01.8	+1.6
I23K	**Minto, Yukon-K**	3.85 341	IAML		09 21 05.5	
	comp=E,53nm,0.8s					
I23K			IAML		09 21 09.0	
	comp=N,65nm,1.0s					
K20K	**Telida**	4.00 300	IAML		09 21 10.2	
	comp=E,88nm,0.9s					
PRP	**Porcupine Dome**	4.00 5		Pn	09 20 03.1	+0.6
PRP	**Porcupine Dome**	4.00 5	IAML		09 21 08.9	
	comp=E,46nm,0.6s					
PRP			IAML		09 21 13.0	
	comp=N,51nm,1.0s					
PRP	**Porcupine Dome**	4.00 5	P	Pn	09 20 03.5	+1.0
	baz=186					
MLY	**Manley**	4.00 333	Pn	Pn	09 20 02.7	+0.2
MLY	**Manley**	4.00 333	P	Pn	09 20 03.8	+1.3
	baz=149					
EGAK	**Eagle**	4.01 34		Pn	09 20 03.9	+1.4
EGAK	**Eagle**	4.01 34	IAML		09 21 12.7	
	comp=N,54nm,0.9s					
EGAK			IAML		09 21 20.3	
	comp=N,43nm,0.8s					
EGAK	**Eagle**	4.01 34	P	Pn	09 20 03.9	+1.4
	baz=219					
O29M	**Mount Kennedy**	4.02 105		Pn	09 20 02.9	+0.1
O29M	**Mount Kennedy**	4.02 105	IAML		09 21 04.8	
	comp=E,68nm,0.4s					
O29M			IAML		09 21 05.3	
	comp=N,79nm,0.5s					
L19K	**White Mountain**	4.06 283	Pn	Pn	09 20 03.5	+0.3
L19K			IAML		09 21 08.9	
	comp=E,52nm,0.6s					
L19K			IAML		09 21 12.7	
	comp=N,41nm,0.7s					
DAWY	**Dawson**	4.08 49		Pn	09 20 04.9	+1.3
DAWY	**Dawson**	4.08 49	P	Pn	09 20 04.6	+1.0
	baz=235					
L29M	**L29M**	4.16 64		Pn	09 20 05.9	+1.3
SYI	**Shuyak Island**	4.21 228		Pn	09 20 06.5	+1.2
SYI	**Shuyak Island**	4.21 228	IAML		09 21 52.1	
	comp=N,46nm,1.4s					
SYI			IAML		09 21 57.3	
	comp=E,52nm,1.5s					
H24K	**Noodor Dome**	4.35 352		Pn	09 20 07.1	-0.1
HYT	**Haines Junctio**	4.37 96	Pn	Pn	09 20 08.6	+1.1
J20K	**Nowinta River**	4.42 310		Pn	09 20 08.5	+0.4
J20K	**Nowinta River**	4.42 310	IAML		09 21 21.5	
	comp=N,42nm,0.8s					
N30M	**Aishikik Lake**	4.46 87		Pn	09 20 08.6	-0.1
Q19K	**Cape Douglas,**	4.47 237	Pn	Pn	09 20 10.8	+1.9
H23K	**Yukon River**	4.51 343		Pn	09 20 11.2	+1.8
I27K	**Kandik River**	4.59 26		Pn	09 20 11.9	+1.4
M30M	**Minto, Yukon**	4.63 73	Pn	Pn	09 20 11.7	+0.6
K29M	**Barlow Dome**	4.69 57	Pn	Pn	09 20 12.9	+1.0
N18K	**Kilae Creek**	4.69 263	Pn	Pn	09 20 12.1	+0.2
J29N	**Klondike Camp**	4.73 48		Pn	09 20 13.2	+0.8
I28M	**Miner Creek**	4.86 34		Pn	09 20 15.6	+1.3
I28M	**Miner Creek**	4.86 34	IAML		09 21 24.8	
	comp=N,20nm,0.8s					
I28M			IAML		09 21 24.8	
	comp=E,24nm,0.9s					
J19K	**Poorman**	4.89 304		Pn	09 20 15.0	+0.4
J19K	**Poorman**	4.89 304	IAML		09 21 43.3	
	comp=E,49nm,1.0s					
J19K			IAML		09 21 46.0	
	comp=N,44nm,0.9s					
L18K	**Granite Mounta**	4.92 282	Pn	Pn	09 20 14.8	-0.1
L18K			IAML		09 21 41.5	
	comp=N,24nm,1.0s					
L18K			IAML		09 21 41.9	
	comp=E,24nm,1.2s					
H21K	**Melozitna Rive**	5.01 328		Pn	09 20 16.4	+0.1
FYU	**Fort Yukon**	5.06 5	Pn	Pn	09 20 18.0	+1.1
FYU			IAML		09 21 48.9	
	comp=E,32nm,1.4s					
FYU			IAML		09 21 52.9	
	comp=N,36nm,1.5s					
H27K	**Steamboat Moun**	5.16 22		Pn	09 20 19.6	+1.2
G24K	**Hadweenzic Riv**	5.19 355	Pn	Pn	09 20 19.5	+0.8
G24K			IAML		09 21 35.1	
	comp=N,36nm,1.2s					
G24K			IAML		09 21 55.2	
	comp=E,19nm,1.1s					
MAYO	**Mayo, Yukon**	5.27 63		Pn	09 20 21.6	+1.8
MAYO			IAML		09 22 03.1	
	comp=N,37nm,1.3s					
MAYO			IAML		09 22 35.5	
	comp=E,36nm,1.5s					
G23K	**Bananza Creek**	5.42 345	Pn	Pn	09 20 24.5	+2.6
J30M	**Hart River**	5.49 52		Pn	09 20 24.9	+2.0
IMAR	**Indian Mountai**	5.51 327		Pn	09 20 23.0	-0.1
G26K	**Porcupine Rive**	5.54 11		Pn	09 20 24.6	+1.2
G27K	**Doyon Strip**	5.67 19		Pn	09 20 26.1	+0.8
M31M	**Drury Creek, Y**	5.72 78	Pn	Pn	09 20 27.2	+1.3
I30M	**Mount Dempster**	5.81 46		Pn	09 20 29.1	+1.7
SKAG	**Skagway**	5.86 106	Pn	Pn	09 20 28.6	+0.8
H29M	**Whitestone**	5.87 34	Pn	Pn	09 20 28.5	+0.5
H29M	**Whitestone**	5.87 34	P	Pn	09 20 28.6	+0.5
	baz=221					
G21K	**Allakaket**	5.88 331	Pn	Pn	09 20 29.8	+1.6
COLD	**Coldfoot**	5.93 346		Pn	09 20 30.8	+2.0
BMAR	**Burnt Mountain**	5.95 7	Pn	Pn	09 20 30.4	+1.3
H19K	**Roundabout Mou**	6.00 316	Pn	Pn	09 20 31.2	+1.4
F24K	**Squaw Lake**	6.02 355		Pn	09 20 31.4	+1.3
J17K	**VABM Dome**	6.16 293	Pn	Pn	09 20 34.9	+2.8
FARO	**Faro, Yukon**	6.21 78	Pn	Pn	09 20 33.3	+0.6
EPYK	**Eagle Plains**	6.44 37	Pn	Pn	09 20 36.1	+0.2
E24K	**Your Creek**	6.61 353		Pn	09 20 39.3	+1.1
F28M	**Old Crow**	6.70 22	Pn	Pn	09 20 40.3	+0.9
J16K	**Anvik River**	6.82 291	Pn	Pn	09 20 43.9	+2.8
F20K	**Avaraart Lake**	6.84 328		Pn	09 20 43.6	+2.3
H31M	**Peel River**	6.84 46		Pn	09 20 42.6	+1.2
E27K	**Coleen River**	6.96 15	Pn	Pn	09 20 43.7	+0.7
G18K	**Tagagawik**	6.96 314		Pn	09 20 44.8	+1.8
I17K	**Unalakleet**	6.97 296	Pn	Pn	09 20 45.8	+2.7
H17K	**Granite Mounta**	6.98 305		Pn	09 20 45.6	+2.4
E22K	**Anaktuvuk Pass**	7.00 343		Pn	09 20 47.0	+3.5
TOLK	**Toolik Lake Re**	7.24 351	Pn	Pn	09 20 50.3	+3.5
F19K	**Shaleruckik Mo**	7.25 322		Pn	09 20 48.7	+1.8
G31M	**Satah River**	7.53 39	Pn	Pn	09 20 50.7	-0.1
F30M	**Barrier River**	7.59 32		Pn	09 20 52.3	+0.7
D23K	**Nanushuk River**	7.66 348	Pn	Pn	09 20 56.9	+4.4
D25K	**Kavik River**	7.80 0		Pn	09 20 58.1	+3.5
D27M	**Malcolm River**	8.04 14		Pn	09 20 59.5	+1.6
D28M	**Stokes Point**	8.42 19		Pn	09 21 06.1	+3.1
C23K	**Itkillik River**	8.49 350		Pn	09 21 06.4	+2.5

*NOU **13** 09:19:34.2, 35°.89S×176°.52E, h214km, mb3.7/5, Off E. Coast of N. Island, N.Z.*
*WEL **13** 09:19:51.2±0.9, 37°S±7°×17°7E±°, h148km±9km, M3.0/12, ML3.2/11, MLv3.0/12, Error ellipse: s-maj=12.7km s-min=8.4km az=113.3, confirmed*
ISC 13 09:19:46.2±3.1, 37°.1S±0°.1×177°.37E±0°.10, h198km±15km, n64, σ1965/78, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	0.74	154	P		Pn		09 20 14.6	+0.5
HAZ				S		Sn		09 20 32.9	-2.9
MXZ	**Matakaoa Point**	0.88	122	P		Pn		09 20 15.8	+0.9
MXZ	**Matakaoa Point**	0.88	122	P		Pn		09 20 15.8	+0.9
RUGZ	**Raukumara Rang**	0.91	164	P		Pn		09 20 15.5	+0.3
RUGZ				S		Sn		09 20 34.5	-3.4
URZ	**Urewera**	1.18	190	P		Pn		09 20 18.1	+1.1
URZ				S		Sn		09 20 38.8	-2.3
URZ	**Urewera**	1.18	190	P		Pn		09 20 18.0	+1.1
TWGZ	**Tauwhareparae**	1.19	156	P		Pn		09 20 18.9	+1.8
TWGZ				S		Sn		09 20 41.5	+0.3
PUZ	**Puketiti**	1.21	144	P		Pn		09 20 18.7	+1.5
PUZ				S		Sn		09 20 40.3	-1.2
MWZ	**Matawai**	1.25	174	P		Pn		09 20 19.1	+1.6
MWZ				S		Sn		09 20 40.9	-1.1
TKGZ	**Te Karaka**	1.40	164	P		Pn		09 20 20.5	+1.8
TKGZ				S		Sn		09 20 43.0	-1.2
MUGZ	**Murupara**	1.46	199	P		Pn		09 20 20.8	+1.5
CNGZ	**Carnagh Statio**	1.54	155	P		Pn		09 20 22.3	+2.3
RTZ	**Ruatahuna**	1.55	191	P		Pn		09 20 21.5	+1.3
RTZ				S		Sn		09 20 44.6	-2.2
RIGZ	**Rimuhau**	1.64	169	P		Pn		09 20 23.0	+2.0
RIGZ				S		Sn		09 20 48.2	0.0
ALRZ	**Allen Road**	1.68	209	P		Pn		09 20 23.3	+2.1
SNGZ	**Shannon Statio**	1.69	181	P		Pn		09 20 23.3	+1.9
SNGZ				S		Sn		09 20 47.5	-1.5
MTHZ	**Maungataniwha**	1.81	193	P		Pn		09 20 25.0	+2.4
MTHZ				S		Sn		09 20 50.0	-1.1
RAHZ	**Arahi**	1.83	187	P		Pn		09 20 24.9	+2.1
RAHZ				S		Sn		09 20 50.8	-0.7
MRHZ	**Matea Rd**	1.89	203	P		Pn		09 20 25.0	+1.6
KNZ	**Kokohu**	1.94	173	P		Pn		09 20 25.7	+1.9
KNZ				S		Sn		09 20 53.7	+0.3
WHHZ	**

KAHZ	Kahuranaki	2.73 188	P	Pn	09 20 34.3 +1.9
MTVZ	Mangateitei	2.73 213	P	Pn	09 20 34.7 +2.1
PXZ	Pawanui	2.96 188	P	Pn	09 20 36.4 +1.3
WPHZ	Waipukurau	3.06 193	P	Pn	09 20 37.5 +1.2
TSZ	Takapari Road	3.16 200	P	Pn	09 20 38.6 +1.0
PRHZ	Porangahau	3.22 190	P	Pn	09 20 39.5 +1.2
DVHZ	Dannevirke	3.34 196	P	Pn	09 20 40.3 +0.6
ANWZ	Angora Road	3.43 191	P	Pn	09 20 42.0 +1.2
POWZ	Post Office Ro	3.52 200	P	Pn	09 20 43.0 +1.1
PRWZ	Pori Road	3.62 197	P	Pn	09 20 44.1 +0.9
MRZ	Mangatainoka R	3.83 201	P	Pn	09 20 45.9 +0.2
TIWZ	Tintock	3.85 197	P	Pn	09 20 46.6 +0.6
CPWZ	Castlepoint	3.92 193	P	Pn	09 20 48.1 +1.3
HOWZ	Holdsworth Sta	4.06 200	P	Pn	09 20 48.6 0.0
OGWZ	Otaki Gorge	4.09 204	P	Pn	09 20 49.2 +0.3
TMWZ	Te Maipa	4.17 196	P	Pn	09 20 50.5 +0.6
KIW	Kapiti Island	4.22 206	P	Pn	09 20 50.6 0.0
MTW	Mount Morrison	4.31 199	P	Pn	09 20 51.5 -0.2
CAW	Cannon Point	4.39 203	P	Pn	09 20 52.3 -0.3
TRWZ	Traveller	4.49 196	P	Pn	09 20 54.1 +0.1
PAWZ	Paruwai Farm	4.54 199	P	Pn	09 20 54.3 -0.4
SNZO	South Karori	4.69 205	P	Pn	09 20 56.1 -0.4
KHZ	Kahutara	6.08 208	P	Pn	09 21 13.5 -0.8

*AEIC **13** 09:41:27.8±1.2,52°.91N±0°.07×165°.45W±0°.08, h24km±6km, Error ellipse: s-maj=9.8km s-min=6.3km az=163.0*
NEIC 13 09:41:24.8±1.4,52°.89N±0°.07×165°.48W±0°.08, h15km±7km, mb3.7/26, ML3.0(AEIC), Error ellipse: s-maj=11.1km s-min=6.3km az=162.0, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	Unalaska Valle	1.13	328		Pn	09 41 46.2	+0.1
UNV	Unalaska Valle	1.13	328		Sb	09 42 00.8	+0.2
MREP	Makushin Rep't	1.19	321		Pb	09 41 47.2	+0.1
MGOD	Makushin Gods	1.23	318		Pb	09 41 47.8	0.0
AKBBA	Akutan Broad B	1.24	348		Pb	09 41 47.9	0.0
AKBBA					Sn	09 42 03.8	-0.1
ZRO	Akutan Zero	1.24	346		Pn	09 41 47.7	+0.1
ZRO					Sb	09 42 03.6	0.0
AHB	Akutan Harbor	1.24	351		Pb	09 41 48.2	+0.3
AHB					Sn	09 42 04.3	+0.2
AKMO	Akutan Morgan	1.24	346		Pb	09 41 48.0	+0.1
AKMO					Sn	09 42 04.1	+0.1
AKSA	Akutan Strait	1.25	354		Pn	09 41 47.8	+0.1
AKSA					Sb	09 42 03.2	-0.8
MAPS	Pakushin South	1.27	317		Pb	09 41 48.3	0.0
MAPS					Sb	09 42 03.8	-0.7
MSW	Makushin Switc	1.29	323		Pb	09 41 48.6	-0.1
MSW					Sb	09 42 04.7	-0.3
AKRB	Akutan Reef Bi	1.29	344		Pb	09 41 48.9	+0.2
MTBL	Makushin Table	1.29	327		Pb	09 41 49.2	+0.4
OKFG	Magazine Ridge	1.55	291		Pb	09 41 52.7	-0.5
OKNC	Okmok New Cone	1.69	291		Pb	09 41 55.0	-0.5
WECS	Westdahl Cape	1.69	14		Pn	09 41 54.7	+0.8
OKCE	Okmok Cone E	1.70	289		Pb	09 41 55.5	-0.3
WEBT	Westdahl Beart	1.76	14		Pn	09 41 55.5	+0.8
NIKH	Nikolski High	2.04	274		Pn	09 41 57.6	-1.0
SSLN	Shishaldin Nor	2.12	24		Pn	09 42 00.2	+0.6
ISLZ	Isanotski Laza	2.12	29		Pn	09 41 59.9	+0.3
ISNN	Isanotski Nort	2.19	27		Pn	09 42 01.2	+0.6
FALS	False Pass	2.32	31	Pn	Pn	09 42 01.7	-0.6
HAG	Hague Volcano	3.22	39		Pn	09 42 16.1	+1.4
CNBA	Chernabura Isl	3.99	59		Pn	09 42 25.2	0.0
CHGN	Chignik	5.34	47	Pn	Pn	09 42 45.2	+1.3
M14K	Bethel	8.11	12	Pn	Pn	09 43 22.3	+0.4
OHAK	Old Harbor	8.23	53	Pn	Pn	09 43 22.5	-1.0
KDAK	Kodiak Island	8.83	51	Pn	Pn	09 43 31.1	-0.6
M16K	Timber Creek	8.89	21	Pn	Pn	09 43 31.0	-1.5
K13K	Kusilvak Mount	9.08	2	Pn	Pn	09 43 35.0	-0.1
M20K	Styx River	11.19	31	Pn	Pn	09 44 03.2	-0.8
SUA	Susitna One	11.71	37	Pn	Pn	09 44 11.3	+0.1
SML	Sawmill	12.82	39	Pn	Pn	09 44 24.1	-2.3
M27K	Edge Creek, AK	15.71	44	Pn	Pn	09 45 02.6	-2.8
SCRK	Sand Creek	15.71	37	Pn	Pn	09 45 03.6	-1.8
SCRK				IAmb	IAmb	09 45 30.7	
	comp=Z,8.2nm,1.4s						
YKU2	Yakutat	15.75	55	Pn	Pn	09 45 05.2	-0.5
L27K	Beaver Creek,	16.05	41	Pn	Pn	09 45 09.0	-0.7
BCAR	Beaver Creek A	16.07	41	Pn	Pn	09 45 08.4	-1.6
O29M	Mount Kennedy	16.48	53	Pn	Pn	09 45 14.6	-0.6
E22K	Anaktuvuk Pass	16.63	18	Pn	Pn	09 45 16.6	-0.5
E24K	Your Creek	17.27	22	Pn	Pn	09 45 24.9	-0.2
DAWY	Dawson	17.49	40	Pn	Pn	09 45 27.5	-0.4
DAWY				IAmb	IAmb	09 45 29.9	
	comp=Z,8.6nm,1.5s						
L29M	L29M	17.59	44	Pn	Pn	09 45 28.5	-0.6
M30M	Minto, Yukon	17.97	46		Pn	09 45 32.7	-1.1
M30M				IAmb	IAmb	09 46 12.9	
	comp=Z,11nm,1.4s						
I28M	Miner Creek	17.98	36		Pn	09 45 33.7	-0.2
C23K	Itkillik River	18.33	16	P	Pn	09 45 37.6	-0.5
D25K	Kavik River	18.73	21	P	P	09 45 42.7	0.0
J30M	Hart River	18.91	40	P	P	09 45 43.9	-0.8
M31M	Drury Creek, Y	18.93	48	P	P	09 45 44.6	-0.2
M31M				IAmb	IAmb	09 45 57.9	
	comp=Z,4.4nm,1.1s						
H29M	Whitestone	18.93	35	P	P	09 45 44.1	-0.7
E27K	Coleen River	19.10	28	P	P	09 45 46.8	+0.1
I30M	Mount Dempster	19.17	39	P	P	09 45 47.4	-0.1
FARO	Faro, Yukon	19.40	49	P	P	09 45 47.8	-2.2
G29M	Pine Creek	19.42	33	P	P	09 45 50.0	-0.2
EPYK	Eagle Plains	19.59	35	P	P	09 45 51.6	-0.4
EPYK				IAmb	IAmb	09 46 13.8	
	comp=Z,7.3nm,1.4s						
H31M	Peel River	20.19	38	P	P	09 45 57.7	-0.8
E29M	Blow River	20.30	30	P	P	09 45 59.7	0.0
E29M				IAmb	IAmb	09 46 03.5	
	comp=Z,6.5nm,1.5s						
G31M	Satah River	20.71	35	P	P	09 46 02.6	-1.4
INK	Inuvik	21.62	32	P	P	09 46 12.8	-1.1
PEA0B	Petropavlovsk-	22.01	285	P	P	09 46 18.0	-0.2
PETK	Petropavlovsk-	22.01	285	P	P	09 46 18.1	-0.1
TXAR	Lajitas Array	50.38	92	P	P	09 50 20.4	-1.0
KKAR	Karatay Array	72.93	321	P	P	09 52 54.5	+1.4

*IDC **13** 09:53:37.6±2.0, 1°.99N×127°.35E, h0km, mb3.6/4, mbtmp3.7/4, Error ellipse: s-maj=185.5km s-min=21.5km az=67.0*
*DJA **13** 09:53:56.3±0.6,2°.N±5°×12°.7E±°, h98km±12km, M3.6/8, mb3.9/1, MLv3.5/8*
ISC 13 09:53:50.3±1.5,2°.0N±0°.1×127°.7E±0°.2, h112km, n7, σ1§23/7, mb3.6/4, Northern Moluccan Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.28	194	P	Pn	09 54 16.7	+1.9
KMSI	Cibinong	3.96	249	P	Pn	09 54 49.7	+0.4
SANI	Sanana	4.39	203	P	Pn	09 54 54.6	-0.4
WRA	Warramunga Arr	22.79	164	P	P	09 58 42.7	-1.0
	0.8nm,0.5s,baz=340,slow=9.9,SNR=12 0.8nm,0.5s						
ASAR	Alice Springs	26.25	167	P	P	09 59 14.3	-0.9
	0.3nm,0.7s,baz=347,slow=7.6,SNR=4.8 0.3nm,0.7s						
MKAR	Makanchi Array	59.48	325	P	P	10 03 42.1	+0.4
	0.5nm,0.3s,baz=117,slow=8.4,SNR=11 0.5nm,0.3s						
KURBB	Kurchatov Arra	63.67	327	P	P	10 04 09.3	-0.4
	0.5nm,0.4s,baz=131,slow=6.4,SNR=4.7 0.5nm,0.4s						

*THE **13** 10:06:52.9, 36°.41N×28°.72E, h1km±20km, ML2.1/1, Error ellipse: s-maj=41.0km s-min=1.5km az=113.0*
*ISK **13** 10:06:52.4, 36°.46N×28°.71E, h5km, ML2.7/15*
*AFAD **13** 10:06:52.3±0.0, 36°.34N×28°.68E, h6km±6km, ML2.2*
ISC 13 10:06:52.9±1.3, 36°.43N±0°.03×28°.71E±0°.02, h1km±11km, n33, σ1§22/52, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.37	56	P	Pg	10 07 00.6	+0.7
FETY				S	Sb	10 07 08.9	+0.4
FETY	Fethiye	0.37	56	Pg	Pg	10 06 59.9	-0.1
DALY	Dalyan (Mula)	0.39	354	Pg	Pg	10 07 00.5	+0.1
DALY				Sg	Sb	10 07 07.2	-1.9
IZZE	Mula-Seydike	0.42	89	P	Pg	10 07 00.7	-0.3
IZZE				S	Sb	10 07 08.2	-1.8
IZZE				*i* AML	AML	10 07 09.0	
	comp=N,606nm,0.2s						
IZZE				*i* AML	AML	10 07 11.0	
	comp=E,717nm,0.3s						
SABU	Mula-Dalaman	0.45	28	P	Pb	10 07 02.4	-1.2
SABU				S	Sb	10 07 09.6	-1.2
SABU				*i* AML	AML	10 07 11.0	
	comp=E,143nm,0.2s						
SABU				*i* AML	AML	10 07 13.0	
	comp=N,225nm,0.3s						
TURN	Turunc	0.51	313	P	Pg	10 07 02.5	-0.2
TURN				S	Sb	10 07 11.8	-0.6
TURN				*i* AML	AML	10 07 13.0	
	comp=N,148nm,0.2s						
TURN				*i* AML	AML	10 07 16.0	
	comp=E,62nm,0.2s						
TURN	Turunc	0.51	313	Pg	Pg	10 07 02.8	+0.2
TURN				Sg	Sb	10 07 10.7	-1.8
ARG	Arkhangelos	0.51	246	P	Pg	10 07 02.9	+0.1
ARG				S	Sb	10 07 12.0	-0.7
	265nm,0.3s						
CAME	Cameli-Denizli	0.70	43	Pg	Pg	10 07 06.6	+0.2
AKAS	Kas	0.75	105	P	Pg	10 07 07.3	0.0
AKAS				S	Sn	10 07 24.5	+1.6
AKAS				*i* AML	AML	10 07 26.0	
	comp=E,195nm,0.4s						
AKAS				*i* AML	AML	10 07 27.0	
	comp=N,206nm,0.9s						
AKAS	Kas	0.75	105	Pg	Pb	10 07 07.5	-1.4
YER	Yerkesik	0.78	334	Pg	Pb	10 07 08.5	-0.8
YER	Yerkesik	0.78	334	P	Pb	10 07 08.7	-0.6
YER				S	Sb	10 07 20.8	+0.3
KNIK	Mula-Seydike	0.81	59	P	Pg	10 07 08.2	-0.3
KNIK				S	Sn	10 07 22.2	-2.1
KNIK				*i* AML	AML	10 07 24.0	
	comp=N,96nm,0.5s						
KNIK				*i* AML	AML	10 07 26.0	
	comp=E,64nm,0.6s						
DNZT	Denizli-Tavas-	0.89	17	P	Pb	10 07 10.2	-0.9
DNZT				S	Sn	10 07 25.5	-0.7
DNZT				*i* AML	AML	10 07 29.0	
	comp=E,31nm,0.7s						
DNZT				*i* AML	AML	10 07 34.0	
	comp=N,17nm,0.6s						
DAT	Datca	0.95	289	P	Pb	10 07 11.8	-0.6
DAT				S	Sn	10 07 29.6	+1.7
DAT				*i* AML	AML	10 07 32.0	
	comp=N,119nm,0.4s						
DAT				*i* AML	AML	10 07 32.0	
	comp=E,96nm,0.6s						
DAT	Datca	0.95	289	Pg	Pb	10 07 11.8	-0.6
DAT	Datca	0.95	289	P	Pb	10 07 11.9	-0.4
ELL	Elmali	1.02	72	Pg	Pn	10 07 14.2	-0.3
YAZI	Mula-Dat§a-	1.04	284	P	Pn	10 07 13.4	-1.2
YAZI				S	Sn	10 07 29.9	+0.1
YAZI				*i* AML	AML	10 07 32.0	
	comp=E,43nm,0.7s						
YAZI				*i* AML	AML	10 07 34.0	
	comp=N,40nm,0.3s						
TAVA	DENIZLI_Tavas	1.05	9	P	Pn	10 07 15.8	+1.0
TAVA				S	Sn	10 07 30.7	+0.6
TAVA				*i* AML	AML	10 07 33.0	
	comp=E,60nm,0.4s						
TAVA				*i* AML	AML	10 07 34.0	
	comp=N,39nm,0.5s						
APMY	Acipayam-Deniz	1.14	25	Pn	Pn	10 07 15.7	-0.5
BDRM	Kayabasi	1.20	302	P	Pn	10 07 16.1	-0.6
BDRM				S	Sn	10 07 36.6	+3.0
BDRM				*i* AML	AML	10 07 37.0	
	comp=E,59nm,0.3s						
DNIZ	Denizli-Tavas-	1.22	13	P	Pn	10 07 17.8	+0.6
DNIZ				S	Sn	10 07 37.4	+3.0
DNIZ				*i* AML	AML	10 07 38.0	
	comp=E,345nm,0.4s						
DNIZ				*i* AML	AML	10 07 39.0	
	comp=N,193nm,0.2s						
BODT	Bodrum	1.28	300	Pn	Pb	10 07 18.1	+0.2
BODT	Bodrum	1.28	300	P	Pb	10 07 17.4	-0.5
BODT				S	Sn	10 07 35.3	-0.6
AKUM	Antalya-Kumluc	1.33	94	P	Pg	10 07 19.0	+0.7
AKUM				S	Sn	10 07 40.6	+3.8
AKUM				*i* AML	AML	10 07 46.0	
	comp=E,38nm,0.4s						
AKUM				*i* AML	AML	10 07 47.0	
	comp=N,25nm,0.4s						
ESEN	Aydn-Nazilli	1.40	348	P	Pg	10 07 19.4	-0.3
ESEN				S	Sg	10 07 39.7	+2.0
ESEN				*i* AML	AML	10 07 42.0	
	comp=E,43nm,0.4s						
ESEN				*i* AML	AML	10 07 45.0	
	comp=N,25nm,0.3s						
KORT	Korkueli	1.44	66	Pn	Pg	10 07 21.1	+0.6
KARP	Karpathos	1.53	235	Pn	Pg	10 07 22.5	+0.2
NAZL	Nazilli-Aydin	1.57	348	Pn	Pb	10 07 22.2	-0.5
AYDB	Zeytinkoy-Aydi	1.65	337	Pn	Pg	10 07 24.1	-0.4
GCAM	G?zelcaml?	1.73	318	Pn	Pb	10 07 24.9	-0.6

*SOME **13** 10:10:30.4, 39°.38N×69°.77E, h10km*
*NNC **13** 10:10:34.4±4.3, 39°.99N×67°.67E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=51.6km s-min=21.1km az=163.0*
*ISU **13** 10:10:34.6, 39°.78N×67°.93E, h17km*
ISC 13 10:10:34.2±1.0, 39°.76N±0°.04×67°.81E±0°.03, h12km±8km, n19, σ1§97/33, 3C-2D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BXML	Bakhmal	0.19	112	P	Pb	10 10 39.1	-0.5
BXML				S	Sb	10 10 42.5	+1.1
DZI	Dzhizak	0.36	2	P	Pb	10 10 42.1	-0.4
DZI				S	Sb	10 10 47.6	-0.5
SAM	Samarkand	0.67	262	P	Pn	10 10 49.3	-0.2
SAM				S	Sn	10 11 00.2	+0.3
AGL	Agalyk	0.76	252	P	Pn	10 10 50.9	+0.2
AGL				S	Sn	10 11 02.9	+0.8
BAYS	Baysun	1.61	197	P	Pg	10 11 05.1	-0.1
BAYS				S	Sg	10 11 27.8	+1.6
YNGY	Yangiyul	1.64	34	P	Pb	10 11 03.5	-0.9
YNGY				S	Sb	10 11 24.9	-0.1
NUT	Nurota	1.81	297	P	Pg	10 11 08.8	-0.2
NUT				S	Sg	10 11 34.3	+1.8
TGS	TashGRES	2.11	38	P	Pn	10 11 09.6	+0.3
TGS				S	Sn	10 11 35.7	+0.2
MINT	Mingtut	2.53	73	P	Pb	10 11 17.2	-2.3
MINT				S	Sb	10 11 50.0	-0.6
FRG	Fergana	3.11	77	P	Pn	10 11 25.5	+2.4
FRG				S	Sb	10 12 05.6	-1.8
GZLY	Gazly	3.37	278	P	Pb	10 11 31.8	-2.0
GZLY				S	Sb	10 12 17.5	+2.7
DZN	Dzhankel'dy	3.59	289	P	Pb	10 11 34.9	-2.6
DZN				S	Sb	10 12 24.1	+3.1
BRLS	Borolday	3.61	24	*e*P	Pn	10 11 32.9	+3.0
	2.5nm,0.2s						
BRLS				*e*S	Sb	10 12 19.1	-2.6
	47nm,0.4s						
KK31	Karatay Array	3.91	30	⇑Pn	Pn	10 11 33.4	-0.7
	0.5nm,0.1s,baz=164,slow=10,SNR=22						
KK31				⇓Pg	Pb	10 11 44.4	+1.3
	2.8nm,0.3s,baz=218,slow=17,SNR=12						
KK31				⇑Lg	Lg	10 12 33.2	
	18nm,0.5s,baz=214,slow=30,SNR=8.0						
MRKS	Merke	5.06	52	*e*P	Pn	10 11 49.4	-0.5
	4.4nm,0.4s						
MRKS				*e*S	Sn	10 12 47.9	-0.3
	16nm,0.6s						
MTBS	Maitube	7.30	60	*e*P	Pn	10 12 28.4	+7.8
	1.3nm,0.1s						
MTBS				*e*S	Sn	10 13 54.3	+11
	14nm,0.4s						
TNSS	Tian-Shan	7.61	62	*e*P	Pn	10 12 30.3	+5.1
	2.6nm,0.5s						
TNSS				*e*S	Sn	10 13 57.5	+5.9
	4.0nm,1.1s						
AB31	Akbulak array	11.03	332	⇑P	Pn	10 13 10.5	-1.1
	0.3nm,0.3s,baz=164,slow=11,SNR=23						
AKTO	Aktyubinsk	12.71	330	⇓P	Pn	10 13 32.0	-2.6

IDC 13 10:10:36.0±2.4, 4°.48N×123°.56E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=316.4km s-min=26.7km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.48	157	P	P	10 16 15.6	+0.4
	0.4nm,0.3s,baz=336,slow=9.8,SNR=16 0.4nm,0.3s						
ASAR	Alice Springs	29.74	161	P	P	10 16 44.0	-0.4
	0.2nm,0.4s,baz=341,slow=7.0,SNR=12 0.2nm,0.4s						
MKAR	Makanchi Array	55.16	326	P	P	10 20 10.4	-0.1
	0.2nm,0.4s,baz=142,slow=8.3,SNR=4.5 0.2nm,0.4s						

*IDC **13** 10:12:05.9±2.3, 36°.53N×71°.17E, h203km±21km, mb3.6/12, mbtmp4.0/18, MS3.5/2, Error ellipse: s-maj=14.2km s-min=12.8km az=50.0*
*NNC **13** 10:12:05.5±15.0, 37°.05N×70°.47E, h0km, mb4.2, mpv4.3, Error ellipse: s-maj=133.0km s-min=91.4km az=167.0*
*NEIC **13** 10:12:07.2±2.1, 36°.63N±0°.06×70°.98E±0°.07, h205km±6km, mb4.3/58, Error ellipse: s-maj=10.4km s-min=6.1km az=221.0*
*SOME **13** 10:12:12.7, 38°.42N×71°.15E, h0km*
ISC 13 10:12:05.7±0.5, 36°.57N±0°.05×71°.10E±0°.06, h200km, n111, σ1§57/121, mb4.2/40, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	Garm	2.50	346	Pn	Pn	10 12 50.0	+0.3
KBL	Kabul	2.63	220	Pn	Pn	10 12 52.0	+0.7
SIMJ	Simiganj	2.67	322	Pn	Pn	10 12 51.6	+0.1
DRK	Karamyk	2.96	11	Pn	Pn	10 12 56.0	+0.9
NIL	Nilore	3.40	148	Pn	Pn	10 13 02.4	+2.2
BTK	Batken	3.49	356	Pn	Pn	10 13 02.1	+0.9
ARSB	Arslanbob	4.97	17	Pn	Pn	10 13 20.2	+0.5
THN	Thein Dam	5.62	136	*e*P	Pn	10 13 29.5	+1.6
THN				*e*S	Sn	10 14 31.0	-1.9
THN				IAML		10 14 33.1	
	comp=E,277nm,0.5s						
THN				IAML		10 14 40.4	
	comp=E,187nm,0.3s						
IUG	Iuzhnay	5.63	352	*e*P	Pn	10 13 28.1	-0.1
	comp=E,28nm,0.4s						
IUG				*e*S	Sn	10 14 29.3	-4.2
	comp=E,418nm,0.5s						
DHRM	DHARAMSHALA	6.08	134	*e*P	Pn	10 13 35.3	+1.1
DHRM				*e*S	Sn	10 14 41.4	-2.9
DHRM				IAML		10 14 44.8	
	comp=N,352nm,0.5s						
DHRM				IAML		10 14 46.7	
	comp=E,448nm,0.4s						
MRKS	Merke	6.38	14	*e*P	Pn	10 13 38.0	+0.2
	comp=E,23nm,0.2s						
MRKS				*e*S	Sn	10 14 47.3	-3.7
	comp=E,132nm,0.4s						
BRLS	Borolday	6.53	352	*e*P	Pn	10 13 35.5	-4.2
	comp=E,2.9nm,0.3s						
BRLS				*e*S	Sn	10 14 42.7	-12
	comp=E,48nm,0.3s						
KK31	Karatay Array	6.54	356	⇓P	Pn	10 13 40.7	+0.8
	comp=E,2.8nm,0.2s,baz=176,slow=12						
KK31				⇑S	Sn	10 14 48.8	-5.8
	comp=E,17nm,0.3s,baz=187,slow=24,SNR=20						
KKAR	Karatay Array	6.54	356	Pn	Pn	10 13 39.9	0.0
AAK	Ala-Archa	6.60	22	P	Pn	10 13 41.7	+0.9
	comp=E,26nm,0.5s,baz=191,slow=17,SNR=11						
AAK				S	Sn	10 14 55.0	-1.1
	comp=E,12nm,0.6s,baz=180,slow=20,SNR=8.1						
BHK	Bhakra	6.77	138	*ex*	x	10 14 57.7	
BHK				IAML		10 15 00.4	
	comp=E,83nm,0.3s						
BHK				IAML		10 15 01.0	
	comp=N,89nm,0.4s						
TKM2	Tokmak 2	7.22	27	⇓P	Pn	10 13 49.5	+0.6
	comp=N,26nm,0.6s						
TKM2				⇓S	Sn	10 15 09.0	-1.9
	comp=N,13nm,0.8s						
KDJ	Kajisay	7.28	38	Pn	Pn	10 13 50.5	+0.9
TARG	Taragay, Kyrgy	7.32	43		Pn	10 13 50.6	+0.2
SMLA	Simla	7.41	135	*e*P	Pn	10 13 51.4	+0.2
SMLA				*e*S	Sn	10 15 11.3	-3.7
SMLA				IAML		10 15 15.1	
	comp=N,104nm,0.2s						
SMLA				IAML		10 15 16.2	
	comp=E,116nm,0.4s						
HNLY	HANLEY	7.50	118	*e*P	Pn	10 13 54.1	+1.1
HNLY				*ex*	x	10 15 09.8	
HRA	Herat	7.55	256	Pn	Pn	10 13 52.3	-0.9
KLP	Kalpa	7.77	128	*e*P	Pn	10 13 57.2	+1.0
KLP				*e*S	Sn	10 15 20.7	-3.5
KLP				IAML		10 15 24.5	
	comp=E,107nm,0.6s						
KLP				IAML		10 15 25.4	
	comp=E,72nm,0.5s						
WUS	Wushi	7.83	51	Pn	Pn	10 13 57.5	+0.7
JOSI	Joshimath	9.26	128	*e*P	Pn	10 14 17.4	+1.9
JOSI				*e*S	Sn	10 15 54.9	-4.5
JOSI				IAML		10 15 57.9	
	comp=E,68nm,0.5s						
JOSI				IAML		10 15 58.6	
	comp=N,40nm,0.3s						
KUDL	Kundal	9.55	150	*e*P	Pn	10 14 18.6	-0.5
KUDL				*e*S	Sn	10 15 56.3	-10
KUDL				IAML		10 15 59.7	
	comp=E,30nm,0.5s						
KUDL				IAML		10 16 01.1	
	comp=N,13nm,0.7s						
MAKZ	Makanchi	13.05	35	Pn	Pn	10 15 03.4	-0.3
MK31	Makanchi Array	13.19	36	Pn	Pn	10 15 06.4	+1.1
MKAR	Makanchi Array	13.19	36	Pn	Pn	10 15 05.5	+0.1
MKAR	Makanchi Array	13.19	36	P	Pn	10 15 05.6	+0.2
	comp=N,1.6nm,0.8s,baz=221,slow=13,SNR=8.3						
MKAR				S	Sn	10 17 34.2	+1.8
	comp=N,0.4nm,0.7s,baz=241,slow=23,SNR=1.7						
KURBB	Kurchatov Arra	15.03	19	P	Pn	10 15 27.3	-0.7
	comp=N,0.4nm,0.2s,baz=206,slow=9.9,SNR=1.9						
AB31	Akbulak array	15.06	331	P	P	10 15 30.3	+1.2
	comp=N,0.8nm,0.4s,baz=154,slow=23,SNR=6.1						
ABKAR	Akbulak array	15.06	331	Pn	Pn	10 15 27.1	-1.3
BVAR	Borovoye Array	16.46	358	P	P	10 15 45.2	+0.8
	comp=N,1.1nm,0.4s,baz=170,slow=12,SNR=5.0						
BRVK	Borovoye	16.50	358	P	P	10 15 44.1	-0.7
AKTO	Aktyubinsk	16.76	330	⇑P	P	10 15 47.9	+0.1
	comp=N,1.3nm,0.8s						
AKTO	Aktyubinsk	16.76	330	P	Pn	10 15 48.8	-0.1
	comp=N,1.5nm,0.5s,baz=155,slow=8.8,SNR=4.5						
AKTO				S	S	10 18 50.9	-1.5
	comp=N,1.1nm,0.5s,baz=140,slow=17,SNR=1.9						
ZAA0	Zales

comp=Z,8.8nm,1.1s
NBO00 NORSAR Array S 44.59 323 P P 10 19 58.4 +0.8
NBO00 IAmb IAmb 10 20 02.3
comp=Z,16nm,1.3s
NC204 NORSAR Array S 44.61 323 P P 10 19 58.7 +0.9
NC204 IAmb IAmb 10 20 10.6
comp=Z,9.9nm,1.1s
TORD Torodi Ar. Bea 65.80 269 P P 10 22 28.5 -1.3
comp=Z,0.3nm,0.4s,baz=50,slow=6.2,SNR=8.9
comp=Z,0.3nm,0.4s
C18K Utukok River 68.18 18 P P 10 22 45.6 +1.7
C19K Lookout Ridge 68.24 17 P P 10 22 45.2 +0.9
B21K Ikpikpuk River 68.98 16 P P 10 22 49.1 +0.4
B21K IAmb IAmb 10 23 30.0
comp=Z,10.0nm,1.4s
D19K Kuna River 69.05 17 P P 10 22 50.2 +0.9
MATP Matopo 69.52 223 LR LR 10 54 49.2
comp=Z,89nm,18.9s,baz=240,slow=37
C23K Itkillik River 69.63 14 P P 10 22 54.9 +2.1
C23K IAmb IAmb 10 22 55.5
comp=Z,3.8nm,0.7s
F17K Baldwin Pennin 69.78 20 P P 10 22 55.7 +2.0
E19K Redstone River 70.06 18 P P 10 22 56.8 +1.3
E19K IAmb IAmb 10 23 17.6
comp=Z,7.8nm,1.2s
C24K Franklin Bluff 70.10 14 P P 10 22 57.1 +1.5
C24K IAmb IAmb 10 22 58.2
comp=Z,12nm,1.5s
D23K Nanushuk River 70.34 15 P P 10 22 58.7 +1.6
D23K IAmb IAmb 10 22 59.3
comp=Z,7.2nm,1.4s
F19K Shaleruckik Mo 70.41 18 P P 10 22 58.2 +0.7
E22K Anaktuvuk Pass 70.78 16 P P 10 23 00.6 +0.8
TOLK Toolik Lake Re 70.83 15 P P 10 23 01.4 +1.2
TOLK IAmb IAmb 10 23 03.3
comp=Z,3.5nm,0.7s
D25K Kavik River 70.88 13 P P 10 23 02.5 +2.1
D25K IAmb IAmb 10 23 39.5
comp=Z,6.1nm,1.5s
C27K Jago River 71.08 12 P P 10 23 03.9 +2.3
A36M Sachs Harbour 71.13 5 P P 10 23 03.5 +1.7
A36M IAmb IAmb 10 23 04.1
comp=Z,3.7nm,0.8s
E23K Chandalar 71.31 15 P P 10 23 03.3 +0.2
E23K IAmb IAmb 10 23 26.9
comp=Z,6.9nm,1.5s
E24K Your Creek 71.53 15 P P 10 23 06.2 +1.9
D27M Malcolm River 71.88 11 P 10 23 06.2 -0.2
IMAR Indian Mountai 72.08 18 P 10 23 07.7 +0.2
F24K Squaw Lake 72.12 15 P P 10 23 07.0 -0.8
F24K IAmb IAmb 10 23 18.2
comp=Z,5.7nm,1.5s
E27K Coleen River 72.72 12 P P 10 23 13.1 +1.8
BMAR Burnt Mountain 72.85 14 P P 10 23 13.1 +0.9
I20K Naaghedeneel 72.85 19 P P 10 23 11.9 -0.2
J19K Poorman 73.19 20 P P 10 23 16.2 +2.0
J19K IAmb IAmb 10 23 28.2
comp=Z,12nm,1.4s
J20K Nowinta River 73.44 19 P P 10 23 17.4 +1.9
J20K IAmb IAmb 10 23 42.0
comp=Z,7.6nm,1.3s
K17K Iditarod 73.44 21 P P 10 23 17.5 +1.9
C36M Paulatuk 73.80 6 P P 10 23 18.5 +1.0
INK Inuvik 73.82 9 P P 10 23 19.4 +1.7
INK IAmb IAmb 10 23 20.1
comp=Z,13nm,1.4s
L16K Owhat River 73.86 23 P P 10 23 20.5 +2.5
F31M Tsiigehtchic 74.61 10 P P 10 23 23.7 +1.5
F31M IAmb IAmb 10 23 56.8
comp=Z,5.0nm,1.4s
ILAR Eielson Array 74.69 16 P P 10 23 22.8 0.0
comp=Z,1.0nm,1.0s,baz=319,slow=5.0,SNR=5.4
comp=Z,1.0nm,1.0s
KTH Kantishna Hill 74.77 18 P P 10 23 24.8 +1.4
LBTB Lobatse 74.79 222 P P 10 23 25.0 +1.0
LBTB IAmb IAmb 10 23 50.6
comp=Z,9.9nm,1.4s
G31M Satah River 75.02 10 P P 10 23 26.1 +1.5
G31M IAmb IAmb 10 23 26.6
comp=Z,13nm,1.5s
H29M Whitestone 75.05 12 P P 10 23 26.8 +1.9
J25K Salcha River, 75.16 15 P P 10 23 26.6 +1.1
J25K IAmb IAmb 10 23 58.3
comp=Z,4.7nm,1.1s
KNRA Kununurra 75.19 123 P P 10 23 27.4 +1.1
I28M Miner Creek 75.48 13 P P 10 23 28.9 +1.5
I28M IAmb IAmb 10 23 50.5
comp=Z,6.6nm,1.4s
J26L Joseph Creek 75.63 15 P P 10 23 29.7 +1.4
J26L IAmb IAmb 10 23 29.8
comp=Z,8.3nm,1.4s
SCRK Sand Creek 76.01 15 P P 10 23 31.5 +1.0
H31M Peel River 76.06 11 P P 10 23 31.8 +1.2
K27K Chicken 76.35 14 P P 10 23 34.4 +2.1
K27K IAmb IAmb 10 23 36.5
comp=Z,9.7nm,1.5s
DAWY Dawson 76.83 13 P P 10 23 36.2 +1.1
DAWY IAmb IAmb 10 23 37.8
comp=Z,6.9nm,1.4s
SCM Sheep Creek Mo 77.12 18 P P 10 23 37.9 +1.2
BCAR Beaver Creek A 77.27 15 P P 10 23 39.1 +1.6
BOSA Boshof 77.85 220 P P 10 23 41.4 +0.2
comp=Z,3.3nm,1.0s,baz=38,slow=19,SNR=1.8
comp=Z,3.3nm,1.0s
FARO Faro, Yukon 79.58 11 P P 10 23 51.2 +1.1
FARO IAmb IAmb 10 24 07.8
comp=Z,8.7nm,1.5s
P33M Teslin, Yukon 81.57 12 P P 10 24 01.8 +1.1
P33M IAmb IAmb 10 24 09.4
comp=Z,5.7nm,1.1s
WRA Warramunga Arr 81.96 122 P P 10 24 02.4 -0.8
comp=Z,1.2nm,0.5s,baz=323,slow=4.9,SNR=27
comp=Z,1.2nm,0.5s
WRAB Tennant Creek 81.96 122 P P 10 24 03.3 +0.1
WRAB IAmb IAmb 10 24 03.5
comp=Z,2.8nm,0.6s
WR0 Warramunga Arr 82.11 122 P P 10 24 03.9 -0.1
AS31 Alice Springs 84.23 125 P P 10 24 14.9 +0.1
ASAR Alice Springs 84.23 125 P P 10 24 14.3 -0.5
comp=Z,1.8nm,0.6s,baz=310,slow=4.9,SNR=39
comp=Z,1.8nm,0.6s

*TIR **13** 10:26:29.0, 41.°14N×20.°19E, h7^{km}±1^{km}, Md2.7, Ml2.4*
*SKO **13** 10:26:29.7, 41.°03N×20.°06E, h0^{km}, ML2.2*
*BEO **13** 10:26:31.6±0.3, 41.°12N×20.°16E, h0^{km}, ML2.0/3*
*PDG **13** 10:26:31.1±0.1, 41.°21N×20.°11E, h1^{km}, ML2.5/12, Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*
ISC 13 10:26:30.3±1.1, 41.°12N±0.°02×20.°14E±0.°03, h7^{km}±10^{km}, n34, σ0.°95/53, 8C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.31**	**317**	P	**Pg**	**10 26 35.6**	**-0.7**
TIR				AMP			
comp=N,1.5nm,0.4s,baz=311							
TIR	**Tirane**	**0.31**	**317**	*e*Pg	**Pg**	**10 26 35.7**	**-0.7**
TIR				*e*Sg	**Sg**	**10 26 42.1**	**+1.6**
OHR	**Ohrid**	**0.49**	**91**	*e*Pg	**Pg**	**10 26 39.5**	**-0.4**
OHR				*e*Sg	**Sb**	**10 26 47.7**	**-1.1**
OHR	**Ohrid**	**0.49**	**91**	*i* Pg	**Pg**	**10 26 39.6**	**-0.3**
OHR				*i* Sg	**Sg**	**10 26 47.6**	**+1.2**
OHR				*e*Lg	Lg	10 26 47.9	
comp=N,61nm,0.2s							
OHR				*e*Lg	Lg	10 26 48.5	
comp=E,100nm,0.4s							
KBN	**Korca**	**0.70**	**135**	P	**Pg**	**10 26 42.3**	**-1.5**
KBN				AMP			
comp=N,1.6nm,0.5s,baz=138							
VLO	**Vlora**	**0.82**	**217**	P	**Pg**	**10 26 45.2**	**-0.8**
VLO				AMP			
comp=N,1.6nm,0.3s,baz=219							
PUK	**Puka**	**0.94**	**348**	P	**Pg**	**10 26 47.1**	**-1.3**
PUK				AMP			
comp=N,0.5nm,0.3s,baz=347							
FNA	**Florina**	**0.99**	**110**	P	**Pg**	**10 26 48.2**	**-1.2**
FNA				AMP			
comp=E,0.1nm,0.5s,baz=111							
FNA	**Florina**	**0.99**	**110**	*e*Pg	**Pg**	**10 26 47.7**	**-1.7**
FNA				*e*Sg	**Sg**	**10 27 02.4**	**+0.1**
FNA	**Florina**	**0.99**	**110**	*i* Pg	**Pg**	**10 26 47.7**	**-1.7**
FNA				*i* Sg	**Sb**	**10 27 03.2**	**+0.1**
LSK	**Leskovik**	**1.03**	**160**	P	**Pg**	**10 26 49.3**	**-0.8**
LSK				AMP			
comp=N,0.6nm,0.4s,baz=162							
ULC	**Ulcinj**	**1.08**	**321**	*i* Pg	**Pg**	**10 26 49.9**	**-1.1**
ULC	**Ulcinj**	**1.08**	**321**	*i* Pg	**Pg**	**10 26 49.7**	**-1.3**
ULC				*i* Sg	**Sg**	**10 27 05.0**	**0.0**
BCI	**Bajram Curri**	**1.24**	**357**	AMP			
comp=E,0.2nm,0.6s,baz=356							
SRN	**Sarande**	**1.25**	**185**	P	**Pn**	**10 26 54.2**	**+0.1**
SRN				AMP			
comp=E,0.1nm,0.6s,baz=187							
DRME	**Dracevica, Mon**	**1.28**	**326**	*i* Pg	**Pn**	**10 26 53.0**	**-1.7**
DRME				*i* Sg	**Sn**	**10 27 12.1**	**0.0**
PDG	**Podgorica**	**1.47**	**333**	*e*Pg	**Pb**	**10 26 57.9**	**0.0**
PDG	**Podgorica**	**1.47**	**333**	*i* Pn	**Pb**	**10 26 58.0**	**0.0**
PDG	**Podgorica**	**1.47**	**333**	*i* Pg	**Pn**	**10 26 56.5**	**-0.6**
PDG				*i* Sg	**Sg**	**10 27 17.7**	**+0.3**
PVY	**Plav**	**1.48**	**355**	*i* Pg	**Pn**	**10 26 56.8**	**-0.7**
PVY				*i* Sg	**Sg**	**10 27 18.7**	**+0.9**
BUM	**Brajici-Budva**	**1.50**	**322**	*i* Pg	**Pn**	**10 26 57.3**	**-0.5**
BUM				*i* Sg	**Sg**	**10 27 19.7**	**+1.0**
IGT	**Igoumenitsa**	**1.60**	**175**	P	**Pb**	**10 26 59.9**	**-0.3**
IGT	**Igoumenitsa**	**1.60**	**175**	*e*Pg	**Pn**	**10 26 59.4**	**+0.4**
IGT				*e*Sg	**Sg**	**10 27 23.9**	**+2.3**
SCTE	**Santa Cesarea**	**1.65**	**231**	P	**Pb**	**10 27 01.1**	**0.0**
CEME	**Cevo**	**1.69**	**328**	*i* Pn	**Pn**	**10 27 00.7**	**+0.4**
CEME				*i* Sn	**Sg**	**10 27 26.0**	**+1.3**
IVA	**Berane**	**1.76**	**354**	*i* Pn	**Pn**	**10 27 01.8**	**+0.5**
IVA				*i* Sn	**Sg**	**10 27 27.2**	**+0.4**
KOME	**Kolasin**	**1.79**	**345**	*i* Pn	**Pn**	**10 27 01.7**	**0.0**
KOME				*i* Sn	**Sg**	**10 27 27.8**	**0.0**
HCY	**Herceg Novi**	**1.81**	**318**	*i* Pn	**Pn**	**10 27 02.7**	**+0.8**
HCY				*i* Sn	**Sg**	**10 27 28.9**	**+0.4**
NKME	**Niksic**	**1.87**	**332**	*i* Pn	**Pn**	**10 27 03.8**	**+1.1**
NKME				*i* Sn	**Sg**	**10 27 29.9**	**-0.5**
BARS	**Barje**	**2.10**	**36**	*e*Pn	**Pb**	**10 27 09.1**	**+0.3**
BARS				*e*Sn	**Sb**	**10 27 35.6**	**+0.6**
SJES	**Sjenica**	**2.14**	**357**	*e*Pn	**Pb**	**10 27 09.4**	**-0.1**
BRY	**Bratogost**	**2.14**	**327**	*i* Pn	**Pn**	**10 27 07.9**	**+1.3**
BRY				*i* Sn	**Sb**	**10 27 36.6**	**+0.3**
SELS	**Selova**	**2.22**	**19**	*e*Pn	**Pn**	**10 27 09.2**	**+1.7**
SELS				*e*Sn	**Sb**	**10 27 38.9**	**+0.5**
UPM	**Unac-Piva**	**2.27**	**337**	*i* Pn	**Pn**	**10 27 09.4**	**+0.9**
UPM				*i* Sn	**Sb**	**10 27 39.9**	**-0.3**

*UCR **13** 10:26:47.9±2.6, 12.°85N×88.°94W, h0^{km}±256^{km}, MW3.9*
*IDC **13** 10:26:48.8±1.9, 13.°76N×88.°07W, h183^{km}±29^{km}, mb3.4/7, mbtmp3.8/9, Error ellipse: s-maj=50.9km s-min=21.4km az=34.0*
*CATAC **13** 10:26:49.4±0.4, 13.°42N×88.°33W, h183^{km}±3^{km}, ML3.4*
*SNET **13** 10:26:50.6±0.8, 13.°66N×88.°32W, h168^{km}±6^{km}, ML3.9*
*NEIC **13** 10:26:50.2±1.4, 13.°6N±0.°2×88.°3W±0.°1, h186^{km}±9^{km}, mb4.4/68, Error ellipse: s-maj=27.1km s-min=9.4km az=218.0*
ISC 13 10:26:48.7±0.6, 13.°48N±0.°05×88.°34W±0.°04, h190^{km}±5^{km}, n150, σ0.°99/187, mb4.4/37, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RANC	**El Ranchito**	**0.07**	**132**	*i* P	**Pn**	**10 27 14.2**	**+0.3**
RANC				IAML		10 27 14.8	
comp=Z,540nm,1.0s							
LCY	**Lacayo**	**0.07**	**142**	*e*P	**Pn**	**10 27 13.8**	**-0.1**
VSM	**San Miguel**	**0.08**	**129**	*e*P	**Pn**	**10 27 14.1**	**0.0**
TECA	**Tecapa**	**0.16**	**275**	*e*P	**Pn**	**10 27 14.1**	**+0.1**
TECO	**Alcaldia de Te**	**0.43**	**278**	*e*P	**Pn**	**10 27 13.7**	**-0.7**
TECO	**Alcaldia de Te**	**0.43**	**278**	*i* P	**Pn**	**10 27 14.6**	**+0.1**
TECO				IAML		10 27 14.8	
comp=Z,1μm,1.0s							
TECO				*i* S	**Sn**	**10 27 34.8**	**+0.6**
SCLA	**Alcaldia de Sa**	**0.44**	**300**	*i* P	**Pn**	**10 27 15.2**	**+0.7**
SCLA				IAML		10 27 15.4	
comp=Z,1μm,1.0s							
SCLA				*i* S	**Sn**	**10 27 35.8**	**+1.4**
UESV	**Universidad de**	**0.46**	**290**	*i* P	**Pn**	**10 27 14.8**	**+0.2**
UESV				IAML		10 27 15.5	
comp=Z,440nm,1.0s							
UESV				*i* S	**Sn**	**10 27 34.4**	**-0.1**
LCND	**La Caada**	**0.47**	**111**	*e*P	**Pn**	**10 27 14.6**	**0.0**
LCND				*e*P		10 27 14.7	
LCND				IAML		10 27 15.3	
comp=Z,1μm,0.2s							
LCND	**La Caada**	**0.47**	**111**	*i* P	**Pn**	**10 27 14.6**	**0.0**
LCND				IAML		10 27 15.0	
comp=Z,2μm,1.0s							
LCND				*i* S	**Sn**	**10 27 35.0**	**+0.6**
CNCH	**Conchagua**	**0.53**	**112**	*e*P	**Pn**	**10 27 14.8**	**-0.2**
CNCH	**Conchagua**	**0.53**	**112**	*i* P	**Pn**	**10 27 15.0**	**0.0**
CNCH				IAML		10 27 15.3	
comp=Z,980nm,1.0s							
CNCH				*i* S	**Sn**	**10 27 35.7**	**+0.6**
COEG	**Centro de Oper**	**0.54**	**285**	*e*P	**Pn**	**10 27 14.7**	**-0.3**
COEG	**Centro de Oper**	**0.54**	**285**	*i* P	**Pn**	**10 27 15.0**	**0.0**
COEG				IAML		10 27 16.1	
comp=Z,550nm,1.0s							
PAVA	**Las Pavas**	**0.62**	**292**	*e*P	**Pn**	**10 27 15.6**	**+0.3**
PAVA				*e*S	**Sn**	**10 27 33.5**	**-2.4**
PAVA	**Las Pavas**	**0.62**	**292**	*i* P	**Pn**	**10 27 15.7**	**+0.3**
PAVA				IAML		10 27 16.1	
comp=Z,4μm,1.0s							
PAVA				*i* S	**Sn**	**10 27 37.0**	**+1.1**
AMPH	**Amapala**	**0.69**	**106**	*i* P	**Pn**	**10 27 15.6**	**+0.1**
AMPH				*i* S	**Sn**	**10 27 36.8**	**+0.6**
LFRS	**El Faro**	**0.72**	**282**	*e*P	**Pn**	**10 27 16.0**	**+0.1**
MARCA	**Marcala la Paz**	**0.74**	**24**	*i* P	**Pn**	**10 27 16.6**	**+0.6**
MARCA				*i* S	**Sn**	**10 27 38.0**	**+0.8**
LOMA	**Loma Larga**	**0.82**	**282**	*e*P	**Pn**	**10 27 16.6**	**+0.1**
LOMA	**Loma Larga**	**0.82**	**282**	*i* P	**Pn**	**10 27 16.7**	**+0.2**
LOMA				IAML		10 27 17.1	
comp=Z,2μm,1.0s							
LOMA				*i* S	**Sn**	**10 27 38.6**	**+0.7**
PANCS	**Alcalda de**	**0.83**	**279**	*e*P	**Pn**	**10 27 16.4**	**0.0**
PANCS	**Alcalda de**	**0.83**	**279**	*i* P	**Pn**	**10 27 16.6**	**+0.2**
PANCS				IAML		10 27 16.7	
comp=Z,6μm,1.0s							
PANCS				*i* S	**Sn**	**10 27 38.3**	**+0.6**
INTHN	**La Esperanza I**	**0.86**	**15**	*i* P	**Pn**	**10 27 17.3**	**+0.4**
INTHN				*i* S	**Sn**	**10 27 39.0**	**+0.3**
UESS	**Universidad de**	**0.87**	**286**	*e*P	**Pn**	**10 27 16.5**	**-0.2**
SNET	**Serv Nac Est T**	**0.89**	**283**		**Pn**	**10 27 16.8**	**-0.1**
SNET	**Serv Nac Est T**	**0.89**	**283**	*e*P	**Pn**	**10 27 16.6**	**-0.2**
LLGN	**La Laguna**	**0.90**	**319**	IAML		10 27 14.9	
comp=Z,1μm,1.0s							
LLGN				*i* P	**Pn**	**10 27 17.5**	**+0.6**
LLGN				*i* S	**Sn**	**10 27 39.2**	**+0.4**
UEES	**Universidad Ev**	**0.91**	**285**	*e*P	**Pn**	**10 27 16.9**	**0.0**
UEES	**Universidad Ev**	**0.91**	**285**	*i* P	**Pn**	**10 27 16.9**	**0.0**
UEES				*i* S	**Sn**	**10 27 40.4**	**+1.7**
UEES				IAML		10 27 48.9	
comp=Z,560nm,1.0s							
CSGN	**Cosiguina Volc**	**0.91**	**123**	*i* P	**Pn**	**10 27 16.9**	**-0.1**
CSGN				*i* S	**Sn**	**10 27 37.8**	**-1.0**
CSGN				IAML		10 27 50.7	
comp=Z,130nm,1.0s							
BOQS	**Boqueron**	**0.95**	**286**	*e*P	**Pn**	**10 27 17.6**	**+0.3**
BOQS				*e*S	**Sn**	**10 27 39.3**	**-0.2**
PMON	**Piamonte**	**0.97**	**284**	*e*P	**Pn**	**10 27 17.2**	**-0.2**
PMON	**Piamonte**	**0.97**	**284**	*i* P	**Pn**	**10 27 17.7**	**+0.3**
PMON				*i* S	**Sn**	**10 27 40.0**	**+0.4**
PMON				IAML		10 27 51.6	
comp=Z,1μm,1.0s							
JAYA	**Jayaque - finc**	**1.09**	**279**	*e*P	**Pn**	**10 27 18.1**	**-0.2**
JAYA	**Jayaque - finc**	**1.09**	**279**	*i* P	**Pn**	**10 27 18.4**	**+0.1**
JAYA				*i* S	**Sn**	**10 27 41.4**	**+0.2**
JAYA				IAML		10 27 43.7	
comp=Z,4μm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.19**	**61**		**Pn**	**10 27 19.2**	**+0.2**
TGUH	**Tegucigalpa,Un**	**1.19**	**61**	*i* P	**Pn**	**10 27 19.2**	**+0.2**
TGUH				IAML		10 27 19.6	
comp=Z,1μm,1.0s							
TGUH				*i* S	**Sn**	**10 27 42.2**	**-0.2**
SNJE	**San Jose**	**1.29**	**288**	*e*P	**Pn**	**10 27 20.0**	**+0.1**
CEVE	**Cerro Verde**	**1.29**	**286**	*e*P	**Pn**	**10 27 20.1**	**+0.1**
CEVE				*e*S	**Sn**	**10 27 44.1**	**-0.1**
CEVE				IAML		10 27 54.0	
comp=Z,732nm,0.2s							
CEVE	**Cerro Verde**	**1.29**	**286**	*i* P	**Pn**	**10 27 20.1**	**+0.1**
CEVE				IAML		10 28 03.8	
comp=Z,740nm,1.0s							
MTO3	**Montecristo**	**1.35**	**313**		**Pn**	**10 27 21.1**	**+0.6**
MTO3	**Montecristo**	**1.35**	**313**	IAML		10 27 21.2	
comp=Z,260nm,1.0s							
MTO3				*i* P	**Pn**	**10 27 21.3**	**+0.8**
MTO3				*i* S	**Sn**	**10 27 45.7**	**+0.6**
ESQI	**Esquipulas**	**1.45**	**318**	Pn	**Pn**	**10 27 22.3**	**+1.1**
ESQI	**Esquipulas**	**1.45**	**318**	*i* P	**Pn**	**10 27 22.4**	**+1.1**
ESQI				*i* S	**Sn**	**10 27 48.4**	**+1.9**
ESQI				IAML		10 27 49.1	
comp=Z,310nm,1.0s							
NUBE	**Las Nubes**	**1.46**	**287**	*e*P	**Pn**	**10 27 21.5**	**+0.2**
NUBE	**Las Nubes**	**1.46**	**287**	*i* P	**Pn**	**10 27 21.6**	**+0.2**
NUBE				*i* S	**Sn**	**10 27 47.6**	**+1.0**
NUBE				IAML		10 27 56.7	
comp=Z,500nm,1.0s							
CRIN	**San Cristobal**	**1.48**	**122**	Pn	**Pn**	**10 27 21.9**	**+0.5**
CRIN	**San Cristobal**	**1.48**	**122**	*i* P	**Pn**	**10 27 22.0**	**+0.5**
CRIN				*i* S	**Sn**	**10 27 47.0**	**+0.2**
CRIN				IAML		10 28 08.0	
comp=Z,2μm,1.0s							
CRIN	**San Cristobal**	**1.48**	**122**	*e*P	**Pn**	**10 27 21.8**	**+0.3**
CRIN				*e*S	**Sn**	**10 27 47.4**	**+0.6**
SLOZ	**Alcaldia de Sa**	**1.50**	**291**	*e*P	**Pn**	**10 27 21.6**	**0.0**
SLOZ				*e*S	**Sn**	**10 27 46.4**	**-0.7**
YUSH	**Yuscaran**	**1.53**	**72**	*i* P	**Pn**	**10 27 22.2**	**+0.2**
YUSH				*i* S	**Sn**	**10 27 47.4**	**-0.3**
PKGN	**Cerro Pekin**	**1.55**	**121**	*i* P	**Pn**	**10 27 22.3**	**+0.2**
PKGN				*i* S	**Sn**	**10 27 47.5**	**-0.4**
PKGN				IAML		10 27 57.0	
comp=Z,2μm,1.0s							
JUAM	**Asuncion Mita**	**1.57**	**303**	*i* P	**Pn**	**10 27 23.2**	**+0.9**
JUAM				IAML		10 27 23.2	
comp=Z,640nm,1.0s							
JUAM				*i* S	**Sn**	**10 27 48.7**	**+0.3**
CHIHN	**Chmisales**	**1.67**	**360**	*i* P	**Pn**	**10 27 24.4**	**+1.0**
CNGA	**AI SSO del Vol**	**1.87**	**121**	*i* P	**Pn**	**10 27 25.8**	**+0.5**
CNGA				*i* S	**Sn**	**10 27 53.8**	**+0.2**
CNGA				IAML		10 28 04.2	
comp=Z,560nm,1.0s							
LIMN	**Finca el Limon**	**1.97**	**102**	*i* P	**Pn**	**10 27 26.6**	**+0.3**
LIMN				*i* S	**Sn**	**10 27 54.2**	**-1.2**
LIMN				IAML		10 27 58.4	
comp=Z,180nm,1.0s							
MOMN	**Momotombo**	**2.05**	**121**	*i* P	**Pn**	**10 27 28.1**	**+0.9**
MOMN				*i* S	**Sn**	**10 27 57.1**	**+0.1**
MOMN				IAML		10 28 07.5	
comp=Z,15nm,1.0s							
MOM2	**El Cardon**	**2.08**	**120**	*i* P	**Pn**	**10 27 25.2**	**-2.2**
MOM2				*i* S	**Sn**	**10 27 58.4**	**+0.9**
MOM2				IAML		10 28 02.8	
comp=Z,200nm,1.0s							
RCVN	**Varillal2**	**2.09**	**87**	*i* P	**Pn**	**10 27 27.3**	**-0.3**
RCVN				IAML		10 27 27.7	
comp=Z,8μm,1.0s							
RCVN				*i* S	**Sn**	**10 27 57.8**	**0.0**
COPN	**Copaltepe**	**2.14**	**127**	*i* P	**Pn**	**10 27 27.5**	**-0.5**
COPN				IAML		10 27 59.9	
comp=Z,360nm,1.0s							
RCPN	**Sur Rio San Ju**	**2.19**	**89**	*i* P	**Pn**	**10 27 28.3**	**-0.3**
RCPN				IAML		10 27 28.8	
comp=Z,0.6nm,1.0s							
MGAN	**Managua**	**2.43**	**123**	Pn	**Pn**	**10 27 32.4**	**+1.1**
UNAN	**Cigeo UNAN**	**2.44**	**124**	*i* P	**Pn**	**10 27 31.0**	**-0.3**
UNAN				*i* S	**Sn**	**10 28 03.6**	**-0.8**
UNAN				IAML		10 28 14.7	
comp=Z,2μm,1.0s							
ACON	**Acoyapa**	**3.44**	**116**	Pn	**Pn**	**10 27 44.3**	**+1.1**
LCRUZ	**La Cruz**	**3.56**	**132**	*e*P	**Pn**	**10 27 46.6**	**+1.7**
DELF	**Filadelfia**	**4.06**	**138**	*e*P	**Pn**	**10 27 53.5**	**+2.5**
SACU	**Santa Cruz**	**4.18**	**140**	*e*P	**Pn**	**10 27 53.9**	**+1.3**
CUI	**Cuipilapa**	**4.19**	**132**	*e*P	**Pn**	**10 27 53.5**	**+0.9**
NICO	**Nicoya**	**4.37**	**139**	*e*P	**Pn**	**10 27 56.8**	**+1.9**
JTS	**Las Juntas de**	**4.59**	**133**		**Pn**	**10 27 58.5**	**+0.7**
JTS	**Las Juntas de**	**4.59**	**133**	P	**Pn**	**10 27 58.2**	**+0.5**
comp=Z,11nm,0.4s,baz=305,slow=12,SNR=26							
JTS				S	**Sn**	**10 28 47.3**	**-4.5**
comp=Z,33nm,0.3s,baz=303,slow=22,SNR=3.0							
JTS	**Las Juntas de**	**4.59**	**133**	*e*P	**Pn**	**10 27 58.3**	**+0.5**
LCR2	**La Lucha 2**	**5.64**	**131**	Pn	**Pn**	**10 28 12.9**	**+1.5**
CMIG	**Matias Romero**	**7.26**	**300**	P	**Pn**	**10 28 32.4**	**0.0**
comp=Z,1.4nm,0.3s,baz=144,slow=9.4,SNR=16							
CMIG				S	**Sn**	**10 29 49.5**	**-5.0**
comp=Z,1.9nm,0.3s,baz=75,slow=20,SNR=9.4							
RUSC	**La Rusia**	**16.82**	**115**		**Pn**	**10 30 35.0**	**+1.0**
352A	**Blakely**	**18.19**	**9**	P	**Pn**	**10 30 49.4**	**0.0**
VBMS	**Vicksburg**	**18.76**	**354**	P	**Pn**	**10 30 56.1**	**-0.1**
HNDO	**Hondo**	**18.92**	**329**	P	**P**	**10 30 55.4**	**+0.1**
HATO	**Hato, Curacao**	**18.94**	**92**	P	**P**	**10 30 56.4**	**+0.8**
152A	**Waverly Hall**	**19.39**	**9**	P	**P**	**10 31 01.9**	**+1.6**
DRIO	**Del Rio**	**19.53**	**326**	P	**Pn**	**10 31 03.8**	**-1.6**
GOGA	**Godfrey**	**20.33**	**12**	P	**P**	**10 31 09.9**	**-0.5**
Y49A	**Blount Mountai**	**20.36**	**5**	P	**P**	**10 31 10.3**	**-0.4**
Y49A				IAmb	IAmb	10 31 12.3	
comp=Z,10nm,1.0s							
SAND	**Sanderson**	**20.77**	**324**	P	**P**	**10 31 15.7**	**+0.6**
OZNA	**Ozona**	**20.98**	**328**	P	**P**	**10 31 19.1**	**+1.8**
TX31	**Lajitas Ar. Si**	**21.23**	**320**	P	**P**	**10 31 20.6**	**+0.6**
TXAR	**Lajitas Array**	**21.23**	**320**	P	**P**	**10 31 20.8**	**+0.7**
TXAR	**Lajitas Array**	**21.23**	**320**	P	**P**	**10 31 20.3**	**+0.2**
comp=Z,2.1nm,0.6s,baz=137,slow=9.6,SNR=44							
comp=Z,2.1nm,0.6s							
HODGE	**Hodges**	**21.38**	**14**	P	**P**	**10 31 22.6**	**+1.1**
HODGE				IAmb	IAmb	10 31 26.2	
comp=Z,9.4nm,1.1s							
MIAR	**Mount Ida**	**21.50**	**348**	P	**P**	**10 31 23.3**	**+0.6**
MIAR				IAmb	IAmb	10 31 24.8	
comp=Z,14nm,0.8s							
JSC	**Jenkinsville**	**21.68**	**16**	P	**P**	**10 31 26.3**	**+1.7**
Y57A	**Sumter**	**21.68**	**18**	P	**P**	**10 31 26.2**	**+1.6**
W50A	**Signal Mountai**	**21.80**	**7**	P	**P**	**10 31 25.9**	**+0.1**
W50A				IAmb	IAmb	10 31 32.9	
comp=Z,18nm,1.2s							
X37A	**Clayton**	**21.96**	**344**	P	**P**	**10 31 28.7**	**+1.4**
X37A

QUOK	**Quay**	**23.81**	**343**	P	**P**	**10 31 44.8**	**+0.5**
QUOK				IAmb	IAmb	10 32 27.1	
comp=Z,12nm,1.2s							
MGMO	**Mountain Grove**	**23.84**	**352**	P	**P**	**10 31 44.9**	**+0.3**
SMWD	**Samnorwood**	**24.07**	**336**	P	**P**	**10 31 47.6**	**+0.9**
SMWD				IAmb	IAmb	10 31 47.9	
comp=Z,11nm,0.7s							
S44A	**Carbondale**	**24.13**	**358**	P	**P**	**10 31 47.3**	**+0.1**
S44A				IAmb	IAmb	10 32 16.7	
comp=Z,7.9nm,0.8s							
MSTX	**Muleshoe**	**24.25**	**330**	P	**P**	**10 31 49.5**	**+1.1**
MSTX				IAmb	IAmb	10 31 49.8	
comp=Z,6.0nm,0.8s							
S51A	**Beattyville**	**24.43**	**9**	P	**P**	**10 31 50.0**	**+0.1**
S51A				IAmb	IAmb	10 32 32.2	
comp=Z,19nm,1.4s							
AMTX	**Amarillo**	**24.49**	**333**	P	**P**	**10 31 51.7**	**+1.1**
AMTX				IAmb	IAmb	10 31 56.5	
comp=Z,3.8nm,0.5s							
S39A	**Bolivar**	**24.52**	**350**	P	**P**	**10 31 51.0**	**+0.2**
CCM	**Cathedral Cave**	**24.61**	**354**	P	**P**	**10 31 51.1**	**-0.4**
CCM				IAmb	IAmb	10 31 51.6	
comp=Z,5.5nm,0.7s							
NOKA	**Waynoka**	**24.94**	**339**	P	**P**	**10 31 54.9**	**+0.3**
T25A	**Trinidad**	**27.59**	**331**	P	**P**	**10 32 20.3**	**+1.7**
S22A	**4UR Ranch, Cre**	**29.24**	**329**	P	**P**	**10 32 35.4**	**+2.1**
G40A	**Rib Lake**	**31.72**	**358**	P	**P**	**10 32 54.8**	**+0.1**
G40A				IAmb	IAmb	10 33 16.9	
comp=Z,8.2nm,1.1s							
SADO	**Sadowa**	**32.16**	**12**	P	**P**	**10 32 57.7**	**-0.7**
SADO				IAmb	IAmb	10 33 21.8	
comp=Z,15nm,1.1s							
LONY	**Lake Ozonia**	**33.18**	**18**	P	**P**	**10 33 07.5**	**+0.2**
LONY				IAmb	IAmb	10 33 19.6	
comp=Z,18nm,1.4s							
PDAR	**Pinedale Array**	**34.46**	**332**	P	**P**	**10 33 19.5**	**+0.9**
PDAR	**Pinedale Array**	**34.46**	**332**	P	**P**	**10 33 19.2**	**+0.5**
comp=Z,0.4nm,0.5s,baz=127,slow=10,SNR=6.7							
comp=Z,0.4nm,0.5s							
EYMN	**Ely**	**34.46**	**356**	P	**P**	**10 33 17.1**	**-1.2**
SPUT	**South Promonto**	**34.79**	**327**	P	**P**	**10 33 23.3**	**+1.8**
SPUT				IAmb	IAmb	10 33 23.3	
comp=Z,6.9nm,0.9s							
AGMN	**Agassiz Nation**	**35.27**	**351**	P	**P**	**10 33 24.8**	**-0.4**
AGMN				IAmb	IAmb	10 33 38.6	
comp=Z,14nm,1.5s							
SNOW	**Snow King Moun**	**35.55**	**331**	IAmb	IAmb	10 33 30.1	
comp=Z,4.6nm,0.8s							
SNOW				P	**P**	**10 33 30.2**	**+2.2**
TPAW	**Teton Pass**	**35.66**	**331**	P	**P**	**10 33 30.6**	**+1.6**
NVAR	**Mina Array Bea**	**36.36**	**319**	P	**P**	**10 33 36.5**	**+1.5**
comp=Z,0.4nm,0.7s,baz=104,slow=7.5,SNR=4.2							
comp=Z,0.4nm,0.7s							
ULM	**Lac du Bonnet**	**37.18**	**352**	P	**P**	**10 33 39.7**	**-1.7**
comp=Z,2.7nm,0.4s,baz=163,slow=11,SNR=4.3							
comp=Z,2.7nm,0.4s							
DGMT	**Dagmar**	**37.28**	**343**	P	**P**	**10 33 42.5**	**+0.2**
SCHQ	**Schefferville**	**44.56**	**18**	P	**P**	**10 34 39.7**	**-1.8**
comp=Z,3.4nm,0.9s,baz=209,slow=19,SNR=1.4							
comp=Z,3.4nm,0.9s							
YKA	**Yellowknife Ar**	**52.40**	**345**	P	**P**	**10 35 39.0**	**-2.3**
comp=Z,3.8nm,1.0s,baz=236,slow=11,SNR=3.4							
comp=Z,3.8nm,1.0s							
ILAR	**Eielson Array**	**64.73**	**336**	P	**P**	**10 37 05.5**	**-0.9**
comp=Z,0.4nm,0.9s,baz=136,slow=8.4,SNR=4.2							
comp=Z,0.4nm,0.9s							
WRA	**Warramunga Arr**	**138.71**	**255**	PKP	**PKPdf**	**10 45 53.4**	**+0.4**
comp=Z,1.4nm,0.7s,baz=90,slow=2.4,SNR=23							
ASAR	**Alice Springs**	**138.83**	**249**	PKP	**PKPdf**	**10 45 53.3**	**+0.1**
comp=Z,0.3nm,0.6s,baz=91,slow=1.9,SNR=5.9							

IDC 13 10:29:32.2±6.2, 17°.44S×177°.73W, h617km±29km, mb2.7/4, mbtmp3.7/5, Error ellipse: s-maj=165.4km s-min=40.1km az=27.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.04**	**265**	P	P	10 30 59.3	0.0
9.1nm,0.6s,baz=127,slow=20,SNR=7.7							
STKA	**Stephens Creek**	**39.42**	**241**	P	P	10 36 11.0	-0.1
0.9nm,0.6s,baz=99,slow=13,SNR=1.5							
0.9nm,0.6s							
WRA	**Warramunga Arr**	**45.36**	**259**	P	P	10 36 57.3	-0.3
0.6nm,0.6s,baz=95,slow=7.3,SNR=12							
0.6nm,0.6s							
ASAR	**Alice Springs**	**45.55**	**254**	P	P	10 36 59.1	+0.2
1.0nm,0.4s,baz=88,slow=8.3,SNR=13							
1.0nm,0.4s							
QSPA	**South Pole Qui**	**72.61**	**180**	P	P	10 39 58.4	+0.1
0.2nm,0.3s,baz=349,slow=2.9,SNR=1.3							
0.2nm,0.3s							

IDC 13 10:49:03.5±12.0, 0°.96S×134°.60E, h0km, mb3.4/2, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=184.7km s-min=86.6km az=172.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.87**	**181**	P	P	10 53 24.9	-0.6
baz=358,slow=11,SNR=5.4							
0.4nm,0.7s							
FITZ	**Fitzroy Crossi**	**19.18**	**207**	P	Pn	10 53 29.5	-0.2
baz=20,slow=12,SNR=1.8							
2.2nm,1.0s							
ASAR	**Alice Springs**	**22.59**	**182**	P	P	10 54 06.7	+0.9
0.3nm,0.6s,baz=360,slow=11,SNR=5.8							
0.3nm,0.6s							
STKA	**Stephens Creek**	**31.46**	**169**	P	P	10 55 26.1	-0.8
1.2nm,0.6s,baz=330,slow=14,SNR=3.9							
1.2nm,0.6s							

*IDC **13** 11:17:31.9±0.6, 43°.19N×87°.19E, h0km, mb4.1/17, mbtmp4.1/22, ML3.5/5, MS3.1/11, Error ellipse: s-maj=21.0km s-min=10.2km az=46.0*
*NNC **13** 11:17:32.3±2.6, 43°.42N×87°.48E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=24.0km s-min=18.0km az=75.0*
*BJI **13** 11:17:35.0, 43°.20N×87°.28E, h10km, mb4.5/3, ML4.2/12, Ms3.6/1, Ms7 3.6/2*
*NEIC **13** 11:17:36.7±1.7, 43°.26N±0°.05×87°.39E±0°.10, h27km±5km, mb4.5/53, Error ellipse: s-maj=10.9km s-min=6.3km az=119.0*
ISC 13 11:17:34.8±0.5, 43°.26N±0°.05×87°.31E±0°.05, h18km, n110, σ1§33/115, mb4.4/41, MS3.0/5, 9C-11D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.63**	**26**		**Pb**	**11 17 47.8**	**+0.5**
WMQ				Sg	**Sb**	**11 17 57.2**	**+1.3**
WMQ	**Urumqi**	**0.63**	**26**	Pg	**Pb**	**11 17 47.9**	**+0.5**
WMQ				Sg	**Sb**	**11 17 57.3**	**+1.4**
WMQ				smax	smax		
comp=N,6μm,0.7s							
WMQ				smax	smax		
comp=E,4μm,0.7s							
MK31	**Makanchi Array**	**5.02**	**317**	⇑Pn	**Pn**	**11 18 51.3**	**+2.1**
4.2nm,0.2s,baz=136,slow=14,SNR=285							
MK31				⇓Sn	**Sn**	**11 19 48.8**	**+2.1**
9.9nm,0.2s,baz=134,slow=26,SNR=5.3							
MK31				⇓Lg	Lg	11 20 10.9	
15nm,0.3s,baz=118,slow=23,SNR=6.4							
MK31	**Makanchi Array**	**5.02**	**317**		**Pn**	**11 18 50.7**	**+1.5**
MK31				Sn	**Sn**	**11 19 49.2**	**+2.5**
MKAR	**Makanchi Array**	**5.02**	**317**		**Pn**	**11 18 50.6**	**+1.4**
MKAR	**Makanchi Array**	**5.02**	**317**	Pn	**Pn**	**11 18 50.8**	**+1.6**
8.3nm,0.3s,baz=133,slow=14,SNR=288							
MKAR				Sn	**Sn**	**11 19 49.2**	**+2.5**
25nm,0.3s,baz=128,slow=26,SNR=10							
MKAR				Lg	Lg	11 20 08.2	
20nm,0.3s,baz=117,slow=32,SNR=7.2							
MKAR				LR	LR	11 20 57.7	
comp=Z,107nm,18.1s,baz=68,slow=41							
12nm,0.3s							
MAKZ	**Makanchi**	**5.19**	**315**	⇓Pn	**Pn**	**11 18 52.7**	**+1.2**
3.2nm,0.2s							
MAKZ				⇑Sn	**Sn**	**11 19 52.8**	**+2.0**
11nm,0.3s							
MAKZ				⇑Lg	Lg	11 20 15.3	
29nm,0.6s							
MAKZ	**Makanchi**	**5.19**	**315**		**Pn**	**11 18 52.9**	**+1.4**
WUS	**Wushi**	**6.35**	**254**	Pn	**Pn**	**11 19 09.4**	**+1.8**
PRZ	**Przheval'sk**	**6.59**	**266**	Pn	**Pn**	**11 19 12.4**	**+1.4**
MDOK	**Medeo**	**7.50**	**273**	Pn	**Pn**	**11 19 23.8**	**+0.4**
2.6nm,0.4s							
MDOK				⇓Sn	**Sn**	**11 20 52.6**	**+4.6**
25nm,0.6s							
MDOK				⇓Lg	Lg	11 21 28.7	
30nm,0.5s							
KDJ	**Kajisay**	**7.55**	**265**	Pn	**Pn**	**11 19 26.2**	**+2.1**
BOOM	**Boomskoye usch**	**8.38**	**269**	Pn	**Pn**	**11 19 37.2**	**+1.6**
TKM2	**Tokmak 2**	**8.58**	**272**	⇓Pn	**Pn**	**11 19 40.4**	**+2.1**
3.6nm,0.5s							
TKM2				⇑Sn	**Sn**	**11 21 18.6**	**+3.9**
14nm,0.6s							
TKM2				⇑Lg	Lg	11 22 10.1	
21nm,0.7s							
GOMU	**GeErMu**	**9.11**	**138**	P	**Pn**	**11 19 46.3**	**+0.6**
GOMU				pP		11 19 50.1	
GOMU				sP		11 19 52.6	
GOMU				pmax	pmax		
comp=Z,11nm,0.6s							
GOMU				LR	LR		
comp=N,310nm,14.3s							
GOMU				LR	LR		
comp=E,130nm,9.0s							
GOMU				LR	LR		
comp=Z,360nm,12.1s							
KSH	**Kashi**	**9.30**	**250**	P	Pn	11 19 55.5	+7.4
KSH				pmax	pmax		
comp=Z,7.0nm,0.8s							
AAK	**Ala-Archa**	**9.42**	**271**	Pn	**Pn**	**11 19 51.3**	**+1.5**
AAK	**Ala-Archa**	**9.42**	**271**	Pn	**Pn**	**11 19 51.2**	**+1.4**
0.7nm,0.3s,baz=119,slow=9.1,SNR=6.0							
AAK				Sn	**Sn**	**11 21 32.4**	**-2.8**
0.7nm,0.3s,baz=113,slow=11,SNR=1.7							
AAK				Lg	Lg	11 22 24.1	
0.4nm,0.3s,baz=114,slow=20,SNR=1.9							
AAK				LR	LR	11 23 57.5	
comp=Z,39nm,21.8s,baz=82,slow=41							
1.7nm,0.3s							
KURBB	**Kurchatov Arra**	**9.50**	**324**	⇓Pn	Pn	11 19 46.3	-4.3
2.8nm,0.5s							
KURBB				⇓Sn	**Sn**	**11 21 34.3**	**-2.6**
17nm,0.6s							
KURBB				⇓Lg	Lg	11 22 34.4	
46nm,0.6s							
KURBB	**Kurchatov Arra**	**9.50**	**324**	Pn	**Pn**	**11 19 49.8**	**-0.9**
0.4nm,0.3s,baz=134,slow=13,SNR=29							
KURBB				Sn	**Sn**	**11 21 32.8**	**-4.1**
0.7nm,0.3s,baz=232,slow=18,SNR=1.9							
KURBB				Lg	Lg	11 22 32.5	
0.5nm,0.3s,baz=151,slow=33,SNR=4.2							
KURBB				LR	LR	11 24 03.4	
comp=Z,102nm,19.5s,baz=163,slow=41							
7.1nm,0.6s							
KURK	**Kurchatov**	**9.53**	**325**	⇑Pn	Pn	11 19 46.3	-4.7
3.6nm,0.7s							
KURK				⇓Sn	Sn	11 21 29.5	-8.2
6.0nm,0.4s							
KURK				⇑Lg	Lg	11 22 26.1	
13nm,0.6s							
ZAA0	**Zalesovo Array**	**10.83**	**352**	Pn	**Pn**	**11 20 08.8**	**0.0**
ZALV	**Zalesovo Beam**	**10.83**	**352**	Pn	**Pn**	**11 20 08.8**	**0.0**
1.1nm,0.3s,baz=175,slow=14,SNR=9.5							
ZALV				Sn	**Sn**	**11 22 06.1**	**-3.3**
2.6nm,0.3s,baz=172,slow=22,SNR=10							
ZALV				LR	LR	11 24 57.9	
comp=Z,60nm,19.0s,baz=42,slow=41							
2.2nm,0.3s							
KK31	**Karatay Array**	**12.27**	**275**	⇑Pn	**Pn**	**11 20 30.6**	**+2.1**
0.3nm,0.3s,baz=68,slow=13,SNR=15							
KK31				⇑Lg	Lg	11 23 59.8	
11nm,1.1s,baz=78,slow=26,SNR=3.7							
KKAR	**Karatay Array**	**12.27**	**275**		**Pn**	**11 20 29.0**	**+0.4**
BTK	**Batken**	**12.74**	**261**	Pn	**Pn**	**11 20 34.6**	**-0.5**
GAR	**Garm**	**13.49**	**257**	Pn	**Pn**	**11 20 44.0**	**-1.5**
SONM	**Songino Array**	**14.13**	**64**	Lg	Lg	11 24 57.1	
0.5nm,0.3s,baz=295,slow=39,SNR=1.6							
SONM				LR	LR	11 26 41.5	
comp=Z,93nm,19.7s,baz=324,slow=39							
SIMJ	**Simiganj**	**14.56**	**258**	Pn	**Pn**	**11 20 58.7**	**-1.4**
NIL	**Nilore**	**14.58**	**234**	Pn	**Pn**	**11 20 59.0**	**-1.3**
BVAR	**Borovoye Array**	**14.90**	**317**	Pn	**Pn**	**11 21 01.6**	**-2.9**
baz=117,slow=11,SNR=2.7							
BVAR				Sn	Sn	11 23 41.4	-7.5
0.1nm,0.3s,baz=113,slow=22,SNR=5.2							
BVAR				Lg	Lg	11 25 13.1	
baz=126,slow=22							
BVAR				LR	LR	11 27 13.0	
comp=Z,93nm,18.9s,baz=146,slow=39							
0.9nm,0.5s							
BRVK	**Borovoye**	**14.97**	**317**	Pn	**Pn**	**11 21 06.0**	**+0.6**
KBL	**Kabul**	**16.64**	**245**	Pn	**Pn**	**11 21 27.9**	**+0.6**
SHL	**Shillong**	**18.04**	**167**		**Pn**	**11 21 43.7**	**-1.0**
AB31	**Akbulak array**	**19.79**	**297**	P	**P**	**11 22 03.7**	**-0.2**
1.0nm,0.3s,baz=98,slow=11,SNR=98							
ABKAR	**Akbulak array**	**19.79**	**297**	P	**P**	**11 22 03.7**	**-0.2**
ABKAR	**Akbulak array**	**19.79**	**297**	P	**P**	**11 22 03.4**	**-0.5**
ABKAR				IAmb	IAmb	11 22 05.2	
comp=Z,4.0nm,0.4s							
AKTO	**Aktyubinsk**	**21.19**	**300**	⇓P	**P**	**11 22 18.7**	**-0.3**
comp=Z,2.0nm,0.6s							
AKTO	**Aktyubinsk**	**21.19**	**300**	P	**P**	**11 22 18.8**	**-0.3**
comp=Z,3.3nm,0.4s,baz=79,slow=11,SNR=8.7							
AKTO				S	S	11 25 52.2	-22
comp=Z,1.1nm,0.6s,baz=75,slow=15,SNR=1.8							
comp=Z,3.3nm,0.4s							
ARTI	**Arti**	**22.61**	**316**	P	**P**	**11 22 34.2**	**-0.2**
ARTI				IAmb	IAmb	11 22 36.9	
comp=Z,11nm,0.7s							
ARTI	**Arti**	**22.61**	**316**	LR	LR	11 31 55.4	
comp=Z,44nm,19.9s,baz=62,slow=38							
NRIK	**Noril'sk**	**26.15**	**0**		**P**	**11 23 06.7**	**-0.9**
NRIK	**Noril'sk**	**26.15**	**0**	P	**P**	**11 23 08.6**	**+1.0**
comp=Z,2.5nm,0.5s,baz=172,slow=8.5,SNR=5.3							
comp=Z,2.5nm,0.5s							
CHTO	**Chiang Mai**	**26.27**	**154**	P	**P**	**11 23 09.1**	**0.0**
CMAR	**Chiang Mai Arr**	**26.61**	**155**	P	**P**	**11 23 12.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**26.61**	**155**	P	**P**	**11 23 13.3**	**+1.2**
comp=Z,3.0nm,0.8s,baz=333,slow=9.3,SNR=20							
comp=Z,3.0nm,0.8s							
KSRS	**Korea Array**	**31.26**	**87**	P	**P**	**11 23 54.1**	**+0.6**
comp=Z,0.8nm,0.8s,baz=285,slow=8.7,SNR=1.9							
comp=Z,0.8nm,0.8s							
JNU	**Nakatsue**	**35.36**	**92**	LR	LR	11 38 37.5	
comp=Z,22nm,21.3s,baz=352,slow=36							
JOW	**Kunigami**	**36.92**	**103**	LR	LR	11 40 28.5	
comp=Z,28nm,20.0s,baz=232,slow=37							
AKASG	**Malin Array Be**	**39.41**	**302**	P	**P**	**11 25 02.4**	**-1.0**
comp=Z,0.3nm,0.3s,baz=65,slow=8.1,SNR=4.3							
comp=Z,0.3nm,0.3s							
AKBB	**Malin Array Si**	**39.41**	**302**	P	**P**	**11 25 03.8**	**+0.4**
AKBB				IAmb	IAmb	11 25 28.2	
comp=Z,9.3nm,1.4s							
KIEV	**Kiev**	**39.42**	**302**	P	**P**	**11 25 03.6**	**+0.2**
KIEV				IAmb	IAmb	11 25 28.2	
comp=Z,9.0nm,1.5s							
RAYN	**Ar Rayn**	**39.57**	**254**	P	**P**	**11 25 04.6**	**-0.4**
FIA1	**FINESS Array S**	**39.84**	**319**	P	**P**	**11 25 06.6**	**-0.2**
FINES	**FINESS Array B**	**39.85**	**319**	P	**P**	**11 25 07.0**	**+0.2**
FINES	**FINESS Array B**	**39.85**	**319**	P	**P**	**11 25 06.7**	**-0.2**
comp=Z,1.3nm,0.6s,baz=61,slow=9.6,SNR=5.1							
FINES				LR	LR	11 42 31.8	
comp=Z,75nm,18.1s,baz=1.0,slow=38							
comp=Z,1.3nm,0.6s							
ARCES	**ARCESS Array B**	**40.48**	**331**	P	**P**	**11 25 12.4**	**+0.4**
comp=Z,1.6nm,0.6s,baz=87,slow=7.7,SNR=11							
comp=Z,1.6nm,0.6s							
SPITS	**Spitsbergen Ar**	**44.17**	**344**	P	**P**	**11 25 42.1**	**+0.2**
comp=Z,11nm,0.9s,baz=101,slow=11,SNR=6.8							
comp=Z,11nm,0.9s							
HFS	**Hagfors**	**46.03**	**318**	P	**P**	**11 25 56.4**	**-0.5**
comp=Z,2.1nm,0.6s,baz=101,slow=7.7,SNR=5.7							
comp=Z,2.1nm,0.6s							
NC405	**NORSAR Array S**	**46.75**	**320**	P	**P**	**11 26 02.7**	**+0.1**
NC602	**NORSAR Array S**	**46.92**	**319**	P	**P**	**11 26 04.8**	**+0.8**
NC602				IAmb	IAmb	11 26 11.1	
comp=Z,11nm,1.1s							
NB2	**NORSAR Subarra**	**47.01**	**320**	P	**P**	**11 26 04.3**	**-0.3**
comp=Z,1.7nm,0.9s,baz=73,slow=7.9							
NOA	**NORSAR Array B**	**47.01**	**320**	P	**P**	**11 26 04.3**	**-0.3**
comp=Z,0.7nm,0.5s,baz=75,slow=7.7,SNR=4.8							
NOA				LR	LR	11 46 34.0	
comp=Z,25nm,20.1s,baz=355,slow=37							
comp=Z,0.7nm,0.5s							
NRCA	**Norcia**	**52.49**	**297**	P	**P**	**11 26 46.5**	**-0.1**
FUORN	**Ofenpass-Fuorn**	**52.58**	**302**	P	**P**	**11 26 48.1**	**+0.6**
EKA	**Eskdalemuir Ar**	**56.15**	**317**	P	**P**	**11 27 12.4**	**-0.6**
comp=Z,1.8nm,0.8s,baz=62,slow=16,SNR=2.3							
comp=Z,1.8nm,0.8s							
D19K	**Kuna River**	**58.49**	**23**	P	**P**	**11 27 30.3**	**+0.9**
B21K	**Ikpikpuk River**	**58.73**	**21**	P	**P**	**11 27 31.6**	**+0.7**
B21K				IAmb	IAmb	11 27 39.6	
comp=Z,7.8nm,1.4s							
E19K	**Redstone River**	**59.41**	**24**	P	**P**	**11 27 36.2**	**+0.5**
C23K	**Itkillik River**	**59.61**	**20**	P	**P**	**11 27 38.0**	**+0.9**
C23K				IAmb	IAmb	11 28 13.0	
comp=Z,11nm,1.4s							
D23K	**Nanushuk River**	**60.20**	**21**	P	**P**	**11 27 42.4**	**+1.3**
D23K				IAmb	IAmb	11 28 02.9	
comp=Z,8.0nm,1.4s							
G19K	**Purcell Mounta**	**60.31**	**25**	P	**P**	**11 27 41.2**	**-0.7**
K13K	**Kusilvak Mount**	**60.36**	**31**	P	**P**	**11 27 41.7**	**-0.6**
E22K	**Anaktuvuk Pass**	**60.49**	**22**	P	**P**	**11 27 43.1**	**0.0**
E22K				IAmb	IAmb	11 27 47.8	
comp=Z,5.5nm,1.4s							
TOLK	**Toolik Lake Re**	**60.72**	**21**	P	**P**	**11 27 45.0**	**+0.3**
TOLK				IAmb	IAmb	11 28 24.2	
comp=Z,8.0nm,1.4s							
D25K	**Kavik River**	**61.02**	**19**	P	**P**	**11 27 47.7**	**+1.0**
E23K	**Chandalar**	**61.13**	**21**	P	**P**	**11 27 47.8**	**+0.2**
E23K				IAmb	IAmb	11 28 04.2	
comp=Z,5.2nm,1.3s							
C27K	**Jago River**	**61.41**	**18**	P	**P**	**11 27 50.4**	**+1.1**
C27K				IAmb	IAmb	11 28 32.9	
comp=Z,4.8nm,1.4s							
E24K	**Your Creek**	**61.41**	**21**	P	**P**	**11 27 49.8**	**+0.4**
F24K	**Squaw Lake**	**61.97**	**21**	P	**P**	**11 27 54.4**	**+1.2**
F24K				IAmb	IAmb	11 28 21.6	
comp=Z,6.4nm,1.4s							
D27M	**Malcolm River**	**62.32**	**17**	P	**P**	**11 27 56.9**	**+1.3**
D27M				IAmb	IAmb	11 27 57.5	
comp=Z,4.8nm,1.4s							
A36M	**Sachs Harbour**	**62.78**	**11**	P	**P**	**11 27 59.9**	**+1.4**
A36M				IAmb	IAmb	11 27 60.0	
comp=Z,3.6nm,0.9s							
E27K	**Coleen River**	**63.01**	**18**	P	**P**	**11 28 00.5**	**+0.4**
E27K				IAmb	IAmb	11 28 08.0	
comp=Z,7.1nm,1.5s							
L18K	**Granite Mounta**	**63.05**	**28**	P	**P**	**11 28 01.9**	**+1.4**
E29M	**Blow River**	**63.67**	**17**	P	**P**	**11 28 05.8**	**+1.4**
E29M				IAmb	IAmb	11 28 48.1	
comp=Z,4.1nm,1.1s							
ILAR	**Eielson Array**	**64.30**	**23**	P	**P**	**11 28 08.5**	**-0.1**
ILAR	**Eielson Array**	**64.30**	**23**	P	**P**	**11 28 08.3**	**-0.4**
comp=Z,0.5nm,0.8s,baz=303,slow=5.7,SNR=4.9							
comp=Z,0.5nm,0.8s							
INK	**Inuvik**	**64.64**	**16**	P	**P**	**11 28 11.5**	**+0.8**
CUT	**Chulitna**	**65.05**	**26**	P	**P**	**11 28 12.8**	**-0.7**
ESDC	**Sonseca Array**	**65.06**	**302**	P	**P**	**11 28 11.9**	**-2.2**
comp=Z,0.3nm,0.4s,baz=110,slow=7.0,SNR=2.6							
comp=Z,0.3nm,0.4s							
F31M	**Tsiigehtchic**	**65.33**	**16**	P	**P**	**11 28 15.8**	**+0.5**
H29M	**Whitestone**	**65.35**	**19**	P	**P**	**11 28 15.5**	**+0.1**
H29M				IAmb	IAmb	11 28 17.8	
comp=Z,9.4nm,1.4s							
P19K	**Oil Pt**	**66.06**	**29**	P	**P**	**11 28 19.8**	**-0.4**
H31M	**Peel River**	**66.60**	**17**	P	**P**	**11 28 23.7**	**+0.1**
I30M	**Mount Dempster**	**66.64**	**18**	P	**P**	**11 28 24.1**	**+0.2**
I30M				IAmb	IAmb	11 28 24.4	
comp=Z,1.9nm,0.8s							
DAWY	**Dawson**	**66.86**	**20**	P	**P**	**11 28 25.8**	**+0.5**
DAWY				IAmb	IAmb	11 28 30.1	
comp=Z,7.4nm,1.4s							
BCAR	**Beaver Creek A**	**67.04**	**22**	P	**P**	**11 28 27.5**	**+1.1**
SUCK	**Suckling Hills**	**68.86**	**25**	P	**P**	**11 28 38.9**	**+1.1**
CRAG	**Craig**	**75.84**	**22**	P	**P**	**11 29 20.1**	**+0.6**
WB0	**Warramunga Arr**	**76.17**	**135**	P	**P**	**11 29 22.0**	**+0.1**
WB0				IAmb	IAmb	11 29 30.7	
comp=Z,6.7nm,1.1s							
WRAB	**Tennant Creek**	**76.29**	**135**	P	**P**	**11 29 22.9**	**+0.4**
WRAB				IAmb	IAmb	11 29 57.3	
comp=Z,7.0nm,1.3s							
WRA	**Warramunga Arr**	**76.29**	**135**	P	**P**	**11 29 22.6**	**+0.1**
comp=Z,1.5nm,0.7s,baz=321,slow=3.6,SNR=29							
comp=Z,1.5nm,0.7s							
WB2	**Warramunga Arr**	**76.30**	**135**	P	**P**	**11 29 22.9**	**+0.3**
WB2				IAmb	IAmb	11 29 24.5	
comp=Z,9.7nm,1.4s							
WR0	**Warramunga Arr**	**76.41**	**135**	P	**P**	**11 29 23.4**	**+0.2**
WR0				IAmb	IAmb	11 30 04.7	
comp=Z,3.9nm,1.1s							
TORD	**Torodi Ar. Bea**	**77.95**	**277**	P	**P**	**11 29 30.6**	**-1.5**
comp=Z,1.0nm,0.5s,baz=39,slow=5.4,SNR=11							
comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**79.18**	**137**	P	**P**	**11 29 38.4**	**-0.2**
comp=Z,0.9nm,0.4s,baz=334,slow=5.8,SNR=22							
comp=Z,0.9nm,0.4s							
FORT	**Forrest**	**82.61**	**145**	P	**P**	**11 29 56.7**	**+0.1**
DBIC	**Dimbokro**	**87.06**	**276**	P	**P**	**11 30 18.9**	**-0.7**
DBIC				IAmb	IAmb	11 30 50.4	
comp=Z,6.5nm,1.1s							
DBIC	**Dimbokro**	**87.06**	**276**	P	**P**	**11 30 18.3**	**-1.3**
com

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.81**	**278**		**Pg**	**11 40 29.4**	**-0.4**
NNA				Sn	**Sg**	**11 40 52.7**	**-0.6**
NNA	**Nana**	**1.81**	**278**	Pn	**Pb**	**11 40 28.0**	**-0.4**
44nm,0.3s,baz=97,slow=14,SNR=44							
NNA				Sn	**Sg**	**11 40 52.7**	**-0.6**
140nm,0.3s,baz=172,slow=6.4,SNR=19							
CZSB	**Cruzeiro do Su**	**5.02**	**27**	Pn	**Pn**	**11 41 11.8**	**+1.1**
CZSB				Sn	**Sn**	**11 42 06.1**	**-2.8**
ATAH	**Atahualpa**	**6.07**	**326**	Pn	**Pn**	**11 41 28.9**	**+3.5**
7.1nm,0.3s,baz=151,slow=5.4,SNR=36							
ATAH				Sn	**Sn**	**11 42 35.5**	**+0.2**
baz=116,slow=7.6							
ATAH				LR	LR	11 43 09.9	
comp=Z,49nm,18.0s,baz=174,slow=33							
LPAZ	**La Paz**	**7.79**	**122**	Pn	**Pn**	**11 41 50.3**	**+1.0**
LPAZ	**La Paz**	**7.79**	**122**	Pn	Pn	11 41 57.8	+8.5
0.1nm,0.3s,baz=312,slow=7.8,SNR=4.2							
LPAZ				Sn	Sb	11 43 33.2	-11
0.1nm,0.3s,baz=358,slow=22,SNR=1.8							
ETMB	**Extrema**	**8.96**	**75**		**Pn**	**11 42 05.5**	**+0.7**
COHC	**Cochancay**	**10.58**	**336**	Pn	**Pn**	**11 42 27.6**	**+0.6**
SAML	**Samuel**	**12.08**	**75**		**Pn**	**11 42 48.6**	**+1.1**
SIV	**San Ignacio**	**14.02**	**107**	Pn	**P**	**11 43 24.0**	**+1.8**
baz=315,slow=23,SNR=2.0							
SIV				Sn	Sn	11 46 00.4	+10
baz=216,slow=9.8,SNR=1.3							
ROSC	**El Rosal**	**16.98**	**2**	Pn	**Pn**	**11 43 54.2**	**+0.9**
1.2nm,0.3s,baz=138,slow=23,SNR=1.3							
4.3nm,0.4s							
BOAV	**Boa Vista**	**20.46**	**46**	P	**P**	**11 44 31.6**	**-1.6**
SDV	**Santo Domingo**	**21.43**	**12**	P	**P**	**11 44 44.1**	**+0.2**
5.1nm,0.7s,baz=216,slow=9.7,SNR=5.6							
5.1nm,0.7s							
BAUV	**El Baul**	**22.15**	**19**	P	**P**	**11 44 49.8**	**-1.6**
BAUV				IAmb	IAmb	11 45 29.7	
comp=Z,18nm,1.3s							
GO05	**Hualane**	**22.84**	**173**	P	**P**	**11 44 56.5**	**-2.2**
GO05				IAmb	IAmb	11 45 14.7	
comp=Z,11nm,1.2s							
SOCE	**Pocosol**	**24.42**	**337**	P	**P**	**11 45 11.7**	**-2.5**
SOCE				IAmb	IAmb	11 45 15.6	
comp=Z,27nm,1.0s							
BI05	**Punta Hualpn**	**24.46**	**176**	P	**P**	**11 45 11.6**	**-2.8**
TXAR	**Lajitas Array**	**49.73**	**327**	P	**P**	**11 48 48.1**	**+0.1**
TXAR	**Lajitas Array**	**49.73**	**327**	P	**P**	**11 48 47.9**	**-0.1**
comp=Z,0.4nm,0.8s,baz=115,slow=8.4,SNR=3.5							
comp=Z,0.4nm,0.8s							
MIAR	**Mount Ida**	**49.76**	**340**	P	**P**	**11 48 48.1**	**+0.1**
MIAR				IAmb	IAmb	11 49 26.5	
comp=Z,8.7nm,1.2s							
PDAR	**Pinedale Array**	**63.23**	**332**	P	**P**	**11 50 24.9**	**+0.7**
comp=Z,0.2nm,0.4s,baz=122,slow=8.7,SNR=3.6							
comp=Z,0.2nm,0.4s							
YBH	**Yreka Blue Hor**	**69.34**	**324**	LR	LR	12 22 24.0	
comp=Z,35nm,18.3s,baz=9.0,slow=37							
TORD	**Torodi Ar. Bea**	**80.13**	**74**	P	**P**	**11 52 02.9**	**-3.3**
TORD				IAmb	IAmb	11 52 12.3	
comp=Z,1.6nm,1.2s							
TORD	**Torodi Ar. Bea**	**80.13**	**74**	P	**P**	**11 52 08.0**	**+1.7**
comp=Z,0.8nm,0.9s,baz=295,slow=6.9,SNR=3.6							
comp=Z,0.8nm,0.9s							
ASAR	**Alice Springs**	**134.47**	**218**	PKP	**PKiKP**	**11 59 18.5**	**+2.5**
comp=Z,0.3nm,1.0s,baz=140,slow=1.5,SNR=1.8							
ZALV	**Zalesovo Beam**	**135.42**	**17**	PKP	**PKPdf**	**11 59 15.7**	**+0.3**
comp=Z,0.3nm,0.4s,baz=38,slow=2.6,SNR=1.9							
WRA	**Warramunga Arr**	**136.90**	**222**	PKP	**PKiKP**	**11 59 21.4**	**+0.4**
comp=Z,0.2nm,0.7s,baz=146,slow=1.8,SNR=1.9							

KRSC 13 11:50:02.9±1.3, 55°.44N×166°.23E, h30km±10km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.28**	**211**	*e*P	Pb	11 50 10.4	+0.4
BKI				*e*S	Sn	11 50 16.0	-0.1
KBTR	**Krutoberegovo**	**2.07**	**293**	*e*P	Pn	11 50 36.6	+1.1
KBTR				*e*S	Sn	11 51 02.3	+2.1
SMKR	**Semkarok**	**2.91**	**295**	*e*P	Pn	11 50 50.1	+3.1
TUMD	**Tumrok D**	**3.34**	**268**	*e*S	Sb	11 51 37.3	-4.1
TUMR	**Tumrok**	**3.47**	**270**	*e*P	Pb	11 51 00.2	-3.4
SDLR	**Sedlovina**	**4.81**	**246**	*e*P	Pn	11 51 17.6	+4.4
SDLR				*e*S	Sn	11 52 12.8	+4.9
SMAR	**Somma**	**4.86**	**246**	*e*P	Pn	11 51 18.3	+4.3
SMAR				*e*S	Sn	11 52 14.8	+5.5
KRER	**Koryakskii**	**4.87**	**247**	*e*P	Pn	11 51 18.7	+4.5
KRER				*e*S	Sn	11 52 14.0	+4.5
UGLR	**Uglovaya**	**4.88**	**246**	*e*P	Pn	11 51 19.0	+4.9
UGLR				*e*S	Sn	11 52 15.0	+5.4
AVH	**Avacha**	**4.89**	**247**	*e*P	Pn	11 51 19.2	+4.9
AVH				*e*S	Sn	11 52 15.7	+5.7
KRX	**Arik**	**4.89**	**248**	*e*P	Pn	11 51 18.9	+4.4
KRX				*e*S	Sn	11 52 15.2	+5.2
KOK	**Koryaka**	**4.93**	**247**	*e*P	Pn	11 51 19.3	+4.4
DALK	**Dalny**	**5.00**	**244**	*e*P	Pn	11 51 19.6	+3.8
DALK				*e*S	Sn	11 52 16.0	+3.5
PET	**Petropavlovsk**	**5.06**	**244**	*e*P	Pn	11 51 22.6	+6.0
PET				*e*S	Sn	11 52 18.7	+4.8
KRMR	**Karymshinskiy**	**5.43**	**245**	*e*P	Pn	11 51 26.0	+4.3
KRMR				*e*S	Sn	11 52 27.8	+4.7
MTVR	**Mutnovka**	**5.60**	**241**	*e*P	Pn	11 51 28.2	+4.1
GRL	**Gorelyy**	**5.61**	**242**	*e*P	Pn	11 51 30.4	+6.2
ASAK	**Asacha**	**5.80**	**241**	*e*P	Pn	11 51 31.7	+5.0
ASAK				*e*S	Sn	11 52 37.9	+5.7

TAP 13 11:56:27.6, 23°.74N×121°.51E, h16km, ML0.9, 1C, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.04**	**137**	*e*P	Pg	11 56 29.7	-0.8
TEGC				*e*S	Sg	11 56 30.9	-1.5
SHUL	**Shoufeng**	**0.07**	**47**	⇑P	Pg	11 56 31.4	+0.7
SHUL				S	Sg	11 56 33.9	+1.1
ESL	**Shilin**	**0.10**	**317**	P	Pb	11 56 31.7	+0.5
ESL				S	Sb	11 56 34.0	+0.5
EGFH	**Guangfu**	**0.10**	**226**	*i* P	Pb	11 56 31.3	+0.1
EGFH				*e*S	Sg	11 56 33.3	0.0
WARBT	**Fenglin Townsh**	**0.11**	**258**	*i* P	Pb	11 56 31.6	+0.2
WARBT				*e*S	Sg	11 56 33.7	+0.1
HGSD	**Ruisui**	**0.26**	**197**	P	Pb	11 56 34.4	+0.5
HGSD				S	Sb	11 56 39.0	+0.9
EHY	**Hungye**	**0.29**	**216**	*i* P	Pb	11 56 34.4	0.0
EHY				S	Sb	11 56 39.3	+0.3
OWD	**Renai**	**0.37**	**305**	*i* P	Pb	11 56 35.9	0.0
OWD				*i* S	Sb	11 56 42.0	+0.6
YULB	**Yu-li**	**0.40**	**209**	*i* P	Pb	11 56 36.3	+0.1
YULB				S	Sb	11 56 42.9	+0.8
EYUL	**Yuli**	**0.43**	**204**	P	Pb	11 56 36.6	-0.2
EYUL				*i* S	Sb	11 56 43.6	+0.6
TWF1	**Yuli**	**0.43**	**207**	*i* P	Pb	11 56 36.9	0.0
TWF1				S	Sb	11 56 43.4	+0.3
WUSB	**Renai**	**0.44**	**305**	P	Pb	11 56 37.1	+0.1
WUSB				*i* S	Sb	11 56 43.9	+0.6

TAP 13 11:56:29.0, 24°.43N×121°.91E, h12km±1km, ML1.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.12**	**277**	*e*P	Pg	11 56 31.9	-0.2
EWUT				*e*S	Sg	11 56 34.6	+0.3
ENA	**Nanau**	**0.15**	**269**	*e*P	Pg	11 56 32.4	-0.2
ENA				S	Sg	11 56 35.4	+0.3
ESAO	**Su ao**	**0.15**	**338**	*i* S	Sg	11 56 35.0	-0.2
TWC	**Suao**	**0.18**	**343**	*e*P	Pg	11 56 32.8	-0.4
TWC				*e*S	Sg	11 56 34.8	-1.1
NDS	**Dongshan**	**0.27**	**319**	S	Sg	11 56 38.4	+0.1
EOS2	**EOS2**	**0.30**	**92**	P	Pg	11 56 34.9	-0.1
EOS2				*i* S	Sg	11 56 39.9	+0.9
LATG	**Datong**	**0.36**	**287**	*e*P	Pg	11 56 36.5	+0.2
LATG				S	Sg	11 56 41.5	+0.3
ENTT	**Nioudou**	**0.37**	**304**	*e*P	Pg	11 56 36.6	+0.1
ENTT				*i* S	Sg	11 56 41.7	+0.1
NACB	**Ninganchiao**	**0.38**	**228**	*e*P	Pg	11 56 36.1	-0.6
NACB				*e*S	Sg	11 56 42.1	+0.3
NACB	**Ninganchiao**	**0.38**	**228**	P	Pg	11 56 36.1	-0.6
NACB				*e*S	Sg	11 56 41.8	0.0
EOS3	**EOS3**	**0.40**	**111**	*e*S	Sg	11 56 42.5	+0.2
FUSB	**Fushanzhiwuyua**	**0.44**	**318**	*e*P	Pg	11 56 38.2	+0.4
FUSB				S	Sg	11 56 44.0	+0.4
ETLH	**Xiulin Townshi**	**0.45**	**240**	P	Pg	11 56 37.5	-0.4
ETLH				*i* S	Sg	11 56 44.5	+0.6
ETLH	**Xiulin Townshi**	**0.45**	**240**	*i* P	Pg	11 56 37.4	-0.5
ETLH				S	Sg	11 56 44.1	+0.3
NNSB	**Datong**	**0.48**	**270**	P	Pg	11 56 38.3	-0.1
NNSB				S	Sg	11 56 44.9	+0.1
YHNB	**Yeheng**	**0.54**	**296**	*e*P	Pg	11 56 39.9	+0.3
YHNB				*i* S	Sg	11 56 47.1	+0.4
TIPB	**Shuangxi**	**0.54**	**352**	*e*P	Pg	11 56 39.9	+0.2
TIPB				*i* S	Sg	11 56 47.1	+0.2
NSK	**Sanguang**	**0.56**	**296**	*e*P	Pb	11 56 40.7	-0.1
NSK				S	Sg	11 56 47.2	-0.1
LXIB	**Xiulin Townshi**	**0.61**	**228**	*i* P	Pg	11 56 40.4	-0.5
LXIB				*i* S	Sg	11 56 49.5	+0.5
FUSS	**Fushou**	**0.63**	**253**	P	Pg	11 56 41.5	+0.1
FUSS				S	Sg	11 56 50.0	+0.2
WHF	**Hehuan Shan**	**0.65**	**244**	P	Pg	11 56 40.8	-1.0
WHF				*i* S	Sg	11 56 50.6	+0.2
YM01	**YM01**	**0.78**	**337**	*e*P	Pg	11 56 41.9	-2.2

*NEIC **13** 12:11:48.4±0.6, 19°.98N±0°.03×155°.59W±0°.02, h49km±4km, Error ellipse: s-maj=4.3km s-min=3.4km az=193.0*
HVO 13 12:11:50.2±0.9, 20°.00N±0°.02×155°.58W±0°.03, h39km±3km, ML2.4/14, ML2.6/42(NEIC), Error ellipse: s-maj=4.6km s-min=1.4km az=55.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAH	**Hawaii Prepara**	**0.12**	**286**	Pn	Pn	12 11 56.2	-3.4
POHA	**Pohakuloa**	**0.24**	**170**		Pn	12 11 57.1	-1.5
POHA					Sn	12 12 02.5	-2.8
MHA	**Mahukona**	**0.36**	**302**		Pn	12 11 58.5	-0.5
MHA					Sn	12 12 05.0	-0.5
HUH	**Hualalai**	**0.40**	**218**		Pn	12 11 59.1	-0.6
HUH				IAML		12 12 04.9	
comp=E,376nm,3.1s							
HUH					Sn	12 12 06.1	-0.6
HUH				IAML		12 12 09.5	
comp=N,343nm,2.3s							
HMH	**Humu'ula Sheep**	**0.40**	**167**		Pn	12 11 59.1	-0.8
HMH					Sn	12 12 06.0	-0.8
HMH				IAML		12 12 17.7	
comp=N,339nm,4.1s							
ALEP	**Alea Permanent**	**0.46**	**188**		Pn	12 11 59.7	-1.0
ALEP					Sn	12 12 06.5	-1.6
MLOA	**Mauna Loa Obse**	**0.46**	**180**		Pn	12 11 59.8	-0.9
MLOA	**Mauna Loa Obse**	**0.46**	**180**		Sn	12 12 06.7	-1.5
MLOA	**Mauna Loa Obse**	**0.46**	**180**	IAML		12 12 04.5	
comp=N,21nm,1.9s							
MWH	**Mokuaweoweo**	**0.51**	**182**	Pn	Pn	12 12 00.1	-1.5
MWH				IAML		12 12 09.1	
comp=N,304nm,3.0s							
MWH				IAML		12 12 19.2	
comp=E,342nm,1.6s							
MLH	**Mauna Loa**	**0.53**	**160**		Pn	12 12 00.3	-1.3
MLH				IAML		12 12 08.3	
comp=N,260nm,0.2s							
MLH				IAML		12 12 17.4	
comp=E,273nm,3.5s							
CPH	**Captain Cook**	**0.60**	**213**		Pn	12 12 00.7	-1.7
RSD	**Rainshed**	**0.60**	**152**	Pn	Pn	12 12 01.2	-1.3
RSD					Sn	12 12 09.5	-1.6
RSD				IAML		12 12 09.5	
comp=E,258nm,0.4s							
RSD				IAML		12 12 10.0	
comp=N,401nm,0.8s							
UWE	**Uwekahuna**	**0.63**	**155**	Pn	Pn	12 12 01.5	-1.5
UWB	**Uwekahuna Bluf**	**0.64**	**154**		Pn	12 12 01.1	-1.9
UWB					Sn	12 12 09.3	-2.6
SBLHI	**Steaming Bluff**	**0.64**	**153**		Pn	12 12 01.2	-1.8
SBLHI					Sn	12 12 09.7	-2.2
OBL	**Observatory Le**	**0.64**	**155**		Pn	12 12 01.3	-1.7
OBL					Sn	12 12 09.9	-2.1
WRMHI	**West Rim**	**0.64**	**156**		Pn	12 12 01.3	-1.8
HATHI	**Halema'uma'u T**	**0.64**	**153**		Pn	12 12 01.4	-1.7
HATHI				IAML		12 12 06.8	
comp=E,205nm,4.2s							
HATHI				IAML		12 12 15.8	
comp=N,212nm,3.7s							
BYL	**Byron's Ledge**	**0.65**	**153**	Pn	Pn	12 12 01.5	-1.7
BYL				IAML		12 12 16.2	
comp=E,250nm,3.9s							
BYL				IAML		12 12 25.9	
comp=N,205nm,4.4s							
PUH	**Pauahi**	**0.71**	**151**		Pn	12 12 02.2	-1.7
PUH					Sn	12 12 11.2	-2.4
PUH				IAML		12 12 16.1	
comp=N,227nm,2.5s							
PUH				IAML		12 12 27.3	
comp=E,183nm,3.8s							
KNHH	**Kane Nui o Ham**	**0.72**	**148**		Pn	12 12 02.5	-1.6
HLP	**Hilina Pali**	**0.74**	**160**	Pn	Pn	12 12 02.7	-1.6
HLP				Sn	Sn	12 12 11.9	-2.5
STCH	**Steam Cracks**	**0.74**	**145**	Pn	Pn	12 12 02.6	-1.7
NPOC	**North of Pu'u**	**0.74**	**144**		Pn	12 12 02.6	-1.7
NPOC					Sn	12 12 12.1	-2.4
KHU	**Kahuku**	**0.75**	**183**	Pn	Pn	12 12 02.8	-1.7
JCUZ	**Jacuzzi**	**0.76**	**144**		Sn	12 12 12.1	-2.7
HTC	**Hot Caves**	**0.78**	**167**		Pn	12 12 03.4	-1.3
PAH	**Pahoa**	**0.78**	**130**	Pn	Pn	12 12 03.1	-1.6
JOKA	**Jonika Flow**	**0.78**	**136**	Pn	Pn	12 12 03.1	-1.7
JOKA				IAML		12 12 10.3	
comp=N,301nm,3.4s							
JOKA				IAML		12 12 27.7	
comp=E,171nm,3.7s							

*DNK **13** 12:17:36.7±1.6, 71°.21N×9°.47W, h36km±17km, ML1.0*
BER 13 12:17:37.1±0.7, 71°.27N×9°.25W, h0km±86km, ML2.3, 1C, Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.36**	**131**	⇑*i*P	Pb	12 17 45.2	-1.1
JNW				IAML		12 17 51.1	
comp=Z,294nm,0.2s							
JNW				*e*S	Sb	12 17 51.3	-1.1
JMIC	**Jan Mayen**	**0.37**	**139**	*e*P	Pg	12 17 45.2	+1.1
JMIC				*e*S	Sb	12 17 51.3	-1.5
JMIC				IAML		12 17 51.7	
comp=Z,132nm,0.2s							
JMIC	**Jan Mayen**	**0.37**	**139**	*i* P	Pg	12 17 45.3	+1.1
JMIC				*i* S	Sb	12 17 51.2	-1.7
JMI	**Jan Mayen**	**0.38**	**153**	*e*P	Pb	12 17 45.6	-1.1
JMI				*e*S	Sb	12 17 51.5	-1.6
JMI				IAML		12 17 53.3	
comp=Z,73nm,0.2s							
JNE	**Jan Mayen East**	**0.42**	**131**	*e*P	Pg	12 17 45.9	+0.8
JNE				*e*S	Sg	12 17 52.2	+1.8
JNE				IAML		12 17 52.6	
comp=Z,292nm,0.1s							
DBG	**Daneborg**	**4.46**	**318**	*i* P	Pn	12 18 41.1	-4.7
DBG				*i* S	Sn	12 19 26.4	-12
DBG				IAML		12 19 30.0	
comp=Z,0.8nm,0.2s							
DAG	**Danmarks Havn**	**6.10**	**339**	*i* P	Pn	12 19 03.7	-4.6
DAG				*i* S	Sn	12 20 06.6	-12
DAG				IAML		12 20 10.2	
comp=Z,0.2s							

*NNC **13** 12:36:42.2±0.8, 50°.00N×78°.89E, h0km, mpv2.3, Error ellipse: s-maj=24.7km s-min=4.2km az=68.0, Suspected Mining explosion.*
*IDC **13** 12:36:44.6±1.3, 50°.07N×78°.74E, h0km, mbtmp2.4/2, ML1.8/2, Error ellipse: s-maj=12.8km s-min=7.7km az=61.0*
ISC 13 12:36:42.9±2.6, 50°.04N±0°.07×78°.4E±0°.3, h0km, n15, σ0°.81/25, 10C-11D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.55**	**10**	⇑P	**Pg**	**12 36 54.5**	**+1.0**
KUR07				⇑S	**Sb**	**12 37 03.3**	**-0.6**
KUR06	**Kurchatov Arra**	**0.57**	**11**	⇓P	**Pb**	**12 36 54.9**	**-0.9**
KUR06				⇑S	**Sb**	**12 37 03.8**	**-0.7**
KUR14	**Kurchatov Arra**	**0.59**	**14**	⇓P	**Pg**	**12 36 54.9**	**+0.6**
KUR14				⇑S	**Sb**	**12 37 03.7**	**-1.4**
KUR15	**Kurchatov Arra**	**0.59**	**13**	⇓P	**Pb**	**12 36 55.3**	**-0.8**
KUR15				⇑S	**Sb**	**12 37 04.3**	**-0.8**
KURBB	**Kurchatov Arra**	**0.59**	**11**	⇓P	**Pg**	**12 36 55.2**	**+1.0**
3.0nm,0.3s							
KURBB				⇓S	**Sb**	**12 37 05.0**	**-0.1**
17nm,0.6s							
KURBB	**Kurchatov Arra**	**0.59**	**11**	Pg	**Pb**	**12 36 55.5**	**-0.6**
0.4nm,0.3s,baz=165,slow=19,SNR=20							
KURBB				Lg	Lg	12 37 04.3	
0.4nm,0.3s,baz=166,slow=32,SNR=4.7							
KUR16	**Kurchatov Arra**	**0.59**	**9**	⇓P	**Pb**	**12 36 55.6**	**-0.6**
KUR16				⇓S	**Sb**	**12 37 04.8**	**-0.3**
KUR17	**Kurchatov Arra**	**0.59**	**7**	⇓P	**Pb**	**12 36 56.0**	**-0.2**
KUR17				⇑S	**Sb**	**12 37 05.3**	**+0.1**
KUR05	**Kurchatov Arra**	**0.61**	**11**	⇑P	**Pg**	**12 36 55.4**	**+0.8**
KUR05				⇓S	**Sb**	**12 37 04.3**	**-1.3**
KUR04	**Kurchatov Arra**	**0.63**	**11**	⇑P	**Pg**	**12 36 55.8**	**+0.8**
KUR04				⇑S	**Sb**	**12 37 05.1**	**-1.1**
KURK	**Kurchatov**	**0.69**	**14**	⇑P	**Pg**	**12 36 57.0**	**+0.7**
3.4nm,0.5s							
KURK				⇓S	**Sb**	**12 37 07.2**	**-0.8**
13nm,0.7s							
MK31	**Makanchi Array**	**4.17**	**140**	Pg	**Pn**	**12 37 47.8**	**-0.1**
baz=320,slow=9.9,SNR=3.8							
MK31				⇓Lg	Lg	12 38 49.8	
5.6nm,0.8s,baz=334,slow=26,SNR=11							
MKAR	**Makanchi Array**	**4.17**	**140**	Pn	**Pn**	**12 37 47.5**	**-0.3**
0.1nm,0.3s,baz=333,slow=9.6,SNR=1.9							
MKAR				Sn	**Sn**	**12 38 37.9**	**+0.6**
0.1nm,0.3s,baz=306,slow=12,SNR=1.5							
MKAR				Lg	Lg	12 38 49.4	
0.2nm,0.3s,baz=331,slow=25,SNR=11							
0.8nm,0.9s							
ZALV	**Zalesovo Beam**	**5.58**	**43**	Pn	**Pn**	**12 38 08.0**	**+0.9**
0.1nm,0.3s,baz=231,slow=14,SNR=1.9							
ZALV				Lg	Lg	12 39 37.2	
0.1nm,0.3s,baz=240,slow=28,SNR=2.5							
0.2nm,0.3s							
I46RU	**ZALESOVO INFRA**	**5.59**	**43**	I	I	13 10 20.0	
baz=222,slow=331,SNR=2.8							

*THE **13** 12:40:14.3, 37°.63N×20°.68E, h21km±2km, ML3.0/6, Error ellipse: s-maj=2.4km s-min=0.5km az=92.0*
*ATH **13** 12:40:14.9, 37°.64N×20°.59E, h9km±2km, ML2.8/10, Error ellipse: s-maj=3.4km s-min=0.7km az=32.0*
ISC 13 12:40:14.7±1.3, 37°.66N±0°.05×20°.64E±0°.06, h15km±6km, n21, σ0°.39/41, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.14**	**87**	P	**Pg**	**12 40 18.5**	**0.0**
KRI1				S	**Sg**	**12 40 20.9**	**0.0**
9μm,0.3s							
LTHK	**Lithakia**	**0.17**	**71**	P	**Pg**	**12 40 18.7**	**-0.1**
LTHK				S	**Sg**	**12 40 21.2**	**-0.3**
9μm,0.2s							
LTHK	**Lithakia**	**0.17**	**71**	P	**Pg**	**12 40 18.9**	**+0.1**
LTHK				AML	AML	12 40 21.5	
comp=E,11682μm,0.1s							
LTHK				S	**Sg**	**12 40 21.9**	**+0.3**
LTHK				AML	AML	12 40 21.9	
comp=N,14704μm,0.2s							
RTZL	**Ratzakli, Kefa**	**0.43**	**14**	P	**Pg**	**12 40 23.4**	**0.0**
RTZL				S	**Sb**	**12 40 30.4**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.46**	**354**	P	**Pg**	**12 40 23.9**	**0.0**
PSDA				S	**Sb**	**12 40 31.3**	**+0.1**
comp=N,2μm,0.5s							
PSDA	**Pessada-Kefalo**	**0.46**	**354**	P	**Pg**	**12 40 23.8**	**0.0**
PSDA				S	**Sg**	**12 40 30.1**	**0.0**
VLS	**Valsamata**	**0.52**	**356**	P	**Pg**	**12 40 24.9**	**-0.2**
VLS				S	**Sb**	**12 40 33.3**	**+0.2**
comp=N,1μm,0.2s							
VLS	**Valsamata**	**0.52**	**356**	P	**Pg**	**12 40 24.9**	**-0.2**
VLS				S	**Sg**	**12 40 32.9**	**+0.8**
VLS				AML	AML	12 40 34.1	
comp=N,2029μm,0.1s							
VLS				AML	AML	12 40 39.9	
comp=E,2607μm,0.4s							
LXRA	**Lixouri, Kepha**	**0.57**	**344**	P	**Pg**	**12 40 26.1**	**+0.2**
LXRA				S	**Sg**	**12 40 34.1**	**+0.6**
LXRA				AML	AML	12 40 43.5	
comp=E,7068μm,0.3s							
LXRA				AML	AML	12 40 44.4	
comp=N,6856μm,0.5s							
SMHA	**Samh**	**0.59**	**1**	P	**Pg**	**12 40 25.9**	**-0.5**
SMHA				S	**Sg**	**12 40 34.8**	**+0.4**
SMHA				AML	AML	12 40 38.6	
comp=N,14118μm,0.4s							
SMHA				AML	AML	12 40 38.6	
comp=E,7011μm,0.4s							
DMLN	**Damoulianata-K**	**0.62**	**340**	P	**Pg**	**12 40 26.8**	**-0.1**
DMLN				S	**Sb**	**12 40 36.5**	**+0.6**
comp=E,2μm,0.4s							
DMLN	**Damoulianata-K**	**0.62**	**340**	P	**Pg**	**12 40 26.8**	**-0.1**
DMLN				S	**Sg**	**12 40 35.4**	**+0.3**
VSK1	**VASILIKIADES**	**0.76**	**355**	P	**Pg**	**12 40 29.0**	**-0.4**
RLS	**Riolos of Patr**	**0.77**	**58**	P	**Pg**	**12 40 29.5**	**-0.1**
RLS				S	**Sb**	**12 40 40.5**	**+0.4**
RLS				AML	AML	12 40 43.0	
comp=N,911μm,0.4s							
RLS				AML	AML	12 40 45.9	
comp=E,872μm,0.5s							
FSK	**Fiskardo**	**0.81**	**356**	P	**Pg**	**12 40 29.8**	**-0.6**
FSK				S	**Sb**	**12 40 41.9**	**+0.7**
comp=E,602nm,0.5s							
FSK	**Fiskardo**	**0.81**	**356**	P	**Pg**	**12 40 30.0**	**-0.4**
FSK				S	**Sb**	**12 40 41.7**	**+0.6**
FSK				AML	AML	12 40 49.6	
comp=N,1335μm,0.6s							
FSK				AML	AML	12 40 49.9	
comp=E,1611μm,0.4s							
**AM

1.2nm,0.4s,baz=314,slow=10,SNR=4.8
1.2nm,0.4s

JOW	**Kunigami**	**34.42**	**357**	LR	LR	13 12 04.2

comp=Z,48nm,20.1s,baz=281,slow=33

*IDC **13** 12:56:19.7±1.9,20°.36S×177°.96W,h547km±21km, mb3.1/11,mbtmp4.1/14,Error ellipse: s-maj=20.8km s-min=16.4km az=127.0*
*NEIC **13** 12:56:19.6±1.4,20°.3S±0°.2×177°.9W±0°.1,h545km±9km, mb4.4/34,Error ellipse: s-maj=28.6km s-min=15.1km az=146.0*

ISC 13 12:56:18.4±0.6,20°.4S±0°.1×177°.9W±0°.1,h534km,n57, σ0ᵗ98/57,mb4.3/28,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.70**	**304**	P	**P**	**12 57 46.0**	**+1.1**
MSVF	**Nonsavu**	**4.70**	**304**	P	**P**	**12 57 46.7**	**+1.8**
	15nm,0.5s,baz=138,slow=5.1,SNR=11						
FUTU	**Fugatoga**	**6.07**	**358**	P	**P**	**12 57 56.7**	**-0.3**
AFI	**Afiamalu**	**8.69**	**43**	P	**P**	**12 58 22.0**	**-0.8**
DZM	**Mont Dzumac**	**14.74**	**261**	P	**P**	**12 59 27.4**	**+1.8**
	3.8nm,0.8s,baz=115,slow=14,SNR=1.2						
URZ	**Urewera**	**18.32**	**193**	P	**P**	**12 59 58.7**	**-1.0**
	4.5nm,0.3s,baz=350,slow=2.7,SNR=11						
CTAO	**Charters Tower**	**33.64**	**264**	P	**P**	**13 02 14.4**	**-0.6**
BBOO	**Buckleboo**	**42.71**	**243**	P	**P**	**13 03 27.9**	**-0.6**
BBOO				IAmb	IAmb	13 04 03.7	
	comp=Z,17nm,1.4s						
WR0	**Warramunga Arr**	**44.56**	**262**	P	**P**	**13 03 42.3**	**-0.8**
AS31	**Alice Springs**	**44.67**	**257**	P	**P**	**13 03 43.4**	**-0.6**
ASAR	**Alice Springs**	**44.67**	**257**	P	**P**	**13 03 43.8**	**-0.2**
ASAR	**Alice Springs**	**44.67**	**257**	P	**P**	**13 03 43.6**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=88,slow=8.4,SNR=18						
ASAR				PcP	**PcP**	**13 05 15.0**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=106,slow=3.8,SNR=4.3						
	comp=Z,2.4nm,0.7s						
WB0	**Warramunga Arr**	**44.73**	**262**	P	**P**	**13 03 43.4**	**-1.0**
WB2	**Warramunga Arr**	**44.74**	**262**	P	**P**	**13 03 42.2**	**-2.3**
WRAB	**Tennant Creek**	**44.74**	**262**	P	**P**	**13 03 43.6**	**-0.9**
WRA	**Warramunga Arr**	**44.75**	**262**	P	**P**	**13 03 42.5**	**-2.0**
WRA	**Warramunga Arr**	**44.75**	**262**	P	**P**	**13 03 43.5**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=97,slow=7.6,SNR=18						
	comp=Z,1.5nm,0.5s						
MTN	**Manton Dam**	**49.30**	**270**	P	**P**	**13 04 17.8**	**-1.1**
MTN				IAmb	IAmb	13 04 50.4	
	comp=Z,16nm,1.4s						
KNRA	**Kununurra**	**50.80**	**266**	P	**P**	**13 04 29.2**	**-0.7**
KNRA				IAmb	IAmb	13 05 11.3	
	comp=Z,22nm,1.4s						
FITZ	**Fitzroy Crossi**	**53.18**	**262**	P	**P**	**13 04 46.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**53.18**	**262**	P	**P**	**13 04 46.6**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=143,slow=20,SNR=1.2						
	comp=Z,0.6nm,0.5s						
SOEI	**Soe**	**56.64**	**272**	P	**P**	**13 05 09.5**	**-1.8**
SOEI				IAmb	IAmb	13 05 13.1	
	comp=Z,8.3nm,0.6s						
QSPA	**South Pole Qui**	**69.66**	**180**	P	**P**	**13 06 35.9**	**+1.8**
QSPA	**South Pole Qui**	**69.66**	**180**	P	**P**	**13 06 35.9**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=18,slow=11,SNR=9.4						
	comp=Z,1.0nm,0.7s						
PETK	**Petropavlovsk-**	**76.22**	**345**	P	**P**	**13 07 11.0**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=183,slow=5.6,SNR=4.1						
	comp=Z,2.7nm,0.9s						
NVAR	**Mina Array Bea**	**80.86**	**43**	P	**P**	**13 07 37.5**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=236,slow=8.4,SNR=4.3						
	comp=Z,0.7nm,0.9s						
M16K	**Timber Creek**	**82.56**	**9**	P	**P**	**13 07 45.6**	**+0.7**
SUA	**Susitna One**	**84.44**	**13**	P	**P**	**13 07 54.1**	**-0.3**
SUA				IAmb	IAmb	13 07 54.7	
	comp=Z,13nm,1.2s						
GHO	**Glory Hole Cre**	**85.10**	**13**	P	**P**	**13 07 57.8**	**+0.2**
MESA	**MESA**	**85.44**	**17**	P	**P**	**13 07 59.2**	**-0.1**
SCM	**Sheep Creek Mo**	**85.51**	**14**	P	**P**	**13 07 59.8**	**+0.3**
TXAR	**Lajitas Array**	**86.89**	**57**	P	**P**	**13 08 08.0**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=229,slow=7.5,SNR=4.8						
	comp=Z,0.4nm,0.6s						
WRH	**Wood River Hil**	**87.68**	**12**	P	**P**	**13 08 08.5**	**-1.1**
WRH				IAmb	IAmb	13 08 43.5	
	comp=Z,8.2nm,1.5s						
HDA	**Harding Lake**	**87.86**	**13**	P	**P**	**13 08 09.9**	**-0.5**
HDA				IAmb	IAmb	13 08 10.9	
	comp=Z,7.5nm,1.1s						
CCB	**Clear Creek Bu**	**87.89**	**12**	P	**P**	**13 08 09.8**	**-0.8**
CCB				IAmb	IAmb	13 08 10.3	
	comp=Z,3.0nm,0.6s						
SNAA	**Sanae**	**88.10**	**178**	P	**P**	**13 08 11.2**	**-0.6**
SNAA				IAmb	IAmb	13 08 46.7	
	comp=Z,5.3nm,1.5s						
SNAA	**Sanae**	**88.10**	**178**	P	**P**	**13 08 10.7**	**-1.0**
	comp=Z,0.9nm,1.1s,baz=220,slow=0.1,SNR=2.4						
	comp=Z,0.9nm,1.1s						
IL31		**88.19**	**13**	P	**P**	**13 08 11.2**	**-0.7**
ILAR	**Eielson Array**	**88.19**	**13**	P	**P**	**13 08 11.4**	**-0.6**
ILAR	**Eielson Array**	**88.19**	**13**	P	**P**	**13 08 10.8**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=218,slow=5.2,SNR=8.2						
	comp=Z,0.7nm,0.7s						
M29M	**Somme Creek**	**88.26**	**17**	P	**P**	**13 08 13.1**	**+0.5**
J25K	**Salcha River,**	**88.38**	**13**	P	**P**	**13 08 13.1**	**+0.1**
J25K				IAmb	IAmb	13 08 49.9	
	comp=Z,9.5nm,1.3s						
J26L	**Joseph Creek**	**88.68**	**14**	P	**P**	**13 08 15.4**	**+1.0**
J26L				IAmb	IAmb	13 08 23.6	
	comp=Z,4.0nm,1.2s						
PDAR	**Pinedale Array**	**88.80**	**43**	P	**P**	**13 08 16.5**	**+0.8**
PDAR	**Pinedale Array**	**88.80**	**43**	P	**P**	**13 08 16.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=208,slow=3.3,SNR=4.5						
	comp=Z,0.3nm,0.5s						
M30M	**Minto, Yukon**	**88.84**	**18**	P	**P**	**13 08 15.3**	**+0.2**
M30M				IAmb	IAmb	13 08 18.4	
	comp=Z,8.9nm,1.4s						
L29M	**L29M**	**88.89**	**17**	P	**P**	**13 08 16.2**	**+0.9**
L29M				IAmb	IAmb	13 08 43.3	
	comp=Z,9.1nm,1.4s						
E19K	**Redstone River**	**88.93**	**8**	P	**P**	**13 08 15.1**	**-0.3**
DAWY	**Dawson**	**89.33**	**16**	P	**P**	**13 08 17.3**	**-0.1**
DAWY				IAmb	IAmb	13 08 31.4	
	comp=Z,3.7nm,1.4s						
EGAK	**Eagle**	**89.48**	**15**	P	**P**	**13 08 18.3**	**+0.3**
EGAK				IAmb	IAmb	13 08 42.5	
	comp=Z,9.1nm,1.4s						
K29M	**Barlow Dome**	**89.64**	**17**	P	**P**	**13 08 19.6**	**+0.7**
K29M				IAmb	IAmb	13 08 36.3	
	comp=Z,7.0nm,1.4s						
CMAR	**Chiang Mai Arr**	**90.22**	**290**	P	**P**	**13 08 23.3**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=112,slow=2.6,SNR=5.3						
	comp=Z,0.8nm,0.3s						
I28M	**Miner Creek**	**90.33**	**15**	P	**P**	**13 08 22.0**	**0.0**
I28M				IAmb	IAmb	13 08 33.9	
	comp=Z,7.0nm,1.5s						
H29M	**Whitestone**	**91.33**	**15**	P	**P**	**13 08 26.8**	**+0.2**
H29M				IAmb	IAmb	13 08 52.7	
	comp=Z,5.8nm,1.4s						
BVAR	**Borovoye Array**	**119.10**	**320**	PKP	**PKPdf**	**13 14 04.5**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=90,slow=0.1,SNR=2.2						
AKASG	**Malin Array Be**	**143.00**	**331**	PKhKP	PKPpre	13 14 47.0	
	comp=Z,0.7nm,0.5s,baz=44,slow=3.8,SNR=11						
MMAI	**Mount Meron Ar**	**147.89**	**300**	PKPbc	**PKPbc**	**13 15 04.0**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=36,slow=7.2,SNR=1.8						

*THE **13** 12:57:12.3,37°.52N×20°.60E,h8km±3km,ML3.2/4,Error ellipse: s-maj=3.8km s-min=1.7km az=24.0*
*ATH **13** 12:57:12.2,37°.52N×20°.64E,h13km±2km,ML2.8/2,Error ellipse: s-maj=4.5km s-min=1.3km az=44.0*
*IDC **13** 12:57:56.6±14.0,41°.79N×24°.59E,h0km,mb3.8/3, mbtmp3.8/5,ML2.9/2,MS3.2/1,Error ellipse: s-maj=283.0km s-min=39.7km az=35.0*

ISC 13 12:57:11.3±1.8,37°.49N±0°.06×20°.59E±0°.06,h10km±9km, n31,σ0ᵗ60/37,mb3.7/5,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.25**	**47**	P	**Pg**	**12 57 16.6**	**+0.2**
KRI1				S	**Sg**	**12 57 19.5**	**-0.3**
	16μm,0.2s						
LTHK	**Lithakia**	**0.29**	**42**	P	**Pg**	**12 57 17.3**	**+0.1**
LTHK				S	**Sg**	**12 57 20.9**	**-0.2**
	12μm,0.3s						
LTHK	**Lithakia**	**0.29**	**42**	P	**Pg**	**12 57 17.3**	**+0.1**
LTHK				S	**Sg**	**12 57 21.0**	**-0.1**
LTHK				AML	AML	12 57 21.3	
	comp=N,24615μm,0.3s						
LTHK				AML	AML	12 57 21.6	
	comp=E,22721μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.60**	**14**	P	**Pg**	**12 57 22.9**	**-0.1**
RTZL				S	**Sg**	**12 57 31.2**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.62**	**360**	P	**Pg**	**12 57 23.6**	**+0.3**
PSDA				S	**Sg**	**12 57 32.2**	**+0.7**
	comp=E,2μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.62**	**360**	P	**Pg**	**12 57 23.6**	**+0.3**
PSDA				S	**Sg**	**12 57 32.0**	**+0.5**
VLS	**Valsamata**	**0.68**	**360**	P	**Pg**	**12 57 24.4**	**-0.1**
VLS				S	**Sg**	**12 57 33.9**	**+0.4**
	comp=E,1μm,0.1s						
VLS	**Valsamata**	**0.68**	**360**	P	**Pg**	**12 57 24.5**	**-0.1**
DMLN	**Damoulianata-K**	**0.76**	**347**	P	**Pb**	**12 57 27.5**	**+0.8**
DMLN				S	**Sb**	**12 57 37.5**	**+0.3**
DMLN	**Damoulianata-K**	**0.76**	**347**	P	**Pg**	**12 57 26.3**	**+0.2**
DMLN				S	**Sb**	**12 57 37.3**	**+0.1**
AMT	**Artemida-Makis**	**0.89**	**87**	P	**Pg**	**12 57 28.3**	**-0.2**
RLS	**Riolos of Patr**	**0.89**	**51**	P	**Pg**	**12 57 28.1**	**-0.5**
RLS	**Riolos of Patr**	**0.89**	**51**	P	**Pg**	**12 57 28.1**	**-0.5**
VSK1	**VASILIKIADES**	**0.91**	**359**	P	**Pg**	**12 57 28.6**	**-0.3**
FSK	**Fiskardo**	**0.96**	**359**	P	**Pg**	**12 57 29.3**	**-0.6**
FSK	**Fiskardo**	**0.96**	**359**	P	**Pg**	**12 57 29.3**	**-0.6**
FSK				AML	AML	12 57 32.9	
	comp=N,328μm,0.4s						
FSK				AML	AML	12 57 33.1	
	comp=E,355μm,0.2s						
DRO	**Drossia**	**1.00**	**62**	P	**Pg**	**12 57 30.3**	**-0.3**
DRO				S	**Sn**	**12 57 47.4**	**+1.8**
DRO	**Drossia**	**1.00**	**62**	P	**Pg**	**12 57 30.1**	**-0.5**
PYL	**PYLOS**	**1.10**	**123**	P	**Pg**	**12 57 32.1**	**-0.3**
ITM	**Ithomi**	**1.11**	**106**	P	**Pb**	**12 57 32.9**	**+0.3**
EVGI	**Lefkada island**	**1.13**	**3**	P	**Pg**	**12 57 32.3**	**-0.7**
EVGI	**Lefkada island**	**1.13**	**3**	P	**Pg**	**12 57 32.0**	**-1.0**
DRAG	**Dragano-Lefkad**	**1.19**	**359**	P	**Pb**	**12 57 33.2**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.22**	**4**	P	**Pb**	**12 57 33.8**	**-0.7**
EFP	**Efpalio**	**1.40**	**48**	P	**Pn**	**12 57 37.0**	**+0.2**
EFP				S	**Sn**	**12 57 55.6**	**+0.3**
HFS	**Hagfors**	**23.08**	**351**	P	P	13 02 25.8	+9.0
	comp=E,0.2nm,0.3s,baz=148,slow=12,SNR=4.5						
	comp=E,1.1nm,0.6s						
FINES	**FINESS Array B**	**24.22**	**6**	P	**P**	**13 02 26.5**	**-1.4**
	comp=E,0.1nm,0.3s,baz=190,slow=12,SNR=1.3						
	comp=E,4.1nm,1.0s						
ARCES	**ARCESS Array B**	**32.21**	**3**	P	P	13 03 47.2	+8.0
	comp=E,2.4nm,1.0s,baz=189,slow=10.0,SNR=1.4						
	comp=E,2.4nm,1.0s						
FURI	**Furi**	**32.84**	**146**	LR	LR	13 19 50.2	
	comp=E,32nm,18.6s,baz=115,slow=38						
MKAR	**Makanchi Array**	**45.62**	**58**	P	P	13 05 38.8	+7.1
	comp=E,0.3nm,0.4s,baz=268,slow=7.6,SNR=5.9						
	comp=E,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**46.11**	**48**	P	P	13 05 41.9	+6.5
	comp=E,0.5nm,0.3s,baz=264,slow=10,SNR=3.3						
	comp=E,0.5nm,0.3s						

*SDD **13** 13:30:58.8±2.1,18°.68N×69°.19W,h134km±11km,MD3.5, ML3.2,MW3.8*
*OSPL **13** 13:30:59.2±2.4,18°.46N×69°.14W,h138km±14km,ML3.0*

ISC 13 13:30:57.5±1.5,18°.52N±0°.09×69°.16W±0°.03, h130km±10km,n22,σ0ᵗ99/40,6C-6D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**0.33**	**322**	⇑*e*Pg	**Pn**	**13 31 15.4**	**-0.4**
HATOM				*e*Sg	**Sn**	**13 31 28.8**	**-0.9**
HATOM				IAML		13 31 30.7	
	comp=E,361nm,0.1s						
HATOM				IAML		13 31 30.8	
	comp=N,351nm,0.1s						
HIDR	**Higuey Centro**	**0.43**	**81**	⇑*e*Pg	**Pn**	**13 31 16.1**	**-0.1**
HIDR				*e*Sg	**Sn**	**13 31 29.7**	**-0.5**
HIDR				IAML		13 31 32.4	
	comp=E,1μm,0.2s						
HIDR				IAML		13 31 32.4	
	comp=N,1μm,0.2s						
SDD	**Santo Domingo**	**0.71**	**265**	*e*S	**Sn**	**13 31 33.4**	**0.0**
PCDR	**Punta Cana, DR**	**0.74**	**91**	⇑*e*Pg	**Pn**	**13 31 18.6**	**+0.4**
PCDR				*e*Sg	**Sn**	**13 31 34.8**	**+1.0**
PCDR				IAML		13 31 36.7	
	comp=E,184nm,0.2s						
PCDR				IAML		13 31 39.4	
	comp=N,373nm,0.6s						
PCDR				IAML		13 31 39.8	
	comp=Z,224nm,0.4s						
PCDR	**Punta Cana, DR**	**0.74**	**91**	*i* P	**Pn**	**13 31 18.4**	**+0.2**
PCDR				*e*S	**Sn**	**13 31 34.7**	**+1.0**
PCDR				IAML		13 31 39.8	
	comp=Z,273nm,0.4s						
BANI	**BANI**	**1.14**	**264**	⇓*e*Pg	**Pn**	**13 31 22.5**	**+0.6**
BANI				*e*Sg	**Sn**	**13 31 40.4**	**0.0**
BANI				IAML		13 31 43.3	
	comp=N,915nm,0.2s						
BANI				IAML		13 31 43.7	
	comp=E,580nm,0.1s						
ABDR	**Alto Bandera**	**1.42**	**282**	⇑*e*Pg	**Pn**	**13 31 25.2**	**+0.2**
ABDR				*e*Sg	**Sn**	**13 31 45.3**	**-0.7**
ABDR				IAML		13 31 49.8	
	comp=N,174nm,0.5s						
ABDR				IAML		13 31 53.2	
	comp=E,174nm,0.5s						
SC01	**Santiago de lo**	**1.73**	**302**	*e*S	**Sn**	**13 31 53.6**	**+1.8**
SC01				IAML		13 31 57.9	
	comp=Z,98nm,0.4s						
LOBA2	**Hotel Casa Bon**	**1.89**	**257**	⇑*e*Pg	**Pn**	**13 31 29.8**	**-0.3**
LOBA2				*e*Sg	**Sn**	**13 31 53.3**	**-1.7**
LOBA2				IAML		13 31 55.1	
	comp=N,66nm,0.2s						
LOBA2				IAML		13 31 55.4	
	comp=E,71nm,0.2s						
AGPR	**Aguadilla, PR**	**1.95**	**91**	⇓*e*Pg	**Pn**	**13 31 31.6**	**+0.7**
AGPR				⇑*e*Sg	**Sn**	**13 31 55.7**	**-0.7**
AGPR				IAML		13 32 02.2	
	comp=N,136nm,0.2s						
AGPR				IAML		13 32 02.7	
	comp=E,181nm,0.3s						
AGPR	**Aguadilla, PR**	**1.95**	**91**	*i* P	**Pn**	**13 31 31.1**	**+0.2**
AGPR				*e*S	**Sn**	**13 31 55.7**	**-0.7**
AGPR				IAML		13 32 04.2	
	comp=Z,149nm,1.2s						
CRPR	**Cabo Rojo, PR**	**2.02**	**104**	⇓*e*Pg	**Pn**	**13 31 31.3**	**-0.4**
CRPR				*e*Sg	**Sn**	**13 31 58.4**	**+0.5**
CRPR				IAML		13 32 05.6	
	comp=E,25nm,0.3s						
CRPR				IAML		13 32 12.5	
	comp=N,64nm,1.9s						
CRPR	**Cabo Rojo, PR**	**2.02**	**104**	*i* P	**Pn**	**13 31 31.4**	**-0.4**
CRPR				*e*S	**Sn**	**13 31 57.4**	**-0.5**
CRPR				IAML		13 32 09.0	
	comp=Z,70nm,1.4s						
PODR	**Polo**	**2.04**	**260**	*i* P	**Pn**	**13 31 32.0**	**-0.2**
PODR				*e*S	**Sn**	**13 31 58.0**	**-0.8**
PODR				IAML		13 32 02.0	
	comp=Z,71nm,0.2s						
SDDR	**Presa de Saban**	**2.06**	**283**	*i* P	**Pn**	**13 31 34.4**	**+2.1**
SDDR				*e*S	**Sn**	**13 31 59.2**	**+0.2**
SDDR				IAML		13 32 08.9	
	comp=Z,27nm,0.3s						
MLPR	**Magueyes Islan**	**2.09**	**105**	⇓*e*Pg	**Pn**	**13 31 31.9**	**-0.7**
MLPR				*e*Sg	**Sn**	**13 31 59.0**	**-0.4**
MLPR				IAML		13 32 03.6	
	comp=E,42nm,0.3s						
MLPR				IAML		13 32 06.8	
	comp=N,36nm,0.5s						
LONE3	**El Aguacate, B**	**2.18**	**272**	*i* P	**Pn**	**13 31 34.6**	**+0.8**
LONE3				*e*S	**Sn**	**13 32 02.2**	**+0.6**
LONE3				IAML		13 32 06.2	
	comp=Z,24nm,1.1s						
LODU1	**El Espartillar**	**2.20**	**266**	*i* P	**Pn**	**13 31 34.8**	**+0.9**
LODU1				IAML		13 32 07.6	
	comp=Z,86nm,0.4s						
AOPR	**Arecibo Observ**	**2.29**	**94**	⇓*e*Pg	**Pn**	**13 31 35.8**	**+0.6**
AOPR				*e*Sg	**Sn**	**13 32 02.7**	**-1.4**
AOPR				IAML		13 32 09.0	
	comp=N,247nm,0.3s						
AOPR				IAML		13 32 12.9	
	comp=E,303nm,0.3s						
LOBH	**Bahia de las A**	**2.44**	**255**	*i* P	**Pn**	**13 31 37.1**	**+0.1**
LOBH				*e*S	**Sn**	**13 32 06.2**	**-1.1**
LOBH				IAML		13 32 08.5	
	comp=Z,49nm,0.6s						
CELP	**Cerrillos**	**2.50**	**100**	⇓*e*Pg	**Pn**	**13 31 39.3**	**+1.6**
CELP				*e*Sg	**Sn**	**13 32 08.7**	**+0.2**
CELP				IAML		13 32 14.1	
	comp=E,46nm,0.5s						
CELP				IAML		13 32 19.3	
	comp=N,55nm,0.3s						
GRTK	**Grand Turk**	**3.50**	**328**	*e*S	**Sn**	**13 32 28.8**	**-3.0**
GRTK				IAML		13 32 34.9	
	comp=Z,56nm,1.3s						

*BJI **13** 13:47:48.8,42°.00N×19°.30E,h10km,mB5.0/11,mb4.8/50, Ms4.6/3,Ms7 4.3/5*
*TIR **13** 13:47:48.7,42°.13N×19°.25E,h20km±2km,Md3.2,Ml4.6*
*IDC **13** 13:47:49.3±0.5,41°.94N×19°.35E,h0km,mb4.4/22, mbtmp4.3/41,ML4.1/16,MS3.6/44,Error ellipse: s-maj=8.3km s-min=8.0km az=179.0*
*MOS **13** 13:47:49.5±1.0,41°.92N×19°.24E,h13km,mb4.8/17,Error ellipse: s-maj=5.1km s-min=3.0km az=80.9*
*NEIC **13** 13:47:51.0±2.0,41°.97N±0°.05×19°.30E±0°.06,h10km±1km, mb4.8/62,ML4.6/1(BUC),Error ellipse: s-maj=8.5km s-min=7.3km az=160.0*
*PDG **13** 13:47:50.8±0.2,41°.99N×19°.32E,h21km,MD4.4/12, ML4.3/13,Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*NAO **13** 13:47:50.1,42°.01N×19°.32E,h10km,mb4.0*
*MCSM **13** 13:47:51.8±0.8,42°.N±3°.×1°.9E±°,h8km±7km,mB5.2,mb5.0, MLv4.8,Mw(mB)4.7*
*SKO **13** 13:47:51.2,42°.01N×19°.15E,h16km,ML4.4*
*PRU **13** 13:47:51.1,41°.69N×19°.25E,h10km,M4.6*
*MED_RC **13** 13:47:51.0±0.4,41°.96N×19°.30E,h20km±1km,MW4.4/19, Moment Tensor Solution.Mantle waves: s19,c25; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁵Nm; M_{rr}4.86±.62; $M_{\theta\theta}$-1.68±.39; $M_{\phi\phi}$-3.18±.38; $M_{r\theta}$2.04±.49; $M_{\theta\phi}$3.06±.19; $M_{\phi r}$-0.90±.43; Best double couple: $M_0$5.69000×10¹⁵ NP1φs130.00000°,δ57.00000°, λ76.00000°. NP2φs335.00000°,δ36.00000°,λ110.00000°. Principal axes: T 5.4400, Plg74.0000°, Azm1.0000°; N 0.5000, Plg12.0000°, Azm138.0000°; P -5.9500, Plg10.0000°, Azm230.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*RHSSO **13** 13:47:52.3±0.6,42°.00N×19°.37E,h8km±1km,ML4.6/12*
*BEO **13** 13:47:52.1±0.3,42°.02N×19°.29E,h3km±3km,ML4.4/7*
*THE **13** 13:47:54.3,41°.81N×19°.21E,h9km±2km,ML4.0/5,Error ellipse: s-maj=3.4km s-min=2.2km az=29.0*
*LDG **13** 13:47:56.9±0.5,42°.23N×19°.13E,h10km,Ml4.2/24,Error ellipse: s-maj=12.2km s-min=9.0km az=28.0*

ISC 13 13:47:52.0±0.6,41°.98N±0°.02×19°.30E±0°.02,h19km±2km, n590,σ1ᵗ93/674,mb4.7/64,MS3.8/35,66C-34D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.04**	**252**	⇑*i*Pg	**Pg**	**13 47 54.7**	**-0.7**
ULC	**Ulcinj**	**0.04**	**252**	⇑*i*Pg	**Pg**	**13 47 54.7**	**-0.7**
ULC				*i* Sg	**Sg**	**13 47 57.4**	**-0.3**
DRME	**Dracevica, Mon**	**0.23**	**338**	⇑*i*Pg	**Pb**	**13 47 56.6**	**-0.6**
DRME				*i* Sg	**Sb**	**13 48 01.0**	**+0.3**
BUM	**Brajici-Budva**	**0.44**	**317**	⇑*i*Pg	**Pg**	**13 48 00.4**	**-0.7**
BUM				*i* Sg	**Sb**	**13 48 07.8**	**+0.1**
PUK	**Puka**	**0.45**	**81**	P	**Pg**	**13 47 59.2**	**-2.0**
PUK				AMP			
	comp=E,173nm,0.2s,baz=99						
PUK	**Puka**	**0.45**	**81**	Pg	**Pg**	**13 47 59.2**	**-2.0**
PDG	**Podgorica**	**0.45**	**356**	Pg	**Pg**	**13 47 59.7**	**-1.6**
PDG	**Podgorica**	**0.45**	**356**	*e*Pg	**Pg**	**13 47 59.9**	**-1.4**
PDG	**Podgorica**	**0.45**	**356**	⇓*i*Pg	**Pg**	**13 47 59.8**	**-1.6**
PDG				*e*Sg	**Sg**	**13 48 07.2**	**-0.4**
PDG	**Podgorica**	**0.45**	**356**	⇓P	**Pg**	**13 47 59.9**	**-1.4**
PDG	**Podgorica**	**0.45**	**356**	*i* Pg	**Pg**	**13 48 00.0**	**-1.3**
PDG				*i* Sg	**Sg**	**13 48 07.4**	**-0.2**
PDG	**Podgorica**	**0.45**	**356**	⇓*i*Pg	**Pg**	**13 47 59.6**	**-1.7**
PDG				*i* Sg	**Sg**	**13 48 07.4**	**-0.2**
CEME	**Cevo**	**0.64**	**334**	⇑*i*Pg	**Pb**	**13 48 03.3**	**-1.2**
CEME				*i* Sg	**Sg**	**13 48 13.6**	**+0.4**
BCI	**Bajram Curri**	**0.69**	**55**	AMP			
	comp=E,158nm,0.9s,baz=68						
TIR	**Tirane**	**0.76**	**146**	P	**Pb**	**13 48 05.9**	**-0.7**
TIR				AMP			
	comp=N,26nm,0.3s,baz=149						
TIR	**Tirane**	**0.76**	**146**		**Pb**	**13 48 05.5**	**-1.1**
TIR	**Tirane**	**0.76**	**146**	P	**Pb**	**13 48 05.6**	**-1.0**
TIR				S	**Sg**	**13 48 17.8**	**+0.8**
	comp=N,6μm,0.4s						
TIR	**Tirane**	**0.76**	**146**	*e*Pg	**Pb**	**13 48 05.7**	**-0.9**
TIR	**Tirane**	**0.76**	**146**	P	**Pb**	**13 48 05.5**	**-1.1**
TIR	**Tirane**	**0.76**	**146**	P	**Pb**	**13 48 06.1**	**-0.5**
HCY	**Herceg Novi**	**0.76**	**308**	⇑*i*Pg	**Pb**	**13 48 06.0**	**-0.7**
HCY				*e*Sg	**Sn**	**13 48 18.4**	**-0.4**
HCY	**Herceg Novi**	**0.76**	**308**	⇑*i*Pg	**Pb**	**13 48 06.0**	**-0.7**
HCY				*i* Sg	**Sn**	**13 48 18.8**	**0.0**
PVY	**Plav**	**0.79**	**38**	⇓*i*Pg	**Pb**	**13 48 05.3**	**-1.9**
PVY				*i* Sg	**Sb**	**13 48 17.5**	**-0.1**
NKME	**Niksic**	**0.83**	**342**	⇓*i*Pg	**Pb**	**13 48 06.7**	**-1.2**
NKME				*i* Sg	**Sg**	**13 48 19.7**	**+0.4**
KOME	**Kolasin**	**0.89**	**10**	⇓*i*Pg	**Pb**	**13 48 07.0**	**-1.9**

BARS Barje 2.04 65 *i* Pn Pn 13 48 26.6 +1.2
NEST Nestorio 2.04 139 P Pb 13 48 27.7 -0.9
NOCI Noci 2.06 236 P Pn 13 48 26.5 +0.9
LSK Leskovik 2.07 151 P Pb 13 48 28.1 -1.0
LSK Leskovik 2.07 151 P Pn 13 48 27.4 +1.5
LSK S Sn 13 48 52.3 +1.0
comp=N,5µm,0.9s
HAPS Han Pijesak,BI 2.12 353 *e*Pn Pb 13 48 29.1 -0.9
HAPS Han Pijesak,BI 2.12 353⇑ *i*Pn Pb 13 48 28.7 -1.3
HAPS *e*Sn Sn 13 48 53.8 +1.2
MAKA Makarska 2.13 309 *i* Pn Pb 13 48 28.4 -1.7
MAKA Sn Sb 13 48 55.5 -0.6
SRN Sarande 2.16 166 P Pn 13 48 28.5 +1.4
SRN Sarande 2.16 166 P Pn 13 48 28.1 +1.1
SRN S Sn 13 48 54.7 +1.4
comp=N,1µm,0.9s
GRUS Gruza 2.18 28 *e*Pn Pn 13 48 28.2 +0.9
GRUS *e*Sn Sb 13 48 57.0 -0.4
DIVS Divibare 2.18 13 *e*Pn Pn 13 48 28.8 +1.4
RICI Ricice 2.20 314 *i* Pn Pn 13 48 29.4 +1.8
RICI Sn Sb 13 48 57.9 -0.3
PENT Pentalofos 2.26 141 P Pb 13 48 30.9 -1.4
KEK Kerkira 2.29 170 Pn 13 48 29.4 +0.5
KEK Kerkira 2.29 170 P Pn 13 48 29.4 +0.5
KEK S Sn 13 48 56.5 -0.1
MATE Matera 2.36 237 Pn 13 48 30.0 +0.3
MATE Matera 2.36 237 ⇓P Pn 13 48 30.0 +0.3
TRUS Trudelj 2.39 19 *e*Pn Pn 13 48 31.3 +1.1
BOSS Bosilegrad 2.42 77 *e*Pn Pn 13 48 31.6 +1.0
BOSS *e*Sn Sn 13 49 02.1 +2.4
HVAR Hvar 2.42 301 *i* Pn Pn 13 48 31.9 +1.3
HVAR Sn Sb 13 49 02.5 -2.0
BOVS Bovan 2.43 46 Pn 13 48 31.3 +0.6
BOVS Bovan 2.43 46 *e*Pn Pn 13 48 30.9 +0.2
BOVS *e*Sn Sn 13 49 01.0 +1.1
BOVS Bovan 2.43 46 ⇓P Pn 13 48 31.3 +0.6
KZN Kozani 2.50 131 P Pn 13 48 34.2 +2.4
KZN S Sb 13 49 05.2 -1.7
comp=N,2µm,0.8s
VAY Valandovo 2.54 104 *e*Pn Pn 13 48 34.2 +2.0
VAY Valandovo 2.54 104 *i* Pn Pn 13 48 34.0 +1.7
VAY *i* Sg Sn 13 49 05.2 +2.5
VAY *e*Lg Lg 13 49 05.9
comp=E,1µm,0.8s
KPRO Kipourio 2.55 142 P Pb 13 48 35.2 -2.1
IGT Igoumenitsa 2.56 162 P Pb 13 48 35.3 -2.1
IGT Igoumenitsa 2.56 162 P Pn 13 48 33.7 +1.1
IGT Igoumenitsa 2.56 162 *e*Pn Pn 13 48 33.7 +1.1
IGT Igoumenitsa 2.56 162 *i* Pn Pn 13 48 33.9 +1.2
TEKS Tekeris 2.58 4 *e*Pn Pn 13 48 33.9 +1.1
TEKS *e*Sn Sb 13 49 06.4 -2.6
TEKS Tekeris 2.58 4 *e*Pn Pn 13 48 33.6 +0.8
TEKS *e*Sn Sn 13 49 05.7 +2.1
KTI Kastanea 2.65 126 P Pn 13 48 35.8 +1.9
ZAPS Zavoj 2.78 61 *e*Pn Pn 13 48 37.1 +1.5
ZAPS *e*Sn Sn 13 49 11.8 +3.1
KNT Kendrikon 2.82 106 *i* Pn Pn 13 48 37.8 +1.7
ZAGS Zajecar 2.83 49 *e*Pn Pn 13 48 37.0 +0.7
ZAGS *e*Sn Sn 13 49 12.3 +2.4
AVAS Avala Beograd 2.86 18 *e*Pn Pn 13 48 37.5 +0.8
KKB Krupnik 2.86 91 *i* Pn Pn 13 48 38.5 +1.8
DOB Doboj 2.89 343 *e*Pn Pn 13 48 38.6 +1.5
DOB *e*Sn Sn 13 49 13.4 +2.1
KIJV Kijevo 2.94 315 *i* Pn Pn 13 48 39.9 +2.1
BEO Beograd 2.96 16 *e*Pn Pn 13 48 38.5 +0.5
VTS Vitosha 2.99 76 *e*Pn Pn 13 48 39.6 +1.0
VTS *e*Sn Sn 13 49 16.9 +2.9
KUBS Kucevo 2.99 35 *e*Pn Pn 13 48 38.2 -0.3
LIT Litokhoron 3.06 127 Pn 13 48 40.6 +1.2
LIT Litokhoron 3.06 127 *i* Pn Pn 13 48 41.1 +1.7
LIT Litokhoron 3.06 127 P Pn 13 48 40.6 +1.2
ZIRJ Zirje 3.17 303 *i* Pn Pn 13 48 42.6 +1.7
ZIRJ Sn Sn 13 49 20.2 +2.0
BLY Banja Luka 3.17 332 *e*Pn Pn 13 48 43.3 +2.4
BLY Banja Luka 3.17 332⇑ *i*Pn Pn 13 48 43.1 +2.2
BLY *e*Sn Sn 13 49 19.5 +1.3
FRGS Fruska Gora 3.20 6 *e*Pn Pn 13 48 41.7 +0.3
FRGS Fruska Gora 3.20 6⇑ *i*Pn Pn 13 48 41.7 +0.3
FRGS *e*Sn Sn 13 49 20.5 +1.5
A050A Klekovaca 3.22 322⇑ *i*Pn Pn 13 48 43.9 +2.2
A050A *e*Sn Sn 13 49 21.4 +1.9
MORI Morici 3.24 307 *i* Pn Pn 13 48 43.6 +1.7
MORI Sn Sn 13 49 22.4 +2.4
SOH Sokhos 3.26 109 *i* Pn Pn 13 48 44.1 +1.9
CUC Castrocucco 3.30 234 Pn 13 48 43.5 +0.8
MDVR Moldovita 3.31 31 *e*Pn Pn 13 48 44.0 +1.1
MDVR Moldovita 3.31 31 ⇑P Pn 13 48 43.7 +0.8
SRS Serrai 3.33 103 *e*Pn Pn 13 48 45.1 +1.9
SRS Serrai 3.33 103 *i* Pn Pn 13 48 45.1 +1.9
LKD2 Lefkada island 3.35 161 P Pn 13 48 45.8 +2.3
MMB Musomishta 3.36 96 *i* Pn Pn 13 48 45.6 +2.1
TIP Timpagrande 3.40 216 Pn 13 48 44.2 0.0
TIP Timpagrande 3.40 216 ⇓P Pn 13 48 44.6 +0.4
TIP Timpagrande 3.40 216 P Pn 13 48 44.4 +0.3
VRSS Vrsac 3.47 24 *e*Pn Pn 13 48 45.8 +0.7
A051A Mrakovica 3.50 331⇑ *i*Pn Pn 13 48 47.4 +1.9
A051A *e*Sn Sn 13 49 28.1 +1.7
PUNG Punghina 3.52 48 ⇓P Pn 13 48 47.0 +1.3
DJES Djerdap 3.57 40 *e*Pn Pn 13 48 48.2 +1.8
DJES Djerdap 3.57 40 ⇓P Pn 13 48 47.6 +1.2
UDBI Udbina 3.63 316 *e*Pn Pn 13 48 50.1 +2.8
UDBI Sn Sn 13 49 32.9 +3.3
PAOL Paolisi 3.68 257 Pn 13 48 48.8 +0.9
HERR Herculane 3.69 37 ⇑P Pn 13 48 49.2 +1.2
DUGI Dugi Otok 3.71 304 *i* Pn Pn 13 48 50.0 +1.7
DUGI Sn Sn 13 49 33.4 +2.0
AGG Agios Georgios 3.75 141 Pn 13 48 49.7 +0.8
AGG Agios Georgios 3.75 141 P Pn 13 48 49.7 +0.8
VIRC Vir 3.87 308 *i* Pn Pn 13 48 52.2 +1.7
VIRC Sn Sn 13 49 37.0 +1.5
SRE Strehaia 3.92 45 ⇑P Pn 13 48 53.1 +1.9
SRE Strehaia 3.92 45 P Pn 13 48 53.1 +1.9
PLIT Plitvice 3.95 319 *i* Pn Pn 13 48 54.1 +2.4
PLIT Sn Sn 13 49 40.7 +3.3
BZS Buzias 4.01 24 *e*Pn Pn 13 48 53.5 +1.0
BZS Buzias 4.01 24 ⇑P Pn 13 48 53.5 +1.0
BZS Buzias 4.01 24 P Pn 13 48 53.4 +1.0
INTR Introdacqua 4.02 272 Pn 13 48 53.5 +0.8
PLD Plovdiv 4.06 86 *e*Pn Pn 13 48 55.0 +1.8
PLD Plovdiv 4.06 86 *i* Pn Pn 13 48 55.1 +2.0
MOSL Moslavina 4.08 334 *e*Pn Pn 13 48 54.9 +1.5
MOSL Sn Sn 13 49 42.5 +1.9
NVLJ Novalja 4.14 310 *e*Pn Pn 13 48 55.7 +1.5
NVLJ Sn Sn 13 49 44.0 +1.9
GZR Gura Zlata 4.25 35 *e*Pn Pn 13 48 57.3 +1.5
GZR Gura Zlata 4.25 35 ⇓P Pn 13 48 56.8 +1.0
GZR Gura Zlata 4.25 35 P Pn 13 48 56.8 +1.0
VLAD Vladila 4.25 60 ⇓P Pn 13 48 57.9 +2.1
MORH Mrgy, Hungar 4.26 354 ⇑P Pn 13 48 57.0 +1.1
MORH Mrgy, Hungar 4.26 354 P Pn 13 48 57.3 +1.4
SURR Surduc 4.29 27 Pn 13 48 57.7 +0.8
SURR Surduc 4.29 27 ⇑P Pn 13 48 57.2 +0.8
RABC Rab 4.30 312 *i* Pn Pn 13 48 58.0 +1.6
RABC Sn Sn 13 49 47.8 +1.7
CAMP Campotosto 4.41 279 Pn 13 48 59.6 +1.6
CEL Celeste 4.54 216 Pn 13 48 59.2 -0.6
CEL Celeste 4.54 216 P Pn 13 48 59.8 0.0
GUMA Gualdo di Mace 4.54 286 Pn 13 49 01.2 +1.4
BOJS Bojanci 4.58 322 *i* Pn Pn 13 49 02.1 +1.8
BOJS *i* 13 49 20.9
BOJS *i* Sn Sn 13 49 56.8 +3.7
BOJS *i* 13 50 14.7
BOJS *e* 13 50 20.4
BOJS IAML 13 50 48.3
comp=Z,788nm,1.0s
SIRR Siria 4.61 21 *e*Pn Pn 13 49 02.0 +1.2
SIRR Siria 4.61 21 ⇓P Pn 13 49 02.0 +1.2
KALN Kalnik 4.63 335 *i* Pn Pn 13 49 02.4 +1.3
KALN Sn Sn 13 49 56.5 +2.2
NRCA Norcia 4.66 283 Pn 13 49 01.4 -0.1
DEV Deva 4.69 32 ⇓P Pn 13 49 03.8 +1.9
DEV Deva 4.69 32 P Pn 13 49 03.7 +1.9
FDMO Fiordimonte 4.71 285 Pn 13 49 02.2 0.0
CRES Cresnjevec Ost 4.74 325⇑ *i*Pn Pn 13 49 04.2 +1.6
CRES *e*Sn Sn 13 49 58.1 +1.0
LOT Lotru 4.75 42 ⇓P Pn 13 49 04.1 +1.4
LOBO Lobor 4.78 332 *e*Pn Pn 13 49 04.5 +1.4
LOBO Sn Sn 13 49 59.9 +1.9
RIY Rijeka 4.84 315 *e*Pn Pn 13 49 06.0 +2.2
BEHE Becsehely 4.84 339 Pn Pn 13 49 04.3 +0.3

HUMR Humele 4.87 57 ⇑P Pn 13 49 06.4 +2.1
ELND Elena 4.96 77 Pn 13 49 07.6 +2.1
ELND Elena 4.96 77 ⇑P Pn 13 49 07.6 +2.1
CESX Cesi 5.02 279 Pn 13 49 07.0 +0.6
STFAR Stefanesti-Arg 5.03 53 Pn 13 49 08.8 +2.3
STFAR Stefanesti-Arg 5.03 53 ⇑P Pn 13 49 08.8 +2.3
ARR Arges 5.14 47 ⇑P Pn 13 49 10.2 +2.1
CEY Cerknica 5.15 319 *e*Pn Pn 13 49 10.1 +1.9
CEY Cerknica 5.15 319⇑ *i*Pn Pn 13 49 09.9 +1.7
CEY *e*Sn Sn 13 50 06.9 -0.2
ALN Alexandroupoli 5.18 100 Pn 13 49 09.4 +0.8
ALN Alexandroupoli 5.18 100 P Pn 13 49 09.4 +0.8
SKDS Skadanscina 5.23 315 *e*Pn Pn 13 49 10.1 +0.8
SKDS *e*Sn Sn 13 50 08.2 -0.9
SKDS Skadanscina 5.23 315⇑ *i*Pn Pn 13 49 10.1 +0.8
SKDS *e*Sn Sn 13 50 09.0 -0.1
MTUR Matau 5.30 50 Pn 13 49 13.2 +2.9
MTUR Matau 5.30 50 ⇑P Pn 13 49 13.1 +2.9
MTUR Matau 5.30 50 P Pn 13 49 13.1 +2.9
MPLH Magyarpolny 5.34 347 P Pn 13 49 12.3 +1.5
comp=Z,855nm,1.0s,comp=Z,7µmcomp=Z,4.4nm
SGRR Singureni 5.38 63 ⇓P Pn 13 49 13.6 +2.4
DRGR 5.40 26 *e*Pn Pn 13 49 12.8 +1.2
DRGR *e*Sn Sn 13 50 12.4 -0.9
DRGR 5.40 26 ⇑P Pn 13 49 13.3 +1.7
DRGR 5.40 26 P Pn 13 49 13.3 +1.7
VOIR 5.42 48 ⇑P Pn 13 49 13.9 +2.0
VOIR 5.42 48 P Pn 13 49 13.8 +2.0
VOIR 5.42 48 P Pn 13 49 13.3 +1.4
comp=Z,109nm,0.7s,comp=Z,1µmcomp=Z,0.4nm
MARR Marisel-Cluj 5.44 29 Pn 13 49 13.0 +0.8
MARR Marisel-Cluj 5.44 29 ⇑P Pn 13 49 13.0 +0.8
SOKA Soboth 5.61 328 *e*Pn Pn 13 49 15.9 +1.4
comp=Z,15nm,0.5s,SNR=30
SOKA *e*Sn Sn 13 50 22.5 +4.1
comp=Z,68nm,0.8s
CJR Cluj-Napoca 5.65 32 ⇑P Pn 13 49 16.7 +1.6
CJR Cluj-Napoca 5.65 32 P Pn 13 49 16.6 +1.6
OBKA Obir 5.67 325 *i* Pn Pn 13 49 17.8 +2.4
comp=Z,5.7nm,0.4s,SNR=10
OBKA *e*Sn Sn 13 50 24.8 +4.8
comp=Z,81nm,0.5s
OBKA Obir 5.67 325 *e*Pn Pn 13 49 16.3 +0.9
OBKA *e*Sn Sn 13 50 19.4 -0.6
EZN Ezine 5.74 110 P Pn 13 49 17.0 +0.8
comp=Z,45nm,0.8s,comp=Z,2µmcomp=Z,0.3nm
MESR Meseseni 5.79 26 Pn 13 49 18.3 +1.4
MESR Meseseni 5.79 26 ⇑P Pn 13 49 18.3 +1.4
VAE Valguarnera 5.86 222 Pn Pn 13 49 19.9 +1.9
comp=Z,15nm,0.6s,baz=302,slow=5.9,SNR=1.7
VAE Sn Sn 13 50 29.5 +4.8
comp=Z,2.7nm,0.3s,baz=187,slow=21,SNR=1.6
VAE LR LR 13 52 22.1
comp=Z,647nm,19.6s,baz=69,slow=46
SRO Srobarova 5.88 354 *e*P Pn 13 49 21.1 +3.0
SRO *e* 13 50 32.9
SRO Srobarova 5.88 354 *e*PN Pn 13 49 21.1 +3.0
SRO *e*SN Sn 13 50 32.9 +8.0
ARSA Arzberg 5.92 334 *i* Pn Pn 13 49 20.1 +1.4
comp=Z,15nm,0.4s,SNR=29
ARSA Arzberg 5.92 334 *e*Pn Pn 13 49 20.6 +1.9
DOPR Dopca 5.93 46 ⇑P Pn 13 49 20.9 +2.0
PSZ Piszkesteto 5.96 4 Pn 13 49 19.7 +0.5
PSZ Piszkesteto 5.96 4 Pn 13 49 20.3 +1.0
PSZ Piszkesteto 5.96 4 *e*P Pn 13 49 20.1 +0.8
PSZ Piszkesteto 5.96 4 ⇑P Pn 13 49 20.3 +1.0
PSZ Piszkesteto 5.96 4 P Pn 13 49 19.7 +0.5
MLR Muntele Rosu 5.96 52 Pn 13 49 19.5 +0.2
MLR Muntele Rosu 5.96 52 *e*Pn Pn 13 49 22.1 +2.7
MLR Muntele Rosu 5.96 52 Pn Pn 13 49 20.1 +0.8
comp=Z,17nm,0.3s,baz=184,slow=3.9,SNR=39
MLR Sn Sn 13 50 29.7 +2.5
comp=Z,7.3nm,0.3s,baz=251,slow=22,SNR=5.1
MLR Lg Lg 13 50 59.4
baz=148,slow=23
MLR LR LR 13 51 53.3
comp=Z,321nm,20.7s,baz=199,slow=41
comp=Z,12nm,0.3s
MLR Muntele Rosu 5.96 52 ⇑P Pn 13 49 21.7 +2.3
MLR Muntele Rosu 5.96 52 P Pn 13 49 20.8 +1.4
comp=Z,156nm,1.4s,comp=Z,1µmcomp=Z,0.6nm
LEHL Lehliu 6.04 63 ⇑P Pn 13 49 22.8 +2.5
RONA Rosalia, Austr 6.11 341 *i* Pn Pn 13 49 22.9 +1.5
comp=Z,10nm,0.3s,SNR=20
RONA *e*Sn Sn 13 50 35.1 +4.5
comp=Z,31nm,0.4s
ISR Istrita 6.13 57 ⇓P Pn 13 49 24.0 +2.3
ISR Istrita 6.13 57 P Pn 13 49 23.9 +2.3
ISR Istrita 6.13 57 P Pn 13 49 24.2 +2.6
comp=Z,314nm,0.7s,comp=Z,3µmcomp=Z,1.1nm
NEHR Nehoiu 6.13 53 Pn 13 49 24.4 +2.7
NEHR Nehoiu 6.13 53 ⇓P Pn 13 49 24.4 +2.7
MYKA Terra Mystica 6.17 321 *i* Pn Pn 13 49 23.3 +1.1
comp=Z,6.3nm,0.3s,SNR=8.8
COVR Voineasa-Covas 6.31 50 Pn 13 49 26.2 +2.1
COVR Voineasa-Covas 6.31 50 ⇓P Pn 13 49 26.2 +2.1
TURR Turia 6.33 48 ⇑P Pn 13 49 26.5 +2.1
AMRR Amara 6.43 63 ⇓P Pn 13 49 28.0 +2.4
AMRR Amara 6.43 63 P Pn 13 49 28.0 +2.4
CONA Conrad Observa 6.43 339 *i* Pn Pn 13 49 28.0 +2.2
comp=Z,10nm,0.4s,SNR=20
CONA *e*Sn Sn 13 50 43.4 +4.7
comp=Z,119nm,0.8s
BISRR Bisoca 6.44 54 ⇑P Pn 13 49 28.5 +2.6
BISRR Bisoca 6.44 54 P Pn 13 49 27.3 +1.3
comp=Z,576nm,0.8s,comp=Z,22µmcomp=Z,1.9nm
VYHS Vyhne 6.53 357 *e*P Pn 13 49 29.2 +2.2
VYHS *e* 13 50 40.6
VYHS Vyhne 6.53 357 *e*PN Pn 13 49 29.2 +2.2
VYHS *e*SN Sn 13 50 40.6 -0.3
MODS Modra-Piesok 6.55 348 *e*P Pn 13 49 30.0 +2.6
MODS *e* 13 50 42.7
MODS Modra-Piesok 6.55 348 *e*PN Pn 13 49 30.0 +2.6
MODS *e*SN Sn 13 50 42.7 +1.1
KECS Kecovo 6.56 7 *e*P Pn 13 49 29.6 +2.1
KECS *e* 13 50 42.4
KECS Kecovo 6.56 7 *e*PN Pn 13 49 29.6 +2.1
KECS *e*SN Sn 13 50 42.4 +0.6
PLOR3 Plostina Array 6.57 51 P Pn 13 49 29.2 +1.5
comp=Z,140nm,1.0s,comp=Z,1µmcomp=Z,0.5nm
PLOR Plostina 6.57 51 ⇑P Pn 13 49 29.7 +2.1
PLOR Plostina 6.57 51 P Pn 13 49 29.7 +2.1
PLOR5 Plostina Array 6.58 51 P Pn 13 49 30.6 +2.9
comp=Z,181nm,0.7s,comp=Z,0.6nm
ICOR Ion Corvin 6.59 68 ⇑P Pn 13 49 30.6 +2.7
VRI Vrincioaia 6.62 52 ⇑P Pn 13 49 31.1 +2.7
VRI Vrincioaia 6.62 52 P Pn 13 49 31.1 +2.7
VRI Vrincioaia 6.62 52 P Pn 13 49 31.1 +2.7
comp=Z,204nm,0.7s,comp=Z,2µmcomp=Z,0.6nm
KBA Koelnbreinsper 6.64 322 *i* Pn Pn 13 49 30.2 +1.4
comp=Z,12nm,0.5s,SNR=6.8
SMOL Smolenice 6.67 349 *e*P Pb 13 49 39.5 -7.8
SMOL *e* 13 50 46.0
BERU Beregovo 6.69 20 P Pn 13 49 30.8 +1.6
ONER Baraj Valea Uz 6.71 47 ⇑P Pn 13 49 31.8 +2.3
CTYL Yalikoy Yolu 6.75 91 P Pn 13 49 31.1 +1.1
comp=Z,89nm,1.0s,comp=Z,0.5nm
KORU Korolevo 6.75 22 P Pn 13 49 32.3 +2.2
ABTA Abfaltersbach 6.81 317 *i* Pn Pn 13 49 32.0 +1.0
comp=Z,11nm,0.3s,SNR=9.6
ABTA *e*Sn Sn 13 50 50.9 +2.9
comp=Z,39nm,0.5s
CVDA Cernavoda 6.81 67 Pn 13 49 33.6 +2.7
CVDA Cernavoda 6.81 67 ⇑P Pn 13 49 33.6 +2.7
HARR Harsova 6.85 64 Pn 13 49 33.4 +1.9
HARR Harsova 6.85 64 ⇓P Pn 13 49 33.4 +1.9
HARR Harsova 6.85 64 P Pn 13 49 33.4 +1.9
MOA Molln 6.87 330 *i* Pn Pn 13 49 34.0 +2.2
comp=Z,9.8nm,0.3s
MOA *e*Sn Sn 13 50 52.2 +2.7
comp=Z,42nm,0.6s
BRIU Brid 6.88 21 P Pn 13 49 33.8 +1.9
HOLU Holmets 6.90 17 P Pn 13 49 33.8 +1.7
MUKU Mukachevo 6.90 19 P Pn 13 49 33.8 +1.6
TESR Tescani 6.96 47 ⇑P Pn 13 49 35.2 +2.3
JAVC Velka Javorina 6.98 351 *e*PN Pn 13 49 36.0 +2.7
UZHM Uzhgorod 6.98 17 P Pn 13 49 34.6 +1.4
BIOA Bad Ischl, Aus 6.99 327 *i* Pn Pn 13 49 35.1 +1.7
comp=Z,4.4nm,0.2s,SNR=9.8
BURAR Bucovina Array 7.03 35 Pn 13 49 35.4 +1.3
BURAR Bucovina Array 7.03 35 ⇑P Pn 13 49 36.7 +2.5
BURAR Bucovina Array 7.03 35 P Pn 13 49 36.6 +2.5
BUR08 Bucovina Ar. S 7.05 35 Pn 13 49 35.2 +0.9

GHRR 7.13 52 P Pn 13 49 36.7 +1.4
CFR Carcaliu 7.17 61 ⇑P Pn 13 49 37.1 +1.3
CFR Carcaliu 7.17 61 P Pn 13 49 37.1 +1.3
LANS Liptovska Anna 7.18 1 *e*P Pn 13 49 39.4 +3.4
LANS *e* 13 50 57.9
LANS Liptovska Anna 7.18 1 *e*PN Pn 13 49 39.4 +3.4
LANS *e*SN Sn 13 50 57.9 +0.9
MEZ Mezhgor'ye 7.18 23 P Pn 13 49 36.9 +0.9
LESA Schwarzleotal 7.20 321 *i* Pn Pn 13 49 38.1 +1.7
comp=Z,13nm,0.4s
KOLS Kolonicke sedl 7.26 16 *e*P Pn 13 49 39.4 +2.3
KOLS *e* 13 51 00.0
KOLS Kolonicke sedl 7.26 16 *e*PN Pn 13 49 39.4 +2.3
KOLS *e*SN Sn 13 51 00.0 +0.9
KRUC Moravsky 7.37 345 *e*PN Pn 13 49 40.9 +2.3
KRUC *e*SN Sn 13 51 04.6 +2.9
VLDR Vladesti 7.43 56 Pn 13 49 41.2 +1.9
VLDR Vladesti 7.43 56 ⇑P Pn 13 49 41.2 +1.9
MAUC Maruska 7.46 353 *e*PN Pn 13 49 41.8 +1.9
MAUC *e*SN Sn 13 51 07.4 +3.4
NIE Niedzica 7.47 5 *e*P Pn 13 49 43.6 +3.5
NIE *e*S Sn 13 51 10.2 +5.9
NIE Niedzica 7.47 5 P Pn 13 49 43.1 +3.0
comp=Z,75nm,0.7s,comp=Z,634nmcomp=Z,0.2nm
STHS Stebnicka Huta 7.56 10 *e*P Pn 13 49 43.6 +2.3
STHS *e* 13 51 07.3
STHS Stebnicka Huta 7.56 10 *e*PN Pn 13 49 43.6 +2.3
STHS *e*SN Sn 13 51 07.3 +0.8
VRAC Vranov 7.57 346 Pn Pn 13 49 43.1 +1.7
comp=Z,0.6nm,0.3s,baz=177,slow=11,SNR=7.8
VRAC Sn Sn 13 51 10.4 +3.7
comp=Z,1.7nm,0.3s,baz=238,slow=3.5,SNR=7.3
comp=Z,13nm,0.9s
VRAC Vranov 7.57 346 *e*PN Pn 13 49 43.8 +2.4
VRAC *e*SN Sn 13 51 09.9 +3.2
WTTA Wattenberg 7.60 317 *i* Pn Pn 13 49 43.1 +1.1
comp=Z,7.5nm,0.3s,SNR=11
WTTA *e*Sn Sn 13 51 09.0 +1.4
comp=Z,79nm,0.8s
TLCR 7.62 62 Pn 13 49 44.3 +2.3
TLCR 7.62 62 ⇓P Pn 13 49 44.3 +2.3
TLCR 7.62 62 P Pn 13 49 44.2 +2.3
PGF Pioggiola 7.66 278 *e*Pn Pn 13 49 44.6 +1.9
WATA Walderalm 7.68 317 *i* Pn Pn 13 49 45.2 +2.2
comp=Z,3.6nm,0.2s,SNR=8.7
WATA *e*Sn Sn 13 51 11.1 +1.6
comp=Z,18nm,0.3s
CKRC Cesky Krumlov 7.69 335 *e*PN Pn 13 49 45.4 +2.4
CKRC AMS AMS 13 52 50.0
comp=Z,800nm,14.6s
CKRC Cesky Krumlov 7.69 335 *e*P Pn 13 49 45.4 +2.4
CKRC MLR MLR
comp=Z,800nm,14.6s
SQTA Sankt Quirin 7.80 315 *i* Pn Pn 13 49 46.4 +1.9
comp=Z,8.3nm,0.3s,SNR=11
MORS Morshin 7.85 23 P Pn 13 49 46.6 +1.5
MORC Moravsky Berou 7.90 352 Pn 13 49 46.3 +0.4
MORC Moravsky Berou 7.90 352 *e*PN Pn 13 49 48.2 +2.3
MORC *e*SN Sn 13 51 14.9 +0.2
MORC Moravsky Berou 7.90 352 ⇑P Pn 13 49 47.1 +1.3
MORC Moravsky Berou 7.90 352 P Pn 13 49 47.1 +1.3
OKC Ostrava-Krasne 7.90 355 *e*PN Pn 13 49 48.2 +2.3
OKC Ostrava-Krasne 7.90 355 *e*P Pn 13 49 48.2 +2.3
GERES GERESS Array B 7.92 332 Pn Pn 13 49 47.7 +1.5
comp=Z,1.3nm,0.3s,baz=155,slow=13,SNR=18
GERES Sn Sn 13 51 16.4 +1.2
comp=Z,1.2nm,0.3s,baz=133,slow=23,SNR=2.3
GERES LR LR 13 53 28.3
comp=Z,476nm,18.9s,baz=138,slow=43
comp=Z,3.7nm,0.3s
MOTA Moosalm 7.93 315 *e*Pn Pn 13 49 48.0 +1.6
comp=Z,14nm,0.5s
MOTA *e*Sn Sn 13 51 16.3 +0.7
comp=Z,19nm,0.5s
FETA Feichten 7.93 312 *e*Pn Pn 13 49 47.5 +1.1
comp=Z,6.3nm,0.4s,SNR=9.5
FETA *e*Sn Sn 13 51 18.1 +2.4
comp=Z,42nm,0.9s
IDI Anoyia 7.98 145 Pn Pn 13 49 47.1 0.0
comp=Z,18nm,0.7s,baz=312,slow=10.0,SNR=6.8
IDI Sn Sn 13 51 12.5 -4.4
comp=Z,7.5nm,0.3s,baz=20,slow=23,SNR=8.6
IDI LR LR 13 52 58.1
comp=Z,129nm,21.6s,baz=288,slow=39
KWP Kalwaria Pacla 8.02 16 *e*P Pn 13 49 51.0 +3.5
KWP Kalwaria Pacla 8.02 16 P Pn 13 49 49.1 +1.6
comp=Z,74nm,0.7s
RETA Reutte 8.20 315 *e*Sn Sn 13 51 24.1 +1.9
comp=Z,14nm,0.5s
KHC Kasperske Hory 8.20 333 Pn 13 49 50.1 0.0
KHC Kasperske Hory 8.20 333 *e*PN Pn 13 49 51.7 +1.7
KHC *e*SN Sn 13 51 23.9 +1.7
KHC AMS AMS 13 53 20.0
comp=Z,700nm,13.6s
KHC Kasperske Hory 8.20 333*c* *i*P Pn 13 49 51.4 +1.4
KHC pmax pmax
comp=Z,26nm,0.8s
KHC Kasperske Hory 8.20 333 P Pn 13 49 51.4 +1.4
comp=Z,46nm,0.8s
OJC Ojcow 8.25 2 *e*P Pn 13 49 53.4 +2.7
OJC *e*S Sn 13 51 22.9 -0.4
OJC Ojcow 8.25 2 P Pn 13 49 52.7 +2.0
comp=Z,63nm,0.7s
ZVC Zvikov 8.27 336 *e*PN Pn 13 49 53.9 +2.9
DAVOX Davos/Dischmat 8.28 309 Pn Pn 13 49 53.4 +2.2
comp=Z,4.1nm,0.3s,baz=302,slow=23,SNR=18
DAVOX Sn Sn 13 51 24.2 -0.1
comp=Z,2.3nm,0.3s,baz=128,slow=19,SNR=1.5
DAVOX Lg Lg 13 52 08.8
comp=Z,1.0nm,0.3s,baz=30,slow=7.0,SNR=4.2
DAVOX LR LR 13 54 17.2
comp=Z,72nm,19.0s,baz=246,slow=47
comp=Z,7.9nm,0.3s
KRLC Kraliky 8.29 349 *e*PN Pn 13 49 54.1 +2.9
KRLC AMS AMS 13 53 40.0
comp=Z,2µm,10.4s
KRLC Kraliky 8.29 349 *e*P Pn 13 49 54.1 +2.9
KRLC MLR MLR
comp=Z,2µm,10.4s
TUE Stuetta 8.44 306 P Pn 13 49 54.5 +1.0
comp=Z,138nm,0.8s
LVV L'vov 8.51 21 P Pn 13 49 56.2 +2.0
GOPC GO Pecny, Ondr 8.54 340 *e*PN Pn 13 49 57.5 +2.9
GOPC GO Pecny, Ondr 8.54 340 *e*P Pn 13 49 57.5 +2.9
DAVA Damuels 8.56 312 *e*Pn Pn 13 49 56.5 +1.5
comp=Z,6.2nm,0.4s
DPC Dobruska-Polom 8.62 347 *e*PN Pn 13 49 59.2 +3.4
DPC AMS AMS 13 53 50.0
comp=Z,2µm,12.6s
DPC Dobruska-Polom 8.62 347 *e*P Pn 13 49 59.2 +3.4
DPC MLR MLR
comp=Z,2µm,12.6s
DPC Dobruska-Polom 8.62 347 P Pn 13 49 57.6 +1.8
comp=Z,31nm,1.1s
PRU Pruhonice 8.67 339 *e*PN Pn 13 49 58.7 +2.3
PRU AMS AMS 13 53 30.0
comp=Z,700nm,11.2s
PRU Pruhonice 8.67 339 *e*P Pn 13 49 58.7 +2.3
PRU MLR MLR
comp=Z,700nm,11.2s
HORU Horodok 8.79 32 P Pn 13 49 59.6 +1.5
UPC Upice 8.83 346 *e*PN Pn 13 50 01.5 +2.9
UPC AMS AMS 13 54 00.0
comp=Z,2µm,9.6s
UPC Upice 8.83 346 *e*P Pn 13 50 01.5 +2.9
UPC MLR MLR
comp=Z,2µm,9.6s
OSTC Ostas 8.84 347 *e*PN Pn 13 50 02.2 +3.4
OSTC AMS AMS 13 54 00.0
comp=Z,2µm,13.0s
OSTC Ostas 8.84 347 *e*P Pn 13 50 02.2 +3.4
OSTC MLR MLR
comp=Z,2µm,13.0s
PURM Purcari 8.85 55 P Pn 13 50 00.1 +1.3
comp=Z,242nm,0.9s
KARP Karpathos 8.88 134 *e*P Pn 13 50 03.4 +4.0
SORM Soroca 8.88 43 P Pn 13 50 01.3 +2.0
comp=Z,30nm,0.6s
CHVC Chvalec 8.90 347 AMS AMS 13 54 00.0
comp=Z,1µm,11.6s
SBF Sospel 8.91 286 *e*Pn Pn 13 49 59.7 -0.1
SBF *e*Sn Sn 13 51 33.4 -6.2
comp=Z,55nm,0.6s
KSP Ksiaz 9.11 348 *e*P Pn 13 50 06.8 +4.4
LMR La Mourre 9.52 282 *e*Pn Pn 13 50 08.6 +0.5

LMR *e*Sn **Sn** **13 51 48.9 -5.7**
comp=Z,3.8nm,0.3s
NKC Novy Kostel 9.53 332 AMS AMS 13 54 00.0
comp=Z,800nm,12.9s
MBDF Montbardon 9.53 291 *e*Pn **Pn** **13 50 07.7 -0.7**
MBDF *e*Sn **Sn** **13 51 46.6 -8.4**
comp=Z,18nm,0.5s
HSKC Hora Svate Kat 9.54 337 *e*PN **Pn** **13 50 10.2 +1.9**
BRG Berggiesshubel 9.63 339 *e*P **Pn** **13 50 11.4 +1.7**
BRG Amp 13 50 12.5
comp=Z,8.5nm,0.9s
BRG r 13 52 11.5
BRG Amp 13 52 15.6
comp=Z,18nm,0.9s
BRG r 13 53 12.9
BRG Amp 13 53 35.6
comp=Z,16nm,1.0s
BRG Berggiesshubel 9.63 339 *e*P **Pn** **13 50 11.3 +1.7**
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG MLR MLR
comp=Z,679nm,11.2s
BRG MLR MLR
comp=N,632nm,8.6s
BRG MLR MLR
comp=E,402nm,7.4s
LPG La Plagne 9.74 295 *e*Pn **Pn** **13 50 12.4 +1.1**
LPL La Plagne 9.76 295 *e*Pn **Pn** **13 50 13.3 +1.8**
LPL *e*Sn **Sn** **13 51 52.8 -7.9**
comp=E,38nm,0.5s
LUBAR Lubar, Ukraine 9.88 34 P **Pn** **13 50 15.4 +2.4**
BEL Belsk 9.91 5 *e*P Pn 13 50 18.6 +5.1
KEST Kesra 9.95 234 Pn **Pn** **13 50 15.5 +1.4**
comp=E,0.7nm,0.3s,baz=106,slow=4.0,SNR=4.8
KEST LR LR 13 54 53.2
comp=E,290nm,18.5s,baz=29,slow=43
comp=E,2.6nm,0.8s
BFO Black Forest 10.01 313 **Pn** **13 50 14.2 -0.7**
BFO Black Forest 10.01 313 P **Pn** **13 50 14.2 -0.7**
ORIF Oris-en-Rattie 10.19 291 *e*Pn **Pn** **13 50 18.1 +0.7**
ORIF *e*Sn **Sn** **13 52 03.0 -8.2**
comp=E,14nm,0.4s
SMRF Simiane la Rot 10.26 286 *e*Pn **Pn** **13 50 21.1 +2.9**
SMRF *e*Sn **Sn** **13 52 05.4 -7.2**
comp=E,2.6nm,0.3s
CLL Collm 10.28 337 **Pn** **13 50 19.4 +0.9**
CLL Collm 10.28 337 *i* P **Pn** **13 50 20.3 +1.8**
CLL pmax pmax
comp=Z,14nm,1.1s
CLL Collm 10.28 337 *i* Pn **Pn** **13 50 20.3 +1.8**
comp=Z,14nm,1.1s
CLL *e*Sn **Sn** **13 52 15.0 +1.8**
CLL *e*Sb 13 52 42.0
CLL *e*Sg 13 53 16.0
comp=Z,49nm,1.1s
CLL Collm 10.28 337 P **Pn** **13 50 19.8 +1.3**
comp=Z,9.3nm,1.0s
RNPP5 Staryi Chortor 10.30 24 P **Pn** **13 50 20.8 +2.1**
RNPP8 Varash 10.38 23 P **Pn** **13 50 23.0 +3.1**
RNPP9 Sopachiv 10.46 23 P **Pn** **13 50 23.9 +3.0**
CABF La Chapelle 10.54 301 *e*Pn **Pn** **13 50 21.1 -1.0**
CABF *e*Sn **Sn** **13 52 12.4 -7.3**
comp=Z,24nm,0.7s
HINF Hinteralfeld 10.58 308 *e*Pn **Pn** **13 50 23.0 +0.4**
HINF *e*Sn **Sn** **13 52 13.3 -7.3**
comp=Z,11nm,0.4s
ECH Echery 10.60 310 **Pn** **13 50 22.5 -0.4**
ECH Echery 10.60 310 P **Pn** **13 50 22.5 -0.4**
CDF Champ du Feu 10.64 311 *e*Pn **Pn** **13 50 22.6 -0.9**
CDF *e*Sn Sn 13 52 13.1 -9.0
comp=Z,13nm,0.6s
MI28 Mi28,Pidlybu 10.65 30 P **Pn** **13 50 25.6 +2.1**
comp=Z,249nm,0.9s,comp=Z,10µm
HAU Haudompre 10.97 308 *e*Pn **Pn** **13 50 29.0 +1.1**
HAU *e*Sn **Sn** **13 52 23.3 -6.8**
comp=Z,24nm,0.5s
AK07 Malin Array Si 10.97 35 P **Pn** **13 50 30.0 +2.1**
VIVF Saint-Julien-l 11.02 290 *e*Pn **Pn** **13 50 27.8 -0.9**
VIVF *e*Sn Sn 13 52 22.0 -9.4
comp=Z,5.2nm,0.5s
KIEV Kiev 11.08 35 **Pn** **13 50 29.8 +0.5**
KIEV Kiev 11.08 35 P **Pn** **13 50 29.8 +0.5**
AKASG Malin Array Be 11.09 35 Pn **Pn** **13 50 30.4 +0.9**
comp=Z,0.6nm,0.3s,baz=227,slow=13,SNR=30
AKASG Lg Lg 13 53 41.5
baz=224,slow=28
comp=Z,9.0nm,0.9s
AKASG Malin Array Be 11.09 35 *i* P **Pn** **13 50 32.0 +2.5**
AKASG pmax pmax
comp=Z,14nm,1.0s
AKBB Malin Array Si 11.09 35*ce*P **Pn** **13 50 31.4 +1.9**
AKBB Malin Array Si 11.09 35 P **Pn** **13 50 31.7 +2.2**
BR131 Keskin Array S 11.09 97⇓*e*P **Pn** **13 50 30.3 +0.5**
BRTR Keskin Array B 11.10 97 Pn **Pn** **13 50 30.8 +1.0**
comp=Z,0.5nm,0.3s,baz=278,slow=11,SNR=10
comp=Z,3.7nm,0.7s
BRTR Keskin Array B 11.10 97 *i* P **Pn** **13 50 32.7 +2.9**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
SIM Simferopol' 11.17 70 *e*P **Pn** **13 50 32.3 +1.6**
SIM 13 52 39.1
SIM pmax pmax
comp=Z,17nm,0.8s
SIM smax smax
comp=E,42µm,1.0s
SIM MLR MLR
comp=E,230nm,16.0s
PAGF Fort de Pagny 11.60 309 *e*Pn **Pn** **13 50 37.9 +1.4**
baz=117
PAGF *e*Sn Sn 13 52 34.4 -11
comp=E,9.3nm,0.7s
SMF Signal de Mont 12.01 298 *e*Pn **Pn** **13 50 39.9 -2.3**
SMF *e*Sn Sn 13 52 45.7 -10
comp=E,36nm,0.7s
LOR Lormes 12.20 301 *e*Pn **Pn** **13 50 44.5 -0.3**
baz=111
LOR *e*Sn **Sn** **13 52 52.3 -7.9**
comp=E,10nm,0.4s,baz=110
SUW Suwalki 12.32 11 *e*P **Pn** **13 50 49.6 +3.4**
SSF Saint Saulge 12.36 300 *e*Pn **Pn** **13 50 46.0 -0.9**
SSF *e*Sn Sn 13 52 54.0 -10
comp=E,5.6nm,0.4s
AVF Avril sur Loir 12.38 298 *e*Pn **Pn** **13 50 48.9 +1.8**
AVF *e*Sn Sn 13 52 53.8 -11
comp=E,2.8nm,0.3s
BGF Bois d'Agland 12.65 297 *e*Pn **Pn** **13 50 50.2 -0.6**
BAIF Baives 13.22 313 *e*Pn **Pn** **13 50 57.4 -1.3**
BAIF *e*Sn Sn 13 53 13.4 -12
comp=E,4.5nm,0.5s
ANN Anapa 13.49 72 *e*P **Pn** **13 51 04.2 +1.9**
ANN pmax pmax
comp=Z,20nm,0.6s
MNK Minsk 13.76 21 *i* P **Pn** **13 51 07.2 +1.2**
comp=E,24nm,0.7s
MNK *i* P **Pn** **13 51 07.2 +1.2**
comp=N,12nm,0.7s
MNK *i* P **Pn** **13 51 07.2 +1.2**
comp=Z,23nm,0.6s,baz=208
MNK *i* PP **P** **13 51 15.2 +0.7**
MNK *i* PPP PPP 13 51 22.8
MNK *i* S **Sn** **13 53 40.6 +2.4**
MNK *i* SS **S** **13 54 00.5 0.0**
MNK *i* LQ LQ 13 55 17.9
MNK *i* LR LR 13 56 12.6
MNK *i* LRM MLR 13 56 58.9
comp=Z,507nm,15.3s
MNK *i* LRM MLR 13 57 16.9
comp=E,817nm,13.2s
MNK *i* LRM MLR 13 57 16.9
comp=N,993nm,15.5s
MNK Minsk 13.76 21 *i* P **Pn** **13 51 07.2 +1.2**
MNK *i* S **Sn** **13 53 40.6 +2.4**
MNK pmax pmax
comp=Z,23nm,0.6s
MNK pmax pmax
comp=E,24nm,0.7s
MNK pmax pmax
comp=N,12nm,0.7s
MNK MLR MLR
comp=Z,507nm,15.0s
MNK MLR MLR
comp=E,817nm,13.0s
MNK MLR MLR
comp=N,993nm,16.0s
NACGM Naroch 13.85 18⇑*i*P **Pn** **13 51 09.3 +2.2**
comp=Z,66nm,0.9s,baz=204

SOC Sochi 15.08 77 *e*P **Pn** **13 51 21.8 -2.2**
SOC *e* 13 54 08.9
SOC MLR MLR
comp=Z,59nm,15.0s
FLN La Foliniere 15.45 303 *e*P **P** **13 51 35.2 +2.0**
GRR Gorron 15.57 301 *e*P **P** **13 51 33.9 -0.7**
MMAI Mount Meron Ar 15.58 120 Pn **Pn** **13 51 31.6 +0.9**
comp=Z,0.8nm,0.3s,baz=311,slow=13,SNR=1.3
ERBR Yeremizino-Bor 15.73 69 *e*P **P** **13 51 36.2 -0.1**
ERBR pmax pmax
comp=Z,44nm,1.5s
LABN Labinsk 15.82 73 *e*P **Pn** **13 51 34.0 +0.4**
LABN pmax pmax
comp=Z,39nm,0.5s
QRNJ Al-Qirein 16.13 121 P **P** **13 51 40.4 -0.4**
KZIT Kziot 16.39 128 P **P** **13 51 43.1 -0.7**
VSR Storozhevoye 16.44 49 *e*P **Pn** **13 51 42.0 +0.4**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 16.67 48 *e*P **Pn** **13 51 40.0 -4.5**
VORR pmax pmax
comp=Z,56nm,0.4s
LPSR Galich'ya Gora 16.98 45 *e*P **Pn** **13 51 47.7 -0.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
ASF Jabal al Asfar 17.09 119 P **Pn** **13 51 50.3 +0.4**
comp=Z,0.2nm,0.3s,baz=225,slow=0.9,SNR=1.1
comp=Z,1.3nm,0.4s
ROSF Rostrenen 17.11 299 *e*Pn **P** **13 51 52.6 +0.9**
PRNI Paran 17.16 128 P **P** **13 51 52.7 +0.4**
VSU Vasula 17.16 13*c i*P **P** **13 51 52.1 +0.1**
VSU pmax pmax
comp=Z,51nm,0.8s
SHA1 Shidzhatmaz 17.21 76⇑*e*P **P** **13 51 53.3 +0.3**
KIV Kislovodsk 17.22 76 *e*P **P** **13 51 53.8 +0.8**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,58nm,14.0s
OBN Obninsk 17.36 35 P **Pn** **13 51 52.7 -0.2**
comp=Z,3.7nm,0.3s,baz=48,slow=4.5,SNR=6.5
comp=Z,13nm,0.4s
OBN Obninsk 17.36 35 *i* P **P** **13 51 53.9 -0.4**
OBN pmax pmax
comp=Z,26nm,1.2s
OBN MLR MLR
comp=Z,278nm,16.0s
KBZ Khabaz 17.38 76 P **Pn** **13 51 53.2 -0.2**
comp=Z,0.2nm,0.3s,baz=270,slow=5.1,SNR=1.9
KBZ LR LR 14 00 25.2
comp=Z,66nm,18.8s,baz=290,slow=44
comp=Z,1.9nm,0.7s
KBZ Khabaz 17.38 76⇓*e*P **P** **13 51 54.4 -0.3**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
MBRI Mt Berech 17.51 129 P **P** **13 51 57.2 +0.9**
HSNJ Maan 17.63 126 P **P** **13 51 59.0 +1.3**
AQBJ Aqaba 17.64 129 P **P** **13 51 59.1 +1.5**
GURO Guroymak-BITLI 17.68 94 P **Pn** **13 51 57.0 -0.3**
ESDC Sonseca Array 17.75 270 P **P** **13 51 58.4 -0.4**
comp=Z,0.1nm,0.3s,baz=73,slow=12,SNR=10
ESDC LR LR 13 59 21.8
comp=Z,79nm,18.0s,baz=122,slow=39
comp=Z,1.7nm,0.9s
VRH Novokhopyorsk 17.90 51 *e*P **Pn** **13 51 58.9 -0.9**
VRH pmax pmax
comp=Z,10.0nm,1.0s
MOS Moscow 18.22 35 *e*P **Pn** **13 52 00.7 -3.0**
MOS pmax pmax
comp=Z,45nm,1.0s
HFS Hagfors 18.51 351 P **P** **13 52 06.7 -0.2**
comp=Z,3.3nm,0.3s,baz=163,slow=11,SNR=38
HFS LR LR 14 00 03.9
comp=Z,128nm,18.6s,baz=168,slow=40
comp=Z,19nm,0.5s
KONO Kongsberg 18.69 345⇑*i*P **P** **13 52 08.6 -0.3**
KONO pmax pmax
comp=Z,21nm,1.1s
OSL Oslo 18.75 346 *e*P **P** **13 52 09.5 -0.1**
RAF Rauma 19.13 4 *e*P **P** **13 52 13.0 -0.7**
GNI Garni 19.25 87 P **P** **13 52 15.7 +0.2**
GNI IAmb IAmb 13 52 17.5
comp=Z,22nm,0.7s
GNI Garni 19.25 87 P **P** **13 52 15.9 +0.4**
comp=Z,1.4nm,0.3s,baz=311,slow=4.5,SNR=8.2
comp=Z,25nm,0.7s
GNI Garni 19.25 87*d i*P **Pn** **13 52 16.8 +0.3**
GNI pmax pmax
comp=Z,19nm,0.8s
GNI Garni 19.25 87 P **Pn** **13 52 17.0 +0.5**
PBRG Braganca 19.37 278 *e*P **Pn** **13 52 21.2 +3.4**
NC602 NORSAR Array S 19.37 348 P **P** **13 52 15.7 -0.8**
NC602 NORSAR Array S 19.37 348 *e*P **P** **13 52 15.9 -0.5**
NAO01 NORSAR Array S 19.58 348 IAmb IAmb 13 52 24.7
comp=Z,22nm,0.7s
MVO Moncorvo 19.69 276 *e*P **Pn** **13 52 27.4 +5.7**
MVO A A 13 52 33.6
comp=Z,27nm,1.7s
NC405 NORSAR Array S 19.71 349 IAmb IAmb 13 52 21.0
comp=Z,32nm,0.7s
NB2 NORSAR Subarra 19.71 348 P **P** **13 52 19.4 -0.8**
comp=Z,6.0nm,0.7s,baz=162,slow=11
NB2 NORSAR Subarra 19.71 348 P **P** **13 52 19.4 -0.8**
baz=162,slow=11
NOA NORSAR Array B 19.71 348 P **P** **13 52 20.2 0.0**
comp=Z,0.1nm,0.3s,baz=155,slow=10,SNR=39
NOA LR LR 14 00 38.3
comp=Z,137nm,18.8s,baz=165,slow=39
comp=Z,4.7nm,0.7s
EKA Eskdalemuir Ar 19.85 320 P **P** **13 52 21.8 +0.1**
baz=115,slow=9.3
comp=Z,2.5nm,0.7s
FINES FINESS Array B 19.92 10 P **P** **13 52 21.4 -1.0**
FINES FINESS Array B 19.92 10 P **P** **13 52 21.8 -0.6**
comp=Z,2.0nm,0.3s,baz=182,slow=11,SNR=43
FINES LR LR 14 00 23.8
comp=Z,172nm,21.3s,baz=196,slow=38
comp=Z,9.3nm,0.6s
FIA1 FINESS Array S 19.92 10 P **P** **13 52 22.1 -0.3**
NC204 NORSAR Array S 20.01 348 P **P** **13 52 23.0 -0.4**
POLO Lamas de Olo 20.22 277 *e*P Pn 13 52 31.8 +3.9
POLO A A 13 53 05.5
comp=Z,21nm,1.6s
MTE Manteigas 20.24 275 *e*P Pn 13 52 27.7 -0.4
MTE A A 13 52 39.6
comp=Z,45nm,1.5s
PMRV Marv??o 20.37 272 *e*P Pn 13 52 28.6 -1.0
PBAR Barrancos 20.48 268 *e*P Pn 13 52 30.5 -0.4
PBAR A A 13 52 39.6
comp=Z,33nm,1.5s
KEF Keuruu 20.50 7 *e*P **P** **13 52 29.0 +0.4**
PESTR Estremoz 20.68 270 *e*P Pn 13 52 32.3 -0.9
PESTR A A 13 52 35.6
comp=Z,31nm,1.7s
MAK Makhachkala 20.80 78 *e*P **P** **13 52 27.9 -4.1**
MAK *e*S **S** **13 56 19.8 -3.4**
MAK *e*SS **SnSn** **13 56 42.9 -0.4**
MAK pmax pmax
comp=Z,463nm,1.3s
MAK MLR MLR
comp=Z,199nm,13.0s
MDT Midelt 21.02 252 P **P** **13 52 34.5 -0.3**
comp=Z,2.2nm,0.8s,baz=82,slow=15,SNR=2.8
MDT LR LR 14 00 27.0
comp=Z,58nm,18.1s,baz=2.0,slow=36
comp=Z,2.2nm,0.8s
PMTG Montargil 21.09 271 *e*P **P** **13 52 38.0 +2.7**
PMTG A A 13 52 47.8
comp=Z,37nm,1.4s
VAF Ylistaro 21.20 4 *e*P **P** **13 52 36.5 +0.4**
PCVE Castro Verde 21.41 267 *e*P **P** **13 52 41.9 +3.2**
BELG Belogornoye 21.75 52 P **P** **13 52 41.3 -1.0**
comp=Z,60nm,0.9s,baz=249,slow=3.5,SNR=28
BELG LR LR 14 02 12.4
comp=Z,327nm,19.8s,baz=254,slow=40
comp=Z,60nm,0.9s
BELG Belogornoye 21.75 52*c i*P **P** **13 52 41.6 -0.6**
BELG pmax pmax
comp=Z,13nm,1.0s
TAM Tamanrasset 22.33 215 P **P** **13 52 49.3 +0.4**
TAM Tamanrasset 22.33 215 P **P** **13 52 49.3 +0.4**
TAM pmax pmax
comp=Z,12nm,1.3s
KLMR Klimovskoe 22.55 26 *e*P **P** **13 52 45.1 -5.6**
KLMR pmax pmax
comp=Z,55nm,1.1s

KLMR MLR MLR
comp=Z,478nm,13.0s
NSS Namsos 22.98 352 *e*P **P** **13 52 55.0 -0.3**
MOR8 Moi Rana 24.39 355 *e*P **P** **13 53 10.4 +1.5**
STOK Stokkvaagen 24.66 354 *e*P **P** **13 53 12.4 +1.2**
KONS Konsvik 24.81 354 *e*P **P** **13 53 13.0 +0.4**
KIRV Kirov 25.11 38 LR LR 14 03 33.0
comp=Z,224nm,19.1s,baz=254,slow=38
KIRV Kirov 25.11 38*de*P **P** **13 53 14.4 -1.0**
FAUS Fauske 25.55 356 *e*P **P** **13 53 18.6 -0.7**
KTK1 Kautokeino 27.18 3 *e*P **P** **13 53 33.0 -1.0**
ARA0 ARCESS Array S 27.81 5 *e*P **P** **13 53 38.4 -1.3**
ARCES ARCESS Array B 27.81 5 P **P** **13 53 38.3 -1.4**
comp=Z,6.0nm,0.7s,baz=192,slow=9.6,SNR=20
comp=Z,6.0nm,0.7s
AKTO Aktyubinsk 27.83 59 LR LR 14 05 07.1
comp=Z,54nm,21.2s,baz=8.0,slow=37
ARTI Arti 28.88 47 P **P** **13 53 47.2 -2.1**
ARTI IAmb IAmb 13 54 00.1
comp=Z,9.7nm,0.7s
ARTI Arti 28.88 47 LR LR 14 05 27.1
comp=Z,88nm,19.5s,baz=246,slow=37
ARTI Arti 28.88 47*c i*P **P** **13 53 47.7 -1.6**
ARTI S **S** **13 58 39.1 +0.7**
ARTI pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 29.06 61 P **P** **13 53 50.0 -1.0**
SVE Sverdlovsk 30.19 46 *e*P **P** **13 54 00.5 -0.4**
SVE pmax pmax
comp=Z,11nm,1.0s
JMIC Jan Mayen 32.25 343 LR LR 14 08 16.4
comp=Z,35nm,18.7s,baz=98,slow=38
BORG Borgarnes 32.36 329 LR LR 14 07 27.2
comp=Z,44nm,19.6s,baz=114,slow=36
TORD Torodi Ar. Bea 32.55 213 P **P** **13 54 20.8 -1.3**
TORD IAmb IAmb 13 54 53.2
comp=Z,16nm,0.8s
TORD Torodi Ar. Bea 32.55 213 P **P** **13 54 23.6 +1.6**
comp=Z,5.7nm,0.9s,baz=9.1,slow=11,SNR=27
TORD LR LR 14 08 37.3
comp=Z,58nm,18.9s,baz=86,slow=38
comp=Z,5.7nm,0.9s
BRVK Borovoye 35.45 54 P **P** **13 54 46.4 -0.5**
BRVK IAmb IAmb 13 54 48.2
comp=Z,18nm,0.8s
BRVK Borovoye 35.45 54*c i*P **P** **13 54 47.1 +0.2**
BRVK pmax pmax
comp=Z,26nm,1.0s
BVAR Borovoye Array 35.52 54 P **P** **13 54 47.9 +0.4**
comp=Z,10nm,0.8s,baz=272,slow=7.0,SNR=36
BVAR LR LR 14 10 57.1
comp=Z,148nm,18.2s,baz=325,slow=39
comp=Z,10nm,0.8s
KKAR Karatay Array 37.27 71 P **P** **13 55 02.0 -0.6**
KKAR Karatay Array 37.27 71 IAmb IAmb 13 55 04.0
comp=Z,3.1nm,0.6s
KKAR Karatay Array 37.27 71 P **P** **13 55 02.0 -0.6**
AAK Ala-Archa 40.20 70 LR LR 14 16 18.9
comp=Z,44nm,18.6s,baz=307,slow=43
AAK Ala-Archa 40.20 70*ce*P **P** **13 55 27.9 +0.5**
AAK pmax pmax
comp=Z,19nm,1.7s
KURBB Kurchatov Arra 40.83 57 P **P** **13 55 31.8 -0.5**
comp=Z,1.8nm,0.7s,baz=292,slow=9.7,SNR=17
comp=Z,1.8nm,0.7s
KURK Kurchatov 40.87 57 P **P** **13 55 31.4 -1.1**
KURK Kurchatov 40.87 57*de*P **P** **13 55 32.3 -0.2**
KURK pmax pmax
comp=Z,12nm,1.7s
DBIC Dimbokro 41.17 218 P **P** **13 55 35.7 +0.3**
comp=Z,3.0nm,0.6s,baz=8.6,slow=9.0,SNR=6.9
DBIC LR LR 14 14 50.1
comp=Z,103nm,18.4s,baz=24,slow=39
comp=Z,3.0nm,0.6s
KSH Kashi 42.34 74 P **P** **13 55 44.3 -0.6**
KSH pmax pmax
comp=Z,4.0nm,1.1s
MBAR Mbarara 43.63 163 LR LR 14 16 56.1
comp=Z,54nm,18.4s,baz=309,slow=40
NRIK Noril'sk 43.86 28 P **P** **13 55 56.8 +0.1**
NRIK IAmb IAmb 13 55 58.0
comp=Z,21nm,1.1s
NRIK Noril'sk 43.86 28 P **P** **13 55 57.4 +0.7**
comp=Z,13nm,0.8s,baz=253,slow=4.2,SNR=15
NRIK LR LR 14 16 33.3
comp=Z,148nm,19.9s,baz=320,slow=39
comp=Z,13nm,0.8s
NRIK Noril'sk 43.86 28*ce*P **P** **13 55 56.9 +0.2**
NRIK pmax pmax
comp=Z,14nm,1.0s
ZALV Zalesovo Beam 43.94 51 P **P** **13 55 55.8 -1.7**
ZALV Zalesovo Beam 43.94 51 P **P** **13 55 57.1 -0.3**
comp=Z,2.9nm,0.4s,baz=280,slow=8.3,SNR=17
ZALV LR LR 14 16 36.1
comp=Z,175nm,18.2s,baz=287,slow=39
comp=Z,2.9nm,0.4s
ZALV Zalesovo Beam 43.94 51 *i* P **P** **13 55 57.0 -0.5**
ZALV pmax pmax
comp=Z,3.0nm,0.4s
MK31 Makanchi Array 44.21 61*c i*P **P** **13 55 59.5 -0.3**
MKAR Makanchi Array 44.21 61 P **P** **13 55 59.3 -0.5**
MKAR Makanchi Array 44.21 61 P **P** **13 55 59.6 -0.2**
comp=Z,4.3nm,0.7s,baz=280,slow=7.4,SNR=26
MKAR PcP **PP** **13 57 42.5 -0.3**
comp=Z,1.2nm,0.9s,baz=305,slow=5.1,SNR=2.6
MKAR ScP **ScP** **14 01 37.9 +2.8**
comp=Z,0.3nm,0.5s,baz=277,slow=6.0,SNR=5.4
MKAR LR LR 14 16 39.1
comp=Z,55nm,19.0s,baz=256,slow=39
comp=Z,4.3nm,0.7s
MKAR Makanchi Array 44.21 61 *i* P **P** **13 55 59.5 -0.3**
MKAR pmax pmax
comp=Z,4.0nm,0.7s
SFJD Kangerlussuaq 44.49 328 LR LR 14 13 57.8
comp=Z,47nm,20.8s,baz=104,slow=35
KMBO Kilima Mbogo 45.88 155⇑*e*P **P** **13 56 13.7 +0.1**
WMQ Urumqi 48.82 63 *e*P **P** **13 56 38.3 +2.3**
SCHQ Schefferville 55.07 315 P **P** **13 57 22.8 +0.4**
comp=Z,5.6nm,0.9s,baz=29,slow=10,SNR=2.4
comp=Z,5.6nm,0.9s
TIXI Tiksi 56.43 21 P **P** **13 57 31.2 -0.7**
TIXI IAmb IAmb 13 57 41.5
comp=Z,9.0nm,1.1s
TIXI Tiksi 56.43 21 LR LR 14 25 12.1
comp=Z,90nm,18.4s,baz=5.5,slow=40
TIXI Tiksi 56.43 21⇓*e*P **P** **13 57 31.7 -0.2**
TIXI pmax pmax
comp=Z,19nm,2.5s
SONM Songino Array 58.81 52 P **P** **13 57 48.6 -0.6**
SONM IAmb IAmb 13 57 57.9
comp=Z,12nm,1.1s
SONM Songino Array 58.81 52 P **P** **13 57 49.6 +0.4**
comp=Z,6.9nm,0.7s,baz=287,slow=7.6,SNR=19
SONM LR LR 14 25 11.3
comp=Z,154nm,18.8s,baz=341,slow=38
comp=Z,6.9nm,0.7s
SONM Songino Array 58.81 52 P **P** **13 57 48.6 -0.6**
SONM pmax pmax
comp=Z,12nm,1.1s
GTA Gaotai 58.90 63 P **P** **13 57 50.0 +0.1**
GTA pP pP 13 57 57.3 +1.4
GTA pmax pmax
comp=Z,11nm,0.7s
ULN Ulaanbaatar 59.18 52 P **P** **13 57 51.4 -0.4**
ULN IAmb IAmb 13 57 52.9
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 59.18 52 P **P** **13 57 51.4 -0.4**
ULN pmax pmax
comp=Z,7.0nm,1.0s
YAK Yakutsk 62.28 30 LR LR 14 27 55.0
comp=Z,136nm,19.5s,baz=304,slow=39
YAK Yakutsk 62.28 30⇓*e*P **P** **13 58 11.2 -1.2**
YAK pmax pmax
comp=Z,6.0nm,1.0s
LZH Lanzhou 63.37 64 *e*P **P** **13 58 21.3 +1.0**
LZH pP pP 13 58 24.3 -2.1
LZH sP sP 13 58 28.3 -0.4
LZH pmax pmax
comp=Z,25nm,1.1s
A36M Sachs Harbour 63.62 348 P **P** **13 58 20.7 -0.4**
HHC Hu-ho-hao-te 65.68 56 *e*P **P** **13 58 35.4 +0.1**
HHC pmax pmax
comp=Z,20nm,0.5s
HHC pmax pmax
comp=Z,180nm,4.6s
CD2 Chengdu 66.27 69 P **P** **13 58 39.3 +0.2**

CD2				pP	pP	13 58 41.5	-3.7
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
LBTB	**Lobatse**	**66.91**	**174**	LR	LR	14 30 44.7	
	comp=Z,70nm,18.9s,baz=351,slow=38						
PZH	**PanZhiHua**	**67.44**	**74**	P	**P**	**13 58 45.9**	**-0.9**
PZH				pmax	pmax		
	comp=Z,30nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,5.6s						
XAN	**Xi'an**	**67.95**	**64**	⇓P	**P**	**13 58 49.8**	**0.0**
XAN				pP	pP	13 58 57.3	+1.4
XAN				pmax	pmax		
	comp=Z,17nm,1.9s						
C27K	**Jago River**	**68.01**	**354**	IAmb	IAmb	13 58 58.1	
	comp=Z,15nm,1.4s						
E29M	**Blow River**	**68.64**	**351**	IAmb	IAmb	13 59 02.3	
	comp=Z,12nm,1.1s						
HEH	**HeiHe**	**68.77**	**41**	*e*P	**P**	**13 58 54.1**	**-0.4**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMI	**Kunming**	**68.99**	**75**	⇓P	**P**	**13 58 56.1**	**-0.5**
KMI				pmax	pmax		
	comp=Z,14nm,1.1s						
BJI	**Beijing**	**69.00**	**55**	P	**P**	**13 58 55.8**	**-0.3**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,53nm,5.1s						
HNS	**HongShan**	**69.69**	**58**	⇑P	P	13 59 07.6	+7.1
HNS				pmax	pmax		
	comp=Z,11nm,1.0s						
CHTO	**Chiang Mai**	**70.09**	**82**	P	**P**	**13 59 01.6**	**-1.6**
CHTO				IAmb	IAmb	13 59 02.8	
	comp=Z,6.1nm,0.9s						
CHTO	**Chiang Mai**	**70.09**	**82**	P	**P**	**13 59 01.6**	**-1.6**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**70.31**	**83**	P	**P**	**13 59 02.6**	**-1.9**
CMAR	**Chiang Mai Arr**	**70.31**	**83**	P	**P**	**13 59 03.5**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=306,slow=7.2,SNR=32						
CMAR				LR	LR	14 38 05.1	
	comp=Z,12nm,19.1s,baz=325,slow=43						
	comp=Z,2.7nm,0.8s						
BOSA	**Boshof**	**70.45**	**174**	P	**P**	**13 59 05.3**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=350,slow=5.2,SNR=3.7						
BOSA				LR	LR	14 33 01.2	
	comp=Z,81nm,18.3s,baz=26,slow=38						
	comp=Z,2.2nm,0.8s						
E19K	**Redstone River**	**70.86**	**359**	IAmb	IAmb	13 59 16.2	
	comp=Z,8.5nm,0.8s						
MA2	**Magadan**	**71.20**	**24**	LR	LR	14 33 49.8	
	comp=Z,60nm,18.2s,baz=216,slow=39						
PHRA	**Phrae**	**71.23**	**82**	P	**P**	**13 59 09.1**	**-1.1**
TIA	**Tai'an**	**71.95**	**57**	P	**P**	**13 59 13.3**	**-1.0**
TIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2	**Changchun**	**71.97**	**47**	*e*P	**P**	**13 59 13.8**	**-0.5**
CN2				*es*P	pP	13 59 20.5	+0.1
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
J30M	**Hart River**	**72.07**	**349**	IAmb	IAmb	13 59 23.8	
	comp=Z,6.7nm,0.9s						
ULM	**Lac du Bonnet**	**72.10**	**322**	P	**P**	**13 59 14.9**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=338,slow=2.9,SNR=4.2						
	comp=Z,2.9nm,0.7s						
ULM	**Lac du Bonnet**	**72.10**	**322**	P	**P**	**13 59 15.0**	**+0.1**
SLVN	**Son La**	**72.16**	**77**	P	**P**	**13 59 14.3**	**-1.5**
SLVN				IAmb	IAmb	13 59 23.9	
	comp=Z,9.5nm,0.8s						
H21K	**Melozitna Rive**	**72.53**	**357**	IAmb	IAmb	13 59 27.1	
	comp=Z,12nm,1.0s						
DAWY	**Dawson**	**72.96**	**350**	P	**P**	**13 59 20.2**	**+0.4**
DAWY				IAmb	IAmb	13 59 29.5	
	comp=Z,15nm,1.3s						
ILAR	**Eielson Array**	**73.04**	**354**	P	**P**	**13 59 20.3**	**0.0**
	comp=Z,1.0nm,0.7s,baz=1.1,slow=5.4,SNR=14						
ILAR				LR	LR	14 32 13.1	
	comp=Z,22nm,19.5s,baz=46,slow=36						
	comp=Z,1.0nm,0.7s						
SUR	**Sutherland**	**74.00**	**179**	LR	LR	14 34 17.1	
	comp=Z,62nm,19.0s,baz=342,slow=38						
USRK	**Ussuriysk Ar.**	**75.16**	**43**	P	**P**	**13 59 32.2**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=332,slow=3.6,SNR=2.3						
USRK				LR	LR	14 35 51.8	
	comp=Z,125nm,18.2s,baz=6.8,slow=38						
	comp=Z,1.8nm,0.7s						
NJ2	**Nanjing**	**75.71**	**60**	*e*P	**P**	**13 59 34.8**	**-1.5**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
KSAR	**Wonju Array Be**	**77.63**	**51**	P	**P**	**13 59 46.7**	**-0.4**
KSAR	**Wonju Array Be**	**77.63**	**51**	P	**P**	**13 59 46.7**	**-0.4**
KSRS	**Korea Array**	**77.64**	**51**	P	**P**	**13 59 47.0**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=307,slow=4.4,SNR=9.4						
KSRS				LR	LR	14 37 38.9	
	comp=Z,86nm,18.4s,baz=335,slow=38						
	comp=Z,4.2nm,0.8s						
PETK	**Petropavlovsk-**	**78.73**	**24**	LR	LR	14 39 20.7	
	comp=Z,130nm,18.5s,baz=326,slow=39						
LAO	**LASA Array**	**79.33**	**325**	IAmb	IAmb	13 59 58.8	
	comp=Z,13nm,1.1s						
JNU	**Nakatsue**	**82.40**	**52**	LR	LR	14 40 31.6	
	comp=Z,78nm,19.4s,baz=330,slow=38						
MOOW	**Moose Ponds**	**83.60**	**326**	IAmb	IAmb	14 00 29.5	
	comp=Z,4.8nm,1.1s						
PD31	**Pinedale Array**	**83.90**	**325**	IAmb	IAmb	14 00 31.0	
	comp=Z,18nm,1.9s						
PDAR	**Pinedale Array**	**83.90**	**325**	P	**P**	**14 00 21.1**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=59,slow=4.6,SNR=11						
	comp=Z,1.0nm,0.7s						
MJAR	**Matsushiro Arr**	**83.99**	**45**	P	**P**	**14 00 21.1**	**-0.1**
	comp=Z,3.4nm,0.8s,baz=326,slow=4.0,SNR=6.7						
MJAR				LR	LR	14 41 26.2	
	comp=Z,52nm,18.4s,baz=354,slow=38						
	comp=Z,3.4nm,0.8s						
E09A	**Wood Farm, Sta**	**84.11**	**332**	IAmb	IAmb	14 00 30.7	
	comp=Z,11nm,1.1s						
HAWA	**Hanford**	**84.70**	**333**	IAmb	IAmb	14 00 34.3	
	comp=Z,9.5nm,1.0s						
WMOK	**Wichita Mounta**	**84.90**	**313**	P	**P**	**14 00 26.6**	**+0.8**
WMOK				IAmb	IAmb	14 00 27.6	
	comp=Z,5.1nm,0.9s						
WMOK	**Wichita Mounta**	**84.90**	**313**	P	**P**	**14 00 26.6**	**+0.8**
WMOK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BMO	**Blue Mountains**	**85.24**	**331**	P	**P**	**14 00 26.9**	**-0.6**
BMO				IAmb	IAmb	14 00 35.5	
	comp=Z,7.8nm,1.2s						
BMO	**Blue Mountains**	**85.24**	**331**	P	**P**	**14 00 26.9**	**-0.6**
BMO				pmax	pmax		
	comp=Z,8.0nm,1.2s						
MFID	**Camas Ranch**	**85.91**	**329**	IAmb	IAmb	14 00 40.9	
	comp=Z,6.6nm,0.9s						
BRDY	**Brady**	**87.61**	**311**	P	**P**	**14 00 40.1**	**+0.9**
BRDY				IAmb	IAmb	14 00 49.4	
	comp=Z,8.9nm,1.1s						
ELK	**Elko**	**87.94**	**327**	LR	LR	14 40 27.5	
	comp=Z,67nm,18.3s,baz=206,slow=36						
PSUT	**Pine Spring**	**89.23**	**325**	IAmb	IAmb	14 00 56.7	
	comp=Z,4.1nm,1.1s						
R11B	**Troy Canyon, C**	**90.11**	**326**	IAmb	IAmb	14 01 00.6	
	comp=Z,6.7nm,1.6s						
NVAR	**Mina Array Bea**	**91.15**	**328**	P	**P**	**14 00 55.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=24,slow=6.9,SNR=2.1						
NVAR				LR	LR	14 45 41.9	
	comp=Z,57nm,20.7s,baz=12,slow=38						
	comp=Z,0.3nm,0.7s						
TXAR	**Lajitas Array**	**91.69**	**313**	P	**P**	**14 00 58.7**	**+0.2**
TXAR	**Lajitas Array**	**91.69**	**313**	P	**P**	**14 00 59.1**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=77,slow=5.5,SNR=12						
	comp=Z,1.9nm,0.7s						
TXAR	**Lajitas Array**	**91.69**	**313**	P	**P**	**14 00 58.7**	**+0.2**
PFO	**Pinyon Flats O**	**94.51**	**324**	LR	LR	14 45 39.5	
	comp=Z,26nm,18.5s,baz=48,slow=37						
ASAR	**Alice Springs**	**123.41**	**93**	PKP	**PKPdf**	**14 06 46.9**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=325,slow=1.1,SNR=5.3						
QSPA	**South Pole Qui**	**131.83**	**180**	PKP	**PKPdf**	**14 07 03.1**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=183,slow=3.4,SNR=6.1						

NEIC ***13*** *13:56:52.9±1.1,23°.9S×0°.2×180°.0W±0°.2,h554km±21km, mb4.3/18, Error ellipse: s-maj=30.2km s-min=21.6km az=151.0*
IDC ***13*** *13:56:55.2±2.7,24°.58S×179°.32E,h516km±18km,mb3.3/5, mbtmp4.2/7, Error ellipse: s-maj=46.4km s-min=17.0km az=29.0*

ISC 13 13:56:53.5±1.2,24°.1S±0°.1×179°.8E±0°.1,h550km,n28, σ2s08/32,mb4.2/15,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.52**	**345**	P	**P**	**13 58 34.9**	**-2.3**
DZM	**Mont Dzumac**	**12.45**	**277**	P	**P**	**13 59 37.6**	**+0.8**
DZM	**Mont Dzumac**	**12.45**	**277**	P	**P**	**13 59 36.2**	**-0.6**
	3.1nm,0.6s,baz=90,slow=13,SNR=1.9						
URZ	**Urewera**	**14.33**	**189**	P	P	13 59 52.2	-3.6
	8.2nm,0.6s,baz=321,slow=13,SNR=9.7						
URZ				S	**S**	**14 02 20.8**	**-5.2**
	3.5nm,0.5s,baz=152,slow=20,SNR=9.4						
ARMA	**Armidale**	**25.79**	**250**	P	**P**	**14 01 43.0**	**+1.6**
ARMA				IAmb	IAmb	14 01 43.7	
	comp=Z,6.8nm,0.9s						
EIDS	**Eidsvold**	**26.09**	**261**	P	**P**	**14 01 44.6**	**+0.6**
EIDS				IAmb	IAmb	14 02 09.0	
	comp=Z,21nm,1.5s						
CAN	**Canberra**	**28.89**	**240**	P	**P**	**14 02 09.3**	**+0.9**
CTAO	**Charters Tower**	**31.29**	**271**	P	**P**	**14 02 29.9**	**+0.7**
TOO	**Toolangi**	**32.20**	**237**	P	**P**	**14 02 37.8**	**+1.1**
STKA	**Stephens Creek**	**34.48**	**248**	P	**P**	**14 02 56.8**	**+0.8**
STKA	**Stephens Creek**	**34.48**	**248**	P	**P**	**14 02 53.6**	**-2.4**
	comp=Z,1.5nm,0.6s,baz=90,slow=10.0,SNR=4.5						
	comp=Z,1.5nm,0.6s						
BBOO	**Buckleboo**	**39.20**	**247**	P	**P**	**14 03 34.2**	**-0.6**
BBOO				IAmb	IAmb	14 03 34.6	
	comp=Z,9.4nm,1.1s						
AS31	**Alice Springs**	**41.82**	**261**	P	**P**	**14 03 55.3**	**-0.4**
ASAR	**Alice Springs**	**41.82**	**261**	P	**P**	**14 03 55.5**	**-0.3**
ASAR	**Alice Springs**	**41.82**	**261**	P	**P**	**14 03 56.1**	**+0.4**
	comp=Z,2.8nm,0.9s,baz=95,slow=7.4,SNR=62						
ASAR				ScP	**ScP**	**14 08 42.4**	**+5.4**
	comp=Z,0.7nm,0.9s,baz=116,slow=3.6,SNR=4.4						
ASAR				S	**S**	**14 09 33.5**	**-0.7**
	comp=Z,0.3nm,0.9s,baz=97,slow=16,SNR=3.4						
	comp=Z,2.8nm,0.9s						
WR0	**Warramunga Arr**	**42.02**	**266**	P	**P**	**14 03 57.0**	**-0.3**
WR0				IAmb	IAmb	14 03 57.6	
	comp=Z,4.4nm,0.7s						
WB2	**Warramunga Arr**	**42.20**	**266**	P	**P**	**14 03 58.2**	**-0.5**
WB2				IAmb	IAmb	14 03 59.1	
	comp=Z,6.1nm,0.6s						
WB0	**Warramunga Arr**	**42.20**	**267**	P	**P**	**14 03 58.4**	**-0.4**
WB0				IAmb	IAmb	14 03 59.4	
	comp=Z,6.4nm,0.8s						
WRA	**Warramunga Arr**	**42.21**	**266**	P	**P**	**14 03 58.7**	**-0.1**
	comp=Z,4.2nm,0.6s,baz=104,slow=8.4,SNR=38						
WRA				ScP	**ScP**	**14 08 44.9**	**+6.3**
	comp=Z,0.7nm,0.8s,baz=106,slow=3.9,SNR=4.8						
WRA				S	**S**	**14 09 38.6**	**-1.2**
	comp=Z,0.7nm,1.1s,baz=65,slow=19,SNR=2.1						
	comp=Z,4.2nm,0.6s						
WAKE	**Wake Island**	**44.96**	**342**	P	**P**	**14 04 18.0**	**-2.0**
FORT	**Forrest**	**46.08**	**250**	P	**P**	**14 04 28.2**	**-0.3**
FORT				IAmb	IAmb	14 04 28.9	
	comp=Z,9.7nm,0.7s						
MTN	**Manton Dam**	**47.28**	**275**	P	**P**	**14 04 37.6**	**-0.2**
MTN				IAmb	IAmb	14 05 13.8	
	comp=Z,16nm,1.4s						
KNRA	**Kununurra**	**48.50**	**270**	P	**P**	**14 04 47.4**	**+0.5**
KNRA				IAmb	IAmb	14 05 09.1	
	comp=Z,15nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.63**	**266**	P	**P**	**14 05 03.5**	**+1.0**
PSA00	**Pilbara Seismi**	**54.95**	**260**	P	**P**	**14 05 33.1**	**-0.2**
MORW	**Morawa**	**56.64**	**250**	P	**P**	**14 05 44.9**	**0.0**
MORW				IAmb	IAmb	14 05 57.1	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**66.01**	**180**	P	**P**	**14 06 46.9**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=322,slow=0.7,SNR=27						
	comp=Z,2.2nm,0.6s						
MAW	**Mawson**	**77.52**	**200**	P	**P**	**14 07 53.5**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=158,slow=11,SNR=1.8						
	comp=Z,0.9nm,0.7s						

THE ***13*** *14:03:34.0,38°.36N×22°.31E,h4km±2km,ML2.6/4, Error ellipse: s-maj=2.3km s-min=0.5km az=285.0*

ATH 13 14:03:33.9,38°.36N×22°.27E,h10km,ML2.8/17,Manual Solution by D.Makaris This location: 2020/09/17 14:21:32 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.11**	**287**	P	Pg	14 03 36.8	+0.1
KALE				S	Sg	14 03 38.9	+0.2
DLFA	**Delphi**	**0.21**	**56**	P	Pg	14 03 38.2	-0.1
DLFA				S	Sg	14 03 41.6	+0.2
EFP	**Efpalio**	**0.29**	**283**	P	Pg	14 03 39.7	-0.1
EFP				S	Sg	14 03 44.2	+0.4
KLV	**Kalavryta, Ach**	**0.33**	**197**	P	Pg	14 03 40.6	+0.1
KLV				S	Sg	14 03 45.5	+0.6
	642nm,0.4s						
KLV	**Kalavryta, Ach**	**0.33**	**197**	P	Pg	14 03 40.7	+0.2
KLV				S	Sg	14 03 45.5	+0.6
ANX	**Ano Chora**	**0.36**	**311**	P	Pg	14 03 40.9	-0.2
ANX				S	Sg	14 03 46.3	+0.4
UPR	**University Cam**	**0.39**	**259**	P	Pb	14 03 42.9	0.0
UPR				S	Sb	14 03 47.9	-1.0
GUR	**Goura**	**0.43**	**172**	P	Pg	14 03 42.5	+0.2
GUR				S	Sg	14 03 47.2	-0.7
AXAR	**Agios Charalam**	**0.51**	**37**	P	Pg	14 03 43.2	-0.6
AXAR				S	Sg	14 03 51.0	+0.5
DRO	**Drossia**	**0.60**	**228**	P	Pg	14 03 45.5	0.0
DRO				S	Sg	14 03 53.7	+0.3
MAKR	**Makrakomi, Fth**	**0.66**	**351**	P	Pb	14 03 48.0	+0.4
MAKR				S	Sg	14 03 55.5	+0.1
AGG	**Agios Georgios**	**0.66**	**4**	P	Pg	14 03 45.5	-1.3
AGG				S	Sg	14 03 55.5	0.0
	648nm,0.4s						
EVR	**Evrytania**	**0.66**	**327**	P	Pg	14 03 46.9	+0.1
EVR				S	Sb	14 03 56.7	-0.3
	900nm,0.5s						
EVR	**Evrytania**	**0.66**	**327**	P	Pb	14 03 47.4	-0.3
EVR				S	Sg	14 03 56.1	+0.6
RLS	**Riolos of Patr**	**0.70**	**245**	P	Pg	14 03 47.4	0.0
RLS				S	Sb	14 03 58.6	+0.7
	728nm,0.5s						
RLS	**Riolos of Patr**	**0.70**	**245**	P	Pg	14 03 47.3	-0.1
RLS				S	Sg	14 03 56.9	+0.3
VIL2	**Platees**	**0.80**	**100**	P	Pn	14 03 50.9	-0.4
VIL2				S	Sn	14 04 02.1	-1.1
ATH	**Athens Observa**	**1.20**	**108**	P	Pb	14 03 54.9	-1.9
ATH	**Athens Observa**	**1.20**	**108**	P	Pg	14 03 57.4	+0.4
ATH				S	Sb	14 04 12.4	+0.1
NEO	**Neokhori**	**1.20**	**38**	P	Pb	14 03 56.2	-0.6
NEO	**Neokhori**	**1.20**	**38**	P	Pb	14 03 56.2	-0.7
NEO				S	Sg	14 04 12.8	+0.1
THL	**Klokotos Trika**	**1.22**	**351**	P	Pb	14 03 57.1	0.0
THL				S	Sb	14 04 12.6	-0.3
THL	**Klokotos Trika**	**1.22**	**351**	P	Pg	14 03 57.8	+0.5
THL				S	Sg	14 04 13.1	-0.1
PTL	**Penteli**	**1.29**	**103**	P	Pn	14 03 57.6	-0.4
PTL				S	Sg	14 04 15.9	+0.4
VLY	**Voula,Athens**	**1.30**	**112**	P	Pn	14 03 58.0	-0.2
VLY				S	Sg	14 04 15.9	0.0
VLY	**Voula,Athens**	**1.30**	**112**	P	Pn	14 03 58.1	0.0
VLY				S	Sg	14 04 16.1	+0.2
DION	**Dionisos Attik**	**1.34**	**102**	P	Pn	14 03 58.6	-0.1
DION				S	Sb	14 04 16.4	+0.1
TYRN	**Tyrnavos**	**1.35**	**359**	P	Pb	14 03 59.3	0.0
TYRN				S	Sb	14 04 16.7	+0.1
AOS2	**Alonissos-2**	**1.46**	**57**	P	Pn	14 04 00.5	+0.2
AOS2				S	Sg	14 04 20.4	-0.5
KYMI	**Kymi, Euboea I**	**1.46**	**79**	P	Pn	14 04 00.1	-0.2
KYMI				S	Sn	14 04 19.0	-0.5
VLI	**Veliai**	**1.72**	**162**	P	Pn	14 04 04.3	+0.4
VLI				S	Sn	14 04 26.4	+0.5

ATH 13 14:04:07.6,37°.43N×20°.32E,h9km±2km,ML3.3/8,Error ellipse: s-maj=2.7km s-min=1.1km az=26.0,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.50**	**55**	P	Pg	14 04 16.5	-0.8
LTHK				S	Sg	14 04 23.0	-0.8
LTHK				AML	AML	14 04 23.3	
	comp=E,15918μm,0.2s						
LTHK				AML	AML	14 04 23.4	
	comp=N,11210μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.72**	**17**	P	Pb	14 04 22.0	-0.3
PSDA				S	Sg	14 04 31.0	+0.1
LXRA	**Lixouri, Kepha**	**0.78**	**7**	P	Pb	14 04 23.2	-0.1
LXRA				S	Sg	14 04 33.0	+0.2
DMLN	**Damoulianata-K**	**0.81**	**3**	P	Pg	14 04 22.6	-0.7
DMLN				S	Sg	14 04 34.4	+0.5
FSK	**Fiskardo**	**1.05**	**10**	P	Pb	14 04 28.2	+0.3
FSK				S	Sg	14 04 41.5	+0.1
FSK				AML	AML	14 04 50.2	
	comp=E,1523μm,0.4s						
FSK				AML	AML	14 04 52.0	
	comp=N,1302μm,0.5s						
RLS	**Riolos of Patr**	**1.10**	**55**	P	Pg	14 04 27.6	-1.3
RLS				S	Sg	14 04 43.3	+0.1
RLS				AML	AML	14 04 46.3	
	comp=N,1744μm,0.8s						
RLS				AML	AML	14 04 46.5	
	comp=E,2329μm,0.7s						
AMT	**Artemida-Makis**	**1.11**	**84**	P	Pg	14 04 28.0	-1.0
AMT				S	Sb	14 04 43.9	+0.4
AMT				AML	AML	14 04 51.0	
	comp=N,3920μm,0.5s						
AMT				AML	AML	14 04 52.8	
	comp=E,4497μm,0.5s						
EVGI	**Lefkada island**	**1.22**	**12**	P	Pn	14 04 29.7	-1.2
EVGI				S	Sb	14 04 46.5	-0.2
PYL	**PYLOS**	**1.25**	**115**	P	Pn	14 04 30.5	-0.8
PYL				S	Sg	14 04 48.0	+0.1
PYL				AML	AML	14 04 50.6	
	comp=N,696μm,0.2s						
PYL				AML	AML	14 04 51.1	
	comp=E,712μm,0.2s						
ITM	**Ithomi**	**1.30**	**100**	P	Pn	14 04 31.8	-0.2
ITM				S	Sb	14 04 49.2	+0.1
ITM				AML	AML	14 04 52.8	
	comp=E,849μm,0.8s						
ITM				AML	AML	14 04 59.8	
	comp=N,753μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.32**	**13**	P	Pn	14 04 31.1	-1.1
NYDR				S	Sb	14 04 49.5	-0.1

IDC ***13*** *14:30:49.9±3.1,17°.90S×178°.08W,h583km±21km, mb3.1/5, mbtmp4.0/6, Error ellipse: s-maj=64.2km s-min=37.3km az=23.0*
NEIC ***13*** *14:30:49.1±0.8,17°.8S±0°.2×177°.9W±0°.2,h586km±12km, mb4.0/15, Error ellipse: s-maj=26.7km s-min=18.3km az=142.0*

ISC 13 14:30:49.1±0.8,17°.6S±0°.2×178°.0W±0°.1,h600km,n25, σ0s79/27,mb3.9/14,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.82**	**267**	P	**P**	**14 32 12.3**	**-1.2**
MSVF	**Nonsavu**	**3.82**	**267**	P	**P**	**14 32 12.1**	**-1.4**
	14nm,0.6s,baz=131,slow=15,SNR=8.4						
AFI	**Afiamalu**	**6.96**	**59**	P	**P**	**14 32 37.8**	**-1.2**
NIUE	**Niue**	**7.77**	**102**	P	**P**	**14 32 45.7**	**-0.6**
TOO	**Toolangi**	**37.73**	**231**	P	**P**	**14 37 14.9**	**-0.5**
TOO				IAmb	IAmb	14 37 28.7	
	comp=Z,8.7nm,1.4s						
STKA	**Stephens Creek**	**39.18**	**241**	P	**P**	**14 37 27.0**	**-0.1**
STKA	**Stephens Creek**	**39.18**	**241**	P	**P**	**14 37 27.0**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=93,slow=10,SNR=8.3						
	comp=Z,1.7nm,0.5s						
BBOO	**Buckleboo**	**43.96**	**241**	P	**P**	**14 38 04.3**	**-0.3**
WR0	**Warramunga Arr**	**44.94**	**259**	P	**P**	**14 38 12.8**	**+0.4**
WR0				IAmb	IAmb	14 38 40.7	
	comp=Z,5.0nm,1.2s						
WB0	**Warramunga Arr**	**45.09**	**259**	P	**P**	**14 38 13.7**	**+0.2**
WB0				IAmb	IAmb	14 38 42.7	
	comp=Z,4.9nm,1.2s						
WB2	**Warramunga Arr**	**45.11**	**259**	P	**P**	**14 38 13.6**	**-0.1**
WB2				IAmb	IAmb	14 38 27.0	
	comp=Z,6.0nm,1.4s						
WRAB	**Tennant Creek**	**45.12**	**259**	P	**P**	**14 38 14.1**	**+0.4**
WRAB				IAmb	IAmb	14 38 47.9	
	comp=Z,6.8nm,1.2s						
WRA	**Warramunga Arr**	**45.13**	**259**	P	**P**	**14 38 13.7**	**-0.1**
WRA	**Warramunga Arr**	**45.13**	**259**	P	**P**	**14 38 13.9**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=96,slow=7.4,SNR=45						
WRA				PcP	**PcP**	**14 39 42.5**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=88,slow=3.5,SNR=1.7						
	comp=Z,0.8nm,0.3s						
AS31	**Alice Springs**	**45.30**	**254**	P	**P**	**14 38 14.9**	**-0.2**
AS31				IAmb	IAmb	14 38 16.3	
	comp=Z,1.7nm,0.6s						
ASAR	**Alice Springs**	**45.31**	**254**	P	**P**	**14 38 14.7**	**-0.4**
ASAR	**Alice Springs**	**45.31**	**254**	P	**P**	**14 38 15.3**	**+0.2**
	comp=Z,5.1nm,0.6s,baz=87,slow=8.7,SNR=131						
ASAR				PcP	**PcP**	**14 39 43.6**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=104,slow=3.9,SNR=7.3						
	comp=Z,5.1nm,0.6s						
MTN	**Manton Dam**	**49.25**	**268**	P	**P**	**14 38 45.2**	**+0.6**
MTN				IAmb	IAmb	14 39 26.8	
	comp=Z,13nm,1.4s						
FORT	**Forrest**	**50.55**	**244**	P	**P**	**14 38 53.4**	**-0.5**
FORT				IAmb	IAmb	14 39 10.3	
	comp=Z,10nm,0.9s						
KNRA	**Kununurra**	**50.96**	**264**	P	**P**	**14 38 57.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**53.52**	**260**	P	**P**	**14 39 16.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**53.52**	**260**	P	**P**	**14 39 15.9**	**+0.6**
	comp=Z,2.2nm,1.0s,baz=73,slow=9.4,SNR=6.1						
	comp=Z,2.2nm,1.0s						
QSPA	**South Pole Qui**	**72.49**	**180**	P	**P**	**14 41 16.0**	**+0.1**
QSPA	**South Pole Qui**	**72.49**	**180**	P	**P**	**14 41 16.0**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=70,slow=1.3,SNR=0.8						
	comp=Z,0.3nm,0.7s						
DUG	**Dugway, Tooele**	**83

2.1nm,0.5s
MAKZ ⇓Lg Lg 14 36 49.7
13nm,0.5s
MAKZ Makanchi 4.80 246 Pn Pb 14 35 39.3 -7.1
MAKZ Pg **Pg 14 35 50.5 -3.7**
MAKZ Sg **Sg 14 36 55.0 -1.2**
KURK Kurchatov 6.54 289 ⇓Pn Pn 14 36 01.7 +3.2
0.9nm,0.4s
KURK ⇑Sn **Sn 14 37 13.9 +0.8**
1.6nm,0.5s
KURK ⇓Lg Lg 14 37 45.2
9.7nm,0.7s
KURBB Kurchatov Arra 6.58 288 ⇓Pn **Pn 14 36 01.5 +2.5**
2.3nm,0.4s
KURBB ⇑Sn **Sn 14 37 15.8 +1.8**
4.4nm,0.6s
KURBB ⇓Lg Lg 14 37 47.8
21nm,0.8s

ROM 13 14:36:11.0±0.1,38°.022N±0°.004×15°.038E±0°.005,
h8km,ML1.9/28,6C-1D,Error ellipse: s-maj=0.5km
s-min=0.3km az=162.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOV	**Novara**	**0.08**	**85**	⇓P	Pg	14 36 13.8	+0.6
NOV				S	Sg	14 36 15.8	+1.0
NOV				AML	AML		
	comp=E,14500μm,0.4s						
NOV				AML	AML		
	comp=N,13450μm,0.2s						
NOV				AML	AML		
	comp=E,14487μm,0.4s						
NOV				AML	AML		
	comp=N,13439μm,0.2s						
MUCR	**Ucria**	**0.13**	**279**	⇑P	Pg	14 36 14.4	+0.4
MUCR				S	Sg	14 36 16.7	+0.6
MUCR				AML	AML		
	comp=E,2480μm,0.5s						
MUCR				AML	AML		
	comp=N,2515μm,0.7s						
MUCR				AML	AML		
	comp=E,2229μm,0.3s						
MUCR				AML	AML		
	comp=N,2104μm,0.2s						
AIO	**Antillo**	**0.16**	**108**	⇑P	Pg	14 36 14.9	+0.5
AIO				S	Sg	14 36 17.8	+1.0
AIO				AML	AML		
	comp=N,1885μm,0.7s						
AIO				AML	AML		
	comp=E,2160μm,0.2s						
AIO				AML	AML		
	comp=N,1851μm,0.2s						
AIO				AML	AML		
	comp=E,2160μm,0.2s						
EMCN	**Etna Monte Con**	**0.23**	**181**	P	Pg	14 36 17.1	+1.4
EPZF	**Pizzo Felice**	**0.24**	**216**	⇑P	Pg	14 36 16.5	+0.6
EPZF				S	Sg	14 36 20.4	+1.1
EPZF				AML	AML		
	comp=N,1620μm,0.3s						
EPZF				AML	AML		
	comp=E,992μm,0.3s						
EPZF				AML	AML		
	comp=N,1622μm,0.3s						
EPZF				AML	AML		
	comp=E,992μm,0.3s						
MPNC	**Port Mandanici**	**0.28**	**63**	⇑P	Pg	14 36 17.2	+0.7
MPNC				S	Sb	14 36 21.8	-1.2
MPNC				AML	AML		
	comp=E,802μm,0.5s						
MPNC				AML	AML		
	comp=N,613μm,0.1s						
MPNC				AML	AML		
	comp=E,803μm,0.5s						
MPNC				AML	AML		
	comp=N,613μm,0.1s						
MNO	**Monte Soro**	**0.28**	**252**	⇑P	Pg	14 36 17.2	+0.4
MNO				S	Sb	14 36 22.7	-0.7
MNO				AML	AML		
	comp=N,918μm,0.6s						
MNO				AML	AML		
	comp=E,790μm,0.7s						
MNO				AML	AML		
	comp=N,537μm,0.3s						
MNO				AML	AML		
	comp=E,749μm,0.5s						
MILZ	**Milazzo**	**0.29**	**31**	P	Pb	14 36 18.0	-0.5
MILZ				S	Sb	14 36 23.0	-0.5
MILZ				AML	AML		
	comp=N,402μm,0.2s						
MILZ				AML	AML		
	comp=E,799μm,0.2s						
VPL	**Vulcano Piano**	**0.36**	**353**	P	Pb	14 36 19.4	-0.2
VPL				S	Sb	14 36 24.8	-0.6
VPL				AML	AML		
	comp=E,406μm,0.3s						
VPL				AML	AML		
	comp=N,506μm,0.2s						
VPL				AML	AML		
	comp=E,406μm,0.3s						
VPL				AML	AML		
	comp=N,506μm,0.2s						
IVGP	**Vulcano Grotta**	**0.38**	**351**	P	Pg	14 36 19.1	+0.7
IVGP				S	Sb	14 36 24.8	-1.2
MSRU	**Castanea**	**0.44**	**57**	P	Pg	14 36 20.1	+0.4
MSRU				S	Sb	14 36 26.9	-0.9
MSRU				AML	AML		
	comp=E,488μm,0.3s						
MSRU				AML	AML		
	comp=N,254μm,1.2s						
MSRU				AML	AML		
	comp=N,181μm,0.2s						
MSRU				AML	AML		
	comp=E,488μm,0.3s						
MTTG	**Motta San Giov**	**0.52**	**92**	⇑P	Pg	14 36 21.5	+0.4
MTTG				AML	AML		
	comp=E,89μm,0.5s						
MTTG				AML	AML		
	comp=N,120μm,0.6s						
HLNI	**Lentini**	**0.69**	**191**	P	Pg	14 36 24.1	-0.1
HLNI				S	Sb	14 36 35.0	+0.3
HLNI				AML	AML		
	comp=E,32μm,0.4s						
HLNI				AML	AML		
	comp=N,33μm,0.2s						
PLLN	**Pollina**	**0.71**	**268**	P	Pg	14 36 24.8	+0.2
PLLN				S	Sb	14 36 35.7	+0.3
PLLN				AML	AML		
	comp=E,212μm,0.4s						
PLLN				AML	AML		
	comp=N,304μm,1.2s						
PLLN				AML	AML		
	comp=N,148μm,0.4s						
PLLN				AML	AML		
	comp=E,109μm,0.5s						
PLLN				AML	AML		
	comp=E,212μm,0.4s						
PLLN				AML	AML		
	comp=N,282μm,0.5s						
CEL	**Celeste**	**0.71**	**70**	P	Pg	14 36 24.6	-0.1
CEL				S	Sb	14 36 35.1	-0.6
CEL				AML	AML		
	comp=E,90μm,0.9s						
CEL				AML	AML		
	comp=N,85μm,1.1s						
CEL				AML	AML		
	comp=E,58μm,0.4s						
CEL				AML	AML		
	comp=N,50μm,0.6s						
CEL				AML	AML		
	comp=N,59μm,0.5s						
CEL				AML	AML		
	comp=E,58μm,0.4s						
CEL				AML	AML		
	comp=E,54μm,0.5s						
CEL				AML	AML		
	comp=N,47μm,0.6s						
HAGA	**Augusta**	**0.74**	**173**	P	Pg	14 36 25.4	+0.1
HAGA				S	Sb	14 36 36.7	+0.4
HAGA				AML	AML		
	comp=N,47μm,0.3s						
HAGA				AML	AML		
	comp=E,71μm,0.7s						
IACL	**Alicudi**	**0.74**	**314**	P	Pg	14 36 25.1	-0.2
IACL				AML	AML		
	comp=E,182μm,0.6s						
IACL				AML	AML		
	comp=N,148μm,1.3s						
IACL				AML	AML		
	comp=E,173μm,0.2s						
IACL				AML	AML		
	comp=N,136μm,0.3s						
SOI	**Samo**	**0.80**	**86**	P	Pg	14 36 26.0	-0.5
SOI				AML	AML		
	comp=E,35μm,1.6s						
SOI				AML	AML		
	comp=N,35μm,0.6s						
SOI				AML	AML		
	comp=E,29μm,0.4s						
SOI				AML	AML		
	comp=N,30μm,0.5s						
JOPP	**Joppolo**	**0.89**	**49**	P	Pg	14 36 27.9	-0.1
JOPP				S	Sb	14 36 40.5	-0.1
JOPP				AML	AML		
	comp=E,38μm,0.2s						
JOPP				AML	AML		
	comp=N,61μm,1.5s						
JOPP				AML	AML		
	comp=E,38μm,0.2s						
JOPP				AML	AML		
	comp=N,59μm,0.2s						
RAFF	**Raffo Rosso**	**0.96**	**214**	P	Pg	14 36 29.0	-0.5
RAFF				AML	AML		
	comp=E,60μm,0.5s						
RAFF				AML	AML		
	comp=N,92μm,0.4s						
PLAC	**Placanica**	**1.18**	**68**	P	Pb	14 36 33.2	-0.4
PLAC				AML	AML		
	comp=E,29μm,1.6s						
PLAC				AML	AML		
	comp=N,28μm,0.4s						
PLAC				AML	AML		
	comp=E,49μm,1.4s						
PLAC				AML	AML		
	comp=E,25μm,0.5s						
PLAC				AML	AML		
	comp=N,38μm,0.9s						
PLAC				AML	AML		
	comp=N,28μm,0.4s						

ROM 13 14:36:56.2±0.1,38°.044N±0°.006×15°.031E±0°.005,
h8km,ML1.8/10,Error ellipse: s-maj=0.6km
s-min=0.3km az=167.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOV	**Novara**	**0.09**	**101**	P	Pg	14 36 58.8	+0.4
NOV				S	Sg	14 37 00.7	+0.8
NOV				AML	AML		
	comp=N,4315μm,0.2s						
NOV				AML	AML		
	comp=E,4550μm,0.4s						
NOV				AML	AML		
	comp=N,4315μm,0.2s						
NOV				AML	AML		
	comp=E,4545μm,0.4s						
NOV				AML	AML		
	comp=E,4545μm,1.6s						
MUCR	**Ucria**	**0.12**	**270**	P	Pg	14 36 59.4	+0.5
MUCR				S	Sg	14 37 01.8	+0.9
MUCR				AML	AML		
	comp=E,646μm,0.5s						
MUCR				AML	AML		
	comp=N,757μm,0.4s						
MUCR				AML	AML		
	comp=E,613μm,0.2s						
MUCR				AML	AML		
	comp=E,613μm,1.8s						
MUCR				AML	AML		
	comp=N,757μm,0.4s						
AIO	**Antillo**	**0.17**	**114**	P	Pg	14 36 60.0	+0.2
AIO				S	Sg	14 37 02.9	+0.6
AIO				AML	AML		
	comp=N,733μm,0.7s						
AIO				AML	AML		
	comp=N,721μm,0.2s						
AIO				AML	AML		
	comp=E,705μm,0.4s						
AIO				AML	AML		
	comp=E,687μm,0.3s						
EMCN	**Etna Monte Con**	**0.25**	**180**	P	Pb	14 37 02.5	-0.6
EPZF	**Pizzo Felice**	**0.26**	**212**	P	Pg	14 37 02.2	+0.9
EPZF				S	Sb	14 37 06.5	-1.4
EPZF				AML	AML		
	comp=E,286μm,0.3s						
EPZF				AML	AML		
	comp=N,463μm,0.2s						
MPNC	**Port Mandanici**	**0.27**	**68**	P	Pg	14 37 02.4	+0.8
MPNC				S	Sb	14 37 07.2	-1.0
MPNC				AML	AML		
	comp=E,266μm,0.4s						
MPNC				AML	AML		
	comp=N,207μm,1.3s						
MPNC				AML	AML		
	comp=N,203μm,0.2s						
MPNC				AML	AML		
	comp=E,265μm,0.4s						
MPNC				AML	AML		
	comp=E,216μm,0.2s						
MILZ	**Milazzo**	**0.28**	**35**	P	Pg	14 37 02.5	+0.8
MNO	**Monte Soro**	**0.29**	**248**	P	Pg	14 37 02.2	+0.2
MNO				S	Sg	14 37 07.2	+1.4
MNO				AML	AML		
	comp=E,324μm,0.7s						
MNO				AML	AML		
	comp=N,275μm,0.6s						
MNO				AML	AML		
	comp=E,273μm,0.3s						
MNO				AML	AML		
	comp=N,164μm,0.3s						
IVGP	**Vulcano Grotta**	**0.36**	**351**	P	Pb	14 37 04.2	-0.6
IVGP				S	Sb	14 37 10.1	-0.6
MSRU	**Castanea**	**0.44**	**60**	P	Pb	14 37 05.6	-0.6
MSRU				S	Sb	14 37 12.1	-0.8
EPOZ	**Pozzillo**	**0.53**	**176**	P	Pg	14 37 05.5	-0.9
PLLN	**Pollina**	**0.70**	**266**	P	Pg	14 37 10.2	+0.4
PLLN				S	Sb	14 37 20.1	-0.6
PLLN				AML	AML		
	comp=N,92μm,0.5s						
PLLN				AML	AML		
	comp=E,83μm,0.5s						
CEL	**Celeste**	**0.71**	**72**	P	Pg	14 37 10.0	0.0

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*IDC **13** 14:59:05.4±0.8, 7°.79S×128°.54E, h0km, mb3.9/9, mbtmp4.1/13, ML4.5/4, MS2.8/1, Error ellipse: s-maj=30.9km s-min=16.6km az=81.0*
*NEIC **13** 14:59:14.5±2.4, 8°.04S±0°.08×128°.55E±0°.08, h35km±2km, mb4.1/9, Error ellipse: s-maj=16.0km s-min=10.2km az=315.0*
*DJA **13** 14:59:15.6±2.4, 8°.S±3°.×12°.9E±°, h32km±37km, M4.3/13, mb4.5/6, mB5.1/2, MLv4.3/13, Mw(mB)4.5/2*
ISC 13 14:59:14.2±0.5,8°.13S±0°.05×128°.61E±0°.05,h44km,n68,
σ2s48/69,mb4.0/13,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.67**	**87**	Pn	**Pn**	**14 59 54.9**	**+0.2**
SAUI	**Saumlaki**	**2.67**	**87**	P	**Pn**	**14 59 57.8**	**+3.1**
SAUI				S	**Sn**	**15 00 29.1**	**+3.3**
BNDI	**Bandanaira**	**3.81**	**20**	P	**Pn**	**15 00 09.1**	**-1.3**
AAI	**Ambon**	**4.44**	**355**	P	**Pn**	**15 00 17.7**	**-1.3**
SOEI	**Soe**	**4.58**	**249**	Pn	**Pn**	**15 00 21.9**	**+0.7**
SOEI	**Soe**	**4.58**	**249**	P	**Pn**	**15 00 22.6**	**+1.5**
SOEI	**Soe**	**4.58**	**249**	P	**Pn**	**15 00 23.7**	**+2.6**
DRS	**Darwin Rock St**	**4.83**	**152**	P	**Pn**	**15 00 27.6**	**+3.2**
NLAI	**Namlea**	**5.09**	**343**	P	**Pn**	**15 00 28.0**	**0.0**
MTN	**Manton Dam**	**5.30**	**152**	Pn	**Pn**	**15 00 33.5**	**+2.7**
MTN	**Manton Dam**	**5.30**	**152**	P	**Pn**	**15 00 33.9**	**+3.1**
BATI	**Baumata**	**5.30**	**247**	Pn	Pn	15 00 25.2	-5.7
	22nm,0.3s,baz=282,slow=23,SNR=12						
BATI				Sn	**Sn**	**15 01 33.0**	**+2.3**
	8.9nm,0.3s,baz=114,slow=23,SNR=1.8						
	52nm,0.3s						
BATI	**Baumata**	**5.30**	**247**	P	**Pn**	**15 00 33.2**	**+2.3**
	33nm,1.1s,2μm0.5nm						
KDU	**Kakadu**	**5.91**	**140**	P	**Pn**	**15 00 41.7**	**+2.5**
FAKI	**Fak Fak**	**6.32**	**35**		**Pn**	**15 00 44.8**	**-0.1**
FAKI	**Fak Fak**	**6.32**	**35**	P	**Pn**	**15 00 44.5**	**-0.4**
	29nm,0.7s,0.2nm						
SANI	**Sanana**	**6.58**	**336**	P	**Pn**	**15 00 48.4**	**-0.1**
KMPI	**Kaimana, Papua**	**6.74**	**49**	P	**Pn**	**15 00 53.1**	**+2.5**
KNRA	**Kununurra**	**7.50**	**179**	Pn	**Pn**	**15 01 02.9**	**+1.8**
SWI	**Sorong**	**7.69**	**20**	P	**Pn**	**15 01 04.0**	**+0.3**
	28nm,0.5s,0.1nm						
WBSI	**Waikabubak, Su**	**9.23**	**260**	P	**Pn**	**15 01 26.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**10.32**	**196**	Pn	**Pn**	**15 01 39.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**10.32**	**196**	Pn	**Pn**	**15 01 39.8**	**+0.1**
	3.3nm,0.3s,baz=14,slow=11,SNR=80						
FITZ				Sn	**Sn**	**15 03 29.9**	**-4.1**
	10.0nm,0.3s,baz=285,slow=20,SNR=8.4						
FITZ				LR	LR	15 06 02.5	
	comp=Z,51nm,18.7s,baz=28,slow=39						
	7.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**10.32**	**196**	P	**Pn**	**15 01 39.6**	**-0.1**
PLAI	**Plampang**	**10.74**	**266**	P	**Pn**	**15 01 48.5**	**+3.0**
WB0	**Warramunga Arr**	**12.85**	**155**	Pn	**Pn**	**15 02 12.6**	**-1.8**
WRAB	**Tennant Creek**	**12.98**	**155**		**Pn**	**15 02 14.4**	**-1.7**
WRA	**Warramunga Arr**	**12.98**	**155**		**Pn**	**15 02 13.7**	**-2.5**
WRA	**Warramunga Arr**	**12.98**	**155**	Pn	**Pn**	**15 02 14.7**	**-1.4**
	2.5nm,0.3s,baz=327,slow=14,SNR=122						
WRA				Sn	**Sn**	**15 04 32.9**	**-6.4**
	2.5nm,0.3s,baz=332,slow=23,SNR=7.5						
	4.1nm,0.3s						
WB2	**Warramunga Arr**	**12.99**	**155**	Pn	**Pn**	**15 02 14.6**	**-1.6**
WR0	**Warramunga Arr**	**13.08**	**155**	Pn	**Pn**	**15 02 15.7**	**-1.8**
COEN	**Coen**	**15.42**	**113**	P	**Pn**	**15 02 47.2**	**-1.6**
COEN				IAmb	IAmb	15 03 01.8	
	comp=Z,16nm,1.1s						
COEN	**Coen**	**15.42**	**113**	P	**Pn**	**15 02 48.0**	**-0.8**
MBWA	**Marble Bar**	**15.53**	**213**	Pn	**Pn**	**15 02 46.9**	**-3.3**
MBWA				IAmb	IAmb	15 02 57.0	
	comp=Z,23nm,1.4s						
MBWA	**Marble Bar**	**15.53**	**213**	P	**Pn**	**15 02 53.1**	**+2.9**
PSA00	**Pilbara Seismi**	**15.81**	**211**	P	**Pn**	**15 02 50.9**	**-3.0**
PSA00				IAmb	IAmb	15 03 00.9	
	comp=Z,12nm,1.0s						
PSA00	**Pilbara Seismi**	**15.81**	**211**	P	**Pn**	**15 02 55.6**	**+1.8**
AS31	**Alice Springs**	**16.26**	**162**	Pn	**Pn**	**15 02 57.3**	**-2.3**
ASAR	**Alice Springs**	**16.26**	**162**	Pn	**Pn**	**15 02 57.5**	**-2.1**
ASAR	**Alice Springs**	**16.26**	**162**	Pn	**Pn**	**15 02 57.7**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=335,slow=9.2,SNR=67						
ASAR				Sn	**Sn**	**15 05 54.0**	**-5.0**
	comp=Z,0.4nm,0.3s,baz=339,slow=20,SNR=6.6						
	comp=Z,2.3nm,0.5s						
QIS	**Mount Isa**	**16.30**	**140**	P	**Pn**	**15 02 59.5**	**-0.6**
MYLDM	**Lahad Datu**	**16.63**	**322**	Pn	**Pn**	**15 02 59.5**	**-4.8**
MYLDM				IAmb	IAmb	15 03 41.1	
	comp=Z,7.7nm,0.9s						
OOD	**Oodnadatta**	**20.67**	**162**	P	**P**	**15 03 52.5**	**+2.1**
MEEK	**Meekatharra**	**20.71**	**206**	P	**P**	**15 03 53.2**	**+2.3**
FORT	**Forrest**	**22.54**	**181**	P	**P**	**15 04 12.6**	**+2.2**
MULG	**Mulgathing**	**22.62**	**168**	P	**P**	**15 04 13.2**	**+1.9**
INKA	**Innaminka**	**22.63**	**151**	P	**P**	**15 04 14.4**	**+3.0**
QLP	**Quilpie**	**23.59**	**143**	P	**P**	**15 04 24.4**	**+3.3**
MORW	**Morawa**	**23.95**	**208**	P	**P**	**15 04 25.3**	**+0.8**
MORW	**Morawa**	**23.95**	**208**	P	**P**	**15 04 25.8**	**+1.4**
LCRK	**Leigh Creek**	**23.95**	**159**	P	**P**	**15 04 26.1**	**+1.7**
BBOO	**Buckleboo**	**25.51**	**165**	P	**P**	**15 04 39.8**	**+1.2**
BBOO	**Buckleboo**	**25.51**	**165**	P	**P**	**15 04 40.9**	**+2.3**
STKA	**Stephens Creek**	**26.54**	**155**	P	**P**	**15 04 49.3**	**+1.4**
STKA	**Stephens Creek**	**26.54**	**155**	P	**P**	**15 04 48.3**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=321,slow=13,SNR=8.2						
	comp=Z,2.0nm,0.5s						
PZH	**PanZhiHua**	**43.19**	**324**	P	**P**	**15 07 13.5**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
LZH	**Lanzhou**	**49.78**	**334**	*e*P	P	15 07 55.9	-6.8
LZH				sP	pP	15 08 12.4	-2.0
LZH				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC	**Hu-ho-hao-te**	**51.21**	**343**	*e*P	**P**	**15 08 17.3**	**+3.9**
HHC				pmax	pmax		
	comp=Z,16nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,3.9s						
SONM	**Songino Array**	**59.09**	**343**	P	P	15 09 05.2	-4.9
	comp=Z,0.4nm,0.5s,baz=154,slow=7.9,SNR=2.0						
	comp=Z,0.4nm,0.5s						
WMQ	**Urumqi**	**63.60**	**328**	*e*P	**P**	**15 09 43.1**	**+2.4**
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
PETK	**Petropavlovsk-**	**65.83**	**19**	P	**P**	**15 09 50.5**	**-4.4**
	comp=Z,2.1nm,0.9s,baz=183,slow=5.8,SNR=1.5						
	comp=Z,2.1nm,0.9s						
MKAR	**Makanchi Array**	**68.43**	**328**	P	P	15 10 06.8	-4.7
	comp=Z,0.3nm,0.4s,baz=113,slow=8.2,SNR=11						
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**72.00**	**335**	P	**P**	**15 10 28.7**	**-4.5**
	comp=Z,0.6nm,0.5s,baz=142,slow=7.3,SNR=2.6						
	comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**72.76**	**329**	P	**P**	**15 10 34.2**	**-3.6**
	comp=Z,0.4nm,0.4s,baz=126,slow=5.1,SNR=2.6						
	comp=Z,0.4nm,0.4s						
MAW	**Mawson**	**73.40**	**201**	P	**P**	**15 10 40.8**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=34,slow=8.4,SNR=1.6						
	comp=Z,0.7nm,0.6s						
QSPA	**South Pole Qui**	**81.85**	**180**	P	**P**	**15 11 29.6**	**+0.9**
QSPA				IAmb	IAmb	15 12 01.8	
	comp=Z,4.8nm,1.4s						
QSPA	**South Pole Qui**	**81.85**	**180**	P	**P**	**15 11 28.3**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=258,slow=0.9,SNR=7.9						
	comp=Z,0.9nm,0.8s						
SNAA	**Sanae**	**94.24**	**194**	P	**P**	**15 12 29.1**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=101,slow=2.4,SNR=1.8						
	comp=Z,0.6nm,0.9s						

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*SJA **13** 15:16:12.0, 28°.29S×70°.85W, h10km, ML2.4*
GUC 13 15:16:12.2±0.7,28°.28S×70°.87W,h34km,ML2.7,2C,
Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.19**	**293**	⇑*i*P	Pn	15 16 18.1	+0.6
AC04				*e*S	Sb	15 16 22.0	-1.4
AC04				*e*		15 16 24.4	
AC04	**Llanos de Chal**	**0.19**	**293**	*i* P	Pn	15 16 17.3	-0.1
AC04				*e*S	Sb	15 16 21.6	-1.8
LCO	**Las Campanas**	**0.74**	**168**	*e*P	Pn	15 16 26.0	-0.6
LCO				*e*S	Sn	15 16 36.7	-0.1
LCO	**Las Campanas**	**0.74**	**168**	*e*S	Sb	15 16 40.6	+3.5
AC05	**El Transito**	**0.76**	**137**	⇑*i*P	Pn	15 16 26.0	-0.7
AC05	**El Transito**	**0.76**	**137**	*i* P	Pn	15 16 25.3	-1.4
AC05				*e*S	Sn	15 16 35.4	-1.8
GO03	**Copiapo**	**0.89**	**40**	*e*P	Pn	15 16 28.6	+0.3
GO03				*e*S	Sb	15 16 40.6	-0.3
GO03	**Copiapo**	**0.89**	**40**	*i* P	Pn	15 16 28.0	-0.4
GO03				*e*S	Sb	15 16 41.3	+0.4
AC06	**Mina Casimiro**	**1.03**	**27**	*e*P	Pb	15 16 31.1	-0.4
AC06				*e*S	Sb	15 16 45.2	+0.4
CO05	**La Serena**	**1.66**	**191**	*e*P	Pb	15 16 41.9	-0.3
CO05				*e*S	Sb	15 17 04.3	+1.4
CO05				IAML		15 17 05.5	
	comp=N,176nm,0.1s						
CO01	**Juntas del Tor**	**1.82**	**158**	*e*P	Pb	15 16 45.3	+0.1
CO01				*e*S	Sb	15 17 09.9	+2.2
CO01	**Juntas del Tor**	**1.82**	**158**	*i* P	Pb	15 16 44.1	-1.0
CO01				*e*S	Sb	15 17 08.9	+1.2
GO04	**Tololo Observa**	**1.89**	**178**	*e*P	Pb	15 16 45.4	-0.8
GO04				*e*S	Sb	15 17 11.7	+2.2
GO04				IAML		15 17 17.6	
	comp=E,73nm,0.3s						
GO04	**Tololo Observa**	**1.89**	**178**	*i* P	Pb	15 16 44.8	-1.4
AC01	**Pan de Azucar**	**2.14**	**7**	*e*P	Pb	15 16 50.4	+0.1
CO03	**El Pedregal**	**2.55**	**176**	*e*P	Pb	15 16 56.7	-0.7
CO03				*e*S	Sb	15 17 29.4	+0.9
CO03	**El Pedregal**	**2.55**	**176**	*i* P	Pb	15 16 55.6	-1.8
GO02	**Mina Guanaco**	**3.31**	**21**	*i* P	Pb	15 17 07.2	-3.2

TAP 13 15:16:59.0,24°.76N×121°.55E,h56km,ML1.9,A,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUSB	**Fushanzhiwuyua**	**0.03**	**92**	*i* P	Pn	15 17 07.9	+0.5
FUSB				*i* S	Sn	15 17 13.9	+0.4
NWLT	**Wulai**	**0.05**	**289**	P	Pn	15 17 07.5	+0.1
NWLT				S	Sn	15 17 13.7	+0.2
TWE	**Neicheng**	**0.11**	**111**	*i* P	Pn	15 17 08.2	+0.6
TWE				*i* S	Sn	15 17 14.6	+0.9
ENTT	**Nioudou**	**0.12**	**174**	P	Pn	15 17 08.1	+0.4
ENTT				*e*S	Sn	15 17 14.5	+0.7

YHNB	**Yeheng**	**0.18 241**	*e*P	Pn	15 17 08.1	+0.1
YHNB			S	Sn	15 17 14.6	+0.1
NDS	**Dongshan**	**0.20 131**	*e*P	Pn	15 17 08.1	+0.1
NDS			*e*S	Sn	15 17 15.2	+0.8
NSK	**Sanguang**	**0.20 245**	*e*P	Pn	15 17 08.2	+0.2
NSK			*e*S	Sn	15 17 14.8	+0.3
TATO	**Taipei**	**0.22 345**	*e*P	Pn	15 17 08.4	+0.3
LATG	**Datong**	**0.23 186**	*i* P	Pn	15 17 08.7	+0.5
LATG			S	Sn	15 17 15.7	+0.8
TWC	**Suao**	**0.31 119**	*e*P	Pn	15 17 08.8	0.0
TWC			*e*S	Sn	15 17 16.6	+0.9
TIPB	**Shuangxi**	**0.33 50**	*e*P	Pn	15 17 09.2	+0.3
TIPB			*e*S	Sn	15 17 15.6	-0.5
KSHI	**Guanxi Townshi**	**0.34 273**	*e*P	Pn	15 17 09.6	+0.6
KSHI			*e*S	Sn	15 17 18.1	+1.8
NNS	**Nan Shan**	**0.36 207**	*e*P	Pn	15 17 09.7	+0.4
NNS			*e*S	Sn	15 17 17.3	+0.5
TWS1	**Kuangyinshan**	**0.36 340**	*e*P	Pn	15 17 08.8	-0.4
NNSB	**Datong**	**0.37 205**	*e*P	Pn	15 17 09.8	+0.4
NNSB			*e*S	Sn	15 17 17.1	+0.3
NNSH	**Datong**	**0.37 205**	*e*P	Pn	15 17 09.5	+0.1
NNSH			*e*S	Sn	15 17 17.1	+0.3
EWUT	**Wuta**	**0.38 147**	*e*P	Pn	15 17 09.2	-0.2
EWUT			*e*S	Sn	15 17 17.4	+0.6
YM01	**YM01**	**0.38 2**	*e*P	Pn	15 17 09.8	+0.3
ZUZH	**Zhuzihu**	**0.40 359**	*e*P	Pn	15 17 09.8	+0.2
NFF	**Wufeng Townshi**	**0.42 252**	*e*P	Pn	15 17 10.0	+0.2
NFF			*e*S	Sn	15 17 17.8	+0.2
LIOB	**Emei**	**0.50 257**	P	Pn	15 17 11.5	+0.8
NSTT	**Nanjuang**	**0.52 256**	*e*P	Pn	15 17 11.7	+0.9
HSN	**Hsinchu**	**0.53 275**	*e*P	Pn	15 17 11.1	+0.1
ETLH	**Xiulin Townshi**	**0.56 187**	*e*P	Pn	15 17 11.1	-0.3
FUSS	**Fushou**	**0.58 209**	P	Pn	15 17 12.4	+0.5
FUSS			*e*S	Sn	15 17 21.9	+0.8
NACB	**Ninganchiao**	**0.59 176**	*e*P	Pn	15 17 11.5	-0.1
NACB			*e*S	Sn	15 17 19.9	-0.9
WHF	**Hehuan Shan**	**0.67 203**	P	Pn	15 17 13.6	+0.5
WHP	**Taichung City**	**0.73 229**	*e*P	Pn	15 17 14.1	+0.6
LXIB	**Xiulin Townshi**	**0.75 190**	*e*P	Pn	15 17 13.5	-0.3
LXIB			*e*S	Sn	15 17 24.9	+0.4
WUSB	**Renai**	**0.86 208**	*e*P	Pn	15 17 15.9	+0.6
WUSB			*e*S	Sn	15 17 28.0	+0.9
OWD	**Renai**	**0.87 203**	*e*P	Pn	15 17 15.8	+0.4
OWD			*e*S	Sn	15 17 28.7	+1.3
WARBT	**Fenglin Townsh**	**1.05 188**	*e*P	Pn	15 17 16.9	-0.7

GUC 13 15:17:47.4±0.7,32.35S×71.82W,h24km±8km,ML2.5,1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO04	**Los Peladeros**	**0.78**	**67**	*i* P	Pb	15 18 01.9	-0.5
CO04				*e*S	Sb	15 18 12.7	0.0
CO04				IAML		15 18 13.1	
	comp=N,422nm,0.1s						
ROCH	**El Roble**	**0.92**	**133**	*e*P	Pb	15 18 04.0	-0.9
ROCH				*e*S	Sb	15 18 16.7	-0.1
ROCH				IAML		15 18 18.9	
	comp=N,201nm,0.2s						
MT02	**Curacav**	**1.07**	**148**	*i* P	Pn	15 18 06.2	-0.7
MT02				*e*S	Sb	15 18 20.2	-0.8
VA03	**San Esteban**	**1.15**	**112**	*e*P	Pn	15 18 07.5	-0.5
VA03				*e*S	Sb	15 18 23.1	0.0
VA03	**San Esteban**	**1.15**	**112**	*e*P	Pn	15 18 07.5	-0.6
VA03				*e*S	Sb	15 18 23.1	0.0
VA03				IAML		15 18 25.5	
	comp=E,372nm,0.2s						
PEL	**Peldehue**	**1.24**	**130**	*e*P	Pn	15 18 09.2	-0.1
PEL				*e*S	Sb	15 18 25.6	-0.2
PEL				IAML		15 18 28.3	
	comp=N,168nm,0.2s						
MT05	**Renca**	**1.38**	**139**	*e*P	Pn	15 18 11.8	+0.5
MT05				*e*S	Sb	15 18 30.4	+0.5
MT10	**Hacienda Santa**	**1.42**	**131**	*e*P	Pn	15 18 12.3	+0.4
MT10				*e*S	Sb	15 18 30.6	-0.4
MT10				IAML		15 18 35.5	
	comp=E,160nm,0.1s						
MT14	**Cerro Cal¡n**	**1.50**	**134**	*e*S	Sb	15 18 33.0	-0.4
MT14				IAML		15 18 41.3	
	comp=N,138nm,0.2s						
MT16	**CCHEN**	**1.53**	**135**	*e*P	Pn	15 18 14.2	+0.9
MT16				*e*S	Sb	15 18 34.8	+0.7
MT01	**Popeta**	**1.58**	**163**	*e*P	Pn	15 18 14.1	+0.1
MT01				*e*S	Sn	15 18 33.2	-0.5
MT01				IAML		15 18 43.4	
	comp=E,64nm,0.3s						
MT03	**Universidad Ad**	**1.58**	**136**	*e*P	Pn	15 18 14.8	+0.7
MT03				*e*S	Sb	15 18 35.5	-0.3
MT09	**Talagante**	**1.58**	**154**	*e*P	Pn	15 18 14.9	+0.8
MT09				*e*S	Sb	15 18 35.0	-0.8
MT09				IAML		15 18 39.4	
	comp=N,125nm,0.2s						
FCH	**Farellones**	**1.61**	**128**	*e*P	Pn	15 18 15.3	+0.6
FCH				*e*S	Sb	15 18 36.9	+0.1
FCH				IAML		15 18 39.9	
	comp=E,62nm,0.2s						
CO06	**Fray Jorge**	**1.68**	**5**	*e*P	Pn	15 18 15.6	+0.4
CO06				IAML		15 18 44.4	
	comp=N,70nm,0.3s						
MT12	**Pirque**	**1.74**	**143**	*e*P	Pb	15 18 17.7	-1.0
MT12				*e*S	Sb	15 18 40.9	+0.6
MT04	**Ro Olivares**	**1.76**	**127**	*e*P	Pn	15 18 17.6	+1.0
MT04				*e*S	Sb	15 18 40.4	-0.6
MT04				IAML		15 18 44.4	
	comp=N,50nm,0.3s						
CO03	**El Pedregal**	**1.79**	**33**	*e*P	Pn	15 18 17.9	+1.0
CO03				*e*S	Sb	15 18 40.8	-0.7
CO03				IAML		15 18 43.1	
	comp=N,91nm,0.2s						
MT08	**Bocatoma Ro**	**1.87**	**126**	*e*P	Pn	15 18 19.4	+1.3
MT08				*e*S	Sb	15 18 45.3	+1.3
BO04	**La Punta**	**1.93**	**149**	*e*P	Pn	15 18 19.8	+1.1
BO04				*e*S	Sb	15 18 44.7	-0.8
BO04				IAML		15 18 48.9	
	comp=E,72nm,0.3s						
LMEL	**Las Melosas**	**2.02**	**138**	*e*P	Pn	15 18 21.7	+1.6
LMEL				*e*S	Sb	15 18 48.6	+0.4
LMEL				IAML		15 18 54.1	
	comp=N,115nm,0.2s						
BO01	**Tunca**	**2.13**	**163**	*e*P	Pn	15 18 21.8	+0.3
BO01				*e*S	Sb	15 18 50.6	-0.7
BO01				IAML		15 18 54.9	
	comp=E,25nm,0.0s						
GO04	**Tololo Observa**	**2.34**	**22**	*e*P	Pn	15 18 26.3	+1.8
GO04				*e*S	Sb	15 18 57.4	-0.1
BO02	**Sierra Bellavi**	**2.59**	**161**	*e*P	Pn	15 18 29.8	+2.0

*NEIC **13** 15:26:41.2±1.2,64.78N±0.02×150.92W±0.04,h11km±4km, Error ellipse: s-maj=2.6km s-min=2.3km az=71.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.43; $M_{\theta\theta}$=0.68; $M_{\phi\phi}$=1.11; $M_{r\theta}$=0.29; $M_{\phi\theta}$=-0.24; $M_{\phi r}$=0.13; Fault plane solution: M_0=1.05000×10^{15} NP1: ϕ_s=311.83000°,δ=64.91000°,λ=-158.10000°. NP2: ϕ_s=212.16000°,δ=70.26000°,λ=-26.78000°. Principal axes: T 1.1488, Plg4.0000°, Azm263.0000°; N -0.2439, Plg57.0000°, Azm358.0000°; P -0.9049, Plg33.0000°, Azm171.0000°;*

*IDC **13** 15:26:42.2±1.0,65.06N×150.85W,h0km,mb3.7/8, mbtmp3.8/11,ML3.6/3,MS3.4/4 Error ellipse: s-maj=16.7km s-min=11.5km az=16.0*

*NEIC **13** 15:26:42.1,64.79N×150.96W,h17km*

*AEIC **13** 15:26:42.1±1.1,64.80N±0.01×150.95W±0.05,h19km±5km, ML4.1,ML4.3/201(NEIC),Mwr3.9/106(NEIC),Error ellipse: s-maj=3.1km s-min=1.4km az=109.0*

ISC 13 15:26:42.1±0.9,64.80N±0.02×150.92W±0.02,h11km±6km, n240,σ0=94/207,mb3.9/9,MS3.2/4,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLY	**Manley**	**0.24**	**19**		**Pb**	**15 26 47.8**	**-0.8**
MLY	**Manley**	**0.24**	**19**	P	**Pg**	**15 26 47.5**	**+0.2**
	baz=201						
MLY				S	**Sb**	**15 26 51.6**	**+0.9**
	baz=201						
I21K	**Tanana**	**0.59**	**311**		**Pb**	**15 26 54.1**	**-0.3**
I21K					**Sb**	**15 27 02.4**	**-0.4**
I21K	**Tanana**	**0.59**	**311**	IAML		15 27 02.5	
	comp=E,15μm,0.5s						
I21K				IAML		15 27 02.5	
	comp=N,13μm,0.7s						
BPAW	**Bear Paw Mtn.**	**0.70**	**182**		**Pg**	**15 26 55.3**	**-0.5**
BPAW	**Bear Paw Mtn.**	**0.70**	**182**		**Sg**	**15 27 04.2**	**-0.8**
BPAW	**Bear Paw Mtn.**	**0.70**	**182**	P	**Pg**	**15 26 55.5**	**-0.3**
	baz=1.3						
BPAW				S	**Sg**	**15 27 04.2**	**-0.8**
	baz=1.3						
I23K	**Minto, Yukon-K**	**0.75**	**62**		**Pg**	**15 26 56.3**	**-0.3**
I23K	**Minto, Yukon-K**	**0.75**	**62**		**Sn**	**15 27 08.4**	**-1.4**
I23K	**Minto, Yukon-K**	**0.75**	**62**	P	**Pg**	**15 26 56.3**	**-0.3**
	baz=243						
I23K				S	**Sn**	**15 27 08.4**	**-1.4**
	baz=243						
I23K				S	**Sn**	**15 27 08.4**	**-1.4**
	baz=243						
NEA2	**Nenana**	**0.82**	**104**		**Pg**	**15 26 57.6**	**-0.4**
NEA2				IAML		15 27 10.5	
	comp=N,13μm,0.2s						
NEA2	**Nenana**	**0.82**	**104**		**Sb**	**15 27 09.8**	**+0.4**
NEA2	**Nenana**	**0.82**	**104**	P	**Pg**	**15 26 57.7**	**-0.3**
	baz=285						
NEA2				S	**Sb**	**15 27 09.8**	**+0.4**
	baz=285						
BWN	**Browne**	**0.89**	**134**		**Pb**	**15 26 59.8**	**+0.2**
BWN				IAML		15 27 16.3	
	comp=E,11μm,0.5s						
BWN	**Browne**	**0.89**	**134**		**Sn**	**15 27 12.9**	**-0.6**
CHUM	**Lake Minchumin**	**1.10**	**214**		**Pn**	**15 27 02.7**	**-0.7**
CHUM					**Sn**	**15 27 18.1**	**-0.5**
CHUM	**Lake Minchumin**	**1.10**	**214**	P	**Pn**	**15 27 02.7**	**-0.7**
	baz=32						
CHUM				S	**Sn**	**15 27 18.1**	**-0.5**
	baz=32						
H22K	**Ishtalitna Cre**	**1.11**	**350**		**Pg**	**15 27 03.4**	**-0.2**
H22K					**Sn**	**15 27 18.3**	**-0.7**
H22K	**Ishtalitna Cre**	**1.11**	**350**	P	**Pg**	**15 27 03.4**	**-0.2**
	baz=170						
H22K				S	**Sn**	**15 27 18.3**	**-0.7**
	baz=170						
H22K				S	**Sn**	**15 27 18.3**	**-0.7**
	baz=170						
H21K	**Melozitna Rive**	**1.17**	**318**	Pn	**Pn**	**15 27 03.7**	**-0.7**
H23K	**Yukon River**	**1.18**	**29**		**Pb**	**15 27 04.2**	**-0.3**
KTH	**Kantishna Hill**	**1.25**	**180**		**Pn**	**15 27 04.3**	**-1.3**
KTH	**Kantishna Hill**	**1.25**	**180**		**Sb**	**15 27 20.6**	**-1.3**
WRH	**Wood River Hil**	**1.26**	**104**		**Pn**	**15 27 04.2**	**-1.4**
WRH				IAML		15 27 22.4	
	comp=E,4μm,1.0s						
WRH				IAML		15 27 22.8	
	comp=N,4μm,0.4s						
WRH	**Wood River Hil**	**1.26**	**104**		**Sb**	**15 27 21.8**	**-0.3**
COLA	**College**	**1.31**	**85**		**Pn**	**15 27 04.8**	**-1.5**
COLA	**College**	**1.31**	**85**		**Sn**	**15 27 23.8**	**0.0**
COLA	**College**	**1.31**	**85**	P	**Pn**	**15 27 05.2**	**-1.1**
CCB	**Clear Creek Bu**	**1.35**	**95**	Pn	**Pn**	**15 27 05.4**	**-1.4**
CCB	**Clear Creek Bu**	**1.35**	**95**		**Sn**	**15 27 24.4**	**-0.2**
CCB	**Clear Creek Bu**	**1.35**	**95**	IAML		15 27 24.7	
	comp=N,8μm,0.5s						
CCB				IAML		15 27 25.3	
	comp=E,7μm,0.3s						
MCK	**McKinley**	**1.38**	**140**		**Pn**	**15 27 06.1**	**-1.2**
MCK					**Sn**	**15 27 24.6**	**-0.9**
MCK	**McKinley**	**1.38**	**140**	P	**Pn**	**15 27 05.5**	**-1.8**
	baz=322						
MCK				S	**Sn**	**15 27 24.6**	**-0.9**
	baz=322						
TRF	**Thorofare Moun**	**1.38**	**168**	P	**Pn**	**15 27 06.4**	**-1.1**
	baz=348						
CAST	**Castle Rocks**	**1.48**	**201**	Pn	**Pn**	**15 27 07.2**	**-1.5**
CAST				IAML		15 27 28.4	
	comp=N,4μm,0.5s						
CAST				IAML		15 27 28.7	
	comp=E,5μm,0.6s						
CAST	**Castle Rocks**	**1.48**	**201**		**Sb**	**15 27 27.8**	**-0.5**
CAST	**Castle Rocks**	**1.48**	**201**	P	**Pn**	**15 27 07.2**	**-1.5**
	baz=19						
CAST				S	**Sb**	**15 27 27.8**	**-0.5**
	baz=19						
POKR	**Poker Plat Res**	**1.52**	**76**		**Pn**	**15 27 07.9**	**-1.3**
POKR				IAML		15 27 31.3	
	comp=E,4μm,0.7s						
POKR	**Poker Plat Res**	**1.52**	**76**		**Sb**	**15 27 29.7**	**+0.2**
POKR	**Poker Plat Res**	**1.52**	**76**	P	**Pn**	**15 27 07.8**	**-1.3**
	baz=260						
POKR				S	**Sb**	**15 27 29.7**	**+0.2**
	baz=260						
POKR				S	**Sb**	**15 27 29.7**	**+0.2**
	baz=260						
I20K	**Naaghedeneel**	**1.52**	**271**		**Pn**	**15 27 08.3**	**-0.9**
H24K	**Noodor Dome**	**1.65**	**49**		**Pn**	**15 27 09.9**	**-1.1**
H24K				IAML		15 27 39.9	
	comp=E,3μm,0.4s						
RND	**Reindeer**	**1.67**	**146**		**Pn**	**15 27 10.2**	**-1.1**
RND				IAML		15 27 34.5	
	comp=E,2μm,0.5s						
RND				IAML		15 27 34.5	
	comp=N,3μm,0.7s						
RND	**Reindeer**	**1.67**	**146**		**Sb**	**15 27 33.5**	**-0.4**
ILAR	**Eielson Array**	**1.73**	**89**	Pg	**Pb**	**15 27 14.0**	**+0.2**
	comp=N,220nm,0.3s,baz=278,slow=17,SNR=441						
ILAR				Lg	Lg	15 27 35.5	
	comp=N,509nm,0.3s,baz=272,slow=29,SNR=8.5						
HDA	**Harding Lake**	**1.76**	**101**		**Pn**	**15 27 11.0**	**-1.4**
HDA				IAML		15 27 42.5	
	comp=N,3μm,0.5s						
H20K	**Anotleneega Mo**	**1.81**	**294**		**Pn**	**15 27 12.5**	**-0.7**
G23K	**Bananza Creek**	**1.95**	**11**	Pn	**Pn**	**15 27 14.2**	**-1.0**
G23K				IAML		15 27 45.6	
	comp=N,2μm,0.5s						
PPLA	**Purkeypile**	**1.99**	**197**		**Pn**	**15 27 14.7**	**-1.1**
PPLA	**Purkeypile**	**1.99**	**197**	P	**Pn**	**15 27 14.7**	**-1.1**
	baz=16						
K20K	**Telida**	**2.00**	**225**		**Pn**	**15 27 14.7**	**-1.2**
K20K	**Telida**	**2.00**	**225**	IAML		15 27 46.1	
	comp=E,3μm,0.4s						
K20K				IAML		15 27 49.6	
	comp=N,2μm,0.8s						
J19K	**Poorman**	**2.20**	**250**		**Pn**	**15 27 17.3**	**-1.2**
J19K				IAML		15 27 54.1	
	comp=N,2μm,0.7s						
J19K				IAML		15 27 56.8	
	comp=E,1μm,0.5s						
J19K	**Poorman**	**2.20**	**250**	P	**Pn**	**15 27 17.3**	**-1.2**
	baz=66						
WAT1	**Susitna Watana**	**2.24**	**151**	P	**Pn**	**15 27 18.8**	**-0.3**
	baz=333						
DHY	**Denali Highway**	**2.33**	**136**		**Pn**	**15 27 19.9**	**-0.7**
DHY				IAML		15 27 54.2	
	comp=E,1μm,0.8s						
DHY				IAML		15 27 55.0	
	comp=N,1μm,0.7s						
DHY	**Denali Highway**	**2.33**	**136**	P	**Pn**	**15 27 20.1**	**-0.4**
	baz=319						
G24K	**Hadweenzic Riv**	**2.38**	**35**		**Pn**	**15 27 20.4**	**-0.6**
G24K	**Hadweenzic Riv**	**2.38**	**35**	IAML		15 28 01.0	
	comp=E,2μm,0.7s						
PRP	**Porcupine Dome**	**2.39**	**70**	Pn	**Pn**	**15 27 19.7**	**-1.5**
PRP				IAML		15 28 04.0	
	comp=E,2μm,0.7s						
J25K	**Salcha River,**	**2.39**	**92**		**Pn**	**15 27 20.1**	**-1.1**
J25K	**Salcha River,**	**2.39**	**92**	IAML		15 27 58.0	
	comp=N,1μm,0.6s						
J25K				IAML		15 27 59.6	
	comp=E,1μm,0.5s						
CUT	**Chulitna**	**2.42**	**173**		**Pn**	**15 27 20.1**	**-1.4**
CUT				IAML		15 28 02.8	
	comp=E,2μm,0.8s						
H19K	**Roundabout Mou**	**2.44**	**290**		**Pn**	**15 27 21.1**	**-0.8**
H19K	**Roundabout Mou**	**2.44**	**290**	IAML		15 28 09.6	
	comp=E,2μm,0.8s						
H19K				IAML		15 28 11.6	
	comp=N,2μm,0.8s						
COLD	**Coldfoot**	**2.46**	**7**		**Pn**	**15 27 22.2**	**+0.2**
COLD	**Coldfoot**	**2.46**	**7**	P	**Pn**	**15 27 22.2**	**+0.2**
	baz=187						
K24K	**Donnelly Dome**	**2.46**	**112**		**Pn**	**15 27 20.9**	**-1.1**
K24K	**Donnelly Dome**	**2.46**	**112**	P	**Pn**	**15 27 20.9**	**-1.1**
	baz=296						
GCSA	**Galena City Sc**	**2.55**	**271**		**Pn**	**15 27 22.5**	**-0.8**
GCSA	**Galena City Sc**	**2.55**	**271**	P	**Pn**	**15 27 22.5**	**-0.8**
	baz=86						
WAT6	**Susitna Watana**	**2.64**	**146**	P	**Pn**	**15 27 24.2**	**-0.5**
	baz=329						
F21K	**Alatna River**	**2.65**	**338**	Pn	**Pn**	**15 27 23.6**	**-1.1**
F21K				IAML		15 28 05.8	
	comp=N,1μm,0.4s						
L20K	**Farewell, AK**	**2.68**	**211**		**Pn**	**15 27 23.8**	**-1.4**
G25K	**Bearman Lake**	**2.80**	**43**		**Pn**	**15 27 25.9**	**-0.8**
SKT	**Skwentna**	**2.85**	**186**	P	**Pn**	**15 27 27.1**	**-0.3**
	baz=5.0						
RIDG	**Independent Ri**	**2.86**	**109**		**Pn**	**15 27 26.2**	**-1.4**
RIDG				IAML		15 28 17.9	
	comp=E,842nm,0.5s						
J18K	**Innoko River**	**2.87**	**245**		**Pn**	**15 27 26.5**	**-1.3**
J18K				IAML		15 28 18.9	
	comp=N,825nm,0.8s						
J18K				IAML		15 28 19.4	
	comp=E,817nm,0.7s						
G19K	**Purcell Mounta**	**2.90**	**300**	Pn	**Pn**	**15 27 27.3**	**-0.9**
G19K				IAML		15 28 16.8	
	comp=E,1μm,0.7s						
G19K				IAML		15 28 17.9	
	comp=N,1μm,0.7s						
G19K	**Purcell Mounta**	**2.90**	**300**	P	**Pn**	**15 27 27.4**	**-0.7**
	baz=115						
TTA	**Tatalina**	**2.93**	**232**	Pn	**Pn**	**15 27 27.2**	**-1.5**
TTA				IAML		15 28 18.6	
	comp=N,721nm,0.6s						
TTA	**Tatalina**	**2.93**	**232**	P	**Pn**	**15 27 27.4**	**-1.3**
FYU	**Fort Yukon**	**2.95**	**50**		**Pn**	**15 27 27.5**	**-1.3**
FYU				IAML		15 28 22.2	
	comp=E,1μm,0.7s						
PAX	**Paxson**	**3.03**	**125**		**Pn**	**15 27 29.6**	**-0.4**
PAX	**Paxson**	**3.03**	**125**	P	**Pn**	**15 27 29.6**	**-0.4**
	baz=310						
M22K	**Willow**	**3.08**	**173**		**Pn**	**15 27 30.0**	**-0.6**
M22K	**Willow**	**3.08**	**173**	IAML		15 28 35.8	
	comp=N,1μm,0.6s						
M22K	**Willow**	**3.08**	**173**	P	**Pn**	**15 27 31.2**	**+0.6**
	baz=353						
M20K	**Styx River**	**3.10**	**200**		**Pn**	**15 27 29.9**	**-1.0**
M20K	**Styx River**	**3.10**	**200**	IAML		15 28 22.4	
	comp=E,632nm,1.0s						
SCRK	**Sand Creek**	**3.12**	**102**	Pn	**Pn**	**15 27 30.1**	**-1.2**
SCRK				IAML		15 28 21.8	
	comp=E,713nm,0.5s						
SCRK	**Sand Creek**	**3.12**	**102**	P	**Pn**	**15 27 31.5**	**+0.2**
	baz=288						
L19K	**White Mountain**	**3.17**	**216**		**Pn**	**15 27 30.6**	**-1.2**
L19K	**White Mountain**	**3.17**	**216**	IAML		15 28 27.0	
	comp=E,820nm,0.7s						
L19K				IAML		15 28 31.1	
	comp=N,784nm,1.1s						
GHO	**Glory Hole Cre**	**3.17**	**163**	Pn	**Pn**	**15 27 30.8**	**-1.1**
GHO				IAML		15 28 21.6	
	comp=N,598nm,0.7s						
H18K	**Honhosa River**	**3.18**	**280**		**Pn**	**15 27 31.0**	**-1.0**
SML	**Sawmill**	**3.23**	**158**	Pn	**Pn**	**15 27 31.9**	**-0.8**
SML				IAML		15 28 24.7	
	comp=E,600nm,0.8s						
PMR	**Palmer**	**3.32**	**165**		**Pn**	**15 27 33.7**	**-0.2**
PMR	**Palmer**	**3.32**	**165**	P	**Pn**	**15 27 33.7**	**-0.2**
	baz=346						
PMR	**Palmer**	**3.32**	**165**	P	**Pn**	**15 27 33.5**	**-0.4**
M23K	**Glacier View**	**3.35**	**153**		**Pn**	**15 27 34.0**	**-0.3**
M23K	**Glacier View**	**3.35**	**153**	P	**Pn**	**15 27 34.1**	**-0.1**
	baz=336						
SUA	**Susitna One**	**3.35**	**179**	P	**Pn**	**15 27 34.3**	**-0.1**
	baz=358						
E22K	**Anaktuvuk Pass**	**3.37**	**354**	Pn	**Pn**	**15 27 34.7**	**+0.1**
SCM	**Sheep Creek Mo**	**3.39**	**150**	IAML		15 28 30.0	
	comp=N,757nm,1.1s						
SCM	**Sheep Creek Mo**	**3.39**	**150**	P	**Pn**	**15 27 34.5**	**-0.4**
	baz=333						
G18K	**Tagagawik**	**3.42**	**292**		**Pn**	**15 27 34.6**	**-0.7**
G18K				IAML		15 28 32.5	
	comp=N,574nm,1.1s						
E24K	**Your Creek**	**3.43**	**15**		**Pn**	**15 27 35.7**	**+0.2**
E24K	**Your Creek**	**3.43**	**15**	IAML		15 28 33.4	
	comp=E,801nm,0.8s						
E24K				IAML		15 28 33.7	
	comp=N,827nm,0.6s						
M24K	**Tolsona, Glenn**	**3.44**	**140**	P	**Pn**	**15 27 36.4**	**+0.8**
	baz=324						
F25K	**Christian Rive**	**3.53**	**35**		**Pn**	**15 27 36.2**	**-0.6**
F25K	**Christian Rive**	**3.53**	**35**	IAML		15 28 35.9	
	comp=E,757nm,0.9s						
HARP	**HAARP**	**3.53**	**131**		**Pn**	**15 27 37.3**	**+0.6**
HARP	**HAARP**	**3.53**	**131**	P	**Pn**	**15 27 37.4**	**+0.6**
	baz=316						
KNK	**Knik Glacier**	**3.58**	**161**	P	**Pn**	**15 27 38.0**	**+0.5**
	baz=343						
SPCP	**Crater Peak Br**	**3.59**	**190**		**Pn**	**15 27 37.9**	**+0.1**
G26K	**Porcupine Rive**	**3.64**	**50**		**Pn**	**15 27 37.0**	**-1.3**
L18K	**Granite Mounta**	**3.66**	**228**		**Pn**	**15 27 37.5**	**-1.1**
L18K	**Granite Mounta**	**3.66**	**228**	IAML		15 28 42.5	
	comp=N,491nm,1.0s						
L18K				IAML		15 28 43.7	
	comp=E,564nm,0.9s						
N20K	**Mount Spurr**	**3.66**	**190**	P	**Pn**	**15 27 38.9**	**+0.2**
	baz=8.5						
MENT	**Mentasta**	**3.69**	**117**		**Pn**	**15 27 38.4**	**-0.7**
MENT	**Mentasta**	**3.69**	**117**	IAML		15 28 54.2	
	comp=N,671nm,0.9s						
MENT	**Mentasta**	**3.69**	**117**	P	**Pn**	**15 27 38.6**	**-0.5**
E19K	**Redstone River**	**3.70**	**319**	IAML		15 28 42.0	
	comp=E,584nm,0.8s						
RC01	**Rabbit Creek A**	**3.77**	**171**	P	**Pn**	**15 27 40.5**	**+0.5**
	baz=352						
H17K	**Granite Mounta**	**3.84**	**276**		**Pn**	**15 27 40.2**	**-0.9**
H17K	**Granite Mounta**	**3.84**	**276**	IAML		15 28 28.6	
	comp=E,421nm,0.8s						
J17K	**VABM Dome**	**3.85**	**252**	IAML		15 28 52.5	
	comp=E,380nm,0.9s						
J17K				IAML		15 28 55.6	
	comp=N,369nm,0.7s						
TOLK	**Toolik Lake Re**	**3.89**	**7**	IAML		15 28 53.4	
	comp=E,336nm,1.2s						
TOLK				IAML		15 28 53.9	
	comp=N,442nm,0.7s						
K27K	**Chicken**	**3.92**	**97**		**Pn**	**15 27 41.4**	**-0.7**
K27K	**Chicken**	**3.92**	**97**	IAML		15 28 47.7	
	comp=N,418nm,0.7s						
K27K				IAML		15

NCT	North Crescent	4.36 193		Pn	15 27 48.3	+0.1
L27K	Beaver Creek,	4.38 109		Pn	15 27 46.6	-1.8
L27K	Beaver Creek,	4.38 109	IAML		15 29 06.4	
	comp=N,304nm,0.7s					
L27K			IAML		15 29 08.5	
	comp=E,238nm,0.8s					
RDSO	Redoubt South	4.44 192		Pn	15 27 50.0	+0.5
RED	Redoubt Volcan	4.48 192		Pn	15 27 50.5	+0.6
M17K	Holitna River	4.52 224		Pn	15 27 49.0	-1.3
J16K	Anvik River	4.52 255	IAML		15 29 07.0	
	comp=E,232nm,1.1s					
J16K			IAML		15 29 12.2	
	comp=N,213nm,0.9s					
D20K	Etivluk River	4.53 333		Pn	15 27 51.1	+0.6
FID	Port Fidalgo	4.55 151		Pn	15 27 51.7	+0.9
FID	Port Fidalgo	4.55 151	IAML		15 29 08.2	
	comp=E,208nm,1.1s					
F17K	Baldwin Pennin	4.59 296		Pn	15 27 51.6	+0.4
F17K	Baldwin Pennin	4.59 296	IAML		15 29 25.1	
	comp=E,293nm,1.1s					
GLB	Gilahina Butte	4.67 133		Pn	15 27 53.1	+0.7
D19K	Kuna River	4.68 326	IAML		15 29 15.4	
	comp=N,269nm,1.1s					
D19K			IAML		15 29 17.8	
	comp=E,302nm,0.9s					
D19K	Kuna River	4.68 326	P	Pn	15 27 53.4	+0.7
	baz=139					
N18K	Kilae Creek	4.72 211		Pn	15 27 51.7	-1.5
N18K	Kilae Creek	4.72 211	IAML		15 29 16.5	
	comp=N,264nm,0.9s					
N18K			IAML		15 29 17.2	
	comp=E,215nm,0.6s					
M27K	Edge Creek, AK	4.72 117		Pn	15 27 52.3	-1.0
M27K	Edge Creek, AK	4.72 117	IAML		15 29 18.6	
	comp=E,246nm,1.1s					
BMRM	Bremner River	4.81 140	P	Pn	15 27 54.6	+0.2
	baz=326					
H16K	Elim	4.86 273		Pn	15 27 54.8	-0.2
G16K	Koyuk River	4.87 282		Pn	15 27 54.3	-0.8
G16K	Koyuk River	4.87 282	IAML		15 29 28.4	
	comp=N,262nm,1.1s					
D25K	Kavik River	4.88 19	IAML		15 29 22.0	
	comp=E,254nm,0.6s					
D25K			IAML		15 29 30.0	
	comp=N,157nm,0.7s					
O19K	Port Alsworth	4.88 200		Pn	15 27 54.3	-1.0
EYAK	Cordova Ski Ar	4.89 148		Pn	15 27 56.0	+0.6
EYAK	Cordova Ski Ar	4.89 148	P	Pn	15 27 56.2	+0.8
	baz=333					
EYAK	Cordova Ski Ar	4.89 148	P	Pn	15 27 56.2	+0.8
L16K	Owhat River	4.95 235	IAML		15 29 24.2	
	comp=E,238nm,1.0s					
L16K			IAML		15 29 37.2	
	comp=N,165nm,1.0s					
MCARA	McCarthy VSAT	4.96 130	IAML		15 29 16.7	
	comp=E,188nm,0.9s					
MCARA			IAML		15 29 22.6	
	comp=N,229nm,1.0s					
ILS	Iliamna Low So	4.96 193		Pn	15 27 55.7	-0.9
E27K	Coleen River	5.05 44		Pn	15 27 56.2	-1.4
E27K	Coleen River	5.05 44	IAML		15 29 27.3	
	comp=N,138nm,0.9s					
E27K			IAML		15 29 29.8	
	comp=E,211nm,0.8s					
B21K	Ikpikpuk River	5.05 345	IAML		15 29 26.6	
	comp=N,244nm,0.8s					
C23K	Itkillik River	5.06 1	IAML		15 29 29.5	
	comp=N,185nm,1.1s					
C23K			IAML		15 29 29.7	
	comp=E,214nm,0.9s					
N17K	Nushagak Hills	5.17 217		Pn	15 27 57.9	-1.4
N17K	Nushagak Hills	5.17 217	IAML		15 29 32.5	
	comp=E,182nm,1.1s					
N17K			IAML		15 29 37.4	
	comp=N,140nm,0.7s					
M16K	Timber Creek	5.28 228		Pn	15 27 59.2	-1.6
M16K	Timber Creek	5.28 228	IAML		15 29 36.3	
	comp=N,178nm,1.1s					
M16K			IAML		15 29 45.2	
	comp=E,192nm,1.2s					
F28M	Old Crow	5.29 53	IAML		15 29 34.9	
	comp=N,187nm,0.8s					
F28M			IAML		15 29 37.8	
	comp=E,163nm,0.7s					
O18K	Koktuh Hills	5.35 204	IAML		15 29 32.2	
	comp=E,145nm,0.6s					
O18K			IAML		15 29 36.4	
	comp=N,159nm,0.8s					
K15K	Wolf Creek Mou	5.37 247		Pn	15 28 00.8	-1.2
TGL	Tana Glacier	5.50 134		Pn	15 28 03.7	-0.3
KIAG	Kiagna River	5.52 131		Pn	15 28 04.6	+0.3
G15K	Niukluk	5.59 278		Pn	15 28 04.2	-0.8
N16K	Nishlik Lake	5.65 223		Pn	15 28 04.8	-1.2
G29M	Pine Creek	5.70 62		Pn	15 28 06.0	-0.6
D17K	Noatak River	5.71 306		Pn	15 28 06.7	0.0
L15K	Ungalak Mounta	5.71 242		Pn	15 28 05.4	-1.2
O17K	Koliganek Bris	5.81 213		Pn	15 28 06.5	-1.6
L29M	L29M	5.89 101		Pn	15 28 08.5	-0.6
D27M	Malcolm River	5.92 37		Pn	15 28 09.8	+0.2
M29M	Somme Creek	6.04 107		Pn	15 28 10.3	-1.0
M15K	Kasigluk River	6.09 232		Pn	15 28 10.6	-1.3
I30M	Mount Dempster	6.18 80		Pn	15 28 12.8	-0.5
O16K	Kokwok River B	6.21 216		Pn	15 28 12.6	-0.9
N15K	Kwethluk River	6.29 227		Pn	15 28 13.4	-1.3
E29M	Blow River	6.31 49		Pn	15 28 13.7	-1.2
M14K	Bethel	6.49 236		Pn	15 28 16.5	-0.8
F14K	Arctic Creek	6.53 283		Pn	15 28 17.6	-0.4
H31M	Peel River	7.02 74		Pn	15 28 23.6	-1.0
KDAK	Kodiak Island	7.09 187	Pn	Pn	15 28 26.1	+0.5
	comp=N,0.9nm,0.3s,baz=266,slow=16,SNR=11					
	comp=N,19nm,1.0s					
N30M	Aishikik Lake	7.10 112		Pn	15 28 24.8	-1.1
G31M	Satah River	7.15 65		Pn	15 28 26.1	-0.3
OHAK	Old Harbor	7.69 190	P	Pn	15 28 32.5	-1.3
INK	Inuvik	7.76 55		Pn	15 28 34.3	-0.5
INK	Inuvik	7.76 55	Pn	Pn	15 28 33.7	-1.1
	comp=N,1.0nm,0.3s,baz=234,slow=12,SNR=21					
INK			Sn	Sn	15 29 58.9	-3.6
	comp=N,1.5nm,0.3s,baz=117,slow=27,SNR=7.9					
INK			Lg	Lg	15 30 37.5	
	comp=N,0.7nm,0.3s,baz=357,slow=6.1,SNR=1.9					
	comp=N,2.4nm,0.3s					
DLBC	Dease Lake	11.77 113	Lg	Lg	15 32 50.2	
	comp=N,0.3nm,0.3s,baz=187,slow=14,SNR=5.7					
YKA	Yellowknife Ar	16.14 82	Pn	Pn	15 30 28.2	-0.4
	comp=N,0.2nm,0.3s,baz=306,slow=11,SNR=2.0					
	comp=N,1.3nm,0.8s					
RES	Resolute Bay	20.80 38	P	P	15 31 22.5	-0.3
	comp=N,2.2nm,1.0s,baz=221,slow=8.0,SNR=4.5					
	comp=N,2.2nm,1.0s					
PETK	Petropavlovsk-	28.10 270	LR	LR	15 46 00.7	
	comp=N,34nm,18.1s,baz=53,slow=41					
PDAR	Pinedale Array	32.00 113	P	P	15 33 10.4	+2.1
	comp=N,0.7nm,0.7s,baz=329,slow=5.2,SNR=4.4					
PDAR			LR	LR	15 46 50.4	
	comp=N,60nm,18.1s,baz=336,slow=38					
	comp=N,0.7nm,0.7s					
NVAR	Mina Array Bea	32.58 128	P	P	15 33 15.3	+1.9
	comp=N,0.3nm,0.4s,baz=319,slow=9.5,SNR=1.6					
	comp=N,0.3nm,0.4s					
TXAR	Lajitas Array	46.04 117	P	P	15 35 07.0	+1.5
	comp=N,0.6nm,0.4s,baz=331,slow=7.3,SNR=2.0					
	comp=N,0.6nm,0.4s					
TKL	Tuckaleechee C	48.71 93	LR	LR	15 56 53.1	
	comp=N,99nm,19.4s,baz=317,slow=37					
FINES	FINESS Array B	54.05 2	P	P	15 36 05.1	-0.6
	comp=N,1.9nm,0.9s,baz=351,slow=7.0,SNR=1.4					
	comp=N,1.9nm,0.9s					
HHC	Hu-ho-hao-te	56.88 296	*eP*	P	15 36 26.6	0.0
HHC			pmax	pmax		
	comp=Z,11nm,0.5s					
HHC			pmax	pmax		
	comp=Z,120nm,3.8s					
ARTI	Arti	57.08 341	LR	LR	16 03 10.1	
	comp=Z,16nm,18.6s,baz=262,slow=38					
EKA	Eskdalemuir Ar	57.67 21	P	P	15 36 31.7	-0.1
	comp=Z,1.2nm,0.7s,baz=332,slow=5.4,SNR=3.9					
	comp=Z,1.2nm,0.7s					
KURBB	Kurchatov Arra	58.71 326	P	P	15 36 40.3	+1.2
	comp=Z,0.3nm,0.4s,baz=30,slow=7.0,SNR=1.3					
	comp=Z,0.3nm,0.4s					
AKASG	Malin Array Be	64.83 360	P	P	15 37 19.9	-0.5
	comp=Z,0.4nm,0.5s,baz=1.4,slow=6.6,SNR=2.5					
	comp=Z,0.4nm,0.5s					
PZH	PanZhiHua	73.33 297	P	P	15 38 14.3	+0.7
PZH			pmax	pmax		
	comp=Z,10.0nm,0.8s					
PZH			pmax	pmax		
	comp=Z,110nm,5.7s					

NNC 13 15:33:22.4±6.8, 37°.36N×70°.30E, h0km, mb3.8, mpv3.4, 2C-2D, Error ellipse: s-maj=110.1km s-min=38.2km az=108.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.74	2	⇑Pn		Pn	Pn	15 34 48.7	-0.3
	1.6nm,0.3s,baz=182,slow=14,SNR=26								
KK31				⇓Sn		Sn	Sn	15 35 57.3	+1.7
	5.1nm,0.6s								
KK31				⇑Lg		Lg	Lg	15 36 22.8	
	6.3nm,0.5s								
AB31	Akbulak array	14.07	331	P		Pn	Pn	15 36 41.6	-1.3
	0.5nm,0.4s,baz=142,slow=12,SNR=24								
AKTO	Aktyubinsk	15.76	330	⇓P		Pn	Pn	15 37 07.3	+1.7
	1.3nm,0.6s								

*BER **13** 15:39:11.1±3.1, 82°.55N×6°.53W, h4km±36km, mb(Pn)3.6, Confirmed Earthquake*

ISC 13 15:39:11.0±2.0, 82°.3N±0°.2×6°.24W±0°.05, h10km, n8, σ2°32/12, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NOR	Nord	1.62	251	*eP*			Pn	15 39 39.5	0.0
NOR				*eS*			Sn	15 40 00.6	+0.3
NOR	Nord	1.62	251	*i* P			Pb	15 39 41.0	+0.2
NOR				*i* S			Sn	15 40 00.5	+0.2
KBS	Kingsbay	4.46	129	*eP*			Pn	15 40 19.7	+1.3
KBS				*e*				15 41 07.4	
KBS				IAML				15 41 07.9	
	comp=Z,2.2nm,1.0s								
BRBB	Barentsburg B	5.41	130	*eP*			Pn	15 40 34.0	+2.5
BRBA	Barentsburg A	5.44	130	*eP*			Pn	15 40 35.8	+3.9
SPA0	Spitsbergen Ar	5.57	125	*eP*			Pn	15 40 34.1	+0.4
SPA0				*eS*			Sn	15 41 35.5	-2.2
SPA0				IAML				15 41 52.0	
	comp=Z,3.3nm,0.9s								
DAG	Danmarks Havn	5.94	209	*eP*			Pn	15 40 38.9	+0.1
DAG				*eS*			Sn	15 41 47.7	+0.9
HOPEN	Hopen	7.99	119	*eS*			Sn	15 42 32.7	-4.5
HOPEN				IAML				15 42 35.0	
	comp=Z,12nm,0.9s								

NNC 13 15:48:03.1±7.0, 37°.37N×70°.43E, h0km, mb3.6, mpv3.2, 3C-2D, Error ellipse: s-maj=112.8km s-min=36.9km az=108.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.73	1	⇑Pn		Pn	Pn	15 49 29.4	-0.1
	1.0nm,0.3s,baz=179,slow=13,SNR=13								
KK31				⇓Sn		Sn	Sn	15 50 37.3	+1.3
	1.5nm,0.5s								
KK31				⇑Lg		Lg	Lg	15 51 04.6	
	6.6nm,0.6s								
AB31	Akbulak array	14.11	331	⇑P		Pn	Pn	15 51 22.5	-1.6
	0.2nm,0.3s,baz=4.1,slow=15,SNR=18								
AKTO	Aktyubinsk	15.80	330	⇓P		Pn	Pn	15 51 48.8	+1.9
	1.3nm,0.7s								

*NOU **13** 15:48:56.7, 32°.14S×179°.79W, h401km, mb4.4/43, South of Kermadec Islands*

*IDC **13** 15:48:57.5±1.2, 31°.95S×179°.78E, h393km±12km, mb3.8/8, mbtmp4.6/11, Error ellipse: s-maj=16.0km s-min=13.0km az=63.0*

*NEIC **13** 15:48:57.0±0.5, 32°.0S±0°.1×179°.8E±0°.2, h378km±10km, mb4.3/15, Error ellipse: s-maj=26.9km s-min=19.8km az=86.0*

*WEL **13** 15:48:59.6±1.0, 32°.S±7°.×17°.9W±1°.6, h345km±14km, M4.9/16, mB5.3/15, ML5.2/1, MLv5.4/16, Mw(mB)4.8/15, Error ellipse: s-maj=22.4km s-min=5.0km az=110.2, confirmed*

ISC 13 15:48:55.3±0.5, 32°.00S±0°.05×179°.79E±0°.08, h363km, n196, σ1°93/215, mb4.3/23, 4C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.37	36	P			Pn	15 50 00.9	+1.8
GLKZ				S			S	15 50 51.4	+1.0
RAO	Raoul Island	3.38	36				Pn	15 50 01.6	+2.4
RAO	Raoul Island	3.38	36	P			Pn	15 50 02.0	+2.9
	858nm,0.3s,baz=79,slow=21,SNR=12								
RAO				S			S	15 50 50.6	0.0
	549nm,0.4s,baz=99,slow=23,SNR=2.1								
GRZ	Great Barrier	5.55	219	P			Pn	15 50 27.9	+6.5
MXZ	Matakaoa Point	5.68	192	Pn			Pn	15 50 24.0	+1.2
MXZ	Matakaoa Point	5.68	192	P			Pn	15 50 26.1	+3.3
MXZ				S			S	15 51 36.2	+3.3
MXZ	Matakaoa Point	5.68	192	P			Pn	15 50 25.2	+2.4
KUZ	Kuaotunu	5.80	214	P			Pn	15 50 30.4	+6.2
KUZ	Kuaotunu	5.80	214	P			Pn	15 50 30.0	+5.8
WIZ	White Island	5.91	200	P			Pn	15 50 30.7	+5.3
HAZ	Te Kaha	5.97	195	P			Pn	15 50 29.1	+3.0
HAZ				S			S	15 51 43.8	+3.9
WCZ	Waipu Caves	5.99	228	P			Pn	15 50 33.2	+6.9
MYRZ	Mayor Island	6.02	208	P			Pn	15 50 33.5	+6.8
OUZ	Omahuta	6.08	236	P			Pn	15 50 34.1	+6.8
OUZ	Omahuta	6.08	236	P			Pn	15 50 34.0	+6.6
WIAZ	Waiheke Island	6.13	218	P			Pn	15 50 34.8	+6.9
ABAZ	Army Bay	6.15	220	P			Pn	15 50 35.1	+7.0
PUZ	Puketiti	6.18	191	P			Pn	15 50 30.9	+2.4
PUZ				S			S	15 51 44.0	-0.3
RUGZ	Raukumara Rang	6.19	196	P			Pn	15 50 31.8	+3.0
RUGZ				S			S	15 51 45.0	+0.3
MBAZ	Motutapu North	6.24	219	P			Pn	15 50 36.1	+7.0
WHRZ	Whale Island	6.28	201	P			Pn	15 50 35.7	+6.1
WHRZ				S			S	15 51 51.0	+4.7
TWGZ	Tauwhareparae	6.33	193	P			Pn	15 50 34.3	+4.1
TWGZ				S			S	15 51 49.2	+1.7
OPRZ	Ohinepanea	6.40	204	P			Pn	15 50 35.8	+4.8
OPRZ				S			S	15 51 52.6	+3.8
EDRZ	Edgecumbe	6.58	201	P			P	15 50 38.9	+4.6
EDRZ				S			S	15 52 00.3	+7.6
MWZ	Matawai	6.58	196	P			P	15 50 36.3	+2.0
MWZ				S			S	15 51 53.5	+0.9
URZ	Urewera	6.62	199	P			P	15 50 37.0	+2.4
	489nm,0.4s,baz=112,slow=5.0,SNR=138								
URZ				S			S	15 51 53.6	+0.4
	210nm,0.3s,baz=167,slow=23,SNR=13								
URZ	Urewera	6.62	199	P			P	15 50 36.3	+1.7
URZ				S			S	15 51 55.1	+1.9
URZ	Urewera	6.62	199	P			P	15 50 35.3	+0.7
RTZ	Ruatahuna	6.98	198	Pn			Pn	15 50 38.1	+0.3
BKZ	Black Stump Fm	7.63	200	Pn			Pn	15 50 44.7	-0.6
BKZ	Black Stump Fm	7.63	200	P			Pn	15 50 44.9	-0.4
BKZ	Black Stump Fm	7.63	200	P			Pn	15 50 45.6	+0.3
HIZ	Hauiti	7.64	210				P	15 50 48.9	+2.4
HIZ	Hauiti	7.64	210	P			P	15 50 49.3	+2.8
HIZ	Hauiti	7.64	210	P			P	15 50 49.2	+2.8
NTVZ	North Tongariro	7.83	204	P			P	15 50 48.6	-0.1
ETVZ	East Tongariro	7.85	204	P			Pn	15 50 48.0	+0.1
ETVZ				S			S	15 52 22.0	+2.2
WTVZ	West Tongariro	7.88	205	P			Pn	15 50 47.8	-0.4
NNVZ	North Ngauruho	7.88	204	P			Pn	15 50 48.5	+0.2
NNVZ				S			S	15 52 22.9	+2.4
OTVZ	Oturere	7.89	204	P			Pn	15 50 48.7	+0.3
OTVZ				S			S	15 52 23.3	+2.5
SNVZ	South Ngauruho	7.92	204	P			P	15 50 49.3	-0.5
SNVZ				S			S	15 52 22.1	+0.7
NGZ	Ngauruhoe	7.93	204	P			P	15 50 49.7	-0.1
FWVZ	Far West T-bar	8.01	204	P			Pn	15 50 49.2	-0.7
FWVZ				S			S	15 52 23.8	+0.3
WHVZ	Whangaehu Hut	8.03	204	P			Pn	15 50 50.4	+0.3
WHVZ				S			S	15 52 24.1	+0.3
TRVZ	Turoa	8.05	204	P			Pn	15 50 50.8	+0.4
WNVZ	Wahianoa	8.06	204	P			Pn	15 50 50.2	-0.2
WNVZ				S			S	15 52 23.4	-1.0
MOVZ	Moawhango	8.08	203	P			Pn	15 50 50.3	-0.3
MOVZ				S			S	15 52 20.5	-4.2
KRHZ	Kereru	8.11	199	P			Pn	15 50 50.1	-0.7
KRHZ				S			S	15 52 22.1	-3.2
VRZ	Vera Road	8.20	209	P			P	15 50 53.3	-0.7
MHEZ	Mangahewa	8.34	211	P			P	15 50 59.2	+3.6
WPHZ	Waipukurau	8.49	198	P			Pn	15 50 55.2	0.0
WPHZ				S			S	15 52 30.6	-2.8
PKE	Pukeiti	8.59	212	P			P	15 51 00.6	+2.2
NEZ	North Egmont	8.60	211	P			P	15 50 59.8	+1.2
TSZ	Takapari Road	8.61	200	P			Pn	15 50 55.1	-1.6
TSZ				S			S	15 52 34.1	-2.0
LREZ	Lake Rotokare	8.63	209	P			P	15 50 58.4	-0.4
LREZ				S			S	15 52 41.1	+4.6
PRHZ	Porangahau	8.63	196	P			Pn	15 50 56.4	-0.5
PRHZ				S			S	15 52 33.2	-3.3
PREZ	Palmer Road	8.63	210	P			P	15 51 01.8	+2.9
KHEZ	Kahui Hut	8.66	211	P			P	15 51 00.9	+1.7
KHEZ	Kahui Hut	8.66	211	P			P	15 51 00.8	+1.7
WAZ	Wanganui	8.66	205	P			P	15 50 59.2	+0.1
WAZ				S			S	15 52 38.2	+1.1
NBEZ	Newall Road No	8.70	212	P			P	15 51 01.7	+2.1
DVHZ	Dannevirke	8.78	198	P			Pn	15 50 58.2	-0.5
DVHZ				S			S	15 52 35.4	-4.3
ANWZ	Angora Road	8.85	197	P			Pn	15 50 59.2	-0.3
ANWZ				S			S	15 52 39.6	-1.6
OHWZ	Ohakea	8.95	203	P			P	15 51 01.7	-0.6
POWZ	Post Office Ro	8.98	200	P			Pn	15 51 01.1	+0.1
PRWZ	Pori Road	9.07	199	P			Pn	15 51 01.7	-0.4
BFZ	Birch Farm	9.12	197	P			Pn	15 51 00.5	-2.2
BFZ	Birch Farm	9.12	197	P			P	15 51 04.1	-0.1
BFZ	Birch Farm	9.12	197	P			Pn	15 51 02.4	-0.3
MRZ	Mangatainoka R	9.28	200				Pn	15 51 01.9	-2.7
MRZ	Mangatainoka R	9.28	200	P			Pn	15 51 02.1	-2.4
TIWZ	Tintock	9.30	199	P			Pn	15 51 04.0	-0.9
CPWZ	Castlepoint	9.34	197	P			P	15 51 07.3	+0.6
HOWZ	Holdsworth Sta	9.52	200	P			Pn	15 51 05.1	-2.3
OGWZ	Otaki Gorge	9.55	202	P			Pn	15 51 05.2	-2.5
TMWZ	Te Maipa	9.61	198	P			P	15 51 09.1	-0.6
KIW	Kapiti Island	9.67	203	P			Pn	15 51 07.2	-2.0
MTW	Mount Morrison	9.76	199	P			Pn	15 51 08.5	-1.8
CAW	Cannon Point	9.85	201	P			Pn	15 51 09.1	-2.1
TRWZ	Traveller	9.94	198	P			Pn	15 51 12.2	-0.1
DUWZ	D'Urville Isla	9.97	207	P			Pn	15 51 10.5	-2.3
PAWZ	Paruwai Farm	9.99	199	P			Pn	15 51 11.6	-1.4
MSWZ	Moikau Station	10.07	200	P			Pn	15 51 10.6	-3.4
MSWZ	Moikau Station	10.07	200	P			Pn	15 51 11.8	-2.2
WEL	Wellington	10.10	202	P			Pn	15 51 13.0	-1.3
SNZO	South Karori	10.14	202	P			Pn	15 51 12.0	-2.8
SNZO	South Karori	10.14	202	P			Pn	15 51 14.7	0.0
BHW	Baring Head	10.18	201				Pn	15 51 12.0	-3.2
BHW	Baring Head	10.18	201	P			Pn	15 51 12.5	-2.7
TCW	Tory Channel	10.20	204	P			Pn	15 51 12.6	-2.9
TCW	Tory Channel	10.20	204	P			Pn	15 51 13.2	-2.2
PLWZ	Palliser	10.21	200	P			Pn	15 51 12.5	-3.1
PLWZ	Palliser	10.21	200	P			Pn	15 51 14.4	-1.3
TUWZ	Tuamarina	10.51	205	P			Pn	15 51 16.8	-2.3
TUWZ	Tuamarina	10.51	205	P			Pn	15 51 17.1	-2.0
NNZ	Nelson	10.54	207	P			Pn	15 51 16.7	-2.6
NNZ	Nelson	10.54	207	P			Pn	15 51 16.8	-2.6
TKNZ	Takaka Hill	10.55	209	P			Pn	15 51 18.0	-1.6
TKNZ	Takaka Hill	10.55	209	P			Pn	15 51 18.2	-1.4
QRZ	Quartz Range	10.56	212	P			P	15 51 21.8	+1.5
QRZ	Quartz Range	10.56	212	P			Pn	15 51 17.8	-1.9
QRZ	Quartz Range	10.56	212	P			P	15 51 20.8	+0.5
CMWZ	Cape Campbell	10.70	203	P			P	15 51 22.1	+0.3
CMWZ	Cape Campbell	10.70	203	P			P	15 51 22.0	+0.3
BSWZ	Blackbirch Sta	10.78	204	P			Pn	15 51 21.6	-0.7
BSWZ	Blackbirch Sta	10.78	204	P			Pn	15 51 21.3	-1.0
MRNZ	Matariki Terra	10.94	209	P			Pn	15 51 23.3	-0.9
MRNZ	Matariki Terra	10.94	209	P			Pn	15 51 21.7	-2.5
THZ	Tophouse	11.19	208				Pn	15 51 25.4	-1.7
THZ	Tophouse	11.19	208	P			Pn	15 51 24.8	-2.4
KHZ	Kahutara	11.52	204	P			P	15 51 28.7	-2.1
KHZ	Kahutara	11.52	204	P			P	15 51 29.0	-1.8
DSZ	Denniston Nort	11.63	211	P			P	15 51 32.1	-0.1
DSZ	Denniston Nort	11.63	211	P			P	15 51 30.2	-2.0
GVZ	Greta Valley S	12.18	204	P			P	15 51 37.2	-1.0
LTZ	Lake Taylor	12.30	207	P			P	15 51 38.0	-1.5
AMCZ	Amberley	12.50	205	P			Pn	15 51 42.2	-0.3
INZ	Inchbonnie	12.58	209	P			P	15 51 40.8	-1.8
OXZ	Oxford	12.85	206	P			P	15 51 43.4	-2.2
MQZ	McQueen's Vall	12.96	204	P			P	15 51 44.6	-2.2
RPZ	Rata Peaks	13.56	208	P			P	15 51 52.3	-1.2
RPZ	Rata Peaks	13.56	208	P			P	15 51 53.0	-0.4
	26nm,0.5s,baz=316,slow=0.7,SNR=23								
RPZ				S			S	15 54 15.9	-5.2
	26nm,0.6s,baz=133,slow=18,SNR=11								
RPZ	Rata Peaks	13.56	208	P			P	15 51 54.2	+0.8
LKBA	Tubou, Lakemba	13.77	6	P			P	15 51 55.9	-0.1
FOZ	Fox Glacier	13.94	212	P			P	15 51 56.2	-1.3
MSVF	Nonsavu	14.29	353	P			Pn	15 52 02.9	-0.9
	13nm,0.7s,baz=190,slow=23,SNR=4.8								
MSVF	Nonsavu	14.29	353	P			Pn	15 52 04.2	+0.3
PINNC	Pines Island,	14.40	307	P			Pn	15 52 06.3	+1.3
	56nm,1.5s								
JCZ	Jackson Bay	14.82	213	P			P	15 52 07.1	-0.2
ODZ	Otahua Downs	14.84	206	P			P	15 52 06.7	-0.7
ODZ	Otahua Downs	14.84	206	P			Pn	15 52 09.0	-0.7
OUENC	Ouen Island, N	14.95	307	P			Pn	15 52 12.0	+0.8
	0.1nm,1.3s					

KLBR Kellerberrin 52.05 253 P P 15 57 28.6 -0.7
CASY Casey 52.84 208 P **P 15 57 33.4 -1.0**
CASY IAmb IAmb 15 57 34.6
comp=Z,14nm,0.8s
QSPA South Pole Qui 58.11 180 P P 15 58 12.8 +1.0
QSPA South Pole Qui 58.11 180 P **P 15 58 12.7 +1.0**
comp=Z,33nm,0.7s,baz=326,slow=0.4,SNR=190
comp=Z,33nm,0.7s
MAW Mawson 70.14 201 P P 15 59 28.2 -0.7
comp=Z,2.2nm,0.7s,baz=121,slow=8.0,SNR=10
comp=Z,2.2nm,0.7s
ELIB Princess Elisa 75.03 187 *d*P **P 15 59 56.7 -0.9**
comp=Z,5.9nm,0.9s
SNAA Sanae 76.60 179 P P 16 00 05.6 -0.6
SNAA IAmb IAmb 16 00 06.7
comp=Z,16nm,1.1s
SNAA Sanae 76.60 179 ⇑P **P 16 00 05.8 -0.5**
comp=Z,60nm,0.3s
SNAA Sanae 76.60 179 P P 16 00 05.4 -0.8
comp=Z,3.7nm,0.4s,baz=208,slow=4.0,SNR=123
comp=Z,3.7nm,0.4s
VNA3 Neumayer Olymp 76.82 177 ⇑P **P 16 00 07.0 -0.4**
comp=Z,10nm,0.4s
VNA2 Neumayer--Watz 77.23 178 ⇑P **P 16 00 09.6 -0.1**
comp=Z,24nm,0.6s,baz=178,slow=5.8
VNA1 Neumayer--Stat 77.48 177 ⇑P **P 16 00 10.8 -0.1**
comp=Z,17nm,0.6s
KSRS Korea Array 84.37 321 P P 16 00 47.2 -0.1
comp=Z,1.8nm,0.7s,baz=142,slow=5.7,SNR=7.7
comp=Z,1.8nm,0.7s
PETK Petropavlovsk- 86.91 347 P P 16 00 58.2 -1.2
comp=Z,4.7nm,1.0s,baz=118,slow=4.8,SNR=5.6
comp=Z,4.7nm,1.0s
PZH PanZhiHua 94.38 298 P P 16 01 35.3 +0.4
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,6.0s
HHC Hu-ho-hao-te 96.00 315 *e*P **P 16 01 43.6 +1.7**
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,69nm,4.0s
MKAR Makanchi Array 117.35 310 PKP **PKPdf 16 06 55.2 -2.6**
comp=Z,0.2nm,0.6s,baz=169,slow=0.7,SNR=1.6
KURBB Kurchatov Arra 120.81 313 PKP **PKPdf 16 07 01.9 -2.3**
comp=Z,0.4nm,0.5s,baz=110,slow=1.6,SNR=5.1
KBZ Khabaz 144.38 302 PKP **PKPab 16 07 47.1 -0.8**
comp=Z,2.0nm,0.8s,baz=121,slow=5.9,SNR=2.0
FINES FINESS Array B 145.95 338 PKPbc **PKPdf 16 07 50.6 +0.1**
comp=Z,7.5nm,0.8s,baz=56,slow=3.7,SNR=23
MMAI Mount Meron Ar 150.03 282 PKPbc **PKPbc 16 08 01.7 -2.0**
comp=Z,2.7nm,0.6s,baz=73,slow=8.9,SNR=5.0
AKASG Malin Array Be 151.35 319 PKPbc **PKPbc 16 08 04.3 -1.7**
comp=Z,0.3nm,0.3s,baz=39,slow=2.4,SNR=4.5
DBIC Dimbokro 154.43 169 PKPbc **PKPbc 16 08 12.3 -1.5**
comp=Z,1.3nm,0.4s,baz=212,slow=3.9,SNR=4.2
CLL Collm 158.40 337 *i* PKPab **PKPab 16 08 44.8 -1.1**
comp=Z,4.0nm,0.8s
TORD Torodi Ar. Bea 161.15 186 PKPab **PKPab 16 08 57.2 -1.4**
comp=Z,1.7nm,0.7s,baz=186,slow=2.9,SNR=11

IDC 13 15:50:16.5±298.0, 31°.55N×132°.40E, h0km, Error ellipse: s-maj=166.6km s-min=104.9km az=87.0, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**7.60**	**58**	I	I	16 32 45.0	
	0.2nm,1.2s,baz=244,slow=327,SNR=6.8						
I45RU	**USSURIYSK INFR**	**12.64**	**359**	I	I	17 07 10.0	
	baz=179,slow=326,SNR=3.9						
I39PW	**PALAU INFRASON**	**23.97**	**175**	I	I	18 16 55.7	
	baz=354,slow=298,SNR=6.4						
I44RU	**PETROPAVLOVSK**	**28.27**	**33**	I	I	18 44 45.2	
	0.1nm,11.8s,baz=228,slow=324,SNR=0.6						

*IDC **13** 16:04:29.3±1.2, 37°.55N×20°.81E, h0km, mb3.5/7, mbtmp3.5/8, ML0.7/1, MS2.9/1, Error ellipse: s-maj=27.3km s-min=25.7km az=63.0*
*ATH **13** 16:04:30.8, 37°.34N×20°.71E, h14km±1km, ML3.6/13, Error ellipse: s-maj=2.9km s-min=1.1km az=40.0*
*THE **13** 16:04:31.6, 37°.39N×20°.78E, h16km, ML3.7/11, Error ellipse: s-maj=0.7km s-min=0.3km az=50.0*
ISC 13 16:04:31.3±1.4, 37°.42N±0°.04×20°.80E±0°.04, h15km±10km, n44, σ0°59/61, mb3.5/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.25**	**3**	P	**Pb**	**16 04 37.5**	**0.0**
KRI1				S	**Sb**	**16 04 42.2**	**+0.6**
	22μm,0.6s						
LTHK	**Lithakia**	**0.29**	**5**	P	**Pb**	**16 04 38.2**	**-0.1**
LTHK				S	**Sb**	**16 04 43.5**	**+0.5**
	17μm,0.6s						
LTHK	**Lithakia**	**0.29**	**5**	P	**Pb**	**16 04 38.2**	**-0.1**
LTHK				S	**Sb**	**16 04 43.5**	**+0.5**
LTHK				AML	AML	16 04 44.1	
	comp=E,37817μm,0.7s						
LTHK				AML	AML	16 04 46.0	
	comp=N,28188μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.66**	**358**	P	**Pb**	**16 04 44.4**	**-0.1**
RTZL				S	**Sb**	**16 04 55.1**	**+1.6**
PSDA	**Pessada-Kefalo**	**0.72**	**346**	P	**Pb**	**16 04 45.5**	**0.0**
PSDA				S	**Sn**	**16 04 57.0**	**-0.7**
	comp=N,8μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.72**	**346**	P	**Pb**	**16 04 45.6**	**0.0**
AMT	**Artemida-Makis**	**0.73**	**81**	P	**Pb**	**16 04 46.0**	**+0.2**
AMT				S	**Sn**	**16 04 58.0**	**0.0**
AMT				AML	AML	16 05 02.8	
	comp=N,19898μm,0.4s						
AMT				AML	AML	16 05 04.0	
	comp=E,15726μm,0.7s						
VLS	**Valsamata**	**0.78**	**348**	P	**Pg**	**16 04 46.3**	**-0.1**
VLS				S	**Sb**	**16 04 58.3**	**+1.3**
	comp=E,6μm,0.4s						
VLS	**Valsamata**	**0.78**	**348**	P	**Pg**	**16 04 46.4**	**-0.1**
VLS				S	**Sb**	**16 04 58.0**	**+1.1**
VLS				AML	AML	16 04 59.6	
	comp=E,12551μm,0.4s						
VLS				AML	AML	16 05 00.1	
	comp=N,11275μm,0.3s						
RLS	**Riolos of Patr**	**0.83**	**39**	P	**Pb**	**16 04 47.6**	**+0.1**
RLS				S	**Sn**	**16 05 00.2**	**-0.2**
	comp=N,1μm,0.4s						
RLS	**Riolos of Patr**	**0.83**	**39**	P	**Pb**	**16 04 47.5**	**+0.1**
RLS				AML	AML	16 05 02.8	
	comp=N,2379μm,0.3s						
RLS				AML	AML	16 05 11.7	
	comp=E,2392μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.83**	**340**	P	**Pb**	**16 04 47.8**	**+0.3**
LXRA				AML	AML	16 05 08.1	
	comp=N,25952μm,0.7s						
LXRA				AML	AML	16 05 08.4	
	comp=E,15012μm,0.5s						
SMHA	**Samh**	**0.84**	**352**	P	**Pg**	**16 04 47.1**	**-0.5**
DMLN	**Damoulianata-K**	**0.89**	**338**	P	**Pg**	**16 04 48.5**	**-0.1**
DMLN				S	**Sn**	**16 05 01.8**	**-0.1**
	comp=E,10μm,0.7s						
DMLN	**Damoulianata-K**	**0.89**	**338**	P	**Pg**	**16 04 48.5**	**-0.1**
DMLN				S	**Sb**	**16 05 00.6**	**+0.5**
DRO	**Drossia**	**0.90**	**53**	P	**Pb**	**16 04 48.7**	**+0.1**
DRO				S	**Sn**	**16 05 02.2**	**+0.1**
	comp=E,4μm,0.5s						
DRO	**Drossia**	**0.90**	**53**	P	**Pg**	**16 04 48.9**	**+0.1**
DRO				AML	AML	16 05 13.4	
	comp=N,6151μm,0.4s						
DRO				AML	AML	16 05 15.5	
	comp=E,8194μm,0.5s						
PYL	**PYLOS**	**0.91**	**124**	P	**Pg**	**16 04 48.7**	**-0.3**
PYL				S	**Sn**	**16 05 02.0**	**-0.5**
	comp=E,1μm,0.6s						
PYL	**PYLOS**	**0.91**	**124**	P	**Pb**	**16 04 48.4**	**-0.4**
PYL				AML	AML	16 05 03.6	
	comp=E,2428μm,0.5s						
PYL				AML	AML	16 05 04.9	
	comp=N,2365μm,0.7s						
ITM	**Ithomi**	**0.93**	**104**	P	**Pg**	**16 04 49.2**	**-0.1**
ITM				S	**Sn**	**16 05 02.7**	**-0.1**
	comp=N,2μm,1.0s						
ITM	**Ithomi**	**0.93**	**104**	P	**Pg**	**16 04 49.0**	**-0.3**
ITM				AML	AML	16 05 08.6	
	comp=E,4210μm,0.9s						
ITM				AML	AML	16 05 11.1	
	comp=N,2732μm,0.6s						
VSK1	**VASILIKIADES**	**1.01**	**349**	P	**Pg**	**16 04 50.6**	**-0.2**
VSK1				S	**Sn**	**16 05 05.2**	**+0.3**
	comp=N,4μm,0.6s						
FSK	**Fiskardo**	**1.06**	**350**	P	**Pb**	**16 04 51.4**	**+0.1**
FSK				S	**Sn**	**16 05 06.9**	**+0.8**
	comp=N,5μm,0.8s						
FSK	**Fiskardo**	**1.06**	**350**	P	**Pb**	**16 04 51.2**	**-0.1**
FSK				AML	AML	16 05 11.5	
	comp=E,7301μm,0.8s						
FSK				AML	AML	16 05 12.0	
	comp=N,10766μm,0.8s						
EVGI	**Lefkada island**	**1.21**	**355**	P	**Pn**	**16 04 53.4**	**-0.3**
EVGI	**Lefkada island**	**1.21**	**355**	P	**Pn**	**16 04 53.7**	**0.0**
KLV	**Kalavryta, Ach**	**1.24**	**59**	P	**Pn**	**16 04 54.3**	**+0.1**
KLV				S	**Sb**	**16 05 10.8**	**+0.5**
KLV	**Kalavryta, Ach**	**1.24**	**59**	P	**Pn**	**16 04 54.3**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.28**	**352**	P	**Pn**	**16 04 54.5**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.30**	**356**	P	**Pn**	**16 04 54.5**	**-0.4**
GUR	**Goura**	**1.33**	**66**	P	**Pn**	**16 04 55.6**	**+0.2**
GUR				AML	AML	16 05 24.1	
	comp=E,2532μm,0.6s						
GUR				AML	AML	16 05 26.3	
	comp=N,2783μm,0.6s						
EFP	**Efpalio**	**1.33**	**40**	P	**Pn**	**16 04 55.6**	**+0.2**
EFP				AML	AML	16 05 22.7	
	comp=E,2008μm,0.9s						
EFP				AML	AML	16 05 24.4	
	comp=N,1701μm,0.4s						
KALE	**Kalithea**	**1.44**	**47**	P	**Pb**	**16 04 57.7**	**-0.1**
KALE				AML	AML	16 05 26.3	
	comp=E,2929μm,0.6s						
KALE				AML	AML	16 05 29.3	
	comp=N,2382μm,0.6s						
ANX	**Ano Chora**	**1.47**	**37**	P	**Pb**	**16 04 58.2**	**-0.2**
ANX				AML	AML	16 05 26.4	
	comp=E,3580μm,0.6s						
ANX				AML	AML	16 05 28.5	
	comp=N,4706μm,0.6s						
IDI	**Anoyia**	**3.92**	**122**	Pn	**Pn**	**16 05 32.6**	**+1.6**
	comp=N,0.3nm,0.3s,baz=280,slow=14,SNR=1.8						
IDI				Sn	**Sn**	**16 06 15.7**	**-1.1**
	comp=N,1.0nm,0.3s,baz=200,slow=23,SNR=2.1						
	comp=N,25nm,1.1s						
AKASG	**Malin Array Be**	**14.58**	**22**	LR	LR	16 14 54.1	
	comp=N,40nm,18.3s,baz=267,slow=43						
HFS	**Hagfors**	**23.19**	**351**	P	**P**	**16 09 36.0**	**-1.2**
	comp=N,2.4nm,0.8s,baz=183,slow=13,SNR=2.7						
	comp=N,2.4nm,0.8s						
EKA	**Eskdalemuir Ar**	**24.18**	**325**	P	**P**	**16 09 45.8**	**-1.1**
	comp=N,3.1nm,0.9s,baz=118,slow=8.6,SNR=3.6						
	comp=N,3.1nm,0.9s						
NOA	**NORSAR Array B**	**24.41**	**349**	P	**P**	**16 09 48.8**	**-0.1**
	comp=N,0.2nm,0.6s,baz=150,slow=9.7,SNR=1.7						
	comp=N,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.59**	**220**	P	**P**	**16 10 37.1**	**+1.3**
	comp=N,0.2nm,0.7s,baz=28,slow=10,SNR=1.9						
	comp=N,0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**42.51**	**53**	P	**P**	**16 12 24.6**	**-1.3**
	comp=N,0.3nm,0.5s,baz=276,slow=8.4,SNR=2.8						
	comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.51**	**58**	P	**P**	**16 12 49.8**	**-0.3**
	comp=N,0.3nm,0.4s,baz=267,slow=8.2,SNR=6.2						
	comp=N,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**46.04**	**48**	P	**P**	**16 12 54.2**	**+0.2**
	comp=N,0.4nm,0.5s,baz=278,slow=10.0,SNR=1.6						
	comp=N,0.4nm,0.5s						
ASAR	**Alice Springs**	**121.86**	**97**	PKP	**PKiKP**	**16 23 25.0**	**-0.3**
	comp=N,0.4nm,1.1s,baz=296,slow=2.3,SNR=2.0						

*IDC **13** 16:26:23.6±1.4, 0°.47N×123°.76E, h0km, mb3.7/4, mbtmp3.7/5, ML3.7/1, MS3.0/1, Error ellipse: s-maj=119.1km s-min=22.7km az=64.0*
*DJA **13** 16:26:41.4±0.3, 0°.5S±3°×12°.3E±°, h117km±5km, M4.0/20, mb4.1/6, mB4.5/1, MLv3.9/20, Mw(mB)3.6/1*
ISC 13 16:26:40.6±0.9, 0°.08S±0°.06×123°.20E±0°.05, h150km, n21, σ1°92/23, mb3.6/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.02**	**50**	P	**Pn**	**16 27 05.3**	**-0.2**
KMSI				S	**Sn**	**16 27 22.0**	**-2.5**
LUWI	**Luwuk**	**1.04**	**204**	P	**Pn**	**16 27 03.1**	**-2.6**
LUWI				S	**Sn**	**16 27 19.3**	**-5.7**
MRSI	**Marisa**	**1.38**	**294**	P	**Pn**	**16 27 06.7**	**-2.2**
APSI	**Ampana**	**1.76**	**242**	P	**Pn**	**16 27 11.4**	**-1.5**
MPSI	**Mapaga**	**3.33**	**277**	P	**Pn**	**16 27 33.1**	**+0.9**
SANI	**Sanana**	**3.40**	**125**	P	**Pn**	**16 27 30.1**	**-3.0**
PCI	**Palu**	**3.46**	**256**	P	**Pn**	**16 27 34.0**	**+0.1**
KDI	**Kendari**	**3.89**	**189**	P	**Pn**	**16 27 38.9**	**-0.6**
TNTI	**Ternate**	**4.25**	**78**	P	**Pn**	**16 27 44.1**	**0.0**
TTSI	**Tana Toraja**	**4.48**	**229**	P	**Pn**	**16 27 46.7**	**-0.5**
NLAI	**Namlea**	**5.00**	**129**	P	**Pn**	**16 27 55.2**	**+1.2**
SPSI	**Sidrap Palu**	**5.16**	**222**	P	**Pn**	**16 27 56.7**	**+0.6**
	19nm,0.7s,554nm0.1nm						
BNSI	**Bone**	**5.29**	**216**	P	**Pn**	**16 27 58.0**	**+0.2**
	26nm,0.6s,0.1nm						
BBSI	**Bau Bau**	**5.40**	**187**	P	**Pn**	**16 27 59.6**	**+0.2**
	23nm,1.1s,0.1nm						
BSSI	**Bau Bau, Buton**	**6.60**	**204**	P	**Pn**	**16 28 16.7**	**+1.4**
FITZ	**Fitzroy Crossi**	**18.06**	**173**	P	**P**	**16 30 42.0**	**+1.4**
	0.2nm,0.3s,baz=6.7,slow=13,SNR=8.4						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**22.55**	**152**	P	**P**	**16 31 28.9**	**+0.6**
	1.6nm,0.5s,baz=332,slow=10,SNR=26						
	1.6nm,0.5s						
ASAR	**Alice Springs**	**25.64**	**157**	P	**P**	**16 31 57.5**	**+1.0**
	0.2nm,0.4s,baz=332,slow=8.6,SNR=11						
ASAR				PcP	**PcP**	**16 35 24.6**	**+1.3**
	0.2nm,0.3s,baz=346,slow=2.0,SNR=4.9						
	0.2nm,0.4s						
JNU	**Nakatsue**	**33.81**	**12**	LR	LR	16 46 46.1	
	comp=Z,29nm,20.7s,baz=168,slow=37						
STKA	**Stephens Creek**	**36.09**	**153**	P	**P**	**16 33 29.5**	**+1.5**
	1.2nm,0.5s,baz=326,slow=9.7,SNR=4.6						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**58.79**	**328**	P	**P**	**16 36 23.2**	**+0.1**
	0.2nm,0.3s,baz=124,slow=8.4,SNR=6.3						
	0.2nm,0.3s						

*IDC **13** 16:34:44.0±7.2, 21°.31N×143°.64E, h111km±65km, mb3.4/11, mbtmp3.7/12, MS3.0/10, Error ellipse: s-maj=38.5km s-min=16.1km az=80.0*
ISC 13 16:34:42.2±1.0, 21°.4N±0°.1×143°.9E±0°.2, h100km, n25, σ1°18/13, mb3.6/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.80**	**173**	LR	LR	16 38 57.7	
	comp=Z,94nm,18.4s,baz=55,slow=33						
MJAR	**Matsushiro Arr**	**15.90**	**343**	P	**Pn**	**16 38 19.9**	**-0.3**
	0.9nm,0.7s,baz=165,slow=9.9,SNR=1.9						
MJAR				LR	LR	16 44 04.9	
	comp=Z,32nm,18.7s,baz=144,slow=35						
KSRS	**Korea Array**	**21.15**	**323**	P	**P**	**16 39 20.6**	**+1.5**
	0.5nm,0.5s,baz=147,slow=9.0,SNR=2.2						
KSRS				LR	LR	16 46 55.4	
	comp=Z,30nm,18.4s,baz=140,slow=35						
	0.5nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**21.63**	**90**	T	T	17 01 13.4	
	baz=281,slow=75						
H11N2	**WAKE ISLAND Hy**	**21.64**	**90**	T	T	17 01 13.0	
	baz=281,slow=75						
H11N3	**WAKE ISLAND Hy**	**21.65**	**90**	T	T	17 01 15.7	
	baz=281,slow=75						
H11S3	**WAKE ISLAND Hy**	**21.65**	**94**	T	T	17 01 13.6	
	baz=282,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**21.66**	**94**	T	T	17 01 19.6	
	baz=282,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**21.67**	**94**	T	T	17 01 15.6	
	baz=282,slow=75,SNR=18						
DAV	**Davao City (W)**	**22.67**	**234**	LR	LR	16 47 06.7	
	comp=Z,29nm,21.2s,baz=334,slow=33						
ASAJ	**Asahikawa**	**22.71**	**358**	LR	LR	16 48 19.3	
	comp=Z,29nm,21.8s,baz=182,slow=36						
PETK	**Petropavlovsk-**	**33.42**	**15**	LR	LR	16 55 21.6	
	comp=Z,8.4nm,19.0s,baz=151,slow=37						
SONM	**Songino Array**	**39.99**	**320**	P	**P**	**16 42 07.2**	**0.0**
	0.2nm,0.4s,baz=103,slow=6.5,SNR=1.6						
	0.2nm,0.4s						
YAK	**Yakutsk**	**41.80**	**350**	LR	LR	17 00 47.3	
	comp=Z,18nm,18.2s,baz=151,slow=37						
WRA	**Warramunga Arr**	**42.10**	**193**	P	**P**	**16 42 24.1**	**-0.5**
	9.4nm,1.4s,baz=15,slow=8.9,SNR=9.8						
	9.4nm,1.4s						
ASAR	**Alice Springs**	**45.80**	**193**	P	**P**	**16 42 54.1**	**0.0**
	0.4nm,0.5s,baz=18,slow=8.3,SNR=14						
ASAR				LR	LR	17 01 47.2	
	comp=Z,25nm,18.2s,baz=80,slow=36						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**54.85**	**322**	P	**P**	**16 44 01.0**	**-1.0**
	0.4nm,0.5s,baz=111,slow=7.9,SNR=1.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**55.38**	**313**	P	**P**	**16 44 05.4**	**-0.5**
	0.2nm,0.6s,baz=90,slow=7.2,SNR=1.8						
	0.2nm,0.6s						
KDAK	**Kodiak Island**	**58.12**	**34**	LR	LR	17 06 05.5	
	comp=Z,35nm,21.6s,baz=77,slow=32						
KURBB	**Kurchatov Arra**	**58.19**	**317**	P	**P**	**16 44 25.9**	**+0.2**
	0.3nm,0.4s,baz=94,slow=7.6,SNR=5.2						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**62.05**	**27**	P	**P**	**16 44 49.7**	**-2.1**
	0.3nm,0.6s,baz=269,slow=5.9,SNR=1.9						
ILAR				LR	LR	17 08 36.5	
	comp=Z,19nm,21.6s,baz=81,slow=33						
BVAR	**Borovoye Array**	**63.33**	**320**	P	**P**	**16 45 01.0**	**+0.4**
	0.4nm,0.4s,baz=96,slow=7.2,SNR=4.6						
	0.4nm,0.4s						
NVAR	**Mina Array Bea**	**82.86**	**52**	P	**P**	**16 46 57.8**	**+1.6**
	1.7nm,0.7s,baz=292,slow=4.8,SNR=2.0						
	1.7nm,0.7s						
FINES	**FINESS Array B**	**83.74**	**335**	P	**P**	**16 46 59.6**	**-0.3**
	3.7nm,1.1s,baz=72,slow=4.5,SNR=1.7						
	3.7nm,1.1s						
PDAR	**Pinedale Array**	**87.18**	**45**	P	**P**	**16 47 19.4**	**+1.7**
	0.4nm,0.8s,baz=298,slow=1.9,SNR=1.1						
	0.4nm,0.8s						

*IDC **13** 17:02:27.8±1.1, 21°.07S×173°.95W, h0km, mb3.9/6, mbtmp4.0/8, ML3.5/2, MS3.6/12, Error ellipse: s-maj=48.6km s-min=24.0km az=149.0*
*NEIC **13** 17:02:28.3±2.2, 20°.28S±0°.10×173°.9W±0°.1, h10km±1km, mb4.6/26, Error ellipse: s-maj=16.9km s-min=15.8km az=156.0*
ISC 13 17:02:29.8±0.6, 20°.32S±0°.08×173°.83W±0°.07, h27km, n51, σ2°06/43, mb4.4/17, MS3.6/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.88**	**72**		**Pn**	**17 03 28.3**	**+0.7**
NIUE				Sn	**Sn**	**17 04 10.2**	**-2.1**
AFI	**Afiamalu**	**6.67**	**17**	Pn	**Pn**	**17 04 05.5**	**-0.6**
AFI				Sn	**Sn**	**17 05 20.5**	**-0.7**
MSVF	**Nonsavu**	**8.10**	**287**	Pn	Pn	17 04 33.4	+7.6
	0.3nm,0.3s,baz=107,slow=19,SNR=3.1						
MSVF				LR	LR	17 07 16.1	
	comp=Z,447nm,18.9s,baz=122,slow=35						
RAR	**Rarotonga**	**13.18**	**96**	Pn	**Pn**	**17 05 33.0**	**-2.2**
RAR	**Rarotonga**	**13.18**	**96**	Pn	**Pn**	**17 05 35.2**	**0.0**
	1.5nm,0.3s,baz=5.0,slow=11,SNR=1.8						
RAR				Sn	Sn	17 07 50.0	-11
	0.9nm,0.3s,baz=282,slow=20,SNR=1.1						
RAR				LR	LR	17 09 41.9	
	comp=Z,92nm,18.3s,baz=279,slow=33						
	12nm,0.6s						
DZM	**Mont Dzumac**	**18.48**	**261**	LR	LR	17 12 50.5	
	comp=Z,320nm,18.8s,baz=140,slow=34						
URZ	**Urewera**	**19.53**	**202**	P	**P**	**17 06 49.0**	**-6.1**
	0.3nm,0.3s,baz=320,slow=7.9,SNR=2.1						
	4.6nm,0.9s						
BKZ	**Black Stump Fm**	**20.55**	**202**	P	**P**	**17 07 05.3**	**-1.1**
BFZ	**Birch Farm**	**22.00**	**200**	P	**P**	**17 07 19.1**	**-2.7**
BFZ				IAmb	IAmb	17 07 33.6	
	comp=Z,31nm,1.1s						
MRZ	**Mangatainoka R**	**22.20**	**202**	P	**P**	**17 07 23.6**	**-0.5**
MRZ				IAmb	IAmb	17 07 27.0	
	comp=Z,22nm,1.2s						
PPT	**Papeete**	**23.09**	**87**	LR	LR	17 14 16.4	
	comp=Z,57nm,20.1s,baz=242,slow=30						
PLWZ	**Palliser**	**23.12**	**201**	P	**P**	**17 07 32.2**	**-1.6**
QRZ	**Quartz Range**	**23.52**	**207**	P	**P**	**17 07 37.5**	**-0.2**
MRNZ	**Matariki Terra**	**23.91**	**206**	P	**P**	**17 07 36.5**	**-4.8**
THZ	**Tophouse**	**24.16**	**205**	P	**P**	**17 07 39.5**	**-4.2**
THZ				IAmb	IAmb	17 07 53.9	
	comp=Z,11nm,0.9s						
DSZ	**Denniston Nort**	**24.59**	**207**	P	**P**	**17 07 44.3**	**-3.3**
DSZ				IAmb	IAmb	17 07 57.2	
	comp=Z,28nm,1.0s						
LTZ	**Lake Taylor**	**25.27**	**204**	P	**P**	**17 07 52.2**	**-1.6**
LTZ				IAmb	IAmb	17 08 02.8	
	comp=Z,13nm,1.1s						
INZ	**Inchbonnie**	**25.55**	**206**	P	**P**	**17 07 55.6**	**-0.7**
OXZ	**Oxford**	**25.82**	**204**	P	**P**	**17 07 58.4**	**-0.3**
HNR	**Honiara**	**27.52**	**289**	LR	LR	17 17 25.8	
	comp=Z,57nm,18.9s,baz=52,slow=32						
WKZ	**Wanaka**	**28.28**	**206**	P	**P**	**17 08 18.9**	**-2.0**
CTA	**Charters Tower**	**37.40**	**263**	LR	LR	17 23 25.1	
	comp=Z,7.8nm,18.5s,baz=96,slow=34						
TOO	**Toolangi**	**39.19**	**235**	P	**P**	**17 09 54.7**	**-0.9**
STKA	**Stephens Creek**	**41.40**	**245**	P	**P**	**17 10 12.6**	**-1.3**
STKA				LR	LR	17 25 46.4	
	comp=Z,1.3nm,0.6s,baz=86,slow=14,SNR=2.9						
	comp=Z,78nm,18.4s,baz=27,slow=34						
	comp=Z,1.3nm,0.6s						
BBOO	**Buckleboo**	**46.13**	**244**	P	**P**	**17 10 52.7**	**+0.7**
WR0	**Warramunga Arr**	**48.31**	**261**	P	**P**	**17 11 09.9**	**+0.7**
WR0				IAmb	IAmb	17 11 32.2	
	comp=Z,6.9nm,1.4s						
AS31	**Alice Springs**	**48.36**	**256**	P	**P**	**17 11 09.4**	**-0.2**
ASAR	**Alice Springs**	**48.37**	**256**	P	**P**	**17 11 08.4**	**-1.2**
ASAR	**Alice Springs**	**48.37**	**256**	P	**P**	**17 11 08.2**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=102,slow=7.2,SNR=13						
ASAR				PcP	**PcP**	**17 12 38.9**	**+2.8**
	comp=Z,0.4nm,0.7s,baz=100,slow=4.3,SNR=1.8						
ASAR				LR	LR	17 29 53.4	
	comp=Z,67nm,19.9s,baz=96,slow=34						
	comp=Z,1.4nm,0.8s						
WB0	**Warramunga Arr**	**48.48**	**261**	P	**P**	**17 11 09.7**	**-0.9**
WB2	**Warramunga Arr**	**48.49**	**261**	P	**P**	**17 11 09.6**	**-1.0**
WB2				IAmb	IAmb	17 11 15.7	
	comp=Z,4.6nm,1.1s						
WRA	**Warramunga Arr**	**48.50**	**261**	P	**P**	**17 11 10.6**	**-0

Error ellipse: s-maj=2.9km s-min=2.3km az=291.0
NEIC 13 17:17:23.7±2.2, 42°.66N±0°.01×111°.48W±0°.02, h5km±1km, ML3.0/116, ML3.2/21(UUSS), Error ellipse: s-maj=3.2km s-min=2.6km az=123.0, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRI	**Grays Lake**	**0.28**	**9**		Pg	17 17 30.1	+0.9
AHID	**Auburn Hatcher**	**0.30**	**70**		Pg	17 17 30.0	+0.3
AHID					Sg	17 17 34.8	+1.1
BEI	**Bear River Ran**	**0.59**	**202**		Pg	17 17 35.2	+0.1
BMUT	**Black Mountain**	**0.73**	**165**		Pg	17 17 37.3	-0.5
HDU	**Hyde Park**	**0.88**	**194**		Pg	17 17 40.6	-0.1
TPAW	**Teton Pass**	**0.91**	**25**		Pg	17 17 41.8	+0.5
TPAW				Sg	Sg	17 17 54.0	+0.8
TPAW				IAML		17 17 56.6	
	671nm,0.5s						
TPAW				IAML		17 18 02.6	
	360nm,0.6s						
SNOW	**Snow King Moun**	**0.96**	**34**		Pg	17 17 42.6	+0.4
SNOW				Sg	Sb	17 17 55.5	-0.7
SNOW				IAML		17 18 01.1	
	322nm,1.0s						
SNOW				IAML		17 18 02.1	
	418nm,1.0s						
PTU	**Portage**	**0.96**	**221**		Pg	17 17 42.0	-0.2
FXWY	**Fox Creek**	**1.03**	**19**		Pg	17 17 43.7	+0.2
FXWY				Sg	Sb	17 17 57.6	-0.5
HWUT	**Hardware Ranch**	**1.06**	**183**		Pg	17 17 43.8	-0.2
HWUT				Sg	Sb	17 17 58.5	-0.3
WVUT	**Wellsville**	**1.11**	**199**		Pg	17 17 45.2	+0.1
LOHW	**Long Hollow**	**1.15**	**34**		Pg	17 17 45.6	-0.2
LOHW				Sg	Sg	17 18 01.0	+0.4
LOHW				IAML		17 18 05.3	
	370nm,0.6s						
LOHW				IAML		17 18 06.0	
	254nm,0.5s						
MCU	**Monte Cristo P**	**1.20**	**181**		Pg	17 17 47.0	+0.2
LTU	**Little Mountai**	**1.21**	**208**		Pg	17 17 46.7	-0.3
MOOW	**Moose Ponds**	**1.21**	**26**		Pg	17 17 46.6	-0.4
MOOW				Sg	Sb	17 18 03.3	-0.1
MOOW				IAML		17 18 06.5	
	216nm,0.7s						
HVU	**Hansel Valley**	**1.30**	**228**		Pg	17 17 47.8	-0.9
HVU				Sg	Sg	17 18 05.3	-0.3
PD31	**Pinedale Array**	**1.42**	**85**		Pn	17 17 50.3	-0.2
PD31				Sg	Sg	17 18 09.5	0.0
PDAR	**Pinedale Array**	**1.42**	**85**		Pn	17 17 50.0	-0.5
FLWY	**Flagg Ranch**	**1.53**	**22**		Pn	17 17 52.2	+0.2
FLWY					Sg	17 18 13.1	+0.2
FLWY				IAML		17 18 16.1	
	195nm,1.1s						
FLWY				IAML		17 18 22.0	
	285nm,1.0s						
SPUT	**South Promonto**	**1.53**	**208**		Pn	17 17 51.7	-0.3
SPUT					Sn	17 18 12.3	0.0
SPUT				IAML		17 18 14.3	
	comp=E,214nm,0.9s						
SPUT				IAML		17 18 15.2	
	comp=N,262nm,0.4s						
TCUT	**Toone Canyon**	**1.55**	**178**		Pg	17 17 53.4	0.0
YFT	**Old Faithful**	**1.85**	**15**		Pn	17 17 56.9	+0.6
YFT				IAML		17 18 31.9	
	comp=N,96nm,1.1s						
H17A	**Grant Village**	**1.85**	**21**		Pb	17 17 57.5	-0.8
CTU	**Camp Tracy**	**1.98**	**186**	Pn	Pn	17 17 58.5	+0.4
CTU				IAML		17 18 31.1	
	comp=E,150nm,0.8s						
CTU				IAML		17 18 31.5	
	comp=N,124nm,0.8s						
YMR	**Madison River**	**2.04**	**10**		Pn	17 17 59.2	+0.2
LKWY	**Lake**	**2.06**	**22**		Pn	17 17 58.3	-0.9
LKWY				IAML		17 18 09.7	
	comp=N,70nm,0.7s						
LKWY				IAML		17 18 18.9	
	comp=N,71nm,0.7s						
JLU	**Jordanelle**	**2.06**	**179**		Pn	17 17 59.7	+0.4
JLU				IAML		17 18 32.4	
	comp=E,186nm,0.7s						
JLU				IAML		17 18 33.0	
	comp=N,142nm,0.8s						
BGU	**Big Grassy Mou**	**2.09**	**214**	Pn	Pn	17 17 59.3	-0.2
BGU				IAML		17 18 34.2	
	comp=E,100nm,0.9s						
YHB	**Horse Butte**	**2.10**	**6**		Pn	17 17 59.5	-0.3
YHB				IAML		17 18 33.5	
	comp=N,69nm,0.7s						
YNR	**Norris Junctio**	**2.13**	**16**		Pn	17 18 00.3	+0.1
YNM	**Yellowstone No**	**2.14**	**15**	Pn	Pn	17 17 59.9	-0.4
YNM				IAML		17 18 57.6	
	comp=N,89nm,0.1s						
YNM				IAML		17 19 20.8	
	comp=E,72nm,0.1s						
YHH	**Holmes Hill**	**2.17**	**12**		Pn	17 18 01.1	+0.3
YHL	**Hebgen Lake**	**2.20**	**6**	Pn	Pn	17 18 01.4	+0.2
YHL				IAML		17 18 38.6	
	comp=E,76nm,0.9s						
YMP	**Mirror Lake Pl**	**2.29**	**24**		Pn	17 18 02.8	+0.3
HLID	**Hailey**	**2.33**	**294**	Pn	Pn	17 18 03.3	+0.5
HLID				IAML		17 18 40.2	
	comp=E,83nm,0.7s						
HLID				IAML		17 18 45.4	
	comp=E,70nm,0.8s						
RDMU	**Red Mountain**	**2.54**	**145**		Pn	17 18 06.8	+1.1
RDMU				IAML		17 18 48.1	
	comp=N,87nm,1.0s						
RDMU				IAML		17 18 54.9	
	comp=E,94nm,0.8s						
YNE	**Yellowstone No**	**2.58**	**24**		Pn	17 18 06.9	+0.5
MPU	**Maple Canyon**	**2.65**	**182**		Pn	17 18 07.2	-0.1
MPU				IAML		17 18 55.3	
	comp=E,42nm,0.8s						
DUG	**Dugway, Tooele**	**2.66**	**202**	Pn	Pn	17 18 06.9	-0.5
DUG				IAML		17 18 50.8	
	comp=E,75nm,0.9s						
DUG				IAML		17 18 51.7	
	comp=E,47nm,0.7s						
NLU	**North Lily Min**	**2.74**	**190**	Pn	Pn	17 18 08.3	-0.3
DLMT	**Dillon**	**2.81**	**344**		Pn	17 18 09.7	+0.1
DLMT				IAML		17 18 57.0	
	comp=E,60nm,1.6s						
DLMT				IAML		17 18 57.0	
	comp=E,67nm,1.3s						
RLMT	**Red Lodge**	**2.93**	**32**		Pn	17 18 11.7	+0.4
BOZ	**Bozeman (W)**	**2.94**	**358**		Pn	17 18 10.2	-0.9
P18A	**Preston Nutter**	**3.17**	**162**		Pn	17 18 14.8	+0.2
P18A				IAML		17 19 07.9	
	comp=N,54nm,1.0s						
P18A				IAML		17 19 08.9	
	comp=E,53nm,0.7s						
MFID	**Camas Ranch**	**3.27**	**285**	Pn	Pn	17 18 16.1	+0.3
MFID				IAML		17 19 13.8	
	comp=E,66nm,0.7s						
TMUT	**Trail Mountain**	**3.37**	**176**		Pn	17 18 17.0	-0.3
TMUT				IAML		17 19 16.6	
	comp=E,49nm,0.8s						
TMUT				IAML		17 19 17.0	
	comp=N,58nm,0.7s						
ELK	**Elko**	**3.40**	**237**	Pn	Pn	17 18 16.9	-0.8
O20A	**White River Ci**	**3.51**	**135**	Pn	Pn	17 18 21.6	+2.5
SRU	**San Rafael Swe**	**3.62**	**168**		Pn	17 18 21.7	+1.0
K22A	**Casper**	**3.66**	**89**		Pn	17 18 23.1	+2.0
Q16A	**Castle Valley**	**3.75**	**176**		Pn	17 18 24.8	+2.4
Q16A				IAML		17 19 22.8	
	comp=E,25nm,1.0s						
Q16A				IAML		17 19 30.4	
	comp=N,23nm,1.0s						
BPMT	**Black Pine Rid**	**4.03**	**340**		Pn	17 18 27.2	+0.9
PLID	**Pearl Lake**	**4.07**	**308**		Pn	17 18 28.1	+1.3
PLID				IAML		17 19 36.3	
	comp=N,14nm,1.8s						
PLID				IAML		17 19 40.1	
	comp=N,13nm,1.6s						
TCRU	**Three Creeks R**	**4.12**	**191**	Pn	Pn	17 18 28.2	+0.7
TCRU				IAML		17 19 52.7	
	comp=N,30nm,1.3s						
TCRU				IAML		17 19 55.3	
	comp=E,22nm,1.6s						
MSU	**Marysvale**	**4.18**	**187**	Pn	Pn	17 18 29.3	+0.9
MVU	**Marysvale**	**4.19**	**188**		Pn	17 18 29.5	+0.9
SPR3	**Spring Creek 3**	**4.25**	**211**	Pn	Pn	17 18 30.7	+1.3
SPR3				IAML		17 19 42.0	
	comp=E,11nm,0.8s						
SPR3				IAML		17 19 60.0	
	comp=N,12nm,2.2s						
LYMT	**Lyon Mountain**	**4.34**	**353**		Pn	17 18 31.5	+0.9
Q12A	**Willow Creek R**	**4.42**	**216**		Pn	17 18 32.6	+1.0
PSUT	**Pine Spring**	**4.50**	**204**	Pn	Pn	17 18 34.1	+1.3
PSUT				IAML		17 19 52.8	
	comp=N,13nm,0.9s						
PSUT				IAML		17 20 12.2	
	comp=E,13nm,1.1s						
N23A	**Red Feather La**	**4.50**	**111**	Pn	Pn	17 18 34.2	+1.3
MSO	**Missoula**	**4.52**	**338**		Pn	17 18 33.8	+0.9
MSO				IAML		17 20 02.2	
	comp=E,18nm,1.4s						
MSO				IAML		17 20 39.0	
	comp=E,18nm,5.0s						
OVMT	**Ovando**	**4.53**	**347**	Pn	Pn	17 18 34.6	+1.6
MTPU	**Mount Pierson**	**4.65**	**187**		Pn	17 18 35.1	+0.2
BMO	**Blue Mountains**	**4.75**	**299**		Pn	17 18 37.5	+1.5
BMO				IAML		17 20 01.7	
	comp=E,14nm,1.4s						
BMO				IAML		17 20 06.5	
	comp=E,13nm,4.3s						
HMU	**Henry Mountain**	**4.75**	**173**		Pn	17 18 36.2	-0.1
BMN	**Battle Mountai**	**4.85**	**245**		Pn	17 18 35.9	-1.6
J08A	**Circle Bar Ran**	**5.17**	**280**		Pn	17 18 41.1	-0.8
PKCU	**Pink Cliffs**	**5.25**	**187**	Pn	Pn	17 18 43.0	-0.1
ISCO	**Idaho Springs**	**5.27**	**121**		Pn	17 18 42.7	-0.7
ISCO				IAML		17 20 27.8	
	comp=E,14nm,2.1s						
F10A	**Beach Ranch, E**	**5.28**	**311**	Pn	Pn	17 18 42.9	-0.5
F10A				IAML		17 20 21.0	
	comp=E,15nm,1.1s						
WVOR	**Wild Horse Val**	**5.29**	**270**		Pn	17 18 42.1	-1.4
WVOR				IAML		17 20 30.5	
	comp=E,12nm,1.7s						
R11B	**Troy Canyon, C**	**5.32**	**217**		Pn	17 18 43.5	-0.6
R11B				IAML		17 20 18.7	
	comp=E,8.2nm,1.5s						
R11B				IAML		17 20 27.5	
	comp=N,8.2nm,4.8s						
EGMT	**Eagleton**	**5.50**	**12**	Pn	Pn	17 18 46.0	-0.3
RSSD	**Black Hills**	**5.62**	**72**		Pn	17 18 47.6	-0.5
MVCO	**Mesa Verde**	**5.91**	**156**		Pn	17 18 51.2	-0.9
G08A	**Pilot Rock**	**6.00**	**299**	Pn	Pn	17 18 54.9	+1.7
I07A	**Izee**	**6.01**	**286**	Pn	Pn	17 18 54.5	+1.0
Q24A	**Divide**	**6.06**	**125**		Pn	17 18 52.2	-2.1
S22A	**4UR Ranch, Cre**	**6.07**	**143**		Pn	17 18 55.1	+0.8
KVN	**Kaiserville**	**6.18**	**236**	Pn	Pn	17 18 56.9	+1.1
U15A	**North Rim**	**6.26**	**186**	Pn	Pn	17 18 57.1	+0.2
NV11	**Mina Array Sit**	**6.61**	**232**	Pn	Pn	17 19 01.7	+0.1
PAHR	**Pah Rah Range**	**6.65**	**246**	Pn	Pn	17 19 02.4	+0.2
RYN	**Ryan**	**6.70**	**235**	Pn	Pn	17 19 02.0	-0.9
SDCO	**Great Sand Dun**	**6.71**	**135**	Pn	Pn	17 19 04.3	+1.0
SHPR	**Sheep Range**	**6.77**	**206**	Pn	Pn	17 19 04.9	+1.0

*NOU **13** 17:22:59.8, 39°.78S×176°.96E, h31km, MLv3.6/10, North Island, New Zealand*
*WEL **13** 17:23:01.1±0.4, 40°.5±3°.3×17°.7E±°, h36km±3km, M3.3/82, ML3.8/19, MLv3.3/82, Error ellipse: s-maj=5.2km s-min=3.3km az=106.6, confirmed*
ISC 13 17:23:00.4±1.3, 39.76S±0.03×176.98E±0.04, h54km±6km, n144, σ0.80/149, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAHZ	**Kahuranaki**	**0.09**	**243**	P	**Pn**	17 23 08.8	+0.1
CKHZ	**Cape Kidnapper**	**0.12**	**39**	P	**Pn**	17 23 09.0	+0.3
CKHZ				S	**Sn**	17 23 15.0	+0.3
NCDS	**Napier Civil D**	**0.27**	**343**	P	**Pn**	17 23 09.3	-0.3
NCDS				S	**Sn**	17 23 15.6	-0.5
NGHS	**Napier Girls H**	**0.27**	**350**	P	**Pn**	17 23 09.5	-0.1
NGHS				S	**Sn**	17 23 16.2	0.0
PXZ	**Pawanui**	**0.29**	**198**	P	**Pn**	17 23 10.5	+0.7
PXZ				S	**Sn**	17 23 17.7	+1.2
MCHZ	**McNeill Hill**	**0.38**	**325**	P	**Pn**	17 23 10.3	-0.3
MCHZ				S	**Sn**	17 23 17.4	-0.5
KRHZ	**Kereru**	**0.48**	**283**	P	**Pn**	17 23 11.1	-0.6
ARHZ	**Aropaoanui**	**0.49**	**2**	P	**Pn**	17 23 12.1	+0.3
WPHZ	**Waipukurau**	**0.52**	**233**	P	**Pn**	17 23 12.8	+0.7
KWHZ	**Kaweka Forest**	**0.54**	**307**	P	**Pn**	17 23 11.8	-0.6
KWHZ				S	**Sn**	17 23 19.9	-1.2
PRHZ	**Porangahau**	**0.57**	**207**	P	**Pn**	17 23 13.7	+0.9
NMHZ	**Naumai**	**0.67**	**349**	P	**Pn**	17 23 14.2	+0.2
BKZ	**Black Stump Fm**	**0.70**	**327**	P	**Pn**	17 23 14.0	-0.4
BKZ				S	**Sn**	17 23 23.4	-1.0
BKZ	**Black Stump Fm**	**0.70**	**327**	P	**Pn**	17 23 13.8	-0.5
WHHZ	**Waihua**	**0.71**	**16**	P	**Pn**	17 23 14.9	+0.6
ANWZ	**Angora Road**	**0.80**	**209**	P	**Pn**	17 23 16.4	+0.8
DVHZ	**Dannevirke**	**0.83**	**229**	P	**Pn**	17 23 16.4	+0.4
DVHZ				S	**Sn**	17 23 28.5	+1.2
TSZ	**Takapari Road**	**0.84**	**248**	P	**Pn**	17 23 16.2	0.0
RAHZ	**Arahi**	**0.84**	**6**	P	**Pn**	17 23 16.5	+0.3
RAHZ				S	**Sn**	17 23 28.4	+0.8
MTHZ	**Maungataniwha**	**0.91**	**353**	P	**Pn**	17 23 17.0	0.0
KNZ	**Kokohu**	**0.91**	**37**	P	**Pn**	17 23 17.4	+0.4
MHGZ	**Mahia Peninsul**	**0.94**	**50**	P	**Pn**	17 23 18.4	+1.0
MOVZ	**Moawhango**	**1.01**	**290**	P	**Pn**	17 23 18.7	+0.3
SNGZ	**Shannon Statio**	**1.01**	**16**	P	**Pn**	17 23 18.8	+0.4
SNGZ				S	**Sn**	17 23 32.6	+1.0
MRHZ	**Matea Rd**	**1.02**	**335**	P	**Pn**	17 23 18.6	+0.1
BFZ	**Birch Farm**	**1.08**	**211**	P	**Pn**	17 23 19.8	+0.5
BFZ				S	**Sn**	17 23 34.9	+1.5
BFZ	**Birch Farm**	**1.08**	**211**	P	**Pn**	17 23 19.6	+0.3
PRGZ	**Paritu Road**	**1.09**	**40**	P	**Pn**	17 23 20.1	+0.7
HATZ	**Hinemaiaia**	**1.10**	**321**	P	**Pn**	17 23 20.0	+0.4
PRWZ	**Pori Road**	**1.11**	**224**	P	**Pn**	17 23 20.7	+1.0
POWZ	**Post Office Ro**	**1.12**	**235**	P	**Pn**	17 23 20.4	+0.5
TUVZ	**Tukino**	**1.13**	**295**	P	**Pn**	17 23 20.9	+0.8
TUVZ				S	**Sn**	17 23 35.1	+0.3
RTZ	**Ruatahuna**	**1.14**	**0**	P	**Pn**	17 23 20.2	+0.1
RTZ				S	**Sn**	17 23 35.0	+0.2
WNVZ	**Wahianoa**	**1.15**	**291**	P	**Pn**	17 23 21.0	+0.6
ETVZ	**East Tongariro**	**1.16**	**302**	P	**Pn**	17 23 21.0	+0.5
RITZ	**Rihia Road**	**1.16**	**311**	P	**Pn**	17 23 21.2	+0.7
WHVZ	**Whangaehu Hut**	**1.17**	**293**	P	**Pn**	17 23 21.3	+0.5
WHVZ				S	**Sn**	17 23 36.2	+0.4
OTVZ	**Oturere**	**1.18**	**300**	P	**Pn**	17 23 21.2	+0.5
TMVZ	**Te Maari**	**1.18**	**303**	P	**Pn**	17 23 21.2	+0.5
SNVZ	**South Ngauruho**	**1.18**	**298**	P	**Pn**	17 23 21.3	+0.5
TRVZ	**Turoa**	**1.20**	**292**	P	**Pn**	17 23 21.6	+0.5
MAVZ	**Matarangi**	**1.20**	**293**	P	**Pn**	17 23 21.6	+0.5
NTVZ	**North Tongarir**	**1.20**	**303**	P	**Pn**	17 23 21.5	+0.4
FWVZ	**Far West T-bar**	**1.21**	**294**	P	**Pn**	17 23 21.6	+0.4
NGZ	**Ngauruhoe**	**1.21**	**298**	P	**Pn**	17 23 21.7	+0.5
NGZ				S	**Sn**	17 23 37.5	+0.8
RIGZ	**Rimuhau**	**1.21**	**30**	P	**Pn**	17 23 21.5	+0.4
MTVZ	**Mangateitei**	**1.22**	**287**	P	**Pn**	17 23 22.0	+0.7
NNVZ	**North Ngauruho**	**1.23**	**300**	P	**Pn**	17 23 21.9	+0.5
KRVZ	**Karewarewa**	**1.23**	**302**	P	**Pn**	17 23 21.9	+0.5
COVZ	**Chateau Observ**	**1.24**	**296**	P	**Pn**	17 23 22.0	+0.4
WTVZ	**West Tongariro**	**1.25**	**300**	P	**Pn**	17 23 22.3	+0.6
KATZ	**Kakaramea**	**1.26**	**308**	P	**Pn**	17 23 22.4	+0.5
MUGZ	**Murupara**	**1.29**	**353**	P	**Pn**	17 23 22.1	0.0
ALRZ	**Allen Road**	**1.29**	**337**	P	**Pn**	17 23 22.3	+0.2
RATZ	**Rangitukua**	**1.29**	**313**	P	**Pn**	17 23 22.7	+0.6
CPWZ	**Castlepoint**	**1.30**	**207**	P	**Pn**	17 23 23.2	+1.0
RAWZ	**Rawiri**	**1.30**	**15**	P	**Pn**	17 23 21.8	-0.6
TIWZ	**Tintock**	**1.32**	**219**	P	**Pn**	17 23 23.0	+0.5
PRRZ	**Plateau Road**	**1.33**	**340**	P	**Pn**	17 23 22.9	+0.2
WHTZ	**Whakaora**	**1.34**	**324**	P	**Pn**	17 23 23.4	+0.4
TWVZ	**Taurewa**	**1.38**	**299**	P	**Pn**	17 23 23.4	+0.1
WPRZ	**Whakapapatarin**	**1.39**	**333**	P	**Pn**	17 23 23.4	0.0
MRZ	**Mangatainoka R**	**1.40**	**229**	P	**Pn**	17 23 23.7	+0.1
WATZ	**Wairara**	**1.42**	**317**	P	**Pn**	17 23 23.9	0.0
RRRZ	**Republican Roa**	**1.46**	**346**	P	**Pn**	17 23 24.5	+0.1
HRRZ	**Handcock Road**	**1.47**	**338**	P	**Pn**	17 23 25.0	+0.5
TKGZ	**Te Karaka**	**1.48**	**28**	MLv			
MWZ	**Matawai**	**1.48**	**17**	P	**Pn**	17 23 24.6	-0.2
URZ	**Urewera**	**1.50**	**4**	P	**Pn**	17 23 24.6	-0.3
URZ	**Urewera**	**1.50**	**4**	P	**Pn**	17 23 24.8	-0.1
WAZ	**Wanganui**	**1.54**	**269**	P	**Pn**	17 23 27.1	+1.6
HSRZ	**Hossack Road**	**1.55**	**338**	P	**Pn**	17 23 25.8	+0.2
KUTZ	**Kaahu Road**	**1.55**	**324**	P	**Pn**	17 23 25.8	+0.1
GRRZ	**Galatos Road**	**1.56**	**334**	P	**Pn**	17 23 26.0	+0.3
TARZ	**Mount Tarawera**	**1.56**	**346**	P	**Pn**	17 23 26.2	+0.3
HLRZ	**Highlands Stat**	**1.58**	**342**	P	**Pn**	17 23 27.4	+1.4
TMWZ	**Te Maipa**	**1.58**	**211**	P	**Pn**	17 23 26.2	0.0
HOWZ	**Holdsworth Sta**	**1.60**	**224**	P	**Pn**	17 23 26.2	-0.1
EDRZ	**Edgecumbe**	**1.66**	**353**	P	**Pn**	17 23 27.2	+0.1
MKRZ	**Makatiti**	**1.66**	**346**	MLv			
UTU	**Utuhina**	**1.69**	**339**	MLv			
OMRZ	**Omania**	**1.71**	**344**	P	**Pn**	17 23 27.7	-0.2
OGWZ	**Otaki Gorge**	**1.74**	**232**	P	**Pn**	17 23 28.0	-0.2
TWGZ	**Tauwhareparae**	**1.76**	**27**	P	**Pn**	17 23 28.9	+0.4
NGRZ	**Ngongotaha**	**1.76**	**339**	MLv			
MTW	**Mount Morrison**	**1.80**	**218**	P	**Pn**	17 23 28.4	-0.6
TLZ	**Tolley Road**	**1.81**	**321**	P	**Pn**	17 23 28.8	-0.4
KARZ	**Kaharoa**	**1.82**	**341**	P	**Pn**	17 23 29.3	-0.1
VRZ	**Vera Road**	**1.83**	**289**	P	**Pn**	17 23 31.9	+2.4
RUGZ	**Raukumara Rang**	**1.87**	**17**	P	**Pn**	17 23 29.9	-0.2
WHRZ	**Whale Island**	**1.90**	**360**	P	**Pn**	17 23 30.3	0.0
TRWZ	**Traveller**	**1.91**	**210**	P	**Pn**	17 23 29.8	-0.7
KIW	**Kapiti Island**	**1.93**	**234**	P	**Pn**	17 23 30.7	-0.1
OPRZ	**Ohinepanea**	**1.94**	**350**	P	**Pn**	17 23 30.5	-0.3
PUZ	**Puketiti**	**1.96**	**31**	P	**Pn**	17 23 30.7	-0.5
CAW	**Cannon Point**	**1.99**	**227**	P	**Pn**	17 23 31.1	-0.5
PAWZ	**Paruwai Farm**	**2.01**	**216**	P	**Pn**	17 23 31.3	-0.6
LREZ	**Lake Rotokare**	**2.01**	**278**	MLv			
HIZ	**Hauiti**	**2.06**	**306**	P	**Pn**	17 23 32.6	0.0
HIZ	**Hauiti**	**2.06**	**306**	P	**Pn**	17 23 32.7	0.0
KMRZ	**Kaimai**	**2.07**	**337**	MLv			
HAZ	**Te Kaha**	**2.09**	**18**	P	**Pn**	17 23 32.4	-0.6
MSWZ	**Moikau Station**	**2.12**	**218**	P	**Pn**	17 23 32.3	-1.0
MHEZ	**Mangahewa**	**2.17**	**287**	MLv			
PLWZ	**Palliser**	**2.24**	**215**	P	**Pn**	17 23 33.9	-1.2
WEL	**Wellington**	**2.27**	**227**	MLv			
NEZ	**North Egmont**	**2.28**	**281**	P	**Pn**	17 23 37.7	+2.0
BHW	**Baring Head**	**2.30**	**223**	P	**Pn**	17 23 34.8	-1.1
SNZO	**South Karori**	**2.33**	**227**	P	**Pn**	17 23 35.0	-1.2
TOZ	**Tahuroa Road**	**2.33**	**330**	P	**Pn**	17 23 36.1	-0.1
KHEZ	**Kahui Hut**	**2.34**	**280**	P	**Pn**	17 23 39.0	+2.6
KHEZ	**Kahui Hut**	**2.34**	**280**	P	**Pn**	17 23 36.0	-0.4
PKE	**Pukeiti**	**2.38**	**283**	P	**Pn**	17 23 39.0	+2.0
MXZ	**Matakaoa Point**	**2.42**	**26**	P	**Pn**	17 23 37.5	-0.1
MXZ	**Matakaoa Point**	**2.42**	**26**	P	**Pn**	17 23 37.4	-0.1
TCW	**Tory Channel**	**2.52**	**234**	P	**Pn**	17 23 38.4	-0.5
DUWZ	**D'Urville Isla**	**2.56**	**245**	P	**Pn**	17 23 39.7	+0.3
TUWZ	**Tuamarina**	**2.85**	**233**	P	**Pn**	17 23 43.1	-0.3
CMWZ	**Cape Campbell**	**2.89**	**226**	MLv			
MKAZ	**Moumakai**	**3.01**	**331**	P	**Pn**	17 23 46.1	+0.6
BSWZ	**Blackbirch Sta**	**3.06**	**229**	P	**Pn**	17 23 45.2	-1.1
AWAZ	**Awhitu Peninsu**	**3.25**	**325**	P	**Pn**	17 23 48.8	-0.1
WIAZ	**Waiheke Island**	**3.29**	**333**	P	**Pn**	17 23 50.0	+0.5
TKNZ	**Takaka Hill**	**3.32**	**246**	MLv			
MBAZ	**Motutapu North**	**3.40**	**331**	P	**Pn**	17 23 51.8	+0.8
QRZ	**Quartz Range**	**3.57**	**251**	P	**Pn**	17 23 52.1	-1.1
QRZ	**Quartz Range**	**3.57**	**251**	P	**Pn**	17 23 52.0	-1.1
ABAZ	**Army Bay**	**3.57**	**331**	P	**Pn**	17 23 54.2	+0.9
ABAZ				P		17 23 54.3	
MRNZ	**Matariki Terra**	**3.61**	**242**	P	**Pn**	17 23 53.6	-0.2
THZ	**Tophouse**	**3.69**	**236**	P	**Pn**	17 23 53.3	-1.6
GRZ	**Great Barrier**	**3.70**	**341**	P	**Pn**	17 23 55.2	+0.2
KHZ	**Kahutara**	**3.72**	**223**	P	**Pn**	17 23 54.0	-1.2
KHZ	**Kahutara**	**3.72**	**223**	P	**Pn**	17 23 54.5	-0.7
WCZ	**Waipu Caves**	**4.34**	**331**	P	**Pn**	17 24 04.8	+0.9
GVZ	**Greta Valley S**	**4.37**	**221**	P	**Pn**	17 24 03.8	-0.4
LTZ	**Lake Taylor**	**4.66**	**228**	P	**Pn**	17 24 07.0	-1.2
OKCZ	**Okains Bay**	**4.93**	**215**	P	**Pn**	17 24 10.2	-1.7
MQZ	**McQueen's Vall**	**5.10**	**218**	P	**Pn**	17 24 12.4	-1.8
AKCZ	**Akaroa Harbour**	**5.11**	**215**	P	**Pn**	17 24 12.6	-1.8
OUZ	**Omahuta**	**5.26**	**328**	P	**Pn**	17 24 17.4	+1.0
OUZ	**Omahuta**	**5.26**	**328**	P	**Pn**	17 24 17.2	+0.7
CTZ	**Chatham Island**	**6.22**	**132**	P	**Pn**	17 24 31.4	+1.8
TMZ	**Timaru**	**6.41**	**222**	P	**Pn**	17 24 30.9	-1.3
ODZ	**Otahua Downs**	**7.06**	**219**	P	**Pn**	17 24 39.8	-1.3

*IDC **13** 17:30:25.8±1.3, 21°.04S×112°.69W, h0km, mb3.7/4, mbtmp3.7/4, MS3.7/12, Error ellipse: s-maj=144.0km s-min=30.8km az=93.0*
**ISC 13 17:30:27.2±1.3, 21°.0S±

MW4.8/69, Moment Tensor Solution. s16,c18; s69,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.36±.22; $M_{\theta\theta}$1.12±.14; $M_{\phi\phi}$-2.48±.13; $M_{r\theta}$0.62±.09; $M_{\theta\phi}$0.00±.10; $M_{r\phi}$0.60±.11; Best double couple: $M_0$2.24900×10^{16} NP1:ϕ_S30.00000°,δ63.00000°,λ132.00000°. NP2: ϕ_S146.00000°,δ48.00000°,λ37.00000°. Principal axes: T 1.9220, Plg52.0000°, Azm350.0000°; N 0.6530, Plg37.0000°, Azm188.0000°; P -2.5750, Plg9.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 13 17:33:33.8±0.4, 14°.15N±0°.04×125°.36E±0°.06, h39km±5km, n323, σ1$50/269, mb4.9/133, MS3.8/58, 18C-9D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**4.29**	**270**	Pn	**Pn**	**17 34 37.5**	**+0.9**
	baz=0.0,slow=0.0						
DAV	**Davao City (W)**	**7.03**	**178**	Pn	**Pn**	**17 35 15.1**	**+0.8**
DAV	**Davao City (W)**	**7.03**	**178**	LR	LR	17 38 16.1	
	comp=Z,1μm,18.2s,baz=335,slow=41						
YULB	**Yu-li**	**9.97**	**338**		**Pn**	**17 35 51.7**	**-2.8**
TPUB	**Ta-pu**	**10.15**	**334**	Pn	**Pn**	**17 35 54.5**	**-2.5**
SSLB	**Suanglung**	**10.46**	**337**	Pn	**Pn**	**17 36 00.3**	**-0.9**
NACB	**Ninganchiao**	**10.59**	**341**	Pn	**Pn**	**17 36 00.3**	**-2.7**
YHNB	**Yeheng**	**11.12**	**341**	Pn	**Pn**	**17 36 08.8**	**-1.5**
MYLDM	**Lahad Datu**	**11.18**	**218**		**Pn**	**17 36 09.7**	**-1.5**
JMZ	**Minamidaito 2**	**12.85**	**24**	Pn	**Pn**	**17 36 34.6**	**+0.7**
JOW	**Kunigami**	**12.91**	**12**	Pn	**Pn**	**17 36 34.4**	**-0.3**
JOW	**Kunigami**	**12.91**	**12**	Pn	**Pn**	**17 36 35.6**	**+0.9**
	4.8nm,0.3s,baz=116,slow=24,SNR=55						
JOW				Sn	Sn	17 38 44.6	-13
	1.7nm,0.3s,baz=293,slow=28,SNR=1.1						
	18nm,0.2s						
TNTI	**Ternate**	**13.43**	**171**	Pn	**Pn**	**17 36 41.7**	**-0.3**
TNTI	**Ternate**	**13.43**	**171**	P	P	17 37 00.0	+9.4
TOLI2	**Tolitoli**	**13.72**	**200**	Pn	**Pn**	**17 36 43.3**	**-2.5**
LUWI	**Luwuk**	**15.30**	**190**		**Pn**	**17 37 05.8**	**-1.3**
LUWI	**Luwuk**	**15.30**	**190**	P	**P**	**17 37 13.0**	**+1.6**
	36nm,1.2s						
APSI	**Ampana**	**15.40**	**194**	P	**P**	**17 37 14.9**	**+2.4**
	46nm,1.3s						
QIZ	**Qiongzhong**	**15.65**	**290**	P	**P**	**17 37 13.9**	**-1.3**
QIZ				S	**Sn**	**17 40 08.0**	**+4.1**
QIZ				LR	LR		
	comp=N,220nm,14.9s						
QIZ				LR	LR		
	comp=E,350nm,19.0s						
QIZ				LR	LR		
	comp=Z,440nm,16.0s						
PCI	**Palu**	**15.92**	**201**	P	P	17 37 34.1	+16
SWI	**Sorong**	**16.01**	**158**	P	**P**	**17 37 20.1**	**+0.8**
	20nm,0.8s						
SANI	**Sanana**	**16.10**	**178**	P	**P**	**17 37 26.2**	**+6.0**
SBUM	**Sibu**	**17.42**	**229**	P	**Pn**	**17 37 32.7**	**-1.3**
TTSI	**Tana Toraja**	**17.94**	**198**	P	**P**	**17 37 42.6**	**+2.0**
TTSI	**Tana Toraja**	**17.94**	**198**	P	**P**	**17 37 42.5**	**+2.0**
MTKI	**Muara Teweh, K**	**18.23**	**216**	P	**Pn**	**17 37 45.4**	**+1.6**
	46nm,0.6s,3μm						
FAKI	**Fak Fak**	**18.28**	**158**		**P**	**17 37 43.8**	**-0.5**
SPSI	**Sidrap Palu**	**18.83**	**198**	P	**Pn**	**17 37 55.8**	**+4.7**
SPSI	**Sidrap Palu**	**18.83**	**198**	P	**Pn**	**17 37 55.6**	**+4.5**
	39nm,0.9s						
GUMO	**Guam**	**18.95**	**89**	LR	LR	17 43 15.1	
	comp=Z,342nm,21.1s,baz=285,slow=31						
BNSI	**Bone**	**19.15**	**196**	P	Pn	17 38 04.5	+10
BNSI	**Bone**	**19.15**	**196**	P	**Pn**	**17 37 59.6**	**+4.6**
WHN	**Wuhan**	**19.21**	**330**	P	**Pn**	**17 37 59.0**	**+3.3**
WHN				pmax	pmax		
	comp=Z,48nm,1.1s						
KSM	**Kuching**	**19.50**	**231**	P	**P**	**17 37 55.2**	**-2.5**
JNU	**Nakatsue**	**19.55**	**14**	P	**P**	**17 37 58.1**	**-0.1**
JNU	**Nakatsue**	**19.55**	**14**	P	**Pn**	**17 37 59.2**	**-0.5**
	0.2nm,0.3s,baz=160,slow=15,SNR=3.5						
JNU				LR	LR	17 44 44.7	
	comp=Z,156nm,21.9s,baz=188,slow=35						
	13nm,1.0s						
STKI	**Sintang**	**19.61**	**226**	P	**Pn**	**17 38 00.4**	**-0.1**
	25nm,1.2s,9μm						
KAPI	**Kappang**	**19.83**	**197**	P	**P**	**17 38 00.8**	**-0.5**
KAPI	**Kappang**	**19.83**	**197**	LR	LR	17 46 11.4	
	comp=Z,160nm,21.6s,baz=16,slow=39						
KAPI	**Kappang**	**19.83**	**197**	P	**P**	**17 38 00.8**	**-0.5**
KAPI				pmax	pmax		
	comp=Z,42nm,1.3s						
BKSI	**Bulukumba**	**20.03**	**195**	P	Pn	17 38 18.5	+13
SLVN	**Son La**	**21.64**	**292**	P	**P**	**17 38 19.2**	**-1.7**
ENH	**Enshi**	**21.72**	**320**	P	**P**	**17 38 20.9**	**-0.8**
ENH				IAmb	IAmb	17 38 26.5	
	comp=Z,62nm,1.6s						
TJN	**Taejon**	**22.21**	**4**	‖*e*P	**P**	**17 38 25.8**	**-1.0**
JAY	**Jayapura**	**22.48**	**136**	LR	LR	17 45 19.7	
	comp=Z,231nm,21.4s,baz=326,slow=32						
KSAR	**Wonju Array Be**	**23.31**	**5**	P	**P**	**17 38 38.2**	**0.0**
KSAR	**Wonju Array Be**	**23.31**	**5**	P	**P**	**17 38 38.3**	**0.0**
KSRS	**Korea Array**	**23.33**	**5**	P	**P**	**17 38 39.5**	**+1.1**
	comp=Z,5.7nm,0.9s,baz=185,slow=11,SNR=15						
KSRS				LR	LR	17 47 13.8	
	comp=Z,189nm,20.2s,baz=185,slow=35						
	comp=Z,5.7nm,0.9s						
LYN	**LuoYang**	**23.42**	**332**	‖P	**P**	**17 38 41.6**	**+2.2**
LYN				S	**S**	**17 42 52.5**	**+2.6**
LYN				pmax	pmax		
	comp=Z,43nm,1.0s						
LYN				pmax	pmax		
	comp=Z,260nm,3.8s						
LYN				LR	LR		
	comp=Z,310nm,19.6s						
LYN				LR	LR		
	comp=Z,220nm,18.6s						
LYN				LR	LR		
	comp=Z,440nm,23.4s						
SOEI	**Soe**	**23.77**	**183**	P	**P**	**17 38 43.5**	**+0.6**
KMMI	**Kalianget**	**23.90**	**209**	P	**P**	**17 38 47.0**	**+3.0**
	comp=Z,62nm,1.1s,comp=Z,1μm						
PLAI	**Plampang**	**24.03**	**199**	P	P	17 38 54.4	+9.1
	comp=Z,72nm,0.8s						
BATI	**Baumata**	**24.25**	**184**	LR	LR	17 49 38.8	
	comp=Z,126nm,21.2s,baz=38,slow=40						
BATI	**Baumata**	**24.25**	**184**	P	P	17 38 55.8	+8.5
	comp=Z,52nm,0.7s						
TPI	**Tanjungpandan**	**24.29**	**228**	P	**P**	**17 38 48.6**	**+0.9**
	comp=Z,42nm,1.1s						
PHRA	**Phrae**	**24.50**	**284**	P	**P**	**17 38 48.2**	**-1.3**
MYKOM	**Kota Tinggi**	**24.55**	**242**	P	**P**	**17 38 49.5**	**-0.5**
MYKOM				IAmb	IAmb	17 38 51.5	
	comp=Z,41nm,1.3s						
XAN	**Xi'an**	**24.78**	**326**	⇑P	**P**	**17 38 52.9**	**+0.8**
XAN				pP	pP	17 38 57.5	-3.5
XAN				pmax	pmax		
	comp=Z,52nm,1.0s						
DL2	**Dalian**	**24.88**	**353**	P	**P**	**17 38 52.8**	**0.0**
DL2				S	**S**	**17 43 12.8**	**-0.5**
DL2				pmax	pmax		
	comp=Z,50nm,1.2s						
DL2				pmax	pmax		
	comp=Z,150nm,4.8s						
DL2				LR	LR		
	comp=Z,170nm,14.7s						
DL2				LR	LR		
	comp=Z,280nm,13.8s						
DL2				LR	LR		
	comp=Z,290nm,21.8s						
HNS	**HongShan**	**25.03**	**340**	⇑P	**P**	**17 38 55.5**	**+1.4**
HNS				pmax	pmax		
	comp=Z,55nm,1.1s						
HNS				LR	LR		
	comp=Z,170nm,15.9s						
HNS				LR	LR		
	comp=Z,180nm,16.3s						
HNS				LR	LR		
	comp=Z,190nm,9.4s						
MJAR	**Matsushiro Arr**	**25.09**	**25**	P	**P**	**17 38 54.1**	**-0.7**
	comp=Z,2.6nm,1.0s,baz=154,slow=9.7,SNR=4.2						
MJAR				LR	LR	17 47 41.9	
	comp=Z,214nm,19.4s,baz=206,slow=34						
	comp=Z,2.6nm,1.0s						
PZH	**PanZhiHua**	**25.28**	**303**	P	**P**	**17 39 00.3**	**+3.6**
PZH				S	**S**	**17 43 19.8**	**-0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=Z,80nm,7.4s						
PZH				LR	LR		
	comp=Z,160nm,14.7s						
PZH				LR	LR		
	comp=Z,180nm,14.7s						
PZH				LR	LR		
	comp=Z,270nm,18.8s						
CM31	**Chiang Mai Arr**	**25.71**	**283**	P	**P**	**17 38 59.1**	**-1.5**
CM31				IAmb	IAmb	17 39 12.2	
	comp=Z,25nm,0.9s						
CMAR	**Chiang Mai Arr**	**25.71**	**283**	P	**P**	**17 39 00.8**	**+0.3**
CMAR					**PcP**	**17 42 30.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**25.71**	**283**	P	**P**	**17 39 01.6**	**+1.1**
	comp=Z,11nm,0.8s,baz=98,slow=7.4,SNR=78						
CMAR				PcP	**PcP**	**17 42 31.6**	**+1.4**
	comp=Z,2.2nm,0.9s,baz=51,slow=0.9,SNR=8.5						
CMAR				LR	LR	17 49 24.4	
	comp=Z,186nm,19.9s,baz=100,slow=37						
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.71**	**283**	*ce*P	**P**	**17 39 01.6**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,12nm,0.8s						
CHTO	**Chiang Mai**	**25.74**	**284**	P	**P**	**17 38 59.9**	**-1.0**
CHTO	**Chiang Mai**	**25.74**	**284**	P	**P**	**17 38 59.9**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
IPM	**Ipoh**	**25.84**	**251**	P	**P**	**17 39 01.2**	**-0.6**
CD2	**Chengdu**	**25.93**	**314**	P	**P**	**17 39 03.9**	**+1.4**
CD2				pP	pP	17 39 05.5	-6.0
CD2				sP	sP	17 39 09.0	-6.5
CD2				S	**S**	**17 43 30.8**	**+0.5**
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
CD2				pmax	pmax		
	comp=Z,110nm,6.5s						
CD2				LR	LR		
	comp=Z,340nm,14.7s						
CD2				LR	LR		
	comp=Z,270nm,11.3s						
CD2				LR	LR		
	comp=Z,400nm,20.1s						
BJT	**Baijiatuau**	**27.01**	**344**	P	**P**	**17 39 11.5**	**-0.5**
BJT	**Baijiatuau**	**27.01**	**344**	P	**P**	**17 39 11.5**	**-0.5**
BJT				pmax	pmax		
	comp=Z,10.0nm,1.1s						
SNY	**Shenyang**	**27.63**	**357**	⇑P	**P**	**17 39 19.0**	**+1.5**
SNY				pP	**sP**	**17 39 29.8**	**-0.9**
SNY				S	**S**	**17 43 55.5**	**-1.1**
SNY				pmax	pmax		
	comp=Z,31nm,1.3s						
SNY				pmax	pmax		
	comp=Z,87nm,4.3s						
SNY				LR	LR		
	comp=Z,140nm,11.3s						
SNY				LR	LR		
	comp=Z,280nm,20.4s						
SNY				LR	LR		
	comp=Z,160nm,20.6s						
PSI	**Prapat**	**28.43**	**249**	P	**P**	**17 39 24.6**	**-0.6**
PSI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
RPSI	**Rantau Prapat**	**28.48**	**249**	P	**P**	**17 39 24.6**	**-0.9**
MSHR	**Mys Shultsa**	**28.77**	**9**	‖*e*P	**P**	**17 39 28.7**	**+0.9**
MSHR				pmax	pmax		
	comp=Z,98nm,1.4s						
CN2	**Changchun**	**29.55**	**0**	*e*P	**P**	**17 39 36.3**	**+1.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BTO	**Baotou**	**29.58**	**336**	*e*P	**P**	**17 39 38.3**	**+3.2**
BTO				PP	**PnPn**	**17 40 34.0**	**+3.2**
BTO				S	**S**	**17 44 29.5**	**+1.9**
BTO				pmax	pmax		
	comp=Z,17nm,0.7s						
BTO				pmax	pmax		
	comp=Z,280nm,5.3s						
BTO				LR	LR		
	comp=Z,290nm,5.8s						
BTO				LR	LR		
	comp=Z,220nm,5.1s						
BTO				LR	LR		
	comp=Z,300nm,11.4s						
USA0B	**Ussuriysk Arra**	**30.48**	**9**	P	**P**	**17 39 43.7**	**+0.8**
USA0B				IAmb	IAmb	17 39 45.6	
	comp=Z,23nm,1.0s						
USA0B	**Ussuriysk Arra**	**30.48**	**9**	*de*P	**P**	**17 39 44.0**	**+1.1**
USRK	**Ussuriysk Ar.**	**30.48**	**9**	P	**P**	**17 39 43.6**	**+0.7**
USRK	**Ussuriysk Ar.**	**30.48**	**9**	P	**P**	**17 39 44.1**	**+1.2**
	comp=Z,16nm,0.9s,baz=195,slow=7.1,SNR=23						
USRK				LR	LR	17 50 57.2	
	comp=Z,137nm,21.4s,baz=186,slow=34						
	comp=Z,16nm,0.9s						
USRK	**Ussuriysk Ar.**	**30.48**	**9**	P	**P**	**17 39 43.6**	**+0.7**
XLT	**XiLinHaoTe**	**30.70**	**347**	*e*P	**P**	**17 39 46.0**	**+1.1**
XLT				pmax	pmax		
	comp=Z,13nm,1.3s						
XLT				pmax	pmax		
	comp=Z,78nm,4.8s						
BNX	**BinXian**	**31.54**	**3**	‖P	**P**	**17 39 53.6**	**+1.4**
BNX				pmax	pmax		
	comp=Z,24nm,1.0s						
PMG	**Port Moresby**	**31.86**	**136**	LR	LR	17 52 38.2	
	comp=Z,64nm,21.6s,baz=311,slow=36						
PMG	**Port Moresby**	**31.86**	**136**	‖*e*P	**P**	**17 39 53.9**	**-1.4**
PMG				pmax	pmax		
	comp=Z,23nm,1.3s						
FITZ	**Fitzroy Crossi**	**32.04**	**180**	P	**P**	**17 39 55.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**32.04**	**180**	P	**P**	**17 39 55.9**	**-0.9**
	comp=Z,7.6nm,0.9s,baz=7.1,slow=7.6,SNR=14						
	comp=Z,7.6nm,0.9s						
ASAJ	**Asahikawa**	**33.30**	**23**	LR	LR	17 53 12.4	
	comp=Z,107nm,19.8s,baz=201,slow=36						
SHL	**Shillong**	**33.38**	**295**	P	**P**	**17 40 07.9**	**-0.9**
SHL				IAmb	IAmb	17 40 24.3	
	comp=Z,22nm,1.2s						
SHL	**Shillong**	**33.38**	**295**	P	**P**	**17 40 07.9**	**-0.9**
SHL				pmax	pmax		
	comp=Z,21nm,1.2s						
GTA	**Gaotai**	**33.74**	**323**	P	**P**	**17 40 13.3**	**+1.6**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
WRA	**Warramunga Arr**	**35.01**	**165**	P	**P**	**17 40 24.6**	**+1.9**
WRA	**Warramunga Arr**	**35.01**	**165**	P	**P**	**17 40 21.4**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=344,slow=9.6,SNR=4.1						
WRA				LR	LR	17 57 12.8	
	comp=Z,30nm,21.6s,baz=3.0,slow=41						
	comp=Z,0.6nm,0.7s						
WRA	**Warramunga Arr**	**35.01**	**165**	P	**P**	**17 40 24.6**	**+1.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.6s						
WB2	**Warramunga Arr**	**35.01**	**165**	P	**P**	**17 40 23.3**	**+0.6**
GOMU	**GeErMu**	**35.06**	**314**	P	**P**	**17 40 25.9**	**+2.4**
GOMU				pP	pP	17 40 33.6	+1.0
GOMU				sP	sP	17 40 38.0	+1.5
GOMU				pmax	pmax		
	comp=Z,14nm,1.0s						
GOMU				LR	LR		
	comp=Z,300nm,17.7s						
GOMU				LR	LR		
	comp=Z,420nm,19.5s						
GOMU				LR	LR		
	comp=Z,820nm,19.0s						
WR0	**Warramunga Arr**	**35.07**	**165**	P	**P**	**17 40 24.2**	**+1.0**
LSA	**Lhasa**	**35.15**	**302**	P	**P**	**17 40 23.0**	**-1.4**
LSA	**Lhasa**	**35.15**	**302**	P	**P**	**17 40 23.0**	**-1.4**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KLR	**Kul'dur**	**35.38**	**7**	*de*P	**P**	**17 40 27.4**	**+1.8**
KLR				pmax	pmax		
	comp=Z,28nm,1.7s						
YSS	**Yuzh-Sakhalins**	**35.80**	**20**	*e*P	**P**	**17 40 30.2**	**+1.0**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.4s						
YSS				MLR	MLR		
	comp=Z,400nm,17.0s						
PSA00	**Pilbara Seismi**	**35.91**	**189**	P	**P**	**17 40 31.5**	**+1.1**
HEH	**HeiHe**	**36.05**	**2**	*e*P	**P**	**17 40 31.9**	**+0.6**
HEH				pmax	pmax		
	comp=Z,20nm,1.1s						
ULN	**Ulaanbaatar**	**36.90**	**339**	P	**P**	**17 40 38.1**	**-0.7**
ULN				IAmb	IAmb	17 40 41.9	
	comp=Z,52nm,1.5s						
ULN	**Ulaanbaatar**	**36.90**	**339**	*ce*P	**P**	**17 40 40.2**	**+1.4**
ULN				pmax	pmax		
	comp=Z,44nm,1.7s						
SONM	**Songino Array**	**37.10**	**339**	P	**P**	**17 40 40.0**	**-0.5**
SONM	**Songino Array**	**37.10**	**339**	P	**P**	**17 40 41.4**	**+0.9**
	comp=Z,8.8nm,1.0s,baz=157,slow=9.3,SNR=27						
SONM				PcP	**PcP**	**17 43 00.5**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=154,slow=2.3,SNR=2.7						
	comp=Z,8.8nm,1.0s						
SONM	**Songino Array**	**37.10**	**339**	P	**P**	**17 40 40.0**	**-0.5**
SONM				pmax	pmax		
	comp=Z,14nm,1.2s						
AS31	**Alice Springs**	**38.49**	**167**	P	**P**	**17 40 52.2**	**-0.2**
ASAR	**Alice Springs**	**38.50**	**167**	P	**P**	**17 40 52.2**	**-0.2**
ASAR	**Alice Springs**	**38.50**	**167**	P	**P**	**17 40 51.8**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=353,slow=7.2,SNR=43						
ASAR				PcP	**PcP**	**17 43 04.9**	**0.0**
	comp=Z,0.9nm,0.8s,baz=328,slow=3.3,SNR=1.8						
ASAR				LR	LR	17 59 06.0	
	comp=Z,42nm,20.5s,baz=2.5,slow=40						
	comp=Z,1.5nm,0.6s						
ASAR	**Alice Springs**	**38.50**	**167**	P	**P**	**17 40 52.2**	**-0.2**
ZEA	**Zeya**	**39.53**	**2**	*e*P	**P**	**17 41 01.8**	**+1.2**
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
CTA	**Charters Tower**	**39.74**	**148**	LR	LR	17 56 37.5	
	comp=Z,11nm,21.9s,baz=331,slow=35						
CTAO	**Charters Tower**	**39.74**	**148**	P	**P**	**17 41 03.3**	**+0.5**
CTAO				IAmb	IAmb	17 41 11.0	
	comp=Z,32nm,1.4s						
CTAO	**Charters Tower**	**39.74**	**148**	P	**P**	**17 41 03.3**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,32nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**39.83**	**78**	T	T	18 24 44.5	
	baz=270,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**39.85**	**78**	T	T	18 24 48.7	
	baz=270,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**39.85**	**78**	T	T	18 24 45.3	
	baz=270,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**40.04**	**76**	T	T	18 25 14.0	
	baz=268,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy**	**40.05**	**76**	T	T	18 25 06.3	
	baz=268,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**40.06**	**76**	T	T	18 25 15.5	
	baz=268,slow=75,SNR=18						
HNR	**Honiara**	**41.54**	**122**	LR	LR	17 55 38.6	
	comp=Z,214nm,20.6s,baz=312,slow=32						
FORT	**Forrest**	**44.74**	**177**	P	**P**	**17 41 41.9**	**-1.5**
HYB	**Hyderabad**	**45.08**	**281**	*e*P	**P**	**17 41 45.9**	**-0.5**
PEA0B	**Petropavlovsk-**	**46.54**	**26**	P	**P**	**17 41 54.8**	**-2.5**
PEA0B	**Petropavlovsk-**	**46.54**	**26**	‖*e*P	**P**	**17 41 56.4**	**-1.0**
PETK	**Petropavlovsk-**	**46.54**	**26**	P	**P**	**17 41 54.8**	**-2.5**
PETK	**Petropavlovsk-**	**46.54**	**26**	LR	LR	17 58 50.7	
	comp=Z,90nm,21.1s,baz=239,slow=33						
PETK	**Petropavlovsk-**	**46.54**	**26**	P	**P**	**17 41 54.8**	**-2.5**
ZSN	**Zaisan**	**47.23**	**323**	*e*P	**P**	**17 42 04.0**	**+1.1**
ZSN	**Zaisan**	**47.23**	**323**	*e*P	**P**	**17 42 04.0**	**+1.1**
BBOO	**Buckleboo**	**47.80**	**168**	P	**P**	**17 42 07.2**	**-0.2**
YAK	**Yakutsk**	**47.92**	**3**	P	**P**	**17 42 06.7**	**-1.3**
YAK	**Yakutsk**	**47.92**	**3**	LR	LR	18 03 12.8	
	comp=Z,70nm,20.3s,baz=166,slow=37						
YAK	**Yakutsk**	**47.92**	**3**	*e*P	**P**	**17 42 08.4**	**+0.5**
YAK				*e*		17 43 59.0	
YAK				*e*S	**S**	**17 48 59.7**	**-2.7**
YAK				*e*		17 51 55.2	
YAK				*e*SS	**SS**	**17 52 31.2**	**-0.2**
YAK				*e*SSS	SSS	17 53 40.5	
YAK				pmax	pmax		
	comp=Z,26nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=N,11nm,1.1s						
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
YAK				pmax	pmax		
	comp=E,54nm,1.9s						
YAK				pmax	pmax		
	comp=N,40nm,1.7s						
YAK				smax	smax		
	comp=N,100nm,2.7s						
YAK				smax	smax		
	comp=E,72nm,2.7s						
WUS	**Wushi**	**48.20**	**313**	P	**P**	**17 42 08.7**	**-2.0**
WUS				IAmb	IAmb	17 42 13.3	
	comp=Z,6.4nm,0.8s						
STKA	**Stephens Creek**	**48.33**	**161**	P	**P**	**17 42 11.2**	**-0.4**
STKA	**Stephens Creek**	**48.33**	**161**	P	**P**	**17 42 11.1**	**-0.5**
	comp=Z,5.4nm,0.7s,baz=338,slow=6.9,SNR=11						
STKA				LR	LR	18 04 39.2	
	comp=Z,35nm,21.9s,baz=21,slow=39						
	comp=Z,5.4nm,0.7s						
MK31	**Makanchi Array**	**48.45**	**321**	P	**P**	**17 42 10.6**	**-1.8**
MK31	**Makanchi Array**	**48.45**	**321**	*c i*P	**P**	**17 42 13.7**	**+1.4**
MKAR	**Makanchi Array**	**48.45**	**321**	P	**P**	**17 42 11.0**	**-1.4**
MKAR				PcP	**PcP**	**17 43 37.5**	**-0.7**
MKAR	**Makanchi Array**	**48.45**	**321**	P	**P**	**17 42 13.6**	**+1.2**
	comp=Z,6.0nm,0.9s,baz=114,slow=9.1,SNR=29						
MKAR				LR	LR	18 04 44.7	
	comp=Z,98nm,19.0s,baz=91,slow=39						
	comp=Z,6.0nm,0.9s						
MKAR	**Makanchi Array**	**48.45**	**321**	*ce*P	**P**	**17 42 13.8**	**+1.5**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MAKZ	**Makanchi**	**48.64**	**321**	P	**P**	**17 42 12.6**	**-1.3**
MAKZ				IAmb	IAmb	17 42 15.9	
	comp=Z,9.4nm,1.1s						
MAKZ	**Makanchi**	**48.64**	**321**	P	**P**	**17 42 12.6**	**-1.3**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
SHLS	**Shalkode**	**48.74**	**316**	*e*P	**P**	**17 42 14.2**	**-0.6**
	comp=Z,11nm,1.3s						
SHLS	**Shalkode**	**48.74**	**316**	*e*P	**P**	**17 42 14.2**	**-0.6**
SHLS				pmax	pmax		
	comp=Z,11nm,1.3s						
UZB	**Uzynbulak**	**49.03**	**315**	*e*P	**P**	**17 42 18.7**	**+1.6**
	comp=Z,9.9nm,1.2s						
UZB	**Uzynbulak**	**49.03**	**315**	*e*P	**P**	**17 42 18.6**	**+1.6**
UZB				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MA2	**Magadan**	**49.08**	**17**	P	**P**	**17 42 17.2**	**+0.2**
MA2	**Magadan**	**49.08**	**17**	LR	LR	18 05 24.5	
	comp=Z,27nm,18.2s,baz=80,slow=39						
MA2	**Magadan**	**49.08**	**17**	P	**P**	**17 42 17.2**	**+0.2**
MA2				pmax	pmax		
	comp=Z,152nm,1.7s						
PRZ	**Przheval'sk**	**49.22**	**314**	P	**P**	**17 42 16.3**	**-2.3**
PRZ	**Przheval'sk**	**49.22**	**314**	P	**P**	**17 42 16.3**	**-2.3**
PRZ				pmax	pmax		
	comp=Z,27nm,1.1s						
KPKS	**Kokpek**	**49.38**	**316**	*e*P	**P**	**17 42 21.1**	**+1.5**
	comp=Z,12nm,1.4s						
KPKS	**Kokpek**	**49.38**	**316**	*e*P	**P**	**17 42 21.1**	**+1.5**
KPKS				pmax	pmax		
	comp=Z,12nm,1.4s						
TARG	**Taragay, Ky

comp=Z,26nm,1.1s
NIL Nilore 50.88 302 P P 17 42 29.5 -1.6
NIL pmax pmax
comp=Z,26nm,1.1s
KUU Kurty 51.12 315 *eP* **P 17 42 34.2 +1.5**
comp=Z,26nm,1.3s
KUU Kurty 51.12 315 *eP* **P 17 42 34.2 +1.5**
KUU pmax pmax
comp=Z,26nm,1.3s
TKM2 Tokmak 2 51.31 314 P **P 17 42 36.4 +1.9**
SNR=7.4
KBK Karagaybulak 51.69 314 P **P 17 42 39.6 +2.4**
SNR=7.2
CHMS Chumysh 51.93 314 P **P 17 42 40.4 +1.6**
SNR=6.5
AAK Ala-Archa 52.00 313 P **P 17 42 38.2 -1.3**
AAK IAmb IAmb 17 42 42.7
comp=Z,33nm,1.9s
AAK Ala-Archa 52.00 313 LR LR 18 07 00.6
comp=Z,187nm,21.0s,baz=106,slow=39
AAK Ala-Archa 52.00 313*ceP* **P 17 42 41.6 +2.1**
AAK pmax pmax
comp=Z,12nm,1.7s
SGDS Sogindy 52.15 314 *eP* **P 17 42 42.0 +1.5**
SGDS Sogindy 52.15 314 *eP* **P 17 42 42.0 +1.5**
USP Ospenovka 52.19 314 P **P 17 42 42.9 +2.2**
SNR=7.9
KURK Kurchatov 52.41 324 P **P 17 42 42.1 0.0**
KURK Kurchatov 52.41 324*c iP* **P 17 42 43.4 +1.3**
KURK pmax pmax
comp=Z,48nm,1.3s
KURBB Kurchatov Arra 52.42 324 P **P 17 42 43.4 +1.2**
comp=Z,15nm,0.8s,baz=120,slow=7.5,SNR=53
comp=Z,15nm,0.8s
AML Almayashu 52.42 313 P **P 17 42 45.7 +2.8**
SNR=13
EKS2 Erkin-Say 52.51 313 P **P 17 42 45.5 +2.3**
SNR=8.0
ARSB Arslanbob 52.72 311 P **P 17 42 44.4 -0.4**
ARSB Arslanbob 52.72 311 P **P 17 42 44.4 -0.4**
BTLS Baital 53.05 316 *eP* **P 17 42 48.5 +1.4**
comp=Z,8.1nm,1.0s
BTLS Baital 53.05 316 *eP* **P 17 42 48.4 +1.4**
BTLS pmax pmax
comp=Z,8.0nm,1.0s
DRK Karamyk 53.15 309 P **P 17 42 47.5 -0.7**
DRK Karamyk 53.15 309 P **P 17 42 47.5 -0.7**
DRK pmax pmax
comp=Z,50nm,0.3s
BTK Batken 54.02 309 P **P 17 42 53.5 -0.8**
BTK IAmb IAmb 17 42 57.2
comp=Z,18nm,1.4s
BTK Batken 54.02 309 P **P 17 42 53.5 -0.8**
BTK pmax pmax
comp=Z,18nm,1.4s
DZM Mont Dzumac 54.02 131 *e*LR LR 17 58 33.3
comp=Z,107nm,29.0s
DZM Mont Dzumac 54.02 131 LR LR 18 03 23.0
comp=Z,48nm,19.8s,baz=4.0,slow=33
GAR Garm 54.18 308 P **P 17 42 55.2 -0.4**
DZA Taraz 54.31 313 *eP* **P 17 42 57.9 +1.5**
comp=Z,12nm,1.3s
DZA Taraz 54.31 313 *eP* **P 17 42 57.8 +1.5**
DZA pmax pmax
comp=Z,12nm,1.3s
KBL Kabul 54.47 302 P **P 17 42 56.7 -1.2**
KBL IAmb IAmb 17 43 09.8
comp=Z,11nm,0.9s
KBL Kabul 54.47 302 P **P 17 42 56.7 -1.2**
KBL pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 54.95 313 P **P 17 43 00.9 0.0**
KKAR Karatay Array 54.95 313 P **P 17 43 01.3 +0.4**
KKAR IAmb IAmb 17 43 03.5
comp=Z,13nm,1.1s
KKAR Karatay Array 54.95 313 P **P 17 43 00.9 0.0**
KKAR pmax pmax
comp=Z,13nm,1.1s
IUG Iuzhnay 55.06 312 *eP* **P 17 43 03.3 +1.4**
comp=Z,14nm,1.3s
IUG Iuzhnay 55.06 312 *eP* **P 17 43 03.3 +1.4**
IUG pmax pmax
comp=Z,14nm,1.3s
SIMJ Simiganj 55.12 307 P **P 17 43 01.7 -0.7**
SIMJ IAmb IAmb 17 43 13.7
comp=Z,23nm,1.4s
BRLS Borolday 55.41 313 *eP* **P 17 43 06.0 +1.7**
comp=Z,12nm,1.3s
BRLS Borolday 55.41 313 *eP* **P 17 43 05.9 +1.7**
BRLS pmax pmax
comp=Z,11nm,1.3s
TIXI Tiksi 57.52 1 P **P 17 43 18.6 -0.1**
TIXI IAmb IAmb 17 43 20.1
comp=Z,25nm,1.4s
TIXI Tiksi 57.52 1 LR LR 18 08 16.7
comp=Z,126nm,21.5s,baz=192,slow=36
TIXI Tiksi 57.52 1⇑*eP* **P 17 43 18.9 +0.2**
TIXI pmax pmax
comp=Z,20nm,1.3s
BVAR Borovoye Array 58.01 324 P **P 17 43 23.7 +1.2**
comp=Z,6.5nm,0.5s,baz=112,slow=6.9,SNR=38
BVAR LR LR 18 09 50.7
comp=Z,53nm,19.7s,baz=145,slow=38
comp=Z,6.5nm,0.5s
BRVK Borovoye 58.08 324 P **P 17 43 23.2 +0.3**
BRVK Borovoye 58.08 324*c iP* **P 17 43 24.4 +1.4**
BRVK pmax pmax
comp=Z,36nm,1.3s
GSTR Great Sitkin T 59.79 38 P **P 17 43 37.1 +2.2**
BILL Bilibino 59.95 17 P **P 17 43 36.4 +0.7**
BILL IAmb IAmb 17 43 38.5
comp=Z,17nm,1.3s
BILL Bilibino 59.95 17⇑*eP* **P 17 43 36.7 +1.0**
BILL pmax pmax
comp=Z,14nm,1.7s
HRA Herat 60.05 302 P **P 17 43 36.8 -0.5**
HRA IAmb IAmb 17 43 39.2
comp=Z,14nm,1.4s
NRIK Noril'sk 60.06 345 P **P 17 43 36.1 -0.3**
NRIK Noril'sk 60.06 345 P **P 17 43 37.1 +0.7**
comp=Z,7.2nm,0.9s,baz=106,slow=7.0,SNR=7.3
NRIK LR LR 18 11 18.2
comp=Z,86nm,21.4s,baz=154,slow=38
comp=Z,7.2nm,0.9s
NRIK Noril'sk 60.06 345*deP* **P 17 43 37.6 +1.2**
NRIK pmax pmax
comp=Z,11nm,1.1s
MSVF Nonsavu 60.86 120 LR LR 18 05 36.8
comp=Z,85nm,21.4s,baz=306,slow=32
ABKAR Akbulak array 63.40 318 P **P 17 43 58.7 -0.5**
ABKAR Akbulak array 63.40 318 P **P 17 43 59.0 -0.3**
SVE Sverdlovsk 64.50 327 *eP* **P 17 44 07.3 +0.9**
SVE pmax pmax
comp=Z,33nm,1.1s
AKTO Aktyubinsk 64.81 319 LR LR 18 13 58.5
comp=Z,84nm,20.3s,baz=308,slow=37
ARTI Arti 65.62 326 P **P 17 44 13.4 -0.2**
ARTI Arti 65.62 326 LR LR 18 15 40.6
comp=Z,67nm,18.7s,baz=38,slow=38
ARTI Arti 65.62 326*c iP* **P 17 44 13.7 +0.1**
ARTI 17 46 34.1
ARTI S **S 17 52 59.1 +2.8**
ARTI SS **SS 17 57 06.9 -3.7**
ARTI pmax pmax
comp=Z,18nm,1.1s
KIRV Kirov 70.72 327 LR LR 18 18 19.4
comp=Z,102nm,18.6s,baz=92,slow=38
KIRV Kirov 70.72 327*c iP* **P 17 44 45.7 +0.2**
BELG Belogornoye 71.45 321 LR LR 18 18 31.4
comp=Z,53nm,18.9s,baz=20,slow=38
BELG Belogornoye 71.45 321*d iP* **P 17 44 50.7 +0.6**
BELG pmax pmax
comp=Z,4.0nm,1.0s
B21K Ikpikpuk River 73.36 21 P **P 17 45 01.7 +0.6**
E21K Killik River 73.51 22 IAmb IAmb 17 45 05.0
comp=Z,13nm,1.3s
B22K Teshekpuk Lake 73.82 20 IAmb IAmb 17 45 27.1
comp=Z,18nm,1.0s
H21K Melozitna Rive 73.85 25 IAmb IAmb 17 45 06.8
comp=Z,22nm,1.4s
GNI Garni 73.91 308 LR LR 18 20 55.0
comp=Z,49nm,21.7s,baz=81,slow=38
D22K Ayikyak River 74.01 22 P **P 17 45 06.5 +1.5**
I21K Tanana 74.19 26 IAmb IAmb 17 45 09.3
comp=Z,24nm,1.2s
E22K Anaktuvuk Pass 74.30 23 IAmb IAmb 17 45 09.9
comp=Z,17nm,1.4s
D23K Nanushuk River 74.73 22 P **P 17 45 10.4 +1.1**
C23K Itkillik River 74.77 21 IAmb IAmb 17 45 11.8
comp=Z,12nm,0.9s
KBZ Khabaz 74.96 312 P **P 17 45 10.7 -0.3**
comp=Z,5.4nm,1.0s,baz=94,slow=3.9,SNR=4.2
KBZ LR LR 18 21 23.9
comp=Z,53nm,21.4s,baz=50,slow=38
comp=Z,5.4nm,1.0s
KBZ Khabaz 74.96 312*c iP* **P 17 45 11.5 +0.5**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 75.09 312 *eP* **P 17 45 11.2 -0.7**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,39nm,18.0s
E23K Chandalar 75.13 23 IAmb IAmb 17 45 15.0
comp=Z,26nm,1.2s
TOLK Toolik Lake Re 75.14 22 IAmb IAmb 17 45 14.6
comp=Z,13nm,1.2s
VRH Novokhopyorsk 75.15 320 *eP* **P 17 45 11.4 -0.5**
VRH pmax pmax
comp=Z,12nm,0.8s
H23K Yukon River 75.20 25 IAmb IAmb 17 45 15.3
comp=Z,23nm,1.2s
RAYN Ar Rayn 75.34 291 P **P 17 45 12.4 -1.3**
RAYN Ar Rayn 75.34 291 P **P 17 45 12.4 -1.3**
RAYN pmax pmax
comp=Z,6.0nm,1.0s
D24K Happy Valley 75.40 22 P **P 17 45 13.9 +0.9**
C24K Franklin Bluff 75.43 21 IAmb IAmb 17 45 16.6
comp=Z,22nm,1.2s
NEA2 Nenana 75.44 26 IAmb IAmb 17 45 15.7
comp=Z,16nm,1.2s
E24K Your Creek 75.55 23 IAmb IAmb 17 45 17.1
comp=Z,14nm,1.1s
KLMR Klimovskoe 75.75 330 *eP* **P 17 45 14.1 -1.1**
KLMR pmax pmax
comp=Z,31nm,1.3s
F24K Squaw Lake 75.80 23 P **P 17 45 16.3 +0.8**
F24K IAmb IAmb 17 45 18.7
comp=Z,21nm,1.4s
H24K Noodor Dome 75.88 25 IAmb IAmb 17 45 18.9
comp=Z,16nm,1.2s
GURO Guroymak-BITLI 76.17 307 P **P 17 45 17.2 -1.1**
GURO IAmb IAmb 17 45 21.0
comp=Z,8.8nm,1.0s
HDA Harding Lake 76.37 27 IAmb IAmb 17 45 19.8
comp=Z,29nm,1.6s
ILAR Eielson Array 76.37 26 P **P 17 45 17.9 -0.8**
comp=Z,1.2nm,0.7s,baz=238,slow=5.8,SNR=15
ILAR LR LR 18 18 12.8
comp=Z,26nm,20.9s,baz=270,slow=35
comp=Z,1.2nm,0.7s
VORR Voronezh 76.67 320 *eP* **P 17 45 21.1 +0.5**
VORR pmax pmax
comp=Z,51nm,0.4s
VORD Divnogorie 76.69 320 *eP* **P 17 45 17.9 -2.8**
VORD pmax pmax
comp=Z,6.0nm,0.7s
VSR Storozhevoye 76.75 320 *eP* **P 17 45 19.0 -2.0**
VSR pmax pmax
comp=Z,10.0nm,1.4s
LPSR Galich'ya Gora 76.75 321 *eP* **P 17 45 19.5 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
BMAR Burnt Mountain 77.08 23 P **P 17 45 22.5 -0.2**
C27K Jago River 77.18 21 IAmb IAmb 17 45 26.2
comp=Z,15nm,1.1s
F26K Sheenjek River 77.22 23 IAmb IAmb 17 45 27.7
comp=Z,23nm,1.4s
SCRK Sand Creek 77.70 27 P **P 17 45 26.3 0.0**
SCRK IAmb IAmb 17 45 28.3
comp=Z,11nm,1.2s
J26L Joseph Creek 77.82 26 IAmb IAmb 17 47 11.7
comp=Z,20nm,1.8s
OBN Obninsk 77.85 324 P **P 17 45 27.6 +0.5**
comp=Z,8.9nm,0.4s,baz=60,slow=15,SNR=3.6
comp=Z,8.9nm,0.4s
OBN Obninsk 77.85 324 *i* P **P 17 45 27.2 +0.1**
OBN *i* 17 45 33.7
OBN pmax pmax
comp=Z,10.0nm,1.0s
OBN MLR MLR
comp=Z,45nm,17.0s
E27K Coleen River 78.11 22 IAmb IAmb 17 45 31.5
comp=Z,18nm,1.1s
D27M Malcolm River 78.19 21 IAmb IAmb 17 45 31.9
comp=Z,20nm,1.1s
K27K Chicken 78.53 27 P **P 17 45 31.5 +0.8**
K27K IAmb IAmb 17 45 34.5
comp=Z,27nm,1.4s
E28M Babbage River 78.80 22 IAmb IAmb 17 45 35.0
comp=Z,18nm,1.1s
F28M Old Crow 78.85 23 IAmb IAmb 17 45 35.3
comp=Z,18nm,1.0s
I28M Miner Creek 79.20 25 IAmb IAmb 17 45 37.5
comp=Z,23nm,1.2s
E29M Blow River 79.43 22 P **P 17 45 36.5 +0.8**
E29M IAmb IAmb 17 45 38.2
comp=Z,27nm,1.6s
DAWY Dawson 79.68 26 IAmb IAmb 17 45 39.7
comp=Z,21nm,1.4s
SPITS Spitsbergen Ar 80.07 349 P **P 17 45 39.5 +0.5**
comp=Z,26nm,1.1s,baz=89,slow=7.0,SNR=12
SPITS LR LR 18 26 17.9
comp=Z,38nm,18.2s,baz=14,slow=40
comp=Z,26nm,1.1s
ARCES ARCESS Array B 80.28 339 P **P 17 45 40.4 +0.3**
comp=Z,2.5nm,0.8s,baz=66,slow=5.9,SNR=8.7
ARCES LR LR 18 26 28.1
comp=Z,53nm,18.6s,baz=83,slow=40
comp=Z,2.5nm,0.8s
L29M L29M 80.43 27 IAmb IAmb 17 45 44.6
comp=Z,22nm,1.2s
I30M Mount Dempster 80.71 25 P **P 17 45 43.3 +0.5**
INK Inuvik 81.03 22 IAmb IAmb 17 45 46.9
comp=Z,22nm,1.2s
G31M Satah River 81.12 23 IAmb IAmb 17 46 15.0
comp=Z,30nm,1.6s
F31M Tsiigehtchic 81.18 23 IAmb IAmb 17 45 46.8
comp=Z,22nm,1.2s
H31M Peel River 81.39 24 P **P 17 45 47.2 +1.0**
H31M IAmb IAmb 17 45 58.5
comp=Z,15nm,1.2s
RAR Rarotonga 81.43 114 LR LR 18 15 40.2
comp=Z,46nm,20.1s,baz=296,slow=31
FINES FINESS Array B 82.08 331 P **P 17 45 49.9 0.0**
comp=Z,4.6nm,0.8s,baz=90,slow=5.4,SNR=11
FINES LR LR 18 25 11.9
comp=Z,70nm,19.5s,baz=67,slow=38
comp=Z,4.6nm,0.8s
AKASG Malin Array Be 83.02 320 P **P 17 45 54.4 -0.7**
comp=Z,0.2nm,0.3s,baz=71,slow=4.0,SNR=5.2
AKASG LR LR 18 24 12.0
comp=Z,33nm,20.4s,baz=72,slow=37
comp=Z,0.2nm,0.3s
AKASG Malin Array Be 83.02 320*ceP* **P 17 45 55.9 +0.9**
EIL Elat 83.48 299 LR LR 18 27 44.9
comp=Z,36nm,18.7s,baz=68,slow=39
BURAR Bucovina Array 86.38 318 P **P 17 46 11.2 -0.9**
BUR08 Bucovina Ar. S 86.38 318 IAmb IAmb 17 46 13.8
comp=Z,15nm,1.4s
MLR Muntele Rosu 86.51 316 P **P 17 46 13.5 +0.7**
comp=Z,3.1nm,0.8s,baz=97,slow=7.8,SNR=3.1
MLR LR LR 18 31 19.6
comp=Z,45nm,18.2s,baz=82,slow=40
comp=Z,3.1nm,0.8s
RES Resolute Bay 87.86 10 P **P 17 46 18.5 -0.1**
RES IAmb IAmb 17 46 19.9
comp=Z,6.0nm,0.9s
RES Resolute Bay 87.86 10 P **P 17 46 18.5 -0.1**
RES pmax pmax
comp=Z,6.0nm,0.9s
HFS Hagfors 88.23 332 P **P 17 46 20.4 -0.3**
comp=Z,1.2nm,0.6s,baz=108,slow=9.5,SNR=5.5
HFS LR LR 18 28 30.6
comp=Z,112nm,19.8s,baz=57,slow=37
comp=Z,1.2nm,0.6s
KMBO Kilima Mbogo 88.44 268 P **P 17 46 23.4 +0.5**
comp=Z,0.6nm,0.4s,baz=24,slow=7.1,SNR=3.8
comp=Z,0.6nm,0.4s
KMBO Kilima Mbogo 88.44 268⇑*eP* **P 17 46 23.6 +0.7**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 88.91 334 P **P 17 46 22.9 -1.1**
comp=Z,0.7nm,0.8s,baz=51,slow=6.4,SNR=2.4
NOA LR LR 18 29 34.2
comp=Z,60nm,19.6s,baz=65,slow=38
comp=Z,0.7nm,0.8s
JMIC Jan Mayen 89.48 346 LR LR 18 31 40.4
comp=Z,33nm,19.2s,baz=358,slow=39
PPT Papeete 89.61 108 LR LR 18 17 42.6
comp=Z,50nm,21.7s,baz=280,slow=30
PPT2 Papeete2 89.61 108 *e*LR LR 18 14 56.5
comp=Z,109nm,23.5s
PPT2 *e*LR LR 18 14 59.4
comp=Z,124nm,28.2s
VRAC Vranov 91.19 322 LR LR 18 32 29.4
comp=Z,48nm,18.1s,baz=53,slow=39
TBI Tubuai 91.19 114 *e*LR LR 18 15 42.5
comp=Z,397nm,24.5s
MBAR Mbarara 94.63 271 LR LR 18 28 31.6
comp=Z,31nm,19.3s,baz=111,slow=35
KRMB Red Mountain 95.59 45 P **P 17 46 55.6 +0.2**
YBH Yreka Blue Hor 96.32 44 LR LR 18 22 09.2
comp=Z,24nm,21.1s,baz=302,slow=30
DAVOX Davos/Dischmat 96.34 321 LR LR 18 33 21.2
comp=Z,63nm,20.0s,baz=77,slow=37
BORG Borgarnes 97.38 346 LR LR 18 36 09.8
comp=Z,46nm,18.8s,baz=340,slow=39
TORD Torodi Ar. Bea 117.97 293 PKP **PKPdf 17 52 16.8 -0.4**
comp=Z,0.2nm,0.3s,baz=341,slow=4.6,SNR=2.6
PLCA Paso Flores 150.09 155 PKPbc **PKiKP 17 53 21.4 -0.2**
comp=Z,5.6nm,1.0s,baz=152,slow=4.2,SNR=8.3
LPAZ La Paz 166.80 101 PKP **PKPdf 17 53 37.7 +0.9**
comp=Z,0.7nm,0.5s,baz=210,slow=2.9,SNR=4.1

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*THE **13** 17:47:59.6, 37.°62N×20.°67E, h9km±1km, ML2.6/11, Error ellipse: s-maj=1.8km s-min=0.7km az=44.0*
*ATH **13** 17:47:59.6, 37.°62N×20.°66E, h10km±3km, ML2.8/9, Error ellipse: s-maj=3.7km s-min=0.7km az=29.0*
ISC 13 17:47:59.5±1.6, 37.°62N±0.°05×20.°67E±0.°05, h10km±7km, n24, σ0.°44/47, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.13**	**68**	P	**Pg**	**17 48 02.5**	**0.0**
KRI1				S	**Sg**	**17 48 04.5**	**0.0**
26μm,0.2s							
LTHK	**Lithakia**	**0.16**	**55**	P	**Pg**	**17 48 02.9**	**-0.1**
LTHK				S	**Sg**	**17 48 05.0**	**-0.5**
8μm,0.1s							
LTHK	**Lithakia**	**0.16**	**55**	P	**Pg**	**17 48 03.1**	**+0.1**
LTHK				S	**Sg**	**17 48 05.5**	**+0.1**
LTHK				AML	AML	17 48 05.6	
comp=E,15587μm,0.1s							
LTHK				AML	AML	17 48 06.0	
comp=N,15620μm,0.1s							
RTZL	**Ratzakli, Kefa**	**0.47**	**10**	P	**Pg**	**17 48 08.6**	**0.0**
RTZL				S	**Sg**	**17 48 15.7**	**+0.9**
PSDA	**Pessada-Kefalo**	**0.50**	**352**	P	**Pg**	**17 48 09.1**	**-0.2**
PSDA				S	**Sg**	**17 48 16.4**	**+0.5**
comp=N,1μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.50**	**352**	P	**Pg**	**17 48 09.2**	**-0.1**
PSDA				S	**Sg**	**17 48 16.0**	**0.0**
VLS	**Valsamata**	**0.56**	**354**	P	**Pg**	**17 48 10.0**	**-0.5**
VLS				S	**Sg**	**17 48 18.3**	**+0.4**
comp=N,830nm,0.3s							
VLS	**Valsamata**	**0.56**	**354**	P	**Pg**	**17 48 10.0**	**-0.5**
VLS				S	**Sg**	**17 48 18.1**	**+0.2**
VLS				AML	AML	17 48 19.0	
comp=E,1764μm,0.3s							
VLS				AML	AML	17 48 23.1	
comp=N,1518μm,0.3s							
LXRA	**Lixouri, Kepha**	**0.61**	**343**	P	**Pg**	**17 48 11.7**	**+0.3**
LXRA				S	**Sg**	**17 48 19.1**	**-0.3**
LXRA				AML	AML	17 48 23.9	
comp=N,3269μm,0.4s							
LXRA				AML	AML	17 48 24.1	
comp=E,2249μm,0.4s							
SMHA	**Samh**	**0.64**	**358**	P	**Pg**	**17 48 12.0**	**+0.2**
SMHA				S	**Sg**	**17 48 20.4**	**+0.3**
SMHA				AML	AML	17 48 20.7	
comp=E,3294μm,0.3s							
SMHA				AML	AML	17 48 21.4	
comp=N,5384μm,0.6s							
DMLN	**Damoulianata-K**	**0.67**	**339**	P	**Pg**	**17 48 12.2**	**-0.2**
DMLN				S	**Sb**	**17 48 22.4**	**-0.1**
comp=N,998nm,0.5s							
DMLN	**Damoulianata-K**	**0.67**	**339**	P	**Pg**	**17 48 12.2**	**-0.2**
DMLN				S	**Sg**	**17 48 21.4**	**+0.3**
RLS	**Riolos of Patr**	**0.77**	**55**	P	**Pg**	**17 48 13.8**	**-0.6**
RLS				S	**Sb**	**17 48 25.4**	**-0.1**
comp=N,252nm,0.4s							
RLS	**Riolos of Patr**	**0.77**	**55**	P	**Pg**	**17 48 13.9**	**-0.4**
RLS				S	**Sb**	**17 48 25.2**	**-0.3**
RLS				AML	AML	17 48 30.5	
comp=N,500μm,0.4s							
RLS				AML	AML	17 48 30.6	
comp=E,512μm,0.4s							
AMT	**Artemida-Makis**	**0.83**	**95**	P	**Pg**	**17 48 15.6**	**+0.1**
AMT				S	**Sb**	**17 48 27.5**	**+0.2**
AMT				AML	AML	17 48 31.6	
comp=N,4681μm,0.3s							
AMT				AML	AML	17 48 32.4	
comp=E,4658μm,0.3s							
FSK	**Fiskardo**	**0.85**	**354**	P	**Pg**	**17 48 15.0**	**-0.8**
FSK				S	**Sb**	**17 48 27.8**	**+0.1**
comp=E,395nm,0.5s							
FSK	**Fiskardo**	**0.85**	**354**	P	**Pg**	**17 48 15.2**	**-0.6**
FSK				S	**Sg**	**17 48 27.0**	**+0.2**
FSK				AML	AML	17 48 29.3	
comp=N,803μm,0.6s							
FSK				AML	AML	17 48 29.4	
comp=E,715μm,0.5s							
DRO	**Drossia**	**0.89**	**67**	P	**Pg**	**17 48 16.3**	**-0.3**
DRO				S	**Sb**	**17 48 29.4**	**+0.4**
comp=E,605nm,0.5s							
DRO	**Drossia**	**0.89**	**67**	P	**Pg**	**17 48 16.4**	**-0.3**
DRO				S	**Sg**	**17 48 28.4**	**+0.2**
DRO				AML	AML	17 48 32.0	
comp=E,1277μm,0.3s							
DRO				AML	AML	17 48 32.5	
comp=N,1174μm,0.4s							
EVGI	**Lefkada island**	**1.00**	**359**	P	**Pg**	**17 48 17.5**	**-1.3**
EVGI				S	**Sb**	**17 48 33.0**	**+0.7**
comp=N,252nm,0.3s							
ITM	**Ithomi**	**1.09**	**113**	P	**Pg**	**17 48 20.1**	**-0.3**
ITM				S	**Sg**	**17 48 35.0**	**+0.3**
ITM				AML	AML	17 48 41.5	
comp=E,295μm,0.5s							
ITM				AML	AML	17 48 43.1	
comp=N,518μm,0.7s							
NYDR	**Nydri-Lefkada**	**1.10**	**1**	P	**Pg**	**17 48 19.5**	**-1.1**
NYDR				S	**Sg**	**17 48 34.9**	**+0.1**
comp=N,158nm,1.0s							
PYL	**PYLOS**	**1.12**	**130**	P	**Pg**	**17 48 20.5**	**-0.4**
LKD2	**Lefkada island**	**1.17**	**360**	P	**Pg**	**17 48 21.9**	**-0.1**
LKD2				S	**Sn**	**17 48 38.4**	**+0.3**
comp=N,220nm,0.6s							

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*HEL **13** 18:00:43.0±0.5, 66.°98N×20.°57E, h0km, ML1.9, Explosion*
*UPP **13** 18:00:44.3±0.1, 67.°04N×20.°98E, h0km, ML2.2, Unknown*
*IDC **13** 18:00:45.0±0.8, 67.°00N×21.°31E, h0km, mbtmp3.1/5, ML2.0/5, Error ellipse: s-maj=14.9km s-min=7.4km az=109.0*
ISC 13 18:00:44.1±0.7, 67.°04N±0.°02×20.°89E±0.°03, h0km, n44, σ1.9/20/62, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**303**	P	**Pg**	**18 00 47.9**	**+0.9**
DUNU				S	**Sg**	**18 00 50.7**	**+1.7**
MASU	**Masugnsbyn**	**0.60**	**45**	P	**Pg**	**18 00 55.3**	**-0.3**
ERTU	**Ertsjaerv**	**0.71**	**133**	P	**Pg**	**18 00 57.2**	**-0.4**
ERTU	**Ertsjaerv**	**0.71**	**133**	PG	**Pg**	**18 00 57.2**	**-0.4**
baz=304							
ERTU				SB	**Sg**	**18 01 07.6**	**+0.8**
PAJU	**Pajala**	**0.87**	**90**	P	**Pg**	**18 00 60.0**	**-0.8**
PAJU	**Pajala**	**0.87**	**90**	PG	**Pg**	**18 00 59.7**	**-1.1**
PAJU				SN	**Sn**	**18 01 20.0**	**+2.9**
HARU	**Harads**	**0.88**	**178**	P	**Pg**	**18 01 00.9**	**0.0**
RATU	**Laukkuluspa**	**0.94**	**328**	P	**Pb**	**18 01 01.9**	**-1.3**
KUA	**Kurravaara**	**0.94**	**347**	P	**Pb**	**18 01 01.7**	**-1.6**
LANU	**Lannavaara**	**1.10**	**22**	P	**Pg**	**18 01 04.2**	**-0.9**
LANU	**Lannavaara**	**1.10**	**22**	PG	**Pg**	**18 01 04.0**	**-1.1**
LANU				SG	**Sb**	**18 01 21.0**	**+0.1**
KLF	**Kolari**	**1.22**	**79**	PG	**Pg**	**18 01 06.2**	**-1.2**

KLF				MSG		18 01 23.7	
	comp=Z,14nm,0.2s						
KOVU	**Salmi**	**1.22**	**347**	P	**Pb**	**18 01 06.8**	**-1.3**
KALU	**Kalix**	**1.54**	**139**	P	**Pn**	**18 01 12.4**	**-0.4**
KALU	**Kalix**	**1.54**	**139**	PN	**Pn**	**18 01 12.1**	**-0.7**
SJUU	**Sjulsmark**	**1.56**	**169**	P	**Pn**	**18 01 13.0**	**-0.1**
TOF	**Tornio**	**1.68**	**124**	PG	**Pn**	**18 01 14.3**	**-0.3**
TOF				MSG		18 01 35.4	
	comp=Z,8.3nm,0.2s						
TOF				SG	**Sn**	**18 01 36.8**	**0.0**
HEF	**Hetta**	**1.73**	**36**	*e*P	**Pn**	**18 01 15.1**	**-0.4**
HEF	**Hetta**	**1.73**	**36**	PB	**Pn**	**18 01 15.1**	**-0.4**
HEF				MSG		18 01 38.2	
	comp=Z,14nm,0.2s						
HEF				SB	**Sn**	**18 01 38.6**	**+0.4**
LILU	**Lilltraesk**	**1.81**	**194**	P	**Pb**	**18 01 17.1**	**-1.0**
KIF	**Kilpisjarvi**	**1.97**	**359**	*e*P	**Pb**	**18 01 20.3**	**-0.5**
RNF	**Rovaniemi**	**2.07**	**100**	PB	**Pn**	**18 01 20.9**	**+0.8**
	baz=286						
RNF				SB	**Sb**	**18 01 48.9**	**+0.1**
KTK1	**Kautokeino**	**2.17**	**23**	PB	**Pb**	**18 01 22.7**	**-1.5**
KTK1				SN	**Sb**	**18 01 52.1**	**+0.5**
I37NO	**I37NO**	**2.22**	**338**	I	I	18 16 03.5	
	baz=149,slow=332,SNR=1.4						
RANF	**Ranua**	**2.58**	**111**	PN	**Pn**	**18 01 27.3**	**+0.3**
	baz=294						
RANF				SB	**Sb**	**18 02 03.8**	**+0.5**
TRO	**Tromso**	**2.71**	**345**	SB	**Sb**	**18 02 06.2**	**-0.8**
OBF4	**Vikkela, Lumij**	**2.82**	**140**	PB	**Pn**	**18 01 31.9**	**+1.5**
OBF4				MSG		18 02 07.2	
	comp=Z,2.2nm,0.2s						
OUL	**Oulu**	**2.83**	**132**	PB	**Pn**	**18 01 31.7**	**+1.2**
OUL				SG	**Sb**	**18 02 12.2**	**+1.6**
OBF0	**Syolatti, Pyha**	**2.90**	**150**	PG	**Pn**	**18 01 32.7**	**+1.2**
OBF0				MSG		18 02 08.8	
	comp=Z,2.7nm,0.2s						
ARCES	**ARCESS Array B**	**3.04**	**32**	Pn	**Pn**	**18 01 33.5**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=213,slow=13,SNR=22						
ARCES				Sn	**Sn**	**18 02 10.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=209,slow=22,SNR=12						
	comp=Z,0.4nm,0.3s						
KMNF	**Kaamanen**	**3.12**	**44**	PN	**Pn**	**18 01 34.5**	**+0.1**
KMNF				SN	**Sn**	**18 02 14.7**	**+2.3**
OUF	**Merijarvi**	**3.12**	**148**	PB	**Pn**	**18 01 35.7**	**+1.2**
OUF				MSG		18 02 15.2	
	comp=Z,3.1nm,0.2s						
RAJF	**Raja-Jooseppi**	**3.17**	**60**	PN	**Pn**	**18 01 37.2**	**+2.0**
RAJF				SB	**Sb**	**18 02 21.5**	**+1.2**
UMAU	**Umeaa**	**3.17**	**182**	PG	**Pn**	**18 01 36.4**	**+1.2**
	baz=2.0						
VRF	**Varrio**	**3.44**	**74**	PN	**Pn**	**18 01 40.0**	**+1.1**
VRF				SB	**Sb**	**18 02 29.4**	**+1.3**
OLKF	**Oulanka, Finla**	**3.46**	**98**	PN	**Pn**	**18 01 39.9**	**+0.7**
OLKF				SN	**Sn**	**18 02 22.8**	**+2.0**
KEV	**Kevo**	**3.54**	**37**	PN	**Pn**	**18 01 41.3**	**+1.0**
KEV				SN	**Sn**	**18 02 23.9**	**+1.1**
KU6	**Riekki**	**3.74**	**102**	PN	**Pn**	**18 01 43.3**	**+0.2**
HUSU	**Husum**	**3.78**	**192**	PB	**Pn**	**18 01 44.8**	**+1.3**
VAF	**Ylistaro**	**4.08**	**169**	PB	**Pn**	**18 01 49.3**	**+1.6**
FINES	**FINESS Array B**	**6.05**	**156**	Pn	**Pn**	**18 02 15.4**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=346,slow=12,SNR=7.0						
FINES				Sn	**Sn**	**18 03 21.7**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=344,slow=21,SNR=1.7						
FINES				Lg	Lg	18 03 51.9	
	comp=Z,0.2nm,0.3s,baz=346,slow=28,SNR=1.6						
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**7.36**	**220**	Pn	**Pn**	**18 02 31.6**	**-1.1**
	baz=27,slow=18,SNR=1.2						
NOA				Sn	**Sn**	**18 03 55.4**	**-1.5**
	baz=31,slow=18,SNR=1.3						
	comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**7.63**	**208**	Pn	**Pn**	**18 02 36.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=31,slow=15,SNR=1.8						
HFS				Sn	**Sn**	**18 04 01.1**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=10,slow=28,SNR=2.5						
	comp=Z,1.0nm,0.7s						
SPITS	**Spitsbergen Ar**	**11.27**	**355**	Pn	**Pn**	**18 03 26.0**	**-0.2**
	baz=152,slow=16						
	comp=Z,6.0nm,0.9s						

*ATH **13** 18:20:39.8, 37°.62N×20°.56E, h12km±1km, ML2.8/3, Error ellipse: s-maj=2.6km s-min=1.0km az=55.0*
*THE **13** 18:20:40.1, 37°.63N×20°.61E, h13km, ML2.7/9, Error ellipse: s-maj=1.2km s-min=0.6km az=46.0*
ISC 13 18:20:39.6±1.6, 37°.62N±0°.06×20°.64E±0°.07, h15km±7km, n21, σ0§43/38, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.15**	**74**	P	**Pb**	**18 20 44.1**	**0.0**
KRI1				S	**Sb**	**18 20 47.0**	**-0.1**
	10μm,0.3s						
LTHK	**Lithakia**	**0.18**	**61**	P	**Pb**	**18 20 44.4**	**-0.2**
LTHK				S	**Sg**	**18 20 47.3**	**+0.3**
	4μm,0.4s						
LTHK	**Lithakia**	**0.18**	**61**	P	**Pb**	**18 20 44.4**	**-0.2**
RTZL	**Ratzakli, Kefa**	**0.47**	**13**	P	**Pg**	**18 20 49.2**	**+0.3**
RTZL				S	**Sb**	**18 20 56.1**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.49**	**355**	P	**Pg**	**18 20 49.4**	**0.0**
PSDA				S	**Sb**	**18 20 57.0**	**0.0**
	2μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.49**	**355**	P	**Pg**	**18 20 49.3**	**0.0**
PSDA				S	**Sg**	**18 20 56.1**	**+0.1**
VLS	**Valsamata**	**0.56**	**356**	P	**Pg**	**18 20 50.4**	**-0.2**
VLS				S	**Sb**	**18 20 59.0**	**+0.2**
	805nm,0.4s						
VLS	**Valsamata**	**0.56**	**356**	P	**Pg**	**18 20 50.2**	**-0.5**
VLS				S	**Sg**	**18 20 57.6**	**-0.4**
VLS				AML	AML	18 20 59.2	
	comp=E,1970μm,0.3s						
VLS				AML	AML	18 21 04.6	
	comp=N,1519μm,0.3s						
DMLN	**Damoulianata-K**	**0.65**	**342**	P	**Pg**	**18 20 52.2**	**-0.2**
DMLN				S	**Sb**	**18 21 02.7**	**+1.2**
	comp=N,2μm,0.7s						
RLS	**Riolos of Patr**	**0.79**	**56**	P	**Pb**	**18 20 55.1**	**+0.1**
RLS				S	**Sn**	**18 21 07.3**	**-0.3**
FSK	**Fiskardo**	**0.84**	**356**	P	**Pg**	**18 20 55.3**	**-0.6**
FSK				S	**Sb**	**18 21 08.0**	**+1.1**
	comp=N,618nm,0.2s						
FSK	**Fiskardo**	**0.84**	**356**	P	**Pg**	**18 20 55.2**	**-0.7**
FSK				S	**Sb**	**18 21 07.5**	**+0.6**
FSK				AML	AML	18 21 09.5	
	comp=N,1144μm,0.4s						
FSK				AML	AML	18 21 09.8	
	comp=E,1226μm,0.2s						
AMT	**Artemida-Makis**	**0.86**	**96**	P	**Pn**	**18 20 56.9**	**-0.2**
AMT				S	**Sn**	**18 21 09.2**	**-0.1**
AMT				AML	AML	18 21 16.6	
	comp=N,2247μm,0.3s						
AMT				AML	AML	18 21 17.3	
	comp=E,2626μm,0.4s						
DRO	**Drossia**	**0.91**	**68**	P	**Pn**	**18 20 57.8**	**0.0**
DRO				S	**Sn**	**18 21 11.1**	**+0.3**
	comp=E,378nm,0.5s						
DRO	**Drossia**	**0.91**	**68**	P	**Pn**	**18 20 57.9**	**0.0**
DRO				S	**Sn**	**18 21 10.4**	**-0.3**
EVGI	**Lefkada island**	**1.00**	**1**	P	**Pb**	**18 20 58.2**	**-0.4**
EVGI				S	**Sn**	**18 21 13.2**	**+0.4**
	comp=E,280nm,0.4s						
EVGI	**Lefkada island**	**1.00**	**1**	P	**Pb**	**18 20 58.2**	**-0.4**
EVGI				S	**Sg**	**18 21 12.3**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.09**	**3**	P	**Pb**	**18 20 59.6**	**-0.5**
NYDR				S	**Sn**	**18 21 15.6**	**+0.5**
	comp=E,195nm,0.6s						
ITM	**Ithomi**	**1.12**	**113**	P	**Pg**	**18 21 00.9**	**-0.3**
PYL	**PYLOS**	**1.14**	**129**	P	**Pg**	**18 21 01.6**	**0.0**
PYL	**PYLOS**	**1.14**	**129**	P	**Pg**	**18 21 01.6**	**0.0**

*PRU **13** 18:25:39.8, 50°.21N×19°.11E, h0km*
*IPEC **13** 18:25:39.3±0.2, 50°.19N×19°.13E, h1km, ML2.8/4, Error ellipse: s-maj=2.5km s-min=1.0km az=167.0*
*IDC **13** 18:25:40.0±1.0, 49°.99N×19°.20E, h0km, mbtmp3.2/4, ML2.7/4, Error ellipse: s-maj=29.7km s-min=8.2km az=160.0*
*MCSM **13** 18:25:41.0±0.5, 50°.N±5°.×19°.9E±°, h11km±4km, mB6.1, mb4.7, MLv2.6, Mw(mB)5.8*
ISC 13 18:25:38.2±0.7, 50°.13N±0°.03×19°.14E±0°.02, h0km, n60, σ1§02/89, 7C-7D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.43**	**78**	*e*Pg	**Pg**	**18 25 47.4**	**+1.0**
OJC				*e*Sg	**Sg**	**18 25 53.6**	**+1.7**
RAC	**Raciborz**	**0.61**	**266**	*e*PG	**Pb**	**18 25 52.3**	**+0.5**
RAC				*e*SG	**Sb**	**18 26 01.5**	**+0.6**
OKC	**Ostrava-Krasne**	**0.71**	**246**	*e*PG	**Pb**	**18 25 53.3**	**-0.1**
LANS	**Liptovska Anna**	**1.00**	**168**	*e*PG	**Pb**	**18 25 58.7**	**+0.3**
LANS				*e*SG	**Sb**	**18 26 12.5**	**+0.3**
LANS				*e*LG	Lg	18 26 12.9	
NIE	**Niedzica**	**1.03**	**133**	*e*Pg	**Pb**	**18 25 59.6**	**+0.7**
NIE				*e*Sg	**Sb**	**18 26 13.9**	**+0.8**
NIE	**Niedzica**	**1.03**	**133**	P	**Pb**	**18 25 59.3**	**+0.3**
MORC	**Moravsky Berou**	**1.09**	**252**	*e*Pg	**Pb**	**18 26 00.3**	**+0.3**
	baz=68						
MORC				*e*Sg	**Sg**	**18 26 14.0**	**+0.7**
	181nm,0.8s,baz=68						
MORC	**Moravsky Berou**	**1.09**	**252**	⇑P	**Pb**	**18 26 00.4**	**+0.3**
MORC				⇓S	**Sb**	**18 26 15.8**	**+1.0**
KRLC	**Kraliky**	**1.52**	**269**	*e*PG	**Pn**	**18 26 06.4**	**-0.3**
KRLC				*e*SG	**Sb**	**18 26 27.6**	**+0.4**
	comp=Z,79nm,0.5s						
STHS	**Stebnicka Huta**	**1.54**	**117**	*e*PN	**Pg**	**18 26 08.0**	**+0.4**
STHS				*e*SN	**Sn**	**18 26 29.4**	**+1.8**
STHS				*e*LG	Lg	18 26 40.1	
JAVC	**Velka Javorina**	**1.59**	**218**	*e*Pn	**Pg**	**18 26 09.2**	**+0.5**
	baz=35						
VYHS	**Vyhne**	**1.65**	**187**	*e*PN	**Pn**	**18 26 08.6**	**+0.2**
VYHS				*e*SN	**Sn**	**18 26 30.3**	**0.0**
DPC	**Dobruska-Polom**	**1.82**	**278**	*e*PG	**Pn**	**18 26 11.6**	**+0.7**
DPC				*e*SG	**Sb**	**18 26 36.1**	**+0.2**
	comp=Z,44nm,0.6s						
DPC	**Dobruska-Polom**	**1.82**	**278**	P	**Pb**	**18 26 13.1**	**+0.6**
VRAC	**Vranov**	**1.85**	**245**	Pn	**Pb**	**18 26 13.1**	**+0.2**
	5.8nm,0.3s,baz=63,slow=15,SNR=20						
VRAC				Lg	Lg	18 26 37.3	
	6.0nm,0.3s,baz=0.0,slow=23,SNR=6.4						
VRAC	**Vranov**	**1.85**	**245**	*e*Pn	**Pn**	**18 26 12.2**	**+1.0**
	baz=61						
VRAC				*e*Sg	**Sg**	**18 26 37.9**	**+0.4**
	56nm,0.8s,baz=61						
VRAC	**Vranov**	**1.85**	**245**	⇑P	**Pn**	**18 26 10.7**	**-0.5**
VRAC				⇓S	**Sn**	**18 26 35.0**	**-0.2**
KECS	**Kecovo**	**1.87**	**151**	*e*PN	**Pn**	**18 26 11.6**	**+0.2**
KECS				*e*SN	**Sn**	**18 26 34.8**	**-0.9**
KECS				*e*LG	Lg	18 26 43.4	
OSTC	**Ostas**	**1.92**	**284**	*e*PG	**Pn**	**18 26 13.1**	**+0.9**
OSTC				*e*SG	**Sg**	**18 26 41.0**	**+1.0**
	comp=Z,52nm,0.7s						
KSP	**Ksiaz**	**1.96**	**292**	*e*Pg	**Pb**	**18 26 14.6**	**-0.1**
KSP				*e*Sg	**Sg**	**18 26 42.2**	**+1.2**
KSP	**Ksiaz**	**1.96**	**292**	P	**Pb**	**18 26 15.2**	**+0.5**
CHVC	**Chvalec**	**2.03**	**284**	*e*PG	**Pn**	**18 26 14.4**	**+0.7**
CHVC				*e*SG	**Sg**	**18 26 43.3**	**-0.1**
	comp=Z,67nm,1.1s						
UPC	**Upice**	**2.04**	**282**	*e*PG	**Pb**	**18 26 15.9**	**-0.3**
UPC				*e*SG	**Sb**	**18 26 43.3**	**+1.2**
KRUC	**Moravsky**	**2.08**	**240**	*e*Pn	**Pn**	**18 26 15.6**	**+1.2**
	baz=57						
KRUC				*e*Sg	**Sg**	**18 26 45.2**	**+0.1**
	74nm,1.1s,baz=57						
MODS	**Modra-Piesok**	**2.14**	**216**	*e*PN	**Pb**	**18 26 17.3**	**-0.5**
MODS				*e*LG	Lg	18 26 49.9	
PSZ	**Piszkesteto**	**2.27**	**167**	⇑P	**Pn**	**18 26 16.5**	**-0.5**
PSZ				⇓S	**Sn**	**18 26 44.8**	**-0.8**
KOLS	**Kolonicke sedl**	**2.37**	**119**	*e*PG	**Pg**	**18 26 23.7**	**+0.2**
KOLS				*e*SN	**Sn**	**18 26 48.1**	**+0.2**
KOLS				*e*LG	Lg	18 27 13.3	
GOPC	**GO Pecny, Ondr**	**2.82**	**267**	*e*SG	**Sg**	**18 27 07.5**	**-1.2**
	comp=Z,31nm,0.8s						
MUKU	**Mukachevo**	**2.86**	**125**	P	**Pn**	**18 26 25.4**	**+0.4**
PVCC	**Panska Ves**	**2.96**	**279**	*e*PG	**Pb**	**18 26 33.1**	**+1.4**
PRU	**Pruhonice**	**2.97**	**269**	*e*SG	**Sg**	**18 27 13.1**	**-0.4**
	comp=Z,15nm,0.4s						
MPLH	**Magyarpolny**	**3.15**	**200**	P	**Pn**	**18 26 29.8**	**+0.8**
LVV	**L'vov**	**3.17**	**94**	P	**Pn**	**18 26 30.1**	**+0.8**
TRSU	**Trosnyk**	**3.23**	**128**	P	**Pn**	**18 26 28.0**	**-2.1**
MORS	**Morshin**	**3.25**	**106**	P	**Pn**	**18 26 30.9**	**+0.6**
ZVC	**Zvikov**	**3.28**	**260**	*e*PN	**Pn**	**18 26 30.9**	**+0.1**
ZVC				*e*PG	**Pb**	**18 26 39.2**	**+1.9**
BRG	**Berggiesshubel**	**3.40**	**285**	Pg	**Pg**	**18 26 42.4**	**-1.0**
BRG				Sg	**Sg**	**18 27 27.0**	**-0.4**
BRG				Amp		18 27 35.3	
	comp=Z,14nm,0.4s						
CKRC	**Cesky Krumlov**	**3.42**	**249**	*e*PN	**Pn**	**18 26 34.0**	**+1.3**
CKRC				*e*PG	**Pb**	**18 26 41.7**	**+2.2**
CKRC				*e*SG	**Sg**	**18 27 28.8**	**+1.0**
	comp=Z,13nm,0.2s						
KHC	**Kasperske Hory**	**3.75**	**257**	*e*PN	**Pn**	**18 26 38.1**	**+0.7**
KHC				*e*PG	**Pb**	**18 26 45.2**	**-0.1**
KHC				*e*SG	**Sg**	**18 27 37.8**	**-0.9**
	comp=Z,13nm,0.5s						
KHC	**Kasperske Hory**	**3.75**	**257**	P	**Pn**	**18 26 38.4**	**+1.0**
GERES	**GERESS Array B**	**3.77**	**252**	Pn	**Pn**	**18 26 39.5**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=62,slow=15,SNR=2.4						
GERES				Pg	**Pb**	**18 26 46.8**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=65,slow=16,SNR=9.3						
GERES				Lg	Lg	18 27 38.9	
	comp=Z,3.4nm,0.3s,baz=74,slow=33,SNR=6.7						
	comp=Z,0.6nm,0.4s						
STNU	**Starunia**	**3.77**	**110**	P	**Pn**	**18 26 38.1**	**+0.5**
MORH	**Mrgy, Hungar**	**3.93**	**185**	⇑P	**Pn**	**18 26 39.5**	**-0.3**
MORH	**Mrgy, Hungar**	**3.93**	**185**	P	**Pn**	**18 26 40.4**	**+0.6**
CLL	**Collm**	**4.08**	**289**	*e*Pn	Pn	18 26 33.0	-8.7
CLL				*e*Pg	**Pg**	**18 26 56.0**	**-0.3**
CLL				*i* Sg	**Sg**	**18 27 51.8**	**+2.7**
	comp=Z,11nm,0.6s						
DRGR		**4.10**	**143**	⇑P	**Pn**	**18 26 41.6**	**-0.6**
SIRR	**Siria**	**4.22**	**156**	⇓P	**Pn**	**18 26 43.4**	**-0.2**
MARR	**Marisel-Cluj**	**4.35**	**141**	⇓P	**Pn**	**18 26 45.1**	**-0.6**
RNPP1	**Kostyukhnivka**	**4.38**	**71**	P	**Pn**	**18 26 47.0**	**+1.1**
RNPP5	**Staryi Chortor**	**4.43**	**73**	P	**Pn**	**18 26 47.8**	**+1.3**
BURAR	**Bucovina Array**	**4.73**	**120**	⇓P	**Pn**	**18 26 49.9**	**-1.0**
BZS	**Buzias**	**4.81**	**159**	⇓P	**Pn**	**18 26 51.6**	**-0.3**
SURR	**Surduc**	**4.81**	**154**	⇑P	**Pn**	**18 26 51.4**	**-0.5**
KMPD	**K-Podol'skiy**	**5.03**	**105**	P	**Pn**	**18 26 55.5**	**+0.6**
GZR	**Gura Zlata**	**5.33**	**151**	⇑P	**Pn**	**18 26 58.8**	**-0.3**
AKASG	**Malin Array Be**	**6.47**	**81**	Pn	**Pn**	**18 27 13.3**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=265,slow=13,SNR=2.8						
AKASG				Sn	**Sn**	**18 28 25.1**	**-4.0**
	comp=Z,0.4nm,0.3s,baz=262,slow=23,SNR=1.3						
AKASG				Lg	Lg	18 28 55.6	
	comp=Z,1.0nm,0.3s,baz=265,slow=28,SNR=4.5						
	comp=Z,0.1nm,0.2s						
BISRR	**Bisoca**	**6.85**	**129**	P	**Pn**	**18 27 20.1**	**+0.2**
	comp=Z,26nm,1.0s,comp=Z,19μmcomp=Z,0.7nm						
DAVOX	**Davos/Dischmat**	**7.01**	**245**	Pn	**Pn**	**18 27 22.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=38,slow=17,SNR=2.3						
DAVOX				Lg	Lg	18 29 23.5	
	comp=Z,0.1nm,0.3s,baz=299,slow=19,SNR=2.1						
	comp=Z,1.1nm,0.6s						
PURM	**Purcari**	**8.01**	**113**	P	**Pn**	**18 27 36.2**	**+0.6**
	comp=Z,85nm,0.7s,comp=Z,9μmcomp=Z,0.9nm						
FINES	**FINESS Array B**	**11.98**	**16**	Pn	**Pn**	**18 28 27.6**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=197,slow=13,SNR=1.8						
FINES				Sn	Sn	18 30 32.6	-12
	comp=Z,0.1nm,0.3s,baz=204,slow=23,SNR=2.0						
	comp=Z,5.8nm,1.1s						

*ATH **13** 18:57:24.5, 37°.87N×21°.08E, h27km±1km, ML3.3/13, Error ellipse: s-maj=1.8km s-min=0.7km az=207.0*
*THE **13** 18:57:25.0, 37°.88N×21°.09E, h20km±1km, ML3.5/10, Error ellipse: s-maj=1.6km s-min=0.5km az=237.0*
ISC 13 18:57:24.7±0.9, 37°.87N±0°.03×21°.08E±0°.02, h27km±7km, n56, σ0§58/77, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.25**	**231**	P	**Pb**	**18 57 30.8**	**-0.4**
LTHK				S	**Sb**	**18 57 36.2**	**+0.6**
	17μm,0.4s						
LTHK	**Lithakia**	**0.25**	**231**	P	**Pb**	**18 57 30.8**	**-0.4**
LTHK				S	**Sb**	**18 57 35.8**	**+0.2**
LTHK				AML	AML	18 57 37.6	
	comp=E,40168μm,0.3s						
LTHK				AML	AML	18 57 41.9	
	comp=N,28737μm,0.3s						
KRI1	**kERI**	**0.30**	**225**	P	**Pb**	**18 57 31.5**	**-0.3**
KRI1				S	**Sb**	**18 57 37.2**	**+0.6**
	comp=N,19μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.32**	**310**	P	**Pb**	**18 57 31.6**	**-0.5**
RTZL				S	**Sb**	**18 57 37.3**	**+0.1**
RLS	**Riolos of Patr**	**0.36**	**58**	P	**Pb**	**18 57 32.1**	**-0.6**
RLS				S	**Sb**	**18 57 37.9**	**-0.2**
	comp=N,10μm,0.4s						
RLS	**Riolos of Patr**	**0.36**	**58**	P	**Pb**	**18 57 32.2**	**-0.5**
RLS				S	**Sb**	**18 57 38.2**	**+0.1**
RLS				AML	AML	18 57 38.4	
	comp=N,16685μm,0.4s						
RLS				AML	AML	18 57 38.7	
	comp=E,21304μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.46**	**302**	P	**Pb**	**18 57 33.7**	**-0.7**
PSDA				S	**Sb**	**18 57 41.1**	**+0.2**
	comp=E,15μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.46**	**302**	P	**Pb**	**18 57 33.8**	**-0.6**
PSDA				S	**Sb**	**18 57 40.9**	**0.0**
VLS	**Valsamata**	**0.49**	**308**	P	**Pb**	**18 57 34.1**	**-0.8**
VLS				S	**Sb**	**18 57 41.9**	**0.0**
	comp=E,5μm,0.1s						
VLS	**Valsamata**	**0.49**	**308**	P	**Pb**	**18 57 34.4**	**-0.5**
VLS				S	**Sb**	**18 57 42.1**	**+0.2**
VLS				AML	AML	18 57 42.4	
	comp=E,11283μm,0.2s						
VLS				AML	AML	18 57 42.9	
	comp=N,8996μm,0.1s						
DRO	**Drossia**	**0.50**	**80**	P	**Pb**	**18 57 34.5**	**-0.5**
DRO				S	**Sb**	**18 57 42.8**	**+0.7**
	comp=N,5μm,0.4s						
DRO	**Drossia**	**0.50**	**80**	P	**Pb**	**18 57 34.5**	**-0.5**
DRO				S	**Sb**	**18 57 42.8**	**+0.7**
DRO				AML	AML	18 57 45.5	
	comp=N,10768μm,0.3s						
DRO				AML	AML	18 57 50.9	
	comp=E,8485μm,0.5s						
SMHA	**Samh**	**0.51**	**318**	P	**Pb**	**18 57 34.2**	**-1.0**
SMHA				S	**Sb**	**18 57 42.4**	**+0.2**
AMT	**Artemida-Makis**	**0.60**	**124**	P	**Pb**	**18 57 36.2**	**-0.4**
AMT				S	**Sb**	**18 57 44.0**	**-0.8**
AMT				AML	AML	18 57 47.5	
	comp=N,10748μm,0.6s						
AMT				AML	AML	18 57 47.8	
	comp=E,11051μm,0.8s						
LXRA	**Lixouri, Kepha**	**0.61**	**303**	P	**Pb**	**18 57 35.9**	**-0.8**
LXRA				S	**Sn**	**18 57 45.9**	**-0.6**
AST1	**Astakos**	**0.67**	**0**	P	**Pb**	**18 57 37.5**	**-0.3**
DMLN	**Damoulianata-K**	**0.67**	**303**	P	**Pb**	**18 57 37.3**	**-0.5**
DMLN				S	**Sn**	**18 57 48.2**	**+0.1**
	comp=E,4μm,0.6s						
DMLN	**Damoulianata-K**	**0.67**	**303**	P	**Pb**	**18 57 37.3**	**-0.5**
VSK1	**VASILIKIADES**	**0.68**	**323**	P	**Pb**	**18 57 37.2**	**-0.7**
VSK1				S	**Sn**	**18 57 48.1**	**-0.1**
	comp=E,2μm,0.7s						
UPR	**University Cam**	**0.69**	**53**	P	**Pb**	**18 57 38.1**	**-0.1**
UPR				S	**Sn**	**18 57 48.3**	**-0.3**
UPR	**University Cam**	**0.69**	**53**	P	**Pb**	**18 57 38.1**	**-0.1**
FSK	**Fiskardo**	**0.72**	**325**	P	**Pb**	**18 57 38.0**	**-0.6**
FSK				S	**Sb**	**18 57 48.4**	**+0.3**
	comp=E,1μm,0.6s						
FSK	**Fiskardo**	**0.72**	**325**	P	**Pb**	**18 57 37.7**	**-0.9**
FSK				AML	AML	18 57 52.6	
	comp=E,3026μm,0.2s						
FSK				AML	AML	18 57 55.1	
	comp=N,1784μm,0.5s						
EVGI	**Lefkada island**	**0.82**	**336**	P	**Pb**	**18 57 39.8**	**-0.6**
EVGI				S	**Sn**	**18 57 52.5**	**+0.7**
	comp=N,3μm,0.2s						
EVGI	**Lefkada island**	**0.82**	**336**	P	**Pb**	**18 57 39.7**	**-0.6**
EFP	**Efpalio**	**0.85**	**49**	P	**Pb**	**18 57 40.4**	**-0.5**
EFP	**Efpalio**	**0.85**	**49**	P	**Pb**	**18 57 40.4**	**-0.5**
EFP				AML	AML	18 57 55.0	
	comp=E,2473μm,0.3s						
EFP				AML	AML	18 57 55.6	
	comp=N,3413μm,0.6s						
KLV	**Kalavryta, Ach**	**0.86**	**78**	P	**Pb**	**18 57 40.4**	**-0.7**
KLV	**Kalavryta, Ach**	**0.86**	**78**	P	**Pb**	**18 57 40.4**	**-0.7**
NYDR	**Nydri-Lefkada**	**0.89**	**340**	P	**Pb**	**18 57 40.8**	**-0.8**
NYDR	**Nydri-Lefkada**	**0.89**	**340**	P	**Pb**	**18 57 40.9**	**-0.8**
ALIK	**Aliki, Aigiali**	**0.90**	**64**	P	**Pb**	**18 57 41.3**	**-0.4**
DRAG	**Dragano-Lefkad**	**0.91**	**334**	P	**Pb**	**18 57 41.2**	**-0.6**
DRAG	**Dragano-Lefkad**	**0.91**	**334**	P	**Pb**	**18 57 41.0**	**-0.8**
ITM	**Ithomi**	**0.96**	**136**	P	**Pb**	**18 57 42.7**	**0.0**
ITM	**Ithomi**	**0.96**	**136**	P	**Pb**	**18 57 42.4**	**-0.4**
LKD2	**Lefkada island**	**0.98**	**340**	P	**Pn**	**18 57 43.9**	**+1.2**
ANX	**Ano Chora**	**0.98**	**42**	P	**Pn**	**18 57 43.4**	**+0.6**
ANX	**Ano Chora**	**0.98**	**42**	P	**Pb**	**18 57 42.8**	**-0.3**

WRA Warramunga Arr 18.88 129 P **P** **19 04 09.6 +0.8**
0.3nm,0.3s,baz=302,slow=12,SNR=41
WRA S **S** **19 07 32.3 -3.4**
0.3nm,0.6s,baz=295,slow=22,SNR=1.3
ASAR Alice Springs 20.92 138 P **P** **19 04 32.5 +1.8**
0.5nm,0.3s,baz=316,slow=9.3,SNR=19
0.5nm,0.3s
STKA Stephens Creek 31.48 141 P **P** **19 06 09.3 +1.9**
0.6nm,0.8s,baz=318,slow=14,SNR=1.1
0.6nm,0.8s
MKAR Makanchi Array 63.92 333 P **P** **19 10 16.0 -0.7**
0.3nm,0.6s,baz=144,slow=4.8,SNR=1.8
0.3nm,0.6s

*BUT **13** 19:01:34.5±1.6, 46°.95N±0°.03×112°.53W±0°.04, h14km±4km, Error ellipse: s-maj=5.0km s-min=3.7km az=199.0*
NEIC 13 19:01:33.4±2.1, 46°.97N±0°.04×112°.53W±0°.03, h13km±4km, ML2.6/50, ML2.8/20(BUT), Error ellipse: s-maj=6.0km s-min=2.3km az=206.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.16**	**91**		Pb	19 01 38.5	+0.1
LYMT				Sg	Sb	19 01 41.0	-0.7
OVMT	**Ovando**	**0.34**	**286**		Pb	19 01 41.2	-0.1
BPMT	**Black Pine Rid**	**0.83**	**230**		Pg	19 01 49.6	+0.1
MSO	**Missoula**	**0.98**	**262**		Pb	19 01 52.6	+0.3
MSO				Sg	Sg	19 02 05.2	0.0
BOZ	**Bozeman (W)**	**1.51**	**155**		Pb	19 02 01.4	0.0
BOZ					Sb	19 02 21.0	+0.5
BOZ				IAML		19 02 22.8	
	86nm,0.3s						
BOZ				IAML		19 02 24.0	
	85nm,0.3s						
DLMT	**Dillon**	**1.61**	**182**		Pb	19 02 02.4	-0.7
EGMT	**Eagleton**	**2.15**	**60**		Pb	19 02 10.8	-1.5
YHL	**Hebgen Lake**	**2.32**	**156**	Pn	Pn	19 02 12.4	+0.8
YHL				IAML		19 02 51.2	
	comp=N,47nm,0.9s						
YHB	**Horse Butte**	**2.41**	**157**		Pn	19 02 14.1	+1.4
YHB				IAML		19 02 49.9	
	comp=E,36nm,0.5s						
YHB				IAML		19 02 51.4	
	comp=N,42nm,0.4s						
YHH	**Holmes Hill**	**2.48**	**151**		Pn	19 02 14.7	+1.0
YMR	**Madison River**	**2.55**	**154**		Pn	19 02 15.3	+0.7
YMR				IAML		19 02 53.6	
	comp=E,29nm,0.6s						
YMR				IAML		19 02 54.7	
	comp=N,38nm,0.4s						
YNR	**Norris Junctio**	**2.60**	**150**	Pn	Pn	19 02 17.2	+1.8
YNE	**Yellowstone No**	**2.63**	**137**	Pn	Pn	19 02 17.1	+1.3
YNE				IAML		19 02 58.0	
	comp=E,27nm,0.3s						
YNE				IAML		19 02 58.6	
	comp=N,30nm,0.3s						
YMP	**Mirror Lake Pl**	**2.78**	**143**	Pn	Pn	19 02 18.6	+0.7
YMP				IAML		19 03 03.4	
	comp=N,24nm,0.4s						
YMP				IAML		19 03 03.8	
	comp=E,27nm,0.8s						
RLMT	**Red Lodge**	**2.93**	**128**	Pn	Pn	19 02 20.4	+0.6
RLMT				IAML		19 03 09.3	
	comp=E,16nm,0.6s						
RLMT				IAML		19 03 10.8	
	comp=E,18nm,0.3s						
PLID	**Pearl Lake**	**3.07**	**233**		Pn	19 02 22.3	+0.5
FLWY	**Flagg Ranch**	**3.16**	**155**	Pn	Pn	19 02 23.4	+0.4
FLWY				IAML		19 04 19.1	
	comp=E,14nm,4.8s						
FLWY				IAML		19 04 25.5	
	comp=E,18nm,4.8s						
NEW	**Newport**	**3.37**	**294**		Pn	19 02 26.3	+0.6
NEW				IAML		19 03 50.3	
	comp=E,12nm,4.4s						
NEW				IAML		19 04 07.0	
	comp=E,12nm,4.8s						
MOOW	**Moose Ponds**	**3.46**	**158**	Pn	Pn	19 02 27.5	+0.3
FXWY	**Fox Creek**	**3.50**	**162**	Pn	Pn	19 02 27.9	+0.2
LOHW	**Long Hollow**	**3.62**	**157**	Pn	Pn	19 02 30.5	+1.1
LOHW				IAML		19 03 27.6	
	comp=E,10nm,3.9s						
LOHW				IAML		19 03 41.5	
	comp=E,10nm,4.6s						
TPAW	**Teton Pass**	**3.66**	**162**	Pn	Pn	19 02 28.8	-1.1
TPAW				IAML		19 03 30.1	
	comp=E,10nm,4.0s						
HLID	**Hailey**	**3.66**	**202**	Pn	Pn	19 02 29.3	-0.6
HLID				IAML		19 03 31.0	
	comp=E,14nm,0.6s						
HLID				IAML		19 03 32.7	
	comp=E,12nm,0.4s						
E09A	**Wood Farm, Sta**	**3.89**	**265**	Pn	Pn	19 02 32.7	-0.2
E09A				IAML		19 03 55.4	
	comp=E,8.6nm,2.0s						
E09A				IAML		19 04 01.8	
	comp=N,12nm,4.5s						
BMO	**Blue Mountains**	**3.95**	**239**	Pn	Pn	19 02 32.8	-1.1
BMO				IAML		19 04 22.2	
	comp=N,10.0nm,4.7s						
BMO				IAML		19 04 46.5	
	comp=N,7.8nm,4.8s						
C09A	**Chrisman Ranch**	**3.99**	**284**		Pn	19 02 33.4	-0.9
MFID	**Camas Ranch**	**4.25**	**214**		Pn	19 02 36.7	-1.3
LAO	**LASA Array**	**4.33**	**91**	Pn	Pn	19 02 36.5	-2.5
B08A	**Colville Reser**	**4.80**	**289**	Pn	Pn	19 02 42.7	-2.8

*DJA **13** 19:04:07.3±0.2, 2°.S±2°.×12°.1E±°, h10km, M4.7/26, mB5.1/10, mb4.9/16, MLv4.9/26, Mw(mB)4.5/10*
*NEIC **13** 19:04:08.8±2.1, 1°.83S±0°.05×120°.95E±0°.05, h33km±6km, mb4.4/24, Error ellipse: s-maj=7.6km s-min=6.8km az=171.0*
*IDC **13** 19:04:16.9±2.8, 2°.18S×120°.49E, h102km±31km, mb3.8/10, mbtmp4.1/13, MS3.3/15, Error ellipse: s-maj=33.6km s-min=15.3km az=59.0*
ISC 13 19:04:09.5±0.5, 1°.79S±0°.04×120°.87E±0°.04, h35km, n83, σ1§82/80, mb4.5/25, MS3.1/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.17**	**42**	P	**Pn**	**19 04 29.1**	**-0.3**
PCI	**Palu**	**1.36**	**310**	P	**Pn**	**19 04 29.4**	**-2.6**
TTSI	**Tana Toraja**	**1.63**	**220**	P	**Pn**	**19 04 36.5**	**+0.8**
TTSI				S	**Sn**	**19 04 58.1**	**+2.6**
LUWI	**Luwuk**	**2.04**	**69**	Pn	**Pn**	**19 04 41.1**	**-0.3**
LUWI				Sn	**Sn**	**19 05 01.8**	**-3.9**
LUWI	**Luwuk**	**2.04**	**69**	P	**Pn**	**19 04 42.2**	**+0.8**
LUWI				S	**Sn**	**19 05 10.9**	**+5.2**
MPSI	**Mapaga**	**2.33**	**335**	P	**Pn**	**19 04 43.1**	**-2.3**
SPSI	**Sidrap Palu**	**2.42**	**207**	P	**Pn**	**19 04 47.1**	**+0.4**
MRSI	**Marisa**	**2.49**	**25**	P	**Pn**	**19 04 45.8**	**-1.9**
BNSI	**Bone**	**2.70**	**196**	P	**Pn**	**19 04 52.3**	**+1.8**
KDI	**Kendari**	**2.77**	**141**	P	**Pn**	**19 04 52.5**	**+1.0**
TOLI2	**Tolitoli**	**2.88**	**358**	Pn	**Pn**	**19 04 52.5**	**-0.5**
TOLI2				Sn	**Sn**	**19 05 27.0**	**+0.5**
KAPI	**Kappang**	**3.39**	**199**	Pn	**Pn**	**19 04 59.1**	**-0.9**
KAPI	**Kappang**	**3.39**	**199**	P	**Pn**	**19 05 00.8**	**+0.8**
	229nm,0.6s,baz=15,slow=11,SNR=44						
KAPI				S	**Sn**	**19 05 36.7**	**-2.3**
	202nm,0.6s,baz=24,slow=20,SNR=1.9						
KAPI				LR	LR	19 06 09.9	
	comp=Z,186nm,19.3s,baz=41,slow=39						
BKSI	**Bulukumba**	**3.59**	**192**	P	**Pn**	**19 05 02.8**	**+0.1**
KMSI	**Cibinong**	**3.90**	**53**	P	**Pn**	**19 05 07.1**	**+0.1**
BKB	**Balikpapan**	**4.01**	**278**	Pn	**Pn**	**19 05 07.8**	**-0.6**
BKB				Sn	**Sn**	**19 05 55.7**	**+1.5**
BKB	**Balikpapan**	**4.01**	**278**	P	**Pn**	**19 05 07.9**	**-0.6**
BBSI	**Bau Bau**	**4.04**	**155**	P	**Pn**	**19 05 10.6**	**+1.6**
BSSI	**Bau Bau, Buton**	**4.34**	**185**	P	**Pn**	**19 05 13.4**	**+0.3**
SANI	**Sanana**	**5.12**	**93**	P	**Pn**	**19 05 22.4**	**-1.4**
	47nm,0.7s,647nm						
MTKI	**Muara Teweh, K**	**6.03**	**278**	P	**Pn**	**19 05 34.9**	**-1.4**
	121nm,0.5s,2μm0.8nm						
NLAI	**Namlea**	**6.39**	**103**	P	**Pn**	**19 05 43.1**	**+1.9**
	50nm,0.7s,698nm0.3nm						
LBMI	**Labuha**	**6.73**	**80**	P	**Pn**	**19 05 45.9**	**0.0**
MMRI	**Maumere**	**6.94**	**169**	Pn	**Pn**	**19 05 47.0**	**-1.8**
MMRI	**Maumere**	**6.94**	**169**	P	**Pn**	**19 05 50.5**	**+1.7**
	40nm,0.8s,0.2nm						
TNTI	**Ternate**	**6.98**	**69**	Pn	**Pn**	**19 05 47.6**	**-1.7**
TNTI	**Ternate**	**6.98**	**69**	P	**Pn**	**19 05 49.5**	**+0.2**
MYLDM	**Lahad Datu**	**7.32**	**341**	Pn	**Pn**	**19 05 55.3**	**+1.3**
SOEI	**Soe**	**8.60**	**157**	Pn	**Pn**	**19 06 10.2**	**-1.6**
SOEI	**Soe**	**8.60**	**157**	P	**Pn**	**19 06 14.8**	**+3.0**
	87nm,0.9s						
BATI	**Baumata**	**8.81**	**162**	P	**Pn**	**19 06 19.0**	**+4.5**
	21nm,1.0s,baz=145,slow=8.0,SNR=2.7						
BATI				LR	LR	19 10 05.0	
	comp=Z,256nm,18.0s,baz=5.5,slow=41						
KKM	**Kota Kinabalu**	**9.06**	**329**		**Pn**	**19 06 17.9**	**-0.2**
SBUM	**Sibu**	**9.62**	**296**	Pn	**Pn**	**19 06 24.4**	**-1.1**
DAV	**Davao City (W)**	**9.98**	**28**	LR	LR	19 10 35.8	
	comp=Z,258nm,20.1s,baz=189,slow=36						
SWI	**Sorong**	**10.43**	**85**	P	**Pn**	**19 06 37.7**	**+1.0**
FAKI	**Fak Fak**	**11.43**	**96**	Pn	**Pn**	**19 06 49.0**	**-1.3**
FAKI	**Fak Fak**	**11.43**	**96**	P	**Pn**	**19 06 51.4**	**+1.0**
LEM	**Lembang**	**14.13**	**249**	LR	LR	19 14 06.1	
	comp=Z,290nm,19.2s,baz=174,slow=43						
KNRA	**Kununurra**	**15.84**	**151**		**Pn**	**19 07 51.4**	**+1.4**
FITZ	**Fitzroy Crossi**	**16.87**	**164**		**Pn**	**19 08 01.4**	**-1.6**
FITZ	**Fitzroy Crossi**	**16.87**	**164**	P	**P**	**19 08 05.0**	**+0.1**
	2.0nm,0.8s,baz=5.1,slow=3.2,SNR=2.7						
FITZ				LR	LR	19 15 18.6	
	comp=Z,82nm,19.0s,baz=350,slow=40						
MYKOM	**Kota Tinggi**	**17.38**	**282**	P	**P**	**19 08 10.3**	**-0.3**
MBWA	**Marble Bar**	**19.28**	**183**	P	**P**	**19 08 29.0**	**-2.4**
MBWA				IAmb	IAmb	19 09 12.5	
	comp=Z,18nm,1.3s						
WB0	**Warramunga Arr**	**22.23**	**144**	P	**P**	**19 09 00.7**	**-2.7**
WB0				IAmb	IAmb	19 09 19.3	
	comp=Z,17nm,1.0s						
WRAB	**Tennant Creek**	**22.34**	**145**	P	**P**	**19 09 02.1**	**-2.4**
WRAB				IAmb	IAmb	19 09 17.5	
	comp=Z,11nm,1.0s						
WRA	**Warramunga Arr**	**22.34**	**145**	P	**P**	**19 09 03.9**	**-0.6**
	comp=Z,3.4nm,1.1s,baz=314,slow=12,SNR=10						
WRA				LR	LR	19 18 16.2	
	comp=Z,57nm,19.4s,baz=12,slow=38						
	comp=Z,3.4nm,1.1s						
RPSI	**Rantau Prapat**	**22.39**	**281**	P	**P**	**19 09 04.0**	**-1.1**
RPSI				IAmb	IAmb	19 09 12.4	
	comp=Z,23nm,1.1s						
GSI	**Gunungsitoli**	**23.49**	**277**	P	**P**	**19 09 15.9**	**-0.6**
SRIT	**Nakonsritamara**	**23.58**	**296**	P	**P**	**19 09 16.0**	**-1.3**
SRIT				IAmb	IAmb	19 09 34.5	
	comp=Z,8.6nm,1.0s						
TWG	**Pinlang**	**24.46**	**0**	P	**P**	**19 09 23.8**	**-1.6**
TPUB	**Ta-pu**	**24.94**	**359**	P	**P**	**19 09 27.2**	**-2.6**
AS31	**Alice Springs**	**25.15**	**151**	P	**P**	**19 09 29.1**	**-2.6**
ASAR	**Alice Springs**	**25.15**	**151**	P	**P**	**19 09 31.7**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=321,slow=8.3,SNR=17						
ASAR				PcP	**PcP**	**19 13 04.1**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=346,slow=2.2,SNR=1.6						
ASAR				LR	LR	19 20 13.8	
	comp=Z,63nm,21.1s,baz=324,slow=38						
	comp=Z,1.5nm,0.8s						
CM31	**Chiang Mai Arr**	**29.50**	**314**	P	**P**	**19 10 10.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**29.50**	**314**	P	**P**	**19 10 11.0**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=140,slow=7.3,SNR=2.2						
CMAR				LR	LR	19 23 44.0	
	comp=Z,26nm,19.3s,baz=165,slow=40						
	comp=Z,0.5nm,0.8s						
CHTO	**Chiang Mai**	**29.73**	**315**	P	**P**	**19 10 12.4**	**-0.4**
NWAO	**Narrogin (SRO)**	**31.16**	**186**	LR	LR	19 22 35.2	
	comp=Z,50nm,18.3s,baz=329,slow=36						
STKA	**Stephens Creek**	**35.74**	**149**	LR	LR	19 25 50.7	
	comp=Z,46nm,20.0s,baz=28,slow=36						
JHJ	**Hachijo jima 2**	**39.05**	**26**	LR	LR	19 29 58.1	
	comp=Z,72nm,18.6s,baz=36,slow=39						
HNR	**Honiara**	**39.59**	**103**	LR	LR	19 29 22.6	
	comp=Z,29nm,19.4s,baz=316,slow=38						
KSRS	**Korea Array**	**39.59**	**9**	P	P	19 11 42.9	+5.3
	comp=Z,0.8nm,0.7s,baz=184,slow=9.9,SNR=2.3						
KSRS				LR	LR	19 31 09.3	
	comp=Z,18nm,18.6s,baz=135,slow=40						
	comp=Z,0.8nm,0.7s						
LZH	**Lanzhou**	**40.89**	**339**	*e*P	**P**	**19 11 47.8**	**-0.8**
LZH				sP	pP	19 11 58.9	-0.2
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
MJAR	**Matsushiro Arr**	**41.41**	**21**	LR	LR	19 29 09.1	
	comp=Z,18nm,18.6s,baz=218,slow=36						
GTA	**Gaotai**	**45.33**	**337**	P	**P**	**19 12 28.3**	**+3.9**
GTA				pP	pP	19 12 34.9	-0.1
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**46.86**	**11**	P	**P**	**19 12 34.0**	**-2.2**
USA0B				IAmb	IAmb	19 12 41.8	
	comp=Z,4.5nm,0.7s						
USRK	**Ussuriysk Ar.**	**46.86**	**11**	P	**P**	**19 12 39.7**	**+3.5**
	comp=Z,3.3nm,0.6s,baz=200,slow=7.7,SNR=6.1						
	comp=Z,3.3nm,0.6s						
ULN	**Ulaanbaatar**	**50.91**	**348**	P	**P**	**19 13 06.7**	**-0.7**
ULN				IAmb	IAmb	19 13 13.5	
	comp=Z,6.2nm,0.7s						
SONM	**Songino Array**	**51.02**	**347**	P	**P**	**19 13 10.7**	**+2.5**
	comp=Z,3.5nm,0.7s,baz=167,slow=8.9,SNR=16						
	comp=Z,3.5nm,0.7s						
HEH	**HeiHe**	**52.15**	**5**	*e*P	P	19 13 06.9	-10
HEH				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSH	**Kashi**	**58.13**	**320**	P	**P**	**19 14 04.3**	**+4.3**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MK31	**Makanchi Array**	**59.05**	**330**	P	**P**	**19 14 06.7**	**+0.5**
MK31				IAmb	IAmb	19 14 12.0	
	comp=Z,4.1nm,0.8s						
MKAR	**Makanchi Array**	**59.05**	**330**	P	**P**	**19 14 05.8**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=134,slow=7.1,SNR=18						
	comp=Z,2.2nm,0.6s						
MAKZ	**Makanchi**	**59.22**	**330**	P	**P**	**19 14 08.2**	**+0.9**
MAKZ				IAmb	IAmb	19 14 13.0	
	comp=Z,6.8nm,1.1s						
ARSB	**Arslanbob**	**61.03**	**320**	P	**P**	**19 14 20.4**	**+0.5**
GAR	**Garm**	**61.62**	**317**	P	**P**	**19 14 22.6**	**-1.4**
GAR				IAmb	IAmb	19 14 38.5	
	comp=Z,4.8nm,0.7s						
ZAA0	**Zalesovo Array**	**63.09**	**337**	P	**P**	**19 14 34.0**	**+0.7**
ZALV	**Zalesovo Beam**	**63.09**	**337**	P	**P**	**19 14 35.0**	**+1.7**
	comp=Z,7.4nm,0.8s,baz=111,slow=6.5,SNR=25						
	comp=Z,7.4nm,0.8s						
KURBB	**Kurchatov Arra**	**63.47**	**331**	P	**P**	**19 14 38.2**	**+2.3**
	comp=Z,4.4nm,1.0s,baz=144,slow=5.9,SNR=20						
	comp=Z,4.4nm,1.0s						
KURK	**Kurchatov**	**63.49**	**331**	P	**P**	**19 14 36.8**	**+0.8**
BVAR	**Borovoye Array**	**68.93**	**330**	P	**P**	**19 15 11.9**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=140,slow=7.2,SNR=8.2						
	comp=Z,1.2nm,0.6s						
BRVK	**Borovoye**	**69.00**	**330**	P	**P**	**19 15 11.9**	**+0.5**
BRVK				IAmb	IAmb	19 15 47.5	
	comp=Z,2.4nm,0.9s						
ABKAR	**Akbulak array**	**72.86**	**323**	P	**P**	**19 15 35.2**	**+0.4**
ABKAR				IAmb	IAmb	19 15 46.4	
	comp=Z,2.3nm,0.9s						
BOSA	**Boshof**	**94.08**	**241**	LR	LR	19 52 14.0	
	comp=Z,33nm,21.3s,baz=169,slow=31						

IDC 13 19:18:18.1±9.9, 16°.72S×70°.88W, h138km±46km, mb3.4/2, mbtmp3.8/3, Error ellipse: s-maj=241.8km s-min=92.3km az=13.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.68**	**81**	P	Pn	19 19 01.5	0.0
	14nm,0.3s,baz=271,slow=15,SNR=112						
H03N1	**Juan Fernandez**	**18.16**	**202**	T	T	19 40 13.2	
	baz=23,slow=73,SNR=516						
H03N2	**Juan Fernandez**	**18.16**	**202**	T	T	19 40 12.9	
	baz=23,slow=73,SNR=466						
H03N3	**Juan Fernandez**	**18.17**	**202**	T	T	19 40 12.0	
	baz=23,slow=73,SNR=367						
TORD	**Torodi Ar. Bea**	**77.59**	**72**	P	P	19 29 59.5	0.0
	0.7nm,0.5s,baz=265,slow=4.9,SNR=6.8						
	0.7nm,0.5s						
ESDC	**Sonseca Array**	**83.79**	**46**	P	P	19 30 32.3	+0.2
	0.4nm,0.5s,baz=244,slow=6.4,SNR=2.5						
	0.4nm,0.5s						
SONM	**Songino Array**	**148.89**	**4**	PKPbc	PKPbc	19 37 49.2	-0.6
	0.3nm,0.5s,baz=9.7,slow=2.3,SNR=2.2						

*IDC **13** 19:59:32.5±3.4, 35°.29S×179°.65W, h0km, mb4.0/2, mbtmp3.9/3, ML3.5/1, Error ellipse: s-maj=76.8km s-min=47.4km az=123.0*
*WEL **13** 19:59:36.2±1.1, 36°.S±8°.×17°.9W±°, h33km, M3.9/8, ML4.2/10, MLv3.9/8, Error ellipse: s-maj=12.5km s-min=8.2km az=126.5, confirmed*

ISC 13 19:59:31.8±1.6, 35°.60S±0°.09×178°.9W±0°.1, h35km, n17, σ1§86/28, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.00**	**228**	P	**Pn**	**20 00 17.1**	**+0.2**
MXZ				S	**Sn**	**20 00 50.6**	**-0.9**
PUZ	**Puketiti**	**3.38**	**222**	P	**Pn**	**20 00 23.5**	**+1.4**
PUZ				S	**Sn**	**20 00 59.8**	**-1.1**
HAZ	**Te Kaha**	**3.44**	**230**	P	**Pn**	**20 00 24.5**	**+1.5**
HAZ				S	**Sn**	**20 01 03.7**	**+1.2**
TWGZ	**Tauwhareparae**	**3.60**	**224**	P	**Pn**	**20 00 27.4**	**+2.2**
TWGZ				S	**Sn**	**20 01 07.2**	**+0.6**
RUGZ	**Raukumara Rang**	**3.64**	**229**	P	**Pn**	**20 00 26.9**	**+1.1**
RUGZ				S	**Sn**	**20 01 09.6**	**+2.1**
CNGZ	**Carnagh Statio**	**3.71**	**218**	P	**Pn**	**20 00 28.2**	**+1.6**
CNGZ				S	**Sn**	**20 01 08.3**	**-0.7**
MWZ	**Matawai**	**3.97**	**226**	P	**Pn**	**20 00 31.0**	**+0.8**
MWZ				S	**Sn**	**20 01 14.9**	**-0.7**
RIGZ	**Rimuhau**	**4.10**	**220**	P	**Pn**	**20 00 33.7**	**+1.6**
RIGZ				S	**Sn**	**20 01 18.5**	**-0.4**
URZ	**Urewera**	**4.17**	**229**	Pn	**Pn**	**20 00 33.6**	**+0.7**
	3.0nm,0.3s,baz=39,slow=6.8,SNR=16						
URZ				Sn	**Sn**	**20 01 18.6**	**-1.9**
	3.6nm,0.3s,baz=216,slow=21,SNR=2.3						
	6.2nm,0.3s						
URZ	**Urewera**	**4.17**	**229**	P	**Pn**	**20 00 34.0**	**+1.0**
URZ				S	**Sn**	**20 01 18.2**	**-2.3**
KNZ	**Kokohu**	**4.39**	**218**	P	**Pn**	**20 00 36.8**	**+0.9**
KNZ				S	**Sn**	**20 01 19.7**	**-6.1**
WCZ	**Waipu Caves**	**5.53**	**265**	P	**Pn**	**20 00 54.4**	**+2.7**
OUZ	**Omahuta**	**6.17**	**271**	P	**Pn**	**20 00 58.7**	**-1.7**
CTZ	**Chatham Island**	**8.31**	**169**	P	Pn	20 01 36.2	+6.5
CTZ				S	**Sn**	**20 03 01.2**	**-1.0**
ASAR	**Alice Springs**	**42.38**	**273**	P	**P**	**20 07 23.4**	**+0.5**
	0.9nm,0.7s,baz=112,slow=7.9,SNR=10						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**43.83**	**278**	P	**P**	**20 07 34.8**	**+0.1**
	2.5nm,0.7s,baz=119,slow=7.6,SNR=16						
	2.5nm,0.7s						
FINES	**FINESS Array B**	**149.69**	**336**	PKPbc	**PKPab**	**20 19 21.4**	**-0.9**
	1.2nm,0.8s,baz=72,slow=4.5,SNR=0.8						

*MOS **13** 20:00:37.2±1.0, 35°.59N×69°.83E, h103km, mb4.8/39, Error ellipse: s-maj=4.7km s-min=3.4km az=92.7*
*BJI **13** 20:00:38.1, 35°.76N×69°.78E, h100km, mb4.5/42, mB4.9/23*
*NEIC **13** 20:00:38±2.0, 35°.51N±0°.04×69°.63E±0°.07, h99km±2km, mb4.8/95, Error ellipse: s-maj=7.9km s-min=5.9km az=95.0*
*IDC **13** 20:00:39.9±2.2, 35°.63N×69°.75E, h114km±20km, mb4.1/30, mbtmp4.5/33, MS3.7/58, Error ellipse: s-maj=10.7km s-min=8.7km az=159.0*
*GCMT **13** 20:00:41.0±0.2, 35°.73N±0°.01×69°.50E±0°.02, h89km±2km, MW4.9/101, Moment Tensor Solution. s30,c35; s101,c153; Duration: 0 Moment tensor: Scale 1016Nm; Mrr0.15±.08; Mθθ1.92±.09; Mφφ-2.07±.08; Mrθ1.60±.04; Mθφ0.95±.07; Mφr-0.22±.05; Best double couple: M0=2.70100×1016 NP1:φs=124.00000°, δ81.00000°, λ32.00000°. NP2:φs=28.00000°, δ58.00000°, λ169.00000°. Principal axes: T 2.9650, Plg29.0000°, Azm351.0000°; N -0.5290, Plg57.0000°, Azm138.0000°; P -2.4370, Plg15.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NNC **13** 20:00:50.9±13.0, 36°.37N×70°.37E, h236km±165km, mb4.3, mpv5.2 Error ellipse: s-maj=123.1km s-min=79.8km az=2.0*
ISC 13 20:00:37.3±0.3, 35°.52N±0°.03×69°.79E±0°.03, h95km±2km, h95km:pP-P, n555, σ1§48/572, mb4.7/153, 53C-17D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.16**	**212**	Pn	**Pn**	**20 00 58.7**	**-0.6**
KBL				Sn	**Sn**	**20 01 15.1**	**-0.8**
SIMJ	**Simiganj**	**3.19**	**349**		**Pn**	**20 01 25.4**	**-0.2**
NIL	**Nilore**	**3.42**	**122**		**Pn**	**20 01 29.9**	**+1.4**
NIL	**Nilore**	**3.42**	**122**	P	**Pn**	**20 01 30.4**	**+1.9**
NIL	**Nilore**	**3.42**	**122**	PN	**Pn**	**20 01 29.9**	**+1.4**
GAR	**Garm**	**3.50**	**7**		**Pn**	**20 01 30.8**	**+1.2**
DRK	**Karamyk**	**4.26**	**21**	Pn	**Pn**	**20 01 42.0**	**+1.8**
DRK	**Karamyk**	**4.26**	**21**	PN	**Pn**	**20 01 42.0**	**+1.8**
SRNI	**Srinagar**	**4.40**	**107**	*e*P	**Pn**	**20 01 43.4**	**+1.6**
BTK	**Batken**	**4.60**	**10**	Pn	**Pn**	**20 01 46.2**	**+1.6**
BTK	**Batken**	**4.60**	**10**	PN	**Pn**	**20 01 46.2**	**+1.6**
HRA	**Herat**	**6.30**	**262**	Pn	**Pn**	**20 02 06.8**	**-0.9**
ARSB	**Arslanbob**	**6.31**	**22**	Pn	**Pn**	**20 02 07.1**	**-0.7**
ARSB	**Arslanbob**	**6.31**	**22**	PN	**Pn**	**20 02 07.1**	**-0.7**
DHRM	**DHARAMSHALA**	**6.32**	**119**	*e*x	x	20 02 21.7	
DHRM				*e*S	**Sn**	**20 03 15.4**	**-3.7**
DHRM				IAML		20 03 19.6	
	comp=N,832nm,0.4s						
DHRM				IAML		20 03 19.9	
	comp=E,898nm,0.3s						
DHRM				IAML		20 03 22.8	
	comp=E,975nm,0.1s						
KSH	**Kashi**	**6.33**	**49**	P	**Pn**	**20 02 05.8**	**-2.3**
KSH				S	**Sn**	**20 03 11.9**	**-7.0**
KSH				smax	smax		
	comp=E,2μm,0.6s						
KSH				smax	smax		
	comp=E,2μm,0.7s						
SRGN	**SRI GANGA NAGA**	**6.57**	**147**	*e*x	Pn	20 02 06.3	-4.9
IUG	**luzhnay**	**6.62**	**2**	*e*P	**Pn**	**20 02 12.2**	**+0.3**
IUG	**luzhnay**	**6.62

JASL ex x 20 04 07.9
TKM2 Tokmak 2 8.65 30 P **Pn 20 02 40.9 +1.1**
SNR=41
TKM2 Tokmak 2 8.65 30 ⇓P **Pn 20 02 40.8 +1.1**
comp=Z,61nm,0.6s
TKM2 ⇑S **Sn 20 04 15.4 -0.2**
comp=Z,400nm,1.1s
DDI Dehra Dun 8.67 124 eP **Pn 20 02 40.1 +0.2**
DDI IAML 20 04 13.8
comp=E,646nm,0.3s
DDI ex x 20 04 14.5
DDI IAML 20 04 18.6
comp=E,606nm,0.6s
KDJ Kajisay 8.76 39 Pn **Pn 20 02 41.2 0.0**
KDJ Kajisay 8.76 39 PN **Pn 20 02 41.2 0.0**
TARG Taragay, Kyrgy 8.81 43 **Pn 20 02 42.7 +0.5**
TARG Taragay, Kyrgy 8.81 43 PN **Pn 20 02 42.7 +0.5**
NDI New Delhi 9.28 135 eP **Pn 20 02 47.0 -1.2**
NDI eS Sn 20 04 20.4 -10
NDI eS 20 04 23.5
KUDL Kundal 9.30 140 eS Sn 20 04 19.0 -12
WUS Wushi 9.32 50 Pn **Pn 20 02 49.4 +0.6**
TNSS Tian-Shan 9.33 34 eP **Pn 20 02 49.5 +0.3**
TNSS Tian-Shan 9.33 34 eP **Pn 20 02 49.4 +0.3**
JMIU JAMIA UNIVERSI 9.41 135 eS Sn 20 04 23.2 -11
MDOK Medeo 9.47 34 ⇓P **Pn 20 02 52.0 +1.1**
comp=E,47nm,0.7s
MDOK ⇑S Sn 20 04 21.2 -14
comp=E,209nm,1.2s
MDOK Medeo 9.47 34 eP **Pn 20 02 50.9 0.0**
MDOK eS **Sn 20 04 34.9 -0.7**
MDOK Medeo 9.47 34 eP **Pn 20 02 50.9 0.0**
MDOK eS **Sn 20 04 34.9 -0.7**
KNDC Almaty 9.48 34 ⇑P **Pn 20 02 53.0 +2.1**
comp=E,108nm,0.5s
KNDC ⇓S Sn 20 04 22.9 -13
comp=E,489nm,1.2s
SONA Sohna 9.54 137 eP **Pn 20 02 49.6 -2.1**
PRZ Przheval'sk 9.65 41 **Pn 20 02 54.3 +1.0**
PRZ Przheval'sk 9.65 41 P **Pn 20 02 54.3 +1.0**
AJM Ajmer 9.93 154 eP **Pn 20 02 53.1 -3.9**
AJM eS Sn 20 04 32.0 -15
AJM eS 20 04 35.0
BTLS Baital 10.05 18 eP **Pn 20 02 58.6 +0.1**
BTLS Baital 10.05 18 eP **Pn 20 02 58.6 +0.1**
SATY Saty 10.06 39 eP **Pn 20 02 59.4 +0.5**
SATY Saty 10.06 39 eP **Pn 20 02 59.3 +0.5**
ZHN Zhinishke 10.15 39 eP **Pn 20 03 00.6 +0.5**
ZHN Zhinishke 10.15 39 eP **Pn 20 03 00.5 +0.5**
UZB Uzynbulak 10.44 40 eP **Pn 20 03 04.3 +0.3**
UZB Uzynbulak 10.44 40 eP **Pn 20 03 04.3 +0.3**
KPKS Kokpek 10.49 38 eP **Pn 20 03 04.8 +0.1**
KPKS eS **Sn 20 04 59.5 -0.8**
KPKS Kokpek 10.49 38 eP **Pn 20 03 04.8 +0.1**
KPKS eS **Sn 20 04 59.4 -0.8**
ARXS Arharly 10.65 33 eP **Pn 20 03 05.8 -1.0**
SHLS Shalkode 10.68 42 eP **Pn 20 03 10.4 +3.1**
SHLS Shalkode 10.68 42 eP **Pn 20 03 10.4 +3.1**
LGTI Lohaghat 10.70 122 eP **Pn 20 03 05.2 -2.4**
LGTI eS Sn 20 04 56.3 -9.2
LGTI eS 20 04 56.6
TDK Taldyqorghan 11.52 32 eP **Pn 20 03 18.6 +0.1**
TDK Taldyqorghan 11.52 32 eP **Pn 20 03 18.6 +0.1**
JHNI Jhansi 12.54 141 eP **Pn 20 03 29.0 -3.2**
JHNI eS Sn 20 05 32.6 -17
NGCH Negor - Chabah 12.58 219 P **Pn 20 03 34.2 +1.5**
GUNA GUNA 12.65 147 eP **Pn 20 03 29.7 -4.0**
GUNA eS Sn 20 05 36.9 -16
GUNA ex x 20 05 40.4
BHPL Bhopal 13.93 149 eP **Pn 20 03 46.9 -3.5**
BHPL ex x 20 06 13.3
BHPL IAML 20 06 15.6
comp=E,136nm,0.7s
BHPL IAML 20 06 19.3
comp=E,276nm,1.0s
JASK Jask - Hormozg 14.05 230 P **Pn 20 03 52.1 0.0**
NRDN NARMADA NAGAR 14.29 151 eP **Pn 20 03 53.8 -1.3**
NRDN ex x 20 06 22.4
MAKZ Makanchi 14.52 35 Pn **Pn 20 03 57.1 -0.8**
MAKZ Makanchi 14.52 35 P **Pn 20 03 57.1 -0.8**
ALBI Allahabad 14.52 131 ex Sn 20 06 25.3 -13
MK31 Makanchi Array 14.66 36 Pn **Pn 20 03 58.9 -0.8**
MK31 Makanchi Array 14.66 36 d iP **Pn 20 03 59.4 -0.3**
MKAR Makanchi Array 14.66 36 P **Pn 20 03 59.5 -0.2**
comp=E,4.3nm,0.5s,baz=224,slow=15,SNR=86
MKAR LR LR 20 09 26.7
comp=E,356nm,19.8s,baz=222,slow=36
BANOM Banah 15.02 234 P **Pn 20 04 05.7 +1.2**
SHME Shamm 15.04 235 P **P 20 04 09.0 +1.2**
SHME Shamm 15.04 235 P **P 20 04 09.3 +1.5**
MSFE Esma-Masafi 15.50 233 P **P 20 04 13.6 +0.7**
AB31 Akbulak array 15.51 335 P **Pn 20 04 08.3 -2.2**
comp=E,98nm,0.5s,baz=153,slow=12,SNR=3863
ABKAR Akbulak array 15.51 335 Pn **Pn 20 04 07.8 -2.6**
WSAR Wadi Sarin 15.62 221 P **P 20 04 14.2 0.0**
comp=E,15nm,0.9s,baz=27,slow=5.6,SNR=7.2
WSAR LR LR 20 11 00.2
comp=E,223nm,20.9s,baz=62,slow=40
UOSS Minazif 15.76 232 Pn **Pn 20 04 12.8 -1.0**
UOSS Minazif 15.76 232 Pn **P 20 04 16.2 +0.4**
UOSS Minazif 15.76 232 P **Pn 20 04 14.8 +1.0**
HATD Hatta, Dubai 15.89 232 P **P 20 04 18.1 +0.8**
HATD Hatta, Dubai 15.89 232 P **P 20 04 18.3 +1.1**
ASHO Ashiyiah 16.04 231 P **Pn 20 04 18.1 +0.8**
WMQ Urumqi 16.06 54 eP **Pn 20 04 16.8 -0.7**
WMQ S **Sn 20 07 14.1 -1.1**
WMQ pmax pmax
comp=E,52nm,0.9s
WMQ pmax pmax
comp=E,200nm,3.9s
WMQ LR LR
comp=E,890nm,8.1s
WMQ LR LR
comp=E,780nm,6.9s
WMQ LR LR
comp=E,140nm,16.5s
AKL Akola 16.07 155 eP **Pn 20 04 15.9 -1.8**
AKL ex x 20 06 58.3
AKL ex x 20 07 03.4
SMDO Samad 16.08 223 P **Pn 20 04 18.6 +0.7**
JLN Jalan Bani Buh 16.11 217 P **P 20 04 21.5 +1.8**
SOHO SOHO 16.14 229 P **P 20 04 21.5 +1.6**
KURBB Kurchatov Arra 16.37 20 P **Pn 20 04 18.6 -2.5**
comp=E,28nm,1.0s,baz=210,slow=11,SNR=49
KURBB S **Sn 20 07 21.8 -0.6**
comp=E,6.9nm,1.0s,baz=349,slow=24,SNR=3.5
KURBB LR LR 20 11 04.6
comp=E,301nm,21.8s,baz=183,slow=38
ZSN Zaisan 16.39 39 eP **Pn 20 04 21.9 +0.4**
ZSN eS **Sn 20 07 22.8 -0.1**
ZSN Zaisan 16.39 39 eP **Pn 20 04 21.8 +0.4**
ZSN eS **Sn 20 07 22.7 -0.1**
NGP Nagpur 16.46 148 eP **Pn 20 04 20.0 -2.6**
NGP i pP **pP 20 04 36.8 -5.3**
NGP ex x 20 07 10.7
KURK Kurchatov 16.48 20 Pn **Pn 20 04 20.4 -2.0**
KURK Kurchatov 16.48 20 P **Pn 20 04 20.7 -1.8**
KURK Kurchatov 16.48 20 c iP **Pn 20 04 19.9 -2.6**
KURK pmax pmax
comp=Z,14nm,0.9s
ASUD Al Ashush, Dub 16.55 233 P **P 20 04 25.5 +1.0**
JMDO Jabal Madar 16.60 221 P **P 20 04 25.6 +0.5**
ALNE Al Ain 16.68 231 i P **P 20 04 27.7 +1.7**
SNR=11
ALNE Al Ain 16.68 231 P **Pn 20 04 25.7 +0.4**
SEM Semipalatinsk 16.70 24 eP **P 20 04 26.2 -0.1**
SEM Semipalatinsk 16.70 24 eP **P 20 04 26.2 -0.1**
ARQ Araqi 16.74 227 P **P 20 04 28.0 +1.3**
SNR=8.2
BSY Bisya 16.80 224 P **Pn 20 04 26.4 -0.3**
AJN Ajban 16.82 234 P **P 20 04 28.8 +1.3**
AKTO Aktyubinsk 17.18 334 ⇑P **Pn 20 04 29.0 -2.1**
comp=Z,93nm,0.7s
AKTO Aktyubinsk 17.18 334 P **Pn 20 04 30.2 -0.9**
comp=Z,134nm,0.5s,baz=145,slow=12,SNR=120
AKTO S **Sn 20 07 32.5 -9.4**
comp=Z,36nm,0.7s,baz=14,slow=23,SNR=6.4
AKTO LR LR 20 11 10.8
comp=Z,294nm,19.1s,baz=281,slow=37
BVA0 Borovoye Array 17.50 1 ⇑P **P 20 04 33.0 -1.8**
comp=Z,90nm,1.2s,baz=154,slow=13,SNR=460
BVAR Borovoye Array 17.50 1 P **P 20 04 34.2 -0.6**
comp=Z,46nm,0.5s,baz=175,slow=8.5,SNR=218

BVAR LR LR 20 12 20.4
comp=Z,343nm,19.7s,baz=145,slow=40
BRVK Borovoye 17.54 1 **P 20 04 34.0 -1.2**
BRVK Borovoye 17.54 1 P **P 20 04 35.0 -0.1**
BRVK Borovoye 17.54 1 P **P 20 04 34.0 -1.2**
MHTO MHTO 17.81 219 P **Pn 20 04 41.0 +2.0**
SNR=6.7
GTK Tadong 18.00 112 eP **Pn 20 04 42.5 +1.1**
JRN Qarnain Island 18.01 239 P **Pn 20 04 41.5 +0.1**
UMZA Um Al Zommool 18.03 229 P **Pn 20 04 41.4 -0.2**
MZWR Madinat Zayed 18.10 234 P **P 20 04 41.7 +0.1**
BOK Bokaro 18.20 126 eP **Pn 20 04 43.6 -0.1**
BOK ex x 20 07 54.2
BOK IAML 20 07 57.8
comp=E,79nm,0.8s
BOK IAML 20 07 59.0
comp=E,67nm,0.8s
JHSG JHARSUGUGA 18.37 135 eP **Pn 20 04 45.6 -0.1**
KAD Karad 18.56 167 ex **Pn 20 04 50.9 +2.9**
GHWR Ruwais 18.63 236 P **P 20 04 47.1 -0.4**
MAK Makhachkala 18.76 300 d iP **P 20 04 49.0 +0.4**
MAK eS **S 20 08 17.7 +0.8**
MAK pmax pmax
comp=Z,529nm,1.5s
MAK MLR MLR
comp=Z,572nm,15.0s
SHMA Al-Shehemyia 18.81 244 P **P 20 04 49.3 -0.1**
MZR Muzera 18.89 233 P **P 20 04 49.7 -0.6**
MZR Muzera 18.89 233 P **P 20 04 49.9 -0.3**
LSA Lhasa 18.90 102 P **P 20 04 51.4 +0.6**
LSA Lhasa 18.90 102 Pn **Pn 20 04 53.4 +1.0**
LSA Lhasa 18.90 102 P **Pn 20 04 52.6 +0.2**
LSA S **S 20 08 19.4 -1.4**
LSA LR LR
comp=Z,290nm,3.6s
LSA LR LR
comp=Z,190nm,6.7s
LSA Lhasa 18.90 102 P **Pn 20 04 54.6 +2.2**
LSA Lhasa 18.90 102 P **P 20 04 51.4 +0.6**
DQM DQM 18.92 218 P **Pn 20 04 52.9 +0.7**
SAKB Bahrain 19.06 245 P **P 20 04 52.8 +0.7**
TRNA Turayna 19.30 241 P **P 20 04 53.7 -1.0**
SLWR Sila 19.38 239 P **P 20 04 54.7 -0.8**
SMRA Abu-Samra 19.57 242 P **P 20 04 56.7 -0.9**
HYB Hyderabad 19.65 154 eP **Pn 20 05 00.7 -0.2**
HYB epP **pP 20 05 17.4 +0.4**
HYB esP **sP 20 05 30.5 +1.4**
HYB e 20 08 27.2
HYB eS **S 20 08 35.7 +0.5**
KBD Kabd 19.69 257 P **P 20 04 58.8 -0.1**
GOMU GeErMu 20.29 81 P Pn 20 05 08.8 +0.3
GOMU S **S 20 08 39.3 -8.8**
GOMU sS sS 20 09 19.0 -1.1
GOMU pmax pmax
comp=Z,47nm,1.3s
GOMU LR LR
comp=Z,280nm,8.8s
GOMU LR LR
comp=Z,420nm,6.9s
GOMU LR LR
comp=Z,180nm,8.8s
GNI Garni 20.29 291 P **P 20 05 05.2 -0.3**
GNI Garni 20.29 291 P Pn 20 05 08.8 +0.5
GNI Garni 20.29 291 P Pn 20 05 08.4 +0.1
comp=Z,90nm,0.8s,baz=25,slow=1.5,SNR=47
GNI LR LR 20 15 09.3
comp=Z,69nm,21.0s,baz=87,slow=43
GNI Garni 20.29 291 c eP Pn 20 05 08.8 +0.5
GNI pmax pmax
comp=Z,190nm,1.3s
ZAA0 Zalesovo Array 21.21 25 P **P 20 05 15.0 -0.1**
ZALV Zalesovo Beam 21.21 25 P **P 20 05 15.1 +0.1**
comp=Z,28nm,0.3s,baz=224,slow=9.5,SNR=99
ZALV S **S 20 09 03.8 -1.5**
comp=Z,9.1nm,0.7s,baz=216,slow=17,SNR=6.0
ZALV LR LR 20 14 09.8
comp=Z,232nm,19.6s,baz=223,slow=38
comp=Z,28nm,0.3s
SHL Shillong 21.42 112 P **P 20 05 18.5 +0.8**
SHL Shillong 21.42 112 P **P 20 05 20.2 +2.4**
SNR=13
SHL Shillong 21.42 112 eP **P 20 05 20.0 +2.3**
SHL eS **S 20 09 09.8 -0.5**
SHL Shillong 21.42 112 P **P 20 05 18.5 +0.8**
KARS Kars 21.60 292 P **P 20 05 18.8 -0.7**
KARS Kars 21.60 292 P **P 20 05 18.8 -0.7**
DOK Doka 21.81 224 P **P 20 05 21.8 +0.1**
SNR=15
ZIRO ZIRO 21.97 105 eP **P 20 05 24.5 +1.0**
ZIRO IAmb IAmb 20 05 28.6
comp=Z,72nm,0.4s
DMTO DMTO 22.10 220 P **P 20 05 25.1 +0.3**
SVE Sverdlovsk 22.19 347 de P **P 20 05 25.8 +0.4**
SVE pmax pmax
comp=Z,126nm,0.9s
KBZ Khabaz 22.20 300 P **P 20 05 25.5 -0.2**
comp=Z,10nm,0.7s,baz=107,slow=13,SNR=14
KBZ LR LR 20 16 03.8
comp=Z,95nm,18.9s,baz=110,slow=42
comp=Z,10nm,0.7s
KBZ Khabaz 22.20 300 de P **P 20 05 27.7 +2.0**
KBZ pmax pmax
comp=Z,15nm,0.7s
ARTI Arti 22.26 343 P **P 20 05 25.0 -1.2**
ARTI Arti 22.26 343 LR LR 20 14 46.9
comp=Z,198nm,20.4s,baz=160,slow=38
ARTI Arti 22.26 343 c iP **P 20 05 26.4 +0.2**
ARTI *PP **pP 20 05 47.6 +2.0**
ARTI 20 05 59.6
ARTI S **S 20 09 25.3 +0.5**
ARTI SS **SnSn 20 10 06.2 +4.8**
ARTI pmax pmax
comp=Z,108nm,1.4s
GURO Guroymak-BITLI 22.33 286 P **P 20 05 26.3 -1.0**
SHA1 Shidzhatmaz 22.38 300 de P **P 20 05 28.4 +0.6**
KIV Kislovodsk 22.40 300 P **P 20 05 27.4 -0.6**
KIV Kislovodsk 22.40 300 i P **P 20 05 28.1 +0.1**
SNR=9.9
KIV Kislovodsk 22.40 300 P **P 20 05 30.1 +2.2**
KIV Kislovodsk 22.40 300 ⇑P **P 20 05 30.0 +2.1**
KIV Kislovodsk 22.40 300 eP **P 20 05 29.5 +1.6**
KIV eS **S 20 09 29.7 +2.2**
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,92nm,14.0s
KIV Kislovodsk 22.40 300 P **P 20 05 27.7 -0.2**
comp=Z,38nm,0.8s,comp=Z,363nm
GOF Gofitskoye 22.43 303 c eP **P 20 05 29.7 +1.6**
WHFO Wadi Hawf 22.57 223 P **P 20 05 29.7 -0.1**
SNR=16
RBK Rabkut 22.67 222 P **P 20 05 30.5 -0.4**
SNR=6.3
KOHI KOHIMA 23.05 108 eP **P 20 05 36.0 +1.3**
KOHI IAmb IAmb 20 05 43.8
comp=Z,40nm,1.3s
AZL Aizawl 23.05 114 eP **P 20 05 36.6 +1.9**
AZL IAmb IAmb 20 05 47.2
comp=Z,17nm,0.6s
BELG Belogornoye 23.07 324 LR LR 20 15 33.6
comp=Z,159nm,18.7s,baz=115,slow=39
BELG Belogornoye 23.07 324 c iP **P 20 05 33.9 -0.4**
BELG pmax pmax
comp=Z,19nm,0.6s
ABTO Aybut 23.29 223 P **P 20 05 37.2 +0.3**
SNR=24
IMP Imphal 23.39 110 eP **P 20 05 40.5 +2.8**
IMP IAmb IAmb 20 05 43.4
comp=Z,17nm,0.9s
LKP Lekhapani 23.64 103 eP **P 20 05 42.4 +2.5**
LKP IAmb IAmb 20 05 47.1
comp=Z,47nm,1.0s
LABN Labinsk 23.93 301 eP **P 20 05 44.4 +2.1**
LABN pmax pmax
comp=Z,25nm,0.8s
GTA Gaotai 24.09 72 P **P 20 05 46.9 +2.9**
GTA pP pP 20 06 07.3 +1.4
GTA sP sP 20 06 16.6 -1.8
GTA pmax pmax
comp=Z,15nm,0.8s
GTA pmax pmax
comp=Z,110nm,6.8s
GTA LR LR
comp=Z,140nm,13.9s

GTA LR LR
comp=Z,130nm,11.6s
GTA LR LR
comp=Z,150nm,12.7s
VSLR Vesyoloye 24.20 298 ⇑ eP **P 20 05 46.3 +1.5**
VSLR pmax pmax
comp=Z,49nm,1.2s
RAYN Ar Rayn 24.21 247 P **P 20 05 44.3 -0.8**
RAYN Ar Rayn 24.21 247 i P **P 20 05 44.9 -0.3**
SNR=20
RAYN Ar Rayn 24.21 247 P **P 20 05 45.0 -0.1**
RAYN Ar Rayn 24.21 247 P **P 20 05 44.3 -0.8**
ERBR Yeremizino-Bor 24.34 304 eP **P 20 05 47.5 +1.5**
ERBR pmax pmax
comp=Z,49nm,1.2s
SOC Sochi 24.44 298 eP **P 20 05 46.1 -0.9**
SOC e*PP **pP 20 06 05.9 -2.7**
SOC e*SP **sP 20 06 20.2 -0.2**
SOC eS **S 20 09 59.5 -0.6**
SOC pmax pmax
comp=Z,18nm,0.8s
SOC MLR MLR
comp=Z,74nm,16.0s
ARPR Arapgir-MALATY 25.20 288 P **P 20 05 53.6 -0.5**
VRH Novokhopyorsk 25.52 317 eP **P 20 05 56.9 +0.3**
VRH pmax pmax
comp=Z,35nm,0.8s
GAZ Gaziantep 26.22 283 P **P 20 06 02.8 -0.5**
GAZ IAmb IAmb 20 06 43.7
comp=Z,33nm,1.2s
ANN Anapa 26.26 301 eP **P 20 06 04.5 +1.1**
ANN pmax pmax
comp=Z,63nm,1.5s
KIRV Kirov 26.71 336 LR LR 20 17 51.5
comp=Z,144nm,22.0s,baz=154,slow=39
KIRV Kirov 26.71 336 c eP **P 20 06 07.6 +0.3**
TNCH TengChong 26.84 105 P **P 20 06 12.6 +3.5**
TNCH pP pP 20 06 33.6 +1.9
TNCH sP sP 20 06 44.3 +1.0
TNCH S **S 20 10 39.8 +1.1**
TNCH sS sS 20 11 18.8 +1.1
TNCH pmax pmax
comp=Z,7.0nm,0.8s
TNCH pmax pmax
comp=Z,130nm,4.2s
VSR Storozhevoye 26.97 315 eP **P 20 06 09.1 -0.7**
VSR pmax pmax
comp=Z,10.0nm,0.4s
VORR Voronezh 27.14 316 eP **P 20 06 11.1 -0.1**
VORR pmax pmax
comp=Z,20nm,0.5s
BNN Bunyan 27.15 287 P **P 20 06 09.1 -2.6**
BNN IAmb IAmb 20 06 20.2
comp=Z,89nm,1.9s
LZH Lanzhou 27.55 79 eP **P 20 06 12.4 -2.9**
LZH pP sP 20 06 51.3 +1.7
LZH sP PP 20 07 05.5 -14
LZH PP **PP 20 07 17.8 -1.3**
LZH sS sS 20 11 16.4 -12
LZH SS **SnSn 20 12 04.8 -5.6**
LZH pmax pmax
comp=Z,17nm,1.0s
LZH LR LR
comp=N,310nm,15.1s
LZH LR LR
comp=E,250nm,13.4s
LZH LR LR
comp=Z,300nm,16.1s
LPSR Galich'ya Gora 27.69 318 eP **P 20 06 18.0 +1.9**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
KHAM Kharkiv 28.28 311 P **P 20 06 21.2 -0.3**
MMAI Mount Meron Ar 28.44 275 P **P 20 06 24.4 +1.3**
comp=Z,0.6nm,0.5s,baz=84,slow=15,SNR=1.5
comp=Z,0.6nm,0.5s
CD2 Chengdu 28.70 89 P **P 20 06 25.8 +0.3**
PZH PanZhiHua 28.72 99 P **P 20 06 28.1 +2.3**
PZH pP **pP 20 06 52.4 +3.9**
PZH S S 20 11 17.9 +10
PZH ScP **ScP 20 13 06.8 +0.2**
PZH ScS **ScS 20 16 59.8 -0.7**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.3s
BR104 Keskin Array S 28.81 289 P **P 20 06 26.6 +0.2**
comp=Z,4.4nm,0.8s
BR131 Keskin Array S 28.81 289 P **P 20 06 25.5 -1.0**
BR131 Keskin Array S 28.81 289 ⇑ i P **P 20 06 28.8 +2.3**
BRTR Keskin Array B 28.81 289 P **P 20 06 28.8 +2.3**
comp=Z,3.5nm,0.7s,baz=90,slow=9.5,SNR=12
comp=Z,3.5nm,0.7s
BR106 Keskin Array S 28.83 289 P **P 20 06 26.6 0.0**
comp=Z,5.6nm,0.7s
BR105 Keskin Array S 28.83 289 P **P 20 06 26.6 0.0**
comp=Z,7.2nm,0.8s
CSS Mathiatis 29.68 280 P **P 20 06 32.8 -1.2**
CSS IAmb IAmb 20 07 30.4
comp=Z,23nm,1.3s
SONM Songino Array 29.70 54 P **P 20 06 35.8 +1.6**
comp=Z,3.3nm,0.8s,baz=259,slow=9.8,SNR=20
SONM LR LR 20 20 23.0
comp=Z,170nm,19.6s,baz=270,slow=40
comp=Z,3.3nm,0.8s
MOS Moscow 29.82 323 eP **P 20 06 34.9 -0.1**
MOS pmax pmax
comp=Z,27nm,1.2s
EIL Elat 29.82 269 LR LR 20 20 49.1
comp=Z,46nm,21.2s,baz=61,slow=41
OBN Obninsk 30.06 321 P **P 20 06 36.3 -0.8**
OBN Obninsk 30.06 321 LR LR 20 20 06.1
comp=Z,174nm,20.2s,baz=141,slow=39
OBN Obninsk 30.06 321 ⇑ i P **P 20 06 37.5 +0.4**
OBN i *PP **pP 20 07 02.2 +3.0**
OBN i 20 07 34.2
OBN pmax pmax
comp=Z,22nm,1.1s
OBN MLR MLR
comp=Z,127nm,17.0s
OBN Obninsk 30.06 321 P **P 20 06 37.0 -0.1**
comp=Z,26nm,0.5s
ULN Ulaanbaatar 30.14 54 P **P 20 06 38.4 +0.2**
ULN Ulaanbaatar 30.14 54 ⇑ eP **P 20 06 39.7 +1.6**
ULN pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 30.14 54 P **P 20 06 39.8 +1.6**
ULN pP **pP 20 07 02.0 +1.0**
CHTO Chiang Mai 30.66 115 P **P 20 06 42.6 -0.2**
CHTO IAmb IAmb 20 07 53.9
comp=Z,14nm,1.1s
CHTO Chiang Mai 30.66 115 P **P 20 06 42.6 -0.2**
CHTO pmax pmax
comp=Z,14nm,1.1s
CM31 Chiang Mai Arr 30.88 116 P **P 20 06 44.3 -0.5**
CM31 IAmb IAmb 20 07 50.9
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 30.88 116 P **P 20 06 47.6 +2.9**
comp=Z,1.0nm,0.7s,baz=301,slow=8.9,SNR=12
comp=Z,1.0nm,0.7s
PURM Purcari 31.74 303 P **P 20 06 52.1 +0.1**
comp=Z,41nm,1.8s
PHRA Phrae 31.81 114 P **P 20 06 51.8 -1.1**
KLMR Klimovskoe 31.87 332 eP **P 20 06 51.6 -1.3**
KLMR pmax pmax
comp=Z,34nm,1.7s
BTO Baotou 31.88 69 eP **P 20 06 53.6 +0.1**
BTO pP **pP 20 07 16.4 0.0**
BTO sP **sP 20 07 26.6 -1.3**
BTO PP **PP 20 08 04.8 -2.3**
BTO S **S 20 11 57.3 -0.1**
BTO SS **SnSn 20 13 56.8 +1.4**
BTO pmax pmax
comp=Z,13nm,0.5s
BTO pmax pmax
comp=Z,190nm,5.0s
BTO LR LR
comp=Z,470nm,7.9s
BTO LR LR
comp=Z,360nm,8.0s
BTO LR LR
comp=Z,920nm,20.0s
ELL Elmali 32.07 284 P **P 20 06 53.7 -1.5**
ELL Elmali 32.07 284 P **P 20 06 53.7 -1.5**
ELL pmax pmax
comp=Z,73nm,0.9s

GYA Guiyang 32.72 96 P **P** **20 07 04.0 +3.0**
GYA sP sP 20 07 36.6 +1.1
GYA pmax pmax
comp=Z,130nm,12.6s
AK09 Malin Array Si 32.75 310 P **P** **20 07 00.8 0.0**
AK10 Malin Array Si 32.77 310 P **P** **20 07 00.9 -0.1**
AK08 Malin Array Si 32.77 310 P **P** **20 07 00.9 -0.1**
AK07 Malin Array Si 32.79 310 P **P** **20 07 01.2 0.0**
AKASG Malin Array Be 32.81 310 P **P** **20 07 01.4 +0.1**
comp=Z,8.4nm,0.5s,baz=86,slow=7.1,SNR=96
AKASG LR LR 20 22 56.8
comp=Z,136nm,18.4s,baz=136,slow=41
comp=Z,8.4nm,0.5s
AKBB Malin Array Si 32.81 310 P **P** **20 07 01.1 -0.2**
AKBB IAmb IAmb 20 07 02.8
comp=Z,19nm,0.8s
AKBB Malin Array Si 32.81 310*c* *i*P **P** **20 07 01.5 +0.2**
AKBB Malin Array Si 32.81 310 P **P** **20 07 01.1 -0.2**
KIEV Kiev 32.82 310 P **P** **20 07 01.2 -0.1**
KIEV IAmb IAmb 20 07 02.8
comp=Z,18nm,0.8s
KIEV Kiev 32.82 310 *i* P **P** **20 07 01.7 +0.4**
SNR=18
KIEV Kiev 32.82 310 ⇑P **P** **20 07 01.8 +0.4**
KIEV Kiev 32.82 310 ⇑P **P** **20 07 01.8 +0.4**
KIEV Kiev 32.82 310 P **P** **20 07 01.6 +0.4**
KIEV pP **pP** **20 07 23.6 +0.1**
KIEV sP **sP** **20 07 35.4 +0.5**
CFR Carcaliu 32.86 300 ⇓P **P** **20 07 03.8 +2.0**
CFR Carcaliu 32.86 300 ⇓P **P** **20 07 03.8 +2.0**
AK20 Malin Array Si 32.95 310 P **P** **20 07 02.4 -0.1**
SORM Soroca 32.95 305 ⇑P **P** **20 07 02.9 +0.3**
SORM Soroca 32.95 305 ⇑P **P** **20 07 02.9 +0.3**
SLVN Son La 32.98 106 P **P** **20 07 04.2 +1.0**
HHC Hu-ho-hao-te 33.03 68 *e*P **P** **20 07 05.4 +1.8**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,87nm,4.7s
ENH Enshi 33.58 88 P **P** **20 07 09.8 +1.4**
ENH IAmb IAmb 20 07 39.6
comp=Z,25nm,1.1s
ENH Enshi 33.58 88 P **P** **20 07 10.6 +2.2**
ENH pP **pP** **20 07 32.5 +1.1**
LUBAR Lubar, Ukraine 33.59 309 P **P** **20 07 08.1 0.0**
MI29 MI29, Kamyanyy 33.62 309 P **P** **20 07 07.0 -1.3**
comp=Z,82nm,1.2s
MI28 Mi28,Pidlybu 33.82 310 P **P** **20 07 10.0 -0.1**
comp=Z,281nm,0.5s
VRI Vrincioaia 33.88 301 ⇑P **P** **20 07 12.5 +1.8**
VRI Vrincioaia 33.88 301 ⇑P **P** **20 07 12.5 +1.8**
PLOR Plostina 33.93 301 ⇑P **P** **20 07 13.0 +1.8**
PLOR Plostina 33.93 301 ⇑P **P** **20 07 13.0 +1.8**
TESR Tescani 33.96 302 ⇑P **P** **20 07 13.2 +1.8**
COVR Voineasa-Covas 34.24 301 ⇓P **P** **20 07 15.2 +1.3**
TURR Turia 34.38 301 ⇑P **P** **20 07 16.5 +1.5**
MLR Muntele Rosu 34.41 300 P **P** **20 07 13.4 -2.1**
MLR Muntele Rosu 34.41 300 LR LR 20 24 37.8
comp=Z,84nm,18.1s,baz=78,slow=42
MLR Muntele Rosu 34.41 300 ⇑P **P** **20 07 17.8 +2.3**
MLR Muntele Rosu 34.41 300 ⇑P **P** **20 07 17.8 +2.3**
KARP Karpathos 34.49 283 P **P** **20 07 16.2 +0.1**
ALN Alexandroupoli 34.51 292 P **P** **20 07 15.9 -0.3**
ALN Alexandroupoli 34.51 292 P **P** **20 07 15.9 -0.3**
ALN pmax pmax
comp=Z,44nm,1.5s
MNK Minsk 34.52 317 *i* P **P** **20 07 15.5 -0.6**
comp=E,5.0nm,0.6s
MNK *i* P **P** **20 07 15.5 -0.6**
comp=N,7.0nm,0.7s
MNK *i* P **P** **20 07 15.5 -0.6**
comp=Z,8.0nm,0.7s,baz=106
MNK *i* pP **pP** **20 07 38.2 -0.4**
MNK *i* sP **sP** **20 07 50.0 +0.1**
MNK *i* PP **PnPn** **20 08 34.2 -0.1**
MNK *i* S **S** **20 12 37.6 0.0**
MNK *i* sS **sS** **20 13 17.5 +0.5**
MNK *i* SS **SnSn** **20 15 00.6 +2.0**
MNK *i* LQ LQ 20 18 54.2
MNK *i* LR LR 20 21 31.9
MNK *i* LRM MLR 20 22 28.3
comp=N,230nm,11.4s
MNK *i* LRM MLR 20 23 10.6
comp=Z,66nm,11.9s
MNK *i* LRM MLR 20 23 38.3
comp=E,295nm,10.4s
MNK Minsk 34.52 317 *i* P **P** **20 07 15.5 -0.6**
MNK *i* *PP **pP** **20 07 38.2 -0.4**
MNK *i* *SP **sP** **20 07 50.0 +0.1**
MNK *i* 20 08 34.2
MNK *i* 20 09 48.0
MNK *i* S **S** **20 12 37.6 0.0**
MNK *i* *SS **sS** **20 13 17.5 +0.5**
MNK *i* SS **SnSn** **20 15 00.5 +2.0**
MNK pmax pmax
comp=E,5.0nm,0.6s
MNK pmax pmax
comp=N,7.0nm,0.7s
MNK pmax pmax
comp=Z,8.0nm,0.7s
MNK MLR MLR
comp=N,230nm,11.0s
MNK MLR MLR
comp=Z,66nm,12.0s
MNK MLR MLR
comp=E,295nm,10.0s
RNPP5 Staryi Chortor 34.98 310 P **P** **20 07 20.1 0.0**
BURAR Bucovina Array 35.00 304 ⇑P **P** **20 07 21.7 +1.2**
BURAR Bucovina Array 35.00 304 ⇑P **P** **20 07 21.7 +1.2**
BUR08 Bucovina Ar. S 35.02 304 P **P** **20 07 21.1 +0.4**
CIT Chita 35.03 48 *e*P **P** **20 07 21.8 +1.2**
CIT *e* 20 07 43.4
CIT pmax pmax
comp=Z,44nm,2.6s
VOIR 35.04 300 ⇑P **P** **20 07 21.9 +1.1**
VOIR 35.04 300 ⇑P **P** **20 07 21.9 +1.1**
NACGM Naroch 35.24 317 *e*P **P** **20 07 23.5 +1.3**
comp=Z,23nm,0.9s,baz=105
NRIK Noril'sk 35.27 11 P **P** **20 07 23.1 +0.8**
NRIK Noril'sk 35.27 11 P **P** **20 07 22.5 +0.2**
comp=Z,27nm,0.9s,baz=205,slow=5.6,SNR=23
NRIK LR LR 20 24 27.9
comp=Z,308nm,18.4s,baz=174,slow=41
comp=Z,27nm,0.9s
NRIK Noril'sk 35.27 11*c* *i*P **P** **20 07 23.5 +1.2**
NRIK pmax pmax
comp=Z,32nm,1.1s
ARCR ARCALIA 35.56 303 ⇓P **P** **20 07 27.2 +2.0**
HNS HongShan 35.92 73 *e*P **P** **20 07 31.5 +3.2**
HNS pP **pP** **20 07 55.3 +3.7**
HNS pmax pmax
comp=Z,4.0nm,0.8s
HNS LR LR
comp=Z,210nm,12.9s
LOT Lotru 35.94 300 ⇑P **P** **20 07 30.7 +2.1**
JOF Joensuu 36.24 331 *e*P **P** **20 07 30.9 +0.3**
IDI Anoyia 36.35 283 P **P** **20 07 31.4 -0.7**
MARR Marisel-Cluj 36.40 302 ⇑P **P** **20 07 34.2 +1.8**
GZR Gura Zlata 36.64 300 ⇑P **P** **20 07 35.3 +0.8**
DRGR 36.68 303 ⇑P **P** **20 07 36.1 +1.3**
DRGR 36.68 303 ⇑P **P** **20 07 36.1 +1.3**
BERU Beregovo 36.76 305 P **P** **20 07 35.4 0.0**
KWP Kalwaria Pacla 36.81 307 P **P** **20 07 36.7 +0.9**
KWP IAmb IAmb 20 08 32.8
comp=Z,19nm,1.0s
KWP Kalwaria Pacla 36.81 307 P **P** **20 07 36.7 +0.9**
KWP pmax pmax
comp=Z,19nm,1.0s
PABE Paberze 36.95 317 P **P** **20 07 37.0 +0.2**
KOLS Kolonicke sedl 37.05 306 *e*P **P** **20 07 39.2 +1.4**
KOLS pmax pmax
comp=Z,7.0nm,0.7s
KOLS Kolonicke sedl 37.05 306 *e*P **P** **20 07 39.2 +1.4**
ARBE Arbavere 37.05 324 *e*P **P** **20 07 37.8 +0.1**
SUW Suwalki 37.09 315 P **P** **20 07 38.0 0.0**
SUW IAmb IAmb 20 08 56.0
comp=Z,17nm,0.9s
SUW Suwalki 37.09 315 P **P** **20 07 38.0 0.0**
SUW pmax pmax
comp=Z,17nm,0.9s
SURR Surduc 37.09 301 ⇓P **P** **20 07 40.1 +1.9**
BZS Buzias 37.45 301 ⇑P **P** **20 07 41.9 +0.7**
BZS Buzias 37.45 301 ⇑P **P** **20 07 41.9 +0.7**

BOVS Bovan 37.49 297 ⇓P **P** **20 07 42.5 +0.8**
AGG Agios Georgios 37.59 290 P **P** **20 07 41.8 -0.8**
AGG Agios Georgios 37.59 290 P **P** **20 07 41.8 -0.8**
AGG pmax pmax
comp=Z,48nm,1.6s
STHS Stebnicka Huta 37.74 307 *e*P **P** **20 07 44.4 +0.7**
STHS pmax pmax
comp=Z,4.0nm,0.8s
STHS Stebnicka Huta 37.74 307 *e*P **P** **20 07 44.4 +0.7**
FIA1 FINESS Array S 37.76 327 P **P** **20 07 42.8 -0.8**
FINES FINESS Array B 37.76 327 P **P** **20 07 43.7 +0.1**
comp=Z,4.7nm,0.5s,baz=116,slow=8.5,SNR=26
FINES LR LR 20 24 50.6
comp=Z,201nm,18.3s,baz=115,slow=38
comp=Z,4.7nm,0.5s
MTSE Matsula 37.88 322 *e*P **P** **20 07 45.1 +0.4**
LVZ Lovozero 38.01 339 P **P** **20 07 44.4 -1.3**
LVZ Lovozero 38.01 339 P **P** **20 07 44.4 -1.3**
LVZ pmax pmax
comp=Z,252nm,2.0s
FNA Florina 38.04 293 P **P** **20 07 45.1 -1.2**
FNA Florina 38.04 293 P **P** **20 07 45.2 -1.2**
FNA pmax pmax
comp=Z,7.0nm,0.9s
MEF Metsahovi 38.08 325 *e*P **P** **20 07 46.8 +0.5**
NIE Niedzica 38.36 307 *e*P **P** **20 07 51.8 +2.9**
SLIT Slitere, Latvi 38.36 320 *e*P **P** **20 07 48.0 -0.7**
KEF Keuruu 38.57 328 *e*P **P** **20 07 50.4 0.0**
PSZ Piszkesteto 38.60 304 P **P** **20 07 51.7 +0.7**
PSZ Piszkesteto 38.60 304 P **P** **20 07 51.7 +0.7**
PSZ pmax pmax
comp=Z,7.0nm,1.0s
OJC Ojcow 38.72 308 *e*P **P** **20 07 52.6 +0.8**
OJC Ojcow 38.72 308 P **P** **20 07 51.6 -0.2**
OJC IAmb IAmb 20 07 53.9
comp=Z,21nm,1.3s
OJC Ojcow 38.72 308 P **P** **20 07 51.6 -0.2**
OJC pmax pmax
comp=Z,21nm,1.3s
OJC Ojcow 38.72 308 P **P** **20 07 51.8 -0.1**
FURI Furi 38.83 235 LR LR 20 24 54.9
comp=Z,62nm,18.3s,baz=38,slow=37
LANS Liptovska Anna 38.90 306 *e*P **P** **20 07 55.2 +1.8**
LANS pmax pmax
comp=Z,2.0nm,0.7s
LANS Liptovska Anna 38.90 306 *e*P **P** **20 07 55.2 +1.8**
LANS *e*PP **PP** **20 09 25.0 +0.9**
PUK Puka 38.98 295 P **P** **20 07 54.1 -0.2**
VYHS Vyhne 39.31 305 *e*P **P** **20 07 58.6 +1.8**
VYHS pmax pmax
comp=Z,16nm,1.6s
VYHS Vyhne 39.31 305 *e*P **P** **20 07 58.6 +1.8**
KEK Kerkira 39.41 291 P **P** **20 07 57.1 -0.6**
KEK IAmb IAmb 20 08 20.2
comp=Z,22nm,0.9s
RAF Rauma 39.56 325 *e*P **P** **20 07 58.3 -0.4**
VAF Ylistaro 39.84 329 *e*P **P** **20 08 01.2 +0.3**
MAUC Maruska 39.97 307 *e*P **P** **20 08 04.1 +1.8**
JAVC Velka Javorina 40.08 306 *e*P **P** **20 08 05.0 +1.8**
MORC Moravsky Berou 40.16 307 P **P** **20 08 04.1 +0.2**
MORC Moravsky Berou 40.16 307 *e*P **P** **20 08 05.0 +1.1**
MORC Moravsky Berou 40.16 307 ⇑P **P** **20 08 04.8 +0.9**
MORC Moravsky Berou 40.16 307 ⇑P **P** **20 08 04.8 +0.9**
SMOL Smolenice 40.24 305 *e*P **P** **20 08 06.4 +1.9**
SMOL pmax pmax
comp=Z,5.0nm,0.9s
MODS Modra-Piesok 40.35 305 *e*P **P** **20 08 07.4 +2.0**
MODS Modra-Piesok 40.35 305 *e*P **P** **20 08 07.4 +2.0**
NJ2 Nanjing 40.59 80 *e*P **P** **20 08 10.1 +2.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
VRAC Vranov 40.78 307 LR LR 20 27 20.0
comp=Z,52nm,19.6s,baz=76,slow=39
VRAC Vranov 40.78 307 *e*P **P** **20 08 10.1 +1.1**
VADS Vadso 40.89 340 *e*P **P** **20 08 10.2 +0.7**
KRUC Moravsky 40.92 306 *e*P **P** **20 08 11.2 +1.1**
DPC Dobruska-Polom 40.95 308 *e*P **P** **20 08 12.0 +1.6**
DPC Dobruska-Polom 40.95 308 *e*P **P** **20 08 12.0 +1.6**
CHVC Chvalec 41.12 309 *e*P **P** **20 08 12.9 +1.1**
CHVC Chvalec 41.12 309 *e*P **P** **20 08 12.9 +1.1**
CONA Conrad Observa 41.31 305 *e*P **P** **20 08 14.8 +1.4**
comp=Z,10nm,1.1s
KEV Kevo 41.35 339 P **P** **20 08 13.1 -0.2**
KEV Kevo 41.35 339 P **P** **20 08 13.1 -0.2**
KEV pmax pmax
comp=Z,125nm,1.7s
KEV Kevo 41.35 339 P **P** **20 08 13.5 +0.2**
BLEU Blekinge 41.61 317 *i* P **P** **20 08 14.7 -0.9**
ARA0 ARCESS Array S 41.68 338 *e*P **P** **20 08 16.7 +0.7**
ARCES ARCESS Array B 41.68 338 P **P** **20 08 16.3 +0.3**
comp=Z,1.8nm,0.3s,baz=100,slow=8.2,SNR=42
ARCES LR LR 20 27 03.2
comp=Z,90nm,18.5s,baz=110,slow=38
comp=Z,1.8nm,0.3s
TIP Timpagrande 41.82 291 P **P** **20 08 15.8 -1.8**
SOKA Soboth 41.96 303 *e*P **P** **20 08 19.6 +0.9**
comp=Z,14nm,1.6s
BSD Bornholm Skovb 42.00 315 *i* P **P** **20 08 18.0 -0.8**
BSD IAmb IAmb 20 08 41.6
comp=Z,36nm,1.1s
PRU Pruhonice 42.10 308 *e*P **P** **20 08 21.2 +1.5**
PRU Pruhonice 42.10 308 *e*P **P** **20 08 21.2 +1.5**
KTK1 Kautokeino 42.12 337 *e*P **P** **20 08 19.8 +0.2**
GBRS Gornja Briga 42.23 301 *i* P **P** **20 08 21.9 +1.1**
IPM Ipoh 42.25 130 **P** **20 08 21.7 +0.4**
PSI Prapat 42.29 134 P **P** **20 08 22.5 +0.7**
PSI pmax pmax
comp=Z,26nm,0.9s
CKRC Cesky Krumlov 42.30 306 *e*P **P** **20 08 22.1 +0.7**
CKRC Cesky Krumlov 42.30 306 *e*P **P** **20 08 22.1 +0.7**
OBKA Obir 42.31 303 *e*P **P** **20 08 22.9 +1.4**
comp=Z,3.2nm,1.0s
ZVC Zvikov 42.35 307 *e*P **P** **20 08 23.4 +1.7**
CUC Castrocucco 42.36 293 P **P** **20 08 21.1 -0.9**
CUC IAmb IAmb 20 09 02.7
comp=Z,14nm,0.9s
RPSI Rantau Prapat 42.38 134 **P** **20 08 22.5 +0.2**
MOA Molln 42.39 305 *e*P **P** **20 08 23.1 +0.9**
comp=Z,10nm,1.3s
BRG Berggiesshubel 42.46 309 *i* P **P** **20 08 23.9 +1.3**
BRG Amp 20 08 25.1
comp=Z,7.0nm,0.7s
BRG Berggiesshubel 42.46 309 *i* P **P** **20 08 23.9 +1.3**
BRG pmax pmax
comp=Z,7.0nm,0.7s
CEL Celeste 42.68 290 P **P** **20 08 23.1 -1.6**
GERES GERESS Array B 42.70 306 P **P** **20 08 25.5 +0.8**
comp=Z,1.0nm,0.5s,baz=44,slow=8.9,SNR=4.9
GERES LR LR 20 28 28.7
comp=Z,67nm,18.1s,baz=56,slow=39
comp=Z,1.0nm,0.5s
DEL Delary 42.70 317 *i* P **P** **20 08 24.0 -0.5**
KHC Kasperske Hory 42.76 306 P **P** **20 08 24.0 -1.1**
KHC Kasperske Hory 42.76 306 *e*P **P** **20 08 25.7 +0.5**
KHC Kasperske Hory 42.76 306 ⇑*e*P **P** **20 08 26.3 +1.1**
KHC pmax pmax
comp=Z,20nm,2.5s
HAMF Hammerfest 42.78 339 *e*P **P** **20 08 25.9 +1.0**
LUNU Lund 42.88 316 *i* P **P** **20 08 26.0 +0.1**
MYKA Terra Mystica 42.92 303 *e*P **P** **20 08 27.7 +1.2**
comp=Z,2.2nm,0.5s
CN2 Changchun 42.93 61 *e*P P 20 08 21.4 -5.1
SABO M.te Sabotino 43.02 302 P **P** **20 08 25.8 -1.4**
SABO IAmb IAmb 20 08 29.3
comp=Z,19nm,1.0s
CLL Collm 43.05 310 *i* P P 20 08 32.3 +5.0
CLL pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 43.05 310 *i* Px Px 20 08 32.3
CLL *e*PP **PP** **20 10 06.0 -2.9**
CLL *i* PcP **PcP** **20 10 15.7 0.0**
comp=Z,5.0nm,0.8s
CLL *e*pPP 20 10 27.0
CLL *e*sPP 20 10 38.0
CLL *e*S **S** **20 14 42.0 -3.9**
CLL *e*sS sS 20 15 23.0 -3.2
CLL *e*SS **SS** **20 18 00.0 -1.2**
CLL AMS AMS 20 28 00.0
comp=Z,100nm,20.2s
ROBS Robic 43.05 302 *i* P **P** **20 08 28.3 +0.9**
HFS Hagfors 43.24 323 P **P** **20 08 28.5 -0.2**
comp=Z,11nm,0.4s,baz=98,slow=11,SNR=111
HFS LR LR 20 27 19.3
comp=Z,154nm,19.0s,baz=102,slow=37

comp=Z,11nm,0.4s
JETT Jettan, Norway 43.27 337 *e*P **P** **20 08 29.4 +0.5**
FABU Falkenberg 43.38 318 *i* P **P** **20 08 29.5 -0.4**
BORU Boraas 43.41 319 *i* P **P** **20 08 29.6 -0.5**
ZEA Zeya 43.45 47 *e*P **P** **20 08 32.9 +2.3**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
LESA Schwarzleotal 43.50 304 *e*P **P** **20 08 31.7 +0.6**
comp=Z,5.8nm,0.9s
HEH HeiHe 43.62 52 *e*P **P** **20 08 32.8 +0.8**
HEH pmax pmax
comp=Z,23nm,0.9s
CAMP Campotosto 43.66 297 P **P** **20 08 31.9 -0.7**
TRO Tromso 43.77 337 *e*P **P** **20 08 33.3 +0.4**
FDMO Fiordimonte 43.80 298 P **P** **20 08 32.7 -0.9**
FDMO IAmb IAmb 20 08 36.0
comp=Z,15nm,1.4s
NRCA Norcia 43.82 297 P **P** **20 08 33.2 -0.6**
TJOU Tjoern 44.05 319 *i* P **P** **20 08 34.6 -0.6**
MOR8 Moi Rana 44.19 331 *e*P **P** **20 08 35.9 -0.5**
WTTA Wattenberg 44.22 304 *e*P **P** **20 08 36.9 -0.1**
comp=Z,3.1nm,0.6s
FAUS Fauske 44.22 333 *e*P **P** **20 08 36.8 +0.3**
CESX Cesi 44.25 297 P **P** **20 08 35.8 -1.3**
CESX IAmb IAmb 20 09 36.6
comp=Z,34nm,1.8s
WATA Walderalm 44.25 304 *e*P **P** **20 08 36.7 -0.5**
comp=Z,1.5nm,0.5s
STRU Stroemstad 44.37 321 *i* P **P** **20 08 37.2 -0.6**
NC602 NORSAR Array S 44.38 323 *e*P **P** **20 08 37.5 -0.3**
STEI Steigen 44.41 334 *e*P **P** **20 08 38.3 +0.4**
SQTA Sankt Quirin 44.51 304 *e*P **P** **20 08 39.0 -0.3**
comp=Z,1.0nm,0.4s
NB2 NORSAR Subarra 44.58 324 P **P** **20 08 39.0 -0.5**
comp=Z,4.9nm,0.3s,baz=99,slow=7.9
NB2 NORSAR Subarra 44.58 324 P **P** **20 08 39.0 -0.5**
baz=99,slow=7.9
NOA NORSAR Array B 44.58 324 P **P** **20 08 39.1 -0.5**
comp=Z,3.2nm,0.3s,baz=100,slow=8.0,SNR=58
NOA LR LR 20 28 58.0
comp=Z,106nm,18.1s,baz=100,slow=38
comp=Z,3.2nm,0.3s
KONS Konsvik 44.79 332 *e*P **P** **20 08 40.9 -0.1**
NSS Namsos 44.81 329 *e*P **P** **20 08 41.3 +0.1**
FETA Feichten 44.86 304 *e*P **P** **20 08 42.0 -0.1**
comp=Z,1.4nm,0.5s
LOF Lofoten 45.08 334 *e*P **P** **20 08 42.8 -0.5**
LODK Lodwar 45.09 233 P **P** **20 08 46.1 +1.9**
FUORN Ofenpass-Fuorn 45.23 303 P **P** **20 08 46.0 +0.9**
KONO Kongsberg 45.23 322 P **P** **20 08 44.2 -0.4**
KONO Kongsberg 45.23 322 *e*P **P** **20 08 44.8 +0.2**
KONO Kongsberg 45.23 322 P **P** **20 08 44.2 -0.4**
KONO pmax pmax
comp=Z,66nm,1.9s
KONO Kongsberg 45.23 322 P **P** **20 08 44.5 -0.1**
YAK Yakutsk 45.33 35 P **P** **20 08 45.5 +0.1**
YAK IAmb IAmb 20 09 21.6
comp=Z,19nm,0.8s
YAK Yakutsk 45.33 35 LR LR 20 28 29.7
comp=Z,121nm,18.6s,baz=258,slow=37
YAK Yakutsk 45.33 35 *e*P **P** **20 08 45.4 +0.1**
YAK *e**PP **pP** **20 09 09.9 +0.5**
YAK *e* 20 10 30.2
YAK *e*S **S** **20 15 18.4 -0.2**
YAK *e**SS **sS** **20 15 59.4 +0.2**
YAK *e*SS **SS** **20 18 40.3 -2.7**
YAK *e*SSS SSS 20 19 46.0
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=Z,435nm,4.6s
YAK pmax pmax
comp=E,264nm,5.0s
YAK pmax pmax
comp=N,174nm,3.9s
YAK smax smax
comp=E,103nm,2.0s
YAK smax smax
comp=N,291nm,3.2s
DAVA Damuels 45.40 304 *e*P **P** **20 08 46.3 0.0**
comp=N,2.0nm,0.4s
DAVOX Davos/Dischmat 45.47 303 LR LR 20 30 55.5
comp=N,45nm,21.9s,baz=79,slow=40
HOMB Homborsund 45.72 320 *i* P **P** **20 08 48.0 -0.4**
DOMB Dombas 45.72 325 *e*P **P** **20 08 49.1 +0.5**
SKAR Skarslia 45.96 323 *e*P **P** **20 08 50.7 +0.2**
MYKOM Kota Tinggi 46.10 129 **P** **20 08 52.6 +0.6**
KSRS Korea Array 46.13 70 P **P** **20 08 52.9 +0.8**
comp=N,1.4nm,0.5s,baz=275,slow=6.9,SNR=7.5
KSRS LR LR 20 30 38.5
comp=N,110nm,19.2s,baz=280,slow=39
comp=N,1.4nm,0.5s
BFO Black Forest 46.30 306 P **P** **20 08 53.5 +0.3**
KLR Kul'dur 46.51 53 LR LR 20 30 59.1
comp=N,69nm,20.2s,baz=276,slow=39
KLR Kul'dur 46.51 53⇓*e*P **P** **20 08 55.4 +0.5**
KLR pmax pmax
comp=Z,7.0nm,1.7s
BLS5 Blasjo 46.82 321 *e*P **P** **20 08 59.0 +1.8**
TIXI Tiksi 47.04 22 P **P** **20 08 58.6 -0.1**
TIXI IAmb IAmb 20 09 33.2
comp=Z,23nm,1.1s
TIXI Tiksi 47.04 22 LR LR 20 29 15.1
comp=Z,99nm,21.5s,baz=196,slow=36
TIXI Tiksi 47.04 22⇑*e*P **P** **20 08 59.0 +0.3**
TIXI pmax pmax
comp=Z,16nm,1.0s
TIXI Tiksi 47.04 22 P **P** **20 08 59.1 +0.5**
SENIN Lac Senin/Sane 47.29 303 P **P** **20 09 00.5 -0.8**
KMBO Kilima Mbogo 47.45 227 P **P** **20 09 01.8 -1.0**
KMBO Kilima Mbogo 47.45 227 P **P** **20 09 04.0 +1.2**
KMBO Kilima Mbogo 47.45 227 P **P** **20 09 03.5 +0.7**
comp=Z,1.8nm,0.6s,baz=36,slow=11,SNR=7.8
KMBO LR LR 20 31 37.4
comp=Z,33nm,18.0s,baz=91,slow=39
comp=Z,1.8nm,0.6s
KMBO Kilima Mbogo 47.45 227⇑*e*P **P** **20 09 04.0 +1.2**
USRK Ussuriysk Ar. 47.51 60 P **P** **20 09 02.5 -0.2**
comp=Z,1.1nm,0.6s,baz=291,slow=8.1,SNR=4.4
USRK LR LR 20 31 21.6
comp=Z,228nm,20.0s,baz=275,slow=39
comp=Z,1.1nm,0.6s
SPITS Spitsbergen Ar 48.22 347 P **P** **20 09 08.9 +1.2**
comp=Z,4.0nm,0.6s,baz=109,slow=13,SNR=11
SPITS LR LR 20 33 40.9
comp=Z,122nm,19.2s,baz=88,slow=41
comp=Z,4.0nm,0.6s
KEST Kesra 48.42 289 P **P** **20 09 11.1 +1.2**
comp=Z,4.6nm,0.7s,baz=116,slow=1.4,SNR=8.0
comp=Z,4.6nm,0.7s
SSB Saint Sauveur 49.40 302 P **P** **20 09 18.8 +1.5**
MBAR Mbarara 51.14 234 P **P** **20 09 29.3 -1.5**
MBAR IAmb IAmb 20 09 32.4
comp=Z,11nm,1.4s
MBAR Mbarara 51.14 234 LR LR 20 33 52.1
comp=Z,37nm,19.7s,baz=45,slow=39
MBAR Mbarara 51.14 234⇑*e*P **P** **20 09 31.5 +0.6**
MBAR pmax pmax
comp=Z,10.0nm,1.5s
MBAR Mbarara 51.14 234 P **P** **20 09 32.3 +1.4**
MBAR pP **pP** **20 09 55.2 +0.7**
SBUM Sibu 51.24 120 **P** **20 09 31.8 +0.4**
SBUM IAmb IAmb 20 09 57.1
comp=Z,6.5nm,0.8s
KKM Kota Kinabalu 51.71 113 **P** **20 09 35.5 +0.5**
EKA Eskdalemuir Ar 52.31 316 P **P** **20 09 38.3 -0.5**
comp=Z,3.5nm,0.7s,baz=99,slow=6.8,SNR=11
comp=Z,3.5nm,0.7s
JMIC Jan Mayen 53.08 336 LR LR 20 31 41.7
comp=Z,37nm,19.0s,baz=100,slow=35
YSS Yuzh-Sakhalins 54.19 54⇓*e*P **P** **20 09 53.7 +1.0**
YSS pmax pmax
comp=Z,50nm,2.5s
MJAR Matsushiro Arr 54.23 67 P **P** **20 09 53.9 +0.7**
comp=Z,1.4nm,0.7s,baz=293,slow=10,SNR=2.4
MJAR LR LR 20 36 26.7
comp=Z,40nm,18.0s,baz=268,slow=40
comp=Z,1.4nm,0.7s
ASAJ Asahikawa 54.91 57 LR LR 20 34 22.5
comp=Z,111nm,19.3s,baz=298,slow=37
LEM Lembang 55.15 132 LR LR 20 34 58.4
comp=Z,189nm,21.6s,baz=104,slow=37

DAG	**Danmarks Havn**	**55.39**	**344**	*i* P	**P**	**20 10 00.0**	**-0.9**
DAG				*i* P	**P**	**20 10 01.0**	**+0.1**
MA2	**Magadan**	**55.73**	**37**	LR	LR	20 34 27.7	
	comp=Z,61nm,21.2s,baz=116,slow=36						
MA2	**Magadan**	**55.73**	**37⇑**	*e*P	**P**	**20 10 04.1**	**+0.4**
MA2				pmax	pmax		
	comp=Z,21nm,1.1s						
SEY	**Seymchan**	**55.77**	**33⇑**	*e*P	**P**	**20 10 05.8**	**+1.9**
SEY				pmax	pmax		
	comp=Z,24nm,2.5s						
TAM	**Tamanrasset**	**56.66**	**276**	P	**P**	**20 10 09.9**	**-1.1**
TAM				IAmb	IAmb	20 10 14.7	
	comp=Z,13nm,1.5s						
TAM	**Tamanrasset**	**56.66**	**276**	P	**P**	**20 10 09.9**	**-1.1**
TAM				pmax	pmax		
	comp=Z,13nm,1.5s						
ESDC	**Sonseca Array**	**57.04**	**298**	P	**P**	**20 10 13.4**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=54,slow=7.8,SNR=19						
ESDC				LR	LR	20 38 22.2	
	comp=Z,26nm,19.2s,baz=92,slow=40						
	comp=Z,1.4nm,0.6s						
DAV	**Davao City (W)**	**58.27**	**105**	LR	LR	20 38 24.8	
	comp=Z,37nm,19.2s,baz=344,slow=39						
BORG	**Borgarnes**	**58.95**	**330**	LR	LR	20 38 11.2	
	comp=Z,38nm,19.4s,baz=97,slow=38						
ALE	**Alert**	**59.90**	**354**	P	**P**	**20 10 33.4**	**+0.9**
BILL	**Bilibino**	**59.91**	**26⇑**	*e*P	**P**	**20 10 33.6**	**+0.8**
BILL				*i* *PP	**pP**	**20 10 57.2**	**-0.4**
BILL				pmax	pmax		
	comp=Z,13nm,1.7s						
BILL	**Bilibino**	**59.91**	**26**	P	**P**	**20 10 34.1**	**+1.4**
PETK	**Petropavlovsk-**	**61.35**	**43**	P	**P**	**20 10 42.6**	**-0.2**
	comp=Z,4.9nm,0.9s,baz=324,slow=7.1,SNR=2.9						
PETK				LR	LR	20 38 01.9	
	comp=Z,66nm,20.4s,baz=291,slow=37						
	comp=Z,4.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**64.71**	**268**	P	**P**	**20 11 04.4**	**-1.2**
	comp=Z,7.7nm,0.7s,baz=44,slow=6.4,SNR=63						
	comp=Z,7.7nm,0.7s						
SOEI	**Soe**	**68.30**	**120**		**P**	**20 11 29.5**	**+1.0**
SFJD	**Kangerlussuaq**	**68.31**	**339**	LR	LR	20 41 49.1	
	comp=Z,47nm,18.9s,baz=30,slow=36						
B20K	**Meade River**	**69.41**	**16**	IAmb	IAmb	20 12 27.2	
	comp=Z,26nm,1.3s						
RES	**Resolute Bay**	**69.60**	**356**	LR	LR	20 46 00.4	
	comp=Z,78nm,18.5s,baz=12,slow=39						
B22K	**Teshekpuk Lake**	**69.94**	**14**	P	**P**	**20 11 38.3**	**+0.6**
B22K				IAmb	IAmb	20 11 39.6	
	comp=Z,18nm,1.1s						
SHEM	**Shemya Is, Ala**	**70.33**	**39**	LR	LR	20 43 17.2	
	comp=Z,64nm,18.4s,baz=335,slow=36						
C23K	**Itkillik River**	**70.90**	**14**	IAmb	IAmb	20 11 45.2	
	comp=Z,36nm,1.4s						
D22K	**Ayikyak River**	**71.27**	**15**	IAmb	IAmb	20 11 48.4	
	comp=Z,20nm,1.2s						
E21K	**Killik River**	**71.35**	**16**	IAmb	IAmb	20 11 48.3	
	comp=Z,23nm,1.4s						
E22K	**Anaktuvuk Pass**	**72.07**	**15**	P	**P**	**20 11 50.6**	**-0.1**
TOLK	**Toolik Lake Re**	**72.11**	**14**	IAmb	IAmb	20 11 52.6	
	comp=Z,28nm,1.2s						
D25K	**Kavik River**	**72.13**	**13**	P	**P**	**20 11 51.3**	**+0.3**
D25K				IAmb	IAmb	20 11 53.2	
	comp=Z,13nm,1.1s						
A36M	**Sachs Harbour**	**72.26**	**5**	IAmb	IAmb	20 11 53.3	
	comp=Z,22nm,1.2s						
C27K	**Jago River**	**72.33**	**12**	IAmb	IAmb	20 11 54.6	
	comp=Z,15nm,1.2s						
E24K	**Your Creek**	**72.81**	**14**	IAmb	IAmb	20 11 57.7	
	comp=Z,16nm,1.4s						
D27M	**Malcolm River**	**73.11**	**11**	P	**P**	**20 11 57.1**	**+0.3**
LBTB	**Lobatse**	**73.30**	**221**	LR	LR	20 48 39.8	
	comp=Z,23nm,18.0s,baz=22,slow=39						
DBIC	**Dimbokro**	**73.66**	**267**	P	**P**	**20 11 59.6**	**-1.2**
	comp=Z,1.9nm,0.4s,baz=38,slow=5.8,SNR=5.0						
DBIC				LR	LR	20 48 01.3	
	comp=Z,48nm,18.2s,baz=58,slow=39						
	comp=Z,1.9nm,0.4s						
E28M	**Babbage River**	**73.91**	**11**	IAmb	IAmb	20 12 03.9	
	comp=Z,12nm,1.2s						
E27K	**Coleen River**	**73.96**	**12**	IAmb	IAmb	20 12 04.0	
	comp=Z,12nm,1.1s						
E29M	**Blow River**	**74.35**	**10**	P	**P**	**20 12 04.6**	**+0.6**
E29M				IAmb	IAmb	20 12 06.2	
	comp=Z,17nm,1.2s						
H23K	**Yukon River**	**74.50**	**16**	IAmb	IAmb	20 13 03.0	
	comp=Z,14nm,1.2s						
F28M	**Old Crow**	**74.76**	**11**	IAmb	IAmb	20 12 09.1	
	comp=Z,14nm,1.2s						
INK	**Inuvik**	**75.02**	**9**	IAmb	IAmb	20 12 10.2	
	comp=Z,12nm,1.0s						
INK	**Inuvik**	**75.02**	**9**	LR	LR	20 48 25.1	
	comp=Z,46nm,21.8s,baz=250,slow=38						
FITZ	**Fitzroy Crossi**	**75.11**	**125**	P	**P**	**20 12 10.0**	**+0.9**
NEA2	**Nenana**	**75.65**	**16**	P	**P**	**20 12 11.3**	**-0.3**
NEA2				IAmb	IAmb	20 12 12.8	
	comp=Z,16nm,1.1s						
FRB	**Frobisher Bay**	**75.69**	**342**	LR	LR	20 49 02.6	
	comp=Z,25nm,19.6s,baz=39,slow=38						
F31M	**Tsiigehtchic**	**75.81**	**9**	IAmb	IAmb	20 12 14.6	
	comp=Z,12nm,0.9s						
CAST	**Castle Rocks**	**75.92**	**18**	P	**P**	**20 12 13.4**	**+0.3**
CAST				IAmb	IAmb	20 12 44.0	
	comp=Z,13nm,0.9s						
ILAR	**Eielson Array**	**75.98**	**15**	P	**P**	**20 12 12.9**	**-0.5**
	comp=Z,3.3nm,1.0s,baz=318,slow=4.9,SNR=18						
ILAR				LR	LR	20 51 42.9	
	comp=Z,51nm,18.3s,baz=291,slow=40						
	comp=Z,3.3nm,1.0s						
G31M	**Satah River**	**76.23**	**10**	IAmb	IAmb	20 12 16.2	
	comp=Z,23nm,1.4s						
BOSA	**Boshof**	**76.37**	**219**	P	**P**	**20 12 16.8**	**+0.6**
	comp=Z,5.9nm,0.7s,baz=15,slow=4.3,SNR=17						
BOSA				LR	LR	20 50 25.4	
	comp=Z,21nm,18.1s,baz=28,slow=39						
	comp=Z,5.9nm,0.7s						
I28M	**Miner Creek**	**76.73**	**12**	IAmb	IAmb	20 12 43.5	
	comp=Z,36nm,1.9s						
J26L	**Joseph Creek**	**76.91**	**14**	P	**P**	**20 12 18.6**	**-0.2**
J26L				IAmb	IAmb	20 13 01.2	
	comp=Z,34nm,1.9s						
K27K	**Chicken**	**77.62**	**14**	P	**P**	**20 12 22.4**	**-0.3**
K27K				IAmb	IAmb	20 13 18.9	
	comp=Z,33nm,1.8s						
DAWY	**Dawson**	**78.09**	**13**		**P**	**20 12 25.5**	**+0.2**
DAWY				IAmb	IAmb	20 12 27.4	
	comp=Z,17nm,1.3s						
J30M	**Hart River**	**78.14**	**11**	IAmb	IAmb	20 13 15.5	
	comp=Z,33nm,1.9s						
M27K	**Edge Creek, AK**	**79.17**	**14**	P	**P**	**20 12 31.5**	**+0.1**
YKA	**Yellowknife Ar**	**82.26**	**2**	P	**P**	**20 12 47.2**	**-0.4**
	comp=Z,6.0nm,1.0s,baz=345,slow=4.5,SNR=8.0						
YKA				LR	LR	20 52 51.1	
	comp=Z,74nm,19.7s,baz=316,slow=38						
	comp=Z,6.0nm,1.0s						
WRA	**Warramunga Arr**	**82.32**	**121**	P	**P**	**20 12 49.1**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=322,slow=5.0,SNR=16						
WRA				PKKPbc	**PKKPbc**	**20 31 16.3**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=124,slow=2.9,SNR=5.3						
	comp=Z,2.1nm,0.8s						
WRAB	**Tennant Creek**	**82.32**	**121**	P	**P**	**20 12 48.7**	**+0.1**
WRAB	**Tennant Creek**	**82.32**	**121**	P	**P**	**20 12 48.7**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s						
SCHQ	**Schefferville**	**82.60**	**336**	P	**P**	**20 12 49.8**	**+0.1**
	comp=Z,3.2nm,0.5s,baz=26,slow=4.0,SNR=7.9						
SCHQ				LR	LR	20 49 27.6	
	comp=Z,30nm,19.4s,baz=300,slow=36						
	comp=Z,3.2nm,0.5s						
P33M	**Teslin, Yukon**	**82.81**	**11**	P	**P**	**20 12 50.4**	**-0.3**
P33M				IAmb	IAmb	20 12 51.7	
	comp=Z,29nm,1.4s						
ASAR	**Alice Springs**	**84.51**	**124**	P	**P**	**20 13 00.7**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=318,slow=5.3,SNR=22						
	comp=Z,2.1nm,0.8s						
DLBC	**Dease Lake**	**84.93**	**10**	LR	LR	20 56 51.3	
	comp=Z,40nm,18.1s,baz=276,slow=40						
BBB	**Bella Bella**	**91.27**	**11**	LR	LR	20 59 31.9	
	comp=Z,43nm,19.1s,baz=304,slow=39						
ULM	**Lac du Bonnet**	**93.66**	**351**	LR	LR	21 00 28.7	
	comp=Z,51nm,19.0s,baz=14,slow=38						
STKA	**Stephens Creek**	**95.01**	**126**	LR	LR	21 00 45.8	
	comp=Z,14nm,21.6s,baz=21,slow=38						
NEW	**Newport**	**96.36**	**5**	LR	LR	21 01 35.9	
	comp=Z,28nm,21.4s,baz=358,slow=38						
VNA2	**Neumayer--Watz**	**119.13**	**202**	⇑PKPdf	**PKiKP**	**20 19 14.3**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=45,slow=42						
VNA3	**Neumayer Olymp**	**119.94**	**202**	⇑PKPdf	**PKiKP**	**20 19 16.5**	**+1.0**
	comp=Z,0.4nm,0.2s						
QSPA	**South Pole Qui**	**125.32**	**180**	PKP	**PKPdf**	**20 19 26.2**	**+0.2**
	comp=Z,0.9nm,0.2s,baz=284,slow=2.2,SNR=3.9						
PLCA	**Paso Flores**	**148.56**	**248**	PKPbc	**PKPbc**	**20 20 13.1**	**+0.1**
	comp=Z,2.4nm,1.0s,baz=94,slow=8.1,SNR=2.5						

*UPA **13** 20:09:26.6±0.6, 8°.32N×82°.78W, h28km±5km, MW4.0*
*UCR **13** 20:09:26.4±1.1, 8°.27N×82°.76W, h18km±3km, MW3.9*
ISC 13 20:09:26.8±1.2, 8°.31N±0°.05×82°.75W±0°.03, h32km±7km, n47, σ1°37/56, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.17**	**229**	*e*P	**Pb**	**20 09 31.9**	**-1.0**
LPPC	**Paso Canoas**	**0.23**	**338**	*e*P	**Pb**	**20 09 32.8**	**-0.8**
LPPC				*e*S	**Sb**	**20 09 37.8**	**-0.4**
DVD	**David**	**0.32**	**68**	*e*P	**Pb**	**20 09 34.5**	**-0.2**
DVD				*e*S	**Sb**	**20 09 40.5**	**+0.4**
LOMA3	**Las Lomas, Chi**	**0.38**	**72**	*e*P	**Pb**	**20 09 35.1**	**-0.3**
NELY	**Ciudad Neily**	**0.39**	**330**	*e*P	**Pb**	**20 09 34.8**	**-0.8**
NELY				*e*S	**Sb**	**20 09 41.5**	**-0.1**
PTAR3	**Potrerillos Ar**	**0.46**	**34**	*e*P	**Pb**	**20 09 36.5**	**-0.3**
BCO2	**Palmira**	**0.46**	**29**	*e*P	**Pb**	**20 09 36.6**	**-0.2**
BCO2				*e*S	**Sn**	**20 09 44.5**	**-0.1**
BRU2	**Volcan**	**0.48**	**7**	*e*P	**Pb**	**20 09 36.8**	**-0.4**
BRU2				*e*S	**Sb**	**20 09 44.7**	**+0.4**
BRU2	**Volcan**	**0.48**	**7**	*e*P	**Pb**	**20 09 36.7**	**-0.4**
BRU2				*e*S	**Sb**	**20 09 44.5**	**+0.2**
MLIR3	**Monte Lirio, C**	**0.48**	**351**	*e*P	**Pb**	**20 09 37.0**	**-0.1**
VITO	**San Vito**	**0.55**	**337**	*e*P	**Pb**	**20 09 37.7**	**-0.5**
LNBQ3	**Los Naranjos,**	**0.57**	**33**	*e*P	**Pb**	**20 09 37.4**	**-1.1**
JIME	**Puerto Jimenez**	**0.61**	**292**	*e*P	**Pb**	**20 09 38.4**	**-0.7**
EDP2	**Potrero Grande**	**0.81**	**329**	*e*P	**Pn**	**20 09 41.7**	**-0.4**
CHGR2	**Aguacate**	**0.86**	**44**	*e*P	**Pn**	**20 09 42.2**	**-0.6**
CHGR2				*e*S	**Sn**	**20 09 54.1**	**-0.3**
BURE	**Buenos Aires**	**1.03**	**326**	*e*P	**Pn**	**20 09 45.4**	**+0.3**
DRK0	**Durika**	**1.06**	**333**	*e*P	**Pn**	**20 09 45.2**	**-0.5**
DRK0	**Durika**	**1.06**	**333**	*e*P	**Pn**	**20 09 45.0**	**-0.6**
CNI2	**El Empalme, Bo**	**1.14**	**14**	*e*P	**Pn**	**20 09 45.8**	**-0.8**
BUS1	**Rivas**	**1.58**	**322**	*e*P	**Pn**	**20 09 53.1**	**+0.1**
BUS1				*e*S	**Sn**	**20 10 13.9**	**+1.3**
GMAL	**Guarumal, Vera**	**1.60**	**110**	*e*P	**Pn**	**20 09 53.4**	**+0.5**
LLNJ	**Naranjito**	**1.76**	**311**	*e*P	**Pn**	**20 09 56.6**	**+1.4**
RAZU	**San Marcos de**	**1.83**	**317**	*e*P	**Pn**	**20 09 56.7**	**+0.4**
VINA	**Juan Vinas**	**1.85**	**328**	*e*P	**Pn**	**20 09 58.0**	**+1.5**
RVSTA	**Santa Teresita**	**1.88**	**332**	*e*P	**Pn**	**20 09 57.7**	**+0.9**
RVSTA				*e*S	**Sb**	**20 10 22.9**	**-0.6**
LCR2	**La Lucha 2**	**1.88**	**319**	*e*P	**Pn**	**20 09 57.0**	**-0.1**
ABE2	**San Pablo**	**1.89**	**317**	*e*P	**Pn**	**20 09 58.8**	**+1.6**
VTCV	**VTCV, Calle Va**	**1.92**	**330**	*e*P	**Pn**	**20 09 59.1**	**+1.6**
IRES	**Siquirres**	**1.92**	**337**	*e*P	**Pb**	**20 09 59.8**	**-1.4**
LCOCO	**El Coco**	**1.93**	**336**	*e*P	**Pb**	**20 10 00.2**	**-1.2**
RAFA	**San Farael, Vo**	**1.94**	**327**	*e*P	**Pb**	**20 10 00.1**	**-1.7**
RVLA	**Villa Bonita**	**1.97**	**335**	*e*P	**Pn**	**20 09 59.9**	**+2.0**
VICA	**Volcano Irazu**	**1.98**	**327**	*e*P	**Pn**	**20 10 00.1**	**+1.6**
SANTA	**Santa Ana**	**2.14**	**319**	*e*P	**Pn**	**20 10 02.9**	**+2.4**
BELE	**Belen**	**2.18**	**319**	*e*P	**Pn**	**20 10 03.1**	**+2.2**
CBL1	**Cabuya**	**2.64**	**299**	*e*P	**Pn**	**20 10 06.3**	**-0.8**
SOCE	**Pocosol**	**2.76**	**318**	*e*P	**Pn**	**20 10 12.1**	**+3.2**
MTEVE	**Monteverde**	**2.86**	**314**	*e*P	**Pb**	**20 10 14.8**	**-2.5**
VACR	**Volcan Arenal**	**2.87**	**319**	*e*P	**Pn**	**20 10 12.6**	**+2.2**
ARE1	**Arenal 1**	**2.88**	**318**	*e*P	**Pn**	**20 10 13.6**	**+3.0**
JTS	**Las Juntas de**	**2.93**	**312**	*e*P	**Pn**	**20 10 12.2**	**+1.0**
JTS	**Las Juntas de**	**2.93**	**312**	*e*P	**Pn**	**20 10 13.6**	**+2.3**
CMARA	**Lajas Hojancha**	**3.14**	**303**	*e*P	**Pn**	**20 10 14.9**	**+0.8**
CUI	**Cuipilapa**	**3.33**	**315**	*e*P	**Pn**	**20 10 17.1**	**+0.3**
COLC	**Colonia**	**3.36**	**314**	*e*P	**Pn**	**20 10 20.1**	**+2.9**
VRLE	**La Escondida,**	**3.56**	**314**	*e*P	**Pn**	**20 10 22.6**	**+2.6**
ACON	**Acoyapa**	**4.34**	**327**	*e*P	**Pn**	**20 10 31.2**	**+0.5**

*IDC **13** 20:20:23.8±1.3, 2°.78S×141°.19E, h0km, mb3.5/5, mbtmp3.7/6, ML4.0/1, MS3.0/5, Error ellipse: s-maj=25.4km s-min=10.4km az=37.0*
ISC 13 20:20:27.4±1.4, 2°.87S±0°.09×140°.9E±0°.2, h23km, n14, σ2°08/8, mb3.6/5, MS3.0/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.42**	**326**	Pg	**Pb**	**20 20 35.8**	**-0.5**
	713nm,0.3s,baz=133,slow=8.1,SNR=3391						
JAY				Lg	Lg	20 20 40.8	
	1μm,0.3s,baz=16,slow=20,SNR=25						
JAY				LR	LR	20 21 05.4	
	comp=Z,1μm,20.4s,baz=16,slow=76						
PMG	**Port Moresby**	**8.96**	**137**	LR	LR	20 26 27.5	
	comp=Z,56nm,21.6s,baz=332,slow=41						
WRA	**Warramunga Arr**	**18.16**	**200**	P	**Pn**	**20 24 38.5**	**+0.3**
	0.5nm,0.3s,baz=21,slow=12,SNR=32						
WRA				S	**Sn**	**20 27 56.7**	**-3.7**
	0.6nm,0.8s,baz=20,slow=23,SNR=2.4						
	2.5nm,0.5s						
HNR	**Honiara**	**19.98**	**110**	LR	LR	20 32 21.8	
	comp=Z,23nm,19.6s,baz=60,slow=36						
FITZ	**Fitzroy Crossi**	**21.31**	**224**	P	**P**	**20 25 14.5**	**+1.7**
	3.1nm,0.8s,baz=49,slow=9.0,SNR=5.8						
	3.1nm,0.8s						
ASAR	**Alice Springs**	**21.77**	**198**	P	**P**	**20 25 19.5**	**+1.8**
	1.3nm,0.7s,baz=30,slow=10,SNR=15						
ASAR				LR	LR	20 34 18.8	
	comp=Z,50nm,18.8s,baz=345,slow=38						
	1.3nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**33.06**	**49**	T	T	21 01 34.9	
	baz=232,slow=76,SNR=137						
H11S2	**WAKE ISLAND Hy**	**33.07**	**49**	T	T	21 01 39.3	
	baz=232,slow=76,SNR=70						
H11S1	**WAKE ISLAND Hy**	**33.08**	**49**	T	T	21 01 39.9	
	baz=232,slow=76,SNR=71						
NWAO	**Narrogin (SRO)**	**37.26**	**214**	LR	LR	20 46 06.0	
	comp=Z,53nm,19.6s,baz=211,slow=41						
KSRS	**Korea Array**	**41.90**	**344**	LR	LR	20 42 40.4	
	comp=Z,25nm,22.0s,baz=165,slow=32						
MKAR	**Makanchi Array**	**71.28**	**322**	P	**P**	**20 31 45.9**	**+0.8**
	0.4nm,0.8s,baz=98,slow=5.1,SNR=1.8						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**75.15**	**324**	P	**P**	**20 32 07.6**	**-0.1**
	0.3nm,0.7s,baz=111,slow=5.1,SNR=3.1						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**85.06**	**24**	P	**P**	**20 32 60.0**	**-1.0**
	0.4nm,0.8s,baz=250,slow=4.6,SNR=2.3						
	0.4nm,0.8s						

*IDC **13** 20:26:25.9±1.4, 37°.65N×20°.66E, h0km, mb3.5/8, mbtmp3.4/10, MS2.7/1, Error ellipse: s-maj=30.9km s-min=21.1km az=156.0*
*THE **13** 20:26:27.5, 37°.63N×20°.52E, h16km, ML3.7/13, Error ellipse: s-maj=0.9km s-min=0.4km az=50.0*
*ATH **13** 20:26:27.6, 37°.64N×20°.51E, h14km±1km, ML3.5/13, Error ellipse: s-maj=1.5km s-min=0.7km az=42.0*
ISC 13 20:26:27.7±1.0, 37°.66N±0°.03×20°.53E±0°.03, h14km±6km, n74, σ0°92/106, mb3.5/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.23**	**88**	P	**Pg**	**20 26 32.6**	**-0.2**
KRI1				S	**Sg**	**20 26 36.6**	**+0.4**
	25μm,0.4s						
LTHK	**Lithakia**	**0.25**	**78**	P	**Pg**	**20 26 32.9**	**-0.2**
LTHK				S	**Sg**	**20 26 37.0**	**+0.2**
	29μm,0.1s						
LTHK	**Lithakia**	**0.25**	**78**	P	**Pg**	**20 26 32.9**	**-0.2**
LTHK				S	**Sg**	**20 26 36.8**	**0.0**
LTHK				AML	AML	20 26 38.7	
	comp=N,39519μm,0.2s						
LTHK				AML	AML	20 26 38.8	
	comp=E,69308μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.46**	**5**	P	**Pg**	**20 26 36.9**	**0.0**
PSDA				S	**Sb**	**20 26 44.3**	**0.0**
	comp=E,13μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.46**	**5**	P	**Pg**	**20 26 36.9**	**0.0**
PSDA				S	**Sb**	**20 26 44.0**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.46**	**25**	P	**Pg**	**20 26 36.9**	**0.0**
RTZL				S	**Sb**	**20 26 44.6**	**+0.2**
VLS	**Valsamata**	**0.52**	**5**	P	**Pg**	**20 26 37.9**	**-0.2**
VLS				S	**Sb**	**20 26 45.9**	**-0.3**
	comp=E,9μm,0.2s						
VLS	**Valsamata**	**0.52**	**5**	P	**Pg**	**20 26 37.9**	**-0.2**
VLS				S	**Sb**	**20 26 45.8**	**-0.3**
VLS				AML	AML	20 26 46.6	
	comp=E,25424μm,0.3s						
VLS				AML	AML	20 26 49.9	
	comp=N,10726μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.55**	**352**	P	**Pg**	**20 26 38.7**	**+0.2**
LXRA				S	**Sb**	**20 26 46.7**	**-0.2**
LXR1	**Lixouri, Cepha**	**0.55**	**353**	P	**Pg**	**20 26 38.7**	**+0.2**
LXR1				S	**Sb**	**20 26 47.6**	**+0.7**
	comp=N,24μm,0.7s						
DMLN	**Damoulianata-K**	**0.59**	**348**	P	**Pg**	**20 26 39.2**	**-0.2**
DMLN				S	**Sb**	**20 26 49.1**	**+0.9**
	comp=N,14μm,0.5s						
DMLN	**Damoulianata-K**	**0.59**	**348**	P	**Pg**	**20 26 39.3**	**-0.2**
SMHA	**Samh**	**0.60**	**9**	P	**Pg**	**20 26 38.7**	**-0.8**
VSK1	**VASILIKIADES**	**0.75**	**2**	P	**Pg**	**20 26 41.8**	**-0.6**
VSK1				S	**Sb**	**20 26 53.2**	**+0.4**
	comp=N,9μm,0.3s						
FSK	**Fiskardo**	**0.80**	**2**	P	**Pg**	**20 26 42.6**	**-0.7**
FSK				S	**Sb**	**20 26 54.8**	**+0.6**
	comp=N,5μm,0.1s						
FSK	**Fiskardo**	**0.80**	**2**	P	**Pg**	**20 26 42.7**	**-0.7**
FSK				S	**Sb**	**20 26 54.8**	**+0.6**
FSK				AML	AML	20 26 56.8	
	comp=N,7011μm,0.2s						
FSK				AML	AML	20 26 57.0	
	comp=E,13497μm,0.2s						
RLS	**Riolos of Patr**	**0.84**	**61**	P	**Pg**	**20 26 43.4**	**-0.7**
RLS				S	**Sb**	**20 26 56.1**	**+0.8**
	comp=E,3μm,0.5s						
RLS	**Riolos of Patr**	**0.84**	**61**	P	**Pg**	**20 26 43.5**	**-0.7**
RLS				S	**Sb**	**20 26 55.4**	**+0.1**
RLS				AML	AML	20 26 57.7	
	comp=E,7171μm,0.6s						
RLS				AML	AML	20 26 57.9	
	comp=N,5174μm,0.4s						
AMT	**Artemida-Makis**	**0.94**	**97**	P	**Pb**	**20 26 45.4**	**-0.5**
AMT				S	**Sb**	**20 26 58.1**	**-0.2**
AMT				AML	AML	20 27 05.8	
	comp=N,13589μm,0.3s						
AMT				AML	AML	20 27 06.6	
	comp=E,18634μm,0.4s						
EVGI	**Lefkada island**	**0.97**	**6**	P	**Pb**	**20 26 45.4**	**-0.9**
EVGI				S	**Sn**	**20 27 00.2**	**-0.3**
	comp=E,4μm,0.2s						
EVGI	**Lefkada island**	**0.97**	**6**	P	**Pb**	**20 26 45.7**	**-0.6**
EVGI				S	**Sg**	**20 26 59.6**	**+0.4**
DRO	**Drossia**	**0.98**	**72**	P	**Pb**	**20 26 45.7**	**-0.8**
DRO				S	**Sg**	**20 27 00.1**	**+0.5**
	comp=E,3μm,0.4s						
DRO	**Drossia**	**0.98**	**72**	P	**Pb**	**20 26 46.2**	**-0.3**
DRO				S	**Sg**	**20 26 59.7**	**+0.2**
DRO				AML	AML	20 27 07.8	
	comp=E,6797μm,0.4s						
DRO				AML	AML	20 27 10.5	
	comp=N,6268μm,0.5s						
DRAG	**Dragano-Lefkad**	**1.03**	**2**	P	**Pb**	**20 26 46.4**	**-0.9**
DRAG				S	**Sn**	**20 27 01.8**	**-0.1**
DRAG	**Dragano-Lefkad**	**1.03**	**2**	P	**Pb**	**20 26 46.6**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.06**	**7**	P	**Pb**	**20 26 47.0**	**-0.9**
NYDR				S	**Sg**	**20 27 02.4**	**+0.2**
	comp=N,2μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.06**	**7**	P	**Pb**	**20 26 47.2**	**-0.7**
LKD2	**Lefkada island**	**1.14**	**5**	P	**Pn**	**20 26 49.3**	**0.0**
LKD2				S	**Sb**	**20 27 03.4**	**-0.4**
LKD2				AML	AML	20 27 11.4	
	comp=E,4439μm,0.6s						
LKD2				AML	AML	20 27 13.7	
	comp=N,5080μm,0.8s						
TSLK	**Tsoukalades, L**	**1.17**	**5**	P	**Pn**	**20 26 48.8**	**-0.9**
TSLK				S	**Sb**	**20 27 05.0**	**+0.2**
	comp=N,2μm,0.5s						
TSLK	**Tsoukalades, L**	**1.17**	**5**	P	**Pn**	**20 26 49.2**	**-0.5**
UPR	**University Cam**	**1.18**	**57**	P	**Pn**	**20 26 48.6**	**-1.1**
UPR				S	**Sn**	**20 27 05.3**	**-0.2**
ITM	**Ithomi**	**1.21**	**113**	P	**Pn**	**20 26 49.8**	**-0.4**
ITM				S	**Sn**	**20 27 06.3**	**-0.2**
ITM				AML	AML	20 27 15.3	
	comp=E,1878μm,0.5s						
ITM				AML	AML	20 27 15.8	
	comp=N,2400μm,0.5s						
PYL	**PYLOS**	**1.23**	**128**	P	**Pn**	**20 26 49.5**	**-1.0**
PYL				S	**Sb**	**20 27 06.2**	**-0.3**
PYL	**PYLOS**	**1.23**	**128**	P	**Pn**	**20 26 50.1**	**-0.4**
PYL				S	**Sn**	**20 27 07.0**	**+0.1**
PYL

comp=N,0.4nm,0.6s,baz=282,slow=7.1,SNR=5.3
comp=N,0.4nm,0.6s
ZALV Zalesovo Beam 46.04 48 P P 20 34 51.0 +0.4
comp=N,0.5nm,0.3s,baz=282,slow=7.3,SNR=3.1
comp=N,0.5nm,0.3s

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*ZUR **13** 20:26:31.5, 46.°08N×8.°27E, h5km±2km, MLh0.9/15, Error ellipse: s-maj=5329.7km s-min=898.7km az=2.0*
ROM 13 20:26:30.9±0.1, 46.°069N±0.°009×8.°24E±0.°01, h11km, ML0.8/10, 5C-2D, Error ellipse: s-maj=1.2km s-min=0.1km az=147.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMK	**Mattmark**	**0.20**	**265**	⇑Pg	Pg	20 26 35.9	+0.6
MMK				Sg	Sg	20 26 38.8	+0.5
MMK	**Mattmark**	**0.20**	**265**	P	Pg	20 26 35.9	+0.6
MMK				S	Sg	20 26 38.8	+0.5
MMK				AML	AML		
	comp=E,17μm,0.5s						
MMK				AML	AML		
	comp=N,23μm,0.1s						
MMK				AML	AML		
	comp=E,17μm,0.1s						
SIMPL	**Simplonpass**	**0.23**	**318**	⇑Pg	Pg	20 26 36.3	+0.4
SGRA	**Graechen Ausbl**	**0.31**	**294**	Pg	Pg	20 26 37.7	+0.5
EMBD	**Embd, Matterta**	**0.32**	**297**	Pg	Pg	20 26 37.9	+0.4
EMBD				Sg	Sg	20 26 42.1	+0.2
SATI	**Passo dei Sala**	**0.33**	**234**	Pg	Pg	20 26 38.0	+0.4
SATI	**Passo dei Sala**	**0.33**	**234**	P	Pg	20 26 38.0	+0.3
SATI				S	Sg	20 26 42.9	+0.9
SATI				AML	AML		
	comp=N,13μm,0.1s						
SATI				AML	AML		
	comp=E,19μm,0.1s						
SVIO	**Visp Obere Sta**	**0.34**	**311**	Sg	Sg	20 26 42.6	+0.3
FIESA	**Fiescheralp**	**0.38**	**346**	⇑Pg	Pg	20 26 39.0	+0.5
LAUCH	**Lauchernalp**	**0.48**	**317**	⇓Pg	Pg	20 26 40.8	+0.5
LAUCH				Sg	Sg	20 26 47.2	+0.4
FUSIO	**Fusio**	**0.48**	**37**	⇑Pg	Pg	20 26 40.6	+0.1
FUSIO				Sg	Sg	20 26 46.6	-0.3
FUSIO	**Fusio**	**0.48**	**37**	⇑P	Pg	20 26 40.6	+0.1
FUSIO				S	Sg	20 26 46.8	-0.1
FUSIO				AML	AML		
	comp=N,11μm,0.1s						
FUSIO				AML	AML		
	comp=E,12μm,0.1s						
LKBD2	**Leukerbad 2**	**0.52**	**307**	⇓Pg	Pg	20 26 41.5	+0.4
LKBD2				Sg	Sg	20 26 48.2	+0.2
MUGIO	**Muggio**	**0.58**	**105**	Pg	Pg	20 26 42.2	0.0
DIX	**Grande Dixence**	**0.58**	**271**	Pg	Pg	20 26 42.4	+0.1
DIX	**Grande Dixence**	**0.58**	**271**	P	Pg	20 26 42.6	+0.3
DIX				S	Sg	20 26 49.9	-0.1
DIX				AML	AML		
	comp=E,28μm,1.9s						
DIX				AML	AML		
	comp=N,90μm,3.1s						
NALPS	**Val Nalps**	**0.63**	**33**	Pg	Pg	20 26 43.4	+0.1
TRAV	**Traversella**	**0.66**	**212**	P	Pg	20 26 43.5	-0.2
TRAV				S	Sg	20 26 52.1	-0.2
TRAV				AML	AML		
	comp=N,20μm,0.1s						
TRAV				AML	AML		
	comp=E,13μm,0.1s						
CIRO	**Champorcher**	**0.66**	**226**	P	Pg	20 26 43.9	0.0
SENIN	**Lac Senin/Sane**	**0.72**	**295**	Pg	Pg	20 26 45.1	+0.2
BNALP	**Bannalp**	**0.81**	**9**	P	Pg	20 26 46.7	+0.1
BNALP				S	Sg	20 26 57.4	+0.2
TUE	**Stuetta**	**0.87**	**62**	P	Pg	20 26 46.9	-0.7
LSD	**Lago del Serru**	**0.99**	**232**	P	Pg	20 26 49.4	-0.5
LSD				S	Sg	20 27 02.3	-0.6

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*NEIC **13** 20:28:53.2±1.7, 36.°47N±0.°01×98.°77W±0.°02, h5km±4km, mb_Lg2.2/6, ML2.4/33, ML2.8/25, Error ellipse: s-maj=2.0km s-min=1.6km az=140.0*
NEIC 13 20:28:53.2±1.8, 36.°46N±0.°01×98.°76W±0.°02, h5km±1km, Error ellipse: s-maj=3.1km s-min=2.7km az=292.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	**Waynoka**	**0.22**	**321**		Pg	20 28 57.7	+0.1
NOKA				Sg	Sg	20 29 01.0	+0.5
NOKA				IAML		20 29 01.3	
	comp=E,1μm,0.2s						
CROK	**Carrier**	**0.63**	**86**		Pg	20 29 05.4	+0.2
CROK					Sg	20 29 14.5	+1.2
CROK				IAML		20 29 18.9	
	comp=N,158nm,0.2s						
ELIS	**Ellis County**	**0.66**	**234**		Pg	20 29 05.8	-0.1
ELIS					Sg	20 29 15.0	+0.4
ELIS				IAML		20 29 27.9	
	comp=E,144nm,0.2s						
KAN14	**Manchester OK**	**0.81**	**52**		Pg	20 29 08.9	+0.2
KAN14					Sg	20 29 19.5	+0.3
KAN14				IAML		20 29 20.2	
	comp=E,174nm,0.2s						
KAN14				IAML		20 29 28.5	
	comp=N,140nm,0.1s						
CSTR	**Hydro, Custer**	**0.82**	**176**		Pg	20 29 08.8	0.0
CSTR					Sg	20 29 20.2	+0.8
GC02	**Grant County #**	**0.82**	**61**		Pg	20 29 08.8	-0.1
GC02					Sg	20 29 20.4	+0.8
KAN10	**Anthony SW Sta**	**0.85**	**39**		Pg	20 29 09.5	+0.1
KAN10					Sg	20 29 21.1	+0.7
KAN17	**Caldwell West**	**0.99**	**54**		Pg	20 29 12.2	+0.1
KAN17					Sg	20 29 25.4	+0.4
KAN17				IAML		20 29 25.7	
	comp=E,154nm,0.2s						
KAN08	**Anthony NE Sta**	**0.99**	**39**		Pg	20 29 11.7	-0.5
KAN08					Sg	20 29 25.4	+0.3
KAN08				IAML		20 29 31.5	
	comp=N,104nm,0.1s						
KAN12	**Harper NE Stat**	**1.03**	**36**		Pg	20 29 12.5	-0.5
KAN12					Sb	20 29 27.2	-0.3
KAN12				IAML		20 29 40.0	
	comp=N,143nm,0.4s						
KAN01	**Argonia South**	**1.06**	**49**		Pg	20 29 12.8	-0.7
KAN01					Sg	20 29 27.4	+0.2
KAN01				IAML		20 29 27.7	
	comp=E,77nm,0.3s						
KAN01				IAML		20 29 29.9	
	comp=N,83nm,0.1s						
KAN09	**Caldwell North**	**1.14**	**53**		Pg	20 29 14.7	-0.3
KAN13	**South Haven SW**	**1.17**	**61**		Pg	20 29 13.6	-1.9
KAN13					Sb	20 29 31.0	-0.3
BCOK	**Bluff Creek, N**	**1.23**	**130**		Pn	20 29 17.0	0.0
BCOK					Sb	20 29 33.0	0.0
OK029	**Liberty Lake**	**1.25**	**122**		Pg	20 29 16.8	-0.2
OK029					Sb	20 29 33.7	+0.2
OK029				IAML		20 29 36.6	
	comp=N,96nm,0.5s						
OK029				IAML		20 29 36.6	
	comp=N,91nm,0.5s						
BLOK	**Blackwell**	**1.28**	**76**		Pg	20 29 17.3	-0.3
BLOK					Sg	20 29 34.2	0.0
OK048	**Pawnee Station**	**1.46**	**91**		Pn	20 29 20.2	0.0
OK051	**E0350 and S346**	**1.55**	**88**		Pn	20 29 21.4	-0.1
FNO	**Franklin**	**1.63**	**137**		Pn	20 29 22.4	-0.2
OK031	**S. Brethren Rd**	**1.63**	**108**		Pn	20 29 22.4	-0.2
OK052	**Battle Ridge R**	**1.65**	**106**		Pn	20 29 21.6	-1.1
QUOK	**Quay**	**1.68**	**99**		Pn	20 29 22.9	-0.4
WMOK	**Wichita Mounta**	**1.72**	**181**		Pn	20 29 23.1	-0.7
WMOK				IAmb_Lg		20 29 47.3	
	comp=Z,4.7nm,0.9s						
SMWD	**Samnorwood**	**1.81**	**222**	Pn	Pn	20 29 24.1	-1.0
T35A	**Sooner Cattle**	**1.86**	**75**	Pn	Pn	20 29 24.0	-1.7
DEOK	**Depew**	**1.93**	**108**	Pn	Pn	20 29 25.1	-1.5
R32A	**Long Quarter,**	**1.96**	**1**	Pn	Pn	20 29 26.3	-0.8
X34A	**Smith Ranch, M**	**2.00**	**158**		Pn	20 29 26.5	-1.2
X34A				IAmb_Lg		20 29 58.0	
	comp=Z,25nm,0.8s						
W35A	**Tecumseh**	**2.01**	**130**	Pn	Pn	20 29 26.9	-0.9
TUL3	**Leonard**	**2.46**	**102**	Pn	Pn	20 29 33.1	-0.9
CBKS	**Cedar Bluff**	**2.47**	**342**		Pn	20 29 33.0	-1.1
AMTX	**Amarillo**	**2.85**	**237**		Pn	20 29 37.6	-1.9
AMTX				IAmb_Lg		20 30 29.2	
	comp=Z,7.6nm,0.8s						
RTBA	**Rita Blanca**	**3.21**	**271**	Pn	Pn	20 29 41.8	-2.6
X37A	**Clayton**	**3.33**	**123**		Pn	20 29 45.1	-0.8
U38A	**Gravette**	**3.52**	**89**	Pn	Pn	20 29 49.4	+0.7
PLPT	**Palo Pinto**	**3.66**	**174**	Pn	Pn	20 29 49.6	-0.8
HHAR	**Hobbs**	**3.89**	**91**		Pn	20 29 51.9	-1.7
TREL	**Terrell**	**4.32**	**149**		Pn	20 29 59.1	-0.5
S39A	**Bolivar**	**4.52**	**73**		Pn	20 29 59.9	-2.4
T25A	**Trinidad**	**4.59**	**280**		Pn	20 30 01.3	-2.1
MIAR	**Mount Ida**	**4.64**	**113**	Pn	Pn	20 30 02.6	-1.3

IDC 13 20:38:23.1±5.8, 31.°58S×179.°47W, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=225.0km s-min=64.1km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.81**	**269**	P	P	20 46 14.2	-0.5
	0.4nm,0.7s,baz=111,slow=7.2,SNR=2.7						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**42.91**	**274**	P	P	20 46 23.8	+0.1
	0.2nm,0.4s,baz=115,slow=8.1,SNR=2.0						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**145.80**	**338**	PKPbc	PKPdf	20 58 02.7	-0.2
	2.0nm,1.0s,baz=65,slow=2.8,SNR=3.9						

IDC 13 20:41:45.3±2.9, 12.°70S×167.°38E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=119.9km s-min=46.3km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.42**	**227**	P	P	20 47 60.0	+0.5
	1.7nm,0.5s,baz=51,slow=12,SNR=10						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**32.47**	**253**	P	P	20 48 17.6	-0.2
	0.3nm,0.5s,baz=85,slow=8.8,SNR=4.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**33.54**	**246**	P	P	20 48 26.8	-0.4
	0.7nm,0.5s,baz=79,slow=8.6,SNR=24						
	0.7nm,0.5s						
ARCES	**ARCESS Array B**	**118.33**	**346**	PKP	PKPdf	21 00 34.0	-0.2
	1.0nm,0.7s,baz=60,slow=2.5,SNR=5.4						

DJA 13 20:58:30.3±0.5, 3.°S±3.°×12.°0E±.°, h10km, M3.1/9, MLv3.1/9, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.31**	**98**	P	Pb	20 58 37.5	-0.5
TTSI				S	Sg	20 58 41.1	+0.4
TTSI	**Tana Toraja**	**0.31**	**98**	P	Pb	20 58 37.8	-0.2
TTSI				S	Sb	20 58 44.2	+1.1
SPSI	**Sidrap Palu**	**0.99**	**165**	P	Pg	20 58 49.2	-0.2
SPSI				S	Sb	20 59 03.4	+0.6
SPSI	**Sidrap Palu**	**0.99**	**165**	P	Pg	20 58 48.9	-0.5
SPSI				S	Sn	20 59 07.2	+2.8
BNSI	**Bone**	**1.51**	**157**	P	Pg	20 58 59.5	+0.1
BNSI	**Bone**	**1.51**	**157**	P	Pg	20 58 59.4	0.0
PCI	**Palu**	**2.11**	**9**	P	Pn	20 59 05.5	-0.2
PCI	**Palu**	**2.11**	**9**	P	Pn	20 59 05.0	-0.7
BKSI	**Bulukumba**	**2.39**	**165**	P	Pn	20 59 10.7	+1.2
BKSI	**Bulukumba**	**2.39**	**165**	P	Pn	20 59 11.2	+1.7
APSI	**Ampana**	**2.98**	**46**	P	Pn	20 59 16.6	-1.1
BSSI	**Bau Bau, Buton**	**3.27**	**163**	P	Pn	20 59 21.0	-0.7
BSSI	**Bau Bau, Buton**	**3.27**	**163**	P	Pn	20 59 21.4	-0.3

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*BJI **13** 21:09:26.0, 45.°07N×151.°06E, h40km, mb4.6/61, mB4.8/20, Ms4.1/22, Ms7 3.9/24*
*SKHL **13** 21:09:26.6±0.2, 44.°70N×151.°00E, h41km±8km, mb5.3/6, ms4.3/5*
*MOS **13** 21:09:29.9±0.8, 45.°16N×150.°55E, h47km, mb4.8/40, Error ellipse: s-maj=7.0km s-min=5.5km az=110.8*
*JMA **13** 21:09:29.8±0.9, 45°N±4.°×15°1E±.°, h30km, MV4.9/19, KURILE ISLANDS REGION*
*NIED **13** 21:09:29.8, 45.°21N×150.°63E, h30km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}1.81; $M_{\theta\theta}$-1.11; $M_{\phi\phi}$-0.70; $M_{r\theta}$0.57; $M_{\theta\phi}$-1.34; $M_{\phi r}$2.21; Fault plane solution: $M_0$3.08000×10^15^ NP1:ϕ_s24.00000°, δ71.00000°, λ,69.00000°. NP2:ϕ_s254.00000°, δ28.00000°, λ,136.00000°.*
*NEIC **13** 21:09:33.2±1.5, 45.°27N±0.°09×150.°5E±0.°1, h54km±5km, mb4.8/89 Error ellipse: s-maj=14.2km s-min=11.9km az=141.0*
*IDC **13** 21:09:33.1±2.5, 45.°29N×150.°46E, h58km±21km, mb4.1/24, mbtmp4.4/30, ML4.3/6, MS3.6/29, Error ellipse: s-maj=14.7km s-min=12.2km az=132.0*
ISC 13 21:09:30.1±0.4, 45.°04N±0.°05×150.°67E±0.°05, h39km, n396, σ1§43/411, mb4.7/127, MS3.6/32, 44C-25D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.00**	**277**	*i* P	**Pn**	**21 10 00.7**	**-0.5**
KUR				AMB	AMB	21 10 02.9	
	2μm,0.3s						
KUR				*e*S	**Sn**	**21 10 26.1**	**+1.2**
KUR				A	A	21 10 28.4	
	2μm,0.3s						
KUR				A	A	21 10 28.4	
	1μm,0.3s						
KUR				AMS	AMS	21 11 41.0	
	7μm,11.0s						
KUR				AMS	AMS	21 11 41.0	
	4μm,11.0s						
KUR				AMS	AMS	21 11 41.0	
	7μm,11.0s						
KUR	**Kuril'sk**	**2.00**	**277**	*c i*PN	**Pn**	**21 10 00.8**	**-0.5**
SHO	**Shikotan**	**2.99**	**248**	*i* P	**Pn**	**21 10 14.5**	**-0.4**
SHO				AMB	AMB	21 10 17.3	
	270nm,0.4s						
SHO				*i* S	**Sn**	**21 10 50.5**	**+1.0**
SHO				A	A	21 10 51.8	
	980nm,0.4s						
SHO				A	A	21 10 51.8	
	160nm,0.4s						
SHO				AMS	AMS	21 11 28.0	
	1μm,8.0s						
SHO				AMS	AMS	21 11 28.0	
	1μm,8.0s						
SHO				AMS	AMS	21 11 28.0	
	1μm,8.0s						
SHO	**Shikotan**	**2.99**	**248**	⇓*i*PN	**Pn**	**21 10 14.9**	**0.0**
SHO				*i* S	**Sn**	**21 10 50.2**	**+0.7**
SHO				pmax	pmax		
	comp=Z,269nm,0.4s						
SHO				smax	smax		
	comp=N,650nm,0.4s						
SHO				smax	smax		
	comp=E,164nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.58**	**255**	*i* P	**Pn**	**21 10 22.3**	**-0.7**
YUK				AMB	AMB	21 10 27.6	
	comp=E,540nm,0.2s						
YUK				*i* S	**Sn**	**21 11 04.1**	**0.0**
YUK				A	A	21 11 11.7	
	comp=E,570nm,0.4s						
YUK				A	A	21 11 11.7	
	comp=E,1μm,0.4s						
YUK				AMS	AMS	21 11 44.5	
	comp=E,3μm,12.0s						
YUK				AMS	AMS	21 11 44.5	
	comp=E,4μm,12.0s						
YUK				AMS	AMS	21 11 44.5	
	comp=E,2μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**3.58**	**255**	*c i*PN	**Pn**	**21 10 22.6**	**-0.4**
YUK				*i* S	**Sn**	**21 11 06.5**	**+2.4**
YUK				pmax	pmax		
	comp=N,200nm,0.2s						
YUK				pmax	pmax		
	comp=E,105nm,0.2s						
YUK				pmax	pmax		
	comp=Z,541nm,0.2s						
YUK				smax	smax		
	comp=N,566nm,0.4s						
YUK				smax	smax		
	comp=E,1μm,0.4s						
NEM2	**Nemuro 2**	**3.92**	**246**	*e*P	**Pn**	**21 10 27.3**	**-0.3**
NEM2				*e*S	**Sn**	**21 11 10.3**	**-2.0**
NMR	**Nemuro--Hokkai**	**3.93**	**247**	*i* P	**Pn**	**21 10 26.8**	**-1.0**
NMR				*i* S	**Sn**	**21 11 11.1**	**-1.5**
NMR	**Nemuro--Hokkai**	**3.93**	**247**	⇓*i*PN	**Pn**	**21 10 26.9**	**-0.9**
NMR				*i* S	**Sn**	**21 11 10.8**	**-1.8**
RUSJ	**Misakicho**	**3.99**	**258**	*e*PN	**Pn**	**21 10 31.1**	**+2.5**
RUSJ				*e*S	**Sn**	**21 11 19.2**	**+5.1**
JRA	**Rausu**	**4.12**	**256**	*e*P	**Pn**	**21 10 32.1**	**+1.6**
JRA				*e*S	**Sn**	**21 11 19.6**	**+2.3**
JNK	**Nakash**	**4.51**	**253**	*e*P	**Pn**	**21 10 37.1**	**+1.3**
JNK				*e*S	**Sn**	**21 11 27.4**	**+0.3**
AKK	**Akkeshi**	**4.67**	**246**	*e*P	**Pn**	**21 10 37.3**	**-0.6**
JAK	**Akkeshi**	**4.77**	**247**	P	**Pn**	**21 10 39.4**	**+0.1**
JAK				*e*S	**Sn**	**21 11 33.0**	**-0.3**
JTKR	**Abashiri--Toko**	**4.96**	**260**	P	**Pn**	**21 10 44.1**	**+2.2**
JAR	**Ashorobuto**	**5.26**	**253**	P	**Pn**	**21 10 47.7**	**+1.6**
JAR				*e*S	**Sn**	**21 11 47.7**	**+2.2**
JOB	**Onbets**	**5.38**	**249**	P	**Pn**	**21 10 48.0**	**+0.3**
JOB				*e*S	**Sn**	**21 11 48.4**	**+0.2**
JKK2	**Kamakawa 2**	**5.79**	**261**	*e*P	**Pn**	**21 10 55.8**	**+2.4**
JCH	**Churui**	**5.82**	**248**	*e*P	**Pn**	**21 10 54.2**	**+0.4**
JCH				*e*S	**Sn**	**21 11 58.4**	**-0.7**
JKA	**Kamikawa-asahi**	**5.84**	**264**	Pn	**Pn**	**21 10 56.7**	**+2.7**
YSS	**Yuzh-Sakhalins**	**5.84**	**292**	Pn	**Pn**	**21 10 54.0**	**0.0**
YSS	**Yuzh-Sakhalins**	**5.84**	**292**	*e*P	**Pn**	**21 10 55.8**	**+1.8**
YSS				AMB	AMB	21 10 59.4	
	comp=E,40nm,0.6s						
YSS				*e*S	**Sn**	**21 11 59.7**	**+0.1**
YSS				A	A	21 12 03.8	
	comp=E,30nm,0.8s						
YSS				A	A	21 12 03.8	
	comp=E,40nm,0.8s						
YSS				AMS	AMS	21 12 47.0	
	comp=E,400nm,13.0s						
YSS				AMS	AMS	21 12 47.0	
	comp=E,600nm,13.0s						
YSS				AMS	AMS	21 12 47.0	
	comp=E,800nm,13.0s						
YSS	**Yuzh-Sakhalins**	**5.84**	**292**	*e*PN	**Pn**	**21 10 55.8**	**+1.8**
YSS				*e*S	**Sn**	**21 11 59.7**	**+0.1**
YSS				pmax	pmax		
	comp=Z,40nm,0.6s						
YSS				smax	smax		
	comp=N,30nm,0.8s						
YSS				smax	smax		
	comp=E,40nm,0.6s						
YSS				MLR	MLR		
	comp=Z,800nm,17.0s						
YSS				MLR	MLR		
	comp=N,400nm,15.0s						
YSS				MLR	MLR		
	comp=E,600nm,16.0s						
ASAJ	**Asahikawa**	**5.84**	**264**	P	**Pn**	**21 10 56.6**	**+2.5**
	comp=E,9.6nm,0.3s,baz=82,slow=16,SNR=28						
ASAJ				LR	LR	21 13 16.5	
	comp=E,524nm,19.8s,baz=93,slow=39						
	comp=E,60nm,0.6s						
ASAJ	**Asahikawa**	**5.84**	**264**	PN	**Pn**	**21 10 56.7**	**+2.6**
JWK2	**Keihoku**	**6.21**	**276**	*e*P	**Pn**	**21 11 03.6**	**+4.5**
ERM	**Erimo**	**6.24**	**244**	Pn	**Pn**	**21 11 01.1**	**+1.5**
ERM	**Erimo**	**6.24**	**244**	*c e*PN	**Pn**	**21 11 01.6**	**+2.0**
JAB	**Ashibetsu**	**6.26**	**259**	*e*P	**Pn**	**21 11 03.3**	**+3.5**
JNBK	**Urakawa-nobuka**	**6.37**	**247**	*e*P	**Pn**	**21 11 01.7**	**+0.3**
SKR	**Severo-Kuril's**	**6.73**	**31**	*i* P	**Pn**	**21 11 07.2**	**+1.0**
SKR				AMB	AMB	21 11 10.3	
	comp=E,150nm,0.7s						
SKR				*e*S	**Sn**	**21 12 20.0**	**-1.5**
SKR				A	A	21 12 42.4	
	comp=E,470nm,0.8s						
SKR				A	A	21 12 42.4	
	comp=E,160nm,0.8s						
SKR				AMS	AMS	21 13 21.8	
	comp=E,5μm,13.0s						
SKR				AMS	AMS	21 13 21.8	
	comp=E,3μm,13.0s						
SKR				AMS	AMS	21 13 21.8	
	comp=E,2μm,13.0s						
SKR	**Severo-Kuril's**	**6.73**	**31**	⇓*i*PN	**Pn**	**21 11 07.2**	**+1.0**
SKR				pmax	pmax		
	comp=Z,150nm,0.7s						
SKR				MLR	MLR		
	comp=Z,2μm,12.0s						
SKR				MLR	MLR		
	comp=N,5μm,13.0s						
SKR				MLR	MLR		
	comp=E,3μm,13.0s						
JRBN	**Rebuntou**	**6.80**	**277**	*e*P	**Pn**	**21 11 10.3**	**+3.2**
PAU	**Pauzhetka**	**7.62**	**30**	*e*P	**Pn**	**21 11 20.2**	**+1.7**
PAU				AMB	AMB	21 11 25.7	
	comp=E,30nm,0.4s						
PAU				*e*S	**Sn**	**21 12 40.2**	**-3.3**
PAU				A	A	21 12 42.3	
	comp=E,60nm,0.6s						
PAU				A	A	21 12 42.3	
	comp=E,70nm,0.6s						
TYV	**Tymovskoe**	**7.93**	**320**	*e*PN	**Pn**	**21 11 25.1**	**+2.4**
TYV				*e*S	**Sn**	**21 12 52.3**	**+1.3**
TYV				pmax	pmax		
	comp=Z,600nm,4.1s						
TYV				pmax	pmax		
	comp=Z,32nm,0.9s						
TYV				smax	smax		
	comp=N,16nm,1.1s						
TYV				smax	smax		
	comp=E,33nm,1.1s						
TYV				smax	smax		
	comp=N,500nm,4.6s						
TYV				smax	smax		
	comp=E,800nm,4.6s						
TYV				MLR	MLR		
	comp=Z,1μm,17.0s						
JANG	**Nango**	**8.20**	**239**	*e*P	**Pn**	**21 11 25.1**	**-1.3**
JANG				*e*S	**Sn**	**21 12 50.3**	**-7.3**
JTM	**Tenmabayashi**	**8.23**	**242**	Pn	**Pn**	**21 11 26.1**	**-0.7**
JTH	**Tanohata**	**8.26**	**235**	*e*P	**Pn**	**21 11 25.2**	**-2.1**
JTH				*e*S	**Sn**	**21 12 50.6**	**-8.8**
PETK	**Petropavlovsk-**	**9.29**	**27**	P	**Pn**	**21 11 42.6**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=188,slow=10,SNR=6.1						
	comp=Z,2.5nm,0.5s						
TEY	**Ternei**	**9.96**	**275**	*e*PN	Pn	21 11 57.2	+6.7
JSD	**Sado**	**11.63**	**237**	Pn	**Pn**	**21 12 11.7**	**-1.7**
MAJO	**Matsushiro**	**12.69**	**232**	⇓*e*PN	**Pn**	**21 12 27.0**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MJAR	**Matsushiro Arr**	**12.69**	**232**	P	**Pn**	**21 12 26.6**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=29,slow=15,SNR=7.4						
USA0B	**Ussuriysk Arra**	**13.34**	**273**	*c i*PN	**Pn**	**21 12 37.5**	**+0.8**
USRK	**Ussuriysk Ar.**	**13.34**	**273**	P	**Pn**	**21 12 37.4**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=87,slow=13,SNR=28						
USRK				LR	LR	21 17 46.5	
	comp=Z,181nm,19.1s,baz=66,slow=37						
	comp=Z,9.5nm,0.6s						
KLR	**Kul'dur**	**13.54**	**295**	P	**P**	**21 12 44.0**	**-3.8**
	comp=Z,2.1nm,0.6s,baz=102,slow=17,SNR=7.7						
KLR	**Kul'dur**	**13.54**	**295**	*e*P	**Pn**	**21 12 40.0**	**+0.6**
KLR	**Kul'dur**	**13.54**	**295**	⇑*e*PN	**Pn**	**21 12 36.5**	**-2.9**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.2s						
JGF	**Kuroka**	**13.84**	**232**	Pn	**Pn**	**21 12 44.1**	**+0.4**
MA2	**Magadan**	**14.56**	**0**	P	**Pn**	**21 12 52.7**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=155,slow=17,SNR=4.4						
	comp=Z,7.4nm,0.5s						
MDJ	**Mudanjiang**	**14.96**	**276**	P	**P**	**21 13 04.3**	**+0.6**
MDJ				S	**Sn**	**21 15 37.8**	**-5.3**
MDJ				pmax	pmax		
	comp=Z,12nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,89nm,4.5s						
MDJ				LR	LR		
	comp=Z,210nm,13.7s						
MDJ				LR	LR		
	comp=Z,380nm,11.0s						
MDJ				LR	LR		
	comp=Z,440nm,21.3s						
**BNX

CN2 *e*PP **sP** **21 13 51.8 -0.5**
CN2 *e*S **Sn** **21 16 50.6 -7.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,110nm,14.0s
CN2 LR LR
comp=Z,130nm,14.0s
KSRS Korea Array 18.67 254 P **Pn** **21 13 46.1 +0.8**
comp=Z,0.3nm,0.3s,baz=62,slow=11,SNR=7.4
KSRS LR LR 21 20 58.4
comp=Z,114nm,18.3s,baz=60,slow=37
comp=Z,3.6nm,0.8s
JNU Nakatsue 19.38 239 P **Pn** **21 13 55.3 +1.5**
JNU IAmb IAmb 21 14 01.7
comp=Z,90nm,1.8s
JNU Nakatsue 19.38 239 P **Pn** **21 13 56.9 +3.1**
comp=Z,11nm,1.1s,baz=25,slow=14,SNR=2.3
JNU LR LR 21 21 53.1
comp=Z,92nm,19.5s,baz=42,slow=38
YAK Yakutsk 20.93 332 P Pn 21 14 10.2 -1.6
comp=Z,28nm,0.8s,baz=123,slow=3.0,SNR=2.2
YAK LR LR 21 22 03.8
comp=Z,149nm,20.3s,baz=138,slow=36
YAK Yakutsk 20.93 332 *e*P Pn 21 14 13.3 +1.5
YAK *e* 21 18 20.9
YAK *e*SS Sn 21 18 29.3 +22
YAK *e*SSS SSS 21 18 40.8
YAK pmax pmax
comp=E,15nm,1.2s
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=Z,18nm,0.8s
YAK pmax pmax
comp=E,51nm,1.7s
YAK MLR MLR
comp=Z,171nm,17.0s
YAK MLR MLR
comp=N,75nm,15.0s
YAK MLR MLR
comp=E,62nm,13.0s
BILL Bilibino 24.46 14 *e*P **P** **21 14 44.1 -0.8**
BILL Bilibino 24.46 14⇑ *e*P **P** **21 14 44.1 -0.8**
BILL pmax pmax
comp=Z,5.0nm,0.8s
XLT XiLinHaoTe 24.61 280 *e*P **P** **21 14 46.0 -0.6**
XLT pmax pmax
comp=Z,18nm,0.8s
XLT LR LR
comp=Z,11nm,10.0s
XLT LR LR
comp=Z,95nm,12.4s
XLT LR LR
comp=Z,160nm,13.3s
BJI Beijing 25.78 271 P **P** **21 14 58.4 +1.3**
BJI pmax pmax
comp=Z,3.0nm,0.5s
BJI pmax pmax
comp=Z,52nm,5.0s
BJI LR LR
comp=Z,36nm,17.5s
BJI LR LR
comp=Z,84nm,14.3s
BJI LR LR
comp=Z,110nm,16.2s
BJT Baijiatuau 25.79 271 P **P** **21 14 57.3 +0.1**
BJT Baijiatuau 25.79 271 P **P** **21 14 57.3 +0.1**
BJT pmax pmax
comp=Z,5.0nm,0.6s
TIA Tai'an 26.79 263 P **P** **21 15 06.8 +0.5**
TIA pmax pmax
comp=Z,13nm,0.7s
NJ2 Nanjing 27.87 253 *e*P **P** **21 15 18.0 +2.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
HNS HongShan 27.93 267 ⇑P **P** **21 15 16.9 +0.4**
HNS pmax pmax
comp=Z,9.0nm,1.0s
H11N2 WAKE ISLAND Hy 28.60 147 T T 21 46 08.3
baz=336,slow=76,SNR=419
H11N1 WAKE ISLAND Hy 28.62 147 T T 21 46 03.7
baz=336,slow=76,SNR=218
H11N3 WAKE ISLAND Hy 28.62 147 T T 21 46 06.8
baz=336,slow=76,SNR=213
TIXI Tiksi 28.67 346 P **P** **21 15 19.7 -3.0**
TIXI Tiksi 28.67 346 P **P** **21 15 19.7 -3.0**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
HHC Hu-ho-hao-te 28.74 276 *e*P **P** **21 15 25.8 +2.0**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,81nm,4.2s
HHC LR LR
comp=Z,91nm,13.7s
HHC LR LR
comp=Z,250nm,14.3s
HHC LR LR
comp=Z,280nm,17.2s
H11S1 WAKE ISLAND Hy 29.64 148 T T 21 47 27.5
baz=337,slow=76,SNR=728
H11S3 WAKE ISLAND Hy 29.65 148 T T 21 47 13.8
baz=337,slow=76,SNR=890
H11S2 WAKE ISLAND Hy 29.66 148 T T 21 47 07.5
baz=337,slow=76,SNR=786
ULN Ulaanbaatar 29.89 291 P **P** **21 15 31.8 -2.2**
ULN Ulaanbaatar 29.89 291 *e*P **P** **21 15 33.2 -0.8**
ULN Ulaanbaatar 29.89 291⇑ *e*P **P** **21 15 33.2 -0.8**
ULN pmax pmax
comp=Z,3.0nm,1.0s
BTO Baotou 29.92 276 *e*P P 21 15 39.4 +5.2
BTO pP sP 21 15 50.8 +1.3
BTO sP pP 21 15 56.0 +12
BTO PP **PP** **21 16 36.3 -5.7**
BTO S **S** **21 20 37.5 +8.5**
BTO SS **SnSn** **21 22 05.3 +3.3**
BTO pmax pmax
comp=Z,12nm,0.6s
BTO pmax pmax
comp=Z,160nm,4.2s
BTO LR LR
comp=Z,360nm,5.1s
BTO LR LR
comp=Z,220nm,4.7s
BTO LR LR
comp=Z,170nm,5.8s
SONM Songino Array 30.33 291 P **P** **21 15 37.8 -0.1**
comp=Z,1.0nm,0.6s,baz=77,slow=7.7,SNR=8.5
SONM PcP **PcP** **21 18 37.7 +0.5**
comp=Z,1.0nm,0.7s,baz=92,slow=2.3,SNR=4.7
SONM LR LR 21 28 42.1
comp=Z,102nm,20.0s,baz=100,slow=38
comp=Z,1.0nm,0.6s
GUMO Guam 31.73 191 LR LR 21 26 57.6
comp=Z,47nm,19.8s,baz=62,slow=33
C16K Lisburne Hills 32.39 29 P **P** **21 15 54.6 -1.0**
TPUB Ta-pu 32.69 238 P **P** **21 15 58.9 +0.3**
F19K Shaleruckik Mo 34.71 33 P **P** **21 16 14.9 -0.8**
F19K IAmb IAmb 21 16 22.4
comp=Z,31nm,1.8s
B20K Meade River 35.73 28 P **P** **21 16 25.1 +0.6**
LZH Lanzhou 36.25 272 *e*P **P** **21 16 30.8 +1.3**
LZH pP pP 21 16 40.8 +1.3
LZH sP pwP 21 16 43.8 +0.1
LZH pmax pmax
comp=Z,24nm,1.0s
LZH LR LR
comp=Z,150nm,14.8s
LZH LR LR
comp=Z,120nm,13.1s
CAST Castle Rocks 36.64 39 P **P** **21 16 32.7 +0.3**
CAST IAmb IAmb 21 16 47.3
comp=Z,41nm,2.0s
B22K Teshekpuk Lake 37.05 28 P **P** **21 16 35.9 +0.1**
B22K IAmb IAmb 21 16 37.2
comp=Z,31nm,1.4s
E22K Anaktuvuk Pass 37.20 32 P **P** **21 16 38.0 +0.9**
GTA Gaotai 37.57 280 P **P** **21 16 41.3 +0.6**
GTA pP pP 21 16 48.1 -2.5
GTA PcP **PcP** **21 18 59.4 +1.5**
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA LR LR
comp=Z,110nm,13.9s
GTA LR LR
comp=Z,70nm,13.9s
GTA LR LR
comp=Z,93nm,17.9s
TOLK Toolik Lake Re 38.09 31 P **P** **21 16 44.8 +0.1**
TOLK IAmb IAmb 21 16 48.7
comp=Z,20nm,1.6s
D24K Happy Valley 38.42 30 P **P** **21 16 46.9 -0.4**
D24K IAmb IAmb 21 16 54.3
comp=Z,5.9nm,0.7s
WRH Wood River Hil 38.43 38 P **P** **21 16 47.4 0.0**
WRH IAmb IAmb 21 17 01.8
comp=Z,27nm,1.6s
COLA College 38.53 37⇓ *e*P **P** **21 16 49.1 +0.8**
COLA pmax pmax
comp=Z,5.0nm,0.9s
COLA College 38.53 37 P **P** **21 16 49.9 +1.6**
ILAR Eielson Array 38.95 37 P **P** **21 16 52.3 +0.5**
comp=Z,0.8nm,0.6s,baz=263,slow=7.3,SNR=11
comp=Z,0.8nm,0.6s
CD2 Chengdu 39.04 265 P **P** **21 16 53.0 0.0**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
NRIK Noril'sk 39.37 330 LR LR 21 33 29.5
comp=Z,66nm,20.9s,baz=143,slow=37
GYA Guiyang 39.68 257 P **P** **21 16 58.4 -0.1**
GYA pmax pmax
comp=Z,9.0nm,1.0s
SCRK Sand Creek 40.24 38 P **P** **21 17 02.7 0.0**
SCRK IAmb IAmb 21 17 38.8
comp=Z,27nm,2.0s
CRQM Cirque 40.98 43 P **P** **21 17 09.4 +0.4**
CRQM IAmb IAmb 21 17 12.3
comp=Z,40nm,1.2s
D27M Malcolm River 41.23 30 P **P** **21 17 11.3 +0.5**
CTGM Chitina Glacie 41.82 43 P **P** **21 17 17.0 +1.2**
CTGM IAmb IAmb 21 17 24.6
comp=Z,72nm,1.7s
ZALV Zalesovo Beam 42.25 307 P **P** **21 17 16.1 -3.1**
comp=Z,0.8nm,0.5s,baz=71,slow=6.4,SNR=5.1
ZALV PcP **PcP** **21 19 12.7 +0.3**
comp=Z,2.1nm,0.7s,baz=93,slow=2.8,SNR=9.0
comp=Z,0.8nm,0.5s
ZALV Zalesovo Beam 42.25 307 *i* P **P** **21 17 17.3 -1.8**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
GOMU GeErMu 42.56 278 P **P** **21 17 22.3 -0.1**
GOMU pmax pmax
comp=Z,13nm,0.9s
PZH PanZhiHua 43.08 262 P **P** **21 17 26.8 +0.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,5.1s
KMI Kunming 43.25 259 ⇑P **P** **21 17 30.3 +2.4**
KMI pmax pmax
comp=Z,8.0nm,0.9s
HYT Haines Junctio 43.69 42 P **P** **21 17 32.4 +1.5**
HYT IAmb IAmb 21 17 33.7
comp=Z,12nm,1.1s
WMQ Urumqi 43.97 292 *e*P **P** **21 17 36.3 +3.0**
WMQ LR LR
comp=Z,91nm,18.1s
INK Inuvik 44.00 31 P **P** **21 17 33.9 +0.8**
INK Inuvik 44.00 31 P **P** **21 17 33.9 +0.8**
INK pmax pmax
comp=Z,5.0nm,1.1s
A36M Sachs Harbour 46.13 25 P **P** **21 17 50.3 +0.3**
A36M IAmb IAmb 21 18 02.2
comp=Z,10nm,0.8s
MK31 Makanchi Array 46.22 298 P **P** **21 17 50.2 -0.9**
MK31 Makanchi Array 46.22 298 P **P** **21 17 50.2 -0.9**
MK31 pmax pmax
comp=Z,8.0nm,1.3s
MKAR Makanchi Array 46.22 298 P **P** **21 17 50.0 -1.1**
comp=Z,2.9nm,0.7s,baz=72,slow=5.5,SNR=31
MKAR PcP **PcP** **21 19 26.8 +0.5**
comp=Z,2.0nm,0.6s,baz=120,slow=0.2,SNR=8.9
comp=Z,2.9nm,0.7s
MKAR Makanchi Array 46.22 298 *e*P **P** **21 17 50.7 -0.4**
MKAR Makanchi Array 46.22 298 *i* P **P** **21 17 50.7 -0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 46.41 298 P **P** **21 17 51.3 -1.3**
MAKZ Makanchi 46.41 298 P **P** **21 17 51.3 -1.3**
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
MAKZ Makanchi 46.41 298 P **P** **21 17 52.7 +0.1**
MAKZ pP **pwP** **21 18 06.0 -0.3**
MAKZ PcP **PcP** **21 19 27.0 +0.2**
KURK Kurchatov 46.90 304 P **P** **21 17 54.4 -1.9**
KURK IAmb IAmb 21 17 56.7
comp=Z,6.2nm,0.5s
KURK Kurchatov 46.90 304 *e*P **P** **21 17 55.2 -1.1**
KURK Kurchatov 46.90 304 *de*P **P** **21 17 55.2 -1.1**
KURK pmax pmax
comp=Z,3.0nm,0.5s
KURK Kurchatov 46.90 304 P **P** **21 17 54.5 -1.9**
KURK sP **sP** **21 18 13.0 +1.2**
KURK PcP **PcP** **21 19 29.1 +0.7**
KURBB Kurchatov Arra 46.99 304 P **P** **21 17 55.0 -2.0**
comp=Z,2.9nm,0.5s,baz=74,slow=8.4,SNR=47
KURBB PcP **PcP** **21 19 28.7 -0.1**
comp=Z,1.0nm,0.7s,baz=74,slow=3.0,SNR=5.9
KURBB LR LR 21 36 55.8
comp=Z,40nm,21.7s,baz=173,slow=35
comp=Z,2.9nm,0.5s
LSA Lhasa 48.66 273 P **P** **21 18 11.5 +0.7**
LSA Lhasa 48.66 273 P **P** **21 18 11.5 +0.7**
LSA pmax pmax
comp=Z,5.0nm,1.0s
LSA Lhasa 48.66 273 P **P** **21 18 12.3 +1.5**
PHRA Phrae 49.39 255 P **P** **21 18 16.7 +0.8**
CHTO Chiang Mai 50.06 256 P **P** **21 18 21.2 +0.2**
CHTO Chiang Mai 50.06 256 P **P** **21 18 21.2 +0.2**
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 50.30 256 P **P** **21 18 23.6 +0.8**
comp=Z,1.8nm,0.6s,baz=42,slow=7.3,SNR=20
CMAR PcP **PcP** **21 19 42.8 +1.5**
comp=Z,0.4nm,0.8s,baz=74,slow=2.2,SNR=4.3
CMAR LR LR 21 41 45.4
comp=Z,54nm,18.4s,baz=355,slow=38
comp=Z,1.8nm,0.6s
CMAR Chiang Mai Arr 50.30 256 *ce*P **P** **21 18 23.8 +1.0**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
SHL Shillong 50.62 268 P **P** **21 18 25.0 -0.4**
SHL IAmb IAmb 21 18 26.0
comp=Z,6.6nm,0.8s
SHL Shillong 50.62 268 P **P** **21 18 25.0 -0.4**
SHL pmax pmax
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 50.63 310 P **P** **21 18 23.9 -1.1**
comp=Z,1.5nm,0.5s,baz=55,slow=6.9,SNR=12
BVAR PcP **PcP** **21 19 42.2 +0.2**
comp=Z,1.2nm,0.5s,baz=89,slow=6.2,SNR=3.7
BVAR LR LR 21 40 48.6
comp=Z,66nm,19.7s,baz=325,slow=37
comp=Z,1.5nm,0.5s
BRVK Borovoye 50.68 310 *e*P **P** **21 18 25.2 0.0**
BRVK Borovoye 50.68 310⇑ *e*P **P** **21 18 25.2 0.0**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
WUS Wushi 50.74 292 P **P** **21 18 26.0 0.0**
WUS IAmb IAmb 21 18 29.2
comp=Z,5.7nm,0.6s
WUS Wushi 50.74 292 P **P** **21 18 26.4 +0.4**
TARG Taragay, Kyrgy 51.39 294 P **P** **21 18 31.9 +0.6**
TARG Taragay, Kyrgy 51.39 294 P **P** **21 18 31.9 +0.6**
TARG pmax pmax
comp=Z,3.0nm,0.8s
KDJ Kajisay 51.60 294 P **P** **21 18 32.7 +0.1**
KDJ IAmb IAmb 21 18 34.0
comp=Z,18nm,1.2s
KDJ Kajisay 51.60 294 P **P** **21 18 32.7 +0.1**
KDJ pmax pmax
comp=Z,18nm,1.2s
USP Ospenovka 52.74 297 P **P** **21 18 41.5 +0.7**
SNR=8.8
KBK Karagaybulak 52.77 296 P **P** **21 18 41.0 -0.3**
SNR=7.0
RES Resolute Bay 52.99 18 P **P** **21 18 42.2 0.0**
RES IAmb IAmb 21 18 55.0
comp=Z,5.1nm,0.8s
RES Resolute Bay 52.99 18 LR LR 21 43 25.6
comp=Z,47nm,20.3s,baz=10,slow=38
RES Resolute Bay 52.99 18 P **P** **21 18 42.2 0.0**
RES pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 53.06 296 P **P** **21 18 44.0 +0.7**
SNR=6.7
AAK Ala-Archa 53.06 296 P **P** **21 18 43.5 +0.1**
AAK IAmb IAmb 21 18 45.0
comp=Z,5.0nm,0.7s
AAK Ala-Archa 53.06 296 LR LR 21 43 47.0
comp=Z,69nm,18.8s,baz=51,slow=39
AAK Ala-Archa 53.06 296 *e*P **P** **21 18 43.7 +0.3**
AAK Ala-Archa 53.06 296 *de*P **P** **21 18 43.7 +0.3**
AAK pmax pmax
comp=Z,5.0nm,0.7s
AAK Ala-Archa 53.06 296 P **P** **21 18 43.6 +0.2**
AAK pP **pwP** **21 18 56.4 -0.6**
EKS2 Erkin-Say 53.51 297 P **P** **21 18 47.4 +0.8**
SNR=5.4
KSH Kashi 53.73 292 P **P** **21 18 52.8 +4.5**
KSH sP sP 21 19 05.8 +1.9
KSH pmax pmax
comp=Z,5.0nm,0.9s
AML Almayashu 53.83 296 P **P** **21 18 50.4 +1.0**
SNR=5.8
SPITS Spitsbergen Ar 53.99 349 P **P** **21 18 47.1 -2.3**
comp=Z,11nm,1.0s,baz=132,slow=2.1,SNR=2.2
comp=Z,11nm,1.0s
ARSB Arslanbob 54.71 296 P **P** **21 18 55.3 -0.1**
ARSB Arslanbob 54.71 296 P **P** **21 18 55.3 -0.1**
ARSB pmax pmax
comp=Z,3.0nm,0.8s
HNR Honiara 54.86 169 LR LR 21 38 43.7
comp=Z,35nm,21.9s,baz=334,slow=32
ARTI Arti 55.23 317 P **P** **21 18 57.6 -1.1**
ARTI IAmb IAmb 21 18 59.3
comp=Z,8.0nm,1.1s
ARTI Arti 55.23 317 LR LR 21 43 45.9
comp=Z,68nm,20.7s,baz=34,slow=37
ARTI Arti 55.23 317 *c i*P **P** **21 18 56.8 -1.9**
ARTI S **S** **21 26 41.1 +1.9**
ARTI SS **SS** **21 30 22.8 -0.2**
ARTI pmax pmax
comp=Z,5.0nm,0.7s
ARTI Arti 55.23 317 P **P** **21 18 57.0 -1.7**
KKAR Karatay Array 55.33 299 P **P** **21 18 59.2 -0.5**
KKAR IAmb IAmb 21 19 00.3
comp=Z,3.9nm,0.7s
KKAR Karatay Array 55.33 299 P **P** **21 18 59.2 -0.5**
KKAR pmax pmax
comp=Z,4.0nm,0.7s
DRK Karamyk 56.46 294 P **P** **21 19 08.3 +0.1**
DRK Karamyk 56.46 294 P **P** **21 19 08.3 +0.1**
DRK pmax pmax
comp=Z,56nm,0.3s
BTK Batken 56.78 295 P **P** **21 19 10.1 -0.1**
BTK IAmb IAmb 21 19 11.7
comp=Z,8.0nm,0.8s
BTK Batken 56.78 295 P **P** **21 19 10.1 -0.1**
BTK pmax pmax
comp=Z,8.0nm,0.8s
GAR Garm 57.69 295 P **P** **21 19 16.6 -0.1**
KIRV Kirov 58.11 323 LR LR 21 46 43.3
comp=Z,109nm,18.2s,baz=44,slow=39
ABKAR Akbulak array 58.21 310 P **P** **21 19 19.0 -1.0**
AKTO Aktyubinsk 58.59 312 LR LR 21 46 34.2
comp=Z,143nm,18.4s,baz=90,slow=38
SIMJ Simiganj 58.72 295 P **P** **21 19 23.9 0.0**
SIMJ Simiganj 58.72 295 P **P** **21 19 23.8 -0.2**
NIL Nilore 58.82 288 P **P** **21 19 24.8 +0.3**
NIL Nilore 58.82 288 P **P** **21 19 24.8 +0.3**
NIL pmax pmax
comp=Z,35nm,1.0s
NIL Nilore 58.82 288 P **P** **21 19 25.4 +0.9**
ARCES ARCESS Array B 58.90 340 P **P** **21 19 23.5 -1.1**
comp=Z,5.1nm,1.1s,baz=33,slow=8.6,SNR=1.7
ARCES LR LR 21 46 47.0
comp=Z,32nm,21.6s,baz=54,slow=38
comp=Z,5.1nm,1.1s
COEN Coen 59.11 188 P **P** **21 19 28.2 +1.7**
PINE Pine Mountain 59.95 57 P **P** **21 19 34.2 +1.9**
PINE IAmb IAmb 21 19 51.9
comp=Z,24nm,2.0s
KBL Kabul 61.10 291 P **P** **21 19 39.5 -0.9**
KBL Kabul 61.10 291 P **P** **21 19 39.5 -0.9**
KBL pmax pmax
comp=Z,37nm,1.2s
PLID Pearl Lake 62.06 53 P **P** **21 19 47.8 +1.1**
PLID IAmb IAmb 21 19 48.9
comp=Z,5.7nm,1.0s
SUMG Summit 62.51 3 P **P** **21 19 49.5 0.0**
SUMG Summit 62.51 3 P **P** **21 19 49.5 0.0**
SUMG pmax pmax
comp=Z,18nm,0.9s
BELG Belogornoye 62.67 318 LR LR 21 48 58.6
comp=Z,53nm,19.6s,baz=321,slow=38
BELG Belogornoye 62.67 318⇓ *e*P **P** **21 19 50.4 +0.1**
BELG pmax pmax
comp=Z,2.0nm,0.6s
BPMT Black Pine Rid 62.67 51 P **P** **21 19 52.0 +1.2**
FFC Flin Flon 63.14 38 P **P** **21 19 54.4 +0.9**
BOZ Bozeman (W) 64.18 51 P **P** **21 20 01.7 +1.0**
BOZ IAmb IAmb 21 20 03.1
comp=Z,5.2nm,0.7s
BOZ Bozeman (W) 64.18 51 P **P** **21 20 01.7 +1.0**
BOZ pmax pmax
comp=Z,5.0nm,0.7s
KVN Kaiserville 64.49 60 P **P** **21 20 03.9 +1.1**
KVN Kaiserville 64.49 60 P **P** **21 20 03.9 +1.1**
KVN pmax pmax
comp=Z,7.0nm,1.5s
NVAR Mina Array Bea 64.75 60 P **P** **21 20 06.3 +1.7**
comp=Z,1.2nm,0.7s,baz=296,slow=6.5,SNR=7.9
comp=Z,1.2nm,0.7s
FIA1 FINESS Array S 64.85 334 P **P** **21 20 02.8 -1.7**
FINES FINESS Array B 64.85 334 P **P** **21 20 03.2 -1.3**
comp=Z,1.7nm,0.5s,baz=39,slow=7.9,SNR=15
FINES LR LR 21 51 06.0
comp=Z,61nm,18.1s,baz=30,slow=39
comp=Z,1.7nm,0.5s
YHL Hebgen Lake 64.90 51 P **P** **21 20 05.9 +0.3**
HRA Herat 65.64 295 P **P** **21 20 10.7 +0.3**
HRA IAmb IAmb 21 20 11.5
comp=Z,6.9nm,0.8s
MOOW Moose Ponds 65.84 52 P **P** **21 20 13.1 +1.5**
TPAW Teton Pass 65.89 52 P **P** **21 20 13.4 +1.4**
TPAW IAmb IAmb 21 20 15.1
comp=Z,6.1nm,0.8s
WB0 Warramunga Arr 66.18 197 P **P** **21 20 14.6 +1.0**
WB0 IAmb IAmb 21 20 15.6
comp=Z,7.9nm,0.7s
WRA Warramunga Arr 66.36 197 P **P** **21 20 15.9 +1.2**
comp=Z,5.4nm,0.6s,baz=16,slow=6.8,SNR=15
comp=Z,5.4nm,0.6s
WRA Warramunga Arr 66.36 197 P **P** **21 20 16.0 +1.2**
R11B Troy Canyon, C 66.46 59 P **P** **21 20 16.4 +0.8**
PD31 Pinedale Array 67.14 52 P **P** **21 20 20.1 +0.2**
PD31 IAmb IAmb 21 20 21.3
comp=Z,19nm,1.9s
PDAR Pinedale Array 67.14 52 P **P** **21 20 20.6 +0.7**
comp=Z,2.2nm,0.7s,baz=270,slow=1.5,SNR=27
comp=Z,2.2nm,0.7s
RDMU Red Mountain 68.57 54 P **P** **21 20 30.1 +1.2**
RDMU IAmb IAmb 21 20 31.4
comp=Z,11nm,0.7s
NC303 NORSAR Array S 69.08 340 P **P** **21 20 30.7 -0.7**
NC204 NORSAR Array S 69.18 341 P **P** **21 20 31.3 -0.9**
RSSD Black Hills 69.23 48 P **P** **21 20 32.9 -0.1**
RSSD IAmb IAmb 21 20 34.6
comp=Z,5.6nm,0.8s
RSSD Black Hills 69.23 48 P **P** **21 20 32.9 -0.1**
RSSD pmax pmax
comp=Z,6.0nm,0.8s
RSSD Black Hills 69.23 48 P **P** **21 20 33.9 +0.9**
NB2 NORSAR Subarra 69.28 340 P **P** **21 20 32.3 -0.5**
comp=Z,2.4nm,0.5s,baz=28,slow=6.5
NOA NORSAR Array B 69.28 340 P **P** **21 20 32.1 -0.6**
comp=Z,3.7nm,0.5s,baz=30,slow=6.7,SNR=31
NOA LR LR 21 55 40.1
comp=Z,21nm,18.1s,baz=270,slow=40
comp=Z,3.7nm,0.5s
HFS Hagfors 69.45 339 P **P** **21 20 32.3 -1.5**
comp=Z,4.3nm,0.5s,baz=56,slow=6.1,SNR=18
HFS LR LR 21 54 13.9
comp=Z,38nm,19.6s,baz=23,slow=39

comp=Z,4.3nm,0.5s
AS31 Alice Springs 70.06 196 P P 21 20 39.6 +1.7
ASAR Alice Springs 70.06 196 P P 21 20 40.1 +2.2
comp=Z,4.1nm,0.7s,baz=13,slow=5.3,SNR=29
ASAR LR LR 21 50 02.7
comp=Z,13nm,21.4s,baz=62,slow=35
comp=Z,4.1nm,0.7s
BORG Borgarnes 70.38 356 P P 21 20 40.2 +0.9
BORG Borgarnes 70.38 356 P P 21 20 40.2 +0.9
BORG pmax pmax
comp=Z,185nm,1.8s
KIV Kislovodsk 70.75 313 P P 21 20 42.8 +0.6
KIV IAmb IAmb 21 20 44.6
comp=Z,22nm,0.8s
KIV Kislovodsk 70.75 313 *e*P P 21 20 43.1 +0.9
KIV Kislovodsk 70.75 313 *e*P P 21 20 43.1 +0.9
KIV pmax pmax
comp=Z,23nm,1.0s
KIV MLR MLR
comp=Z,59nm,18.0s
KIV Kislovodsk 70.75 313 P P 21 20 43.0 +0.8
KBZ Khabaz 70.80 313 P P 21 20 42.9 +0.6
comp=Z,17nm,0.8s,baz=66,slow=3.3,SNR=27
KBZ LR LR 21 56 13.5
comp=Z,89nm,18.4s,baz=36,slow=40
comp=Z,17nm,0.8s
SHA1 Shidzhatmaz 70.92 313*c i*P P 21 20 43.7 +0.4
AKASG Malin Array Be 72.00 325 P P 21 20 48.0 -1.5
comp=Z,2.0nm,0.4s,baz=38,slow=6.0,SNR=26
AKASG LR LR 21 54 13.2
comp=Z,62nm,18.8s,baz=58,slow=37
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 72.00 325 *i*P P 21 20 48.7 -0.7
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 72.00 325*ce*P P 21 20 47.9 -1.5
PSA00 Pilbara Seismi 72.01 210 P P 21 20 51.2 +1.6
KIEV Kiev 72.01 325 P P 21 20 48.2 -1.3
KIEV Kiev 72.01 325 ⇑P P 21 20 48.5 -1.0
KIEV Kiev 72.01 325 P P 21 20 48.2 -1.3
KIEV pmax pmax
comp=Z,5.0nm,0.7s
KIEV Kiev 72.01 325 P P 21 20 48.4 -1.1
GNI Garni 72.32 309 P P 21 20 52.6 +0.9
GNI IAmb IAmb 21 21 06.4
comp=Z,22nm,1.1s
GNI Garni 72.32 309 LR LR 21 54 26.6
comp=Z,38nm,20.6s,baz=46,slow=37
GNI Garni 72.32 309 P P 21 20 52.6 +0.9
GNI pmax pmax
comp=Z,22nm,1.1s
SORM Soroca 74.36 324 ⇑P P 21 21 02.5 -0.8
SORM Soroca 74.36 324 P P 21 21 02.5 -0.8
MILM Milestii Mici 75.11 323 ⇑P P 21 21 07.2 -0.6
MILM Milestii Mici 75.11 323 P P 21 21 07.1 -0.6
KWP Kalwaria Pacla 75.39 328 *e*P P 21 21 09.9 +0.6
KWP Kalwaria Pacla 75.39 328 P P 21 21 09.4 0.0
KWP IAmb IAmb 21 21 10.6
comp=Z,25nm,1.0s
KWP Kalwaria Pacla 75.39 328 P P 21 21 09.4 0.0
KWP pmax pmax
comp=Z,25nm,1.0s
SCHQ Schefferville 75.53 21 P P 21 21 09.8 -0.3
SCHQ Schefferville 75.53 21 P P 21 21 09.9 -0.2
comp=Z,2.8nm,0.6s,baz=299,slow=10,SNR=2.2
comp=Z,2.8nm,0.6s
OJC Ojcow 75.97 330 *e*P P 21 21 12.7 +0.1
OJC Ojcow 75.97 330 P P 21 21 12.4 -0.2
OJC IAmb IAmb 21 21 13.4
comp=Z,12nm,0.7s
OJC Ojcow 75.97 330 P P 21 21 12.5 -0.2
OJC pmax pmax
comp=Z,12nm,0.7s
BUR08 Bucovina Ar. S 76.04 325 P P 21 21 13.2 0.0
BURAR Bucovina Array 76.05 325 ⇑P P 21 21 13.2 -0.2
BURAR Bucovina Array 76.05 325 P P 21 21 13.1 -0.2
STHS Stebnicka Huta 76.12 329 *e*P P 21 21 13.6 +0.1
STHS pmax pmax
comp=Z,7.0nm,0.7s
STHS Stebnicka Huta 76.12 329 *e*P P 21 21 13.6 +0.1
KOLS Kolonicke sedl 76.13 328 *e*P P 21 21 13.5 -0.1
KOLS pmax pmax
comp=Z,8.0nm,0.9s
KOLS Kolonicke sedl 76.13 328 *e*P P 21 21 13.5 -0.1
VLDR Vladesti 76.27 323 ⇓P P 21 21 14.1 -0.3
TESR Tescani 76.35 324 ⇑P P 21 21 14.1 -0.8
NIE Niedzica 76.46 329 *e*P P 21 21 16.5 +1.1
TLCR 76.47 322 ⇓P P 21 21 15.8 +0.2
TLCR 76.47 322 P P 21 21 15.7 +0.2
ARPR Arapgir-MALATY 76.52 312 P P 21 21 16.3 +0.2
ARPR IAmb IAmb 21 21 18.4
comp=Z,12nm,0.9s
ONER Baraj Valea Uz 76.60 324 ⇑P P 21 21 16.8 +0.6
KSP Ksiaz 76.65 332 *e*P P 21 21 16.3 -0.1
CFR Carcaliu 76.77 322 ⇓P P 21 21 17.0 -0.3
CFR Carcaliu 76.77 322 P P 21 21 16.9 -0.3
ODBI Odobesti 76.77 323 ⇑P P 21 21 16.9 -0.3
ARCR ARCALIA 76.83 326 ⇑P P 21 21 17.4 -0.2
VRI Vrincioaia 76.83 323 ⇑P P 21 21 17.6 -0.1
VRI Vrincioaia 76.83 323 P P 21 21 17.5 -0.1
CHVC Chvalec 76.94 332 *e*P P 21 21 17.6 -0.6
CHVC Chvalec 76.94 332 *e*P P 21 21 17.6 -0.6
TURR Turia 76.98 324 ⇑P P 21 21 18.3 -0.1
LANS Liptovska Anna 76.98 330 *e*P P 21 21 19.3 +0.8
LANS pmax pmax
comp=Z,8.0nm,0.8s
LANS Liptovska Anna 76.98 330 *e*P P 21 21 19.2 +0.8
OZUR 77.04 324 ⇓P P 21 21 19.4 +0.5
DPC Dobruska-Polom 77.06 332 *e*P P 21 21 19.3 +0.4
DPC Dobruska-Polom 77.06 332 *e*P P 21 21 19.3 +0.4
COVR Voineasa-Covas 77.07 324 ⇑P P 21 21 18.8 -0.1
MORC Moravsky Berou 77.13 331 P P 21 21 19.0 -0.3
MORC IAmb IAmb 21 21 20.3
comp=Z,10nm,0.8s
MORC Moravsky Berou 77.13 331 *e*P P 21 21 19.3 0.0
MORC Moravsky Berou 77.13 331 ⇑P P 21 21 19.0 -0.3
MORC Moravsky Berou 77.13 331 P P 21 21 19.0 -0.3
MORC pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 77.29 334 P P 21 21 19.1 -0.9
CLL Collm 77.29 334⇑*i*P P 21 21 19.4 -0.7
CLL pmax pmax
comp=Z,14nm,0.6s
CLL Collm 77.29 334⇑*i*P P 21 21 19.4 -0.7
comp=Z,14nm,0.6s
TLBR Topalu 77.31 322 ⇓P P 21 21 19.6 -0.7
MESR Meseseni 77.33 326 ⇑P P 21 21 20.4 0.0
CJR Cluj-Napoca 77.43 326 ⇓P P 21 21 20.6 -0.4
CJR Cluj-Napoca 77.43 326 P P 21 21 20.6 -0.4
MLR Muntele Rosu 77.46 324 P P 21 21 21.3 0.0
MLR IAmb IAmb 21 21 23.0
comp=Z,8.0nm,0.8s
MLR Muntele Rosu 77.46 324 ⇑P P 21 21 20.9 -0.4
MLR Muntele Rosu 77.46 324 P P 21 21 21.3 0.0
MLR pmax pmax
comp=Z,8.0nm,0.8s
EKA Eskdalemuir Ar 77.58 345 P P 21 21 21.0 -0.6
comp=Z,3.6nm,0.6s,baz=18,slow=5.1,SNR=15
comp=Z,3.6nm,0.6s
MARR Marisel-Cluj 77.65 326 ⇓P P 21 21 21.8 -0.5
DRGR 77.72 326 ⇑P P 21 21 22.1 -0.6
DRGR 77.72 326 P P 21 21 22.0 -0.6
ICOR Ion Corvin 77.76 322 ⇑P P 21 21 22.5 -0.3
VYHS Vyhne 77.76 330 *e*P P 21 21 23.1 +0.3
VYHS pmax pmax
comp=Z,11nm,1.4s
VYHS Vyhne 77.76 330 *e*P P 21 21 23.0 +0.3
HSKC Hora Svate Kat 77.77 334 *e*P P 21 21 22.6 -0.2
VRAC Vranov 77.86 331 *e*P P 21 21 23.5 +0.2
VRAC Vranov 77.86 331 ⇑P P 21 21 23.2 -0.1
VRAC Vranov 77.86 331 P P 21 21 23.2 -0.1
PSZ Piszkesteto 77.86 329 P P 21 21 23.4 0.0
PSZ IAmb IAmb 21 21 24.7
comp=Z,8.1nm,0.9s
PSZ Piszkesteto 77.86 329 ⇑P P 21 21 23.6 +0.2
PSZ Piszkesteto 77.86 329 P P 21 21 23.4 0.0
PSZ pmax pmax
comp=Z,8.0nm,0.9s
JAVC Velka Javorina 77.87 330 *e*P P 21 21 24.3 +0.9
VOIR 77.88 324 ⇑P P 21 21 23.9 +0.3
VOIR 77.88 324 P P 21 21 23.9 +0.3
PRU Pruhonice 77.95 333 *e*P P 21 21 24.1 +0.3
PRU Pruhonice 77.95 333 *e*P P 21 21 24.1 +0.3
BNN Bunyan 77.99 314 P P 21 21 24.7 +0.3
BNN IAmb IAmb 21 21 26.1
comp=Z,19nm,0.9s
ARR Arges 78.11 324 ⇑P P 21 21 24.2 -0.6
KRUC Moravsky 78.14 331 *e*P P 21 21 24.8 0.0
TREC Trest 78.24 332 *e*P P 21 21 25.0 -0.4
TREC Trest 78.24 332 *e*P P 21 21 25.0 -0.4
SMOL Smolenice 78.25 330 *e*P P 21 21 26.4 +0.9
SMOL pmax pmax
comp=Z,5.0nm,0.8s
MODS Modra-Piesok 78.42 330 *e*P P 21 21 27.8 +1.4
MODS pmax pmax
comp=Z,18nm,1.0s
MODS Modra-Piesok 78.42 330 *e*P P 21 21 27.8 +1.4
BRTR Keskin Array B 78.44 315 P P 21 21 26.9 +0.1
comp=Z,2.8nm,0.9s,baz=31,slow=6.0,SNR=6.0
comp=Z,2.8nm,0.9s
BRTR Keskin Array B 78.44 315 P P 21 21 27.0 +0.1
SRO Srobarova 78.53 329 *e*P P 21 21 28.1 +1.1
SRO Srobarova 78.53 329 *e*P P 21 21 28.1 +1.1
ZVC Zvikov 78.54 333 *e*P P 21 21 27.5 +0.4
KIRS Kirsehir-Merke 78.75 315 ⇑P P 21 21 27.7 -0.9
SURR Surduc 78.80 326 ⇑P P 21 21 28.2 -0.4
GZR Gura Zlata 78.84 325 ⇑P P 21 21 28.5 -0.4
GZR Gura Zlata 78.84 325 P P 21 21 28.5 -0.4
SAHE Sakarya_HENDEK 78.93 318 ⇓P P 21 21 29.6 +0.3
KHC Kasperske Hory 79.01 333 P P 21 21 29.7 +0.1
KHC IAmb IAmb 21 21 30.8
comp=Z,12nm,0.7s
KHC Kasperske Hory 79.01 333 *e*P P 21 21 30.1 +0.4
KHC Kasperske Hory 79.01 333*c i*P P 21 21 29.8 +0.1
KHC pmax pmax
comp=Z,37nm,1.3s
CKRC Cesky Krumlov 79.04 332 *e*P P 21 21 30.1 +0.2
CKRC Cesky Krumlov 79.04 332 *e*P P 21 21 30.1 +0.2
BZS Buzias 79.12 326 ⇑P P 21 21 30.6 +0.3
BZS Buzias 79.12 326 P P 21 21 30.5 +0.3
GERES GERESS Array B 79.22 333 P P 21 21 30.3 -0.6
comp=Z,3.3nm,0.5s,baz=32,slow=6.0,SNR=12
GERES LR LR 21 59 45.4
comp=Z,31nm,19.1s,baz=287,slow=38
comp=Z,3.3nm,0.5s
GRFO Grafenberg 79.26 335 P P 21 21 31.0 0.0
GRFO IAmb IAmb 21 21 32.2
comp=Z,14nm,0.8s
GRFO Grafenberg 79.26 335 P P 21 21 31.0 0.0
GRFO pmax pmax
comp=Z,14nm,0.8s
CONA Conrad Observa 79.29 331 *i*P P 21 21 31.7 +0.4
comp=Z,7.1nm,0.7s
RONA Rosalia, Austr 79.34 331 *i*P P 21 21 32.1 +0.6
comp=Z,5.5nm,0.7s
HERR Herculane 79.41 325 ⇓P P 21 21 31.4 -0.5
MORH Mrgy, Hungar 79.75 328 ⇑P P 21 21 33.0 -0.8
RAR Rarotonga 79.89 134 LR LR 21 51 11.9
comp=Z,32nm,21.7s,baz=290,slow=31
MOA Molln 79.90 332 *e*P P 21 21 34.5 0.0
comp=Z,4.6nm,0.9s,SNR=5.0
BTNL Ternell 79.91 338 *d*P P 21 21 34.7 +0.2
MEM Membach 79.92 338 *d*P P 21 21 34.7 +0.2
comp=Z,8.7nm,0.9s
BSTI Sart Tilman 80.06 338 *d*P P 21 21 35.8 +0.5
comp=Z,3.2nm,0.6s
BIOA Bad Ischl, Aus 80.25 332 *e*P P 21 21 36.5 +0.1
comp=Z,5.2nm,1.0s
BCLA Clavier 80.28 338 *d*P P 21 21 36.2 -0.2
comp=Z,7.8nm,1.1s
BGES Gesves 80.37 338 *d*P P 21 21 36.9 -0.1
comp=Z,7.8nm,0.7s
BMRD Maredsous 80.53 339 *d*P P 21 21 38.0 +0.2
comp=Z,8.6nm,1.0s
RCHB Rochefort 80.54 338 *d*P P 21 21 37.3 -0.6
comp=Z,5.9nm,1.0s
SOKA Soboth 80.66 331 *i*P P 21 21 38.6 -0.1
comp=Z,4.3nm,0.8s
BOVS Bovan 80.72 325 ⇑P P 21 21 37.8 -1.2
LESA Schwarzleotal 80.80 333 *i*P P 21 21 39.5 +0.1
comp=Z,5.6nm,0.7s
KBA Konbreinsper 80.88 332 *i*P P 21 21 40.4 +0.4
comp=Z,6.3nm,0.7s,SNR=5.1
OBKA Obir 80.97 331 *i*P P 21 21 40.0 -0.4
comp=Z,2.6nm,0.7s
MYKA Terra Mystica 81.17 332 *e*P P 21 21 40.7 -0.7
comp=Z,1.6nm,0.5s
WATA Walderalm 81.23 333 *i*P P 21 21 42.1 +0.2
comp=Z,3.2nm,0.5s,SNR=4.7
WTTA Wattenberg 81.27 333 *i*P P 21 21 42.4 +0.3
comp=Z,8.6nm,0.7s,SNR=8.0
RETA Reutte 81.35 334 *i*P P 21 21 42.3 -0.1
comp=Z,5.5nm,1.0s
MOTA Moosalm 81.37 334 *i*P P 21 21 42.4 -0.2
comp=Z,6.8nm,0.9s
SQTA Sankt Quirin 81.45 333 *e*P P 21 21 42.8 -0.2
comp=Z,6.9nm,0.9s
FETA Feichten 81.78 334 *i*P P 21 21 45.2 +0.4
comp=Z,3.9nm,1.1s
DAVA Damuels 81.81 334 *i*P P 21 21 44.8 -0.1
comp=Z,6.7nm,1.0s
CTI Castel Tesino 82.34 333 P P 21 21 46.9 -0.8
CTI Castel Tesino 82.34 333 P P 21 21 46.9 -0.8
CTI pmax pmax
comp=Z,5.0nm,0.9s
PPT Papeete 82.58 124 LR LR 21 52 03.6
comp=Z,36nm,19.8s,baz=304,slow=31
PPT2 Papeete2 82.60 124 *e*LR LR 21 47 45.2
comp=Z,67nm,23.5s
PPT2 *e*LR LR 21 47 45.9
comp=Z,99nm,34.0s
MMAI Mount Meron Ar 82.64 310 P P 21 21 49.7 +0.3
comp=Z,4.2nm,0.5s,baz=55,slow=7.2,SNR=20
comp=Z,4.2nm,0.5s
RAYN Ar Rayn 83.71 297 P P 21 21 54.5 -0.6
RAYN Ar Rayn 83.71 297 P P 21 21 54.5 -0.6
RAYN pmax pmax
comp=Z,7.0nm,1.4s
FDMO Fiordimonte 84.50 330 P P 21 21 59.0 +0.2
FDMO IAmb IAmb 21 22 01.1
comp=Z,4.7nm,0.7s
TBI Tubuai 87.18 127 *e*LR LR 21 49 55.3
comp=Z,331nm,31.5s
ESDC Sonseca Array 92.64 341 P P 21 22 36.3 -1.4
comp=Z,0.4nm,0.7s,baz=353,slow=5.4,SNR=3.1
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea 115.63 326 PKP **PKiKP 21 28 07.6 -0.7**
comp=Z,0.3nm,0.4s,baz=17,slow=2.2,SNR=5.6
MAW Mawson 129.86 210 PKP **PKiKP 21 28 35.2 +0.6**
comp=Z,0.7nm,0.6s,baz=18,slow=4.3,SNR=1.4
QSPA South Pole Qui 134.77 180 PKP **PKiKP 21 28 44.3 -0.4**
comp=Z,1.1nm,0.3s,baz=276,slow=5.2,SNR=1.9
QSPA PKKP **PKKPdf 21 38 27.4 -1.8**
comp=Z,1.2nm,0.3s,baz=21,slow=0.5,SNR=3.7
H03N2 Juan Fernandez 140.44 91 T T 00 05 55.4
baz=306,slow=77,SNR=15
H03N3 Juan Fernandez 140.46 91 T T 00 05 38.2
baz=306,slow=77,SNR=21
H03N1 Juan Fernandez 140.46 91 T T 00 05 58.1
baz=306,slow=77,SNR=14
ELIB Princess Elisa 143.52 205 *d*PKPdf PKPbc 21 28 58.1 +1.4
BDFB Brasilia 146.72 34 PKPbc **PKPbc 21 29 08.4 +0.3**
comp=Z,7.6nm,0.8s,baz=282,slow=5.7,SNR=10.0
PLCA Paso Flores 149.73 97 PKPbc **PKPbc 21 29 15.5 +0.2**
comp=Z,2.1nm,0.6s,baz=311,slow=2.1,SNR=8.1
SNAA Sanae 150.43 197 PKPbc **PKPbc 21 29 16.3 +0.4**
comp=Z,2.4nm,0.6s,baz=197,slow=5.4,SNR=24
CPUP Villa Florida 150.80 60 PKPbc **PKPbc 21 29 18.4 +0.2**
comp=Z,2.5nm,0.6s,baz=290,slow=3.2,SNR=5.4

*IDC **13** 21:13:32.5±10.0, 6°.21S×130°.44E, h150km±108km, mb3.2/2, mbtmp3.8/6, Error ellipse: s-maj=106.6km s-min=31.2km az=53.0*
*NEIC **13** 21:13:33.8±0.3, 6°.22S±0°.06×130°.3E±0°.1, h157km±13km, mb4.0/4, Error ellipse: s-maj=17.4km s-min=8.6km az=93.0*

ISC 13 21:13:32.8±0.8, **6°.26S**±0°.08×**130°.25E**±0°.07, **h150km, n18, σ1845/20, mb3.8/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.00**	**149**	Pn	**Pn**	**21 14 09.1**	**+1.2**
SAUI				Sn	**Sn**	**21 14 36.3**	**+1.3**
FAKI	**Fak Fak**	**3.87**	**31**	Pn	**Pn**	**21 14 31.3**	**-0.1**
MTN	**Manton Dam**	**6.60**	**172**	Pn	**Pn**	**21 15 09.5**	**+2.0**
SOEI	**Soe**	**6.86**	**239**	Pn	**Pn**	**21 15 13.3**	**+2.1**
BATI	**Baumata**	**7.60**	**239**	P	**Pn**	**21 15 22.9**	**+1.9**
	22nm,0.5s,baz=76,slow=4.2,SNR=4.3						
BATI				S	**Sn**	**21 16 43.0**	**-3.0**
	17nm,0.5s,baz=302,slow=20,SNR=3.0						
KNRA	**Kununurra**	**9.47**	**189**	Pn	**Pn**	**21 15 45.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**12.59**	**201**	Pn	**Pn**	**21 16 28.5**	**+1.7**
FITZ	**Fitzroy Crossi**	**12.59**	**201**	P	**Pn**	**21 16 28.1**	**+1.3**
	0.6nm,0.3s,baz=17,slow=14,SNR=3.3						
FITZ				S	Sn	21 18 37.5	-8.6
	2.0nm,0.4s,baz=141,slow=18,SNR=8.3						
WB0	**Warramunga Arr**	**14.01**	**164**	Pn	**Pn**	**21 16 44.1**	**-0.9**
WRA	**Warramunga Arr**	**14.17**	**164**	P	**Pn**	**21 16 45.5**	**-1.4**
	0.3nm,0.5s,baz=349,slow=12,SNR=2.7						
WRA				S	Sn	21 19 14.7	-9.3
	1.2nm,0.6s,baz=344,slow=24,SNR=7.1						
COEN	**Coen**	**14.84**	**122**	Pn	**Pn**	**21 16 53.5**	**-1.8**
JAGI	**Jajag, Banyuwa**	**16.11**	**261**		**Pn**	**21 17 10.9**	**-0.2**
AS31	**Alice Springs**	**17.66**	**169**	P	**P**	**21 17 29.3**	**+0.9**
ASAR	**Alice Springs**	**17.66**	**169**	P	**P**	**21 17 28.7**	**+0.3**
	2.2nm,0.5s,baz=351,slow=10,SNR=24						
KKM	**Kota Kinabalu**	**18.59**	**311**	P	**P**	**21 17 39.1**	**+0.3**
KKM				IAmb	IAmb	21 17 59.9	
	comp=Z,7.2nm,1.0s						
SONM	**Songino Array**	**57.83**	**341**	P	**P**	**21 23 08.9**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=137,slow=5.4,SNR=1.9						
	comp=Z,0.3nm,0.7s						
MK31	**Makanchi Array**	**67.75**	**327**	P	**P**	**21 24 14.0**	**-0.2**
MK31				IAmb	IAmb	21 24 31.6	
	comp=Z,3.3nm,1.1s						
MKAR	**Makanchi Array**	**67.75**	**327**	P	**P**	**21 24 14.2**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=114,slow=7.9,SNR=19						
	comp=Z,0.5nm,0.3s						

BUC 13 21:19:04.6±0.3, **45°.44N×26°.55E, h10km**±3km, **ml1.2/5, 11C-5D, Error ellipse: s-maj=2.9km s-min=1.6km az=157.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEHR	**Nehoiu**	**0.18**	**267**	⇓P	Pg	21 19 08.7	+0.2
NEHR				⇑S	Sg	21 19 11.9	+0.8
SPBR	**Spulber**	**0.34**	**24**	⇓P	Pg	21 19 11.3	-0.2
PLOR	**Plostina**	**0.42**	**10**	⇑P	Pg	21 19 12.4	-0.5
PLOR				⇑S	Sg	21 19 19.4	+0.8
MLR	**Muntele Rosu**	**0.43**	**278**	⇑P	Pg	21 19 13.0	-0.1
MLR				⇑S	Sg	21 19 19.2	+0.5
VRI	**Vrincioaia**	**0.45**	**16**	⇑P	Pg	21 19 12.9	-0.5
VRI				⇑S	Sg	21 19 20.3	+0.9
COVR	**Voineasa-Covas**	**0.47**	**330**	⇑P	Pg	21 19 13.1	-0.9
COVR				⇑S	Sb	21 19 21.3	-0.9
DOPR	**Dopca**	**0.97**	**304**	⇑P	Pg	21 19 22.7	-0.6
DOPR				⇓S	Sn	21 19 37.6	-0.6
VOIR		**1.05**	**271**	⇑P	Pn	21 19 25.5	-0.1
VOIR				⇓S	Sb	21 19 39.3	+0.4
CFR	**Carcaliu**	**1.15**	**102**	⇓S	Sn	21 19 42.9	+0.4

IDC 13 21:34:42.6±1.3, **17°.10N×46°.55W, h0km, mb3.6/4, mbtmp3.7/5, ML3.2/1, MS3.5/31, Error ellipse: s-maj=36.9km s-min=32.3km az=112.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**13.33**	**207**	Pn	Pn	21 37 54.1	+0.9
	0.1nm,0.3s,baz=19,slow=13,SNR=2.5						
MDP				LR	LR	21 42 02.6	
	comp=Z,95nm,19.4s,baz=35,slow=33						
	9.9nm,0.9s						
SJG	**San Juan**	**18.71**	**276**	LR	LR	21 44 49.1	
	comp=Z,188nm,19.8s,baz=114,slow=32						
SDV	**Santo Domingo**	**24.82**	**254**	LR	LR	21 49 07.6	
	comp=Z,27nm,20.2s,baz=73,slow=35						
RCBR	**Riachuelo**	**25.09**	**154**	LR	LR	21 47 21.2	
	comp=Z,30nm,20.7s,baz=65,slow=30						
BBTS	**Babate**	**28.96**	**91**	LR	LR	21 48 53.9	
	comp=Z,142nm,18.1s,baz=146,slow=29						
ROSC	**El Rosal**	**29.80**	**249**	LR	LR	21 54 47.1	
	comp=Z,102nm,18.2s,baz=80,slow=40						
TKL	**Tuckaleechee C**	**37.84**	**307**	LR	LR	21 54 12.4	
	comp=Z,71nm,21.1s,baz=128,slow=31						
JTS	**Las Juntas de**	**37.87**	**265**	LR	LR	22 00 48.8	
	comp=Z,39nm,18.1s,baz=35,slow=41						
SADO	**Sadowa**	**38.83**	**322**	LR	LR	21 54 31.7	
	comp=Z,70nm,21.8s,baz=72,slow=31						
LPAZ	**La Paz**	**39.41**	**214**	P	P	21 42 14.8	-0.3
	1.6nm,0.9s,baz=20,slow=7.4,SNR=3.7						
LPAZ				LR	LR	21 57 16.8	
	comp=Z,64nm,21.0s,baz=44,slow=34						
	1.6nm,0.9s						
ATAH	**Atahualpa**	**39.63**	**235**	LR	LR	21 58 52.6	
	comp=Z,66nm,19.0s,baz=43,slow=37						
H10N3	**ASCENSION HYDR**	**40.22**	**125**	T	T	22 25 01.3	
	baz=308,slow=75,SNR=10						
H10N2	**ASCENSION HYDR**	**40.23**	**125**	T	T	22 25 07.5	
	baz=308,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**40.24**	**125**	T	T	22 24 57.5	
	baz=308,slow=75,SNR=16						
SCHQ	**Schefferville**	**40.77**	**342**	LR	LR	21 55 42.3	
	comp=Z,95nm,20.0s,baz=294,slow=31						
H10S3	**ASCENSION HYDR**	**40.79**	**127**	T	T	22 25 43.1	
	baz=307,slow=74,SNR=5.5						
H10S2	**ASCENSION HYDR**	**40.81**	**127**	T	T	22 25 44.8	
	baz=273,slow=74,SNR=5.9						
MDT	**Midelt**	**40.84**	**59**	LR	LR	21 59 11.1	
	comp=Z,54nm,18.5s,baz=346,slow=36						
DBIC	**Dimbokro**	**42.01**	**99**	LR	LR	21 57 27.7	
	comp=Z,87nm,19.4s,baz=256,slow=32						
ESDC	**Sonseca Array**	**43.18**	**50**	LR	LR	21 57 22.1	
	comp=Z,66nm,19.0s,baz=263,slow=32						
TORD	**Torodi Ar. Bea**	**46.65**	**88**	P	P	21 43 13.0	-0.3
	0.1nm,0.5s,baz=300,slow=9.1,SNR=1.3						
TORD				LR	LR	22 00 59.6	
	comp=Z,110nm,18.1s,baz=309,slow=34						
	0.1nm,0.5s						
ULM	**Lac du Bonnet**	**51.38**	**321**	LR	LR	22 02 15.2	
	comp=Z,51nm,21.1s,baz=146,slow=32						
ANMO	**Albuquerque**	**55.91**	**301**	LR	LR	22 05 48.0	
	comp=Z,51nm,21.6s,baz=252,slow=33						
PDAR	**Pinedale Array**	**58.85**	**310**	P	P	21 44 43.0	-0.5
	0.9nm,1.0s,baz=94,slow=7.3,SNR=4.4						
PDAR				LR	LR	22 08 48.5	
	comp=Z,18nm,19.6s,baz=96,slow=35						
	0.9nm,1.0s						
PFO	**Pinyon Flats O**	**64.20**	**299**	LR	LR	22 11 32.9	
	comp=Z,50nm,21.3s,baz=70,slow=34						
NEW	**Newport**	**64.54**	**316**	LR	LR	22 11 05.0	
	comp=Z,43nm,20.2s,baz=86,slow=34						
MLR	**Muntele Rosu**	**65.79**	**47**	LR	LR	22 11 27.9	
	comp=Z,18nm,21.2s,baz=254,slow=34						
YBH	**Yreka Blue Hor**	**68.59**	**309**	LR	LR	22 13 28.1	
	comp=Z,35nm,21.6s,baz=70,slow=34						
BBB	**Bella Bella**	**71.54**	**320**	LR	LR	22 16 07.1	
	comp=Z,33nm,19.1s,baz=271,slow=35						
EIL	**Elat**	**74.52**	**63**	LR	LR	22 19 22.9	
	comp=Z,30nm,19.7s,baz=254,slow=36						
RPN	**Rapa Nui**	**75.09**	**235**	LR	LR	22 15 29.1	
	comp=Z,28nm,21.4s,baz=154,slow=33						
MBAR	**Mbarara**	**78.03**	**94**	LR	LR	22 20 34.0	
	comp=Z,50nm,18.3s,baz=292,slow=35						
ILAR	**Eielson Array**	**79.02**	**335**	P	P	21 46 48.9	+0.6
	0.7nm,0.9s,baz=77,slow=4.7,SNR=4.4						
	0.7nm,0.9s						
LBTB	**Lobatse**	**81.77**	**119**	LR	LR	22 15 53.0	
	comp=Z,56nm,19.0s,baz=280,slow=30						
FURI	**Furi**	**82.91**	**83**	LR	LR	22 23 47.7	
	comp=Z,47nm,18.4s,baz=20,slow=36						
ARTI	**Arti**	**83.93**	**33**	LR	LR	22 21 23.5	
	comp=Z,16nm,19.4s,baz=214,slow=33						
KMBO	**Kilima Mbogo**	**84.41**	**93**	LR	LR	22 23 52.4	
	comp=Z,43nm,18.4s,baz=91,slow=35						

IDC 13 22:02:23.5±3.4, **5°.23S×150°.64E, h0km, mb3.1/2, mbtmp3.4/3, ML1.6/1, Error ellipse: s-maj=149.9km s-min=37.2km az=119.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.40**	**220**	Pn	Pn	22 03 47.1	+1.8
	1.4nm,0.3s,baz=52,slow=12,SNR=1.5						
PMG				Sn	Sn	22 04 47.5	-0.8
	2.3nm,0.3s,baz=74,slow=19,SNR=2.9						
	5.9nm,0.4s						
WRA	**Warramunga Arr**	**21.58**	**226**	P	P	22 07 15.1	+0.1
	0.5nm,0.6s,baz=52,slow=10,SNR=4.8						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**24.42**	**220**	P	P	22 07 43.8	-0.2

0.4nm,0.6s,baz=51,slow=9.4,SNR=5.0
0.4nm,0.6s

TORD Torodi Ar. Bea 148.38 287 PKPbc PKPbc 22 22 12.2 -0.8
1.1nm,0.6s,baz=86,slow=3.0,SNR=9.0

*IDC **13** 22:11:21.7±2.8, 43°.43N×105°.10W, h0km, mbtmp3.5/3, ML3.2/3, Error ellipse: s-maj=59.4km s-min=9.9km az=152.0*
*NEIC **13** 22:11:23.7±0.6, 43°.99N±0°.05×105°.3W±0°.1, h0km±1km, ML3.2/42, Error ellipse: s-maj=13.1km s-min=6.5km az=65.0*
ISC 13 22:11:24.9±1.0, 43°.97N±0°.06×105°.28W±0°.06, h0km, n29, σ0s74/29, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.91**	**80**		**Pg**	**22 11 42.5**	**+0.1**
K22A	**Casper**	**1.59**	**215**		**Pn**	**22 11 54.0**	**-0.5**
K22A				IAML		22 12 23.2	
	comp=E,356nm,0.5s						
LAO	**LASA Array**	**2.80**	**347**	Pn	**Pn**	**22 12 11.1**	**0.0**
RLMT	**Red Lodge**	**3.07**	**293**	Pn	**Pn**	**22 12 15.0**	**0.0**
RLMT				IAML		22 13 10.8	
	comp=E,56nm,0.5s						
RLMT				IAML		22 13 26.4	
	comp=E,56nm,0.6s						
N23A	**Red Feather La**	**3.11**	**189**	Pn	**Pn**	**22 12 16.0**	**+0.5**
N23A				IAML		22 13 06.7	
	comp=N,78nm,0.6s						
N23A				IAML		22 13 07.6	
	comp=E,68nm,0.7s						
PD31	**Pinedale Array**	**3.34**	**250**	Pn	**Pn**	**22 12 19.1**	**+0.5**
PDAR	**Pinedale Array**	**3.34**	**250**	Pn	**Pn**	**22 12 19.4**	**+0.7**
	comp=E,2.7nm,0.3s,baz=76,slow=11,SNR=37						
PDAR				Pg	**Pb**	**22 12 24.3**	**-0.9**
	comp=E,3.3nm,0.3s,baz=69,slow=21,SNR=42						
PDAR				Lg	Lg	22 13 06.5	
	comp=E,14nm,0.3s,baz=68,slow=31,SNR=6.1						
	comp=E,1.4nm,0.2s						
YNE	**Yellowstone No**	**3.54**	**289**	Pn	**Pn**	**22 12 21.7**	**+0.3**
YNE				IAML		22 13 23.2	
	comp=N,52nm,0.6s						
YNE				IAML		22 13 23.5	
	comp=E,54nm,0.6s						
YMP	**Mirror Lake Pl**	**3.58**	**284**	Pn	**Pn**	**22 12 22.6**	**+0.7**
YMP				IAML		22 13 29.8	
	comp=E,71nm,0.8s						
LKWY	**Lake**	**3.72**	**281**	Pn	**Pn**	**22 12 21.9**	**-2.0**
LKWY				IAML		22 12 53.2	
	comp=E,37nm,0.6s						
LKWY				IAML		22 14 08.4	
	comp=E,32nm,2.5s						
H17A	**Grant Village**	**3.83**	**278**	Pn	**Pn**	**22 12 25.4**	**0.0**
H17A				IAML		22 13 29.1	
	comp=N,33nm,0.5s						
H17A				IAML		22 13 29.6	
	comp=E,25nm,0.7s						
LOHW	**Long Hollow**	**3.87**	**267**	Pn	**Pn**	**22 12 27.8**	**+1.9**
LOHW				IAML		22 14 05.7	
	comp=E,26nm,3.0s						
FLWY	**Flagg Ranch**	**3.91**	**274**	Pn	**Pn**	**22 12 27.0**	**+0.6**
FLWY				IAML		22 13 44.6	
	comp=E,57nm,1.8s						
MOOW	**Moose Ponds**	**3.96**	**269**		**Pn**	**22 12 27.3**	**+0.2**
YHH	**Holmes Hill**	**4.08**	**284**	Pn	**Pn**	**22 12 29.2**	**+0.4**
FXWY	**Fox Creek**	**4.17**	**267**	Pn	**Pn**	**22 12 30.5**	**+0.4**
YHB	**Horse Butte**	**4.31**	**283**	Pn	**Pn**	**22 12 32.2**	**+0.2**
YHL	**Hebgen Lake**	**4.32**	**284**	Pn	**Pn**	**22 12 32.4**	**+0.3**
YHL				IAML		22 13 45.3	
	comp=N,28nm,1.8s						
YHL				IAML		22 13 49.0	
	comp=E,32nm,0.8s						
O20A	**White River Ci**	**4.42**	**211**	Pn	**Pn**	**22 12 33.2**	**-0.2**
DGMT	**Dagmar**	**4.57**	**9**		**Pn**	**22 12 35.7**	**+0.3**
RDMU	**Red Mountain**	**4.65**	**225**	Pn	**Pn**	**22 12 36.5**	**-0.2**
RDMU				IAML		22 13 49.1	
	comp=N,30nm,0.6s						
HWUT	**Hardware Ranch**	**5.19**	**245**		**Pn**	**22 12 44.5**	**+0.5**
HWUT				IAML		22 14 09.3	
	comp=N,21nm,0.7s						
HWUT				IAML		22 14 18.4	
	comp=N,21nm,1.2s						
P18A	**Preston Nutter**	**5.70**	**222**		**Pn**	**22 12 51.8**	**+0.6**
SPUT	**South Promonto**	**5.91**	**246**	Pn	**Pn**	**22 12 54.4**	**+0.4**
OVMT	**Ovando**	**6.24**	**302**		**Pn**	**22 12 57.8**	**-0.6**
DUG	**Dugway, Tooele**	**6.75**	**239**	Pn	**Pn**	**22 13 05.2**	**-0.2**
I10CA	**LAC DU BONNET**	**8.87**	**42**	I	I	23 09 00.0	
	comp=N,0.1nm,1.9s,baz=221,slow=327,SNR=2.5						
ULM	**Lac du Bonnet**	**8.98**	**42**	Pn	**Pn**	**22 13 35.1**	**-0.6**
	comp=N,0.4nm,0.3s,baz=228,slow=12,SNR=2.2						
ULM				Lg	Lg	22 16 06.0	
	comp=N,0.2nm,0.3s,baz=315,slow=22,SNR=1.6						
	comp=N,1.2nm,0.3s						
YKA	**Yellowknife Ar**	**19.34**	**347**	P	**Pn**	**22 15 53.8**	**+1.2**
	comp=N,0.1nm,0.3s,baz=161,slow=9.6,SNR=2.2						
	comp=N,1.3nm,0.7s						

*IDC **13** 22:19:21.9±4.5, 5°.38N×125°.51E, h106km±51km, mb3.4/7, mbtmp3.8/7, MS3.3/1, Error ellipse: s-maj=141.4km s-min=14.0km az=69.0*
ISC 13 22:19:21.1±0.9, 5°.35N±0°.10×125°.4E±0°.3, h100km, n8, σ0s77/9, mb3.8/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.71**	**5**	P	**Pn**	**22 19 49.4**	**-0.7**
	100nm,0.3s,baz=123,slow=4.3,SNR=2.7						
DAV				S	**Sn**	**22 20 13.0**	**+0.9**
	293nm,0.3s,baz=66,slow=20,SNR=9.6						
WRA	**Warramunga Arr**	**26.62**	**161**	P	**P**	**22 24 51.0**	**+0.5**
	0.5nm,0.5s,baz=345,slow=10,SNR=14						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**30.01**	**164**	P	**P**	**22 25 21.1**	**+0.5**
	0.2nm,0.3s,baz=350,slow=7.8,SNR=5.8						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**40.10**	**158**	P	**P**	**22 26 46.9**	**-0.2**
	1.1nm,0.4s,baz=353,slow=7.3,SNR=5.1						
	1.1nm,0.4s						
SONM	**Songino Array**	**45.36**	**342**	P	**P**	**22 27 30.0**	**+0.4**
	0.1nm,0.4s,baz=143,slow=9.3,SNR=2.0						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**55.49**	**325**	P	**P**	**22 28 46.2**	**+0.5**
	0.5nm,0.5s,baz=119,slow=7.7,SNR=9.6						
MKAR				LR	LR	22 53 07.0	
	comp=Z,24nm,19.2s,baz=344,slow=36						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**59.68**	**327**	P	**P**	**22 29 15.3**	**+0.3**
	0.4nm,0.4s,baz=118,slow=7.9,SNR=5.0						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**89.79**	**332**	P	**P**	**22 32 07.2**	**-1.1**
	4.8nm,1.1s,baz=108,slow=7.7,SNR=3.4						
	4.8nm,1.1s						

*JMA **13** 22:22:34.3±0.1, 24°.N±2°.×122°.4E±0°.6, h40km±4km, MV2.3/12, TAIWAN REGION*
*TAP **13** 22:22:34.7, 24°.53N×122°.33E, h13km, ML3.2, B*
ISC 13 22:22:33.4±1.1, 24°.53N±0°.03×122°.38E±0°.02, h19km±3km, n79, σ0s64/89, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.17**	**231**	*i* P	**Pg**	**22 22 38.0**	**0.0**
EOS2				*i* S	**Sg**	**22 22 41.4**	**+0.3**
EOS3	**EOS3**	**0.25**	**194**	*i* P	**Pg**	**22 22 39.7**	**+0.6**
EOS4	**EOS4**	**0.41**	**188**	*i* P	**Pb**	**22 22 42.6**	**+0.7**
TWC	**Suao**	**0.49**	**280**	*i* P	**Pg**	**22 22 42.8**	**-0.6**
TWC				*i* S	**Sg**	**22 22 49.9**	**-0.2**
ESAO	**Su ao**	**0.49**	**276**	*i* P	**Pb**	**22 22 43.4**	**0.0**
ESAO				S	**Sg**	**22 22 50.0**	**-0.1**
EGS		**0.52**	**308**	P	**Pg**	**22 22 43.3**	**-0.6**
EGS				*e*S	**Sb**	**22 22 51.7**	**+0.7**
JYNG	**Yonagunijimaku**	**0.52**	**98**	*e*P	**Pn**	**22 22 45.4**	**-0.4**
JYNG				*e*S	**Sn**	**22 22 53.6**	**-0.5**
EWUT	**Wuta**	**0.56**	**262**	*i* P	**Pb**	**22 22 44.0**	**-0.5**
EWUT				S	**Sb**	**22 22 51.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.58**	**97**	*e*P	**Pn**	**22 22 46.4**	**-0.2**
YOJ				*e*S	**Sn**	**22 22 55.4**	**-0.2**
YOJ	**Yonaguni jima**	**0.58**	**97**	P	**Pn**	**22 22 46.6**	**0.0**
YOJ				S	**Sn**	**22 22 55.7**	**+0.2**
ENA	**Nanau**	**0.59**	**260**	*i* P	**Pb**	**22 22 44.7**	**-0.4**
TWB1	**Santiao Chiao**	**0.60**	**323**	P	**Pb**	**22 22 45.4**	**+0.2**
NDS	**Dongshan**	**0.61**	**280**	P	**Pg**	**22 22 46.2**	**+0.5**
EAHA	**Aohua**	**0.62**	**251**	P	**Pg**	**22 22 45.7**	**-0.1**
EAHA				*e*S	**Sg**	**22 22 53.9**	**-0.1**
TIPB	**Shuangxi**	**0.67**	**311**	P	**Pb**	**22 22 46.6**	**+0.1**
TWE	**Neicheng**	**0.68**	**287**	P	**Pb**	**22 22 46.2**	**-0.3**
SXI1	**Grass Mountain**	**0.73**	**321**	P	**Pg**	**22 22 48.0**	**+0.3**
ENTT	**Nioudou**	**0.75**	**279**	P	**Pg**	**22 22 48.2**	**0.0**
FUSB	**Fushanzhiwuyua**	**0.76**	**288**	P	**Pg**	**22 22 48.3**	**-0.1**
NWF	**Wu-fen Shan**	**0.77**	**315**	*e*P	**Pn**	**22 22 49.4**	**+0.1**
WFSB	**Wu-fen Shan**	**0.77**	**315**	*e*P	**Pg**	**22 22 49.0**	**+0.5**
LATG	**Datong**	**0.78**	**271**	P	**Pb**	**22 22 48.4**	**0.0**
ETL	**Fush Village**	**0.78**	**242**	P	**Pg**	**22 22 48.4**	**-0.4**
NACB	**Ninganchiao**	**0.80**	**244**	P	**Pb**	**22 22 48.4**	**-0.3**
NWLT	**Wulai**	**0.84**	**287**	*e*P	**Pn**	**22 22 50.1**	**-0.1**
TWD	**Chiawan**	**0.84**	**238**	*e*P	**Pn**	**22 22 51.2**	**+0.9**
TWA	**Mucha**	**0.85**	**302**	*e*P	**Pb**	**22 22 48.3**	**-1.3**
ETLH	**Xiulin Townshi**	**0.88**	**249**	*e*P	**Pb**	**22 22 50.1**	**-0.1**
NNSB	**Datong**	**0.92**	**264**	*e*P	**Pb**	**22 22 50.3**	**-0.4**
NNS	**Nan Shan**	**0.92**	**265**	*e*P	**Pb**	**22 22 50.9**	**0.0**
YHNB	**Yeheng**	**0.93**	**279**	*e*P	**Pg**	**22 22 51.4**	**-0.1**
NSK	**Sanguang**	**0.94**	**279**	*e*P	**Pb**	**22 22 51.0**	**-0.2**
YM01	**YM01**	**0.96**	**310**	*e*P	**Pg**	**22 22 52.3**	**+0.2**
YM08	**YM08**	**0.97**	**313**	*e*P	**Pb**	**22 22 51.0**	**-0.7**
ETM	**Tongmen**	**0.99**	**236**	*e*P	**Pg**	**22 22 52.2**	**-0.4**
ZUZH	**Zhuzihu**	**0.99**	**310**	*e*P	**Pg**	**22 22 52.9**	**+0.2**
LXIB	**Xiulin Townshi**	**1.02**	**240**	*e*P	**Pn**	**22 22 52.5**	**-0.3**
ANP	**Anpu**	**1.02**	**310**	*e*P	**Pg**	**22 22 53.3**	**0.0**
TWY	**Chenhua**	**1.03**	**316**	*e*P	**Pg**	**22 22 54.5**	**+1.1**
SHUL	**Shoufeng**	**1.05**	**226**	*e*P	**Pg**	**22 22 55.4**	**+1.6**
WHF	**Hehuan Shan**	**1.09**	**250**	*e*P	**Pn**	**22 22 54.1**	**+0.1**
KSHI	**Guanxi Townshi**	**1.12**	**283**	*e*P	**Pg**	**22 22 55.6**	**+0.3**
PCYT	**Pengchaiyu**	**1.13**	**346**	*e*P	**Pn**	**22 22 53.7**	**-0.6**
TWT	**Tachien**	**1.13**	**256**	*e*P	**Pg**	**22 22 57.2**	**+1.7**
NFF	**Wufeng Townshi**	**1.16**	**275**	*e*P	**Pg**	**22 22 55.8**	**0.0**
NCUH	**Zhongli**	**1.17**	**292**	*e*P	**Pg**	**22 22 56.6**	**+0.5**
WARBT	**Fenglin Townsh**	**1.22**	**229**	*e*P	**Pg**	**22 22 56.1**	**-0.9**
OWD	**Renai**	**1.24**	**243**	*e*P	**Pg**	**22 22 57.2**	**-0.3**
IRIF	**Iriomote-Funau**	**1.24**	**99**	*e*P	**Pb**	**22 22 56.1**	**-0.2**
LIOB	**Emei**	**1.25**	**276**	*e*P	**Pg**	**22 22 58.0**	**+0.4**
NSTT	**Nanjuang**	**1.26**	**275**	*e*P	**Pg**	**22 22 57.5**	**-0.4**
WUSB	**Renai**	**1.27**	**245**	*e*P	**Pb**	**22 22 57.0**	**+0.2**
WHP	**Taichung City**	**1.33**	**259**	*e*P	**Pg**	**22 23 00.1**	**+1.0**
HGSD	**Ruisui**	**1.35**	**221**	*e*P	**Pb**	**22 22 58.4**	**+0.3**
VWDT	**VWDT**	**1.37**	**236**	*e*P	**Pg**	**22 22 58.9**	**-1.0**
EHY	**Hungye**	**1.41**	**224**	*e*P	**Pg**	**22 23 00.6**	**0.0**
WCS	**Beigang Elemen**	**1.42**	**251**	*e*P	**Pg**	**22 23 00.6**	**-0.3**
NMLH	**Miaoli**	**1.45**	**271**	*e*P	**Pg**	**22 23 02.2**	**+0.8**
TWQ1	**Liyutan**	**1.48**	**263**	*e*P	**Pg**	**22 23 02.6**	**+0.7**
SMLT	**Sun Moon Lake**	**1.50**	**245**	*e*P	**Pb**	**22 23 00.8**	**+0.1**
SSLB	**Suanglung**	**1.50**	**241**	*e*P	**Pg**	**22 23 01.5**	**-0.8**
YULB	**Yu-li**	**1.50**	**221**	*e*P	**Pn**	**22 22 59.3**	**0.0**
JKRS	**Kuro-shima**	**1.51**	**101**	*e*P	**Pb**	**22 23 00.4**	**-0.5**
JKRS				*e*S	**Sb**	**22 23 19.6**	**-0.1**
TYC	**Yuchr**	**1.52**	**246**	*e*P	**Pb**	**22 23 00.8**	**-0.2**
TWF1	**Yuli**	**1.54**	**220**	*e*P	**Pg**	**22 23 02.2**	**-0.9**
JIJ	**Ishigaki jima**	**1.61**	**95**	*e*P	**Pn**	**22 23 01.4**	**+0.5**
WHYT	**Xinyi Township**	**1.62**	**240**	*e*P	**Pg**	**22 23 04.3**	**-0.4**
FULB	**Fuli**	**1.66**	**217**	*e*P	**Pb**	**22 23 02.4**	**-0.9**
JISG	**Ishigakijimahi**	**1.76**	**88**	*e*P	**Pn**	**22 23 03.4**	**+0.6**
ALS	**Alishan**	**1.76**	**235**	*e*P	**Pg**	**22 23 06.5**	**-0.9**
CHN5	**Tsauling**	**1.81**	**240**	*e*P	**Pb**	**22 23 06.6**	**+0.6**
ELDTW	**Lidau**	**1.83**	**223**	*e*P	**Pn**	**22 23 04.3**	**+0.4**
STYH	**Taoyuan**	**2.00**	**228**	*e*P	**Pb**	**22 23 08.2**	**-0.9**
TPUB	**Ta-pu**	**2.02**	**233**	*e*P	**Pb**	**22 23 09.2**	**-0.3**
TWK	**Hsinying**	**2.14**	**234**	*e*P	**Pb**	**22 23 11.3**	**-0.3**
SNST	**Tainan City**	**2.16**	**233**	*e*P	**Pb**	**22 23 11.7**	**-0.2**
SGST	**Jiashian**	**2.19**	**229**	*e*P	**Pb**	**22 23 10.5**	**-1.9**
SLGT	**Liugui**	**2.21**	**226**	*e*P	**Pb**	**22 23 10.9**	**-1.8**
MASBT	**Mashibuluo**	**2.49**	**220**	*e*P	**Pn**	**22 23 14.6**	**+1.6**

*TAP **13** 22:22:56.0, 24°.49N×122°.29E, h10km±1km, ML3.3, C*
*JMA **13** 22:22:56.2±0.2, 25°.N±3°.×122°.4E±0°.8, h37km, MV2.9/13, NW OFF ISHIGAKIJIMA IS*
ISC 13 22:22:54.6±0.9, 24°.52N±0°.03×122°.41E±0°.02, h17km±7km, n43, σ0s56/64, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.19**	**238**	*i* P	**Pg**	**22 22 59.3**	**+0.2**
EOS2				*i* S	**Sg**	**22 23 02.7**	**+0.5**
EOS3	**EOS3**	**0.25**	**199**	*i* P	**Pb**	**22 23 00.9**	**+0.4**
EOS4	**EOS4**	**0.41**	**192**	*i* P	**Pb**	**22 23 03.4**	**+0.3**
JYNG	**Yonagunijimaku**	**0.49**	**98**	*e*P	**Pn**	**22 23 06.9**	**0.0**
JYNG				*e*S	**Sn**	**22 23 15.5**	**+0.4**
ESAO	**Su ao**	**0.52**	**276**	P	**Pg**	**22 23 04.5**	**-0.5**
ESAO				S	**Sg**	**22 23 11.8**	**-0.1**
TWC	**Suao**	**0.52**	**280**	*i* P	**Pg**	**22 23 04.7**	**-0.2**
TWC				S	**Sg**	**22 23 11.8**	**-0.1**
EGS		**0.54**	**307**	P	**Pg**	**22 23 05.5**	**+0.2**
EGS				S	**Sg**	**22 23 12.9**	**+0.3**
YOJ	**Yonaguni jima**	**0.55**	**96**	P	**Pn**	**22 23 07.9**	**+0.2**
YOJ				S	**Sn**	**22 23 16.9**	**+0.3**
YOJ	**Yonaguni jima**	**0.55**	**96**	P	**Pn**	**22 23 07.8**	**+0.1**
YOJ				*e*S	**Sn**	**22 23 17.7**	**+1.2**
EWUT	**Wuta**	**0.58**	**263**	*e*P	**Pg**	**22 23 05.1**	**-0.9**
EWUT				S	**Sg**	**22 23 12.6**	**-1.3**
ENA	**Nanau**	**0.61**	**262**	P	**Pg**	**22 23 06.2**	**-0.5**
TWB1	**Santiao Chiao**	**0.62**	**322**	P	**Pg**	**22 23 06.9**	**+0.1**
TWB1				*e*S	**Sg**	**22 23 14.6**	**-0.5**
EAHA	**Aohua**	**0.64**	**253**	*e*P	**Pn**	**22 23 08.4**	**-0.5**
NDS	**Dongshan**	**0.64**	**280**	P	**Pg**	**22 23 06.8**	**-0.5**
NDS				*e*S	**Sg**	**22 23 15.9**	**+0.2**
ILA	**Ilan**	**0.65**	**292**	*e*P	**Pb**	**22 23 07.8**	**+0.4**
ILA				*e*S	**Sb**	**22 23 16.6**	**+0.4**
TIPB	**Shuangxi**	**0.69**	**310**	*e*P	**Pg**	**22 23 08.5**	**+0.2**
TWE	**Neicheng**	**0.70**	**287**	P	**Pb**	**22 23 08.2**	**-0.2**
SXI1	**Grass Mountain**	**0.75**	**320**	*e*P	**Pn**	**22 23 10.0**	**-0.5**
ENTT	**Nioudou**	**0.78**	**279**	*e*P	**Pg**	**22 23 10.0**	**+0.2**
ENTT				*e*S	**Sb**	**22 23 20.2**	**+0.3**
FUSB	**Fushanzhiwuyua**	**0.78**	**288**	*e*P	**Pb**	**22 23 10.0**	**+0.2**
LATG	**Datong**	**0.80**	**271**	*e*P	**Pb**	**22 23 10.3**	**+0.1**
LATG				*e*S	**Sb**	**22 23 20.4**	**-0.4**
TWD	**Chiawan**	**0.86**	**240**	*e*P	**Pn**	**22 23 12.7**	**+0.7**
NWLT	**Wulai**	**0.86**	**287**	*e*P	**Pg**	**22 23 11.5**	**+0.1**
NNSB	**Datong**	**0.94**	**265**	*e*P	**Pn**	**22 23 13.5**	**+0.4**
YHNB	**Yeheng**	**0.95**	**279**	*e*P	**Pg**	**22 23 13.1**	**0.0**
YHNB				*e*S	**Sb**	**22 23 24.9**	**-0.1**
NSK	**Sanguang**	**0.97**	**279**	*e*P	**Pb**	**22 23 13.1**	**+0.1**
LXIB	**Xiulin Townshi**	**1.03**	**241**	*e*S	**Sn**	**22 23 28.9**	**+0.2**
TWY	**Chenhua**	**1.05**	**316**	*e*P	**Pn**	**22 23 14.8**	**+0.3**
TWY				*e*S	**Sb**	**22 23 28.2**	**+0.3**
TWS1	**Kuangyinshan**	**1.07**	**303**	*e*S	**Sn**	**22 23 29.0**	**-0.3**
ESL	**Shilin**	**1.13**	**232**	*e*P	**Pn**	**22 23 15.5**	**-0.2**
PCYT	**Pengchaiyu**	**1.15**	**345**	*e*P	**Pg**	**22 23 17.3**	**+0.5**
KSHI	**Guanxi Townshi**	**1.15**	**283**	*e*S	**Sn**	**22 23 31.7**	**+0.4**
NFF	**Wufeng Townshi**	**1.18**	**276**	*e*S	**Sb**	**22 23 31.8**	**+0.2**
IRIF	**Iriomote-Funau**	**1.22**	**98**	*e*P	**Pg**	**22 23 17.5**	**-0.6**
IRIF				*e*S	**Sg**	**22 23 34.7**	**+0.6**
OWD	**Renai**	**1.26**	**244**	*e*S	**Sg**	**22 23 35.3**	**-0.1**
NSTT	**Nanjuang**	**1.28**	**275**	*e*S	**Sn**	**22 23 34.5**	**-0.1**
HATJ	**Hateruma jima**	**1.36**	**110**	*e*S	**Sg**	**22 23 39.7**	**+1.3**
JKRS	**Kuro-shima**	**1.49**	**101**	*e*P	**Pb**	**22 23 21.8**	**0.0**
JKRS				*e*S	**Sb**	**22 23 40.9**	**+0.5**
JIJ	**Ishigaki jima**	**1.59**	**95**	*e*S	**Sn**	**22 23 42.3**	**+0.2**
WHYT	**Xinyi Township**	**1.64**	**240**	*e*P	**Pb**	**22 23 21.7**	**-0.3**
WHYT				*e*S	**Sn**	**22 23 43.4**	**-0.1**
JISG	**Ishigakijimahi**	**1.73**	**87**	*e*P	**Pn**	**22 23 24.6**	**+0.7**
JISG				*e*S	**Sb**	**22 23 47.0**	**-0.5**
EDH	**Donghe**	**1.84**	**214**	*e*P	**Pn**	**22 23 26.2**	**+0.7**
EDH				*e*S	**Sn**	**22 23 47.7**	**-0.7**
JTJ	**Tarama**	**2.09**	**86**	*e*P	**Pb**	**22 23 30.3**	**-1.8**
JTJ				*e*S	**Sb**	**22 23 56.1**	**-1.7**

TRN 13 22:24:12.7, 15°.06N×60°.48W, h45km, MD3.9, North-east of Martinique., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	**Ilet Lapin Mar**	**0.47**	**234**	*e*P	Pn	22 24 24.9	+1.6
ILAM				*e*S	Sn	22 24 33.3	+2.5
BIM	**Bigot**	**0.78**	**227**	*e*P	Pn	22 24 29.2	+1.8
BIM				*e*S	Sn	22 24 41.1	+3.1
SLBI	**Saint Lucia, B**	**1.13**	**205**	*e*P	Pn	22 24 33.4	+1.3
SLBI				*e*S	Sn	22 24 48.7	+2.3
SLAC	**Saint Lucia, A**	**1.22**	**199**	*e*P	Pn	22 24 34.6	+1.3
SLAC				*e*S	Sn	22 24 50.6	+1.9
TBG	**Guadaloupe-3**	**1.38**	**305**	*e*P	Pn	22 24 37.2	+1.7
TBG				*e*S	Sn	22 24 54.3	+1.9
SSV	**Crater Summit**	**1.85**	**202**	*e*P	Pn	22 24 44.1	+2.0
SSV				*e*S	Sn	22 25 06.3	+1.9
SVB	**Belmont**	**1.92**	**203**	*e*P	Pn	22 24 45.3	+2.3
SVB				*e*S	Sn	22 25 08.4	+2.4
SVT	**Saint Vincent**	**2.02**	**202**	*e*P	Pn	22 24 45.6	+1.4
SVT				*e*S	Sn	22 25 09.0	+0.8
SVOC	**Richmond Hill,**	**2.02**	**201**	*e*P	Pn	22 24 45.8	+1.5
SVOC				*e*S	Sn	22 25 10.0	+1.7
BBGH	**Gun Hill**	**2.10**	**155**	*e*P	Pn	22 24 46.9	+1.5
BBGH				*e*S	Sn	22 25 12.5	+2.1
ANBD	**Bethesda, Anti**	**2.33**	**328**	*e*P	Pn	22 24 50.4	+1.8
ANBD				*e*S	Sn	22 25 18.8	+2.7
MBFL	**Flemmings, Mon**	**2.37**	**316**	*e*P	Pn	22 24 51.7	+2.6
MBFL				*e*S	Sn	22 25 19.1	+2.1
GCMP	**Grenada, Carri**	**2.71**	**200**	*e*P	Pn	22 24 55.9	+2.1
GCMP				*e*S	Sn	22 25 27.3	+1.9
ANWB	**Willy Bob**	**2.88**	**334**	*e*P	Pn	22 24 58.1	+2.0
GRSS	**Sisters**	**2.95**	**202**	*e*P	Pn	22 24 59.1	+2.0
GRSS				*e*S	Sn	22 25 33.0	+1.7
GRGR	**Grenville**	**3.12**	**202**	*e*P	Pn	22 25 01.3	+1.9
GRGR				*e*S	Sn	22 25 36.6	+1.1
TOSP	**Speyside**	**3.73**	**181**	*e*P	Pn	22 25 10.7	+2.9
TOSP				*e*S	Sn	22 25 51.1	+0.5

*IDC **13** 22:38:59.0±2.0, 12°.88S×45°.35E, h0km, mb4.1/5, mbtmp4.1/7, ML4.0/2, MS3.0/4, Error ellipse: s-maj=59.8km s-min=25.2km az=163.0*
*NEIC **13** 22:38:59.0±1.6, 12°.76S±0°.08×45°.5E±0°.1, h10km±1km, mb4.3/8, Error ellipse: s-maj=18.7km s-min=13.8km az=259.0*
ISC 13 22:38:58.5±0.7, 12°.82S±0°.07×45°.50E±0°.09, h10km, n24, σ1s87/23, mb4.3/7, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.94**	**164**	Pn	**Pn**	**22 40 28.0**	**+1.2**
	2.9nm,0.3s,baz=337,slow=12,SNR=229						
OPO				Sn	**Sn**	**22 41 29.4**	**-5.6**
	1.2nm,0.3s,baz=12,slow=19,SNR=3.4						
	109nm,0.6s						
ABPO	**Ambohimpanom**	**6.38**	**165**	Pn	**Pn**	**22 40 33.7**	**+0.9**
VOI	**Vohitsoka**	**9.12**	**172**	Pn	**Pn**	**22 41 10.6**	**+0.3**
FOMA	**Nahampoana Res**	**12.17**	**174**	Pn	**Pn**	**22 41 51.7**	**-0.3**
MSEY	**Mahe Island**	**12.76**	**51**	Pn	**Pn**	**22 41 58.4**	**-1.8**
KIBK	**Kibwezi**	**12.76**	**324**	Pn	**Pn**	**22 41 59.2**	**-1.0**
RER	**Riviere de l'E**	**12.83**	**132**	Pn	**Pn**	**22 42 01.4**	**+0.2**
KMBO	**Kilima Mbogo**	**14.20**	**324**	Sn	**Sn**	**22 44 55.9**	**-2.2**
	0.2nm,0.3s,baz=54,slow=19,SNR=2.5						
KMBO				LR	LR	22 46 43.3	
	comp=Z,57nm,19.9s,baz=94,slow=33						
LSZ	**Lusaka**	**16.97**	**260**		**Pn**	**22 42 55.9**	**-0.4**
LSZ				IAmb	IAmb	22 43 00.8	
	comp=Z,17nm,0.9s						
MATP	**Matopo**	**17.95**	**243**	P	**P**	**22 43 09.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=67,slow=13,SNR=4.6						
	comp=Z,1.5nm,0.9s						
MBAR	**Mbarara**	**19.01**	**309**	P	**Pn**	**22 43 22.9**	**+1.4**
MBAR	**Mbarara**	**19.01**	**309**	LR	LR	22 49 33.0	
	comp=Z,44nm,19.3s,baz=132,slow=34						
LBTB	**Lobatse**	**22.36**	**234**	P	**P**	**22 43 55.6**	**-1.4**
LBTB	**Lobatse**

comp=Z,7.2nm,1.4s
USRK Ussuriysk Ar. 44.71 7 P P 22 49 37.2 +0.3
comp=Z,0.5nm,0.4s,baz=209,slow=5.5,SNR=2.3
comp=Z,0.5nm,0.4s
GTA Gaotai 45.90 332 P P 22 49 47.6 +1.0
GTA pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 50.70 344 P P 22 50 22.5 -1.0
comp=Z,0.8nm,0.8s,baz=152,slow=6.5,SNR=4.1
comp=Z,0.8nm,0.8s
MK31 Makanchi Array 60.10 327 P P 22 51 30.6 -0.5
MK31 IAmb IAmb 22 51 58.7
comp=Z,5.3nm,1.4s
MKAR Makanchi Array 60.10 327 P P 22 51 29.7 -1.4
comp=Z,2.1nm,0.5s,baz=119,slow=8.3,SNR=28
comp=Z,2.1nm,0.5s
MAKZ Makanchi 60.28 327 P P 22 51 32.2 -0.2
MAKZ IAmb IAmb 22 51 33.3
comp=Z,11nm,1.3s
ARSB Arslanbob 62.82 318 P P 22 51 49.9 +0.1
ZALV Zalesovo Beam 63.56 335 P P 22 51 53.2 -1.1
comp=Z,0.4nm,0.3s,baz=139,slow=7.7,SNR=2.5
comp=Z,0.4nm,0.3s
GAR Garm 63.66 315 P 22 51 54.4 -1.0
KURBB Kurchatov Arra 64.40 329 P P 22 51 58.9 -0.9
comp=Z,1.4nm,0.3s,baz=130,slow=6.7,SNR=9.0
comp=Z,1.4nm,0.3s
KURK Kurchatov 64.41 329 P P 22 52 00.1 +0.2
BVAR Borovoye Array 69.94 328 P P 22 52 34.5 -0.6
comp=Z,1.2nm,0.5s,baz=142,slow=7.3,SNR=5.1
comp=Z,1.2nm,0.5s
TIXI Tiksi 71.88 1 P P 22 52 46.0 -0.4
TIXI IAmb IAmb 22 52 53.9
comp=Z,7.3nm,1.4s
NRIK Noril'sk 74.00 347 P P 22 52 58.2 -0.8
comp=Z,2.4nm,0.6s,baz=134,slow=6.1,SNR=6.5
comp=Z,2.4nm,0.6s
ABKAR Akbulak array 74.39 322 P P 22 53 01.2 -0.5
ABKAR IAmb IAmb 22 53 01.7
comp=Z,1.5nm,0.7s
L16K Owhat River 83.29 28 P P 22 53 50.8 +0.4
GURO Guroymak-BITLI 84.92 309 P P 22 53 58.9 -0.5
GURO IAmb IAmb 22 54 00.7
comp=Z,4.6nm,0.7s
BRTR Keskin Array B 91.48 310 LR LR 23 42 09.7
comp=Z,19nm,21.7s,baz=137,slow=40

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*SJA **13** 22:48:46.9±0.7, 21°.85S×67°.29W, h207km±6km, ML3.8, MW3.6*
*NEIC **13** 22:48:48.6±2.1, 21°.87S±0°.07×67°.3W±0°.1, h195km±10km, mb4.4/8, Error ellipse: s-maj=16.0km s-min=10.4km az=90.0*
*IDC **13** 22:48:49.0±2.8, 21°.80S×67°.11W, h176km±23km, mb3.6/3, mbtmp4.0/7, Error ellipse: s-maj=34.4km s-min=18.5km az=48.0*
*SCB **13** 22:48:49.2±1.1, 21°.91S×67°.27W, h175km±24km, ML4.0/2, MW3.8, Error ellipse: s-maj=7.7km s-min=6.2km az=1.0*
*GUC **13** 22:48:50.1±0.7, 21°.87S×67°.58W, h218km±9km, ML4.1*
ISC 13 22:48:48.4±0.7, **21°.90S**±0°.04×**67°.33W**±0°.04, **h192**km±7km, **n80**, σ1.9**34**/108, **mb4.3**/5, **8C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.32**	**217**	Pn	**Pn**	**22 49 21.3**	**+1.1**
AF01	**San Pedro de A**	**1.32**	**217**	*e*P	**Pn**	**22 49 22.2**	**+2.0**
AF01				*e*S	**Sn**	**22 49 42.2**	**-2.6**
YJA	**Yavi**	**1.70**	**100**	*i* P	**Pn**	**22 49 24.6**	**+0.8**
YJA				*e*S	**Sn**	**22 49 50.1**	**-1.2**
YJA				IAML		22 49 51.9	
comp=E,344nm,0.8s							
YJA	**Yavi**	**1.70**	**100**	*e*P	**Pn**	**22 49 24.6**	**+0.8**
YJA				*e*S	**Sn**	**22 49 51.6**	**+0.4**
PB09	**IPOC Station P**	**1.78**	**273**	Pn	**Pn**	**22 49 25.2**	**+0.9**
PB09	**IPOC Station P**	**1.78**	**273**	⇑*i*P	**Pn**	**22 49 25.5**	**+1.2**
PB09	**IPOC Station P**	**1.78**	**273**	*e*P	**Pn**	**22 49 25.7**	**+1.4**
PB09				*e*S	**Sn**	**22 49 55.1**	**+3.0**
PB09	**IPOC Station P**	**1.78**	**273**	Pg	**Pn**	**22 49 25.5**	**+1.2**
PB01	**IPOC Station P**	**2.19**	**292**		**Pn**	**22 49 28.8**	**+0.4**
PB01	**IPOC Station P**	**2.19**	**292**	⇑*i*P	**Pn**	**22 49 28.9**	**+0.5**
PB01				*e*S	**Sn**	**22 49 59.1**	**-0.5**
PB01				IAML		22 50 00.0	
comp=N,963nm,0.2s							
PB01	**IPOC Station P**	**2.19**	**292**	*e*P	**Pn**	**22 49 28.9**	**+0.4**
PB01				*e*S	**Sn**	**22 49 59.2**	**-0.3**
PB01				IAML		22 50 00.4	
comp=Z,279nm,0.2s							
PB01	**IPOC Station P**	**2.19**	**292**	Pg	**Pn**	**22 49 29.1**	**+0.7**
PB01				Sg	**Sn**	**22 49 59.2**	**-0.3**
PB01				IAML		22 50 00.2	
comp=Z,427nm,0.5s							
PB06	**IPOC Station P**	**2.23**	**248**		**Pn**	**22 49 29.5**	**+0.6**
PB06	**IPOC Station P**	**2.23**	**248**	⇑*i*P	**Pn**	**22 49 29.6**	**+0.6**
PB06				*e*S	**Sn**	**22 50 00.3**	**-0.3**
PB06				IAML		22 50 02.1	
comp=E,358nm,0.2s							
PB06	**IPOC Station P**	**2.23**	**248**	*e*P	**Pn**	**22 49 29.5**	**+0.6**
PB06				*e*S	**Sn**	**22 50 01.4**	**+0.9**
PB06				IAML		22 50 02.5	
comp=Z,181nm,0.4s							
PB15	**IPOC Station P**	**2.38**	**236**		**Pn**	**22 49 31.4**	**+0.8**
PB15	**IPOC Station P**	**2.38**	**236**	*e*P	**Pn**	**22 49 31.1**	**+0.4**
PB15	**IPOC Station P**	**2.38**	**236**	Pg	**Pn**	**22 49 31.5**	**+0.8**
PB08	**IPOC Station P**	**2.44**	**315**		**Pn**	**22 49 32.9**	**+1.3**
PB08	**IPOC Station P**	**2.44**	**315**	⇑*i*P	**Pn**	**22 49 33.0**	**+1.4**
PB08				*e*S	**Sn**	**22 50 05.1**	**-0.1**
PB08				IAML		22 50 06.8	
comp=N,336nm,0.3s							
PB08	**IPOC Station P**	**2.44**	**315**	*e*P	**Pn**	**22 49 27.6**	**-4.0**
PB08				*e*S	**Sn**	**22 50 06.7**	**+1.5**
PB08				IAML		22 50 07.1	
comp=Z,126nm,0.4s							
PB08	**IPOC Station P**	**2.44**	**315**	Pg	**Pn**	**22 49 33.0**	**+1.4**
PB04	**IPOC Station P**	**2.66**	**260**		**Pn**	**22 49 34.0**	**+0.2**
PB04	**IPOC Station P**	**2.66**	**260**	*e*P	**Pn**	**22 49 34.4**	**+0.6**
PB04	**IPOC Station P**	**2.66**	**260**	*e*P	**Pn**	**22 49 34.3**	**+0.6**
PB04				*e*S	**Sn**	**22 50 08.7**	**-0.4**
PB04				IAML		22 50 10.5	
comp=Z,180nm,0.1s							
GO01	**Chusmiza**	**2.82**	**321**		**Pn**	**22 49 36.9**	**+0.8**
GO01	**Chusmiza**	**2.82**	**321**	⇑*i*P	**Pn**	**22 49 37.0**	**+0.8**
GO01				*e*S	**Sn**	**22 50 14.8**	**+1.7**
GO01	**Chusmiza**	**2.82**	**321**	*e*P	**Pn**	**22 49 37.2**	**+1.1**
GO01				*e*S	**Sn**	**22 50 14.3**	**+1.1**
GO01	**Chusmiza**	**2.82**	**321**	Pg	**Pn**	**22 49 37.1**	**+1.1**
GO01				Sg	**Sn**	**22 50 13.3**	**+0.1**
GO01				IAML		22 50 17.6	
comp=Z,588nm,0.2s							
PATCX	**Punta Patache**	**2.84**	**292**		**Pn**	**22 49 36.1**	**+0.3**
PATCX	**Punta Patache**	**2.84**	**292**	*e*P	**Pn**	**22 49 36.2**	**+0.3**
PATCX				*e*S	**Sn**	**22 50 11.0**	**-1.9**
PATCX	**Punta Patache**	**2.84**	**292**	*e*P	**Pn**	**22 49 36.2**	**+0.3**
PATCX				*e*S	**Sn**	**22 50 12.4**	**-0.6**
PATCX				IAML		22 50 14.3	
comp=Z,204nm,0.5s							
HMBC	**Humberstone**	**2.88**	**303**		**Pn**	**22 49 36.2**	**-0.2**
HMBC	**Humberstone**	**2.88**	**303**	⇑*i*P	**Pn**	**22 49 36.3**	**-0.2**
HMBC				*e*S	**Sn**	**22 50 11.6**	**-2.3**
HMBC				IAML		22 50 12.3	
comp=N,704nm,0.4s							
HMBC	**Humberstone**	**2.88**	**303**	*e*P	**Pn**	**22 49 35.6**	**-0.8**
HMBC				*e*S	**Sn**	**22 50 12.4**	**-1.5**
HMBC				IAML		22 50 13.7	
comp=Z,494nm,0.3s							
TA01	**Diego Aracena**	**2.98**	**296**		**Pn**	**22 49 37.0**	**-0.2**
TA01	**Diego Aracena**	**2.98**	**296**	⇑*i*P	**Pn**	**22 49 37.1**	**-0.2**
TA01				*e*S	**Sn**	**22 50 13.1**	**-2.4**
TA01				IAML		22 50 14.8	
comp=E,546nm,0.2s							
TA01	**Diego Aracena**	**2.98**	**296**	*e*P	**Pn**	**22 49 37.2**	**-0.2**
TA01				*e*S	**Sn**	**22 50 13.8**	**-1.8**
TA01				IAML		22 50 17.5	
comp=Z,152nm,0.5s							
PB11	**IPOC Station P**	**3.04**	**314**		**Pn**	**22 49 38.3**	**0.0**
PB11	**IPOC Station P**	**3.04**	**314**	⇑*i*P	**Pn**	**22 49 38.4**	**0.0**
PB11				*e*S	**Sn**	**22 50 15.1**	**-2.3**
PB11	**IPOC Station P**	**3.04**	**314**	*e*P	**Pn**	**22 49 38.3**	**0.0**
PB11				*e*S	**Sn**	**22 50 16.1**	**-1.3**
PB11				IAML		22 50 17.8	
comp=Z,203nm,0.2s							
PB11	**IPOC Station P**	**3.04**	**314**	Pg	**Pn**	**22 49 38.7**	**+0.3**
TA02	**Huaiquique**	**3.08**	**301**		**Pn**	**22 49 37.9**	**-0.7**
SLA	**San Lorenzo**	**3.27**	**150**	*e*P	**Pn**	**22 49 43.4**	**+2.3**
SOEO	**Opoqueri**	**3.36**	**351**	Pg	**Pn**	**22 49 43.8**	**+1.3**
ALOL	**LOMAS DE OLMED**	**3.63**	**122**	*e*P	**Pn**	**22 49 45.0**	**-0.3**
GO02	**Mina Guanaco**	**3.86**	**212**		**Pn**	**22 49 49.3**	**+0.9**
GO02	**Mina Guanaco**	**3.86**	**212**	*e*P	**Pn**	**22 49 49.5**	**+1.1**
GO02				*e*S	**Sn**	**22 50 34.6**	**-1.0**
GO02	**Mina Guanaco**	**3.86**	**212**	*e*P	**Pn**	**22 49 48.9**	**+0.4**
GO02				*e*S	**Sn**	**22 50 35.1**	**-0.5**
PB14	**IPOC Station P**	**3.92**	**226**		**Pn**	**22 49 49.5**	**+0.3**
PB14	**IPOC Station P**	**3.92**	**226**	*e*P	**Pn**	**22 49 49.6**	**+0.3**
PB14				*e*S	**Sn**	**22 50 34.6**	**-2.4**
PB14				IAML		22 50 36.2	
comp=Z,128nm,0.2s							
SOTI	**Planta Incahua**	**4.00**	**60**	Pg	**Pn**	**22 49 50.5**	**+0.4**
SOET	**ToroToro**	**4.02**	**21**	Pg	**Pn**	**22 49 51.2**	**+0.6**
AOEA	**Aiquile**	**4.19**	**28**	Pg	**Pn**	**22 49 52.8**	**+0.2**
AP01	**Chacalluta**	**4.51**	**321**	Pn	**Pn**	**22 49 56.6**	**+0.2**
AC01	**Pan de Azucar**	**5.18**	**215**	Pn	**Pn**	**22 50 04.5**	**-0.5**
AC01	**Pan de Azucar**	**5.18**	**215**	*e*P	**Pn**	**22 50 04.5**	**-0.5**
AC01				*e*S	**Sn**	**22 51 02.9**	**-2.5**
AC01				IAML		22 51 04.5	
comp=Z,63nm,0.5s							
BBOD	**La Paz, Gloria**	**5.37**	**347**	Pg	**Pn**	**22 50 09.4**	**+1.5**
LPAZ	**La Paz**	**5.63**	**352**	P	**Pn**	**22 50 11.9**	**+0.6**
comp=Z,3.9nm,0.3s,baz=186,slow=6.2,SNR=39							
LPAZ				S	**Sn**	**22 51 14.9**	**-1.9**
comp=Z,2.0nm,0.5s,baz=49,slow=20,SNR=2.0							
AC06	**Mina Casimiro**	**6.10**	**206**	Pn	**Pn**	**22 50 15.0**	**-1.8**
GO03	**Copiapo**	**6.26**	**204**	Pn	**Pn**	**22 50 17.9**	**-1.1**
AC05	**El Transito**	**7.41**	**200**	Pn	**Pn**	**22 50 32.6**	**-1.4**
LCO	**Las Campanas**	**7.71**	**203**	Pn	**Pn**	**22 50 36.1**	**-2.0**
SIV	**San Ignacio**	**8.34**	**46**	P	**Pn**	**22 50 43.8**	**-2.4**
comp=Z,6.7nm,0.2s,baz=239,slow=11,SNR=86							
SIV				S	Sn	22 52 10.3	-10
comp=Z,2.5nm,0.3s,baz=120,slow=20,SNR=3.4							
PTLB	**Pontes e Lacer**	**10.06**	**52**		**Pn**	**22 51 07.2**	**-1.5**
CPUP	**Villa Florida**	**10.14**	**118**	P	**Pn**	**22 51 07.9**	**-1.6**
comp=Z,0.9nm,0.4s,baz=303,slow=11,SNR=2.1							
VILB	**Vilhena**	**11.19**	**39**	Pn	**Pn**	**22 51 20.6**	**-2.7**
ITAB	**Concordia**	**14.81**	**114**		**P**	**22 52 09.4**	**-0.2**
TRQA	**Tornquist**	**16.75**	**165**	P	**P**	**22 52 31.5**	**+0.5**
TRQA				IAmb	IAmb	22 52 45.9	
comp=Z,14nm,1.4s							
VAO	**Valinhos**	**18.85**	**97**	P	**P**	**22 52 53.3**	**-0.9**
VAO				IAmb	IAmb	22 52 55.6	
comp=Z,14nm,0.9s							
BDFB	**Brasilia**	**19.30**	**75**	P	**P**	**22 52 57.6**	**-1.5**
BDFB	**Brasilia**	**19.30**	**75**	P	**P**	**22 52 59.5**	**+0.3**
comp=Z,2.2nm,0.5s,baz=229,slow=9.3,SNR=3.8							
154A	**Montrose**	**56.26**	**344**	P	**P**	**22 58 05.2**	**-3.6**
CPCT	**Cooper Cave**	**59.32**	**344**	P	**P**	**22 58 30.7**	**+0.7**
CPCT				IAmb	IAmb	22 58 38.7	
comp=Z,16nm,1.3s							
TKL	**Tuckaleechee C**	**59.32**	**344**	P	**P**	**22 58 30.1**	**0.0**
U49A	**Red Boiling Sp**	**60.65**	**343**	P	**P**	**22 58 39.5**	**+0.4**
U49A				IAmb	IAmb	22 58 40.5	
comp=Z,4.4nm,0.5s							
SNAA	**Sanae**	**61.43**	**161**	P	**P**	**22 58 45.7**	**+1.7**
SNAA	**Sanae**	**61.43**	**161**	P	**P**	**22 58 46.5**	**+2.5**
comp=Z,1.7nm,1.1s,baz=310,slow=7.0,SNR=2.5							
comp=Z,1.7nm,1.1s							
PDAR	**Pinedale Array**	**75.19**	**329**	P	**P**	**23 00 12.6**	**+2.6**
comp=Z,0.3nm,0.5s,baz=125,slow=8.3,SNR=5.4							
comp=Z,0.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**76.11**	**70**	P	**P**	**23 00 16.4**	**+1.0**
comp=Z,2.4nm,0.4s,baz=257,slow=5.4,SNR=54							
comp=Z,2.4nm,0.4s							

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*IDC **13** 22:53:47.1±1.4, 37°.91N×20°.64E, h0km, mb3.6/5, mbtmp3.6/6, ML1.3/1, Error ellipse: s-maj=39.9km s-min=23.2km az=134.0*
*THE **13** 22:53:47.0, 37°.57N×20°.42E, h17km±1km, ML3.4/4, Error ellipse: s-maj=2.2km s-min=0.8km az=80.0*
ISC 13 22:53:48.3±1.4, **37°.63N**±0°.07×**20°.47E**±0°.06, **h17**km±8km, **n13**, σ1.9**16**/17, **mb3.5**/5, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.28**	**83**	P	**Pg**	**22 53 54.1**	**-0.3**
KRI1				S	**Sb**	**22 53 59.1**	**-0.1**
20μm,0.5s							
LTHK	**Lithakia**	**0.30**	**74**	P	**Pg**	**22 53 54.3**	**-0.5**
LTHK				S	**Sg**	**22 53 59.8**	**+0.5**
15μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.49**	**10**	P	**Pg**	**22 53 58.0**	**-0.3**
PSDA				S	**Sb**	**22 54 06.8**	**+1.3**
3μm,0.5s							
RTZL	**Ratzakli, Kefa**	**0.51**	**28**	P	**Pg**	**22 53 58.0**	**-0.5**
RTZL				S	**Sb**	**22 54 07.4**	**+1.6**
VLS	**Valsamata**	**0.56**	**10**	P	**Pg**	**22 53 59.0**	**-0.5**
VLS				S	**Sb**	**22 54 08.1**	**+0.8**
1μm,0.6s							
IDI	**Anoyia**	**4.26**	**122**	Sn	**Sn**	**22 55 43.3**	**+1.6**
1.2nm,0.3s,baz=0.0,slow=19,SNR=2.4							
VAE	**Valguarnera**	**4.82**	**270**	Pn	**Pn**	**22 55 01.7**	**+1.6**
0.6nm,0.3s,baz=45,slow=19,SNR=2.2							
VAE				Sn	**Sn**	**22 55 55.2**	**-0.3**
1.3nm,0.3s,baz=358,slow=23,SNR=2.3							
5.0nm,0.7s							
MLR	**Muntele Rosu**	**8.86**	**26**	Pn	Pn	22 56 00.4	+4.8
0.3nm,0.3s,baz=218,slow=8.7,SNR=12							
HFS	**Hagfors**	**22.94**	**351**	P	**P**	**22 58 49.6**	**-1.7**
1.3nm,0.7s,baz=183,slow=13,SNR=1.9							
1.3nm,0.7s							
FINES	**FINESS Array B**	**24.10**	**7**	P	**P**	**22 59 02.1**	**-0.5**
1.2nm,0.8s,baz=165,slow=12,SNR=8.7							
1.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**29.58**	**219**	P	P	22 59 57.1	+4.7
0.6nm,0.7s,baz=28,slow=10,SNR=5.0							
0.6nm,0.7s							
MKAR	**Makanchi Array**	**45.62**	**58**	P	**P**	**23 02 06.5**	**-1.2**
0.5nm,0.8s,baz=277,slow=6.4,SNR=6.5							
0.5nm,0.8s							
ZALV	**Zalesovo Beam**	**46.09**	**48**	P	**P**	**23 02 09.9**	**-1.2**
0.6nm,0.5s,baz=289,slow=9.0,SNR=2.6							
0.6nm,0.5s							

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*JMA **13** 23:06:59.6±0.2, 24°.5N±0°.5×121°.8E±0°.7, h65km±2km, MV3.0/13, TAIWAN REGION*
*TAP **13** 23:06:59.7, 24°.56N×121°.77E, h65km, ML3.7, B*
ISC 13 23:06:59.8±1.2, **24°.59N**±0°.02×**121°.78E**±0°.02, **h69**km±4km, **n119**, σ0.9**95**/209, **2C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.06**	**105**	P	**Pn**	**23 07 09.9**	**0.0**
ESAO				*e*S	**Sn**	**23 07 17.5**	**+0.3**
TWC	**Suao**	**0.06**	**72**	⇑*i*P	**Pn**	**23 07 10.0**	**+0.1**
TWC				*i* S	**Sn**	**23 07 17.4**	**+0.2**
NDS	**Dongshan**	**0.08**	**305**	P	**Pn**	**23 07 10.2**	**+0.2**
NDS				*e*S	**Sn**	**23 07 17.5**	**+0.2**
EWUT	**Wuta**	**0.14**	**182**	P	**Pn**	**23 07 10.1**	**0.0**
EWUT				S	**Sn**	**23 07 17.6**	**0.0**
ENA	**Nanau**	**0.17**	**194**	P	**Pn**	**23 07 10.0**	**-0.2**
ENA				*e*S	**Sn**	**23 07 17.7**	**-0.1**
TWE	**Neicheng**	**0.17**	**321**	*i* P	**Pn**	**23 07 10.5**	**+0.3**
TWE				S	**Sn**	**23 07 18.1**	**+0.4**
ILA	**Ilan**	**0.18**	**349**	*e*P	**Pn**	**23 07 10.6**	**+0.4**
ILA				S	**Sn**	**23 07 19.5**	**+1.7**
ENTT	**Nioudou**	**0.20**	**284**	*i* P	**Pn**	**23 07 10.4**	**0.0**
ENTT				*e*S	**Sn**	**23 07 17.9**	**-0.1**
LATG	**Datong**	**0.24**	**257**	*i* P	**Pn**	**23 07 10.6**	**-0.1**
LATG				S	**Sn**	**23 07 18.4**	**-0.2**
FUSB	**Fushanzhiwuyua**	**0.25**	**313**	⇑*i*P	**Pn**	**23 07 10.8**	**+0.1**
FUSB				S	**Sn**	**23 07 18.4**	**-0.2**
EAHA	**Aohua**	**0.26**	**189**	P	**Pn**	**23 07 10.3**	**-0.4**
EAHA				*e*S	**Sn**	**23 07 18.8**	**+0.2**
NTC	**Toucheng**	**0.27**	**9**	*e*S	**Sn**	**23 07 19.7**	**+1.1**
EGS		**0.29**	**28**	*e*P	**Pn**	**23 07 11.6**	**+0.8**
EGS				*e*S	**Sn**	**23 07 20.4**	**+1.5**
NWLT	**Wulai**	**0.32**	**306**	P	**Pn**	**23 07 10.9**	**-0.2**
NWLT				S	**Sn**	**23 07 18.7**	**-0.6**
YHNB	**Yeheng**	**0.38**	**282**	P	**Pn**	**23 07 11.3**	**-0.3**
YHNB	**Yeheng**	**0.38**	**282**	P	**Pn**	**23 07 11.4**	**-0.3**
YHNB				S	**Sn**	**23 07 19.5**	**-0.7**
TIPB	**Shuangxi**	**0.38**	**6**	P	**Pn**	**23 07 12.0**	**+0.4**
TIPB				S	**Sn**	**23 07 20.5**	**+0.3**
NSK	**Sanguang**	**0.40**	**283**	*i* P	**Pn**	**23 07 11.5**	**-0.2**
NSK				S	**Sn**	**23 07 19.8**	**-0.7**
NNSB	**Datong**	**0.40**	**246**	P	**Pn**	**23 07 11.9**	**+0.1**
NNSB				S	**Sn**	**23 07 20.1**	**-0.5**
NNS	**Nan Shan**	**0.40**	**248**	*i* P	**Pn**	**23 07 11.9**	**+0.1**
NNS				S	**Sn**	**23 07 20.3**	**-0.3**
TWA	**Mucha**	**0.43**	**335**	*e*S	**Sn**	**23 07 17.9**	**-2.9**
EOS2	**EOS2**	**0.44**	**113**	*e*P	**Pn**	**23 07 12.8**	**+0.9**
EOS2				*e*S	**Sn**	**23 07 23.0**	**+2.3**
NACB	**Ninganchiao**	**0.45**	**203**	P	**Pn**	**23 07 11.0**	**-1.1**
NACB	**Ninganchiao**	**0.45**	**203**	P	**Pn**	**23 07 11.0**	**-1.1**
NACB				*e*S	**Sn**	**23 07 19.7**	**-1.3**
ETL	**Fush Village**	**0.45**	**199**	*e*P	**Pn**	**23 07 11.4**	**-0.8**
ETL				*e*S	**Sn**	**23 07 20.1**	**-1.1**
TWB1	**Santiao Chiao**	**0.46**	**24**	*e*P	**Pn**	**23 07 12.3**	**+0.1**
TWB1				*e*S	**Sn**	**23 07 21.5**	**+0.3**
TATO	**Taipei**	**0.47**	**325**	P	**Pn**	**23 07 12.1**	**-0.2**
ETLH	**Xiulin Townshi**	**0.47**	**216**	P	**Pn**	**23 07 11.9**	**-0.5**
ETLH				S	**Sn**	**23 07 20.5**	**-1.1**
NWF	**Wu-fen Shan**	**0.48**	**360**	*e*P	**Pn**	**23 07 12.8**	**+0.3**
NWF				*e*S	**Sn**	**23 07 21.9**	**+0.1**
WFSB	**Wu-fen Shan**	**0.48**	**360**	P	**Pn**	**23 07 12.8**	**+0.5**
WFSB				S	**Sn**	**23 07 21.9**	**+0.3**
NHY	**Taipei**	**0.49**	**336**	*e*P	**Pn**	**23 07 12.6**	**+0.1**
NHY				S	**Sn**	**23 07 21.9**	**+0.2**
SXI1	**Grass Mountain**	**0.51**	**9**	*e*P	**Pn**	**23 07 13.3**	**+0.5**
SXI1				*e*S	**Sn**	**23 07 23.0**	**+0.8**
TAP	**Taipei**	**0.51**	**331**	*e*S	**Sn**	**23 07 21.9**	**-0.2**
TWD	**Chiawan**	**0.54**	**199**	*e*P	**Pn**	**23 07 11.9**	**-1.0**
TWD				*e*S	**Sn**	**23 07 20.9**	**-1.6**
EOS3	**EOS3**	**0.57**	**122**	P	**Pn**	**23 07 13.8**	**+0.7**
EOS3				*e*S	**Sn**	**23 07 24.7**	**+1.8**
KSHI	**Guanxi Townshi**	**0.58**	**289**	*e*P	**Pn**	**23 07 13.6**	**+0.2**
KSHI				*e*S	**Sn**	**23 07 23.6**	**+0.2**
YM01	**YM01**	**0.59**	**341**	*e*P	**Pn**	**23 07 13.5**	**0.0**
YM01				*e*S	**Sn**	**23 07 23.4**	**-0.1**
FUSS	**Fushou**	**0.60**	**235**	P	**Pn**	**23 07 13.9**	**0.0**
FUSS				*e*S	**Sn**	**23 07 23.6**	**-0.5**
NFF	**Wufeng Townshi**	**0.61**	**274**	P	**Pn**	**23 07 13.8**	**0.0**
NFF				*i* S	**Sn**	**23 07 23.7**	**-0.3**
TWS1	**Kuangyinshan**	**0.61**	**327**	*e*P	**Pn**	**23 07 12.9**	**-0.8**
TWS1				S	**Sn**	**23 07 23.4**	**-0.4**
ZUZH	**Zhuzihu**	**0.61**	**339**	*e*P	**Pn**	**23 07 13.9**	**+0.2**
ZUZH				*e*S	**Sn**	**23 07 23.7**	**-0.3**
YM08	**YM08**	**0.62**	**344**	P	**Pn**	**23 07 13.5**	**-0.3**
YM08				S	**Sn**	**23 07 23.6**	**-0.5**
HWA	**Hwalien**	**0.63**	**195**	*e*P	**Pn**	**23 07 13.4**	**-0.5**
HWA				*e*S	**Sn**	**23 07 23.8**	**-0.5**
ANP	**Anpu**	**0.64**	**338**	*e*P	**Pn**	**23 07 13.9**	**-0.2**
ANP				*e*S	**Sn**	**23 07 24.3**	**-0.3**
NTST	**Danshui**	**0.65**	**332**	*e*P	**Pn**	**23 07 14.2**	**+0.1**
NTST				*e*S	**Sn**	**23 07 25.1**	**+0.6**
TWT	**Tachien**	**0.65**	**239**	P	**Pn**	**23 07 14.8**	**+0.6**
TWT				*e*S	**Sn**	**23 07 25.1**	**+0.1**
WHF	**Hehuan Shan**	**0.65**	**227**	*e*P	**Pn**	**23 07 14.5**	**-0.1**
WHF				S	**Sn**	**23 07 24.5**	**-0.7**
LXIB	**Xiulin Townshi**	**0.66**	**211**	P	**Pn**	**23 07 13.3**	**-1.1**
LXIB				*e*S	**Sn**	**23 07 23.7**	**-1.4**
NCUH	**Zhongli**	**0.66**	**305**	*e*P	**Pn**	**23 07 14.1**	**-0.1**
NCUH				*e*S	**Sn**	**23 07 24.9**	**0.0**
TDCB	**Techi**	**0.66**	**240**	*e*P	**Pn**	**23 07 14.5**	**+0.1**
TDCB				*e*S	**Sn**	**23 07 25.0**	**-0.1**
EOS4	**EOS4**	**0.68**	**134**	*e*P	**Pn**	**23 07 13.8**	**-0.2**
EOS4				*e*S	**Sn**	**23 07 25.0**	**+0.5**
ETM	**Tongmen**	**0.68**	**203**	P	**Pn**	**23 07 13.3**	**-1.1**
ETM				*e*S	**Sn**	**23 07 23.5**	**-1.7**
LIOB	**Emei**	**0.70**	**275**	*e*P	**Pn**	**23 07 14.8**	**+0.1**
LIOB				S	**Sn**	**23 07 25.8**	**+0.1**
TWY	**Chenhua**	**0.70**	**346**	*e*P	**Pn**	**23 07 14.9**	**+0.2**
TWY				*e*S	**Sn**	**23 07 26.8**	**+1.2**
NSTT	**Nanjuang**	**0.71**	**273**	P	**Pn**	**23 07 14.8**	**0.0**
NSTT				S	**Sn**	**23 07 25.6**	**-0.3**
TEYL	**Yanliau Villag**	**0.74**	**193**	*e*P	**Pn**	**23 07 15.5**	**+0.4**
TEYL				*e*S	**Sn**	**23 07 28.3**	**+1.9**
HSN	**Hsinchu**	**0.77**	**286**	*e*P	**Pn**	**23 07 15.1**	**-0.3**
HSN				*e*S	**Sn**	**23 07 26.0**	**-1.0**
SHUL	**Shoufeng**	**0.82**	**194**	*e*P	**Pn**	**23 07 16.1**	**0.0**
SHUL				*e*S	**Sn**	**23 07 27.6**	**-0.6**
WHP	**Taichung City**	**0.82**	**248**	*e*P	**Pn**	**23 07 16.9**	**+0.6**
WHP				*e*S	**Sn**

JIJ				eS	Sn	23 07 58.2	-1.2
MASBT	Mashibuluo	2.23	208	eP	Pn	23 07 36.0	+1.3
MATB	Ma-tsu	2.28	313	eP	Pn	23 07 34.2	-1.0
MATB				eS	Sn	23 08 01.0	-1.2
JISG	Ishigakijimahi	2.30	90	eP	Pn	23 07 35.4	-0.1
JISG				eS	Sn	23 08 02.3	-0.5
PTMZ	Houxiangcun	2.46	281	eP	Pn	23 07 36.7	-1.0
JTJ	Tarama	2.66	88	eP	Pn	23 07 41.3	+1.0
JTJ				eS	Sn	23 08 12.3	+0.9
XPSS	Dashiqiu	2.74	329	eP	Pn	23 07 40.6	-0.8
XPSS				eS	Sn	23 08 12.1	-1.3
KNM	Kinmen	3.06	267	eP	Pn	23 07 46.6	+0.9
KNMB	Chin-men Tao	3.10	268	eP	Pn	23 07 45.2	-1.1

*JMA **13** 23:51:01.4±0.1, 23°.7N±0°.7×122°.9E±0°.5, h53km, MV2.5/12, NEAR ISHIGAKIJIMA ISLAND*
*TAP **13** 23:51:02.3, 23°.81N×122°.92E, h56km, ML3.1, D*
ISC 13 23:50:58.8±1.3, 23°.67N±0°.03×122°.93E±0°.03, h15km±9km, n58, σ0s83/96, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.72	309	i	P		Pn	23 51 15.4	+1.3
EOS4						eS	Sn	23 51 25.4	+0.8
JYNG	Yonagunijimaku	0.78	1	eP		Pn	Pn	23 51 15.8	+0.6
JYNG				eS		Sn	Sn	23 51 25.6	-1.0
YOJ	Yonaguni jima	0.79	5	eP		Pn	Pn	23 51 15.7	+0.3
YOJ				eS		Sn	Sn	23 51 25.8	-1.1
YOJ	Yonaguni jima	0.79	5	P		Pn	Pn	23 51 16.1	+0.7
YOJ				S		Sn	Sn	23 51 26.4	-0.5
EOS3	EOS3	0.83	318	i	P	Pn	Pn	23 51 17.4	+1.6
EOS3				i	S	Sn	Sn	23 51 29.4	+1.7
HATJ	Hateruma jima	0.89	64	eP		Pn	Pn	23 51 17.5	+0.7
HATJ				eS		Sn	Sn	23 51 29.5	+0.2
EOS2	EOS2	0.98	319	eP		Pn	Pn	23 51 20.3	+2.4
EOS2				eS		Sn	Sn	23 51 34.1	+2.6
IRIF	Iriomote-Funau	0.98	48	eP		Pn	Pn	23 51 19.1	+1.0
IRIF				eS		Sn	Sn	23 51 31.4	-0.3
JKRS	Kuro-shima	1.14	60	eS		Sn	Sn	23 51 35.8	+0.3
SHUL	Shoufeng	1.26	275	eP		Pg	Pg	23 51 23.9	+0.8
SHUL				eS		Sg	Sg	23 51 39.2	-0.3
EWUT	Wuta	1.30	306	eP		Pg	Pg	23 51 24.1	+0.1
EWUT				eS		Sg	Sg	23 51 40.6	-0.3
JIJ	Ishigaki jima	1.30	58	eP		Pb	Pb	23 51 23.4	+0.4
JIJ				eS		Sb	Sb	23 51 38.9	-0.7
NACB	Ninganchiao	1.32	292	eP		Pb	Pb	23 51 23.5	+0.2
NACB				S		Sb	Sb	23 51 39.4	-0.7
ENA	Nanau	1.32	305	eP		Pg	Pg	23 51 24.9	+0.7
ENA				eS		Sg	Sg	23 51 41.0	-0.6
ESAO	Su ao	1.34	312	eP		Pg	Pg	23 51 24.4	-0.2
ETM	Tongmen	1.35	283	eP		Pn	Pn	23 51 23.2	+0.1
ETM				eS		Sn	Sn	23 51 38.7	-2.0
TWC	Suao	1.36	314	eP		Pg	Pg	23 51 25.2	+0.2
TWC				eS		Sn	Sn	23 51 40.5	-0.5
EGFH	Guangfu	1.38	270	eP		Pb	Pb	23 51 24.5	+0.2
EGFH				eS		Sn	Sn	23 51 41.5	0.0
HGSD	Ruisui	1.39	263	P		Pn	Pn	23 51 24.1	+0.4
WARBT	Fenglin Townsh	1.42	272	eP		Pn	Pn	23 51 23.7	-0.4
WARBT				eS		Sn	Sn	23 51 41.4	-1.0
ETLH	Xiulin Townshi	1.43	292	P		Pb	Pb	23 51 25.6	+0.3
ETLH				S		Sn	Sn	23 51 42.9	0.0
LXIB	Xiulin Townshi	1.43	284	eP		Pb	Pb	23 51 25.4	+0.1
LXIB				eS		Sn	Sn	23 51 42.2	-0.8
NDS	Dongshan	1.47	311	eP		Pg	Pg	23 51 27.9	+0.9
EHY	Hungye	1.48	264	eP		Pb	Pb	23 51 26.3	+0.2
EHY				eS		Sn	Sn	23 51 44.0	-0.2
EYUL	Yuli	1.51	258	eP		Pn	Pn	23 51 26.3	+0.9
EYUL				eS		Sb	Sb	23 51 45.7	+0.1
YULB	Yu-li	1.52	260	eP		Pb	Pb	23 51 27.3	+0.5
YULB				S		Sn	Sn	23 51 45.0	-0.2
TWF1	Yuli	1.53	258	eP		Pb	Pb	23 51 27.6	+0.7
TWF1				eS		Sn	Sn	23 51 46.0	+0.7
LATG	Datong	1.54	304	eP		Pb	Pb	23 51 27.1	-0.1
JISG	Ishigakijimahi	1.56	54	eP		Pn	Pn	23 51 26.5	+0.5
JISG				eS		Sn	Sn	23 51 45.3	-0.5
TWE	Neicheng	1.56	312	eP		Pg	Pg	23 51 28.8	+0.1
ENTT	Nioudou	1.57	308	eP		Pg	Pg	23 51 29.3	+0.2
FULB	Fuli	1.58	253	eP		Pn	Pn	23 51 27.2	+1.0
TWB1	Santiao Chiao	1.58	327	eP		Pb	Pb	23 51 27.8	0.0
WHF	Hehuan Shan	1.59	287	eP		Pb	Pb	23 51 27.9	-0.3
OWD	Renai	1.63	280	i	P	Pb	Pb	23 51 29.1	+0.4
OWD				S		Sn	Sn	23 51 47.2	-0.8
FUSB	Fushanzhiwuyua	1.64	312	eP		Pg	Pg	23 51 29.5	-0.8
FUSB				eS		Sn	Sn	23 51 47.0	-1.0
TIPB	Shuangxi	1.64	322	eP		Pb	Pb	23 51 28.5	-0.3
TIPB				eS		Sn	Sn	23 51 45.6	-2.5
VWDT	VWDT	1.64	273	i	P	Pb	Pb	23 51 28.7	-0.1
VWDT				S		Sb	Sb	23 51 48.8	-0.5
FUSS	Fushou	1.65	291	eP		Pb	Pb	23 51 28.9	-0.1
FUSS				S		Sn	Sn	23 51 48.5	0.0
EDH	Donghe	1.65	245	eP		Pn	Pn	23 51 28.3	+1.1
EDH				S		Sn	Sn	23 51 46.6	-1.6
LDUT	Ludao	1.67	234	i	P	Pn	Pn	23 51 28.4	+0.8
WUSB	Renai	1.69	281	eP		Pb	Pb	23 51 29.9	+0.2
NWLT	Wulai	1.71	310	eP		Pg	Pg	23 51 31.2	-0.4
NWLT				eS		Sb	Sb	23 51 50.8	-0.4
SXI1	Grass Mountain	1.71	326	eP		Pb	Pb	23 51 30.0	-0.1
YHNB	Yeheng	1.73	305	eP		Pb	Pb	23 51 30.2	-0.1
NSK	Sanguang	1.75	305	eP		Pb	Pb	23 51 30.2	-0.5
NSK				eS		Sn	Sn	23 51 50.8	0.0
TWGBT	Beinan	1.90	244	eP		Pn	Pn	23 51 31.9	+1.1
TWGBT				eS		Sn	Sn	23 51 54.0	-0.5
NFF	Wufeng Townshi	1.91	300	eP		Pb	Pb	23 51 33.6	+0.1
WHP	Taichung City	1.91	289	eP		Pg	Pg	23 51 34.8	-0.7
ALS	Alishan	1.96	266	eP		Pb	Pb	23 51 33.6	-0.8
ALS				eS		Sb	Sb	23 51 58.4	-0.2
LYUB	Lan-yu	2.08	217	eP		Pn	Pn	23 51 33.5	+0.4
TPUB	Ta-pu	2.15	261	eP		Pb	Pb	23 51 37.8	+0.4
TPUB				S		Sb	Sb	23 52 03.0	-0.8
CHN4	Tsaushan	2.17	262	eP		Pb	Pb	23 51 37.9	+0.1
CHN4				eS		Sb	Sb	23 52 04.2	-0.3
SLGT	Liugui	2.21	253	eP		Pb	Pb	23 51 38.6	+0.2
SLGT				eS		Sn	Sn	23 52 04.1	+2.2
CHN1	Nanshi	2.26	258	eP		Pb	Pb	23 51 39.7	+0.4
TWK	Hsinying	2.28	260	eP		Pb	Pb	23 51 39.3	-0.4
TWK				eS		Sb	Sb	23 52 07.1	-0.7
TAWH	Dawu Township	2.30	235	eP		Pb	Pb	23 51 38.9	-1.1
MASBT	Mashibuluo	2.36	244	eP		Pn	Pn	23 51 37.8	+0.7

*IDC **13** 23:59:21.4±1.0, 15°.67N×49°.82W, h0km, mb3.9/6, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=33.9km s-min=24.6km az=119.0*
ISC 13 23:59:22.7±0.9, 15°.5N±0°.1×49°.9W±0°.1, h10km, n14, σ1s13/9, mb3.9/6, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MDP	Montagnes des	10.72	195	Pn			Pn	00 01 55.0	-1.6
	0.5nm,0.3s,baz=2.5,slow=14,SNR=41								
MDP						Sn	Sn	00 03 42.9	-14
	1.1nm,0.3s,baz=281,slow=21,SNR=8.3								
TRN	Trinidad (W)	12.26	248	eP			Pn	00 02 17.2	-0.3
PCRV	Puerto La Cruz	15.37	251	Pn			Pn	00 03 00.2	+0.3
	0.4nm,0.3s,baz=63,slow=6.8,SNR=1.3								
	9.4nm,0.9s								
LPAZ	La Paz	36.41	211	P			P	00 06 29.4	+1.1
	1.9nm,0.6s,baz=22,slow=11,SNR=6.6								
	1.9nm,0.6s								
H10N3	ASCENSION HYDR	42.02	121	T			T	00 52 03.8	
	baz=304,slow=75,SNR=5.0								
H10N2	ASCENSION HYDR	42.02	121	T			T	00 52 05.5	
	baz=304,slow=75,SNR=6.7								
H10N1	ASCENSION HYDR	42.04	121	T			T	00 52 01.4	
	baz=304,slow=75,SNR=8.6								
H10S3	ASCENSION HYDR	42.51	123	T			T	00 52 52.2	
	baz=281,slow=74,SNR=2.4								
H10S2	ASCENSION HYDR	42.52	123	T			T	00 52 47.7	
	baz=299,slow=74,SNR=2.9								
TORD	Torodi Ar. Bea	49.90	86	P			P	00 08 17.5	+0.6
	0.4nm,0.9s,baz=284,slow=7.5,SNR=1.9								
	0.4nm,0.9s								
TXAR	Lajitas Array	51.20	295	P			P	00 08 26.8	+0.1
	0.2nm,0.8s,baz=105,slow=7.0,SNR=2.3								
	0.2nm,0.8s								
PLCA	Paso Flores	59.19	198	P			P	00 09 25.2	+1.1
	3.2nm,0.9s,baz=11,slow=9.5,SNR=6.0								
	3.2nm,0.9s								
ARCES	ARCESS Array B	70.44	21	P			P	00 10 35.4	-1.5
	4.9nm,1.0s,baz=274,slow=5.3,SNR=3.9								
	4.9nm,1.0s								
ILAR	Eielson Array	79.06	334	P			P	00 11 27.3	+0.3
	0.8nm,0.9s,baz=83,slow=5.1,SNR=6.0								
	0.8nm,0.9s								

*IDC **14** 00:10:28.6±0.8, 19°.58N×65°.03W, h0km, mb3.9/10, mbtmp4.1/13, ML4.1/3, MS3.3/22, Error ellipse: s-maj=18.0km s-min=16.6km az=100.0*
*SDD **14** 00:10:30.9±1.5, 20°.03N×65°.73W, h17km±999km, MD3.8, ML3.9, MW3.7*
*RSPR **14** 00:10:33.1±5.5, 19°.63N±0°.07×65°.08W±0°.06, h85km±6km, Error ellipse: s-maj=11.1km s-min=7.5km az=193.0*
*OSPL **14** 00:10:33.4±2.9, 19°.82N×65°.01W, h31km±65km, ML4.4*
*NEIC **14** 00:10:33.5±1.2, 19°.63N±0°.06×65°.10W±0°.05, h35km±6km, mb4.9/43, ML4.3/48, Error ellipse: s-maj=8.6km s-min=6.2km az=183.0*
ISC 14 00:10:30.9±2.9, 19°.64N±0°.04×65°.13W±0°.03, h17km±18km, n171, σ1s65/190, mb4.8/32, MS3.3/20, 9C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GCPR	Guaynabo City	1.60	214				Pn	00 10 59.2	+0.8
GCPR						Sn	Sn	00 11 18.1	-0.6
GCPR						IAML		00 11 19.7	
	comp=E,3μm,0.8s								
GCPR						IAML		00 11 20.0	
	comp=N,3μm,0.8s								
HUMP	Col San Antoni	1.63	205	Pn			Pn	00 10 59.9	+0.9
HUMP							Sn	00 11 18.4	-1.2
HUMP						IAML		00 11 21.4	
	comp=N,2μm,0.6s								
HUMP						IAML		00 11 22.4	
	comp=E,2μm,0.2s								
EMPR	Esperanza - Ma	1.75	229	Pn			Pb	00 11 01.9	-0.8
EMPR				Sn			Sn	00 11 22.5	-0.1
EMPR				IAML				00 11 33.3	
	comp=N,1μm,0.6s								
EMPR				IAML				00 11 40.8	
	comp=E,2μm,0.6s								
SJG	San Juan	1.80	213	Pn			Pn	00 11 02.3	+1.1
SJG				Sn			Sn	00 11 23.5	-0.1
SJG				IAML				00 11 25.2	
	comp=E,2μm,0.4s								
SJG				IAML				00 11 30.4	
	comp=E,1μm,0.4s								
SJG	San Juan	1.80	213	Pn			Pn	00 11 02.3	+1.1
	comp=E,109nm,0.3s,baz=47,slow=10,SNR=268								
SJG				Sn			Sn	00 11 23.9	+0.3
	comp=E,368nm,0.3s,baz=221,slow=19,SNR=26								
SJG				LR			LR	00 12 24.2	
	comp=E,558nm,18.2s,baz=30,slow=64								
SJG	San Juan	1.80	213	eP			Pn	00 11 02.1	+0.9
SJG				eS			Sn	00 11 23.8	+0.2
PDPR	Patillas Dam,	1.82	208	Pn			Pn	00 11 02.6	+1.2
IGPR	InterUniversit	1.90	209	Pn			Pn	00 11 03.7	+1.1
IGPR				Sn			Sn	00 11 26.1	0.0
IGPR				IAML				00 11 28.4	
	comp=E,4μm,0.3s								
IGPR				IAML				00 11 30.5	
	comp=N,2μm,0.5s								
AOPR	Arecibo Observ	2.00	230	Pn			Pn	00 11 04.7	+0.7
AOPR				Sn			Sn	00 11 27.9	-0.8
AOPR				IAML				00 11 34.4	
	comp=N,2μm,0.4s								
AOPR				IAML				00 11 46.1	
	comp=E,3μm,0.5s								
AOPR	Arecibo Observ	2.00	230	⇑	ePg		Pn	00 11 04.9	+0.9
AOPR				⇑	eSg		Sn	00 11 29.2	+0.5
AOPR				IAML				00 11 34.3	
	comp=N,2μm,0.4s								
AOPR				IAML				00 11 46.0	
	comp=E,3μm,0.4s								
AOPR	Arecibo Observ	2.00	230	eP			Pn	00 11 04.4	+0.4
AOPR				eS			Sn	00 11 28.1	-0.6
UUPR	Utuado, UPR, P	2.04	228	Pn			Pn	00 11 05.3	+0.8
UUPR				Sn			Sn	00 11 29.6	0.0
CELP	Cerrillos	2.07	222	Pn			Pn	00 11 06.0	+1.0
CELP				Sn			Sn	00 11 31.1	+0.7
CELP	Cerrillos	2.07	222	⇓	ePg		Pn	00 11 06.2	+1.2
CELP				IAML				00 11 36.0	
	comp=E,655nm,0.4s								
CELP				IAML				00 11 46.7	
	comp=N,551nm,0.5s								
OBIP	Obispado Ponce	2.11	222	Pn			Pn	00 11 06.6	+1.1
OBIP				Sn			Sn	00 11 31.5	+0.1
AGPR	Aguadilla, PR	2.20	238	Pn			Pn	00 11 07.2	+0.4
AGPR				Sn			Sn	00 11 33.3	-0.4
AGPR	Aguadilla, PR	2.20	238	i	P		Pn	00 11 07.4	+0.6
AGPR				IAML				00 11 42.8	
	comp=Z,309nm,0.2s								
GBPR	Guanica, Bosqu	2.34	225				Pn	00 11 10.6	+2.0
GBPR							Sn	00 11 38.7	+1.7
LSP	Las Mesas	2.35	232				Pn	00 11 10.8	+1.9
LSP							Sn	00 11 39.9	+2.5
PRSN	Puerto Rico Se	2.37	234	Pn			Pn	00 11 09.8	+0.8
PRSN				IAML				00 11 46.3	
	comp=N,1μm,0.3s								
PRSN				IAML				00 11 50.3	
	comp=E,1μm,0.3s								
MLPR	Magueyes Islan	2.46	228	Pn			Pn	00 11 11.0	+0.7
MLPR				Sn			Sn	00 11 39.7	-0.2
MLPR	Magueyes Islan	2.46	228	⇑	ePg		Pn	00 11 11.7	+1.4
MLPR				⇑	eSg		Sb	00 11 42.9	-1.8
MLPR				IAML				00 11 45.7	
	comp=E,526nm,0.7s								
MLPR				IAML				00 11 46.5	
	comp=N,391nm,0.3s								
CRPR	Cabo Rojo, PR	2.48	229	Pn			Pn	00 11 11.8	+1.2
CRPR				Sn			Sn	00 11 40.2	-0.2
CRPR	Cabo Rojo, PR	2.48	229	⇑	ePg		Pn	00 11 11.4	+0.9
CRPR				⇑	eSg		Sn	00 11 42.5	+2.1
CRPR				IAML				00 11 44.2	
	comp=E,402nm,0.4s								
CRPR				IAML				00 11 53.8	
	comp=N,423nm,0.5s								
CRPR	Cabo Rojo, PR	2.48	229	i	P		Pn	00 11 12.0	+1.5
CRPR				IAML				00 11 43.9	
	comp=Z,607nm,0.6s								
SMRT	St. Maarten	2.51	129	Pn			Pn	00 11 10.6	-0.3
SMRT				Sn			Sn	00 11 39.6	-1.6
IDE	Isla Desecheo	2.54	241				Pn	00 11 12.3	+0.8
IDE							Sn	00 11 42.0	0.0
SABA	Saba	2.69	138	Pn			Pn	00 11 13.8	+0.3
SABA				Sn			Sn	00 11 45.6	-0.1
SABA				IAML				00 12 09.3	
	comp=N,2μm,0.6s								
SEUS	St. Eustatius	2.95	136	Pn			Pn	00 11 17.1	+0.1
SEUS				IAML				00 12 07.3	
	comp=E,2μm,0.4s								
SEUS				IAML				00 12 07.8	
	comp=N,2μm,0.5s								
SKI	Saint Kitts	3.23	135	eP			Pn	00 11 20.8	0.0
SKI				eS			Sn	00 11 58.2	-0.7
SKOC	St. Kitts, UWI	3.26	135	eP			Pn	00 11 21.8	+0.5
SKOC				eS			Sn	00 11 59.2	-0.6
PCDR	Punta Cana, DR	3.27	251	Pn			Pn	00 11 22.6	+1.2
PCDR				Sn			Sn	00 11 59.1	-0.9
PCDR				IAML				00 12 01.6	
	comp=E,422nm,0.7s								
PCDR				IAML				00 12 09.2	
	comp=N,1μm,0.7s								
PCDR	Punta Cana, DR	3.27	251	IAML				00 12 07.9	
	comp=Z,293nm,1.2s								
PCDR				IAML				00 12 08.9	
	comp=N,902nm,0.8s								
PCDR	Punta Cana, DR	3.27	251	i	P		Pn	00 11 22.8	+1.4
PCDR				eS			Sn	00 12 00.8	+0.8
PCDR				IAML				00 12 10.7	
	comp=Z,441nm,0.8s								
HIDR	Higuey Centro	3.55	254	⇑	ePg		Pn	00 11 26.1	+0.9
HIDR				⇑	eSg		Sn	00 12 04.6	-2.2
HIDR				IAML				00 12 07.0	
	comp=N,415nm,0.8s								
HIDR				IAML				00 12 12.7	
	comp=E,375nm,0.2s								
ANWB	Willy Bob	3.73	121	Pn			Pn	00 11 26.9	-0.9
ANWB				IAML				00 12 10.4	
	comp=E,570nm,0.7s								
ANWB				IAML				00 12 11.9	
	comp=E,517nm,0.5s								
ANWB	Willy Bob	3.73	121	eP			Pn	00 11 25.9	-1.8
ANWB				eS			Sn	00 12 07.7	-3.6
MIDR	Miches	3.76	261	IAML				00 12 16.1	
	comp=E,113nm,0.8s								
MIDR				IAML				00 12 17.9	
	comp=N,159nm,1.1s								
MBFL	Flemmings, Mon	3.99	136	eP			Pn	00 11 31.7	+0.3
MBFL	Flemmings, Mon	3.99	136	eS			Sn	00 12 17.5	-0.4
HATOM	Hato Mayor del	4.10	259	⇑	ePg		Pn	00 11 33.7	+0.7
HATOM				⇑	eSg		Sn	00 12 19.3	-1.4
HATOM				IAML				00 12 28.7	
	comp=N,141nm,0.6s								
HATOM				IAML				00 12 28.7	
	comp=N,136nm,0.6s								
ANBD	Bethesda, Anti	4.11	128	i	P		Pn	00 11 32.1	-0.8
ANBD				eS			Sn	00 12 17.0	-3.6
GDHS	Morne Mazeau,	4.63	136	Pn			Pn	00 11 39.9	-0.3
SDD	Santo Domingo	4.67	256	Pn			Pn	00 11 41.7	+0.9
SDD				Sn			Sn	00 12 32.4	-2.2
SDD	Santo Domingo	4.67	256	i	P		Pn	00 11 42.6	+1.9
SDD				eS			Sn	00 12 33.1	-1.6
ABD	La Joyeuse, An	4.68	132	Pn			Pn	00 11 40.1	-0.8
ABD				IAML				00 12 46.7	
	comp=E,510nm,0.6s								
CBE	Ff, Capester	4.88	136	Pn			Pn	00 11 43.9	+0.2
CBE				Sn			Sn	00 12 36.7	-3.2
TBG	Guadaloupe-3	5.02	138	i	P		Pn	00 11 46.5	+1.0
TBG	Guadaloupe-3	5.02	138	eS			Sn	00 12 42.8	-0.4
TDBA	Terre de Bas,	5.03	138	Pn			Pn	00 11 46.5	+0.9
GDSD	La Dsirade Is	5.09	130	Pn			Pn	00 11 45.1	-1.4
GDSD				IAML				00 12 42.7	
	comp=E,221nm,0.3s								
GDSD				IAML				00 12 55.6	
	comp=N,214nm,0.3s								
SC01	Santiago de lo	5.28	269	i	P		Pn	00 11 51.4	+2.3
SC01				IAML				00 12 58.6	
	comp=Z,251nm,0.8s								
SDDR	Presa de Saban	5.85	265	Pn			Pn	00 11 58.2	+1.2
SDDR	Presa de Saban	5.85	265	eP			Pn	00 11 58.7	+1.7
SDDR	Presa de Saban	5.85	265	i	P		Pn	00 11 58.9	+1.9
SDDR				eS			Sn	00 13 03.2	-0.6
SDDR				IAML				00 13 06.3	
	comp=Z,141nm,1.2s								
GRTK	Grand Turk	5.92	289	Pn			Pn	00 11 56.7	-1.3
GRTK	Grand Turk	5.92	289	i	P		Pn	00 11 56.9	-1.0
GRTK				eS			Sn	00 12 58.9	-6.6
GRTK				IAML				00 13 09.3	
	comp=Z,58nm,0.6s								
PODR	Polo	6.00	257	i	P		Pn	00 12 01.5	+2.2
PODR				IAML				00 13 12.3	
	comp=Z,127nm,0.5s								
LONE3	El Aguacate, B	6.07	261	i	P		Pn	00 12 02.5	+2.4
LONE3				IAML				00 13 16.3	
	comp=Z,81nm,0.9s								
LODU1	El Espartillar	6.13	259	i	P		Pn	00 12 03.5	+2.6
LODU1				IAML				00 13 24.4	
	comp=Z,122nm,0.7s								
FDF	Fort de France	6.18	141	Pn			Pn	00 12 02.1	+0.5
LOVI	El Cajuil, Ovi	6.19	254	i	P		Pn	00 12 02.8	+1.2
LOVI				eS			Sn	00 13 08.4	-3.5
LOVI				IAML				00 13 19.6	
	comp=Z,178nm,0.8s								
BIM	Bigot	6.40	142	Pn			Pn	00 12 05.1	+0.6
BIM	Bigot	6.40	142	eP			Pn	00 12 05.3	+0.7
BIM	Bigot	6.40	142	eS			Sn	00 13 14.8	-2.6
LOBH	Bahia de las A	6.41	255	i	P		Pn	00 12 06.3	+1.7
LOBH				IAML				00 13 23.9	
	comp=Z,66nm,1.4s								
MPOM	Morne Pois Mar	6.58	141	Pn			Pn	00 12 07.8	+0.8
SLBI	Saint Lucia, B	6.86	144	eP			Pn	00 12 11.4	+0.6
SLBI	Saint Lucia, B	6.86	144	eS			Sn	00 13 29.5	+1.1
PAPH	Port-au-Prince	6.87	262	Pn			Pn	00 12 11.9	+0.9
PAPH	Port-au-Prince	6.87	262	i	P		Pn	00 12 12.8	+1.8
SVB	Belmont	7.34	149	eP			Pn	00 12 18.1	+0.6
SVT	Saint Vincent	7.43	149	eP			Pn	00 12 18.8	+0.1
HATO	Hato, Curacao	8.28	207	Pn			Pn	00 12 31.0	+0.7
BBGH	Gun Hill	8.38	140	Pn			Pn	00 12 33.6	+1.9
MASC	Masc	8.58	275	i	P		Pn	00 12 32.6	-1.8
MASC				eS			Sn	00 14 01.4	-9.5
MASC				IAML				00 14 07.5	
	comp=Z,40nm,3.4s								
NMDO	Nuevo Mundo	9.30	277	Pn			Pn	00 12 41.0	-3.4
TOSP	Speyside	9.40	151	eP			Pn	00 12 49.2	+3.6
TOSP	Speyside	9.40	151	eS			Sn	00 14 35.5	+4.5
GTBY	Guantanamo Bay	9.40	273	i	P		Pn	00 12 43.3	-2.4
GTBY				eS			Sn	00 14 21.6	-10
GTBY				IAML				00 14 27.9	
	comp=Z,35nm,2.5s								
PCRV	Puerto La Cruz	9.42	177	Pn			Pn	00 12 47.1	+1.1
	comp=Z,1.7nm,0.3s,baz=340,slow=5.6,SNR=7.8								
PCRV				Sn			Sn	00 14 27.2	-4.4
	comp=Z,1.8nm,0.3s,baz=98,slow=2.5,SNR=3.

ETMB	**Extrema**	**29.29 182**	*eP*	**P**		**00 16 32.5**	**-0.1**
VILB	**Vilhena**	**32.75 171**	*eP*	**P**		**00 17 03.9**	**+0.8**
SMTB	**Santa Maria do**	**33.17 147**	*eP*	**P**		**00 17 08.7**	**+1.8**
PTLB	**Pontes e Lacer**	**35.36 170**	*eP*	**P**		**00 17 26.2**	**+0.5**
ECSD	**EROS Data Cent**	**35.63 319**		**P**		**00 17 27.6**	**-0.4**
ECSD			IAmb	IAmb		00 18 42.3	
	comp=Z,55nm,1.9s						
LPAZ	**La Paz**	**35.82 185**	P	**P**		**00 17 30.8**	**+0.4**
	comp=Z,3.8nm,0.3s,baz=292,slow=4.6,SNR=5.8						
	comp=Z,3.8nm,0.3s						
TXAR	**Lajitas Array**	**36.23 293**	P	**P**		**00 17 34.7**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=104,slow=10,SNR=4.2						
	comp=Z,0.3nm,0.7s						
BBSD	**Serra de San D**	**36.86 173**	*eP*	**P**		**00 17 37.9**	**-0.8**
SDBA	**SAO DESIDERIO**	**37.56 146**	*eP*	**P**		**00 17 46.4**	**+1.7**
BDFB	**Brasilia**	**38.89 153**	P	**P**		**00 17 55.7**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=46,slow=27,SNR=2.0						
BDFB			LR	LR		00 34 49.9	
	comp=Z,54nm,21.8s,baz=332,slow=38						
	comp=Z,2.0nm,0.6s						
ULM	**Lac du Bonnet**	**39.09 329**	LR	LR		00 35 08.9	
	comp=Z,82nm,19.4s,baz=120,slow=38						
GO01	**Chusmiza**	**39.26 186**	P	**P**		**00 17 56.5**	**-2.9**
GO01			IAmb	IAmb		00 17 58.9	
	comp=Z,49nm,2.0s						
PB11	**IPOC Station P**	**39.40 187**	P	**P**		**00 17 57.2**	**-3.0**
PB11			IAmb	IAmb		00 18 03.6	
	comp=Z,12nm,0.8s						
ANMO	**Albuquerque**	**39.47 301**	LR	LR		00 36 17.8	
	comp=Z,44nm,19.2s,baz=270,slow=39						
PB08	**IPOC Station P**	**39.73 186**	P	**P**		**00 18 00.9**	**-2.3**
PB08			IAmb	IAmb		00 18 23.4	
	comp=Z,32nm,1.6s						
HMBC	**Humberstone**	**39.94 187**	P	**P**		**00 18 01.6**	**-3.1**
HMBC			IAmb	IAmb		00 18 11.7	
	comp=Z,44nm,1.5s						
JANB	**Januaria**	**40.10 148**	*eP*	**P**		**00 18 08.7**	**+2.7**
PB01	**IPOC Station P**	**40.65 186**	P	**P**		**00 18 07.5**	**-3.0**
PB01			IAmb	IAmb		00 18 08.7	
	comp=Z,20nm,1.3s						
GDU01	**Guandu, BA**	**41.61 141**	*eP*	**P**		**00 18 21.3**	**+2.9**
PV03	**Paradox Valley**	**42.07 306**	P	**P**		**00 18 21.2**	**-1.0**
PV11	**David Mesa, Pa**	**42.10 306**	P	**P**		**00 18 20.7**	**-1.8**
PV23	**Carpenter Ridg**	**42.24 306**	P	**P**		**00 18 22.3**	**-1.4**
DIAM	**Diamantina, MG**	**43.18 149**	*eP*	**P**		**00 18 34.1**	**+2.8**
PDAR	**Pinedale Array**	**43.81 312**	P	**P**		**00 18 37.1**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=114,slow=9.4,SNR=4.3						
PDAR			LR	LR		00 38 28.3	
	comp=Z,33nm,19.3s,baz=74,slow=38						
	comp=Z,0.4nm,0.6s						
FRB	**Frobisher Bay**	**44.14 358**	LR	LR		00 37 27.8	
	comp=Z,36nm,18.5s,baz=106,slow=37						
CPUP	**Villa Florida**	**46.32 170**	P	**P**		**00 18 54.2**	**-1.7**
	comp=Z,1.3nm,0.5s,baz=2.3,slow=6.9,SNR=3.5						
CPUP			LR	LR		00 39 19.8	
	comp=Z,52nm,18.2s,baz=358,slow=37						
	comp=Z,1.3nm,0.5s						
ELK	**Elko**	**47.43 308**	LR	LR		00 41 34.4	
	comp=Z,33nm,18.1s,baz=91,slow=39						
PLID	**Pearl Lake**	**48.92 313**	P	**P**		**00 19 16.3**	**-0.2**
NVAR	**Mina Array Bea**	**49.42 304**	P	**P**		**00 19 21.6**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=101,slow=8.2,SNR=4.7						
	comp=Z,0.5nm,0.6s						
CO01	**Juntas del Tor**	**49.56 186**	P	**P**		**00 19 20.4**	**-1.0**
CO01			IAmb	IAmb		00 21 12.9	
	comp=Z,33nm,1.9s						
NEW	**Newport**	**50.48 317**	P	**P**		**00 19 26.5**	**-1.5**
NEW			IAmb	IAmb		00 20 57.4	
	comp=Z,11nm,1.5s						
NEW	**Newport**	**50.48 317**	LR	LR		00 41 12.5	
	comp=Z,49nm,19.7s,baz=98,slow=36						
MT09	**Talagante**	**53.41 186**	P	**P**		**00 19 49.9**	**-0.1**
MT09			IAmb	IAmb		00 21 04.9	
	comp=Z,26nm,1.7s						
LLLB	**Lillooet**	**54.07 319**	P	**P**		**00 19 56.0**	**+1.3**
LLLB			IAmb	IAmb		00 20 48.9	
	comp=Z,23nm,1.6s						
BO02	**Sierra Bellavi**	**54.39 186**	P	**P**		**00 19 56.0**	**-1.1**
BO02			IAmb	IAmb		00 21 03.5	
	comp=Z,13nm,1.4s						
YKA	**Yellowknife Ar**	**54.53 334**	LR	LR		00 43 52.6	
	comp=Z,59nm,18.8s,baz=286,slow=37						
ESDC	**Sonseca Array**	**55.72 55**	P	**P**		**00 20 07.3**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=264,slow=7.1,SNR=14						
ESDC			LR	LR		00 38 07.1	
	comp=Z,14nm,20.8s,baz=274,slow=30						
	comp=Z,1.7nm,0.8s						
DBIC	**Dimbokro**	**59.82 94**	LR	LR		00 41 16.0	
	comp=Z,26nm,21.2s,baz=310,slow=31						
PLCA	**Paso Flores**	**60.27 185**	P	**P**		**00 20 37.6**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=358,slow=4.2,SNR=3.8						
	comp=Z,2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**64.10 85**	P	**P**		**00 21 04.7**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=304,slow=7.5,SNR=4.4						
	comp=Z,1.0nm,0.9s						
M30M	**Minto, Yukon**	**64.32 331**	P	**P**		**00 21 05.4**	**0.0**
M30M			IAmb	IAmb		00 21 18.2	
	comp=Z,30nm,2.0s						
FUORN	**Ofenpass-Fuorn**	**66.06 47**	P	**P**		**00 21 18.3**	**+1.0**
FUORN			IAmb	IAmb		00 21 45.2	
	comp=Z,17nm,2.0s						
NOA	**NORSAR Array B**	**66.42 31**	LR	LR		00 48 37.3	
	comp=Z,16nm,18.4s,baz=70,slow=34						
L27K	**Beaver Creek,**	**66.66 331**	P	**P**		**00 21 20.5**	**-0.1**
L27K			IAmb	IAmb		00 23 19.5	
	comp=Z,30nm,2.0s						
ZCCA	**Zocca**	**66.73 49**	P	**P**		**00 21 20.8**	**-0.6**
GERES	**GERESS Array B**	**68.20 44**	LR	LR		00 47 06.0	
	comp=Z,15nm,19.7s,baz=95,slow=32						
FDMO	**Fiordimonte**	**68.39 51**	P	**P**		**00 21 30.8**	**-1.1**
ILAR	**Eielson Array**	**68.92 333**	LR	LR		00 53 35.2	
	comp=Z,34nm,19.6s,baz=256,slow=38						
VRAC	**Vranov**	**70.04 44**	LR	LR		00 46 34.3	
	comp=Z,16nm,21.5s,baz=245,slow=31						
P08K	**Saint George I**	**81.46 327**	P	**P**		**00 22 48.2**	**+1.1**
MBAR	**Mbarara**	**95.73 89**	LR	LR		01 08 10.6	
	comp=Z,11nm,18.1s,baz=284,slow=36						
MA2	**Magadan**	**95.80 343**	LR	LR		01 09 13.1	
	comp=Z,14nm,20.0s,baz=102,slow=37						
PZH	**PanZhihua**	**132.40 16**	PKP	PKPdf		00 29 37.0	-8.2
ASAR	**Alice Springs**	**161.86 254**	PKPab	**PKPab**		**00 31 17.6**	**-0.2**
	comp=Z,0.8nm,1.0s,baz=104,slow=4.3,SNR=5.4						

IDC 14 00:12:47.3±9.1, 19°.85S×179°.12W, h568km±52km, mb2.9/2, mbtmp3.9/3, Error ellipse: s-maj=247.4km s-min=95.7km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.41**	**308**	P	P	00 14 06.4	-0.1
	36nm,0.7s,baz=146,slow=5.0,SNR=13						
ASAR	**Alice Springs**	**43.65**	**256**	P	P	00 20 02.5	-0.2
	1.9nm,0.8s,baz=95,slow=7.9,SNR=15						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**43.65**	**262**	P	P	00 20 02.7	-0.1
	0.9nm,0.6s,baz=97,slow=7.6,SNR=12						
	0.9nm,0.6s						
AKASG	**Malin Array Be**	**141.94**	**331**	PKP	PKPdf	00 31 13.4	-1.5
	1.9nm,0.5s,baz=60,slow=1.9,SNR=9.7						

HEL 14 00:20:00.2±0.2, 67°.82N×20°.15E, h0km, ML1.4, Explosion

UPP 14 00:20:00.0±0.0, 67°.82N×20°.21E, h0km, ML2.1, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**20**	P	Pg	00 20 02.9	+0.2
KUA				S	Sg	00 20 05.1	+0.5
RATU	**Laukkuluspa**	**0.23**	**271**	P	Pg	00 20 04.7	+0.2
KOVU	**Salmi**	**0.40**	**357**	P	Pg	00 20 07.7	0.0
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 20 13.4	-0.3
LANU	**Lannavaara**	**0.71**	**71**	PG	Pg	00 20 13.2	-0.4
LANU				SG	Sg	00 20 23.1	+0.3
DUNU	**Dundret**	**0.72**	**169**	P	Pg	00 20 13.4	-0.3
MASU	**Masugnsbyn**	**0.78**	**117**	P	Pg	00 20 14.8	0.0
KIF	**Kilpisjarvi**	**1.21**	**10**	*eP*	Pg	00 20 23.2	+0.1
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 20 25.2	-1.1
PAJU	**Pajala**	**1.38**	**124**	PG	Pg	00 20 25.1	-1.3
PAJU				SG	Sg	00 20 43.6	-0.6
HEF	**Hetta**	**1.42**	**64**	*eP*	Pn	00 20 26.2	-0.8
HEF	**Hetta**	**1.42**	**64**	PG	Pn	00 20 26.1	-1.0
HEF				MSG		00 20 43.8	
	comp=Z,2.5nm,0.2s						
HEF				SN	Sg	00 20 45.4	-0.2
ERTU	**Ertsjaerv**	**1.49**	**148**	P	Pn	00 20 27.1	-0.9
ERTU	**Ertsjaerv**	**1.49**	**148**	PG	Pn	00 20 27.2	-0.7
ERTU				SN	Sg	00 20 47.7	-0.1
KLF	**Kolari**	**1.56**	**110**	PN	Pn	00 20 28.7	-0.2
KLF				MSG		00 20 47.4	
	comp=Z,3.0nm,0.2s						
KLF				SN	Sn	00 20 49.4	-0.4
KTK1	**Kautokeino**	**1.64**	**42**	PG	Pn	00 20 29.9	-0.1
KTK1				SN	Sg	00 20 53.3	+0.7
HARU	**Harads**	**1.69**	**169**	P	Pn	00 20 30.6	-0.2
TRO	**Tromso**	**1.88**	**346**	PG	Pn	00 20 33.9	+0.6
TRO				SG	Sb	00 20 59.1	+0.1
KALU	**Kalix**	**2.33**	**146**	PG	Pn	00 20 40.7	+1.2
KALU				SG	Sb	00 21 11.2	-0.8
TOF	**Tornio**	**2.38**	**135**	PB	Pn	00 20 41.8	+1.6
TOF				MSG		00 21 11.2	
	comp=Z,1.5nm,0.2s						
TOF				SG	Sb	00 21 12.6	-1.0
RNF	**Rovaniemi**	**2.57**	**116**	PB	Pb	00 20 44.8	-2.0
RNF				SB	Sb	00 21 17.8	-1.1
KMNF	**Kaamanen**	**2.83**	**59**	PB	Pb	00 20 49.1	-2.3
KMNF				SN	Sn	00 21 21.1	-0.1
RAJF	**Raja-Jooseppi**	**3.10**	**74**	SB	Sb	00 21 33.3	-1.0
KEV	**Kevo**	**3.14**	**49**	PB	Pn	00 20 52.6	+1.9
KEV				SB	Sb	00 21 34.4	-1.0
RANF	**Ranua**	**3.16**	**122**	SG	Sb	00 21 37.2	+1.1
OLKF	**Oulanka, Finla**	**3.90**	**108**	SG	Sb	00 21 57.8	+0.6

IDC 14 00:36:18.5±0.8, 21°.50N×144°.27E, h0km, mb3.7/12, mbtmp3.7/13, ML3.2/1, MS3.2/12, Error ellipse: s-maj=30.5km s-min=18.5km az=80.0

ISC 14 00:36:23.5±0.8, 21°.5N±0°.1×144°.2E±0°.2, h33km, n29, σ0°56/15, mb3.7/12, MS3.2/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.91**	**175**	LR	LR	00 40 47.6	
	comp=Z,116nm,18.2s,baz=78,slow=34						
MJAR	**Matsushiro Arr**	**15.86**	**342**	Pn	**Pn**	**00 40 03.2**	**-1.2**
	0.1nm,0.3s,baz=154,slow=11,SNR=1.9						
	1.0nm,0.5s						
KSRS	**Korea Array**	**21.25**	**322**	LR	LR	00 48 36.7	
	comp=Z,42nm,20.5s,baz=95,slow=35						
H11N1	**WAKE ISLAND Hy**	**21.29**	**91**	T	T	01 03 04.0	
	baz=278,slow=75,SNR=18						
H11N2	**WAKE ISLAND Hy**	**21.30**	**91**	T	T	01 03 03.0	
	baz=278,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**21.31**	**91**	T	T	01 03 03.7	
	baz=278,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hy**	**21.32**	**94**	T	T	01 03 07.8	
	baz=282,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**21.33**	**94**	T	T	01 03 03.8	
	baz=282,slow=75,SNR=34						
H11S2	**WAKE ISLAND Hy**	**21.34**	**94**	T	T	01 03 05.7	
	baz=282,slow=75,SNR=21						
ASAJ	**Asahikawa**	**22.58**	**357**	LR	LR	00 52 19.0	
	comp=Z,19nm,19.3s,baz=215,slow=42						
DAV	**Davao City (W)**	**23.04**	**234**	LR	LR	00 48 26.0	
	comp=Z,41nm,21.7s,baz=1.5,slow=32						
USRK	**Ussuriysk Ar.**	**24.79**	**339**	P	**P**	**00 41 42.5**	**+0.2**
	0.5nm,0.5s,baz=146,slow=8.6,SNR=1.8						
	0.5nm,0.5s						
SONM	**Songino Array**	**40.10**	**320**	P	**P**	**00 43 56.9**	**+0.9**
	0.3nm,0.5s,baz=123,slow=8.1,SNR=2.5						
SONM				LR	LR	01 01 07.7	
	comp=Z,38nm,18.1s,baz=227,slow=37						
	0.3nm,0.5s						
YAK	**Yakutsk**	**41.71**	**350**	LR	LR	01 02 50.8	
	comp=Z,15nm,21.1s,baz=146,slow=38						
WRA	**Warramunga Arr**	**42.32**	**194**	P	**P**	**00 44 14.1**	**-0.3**
	1.5nm,0.5s,baz=16,slow=8.8,SNR=10						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**46.02**	**193**	P	**P**	**00 44 44.0**	**0.0**
	0.7nm,0.5s,baz=16,slow=8.8,SNR=9.0						
ASAR				LR	LR	01 03 34.4	
	comp=Z,28nm,18.4s,baz=81,slow=36						
	0.7nm,0.5s						
DZM	**Mont Dzumac**	**48.44**	**152**	LR	LR	01 02 44.3	
	comp=Z,61nm,19.4s,baz=268,slow=33						
ZALV	**Zalesovo Beam**	**54.95**	**322**	P	**P**	**00 45 51.6**	**+0.5**
	0.5nm,0.5s,baz=102,slow=7.7,SNR=2.7						
ZALV				LR	LR	01 09 10.7	
	comp=Z,22nm,19.1s,baz=70,slow=36						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**55.53**	**313**	P	**P**	**00 45 55.9**	**+0.4**
	0.6nm,1.0s,baz=92,slow=7.7,SNR=2.1						
	0.6nm,1.0s						
KDAK	**Kodiak Island**	**57.80**	**34**	LR	LR	01 08 05.4	
	comp=Z,32nm,21.7s,baz=82,slow=33						
KURBB	**Kurchatov Arra**	**58.32**	**317**	P	**P**	**00 46 15.1**	**-0.1**
	0.9nm,0.6s,baz=94,slow=7.6,SNR=8.3						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**61.76**	**27**	P	**P**	**00 46 38.8**	**+0.3**
	0.4nm,0.7s,baz=260,slow=6.3,SNR=3.2						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**63.44**	**320**	P	**P**	**00 46 50.3**	**+0.4**
	1.5nm,0.5s,baz=88,slow=7.1,SNR=4.7						
	1.5nm,0.5s						
NVAR	**Mina Array Bea**	**82.50**	**52**	P	**P**	**00 48 43.7**	**+0.3**
	0.2nm,0.3s,baz=293,slow=5.0,SNR=1.6						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**83.76**	**335**	P	**P**	**00 48 48.2**	**-0.9**
	0.9nm,0.8s,baz=66,slow=6.5,SNR=3.5						
	0.9nm,0.8s						
PDAR	**Pinedale Array**	**86.84**	**45**	P	**P**	**00 49 05.4**	**+0.2**
	0.1nm,0.3s,baz=298,slow=3.4,SNR=1.4						
PDAR				LR	LR	01 23 41.8	
	comp=Z,19nm,18.9s,baz=310,slow=33						
	0.1nm,0.3s						
NOA	**NORSAR Array B**	**89.46**	**339**	LR	LR	01 32 21.9	
	comp=Z,11nm,18.1s,baz=290,slow=38						
PLCA	**Paso Flores**	**144.91**	**131**	PKP	**PKPbc**	**00 55 56.5**	**-0.1**
	3.2nm,0.9s,baz=221,slow=5.9,SNR=7.5						
LPAZ	**La Paz**	**148.99**	**86**	PKPbc	**PKPbc**	**00 56 09.5**	**-0.2**
	0.8nm,0.5s,baz=26,slow=6.4,SNR=2.2						

DJA 14 00:57:29.7±0.4, 8°.S±4°.×11°.6E±°, h10km, M3.3/10, MLv3.3/10

IDC 14 00:58:12.3±5.9, 11°.18S×119°.28E, h0km, mb3.8/1, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=269.1km s-min=32.2km az=54.0

ISC 14 00:57:32.8±1.3, 8°.3S±0°.1×116°.39E±0°.05, h35km, n12, σ1°39/14, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**1.18**	**279**	P	**Pn**	**00 57 51.1**	**-1.7**
SRBI				S	**Sn**	**00 58 07.3**	**-0.4**
DNP	**Denpasar**	**1.23**	**251**	P	**Pn**	**00 57 52.9**	**-0.6**
DNP				S	**Sn**	**00 58 12.3**	**+3.4**
PLAI	**Plampang**	**1.48**	**112**	P	**Pn**	**00 57 56.3**	**-0.6**
PLAI				S	**Sn**	**00 58 16.3**	**+1.3**
ABJI	**Asem Bagus**	**2.19**	**283**	P	**Pn**	**00 58 06.7**	**0.0**
JAGI	**Jajag, Banyuwa**	**2.22**	**265**	P	**Pn**	**00 58 06.4**	**-0.8**
KMMI	**Kalianget**	**2.69**	**297**	P	**Pn**	**00 58 14.9**	**+1.2**
BLJI	**Banyuglugur**	**2.82**	**281**	P	**Pn**	**00 58 15.1**	**-0.3**
GMJI	**Gumukmas**	**2.92**	**270**	P	**Pn**	**00 58 15.7**	**-1.0**
WBSI	**Waikabubak, Su**	**3.26**	**115**	P	**Pn**	**00 58 21.5**	**0.0**
WRA	**Warramunga Arr**	**20.89**	**126**	Pn	**P**	**01 02 11.5**	**-0.7**
	0.1nm,0.3s,baz=301,slow=12,SNR=5.8						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**22.71**	**134**	P	**P**	**01 02 31.1**	**-0.7**
	0.2nm,0.3s,baz=316,slow=9.2,SNR=4.8						
	0.3nm,0.4s						
SONM	**Songino Array**	**56.57**	**352**				
	1.0nm,0.9s						

DJA 14 00:59:12.5±0.3, 3°.S±2°.×12°.0E±°, h10km, M3.5/11, MLv3.5/11

ISC 14 00:59:15.4±1.4, 2°.97S±0°.06×119°.6E±0°.1, h35km, n8, σ2°74/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.19**	**114**	P	**Pn**	**00 59 20.0**	**-2.2**
TTSI				S	**Sn**	**00 59 22.7**	**-4.1**
SPSI	**Sidrap Palu**	**1.00**	**173**	P	**Pn**	**00 59 31.5**	**-1.5**
BNSI	**Bone**	**1.50**	**162**	P	**Pn**	**00 59 41.3**	**+1.5**
BNSI				S	**Sn**	**01 00 02.3**	**+4.2**
PCI	**Palu**	**2.06**	**5**	P	**Pn**	**00 59 48.9**	**+1.4**
APSI	**Ampana**	**2.86**	**45**	P	**Pn**	**01 00 00.3**	**+1.7**
KDI	**Kendari**	**3.13**	**108**	P	**Pn**	**01 00 04.3**	**+2.0**
LUWI	**Luwuk**	**3.67**	**59**	P	**Pn**	**01 00 09.3**	**-0.3**
SONM	**Songino Array**	**51.91**	**349**	P	**P**	**01 08 19.9**	**-0.8**
	1.0nm,0.9s,baz=175,slow=8.0,SNR=4.4						

TIR 14 01:13:29.8, 37°.64N×19°.70E, h18km±2km, Md4.5, Ml4.0

IDC 14 01:13:31.6±1.0, 37°.72N×20°.52E, h0km, mb4.0/11, mbtmp3.8/19, ML3.6/6, MS3.0/12, Error ellipse: s-maj=18.6km s-min=14.6km az=168.0

BEO 14 01:13:31.7±4.6, 37°.30N×20°.03E, h53km±1km, ML3.7/9

PDG 14 01:13:32.4±0.4, 37°.63N×20°.32E, h21km, ML3.8/11, Error ellipse: s-maj=0.9km s-min=1.2km az=0.0

NEIC 14 01:13:33.2±1.9, 37°.66N±0°.06×20°.30E±0°.07, h10km±1km, mb4.5/17, Error ellipse: s-maj=10.5km s-min=9.2km az=199.0

THE 14 01:13:33.1, 37°.63N×20°.36E, h1km±3km, ML3.8/10, Error ellipse: s-maj=3.6km s-min=0.8km az=229.0

ATH 14 01:13:33.0, 37°.64N×20°.35E, h9km±1km, ML3.7/13, Error ellipse: s-maj=1.7km s-min=0.8km az=34.0

NAO 14 01:13:58.4, 40°.33N×21°.21E, h10km, mb3.9

ISC 14 01:13:33.2±1.0, 37°.66N±0°.03×20°.38E±0°.03, h15km±6km, n190, σ1°44/223, mb4.2/18, MS3.1/6, 22C-16D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.35**	**89**	P	**Pg**	**01 13 40.4**	**0.0**
KRI1				S	**Sg**	**01 13 45.5**	**+0.2**
	53μm,0.5s						
LTHK	**Lithakia**	**0.37**	**82**	P	**Pg**	**01 13 40.6**	**-0.1**
LTHK				S	**Sg**	**01 13 46.1**	**+0.3**
	45μm,0.4s						
LTHK	**Lithakia**	**0.37**	**82**	P	**Pg**	**01 13 40.5**	**-0.1**
LTHK				S	**Sg**	**01 13 45.7**	**-0.1**
LTHK				AML	AML	01 13 46.5	
LTHK				AML	AML	01 13 47.9	
	comp=N,43687μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.48**	**20**	P	**Pg**	**01 13 42.9**	**0.0**
PSDA				S	**Sg**	**01 13 49.5**	**+0.1**
	comp=N,12μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.48**	**20**	P	**Pg**	**01 13 42.7**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.52**	**37**	P	**Pg**	**01 13 43.6**	**+0.1**
RTZL				S	**Sb**	**01 13 51.5**	**+0.1**
	comp=N,10μm,0.5s						
LXR1	**Lixouri, Cepha**	**0.55**	**5**	P	**Pg**	**01 13 44.2**	**+0.2**
LXR1				S	**Sb**	**01 13 53.4**	**+1.3**
	comp=N,39μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.55**	**5**	P	**Pg**	**01 13 44.1**	**+0.1**
LXRA				S	**Sg**	**01 13 51.5**	**+0.2**
VLS	**Valsamata**	**0.55**	**18**	P	**Pg**	**01 13 43.6**	**-0.4**
VLS				S	**Sb**	**01 13 52.5**	**+0.3**
	comp=N,8μm,0.2s						
VLS	**Valsamata**	**0.55**	**18**	P	**Pg**	**01 13 43.1**	**-0.9**
VLS				S	**Sg**	**01 13 51.2**	**-0.1**
VLS				AML	AML	01 13 53.3	
	comp=N,16891μm,0.2s						
VLS				AML	AML	01 13 53.4	
	comp=E,13345μm,0.2s						
DMLN	**Damoulianata-K**	**0.58**	**360**	P	**Pg**	**01 13 44.7**	**0.0**
DMLN				S	**Sb**	**01 13 54.2**	**+1.1**
	comp=E,15μm,0.5s						
DMLN	**Damoulianata-K**	**0.58**	**360**	P	**Pg**	**01 13 44.6**	**-0.1**
DMLN				S	**Sg**	**01 13 53.0**	**+0.6**
SMHA	**Samh**	**0.63**	**20**	P	**Pg**	**01 13 44.8**	**-0.8**
VSK1	**VASILIKIADES**	**0.77**	**11**	P	**Pg**	**01 13 47.6**	**-0.5**
VSK1				S	**Sb**	**01 13 59.6**	**+1.1**
	comp=E,8μm,0.5s						
FSK	**Fiskardo**	**0.81**	**10**	P	**Pb**	**01 13 48.5**	**-0.6**
FSK				S	**Sg**	**01 14 00.9**	**+1.1**
	comp=E,4μm,0.6s						
FSK	**Fiskardo**	**0.81**	**10**	P	**Pb**	**01 13 48.4**	**-0.6**
FSK				S	**Sb**	**01 13 59.8**	**0.0**
FSK				AML	AML	01 14 08.7	
	comp=N,7831μm,0.7s						
FSK				AML	AML	01 14 08.9	
	comp=E,6008μm,0.3s						
RLS	**Riolos of Patr**	**0.95**	**65**	P	**Pb**	**01 13 51.2**	**-0.2**
RLS				S	**Sn**	**01 14 06.1**	**+0.8**
	comp=E,4μm,0.7s						
RLS	**Riolos of Patr**	**0.95**	**65**	P	**Pb**	**01 13 51.2**	**-0.2**
RLS				S	**Sg**	**01 14 04.7**	**+0.6**
RLS				AML	AML	01 14 09.4	
	comp=N,9228μm,0.7s						
RLS				AML	AML	01 14 10.0	
	comp=E,7038μm,0.7s						
EVGI	**Lefkada island**	**0.99**	**13**	P	**Pb**	**01 13 51.5**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.04**	**9**	P	**Pb**	**01 13 52.7**	**-0.2**
AMT	**Artemida-Makis**	**1.07**	**96**	P	**Pb**	**01 13 53.3**	**-0.1**
AMT				S	**Sn**	**01 14 08.2**	**0.0**
AMT				AML	AML	01 14 14.1	
	comp=E,27878μm,0.7s						
AMT				AML	AML	01 14 15.4	
	comp=N,19076μm,0.4s						
NYDR	**Nydri-Lefkada**	**1.08**	**13**	P	**Pb**	**01 13 53.7**	**+0.1**
LKD2	**Lefkada island**	**1.15**	**11**	AMP			
	comp=E,10.0nm,0.8s,baz=32						
LKD2	**Lefkada island**	**1.15**	**11**	P	**Pg**	**01 13 56.1**	**+0.7**
LKD2	**Lefkada island**	**1.15**	**11**	P	**Pg**	**01 13 55.5**	**+0.1**
LKD2				S

VLI	Veliai	2.25	114	P	Pb	01 14 12.9 -0.6
LSK	Leskovik	2.50	4	AMP		
comp=N,3.6nm,0.9s,baz=15						
SCTE	Santa Cesarea	2.83	329	Pn	Pn	01 14 18.4 +0.5
VLO	Vlora	2.89	347	AMP		
comp=E,3.3nm,0.7s,baz=357						
LIT	Litokhoron	2.95	33	Pn	Pn	01 14 21.1 +1.7
KBN	Korca	2.98	6	AMP		
comp=E,1.0nm,0.8s,baz=15						
FNA	Florina	3.22	14	Pn	Pn	01 14 24.5 +1.2
FNA	Florina	3.22	14	ePn	Pn	01 14 25.3 +2.1
TIP	Timpagrande	3.22	299	Pn	Pn	01 14 23.1 -0.2
OHR	Ohrid	3.47	5	*i* Pn	Pn	01 14 29.9 +3.3
THE	Thessaloniki	3.59	33	P	Pn	01 14 30.8 +2.5
CEL	Celeste	3.59	281	Pn	Pn	01 14 27.2 -1.2
TIR	Tirane	3.71	354	P	Pn	01 14 31.2 +1.3
TIR				S	Sn	01 15 17.8 +4.5
TIR	Tirane	3.71	354	Pn	Pn	01 14 31.2 +1.3
TIR	Tirane	3.71	354	⇑P	Pn	01 14 32.1 +2.2
TIR				⇑S	Sn	01 15 14.0 +0.7
VAY	Valandovo	4.03	24	*i* Pn	Pn	01 14 36.8 +2.4
SRS	Serrai	4.26	35	*e*Pn	Pn	01 14 39.3 +1.8
IDI	Anoyia	4.34	122	Pn	Pn	01 14 40.4 +1.8
IDI	Anoyia	4.34	122	Pn	Pn	01 14 38.3 -0.3
comp=E,15nm,0.9s,baz=34,slow=22,SNR=1.6						
IDI				Sn	Sn	01 15 29.5 +0.6
comp=E,4.5nm,0.3s,baz=310,slow=22,SNR=9.1						
ULC	Ulcinj	4.39	349	⇓*i*Pn	Pn	01 14 39.6 +0.3
ULC				*i* Sn	Sn	01 15 31.4 +1.3
PUK	Puka	4.40	355	P	Pn	01 14 40.7 +1.3
PUK				S	Sn	01 15 35.5 +5.1
PUK	Puka	4.40	355	Pn	Pn	01 14 39.2 -0.3
DRME	Dracevica, Mon	4.62	349	⇑*i*Pn	Pn	01 14 42.8 +0.4
DRME				*i* Sn	Sn	01 15 36.5 +0.8
VAE	Valguarnera	4.74	270	Pn	Pn	01 14 46.5 +2.4
comp=E,6.3nm,0.7s,baz=75,slow=22,SNR=2.6						
VAE				Sn	Sn	01 15 43.7 +4.8
comp=E,1.5nm,0.3s,baz=55,slow=3.2,SNR=5.5						
BUM	Brajici-Budva	4.78	347	⇓*i*Pn	Pn	01 14 45.0 +0.4
BUM				*i* Sn	Sn	01 15 40.1 +0.4
RAFF	Raffo Rosso	4.81	267	Pn	Pn	01 14 44.6 -0.4
PDG	Podgorica	4.84	350	Pn	Pn	01 14 45.5 0.0
PDG	Podgorica	4.84	350	*e*Pn	Pn	01 14 45.3 -0.2
PDG	Podgorica	4.84	350	⇓P	Pn	01 14 46.8 +1.3
PDG				⇑S	Sn	01 15 42.0 +0.7
PDG	Podgorica	4.84	350	⇓*i*Pn	Pn	01 14 46.7 +1.2
PDG				*i* Sn	Sn	01 15 42.2 +0.9
PVY	Plav	4.94	356	⇓*i*Pn	Pn	01 14 48.0 +1.0
PVY				*i* Sn	Sn	01 15 45.0 +1.1
HCY	Herceg Novi	5.00	344	*e*Pn	Pn	01 14 45.6 -2.0
HCY	Herceg Novi	5.00	344	⇓*i*Pn	Pn	01 14 47.3 -0.3
HCY				*i* Sn	Sn	01 15 44.0 -1.1
CEME	Cevo	5.01	346	⇓*i*Pn	Pn	01 14 47.8 -0.1
CEME				*i* Sn	Sn	01 15 44.4 -1.1
WDD	Wied Dalam	5.04	251	Pn	Pn	01 14 47.8 -0.4
BOSS	Bosilegrad	5.10	18	*e*Pn	Pn	01 14 50.3 +1.3
NKME	Niksic	5.22	348	⇑*i*Pn	Pn	01 14 51.7 +1.0
NKME				*i* Sn	Sn	01 15 51.5 +0.9
IVA	Berane	5.22	356	⇓*i*Pn	Pn	01 14 51.8 +1.0
IVA				*i* Sn	Sn	01 15 51.5 +0.7
KOME	Kolasin	5.23	353	⇓*i*Pn	Pn	01 14 50.6 -0.3
KOME				*i* Sn	Sn	01 15 51.8 +0.9
BARS	Barje	5.27	12	*e*Pn	Pn	01 14 52.4 +1.0
TREB	Trebinje	5.29	344	*e*Pn	Pn	01 14 51.0 -0.6
BRY	Bratogost	5.42	346	⇓*i*Pn	Pn	01 14 54.3 +0.7
BRY				*i* Sn	Sn	01 15 55.8 0.0
ALN	Alexandroupoli	5.46	52	Pn	Pn	01 14 55.0 +1.0
SELS	Selova	5.59	6	*e*Pn	Pn	01 14 56.1 +0.4
STON	Ston	5.60	339	*e*Pn	Pn	01 14 55.0 -0.8
SJES	Sjenica	5.61	357	*e*Pn	Pn	01 14 56.2 +0.1
SJES				*e*Sn	Sn	01 15 59.4 -0.9
SJES	Sjenica	5.61	357	*e*Pn	Pn	01 14 56.9 +0.8
ZAPS	Zavoj	5.87	16	*e*Pn	Pn	01 15 01.3 +1.7
IVAS	Ivanjica	5.92	358	*e*Pn	Pn	01 15 01.2 +0.9
RUDO	Rudo	6.00	353	*e*Pn	Pn	01 15 03.4 +1.9
BOVS	Bovan	6.06	9	*e*Pn	Pn	01 15 02.6 +0.4
BOVS	Bovan	6.06	9	⇓P	Pn	01 15 03.2 +1.0
GRUS	Gruza	6.23	2	*e*Pn	Pn	01 15 05.4 +0.9
BBLS	Lazi&#263i	6.25	354	*e*Pn	Pn	01 15 06.4 +1.6
BBLS	Lazi&#263i	6.25	354	*e*Pn	Pn	01 15 05.6 +0.8
DIVS	Divibare	6.44	358	*e*Pn	Pn	01 15 07.0 -0.5
HAPS	Han Pijesak,BI	6.51	351	*e*Pn	Pn	01 15 08.0 -0.5
TRUS	Trudelj	6.56	0	*e*Pn	Pn	01 15 09.1 0.0
TRUS				*e*Sn	Sn	01 16 21.6 -2.0
INTR	Introdacqua	6.61	313	Pn	Pn	01 15 09.5 -0.3
ELND	Elena	6.74	37	⇑P	Pn	01 15 13.5 +2.0
TEKS	Tekeris	6.92	355	*e*Pn	Pn	01 15 13.6 -0.4
TEKS				*e*Sn	Sn	01 16 28.8 -3.6
VLAD	Vladila	7.03	24	⇑P	Pn	01 15 17.1 +1.5
HERR	Herculane	7.38	11	⇑P	Pn	01 15 21.9 +1.6
A050A	Klekovaca	7.41	338	*e*Pn	Pn	01 15 21.6 +0.8
BLY	Banja Luka	7.48	342	*e*Pn	Pn	01 15 22.9 +1.2
FRGS	Fruska Gora	7.51	357	*e*Pn	Pn	01 15 20.3 -1.8
NRCA	Norcia	7.59	315	Pn	Pn	01 15 24.2 +0.9
HUMR	Humele	7.69	25	⇑P	Pn	01 15 26.7 +2.1
FDMO	Fiordimonte	7.74	316	Pn	Pn	01 15 26.9 +1.7
A051A	Mrakovica	7.80	342	*e*Pn	Pn	01 15 24.5 -1.6
SGRR	Singureni	7.81	31	⇓P	Pn	01 15 28.0 +1.8
GZR	Gura Zlata	7.94	12	⇑P	Pn	01 15 28.8 +0.8
BZS	Buzias	8.01	6	⇓P	Pn	01 15 30.1 +1.1
ARR	Arges	8.34	21	⇑P	Pn	01 15 35.5 +2.0
VOIR		8.53	23	⇓P	Pn	01 15 38.0 +1.9
ISR	Istrita	8.78	30	⇑P	Pn	01 15 42.7 +3.1
MLR	Muntele Rosu	8.87	26	Pn	Pn	01 15 43.2 +2.4
MLR	Muntele Rosu	8.87	26	Pn	Pn	01 15 41.7 +0.8
comp=E,0.6nm,0.3s,baz=157,slow=6.2,SNR=18						
comp=E,4.4nm,0.8s						
MLR	Muntele Rosu	8.87	26	⇑P	Pn	01 15 43.6 +2.8
NEHR	Nehoiu	8.94	28	⇑P	Pn	01 15 44.6 +2.8
CRES	Cresnjevec Ost	8.95	337	*e*Pn	Pn	01 15 41.0 -0.9
HARR	Harsova	9.04	37	⇑P	Pn	01 15 45.2 +2.1
KEST	Kesra	9.07	261	Pn	Pn	01 15 45.1 +1.5
comp=E,0.1nm,0.3s,baz=82,slow=11,SNR=2.4						
KEST				Sn	Sn	01 17 25.1 -0.3
baz=251,slow=20,SNR=2.1						
KEST				LR	LR	01 19 42.3
comp=E,79nm,20.6s,baz=292,slow=40						
comp=E,2.2nm,0.8s						
DOPR	Dopca	9.11	23	⇑P	Pn	01 15 46.5 +2.5
CEY	Cerknica	9.22	333	*e*Pn	Pn	01 15 45.9 +0.4
COVR	Voineasa-Covas	9.27	26	⇑P	Pn	01 15 48.3 +2.1
OZUR		9.35	24	⇓P	Pn	01 15 50.0 +2.7
SPBR	Spulber	9.38	28	⇑P	Pn	01 15 50.1 +2.3
TURR	Turia	9.38	25	⇓P	Pn	01 15 49.4 +1.6
PLOR	Plostina	9.43	28	⇑P	Pn	01 15 51.4 +2.9
VRI	Vrincioaia	9.47	28	⇑P	Pn	01 15 51.8 +2.8
CFR	Carcaliu	9.51	35	⇑P	Pn	01 15 51.0 +1.6
SABO	M.te Sabotino	9.73	331	Pn	Pn	01 15 53.5 +0.9
OBKA	Obir	9.85	336	*e*Pn	Pn	01 15 55.6 +1.4
OBKA				*e*Sn	Sn	01 17 40.1 -4.3
comp=E,8.2nm,0.7s						
OBKA	Obir	9.85	336	*e*Pn	Pn	01 15 54.3 +0.1
SOKA	Soboth	9.85	338	*e*Pn	Pn	01 15 54.1 -0.1
comp=E,5.0nm,0.9s						
BURAR	Bucovina Array	10.57	18	⇑P	Pn	01 16 06.4 +2.3
BRTR	Keskin Array B	10.57	75	LR	LR	01 21 02.5
comp=E,129nm,19.5s,baz=310,slow=43						
CTI	Castel Tesino	10.61	325	Pn	Pn	01 16 06.6 +1.9
VYHS	Vyhne	10.89	355	*e*PN	Pn	01 16 14.8 +6.4
MOA	Molln	11.13	338	Pn	Pn	01 16 12.2 +0.5
comp=E,4.3nm,0.6s						
BIOA	Bad Ischl, Aus	11.18	336	Pn	Pn	01 16 12.8 +0.3
comp=E,3.1nm,0.6s						
KOLS	Kolonicke sedl	11.36	6	*e*PN	Pn	01 16 19.7 +4.9
DAVOX	Davos/Dischmat	11.97	323	Pn	Pn	01 16 24.2 +0.7
comp=E,0.1nm,0.3s,baz=215,slow=14,SNR=1.6						
DAVOX				Sn	Sn	01 18 29.8 -7.0
comp=E,0.1nm,0.3s,baz=357,slow=10,SNR=1.6						
comp=E,1.2nm,0.9s						
GERES	GERESS Array B	12.19	339	Pn	Pn	01 16 28.1 +1.8
comp=E,0.1nm,0.3s,baz=156,slow=15,SNR=2.4						
comp=E,0.3nm,0.4s						
MMAI	Mount Meron Ar	13.11	106	Pn	Pn	01 16 34.6 -4.3
comp=E,0.7nm,0.3s,baz=304,slow=14,SNR=2.8						
AKASG	Malin Array Be	14.49	23	Pn	Pn	01 16 56.2 -1.3
comp=E,0.3nm,0.3s,baz=217,slow=12,SNR=5.5						
AKASG				LR	LR	01 23 49.3
comp=E,44nm,19.8s,baz=244,slow=43						
comp=E,0.2nm,0.4s						
EIL	Elat	14.51	119	LR	LR	01 25 11.1
comp=E,23nm,19.0s,baz=260,slow=48						

CLL	Collm	14.62	341	*i* Px	Px	01 17 00.6
comp=Z,3.0nm,0.8s						
PABE	Paberze	18.02	7	Pn	Pn	01 17 41.6 -1.2
PABE				IAmb	IAmb	01 17 43.1
comp=Z,33nm,0.8s						
KBZ	Khabaz	18.10	63	LR	LR	01 25 50.5
comp=Z,25nm,20.3s,baz=252,slow=41						
ESDC	Sonseca Array	19.10	284	P	Pn	01 17 57.8 +1.6
comp=Z,0.1nm,0.3s,baz=74,slow=9.6,SNR=6.2						
ESDC				LR	LR	01 25 50.1
comp=Z,41nm,18.3s,baz=308,slow=38						
comp=Z,0.9nm,0.8s						
MDT	Midelt	20.95	264	LR	LR	01 26 19.4
comp=Z,27nm,18.3s,baz=91,slow=36						
HFS	Hagfors	22.90	351	P	P	01 18 36.0 -0.1
comp=Z,1.7nm,0.5s,baz=164,slow=11,SNR=8.0						
comp=Z,1.7nm,0.5s						
EKA	Eskdalemuir Ar	23.79	326	P	P	01 18 45.3 +0.3
comp=Z,2.2nm,0.8s,baz=129,slow=10.0,SNR=4.4						
comp=Z,2.2nm,0.8s						
BELG	Belogornoye	24.06	43	P	P	01 18 46.9 -0.7
comp=Z,15nm,0.8s,baz=257,slow=3.8,SNR=4.1						
comp=Z,15nm,0.8s						
FINES	FINESS Array B	24.08	7	P	P	01 18 47.4 -0.3
comp=Z,4.5nm,0.7s,baz=166,slow=9.7,SNR=24						
comp=Z,4.5nm,0.7s						
FIA1	FINESS Array S	24.08	7	P	P	01 18 47.5 -0.2
NB2	NORSAR Subarra	24.11	349	P	P	01 18 48.2 +0.2
comp=Z,7.9nm,1.1s,baz=159,slow=11						
NOA	NORSAR Array B	24.11	349	P	P	01 18 48.5 +0.5
comp=Z,1.5nm,0.8s,baz=161,slow=9.8,SNR=3.5						
comp=Z,1.5nm,0.8s						
NBO00	NORSAR Array S	24.16	349	P	P	01 18 49.1 +0.5
NBO00				IAmb	IAmb	01 19 05.9
comp=Z,29nm,1.5s						
TORD	Torodi Ar. Bea	29.55	219	P	P	01 19 39.6 +2.3
comp=Z,0.7nm,0.8s,baz=36,slow=8.5,SNR=2.2						
comp=Z,0.7nm,0.8s						
ABKAR	Akbulak array	30.63	55	P	P	01 19 46.5 -0.1
ARTI	Arti	31.42	41	P	P	01 19 51.8 -1.7
ARTI				IAmb	IAmb	01 19 52.9
comp=Z,3.0nm,0.7s						
ARCES	ARCESS Array B	32.06	3	P	P	01 19 58.8 -0.2
comp=Z,2.9nm,1.0s,baz=187,slow=8.6,SNR=5.0						
comp=Z,2.9nm,1.0s						
BVAR	Borovoye Array	37.54	49	P	P	01 20 46.2 -0.3
comp=Z,0.8nm,0.7s,baz=266,slow=7.9,SNR=4.0						
comp=Z,0.8nm,0.7s						
DBIC	Dimbokro	38.43	223	LR	LR	01 36 38.6
comp=Z,28nm,18.3s,baz=346,slow=36						
KURBB	Kurchatov Arra	42.63	53	P	P	01 21 28.1 -0.6
comp=Z,1.2nm,0.4s,baz=280,slow=8.8,SNR=8.8						
comp=Z,1.2nm,0.4s						
MK31	Makanchi Array	45.67	58	P	P	01 21 53.5 +0.3
MKAR	Makanchi Array	45.67	58	P	P	01 21 52.7 -0.5
comp=Z,0.9nm,0.7s,baz=276,slow=7.8,SNR=4.2						
MKAR				LR	LR	01 44 55.6
comp=Z,16nm,18.4s,baz=341,slow=41						
comp=Z,0.9nm,0.7s						
ZAA0	Zalesovo Array	46.12	48	P	P	01 21 56.0 -0.6
ZAA0				IAmb	IAmb	01 21 56.6
comp=Z,3.0nm,0.7s						
ZALV	Zalesovo Beam	46.12	48	P	P	01 21 56.1 -0.5
comp=Z,2.7nm,0.5s,baz=276,slow=8.7,SNR=14						
ZALV				LR	LR	01 42 02.2
comp=Z,13nm,21.9s,baz=94,slow=37						
comp=Z,2.7nm,0.5s						
BOSA	Boshof	66.08	175	LR	LR	01 53 41.5
comp=Z,18nm,18.1s,baz=68,slow=36						
D25K	Kavik River	72.89	355	P	P	01 25 02.3 +1.2
D25K				IAmb	IAmb	01 25 14.9
comp=Z,4.8nm,1.4s						
H29M	Whitestone	75.16	351	P	P	01 25 15.3 +0.9
E19K	Redstone River	75.19	359	P	P	01 25 15.4 +0.9
J30M	Hart River	76.46	350	P	P	01 25 22.6 +0.5
J30M				IAmb	IAmb	01 25 37.4
comp=Z,5.7nm,1.4s						
WRH	Wood River Hil	77.80	355	P	P	01 25 28.9 -0.5
WRH				IAmb	IAmb	01 25 46.0
comp=Z,4.5nm,1.2s						
M29M	Somme Creek	78.79	350	P	P	01 25 36.6 +1.6
M29M				IAmb	IAmb	01 25 58.7
comp=Z,3.7nm,1.1s						
KSRS	Korea Array	79.75	50	LR	LR	02 06 18.5
comp=Z,11nm,18.5s,baz=5.0,slow=40						
L18K	Granite Mounta	80.44	359	P	P	01 25 45.2 +1.3
DLBC	Dease Lake	81.12	345	P	P	01 25 46.5 -1.1

TRN 14 01:42:21.8, 10.°45N×61.°59W, h39km, MD3.5, Gulf of Paria near West coast of Trinidad., Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	Pointe-a-Pierr	0.19	135	*e*P	Pn	01 42 29.4	-0.6
TPP				*e*S	Sn	01 42 35.3	-1.4
PSMG	Mucurapo Girls	0.23	14	*e*P	Pn	01 42 28.6	-1.3
PSMG				*e*S	Sn	01 42 33.2	-3.1
PSKH	Kent House, Po	0.23	16	*e*P	Pn	01 42 28.6	-1.2
PSKH				*e*S	Sn	01 42 33.1	-3.2
TRN	Trinidad (W)	0.27	43	*e*P	Pn	01 42 28.3	-1.6
TBH	Brigand Hill	0.51	86	*e*P	Pn	01 42 31.6	-1.2
TBH				*e*S	Sn	01 42 39.5	-0.9
TOSP	Speyside	1.33	51	*e*P	Pn	01 42 42.1	-1.9
TOSP				*e*S	Sn	01 42 58.5	-2.0
GRFF	Grenada Fort F	1.59	355	*e*P	Pn	01 42 47.5	-0.1
GRFF				*e*S	Sn	01 43 07.2	+0.2
GRGR	Grenville	1.67	358	*e*P	Pn	01 42 48.7	+0.1
GRGR				*e*S	Sn	01 43 08.7	-0.1
GRW	Mount Saint Ca	1.70	358	*e*P	Pn	01 42 48.5	-0.5
GRHS	Sauteurs	1.76	358	*e*P	Pn	01 42 49.9	+0.1
GRHS				*e*S	Sn	01 43 09.3	-1.7
GCMP	Grenada, Carri	2.03	4	*e*P	Pn	01 42 53.5	0.0
GCMP				*e*S	Sn	01 43 16.7	-0.9
SVOC	Richmond Hill,	2.71	8	*e*P	Pn	01 43 03.0	+0.1
SVOC				*e*S	Sn	01 43 33.5	-0.9
SVT	Saint Vincent	2.72	7	*e*P	Pn	01 43 03.2	+0.1
SVT				*e*S	Sn	01 43 33.5	-1.2
SVB	Belmont	2.82	7	*e*P	Pn	01 43 04.7	+0.2
SVB				*e*S	Sn	01 43 36.2	-1.0
SLAC	Saint Lucia, A	3.49	11	*e*P	Pn	01 43 14.0	+0.3
SLBI	Saint Lucia, B	3.60	10	*e*P	Pn	01 43 14.3	-0.7
SLBI				*e*S	Sn	01 43 55.6	-0.7
BAUV	El Baul	6.54	257	*e*P	Pn	01 43 54.7	-0.8
BAUV				*e*S	Sn	01 45 04.7	-4.1

UPA 14 01:44:26.3±1.3, 10.°05N×83.°91W, h12km±8km, MD3.8, ML3.9
CATAC 14 01:44:27.8±0.3, 9.°78N×84.°13W, h47km±4km, ML3.9
UCR 14 01:44:27.1±0.9, 9.°81N×84.°08W, h68km±2km, MW4.0,
Fault plane solution: NP1:φs113.89000°, δ58.78000°, λ-7.40000°.

ISC 14 01:44:28.6±1.2, 9.°82N±0.°04×84.°08W±0.°04, h58km±5km, n84, σ0.98/116, 15C-18D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMPA	Desamparados	0.08	11	*e*P	Pn	01 44 36.9	-0.6
ACOS	Acosta	0.09	255	⇓*e*P	Pn	01 44 36.9	-0.6
LCR2	La Lucha 2	0.10	138	*i* P	Pn	01 44 37.0	-0.7
LCR2				*i* S	Sn	01 44 42.0	-2.2
LCR2				IAML		01 44 45.1	
comp=Z,5μm,1.0s							
LCR2	La Lucha 2	0.10	138	⇓*e*P	Pn	01 44 37.0	-0.7
LCR2				*e*S	Sn	01 44 44.2	+0.1
LUJA	Lujan	0.11	3	⇓*e*P	Pn	01 44 38.2	+0.6
ABE2	San Pablo	0.12	169	*e*P	Pn	01 44 36.9	-0.9
ABE2				*e*S	Sn	01 44 44.4	+0.1
TRIO	Tres Rios	0.12	44	⇓*e*P	Pn	01 44 37.2	-0.5
SJS3	Mercedes San J	0.12	12	⇓*e*P	Pn	01 44 37.5	-0.2
SJS3				*e*S	Sn	01 44 45.5	+1.4
SJS	Escuela Geolog	0.12	11	⇓*e*P	Pn	01 44 37.4	-0.3
LUPE	Guadalupe	0.13	9	⇓*e*P	Pn	01 44 37.4	-0.3
SANTA	Santa Ana	0.16	317	⇓*e*P	Pn	01 44 37.4	-0.3
SANTA				*e*S	Sn	01 44 45.1	+0.8
DOMI	Santo Domingo	0.16	355	⇓*e*P	Pn	01 44 37.7	-0.1
DOMI				*e*S	Sn	01 44 45.7	+1.3
RAZU	San Marcos de	0.17	162	⇑*e*P	Pn	01 44 36.9	-0.9
CORON	Coronado	0.17	25	*e*P	Pn	01 44 37.6	-0.3
HDC	Heredia	0.18	349	*i* P	Pn	01 44 37.5	-0.4
HDC				*i* S	Sn	01 44 45.5	+0.9
HDC				IAML		01 44 51.7	
comp=Z,3μm,1.0s							

BELE	Belen	0.19	325	⇓*e*P	Pn	01 44 37.5 -0.4
BELE				*e*S	Sn	01 44 45.4 +0.8
REPA	Paraso	0.20	88	*e*P	Pn	01 44 37.5 -0.5
CVIMO	Finca Echandi	0.24	33	⇓*e*P	Pn	01 44 38.2 -0.2
PCAYA	Pacayas	0.28	70	*e*P	Pn	01 44 38.1 -0.5
VICA	Volcano Irazu	0.28	54	*e*P	Pn	01 44 38.7 -0.2
RAFA	San Farael, Vo	0.30	62	*i* P	Pn	01 44 38.4 -0.5
RAFA				IAML		01 44 51.4
comp=Z,11μm,1.0s						
RAFA	San Farael, Vo	0.30	62	*e*P	Pn	01 44 38.6 -0.3
TCS1	Tacares	0.31	315	*i* P	Pn	01 44 38.6 -0.1
TCS1				IAML		01 44 48.8
comp=Z,31μm,1.0s						
TCS1	Tacares	0.31	315	⇓*e*P	Pn	01 44 38.6 -0.1
LLNJ	Naranjito	0.34	184	*e*P	Pn	01 44 38.1 -0.7
CVTV	Tajo	0.37	60	⇑*e*P	Pn	01 44 39.3 -0.2
SARCI	Sarchi	0.38	315	*e*P	Pn	01 44 39.1 -0.2
VTCV	VTCV, Calle Va	0.38	65	⇑*e*P	Pn	01 44 39.1 -0.3
TURIB	Turrialba	0.40	77	⇑*e*P	Pn	01 44 38.7 -0.7
VPS6	Volcano Poas	0.40	338	⇓*e*P	Pn	01 44 39.4 -0.3
BUS1	Rivas	0.42	129	*e*P	Pn	01 44 38.9 -1.1
RVSTA	Santa Teresita	0.45	70	*e*P	Pn	01 44 39.6 -0.4
RAMO	San Ramon	0.47	305	*e*P	Pn	01 44 39.7 -0.5
ZARE	Zarcero	0.48	320	⇓*e*P	Pn	01 44 41.2 +0.9
SRA1	San Ramn	0.48	304	⇓*e*P	Pn	01 44 39.8 -0.5
RVLA	Villa Bonita	0.56	59	*e*P	Pn	01 44 40.8 -0.3
ZELE	Perez Zeledon	0.57	141	⇑*e*P	Pn	01 44 40.5 -0.8
LCOCO	El Coco	0.57	63	⇓*e*P	Pn	01 44 41.0 -0.3
ARZA	Esparza	0.61	286	*e*P	Pn	01 44 41.8 +0.2
IRES	Siquirres	0.63	64	⇓*e*P	Pn	01 44 41.6 -0.3
SOCE	Pocosol	0.77	316	*i* P	Pn	01 44 43.1 -0.6
SOCE				*i* S	Sn	01 44 54.2 -0.5
SOCE				IAML		01 44 57.9
comp=Z,6μm,1.0s						
SOCE	Pocosol	0.77	316	⇑*e*P	Pn	01 44 43.4 -0.4
SOCE				*e*S	Sn	01 44 55.9 +1.2
OCHAL	Ojochal	0.83	149	*i* P	Pn	01 44 43.6 -0.8
OCHAL				IAML		01 44 44.0
comp=Z,8μm,1.0s						
OCHAL				*i* S	Sn	01 44 55.3 -0.7
TUNA	La Fortuna	0.85	319	*e*P	Pn	01 44 44.3 -0.4
FORC	Fortuna	0.87	318	⇑*e*P	Pn	01 44 44.5 -0.4
FORC				*e*S	Sn	01 44 58.0 +1.1
VACR	Volcan Arenal	0.88	318	⇑*e*P	Pn	01 44 44.6 -0.4
MTEVE	Monteverde	0.89	304	*e*P	Pn	01 44 45.8 +0.5
ARE1	Arenal 1	0.90	315	⇑*e*P	Pn	01 44 45.0 -0.3
CEDE	Laguna Cedeo	0.91	317	⇑*e*P	Pn	01 44 45.0 -0.4
COVE	Coope Vega, Sa	0.95	340	*i* P	Pn	01 44 44.7 -1.2
COVE				*i* S	Sn	01 44 58.4 -0.3
COVE				IAML		01 45 15.3
comp=Z,870nm,1.0s						
BURE	Buenos Aires	0.97	131	*e*P	Pn	01 44 45.5 -0.7
JTS	Las Juntas de	0.98	299	*e*P	Pn	01 44 45.8 -0.5
JTS				*e*S	Sn	01 45 00.2 +0.7
JTS	Las Juntas de	0.98	299	⇑*e*P	Pn	01 44 45.6 -0.7
DRK0	Durika	0.99	124	*i* P	Pn	01 44 45.5 -1.1
DRK0				*i* S	Sn	01 44 59.1 -0.8
DRK0	Durika	0.99	124	*e*P	Pn	01 44 45.4 -1.2
DRK0				*e*S	Sn	01 44 59.5 -0.4
DRK0	Durika	0.99	124	⇑*e*P	Pn	01 44 45.1 -1.5
CBL1	Cabuya	1.03	257	⇓*e*P	Pn	01 44 45.2 -1.7
TENO	El Achiote	1.25	315	*e*P	Pn	01 44 49.3 -0.7
CMARA	Lajas Hojancha	1.34	279	*e*P	Pn	01 44 49.5 -1.7
CUI	Cuipilapa	1.36	308	⇑*e*P	Pn	01 44 50.7 -0.7
RGM0	Gandoca	1.47	99	*i* P	Pn	01 44 52.5 -0.3
RGM0				IAML		01 45 18.4
comp=Z,800nm,1.0s						
PTJ1	Puerto Jimnez	1.49	149	*i* P	Pn	01 44 52.1 -1.0
PTJ1				*i* S	Sn	01 45 10.9

BCO2 *i* S Sb 02 05 37.7 +1.2

OTT 14 02:25:48.5±0.2, 44°.26N×55°.05W, h18km, ML3.9/10, 321km south from Grand Bank, NI, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJNN	**Saint John's**	**3.73**	**25**	PN	Pn	02 26 44.7	-0.4
SJNN				SN	Sn	02 27 26.3	-2.2
SJNN				Trac		02 27 27.3	
	comp=Z,5.5nm,0.1s						
CHEG	**Cheticamp, Nov**	**4.71**	**305**	PN	Pn	02 26 58.2	-0.3
CHEG				SN	Sn	02 27 49.3	-3.4
CHEG				Trac		02 27 54.9	
	comp=Z,4.3nm,0.1s						
GBN	**Guysborough**	**4.74**	**286**	PN	Pn	02 26 58.6	-0.3
GBN				SN	Sn	02 27 50.7	-2.8
GBN				Trac		02 27 51.4	
	comp=Z,6.8nm,0.1s						
DRLN	**Deer Lake**	**5.28**	**342**	PN	Pn	02 27 05.9	-0.5
DRLN				PN	Pn	02 27 06.0	-0.4
DRLN				SN	Sn	02 28 02.9	-3.8
DRLN				SN	Sn	02 28 03.4	-3.3
DRLN				Trac		02 28 04.6	
	comp=Z,1.2nm,0.1s						
DRLN				Trac		02 28 08.9	
	comp=Z,880nm,2.9s						
HAL	**Halifax**	**6.13**	**277**	PN	Pn	02 27 17.3	-0.7
HAL				SN	Sn	02 28 20.8	-6.9
HAL				Trac		02 28 25.0	
	comp=Z,11nm,0.0s						
LMN	**Caledonia Moun**	**7.09**	**286**	PN	Pn	02 27 30.4	-1.0
LMN				SN	Sn	02 28 45.4	-6.0
LMN				Trac		02 28 50.7	
	comp=Z,8.3nm,0.3s						
SVNB	**Stilesville Qu**	**7.20**	**289**	PN	Pn	02 27 31.9	-0.9
SVNB				SN	Sn	02 28 48.6	-5.4
SVNB				Trac		02 28 49.9	
	comp=Z,5.0nm,0.1s						
ELNB	**Elgin, New Bru**	**7.33**	**286**	PN	Pn	02 27 33.6	-1.0
ELNB				SN	Sn	02 28 51.8	-5.5
ELNB				Trac		02 28 53.6	
	comp=Z,12nm,0.4s						
HKNB	**Havelock Quarr**	**7.51**	**287**	PN	Pn	02 27 36.0	-1.1
HKNB				SN	Sn	02 28 55.9	-5.7
HKNB				Trac		02 28 60.0	
	comp=Z,60nm,0.7s						
GAAQ	**Galiote**	**7.54**	**315**	PN	Pn	02 27 37.0	-0.4
GAAQ				Trac		02 29 01.6	
	comp=Z,36nm,0.5s						
SRNB	**Snider Mountai**	**7.67**	**286**	PN	Pn	02 27 38.0	-1.2
PCAQ	**Pointe Carleto**	**7.69**	**318**	PN	Pn	02 27 38.6	-0.8
PCAQ				Trac		02 29 08.4	
	comp=Z,33nm,0.5s						
BJBQ	**Baie Johan-Bee**	**8.01**	**322**	PN	Pn	02 27 43.3	-0.6
BJBQ				SN	Sn	02 29 08.4	-5.6
BJBQ				Trac		02 29 16.6	
	comp=Z,26nm,0.6s						
GGN	**Saint George**	**8.45**	**280**	PN	Pn	02 27 48.7	-1.2
GGN				SN	Sn	02 29 16.6	-8.2
GGN				Trac		02 29 18.5	
	comp=Z,2.2nm,0.1s						
ICQ	**Pointe Anglais**	**9.88**	**306**	SN	Sn	02 29 51.6	-8.4
ICQ				SN		02 29 52.1	
ICQ				Trac		02 29 56.1	
	comp=Z,8.9nm,0.4s						
PKME	**Peaks-Kenny Pk**	**10.19**	**281**	SN	Sn	02 29 57.4	-10

*IDC **14** 02:59:06.5±0.9, 6°.26N×123°.71E, h0km, mb3.7/7, mbtmp3.8/8, ML4.4/1, MS3.0/2, Error ellipse: s-maj=27.8km s-min=18.0km az=62.0*

ISC 14 02:59:11.4±1.0, 6°.3N±0°.1×123°.7E±0°.1, h35km, n11, σ0°.91/10, mb3.5/7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.04**	**67**	Pn	**Pn**	**02 59 42.0**	**-1.4**
	137nm,0.3s,baz=248,slow=0.7,SNR=9.2						
DAV				Sn	**Sn**	**03 00 08.9**	**+1.2**
	131nm,0.3s,baz=98,slow=17,SNR=4.7						
	450nm,0.4s						
DAV	**Davao City (W)**	**2.04**	**67**	P	**Pn**	**02 59 43.0**	**-0.4**
JAY	**Jayapura**	**19.09**	**117**	LR	LR	03 10 08.7	
	comp=Z,30nm,21.2s,baz=348,slow=35						
WRA	**Warramunga Arr**	**28.06**	**158**	P	**P**	**03 04 59.2**	**-0.6**
	0.8nm,0.8s,baz=335,slow=9.7,SNR=4.9						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**31.37**	**162**	P	**P**	**03 05 29.0**	**-0.1**
	0.2nm,0.3s,baz=338,slow=8.4,SNR=2.0						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**41.59**	**157**	P	**P**	**03 06 56.7**	**+0.6**
	2.0nm,0.8s,baz=330,slow=16,SNR=4.4						
	2.0nm,0.8s						
SONM	**Songino Array**	**43.99**	**343**	P	**P**	**03 07 14.9**	**-0.6**
	0.4nm,0.5s,baz=159,slow=8.7,SNR=1.7						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**53.77**	**326**	P	**P**	**03 08 30.6**	**+0.1**
	0.5nm,0.9s,baz=124,slow=7.6,SNR=1.9						
	0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**58.00**	**328**	P	**P**	**03 09 00.9**	**+0.2**
	1.2nm,0.9s,baz=130,slow=6.0,SNR=6.5						
	1.2nm,0.9s						
BVAR	**Borovoye Array**	**63.57**	**327**	P	**P**	**03 09 39.7**	**+1.1**
	2.5nm,1.1s,baz=126,slow=7.5,SNR=5.0						
	2.5nm,1.1s						
FURI	**Furi**	**84.14**	**278**	LR	LR	03 45 40.1	
	comp=Z,12nm,20.9s,baz=115,slow=33						

*IDC **14** 03:04:02.1±1.3, 56°.08S×28°.19W, h0km, mb3.9/3, mbtmp4.0/4, ML4.5/1, Error ellipse: s-maj=66.8km s-min=26.9km az=82.0*

ISC 14 03:04:14.8±1.4, 56°.2S±0°.2×27°.9W±0°.4, h100km, n14, σ0°.53/11, mb3.9/3, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.78**	**157**	⇑P	**Pn**	**03 08 03.5**	**+0.3**
	comp=Z,2.2nm,0.6s						
VNA3	**Neumayer Olymp**	**16.95**	**160**	⇑P	**Pn**	**03 08 05.8**	**+0.4**
	comp=Z,2.4nm,0.6s						
VNA2	**Neumayer--Watz**	**17.18**	**157**	⇑P	**Pn**	**03 08 07.8**	**-0.3**
	comp=Z,0.2nm,0.2s,baz=313,slow=12						
SNAA	**Sanae**	**18.74**	**155**	⇑P	**P**	**03 08 25.6**	**+0.2**
	comp=Z,159nm,0.5s						
SNAA	**Sanae**	**18.74**	**155**	P	**P**	**03 08 25.8**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=306,slow=10.0,SNR=191						
	comp=Z,5.7nm,0.5s						
TROLL	**Troll, Antarti**	**20.26**	**153**	⇑P	**P**	**03 08 41.6**	**-0.4**
	comp=Z,150nm,0.6s						
QSPA	**South Pole Qui**	**34.01**	**180**	P	**P**	**03 10 48.3**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=228,slow=2.4,SNR=3.9						
	comp=Z,1.1nm,0.5s						
MAW	**Mawson**	**40.24**	**144**	P	**P**	**03 11 41.2**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=239,slow=14,SNR=2.6						
	comp=Z,0.8nm,0.4s						
H10N1	**ASCENSION HYDR**	**49.43**	**18**	T	T	04 05 18.9	
	baz=192,slow=74						
H10N3	**ASCENSION HYDR**	**49.43**	**18**	T	T	04 05 02.7	
	baz=192						
H10N2	**ASCENSION HYDR**	**49.44**	**18**	T	T	04 05 12.3	
	baz=192,slow=74						
TORD	**Torodi Ar. Bea**	**73.43**	**30**	P	**P**	**03 15 36.0**	**0.0**
	comp=Z,0.3nm,0.5s,baz=204,slow=5.1,SNR=4.8						
	comp=Z,0.3nm,0.5s						
FINES	**FINESS Array B**	**124.75**	**28**	PKP	**PKPdf**	**03 23 00.3**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=219,slow=1.8,SNR=4.3						
ILAR	**Eielson Array**	**149.93**	**312**	PKPbc	**PKPbc**	**03 23 52.6**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=120,slow=1.9,SNR=6.0						

NEIC 14 03:08:50.0±0.7, 36°.291N±0°.010×97°.01W±0°.01, h5km±1km, mb_Lg3.3/108, ML3.6/57, Error ellipse: s-maj=1.5km s-min=1.3km az=54.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK048	**Pawnee Station**	**0.14**	**24**		Pg	03 08 53.4	+0.6
OK048				Sg	Sg	03 08 55.4	+0.7
OK048				IAML		03 08 55.8	
	21μm,0.4s						
OK051	**E0350 and S346**	**0.26**	**34**		Pg	03 08 55.7	+0.6
OK051				Sg	Sg	03 08 59.2	+0.7
QUOK	**Quay**	**0.27**	**116**	Pg	Pg	03 08 56.1	+0.8
QUOK				Sg	Sg	03 08 60.0	+1.0
QUOK				IAML		03 09 00.3	
	comp=N,10μm,0.3s						
OK052	**Battle Ridge R**	**0.34**	**150**	Pg	Pg	03 08 57.3	+0.6
OK052				Sg	Sg	03 09 02.0	+0.8
OK052				IAML		03 09 02.4	
	comp=N,7μm,0.3s						
OK031	**S. Brethren Rd**	**0.36**	**157**		Pg	03 08 57.8	+0.6
OK031				Sg	Sg	03 09 02.8	+0.9
OK031				IAML		03 09 03.2	
	comp=N,5μm,0.3s						
OK031				IAML		03 09 04.8	
	comp=N,5μm,0.2s						
BLOK	**Blackwell**	**0.50**	**341**		Pg	03 08 59.9	+0.3
BLOK				Sg	Sg	03 09 06.3	+0.2
BLOK				IAML		03 09 08.9	
	comp=E,4μm,0.2s						
OK029	**Liberty Lake**	**0.61**	**216**		Pg	03 09 02.1	+0.3
OK029				Sg	Sg	03 09 10.2	+0.5
OK029				IAML		03 09 14.5	
	comp=E,3μm,0.5s						
DEOK	**Depew**	**0.61**	**137**		Pg	03 09 02.4	+0.6
DEOK				Sg	Sg	03 09 10.5	+0.8
DEOK				IAML		03 09 11.6	
	comp=N,3μm,0.2s						
DEOK				IAML		03 09 12.8	
	comp=E,3μm,0.4s						
ADOK	**Arcadia Dam**	**0.70**	**205**	Pg	Pg	03 09 03.9	+0.4
ADOK				Sg	Sg	03 09 13.2	+0.6
T35A	**Sooner Cattle**	**0.74**	**33**	Pg	Pg	03 09 04.3	0.0
T35A				Sg	Sg	03 09 14.1	+0.1
OK009	**Oakdale Elemen**	**0.78**	**205**		Pg	03 09 05.1	+0.1
CROK	**Carrier**	**0.81**	**286**		Pg	03 09 05.6	0.0
CROK				Sg	Sg	03 09 16.4	+0.2
CROK				IAML		03 09 24.6	
	comp=N,3μm,0.3s						
KAN13	**South Haven SW**	**0.81**	**333**		Pg	03 09 05.6	0.0
KAN13				Sg	Sg	03 09 16.5	+0.3
KAN13				IAML		03 09 23.8	
	comp=N,3μm,0.2s						
GC02	**Grant County #**	**0.88**	**310**	Pg	Pg	03 09 06.8	-0.2
GC02				Sg	Sg	03 09 18.4	-0.1
KAN17	**Caldwell West**	**0.96**	**321**		Pg	03 09 08.3	-0.2
KAN17				Sg	Sg	03 09 21.3	+0.2
KAN17				IAML		03 09 26.2	
	comp=E,2μm,0.2s						
KAN09	**Caldwell North**	**0.97**	**330**		Pg	03 09 08.4	-0.4
KAN09				Sg	Sg	03 09 21.2	-0.2
KAN14	**Manchester OK**	**1.01**	**311**		Pg	03 09 09.2	-0.3
KAN01	**Argonia South**	**1.05**	**325**		Pg	03 09 09.8	-0.4
KAN01				IAML		03 09 25.1	
	comp=N,2μm,0.1s						
TUL3	**Leonard**	**1.06**	**111**	Pg	Pg	03 09 10.1	-0.2
FNO	**Franklin**	**1.08**	**197**	Pg	Pg	03 09 10.2	-0.6
FNO				IAML		03 09 31.6	
	comp=E,2μm,0.3s						
W35A	**Tecumseh**	**1.14**	**174**	Pg	Pg	03 09 11.1	-0.8
W35A				IAML		03 09 32.2	
	comp=N,896nm,0.3s						
W35A				IAML		03 09 34.4	
	comp=E,2μm,0.5s						
KAN08	**Anthony NE Sta**	**1.21**	**321**		Pg	03 09 12.9	-0.4
KAN12	**Harper NE Stat**	**1.28**	**322**		Pn	03 09 14.1	-0.4
CSTR	**Hydro, Custer**	**1.50**	**245**		Pn	03 09 17.7	0.0
NOKA	**Waynoka**	**1.58**	**283**	Pg	Pn	03 09 18.9	+0.2
RLO	**Rose Lookout**	**1.61**	**94**	Pg	Pn	03 09 19.5	+0.4
X34A	**Smith Ranch, M**	**1.81**	**202**		Pn	03 09 22.7	+0.8
X34A				IAmb_Lg		03 09 50.7	
	comp=Z,220nm,0.8s						
ELIS	**Ellis County**	**1.96**	**264**		Pn	03 09 24.4	+0.5
WMOK	**Wichita Mounta**	**2.12**	**223**		Pn	03 09 26.4	+0.3
U38A	**Gravette**	**2.12**	**85**		Pn	03 09 26.4	+0.2
X37A	**Clayton**	**2.16**	**141**	Pn	Pn	03 09 27.1	+0.4
X37A				IAmb_Lg		03 10 02.1	
	comp=Z,142nm,0.7s						
LOOK	**Love County**	**2.30**	**183**		Pn	03 09 29.0	+0.5
LOOK				IAmb_Lg		03 10 07.1	
	comp=Z,80nm,0.8s						
HHAR	**Hobbs**	**2.48**	**89**		Pn	03 09 31.5	+0.4
R32A	**Long Quarter,**	**2.52**	**328**		Pn	03 09 32.2	+0.5
WTFS	**Witchita Falls**	**2.79**	**206**		Pn	03 09 35.7	+0.4
KSU1	**Kansas State U**	**2.82**	**6**	Pn	Pn	03 09 37.2	+1.4
KSU1				IAmb_Lg		03 10 25.9	
	comp=Z,86nm,0.8s						
SMWD	**Samnorwood**	**2.88**	**247**		Pn	03 09 36.4	-0.2
Z35A	**Perchaven, San**	**2.96**	**184**		Pn	03 09 38.2	+0.6
S39A	**Bolivar**	**3.27**	**64**	Pn	Pn	03 09 44.0	+2.1
S39A				IAmb_Lg		03 10 38.6	
	comp=Z,104nm,0.8s						
MIAR	**Mount Ida**	**3.30**	**121**	Pn	Pn	03 09 41.9	-0.5
MIAR				IAmb_Lg		03 10 41.8	
	comp=Z,48nm,0.7s						
CBKS	**Cedar Bluff**	**3.32**	**320**		Pn	03 09 43.0	+0.3
FW06	**Azle**	**3.34**	**188**		Pn	03 09 44.1	+1.2
FW03	**Perrin-Whitt E**	**3.36**	**195**		Pn	03 09 42.3	-0.8
Z38A	**Mt. Pleasant**	**3.45**	**151**		Pn	03 09 45.3	+0.8
PLPT	**Palo Pinto**	**3.63**	**198**		Pn	03 09 47.3	+0.4
TREL	**Terrell**	**3.63**	**168**		Pn	03 09 46.8	-0.1
TREL				IAmb_Lg		03 10 51.6	
	comp=Z,97nm,1.2s						
FW07	**Weatherford**	**3.64**	**190**		Pn	03 09 47.5	+0.5
FW16	**Waxahatchie**	**3.80**	**179**	IAmb_Lg		03 10 59.3	
	comp=Z,54nm,0.9s						
MGMO	**Mountain Grove**	**3.91**	**76**		Pn	03 09 50.7	0.0
MGMO				IAmb_Lg		03 11 01.3	
	comp=Z,58nm,0.9s						
APMT	**Aspermont**	**3.91**	**222**		Pn	03 09 51.6	+0.9
APMT				IAmb_Lg		03 10 57.0	
	comp=Z,45nm,0.9s						
FW13	**Cleburne**	**3.94**	**185**		Pn	03 09 51.4	+0.2
WHAR	**Wooly Hollow**	**3.97**	**103**	Pn	Pn	03 09 50.7	-0.8
FCAR	**Ozark Folk Cen**	**3.98**	**94**		Pn	03 09 51.8	+0.1
FCAR				IAmb_Lg		03 10 56.4	
	comp=Z,63nm,0.8s						
AMTX	**Amarillo**	**4.05**	**251**		Pn	03 09 53.2	+0.4
AMTX				IAmb_Lg		03 11 03.1	
	comp=Z,72nm,0.8s						
UALR	**University of**	**4.10**	**110**	Pn	Pn	03 09 53.3	0.0
UALR				IAmb_Lg		03 11 08.0	
	comp=Z,83nm,0.9s						
WLAR	**White Oak Lake**	**4.12**	**128**		Pn	03 09 54.1	+0.4
WLAR				IAmb_Lg		03 11 04.7	
	comp=Z,61nm,0.8s						
DKNS	**Dickens**	**4.14**	**232**		Pn	03 09 54.1	+0.1
ABTX	**Abilene, Hawle**	**4.25**	**211**	Pn	Pn	03 09 55.7	+0.2
ABTX				IAmb_Lg		03 11 04.9	
	comp=Z,39nm,0.7s						
R40A	**Maddies Statio**	**4.28**	**61**		Pn	03 09 55.1	-0.6
R40A				IAmb_Lg		03 11 07.7	
	comp=Z,83nm,0.8s						
P38A	**Dawn**	**4.32**	**39**	Pn	Pn	03 09 57.2	+0.9
P38A				IAmb_Lg		03 11 12.9	
	comp=Z,53nm,0.8s						
237A	**Washetta, Mont**	**4.39**	**167**		Pn	03 09 57.1	-0.2
SN07	**Snyder 07**	**4.52**	**226**		Pn	03 10 00.4	+1.3
SN07				IAmb_Lg		03 11 12.0	
	comp=Z,67nm,0.9s						
Z41A	**Richland Creek**	**4.60**	**130**		Pn	03 09 59.5	-0.7
Z41A				IAmb_Lg		03 11 28.2	
	comp=Z,39nm,0.8s						
RTBA	**Rita Blanca**	**4.62**	**274**		Pn	03 10 01.0	+0.4
SN05	**Snyder 5**	**4.67**	**224**		Pn	03 09 59.9	-1.3
SN05				IAmb_Lg		03 11 20.3	
	comp=Z,77nm,0.8s						
N35A	**Tabor**	**4.69**	**13**		Pn	03 10 02.6	+1.2
LCAR	**Lake Charles**	**4.74**	**91**	Pn	Pn	03 10 03.1	+0.9
LCAR				IAmb_Lg		03 11 21.4	
	comp=Z,48nm,1.0s						
POST	**Post**	**4.90**	**230**		Pn	03 10 04.8	+0.4
CCAR	**Cane Creek**	**4.91**	**117**	IAmb_Lg		03 11 38.0	
	comp=Z,52nm,0.8s						
CCM	**Cathedral Cave**	**4.93**	**67**		Pn	03 10 04.5	-0.3
CCM	**Cathedral Cave**	**4.93**	**67**		Pn	03 10 04.8	0.0
CCM				IAmb_Lg		03 11 38.4	
	comp=Z,54nm,0.9s						
P40A	**Paris**	**5.08**	**49**	Pn	Pn	03 10 08.5	+1.6
BGNE	**Belgrade**	**5.19**	**350**	Pn	Pn	03 10 09.4	+1.1
BGNE				IAmb_Lg		03 11 46.0	
	comp=Z,46nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.22**	**303**		Pn	03 10 08.3	-0.5
KSCO				IAmb_Lg		03 11 44.3	
	comp=Z,45nm,0.8s						
MSTX	**Muleshoe**	**5.26**	**246**		Pn	03 10 08.9	-0.4
BRDY	**Brady**	**5.26**	**199**	Pn	Pn	03 10 08.2	-1.1
BRDY				IAmb_Lg		03 11 43.5	
	comp=Z,38nm,0.9s						
PBMO	**Poplar Bluff**	**5.32**	**83**	IAmb_Lg		03 11 40.8	
	comp=Z,64nm,0.7s						
N38A	**Joes South For**	**5.38**	**32**	IAmb_Lg		03 11 51.2	
	comp=Z,61nm,0.7s						
435B	**Jarrell**	**5.51**	**185**		Pn	03 10 12.8	0.0
435B				IAmb_Lg		03 11 52.5	
	comp=Z,28nm,0.9s						
SGCY	**Sterling City**	**5.54**	**219**		Pn	03 10 12.6	-0.7
SGCY				IAmb_Lg		03 11 51.3	
	comp=Z,59nm,0.7s						
SLM	**Saint Louis**	**5.88**	**65**	IAmb_Lg		03 11 56.1	
	comp=Z,52nm,1.0s						
CGM3	**Cape Girardeau**	**5.99**	**78**	IAmb_Lg		03 12 01.1	
	comp=Z,53nm,0.9s						
T25A	**Trinidad**	**6.00**	**280**	Pn	Pn	03 10 19.9	+0.2
T25A				IAmb_Lg		03 12 03.5	
	comp=Z,48nm,0.7s						
OGNE	**Ogallala**	**6.09**	**321**		Pn	03 10 21.1	+0.4
JCT	**Junction City**	**6.25**	**203**		Pn	03 10 22.6	-0.3
JCT				IAmb_Lg		03 12 13.0	
	comp=Z,33nm,0.8s						
SCIA	**State Center**	**6.34**	**27**	IAmb_Lg		03 12 28.6	
	comp=Z,38nm,0.7s						
OZNA	**Ozona**	**6.36**	**214**		Pn	03 10 24.7	+0.2
OZNA				IAmb_Lg		03 12 29.6	
	comp=Z,27nm,0.9s						
SIUC	**Southern Illin**	**6.40**	**75**	Pn	Pn	03 10 25.6	+0.7
Y45A	**Yeager Farm, C**	**6.58**	**109**	IAmb_Lg		03 12 28.8	
	comp=Z,34nm,0.7s						
HTMS	**Hat Mesa**	**6.67**	**237**		Pn	03 10 29.9	+1.1
VBMS	**Vicksburg**	**6.74**	**125**		Pn	03 10 30.2	+0.6
P43A	**Skaggs, Pawnee**	**6.80**	**58**	Pn	Pn	03 10 31.2	+0.8
MNHN	**Monahans**	**6.87**	**226**		Pn	03 10 31.3	-0.3
MNHN				IAmb_Lg		03 12 37.5	
	comp=Z,23nm,0.9s						
SDCO	**Great Sand Dun**	**6.95**	**285**		Pn	03 10 33.3	+0.6
Q24A	**Divide**	**6.99**	**295**		Pn	03 10 33.3	0.0
Q24A				IAmb_Lg		03 12 45.8	
	comp=Z,43nm,0.9s						
HNDO	**Hondo**	**7.01**	**196**	IAmb_Lg		03 12 45.7	
	comp=Z,22nm,0.9s						
ECSD	**EROS Data Cent**	**7.44**	**2**	Pn	Pn	03 10 39.1	-0.1
OLIL	**Olney**	**7.49**	**68**	IAmb_Lg		03 12 54.4	
	comp=Z,37nm,0.8s						
SAND	**Sanderson**	**7.63**	**216**		Pn	03 10 41.6	-0.3
SAND				IAmb_Lg		03 13 06.2	
	comp=Z,22nm,0.9s						
ISCO	**Idaho Springs**	**7.64**	**300**		Pn	03 10 41.9	-0.3
USIN	**University of**	**7.65**	**75**	IAmb_Lg		03 12 59.3	
	comp=Z,41nm,1.0s						
833A	**Chaparral WMA,**	**8.20**	**195**		Pn	03 10 49.1	-0.5
SUSD	**Miller**	**8.28**	**350**	IAmb_Lg		03 13 17.2	
	comp=Z,33nm,1.0s						
X48A	**Hartselle**	**8.35**	**100**	IAmb_Lg		03 13 14.8	
	comp=Z,17nm,0.8s						
JFWS	**Jewell Farm**	**8.42**	**36**	IAmb_Lg		03 13 25.8	
	comp=Z,24nm,0.7s						
RSSD	**Black Hills**	**9.48**	**328**	IAmb_Lg		03 13 57.1	
	comp=Z,14nm,0.7s						
F33A	**5 Mile Ranch,**	**9.55**	**3**	IAmb_Lg		03 14 02.5	
	comp=Z,14nm,0.9s						

*AFAD **14** 03:19:37.5±0.0, 38°.84N×26°.55E, h7km±3km, ML2.5*
*THE **14** 03:19:37.9, 38°.84N×26°.53E, h9km±1km, ML2.4/6, Error ellipse: s-maj=1.4km s-min=0.6km az=256.0*
*ISK **14** 03:19:37.9, 38°.84N×26°.56E, h7km, ML2.6/29*
*ATH **14** 03:19:38.4, 38°.84N×26°.48E, h14km±6km, ML2.4/2, Error ellipse: s-maj=8.0km s-min=1.4km az=276.0*

ISC 14 03:19:38.0±0.9, 38°.84N±0°.02×26°.54E±0°.02, h12km±7km, n64, σ0°.68/95, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOCM	**Foa**	**0.19**	**129**	Pg	**Pg**	**03 19 42.3**	**0.0**
FOCM				Sg	**Sg**	**03 19 45.2**	**0.0**
KARB	**zmir-Karabur**	**0.20**	**210**	P	**Pg**	**03 19 42.4**	**+0.1**
CAND	**Candarli**	**0.24**	**60**	Pg	**Pg**	**03 19 42.9**	**-0.1**
CAND				Sg	**Sg**	**03 19 46.6**	**+0.1**
IZMD	**zmir-Dikili-**	**0.34**	**64**	P	**Pg**	**03 19 44.5**	**-0.4**
IZMD				P	**Pb**	**03 19 44.7**	**-1.3**
IZMD				S	**Sg**	**03 19 49.3**	**-0.2**
DKL	**Dikili**	**0.37**	**50**	Pg	**Pg**	**03 19 45.3**	**-0.1**
DKL				Sg	**Sg**	**03 19 50.5**	**+0.1**
ZEDA	**zmir-Bergama**	**0.44**	**73**	P	**Pg**	**03 19 46.4**	**-0.3**
EAG2	**Marmaro, Chios**	**0.45**	**229**	P	**Pg**	**03 19 46.1**	**-0.7**
PRK	**Paraskevi**	**0.46**	**333**	P	**Pg**	**03 19 47.0**	**-0.1**
PRK				S	**Sg**	**03 19 53.5**	**+0.3**
	695nm,0.8s						
PRK	**Paraskevi**	**0.46**	**333**	P	**Pg**	**03 19 47.0**	**-0.1**
PRK				S	**Sg**	**03 19 53.4**	**+0.3**
PRK				AML	AML	03 19 55.9	
	comp=E,1589μm,0.4s						
PRK				AML	AML	03 19 58.0	
	comp=N,933μm,0.2s						
URLA	**Izmir**	**0.48**	**175**	P	**Pg**	**03 19 46.3**	**-1.0**
URLA	**Izmir**	**0.48**	**175**	Pg	**Pg**	**03 19 47.7**	**+0.3**
URLA				Sg	**Sb**	**03 19 54.9**	**-0.3**
AYVA	**Ayvalik**	**0.49**	**14**	P	**Pg**	**03 19 46.8**	**-0.8**
CHOS	**Chios island**	**0.59**	**220**	P	**Pg**	**03 19 49.6**	**+0.1**
CHOS				S	**Sg**	**03 19 58.0**	**+0.8**
	comp=N,510nm,0.2s						
CHOS	**Chios island**	**0.59**	**220**	P	**Pg**	**03 19 49.6**	**+0.1**
CHOS				AML	AML	03 20 01.8	
	comp=E,1260μm,0.2s						
CHOS				AML	AML	03 20 02.6	
	comp=N,895μm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**0.60**	**183**	P	**Pg**	**03 19 48.9**	**-0.7**
ZEYE				S	**Sb**	**03 19 58.7**	**+0.1**
ZEYE				*i* AML	AML	03 20 02.0	
	comp=N,604nm,0.3s						
ZEYE				*i* AML	AML	03 20 02.0	
	comp=N,566nm,0.4s						
BLCB	**

comp=N,340nm,0.5s
SMG Samos 1.15 168 P **Pb** 03 19 59.3 -0.5
YENI Yenice-Canakka 1.23 26 Pn **Pg** 03 20 01.9 +0.3
BALY Balya 1.23 43 P **Pb** 03 20 00.5 -0.7
BALY S **Sg** 03 20 17.5 -0.2
BALY *i* AML AML 03 20 20.0
comp=N,328nm,0.4s
CNKL anakkale-Mer 1.23 355 P **Pn** 03 20 00.8 -0.2
CNKL P **Pb** 03 20 01.2 0.0
GCAM G?zelcaml? 1.26 154 Pn **Pg** 03 20 02.2 0.0
GORD Gordes-Manisa 1.28 86 Pn **Pg** 03 20 02.6 0.0
IZMR zmir-demi 1.31 122 P **Pn** 03 20 00.1 -1.9
IZMR S **Sb** 03 20 18.9 -0.3
AYDB Zeytinkoy-Aydi 1.39 129 Pn **Pb** 03 20 03.8 0.0
BKES Balkesir-Mer 1.40 50 P **Pn** 03 20 03.8 +0.4
BKES S **Sb** 03 20 20.9 -1.0
BKES *i* AML AML 03 20 25.0
comp=N,65nm,0.6s
GADA Gvkgeada 1.44 340 Pn **Pb** 03 20 05.1 +0.4
LIA Limnos Island 1.49 316 P **Pn** 03 20 04.2 -0.3
LIA S **Sn** 03 20 23.7 -0.2
GONE Gonen-Balikesi 1.50 36 Pn **Pb** 03 20 05.5 -0.2
GELI Tayfur-Gelibol 1.56 358 Pn **Pb** 03 20 06.8 0.0
KIRA zmir-Kiraz 1.59 113 P **Pg** 03 20 08.2 -0.4
KIRA S **Sb** 03 20 28.2 +0.7
NAZL Nazilli-Aydin 1.63 122 Pn **Pb** 03 20 07.7 -0.3
KRBG Karabiga-Canak 1.66 20 Pn **Pb** 03 20 08.2 -0.3
KULA Kula-Manisa 1.69 100 Pn **Pn** 03 20 08.4 +1.0
ESEN Aydn-Nazilli 1.76 125 P **Pn** 03 20 07.5 -0.7
SMTH Samothraki Isl 1.81 335 P **Pn** 03 20 08.6 -0.3
SMTH S **Sn** 03 20 32.4 +0.6
EDC Edincik 1.82 34 Pn **Pn** 03 20 10.1 +1.0
ERIK Erikli-Kesan 1.83 359 Pn **Pn** 03 20 10.5 +1.3
RKY Sarkoy-Tekirda 1.91 15 Pn **Pn** 03 20 11.7 +1.3
ENEZ Enez 1.92 351 Pn **Pb** 03 20 12.1 -0.8
SIMA Simav-Kutahya 1.92 82 Pn **Pn** 03 20 11.7 +1.2
MRMT Marmara Adasi 1.94 24 Pn **Pb** 03 20 12.4 -1.0
KCTX Karacabey (Bur 2.00 44 Pn **Pn** 03 20 12.6 +1.0
ALN Alexandroupoli 2.09 350 Pn **Pn** 03 20 14.3 +1.5
UKOP Uzunkopru-Edir 2.29 2 Pn **Pn** 03 20 17.0 +1.5
TVSB Tavsanli 2.35 74 Pn **Pn** 03 20 17.7 +1.2
MDNY Mudanya-Bursa 2.37 49 Pn **Pn** 03 20 18.1 +1.5

RSNC 14 04:07:30.1±0.0,7°N±1°×7°3W±°, h147km±2km, M2.6, mb3.8, ML2.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**199**	P	Pn	04 07 50.3	-0.1
BARC				S	Sn	04 08 04.9	-0.9
BRJC	**Barrancabermej**	**0.65**	**285**	P	Pn	04 07 52.1	+0.1
BRJC				S	Sn	04 08 09.2	+0.6
PAMC	**Pamplona, Colo**	**0.67**	**37**	P	Pn	04 07 53.0	+0.3
PAMC				S	Sn	04 08 09.9	0.0
RUSC	**La Rusia**	**0.90**	**178**	P	Pn	04 07 54.1	-0.3
RUSC				S	Sn	04 08 12.0	-0.8
PTBC	**PUERTO BERRIO,**	**1.36**	**259**	P	Pn	04 07 56.9	-1.1
PTBC				S	Sn	04 08 18.3	-1.0
OCAC	**Ocana**	**1.45**	**352**	P	Pn	04 07 58.6	-0.4
OCAC				S	Sn	04 08 20.4	-0.8
SPBC	**San Pablo de B**	**1.49**	**220**	P	Pn	04 07 59.3	-0.1
SPBC				S	Sn	04 08 21.0	-0.9
ZARC	**Zaragoza, Cauc**	**1.87**	**292**	P	Pn	04 08 03.2	-0.3
ZARC				S	Sn	04 08 28.6	-0.5
NORC	**Norcasia**	**2.14**	**235**	P	Pn	04 08 06.3	-0.5
NORC				S	Sn	04 08 34.0	-0.9
CHIC	**Chingaza**	**2.24**	**196**	P	Pn	04 08 08.2	-0.2
CHIC				S	Sn	04 08 38.6	+0.8
ROSC	**El Rosal**	**2.29**	**212**	P	Pn	04 08 09.9	+1.0
ROSC				S	Sn	04 08 39.1	+0.4
CVER	**Cruz Verde, Cu**	**2.46**	**203**	P	Pn	04 08 11.5	+0.4
CVER				S	Sn	04 08 43.8	+1.2
HELC	**Santa Helena**	**2.48**	**256**	P	Pn	04 08 11.9	+0.7
HELC				S	Sn	04 08 42.3	-0.4
UREC	**San Jos de Ur**	**2.58**	**292**	P	Pn	04 08 11.3	-0.8
UREC				S	Sn	04 08 42.4	-2.1
VILC	**Villavicencio,**	**2.73**	**192**	P	Pn	04 08 13.2	-1.0
VILC				S	Sn	04 08 48.3	+0.2
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	04 08 14.8	+0.3
GUY2C				S	Sn	04 08 49.7	+1.1
PTGC	**Puerto Gaitan,**	**2.76**	**159**	P	Pn	04 08 13.2	-1.2
PTGC				S	Sn	04 08 46.1	-2.5
CBOC	**Ciudad Bolivar**	**3.03**	**252**	P	Pn	04 08 18.1	+0.2
CBOC				S	Sn	04 08 54.1	-0.7
ARGC	**Ariguani, Magd**	**3.24**	**340**	P	Pn	04 08 20.5	+0.1
ARGC				S	Sn	04 08 59.7	+0.2
PRAC	**Prado**	**3.54**	**210**	P	Pn	04 08 23.6	-0.8
PRAC				S	Sn	04 09 06.6	+0.2
ORTC	**Ortega, Tolima**	**3.57**	**217**	P	Pn	04 08 24.5	-0.3
ORTC				S	Sn	04 09 07.9	+0.7
APAC	**Apartado, Choc**	**3.61**	**288**	P	Pn	04 08 24.0	-1.2
APAC				S	Sn	04 09 04.5	-3.5
SJCC	**San Jacinto, C**	**3.70**	**326**	P	Pn	04 08 24.3	-2.1
SJCC				S	Sn	04 09 06.8	-3.3
URMC	**La Uribe, Meta**	**3.75**	**200**	P	Pn	04 08 27.0	-0.1
URMC				S	Sn	04 09 11.5	+0.1
CRJC	**Cerrejon, Guaj**	**4.20**	**3**	P	Pn	04 08 30.5	-2.5
CRJC				S	Sn	04 09 17.7	-4.2
YOTC	**Yotoco, Valle**	**4.27**	**229**	P	Pn	04 08 32.9	-1.0
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	04 08 40.6	-2.8
URIC				S	Sn	04 09 36.1	-4.5

BJI ***14*** *04:09:33.8, 34.°58N×140.°52E, h108km, mb4.7/52, mB4.7/17*
MOS ***14*** *04:09:39.4±0.8, 34.°66N×139.°83E, h108km, mb4.8/32, Error ellipse: s-maj=11.7km s-min=5.2km az=125.0*
NEIC ***14*** *04:09:40.7±1.5, 34.°75N±0.°05×139.°96E±0.°08, h100km±5km, mb4.8/45, Error ellipse: s-maj=9.2km s-min=7.1km az=72.0*
NIED ***14*** *04:09:41.3, 34.°73N×139.°88E, h106km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.05; $M_{\theta\theta}$-0.43; $M_{\phi\phi}$-0.62; $M_{r\theta}$-0.19; $M_{\theta\phi}$1.34; $M_{\phi r}$2.82; Fault plane solution: $M_0$3.26000×10^{15} NP1: ϕ_s=351.00000°, δ80.00000°, λ113.00000°. NP2: ϕ_s=104.00000°, δ25.00000°, λ24.00000°.*
IDC ***14*** *04:09:42.0±0.5, 34.°65N×139.°74E, h114km±4km, mb4.2/28, mbtmp4.5/31, MS2.8/5 Error ellipse: s-maj=11.9km s-min=5.7km az=78.0*
JMA ***14*** *04:09:41.3±0.2, 34.°7N±0.°7×139.°9E±0.°9, h106km±1km, MD4.3/40, MV4.3/40, SE OFF BOSO PENINSULA*
JMA Felt II J1 at SE OFF BOSO PENINSULA .
ISC 14 04:09:40.9±0.4, 34.°75N±0.°03×139.°91E±0.°04, h109km±3km, h109km:pP-P, n283, σ1°933/302, mb4.7/90, 13C-17D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.29**	**356**	*i* P	**Pn**	**04 09 57.5**	**+1.1**
TATJ				S	**Sn**	**04 10 09.9**	**+1.8**
TATJ	**Tateyama 2**	**0.29**	**356**	A	A	04 09 57.5	
	comp=E,43nm,1.2s,comp=N,30nm,1.5s						
JIM2	**Oshima 3**	**0.40**	**266**	*i* P	**Pn**	**04 09 57.0**	**0.0**
JIM2				S	**Sn**	**04 10 08.7**	**-0.4**
JIM2	**Oshima 3**	**0.40**	**266**	A	A	04 09 57.0	
	comp=E,102nm,0.6s,comp=N,76nm,0.5s						
JKUC	**kamogawauchiur**	**0.48**	**29**	A	A	04 09 57.9	
	comp=E,31nm,0.4s,comp=N,36nm,0.5s						
BSO3	**Boso 3**	**0.49**	**83**	*i* P	**Pn**	**04 09 58.4**	**+1.3**
JYO	**Yokosk**	**0.52**	**337**	A	A	04 09 58.1	
	comp=E,50nm,1.6s,comp=N,37nm,0.5s						
JTHY	**Toshimahigashi**	**0.56**	**247**	*i* P	**Pn**	**04 09 58.5**	**+0.5**
JTHY				S	**Sn**	**04 10 11.9**	**+1.0**
JTHY	**Toshimahigashi**	**0.56**	**247**	A	A	04 09 58.5	
	comp=E,71nm,0.5s,comp=N,54nm,0.6s						
JNIO	**Niijimaoohara**	**0.66**	**234**	A	A	04 09 58.8	
	comp=E,44nm,0.9s,comp=N,35nm,1.0s						
JSKK	**Shikinejimakit**	**0.71**	**235**	A	A	04 09 59.3	
	comp=E,18nm,0.7s,comp=N,16nm,1.7s						
JCN	**Nagara**	**0.71**	**19**	A	A	04 09 59.8	
	comp=E,24nm,3.8s,comp=N,42nm,2.0s						
JMYK	**Miyake Tsubota**	**0.75**	**204**	P	**Pn**	**04 09 59.9**	**+0.4**
JMYK				S	**Sn**	**04 10 14.0**	**+0.5**
JMYK	**Miyake Tsubota**	**0.75**	**204**	A	A	04 09 59.9	
	comp=E,43nm,1.4s,comp=N,19nm,0.7s						
JHTM	**Izuhatsuma**	**0.77**	**286**	A	A	04 09 59.9	
	comp=E,65nm,0.6s,comp=N,52nm,0.4s						
JKO	**Kozu shima**	**0.85**	**229**	A	A	04 10 00.6	
	comp=E,23nm,1.8s,comp=N,15nm,1.8s						
JOD2	**Odawara 2**	**0.85**	**308**	P	**Pn**	**04 10 00.9**	**+0.4**
JOD2				S	**Sn**	**04 10 15.4**	**+0.1**
JOD2	**Odawara 2**	**0.85**	**308**	A	A	04 10 00.9	
	comp=E,20nm,1.1s,comp=N,28nm,0.5s						
JIZS	**Izushimoda**	**0.85**	**268**	⇓*i* P	**Pn**	**04 10 00.9**	**+0.4**
JIZS				⇓S	**Sn**	**04 10 15.3**	**+0.1**
BSO1	**Boso 1**	**0.88**	**96**	*i* P	**Pn**	**04 10 01.2**	**+1.0**
JMKN	**Mikurajimanish**	**0.89**	**198**	⇓*i* P	**Pn**	**04 10 01.2**	**+0.4**
JMKN				⇓S	**Sn**	**04 10 16.1**	**+0.2**
JMKN	**Mikurajimanish**	**0.89**	**198**	A	A	04 10 01.2	
	comp=E,70nm,0.3s,comp=N,55nm,0.3s						
TOK	**Tokyo**	**0.95**	**352**	A	A	04 10 02.0	
	comp=E,36nm,0.3s,comp=N,39nm,0.5s						
JSMT	**Sammumatsuo**	**1.00**	**26**	A	A	04 10 02.6	
	comp=E,15nm,1.5s,comp=N,22nm,3.2s						
JSGW	**Sagamiharawaka**	**1.03**	**326**	A	A	04 10 02.7	
	comp=E,5.0nm,1.4s,comp=N,4.0nm,3.6s						
JYN	**Shimob**	**1.35**	**304**	⇓*i* P	**Pn**	**04 10 06.8**	**+0.9**
JYN				⇓*e*S	**Sn**	**04 10 25.9**	**+1.1**
JSG	**Sagara**	**1.43**	**268**	P	**Pn**	**04 10 08.1**	**+1.4**
JSG				Sn	**Sn**	**04 10 28.3**	**+2.0**
JSG	**Sagara**	**1.43**	**268**	P	**Pn**	**04 10 08.3**	**+1.6**
SHZ3	**Shizuoka 3**	**1.44**	**283**	*i* P	**Pn**	**04 10 07.8**	**+1.0**
SHZ3	**Shizuoka 3**	**1.44**	**283**	A	A	04 10 07.8	
	comp=E,2.0nm,2.2s,comp=N,4.0nm,7.1s						
JYT	**Yasato**	**1.50**	**9**	A	A	04 10 08.4	
	comp=E,11nm,0.4s,comp=N,9.0nm,0.4s						
JRY	**Ryogami san**	**1.52**	**327**	*i* P	**Pn**	**04 10 08.7**	**+0.9**
JRY				S	**Sn**	**04 10 28.8**	**+0.5**
JHJ	**Hachijo jima 2**	**1.62**	**184**	P	**Pn**	**04 10 09.4**	**+0.2**
	comp=N,3μm,0.3s,baz=309,slow=18,SNR=30						
JHJ				S	**Sn**	**04 10 30.1**	**-0.5**
	comp=N,3μm,0.3s,baz=230,slow=21,SNR=20						
JHJ2	**Mitsune**	**1.63**	**183**		**Pn**	**04 10 09.7**	**+0.6**
JHJ2				Sn	**Sn**	**04 10 30.2**	**-0.5**
JHJ2	**Mitsune**	**1.63**	**183**	P	**Pn**	**04 10 10.0**	**+0.8**
JHJ2	**Mitsune**	**1.63**	**183**	*e*P	**Pn**	**04 10 09.8**	**+0.6**
JHJ2				S	**Sn**	**04 10 30.7**	**0.0**
JAG	**Ashikaga**	**1.72**	**348**	⇓*i* P	**Pn**	**04 10 10.4**	**+0.2**
JAG	**Ashikaga**	**1.72**	**348**	A	A	04 10 10.4	
	comp=E,3.0nm,0.4s,comp=N,4.0nm,2.0s						
JNY	**Yasuok**	**1.79**	**291**	A	A	04 10 11.6	
	comp=E,9.0nm,1.0s,comp=N,7.0nm,1.2s						
JNT	**Takato**	**1.84**	**308**	⇓*i* P	**Pn**	**04 10 13.2**	**+1.3**
JNT				⇓*e*S	**Sn**	**04 10 36.6**	**+1.1**
JGF	**Kuroka**	**2.26**	**293**	P	**Pn**	**04 10 18.5**	**+1.3**
JGF				Sn	**Sn**	**04 10 45.7**	**+0.7**
JGF	**Kuroka**	**2.26**	**293**	P	**Pn**	**04 10 18.5**	**+1.3**
MJAR	**Matsushiro Arr**	**2.27**	**323**	P	**Pn**	**04 10 17.9**	**+0.6**
	comp=N,179nm,0.9s,baz=159,slow=11,SNR=262						
MJAR				S	**Sn**	**04 10 46.5**	**+1.4**
	comp=N,106nm,0.5s,baz=123,slow=41,SNR=4.0						
MAJO	**Matsushiro**	**2.27**	**323**		**Pn**	**04 10 18.3**	**+1.0**
MAJO				Sn	**Sn**	**04 10 44.7**	**-0.4**
MAJO	**Matsushiro**	**2.27**	**323**	P	**Pn**	**04 10 18.2**	**+1.0**
MAJO	**Matsushiro**	**2.27**	**323**	*c i* P	**Pn**	**04 10 18.0**	**+0.7**
INU	**Inuyama**	**2.45**	**285**		**Pn**	**04 10 20.7**	**+1.1**
INU				Sn	**Sn**	**04 10 48.4**	**-0.9**
INU	**Inuyama**	**2.45**	**285**	P	**Pn**	**04 10 20.7**	**+1.1**
ONAJ	**Iwakimizuishiy**	**2.46**	**17**	A	A	04 10 20.9	
	comp=E,10.0nm,0.3s,comp=N,5.0nm,0.3s						
JMM	**Marumori**	**3.19**	**13**		**Pn**	**04 10 29.2**	**-0.1**
JMM	**Marumori**	**3.19**	**13**	P	**Pn**	**04 10 29.5**	**+0.1**
JSD	**Sado**	**3.55**	**338**		**Pn**	**04 10 34.0**	**-0.1**
JSD	**Sado**	**3.55**	**338**	P	**Pn**	**04 10 34.1**	**0.0**
JMN	**Monobe**	**5.10**	**260**	Pn	**Pn**	**04 10 56.1**	**+1.0**
JMN	**Monobe**	**5.10**	**260**	P	**Pn**	**04 10 56.3**	**+1.2**
JTM	**Tenmabayashi**	**6.10**	**8**	P	**Pn**	**04 11 08.1**	**-0.4**
JNU	**Nakatsue**	**7.68**	**260**	P	**Pn**	**04 11 30.1**	**0.0**
	comp=N,4.8nm,0.3s,baz=60,slow=2.8,SNR=11						
JNU	**Nakatsue**	**7.68**	**260**	P	**Pn**	**04 11 31.6**	**+1.6**
ERM	**Erimo**	**7.69**	**18**	Pn	**Pn**	**04 11 27.4**	**-2.7**
ERM	**Erimo**	**7.69**	**18**	P	**Pn**	**04 11 29.0**	**-1.0**
ERM	**Erimo**	**7.69**	**18**	*ce*P	**Pn**	**04 11 29.0**	**-1.0**
JCJ	**Chichijima**	**7.87**	**165**	P	**Pn**	**04 11 31.8**	**-0.8**
ASAJ	**Asahikawa**	**9.59**	**12**	P	**Pn**	**04 11 53.3**	**-2.4**
	comp=N,16nm,0.5s,baz=210,slow=13,SNR=11						
ASAJ				S	**Sn**	**04 13 33.9**	**-7.6**
	comp=N,12nm,0.5s,baz=198,slow=33,SNR=2.2						
ASAJ	**Asahikawa**	**9.59**	**12**	P	**Pn**	**04 11 53.1**	**-2.6**
JKA	**Kamikawa-asahi**	**9.59**	**12**	Pn	**Pn**	**04 11 53.1**	**-2.6**
KSRS	**Korea Array**	**10.07**	**289**	LR	LR	04 15 54.3	
	comp=N,20nm,18.9s,baz=95,slow=37						
USRK	**Ussuriysk Ar.**	**11.25**	**329**	P	**Pn**	**04 12 17.8**	**-0.4**
	comp=N,2.2nm,0.6s,baz=131,slow=12,SNR=5.7						
MDJ	**Mudanjiang**	**12.65**	**324**		**Pn**	**04 12 35.0**	**-1.8**
MDJ	**Mudanjiang**	**12.65**	**324**	P	**Pn**	**04 12 37.9**	**+1.1**
MDJ				pmax	pmax		
comp=N,12nm,0.5s							
MDJ				pmax	pmax		
comp=N,100nm,6.0s							
CN2	**Changchun**	**14.38**	**313**	*e*P	**P**	**04 13 01.8**	**-1.2**
CN2				pmax	pmax		
comp=N,10.0nm,0.6s							
BNX	**BinXian**	**14.54**	**323**	⇑P	**Pn**	**04 13 00.9**	**-0.2**
BNX				pmax	pmax		
comp=N,11nm,0.8s							
DL2	**Dalian**	**15.22**	**291**	P	**P**	**04 13 12.8**	**+0.5**
DL2				pmax	pmax		
comp=N,28nm,0.8s							
KLR	**Kul'dur**	**15.68**	**340**	P	**Pn**	**04 13 14.6**	**-0.9**
comp=N,8.1nm,0.4s,baz=157,slow=8.9,SNR=29							
KLR	**Kul'dur**	**15.68**	**340**	*ce*P	**Pn**	**04 13 14.3**	**-1.2**
KLR				pmax	pmax		
comp=E,8.0nm,0.7s							
NJ2	**Nanjing**	**17.79**	**267**	*e*P	**Pn**	**04 13 42.4**	**+0.9**
NJ2				pP	**pP**	**04 13 58.3**	**-2.2**
NJ2				pmax	pmax		
comp=E,11nm,0.5s							
HEH	**HeiHe**	**17.99**	**333**	*e*P	**P**	**04 13 40.8**	**-2.0**
HEH				pmax	pmax		
comp=Z,24nm,0.7s							
NACB	**Ninganchiao**	**19.09**	**241**	P	**P**	**04 13 54.7**	**-0.3**
comp=Z,32nm,1.2s							
BJI	**Beijing**	**19.57**	**293**	P	**P**	**04 13 55.6**	**-4.5**
BJI				pP	**pP**	**04 14 16.8**	**-3.5**
BJI				pmax	pmax		
comp=Z,3.0nm,0.6s							
BJI				pmax	pmax		
comp=Z,52nm,4.5s							
TPUB	**Ta-pu**	**20.32**	**241**	P	**P**	**04 14 07.8**	**-0.6**
XLT	**XiLinHaoTe**	**20.52**	**304**	*e*P	Pn	04 14 13.5	-0.2
XLT				pmax	pmax		
comp=Z,23nm,0.7s							
XLT				pmax	pmax		
comp=Z,87nm,5.3s							
ZEA	**Zeya**	**20.98**	**339**	*e*P	**P**	**04 14 14.7**	**-0.5**
ZEA				pmax	pmax		
comp=N,10.0nm,0.8s							
ZEA				pmax	pmax		
comp=Z,30nm,0.6s							
WHN	**Wuhan**	**21.91**	**266**	P	**P**	**04 14 24.9**	**-0.4**
WHN				pP	**pP**	**04 14 49.8**	**+4.2**
PETK	**Petropavlovsk-**	**22.27**	**29**	P	**P**	**04 14 30.4**	**+1.5**
comp=Z,2.8nm,0.9s,baz=212,slow=19,SNR=4.1							
PETK				LR	LR	04 23 05.8	
comp=Z,26nm,20.5s,baz=237,slow=36							
comp=Z,2.8nm,0.9s							
HHC	**Hu-ho-hao-te**	**23.16**	**294**	*e*P	**P**	**04 14 36.8**	**-1.1**
HHC				pmax	pmax		
comp=Z,14nm,0.6s							
HHC				pmax	pmax		
comp=Z,60nm,4.4s							
BTO	**Baotou**	**24.30**	**293**	*e*P	**P**	**04 14 47.4**	**-0.9**
BTO				pP	**pP**	**04 15 10.3**	**-1.2**
BTO				sP	**sP**	**04 15 23.4**	**-1.3**
BTO				PP	**PnPn**	**04 15 27.3**	**+2.0**
BTO				S	**S**	**04 18 59.8**	**+0.3**
BTO				SS	**SnSn**	**04 20 00.5**	**+5.7**
BTO				pmax	pmax		
comp=Z,23nm,0.6s							
BTO				pmax	pmax		
comp=Z,110nm,4.9s							
BTO				LR	LR		
comp=Z,160nm,7.3s							
BTO				LR	LR		
comp=Z,160nm,5.4s							
BTO				LR	LR		
comp=Z,100nm,6.5s							
MA2	**Magadan**	**25.85**	**13**	LR	LR	04 27 55.6	
comp=Z,26nm,18.3s,baz=81,slow=42							
ENH	**Enshi**	**25.99**	**269**	P	**P**	**04 15 01.2**	**-2.4**
ENH				IAmb	IAmb	04 15 02.5	
comp=Z,21nm,1.0s							
ULN	**Ulaanbaatar**	**27.72**	**308**	P	**P**	**04 15 18.1**	**-0.9**
ULN				IAmb	IAmb	04 15 21.1	
comp=Z,11nm,0.8s							
ULN	**Ulaanbaatar**	**27.72**	**308**	*c i* P	**P**	**04 15 20.1**	**+1.0**
ULN				pmax	pmax		
comp=Z,16nm,1.3s							
SONM	**Songino Array**	**28.14**	**308**	P	**P**	**04 15 22.8**	**0.0**
comp=Z,9.6nm,0.9s,baz=112,slow=8.0,SNR=31							
SONM				PcP	**PcP**	**04 18 34.8**	**+0.7**
comp=Z,0.7nm,0.5s,baz=134,slow=4.2,SNR=3.2							
comp=Z,9.6nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**28.15**	**115**	T	T	04 45 24.0	
baz=308,slow=75,SNR=114							
H11N1	**WAKE ISLAND Hy**	**28.16**	**115**	T	T	04 45 21.7	
baz=308,slow=75,SNR=106							
H11N3	**WAKE ISLAND Hy**	**28.17**	**115**	T	T	04 45 11.2	
baz=308,slow=75,SNR=80							
H11S3	**WAKE ISLAND Hy**	**28.77**	**117**	T	T	04 45 59.8	
baz=310,slow=76,SNR=17							
H11S1	**WAKE ISLAND Hy**	**28.77**	**117**	T	T	04 45 54.3	
baz=310,slow=76,SNR=34							
H11S2	**WAKE ISLAND Hy**	**28.78**	**117**	T	T	04 46 10.3	
baz=310,slow=76,SNR=20							
LZH	**Lanzhou**	**29.32**	**283**	*e*P	**P**	**04 15 32.3**	**-1.1**
LZH				pP	pP	04 15 59.3	+1.8
LZH				pmax	pmax		
comp=Z,15nm,1.0s							
CD2	**Chengdu**	**30.52**	**273**	P	**P**	**04 15 42.1**	**-1.8**
CD2				pmax	pmax		
comp=Z,50nm,0.7s							
GTA	**Gaotai**	**32.14**	**290**	P	**P**	**04 15 57.9**	**-0.3**
GTA				pmax	pmax		
comp=Z,12nm,0.7s							
PZH	**PanZhiHua**	**33.70**	**266**	P	**P**	**04 16 09.9**	**-2.0**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,90nm,5.2s							
PHRA	**Phrae**	**38.71**	**256**	P	**P**	**04 16 53.1**	**-1.4**
CHTO	**Chiang Mai**	**39.57**	**257**	P	**P**	**04 17 00.3**	**-1.3**
CHTO	**Chiang Mai**	**39.57**	**257**	P	**P**	**04 17 00.3**	**-1.3**
CHTO				pmax	pmax		
comp=Z,3.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**39.76**	**257**	P	**P**	**04 17 01.9**	**-1.3**
comp=Z,2.1nm,0.4s,baz=46,slow=7.6,SNR=13							
CMAR				PcP	**PcP**	**04 19 08.5**	**+0.9**
comp=Z,1.0nm,0.3s,baz=60,slow=5.3,SNR=5.4							
CMAR				LR	LR	04 33 16.0	
comp=Z,17nm,18.7s,baz=95,slow=36							
comp=Z,2.1nm,0.4s							
WMQ	**Urumqi**	**40.83**	**299**	*e*P	**P**	**04 17 12.5**	**+0.7**
WMQ				pmax	pmax		
comp=Z,31nm,0.9s							
ZSN	**Zaisan**	**42.54**	**305**	*e*P	**P**	**04 17 26.1**	**+0.5**
comp=Z,8.3nm,0.4s							
ZSN	**Zaisan**	**42.54**	**305**	*e*P	**P**	**04 17 26.1**	**+0.5**
ZSN				pmax	pmax		
comp=Z,8.0nm,0.4s							
ZALV	**Zalesovo Beam**	**42.60**	**314**	P	**P**	**04 17 26.5**	**+0.6**
comp=Z,8.5nm,0.3s,baz=102,slow=7.8,SNR=38							
ZALV				PcP	**PcP**	**04 19 16.2**	**0.0**
comp=Z,3.8nm,0.5s,baz=107,slow=3.3,SNR=8.7							
comp=Z,8.5nm,0.3s							
MK31	**Makanchi Array**	**44.34**	**304**	*ce*P	**P**	**04 17 40.3**	**+0.2**
MKAR	**Makanchi Array**	**44.34**	**304**	P	**P**	**04 17 40.6**	**+0.6**
comp=Z,20nm,0.6s,baz=84,slow=9.6,SNR=162							
MKAR				PcP	**PcP**	**04 19 22.1**	**-0.2**
comp=Z,0.5nm,0.3s,baz=87,slow=3.4,SNR=2.0							
MKAR				ScP	**ScP**	**04 23 04.6**	**+0.3**
comp=Z,1.4nm,0.9s,baz=96,slow=2.4,SNR=5.4							
comp=Z,20nm,0.6s							
MAKZ	**Makanchi**	**44.55**	**304**	P	**P**	**04 17 42.5**	**+0.7**
MAKZ				IAmb	IAmb	04 17 43.2	
comp=Z,23nm,0.9s							
MAKZ	**Makanchi**	**44.55**	**304**	P	**P**	**04 17 42.5**	**+0.7**
MAKZ				pmax	pmax		
comp=Z,23nm,1.0s							
MAKZ	**Makanchi**	**44.55**	**304**	P	**P**	**04 17 42.3**	**+0.5**
NRIK	**Noril'sk**	**44.85**	**337**	*de*P	**P**	**04 17 44.6**	**+0.8**
KURK	**Kurchatov**	**46.42**	**310**	P	**P**	**04 17 56.6**	**+0.3**
KURK				IAmb	IAmb	04 17 57.9	
comp=Z,22nm,0.8s							
KURK	**Kurchatov**	**46.42**	**310**	*c i* P	**P**	**04 17 56.3**	**-0.1**
KURK				pmax	pmax		
comp=Z,20nm,0.7s							
KURK	**Kurchatov**	**46.42**	**310**	P	**P**	**04 17 56.4**	**+0.1**
KURK				PcP	**PcP**	**04 19 29.1**	**-0.2**
KURBB	**Kurchatov Arra**	**46.48**	**310**	P	**P**	**04 17 57.0**	**+0.2**
comp=Z,10.0nm,0.5s,baz=85,slow=7.8,SNR=110							
KURBB				PcP	**PcP**	**04 19 29.0**	**-0.6**
comp=Z,0.8nm,0.5s,baz=98,slow=3.4,SNR=2.2							
comp=Z,10.0nm,0.5s							
SHLS	**Shalkode**	**46.85**	**299**	*e*P	**P**	**04 17 57.1**	**-3.0**
SHLS	**Shalkode**	**46.85**	**299**	*e*P	**P**	**04 17 57.9**

comp=Z,14nm,1.6s
ARSB Arslanbob 51.96 298 P **P 04 18 39.8 +0.9**
ARSB pmax pmax
comp=Z,14nm,1.6s
ILAR Eielson Array 52.08 31 P **P 04 18 40.5 +1.3**
comp=Z,1.1nm,0.6s,baz=273,slow=5.9,SNR=17
ILAR pP **pP 04 19 08.1 +3.1**
comp=Z,1.5nm,0.8s,baz=270,slow=6.5,SNR=5.9
comp=Z,1.1nm,0.6s
DZA Taraz 52.72 301 *e*P **P 04 18 44.7 +0.4**
comp=Z,8.3nm,0.6s
DZA Taraz 52.72 301 *e*P **P 04 18 44.7 +0.4**
DZA pmax pmax
comp=Z,8.0nm,0.6s
KK31 Karatay Array 53.24 301 *i* P **P 04 18 48.4 +0.2**
KKAR Karatay Array 53.24 301 P **P 04 18 48.6 +0.4**
KKAR IAmb IAmb 04 18 49.6
comp=Z,11nm,0.9s
KKAR Karatay Array 53.24 301 P **P 04 18 48.6 +0.4**
KKAR pmax pmax
comp=Z,11nm,0.9s
BRLS Borolday 53.74 301 *e*P **P 04 18 53.5 +1.6**
BRLS Borolday 53.74 301 *e*P **P 04 18 53.4 +1.6**
IUG Iuzhnay 53.85 300 *e*P **P 04 18 53.2 +0.5**
comp=Z,9.1nm,0.6s
IUG Iuzhnay 53.85 300 *e*P **P 04 18 53.2 +0.5**
IUG pmax pmax
comp=Z,9.0nm,0.6s
BTK Batken 53.90 297 P **P 04 18 53.2 +0.1**
BTK IAmb IAmb 04 18 54.1
comp=Z,5.1nm,0.9s
BTK Batken 53.90 297 P **P 04 18 53.2 +0.1**
BTK pmax pmax
comp=Z,5.0nm,1.0s
NIL Nilore 54.20 289 P **P 04 18 55.3 0.0**
NIL IAmb IAmb 04 18 56.8
comp=Z,15nm,0.7s
NIL Nilore 54.20 289 P **P 04 18 55.3 0.0**
NIL pmax pmax
comp=Z,15nm,0.7s
GAR Garm 54.60 296 P **P 04 18 58.3 0.0**
WRAB Tennant Creek 54.63 186 P **P 04 18 57.4 -0.9**
WRAB IAmb IAmb 04 18 58.5
comp=Z,17nm,0.8s
WRAB Tennant Creek 54.63 186*c i*P **P 04 18 57.6 -0.8**
WRAB pmax pmax
comp=Z,12nm,0.8s
WRA Warramunga Arr 54.64 186 P **P 04 18 57.8 -0.7**
comp=Z,22nm,0.7s,baz=1.0,slow=7.5,SNR=112
comp=Z,22nm,0.7s
QIS Mount Isa 55.00 180 P **P 04 19 00.4 -0.6**
SIMJ Simiganj 55.68 296 P **P 04 19 05.7 -0.3**
SIMJ Simiganj 55.68 296 P **P 04 19 05.9 -0.1**
SIMJ PcP **PcP 04 20 04.7 +0.5**
EPYK Eagle Plains 56.11 29 P **P 04 19 08.2 -0.4**
EPYK IAmb IAmb 04 19 11.3
comp=Z,48nm,1.9s
I30M Mount Dempster 56.46 30 P **P 04 19 11.3 +0.2**
I30M IAmb IAmb 04 19 14.4
comp=Z,5.8nm,0.8s
ARTI Arti 57.39 319 P **P 04 19 17.2 -0.4**
ARTI Arti 57.39 319 P **P 04 19 17.9 +0.3**
comp=Z,15nm,0.4s,baz=74,slow=3.6,SNR=21
comp=Z,15nm,0.4s
ARTI Arti 57.39 319 P **P 04 19 17.8 +0.2**
ASAR Alice Springs 58.37 186 P **P 04 19 24.6 -0.2**
comp=Z,1.6nm,0.3s,baz=12,slow=13,SNR=50
comp=Z,1.6nm,0.3s
AB31 Akbulak array 58.50 311 *i* P **P 04 19 25.6 +0.1**
ABKAR Akbulak array 58.50 311 P **P 04 19 25.5 +0.1**
MBWA Marble Bar 58.81 202 P **P 04 19 26.9 -1.0**
MBWA Marble Bar 58.81 202 P **P 04 19 26.6 -1.2**
AKTO Aktyubinsk 59.31 313 P **P 04 19 31.4 +0.3**
comp=Z,11nm,0.7s,baz=78,slow=11,SNR=25
comp=Z,11nm,0.7s
WRKA Warakurna 60.47 192 P **P 04 19 39.2 0.0**
KIRV Kirov 61.34 323*c i*P **P 04 19 45.3 +0.5**
OOD Oodnadatta 62.33 184 P **P 04 19 51.1 -0.5**
SPITS Spitsbergen Ar 62.53 349 P **P 04 19 53.8 +1.3**
comp=Z,2.7nm,0.6s,baz=46,slow=6.2,SNR=8.9
comp=Z,2.7nm,0.6s
MEEK Meekatharra 64.30 201 P **P 04 20 04.5 -0.2**
BELG Belogornoye 64.65 317 P **P 04 20 06.7 -0.1**
comp=Z,18nm,0.8s,baz=32,slow=3.4,SNR=4.4
comp=Z,18nm,0.8s
LCRK Leigh Creek 64.86 182 P **P 04 20 08.7 +0.4**
MULG Mulgathing 64.92 186 P **P 04 20 08.3 -0.3**
ARCES ARCESS Array B 65.71 339 P **P 04 20 14.0 +0.7**
comp=Z,5.6nm,0.9s,baz=51,slow=7.3,SNR=15
comp=Z,5.6nm,0.9s
ARCES ARCESS Array B 65.71 339 P **P 04 20 14.0 +0.7**
FORT Forrest 66.13 191 P **P 04 20 16.8 +0.4**
FORT Forrest 66.13 191 P **P 04 20 15.2 -1.2**
STKA Stephens Creek 66.29 178 P **P 04 20 17.8 +0.4**
comp=Z,3.1nm,0.7s,baz=342,slow=3.0,SNR=5.9
comp=Z,3.1nm,0.7s
STKA Stephens Creek 66.29 178⇑*e*P **P 04 20 17.3 -0.1**
BBOO Buckleboo 67.30 184 P **P 04 20 22.6 -1.2**
OBN Obninsk 69.20 323⇓*e*P **P 04 20 36.0 +0.5**
OBN *PP **pP 04 21 02.0 -0.4**
OBN *SP **sP 04 21 12.0 -2.1**
OBN *i* 04 30 23.9
OBN pmax pmax
comp=Z,6.0nm,0.5s
LPSR Galich'ya Gora 69.28 320 *e*P **P 04 20 33.7 -2.3**
LPSR pmax pmax
comp=Z,9.0nm,0.6s
VORR Voronezh 69.59 319 *e*P **P 04 20 36.3 -1.7**
VORR pmax pmax
comp=Z,30nm,0.4s
VSR Storozhevoye 69.85 319 *e*P **P 04 20 36.7 -2.9**
VSR pmax pmax
comp=Z,6.0nm,0.8s
VORD Divnogorie 69.91 319 *e*P **P 04 20 37.9 -2.0**
VORD pmax pmax
comp=Z,9.0nm,0.9s
FINES FINESS Array B 70.27 332 P **P 04 20 42.1 +0.2**
comp=Z,4.1nm,0.4s,baz=68,slow=5.5,SNR=64
comp=Z,4.1nm,0.4s
FINES FINESS Array B 70.27 332 *i* P **P 04 20 42.4 +0.5**
FINES pmax pmax
comp=Z,4.0nm,0.4s
NWAO Narrogin (SRO) 70.61 200 P **P 04 20 44.0 -0.3**
comp=Z,9.9nm,0.9s
NWAO Narrogin (SRO) 70.61 200 P **P 04 20 43.7 -0.6**
KBZ Khabaz 71.47 311 P **P 04 20 50.2 +0.7**
comp=Z,9.2nm,0.8s,baz=94,slow=5.3,SNR=14
comp=Z,9.2nm,0.8s
KBZ Khabaz 71.47 311*de*P **P 04 20 49.7 +0.2**
KBZ pmax pmax
comp=Z,12nm,0.9s
KIV Kislovodsk 71.48 311 P **P 04 20 49.9 +0.1**
KIV IAmb IAmb 04 20 52.3
comp=Z,20nm,0.8s
KIV Kislovodsk 71.48 311 *e*P **P 04 20 49.9 +0.1**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV Kislovodsk 71.48 311 P **P 04 20 50.3 +0.5**
SHA1 Shidzhatmaz 71.61 311⇑*e*P **P 04 20 51.3 +0.6**
VSU Vasula 71.80 329⇓*e*P **P 04 20 52.3 +1.0**
VSU pmax pmax
comp=Z,12nm,1.3s
ERBR Yeremizino-Bor 71.92 313 *e*P **P 04 20 52.7 +0.4**
ERBR pmax pmax
comp=Z,15nm,0.7s
PINE Pine Mountain 72.75 48 P **P 04 20 57.3 -0.2**
MNK Minsk 73.70 326 *i* P **P 04 21 02.2 -0.3**
comp=E,19nm,1.9s
MNK *i* P **P 04 21 02.2 -0.3**
comp=N,12nm,0.8s
MNK *i* P **P 04 21 02.2 -0.3**
comp=Z,9.0nm,0.7s,baz=52
MNK *i* pP **pP 04 21 27.7 -2.2**
MNK *i* PP **PP 04 23 48.1 +0.4**
MNK *i* PPP PPP 04 25 33.5
MNK *i* S **S 04 30 26.6 +2.3**
MNK *i* sS **sS 04 31 11.0 -1.0**
MNK *i* SS **SS 04 35 01.5 -7.4**
MNK *i* SSS SSS 04 38 35.6
MNK *i* LQ LQ 04 48 46.7
MNK *i* LR LR 04 53 52.1
MNK Minsk 73.70 326 *i* P **P 04 21 02.2 -0.3**
MNK *i* *PP **pP 04 21 27.7 -2.2**
MNK *i* 04 23 48.1
MNK *i* PPP PPP 04 25 33.4
MNK *i* S **S 04 30 26.6 +2.3**
MNK *i* *SS **sS 04 31 11.0 -1.0**
MNK pmax pmax
comp=Z,9.0nm,0.7s
MNK pmax pmax
comp=E,19nm,1.9s
MNK pmax pmax
comp=N,12nm,0.8s
NACGM Naroch 73.96 326 *e*P **P 04 21 03.5 -0.6**
comp=Z,20nm,0.9s,baz=52
ANN Anapa 74.23 314 *e*P **P 04 21 06.0 +0.2**
ANN pmax pmax
comp=Z,123nm,1.6s
AKASG Malin Array Be 75.35 322 P **P 04 21 12.2 0.0**
comp=Z,3.0nm,0.3s,baz=50,slow=6.2,SNR=30
comp=Z,3.0nm,0.3s
AKBB Malin Array Si 75.35 322*ce*P **P 04 21 12.2 0.0**
KIEV Kiev 75.37 322 P **P 04 21 12.3 +0.1**
KIEV IAmb IAmb 04 21 13.0
comp=Z,23nm,1.4s
KIEV Kiev 75.37 322 P **P 04 21 12.3 +0.1**
KIEV pmax pmax
comp=Z,23nm,1.5s
HFS Hagfors 75.66 335 P **P 04 21 14.1 +0.3**
comp=Z,2.4nm,0.4s,baz=71,slow=5.3,SNR=28
comp=Z,2.4nm,0.4s
NB2 NORSAR Subarra 75.82 337 P **P 04 21 14.9 +0.2**
comp=Z,1.5nm,0.5s,baz=42,slow=5.9
NOA NORSAR Array B 75.82 337 P **P 04 21 15.2 +0.5**
comp=Z,3.6nm,0.7s,baz=41,slow=5.7,SNR=17
comp=Z,3.6nm,0.7s
CMB Columbia Colle 76.20 53 P **P 04 21 17.7 +0.4**
CMB Columbia Colle 76.20 53 P **P 04 21 17.7 +0.4**
CMB pmax pmax
comp=Z,5.0nm,1.4s
MARD Mardin 76.22 306 P **P 04 21 18.5 +0.9**
MARD IAmb IAmb 04 21 19.3
comp=Z,8.9nm,0.6s
KVN Kaiserville 77.12 51 P **P 04 21 25.0 +2.3**
KVN Kaiserville 77.12 51 P **P 04 21 25.0 +2.3**
KVN pmax pmax
comp=Z,2.0nm,0.6s
NVAR Mina Array Bea 77.34 52 P **P 04 21 26.2 +2.2**
comp=Z,1.0nm,0.6s,baz=298,slow=5.1,SNR=14
NVAR pP **pP 04 21 55.5 +4.4**
comp=Z,0.5nm,0.6s,baz=306,slow=6.4,SNR=2.8
comp=Z,1.0nm,0.6s
BR131 Keskin Array S 79.45 311⇓*e*P **P 04 21 36.3 +0.9**
BRTR Keskin Array B 79.45 311 P **P 04 21 36.4 +0.9**
comp=Z,2.6nm,0.7s,baz=101,slow=2.9,SNR=7.0
comp=Z,2.6nm,0.7s
PDAR Pinedale Array 80.14 44 P **P 04 21 40.8 +1.5**
comp=Z,0.5nm,0.7s,baz=307,slow=2.7,SNR=5.3
PDAR pP **pP 04 22 09.5 +2.5**
comp=Z,0.3nm,0.7s,baz=265,slow=10,SNR=1.8
comp=Z,0.5nm,0.7s
RAYN Ar Rayn 80.39 292 P **P 04 21 40.9 +0.2**
RAYN IAmb IAmb 04 21 41.8
comp=Z,9.6nm,0.9s
RAYN Ar Rayn 80.39 292 P **P 04 21 40.9 +0.2**
RAYN pmax pmax
comp=Z,10.0nm,0.9s
BKZ Black Stump Fm 80.95 152 P **P 04 21 43.5 +0.4**
MMAI Mount Meron Ar 82.28 305 P **P 04 21 51.1 +0.6**
comp=Z,1.9nm,0.6s,baz=46,slow=2.4,SNR=4.0
comp=Z,1.9nm,0.6s
CLL Collm 82.46 330 *i* P **P 04 21 51.6 +0.6**
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 82.46 330 *i* P **P 04 21 51.6 +0.6**
comp=Z,4.0nm,0.9s
PV10 Paradox Valley 83.20 48 P **P 04 21 57.0 +1.5**
PV10 IAmb IAmb 04 22 06.2
comp=Z,32nm,1.7s
PV14 Lion Creek, Pa 83.22 48 P **P 04 21 55.4 -0.2**
PV13 Radium Mtn., P 83.48 48 P **P 04 21 58.9 +2.0**
PV13 IAmb IAmb 04 22 00.9
comp=Z,17nm,1.6s
ELL Elmali 83.59 311 P **P 04 21 57.9 +0.6**
ELL Elmali 83.59 311 P **P 04 21 57.9 +0.6**
ELL pmax pmax
comp=Z,190nm,2.0s
RONA Rosalia, Austr 83.66 326 *e*PcP **P 04 21 58.8 +1.4**
comp=Z,5.2nm,0.7s
CONA Conrad Observa 83.70 326 *e*PcP **P 04 21 58.9 +1.3**
comp=Z,2.9nm,0.7s
KHC Kasperske Hory 83.84 328 P **P 04 21 59.0 +0.8**
KHC Kasperske Hory 83.84 328⇓*e*P **P 04 21 59.1 +0.8**
KHC pmax pmax
comp=Z,25nm,2.5s
GEC2 GERESS Array S 84.00 328 P **P 04 21 59.4 +0.3**
GERES GERESS Array B 84.00 328 P **P 04 21 59.5 +0.4**
comp=Z,1.3nm,0.5s,baz=26,slow=6.4,SNR=7.7
comp=Z,1.3nm,0.5s
EKA Eskdalemuir Ar 84.87 340 P **P 04 22 04.1 +0.9**
comp=Z,0.7nm,0.5s,baz=29,slow=5.6,SNR=3.4
comp=Z,0.7nm,0.5s
BIOA Bad Ischl, Aus 84.89 327 *i* P **P 04 22 04.3 +0.7**
comp=Z,2.5nm,0.6s
SOKA Soboth 85.00 325 *e*P **P 04 22 04.7 +0.5**
comp=Z,4.5nm,0.7s
PUK Puka 85.89 320 P **P 04 22 10.7 +2.0**
PDG Podgorica 85.96 320 P **P 04 22 09.0 +0.1**
PDG IAmb IAmb 04 22 18.4
comp=Z,13nm,1.2s
ABTA Abfaltersbach 86.10 327 *e*P **P 04 22 10.0 +0.3**
comp=Z,1.7nm,0.8s
RETA Reutte 86.31 328 *e*P **P 04 22 09.6 -1.0**
comp=Z,7.2nm,1.6s
BMRD Maredsous 86.50 333 *d*P **P 04 22 11.8 +0.4**
comp=Z,5.1nm,1.0s
FUORN Ofenpass-Fuorn 87.20 328 P **P 04 22 15.8 +0.6**
FDMO Fiordimonte 88.63 324 P **P 04 22 21.7 -0.1**
FDMO IAmb IAmb 04 22 23.1
comp=Z,7.2nm,1.3s
NRCA Norcia 88.77 324 P **P 04 22 23.0 +0.5**
TXAR Lajitas Array 92.49 52 P **P 04 22 41.5 +1.5**
comp=Z,0.2nm,0.5s,baz=291,slow=2.5,SNR=5.6
comp=Z,0.2nm,0.5s
MAHO Mahon 95.20 327 P **P 04 22 51.7 -0.4**
MTDJ Mount Denham 116.42 40 PKPdf **PKPdf 04 28 12.0 -0.4**
TORD Torodi Ar. Bea 118.03 313 PKP **PKPdf 04 28 14.7 -0.8**
comp=Z,0.5nm,0.4s,baz=48,slow=2.0,SNR=7.5
QSPA South Pole Qui 124.49 180 PKP **PKPdf 04 28 25.6 -0.8**
comp=Z,0.9nm,0.6s,baz=297,slow=4.5,SNR=2.3
ETMB Extrema 145.56 50 PKPdf **PKPdf 04 29 06.3 -0.6**
SAML Samuel 146.72 45 PKPab **PKPbc 04 29 10.8 +0.1**
SAML Samuel 146.72 45 PKP2 **PKPbc 04 29 10.8 +0.1**
H03N2 Juan Fernandez 147.94 99 T T 07 15 31.1
baz=290
H03N3 Juan Fernandez 147.95 99 T T 07 15 35.1
baz=290
H03N1 Juan Fernandez 147.95 99 T T 07 15 33.3
baz=290
LPAZ La Paz 148.88 61 PKPbc **PKiKP 04 29 18.1 -0.4**
comp=Z,0.8nm,0.6s,baz=329,slow=2.8,SNR=2.6
PB16 IPOC Station P 149.17 66 PKPbc **PKPbc 04 29 17.5 -0.2**

IDC ***14*** *04:16:17.4±1.5,35°.73N×27°.96E, h0km, mb3.4/2, mbtmp3.4/5, ML3.6/3, Error ellipse: s-maj=30.3km s-min=21.3km az=169.0*
GII ***14*** *04:16:20.8±0.3,35°.729N±0°.002×27°.902E±0°.001, h40km, Mws3.3, confirmed*
ISK ***14*** *04:16:23.5,35°.82N×27°.79E, h83km, ML3.1/37*
AFAD ***14*** *04:16:25.0±0.0,35°.83N×27°.86E, h49km±23km, ML3.1*
ATH ***14*** *04:16:25.1,36°.01N×27°.64E, h56km±6km, ML3.4/3, Error ellipse: s-maj=6.8km s-min=1.6km az=119.0*
NIC ***14*** *04:16:25.5,35°.69N×28°.03E, h32km±31km, Ml3.5/9*
THE ***14*** *04:16:27.5,35°.89N×27°.79E, h38km±3km, ML3.3/4, Error ellipse: s-maj=3.1km s-min=0.5km az=114.0*
HLW ***14*** *04:16:31.3,35°.19N×27°.91E, h33km±37km, Md4.4, Ml4.1*
ISC 14 04:16:24.0±0.9,35°.77N±0°.03×27°.98E±0°.03, h55km±10km, n148,σ1°.71/182,1C-2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.46**	**15**	P	**Pn**	**04 16 36.8**	**+1.7**
ARG				S	**Sn**	**04 16 43.8**	**+0.6**
4μm,0.4s							
ARG	**Arkhangelos**	**0.46**	**15**	⇓*i*P	**Pn**	**04 16 36.8**	**+1.7**
ARG				S	**Sn**	**04 16 44.8**	**+1.6**
ARG				AML	AML	04 16 45.1	
8.9nm,0.4s							
ARG				AML	AML	04 16 45.3	
7.2nm,0.4s							
ARG	**Arkhangelos**	**0.46**	**15**	P	**Pn**	**04 16 36.8**	**+1.7**
ARG				S	**Sn**	**04 16 44.8**	**+1.6**
ARG				AML	AML	04 16 45.4	
comp=E,8933μm,0.4s							
ARG				AML	AML	04 16 45.9	
comp=N,6407μm,0.2s							
KARP	**Karpathos**	**0.70**	**252**	Pg	**Pn**	**04 16 38.9**	**+1.0**
KARP				Sg	**Sn**	**04 16 48.9**	**+0.8**
KARP	**Karpathos**	**0.70**	**252**	P	**Pn**	**04 16 38.8**	**+0.9**
KARP				S	**Sn**	**04 16 48.3**	**+0.2**
comp=N,10μm,0.2s							
KARP	**Karpathos**	**0.70**	**252**	⇓*i*P	**Pn**	**04 16 39.0**	**+1.1**
KARP				S	**Sn**	**04 16 48.9**	**+0.8**
KARP				AML	AML	04 16 49.1	
comp=N,18nm,0.2s							
KARP				AML	AML	04 16 49.3	
comp=N,20nm,0.2s							
KARP	**Karpathos**	**0.70**	**252**	P	**Pn**	**04 16 39.1**	**+1.1**
KARP				S	**Sn**	**04 16 48.9**	**+0.8**
KARP				AML	AML	04 16 49.5	
comp=N,18191μm,0.2s							
KARP				AML	AML	04 16 49.7	
comp=E,20460μm,0.2s							
MRSB	**Marmaris-Mugla**	**0.96**	**11**	Pg	**Pn**	**04 16 43.3**	**+1.9**
YAZI	**Mula-Dat§a-**	**1.00**	**335**	P	**Pn**	**04 16 41.7**	**-0.2**
YAZI				S	**Sn**	**04 16 54.1**	**-1.0**
YAZI				*i* AML	AML	04 16 55.0	
comp=E,446nm,0.3s							
DAT	**Datca**	**1.01**	**342**	P	**Pn**	**04 16 42.2**	**+0.1**
DAT				S	**Sn**	**04 16 54.5**	**-0.9**
DAT				*i* AML	AML	04 16 55.0	
comp=E,835nm,0.4s							
DAT	**Datca**	**1.01**	**342**	Pg	**Pn**	**04 16 42.6**	**+0.5**
DAT	**Datca**	**1.01**	**342**	P	**Pn**	**04 16 42.4**	**+0.3**
DAT				S	**Sn**	**04 16 53.9**	**-1.5**
TURN	**Turunc**	**1.03**	**12**	P	**Pn**	**04 16 43.9**	**+1.7**
TURN				S	**Sn**	**04 16 56.9**	**+1.3**
TURN				*i* AML	AML	04 16 59.0	
comp=E,634nm,0.3s							
TURN	**Turunc**	**1.03**	**12**	Pg	**Pn**	**04 16 43.9**	**+1.7**
NISR	**Nisiros**	**1.08**	**321**	P	**Pn**	**04 16 43.0**	**+0.1**
NISR				S	**Sn**	**04 16 55.3**	**-1.7**
DALY	**Dalyan (Mula)**	**1.18**	**27**	Pn	**Pn**	**04 16 46.5**	**+2.3**
IZZE	**Mula-Seydike**	**1.21**	**56**	P	**Pn**	**04 16 46.6**	**+1.9**
IZZE				S	**Sn**	**04 17 02.1**	**+2.0**
FETY	**Fethiye**	**1.25**	**46**	Pn	**Pn**	**04 16 47.5**	**+2.4**
BDRM	**Kayabasi**	**1.36**	**342**	P	**Pn**	**04 16 46.6**	**-0.1**
BDRM				S	**Sn**	**04 17 02.4**	**-1.4**
BDRM				*i* AML	AML	04 17 03.0	
comp=E,621nm,0.5s							
YER	**Yerkesik**	**1.39**	**10**	Pn	**Pn**	**04 16 48.1**	**+1.0**
YER	**Yerkesik**	**1.39**	**10**	P	**Pn**	**04 16 48.8**	**+1.7**
YER				S	**Sn**	**04 17 05.1**	**+0.7**
BODT	**Bodrum**	**1.40**	**338**	Pn	**Pn**	**04 16 47.2**	**0.0**
BODT	**Bodrum**	**1.40**	**338**	P	**Pn**	**04 16 47.2**	**0.0**
BODT				S	**Sn**	**04 17 02.9**	**-1.7**
AKAS	**Kas**	**1.40**	**70**	P	**Pn**	**04 16 49.1**	**+1.8**
AKAS				S	**Sn**	**04 17 05.9**	**+1.1**
AKAS				*i* AML	AML	04 17 09.0	
comp=E,369nm,0.3s							
AKAS	**Kas**	**1.40**	**70**	Pn	**Pn**	**04 16 50.0**	**+2.7**
KLNA	**Kalymnos**	**1.44**	**326**	P	**Pn**	**04 16 47.2**	**-0.5**
YKAV	**Yalıkavak-Bodr**	**1.47**	**338**	Pn	**Pn**	**04 16 48.1**	**0.0**
MULA	**Mugla, Merkez-**	**1.51**	**11**	P	**Pn**	**04 16 51.3**	**+2.5**
ZKR	**Zakros**	**1.58**	**246**	Pn	**Pn**	**04 16 49.6**	**0.0**
ZKR	**Zakros**	**1.58**	**246**	P	**Pn**	**04 16 51.9**	**+2.3**
ZKR				S	**Sn**	**04 17 10.7**	**+1.8**
comp=E,238nm,0.4s							
ZKR	**Zakros**	**1.58**	**246**	P	**Pn**	**04 16 51.8**	**+2.3**
ZKR				S	**Sn**	**04 17 11.0**	**+2.1**
ZKR	**Zakros**	**1.58**	**246**	P	**Pn**	**04 16 51.9**	**+2.3**
ZKR				S	**Sn**	**04 17 11.5**	**+2.6**
ZKR				AML	AML	04 17 17.8	
comp=N,265μm,0.3s							
ZKR				AML	AML	04 17 19.3	
comp=E,440μm,0.5s							
CAME	**Cameli-Denizli**	**1.59**	**42**	Pn	**Pn**	**04 16 51.9**	**+2.0**
DEMR	**Demre-Antalya**	**1.63**	**73**	Pn	**Pn**	**04 16 53.5**	**+3.2**
KNIK	**Mula-Seydike**	**1.68**	**50**	P	**Pn**	**04 16 52.4**	**+1.3**
DNZT	**Denizli-Tavas-**	**1.73**	**29**	P	**Pn**	**04 16 52.4**	**+0.6**
DNZT				P		04 16 52.9	
CAEL	**Denizli, Camel**	**1.73**	**38**	P	**Pn**	**04 16 54.0**	**+2.2**
DDIM	**Aydin, Didim**	**1.79**	**341**	P	**Pn**	**04 16 52.8**	**+0.4**
ELL	**Elmali**	**1.84**	**57**	Pn	**Pn**	**04 16 56.0**	**+2.7**
ELL	**Elmali**	**1.84**	**57**	P	**Pn**	**04 16 56.2**	**+2.9**
ELL				S	**Sn**	**04 17 17.7**	**+2.1**
ELL				AML	AML	04 17 22.8	
comp=E,1.1nm,0.4s							
ELL				AML	AML	04 17 22.9	
comp=E,1.0nm,0.4s							
TAVA	**DENIZLI_Tavas**	**1.85**	**24**	P	**Pn**	**04 16 55.4**	**+2.0**
TAVA				S	**Sn**	**04 17 16.7**	**+0.9**
TAVA				*i* AML	AML	04 17 26.0	
comp=E,87nm,0.3s							
APMY	**Acipayam-Deniz**	**2.01**	**32**	Pn	**Pn**	**04 16 57.5**	**+2.0**
GCAM	**G?zelcaml?**	**2.02**	**343**	P	**Pn**	**04 16 55.7**	**+0.1**
GCAM				S	**Sn**	**04 17 15.9**	**-3.8**
GCAM	**G?zelcaml?**	**2.02**	**343**	Pn	**Pn**	**04 16 55.7**	**+0.1**
DNIZ	**Denizli-Tavas-**	**2.04**	**24**	P	**Pn**	**04 16 57.1**	**+1.1**
ESEN	**Aydn-Nazilli**	**2.05**	**8**	P	**Pn**	**04 16 58.2**	**+2.2**
ESEN				S	**Sn**	**04 17 20.6**	**+0.2**
THR8	**Santorini-Mono**	**2.12**	**288**	P	**Pn**	**04 16 56.9**	**0.0**
SMG	**Samos**	**2.14**	**335**	P	**Pn**	**04 16 57.4**	**+0.1**
SMG	**Samos**	**2.14**	**335**	P	**Pn**	**04 16 57.4**	**+0.1**
SMG				S	**Sn**	**04 17 22.1**	**-0.7**
THR6	**Thira Island,**	**2.17**	**286**	P	**Pn**	**04 16 58.1**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.18**	**358**	Pn	**Pn**	**04 16 58.4**	**+0.5**
THR3	**Thira Island,**	**2.18**	**288**	P	**Pn**	**04 16 58.0**	**+0.2**
SNT5	**Nea Kammeni, S**	**2.18**	**288**	P	**Pn**	**04 16 58.1**	**+0.3**
NAZL	**Nazilli-Aydin**	**2.21**	**7**	Pn	**Pn**	**04 16 59.5**	**+1.3**
KORT	**Korkueli**	**2.28**	**57**	Pn	**Pn**	**04 17 01.9**	**+2.6**
APE	**Apeiranthos**	**2.36**	**304**	P	**Pn**	**04 17 00.5**	**+0.2**
APE	**Apeiranthos**	**2.36**	**304**	P	**Pn**	**04 16 56.5**	**-3.8**
APE				S	**Sn**	**04 17 24.1**	**-4.1**
APE	**Apeiranthos**	**2.36**	**304**	P	**Pn**	**04 17 00.5**	**+0.2**
APE				S	**Sn**	**04 17 26.2**	**-1.9**
IZMR	**zmir-demi**	**2.36**	**360**	P	**Pn**	**04 17 02.1**	**+1.7**
IZMR				S	**Sn**	**04 17 26.1**	**-2.0**
ANTB	**Antalya**	**2.44**	**62**	Pn	**Pn**	**04 17 04.7**	**+3.4**
DGB	**zmir**	**2.44**	**339**	P	**Pn**	**04 17 00.9**	**-0.4**
DGB				S	**Sn**	**04 17 26.9**	**-3.1**
KIRA	**zmir-Kiraz**	**2.45**	**8**	P	**Pn**	**04 17 02.6**	**+1.0**
BCK	**Bucak**	**2.70**	**50**	Pn	**Pn**	**04 17 07.7**	**+2.7**
BASM	**Basmaki-Afyon**	**2.72**	**37**	Pn	**Pn**	**04 17 07.3**	**+2.1**
BLCB	**Balcova**	**2.72**	**344**	Pn	**Pn**	**04 17 05.6**	**+0.5**
KULA	**Kula-Manisa**	**2.80**	**11**	Pn	**Pn**	**04 17 07.7**	**+1.4**
URLA	**Izmir**	**2.81**	**337**	Pn	**Pn**	**04 17 06.4**	**-0.1**
ISP	**Isparta**	**2.90**	**44**	Pn	**Pn**	**04 17 09.9**	**+2.2**
GORD	**Gordes-Manisa**	**3.14**	**3**	Pn	**Pn**	**04 17 12.5**	**+1.5**
ALAN	**Alanya-ANTALYA**	**3.38**	**75**	Pn	**Pn**	**04 17 17.4**	**+3.2**
SHAP	**Saphane-Kutahy**	**3.40**	**17**	Pn	**Pn**	**04 17 15.8**	**+1.2**
SIMA	**Simav-Kutahya**	**3.41**	**13**	Pn	**Pn**	**04 17 15.9**	**+1.2**
DKL	**Dikili**	**3.41**	**346**	Pn	**Pn**	**04 17 15.8**	**+1.3**
SHUT	**Suhut-Afyon**	**3.46**	**36**	Pn	**Pn**	**04 17 17.4**	**+2.0**
SEYD	**Seydisehir-KON**	**3.51**	**61**	Pn	**Pn**	**04 17 19.3**	**+3.2**
GAZI	**Gazipasa**	**3.55**	**81**	Pn	**Pn**	**04 17 18.6**	**+2.0**
AKMS	**Akamas**	**3.64**	**101⇑***e*P	**Pn**	**Pn**	**04 17 19.4**	**+1.6**
AKMS				S	**Sn**	**04 18 01.3**	**+1.8**
AKMS				AML	AML	04 18 02.7	
comp=E,0.7nm,0.2s							
AKMS				AML	AML	04 18 04.0	
comp=E,1.0nm,0.2s							
HDMB	**Hadim**	**3.83**	**71**	Pn	**Pn**	**04 17 23.3**	**+2.7**
TVSB	**Tavsanli**	**3.86**	**17**	Pn	**Pn**	**04 17 22.3**	**+1.4**
NATA	**Nata**	**3.89**	**103**	P	**Pn**	**04 17 23.0**	**+1.8**
NATA				S	**Sn**	**04 18 06.8**	**+1.3**
NATA				AML	AML	04 18 10.8	
comp=E,1.3nm,0.3s							
NATA				AML	AML	04 18 11.7	
comp=E,1.4nm,0.4s							
TROD	**Troodos**	**4.08**	**100**	P	**Pn**	**04 17 25.0**	**+1.0**
TROD				S	**Sn**	**04 18 12.1**	**+1.4**
TROD				AML	AML	04 18 15.4	
comp=E,0.3nm,0.4s							
TROD				AML	AML	04 18 20.6	
comp=E,0.3nm,0.5s							
KONT	**Konya--Tatoy**	**4.13**	**57**	Pn	**Pn**	**04 17 27.2**	**+2.6**
LADK	**Ladik-KONYA**	**4.27**	**54**	Pn	**Pn**	**04 17 29.1**	**+2.6**
ASGA	**Asgata**	**4.42**	**101**	P	**Pn**	**04 17 30.2**	**+1.7**
ASGA				S	**Sn**	**04 18 20.2**	**+1.4**
ASGA				AML	AML	04 18 21.8	

comp=E,0.4nm,0.2s
ASGA AML AML 04 18 23.0
comp=E,0.3nm,0.4s
CSS Mathiatis 4.45 99 P **Pn 04 17 27.1 -1.8**
CSS Mathiatis 4.45 99 S **Sn 04 18 17.9 -1.6**
CSS Mathiatis 4.45 99 P **Pn 04 17 31.0 +2.1**
CSS AML AML 04 18 27.6
comp=E,0.2nm,0.3s
CSS AML AML 04 18 28.4
comp=E,0.1nm,0.4s
MATC Matruh 4.45 188 P **Pn 04 17 30.4 +1.4**
MVOU Mavrovouni 4.68 98 P **Pn 04 17 34.4 +2.3**
MVOU AML AML 04 18 32.8
comp=E,0.2nm,0.3s
MVOU AML AML 04 18 34.8
comp=E,0.2nm,0.3s
DB3 El Dabaa 4.74 174 P **Pn 04 17 33.9 +1.0**
SLUM Salum 4.85 209 P **Pn 04 17 35.1 +0.8**
SLUM S Sn 04 18 20.6 -8.6
BRTR Keskin Array B 5.98 47 Pn **Pn 04 17 50.8 +0.8**
comp=E,0.3nm,0.3s,baz=234,slow=16,SNR=8.4
BRTR Sn **Sn 04 18 58.5 +1.4**
comp=E,0.3nm,0.3s,baz=24,slow=20,SNR=2.2
comp=E,0.6nm,0.3s
HMYD Mayadein 6.41 157 P **Pn 04 17 56.8 +0.9**
HNAT Natroun 6.51 159 P **Pn 04 17 58.0 +0.8**
HNTI Hanita 6.52 112 P **Pn 04 17 55.5 -1.8**
HNTI Hanita 6.52 112 S **Sn 04 19 09.4 -1.0**
OFRI `Ofer 6.60 116 S **Sn 04 19 11.7 -0.7**
OFRI `Ofer 6.60 116 P **Pn 04 17 56.6 -1.8**
KOT Kottamia 6.67 150 P **Pn 04 17 59.5 +0.2**
KOT S Sn 04 19 06.8 -7.1
MMA0B Mount Meron ar 6.73 112 P **Pn 04 17 58.6 -1.6**
MMA0B Mount Meron ar 6.73 112 S **Sn 04 19 13.9 -1.5**
MMAI Mount Meron Ar 6.73 112 Pn Pn 04 17 56.8 -3.4
comp=E,2.1nm,0.3s,baz=354,slow=15,SNR=5.8
MMAI Sn **Sn 04 19 14.6 -0.9**
comp=E,12nm,0.3s,baz=292,slow=12,SNR=10
comp=E,1.2nm,0.2s
SLTI Sal'it 6.84 119 P **Pn 04 17 59.9 -1.8**
SLTI Sal'it 6.84 119 S **Sn 04 19 16.9 -1.2**
GEM Giv'at Ha'Em 6.84 110 S **Sn 04 19 17.2 -1.0**
GEM Giv'at Ha'Em 6.84 110 P **Pn 04 17 59.9 -1.8**
SWA2 6.84 199 P **Pn 04 18 02.6 +0.9**
NATI Neve Ativ 6.88 109 P **Pn 04 18 00.8 -1.4**
NATI Neve Ativ 6.88 109 S **Sn 04 19 17.7 -1.3**
RYAN Fayoum 6.94 163 P **Pn 04 18 03.3 +0.2**
MMLI Mount Malkishu 7.01 116 S **Sn 04 19 21.2 -1.3**
MMLI Mount Malkishu 7.01 116 P **Pn 04 18 02.1 -2.0**
SALP Salfit 7.04 120 P **Pn 04 18 02.4 -2.1**
SALP Salfit 7.04 120 S **Sn 04 19 22.2 -1.0**
KSHT Keshet 7.05 111 P **Pn 04 18 02.4 -2.2**
KSHT Keshet 7.05 111 S **Sn 04 19 21.9 -1.4**
AMAZ Amatzia 7.16 124 P **Pn 04 18 03.9 -2.3**
AMAZ Amatzia 7.16 124 S **Sn 04 19 24.7 -1.5**
HMDT Nahal Hemdat 7.18 117 P **Pn 04 18 04.9 -1.5**
HMDT Nahal Hemdat 7.18 117 S **Sn 04 19 25.2 -1.4**
KZIT Kziot 7.24 130 P **Pn 04 18 04.6 -2.5**
KZIT Kziot 7.24 130 S **Sn 04 19 25.7 -2.2**
UJAP Al Uja 7.30 119 P **Pn 04 18 05.9 -2.0**
UJAP Al Uja 7.30 119 S **Sn 04 19 28.4 -0.9**
YTIR Yattir 7.40 124 P **Pn 04 18 07.9 -1.6**
YTIR Yattir 7.40 124 S **Sn 04 19 31.4 -0.7**
DSI Dead Sea 7.46 122 P **Pn 04 18 07.9 -2.3**
DSI Dead Sea 7.46 122 S **Sn 04 19 32.2 -1.1**
MDBI Mazsada 7.60 124 P **Pn 04 18 09.9 -2.1**
MDBI Mazsada 7.60 124 S **Sn 04 19 35.2 -1.5**
MSBI Mazada 7.60 124 P **Pn 04 18 09.9 -2.1**
MSBI Mazada 7.60 124 S **Sn 04 19 35.2 -1.5**
NBNS Bani Suef 7.66 158 P **Pn 04 18 13.9 +1.0**
KRMI Paran Flat 7.99 133 P **Pn 04 18 15.6 -1.9**
KRMI Paran Flat 7.99 133 S **Sn 04 19 44.4 -2.1**
PRNI Paran 8.00 130 P **Pn 04 18 14.9 -2.7**
PRNI Paran 8.00 130 S **Sn 04 19 44.7 -1.9**
HRFI Mount Harif 8.24 132 P **Pn 04 18 18.9 -2.0**
HRFI Mount Harif 8.24 132 S **Sn 04 19 50.7 -1.9**
MBRI Mt Berech 8.34 134 P **Pn 04 18 20.1 -2.2**
MBRI Mt Berech 8.34 134 S **Sn 04 19 53.7 -1.4**
TAMRE El Minia 8.44 162 P **Pn 04 18 24.1 +0.5**
EIL Elat 8.45 134 P **Pn 04 18 21.4 -2.4**
EIL Elat 8.45 134 S **Sn 04 19 55.5 -2.3**
HFRF Wahat Farafira 8.60 178 P **Pn 04 18 26.0 +0.2**
GERES GERESS Array B 16.76 326 Pn **Pn 04 20 14.9 0.0**
comp=E,0.1nm,0.3s,baz=137,slow=13,SNR=4.5
comp=E,0.8nm,0.7s
ESDC Sonseca Array 25.49 288 P **P 04 21 46.6 -0.5**
comp=E,0.4nm,0.6s,baz=83,slow=9.5,SNR=2.1
comp=E,0.4nm,0.6s
TORD Torodi Ar. Bea 32.66 233 P **P 04 22 51.7 +0.7**
comp=E,0.3nm,0.4s,baz=28,slow=9.1,SNR=4.6
comp=E,0.3nm,0.4s

*IDC **14** 04:29:05.7±1.3, 37.°19N×21.°13E, h0km, mb3.5/8, mbtmp3.5/10, ML3.4/1, MS2.6/1, Error ellipse: s-maj=27.5km s-min=23.9km az=95.0*
*BEO **14** 04:29:07.1±1.5, 37.°15N×20.°57E, h0km, ML3.3/5*
*ATH **14** 04:29:10.8, 37.°37N×20.°59E, h12km±3km, ML3.3/5, Error ellipse: s-maj=3.3km s-min=1.5km az=31.0*
*THE **14** 04:29:11.5, 37.°40N×20.°72E, h13km±1km, ML3.3/10, Error ellipse: s-maj=2.4km s-min=1.0km az=51.0*
*NAO **14** 04:29:15.1, 38.°22N×22.°45E, h10km, mb3.5*
ISC 14 04:29:09.5±1.4, 37.°31N±0.°05×20.°68E±0.°05, h17km±7km, n45, σ1°37/62, mb3.5/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.37**	**17**	P	**Pg**	**04 29 17.4**	**+0.2**
KRI1				S	**Sg**	**04 29 22.2**	**-0.2**
	10μm,0.5s						
LTHK	**Lithakia**	**0.42**	**17**	P	**Pg**	**04 29 18.2**	**+0.1**
LTHK				S	**Sg**	**04 29 23.2**	**-0.7**
	10μm,0.4s						
LTHK	**Lithakia**	**0.42**	**17**	P	**Pg**	**04 29 18.1**	**+0.1**
LTHK				S	**Sg**	**04 29 23.2**	**-0.7**
LTHK				AML	AML	04 29 23.9	
	comp=N,30022μm,0.4s						
LTHK				AML	AML	04 29 24.5	
	comp=E,8419μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.77**	**5**	P	**Pg**	**04 29 24.2**	**-0.4**
RTZL				S	**Sb**	**04 29 34.4**	**-0.2**
	comp=E,3μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.81**	**354**	P	**Pg**	**04 29 24.8**	**-0.5**
PSDA				S	**Sb**	**04 29 35.9**	**+0.2**
	comp=E,3μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.81**	**354**	P	**Pg**	**04 29 25.0**	**-0.3**
PSDA				S	**Sg**	**04 29 35.4**	**-0.6**
AMT	**Artemida-Makis**	**0.85**	**74**	P	**Pn**	**04 29 27.9**	**+1.3**
VLS	**Valsamata**	**0.87**	**355**	P	**Pg**	**04 29 25.7**	**-0.8**
VLS				S	**Sb**	**04 29 38.2**	**+0.6**
	comp=E,2μm,0.4s						
VLS	**Valsamata**	**0.87**	**355**	P	**Pg**	**04 29 25.9**	**-0.6**
VLS				S	**Sg**	**04 29 37.6**	**-0.4**
VLS				AML	AML	04 29 41.0	
	comp=E,2235μm,0.3s						
VLS				AML	AML	04 29 42.3	
	comp=N,3522μm,0.6s						
PYL	**PYLOS**	**0.94**	**116**	P	**Pn**	**04 29 30.1**	**+2.2**
PYL	**PYLOS**	**0.94**	**116**	P	**Pn**	**04 29 30.1**	**+2.2**
SMHA	**Samh**	**0.94**	**358**	P	**Pg**	**04 29 26.6**	**-1.2**
SMHA				S	**Sb**	**04 29 40.3**	**+0.8**
DMLN	**Damoulianata-K**	**0.96**	**345**	P	**Pg**	**04 29 27.7**	**-0.5**
DMLN				S	**Sn**	**04 29 41.9**	**+0.4**
	comp=N,4μm,0.7s						
DMLN	**Damoulianata-K**	**0.96**	**345**	P	**Pg**	**04 29 27.8**	**-0.3**
RLS	**Riolos of Patr**	**0.97**	**39**	P	**Pg**	**04 29 28.3**	**-0.1**
RLS				S	**Sb**	**04 29 40.5**	**0.0**
	comp=N,665nm,0.6s						
RLS	**Riolos of Patr**	**0.97**	**39**	P	**Pb**	**04 29 28.6**	**+0.8**
RLS				S	**Sn**	**04 29 41.8**	**+0.1**
RLS				AML	AML	04 29 47.3	
	comp=E,1116μm,0.7s						
RLS				AML	AML	04 29 47.9	
	comp=N,1179μm,0.5s						
ITM	**Ithomi**	**1.00**	**97**	P	**Pn**	**04 29 30.9**	**+2.2**
ITM				S	**Sb**	**04 29 43.0**	**+1.8**
	comp=N,905nm,1.4s						
ITM	**Ithomi**	**1.00**	**97**	P	**Pn**	**04 29 31.7**	**+3.0**
DRO	**Drossia**	**1.04**	**51**	P	**Pn**	**04 29 30.3**	**+1.0**
VSK1	**VASILIKIADES**	**1.10**	**355**	P	**Pb**	**04 29 29.8**	**-0.3**
VSK1				S	**Sn**	**04 29 45.8**	**+0.8**
	comp=N,2μm,1.1s						
FSK	**Fiskardo**	**1.16**	**355**	P	**Pb**	**04 29 30.5**	**-0.5**
FSK				S	**Sn**	**04 29 47.1**	**+0.9**
	comp=N,2μm,0.7s						
FSK	**Fiskardo**	**1.16**	**355**	P	**Pb**	**04 29 30.7**	**-0.3**
FSK				S	**Sg**	**04 29 46.4**	**-0.5**
FSK				AML	AML	04 29 50.9	
	comp=E,4159μm,0.6s						
FSK				AML	AML	04 29 52.1	
	comp=N,2514μm,0.5s						
FNA	**Florina**	**3.52**	**9**	*e*Pn	**Pn**	**04 30 05.7**	**+2.4**
OHR	**Ohrid**	**3.80**	**1**	*i* Pn	**Pn**	**04 30 10.9**	**+3.6**
IDI	**Anoyia**	**3.95**	**119**	Pn	Pn	04 30 02.6	-6.7
	comp=N,18nm,1.0s,baz=245,slow=6.7,SNR=1.5						
IDI				Sn	**Sn**	**04 30 50.9**	**-4.4**
	comp=N,0.7nm,0.3s,baz=257,slow=18,SNR=1.8						
VAY	**Valandovo**	**4.27**	**19**	*i* Pn	**Pn**	**04 30 13.3**	**-0.3**
SRS	**Serrai**	**4.43**	**30**	*e*Pn	**Pn**	**04 30 18.3**	**+2.5**
BOSS	**Bosilegrad**	**5.37**	**14**	*e*Pn	**Pn**	**04 30 29.0**	**+0.3**
BARS	**Barje**	**5.57**	**9**	*e*Pn	**Pn**	**04 30 31.8**	**+0.2**
SJES	**Sjenica**	**5.97**	**355**	*e*Pn	**Pn**	**04 30 39.2**	**+2.0**
SJES				*e*Sn	**Sn**	**04 31 45.6**	**+0.4**
ZAPS	**Zavoj**	**6.14**	**13**	*e*Pn	**Pn**	**04 30 41.2**	**+1.8**
IVAS	**Ivanjica**	**6.28**	**356**	*e*Pn	**Pn**	**04 30 42.0**	**+0.7**
IVAS				*e*Sn	**Sn**	**04 31 54.7**	**+2.1**
BOVS	**Bovan**	**6.37**	**7**	*e*Pn	**Pn**	**04 30 42.3**	**-0.2**
GRUS	**Gruza**	**6.58**	**0**	*e*Pn	**Pn**	**04 30 46.1**	**+0.8**
DIVS	**Divibare**	**6.81**	**356**	*e*Pn	**Pn**	**04 30 49.6**	**+1.0**
MLR	**Muntele Rosu**	**9.08**	**24**	Pn	**Pn**	**04 31 19.4**	**-0.4**
	comp=N,0.1nm,0.3s,baz=179,slow=8.6,SNR=3.0						
	comp=N,1.1nm,0.5s						
HFS	**Hagfors**	**23.28**	**351**	P	**P**	**04 34 16.9**	**+0.9**
	comp=N,2.8nm,0.7s,baz=171,slow=10,SNR=6.7						
	comp=N,2.8nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.22**	**326**	P	**P**	**04 34 26.1**	**+1.0**
	comp=N,2.3nm,0.8s,baz=118,slow=8.3,SNR=2.4						
	comp=N,2.3nm,0.8s						
FINES	**FINESS Array B**	**24.40**	**6**	P	**P**	**04 34 26.9**	**+0.3**
	comp=N,0.6nm,0.4s,baz=187,slow=9.4,SNR=4.3						
	comp=N,0.6nm,0.4s						
NB2	**NORSAR Subarra**	**24.50**	**349**	P	**P**	**04 34 27.7**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=158,slow=10						
NOA	**NORSAR Array B**	**24.50**	**349**	P	**P**	**04 34 28.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=157,slow=8.9,SNR=4.2						
NOA				LR	LR	04 46 35.9	
	comp=Z,13nm,18.6s,baz=295,slow=42						
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.44**	**220**	P	**P**	**04 35 12.9**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=21,slow=9.3,SNR=1.5						
	comp=Z,0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**42.65**	**53**	P	**P**	**04 37 01.9**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=274,slow=8.4,SNR=1.8						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**45.65**	**58**	P	P	04 37 25.8	-3.2
	comp=Z,0.1nm,0.5s,baz=269,slow=6.2,SNR=1.7						
	comp=Z,0.1nm,0.5s						
ILAR	**Eielson Array**	**77.79**	**355**	P	**P**	**04 41 04.4**	**-0.9**
	comp=Z,0.5nm,1.1s,baz=14,slow=5.3,SNR=2.5						
	comp=Z,0.5nm,1.1s						

*IDC **14** 05:22:37.6±1.4, 37.°66N×20.°92E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=31.4km s-min=26.3km az=150.0*
*ATH **14** 05:22:38.4, 37.°64N×20.°73E, h13km±3km, ML3.2/6, Manual Solution by I.Dede This location: 2020/09/16 06:40:13 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*THE **14** 05:22:40.2, 37.°70N×20.°79E, h0km±2km, ML3.0/10, Error ellipse: s-maj=2.1km s-min=0.6km az=192.0*
ISC 14 05:22:39.2±0.8, 37.°69N±0.°04×20.°81E±0.°04, h7km±4km, n30, σ0°81/48, mb3.7/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.03**	**160**	P	**Pg**	**05 22 41.3**	**+0.7**
KRI1				S	**Sg**	**05 22 42.5**	**+0.9**
	108μm,0.6s						
LTHK	**Lithakia**	**0.03**	**51**	P	**Pg**	**05 22 40.2**	**-0.4**
LTHK				S	**Sg**	**05 22 40.8**	**-0.8**
	376μm,0.5s						
RTZL	**Ratzakli, Kefa**	**0.39**	**356**	P	**Pg**	**05 22 47.2**	**+0.4**
RTZL				S	**Sg**	**05 22 53.3**	**+1.4**
	2μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.46**	**338**	P	**Pg**	**05 22 48.2**	**+0.1**
PSDA				S	**Sb**	**05 22 55.8**	**-0.8**
	3μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.46**	**338**	P	**Pg**	**05 22 48.2**	**+0.1**
PSDA				S	**Sg**	**05 22 55.4**	**+1.2**
VLS	**Valsamata**	**0.52**	**341**	P	**Pg**	**05 22 49.2**	**0.0**
VLS				S	**Sg**	**05 22 57.4**	**+1.4**
	2μm,0.2s						
VLS	**Valsamata**	**0.52**	**341**	P	**Pg**	**05 22 49.2**	**0.0**
VLS				S	**Sg**	**05 22 57.2**	**+1.2**
ARG2	**Argostoli**	**0.55**	**333**	P	**Pg**	**05 22 49.7**	**-0.1**
ARG2				S	**Sb**	**05 22 59.1**	**-0.1**
LXRA	**Lixouri, Kepha**	**0.59**	**330**	P	**Pg**	**05 22 50.4**	**-0.1**
LXRA				S	**Sg**	**05 22 59.5**	**+1.2**
RLS	**Riolos of Patr**	**0.64**	**55**	P	**Pg**	**05 22 52.0**	**+0.4**
RLS				S	**Sb**	**05 23 01.8**	**0.0**
	1μm,0.5s						
RLS	**Riolos of Patr**	**0.64**	**55**	P	**Pb**	**05 22 52.3**	**-0.4**
DMLN	**Damoulianata-K**	**0.65**	**328**	P	**Pg**	**05 22 51.6**	**-0.1**
DMLN				S	**Sb**	**05 23 01.4**	**-0.7**
	2μm,0.7s						
DMLN	**Damoulianata-K**	**0.65**	**328**	P	**Pg**	**05 22 51.8**	**+0.1**
DMLN				S	**Sb**	**05 23 02.5**	**+0.4**
AMT	**Artemida-Makis**	**0.73**	**102**	P	**Pb**	**05 22 54.3**	**-0.1**
AMT				S	**Sb**	**05 23 04.3**	**-0.3**
DRO	**Drossia**	**0.76**	**70**	P	**Pb**	**05 22 54.4**	**-0.4**
DRO				S	**Sb**	**05 23 06.0**	**+0.6**
	2μm,0.6s						
DRO	**Drossia**	**0.76**	**70**	P	**Pb**	**05 22 54.5**	**-0.3**
FSK	**Fiskardo**	**0.79**	**346**	P	**Pg**	**05 22 54.1**	**-0.4**
FSK				S	**Sb**	**05 23 06.7**	**+0.5**
	880nm,0.3s						
FSK	**Fiskardo**	**0.79**	**346**	P	**Pg**	**05 22 54.5**	**0.0**
FSK				S	**Sg**	**05 23 06.0**	**+1.2**
ITM	**Ithomi**	**1.03**	**119**	P	**Pn**	**05 22 59.6**	**-0.4**
ITM				S	**Sn**	**05 23 16.7**	**+2.0**
	580nm,0.7s						
ITM	**Ithomi**	**1.03**	**119**	P	**Pb**	**05 22 59.3**	**0.0**
PYL	**PYLOS**	**1.09**	**136**	P	**Pb**	**05 23 00.1**	**-0.3**
PYL				S	**Sn**	**05 23 17.6**	**+1.4**
PYL	**PYLOS**	**1.09**	**136**	P	**Pb**	**05 22 59.5**	**-0.9**
HFS	**Hagfors**	**22.92**	**351**	P	**P**	**05 27 43.3**	**-0.2**
	1.8nm,0.5s,baz=167,slow=8.9,SNR=8.9						
	1.8nm,0.5s						
EKA	**Eskdalemuir Ar**	**23.96**	**325**	P	**P**	**05 27 54.0**	**+0.2**
	2.3nm,0.7s,baz=134,slow=6.1,SNR=3.2						
	2.3nm,0.7s						
NOA	**NORSAR Array B**	**24.14**	**349**	P	**P**	**05 27 55.3**	**-0.3**
	0.4nm,0.7s,baz=162,slow=8.4,SNR=4.0						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.80**	**220**	P	**P**	**05 28 46.9**	**+0.2**
	0.3nm,0.6s,baz=27,slow=9.7,SNR=2.8						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**37.26**	**49**	P	**P**	**05 29 51.5**	**+0.1**
	0.8nm,0.6s,baz=262,slow=7.0,SNR=4.3						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**42.34**	**53**	P	**P**	**05 30 32.0**	**-1.6**
	0.4nm,0.4s,baz=282,slow=8.6,SNR=2.4						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**45.37**	**58**	P	**P**	**05 30 56.3**	**-1.8**
	0.5nm,0.6s,baz=273,slow=6.0,SNR=4.6						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**45.85**	**48**	P	**P**	**05 31 00.9**	**-0.8**
	1.1nm,0.3s,baz=285,slow=8.7,SNR=4.6						
	1.1nm,0.3s						

IDC 14 05:25:51.9±3.1, 54.°59N×86.°35E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=23.4km s-min=14.3km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.11**	**235**	I	I	05 32 28.2	
	baz=55,slow=348,SNR=2.8						
ZALV	**Zalesovo Beam**	**1.11**	**235**	Pg	Pg	05 26 11.7	-1.4
	1.8nm,0.3s,baz=54,slow=16,SNR=5.4						
ZALV				Lg	Lg	05 26 28.8	
	3.3nm,0.3s,baz=52,slow=29,SNR=10						
KURBB	**Kurchatov Arra**	**6.21**	**233**	Pn	Pn	05 27 25.6	+0.9
	0.1nm,0.3s,baz=48,slow=14,SNR=7.0						
KURBB				Sn	Sn	05 28 35.0	-1.2
	baz=50,slow=29,SNR=1.1						
KURBB				Lg	Lg	05 29 09.9	
	baz=49,slow=28,SNR=1.4						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**8.22**	**200**	Pn	Pn	05 27 53.1	+0.7
	0.1nm,0.3s,baz=21,slow=12,SNR=5.2						
MKAR				Sn	Sn	05 29 25.7	-0.3
	0.1nm,0.3s,baz=19,slow=32,SNR=2.8						
	0.2nm,0.4s						

*IDC **14** 05:33:38.7±1.6, 0.°21S×127.°16E, h0km, mb3.5/5, mbtmp3.6/5, Error ellipse: s-maj=159.7km s-min=21.2km az=66.0*
*DJA **14** 05:33:40.0±0.5, 0.°5S±3.°×127.°7E±.°, h10km, M3.3/7, MLv3.3/7*
ISC 14 05:33:39.8±1.0, 0.°18S±0.°06×127.°3E±0.°1, h10km, n9, σ0°72/10, mb3.8/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.51**	**155**	P	**Pg**	**05 33 49.8**	**+0.1**
LBMI				S	**Sg**	**05 33 55.4**	**-1.0**
TNTI	**Ternate**	**0.94**	**5**	P	**Pn**	**05 33 58.6**	**-0.6**
SANI	**Sanana**	**2.27**	**215**	P	**Pn**	**05 34 16.9**	**-0.5**
MSAI	**Masohi**	**3.55**	**153**	P	**Pn**	**05 34 34.9**	**-0.1**
WRA	**Warramunga Arr**	**20.82**	**161**	P	**P**	**05 38 21.4**	**-0.3**
	0.4nm,0.4s,baz=339,slow=12,SNR=6.0						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**24.22**	**165**	P	**P**	**05 38 57.8**	**+0.9**
	0.4nm,0.4s,baz=345,slow=11,SNR=9.2						
	0.4nm,0.4s						
STKA	**Stephens Creek**	**34.31**	**158**	P	**P**	**05 40 27.2**	**+0.6**
	0.7nm,0.3s,baz=354,slow=9.6,SNR=2.8						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**61.08**	**326**	P	**P**	**05 43 54.8**	**+0.8**
	0.3nm,0.4s,baz=122,slow=8.5,SNR=5.9						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**65.32**	**328**	P	**P**	**05 44 21.5**	**-0.6**
	0.3nm,0.4s,baz=119,slow=5.7,SNR=2.3						
	0.3nm,0.4s						

*ATH **14** 05:42:02.3, 37.°24N×20.°56E, h6km±4km, ML3.3/7, Error ellipse: s-maj=4.6km s-min=1.4km az=62.0*
*THE **14** 05:42:02.5, 37.°28N×20.°59E, h0km±2km, ML3.2/11, Error ellipse: s-maj=2.9km s-min=0.7km az=226.0*
*IDC **14** 05:42:26.9±6.1, 40.°20N×18.°10E, h269km±35km, mb3.0/5, mbtmp3.5/8, Error ellipse: s-maj=89.8km s-min=21.6km az=24.0*
ISC 14 05:42:01.9±1.7, 37.°25N±0.°06×20.°58E±0.°06, h17km±8km, n29, σ0°95/46, mb3.6/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.45**	**25**	P	**Pg**	**05 42 10.7**	**-0.4**
KRI1				S	**Sg**	**05 42 17.4**	**+0.2**
	6μm,0.5s						
LTHK	**Lithakia**	**0.50**	**24**	P	**Pg**	**05 42 11.4**	**-0.5**
LTHK				S	**Sg**	**05 42 17.8**	**-0.9**
	6μm,0.4s						
LTHK	**Lithakia**	**0.50**	**24**	P	**Pg**	**05 42 11.4**	**-0.5**
LTHK				S	**Sg**	**05 42 18.3**	**-0.4**
LTHK				AML	AML	05 42 23.3	
	comp=E,7848μm,0.4s						
LTHK				AML	AML	05 42 24.8	
	comp=N,9948μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.84**	**11**	P	**Pg**	**05 42 17.5**	**-0.7**
RTZL				S	**Sb**	**05 42 29.7**	**+0.7**
	comp=N,2μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.86**	**0**	P	**Pg**	**05 42 18.4**	**-0.2**
PSDA				S	**Sb**	**05 42 30.7**	**+1.0**
	comp=N,2μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.86**	**0**	P	**Pg**	**05 42 18.5**	**-0.2**
PSDA				S	**Sb**	**05 42 30.3**	**+0.7**
VLS	**Valsamata**	**0.93**	**1**	P	**Pb**	**05 42 19.3**	**-0.2**
VLS				S	**Sg**	**05 42 32.4**	**+0.4**
	comp=N,1μm,0.5s						
VLS	**Valsamata**	**0.93**	**1**	P	**Pb**	**05 42 19.4**	**-0.1**
VLS				S	**Sg**	**05 42 32.5**	**+0.5**
VLS				AML	AML	05 42 37.4	
	comp=E,1580μm,0.4s						
VLS				AML	AML	05 42 41.4	
	comp=N,2047μm,0.6s						
AMT	**Artemida-Makis**	**0.95**	**72**	P	**Pb**	**05 42 19.8**	**0.0**
AMT				S	**Sn**	**05 42 34.1**	**+0.5**
AMT				AML	AML	05 42 40.2	
	comp=N,16096μm,0.4s						
AMT				AML	AML	05 42 42.1	
	comp=E,20218μm,0.5s						
DMLN	**Damoulianata-K**	**1.00**	**351**	P	**Pg**	**05 42 21.1**	**-0.2**
DMLN				S	**Sn**	**05 42 34.8**	**-0.1**
	comp=E,2μm,0.9s						
DMLN	**Damoulianata-K**	**1.00**	**351**	P	**Pn**	**05 42 21.4**	**+0.2**
PYL	**PYLOS**	**1.00**	**110**	P	**Pg**	**05 42 21.2**	**0.0**
PYL				S	**Sn**	**05 42 36.7**	**+1.9**
	comp=E,2μm,0.4s						
PYL	**PYLOS**	**1.00**	**110**	P	**Pg**	**05 42 21.3**	**0.0**
RLS	**Riolos of Patr**	**1.07**	**41**	P	**Pb**	**05 42 21.7**	**-0.2**
RLS				S	**Sn**	**05 42 37.6**	**+1.0**
	comp=E,828nm,0.5s						
RLS	**Riolos of Patr**	**1.07**	**41**	P	**Pb**	**05 42 21.8**	**-0.2**
RLS				S	**Sn**	**05 42 37.5**	**+0.8**
RLS				AML	AML	05 42 42.3	
	comp=E,1518μm,0.4s						
RLS				AML	AML	05 42 44.3	
	comp=N,1574μm,0.4s						
ITM	**Ithomi**	**1.08**	**93**	P	**Pn**	**05 42 22.4**	**+0.1**
ITM				S	**Sn**	**05 42 37.6**	**+0.7**
	comp=N,2μm,0.4s						
ITM	**Ithomi**	**1.08**	**93**	P	**Pg**	**05 42 22.8**	**0.0**
ITM				S	**Sn**	**05 42 38.3**	**+1.4**
ITM				AML	AML	05 42 40.7	
	comp=N,3199μm,0.4s						
ITM				AML	AML	05 42 40.7	
	comp=E,2929μm,0.4s						
DRO	**Drossia**	**1.14**	**52**	P	**Pb**	**05 42 22.7**	**-0.5**
DRO				S	**Sn**	**05 42 39.2**	**+0.8**
	comp=E,2μm,0.5s						
FSK	**Fiskardo**	**1.21**	**360**	P	**Pb**	**05 42 24.4**	**+0.1**

comp=E,678μm,0.4s
ASSB Assisi San Ben 0.28 356 P Pg 05 43 11.3 +0.6
ASSB S Sb 05 43 16.2 -0.9
ASSB AML AML
comp=E,134μm,0.2s
ASSB AML AML
comp=N,150μm,0.3s
ASSB AML AML
comp=N,150μm,1.7s
CESI CESI - Serrava 0.29 34 P Pb 05 43 11.8 -0.7
CESI S Sb 05 43 16.2 -1.2
LNSS Leonessa 0.31 122 P Pg 05 43 11.7 +0.4
LNSS S Sg 05 43 16.6 +1.1
LNSS AML AML
comp=E,234μm,1.5s
LNSS AML AML
comp=N,257μm,0.2s
LNSS AML AML
comp=E,234μm,0.5s
NRCA Norcia 0.33 78 P Pg 05 43 11.9 +0.3
NRCA S Sb 05 43 17.8 -0.6
NRCA AML AML
comp=N,140μm,0.4s
NRCA AML AML
comp=E,148μm,0.2s
FEMA Monte Fema 0.33 54 P Pg 05 43 12.5 +0.7
MC2 Monte Cornacci 0.40 68 P Pg 05 43 13.5 +0.4
MC2 S Sb 05 43 20.2 -0.6
FDMO Fiordimonte 0.40 48 P Pb 05 43 14.3 -0.1
FDMO AML AML
comp=E,77μm,0.6s
FDMO AML AML
comp=N,63μm,0.6s
FDMO AML AML
comp=N,63μm,0.6s
FDMO AML AML
comp=E,77μm,0.6s
MML1 Montelago di S 0.41 31 P Pg 05 43 13.8 +0.7
MMO1 Montemonaco 0.49 74 P Pg 05 43 14.9 +0.2
MMO1 S Sb 05 43 22.7 -0.6
SMA1 SAN MARTINO 0.50 106 P Pg 05 43 15.3 +0.4
SMA1 S Sb 05 43 23.2 -0.3
SMA1 AML AML
comp=N,113μm,0.5s
SMA1 AML AML
comp=E,157μm,0.4s
GUMA Gualdo di Mace 0.56 58 P Pg 05 43 15.6 -0.5
GUMA AML AML
comp=N,155μm,0.5s
GUMA AML AML
comp=E,180μm,0.7s
GUMA AML AML
comp=E,126μm,0.3s
MF5 Montefalcone A 0.61 68 P Pg 05 43 16.4 -0.6
EL6 Elcito 0.64 28 P Pg 05 43 17.3 -0.3
EL6 AML AML
comp=E,102μm,1.3s
EL6 AML AML
comp=N,72μm,1.0s
MCIV Monte Civitell 0.74 271 P Pg 05 43 19.1 -0.3
PIEI Pieia 0.78 352 P Pg 05 43 20.4 +0.3
GERES GERESS Array B 6.12 6 P Pn 05 44 34.3 -1.5
comp=N,0.3nm,0.3s,baz=196,slow=10,SNR=1.4
EKA Eskdalemuir Ar 16.26 326 P Pn 05 46 47.3 -6.1
comp=N,0.5nm,0.4s,baz=126,slow=7.2,SNR=2.3
EKA Eskdalemuir Ar 16.26 326
comp=N,0.5nm,0.4s

*SJA **14** 06:10:41.0±0.6,21°.20S×68°.76W,h118km±5km,ML3.4, MW3.5*
*GUC **14** 06:10:42.4±0.6,21°.22S×68°.73W,h115km±4km,ML3.4*
ISC 14 06:10:42.7±1.5,**21°.23S**±0.03×**68°.81W**±0.06,
h116km±11km,**n31**,σ0°**89**/51,**6C-1D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.66**	**287**	⇑*iP*	**Pn**	**06 11 00.8**	**-0.6**
PB01				*e*S	**Sn**	**06 11 15.7**	**+0.1**
PB01				IAML		06 11 16.4	
	comp=N,971nm,0.2s						
PB01	**IPOC Station P**	**0.66**	**287**	*e*P	**Pn**	**06 11 00.9**	**-0.6**
PB01				*e*S	**Sn**	**06 11 15.7**	**+0.1**
PB01				IAML		06 11 17.1	
	comp=Z,626nm,0.2s						
PB09	**IPOC Station P**	**0.69**	**215**	*e*P	**Pn**	**06 11 01.8**	**0.0**
PB09				*e*S	**Sn**	**06 11 16.5**	**+0.3**
PB09				IAML		06 11 17.8	
	comp=N,1μm,0.4s						
PB09	**IPOC Station P**	**0.69**	**215**	*e*P	**Pn**	**06 11 01.9**	**+0.1**
PB09				*e*S	**Sn**	**06 11 18.3**	**+2.1**
PB09				IAML		06 11 19.0	
	comp=Z,487nm,0.4s						
PX03	**IPOC Station P**	**1.13**	**317**	*e*P	**Pn**	**06 11 04.6**	**-1.3**
PX03				IAML		06 11 24.5	
	comp=N,745nm,0.2s						
PB08	**IPOC Station P**	**1.13**	**344**	⇑*iP*	**Pn**	**06 11 05.8**	**-0.4**
PB08				*e*S	**Sn**	**06 11 23.8**	**-0.2**
PB08				IAML		06 11 25.7	
	comp=N,534nm,0.4s						
PB08	**IPOC Station P**	**1.13**	**344**	*e*P	**Pn**	**06 11 05.2**	**-1.0**
PB08				*e*S	**Sn**	**06 11 23.2**	**-0.8**
PB08				IAML		06 11 27.4	
	comp=Z,264nm,0.5s						
PATCX	**Punta Patache**	**1.32**	**288**	⇑*iP*	**Pn**	**06 11 07.9**	**0.0**
PATCX				*e*S	**Sn**	**06 11 27.7**	**+0.7**
PATCX				IAML		06 11 29.5	
	comp=E,1μm,0.2s						
PATCX	**Punta Patache**	**1.32**	**288**	*e*P	**Pn**	**06 11 08.0**	**0.0**
PATCX				*e*S	**Sn**	**06 11 28.4**	**+1.4**
PATCX				IAML		06 11 29.6	
	comp=Z,391nm,0.4s						
HMBC	**Humberstone**	**1.38**	**313**	⇑*iP*	**Pn**	**06 11 08.1**	**-0.6**
HMBC				*e*S	**Sn**	**06 11 28.0**	**-0.4**
HMBC				IAML		06 11 30.8	
	comp=N,875nm,0.5s						
HMBC	**Humberstone**	**1.38**	**313**	*e*P	**Pn**	**06 11 08.1**	**-0.6**
HMBC				*e*S	**Sn**	**06 11 27.7**	**-0.7**
HMBC				IAML		06 11 29.2	
	comp=Z,569nm,0.4s						
TA01	**Diego Aracena**	**1.44**	**297**	⇑*iP*	**Pn**	**06 11 08.7**	**-0.5**
TA01				*e*S	**Sn**	**06 11 29.3**	**0.0**
TA01	**Diego Aracena**	**1.44**	**297**	*e*P	**Pn**	**06 11 08.9**	**-0.3**
TA01				*e*S	**Sn**	**06 11 29.9**	**+0.6**
TA01				IAML		06 11 31.5	
	comp=Z,246nm,0.2s						
TA02	**Huaiquique**	**1.56**	**308**	*e*P	**Pn**	**06 11 09.3**	**-1.3**
TA02				*e*S	**Sn**	**06 11 35.1**	**+3.3**
TA02				IAML		06 11 35.9	
	comp=Z,324nm,0.1s						
GO01	**Chusmiza**	**1.60**	**347**	*e*P	**Pn**	**06 11 10.9**	**-0.7**
GO01				*e*S	**Sn**	**06 11 33.3**	**-0.1**
GO01				IAML		06 11 36.2	
	comp=E,841nm,0.2s						
GO01	**Chusmiza**	**1.60**	**347**	*e*P	**Pn**	**06 11 11.3**	**-0.2**
GO01				*e*S	**Sn**	**06 11 34.4**	**+1.0**
PB06	**IPOC Station P**	**1.63**	**206**	⇓*iP*	**Pn**	**06 11 11.4**	**-0.2**
PB06				*e*S	**Sn**	**06 11 33.7**	**+0.2**
PB06				IAML		06 11 35.1	
	comp=E,341nm,0.3s						
PB06	**IPOC Station P**	**1.63**	**206**	*e*P	**Pn**	**06 11 11.4**	**-0.2**
PB06				*e*S	**Sn**	**06 11 32.5**	**-1.0**
PB06				IAML		06 11 34.8	
	comp=Z,226nm,0.2s						
PB04	**IPOC Station P**	**1.66**	**228**	*e*P	**Pn**	**06 11 11.8**	**-0.1**
PB04				IAML		06 11 39.6	
	comp=E,411nm,0.1s						
PB04	**IPOC Station P**	**1.66**	**228**	*e*P	**Pn**	**06 11 12.0**	**0.0**
PB04				*e*S	**Sn**	**06 11 34.4**	**+0.2**
PB04				IAML		06 11 37.8	
	comp=Z,258nm,0.1s						
PB11	**IPOC Station P**	**1.66**	**332**	⇑*iP*	**Pn**	**06 11 11.1**	**-1.0**
PB11				*e*S	**Sn**	**06 11 33.8**	**-0.6**
PB11				IAML		06 11 34.9	
	comp=E,1μm,0.3s						
PB11	**IPOC Station P**	**1.66**	**332**	*e*P	**Pn**	**06 11 11.3**	**-0.7**
PB11				IAML		06 11 35.4	
	comp=Z,388nm,0.3s						
AF01	**San Pedro de A**	**1.81**	**161**	*e*P	**Pn**	**06 11 14.2**	**+0.3**
AF01	**San Pedro de A**	**1.81**	**161**	*e*P	**Pn**	**06 11 14.3**	**+0.4**
AF01				*e*S	**Sn**	**06 11 37.6**	**-0.1**
AF01				IAML		06 12 00.3	
	comp=Z,147nm,0.7s						
PB15	**IPOC Station P**	**2.06**	**197**	*e*P	**Pn**	**06 11 16.6**	**-0.3**
PB15	**IPOC Station P**	**2.06**	**197**	*e*P	**Pn**	**06 11 17.2**	**+0.3**
PB15				IAML		06 11 54.6	
	comp=Z,545nm,0.2s						
AP01	**Chacalluta**	**3.19**	**333**	*e*P	Pn	06 11 37.9	+6.4
AP01				*e*S	**Sn**	**06 12 10.2**	**+1.1**
AP01				IAML		06 12 15.1	
	comp=Z,121nm,0.3s						
YJA	**Yavi**	**3.21**	**108**	*e*P	**Pn**	**06 11 31.7**	**-0.4**
GO02	**Mina Guanaco**	**3.98**	**190**	*e*P	**Pn**	**06 11 40.5**	**-1.7**
GO02	**Mina Guanaco**	**3.98**	**190**	*e*P	**Pn**	**06 11 41.1**	**-1.0**
LPAZ	**La Paz**	**4.96**	**8**	*e*P	**Pn**	**06 11 56.9**	**+1.2**

*AEIC **14** 06:25:01.9±1.0,64°.77N±0°.02×150°.92W±0°.06,h18km±6km, ML3.8,ML4.0/216(NEIC),Mwr3.7/57(SLM),Error ellipse: s-maj=4.1km s-min=2.9km az=132.0*
*NEIC **14** 06:25:02.1±1.0,64°.78N±0°.02×150°.91W±0°.04,h17km±6km, Error ellipse: s-maj=3.2km s-min=2.5km az=221.0*
*NEIC **14** 06:25:02,64°.78N×150°.87W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.40; $M_{\theta\theta}$-4.12; $M_{\phi\phi}$3.73; $M_{r\theta}$0.01; $M_{\theta\phi}$-1.64; $M_{\phi r}$1.32; Fault plane solution: $M_0$4.47000×10^{14} NP1:ϕ_s302.00000°, δ75.00000°,λ170.00000°. NP2:ϕ_s35.00000°,δ80.00000°, λ15.00000°. Principal axes: T 4.4680, Plg18.0000°, Azm259.0000°; N -0.0020, Plg72.0000°, Azm68.0000°; P -4.4660, Plg3.0000°, Azm168.0000°;*
ISC 14 06:25:02.0±0.9,**64°.78N**±0°.02×**150°.90W**±0°.02,**h17**km±7km,
n233,σ0°**82**/196,**Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLY	**Manley**	**0.26**	**15**	Pg	**Pg**	**06 25 08.0**	**+0.1**
MLY				IAML		06 25 12.0	
	comp=N,20μm,0.6s						
MLY	**Manley**	**0.26**	**15**	P	**Pg**	**06 25 08.0**	**+0.1**
	baz=191						
MLY				S	**Sg**	**06 25 11.6**	**-0.3**
	baz=191						
I21K	**Tanana**	**0.61**	**312**		**Pb**	**06 25 14.4**	**+0.1**
I21K					**Sg**	**06 25 22.2**	**-0.1**
I21K	**Tanana**	**0.61**	**312**	IAML		06 25 22.6	
	comp=E,6μm,0.5s						
I21K				IAML		06 25 22.6	
	comp=N,5μm,0.8s						
BPAW	**Bear Paw Mtn.**	**0.68**	**183**		**Sg**	**06 25 24.3**	**-0.2**
BPAW	**Bear Paw Mtn.**	**0.68**	**183**		**Pb**	**06 25 15.6**	**+0.2**
BPAW	**Bear Paw Mtn.**	**0.68**	**183**	IAML		06 25 26.9	
	comp=E,2μm,0.5s						
BPAW				IAML		06 25 28.0	
	comp=N,2μm,0.5s						
BPAW	**Bear Paw Mtn.**	**0.68**	**183**	P	**Pb**	**06 25 15.6**	**+0.2**
	baz=4.4						
I23K	**Minto, Yukon-K**	**0.75**	**60**		**Pb**	**06 25 16.4**	**-0.2**
I23K	**Minto, Yukon-K**	**0.75**	**60**		**Sb**	**06 25 26.6**	**0.0**
I23K	**Minto, Yukon-K**	**0.75**	**60**	P	**Pb**	**06 25 16.4**	**-0.3**
	baz=239						
I23K				S	**Sg**	**06 25 27.2**	**+0.5**
	baz=239						
I23K				S	**Sg**	**06 25 27.2**	**+0.5**
	baz=239						
NEA2	**Nenana**	**0.81**	**103**		**Pg**	**06 25 17.9**	**+0.2**
NEA2				IAML		06 25 30.4	
	comp=N,6μm,0.6s						
NEA2	**Nenana**	**0.81**	**103**		**Sb**	**06 25 27.8**	**-0.4**
NEA2	**Nenana**	**0.81**	**103**	P	**Pg**	**06 25 17.9**	**+0.2**
	baz=283						
NEA2				S	**Sb**	**06 25 28.3**	**+0.1**
	baz=283						
BWN	**Browne**	**0.87**	**134**		**Pn**	**06 25 19.9**	**+0.5**
BWN				IAML		06 25 33.7	
	comp=E,5μm,0.9s						
BWN				IAML		06 25 38.9	
	comp=N,6μm,0.8s						
CHUM	**Lake Minchumin**	**1.09**	**215**		**Pg**	**06 25 22.7**	**-0.4**
CHUM					**Sg**	**06 25 37.0**	**-0.4**
CHUM	**Lake Minchumin**	**1.09**	**215**	P	**Pg**	**06 25 23.3**	**+0.2**
	baz=35						
CHUM				S	**Sg**	**06 25 37.3**	**-0.1**
	baz=35						
H22K	**Ishtalitna Cre**	**1.14**	**350**		**Pb**	**06 25 23.4**	**+0.1**
H22K					**Sg**	**06 25 38.7**	**-0.1**
H21K	**Melozitna Rive**	**1.19**	**319**		**Pb**	**06 25 23.9**	**-0.2**
H21K	**Melozitna Rive**	**1.19**	**319**		**Sg**	**06 25 40.2**	**-0.4**
H21K	**Melozitna Rive**	**1.19**	**319**	IAML		06 25 40.3	
	comp=E,4μm,0.6s						
H21K				IAML		06 25 40.5	
	comp=N,5μm,0.5s						
H21K	**Melozitna Rive**	**1.19**	**319**	P	**Pb**	**06 25 24.0**	**-0.2**
	baz=137						
H21K				S	**Sn**	**06 25 39.4**	**-0.3**
	baz=137						
H21K				S	**Sn**	**06 25 39.4**	**-0.3**
	baz=137						
H23K	**Yukon River**	**1.20**	**28**		**Pb**	**06 25 24.2**	**-0.1**
H23K	**Yukon River**	**1.20**	**28**		**Sg**	**06 25 40.4**	**-0.3**
H23K	**Yukon River**	**1.20**	**28**	P	**Pb**	**06 25 24.1**	**-0.1**
	baz=208						
KTH	**Kantishna Hill**	**1.23**	**180**		**Pn**	**06 25 24.4**	**0.0**
WRH	**Wood River Hil**	**1.25**	**103**		**Pn**	**06 25 24.3**	**-0.4**
WRH				IAML		06 25 42.4	
	comp=E,2μm,1.1s						
WRH				IAML		06 25 42.9	
	comp=N,4μm,0.5s						
COLA	**College**	**1.31**	**84**		**Pn**	**06 25 25.0**	**-0.4**
COLA	**College**	**1.31**	**84**		**Sn**	**06 25 42.3**	**-0.1**
COLA	**College**	**1.31**	**84**	P	**Pb**	**06 25 25.8**	**-0.3**
CCB	**Clear Creek Bu**	**1.33**	**94**		**Pn**	**06 25 25.4**	**-0.4**
MCK	**McKinley**	**1.36**	**140**		**Pn**	**06 25 26.2**	**0.0**
MCK					**Sb**	**06 25 43.9**	**-0.1**
MCK	**McKinley**	**1.36**	**140**	P	**Pn**	**06 25 26.2**	**0.0**
	baz=321						
TRF	**Thorofare Moun**	**1.36**	**168**		**Pn**	**06 25 26.4**	**0.0**
CAST	**Castle Rocks**	**1.46**	**201**		**Pn**	**06 25 27.8**	**+0.2**
CAST				IAML		06 25 48.8	
	comp=N,2μm,0.7s						
CAST	**Castle Rocks**	**1.46**	**201**	P	**Pn**	**06 25 27.3**	**-0.3**
	baz=21						
POKR	**Poker Plat Res**	**1.51**	**75**		**Pn**	**06 25 27.9**	**-0.4**
POKR				IAML		06 25 51.6	
	comp=E,3μm,0.6s						
POKR	**Poker Plat Res**	**1.51**	**75**		**Sn**	**06 25 47.7**	**+0.1**
POKR	**Poker Plat Res**	**1.51**	**75**	P	**Pn**	**06 25 27.9**	**-0.4**
	baz=258						
J20K	**Nowinta River**	**1.53**	**248**		**Pn**	**06 25 28.4**	**-0.1**
J20K				IAML		06 25 53.1	
	comp=E,2μm,0.5s						
I20K	**Naaghedeneel**	**1.53**	**272**		**Pn**	**06 25 28.6**	**+0.1**
RND	**Reindeer**	**1.65**	**146**		**Pn**	**06 25 30.6**	**+0.4**
H24K	**Noodor Dome**	**1.66**	**49**		**Pn**	**06 25 30.1**	**-0.2**
H24K				IAML		06 25 59.6	
	comp=N,2μm,0.8s						
H24K				IAML		06 26 02.9	
	comp=E,2μm,0.9s						
IMAR	**Indian Mountai**	**1.70**	**317**		**Pn**	**06 25 31.1**	**+0.3**
IL31		**1.72**	**88**		**Pn**	**06 25 30.6**	**-0.5**
ILAR	**Eielson Array**	**1.72**	**88**		**Pn**	**06 25 30.7**	**-0.5**
HDA	**Harding Lake**	**1.74**	**100**		**Pn**	**06 25 31.5**	**0.0**
HDA				IAML		06 25 58.8	
	comp=N,2μm,0.5s						
HDA	**Harding Lake**	**1.74**	**100**	P	**Pn**	**06 25 30.9**	**-0.6**
	baz=283						
H20K	**Anotleneega Mo**	**1.83**	**295**		**Pn**	**06 25 32.4**	**-0.2**
G23K	**Bananza Creek**	**1.97**	**10**		**Pn**	**06 25 35.1**	**+0.5**
G23K				IAML		06 26 05.6	
	comp=N,1μm,0.5s						
PPLA	**Purkeypile**	**1.98**	**197**		**Pn**	**06 25 34.9**	**+0.1**
K20K	**Telida**	**2.00**	**226**		**Pn**	**06 25 34.6**	**-0.3**
K20K	**Telida**	**2.00**	**226**	IAML		06 26 06.1	
	comp=E,1μm,0.9s						
G21K	**Allakaket**	**2.05**	**329**		**Pn**	**06 25 36.0**	**+0.3**
G21K	**Allakaket**	**2.05**	**329**	IAML		06 26 14.2	
	comp=N,1μm,0.7s						
G21K				IAML		06 26 14.6	
	comp=E,1μm,0.6s						
G22K	**Bettles**	**2.17**	**354**		**Pn**	**06 25 37.7**	**+0.4**
J19K	**Poorman**	**2.20**	**251**		**Pn**	**06 25 37.4**	**-0.3**
J19K				IAML		06 26 14.3	
	comp=N,796nm,0.8s						
WAT1	**Susitna Watana**	**2.22**	**151**		**Pn**	**06 25 38.7**	**+0.7**
DHY	**Denali Highway**	**2.31**	**136**		**Pn**	**06 25 40.2**	**+0.8**
DHY				IAML		06 26 14.4	
	comp=E,670nm,0.9s						
DHY				IAML		06 26 15.6	
	comp=N,824nm,0.7s						
DHY	**Denali Highway**	**2.31**	**136**	P	**Pn**	**06 25 40.2**	**+0.8**
	baz=319						
J25K	**Salcha River,**	**2.38**	**91**		**Pn**	**06 25 39.6**	**-0.7**
J25K	**Salcha River,**	**2.38**	**91**	IAML		06 26 18.4	
	comp=N,860nm,0.6s						
J25K				IAML		06 26 19.6	
	comp=E,834nm,0.5s						
PRP	**Porcupine Dome**	**2.39**	**69**		**Pn**	**06 25 40.1**	**-0.3**
G24K	**Hadweenzic Riv**	**2.39**	**35**		**Pn**	**06 25 40.5**	**+0.1**
G24K				IAML		06 26 17.1	
	comp=E,956nm,0.8s						
H19K	**Roundabout Mou**	**2.46**	**290**		**Pn**	**06 25 41.0**	**-0.3**
H19K	**Roundabout Mou**	**2.46**	**290**	IAML		06 26 23.9	
	comp=N,1μm,1.0s						
H19K				IAML		06 26 29.3	
	comp=E,765nm,0.8s						
COLD	**Coldfoot**	**2.48**	**6**		**Pn**	**06 25 42.0**	**+0.5**
GCSA	**Galena City Sc**	**2.56**	**272**		**Pn**	**06 25 42.7**	**+0.1**
H25L	**Birch Creek**	**2.59**	**52**		**Pn**	**06 25 42.8**	**-0.2**
L20K	**Farewell, AK**	**2.67**	**211**		**Pn**	**06 25 43.9**	**-0.3**
F21K	**Alatna River**	**2.67**	**338**		**Pn**	**06 25 44.5**	**+0.2**
F22K	**John River**	**2.79**	**350**		**Pn**	**06 25 46.8**	**+0.9**
G25K	**Bearman Lake**	**2.81**	**43**		**Pn**	**06 25 45.9**	**-0.2**
SKT	**Skwentna**	**2.82**	**186**		**Pn**	**06 25 47.6**	**+1.3**
SKT				IAML		06 26 31.5	
	comp=E,462nm,1.4s						
SKT				IAML		06 26 31.7	
	comp=N,390nm,0.8s						
RIDG	**Independent Ri**	**2.84**	**109**		**Pn**	**06 25 46.8**	**+0.2**
RIDG				IAML		06 26 36.6	
	comp=E,634nm,0.9s						
J18K	**Innoko River**	**2.87**	**245**	IAML		06 26 42.4	
	comp=N,402nm,0.8s						
G19K	**Purcell Mounta**	**2.92**	**301**		**Pn**	**06 25 49.0**	**+1.4**
G19K				IAML		06 26 36.9	
	comp=E,510nm,0.7s						
G19K				IAML		06 26 38.0	
	comp=N,642nm,0.8s						
TTA	**Tatalina**	**2.93**	**233**		**Pn**	**06 25 47.1**	**-0.7**
TTA				IAML		06 26 44.7	
	comp=E,368nm,0.8s						
TTA	**Tatalina**	**2.93**	**233**	P	**Pn**	**06 25 47.3**	**-0.5**
FYU	**Fort Yukon**	**2.95**	**50**		**Pn**	**06 25 47.5**	**-0.6**
FYU				IAML		06 26 41.6	
	comp=E,598nm,0.9s						
PAX	**Paxson**	**3.01**	**125**		**Pn**	**06 25 49.6**	**+0.7**
F24K	**Squaw Lake**	**3.01**	**23**		**Pn**	**06 25 49.3**	**+0.4**
F20K	**Avaraart Lake**	**3.02**	**321**		**Pn**	**06 25 49.8**	**+0.9**
F20K	**Avaraart Lake**	**3.02**	**321**	IAML		06 26 41.5	
	comp=E,400nm,0.8s						
F20K				IAML		06 26 43.2	
	comp=N,400nm,0.7s						
M22K	**Willow**	**3.06**	**173**		**Pn**	**06 25 50.6**	**+1.1**
M22K	**Willow**	**3.06**	**173**	IAML		06 26 48.0	
	comp=N,554nm,0.8s						
M22K				IAML		06 26 53.7	
	comp=E,530nm,1.0s						
M20K	**Styx River**	**3.08**	**200**		**Pn**	**06 25 50.4**	**+0.6**
M20K	**Styx River**	**3.08**	**200**	IAML		06 26 44.8	
	comp=E,518nm,1.2s						
SCRK	**Sand Creek**	**3.11**	**102**		**Pn**	**06 25 50.7**	**+0.3**
SCRK				IAML		06 26 41.8	
	comp=N,346nm,0.6s						
SCRK				IAML		06 26 41.8	
	comp=E,427nm,0.6s						
GHO	**Glory Hole Cre**	**3.15**	**163**		**Pn**	**06 25 51.4**	**+0.6**
L19K	**White Mountain**	**3.15**	**216**		**Pn**	**06 25 50.6**	**-0.2**
L19K	**White Mountain**	**3.15**	**216**	IAML		06 26 47.7	
	comp=E,498nm,0.8s						
L19K				IAML		06 26 51.3	
	comp=N,484nm,1.1s						
J26L	**Joseph Creek**	**3.17**	**92**	IAML		06 26 44.0	
	comp=E,346nm,0.7s						
DOT	**Dot Lake**	**3.20**	**108**		**Pn**	**06 25 51.1**	**-0.3**
H18K	**Honhosa River**	**3.20**	**280**		**Pn**	**06 25 51.1**	**-0.3**
SML	**Sawmill**	**3.20**	**158**		**Pn**	**06 25 52.2**	**+0.7**
SML				IAML		06 26 44.9	
	comp=E,357nm,0.8s						
M19K	**Big River Lodg**	**3.29**	**210**		**Pn**	**06 25 52.7**	**0.0**
M19K	**Big River Lodg**	**3.29**	**210**	IAML		06 26 47.5	
	comp=N,385nm,0.7s						
M19K				IAML		06 26 49.4	
	comp=E,296nm,0.8s						
PMR	**Palmer**	**3.30**	**165**		**Pn**	**06 25 53.8**	**+1.1**
PMR	**Palmer**	**3.30**	**165**	P	**Pn**	**06 25 53.9**	**+1.1**
M23K	**Glacier View**	**3.32**	**153**		**Pn**	**06 25 53.7**	**+0.6**
SUA	**Susitna One**	**3.33**	**179**		**Pn**	**06 25 54.7**	**+1.4**
E23K	**Chandalar**	**3.33**	**8**		**Pn**	**06 25 54.2**	**+0.8**
E23K	**Chandalar**	**3.33**	**8**	IAML		06 26 54.1	
	comp=N,362nm,0.7s						
SCM	**Sheep Creek Mo**	**3.37**	**150**		**Pn**	**06 25 54.8**	**+1.0**
SCM				IAML		06 26 56.7	
	comp=N,388nm,0.9s						
E22K	**Anaktuvuk Pass**	**3.39**	**354**		**Pn**	**06 25 55.2**	**+1.1**
M24K	**Tolsona, Glenn**	**3.42**	**140**		**Pn**	**06 25 55.8**	**+1.2**
M24K				IAML		06 26 52.9	
	comp=N,380nm,1.0s						
M24K				IAML		06 27 05.1	
	comp=E,386nm,1.2s						
G18K	**Tagagawik**	**3.44**	**293**		**Pn**	**06 25 54.9**	**+0.1**
G18K	**Tagagawik**	**3.44**	**293**	IAML		06 26 52.6	
	comp=N,339nm,1.1s						
G18K				IAML		06 27 00.9	
	comp=E,271nm,1.1s						
E24K	**Your Creek**	**3.45**	**15**		**Pn**	**06 25 55.7**	**+0.8**
F19K	**Shaleruckik Mo**	**3.50**	**309**		**Pn**	**06 25 55.8**	**+0.2**
F19K	**Shaleruckik Mo**	**3.50**	**309**	IAML		06 26 54.2	
	comp=N,375nm,0.8s						
HARP	**HAARP**	**3.50**	**130**		**Pn**	**06 25 57.1**	**+1.4**
SPCG	**Spurr Capps Gl**	**3.54**	**189**		**Pn**	**06 25 56.5**	**+0.3**
F25K	**Christian Rive**	**3.54**	**35**		**Pn**	**06 25 56.2**	**+0.1**
SPCP	**Crater Peak Br**	**3.57**	**190**		**Pn**	**06 25 58.0**	**+1.2**
SPCN	**Chakachatna No**	**3.62**	**190**		**Pn**	**06 25 58.9**	**+1.7**
SPCR	**Spurr Chakacha**	**3.64**	**190**		**Pn**	**06 25 58.8**	**+1.2**
G26K	**Porcupine Rive**	**3.65**	**50**		**Pn**	**06 25 56.7**	**-0.8**
SPU	**Mount Spurr**	**3.65**	**189**		**Pn**	**06 25 58.9**	**+1.2**
L18K	**Granite Mounta**	**3.65**	**228**		**Pn**	**06 25 57.4**	**-0.2**
L18K	**Granite Mounta**	**3.65**	**228**	IAML		06 27 11.6	
	comp=N,282nm,1.2s						
BMAR	**Burnt Mountain**	**3.70**	**41**		**Pn**	**06 25 58.1**	**-0.2**
E19K	**Redstone River**	**3.72**	**319**		**Pn**	**06 25 59.5**	**+0.9**
E19K	**Redstone River**	**3.72**	**319**	IAML		06 27 02.2	
	comp=N,291nm,0.6s						
E19K				IAML		06 27 09.2	
	comp=E,251nm,0.9s						
RC01	**Rabbit Creek A**	**3.74**	**171**		**Pn**	**06 26 00.5**	**+1.6**
J17K	**VABM Dome**	**3.85**	**253**		**Pn**	**06 25 59.8**	**-0.6**
J17K				IAML		06 27 10.2	
	comp=N,208nm,1.0s						
J17K				IAML		06 27 21.1	
	comp=E,254nm,0.9s						
H17K	**Granite Mounta**	**3.85**	**276**		**Pn**	**06 25 59.9**	**-0.5**
H17K	**Granite Mounta**	**3.85**	**276**	IAML		06 26 49.1	
	comp=E,201nm,0.8s						
E21K	**Killik River**	**3.88**	**343**	IAML		06 27 16.9	
	comp=N,198nm,0.8s						
K17K	**Iditarod**	**3.89**	**241**		**Pn**	**06 26 00.5**	**-0.4**
K17K	**Iditarod**	**3.89**	**241**	IAML		06 27 12.7	
	comp=N,296nm,1.3s						
K17K				IAML		06 27 15.9	
	comp=E,303nm,1.3s						
K27K	**Chicken**	**3.90**	**97**		**Pn**	**06 26 01.4**	**+0.3**
**

WASW	Wrangell South	4.17	130		Pn	06 26 04.4 -0.5
EGAK	Eagle	4.17	86		Pn	06 26 04.1 -0.7
D22K	Ayikyak River	4.18	351		Pn	06 26 06.1 +1.2
D22K	Ayikyak River	4.18	351	IAML		06 27 25.0
	comp=N,216nm,1.4s					
D22K				IAML		06 27 27.7
	comp=E,168nm,1.5s					
G17K	Kiwalik Mounta	4.18	284		Pn	06 26 05.0 0.0
D23K	Nanushuk River	4.21	1		Pn	06 26 07.3 +2.1
D23K	Nanushuk River	4.21	1	IAML		06 27 26.7
	comp=E,163nm,1.5s					
D23K				IAML		06 27 30.2
	comp=N,181nm,1.4s					
L17K	Donlin	4.25	235		Pn	06 26 05.4 -0.5
SVW2	Sparrevohn	4.27	212	P	Pn	06 26 07.2 +1.1
N25K	Chitina, Valde	4.27	135		Pn	06 26 08.3 +2.0
RDT	Redoubt	4.28	190		Pn	06 26 06.8 +0.5
GLI	Glacier Island	4.28	154		Pn	06 26 08.1 +1.8
GLI	Glacier Island	4.28	154	IAML		06 27 25.6
	comp=E,118nm,0.9s					
SLKM	Skilak Lake	4.30	176		Pn	06 26 07.6 +1.0
N19K	Bonanza Creek	4.31	204		Pn	06 26 06.3 -0.5
N19K	Bonanza Creek	4.31	204	IAML		06 27 18.1
	comp=N,200nm,0.9s					
N19K				IAML		06 27 19.0
	comp=E,213nm,1.1s					
G27K	Doyon Strip	4.32	58		Pn	06 26 06.4 -0.4
G27K	Doyon Strip	4.32	58	IAML		06 27 24.9
	comp=N,126nm,0.9s					
DIV	Divide	4.35	145		Pn	06 26 08.9 +1.7
O22K	Cooper Landing	4.35	172		Pn	06 26 07.9 +0.7
I17K	Unalakleet	4.36	263		Pn	06 26 07.8 +0.5
I17K				IAML		06 27 30.4
	comp=E,116nm,1.1s					
L27K	Beaver Creek,	4.36	109		Pn	06 26 06.7 -0.7
L27K	Beaver Creek,	4.36	109	IAML		06 27 28.1
	comp=N,158nm,0.8s					
L27K				IAML		06 27 28.6
	comp=E,154nm,0.8s					
BCAR	Beaver Creek A	4.38	109		Pn	06 26 06.9 -0.8
D24K	Happy Valley	4.47	10		Pn	06 26 10.6 +1.7
M17K	Holitna River	4.51	224		Pn	06 26 09.1 -0.3
J16K	Anvik River	4.52	255	IAML		06 27 27.6
	comp=E,121nm,1.2s					
J16K				IAML		06 27 32.5
	comp=N,149nm,1.1s					
FID	Port Fidalgo	4.52	151		Pn	06 26 11.9 +2.2
D20K	Etivluk River	4.55	333		Pn	06 26 11.5 +1.4
F17K	Baldwin Pennin	4.61	296		Pn	06 26 10.5 -0.2
GLB	Gilahina Butte	4.64	133		Pn	06 26 13.2 +1.9
GLB	Gilahina Butte	4.64	133	IAML		06 27 27.4
	comp=N,128nm,0.9s					
C21K	Knifeblade Rid	4.65	343		Pn	06 26 13.1 +1.7
I28M	Miner Creek	4.68	77		Pn	06 26 11.8 -0.1
I28M	Miner Creek	4.68	77	IAML		06 27 39.5
	comp=E,159nm,0.7s					
M27K	Edge Creek, AK	4.71	117		Pn	06 26 11.9 -0.4
D19K	Kuna River	4.71	326		Pn	06 26 13.2 +1.0
D19K	Kuna River	4.71	326	IAML		06 27 39.0
	comp=E,137nm,1.1s					
D19K				IAML		06 27 44.8
	comp=N,111nm,1.4s					
N18K	Kilae Creek	4.71	211		Pn	06 26 12.2 0.0
N18K	Kilae Creek	4.71	211	IAML		06 27 34.8
	comp=N,138nm,1.4s					
E18K	Tukpahlearik C	4.75	308		Pn	06 26 13.5 +0.7
E18K	Tukpahlearik C	4.75	308	IAML		06 27 43.2
	comp=N,98nm,1.6s					
BMRM	Bremner River	4.79	140		Pn	06 26 14.3 +1.0
HIN	Hinchinbrook I	4.84	153	IAML		06 27 48.5
	comp=N,95nm,1.5s					
EYAK	Cordova Ski Ar	4.86	148	P	Pn	06 26 16.0 +1.7
G16K	Koyuk River	4.88	282		Pn	06 26 14.4 -0.1
G16K	Koyuk River	4.88	282	IAML		06 27 42.7
	comp=E,132nm,0.9s					
D25K	Kavik River	4.89	19		Pn	06 26 16.0 +1.2
D25K	Kavik River	4.89	19	IAML		06 27 41.3
	comp=N,101nm,1.0s					
ILSW	Iliamna Southw	4.92	193		Pn	06 26 15.1 -0.2
ILSW				IAML		06 27 50.0
	comp=E,84nm,1.1s					
L16K	Owhat River	4.95	235		Pn	06 26 15.4 0.0
L16K				IAML		06 27 50.3
	comp=N,98nm,1.4s					
C24K	Franklin Bluff	5.04	9		Pn	06 26 17.9 +1.2
C24K	Franklin Bluff	5.04	9	IAML		06 27 52.7
	comp=N,118nm,1.0s					
E27K	Coleen River	5.06	43		Pn	06 26 16.2 -0.8
E27K	Coleen River	5.06	43	IAML		06 27 46.5
	comp=E,106nm,1.2s					
BVCY	Beaver Creek,	5.07	113		Pn	06 26 17.0 -0.2
B21K	Ikpikpuk River	5.07	345		Pn	06 26 15.4 -1.8
B21K				IAML		06 27 50.4
	comp=N,91nm,1.0s					
B21K				IAML		06 27 57.0
	comp=E,107nm,1.3s					
C23K	Itkillik River	5.08	1		Pn	06 26 18.1 +0.9
C23K	Itkillik River	5.08	1	IAML		06 27 53.8
	comp=E,110nm,1.6s					
C23K				IAML		06 28 02.3
	comp=N,95nm,1.5s					
N17K	Nushagak Hills	5.16	217		Pn	06 26 18.0 -0.3
N17K	Nushagak Hills	5.16	217	IAML		06 27 54.9
	comp=N,102nm,1.1s					
N17K				IAML		06 27 55.3
	comp=E,103nm,0.9s					
M16K	Timber Creek	5.27	228		Pn	06 26 19.0 -0.9
M16K	Timber Creek	5.27	228	IAML		06 28 01.1
	comp=N,104nm,1.1s					
M16K				IAML		06 28 04.6
	comp=E,112nm,1.7s					
CNPM	China Poot	5.28	182		Pn	06 26 22.7 +2.7
CNPM	China Poot	5.28	182	IAML		06 27 31.5
	comp=E,62nm,3.6s					
F28M	Old Crow	5.29	53	IAML		06 27 54.9
	comp=N,102nm,0.8s					
F28M				IAML		06 27 57.8
	comp=E,74nm,0.8s					
K15K	Wolf Creek Mou	5.37	247		Pn	06 26 20.7 -0.5
K15K	Wolf Creek Mou	5.37	247	IAML		06 28 02.5
	comp=E,56nm,2.5s					
K15K				IAML		06 28 17.0
	comp=N,62nm,1.2s					
H29M	Whitestone	5.41	69		Pn	06 26 21.1 -0.7
BALM	Baldy	5.42	130		Pn	06 26 24.1 +2.0
KIAG	Kiagna River	5.50	131		Pn	06 26 23.8 +0.6
C19K	Lookout Ridge	5.52	326		Pn	06 26 23.9 +0.5
C18K	Utukok River	5.63	318		Pn	06 26 24.7 -0.2
B22K	Teshekpuk Lake	5.67	351		Pn	06 26 25.8 +0.5
L15K	Ungalak Mounta	5.71	242		Pn	06 26 25.3 -0.6
B20K	Meade River	5.78	338		Pn	06 26 26.9 +0.1
O17K	Koliganek Bris	5.79	213		Pn	06 26 26.4 -0.6
E28M	Babbage River	5.92	45		Pn	06 26 27.7 -1.1
D27M	Malcolm River	5.93	37		Pn	06 26 30.4 +1.4
J14K	Nanvaranak Lak	5.97	256		Pn	06 26 29.0 -0.4
M15K	Kasigluk River	6.08	232		Pn	06 26 30.2 -0.8
I30M	Mount Dempster	6.17	79		Pn	06 26 31.8 -0.6
J30M	Hart River	6.25	85		Pn	06 26 33.0 -0.5
N15K	Kwethluk River	6.29	227		Pn	06 26 33.2 -0.6
E29M	Blow River	6.32	49		Pn	06 26 33.6 -0.6
A22K	Sinclair Lake	6.44	348		Pn	06 26 36.0 +0.1
INK	Inuvik	7.77	55		Pn	06 26 54.2 +0.1
A36M	Sachs Harbour	11.80	41		Pn	06 27 49.9 +0.7

RSNC 14 06:27:00.2±0.0, 5°N±1°×7°4W±°, h148km±2km, M3.2, mb3.9, mB5.3, ML2.9, Mw(mB)4.7, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	San Pablo de B	0.50	318	P	Pn	06 27 21.2	-0.2
SPBC				S	Sn	06 27 36.7	-0.9
CHIC	Chingaza	0.65	179	P	Pn	06 27 22.2	-0.5
CHIC				S	Sn	06 27 38.6	-1.2
ROSC	El Rosal	0.72	233	P	Pn	06 27 23.9	+0.8
ROSC				S	Sn	06 27 41.6	+1.1
CVER	Cruz Verde, Cu	0.82	204	P	Pn	06 27 24.1	+0.1
CVER				S	Sn	06 27 41.4	-0.6
RUSC	La Rusia	0.89	47	P	Pn	06 27 24.6	+0.1
RUSC				S	Sn	06 27 42.9	0.0
NORC	Norcasia	1.16	284	P	Pn	06 27 25.8	-0.5
NORC				S	Sn	06 27 45.5	-0.6
VILC	Villavicencio,	1.16	178	P	Pn	06 27 25.6	-0.8
VILC				S	Sn	06 27 45.2	-1.2
BARC	Barichara	1.42	23	P	Pn	06 27 28.4	-0.6
BARC				S	Sn	06 27 50.1	-1.0
PTBC	PUERTO BERRIO,	1.44	330	P	Pn	06 27 27.8	-1.2
PTBC				S	Sn	06 27 49.9	-1.2
GUY2C	Guyana, Caldas	1.62	268	P	Pn	06 27 30.9	-0.5
GUY2C				S	Sn	06 27 55.6	+0.4
RECRC	Villamaria, Ca	1.64	259	P	Pn	06 27 31.8	+0.1
RECRC				S	Sn	06 27 55.1	-0.6
BRJC	Barrancabermej	1.68	360	P	Pn	06 27 31.6	0.0
BRJC				S	Sn	06 27 55.7	0.0
NIZA	Niza - Manizal	1.74	263	P	Pn	06 27 32.2	-0.3
NIZA				S	Sn	06 27 59.0	+1.8
PRAC	Prado	1.93	216	P	Pn	06 27 33.9	-0.6
PRAC				S	Sn	06 28 00.1	-0.7
HELC	Santa Helena	2.00	297	P	Pn	06 27 35.1	-0.4
HELC				S	Sn	06 28 01.9	-0.7
ORTC	Ortega, Tolima	2.03	228	P	Pn	06 27 34.8	-0.8
ORTC				S	Sn	06 28 01.4	-1.4
MEDEC	Medelln, Ant	2.09	298	P	Pn	06 27 36.6	+0.1
MEDEC				S	Sn	06 28 04.2	-0.1
URMC	La Uribe, Meta	2.12	198	P	Pn	06 27 36.4	-0.3
URMC				S	Sn	06 28 04.0	-0.8
TAMC	Tame, Arauca	2.25	59	P	Pn	06 27 38.1	-0.2
TAMC				S	Sn	06 28 06.2	-1.4
PAMC	Pamplona, Colo	2.29	27	P	Pn	06 27 39.1	-0.1
PAMC				S	Sn	06 28 08.4	-0.8
CBOC	Ciudad Bolivar	2.33	284	P	Pn	06 27 38.8	-0.6
CBOC				S	Sn	06 28 09.2	-0.3
ZARC	Zaragoza, Cauc	2.46	333	P	Pn	06 27 38.7	-2.1
ZARC				S	Sn	06 28 10.2	-1.9
YOTC	Yotoco, Valle	2.90	244	P	Pn	06 27 46.1	-0.2
OCAC	Ocana	2.97	8	P	Pn	06 27 46.8	-0.5
OCAC				S	Sn	06 28 23.0	-0.7
DBBC	Dabeiba	3.00	305	P	Pn	06 27 47.2	-0.4
DBBC				S	Sn	06 28 24.6	+0.4
UREC	San Jos de Ur	3.03	324	P	Pn	06 27 45.5	-2.5
UREC				S	Sn	06 28 21.8	-3.1
MACC	Macarena, Meta	3.12	182	P	Pn	06 27 47.1	-1.9
MACC				S	Sn	06 28 23.2	-3.6
JAMC	Jamundi, Valle	3.57	235	P	Pn	06 27 54.9	-0.2
APAC	Apartado, Choc	3.84	313	P	Pn	06 27 57.2	-1.1
APAC				S	Sn	06 28 41.4	-2.1
FLOC	Florencia	4.14	208	P	Pn	06 28 01.2	-1.1
ARGC	Ariguani, Magd	4.58	354	P	Pn	06 28 07.4	-0.6
ARGC				S	Sn	06 28 59.0	-1.9
SJCC	San Jacinto, C	4.80	343	P	Pn	06 28 07.8	-3.3
SJCC				S	Sn	06 29 00.5	-5.8
CAPC	Capurgana	4.89	313	P	Pn	06 28 09.4	-2.8
CAPC				S	Sn	06 29 04.3	-4.1
CRJC	Cerrejon, Guaj	5.77	8	P	Pn	06 28 22.0	-1.9
	18nm,0.7s,4μm						
CRJC				S	Sn	06 29 23.8	-5.5
	18nm,0.7s,4μm						
URIC	Uribia, Colomb	6.61	15	P	Pn	06 28 32.8	-2.3
URIC				S	Sn	06 29 42.4	-7.0

JMA 14 06:50:42.0±0.1, 34°N±2°×13°7E±°, h359km, MV2.9/21, ENSYUNADA
IDC 14 06:50:45.1±1.3, 34°29N×136°99E, h294km±27km, mb3.0/5, mbtmp3.6/7, Error ellipse: s-maj=50.4km s-min=17.1km az=56.0

ISC 14 06:50:46.3±0.9, 34°6N±0°1×137°17E±0°09, h326km±9km, n18, σ1°25/23, mb3.2/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	Atsumi	0.09	344	P	Pn	06 51 27.0	-0.2
JIE	Ise	0.42	248	P	Pn	06 51 27.2	-0.5
JYTA	Yamagatataniai	1.10	341	P	Pn	06 51 29.2	-0.6
JYN	Shimob	1.47	50	eP	Pn	06 51 31.6	-0.3
JYN				eS	S	06 52 10.5	+2.2
JTNC	Tanabenakahech	1.49	241	eP	Pn	06 51 31.2	-0.8
JWT	Wachi	1.63	297	P	Pn	06 51 31.8	-0.9
JOD2	Odawara 2	1.73	65	eP	Pn	06 51 33.7	+0.2
JOD2				eS	S	06 52 12.9	+1.8
JRY	Ryogami san	2.04	44	P	Pn	06 51 35.6	0.0
JRY				eS	S	06 52 16.9	+1.9
MJAR	Matsushiro Arr	2.16	23	P	Pn	06 51 36.0	-0.5
	24nm,0.6s,baz=195,slow=8.7,SNR=38						
MJAR				S	S	06 52 15.3	-1.4
	1.0nm,0.4s,baz=262,slow=30,SNR=1.3						
MAT	Matsushiro	2.16	23	P	Pn	06 51 36.1	-0.4
JAG	Ashikaga	2.64	44	P	Pn	06 51 39.4	-1.1
JAG				eS	S	06 52 21.5	-2.4
BSO1	Boso 1	3.14	87	eP	Pn	06 51 43.6	-0.9
BSO1				eS	S	06 52 30.1	-1.3
KSRS	Korea Array	8.04	294	P	Pn	06 52 39.1	-1.4
	1.3nm,0.5s,baz=105,slow=13,SNR=4.6						
SONM	Songino Array	26.50	309	P	P	06 55 55.8	+1.1
	0.5nm,0.4s,baz=111,slow=7.9,SNR=2.7						
	0.5nm,0.4s						
MKAR	Makanchi Array	42.57	304	P	P	06 58 11.7	+0.7
	0.4nm,0.7s,baz=73,slow=8.9,SNR=2.3						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	44.86	310	P	P	06 58 32.1	+3.1
	0.2nm,0.3s,baz=89,slow=8.1,SNR=2.9						
	0.2nm,0.3s						
WRA	Warramunga Arr	54.26	183	P	P	06 59 39.1	-0.4
	0.8nm,0.3s,baz=360,slow=7.6,SNR=21						
	0.8nm,0.3s						
ASAR	Alice Springs	57.98	184	P	P	07 00 05.5	-0.1
	0.3nm,0.3s,baz=356,slow=4.6,SNR=10.0						
	0.3nm,0.3s						

ATH 14 06:54:35.5, 38°34N×22°26E, h9km±3km, ML2.0/8, Error ellipse: s-maj=3.5km s-min=0.8km az=300.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	Kalithea	0.11	300	P	Pg	06 54 38.0	-0.1
KALE				S	Sg	06 54 39.9	0.0
KALE				AML	AML	06 54 40.3	
	comp=E,5875μm,0.2s						
KALE				AML	AML	06 54 40.3	
	comp=N,12195μm,0.2s						
DLFA	Delphi	0.23	53	P	Pg	06 54 40.0	-0.2
DLFA				S	Sg	06 54 43.5	0.0
EFP	Efpalio	0.29	288	P	Pg	06 54 40.8	-0.4
EFP				S	Sg	06 54 45.1	0.0
EFP				AML	AML	06 54 46.0	
	comp=N,496μm,0.2s						
EFP				AML	AML	06 54 46.1	
	comp=E,559μm,0.2s						
KLV	Kalavryta, Ach	0.30	196	P	Pg	06 54 41.5	0.0
KLV				S	Sg	06 54 45.8	+0.2
KLV				AML	AML	06 54 47.2	
	comp=N,191μm,0.3s						
KLV				AML	AML	06 54 48.0	
	comp=E,143μm,0.2s						
ANX	Ano Chora	0.37	314	P	Pg	06 54 42.2	-0.5
ANX				S	Sg	06 54 47.6	0.0
ANX				AML	AML	06 54 48.6	
	comp=N,862μm,0.3s						
ANX				AML	AML	06 54 49.5	
	comp=E,1000μm,0.1s						
GUR	Goura	0.41	170	P	Pg	06 54 43.4	-0.1
GUR				S	Sg	06 54 48.8	0.0
GUR				AML	AML	06 54 50.8	
	comp=E,433μm,0.2s						
GUR				AML	AML	06 54 51.8	
	comp=N,534μm,0.3s						
DRO	Drossia	0.58	228	P	Pg	06 54 46.4	-0.2
DRO				S	Sg	06 54 54.7	+0.5
DRO				AML	AML	06 54 56.8	
	comp=N,278μm,0.3s						
DRO				AML	AML	06 54 58.4	
	comp=E,322μm,0.2s						
EVR	Evrytania	0.68	329	P	Pg	06 54 48.6	0.0
EVR				AML	AML	06 55 00.3	
	comp=N,197μm,0.3s						
EVR				AML	AML	06 55 01.4	
	comp=E,214μm,0.3s						
MAKR	Makrakomi, Fth	0.68	352	P	Pg	06 54 48.3	-0.3
MAKR				S	Sg	06 54 58.3	+0.7
MAKR				AML	AML	06 55 00.1	
	comp=E,804μm,0.3s						
MAKR				AML	AML	06 55 00.3	
	comp=N,478μm,0.4s						

SJA 14 06:55:10.2±0.7, 21°09S×68°50W, h157km±4km, ML3.3, MW3.5
GUC 14 06:55:12.6±0.8, 21°09S×68°49W, h140km±5km, ML3.1

ISC 14 06:55:12.4±1.5, 21°14S±0°03×68°53W±0°05, h141km±11km, n29, σ0°83/56, 3C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.90	276	eP	Pn	06 55 35.4	-0.2
PB01				i S	Sn	06 55 52.5	-0.7
PB01				IAML		06 55 54.9	
	comp=N,344nm,0.2s						
PB01	IPOC Station P	0.90	276	eP	Pn	06 55 35.3	-0.3
PB01				eS	Sn	06 55 53.9	+0.6
PB01				IAML		06 55 57.4	
	comp=Z,232nm,0.2s						
PB09	IPOC Station P	0.94	225⇑	iP	Pn	06 55 36.5	+0.4
PB09				i S	Sn	06 55 55.0	+1.0
PB09				IAML		06 55 56.2	
	comp=N,130nm,0.2s						
PB09	IPOC Station P	0.94	225	eP	Pn	06 55 36.4	+0.4
PB09				eS	Sn	06 55 55.8	+1.8
PB08	IPOC Station P	1.15	329⇓	iP	Pn	06 55 38.0	-0.3
PB08				i S	Sn	06 55 57.2	-0.6
PB08				IAML		06 55 58.3	
	comp=E,438nm,0.2s						
PB08	IPOC Station P	1.15	329	eP	Pn	06 55 37.9	-0.3
PB08				eS	Sn	06 55 57.8	0.0
PB08				IAML		06 55 58.6	
	comp=Z,270nm,0.2s						
PX03	IPOC Station P	1.26	305	eP	Pn	06 55 37.8	-1.2
PX03				i S	Sn	06 55 58.2	-1.0
PX03				IAML		06 56 00.6	
	comp=N,762nm,0.2s						
PATCX	Punta Patache	1.55	281⇑	eP	Pn	06 55 41.9	-0.1
PATCX				i S	Sn	06 56 04.6	0.0
PATCX				IAML		06 56 09.3	
	comp=N,355nm,0.2s						
PATCX	Punta Patache	1.55	281	eP	Pn	06 55 41.8	-0.1
PATCX				eS	Sn	06 56 05.6	+1.1
PATCX				eS		06 56 06.5	
PATCX				IAML		06 56 07.6	
	comp=Z,190nm,0.4s						
GO01	Chusmiza	1.59	337	eP	Pn	06 55 42.1	-0.7
GO01				i S	Sn	06 56 06.0	0.0
GO01	Chusmiza	1.59	337	eP	Pn	06 55 42.4	-0.5
GO01				eS	Sn	06 56 07.0	+1.0
TA01	Diego Aracena	1.65	290	eP	Pn	06 55 42.4	-0.5
TA01				i S	Sn	06 56 05.3	-1.0
TA01				IAML		06 56 07.5	
	comp=E,314nm,0.1s						
TA01	Diego Aracena	1.65	290	eP	Pn	06 55 42.5	-0.4
TA01				eS	Sn	06 56 06.5	+0.3
TA01				IAML		06 56 09.9	
	comp=Z,103nm,0.2s						
PB11	IPOC Station P	1.73	322	eP	Pn	06 55 43.3	-0.8
PB11				i S	Sn	06 56 07.3	-1.0
PB11	IPOC Station P	1.73	322	eP	Pn	06 55 43.3	-0.8
PB11				eS	Sn	06 56 07.8	-0.5
PB11				IAML		06 56 10.0	
	comp=Z,340nm,0.1s						
TA02	Huaiquique	1.73	300	eP	Pn	06 55 43.0	-0.9
TA02				i S	Sn	06 56 06.8	-1.1
TA02	Huaiquique	1.73	300	eP	Pn	06 55 43.6	-0.3
TA02				eS	Sn	06 56 08.1	+0.2
TA02				IAML		06 56 10.2	
	comp=Z,574nm,0.1s						
AF01	San Pedro de A	1.84	170	eP	Pn	06 55 57.1	+12
AF01				eS	Sn	06 56 09.5	-1.2
PB06	IPOC Station P	1.84	212⇑	iP	Pn	06 55 45.6	+0.3
PB06				i S	Sn	06 56 10.8	+0.3
PB06				IAML		06 56 11.7	
	comp=E,258nm,0.2s						
PB06	IPOC Station P	1.84	212	eP	Pn	06 55 45.4	+0.1
PB06				eS	Sn	06 56 11.7	+1.2
PB06				IAML		06 56 12.8	
	comp=Z,114nm,0.3s						
PB04	IPOC Station P	1.92	231	eP	Pn	06 55 46.4	+0.1
PB04				i S	Sn	06 56 11.9	-0.4
PB04				IAML		06 56 15.3	
	comp=N,198nm,0.1s						
PB04	IPOC Station P	1.92	231	eP	Pn	06 55 46.9	+0.6
PB04				eS	Sn	06 56 12.5	+0.2
PB04				IAML		06 56 14.7	
	comp=Z,159nm,0.3s						
PB15	IPOC Station P	2.24	203	eP	Pn	06 55 50.7	+0.6
PB15				i S	Sn	06 56 19.7	+0.6
PB15	IPOC Station P	2.24	203	eP	Pn	06 55 51.2	+1.1
PB15				eS	Sn	06 56 20.0	+0.9
YJA	Yavi	2.99	111	eP	Pn	06 55 59.4	-0.3
YJA				eS	Sn	06 56 36.1	0.0
AP01	Chacalluta	3.24	328	eP	Pn	06 56 04.6	+2.1
AP01				eS	Sn	06 56 42.0	+0.7
AP01				IAML		06 56 51.1	
	comp=Z,120nm,0.4s						
PB14	IPOC Station P	3.88	206	eP	Pn	06 56 10.9	-0.3
PB14				eS	Sn	06 56 54.9	-1.8
PB14				IAML		06 57 03.1	
	comp=Z,22nm,0.6s						
GO02	Mina Guanaco	4.12	194	eP	Pn	06 56 13.3	-1.1
GO02				eS	Sn	06 57 01.4	-1.1
LPAZ	La Paz	4.84	5	eP	Pn	06 56 25.3	+1.1

ATH 14 06:55:13.1, 37°59N×20°65E, h15km, ML2.4/6, Manual Solution by M.Kolligri This location: 2020/07/02 05:03:18 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.19	50	P	Pg	06 55 17.6	0.0
LTHK				S	Sg	06 55 20.5	-0.1
PSDA	Pessada-Kefalo	0.53	354	P	Pg	06 55 23.7	+0.2
PSDA				S	Sg	06 55 30.8	+0.1
VLS	Valsamata	0.59	355	P	Pg	06 55 24.6	-0.1
VLS				S	Sg	06 55 32.9	+0.3
DMLN	Damoulianata-K	0.69	341	P	Pb	06 55 27.1	+0.3
RLS	Riolos of Patr	0.80	54	P	Pb	06 55 28.9	+0.3

RSNC 14 06:56:48.1±0.0, 7°N±1°×7°3W±°, h147km±2km, M2.3, mb3.8, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.21	189	P	Pn	06 57 07.9	-0.5
BARC				S	Sn	06 57 23.1	-0.7
BRJC	Barrancabermej	0.61	286	P	Pn	06 57 09.5	-0.2
BRJC				S	Sn	06 57 26.5	+0.3
PAMC	Pamplona, Colo	0.70	40	P	Pn	06 57 10.9	0.0
PAMC				S	Sn	06 57 28.1	0.0
RUSC	La Rusia	0.90	176	P	Pn	06 57 11.8	-0.6
RUSC				S	Sn	06 57 29.7	-1.2
PTBC	PUERTO BERRIO,	1.32	259	P	Pn	06 57 14.5	-1.1
PTBC				S	Sn	06 57 35.8	-0.8
TAMC	Tame, Arauca	1.40	105	P	Pn	06 57 15.9	-0.5
TAMC				S	Sn	06 57 38.0	0.0
OCAC	Ocana	1.44	353	P	Pn	06 57 16.5	-0.5
OCAC				S	Sn	06 57 38.4	-0.7
SPBC	San Pablo de B	1.46	219	P	Pn	06 57 16.8	-0.4
SPBC				S	Sn	06 57 38.2	-1.2
ZARC	Zaragoza, Cauc	1.83	292

ARGC	**Ariguani, Magd**	**3.23**	**340**	P	Pn	06 57 37.3	-1.0
ARGC				S	Sn	06 58 16.4	-0.7
PRAC	**Prado**	**3.52**	**210**	P	Pn	06 57 41.7	-0.4
PRAC				S	Sn	06 58 22.6	-1.4
ORTC	**Ortega, Tolima**	**3.55**	**216**	P	Pn	06 57 41.6	-0.9
ORTC				S	Sn	06 58 25.3	+0.6
SJCC	**San Jacinto, C**	**3.67**	**327**	P	Pn	06 57 41.8	-2.3
SJCC				S	Sn	06 58 23.2	-4.4
URMC	**La Uribe, Meta**	**3.74**	**199**	P	Pn	06 57 44.5	-0.5
CRJC	**Cerrejon, Guaj**	**4.20**	**4**	P	Pn	06 57 48.3	-2.7
CRJC				S	Sn	06 58 35.9	-4.1
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn	06 57 55.6	-5.9

*CATAC **14** 07:01:56.5±0.9, 13°.59N×90°.60W, h20km±8km, ML3.1*
*SNET **14** 07:01:57.2±0.7, 13°.47N×90°.53W, h15km, ML3.2*
*GCG **14** 07:01:57.0±0.6, 13°.55N×90°.65W, h64km±21km, MD3.3*
ISC 14 07:01:55.9±1.8, 13°.50N±0°.07×90°.61W±0°.04, h17km±10km, n31, σ0°.58/49, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.67**	**60**	*i* P	**Pb**	**07 02 09.5**	**+0.3**
FAME				IAML		07 02 31.6	
comp=Z,2.6nm,1.0s							
PCG	**Pacaya**	**0.88**	**0**	*e*P	**Pg**	**07 02 13.6**	**+0.3**
PCG				*i* S	**Sn**	**07 02 27.4**	**+1.0**
PCG				*e*S	**Sn**	**07 02 27.4**	**+1.0**
NUBE	**Las Nubes**	**0.90**	**64**	*e*P	**Pb**	**07 02 12.9**	**-0.3**
NUBE				*e*S	**Sb**	**07 02 25.1**	**+0.1**
NUBE	**Las Nubes**	**0.90**	**64**	*i* P	**Pb**	**07 02 12.9**	**-0.3**
NUBE				*i* S	**Sb**	**07 02 24.5**	**-0.5**
NUBE				IAML		07 02 29.5	
comp=Z,320nm,1.0s							
ESSG	**Sabana Grande**	**0.90**	**346**	*i* P	**Pb**	**07 02 12.3**	**-0.9**
ESSG				IAML		07 02 12.7	
comp=Z,820nm,1.0s							
LOAL	**Lomas de Alarc**	**0.94**	**58**	*i* P	**Pb**	**07 02 13.8**	**-0.1**
LOAL				*i* S	**Sb**	**07 02 26.4**	**+0.2**
LOAL				IAML		07 02 27.7	
comp=Z,1μm,1.0s							
SLOZ	**Alcaldia de Sa**	**0.96**	**57**	*e*P	**Pb**	**07 02 13.9**	**-0.3**
SLOZ				*e*S	**Sg**	**07 02 27.1**	**0.0**
FUG	**Fuego 3**	**0.97**	**347**	*e*P	**Pb**	**07 02 14.6**	**+0.2**
CEVE	**Cerro Verde**	**1.01**	**71**	*e*P	**Pb**	**07 02 15.0**	**-0.2**
CEVE				*e*S	**Sg**	**07 02 28.9**	**-0.1**
CEVE	**Cerro Verde**	**1.01**	**71**	*i* P	**Pb**	**07 02 14.8**	**-0.4**
CEVE				*i* S	**Sb**	**07 02 28.5**	**+0.2**
CEVE				IAML		07 02 31.3	
comp=Z,1μm,1.0s							
RTR	**El Retiro**	**1.02**	**67**	*e*P	**Pb**	**07 02 15.2**	**0.0**
SBLS	**San Blas**	**1.02**	**71**	*e*P	**Pb**	**07 02 14.9**	**-0.3**
SNJE	**San Jose**	**1.04**	**69**	*e*P	**Pb**	**07 02 15.3**	**-0.4**
SNJE				*e*S	**Sb**	**07 02 29.4**	**+0.3**
NBG	**Las Nubes**	**1.11**	**13**	*e*P	**Pn**	**07 02 17.2**	**+0.2**
NBG				*e*S	**Sn**	**07 02 32.7**	**+0.6**
UNIC	**Universidad Ca**	**1.14**	**65**	*i* P	**Pb**	**07 02 16.5**	**-0.7**
UNIC				*i* S	**Sb**	**07 02 31.7**	**0.0**
UNIC				IAML		07 02 32.5	
comp=Z,250nm,1.0s							
JAYA	**Jayaque - finc**	**1.14**	**82**	*e*P	**Pb**	**07 02 16.6**	**-0.7**
JAYA				*e*S	**Sb**	**07 02 30.7**	**-1.2**
JAYA	**Jayaque - finc**	**1.14**	**82**	*i* P	**Pb**	**07 02 16.7**	**-0.6**
JAYA				*i* S	**Sb**	**07 02 30.9**	**-1.0**
JAYA				IAML		07 02 34.1	
comp=Z,2μm,1.0s							
JUAM	**Asuncion Mita**	**1.21**	**47**	*i* P	**Pn**	**07 02 17.4**	**-0.7**
JUAM				IAML		07 02 35.7	
comp=Z,360nm,1.0s							
CEDA	**San Andres**	**1.22**	**76**	*i* P	**Pn**	**07 02 18.0**	**-0.3**
CEDA				IAML		07 02 40.7	
comp=Z,1μm,1.0s							
SULM	**Suchitepequez,**	**1.22**	**311**	*e*P	**Pb**	**07 02 19.2**	**+0.6**
LALI	**Alcalda de L**	**1.25**	**90**	*i* P	**Pn**	**07 02 18.4**	**-0.3**
LALI				IAML		07 02 40.1	
comp=Z,66nm,1.0s							
PMON	**Piamonte**	**1.28**	**80**	*e*P	**Pn**	**07 02 18.9**	**-0.3**
PMON				*e*S	**Sb**	**07 02 35.6**	**-0.2**
PMON	**Piamonte**	**1.28**	**80**	*i* P	**Pn**	**07 02 18.8**	**-0.3**
PMON				*i* S	**Sb**	**07 02 35.4**	**-0.4**
PMON				IAML		07 02 41.5	
comp=Z,710nm,1.0s							
LOMA	**Loma Larga**	**1.41**	**84**	*e*P	**Pn**	**07 02 21.0**	**+0.1**
LOMA				*e*S	**Sn**	**07 02 39.2**	**+0.1**
RTAL	**Retalhuleu**	**1.46**	**314**	*i* P	**Pn**	**07 02 20.6**	**-1.0**
RTAL				IAML		07 02 45.6	
comp=Z,290nm,1.0s							
MTO3	**Montecristo**	**1.51**	**54**	*i* P	**Pn**	**07 02 21.4**	**-1.0**
MTO3				IAML		07 02 43.4	
comp=Z,68nm,1.0s							
STG3	**Santiaguito 3,**	**1.52**	**322**	*e*P	**Pn**	**07 02 22.4**	**-0.2**
STG3				*e*S	**Sn**	**07 02 41.3**	**-0.8**
COEG	**Centro de Oper**	**1.69**	**86**	*e*P	**Pn**	**07 02 25.2**	**+0.4**
COEG				*e*S	**Sn**	**07 02 46.7**	**+0.7**
COEG	**Centro de Oper**	**1.69**	**86**	*i* P	**Pn**	**07 02 25.1**	**+0.4**
COEG				IAML		07 02 56.4	
comp=Z,130nm,1.0s							
SCLA	**Alcaldia de Sa**	**1.84**	**84**	*i* P	**Pn**	**07 02 27.0**	**+0.2**
SCLA				IAML		07 02 54.0	
comp=Z,32nm,1.0s							
LCND	**La Caada**	**2.65**	**94**	*i* P	**Pn**	**07 02 39.4**	**+1.4**
LCND				IAML		07 03 17.5	
comp=Z,57nm,1.0s							

*NEIC **14** 07:09:18.7±0.5, 36°.955N±0°.009×97°.96W±0°.01, h5km±1km, mb_Lg2.5/5, ML2.3/45, ML2.5, Error ellipse: s-maj=1.4km s-min=1.2km az=208.0*
NEIC 14 07:09:18.8±0.4, 36°.958N±0°.006×97°.948W±0°.009, h3km±2km, Error ellipse: s-maj=1.3km s-min=0.6km az=46.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.01**	**263**		Pg	07 09 20.3	+0.9
GC02	**Grant County #**	**0.13**	**146**		Pg	07 09 21.9	+0.6
GC02					Sg	07 09 23.9	+1.0
KAN17	**Caldwell West**	**0.17**	**60**		Pg	07 09 22.8	+0.8
KAN17					Sg	07 09 25.6	+1.2
KAN17				IAML		07 09 26.6	
comp=E,781nm,0.3s							
KAN17				IAML		07 09 27.2	
comp=N,696nm,0.4s							
KAN10	**Anthony SW Sta**	**0.20**	**324**		Pg	07 09 23.2	+0.5
KAN10					Sg	07 09 26.4	+1.0
KAN01	**Argonia South**	**0.25**	**38**		Pg	07 09 24.4	+0.8
KAN01					Sg	07 09 28.0	+1.3
KAN01				IAML		07 09 28.2	
comp=E,487nm,0.3s							
KAN08	**Anthony NE Sta**	**0.27**	**356**		Pg	07 09 24.6	+0.6
KAN08					Sg	07 09 28.6	+1.1
KAN09	**Caldwell North**	**0.32**	**56**		Pg	07 09 25.6	+0.7
KAN09					Sg	07 09 30.1	+1.1
KAN09				IAML		07 09 33.3	
comp=E,508nm,0.3s							
KAN09				IAML		07 09 35.8	
comp=N,476nm,0.2s							
KAN12	**Harper NE Stat**	**0.34**	**353**		Pg	07 09 25.8	+0.4
KAN12					Sg	07 09 30.9	+1.0
KAN12				IAML		07 09 34.4	
comp=N,485nm,0.4s							
KAN12				IAML		07 09 35.0	
comp=E,447nm,0.4s							
KAN13	**South Haven SW**	**0.38**	**82**		Pg	07 09 26.7	+0.6
KAN13					Sg	07 09 32.4	+1.4
KAN13				IAML		07 09 37.7	
comp=E,268nm,0.3s							
CROK	**Carrier**	**0.45**	**184**		Pg	07 09 27.7	+0.3
CROK					Sg	07 09 34.1	+0.7
CROK				IAML		07 09 38.8	
comp=N,296nm,0.3s							
BLOK	**Blackwell**	**0.62**	**108**		Pg	07 09 31.1	+0.4
BLOK					Sg	07 09 39.7	+1.1
BLOK				IAML		07 09 41.9	
comp=E,212nm,0.2s							
OK038	**West end E0370**	**0.80**	**233**		Pg	07 09 34.1	+0.1
OK038					Sg	07 09 44.9	+0.5
OK038				IAML		07 09 47.4	
comp=E,185nm,0.4s							
OK038				IAML		07 09 54.7	
comp=E,201nm,0.3s							
NOKA	**Waynoka**	**0.85**	**248**		Pg	07 09 35.0	-0.1
NOKA					Sg	07 09 46.4	+0.2
NOKA				IAML		07 09 53.2	
comp=E,80nm,0.3s							
NOKA				IAML		07 10 00.1	
comp=N,87nm,0.2s							
OK048	**Pawnee Station**	**0.97**	**124**		Pg	07 09 37.4	0.0
OK048					Sg	07 09 50.3	+0.4
OK048				IAML		07 09 57.2	
comp=N,71nm,0.2s							
OK051	**E0350 and S346**	**1.00**	**117**		Pg	07 09 38.2	+0.3
OK051					Sg	07 09 51.3	+0.4
OK051				IAML		07 10 01.2	
comp=N,136nm,0.2s							
T35A	**Sooner Cattle**	**1.15**	**92**		Pg	07 09 40.7	-0.1
T35A					Sg	07 09 55.9	+0.2
T35A				IAML		07 09 59.8	
comp=N,58nm,0.4s							
OK029	**Liberty Lake**	**1.23**	**161**		Pg	07 09 41.7	-0.5
OK029					Sg	07 09 58.1	0.0
OK029				IAML		07 10 03.7	
comp=N,43nm,0.3s							
OK029				IAML		07 10 04.0	
comp=N,45nm,0.2s							
QUOK	**Quay**	**1.27**	**128**		Pg	07 09 42.7	-0.4
QUOK					Sg	07 09 59.6	+0.1
OK052	**Battle Ridge R**	**1.33**	**136**		Pn	07 09 43.9	-0.3
OK052					Sg	07 10 01.6	0.0
OK031	**S. Brethren Rd**	**1.34**	**138**		Pn	07 09 43.9	-0.5
OK031					Sg	07 10 01.9	0.0
ELIS	**Ellis County**	**1.48**	**233**		Pn	07 09 46.6	+0.3
ELIS					Sn	07 10 06.2	0.0
R32A	**Long Quarter,**	**1.58**	**338**		Pb	07 09 48.2	-0.5
DEOK	**Depew**	**1.61**	**133**		Pb	07 09 48.7	-0.4
FNO	**Franklin**	**1.75**	**165**		Pn	07 09 50.8	+0.7
W35A	**Tecumseh**	**2.00**	**154**		Pn	07 09 53.4	0.0
CBKS	**Cedar Bluff**	**2.33**	**323**		Pn	07 09 58.1	+0.1
SMWD	**Samnorwood**	**2.62**	**226**		Pn	07 10 02.2	+0.1
KSCO	**Kaye Shedlock'**	**4.23**	**300**	IAmb_Lg		07 11 38.7	
comp=Z,31nm,0.8s							
SLM	**Saint Louis**	**6.33**	**72**	IAmb_Lg		07 12 39.1	
comp=Z,10.0nm,0.8s							

*IDC **14** 07:40:44.7±1.1, 16°.94S×167°.42E, h0km, mb4.2/9, mbtmp4.2/10, ML4.1/1, MS3.4/21, Error ellipse: s-maj=34.3km s-min=20.1km az=100.0*
*NOU **14** 07:40:45.0, 16°.86S×167°.76E, h6km, MLv4.8/18, Vanuatu Islands*
*NEIC **14** 07:40:49.7±0.8, 17°.0S±0°.1×167°.7E±0°.1, h35km±2km, mb4.4/10, Error ellipse: s-maj=24.4km s-min=22.6km az=341.0*
ISC 14 07:40:47.7±0.7, 16°.88S±0°.06×167°.7E±0°.1, h25km, n58, σ1°.17/40, mb4.4/14, MS3.4/19, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.80**	**343**	P	**Pb**	**07 41 00.0**	**-3.0**
DVP	**Devils Point**	**0.98**	**149**	P	**Pn**	**07 41 04.2**	**-1.6**
LIFNC	**LIFOU**	**3.90**	**186**	P	**Pn**	**07 41 45.2**	**-0.8**
MARNC	**Mare, Loyalty**	**4.59**	**176**	P	**Pn**	**07 41 54.5**	**-1.0**
KOUNC	**Koumac, New Ca**	**4.86**	**221**		**Pn**	**07 41 58.9**	**-0.3**
KOUNC	**Koumac, New Ca**	**4.86**	**221**	P	**Pn**	**07 41 59.5**	**+0.3**
YATNC	**Mamie plateau,**	**5.21**	**188**	P	**Pn**	**07 42 02.8**	**-1.2**
DZM	**Mont Dzumac**	**5.29**	**192**		**Pn**	**07 42 04.6**	**-0.6**
DZM	**Mont Dzumac**	**5.29**	**192**	Pn	**Pn**	**07 42 04.8**	**-0.5**
6.5nm,0.3s,baz=71,slow=13,SNR=95							
DZM				Sn	**Sn**	**07 43 05.2**	**-0.3**
7.2nm,0.3s,baz=307,slow=19,SNR=4.8							
DZM				LR	LR	07 43 57.8	
comp=Z,250nm,19.6s,baz=40,slow=37							
19nm,0.3s							
DZM	**Mont Dzumac**	**5.29**	**192**	P	**Pn**	**07 42 05.0**	**-0.3**
NOUC	**Port Laguerre**	**5.35**	**194**	P	**Pn**	**07 42 06.4**	**+0.4**
ONTNC	**Ouen Toro**	**5.52**	**192**		**Pn**	**07 42 08.3**	**0.0**
ONTNC	**Ouen Toro**	**5.52**	**192**	P	**Pn**	**07 42 08.8**	**+0.5**
OUENC	**Ouen Island, N**	**5.56**	**188**	P	**Pn**	**07 42 09.5**	**+0.6**
PINNC	**Pines Island,**	**5.71**	**182**	Pn	**Pn**	**07 42 10.4**	**-0.4**
LUES	**Luesalemba Tem**	**6.41**	**344**	P	**Pn**	**07 42 20.9**	**+0.3**
MSVF	**Nonsavu**	**9.96**	**96**	LR	LR	07 46 18.7	
comp=Z,490nm,18.0s,baz=314,slow=33							
HNR	**Honiara**	**10.55**	**314**	LR	LR	07 47 03.9	
comp=Z,55nm,19.7s,baz=138,slow=36							
ALEG	**Aligegeo Malai**	**10.55**	**319**	P	**Pn**	**07 43 18.4**	**+1.0**
TATA	**Tatamba Isabel**	**11.40**	**317**	P	**Pn**	**07 43 30.1**	**+1.1**
CTA	**Charters Tower**	**20.55**	**258**	LR	LR	07 52 26.2	
comp=Z,6.6nm,19.0s,baz=78,slow=34							
CTAO	**Charters Tower**	**20.55**	**258**	P	Pn	07 45 25.3	-1.7
PMG	**Port Moresby**	**21.29**	**288**	LR	LR	07 51 44.3	
comp=Z,98nm,21.8s,baz=140,slow=31							
URZ	**Urewera**	**22.86**	**161**	LR	LR	07 53 07.5	
comp=Z,100nm,19.5s,baz=72,slow=32							
BKZ	**Black Stump Fm**	**23.50**	**163**	P	**P**	**07 45 56.1**	**+0.4**
BKZ				IAmb	IAmb	07 46 23.4	
comp=Z,17nm,1.3s							
TCW	**Tory Channel**	**24.91**	**168**	P	**P**	**07 46 09.3**	**+0.7**
THZ	**Tophouse**	**25.20**	**171**	P	**P**	**07 46 11.3**	**-0.1**
THZ				IAmb	IAmb	07 46 15.1	
comp=Z,7.7nm,0.8s							
STKA	**Stephens Creek**	**27.95**	**233**	P	**P**	**07 46 36.2**	**0.0**
comp=Z,2.3nm,0.7s,baz=59,slow=9.5,SNR=4.3							
STKA				LR	LR	07 57 44.8	
comp=Z,72nm,18.7s,baz=38,slow=37							
comp=Z,2.3nm,0.7s							
RAR	**Rarotonga**	**31.05**	**103**	LR	LR	07 57 08.0	
comp=Z,35nm,21.5s,baz=275,slow=31							
WB0	**Warramunga Arr**	**31.69**	**260**	P	**P**	**07 47 07.4**	**-2.1**
WB0				IAmb	IAmb	07 47 31.9	
comp=Z,3.7nm,0.9s							
WB2	**Warramunga Arr**	**31.73**	**259**	P	**P**	**07 47 09.0**	**-0.8**
WB2				IAmb	IAmb	07 47 18.5	
comp=Z,7.6nm,1.2s							
WRA	**Warramunga Arr**	**31.74**	**259**	P	**P**	**07 47 09.3**	**-0.6**
WRA	**Warramunga Arr**	**31.74**	**259**	P	**P**	**07 47 07.8**	**-2.2**
comp=Z,1.0nm,0.8s,baz=82,slow=6.0,SNR=6.8							
WRA				LR	LR	07 59 23.8	
comp=Z,50nm,19.4s,baz=54,slow=36							
comp=Z,1.0nm,0.8s							
AS31	**Alice Springs**	**32.33**	**252**	P	**P**	**07 47 14.4**	**-0.7**
AS31				IAmb	IAmb	07 47 15.3	
comp=Z,4.8nm,0.7s							
ASAR	**Alice Springs**	**32.33**	**252**	P	**P**	**07 47 14.5**	**-0.6**
ASAR	**Alice Springs**	**32.33**	**252**	P	**P**	**07 47 13.9**	**-1.2**
comp=Z,12nm,0.7s,baz=78,slow=8.7,SNR=181							
ASAR				LR	LR	07 59 50.6	
comp=Z,100nm,18.0s,baz=88,slow=36							
comp=Z,12nm,0.7s							
BBOO	**Buckleboo**	**32.61**	**235**	P	**P**	**07 47 17.0**	**-0.5**
GUMO	**Guam**	**37.73**	**322**	LR	LR	08 01 33.9	
comp=Z,71nm,21.2s,baz=132,slow=33							
FORT	**Forrest**	**38.57**	**242**	P	**P**	**07 48 08.1**	**-0.6**
FORT				IAmb	IAmb	07 48 29.7	
comp=Z,13nm,0.9s							
FITZ	**Fitzroy Crossi**	**40.04**	**262**	P	**P**	**07 48 21.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**40.04**	**262**	LR	LR	08 04 12.5	
comp=Z,82nm,18.6s,baz=122,slow=35							
PPT	**Papeete**	**40.78**	**97**	LR	LR	08 03 45.8	
comp=Z,31nm,18.2s,baz=254,slow=34							
BATI	**Baumata**	**43.22**	**273**	LR	LR	08 06 27.4	
comp=Z,54nm,19.9s,baz=92,slow=36							
DAV	**Davao City (W)**	**47.94**	**296**	LR	LR	08 08 10.5	
comp=Z,21nm,21.4s,baz=196,slow=34							
NWAO	**Narrogin (SRO)**	**48.01**	**241**	LR	LR	08 10 28.2	
comp=Z,49nm,18.5s,baz=241,slow=37							
KAPI	**Kappang**	**48.37**	**278**	LR	LR	08 09 22.5	
comp=Z,17nm,20.8s,baz=115,slow=36							
MJAR	**Matsushiro Arr**	**59.98**	**333**	P	**P**	**07 50 51.2**	**-0.9**
comp=Z,3.0nm,0.9s,baz=168,slow=7.6,SNR=4.0							
comp=Z,3.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**68.97**	**333**	P	**P**	**07 51 52.2**	**+1.5**
comp=Z,1.4nm,0.7s,baz=149,slow=5.9,SNR=2.2							
comp=Z,1.4nm,0.7s							
SHEM	**Shemya Is, Ala**	**69.54**	**4**	LR	LR	08 18 09.8	
comp=Z,34nm,19.3s,baz=351,slow=32							
PETK	**Petropavlovsk-**	**70.23**	**354**	LR	LR	08 17 49.0	
comp=Z,24nm,20.9s,baz=183,slow=32							
QSPA	**South Pole Qui**	**73.16**	**180**	P	**P**	**07 52 16.1**	**0.0**
comp=Z,3.7nm,0.9s,baz=345,slow=0.8,SNR=11							
comp=Z,3.7nm,0.9s							
SONM	**Songino Array**	**84.44**	**324**	P	**P**	**07 53 18.3**	**+0.1**
comp=Z,0.5nm,0.7s,baz=116,slow=3.4,SNR=2.4							
comp=Z,0.5nm,0.7s							
PFO	**Pinyon Flats O**	**87.94**	**54**	LR	LR	08 32 20.7	
comp=Z,34nm,18.3s,baz=302,slow=35							
ILAR	**Eielson Array**	**88.44**	**18**	P	**P**	**07 53 40.6**	**+3.3**
comp=Z,1.1nm,1.1s,baz=223,slow=6.0,SNR=4.1							
comp=Z,1.1nm,1.1s							
TIXI	**Tiksi**	**92.14**	**349**	LR	LR	08 28 05.5	
comp=Z,106nm,21.2s,baz=182,slow=31							
MKAR	**Makanchi Array**	**99.01**	**316**	P	**Pdif**	**07 54 28.2**	**+1.9**
comp=Z,0.4nm,0.6s,baz=89,slow=4.9,SNR=2.1							
comp=Z,0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**99.34**	**324**	LR	LR	08 38 24.2	
comp=Z,14nm,20.5s,baz=50,slow=35							
ARCES	**ARCESS Array B**	**122.42**	**345**	PKP	**PKiKP**	**07 59 40.1**	**-0.2**
comp=Z,2.9nm,1.0s,baz=350,slow=6.2,SNR=3.7							

*IDC **14** 07:58:13.5±1.0, 1°.02N×125°.75E, h0km, mb3.7/6, mbtmp3.8/7, ML3.8/1, MS3.0/2, Error ellipse: s-maj=74.8km s-min=17.8km az=71.0*
*DJA **14** 07:58:19.7±0.3, 1°.N±4°×12°.6E±°, h10km, M4.1/10, mb4.4/2, MLv3.9/10*
ISC 14 07:58:19.9±0.9, 1°.2N±0°.1×126°.16E±0°.06, h44km, n14, σ2°.07/15, mb3.7/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.28**	**110**	P	**Pn**	**07 58 42.4**	**+1.1**
KMSI	**Cibinong**	**2.27**	**254**	P	**Pn**	**07 58 55.7**	**+0.8**
KMSI				S	**Sn**	**07 59 21.8**	**+0.1**
SANI	**Sanana**	**3.25**	**183**	P	**Pn**	**07 59 10.7**	**+2.4**
LUWI	**Luwuk**	**4.06**	**237**	P	**Pn**	**07 59 21.1**	**+1.5**
APSI	**Ampana**	**4.98**	**245**	P	**Pn**	**07 59 35.0**	**+2.8**
SWI	**Sorong**	**5.50**	**112**	P	**Pn**	**07 59 42.7**	**+3.4**
FITZ	**Fitzroy Crossi**	**19.20**	**182**	Pn	**P**	**08 02 36.1**	**-4.1**
0.2nm,0.3s,baz=355,slow=11,SNR=3.2							
1.7nm,0.5s							
GUMO	**Guam**	**22.22**	**56**	LR	LR	08 12 16.0	
comp=Z,16nm,18.8s,baz=32,slow=37							
WRA	**Warramunga Arr**	**22.50**	**160**	P	**P**	**08 03 13.7**	**-2.2**
1.0nm,0.3s,baz=334,slow=11,SNR=21							
1.0nm,0.3s							
ASAR	**Alice Springs**	**25.85**	**164**	P	**P**	**08 03 47.2**	**-0.3**
0.9nm,0.3s,baz=347,slow=12,SNR=47							
ASAR				PcP	**PcP**	**08 07 16.5**	**+0.4**
0.2nm,0.6s,baz=350,slow=2.1,SNR=4.4							
0.9nm,0.3s							
STKA	**Stephens Creek**	**36.02**	**157**	P	**P**	**08 05 16.3**	**-0.7**
1.1nm,0.8s,baz=346,slow=12,SNR=3.5							
1.1nm,0.8s							
USRK	**Ussuriysk Ar.**	**43.11**	**6**	P	**P**	**08 06 16.1**	**+0.3**
1.4nm,0.7s,baz=187,slow=5.8,SNR=2.9							
1.4nm,0.7s							
MKAR	**Makanchi Array**	**59.30**	**326**	P	**P**	**08 08 17.0**	**-0.3**
0.4nm,0.7s,baz=120,slow=7.4,SNR=4.5							
0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**63.55**	**328**	P	**P**	**08 08 45.9**	**+0.1**
0.4nm,0.6s,baz=126,slow=5.8,SNR=4.7							
KURBB				LR	LR	08 38 00.9	
comp=Z,27nm,21.2s,baz=170,slow=38							
0.4nm,0.6s							

IDC 14 08:05:11.3±3.1, 54°.50N×86°.97E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=24.7km s-min=19.0km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**247**	I	I	08 12 20.0	
baz=67,slow=345,SNR=7.1							
ZALV	**Zalesovo Beam**	**1.38**	**247**	Pg	Pg	08 05 35.8	-1.8
1.1nm,0.3s,baz=66,slow=15,SNR=12							
ZALV				Lg	Lg	08 05 55.7	
0.9nm,0.3s,baz=63,slow=23,SNR=5.8							
KURBB	**Kurchatov Arra**	**6.44**	**236**	Pn	Pn	08 06 48.4	+1.1
0.1nm,0.3s,baz=54,slow=14,SNR=5.8							
KURBB				Sn	Sn	08 08 00.3	-1.1
baz=47,slow=36,SNR=1.1							
KURBB				Lg	Lg	08 08 36.0	
baz=47,slow=36,SNR=2.7							
0.8nm,0.5s							
MKAR	**Makanchi Array**	**8.27**	**203**	Pn	Pn	08 07 13.2	+0.8
0.1nm,0.3s,baz=17,slow=15,SNR=1.4							
MKAR				Lg	Lg	08 09 34.8	
baz=26,slow=21,SNR=2.0							
0.1nm,0.3s							

UPA 14 08:05:59.5±0.7, 7°.74N×81°.55W, h13km±3km, ML3.5, 2C-2D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**0.31**	**86**	⇑*i*P	Pg	08 06 06.3	+0.4
GMAL				*e*S	Sb	08 06 11.2	-0.7
RSUS3	**Rio de Jesus,**	**0.45**	**58**	*e*P	Pb	08 06 09.1	-0.2
RSUS3				*e*S	Sb	08 06 15.9	-0.1
CACAO	**El Cacao, Vera**	**0.79**	**120**	⇓*i*P	Pg	08 06 13.9	-0.8
CACAO				AMP		08 06 15.8	
comp=Z,2μm,0.1s							
CACAO				*e*S	Sb	08 06 26.3	+0.6
CHIT3	**Chitre**	**1.14**	**79**	⇑*e*P	Pb	08 06 20.0	-1.0
CHIT3				AMP		08 06 20.1	
comp=Z,745nm,0.1s							
CHIT3				*i* S	Sb	08 06 35.2	-0.6
CHOR3	**La Chorrera**	**2.10**	**57**	⇓*e*	Pg	08 06 43.7	+3.8

*IDC **14** 08:16:16.0±1.3, 49°.78N×81°.73E, h0km, mbtmp2.5/3, ML2.1/3, Error ellipse: s-maj=18.2km s-min=9.9km az=62.0*
*NNC **14** 08:16:16.4±2.9, 49°.67N×81°.63E, h0km, mb3

MTDJ	**Mount Denham**	**0.52**	**192**	*e*P	**Pb**	**08 41 38.0**	**-0.4**
MTDJ	**Mount Denham**	**0.52**	**192**	*e*P	**Pb**	**08 41 37.9**	**-0.6**
MTDJ				*e*S	**Sg**	**08 41 44.0**	**+0.2**
MTDJ				IAML		08 41 46.0	
	5μm,0.2s						
MTDJ				IAML		08 41 46.2	
	comp=Z,4μm,0.3s						
STH	**Stony Hill**	**0.88**	**139**	*e*P	**Pn**	**08 41 46.4**	**+0.6**
STH	**Stony Hill**	**0.88**	**139**	*e*P	**Pn**	**08 41 46.1**	**+0.3**
STH				*e*S	**Sn**	**08 41 58.9**	**0.0**
STH				IAML		08 42 01.2	
	comp=N,91μm,0.1s						
STH				IAML		08 42 01.4	
	comp=E,141μm,0.1s						
GWJ	**Greenwich**	**0.94**	**135⇓**	*e*P	**Pn**	**08 41 47.3**	**+0.7**
HOJ	**Hope**	**0.97**	**139**	*e*P	**Pn**	**08 41 48.1**	**+1.1**
LMGC	**Las Mercedes**	**1.37**	**17**	*e*P	**Pg**	**08 41 53.1**	**-0.1**
LMGC				*e*S	**Sn**	**08 42 08.9**	**-2.1**
LMGC				IAML		08 42 12.6	
	comp=E,191nm,0.1s						
LMGC				IAML		08 42 12.8	
	comp=N,173nm,0.1s						
CHIV	**Chivirico**	**1.55**	**38**	*e*P	**Pb**	**08 41 56.2**	**+0.2**
CHIV				*e*S	**Sn**	**08 42 15.0**	**-0.5**
CHIV				IAML		08 42 17.6	
	comp=N,19nm,0.2s						
CHIV				IAML		08 42 18.0	
	comp=E,27nm,0.2s						
RCC	**Rio Carpintero**	**2.05**	**52**	*e*P	**Pb**	**08 42 03.4**	**-1.0**
RCC				*e*S	**Sn**	**08 42 28.3**	**+0.5**
RCC				IAML		08 42 30.5	
	comp=E,13nm,0.1s						
RCC				IAML		08 42 30.9	
	comp=N,8.2nm,0.1s						
PINC	**Pinares de May**	**2.32**	**41**	*e*P	**Pb**	**08 42 07.6**	**-1.4**
PINC				*e*S	**Sn**	**08 42 35.6**	**+1.2**
PINC				IAML		08 42 39.0	
	comp=N,94nm,0.1s						
PINC				IAML		08 42 39.1	
	comp=E,68nm,0.1s						
HLGC	**Holguin**	**2.49**	**31**	*e*P	**Pn**	**08 42 08.7**	**+0.8**
HLGC				*e*S	**Sn**	**08 42 39.0**	**+0.3**
HLGC				IAML		08 42 45.6	
	comp=E,38nm,0.2s						
HLGC				IAML		08 42 45.7	
	comp=N,36nm,0.3s						
QMBU	**Quimbuelo**	**2.86**	**59**	*e*S	**Sn**	**08 42 46.5**	**-1.3**
NMDO	**Nuevo Mundo**	**2.92**	**51**	*e*P	**Pb**	**08 42 19.1**	**-0.3**
MOAC	**Moa**	**3.00**	**50**	*e*P	**Pn**	**08 42 17.4**	**+2.5**
MASC	**Masc**	**3.33**	**64**	*e*P	**Pn**	**08 42 21.2**	**+1.8**
MASC				*e*S	**Sn**	**08 42 59.4**	**0.0**
MASC				*e*Sg	**Sb**	**08 43 05.6**	**-1.5**
MASC				IAML		08 43 08.9	
	comp=N,9.4nm,0.1s						
MASC				IAML		08 43 08.9	
	comp=E,12nm,0.2s						

NEIC ***14*** *09:04:08.2±0.8, 19°.4S±0°.2×175°.7W±0°.1, h258km±12km, mb4.0/20, Error ellipse: s-maj=26.7km s-min=14.9km az=201.0*

IDC ***14*** *09:04:13.4±3.0, 19°.83S×176°.09W, h299km±28km, mb3.3/7, mbtmp4.1/10, Error ellipse: s-maj=23.9km s-min=17.8km az=80.0*

ISC 14 09:04:05.4±0.6,**19°.5S**±0°.1×**175°.92W**±0°.07,**h219**km,**n34,** σ1**9**09/34,**mb4.0**/16,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.68**	**86**	Pn	**Pn**	**09 05 30.5**	**+1.6**
NIUE				Sn	**S**	**09 06 32.5**	**-2.4**
MSVF	**Nonsavu**	**5.99**	**286**	P	Pn	09 05 43.4	+10
	5.3nm,0.7s,baz=107,slow=19,SNR=4.0						
AFI	**Afiamalu**	**6.86**	**36**	Pn	**Pn**	**09 05 44.5**	**+0.4**
PINNC	**Pines Island,**	**15.83**	**256**	P	**Pn**	**09 07 38.5**	**+1.6**
DZM	**Mont Dzumac**	**16.68**	**258**	P	**Pn**	**09 07 47.5**	**+0.3**
DZM	**Mont Dzumac**	**16.68**	**258**	P	**Pn**	**09 07 48.5**	**+1.3**
	20nm,0.8s,baz=80,slow=18,SNR=14						
URZ	**Urewera**	**19.62**	**197**	P	**P**	**09 08 15.4**	**-2.0**
	6.9nm,0.3s,baz=39,slow=3.9,SNR=22						
QRZ	**Quartz Range**	**23.41**	**202**	P	**P**	**09 08 54.5**	**-0.3**
QRZ				IAmb	IAmb	09 09 07.9	
	comp=Z,14nm,1.2s						
CTZ	**Chatham Island**	**24.14**	**181**	P	**P**	**09 09 01.7**	**+0.4**
EIDS	**Eidsvold**	**31.00**	**253**	P	**P**	**09 10 03.3**	**+0.7**
EIDS				IAmb	IAmb	09 10 25.3	
	comp=Z,3.7nm,1.0s						
ARMA	**Armidale**	**31.25**	**243**	P	**P**	**09 10 06.0**	**+1.1**
ARMA				IAmb	IAmb	09 10 26.5	
	comp=Z,8.5nm,1.1s						
RABL	**Rabaul**	**34.66**	**292**	P	**P**	**09 10 34.0**	**-0.5**
CTAO	**Charters Tower**	**35.54**	**263**	P	**P**	**09 10 41.9**	**-0.1**
COEN	**Coen**	**39.49**	**272**	P	**P**	**09 11 14.7**	**-0.4**
COEN				IAmb	IAmb	09 11 16.4	
	comp=Z,4.7nm,0.8s						
STKA	**Stephens Creek**	**39.97**	**243**	P	**P**	**09 11 17.9**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=29,slow=8.8,SNR=3.1						
	comp=Z,0.7nm,0.5s						
BBOO	**Buckleboo**	**44.73**	**243**	P	**P**	**09 11 57.4**	**+0.2**
BBOO				IAmb	IAmb	09 12 10.6	
	comp=Z,7.3nm,1.1s						
WR0	**Warramunga Arr**	**46.49**	**261**	P	**P**	**09 12 10.3**	**-0.8**
AS31	**Alice Springs**	**46.65**	**256**	P	**P**	**09 12 12.9**	**+0.5**
AS31				IAmb	IAmb	09 12 13.9	
	comp=Z,1.8nm,0.4s						
ASAR	**Alice Springs**	**46.65**	**256**	P	**P**	**09 12 12.4**	**0.0**
ASAR	**Alice Springs**	**46.65**	**256**	P	**P**	**09 12 10.8**	**-1.6**
	comp=Z,3.8nm,0.5s,baz=91,slow=8.2,SNR=72						
	comp=Z,3.8nm,0.5s						
WB0	**Warramunga Arr**	**46.66**	**261**	P	**P**	**09 12 11.6**	**-0.9**
WB2	**Warramunga Arr**	**46.67**	**261**	P	**P**	**09 12 12.0**	**-0.6**
WRA	**Warramunga Arr**	**46.68**	**261**	P	**P**	**09 12 11.7**	**-0.9**
WRA	**Warramunga Arr**	**46.68**	**261**	P	**P**	**09 12 11.0**	**-1.7**
	comp=Z,1.2nm,0.5s,baz=98,slow=8.3,SNR=12						
	comp=Z,1.2nm,0.5s						
MTN	**Manton Dam**	**51.12**	**269**	P	**P**	**09 12 46.2**	**-0.2**
MTN				IAmb	IAmb	09 13 03.0	
	comp=Z,12nm,1.1s						
SBA	**Scott Base**	**58.97**	**184**	P	**P**	**09 13 43.3**	**+1.9**
MBWA	**Marble Bar**	**59.98**	**256**	P	**P**	**09 13 48.3**	**-0.9**
MBWA				IAmb	IAmb	09 13 48.7	
	comp=Z,4.3nm,0.8s						
QSPA	**South Pole Qui**	**70.53**	**180**	P	**P**	**09 14 55.9**	**-0.4**
QSPA				IAmb	IAmb	09 14 57.4	
	comp=Z,3.3nm,0.8s						
QSPA	**South Pole Qui**	**70.53**	**180**	P	**P**	**09 14 55.7**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=74,slow=1.0,SNR=13						
	comp=Z,2.6nm,0.8s						
MJAR	**Matsushiro Arr**	**70.62**	**322**	P	**P**	**09 14 57.5**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=162,slow=5.8,SNR=2.4						
	comp=Z,1.2nm,0.6s						
NVAR	**Mina Array Bea**	**78.99**	**43**	P	**P**	**09 15 46.8**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=208,slow=6.8,SNR=1.8						
	comp=Z,0.1nm,0.3s						
BELA	**Belgrano 2**	**80.26**	**172**	P	**P**	**09 15 50.5**	**-0.8**
BELA				IAmb	IAmb	09 15 51.4	
	comp=Z,2.1nm,0.9s						
ILAR	**Eielson Array**	**86.95**	**12**	P	**P**	**09 16 24.6**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=237,slow=6.4,SNR=6.0						
	comp=Z,0.3nm,0.8s						
CLL	**Collm**	**147.52**	**350**	*e*PKPbc	**PKPbc**	**09 23 24.0**	**+0.5**

MOS ***14*** *09:09:46.0±1.0, 43°.34N×145°.02E, h121km, mb4.1/4, Error ellipse: s-maj=14.9km s-min=8.1km az=72.0*

NIED ***14*** *09:09:47.6, 43°.35N×145°.03E, h113km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr1.07; Mθθ-3.99; Mφφ2.92; Mrθ5.54; Mθφ-0.58; Mφr-4.40; Fault plane solution: M0 7.94000×10^14^ NP1: φs=126.00000°, δ86.00000°, λ116.00000°. NP2: φs=225.00000°, δ26.00000°, λ10.00000°.*

NEIC ***14*** *09:09:47.6±1.4, 43°.35N±0°.06×145°.0E±0°.1, h110km±8km, mb4.4/39 Error ellipse: s-maj=13.5km s-min=9.1km az=96.0*

JMA ***14*** *09:09:47.6±0.1, 43°.4N±0°.4×145°.0E±0°.7, h113km±1km, MD3.7/39, MV4.0/39, NEMURO REGION*

JMA Felt II J1 at NEMURO REGION .

SKHL ***14*** *09:09:48.3±0.3, 43°.40N×145°.00E, h108km±1km, mb5.2/3, msha6.2/3*

IDC ***14*** *09:09:48.5±1.6, 43°.42N×144°.94E, h122km±14km, mb3.5/14, mbtmp3.9/15, Error ellipse: s-maj=17.9km s-min=14.7km az=101.0*

ISC 14 09:09:47.4±0.6,**43°.35N**±0°.04×**145°.02E**±0°.03,**h114**km±5km, **n120,**σ0**88**/134,**mb4.2**/36,**12D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.28**	**159**	*i* P	**Pn**	**09 10 03.8**	**+0.3**
JKHN				S	**Sn**	**09 10 15.8**	**+0.3**
JKHN	**Kushirohamanak**	**0.28**	**159**	A	A	09 10 03.8	
	comp=E,9.0nm,0.6s,comp=N,10.0nm,0.5s						
JNK	**Nakash**	**0.32**	**317**	*i* P	**Pn**	**09 10 03.7**	**+0.1**
JNK				S	**Sn**	**09 10 15.8**	**0.0**
JNK	**Nakash**	**0.32**	**317**	A	A	09 10 03.7	
	comp=E,7.0nm,1.0s,comp=N,12nm,2.4s						
AKK	**Akkeshi**	**0.36**	**202**	*e*P	**Pn**	**09 10 04.0**	**+0.2**
JAK	**Akkeshi**	**0.42**	**214**	*i* P	**Pn**	**09 10 04.4**	**+0.3**
JAK				S	**Sn**	**09 10 17.1**	**+0.5**
JAK	**Akkeshi**	**0.42**	**214**	A	A	09 10 04.4	
	comp=E,15nm,0.3s,comp=N,18nm,0.4s						
JNSB	**Nemuroshibetsu**	**0.43**	**358**	⇓*i* P	**Pn**	**09 10 04.6**	**+0.4**
JNSB				⇓S	**Sn**	**09 10 17.4**	**+0.6**
JNSB	**Nemuroshibetsu**	**0.43**	**358**	A	A	09 10 04.6	
	comp=E,15nm,1.3s,comp=N,18nm,1.6s						
NMR	**Nemuro--Hokkai**	**0.52**	**87**	*i* P	**Pn**	**09 10 04.9**	**+0.3**
NMR				*i* S	**Sn**	**09 10 17.2**	**-0.5**
NMR	**Nemuro--Hokkai**	**0.52**	**87**	⇓*i*PN	**Pn**	**09 10 04.9**	**+0.3**
NMR				*i* S	**Sn**	**09 10 17.0**	**-0.7**
NEM2	**Nemuro 2**	**0.53**	**88**	⇓*i* P	**Pn**	**09 10 04.9**	**+0.2**
NEM2				⇓*i* S	**Sn**	**09 10 17.3**	**-0.5**
NEM2	**Nemuro 2**	**0.53**	**88**	A	A	09 10 04.9	
	comp=E,18nm,0.3s,comp=N,16nm,0.3s						
JRA	**Rausu**	**0.59**	**7**	⇓*i* P	**Pn**	**09 10 05.4**	**+0.2**
JRA				⇓S	**Sn**	**09 10 18.8**	**+0.2**
RUSJ	**Misakicho**	**0.77**	**12**	⇓*i*PN	**Pn**	**09 10 06.8**	**+0.2**
RUSJ				*i* S	**Sn**	**09 10 24.2**	**+3.0**
JAR	**Ashorobuto**	**0.92**	**267**	*i* P	**Pn**	**09 10 08.6**	**+0.6**
JAR				S	**Sn**	**09 10 24.0**	**+0.4**
JAR	**Ashorobuto**	**0.92**	**267**	A	A	09 10 08.6	
	comp=E,4.0nm,0.9s,comp=N,4.0nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.92**	**41**	*i* P	**Pn**	**09 10 08.2**	**+0.2**
YUK				AMB	AMB	09 10 09.8	
	comp=N,3μm,0.2s						
YUK				*i* S	**Sn**	**09 10 23.3**	**-0.3**
YUK				A	A	09 10 27.5	
	comp=N,4μm,0.2s						
YUK				A	A	09 10 27.5	
	comp=N,4μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.92**	**41**	*d i*PN	**Pn**	**09 10 08.2**	**+0.2**
YUK				*i* S	**Sn**	**09 10 24.1**	**+0.5**
YUK				pmax	pmax		
	comp=E,985nm,0.2s						
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				pmax	pmax		
	comp=N,757nm,0.1s						
YUK				smax	smax		
	comp=N,4μm,0.1s						
YUK				smax	smax		
	comp=E,4μm,0.2s						
JOB	**Onbets**	**0.98**	**243**	*i* P	**Pn**	**09 10 09.2**	**+0.7**
JOB				S	**Sn**	**09 10 25.1**	**+0.6**
JTKR	**Abashiri--Toko**	**1.02**	**308**	⇓*i*P	**Pn**	**09 10 09.3**	**+0.3**
JTKR				⇓S	**Sn**	**09 10 25.1**	**-0.2**
JMP	**Maruseppu**	**1.37**	**299**	*i* P	**Pn**	**09 10 13.2**	**+0.4**
JMP				S	**Sn**	**09 10 32.1**	**-0.2**
SHO	**Shikotan**	**1.41**	**68**	*i* P	**Pn**	**09 10 13.3**	**0.0**
SHO				AMB	AMB	09 10 13.5	
	comp=E,320nm,0.2s						
SHO				*i* S	**Sn**	**09 10 31.9**	**-1.1**
SHO				A	A	09 10 32.6	
	comp=E,3μm,0.2s						
SHO				A	A	09 10 32.6	
	comp=E,880nm,0.2s						
SHO	**Shikotan**	**1.41**	**68**	⇓*i*PN	**Pn**	**09 10 13.3**	**0.0**
SHO				*i* S	**Sn**	**09 10 31.7**	**-1.3**
SHO				pmax	pmax		
	comp=Z,320nm,0.2s						
SHO				pmax	pmax		
	comp=N,28nm,0.1s						
SHO				smax	smax		
	comp=N,3μm,0.2s						
SHO				smax	smax		
	comp=E,883nm,0.2s						
JCH	**Churui**	**1.42**	**239**	*i* P	**Pn**	**09 10 14.0**	**+0.5**
JCH				S	**Sn**	**09 10 32.9**	**-0.3**
JCH	**Churui**	**1.42**	**239**	A	A	09 10 14.0	
	comp=E,3.0nm,2.2s,comp=N,6.0nm,0.9s						
JKK2	**Kamakawa 2**	**1.73**	**288**	*i* P	**Pn**	**09 10 17.8**	**+0.7**
JKK2				S	**Sn**	**09 10 39.7**	**-0.2**
JFR	**Furan**	**1.78**	**265**	*i* P	**Pn**	**09 10 18.3**	**+0.5**
JEM	**Erimo**	**1.91**	**227**	*i* P	**Pn**	**09 10 21.1**	**+1.7**
ERM	**Erimo**	**1.92**	**227**		**Pn**	**09 10 19.6**	**+0.2**
ERM				Sn	**Sn**	**09 10 45.2**	**+1.3**
ERM	**Erimo**	**1.92**	**227**	PN	**Pn**	**09 10 19.6**	**+0.2**
ERM						09 10 45.2	
JKA	**Kamikawa-asahi**	**1.92**	**294**		**Pn**	**09 10 20.5**	**+1.1**
JKA				Sn	**Sn**	**09 10 44.4**	**+0.5**
ASAJ	**Asahikawa**	**1.92**	**294**	P	**Pn**	**09 10 20.6**	**+1.2**
	comp=N,288nm,0.4s,baz=102,slow=8.7,SNR=398						
ASAJ				S	**Sn**	**09 10 44.5**	**+0.5**
	comp=N,340nm,0.9s,baz=3.1,slow=30,SNR=19						
ASAJ	**Asahikawa**	**1.92**	**294**	*i* P	**Pn**	**09 10 20.6**	**+1.2**
ASAJ				S	**Sn**	**09 10 45.0**	**+1.0**
KUR	**Kuril'sk**	**2.78**	**46**	*e*P	**Pn**	**09 10 31.5**	**+1.0**
KUR				AMB	AMB	09 10 33.0	
	comp=N,40nm,0.2s						
KUR				*e*S	**Sn**	**09 11 03.8**	**+0.1**
KUR				A	A	09 11 07.0	
	comp=N,480nm,0.2s						
KUR				A	A	09 11 07.0	
	comp=N,350nm,0.2s						
KUR	**Kuril'sk**	**2.78**	**46**	*e*PN	**Pn**	**09 10 31.0**	**+0.5**
KUR				*e*S	**Sn**	**09 11 05.1**	**+1.4**
KUR				pmax	pmax		
	comp=Z,67nm,0.5s						
KUR				smax	smax		
	comp=N,473nm,0.2s						
KUR				smax	smax		
	comp=E,331nm,0.2s						
JTM	**Tenmabayashi**	**3.90**	**230**		**Pn**	**09 10 45.1**	**-0.3**
YSS	**Yuzh-Sakhalins**	**3.94**	**337**	Pn	**Pn**	**09 10 46.5**	**+0.5**
YSS	**Yuzh-Sakhalins**	**3.94**	**337**	*e*PN	**Pn**	**09 10 45.6**	**-0.3**
YSS				*e*S	**Sn**	**09 11 26.4**	**-5.0**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				smax	smax		
	comp=N,30nm,1.2s						
YSS				smax	smax		
	comp=E,20nm,1.2s						
JMM	**Marumori**	**6.35**	**212**	Pn	**Pn**	**09 11 17.1**	**-1.4**
JSD	**Sado**	**7.38**	**226**	Pn	**Pn**	**09 11 32.3**	**-0.1**
MJB9	**Matsu-Tunnel**	**8.57**	**220**	Pn	**Pn**	**09 11 47.6**	**-1.0**
MAJO	**Matsushiro**	**8.58**	**220**	Pn	**Pn**	**09 11 47.0**	**-1.6**
MAJO	**Matsushiro**	**8.58**	**220**	PN	**Pn**	**09 11 47.0**	**-1.6**
MJAR	**Matsushiro Arr**	**8.58**	**220**	P	**Pn**	**09 11 48.4**	**-0.2**
	comp=E,1.4nm,0.6s,baz=25,slow=13,SNR=3.0						
MJAR				S	**Sn**	**09 13 22.2**	**-1.5**
	comp=E,1.2nm,0.5s,baz=137,slow=46,SNR=1.3						
JGF	**Kuroka**	**9.74**	**220**	Pn	**Pn**	**09 12 02.7**	**-1.8**
PEA0B	**Petropavlovsk-**	**12.89**	**36**	Pn	**Pn**	**09 12 45.6**	**-0.6**
PEA0B	**Petropavlovsk-**	**12.89**	**36**	PN	**Pn**	**09 12 45.6**	**-0.6**
PETK	**Petropavlovsk-**	**12.89**	**36**	Pn	**Pn**	**09 12 45.9**	**-0.3**
PETK	**Petropavlovsk-**	**12.89**	**36**	PN	**Pn**	**09 12 45.9**	**-0.3**
JNU	**Nakatsue**	**15.07**	**232**	Pn	**Pn**	**09 13 13.2**	**-1.2**
SEY	**Seymchan**	**20.08**	**10**	P	**P**	**09 14 09.4**	**-2.1**
	comp=E,1.3nm,0.5s,baz=150,slow=20,SNR=4.0						
	comp=E,1.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.86**	**135**	T	T	09 46 57.1	
	baz=328,slow=75,SNR=89						
H11N1	**WAKE ISLAND Hy**	**29.87**	**135**	T	T	09 46 58.0	
	baz=328,slow=75,SNR=71						
H11N3	**WAKE ISLAND Hy**	**29.88**	**135**	T	T	09 46 58.4	
	baz=328,slow=75,SNR=68						
H11S1	**WAKE ISLAND Hy**	**30.79**	**137**	T	T	09 48 08.9	
	baz=329,slow=76,SNR=234						
H11S3	**WAKE ISLAND Hy**	**30.79**	**137**	T	T	09 48 08.0	
	baz=329,slow=76,SNR=186						
H11S2	**WAKE ISLAND Hy**	**30.80**	**137**	T	T	09 48 08.7	
	baz=329,slow=76,SNR=167						
I17K	**Unalakleet**	**36.70**	**37**	P	**P**	**09 16 42.4**	**-0.4**
F17K	**Baldwin Pennin**	**36.89**	**33**	P	**P**	**09 16 44.5**	**0.0**
F17K				IAmb	IAmb	09 16 53.6	
	comp=Z,6.7nm,1.0s						
M16K	**Timber Creek**	**37.25**	**42**	P	**P**	**09 16 48.5**	**+0.8**
M16K				IAmb	IAmb	09 17 06.6	
	comp=Z,5.7nm,1.1s						
C18K	**Utukok River**	**37.41**	**29**	P	**P**	**09 16 48.5**	**-0.4**
C18K				IAmb	IAmb	09 16 55.8	
	comp=Z,8.9nm,1.1s						
G18K	**Tagagawik**	**37.84**	**34**	P	**P**	**09 16 53.0**	**+0.5**
G18K				IAmb	IAmb	09 16 55.1	
	comp=Z,7.0nm,1.1s						
Q19K	**Cape Douglas,**	**39.98**	**45**	P	**P**	**09 17 10.8**	**+0.4**
E22K	**Anaktuvuk Pass**	**40.75**	**31**	P	**P**	**09 17 16.6**	**-0.1**
SUA	**Susitna One**	**41.21**	**41**	P	**P**	**09 17 20.9**	**+0.2**
SUA				IAmb	IAmb	09 17 36.4	
	comp=Z,9.1nm,1.2s						
D23K	**Nanushuk River**	**41.23**	**30**	P	**P**	**09 17 21.6**	**+1.0**
D23K				IAmb	IAmb	09 17 42.7	
	comp=Z,4.5nm,1.1s						
C23K	**Itkillik River**	**41.32**	**28**	P	**P**	**09 17 21.3**	**0.0**
I23K	**Minto, Yukon-K**	**41.65**	**35**	P	**P**	**09 17 23.9**	**-0.1**
I23K				IAmb	IAmb	09 17 26.4	
	comp=Z,2.6nm,0.7s						
NEA2	**Nenana**	**41.80**	**36**	P	**P**	**09 17 26.4**	**+1.1**
D24K	**Happy Valley**	**41.91**	**29**	P	**P**	**09 17 26.6**	**+0.6**
C24K	**Franklin Bluff**	**41.98**	**29**	P	**P**	**09 17 26.7**	**0.0**
C24K				IAmb	IAmb	09 17 27.1	
	comp=Z,6.8nm,0.7s						
E24K	**Your Creek**	**41.99**	**31**	P	**P**	**09 17 27.0**	**+0.1**
E24K				IAmb	IAmb	09 17 28.0	
	comp=Z,2.9nm,0.8s						
CCB	**Clear Creek Bu**	**42.34**	**36**	P	**P**	**09 17 30.5**	**+0.9**
IL31		**42.72**	**36**	P	**P**	**09 17 33.2**	**+0.5**
IL31				IAmb	IAmb	09 17 33.6	
	comp=Z,2.5nm,0.6s						
ILAR	**Eielson Array**	**42.72**	**36**	P	**P**	**09 17 32.5**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=276,slow=9.8,SNR=35						
	comp=Z,1.2nm,0.4s						
D25K	**Kavik River**	**42.78**	**29**	P	**P**	**09 17 33.2**	**-0.1**
PRP	**Porcupine Dome**	**43.24**	**35**	P	**P**	**09 17 38.0**	**+0.9**
PRP				IAmb	IAmb	09 17 38.8	
	comp=Z,6.2nm,0.8s						
J25K	**Salcha River,**	**43.39**	**36**	P	**P**	**09 17 38.4**	**+0.2**
MK31	**Makanchi Array**	**43.40**	**297**	P	**P**	**09 17 38.9**	**+0.5**
MK31	**Makanchi Array**	**43.40**	**297**	P	**P**	**09 17 38.9**	**+0.5**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MKAR	**Makanchi Array**	**43.40**	**297**	P	**P**	**09 17 38.9**	**+0.5**
MKAR	**Makanchi Array**	**43.40**	**297**	P	**P**	**09 17 38.5**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=87,slow=12,SNR=2.3						
	comp=Z,0.4nm,0.6s						
C27K	**Jago River**	**43.72**	**29**	P	**P**	**09 17 41.2**	**+0.5**
C27K				IAmb	IAmb	09 17 41.7	
	comp=Z,3.9nm,0.5s						
SCRK	**Sand Creek**	**44.06**	**37**	P	**P**	**09 17 43.8**	**+0.1**
SCRK				IAmb	IAmb	09 17 44.3	
	comp=Z,3.9nm,0.6s						
KURK	**Kurchatov**	**44.47**	**304**	P	**P**	**09 17 47.1**	**+0.2**
KURBB	**Kurchatov Arra**	**44.55**	**304**	P	**P**	**09 17 47.1**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=72,slow=9.0,SNR=6.1						
	comp=Z,0.8nm,0.5s						
K27K	**Chicken**	**44.88**	**37**	P	**P**	**09 17 51.1**	**+1.1**
K27K				IAmb	IAmb	09 17 51.7	
	comp=Z,4.5nm,0.9s						
I28M	**Miner Creek**	**45.56**	**34**	P	**P**	**09 17 56.6**	**+1.1**
I28M				IAmb	IAmb	09 17 57.3	
	comp=Z,4.5nm,0.6s						
CTGM	**Chitina Glacie**	**45.79**	**41**	P	**P**	**09 17 58.3**	**+0.9**
CTGM				IAmb	IAmb	09 18 24.4	
	comp=Z,5.7nm,0.9s						
I30M	**Mount Dempster**	**47.08**	**34**	P	**P**	**09 18 08.5**	**+1.2**
I30M				IAmb	IAmb	09 18 09.1	
	comp=Z,5.9nm,0.6s						
INK	**Inuvik**	**47.52**	**30**		**P**	**09 18 10.9**	**+0.3**
INK	**Inuvik**	**47.52**	**30**	P	**P**	**09 18 10.9**	**+0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HYT	**Haines Junctio**	**47.64**	**40**	P	**P**	**09 18 12.6**	**+0.8**
H31M	**Peel River**	**47.77**	**33**	P	**P**	**09 18 13.1**	**+0.5**
BVAR	**Borovoye Array**	**48.56**	**309**	P	**P**	**09 18 18.8**	**0.0**
	comp=Z,0.4nm,0.4s,baz=76,slow=6.1,SNR=2.4						
	comp=Z,0.4nm,0.4s						
A36M	**Sachs Harbour**	**49.37**	**24**	P	**P**	**09 18 25.5**	**+0.8**
A36M				IAmb	IAmb	09 18 28.0	
	comp=Z,4.4nm,1.1s						
RES	**Resolute Bay**	**55.79**	**16**	P	**P**	**09 19 11.8**	**-0.1**
RES	**Resolute Bay**	**55.79**	**16**	P	**P**	**09 19 11.8**	**-0.1**
RES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ABKAR	**Akbulak array**	**56.10**	**308**	P	**P**	**09 19 14.8**	**+0.2**
ARCES	**ARCESS Array B**	**59.08**	**339**	P	**P**	**09 19 34.5**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=27,slow=8.1,SNR=1.5						
	comp=Z,2.1nm,0.9s						
WB0	**Warramunga Arr**	**63.56**	**191**	P	**P**	**09 20 05.7**	**-0.1**
WR0	**Warramunga Arr**	**63.73**	**191**	P	**P**	**09 20 07.7**	**+0.9**
WR0				IAmb	IAmb	09 20 36.1	
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Arr**	**63.74**	**191**	P	**P**	**09 20 05.7**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=5.9,slow=6.5,SNR=4.7						
	comp=Z,0.7nm,0.6s						
SUMG	**Summit**	**64.35**	**1**	P	**P**	**09 20 11.1**	**+0.3**
SUMG				IAm

AFAD ***14*** *09:16:48.1±0.0, 36°.36N×28°.63E, h6km±3km, ML1.7*
ISK ***14*** *09:16:48.7, 36°.52N×28°.70E, h8km, ML1.9/11*
ISC 14 09:16:48.4±1.2, 36°.45N±0°.04×28°.67E±0°.02, h5km±10km, n27, σ0°.92/43, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.37**	**358**	Pg	**Pg**	**09 16 55.2**	**-0.3**
DALY				Sg	**Sg**	**09 16 59.9**	**-0.4**
FETY	**Fethiye**	**0.38**	**61**	P	**Pb**	**09 16 57.0**	**-0.6**
FETY				S	**Sb**	**09 17 04.2**	**+0.3**
FETY	**Fethiye**	**0.38**	**61**	P	**Pg**	**09 16 55.4**	**-0.3**
FETY				S	**Sb**	**09 17 03.4**	**-0.5**
FETY	**Fethiye**	**0.38**	**61**	Pg	**Pg**	**09 16 55.6**	**-0.2**
FETY				Sg	**Sg**	**09 17 00.8**	**0.0**
MRSB	**Marmaris-Mugla**	**0.47**	**305**	Pg	**Pg**	**09 16 58.1**	**+0.7**
MRSB				Sg	**Sg**	**09 17 04.8**	**+1.4**
TURN	**Turunc**	**0.47**	**313**	Pg	**Pg**	**09 16 57.9**	**+0.4**
TURN				Sg	**Sg**	**09 17 04.7**	**+1.0**
CAME	**Cameli-Denizli**	**0.71**	**46**	Pg	**Pg**	**09 17 01.5**	**-0.5**
YER	**Yerkesik**	**0.75**	**336**	Pg	**Pg**	**09 17 02.7**	**-0.1**
AKAS	**Kas**	**0.79**	**106**	P	**Pg**	**09 17 03.4**	**-0.1**
AKAS				S	**Sb**	**09 17 15.3**	**-0.3**
AKAS				*i* AML	AML	09 17 22.0	
	comp=E,54nm,1.0s						
AKAS				*i* AML	AML	09 17 24.0	
	comp=N,61nm,0.6s						
AKAS	**Kas**	**0.79**	**106**	S	**Sg**	**09 17 14.6**	**+0.9**
AKAS	**Kas**	**0.79**	**106**	Pg	**Pb**	**09 17 04.3**	**-0.3**
MULA	**Mugla, Merkez-**	**0.85**	**341**	P	**Pg**	**09 17 03.4**	**-1.4**
MULA				*i* AML	AML	09 17 18.0	
	comp=E,40nm,0.9s						
MULA				*i* AML	AML	09 17 32.0	
	comp=N,15nm,0.9s						
DNZT	**Denizli-Tavas-**	**0.87**	**19**	P	**Pg**	**09 17 05.8**	**+0.6**
DNZT				S	**Sn**	**09 17 20.9**	**+0.2**
DNZT				*i* AML	AML	09 17 28.0	
	comp=N,5.6nm,0.4s						
DNZT				*i* AML	AML	09 17 28.0	
	comp=E,7.9nm,1.2s						
DNZT	**Denizli-Tavas-**	**0.87**	**19**	P	**Pg**	**09 17 03.4**	**-1.8**
DNZT				S	**Sb**	**09 17 19.3**	**+1.1**
DAT	**Datca**	**0.92**	**288**	P	**Pg**	**09 17 05.8**	**-0.3**
DAT				S	**Sn**	**09 17 22.5**	**+0.6**
DAT				*i* AML	AML	09 17 29.0	
	comp=E,20nm,0.6s						
DAT				*i* AML	AML	09 17 30.0	
	comp=N,17nm,0.4s						
DAT	**Datca**	**0.92**	**288**	Pg	**Pb**	**09 17 07.0**	**0.0**
YAZI	**Mula-Dat§a-**	**1.01**	**284**	P	**Pb**	**09 17 08.2**	**-0.2**
YAZI				S	**Sb**	**09 17 21.7**	**-0.2**
YAZI				*i* AML	AML	09 17 49.0	
	comp=N,31nm,0.1s						
YAZI				*i* AML	AML	09 17 52.0	
	comp=E,38nm,2.3s						
YAZI	**Mula-Dat§a-**	**1.01**	**284**	P	**Pg**	**09 17 06.6**	**-1.1**
YAZI				S	**Sn**	**09 17 22.5**	**-1.3**
YAZI				*i* AML	AML	09 17 50.0	
	comp=E,27nm,1.3s						
TAVA	**DENIZLI_Tavas**	**1.03**	**11**	P	**Pn**	**09 17 09.8**	**+0.1**
TAVA				S	**Sb**	**09 17 23.3**	**+0.6**
TAVA				*i* AML	AML	09 17 33.0	
	comp=N,10nm,0.5s						
TAVA				*i* AML	AML	09 17 35.0	
	comp=E,17nm,1.7s						
TAVA	**DENIZLI_Tavas**	**1.03**	**11**	P	**Pg**	**09 17 08.2**	**0.0**
TAVA				S	**Sn**	**09 17 24.1**	**-0.5**
ELL	**Elmali**	**1.04**	**73**	Pg	**Pg**	**09 17 08.3**	**0.0**
APMY	**Acipayam-Deniz**	**1.14**	**26**	Pg	**Pg**	**09 17 09.6**	**-0.6**
DNIZ	**Denizli-Tavas-**	**1.21**	**14**	P	**Pn**	**09 17 13.0**	**+0.9**
DNIZ				S	**Sn**	**09 17 29.7**	**+0.7**
DNIZ				*i* AML	AML	09 17 34.0	
	comp=E,103nm,0.2s						
DNIZ				*i* AML	AML	09 17 40.0	
	comp=N,38nm,0.4s						
DNIZ	**Denizli-Tavas-**	**1.21**	**14**	S	**Sn**	**09 17 32.1**	**+3.1**
ESEN	**Aydn-Nazilli**	**1.37**	**349**	P	**Pn**	**09 17 13.8**	**-0.4**
ESEN				S	**Sb**	**09 17 31.3**	**-1.1**
ESEN				*i* AML	AML	09 17 37.0	
	comp=E,13nm,0.6s						
ESEN				*i* AML	AML	09 17 48.0	
	comp=N,10nm,1.1s						
ESEN	**Aydn-Nazilli**	**1.37**	**349**	S	**Sb**	**09 17 30.5**	**-1.9**
KORT	**Korkueli**	**1.46**	**67**	Pn	**Pn**	**09 17 15.2**	**-0.3**

CATAC ***14*** *09:26:14.9±0.7, 14°.44N×94°.29W, h10km±7km, MB4.9, mb4.7, ML4.7*
MEX ***14*** *09:26:15.9±1.2, 14°.60N×94°.44W, h16km±60km, MD4.3*
NEIC ***14*** *09:26:15.9±1.8, 14°.76N±0°.08×94°.25W±0°.05, h10km±2km, mb4.5/135, Md4.3/71(MEX), Error ellipse: s-maj=13.3km s-min=7.4km az=201.0*
GCG ***14*** *09:26:19.0±0.3, 15°.23N×94°.04W, h35km±999km, MD4.5*
IDC ***14*** *09:26:22.7±3.1, 15°.06N×94°.07W, h56km±21km, mb4.0/17, mbtmp4.2/19, ML3.8/2, MS3.6/28, Error ellipse: s-maj=35.4km s-min=14.3km az=41.0*
ISC 14 09:26:13.1±2.4, 14°.67N±0°.05×94°.33W±0°.03, h1km±14km, n235, σ2°.04/227, mb4.5/67, MS3.6/26, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.49**	**46**		**Pn**	**09 26 40.7**	**-0.3**
PCIG					**Sg**	**09 26 59.7**	**-1.4**
PCIG		**1.49**	**46**	*e*P	**Pn**	**09 26 40.7**	**-0.3**
PCIG				*i* S	**Sg**	**09 26 59.7**	**-1.4**
THIG		**2.02**	**83**		**Pn**	**09 26 47.4**	**-0.9**
THIG					**Sn**	**09 27 10.8**	**-3.3**
THIG		**2.02**	**83**	*e*P	**Pn**	**09 26 47.4**	**-0.9**
THIG				*i* S	**Sn**	**09 27 10.8**	**-3.3**
HUIG	**Huatulco**	**2.03**	**303**		**Pn**	**09 26 46.6**	**-1.9**
HUIG					**Sn**	**09 27 07.9**	**-6.7**
HUIG	**Huatulco**	**2.03**	**303**	*e*P	**Pn**	**09 26 46.6**	**-1.9**
HUIG				*e*S	**Sn**	**09 27 07.9**	**-6.7**
CHUJ	**Union Juarez**	**2.19**	**79**	*e*P	**Pn**	**09 26 49.7**	**-1.3**
CHUJ				*e*S	**Sn**	**09 27 16.0**	**-2.9**
TGIG		**2.40**	**29**		**Pn**	**09 26 54.9**	**+1.2**
TGIG					**Sb**	**09 27 25.4**	**-2.0**
TGIG		**2.40**	**29**	*e*P	**Pn**	**09 26 54.9**	**+1.2**
TGIG				*i* S	**Sb**	**09 27 25.4**	**-2.0**
CMIG	**Matias Romero**	**2.47**	**348**		**Pn**	**09 26 54.5**	**0.0**
CMIG					**Sn**	**09 27 23.2**	**-2.1**
CMIG	**Matias Romero**	**2.47**	**348**	P	**Pn**	**09 26 54.8**	**+0.3**
	35nm,0.3s,baz=166,slow=11,SNR=287						
CMIG				S	**Sn**	**09 27 22.9**	**-2.4**
	948nm,0.5s,baz=71,slow=20,SNR=33						
	83nm,0.4s						
CMIG	**Matias Romero**	**2.47**	**348**	*e*P	**Pn**	**09 26 54.5**	**0.0**
CMIG				*e*S	**Sn**	**09 27 23.2**	**-2.1**
RTAL	**Retalhuleu**	**2.56**	**93**		**Pn**	**09 26 54.8**	**-1.0**
RTAL	**Retalhuleu**	**2.56**	**93**	*e*P	**Pn**	**09 26 54.9**	**-0.8**
RTAL				*e*S	**Sn**	**09 27 25.9**	**-1.6**
RTAL	**Retalhuleu**	**2.56**	**93**	*i* P	**Pn**	**09 26 55.0**	**-0.8**
RTAL				IAML		09 27 30.0	
	comp=Z,800nm,1.0s						
UXUV	**UXUV**	**2.64**	**4**	*e*P	**Pn**	**09 26 58.8**	**+1.9**
UXUV				*e*S	**Sn**	**09 27 30.3**	**+0.7**
CCIG	**Comitan**	**2.66**	**53**		**Pn**	**09 26 58.9**	**+1.6**
CCIG	**Comitan**	**2.66**	**53**	*e*P	**Pn**	**09 26 58.9**	**+1.6**
CCIG				*i* S	**Sb**	**09 27 33.5**	**-1.4**
CCIG	**Comitan**	**2.66**	**53**	*i* P	**Pn**	**09 26 59.3**	**+2.0**
CCIG				IAML		09 27 04.1	
	comp=Z,2μm,1.0s						
STG3	**Santiaguito 3,**	**2.67**	**89**	*e*P	**Pn**	**09 26 57.2**	**-0.3**
STG3				*e*S	**Sn**	**09 27 27.1**	**-3.6**
SULM	**Suchitepequez,**	**2.71**	**97**	*e*P	**Pn**	**09 26 58.3**	**+0.5**
SULM				*e*S	**Sn**	**09 27 25.8**	**-5.4**
HUEH	**Huehuetenango**	**2.81**	**76**		**Pn**	**09 27 00.5**	**+1.0**
HUEH	**Huehuetenango**	**2.81**	**76**	*e*P	**Pn**	**09 27 00.4**	**+0.9**
HUEH				*e*S	**Sb**	**09 27 35.3**	**-4.0**
HUEH	**Huehuetenango**	**2.81**	**76**	*i* P	**Pn**	**09 27 00.5**	**+1.0**
HUEH				IAML		09 27 04.6	
	comp=Z,5μm,1.0s						
HUEH				*i* S	**Sb**	**09 27 35.4**	**-4.0**
SOKI	**Kika Raxquin**	**2.84**	**87**	*i* P	**Pn**	**09 27 00.1**	**+0.1**
SOKI				IAML		09 27 09.0	
	comp=Z,1μm,1.0s						
PEIG	**Puerto Escondi**	**3.02**	**296**		**Pn**	**09 27 00.3**	**-1.9**
PEIG					Sn	09 27 30.2	-8.8
PEIG	**Puerto Escondi**	**3.02**	**296**	*e*P	**Pn**	**09 27 00.3**	**-1.9**
PEIG				*i* S	Sn	09 27 30.2	-8.8
QUIS	**Sacapulas**	**3.19**	**78**	*i* P	**Pn**	**09 27 06.4**	**+1.8**
QUIS				IAML		09 27 09.5	
	comp=Z,2μm,1.0s						
QUIS				*i* S	**Sn**	**09 27 44.6**	**+1.1**
OXIG	**Oaxaca**	**3.32**	**316**		**Pn**	**09 27 07.6**	**+1.1**
OXIG					**Sn**	**09 27 43.1**	**-3.7**
VHO	**Vista Hermosa**	**3.32**	**316**	*e*P	**Pn**	**09 27 07.6**	**+1.1**
VHO				*i* S	**Sn**	**09 27 43.1**	**-3.7**
NEUV	**Arroyo Zacate**	**3.34**	**335**	*e*P	**Pn**	**09 27 07.4**	**+0.8**
NEUV				*i* S	**Sn**	**09 27 42.5**	**-4.4**
TUIG	**Tuzandepetl**	**3.35**	**359**	*e*P	**Pn**	**09 27 08.2**	**+1.5**
TUIG				*e*S	**Sn**	**09 27 47.1**	**0.0**
FUG	**Fuego 3**	**3.39**	**93**	*e*P	**Pn**	**09 27 07.6**	**+0.3**
FUG				*e*S	**Sn**	**09 27 48.5**	**+0.1**
ESSG	**Sabana Grande**	**3.40**	**94**	*i* P	**Pn**	**09 27 07.4**	**-0.1**
ESSG				IAML		09 27 50.1	
	comp=Z,790nm,1.0s						
GUMI	**Mixco**	**3.60**	**90**	*i* P	**Pn**	**09 27 11.0**	**+0.7**
GUMI				IAML		09 28 01.2	
	comp=Z,1μm,1.0s						
YOIG	**Yosondua**	**3.78**	**306**		**Pn**	**09 27 13.8**	**+0.9**
YOIG					**Sn**	**09 27 51.2**	**-7.0**
YOIG	**Yosondua**	**3.78**	**306**	*e*P	**Pn**	**09 27 13.8**	**+0.9**
YOIG				*i* S	**Sn**	**09 27 51.2**	**-7.0**
NBG	**Las Nubes**	**3.86**	**91**	*e*P	**Pn**	**09 27 16.1**	**+2.1**
AVCB	**Coban**	**3.88**	**78**	*i* P	**Pn**	**09 27 14.7**	**+0.6**
AVCB				IAML		09 27 33.4	
	comp=Z,1μm,1.0s						
PMUV	**Sontecomapan**	**3.93**	**349**	*e*P	**Pn**	**09 27 13.5**	**-1.2**
PMUV				*e*S	**Sn**	**09 27 58.4**	**-3.1**
PNIG	**Pinotepa**	**4.04**	**296**		**Pn**	**09 27 15.2**	**-1.0**
PNIG					Sn	09 27 55.2	-8.9
PNIG	**Pinotepa**	**4.04**	**296**	*e*P	**Pn**	**09 27 15.2**	**-1.0**
PNIG				*e*S	Sn	09 27 55.2	-8.9
TXIG	**Tlaxiaco**	**4.18**	**308**		**Pn**	**09 27 19.2**	**+0.8**
TXIG					**Sn**	**09 28 05.2**	**-3.0**
TXIG	**Tlaxiaco**	**4.18**	**308**	*e*P	**Pn**	**09 27 19.2**	**+0.8**
TXIG				*e*S	**Sn**	**09 28 05.2**	**-3.0**
FAME	**Alcaldia de Sa**	**4.27**	**101**	*i* P	**Pn**	**09 27 18.7**	**-0.6**
FAME				IAML		09 28 56.6	
	comp=Z,2.8nm,1.0s						
TOIG	**Toxpalan**	**4.30**	**323**		**Pn**	**09 27 23.1**	**+3.2**
TOIG					**Sn**	**09 28 09.8**	**-1.0**
TOIG	**Toxpalan**	**4.30**	**323**	*e*P	**Pn**	**09 27 23.1**	**+3.2**
TOIG				*e*S	**Sn**	**09 28 09.8**	**-1.0**
LOAL	**Lomas de Alarc**	**4.46**	**98**	*i* P	**Pn**	**09 27 22.5**	**+0.5**
LOAL				IAML		09 28 12.6	
	comp=Z,2μm,1.0s						
LOAL				*i* S	**Sn**	**09 28 13.7**	**-1.0**
NUBE	**Las Nubes**	**4.48**	**99**	*i* P	**Pn**	**09 27 21.7**	**-0.7**
NUBE				IAML		09 28 16.9	
	comp=Z,220nm,1.0s						
JUAM	**Asuncion Mita**	**4.49**	**94**	*i* P	**Pn**	**09 27 22.2**	**-0.2**
JUAM				*i* S	**Sn**	**09 28 14.9**	**-0.5**
JUAM				IAML		09 28 16.3	
	comp=Z,290nm,1.0s						
HLIG	**Huajuapan de L**	**4.58**	**314**		**Pn**	**09 27 26.0**	**+2.2**
HLIG					**Sn**	**09 28 14.1**	**-3.7**
HLIG	**Huajuapan de L**	**4.58**	**314**	*e*P	**Pn**	**09 27 26.0**	**+2.2**
HLIG				*i* S	**Sn**	**09 28 14.1**	**-3.7**
CEVE	**Cerro Verde**	**4.64**	**100**	*i* P	**Pn**	**09 27 24.7**	**0.0**
CEVE				*i* S	**Sn**	**09 28 18.4**	**-1.0**
CEVE				IAML		09 28 20.3	
	comp=Z,440nm,1.0s						
TPIG	**Tehuac#an**	**4.73**	**323**		**Pn**	**09 27 28.9**	**+3.1**
TPIG					**Sn**	**09 28 19.9**	**-1.4**
TPIG	**Tehuac#an**	**4.73**	**323**	*e*P	**Pn**	**09 27 28.9**	**+3.1**
TPIG				*e*S	**Sn**	**09 28 19.9**	**-1.4**
MTO3	**Montecristo**	**4.82**	**93**	Pn	**Pn**	**09 27 26.9**	**-0.2**
MTO3	**Montecristo**	**4.82**	**93**	*i* P	**Pn**	**09 27 26.8**	**-0.3**
MTO3				IAML		09 28 25.9	
	comp=Z,93nm,1.0s						
ESQI	**Esquipulas**	**4.83**	**91**		**Pn**	**09 27 27.4**	**+0.3**
ESQI	**Esquipulas**	**4.83**	**91**	*i* P	**Pn**	**09 27 27.5**	**+0.3**
ESQI				IAML		09 28 58.9	
	comp=Z,270nm,1.0s						
JAYA	**Jayaque - finc**	**4.84**	**101**	*i* P	**Pn**	**09 27 27.3**	**-0.1**
JAYA				IAML		09 28 23.6	
	comp=Z,440nm,1.0s						
PETF	**Flores**	**4.85**	**62**		**Pn**	**09 27 28.1**	**+0.9**
PETF	**Flores**	**4.85**	**62**	*e*P	**Pn**	**09 27 27.9**	**+0.6**
PETF	**Flores**	**4.85**	**62**	*i* P	**Pn**	**09 27 28.2**	**+0.9**
PETF				IAML		09 27 29.7	
	comp=Z,1μm,1.0s						
MGIG	**Malinaltepec**	**4.86**	**302**		**Pn**	**09 27 28.7**	**+1.1**
MGIG					**Sn**	**09 28 20.1**	**-4.6**
MGIG	**Malinaltepec**	**4.86**	**302**	*e*P	**Pn**	**09 27 28.7**	**+1.1**
MGIG				*e*S	**Sn**	**09 28 20.1**	**-4.6**
FTIG	**Fresnillo de T**	**4.87**	**312**		**Pn**	**09 27 30.1**	**+2.5**
FTIG					**Sn**	**09 28 18.3**	**-6.4**
FTIG	**Fresnillo de T**	**4.87**	**312**	*e*P	**Pn**	**09 27 30.1**	**+2.5**
FTIG				*e*S	**Sn**	**09 28 18.3**	**-6.4**
PMON	**Piamonte**	**4.96**	**100**	*i* P	**Pn**	**09 27 28.4**	**-0.5**
PMON				IAML		09 28 30.4	
	comp=Z,260nm,1.0s						
QUEZ	**Alcaldia de Qu**	**4.98**	**99**	*i* P	**Pn**	**09 27 28.8**	**-0.3**
QUEZ				IAML		09 27 55.9	
	comp=Z,3μm,1.0s						
TLIG	**Tlapa**	**4.98**	**306**	Pn	**Pn**	**09 27 31.2**	**+2.0**
TLIG	**Tlapa**	**4.98**	**306**	*e*P	**Pn**	**09 27 30.7**	**+1.4**
TLIG				*e*S	**Sn**	**09 28 22.8**	**-4.8**
TLIG	**Tlapa**	**4.98**	**306**	*i* P	**Pn**	**09 27 31.3**	**+2.0**
TLIG				IAmb	IAmb	09 27 32.3	
	comp=Z,30nm,0.5s						
TLIG				IAML		09 29 03.1	
	comp=Z,98nm,1.0s						
UEES	**Universidad Ev**	**5.03**	**100**	*i* S	**Sn**	**09 28 27.4**	**-1.3**
SNET	**Serv Nac Est T**	**5.04**	**101**		**Pn**	**09 27 29.9**	**-0.2**
SNET	**Serv Nac Est T**	**5.04**	**101**	*i* P	**Pn**	**09 27 30.2**	**+0.2**
SNET				IAML		09 28 32.1	
	comp=Z,270nm,1.0s						
PANCS	**Alcalda de**	**5.11**	**101**	*i* P	**Pn**	**09 27 30.2**	**-0.7**
PANCS				IAML		09 27 41.2	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**5.11**	**101**	*i* P	**Pn**	**09 27 30.7**	**-0.3**
LOMA				IVmB_BB		09 27 33.9	
	comp=Z,2μm,1.0s						
LOMA				IAML		09 28 28.6	
	comp=Z,140nm,1.0s						
JAUV	**Jalcomulco**	**5.24**	**334**	*e*P	**Pn**	**09 27 34.0**	**+1.3**
JAUV				*i* S	**Sn**	**09 28 26.9**	**-6.9**
PAVA	**Las Pavas**	**5.32**	**100**	*i* P	**Pn**	**09 27 33.8**	**-0.1**
PAVA				IAmb	IAmb	09 27 46.2	
	comp=Z,99nm,0.6s						
PAVA				IAML		09 28 43.9	
	comp=Z,220nm,1.0s						
COEG	**Centro de Oper**	**5.39**	**100**	*i* P	**Pn**	**09 27 34.2**	**-0.6**
COEG				IVmB_BB		09 27 36.7	
	comp=Z,830nm,1.0s						
COEG				IAML		09 27 52.5	
	comp=Z,83nm,1.0s						
COEG				IAmb	IAmb	09 27 52.6	
	comp=Z,54nm,0.5s						
TECO	**Alcaldia de Te**	**5.50**	**101**	*i* P	**Pn**	**09 27 36.4**	**+0.1**
TECO				IVmB_BB		09 27 47.8	
	comp=Z,1μm,1.0s						
TECO				IAmb	IAmb	09 27 49.4	
	comp=Z,18nm,0.6s						
TECO				IAML		09 28 51.3	
	comp=Z,38nm,1.0s						
SCLA	**Alcaldia de Sa**	**5.52**	**99**	*i* P	**Pn**	**09 27 36.3**	**-0.3**
SCLA				IAmb	IAmb	09 27 57.2	
	comp=Z,31nm,0.6s						
SCLA				IAML		09 28 06.3	
	comp=Z,51nm,1.0s						
SCLA				IVmB_BB		09 28 06.3	
	comp=Z,390nm,1.0s						
SCLA				*i* S	**Sn**	**09 28 39.9**	**-0.9**
CHIHN	**Chmisales**	**5.81**	**84**	*i* P	**Pn**	**09 27 40.7**	**+0.1**
CHIHN				*i* S	**Sn**	**09 28 49.0**	**+1.0**
LCND	**La Caada**	**6.40**	**101**	*i* P	**Pn**	**09 27 48.6**	**0.0**
LCND				IVmB_BB		09 28 00.6	
	comp=Z,450nm,1.0s						
LCND				IAML		09 28 10.2	
	comp=Z,41nm,1.0s						
LCND				IAmb	IAmb	09 28 14.3	
	comp=Z,28nm,1.1s						
CNCH	**Conchagua**	**6.46**	**102**	*i* P	**Pn**	**09 27 48.6**	**-0.9**
CNCH				IAmb	IAmb	09 28 03.6	
	comp=Z,72nm,0.6s						
CNCH				IVmB_BB		09 28 31.3	
	comp=Z,2μm,1.0s						
CNCH				IAML		09 29 46.2	
	comp=Z,170nm,1.0s						
COMHN	**El Horno**	**6.57**	**91**	*i* P	**Pn**	**09 27 50.8**	**-0.3**
AMPH	**Amapala**	**6.62**	**101**	*i* P	**Pn**	**09 27 50.7**	**-1.0**
TGUH	**Tegucigalpa,Un**	**6.87**	**94**	Pn	**Pn**	**09 27 54.8**	**-0.4**
TGUH	**Tegucigalpa,Un**	**6.87**	**94**	*i* P	**Pn**	**09 27 54.2**	**-1.0**
TGUH				IAmb	IAmb	09 28 14.6	
	comp=Z,35nm,0.9s						
TGUH				IAML		09 30 14.7	
	comp=Z,69nm,1.0s						
YUSH	**Yuscaran**	**7.30**	**95**	*i* P	**Pn**	**09 27 59.4**	**-1.6**
YUSH				*i* S	**Sn**	**09 29 24.6**	**0.0**
CRIN	**San Cristobal**	**7.34**	**105**	Pn	**Pn**	**09 28 00.8**	**-0.9**
CRIN	**San Cristobal**	**7.34**	**105**	*i* P	**Pn**	**09 28 00.8**	**-0.9**
CRIN				IAML		09 28 24.5	
	comp=Z,160nm,1.0s						
HERN	**Volcan Telica**	**7.58**	**105**	*i* P	**Pn**	**09 28 04.1**	**-0.7**
HERN				IAmb	IAmb	09 28 33.3	
	comp=Z,390nm,0.5s						
HERN				IAML		09 28 43.0	
	comp=Z,2μm,1.0s						
HERN				IVmB_BB		09 28 43.0	
	comp=Z,15μm,1.0s						
TEIG	**Tepich**	**8.00**	**45**	P	**Pn**	**09 28 09.7**	**-0.8**
	baz=230,slow=24,SNR=110						
MOIG	**Morelia**	**8.23**	**308**		**Pn**	**09 28 16.7**	**+2.7**
MOIG	**Morelia**	**8.23**	**308**	*i* P	**Pn**	**09 28 17.9**	**+3.9**
MOIG				IAmb	IAmb	09 28 18.9	
	comp=Z,95nm,0.8s						
JTS	**Las Juntas de**	**10.14**	**114**	Pn	**Pn**	**09 28 40.9**	**+0.8**
JTS	**Las Juntas de**	**10.14**	**114**	P	**Pn**	**09 28 41.5**	**+1.5**
	comp=Z,3.7nm,0.4s,baz=295,slow=23,SNR=7.0						
JTS				LR	LR	09 31 43.4	
	comp=Z,104nm,20.1s,baz=289,slow=32						
LCR2	**La Lucha 2**	**11.22**	**115**	Pn	**Pn**	**09 28 55.5**	**+0.5**
SOR	**Soroa**	**13.42**	**51**		**Pn**	**09 29 22.5**	**-2.4**
833A	**Chaparral WMA,**	**14.38**	**342**		**Pn**	**09 29 38.9**	**+1.0**
CAMR	**Camarioca**	**14.83**	**54**	Pn	**Pn**	**09 29 43.1**	**-1.0**
HNDO	**Hondo**	**15.48**	**344**	Pn	**Pn**	**09 29 54.1**	**+1.3**
DRIO	**Del Rio**	**15.79**	**339**	Pn	**Pn**	**09 29 57.8**	**+1.0**
435B	**Jarrell**	**16.32**	**350**	Pn	**Pn**	**09 30 04.2**	**+0.7**
435B				IAmb	IAmb	09 30 18.5	
	comp=Z,13nm,0.6s						
JCT	**Junction City**	**16.52**	**343**	Pn	**Pn**	**09 30 05.8**	**-0.5**
TXAR	**Lajitas Array**	**16.95**	**331**	P	**P**	**09 30 14.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=156,slow=16,SNR=8.2						
	comp=Z,1.1nm,0.9s						
NATX	**Nacogdoches**	**17.02**	**359**	P	**Pn**	**09 30 13.0**	**+0.5**
BRDY	**Brady**	**17.09**	**346**	P	**Pn**	**09 30 14.4**	**+1.0**
OZNA	**Ozona**	**17.34**	**340**	P	**Pn**	**09 30 16.9**	**+0.3**
LPIG	**La Paz**	**17.74**	**304**	LR	LR	09 36 19.8	
	comp=Z,58nm,18.7s,baz=31,slow=34						
ALPN	**Alpine**	**17.82**	**333**		**Pn**	**09 30 22.8**	**+0.1**
FW13	**Cleburne**	**17.83**	**351**	P	**Pn**	**09 30 22.4**	**-0.2**
SGCY	**Sterling City**	**18.26**	**341**	P	**Pn**	**09 30 28.7**	**+0.8**
PLPT	**Palo Pinto**	**18.42**	**349**	P	**Pn**	**09 30 29.9**	**0.0**
ABTX	**Abilene, Hawle**	**18.52**	**346**	P	**P**	**09 30 31.5**	**+0.5**
FW03	**Perrin-Whitt E**	**18.60**	**350**	P	**P**	**09 30 31.7**	**-0.2**
250A	**Grady**	**18.74**	**22**	P	**P**	**09 30 32.6**	**-0.8**
Z35A	**Perchaven, San**	**18.77**	**352**	P	**P**	**09 30 33.0**	**-0.7**
VHRN	**Van Horn**	**18.79**	**330**		**P**	**09 30 34.9**	**+0.7**
SN05	**Snyder 5**	**19.08**	**343**	P	**P**	**09 30 37.5**	**+0.2**
APMT	**Aspermont**	**19.30**	**345**	IAmb	IAmb	09 30 54.5	
	comp=Z,9.0nm,0.6s						
Z47A	**Carrollton**	**19.31**	**16**	P	**P**	**09 30 39.6**	**-0.1**
Z47A				IAmb	IAmb	09 30 41.4	
	comp=Z,36nm,1.0s						
WTFS	**Witchita Falls**	**19.38**	**350**		**P**	**09 30 40.4**	**0.0**
LRAL	**Lakeview Retre**	**19.46**	**19**	P	**Pn**	**09 30 42.1**	**-0.4**
Y45A	**Yeager Farm, C**	**19.60**	**12**	P	**P**	**09 30 43.4**	**+0.5**
Y45A				IAmb	IAmb	09 30 50.2	
	comp=Z,17nm,0.7s						
MIAR	**Mount Ida**	**19.80**	**2**	P	**P**	**09 30 45.2**	**+0.1**
MIAR				IAmb	IAmb	09 30 52.3	
	comp=Z,12nm,0.9s						
DKNS	**Dickens**	**19.84**	**344**	IAmb	IAmb	09 31 05.0	
	comp=Z,13nm,0.9s						
X37A	**Clayton**	**19.86**	**357**	P	**P**	**09 30 46.1**	**+0.4**
X37A				IAmb	IAmb	09 31 11.5	
	comp=Z,16nm,1.1s						
WMOK	**Wichita Mounta**	**20.38**	**349**		**P**	**09 30 52.4**	**+1.0**
W35A	**Tecumseh**	**20.53**	**354**		**P**	**09 30 53.6**	**+0.7**
W35A				IAmb	IAmb	09 30 58.8	
	comp=Z,21nm,0.8s						
MSTX	**Muleshoe**	**20.68**	**340**	P	**P**	**09 30 55.8**	**+1.0**
MSTX				IAmb	IAmb	09 31 11.6	
	comp=Z,

T47A	**Sharon Grove**	**23.14**	**15**	IAmb	IAmb	09 31 21.1	
	comp=Z,15nm,0.8s						
S44A	**Carbondale**	**23.37**	**10**	IAmb	IAmb	09 31 44.9	
	comp=Z,23nm,1.2s						
CCM	**Cathedral Cave**	**23.45**	**6**	P	**P**	**09 31 23.4**	**-0.7**
CCM				IAmb	IAmb	09 31 24.5	
	comp=Z,18nm,0.9s						
R40A	**Maddies Statio**	**23.60**	**4**	IAmb	IAmb	09 31 25.8	
	comp=Z,23nm,0.9s						
T25A	**Trinidad**	**24.11**	**340**	IAmb	IAmb	09 31 34.4	
	comp=Z,11nm,1.1s						
WCI	**Wyandotte Cave**	**24.52**	**15**	P	**P**	**09 31 33.2**	**-1.0**
WCI				IAmb	IAmb	09 31 35.0	
	comp=Z,18nm,0.8s						
R49A	**Shelbyville**	**24.89**	**17**	IAmb	IAmb	09 31 37.0	
	comp=Z,14nm,0.9s						
X16A	**Lo Mia Camp, P**	**25.00**	**325**	IAmb	IAmb	09 31 55.6	
	comp=Z,5.5nm,1.0s						
WUAZ	**Wupatki**	**25.79**	**327**	IAmb	IAmb	09 32 02.1	
	comp=Z,5.3nm,0.9s						
ATAH	**Atahualpa**	**26.82**	**143**	LR	LR	09 40 20.7	
	comp=Z,105nm,18.4s,baz=343,slow=31						
SJG	**San Juan**	**27.24**	**79**	LR	LR	09 43 51.5	
	comp=Z,55nm,18.6s,baz=106,slow=39						
PFO	**Pinyon Flats O**	**27.52**	**317**	LR	LR	09 44 23.1	
	comp=Z,156nm,18.2s,baz=118,slow=39						
ECSD	**EROS Data Cent**	**29.03**	**357**	IAmb	IAmb	09 32 18.1	
	comp=Z,3.8nm,0.8s						
TCUT	**Toone Canyon**	**30.25**	**334**	IAmb	IAmb	09 32 39.1	
	comp=Z,6.7nm,0.9s						
PDAR	**Pinedale Array**	**30.91**	**338**	P	**P**	**09 32 32.5**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=141,slow=12,SNR=4.0						
	comp=Z,0.3nm,0.6s						
OMMB	**Old Mammoth Mi**	**31.64**	**321**	P	**P**	**09 32 38.1**	**-0.2**
OMMB				IAmb	IAmb	09 32 53.7	
	comp=Z,4.0nm,1.1s						
ELK	**Elko**	**31.73**	**329**	LR	LR	09 46 38.4	
	comp=Z,115nm,20.0s,baz=132,slow=39						
NVAR	**Mina Array Bea**	**31.75**	**323**	P	**P**	**09 32 41.9**	**+2.8**
NVAR	**Mina Array Bea**	**31.75**	**323**	P	**P**	**09 32 41.2**	**+2.0**
	comp=Z,1.7nm,0.9s,baz=137,slow=9.4,SNR=12						
NVAR				LR	LR	09 46 42.3	
	comp=Z,139nm,20.4s,baz=132,slow=39						
	comp=Z,1.7nm,0.9s						
SADO	**Sadowa**	**32.66**	**20**	LR	LR	09 47 37.5	
	comp=Z,96nm,19.9s,baz=102,slow=40						
EMB	**Emerald Bay**	**33.17**	**322**	IAmb	IAmb	09 33 07.4	
	comp=Z,9.0nm,1.0s						
AGMN	**Agassiz Nation**	**33.56**	**358**	IAmb	IAmb	09 32 55.4	
	comp=Z,10.0nm,1.0s						
DLMT	**Dillon**	**34.27**	**337**	IAmb	IAmb	09 33 15.7	
	comp=Z,5.2nm,1.1s						
WVOR	**Wild Horse Val**	**34.70**	**328**	IAmb	IAmb	09 33 17.7	
	comp=Z,6.7nm,1.1s						
J08A	**Circle Bar Ran**	**35.28**	**329**	IAmb	IAmb	09 33 24.6	
	comp=Z,6.2nm,0.7s						
PLID	**Pearl Lake**	**35.44**	**333**	IAmb	IAmb	09 33 23.5	
	comp=Z,4.9nm,1.1s						
ULM	**Lac du Bonnet**	**35.51**	**358**	P	**P**	**09 33 09.6**	**-1.8**
	comp=Z,4.2nm,0.8s,baz=188,slow=17,SNR=5.0						
	comp=Z,4.2nm,0.8s						
YBH	**Yreka Blue Hor**	**36.47**	**323**	P	**P**	**09 33 20.0**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=149,slow=5.7,SNR=2.5						
YBH				LR	LR	09 49 47.9	
	comp=Z,131nm,20.2s,baz=150,slow=39						
	comp=Z,0.8nm,0.7s						
KHMM	**Horse Mountain**	**36.54**	**321**	IAmb	IAmb	09 33 33.5	
	comp=Z,5.1nm,0.9s						
NEW	**Newport**	**38.43**	**335**	LR	LR	09 51 45.8	
	comp=Z,90nm,18.1s,baz=170,slow=40						
SAML	**Samuel**	**38.79**	**125**	P	**P**	**09 33 38.7**	**-1.0**
SAML				IAmb	IAmb	09 33 44.6	
	comp=Z,6.2nm,0.9s						
LPAZ	**La Paz**	**40.20**	**139**	LR	LR	09 48 42.8	
	comp=Z,56nm,20.1s,baz=281,slow=33						
MDP	**Montagnes des**	**42.09**	**99**	LR	LR	09 52 40.3	
	comp=Z,84nm,18.7s,baz=304,slow=38						
RPN	**Rapa Nui**	**44.02**	**199**	LR	LR	09 49 54.3	
	comp=Z,42nm,18.2s,baz=248,slow=32						
SIV	**San Ignacio**	**44.81**	**132**	LR	LR	09 52 59.8	
	comp=Z,124nm,18.3s,baz=109,slow=36						
SCHQ	**Schefferville**	**45.42**	**22**	LR	LR	09 54 52.2	
	comp=Z,187nm,18.1s,baz=268,slow=38						
FRB	**Frobisher Bay**	**52.20**	**14**	LR	LR	09 59 49.9	
	comp=Z,130nm,18.1s,baz=281,slow=39						
MT08	**Bocatoma Ro**	**53.17**	**155**	P	**P**	**09 35 33.7**	**+0.5**
LMEL	**Las Melosas**	**53.45**	**155**	P	**P**	**09 35 35.4**	**+0.2**
LMEL				IAmb	IAmb	09 35 36.1	
	comp=Z,8.0nm,0.9s						
BDFB	**Brasilia**	**54.79**	**121**	P	**P**	**09 35 48.4**	**+3.2**
	comp=Z,4.2nm,0.6s,baz=315,slow=5.7,SNR=5.3						
	comp=Z,4.2nm,0.6s						
KLU	**Klutina**	**59.38**	**334**	P	**P**	**09 36 21.6**	**+4.5**
SFJD	**Kangerlussuaq**	**59.58**	**18**	LR	LR	10 04 18.0	
	comp=Z,73nm,18.1s,baz=223,slow=38						
RES	**Resolute Bay**	**60.02**	**360**	P	**P**	**09 36 21.0**	**-0.1**
RES				IAmb	IAmb	09 36 21.7	
	comp=Z,4.4nm,0.9s						
KDAK	**Kodiak Island**	**60.97**	**329**	LR	LR	10 01 48.5	
	comp=Z,95nm,18.0s,baz=317,slow=35						
ILAR	**Eielson Array**	**61.34**	**337**	P	**P**	**09 36 30.7**	**+0.4**
ILAR	**Eielson Array**	**61.34**	**337**	P	**P**	**09 36 30.1**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=138,slow=5.1,SNR=8.8						
	comp=Z,1.5nm,0.9s						
RCBR	**Riachuelo**	**61.40**	**105**	LR	LR	10 04 38.3	
	comp=Z,21nm,18.4s,baz=246,slow=38						
BPAW	**Bear Paw Mtn.**	**62.63**	**336**	P	**P**	**09 36 39.5**	**+0.5**
D25K	**Kavik River**	**63.47**	**342**	P	**P**	**09 36 45.5**	**+0.9**
D25K				IAmb	IAmb	09 36 56.5	
	comp=Z,5.6nm,1.1s						
EUNU	**Eureka**	**65.52**	**2**	P	**P**	**09 36 58.8**	**+1.0**
EUNU				IAmb	IAmb	09 37 11.8	
	comp=Z,3.9nm,0.9s						
SUMG	**Summit**	**66.20**	**16**	P	**P**	**09 37 02.9**	**+0.2**
BORG	**Borgarnes**	**69.60**	**26**	LR	LR	10 07 51.6	
	comp=Z,27nm,18.4s,baz=265,slow=36						
EKA	**Eskdalemuir Ar**	**78.75**	**36**	P	**P**	**09 38 15.7**	**-1.6**
	comp=Z,10.0nm,0.8s,baz=285,slow=5.6,SNR=11						
	comp=Z,10.0nm,0.8s						
SPITS	**Spitsbergen Ar**	**79.88**	**11**	P	**P**	**09 38 24.3**	**+1.1**
	comp=Z,8.8nm,1.0s,baz=295,slow=4.4,SNR=1.3						
	comp=Z,8.8nm,1.0s						
PAB	**San Pablo**	**80.81**	**52**	P	**P**	**09 38 29.7**	**+0.8**
PAB				IAmb	IAmb	09 38 35.2	
	comp=Z,3.0nm,1.1s						
ESDC	**Sonseca Array**	**81.07**	**51**	P	**P**	**09 38 30.5**	**+0.1**
ESDC				IAmb	IAmb	09 38 31.3	
	comp=Z,6.0nm,1.0s						
ESDC	**Sonseca Array**	**81.07**	**51**	P	**P**	**09 38 29.5**	**-0.9**
	comp=Z,5.6nm,0.9s,baz=280,slow=5.4,SNR=20						
ESDC				LR	LR	10 07 57.6	
	comp=Z,46nm,21.1s,baz=308,slow=31						
	comp=Z,5.6nm,0.9s						
MDT	**Midelt**	**81.97**	**58**	LR	LR	10 10 47.3	
	comp=Z,30nm,18.3s,baz=328,slow=33						
NB2	**NORSAR Subarra**	**84.63**	**28**	P	**P**	**09 38 50.1**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=291,slow=5.3						
NOA	**NORSAR Array B**	**84.63**	**28**	P	**P**	**09 38 48.5**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=291,slow=5.2,SNR=4.3						
NOA				LR	LR	10 16 07.6	
	comp=Z,18nm,18.5s,baz=300,slow=36						
	comp=Z,1.1nm,0.6s						
HFS	**Hagfors**	**86.11**	**28**	P	**P**	**09 38 56.7**	**+1.0**
	comp=Z,1.4nm,0.6s,baz=305,slow=5.1,SNR=2.0						
	comp=Z,1.4nm,0.6s						
ARCES	**ARCESS Array B**	**86.20**	**18**	P	**P**	**09 38 56.1**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=281,slow=5.2,SNR=12						
	comp=Z,1.7nm,0.6s						
DBIC	**Dimbokro**	**87.83**	**84**	LR	LR	10 15 39.7	
	comp=Z,14nm,20.5s,baz=214,slow=34						
FINES	**FINESS Array B**	**90.84**	**24**	P	**P**	**09 39 18.2**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=297,slow=1.2,SNR=5.1						
	comp=Z,1.0nm,0.7s						
KEST	**Kesra**	**92.29**	**52**	LR	LR	10 17 21.6	
	comp=Z,33nm,19.4s,baz=287,slow=33						
TORD	**Torodi Ar. Bea**	**92.42**	**76**	P	**P**	**09 39 24.8**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=313,slow=6.0,SNR=5.1						
TORD				LR	LR	10 17 22.4	
	comp=Z,24nm,21.0s,baz=314,slow=33						
	comp=Z,0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**144.58**	**338**	PKP	**PKPab**	**09 45 50.5**	**-0.3**
	comp=Z,0.9nm,0.2s,baz=302,slow=2.0,SNR=6.9						

*IDC **14** 09:27:22.9±0.8, 37°.47N×20°.55E, h0km, mb4.0/16, mbtmp3.9/22, ML3.9/5, MS3.0/6, Error ellipse: s-maj=18.2km s-min=14.7km az=148.0*

*THE **14** 09:27:25.8, 37°.42N×20°.41E, h9km±1km, ML3.9/12, Error ellipse: s-maj=1.4km s-min=0.6km az=33.0*
*ATH **14** 09:27:25.3, 37°.39N×20°.35E, h4km±4km, ML3.9/7, Error ellipse: s-maj=4.3km s-min=1.2km az=37.0*
*BEO **14** 09:27:27.7±1.0, 37°.49N×20°.24E, h21km±3km, ML3.7/9*
*NAO **14** 09:27:45.0, 39°.26N×19°.48E, h10km, mb3.7*
ISC 14 09:27:26.2±1.3, 37°.44N±0°.04×20°.38E±0°.04, h23km±9km, n76, σ1.35/100, mb3.9/16, MS2.9/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.41**	**57**	P	**Pb**	**09 27 33.9**	**-0.9**
KRI1				S	**Sb**	**09 27 39.6**	**-1.2**
	57μm,0.2s						
LTHK	**Lithakia**	**0.45**	**53**	P	**Pb**	**09 27 34.5**	**-1.0**
LTHK				S	**Sb**	**09 27 40.6**	**-1.2**
	39μm,0.3s						
LTHK	**Lithakia**	**0.45**	**53**	P	**Pb**	**09 27 34.8**	**-0.7**
LTHK				S	**Sb**	**09 27 41.0**	**-0.8**
LTHK				AML	AML	09 27 41.2	
	comp=E,78099μm,0.2s						
LTHK				AML	AML	09 27 42.4	
	comp=N,52763μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.69**	**13**	P	**Pb**	**09 27 39.2**	**-0.4**
PSDA				S	**Sn**	**09 27 49.7**	**-0.9**
	comp=N,11μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.69**	**13**	P	**Pb**	**09 27 39.3**	**-0.3**
PSDA				S	**Sn**	**09 27 49.7**	**-0.9**
RTZL	**Ratzakli, Kefa**	**0.71**	**26**	P	**Pb**	**09 27 39.2**	**-0.6**
RTZL				S	**Sn**	**09 27 50.2**	**-0.8**
VLS	**Valsamata**	**0.76**	**13**	P	**Pb**	**09 27 40.0**	**-0.7**
VLS				S	**Sn**	**09 27 51.7**	**-0.5**
	comp=N,9μm,0.6s						
VLS	**Valsamata**	**0.76**	**13**	P	**Pb**	**09 27 40.2**	**-0.5**
VLS				S	**Sb**	**09 27 51.1**	**+0.5**
VLS				AML	AML	09 27 55.6	
	comp=E,17262μm,0.5s						
VLS				AML	AML	09 27 57.8	
	comp=N,16856μm,0.5s						
DMLN	**Damoulianata-K**	**0.80**	**360**	P	**Pb**	**09 27 41.1**	**-0.3**
DMLN				S	**Sn**	**09 27 53.8**	**+0.5**
	comp=N,16μm,0.4s						
VSK1	**VASILIKIADES**	**0.98**	**8**	P	**Pn**	**09 27 44.2**	**-0.3**
VSK1				S	**Sn**	**09 27 59.7**	**+2.0**
	comp=N,7μm,1.1s						
FSK	**Fiskardo**	**1.03**	**8**	P	**Pn**	**09 27 44.9**	**-0.3**
FSK				S	**Sn**	**09 28 01.2**	**+2.3**
	comp=N,4μm,0.8s						
FSK	**Fiskardo**	**1.03**	**8**	P	**Pn**	**09 27 45.2**	**0.0**
FSK				S	**Sn**	**09 28 00.7**	**+1.8**
FSK				AML	AML	09 28 04.5	
	comp=N,6093μm,0.4s						
FSK				AML	AML	09 28 10.7	
	comp=E,8781μm,0.4s						
AMT	**Artemida-Makis**	**1.06**	**85**	P	**Pn**	**09 27 45.8**	**+0.2**
AMT				S	**Sb**	**09 28 00.3**	**+0.9**
AMT				AML	AML	09 28 07.0	
	comp=N,19059μm,0.5s						
AMT				AML	AML	09 28 08.4	
	comp=E,19658μm,0.4s						
RLS	**Riolos of Patr**	**1.06**	**54**	P	**Pn**	**09 27 45.3**	**-0.3**
RLS				S	**Sb**	**09 28 01.1**	**+1.8**
	comp=E,4μm,0.6s						
RLS	**Riolos of Patr**	**1.06**	**54**	P	**Pn**	**09 27 45.8**	**+0.2**
RLS				S	**Sb**	**09 28 01.4**	**+2.2**
RLS				AML	AML	09 28 03.8	
	comp=N,7212μm,0.5s						
RLS				AML	AML	09 28 04.2	
	comp=E,7710μm,0.8s						
DRO	**Drossia**	**1.17**	**64**	P	**Pb**	**09 27 47.7**	**-0.1**
DRO				S	**Sb**	**09 28 04.5**	**+1.9**
	comp=E,5μm,0.4s						
DRO	**Drossia**	**1.17**	**64**	P	**Pb**	**09 27 48.0**	**+0.2**
EVGI	**Lefkada island**	**1.20**	**10**	P	**Pn**	**09 27 48.1**	**+0.5**
EVGI				S	**Sb**	**09 28 05.2**	**+1.9**
	comp=E,4μm,0.2s						
PYL	**PYLOS**	**1.22**	**116**	P	**Pn**	**09 27 48.1**	**+0.3**
PYL				S	**Sb**	**09 28 05.2**	**+1.5**
	comp=E,2μm,0.6s						
PYL	**PYLOS**	**1.22**	**116**	P	**Pn**	**09 27 48.1**	**+0.3**
ITM	**Ithomi**	**1.26**	**101**	P	**Pn**	**09 27 49.0**	**+0.6**
ITM				S	**Sb**	**09 28 05.4**	**+0.4**
	comp=E,2μm,0.8s						
ITM	**Ithomi**	**1.26**	**101**	P	**Pb**	**09 27 49.5**	**+0.2**
ITM				S	**Sb**	**09 28 06.3**	**+1.3**
ITM				AML	AML	09 28 09.8	
	comp=E,2366μm,0.4s						
ITM				AML	AML	09 28 18.6	
	comp=N,4044μm,0.6s						
KLV	**Kalavryta, Ach**	**1.53**	**66**	P	**Pb**	**09 27 54.2**	**+0.4**
GUR	**Goura**	**1.63**	**72**	P	**Pb**	**09 27 55.6**	**-0.1**
ANX	**Ano Chora**	**1.68**	**46**	P	**Pb**	**09 27 57.3**	**+0.9**
KALE	**Kalithea**	**1.69**	**55**	P	**Pb**	**09 27 56.9**	**+0.4**
VLI	**Veliai**	**2.17**	**109**	P	**Pb**	**09 28 03.6**	**-1.1**
FNA	**Florina**	**3.43**	**13**	*e*Pn	**Pn**	**09 28 20.3**	**+2.0**
FNA				*e*Sn	**Sn**	**09 28 57.0**	**-1.2**
OHR	**Ohrid**	**3.68**	**5**	*e*Pn	**Pn**	**09 28 22.3**	**+0.6**
OHR	**Ohrid**	**3.68**	**5**	*i* Pn	**Pn**	**09 28 25.4**	**+3.6**
IDI	**Anoyia**	**4.22**	**119**	Pn	**Pn**	**09 28 28.7**	**-0.5**
	comp=N,14nm,1.0s,baz=274,slow=20,SNR=1.6						
IDI				Sn	**Sn**	**09 29 15.0**	**-2.8**
	comp=N,2.1nm,0.3s,baz=308,slow=19,SNR=2.0						
VAY	**Valandovo**	**4.23**	**23**	*e*Pn	**Pn**	**09 28 30.9**	**+1.7**
VAY	**Valandovo**	**4.23**	**23**	*i* Pn	**Pn**	**09 28 31.1**	**+1.9**
SRS	**Serrai**	**4.44**	**33**	*e*Pn	**Pn**	**09 28 33.9**	**+1.8**
BOSS	**Bosilegrad**	**5.30**	**17**	*e*Pn	**Pn**	**09 28 45.7**	**+1.7**
BARS	**Barje**	**5.48**	**11**	*e*Pn	**Pn**	**09 28 47.7**	**+1.3**
BARS				*e*Sn	**Sn**	**09 29 48.2**	**-0.6**
SELS	**Selova**	**5.80**	**5**	*e*Pn	**Pn**	**09 28 52.0**	**+1.2**
SJES	**Sjenica**	**5.83**	**357**	*e*Pn	**Pn**	**09 28 50.6**	**-0.6**
SJES				*e*Sn	**Sn**	**09 29 56.2**	**-1.1**
ZAPS	**Zavoj**	**6.08**	**16**	*e*Pn	**Pn**	**09 28 56.1**	**+1.5**
IVAS	**Ivanjica**	**6.13**	**358**	*e*Pn	**Pn**	**09 28 56.2**	**+0.8**
BOVS	**Bovan**	**6.27**	**9**	*e*Pn	**Pn**	**09 28 57.2**	**0.0**
GRUS	**Gruza**	**6.45**	**2**	*e*Pn	**Pn**	**09 29 00.3**	**+0.6**
BBLS	**Lazi&#263i**	**6.46**	**354**	*e*Pn	**Pn**	**09 28 59.2**	**-0.7**
DIVS	**Divibare**	**6.66**	**358**	*e*Pn	**Pn**	**09 29 03.0**	**+0.4**
DIVS				*e*Sn	**Sn**	**09 30 14.5**	**-3.3**
TRUS	**Trudelj**	**6.78**	**0**	*e*Pn	**Pn**	**09 29 04.6**	**+0.4**
TEKS	**Tekeris**	**7.13**	**355**	*e*Pn	**Pn**	**09 29 09.3**	**+0.2**
KEST	**Kesra**	**9.04**	**262**	Pn	**Pn**	**09 29 38.4**	**+3.1**
	comp=N,0.4nm,0.3s,baz=314,slow=8.3,SNR=4.8						
KEST				Sn	**Sn**	**09 31 11.2**	**-5.1**
	comp=N,0.2nm,0.3s,baz=0.5,slow=4.9,SNR=2.2						
	comp=N,2.0nm,0.4s						
MLR	**Muntele Rosu**	**9.06**	**26**	Pn	**Pn**	**09 29 38.4**	**+2.8**
	comp=N,1.1nm,0.3s,baz=149,slow=17,SNR=13						
OBKA	**Obir**	**10.05**	**336**	*i* Pn	**Pn**	**09 29 50.2**	**+1.1**
	comp=N,0.9nm,0.3s						
SOKA	**Soboth**	**10.05**	**338**	*e*Pn	**Pn**	**09 29 49.1**	**0.0**
	comp=N,1.7nm,0.2s						
MOA	**Molln**	**11.33**	**339**	*e*Pn	**Pn**	**09 30 08.2**	**+1.6**
	comp=N,1.9nm,0.5s						
GERES	**GERESS Array B**	**12.39**	**339**	LR	LR	09 36 20.9	
	comp=N,44nm,19.1s,baz=92,slow=43						
MMAI	**Mount Meron Ar**	**13.05**	**105**	Pn	**Pn**	**09 30 29.7**	**-0.5**
	comp=N,1.0nm,0.3s,baz=327,slow=16,SNR=1.6						
	comp=N,0.3nm,0.3s						
EIL	**Elat**	**14.40**	**118**	Pn	**Pn**	**09 30 47.6**	**-1.0**
	comp=N,0.3nm,0.3s,baz=347,slow=17,SNR=2.3						
EIL				Sn	Sn	09 33 13.4	-14
	comp=N,0.1nm,0.3s,baz=260,slow=14,SNR=1.4						
	comp=N,1.5nm,0.4s						
AKASG	**Malin Array Be**	**14.69**	**23**	Pn	**Pn**	**09 30 50.8**	**-1.6**
	comp=N,0.4nm,0.3s,baz=213,slow=12,SNR=2.1						
AKASG				LR	LR	09 38 03.6	
	comp=N,50nm,19.1s,baz=217,slow=44						
	comp=N,0.7nm,0.6s						
NACGM	**Naroch**	**18.01**	**12**	*e*P	**Pn**	**09 31 34.0**	**-0.8**
	comp=Z,14nm,0.8s,baz=196						
ESDC	**Sonseca Array**	**19.16**	**284**	P	**Pn**	**09 31 49.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=90,slow=10,SNR=2.6						
	comp=Z,0.7nm,0.8s						
HFS	**Hagfors**	**23.11**	**351**	P	**P**	**09 32 30.2**	**0.0**
	comp=Z,7.0nm,0.7s,baz=138,slow=14,SNR=9.3						
	comp=Z,7.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**23.97**	**326**	P	**P**	**09 32 39.3**	**+0.7**
	comp=Z,2.1nm,0.7s,baz=120,slow=6.8,SNR=2.6						
	comp=Z,2.1nm,0.7s						
BELG	**Belogornoye**	**24.21**	**43**	P	**P**	**09 32 39.6**	**-1.3**
	comp=Z,12nm,0.8s,baz=225,slow=1.4,SNR=6.8						
BELG				LR	LR	09 43 07.6	
	comp=Z,24nm,18.4s,baz=151,slow=39						
	comp=Z,12nm,0.8s						
FINES	**FINESS Array B**	**24.29**	**7**	P	**P**	**09 32 41.6**	**0.0**
	comp=Z,1.2nm,0.4s,baz=184,slow=11,SNR=12						
	comp=Z,1.2nm,0.4s						
NB2	**NORSAR Subarra**	**24.32**	**349**	P	**P**	**09 32 42.7**	**+0.8**
	comp=Z,3.6nm,1.1s,baz=163,slow=11						
NOA	**NORSAR Array B**	**24.32**	**349**	P	**P**	**09 32 41.2**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=166,slow=12,SNR=4.8						
NOA				LR	LR	09 43 02.2	
	comp=Z,16nm,18.8s,baz=320,slow=39						
	comp=Z,1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.39**	**219**	P	**P**	**09 33 28.6**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=29,slow=9.9,SNR=11						
	comp=Z,1.7nm,0.8s						
AKTO	**Aktyubinsk**	**29.72**	**52**	P	**P**	**09 33 29.2**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=262,slow=1.8,SNR=1.7						
	comp=Z,0.5nm,0.3s						
ARTI	**Arti**	**31.58**	**41**	LR	LR	09 48 36.1	
	comp=Z,30nm,18.2s,baz=233,slow=40						
ARCES	**ARCESS Array B**	**32.28**	**3**	P	**P**	**09 33 53.2**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=185,slow=10.0,SNR=7.2						
	comp=Z,2.2nm,0.8s						
BVAR	**Borovoye Array**	**37.68**	**49**	P	**P**	**09 34 37.8**	**-1.7**
	comp=Z,0.7nm,0.4s,baz=264,slow=9.1,SNR=2.4						
	comp=Z,0.7nm,0.4s						
DBIC	**Dimbokro**	**38.27**	**223**	P	**P**	**09 34 45.5**	**+0.6**
	comp=Z,5.0nm,0.8s,baz=5.6,slow=8.2,SNR=3.5						
	comp=Z,5.0nm,0.8s						
KURBB	**Kurchatov Arra**	**42.76**	**53**	P	**P**	**09 35 20.6**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=282,slow=8.6,SNR=2.6						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.79**	**58**	P	**P**	**09 35 45.3**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=277,slow=7.4,SNR=8.0						
MKAR				PcP	**PcP**	**09 37 21.3**	**-1.9**
	comp=Z,0.5nm,0.8s,baz=256,slow=5.8,SNR=1.9						
	comp=Z,0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**46.27**	**48**	P	**P**	**09 35 49.0**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=282,slow=7.2,SNR=4.0						
	comp=Z,1.2nm,0.4s						
SCHQ	**Schefferville**	**58.93**	**318**	P	**P**	**09 37 24.8**	**+1.5**
	comp=Z,3.5nm,0.8s,baz=63,slow=6.8,SNR=1.7						
	comp=Z,3.5nm,0.8s						
SONM	**Songino Array**	**61.02**	**50**	P	**P**	**09 37 37.5**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=316,slow=12,SNR=1.5						
	comp=Z,0.2nm,0.4s						
BOSA	**Boshof**	**65.86**	**175**	LR	LR	10 11 16.9	
	comp=Z,32nm,19.8s,baz=25,slow=40						
KSRS	**Korea Array**	**79.89**	**50**	P	**P**	**09 39 33.0**	**0.0**
	comp=Z,0.8nm,0.4s,baz=324,slow=4.3,SNR=2.7						
	comp=Z,0.8nm,0.4s						

VIE 14 09:40:21.9±0.3, 47°.88N×16°.46E, h0km, mlO.8/1, Error ellipse: s-maj=2.9km s-min=1.9km az=152.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RONA	**Rosalia, Austr**	**0.21**	**211**	*e*Pg	Pg	09 40 26.0	+0.1
	0.6nm,0.1s						
RONA				*e*Sg	Sg	09 40 30.0	+1.3
	2.6nm,0.2s						

KRSZO 14 09:40:29.7±1.3, 47°.34N×18°.43E, h0km, Error ellipse: s-maj=10.1km s-min=5.7km az=137.0, Explosion. description : known quarry blast locality : Gnt Hungary, Hungary

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSKK	**Cskako**	**0.11**	**282**	Pg	Pg	09 40 32.6	+0.7
CSKK				Lg	Lg	09 40 34.0	
A269A	**Baj**	**0.30**	**354**	Lg	Lg	09 40 41.5	
A268A	**Rede**	**0.35**	**285**	Lg	Lg	09 40 42.3	
MPLH	**Magyarpolny**	**0.63**	**255**	Lg	Lg	09 40 51.4	
A336A	**Medovarce**	**0.97**	**23**	Pn	Pn	09 40 50.3	-0.3
A336A				Lg	Lg	09 41 02.0	
A337A	**Vahovce**	**1.00**	**335**	Pn	Pn	09 40 51.2	+0.2
MORH	**Mrgy, Hungar**	**1.14**	**172**	Sn	Sn	09 41 09.1	0.0
PSZ	**Piszkesteto**	**1.15**	**59**	Sn	Sn	09 41 09.7	0.0
VYHS	**Vyhne**	**1.19**	**13**	Sn	Sn	09 41 10.0	-0.5
BRJN	**Brijuni**	**4.06**	**235**	Pg	Pg	09 41 57.1	+10
BRJN				Sg

KIF *e*S **Sn** **09 58 19.5 -0.6**
SPA0 Spitsbergen Ar 7.23 25 Pn **Pn** **09 57 00.9 +1.3**
baz=214,slow=14
SPA0 Spitsbergen Ar 7.23 25 Pn **Pn** **09 57 00.9 +1.3**
baz=214,slow=14
SPA0 IAML 09 57 04.9
comp=Z,3.7nm,0.8s
SPITS Spitsbergen Ar 7.23 25 Pn **Pn** **09 57 00.7 +1.0**
comp=Z,1.4nm,0.3s,baz=212,slow=14,SNR=29
KBS Kingsbay 7.38 16 *e*P **Pn** **09 57 03.1 +1.4**
KBS IAML 09 57 09.6
comp=Z,3.5nm,0.9s
MOR8 Moi Rana 7.52 135 *e*P **Pn** **09 57 06.9 +3.2**
MOR8 *e*S **Sn** **09 58 26.2 -2.7**
MOR8 IAML 09 58 30.6
comp=Z,5.0nm,0.4s
KTK1 Kautokeino 7.89 102 *e*P **Pn** **09 57 12.0 +3.2**
KTK1 *e*S **Sn** **09 58 37.0 -1.1**
KTK1 IAML 09 58 42.8
comp=Z,1.7nm,1.0s
ARA0 ARCESS Array S 8.32 96 Pn **Pn** **09 57 17.0 +2.3**
baz=293,slow=12
ARA0 Sn **Sn** **09 58 47.4 -1.2**
baz=296,slow=28
ARA0 ARCESS Array S 8.32 96 Pn **Pn** **09 57 17.0 +2.3**
baz=293,slow=12
ARA0 Sn **Sn** **09 58 47.4 -1.2**
baz=296,slow=28
ARCES ARCESS Array B 8.32 96 Pn **Pn** **09 57 16.5 +1.8**
comp=Z,0.1nm,0.3s,baz=305,slow=11,SNR=2.7
ARCES Sn **Sn** **09 58 46.4 -2.2**
baz=305,slow=19
ARCES LR LR 10 00 31.8
comp=Z,54nm,18.1s,baz=289,slow=37
comp=Z,5.6nm,1.0s
HEF Hetta 8.37 105 *e*P **Pn** **09 57 17.8 +2.5**
NSS Namsos 8.51 147 *e*P **Pn** **09 57 20.4 +3.2**
KEV Kevo 8.68 93 *e*P **Pn** **09 57 21.2 +1.7**
NOA NORSAR Array B 11.72 156 Pn **Pn** **09 58 02.2 +1.0**
baz=329,slow=12,SNR=3.1
NOA LR LR 10 02 24.8
comp=Z,83nm,19.9s,baz=345,slow=37
comp=Z,0.2nm,0.3s
HFS Hagfors 12.93 151 Pn **Pn** **09 58 19.7 +2.0**
HFS Hagfors 12.93 151 Pn **Pn** **09 58 19.7 +2.0**
HFS Hagfors 12.93 151 Pn **Pn** **09 58 18.8 +1.0**
comp=Z,0.1nm,0.3s,baz=335,slow=9.7,SNR=4.1
HFS LR LR 10 03 12.7
comp=Z,98nm,18.4s,baz=323,slow=37
comp=Z,2.5nm,0.7s
FIA0 FINESS Array S 14.29 125 P **Pn** **09 58 37.3 +1.1**
baz=342,slow=12
FIA0 FINESS Array S 14.29 125 P **Pn** **09 58 37.3 +1.1**
baz=342,slow=12
FINES FINESS Array B 14.29 125 Pn **Pn** **09 58 36.9 +0.7**
baz=337,slow=14,SNR=3.1
FINES LR LR 10 03 45.3
comp=Z,121nm,19.0s,baz=325,slow=35
comp=Z,2.7nm,0.9s
OBN Obninsk 22.54 120 LR LR 10 08 42.6
comp=Z,108nm,18.1s,baz=211,slow=36
VRAC Vranov 23.86 155 LR LR 10 10 28.8
comp=Z,42nm,19.7s,baz=315,slow=38
GERES GERESS Array B 23.97 160 P **P** **10 00 28.5 0.0**
comp=Z,0.7nm,0.2s,baz=4.8,slow=13,SNR=4.1
comp=Z,0.7nm,0.2s
AKASG Malin Array Be 24.77 135 P **P** **10 00 36.5 +0.9**
comp=Z,1.1nm,0.5s,baz=343,slow=10,SNR=1.3
comp=Z,1.1nm,0.5s
RES Resolute Bay 24.82 321 LR LR 10 09 34.5
comp=Z,56nm,21.7s,baz=358,slow=35
DAVOX Davos/Dischmat 25.67 166 LR LR 10 10 57.2
comp=Z,64nm,19.7s,baz=284,slow=37
KBZ Khabaz 34.61 122 LR LR 10 16 13.7
comp=Z,58nm,18.1s,baz=279,slow=36
ILAR Eielson Array 41.75 340 P **P** **10 03 01.6 -1.2**
comp=Z,0.5nm,0.8s,baz=8.7,slow=6.6,SNR=5.0
comp=Z,0.5nm,0.8s
TORD Torodi Ar. Bea 58.88 180 P **P** **10 05 10.8 -2.1**
comp=Z,0.4nm,0.8s,baz=352,slow=8.6,SNR=2.0
comp=Z,0.4nm,0.8s
FURI Furi 67.07 139 LR LR 10 36 30.7
comp=Z,26nm,18.4s,baz=116,slow=37

*HEL **14** 09:59:55.8±0.2, 64°.67N×30°.70E, h0km, ML2.2, Explosion*
*IDC **14** 09:59:58.0±1.8, 64°.64N×30°.56E, h0km, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=24.8km s-min=8.4km az=104.0*
*KOLA **14** 09:59:57.4, 64°.72N×30°.79E, h0km, ML2.3, Error ellipse: s-maj=22.8km s-min=11.4km az=160.0, Kostomuksha, Karelia*

ISC 14 09:59:55.7±0.9, 64°.71N±0°.02×30°.73E±0°.05, h0km, n43, σ1§63/67, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.60**	**216**	PG	**Pg**	**10 00 06.4**	**-0.7**
RMF				MSG		10 00 13.7	
	comp=Z,44nm,0.2s						
KU6	**Riekki**	**1.37**	**345**	PG	**Pg**	**10 00 21.2**	**-0.7**
KU6	baz=164						
	comp=Z,21nm,0.2s						
				MSG		10 00 38.0	
KU6				SG	**Sg**	**10 00 39.7**	**0.0**
OLKF	**Oulanka, Finla**	**1.71**	**342**	PG	**Pn**	**10 00 27.2**	**+0.5**
OLKF				MSG		10 00 47.9	
	comp=Z,21nm,0.2s						
OLKF				SN	**Sn**	**10 00 50.2**	**+0.8**
JOF	**Joensuu**	**1.81**	**172**	*e*P	**Pn**	**10 00 27.9**	**-0.1**
JOF	**Joensuu**	**1.81**	**172**	PG	**Pn**	**10 00 27.2**	**-0.9**
JOF	baz=353						
JOF				SN	**Sn**	**10 00 51.3**	**-0.4**
NIF	**Nilsia**	**1.84**	**226**	PG	**Pn**	**10 00 28.5**	**0.0**
NIF	baz=39						
NIF				SN	**Sn**	**10 00 52.6**	**+0.2**
OUL	**Oulu**	**2.10**	**283**	PG	**Pn**	**10 00 33.1**	**+1.1**
OUL	baz=102						
OUL				SG	**Sn**	**10 00 59.7**	**+1.0**
RANF	**Ranua**	**2.11**	**310**	PG	**Pn**	**10 00 33.4**	**+1.2**
RANF	baz=123						
RANF				SG	**Sn**	**10 01 00.8**	**+1.7**
OBF4	**Vikkela, Lumij**	**2.42**	**275**	PB	**Pn**	**10 00 37.5**	**+1.2**
OBF4				MSG		10 01 06.8	
	comp=Z,12nm,0.2s						
OBF4				SG	**Sb**	**10 01 10.0**	**-0.2**
OUF	**Merijarvi**	**2.62**	**265**	PB	**Pn**	**10 00 39.8**	**+0.7**
OUF				MSG		10 01 12.5	
	comp=Z,18nm,0.2s						
OUF				SG	**Sb**	**10 01 14.8**	**-1.1**
RNF	**Rovaniemi**	**2.73**	**316**	PB	**Pn**	**10 00 42.8**	**+2.1**
RNF				SB	**Sb**	**10 01 18.8**	**-0.6**
OBF0	**Syolatti, Pyha**	**2.81**	**269**	PB	**Pn**	**10 00 43.7**	**+1.9**
OBF0	baz=81						
				MSG		10 01 17.9	
	comp=Z,10nm,0.2s						
OBF0				SG	**Sb**	**10 01 21.4**	**0.0**
SUF	**Sumiainen**	**2.85**	**228**	PB	**Pn**	**10 00 43.7**	**+1.4**
SUF				MSG		10 01 18.7	
	comp=Z,7.3nm,0.2s						
SUF				SG	**Sb**	**10 01 22.5**	**-0.2**
TOF	**Tornio**	**3.02**	**300**	PB	**Pn**	**10 00 46.3**	**+1.7**
TOF				MSG		10 01 24.4	
	comp=Z,4.4nm,0.2s						
TOF				SG	**Sb**	**10 01 25.8**	**-1.6**
APA0	**Apatity Array**	**3.06**	**16**	P	**Pn**	**10 00 46.2**	**+1.1**
APA0				S	**Sn**	**10 01 21.8**	**-0.5**
APA	**Apatity**	**3.08**	**19**	S	**Sn**	**10 01 22.1**	**-0.7**
VRF	**Varrio**	**3.09**	**352**	PN	**Pn**	**10 00 46.6**	**+1.0**
VRF				MSG		10 01 27.5	
	comp=Z,4.5nm,0.2s						
KAF	**Kangasniemi**	**3.28**	**219**	PB	**Pn**	**10 00 50.0**	**+1.8**
	baz=37						
KALU	**Kalix**	**3.31**	**294**	PN	**Pn**	**10 00 49.4**	**+0.9**
KALU				SG	**Sb**	**10 01 35.2**	**-0.7**
RUF	**Ruokolahti**	**3.39**	**195**	PN	**Pn**	**10 00 50.2**	**+0.5**
	baz=12						
KEF	**Keuruu**	**3.66**	**229**	*e*P	**Pn**	**10 00 51.6**	**-1.9**
KEF	**Keuruu**	**3.66**	**229**	PN	**Pn**	**10 00 54.5**	**+1.0**
	baz=41						
KLF	**Kolari**	**3.76**	**316**	PN	**Pn**	**10 00 55.1**	**+0.4**
	baz=129						
KLF				SG	**Sb**	**10 01 51.3**	**+2.6**
FIA0	**FINESS Array S**	**3.90**	**215**	PN	**Pn**	**10 00 57.0**	**+0.3**
	baz=29						
FIA0				SN	**Sn**	**10 01 42.7**	**-0.4**
FINES	**FINESS Array B**	**3.90**	**215**	Pn	**Pn**	**10 00 57.2**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=34,slow=14,SNR=18						
FINES				Pg	**Pb**	**10 01 04.3**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=30,slow=15,SNR=17						
FINES				Lg	Lg	10 01 54.5	
	comp=Z,2.8nm,0.3s,baz=41,slow=30,SNR=11						
	comp=Z,0.7nm,0.3s						
PAJU	**Pajala**	**3.90**	**310**	PN	**Pn**	**10 00 57.5**	**+0.7**
	baz=123						
PAJU				SG	**Sb**	**10 01 55.0**	**+2.1**
RAJF	**Raja-Jooseppi**	**3.91**	**347**	PN	**Pn**	**10 00 57.4**	**+0.6**
VAF	**Ylistaro**	**3.94**	**249**	*e*P	**Pn**	**10 00 58.5**	**+1.2**
VAF	**Ylistaro**	**3.94**	**249**	PN	**Pn**	**10 00 56.3**	**-0.9**
VAF				SG	**Sb**	**10 01 57.6**	**+3.7**
ERTU	**Ertsjaerv**	**4.00**	**301**	PN	**Pn**	**10 00 59.7**	**+1.7**
VJF	**Virojoki**	**4.43**	**201**	SG	**Sb**	**10 02 12.8**	**+4.7**
UMAU	**Umeaa**	**4.46**	**264**	PN	**Pn**	**10 01 03.6**	**-0.7**
UMAU				SG	**Sb**	**10 02 12.6**	**+3.8**
HEF	**Hetta**	**4.67**	**326**	PN	**Pn**	**10 01 09.0**	**+1.7**
	baz=144						
HEF				SG	**Sb**	**10 02 19.2**	**+4.2**
KMNF	**Kaamanen**	**4.70**	**343**	PN	**Pn**	**10 01 07.7**	**0.0**
TERR	**Teriberka**	**4.83**	**19**	S	**Sn**	**10 02 04.2**	**-1.9**
PRVG	**Vayda Guba**	**5.10**	**6**	P	**Pn**	**10 01 14.2**	**+1.1**
PRVG				S	**Sn**	**10 02 12.1**	**-0.5**
ARCES	**ARCESS Array B**	**5.26**	**340**	P	**Pn**	**10 01 15.6**	**+0.1**
ARCES				S	**Sn**	**10 02 14.5**	**-2.2**
ARCES	**ARCESS Array B**	**5.26**	**340**	Pn	**Pn**	**10 01 15.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=154,slow=14,SNR=50						
ARCES				Sn	**Sn**	**10 02 14.0**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=154,slow=23,SNR=1.6						
ARCES				Lg	Lg	10 02 34.1	
	comp=Z,0.3nm,0.3s,baz=143,slow=26,SNR=2.0						
	comp=Z,0.8nm,0.2s						
VADS	**Vadso**	**5.47**	**355**	S	**Sn**	**10 02 20.2**	**-1.5**
RAF	**Rauma**	**5.52**	**232**	*e*P	**Pn**	**10 01 17.2**	**-1.7**
FAUS	**Fauske**	**6.83**	**300**	S	**Sn**	**10 02 51.9**	**-3.4**
HFS	**Hagfors**	**9.12**	**248**	Pn	**Pn**	**10 02 06.5**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=54,slow=10,SNR=9.3						
HFS				Sn	Sn	10 03 43.3	-8.2
	comp=Z,0.3nm,0.3s,baz=60,slow=23,SNR=2.0						
HFS				Lg	Lg	10 04 39.7	
	comp=Z,0.6nm,0.3s,baz=64,slow=29,SNR=3.3						
	comp=Z,0.8nm,0.3s						
NOA	**NORSAR Array B**	**9.62**	**257**	Pn	**Pn**	**10 02 13.6**	**-1.7**
	baz=67,slow=15,SNR=5.7						
	comp=Z,0.1nm,0.3s						

SJA 14 10:02:09.6±0.8, 23°.10S×66°.59W, h238km±12km, ML3.1, MW3.5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.48**	**275**	*e*P	Pn	10 02 47.0	0.0
PB15	**IPOC Station P**	**2.66**	**267**	*e*P	Pn	10 02 58.6	+0.7
PB15				*e*S	S	10 03 34.2	-1.5
PB15				IAML		10 03 39.4	
	comp=Z,39nm,0.1s						
PB09	**IPOC Station P**	**2.78**	**297**	*e*P	Pn	10 02 59.8	+0.6
PB09				*e*S	S	10 03 36.1	-2.0
PB06	**IPOC Station P**	**2.78**	**278**	*e*P	Pn	10 02 59.7	+0.6
PB06				*e*S	S	10 03 37.0	-1.1
PB04	**IPOC Station P**	**3.38**	**282**	*e*P	Pn	10 03 06.1	+0.3
PB04				*e*S	S	10 03 47.0	-3.0
PB04				IAML		10 04 32.3	
	comp=Z,22nm,3.0s						
PB01	**IPOC Station P**	**3.38**	**307**	*e*P	Pn	10 03 05.8	0.0
PB01				*e*S	S	10 03 48.2	-1.9
PB01				IAML		10 03 59.1	
	comp=Z,18nm,2.7s						
PB08	**IPOC Station P**	**3.79**	**320**	*e*P	Pn	10 03 11.7	+0.8
PB08				*e*S	S	10 03 58.6	-0.6
PB14	**IPOC Station P**	**3.81**	**246**	*e*P	Pn	10 03 11.6	+0.6
PB14				*e*S	S	10 03 56.5	-2.9
PB14				IAML		10 04 33.6	
	comp=Z,21nm,2.9s						
PATCX	**Punta Patache**	**4.01**	**304**	*e*P	Pn	10 03 13.3	+0.2
PATCX				*e*S	S	10 04 01.2	-2.2
PATCX				IAML		10 04 23.6	
	comp=Z,16nm,2.4s						
TA01	**Diego Aracena**	**4.19**	**306**	*e*P	Pn	10 03 15.1	0.0
TA01				IAML		10 04 16.8	
	comp=Z,20nm,3.9s						
GO01	**Chusmiza**	**4.19**	**324**	*e*P	Pn	10 03 16.8	+1.1
GO01				*e*S	S	10 03 59.5	-8.4
PB11	**IPOC Station P**	**4.38**	**319**	*e*P	Pn	10 03 17.0	-0.7
PB11				*e*S	S	10 04 08.1	-3.5
PB11				IAML		10 04 50.3	
	comp=Z,12nm,2.3s						

*MOS **14** 10:07:26.4±1.1, 42°.77N×141°.82E, h15km, mb4.9/44, Error ellipse: s-maj=6.2km s-min=4.7km az=114.8*
*BJI **14** 10:07:27.3, 42°.58N×142°.12E, h38km, mb4.6/53, mB4.7/23, Ms4.2/43, Ms7 4.1/45*
*SKHL **14** 10:07:28.4±0.3, 42°.50N×141°.90E, h36km±2km, mb5.5/3, ms4.6/2*
*NEIC **14** 10:07:30.9±1.2, 42°.70N±0°.04×141°.98E±0°.08, h35km±2km, mb4.8/237, Error ellipse: s-maj=9.6km s-min=6.5km az=261.0*
*NIED **14** 10:07:30.1, 42°.70N×141°.97E, h32km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; M_{rr}1.05; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$-0.69; $M_{r\theta}$-0.22; $M_{\theta\phi}$1.23; $M_{\phi r}$0.09; Fault plane solution: $M_0$1.44000×10^16 NP1: ϕ_s305.00000°, δ51.00000°, λ70.00000°. NP2: ϕ_s155.00000°, δ43.00000°, λ113.00000°.*
*JMA **14** 10:07:30.1±0.1, 42°.7N±0°.3×142°.0E±0°.4, h32km±1km, MD4.7/40, MW4.7/40, ISHIKARI DEPRESSION*
JMA Felt IV J1 at ISHIKARI DEPRESSION .
*IDC **14** 10:07:31.8±1.4, 42°.77N×141°.90E, h43km±11km, mb4.3/31, mbtmp4.5/36, ML3.3/4, MS4.0/60, Error ellipse: s-maj=12.2km s-min=8.8km az=122.0*
*GCMT **14** 10:07:32.9±0.3, 42°.80N±0°.02×141°.91E±0°.03, h28km±1km, MW4.8/84, Moment Tensor Solution. s31,c36; s84,c117; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}1.31±.14; $M_{\theta\theta}$-0.43±.09; $M_{\phi\phi}$-0.88±.09; $M_{r\theta}$-0.24±.14; $M_{\theta\phi}$1.67±.06; $M_{\phi r}$-0.43±.12; Best double couple: $M_0$2.00300×10^16 NP1:ϕ_s169.00000°, δ58.00000°, λ135.00000°. NP2: ϕ_s288.00000°, δ53.00000°, λ42.00000°. Principal axes: T 1.6570, Plg54.0000°, Azm136.0000°; N 0.6910, Plg36.0000°, Azm321.0000°; P -2.3490, Plg3.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 10:07:30.9±0.3, 42°.68N±0°.03×141°.98E±0°.02, h39km±2km, h39km:pP-P, n765, σ1§38/664, mb4.7/190, MS4.0/66, 16C-22D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIAM	**Iburiatsuma**	**0.07**	**218**	⇓*i*P	**Pn**	**10 07 35.2**	**-2.0**
JIAM				⇓S	**Sn**	**10 07 39.6**	**-2.1**
JIAM	**Iburiatsuma**	**0.07**	**218**	A	A	10 07 35.2	
	comp=E,2μm,0.5s,comp=N,3μm,0.6s						
JBT2	**Biratori 2**	**0.30**	**71**	⇓P	**Pn**	**10 07 37.3**	**-1.8**
JBT2				⇓S	**Sn**	**10 07 43.1**	**-2.3**
JBT2	**Biratori 2**	**0.30**	**71**	A	A	10 07 37.3	
	comp=E,231nm,0.3s,comp=N,316nm,0.5s						
JEW	**Eniwo**	**0.42**	**292**	⇓P	**Pn**	**10 07 39.0**	**-1.5**
JEW				⇓S	**Sn**	**10 07 45.8**	**-1.5**
JEW	**Eniwo**	**0.42**	**292**	A	A	10 07 39.0	
	comp=E,243nm,1.1s,comp=N,412nm,0.9s						
JSHD	**Hidakashinhida**	**0.45**	**127**	*i* P	**Pn**	**10 07 40.5**	**-0.3**
JSHD				*e*S	**Sn**	**10 07 48.6**	**+0.8**
JSHD	**Hidakashinhida**	**0.45**	**127**	A	A	10 07 40.5	
	comp=E,219nm,3.1s,comp=N,200nm,1.2s						
JFR	**Furan**	**0.66**	**43**	⇓*i*P	**Pn**	**10 07 42.5**	**-1.3**
JFR				⇓*e*S	**Sn**	**10 07 51.0**	**-1.9**
JFR	**Furan**	**0.66**	**43**	A	A	10 07 42.5	
	comp=E,45nm,1.1s,comp=N,49nm,2.3s						
JNBK	**Urakawa-nobuka**	**0.70**	**125**	*i* P	**Pn**	**10 07 43.5**	**-0.7**
JNBK				S	**Sn**	**10 07 52.4**	**-1.4**
JNBK	**Urakawa-nobuka**	**0.70**	**125**	A	A	10 07 43.5	
	comp=E,105nm,1.0s,comp=N,71nm,1.7s						
JISS	**Ishikarishitsu**	**0.72**	**325**	*i* P	**Pn**	**10 07 43.8**	**-0.8**
JISS				S	**Sn**	**10 07 54.4**	**-0.1**
JISS	**Ishikarishitsu**	**0.72**	**325**	A	A	10 07 43.8	
	comp=E,337nm,0.4s,comp=N,208nm,0.6s						
JNB	**Noboribetsu**	**0.73**	**253**	⇓*i*P	**Pn**	**10 07 43.1**	**-1.5**
JNB				⇓S	**Sn**	**10 07 53.1**	**-1.5**
JNB	**Noboribetsu**	**0.73**	**253**	A	A	10 07 43.1	
	comp=E,22nm,1.0s,comp=N,27nm,1.6s						
JAB	**Ashibetsu**	**0.84**	**12**	⇓*i*P	**Pn**	**10 07 46.4**	**+0.2**
JAB				⇓*e*S	**Sn**	**10 07 58.1**	**+0.7**
JAB	**Ashibetsu**	**0.84**	**12**	A	A	10 07 46.4	
	comp=E,176nm,3.6s,comp=N,185nm,1.9s						
JCH	**Churui**	**1.02**	**93**	⇓*i*P	**Pn**	**10 07 47.9**	**-0.8**
JCH				⇓S	**Sn**	**10 08 01.3**	**-0.5**
JCH	**Churui**	**1.02**	**93**	A	A	10 07 47.9	
	comp=E,31nm,0.8s,comp=N,57nm,1.4s						
JTHR	**Tokachihiroo**	**1.05**	**111**	A	A	10 07 49.1	
	comp=E,17nm,1.9s,comp=N,27nm,2.7s						
JKB	**Kayabe**	**1.06**	**222**	⇓*i*P	**Pn**	**10 07 48.4**	**-0.8**
JKB				⇓S	**Sn**	**10 08 02.4**	**-0.4**
JKB	**Kayabe**	**1.06**	**222**	A	A	10 07 48.4	
	comp=E,75nm,1.0s,comp=N,81nm,1.2s						
JHR	**Hokuryu**	**1.08**	**350**	*i* P	**Pn**	**10 07 49.2**	**-0.3**
JHR	**Hokuryu**	**1.08**	**350**	A	A	10 07 49.2	
	comp=E,50nm,1.1s,comp=N,45nm,1.2s						
ERM	**Erimo**	**1.10**	**127**		**Pn**	**10 07 49.5**	**-0.2**
ERM	**Erimo**	**1.10**	**127**	P	**Pn**	**10 07 49.8**	**+0.1**
ERM	**Erimo**	**1.10**	**127**	*ce*PN	**Pn**	**10 07 49.3**	**-0.4**
JEM	**Erimo**	**1.10**	**127**	P	**Pn**	**10 07 49.8**	**+0.1**
JEM	**Erimo**	**1.10**	**127**	A	A	10 07 49.8	
	comp=E,26nm,4.5s,comp=N,19nm,7.6s						
JSK	**Shakotan**	**1.29**	**302**	A	A	10 07 52.3	
	comp=E,29nm,1.3s,comp=N,19nm,3.5s						
JKK2	**Kamakawa 2**	**1.32**	**25**	A	A	10 07 52.7	
	comp=E,24nm,1.8s,comp=N,19nm,3.1s						
JYM2	**Yakumo 2**	**1.32**	**245**	A	A	10 07 52.9	
	comp=E,31nm,0.5s,comp=N,32nm,0.5s						
JOB	**Onbets**	**1.38**	**80**	A	A	10 07 54.0	
	comp=E,29nm,1.9s,comp=N,53nm,4.0s						
JSH	**Shimam**	**1.43**	**269**	A	A	10 07 54.4	
	comp=E,11nm,2.8s,comp=N,15nm,2.9s						
JAR	**Ashorobuto**	**1.45**	**64**	A	A	10 07 54.9	
	comp=E,24nm,1.5s,comp=N,25nm,2.2s						
JOT	**Ohata**	**1.47**	**208**	A	A	10 07 55.3	
	comp=E,10.0nm,1.0s,comp=N,10.0nm,1.2s						
JAHD	**Aomorihigashid**	**1.49**	**199**	A	A	10 07 55.7	
	comp=E,65nm,1.1s,comp=N,77nm,0.6s						
ASAJ	**Asahikawa**	**1.50**	**17**	P	**Pn**	**10 07 55.6**	**+0.3**
	comp=N,1μm,0.4s,baz=207,slow=11,SNR=874						
ASAJ				S	**Sn**	**10 08 13.1**	**-0.5**
	comp=N,4μm,0.5s,baz=339,slow=18,SNR=11						
ASAJ				LR	LR	10 08 34.9	
	comp=N,3μm,20.8s,baz=86,slow=44						
ASAJ	**Asahikawa**	**1.50**	**17**	A	A	10 07 55.5	
	comp=E,23nm,5.5s,comp=N,19nm,3.0s						
JKA	**Kamikawa-asahi**	**1.50**	**17**		**Pn**	**10 07 55.4**	**+0.1**
JHST	**Hiyamasetana**	**1.58**	**261**	A	A	10 07 56.6	
	comp=E,16nm,3.6s,comp=N,20nm,5.3s						
JSR	**Shiriuchi**	**1.64**	**226**	A	A	10 07 57.7	
	comp=E,10.0nm,2.3s,comp=N,9.0nm,2.6s						
JMP	**Maruseppu**	**1.66**	**37**	A	A	10 07 57.9	
	comp=E,12nm,5.4s,comp=N,16nm,3.0s						
JSS	**Shosan**	**1.72**	**357**	A	A	10 07 58.6	
	comp=E,21nm,2.2s,comp=N,23nm,1.6s						
JARK	**Aomorirokkasho**	**1.73**	**196**	A	A	10 07 59.2	
	comp=E,14nm,4.2s,comp=N,15nm,0.7s						
JYG	**Yagishiri**	**1.79**	**347**	A	A	10 07 59.6	
	comp=E,14nm,5.1s,comp=N,12nm,1.7s						
JOMM	**Oshimamatsumae**	**1.87**	**232**	A	A	10 08 01.0	
	comp=E,6.0nm,3.1s,comp=N,6.0nm,2.3s						
JTKR	**Abashiri--Toko**	**1.91**	**47**	A	A	10 08 01.5	
	comp=E,8.0nm,3.2s,comp=N,7.0nm,2.1s						
JSI2	**Shiura 2**	**2.00**	**216**	A	A	10 08 03.0	
	comp=E,8.0nm,2.1s,comp=N,10.0nm,3.6s						
JTM	**Tenmabayashi**	**2.01**	**200**		**Pn**	**10 08 01.9**	**-0.3**
JTM	**Tenmabayashi**	**2.01**	**200**	P	**Pn**	**10 08 02.8**	**+0.5**
JTM	**Tenmabayashi**	**2.01**	**200**	A	A	10 08 03.2	
	comp=E,9.0nm,2.5s,comp=N,9.0nm,5.0s						
JAK	**Akkeshi**	**2.02**	**80**	A	A	10 08 03.3	
	comp=E,14nm,2.5s,comp=N,12nm,1.7s						
AKK	**Akkeshi**	**2.13**	**80**	*e*P	**Pn**	**10 08 03.0**	**-0.9**
AKK				*e*S	**Sn**	**10 08 29.0**	**-0.1**
JSE	**Soyaes**	**2.32**	**11**	A	A	10 08 07.3	
	comp=E,11nm,8.1s,comp=N,13nm,2.1s						
JANG	**Nango**	**2.33**	**189**	A	A	10 08 07.8	
	comp=E,8.0nm,3.9s,comp=N,4.0nm,0.8s						
JHHS	**Hirosakihykuz**	**2.36**	**211**	A	A	10 08 08.2	
	comp=E,16nm,3.9s,comp=N,20nm,2.6s						
JKHN	**Kushirohamanak**	**2.37**	**79**	A	A	10 08 08.3	
	comp=E,9.0nm,4.7s,comp=N,11nm,4.0s						
JNSB	**Nemuroshibetsu**	**2.46**	**63**	A	A	10 08 09.6	
	comp=E,16nm,1.9s,comp=N,26nm,2.6s						
JKEN	**Kujiedanarisaw**	**2.48**	**185**	A	A	10 08 10.0	
	comp=E,17nm,2.3s,comp=N,20nm,0.3s						
JRR	**Rishiri**	**2.50**	**349**	A	A	10 08 09.9	
	comp=E,36nm,3.1s,comp=N,33nm,2.6s						
JIW	**Iwasaki**	**2.56**	**216**	A	A	10 08 11.0	
	comp=E,9.0nm,4.7s,comp=N,7.0nm,1.6s						
JRA	**Rausu**	**2.61**	**60**	A	A	10 08 11.7	
	comp=E,19nm,3.5s,comp=N,9.0nm,5.6s						
JWK2	**Keihoku**	**2.63**	**359**	A	A	10 08 11.8	
	comp=E,12nm,7.1s,comp=N,10.0nm,3.2s						
JNTW	**Noshirotokiwa**	**2.77**	**210**	A	A	10 08 14.0	
	comp=E,15nm,3.8s,comp=N,17nm,2.7s						
RUSJ	**Misakicho**	**2.77**	**58**	*e*PN	**Pn**	**10 08 15.2**	**+2.5**
RUSJ				*i* S	**Sn**	**10 08 52.3**	**+7.4**
NMR	**Nemuro--Hokkai**	**2.83**	**75**	*i* P	**Pn**	**10 08 12.9**	**-0.6**
NMR				*i* S	**Sn**	**10 08 46.1**	**-0.3**
NMR	**Nemuro--Hokkai**	**2.83**	**75**	⇓*i*PN	**Pn**	**10 08 12.3**	**-1.2**
JSZI	**Iwateshizukuis**	**3.04**	**195**	A	A	10 08 17.9	
	comp=E,9.0nm,3.6s,comp=N,10.0nm,2.3s						
YUK	**Yuzh-Kuril'sk**	**3.14**	**63**	*e*P	**Pn**	**10 08 18.5**	**+0.8**
YUK				AMB	AMB	10 08 24.5	
	comp=N,520nm,0.2s						
YUK				*e*S	**Sn**	**10 08 56.2**	**+2.3**
YUK				A	A	10 09 04.5	
	comp=N,2μm,0.3s						
YUK				A	A	10 09 04.5	
	comp=N,2μm,0.3s						
YUK				AMS	AMS	10 09 45.5	
	comp=N,7

YSS				MLR	MLR	
	comp=N,3μm,12.0s					
YSS				MLR	MLR	
	comp=Z,4μm,12.0s					
TEY	**Ternei**	**4.55**	**303**	*e*PN	**Pn**	**10 08 36.4 -0.7**
JMM	**Marumori**	**4.89**	**191**	Pn	**Pn**	**10 08 42.8 +0.9**
JMM	**Marumori**	**4.89**	**191**	P	**Pn**	**10 08 42.4 +0.5**
KUR	**Kuril'sk**	**4.96**	**57**	*e*P	**Pn**	**10 08 44.5 +1.8**
KUR				AMB	AMB	10 08 50.7
	comp=Z,270nm,0.4s					
KUR				*e*S	**Sn**	**10 09 41.2 +2.5**
KUR				A	A	10 09 49.3
	comp=Z,320nm,0.4s					
KUR				A	A	10 09 49.3
	comp=Z,410nm,0.4s					
KUR				AMS	AMS	10 10 54.0
	comp=Z,3μm,17.0s					
KUR				AMS	AMS	10 10 54.0
	comp=Z,6μm,17.0s					
KUR				AMS	AMS	10 10 54.0
	comp=Z,6μm,17.0s					
KUR	**Kuril'sk**	**4.96**	**57**	*e*PN	Pn	10 08 47.2 +4.5
KUR				*e*S	**Sn**	**10 09 45.2 +6.5**
KUR				pmax	pmax	
	comp=N,98nm,0.6s					
KUR				pmax	pmax	
	comp=E,162nm,0.6s					
KUR				pmax	pmax	
	comp=Z,304nm,0.6s					
KUR				smax	smax	
	comp=N,328nm,0.3s					
KUR				smax	smax	
	comp=E,281nm,0.6s					
KUR				MLR	MLR	
	comp=Z,6μm,17.0s					
KUR				MLR	MLR	
	comp=E,6μm,14.0s					
KUR				MLR	MLR	
	comp=N,3μm,13.0s					
JSD	**Sado**	**5.44**	**213**	Pn	**Pn**	**10 08 50.4 +1.0**
JSD	**Sado**	**5.44**	**213**	P	**Pn**	**10 08 51.0 +1.6**
MJB9	**Matsu-Tunnel**	**6.79**	**207**		**Pn**	**10 09 11.4 +3.5**
MAJO	**Matsushiro**	**6.79**	**207**	Pn	**Pn**	**10 09 11.0 +3.1**
MAJO	**Matsushiro**	**6.79**	**207**	P	**Pn**	**10 09 11.1 +3.1**
MAJO	**Matsushiro**	**6.79**	**207**	PN	**Pn**	**10 09 11.0 +3.1**
MJAR	**Matsushiro Arr**	**6.79**	**207**	P	**Pn**	**10 09 10.7 +2.7**
	comp=N,0.9nm,0.3s,baz=22,slow=14,SNR=24					
MJAR				LR	LR	10 12 11.2
	comp=N,2μm,18.5s,baz=14,slow=41					
	comp=N,6.8nm,0.3s					
USA0B	**Ussuriysk Arra**	**7.43**	**285**		**Pn**	**10 09 14.9 -1.7**
USA0B	**Ussuriysk Arra**	**7.43**	**285**	PN	**Pn**	**10 09 14.9 -1.7**
USRK	**Ussuriysk Ar.**	**7.43**	**285**		**Pn**	**10 09 15.1 -1.6**
USRK	**Ussuriysk Ar.**	**7.43**	**285**	P	**Pn**	**10 09 17.1 +0.4**
	comp=N,0.6nm,0.3s,baz=85,slow=14,SNR=8.5					
USRK				LR	LR	10 12 10.3
	comp=N,869nm,18.7s,baz=103,slow=38					
	comp=N,2.3nm,0.5s					
USRK	**Ussuriysk Ar.**	**7.43**	**285**	PN	**Pn**	**10 09 15.1 -1.6**
JGF	**Kuroka**	**7.93**	**208**	Pn	**Pn**	**10 09 26.9 +3.3**
JGF	**Kuroka**	**7.93**	**208**	P	**Pn**	**10 09 26.9 +3.3**
MSHR	**Mys Shultsa**	**7.98**	**273**	*i* PN	**Pn**	**10 09 27.9 +3.6**
PSTR	**Posyet**	**8.24**	**274**	*e*P	**Pn**	**10 09 26.7 -1.0**
PSTR	**Posyet**	**8.24**	**274**	*i* PN	**Pn**	**10 09 30.1 +2.4**
INU	**Inuyama**	**8.28**	**209**	Pn	**Pn**	**10 09 28.4 +0.1**
INU	**Inuyama**	**8.28**	**209**	P	**Pn**	**10 09 31.9 +3.6**
JSG	**Sagara**	**8.53**	**202**	Pn	**Pn**	**10 09 32.0 +0.2**
GRNR	**Gornyy**	**8.94**	**337**	⇑*i*PN	**Pn**	**10 09 38.2 +0.8**
GRNR				pmax	pmax	
	comp=Z,4.0nm,1.1s					
GRNR				MLR	MLR	
	comp=E,590nm,15.0s					
GRNR				MLR	MLR	
	comp=N,360nm,12.0s					
GRNR				MLR	MLR	
	comp=Z,620nm,15.0s					
MDJ	**Mudanjiang**	**9.19**	**286**	P	Pn	10 09 47.8 +7.0
MDJ				PP	**PnPn**	**10 09 56.4 +8.1**
MDJ				S	Sn	10 11 34.8 +12
MDJ				sS		10 11 56.1
MDJ				pmax	pmax	
	comp=Z,11nm,1.2s					
MDJ				LR	LR	
	comp=N,1μm,11.4s					
MDJ				LR	LR	
	comp=E,650nm,16.1s					
MDJ				LR	LR	
	comp=Z,870nm,16.3s					
KLR	**Kul'dur**	**9.67**	**316**	P	**Pn**	**10 09 48.0 +0.6**
	comp=Z,0.4nm,0.3s,baz=124,slow=16,SNR=10					
KLR				LR	LR	10 13 45.8
	comp=Z,591nm,19.8s,baz=132,slow=39					
	comp=Z,1.5nm,0.3s					
KLR	**Kul'dur**	**9.67**	**316**	*e*P	**Pn**	**10 09 47.2 -0.2**
KLR	**Kul'dur**	**9.67**	**316**	*i* PN	**Pn**	**10 09 48.2 +0.8**
KLR				pmax	pmax	
	comp=Z,17nm,1.5s					
JHJ	**Hachijo jima 2**	**9.70**	**191**	LR	LR	10 13 56.0
	comp=Z,299nm,19.1s,baz=75,slow=39					
BNX	**BinXian**	**10.90**	**291**	⇓P	Pn	10 10 09.1 +4.9
BNX				pmax	pmax	
	comp=Z,19nm,1.1s					
JMN	**Monobe**	**10.97**	**218**	Pn	**Pn**	**10 10 05.3 0.0**
JMN	**Monobe**	**10.97**	**218**	P	**Pn**	**10 10 09.1 +3.8**
KSRS	**Korea Array**	**11.96**	**249**	P	**Pn**	**10 10 22.4 +3.7**
	comp=Z,8.2nm,0.9s,baz=59,slow=13,SNR=16					
KSRS				LR	LR	10 14 32.4
	comp=Z,671nm,19.1s,baz=50,slow=35					
KS19	**Wonju Array Si**	**11.98**	**249**	Pn	**Pn**	**10 10 18.5 -0.5**
KSAR	**Wonju Array Be**	**12.00**	**249**		**Pn**	**10 10 18.8 -0.4**
KSAR	**Wonju Array Be**	**12.00**	**249**	PN	**Pn**	**10 10 18.8 -0.4**
CN2	**Changchun**	**12.11**	**281**	*e*P	**Pn**	**10 10 23.5 +2.7**
CN2				*e*S	**Sn**	**10 12 38.0 +3.5**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.5s					
CN2				pmax	pmax	
	comp=Z,100nm,3.0s					
CN2				LR	LR	
	comp=Z,1μm,18.0s					
CN2				LR	LR	
	comp=Z,1μm,18.0s					
CN2				LR	LR	
	comp=Z,1μm,17.0s					
HEH	**HeiHe**	**12.56**	**312**	*e*P	**Pn**	**10 10 27.3 +0.4**
HEH				pmax	pmax	
	comp=Z,9.0nm,0.6s					
HEH				LR	LR	
	comp=Z,900nm,15.2s					
HEH				LR	LR	
	comp=Z,780nm,16.4s					
HEH				LR	LR	
	comp=Z,790nm,15.3s					
TJN	**Taejon**	**12.91**	**246**	*ce*PN	**Pn**	**10 10 35.7 +4.0**
JNU	**Nakatsue**	**12.95**	**226**	Pn	**Pn**	**10 10 31.0 -1.3**
JNU	**Nakatsue**	**12.95**	**226**	P	**Pn**	**10 10 36.5 +4.2**
	comp=Z,4.8nm,0.9s,baz=0.0,slow=5.1,SNR=1.9					
JNU	**Nakatsue**	**12.95**	**226**	P	Pn	10 10 37.1 +4.8
ZEA	**Zeya**	**14.76**	**324**	*e*P	**Pn**	**10 10 58.6 +1.9**
ZEA				pmax	pmax	
	comp=N,30nm,1.0s					
ZEA				pmax	pmax	
	comp=E,20nm,0.8s					
ZEA				pmax	pmax	
	comp=Z,30nm,0.8s					
ZEA				MLR	MLR	
	comp=E,200nm,19.0s					
ZEA				MLR	MLR	
	comp=N,400nm,17.0s					
ZEA				MLR	MLR	
	comp=Z,400nm,16.0s					
PEA0B	**Petropavlovsk-**	**14.80**	**40**	Pn	**Pn**	**10 10 57.1 -0.1**
PEA0B	**Petropavlovsk-**	**14.80**	**40**	P	**Pn**	**10 10 57.1 -0.1**
PETK	**Petropavlovsk-**	**14.80**	**40**		**Pn**	**10 10 57.5 +0.3**
PETK	**Petropavlovsk-**	**14.80**	**40**	P	**Pn**	**10 10 59.5 +2.3**
	comp=Z,0.3nm,0.3s,baz=222,slow=7.6,SNR=2.6					
PETK				LR	LR	10 16 44.8
	comp=Z,1μm,18.9s,baz=224,slow=38					
	comp=Z,7.4nm,1.0s					
PET	**Petropavlovsk**	**15.20**	**41**	Pn	**Pn**	**10 11 02.2 -0.3**
PET				IAmb	IAmb	10 11 14.5
	comp=Z,80nm,1.4s					
JCJ	**Chichijima**	**15.55**	**179**	Pn	**Pn**	**10 11 06.7 -0.6**
JCJ	**Chichijima**	**15.55**	**179**	P	**Pn**	**10 11 07.3 +0.1**
DL2	**Dalian**	**15.86**	**263**	*e*P	**Pn**	**10 11 10.4 -0.8**
DL2				S	**Sn**	**10 14 07.3 +1.5**
DL2				pmax	pmax	
	comp=Z,19nm,1.1s					
DL2				LR	LR	
	comp=Z,350nm,13.2s					
DL2				LR	LR	
	comp=Z,420nm,16.1s					
DL2				LR	LR	
	comp=Z,620nm,18.9s					
MA2	**Magadan**	**17.76**	**15**	P	**Pn**	**10 11 34.3 -0.6**
MA2				IAmb	IAmb	10 11 49.9
	comp=Z,61nm,1.1s					
MA2	**Magadan**	**17.76**	**15**	P	**P**	**10 11 35.3 0.0**
	comp=Z,14nm,0.5s,baz=204,slow=14,SNR=8.4					
MA2	**Magadan**	**17.76**	**15**	*e*P	**Pn**	**10 11 33.5 -1.4**
MA2	**Magadan**	**17.76**	**15**	*i* P	**Pn**	**10 11 33.5 -1.4**
MA2				pmax	pmax	
	comp=Z,116nm,2.0s					
MA2	**Magadan**	**17.76**	**15**	P	**P**	**10 11 35.7 +0.4**
	comp=Z,55nm,0.9s					
XLT	**XiLinHaoTe**	**18.88**	**283**	*e*P	**P**	**10 11 46.6 -1.2**
XLT				pP	pP	10 11 55.0 -2.6
XLT				sP	sP	10 12 02.1 -0.7
XLT				PP	**PnPn**	**10 12 03.8 +2.5**
XLT				SS	**sS**	**10 15 38.3 +2.3**
XLT				pmax	pmax	
	comp=Z,9.0nm,1.0s					
XLT				pmax	pmax	
	comp=Z,91nm,4.2s					
XLT				LR	LR	
	comp=Z,470nm,20.9s					
XLT				LR	LR	
	comp=Z,730nm,15.2s					
JOW	**Kunigami**	**19.37**	**220**	P	**Pn**	**10 11 57.4 +2.8**
BJI	**Beijing**	**19.53**	**271**	P	**P**	**10 11 55.3 +0.5**
BJI				sP	**sP**	**10 12 07.3 -2.6**
BJI				pmax	pmax	
	comp=Z,7.0nm,0.8s					
BJI				pmax	pmax	
	comp=Z,58nm,5.1s					
BJI				LR	LR	
	comp=Z,150nm,14.4s					
BJI				LR	LR	
	comp=Z,160nm,15.4s					
BJI				LR	LR	
	comp=Z,170nm,21.2s					
BJT	**Baijiatuau**	**19.54**	**271**	P	**P**	**10 11 54.5 -0.4**
BJT	**Baijiatuau**	**19.54**	**271**	P	**P**	**10 11 54.5 -0.4**
BJT				pmax	pmax	
	comp=Z,12nm,0.9s					
TIA	**Tai'an**	**20.22**	**260**	P	**P**	**10 12 01.4 -1.0**
TIA				sP	**sP**	**10 12 20.4 +3.0**
TIA				S	**S**	**10 15 48.1 +1.1**
TIA				pmax	pmax	
	comp=Z,20nm,0.7s					
TIA				pmax	pmax	
	comp=Z,140nm,8.4s					
TIA				LR	LR	
	comp=Z,220nm,12.5s					
TIA				LR	LR	
	comp=Z,370nm,14.8s					
YAK	**Yakutsk**	**20.72**	**344**		**P**	**10 12 07.5 0.0**
YAK	**Yakutsk**	**20.72**	**344**	P	**P**	**10 12 07.1 -0.4**
	comp=Z,50nm,0.8s,baz=158,slow=19,SNR=2.3					
	comp=Z,50nm,0.8s					
YAK	**Yakutsk**	**20.72**	**344**	*e*P	**P**	**10 12 07.2 -0.3**
YAK				*e**PP	**pP**	**10 12 15.9 -1.6**
YAK				*e*		10 12 25.5
YAK				*e*S	**S**	**10 15 56.8 +0.4**
YAK				*e**SS	**sS**	**10 16 11.9 0.0**
YAK				*e*SS	**SnSn**	**10 16 22.8 +5.2**
YAK				pmax	pmax	
	comp=Z,80nm,1.0s					
YAK				pmax	pmax	
	comp=N,50nm,1.2s					
YAK				pmax	pmax	
	comp=E,26nm,1.3s					
YAK				pmax	pmax	
	comp=Z,92nm,2.0s					
YAK				pmax	pmax	
	comp=N,109nm,2.5s					
YAK				pmax	pmax	
	comp=E,139nm,3.0s					
YAK				smax	smax	
	comp=N,255nm,4.5s					
YAK				smax	smax	
	comp=E,223nm,4.4s					
YAK				MLR	MLR	
	comp=Z,472nm,19.0s					
YAK				MLR	MLR	
	comp=N,207nm,20.0s					
YAK				MLR	MLR	
	comp=E,156nm,21.0s					
SEY	**Seymchan**	**21.18**	**13**	P	**P**	**10 12 11.6 -1.0**
	comp=E,20nm,0.7s,baz=204,slow=11,SNR=26					
	comp=E,20nm,0.7s					
SEY	**Seymchan**	**21.18**	**13**	*i* P	**P**	**10 12 11.1 -1.5**
SEY				pmax	pmax	
	comp=Z,44nm,1.0s					
HNS	**HongShan**	**21.49**	**265**	⇓P	**P**	**10 12 14.3 -1.8**
HNS				S	**S**	**10 16 09.9 -2.3**
HNS				SS	**SnSn**	**10 16 43.8 +6.9**
HNS				pmax	pmax	
	comp=Z,6.0nm,0.7s					
HNS				LR	LR	
	comp=Z,380nm,12.8s					
HNS				LR	LR	
	comp=Z,280nm,12.6s					
HNS				LR	LR	
	comp=Z,380nm,17.7s					
HHC	**Hu-ho-hao-te**	**22.71**	**276**	*e*P	**P**	**10 12 28.9 -0.3**
HHC				S	S	10 16 23.6 -11
HHC				pmax	pmax	
	comp=Z,8.0nm,0.6s					
HHC				pmax	pmax	
	comp=Z,73nm,5.1s					
HHC				LR	LR	
	comp=Z,190nm,10.3s					
HHC				LR	LR	
	comp=Z,230nm,11.8s					
HHC				LR	LR	
	comp=Z,280nm,13.4s					
BTO	**Baotou**	**23.90**	**276**	*e*P	**P**	**10 12 40.3 -0.7**
BTO				pP	**pP**	**10 12 52.1 +0.4**
BTO				sP	**sP**	**10 12 58.0 +1.4**
BTO				PP	**PnPn**	**10 13 14.8 +4.6**
BTO				S	**S**	**10 16 53.8 -0.9**
BTO				SS	**SnSn**	**10 17 41.0 +4.9**
BTO				pmax	pmax	
	comp=Z,20nm,0.5s					
BTO				pmax	pmax	
	comp=Z,280nm,4.5s					
BTO				LR	LR	
	comp=Z,570nm,10.2s					
BTO				LR	LR	
	comp=Z,460nm,6.6s					
BTO				LR	LR	
	comp=Z,620nm,11.8s					
ULN	**Ulaanbaatar**	**24.98**	**294**	P	**P**	**10 12 50.3 -0.6**
ULN	**Ulaanbaatar**	**24.98**	**294**	*e*P	**P**	**10 12 50.2 -0.6**
ULN	**Ulaanbaatar**	**24.98**	**294**	*ce*P	**P**	**10 12 50.2 -0.6**
ULN				pmax	pmax	
	comp=Z,10.0nm,1.7s					
WHN	**Wuhan**	**25.15**	**250**	P	**P**	**10 12 51.0 -1.3**
WHN				LR	LR	
	comp=Z,1μm,14.3s					
WHN				LR	LR	
	comp=Z,880nm,11.5s					
WHN				LR	LR	
	comp=Z,1μm,12.6s					
SONM	**Songino Array**	**25.42**	**294**	P	**P**	**10 12 54.6 -0.2**
SONM	**Songino Array**	**25.42**	**294**	P	**P**	**10 12 54.6 -0.2**
	comp=Z,8.4nm,0.7s,baz=86,slow=8.4,SNR=36					
SONM				PcP	**PcP**	**10 16 26.5 +0.5**
	comp=Z,0.8nm,0.6s,baz=64,slow=3.4,SNR=2.6					
SONM				LR	LR	10 23 43.9
	comp=Z,398nm,18.4s,baz=84,slow=38					
	comp=Z,8.4nm,0.7s					
SONM	**Songino Array**	**25.42**	**294**	P	**P**	**10 12 54.6 -0.2**
SONM				pmax	pmax	
	comp=Z,7.0nm,0.8s					
YULB	**Yu-li**	**25.78**	**228**	P	**P**	**10 12 57.4 -0.7**
YULB				IAmb	IAmb	10 13 10.1
	comp=Z,45nm,1.4s					
XAN	**Xi'an**	**27.18**	**263**	⇓P	P	10 13 22.9 +12
XAN				pP	sP	10 13 31.8 +5.5
XAN				pmax	pmax	
	comp=Z,14nm,0.9s					
MOY	**Mondy**	**28.94**	**302**	*e*P	**P**	**10 13 26.3 0.0**
MOY				pmax	pmax	
	comp=Z,18nm,1.3s					
GUMO	**Guam**	**29.09**	**174**	LR	LR	10 23 53.2
	comp=Z,178nm,21.6s,baz=24,slow=34					
LZH	**Lanzhou**	**30.02**	**270**	*e*P	**P**	**10 13 32.3 -3.7**
LZH				pP	pP	10 13 41.3 -5.6
LZH				sP	sP	10 13 45.8 -5.9
LZH				PcP	**PcP**	**10 16 31.5 -5.9**
LZH				S	**S**	**10 18 36.8 +5.3**
LZH				pmax	pmax	
	comp=Z,14nm,0.9s					
LZH				LR	LR	
	comp=Z,220nm,13.7s					
LZH				LR	LR	
	comp=Z,250nm,16.8s					
LZH				LR	LR	
	comp=Z,270nm,16.5s					
GTA	**Gaotai**	**31.73**	**279**	*e*P	**P**	**10 13 52.0 +0.9**
GTA				pP	pP	10 14 01.8 -0.2
GTA				pmax	pmax	
	comp=Z,5.0nm,0.9s					
GTA				LR	LR	
	comp=Z,220nm,14.2s					
GTA				LR	LR	
	comp=Z,210nm,14.9s					
GTA				LR	LR	
	comp=Z,330nm,14.5s					
CD2	**Chengdu**	**32.52**	**262**	P	**P**	**10 13 57.0 -1.0**
QIZ	**Qiongzhong**	**35.94**	**239**	P	**P**	**10 14 27.5 -0.2**
QIZ				S	**S**	**10 20 06.6 +3.2**
QIZ				LR	LR	
	comp=Z,340nm,14.6s					
QIZ				LR	LR	
	comp=Z,280nm,11.4s					
QIZ				LR	LR	
	comp=Z,320nm,13.8s					
PZH	**PanZhiHua**	**36.47**	**257**	P	**P**	**10 14 33.0 +0.8**
PZH				pmax	pmax	
	comp=Z,10.0nm,0.5s					
PZH				pmax	pmax	
	comp=Z,60nm,4.9s					
F15K	**North Star Dit**	**37.16**	**33**	P	**P**	**10 14 35.3 -2.2**
	baz=258					
C16K	**Lisburne Hills**	**37.50**	**29**	P	**P**	**10 14 39.9 -0.5**
H16K	**Elim**	**37.98**	**35**	P	**P**	**10 14 42.8 -1.7**
	baz=262					
G16K	**Koyuk River**	**38.04**	**34**	P	**P**	**10 14 44.2 -0.8**
	baz=261					
K15K	**Wolf Creek Mou**	**38.05**	**39**	P	**P**	**10 14 44.2 -1.0**
	baz=266					
D17K	**Noatak River**	**38.19**	**30**	P	**P**	**10 14 44.9 -1.3**
	baz=258					
C17K	**DeLong Mountai**	**38.33**	**29**	P	**P**	**10 14 46.4 -1.0**
	baz=256					
NRIK	**Noril'sk**	**38.40**	**332**	P	**P**	**10 14 47.4 -0.6**
NRIK	**Noril'sk**	**38.40**	**332**	P	**P**	**10 14 46.3 -1.6**
	comp=Z,2.3nm,0.5s,baz=117,slow=4.5,SNR=4.9					
NRIK				LR	LR	10 31 45.3
	comp=Z,264nm,19.3s,baz=104,slow=38					
	comp=Z,2.3nm,0.5s					
NRIK	**Noril'sk**	**38.40**	**332**	P	**P**	**10 14 47.4 -0.6**
NRIK				pmax	pmax	
	comp=Z,3.0nm,0.7s					
E17K	**Hotham Inlet**	**38.54**	**31**	P	**P**	**10 14 48.5 -0.7**
	baz=260					
ZAA0	**Zalesovo Array**	**38.63**	**307**	P	**P**	**10 14 49.7 -0.4**
ZAA0				IAmb	IAmb	10 15 00.6
	comp=Z,19nm,1.1s					
ZALV	**Zalesovo Beam**	**38.63**	**307**	P	**P**	**10 14 50.1 +0.1**
ZALV	**Zalesovo Beam**	**38.63**	**307**	P	**P**	**10 14 49.4 -0.7**
	comp=Z,2.9nm,0.5s,baz=89,slow=8.0,SNR=11					
ZALV				PcP	**PcP**	**10 17 01.8 +0.2**
	comp=Z,3.2nm,0.6s,baz=93,slow=3.4,SNR=5.6					
ZALV				ScP	**ScP**	**10 20 47.8 +1.3**
	comp=Z,2.3nm,0.8s,baz=93,slow=3.0,SNR=5.8					
ZALV				LR	LR	10 31 50.4
	comp=Z,156nm,18.1s,baz=84,slow=38					
	comp=Z,2.9nm,0.5s					
ZALV	**Zalesovo Beam**	**38.63**	**307**	*i* P	**P**	**10 14 50.2 +0.1**
ZALV				pmax	pmax	
	comp=Z,3.0nm,0.6s					
N15K	**Kwethluk River**	**38.67**	**43**	P	**P**	**10 14 49.7 -0.7**
	baz=270					
G17K	**Kiwalik Mounta**	**38.76**	**34**	P	**P**	**10 14 50.8 -0.2**
	baz=263					
WMQ	**Urumqi**	**38.96**	**291**	*e*P	**P**	**10 14 54.8 +1.7**
WMQ				pP	pP	10 15 04.8 +0.7
WMQ				S	**S**	**10 20 50.5 +1.6**
WMQ				ScS	**ScS**	**10 24 54.5 -4.6**
WMQ				pmax	pmax	
	comp=Z,24nm,0.7s					
WMQ				pmax	pmax	
	comp=Z,97nm,3.9s					
WMQ				LR	LR	
	comp=Z,630nm,13.3s					
WMQ				LR	LR	
	comp=Z,560nm,12.1s					
WMQ				LR	LR	
	comp=Z,300nm,19.9s					
L16K	**Owhat River**	**38.99**	**40**	P	**P**	**10 14 53.3 +0.2**
L16K				IAmb	IAmb	10 15 08.1
	comp=Z,12nm,0.8s					
L16K	**Owhat River**	**38.99**	**40**	P	**P**	**10 14 52.0 -1.0**
	baz=268					
H17K	**Granite Mounta**	**39.01**	**35**	P	**P**	**10 14 52.5 -0.6**
	baz=264					
B18K	**Kokolik River**	**39.02**	**28**	P	**P**	**10 14 52.4 -0.8**
	baz=257					
E18K	**Tukpahlearik C**	**39.07**	**31**	P	**P**	**10 14 53.1 -0.5**
	baz=260					
C18K	**Utukok River**	**39.08**	**29**	P	**P**	**10 14 53.0 -0.7**
	baz=258					
M16K	**Timber Creek**	**39.23**	**41**	P	**P**	**10 14 54.0 -1.0**
	baz=270					
J17K	**VABM Dome**	**39.25**	**38**	P	**P**	**10 14 54.4 -0.7**
J17K				IAmb	IAmb	10 15 14.9
	comp=Z,23nm,1.1s					
CHNA	**Chernabura Isl**	**39.26**	**51**	P	**P**	**10 14 54.1 -1.2**
	baz=277					
CNBA	**Chernabura Isl**	**39.26**	**51**	P	**P**	**10 14 54.9 -0.4**
F18K	**Selawik**	**39.31**	**32**	P	**P**	**10 14 54.7 -0.9**
	baz=262					
L17K	**Donlin**	**39.56**	**40**	P	**P**	**10 14 57.0 -0.8**
	baz=269					
K17K	**Iditarod**	**39.57**	**39**	P	**P**	**10 14 57.4 -0.4**
	baz=268					
G18K	**Tagagawik**	**39.63**	**34**	P	**P**	**10 14 58.2 -0.1**
G18K				IAmb	IAmb	10 15 00.7
	comp=Z,31nm,1.5s					
G18K	**Tagagawik**	**39.63**	**34**	P	**P**	**10 14 56.9 -1.4**
	baz=264					
H18K	**Honhosa River**	**39.68**	**35**	P	**P**	**10 14 57.9 -0.9**
	baz=265					
C19K	**Lookout Ridge**	**39.74**	**29**	P	**P**	**10 14 57.7 -1.5**
	baz=259					
ZSN	**Zaisan**	**39.84**	**297**	*e*P	**P**	**10 14 60.0 -0.4**
	comp=Z,4.5nm,0.7s					
ZSN	**Zaisan**	**39.84**	**297**	*e*P	**P**	**10 14 59.9 -0.4**
ZSN				pmax	pmax	
	comp=Z,4.0nm,0.7s					
M17K	**Holitna River**	**39.97**	**41**	P	**P**	**10 15 02.3 +1.1**
M17K				IAmb	IAmb	10 15 18.5
	comp=Z,28nm,1.1s					
M17K	**Holitna River**	**39.97**	**41**	P	**P**	**10 15 00.5 -0.7**
	baz=271					
F19K	**Shaleruckik Mo**	**40.08**	**32**	P	**P**	**10 15 01.6 -0.4**
F19K	**Shaleruckik Mo**	**40.08**	**32**	P	**P**	**10 15 00.6 -1.4**
	baz=264					
R16K	**Pilot Point**	**40.09**	**47**	P	**P**	**10 15 01.0 -1.1**
	baz=275					
N17K	**Nushagak Hills**	**40.11**	**42**	P	**P**	**10 15 01.4 -0.9**
	baz=272					
D19K	**Kuna River**	**40.16**	**30**	IAmb	IAmb	10 15 20.4
	comp=Z,17nm,1.1s					
D19K	**Kuna River**	**40.16**	**30**	P	**P**	**10 15 01.7 -1.0**
	baz=262					
O17K	**Koliganek Bris**	**40.19**	**43**	P	**P**	**10 15 01.3 -1.7**
	baz=273					
GCSA	**Galena City Sc**	**40.28**	**36**	P	**P**	**10 15 02.9 -0.8**
	baz=267					
G19K	**Purcell Mounta**	**40.29**	**33**	P	**P**	**10 15 03.0 -0.8**
	baz=265					
L18K	**Granite Mounta**	**40.32**	**39**	IAmb	IAmb	10 15 19.8
	comp=Z,11nm,0.8s					
L18K	**Granite Mounta**	**40.32**	**39**	P	**P**	**10 15 03.2 -0.8**
	baz=270					

E19K	Redstone River	40.36	31	IAmb	IAmb	10 15 25.7	
	comp=Z,14nm,1.0s						
E19K	Redstone River	40.36	31	P	P	10 15 03.4	-1.0
	baz=264						
Q16K	King Salmon	40.48	45	P	P	10 15 03.9	-1.5
	baz=275						
H19K	Roundabout Mou	40.51	34	IAmb	IAmb	10 15 20.2	
	comp=Z,37nm,1.4s						
H19K	Roundabout Mou	40.51	34	P	P	10 15 04.4	-1.2
	baz=267						
P17K	Kvichak River	40.56	44	P	P	10 15 05.0	-1.0
	baz=274						
TTA	Tatalina	40.63	38	P	P	10 15 07.2	+0.5
TTA	Tatalina	40.63	38	P	P	10 15 06.6	-0.1
	baz=270						
TTA	Tatalina	40.63	38	P	P	10 15 07.2	+0.5
TTA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
B20K	Meade River	40.73	27	IAmb	IAmb	10 15 23.7	
	comp=Z,27nm,1.2s						
B20K	Meade River	40.73	27	P	P	10 15 06.2	-1.1
	baz=261						
D20K	Etivluk River	40.74	29	P	P	10 15 06.6	-0.9
	baz=263						
M18K	Stony River	40.74	41	P	P	10 15 06.9	-0.6
	baz=272						
N18K	Kilae Creek	40.74	42	P	P	10 15 06.7	-0.9
	baz=273						
J19K	Poorman	40.81	37	P	P	10 15 07.2	-0.9
	baz=269						
E20K	Nigu River	40.84	30	P	P	10 15 08.2	-0.2
	baz=264						
F20K	Avaraart Lake	40.90	32	P	P	10 15 08.5	-0.3
	baz=266						
H20K	Anotleneega Mo	41.16	34	P	P	10 15 11.0	0.0
	baz=268						
I20K	Naaghedeneel	41.31	35	P	P	10 15 11.8	-0.4
	baz=269						
CHIR	Chirikof Islan	41.37	49	P	P	10 15 13.1	+0.3
CHIR	Chirikof Islan	41.37	49	P	P	10 15 12.8	0.0
M19K	Big River Lodg	41.41	40	P	P	10 15 12.0	-1.0
	baz=273						
N19K	Bonanza Creek	41.42	42	P	P	10 15 13.0	-0.3
	baz=274						
C21K	Knifeblade Rid	41.45	29	P	P	10 15 12.7	-0.5
	baz=264						
J20K	Nowinta River	41.46	36	IAmb	IAmb	10 15 27.8	
	comp=Z,14nm,1.0s						
J20K	Nowinta River	41.46	36	P	P	10 15 13.2	-0.2
	baz=270						
K20K	Telida	41.50	38	P	P	10 15 13.0	-0.9
	baz=271						
O19K	Port Alsworth	41.55	42	P	P	10 15 13.2	-1.0
	baz=275						
B21K	Ikpikpuk River	41.56	28	IAmb	IAmb	10 15 30.8	
	comp=Z,33nm,1.4s						
B21K	Ikpikpuk River	41.56	28	P	P	10 15 13.9	-0.3
	baz=264						
A22K	Sinclair Lake	41.61	26	P	P	10 15 13.7	-0.8
	baz=262						
IMAR	Indian Mountai	41.64	34	P	P	10 15 15.0	+0.1
E21K	Killik River	41.68	30	P	P	10 15 14.7	-0.5
	baz=266						
MK31	Makanchi Array	41.72	297	P	P	10 15 15.5	-0.3
MK31	Makanchi Array	41.72	297	P	P	10 15 15.5	-0.3
MK31				pmax	pmax		
	comp=Z,11nm,0.9s						
MKAR	Makanchi Array	41.72	297	P	P	10 15 15.8	0.0
MKAR	Makanchi Array	41.72	297	P	P	10 15 15.3	-0.5
	comp=Z,10nm,0.8s,baz=82,slow=9.2,SNR=48						
MKAR				LR	LR	10 33 07.2	
	comp=Z,150nm,19.9s,baz=98,slow=37						
	comp=Z,10nm,0.8s						
MKAR	Makanchi Array	41.72	297	eP	P	10 15 15.6	-0.2
MKAR	Makanchi Array	41.72	297	i P	P	10 15 15.6	-0.2
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
G21K	Allakaket	41.75	33	IAmb	IAmb	10 15 29.8	
	comp=Z,12nm,0.9s						
G21K	Allakaket	41.75	33	P	P	10 15 15.3	-0.5
	baz=268						
MAKZ	Makanchi	41.92	297	P	P	10 15 17.6	+0.2
MAKZ				IAmb	IAmb	10 15 18.2	
	comp=Z,13nm,0.8s						
MAKZ	Makanchi	41.92	297	P	P	10 15 17.6	+0.2
MAKZ				pmax	pmax		
	comp=Z,13nm,0.8s						
MAKZ	Makanchi	41.92	297	P	P	10 15 17.1	-0.3
M20K	Styx River	42.00	40	P	P	10 15 17.4	-0.6
	baz=274						
H21K	Melozitna Rive	42.03	34	P	P	10 15 17.3	-0.7
	baz=270						
B22K	Teshekpuk Lake	42.04	27	P	P	10 15 18.0	-0.1
	baz=264						
SEM	Semipalatinsk	42.05	303	eP	P	10 15 18.3	-0.5
SEM	Semipalatinsk	42.05	303	eP	P	10 15 18.2	-0.5
SII	Sitkinak Islan	42.05	48	P	P	10 15 17.3	-1.1
	baz=279						
P19K	Oil Pt	42.15	43	P	P	10 15 18.6	-0.6
	baz=276						
D22K	Ayikyak River	42.18	29	P	P	10 15 18.9	-0.3
	baz=266						
CHUM	Lake Minchumin	42.27	37	P	P	10 15 19.3	-0.7
	baz=272						
F22K	John River	42.30	31	P	P	10 15 19.4	-0.9
	baz=268						
I21K	Tanana	42.38	35	P	P	10 15 20.7	-0.2
	baz=271						
PPLA	Purkeypile	42.38	38	P	P	10 15 20.3	-0.8
	baz=274						
CAST	Castle Rocks	42.39	38	P	P	10 15 22.1	+1.0
CAST	Castle Rocks	42.39	38	P	P	10 15 20.8	-0.3
	baz=273						
O20K	Slope Mountain	42.41	43	P	P	10 15 20.9	-0.4
	baz=276						
OHAK	Old Harbor	42.44	47	P	P	10 15 21.5	0.0
OHAK	Old Harbor	42.44	47	P	P	10 15 20.2	-1.2
	baz=279						
OHAK	Old Harbor	42.44	47	P	P	10 15 21.8	+0.4
E22K	Anaktuvuk Pass	42.46	31	P	P	10 15 21.2	-0.4
E22K				IAmb	IAmb	10 15 38.4	
	comp=Z,11nm,0.8s						
E22K	Anaktuvuk Pass	42.46	31	P	P	10 15 20.8	-0.9
	baz=268,SNR=16						
N20K	Mount Spurr	42.50	41	P	P	10 15 21.2	-0.9
	baz=275						
SPCR	Spurr Chakacha	42.50	41	P	P	10 15 20.8	-1.2
	baz=275						
G22K	Bettles	42.56	32	P	P	10 15 21.4	-0.9
	baz=270						
H22K	Ishtalitna Cre	42.61	34	P	P	10 15 22.2	-0.6
	baz=271						
PHRA	Phrae	42.69	249	P	P	10 15 24.2	+0.3
Q20K	Shuyak Island	42.71	45	P	P	10 15 22.5	-1.1
	baz=278						
KDAK	Kodiak Island	42.73	46	LR	LR	10 34 44.9	
	comp=Z,156nm,19.8s,baz=95,slow=38						
KDAK	Kodiak Island	42.73	46	P	P	10 15 22.9	-0.9
	baz=279						
MLY	Manley	42.91	35	P	P	10 15 24.5	-0.7
	baz=272						
D23K	Nanushuk River	42.91	29	P	P	10 15 25.8	+0.6
D23K				IAmb	IAmb	10 15 42.7	
	comp=Z,27nm,1.4s						
D23K	Nanushuk River	42.91	29	P	P	10 15 24.6	-0.6
	baz=268						
KTH	Kantishna Hill	42.91	37	P	P	10 15 26.1	+0.8
KTH				IAmb	IAmb	10 15 40.7	
	comp=Z,32nm,1.1s						
C23K	Itkillik River	42.96	28	P	P	10 15 24.9	-0.6
	baz=267						
KURK	Kurchatov	42.98	304	P	P	10 15 25.8	-0.2
KURK				IAmb	IAmb	10 15 27.8	
	comp=Z,21nm,0.8s						
KURK	Kurchatov	42.98	304	eP	P	10 15 25.7	-0.2
KURK	Kurchatov	42.98	304	ceP	P	10 15 25.7	-0.2
KURK				pmax	pmax		
	comp=Z,29nm,1.0s						
KURK	Kurchatov	42.98	304	P	P	10 15 25.6	-0.3
KURK				pP	pP	10 15 35.2	-1.9
KURBB	Kurchatov Arra	43.06	303	P	P	10 15 26.0	-0.6
	comp=Z,18nm,0.7s,baz=75,slow=8.7,SNR=63						
KURBB				PcP	PcP	10 17 15.5	-0.5
	comp=Z,1.4nm,0.7s,baz=78,slow=3.2,SNR=2.9						
KURBB				ScP	ScP	10 21 04.8	+0.9
	comp=Z,0.8nm,0.8s,baz=79,slow=4.2,SNR=3.1						
	comp=Z,18nm,0.7s						
KURBB	Kurchatov Arra	43.06	303	P	P	10 15 25.6	-1.0
G23K	Bananza Creek	43.15	33	P	P	10 15 25.7	-1.5
	baz=271						
SUA	Susitna One	43.17	40	P	P	10 15 25.9	-1.6
	baz=276						
TRF	Thorofare Moun	43.20	37	P	P	10 15 26.1	-1.7
	baz=274						
E23K	Chandalar	43.28	31	P	P	10 15 27.3	-1.0
	baz=270						
TOLK	Toolik Lake Re	43.30	30	P	P	10 15 28.2	-0.2
TOLK	Toolik Lake Re	43.30	30	P	P	10 15 26.8	-1.6
	baz=270						
CHTO	Chiang Mai	43.36	250	P	P	10 15 29.2	-0.2
CHTO	Chiang Mai	43.36	250	P	P	10 15 29.2	-0.2
CHTO				pmax	pmax		
	comp=Z,11nm,1.3s						
H23K	Yukon River	43.37	34	IAmb	IAmb	10 15 46.6	
	comp=Z,21nm,1.3s						
H23K	Yukon River	43.37	34	P	P	10 15 28.0	-1.0
	baz=273						
I23K	Minto, Yukon-K	43.48	35	P	P	10 15 28.7	-1.1
	baz=274						
BWN	Browne	43.51	36	P	P	10 15 31.1	+1.1
D24K	Happy Valley	43.58	29	IAmb	IAmb	10 15 31.5	
	comp=Z,13nm,0.6s						
D24K	Happy Valley	43.58	29	P	P	10 15 30.1	-0.5
	baz=270						
CMAR	Chiang Mai Arr	43.60	250	P	P	10 15 31.3	0.0
CMAR	Chiang Mai Arr	43.60	250	P	P	10 15 31.7	+0.3
	comp=Z,1.2nm,0.3s,baz=37,slow=7.6,SNR=16						
CMAR				PcP	PcP	10 17 18.8	+0.5
	comp=Z,1.5nm,0.6s,baz=357,slow=1.6,SNR=6.4						
CMAR				LR	LR	10 35 01.1	
	comp=Z,222nm,18.5s,baz=45,slow=38						
	comp=Z,1.2nm,0.3s						
C24K	Franklin Bluff	43.62	28	IAmb	IAmb	10 15 48.0	
	comp=Z,27nm,1.1s						
C24K	Franklin Bluff	43.62	28	P	P	10 15 30.2	-0.7
	baz=269						
NEA2	Nenana	43.64	36	P	P	10 15 31.4	+0.2
NEA2	Nenana	43.64	36	P	P	10 15 30.2	-1.0
	baz=274						
E24K	Your Creek	43.71	31	P	P	10 15 30.3	-1.4
	baz=271						
MCK	McKinley	43.78	37	P	P	10 15 31.2	-1.0
	baz=275						
O22K	Cooper Landing	43.79	42	P	P	10 15 31.4	-0.9
	baz=278						
RND	Reindeer	43.84	37	IAmb	IAmb	10 15 50.4	
	comp=Z,14nm,0.9s						
PMR	Palmer	43.93	40	P	P	10 15 32.5	-0.9
	baz=277						
F24K	Squaw Lake	43.95	31	P	P	10 15 32.8	-0.8
	baz=272						
GHO	Glory Hole Cre	44.00	40	IAmb	IAmb	10 15 49.0	
	comp=Z,18nm,0.7s						
WAT1	Susitna Watana	44.04	38	P	P	10 15 33.8	-0.6
	baz=277						
H24K	Noodor Dome	44.05	34	IAmb	IAmb	10 15 35.9	
	comp=Z,18nm,1.4s						
H24K	Noodor Dome	44.05	34	P	P	10 15 33.8	-0.7
	baz=274						
WRH	Wood River Hil	44.08	36	IAmb	IAmb	10 15 49.3	
	comp=Z,13nm,1.1s						
COLA	College	44.14	35	P	P	10 15 35.0	0.0
COLA				IAmb	IAmb	10 15 49.4	
	comp=Z,16nm,0.8s						
COLA	College	44.14	35	P	P	10 15 34.3	-0.8
	baz=275						
COLA	College	44.14	35	P	P	10 15 35.8	+0.7
COLA	College	44.14	35	i P	P	10 15 34.8	-0.3
COLA				pmax	pmax		
	comp=Z,16nm,0.9s						
COLA	College	44.14	35	P	P	10 15 35.5	+0.4
COLA				pP	pP	10 15 45.1	-1.3
COLA				sP	sP	10 15 49.0	-2.2
SHL	Shillong	44.18	264	P	P	10 15 35.9	-0.2
SHL				IAmb	IAmb	10 15 48.8	
	comp=Z,10.0nm,0.5s						
SHL	Shillong	44.18	264	P	P	10 15 35.9	-0.2
SHL				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CCB	Clear Creek Bu	44.18	36	P	P	10 15 35.6	+0.1
KNK	Knik Glacier	44.27	40	P	P	10 15 35.3	-1.0
	baz=278						
SML	Sawmill	44.27	40	P	P	10 15 35.5	-0.8
	baz=278						
POKR	Poker Plat Res	44.30	35	P	P	10 15 35.6	-0.8
	baz=275						
PWL	Port Wells	44.41	41	P	P	10 15 36.8	-0.6
	baz=279						
WAT6	Susitna Watana	44.45	38	P	P	10 15 37.0	-0.8
	baz=278						
D25K	Kavik River	44.45	29	IAmb	IAmb	10 15 48.3	
	comp=Z,5.2nm,0.5s						
D25K	Kavik River	44.45	29	P	P	10 15 36.0	-1.6
	baz=272,SNR=9.1						
DHY	Denali Highway	44.55	38	IAmb	IAmb	10 15 53.1	
	comp=Z,26nm,1.1s						
DHY	Denali Highway	44.55	38	P	P	10 15 37.4	-1.2
	baz=277						
M23K	Glacier View	44.56	40	P	P	10 15 38.2	-0.3
	baz=278						
IL31		44.56	35	IAmb	IAmb	10 15 49.8	
	comp=Z,7.7nm,0.7s						
ILAR	Eielson Array	44.56	35	P	P	10 15 38.4	-0.1
ILAR	Eielson Array	44.56	35	P	P	10 15 38.1	-0.4
	comp=Z,3.0nm,0.9s,baz=260,slow=4.7,SNR=36						
ILAR				LR	LR	10 35 52.1	
	comp=Z,161nm,19.0s,baz=256,slow=38						
	comp=Z,3.0nm,0.9s						
HDA	Harding Lake	44.58	36	P	P	10 15 38.0	-0.6
	baz=276						
SCM	Sheep Creek Mo	44.74	40	P	P	10 15 39.6	-0.4
	baz=279						
F25K	Christian Rive	44.81	31	P	P	10 15 40.2	-0.3
	baz=274						
SHLS	Shalkode	44.82	293	eP	P	10 15 38.4	-2.7
SHLS	Shalkode	44.82	293	eP	P	10 15 38.3	-2.7
H25L	Birch Creek	44.85	33	P	P	10 15 40.0	-0.7
	baz=276						
TDK	Taldyqorghan	44.86	296	eP	P	10 15 41.2	0.0
	comp=Z,8.2nm,0.6s						
TDK	Taldyqorghan	44.86	296	eP	P	10 15 41.1	0.0
TDK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
C26K	Camden Bay	44.94	28	P	P	10 15 40.8	-0.6
	baz=273						
GLI	Glacier Island	45.01	41	P	P	10 15 40.1	-2.0
	baz=280						
P23K	Montague Islan	45.01	42	P	P	10 15 40.6	-1.5
	baz=280						
PRP	Porcupine Dome	45.05	34	IAmb	IAmb	10 15 57.5	
	comp=Z,7.9nm,0.8s						
PRP	Porcupine Dome	45.05	34	P	P	10 15 41.5	-1.1
	baz=276						
UZB	Uzynbulak	45.12	293	eP	P	10 15 43.0	-0.5
UZB	Uzynbulak	45.12	293	eP	P	10 15 42.9	-0.5
K24K	Donnelly Dome	45.16	37	P	P	10 15 42.7	-0.6
	baz=278						
J25K	Salcha River,	45.23	35	P	P	10 15 42.5	-1.3
	baz=278						
KPKS	Kokpek	45.23	294	eP	P	10 15 44.1	-0.1
KPKS	Kokpek	45.23	294	eP	P	10 15 44.1	-0.1
BMAR	Burnt Mountain	45.23	31	P	P	10 15 44.0	+0.2
M24K	Tolsona, Glenn	45.24	39	P	P	10 15 42.7	-1.2
	baz=279						
C27K	Jago River	45.37	28	IAmb	IAmb	10 16 01.9	
	comp=Z,18nm,1.2s						
C27K	Jago River	45.37	28	P	P	10 15 44.6	-0.3
	baz=274						
F26K	Sheenjek River	45.37	31	P	P	10 15 44.8	-0.1
	baz=276						
PAX	Paxson	45.42	38	P	P	10 15 45.1	-0.4
	baz=279						
KLU	Klutina	45.46	40	IAmb	IAmb	10 16 00.9	
	comp=Z,11nm,0.7s						
KLU	Klutina	45.46	40	P	P	10 15 45.1	-0.7
	baz=280						
ARXS	Arharly	45.53	295	eP	P	10 15 45.6	-1.0
SATY	Saty	45.57	293	eP	P	10 15 46.9	-0.1
SATY	Saty	45.57	293	eP	P	10 15 46.8	-0.1
RIDG	Independent Ri	45.58	37	IAmb	IAmb	10 16 00.9	
	comp=Z,17nm,1.1s						
RIDG	Independent Ri	45.58	37	P	P	10 15 45.2	-1.5
	baz=279						
G26K	Porcupine Rive	45.59	32	P	P	10 15 46.1	-0.5
	baz=277						
HARP	HAARP	45.66	38	P	P	10 15 46.7	-0.5
	baz=280						
EYAK	Cordova Ski Ar	45.72	41	P	P	10 15 47.0	-0.7
	baz=281						
EYAK	Cordova Ski Ar	45.72	41	P	P	10 15 49.2	+1.5
WUS	Wushi	45.74	290	P	P	10 15 48.4	0.0
WUS				pP	pP	10 15 57.9	-1.7
SCRK	Sand Creek	45.92	36	IAmb	IAmb	10 15 59.0	
	comp=Z,9.4nm,0.6s						
SCRK	Sand Creek	45.92	36	P	P	10 15 48.5	-0.9
	baz=279						
J26L	Joseph Creek	46.02	35	P	P	10 15 49.1	-1.1
	baz=279						
N25K	Chitina, Valde	46.06	40	P	P	10 15 49.1	-1.4
	baz=281						
BMRM	Bremner River	46.19	40	P	P	10 15 50.3	-1.2
	baz=282						
MENT	Mentasta	46.22	38	IAmb	IAmb	10 16 12.0	
	comp=Z,7.9nm,0.8s						
FAKI	Fak Fak	46.24	194	P	P	10 15 52.9	+0.6
FAKI	Fak Fak	46.24	194	P	P	10 15 53.0	+0.8
E27K	Coleen River	46.27	30	P	P	10 15 51.1	-0.9
	baz=277						
L26K	Log Cabin Wild	46.37	37	IAmb	IAmb	10 16 12.2	
	comp=Z,12nm,1.0s						
L26K	Log Cabin Wild	46.37	37	P	P	10 15 52.6	-0.2
	baz=281						
D27M	Malcolm River	46.37	29	P	P	10 15 52.6	-0.2
D27M	Malcolm River	46.37	29	P	P	10 15 52.7	-0.2
	baz=277						
G27K	Doyon Strip	46.44	32	P	P	10 15 52.5	-0.9
	baz=279						
MDOK	Medeo	46.45	294	eP	P	10 15 53.7	-0.3
MDOK	Medeo	46.45	294	eP	P	10 15 53.6	-0.3
KAIM	Kayak Island	46.50	42	P	P	10 15 52.3	-1.5
	baz=283						
TARG	Taragay, Kyrgy	46.50	292	IAmb	IAmb	10 15 56.9	
	comp=Z,7.5nm,0.8s						
AAA	Alma-Ata	46.52	294	eP	P	10 15 54.0	-0.4
AAA	Alma-Ata	46.52	294	eP	P	10 15 53.9	-0.4
TNSS	Tian-Shan	46.57	294	eP	P	10 15 54.5	-0.6
TNSS	Tian-Shan	46.57	294	eP	P	10 15 54.5	-0.6
M26K	Nabesna, AK	46.65	38	P	P	10 15 53.9	-1.2
	baz=282						
I27K	Kandik River	46.65	34	P	P	10 15 54.4	-0.7
	baz=280						
K27K	Chicken	46.74	36	P	P	10 15 56.0	+0.3
	baz=281						
KDJ	Kajisay	46.77	293	IAmb	IAmb	10 15 57.5	
	comp=Z,8.9nm,0.7s						
MCARA	McCarthy VSAT	46.85	40	P	P	10 15 56.3	-0.3
	baz=282						
CRQM	Cirque	46.93	40	P	P	10 15 58.2	+0.8
CRQE	Cirque	46.95	40	P	P	10 15 57.6	0.0
	baz=283						
E28M	Babbage River	46.97	29	P	P	10 15 57.4	0.0
	baz=279						
EGAK	Eagle	46.99	35	IAmb	IAmb	10 16 11.5	
	comp=Z,19nm,1.2s						
EGAK	Eagle	46.99	35	P	P	10 15 57.8	+0.2
	baz=281						
F28M	Old Crow	47.00	31	P	P	10 15 57.9	+0.2
	baz=279						
L27K	Beaver Creek,	47.04	37	IAmb	IAmb	10 16 13.4	
	comp=Z,16nm,0.9s						
L27K	Beaver Creek,	47.04	37	P	P	10 15 57.0	-1.1
	baz=282						
BCAR	Beaver Creek A	47.06	37	P	P	10 15 59.6	+1.3
D28M	Stokes Point	47.15	28	P	P	10 15 57.4	-1.3
	baz=279						
M27K	Edge Creek, AK	47.17	38	IAmb	IAmb	10 16 15.0	
	comp=Z,14nm,0.9s						
M27K	Edge Creek, AK	47.17	38	P	P	10 15 59.0	-0.2
	baz=282						
BVA0	Borovoye Array	47.24	309	i P	P	10 15 59.4	-0.3
BVAR	Borovoye Array	47.24	309	P	P	10 15 59.5	-0.2
	comp=Z,6.6nm,0.6s,baz=69,slow=7.7,SNR=27						
BVAR				PcP	PcP	10 17 30.5	+0.1
	comp=Z,2.7nm,0.6s,baz=54,slow=2.5,SNR=3.6						
BVAR				LR	LR	10 37 00.2	
	comp=Z,135nm,19.4s,baz=83,slow=38						
	comp=Z,6.6nm,0.6s						
BRVK	Borovoye	47.29	309	P	P	10 15 59.4	-0.7
BRVK				IAmb	IAmb	10 16 11.7	
	comp=Z,12nm,1.1s						
BRVK	Borovoye	47.29	309	eP	P	10 16 00.4	+0.3
BRVK	Borovoye	47.29	309	ceP	P	10 16 00.4	+0.3
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ISLE	Juniper Island	47.35	41	P	P	10 16 01.4	+0.8
ISLE				IAmb	IAmb	10 16 18.2	
	comp=Z,12nm,0.9s						
I28M	Miner Creek	47.37	34	P	P	10 16 00.1	-0.6
	baz=281						
BOOM	Boomskoye usch	47.46	293	P	P	10 16 02.4	+0.5
BOOM	Boomskoye usch	47.46	293	P	P	10 16 02.4	+0.5
BOOM				pmax	pmax		
	comp=Z,18nm,0.7s						
TKM2	Tokmak 2	47.52	294	P	P	10 16 02.8	+0.5
	SNR=38						
E29M	Blow River	47.60	30	IAmb	IAmb	10 16 20.0	
	comp=Z,9.3nm,1.1s						
E29M	Blow River	47.60	30	P	P	10 16 01.2	-1.1
	baz=280						
BVCY	Beaver Creek	47.62	38	P	P	10 16 02.0	-0.6
	baz=283						
BTLS	Baital	47.72	297	eP	P	10 16 03.1	-0.5
BTLS	Baital	47.72	297	eP	P	10 16 03.1	-0.5
CTG	Chitna Glacier	47.74	40	P	P	10 16 03.2	-0.5
	baz=284						
CTGM	Chitina Glacie	47.74	40	IAmb	IAmb	10 16 19.0	
	comp=Z,14nm,1.0s						
G29M	Pine Creek	47.84	32	P	P	10 16 04.3	0.0
	baz=282						
H29M	Whitestone	47.84	33	IAmb	IAmb	10 16 29.7	
	comp=Z,18nm,1.4s						
H29M	Whitestone	47.84	33	P	P	10 16 03.9	-0.4
	baz=282						
DAWY	Dawson	47.89	36	P	P	10 16 03.4	-1.2
	baz=283						
YUK3	Moose Creek	47.95	39	P	P	10 16 04.1	-1.3
	baz=284						
SGDS	Sogindy	47.96	295	eP	P	10 16 05.4	-0.1
SGDS	Sogindy	47.96	295	eP	P	10 16 05.4	-0.1
KBK	Karagaybulak	48.07	294	P	P	10 16 07.3	+0.8
	SNR=5.4						
USP	Ospenovka	48.12	295	P	P	10 16 07.0	+0.2
	SNR=6.1						
O28M	Mount Upton	48.33	40	P	P	10 16 07.4	-1.0
	baz=285						
AAK	Ala-Archa	48.38	294	P	P	10 16 09.1	+0.2
AAK				IAmb	IAmb	10 16 19.0	
	comp=Z,5.3nm,0.8s						
AAK	Ala-Archa	48.38	294	LR	LR	10 38 31.9	
	comp=Z,282nm,18.7s,baz=70,slow=38						
AAK	Ala-Archa	48.38	294	eP	P	10 16 08.9	0.0
AAK	Ala-Archa	48.38	294	ceP	P	10 16 08.9	0.0
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	Ala-Archa	48.38	294	P	P	10 16 08.5	-0.4
AAK				pP	pP	10 16 18.4	-1.8
AAK				sP	sP	10 16 22.6	-2.3
YUK8	Steele Glacier	48.40	39	P	P	10 16 07.1	-1.8
	baz=285						
EPYK	Eagle Plains	48.46	32	IAmb	IAmb	10 16 19.6	
	comp=Z,17nm,1.2s						
EPYK	Eagle Plains	48.46	32	P	P	10 16 07.6	-1.5
	baz=283						
PINM	Pinnacle	48.48	41	P	P	10 16 08.0	-1.3
	baz=286						
G30M	tAoh Zraii Nji	48.52	31	P	P	10 16 08.5	-1.0
	baz=283						
F30M	Barrier River	48.54	30	P	P	10 16 08

I30M Mount Dempster 48.87 34 P **P 10 16 12.9 +0.5**
baz=284
YUK4 Talbot Arm 48.90 39 P **P 10 16 13.0 +0.3**
baz=286
J30M Hart River 49.06 34 IAmb IAmb 10 16 27.2
comp=Z,14nm,1.5s
J30M Hart River 49.06 34 P **P 10 16 14.3 +0.5**
baz=285
AML Almayashu 49.13 294 P **P 10 16 15.2 +0.2**
SNR=8.0
YUK6 Outpost Mounta 49.15 39 P **P 10 16 14.3 -0.3**
baz=286
INK Inuvik 49.21 29 IAmb IAmb 10 16 15.2
comp=Z,15nm,1.4s
INK Inuvik 49.21 29 P **P 10 16 13.8 -0.8**
baz=284,SNR=5.3
G31M Satah River 49.28 31 IAmb IAmb 10 16 31.5
comp=Z,6.6nm,0.8s
G31M Satah River 49.28 31 P **P 10 16 14.9 -0.3**
baz=285
F31M Tsiigehtchic 49.34 30 P **P 10 16 15.7 0.0**
baz=285
H31M Peel River 49.54 33 IAmb IAmb 10 16 27.9
comp=Z,13nm,0.9s
H31M Peel River 49.54 33 P **P 10 16 16.6 -0.7**
baz=286
HYT Haines Junctio 49.58 39 P **P 10 16 16.9 -1.0**
baz=287
N30M Aishikik Lake 49.59 39 P **P 10 16 17.3 -0.5**
baz=287
P29M Windy Craggy 49.83 41 P **P 10 16 19.7 0.0**
baz=288
KSM Kuching 49.86 223 P **P 10 16 22.6 +2.3**
ARSB Arslanbob 49.96 293 IAmb IAmb 10 16 22.4
comp=Z,5.9nm,0.6s
P30M Million Dollar 50.05 40 P **P 10 16 21.3 0.0**
baz=288
N31M Braeburn, Yuko 50.18 38 P **P 10 16 22.2 -0.1**
baz=288
O30N Mendenhall 50.26 39 P **P 10 16 23.4 +0.6**
baz=288
DZA Taraz 50.38 296 *e*P **P 10 16 23.9 -0.2**
comp=Z,6.0nm,0.6s
DZA Taraz 50.38 296 *e*P **P 10 16 23.8 -0.2**
DZA pmax pmax
comp=Z,6.0nm,0.6s
PLBC Pleasant Camp 50.55 41 P **P 10 16 24.9 -0.1**
baz=289
M31M Drury Creek, Y 50.58 37 P **P 10 16 25.1 -0.2**
baz=288
KK31 Karatay Array 50.84 296 *i* P **P 10 16 26.6 -0.9**
KKAR Karatay Array 50.84 296 P **P 10 16 27.1 -0.3**
KKAR Karatay Array 50.84 296 P **P 10 16 27.1 -0.3**
WHY Whitehorse 50.86 39 P **P 10 16 26.3 -1.1**
baz=289
A36M Sachs Harbour 50.89 24 IAmb IAmb 10 16 38.3
comp=Z,13nm,0.9s
A36M Sachs Harbour 50.89 24 P **P 10 16 27.6 +0.2**
baz=288,SNR=8.5
FARO Faro, Yukon 51.03 37 P **P 10 16 28.7 +0.1**
baz=289
SKAG Skagway 51.05 41 P **P 10 16 27.8 -1.0**
baz=290
S31K Pelican 51.12 43 P **P 10 16 28.1 -1.2**
baz=290
BRLS Borolday 51.31 297 *e*P **P 10 16 32.3 +1.3**
BRLS Borolday 51.31 297 *e*P **P 10 16 32.3 +1.3**
IUG Iuzhnay 51.58 296 *e*P **P 10 16 32.7 -0.4**
IUG Iuzhnay 51.58 296 *e*P **P 10 16 32.7 -0.4**
CHM Chimkent 51.78 296 *e*P **P 10 16 34.2 -0.4**
comp=Z,6.0nm,0.6s
CHM Chimkent 51.78 296 *e*P **P 10 16 34.1 -0.4**
CHM pmax pmax
comp=Z,6.0nm,0.6s
R32K Eaglecrest 51.86 42 P **P 10 16 34.0 -0.9**
baz=291
P33M Teslin, Yukon 51.97 39 P **P 10 16 35.5 -0.3**
baz=291
PMG Port Moresby 52.05 174 LR LR 10 36 01.4
comp=Z,52nm,21.4s,baz=24,slow=33
C36M Paulatuk 52.16 27 P **P 10 16 36.5 -0.3**
baz=291,SNR=6.4
ARTI Arti 52.62 316 P **P 10 16 40.8 +0.3**
ARTI IAmb IAmb 10 16 54.8
comp=Z,18nm,1.1s
ARTI Arti 52.62 316 LR LR 10 41 41.9
comp=Z,259nm,18.1s,baz=55,slow=39
ARTI Arti 52.62 316 *d i* P **P 10 16 39.5 -1.0**
ARTI 10 17 48.4
ARTI S **S 10 24 05.1 +0.3**
ARTI SS **SS 10 27 38.3 -4.5**
ARTI pmax pmax
comp=Z,12nm,0.9s
ARTI Arti 52.62 316 P **P 10 16 40.8 +0.3**
ARTI pP **pP 10 16 50.6 -1.3**
ARTI sP **sP 10 16 54.7 -1.8**
GAR Garm 52.84 292 IAmb IAmb 10 16 53.5
comp=Z,11nm,0.8s
WRAK Wrangell Islan 53.67 43 P **P 10 16 47.7 -0.5**
baz=294
SIMJ Simiganj 53.90 292 P **P 10 16 50.2 -0.2**
SIMJ Simiganj 53.90 292 P **P 10 16 49.6 -0.7**
SIMJ pP **pP 10 16 59.3 -2.4**
SIMJ sP **sP 10 17 03.8 -2.6**
DLBC Dease Lake 53.98 41 LR LR 10 41 48.4
comp=Z,123nm,18.4s,baz=282,slow=38
HNR Honiara 54.40 158 LR LR 10 38 14.8
comp=Z,138nm,21.8s,baz=348,slow=34
AB31 Akbulak array 54.75 307 *i* P **P 10 16 55.8 -0.4**
ABKAR Akbulak array 54.75 307 P **P 10 16 56.2 0.0**
SPITS Spitsbergen Ar 55.08 348 P **P 10 16 57.3 -0.9**
comp=Z,9.4nm,0.9s,baz=90,slow=10,SNR=1.9
SPITS LR LR 10 42 45.0
comp=Z,165nm,20.1s,baz=2.0,slow=38
comp=Z,9.4nm,0.9s
AKTO Aktyubinsk 55.33 309 P **P 10 17 00.1 -0.3**
comp=Z,4.5nm,0.7s,baz=73,slow=9.0,SNR=8.0
AKTO LR LR 10 42 26.2
comp=Z,124nm,18.8s,baz=330,slow=38
comp=Z,4.5nm,0.7s
AKTO Aktyubinsk 55.33 309 P **P 10 17 00.2 -0.2**
KDU Kakadu 55.78 191 P **P 10 17 05.0 +1.1**
TOAD Toad River Com 56.05 39 P **P 10 17 05.2 -0.3**
baz=297
KIRV Kirov 56.08 321 LR LR 10 43 38.5
comp=Z,163nm,18.0s,baz=57,slow=39
KIRV Kirov 56.08 321 *i* P **P 10 17 05.0 -0.5**
COEN Coen 56.37 179 P **P 10 17 08.7 +0.7**
COEN Coen 56.37 179 P **P 10 17 08.2 +0.1**
RES Resolute Bay 57.04 15 LR LR 10 45 17.1
comp=Z,80nm,18.6s,baz=20,slow=40
BBB Bella Bella 57.79 47 LR LR 10 43 13.5
comp=Z,57nm,18.3s,baz=275,slow=37
YKA Yellowknife Ar 58.75 32 LR LR 10 47 06.0
comp=Z,112nm,19.1s,baz=302,slow=40
ARCES ARCESS Array B 58.89 338 P **P 10 17 24.7 -0.6**
comp=Z,2.0nm,0.8s,baz=49,slow=8.7,SNR=8.7
ARCES LR LR 10 48 38.8
comp=Z,149nm,18.5s,baz=43,slow=42
comp=Z,2.0nm,0.8s
KLMR Klimovskoe 59.26 326 *e*P **P 10 17 25.9 -2.0**
KLMR pmax pmax
comp=Z,26nm,1.5s
KNRA Kununurra 59.33 195 P **P 10 17 29.5 +0.7**
BELG Belogornoye 60.04 315 P **P 10 17 32.6 -0.7**
comp=Z,15nm,0.6s,baz=100,slow=6.1,SNR=5.5
BELG LR LR 10 46 02.2
comp=Z,248nm,18.6s,baz=51,slow=39
comp=Z,15nm,0.6s
FITZ Fitzroy Crossi 62.32 198 P **P 10 17 50.5 +1.4**
WB0 Warramunga Arr 62.53 188 P **P 10 17 50.4 -0.1**
CTAO Charters Tower 62.58 175 P **P 10 17 51.5 +0.7**
CTAO Charters Tower 62.58 175 P **P 10 17 51.5 +0.7**
CTAO pmax pmax
comp=Z,3.0nm,0.9s
WR0 Warramunga Arr 62.70 188 P **P 10 17 51.4 -0.3**
WR0 IAmb IAmb 10 17 52.2
comp=Z,6.3nm,0.6s
WRA Warramunga Arr 62.71 188 P **P 10 17 51.8 +0.1**
WRA Warramunga Arr 62.71 188 P **P 10 17 51.5 -0.2**
comp=Z,5.1nm,0.5s,baz=7.0,slow=6.7,SNR=16
comp=Z,5.1nm,0.5s
WRA Warramunga Arr 62.71 188 *i* P **P 10 17 51.7 0.0**
WRA pmax pmax
comp=Z,5.0nm,0.5s
QIS Mount Isa 62.96 183 P **P 10 17 54.3 +0.9**

F03A Seaside 63.66 51 P **P 10 17 57.9 0.0**
VRH Novokhopyorsk 63.74 316 *e*P **P 10 17 53.9 -4.4**
VRH pmax pmax
comp=Z,7.0nm,0.9s
OBN Obninsk 63.88 322 LR LR 10 48 13.3
comp=Z,110nm,18.8s,baz=160,slow=38
OBN Obninsk 63.88 322 *e*P **P 10 17 58.9 -0.2**
OBN Obninsk 63.88 322 *e*P **P 10 17 59.2 +0.1**
OBN *e**PP **pP 10 18 08.9 -1.9**
OBN *e* 10 18 33.2
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN MLR MLR
comp=Z,141nm,17.0s
FIA1 FINESS Array S 64.05 331 P **P 10 17 59.9 -0.2**
FINES FINESS Array B 64.05 331 P **P 10 17 59.7 -0.5**
FINES FINESS Array B 64.05 331 P **P 10 17 59.5 -0.6**
comp=Z,10nm,0.5s,baz=50,slow=7.5,SNR=83
FINES LR LR 10 48 35.5
comp=Z,244nm,18.4s,baz=30,slow=38
comp=Z,10nm,0.5s
FINES FINESS Array B 64.05 331 P **P 10 17 59.7 -0.5**
LON Longmire 64.18 49 P **P 10 18 02.1 +0.7**
LON Longmire 64.18 49 P **P 10 18 02.1 +0.7**
LON pmax pmax
comp=Z,4.0nm,1.0s
LPSR Galich'ya Gora 64.30 319 *e*P **P 10 18 00.0 -1.9**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
B08A Colville Reser 64.59 47 IAmb IAmb 10 18 20.1
comp=Z,13nm,1.4s
VSR Storozhevoye 65.02 317 *e*P **P 10 18 04.5 -2.2**
VSR pmax pmax
comp=Z,5.0nm,1.0s
SUMG Summit 65.04 0 P **P 10 18 07.4 +0.4**
SUMG Summit 65.04 0 P **P 10 18 07.4 +0.4**
SUMG pmax pmax
comp=Z,15nm,1.0s
VORD Divnogorie 65.11 317 *e*P **P 10 18 04.5 -2.7**
VORD pmax pmax
comp=Z,7.0nm,1.0s
MXC Moxie City 65.12 49 IAmb IAmb 10 18 20.1
comp=Z,15nm,1.3s
H04A Detroit Lake 65.17 51 P **P 10 18 08.7 +0.9**
H04A IAmb IAmb 10 18 22.9
comp=Z,8.3nm,0.9s
E07A Sunnyside 65.38 49 IAmb IAmb 10 18 17.6
comp=Z,5.7nm,0.7s
C09A Chrisman Ranch 65.50 47 IAmb IAmb 10 18 22.0
comp=Z,6.7nm,0.8s
I04A Tendick Farm, 65.57 52 IAmb IAmb 10 18 20.2
comp=Z,7.1nm,0.9s
D08A Wollman Farm, 65.59 48 P **P 10 18 11.2 +0.7**
D08A IAmb IAmb 10 18 11.8
comp=Z,4.6nm,0.5s
HAWA Hanford 65.66 49 IAmb IAmb 10 18 13.4
comp=Z,4.4nm,0.8s
G06A Carlson Farm, 65.73 50 IAmb IAmb 10 18 13.1
comp=Z,19nm,1.5s
NEW Newport 65.83 46 LR LR 10 49 29.1
comp=Z,74nm,18.1s,baz=324,slow=38
VSU Vasula 65.84 329 *i* P **P 10 18 10.0 -1.8**
VSU pmax pmax
comp=Z,14nm,0.7s
E08A Dider Farm, El 65.86 48 IAmb IAmb 10 18 13.8
comp=Z,18nm,1.5s
E09A Wood Farm, Sta 66.35 48 IAmb IAmb 10 18 17.9
comp=Z,10.0nm,1.0s
PINE Pine Mountain 66.42 52 P **P 10 18 17.4 +1.3**
ASAR Alice Springs 66.44 188 P **P 10 18 17.2 +1.2**
ASAR Alice Springs 66.44 188 P **P 10 18 16.2 +0.2**
comp=Z,1.7nm,0.6s,baz=7.6,slow=5.6,SNR=23
ASAR LR LR 10 47 01.3
comp=Z,68nm,21.3s,baz=22,slow=36
comp=Z,1.7nm,0.6s
ASAR Alice Springs 66.44 188 P **P 10 18 17.2 +1.2**
KHMM Horse Mountain 66.51 56 IAmb IAmb 10 18 20.0
comp=Z,16nm,1.5s
J05D Fort Rock, OR 66.56 52 IAmb IAmb 10 18 34.1
comp=Z,19nm,1.5s
L04D Klamath Falls 66.57 54 IAmb IAmb 10 18 38.2
comp=Z,13nm,1.1s
YBH Yreka Blue Hor 66.62 54 LR LR 10 44 56.3
comp=Z,40nm,19.4s,baz=308,slow=34
MBWA Marble Bar 66.76 203 P **P 10 18 18.6 +0.5**
KIV Kislovodsk 67.59 310 P **P 10 18 23.0 -0.4**
KIV Kislovodsk 67.59 310 *e*P **P 10 18 22.4 -1.0**
KIV Kislovodsk 67.59 310 *e*P **P 10 18 22.1 -1.3**
KIV pmax pmax
comp=Z,27nm,1.1s
KIV Kislovodsk 67.59 310 P **P 10 18 24.1 +0.7**
comp=Z,27nm,0.7s
KIV Kislovodsk 67.59 310 P **P 10 18 24.5 +1.1**
KIV pP **pP 10 18 34.5 -0.7**
KBZ Khabaz 67.61 309 P **P 10 18 23.8 +0.4**
comp=Z,6.8nm,0.7s,baz=50,slow=7.0,SNR=17
KBZ LR LR 10 50 42.3
comp=Z,130nm,19.4s,baz=44,slow=38
comp=Z,6.8nm,0.7s
KBZ Khabaz 67.61 309 *e*P **P 10 18 23.4 0.0**
KBZ Khabaz 67.61 309 *i* P **P 10 18 23.4 0.0**
KBZ pmax pmax
comp=Z,6.0nm,0.6s
SHA1 Shidzhatmaz 67.74 309 *i* P **P 10 18 24.3 -0.2**
BMO Blue Mountains 67.83 49 P **P 10 18 25.8 +0.9**
BMO Blue Mountains 67.83 49 P **P 10 18 25.8 +0.9**
BMO pmax pmax
comp=Z,3.0nm,0.8s
MNK Minsk 68.10 325 *i* P **P 10 18 26.8 +0.6**
comp=E,26nm,1.1s
MNK *i* P **P 10 18 26.8 +0.6**
comp=N,19nm,0.8s
MNK *i* P **P 10 18 26.8 +0.6**
comp=Z,20nm,1.0s,baz=46
MNK *i* PP **PP 10 20 57.1 +0.9**
MNK *i* PPP PPP 10 22 35.7
MNK *i* S **S 10 27 25.1 +2.2**
MNK *i* SS **SS 10 31 48.7 +3.9**
MNK *i* SSS SSS 10 35 05.2
MNK *i* LQ LQ 10 43 34.0
MNK *i* LR LR 10 46 34.0
MNK *i* LRM MLR 10 50 43.2
comp=N,112nm,18.4s
MNK *i* LRM MLR 10 51 09.1
comp=E,165nm,18.1s
MNK *i* LRM MLR 10 51 26.4
comp=Z,127nm,15.9s
MNK Minsk 68.10 325 *i* P **P 10 18 26.8 +0.6**
MNK *i* 10 20 57.0
MNK *i* PPP PPP 10 22 35.6
MNK *i* S **S 10 27 25.0 +2.2**
MNK *i* SS **SS 10 31 48.7 +3.9**
MNK pmax pmax
comp=N,19nm,0.8s
MNK pmax pmax
comp=Z,20nm,1.0s
MNK pmax pmax
comp=E,26nm,1.1s
MNK MLR MLR
comp=N,112nm,18.0s
MNK MLR MLR
comp=E,165nm,18.0s
MNK MLR MLR
comp=Z,127nm,16.0s
J08A Circle Bar Ran 68.11 51 IAmb IAmb 10 18 28.9
comp=Z,14nm,1.5s
DZM Mont Dzumac 68.27 156 *e*LR LR 10 39 02.1
comp=Z,212nm,22.9s
DZM Mont Dzumac 68.27 156 LR LR 10 48 38.8
comp=Z,112nm,19.1s,baz=14,slow=36
NACGM Naroch 68.28 326 *e*P **P 10 18 28.1 +0.8**
comp=Z,27nm,1.1s,baz=46
PLID Pearl Lake 68.41 48 P **P 10 18 28.7 0.0**
PLID IAmb IAmb 10 18 40.0
comp=Z,15nm,1.4s
WRKA Warakurna 68.55 193 P **P 10 18 30.3 +0.9**
WVOR Wild Horse Val 68.59 52 IAmb IAmb 10 18 41.6
comp=Z,12nm,1.4s
MSVF Nonsavu 68.68 143 LR LR 10 44 17.4
comp=Z,115nm,19.4s,baz=6.9,slow=32
GNI Garni 68.74 305 LR LR 10 51 10.6
comp=Z,67nm,18.1s,baz=54,slow=38
FFC Flin Flon 68.75 34 P **P 10 18 30.5 +0.1**
FFC pP **pP 10 18 40.7 -1.5**
HFS Hagfors 69.14 335 P **P 10 18 32.0 -0.6**
comp=Z,5.6nm,0.5s,baz=54,slow=7.3,SNR=34

HFS LR LR 10 52 26.3
comp=Z,113nm,19.3s,baz=30,slow=39
comp=Z,5.6nm,0.5s
NB2 NORSAR Subarra 69.16 337 P **P 10 18 32.2 -0.7**
comp=Z,3.5nm,0.6s,baz=35,slow=6.5
NOA NORSAR Array B 69.16 337 P **P 10 18 32.2 -0.7**
comp=Z,3.6nm,0.7s,baz=35,slow=6.4,SNR=21
NOA LR LR 10 53 07.4
comp=Z,127nm,19.0s,baz=25,slow=40
comp=Z,3.6nm,0.7s
MPK Martis Peak 69.72 55 IAmb IAmb 10 18 39.7
comp=Z,16nm,1.3s
AK03 Malin Array Si 70.11 321 P **P 10 18 37.5 -1.3**
AKASG Malin Array Be 70.13 321 P **P 10 18 38.1 -0.8**
comp=Z,4.2nm,0.5s,baz=45,slow=6.3,SNR=40
AKASG LR LR 10 53 08.5
comp=Z,144nm,19.9s,baz=32,slow=39
comp=Z,4.2nm,0.5s
AKBB Malin Array Si 70.13 321 IAmb IAmb 10 18 39.3
comp=Z,6.9nm,0.8s
AKBB Malin Array Si 70.13 321 *i* P **P 10 18 37.2 -1.7**
AKBB pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 70.13 321 P **P 10 18 37.8 -1.1**
KIEV Kiev 70.14 321 P **P 10 18 38.4 -0.6**
KIEV IAmb IAmb 10 18 39.3
comp=Z,6.1nm,0.7s
KIEV Kiev 70.14 321 P **P 10 18 38.4 -0.6**
KIEV pmax pmax
comp=Z,6.0nm,0.7s
KIEV Kiev 70.14 321 P **P 10 18 37.6 -1.4**
comp=Z,34nm,1.0s
KIEV Kiev 70.14 321 P **P 10 18 38.2 -0.8**
SFJD Kangerlussuaq 70.23 5 LR LR 10 51 00.6
comp=Z,187nm,20.1s,baz=348,slow=37
OOD Oodnadatta 70.36 186 P **P 10 18 41.4 +1.0**
YERR Yerington 70.40 55 IAmb IAmb 10 18 53.0
comp=Z,12nm,1.4s
BOZ Bozeman (W) 70.43 46 IAmb IAmb 10 19 02.1
comp=Z,6.4nm,0.8s
RNPP9 Sopachiv 71.13 324 P **P 10 18 44.5 -0.5**
YHL Hebgen Lake 71.16 46 IAmb IAmb 10 19 04.0
comp=Z,6.6nm,0.9s
FRB Frobisher Bay 71.19 14 LR LR 10 54 01.0
comp=Z,180nm,18.1s,baz=324,slow=39
RNPP5 Staryi Chortor 71.26 323 P **P 10 18 45.4 -0.4**
LHV Little Huntoon 71.31 55 IAmb IAmb 10 19 02.0
comp=Z,7.3nm,1.0s
NVAR Mina Array Bea 71.31 55 P **P 10 18 47.4 +0.7**
comp=Z,1.9nm,0.6s,baz=299,slow=6.0,SNR=5.3
comp=Z,1.9nm,0.6s
LUBAR Lubar, Ukraine 71.35 322 P **P 10 18 44.8 -1.5**
YNE Yellowstone No 71.68 45 IAmb IAmb 10 19 02.0
comp=Z,8.3nm,1.1s
BORG Borgarnes 72.11 353 LR LR 10 51 31.2
comp=Z,45nm,18.7s,baz=328,slow=37
MOOW Moose Ponds 72.14 47 IAmb IAmb 10 19 07.7
comp=Z,10.0nm,1.4s
TPAW Teton Pass 72.20 47 IAmb IAmb 10 19 08.8
comp=Z,10nm,1.2s
MEEK Meekatharra 72.26 202 P **P 10 18 53.3 +1.3**
HVU Hansel Valley 72.34 49 IAmb IAmb 10 18 54.7
comp=Z,12nm,1.5s
NDNU Novodnistrovsk 72.47 321 P **P 10 18 52.4 -0.7**
LCRK Leigh Creek 72.85 183 P **P 10 18 56.2 +0.8**
MULG Mulgathing 72.97 187 P **P 10 18 56.9 +0.8**
R11B Troy Canyon, C 72.99 53 P **P 10 18 56.5 -0.1**
baz=311
HWUT Hardware Ranch 73.13 49 IAmb IAmb 10 19 13.7
comp=Z,11nm,1.4s
S11A Rachel 73.36 54 IAmb IAmb 10 19 12.1
comp=Z,19nm,1.4s
DUG Dugway, Tooele 73.38 50 IAmb IAmb 10 19 01.5
comp=Z,14nm,1.4s
PD31 Pinedale Array 73.44 47 IAmb IAmb 10 19 01.1
comp=Z,14nm,1.5s
PDAR Pinedale Array 73.44 47 P **P 10 18 59.0 -0.3**
PDAR Pinedale Array 73.44 47 P **P 10 18 59.3 0.0**
comp=Z,2.7nm,0.5s,baz=231,slow=0.6,SNR=48
PDAR LR LR 10 52 07.9
comp=Z,20nm,21.0s,baz=330,slow=36
comp=Z,2.7nm,0.5s
TPNV Topopah Spring 73.51 55 IAmb IAmb 10 19 14.7
comp=Z,6.3nm,0.8s
TCUT Toone Canyon 73.55 49 IAmb IAmb 10 19 03.2
comp=Z,15nm,1.3s
MORS Morshin 73.66 323 P **P 10 18 58.2 -1.9**
STNU Starunia 73.70 322 P **P 10 18 59.5 -0.9**
KWP Kalwaria Pacla 73.82 324 P **P 10 19 00.8 -0.3**
comp=Z,24nm,1.1s
CMSA Cobar Meteorol 73.93 177 P **P 10 19 03.9 +2.2**
BUR08 Bucovina Ar. S 74.16 321 IAmb IAmb 10 19 04.4
comp=Z,9.0nm,0.7s
MPU Maple Canyon 74.17 50 IAmb IAmb 10 19 05.9
comp=Z,18nm,1.5s
BURAR Bucovina Array 74.17 321 P **P 10 19 03.5 +0.2**
STKA Stephens Creek 74.19 180 P **P 10 19 05.1 +1.9**
comp=Z,1.5nm,0.6s,baz=347,slow=9.8,SNR=3.8
STKA LR LR 10 52 31.8
comp=Z,37nm,19.7s,baz=24,slow=36
comp=Z,1.5nm,0.6s
FORT Forrest 74.21 192 P **P 10 19 03.6 +0.2**
FORT Forrest 74.21 192 P **P 10 19 04.7 +1.4**
TESR Tescani 74.30 320 P **P 10 19 03.3 -0.6**
comp=Z,19nm,0.8s
RAKU Rahkiv 74.36 322 P **P 10 19 02.4 -1.8**
ULM Lac du Bonnet 74.57 34 P **P 10 19 05.1 -0.3**
comp=Z,2.8nm,0.7s,baz=354,slow=15,SNR=2.4
ULM LR LR 10 54 35.2
comp=Z,129nm,18.4s,baz=296,slow=38
comp=Z,2.8nm,0.7s
OJC Ojcow 74.61 326 P **P 10 19 05.5 -0.2**
comp=Z,26nm,0.8s
MUKU Mukachevo 74.70 323 P **P 10 19 06.0 -0.2**
HOLU Holmets 74.78 323 P **P 10 19 07.1 +0.5**
P17A Butcher Ranch, 75.04 50 IAmb IAmb 10 19 24.8
comp=Z,11nm,1.1s
K22A Casper 75.13 45 IAmb IAmb 10 19 12.0
comp=Z,14nm,1.4s
P18A Preston Nutter 75.21 50 IAmb IAmb 10 19 11.8
comp=Z,12nm,1.4s
MORW Morawa 75.28 203 P **P 10 19 11.6 +2.0**
ISR Istrita 75.36 319 P **P 10 19 10.4 +0.3**
comp=Z,18nm,1.1s
RSSD Black Hills 75.36 43 P **P 10 19 10.1 -0.3**
RSSD IAmb IAmb 10 19 30.9
comp=Z,14nm,1.4s
RSSD Black Hills 75.36 43 P **P 10 19 10.1 -0.3**
RSSD pmax pmax
comp=Z,14nm,1.4s
SRU San Rafael Swe 75.41 50 IAmb IAmb 10 19 12.7
comp=Z,20nm,1.4s
BRTR Keskin Array B 75.46 311 P **P 10 19 11.2 +0.2**
comp=Z,2.4nm,0.6s,baz=68,slow=4.2,SNR=6.8
comp=Z,2.4nm,0.6s
BRTR Keskin Array B 75.46 311 *i* P **P 10 19 11.1 +0.2**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BR104 Keskin Array S 75.47 311 P **P 10 19 10.5 -0.5**
comp=Z,4.5nm,0.9s
KNB Kanab 75.51 53 IAmb IAmb 10 19 29.1
comp=Z,10nm,1.4s
KSP Ksiaz 75.55 328 P **P 10 19 10.9 -0.1**
comp=Z,9.4nm,1.1s
PFO Pinyon Flats O 75.59 58 LR LR 10 51 02.6
comp=Z,41nm,18.3s,baz=304,slow=34
VOIR 75.85 320 P **P 10 19 12.8 -0.2**
comp=Z,4.6nm,1.0s
MORC Moravsky Berou 75.88 327 IAmb IAmb 10 19 14.5
comp=Z,7.3nm,0.9s
MORC Moravsky Berou 75.88 327 *e*P **P 10 19 13.2 +0.2**
DPC Dobruska-Polom 75.92 328 *e*P **P 10 19 14.1 +0.8**
DPC Dobruska-Polom 75.92 328 *e*P **P 10 19 14.1 +0.8**
DPC Dobruska-Polom 75.92 328 P **P 10 19 13.3 0.0**
comp=Z,7.1nm,1.2s
CLL Collm 76.43 330 *i* P **P 10 19 16.2 +0.2**
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL MLR MLR
comp=Z,200nm,19.8s
CLL Collm 76.43 330 *i* P **P 10 19 16.2 +0.2**
comp=Z,9.0nm,1.1s
CLL AMS AMS 10 55 00.0
comp=Z,200nm,19.8s
CLL Collm 76.43 330 P **P 10 19 15.0 -1.0**
comp=Z,7.5nm,1.0s
VRAC Vranov 76.63 327 LR LR 10 55 27.1

comp=Z,78nm,21.2s,baz=24,slow=38
VRAC Vranov 76.63 327 *e*P **P 10 19 17.9 +0.6**
N23A Red Feather La 76.68 46 P **P 10 19 17.7 -0.4**
baz=316
KRUC Moravsky 76.91 327 *e*P **P 10 19 19.3 +0.5**
ZVC Zvikov 77.48 328 *e*P **P 10 19 22.8 +0.8**
MVCO Mesa Verde 77.88 50 IAmb IAmb 10 19 35.8
comp=Z,16nm,1.4s
EKA Eskdalemuir Ar 77.96 340 P **P 10 19 24.0 -0.6**
comp=Z,1.6nm,0.5s,baz=20,slow=5.3,SNR=3.1
comp=Z,1.6nm,0.5s
EKA Eskdalemuir Ar 77.96 340 P **P 10 19 24.0 -0.6**
KHC Kasperske Hory 77.97 328 *e*P **P 10 19 25.0 +0.2**
KHC Kasperske Hory 77.97 328 *e*P **P 10 19 25.0 +0.2**
KHC Kasperske Hory 77.97 328 P **P 10 19 24.8 0.0**
comp=Z,5.0nm,2.5s
CONA Conrad Observa 78.02 326 *e*P **P 10 19 26.2 +1.0**
comp=Z,4.2nm,0.8s
RONA Rosalia, Austr 78.02 326 *e*P **P 10 19 26.2 +1.1**
comp=Z,5.9nm,0.8s
GERES GERESS Array B 78.15 328 P **P 10 19 26.1 +0.2**
comp=Z,1.0nm,0.2s,baz=17,slow=7.2,SNR=3.9
comp=Z,1.0nm,0.2s
S22A 4UR Ranch, Cre 78.44 49 IAmb IAmb 10 19 53.6
comp=Z,10nm,1.4s
S22A 4UR Ranch, Cre 78.44 49 P **P 10 19 27.4 -0.5**
baz=316
Q24A Divide 78.49 47 P **P 10 19 27.0 -1.2**
baz=316
NWAO Narrogin (SRO) 78.59 201 P **P 10 19 30.7 +2.6**
RAYN Ar Rayn 78.95 292 P **P 10 19 30.4 -0.2**
RAYN IAmb IAmb 10 19 40.5
comp=Z,7.7nm,0.9s
RAYN Ar Rayn 78.95 292 P **P 10 19 30.4 -0.2**
RAYN pmax pmax
comp=Z,8.0nm,0.9s
MMAI Mount Meron Ar 79.08 305 P **P 10 19 31.9 +0.7**
comp=Z,3.3nm,0.5s,baz=28,slow=6.5,SNR=5.9
MMAI LR LR 10 56 39.9
comp=Z,60nm,19.7s,baz=356,slow=37
comp=Z,3.3nm,0.5s
BIOA Bad Ischl, Aus 79.11 327 *i*P **P 10 19 32.0 +1.0**
comp=Z,2.1nm,0.4s
ECSD EROS Data Cent 79.23 39 P **P 10 19 31.9 +0.1**
ECSD IAmb IAmb 10 19 48.4
comp=Z,11nm,1.1s
SOKA Soboth 79.36 326 *e*P **P 10 19 33.1 +0.6**
comp=Z,7.6nm,1.1s
OBKA Obir 79.69 326 *e*P **P 10 19 34.6 +0.2**
comp=Z,2.9nm,0.6s
LESA Schwarzleotal 79.71 328 *e*P **P 10 19 35.5 +1.1**
comp=Z,7.8nm,1.0s
KBA Koelnbreinsper 79.72 327 *e*P **P 10 19 35.5 +0.9**
comp=Z,3.3nm,0.6s
SCHQ Schefferville 79.80 16 LR LR 10 58 44.4
comp=Z,77nm,18.5s,baz=330,slow=38
T25A Trinidad 80.21 48 P **P 10 19 36.6 -0.8**
baz=317
MOTA Moosalm 80.38 329 *e*P **P 10 19 38.3 +0.1**
comp=Z,4.5nm,0.7s
RETA Reutte 80.40 329 *e*P **P 10 19 38.6 +0.5**
comp=Z,1.5nm,0.3s
ANMO Albuquerque 80.65 51 P **P 10 19 41.3 +1.4**
ANMO Albuquerque 80.65 51 P **P 10 19 41.3 +1.4**
ANMO pmax pmax
comp=Z,6.0nm,1.4s
FETA Feichten 80.80 329 *e*P **P 10 19 40.5 +0.1**
comp=Z,3.0nm,0.9s
DAVOX Davos/Dischmat 81.32 329 LR LR 10 59 04.4
comp=Z,144nm,20.3s,baz=58,slow=38
121A Cookes Peak, D 81.60 53 P **P 10 19 44.6 -0.4**
baz=316
EIL Elat 81.68 303 LR LR 10 59 23.3
comp=Z,61nm,19.6s,baz=71,slow=38
L44A Lake County Fo 84.33 35 P **P 10 19 58.1 -0.6**
baz=326
PECS Pecos 84.73 52 IAmb IAmb 10 20 12.7
comp=Z,5.7nm,0.8s
SADO Sadowa 85.50 28 LR LR 11 00 28.8
comp=Z,47nm,19.7s,baz=50,slow=37
LPIG La Paz 86.03 61 LR LR 10 53 28.3
comp=Z,36nm,19.4s,baz=26,slow=32
TX31 Lajitas Ar. Si 86.35 53 IAmb IAmb 10 20 11.8
comp=Z,7.5nm,1.4s
TXAR Lajitas Array 86.35 53 P **P 10 20 09.9 +0.9**
comp=Z,1.1nm,0.5s,baz=290,slow=3.9,SNR=62
TXAR LR LR 10 58 43.9
comp=Z,37nm,19.5s,baz=344,slow=36
comp=Z,1.1nm,0.5s
TXAR Lajitas Array 86.35 53 P **P 10 20 10.0 +0.9**
URZ Urewera 86.66 153 LR LR 10 56 53.7
comp=Z,67nm,18.9s,baz=99,slow=34
PPT Papeete 86.80 117 LR LR 10 50 14.5
comp=Z,59nm,21.9s,baz=335,slow=30
PPT2 Papeete2 86.81 117 *e*S **S 10 30 44.7 -1.7**
comp=Z,32nm,24.8s
PPT2 Papeete2 86.81 117 *e*LR LR 10 47 36.9
PPT2 *e*LR LR 10 47 43.4
comp=Z,112nm,22.5s
O48B Farmland 87.08 34 P **P 10 20 11.6 -0.8**
baz=327
TAOE Nuku Hiva Isla 87.14 105 *e*LR LR 10 47 50.6
comp=Z,246nm,23.3s
P49A Miami Univ. Ec 87.87 34 P **P 10 20 15.2 -1.0**
baz=328
TBI Tubuai 91.06 121 *e*LR LR 10 49 26.9
comp=Z,325nm,23.8s
TKL Tuckaleechee C 91.55 36 LR LR 11 05 04.8
comp=Z,105nm,18.1s,baz=340,slow=38
ESDC Sonseca Array 92.41 334 P **P 10 20 36.9 -0.6**
comp=Z,0.6nm,0.5s,baz=31,slow=3.5,SNR=5.0
ESDC LR LR 11 07 47.6
comp=Z,108nm,18.0s,baz=345,slow=39
comp=Z,0.6nm,0.5s
MDT Midelt 98.86 332 LR LR 11 09 03.1
comp=Z,44nm,20.3s,baz=30,slow=37
KMBO Kilima Mbogo 101.58 279 *i*P **Pdif 10 21 20.5 +1.0**
KMBO pmax pmax
comp=Z,1.0nm,0.2s
TORD Torodi Ar. Bea 113.57 317 PKiKP **PKiKP 10 26 04.0 -1.2**
comp=Z,0.3nm,0.3s,baz=24,slow=2.6,SNR=4.2
DBIC Dimbokro 122.36 320 PKP **PKPdf 10 26 21.4 -0.7**
comp=Z,11nm,1.3s,baz=14,slow=4.2,SNR=3.6
MAW Mawson 124.79 207 PKP **PKiKP 10 26 26.1 +0.7**
comp=Z,1.3nm,0.8s,baz=104,slow=5.2,SNR=7.9
QSPA South Pole Qui 132.42 180 PKP **PKiKP 10 26 40.7 -0.1**
comp=Z,1.7nm,0.7s,baz=59,slow=2.5,SNR=4.2
TROLL Troll, Antarti 144.70 200 ⇑PKPbc **PKPdf 10 27 01.7 -0.4**
comp=Z,1μm,0.7s
SNAA Sanae 146.25 199 ⇑PKPbc **PKPab 10 27 06.3 -0.4**
comp=Z,153nm,0.6s
SNAA Sanae 146.25 199 PKPbc **PKPab 10 27 06.5 -0.2**
comp=Z,5.4nm,0.4s,baz=213,slow=7.8,SNR=92
VNA2 Neumayer--Watz 147.84 198 ⇑PKPbc **PKPbc 10 27 10.7 +0.4**
comp=Z,14nm,0.6s,baz=134,slow=3.2
VNA3 Neumayer Olymp 148.11 197 ⇑PKPbc **PKPbc 10 27 10.9 -0.2**
comp=Z,3.2nm,0.6s
VNA1 Neumayer--Stat 148.24 198 ⇑PKPbc **PKPbc 10 27 10.7 -0.6**
comp=Z,0.9nm,0.6s
BDFB Brasilia 151.72 21 PKPbc **PKPbc 10 27 21.0 -0.6**
comp=Z,1.7nm,0.4s,baz=298,slow=4.5,SNR=5.3
BDFB Brasilia 151.72 21 PKIKP **PKPbc 10 27 21.0 -0.6**
PLCA Paso Flores 155.71 97 PKPab **PKPab 10 27 48.5 +1.7**
comp=Z,1.2nm,0.7s,baz=342,slow=3.3,SNR=4.5

IDC 14 10:08:00.6±999.0, 51°.09N×46°.05E, h0km, Error ellipse: s-maj=1114.0km s-min=165.0km az=87.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.63**	**90**	I	I	10 49 30.0	
0.7nm,0.7s,baz=281,slow=308,SNR=8.3							
I46RU	**ZALESOVO INFRA**	**23.56**	**68**	I	I	12 33 30.0	
baz=279,slow=326,SNR=1.9							
I34MN	**SONGINO INFRAS**	**38.42**	**71**	I	I	14 05 30.0	
baz=300,slow=329,SNR=2.1							

*IDC **14** 10:10:46.1±3.5, 7°.05S×107°.01E, h136km±20km, mb3.2/3, mbtmp3.6/3, Error ellipse: s-maj=112.1km s-min=28.6km az=52.0*
*DJA **14** 10:10:47.2±0.3, 8°S±4°×10°7E±°, h100km±4km, M4.2/14, mb4.4/2, mB5.7/1, MLv4.1/14, Mw(mB)5.2/1*
ISC 14 10:10:45.1±0.9, **7°.38S**±0°.08×**106°.95E**±0°.07, **h150**km, **n27, σ2**54/24, **mb3.6/3, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.19**	**70**	P	**Pn**	**10 11 02.8**	**-2.5**
CNJI				S	**Sn**	**10 11 15.6**	**-5.1**
SKJI	**Sukabumi**	**0.54**	**313**	P	**Pn**	**10 11 04.7**	**-1.9**
SKJI				S	**Sn**	**10 11 18.6**	**-4.4**
BBJI	**Bungbulang**	**0.70**	**97**	P	**Pn**	**10 11 05.4**	**-2.3**
DBJI	**Dramaga**	**0.84**	**346**	P	**Pn**	**10 11 07.7**	**-1.0**
LEM	**Lembang**	**0.86**	**51**	P	**Pn**	**10 11 07.3**	**-1.6**
352nm,0.6s,baz=291,slow=5.1,SNR=52							
LEM				S	**Sn**	**10 11 23.9**	**-3.2**
749nm,0.8s,baz=307,slow=18,SNR=15							
CMJI	**Cimerak**	**1.54**	**105**	P	**Pn**	**10 11 13.4**	**-1.7**
CMJI				S	**Sn**	**10 11 32.8**	**-5.3**
KPJI	**Karang Pucung**	**1.97**	**89**	P	**Pn**	**10 11 18.9**	**-0.9**
KASI	**Kota Agung**	**3.05**	**307**	P	Pn	10 11 38.7	+5.6
XMI	**Christmas Isla**	**3.30**	**202**	P	**Pn**	**10 11 35.0**	**-1.3**
XMIS	**Christmas Isla**	**3.34**	**202**	P	**Pn**	**10 11 35.0**	**-1.8**
UGM	**Wanagama**	**3.58**	**99**	P	**Pn**	**10 11 39.2**	**-0.8**
UWJI	**Ujung Watu**	**4.08**	**77**	P	**Pn**	**10 11 46.4**	**-0.1**
PWJI	**Pagerwojo**	**4.86**	**98**	P	**Pn**	**10 11 56.5**	**-0.1**
JAGI	**Jajag, Banyuwa**	**7.22**	**99**	P	**Pn**	**10 12 29.3**	**+1.2**
JAGI	**Jajag, Banyuwa**	**7.22**	**99**	P	**Pn**	**10 12 29.0**	**+0.9**
23nm,0.9s,0.2nm							
PLAI	**Plampang**	**10.82**	**98**	P	**Pn**	**10 13 14.9**	**-1.1**
ASAR	**Alice Springs**	**30.52**	**125**	P	**P**	**10 16 48.0**	**+3.6**
0.3nm,0.7s,baz=302,slow=11,SNR=1.9							
0.3nm,0.7s							
H08S2	**Diego Garcia H**	**34.15**	**267**	T	T	10 53 13.6	
baz=91,slow=76,SNR=16							
H08S3	**Diego Garcia H**	**34.16**	**267**	T	T	10 53 13.5	
baz=91,slow=76,SNR=18							
H08S1	**Diego Carcia H**	**34.17**	**267**	T	T	10 53 14.7	
baz=91,slow=76,SNR=15							
SONM	**Songino Array**	**54.97**	**360**	PcP	**PcP**	**10 21 03.0**	**+2.3**
0.7nm,0.4s,baz=180,slow=4.5,SNR=4.6							
MKAR	**Makanchi Array**	**58.22**	**340**	P	**P**	**10 20 23.5**	**-0.1**
0.4nm,0.5s,baz=159,slow=7.5,SNR=4.6							
0.4nm,0.5s							
H04N2	**CROZET ISLANDS**	**60.95**	**221**	T	T	11 27 25.9	
baz=67,slow=75,SNR=14							
H04N1	**CROZET ISLANDS**	**60.96**	**221**	T	T	11 27 23.9	
baz=67,slow=75,SNR=14							
H04N3	**CROZET ISLANDS**	**60.96**	**221**	T	T	11 27 23.0	
baz=67,slow=75,SNR=12							
BVAR	**Borovoye Array**	**67.69**	**337**	P	**P**	**10 21 27.4**	**+1.4**
0.9nm,0.5s,baz=142,slow=7.3,SNR=3.8							
0.9nm,0.5s							
TXAR	**Lajitas Array**	**143.85**	**49**	PKP	**PKPdf**	**10 30 04.0**	**+0.6**
0.2nm,0.5s,baz=242,slow=1.9,SNR=7.3							

*NOU **14** 10:11:03.7, 37°.72S×176°.23E, h317km, MLv3.9/16, North Island, New Zealand*
*WEL **14** 10:11:07.5±0.6, 38°S±5°×17°6E±°, h280km±4km, M3.1/36, ML2.6/6, MLv3.1/36, Error ellipse: s-maj=7.0km s-min=5.3km az=29.1, confirmed*
ISC 14 10:11:01.6±2.1, **37°.68S**±0°.09×**176°.34E**±0°.07, **h323**km±11km, **n181, σ1**71/207, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	**Tauranga**	**0.08**	**233**	P	**Pn**	**10 11 43.5**	**+1.4**
OPRZ	**Ohinepanea**	**0.24**	**133**	P	**Pn**	**10 11 43.3**	**+1.0**
OPRZ				S	**S**	**10 12 12.6**	**-2.2**
KARZ	**Kaharoa**	**0.35**	**192**	P	**Pn**	**10 11 43.9**	**+1.5**
KMRZ	**Kaimai**	**0.35**	**242**	P	**Pn**	**10 11 44.2**	**+1.6**
OMRZ	**Omania**	**0.42**	**176**	P	**Pn**	**10 11 44.1**	**+1.4**
NGRZ	**Ngongotaha**	**0.44**	**196**	P	**Pn**	**10 11 44.3**	**+1.6**
MKRZ	**Makatiti**	**0.47**	**167**	P	**Pn**	**10 11 44.8**	**+2.0**
EDRZ	**Edgecumbe**	**0.53**	**143**	P	**Pn**	**10 11 44.6**	**+1.7**
EDRZ				S	**S**	**10 12 13.9**	**-2.0**
TARZ	**Mount Tarawera**	**0.57**	**167**	P	**Pn**	**10 11 44.7**	**+1.6**
TARZ				S	**S**	**10 12 15.1**	**-0.9**
HLRZ	**Highlands Stat**	**0.57**	**179**	P	**Pn**	**10 11 44.6**	**+1.6**
HSRZ	**Hossack Road**	**0.63**	**187**	P	**Pn**	**10 11 44.7**	**+1.6**
HSRZ				S	**S**	**10 12 15.2**	**-1.0**
TOZ	**Tahuroa Road**	**0.67**	**266**	P	**Pn**	**10 11 45.0**	**+1.8**
RRRZ	**Republican Roa**	**0.67**	**168**	P	**Pn**	**10 11 44.6**	**+1.4**
RRRZ				S	**S**	**10 12 14.5**	**-1.9**
GRRZ	**Galatos Road**	**0.69**	**195**	P	**Pn**	**10 11 45.1**	**+1.8**
HRRZ	**Handcock Road**	**0.71**	**183**	P	**Pn**	**10 11 42.6**	**-0.8**
PRRZ	**Plateau Road**	**0.82**	**177**	P	**Pn**	**10 11 45.0**	**+1.3**
PRRZ				S	**S**	**10 12 14.9**	**-2.4**
URZ	**Urewera**	**0.84**	**134**	P	**Pn**	**10 11 44.8**	**+1.1**
URZ				S	**S**	**10 12 14.1**	**-3.3**
URZ	**Urewera**	**0.84**	**134**	P	**Pn**	**10 11 44.9**	**+1.2**
WPRZ	**Whakapapatarin**	**0.85**	**189**	P	**Pn**	**10 11 45.4**	**+1.6**
MUGZ	**Murupara**	**0.86**	**157**	P	**Pn**	**10 11 45.2**	**+1.4**
MUGZ				S	**S**	**10 12 13.9**	**-3.7**
ALRZ	**Allen Road**	**0.88**	**180**	P	**Pn**	**10 11 45.5**	**+1.6**
ALRZ				S	**S**	**10 12 14.8**	**-2.9**
KUTZ	**Kaahu Road**	**0.90**	**207**	P	**Pn**	**10 11 45.9**	**+1.9**
TLZ	**Tolley Road**	**0.90**	**224**	P	**Pn**	**10 11 45.9**	**+1.9**
TLZ				S	**S**	**10 12 18.8**	**+0.9**
WHTZ	**Whakaora**	**1.03**	**197**	P	**Pn**	**10 11 46.5**	**+2.0**
KUZ	**Kuaotunu**	**1.06**	**332**	P	**Pn**	**10 11 45.9**	**+1.1**
KUZ	**Kuaotunu**	**1.06**	**332**	P	**Pn**	**10 11 45.9**	**+1.1**
RTZ	**Ruatahuna**	**1.06**	**152**	P	**Pn**	**10 11 46.3**	**+1.5**
RTZ				S	**S**	**10 12 16.7**	**-2.4**
RUGZ	**Raukumara Rang**	**1.10**	**105**	P	**Pn**	**10 11 45.6**	**+0.6**
RUGZ				S	**S**	**10 12 16.7**	**-2.9**
MKAZ	**Moumakai**	**1.10**	**301**	P	**Pn**	**10 11 46.7**	**+1.8**
MKAZ				S	**S**	**10 12 19.6**	**+0.1**
WATZ	**Wairara**	**1.13**	**205**	P	**Pn**	**10 11 46.8**	**+1.8**
MWZ	**Matawai**	**1.14**	**125**	P	**Pn**	**10 11 46.6**	**+1.5**
MWZ				S	**S**	**10 12 17.1**	**-2.7**
HAZ	**Te Kaha**	**1.15**	**94**	P	**Pn**	**10 11 46.1**	**+1.1**
HAZ				S	**S**	**10 12 15.4**	**-4.3**
MRHZ	**Matea Rd**	**1.15**	**177**	P	**Pn**	**10 11 46.6**	**+1.4**
MRHZ				S	**S**	**10 12 16.4**	**-3.5**
RAGZ	**Rawiri**	**1.18**	**134**	P	**Pn**	**10 11 47.3**	**+2.0**
RAGZ				S	**S**	**10 12 17.8**	**-2.4**
HATZ	**Hinemaiaia**	**1.22**	**189**	P	**Pn**	**10 11 46.7**	**+1.3**
MTHZ	**Maungataniwha**	**1.23**	**161**	P	**Pn**	**10 11 47.2**	**+1.7**
RATZ	**Rangitukua**	**1.26**	**200**	P	**Pn**	**10 11 47.2**	**+1.5**
WIAZ	**Waiheke Island**	**1.31**	**312**	P	**Pn**	**10 11 47.5**	**+1.5**
ETAZ	**East Tamaki Re**	**1.34**	**302**	P	**Pn**	**10 11 47.9**	**+1.7**
RITZ	**Rihia Road**	**1.35**	**196**	P	**Pn**	**10 11 48.1**	**+2.0**
SNGZ	**Shannon Statio**	**1.35**	**145**	P	**Pn**	**10 11 48.2**	**+2.0**
RAHZ	**Arahi**	**1.36**	**155**	P	**Pn**	**10 11 48.3**	**+2.1**
KATZ	**Kakaramea**	**1.39**	**201**	P	**Pn**	**10 11 48.0**	**+1.6**
TWGZ	**Tauwhareparae**	**1.39**	**111**	P	**Pn**	**10 11 48.9**	**+2.4**
TKGZ	**Te Karaka**	**1.41**	**123**	P	**Pn**	**10 11 48.4**	**+2.0**
HIZ	**Hauiti**	**1.43**	**234**	P	**Pn**	**10 11 48.6**	**+2.0**
HIZ	**Hauiti**	**1.43**	**234**	P	**Pn**	**10 11 48.6**	**+2.0**
NMHZ	**Naumai**	**1.46**	**166**	P	**Pn**	**10 11 49.3**	**+2.4**
NMHZ				S	**S**	**10 12 23.1**	**+0.2**
MBAZ	**Motutapu North**	**1.47**	**308**	P	**Pn**	**10 11 48.6**	**+1.7**
AWAZ	**Awhitu Peninsu**	**1.48**	**294**	P	**Pn**	**10 11 48.9**	**+1.9**
BKZ	**Black Stump Fm**	**1.49**	**175**	P	**Pn**	**10 11 48.6**	**+1.6**
BKZ				S	**S**	**10 12 21.3**	**-1.9**
BKZ	**Black Stump Fm**	**1.49**	**175**	P	**Pn**	**10 11 48.6**	**+1.6**
NTVZ	**North Tongarir**	**1.51**	**200**	P	**Pn**	**10 11 48.7**	**+1.6**
KRVZ	**Karewarewa**	**1.51**	**201**	P	**Pn**	**10 11 48.7**	**+1.6**
TMVZ	**Te Maari**	**1.52**	**199**	P	**Pn**	**10 11 48.9**	**+1.7**
RIGZ	**Rimuhau**	**1.52**	**133**	P	**Pn**	**10 11 49.3**	**+2.2**
RIGZ				S	**S**	**10 12 22.5**	**-1.0**
ETVZ	**East Tongariro**	**1.53**	**199**	P	**Pn**	**10 11 48.9**	**+1.6**
WTVZ	**West Tongariro**	**1.55**	**202**	P	**Pn**	**10 11 49.0**	**+1.6**
NNVZ	**North Ngauruho**	**1.56**	**201**	P	**Pn**	**10 11 49.1**	**+1.6**
TWVZ	**Taurewa**	**1.56**	**207**	P	**Pn**	**10 11 49.0**	**+1.5**
WHHZ	**Waihua**	**1.56**	**153**	P	**Pn**	**10 11 49.5**	**+2.2**
MXZ	**Matakaoa Point**	**1.57**	**86**	P	**Pn**	**10 11 49.3**	**+1.9**
MXZ	**Matakaoa Point**	**1.57**	**86**	P	**Pn**	**10 11 49.3**	**+1.9**
PUZ	**Puketiti**	**1.57**	**105**	P	**Pn**	**10 11 49.0**	**+1.6**
PUZ				S	**S**	**10 12 23.0**	**-1.0**
OTVZ	**Oturere**	**1.57**	**199**	P	**Pn**	**10 11 49.2**	**+1.6**
OTVZ				S	**S**	**10 12 23.6**	**-0.7**
GRZ	**Great Barrier**	**1.59**	**333**	P	**Pn**	**10 11 49.0**	**+1.3**
WTAZ	**Waiatarua**	**1.59**	**297**	P	**Pn**	**10 11 49.7**	**+2.1**
SNVZ	**South Ngauruho**	**1.60**	**200**	P	**Pn**	**10 11 49.3**	**+1.6**
NGZ	**Ngauruhoe**	**1.60**	**201**	P	**Pn**	**10 11 49.3**	**+1.6**
ABAZ	**Army Bay**	**1.62**	**311**	P	**Pn**	**10 11 49.7**	**+1.9**
COVZ	**Chateau Observ**	**1.64**	**202**	P	**Pn**	**10 11 49.5**	**+1.5**
WMGZ	**Waiomatatini S**	**1.65**	**95**	P	**Pn**	**10 11 49.7**	**+1.7**
WMGZ				S	**S**	**10 12 23.5**	**-1.4**
ARHZ	**Aropaoanui**	**1.66**	**162**	P	**Pn**	**10 11 50.3**	**+2.3**
ARHZ				S	**S**	**10 12 24.4**	**-0.6**
TUVZ	**Tukino**	**1.67**	**199**	P	**Pn**	**10 11 49.9**	**+1.7**
RVAZ	**Riverhead Bore**	**1.67**	**302**	P	**Pn**	**10 11 49.9**	**+1.8**
CNGZ	**Carnagh Statio**	**1.68**	**119**	P	**Pn**	**10 11 50.5**	**+2.4**
FWVZ	**Far West T-bar**	**1.69**	**201**	P	**Pn**	**10 11 49.8**	**+1.4**
MAVZ	**Matarangi**	**1.70**	**201**	P	**Pn**	**10 11 50.3**	**+1.7**
KNZ	**Kokohu**	**1.70**	**142**	P	**Pn**	**10 11 50.2**	**+2.0**
KNZ				S	**S**	**10 12 24.2**	**-1.2**
WHVZ	**Whangaehu Hut**	**1.70**	**200**	P	**Pn**	**10 11 50.1**	**+1.6**
TRVZ	**Turoa**	**1.73**	**201**	P	**Pn**	**10 11 50.4**	**+1.7**
PRGZ	**Paritu Road**	**1.73**	**136**	P	**Pn**	**10 11 50.7**	**+2.2**
KWHZ	**Kaweka Forest**	**1.74**	**178**	P	**Pn**	**10 11 50.5**	**+1.9**
WNVZ	**Wahianoa**	**1.74**	**199**	P	**Pn**	**10 11 50.3**	**+1.6**
MCHZ	**McNeill Hill**	**1.78**	**171**	P	**Pn**	**10 11 51.1**	**+2.3**
MCHZ				S	**S**	**10 12 26.4**	**0.0**
MOVZ	**Moawhango**	**1.78**	**195**	P	**Pn**	**10 11 50.2**	**+1.3**
PKVZ	**Pokaka**	**1.78**	**206**	P	**Pn**	**10 11 50.4**	**+1.5**
MTVZ	**Mangateitei**	**1.83**	**202**	P	**Pn**	**10 11 50.9**	**+1.7**
VRZ	**Vera Road**	**1.90**	**220**	P	**Pn**	**10 11 51.4**	**+1.8**
MHGZ	**Mahia Peninsul**	**1.92**	**140**	P	**Pn**	**10 11 52.1**	**+2.4**
KRHZ	**Kereru**	**1.96**	**179**	P	**Pn**	**10 11 51.8**	**+1.7**
CKHZ	**Cape Kidnapper**	**2.06**	**164**	P	**Pn**	**10 11 53.1**	**+2.4**
MHEZ	**Mangahewa**	**2.11**	**228**	P	**Pn**	**10 11 53.8**	**+2.6**
KAHZ	**Kahuranaki**	**2.15**	**169**	P	**Pn**	**10 11 53.9**	**+2.3**
DREZ	**Durham Road**	**2.25**	**227**	P	**Pn**	**10 11 54.6**	**+2.3**
WAZ	**Wanganui**	**2.32**	**207**	P	**Pn**	**10 11 54.6**	**+1.7**
LREZ	**Lake Rotokare**	**2.33**	**220**	P	**Pn**	**10 11 55.1**	**+2.1**
WCZ	**Waipu Caves**	**2.36**	**317**	P	**Pn**	**10 11 55.1**	**+1.7**
NEZ	**North Egmont**	**2.37**	**227**	P	**Pn**	**10 11 55.7**	**+2.3**
PXZ	**Pawanui**	**2.38**	**170**	P	**Pn**	**10 11 55.5**	**+2.2**
WPHZ	**Waipukurau**	**2.38**	**178**	P	**Pn**	**10 11 55.3**	**+1.9**
PREZ	**Palmer Road**	**2.38**	**225**	P	**Pn**	**10 11 55.6**	**+2.2**
PKE	**Pukeiti**	**2.38**	**230**	P	**Pn**	**10 11 55.8**	**+2.3**
TSZ	**Takapari Road**	**2.39**	**187**	P	**Pn**	**10 11 55.0**	**+1.6**
KHEZ	**Kahui Hut**	**2.43**	**228**	P	**Pn**	**10 11 56.2**	**+2.3**
KHEZ	**Kahui Hut**	**2.43**	**228**	P	**Pn**	**10 11 56.1**	**+2.2**
NBEZ	**Newall Road No**	**2.50**	**230**	P	**Pn**	**10 11 56.9**	**+2.5**
PRHZ	**Porangahau**	**2.59**	**175**	P	**Pn**	**10 11 57.3**	**+2.1**
DVHZ	**Dannevirke**	**2.62**	**183**	P	**Pn**	**10 11 56.9**	**+1.5**
OHWZ	**Ohakea**	**2.64**	**197**	P	**Pn**	**10 11 57.8**	**+2.2**
POWZ	**Post Office Ro**	**2.74**	**189**	P	**Pn**	**10 11 57.9**	**+1.4**
ANWZ	**Angora Road**	**2.78**	**178**	P	**Pn**	**10 11 59.0**	**+2.3**
PRWZ	**Pori Road**	**2.88**	**186**	P	**Pn**	**10 11 59.7**	**+2.0**
BFZ	**Birch Farm**	**3.00**	**181**	P	**Pn**	**10 12 00.7**	**+1.8**
BFZ	**Birch Farm**	**3.00**	**181**	P	**Pn**	**10 12 00.8**	**+2.0**
MRZ	**Mangatainoka R**	**3.03**	**191**	P	**Pn**	**10 12 00.5**	**+1.3**
TIWZ	**Tintock**	**3.11**	**186**	P	**Pn**	**10 12 01.6**	**+1.7**
CPWZ	**Castlepoint**	**3.23**	**182**	P	**Pn**	**10 12 03.5**	**+2.4**
OGWZ	**Otaki Gorge**	**3.26**	**196**	P	**Pn**	**10 12 02.7**	**+1.4**
HOWZ	**Holdsworth Sta**	**3.27**	**191**	P	**Pn**	**10 12 02.6**	**+1.1**
OUZ	**Omahuta**	**3.31**	**317**	P	**Pn**	**10 12 03.6**	**+1.7**
OUZ	**Omahuta**	**3.31**	**317**	P	**Pn**	**10 12 03.5**	**+1.5**
KIW	**Kapiti Island**	**3.36**	**199**	P	**Pn**	**10 12 03.5**	**+1.1**
TMWZ	**Te Maipa**	**3.44**	**186**	P	**Pn**	**10 12 04.7**	**+1.6**
MTW	**Mount Morrison**	**3.53**	**190**	P	**Pn**	**10 12 05.2**	**+1.1**
DUWZ	**D'Urville Isla**	**3.64**	**210**	P	**Pn**	**10 12 05.9**	**+0.8**
TRWZ	**Traveller**	**3.75**	**188**	P	**Pn**	**10 12 07.9**	**+1.6**
PAWZ	**Paruwai Farm**	**3.76**	**191**	P	**Pn**	**10 12 07.7**	**+1.2**
WEL	**Wellington**	**3.80**	**198**	P	**Pn**	**10 12 08.1**	**+1.3**
MSWZ	**Moikau Station**	**3.82**	**192**	P	**Pn**	**10 12 08.2**	**+1.1**
SNZO	**South Karori**	**3.84**	**199**	P	**Pn**	**10 12 08.0**	**+0.8**
TCW	**Tory Channel**	**3.87**	**204**	P	**Pn**	**10 12 08.6**	**+1.1**
BHW	**Baring Head**	**3.89**	**196**	P	**Pn**	**10 12 08.8**	**+1.0**
PLWZ	**Palliser**	**3.97**	**192**	P	**Pn**	**10 12 09.8**	**+1.1**
TUWZ	**Tuamarina**	**4.17**	**206**	P	**Pn**	**10 12 12.6**	**+1.8**
NNZ	**Nelson**	**4.21**	**212**	P	**Pn**	**10 12 11.6**	**+0.4**
TKNZ	**Takaka Hill**	**4.25**	**217**	P	**Pn**	**10 12 11.5**	**-0.1**
QRZ	**Quartz Range**	**4.31**	**222**	P	**Pn**	**10 12 12.0**	**-0.3**
QRZ	**Quartz Range**	**4.31**	**222**	P	**Pn**	**10 12 12.0**	**-0.3**
CMWZ	**Cape Campbell**	**4.38**	**201**	P	**Pn**	**10 12 14.9**	**+1.8**
BSWZ	**Blackbirch Sta**	**4.45**	**204**	P	**Pn**	**10 12 15.1**	**+1.3**
MRNZ	**Matariki Terra**	**4.63**	**216**	P	**Pn**	**10 12 15.7**	**-0.2**
THZ	**Tophouse**	**4.86**	**212**	P	**Pn**	**10 12 18.6**	**+0.2**
KHZ	**Kahutara**	**5.19**	**204**	P	**Pn**	**10 12 23.2**	**+1.2**
KHZ	**Kahutara**	**5.19**	**204**	P	**Pn**	**10 12 22.7**	**+0.6**
DSZ	**Denniston Nort**	**5.36**	**219**	P	**Pn**	**10 12 23.7**	**-0.4**
GVZ	**Greta Valley S**	**5.85**	**205**	P	**Pn**	**10 12 30.6**	**+0.8**
LTZ	**Lake Taylor**	**5

*NAO **14** 10:31:49.1, 37°.42N×20°.68E, h10km, mb3.7*
ISC 14 10:31:42.3±1.4, 37°.37N±0°.04×20°.59E±0°.05, h12km±8km, n45, σ1§41/67, mb3.7/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.34**	**32**	P	**Pg**	**10 31 49.1**	**-0.1**
KRI1				S	**Sg**	**10 31 53.7**	**-0.1**
	25μm,0.5s						
LTHK	**Lithakia**	**0.39**	**30**	P	**Pg**	**10 31 49.9**	**-0.2**
LTHK				S	**Sg**	**10 31 55.1**	**-0.2**
	24μm,0.3s						
LTHK	**Lithakia**	**0.39**	**30**	P	**Pg**	**10 31 50.0**	**-0.1**
LTHK				S	**Sg**	**10 31 55.0**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.72**	**11**	P	**Pg**	**10 31 55.6**	**-0.6**
RTZL				S	**Sb**	**10 32 06.2**	**-0.3**
	5μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.74**	**360**	P	**Pg**	**10 31 56.5**	**-0.1**
PSDA				S	**Sb**	**10 32 07.7**	**+0.5**
	7μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.74**	**360**	P	**Pg**	**10 31 56.6**	**-0.1**
PSDA				S	**Sb**	**10 32 07.5**	**+0.3**
VLS	**Valsamata**	**0.80**	**360**	P	**Pg**	**10 31 57.5**	**-0.4**
VLS				S	**Sb**	**10 32 09.4**	**+0.3**
	4μm,0.2s						
VLS	**Valsamata**	**0.80**	**360**	P	**Pg**	**10 31 57.5**	**-0.4**
VLS				S	**Sb**	**10 32 09.4**	**+0.3**
VLS				AML	AML	10 32 10.3	
	comp=N,7507μm,0.2s						
VLS				AML	AML	10 32 13.1	
	comp=E,5966μm,0.5s						
LXR1	**Lixouri, Cepha**	**0.84**	**352**	P	**Pg**	**10 31 59.3**	**+0.8**
LXR1				S	**Sn**	**10 32 11.9**	**-0.2**
	comp=E,17μm,0.7s						
SMHA	**Samh**	**0.88**	**3**	P	**Pb**	**10 32 00.2**	**+0.7**
SMHA				S	**Sn**	**10 32 12.1**	**-1.1**
DMLN	**Damoulianata-K**	**0.88**	**349**	P	**Pg**	**10 31 59.3**	**-0.1**
DMLN				S	**Sn**	**10 32 12.5**	**-0.8**
	comp=E,8μm,0.4s						
AMT	**Artemida-Makis**	**0.90**	**79**	P	**Pg**	**10 31 59.7**	**-0.1**
RLS	**Riolos of Patr**	**0.97**	**45**	P	**Pb**	**10 32 00.3**	**-0.8**
RLS				S	**Sn**	**10 32 14.3**	**-1.2**
	comp=E,2μm,0.5s						
RLS	**Riolos of Patr**	**0.97**	**45**	P	**Pb**	**10 32 00.3**	**-0.8**
RLS				S	**Sb**	**10 32 14.0**	**+0.1**
RLS				AML	AML	10 32 17.7	
	comp=N,3472μm,0.4s						
RLS				AML	AML	10 32 19.1	
	comp=E,4148μm,0.5s						
PYL	**PYLOS**	**1.03**	**117**	P	**Pb**	**10 32 01.9**	**-0.3**
PYL				S	**Sn**	**10 32 18.2**	**+1.2**
	comp=E,3μm,0.4s						
PYL	**PYLOS**	**1.03**	**117**	P	**Pb**	**10 32 01.8**	**-0.3**
PYL				S	**Sg**	**10 32 17.0**	**+1.3**
DRO	**Drossia**	**1.06**	**57**	P	**Pb**	**10 32 02.2**	**-0.4**
DRO				S	**Sn**	**10 32 19.0**	**+1.3**
	comp=E,3μm,0.5s						
DRO	**Drossia**	**1.06**	**57**	P	**Pb**	**10 32 02.1**	**-0.4**
ITM	**Ithomi**	**1.08**	**100**	P	**Pb**	**10 32 03.1**	**+0.2**
ITM				S	**Sn**	**10 32 19.4**	**+1.2**
	comp=E,2μm,0.5s						
ITM	**Ithomi**	**1.08**	**100**	P	**Pb**	**10 32 03.1**	**+0.2**
ITM				S	**Sg**	**10 32 18.0**	**+0.8**
ITM				AML	AML	10 32 21.6	
	comp=E,3694μm,0.5s						
ITM				AML	AML	10 32 22.9	
	comp=N,3375μm,0.5s						
FSK	**Fiskardo**	**1.09**	**359**	P	**Pb**	**10 32 02.9**	**-0.1**
FSK				S	**Sn**	**10 32 17.9**	**-0.3**
FSK				AML	AML	10 32 23.8	
	comp=N,4729μm,0.7s						
FSK				AML	AML	10 32 25.0	
	comp=E,4513μm,0.5s						
IGT	**Igoumenitsa**	**2.17**	**355**	*e*Pn	**Pn**	**10 32 19.6**	**+1.4**
IGT				*e*Sn	**Sb**	**10 32 50.0**	**+1.7**
FNA	**Florina**	**3.46**	**10**	*e*Pn	**Pn**	**10 32 37.5**	**+1.5**
IDI	**Anoyia**	**4.04**	**120**	Pn	**Pn**	**10 32 44.5**	**+0.4**
	comp=E,0.4nm,0.3s,baz=311,slow=17,SNR=1.1						
IDI				Sn	**Sn**	**10 33 30.4**	**-1.0**
	comp=E,2.7nm,0.3s,baz=283,slow=21,SNR=2.0						
	comp=E,9.3nm,0.8s						
BOSS	**Bosilegrad**	**5.32**	**15**	*e*Pn	**Pn**	**10 33 02.4**	**+0.9**
BARS	**Barje**	**5.52**	**9**	*e*Pn	**Pn**	**10 33 04.8**	**+0.5**
VTS	**Vitosha**	**5.62**	**20**	*e*Pn	**Pn**	**10 33 06.2**	**+0.4**
SELS	**Selova**	**5.86**	**4**	*e*Pn	**Pn**	**10 33 08.9**	**0.0**
SJES	**Sjenica**	**5.90**	**356**	*e*Pn	**Pn**	**10 33 10.3**	**+0.7**
SJES				*e*Sn	**Sn**	**10 34 25.3**	**+8.1**
STON	**Ston**	**5.92**	**339**	*e*Pn	**Pn**	**10 33 08.5**	**-1.3**
ZAPS	**Zavoj**	**6.10**	**14**	*e*Pn	**Pn**	**10 33 13.3**	**+1.1**
GRUS	**Gruza**	**6.51**	**1**	*e*Pn	**Pn**	**10 33 17.8**	**-0.1**
ZAGS	**Zajecar**	**6.55**	**10**	*e*Pn	**Pn**	**10 33 18.4**	**-0.1**
DIVS	**Divibare**	**6.74**	**356**	*e*Pn	**Pn**	**10 33 20.8**	**-0.2**
MLR	**Muntele Rosu**	**9.05**	**25**	Pn	**Pn**	**10 33 56.2**	**+3.4**
	comp=E,0.4nm,0.3s,baz=283,slow=14,SNR=3.7						
HFS	**Hagfors**	**23.20**	**351**	P	**P**	**10 36 46.9**	**-1.9**
	comp=E,5.0nm,0.7s,baz=142,slow=14,SNR=8.3						
	comp=E,5.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.12**	**326**	P	**P**	**10 36 56.2**	**-1.5**
	comp=E,1.2nm,0.6s,baz=146,slow=5.2,SNR=2.5						
	comp=E,1.2nm,0.6s						
FINES	**FINESS Array B**	**24.34**	**6**	P	**P**	**10 36 58.3**	**-1.4**
	comp=E,1.5nm,0.5s,baz=169,slow=8.3,SNR=8.3						
	comp=E,1.5nm,0.5s						
NB2	**NORSAR Subarra**	**24.42**	**349**	P	**P**	**10 37 00.5**	**0.0**
	comp=Z,0.9nm,0.6s,baz=162,slow=9.3						
NOA	**NORSAR Array B**	**24.42**	**349**	P	**P**	**10 36 58.3**	**-2.2**
	comp=Z,0.8nm,0.9s,baz=157,slow=9.0,SNR=1.6						
	comp=Z,0.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**29.44**	**220**	P	**P**	**10 37 47.2**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=22,slow=9.2,SNR=2.3						
	comp=Z,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**42.67**	**53**	P	**P**	**10 39 37.4**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=282,slow=9.1,SNR=1.8						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.68**	**58**	P	**P**	**10 40 00.9**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=277,slow=8.0,SNR=7.8						
	comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**46.19**	**48**	P	**P**	**10 40 05.6**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=260,slow=8.5,SNR=1.8						
	comp=Z,0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**69.95**	**82**	P	**P**	**10 42 54.0**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=294,slow=6.8,SNR=1.6						
	comp=Z,0.3nm,0.3s						

*IDC **14** 10:43:38.8±2.7, 64°.68N×30°.92E, h0km, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=40.6km s-min=9.9km az=99.0*
*HEL **14** 10:43:38.3±0.2, 64°.69N×30°.68E, h0km, ML2.1, Explosion*
*BER **14** 10:43:38.1±0.8, 64°.55N×30°.94E, h0km, ML1.9, Suspected explosion*
*KOLA **14** 10:43:39.5, 64°.72N×30°.98E, h0km, ML2.4, Error ellipse: s-maj=16.5km s-min=8.0km az=160.0, Kostomuksha, Karelia*
ISC 14 10:43:37.7±0.9, 64°.73N±0°.02×30°.68E±0°.04, h0km, n52, σ1§45/77, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.60**	**213**	PG	**Pg**	**10 43 48.9**	**-0.4**
	baz=36						
RMF				MSG		10 43 56.7	
	comp=Z,36nm,0.2s						
KU6	**Riekki**	**1.35**	**346**	PG	**Pg**	**10 44 03.1**	**-0.4**
	baz=165						
KU6				MSG		10 44 19.8	
	comp=Z,14nm,0.2s						
KU6				SN	**Sb**	**10 44 22.7**	**+1.1**
OLKF	**Oulanka, Finla**	**1.69**	**342**	PG	**Pn**	**10 44 09.0**	**+0.6**
OLKF				MSG		10 44 29.6	
	comp=Z,11nm,0.2s						
OLKF				SN	**Sg**	**10 44 32.7**	**+0.8**
JOF	**Joensuu**	**1.84**	**171**	*e*P	**Pn**	**10 44 10.7**	**+0.2**
JOF	**Joensuu**	**1.84**	**171**	PG	**Pn**	**10 44 10.0**	**-0.5**
	baz=350						
JOF				SG	**Sn**	**10 44 33.8**	**-0.6**
NIF	**Nilsia**	**1.84**	**225**	PG	**Pn**	**10 44 11.0**	**+0.5**
NIF				SN	**Sn**	**10 44 35.7**	**+1.3**
OUL	**Oulu**	**2.07**	**282**	PG	**Pn**	**10 44 15.5**	**+1.8**
	baz=98						
OUL				SG	**Sb**	**10 44 42.4**	**0.0**
RANF	**Ranua**	**2.08**	**310**	PG	**Pn**	**10 44 15.5**	**+1.7**
	baz=123						
RANF				SG	**Sb**	**10 44 43.7**	**+1.0**
OBF4	**Vikkela, Lumij**	**2.39**	**275**	PG	**Pn**	**10 44 20.4**	**+2.3**
	baz=94						
OBF4				MSG		10 44 49.0	
	comp=Z,11nm,0.2s						
OBF4				SG	**Sb**	**10 44 52.3**	**+0.8**
OUF	**Merijarvi**	**2.59**	**265**	PB	**Pn**	**10 44 22.7**	**+1.8**
	baz=85						
OUF				MSG		10 44 54.7	
	comp=Z,13nm,0.2s						
OUF				SG	**Sb**	**10 44 57.4**	**0.0**
RNF	**Rovaniemi**	**2.70**	**316**	PB	**Pn**	**10 44 25.4**	**+3.0**
	baz=130						
RNF				SG	**Sb**	**10 45 01.5**	**+1.0**
OBF0	**Syolatti, Pyha**	**2.78**	**268**	PB	**Pn**	**10 44 25.8**	**+2.3**
OBF0				MSG		10 45 00.2	
	comp=Z,7.1nm,0.2s						
OBF0				SG	**Sb**	**10 45 03.3**	**+0.5**
SUF	**Sumiainen**	**2.85**	**227**	PB	**Pn**	**10 44 26.5**	**+2.1**
SUF				MSG		10 45 01.5	
	comp=Z,4.8nm,0.2s						
SUF				SG	**Sb**	**10 45 05.1**	**+0.3**
TOF	**Tornio**	**2.98**	**300**	PB	**Pn**	**10 44 28.7**	**+2.5**
TOF				MSG		10 45 06.4	
	comp=Z,4.1nm,0.2s						
TOF				SG	**Sb**	**10 45 08.2**	**-0.4**
APA0	**Apatity Array**	**3.04**	**17**	P	**Pn**	**10 44 28.3**	**+1.3**
APA0				S	**Sn**	**10 45 04.2**	**+0.1**
APA	**Apatity**	**3.06**	**20**	P	**Pn**	**10 44 28.2**	**+0.9**
APA				S	**Sn**	**10 45 04.1**	**-0.5**
VRF	**Varrio**	**3.07**	**352**	PN	**Pn**	**10 44 28.6**	**+1.2**
VRF				MSG		10 45 09.2	
	comp=Z,4.0nm,0.2s						
KAF	**Kangasniemi**	**3.28**	**219**	PB	**Pn**	**10 44 33.4**	**+3.1**
	baz=38						
KAF				SG	**Sb**	**10 45 16.1**	**-0.9**
KALU	**Kalix**	**3.28**	**294**	PN	**Pn**	**10 44 32.0**	**+1.7**
KALU				SG	**Sb**	**10 45 18.2**	**+1.1**
RUF	**Ruokolahti**	**3.41**	**194**	PN	**Pn**	**10 44 33.2**	**+1.2**
LVZ	**Lovozero**	**3.57**	**25**	S	**Sn**	**10 45 16.0**	**-1.1**
LVZ	**Lovozero**	**3.57**	**25**	PN	**Pn**	**10 44 35.5**	**+1.2**
KEF	**Keuruu**	**3.66**	**228**	*e*P	**Pn**	**10 44 35.5**	**0.0**
KEF	**Keuruu**	**3.66**	**228**	PN	**Pn**	**10 44 36.9**	**+1.4**
KLF	**Kolari**	**3.72**	**316**	PB	**Pn**	**10 44 40.3**	**+3.9**
PAJU	**Pajala**	**3.87**	**310**	PN	**Pn**	**10 44 39.7**	**+1.3**
RAJF	**Raja-Jooseppi**	**3.88**	**347**	PN	**Pn**	**10 44 39.8**	**+1.2**
RAJF				SN	**Sn**	**10 45 25.4**	**+0.7**
FIA0	**FINESS Array S**	**3.90**	**214**	PN	**Pn**	**10 44 39.5**	**+0.7**
	baz=28						
FIA0				SN	**Sn**	**10 45 25.5**	**+0.2**
FINES	**FINESS Array B**	**3.90**	**214**	Pn	**Pn**	**10 44 39.6**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=34,slow=14,SNR=8.3						
FINES				Pg	**Pb**	**10 44 46.8**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=32,slow=14,SNR=15						
FINES				Lg	Lg	10 45 37.2	
	comp=Z,0.8nm,0.3s,baz=34,slow=25,SNR=6.3						
	comp=Z,0.6nm,0.3s						
VAF	**Ylistaro**	**3.92**	**248**	*e*P	**Pn**	**10 44 41.0**	**+1.9**
VAF	**Ylistaro**	**3.92**	**248**	PN	**Pn**	**10 44 41.0**	**+1.9**
ERTU	**Ertsjaerv**	**3.97**	**301**	PN	**Pn**	**10 44 41.4**	**+1.6**
UMAU	**Umeaa**	**4.44**	**264**	PN	**Pn**	**10 44 46.5**	**+0.3**
VJF	**Virojoki**	**4.44**	**200**	SG	**Sb**	**10 45 53.7**	**+3.1**
HEF	**Hetta**	**4.64**	**326**	*e*P	**Pn**	**10 44 49.4**	**+0.5**
HEF	**Hetta**	**4.64**	**326**	PN	**Pn**	**10 44 49.6**	**+0.6**
	baz=140						
HEF				SG	**Sg**	**10 46 03.5**	**-3.0**
KMNF	**Kaamanen**	**4.67**	**344**	PN	**Pn**	**10 44 49.9**	**+0.5**
TERR	**Teriberka**	**4.82**	**19**	P	**Pn**	**10 44 50.4**	**-1.0**
PRVG	**Vayda Guba**	**5.08**	**6**	P	**Pn**	**10 44 56.6**	**+1.6**
PRVG				S	**Sn**	**10 45 52.8**	**-1.4**
KTK1	**Kautokeino**	**5.21**	**329**	*e*P	**Pn**	**10 44 58.2**	**+1.5**
KTK1				IAML		10 45 15.2	
	comp=Z,2.3nm,0.9s						
ARA0	**ARCESS Array S**	**5.23**	**340**	*e*P	**Pn**	**10 44 58.1**	**+1.0**
ARCES	**ARCESS Array B**	**5.23**	**340**	P	**Pn**	**10 44 57.8**	**+0.7**
ARCES				S	**Sn**	**10 45 56.7**	**-1.4**
ARCES	**ARCESS Array B**	**5.23**	**340**	Pn	**Pn**	**10 44 57.2**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=159,slow=15,SNR=68						
ARCES				Sn	**Sn**	**10 45 55.7**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=156,slow=24,SNR=5.5						
ARCES				Lg	Lg	10 46 18.1	
	comp=Z,0.4nm,0.3s,baz=161,slow=22,SNR=2.6						
	comp=Z,1.4nm,0.3s						
KEV	**Kevo**	**5.25**	**346**	*e*P	**Pn**	**10 44 58.0**	**+0.7**
VADS	**Vadso**	**5.44**	**355**	P	**Pn**	**10 45 00.4**	**+0.4**
VADS				S	**Sn**	**10 46 01.6**	**-1.5**
VADS	**Vadso**	**5.44**	**355**	*e*P	**Pn**	**10 45 00.7**	**+0.8**
VADS				IAML		10 45 26.7	
	comp=Z,4.2nm,0.7s						
RAF	**Rauma**	**5.51**	**232**	*e*P	**Pn**	**10 45 00.1**	**-0.9**
KIF	**Kilpisjarvi**	**5.79**	**322**	*e*P	**Pn**	**10 45 06.3**	**+1.6**
FAUS	**Fauske**	**6.80**	**300**	P	**Pn**	**10 45 19.4**	**+0.9**
FAUS				S	**Sn**	**10 46 36.4**	**-0.2**
STOK	**Stokkvaagen**	**7.50**	**290**	*e*P	**Pn**	**10 45 27.6**	**-0.6**
HFS	**Hagfors**	**9.11**	**247**	Pn	**Pn**	**10 45 48.7**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=55,slow=12,SNR=7.9						
HFS				Sn	Sn	10 47 22.8	-10
	comp=Z,0.1nm,0.3s,baz=71,slow=26,SNR=1.4						
HFS				Lg	Lg	10 48 19.8	
	comp=Z,0.4nm,0.3s,baz=66,slow=28,SNR=5.2						
	comp=Z,0.8nm,0.3s						
NOA	**NORSAR Array B**	**9.61**	**256**	Pn	**Pn**	**10 45 55.0**	**-2.2**
	baz=69,slow=13,SNR=5.7						
	comp=Z,0.2nm,0.4s						

*SOME **14** 10:52:55.7, 41°.78N×73°.22E, h5km*
*KNET **14** 10:52:56.5±0.8, 41°.81N×73°.28E, h6km±3km, ml1.6, Error ellipse: s-maj=7.3km s-min=4.8km az=100.0*
*NNC **14** 10:52:56.1±3.6, 41°.62N×73°.26E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=48.0km s-min=10.5km az=172.0*
ISC 14 10:52:54.9±1.6, 41°.70N±0°.08×73°.28E±0°.03, h4km±15km, n28, σ1§26/40, 5C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.53**	**35**	⇓P	**Pg**	**10 53 05.5**	**+0.3**
	102nm,0.1s,SNR=470						
AML				⇓S	**Sg**	**10 53 12.4**	**+0.4**
	40nm,0.2s						
EKS2	**Erkin-Say**	**1.03**	**21**	⇓P	**Pg**	**10 53 14.7**	**0.0**
	1.2nm,0.1s,SNR=5.8						
EKS2				⇑S	**Sb**	**10 53 28.6**	**-0.7**
	3.6nm,0.3s						
MRKS	**Merke**	**1.05**	**358**	*e*P	**Pb**	**10 53 15.5**	**-0.2**
	3.0nm,0.1s						
MRKS				*e*S	**Sb**	**10 53 28.9**	**-0.9**
	8.1nm,0.2s						
AAK	**Ala-Archa**	**1.30**	**43**	⇑P	**Pn**	**10 53 19.5**	**-0.5**
	4.5nm,0.3s,SNR=6.9						
KBK	**Karagaybulak**	**1.56**	**52**	⇑P	**Pg**	**10 53 25.0**	**+0.1**
	2.3nm,0.1s						
CHMS	**Chumysh**	**1.69**	**40**	⇑P	**Pb**	**10 53 26.5**	**-0.1**
	4.1nm,0.3s						
USP	**Ospenovka**	**1.81**	**29**	⇓P	**Pb**	**10 53 28.7**	**+0.1**
	5.8nm,0.2s,SNR=12						
TKM2	**Tokmak 2**	**2.11**	**54**	⇑P	**Pg**	**10 53 34.8**	**-0.5**
	5.9nm,0.2s,SNR=21						
TKM2	**Tokmak 2**	**2.11**	**54**	⇓Pn	**Pg**	**10 53 35.3**	**0.0**
	7.3nm,0.7s						
TKM2				⇓Lg	Lg	10 54 06.9	
	10nm,0.7s						
KST	**Kastek**	**2.40**	**55**	Pg	**Pb**	**10 53 39.9**	**+1.2**
	5.1nm,0.2s						
KST				Lg	Lg	10 54 13.4	
	9.5nm,0.5s						
KST	**Kastek**	**2.40**	**55**	*e*P	**Pg**	**10 53 40.7**	**-0.1**
	5.1nm,0.2s						
KST				*e*S	**Sg**	**10 54 13.4**	**+1.5**
	17nm,0.6s						
DGS	**Degeres**	**2.40**	**49**	Pg	**Pb**	**10 53 39.9**	**+1.2**
	7.4nm,0.6s						
DGS				Lg	Lg	10 54 14.0	
	16nm,0.7s						
DGS	**Degeres**	**2.40**	**49**	*e*P	**Pg**	**10 53 40.5**	**-0.4**
	5.2nm,0.3s						
DGS				*e*S	**Sg**	**10 54 13.3**	**+1.3**
	16nm,0.7s						
IUG	**luzhnay**	**2.47**	**282**	Pg	**Pn**	**10 53 37.6**	**+1.6**
	11nm,0.3s						
IUG				Lg	Lg	10 54 09.5	
	16nm,0.3s						
IUG	**luzhnay**	**2.47**	**282**	*e*P	**Pb**	**10 53 38.5**	**-1.3**
	6.8nm,0.4s						
IUG				*e*S	**Sb**	**10 54 09.5**	**-1.1**
	2.9nm,0.1s						
KK31	**Karatay Array**	**2.49**	**305**	Pn	**Pg**	**10 53 43.6**	**+1.0**
	2.0nm,0.3s,baz=117,slow=14,SNR=33						
KK31				⇓Lg	Lg	10 54 17.8	
	0.9nm,0.3s,baz=124,slow=25,SNR=5.2						
MTBS	**Maitube**	**2.73**	**57**	Pg	**Pb**	**10 53 46.0**	**+1.6**
	2.6nm,0.2s						
MTBS				Lg	Lg	10 54 23.9	
	6.1nm,0.3s						
MTBS	**Maitube**	**2.73**	**57**	*e*P	**Pg**	**10 53 46.9**	**-0.4**
	2.4nm,0.2s						
MTBS				*e*S	**Sg**	**10 54 23.9**	**+1.2**
	5.7nm,0.3s						
BRLS	**Borolday**	**2.88**	**299**	Pg	**Pb**	**10 53 45.6**	**-1.2**
	1.8nm,0.3s						
BRLS				Lg	Lg	10 54 23.4	
	2.6nm,0.3s						
BRLS	**Borolday**	**2.88**	**299**	*e*P	**Pb**	**10 53 46.8**	**-0.1**
	0.7nm,0.5s						
BRLS				*e*S	**Sb**	**10 54 23.4**	**+1.0**
	0.7nm,0.2s						
TNSS	**Tian-Shan**	**3.03**	**63**	Pg	**Pb**	**10 53 51.0**	**+1.4**
	4.2nm,0.4s						
TNSS				Lg	Lg	10 54 32.6	
	2.9nm,0.7s						
TNSS	**Tian-Shan**	**3.03**	**63**	*e*P	**Pb**	**10 53 51.5**	**+1.9**
	4.1nm,0.5s						
TNSS				*e*S	**Sg**	**10 54 31.3**	**-0.8**
	4.0nm,0.6s						
MDOK	**Medeo**	**3.15**	**61**	Pg	**Pb**	**10 53 53.4**	**+1.9**
	4.0nm,0.3s						
MDOK				Lg	Lg	10 54 36.8	
	5.4nm,0.4s						
MDOK	**Medeo**	**3.15**	**61**	*e*P	**Pg**	**10 53 53.9**	**-1.4**
	4.0nm,0.3s						
MDOK				*e*S	**Sg**	**10 54 35.8**	**-0.3**
	5.9nm,0.6s						
ARXS	**Arharly**	**4.18**	**51**	Pg	**Pg**	**10 54 12.3**	**-2.6**
	4.0nm,0.7s						
ARXS				Lg	Lg	10 55 08.8	
	2.9nm,0.4s						
ARXS	**Arharly**	**4.18**	**51**	*e*P	**Pg**	**10 54 12.9**	**-2.0**
	2.7nm,0.6s						
ARXS				*e*S	**Sg**	**10 55 08.8**	**-0.2**
	2.9nm,0.4s						
KPKS	**Kokpek**	**4.36**	**64**	*e*P	**Pg**	**10 54 16.5**	**-2.0**
	0.9nm,0.1s						
KPKS				*e*S	**Sg**	**10 55 14.7**	**-0.3**
	2.8nm,0.3s						
BLB	**Baldybastay**	**4.51**	**56**	Pg	**Pg**	**10 54 18.2**	**-3.1**
	8.4nm,0.4s						
BLB				Lg	Lg	10 55 19.2	

*IDC **14** 11:10:39.5±6.4, 17°.83S×176°.68W, h62km±52km, mb3.6/4, mbtmp3.9/5, ML4.7/1, MS3.3/17, Error ellipse: s-maj=45.7km s-min=41.8km az=117.0*
ISC 14 11:10:30.4±5.6, 17°.5S±1°.×176°.1W±0°.3, h35km, n22, σ0§16/6, mb4.2/5, MS3.4/14, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.68**	**260**	P	**Pn**	**11 11 52.4**	**0.0**
	1.1nm,0.3s,baz=75,slow=12,SNR=6.2						
MSVF				LR	LR	11 13 26.3	
	comp=Z,181nm,18.6s,baz=106,slow=33						
	5.3nm,0.6s						
RAR	**Rarotonga**	**16.05**	**108**	LR	LR	11 18 23.6	
	comp=Z,136nm,20.6s,baz=291,slow=28						
DZM	**Mont Dzumac**	**17.29**	**250**	LR	LR	11 20 13.9	
	comp=Z,118nm,18.2s,baz=92,slow=35						
HNR	**Honiara**	**24.44**	**284**	LR	LR	11 23 32.6	
	comp=Z,59nm,21.8s,baz=344,slow=32						
PPT	**Papeete**	**25.34**	**96**	LR	LR	11 23 23.5	
	comp=Z,20nm,19.9s,baz=345,slow=30						
WRA	**Warrumunga Arr**	**47.02**	**258**	P	**P**	**11 18 58.6**	**-0.1**
	1.0nm,0.8s,baz=93,slow=8.6,SNR=7.5						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**47.23**	**253**	P	**P**	**11 19 00.3**	**0.0**
	1.4nm,0.6s,baz=92,slow=8.2,SNR=24						
ASAR				LR	LR	11 37 34.3	
	comp=Z,26nm,19.7s,baz=98,slow=35						
	1.4nm,0.6s						
NWAO	**Narrogin (SRO)**	**61.69**	**241**	LR	LR	11 46 17.1	
	comp=Z,29nm,18.2s,baz=58,slow=35						
RPN	**Rapa Nui**	**62.16**	**112**	LR	LR	11 43 17.2	
	comp=Z,12nm,19.0s,baz=235,slow=31						
ASAJ	**Asahikawa**	**71.39**	**330**	LR	LR	11 47 28.0	
	comp=Z,55nm,21.5s,baz=166,slow=31						
QSPA	**South Pole Qui**	**73.27**	**180**	P	**P**	**11 21 57.9**	**-0.1**
	3.4nm,0.9s,baz=43,slow=3.9,SNR=6.2						
	3.4nm,0.9s						
PFO	**Pinyon Flats O**	**75.76**	**48**	LR	LR	11 48 14.1	
	comp=Z,53nm,20.6s,baz=266,slow=29						
YBH	**Yreka Blue Hor**	**76.27**	**38**	LR	LR	11 48 31.7	
	comp=Z,60nm,20.8s,baz=270,slow=29						
MA2	**Magadan**	**80.72**	**344**	LR	LR	11 51 59.5	
	comp=Z,13nm,21.4s,baz=110,slow=30						
NEW	**Newport**	**83.31**	**35**	LR	LR	11 57 35.6	
	comp=Z,27nm,18.9s,baz=332,slow=33						
ILAR	**Eielson Array**	**84.32**	**12**	P	P	11 23 10.0	+12
	0.3nm,0.9s,baz=224,slow=5.7,SNR=2.5						
	0.3nm,0.9s						
PDAR	**Pinedale Array**	**85.03**	**43**	LR	LR	11 54 32.2	
	comp=Z,22nm,19.2s,baz=92,slow=31						
MAW	**Mawson**	**85.65**	**

SUF SB Sg 11 39 51.6 +0.6
RUF Ruokolahti 1.02 155 PB Pg 11 39 39.3 -0.5
RUF MSG 11 39 51.7
comp=Z,0.9nm,0.2s
NIF Nilsia 1.05 354 PG Pg 11 39 39.5 -0.9
NIF SG Sg 11 39 52.9 -1.1
KEF Keuruu 1.50 264 PN Pn 11 39 47.7 -0.7
KEF MSG 11 40 05.4
comp=Z,1.4nm,0.2s
KEF SN Sg 11 40 07.7 -0.7
JOF Joensuu 1.61 68 PG Pn 11 39 49.1 -0.8
JOF SN Sn 11 40 11.1 -0.3
RMF Romuvaara 2.06 24 PG Pn 11 39 56.9 +0.8
RMF MSG 11 40 21.5
comp=Z,0.7nm,0.2s
RMF SG Sn 11 40 23.4 +1.0
OUF Merijarvi 2.52 325 MSG 11 40 34.7
comp=Z,0.8nm,0.2s
OUF SG Sb 11 40 38.4 +0.6
VAF Ylistaro 2.58 288 MSG 11 40 36.5
comp=Z,0.5nm,0.2s
VAF SG Sb 11 40 39.5 +0.1

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*BJI **14** 11:39:50.7, 34.°02N×137.°31E, h377^{km}, mb4.4/15, mB4.4/5*
*JMA **14** 11:39:50.6±0.3, 34.°N±1.°×13.°7E±.°, h368^{km}±2^{km}, MV3.5/35, SE OFF KII PENINSULA*
*NIED **14** 11:39:50.6, 33.°95N×137.°15E, h368^{km}, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.41; $M_{\theta\theta}$-0.18; $M_{\phi\phi}$-0.23; $M_{r\theta}$-0.23; $M_{\theta\phi}$-0.74; $M_{\phi r}$-0.96; Fault plane solution: $M_0$1.26000×10^{15} NP1: ϕ_s193.00000°, δ78.00000°, λ60.00000°. NP2:ϕ_s83.00000°, δ32.00000°, λ157.00000°.*
*NEIC **14** 11:39:51.4±1.4, 33.°84N±0.°04×137.°12E±0.°09, h352^{km}±8^{km}, mb4.0/34 Error ellipse: s-maj=11.1km s-min=4.6km az=78.0*
*IDC **14** 11:39:51.6±0.7, 33.°86N×137.°09E, h361^{km}±7^{km}, mb3.2/14, mbtmp4.0/22, Error ellipse: s-maj=11.6km s-min=10.2km az=72.0*

ISC 14 11:39:51.6±0.6, 33.°90N±0.°06×137.°11E±0.°05, h356^{km}±5^{km}, n115, σ1§02/119, mb3.8/36, 3C-1D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**0.18**	**203**	P	**Pn**	**11 40 36.9**	**+1.2**
TTO3	**TONANKAI O.B.S**	**0.24**	**98**	P	**Pn**	**11 40 37.0**	**+1.2**
TTO4	**TONANKAI O.B.S**	**0.37**	**73**	P	**Pn**	**11 40 37.0**	**+1.2**
TTO1	**TONANKAI O.B.S**	**0.39**	**225**	P	**Pn**	**11 40 37.0**	**+1.0**
JIE	**Ise**	**0.60**	**326**	*i* P	**Pn**	**11 40 37.4**	**+0.8**
JIE				S	**S**	**11 41 12.9**	**+0.2**
JTNC	**Tanabenakahech**	**1.25**	**267**	*i* P	**Pn**	**11 40 39.4**	**+0.4**
JTNC				*e*S	**S**	**11 41 17.1**	**0.0**
JWY	**Kouya**	**1.30**	**285**	*i* P	**Pn**	**11 40 40.0**	**+0.7**
JWY				*e*S	**S**	**11 41 17.5**	**-0.1**
INU	**Inuyama**	**1.45**	**357**	Pn	**Pn**	**11 40 40.0**	**+0.1**
INU	**Inuyama**	**1.45**	**357**	P	**Pn**	**11 40 40.6**	**+0.7**
JGF	**Kuroka**	**1.71**	**7**		**Pn**	**11 40 41.7**	**+0.2**
JGF	**Kuroka**	**1.71**	**7**	P	**Pn**	**11 40 41.8**	**+0.3**
JYTA	**Yamagatataniai**	**1.72**	**350**	P	**Pn**	**11 40 42.0**	**+0.6**
JYTA				S	**S**	**11 41 22.1**	**+0.5**
JWT	**Wachi**	**1.97**	**315**	*i* P	**Pn**	**11 40 43.7**	**+0.6**
JWT				S	**S**	**11 41 24.1**	**-0.5**
JYN	**Shimob**	**1.99**	**36**	P	**Pn**	**11 40 43.9**	**+0.6**
JOD2	**Odawara 2**	**2.13**	**50**	P	**Pn**	**11 40 44.2**	**0.0**
JAI	**Aioi**	**2.21**	**268**	*i* P	**Pn**	**11 40 45.4**	**+0.5**
JHJ	**Hachijo jima 2**	**2.37**	**108**	P	**Pn**	**11 40 47.3**	**+1.2**
	98nm,0.3s,baz=234,slow=19,SNR=1.5						
JHJ				S	**S**	**11 41 32.0**	**+2.2**
	249nm,0.8s,baz=241,slow=23,SNR=2.0						
JHJ2	**Mitsune**	**2.39**	**108**	Pn	**Pn**	**11 40 46.1**	**-0.2**
JKG	**Kaga**	**2.46**	**345**	P	**Pn**	**11 40 46.8**	**+0.1**
JRY	**Ryogami san**	**2.58**	**34**	*i* P	**Pn**	**11 40 48.2**	**+0.5**
JRY				*e*S	**S**	**11 41 32.5**	**-0.4**
JMN	**Monobe**	**2.69**	**267**	Pn	**Pn**	**11 40 48.9**	**+0.2**
JMN	**Monobe**	**2.69**	**267**	P	**Pn**	**11 40 49.3**	**+0.6**
JMN	**Monobe**	**2.69**	**267**	P	**Pn**	**11 40 49.4**	**+0.6**
MAJO	**Matsushiro**	**2.79**	**18**	Pn	**Pn**	**11 40 48.1**	**-1.3**
MAJO	**Matsushiro**	**2.79**	**18**	P	**Pn**	**11 40 49.6**	**+0.2**
MAT	**Matsushiro**	**2.79**	**18**	P	**Pn**	**11 40 49.4**	**0.0**
MAT				*e*S	**S**	**11 41 34.5**	**-1.6**
MJAR	**Matsushiro Arr**	**2.79**	**19**	P	**Pn**	**11 40 49.3**	**-0.1**
	8.8nm,0.5s,baz=184,slow=9.8,SNR=38						
MJAR				S	**S**	**11 41 33.5**	**-2.5**
	9.0nm,0.8s,baz=198,slow=16,SNR=8.0						
MJB9	**Matsu-Tunnel**	**2.79**	**18**		**Pn**	**11 40 48.9**	**-0.5**
JAG	**Ashikaga**	**3.17**	**37**	*i* P	**Pn**	**11 40 51.4**	**-1.4**
JAG				S	**S**	**11 41 38.1**	**-4.0**
BSO1	**Boso 1**	**3.29**	**76**	P	**Pn**	**11 40 51.4**	**-1.9**
BSO1				S	**S**	**11 41 41.3**	**-1.9**
JHS	**Saijyo**	**3.48**	**290**	P	**Pn**	**11 40 56.5**	**+0.8**
JHS				S	**S**	**11 41 48.0**	**+0.5**
JTO	**Tosashimizu**	**3.75**	**255**	*e*P	**Pn**	**11 40 58.7**	**+0.3**
JSD	**Sado**	**4.24**	**12**	Pn	**Pn**	**11 41 03.2**	**0.0**
JMM	**Marumori**	**4.96**	**36**	Pn	**Pn**	**11 41 09.8**	**-1.0**
JMM	**Marumori**	**4.96**	**36**	P	Pn	11 41 06.7	-4.2
JNU	**Nakatsue**	**5.26**	**263**	Pn	**Pn**	**11 41 12.0**	**-2.4**
JNU	**Nakatsue**	**5.26**	**263**	P	**Pn**	**11 41 14.3**	**-0.1**
	9.2nm,0.8s,baz=130,slow=3.9,SNR=5.3						
JTM	**Tenmabayashi**	**7.56**	**23**	Pn	**Pn**	**11 41 38.8**	**-1.7**
KSRS	**Korea Array**	**8.27**	**298**	P	**Pn**	**11 41 50.0**	**+1.1**
	15nm,0.8s,baz=112,slow=12,SNR=50						
KSAR	**Wonju Array Be**	**8.30**	**298**	Pn	**Pn**	**11 41 49.5**	**+0.3**
KS19	**Wonju Array Si**	**8.33**	**298**		**Pn**	**11 41 50.3**	**+0.6**
INCN	**Inchon**	**9.24**	**296**		**Pn**	**11 42 00.5**	**+0.1**
ERM	**Erimo**	**9.40**	**29**	Pn	**Pn**	**11 42 01.9**	**-0.4**
ERM	**Erimo**	**9.40**	**29**	P	**Pn**	**11 42 04.7**	**+2.5**
JOW	**Kunigami**	**10.38**	**230**	P	**Pn**	**11 42 14.0**	**-0.1**
	11nm,0.7s,baz=1.3,slow=18,SNR=1.6						
USA0B	**Ussuriysk Arra**	**11.03**	**340**	P	**Pn**	**11 42 22.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**11.03**	**340**		**Pn**	**11 42 22.2**	**+0.7**
USRK	**Ussuriysk Ar.**	**11.03**	**340**	P	**Pn**	**11 42 22.1**	**+0.5**
	6.7nm,0.5s,baz=148,slow=11,SNR=22						
ASAJ	**Asahikawa**	**11.06**	**21**	P	**Pn**	**11 42 21.2**	**-0.7**
	3.4nm,0.4s,baz=227,slow=6.5,SNR=5.7						
YSS	**Yuzh-Sakhalins**	**13.73**	**16**		**P**	**11 42 53.2**	**+1.5**
BNX	**BinXian**	**13.97**	**331**	⇑P	**P**	**11 42 54.3**	**-0.1**
BNX				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KLR	**Kul'dur**	**15.83**	**347**	P	**P**	**11 43 13.8**	**-0.9**
	0.7nm,0.5s,baz=66,slow=3.6,SNR=2.0						
YHNB	**Yeheng**	**16.50**	**240**	P	**Pn**	**11 43 24.2**	**-1.6**
	37nm,2.0s						
NACB	**Ninganchiao**	**16.65**	**238**	P	**P**	**11 43 23.6**	**-0.3**
NACB	**Ninganchiao**	**16.65**	**238**	P	**P**	**11 43 24.1**	**+0.2**
SSLB	**Suanglung**	**17.35**	**239**	P	**P**	**11 43 30.4**	**-1.0**
SSLB	**Suanglung**	**17.35**	**239**	P	**P**	**11 43 31.0**	**-0.4**
YULB	**Yu-li**	**17.36**	**237**	P	**P**	**11 43 29.7**	**-1.8**
TPUB	**Ta-pu**	**17.89**	**238**	P	**P**	**11 43 36.7**	**-0.5**
WHN	**Wuhan**	**19.54**	**266**	⇑P	**P**	**11 43 54.3**	**-0.2**
WHN				pmax	pmax		
	comp=Z,64nm,0.5s						
HHC	**Hu-ho-hao-te**	**21.41**	**296**	*e*P	**P**	**11 44 11.3**	**-0.7**
HHC				pmax	pmax		
	comp=Z,21nm,0.5s						
HHC				pmax	pmax		
	comp=Z,92nm,5.7s						
PEA0B	**Petropavlovsk-**	**24.17**	**31**	P	**P**	**11 44 36.5**	**-0.3**
PETK	**Petropavlovsk-**	**24.17**	**31**	P	**P**	**11 44 36.4**	**-0.4**
PETK	**Petropavlovsk-**	**24.17**	**31**	P	**P**	**11 44 35.6**	**-1.1**
	5.0nm,1.0s,baz=234,slow=5.0,SNR=4.4						
	5.0nm,1.0s						
SONM	**Songino Array**	**26.87**	**310**	P	**P**	**11 45 00.4**	**-0.6**
	2.7nm,0.8s,baz=117,slow=10,SNR=12						
	2.7nm,0.8s						
GTA	**Gaotai**	**30.27**	**291**	*e*P	**P**	**11 45 30.8**	**-0.3**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PZH	**PanZhiHua**	**31.33**	**266**	P	**P**	**11 45 42.0**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,5.7s						
PHRA	**Phrae**	**36.25**	**254**	P	**P**	**11 46 22.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**37.30**	**255**	P	**P**	**11 46 30.4**	**-0.8**
	0.6nm,0.3s,baz=46,slow=6.1,SNR=4.6						
	0.6nm,0.3s						
BILL	**Bilibino**	**38.04**	**17**	P	**P**	**11 46 37.7**	**+1.1**
BILL				IAmb	IAmb	11 46 38.1	
	comp=Z,4.8nm,0.5s						
ZALV	**Zalesovo Beam**	**41.54**	**315**	P	**P**	**11 47 06.3**	**+1.1**
MK31	**Makanchi Array**	**42.89**	**304**	P	**P**	**11 47 16.6**	**+0.3**
MKAR	**Makanchi Array**	**42.89**	**304**	P	**P**	**11 47 16.4**	**+0.1**
MKAR	**Makanchi Array**	**42.89**	**304**	P	**P**	**11 47 16.3**	**0.0**
	comp=Z,1.2nm,0.5s,baz=86,slow=9.8,SNR=15						
	comp=Z,1.2nm,0.5s						
MAKZ	**Makanchi**	**43.11**	**304**	P	**P**	**11 47 18.2**	**+0.3**
KURK	**Kurchatov**	**45.18**	**310**	P	**P**	**11 47 34.1**	**0.0**
KURBB	**Kurchatov Arra**	**45.24**	**310**	P	**P**	**11 47 34.2**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=87,slow=6.8,SNR=16						
	comp=Z,1.4nm,0.6s						
MTN	**Manton Dam**	**46.83**	**188**	P	**P**	**11 47 46.0**	**-1.1**
MTN				IAmb	IAmb	11 47 46.8	
	comp=Z,28nm,1.5s						
CNBA	**Chernabura Isl**	**48.01**	**44**	P	**P**	**11 47 55.4**	**-0.4**
BVAR	**Borovoye Array**	**50.14**	**314**	P	**P**	**11 48 10.9**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=76,slow=6.4,SNR=2.5						
	comp=Z,0.6nm,0.6s						
O18K	**Koktuh Hills**	**50.31**	**37**	P	**P**	**11 48 14.7**	**+1.8**
Q19K	**Cape Douglas,**	**51.13**	**39**	P	**P**	**11 48 18.9**	**-0.1**
KDAK	**Kodiak Island**	**51.76**	**40**	P	**P**	**11 48 23.8**	**+0.2**
E23K	**Chandalar**	**52.81**	**27**	IAmb	IAmb	11 48 34.0	
	comp=Z,9.9nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.85**	**194**	P	**P**	**11 48 31.4**	**-0.6**
	comp=Z,2.2nm,0.9s,baz=27,slow=2.3,SNR=2.3						
	comp=Z,2.2nm,0.9s						
D24K	**Happy Valley**	**53.12**	**25**	IAmb	IAmb	11 48 35.1	
	comp=Z,5.4nm,0.6s						
C24K	**Franklin Bluff**	**53.18**	**25**	IAmb	IAmb	11 48 35.5	
	comp=Z,9.1nm,0.6s						
WB0	**Warramunga Arr**	**53.43**	**183**	P	**P**	**11 48 35.1**	**-1.0**
WB0				IAmb	IAmb	11 48 45.2	
	comp=Z,6.7nm,1.4s						
F24K	**Squaw Lake**	**53.47**	**28**	P	**P**	**11 48 37.3**	**+1.3**
WB2	**Warramunga Arr**	**53.60**	**183**	P	**P**	**11 48 36.5**	**-0.9**
WRA	**Warramunga Arr**	**53.60**	**183**	P	**P**	**11 48 36.2**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=359,slow=7.6,SNR=20						
	comp=Z,1.0nm,0.3s						
WR0	**Warramunga Arr**	**53.61**	**183**	P	**P**	**11 48 36.7**	**-0.7**
WR0				IAmb	IAmb	11 48 54.2	
	comp=Z,6.2nm,1.4s						
G24K	**Hadweenzic Riv**	**53.66**	**29**	IAmb	IAmb	11 48 41.4	
	comp=Z,15nm,1.1s						
D25K	**Kavik River**	**54.00**	**25**	IAmb	IAmb	11 48 41.5	
	comp=Z,3.8nm,0.6s						
ILAR	**Eielson Array**	**54.00**	**31**	P	**P**	**11 48 39.0**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=258,slow=6.6,SNR=8.7						
	comp=Z,0.5nm,0.8s						
BMAR	**Burnt Mountain**	**54.75**	**28**	P	**P**	**11 48 47.2**	**+2.1**
AB31	**Akbulak array**	**57.29**	**311**	⇓Pn	P	11 48 58.2	-4.9
	comp=Z,0.8nm,0.7s,baz=352,slow=13,SNR=7.9						
AB31				⇑Lg	Lg	11 49 49.9	
	comp=Z,1.0nm,0.3s,baz=351,slow=27,SNR=4.8						
ASAR	**Alice Springs**	**57.33**	**183**	P	**P**	**11 49 02.4**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=11,slow=14,SNR=8.7						
	comp=Z,0.5nm,0.8s						
EPYK	**Eagle Plains**	**57.97**	**28**	P	**P**	**11 49 08.8**	**+1.3**
EPYK				IAmb	IAmb	11 49 09.4	
	comp=Z,6.2nm,0.6s						
I30M	**Mount Dempster**	**58.35**	**30**	IAmb	IAmb	11 49 13.2	
	comp=Z,7.6nm,1.4s						
INK	**Inuvik**	**58.75**	**26**	P	**P**	**11 49 13.0**	**+0.2**
INK				IAmb	IAmb	11 49 39.1	
	comp=Z,4.6nm,1.2s						
G31M	**Satah River**	**58.80**	**27**	P	**P**	**11 49 13.8**	**+0.7**
FARO	**Faro, Yukon**	**60.42**	**33**	P	**P**	**11 49 25.3**	**+1.0**
FARO				IAmb	IAmb	11 49 26.9	
	comp=Z,4.8nm,1.2s						
A36M	**Sachs Harbour**	**60.45**	**21**	P	**P**	**11 49 24.9**	**+0.6**
A36M				IAmb	IAmb	11 49 26.6	
	comp=Z,4.8nm,0.9s						
EUNU	**Eureka**	**63.78**	**8**	P	**P**	**11 49 46.7**	**+0.5**
RES	**Resolute Bay**	**66.48**	**13**	P	**P**	**11 50 03.4**	**+0.2**
RES				IAmb	IAmb	11 50 24.8	
	comp=Z,3.8nm,1.4s						
FINES	**FINESS Array B**	**69.92**	**331**	P	**P**	**11 50 24.4**	**-0.2**
FINES	**FINESS Array B**	**69.92**	**331**	P	**P**	**11 50 24.2**	**-0.5**
	comp=Z,1.2nm,0.8s,baz=64,slow=4.4,SNR=4.7						
	comp=Z,1.2nm,0.8s						
DBO	**Dodson Butte**	**73.98**	**49**	P	**P**	**11 50 50.3**	**+1.3**
DBO				IAmb	IAmb	11 51 08.8	
	comp=Z,6.2nm,1.3s						
PINE	**Pine Mountain**	**75.04**	**47**	P	**P**	**11 50 56.6**	**+1.4**
PINE				IAmb	IAmb	11 50 59.0	
	comp=Z,2.5nm,0.9s						
J08A	**Circle Bar Ran**	**76.78**	**47**	P	**P**	**11 51 06.1**	**+1.2**
J08A				IAmb	IAmb	11 51 07.1	
	comp=Z,4.8nm,1.4s						
NVAR	**Mina Array Bea**	**79.68**	**51**	P	**P**	**11 51 21.8**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=295,slow=4.8,SNR=7.0						
	comp=Z,0.4nm,0.6s						
PDAR	**Pinedale Array**	**82.36**	**43**	P	**P**	**11 51 34.6**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=321,slow=4.0,SNR=8.1						
	comp=Z,0.7nm,0.7s						
TXAR	**Lajitas Array**	**94.82**	**50**	P	**P**	**11 52 34.4**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=294,slow=3.3,SNR=5.8						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**123.65**	**180**	PKP	**PKPdf**	**11 58 05.3**	**-1.0**
	comp=Z,1.1nm,0.9s,baz=265,slow=3.1,SNR=6.8						

IDC 14 11:53:58.1±311.0, 14.°69N×82.°18E, h0^{km}, Error ellipse: s-maj=422.8km s-min=125.3km az=120.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I52GB	**DIEGO GARCIA I**	**23.94**	**204**	I	I	14 20 20.0	
	baz=27,slow=311,SNR=7.5						
I34MN	**SONGINO INFRAS**	**38.64**	**26**	I	I	15 45 10.0	
	0.1nm,0.8s,baz=218,slow=334,SNR=4.5						
I45RU	**USSURIYSK INFR**	**51.36**	**45**	I	I	17 15 00.0	
	baz=251,slow=282,SNR=4.0						

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*IDC **14** 12:02:25.8±0.8, 0.°19S×124.°53E, h0^{km}, mb3.7/8, mbtmp3.8/10, ML3.8/2, MS2.8/2, Error ellipse: s-maj=44.7km s-min=15.4km az=72.0*
*DJA **14** 12:02:31.0±0.2, 0.°S±2.°×12.°5E±.°, h10^{km}, M4.3/16, mB5.3/4, mb4.4/5, MLv4.1/16, Mw(mB)4.8/4*

ISC 14 12:02:32.6±0.7, 0.°26S±0.°06×124.°68E±0.°06, h50^{km}, n24, σ1§86/25, mb3.8/8, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.08**	**319**	P	**Pn**	**12 02 49.9**	**-1.5**
KMSI				S	**Sn**	**12 03 05.9**	**+0.5**
LUWI	**Luwuk**	**2.07**	**248**	P	**Pn**	**12 03 07.6**	**+2.8**
SANI	**Sanana**	**2.21**	**144**	P	**Pn**	**12 03 06.4**	**-0.4**
APSI	**Ampana**	**3.10**	**258**	P	**Pn**	**12 03 21.0**	**+1.9**
NLAI	**Namlea**	**3.82**	**141**	P	**Pn**	**12 03 29.6**	**+0.7**
KDI	**Kendari**	**4.22**	**209**	P	**Pn**	**12 03 35.4**	**+1.0**
PCI	**Palu**	**4.89**	**262**	P	**Pn**	**12 03 45.2**	**+1.6**
MSAI	**Masohi**	**5.24**	**126**	P	**Pn**	**12 03 51.1**	**+2.7**
	42nm,0.7s,2μm0.3nm						
TTSI	**Tana Toraja**	**5.60**	**240**	P	**Pn**	**12 03 54.8**	**+1.5**
SPSI	**Sidrap Palu**	**6.14**	**233**	P	**Pn**	**12 04 03.0**	**+2.2**
	24nm,0.7s,2μm0.1nm						
BNSI	**Bone**	**6.15**	**228**	P	**Pn**	**12 04 02.7**	**+1.8**
	27nm,0.8s,0.1nm						
SWI	**Sorong**	**6.60**	**95**	P	**Pn**	**12 04 08.1**	**+1.0**
KAPI	**Kappang**	**6.83**	**226**	Pn	**Pn**	**12 04 07.8**	**-2.4**
	2.9nm,0.3s,baz=125,slow=16,SNR=1.9						
KAPI				Sn	**Sn**	**12 05 21.5**	**-5.1**
	1.4nm,0.3s,baz=122,slow=19,SNR=1.2						
	7.7nm,0.3s						
DAV	**Davao City (W)**	**7.33**	**7**	LR	LR	12 07 11.7	
	comp=Z,68nm,21.5s,baz=167,slow=39						
BATI	**Baumata**	**9.94**	**186**	LR	LR	12 09 06.5	
	comp=Z,62nm,20.1s,baz=270,slow=40						
FITZ	**Fitzroy Crossi**	**17.76**	**177**	P	**Pn**	**12 06 36.4**	**+0.1**
	0.2nm,0.3s,baz=3.2,slow=9.8,SNR=5.7						
	2.6nm,0.7s						
WRA	**Warramunga Arr**	**21.73**	**155**	P	**P**	**12 07 19.4**	**-0.5**
	1.1nm,0.5s,baz=331,slow=10,SNR=9.9						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**24.93**	**160**	P	**P**	**12 07 52.0**	**+0.7**
	1.9nm,0.8s,baz=329,slow=7.2,SNR=23						
ASAR				PcP	**PcP**	**12 11 26.7**	**+0.7**
	0.2nm,0.5s,baz=349,slow=1.7,SNR=4.2						
	1.9nm,0.8s						
STKA	**Stephens Creek**	**35.28**	**155**	P	**P**	**12 09 23.6**	**+0.8**
	1.0nm,0.5s,baz=326,slow=11,SNR=3.5						
	1.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**44.74**	**7**	P	**P**	**12 10 41.5**	**+0.6**
	0.8nm,0.5s,baz=182,slow=6.5,SNR=4.9						
	0.8nm,0.5s						
SONM	**Songino Array**	**50.47**	**344**	P	**P**	**12 11 25.1**	**-0.5**
	0.4nm,0.4s,baz=155,slow=9.3,SNR=1.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**59.72**	**328**	P	**P**	**12 12 30.4**	**-1.8**
	0.4nm,0.4s,baz=121,slow=7.3,SNR=8.4						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**63.25**	**335**	P	**P**	**12 12 55.3**	**-0.5**
	0.3nm,0.3s,baz=126,slow=6.6,SNR=2.4						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**64.03**	**329**	P	**P**	**12 13 00.4**	**-0.6**
	0.4nm,0.6s,baz=132,slow=5.4,SNR=7.0						
	0.4nm,0.6s						

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*IDC **14** 12:05:19.3±1.5, 37.°71N×20.°76E, h0^{km}, mb3.4/5, mbtmp3.4/6, ML0.9/1, Error ellipse: s-maj=30.7km s-min=26.0km az=84.0*
*ATH **14** 12:05:19.9, 37.°39N×20.°54E, h15^{km}±1^{km}, ML3.0/9, Error ellipse: s-maj=2.2km s-min=1.2km az=57.0*
*THE **14** 12:05:20.1, 37.°39N×20.°56E, h0^{km}±1^{km}, ML3.1/12, Error ellipse: s-maj=2.1km s-min=0.5km az=225.0*

ISC 14 12:05:20.7±1.4, 37.°42N±0.°04×20.°58E±0.°05, h12^{km}±9^{km}, n47, σ1§18/67, mb3.4/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.31**	**37**	P	**Pg**	**12 05 27.0**	**0.0**
KRI1				S	**Sg**	**12 05 31.9**	**+0.7**
	9μm,0.3s						
LTHK	**Lithakia**	**0.36**	**35**	P	**Pg**	**12 05 27.7**	**-0.2**
LTHK				S	**Sg**	**12 05 33.2**	**+0.5**
	5μm,0.4s						
LTHK	**Lithakia**	**0.36**	**35**	P	**Pg**	**12 05 27.8**	**-0.1**
LTHK				S	**Sg**	**12 05 33.3**	**+0.7**
LTHK				AML	AML	12 05 33.8	
	comp=N,12818μm,0.5s						
LTHK				AML	AML	12 05 34.7	
	comp=E,6874μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.68**	**13**	P	**Pg**	**12 05 33.3**	**-0.6**
RTZL				S	**Sb**	**12 05 44.0**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.70**	**0**	P	**Pg**	**12 05 33.3**	**-1.0**
PSDA				S	**Sg**	**12 05 44.5**	**+1.1**
	comp=E,2μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.70**	**0**	P	**Pg**	**12 05 33.7**	**-0.6**
PSDA				S	**Sg**	**12 05 43.5**	**+0.1**
VLS	**Valsamata**	**0.76**	**1**	P	**Pg**	**12 05 34.9**	**-0.6**
VLS				S	**Sb**	**12 05 46.6**	**+0.3**
	comp=E,1μm,0.3s						
VLS	**Valsamata**	**0.76**	**1**	P	**Pg**	**12 05 34.8**	**-0.6**
VLS				S	**Sg**	**12 05 46.3**	**+0.9**
VLS				AML	AML	12 05 47.1	
	comp=E,1289μm,0.4s						
VLS				AML	AML	12 05 47.4	
	comp=N,2545μm,0.3s						
LXR1	**Lixouri, Cepha**	**0.79**	**352**	P	**Pg**	**12 05 35.5**	**-0.6**
LXR1				S	**Sb**	**12 05 47.5**	**+0.3**
	comp=N,5μm,0.5s						
DMLN	**Damoulianata-K**	**0.84**	**349**	P	**Pg**	**12 05 36.5**	**-0.4**
DMLN				S	**Sb**	**12 05 48.9**	**+0.4**
	comp=N,2μm,0.7s						
DMLN	**Damoulianata-K**	**0.84**	**349**	P	**Pg**	**12 05 36.0**	**-0.9**
AMT	**Artemida-Makis**	**0.91**	**82**	P	**Pg**	**12 05 37.2**	**-1.0**
AMT				S	**Sg**	**12 05 50.3**	**+0.3**
AMT				AML	AML	12 05 55.5	
	comp=E,5166μm,0.4s						
AMT				AML	AML	12 05 56.8	
	comp=N,10872μm,0.5s						
RLS	**Riolos of Patr**	**0.95**	**47**	P	**Pg**	**12 05 38.0**	**-1.1**
RLS				S	**Sb**	**12 05 52.4**	**+0.6**
	comp=N,502nm,0.4s						
RLS	**Riolos of Patr**	**0.95**	**47**	P	**Pg**	**12 05 38.0**	**-1.1**
RLS				S	**Sg**	**12 05 52.1**	**+0.6**
RLS				AML	AML	12 05 57.6	
	comp=E,991μm,0.4s						
RLS				AML	AML	12 05 57.7	
	comp=N,1012μm,0.3s						
VSK1	**VASILIKIADES**	**0.99**	**359**	P	**Pg**	**12 05 39.1**	**-0.8**
VSK1				S	**Sb**	**12 05 54.2**	**+1.2**
	comp=N,1μm,0.6s						
FSK	**Fiskardo**	**1.04**	**359**	P	**Pg**	**12 05 39.8**	**-1.0**
FSK				S	**Sb**	**12 05 55.8**	**+1.4**
	comp=N,952nm,1.3s						
FSK	**Fiskardo**	**1.04**	**359**	P	**Pg**	**12 05 39.7**	**-1.2**
FSK				S	**Sg**	**12 05 53.6**	**-0.8**
FSK				AML	AML	12 05 59.8	
	comp=N,1454μm,0.6s						
FSK				AML	AML	12 06 02.1	
	comp=E,1486μm,0.6s						
DRO	**Drossia**	**1.04**	**59**

comp=Z,1.8nm,0.2s
VRF SB Sg 12 06 28.4 -1.0
OLKF Oulanka, Finla 2.01 233 PG Pb 12 06 19.1 -1.0
OLKF MSG 12 06 42.6
comp=Z,1.1nm,0.2s
RAJF Raja-Jooseppi 2.12 298 SN Sn 12 06 44.4 -1.8
KEV Kevo 3.20 316 PN Pn 12 06 32.3 -1.9
KEV SN Sn 12 07 10.4 -2.6
HEF Hetta 3.76 287 SG Sg 12 07 40.5 -2.8
TOF Tornio 3.88 252 SN Sn 12 07 27.2 -2.6

*IDC **14** 12:15:47.5±1.1, 37°51N×20°65E, h0km, mb3.6/11, mbtmp3.6/15, ML3.8/3, MS3.0/6, Error ellipse: s-maj=26.4km s-min=15.5km az=158.0*
*ATH **14** 12:15:48.8, 37°44N×20°36E, h7km±3km, ML3.7/8, Error ellipse: s-maj=3.6km s-min=1.2km az=43.0*
*NEIC **14** 12:15:49.9±1.4, 37°48N±0°09×20°37E±0°03, h10km±2km, mb4.3/7, Error ellipse: s-maj=16.2km s-min=3.4km az=190.0*
*THE **14** 12:15:49.4, 37°45N×20°40E, h5km±3km, ML3.8/8, Error ellipse: s-maj=3.1km s-min=1.0km az=19.0*
*BEO **14** 12:15:56.4±1.2, 37°84N×21°51E, h0km, ML3.7/4*

ISC 14 12:15:50.7±1.1, 37°51N±0°03×20°48E±0°03, h18km±5km, n107, σ1§54/116, mb3.9/17, MS3.6/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.30**	**60**	P	**Pg**	**12 15 57.0**	**-0.3**
KRI1				S	**Sg**	**12 16 02.4**	**+0.5**
21μm,0.8s							
LTHK	**Lithakia**	**0.34**	**54**	P	**Pg**	**12 15 57.6**	**-0.4**
LTHK				S	**Sg**	**12 16 03.5**	**+0.6**
17μm,0.4s							
LTHK	**Lithakia**	**0.34**	**54**	P	**Pg**	**12 15 57.4**	**-0.6**
LTHK				S	**Sg**	**12 16 04.1**	**+1.2**
LTHK				AML	AML	12 16 04.5	
comp=N,36320μm,0.2s							
LTHK				AML	AML	12 16 05.2	
comp=E,28732μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.61**	**7**	P	**Pg**	**12 16 01.9**	**-0.9**
PSDA				S	**Sb**	**12 16 11.8**	**+0.7**
comp=E,17μm,0.7s							
PSDA	**Pessada-Kefalo**	**0.61**	**7**	P	**Pg**	**12 16 01.8**	**-0.9**
PSDA				S	**Sg**	**12 16 11.3**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.61**	**22**	P	**Pg**	**12 16 02.0**	**-0.8**
RTZL				S	**Sb**	**12 16 12.9**	**+1.8**
comp=E,13μm,0.7s							
VLS	**Valsamata**	**0.67**	**7**	P	**Pg**	**12 16 02.6**	**-1.4**
VLS				S	**Sb**	**12 16 13.7**	**+0.7**
comp=E,16μm,0.6s							
VLS	**Valsamata**	**0.67**	**7**	P	**Pg**	**12 16 02.6**	**-1.4**
VLS				S	**Sb**	**12 16 13.6**	**+0.7**
VLS				AML	AML	12 16 21.3	
comp=E,36176μm,0.5s							
VLS				AML	AML	12 16 21.8	
comp=N,30745μm,0.4s							
LXR1	**Lixouri, Cepha**	**0.69**	**357**	P	**Pb**	**12 16 04.2**	**0.0**
LXR1				S	**Sb**	**12 16 14.8**	**+1.3**
LXRA	**Lixouri, Kepha**	**0.69**	**357**	P	**Pg**	**12 16 03.7**	**-0.6**
DMLN	**Damoulianata-K**	**0.73**	**353**	P	**Pg**	**12 16 04.2**	**-1.0**
DMLN	**Damoulianata-K**	**0.73**	**353**	P	**Pg**	**12 16 04.1**	**-1.0**
DMLN				S	**Sb**	**12 16 15.1**	**+0.3**
SMHA	**Samh**	**0.75**	**10**	P	**Pg**	**12 16 04.4**	**-1.1**
SMHA				S	**Sg**	**12 16 15.6**	**+0.1**
FSK	**Fiskardo**	**0.95**	**4**	P	**Pg**	**12 16 07.9**	**-1.3**
FSK	**Fiskardo**	**0.95**	**4**	P	**Pg**	**12 16 07.5**	**-1.7**
FSK				S	**Sb**	**12 16 22.7**	**+1.8**
FSK				AML	AML	12 16 27.5	
comp=N,17282μm,0.5s							
FSK				AML	AML	12 16 29.2	
comp=E,26154μm,0.6s							
RLS	**Riolos of Patr**	**0.95**	**55**	P	**Pg**	**12 16 08.4**	**-0.9**
RLS				S	**Sn**	**12 16 25.0**	**+2.7**
comp=E,3μm,0.7s							
RLS	**Riolos of Patr**	**0.95**	**55**	P	**Pg**	**12 16 08.3**	**-0.9**
RLS				AML	AML	12 16 29.2	
comp=E,6259μm,0.9s							
RLS				AML	AML	12 16 29.9	
comp=N,6102μm,0.6s							
AMT	**Artemida-Makis**	**0.97**	**88**	P	**Pg**	**12 16 09.0**	**-0.6**
AMT				AML	AML	12 16 32.6	
comp=E,11308μm,0.7s							
AMT				AML	AML	12 16 33.0	
comp=N,13898μm,0.5s							
DRO	**Drossia**	**1.07**	**65**	P	**Pg**	**12 16 10.9**	**-0.6**
DRO	**Drossia**	**1.07**	**65**	P	**Pg**	**12 16 10.9**	**-0.6**
DRO				AML	AML	12 16 36.1	
comp=N,6446μm,0.4s							
DRO				AML	AML	12 16 51.9	
comp=E,7886μm,0.7s							
EVGI	**Lefkada island**	**1.12**	**7**	P	**Pg**	**12 16 10.7**	**-1.7**
DRAG	**Dragano-Lefkad**	**1.18**	**3**	P	**Pg**	**12 16 11.7**	**-1.8**
PYL	**PYLOS**	**1.18**	**121**	P	**Pg**	**12 16 12.1**	**-1.4**
PYL				S	**Sn**	**12 16 30.3**	**+2.4**
comp=E,728nm,0.5s							
PYL	**PYLOS**	**1.18**	**121**	P	**Pg**	**12 16 12.1**	**-1.4**
PYL				AML	AML	12 16 40.1	
comp=N,1164μm,0.8s							
PYL				AML	AML	12 16 45.5	
comp=E,1684μm,1.0s							
ITM	**Ithomi**	**1.20**	**106**	P	**Pg**	**12 16 13.3**	**-0.5**
ITM				S	**Sg**	**12 16 29.6**	**+0.1**
comp=E,1μm,0.8s							
ITM	**Ithomi**	**1.20**	**106**	P	**Pg**	**12 16 12.5**	**-1.4**
ITM				AML	AML	12 16 39.8	
comp=E,2081μm,0.6s							
ITM				AML	AML	12 16 46.8	
comp=N,1958μm,1.0s							
NYDR	**Nydri-Lefkada**	**1.21**	**8**	P	**Pg**	**12 16 12.2**	**-2.0**
TSLK	**Tsoukalades, L**	**1.32**	**6**	P	**Pn**	**12 16 14.3**	**0.0**
IGT	**Igoumenitsa**	**2.02**	**357**	*e*Pn	**Pg**	**12 16 28.9**	**-0.7**
IGT				*e*Sn	**Sg**	**12 16 57.2**	**+1.3**
AGG	**Agios Georgios**	**2.10**	**43**		**Pn**	**12 16 26.4**	**+1.4**
KEK	**Kerkira**	**2.27**	**346**	Pn	**Pn**	**12 16 28.0**	**+0.7**
SCTE	**Santa Cesarea**	**3.00**	**329**		**Pn**	**12 16 36.4**	**-1.0**
LIT	**Litokhoron**	**3.02**	**31**	Pn	**Pn**	**12 16 39.4**	**+1.6**
FNA	**Florina**	**3.34**	**12**	Pn	**Pn**	**12 16 43.3**	**+1.1**
FNA	**Florina**	**3.34**	**12**	*e*Pn	**Pn**	**12 16 44.7**	**+2.5**
TIP	**Timpagrande**	**3.37**	**301**	Pn	**Pn**	**12 16 40.6**	**-2.0**
OHR	**Ohrid**	**3.61**	**4**	*i* Pn	**Pn**	**12 16 49.0**	**+3.2**
CEL	**Celeste**	**3.71**	**283**	Pn	**Pn**	**12 16 46.6**	**-0.6**
TIR	**Tirane**	**3.86**	**353**		**Pn**	**12 16 50.1**	**+0.8**
VAY	**Valandovo**	**4.13**	**22**	*i* Pn	**Pn**	**12 16 55.3**	**+2.3**
IDI	**Anoyia**	**4.19**	**121**	Sn	**Sn**	**12 17 40.8**	**-1.6**
comp=N,2.4nm,0.3s,baz=310,slow=20,SNR=6.4							
SRS	**Serrai**	**4.33**	**33**	*e*Pn	**Pn**	**12 16 53.9**	**-1.8**
CUC	**Castrocucco**	**4.41**	**306**		**Pn**	**12 16 56.3**	**-0.5**
PUK	**Puka**	**4.55**	**354**	Pn	**Pn**	**12 16 58.7**	**-0.1**
VAE	**Valguarnera**	**4.83**	**271**	Pn	**Pn**	**12 17 05.7**	**+3.1**
comp=N,20nm,0.7s,baz=98,slow=8.1,SNR=2.7							
VAE				Sn	**Sn**	**12 18 02.7**	**+4.6**
comp=N,3.7nm,0.3s,baz=162,slow=20,SNR=3.5							
PDG	**Podgorica**	**5.00**	**350**	Pn	**Pn**	**12 17 05.1**	**+0.2**
BOSS	**Bosilegrad**	**5.21**	**16**	*e*Pn	**Pn**	**12 17 09.3**	**+1.5**
BARS	**Barje**	**5.40**	**10**	*e*Pn	**Pn**	**12 17 12.2**	**+1.9**
SELS	**Selova**	**5.72**	**5**	*e*Pn	**Pn**	**12 17 16.2**	**+1.4**
SJES	**Sjenica**	**5.76**	**356**	*e*Pn	**Pn**	**12 17 19.2**	**+3.8**
SJES				*e*Sn	**Sn**	**12 18 21.2**	**+0.1**
PAOL	**Paolisi**	**5.78**	**309**	Pn	**Pn**	**12 17 15.1**	**-0.6**
ZAPS	**Zavoj**	**5.99**	**15**	*e*Pn	**Pn**	**12 17 19.7**	**+1.2**
IVAS	**Ivanjica**	**6.07**	**358**	*e*Pn	Pn	12 17 24.2	+4.6
DIVS	**Divibare**	**6.59**	**357**	*e*Pn	**Pn**	**12 17 29.1**	**+2.3**
DIVS				*e*Sn	**Sn**	**12 18 40.4**	**-1.2**
INTR	**Introdacqua**	**6.77**	**314**	Pn	**Pn**	**12 17 28.3**	**-1.0**
NRCA	**Norcia**	**7.75**	**316**		**Pn**	**12 17 41.8**	**-1.0**
FDMO	**Fiordimonte**	**7.90**	**317**		**Pn**	**12 17 43.8**	**-0.9**
CESX	**Cesi**	**7.92**	**313**	Pn	**Pn**	**12 17 43.7**	**-1.2**
MLR	**Muntele Rosu**	**8.96**	**25**	Pn	**Pn**	**12 17 59.6**	**+0.3**
MLR	**Muntele Rosu**	**8.96**	**25**	Pn	**Pn**	**12 18 01.8**	**+2.4**
comp=N,0.4nm,0.3s,baz=240,slow=4.3,SNR=13							
KEST	**Kesra**	**9.13**	**262**	Pn	**Pn**	**12 18 03.1**	**+1.5**
comp=N,0.1nm,0.3s,baz=66,slow=12,SNR=1.8							
comp=N,2.9nm,0.9s							
SOKA	**Soboth**	**10.01**	**338**	*e*Pn	**Pn**	**12 18 16.4**	**+2.7**
comp=N,4.7nm,0.5s							
SOKA				*e*Sn	**Sn**	**12 20 04.1**	**-1.6**
comp=N,3.4nm,0.6s							
OBKA	**Obir**	**10.02**	**336**	*e*Pn	**Pn**	**12 18 16.3**	**+2.6**
comp=N,1.0nm,0.3s							
OBKA				*e*Sn	**Sn**	**12 20 04.9**	**-0.7**
comp=N,19nm,0.8s							
KBA	**Koelnbreinsper**	**10.92**	**333**	Pn	Pn	12 18 32.7	+6.5
comp=N,5.2nm,0.9s							
KBA				*e*Sn	**Sn**	**12 20 25.4**	**-2.6**
comp=N,9.8nm,1.1s							
FUORN	**Ofenpass-Fuorn**	**11.85**	**323**	Pn	**Pn**	**12 18 38.8**	**-0.2**
VRAC	**Vranov**	**12.13**	**348**	LR	LR	12 24 46.3	
comp=N,34nm,19.2s,baz=160,slow=44							
DAVOX	**Davos/Dischmat**	**12.14**	**323**	Sn	**Sn**	**12 20 51.8**	**-6.1**
comp=N,0.3nm,0.3s,baz=131,slow=23,SNR=1.2							
KWP	**Kalwaria Pacla**	**12.22**	**7**	Pn	**Pn**	**12 18 44.3**	**+0.5**
SENIN	**Lac Senin/Sane**	**13.20**	**316**	Pn	**Pn**	**12 18 55.4**	**-1.9**
SHMJ	**Saham**	**13.38**	**106**	P	P	12 19 15.8	+6.6
QRNJ	**Al-Qirein**	**13.41**	**108**	P	P	12 19 16.7	+7.2
LISJ	**El Lisan**	**13.87**	**112**	P	P	12 19 21.6	+7.1
GRFO	**Grafenberg**	**13.89**	**334**	Pn	**Pn**	**12 19 06.5**	**-0.1**
AK05	**Malin Array Si**	**14.51**	**23**	Pn	**Pn**	**12 19 16.1**	**+1.0**
KIEV	**Kiev**	**14.58**	**23**	Pn	**Pn**	**12 19 16.6**	**+0.6**
AKASG	**Malin Array Be**	**14.59**	**23**	Pn	**Pn**	**12 19 16.2**	**0.0**
AKASG	**Malin Array Be**	**14.59**	**23**	Pn	**Pn**	**12 19 15.0**	**-1.1**
comp=N,0.3nm,0.3s,baz=213,slow=12,SNR=2.3							
AKASG				LR	LR	12 25 11.9	
comp=N,21nm,20.1s,baz=233,slow=39							
comp=N,0.1nm,0.3s							
AKBB	**Malin Array Si**	**14.59**	**23**	Pn	**Pn**	**12 19 17.0**	**+0.8**
CLL	**Collm**	**14.78**	**341**	Pn	**Pn**	**12 19 19.2**	**+0.4**
PABE	**Paberze**	**18.16**	**6**	P	**Pn**	**12 20 01.6**	**-0.1**
GNI	**Garni**	**19.07**	**75**	LR	LR	12 28 04.2	
comp=N,28nm,19.6s,baz=277,slow=39							
ESDC	**Sonseca Array**	**19.22**	**284**	P	**Pn**	**12 20 14.4**	**-0.4**
comp=N,0.2nm,0.3s,baz=68,slow=11,SNR=4.7							
comp=N,0.4nm,0.4s							
MDT	**Midelt**	**21.02**	**265**	P	**P**	**12 20 32.9**	**-0.6**
comp=N,2.8nm,0.9s,baz=129,slow=13,SNR=2.0							
comp=N,2.8nm,0.9s							
HFS	**Hagfors**	**23.05**	**351**	P	**P**	**12 20 53.6**	**-1.3**
comp=N,3.6nm,0.8s,baz=156,slow=11,SNR=2.9							
comp=N,3.6nm,0.8s							
EKA	**Eskdalemuir Ar**	**23.96**	**326**	P	**P**	**12 21 04.4**	**+0.6**
comp=N,1.2nm,0.6s,baz=125,slow=6.2,SNR=1.6							
comp=N,1.2nm,0.6s							
BELG	**Belogornoye**	**24.11**	**43**	LR	LR	12 31 58.3	
comp=N,28nm,18.3s,baz=34,slow=40							
FINES	**FINESS Array B**	**24.21**	**7**	P	**P**	**12 21 05.6**	**-0.4**
FINES	**FINESS Array B**	**24.21**	**7**	P	**P**	**12 21 05.0**	**-1.0**
comp=N,1.9nm,0.7s,baz=186,slow=7.1,SNR=7.9							
comp=N,1.9nm,0.7s							
FIA1	**FINESS Array S**	**24.21**	**7**	P	**P**	**12 21 06.7**	**+0.7**
FIA1				IAmb	IAmb	12 21 26.5	
comp=Z,11nm,0.9s							
NOA	**NORSAR Array B**	**24.27**	**349**	P	**P**	**12 21 07.0**	**+0.3**
comp=Z,0.3nm,0.5s,baz=164,slow=11,SNR=1.3							
comp=Z,0.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**29.50**	**220**	P	**P**	**12 21 54.3**	**+0.4**
comp=Z,0.6nm,0.8s,baz=20,slow=9.6,SNR=3.4							
comp=Z,0.6nm,0.8s							
BRVK	**Borovoye**	**37.51**	**49**	P	**P**	**12 23 02.6**	**-0.7**
BVAR	**Borovoye Array**	**37.57**	**49**	P	**P**	**12 23 02.8**	**-1.1**
comp=Z,0.2nm,0.3s,baz=284,slow=5.8,SNR=1.7							
comp=Z,0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**42.65**	**53**	P	**P**	**12 23 44.8**	**-1.2**
comp=Z,0.4nm,0.6s,baz=278,slow=8.6,SNR=3.6							
comp=Z,0.4nm,0.6s							
KSH	**Kashi**	**42.88**	**70**	P	P	12 23 39.1	-9.1
MK31	**Makanchi Array**	**45.68**	**58**	P	**P**	**12 24 11.4**	**+1.0**
MK31				IAmb	IAmb	12 24 28.0	
comp=Z,1.4nm,0.8s							
MKAR	**Makanchi Array**	**45.68**	**58**	P	**P**	**12 24 10.7**	**+0.3**
MKAR	**Makanchi Array**	**45.68**	**58**	P	**P**	**12 24 07.5**	**-2.9**
comp=Z,0.3nm,0.5s,baz=312,slow=13,SNR=1.5							
comp=Z,0.3nm,0.5s							
ZAA0	**Zalesovo Array**	**46.16**	**48**	P	**P**	**12 24 15.5**	**+1.5**
ZAA0				IAmb	IAmb	12 24 20.7	
comp=Z,2.4nm,0.9s							
ZALV	**Zalesovo Beam**	**46.16**	**48**	P	**P**	**12 24 14.0**	**0.0**
ZALV	**Zalesovo Beam**	**46.16**	**48**	P	**P**	**12 24 12.8**	**-1.3**
comp=Z,1.1nm,0.6s,baz=282,slow=4.3,SNR=3.6							
comp=Z,1.1nm,0.6s							
TIXI	**Tiksi**	**60.29**	**20**	LR	LR	12 55 46.9	
comp=Z,48nm,18.2s,baz=191,slow=40							
LZH	**Lanzhou**	**64.53**	**63**	*e*P	P	12 26 13.8	-13
LZH				sP	pP	12 26 20.9	-11
LZH				pmax	pmax		
comp=Z,13nm,1.1s							
HHC	**Hu-ho-hao-te**	**67.44**	**55**	*e*P	**P**	**12 26 46.8**	**+1.4**
HHC				pmax	pmax		
comp=Z,11nm,0.7s							
HHC				pmax	pmax		
comp=Z,67nm,4.4s							
PZH	**PanZhiHua**	**67.83**	**73**	P	P	12 26 40.8	-7.3
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,100nm,6.0s							
CMAR	**Chiang Mai Arr**	**70.01**	**82**	P	**P**	**12 27 01.2**	**-0.5**
comp=Z,0.5nm,0.3s,baz=296,slow=8.7,SNR=1.6							
comp=Z,0.5nm,0.3s							
KLR	**Kul'dur**	**74.41**	**39**	LR	LR	13 05 05.5	
comp=Z,33nm,21.4s,baz=167,slow=40							

*IDC **14** 12:20:37.1±9.2, 7°98S×130°47E, h145km±94km, mb3.6/2, mbtmp4.1/6, Error ellipse: s-maj=97.8km s-min=31.0km az=44.0*

ISC 14 12:20:37.5±1.4, 8°13S±0°10×130°5E±0°1, h150km, n6, σ1§98/10, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.01**	**252**	P	**Pn**	**12 22 18.5**	**+0.8**
8.7nm,0.3s,baz=79,slow=19,SNR=2.0							
BATI				S	**Sn**	**12 23 34.5**	**-1.8**
32nm,0.5s,baz=55,slow=5.8,SNR=5.8							
FITZ	**Fitzroy Crossi**	**10.96**	**205**	P	**Pn**	**12 23 11.4**	**+1.2**
9.4nm,0.4s,baz=34,slow=13,SNR=102							
FITZ				S	**Sn**	**12 25 11.2**	**-0.2**
7.3nm,0.3s,baz=78,slow=20,SNR=8.1							
WRA	**Warramunga Arr**	**12.33**	**163**	P	**Pn**	**12 23 28.5**	**+0.3**
1.2nm,0.4s,baz=346,slow=13,SNR=13							
WRA				S	**Sn**	**12 25 40.8**	**-3.8**
2.1nm,0.4s,baz=344,slow=22,SNR=10							
ASAR	**Alice Springs**	**15.80**	**168**	P	**P**	**12 24 15.3**	**+2.6**
1.2nm,0.5s,baz=347,slow=10,SNR=46							
ASAR				S	**Sn**	**12 27 07.7**	**-0.2**
3.6nm,0.9s,baz=356,slow=26,SNR=11							
MKAR	**Makanchi Array**	**69.41**	**327**	P	**P**	**12 31 28.9**	**-0.3**
1.1nm,0.4s,baz=121,slow=7.4,SNR=24							
1.1nm,0.4s							
KURBB	**Kurchatov Arra**	**73.70**	**329**	P	**P**	**12 31 54.0**	**-0.7**
0.5nm,0.6s,baz=132,slow=5.0,SNR=5.4							
0.5nm,0.6s							

*IDC **14** 12:23:11.7±1.2, 36°39N×28°80E, h0km, mb3.7/4, mbtmp3.6/8, ML3.5/3, MS2.6/3, Error ellipse: s-maj=27.7km s-min=19.2km az=142.0*
*ISK **14** 12:23:12.8, 36°50N×28°74E, h5km, ML3.3/44*
*AFAD **14** 12:23:13.1±0.0, 36°45N×28°72E, h7km±4km, ML3.2*
*THE **14** 12:23:13.0, 36°47N×28°67E, h0km±1km, ML3.4/4, Error ellipse: s-maj=3.7km s-min=0.8km az=104.0*

ISC 14 12:23:13.2±1.1, 36°44N±0°02×28°71E±0°01, h9km±8km, n83, σ1§54/118, mb3.5/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.36**	**57**	P	**Pg**	**12 23 19.8**	**-0.6**
FETY				S	**Sb**	**12 23 26.9**	**-0.8**
FETY	**Fethiye**	**0.36**	**57**	Pg	**Pg**	**12 23 19.4**	**-0.9**
FETY				Sg	**Sb**	**12 23 25.5**	**-2.2**
DALY	**Dalyan (Mula)**	**0.38**	**353**	Pg	**Pg**	**12 23 19.9**	**-0.8**
DALY				Sg	**Sb**	**12 23 26.3**	**-1.9**
IZZE	**Mula-Seydike**	**0.42**	**90**	P	**Pg**	**12 23 20.6**	**-0.8**
IZZE				S	**Sb**	**12 23 28.1**	**-1.2**
IZZE				*i* AML	AML	12 23 33.0	
comp=N,4μm,0.4s							
IZZE				*i* AML	AML	12 23 34.0	
comp=E,3μm,0.6s							
SABU	**Mula-Dalaman**	**0.44**	**28**	P	**Pg**	**12 23 21.3**	**-0.5**
SABU				S	**Sb**	**12 23 27.9**	**-2.0**
SABU				*i* AML	AML	12 23 28.0	
comp=N,2μm,0.2s							
SABU				*i* AML	AML	12 23 31.0	
comp=E,2μm,0.6s							
MRSB	**Marmaris-Mugla**	**0.50**	**304**	Pg	**Pg**	**12 23 23.4**	**+0.5**
MRSB				Sg	**Sb**	**12 23 31.5**	**-0.1**
TURN	**Turunc**	**0.50**	**312**	P	**Pg**	**12 23 22.9**	**-0.1**
TURN				S	**Sb**	**12 23 30.6**	**-1.2**
TURN				*i* AML	AML	12 23 31.0	
comp=N,2μm,0.3s							
TURN				*i* AML	AML	12 23 31.0	
comp=E,1μm,0.2s							
TURN	**Turunc**	**0.50**	**312**	Pg	**Pg**	**12 23 22.7**	**-0.3**
TURN				Sg	**Sb**	**12 23 30.5**	**-1.2**
ARG	**Arkhangelos**	**0.52**	**245**	P	**Pg**	**12 23 23.4**	**+0.1**
ARG				S	**Sg**	**12 23 31.7**	**+1.6**
2μm,1.0s							
CAME	**Cameli-Denizli**	**0.69**	**43**	Pg	**Pg**	**12 23 26.2**	**-0.5**
CAME				Sg	**Sb**	**12 23 36.1**	**-1.3**
AKAS	**Kas**	**0.75**	**105**	P	**Pg**	**12 23 27.5**	**-0.2**
AKAS				S	**Sn**	**12 23 41.3**	**-0.4**
AKAS				*i* AML	AML	12 23 45.0	
comp=E,1μm,0.6s							
AKAS				*i* AML	AML	12 23 47.0	
comp=N,2μm,0.6s							
AKAS	**Kas**	**0.75**	**105**	Pg	**Pg**	**12 23 27.5**	**-0.2**
AKAS				Sg	**Sn**	**12 23 40.7**	**-1.1**
YER	**Yerkesik**	**0.78**	**334**	Pg	**Pg**	**12 23 28.0**	**-0.2**
YER				Sg	**Sb**	**12 23 39.2**	**-0.5**
YER	**Yerkesik**	**0.78**	**334**	P	**Pg**	**12 23 27.5**	**-0.7**
YER				S	**Sb**	**12 23 38.9**	**-0.8**
KNIK	**Mula-Seydike**	**0.81**	**59**	P	**Pb**	**12 23 28.4**	**-1.1**
KNIK				S	**Sb**	**12 23 39.9**	**-0.7**
KNIK				*i* AML	AML	12 23 42.0	
comp=N,844nm,0.6s							
KNIK				*i* AML	AML	12 23 42.0	
comp=E,646nm,0.4s							
CAEL	**Denizli, Camel**	**0.84**	**35**	P	**Pb**	**12 23 28.9**	**-1.2**
CAEL				S	**Sn**	**12 23 46.9**	**+2.8**
CAEL				*i* AML	AML	12 23 52.0	
comp=E,2μm,0.7s							
CAEL				*i* AML	AML	12 23 56.0	
comp=N,2μm,0.8s							
MULA	**Mugla, Merkez-**	**0.88**	**339**	P	**Pg**	**12 23 29.5**	**-0.6**
MULA				S	**Sb**	**12 23 43.1**	**+0.5**
MULA				*i* AML	AML	12 23 45.0	
comp=E,720nm,0.8s							
DNZT	**Denizli-Tavas-**	**0.88**	**17**	P	**Pg**	**12 23 28.3**	**-1.9**
DNZT				S	**Sn**	**12 23 46.5**	**+1.6**
DAT	**Datca**	**0.96**	**288**	P	**Pb**	**12 23 32.2**	**+0.1**
DAT				S	**Sn**	**12 23 46.8**	**0.0**
DAT				*i* AML	AML	12 23 48.0	
comp=E,458nm,0.4s							
DAT				*i* AML	AML	12 23 52.0	
comp=N,542nm,0.4s							
DAT	**Datca**	**0.96**	**288**	Pg	**Pb**	**12 23 32.5**	**+0.4**
DAT				Sg	**Sn**	**12 23 47.0**	**+0.2**
DAT	**Datca**	**0.96**	**288**	P	**Pg**	**12 23 31.4**	**-0.2**
DAT				S	**Sb**	**12 23 45.7**	**+0.8**
DEMR	**Demre-Antalya**	**0.99**	**101**	Pg	**Pb**	**12 23 32.7**	**+0.2**
ELL	**Elmali**	**1.01**	**72**	Pg	**Pb**	**12 23 32.4**	**-0.7**
TAVA	**DENIZLI_Tavas**	**1.04**	**9**	P	**Pg**	**12 23 31.8**	**-1.4**
TAVA				S	**Sn**	**12 23 51.2**	**+2.3**
YAZI	**Mula-Dat§a-**	**1.04**	**284**	P	**Pn**	**12 23 34.2**	**+0.2**
YAZI				S	**Sb**	**12 23 48.2**	**+1.0**
YAZI				*i* AML	AML	12 23 52.0	
comp=N,459nm,0.7s							
APMY	**Acipayam-Deniz**	**1.14**	**25**	Pg	**Pb**	**12 23 34.4**	**-0.7**
BDRM	**Kayabasi**	**1.19**	**302**	P	**Pn**	**12 23 36.3**	**+0.2**
BDRM				S	**Sn**	**12 23 54.4**	**+1.9**
BDRM				*i* AML	AML	12 23 56.0	
comp=E,463nm,0.6s							
DNIZ	**Denizli-Tavas-**	**1.22**	**12**	P	**Pg**	**12 23 35.0**	**-1.6**
DNIZ				S	**Sn**	**12 23 56.6**	**+3.4**
DNIZ				*i* AML	AML	12 23 57.0	
comp=N,2μm,0.5s							
DNIZ				*i* AML	AML	12 23 57.0	
comp=E,3μm,0.3s							
BODT	**Bodrum**	**1.28**	**299**	Pn	**Pb**	**12 23 37.8**	**+0.2**
BODT	**Bodrum**	**1.28**	**299**	P	**Pn**	**12 23 36.4**	**-1.0**
BODT				S	**Sg**	**12 23 53.6**	**-1.0**
AKUM	**Antalya-Kumluc**	**1.32**	**94**	P	**Pg**	**12 23 39.3**	**+0.7**
AKUM				S	**Sn**	**12 24 01.0**	**+5.4**
AKUM				*i* AML	AML	12 24 08.0	
comp=E,252nm,0.4s							
AKUM				*i* AML	AML	12 24 12.0	
comp=N,305nm,0.6s							
YKAV	**Yalikavak-Bodr**	**1.34**	**301**	Pn	**Pg**	**12 23 39.5**	**+0.6**
ESEN	**Aydn-Nazilli**	**1.39**	**348**	P	**Pn**	**12 23 38.3**	**-0.5**
ESEN				S	**Sn**	**12 23 58.5**	**+1.2**
ESEN				*i* AML	AML	12 24 02.0	
comp=N,232nm,0.5s							
ESEN				*i* AML	AML	12 24 02.0	
comp=E,274nm,0.5s							
KORT	**Korkueli**	**1.43**	**66**	P	**Pg**	**12 23 40.1**	**-0.6**
KORT				S	**Sn**	**12 24 04.4**	**+5.8**
KORT				*i* AML	AML	12 24 08.0	
comp=E,596nm,0.5s							
KORT				*i* AML	AML	12 24 12.0	
comp=N,446nm,0.5s							
KORT	**Korkueli**	**1

EIL	**Elat**	**8.54**	**140**	Pn	**Pn**	**12 25 15.8**	**-1.3**
	0.6nm,0.3s,baz=350,slow=12,SNR=5.0						
EIL				Sn	Sn	12 26 44.5	-9.1
	0.4nm,0.3s,baz=307,slow=20,SNR=2.9						
EIL				LR	LR	12 30 13.7	
	comp=Z,20nm,19.9s,baz=69,slow=50						
	2.4nm,0.3s						
VRAC	**Vranov**	**15.60**	**329**	LR	LR	12 34 53.2	
	comp=Z,24nm,18.5s,baz=197,slow=45						
FINES	**FINESS Array B**	**25.08**	**357**	P	**P**	**12 28 38.3**	**+0.5**
	2.5nm,0.6s,baz=163,slow=9.4,SNR=7.8						
	2.5nm,0.6s						
KIRV	**Kirov**	**25.99**	**25**	LR	LR	12 40 12.1	
	comp=Z,28nm,18.2s,baz=258,slow=39						
TORD	**Torodi Ar. Bea**	**33.54**	**233**	P	**P**	**12 29 53.6**	**+0.1**
	0.7nm,0.8s,baz=37,slow=9.7,SNR=2.7						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**38.07**	**52**	P	**P**	**12 30 30.6**	**-1.3**
	0.5nm,0.8s,baz=274,slow=8.8,SNR=5.2						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**40.66**	**58**	P	**P**	**12 30 52.8**	**-1.0**
	0.5nm,0.6s,baz=289,slow=7.3,SNR=3.6						
	0.5nm,0.6s						

*IDC **14** 12:35:15.2±1.2, 18°.43S×178°.03W, h593km±11km, mb3.2/11, mbtmp4.2/13, Error ellipse: s-maj=17.4km s-min=14.7km az=123.0*
*NEIC **14** 12:35:15.1±1.0, 18°.3S±0°.2×178°.0W±0°.1, h592km±14km, mb4.2/25, Error ellipse: s-maj=24.4km s-min=15.5km az=175.0*
ISC 14 12:35:15.3±0.7, 18°.4S±0°.1×178°.0W±0°.1, h600km, n48, σ0°89/52, mb4.1/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.79**	**279**	P	**P**	**12 36 38.0**	**-1.5**
	99nm,0.7s,baz=128,slow=7.1,SNR=61						
MSVF				S	**S**	**12 37 48.2**	**+0.2**
	13nm,1.0s,baz=111,slow=23,SNR=1.2						
FUTU	**Fugatoga**	**4.03**	**359**	P	**P**	**12 36 39.4**	**-1.7**
DZM	**Mont Dzumac**	**15.04**	**253**	P	**P**	**12 38 23.2**	**-0.9**
	2.3nm,0.6s,baz=27,slow=17,SNR=1.1						
URZ	**Urewera**	**20.28**	**191**	P	**P**	**12 39 08.9**	**-2.4**
	8.0nm,0.8s,baz=324,slow=2.7,SNR=5.8						
	8.0nm,0.8s						
EIDS	**Eidsvold**	**29.46**	**251**	P	**P**	**12 40 33.3**	**+0.8**
ARMA	**Armidale**	**30.04**	**241**	P	**P**	**12 40 38.5**	**+1.0**
ARMA				IAmb	IAmb	12 40 48.0	
	comp=Z,5.3nm,1.1s						
CTAO	**Charters Tower**	**33.74**	**261**	P	**P**	**12 41 09.0**	**+0.1**
CTAO				IAmb	IAmb	12 41 10.0	
	comp=Z,5.5nm,0.7s						
PMG	**Port Moresby**	**34.90**	**280**	P	**P**	**12 41 19.5**	**+0.9**
TOO	**Toolangi**	**37.18**	**231**	P	**P**	**12 41 38.5**	**+1.4**
COEN	**Coen**	**37.48**	**271**	P	**P**	**12 41 40.7**	**+0.9**
COEN				IAmb	IAmb	12 41 41.4	
	comp=Z,9.5nm,0.9s						
STKA	**Stephens Creek**	**38.74**	**242**	P	**P**	**12 41 51.0**	**+1.3**
STKA	**Stephens Creek**	**38.74**	**242**	P	**P**	**12 41 50.7**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=84,slow=6.8,SNR=6.2						
	comp=Z,1.7nm,0.4s						
BBOO	**Buckleboo**	**43.51**	**241**	P	**P**	**12 42 27.8**	**+0.4**
BBOO				IAmb	IAmb	12 42 28.3	
	comp=Z,7.1nm,0.8s						
WR0	**Warramunga Arr**	**44.73**	**260**	P	**P**	**12 42 37.0**	**+0.1**
WB0	**Warramunga Arr**	**44.88**	**260**	P	**P**	**12 42 38.3**	**+0.1**
WB0				IAmb	IAmb	12 42 38.5	
	comp=Z,6.5nm,0.6s						
WB2	**Warramunga Arr**	**44.91**	**260**	P	**P**	**12 42 38.1**	**-0.1**
WB2				IAmb	IAmb	12 42 38.8	
	comp=Z,4.9nm,0.6s						
WRA	**Warramunga Arr**	**44.92**	**260**	P	**P**	**12 42 38.2**	**-0.1**
WRA	**Warramunga Arr**	**44.92**	**260**	P	**P**	**12 42 38.1**	**-0.2**
	comp=Z,2.9nm,0.4s,baz=97,slow=6.8,SNR=47						
WRA				PcP	**PcP**	**12 44 07.2**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=91,slow=3.8,SNR=5.5						
	comp=Z,2.9nm,0.4s						
AS31	**Alice Springs**	**45.03**	**255**	P	**P**	**12 42 39.5**	**+0.4**
AS31				IAmb	IAmb	12 42 40.6	
	comp=Z,3.0nm,0.6s						
ASAR	**Alice Springs**	**45.03**	**255**	P	**P**	**12 42 38.9**	**-0.3**
ASAR	**Alice Springs**	**45.03**	**255**	P	**P**	**12 42 39.4**	**+0.2**
	comp=Z,9.7nm,0.6s,baz=86,slow=8.7,SNR=16						
ASAR				PcP	**PcP**	**12 44 07.5**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=102,slow=3.9,SNR=5.0						
ASAR				S	**S**	**12 48 34.6**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=93,slow=13,SNR=3.2						
	comp=Z,9.7nm,0.6s						
MTN	**Manton Dam**	**49.16**	**269**	P	**P**	**12 43 09.9**	**-0.2**
MTN				IAmb	IAmb	12 43 10.1	
	comp=Z,6.5nm,0.8s						
FORT	**Forrest**	**50.15**	**245**	P	**P**	**12 43 17.1**	**-0.1**
KNRA	**Kununurra**	**50.81**	**264**	P	**P**	**12 43 22.3**	**+0.1**
KNRA				IAmb	IAmb	12 43 38.3	
	comp=Z,13nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.32**	**261**	P	**P**	**12 43 40.6**	**+0.5**
PSA00	**Pilbara Seismi**	**58.16**	**256**	P	**P**	**12 44 13.3**	**-0.1**
PSA00				IAmb	IAmb	12 44 13.8	
	comp=Z,6.5nm,0.7s						
MBWA	**Marble Bar**	**58.32**	**256**	P	**P**	**12 44 14.2**	**-0.4**
NWAO	**Narrogin (SRO)**	**59.33**	**242**	P	**P**	**12 44 19.9**	**-1.2**
NWAO				IAmb	IAmb	12 44 21.7	
	comp=Z,16nm,1.1s						
JCJ	**Chichijima**	**59.42**	**318**	P	**P**	**12 44 21.7**	**0.0**
JAGI	**Jajag, Banyuwa**	**66.40**	**269**	P	**P**	**12 45 06.0**	**-0.7**
MJAR	**Matsushiro Arr**	**68.49**	**323**	P	**P**	**12 45 18.6**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=172,slow=6.1,SNR=6.0						
	comp=Z,1.2nm,0.5s						
MAJO	**Matsushiro**	**68.49**	**323**	P	**P**	**12 45 19.1**	**+0.2**
MAJO				IAmb	IAmb	12 45 28.8	
	comp=Z,7.4nm,1.1s						
UGM	**Wanagama**	**70.00**	**268**	P	**P**	**12 45 29.0**	**+0.5**
QSPA	**South Pole Qui**	**71.70**	**180**	P	**P**	**12 45 38.9**	**+1.3**
QSPA	**South Pole Qui**	**71.70**	**180**	P	**P**	**12 45 38.4**	**+0.8**
	comp=Z,1.4nm,0.5s,baz=320,slow=1.5,SNR=36						
	comp=Z,1.4nm,0.5s						
SSLB	**Suanglung**	**72.79**	**303**	P	**P**	**12 45 44.1**	**-0.3**
SSLB				IAmb	IAmb	12 46 02.3	
	comp=Z,16nm,1.1s						
PETK	**Petropavlovsk-**	**74.21**	**345**	P	**P**	**12 45 52.1**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=99,slow=7.5,SNR=1.6						
	comp=Z,2.7nm,0.8s						
KSRS	**Korea Array**	**75.28**	**318**	P	**P**	**12 45 59.3**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=144,slow=4.5,SNR=2.6						
	comp=Z,0.6nm,0.5s						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**12 46 21.4**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=232,slow=8.6,SNR=3.7						
	comp=Z,0.3nm,0.6s						
TXAR	**Lajitas Array**	**85.92**	**57**	P	**P**	**12 46 54.7**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=211,slow=6.2,SNR=4.5						
	comp=Z,0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.38**	**290**	P	**P**	**12 47 11.7**	**+2.0**
	comp=Z,0.9nm,0.8s,baz=109,slow=3.0,SNR=8.1						
	comp=Z,0.9nm,0.8s						
MKAR	**Makanchi Array**	**109.71**	**314**	PKiKP	**PKiKP**	**12 52 38.0**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=15,slow=0.7,SNR=5.1						
BVAR	**Borovoye Array**	**117.43**	**321**	PKP	**PKiKP**	**12 52 53.1**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=7.1,slow=1.2,SNR=4.5						
ARCES	**ARCESS Array B**	**126.82**	**350**	PKP	**PKiKP**	**12 53 11.2**	**-0.5**
	comp=Z,2.4nm,0.9s,baz=54,slow=6.2,SNR=4.7						
BRTR	**Keskin Array B**	**145.36**	**315**	PKPbc	**PKPbc**	**12 53 47.6**	**0.0**
	comp=Z,2.0nm,0.9s,baz=122,slow=1.6,SNR=4.1						
CLL	**Collm**	**145.98**	**348**	*i* PKPbc	**PKPab**	**12 53 49.6**	**-1.3**
	comp=Z,8.0nm,0.9s						
MMAI	**Mount Meron Ar**	**146.70**	**303**	PKPbc	**PKiKP**	**12 53 52.1**	**-1.2**
	comp=Z,2.4nm,0.5s,baz=74,slow=3.0,SNR=3.9						
GERES	**GERESS Array B**	**148.14**	**345**	PKPbc	**PKiKP**	**12 53 55.2**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=72,slow=5.7,SNR=3.9						

MEX 14 12:40:42.2±0.9, 15°.67N×94°.67W, h23km±20km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.39**	**274**	*e*P	Pn	12 41 04.0	-2.2
HUIG				*e*S	Sn	12 41 19.4	-4.5
PCIG		**1.40**	**88**	*i* P	Pn	12 41 03.3	-3.0
PCIG				*e*S	Sn	12 41 18.4	-5.7
CMIG	**Matias Romero**	**1.43**	**352**	*e*P	Pn	12 41 04.8	-2.1
CMIG				*e*S	Sn	12 41 20.4	-4.5
UXUV	**UXUV**	**1.72**	**17**	*e*P	Pn	12 41 09.3	-1.5
UXUV				*e*S	Sn	12 41 29.5	-2.5
TGIG		**1.85**	**53**	*e*P	Pn	12 41 10.7	-2.0
TGIG				*e*S	Sn	12 41 31.9	-3.6
NEUV	**Arroyo Zacate**	**2.31**	**332**	*e*P	Pn	12 41 17.1	-1.8
NEUV				*e*S	Sn	12 41 45.9	-0.6
PEIG	**Puerto Escondi**	**2.41**	**278**	*e*P	Pn	12 41 18.0	-2.3
PEIG				*e*S	Sn	12 41 43.7	-5.4
VHO	**Vista Hermosa**	**2.42**	**306**	*e*P	Pn	12 41 18.5	-2.2
VHO				*e*S	Sn	12 41 48.3	-1.5
CCIG	**Comitan**	**2.51**	**76**	*e*P	Pn	12 41 20.1	-1.8
CCIG				*e*S	Sn	12 41 45.2	-6.6
CHUJ	**Union Juarez**	**2.54**	**103**	*e*P	Pn	12 41 19.4	-2.8
CHUJ				*e*S	Sn	12 41 48.9	-3.6
YOIG	**Yosondua**	**3.00**	**294**	*e*P	Pn	12 41 29.3	+0.6
YOIG				*e*S	Sn	12 42 01.1	-3.0
TOIG	**Toxpalan**	**3.33**	**317**	*e*P	Pn	12 41 33.9	+0.8
TOIG				*e*S	Sn	12 42 10.0	-2.0
TXIG	**Tlaxiaco**	**3.37**	**298**	*e*P	Pn	12 41 34.1	+0.4
TXIG				*e*S	Sn	12 42 10.2	-2.9
PNIG	**Pinotepa**	**3.40**	**283**	*e*P	Pn	12 41 32.5	-1.5
PNIG				*e*S	Sn	12 42 07.2	-6.4
HLIG	**Huajuapan de L**	**3.69**	**306**	*e*P	Pn	12 41 37.0	-1.1
HLIG				*e*S	Sn	12 42 18.9	-2.2
FTIG	**Fresnillo de T**	**4.00**	**304**	*e*P	Pn	12 41 43.9	+1.7
FTIG				*e*S	Sn	12 42 22.3	-6.1
MGIG	**Malinaltepec**	**4.11**	**293**	*e*P	Pn	12 41 38.8	-5.1
MGIG				*e*S	Sn	12 42 25.9	-5.4
TLIG	**Tlapa**	**4.18**	**297**	*e*P	Pn	12 41 45.7	+0.9
TLIG				*e*S	Sn	12 42 30.7	-2.4
JAUV	**Jalcomulco**	**4.21**	**331**	*e*P	Pn	12 41 40.2	-4.8
JAUV				*e*S	Sn	12 42 22.8	-11
CRIG	**Cruz Grande**	**4.42**	**285**	*e*P	Pn	12 41 45.7	-2.2
CRIG				*e*S	Sn	12 42 31.0	-7.6
ARIG	**Puente Sto Nin**	**6.02**	**296**	*e*P	Pn	12 42 11.1	+1.1
ARIG				*e*S	Sn	12 43 13.8	-4.5

GCMT 14 12:50:26.0±0.3, 49°.57S±0°.02×116°.08W±0°.02, h25km±1km, MW4.9/82, Moment Tensor Solution. s23,c28; s82,c107; Duration: 0 Moment tensor: Scale 10^16 Nm; M_{rr}-0.15±.16; $M_{\theta\theta}$0.84±.15; $M_{\phi\phi}$-0.69±.12; $M_{r\theta}$0.22±.28; $M_{\theta\phi}$2.95±.09; $M_{\phi r}$0.42±.25; **Best double couple:** $M_0$3.08300×10^16 **NP1:**ϕ_s7.00000°,δ88.00000°, λ172.00000°. **NP2:**ϕ_s97.00000°,δ82.00000°,λ2.00000°. **Principal axes:** T 3.1790, Plg7.0000°, Azm322.0000°; N -0.1930, Plg82.0000°, Azm171.0000°; P -2.9860, Plg4.0000°, Azm53.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southern East Pacific Rise**

HEL 14 12:51:05.6±0.4, 63°.30N×18°.86E, h0km, ML1.3, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUSU	**Husum**	**0.17**	**76**	PG	Pg	12 51 07.8	-1.0
HEMU	**Hemsoen**	**0.73**	**211**	PB	Pg	12 51 18.7	-0.9
	baz=28						
HEMU				SG	Sg	12 51 28.6	-0.3
UMAU	**Umeaa**	**1.00**	**54**	PN	Pn	12 51 26.6	-0.3
VAF	**Ylistaro**	**1.75**	**97**	*e*P	Pn	12 51 36.7	-0.4
VAF	**Ylistaro**	**1.75**	**97**	PG	Pn	12 51 36.9	-0.3
VAF				MSG		12 51 57.7	
	comp=Z,3.8nm,0.2s						
VAF				SN	Sn	12 52 00.1	0.0
KPF	**Kankaanpaa**	**2.09**	**133**	PG	Pn	12 51 42.4	+0.5
	baz=312						
KPF				SG	Sb	12 52 11.2	+0.4
RAF	**Rauma**	**2.66**	**148**	*e*P	Pn	12 51 49.7	+0.1
RAF	**Rauma**	**2.66**	**148**	PB	Pn	12 51 51.4	+1.8
RAF				MSG		12 52 24.1	
	comp=Z,1.1nm,0.2s						
RAF				SB	Sb	12 52 25.7	-1.5
OUF	**Merijarvi**	**2.82**	**65**	SN	Sn	12 52 26.3	0.0
OUF				MSG		12 52 28.5	
	comp=Z,0.5nm,0.2s						
KEF	**Keuruu**	**2.99**	**110**	*e*P	Pn	12 51 54.2	-0.1
OBF4	**Vikkela, Lumij**	**3.14**	**58**	PN	Pn	12 51 56.3	+0.1
OBF4				MSG		12 52 37.8	
	comp=Z,0.5nm,0.2s						
MEF	**Metsahovi**	**4.06**	**137**	*e*P	Pn	12 52 06.0	-2.9
KLF	**Kolari**	**4.50**	**26**	SG	Sg	12 53 26.0	-3.8

*EST **14** 12:51:37.1±0.1, 59°.24N×27°.80E, h0km, ML1.3(HEL), Explosion*
HEL 14 12:51:37.9±0.3, 59°.24N×27°.73E, h0km, ML1.3, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	**0.15**	**29**	*e*S	Sg	12 51 41.0	-1.8
EE03	**Tooma soojaam,**	**0.84**	**244**	*e*P	Pg	12 51 52.3	-1.6
EE03				*e*S	Sg	12 52 03.2	-1.6
VSU	**Vasula**	**0.94**	**214**	*e*P	Pg	12 51 54.1	-1.7
VJF	**Virojoki**	**1.30**	**356**	*e*PB	Pg	12 52 00.7	-2.2
VJF				MSG		12 52 17.3	
	comp=Z,2.6nm,0.2s						
VJF				*e*SB	Sg	12 52 18.4	-1.4
EE07	**Piusa Caves, O**	**1.41**	**186**	*e*P	Pn	12 52 02.6	-2.2
EE07				*e*S	Sg	12 52 20.8	-2.3
EE08	**Sarghaua, Vand**	**1.42**	**247**	*e*P	Pn	12 52 02.8	-2.1
EE08				*e*S	Sg	12 52 21.4	-1.9
EE02	**Kiisa, Saku**	**1.56**	**269**	*e*P	Pn	12 52 05.6	-1.3
EE02				*e*SG	Sn	12 52 26.1	-1.6
PVF	**Pernaja**	**1.61**	**325**	*e*PN	Pn	12 52 06.8	-0.8
PVF				MSG		12 52 26.1	
	comp=Z,1.3nm,0.2s						
PVF				*e*S	Sn	12 52 27.3	-1.7
HEL1	**Helsinki**	**1.72**	**304**	*e*P	Pn	12 52 08.0	-1.0
MEF	**Metsahovi**	**1.95**	**302**	PB	Pn	12 52 12.9	+0.7
MEF	**Metsahovi**	**1.95**	**302**	*e*PG	Pn	12 52 12.9	+0.6
MEF				MSG		12 52 36.0	
	comp=Z,1.8nm,0.2s						
MEF				*e*S	Sn	12 52 37.2	-0.2
NUR	**Nurmijarvi**	**2.01**	**311**	MSG		12 52 37.5	
	comp=Z,1.3nm,0.2s						
NUR				*e*SB	Sn	12 52 38.9	+0.1
MTSE	**Matsula**	**2.10**	**257**	*e*SG	Sb	12 52 42.2	-1.0
EE01	**Perakula, Nova**	**2.11**	**271**	*e*PB	Pn	12 52 15.0	+0.6
EE01				*e*SB	Sn	12 52 42.2	+0.9
RUF	**Ruokolahti**	**2.27**	**15**	*e*PG	Pn	12 52 17.3	+0.7
RUF				MSG		12 52 45.3	
	comp=Z,0.9nm,0.2s						
RUF				*e*SG	Sn	12 52 46.8	+1.5
FIA0	**FINESS Array S**	**2.36**	**340**	SN	Sb	12 52 50.4	-0.4
FIA0	**FINESS Array S**	**2.36**	**340**	*e*P	Pn	12 52 17.1	-0.7
FIA0				MSG		12 52 47.6	
	comp=Z,1.1nm,0.2s						
FIA0				*e*SG	Sb	12 52 50.4	-0.4
FIA1	**FINESS Array S**	**2.36**	**340**	*e*P	Pn	12 52 17.1	-0.7
FIA1				*e*SG	Sb	12 52 50.5	-0.3

*THE **14** 12:53:27.2, 36°.44N×28°.73E, h0km±2km, ML2.5/3, Error ellipse: s-maj=4.8km s-min=1.0km az=106.0*
*AFAD **14** 12:53:27.2±0.0, 36°.41N×28°.71E, h8km±4km, ML2.5*
*ISK **14** 12:53:27.5, 36°.49N×28°.73E, h9km, ML2.8/20*
ISC 14 12:53:27.7±1.1, 36°.44N±0°.03×28°.70E±0°.02, h7km±9km, n47, σ1°25/77, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.36**	**58**	P	**Pg**	**12 53 34.8**	**+0.1**
FETY				S	**Sb**	**12 53 41.1**	**-1.3**
FETY	**Fethiye**	**0.36**	**58**	Pg	**Pg**	**12 53 34.1**	**-0.6**
FETY				Sg	**Sg**	**12 53 39.9**	**+0.4**
DALY	**Dalyan (Mula)**	**0.38**	**354**	Pg	**Pg**	**12 53 34.4**	**-0.6**
DALY				Sg	**Sg**	**12 53 39.9**	**-0.1**
IZZE	**Mula-Seydike**	**0.42**	**90**	P	**Pg**	**12 53 34.9**	**-0.9**
IZZE				S	**Sb**	**12 53 42.0**	**-2.0**
IZZE				*i* AML	AML	12 53 46.0	
	comp=N,712nm,0.3s						
IZZE				*i* AML	AML	12 53 49.0	
	comp=E,775nm,0.4s						
SABU	**Mula-Dalaman**	**0.44**	**29**	P	**Pg**	**12 53 35.6**	**-0.6**
SABU				S	**Sg**	**12 53 42.4**	**+0.5**
SABU				*i* AML	AML	12 53 44.0	
	comp=N,388nm,0.3s						
SABU				*i* AML	AML	12 53 45.0	
	comp=E,356nm,0.7s						
MRSB	**Marmaris-Mugla**	**0.49**	**304**	Pg	**Pg**	**12 53 37.7**	**+0.5**
MRSB				Sg	**Sg**	**12 53 44.2**	**+0.6**
TURN	**Turunc**	**0.50**	**312**	P	**Pg**	**12 53 37.1**	**-0.1**
TURN				*i* AML	AML	12 53 45.0	
	comp=N,429nm,0.2s						
TURN				*i* AML	AML	12 53 45.0	
	comp=E,251nm,0.2s						
TURN				S	**Sb**	**12 53 45.2**	**-1.0**
TURN	**Turunc**	**0.50**	**312**	Pg	**Pg**	**12 53 37.4**	**+0.1**
TURN				Sg	**Sg**	**12 53 44.7**	**+0.9**
ARG	**Arkhangelos**	**0.52**	**244**	P	**Pg**	**12 53 38.0**	**+0.4**
ARG				S	**Sb**	**12 53 46.9**	**+0.1**
	362nm,0.8s						
CAME	**Cameli-Denizli**	**0.69**	**44**	Pg	**Pg**	**12 53 40.2**	**-0.9**
CAME				Sg	**Sg**	**12 53 49.9**	**-0.2**
AKAS	**Kas**	**0.76**	**106**	P	**Pg**	**12 53 41.5**	**-0.8**
AKAS				S	**Sn**	**12 53 56.3**	**-0.5**
AKAS				*i* AML	AML	12 53 59.0	
	comp=E,280nm,0.4s						
AKAS				*i* AML	AML	12 54 01.0	
	comp=N,428nm,0.7s						
AKAS	**Kas**	**0.76**	**106**	Pg	**Pb**	**12 53 42.2**	**-1.1**
YER	**Yerkesik**	**0.77**	**334**	Pg	**Pg**	**12 53 42.3**	**-0.2**
YER	**Yerkesik**	**0.77**	**334**	P	**Pg**	**12 53 42.4**	**-0.1**
YER				S	**Sb**	**12 53 55.1**	**+0.9**
KNIK	**Mula-Seydike**	**0.81**	**60**	P	**Pg**	**12 53 42.6**	**-0.6**
KNIK				S	**Sb**	**12 53 55.0**	**-0.4**
KNIK				*i* AML	AML	12 53 56.0	
	comp=N,177nm,0.6s						
KNIK				*i* AML	AML	12 53 57.0	
	comp=E,128nm,0.3s						
CAEL	**Denizli, Camel**	**0.84**	**36**	P	**Pb**	**12 53 44.5**	**-0.2**
CAEL				S	**Sn**	**12 53 57.1**	**-1.8**
CAEL				*i* AML	AML	12 54 06.0	
	comp=E,287nm,0.5s						
CAEL				*i* AML	AML	12 54 11.0	
	comp=N,261nm,0.8s						
DNZT	**Denizli-Tavas-**	**0.88**	**17**	P	**Pg**	**12 53 43.4**	**-1.1**
DAT	**Datca**	**0.95**	**288**	P	**Pb**	**12 53 46.3**	**-0.3**
DAT				S	**Sn**	**12 54 00.5**	**-1.0**
DAT				*i* AML	AML	12 54 04.0	
	comp=N,128nm,0.2s						
DAT				*i* AML	AML	12 54 06.0	
	comp=E,80nm,0.2s						
DAT	**Datca**	**0.95**	**288**	Pg	**Pn**	**12 53 46.8**	**-0.8**
DAT	**Datca**	**0.95**	**288**	P	**Pb**	**12 53 46.4**	**-0.2**
DAT				S	**Sn**	**12 54 01.3**	**-0.2**
ELL	**Elmali**	**1.02**	**72**	Pg	**Pg**	**12 53 46.5**	**-0.7**
YAZI	**Mula-Dat§a-**	**1.03**	**284**	P	**Pg**	**12 53 47.1**	**-0.5**
YAZI				S	**Sn**	**12 54 02.9**	**-0.5**
TAVA	**DENIZLI_Tavas**	**1.04**	**9**	P	**Pg**	**12 53 46.5**	**-1.0**
TAVA				S	**Sn**	**12 54 05.8**	**+2.2**
TAVA				*i* AML	AML	12 54 07.0	
	comp=E,106nm,0.7s						
APMY	**Acipayam-Deniz**	**1.14**	**25**	Pn	**Pg**	**12 53 48.4**	**-1.1**
BDRM	**Kayabasi**	**1.19**	**302**	P	**Pn**	**12 53 50.9**	**+0.1**
BDRM				S	**Sn**	**12 54 08.0**	**+0.8**
BDRM				*i* AML	AML	12 54 11.0	
	comp=E,91nm,0.5s						
DNIZ	**Denizli-Tavas-**	**1.21**	**13**	P	**Pb**	**12 53 50.4**	**-0.6**
DNIZ				S	**Sn**	**12 54 10.8**	**+2.8**
DNIZ				*i* AML	AML	12 54 11.0	
	comp=N,311nm,0.6s						
DNIZ				*i* AML	AML	12 54 12.0	
	comp=E,731nm,0.3s						
BODT	**Bodrum**	**1.28**	**299**	Pn	**Pg**	**12 53 52.2**	**0.0**
BODT	**Bodrum**	**1.28**	**299**	P	**Pn**	**12 53 51.7**	**-0.3**
BODT				S	**Sn**	**12 54 10.0**	**+0.5**
AKUM	**Antalya-Kumluc**	**1.33**	**95**	P	**Pg**	**12 53 53.0**	**-0.1**
AKUM				S	**Sn**	**12 54 15.8**	**+5.1**
ESEN	**Aydn-Nazilli**	**1.38**	**348**	P	**Pn**	**12 53 52.9**	**-0.6**
ESEN				S	**Sg**	**12 54 14.3**	**+2.2**
ESEN				*i* AML	AML	12 54 15.0	
	comp=N,57nm,0.2s						
ESEN				*i* AML	AML	12 54 15.0	
	comp=E,74nm,0.3s						
KORT	**Korkueli**	**1.44**	**67**	P	**Pg**	**12 53 57.3**	**+2.1**
KORT				S	**Sg**	**12 54 19.0**	**+5.1**
KORT				*i* AML	AML	12 54 23.0	
	comp=E,120nm,0.5s						
KORT				*i* AML	AML	12 54 26.0	
	comp=N,73nm,0.5s						
KORT	**Korkueli**	**1.44**	**67**	Pn	**Pn**	**12 53 53.7**	**-0.6**
INCE	**Denizli-Bozkur**	**1.45**	**29**	P	**Pg**	**12 53 55.1**	**-0.3**
INCE				S	**Sg**	**12 54 16.1**	**+2.0**
INCE				*i* AML	AML	12 54 18.0	
	comp=N,125nm,0.3s						
INCE				*i* AML	AML	12 54 19.0	
	comp=E,52nm,0.3s						
KARP	**Karpathos**	**1.54**	**235**	Pn	**Pg**	**12 53 57.0**	**-0.1**
KARP	**Karpathos**	**1.54**	**235**	P	**Pn**	**12 53 54.7**	**-0.9**
KARP				S	**Sb**	**12 54 15.9**	**-0.3**
	225nm,0.8s						
NAZL	**Nazilli-Aydin**	**1.56**	**348**	Pn	**Pn**	**12 53 55.1**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.64**	**337**	Pn	**Pn**	**12 53 56.9**	**-0.2**
GCAM	**G?zelcaml?**	**1.72**	**317**	Pn	**Pn**	**12 53 58.5**	**+0.4**
KIRA	**zmir-Kiraz**	**1.77**

JAY			Sn	Sn	13 06 47.4	+1.7
	1.5nm,0.3s,baz=73,slow=20,SNR=1.7					
	6.8nm,0.5s						
PMG	**Port Moresby**	**5.34 124**	Pn	**Pn**	**13 06 09.0**	**-1.0**
	5.7nm,0.6s,baz=266,slow=18,SNR=3.2					
PMG			Sn	**Sn**	**13 07 11.3**	**+0.9**
	0.1nm,0.3s,baz=30,slow=16,SNR=1.4					
WRA	**Warramunga Arr**	**15.72 210**	Pn	**P**	**13 08 34.9**	**-0.5**
	0.1nm,0.3s,baz=29,slow=14,SNR=5.1					
WRA			Sn	**Sn**	**13 11 21.3**	**-3.7**
	0.1nm,0.3s,baz=30,slow=23,SNR=1.4					
WRA			Lg	Lg	13 13 22.2	
	baz=30,slow=37					
	0.2nm,0.4s					
ASAR	**Alice Springs**	**19.14 205**	P	**Pn**	**13 09 18.8**	**+4.5**
	0.2nm,0.3s,baz=34,slow=9.9,SNR=5.9					
ASAR			Lg	Lg	13 15 07.7	
	baz=24,slow=30					
	0.9nm,0.5s					
GUMO	**Guam**	**19.97 6**	LR	LR	13 17 02.4	
	comp=Z,20nm,18.2s,baz=38,slow=37					
BVAR	**Borovoye Array**	**84.59 325**	P	**P**	**13 17 23.5**	**+1.0**
	1.6nm,0.9s,baz=104,slow=6.3,SNR=5.7					
	1.6nm,0.9s					
ILAR	**Eielson Array**	**87.55 24**	P	**P**	**13 17 36.0**	**-0.9**
	0.2nm,0.7s,baz=252,slow=4.6,SNR=2.5					
	0.2nm,0.7s					

IDC 14 13:08:21.3±3.1, 7°.11S×147°.50E, h117km±22km, mb3.4/2, mbtmp3.8/4, MS2.2/1, Error ellipse: s-maj=49.0km s-min=23.6km az=123.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.31**	**188**	P	Pn	13 08 56.8	-1.7
	38nm,0.4s,baz=7.2,slow=7.9,SNR=38						
PMG				S	Sn	13 09 28.3	+1.2
	31nm,0.3s,baz=74,slow=16,SNR=2.6						
PMG				LR	LR	13 10 17.7	
	comp=Z,50nm,20.9s,baz=142,slow=50						
WRA	**Warramunga Arr**	**18.05**	**224**	P	P	13 12 23.9	+0.3
	0.7nm,0.4s,baz=51,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**21.01**	**217**	P	P	13 12 56.7	+1.0
	0.6nm,0.4s,baz=52,slow=8.3,SNR=14						
ASAR				S	S	13 16 43.1	-0.2
	0.2nm,1.0s,baz=37,slow=16,SNR=0.9						
	0.6nm,0.4s						
QSPA	**South Pole Qui**	**82.87**	**180**	P	P	13 20 33.2	+0.5
	1.6nm,0.6s,baz=298,slow=1.3,SNR=13						
	1.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**145.83**	**283**	PKPbc	PKPdf	13 27 46.6	-0.7
	0.6nm,0.5s,baz=63,slow=4.2,SNR=6.7						

*WEL **14** 13:31:03.6,34°.S±20°.×17°.9W±2°.1, h246km±28km, M3.8/43, mB4.5/26, MLv4.8/43, Mw(mB)3.7/34, Error ellipse: s-maj=42.0km s-min=13.8km az=131.9, confirmed*
*IDC **14** 13:31:05.0±2.1, 32°.58S×179°.78W, h159km±20km, mb4.0/6, mbtmp4.5/9, Error ellipse: s-maj=19.9km s-min=18.5km az=75.0*
*NOU **14** 13:31:33.4, 35°.44S×179°.24E, h183km, ML4.1/10, Off E. Coast of N. Island, N.Z.*

ISC 14 13:31:01.5±0.7, 33°.01S±0°.06×179°.4W±0°.1, h150km, n127, σ2°.23/114, mb4.4/8, 3C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.94**	**19**	P	**Pn**	**13 31 59.4**	**-1.5**
GLKZ				S	**Sn**	**13 32 44.4**	**-2.7**
RAO	**Raoul Island**	**3.95**	**19**	P	**Pn**	**13 32 02.3**	**+1.2**
	122nm,0.4s,baz=189,slow=19,SNR=1.9						
RAO				S	**Sn**	**13 32 45.0**	**-2.4**
	222nm,0.3s,baz=302,slow=22,SNR=1.8						
MXZ	**Matakaoa Point**	**4.92**	**202**	P	**Pn**	**13 32 12.9**	**-0.9**
MXZ	**Matakaoa Point**	**4.92**	**202**	P	**Pn**	**13 32 13.3**	**-0.5**
WMGZ	**Waiomatatini S**	**5.13**	**200**	MLv			
HAZ	**Te Kaha**	**5.27**	**205**	P	**Pn**	**13 32 18.5**	**0.0**
HAZ				S	**Sn**	**13 33 22.0**	**+3.4**
WSRZ	**White Island S**	**5.31**	**211**	MLv			
WIZ	**White Island**	**5.31**	**211**	P	**Pn**	**13 32 20.9**	**+1.9**
GRZ	**Great Barrier**	**5.35**	**231**	P	**Pn**	**13 32 19.9**	**+0.4**
PUZ	**Puketiti**	**5.41**	**200**	P	**Pn**	**13 32 18.8**	**-1.5**
PUZ				S	**Sn**	**13 33 19.0**	**-2.9**
KUZ	**Kuaotunu**	**5.49**	**226**	P	**Pn**	**13 32 22.7**	**+1.3**
KUZ	**Kuaotunu**	**5.49**	**226**	P	**Pn**	**13 32 23.7**	**+2.3**
RUGZ	**Raukumara Rang**	**5.50**	**205**	P	**Pn**	**13 32 20.7**	**-0.9**
TWGZ	**Tauwhareparae**	**5.59**	**202**	P	**Pn**	**13 32 22.0**	**-0.7**
WHRZ	**Whale Island**	**5.68**	**211**	MLv			
CNGZ	**Carnagh Statio**	**5.80**	**199**	MLv			
OPRZ	**Ohinepanea**	**5.86**	**213**	P	**Pn**	**13 32 26.2**	**0.0**
TKGZ	**Te Karaka**	**5.87**	**202**	P	**Pn**	**13 32 24.9**	**-1.5**
MWZ	**Matawai**	**5.88**	**205**	P	**Pn**	**13 32 25.2**	**-1.4**
MWZ				S	**Sn**	**13 33 31.6**	**-1.6**
TGRZ	**Tauranga**	**5.91**	**216**	P	**Pn**	**13 32 29.2**	**+2.3**
WCZ	**Waipu Caves**	**5.96**	**239**	P	**Pn**	**13 32 28.2**	**+0.6**
URZ	**Urewera**	**5.97**	**208**	P	**Pn**	**13 32 25.7**	**-2.0**
	13nm,0.3s,baz=352,slow=5.3,SNR=50						
URZ				S	**Sn**	**13 33 30.6**	**-4.5**
	57nm,0.4s,baz=76,slow=22,SNR=20						
URZ	**Urewera**	**5.97**	**208**	P	**Pn**	**13 32 26.1**	**-1.6**
URZ				S	**Sn**	**13 33 34.5**	**-0.7**
URZ	**Urewera**	**5.97**	**208**	P	**Pn**	**13 32 26.0**	**-1.7**
EDRZ	**Edgecumbe**	**5.99**	**211**	P	**Pn**	**13 32 29.9**	**+1.8**
MKAZ	**Moumakai**	**6.06**	**226**	P	**Pn**	**13 32 31.0**	**+2.0**
RAGZ	**Rawiri**	**6.06**	**205**	P	**Pn**	**13 32 28.1**	**-1.0**
RAGZ				S	**Sn**	**13 33 35.0**	**-2.7**
LIRZ	**Lichensteins R**	**6.07**	**214**	MLv			
MKRZ	**Makatiti**	**6.14**	**212**	P	**Pn**	**13 32 32.8**	**+2.8**
RIGZ	**Rimuhau**	**6.14**	**201**	P	**Pn**	**13 32 28.2**	**-1.9**
RIGZ				S	**Sn**	**13 33 37.3**	**-2.0**
KARZ	**Kaharoa**	**6.14**	**214**	P	**Pn**	**13 32 31.5**	**+1.4**
OMRZ	**Omania**	**6.16**	**213**	MLv			
KMRZ	**Kaimai**	**6.16**	**217**	MLv			
TARZ	**Mount Tarawera**	**6.20**	**212**	P	**Pn**	**13 32 33.3**	**+2.4**
OUZ	**Omahuta**	**6.24**	**247**	P	**Pn**	**13 32 30.7**	**-0.6**
HLRZ	**Highlands Stat**	**6.28**	**212**	MLv			
RRRZ	**Republican Roa**	**6.28**	**211**	MLv			
MUGZ	**Murupara**	**6.29**	**209**	P	**Pn**	**13 32 30.6**	**-1.4**
UTU	**Utuhina**	**6.29**	**214**	MLv			
PRGZ	**Paritu Road**	**6.30**	**200**	P	**Pn**	**13 32 32.5**	**+0.3**
RTZ	**Ruatahuna**	**6.33**	**207**	P	**Pn**	**13 32 30.7**	**-1.9**
SNGZ	**Shannon Statio**	**6.35**	**204**	P	**Pn**	**13 32 31.7**	**-1.1**
HSRZ	**Hossack Road**	**6.38**	**213**	MLv			
HRRZ	**Handcock Road**	**6.43**	**212**	MLv			
KNZ	**Kokohu**	**6.46**	**201**	P	**Pn**	**13 32 32.9**	**-1.4**
PRRZ	**Plateau Road**	**6.47**	**211**	P	**Pn**	**13 32 35.7**	**+1.2**
PRRZ				S	**Sn**	**13 33 47.4**	**+0.2**
GRRZ	**Galatos Road**	**6.47**	**213**	MLv			
MHGZ	**Mahia Peninsul**	**6.51**	**199**	P	**Pn**	**13 32 33.2**	**-1.7**
ALRZ	**Allen Road**	**6.54**	**211**	MLv			
RAHZ	**Arahi**	**6.55**	**205**	P	**Pn**	**13 32 33.6**	**-2.0**
RAHZ				S	**Sn**	**13 33 47.4**	**-1.9**
WPRZ	**Whakapapatarin**	**6.59**	**212**	MLv			
MTHZ	**Maungataniwha**	**6.59**	**207**	P	**Pn**	**13 32 34.4**	**-1.6**
MTHZ				S	**Sn**	**13 33 48.3**	**-1.8**
WHHZ	**Waihua**	**6.65**	**203**	P	**Pn**	**13 32 36.2**	**-0.5**
WHHZ				S	**Sn**	**13 33 50.3**	**-1.2**
KUTZ	**Kaahu Road**	**6.72**	**214**	MLv			
TLZ	**Tolley Road**	**6.73**	**217**	P	**Pn**	**13 32 39.9**	**+2.0**
MRHZ	**Matea Rd**	**6.74**	**209**	P	**Pn**	**13 32 37.5**	**-0.6**
MRHZ				S	**Sn**	**13 33 51.2**	**-2.5**
WHTZ	**Whakaora**	**6.80**	**213**	MLv			
NMHZ	**Naumai**	**6.82**	**206**	P	**Pn**	**13 32 37.0**	**-2.1**
NMHZ				S	**Sn**	**13 33 54.6**	**-1.1**
ARHZ	**Aropaoanui**	**6.90**	**204**	P	**Pn**	**13 32 37.6**	**-2.5**
ARHZ				S	**Sn**	**13 33 55.0**	**-2.4**
HATZ	**Hinemaiaia**	**6.92**	**211**	MLv			
WATZ	**Wairara**	**6.94**	**214**	MLv			
BKZ	**Black Stump Fm**	**6.99**	**207**	P	**Pn**	**13 32 38.6**	**-2.9**
BKZ				S	**Sn**	**13 33 57.4**	**-2.4**
BKZ	**Black Stump Fm**	**6.99**	**207**	P	**Pn**	**13 32 38.5**	**-2.9**
RITZ	**Rihia Road**	**7.10**	**212**	P	**Pn**	**13 32 43.5**	**+0.7**
MCHZ	**McNeill Hill**	**7.16**	**205**	P	**Pn**	**13 32 40.7**	**-3.0**
MCHZ				S	**Sn**	**13 34 00.8**	**-3.0**
KATZ	**Kakaramea**	**7.17**	**212**	P	**Pn**	**13 32 45.1**	**+1.2**
HIZ	**Hauiti**	**7.22**	**219**	P	**Pn**	**13 32 47.0**	**+2.5**
CKHZ	**Cape Kidnapper**	**7.22**	**202**	P	**Pn**	**13 32 43.5**	**-1.0**
CKHZ				S	**Sn**	**13 34 01.7**	**-3.6**
KWHZ	**Kaweka Forest**	**7.25**	**207**	P	**Pn**	**13 32 42.6**	**-2.2**
KWHZ				S	**Sn**	**13 34 03.7**	**-2.3**
NTVZ	**North Tongarir**	**7.28**	**212**	P	**Pn**	**13 32 44.5**	**-0.8**
TMVZ	**Te Maari**	**7.28**	**212**	P	**Pn**	**13 32 44.3**	**-1.0**
KRVZ	**Karewarewa**	**7.29**	**212**	P	**Pn**	**13 32 45.9**	**+0.4**
ETVZ	**East Tongariro**	**7.29**	**212**	P	**Pn**	**13 32 44.7**	**-0.8**
WTVZ	**West Tongariro**	**7.33**	**212**	P	**Pn**	**13 32 46.3**	**+0.3**
NNVZ	**North Ngauruho**	**7.33**	**212**	P	**Pn**	**13 32 46.3**	**+0.2**
OTVZ	**Oturere**	**7.34**	**212**	P	**Pn**	**13 32 43.8**	**-2.3**
TWVZ	**Taurewa**	**7.36**	**213**	P	**Pn**	**13 32 46.8**	**+0.4**
SNVZ	**South Ngauruho**	**7.37**	**212**	P	**Pn**	**13 32 45.2**	**-1.4**
NGZ	**Ngauruhoe**	**7.38**	**212**	P	**Pn**	**13 32 45.7**	**-0.9**
KAHZ	**Kahuranaki**	**7.41**	**203**	P	**Pn**	**13 32 44.2**	**-2.9**
COVZ	**Chateau Observ**	**7.42**	**212**	P	**Pn**	**13 32 47.5**	**+0.3**
TUVZ	**Tukino**	**7.43**	**211**	P	**Pn**	**13 32 47.3**	**-0.1**
KRHZ	**Kereru**	**7.46**	**206**	P	**Pn**	**13 32 43.9**	**-3.7**
KRHZ				S	**Sn**	**13 34 05.1**	**-5.8**
FWVZ	**Far West T-bar**	**7.46**	**212**	P	**Pn**	**13 32 47.0**	**-0.8**
TRVZ	**Turoa**	**7.50**	**212**	P	**Pn**	**13 32 48.3**	**-0.1**
MOVZ	**Mowhango**	**7.50**	**210**	P	**Pn**	**13 32 46.6**	**-1.6**
WNVZ	**Wahianoa**	**7.50**	**211**	P	**Pn**	**13 32 47.9**	**-0.5**
PKVZ	**Pokaka**	**7.58**	**213**	MLv			
MTVZ	**Mangateitei**	**7.60**	**212**	MLv			
PXZ	**Pawanui**	**7.63**	**202**	P	**Pn**	**13 32 46.3**	**-3.6**
WPHZ	**Waipukurau**	**7.80**	**204**	MLv			
PRHZ	**Porangahau**	**7.92**	**203**	P	**Pn**	**13 32 49.5**	**-4.3**
DVHZ	**Dannevirke**	**8.11**	**205**	MLv			
ANWZ	**Angora Road**	**8.15**	**203**	MLv			
LREZ	**Lake Rotokare**	**8.17**	**216**	MLv			
POWZ	**Post Office Ro**	**8.34**	**207**	MLv			
BFZ	**Birch Farm**	**8.42**	**203**	P	**Pn**	**13 32 57.0**	**-3.5**
SNZO	**South Karori**	**9.54**	**208**	P	**Pn**	**13 33 11.8**	**-3.4**
QRZ	**Quartz Range**	**10.14**	**217**	P	**Pn**	**13 33 21.2**	**-2.1**
CTZ	**Chatham Island**	**10.92**	**169**	P	**Pn**	**13 33 38.2**	**+4.7**
KHZ	**Kahutara**	**10.93**	**209**	P	**Pn**	**13 33 29.5**	**-4.2**
RPZ	**Rata Peaks**	**13.05**	**212**	P	Pn	13 33 56.5	-4.7
	2.3nm,0.4s,baz=41,slow=5.5,SNR=5.5						
RPZ				S	Sn	13 36 10.4	-15
	4.6nm,0.4s,baz=17,slow=22,SNR=8.5						
RPZ	**Rata Peaks**	**13.05**	**212**	P	**Pn**	**13 33 57.6**	**-3.7**
MSVF	**Nonsavu**	**15.39**	**351**	P	**Pn**	**13 34 29.7**	**-1.2**
	9.4nm,0.8s,baz=149,slow=17,SNR=1.2						
DZM	**Mont Dzumac**	**16.62**	**307**	P	**P**	**13 34 44.1**	**-1.7**
	10nm,0.8s,baz=111,slow=18,SNR=4.4						
ASAR	**Alice Springs**	**41.88**	**270**	P	**P**	**13 38 36.4**	**-0.8**
	0.8nm,0.7s,baz=107,slow=7.7,SNR=16						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**43.11**	**276**	P	**P**	**13 38 46.0**	**-1.1**
	1.4nm,0.5s,baz=114,slow=7.8,SNR=17						
	1.4nm,0.5s						
BATI	**Baumata**	**56.88**	**280**	P	**P**	**13 40 31.4**	**+0.4**
	17nm,0.5s,baz=94,slow=8.8,SNR=1.8						
	17nm,0.5s						
QSPA	**South Pole Qui**	**57.11**	**180**	P	P	13 40 38.1	+6.1
	5.0nm,0.6s,baz=35,slow=1.8,SNR=103						
	5.0nm,0.6s						
TROLL	**Troll, Antarti**	**75.26**	**181**	⇑P	**P**	**13 42 32.2**	**+4.7**
	comp=Z,129nm,0.4s						
SNAA	**Sanae**	**75.58**	**179**	P	**P**	**13 42 33.6**	**+4.3**
	comp=Z,1.6nm,0.2s,baz=203,slow=4.7,SNR=5.9						
	comp=Z,1.6nm,0.2s						
VNA3	**Neumayer Olymp**	**75.78**	**177**	⇑P	**P**	**13 42 34.5**	**+4.2**
	comp=Z,7.9nm,0.7s						
VNA2	**Neumayer--Watz**	**76.20**	**177**	⇑P	**P**	**13 42 37.5**	**+4.8**
	comp=Z,3.9nm,0.5s,baz=171,slow=5.7						
H03S2	**Juan Fernandez**	**79.99**	**124**	T	T	15 11 17.6	
	baz=235						
H03S1	**Juan Fernandez**	**80.00**	**124**	T	T	15 11 23.4	
	baz=235						
H03S3	**Juan Fernandez**	**80.01**	**124**	T	T	15 11 23.0	
	baz=235						
H03N3	**Juan Fernandez**	**80.20**	**123**	T	T	15 11 35.6	
	baz=241						
H03N2	**Juan Fernandez**	**80.20**	**123**	T	T	15 11 32.5	
	baz=241						
H03N1	**Juan Fernandez**	**80.22**	**123**	T	T	15 11 35.3	
	baz=241						
PETK	**Petropavlovsk-**	**88.06**	**346**	P	**P**	**13 43 33.2**	**-1.1**
	comp=Z,3.2nm,0.9s,baz=111,slow=7.9,SNR=0.9						
	comp=Z,3.2nm,0.9s						
KURBB	**Kurchatov Arra**	**122.02**	**313**	PKP	**PKPdf**	**13 49 37.8**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=70,slow=3.5,SNR=1.4						
BVAR	**Borovoye Array**	**127.42**	**314**	PKP	**PKPdf**	**13 49 48.6**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=32,slow=4.1,SNR=2.9						
FINES	**FINESS Array B**	**147.15**	**338**	PKPbc	**PKPbc**	**13 50 27.5**	**+1.4**
	comp=Z,3.0nm,0.4s,baz=43,slow=5.4,SNR=24						
NB2	**NORSAR Subarra**	**151.12**	**349**	PKP	**PKiKP**	**13 50 37.8**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**151.12**	**349**	PKPbc	**PKPbc**	**13 50 37.4**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=15,slow=4.1,SNR=6.4						
HFS	**Hagfors**	**151.53**	**346**	PKPbc	**PKPbc**	**13 50 38.1**	**+1.1**
	comp=Z,1.8nm,0.4s,baz=96,slow=3.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**160.20**	**183**	PKPab	**PKPab**	**13 51 27.9**	**+3.6**
	comp=Z,0.8nm,0.8s,baz=174,slow=2.2,SNR=4.7						

*IDC **14** 13:36:16.1±1.1, 34°.01N×83°.78E, h0km, mb3.5/8, mbtmp3.5/11, ML2.7/3, MS3.1/7, Error ellipse: s-maj=43.7km s-min=17.2km az=58.0*

ISC 14 13:36:21.1±1.2, 34°.1N±0°.2×83°.8E±0°.2, h35km, n14, σ1°.13/11, mb3.8/7, MS3.0/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.75**	**355**	Pn	**Pn**	**13 39 19.5**	**-0.3**
	baz=172,slow=12,SNR=1.5						
	0.7nm,0.9s						
KURBB	**Kurchatov Arra**	**16.98**	**348**	P	**Pn**	**13 40 14.8**	**-0.9**
	baz=164,slow=11,SNR=1.0						
KURBB				LR	LR	13 47 46.6	
	comp=Z,77nm,18.4s,baz=168,slow=40						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**19.87**	**2**	P	**Pn**	**13 40 49.9**	**-1.0**
	0.1nm,0.3s,baz=188,slow=8.7,SNR=2.4						
ZALV				LR	LR	13 49 35.7	
	comp=Z,36nm,18.7s,baz=104,slow=40						
	0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**20.59**	**135**	P	**P**	**13 40 56.0**	**-1.2**
	0.3nm,0.4s,baz=295,slow=8.9,SNR=1.0						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**21.23**	**337**	P	**P**	**13 41 02.7**	**-1.1**
	2.3nm,0.7s,baz=148,slow=12,SNR=13						
	2.3nm,0.7s						
SONM	**Songino Array**	**21.79**	**44**	P	**P**	**13 41 11.0**	**+1.0**
	0.4nm,0.7s,baz=238,slow=8.3,SNR=1.5						
	0.4nm,0.7s						
KBZ	**Khabaz**	**32.99**	**299**	LR	LR	13 57 34.6	
	comp=Z,30nm,19.5s,baz=98,slow=39						
KIRV	**Kirov**	**33.51**	**328**	LR	LR	13 58 29.3	
	comp=Z,33nm,21.1s,baz=32,slow=40						
FINES	**FINESS Array B**	**45.41**	**325**	P	**P**	**13 44 37.5**	**+1.5**
	1.7nm,1.0s,baz=83,slow=4.3,SNR=1.8						
	1.7nm,1.0s						
VRAC	**Vranov**	**50.81**	**309**	LR	LR	14 09 30.7	
	comp=Z,30nm,18.4s,baz=334,slow=39						
HFS	**Hagfors**	**51.39**	**323**	P	**P**	**13 45 21.5**	**-0.5**
	0.9nm,0.7s,baz=99,slow=6.8,SNR=1.5						
HFS				LR	LR	14 08 31.4	
	comp=Z,24nm,19.3s,baz=268,slow=38						
	0.9nm,0.7s						
NOA	**NORSAR Array B**	**52.56**	**324**	P	**P**	**13 45 32.2**	**+1.4**
	0.7nm,0.7s,baz=86,slow=7.3,SNR=4.0						
NOA				LR	LR	14 08 52.8	
	comp=Z,14nm,19.3s,baz=235,slow=37						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**72.09**	**130**	P	**P**	**13 47 42.2**	**+0.2**
	0.9nm,0.9s,baz=326,slow=6.3,SNR=6.3						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**74.59**	**133**	P	**P**	**13 47 57.3**	**+0.6**
	0.4nm,0.8s,baz=325,slow=5.4,SNR=6.9						
	0.4nm,0.8s						

*IDC **14** 13:49:49.5±6.0, 32°.89S×178°.85W, h0km, mb3.6/3, mbtmp3.6/3, MS4.5/1, Error ellipse: s-maj=253.4km s-min=56.3km az=157.0*
*WEL **14** 13:50:54.9, 38°.S±29°.×17°.8E±1°.8, h36km±22km, M2.1/9, ML2.3/11, MLv2.1/9, Error ellipse: s-maj=44.8km s-min=27.5km az=176.0*

ISC 14 13:49:48.2±2.7, 33°.7S±0°.2×178°.4W±0°.4, h10km, n21, σ1°.05/20, mb3.4/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.84**	**211**	P	**Pn**	**13 51 00.7**	**-0.3**
HAZ	**Te Kaha**	**5.08**	**217**	P	**Pn**	**13 51 04.6**	**+0.2**
PUZ	**Puketiti**	**5.12**	**211**	P	**Pn**	**13 51 05.4**	**+0.5**
RUGZ	**Raukumara Rang**	**5.30**	**216**	P	**Pn**	**13 51 06.9**	**-0.6**
TWGZ	**Tauwhareparae**	**5.33**	**212**	P	**Pn**	**13 51 09.1**	**+1.3**
CNGZ	**Carnagh Statio**	**5.49**	**209**	P	**Pn**	**13 51 10.2**	**+0.3**
MWZ	**Matawai**	**5.66**	**214**	P	**Pn**	**13 51 10.7**	**-1.7**
OPRZ	**Ohinepanea**	**5.81**	**223**	P	**Pn**	**13 51 15.5**	**+1.1**
URZ	**Urewera**	**5.81**	**218**	P	**Pn**	**13 51 14.3**	**-0.1**
RAGZ	**Rawiri**	**5.85**	**214**	P	**Pn**	**13 51 15.6**	**+0.6**
SNGZ	**Shannon Statio**	**6.11**	**213**	P	**Pn**	**13 51 18.9**	**+0.4**
MUGZ	**Murupara**	**6.15**	**218**	P	**Pn**	**13 51 17.4**	**-1.7**
RTZ	**Ruatahuna**	**6.15**	**216**	P	**Pn**	**13 51 18.9**	**-0.3**
RAHZ	**Arahi**	**6.34**	**214**	P	**Pn**	**13 51 22.1**	**+0.4**
MTHZ	**Maungataniwha**	**6.40**	**216**	P	**Pn**	**13 51 20.5**	**-2.0**
BKZ	**Black Stump Fm**	**6.82**	**216**	P	**Pn**	**13 51 27.5**	**-0.8**
STKA	**Stephens Creek**	**33.54**	**262**	P	**P**	**13 56 29.6**	**+1.5**
	1.2nm,0.7s,baz=74,slow=10,SNR=1.6						
	1.2nm,0.7s						
KRVT	**Keravat (AS076**	**40.18**	**310**	LR	LR	14 11 01.9	
	comp=Z,576nm,19.1s,baz=102,slow=32						
ASAR	**Alice Springs**	**42.70**	**271**	P	**P**	**13 57 44.6**	**-0.9**
	0.3nm,0.5s,baz=110,slow=7.3,SNR=7.1						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**43.99**	**276**	P	**P**	**13 57 55.1**	**-0.9**
	0.4nm,0.6s,baz=118,slow=7.6,SNR=3.5						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**148.12**	**338**	PKPbc	**PKPbc**	**14 09 33.2**	**-0.1**
	1.1nm,0.8s,baz=52,slow=3.9,SNR=4.4						

*IDC **14** 14:05:18.7±0.9, 31°.22N×130°.40E, h166km±7km, mb3.8/21, mbtmp4.3/26, Error ellipse: s-maj=14.5km s-min=10.5km az=91.0*
*NEIC **14** 14:05:18.4±1.8, 31°.14N±0°.08×130°.4E±0°.1, h160km±7km, mb4.5/18, Error ellipse: s-maj=15.0km s-min=10.2km az=110.0*
*MOS **14** 14:05:19.2±0.8, 31°.22N×130°.50E, h186km, mb4.6/20, Error ellipse: s-maj=14.0km s-min=6.2km az=114.3*
*NIED **14** 14:05:19.7, 31°.16N×130°.37E, h157km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.10; $M_{\theta\theta}$0.24; $M_{\phi\phi}$-1.34; $M_{r\theta}$0.57; $M_{\theta\phi}$0.87; $M_{\phi r}$1.30; Fault plane solution: $M_0$2.07000×10^{15} NP1:φs8.00000°, δ71.00000°, λ123.00000°. NP2:φs125.00000°, δ37.00000°, λ33.00000°.*
*JMA **14** 14:05:19.7±0.1, 31°.2N±0°.4×130°.4E±0°.8, h157km±1km, MV3.8/36, SATSUMA PENINSULA REGION*
JMA Felt I J1 at SATSUMA PENINSULA REGION.

ISC 14 14:05:19.0±0.5, 31°.15N±0°.04×130°.36E±0°.05, h169km±4km, n166, σ1°.36/200, mb4.4/71, 11C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.36**	**14**	*i* P	**Pn**	**14 05 41.3**	**-0.7**
JSU				*e*S	**Sn**	**14 05 58.0**	**-1.7**
JTSR	**Tashiro 2**	**0.48**	**88**	*i* P	**Pn**	**14 05 41.7**	**-0.7**
JTSR				S	**Sn**	**14 05 57.7**	**-2.7**
JTN	**Tanegashima 3**	**0.73**	**133**	*i* P	**Pn**	**14 05 43.2**	**-0.5**
JTN				S	**Sn**	**14 06 01.0**	**-1.7**
JSJ	**Shimokoshiki**	**0.76**	**314**	P	**Pn**	**14 05 42.8**	**-1.0**
JSJ				S	**Sn**	**14 06 00.7**	**-2.3**
JMTN	**Minamitane**	**0.89**	**148**	*i* P	**Pn**	**14 05 44.2**	**-0.6**
JMTN				*e*S	**Sn**	**14 06 03.1**	**-1.4**
JYAK	**Yakushimahirau**	**0.92**	**172**	*i* P	**Pn**	**14 05 44.4**	**-0.6**
JYAK				S	**Sn**	**14 06 02.8**	**-2.2**
JTZ	**Takazaki**	**0.97**	**40**	*i* P	**Pn**	**14 05 44.9**	**-0.4**
JTZ				S	**Sn**	**14 06 03.1**	**-2.6**
JNN	**Nakanoshima**	**1.37**	**198**	*i* P	**Pn**	**14 05 48.6**	**-0.3**
JNN				S	**Sn**	**14 06 10.7**	**-1.1**
JIU3	**Izumi3**	**1.44**	**15**	P	**Pn**	**14 05 49.3**	**-0.1**
JIU3				*e*S	**Sn**	**14 06 12.0**	**-1.1**
JNU	**Nakatsue**	**2.01**	**13**		**Pn**	**14 05 54.6**	**-0.8**
JNU	**Nakatsue**	**2.01**	**13**	P	**Pn**	**14 05 55.0**	**-0.4**
	130nm,0.7s,baz=338,slow=0.6,SNR=157						
JNU				S	**Sn**	**14 06 21

comp=Z,0.7nm,0.4s,baz=95,slow=11,SNR=4.8
ZALV PcP **PcP** **14 14 36.8 -0.6**
comp=Z,0.9nm,0.6s,baz=101,slow=4.6,SNR=4.2
comp=Z,0.7nm,0.4s
ZALV Zalesovo Beam 39.63 319 *e*P **P** **14 12 32.8 -1.2**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 39.85 307 P **P** **14 12 35.6 -0.4**
MKAR Makanchi Array 39.85 307 P **P** **14 12 35.5 -0.5**
comp=Z,1.6nm,0.8s,baz=88,slow=10.0,SNR=13
MKAR PcP **PcP** **14 14 38.1 -0.3**
comp=Z,0.8nm,0.7s,baz=71,slow=4.5,SNR=10
comp=Z,1.6nm,0.8s
MKAR Makanchi Array 39.85 307 *e*P **P** **14 12 36.2 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MAKZ Makanchi 40.07 307 P **P** **14 12 38.4 +0.6**
MAKZ IAmb IAmb 14 12 48.0
comp=Z,11nm,1.2s
MAKZ Makanchi 40.07 307 P **P** **14 12 38.4 +0.6**
MAKZ pmax pmax
comp=Z,11nm,1.2s
TIXI Tiksi 40.56 359*ce*P **P** **14 12 41.6 +0.3**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 42.70 313 P **P** **14 13 00.2 +1.2**
KURK Kurchatov 42.70 313*ce*P **P** **14 12 59.1 0.0**
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURBB Kurchatov Arra 42.75 312 P **P** **14 12 59.2 -0.3**
comp=Z,1.3nm,0.4s,baz=98,slow=8.8,SNR=9.4
KURBB PcP **PcP** **14 14 47.0 -0.7**
comp=Z,0.4nm,0.5s,baz=97,slow=4.1,SNR=4.6
comp=Z,1.3nm,0.4s
KSH Kashi 44.56 296 P P 14 13 20.5 +6.2
KSH pmax pmax
comp=Z,3.0nm,1.0s
BVAR Borovoye Array 47.98 315 P **P** **14 13 40.8 +0.2**
comp=Z,3.3nm,0.4s,baz=94,slow=9.6,SNR=33
BVAR PcP **PcP** **14 15 05.9 0.0**
comp=Z,1.2nm,0.4s,baz=119,slow=2.5,SNR=7.1
comp=Z,3.3nm,0.4s
BRVK Borovoye 48.04 315 P **P** **14 13 41.4 +0.4**
BRVK IAmb IAmb 14 13 42.3
comp=Z,5.5nm,0.5s
BRVK Borovoye 48.04 315*ce*P **P** **14 13 41.8 +0.8**
BRVK pmax pmax
comp=Z,3.0nm,0.5s
WRA Warramunga Arr 50.95 175 P **P** **14 14 03.6 +0.3**
comp=Z,0.7nm,0.6s,baz=353,slow=7.8,SNR=5.6
comp=Z,0.7nm,0.6s
WRA Warramunga Arr 50.95 175 *e*P **P** **14 14 04.3 +1.0**
WRA pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 54.62 176 P **P** **14 14 30.9 +0.8**
comp=Z,1.0nm,0.8s,baz=358,slow=6.2,SNR=28
comp=Z,1.0nm,0.8s
ASAR Alice Springs 54.62 176 P **P** **14 14 31.0 +0.8**
ABKAR Akbulak array 54.74 311 P **P** **14 14 31.0 +0.2**
ARTI Arti 54.87 320 P **P** **14 14 32.2 +0.6**
ARTI IAmb IAmb 14 14 33.6
comp=Z,6.1nm,0.5s
ARTI Arti 54.87 320*c i*P **P** **14 14 32.2 +0.6**
ARTI S **S** **14 21 59.4 -0.2**
ARTI SS **SS** **14 25 42.4 -2.5**
ARTI pmax pmax
comp=Z,3.0nm,0.6s
ILAR Eielson Array 59.24 30 P **P** **14 15 01.9 -0.3**
comp=Z,0.4nm,0.7s,baz=268,slow=5.4,SNR=7.6
ILAR PcP **PcP** **14 15 48.0 -0.6**
comp=Z,0.4nm,0.8s,baz=281,slow=3.6,SNR=4.2
comp=Z,0.4nm,0.7s
ILAR Eielson Array 59.24 30 *e*P **P** **14 15 02.6 +0.4**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
KIRV Kirov 59.39 323*ce*P **P** **14 15 04.3 +1.1**
KLMR Klimovskoe 63.72 327 *e*P **P** **14 15 31.1 -1.1**
KLMR *e* 14 16 04.4
KLMR pmax pmax
comp=Z,30nm,2.0s
SPITS Spitsbergen Ar 64.41 348 P **P** **14 15 36.5 0.0**
comp=Z,4.2nm,0.5s,baz=74,slow=9.1,SNR=9.8
comp=Z,4.2nm,0.5s
A36M Sachs Harbour 64.98 19 P **P** **14 15 41.0 +0.8**
A36M IAmb IAmb 14 15 45.6
comp=Z,3.6nm,0.8s
ARCES ARCESS Array B 66.13 338 P **P** **14 15 47.4 -0.3**
comp=Z,3.9nm,0.6s,baz=60,slow=8.0,SNR=22
comp=Z,3.9nm,0.6s
C36M Paulatuk 66.44 22 P **P** **14 15 49.6 -0.1**
C36M IAmb IAmb 14 15 50.9
comp=Z,4.8nm,0.5s
OBN Obninsk 67.12 322⇓*e*P **P** **14 15 54.3 +0.2**
OBN 14 16 14.0
OBN *PP **pP** **14 16 34.0 -0.2**
OBN S **S** **14 24 27.0 -7.4**
OBN pmax pmax
comp=Z,40nm,2.5s
KBZ Khabaz 67.53 308 P **P** **14 15 57.5 +0.5**
comp=Z,9.9nm,0.8s,baz=92,slow=4.4,SNR=18
comp=Z,9.9nm,0.8s
KBZ Khabaz 67.53 308 *e*P **P** **14 15 58.5 +1.5**
KBZ pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 67.59 309 *e*P **P** **14 15 58.1 +0.6**
KIV pmax pmax
comp=Z,15nm,1.0s
KIV Kislovodsk 67.59 309 P **P** **14 15 58.9 +1.4**
comp=Z,15nm,1.1s
SHA1 Shidzhatmaz 67.69 308*ce*P **P** **14 15 59.7 +1.4**
FINES FINESS Array B 69.52 330 P **P** **14 16 08.7 -0.3**
comp=Z,10nm,0.5s,baz=69,slow=5.8,SNR=86
comp=Z,10nm,0.5s
FINES FINESS Array B 69.52 330 *e*P **P** **14 16 08.9 -0.1**
FINES pmax pmax
comp=Z,11nm,0.5s
SOC Sochi 69.71 309 *e*P **P** **14 16 09.7 -0.8**
SOC *e**PP **pP** **14 16 55.7 +4.9**
SOC *e* 14 18 45.3
SOC *e*PPP PPP 14 20 28.4
SOC *e*S **S** **14 25 03.3 -2.3**
SOC *e*SS **SS** **14 29 29.9 -6.8**
SOC pmax pmax
comp=Z,17nm,0.7s
VSU Vasula 70.62 327*ce*P **P** **14 16 15.7 0.0**
VSU pmax pmax
comp=Z,12nm,1.3s
MNK Minsk 71.93 323 *i* P **P** **14 16 24.5 +0.9**
comp=E,12nm,0.8s
MNK *i* P **P** **14 16 24.5 +0.9**
comp=N,15nm,0.7s
MNK *i* P **P** **14 16 24.5 +0.9**
comp=Z,20nm,0.8s,baz=61
MNK *i* pP pP 14 17 11.9 +7.7
MNK *i* PP **PP** **14 19 06.8 +1.6**
MNK *i* PPP PPP 14 20 51.5
MNK *i* S **S** **14 25 33.0 +2.2**
MNK *i* sS sS 14 26 52.8 +12
MNK *i* SS **SS** **14 30 11.4 +1.4**
MNK *i* SSS SSS 14 33 32.4
MNK Minsk 71.93 323 *i* P **P** **14 16 24.5 +0.9**
MNK *i* *PP pP 14 17 11.8 +7.6
MNK *i* 14 19 06.8
MNK *i* PPP PPP 14 20 51.4
MNK *i* S **S** **14 25 32.9 +2.2**
MNK *i* SS **SS** **14 30 11.4 +1.4**
MNK pmax pmax
comp=N,15nm,0.7s
MNK pmax pmax
comp=Z,20nm,0.8s
MNK pmax pmax
comp=E,12nm,0.8s
NACGM Naroch 72.30 324 *e*P **P** **14 16 26.4 +0.6**
comp=Z,20nm,0.7s,baz=61
AKASG Malin Array Be 73.02 319 P **P** **14 16 29.8 -0.4**
comp=Z,3.6nm,0.4s,baz=56,slow=6.3,SNR=34
comp=Z,3.6nm,0.4s
AKASG Malin Array Be 73.02 319 *e*P **P** **14 16 30.1 -0.1**
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKBB Malin Array Si 73.02 319 P **P** **14 16 29.6 -0.6**
AKBB IAmb IAmb 14 16 30.8
comp=Z,16nm,1.0s
AKBB Malin Array Si 73.02 319*ce*P **P** **14 16 30.0 -0.2**
AKBB pmax pmax
comp=Z,13nm,0.9s
AKBB Malin Array Si 73.02 319 P **P** **14 16 29.6 -0.6**
KIEV Kiev 73.03 319 P **P** **14 16 29.9 -0.4**
KIEV IAmb IAmb 14 16 30.8
comp=Z,14nm,1.0s
KIEV Kiev 73.03 319 P **P** **14 16 29.9 -0.4**
KIEV pmax pmax
comp=Z,14nm,1.0s
KIEV Kiev 73.03 319 P **P** **14 16 29.6 -0.6**
comp=Z,70nm,0.8s
RAYN Ar Rayn 74.04 288 P **P** **14 16 37.4 +0.7**
RAYN IAmb IAmb 14 16 38.6
comp=Z,7.6nm,0.9s
RAYN Ar Rayn 74.04 288 P **P** **14 16 37.4 +0.7**
RAYN pmax pmax
comp=Z,8.0nm,0.9s
LUBAR Lubar, Ukraine 74.22 319 P **P** **14 16 36.7 -0.5**
RNPP9 Sopachiv 74.50 321 P **P** **14 16 38.6 -0.2**
RNPP5 Staryi Chortor 74.60 321 P **P** **14 16 39.0 -0.3**
NDNU Novodnistrovsk 75.10 318 P **P** **14 16 41.8 -0.5**
HFS Hagfors 75.34 332 P **P** **14 16 42.7 -0.7**
comp=Z,3.7nm,0.6s,baz=60,slow=6.0,SNR=9.8
comp=Z,3.7nm,0.6s
BR131 Keskin Array S 75.50 308 *i* P **P** **14 16 45.6 +0.6**
BRTR Keskin Array B 75.50 308 P **P** **14 16 44.7 -0.2**
BRTR Keskin Array B 75.50 308 P **P** **14 16 45.0 0.0**
comp=Z,7.5nm,0.8s,baz=93,slow=5.1,SNR=19
comp=Z,7.5nm,0.8s
BRTR Keskin Array B 75.50 308 *e*P **P** **14 16 45.8 +0.8**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BR104 Keskin Array S 75.51 308 P **P** **14 16 45.6 +0.6**
comp=Z,10nm,1.0s,comp=Z,80nm
NB2 NORSAR Subarra 75.73 334 P **P** **14 16 45.0 -0.7**
comp=Z,1.9nm,0.6s,baz=47,slow=5.9
NOA NORSAR Array B 75.73 334 P **P** **14 16 44.8 -1.0**
comp=Z,3.2nm,0.7s,baz=50,slow=5.7,SNR=9.7
comp=Z,3.2nm,0.7s
NOA NORSAR Array B 75.73 334 *e*P **P** **14 16 45.3 -0.4**
NOA pmax pmax
comp=Z,3.0nm,0.7s
SUMG Summit 76.26 357 P **P** **14 16 49.6 +0.7**
SUMG IAmb IAmb 14 16 50.9
comp=Z,8.7nm,0.7s
SUMG Summit 76.26 357 P **P** **14 16 49.7 +0.7**
SUMG pmax pmax
comp=Z,9.0nm,0.7s
TESR Tescani 76.58 316 P **P** **14 16 50.9 +0.1**
comp=Z,11nm,0.7s
STNU Starunia 76.67 319 P **P** **14 16 51.5 +0.3**
BURAR Bucovina Array 76.84 318 P **P** **14 16 52.3 0.0**
BURAR IAmb IAmb 14 16 54.1
comp=Z,4.7nm,0.7s
VRI Vrincioaia 76.87 316 P **P** **14 16 53.5 +1.1**
comp=Z,6.6nm,0.6s,comp=Z,148nm
PLOR5 Plostina Array 76.92 316 P **P** **14 16 54.8 +2.1**
comp=Z,7.5nm,1.1s
KWP Kalwaria Pacla 77.17 321 *e*P **P** **14 16 55.2 +1.3**
KWP Kalwaria Pacla 77.17 321 *e*P **P** **14 16 54.4 +0.4**
KWP Kalwaria Pacla 77.17 321 P **P** **14 16 54.4 +0.4**
KWP pmax pmax
comp=Z,16nm,0.8s
KWP Kalwaria Pacla 77.17 321 P **P** **14 16 54.9 +0.9**
comp=Z,21nm,0.9s
RAKU Rahkiv 77.22 319 P **P** **14 16 54.4 +0.1**
MMAI Mount Meron Ar 77.47 301 P **P** **14 16 55.9 -0.1**
comp=Z,3.0nm,0.6s,baz=75,slow=6.1,SNR=3.3
comp=Z,3.0nm,0.6s
MLR Muntele Rosu 77.54 316 P **P** **14 16 56.6 +0.3**
comp=Z,7.3nm,1.5s
HOLU Holmets 77.95 320 P **P** **14 16 59.2 +0.9**
VOIR 78.10 316 P **P** **14 16 59.9 +0.6**
comp=Z,2.3nm,0.5s
OJC Ojcow 78.40 322 *e*P **P** **14 17 01.9 +1.1**
OJC Ojcow 78.40 322 P **P** **14 17 01.3 +0.6**
comp=Z,29nm,0.9s
NIE Niedzica 78.59 321 *e*P **P** **14 17 03.8 +2.0**
NIE Niedzica 78.59 321 P **P** **14 17 03.1 +1.2**
comp=Z,6.9nm,1.2s
KSP Ksiaz 79.83 324 *e*P **P** **14 17 09.9 +1.3**
KSP Ksiaz 79.83 324 P **P** **14 17 09.2 +0.7**
comp=Z,13nm,2.2s
MORC Moravsky Berou 79.84 323 *e*P **P** **14 17 09.3 +0.7**
DPC Dobruska-Polom 80.12 324 P **P** **14 17 10.6 +0.5**
comp=Z,3.7nm,0.9s
JAVC Velka Javorina 80.32 322 *e*P **P** **14 17 13.3 +2.1**
VRAC Vranov 80.61 323 *e*P **P** **14 17 13.7 +0.9**
KRUC Moravsky 80.86 322 *e*P **P** **14 17 15.1 +1.0**
CLL Collm 81.17 326 *i* P **P** **14 17 16.2 +0.6**
CLL pmax pmax
comp=Z,12nm,0.7s
CLL Collm 81.17 326 *i* P **P** **14 17 16.2 +0.6**
comp=Z,12nm,0.7s
CLL Collm 81.17 326 P **P** **14 17 16.0 +0.4**
comp=Z,18nm,0.9s
MORH Mrgy, Hungar 81.36 319 P **P** **14 17 17.0 +0.3**
comp=Z,5.7nm,0.8s
MPLH Magyarpolny 81.40 321 P **P** **14 17 17.7 +0.8**
comp=Z,12nm,0.8s
RONA Rosalia, Austr 81.75 321 *e*PcP **P** **14 17 20.7 +1.8**
comp=Z,1.2nm,0.6s
CONA Conrad Observa 81.84 322 *i* PcP **P** **14 17 20.9 +1.5**
comp=Z,7.7nm,0.7s
KHC Kasperske Hory 82.27 324*ce*P **P** **14 17 22.8 +1.3**
KHC pmax pmax
comp=Z,9.0nm,1.7s
GERES GERESS Array B 82.39 323 P **P** **14 17 21.2 -1.0**
comp=Z,1.5nm,0.6s,baz=33,slow=7.5,SNR=6.9
comp=Z,1.5nm,0.6s
MOA Molln 82.73 322 *e*PcP **P** **14 17 25.8 +1.9**
comp=Z,4.4nm,0.8s
SOKA Soboth 83.06 321 *i* P **P** **14 17 26.5 +0.8**
comp=Z,14nm,1.3s
BIOA Bad Ischl, Aus 83.16 323 *e*PcP **P** **14 17 27.8 +1.7**
comp=Z,4.6nm,0.9s
OBKA Obir 83.42 321 *e*PcP **P** **14 17 28.6 +1.0**
comp=Z,9.0nm,0.7s
KBA Koelnbreinsper 83.70 322 *e*PcP **P** **14 17 30.2 +1.1**
comp=Z,5.7nm,0.8s
LESA Schwarzleotal 83.83 323 *e*PcP **P** **14 17 30.7 +1.1**
comp=Z,8.8nm,0.6s
MYKA Terra Mystica 83.83 322 *e*P **P** **14 17 30.2 +0.6**
comp=Z,6.1nm,0.5s
ABTA Abfaltersbach 84.35 322 *e*P **P** **14 17 32.6 +0.4**
comp=Z,9.2nm,0.7s
WTTA Wattenberg 84.47 323 *e*PcP **P** **14 17 33.9 +1.0**
comp=Z,8.3nm,1.4s
MOTA Moosalm 84.69 323 *e*PcP **P** **14 17 35.6 +1.6**
comp=Z,2.7nm,0.5s
SQTA Sankt Quirin 84.72 323 *e*PcP **P** **14 17 35.3 +1.1**
comp=Z,4.2nm,0.7s
EKA Eskdalemuir Ar 85.11 335 P **P** **14 17 34.7 -1.0**
comp=Z,1.6nm,0.5s,baz=45,slow=4.5,SNR=4.0
comp=Z,1.6nm,0.5s
NVAR Mina Array Bea 85.78 47 P **P** **14 17 39.4 -0.3**
comp=Z,0.2nm,0.5s,baz=302,slow=6.4,SNR=3.9
comp=Z,0.2nm,0.5s
FDMO Fiordimonte 86.44 319 P **P** **14 17 43.4 +0.8**

IDC 14 14:10:30.7±3.5, 17°.15S×178°.89W, h649km±19km, mb2.8/3, mbtmp3.8/4, Error ellipse: s-maj=149.6km s-min=31.5km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.98**	**258**	P	P	14 11 53.8	-0.1
	15nm,0.5s,baz=145,slow=3.7,SNR=19						
WRA	**Warramunga Arr**	**44.32**	**259**	P	P	14 17 46.1	0.0
	0.7nm,0.5s,baz=93,slow=7.4,SNR=16						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**44.56**	**254**	P	P	14 17 48.0	+0.1
	1.7nm,0.4s,baz=90,slow=7.8,SNR=69						
ASAR				PcP	PcP	14 19 15.9	-0.3
	0.2nm,0.5s,baz=108,slow=3.9,SNR=4.3						
	1.7nm,0.4s						
ILAR	**Eielson Array**	**85.26**	**13**	P	P	14 22 00.4	+0.1
	0.3nm,0.9s,baz=207,slow=6.0,SNR=4.1						
	0.3nm,0.9s						

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*SJA **14** 14:31:31.0±0.8, 24°.00S×66°.91W, h225km±5km, ML3.5, MW3.6*
*GUC **14** 14:31:33.4±0.8, 23°.99S×66°.97W, h208km±12km, ML3.7*
ISC 14 14:31:30.8±2.1, **24°.01S**±0°.04×**66°.94W**±0°.05, **h227**km±18km, **n26**, σ1°**42**/44, **3C-1D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.49**	**119**	⇓*i*P	**Pn**	**14 32 07.6**	**+0.6**
SLA	**San Lorenzo**	**1.49**	**119**	*e*P	**Pn**	**14 32 08.0**	**+1.0**
SLA				*e*S	**S**	**14 32 34.7**	**-0.6**
AF01	**San Pedro de A**	**1.55**	**312**	*e*P	Pn	14 32 18.2	+10
AF01				*e*S	**S**	**14 32 38.5**	**+2.0**
AF01				IAML		14 32 38.8	
comp=Z,91nm,0.6s							
AZAP	**Zapla**	**1.72**	**98**	*e*P	**Pn**	**14 32 09.2**	**+0.1**
AZAP				*e*S	**S**	**14 32 36.2**	**-2.7**
AZAP				IAML		14 32 39.7	
comp=Z,87nm,0.7s							
YJA	**Yavi**	**2.25**	**36**	*e*P	**Pn**	**14 32 15.6**	**+1.2**
YJA	**Yavi**	**2.25**	**36**	*e*P	**Pn**	**14 32 15.1**	**+0.7**
YJA				*e*S	**S**	**14 32 47.3**	**-1.0**
FSA	**Cafayete**	**2.27**	**158**	*e*P	**Pn**	**14 32 14.9**	**+0.7**
FSA				*e*S	**S**	**14 32 46.9**	**-1.2**
PB15	**IPOC Station P**	**2.46**	**288**	⇑*i*P	**Pn**	**14 32 17.3**	**+1.1**
PB15				*e*S	**S**	**14 32 50.0**	**-1.6**
PB15	**IPOC Station P**	**2.46**	**288**	*e*P	**Pn**	**14 32 16.8**	**+0.6**
PB15				*e*S	**S**	**14 32 50.8**	**-0.9**
GO02	**Mina Guanaco**	**2.67**	**244**	⇑*i*P	**Pn**	**14 32 19.8**	**+1.2**
GO02	**Mina Guanaco**	**2.67**	**244**	*e*P	**Pn**	**14 32 19.9**	**+1.2**
GO02				*e*S	**S**	**14 32 55.3**	**-0.7**
PB06	**IPOC Station P**	**2.75**	**298**	⇑*i*P	**Pn**	**14 32 20.4**	**+1.1**
PB06				IAML		14 32 56.1	
comp=N,161nm,0.7s							
PB06	**IPOC Station P**	**2.75**	**298**	*e*P	**Pn**	**14 32 19.8**	**+0.5**
PB06				*e*S	**S**	**14 32 56.3**	**-0.8**
PB06				IAML		14 33 00.4	
comp=Z,181nm,0.3s							
PB09	**IPOC Station P**	**3.06**	**316**	*e*P	**Pn**	**14 32 24.6**	**+1.8**
PB09				*e*S	**S**	**14 33 02.3**	**-1.2**
PB09				IAML		14 33 03.6	
comp=N,99nm,0.6s							
PB09	**IPOC Station P**	**3.06**	**316**	*e*P	**Pn**	**14 32 24.4**	**+1.5**
PB09				*e*S	**S**	**14 33 02.7**	**-0.8**
PB09				IAML		14 33 06.4	
comp=Z,85nm,0.4s							
AHML	**Horco Molle**	**3.12**	**153**	*e*P	Pn	14 32 15.1	-8.2
AHML				*e*S	S	14 32 50.5	-14
PB14	**IPOC Station P**	**3.22**	**258**	*e*P	**Pn**	**14 32 25.9**	**+1.1**
PB14				*e*S	**S**	**14 33 05.4**	**-1.6**
PB14				IAML		14 33 08.4	
comp=Z,71nm,0.5s							
PB04	**IPOC Station P**	**3.39**	**299**	*e*P	**Pn**	**14 32 27.8**	**+1.1**
PB04				*e*S	**S**	**14 33 07.5**	**-2.9**
PB04	**IPOC Station P**	**3.39**	**299**	*e*P	**Pn**	**14 32 27.7**	**+1.1**
PB04				*e*S	**S**	**14 33 08.3**	**-2.1**
PB04				IAML		14 33 16.1	
comp=Z,113nm,0.4s							
PB01	**IPOC Station P**	**3.78**	**321**	*e*P	**Pn**	**14 32 31.6**	**+0.5**
PB01				*e*S	**S**	**14 33 19.0**	**+0.5**
PB01				IAML		14 33 22.2	
comp=Z,43nm,0.7s							
AC01	**Pan de Azucar**	**3.94**	**237**	*e*P	**Pn**	**14 32 33.4**	**+0.5**
AC01				*e*S	**S**	**14 33 19.3**	**-2.6**
AC01				IAML		14 33 21.5	
comp=Z,45nm,0.3s							
PATCX	**Punta Patache**	**4.35**	**316**	*e*P	**Pn**	**14 32 38.5**	**+0.4**
PB08	**IPOC Station P**	**4.36**	**331**	*e*P	**Pn**	**14 32 40.0**	**+1.5**
PB08				*e*S	**S**	**14 33 31.1**	**-0.7**
PB08				IAML		14 33 34.8	
comp=Z,27nm,0.4s							
GO03	**Copiapo**	**4.64**	**219**	*e*P	**Pn**	**14 32 42.7**	**+1.2**
GO03				*e*S	**S**	**14 33 36.0**	**-1.4**
PB11	**IPOC Station P**	**4.92**	**329**	*e*P	**Pn**	**14 32 45.5**	**+0.3**
PB11				*e*S	**S**	**14 33 41.9**	**-2.1**
PB11				IAML		14 33 43.3	
comp=Z,42nm,0.9s							
ACLC	**CERRO LA CRUZ**	**5.39**	**180**	*e*P	**Pn**	**14 32 53.0**	**+2.0**
ACLC				*e*S	**S**	**14 33 56.4**	**+1.7**

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*IDC **14** 14:48:25.6±1.0, 60°.20S×26°.70W, h0km, mb4.1/4, mbtmp4.1/5, ML4.4/1, MS2.9/1, Error ellipse: s-maj=38.6km s-min=26.8km az=82.0*
*NEIC **14** 14:48:28.9±1.5, 60°.1S±0°.1×26°.6W±0°.4, h17km±5km, mb4.7/17, Error ellipse: s-maj=29.8km s-min=12.9km az=54.0*
ISC 14 14:48:29.4±0.7, **60°.1S**±0°.1×**26°.4W**±0°.2, **h26**km, **n42**, σ1°**12**/36, **mb4.6**/11, **6C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.01**	**313**	Pn	**Pn**	**14 50 23.2**	**-0.8**
VNA1	**Neumayer--Stat**	**12.90**	**152**	⇑P	**Pn**	**14 51 29.4**	**-1.3**
comp=Z,8.0nm,0.3s							
VNA3	**Neumayer Olymp**	**13.03**	**156**	⇑P	**Pn**	**14 51 31.2**	**-1.4**
comp=Z,4.1nm,0.3s							
VNA3				⇑S	Sn	14 53 41.5	-15
comp=Z,1.0nm,0.5s							
VNA2	**Neumayer--Watz**	**13.30**	**152**	⇑P	**Pn**	**14 51 34.6**	**-1.5**
comp=Z,1.9nm,0.3s,baz=306,slow=17							
VNA2				⇓S	Sn	14 53 49.7	-13
comp=Z,0.1nm,0.2s,baz=303,slow=13							
SNAA	**Sanae**	**14.89**	**150**		**Pn**	**14 51 56.5**	**-1.5**
SNAA	**Sanae**	**14.89**	**150**	⇑P	**Pn**	**14 51 56.3**	**-1.6**
comp=Z,105nm,0.4s							
SNAA	**Sanae**	**14.89**	**150**	Pn	**Pn**	**14 51 57.6**	**-0.3**
comp=Z,1.8nm,0.3s,baz=307,slow=14,SNR=25							
SNAA				LR	LR	14 56 06.0	
comp=Z,47nm,20.6s,baz=197,slow=31							
comp=Z,7.3nm,0.5s							
TROLL	**Troll, Antarti**	**16.46**	**148**	⇑P	**Pn**	**14 52 15.7**	**-2.7**
comp=Z,30nm,0.2s							
BELA	**Belgrano 2**	**18.02**	**186**	P	**P**	**14 52 39.4**	**+1.5**
QSPA	**South Pole Qui**	**30.10**	**180**	P	**P**	**14 54 37.9**	**+1.4**
QSPA	**South Pole Qui**	**30.10**	**180**	P	**P**	**14 54 36.4**	**-0.1**
comp=Z,1.2nm,0.7s,baz=333,slow=2.6,SNR=12							
comp=Z,1.2nm,0.7s							
TRQA	**Tornquist**	**31.48**	**298**	P	**P**	**14 54 48.0**	**-0.7**
TRQA				IAmb	IAmb	14 55 18.5	
comp=Z,16nm,1.4s							
PLCA	**Paso Flores**	**33.31**	**286**	P	**P**	**14 55 03.7**	**-1.1**
PLCA				IAmb	IAmb	14 55 37.2	
comp=Z,16nm,1.4s							
PLCA	**Paso Flores**	**33.31**	**286**	P	**P**	**14 55 03.8**	**-1.1**
comp=Z,1.0nm,0.5s,baz=166,slow=7.0,SNR=4.0							
comp=Z,1.0nm,0.5s							
PLTB	**Pedras Altas**	**33.62**	**315**	P	**P**	**14 55 09.1**	**+1.5**
BI05	**Punta Hualpn**	**37.71**	**287**	P	**P**	**14 55 42.2**	**-0.3**
BO02	**Sierra Bellavi**	**38.16**	**291**	P	**P**	**14 55 46.3**	**-0.2**
BO02				IAmb	IAmb	14 55 57.6	
comp=Z,18nm,1.5s							
MT09	**Talagante**	**39.10**	**292**	P	**P**	**14 55 53.5**	**-0.9**
MT09				IAmb	IAmb	14 55 54.9	
comp=Z,8.4nm,0.8s							
MT01	**Popeta**	**39.15**	**292**	P	**P**	**14 55 53.8**	**-0.8**
MT01				IAmb	IAmb	14 55 55.2	
comp=Z,8.3nm,0.6s							
MT02	**Curacav**	**39.60**	**292**	P	**P**	**14 55 57.7**	**-0.7**
MT02				IAmb	IAmb	14 56 09.7	
comp=Z,26nm,1.4s							
CO01	**Juntas del Tor**	**41.89**	**296**	P	**P**	**14 56 17.3**	**-0.2**
AC05	**El Transito**	**42.94**	**297**	P	**P**	**14 56 26.3**	**+0.3**
AC05				IAmb	IAmb	14 56 45.9	
comp=Z,26nm,1.4s							
H04S2	**CROZET ISLANDS**	**45.63**	**110**	T	T	15 46 37.0	
baz=223,slow=75							
H04S3	**CROZET ISLANDS**	**45.64**	**110**	T	T	15 46 24.9	
baz=223,slow=75							
H04S1	**CROZET ISLANDS**	**45.65**	**110**	T	T	15 46 30.6	
baz=223,slow=75							
GO02	**Mina Guanaco**	**45.83**	**300**	P	**P**	**14 56 48.7**	**-0.6**
PB09	**IPOC Station P**	**48.64**	**303**	P	**P**	**14 57 11.7**	**+0.6**
CASY	**Casey**	**49.92**	**159**	P	**P**	**14 57 22.0**	**+1.8**
CASY				IAmb	IAmb	14 57 23.7	
comp=Z,11nm,1.2s							
H10N1	**ASCENSION HYDR**	**52.96**	**15**	T	T	15 55 08.7	
baz=189							
H10N3	**ASCENSION HYDR**	**52.96**	**15**	T	T	15 55 07.6	
baz=189							
H10N2	**ASCENSION HYDR**	**52.97**	**15**	T	T	15 55 13.2	
baz=189							
LPAZ	**La Paz**	**53.12**	**307**	P	**P**	**14 57 45.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**76.46**	**28**	P	**P**	**15 00 17.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**76.46**	**28**	P	**P**	**15 00 17.6**	**+1.1**
comp=Z,1.4nm,0.4s,baz=200,slow=5.8,SNR=16							
comp=Z,1.4nm,0.4s							
ASAR	**Alice Springs**	**94.96**	**162**	P	**P**	**15 01 48.8**	**-0.6**
comp=Z,0.3nm,0.6s,baz=184,slow=4.1,SNR=7.2							

comp=Z,0.3nm,0.6s
N31M Braeburn, Yuko 147.06 304 PKPdf **PKPdf 15 08 06.5 +0.3**
N30M Aishikik Lake 147.59 303 PKPdf **PKPdf 15 08 07.4 +0.3**
A36M Sachs Harbour 147.86 325 PKPdf **PKPbc 15 08 09.1 -1.0**
H31M Peel River 148.46 311 PKPdf **PKPbc 15 08 10.9 -1.1**
I30M Mount Dempster 149.00 310 PKPdf **PKPbc 15 08 11.9 -1.6**
SONM Songino Array 150.34 93 PKPbc **PKiKP 15 08 18.0 -0.1**
comp=Z,0.6nm,0.5s,baz=158,slow=1.6,SNR=2.8
ILAR Eielson Array 153.00 306 PKPbc **PKiKP 15 08 22.8 -0.1**
comp=Z,0.2nm,0.4s,baz=151,slow=3.0,SNR=2.3

NOU 14 14:50:30.1, 21°.49S × 169°.62E, $h0^{km}$, mb3.9/8, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.48**	**270**	P	Pn	14 50 56.8	-1.2
PINNC	**Pines Island,**	**2.31**	**241**	P	Pn	14 51 08.7	-0.7
LIFNC	**LIFOU**	**2.33**	**287**	P	Pn	14 51 10.2	+0.5
YATNC	**Mamie plateau,**	**2.60**	**257**	P	Pn	14 51 13.2	-0.2
OUENC	**Ouen Island, N**	**2.74**	**250**	P	Pn	14 51 15.6	+0.3
DZM	**Mont Dzumac**	**3.01**	**258**	P	Pn	14 51 19.7	+0.6
KOUNC	**Koumac, New Ca**	**5.07**	**280**	P	Pn	14 51 48.0	+0.6

*IDC **14** 15:07:04.1±1.1, 31°.96N × 131°.97E, $h0^{km}$, mb3.3/4, mbtmp3.3/7, ML2.9/3, MS3.0/7, Error ellipse: s-maj=28.9km s-min=17.5km az=73.0*
*NIED **14** 15:07:08.4, 32°.05N × 131°.95E, $h30^{km}$, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-3.77; $M_{\theta\theta}$-0.06; $M_{\phi\phi}$3.82; $M_{r\theta}$-1.99; $M_{\theta\phi}$-0.32; $M_{\phi r}$7.78; Fault plane solution: $M_0$8.88000×10^{14} NP1: ϕ_s167.00000°, δ77.00000°, λ-94.00000°. NP2: ϕ_s4.00000°, δ13.00000°, λ-73.00000°.*
*JMA **14** 15:07:08.4±0.1, 32°.1N±0°.4 × 132°.0E±0°.7, $h30^{km}$±1^{km}, MD3.7/39, MV3.6/39, HYUGANADA REGION*
JMA Felt I J1 at HYUGANADA REGION .
ISC 14 15:07:08.1±1.5, 32°.03N±0°.06 × 131°.94E±0°.06, $h29^{km}$±11^{km}, n29, σ0°61/28, mb3.3/4, MS3.0/5, 3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.43**	**301**	P	**Pb**	**15 07 17.2**	**-0.2**
JTSN				S	**Sb**	**15 07 23.7**	**0.0**
JTSN	**Tsuno**	**0.43**	**301**	A	A	15 07 17.2	
comp=E,10.0nm,0.6s,comp=N,8.0nm,1.2s
JHHC Hyugahichiya 0.49 328 P **Pb 15 07 18.2 -0.2**
JHHC S **Sb 15 07 25.3 0.0**
JHHC Hyugahichiya 0.49 328 A A 15 07 18.2
comp=E,4.0nm,0.3s,comp=N,9.0nm,0.7s
JNKG Nichinankitago 0.60 233 P **Pn 15 07 20.7 -0.1**
JNKG *e*S **Sn 15 07 29.6 0.0**
JNKG Nichinankitago 0.60 233 A A 15 07 20.7
comp=E,7.0nm,1.4s,comp=N,7.0nm,0.5s
JKIT Kitakata 0.73 325 P **Pn 15 07 22.2 -0.3**
JKIT S **Sb 15 07 32.5 +0.6**
JKIT Kitakata 0.73 325 A A 15 07 22.2
comp=E,4.0nm,1.1s,comp=N,4.0nm,0.5s
JTZ Takazaki 0.74 261 P **Pn 15 07 22.0 -0.6**
JTZ *e*S **Sn 15 07 32.5 -0.3**
JNAR Kushima--Naru 0.76 229 P **Pn 15 07 23.2 +0.3**
JNAR S **Sn 15 07 34.4 +1.1**
JNAR Kushima--Naru 0.76 229 A A 15 07 23.2
comp=E,6.0nm,1.3s,comp=N,7.0nm,0.8s
JUS Usuki 1.05 351 *i* P **Pb 15 07 27.7 0.0**
JUS S **Sb 15 07 41.7 +0.6**
JIU3 Izumi3 1.09 299 *i* P **Pn 15 07 27.6 +0.1**
JIU3 S **Sb 15 07 42.5 +0.3**
JIU3 Izumi3 1.09 299 A A 15 07 27.6
comp=E,5.0nm,0.5s,comp=N,4.0nm,0.7s
JTO Tosashimizu 1.10 41 ||*i* P **Pn 15 07 27.1 -0.6**
JZO Okuchi 1.15 276 A A 15 07 28.8
comp=E,2.0nm,1.6s,comp=N,3.0nm,0.4s
UWA2 Uwa jima 2 1.32 26 ||P **Pn 15 07 30.4 -0.2**
UWA2 ||S **Sn 15 07 46.6 -0.7**
JNU Nakatsue 1.42 321 Pn **Pb 15 07 32.9 -1.0**
comp=N,59nm,0.3s,baz=196,slow=7.4,SNR=181
JNU Sn **Sb 15 07 52.3 +0.8**
comp=N,77nm,0.3s,baz=204,slow=20,SNR=8.5
JOW Kunigami 6.08 213 Pn **Pn 15 08 35.0 -1.2**
comp=N,1.1nm,0.3s,baz=76,slow=19,SNR=1.5
comp=N,15nm,0.9s
KSRS Korea Array 6.34 330 Pn **Pn 15 08 40.4 +0.8**
comp=N,0.2nm,0.3s,baz=142,slow=16,SNR=1.7
KSRS LR LR 15 11 19.4
comp=N,82nm,18.1s,baz=160,slow=40
comp=N,0.3nm,0.3s
MJAR Matsushiro Arr 6.87 47 Pn **Pn 15 08 48.2 +1.3**
comp=N,0.1nm,0.3s,baz=242,slow=14,SNR=5.9
MJAR LR LR 15 11 38.1
comp=N,39nm,20.7s,baz=246,slow=40
comp=N,2.6nm,0.9s
SONM Songino Array 25.00 317 P **P 15 12 29.6 +0.1**
comp=N,0.2nm,0.3s,baz=120,slow=8.5,SNR=2.0
SONM LR LR 15 23 25.8
comp=N,45nm,18.2s,baz=146,slow=39
comp=N,0.2nm,0.3s
PETK Petropavlovsk- 28.08 34 LR LR 15 24 20.0
comp=N,25nm,19.8s,baz=264,slow=37
CMAR Chiang Mai Arr 32.62 254 LR LR 15 28 19.7
comp=N,30nm,18.8s,baz=65,slow=39
MKAR Makanchi Array 40.42 306 LR LR 15 33 09.4
comp=N,23nm,19.5s,baz=8.0,slow=39
KURBB Kurchatov Arra 43.17 312 LR LR 15 34 47.0
comp=N,35nm,18.6s,baz=170,slow=38
WRA Warramunga Arr 51.72 177 P **P 15 16 13.0 +0.1**
comp=N,0.4nm,0.9s,baz=4.6,slow=7.7,SNR=2.7
comp=N,0.4nm,0.9s
ASAR Alice Springs 55.41 178 P **P 15 16 39.6 -0.2**
comp=N,0.2nm,0.8s,baz=6.5,slow=8.1,SNR=4.9
comp=N,0.2nm,0.8s
ILAR Eielson Array 57.81 30 P **P 15 16 56.6 +0.1**
comp=N,0.4nm,0.7s,baz=285,slow=5.3,SNR=6.0
comp=N,0.4nm,0.7s

OMAN 14 15:46:15.6±0.1, 23°.85N × 49°.53E, $h7^{km}$, mb4.3/4, ml3.7/3, Error ellipse: s-maj=1.2km s-min=0.7km az=358.0, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRA	**Abu-Samra**	**1.48**	**53**	P	Pn	15 46 41.6	-1.0
SMRA				S	Sg	15 47 04.9	+1.8
TRNA	**Turayna**	**1.77**	**60**	P	Pn	15 46 46.3	-0.3
SNR=11
TRNA S Sg 15 47 13.3 +0.8
SAKB Bahrain 2.31 23 P Pn 15 46 54.7 +0.7
SAKB S Sn 15 47 22.2 -0.4
SHMA Al-Shehemyia 2.38 33 P Pb 15 46 57.8 -1.0
SNR=6.8
SHMA S Sn 15 47 25.5 +1.0
RAYN Ar Rayn 3.71 266 P Pn 15 47 13.6 +0.3
RAYN S Sn 15 47 56.6 -0.7
MZR Muzera 3.73 102 P Pn 15 47 16.5 +3.0
UMZA Um Al Zommool 5.30 101 P Pn 15 47 37.2 +2.1
UMZA S Sn 15 48 38.7 +2.2
ASUD Al Ashush, Dub 5.35 81 P Pn 15 47 36.1 +0.3
SNR=9.0
ASUD S Sn 15 48 40.8 +3.0
ASHO Ashiyiah 6.02 81 P Pn 15 47 44.5 -0.6
ASHO P Pn 15 47 44.6 -0.4
SNR=15
ASHO S Sn 15 48 53.7 -0.5
ASHO S Sn 15 48 53.8 -0.4
HATD Hatta, Dubai 6.10 79 P Pn 15 47 46.1 -0.1
HATD S Sn 15 48 55.5 -0.8
UOSS Minazif 6.18 78 P Pn 15 47 46.7 -0.6
UOSS S Sn 15 48 58.0 -0.3
MDH Madha 6.33 75 P Pn 15 47 48.3 -1.0
SOHO SOHO 6.41 86 P Pn 15 47 50.5 +0.1
SOHO S Sn 15 49 05.5 +1.6

*IDC **14** 15:49:27.1±1.1, 40°.23S × 91°.88W, $h0^{km}$, mb3.9/6, mbtmp3.9/7, ML3.8/1, MS3.9/36, Error ellipse: s-maj=41.0km s-min=24.1km az=84.0*
*NEIC **14** 15:49:30.1±2.0, 40°.3S±0°.1 × 91°.5W±0°.1, $h10^{km}$±1^{km}, mb4.4/15, Error ellipse: s-maj=23.8km s-min=7.0km az=330.0*
*GCMT **14** 15:49:33.1±0.3, 40°.37S±0°.02 × 91°.82W±0°.02, $h32^{km}$±1^{km}, MW5.1/104, Moment Tensor Solution. s34, c38; s104, c128; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.19±.20; $M_{\theta\theta}$-0.73±.17; $M_{\phi\phi}$1.91±.18; $M_{r\theta}$1.46±.20; $M_{\theta\phi}$4.41±.12; $M_{\phi r}$-0.01±.19; Best double couple: $M_0$4.87900×10^{16} NP1: ϕ_s260.00000°, δ81.00000°, λ-20.00000°. NP2: ϕ_s353.00000°, δ70.00000°, λ-171.00000°. Principal axes: T 5.3120, Plg8.0000°, Azm308.0000°; N -0.8710, Plg68.0000°, Azm57.0000°; P -4.4470, Plg20.0000°, Azm215.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 14 15:49:29.3±0.9, 40°.3S±0°.1 × 91°.6W±0°.1, $h10^{km}$, n64, σ1°05/25, mb4.2/9, MS3.9/34, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez 12.00 62**			T	T	16 04 44.6	
baz=233,slow=74,SNR=2455
H03S1 Juan Fernandez 12.01 62 T T 16 04 42.1
baz=233,slow=74,SNR=2138
H03S3 Juan Fernandez 12.02 62 T T 16 04 40.7
baz=233,slow=74,SNR=2286
H03N3 Juan Fernandez 12.23 60 T T 16 04 55.7
baz=235,slow=71,SNR=1942
H03N2 Juan Fernandez 12.23 60 T T 16 04 55.4
baz=235,slow=71,SNR=4709
H03N1 Juan Fernandez 12.25 60 T T 16 04 53.0
baz=235,slow=71,SNR=2354
LL02 Futaleuf 15.04 108 P **P 15 53 08.0 +0.8**
AY03 Cochrane 15.39 123 **Pn 15 53 05.9 -0.4**
PLCA Paso Flores 16.03 98 **P 15 53 17.2 -1.1**
PLCA Paso Flores 16.03 98 Pn **Pn 15 53 16.4 +1.6**
0.1nm,0.3s,baz=274,slow=7.0,SNR=3.7
PLCA LR LR 15 57 57.3
comp=Z,268nm,18.4s,baz=268,slow=31
2.4nm,0.9s
MT09 Talagante 17.69 75 **Pn 15 53 35.5 -0.4**
RPN Rapa Nui 19.69 306 LR LR 15 59 17.4
comp=Z,911nm,21.5s,baz=140,slow=30
GO04 Tololo Observa 19.73 66 P **P 15 53 59.2 -0.1**
GO04 IAmb IAmb 15 54 10.9
comp=Z,43nm,1.3s
ZON Zonda 20.48 72 P **P 15 54 06.5 -0.8**
ZON IAmb IAmb 15 54 12.6
comp=Z,7.3nm,0.7s
AC05 El Transito 20.91 63 P **P 15 54 11.3 -0.7**
AC05 IAmb IAmb 15 54 20.9
comp=Z,19nm,0.7s
TRQA Tornquist 23.04 94 P **P 15 54 34.1 -0.5**
TRQA IAmb IAmb 15 54 52.5
comp=Z,21nm,1.4s
PMSA Palmer Station 29.25 156 LR LR 16 03 58.9
comp=Z,568nm,22.0s,baz=304,slow=30
NNA Nana 31.05 29 LR LR 16 05 10.1
comp=Z,245nm,19.3s,baz=188,slow=30
LPAZ La Paz 31.43 47 P **P 15 55 51.9 +0.4**
LPAZ IAmb IAmb 15 56 00.5
comp=Z,4.2nm,0.9s
LPAZ La Paz 31.43 47 P **P 15 55 51.9 +0.4**
comp=Z,1.8nm,0.6s,baz=148,slow=3.6,SNR=6.5
LPAZ LR LR 16 05 44.8
comp=Z,164nm,18.3s,baz=229,slow=31
comp=Z,1.8nm,0.6s
ITAB Concordia 35.03 81 P **P 15 56 21.6 -0.5**
ATAH Atahualpa 35.07 23 LR LR 16 07 09.0
comp=Z,314nm,21.0s,baz=219,slow=30
SIV San Ignacio 35.91 56 LR LR 16 09 26.6
comp=Z,200nm,21.5s,baz=285,slow=33
AQDB Aquidauana 36.41 68 P **P 15 56 32.9 -1.1**
AQDB IAmb IAmb 15 56 40.8
comp=Z,7.9nm,0.7s
ETMB Extrema 37.80 44 P **P 15 56 45.7 -0.2**
ETMB IAmb IAmb 15 56 54.2
comp=Z,2.6nm,0.9s
COHC Cochancay 39.28 20 P **P 15 57 00.3 +2.0**
BDFB Brasilia 45.07 70 LR LR 16 14 31.9
comp=Z,127nm,19.7s,baz=193,slow=33
ROSC El Rosal 47.64 24 LR LR 16 16 33.9
comp=Z,222nm,18.1s,baz=114,slow=34
QSPA South Pole Qui 49.94 180 P **P 15 58 22.7 -0.4**
QSPA IAmb IAmb 15 58 35.5
comp=Z,7.3nm,1.4s
QSPA South Pole Qui 49.94 180 P **P 15 58 23.2 +0.2**
comp=Z,1.1nm,0.8s,baz=167,slow=1.9,SNR=8.0
QSPA LR LR 16 15 12.1
comp=Z,91nm,20.9s,baz=136,slow=31
comp=Z,1.1nm,0.8s
JTS Las Juntas de 50.70 8 LR LR 16 14 54.8
comp=Z,70nm,18.6s,baz=182,slow=30
SNAA Sana 51.97 156 P **P 15 58 38.1 0.0**
comp=Z,1.2nm,0.9s,baz=225,slow=5.7,SNR=1.4
comp=Z,1.2nm,0.9s
SDV Santo Domingo 52.63 26 LR LR 16 19 46.8
comp=Z,238nm,18.1s,baz=206,slow=34
BAUV El Baul 53.61 29 P **P 15 58 49.9 -0.9**
PPT Papeete 54.52 277 LR LR 16 16 27.3
comp=Z,66nm,19.8s,baz=124,slow=30
CMIG Matias Romero 57.16 356 LR LR 16 17 38.8
comp=Z,116nm,18.7s,baz=192,slow=30
MDP Montagnes des 57.62 48 LR LR 16 21 14.3
comp=Z,145nm,21.9s,baz=207,slow=33
RAR Rarotonga 60.18 267 LR LR 16 20 00.4
comp=Z,82nm,19.5s,baz=123,slow=31
RCBR Riachuelo 60.42 71 LR LR 16 24 36.0
comp=Z,38nm,19.0s,baz=228,slow=35
SJG San Juan 62.75 27 LR LR 16 26 14.5
comp=Z,85nm,18.7s,baz=156,slow=35
LPIG La Paz 66.38 341 LR LR 16 21 31.8
comp=Z,70nm,20.8s,baz=54,slow=29
URZ Urewera 67.43 238 LR LR 16 23 44.0
comp=Z,122nm,19.7s,baz=223,slow=31
TXAR Lajitas Array 70.17 349 P **P 16 00 42.3 +0.2**
comp=Z,0.8nm,0.7s,baz=165,slow=7.4,SNR=4.0
TXAR LR LR 16 25 40.7
comp=Z,103nm,19.5s,baz=170,slow=31
comp=Z,0.8nm,0.7s
MAW Mawson 70.71 170 LR LR 16 31 54.0
comp=Z,50nm,18.4s,baz=208,slow=36
TKL Tuckaleechee C 75.92 7 LR LR 16 32 08.8
comp=Z,51nm,18.6s,baz=196,slow=34
ANMO Albuquerque 76.10 347 LR LR 16 30 42.4
comp=Z,84nm,18.0s,baz=331,slow=33
PFO Pinyon Flats O 77.03 339 LR LR 16 28 12.7
comp=Z,74nm,19.0s,baz=129,slow=30
MSVF Nonsavu 79.00 256 LR LR 16 33 48.7
comp=Z,107nm,18.5s,baz=50,slow=34
NVAR Mina Array Bea 82.06 339 P **P 16 01 47.4 -2.3**
comp=Z,0.4nm,0.6s,baz=179,slow=7.2,SNR=2.2
NVAR LR LR 16 30 14.5
comp=Z,53nm,20.4s,baz=180,slow=30
comp=Z,0.4nm,0.6s
PD31 Pinedale Array 84.25 347 P **P 16 02 02.3 +1.3**
PD31 IAmb IAmb 16 02 04.4
comp=Z,4.5nm,1.3s
PDAR Pinedale Array 84.25 347 P **P 16 02 01.9 +0.9**
PDAR Pinedale Array 84.25 347 P **P 16 01 59.5 -1.4**
comp=Z,1.4nm,1.0s,baz=178,slow=4.5,SNR=6.0
PDAR LR LR 16 37 12.6
comp=Z,36nm,18.4s,baz=142,slow=34
comp=Z,1.4nm,1.0s
SUR Sutherland 84.47 128 LR LR 16 33 01.4
comp=Z,69nm,18.5s,baz=180,slow=31
DZM Mont Dzumac 84.62 246 LR LR 16 32 47.9
comp=Z,40nm,19.4s,baz=55,slow=31
SADO Sadowa 85.41 9 LR LR 16 34 56.9
comp=Z,67nm,20.6s,baz=352,slow=32
YBH Yreka Blue Hor 86.38 337 LR LR 16 33 37.2
comp=Z,61nm,18.3s,baz=168,slow=31
BOSA Boshof 89.84 128 LR LR 16 40 44.3
comp=Z,36nm,18.1s,baz=209,slow=34
TSUM Tsumeb 91.56 117 LR LR 16 37 32.8
comp=Z,66nm,20.4s,baz=34,slow=31
LBTB Lobatse 92.67 126 LR LR 16 39 07.2
comp=Z,27nm,18.5s,baz=220,slow=32
STKA Stephens Creek 92.94 223 LR LR 16 36 49.7
comp=Z,42nm,18.3s,baz=199,slow=31
H11S2 WAKE ISLAND Hyl 10.49 277 T T 18 07 37.2
baz=126,slow=76,SNR=8.1
H11S1 WAKE ISLAND Hyl 10.50 277 T T 18 07 34.9
baz=126,slow=76,SNR=12
H11S3 WAKE ISLAND Hyl 10.50 277 T T 18 07 34.1
baz=126,slow=76,SNR=8.9
YAK Yakutsk 147.03 325 **PKPab 16 09 13.8 +1.0**

*NEIC **14** 15:53:35.3±1.2, 12°.79N±0°.10 × 143°.7E±0°.1, $h102^{km}$±6^{km}, mb4.5/47, Error ellipse: s-maj=15.9km s-min=12.7km az=124.0*
*IDC **14** 15:53:36.0±1.0, 12°.85N × 143°.85E, $h119^{km}$±10^{km}, mb3.9/15, mbtmp4.2/15, MS3.2/2, Error ellipse: s-maj=18.5km s-min=11.7km az=81.0*
ISC 14 15:53:34.6±0.4, 12°.75N±0°.07 × 143°.67E±0°.08, $h100^{km}$, n76, σ0°90/66, mb4.5/36, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.44**	**54**	P	**Pn**	**15 54 00.3**	**+0.3**
574nm,0.5s,baz=164,slow=4.3,SNR=130
GUMO S **Sn** **15 54 18.9** **-0.4**
3μm,0.3s,baz=348,slow=19,SNR=25
GUMO LR LR 15 54 26.0
comp=Z,230nm,19.6s,baz=115,slow=41
DAV Davao City (W) 18.69 254 LR LR 16 05 15.9
comp=Z,22nm,19.3s,baz=47,slow=37
FAKI Fak Fak 19.26 217 **P** **15 57 52.0** **+0.6**
FAKI IAmb IAmb 15 57 56.4
comp=Z,10nm,0.7s
JOW Kunigami 20.12 316 P **P** **15 58 01.6** **+1.0**
JOW IAmb IAmb 15 58 03.2
comp=Z,24nm,0.9s
JOW Kunigami 20.12 316 P **P** **15 58 02.1** **+1.5**
comp=Z,13nm,0.5s,baz=144,slow=12,SNR=5.9
comp=Z,13nm,0.5s
H11S3 WAKE ISLAND Hy 22.88 73 T T 16 21 32.5
baz=259,slow=75
H11S1 WAKE ISLAND Hy 22.89 73 T T 16 21 31.6
baz=259,slow=75
H11S2 WAKE ISLAND Hy 22.89 73 T T 16 21 31.8
baz=259,slow=75
H11N1 WAKE ISLAND Hy 23.33 70 T T 16 22 15.4
baz=256,slow=75
H11N2 WAKE ISLAND Hy 23.34 70 T T 16 22 16.1
baz=256,slow=75
H11N3 WAKE ISLAND Hy 23.35 70 T T 16 22 17.6
baz=256,slow=75
YULB Yu-li 23.72 300 P **P** **15 58 36.7** **-0.9**
YULB IAmb IAmb 15 59 13.1
comp=Z,52nm,1.5s
SSLB Suanglung 24.17 300 P **P** **15 58 41.3** **-0.4**
TPUB Ta-pu 24.26 299 P **P** **15 58 41.4** **-1.2**
COEN Coen 26.54 181 P **P** **15 59 03.8** **+0.7**
COEN IAmb IAmb 15 59 15.6
comp=Z,34nm,1.4s
MTN Manton Dam 28.30 207 P P 15 59 17.7 -1.2
MTN IAmb IAmb 15 59 52.5
comp=Z,17nm,1.1s
WB0 Warramunga Arr 33.58 196 P **P** **16 00 05.2** **-0.1**
WB0 IAmb IAmb 16 00 06.6
comp=Z,4.7nm,0.5s
WR0 Warramunga Arr 33.72 196 P **P** **16 00 06.3** **-0.3**
WRAB Tennant Creek 33.75 196 P **P** **16 00 06.4** **-0.4**
WRAB IAmb IAmb 16 00 07.8
comp=Z,4.3nm,0.6s
WB2 Warramunga Arr 33.76 196 P **P** **16 00 07.0** **+0.1**
WB2 IAmb IAmb 16 00 07.7
comp=Z,4.3nm,0.6s
WRA Warramunga Arr 33.76 196 P **P** **16 00 07.1** **+0.2**
comp=Z,2.7nm,0.6s,baz=20,slow=9.4,SNR=56
WRA PcP **PcP** **16 02 44.5** **+0.2**
comp=Z,0.8nm,0.7s,baz=6.5,slow=3.2,SNR=3.6
WRA ScP **ScP** **16 06 18.1** **-1.9**
comp=Z,0.4nm,0.8s,baz=10,slow=3.7,SNR=2.8
comp=Z,2.7nm,0.6s
JAGI Jajag, Banyuwa 36.12 236 P **P** **16 00 26.1** **-1.2**
AS31 Alice Springs 37.43 195 P **P** **16 00 39.1** **+0.9**
ASAR Alice Springs 37.43 195 P **P** **16 00 38.7** **+0.4**
comp=Z,2.5nm,0.6s,baz=18,slow=12,SNR=68
comp=Z,2.5nm,0.6s
EIDS Eidsvold 38.57 169 P **P** **16 00 48.1** **+0.4**
EIDS IAmb IAmb 16 01 00.9
comp=Z,9.4nm,1.2s
MBWA Marble Bar 41.09 215 P **P** **16 01 08.4** **-0.4**
DZM Mont Dzumac 41.19 147 P **P** **16 01 10.4** **+0.8**
DZM Mont Dzumac 41.19 147 P **P** **16 01 09.9** **+0.2**
comp=Z,4.3nm,0.7s,baz=217,slow=8.8,SNR=6.4
comp=Z,4.3nm,0.7s
PSA00 Pilbara Seismi 41.36 215 P **P** **16 01 10.6** **-0.3**
PSA00 IAmb IAmb 16 01 12.0
comp=Z,6.5nm,1.0s
CM31 Chiang Mai Arr 43.37 283 P **P** **16 01 28.5** **+1.1**
CM31 IAmb IAmb 16 01 29.4
comp=Z,17nm,1.3s
CMAR Chiang Mai Arr 43.37 283 P **P** **16 01 27.8** **+0.4**
CMAR Chiang Mai Arr 43.37 283 P **P** **16 01 28.4** **+1.1**
comp=Z,4.5nm,0.7s,baz=86,slow=6.2,SNR=35
comp=Z,4.5nm,0.7s
STKA Stephens Creek 44.41 183 P **P** **16 01 35.5** **+0.1**
STKA Stephens Creek 44.41 183 P **P** **16 01 35.4** **-0.1**
comp=Z,4.5nm,0.5s,baz=6.6,slow=7.7,SNR=9.8
comp=Z,4.5nm,0.5s
FORT Forrest 45.81 199 P **P** **16 01 47.0** **+0.5**
BBOO Buckleboo 45.88 189 P **P** **16 01 47.4** **+0.3**
BBOO IAmb IAmb 16 01 48.0
comp=Z,9.1nm,0.8s
SONM Songino Array 46.76 326 P **P** **16 01 53.8** **-0.2**
comp=Z,0.7nm,0.6s,baz=131,slow=6.1,SNR=4.0
SONM PcP **PcP** **16 03 25.0** **-0.7**
comp=Z,0.6nm,0.5s,baz=123,slow=5.3,SNR=2.9
comp=Z,0.7nm,0.6s
GSI Gunungsitoli 47.05 260 P **P** **16 01 55.7** **-0.9**
MORW Morawa 49.40 212 P **P** **16 02 14.6** **+0.3**
NWAO Narrogin (SRO) 51.97 208 P **P** **16 02 33.5** **-0.1**
BKZ Black Stump Fm 60.03 151 P **P** **16 03 31.9** **+0.9**
BKZ IAmb IAmb 16 03 50.3
comp=Z,9.9nm,1.4s
MK31 Makanchi Array 61.29 317 P **P** **16 03 39.5** **0.0**
MK31 IAmb IAmb 16 03 57.8
comp=Z,7.9nm,1.4s
MKAR Makanchi Array 61.29 317 P **P** **16 03 39.2** **-0.3**
comp=Z,0.3nm,0.4s,baz=95,slow=9.2,SNR=8.6
comp=Z,0.3nm,0.4s
MAKZ Makanchi 61.50 317 P **P** **16 03 40.7** **-0.3**
MAKZ IAmb IAmb 16 03 56.9
comp=Z,9.2nm,1.2s
OXZ Oxford 61.54 157 P **P** **16 03 40.6** **-0.5**
OXZ IAmb IAmb 16 03 40.8
comp=Z,6.3nm,0.9s
ZALV Zalesovo Beam 61.63 325 P **P** **16 03 41.7** **+0.1**
ZALV Zalesovo Beam 61.63 325 P **P** **16 03 41.0** **-0.6**
comp=Z,0.7nm,0.5s,baz=112,slow=7.0,SNR=2.8
ZALV PcP **sP** **16 04 20.9** **+5.0**
comp=Z,0.9nm,0.4s,baz=108,slow=4.7,SNR=3.6
comp=Z,0.7nm,0.5s
SII Sitkinak Islan 64.22 33 P **P** **16 03 58.0** **-0.7**
KURBB Kurchatov Arra 64.51 320 P **P** **16 03 59.9** **-0.8**
comp=Z,0.6nm,0.3s,baz=106,slow=6.7,SNR=11
comp=Z,0.6nm,0.3s
D19K Kuna River 66.84 20 P **P** **16 04 15.1** **-0.4**
D19K IAmb IAmb 16 04 34.2
comp=Z,16nm,1.4s
PPLA Purkeypile 67.06 27 P P 16 04 15.7 -1.3
PPLA IAmb IAmb 16 04 31.9
comp=Z,12nm,1.4s
CAST Castle Rocks 67.26 26 P **P** **16 04 17.5** **-0.7**
PWL Port Wells 68.28 29 P **P** **16 04 23.7** **-0.9**
D22K Ayikyak River 68.82 20 P **P** **16 04 28.2** **+0.3**
D22K IAmb IAmb 16 04 36.4
comp=Z,12nm,1.4s
E22K Anaktuvuk Pass 68.87 21 P **P** **16 04 28.5** **+0.3**
E22K IAmb IAmb 16 04 46.6
comp=Z,9.1nm,1.4s
KKAR Karatay Array 69.13 311 P **P** **16 04 30.5** **+0.3**
D23K Nanushuk River 69.53 21 P **P** **16 04 32.7** **+0.5**
D23K IAmb IAmb 16 04 53.3
comp=Z,6.0nm,1.4s
IL31 69.82 25 P P 16 04 31.6 -2.4
ILAR Eielson Array 69.82 25 P P 16 04 31.9 -2.2
comp=Z,0.3nm,0.5s,baz=253,slow=5.5,SNR=14
comp=Z,0.3nm,0.5s
BVAR Borovoye Array 69.86 322 P **P** **16 04 34.1** **-0.4**
comp=Z,2.8nm,0.4s,baz=102,slow=7.8,SNR=27
comp=Z,2.8nm,0.4s
BRVK Borovoye 69.93 322 P **P** **16 04 34.9** **0.0**
E24K Your Creek 70.04 22 P **P** **16 04 35.8** **+0.4**
D25K Kavik River 71.11 21 P **P** **16 04 41.9** **0.0**
C27K Jago River 72.09 21 P **P** **16 04 47.4** **-0.3**
D27M Malcolm River 72.98 21 P **P** **16 04 53.5** **+0.4**
D27M IAmb IAmb 16 05 18.5
comp=Z,6.6nm,1.5s
E28M Babbage River 73.39 22 P **P** **16 04 55.9** **+0.5**
H31M Peel River 75.18 25 P **P** **16 05 05.7** **-0.1**
H31M IAmb IAmb 16 05 28.7

comp=Z,5.8nm,1.4s
ABKAR **Akbulak array** 76.38 318 P **P** 16 05 12.2 -0.8
R33M **Jennings River** 76.78 32 P **P** 16 05 15.2 0.0
R33M IAmb IAmb 16 05 40.0
comp=Z,10nm,1.5s
ARCES **ARCESS Array B** 87.52 342 P **P** 16 06 10.1 -0.8
comp=Z,3.6nm,1.0s,baz=62,slow=5.6,SNR=4.0
comp=Z,3.6nm,1.0s
NVAR **Mina Array Bea** 88.35 51 P P 16 06 14.5 -1.3
comp=Z,1.1nm,0.7s,baz=273,slow=5.3,SNR=6.2
comp=Z,1.1nm,0.7s
FINES **FINESS Array B** 91.42 335 P P 16 06 27.1 -2.2
comp=Z,1.3nm,0.4s,baz=67,slow=4.8,SNR=24
comp=Z,1.3nm,0.4s
SFJD **Kangerlussuaq** 99.79 6 LR LR 16 52 28.3
comp=Z,40nm,20.4s,baz=183,slow=35
SNAA **Sanae** 117.74 191 PKPdf **PKPdf** 16 12 08.2 -0.4
TORD **Torodi Ar. Bea** 134.36 303 PKP **PKPdf** 16 12 41.4 -0.5
comp=Z,0.8nm,0.5s,baz=50,slow=2.3,SNR=5.8
DBIC **Dimbokro** 143.25 300 PKPdf PKPab 16 12 54.5 +0.4

*NOU **14** 15:53:55.8, 16°.66S×178°.40W, h519km, mb4.6/11, Fiji Islands Region*
*NEIC **14** 15:54:01.1±1.6, 17°.42S±0°.03×178°.7W±0°.1, h528km±8km, mb4.4/38, Error ellipse: s-maj=17.6km s-min=3.9km az=99.0*
*IDC **14** 15:54:02.0±1.5, 17°.37S×178°.89W, h531km±14km, mb3.4/10, mbtmp4.2/12, Error ellipse: s-maj=22.3km s-min=17.2km az=145.0*
ISC 14 15:54:01.9±0.5, 17°.40S±0°.09×178°.77W±0°.08, h539km, n75, σ1§08/79, mb4.3/32, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.05**	**263**	P	**P**	**15 55 16.6**	**+0.2**
	30nm,0.8s,baz=112,slow=5.9,SNR=17						
FUTU	**Fugatoga**	**3.13**	**12**	P	**P**	**15 55 15.8**	**-1.2**
AFI	**Afiamalu**	**7.58**	**64**	P	**P**	**15 55 52.1**	**-3.2**
NIUE	**Niue**	**8.57**	**103**	P	**P**	**15 56 05.0**	**-0.1**
FUNA	**Funafuti**	**9.03**	**347**	P	**P**	**15 56 09.1**	**-0.8**
DZM	**Mont Dzumac**	**14.67**	**249**	P	**P**	**15 57 06.4**	**-1.9**
DZM	**Mont Dzumac**	**14.67**	**249**	P	**P**	**15 57 06.8**	**-1.5**
	6.2nm,0.8s,baz=74,slow=20,SNR=2.5						
KOUNC	**Koumac, New Ca**	**16.33**	**256**	P	**P**	**15 57 26.8**	**+1.8**
TARA	**Tarawa**	**20.35**	**335**	P	**P**	**15 58 01.7**	**-0.2**
QRZ	**Quartz Range**	**24.53**	**196**	P	**P**	**15 58 37.8**	**-1.1**
QRZ				IAmb	IAmb	15 59 00.2	
	comp=Z,26nm,1.4s						
QRZ	**Quartz Range**	**24.53**	**196**	P	**P**	**15 58 40.9**	**+2.0**
THZ	**Tophouse**	**25.31**	**195**	P	**P**	**15 58 45.0**	**-0.9**
THZ				IAmb	IAmb	15 58 46.7	
	comp=Z,22nm,1.5s						
FOZ	**Fox Glacier**	**27.79**	**198**	P	**P**	**15 59 05.7**	**-1.9**
TW1H	**Toowoomba 1 Ha**	**28.79**	**244**	P	**P**	**15 59 17.6**	**+0.9**
EIDS	**Eidsvold**	**29.12**	**249**	P	**P**	**15 59 17.9**	**-1.5**
EIDS				IAmb	IAmb	15 59 19.5	
	comp=Z,5.3nm,0.6s						
ARMA	**Armidale**	**29.90**	**239**	P	**P**	**15 59 26.2**	**-0.1**
ARMA				IAmb	IAmb	15 59 27.4	
	comp=Z,8.7nm,0.6s						
CTAO	**Charters Tower**	**33.19**	**260**	P	**P**	**15 59 53.2**	**-1.2**
CTAO				IAmb	IAmb	15 59 55.7	
	comp=Z,9.1nm,1.1s						
CAN	**Canberra**	**33.74**	**232**	P	**P**	**15 59 58.2**	**-0.7**
CMSA	**Cobar Meteorol**	**35.10**	**240**	P	**P**	**16 00 10.3**	**0.0**
QLP	**Quilpie**	**35.39**	**248**	P	**P**	**16 00 12.5**	**-0.3**
MANU	**Manus Island**	**36.59**	**291**	P	**P**	**16 00 24.3**	**+1.5**
MANU				IAmb	IAmb	16 00 24.5	
	comp=Z,12nm,0.8s						
COEN	**Coen**	**36.76**	**270**	P	**P**	**16 00 24.2**	**0.0**
TOO	**Toolangi**	**37.23**	**230**	P	**P**	**16 00 27.9**	**+0.1**
TOO				IAmb	IAmb	16 00 29.8	
	comp=Z,12nm,1.4s						
BRAT	**Ballarat**	**38.37**	**231**	P	**P**	**16 00 39.2**	**+2.2**
STKA	**Stephens Creek**	**38.57**	**240**	P	**P**	**16 00 38.7**	**-0.1**
STKA	**Stephens Creek**	**38.57**	**240**	P	**P**	**16 00 39.1**	**+0.3**
	comp=Z,6.7nm,0.5s,baz=91,slow=11,SNR=28						
	comp=Z,6.7nm,0.5s						
STKA	**Stephens Creek**	**38.57**	**240**	P	**P**	**16 00 39.3**	**+0.5**
INKA	**Innaminka**	**38.62**	**247**	P	**P**	**16 00 39.8**	**+0.6**
HTT	**Hallett**	**41.11**	**239**	P	**P**	**16 00 59.5**	**+0.3**
AUMBR	**Murray Bridge**	**41.20**	**236**	P	**P**	**16 01 00.1**	**+0.3**
JAY	**Jayapura**	**42.43**	**286**	P	**P**	**16 01 09.0**	**-0.8**
	comp=Z,9.4nm,0.8s,baz=128,slow=5.9,SNR=6.0						
	comp=Z,9.4nm,0.8s						
BBOO	**Buckleboo**	**43.35**	**240**	P	**P**	**16 01 16.4**	**-0.3**
BBOO				IAmb	IAmb	16 01 17.0	
	comp=Z,13nm,0.7s						
WB0	**Warramunga Arr**	**44.35**	**259**	P	**P**	**16 01 22.4**	**-2.2**
WB2	**Warramunga Arr**	**44.37**	**259**	P	**P**	**16 01 23.2**	**-1.7**
WRAB	**Tennant Creek**	**44.38**	**259**	P	**P**	**16 01 23.1**	**-1.7**
WRAB				IAmb	IAmb	16 01 24.1	
	comp=Z,8.5nm,1.3s						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**16 01 23.7**	**-1.2**
	comp=Z,2.3nm,0.6s,baz=95,slow=7.5,SNR=15						
WRA				PcP	**PcP**	**16 02 57.0**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=92,slow=3.4,SNR=4.5						
WRA				ScP	**ScP**	**16 05 59.8**	**+1.8**
	comp=Z,0.9nm,0.9s,baz=88,slow=4.1,SNR=6.1						
	comp=Z,2.3nm,0.6s						
AS31	**Alice Springs**	**44.60**	**254**	P	**P**	**16 01 25.9**	**-0.6**
AS31				IAmb	IAmb	16 01 26.7	
	comp=Z,8.2nm,0.6s						
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**16 01 25.8**	**-0.8**
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**16 01 26.1**	**-0.5**
	comp=Z,24nm,0.7s,baz=88,slow=8.1,SNR=171						
ASAR				PcP	**PcP**	**16 02 58.1**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=100,slow=3.7,SNR=4.9						
ASAR				ScP	**ScP**	**16 06 01.2**	**+2.4**
	comp=Z,0.8nm,0.8s,baz=91,slow=4.6,SNR=5.4						
	comp=Z,24nm,0.7s						
MULG	**Mulgathing**	**44.72**	**244**	P	**P**	**16 01 26.9**	**-0.4**
MTN	**Manton Dam**	**48.47**	**268**	P	**P**	**16 01 54.9**	**-1.0**
WRKA	**Warakurna**	**49.67**	**252**	P	**P**	**16 02 04.6**	**-0.1**
FORT	**Forrest**	**49.91**	**244**	P	**P**	**16 02 05.6**	**-0.7**
FAKI	**Fak Fak**	**50.14**	**281**	P	**P**	**16 02 08.2**	**-0.1**
FAKI				IAmb	IAmb	16 02 08.5	
	comp=Z,7.6nm,1.0s						
KNRA	**Kununurra**	**50.20**	**264**	P	**P**	**16 02 08.0**	**-0.6**
KNRA				IAmb	IAmb	16 02 09.3	
	comp=Z,16nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.77**	**260**	P	**P**	**16 02 26.8**	**-0.4**
SOEI	**Soe**	**55.72**	**270**	P	**P**	**16 02 49.8**	**+1.6**
SOEI				IAmb	IAmb	16 02 50.6	
	comp=Z,26nm,0.8s						
PSA00	**Pilbara Seismi**	**57.70**	**255**	P	**P**	**16 03 00.8**	**-0.7**
PSA00				IAmb	IAmb	16 03 01.9	
	comp=Z,9.3nm,0.7s						
MBWA	**Marble Bar**	**57.86**	**256**	P	**P**	**16 03 01.6**	**-1.0**
MORW	**Morawa**	**60.37**	**246**	P	**P**	**16 03 18.5**	**-0.8**
MORW				IAmb	IAmb	16 03 56.0	
	comp=Z,13nm,1.2s						
UGM	**Wanagama**	**69.32**	**268**	P	**P**	**16 04 14.8**	**-1.1**
QSPA	**South Pole Qui**	**72.66**	**180**	P	**P**	**16 04 35.5**	**+0.7**
QSPA	**South Pole Qui**	**72.66**	**180**	P	**P**	**16 04 35.7**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=236,slow=1.6,SNR=22						
	comp=Z,2.4nm,0.8s						
NVAR	**Mina Array Bea**	**79.30**	**44**	P	**P**	**16 05 12.9**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=220,slow=7.8,SNR=3.6						
	comp=Z,0.7nm,0.7s						
O18K	**Koktuh Hills**	**79.33**	**12**	P	**P**	**16 05 11.8**	**+0.5**
O18K				IAmb	IAmb	16 05 13.1	
	comp=Z,8.9nm,0.9s						
M17K	**Holitna River**	**80.36**	**10**	P	**P**	**16 05 17.5**	**+0.8**
M17K				IAmb	IAmb	16 05 59.7	
	comp=Z,18nm,1.5s						
M19K	**Big River Lodg**	**81.37**	**11**	P	**P**	**16 05 20.9**	**-1.1**
J16K	**Anvik River**	**81.66**	**8**	P	**P**	**16 05 23.6**	**+0.2**
J16K				IAmb	IAmb	16 05 32.2	
	comp=Z,30nm,1.4s						
BELA	**Belgrano 2**	**82.72**	**173**	P	**P**	**16 05 28.9**	**+0.2**
CAST	**Castle Rocks**	**83.20**	**12**	P	**P**	**16 05 30.3**	**-0.9**
N25K	**Chitina, Valde**	**83.30**	**16**	P	**P**	**16 05 31.4**	**-0.5**
N25K				IAmb	IAmb	16 06 12.4	
	comp=Z,7.9nm,1.2s						
GLB	**Gilahina Butte**	**83.37**	**16**	P	**P**	**16 05 32.5**	**+0.4**
GLB				IAmb	IAmb	16 05 43.1	
	comp=Z,9.1nm,1.4s						
J20K	**Nowinta River**	**83.51**	**11**	P	**P**	**16 05 33.3**	**+0.6**
MAW	**Mawson**	**84.22**	**200**	P	**P**	**16 05 36.8**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=118,slow=6.3,SNR=6.3						
	comp=Z,1.2nm,0.6s						
ILAR	**Eielson Array**	**85.47**	**13**	P	**P**	**16 05 42.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=227,slow=5.2,SNR=5.8						
	comp=Z,0.3nm,0.5s						
PDAR	**Pinedale Array**	**87.22**	**44**	P	**P**	**16 05 52.7**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=131,slow=3.7,SNR=3.2						
	comp=Z,0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**88.38**	**290**	P	**P**	**16 05 58.8**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=110,slow=3.2,SNR=6.0						
	comp=Z,0.4nm,0.4s						
VNA3	**Neumayer Olymp**	**91.27**	**176**	⇑P	**P**	**16 06 09.6**	**+0.1**
	comp=Z,2.6nm,0.7s						
VNA2	**Neumayer--Watz**	**91.71**	**177**	⇑P	**P**	**16 06 12.0**	**+0.5**
	comp=Z,0.4nm,0.2s,baz=197,slow=1.4						
AGPR	**Aguadilla, PR**	**115.35**	**77**	PKPdf	**PKPdf**	**16 11 42.3**	**-0.9**
MMAI	**Mount Meron Ar**	**145.57**	**303**	PKPbc	**PKPab**	**16 12 41.8**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=56,slow=3.6,SNR=1.8						
GERES	**GERESS Array B**	**147.03**	**345**	PKPbc	**PKPbc**	**16 12 44.4**	**0.0**
	comp=Z,0.6nm,0.5s,baz=13,slow=3.4,SNR=2.1						
FUORN	**Ofenpass-Fuorn**	**149.91**	**348**	PKPbc	**PKiKP**	**16 12 53.0**	**+0.6**
PUK	**Puka**	**150.70**	**331**	PKPbc	**PKPbc**	**16 12 53.4**	**-0.1**
FNA	**Florina**	**150.93**	**327**	PKPbc	**PKiKP**	**16 12 54.4**	**-0.1**

*TEH **14** 15:56:01.1, 28°.56N×58°.28E, h8km±46km, ML3.8*
*DSN **14** 15:56:03.1±2.8, 27°.83N×59°.27E, h15km, ML2.8/5, Error ellipse: s-maj=59.2km s-min=15.6km az=162.0*
*OMAN **14** 15:56:05.2±1.4, 28°.41N×58°.43E, h10km, mb4.0/3, ml3.3/14, Error ellipse: s-maj=11.2km s-min=9.5km az=37.0*
ISC 14 15:56:02.5±1.0, 28°.60N±0°.04×58°.40E±0°.05, h10km, n49, σ1§61/64, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBAM	**BAM**	**0.54**	**5**	Pg	**Pg**	**15 56 13.1**	**0.0**
KHNJ	**Kahnooj**	**0.89**	**224**	Pg	Pg	15 56 16.8	-2.7
KHNJ				Sg	**Sg**	**15 56 27.9**	**-3.2**
CHMN	**Cheshme madani**	**1.47**	**329**	Pg	**Pn**	**15 56 28.8**	**-0.6**
NGRK	**Negar Kerman**	**1.79**	**306**	Pg	**Pn**	**15 56 32.8**	**-1.0**
TVBK	**TV Kerman**	**1.99**	**315**	Pn	**Pn**	**15 56 36.9**	**+0.4**
IBND	**Bandar-abas**	**2.00**	**236**	Pn	**Pn**	**15 56 38.1**	**+1.8**
KRM1	**Kerman Provinc**	**2.14**	**333**	Pn	**Pn**	**15 56 39.7**	**+1.2**
ZHDN	**Zahedan**	**2.26**	**69**	Pn	**Pn**	**15 56 42.3**	**+2.2**
GENO	**Geno**	**2.30**	**239**	Pn	**Pn**	**15 56 41.3**	**+0.7**
KHGB	**Koh Gabri**	**2.44**	**317**	Pn	**Pn**	**15 56 43.8**	**+1.2**
JASK	**Jask - Hormozg**	**2.76**	**190**	Pn	**Pn**	**15 56 47.1**	**+0.3**
JASK	**Jask - Hormozg**	**2.76**	**190**	P	**Pn**	**15 56 47.4**	**+0.6**
	SNR=8.5						
NHDN	**Nehbandan**	**3.13**	**27**	Pn	**Pn**	**15 56 54.0**	**+1.9**
SHME	**Shamm**	**3.23**	**219**	P	**Pn**	**15 56 54.7**	**+1.4**
SHME				S	**Sn**	**15 57 34.2**	**+2.3**
SHME	**Shamm**	**3.23**	**219**	P	**Pn**	**15 56 56.0**	**+2.7**
	SNR=12						
SHME				S	**Sn**	**15 57 33.5**	**+1.6**
BANOM	**Banah**	**3.25**	**216**	P	**Pn**	**15 56 55.8**	**+2.2**
BANOM				S	**Sn**	**15 57 33.8**	**+1.4**
CHBR	**Chabahar**	**3.52**	**148**	Pn	**Pn**	**15 56 58.2**	**+1.0**
SRVN	**Saravan**	**3.73**	**108**	Pn	**Pn**	**15 57 03.1**	**+2.9**
MDH	**Madha**	**3.78**	**210**	P	Pn	15 56 57.8	-3.0
MDH	**Madha**	**3.78**	**210**	P	**Pn**	**15 57 01.3**	**+0.5**
MASF	**Masafi**	**3.78**	**212**	P	**Pn**	**15 57 01.9**	**+1.0**
MSFE	**Esma-Masafi**	**3.79**	**212**	P	**Pn**	**15 56 59.7**	**-1.3**
IKOO	**Kooshah**	**3.85**	**8**	Pn	**Pn**	**15 57 03.1**	**+1.0**
NGCH	**Negor - Chabah**	**4.04**	**142**	Pn	**Pn**	**15 57 05.3**	**+0.9**
NGCH	**Negor - Chabah**	**4.04**	**142**	P	**Pn**	**15 57 05.3**	**+0.9**
	SNR=19						
UOSS	**Minazif**	**4.13**	**209**	P	**Pn**	**15 57 04.8**	**-0.9**
UOSS	**Minazif**	**4.13**	**209**	P	**Pn**	**15 57 07.7**	**+2.1**
UOSS				S	**Sn**	**15 57 54.8**	**+0.8**
HATD	**Hatta, Dubai**	**4.27**	**209**	P	**Pn**	**15 57 06.2**	**-1.3**
HATD	**Hatta, Dubai**	**4.27**	**209**	P	**Pn**	**15 57 08.6**	**+1.1**
ITEG	**Tejag**	**4.30**	**4**	Pn	**Pn**	**15 57 09.6**	**+1.5**
IDAH	**Dahanechah**	**4.32**	**17**	Pn	**Pn**	**15 57 09.6**	**+1.1**
ASHO	**Ashiyiah**	**4.42**	**209**	P	Pn	15 57 07.1	-2.6
ASHO	**Ashiyiah**	**4.42**	**209**	P	**Pn**	**15 57 11.4**	**+1.7**
	SNR=6.3						
ASHO				S	**Sn**	**15 58 03.8**	**+2.5**
FAQ	**Al Faqa, Dubai**	**4.58**	**214**	P	**Pn**	**15 57 13.1**	**+1.3**
FAQ				S	**Sn**	**15 58 07.6**	**+2.4**
SOHO	**SOHO**	**4.75**	**201**	P	**Pn**	**15 57 15.1**	**+1.0**
SOHO				S	**Sn**	**15 58 10.4**	**+1.2**
ASUD	**Al Ashush, Dub**	**4.81**	**216**	P	**Pn**	**15 57 18.1**	**+3.1**
AFRZ	**Afriz**	**4.84**	**6**	Pn	**Pn**	**15 57 16.8**	**+1.2**
BIDO	**Bidbid**	**5.06**	**183**	P	**Pn**	**15 57 18.7**	**+0.3**
BIDO				S	**Sn**	**15 58 15.4**	**-1.6**
HOQ	**Hoqain**	**5.09**	**191**	P	**Pn**	**15 57 18.5**	**-0.3**
	SNR=8.3						
HOQ				S	**Sn**	**15 58 16.3**	**-1.3**
ALNE	**Al Ain**	**5.11**	**208**	P	**Pn**	**15 57 20.6**	**+1.5**
ALNE				S	**Sn**	**15 58 19.3**	**+1.1**
TKDS	**Koohdasht(Taba**	**5.12**	**348**	Pn	**Pn**	**15 57 21.2**	**+1.8**
ARQ	**Araqi**	**5.50**	**198**	P	**Pn**	**15 57 25.8**	**+1.2**
	SNR=13						
ARQ				S	**Sn**	**15 58 26.5**	**-1.4**
SMDO	**Samad**	**5.52**	**183**	P	**Pn**	**15 57 24.8**	**0.0**
SMDO				S	**Sn**	**15 58 26.5**	**-2.0**
BSY	**Bisya**	**5.92**	**191**	P	**Pn**	**15 57 33.4**	**+3.1**
BSY				S	**Sn**	**15 58 39.3**	**+0.9**
JMDO	**Jabal Madar**	**6.20**	**183**	P	**Pn**	**15 57 36.1**	**+1.9**
JMDO				S	**Sn**	**15 58 44.5**	**-0.7**
KLNJ	**Kolanjah**	**6.38**	**294**	Pn	**Pn**	**15 57 37.3**	**+0.4**
JLN	**Jalan Bani Buh**	**6.48**	**172**	P	**Pn**	**15 57 37.1**	**-0.9**
JLN				S	**Sn**	**15 58 49.3**	**-2.7**
SHMA	**Al-Shehemyia**	**7.16**	**249**	P	**Pn**	**15 57 48.0**	**+0.7**
SHMA				S	**Sn**	**15 59 06.2**	**-2.4**
MHTO	**MHTO**	**7.58**	**183**	P	**Pn**	**15 57 54.6**	**+1.5**
MHTO				S	**Sn**	**15 59 19.3**	**+0.1**

*NEIC **14** 16:09:53.5±2.1, 20°.9S±0°.1×178°.8W±0°.1, h613km±7km, mb4.4/55, Error ellipse: s-maj=19.1km s-min=14.7km az=120.0*
*IDC **14** 16:09:54.2±1.3, 20°.82S×178°.96W, h624km±14km, mb3.6/16, mbtmp4.5/18, Error ellipse: s-maj=17.3km s-min=10.5km az=147.0*
ISC 14 16:09:53.4±0.4, 20°.84S±0°.07×178°.82W±0°.08, h619km, n194, σ1§06/200, mb4.3/48, 21C-21D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.28**	**316**	P	**P**	**16 11 22.5**	**+0.2**
	36nm,0.4s,baz=117,slow=13,SNR=38						
FUTU	**Fugatoga**	**6.53**	**6**	P	**P**	**16 11 40.1**	**0.0**
AFI	**Afiamalu**	**9.62**	**45**	P	**P**	**16 12 05.4**	**-3.6**
DZM	**Mont Dzumac**	**13.78**	**262**	P	**P**	**16 12 50.5**	**+0.8**
DZM	**Mont Dzumac**	**13.78**	**262**	P	**P**	**16 12 49.4**	**-0.2**
	5.2nm,1.0s,baz=101,slow=5.6,SNR=15						
GRZ	**Great Barrier**	**16.15**	**197**	P	**P**	**16 13 12.7**	**+1.7**
KUZ	**Kuautunu**	**16.55**	**196**	P	**P**	**16 13 16.1**	**+1.4**
WIAZ	**Waiheke Island**	**16.75**	**197**	P	**P**	**16 13 18.2**	**+1.7**
MBAZ	**Motutapu North**	**16.80**	**198**	P	**P**	**16 13 18.8**	**+1.9**
ETAZ	**East Tamaki Re**	**16.96**	**197**	P	**P**	**16 13 20.8**	**+2.3**
MKAZ	**Moumakai**	**17.04**	**197**	P	**P**	**16 13 20.5**	**+1.4**
WTAZ	**Waiatarua**	**17.04**	**198**	P	**P**	**16 13 21.1**	**+1.8**
WMGZ	**Waiomatatini S**	**17.09**	**187**	P	**P**	**16 13 19.2**	**-0.4**
HAZ	**Te Kaha**	**17.12**	**189**	P	**P**	**16 13 19.0**	**-0.9**
AWAZ	**Awhitu Peninsu**	**17.14**	**198**	P	**P**	**16 13 21.9**	**+1.8**
RUGZ	**Raukumara Rang**	**17.34**	**189**	P	**P**	**16 13 22.2**	**+0.1**
TWGZ	**Tauwhareparae**	**17.50**	**188**	P	**P**	**16 13 23.6**	**+0.1**
TOZ	**Tahuroa Road**	**17.54**	**195**	P	**P**	**16 13 24.0**	**+0.3**
TOZ				IAmb	IAmb	16 13 26.3	
	comp=Z,17nm,0.8s						
URZ	**Urewera**	**17.72**	**191**	P	**P**	**16 13 22.9**	**-2.5**
	comp=Z,9.1nm,0.3s,baz=342,slow=2.4,SNR=17						
URZ				S	**S**	**16 16 13.6**	**-3.8**
	comp=Z,8.2nm,1.0s,baz=90,slow=20,SNR=2.0						
URZ	**Urewera**	**17.72**	**191**	P	**P**	**16 13 22.9**	**-2.5**
MWZ	**Matawai**	**17.72**	**189**	P	**P**	**16 13 23.6**	**-1.8**
MUGZ	**Murupara**	**17.99**	**191**	P	**P**	**16 13 26.0**	**-1.8**
RTZ	**Ruatahuna**	**18.09**	**191**	P	**P**	**16 13 26.2**	**-2.6**
RTZ				IAmb	IAmb	16 13 41.5	
	comp=Z,20nm,1.2s						
TLZ	**Tolley Road**	**18.10**	**194**	P	**P**	**16 13 30.4**	**+1.5**
RAHZ	**Arahi**	**18.36**	**190**	P	**P**	**16 13 29.8**	**-1.4**
BKZ	**Black Stump Fm**	**18.71**	**191**	P	**P**	**16 13 31.8**	**-2.6**
BKZ				IAmb	IAmb	16 13 35.5	
	comp=Z,7.4nm,1.0s						
TKNZ	**Takaka Hill**	**21.31**	**197**	P	**P**	**16 13 55.9**	**-1.9**
THZ	**Tophouse**	**22.01**	**197**	P	**P**	**16 14 02.1**	**-1.9**
THZ				IAmb	IAmb	16 14 05.3	
	comp=Z,10nm,0.8s						
WHZ	**Wether Hill Ro**	**27.25**	**200**	P	**P**	**16 14 50.2**	**+0.1**
ARMA	**Armidale**	**28.23**	**244**	P	**P**	**16 15 00.1**	**+1.1**
ARMA				IAmb	IAmb	16 15 19.3	
	comp=Z,14nm,1.4s						
CTAO	**Charters Tower**	**32.70**	**265**	P	**P**	**16 15 37.5**	**+0.3**
CTAO				IAmb	IAmb	16 15 37.9	
	comp=Z,5.2nm,0.8s						
COEN	**Coen**	**36.84**	**274**	P	**P**	**16 16 12.1**	**+0.6**
COEN				IAmb	IAmb	16 16 33.8	
	comp=Z,18nm,1.2s						
STKA	**Stephens Creek**	**36.95**	**244**	P	**P**	**16 16 12.2**	**+0.1**
STKA	**Stephens Creek**	**36.95**	**244**	P	**P**	**16 16 11.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=81,slow=5.9,SNR=5.3						
	comp=Z,0.5nm,0.3s						
BBOO	**Buckleboo**	**41.71**	**244**	P	**P**	**16 16 49.8**	**-0.4**
WR0	**Warramunga Arr**	**43.61**	**263**	P	**P**	**16 17 04.2**	**-0.9**
AS31	**Alice Springs**	**43.70**	**257**	P	**P**	**16 17 05.4**	**-0.3**
ASAR	**Alice Springs**	**43.70**	**257**	P	**P**	**16 17 05.4**	**-0.3**
ASAR	**Alice Springs**	**43.70**	**257**	P	**P**	**16 17 05.7**	**-0.1**
	comp=Z,7.6nm,0.7s,baz=99,slow=7.8,SNR=84						
ASAR				PcP	**PcP**	**16 18 38.5**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=106,slow=4.1,SNR=13						
ASAR				ScP	**ScP**	**16 21 31.5**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=100,slow=5.1,SNR=2.4						
ASAR				S	**S**	**16 22 50.4**	**-2.2**
	comp=Z,3.5nm,1.0s,baz=95,slow=15,SNR=17						
	comp=Z,7.6nm,0.7s						
WB0	**Warramunga Arr**	**43.78**	**263**	P	**P**	**16 17 05.9**	**-0.5**
WB0				IAmb	IAmb	16 17 06.7	
	comp=Z,9.3nm,0.8s						
WB2	**Warramunga Arr**	**43.79**	**263**	P	**P**	**16 17 05.9**	**-0.6**
WB2				IAmb	IAmb	16 17 06.9	
	comp=Z,9.9nm,0.9s						
WRAB	**Tennant Creek**	**43.79**	**263**	P	**P**	**16 17 05.8**	**-0.7**
WRAB				IAmb	IAmb	16 17 06.8	
	comp=Z,9.0nm,0.9s						
WRA	**Warramunga Arr**	**43.80**	**263**	P	**P**	**16 17 05.3**	**-1.3**
WRA	**Warramunga Arr**	**43.80**	**263**	P	**P**	**16 17 05.9**	**-0.7**
	comp=Z,3.1nm,0.3s,baz=97,slow=7.4,SNR=222						
WRA				PcP	**PcP**	**16 18 39.0**	**0.0**
	comp=Z,0.9nm,0.8s,baz=94,slow=3.6,SNR=3.8						
WRA				S	**S**	**16 22 51.3**	**-2.8**
	comp=Z,1.4nm,1.0s,baz=96,slow=13,SNR=5.8						
	comp=Z,3.1nm,0.3s						
DHH	**Diamond Head**	**46.61**	**27**	P	**P**	**16 17 28.0**	**+0.3**
MTN	**Manton Dam**	**48.40**	**271**	P	**P**	**16 17 40.8**	**-0.5**
FORT	**Forrest**	**48.46**	**247**	P	**P**	**16 17 41.2**	**-0.2**
KNRA	**Kununurra**	**49.88**	**267**	P	**P**	**16 17 51.6**	**-0.4**
KNRA				IAmb	IAmb	16 18 15.9	
	comp=Z,27nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.23**	**263**	P	**P**	**16 18 08.7**	**-0.3**
PSA00	**Pilbara Seismi**	**56.85**	**257**	P	**P**	**16 18 40.2**	**-0.9**
MBWA	**Marble Bar**	**57.03**	**258**	P	**P**	**16 18 41.6**	**-0.8**
MBWA				IAmb	IAmb	16 19 13.0	
	comp=Z,17nm,1.3s						
SBA	**Scott Base**	**57.49**	**184**	P	**P**	**16 18 46.9**	**+2.4**
QSPA	**South Pole Qui**	**69.23**	**180**	P	**P**	**16 20 00.2**	**+0.7**
QSPA				IAmb	IAmb	16 20 01.3	
	comp=Z,8.1nm,0.9s						
QSPA	**South Pole Qui**	**69.23**	**180**	P	**P**	**16 20 00.4**	**+0.9**
	comp=Z,5.1nm,0.6s,baz=287,slow=0.5,SNR=52						
	comp=Z,5.1nm,0.6s						
MJAR	**Matsushiro Arr**	**70.03**	**324**	P	**P**	**16 20 04.7**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=149,slow=6.0,SNR=6.9						
	comp=Z,3.2nm,0.7s						
ADK	**Adak**	**72.43**	**1**	P	**P**	**16 20 17.6**	**-0.4**
YULB	**Yu-li**	**73.05**	**304**	P	**P**	**16 20 21.0**	**-1.3**
YULB				IAmb	IAmb	16 20 22.8	
	comp=Z,14nm,0.9s						
TPUB	**Ta-pu**	**73.52**	**303**	P	**P**	**16 20 24.0**	**-1.1**
PEA0B	**Petropavlovsk-**	**76.40**	**346**	P	**P**	**16 20 40.7**	**+0.3**
PETK	**Petropavlovsk-**	**76.40**	**346**	P	**P**	**16 20 39.9**	**-0.5**
PETK	**Petropavlovsk-**	**76.40**	**346**	P	**P**	**16 20 40.0**	**-0.3**
	comp=Z,6.0nm,0.8s,baz=126,slow=6.2,SNR=14						
	comp=Z,6.0nm,0.8s						
KSRS	**Korea Array**	**76.64**	**319**	P	**P**	**16 20 41.6**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=129,slow=5.9,SNR=3.9						

comp=Z,2.7nm,0.8s,baz=124,slow=2.6,SNR=8.9
comp=Z,2.7nm,0.8s
CHTO Chiang Mai 89.64 290 P P 16 21 48.9 +1.8
CHTO IAmb IAmb 16 21 49.5
comp=Z,4.0nm,0.7s
PDAR Pinedale Array 89.73 44 P P 16 21 47.6 +0.3
comp=Z,2.4nm,0.7s,baz=212,slow=3.8,SNR=24
comp=Z,2.4nm,0.7s
DAWY Dawson 89.99 16 P P 16 21 48.0 +0.3
DAWY IAmb IAmb 16 21 49.0
comp=Z,5.5nm,1.0s
PZH PanZhiHua 90.19 298 P P 16 21 51.3 +1.6
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,90nm,6.1s
K29M Barlow Dome 90.32 17 P P 16 21 49.9 +0.6
K29M IAmb IAmb 16 21 50.6
comp=Z,4.4nm,0.9s
LZH Lanzhou 92.37 308 *e*P P 16 21 54.6 -4.9
LZH pP pP 16 24 06.3 -5.5
LZH pmax pmax
comp=Z,11nm,0.9s
KSH Kashi 114.45 305 PKP **PKiKP 16 27 26.5 +2.0**
BVAR Borovoye Array 118.84 320 PKP **PKPdf 16 27 31.4 -0.9**
comp=Z,2.6nm,0.4s,baz=93,slow=1.5,SNR=13
SPITS Spitsbergen Ar 122.15 356 PKP **PKPdf 16 27 37.5 -0.6**
comp=Z,5.4nm,0.7s,baz=46,slow=6.2,SNR=1.7
ARTI Arti 125.15 325 PKPdf **PKPdf 16 27 43.9 -0.5**
ARCES ARCESS Array B 129.11 349 PKP **PKPdf 16 27 51.0 -0.6**
comp=Z,2.2nm,0.6s,baz=352,slow=1.7,SNR=13
FINES FINESS Array B 135.88 343 PKhKP PKPpre 16 27 53.2
comp=Z,0.4nm,0.3s,baz=170,slow=33,SNR=1.9
FINES PKP **PKPdf 16 28 03.4 -1.1**
comp=Z,1.6nm,0.6s,baz=90,slow=3.8,SNR=6.3
FINES SKPbc **SKPbc 16 30 38.9 -0.2**
comp=Z,2.1nm,0.8s,baz=18,slow=4.8,SNR=5.6
NOA NORSAR Array B 139.22 353 PKP **PKPdf 16 28 09.4 -1.3**
comp=Z,1.1nm,0.8s,baz=12,slow=4.1,SNR=3.4
FABU Falkenberg 142.89 350 *i* P **PKPdf 16 28 14.3 -3.0**
AKASG Malin Array Be 142.93 330 PKhKP PKPpre 16 28 14.8
comp=Z,10nm,0.5s,baz=44,slow=4.3,SNR=145
KIEV Kiev 142.94 330 ⇓P **PKPdf 16 28 15.1 -2.5**
DEL Delary 143.19 348 *i* P PKPab 16 28 15.0 -1.1
MUD Monsted U'grnd 143.94 352 *i* P PKPbc 16 28 17.8 -0.9
LUNU Lund 144.06 348 *i* P PKPbc 16 28 18.2 -0.8
BSD Bornholm Skovb 144.24 347 *i* P **PKPdf 16 28 19.8 +0.2**
SORM Soroca 145.09 328 ⇓P **PKPbc 16 28 22.3 -0.1**
BNN Bunyan 145.25 309 PKPdf **PKPdf 16 28 22.3 +0.1**
EKA Eskdalemuir Ar 145.40 4 PKPbc **PKPbc 16 28 22.7 -0.4**
comp=Z,3.6nm,0.6s,baz=335,slow=3.1,SNR=6.8
BR131 Keskin Array S 146.49 311 PKPbc 16 28 26.6 -0.3
BRTR Keskin Array B 146.49 311 PKPbc 16 28 26.0 -0.9
BRTR Keskin Array B 146.49 311 PKPbc **PKPbc 16 28 26.6 -0.3**
comp=Z,3.1nm,0.6s,baz=138,slow=4.0,SNR=9.3
KIRS Kirsehir-Merke 146.54 310 ⇓P **PKPbc 16 28 26.9 0.0**
KWP Kalwaria Pacla 146.56 334 PKPbc 16 28 26.9 +0.4
TLCR 146.73 323 ⇑P **PKPbc 16 28 27.2 +0.1**
SCTR Scanteiesti 146.87 325 ⇓P **PKPbc 16 28 28.1 +0.6**
GHRR 146.94 326 ⇓P **PKiKP 16 28 28.8 -0.7**
BUR08 Bucovina Ar. S 146.96 330 PKPbc **PKPbc 16 28 28.7 +0.9**
BURAR Bucovina Array 146.97 330 PKPbc **PKPbc 16 28 27.2 -0.6**
BURAR Bucovina Array 146.97 330 ⇑P **PKiKP 16 28 29.3 -0.3**
TESR Tescani 147.03 327 ⇑P **PKPbc 16 28 28.3 +0.4**
CFR Carcaliu 147.11 324 ⇓P **PKPbc 16 28 28.8 +0.7**
PANC Panciu 147.20 326 ⇓P **PKPbc 16 28 28.8 +0.4**
KOLS Kolonicke sedl 147.28 334 *e*PKP **PKiKP 16 28 29.3 -0.8**
KOLS *e* 16 28 33.9
MMAI Mount Meron Ar 147.31 299 PKPbc **PKPbc 16 28 29.7 +0.5**
comp=Z,5.2nm,0.5s,baz=74,slow=6.2,SNR=14
VRI Vrincioaia 147.42 326 ⇓P **PKPbc 16 28 29.6 +0.7**
PLOR Plostina 147.47 326 ⇓P **PKPbc 16 28 28.9 -0.2**
HARR Harsova 147.53 323 ⇓P **PKPbc 16 28 29.6 +0.4**
TURR Turia 147.67 327 ⇓P **PKPbc 16 28 30.3 +0.7**
OZUR 147.75 327 ⇓P **PKPbc 16 28 30.1 +0.3**
DOPR Dopca 148.04 327 ⇓P **PKiKP 16 28 31.5 -0.3**
MLR Muntele Rosu 148.08 326 PKPbc **PKPbc 16 28 30.3 -0.5**
MLR Muntele Rosu 148.08 326 ⇓P **PKPbc 16 28 30.8 0.0**
LANS Liptovska Anna 148.20 337 *e*PKP **PKiKP 16 28 32.3 +0.3**
LANS *e* 16 28 37.7
CLL Collm 148.21 346 *i* PKPbc **PKPbc 16 28 30.8 +0.1**
comp=Z,13nm,1.0s
CLL *i* PKPab **PKPab 16 28 36.3 +0.2**
comp=Z,4.0nm,0.7s
DPC Dobruska-Polom 148.21 341⇑*e*PKP **PKiKP 16 28 31.5 -0.5**
DPC *e*PKPAB **PKPab 16 28 37.1 +0.8**
KRLC Kraliky 148.31 341⇑*e*PKP **PKPbc 16 28 31.6 +0.5**
MORC Moravsky Berou 148.33 340 *e*PKP **PKPbc 16 28 31.6 +0.5**
MORC Moravsky Berou 148.33 340 ⇑P **PKiKP 16 28 31.8 -0.5**
BRG Berggiesshubel 148.39 345⇑*i*PKP **PKPbc 16 28 31.6 +0.5**
BRG Amp 16 28 33.3
comp=Z,4.7nm,0.7s
BRG Berggiesshubel 148.39 345 P **PKPab 16 28 37.1 +0.2**
BRG Amp 16 28 37.9
comp=Z,4.9nm,0.8s
CJR Cluj-Napoca 148.39 330 ⇑P **PKiKP 16 28 32.1 -0.3**
VOIR 148.58 327 ⇓P **PKiKP 16 28 32.6 -0.3**
MAUC Maruska 148.59 339⇑*e*PKP **PKiKP 16 28 32.6 -0.2**
MARR Marisel-Cluj 148.64 330 ⇑P **PKPbc 16 28 32.1 +0.1**
HSKC Hora Svate Kat 148.76 345⇑*e*PKP **PKPbc 16 28 32.2 +0.1**
TNR Turnu Rosu 148.82 328 ⇓P **PKPbc 16 28 32.8 +0.4**
VYHS Vyhne 148.98 337 *e*PKP **PKiKP 16 28 33.2 -0.4**
VYHS *e* 16 28 40.4
PRU Pruhonice 149.04 343 *e*PKPAB **PKPab 16 28 40.1 +0.5**
VRAC Vranov 149.04 340 *e*PKP **PKPbc 16 28 32.4 -0.5**
JAVC Velka Javorina 149.08 339 *e*PKP **PKiKP 16 28 33.9 0.0**
KRUC Moravsky 149.32 340 *e*PKP **PKiKP 16 28 33.9 -0.4**
SIRR Siria 149.61 331 ⇓P **PKiKP 16 28 34.7 -0.3**
MODS Modra-Piesok 149.63 339 *e*PKP **PKiKP 16 28 35.3 +0.3**
MODS *e* 16 28 44.3
ZVC Zvikov 149.63 343⇑*e*PKP **PKiKP 16 28 34.9 0.0**
ZVC *e*PKPAB **PKPab 16 28 43.2 +1.1**
GZR Gura Zlata 149.74 329 ⇑P **PKPbc 16 28 34.5 -0.2**
SURR Surduc 149.78 330 ⇑P **PKiKP 16 28 35.0 -0.3**
KHC Kasperske Hory 150.08 344 PKPbc **PKPbc 16 28 35.5 +0.1**
KHC Kasperske Hory 150.08 344⇑*e*PKP **PKPbc 16 28 35.2 -0.1**
KHC *e*PKPAB **PKPab 16 28 44.8 +0.7**
BZS Buzias 150.12 331 ⇑P **PKiKP 16 28 35.9 -0.2**
CKRC Cesky Krumlov 150.16 342⇑*e*PKP **PKiKP 16 28 35.8 -0.2**
HERR Herculane 150.29 329 ⇓P **PKPbc 16 28 36.0 +0.1**
GERES GERESS Array B 150.31 343 PKPbc **PKPbc 16 28 35.1 -0.9**
comp=Z,3.1nm,0.6s,baz=48,slow=2.0,SNR=14
CONA Conrad Observa 150.49 340 *e*PKiKP **PKiKP 16 28 36.8 0.0**
comp=Z,3.5nm,0.5s
RONA Rosalia, Austr 150.54 339 *e*PKiKP **PKiKP 16 28 36.8 -0.1**
comp=Z,6.4nm,0.5s
MDVR Moldovita 150.70 329 ⇓P **PKPbc 16 28 36.7 -0.2**
MORH Mrgy, Hungar 150.93 335 ⇓P **PKPbc 16 28 37.4 +0.1**
MOA Molln 151.05 342 *e*PKP **PKPbc 16 28 37.6 0.0**
comp=Z,2.3nm,0.5s
LESA Schwarzleotal 151.89 343 *e*PKP **PKPbc 16 28 39.5 0.0**
comp=Z,2.2nm,0.4s
WATA Walderalm 152.25 345 *e*PKP **PKPbc 16 28 40.1 -0.3**
comp=Z,1.8nm,0.4s
WTTA Wattenberg 152.30 345 *e*PKP **PKPbc 16 28 40.4 -0.2**
comp=Z,4.7nm,0.5s
MYKA Terra Mystica 152.34 341 *e*PKP **PKPbc 16 28 39.5 -1.1**
comp=Z,2.6nm,0.4s
MOTA Moosalm 152.36 345 *e*PKP **PKPbc 16 28 40.7 0.0**
comp=Z,2.0nm,0.5s
SQTA Sankt Quirin 152.45 345 *i* PKP **PKPbc 16 28 40.7 -0.1**
comp=Z,2.2nm,0.5s
ABTA Abfaltersbach 152.55 343 *e*PKP **PKPbc 16 28 40.4 -0.6**
comp=Z,3.5nm,0.5s
FETA Feichten 152.75 346 *e*PKP **PKPbc 16 28 41.5 -0.1**
comp=Z,1.7nm,0.6s
ESDC Sonseca Array 160.71 12 PKPab **PKPab 16 29 29.9 -0.2**
comp=Z,0.9nm,0.6s,baz=350,slow=5.2,SNR=5.6
TORD Torodi Ar. Bea 172.34 184 PKP **PKPdf 16 28 51.9 -1.3**
comp=Z,0.3nm,0.7s,baz=8.5,slow=0.4,SNR=4.9

*JMA **14** 16:19:25.0±0.3, 35°N±1°×13°8E±°, h292km±2km, MV3.3/36, HAMANAKO LAKE REGION*
*NEIC **14** 16:19:25.6±1.7, 34°.73N±0°.08×137°.6E±0°.1, h289km±7km, mb4.1/24, Error ellipse: s-maj=12.8km s-min=11.0km az=76.0*
*IDC **14** 16:19:25.1±0.6, 34°.71N×137°.68E, h287km±8km, mb3.5/11, mbtmp4.1/17, Error ellipse: s-maj=22.1km s-min=9.8km az=69.0*
ISC 14 16:19:25.4±0.6, 34°.71N±0°.06×137°.51E±0°.06, h287km±6km, n76, σ0°94/84, mb3.9/23, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMMJ	**Hamamatsu 2**	**0.22**	**50**	*e*P	**Pn**	**16 20 02.4**	**+0.5**
HMMJ				S	**S**	**16 20 30.9**	**0.0**
JHMK	**Hamakita**	**0.23**	**62**	*e*P	**Pn**	**16 20 02.2**	**+0.4**
JSG	**Sagara**	**0.56**	**94**	Pn	**Pn**	**16 20 03.4**	**+0.8**
JIE	**Ise**	**0.74**	**245**	P	**Pn**	**16 20 03.9**	**+0.7**
INU	**Inuyama**	**0.76**	**328**	Pn	**Pn**	**16 20 03.7**	**+0.5**
JGF	**Kuroka**	**0.90**	**352**		**Pn**	**16 20 04.2**	**+0.4**
JYTA	**Yamagatataniai**	**1.09**	**324**	*i* P	**Pn**	**16 20 05.4**	**+0.7**
JYN	**Shimob**	**1.15**	**47**	P	**Pn**	**16 20 05.5**	**+0.4**
JOD2	**Odawara 2**	**1.41**	**66**	*i* P	**Pn**	**16 20 07.0**	**+0.4**
JWY	**Kouya**	**1.66**	**253**	P	**Pn**	**16 20 09.2**	**+0.8**
JWY				S	**S**	**16 20 42.3**	**-0.4**
JRY	**Ryogami san**	**1.73**	**41**	P	**Pn**	**16 20 09.6**	**+0.8**
JRY				*e*S	**S**	**16 20 42.9**	**-0.4**
JTNC	**Tanabenakahech**	**1.81**	**241**	P	**Pn**	**16 20 10.3**	**+0.8**
JWT	**Wachi**	**1.83**	**289**	P	**Pn**	**16 20 10.3**	**+0.8**
JWT				S	**S**	**16 20 44.0**	**-0.6**
JKG	**Kaga**	**1.84**	**329**	P	**Pn**	**16 20 10.1**	**+0.5**
JKG				*e*S	**S**	**16 20 44.5**	**-0.2**
MAJO	**Matsushiro**	**1.91**	**17**	Pn	**Pn**	**16 20 10.7**	**+0.5**
MAT	**Matsushiro**	**1.91**	**17**	P	**Pn**	**16 20 10.6**	**+0.4**
MAT				S	**S**	**16 20 45.4**	**-0.5**
MJAR	**Matsushiro Arr**	**1.91**	**17**	P	**Pn**	**16 20 10.5**	**+0.3**
	52nm,0.5s,baz=188,slow=9.5,SNR=101						
MJAR				S	**S**	**16 20 45.5**	**-0.4**
	43nm,1.0s,baz=195,slow=16,SNR=16						
MJB9	**Matsu-Tunnel**	**1.92**	**17**	Pn	**Pn**	**16 20 11.6**	**+1.3**
JAG	**Ashikaga**	**2.33**	**42**	*i* P	**Pn**	**16 20 13.1**	**-0.6**
JHJ	**Hachijo jima 2**	**2.47**	**129**	P	**Pn**	**16 20 14.3**	**-0.8**
	152nm,0.3s,baz=97,slow=21,SNR=9.3						
JHJ				S	**S**	**16 20 58.1**	**+3.5**
	248nm,0.9s,baz=128,slow=19,SNR=1.7						
JHJ2	**Mitsune**	**2.49**	**129**	Pn	**Pn**	**16 20 15.6**	**+0.3**
JAI	**Aioi**	**2.70**	**251**	P	**Pn**	**16 20 17.4**	**+0.2**
JSZ	**Suzu**	**2.73**	**357**	P	**Pn**	**16 20 17.9**	**+0.4**
BSO1	**Boso 1**	**2.85**	**90**	*e*P	**Pn**	**16 20 17.2**	**-0.9**
JMN	**Monobe**	**3.17**	**253**	Pn	**Pn**	**16 20 22.3**	**+0.3**
JNU	**Nakatsue**	**5.74**	**256**	Pn	**Pn**	**16 20 51.3**	**+0.1**
JNU	**Nakatsue**	**5.74**	**256**	P	**Pn**	**16 20 52.1**	**+0.8**
	11nm,0.6s,baz=40,slow=6.5,SNR=10.0						
JTM	**Tenmabayashi**	**6.69**	**24**	Pn	**Pn**	**16 21 01.9**	**-0.6**
KSRS	**Korea Array**	**8.23**	**292**	P	**Pn**	**16 21 22.6**	**+1.0**
	7.4nm,0.7s,baz=105,slow=13,SNR=31						
KSAR	**Wonju Array Be**	**8.26**	**292**	Pn	**Pn**	**16 21 22.6**	**+0.6**
KS19	**Wonju Array Si**	**8.29**	**292**	Pn	**Pn**	**16 21 23.3**	**+1.0**
ERM	**Erimo**	**8.53**	**30**	Pn	**Pn**	**16 21 23.4**	**-1.9**
ASAJ	**Asahikawa**	**10.18**	**21**	P	**Pn**	**16 21 44.1**	**-1.6**
	7.1nm,0.3s,baz=224,slow=15,SNR=29						
JKA	**Kamikawa-asahi**	**10.18**	**21**	Pn	**Pn**	**16 21 43.1**	**-2.5**
USA0B	**Ussuriysk Arra**	**10.39**	**337**	Pn	**Pn**	**16 21 49.1**	**+0.8**
USRK	**Ussuriysk Ar.**	**10.39**	**337**	Pn	**Pn**	**16 21 48.8**	**+0.6**
USRK	**Ussuriysk Ar.**	**10.39**	**337**	P	**Pn**	**16 21 47.5**	**-0.7**
	2.1nm,0.6s,baz=148,slow=12,SNR=6.3						
YSS	**Yuzh-Sakhalins**	**12.85**	**16**		**Pn**	**16 22 16.9**	**-1.4**
KLR	**Kul'dur**	**15.12**	**345**	P	**P**	**16 22 44.0**	**-0.3**
	1.8nm,0.5s,baz=150,slow=12,SNR=6.0						
SSLB	**Suanglung**	**18.07**	**237**	P	**P**	**16 23 14.4**	**-2.1**
TPUB	**Ta-pu**	**18.61**	**237**	P	**P**	**16 23 20.6**	**-1.7**
ENH	**Enshi**	**24.02**	**267**	P	**P**	**16 24 14.1**	**-0.7**
ENH				IAmb	IAmb	16 24 17.2	
	comp=Z,11nm,0.8s						
ULN	**Ulaanbaatar**	**26.20**	**309**	P	**P**	**16 24 36.0**	**+1.7**
ULN				IAmb	IAmb	16 24 36.7	
	comp=Z,4.4nm,0.6s						
SONM	**Songino Array**	**26.61**	**309**	P	**P**	**16 24 39.2**	**+1.3**
SONM	**Songino Array**	**26.61**	**309**	P	**P**	**16 24 39.5**	**+1.6**
	comp=Z,4.4nm,0.8s,baz=114,slow=8.8,SNR=17						
	comp=Z,4.4nm,0.8s						
JAY	**Jayapura**	**37.15**	**175**	P	**P**	**16 26 08.8**	**-0.6**
	comp=Z,13nm,0.8s,baz=331,slow=13,SNR=4.3						
	comp=Z,13nm,0.8s						
FAKI	**Fak Fak**	**37.76**	**189**	P	**P**	**16 26 13.1**	**-1.3**
FAKI				IAmb	IAmb	16 26 15.1	
	comp=Z,6.5nm,0.9s						
ZALV	**Zalesovo Beam**	**41.21**	**314**	P	**P**	**16 26 42.7**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=105,slow=8.6,SNR=5.9						
	comp=Z,0.7nm,0.3s						
MK31	**Makanchi Array**	**42.72**	**304**	P	**P**	**16 26 55.6**	**+0.9**
MKAR	**Makanchi Array**	**42.72**	**304**	P	**P**	**16 26 55.5**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=79,slow=8.7,SNR=9.2						
	comp=Z,1.0nm,0.5s						
MAKZ	**Makanchi**	**42.93**	**304**	P	**P**	**16 26 57.4**	**+1.1**
MAKZ				IAmb	IAmb	16 26 57.9	
	comp=Z,16nm,1.5s						
KURK	**Kurchatov**	**44.92**	**310**	P	**P**	**16 27 11.7**	**-0.2**
KURK				IAmb	IAmb	16 27 16.1	
	comp=Z,4.0nm,0.6s						
KURBB	**Kurchatov Arra**	**44.98**	**309**	P	**P**	**16 27 12.7**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=93,slow=7.0,SNR=30						
	comp=Z,1.7nm,0.6s						
BVAR	**Borovoye Array**	**49.82**	**313**	P	**P**	**16 27 49.6**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=105,slow=9.1,SNR=4.9						
	comp=Z,1.0nm,0.5s						
GSI	**Gunungsitoli**	**49.89**	**237**	P	**P**	**16 27 50.8**	**+0.4**
KNRA	**Kununurra**	**50.79**	**191**	P	**P**	**16 27 56.5**	**-0.6**
KNRA				IAmb	IAmb	16 28 19.0	
	comp=Z,28nm,1.4s						
KKAR	**Karatay Array**	**51.56**	**301**	P	**P**	**16 28 03.4**	**+0.8**
GAR	**Garm**	**52.84**	**296**	P	**P**	**16 28 12.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**53.72**	**194**	P	**P**	**16 28 18.9**	**+0.6**
WB0	**Warramunga Arr**	**54.26**	**184**	P	**P**	**16 28 21.6**	**-0.7**
WB0				IAmb	IAmb	16 28 22.5	
	comp=Z,3.2nm,0.7s						
WRAB	**Tennant Creek**	**54.42**	**184**	P	**P**	**16 28 22.9**	**-0.5**
WRAB				IAmb	IAmb	16 28 26.4	
	comp=Z,6.8nm,1.4s						
WB2	**Warramunga Arr**	**54.43**	**184**	P	**P**	**16 28 22.7**	**-0.8**
WB2				IAmb	IAmb	16 28 58.2	
	comp=Z,8.4nm,1.5s						
WRA	**Warramunga Arr**	**54.43**	**184**	P	**P**	**16 28 22.4**	**-1.1**
WRA	**Warramunga Arr**	**54.43**	**184**	P	**P**	**16 28 23.1**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=360,slow=7.6,SNR=52						
	comp=Z,1.7nm,0.4s						
WR0	**Warramunga Arr**	**54.44**	**183**	P	**P**	**16 28 22.9**	**-0.7**
WR0				IAmb	IAmb	16 28 23.9	
	comp=Z,3.3nm,0.6s						
ABKAR	**Akbulak array**	**57.02**	**310**	P	**P**	**16 28 42.3**	**+0.8**
ABKAR				IAmb	IAmb	16 28 42.9	
	comp=Z,2.9nm,0.7s						
AS31	**Alice Springs**	**58.16**	**184**	P	**P**	**16 28 49.0**	**-0.7**
ASAR	**Alice Springs**	**58.16**	**184**	P	**P**	**16 28 49.3**	**-0.4**
ASAR	**Alice Springs**	**58.16**	**184**	P	**P**	**16 28 49.5**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=356,slow=4.9,SNR=54						
	comp=Z,0.6nm,0.4s						
BBOO	**Buckleboo**	**67.18**	**181**	P	**P**	**16 29 48.4**	**-0.4**
FIA1	**FINESS Array S**	**69.36**	**331**	P	**P**	**16 30 02.1**	**+0.2**
FINES	**FINESS Array B**	**69.36**	**331**	P	**P**	**16 30 02.1**	**+0.2**
FINES	**FINESS Array B**	**69.36**	**331**	P	**P**	**16 30 02.3**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=64,slow=6.3,SNR=2.8						
	comp=Z,1.0nm,0.4s						
KBZ	**Khabaz**	**69.98**	**310**	P	**P**	**16 30 06.4**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=132,slow=3.8,SNR=3.7						
	comp=Z,2.2nm,0.8s						
AKASG	**Malin Array Be**	**74.15**	**321**	P	**P**	**16 30 30.7**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=51,slow=5.8,SNR=7.0						
	comp=Z,0.8nm,0.5s						
RAYN	**Ar Rayn**	**78.56**	**291**	P	**P**	**16 30 55.7**	**0.0**
RAYN				IAmb	IAmb	16 30 57.2	
	comp=Z,2.5nm,0.8s						

*IDC **14** 16:34:46.6±1.3, 26°.22N×66°.09E, h0km, mb3.8/11, mbtmp3.8/12, ML3.8/1, MS2.9/2, Error ellipse: s-maj=28.2km s-min=23.3km az=149.0*
ISC 14 16:34:51.7±1.2, 26°.2N±0°.2×66°.0E±0°.2, h35km, n14, σ0°81/12, mb3.6/11, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**7.31**	**248**	Pn	**Pn**	**16 36 35.0**	**-0.9**
	1.5nm,0.3s,baz=102,slow=11,SNR=16						
WSAR				Sn	Sn	16 37 48.9	-8.8
	2.0nm,0.3s,baz=315,slow=14,SNR=2.6						
	3.9nm,0.4s						
AAK	**Ala-Archa**	**17.83**	**21**	LR	LR	16 47 47.4	
	comp=Z,28nm,19.7s,baz=260,slow=44						
MKAR	**Makanchi Array**	**24.30**	**28**	P	**P**	**16 40 05.5**	**-0.2**
	1.6nm,0.8s,baz=215,slow=9.0,SNR=6.2						
	1.6nm,0.8s						
KBZ	**Khabaz**	**25.65**	**319**	P	**P**	**16 40 17.9**	**-0.1**
	1.6nm,0.8s,baz=110,slow=15,SNR=2.2						
	1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**26.23**	**18**	P	**P**	**16 40 21.8**	**-1.4**
	0.4nm,0.5s,baz=206,slow=9.0,SNR=3.0						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**27.01**	**6**	P	**P**	**16 40 29.3**	**-1.0**
	1.2nm,0.7s,baz=195,slow=11,SNR=7.0						
	1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**31.05**	**22**	P	**P**	**16 41 05.9**	**-0.2**
	0.5nm,0.4s,baz=230,slow=11,SNR=2.5						
	0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**31.37**	**97**	LR	LR	16 55 14.6	
	comp=Z,23nm,19.4s,baz=95,slow=39						
AKASG	**Malin Array Be**	**37.21**	**321**	P	**P**	**16 42 00.1**	**+0.6**
	1.0nm,0.4s,baz=113,slow=7.2,SNR=10						
	1.0nm,0.4s						
FINES	**FINESS Array B**	**44.27**	**334**	P	**P**	**16 42 57.4**	**-0.2**
	0.7nm,0.4s,baz=128,slow=8.5,SNR=9.6						
	0.7nm,0.4s						
HFS	**Hagfors**	**49.09**	**328**	P	**P**	**16 43 35.5**	**+0.3**
	0.9nm,0.5s,baz=119,slow=12,SNR=1.9						
	0.9nm,0.5s						
ARCES	**ARCESS Array B**	**49.37**	**342**	P	**P**	**16 43 37.6**	**+0.2**
	2.8nm,1.0s,baz=129,slow=7.1,SNR=4.4						
	2.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**61.39**	**271**	P	**P**	**16 45 05.8**	**+1.1**
	0.5nm,0.7s,baz=42,slow=6.5,SNR=4.1						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**82.26**	**121**	P	**P**	**16 47 09.9**	**+0.1**
	0.5nm,0.9s,baz=302,slow=5.0,SNR=5.3						
	0.5nm,0.9s						

IDC 14 16:49:08.5±999.0, 54°.16N×2°.10E, h0km, Error ellipse: s-maj=496.7km s-min=179.2km az=107.0, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**8.98**	**122**	I	I	17 41 50.0	
	baz=311,slow=316,SNR=0.7						
I43RU	**DUBNA INFRASONI**	**9.95**	**68**	I	I	18 42 45.0	
	baz=276,slow=317,SNR=2.5						
I31KZ	**AKTYUBINSK INF**	**33.66**	**73**	I	I	20 18 23.1	
	baz=301,slow=330,SNR=3.4						

*RSNC **14** 16:57:00.3±0.4, 10°N±2°×8°0W±°, h0km, mb3.8, ML2.8*
*UPA **14** 16:57:05.5±1.7, 9°.41N×80°.25W, h25km±13km, MD3.6, MW3.8*
ISC 14 16:57:01.0±1.3, 9°.54N±0°.04×80°.33W±0°.04, h15km±10km, n23, σ1°11/44, 2C-7D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**0.62**	**127**	P	**Pn**	**16 57 15.0**	**-0.2**
BCIP				S	**Sb**	**16 57 22.0**	**0.0**
BCIP	**Isla Barro Col**	**0.62**	**127**	⇑*i*P	**Pn**	**16 57 14.9**	**-0.2**
BCIP				*e*S	**Sb**	**16 57 22.1**	**+0.2**
FRIJ	**El Hiral**	**0.68**	**118**	⇑*i*P	**Pn**	**16 57 16.0**	**-0.1**
FRIJ				*i* S	**Sb**	**16 57 24.0**	**+0.2**
ZANG	**Zanguenga, Cho**	**0.74**	**142**	⇓*i*P	**Pn**	**16 57 16.8**	**-0.1**
ZANG				*i* S	**Sg**	**16 57 24.8**	**-0.5**
ARRA3	**Arraijan, Pana**	**0.88**	**131**	*e*P	**Pn**	**16 57 18.9**	**+0.1**
ARRA3				*i* S	**Sb**	**16 57 28.4**	**-1.1**
UPA	**Univ. de Panam**	**0.97**	**125**	⇓*e*P	**Pn**	**16 57 20.3**	**+0.3**
UPA				*e*S	**Sb**	**16 57 30.3**	**-1.7**
UPA				*i* S	**Sg**	**16 57 30.5**	**-1.9**
PNME	**Penonome**	**1.05**	**180**	⇓*i*P	**Pg**	**16 57 22.0**	**+0.7**
PNME				*e*S	**Sb**	**16 57 33.6**	**-0.8**
PNME				*i* S	**Sg**	**16 57 34.0**	**-1.0**
CRIS3	**El Cristo, Coc**	**1.31**	**192**	*e*P	**Pn**	**16 57 25.0**	**+0.2**
CRIS3				*e*S	**Sn**	**16 57 40.4**	**-1.6**
CALO3	**Calobre, Verag**	**1.31**	**202**	⇓*e*P	**Pg**	**16 57 26.7**	**+0.4**
CALO3				*i* S	**Sn**	**16 57 41.7**	**-0.4**
CNTA3	**Canitas, Panam**	**1.46**	**103**	*e*P	**Pg**	**16 57 30.5**	**+1.4**
CNTA3				*e*S	**Sb**	**16 57 45.6**	**-0.8**
STIA3	**Santiago, Vera**	**1.57**	**204**	*e*P	**Pb**	**16 57 29.9**	**+0.2**
STIA3				*i* S	**Sn**	**16 57 49.1**	**+0.7**
CHIT3	**Chitre**	**1.58**	**183**	⇓*i*P	**Pb**	**16 57 29.9**	**+0.1**
CHIT3				*e*S	**Sn**	**16 57 47.9**	**-0.8**
CHIT3				*i* S	**Sb**	**16 57 48.4**	**-1.3**
MESA3	**La Mesa, Verag**	**1.62**	**211**	⇓*e*P	**Pb**	**16 57 31.3**	**+0.6**
MESA3				*e*S	**Sn**	**16 57 49.9**	**+0.2**
RSUS3	**Rio de Jesus,**	**1.75**	**208**	*e*P	**Pb**	**16 57 32.8**	**-0.1**
GMAL	**Guarumal, Vera**	**1.98**	**207**	P	**Pn**	**16 57 35.2**	**+1.2**
GMAL				S	**Sn**	**16 57 58.5**	**-0.1**
GMAL	**Guarumal, Vera**	**1.98**	**207**	⇓*e*P	**Pn**	**16 57 35.2**	**+1.2**
MARI3	**Mariato, Verag**	**1.99**	**199**	*e*P	**Pg**	**16 57 40.7**	**+1.5**
PEDA3	**Pedasi**	**2.03**	**171**	*e*P	**Pn**	**16 57 35.3**	**+0

NDI ***14*** *17:10:47.9±2.4, 34°.05N×84°.16E, h10km, ML4.1, MW4.5, mb4.5(NEIC)*
BJI ***14*** *17:10:48.0, 34°.08N×84°.08E, h10km, mb4.2/34, mB4.6/15, Ms4.2/39, Ms7 4.0/36*
NEIC ***14*** *17:10:48.1±1.3, 34°.02N±0°.08×83°.90E±0°.08, h12km±3km, mb4.5/39, Error ellipse: s-maj=13.5km s-min=6.9km az=219.0*
GCMT ***14*** *17:10:52.1±0.4, 34°.17N±0°.04×84°.06E±0°.02, h24km±1km, MW4.7/61, Moment Tensor Solution. s16,c18; s61,c95; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.87±.12; Mθθ=0.39±.07; Mφφ 1.27±.07; Mrθ 0.87±.14; Mθφ=0.01±.05; Mφr=0.30±.07; Best double couple: M0 1.43800×10^16 NP1:φs=327.00000°, δ64.00000°, λ=130.00000°. NP2: φs=209.00000°, δ47.00000°, λ=38.00000°. Principal axes: T 1.3240, Plg10.0000°, Azm84.0000°; N 0.2310, Plg35.0000°, Azm347.0000°; P -1.5520, Plg53.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 17:10:47.2±0.5, 33°.98N±0°.04×83°.87E±0°.03, h8km±3km, h8km:pP-P, n219, σ2=15/228, mb4.5/80, MS3.8/36, 11C-3D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLP	**Kalpa**	**5.33**	**244**	*e*P	**Pn**	**17 12 10.0**	**+2.7**
KLP				*i* x	x	17 14 07.7	
PTH	**Pithoragarh**	**5.40**	**216**	*ex*	**Pn**	**17 12 07.1**	**-1.2**
LGTI	**Lohaghat**	**5.47**	**215**	*ex*	**Pn**	**17 12 05.8**	**-3.2**
LGTI				*e*S	**Sn**	**17 13 15.6**	**+3.4**
DDI	**Dehra Dun**	**6.13**	**235**	*e*P	**Pn**	**17 12 21.2**	**+3.0**
DDI				*i* x	x	17 13 39.1	
DDI				IAML		17 13 47.0	
	comp=N,144nm,2.0s						
DDI				IAML		17 13 48.0	
	comp=E,256nm,2.8s						
DDI				IAML		17 14 25.7	
	comp=N,177nm,2.0s						
DDI				IAML		17 14 27.9	
	comp=E,180nm,2.2s						
SMLA	**Simla**	**6.33**	**245**	*e*P	**Pn**	**17 12 25.0**	**+4.1**
SMLA				*e*S	**Sn**	**17 13 33.7**	**+0.3**
SMLA				IAML		17 13 42.4	
	comp=N,189nm,0.6s						
SMLA				IAML		17 13 47.3	
	comp=N,197nm,0.4s						
SMLA				IAML		17 13 47.4	
	comp=E,195nm,0.9s						
SMLA				*i* x	x	17 14 37.5	
DHRM	**DHARAMSHALA**	**6.58**	**257**	*e*P	**Pn**	**17 12 27.5**	**+3.0**
DHRM				IAML		17 14 11.7	
	comp=N,167nm,0.9s						
DHRM				IAML		17 14 14.2	
	comp=E,140nm,0.8s						
DHRM				*i* x	x	17 14 46.5	
BHK	**Bhakra**	**6.78**	**250**	*e*P	**Pn**	**17 12 24.9**	**-2.2**
SRNI	**Srinagar**	**7.49**	**273**	*ex*	**Pg**	**17 13 06.8**	**-3.8**
LSA	**Lhasa**	**7.52**	**123**	Pn	**Pn**	**17 12 37.0**	**-0.6**
LSA	**Lhasa**	**7.52**	**123**	Pn	**Pn**	**17 12 41.8**	**+4.2**
LSA				LR	LR		
	comp=E,1μm,8.6s						
LSA				LR	LR		
	comp=E,2μm,9.1s						
LSA	**Lhasa**	**7.52**	**123**	P	**Pn**	**17 12 37.0**	**-0.6**
GTK	**Tadong**	**7.79**	**147**	*e*P	**Pn**	**17 12 38.1**	**-3.0**
GTK				*i* x	x	17 15 12.3	
WUS	**Wushi**	**8.10**	**334**	Pn	**Pn**	**17 12 45.0**	**-0.2**
KSH	**Kashi**	**8.41**	**313**	P	**Pn**	**17 12 52.9**	**+3.5**
KSH				sP	Pb	17 12 59.6	-13
KSH				S	**Sn**	**17 14 30.0**	**+5.4**
KSH				pmax	pmax		
	comp=E,4.0nm,1.6s						
KSH				pmax	pmax		
	comp=E,250nm,5.5s						
KSH				LR	LR		
	comp=E,1μm,12.0s						
KSH				LR	LR		
	comp=E,1μm,10.7s						
KSH				LR	LR		
	comp=E,1μm,16.5s						
KUDL	**Kundal**	**8.60**	**229**	*e*P	**Pn**	**17 12 55.3**	**+3.4**
KUDL				*e*S	**Sn**	**17 14 29.0**	**-0.1**
NIL	**Nilore**	**8.84**	**271**		**Pn**	**17 12 54.4**	**-1.0**
NIL	**Nilore**	**8.84**	**271**	P	**Pn**	**17 12 54.4**	**-1.0**
PRZ	**Przheval'sk**	**9.51**	**335**	Pn	**Pn**	**17 13 02.7**	**-2.0**
PRZ	**Przheval'sk**	**9.51**	**335**	P	**Pn**	**17 13 02.7**	**-2.0**
JHNI	**Jhansi**	**9.67**	**210**	*e*P	**Pn**	**17 13 09.4**	**+2.8**
KDJ	**Kajisay**	**9.69**	**329**	Pn	**Pn**	**17 13 02.7**	**-4.4**
KDJ	**Kajisay**	**9.69**	**329**	P	**Pn**	**17 13 02.7**	**-4.4**
WMQ	**Urumqi**	**10.27**	**16**	*e*P	**Pn**	**17 13 14.8**	**-0.1**
WMQ				pmax	pmax		
	comp=E,12nm,1.5s						
WMQ				LR	LR		
	comp=E,450nm,15.7s						
WMQ				LR	LR		
	comp=E,380nm,16.7s						
WMQ				LR	LR		
	comp=E,260nm,20.7s						
BOK	**Bokaro**	**10.30**	**170**	*ex*	**Pn**	**17 13 19.0**	**+3.7**
BOK				*i* x	x	17 17 05.0	
ZIRO	**ZIRO**	**10.72**	**124**	*ex*	Pn	17 13 15.7	-5.6
ZIRO				*i* x	x	17 16 58.9	
SHL	**Shillong**	**10.89**	**138**	Pn	**Pn**	**17 13 24.3**	**+0.7**
SHL	**Shillong**	**10.89**	**138**	P	**Pn**	**17 13 24.3**	**+0.7**
GUNA	**GUNA**	**10.91**	**213**	*e*P	**Pn**	**17 13 26.3**	**+2.6**
GUNA				*ex*	x	17 15 27.9	
GUNA				IAML		17 15 30.6	
	comp=E,126nm,0.6s						
GUNA				IAML		17 15 31.2	
	comp=N,81nm,0.8s						
DRK	**Karamyk**	**11.13**	**303**		**Pn**	**17 13 25.7**	**-1.2**
DRK	**Karamyk**	**11.13**	**303**	P	**Pn**	**17 13 25.7**	**-1.2**
ARSB	**Arslanbob**	**11.32**	**314**	Pn	**Pn**	**17 13 29.7**	**+0.4**
ARSB	**Arslanbob**	**11.32**	**314**	P	**Pn**	**17 13 29.7**	**+0.4**
AAK	**Ala-Archa**	**11.35**	**322**	Pn	Pn	17 13 23.1	-6.7
AAK	**Ala-Archa**	**11.35**	**322**	Pn	**Pn**	**17 13 29.6**	**-0.1**
	comp=N,0.1nm,0.3s,baz=52,slow=23,SNR=1.3						
AAK				LR	LR	17 17 38.8	
	comp=N,140nm,19.1s,baz=139,slow=36						
AAK	**Ala-Archa**	**11.35**	**322**	*i* P	**Pn**	**17 13 30.8**	**+1.0**
FRU1	**Bishkek**	**11.41**	**323**	Pn	**Pn**	**17 13 34.0**	**+3.5**
FRU1	**Bishkek**	**11.41**	**323**	P	**Pn**	**17 13 34.0**	**+3.5**
GAR	**Garm**	**12.00**	**299**		**Pn**	**17 13 38.3**	**-0.4**
BTK	**Batken**	**12.06**	**304**	Pn	**Pn**	**17 13 39.8**	**+0.3**
BTK	**Batken**	**12.06**	**304**	P	**Pn**	**17 13 39.8**	**+0.3**
BHPL	**Bhopal**	**12.10**	**210**	*e*P	**Pn**	**17 13 41.1**	**+1.1**
BHPL				*i* x	x	17 17 12.2	
KOHI	**KOHIMA**	**12.11**	**130**	*e*P	**Pn**	**17 13 36.4**	**-3.8**
KOHI				*i* x	x	17 17 29.2	
KBL	**Kabul**	**12.28**	**277**		**Pn**	**17 13 42.1**	**-0.5**
KBL	**Kabul**	**12.28**	**277**	P	**Pn**	**17 13 42.1**	**-0.5**
IMP	**Imphal**	**12.65**	**133**	*e*P	**Pn**	**17 13 47.3**	**-0.3**
IMP				*i* x	x	17 18 11.7	
NRDN	**NARMADA NAGAR**	**12.67**	**209**	*ex*	Pn	17 13 58.6	+11
NRDN				*ex*	**Sn**	**17 16 10.8**	**+1.7**
AZL	**Aizawl**	**12.79**	**141**	*ex*	**Pn**	**17 13 51.8**	**+2.3**
AZL				*i* x	x	17 18 51.1	
MK31	**Makanchi Array**	**12.86**	**355**	Pn	**Pn**	**17 13 47.6**	**-2.6**
MK31	**Makanchi Array**	**12.86**	**355**	*i* P	**Pn**	**17 13 48.7**	**-1.5**
MKAR	**Makanchi Array**	**12.86**	**355**	Pn	**Pn**	**17 13 48.3**	**-1.9**
MKAR	**Makanchi Array**	**12.86**	**355**	Pn	**Pn**	**17 13 47.9**	**-2.3**
	comp=N,0.2nm,0.3s,baz=174,slow=13,SNR=8.4						
MKAR				LR	LR	17 19 45.4	
	comp=N,554nm,18.2s,baz=156,slow=42						
	comp=N,1.6nm,0.7s						
SIMJ	**Simiganj**	**12.86**	**296**	Pn	**Pn**	**17 13 50.5**	**+0.1**
MAKZ	**Makanchi**	**12.89**	**354**	Pn	**Pn**	**17 13 48.3**	**-2.4**
MAKZ	**Makanchi**	**12.89**	**354**	P	**Pn**	**17 13 48.3**	**-2.4**
KKAR	**Karatay Array**	**13.85**	**315**	Pn	**Pn**	**17 14 00.1**	**-3.7**
KKAR	**Karatay Array**	**13.85**	**315**	P	**Pn**	**17 14 00.1**	**-3.7**
TNCH	**TengChong**	**15.55**	**121**	P	**Pn**	**17 14 26.3**	**-0.7**
TNCH				pP	P	17 14 30.8	-0.6
TNCH				sP	pP	17 14 32.9	-2.3
TNCH				PP	**sP**	**17 14 39.8**	**+3.0**
TNCH				S	**Sn**	**17 17 17.9**	**-1.7**
TNCH				sS	sSn	17 17 24.3	-0.4
TNCH				SS	**S**	**17 17 40.4**	**+5.0**
TNCH				pmax	pmax		
	comp=N,7.0nm,0.9s						
TNCH				pmax	pmax		
	comp=N,68nm,3.4s						
TNCH				LR	LR		
	comp=N,560nm,8.8s						
TNCH				LR	LR		
	comp=N,280nm,11.1s						
TNCH				LR	LR		
	comp=N,570nm,11.8s						
LZH	**Lanzhou**	**16.50**	**77**	*e*P	**Pn**	**17 14 39.5**	**+0.4**
LZH				sP	pP	17 14 46.3	+0.8
LZH				pmax	pmax		
	comp=N,26nm,0.9s						
LZH				LR	LR		
	comp=N,470nm,7.2s						
LZH				LR	LR		
	comp=N,440nm,7.0s						
LZH				LR	LR		
	comp=N,300nm,12.2s						
KURBB	**Kurchatov Arra**	**17.09**	**348**	P	**Pn**	**17 14 45.5**	**-0.8**
	baz=169,slow=11,SNR=32						
	comp=N,5.6nm,1.1s						
PZH	**PanZhiHua**	**17.13**	**111**	P	**Pn**	**17 14 46.6**	**-0.6**
PZH				S	**Sn**	**17 18 00.5**	**+2.5**
PZH				pmax	pmax		
	comp=N,10.0nm,2.2s						
PZH				pmax	pmax		
	comp=N,100nm,5.4s						
PZH				LR	LR		
	comp=N,220nm,6.4s						
PZH				LR	LR		
	comp=N,170nm,5.9s						
PZH				LR	LR		
	comp=N,260nm,12.7s						
KURK	**Kurchatov**	**17.16**	**349**		**Pn**	**17 14 44.8**	**-2.4**
KURK	**Kurchatov**	**17.16**	**349**	*ce*P	**P**	**17 14 48.4**	**-0.5**
KURK				pmax	pmax		
	comp=Z,24nm,1.7s						
HRA	**Herat**	**17.90**	**277**	P	**P**	**17 14 57.8**	**+0.3**
HRA				IAmb	IAmb	17 15 04.1	
	comp=Z,48nm,1.4s						
ZAA0	**Zalesovo Array**	**19.97**	**2**	P	**P**	**17 15 18.5**	**-1.3**
ZALV	**Zalesovo Beam**	**19.97**	**2**	P	**P**	**17 15 18.1**	**-1.6**
ZALV	**Zalesovo Beam**	**19.97**	**2**	P	**P**	**17 15 18.6**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=183,slow=11,SNR=11						
ZALV				LR	LR	17 24 14.5	
	comp=Z,250nm,18.4s,baz=140,slow=40						
	comp=Z,1.8nm,0.6s						
ZALV	**Zalesovo Beam**	**19.97**	**2**	*i* P	**P**	**17 15 19.2**	**-0.6**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHTO	**Chiang Mai**	**20.22**	**135**	P	**P**	**17 15 21.8**	**-0.9**
CHTO				IAmb	IAmb	17 15 25.6	
	comp=Z,25nm,1.2s						
CHTO	**Chiang Mai**	**20.22**	**135**	P	**P**	**17 15 21.8**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,25nm,1.2s						
CM31	**Chiang Mai Arr**	**20.50**	**135**	IAmb	IAmb	17 15 31.3	
	comp=Z,28nm,1.1s						
CMAR	**Chiang Mai Arr**	**20.50**	**135**	P	**P**	**17 15 25.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**20.50**	**135**	P	**P**	**17 15 25.6**	**-0.1**
	comp=Z,7.6nm,0.9s,baz=319,slow=11,SNR=61						
CMAR				LR	LR	17 24 45.5	
	comp=Z,108nm,18.1s,baz=315,slow=41						
	comp=Z,7.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**20.50**	**135**	*ce*P	**P**	**17 15 26.0**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN	**Xi'an**	**20.76**	**83**	⇑P	**P**	**17 15 26.3**	**-2.2**
XAN				pP	sP	17 15 33.8	-0.2
XAN				pmax	pmax		
	comp=Z,11nm,1.6s						
GYA	**Guiyang**	**21.05**	**105**	P	**P**	**17 15 32.0**	**+0.2**
GYA				sP	sP	17 15 41.6	+4.3
GYA				S	**S**	**17 19 23.6**	**-2.8**
GYA				pmax	pmax		
	comp=Z,21nm,1.3s						
GYA				LR	LR		
	comp=Z,280nm,5.3s						
GYA				LR	LR		
	comp=Z,440nm,8.0s						
GYA				LR	LR		
	comp=Z,470nm,11.1s						
PHRA	**Phrae**	**21.24**	**132**	P	**P**	**17 15 33.0**	**-0.8**
BVAR	**Borovoye Array**	**21.33**	**337**	P	**P**	**17 15 34.6**	**+0.1**
	comp=Z,8.2nm,0.7s,baz=147,slow=12,SNR=47						
BVAR				LR	LR	17 25 04.2	
	comp=Z,187nm,20.9s,baz=144,slow=40						
	comp=Z,8.2nm,0.7s						
BRVK	**Borovoye**	**21.40**	**337**	P	**P**	**17 15 35.5**	**+0.3**
BRVK				IAmb	IAmb	17 15 37.1	
	comp=Z,26nm,1.2s						
BRVK	**Borovoye**	**21.40**	**337**	*ce*P	**P**	**17 15 36.1**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,57nm,2.5s						
SLVN	**Son La**	**21.71**	**120**	IAmb	IAmb	17 15 45.5	
	comp=Z,18nm,1.2s						
BTO	**Baotou**	**21.78**	**65**	*e*P	**P**	**17 15 40.0**	**+0.4**
BTO				pP	**sP**	**17 15 44.4**	**-0.6**
BTO				sP	**pP**	**17 15 47.8**	**+4.4**
BTO				PP	**PnPn**	**17 16 01.9**	**+1.4**
BTO				S	**S**	**17 19 42.3**	**+1.6**
BTO				SS	**SnSn**	**17 20 12.0**	**+6.8**
BTO				pmax	pmax		
	comp=Z,24nm,0.6s						
BTO				pmax	pmax		
	comp=Z,130nm,4.9s						
BTO				LR	LR		
	comp=Z,810nm,12.4s						
BTO				LR	LR		
	comp=Z,660nm,12.1s						
BTO				LR	LR		
	comp=Z,920nm,11.0s						
SONM	**Songino Array**	**21.84**	**44**	P	**P**	**17 15 38.5**	**-1.6**
SONM	**Songino Array**	**21.84**	**44**	P	**P**	**17 15 39.4**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=236,slow=9.8,SNR=13						
SONM				LR	LR	17 24 17.6	
	comp=Z,99nm,20.1s,baz=200,slow=37						
	comp=Z,2.0nm,0.8s						
ENH	**Enshi**	**21.99**	**93**	P	**P**	**17 15 40.9**	**-0.9**
ENH				IAmb	IAmb	17 15 48.1	
	comp=Z,40nm,1.5s						
ULN	**Ulaanbaatar**	**22.23**	**44**	P	**P**	**17 15 42.6**	**-1.8**
ULN	**Ulaanbaatar**	**22.23**	**44**	P	**P**	**17 15 42.6**	**-1.8**
ULN				pmax	pmax		
	comp=Z,11nm,1.5s						
HHC	**Hu-ho-hao-te**	**22.98**	**65**	*e*P	**P**	**17 15 50.9**	**-1.5**
HHC				S	**S**	**17 19 53.1**	**-10**
HHC				sS	pS	17 20 06.4	-0.8
HHC				SS	**SnSn**	**17 20 36.8**	**+2.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,4.0s						
HHC				LR	LR		
	comp=Z,200nm,15.9s						
HHC				LR	LR		
	comp=Z,340nm,15.1s						
HHC				LR	LR		
	comp=Z,410nm,16.5s						
ABKAR	**Akbulak array**	**23.37**	**318**	P	**P**	**17 15 55.9**	**-0.3**
ABKAR	**Akbulak array**	**23.37**	**318**	P	**P**	**17 15 56.4**	**+0.3**
ABKAR				IAmb	IAmb	17 16 03.5	
	comp=Z,18nm,1.2s						
WSAR	**Wadi Sarin**	**24.55**	**251**	LR	LR	17 28 15.2	
	comp=Z,84nm,18.6s,baz=80,slow=43						
AKTO	**Aktyubinsk**	**25.05**	**319**	P	**P**	**17 16 12.2**	**+0.4**
	comp=Z,12nm,1.2s,baz=117,slow=7.2,SNR=10						
AKTO				LR	LR	17 27 09.1	
	comp=Z,323nm,18.4s,baz=42,slow=39						
	comp=Z,12nm,1.2s						
HNS	**HongShan**	**25.22**	**73**	⇓P	**P**	**17 16 15.4**	**+2.0**
HNS				S	**S**	**17 20 44.6**	**+5.6**
HNS				pmax	pmax		
	comp=Z,16nm,1.0s						
HNS				LR	LR		
	comp=Z,470nm,12.9s						
HNS				LR	LR		
	comp=Z,160nm,12.5s						
HNS				LR	LR		
	comp=Z,240nm,12.9s						
QIZ	**Qiongzhong**	**27.50**	**116**	P	**P**	**17 16 35.6**	**+1.4**
QIZ				S	**S**	**17 21 16.9**	**+1.6**
QIZ				LR	LR		
	comp=Z,150nm,7.5s						
QIZ				LR	LR		
	comp=Z,270nm,8.2s						
QIZ				LR	LR		
	comp=Z,260nm,9.2s						
ARTI	**Arti**	**28.41**	**330**	P	**P**	**17 16 42.8**	**+0.8**
	comp=Z,2.7nm,0.9s,baz=112,slow=3.1,SNR=3.7						
ARTI				LR	LR	17 29 34.9	
	comp=Z,128nm,20.1s,baz=120,slow=40						
	comp=Z,2.7nm,0.9s						
ARTI	**Arti**	**28.41**	**330**	*d* P	**P**	**17 16 42.3**	**+0.3**
ARTI						17 17 30.7	
ARTI				S	**S**	**17 21 32.0**	**+2.9**
ARTI				pmax	pmax		
	comp=Z,11nm,1.4s						
NJ2	**Nanjing**	**29.32**	**84**	*e*P	**P**	**17 16 50.5**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MAK	**Makhachkala**	**29.66**	**298**	*e*P	**P**	**17 16 50.3**	**-2.9**
MAK				*e*PPP	PPP	17 17 55.9	
MAK				*e*S	**S**	**17 21 45.8**	**-3.1**
MAK				pmax	pmax		
	comp=Z,272nm,1.2s						
MAK				MLR	MLR		
	comp=Z,360nm,17.0s						
GNI	**Garni**	**31.64**	**293**	LR	LR	17 34 14.7	
	comp=Z,74nm,19.1s,baz=106,slow=44						
BELG	**Belogornoye**	**31.75**	**316**	LR	LR	17 31 13.5	
	comp=Z,242nm,19.4s,baz=82,slow=39						
BELG	**Belogornoye**	**31.75**	**316**	*i* P	**P**	**17 17 12.6**	**+1.0**
BELG				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KBZ	**Khabaz**	**33.07**	**299**	LR	LR	17 34 10.7	
	comp=Z,161nm,18.4s,baz=75,slow=42						
KIV	**Kislovodsk**	**33.23**	**300**	*e*P	**P**	**17 17 23.6**	**-1.2**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,111nm,15.0s						
KIRV	**Kirov**	**33.61**	**328**	LR	LR	17 33 05.2	
	comp=Z,63nm,19.7s,baz=126,slow=40						
KIRV	**Kirov**	**33.61**	**328**	*ce*P	**P**	**17 17 28.3**	**+0.5**
VRH	**Novokhopyorsk**	**34.91**	**312**	*e*P	**P**	**17 17 38.2**	**-1.0**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
RAYN	**Ar Rayn**	**35.04**	**263**	P	**P**	**17 17 39.6**	**-1.0**
RAYN				IAmb	IAmb	17 17 42.4	
	comp=Z,8.6nm,1.1s						
RAYN	**Ar Rayn**	**35.04**	**263**	P	**P**	**17 17 39.6**	**-1.0**
RAYN				pmax	pmax		
	comp=Z,9.0nm,1.2s						
NRIK	**Noril'sk**	**35.47**	**2**	P	**P**	**17 17 43.6**	**-0.2**
NRIK	**Noril'sk**	**35.47**	**2**	P	**P**	**17 17 42.9**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=213,slow=7.1,SNR=4.2						
	comp=Z,0.7nm,0.3s						
NRIK	**Noril'sk**	**35.47**	**2**	*ce*P	**P**	**17 17 43.4**	**-0.3**
NRIK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KSRS	**Korea Array**	**35.69**	**72**	P	**P**	**17 17 46.8**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=279,slow=8.1,SNR=6.1						
KSRS				LR	LR	17 33 47.6	
	comp=Z,124nm,18.3s,baz=315,slow=39						
	comp=Z,1.2nm,0.6s						
VORD	**Divnogorie**	**36.36**	**312**	*e*P	**P**	**17 17 51.0**	**-0.6**
VORD				pmax	pmax		
	comp=Z,20nm,1.4s						
VSR	**Storozhevoye**	**36.49**	**312**	*e*P	**P**	**17 17 51.8**	**-0.9**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MDJ	**Mudanjiang**	**36.51**	**59**	P	**P**	**17 17 52.9**	**-0.1**
MDJ				IAmb	IAmb	17 18 23.9	
	comp=Z,17nm,1.5s						
VORR	**Voronezh**	**36.55**	**313**	*e*P	**P**	**17 17 54.1**	**+0.9**
VORR				pmax	pmax		
	comp=Z,23nm,1.6s						
LPSR	**Galich'ya Gora**	**36.91**	**314**	*e*P	**P**	**17 17 55.2**	**-1.0**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MYKOM	**Kota Tinggi**	**37.08**	**145**	P	**P**	**17 17 59.0**	**+1.0**
MYKOM				IAmb	IAmb	17 18 02.7	
	comp=Z,19nm,1.3s						
USA0B	**Ussuriysk Arra**	**38.23**	**60**	P	**P**	**17 18 08.6**	**+1.0**
USA0B	**Ussuriysk Arra**	**38.23**	**60**	P	**P**	**17 18 08.6**	**+1.0**
USA0B				pmax	pmax		
	comp=Z,4.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**38.23**	**60**	P	**P**	**17 18 07.3**	**-0.3**
USRK	**Ussuriysk Ar.**	**38.23**	**60**	P	**P**	**17 18 07.3**	**-0.3**
MOS	**Moscow**	**38.39**	**319**	*e*P	**P**	**17 18 08.5**	**-0.2**
MOS				pmax	pmax		
	comp=Z,39nm,1.3s						
OBN	**Obninsk**	**38.82**	**318**	⇓*e*P	**P**	**17 18 12.8**	**+0.4**
OBN				*PP	**pP**	**17 18 16.0**	**-0.5**
OBN				*SP	**sP**	**17 18 19.0**	**+1.0**
OBN				S	**S**	**17 24 13.0**	**+3.0**
OBN				SSS	SSS	17 27 21.0	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,124nm,17.0s						
KLMR	**Klimovskoe**	**39.10**	**327**	*e*P	**P**	**17 18 13.1**	**-1.6**
KLMR				pmax	pmax		
	comp=Z,19nm,1.6s						
MMAI	**Mount Meron Ar**	**40.13**	**283**	LR	LR	17 38 50.4	
	comp=Z,79nm,18.1s,baz=30,slow=42						
EIL	**Elat**	**41.48**	**278**	LR	LR	17 38 26.5	
	comp=Z,117nm,18.4s,baz=70,slow=40						
AK09	**Malin Array Si**	**42.64**	**310**	P	**P**	**17 18 43.6**	**-0.4**
AKASG	**Malin Array Be**	**42.68**	**310**	P	**P**	**17 18 44.6**	**+0.3**
AKASG	**Malin Array Be**	**42.68**	**310**	P	**P**	**17 18 44.4**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=79,slow=6.1,SNR=12						
AKASG				LR	LR	17 38 45.7	
	comp=Z,209nm,19.8s,baz=80,slow=39						
	comp=Z,1.6nm,0.8s						
AKASG	**Malin Array Be**	**42.68**	**310**	*ce*P	**P**	**17 18 45.0**	**+0.7**
AKASG				pmax	pmax		
	comp=Z,10.0nm,1.2s						
AKBB	**Malin Array Si**	**42.68**	**310**	P	**P**	**17 18 44.5**	**+0.2**
AKBB				IAmb	IAmb	17 18 45.1	
	comp=Z,7.9nm,1.1s						
AKBB	**Malin Array Si**	**42.68**	**310**	P	**P**	**17 18 44.5**	**+0.2**
AKBB				pmax	pmax		
	comp=Z,8.0nm,1.1s						
AKBB	**Malin Array Si**	**42.68**	**310**	P	**P**	**17 18 43.0**	**-1.3**
KIEV	**Kiev**	**42.69**	**310**	P	**P**	**17 18 44.5**	**+0.1**
KIEV	**Kiev**	**42.69**	**310**	P	**P**	**17 18 44.5**	**+0.1**
KIEV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIEV	**Kiev**	**42.69**	**310**	P	**P**	**17 18 42.7**	**-1.7**
	comp=Z,26nm,1.4s						
LUBAR	**Lubar, Ukraine**	**43.62**	**309**	P	**P**	**17 18 50.6**	**-1.3**
MI28	**Mi28,Pidlybu**	**43.67**	**310**	P	**P**	**17 18 51.3**	**-1.0**
	comp=Z,115nm,1.3s						
MNK	**Minsk**	**43.70**	**316**	*i* P	**P**	**17 18 54.4**	**+1.9**
	comp=E,10.0nm,0.7s						
MNK				*i* P	**P**	**17 18 54.4**	**+1.9**
	comp=N,16nm,0.9s						
MNK				*i* P	**P**	**17 18 54.4**	**+1.9**
	comp=Z,14nm,0.9s,baz=94						
MNK				*i* PP	**PP**	**17 20 36.5**	**+2.6**
MNK				*i* S	**S**	**17 25 30.4**	**+7.9**
MNK				*i* SS	**SS**	**17 28 43.8**	**+6.3**
MNK				*i* LQ	LQ	17 34 01.2	
MNK				*i* LR	LR	17 37 21.5	
MNK				*i* LRM	MLR	17 38 56.0	
	comp=Z,152nm,15.8s						
MNK				*i* LR

TIXI	Tiksi	44.45	19	P	P	17 18 56.7	-1.5
TIXI				IAmb	IAmb	17 18 59.8	
comp=Z,11nm,1.4s							
TIXI	Tiksi	44.45	19	*ce*P	P	17 18 57.1	-1.2
TIXI				pmax	pmax		
comp=Z,10.0nm,1.4s							
VRI	Vrincioaia	44.52	303	P	P	17 18 59.9	+0.7
comp=Z,3.0nm,0.9s							
VSU	Vasula	44.74	321	*ce*P	P	17 19 01.4	+0.7
VSU				pmax	pmax		
comp=Z,34nm,2.5s							
RNPP9	Sopachiv	44.79	311	P	P	17 19 00.9	-0.4
MLR	Muntele Rosu	45.10	303	P	P	17 19 04.9	+0.8
MLR	Muntele Rosu	45.10	303	LR	LR	17 41 25.9	
comp=Z,261nm,18.9s,baz=84,slow=41							
MLR	Muntele Rosu	45.10	303	P	P	17 19 04.9	+0.8
MLR				pmax	pmax		
comp=Z,28nm,1.2s							
MLR	Muntele Rosu	45.10	303	P	P	17 19 04.8	+0.8
comp=Z,24nm,1.2s							
FINES	FINESS Array B	45.52	325	P	P	17 19 05.4	-1.5
comp=Z,3.9nm,0.9s,baz=105,slow=9.1,SNR=13							
FINES				LR	LR	17 39 01.4	
comp=Z,76nm,19.2s,baz=105,slow=37							
comp=Z,3.9nm,0.9s							
FINES	FINESS Array B	45.52	325	*i* P	P	17 19 07.6	+0.7
FINES				pmax	pmax		
comp=Z,4.0nm,0.9s							
PABE	Paberze	46.01	317	P	P	17 19 10.7	-0.2
MORS	Morshin	46.16	308	P	P	17 19 10.4	-1.8
HOLU	Holmets	47.21	307	P	P	17 19 20.5	+0.1
ARCES	ARCESS Array B	47.62	336	P	P	17 19 22.7	-0.6
comp=Z,5.5nm,0.9s,baz=80,slow=7.5,SNR=7.5							
ARCES				LR	LR	17 40 53.7	
comp=Z,137nm,19.6s,baz=112,slow=38							
comp=Z,5.5nm,0.9s							
NIE	Niedzica	48.48	309	P	P	17 19 31.6	+1.3
comp=Z,3.5nm,1.3s							
MORH	Mrgy, Hungar	50.05	305	P	P	17 19 41.5	-0.8
comp=Z,5.4nm,1.9s							
MORC	Moravsky Berou	50.22	309	P	P	17 19 44.1	+0.5
MORC				IAmb	IAmb	17 19 45.9	
comp=Z,9.5nm,1.2s							
MORC	Moravsky Berou	50.22	309	*e*P	P	17 19 44.7	+1.1
MORC	Moravsky Berou	50.22	309	P	P	17 19 44.1	+0.5
MORC				pmax	pmax		
comp=Z,10.0nm,1.2s							
VRAC	Vranov	50.90	309	LR	LR	17 43 55.9	
comp=Z,165nm,18.7s,baz=77,slow=39							
VRAC	Vranov	50.90	309	*e*P	P	17 19 50.2	+1.5
DPC	Dobruska-Polom	50.91	310	P	P	17 19 49.2	+0.4
comp=Z,7.4nm,1.6s							
KRUC	Moravsky	51.07	309	*e*P	P	17 19 51.3	+1.4
RONA	Rosalia, Austr	51.37	307	*e*P	P	17 19 53.4	+1.1
comp=Z,5.2nm,1.3s							
HFS	Hagfors	51.49	323	P	P	17 19 53.1	+0.2
comp=Z,4.9nm,0.9s,baz=92,slow=10,SNR=5.2							
HFS				LR	LR	17 42 58.2	
comp=Z,92nm,20.7s,baz=88,slow=38							
comp=Z,4.9nm,0.9s							
CONA	Conrad Observa	51.61	307	*e*P	P	17 19 54.4	+0.3
comp=Z,12nm,1.2s							
BRG	Berggiesshubel	52.33	311	*e*P	P	17 20 00.1	+0.8
BRG				Amp		17 20 02.3	
comp=Z,5.7nm,1.1s							
BRG	Berggiesshubel	52.33	311	*e*P	P	17 20 00.1	+0.8
BRG				pmax	pmax		
comp=Z,6.0nm,1.1s							
BRG				pmax	pmax		
comp=Z,3.0nm,0.9s							
BRG				MLR	MLR		
comp=Z,234nm,12.8s							
SOKA	Soboth	52.41	306	*i* P	P	17 20 01.2	+1.1
comp=Z,13nm,1.1s							
NB2	NORSAR Subarra	52.66	324	P	P	17 20 02.0	+0.3
comp=Z,2.4nm,0.9s,baz=85,slow=7.9							
NOA	NORSAR Array B	52.66	324	P	P	17 20 01.6	-0.1
comp=Z,5.4nm,0.9s,baz=85,slow=7.4,SNR=11							
NOA				LR	LR	17 44 02.2	
comp=Z,76nm,19.4s,baz=90,slow=38							
comp=Z,5.4nm,0.9s							
CLL	Collm	52.84	312	*i* P	P	17 20 04.1	+1.0
CLL				pmax	pmax		
comp=Z,8.0nm,1.4s							
CLL	Collm	52.84	312	*i* P	P	17 20 04.1	+1.0
comp=Z,8.0nm,1.4s							
CLL				AMS	AMS	17 44 00.0	
comp=Z,100nm,21.3s							
GEC2	GERESS Array S	52.85	309	IAmb	IAmb	17 20 05.5	
comp=Z,7.5nm,1.1s							
GERES	GERESS Array B	52.85	309	P	P	17 20 03.5	+0.1
GERES	GERESS Array B	52.85	309	P	P	17 20 04.7	+1.3
comp=Z,3.4nm,0.9s,baz=56,slow=7.1,SNR=14							
GERES				LR	LR	17 46 33.5	
comp=Z,136nm,18.0s,baz=83,slow=41							
comp=Z,3.4nm,0.9s							
KHC	Kasperske Hory	52.88	309	IAmb	IAmb	17 20 05.7	
comp=Z,10nm,1.3s							
KHC	Kasperske Hory	52.88	309	*ce*P	P	17 20 05.4	+1.9
KHC				pmax	pmax		
comp=Z,15nm,1.7s							
BIOA	Bad Ischl, Aus	53.13	307	*e*P	P	17 20 06.1	+0.7
comp=Z,5.5nm,1.2s							
LESA	Schwarzleotal	53.82	307	*e*P	P	17 20 11.3	+0.8
comp=Z,7.7nm,1.2s							
CEL	Celeste	53.96	296	P	P	17 20 11.1	-0.5
comp=Z,8.8nm,1.6s							
ABTA	Abfaltersbach	54.09	306	*ep*P	P	17 20 15.3	+2.9
comp=Z,3.8nm,1.2s							
WTTA	Wattenberg	54.55	307	*e*P	P	17 20 16.4	+0.5
comp=Z,9.6nm,1.3s							
SQTA	Sankt Quirin	54.84	307	*e*P	P	17 20 18.1	+0.1
comp=Z,4.5nm,0.9s							
MOTA	Moosalm	54.88	307	*e*P	P	17 20 18.5	+0.1
comp=Z,7.0nm,1.0s							
RETA	Reutte	55.07	308	*i* P	P	17 20 19.9	+0.3
comp=Z,12nm,1.4s							
FETA	Feichten	55.21	307	*i* P	P	17 20 20.6	-0.1
comp=Z,8.3nm,1.1s							
DAVOX	Davos/Dischmat	55.83	307	LR	LR	17 47 47.2	
comp=Z,108nm,19.7s,baz=66,slow=40							
KMBO	Kilima Mbogo	55.96	241	P	P	17 20 25.3	-1.2
KMBO				IAmb	IAmb	17 20 28.6	
comp=Z,5.5nm,1.2s							
KMBO	Kilima Mbogo	55.96	241	P	P	17 20 27.1	+0.6
comp=Z,0.8nm,0.3s,baz=38,slow=8.2,SNR=5.0							
comp=Z,0.8nm,0.3s							
KMBO	Kilima Mbogo	55.96	241	*i* P	P	17 20 28.0	+1.4
KMBO				pmax	pmax		
comp=Z,1.0nm,0.3s							
BNI	Bardonecchia	58.47	306	IAmb	IAmb	17 20 45.6	
comp=Z,11nm,1.2s							
GUMO	Guam	58.56	95	LR	LR	17 47 53.3	
comp=Z,41nm,19.1s,baz=232,slow=38							
KEST	Kesra	59.74	295	P	P	17 20 53.0	+0.3
comp=Z,3.7nm,1.0s,baz=48,slow=7.1,SNR=4.2							
comp=Z,3.7nm,1.0s							
MBAR	Mbarara	60.48	247	P	P	17 20 57.6	-0.6
MBAR	Mbarara	60.48	247	*ce*P	P	17 20 59.6	+1.5
MBAR				pmax	pmax		
comp=Z,8.0nm,1.0s							
FITZ	Fitzroy Crossi	65.31	136	P	P	17 21 29.3	-0.6
comp=Z,3.7nm,0.8s,baz=270,slow=2.0,SNR=3.4							
comp=Z,3.7nm,0.8s							
BORG	Borgarnes	65.85	333	LR	LR	17 49 48.0	
comp=Z,31nm,21.7s,baz=55,slow=36							
ESDC	Sonseca Array	67.79	304	P	P	17 21 44.1	-1.6
comp=Z,1.1nm,1.0s,baz=32,slow=7.8,SNR=7.7							
comp=Z,1.1nm,1.0s							
WRA	Warramunga Arr	72.00	130	P	P	17 22 11.6	-0.2
comp=Z,4.2nm,0.9s,baz=325,slow=6.2,SNR=17							
comp=Z,4.2nm,0.9s							
WRAB	Tennant Creek	72.00	130	P	P	17 22 10.6	-1.1
WRAB	Tennant Creek	72.00	130	P	P	17 22 10.6	-1.1
WRAB				pmax	pmax		
comp=Z,12nm,1.3s							
WB2	Warramunga Arr	72.01	130	P	P	17 22 11.2	-0.5
SFJD	Kangerlussuaq	73.58	343	LR	LR	17 59 29.2	
comp=Z,43nm,19.4s,baz=42,slow=40							
ILAR	Eielson Array	73.90	20	P	P	17 22 20.6	-1.7
comp=Z,0.4nm,0.8s,baz=301,slow=5.0,SNR=3.3							
comp=Z,0.4nm,0.8s							
ASAR	Alice Springs	74.49	133	P	P	17 22 25.4	-1.1
comp=Z,2.3nm,0.9s,baz=322,slow=5.4,SNR=16							
comp=Z,2.3nm,0.9s							
ASAR	Alice Springs	74.49	133	P	P	17 22 27.4	+1.0
TORD	Torodi Ar. Bea	76.35	277	P	P	17 22 35.8	-1.5
comp=Z,0.6nm,0.9s,baz=31,slow=6.5,SNR=2.9							
comp=Z,0.6nm,0.9s							
LBTB	Lobatse	80.65	231	P	P	17 23 00.6	-0.3
LBTB	Lobatse	80.65	231	P	P	17 23 00.6	-0.3
LBTB				pmax	pmax		
comp=Z,13nm,1.2s							
YKA	Yellowknife Ar	82.72	9	LR	LR	18 02 23.7	
comp=Z,60nm,20.3s,baz=314,slow=37							
BOSA	Boshof	83.37	229	P	P	17 23 14.6	-0.6
comp=Z,4.4nm,0.8s,baz=39,slow=5.5,SNR=8.1							
comp=Z,4.4nm,0.8s							
STKA	Stephens Creek	85.12	134	P	P	17 23 22.1	-1.6
comp=Z,2.8nm,0.9s,baz=270,slow=6.1,SNR=3.8							
comp=Z,2.8nm,0.9s							
COHC	Cochancay	144.91	330	PKPdf	PKPab	17 30 23.4	-1.3
LPAZ	La Paz	149.28	298		PKPdf	17 30 30.2	-3.4
LPAZ	La Paz	149.28	298	PKHKP	PKPdf	17 30 30.2	-3.4

*IDC **14** 17:21:06.3±0.7, 46°.80S×10°.84W, h0km, mb4.2/10, mbtmp4.2/10, MS3.9/26, Error ellipse: s-maj=23.1km s-min=18.9km az=55.0*

*NEIC **14** 17:21:07.1±1.5, 46°.9S±0°.1×10°.65W±0°.10, h10km±1km, mb4.8/38, Error ellipse: s-maj=19.6km s-min=7.2km az=29.0*

*GCMT **14** 17:21:11.1±0.3, 47°.04S±0°.02×10°.43W±0°.02, h23km±1km, MW4.9/96, Moment Tensor Solution. s26,c27; s96,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.20±.17; $M_{\theta\theta}$2.01±.13; $M_{\phi\phi}$-0.81±.10; $M_{r\theta}$0.01±.16; $M_{\theta\phi}$-1.88±.08; $M_{\phi r}$-0.42±.15; Best double couple: $M_0$2.44800×10^{16} NP1:ϕ_s338.00000°, δ73.00000°, λ-22.00000°. NP2: ϕ_s74.00000°, δ69.00000°, λ-162.00000°. Principal axes: T 2.9590, Plg3.0000°, Azm27.0000°; N -1.0240, Plg63.0000°, Azm122.0000°; P -1.9370, Plg27.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 17:21:07.1±0.5, **46°.83S**±0°.09×**10°.71W**±0°.09, **h10km, n94,** σ0**88**/69, **mb4.5**/22, **MS3.9**/27, **3C, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	Neumayer--Watz	24.22	177	⇑P	P	17 26 23.9	+0.4
comp=Z,4.8nm,0.7s,baz=347,slow=7.0							
VNA3	Neumayer Olymp	24.49	179	⇑P	P	17 26 24.6	-1.4
comp=Z,3.2nm,0.6s							
SNAA	Sanae	25.19	174	P	P	17 26 32.7	+0.2
SNAA	Sanae	25.19	174	P	P	17 26 32.8	+0.4
comp=Z,4.4nm,0.8s,baz=330,slow=8.0,SNR=3.6							
SNAA				LR	LR	17 33 46.8	
comp=Z,174nm,20.7s,baz=4.0,slow=30							
comp=Z,4.4nm,0.8s							
TROLL	Troll, Antarti	26.00	171	⇑P	P	17 26 40.2	+0.3
comp=Z,97nm,0.7s							
SUR	Sutherland	28.03	70	LR	LR	17 35 38.3	
comp=Z,134nm,19.5s,baz=228,slow=31							
BELA	Belgrano 2	32.51	189	P	P	17 27 36.1	-1.3
BELA				IAmb	IAmb	17 27 43.1	
comp=Z,11nm,1.0s							
BOSA	Boshof	33.39	70	P	P	17 27 45.2	-0.6
comp=Z,2.4nm,0.8s,baz=221,slow=21,SNR=2.7							
BOSA				LR	LR	17 39 01.3	
comp=Z,193nm,18.1s,baz=230,slow=32							
comp=Z,2.4nm,0.8s							
PMSA	Palmer Station	33.63	218	LR	LR	17 38 42.9	
comp=Z,283nm,21.5s,baz=114,slow=31							
SMAI	San Martin Ant	35.26	213	P	P	17 28 01.2	-0.2
SMAI				IAmb	IAmb	17 28 08.9	
comp=Z,17nm,1.0s							
TSUM	Tsumeb	36.00	50	P	P	17 28 07.3	-1.1
TSUM				IAmb	IAmb	17 28 09.1	
comp=Z,11nm,1.1s							
TSUM	Tsumeb	36.00	50	LR	LR	17 39 55.3	
comp=Z,156nm,18.5s,baz=176,slow=31							
LBTB	Lobatse	36.13	66	P	P	17 28 06.9	-2.6
LBTB				IAmb	IAmb	17 28 43.2	
comp=Z,20nm,1.6s							
LBTB	Lobatse	36.13	66	LR	LR	17 40 42.1	
comp=Z,171nm,18.5s,baz=224,slow=32							
H10S2	ASCENSION HYDR	37.89	354	T	T	18 08 54.4	
baz=45,slow=74,SNR=10							
H10S3	ASCENSION HYDR	37.90	354	T	T	18 08 54.1	
baz=175,slow=74,SNR=11							
TRQA	Tornquist	38.24	264	P	P	17 28 26.8	-0.4
TRQA				IAmb	IAmb	17 28 31.1	
comp=Z,24nm,1.4s							
ITQB	Itaqui	39.30	279	P	P	17 28 36.6	+0.5
PTGB	Pitanga	39.55	289	*e*P	P	17 28 39.1	+0.7
PMNB	Patos De Minas	40.66	302	*e*P	P	17 28 48.1	+0.5
MAW	Mawson	41.76	147	P	P	17 28 57.6	+1.7
comp=Z,3.7nm,1.0s,baz=271,slow=12,SNR=5.8							
comp=Z,3.7nm,1.0s							
H04S2	CROZET ISLANDS	41.79	114	T	T	18 13 50.4	
baz=247,slow=75,SNR=30							
H04S3	CROZET ISLANDS	41.79	114	T	T	18 13 50.4	
baz=247,slow=75,SNR=32							
H04S1	CROZET ISLANDS	41.81	114	T	T	18 13 50.4	
baz=247,slow=75,SNR=24							
CPUP	Villa Florida	41.93	283	P	P	17 28 57.1	-0.8
CPUP	Villa Florida	41.93	283	P	P	17 28 57.5	-0.3
comp=Z,4.2nm,0.8s,baz=132,slow=4.2,SNR=6.6							
CPUP				LR	LR	17 43 12.4	
comp=Z,60nm,20.4s,baz=148,slow=32							
comp=Z,4.2nm,0.8s							
IPMB	Ipameri, GO	42.14	300	*e*P	P	17 29 00.2	+0.5
PLCA	Paso Flores	42.71	256	P	P	17 29 03.6	-0.6
comp=Z,4.1nm,1.0s,baz=116,slow=6.8,SNR=4.2							
PLCA				LR	LR	17 43 15.1	
comp=Z,98nm,20.9s,baz=122,slow=31							
comp=Z,4.1nm,1.0s							
QSPA	South Pole Qui	43.42	180	P	P	17 29 09.7	0.0
QSPA				IAmb	IAmb	17 29 13.6	
comp=Z,16nm,1.4s							
QSPA	South Pole Qui	43.42	180	P	P	17 29 11.2	+1.5
comp=Z,5.1nm,0.9s,baz=209,slow=6.4,SNR=16							
QSPA				LR	LR	17 45 12.0	
comp=Z,250nm,20.5s,baz=212,slow=33							
comp=Z,5.1nm,0.9s							
BDFB	Brasilia	43.87	303	P	P	17 29 13.2	-0.5
BDFB				IAmb	IAmb	17 29 15.7	
comp=Z,20nm,1.1s							
BDFB	Brasilia	43.87	303	P	P	17 29 14.1	+0.3
comp=Z,10nm,0.9s,baz=143,slow=7.1,SNR=9.6							
BDFB				LR	LR	17 44 29.2	
comp=Z,163nm,18.6s,baz=147,slow=32							
comp=Z,10nm,0.9s							
SDBA	SAO DESIDERIO	44.76	309	*e*P	P	17 29 21.3	+0.4
BDQN	Bodoquena, MS	45.62	289	*e*P	P	17 29 27.8	+0.2
ARAG	Araguaiana, MT	46.06	298	*e*P	P	17 29 32.4	+1.3
RCBR	Riachuelo	46.26	324	LR	LR	17 44 13.7	
comp=Z,40nm,20.1s,baz=158,slow=30							
BO01	Tunca	46.41	263	P	P	17 29 32.5	-1.3
ZON	Zonda	46.41	268	P	P	17 29 32.7	-1.1
BI05	Punta Hualpn	46.53	259	P	P	17 29 34.6	-0.1
GO05	Hualane	46.64	262	P	P	17 29 34.8	-0.7
GO05				IAmb	IAmb	17 29 36.2	
comp=Z,13nm,1.0s							
MT09	Talagante	46.69	264	P	P	17 29 35.3	-0.9
PEL	Peldehue	46.85	265	P	P	17 29 36.0	-1.2
SALV	Santo Antonio	48.30	294	*e*P	P	17 29 49.7	+1.1
CO01	Juntas del Tor	48.33	268	P	P	17 29 47.6	-1.4
AC05	El Transito	49.15	270	P	P	17 29 55.3	+0.1
SMTB	Santa Maria do	49.16	308	*e*P	P	17 29 56.4	+1.2
BBSD	Serra de San D	50.48	289	*e*P	P	17 30 05.6	+0.3
PTLB	Pontes e Lacer	50.81	291	P	P	17 30 08.0	+0.3
PTLB	Pontes e Lacer	50.81	291	*e*P	P	17 30 08.2	+0.5
GO02	Mina Guanaco	51.02	274	P	P	17 30 08.5	-1.1
PDRB	Porto dos Gac	52.23	297	*e*P	P	17 30 19.6	+1.2
PB15	IPOC Station P	52.23	276	P	P	17 30 17.9	-0.6
PB06	IPOC Station P	52.63	276	P	P	17 30 21.5	0.0
PB09	IPOC Station P	53.02	277	P	P	17 30 25.0	+0.6
VILB	Vilhena	53.36	293	P	P	17 30 26.6	-0.2
VILB				IAmb	IAmb	17 30 28.6	
comp=Z,19nm,1.1s							
DBIC	Dimbokro	53.52	7	LR	LR	17 47 46.0	
comp=Z,90nm,19.2s,baz=148,slow=30							
PB01	IPOC Station P	53.70	278	P	P	17 30 29.6	+0.3
PB08	IPOC Station P	54.09	279	P	P	17 30 32.4	-0.1
NPGB	Novo Progresso	55.01	302	*e*P	P	17 30 40.1	+1.3
LPAZ	La Paz	56.10	283	P	P	17 30 46.2	-1.1
LPAZ	La Paz	56.10	283	P	P	17 30 46.0	-1.4
comp=Z,2.3nm,0.8s,baz=101,slow=4.1,SNR=6.9							
LPAZ				LR	LR	17 54 36.9	
comp=Z,40nm,18.6s,baz=120,slow=36							
comp=Z,2.3nm,0.8s							
LPAZ	La Paz	56.10	283	*e*P	P	17 30 46.2	-1.1
SAML	Samuel	58.29	293	P	P	17 31 02.3	+0.2
SAML	Samuel	58.29	293	*e*P	P	17 31 02.2	0.0
MBAR	Mbarara	58.52	51	P	P	17 31 04.9	+1.0
MBAR	Mbarara	58.52	51	LR	LR	17 54 17.8	
comp=Z,65nm,18.7s,baz=175,slow=34							
ETMB	Extrema	59.58	290	P	P	17 31 10.8	-0.3
ETMB				IAmb	IAmb	17 31 11.7	
comp=Z,12nm,1.3s							
ETMB	Extrema	59.58	290	*e*P	P	17 31 11.0	0.0
TORD	Torodi Ar. Bea	60.74	14	P	P	17 31 19.0	+0.2
TORD				IAmb	IAmb	17 31 20.4	
comp=Z,12nm,1.6s							
TORD	Torodi Ar. Bea	60.74	14	P	P	17 31 19.3	+0.5
comp=Z,1.1nm,1.0s,baz=200,slow=7.6,SNR=6.2							
TORD				LR	LR	17 51 41.8	
comp=Z,128nm,21.9s,baz=150,slow=30							
comp=Z,1.1nm,1.0s							
KIBK	Kibwezi	61.20	59	P	P	17 31 21.8	-0.4
KIBK				IAmb	IAmb	17 33 06.5	
comp=Z,4.0nm,0.4s							
KMBO	Kilima Mbogo	61.72	57	LR	LR	17 55 33.2	
comp=Z,112nm,21.5s,baz=92,slow=34							
MDP	Montagnes des	63.60	312	LR	LR	17 57 00.7	
comp=Z,150nm,18.7s,baz=124,slow=34							
CZSB	Cruzeiro do Su	65.38	286	P	P	17 31 48.7	-1.2
FURI	Furi	70.74	53	LR	LR	18 01 23.0	
comp=Z,84nm,19.2s,baz=200,slow=34							
TAM	Tamanrasset	70.84	16	P	P	17 32 24.0	0.0
OTAV	Otavalo	75.10	287	P	P	17 32 49.0	-1.0
OTAV				IAmb	IAmb	17 33 28.1	
comp=Z,11nm,1.5s							
ATD	Arta Tunnel	75.21	55	LR	LR	18 05 32.1	
comp=Z,5.1nm,18.0s,baz=144,slow=35							
ROSC	El Rosal	75.92	293	LR	LR	18 04 26.0	
comp=Z,56nm,21.2s,baz=82,slow=34							
SDV	Santo Domingo	76.79	299	LR	LR	18 04 46.4	
comp=Z,71nm,20.5s,baz=208,slow=34							
MDT	Midelt	79.47	5	LR	LR	18 04 49.5	
comp=Z,114nm,18.3s,baz=168,slow=33							
SJG	San Juan	81.62	308	LR	LR	18 07 35.8	
comp=Z,41nm,19.4s,baz=170,slow=34							
KEST	Kesra	84.15	16	LR	LR	18 08 33.3	
comp=Z,99nm,18.1s,baz=9.2,slow=34							
ESDC	Sonseca Array	86.34	5	P	P	17 33 50.1	+1.3
comp=Z,1.0nm,1.0s,baz=229,slow=3.1,SNR=4.5							
comp=Z,1.0nm,1.0s							
EIL	Elat	86.59	39	LR	LR	18 11 09.6	
comp=Z,81nm,18.1s,baz=86,slow=35							
NWAO	Narrogin (SRO)	87.81	138	LR	LR	18 05 39.2	
comp=Z,80nm,19.1s,baz=279,slow=30							
MMAI	Mount Meron Ar	89.68	37	LR	LR	18 11 48.5	
comp=Z,98nm,20.4s,baz=120,slow=34							
PDAR	Pinedale Array	124.72	298	PKP	PKiKP	17 40 07.8	+0.8
comp=Z,0.5nm,0.9s,baz=121,slow=3.5,SNR=2.5							
P33M	Teslin, Yukon	144.31	314	PKPdf	PKPbc	17 40 41.3	+0.6
F31M	Tsiigehtchic	144.60	326		PKPdf	17 40 43.2	+0.8
FARO	Faro, Yukon	144.67	317	PKPdf	PKiKP	17 40 46.3	-0.2
G31M	Satah River	144.87	325	PKPdf	PKPdf	17 40 44.0	+1.1
M31M	Drury Creek, Y	145.16	317	PKPbc	PKPdf	17 40 44.2	+0.6
ILAR	Eielson Array	150.37	323	PKPbc	PKiKP	17 40 59.1	+1.0
comp=Z,1.8nm,0.7s,baz=72,slow=2.7,SNR=16							

*MOS **14** 17:23:28.5±0.9, 8°.98S×115°.43E, h61km, mb5.0/43, Error ellipse: s-maj=10.9km s-min=5.8km az=122.1*

*NEIC **14** 17:23:31.7±2.0, 9°.04S±0°.07×115°.46E±0°.06, h68km±4km, mb5.0/68, Error ellipse: s-maj=12.9km s-min=5.1km az=219.0*

*DJA **14** 17:23:31.4±0.2, 10°S±2°×11°5E±°, h52km±4km, M4.9/61, mb5.3/61, mB5.4/49, MLv5.5/31, Mw(mB)4.8/49, MwMwp4.5/7, Mwp4.8/7*

*GCMT **14** 17:23:31.7±0.2, 9°.49S±0°.01×115°.37E±0°.01, h68km±3km, MW5.0/118, Moment Tensor Solution. s67,c85; s118,c195; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.65±.13; $M_{\theta\theta}$-1.47±.11; $M_{\phi\phi}$0.82±.12; $M_{r\theta}$3.82±.08; $M_{\theta\phi}$-0.05±.10; $M_{\phi r}$0.93±.07; Best double couple: $M_0$4.08700×10^{16} NP1:ϕ_s75.00000°, δ83.00000°, λ83.00000°. NP2:ϕ_s301.00000°, δ10.00000°, λ135.00000°. Principal axes: T 3.7290, Plg52.0000°, Azm337.0000°; N 0.7190, Plg7.0000°, Azm76.0000°; P -4.4460, Plg38.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **14** 17:23:31.8±1.3, 9°.09S×115°.42E, h74km±11km, mb4.4/28, mbtmp4.7/31, MS3.8/39 Error ellipse: s-maj=13.0km s-min=10.0km az=80.0*

*BJI **14** 17:23:32.0, 9°.10S×115°.40E, h85km, mb4.7/57, mB5.1/21, Ms4.3/29, Ms7 4.2/32*

ISC 14 17:23:31.8±0.3, **9°22S**±0°.04×**115°35E**±0°.04, **h76**km±2km, **h77**km:**pP-P, n439,** σ1**96**/435, **mb4.9**/108, **6C-2D, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	Denpasar	0.56	346	P	Pn	17 23 46.7	+0.9
SRBI	Singaraja	1.14	353	P	Pn	17 23 53.9	+1.5
JAGI	Jajag, Banyuwa	1.40	302		Pn	17 23 55.8	+0.1
JAGI				Sn	Sn	17 24 13.2	-0.5
JAGI	Jajag, Banyuwa	1.40	302	P	Pn	17 23 56.0	+0.3
JAGI	Jajag, Banyuwa	1.40	302	P	Pn	17 23 55.9	+0.3
ABJI	Asem Bagus	1.80	322	P	Pn	17 24 02.9	+2.0
GMJI	Gumukmas	2.11	296	P	Pn	17 24 05.7	+0

MTKI	Muara Teweh, K	8.24 357	P	Pn	17 25 31.0 +2.3
	368nm,1.0s,4μm				
BATI	Baumata	8.25 97	P	Pn	17 25 27.1 -1.8
	27nm,0.4s,baz=260,slow=17,SNR=5.1				
BATI			S	Sn	17 26 56.3 -4.3
	274nm,0.5s,baz=248,slow=19,SNR=8.8				
BATI	Baumata	8.25 97	P	Pn	17 25 26.2 -2.7
	224nm,0.5s,2μm				
CNJI	Cibinong	8.36 283	P	Pn	17 25 30.9 +0.7
SOEI	Soe	8.81 94	Pn	Pn	17 25 34.0 -2.6
SOEI	Soe	8.81 94	P	Pn	17 25 36.1 -0.5
SOEI	Soe	8.81 94	P	Pn	17 25 35.1 -1.5
	329nm,0.8s,4μm				
KDI	Kendari	8.91 55	P	Pn	17 25 42.2 +4.3
DBJI	Dramaga	8.92 287	P	Pn	17 25 39.8 +1.8
	131nm,1.3s				
SKJI	Sukabumi	8.98 284	P	Pn	17 25 40.9 +2.1
	212nm,0.7s				
PCI	Palu	9.39 29	P	Pn	17 25 48.3 +3.9
	156nm,1.1s,2μm				
XMIS	Christmas Isla	9.64 262	Pn	Pn	17 25 46.9 -0.8
TPI	Tanjungpandan	9.99 310	P	Pn	17 25 55.8 +3.2
STKI	Sintang	10.00 337	P	Pn	17 25 58.0 +5.3
	194nm,0.7s				
APSI	Ampana	10.37 38	P	Pn	17 26 01.8 +4.1
	65nm,1.3s,999nm				
LUWI	Luwuk	10.98 43	Pn	Pn	17 26 04.3 -1.8
LUWI	Luwuk	10.98 43	P	Pn	17 26 09.9 +3.8
LUWI	Luwuk	10.98 43	P	Pn	17 26 08.9 +2.8
	80nm,0.9s,841nm				
KASI	Kota Agung	11.37 288	P	Pn	17 26 11.7 +0.3
TOLI2	Tolitoli	11.61 28	Pn	Pn	17 26 15.2 +0.6
TOLI2	Tolitoli	11.61 28	P	Pn	17 26 19.3 +4.7
MRSI	Marisa	11.66 35	P	Pn	17 26 19.4 +4.1
	92nm,0.6s				
KSM	Kuching	11.75 334	Pn	Pn	17 26 18.6 +2.0
KSM	Kuching	11.75 334	P	Pn	17 26 21.8 +5.2
LWLI	Liwa	11.96 290	P	Pn	17 26 20.7 +1.2
	158nm,0.7s				
SBUM	Sibu	12.01 345	Pn	Pn	17 26 24.0 +4.0
SBUM	Sibu	12.01 345	P	Pn	17 26 24.7 +4.6
MBWA	Marble Bar	12.60 161	Pn	Pn	17 26 22.6 -5.4
MBWA	Marble Bar	12.60 161	P	Pn	17 26 22.8 -5.2
	comp=Z,130nm,0.6s				
MBWA	Marble Bar	12.60 161	P	Pn	17 26 23.3 -4.7
SANI	Sanana	12.76 57	P	Pn	17 26 33.9 +3.6
SANI	Sanana	12.76 57	P	Pn	17 26 33.3 +3.0
	comp=Z,85nm,0.8s,comp=Z,993nm				
PSAC1	Pilbara Seismi	12.97 161	P	Pn	17 26 28.0 -5.1
	comp=Z,55nm,0.7s				
KMSI	Cibinong	12.98 42	P	P	17 26 38.8 -2.1
PSA00	Pilbara Seismi	13.02 161	Pn	Pn	17 26 28.3 -5.4
PSA00	Pilbara Seismi	13.02 161		Pn	17 26 27.5 -6.2
PSA00	Pilbara Seismi	13.02 161	P	Pn	17 26 29.1 -4.6
	comp=Z,71nm,0.9s				
PSA00	Pilbara Seismi	13.02 161	P	Pn	17 26 28.7 -5.0
NLAI	Namlea	13.10 64	P	P	17 26 38.9 -3.3
	comp=Z,137nm,0.8s,comp=Z,1μm				
FITZ	Fitzroy Crossi	13.33 133	Pn	Pn	17 26 34.5 -3.3
FITZ	Fitzroy Crossi	13.33 133	P	Pn	17 26 34.9 -3.0
	comp=Z,80nm,0.6s,baz=322,slow=7.8,SNR=138				
FITZ			S	Sn	17 28 54.1 -10
	comp=Z,98nm,0.6s,baz=257,slow=2.7,SNR=3.6				
FITZ			LR	LR	17 31 50.1
	comp=Z,980nm,21.2s,baz=306,slow=37				
GIRL	Giralia	13.39 184	Pn	Pn	17 26 35.3 -3.3
GIRL	Giralia	13.39 184	P	Pn	17 26 35.3 -3.3
	comp=Z,266nm,0.6s				
GIRL	Giralia	13.39 184	P	Pn	17 26 35.8 -2.8
KSI	Kapahiang	13.83 293	P	Pn	17 26 46.2 +1.7
AAI	Ambon	13.89 68	P	Pn	17 26 47.6 +2.3
	comp=Z,77nm,0.9s,comp=Z,2μm				
KNRA	Kununurra	14.58 117	Pn	Pn	17 26 52.5 -1.8
KNRA	Kununurra	14.58 117	P	Pn	17 26 51.9 -2.3
	comp=Z,133nm,1.0s				
MYLDM	Lahad Datu	14.65 12		Pn	17 26 51.1 -4.1
MYLDM	Lahad Datu	14.65 12	P	P	17 27 01.6 +2.2
MSAI	Masohi	14.70 67	P	Pn	17 26 58.1 +2.3
	comp=Z,73nm,0.6s,comp=Z,983nm				
BNDI	Bandanaira	15.18 73	P	P	17 27 04.9 -0.5
BNDI	Bandanaira	15.18 73	P	P	17 27 04.5 -0.9
KKM	Kota Kinabalu	15.19 3		Pn	17 27 01.5 -0.7
KKM	Kota Kinabalu	15.19 3	P	P	17 27 08.4 +2.8
TNTI	Ternate	15.55 51		Pn	17 27 05.8 -0.9
TNTI	Ternate	15.55 51	P	P	17 27 11.3 +1.8
	comp=Z,47nm,0.9s				
TNTI	Ternate	15.55 51	P	P	17 27 10.1 +0.6
	comp=Z,47nm,0.8s				
SAUI	Saumlaki	15.82 87	P	Pn	17 27 09.2 -0.9
MYKOM	Kota Tinggi	15.84 313		Pn	17 27 09.4 -1.0
MYKOM	Kota Tinggi	15.84 313	P	P	17 27 15.6 +2.9
MTN	Manton Dam	15.90 105	Pn	Pn	17 27 08.1 -3.0
MTN	Manton Dam	15.90 105	P	Pn	17 27 08.5 -2.6
MTN	Manton Dam	15.90 105	P	Pn	17 27 11.8 +0.6
PDSI	Padang	16.96 298	P	Pn	17 27 24.1 -0.3
BKNI	Bangkinang	17.12 303	Pn	Pn	17 27 25.1 -1.2
KDU	Kakadu	17.16 103	P	Pn	17 27 26.1 -0.7
MEEK	Meekatharra	17.59 170	P	P	17 27 31.7 -0.3
	comp=Z,207nm,0.6s				
MEEK	Meekatharra	17.59 170	P	P	17 27 31.6 -0.5
SWI	Sorong	17.88 63	P	Pn	17 27 36.1 +0.5
	comp=Z,124nm,0.7s,comp=Z,1μm				
FAKI	Fak Fak	17.93 71		P	17 27 32.7 -3.0
COCO	West Island	18.43 259	*i* P	P	17 27 42.0 +0.7
DAV	Davao City (W)	19.13 33	LR	LR	17 35 21.6
	comp=Z,384nm,21.2s,baz=193,slow=37				
IPM	Ipoh	19.73 313	P	P	17 27 56.5 +1.0
IPM	Ipoh	19.73 313	P	Pn	17 28 01.1 +3.5
MORW	Morawa	19.75 178		Pn	17 27 57.1 -0.7
MORW	Morawa	19.75 178	P	P	17 27 55.6 0.0
WRKA	Warakurna	19.98 144	P	P	17 27 59.1 +0.9
RKPI	Ransiki, Papua	20.24 69	P	P	17 28 01.3 +0.3
	comp=Z,168nm,0.7s,comp=Z,2μm				
PSI	Prapat	20.27 305	P	Pn	17 28 06.9 +2.9
GSI	Gunungsitoli	20.57 300	P	P	17 28 02.3 -2.3
GSI	Gunungsitoli	20.57 300	P	Pn	17 28 07.7 +0.2
WB0	Warramunga Arr	21.18 122	P	P	17 28 11.3 +0.2
WB0			IAmb	IAmb	17 28 30.8
	comp=Z,71nm,1.1s				
WRA	Warramunga Arr	21.22 122	P	P	17 28 11.0 -0.6
WRA	Warramunga Arr	21.22 122	P	P	17 28 11.2 -0.4
	comp=Z,26nm,0.5s,baz=298,slow=12,SNR=140				
WRA			S	S	17 31 59.2 -4.2
	comp=Z,11nm,0.8s,baz=299,slow=22,SNR=10				
	comp=Z,26nm,0.5s				
WRA	Warramunga Arr	21.22 122	P	P	17 28 11.0 -0.6
WRA			pmax	pmax	
	comp=Z,3.0nm,1.2s				
WRAB	Tennant Creek	21.22 122	P	P	17 28 10.9 -0.7
WRAB			IAmb	IAmb	17 28 30.8
	comp=Z,50nm,0.8s				
WRAB	Tennant Creek	21.22 122	P	P	17 28 10.9 -0.7
WRAB			pmax	pmax	
	comp=Z,51nm,0.8s				
WB2	Warramunga Arr	21.23 122	P	P	17 28 11.1 -0.6
WB2			IAmb	IAmb	17 28 31.3
	comp=Z,91nm,1.1s				
WR0	Warramunga Arr	21.39 122	P	P	17 28 13.7 +0.2
WR0			IAmb	IAmb	17 28 33.3
	comp=Z,99nm,0.9s				
KLBR	Kellerberrin	22.37 175	P	P	17 28 24.8 +1.0
MUN	Mundaring	22.66 178	P	P	17 28 28.5 +1.7
AS31	Alice Springs	22.82 131	P	P	17 28 28.1 -0.6
ASAR	Alice Springs	22.82 131	P	P	17 28 27.7 -1.0
ASAR	Alice Springs	22.82 131	P	P	17 28 28.8 +0.1
	comp=Z,95nm,1.0s,baz=301,slow=7.8,SNR=298				
ASAR			S	S	17 32 31.6 -0.8
	comp=Z,3.8nm,1.0s,baz=304,slow=22,SNR=2.4				
ASAR			LR	LR	17 37 13.7
	comp=Z,384nm,21.9s,baz=302,slow=36				
	comp=Z,95nm,1.0s				
ASAR	Alice Springs	22.82 131	P	P	17 28 27.7 -1.0
KMBL	Kambalda	22.86 165	P	P	17 28 29.1 +0.2
AS01	Alice Springs	22.86 131	P	P	17 28 29.4 +0.4
LHMI	Lhok Sumawe	23.29 307	P	P	17 28 34.4 +1.2
LHMI	Lhok Sumawe	23.29 307	P	P	17 28 40.0 +6.7
LHMI	Lhok Sumawe	23.29 307	P	P	17 28 34.5 +1.2
SRIT	Nakonsritamara	23.65 318	P	P	17 28 37.4 +0.9
NWAO	Narrogin (SRO)	23.65 176	P	P	17 28 36.8 +0.4
NWAO			IAmb	IAmb	17 28 38.8
	comp=Z,127nm,1.4s				
NWAO	Narrogin (SRO)	23.65 176	LR	LR	17 37 55.3
	comp=Z,313nm,21.4s,baz=284,slow=36				
NWAO	Narrogin (SRO)	23.65 176	P	P	17 28 38.1 +1.7
NWAO	Narrogin (SRO)	23.65 176	P	P	17 28 36.8 +0.4
NWAO			pmax	pmax	
	comp=Z,127nm,1.4s				
TGY	Tagaytay City	23.83 14	LR	LR	17 38 21.0
	comp=Z,198nm,21.8s,baz=116,slow=38				
FORT	Forrest	24.50 153	P	P	17 28 43.8 -0.2
FORT	Forrest	24.50 153	P	P	17 28 45.6 +1.6
GENI	Genyem	25.54 77	P	P	17 28 58.2 +4.6
QIS	Mount Isa	25.97 118	P	P	17 28 58.5 +1.0
JAY	Jayapura	26.07 77	P	P	17 28 57.0 -1.5
	comp=Z,9.9nm,1.0s,baz=230,slow=7.9,SNR=1.6				
	comp=Z,9.9nm,1.0s				
OOD	Oodnadatta	26.63 137	P	P	17 29 04.4 +1.1
MULG	Mulgathing	27.28 143	P	P	17 29 10.0 +0.8
COEN	Coen	27.65 102	P	P	17 29 13.1 +0.4
COEN			IAmb	IAmb	17 29 14.7
	comp=Z,36nm,0.9s				
COEN	Coen	27.65 102	P	P	17 29 15.9 +3.3
QIZ	Qiongzhong	28.59 349	P	P	17 29 22.5 +1.6
QIZ			S	S	17 34 05.8 +1.8
QIZ			LR	LR	
	comp=Z,210nm,18.2s				
QIZ			LR	LR	
	comp=Z,360nm,20.2s				
QIZ			LR	LR	
	comp=Z,440nm,28.2s				
MTSU	Mount Surprise	29.47 111	P	P	17 29 30.8 +2.0
LCRK	Leigh Creek	30.02 138	P	P	17 29 34.9 +1.4
INKA	Innaminka	30.21 131	P	P	17 29 37.5 +2.3
BBOO	Buckleboo	30.28 144	P	P	17 29 36.7 +0.9
PHRA	Phrae	31.33 332	P	P	17 29 45.2 +0.1
WHYH	Whyalla	31.34 142	P	P	17 29 46.8 +1.7
	comp=Z,80nm,0.9s				
PMG	Port Moresby	31.39 93	ScP	ScP	17 36 15.1 +0.6
	comp=Z,18nm,0.9s,baz=252,slow=0.9,SNR=3.8				
PMG			LR	LR	17 46 47.0
	comp=Z,69nm,19.0s,baz=250,slow=44				
PTPS	Port Pirie	31.69 142	P	P	17 29 49.9 +1.7
CTA	Charters Tower	31.73 113	LR	LR	17 43 41.5
	comp=Z,16nm,18.9s,baz=282,slow=38				
CTA	Charters Tower	31.73 113	P	P	17 29 50.4 +1.7
CTAO	Charters Tower	31.73 113	P	P	17 29 50.1 +1.4
CTAO	Charters Tower	31.73 113	P	P	17 29 50.6 +1.8
CTAO	Charters Tower	31.73 113	P	P	17 29 50.2 +1.4
CTAO			pmax	pmax	
	comp=Z,62nm,1.0s				
CTAO	Charters Tower	31.73 113	P	P	17 29 50.5 +1.8
CTAO			PcP	PcP	17 32 39.9 +1.0
CTAO			ScP	ScP	17 36 14.5 -1.1
CM31	Chiang Mai Arr	31.92 330	IAmb	IAmb	17 30 05.0
	comp=Z,31nm,1.4s				
CMAR	Chiang Mai Arr	31.92 330	P	P	17 29 50.3 0.0
CMAR	Chiang Mai Arr	31.92 330	P	P	17 29 50.5 +0.1
	comp=Z,8.7nm,0.7s,baz=163,slow=8.1,SNR=58				
CMAR			ScP	ScP	17 36 16.9 +0.7
	comp=Z,6.4nm,0.9s,baz=178,slow=3.3,SNR=22				
CMAR			LR	LR	17 43 56.4
	comp=Z,149nm,18.7s,baz=140,slow=38				
	comp=Z,8.7nm,0.7s				
CMAR	Chiang Mai Arr	31.92 330	P	P	17 29 50.3 0.0
TV1H	Townsville Har	32.02 112	P	P	17 29 53.7 +2.5
	comp=Z,32nm,1.1s				
CHTO	Chiang Mai	32.22 330	P	P	17 29 52.8 -0.2
CHTO	Chiang Mai	32.22 330	P	P	17 29 52.8 -0.2
CHTO			pmax	pmax	
	comp=Z,6.0nm,0.7s				
QLP	Quilpie	32.33 126	P	P	17 29 56.3 +2.4
HTT	Hallett	32.43 141	P	P	17 29 56.5 +1.7
AUAYR	Ayr State High	32.66 112	P	P	17 29 59.8 +3.0
STKA	Stephens Creek	33.17 137	P	P	17 30 02.6 +1.4
	comp=Z,30nm,0.8s,baz=310,slow=8.8,SNR=48				
STKA			ScP	ScP	17 36 21.2 +0.8
	comp=Z,4.8nm,0.8s,baz=297,slow=5.2,SNR=4.4				
STKA			LR	LR	17 44 15.2
	comp=Z,524nm,20.6s,baz=298,slow=37				
	comp=Z,30nm,0.8s				
STKA	Stephens Creek	33.17 137	P	P	17 30 03.0 +1.8
STKA	Stephens Creek	33.17 137	*i* P	P	17 30 02.5 +1.3
AUMBR	Murray Bridge	33.82 143	P	P	17 30 08.6 +1.8
BULU	Kimbe	34.86 86	P	P	17 30 20.2 +4.2
CMSA	Cobar Meteorol	35.87 133	P	P	17 30 26.7 +2.2
ARPS	Mount Arapiles	36.45 143	P	P	17 30 31.1 +1.8
AULRC	Lightning Ridg	36.57 128	P	P	17 30 32.8 +2.3
GUMO	Guam	37.04 53	P	P	17 30 33.6 -1.0
GUMO			pP	pP	17 30 50.5 -2.1
GUMO			ScP	ScP	17 36 32.9 -1.7
EIDS	Eidsvold	37.55 120	P	P	17 30 39.7 +0.9
EIDS			IAmb	IAmb	17 30 41.2
	comp=Z,25nm,1.1s				
EIDS	Eidsvold	37.55 120	P	P	17 30 40.8 +1.9
TNCH	TengChong	37.79 335	P	P	17 30 41.8 +0.8
TNCH			pP	pP	17 30 58.8 -0.6
TNCH			sP	sP	17 31 07.9 -0.3
TNCH			PP	PnPn	17 32 11.5 +0.8
TNCH			S	S	17 36 28.5 +1.9
TNCH			sS	sS	17 36 57.1 +0.4
TNCH			SS	SnSn	17 39 06.0 -8.4
TNCH			pmax	pmax	
	comp=Z,14nm,0.3s				
TNCH			pmax	pmax	
	comp=Z,130nm,2.9s				
TNCH			LR	LR	
	comp=Z,130nm,12.8s				
TNCH			LR	LR	
	comp=Z,170nm,20.2s				
TNCH			LR	LR	
	comp=Z,250nm,22.3s				
AUMAG	Moama Anglican	37.82 140	P	P	17 30 43.4 +2.4
	comp=Z,118nm,1.0s				
PZH	PanZhiHua	37.89 340	P	P	17 30 43.4 +1.6
PZH			pP	pP	17 31 02.4 +2.3
PZH			PP	PnPn	17 32 15.9 +4.0
PZH			S	S	17 36 27.8 -0.2
PZH			PcS	PcS	17 36 39.5 -6.3
PZH			ScS	ScS	17 40 45.0 -2.1
PZH			pmax	pmax	
	comp=Z,10.0nm,0.7s				
PZH			pmax	pmax	
	comp=Z,100nm,4.1s				
PZH			LR	LR	
	comp=Z,220nm,19.6s				
PZH			LR	LR	
	comp=Z,210nm,19.4s				
PZH			LR	LR	
	comp=Z,420nm,24.0s				
JOW	Kunigami	37.97 19	LR	LR	17 47 30.7
	comp=Z,151nm,21.8s,baz=258,slow=38				
BRAT	Ballarat	38.22 142	P	P	17 30 46.9 +2.6
AUDCS	Dubbo College	38.37 131	P	P	17 30 48.3 +2.6
GEXS	Deakin Univers	38.85 143	P	P	17 30 52.9 +3.3
TW1H	Toowoomba 1 Ha	39.03 123	P	P	17 30 54.0 +2.6
TOO	Toolangi	39.19 141	IAmb	IAmb	17 30 56.5
	comp=Z,32nm,1.1s				
YNG	Young	39.25 134	P	P	17 30 55.2 +2.2
AUPHS	Peel High Scho	39.56 128	P	P	17 30 58.7 +3.0
ENH	Enshi	39.67 352	IAmb	IAmb	17 31 25.5
	comp=Z,46nm,1.4s				
ENH	Enshi	39.67 352	P	P	17 30 57.0 +0.5
ENH			pP	pP	17 31 14.0 -0.9
ENH			ScP	ScP	17 36 44.9 +0.6
ARMA	Armidale	39.85 127	IAmb	IAmb	17 31 01.9
	comp=Z,13nm,0.8s				
ARMA	Armidale	39.85 127	P	P	17 31 00.6 +2.4
AUWSH	Wavell State H	39.87 122	P	P	17 31 01.3 +3.0
CAN	Canberra	40.21 135	P	P	17 31 01.8 +0.8
CAN			IAmb	IAmb	17 31 04.2
	comp=Z,37nm,1.1s				
CAN	Canberra	40.21 135	P	P	17 31 01.8 +0.8
CAN			pmax	pmax	
	comp=Z,37nm,1.1s				
CAN	Canberra	40.21 135	P	P	17 31 03.0 +2.0
CAN			PcP	PcP	17 33 05.7 +1.9
GC1S	Gold Coast 1 S	40.52 123	P	P	17 31 06.9 +3.2
AUSMG	Snowy Mountain	40.54 137	P	P	17 31 04.2 +0.4
MGCD	Mangrove Creek	40.67 131	P	P	17 31 08.7 +3.9
NJ2	Nanjing	41.18 5	*eP*	P	17 31 09.0 +0.1
NJ2			pmax	pmax	
	comp=Z,6.0nm,0.5s				
CD2	Chengdu	41.42 345	P	P	17 31 10.3 -0.7
CD2			pP	pP	17 31 29.5 0.0
CD2			S	S	17 37 22.1 +1.5
CD2			pmax	pmax	
	comp=Z,20nm,0.9s				
CD2			LR	LR	
	comp=Z,200nm,16.9s				
CD2			LR	LR	
	comp=Z,280nm,11.6s				
CD2			LR	LR	
	comp=Z,210nm,14.5s				
H08S2	Diego Garcia H	42.41 269	T	T	18 16 53.3
	baz=95,slow=76,SNR=102				
H08S3	Diego Garcia H	42.42 269	T	T	18 16 54.8
	baz=95,slow=76,SNR=134				
H08S1	Diego Carcia H	42.42 269	T	T	18 16 52.8
	baz=95,slow=76,SNR=33				
HNR	Honiara	43.98 94	P	P	17 31 31.9 -0.1
HNR	Honiara	43.98 94	LR	LR	17 52 12.9
	comp=Z,48nm,19.4s,baz=261,slow=39				
HNR	Honiara	43.98 94	P	P	17 31 31.9 -0.1
HNR			pmax	pmax	
	comp=Z,146nm,1.0s				
HNR	Honiara	43.98 94	P	P	17 31 32.9 +0.9
HNR			pP	pP	17 31 50.5 +0.8
HNR			sP	sP	17 31 58.0 -0.1
HYB	Hyderabad	44.98 306	*eP*	P	17 31 39.7 -0.2
TIA	Tai'an	45.22 2	P	P	17 31 40.6 -0.8
TIA			S	S	17 38 04.3 -12
TIA			pmax	pmax	
	comp=Z,6.0nm,0.9s				
TIA			LR	LR	
	comp=Z,280nm,25.0s				
TIA			LR	LR	
	comp=Z,390nm,25.0s				
LZH	Lanzhou	46.35 347	*eP*	P	17 31 49.9 -0.6
LZH			pP	pP	17 32 12.9 +3.6
LZH			sP	sP	17 32 18.4 +0.4
LZH			pmax	pmax	
	comp=Z,15nm,1.1s				
LZH			LR	LR	
	comp=Z,190nm,16.5s				
LZH			LR	LR	
	comp=Z,190nm,19.9s				
LZH			LR	LR	
	comp=Z,320nm,21.0s				
HNS	HongShan	46.38 359	⇓P	P	17 31 52.3 +1.8
HNS			S	S	17 38 31.9 -0.5
HNS			pmax	pmax	
	comp=Z,7.0nm,0.9s				
HNS			LR	LR	
	comp=Z,120nm,16.3s				
HNS			LR	LR	
	comp=Z,190nm,16.9s				
HNS			LR	LR	
	comp=Z,180nm,15.3s				
KSAR	Wonju Array Be	47.88 13	P	P	17 32 00.6 -1.6
KSAR	Wonju Array Be	47.88 13	P	P	17 32 00.6 -1.6
KSRS	Korea Array	47.90 14	P	P	17 32 02.0 -0.3
	comp=Z,6.9nm,0.9s,baz=196,slow=7.8,SNR=19				
KSRS			ScP	ScP	17 37 18.6 +1.0
	comp=Z,3.3nm,0.9s,baz=193,slow=3.7,SNR=9.1				
KSRS			LR	LR	17 54 26.5
	comp=Z,46nm,21.0s,baz=205,slow=39				
	comp=Z,6.9nm,0.9s				
JHJ	Hachijo jima 2	48.11 28	LR	LR	17 52 00.0
	comp=Z,181nm,21.1s,baz=318,slow=36				
GOMU	GeErMu	49.14 338	P	P	17 32 13.9 +1.5
GOMU			PP	PP	17 34 06.0 -0.9
GOMU			pmax	pmax	
	comp=Z,5.0nm,0.7s				
BTO	Baotou	49.82 355	*eP*	P	17 32 22.4 +5.2
BTO			PP	PP	17 34 10.4 -2.3
BTO			S	S	17 39 27.8 +6.6
BTO			pmax	pmax	
	comp=Z,25nm,0.5s				
BTO			pmax	pmax	
	comp=Z,130nm,4.2s				
BTO			LR	LR	
	comp=Z,350nm,10.0s				
BTO			LR	LR	
	comp=Z,360nm,12.9s				
BTO			LR	LR	
	comp=Z,370nm,8.5s				
HHC	Hu-ho-hao-te	49.94 356	*eP*	P	17 32 21.4 +3.3
HHC			pP	pP	17 32 39.8 +2.7
HHC			sP	sP	17 32 54.3 +8.5
HHC			pmax	pmax	
	comp=Z,22nm,0.5s				
HHC			pmax	pmax	
	comp=Z,62nm,4.7s				
HHC			LR	LR	
	comp=Z,180nm,20.1s				
HHC			LR	LR	
	comp=Z,120nm,15.9s				
HHC			LR	LR	
	comp=Z,170nm,18.1s				
MJAR	Matsushiro Arr	50.34 24	P	P	17 32 19.4 -1.7
	comp=Z,3.6nm,0.8s,baz=197,slow=8.1,SNR=8.3				
MJAR			LR	LR	17 55 00.3
	comp=Z,46nm,21.2s,baz=206,slow=38				
	comp=Z,3.6nm,0.8s				
GTA	Gaotai	50.49 344	P	P	17 32 24.3 +2.0
GTA			pP	pP	17 32 40.0 -1.2
GTA			ScP	ScP	17 37 28.3 -0.5
GTA			ScS	ScS	17 42 03.3 -2.9
GTA			pmax	pmax	
	comp=Z,3.0nm,1.6s				
GTA			LR	LR	
	comp=Z,110nm,18.5s				
GTA			LR	LR	
	comp=Z,86nm,18.5s				
GTA			LR	LR	
	comp=Z,180nm,22.9s				
DZM	Mont Dzumac	50.61 111	*e*LR	LR	17 46 58.8
	comp=Z,421nm,38.0s				
DZM	Mont Dzumac	50.61 111	LR	LR	17 54 35.4
	comp=Z,83nm,18.1s,baz=262,slow=37				
CN2	Changchun	53.56 9	*eP*	P	17 32 46.1 +1.3
CN2			pmax	pmax	
	comp=Z,10.0nm,0.4s				
MDJ	Mudanjiang	55.11 12	IAmb	IAmb	17 32 59.2
	comp=Z,14nm,0.9s				
MDJ	Mudanjiang	55.11 12	P	P	17 32 54.0 -2.1
MDJ			pmax	pmax	
	comp=Z,5.0nm,0.9s				
MDJ			pmax	pmax	
	comp=Z,150nm,4.5s				
MDJ	Mudanjiang	55.11 12	P	P	17 32 55.4 -0.7
USA0B	Ussuriysk Arra	55.27 15	P	P	17 32 56.2 -1.0
USA0B			IAmb	IAmb	17 33 47.3
	comp=Z,42nm,1.9s				
USA0B	Ussuriysk Arra	55.27 15	P	P	17 32 56.2 -1.0
USA0B			pmax	pmax	
	comp=Z,42nm,1.9s				
USRK	Ussuriysk Ar.	55.27 15	P	P	17 32 55.0 -2.1
USRK	Ussuriysk Ar.	55.27 15	P	P	17 32 56.3 -0.9
	comp=Z,3.1nm,0.4s,baz=197,slow=7.0,SNR=14				
	comp=Z,3.1nm,0.4s				
USRK	Ussuriysk Ar.	55.27 15	P	P	17 32 55.1 -2.1
ULN	Ulaanbaatar	57.31 353	P	P	17 33 10.4 -1.4
ULN			IAmb	IAmb	17 33 14.8
	comp=Z,6.7nm,0.6s				
ULN	Ulaanbaatar	57.31 353	*i* P	P	17 33 10.8 -1.1
ULN			pmax	pmax	
	comp=Z,6.0nm,0.6s				
ULN	Ulaanbaatar	57.31 353	P	P	17 33 11.5 -0.4
SONM	Songino Array	57.36 353	P	P	17 33 11.0 -1.2
SONM			IAmb	IAmb	17 33 15.2
	comp=Z,7.8nm,0.8s				
SONM	Songino Array	57.36 353	P	P	17 33 11.4 -0.7
	comp=Z,6.6nm,0.7s,baz=173,slow=8.3,SNR=19				
SONM			ScP	ScP	17 37 58.2 -0.3
	comp=Z,2.8nm,0.8s,baz=171,slow=3.9,SNR=8.8				
	comp=Z,6.6nm,0.7s				
SONM	Songino Array	57.36 353	P	P	17 33 11.0 -1.2
SONM			pmax	pmax	
	comp=Z,8.0nm,0.8s				
NIL	Nilore	58.45 319	P	P	17 33 18.0 -2.0
NIL	Nilore	58.45 319	P	P	17 33 18.0 -2.0
NIL			pmax	pmax	
	comp=Z,22nm,0.5s				
NIL	Nilore	58.45 319	P	P	17 33 18.4 -1.6
NIL			pP	pP	17 33 36.2 -2.9
NIL			sP	sP	17 33 43.5 -4.1
WMQ	Urumqi	58.46 337	*eP*	P	17 33 21.4 +1.5
WMQ			LR	LR	
	comp=Z,260nm,24.3s				
ASAJ	Asahikawa	58.55 23	P	P	17 33 19.6 -0.8
	comp=Z,3.8nm,0.7s,baz=197,slow=11,SNR=1.1				
ASAJ			LR	LR	17 59 51.8
	comp=Z,61nm,21.8s,baz=190,slow=37				

comp=Z,3.8nm,0.7s
RPZ Rata Peaks 59.13 136 P **P 17 33 25.8 +1.2**
RPZ Rata Peaks 59.13 136 LR LR 17 59 59.5
comp=Z,309nm,18.8s,baz=308,slow=37
MRNZ Matariki Terra 59.67 133 P **P 17 33 29.1 +0.7**
DRV Dumont d'Urvil 59.77 169 P **P 17 33 29.7 +1.2**
DRV PcP **PcP 17 34 15.5 +1.0**
THZ Tophouse 59.87 133 P **P 17 33 30.6 +0.8**
THZ IAmb IAmb 17 33 34.6
comp=Z,16nm,0.8s
KLR Kul'dur 59.96 12 P **P 17 33 29.9 -0.2**
comp=Z,1.7nm,0.6s,baz=183,slow=6.8,SNR=4.5
KLR LR LR 18 00 31.1
comp=Z,64nm,21.5s,baz=207,slow=37
comp=Z,1.7nm,0.6s
KLR Kul'dur 59.96 12 *i* P P 17 33 25.1 -4.9
KLR pmax pmax
comp=Z,10.0nm,2.0s
HEH HeiHe 60.16 9 *eP* **P 17 33 29.4 -1.9**
HEH pmax pmax
comp=Z,6.0nm,1.1s
WUS Wushi 60.18 329 IAmb IAmb 17 33 36.2
comp=Z,23nm,1.2s
KSH Kashi 60.70 326 P **P 17 33 34.3 -1.2**
KSH sP sP 17 34 06.4 +3.4
KSH pmax pmax
comp=Z,9.0nm,1.1s
YSS Yuzh-Sakhalins 61.03 21 *eP* **P 17 33 39.7 +2.4**
YSS pmax pmax
comp=Z,20nm,1.5s
MSVF Nonsavu 61.33 105 *i* P **P 17 33 40.9 +0.8**
MSVF pmax pmax
comp=Z,18nm,1.3s
MSVF Nonsavu 61.33 105 P **P 17 33 42.2 +2.0**
MSVF pP **pP 17 33 59.9 +1.0**
SHLS Shalkode 61.53 331 *eP* **P 17 33 38.7 -2.3**
comp=Z,10nm,1.3s
SHLS Shalkode 61.53 331 *eP* **P 17 33 38.7 -2.3**
SHLS pmax pmax
comp=Z,10.0nm,1.3s
UZB Uzynbulak 61.73 331 *eP* **P 17 33 41.5 -0.9**
comp=Z,5.3nm,1.1s
UZB Uzynbulak 61.73 331 *eP* **P 17 33 41.5 -0.9**
UZB pmax pmax
comp=Z,5.0nm,1.1s
KBL Kabul 61.76 317 P **P 17 33 41.0 -1.9**
KBL IAmb IAmb 17 33 42.7
comp=Z,8.2nm,0.6s
KBL Kabul 61.76 317 P **P 17 33 41.0 -1.9**
KBL pmax pmax
comp=Z,8.0nm,0.6s
BKZ Black Stump Fm 61.93 129 P **P 17 33 44.3 +0.6**
SATY Saty 61.97 330 *eP* **P 17 33 43.2 -0.8**
comp=Z,13nm,1.1s
SATY Saty 61.97 330 *eP* **P 17 33 43.1 -0.8**
SATY pmax pmax
comp=Z,13nm,1.1s
ZHN Zhinishke 62.03 330 *eP* **P 17 33 43.6 -0.8**
ZHN Zhinishke 62.03 330 *eP* **P 17 33 43.6 -0.8**
KPKS Kokpek 62.13 331 *eP* **P 17 33 44.2 -0.9**
comp=Z,5.8nm,1.1s
KPKS Kokpek 62.13 331 *eP* **P 17 33 44.1 -0.9**
KPKS pmax pmax
comp=Z,6.0nm,1.1s
RTZ Ruatahuna 62.20 129 P **P 17 33 46.1 +0.5**
URZ Urewera 62.23 128 LR LR 18 02 37.4
comp=Z,198nm,19.3s,baz=24,slow=38
ZSN Zaisan 62.58 337 *eP* **P 17 33 47.3 -0.6**
comp=Z,9.1nm,1.4s
ZSN Zaisan 62.58 337 *eP* **P 17 33 47.2 -0.6**
ZSN pmax pmax
comp=Z,9.0nm,1.4s
TNSS Tian-Shan 62.68 329 *eP* **P 17 33 48.1 -1.0**
TNSS Tian-Shan 62.68 329 *eP* **P 17 33 48.0 -1.0**
MDOK Medeo 62.72 329 *eP* **P 17 33 48.3 -0.7**
MDOK Medeo 62.72 329 *eP* **P 17 33 48.3 -0.7**
AAA Alma-Ata 62.82 329 *eP* **P 17 33 48.8 -0.8**
comp=Z,4.7nm,0.4s
AAA Alma-Ata 62.82 329 *eP* **P 17 33 48.7 -0.8**
AAA pmax pmax
comp=Z,5.0nm,0.4s
DRK Karamyk 63.07 323 IAmb IAmb 17 34 02.8
comp=Z,15nm,0.6s
MK31 Makanchi Array 63.08 335 P **P 17 33 50.5 -0.7**
MK31 Makanchi Array 63.08 335 *i* P **P 17 33 50.1 -1.0**
MKAR Makanchi Array 63.08 335 P **P 17 33 49.9 -1.3**
MKAR Makanchi Array 63.08 335 P **P 17 33 50.6 -0.5**
comp=Z,3.3nm,0.4s,baz=143,slow=7.3,SNR=48
comp=Z,3.3nm,0.4s
TDK Taldyqorghan 63.41 332 *eP* **P 17 33 52.6 -0.8**
comp=Z,10nm,0.8s
TDK Taldyqorghan 63.41 332 *eP* **P 17 33 52.6 -0.8**
TDK pmax pmax
comp=Z,10.0nm,0.8s
ZEA Zeya 63.53 8 *eP* **P 17 33 55.5 +1.6**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
AAK Ala-Archa 63.67 327 P **P 17 33 55.8 +0.5**
AAK IAmb IAmb 17 33 59.8
comp=Z,11nm,0.9s
AAK Ala-Archa 63.67 327 LR LR 18 05 27.4
comp=Z,78nm,20.0s,baz=122,slow=40
AAK Ala-Archa 63.67 327 *i* P **P 17 33 54.6 -0.7**
AAK pmax pmax
comp=Z,15nm,1.0s
AAK Ala-Archa 63.67 327 P **P 17 33 55.4 +0.1**
BTK Batken 64.02 323 IAmb IAmb 17 33 58.7
comp=Z,23nm,1.2s
BTK Batken 64.02 323 P **P 17 33 56.8 -0.8**
SGDS Sogindy 64.17 328 *eP* **P 17 33 57.6 -0.8**
SGDS Sogindy 64.17 328 *eP* **P 17 33 57.6 -0.8**
SIMJ Simiganj 64.24 321 P **P 17 33 56.6 -2.6**
SIMJ IAmb IAmb 17 33 58.6
comp=Z,34nm,1.6s
SIMJ Simiganj 64.24 321 P **P 17 33 57.3 -1.8**
DZA Taraz 65.56 326 *eP* **P 17 34 06.5 -0.9**
DZA Taraz 65.56 326 *eP* **P 17 34 06.5 -0.9**
BTLS Baital 65.58 329 *eP* **P 17 34 06.5 -1.0**
BTLS Baital 65.58 329 *eP* **P 17 34 06.5 -1.0**
IUG Iuzhnay 65.81 325 *eP* **P 17 34 08.3 -0.9**
comp=Z,17nm,1.3s
IUG Iuzhnay 65.81 325 *eP* **P 17 34 08.2 -0.9**
IUG pmax pmax
comp=Z,17nm,1.3s
CCD Concordia, Ant 66.00 178 P **P 17 34 11.8 +1.6**
KKAR Karatay Array 66.15 326 P **P 17 34 10.2 -1.0**
KKAR Karatay Array 66.15 326 IAmb IAmb 17 34 18.1
comp=Z,3.0nm,0.9s
KKAR Karatay Array 66.15 326 P **P 17 34 10.2 -1.0**
BRLS Borolday 66.48 325 *eP* **P 17 34 12.1 -1.3**
BRLS Borolday 66.48 325 *eP* **P 17 34 12.1 -1.3**
VOI Vohitsoka 66.78 250 P **P 17 34 18.0 +2.1**
UOSS Minazif 66.87 302 P **P 17 34 16.1 -0.1**
UOSS IAmb IAmb 17 34 17.5
comp=Z,28nm,1.4s
UOSS Minazif 66.87 302 P **P 17 34 16.2 0.0**
UOSS pP **pP 17 34 34.4 -1.1**
UOSS sP **PcP 17 34 42.2 -2.2**
KURBB Kurchatov Arra 67.63 336 P **P 17 34 19.8 -0.6**
comp=Z,1.2nm,0.4s,baz=152,slow=5.4,SNR=12
KURBB LR LR 18 06 46.1
comp=Z,122nm,21.2s,baz=175,slow=38
comp=Z,1.2nm,0.4s
KURK Kurchatov 67.66 336 P **P 17 34 20.7 +0.1**
KURK IAmb IAmb 17 34 22.4
comp=Z,34nm,1.9s
KURK Kurchatov 67.66 336 *i* P **P 17 34 19.7 -0.9**
KURK pmax pmax
comp=Z,18nm,2.0s
KURK Kurchatov 67.66 336 P **P 17 34 20.8 +0.1**
MAW Mawson 67.82 199 P **P 17 34 22.3 +0.9**
comp=Z,11nm,0.6s,baz=58,slow=7.1,SNR=49
MAW LR LR 17 59 32.8
comp=Z,94nm,19.5s,baz=74,slow=32
comp=Z,11nm,0.6s
ZALV Zalesovo Beam 68.02 341 P **P 17 34 21.2 -1.6**
ZALV Zalesovo Beam 68.02 341 P **P 17 34 21.5 -1.3**
comp=Z,3.9nm,0.6s,baz=149,slow=5.1,SNR=18
ZALV LR LR 18 07 44.6
comp=Z,51nm,19.3s,baz=120,slow=39
comp=Z,3.9nm,0.6s
PETK Petropavlovsk- 71.77 25 LR LR 18 05 44.8
comp=Z,27nm,22.0s,baz=219,slow=35
YAK Yakutsk 71.91 7 P **P 17 34 44.7 -1.8**
comp=Z,7.1nm,0.4s,baz=264,slow=1.0,SNR=4.6
YAK LR LR 18 07 52.5
comp=Z,48nm,21.0s,baz=198,slow=37
comp=Z,7.1nm,0.4s
YAK Yakutsk 71.91 7 *eP* **P 17 34 45.0 -1.4**
YAK pmax pmax
comp=Z,16nm,1.2s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=E,3.0nm,1.4s
BVAR Borovoye Array 72.84 333 P **P 17 34 51.2 -1.0**
comp=E,7.1nm,0.7s,baz=134,slow=8.5,SNR=26
comp=E,7.1nm,0.7s
BRVK Borovoye 72.91 333 P **P 17 34 52.5 -0.1**
BRVK Borovoye 72.91 333 P **P 17 34 52.5 -0.1**
BRVK pmax pmax
comp=Z,9.0nm,1.1s
SBA Scott Base 73.38 170 P **P 17 34 57.1 +2.0**
SBA IAmb IAmb 17 35 09.6
comp=Z,25nm,1.7s
SBA Scott Base 73.38 170 P **P 17 34 57.1 +2.0**
SBA pmax pmax
comp=Z,25nm,1.7s
MA2 Magadan 74.19 18 LR LR 18 08 29.0
comp=Z,32nm,21.9s,baz=204,slow=36
RAYN Ar Rayn 75.58 297 P **P 17 35 08.8 -0.1**
RAYN Ar Rayn 75.58 297 P **P 17 35 08.8 -0.1**
RAYN pmax pmax
comp=Z,6.0nm,0.8s
ABKAR Akbulak array 75.70 326 P **P 17 35 08.3 -0.6**
ABKAR Akbulak array 75.70 326 IAmb IAmb 17 35 10.0
comp=Z,14nm,0.8s
SEY Seymchan 77.35 16 P **P 17 35 17.5 -0.4**
comp=Z,1.3nm,0.2s,baz=225,slow=10.0,SNR=1.9
comp=Z,1.3nm,0.2s
AKTO Aktyubinsk 77.39 327 LR LR 18 14 08.9
comp=Z,64nm,19.4s,baz=193,slow=39
LKRN Lenkeran, Azer 78.00 313 P **P 17 35 23.6 +1.5**
KMBO Kilima Mbogo 78.07 271 P **P 17 35 23.6 +0.3**
comp=Z,0.7nm,0.3s,baz=141,slow=6.5,SNR=1.5
comp=Z,0.7nm,0.3s
SHEM Shemya Is, Ala 79.33 32 LR LR 18 07 20.7
comp=Z,37nm,20.2s,baz=86,slow=33
MNGR Mingechevir, A 79.98 314 P **P 17 35 34.3 +1.5**
SEKA Sheki 80.06 315 P **P 17 35 34.4 +1.0**
POGA Pongola 80.21 244 P **P 17 35 35.7 +1.2**
POGA IAmb IAmb 17 35 38.1
comp=Z,14nm,0.6s
ARTI Arti 80.39 332 P **P 17 35 33.8 -0.9**
ARTI IAmb IAmb 17 35 35.0
comp=Z,10nm,0.7s
ARTI Arti 80.39 332 P **P 17 35 33.8 -0.9**
ARTI pmax pmax
comp=Z,10.0nm,0.7s
GANJ Ganja 80.47 314 P **P 17 35 36.8 +1.2**
NAX Nakhchivan 80.56 312 P **P 17 35 37.4 +1.3**
NRIK Noril'sk 80.73 350 P **P 17 35 34.4 -1.9**
comp=Z,1.7nm,0.6s,baz=164,slow=5.9,SNR=4.2
NRIK LR LR 18 15 23.3
comp=Z,91nm,18.4s,baz=143,slow=39
comp=Z,1.7nm,0.6s
NRIK Noril'sk 80.73 350 *i* P **P 17 35 34.2 -2.1**
NRIK pmax pmax
comp=Z,12nm,1.6s
QSPA South Pole Qui 80.78 180 P **P 17 35 37.9 +1.0**
QSPA IAmb IAmb 17 35 39.5
comp=Z,31nm,1.2s
QSPA South Pole Qui 80.78 180 P **P 17 35 37.7 +0.8**
comp=Z,13nm,1.1s,baz=277,slow=2.0,SNR=18
QSPA LR LR 18 09 16.7
comp=Z,101nm,20.7s,baz=6.0,slow=34
comp=Z,13nm,1.1s
TIXI Tiksi 81.20 4 P **P 17 35 36.9 -1.8**
TIXI Tiksi 81.20 4 LR LR 18 13 56.7
comp=Z,37nm,21.4s,baz=214,slow=37
TIXI Tiksi 81.20 4 *i* P **P 17 35 36.6 -2.1**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
GNI Garni 81.43 313 LR LR 18 19 18.5
comp=Z,45nm,18.0s,baz=133,slow=41
GURO Guroymak-BITLI 82.91 311 IAmb IAmb 17 35 51.1
comp=Z,15nm,1.0s
KBZ Khabaz 83.91 316 P **P 17 35 54.0 +0.7**
comp=Z,4.0nm,0.9s,baz=109,slow=7.9,SNR=8.2
comp=Z,4.0nm,0.9s
KBZ Khabaz 83.91 316 *i* P **P 17 35 53.1 -0.3**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
BELG Belogornoye 84.06 325 *i* P **P 17 35 52.5 -1.4**
BELG pmax pmax
comp=Z,3.0nm,0.7s
MBAR Mbarara 84.59 270 *i* P **P 17 35 55.4 -2.4**
MBAR pmax pmax
comp=Z,3.0nm,0.6s
LSZ Lusaka 84.90 255 P **P 17 36 00.3 +1.1**
LSZ IAmb IAmb 17 36 02.7
comp=Z,20nm,1.2s
LSZ Lusaka 84.90 255 P **P 17 36 00.3 +1.1**
LSZ pmax pmax
comp=Z,21nm,1.2s
KIRV Kirov 85.69 331 *i* P **P 17 36 01.1 -0.9**
BOSA Boshof 85.73 242 P **P 17 36 03.3 +0.2**
comp=Z,4.4nm,0.6s,baz=88,slow=3.7,SNR=18
BOSA LR LR 18 09 42.4
comp=Z,59nm,19.1s,baz=112,slow=32
comp=Z,4.4nm,0.6s
NVL N'lazarevskaya 85.77 199 *eP* **P 17 36 03.5 +1.2**
NVL pmax pmax
comp=Z,22nm,1.0s
VSLR Vesyoloye 85.81 315 *i* P **P 17 36 03.4 +0.4**
VSLR pmax pmax
comp=Z,39nm,0.9s
LBTB Lobatse 85.94 245 LR LR 18 10 03.1
comp=Z,15nm,18.3s,baz=103,slow=32
SOC Sochi 86.06 315 *eP* **P 17 36 02.7 -1.5**
SOC *e* 17 39 22.1
SOC *e*PPP PPP 17 41 15.6
SOC *e*S **SKSac 17 46 21.7 -1.8**
SOC *e*SS **SS 17 52 06.8 -5.8**
SOC pmax pmax
comp=Z,17nm,0.8s
MMAI Mount Meron Ar 86.65 304 P **P 17 36 09.2 +1.8**
comp=Z,5.6nm,0.7s,baz=100,slow=8.6,SNR=5.7
comp=Z,5.6nm,0.7s
VRH Novokhopyorsk 87.06 323 *eP* **P 17 36 07.3 -1.6**
VRH pmax pmax
comp=Z,20nm,0.7s
TROLL Troll, Antarti 88.15 197 ⇑P **P 17 36 16.0 +2.0**
comp=Z,255nm,0.5s
VORD Divnogorie 88.45 322 *eP* **P 17 36 13.0 -2.5**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 88.60 322 *eP* **P 17 36 14.0 -2.2**
VSR pmax pmax
comp=Z,20nm,0.6s
VORR Voronezh 88.70 323 *eP* **P 17 36 16.9 +0.2**
VORR pmax pmax
comp=Z,30nm,1.2s
SUR Sutherland 88.92 238 LR LR 18 10 26.5
comp=Z,55nm,20.1s,baz=121,slow=32
LPSR Galich'ya Gora 89.13 324 *eP* **P 17 36 17.3 -1.4**
LPSR pmax pmax
comp=Z,20nm,1.0s
BR104 Keskin Array S 89.51 310 P **P 17 36 20.9 -0.1**
comp=Z,5.3nm,1.2s
BR131 Keskin Array S 89.52 310 *i* P **P 17 36 21.0 0.0**
BRTR Keskin Array B 89.52 310 P **P 17 36 20.2 -0.9**
BRTR Keskin Array B 89.52 310 P **P 17 36 21.4 +0.4**
comp=Z,2.4nm,0.9s,baz=103,slow=8.1,SNR=8.5
comp=Z,2.4nm,0.9s
BRTR Keskin Array B 89.52 310 *i* P **P 17 36 21.5 +0.4**
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BR105 Keskin Array S 89.53 310 P **P 17 36 21.5 +0.4**
comp=Z,4.4nm,0.9s
SNAA Sanae 89.80 196 P **P 17 36 22.4 +0.8**
SNAA Sanae 89.80 196 ⇑P **P 17 36 23.8 +2.1**
comp=Z,61nm,0.4s
SNAA Sanae 89.80 196 P **P 17 36 24.0 +2.4**
comp=Z,8.3nm,0.6s,baz=172,slow=5.8,SNR=5.5
SNAA LR LR 18 11 35.8
comp=Z,114nm,21.4s,baz=188,slow=32
comp=Z,8.3nm,0.6s
SNAA Sanae 89.80 196 *i* P **P 17 36 23.5 +1.8**
SNAA pmax pmax
comp=Z,13nm,1.0s
TBI Tubuai 91.11 114 *e*S **S 17 47 13.4 -7.5**
comp=Z,357nm,31.5s
TBI Tubuai 91.11 114 *e*LR LR 18 05 44.2
comp=Z,715nm,28.2s
OBN Obninsk 91.14 326⇓ *eP* **P 17 36 28.2 +0.2**
OBN *SP **pwP 17 36 54.0 +3.4**
OBN 17 40 03.0
OBN *i* S **SKSac 17 46 52.8 -0.4**
OBN *i* *SS **ScS 17 47 24.4 +1.7**
OBN pmax pmax
comp=Z,7.0nm,0.8s
OBN MLR MLR
comp=Z,68nm,17.0s
BELA Belgrano 2 91.44 186 P **P 17 36 30.2 +1.0**
VNA2 Neumayer--Watz 91.44 196 ⇑P **P 17 36 31.2 +1.9**
comp=Z,5.6nm,0.6s,baz=122,slow=4.9
VNA2 ⇑pP **pwP 17 36 52.6 -1.4**
comp=Z,2.5nm,0.7s,baz=108,slow=4.8
VNA3 Neumayer Olymp 91.87 195 ⇑P **P 17 36 32.6 +1.4**
comp=Z,4.6nm,0.6s
VNA3 ⇑pP **pP 17 36 54.3 +3.5**
comp=Z,4.2nm,0.7s
PPT2 Papeete2 92.03 108 *e*S **S 17 47 24.1 -5.5**
comp=Z,66nm,28.2s
PPT2 Papeete2 92.03 108 *e*LR LR 18 06 09.2
comp=Z,264nm,31.2s
AK09 Malin Array Si 94.56 320 P **P 17 36 43.2 -0.7**
AKASG Malin Array Be 94.62 320 P **P 17 36 42.6 -1.5**
comp=Z,1.1nm,0.5s,baz=87,slow=4.5,SNR=15
comp=Z,1.1nm,0.5s
AKASG Malin Array Be 94.62 320 *i* P **P 17 36 43.7 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 94.62 320 P **P 17 36 43.2 -0.9**
KIEV Kiev 94.62 320 P **P 17 36 43.1 -1.1**
SORM Soroca 94.80 318 P **P 17 36 43.9 -1.1**
MI28 Mi28,Pidlybu 95.62 321 P **P 17 36 45.8 -3.0**
RNPP9 Sopachiv 96.79 321 P **P 17 36 53.8 -0.3**
FINES FINESS Array B 97.68 331 P **P 17 36 56.8 -1.0**
comp=Z,2.0nm,0.6s,baz=92,slow=6.1,SNR=11
FINES PKKPbc **PKKPbc 17 53 34.7 -1.4**
comp=Z,1.1nm,0.9s,baz=248,slow=3.5,SNR=3.4
FINES LR LR 18 27 09.8
comp=Z,63nm,19.7s,baz=86,slow=39
comp=Z,2.0nm,0.6s
FINES FINESS Array B 97.68 331 *i* P **P 17 36 57.5 -0.3**
FINES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 98.52 339 LR LR 18 28 14.7
comp=Z,58nm,18.3s,baz=100,slow=40
KDAK Kodiak Island 98.83 33 LR LR 18 18 14.7
comp=Z,31nm,20.4s,baz=113,slow=33
TORD Torodi Ar. Bea 114.95 280 PKP **PKiKP 17 42 05.2 +0.3**
comp=Z,0.6nm,0.5s,baz=40,slow=1.9,SNR=5.8
TORD SKP 17 45 32.9
comp=Z,1.3nm,1.0s,baz=72,slow=1.5,SNR=4.5
PDAR Pinedale Array 128.51 42 PKP **PKiKP 17 42 31.8 +0.6**
comp=Z,1.0nm,0.8s,baz=90,slow=1.4,SNR=5.0
PDAR SKPbc SKPbc 17 45 42.5
comp=Z,0.5nm,0.6s,baz=204,slow=2.7,SNR=4.2
PLCA Paso Flores 130.00 174 SKPbc SKPbc 17 45 50.8 +1.4
comp=Z,11nm,1.0s,baz=168,slow=7.3,SNR=8.5
ULM Lac du Bonnet 131.61 26 SKPbc **SKPbc 17 45 53.2 -1.6**
comp=Z,16nm,0.9s,baz=302,slow=4.4,SNR=11
SCHQ Schefferville 134.48 2 SKPbc **SKPbc 17 46 03.4 -1.0**
comp=Z,11nm,1.0s,baz=339,slow=3.1,SNR=5.6
TXAR Lajitas Array 138.36 56 SKPbc **SKPbc 17 46 16.4 -0.8**
comp=Z,1.7nm,0.9s,baz=244,slow=1.7,SNR=5.9
CPUP Villa Florida 143.95 191 PKP **PKPdf 17 42 58.7 -0.6**
comp=Z,2.8nm,0.5s,baz=136,slow=2.8,SNR=5.8
LCAR Lake Charles 144.01 38 PKPbc 17 42 57.0 -0.1
L59A Walton 145.91 14 **PKPbc 17 43 02.6 -0.3**
WVT Waverly 145.91 35 **PKPdf 17 43 00.5 -1.8**
WVT Waverly 145.91 35 PKIKP **PKPdf 17 43 00.5 -1.8**
L61B Northampton 146.16 11 **PKPdf 17 43 00.8 -1.7**
P53A Whipple 146.35 24 PKPdf **PKPbc 17 43 04.3 +0.1**
PB06 IPOC Station P 147.90 171 **PKPdf 17 43 06.9 +0.6**
PB09 IPOC Station P 148.85 172 **PKPab 17 43 14.9 -0.8**
BDFB Brasilia 150.30 214 PKPbc **PKiKP 17 43 17.5 +1.3**
comp=Z,12nm,0.5s,baz=138,slow=2.1,SNR=20
LPAZ La Paz 154.42 172 PKPbc **PKiKP 17 43 25.7 +0.3**
comp=Z,0.9nm,0.5s,baz=218,slow=5.1,SNR=4.4
LPAZ PKPab **pPKPdf 17 43 38.9 +1.2**
comp=Z,3.8nm,0.7s,baz=184,slow=2.9,SNR=8.1

KRSC ***14*** *17:32:34.9±1.3, 50.°94N×157.°83E, h52km±18km, Ml4.9*
MOS ***14*** *17:32:37.3±0.9, 51.°10N×157.°38E, h81km, mb4.4/9, MS3.4/4, Error ellipse: s-maj=10.8km s-min=3.6km az=79.7*
NEIC ***14*** *17:32:38.7±1.2, 51.°1N±0.°1×157.°4E±0.°2, h73km±8km, mb4.5/47, Error ellipse: s-maj=20.1km s-min=11.4km az=133.0*
IDC ***14*** *17:32:40.8±1.6, 51.°15N×157.°38E, h93km±12km, mb3.9/24, mbtmp4.3/29, MS3.4/14, Error ellipse: s-maj=15.1km s-min=10.0km az=133.0*
ISC 14 17:32:37.2±0.9, 51.°01N±0.°05×157.°64E±0.°05, h69km±7km, n209, σ1§53/216, mb4.4/58, 2C-2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.70**	**312**	*eP*	**Pn**	**17 32 51.7**	**-0.3**
PAU				*e*S	**Sn**	**17 33 03.0**	**+0.1**
PAU	**Pauzhetka**	**0.70**	**312**	PN	**Pn**	**17 32 51.6**	**-0.3**
PAU				S	**Sn**	**17 33 02.9**	**+0.1**
KDTR	**Khodutka, Kamc**	**0.85**	**19**	*eP*	**Pn**	**17 32 52.8**	**-1.0**
KDTR				*e*S	**Sn**	**17 33 04.2**	**-1.8**
KDTR	**Khodutka, Kamc**	**0.85**	**19**	PN	**Pn**	**17 32 52.7**	**-1.0**
KDTR				S	**Sn**	**17 33 04.2**	**-1.8**
SKR	**Severo-Kuril's**	**1.02**	**252**	*i* P	**Pn**	**17 32 54.8**	**-0.9**
SKR				*e*S	**Sn**	**17 33 08.4**	**-1.2**
SKR	**Severo-Kuril's**	**1.02**	**252**	⇓*i* PN	**Pn**	**17 32 55.1**	**-0.7**
SKR				*i* S	**Sn**	**17 33 08.7**	**-0.9**
SKR				pmax	pmax		
	comp=Z,5μm,0.4s						
SKR				smax	smax		
	comp=N,44μm,0.6s						
SKR				smax	smax		
	comp=E,24μm,0.7s						
ASAK	**Asacha**	**1.39**	**7**	*eP*	**Pn**	**17 33 00.7**	**-0.1**
ASAK	**Asacha**	**1.39**	**7**	PN	**Pn**	**17 33 00.6**	**-0.1**
MTVR	**Mutnovka**	**1.52**	**13**	*eP*	**Pn**	**17 33 02.5**	**0.0**
MTVR				*e*S	**Sn**	**17 33 21.6**	**+0.1**
MTVR	**Mutnovka**	**1.52**	**13**	PN	**Pn**	**17 33 02.5**	**0.0**
MTVR				S	**Sn**	**17 33 21.6**	**+0.1**
RUS	**Russkaya**	**1.53**	**20**	*eP*	**Pn**	**17 33 01.6**	**-0.9**
RUS				*e*S	**Sn**	**17 33 20.5**	**-1.0**
RUS	**Russkaya**	**1.53**	**20**	PN	**Pn**	**17 33 01.6**	**-0.9**
RUS				S	**Sn**	**17 33 20.5**	**-1.0**
GRL	**Gorelyy**	**1.57**	**10**	*eP*	**Pn**	**17 33 03.6**	**+0.4**
GRL				*e*S	**Sn**	**17 33 23.6**	**+0.8**
GRL	**Gorelyy**	**1.57**	**10**	PN	**Pn**	**17 33 03.6**	**+0.4**
GRL				S	**Sn**	**17 33 23.6**	**+0.8**
KRMR	**Karymshinskiy**	**1.85**	**9**	*eP*	**Pn**	**17 33 07.6**	**+0.8**
KRMR				*e*S	**Sn**	**17 33 30.2**	**+0.9**
KRMR	**Karymshinskiy**	**1.85**	**9**	PN	**Pn**	**17 33 07.6**	**+0.8**
KRMR				S	**Sn**	**17 33 30.2**	**+0.9**
APC	**Apacha**	**1.95**	**351**	*i* P	**Pn**	**17 33 09.0**	**+1.0**
APC				*e*S	**Sn**	**17 33 32.1**	**+0.6**
APC	**Apacha**	**1.95**	**351**	PN	**Pn**	**17 33 09.0**	**+1.0**
APC				S	**Sn**	**17 33 32.1**	**+0.6**
PEA0B	**Petropavlovsk-**	**2.11**	**1**		**Pn**	**17 33 10.7**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.11**	**1**	*i* PN	**Pn**	**17 33 11.2**	**+1.0**
PETK	**Petropavlovsk-**	**2.11**	**1**		**Pn**	**17 33 10.0**	**-0.2**
PETK	**Petropavlovsk-**	**2.11**	**1**	P	**Pn**	**17 33 11.0**	**+0.7**
	comp=E,40nm,0.3s,baz=230,slow=14,SNR=238						
PETK				S	**Sn**	**17 33 39.1**	**+3.7**
	comp=E,154nm,0.5s,baz=173,slow=15,SNR=3.4						
PETK				LR	LR	17 33 58.6	
	comp=E,569nm,21.4s,baz=170,slow=40						
PET	**Petropavlovsk**	**2.12**	**17**		**Pn**	**17 33 10.8**	**+0.4**
PET	**Petropavlovsk**	**2.12**	**17**	*e*P	**Pn**	**17 33 10.6**	**+0.3**
PET				*e*S	**Sn**	**17 33 36.3**	**+0.8**
PET	**Petropavlovsk**	**2.12**	**17**	*e*PN	**Pn**	**17 33 10.7**	**+0.4**
PET				*e*S	**Sn**	**17 33 36.4**	**+0.8**
PET				smax	smax		
	comp=N,3μm,0.4s						
PET				smax	smax		
	comp=E,2μm,0.6s						
PET				MLR	MLR		
	comp=Z,500nm,18.0s						
DALK	**Dalny**	**2.14**	**18**	*eP*	**Pn**	**17 33 10.8**	**+0.1**
DALK				*e*S	**Sn**	**17 33 36.6**	**+0.3**

DALK Dalny 2.14 18 PN **Pn 17 33 10.7 +0.1**
DALK S **Sn 17 33 36.5 +0.3**
INSR Institute 2.15 16 *e*P **Pn 17 33 11.4 +0.6**
INSR *e*S **Sn 17 33 36.9 +0.4**
INSR Institute 2.15 16 PN **Pn 17 33 11.4 +0.6**
INSR S **Sn 17 33 36.8 +0.4**
UGLR Uglovaya 2.33 18 *e*P **Pn 17 33 14.5 +1.2**
UGLR Uglovaya 2.33 18 PN **Pn 17 33 14.5 +1.2**
AVH Avacha 2.36 16 *e*P **Pn 17 33 15.5 +1.7**
AVH Avacha 2.36 16 PN **Pn 17 33 15.5 +1.7**
KOK Koryaka 2.37 15 *e*P **Pn 17 33 15.7 +1.8**
KOK Koryaka 2.37 15 PN **Pn 17 33 15.7 +1.8**
SMAR Somma 2.37 17 *e*P **Pn 17 33 15.6 +1.6**
SMAR Somma 2.37 17 PN **Pn 17 33 15.6 +1.6**
KRER Koryakskii 2.40 16 *e*P **Pn 17 33 15.7 +1.3**
KRER Koryakskii 2.40 16 PN **Pn 17 33 15.7 +1.3**
SDLR Sedlovina 2.40 18 *e*P **Pn 17 33 15.2 +0.8**
SDLR Sedlovina 2.40 18 PN **Pn 17 33 15.1 +0.8**
NLC Nalytchevo 2.41 25 *e*P **Pn 17 33 13.8 -0.6**
NLC Nalytchevo 2.41 25 PN **Pn 17 33 13.7 -0.6**
KRX Arik 2.44 14 *e*P **Pn 17 33 16.6 +1.7**
KRX Arik 2.44 14 PN **Pn 17 33 16.5 +1.7**
SPN Mys Shipunski 2.56 34 *e*P **Pn 17 33 16.5 +0.1**
SPN *e*S **Sn 17 33 45.9 -0.6**
SPN Mys Shipunski 2.56 34 PN **Pn 17 33 16.5 +0.1**
SPN S **Sn 17 33 45.8 -0.6**
TUMD Tumrok D 4.52 21 *e*P **Pn 17 33 46.0 +2.9**
TUMR Tumrok 4.54 18 *e*P **Pn 17 33 46.9 +3.4**
TUMR Tumrok 4.54 18 PN **Pn 17 33 46.8 +3.4**
ESO Esso 4.97 7 *e*P **Pn 17 33 51.8 +2.6**
ESO Esso 4.97 7 PN **Pn 17 33 51.8 +2.6**
KMNR Kamenistaya 5.01 17 *e*P **Pn 17 33 52.7 +2.8**
KMNR Kamenistaya 5.01 17 PN **Pn 17 33 52.6 +2.8**
KPT Kopyto 5.20 16 *e*P **Pn 17 33 56.0 +3.5**
KPT Kopyto 5.20 16 PN **Pn 17 33 55.9 +3.5**
KIRR Kirishev 5.21 17 *e*P **Pn 17 33 56.0 +3.3**
KIRR Kirishev 5.21 17 PN **Pn 17 33 55.9 +3.3**
BZMR Bezymyannaya 5.22 18 *e*P **Pn 17 33 54.0 +1.1**
BZMR Bezymyannaya 5.22 18 PN **Pn 17 33 53.9 +1.1**
KOZ Kozyrevsk 5.24 14 *e*P **Pn 17 33 55.4 +2.6**
KOZ Kozyrevsk 5.24 14 PN **Pn 17 33 55.4 +2.6**
BZGR Bezymyannyi-Gr 5.27 19 *e*P **Pn 17 33 55.0 +1.5**
BZGR Bezymyannyi-Gr 5.27 19 PN **Pn 17 33 54.9 +1.5**
SMKR Semkarok 6.03 21 *e*P **Pn 17 34 05.1 +1.3**
SMKR Semkarok 6.03 21 PN **Pn 17 34 05.0 +1.3**
KBTR Krutoberegovo 6.05 29 *e*P **Pn 17 34 05.2 +1.1**
KBTR Krutoberegovo 6.05 29 PN **Pn 17 34 05.1 +1.1**
KBG Krutoberegovo 6.06 28 *e*P **Pn 17 34 05.7 +1.7**
KBG Krutoberegovo 6.06 28 PN **Pn 17 34 05.7 +1.7**
BKI Bering 6.55 47 *e*P **Pn 17 34 10.1 -0.6**
BKI Bering 6.55 47 PN **Pn 17 34 10.1 -0.6**
KUR Kuril'sk 8.72 232 *e*PN Pn 17 34 46.5 +6.1
KUR *e*S **Sn 17 36 25.4 +8.3**
KUR MLR MLR
comp=Z,400nm,10.0s
MA2 Magadan 9.44 338 P **Pn 17 34 49.4 -0.7**
comp=Z,3.9nm,0.5s,baz=146,slow=9.5,SNR=4.7
MA2 LR LR 17 38 50.0
comp=Z,135nm,20.5s,baz=174,slow=40
SHEM Shemya Is, Ala 10.33 74 LR LR 17 38 53.7
comp=Z,155nm,21.0s,baz=270,slow=36
YSS Yuzh-Sakhalins 10.59 253 **Pn 17 35 07.6 +1.7**
YSS Yuzh-Sakhalins 10.59 253 *e*PN **Pn 17 35 09.9 +4.0**
YSS *e*S **Sn 17 37 03.8 +1.1**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS smax smax
comp=N,20nm,1.3s
YSS smax smax
comp=E,10.0nm,1.1s
YSS MLR MLR
comp=Z,300nm,20.0s
YSS MLR MLR
comp=N,200nm,16.0s
YSS MLR MLR
comp=E,300nm,21.0s
JKA Kamikawa-asahi 12.26 242 **Pn 17 35 28.6 -0.2**
ASAJ Asahikawa 12.26 242 P **Pn 17 35 29.8 +1.0**
comp=E,16nm,0.6s,baz=59,slow=6.2,SNR=18
ASAJ LR LR 17 39 59.2
comp=E,178nm,19.1s,baz=32,slow=36
SEY Seymchan 12.29 349 *i* PN **Pn 17 35 28.8 -0.2**
SEY pmax pmax
comp=Z,19nm,1.7s
ERM Erimo 13.41 233 **Pn 17 35 42.0 -2.2**
ERM Erimo 13.41 233 *i* PN **Pn 17 35 40.9 -3.3**
TEY Ternei 15.27 255 *e*P **P 17 36 13.6 +1.7**
JTM Tenmabayashi 15.38 235 Pn Pn 17 36 03.1 -6.8
KLR Kul'dur 16.67 274 P **P 17 36 26.8 -0.7**
comp=Z,5.1nm,1.0s,baz=63,slow=12,SNR=7.8
KLR LR LR 17 43 04.6
comp=Z,172nm,20.7s,baz=93,slow=38
KLR Kul'dur 16.67 274 *i* P **Pn 17 36 24.6 -1.6**
KLR pmax pmax
comp=Z,10.0nm,1.1s
BILL Bilibino 17.61 11 *i* P **P 17 36 37.7 +0.1**
BILL pmax pmax
comp=Z,15nm,1.1s
JMM Marumori 17.75 229 P **P 17 36 37.6 -1.9**
JMM IAmb IAmb 17 37 05.4
comp=Z,50nm,1.3s
USRK Ussuriysk Ar. 18.53 258 P **P 17 36 47.6 -0.3**
USRK Ussuriysk Ar. 18.53 258 P **P 17 36 47.4 -0.5**
comp=Z,3.7nm,0.9s,baz=69,slow=11,SNR=4.0
USRK LR LR 17 43 57.1
comp=Z,148nm,19.9s,baz=48,slow=37
USRK Ussuriysk Ar. 18.53 258 P **P 17 36 47.6 -0.3**
ZEA Zeya 18.68 290 *e*P **Pn 17 36 50.0 -0.7**
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=E,100nm,12.0s
ZEA MLR MLR
comp=Z,200nm,15.0s
YAK Yakutsk 18.79 317 P **P 17 36 49.2 -1.5**
YAK IAmb IAmb 17 37 15.1
comp=Z,41nm,1.2s
YAK Yakutsk 18.79 317 P **Pn 17 36 49.8 -2.0**
comp=Z,14nm,0.4s,baz=123,slow=1.4,SNR=6.6
YAK LR LR 17 44 43.9
comp=Z,274nm,18.4s,baz=90,slow=39
YAK Yakutsk 18.79 317 *e*P **Pn 17 36 49.8 -2.0**
YAK *e*S **Sn 17 40 20.7 -0.6**
YAK pmax pmax
comp=Z,22nm,1.4s
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK smax smax
comp=E,90nm,3.1s
YAK smax smax
comp=N,54nm,2.0s
HEH HeiHe 19.13 280 *e*P **Pn 17 36 55.3 -0.7**
HEH pmax pmax
comp=Z,38nm,0.9s
MDJ Mudanjiang 19.81 262 **P 17 37 00.6 -1.4**
MDJ Mudanjiang 19.81 262 P **P 17 36 59.3 -2.7**
MDJ pmax pmax
comp=Z,6.0nm,2.1s
MJB9 Matsu-Tunnel 20.06 231 P Pn 17 37 06.5 -0.6
MJB9 IAmb IAmb 17 37 11.6
comp=Z,22nm,0.8s
MAJO Matsushiro 20.06 231 P **P 17 37 05.7 +1.0**
MAJO IAmb IAmb 17 37 10.6
comp=Z,22nm,0.8s
MAJO Matsushiro 20.06 231 P **P 17 37 05.7 +1.0**
MAJO pmax pmax
comp=Z,22nm,0.8s
MJAR Matsushiro Arr 20.06 231 P **P 17 37 05.7 +1.0**
comp=Z,10.0nm,0.9s,baz=25,slow=10,SNR=16
comp=Z,10.0nm,0.9s
BNX BinXian 20.68 267 ⇑P Pn 17 37 12.4 -1.8
BNX pmax pmax
comp=Z,6.0nm,1.1s
JGF Kuroka 21.22 231 P **P 17 37 17.7 +0.5**
JGF IAmb IAmb 17 37 27.1
comp=Z,24nm,1.1s
INU Inuyama 21.59 231 **P 17 37 21.3 +0.1**
INU IAmb IAmb 17 37 22.7
comp=Z,35nm,0.8s
CN2 Changchun 22.81 264 *e*P **P 17 37 33.0 -1.1**
CN2 *e*S **S 17 41 31.4 -6.5**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=N,100nm,10.0s
CN2 LR LR
comp=E,200nm,10.0s
CN2 LR LR
comp=Z,200nm,10.0s
TIXI Tiksi 24.41 338 P **P 17 37 47.9 -0.7**
TIXI Tiksi 24.41 338 LR LR 17 47 58.2
comp=Z,104nm,21.1s,baz=143,slow=38
TIXI Tiksi 24.41 338 *i* P **P 17 37 47.5 -1.1**
TIXI pmax pmax
comp=Z,4.0nm,0.9s
KSRS Korea Array 25.03 249 P **P 17 37 55.8 +1.1**
comp=Z,6.1nm,0.9s,baz=45,slow=9.5,SNR=17
comp=Z,6.1nm,0.9s
C18K Utukok River 26.43 33 P **P 17 38 07.5 +0.4**
C18K IAmb IAmb 17 38 21.7
comp=Z,14nm,1.2s
JNU Nakatsue 26.50 238 P **P 17 38 08.0 0.0**
JNU IAmb IAmb 17 38 15.6
comp=Z,22nm,0.9s
IMAR Indian Mountai 28.57 40 P **P 17 38 25.9 -0.3**
H21K Melozitna Rive 28.92 41 P **P 17 38 30.4 +1.1**
B21K Ikpikpuk River 28.98 32 P **P 17 38 30.8 +1.1**
B21K IAmb IAmb 17 38 47.0
comp=Z,15nm,1.1s
CAST Castle Rocks 29.08 45 P **P 17 38 32.5 +1.7**
SKT Skwentna 29.34 48 P **P 17 38 34.6 +1.5**
D22K Ayikyak River 29.47 34 P **P 17 38 35.7 +1.6**
D22K IAmb IAmb 17 39 10.1
comp=Z,19nm,1.4s
B22K Teshekpuk Lake 29.56 31 P **P 17 38 35.2 +0.4**
B22K IAmb IAmb 17 39 03.7
comp=Z,20nm,1.4s
KTH Kantishna Hill 29.61 45 P **P 17 38 37.0 +1.5**
KTH IAmb IAmb 17 38 41.0
comp=Z,18nm,1.4s
E22K Anaktuvuk Pass 29.65 36 P **P 17 38 36.8 +1.0**
CNPM China Poot 29.66 53 P **P 17 38 35.9 0.0**
SUA Susitna One 29.74 49 P **P 17 38 35.9 -0.8**
C23K Itkillik River 30.38 33 P **P 17 38 42.8 +0.6**
C23K IAmb IAmb 17 39 23.2
comp=Z,11nm,1.4s
E23K Chandalar 30.45 36 P **P 17 38 43.7 +0.8**
COLA College 30.96 43 *i* P **P 17 38 45.8 -1.4**
COLA pmax pmax
comp=Z,6.0nm,0.9s
CCB Clear Creek Bu 30.98 43 P **P 17 38 48.2 +0.7**
IL31 31.37 43 P **P 17 38 51.3 +0.5**
ILAR Eielson Array 31.37 43 P **P 17 38 51.5 +0.6**
comp=Z,1.5nm,0.9s,baz=265,slow=8.8,SNR=14
ILAR LR LR 17 52 35.8
comp=Z,48nm,19.3s,baz=292,slow=38
comp=Z,1.5nm,0.9s
D25K Kavik River 31.77 34 P **P 17 38 55.1 +0.6**
D25K IAmb IAmb 17 39 10.9
comp=Z,4.9nm,0.7s
PRP Porcupine Dome 31.94 41 P **P 17 38 57.0 +0.9**
PRP IAmb IAmb 17 38 58.1
comp=Z,8.0nm,1.1s
H11N2 WAKE ISLAND Hy 32.05 163 T T 18 12 43.2
baz=349,slow=76,SNR=264
H11N3 WAKE ISLAND Hy 32.07 163 T T 18 12 44.4
baz=349,slow=76,SNR=198
H11N1 WAKE ISLAND Hy 32.07 163 T T 18 12 44.4
baz=349,slow=76,SNR=121
ULN Ulaanbaatar 32.52 285 *i* P **P 17 39 00.1 -1.3**
ULN pmax pmax
comp=Z,10.0nm,3.0s
SONM Songino Array 32.94 285 P **P 17 39 04.0 -1.0**
comp=Z,1.0nm,0.6s,baz=68,slow=7.6,SNR=4.4
SONM PcP **PcP 17 41 48.0 +0.3**
comp=Z,1.8nm,0.7s,baz=92,slow=1.7,SNR=8.2
comp=Z,1.0nm,0.6s
HHC Hu-ho-hao-te 33.12 270 *e*P P 17 38 58.1 -8.5
HHC pmax pmax
comp=Z,22nm,0.5s
HHC pmax pmax
comp=Z,75nm,4.7s
HHC LR LR
comp=N,170nm,15.6s
HHC LR LR
comp=E,160nm,15.2s
HHC LR LR
comp=Z,160nm,15.1s
HNS HongShan 33.16 263 ⇓P **P 17 39 06.9 +0.1**
HNS pmax pmax
comp=Z,11nm,1.0s
H11S1 WAKE ISLAND Hy 33.22 164 T T 18 14 08.9
baz=349,slow=76,SNR=411
H11S3 WAKE ISLAND Hy 33.23 164 T T 18 14 08.9
baz=349,slow=76,SNR=217
H11S2 WAKE ISLAND Hy 33.23 164 T T 18 14 10.3
baz=349,slow=76,SNR=212
L27K Beaver Creek, 33.73 46 P **P 17 39 12.9 +1.3**
L27K IAmb IAmb 17 39 14.4
comp=Z,8.9nm,1.2s
BCAR Beaver Creek A 33.75 46 P **P 17 39 13.6 +1.8**
I30M Mount Dempster 35.78 41 P **P 17 39 30.4 +1.1**
I30M IAmb IAmb 17 39 31.3
comp=Z,13nm,1.5s
NRIK Noril'sk 36.77 326 LR LR 17 55 22.2
comp=Z,99nm,18.4s,baz=78,slow=37
LZH Lanzhou 40.81 270 *e*P P 17 40 04.0 -7.9
LZH pP pP 17 40 21.8 -7.1
LZH pmax pmax
comp=Z,20nm,1.1s
ENH Enshi 41.11 259 IAmb IAmb 17 40 15.0
comp=Z,5.4nm,0.8s
GTA Gaotai 41.34 277 P **P 17 40 17.5 +1.3**
GTA pP pP 17 40 21.8 -11
GTA pmax pmax
comp=Z,5.0nm,1.0s
ZALV Zalesovo Beam 42.65 304 P **P 17 40 24.9 -1.6**
comp=Z,0.6nm,0.4s,baz=50,slow=6.0,SNR=3.3
ZALV PcP **PcP 17 42 18.2 +1.0**
comp=Z,0.6nm,0.5s,baz=59,slow=5.7,SNR=3.5
comp=Z,0.6nm,0.4s
BBB Bella Bella 44.24 58 LR LR 18 00 14.3
comp=Z,30nm,19.2s,baz=270,slow=37
EUNU Eureka 44.34 13 P **P 17 40 41.1 +1.2**
EUNU IAmb IAmb 17 41 10.8
comp=Z,5.9nm,1.1s
GYA Guiyang 45.56 257 ⇑P **P 17 40 51.4 +1.1**
GYA pmax pmax
comp=Z,20nm,0.8s
YKA Yellowknife Ar 45.73 40 P **P 17 40 50.6 -0.4**
comp=Z,2.5nm,0.8s,baz=285,slow=14,SNR=4.4
comp=Z,2.5nm,0.8s
RES Resolute Bay 45.82 21 P **P 17 40 52.4 +0.8**
RES IAmb IAmb 17 40 53.7
comp=Z,7.0nm,1.2s
RES Resolute Bay 45.82 21 P **P 17 40 52.4 +0.8**
RES pmax pmax
comp=Z,7.0nm,1.2s
WMQ Urumqi 46.24 290 *e*P **P 17 40 57.6 +2.3**
WMQ LR LR
comp=Z,260nm,23.9s
KURK Kurchatov 47.56 302 *i* P **P 17 41 03.7 -1.7**
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURBB Kurchatov Arra 47.66 302 P **P 17 41 05.0 -1.2**
comp=Z,1.9nm,0.4s,baz=60,slow=7.3,SNR=23
comp=Z,1.9nm,0.4s
MK31 Makanchi Array 47.70 296 *i* P **P 17 41 05.2 -1.4**
MKAR Makanchi Array 47.70 296 **P 17 41 05.6 -1.0**
MKAR Makanchi Array 47.70 296 P **P 17 41 05.9 -0.8**
comp=Z,2.4nm,0.9s,baz=68,slow=6.1,SNR=20
comp=Z,2.4nm,0.9s
MKAR Makanchi Array 47.70 296 *e*P **P 17 41 05.8 -0.8**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
PZH PanZhiHua 48.59 262 P **P 17 41 13.9 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,6.3s
SPITS Spitsbergen Ar 48.94 350 P **P 17 41 15.7 0.0**
comp=Z,2.4nm,0.4s,baz=66,slow=8.3,SNR=18
comp=Z,2.4nm,0.4s
SPITS Spitsbergen Ar 48.94 350 P **P 17 41 15.8 0.0**
SPITS pmax pmax
comp=Z,51nm,1.4s
SPB2 Spitsbergen Ar 48.94 350 P **P 17 41 15.4 -0.4**
BVAR Borovoye Array 50.50 309 P **P 17 41 26.5 -1.4**
comp=Z,1.3nm,0.3s,baz=53,slow=8.2,SNR=9.3
comp=Z,1.3nm,0.3s
SLVN Son La 51.04 255 **P 17 41 33.5 +1.1**
AAK Ala-Archa 54.63 296 *i* P **P 17 41 58.0 -0.8**
AAK pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 54.79 341 P **P 17 41 58.2 -1.1**
comp=Z,3.1nm,0.9s,baz=33,slow=9.0,SNR=3.5
comp=Z,3.1nm,0.9s
PHRA Phrae 55.43 256 **P 17 42 06.0 +1.4**
CHTO Chiang Mai 55.98 258 **P 17 42 09.6 +1.1**
CHTO Chiang Mai 55.98 258 P **P 17 42 09.6 +1.1**
CHTO pmax pmax
comp=Z,27nm,0.9s
CMAR Chiang Mai Arr 56.25 257 **P 17 42 11.8 +1.3**
CMAR Chiang Mai Arr 56.25 257 P **P 17 42 12.2 +1.8**
comp=Z,15nm,0.8s,baz=26,slow=6.8,SNR=100
CMAR LR LR 18 06 29.7
comp=Z,20nm,22.0s,baz=95,slow=36
comp=Z,15nm,0.8s
NVAR Mina Array Bea 57.92 67 P **P 17 42 23.3 +1.1**
NVAR Mina Array Bea 57.92 67 P **P 17 42 23.8 +1.5**
comp=Z,0.4nm,0.4s,baz=291,slow=6.6,SNR=8.1
NVAR LR LR 18 05 54.9
comp=Z,25nm,19.6s,baz=292,slow=34
comp=Z,0.4nm,0.4s
ABKAR Akbulak array 57.98 310 P **P 17 42 20.6 -1.6**
BTK Batken 58.41 296 IAmb IAmb 17 42 27.2
comp=Z,4.1nm,1.1s
HVU Hansel Valley 58.81 61 P **P 17 42 28.5 +0.2**
HVU IAmb IAmb 17 42 33.4
comp=Z,2.9nm,0.9s
HVU Hansel Valley 58.81 61 P **P 17 42 28.5 +0.2**
HVU pmax pmax
comp=Z,3.0nm,0.9s
GAR Garm 59.41 295 **P 17 42 31.1 -1.5**
PDAR Pinedale Array 59.89 58 P **P 17 42 36.6 +0.8**
SIMJ Simiganj 60.39 296 **P 17 42 38.5 -0.7**
SIMJ IAmb IAmb 17 42 42.2
comp=Z,5.2nm,1.0s
FINES FINESS Array B 61.42 336 P **P 17 42 45.4 -0.3**
comp=Z,1.0nm,0.4s,baz=34,slow=6.8,SNR=18
comp=Z,1.0nm,0.4s
NB2 NORSAR Subarra 65.11 343 P **P 17 43 09.1 -1.0**
comp=Z,1.7nm,0.6s,baz=23,slow=6.5
NOA NORSAR Array B 65.11 343 P **P 17 43 09.7 -0.4**
comp=Z,0.4nm,0.4s,baz=25,slow=6.4,SNR=7.2
comp=Z,0.4nm,0.4s
HFS Hagfors 65.45 341 P **P 17 43 11.4 -0.9**
comp=Z,0.6nm,0.3s,baz=66,slow=3.6,SNR=6.9
comp=Z,0.6nm,0.3s
AKASG Malin Array Be 69.60 328 P **P 17 43 36.5 -2.0**
comp=Z,0.5nm,0.4s,baz=33,slow=6.9,SNR=6.7
AKASG LR LR 18 17 01.6
comp=Z,70nm,18.9s,baz=90,slow=38
comp=Z,0.5nm,0.4s
KIV Kislovodsk 69.90 316 *e*P P 17 43 34.2 -6.5
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,37nm,17.0s
EKA Eskdalemuir Ar 72.83 349 P **P 17 43 58.1 +0.2**
comp=Z,2.6nm,0.4s,baz=17,slow=5.1,SNR=34
comp=Z,2.6nm,0.4s
TXAR Lajitas Array 72.88 65 P **P 17 44 00.7 +1.8**
comp=Z,0.9nm,0.4s,baz=318,slow=3.4,SNR=6.5
comp=Z,0.9nm,0.4s
WRA Warramunga Arr 73.56 203 P **P 17 44 03.4 +0.8**
comp=Z,3.9nm,0.9s,baz=17,slow=6.1,SNR=11
comp=Z,3.9nm,0.9s
ASAR Alice Springs 77.24 202 P **P 17 44 25.3 +1.6**
comp=Z,2.1nm,0.8s,baz=16,slow=5.2,SNR=15
comp=Z,2.1nm,0.8s
NRCA Norcia 81.57 334 P **P 17 44 47.8 +0.6**
NRCA IAmb IAmb 17 44 49.1
comp=Z,17nm,1.2s
MMAI Mount Meron Ar 82.11 314 P **P 17 44 51.0 +0.8**
comp=Z,1.7nm,0.4s,baz=51,slow=6.6,SNR=12
comp=Z,1.7nm,0.4s
PPT Papeete 82.42 130 LR LR 18 18 14.4
comp=Z,37nm,18.1s,baz=198,slow=33
RAYN Ar Rayn 84.89 301 **P 17 45 04.0 -0.6**
RAYN Ar Rayn 84.89 301 P **P 17 45 04.0 -0.6**
RAYN pmax pmax
comp=Z,12nm,1.1s
ESDC Sonseca Array 88.27 346 P **P 17 45 20.3 -0.6**
ESDC IAmb IAmb 17 45 21.5
comp=Z,2.8nm,1.0s
ESDC Sonseca Array 88.27 346 P **P 17 45 20.6 -0.3**
comp=Z,2.6nm,0.9s,baz=1.5,slow=4.0,SNR=11
comp=Z,2.6nm,0.9s
KEST Kesra 89.23 335 P **P 17 45 25.6 +0.2**
KEST Kesra 89.23 335 P **P 17 45 26.1 +0.6**
comp=Z,4.4nm,0.5s,baz=339,slow=2.0,SNR=9.0
comp=Z,4.4nm,0.5s
DBIC Dimbokro 120.60 340 PKP **PKiKP 17 51 21.2 -0.1**
comp=Z,2.4nm,0.6s,baz=8.6,slow=0.6,SNR=4.3
H03N2 Juan Fernandez 135.74 89 T T 20 22 25.9
baz=314,slow=77,SNR=258
H03N1 Juan Fernandez 135.75 89 T T 20 22 27.3
baz=314,slow=77,SNR=303
H03N3 Juan Fernandez 135.76 89 T T 20 22 24.8
baz=314,slow=77,SNR=309
QSPA South Pole Qui 140.75 180 PKhKP PKPpre 17 51 52.8
comp=Z,1.8nm,0.9s,baz=305,slow=9.4,SNR=5.3
PLCA Paso Flores 145.48 92 PKPbc **PKPab 17 52 08.0 +0.7**
comp=Z,2.5nm,0.8s,baz=339,slow=5.1,SNR=4.2

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*IDC **14** 17:50:08.2±2.0, 35°.31N×81°.27E, h0km, mb3.3/4, mbtmp3.3/8, ML2.9/4, Error ellipse: s-maj=62.1km s-min=19.0km az=74.0*

ISC 14 17:50:08.8±1.7, 35°.3N±0°.1×81°.1E±0°.3, h10km, n8, σ1§67/9, mb3.4/4, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**11.52**	**4**	Pn	**Pn**	**17 52 55.7**	**+2.3**
	0.2nm,0.3s,baz=190,slow=13,SNR=8.8						
MKAR				Sn	**Sn**	**17 55 01.6**	**-0.5**
	0.1nm,0.3s,baz=185,slow=25,SNR=2.7						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**15.43**	**354**	Pn	**Pn**	**17 53 44.1**	**-2.4**
	baz=177,slow=11,SNR=1.9						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**18.83**	**7**	P	**P**	**17 54 27.9**	**-0.7**
	0.1nm,0.3s,baz=166,slow=7.3,SNR=1.3						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**19.28**	**340**	P	**P**	**17 54 33.6**	**+0.1**
	0.1nm,0.3s,baz=145,slow=10,SNR=1.5						
	0.3nm,0.4s						
SONM	**Songino Array**	**22.58**	**49**	P	**P**	**17 55 08.7**	**-0.7**
	0.1nm,0.3s,baz=249,slow=7.6,SNR=2.3						
	0.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**23.06**	**132**	P	**P**	**17 55 13.0**	**-1.5**
	0.3nm,0.4s,baz=328,slow=10.0,SNR=2.3						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**74.60**	**129**	P	**P**	**18 01 49.5**	**+1.2**
	0.5nm,0.7s,baz=327,slow=5.6,SNR=3.1						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**77.07**	**131**	P	**P**	**18 02 03.2**	**+0.8**
	0.3nm,0.5s,baz=320,slow=5.7,SNR=11						
	0.3nm,0.5s						

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*SJA **14** 17:53:51.0, 27°.21S×71°.60W, h10km, ML3.8*
*GUC **14** 17:53:53.1±0.8, 27°.27S×71°.44W, h43km±5km, ML3.4*

ISC 14 17:53:47.9±2.3, 27°.34S±0°.05×71°.71W±0°.09, h1km±16km, n19, σ1§16/24, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**1.03**	**147**	*e*P	**Pn**	**17 54 11.5**	**+1.9**
AC04				IAML		17 54 26.4	
	comp=E,1μm,0.3s						
AC04	**Llanos de Chal**	**1.03**	**147**	*i* P	**Pn**	**17 54 10.9**	**+1.4**
AC06	**Mina Casimiro**	**1.21**	**91**	⇓*i*P	**Pb**	**17 54 11.7**	**+0.1**
AC06				*e*S	**Sg**	**17 54 25.7**	**-1.1**
AC06				IAML		17 54 27.9	
	comp=N,2μm,0.3s						
GO03	**Copiapo**	**1.34**	**101**	⇓*i*P	**Pg**	**17 54 14.2**	**+0.7**
GO03				*e*S	**Sg**	**17 54 29.8**	**-1.1**
GO03				IAML		17 54 31.8	
	comp=E,2μm,0.2s						
GO03	**Copiapo**	**1.34**	**101**	*i* P	**Pb**	**17 54 13.5**	**-0.3**
AC01	**Pan de Azucar**	**1.55**	**40**	⇑*i*P	**Pn**	**17 54 17.1**	**+0.5**

AC01	Pan de Azucar	1.55	40	*i* P	Pn	17 54 16.4	-0.2
LCO	Las Campanas	1.89	152	⇑*i*P	Pg	17 54 25.5	+1.3
LCO	Las Campanas	1.89	152	*i* P	Pg	17 54 24.9	+0.7
CO05	La Serena	2.61	171	*e*P	Pg	17 54 38.1	+0.3
CO05				*e*S	Sb	17 55 07.1	-0.8
GO02	Mina Guanaco	2.88	42	*e*P	Pn	17 54 37.2	+1.9
GO02				*e*S	Sn	17 55 10.7	0.0
GO02	Mina Guanaco	2.88	42	*i* P	Pn	17 54 36.7	+1.4
GO04	Tololo Observa	2.94	164	*e*P	Pb	17 54 40.5	-0.7
GO04				*i* S	Sb	17 55 15.5	-2.3
PB14	IPOC Station P	2.94	24	*e*P	Pn	17 54 36.6	+0.5
PB14				IAML		17 55 29.5	
	comp=E,83nm,0.4s						
PB14	IPOC Station P	2.94	24	*i* P	Pn	17 54 36.2	+0.1
CO01	Juntas del Tor	2.99	152	*e*P	Pb	17 54 41.9	-0.3
CO01	Juntas del Tor	2.99	152	*i* P	Pb	17 54 41.3	-0.8
PB15	IPOC Station P	4.58	27	*i* P	Pn	17 55 00.1	+1.6
PB06	IPOC Station P	5.00	23	*i* P	Pn	17 55 04.5	+0.2

*NOU **14** 17:57:22.5, 19°.97S×176°.95W, h501km, mb4.4/34, Fiji Islands Region*
*NEIC **14** 17:57:28.6±2.1, 20°.4S±0°.1×177°.6W±0°.1, h514km±6km, mb4.6/63, Error ellipse: s-maj=18.7km s-min=12.6km az=144.0*
*IDC **14** 17:57:29.7±1.2, 20°.35S×177°.74W, h526km±11km, mb3.6/13, mbtmp4.5/16, Error ellipse: s-maj=15.5km s-min=11.2km az=146.0*

ISC 14 17:57:26.9±0.4, 20°.44S±0°.08×177°.55W±0°.07, h500km, n154, σ1§43/149, mb4.5/44, 2C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.96	302	P	P	17 58 56.0	+2.4
MSVF	Nonsavu	4.96	302	P	P	17 58 55.8	+2.2
	14nm,0.4s,baz=124,slow=5.7,SNR=35						
MSVF				S	S	18 00 06.8	+2.5
	7.3nm,0.8s,baz=153,slow=23,SNR=0.9						
FUTU	Fugatoga	6.12	355	P	P	17 59 05.1	+0.6
NIUE	Niue	7.30	81	P	P	17 59 16.2	+0.1
AFI	Afiamalu	8.52	41		P	17 59 27.2	-1.6
FUNA	Funafuti	12.26	345	P	P	18 00 08.4	+0.1
PINNC	Pines Island,	14.13	258	P	P	18 00 29.8	+1.8
DZM	Mont Dzumac	15.02	261	P	P	18 00 38.6	+1.2
DZM				IAmb	IAmb	18 01 18.4	
	comp=Z,24nm,1.5s						
DZM	Mont Dzumac	15.02	261	P	P	18 00 38.6	+1.2
	comp=Z,5.2nm,0.5s,baz=126,slow=22,SNR=11						
DZM	Mont Dzumac	15.02	261	P	P	18 00 40.8	+3.4
OUZ	Omahuta	16.66	206	P	P	18 00 58.2	+3.9
KOUNC	Koumac, New Ca	17.02	266	P	P	18 00 59.9	+1.8
KOUNC				IAmb	IAmb	18 01 01.2	
	comp=Z,22nm,0.8s						
KUZ	Kuaotunu	17.28	198	P	P	18 01 03.4	+3.0
KUZ	Kuaotunu	17.28	198	P	P	18 01 03.4	+3.0
MXZ	Matakaoa Point	17.44	191	P	P	18 01 03.1	+1.2
MXZ	Matakaoa Point	17.44	191	P	P	18 01 04.0	+2.1
WIAZ	Waiheke Island	17.50	200	P	P	18 01 05.9	+3.4
MBAZ	Motutapu North	17.56	200	P	P	18 01 05.9	+2.9
HAZ	Te Kaha	17.73	192	P	P	18 01 05.4	+0.8
MKAZ	Moumakai	17.78	199	P	P	18 01 08.2	+3.2
WTAZ	Waiatarua	17.82	201	P	P	18 01 08.9	+3.5
AWAZ	Awhitu Peninsu	17.91	201	P	P	18 01 09.0	+2.7
RUGZ	Raukumara Rang	17.95	192	P	P	18 01 07.5	+0.8
TWGZ	Tauwhareparae	18.10	191	P	P	18 01 10.4	+2.4
TOZ	Tahuroa Road	18.26	198	P	P	18 01 10.9	+1.5
LIRZ	Lichensteins R	18.28	195	P	P	18 00 59.8	-10
MWZ	Matawai	18.34	192	P	P	18 01 11.0	+0.8
URZ	Urewera	18.35	193	P	P	18 01 10.4	+0.2
	comp=Z,36nm,0.3s,baz=29,slow=2.6,SNR=77						
URZ				S	S	18 04 08.1	-4.3
	comp=Z,1.9nm,0.3s,baz=142,slow=12,SNR=1.9						
URZ	Urewera	18.35	193	P	P	18 01 09.0	-1.3
URZ	Urewera	18.35	193	P	P	18 01 10.4	+0.2
RIGZ	Rimuhau	18.65	192	P	P	18 01 14.4	+1.4
RTZ	Ruatahuna	18.72	193	P	P	18 01 13.5	-0.3
HIZ	Hauiti	19.17	198	P	P	18 01 20.4	+2.6
HIZ	Hauiti	19.17	198	P	P	18 01 21.0	+3.2
BKZ	Black Stump Fm	19.36	194	P	P	18 01 18.1	-1.4
BKZ				IAmb	IAmb	18 01 32.2	
	comp=Z,11nm,0.6s						
BKZ	Black Stump Fm	19.36	194	P	P	18 01 18.6	-0.9
KHEZ	Kahui Hut	20.15	199	P	P	18 01 28.6	+1.8
BFZ	Birch Farm	20.86	193	P	P	18 01 33.0	-0.1
BFZ	Birch Farm	20.86	193	P	P	18 01 33.4	+0.3
MRZ	Mangatainoka R	20.99	195		P	18 01 33.2	-1.1
MRZ				IAmb	IAmb	18 01 35.8	
	comp=Z,16nm,1.0s						
MSWZ	Moikau Station	21.79	195	P	P	18 01 41.1	-0.4
SNZO	South Karori	21.82	196	P	P	18 01 40.6	-1.2
SNZO	South Karori	21.82	196	P	P	18 01 42.5	+0.7
TCW	Tory Channel	21.84	197	P	P	18 01 42.1	+0.1
PLWZ	Palliser	21.93	195	P	P	18 01 43.0	+0.1
QRZ	Quartz Range	22.01	200	P	P	18 01 44.3	+0.8
QRZ				IAmb	IAmb	18 01 48.3	
	comp=Z,16nm,0.8s						
QRZ	Quartz Range	22.01	200	P	P	18 01 44.9	+1.4
TKNZ	Takaka Hill	22.06	199	P	P	18 01 43.6	-0.4
TUWZ	Tuamarina	22.14	197	P	P	18 01 45.1	+0.5
MRNZ	Matariki Terra	22.46	199	P	P	18 01 47.9	+0.4
THZ	Tophouse	22.74	199	P	P	18 01 50.6	+0.4
DSZ	Denniston Nort	23.08	201	P	P	18 01 53.7	+0.6
DSZ				IAmb	IAmb	18 01 54.9	
	comp=Z,14nm,0.7s						
KHZ	Kahutara	23.16	197	P	P	18 01 53.9	+0.1
KHZ				IAmb	IAmb	18 02 09.5	
	comp=Z,31nm,1.4s						
CTZ	Chatham Island	23.24	178	P	P	18 01 52.2	-2.3
GVZ	Greta Valley S	23.82	197	P	P	18 01 59.7	+0.1
GVZ				IAmb	IAmb	18 02 01.7	
	comp=Z,21nm,0.8s						
LTZ	Lake Taylor	23.87	199	P	P	18 01 59.4	-0.7
LTZ				IAmb	IAmb	18 02 03.6	
	comp=Z,19nm,1.0s						
INZ	Inchbonnie	24.07	200	P	P	18 02 01.4	-0.5
INZ				IAmb	IAmb	18 02 03.3	
	comp=Z,11nm,0.7s						
OXZ	Oxford	24.43	199	P	P	18 02 04.7	-0.5
OXZ				IAmb	IAmb	18 02 07.6	
	comp=Z,19nm,1.0s						
FOZ	Fox Glacier	25.34	202	P	P	18 02 12.8	-0.4
FOZ				IAmb	IAmb	18 02 19.1	
	comp=Z,19nm,1.2s						
JCZ	Jackson Bay	26.18	203	P	P	18 02 21.7	+1.0
WKZ	Wanaka	26.75	202	P	P	18 02 25.7	0.0
WHZ	Wether Hill Ro	28.05	202	P	P	18 02 38.8	+1.8
CTAO	Charters Tower	33.92	264	P	P	18 03 27.8	-0.1
CTAO				IAmb	IAmb	18 03 28.8	
	comp=Z,13nm,0.7s						
CTAO	Charters Tower	33.92	264	P	P	18 03 28.1	+0.2
PMG	Port Moresby	35.74	283	P	P	18 03 42.9	-0.3
PMG				IAmb	IAmb	18 03 46.8	
	comp=Z,25nm,1.2s						
COEN	Coen	38.00	273	P	P	18 04 01.5	-0.3
COEN				IAmb	IAmb	18 04 30.8	
	comp=Z,25nm,1.4s						
COEN	Coen	38.00	273	P	P	18 04 02.0	+0.1
STKA	Stephens Creek	38.20	244	P	P	18 04 03.5	+0.3
	comp=Z,2.0nm,0.8s,baz=63,slow=11,SNR=3.5						
	comp=Z,2.0nm,0.8s						
INKA	Innaminka	38.62	251	P	P	18 04 08.1	+1.4
QIS	Mount Isa	40.05	262	P	P	18 04 18.2	-0.2
LCRK	Leigh Creek	40.95	247	P	P	18 04 26.0	+0.6
BBOO	Buckleboo	42.95	243	P	P	18 04 41.4	+0.2
BBOO				IAmb	IAmb	18 04 45.9	
	comp=Z,21nm,1.4s						
BBOO	Buckleboo	42.95	243	P	P	18 04 41.5	+0.2
OOD	Oodnadatta	43.10	251	P	P	18 04 43.5	+1.0
MULG	Mulgathing	44.53	247	P	P	18 04 53.8	+0.2
AS01	Alice Springs	44.90	257	P	P	18 04 56.4	-0.2
AS31	Alice Springs	44.95	257	P	P	18 04 56.9	-0.1
ASAR	Alice Springs	44.95	257	P	P	18 04 57.1	+0.1
ASAR	Alice Springs	44.95	257	P	P	18 04 56.8	-0.1
	comp=Z,16nm,0.8s,baz=90,slow=7.8,SNR=343						
ASAR				PcP	PcP	18 06 27.4	-0.4
	comp=Z,1.9nm,0.8s,baz=100,slow=3.7,SNR=5.6						
ASAR				S	S	18 10 55.1	-3.3
	comp=Z,2.9nm,0.8s,baz=93,slow=16,SNR=20						
	comp=Z,16nm,0.8s						
WB0	Warramunga Arr	45.01	262	IAmb	IAmb	18 04 57.3	
	comp=Z,13nm,0.8s						
WB2	Warramunga Arr	45.02	262	P	P	18 04 56.3	-1.2
WB2				IAmb	IAmb	18 04 57.5	
	comp=Z,17nm,1.1s						
WRAB	Tennant Creek	45.02	262	P	P	18 04 56.4	-1.2
WRAB				IAmb	IAmb	18 04 57.4	
	comp=Z,11nm,0.9s						
WRA	Warramunga Arr	45.03	262	P	P	18 04 56.7	-0.9
WRA	Warramunga Arr	45.03	262	P	P	18 04 56.7	-0.9
	comp=Z,6.4nm,0.5s,baz=97,slow=7.5,SNR=138						
WRA				PcP	PcP	18 06 27.3	-0.9
	comp=Z,0.9nm,0.8s,baz=92,slow=3.9,SNR=3.4						
WRA				S	S	18 10 56.1	-3.5
	comp=Z,0.7nm,1.0s,baz=97,slow=13,SNR=2.5						
	comp=Z,6.4nm,0.5s						
MTN	Manton Dam	49.59	270	P	P	18 05 30.9	-1.1
MTN				IAmb	IAmb	18 05 32.1	
	comp=Z,26nm,0.8s						
MTN	Manton Dam	49.59	270	P	P	18 05 31.4	-0.6
FORT	Forrest	49.71	247	P	P	18 05 32.1	-0.5
FORT				IAmb	IAmb	18 05 32.8	
	comp=Z,9.4nm,0.6s						
FORT	Forrest	49.71	247	P	P	18 05 32.5	-0.2
WRKA	Warakurna	49.89	254	P	P	18 05 34.0	-0.2
KNRA	Kununurra	51.09	266	P	P	18 05 42.2	-0.7
KNRA				IAmb	IAmb	18 05 46.8	
	comp=Z,30nm,1.3s						
FAKI	Fak Fak	51.90	283	P	P	18 05 47.8	-1.1
FAKI	Fak Fak	51.90	283	P	P	18 05 48.2	-0.7
FITZ	Fitzroy Crossi	53.46	262	P	P	18 05 59.9	-0.1
SOEI	Soe	56.92	272	P	P	18 06 25.4	+0.9
PSA00	Pilbara Seismi	58.09	257	P	P	18 06 30.8	-1.4
PSA00				IAmb	IAmb	18 06 32.3	
	comp=Z,13nm,0.8s						
PSA00	Pilbara Seismi	58.09	257	P	P	18 06 31.7	-0.5
MBWA	Marble Bar	58.28	257	P	P	18 06 32.7	-0.8
MBWA	Marble Bar	58.28	257	P	P	18 06 33.1	-0.4
MEEK	Meekatharra	58.34	251	P	P	18 06 33.4	-0.5
GIRL	Giralia	62.98	254	P	P	18 07 05.1	+0.6
GIRL	Giralia	62.98	254	P	P	18 07 05.5	+1.0
PLAI	Plampang	63.30	270	P	P	18 07 06.1	-0.6
QSPA	South Pole Qui	69.63	180	P	P	18 07 47.0	+1.7
QSPA	South Pole Qui	69.63	180	P	P	18 07 47.3	+2.0
	comp=Z,1.2nm,0.6s,baz=0.0,slow=1.0,SNR=9.8						
	comp=Z,1.2nm,0.6s						
UGM	Wanagama	70.39	269	P	P	18 07 50.4	-0.2
MJAR	Matsushiro Arr	70.41	323	P	P	18 07 49.1	-1.1
	comp=Z,6.3nm,0.7s,baz=160,slow=5.8,SNR=21						
	comp=Z,6.3nm,0.7s						
MJB9	Matsu-Tunnel	70.42	323	P	P	18 07 50.0	-0.3
JKA	Kamikawa-asahi	73.88	331	P	P	18 08 10.3	+0.2
JKA				IAmb	IAmb	18 08 11.9	
	comp=Z,19nm,0.9s						
SSLB	Suanglung	74.30	303	P	P	18 08 11.3	-1.8
SSLB				IAmb	IAmb	18 08 29.6	
	comp=Z,48nm,1.4s						
TPUB	Ta-pu	74.30	303	P	P	18 08 11.2	-1.9
TPUB				IAmb	IAmb	18 08 11.9	
	comp=Z,22nm,0.7s						
PEA0B	Petropavlovsk-	76.32	345	P	P	18 08 22.9	-0.8
PETK	Petropavlovsk-	76.32	345	P	P	18 08 22.7	-0.9
PETK	Petropavlovsk-	76.32	345	P	P	18 08 22.9	-0.8
	comp=Z,7.1nm,0.9s,baz=132,slow=9.4,SNR=6.5						
	comp=Z,7.1nm,0.9s						
KSRS	Korea Array	77.12	318	P	P	18 08 28.5	+0.1
	comp=Z,1.4nm,0.6s,baz=129,slow=6.4,SNR=7.8						
	comp=Z,1.4nm,0.6s						
USRK	Ussuriysk Ar.	79.15	326	P	P	18 08 39.9	+0.7
	comp=Z,6.5nm,0.7s,baz=121,slow=4.3,SNR=11						
	comp=Z,6.5nm,0.7s						
YBH	Yreka Blue Hor	79.98	38	P	P	18 08 44.5	+0.7
NVAR	Mina Array Bea	80.69	43	P	P	18 08 48.3	+0.6
	comp=Z,1.0nm,0.7s,baz=225,slow=8.8,SNR=7.8						
	comp=Z,1.0nm,0.7s						
MDJ	Mudanjiang	80.71	325	P	P	18 08 47.0	-0.4
KVN	Kaiserville	81.18	43	P	P	18 08 51.0	+0.8
IPM	Ipoh	83.55	277	P	P	18 09 02.5	0.0
IPM				IAmb	IAmb	18 09 03.4	
	comp=Z,14nm,0.7s						
ENH	Enshi	86.36	304	IAmb	IAmb	18 09 17.0	
	comp=Z,8.5nm,1.0s						
RND	Reindeer	86.55	13	IAmb	IAmb	18 09 16.1	
	comp=Z,6.1nm,0.8s						
TXAR	Lajitas Array	86.67	57	P	P	18 09 18.9	+1.5
	comp=Z,0.7nm,0.5s,baz=222,slow=6.5,SNR=6.8						
	comp=Z,0.7nm,0.5s						
WRH	Wood River Hil	87.65	12	IAmb	IAmb	18 09 20.9	
	comp=Z,6.9nm,1.0s						
HDA	Harding Lake	87.83	13	IAmb	IAmb	18 09 21.7	
	comp=Z,3.8nm,0.6s						
CCB	Clear Creek Bu	87.86	12	P	P	18 09 20.7	-1.4
CCB				IAmb	IAmb	18 09 21.2	
	comp=Z,5.2nm,0.5s						
ILAR	Eielson Array	88.16	13	P	P	18 09 22.2	-1.3
	comp=Z,1.4nm,0.7s,baz=219,slow=5.8,SNR=16						
	comp=Z,1.4nm,0.7s						
VNA3	Neumayer Olymp	88.17	176	⇑P	P	18 09 24.4	+0.7
	comp=Z,1.0nm,0.4s						
VNA2	Neumayer--Watz	88.62	177	⇑P	P	18 09 26.7	+0.9
	comp=Z,1.3nm,0.6s,baz=166,slow=3.4						
PDAR	Pinedale Array	88.63	43	P	P	18 09 26.8	+0.3
	comp=Z,0.7nm,0.6s,baz=223,slow=3.0,SNR=7.7						
	comp=Z,0.7nm,0.6s						
YHL	Hebgen Lake	88.66	41	P	P	18 09 28.4	+1.7
PHRA	Phrae	89.38	290	P	P	18 09 30.9	+0.7
K29M	Barlow Dome	89.59	17	P	P	18 09 30.2	-0.1
MAYO	Mayo, Yukon	89.84	17		pwP	18 11 30.3	+5.1
CMAR	Chiang Mai Arr	90.50	289	P	P	18 09 34.8	-0.6
CMAR	Chiang Mai Arr	90.50	289	P	P	18 09 36.5	+1.1
	comp=Z,3.3nm,0.9s,baz=118,slow=2.7,SNR=24						
	comp=Z,3.3nm,0.9s						
CHTO	Chiang Mai	90.62	290	P	P	18 09 36.2	+0.2
CHTO				IAmb	IAmb	18 09 37.4	
	comp=Z,5.7nm,0.8s						
ZALV	Zalesovo Beam	110.71	321	PKiKP	PKiKP	18 15 00.1	-2.0
	comp=Z,0.4nm,0.4s,baz=119,slow=1.8,SNR=2.4						
MKAR	Makanchi Array	111.47	313	PKiKP	PKiKP	18 15 02.1	-1.8
	comp=Z,0.5nm,0.6s,baz=265,slow=0.6,SNR=7.8						
KURBB	Kurchatov Arra	114.29	317	PKP	PKPdf	18 15 07.5	-1.5
	comp=Z,0.5nm,0.6s,baz=110,slow=1.8,SNR=6.1						
BVAR	Borovoye Array	119.31	320	PKP	PKPdf	18 15 17.5	-1.2
	comp=Z,1.5nm,0.4s,baz=115,slow=1.6,SNR=11						
ARCES	ARCESS Array B	128.94	350	PKP	PKPdf	18 15 36.4	-0.3
	comp=Z,3.6nm,1.1s,baz=1.1,slow=6.1,SNR=9.1						
FINES	FINESS Array B	135.83	344	PKP	PKPdf	18 15 50.6	+0.8
	comp=Z,0.3nm,0.3s,baz=98,slow=3.9,SNR=5.0						
HFS	Hagfors	139.54	351	PKhKP	PKPpre	18 15 48.0	
	comp=Z,0.8nm,0.3s,baz=64,slow=5.1,SNR=5.8						
HFS				PKP	sPdif	18 15 55.8	+1.0
	comp=Z,1.0nm,0.5s,baz=225,slow=1.0,SNR=4.9						
AKASG	Malin Array Be	143.16	331	PKhKP	PKPpre	18 15 59.7	
	comp=Z,4.4nm,0.5s,baz=44,slow=4.3,SNR=38						
AKBB	Malin Array Si	143.16	331		PKPpre	18 15 59.4	
KIEV	Kiev	143.18	331		PKPpre	18 15 59.3	
EKA	Eskdalemuir Ar	144.90	6	PKP	PKPdf	18 16 05.6	-0.7
	comp=Z,0.6nm,0.4s,baz=355,slow=2.3,SNR=4.0						
BNN	Bunyan	145.92	310		PKPbc	18 16 10.8	+0.4
BRTR	Keskin Array B	147.11	313	PKPbc	PKPdf	18 16 12.7	+2.0
	comp=Z,2.2nm,0.6s,baz=140,slow=4.5,SNR=6.1						
CLL	Collm	148.10	347	⇓*i*PKPbc	PKPbc	18 16 15.2	-0.5
	comp=Z,10.0nm,0.6s						
CLL				*i* PKPab	PKiKP	18 16 19.2	+2.2
	comp=Z,5.0nm,1.0s						
MMAI	Mount Meron Ar	148.15	300	PKPbc	PKPbc	18 16 16.7	+0.2
	comp=Z,3.3nm,0.5s,baz=90,slow=6.7,SNR=11						
GERES	GERESS Array B	150.25	345	PKPbc	PKPbc	18 16 20.9	-0.3
	comp=Z,2.4nm,0.8s,baz=48,slow=2.0,SNR=10.0						
TORD	Torodi Ar. Bea	172.71	174	PKP	PKPdf	18 16 37.4	-1.5
	comp=Z,0.9nm,0.9s,baz=321,slow=2.5,SNR=3.8						

ATH 14 18:06:36.2, 37°.36N×20°.64E, h15km±2km, ML2.8/6, Error ellipse: s-maj=4.4km s-min=1.5km az=55.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.38	24	P	Pg	18 06 43.5	-0.4
LTHK				S	Sg	18 06 49.3	0.0
LTHK				AML	AML	18 06 49.7	
	comp=E,5183μm,0.3s						
LTHK				AML	AML	18 06 49.8	
	comp=N,10505μm,0.3s						
PSDA	Pessada-Kefalo	0.75	357	P	Pg	18 06 50.5	-0.4
VLS	Valsamata	0.82	357	P	Pg	18 06 52.2	+0.1
VLS				S	Sg	18 07 02.5	-0.3
VLS				AML	AML	18 07 05.3	
	comp=E,949μm,0.2s						
VLS				AML	AML	18 07 08.3	
	comp=N,1114μm,0.3s						
AMT	Artemida-Makis	0.87	78	P	Pb	18 06 52.3	-0.6
AMT				AML	AML	18 07 11.3	
	comp=N,2519μm,0.3s						
AMT				AML	AML	18 07 17.5	
	comp=E,3200μm,0.4s						
SMHA	Samh	0.89	0	P	Pb	18 06 52.8	-0.5
SMHA				S	Sb	18 07 04.7	-0.2
DMLN	Damoulianata-K	0.90	347	P	Pb	18 06 52.4	-1.1
RLS	Riolos of Patr	0.96	43	P	Pb	18 06 53.7	-0.8
RLS				AML	AML	18 07 14.6	
	comp=N,503μm,0.5s						
RLS				AML	AML	18 07 15.2	
	comp=E,434μm,0.3s						
DRO	Drossia	1.04	55	P	Pb	18 06 55.4	-0.4
DRO				AML	AML	18 07 20.3	
	comp=E,1363μm,0.3s						
DRO				AML	AML	18 07 22.4	
	comp=N,958μm,0.6s						
ITM	Ithomi	1.04	100	P	Pb	18 06 54.9	-1.1
FSK	Fiskardo	1.10	357	P	Pb	18 06 56.2	-0.7
FSK				AML	AML	18 07 16.8	
	comp=E,727μm,0.5s						
FSK				AML	AML	18 07 21.2	
	comp=N,912μm,0.6s						

THE 14 18:07:08.3, 37°.19N×20°.59E, h8km, ML3.3/9, Error ellipse: s-maj=1.1km s-min=0.4km az=54.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.50	21	P	Pg	18 07 17.8	-0.2
KRI1				S	Sg	18 07 25.2	+0.6
	7μm,0.5s						
LTHK	Lithakia	0.55	21	P	Pg	18 07 18.9	-0.1
LTHK				S	Sg	18 07 27.0	+0.8
	7μm,0.5s						
RTZL	Ratzakli, Kefa	0.89	9	P	Pg	18 07 25.1	-0.4
RTZL				S	Sb	18 07 37.8	-0.3
	820nm,0.8s						
PYL	PYLOS	0.97	108	P	Pg	18 07 26.4	-0.5
PYL				S	Sb	18 07 40.6	+0.3
	1μm,0.4s						
DMLN	Damoulianata-K	1.06	351	P	Pg	18 07 28.0	-0.6
DMLN				S	Sb	18 07 43.5	+0.6
	2μm,0.6s						
ITM	Ithomi	1.07	90	P	Pg	18 07 28.2	-0.6
ITM				S	Sb	18 07 43.8	+0.6
	2μm,0.7s						
DRO	Drossia	1.17	49	P	Pg	18 07 29.4	-1.3
DRO				S	Sn	18 07 47.2	+0.1
	2μm,0.4s						
EVGI	Lefkada island	1.43	2	P	Pn	18 07 34.2	-0.3
EVGI				S	Sn	18 07 53.3	-0.2
	570nm,0.8s						
TSLK	Tsoukalades, L	1.63	2	P	Pn	18 07 36.6	-0.7
TSLK				S	Sn	18 07 58.5	0.0
	592nm,0.8s						

*NEIC **14** 18:13:14.5±1.7, 27°.29S±0°.08×176°.5W±0°.2, h35km±2km, mb4.4/7, Error ellipse: s-maj=25.3km s-min=10.3km az=293.0*
*IDC **14** 18:13:24.6±2.7, 27°.51S×177°.02W, h89km±19km, mb3.7/7, mbtmp4.0/8, MS3.5/4, Error ellipse: s-maj=31.8km s-min=18.3km az=82.0*

ISC 14 18:13:19.5±0.8, 27°.42S±0°.07×177°.0W±0°.2, h55km, n34, σ2§28/34, mb4.1/13, 3C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.99	203	Pn	Pn	18 13 49.7	-1.1
RAO					Sn	18 14 19.9	+5.4
RAO	Raoul Island	1.99	203	P	Pn	18 13 53.5	+2.8
	362nm,0.2s,baz=71,slow=23,SNR=5.1						
RAO				S	Sn	18 14 20.3	+5.8
	1μm,0.4s,baz=106,slow=24,SNR=3.6						
NIUE	Niue	10.56	40	Pn	Pn	18 15 35.9	-12
NIUE				Sn	Sn	18 17 15.6	-29
MSVF	Nonsavu	10.65	334	Pn	Pn	18 15 47.6	-1.9
MSVF	Nonsavu	10.65	334	P	Pn	18 15 54.8	+5.3
	3.1nm,0.6s,baz=201,slow=17,SNR=1.6						
MSVF				LR	LR	18 19 38.8	
	comp=Z,348nm,18.2s,baz=120,slow=35						
URZ	Urewera	11.88	203	P	Pn	18 16 12.3	+6.3
	1.9nm,0.5s,baz=75,slow=16,SNR=1.1						
URZ				S	Sn	18 18 11.5	-5.5
	4.3nm,0.6s,baz=146,slow=23,SNR=5.8						
BFZ	Birch Farm	14.35	201	Pn	Pn	18 16 36.1	-3.5
MRZ	Mangatainoka R	14.55	203	Pn	Pn	18 16 40.9	-1.4
DZM	Mont Dzumac	15.92	286	P	P	18 17 11.0	+8.1
	4.5nm,0.9s,baz=75,slow=16,SNR=1.7						
DZM				LR	LR	18 22 17.9	
	comp=Z,272nm,19.3s,baz=148,slow=33						
RAR	Rarotonga	16.89	72	LR	LR	18 21 19.8	
	comp=Z,126nm,21.6s,baz=282,slow=28						
PPT	Papeete	27.14	75	LR	LR	18 26 46.5	
	comp=Z,40nm,20.2s,baz=210,slow=30						
CTAO	Charters Tower	34.29	274	P	P	18 19 58.7	-2.1
CTAO				IAmb	IAmb	18 20 31.9	
	comp=Z,18nm,1.4s	

s-min=16.3km az=56.0
NEIC ***14*** *18:17:08.1±2.1,3°.50S±0°.07×99°.8E±0°.1,h10km±2km, mb4.4/9,Error ellipse: s-maj=26.7km s-min=3.4km az=246.0*

ISC 14 18:17:09.7±0.8,3°.62S±0°.08×99°.63E±0°.09,h35km,n43, σ1§82/39,mb3.9/12,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.93**	**24**	P	**Pn**	**18 17 25.5**	**-0.8**
PPSI				S	**Sn**	**18 17 38.4**	**-0.1**
SISI	**Saibi**	**2.34**	**347**	P	**Pn**	**18 17 42.8**	**-2.9**
PDSI	**Padang**	**2.81**	**17**	P	**Pn**	**18 17 50.5**	**-1.8**
KSI	**Kapahiang**	**2.96**	**91**	P	**Pn**	**18 17 52.6**	**-1.7**
PBSI	**Pulau Batu**	**3.79**	**339**	P	**Pn**	**18 18 02.3**	**-3.3**
BKNI	**Bangkinang**	**4.17**	**20**		**Pn**	**18 18 08.5**	**-2.3**
BKNI	**Bangkinang**	**4.17**	**20**	P	**Pn**	**18 18 10.4**	**-0.4**
LWLI	**Liwa**	**4.63**	**108**	P	**Pn**	**18 18 18.0**	**+0.6**
KASI	**Kota Agung**	**5.21**	**111**	P	**Pn**	**18 18 25.1**	**-0.1**
	33nm,0.5s,4μm0.9nm						
GSI	**Gunungsitoli**	**5.30**	**337**	Pn	**Pn**	**18 18 23.4**	**-3.0**
GSI	**Gunungsitoli**	**5.30**	**337**	P	**Pn**	**18 18 23.8**	**-2.7**
TPRI	**Tanjung Pinang**	**6.66**	**47**	P	**Pn**	**18 18 43.2**	**-1.9**
	13nm,0.7s,0.1nm						
MYKOM	**Kota Tinggi**	**6.83**	**38**	Pn	**Pn**	**18 18 44.7**	**-2.8**
SKJI	**Sukabumi**	**7.68**	**116**	P	**Pn**	**18 18 56.2**	**-2.9**
IPM	**Ipoh**	**8.16**	**10**	Pn	**Pn**	**18 19 04.5**	**-1.3**
CNJI	**Cibinong**	**8.32**	**116**	P	**Pn**	**18 19 06.6**	**-1.4**
LEM	**Lembang**	**8.57**	**112**	Pn	**Pn**	**18 19 10.5**	**-1.0**
	1.4nm,0.3s,baz=346,slow=17,SNR=1.4						
LEM				Sn	**Sn**	**18 20 46.3**	**-0.9**
	1.4nm,0.3s,baz=319,slow=19,SNR=1.5						
	7.4nm,0.4s						
UGM	**Wanagama**	**11.65**	**112**	Pn	**Pn**	**18 19 52.6**	**-1.1**
KAPI	**Kappang**	**20.12**	**95**	P	**P**	**18 21 38.5**	**-2.3**
KAPI				IAmb	IAmb	18 21 40.7	
	comp=Z,19nm,1.1s						
CM31	**Chiang Mai Arr**	**21.95**	**358**	P	**P**	**18 22 00.7**	**+0.2**
CM31				IAmb	IAmb	18 22 02.2	
	comp=Z,7.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**21.95**	**358**	P	**P**	**18 22 00.5**	**0.0**
CMAR	**Chiang Mai Arr**	**21.95**	**358**	P	**P**	**18 22 00.2**	**-0.3**
	comp=Z,5.5nm,0.8s,baz=188,slow=10,SNR=68						
	comp=Z,5.5nm,0.8s						
PHRA	**Phrae**	**21.98**	**2**	P	**P**	**18 22 01.3**	**+0.5**
CHTO	**Chiang Mai**	**22.30**	**358**	P	**P**	**18 22 03.9**	**-0.4**
SLVN	**Son La**	**25.15**	**9**	P	**P**	**18 22 31.9**	**+0.1**
H08S2	**Diego Garcia H**	**27.29**	**260**	T	T	18 52 28.1	
	baz=86						
H08S3	**Diego Garcia H**	**27.30**	**260**	T	T	18 52 55.3	
	baz=86,slow=74						
H08S1	**Diego Carcia H**	**27.31**	**260**	T	T	18 52 31.4	
	baz=86,slow=74						
WRA	**Warramunga Arr**	**37.53**	**118**	P	**P**	**18 24 21.0**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=302,slow=9.2,SNR=8.9						
	comp=Z,0.6nm,0.6s						
ASAR	**Alice Springs**	**38.63**	**124**	P	**P**	**18 24 30.6**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=295,slow=7.8,SNR=12						
ASAR				PcP	**PcP**	**18 26 43.0**	**+1.0**
	comp=Z,0.7nm,1.1s,baz=316,slow=2.8,SNR=2.4						
	comp=Z,0.8nm,0.7s						
WUS	**Wushi**	**48.34**	**339**	P	**P**	**18 25 48.7**	**+0.6**
WUS				IAmb	IAmb	18 26 02.6	
	comp=Z,6.3nm,1.2s						
STKA	**Stephens Creek**	**48.38**	**130**	P	**P**	**18 25 49.5**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=302,slow=8.5,SNR=4.3						
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**51.58**	**6**	P	**P**	**18 26 14.0**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=182,slow=8.2,SNR=3.1						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**52.48**	**345**	P	**P**	**18 26 22.6**	**+3.4**
	comp=Z,0.7nm,0.9s,baz=140,slow=9.1,SNR=1.8						
	comp=Z,0.7nm,0.9s						
USRK	**Ussuriysk Ar.**	**55.75**	**28**	P	**P**	**18 26 43.7**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=209,slow=4.8,SNR=3.6						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**56.99**	**344**	P	**P**	**18 26 54.8**	**+3.1**
	comp=Z,0.6nm,0.2s,baz=169,slow=6.5,SNR=1.5						
	comp=Z,0.6nm,0.2s						
ZALV	**Zalesovo Beam**	**58.68**	**350**	P	**P**	**18 27 05.6**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=147,slow=6.1,SNR=2.1						
	comp=Z,0.6nm,0.6s						
H04N2	**CROZET ISLANDS**	**59.28**	**217**	T	T	19 32 25.0	
	baz=60,slow=75,SNR=58						
H04N1	**CROZET ISLANDS**	**59.30**	**217**	T	T	19 32 26.4	
	baz=60,slow=75,SNR=60						
H04N3	**CROZET ISLANDS**	**59.30**	**217**	T	T	19 32 25.4	
	baz=60,slow=75,SNR=72						
ABKAR	**Akbulak array**	**62.88**	**332**	P	**P**	**18 27 29.6**	**-2.6**
BRTR	**Keskin Array B**	**74.14**	**313**	P	P	18 28 50.2	+7.3
	comp=Z,0.7nm,0.5s,baz=119,slow=6.1,SNR=2.3						
TXAR	**Lajitas Array**	**146.20**	**38**	PKPbc	**PKPab**	**18 36 48.8**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=335,slow=4.0,SNR=2.9						

IDC ***14*** *18:26:55.3±0.4,11°.13N×140°.63E,h0km,mb4.7/29, mbtmp4.8/33,ML4.8/5,MS4.5/65,Error ellipse: s-maj=15.2km s-min=9.4km az=75.0*
MOS ***14*** *18:26:55.0±0.8,11°.12N×140°.60E,h13km,mb5.2/41, MS4.8/6,Error ellipse: s-maj=9.5km s-min=5.0km az=112.2*
NEIC ***14*** *18:26:56.4±1.6,11°.09N±0°.08×140°.68E±0°.08,h10km±1km, mb5.2/268,Error ellipse: s-maj=14.3km s-min=13.1km az=301.0*
GCMT ***14*** *18:27:01.4±0.2,11°.00N±0°.01×140°.52E±0°.02,h14km±1km, MW5.0/102,Moment Tensor Solution. s48,c62; s102,c178; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-2.10±.12; $M_{\theta\theta}$2.51±.08; $M_{\phi\phi}$-0.40±.07; $M_{r\theta}$3.57±.30; $M_{\theta\phi}$-0.38±.05; $M_{\phi r}$0.71±.18; Best double couple: $M_0$4.33600×10^16^ NP1:ϕ_s261.00000°, δ74.00000°, λ-101.00000°. NP2:ϕ_s117.00000°, δ19.00000°, λ-56.00000°. Principal axes: T 4.4540, Plg29.0000°, Azm360.0000°; N -0.2310, Plg10.0000°, Azm264.0000°; P -4.2170, Plg59.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***14*** *18:27:02.5±1.4,11°.N±3°.×14°.1E±°,h29km±10km,M5.1/61, mb5.3/61,mB5.6/31,Mw(mB)5.1/31,MwMwp4.9/7, Mwp5.2/7*

ISC 14 18:26:58.5±0.4,11°.15N±0°.03×140°.75E±0°.04,h22km±4km, h22km:pP-P,n822,σ1§69/727,mb5.1/240,MS4.6/93, 16C-5D,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.69**	**58**		**Pn**	**18 28 09.7**	**+1.7**
GUMO	**Guam**	**4.69**	**58**	Pn	**Pn**	**18 28 11.0**	**+3.0**
	25nm,0.3s,baz=0.5,slow=2.8,SNR=16						
GUMO				Sn	**Sn**	**18 29 03.8**	**+1.9**
	36nm,0.3s,baz=297,slow=21,SNR=0.9						
GUMO				LR	LR	18 29 42.4	
	comp=Z,2μm,18.6s,baz=236,slow=35						
	74nm,0.3s						
GUMO	**Guam**	**4.69**	**58**	P	**Pb**	**18 28 18.7**	**-1.4**
GUMO	**Guam**	**4.69**	**58**	P	**Pn**	**18 28 09.7**	**+1.7**
JAY	**Jayapura**	**13.58**	**180**	Pn	**Pn**	**18 30 10.9**	**+1.0**
	3.4nm,0.3s,baz=4.7,slow=7.8,SNR=21						
JAY				Sn	Sn	18 32 30.8	-9.5
	baz=181,slow=20						
JAY				LR	LR	18 34 18.9	
	comp=Z,3μm,19.4s,baz=347,slow=33						
	43nm,0.8s						
JAY	**Jayapura**	**13.58**	**180**	P	**Pn**	**18 30 10.8**	**+0.9**
	55nm,0.9s						
GENI	**Genyem**	**13.67**	**182**	P	**Pn**	**18 30 13.5**	**+2.4**
GENI	**Genyem**	**13.67**	**182**	P	**Pn**	**18 30 15.3**	**+4.2**
RKPI	**Ransiki, Papua**	**14.18**	**208**	P	**P**	**18 30 22.5**	**-2.9**
MANU	**Manus Island**	**14.67**	**153**	Pn	**Pn**	**18 30 22.3**	**-2.5**
SWI	**Sorong**	**15.22**	**219**	P	**P**	**18 30 39.6**	**+2.6**
DAV	**Davao City (W)**	**15.52**	**256**	Pn	**Pn**	**18 30 35.1**	**-1.0**
DAV	**Davao City (W)**	**15.52**	**256**	Pn	**Pn**	**18 30 35.6**	**-0.6**
	38nm,0.3s,baz=41,slow=11,SNR=1.3						
DAV				LR	LR	18 35 04.7	
	comp=Z,851nm,21.2s,baz=73,slow=32						
	115nm,0.4s						
DAV	**Davao City (W)**	**15.52**	**256**	P	**P**	**18 30 41.0**	**+0.6**
JCJ	**Chichijima**	**15.92**	**5**	Pn	**Pn**	**18 30 42.3**	**+1.1**
JCJ				IAmb	IAmb	18 30 48.4	
	comp=Z,221nm,1.0s						
FAKI	**Fak Fak**	**16.34**	**212**		**Pn**	**18 30 44.6**	**-2.1**
FAKI				IAmb	IAmb	18 30 52.1	
	comp=Z,355nm,1.3s						
FAKI	**Fak Fak**	**16.34**	**212**	P	**Pn**	**18 30 47.9**	**+1.2**
FAKI	**Fak Fak**	**16.34**	**212**	P	**P**	**18 30 49.2**	**-0.3**
	comp=Z,274nm,1.2s,comp=Z,3μm						
TNTI	**Ternate**	**16.83**	**233**	Pn	**Pn**	**18 30 49.7**	**-3.2**
TNTI	**Ternate**	**16.83**	**233**	P	**P**	**18 30 54.9**	**0.0**
TNTI	**Ternate**	**16.83**	**233**	P	**P**	**18 30 57.1**	**+2.2**
JMZ	**Minamidaito 2**	**17.15**	**330**	P	**Pn**	**18 30 53.0**	**-3.8**
LBMI	**Labuha**	**17.63**	**229**	P	P	18 31 17.5	+14
MSAI	**Masohi**	**18.60**	**220**	P	**Pn**	**18 31 16.6**	**+1.8**
BNDI	**Bandanaira**	**18.95**	**215**	P	**Pn**	**18 31 18.9**	**-0.1**
BNDI	**Bandanaira**	**18.95**	**215**	P	Pn	18 31 29.9	+11
RABL	**Rabaul**	**19.01**	**143**		**P**	**18 31 16.6**	**-2.4**
RABL				IAmb	IAmb	18 31 23.1	
	comp=Z,322nm,1.4s						
AAI	**Ambon**	**19.33**	**221**	P	**Pn**	**18 31 23.3**	**-0.3**
JOW	**Kunigami**	**19.53**	**325**		**P**	**18 31 23.5**	**-1.1**
JOW				IAmb	IAmb	18 31 31.4	
	comp=Z,99nm,1.0s						
JOW	**Kunigami**	**19.53**	**325**	P	**P**	**18 31 24.2**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=106,slow=8.0,SNR=3.5						
JOW				LR	LR	18 38 01.4	
	comp=Z,1μm,19.1s,baz=144,slow=34						
	comp=Z,27nm,0.8s						
JOW	**Kunigami**	**19.53**	**325**	P	**Pn**	**18 31 30.6**	**+4.6**
	comp=Z,112nm,1.1s						
TGY	**Tagaytay City**	**19.56**	**281**	P	**P**	**18 31 24.5**	**-0.5**
	comp=Z,27nm,0.3s,baz=148,slow=19,SNR=1.0						
TGY				LR	LR	18 38 08.1	
	comp=Z,760nm,19.9s,baz=106,slow=35						
SANI	**Sanana**	**19.69**	**229**	P	**P**	**18 31 23.4**	**-3.0**
	comp=Z,71nm,1.2s,comp=Z,2μm						
KMSI	**Cibinong**	**19.70**	**239**	P	**Pn**	**18 31 30.3**	**+2.3**
NLAI	**Namlea**	**19.72**	**224**	P	**Pn**	**18 31 27.8**	**-0.5**
	comp=Z,68nm,0.9s,comp=Z,3μm						
PMG	**Port Moresby**	**21.39**	**162**	P	**P**	**18 31 42.0**	**-2.8**
PMG				IAmb	IAmb	18 31 46.5	
	comp=Z,160nm,0.9s						
PMG	**Port Moresby**	**21.39**	**162**	P	**P**	**18 31 44.2**	**-0.7**
	comp=Z,155nm,1.0s,baz=2.7,slow=7.7,SNR=29						
	comp=Z,155nm,1.0s						
PMG	**Port Moresby**	**21.39**	**162**	P	**P**	**18 31 45.5**	**+0.7**
PMG	**Port Moresby**	**21.39**	**162**	P	**P**	**18 31 45.6**	**+0.7**
PMG	**Port Moresby**	**21.39**	**162**	*ce*P	**P**	**18 31 44.4**	**-0.4**
PMG				pmax	pmax		
	comp=Z,182nm,1.0s						
YOJ	**Yonaguni jima**	**21.43**	**311**	P	**P**	**18 31 44.4**	**-0.7**
YOJ	**Yonaguni jima**	**21.43**	**311**	P	**P**	**18 31 44.4**	**-0.7**
YOJ				pmax	pmax		
	comp=Z,502nm,1.8s						
MRSI	**Marisa**	**21.49**	**242**	P	**P**	**18 31 46.4**	**+0.5**
	comp=Z,348nm,1.3s,comp=Z,4μmcomp=Z,2μm						
JHJ	**Hachijo jima 2**	**21.88**	**358**	LR	LR	18 38 39.0	
	comp=Z,3μm,19.9s,baz=223,slow=32						
YULB	**Yu-li**	**22.18**	**306**	P	**P**	**18 31 52.5**	**-0.8**
YULB	**Yu-li**	**22.18**	**306**	P	**P**	**18 32 00.1**	**+6.8**
TOLI2	**Tolitoli**	**22.20**	**245**	P	**P**	**18 31 52.0**	**-1.6**
TOLI2	**Tolitoli**	**22.20**	**245**	P	**P**	**18 31 53.8**	**+0.2**
APSI	**Ampana**	**22.46**	**239**	P	**P**	**18 31 55.9**	**-0.4**
	comp=Z,234nm,1.2s,comp=Z,3μm						
SSLB	**Suanglung**	**22.65**	**306**	P	**P**	**18 31 57.1**	**-1.2**
SSLB				IAmb	IAmb	18 32 11.3	
	comp=Z,63nm,0.9s						
SSLB	**Suanglung**	**22.65**	**306**	P	P	18 32 06.2	+7.9
TPUB	**Ta-pu**	**22.67**	**305**	P	**P**	**18 31 57.7**	**-0.8**
TPUB	**Ta-pu**	**22.67**	**305**	P	P	18 32 06.0	+7.5
YHNB	**Yeheng**	**22.78**	**309**	P	**P**	**18 31 58.5**	**-1.2**
YHNB				IAmb	IAmb	18 32 09.2	
	comp=Z,75nm,1.0s						
YHNB	**Yeheng**	**22.78**	**309**	P	**P**	**18 32 06.8**	**+7.1**
MYLDM	**Lahad Datu**	**22.80**	**257**	P	**P**	**18 32 01.2**	**+1.2**
MYLDM	**Lahad Datu**	**22.80**	**257**	P	**P**	**18 32 02.2**	**+2.2**
JMN	**Monobe**	**23.34**	**345**	P	**P**	**18 32 05.7**	**+0.3**
KDI	**Kendari**	**23.47**	**231**	P	**P**	**18 32 06.7**	**-0.1**
	comp=Z,143nm,1.3s,comp=Z,2μm						
JNU	**Nakatsue**	**23.67**	**339**	P	**P**	**18 32 08.8**	**+0.2**
JNU				IAmb	IAmb	18 32 23.4	
	comp=Z,67nm,0.9s						
JNU	**Nakatsue**	**23.67**	**339**	LR	LR	18 39 57.6	
	comp=Z,1μm,21.8s,baz=132,slow=33						
PCI	**Palu**	**24.00**	**241**	P	**P**	**18 32 17.6**	**+5.8**
	comp=Z,79nm,1.1s,comp=Z,1μm						
INU	**Inuyama**	**24.33**	**353**	P	**P**	**18 32 14.3**	**-0.4**
INU				IAmb	IAmb	18 32 24.3	
	comp=Z,43nm,1.0s						
BBSI	**Bau Bau**	**24.51**	**228**	P	**P**	**18 32 17.1**	**+0.6**
	comp=Z,283nm,1.1s,comp=Z,3μm						
JGF	**Kuroka**	**24.54**	**353**	P	**P**	**18 32 16.1**	**-0.5**
KKM	**Kota Kinabalu**	**24.78**	**260**	P	**P**	**18 32 16.5**	**-2.6**
KKM	**Kota Kinabalu**	**24.78**	**260**	P	**P**	**18 32 22.5**	**+3.4**
COEN	**Coen**	**25.06**	**174**	P	**P**	**18 32 18.8**	**-2.7**
COEN				IAmb	IAmb	18 32 44.9	
	comp=Z,69nm,1.3s						
COEN	**Coen**	**25.06**	**174**	P	**P**	**18 32 20.1**	**-1.4**
	comp=Z,41nm,1.1s						
COEN	**Coen**	**25.06**	**174**	P	**P**	**18 32 21.3**	**-0.2**
KDU	**Kakadu**	**25.07**	**199**	P	**P**	**18 32 19.3**	**-2.3**
	comp=Z,113nm,1.1s						
KDU	**Kakadu**	**25.07**	**199**	P	**P**	**18 32 21.5**	**0.0**
QZH	**Quanzhou**	**25.09**	**306**	*e*P	**P**	**18 32 22.3**	**+0.6**
QZH				S	**S**	**18 36 48.9**	**+3.7**
QZH				LR	LR		
	comp=Z,850nm,15.8s						
QZH				LR	LR		
	comp=Z,630nm,18.2s						
QZH				LR	LR		
	comp=Z,1μm,15.5s						
TTSI	**Tana Toraja**	**25.15**	**237**	P	**P**	**18 32 24.2**	**+1.9**
	comp=Z,100nm,1.2s						
MJAR	**Matsushiro Arr**	**25.38**	**355**	P	**P**	**18 32 22.7**	**-1.5**
	comp=Z,3.0nm,0.7s,baz=174,slow=8.3,SNR=6.3						
MJAR				LR	LR	18 40 59.1	
	comp=Z,633nm,19.6s,baz=146,slow=33						
	comp=Z,3.0nm,0.7s						
MAJO	**Matsushiro**	**25.39**	**355**	P	**P**	**18 32 22.7**	**-1.6**
MAJO	**Matsushiro**	**25.39**	**355**	P	P	18 32 34.3	+10
	comp=Z,28nm,0.9s						
MAJO	**Matsushiro**	**25.39**	**355**	P	**P**	**18 32 22.7**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,20nm,0.9s						
MJB9	**Matsu-Tunnel**	**25.39**	**355**	P	**P**	**18 32 23.6**	**-0.6**
MTN	**Manton Dam**	**25.68**	**202**	P	**P**	**18 32 24.9**	**-2.2**
MTN				IAmb	IAmb	18 32 28.1	
	comp=Z,49nm,1.0s						
MTN	**Manton Dam**	**25.68**	**202**	P	**P**	**18 32 24.0**	**-3.1**
	comp=Z,55nm,0.9s						
MTN	**Manton Dam**	**25.68**	**202**	P	**P**	**18 32 26.1**	**-1.0**
BNSI	**Bone**	**25.71**	**234**	P	**P**	**18 32 27.6**	**+0.2**
	comp=Z,132nm,1.0s,comp=Z,1μm						
SPSI	**Sidrap Palu**	**25.72**	**235**	P	**P**	**18 32 26.9**	**-0.6**
	comp=Z,44nm,0.9s						
SMKI	**Samarinda**	**26.08**	**245**	P	P	18 32 40.6	+10
H11S3	**WAKE ISLAND Hy**	**26.09**	**71**	T	T	19 01 08.0	
	baz=255,slow=76						
H11S1	**WAKE ISLAND Hy**	**26.10**	**71**	T	T	19 01 10.3	
	baz=255,slow=76						
H11S2	**WAKE ISLAND Hy**	**26.11**	**71**	T	T	19 01 12.8	
	baz=255,slow=76						
BKSI	**Bulukumba**	**26.26**	**232**	P	**P**	**18 32 37.0**	**+4.6**
	comp=Z,82nm,1.0s,comp=Z,654nm						
KAPI	**Kappang**	**26.36**	**234**	P	**P**	**18 32 29.9**	**-3.4**
KAPI				IAmb	IAmb	18 33 03.9	
	comp=Z,74nm,1.4s						
KAPI	**Kappang**	**26.36**	**234**	P	**P**	**18 32 32.0**	**-1.3**
	comp=Z,18nm,1.0s,baz=46,slow=4.5,SNR=4.8						
KAPI				LR	LR	18 42 48.3	
	comp=Z,328nm,19.3s,baz=50,slow=36						
	comp=Z,18nm,1.0s						
KAPI	**Kappang**	**26.36**	**234**	P	**P**	**18 32 34.9**	**+1.6**
KAPI	**Kappang**	**26.36**	**234**	P	**P**	**18 32 29.9**	**-3.4**
KAPI				pmax	pmax		
	comp=Z,73nm,1.4s						
SOEI	**Soe**	**26.46**	**219**	P	**P**	**18 32 32.0**	**-2.3**
SOEI	**Soe**	**26.46**	**219**	P	**P**	**18 32 34.5**	**+0.2**
SOEI	**Soe**	**26.46**	**219**	P	**P**	**18 32 35.4**	**+1.1**
H11N1	**WAKE ISLAND Hy**	**26.56**	**68**	T	T	19 01 41.6	
	baz=254,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**26.57**	**68**	T	T	19 01 38.9	
	baz=254,slow=75,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**26.58**	**68**	T	T	19 01 42.9	
	baz=254,slow=75,SNR=13						
JMM	**Marumori**	**26.60**	**0**	P	**P**	**18 32 34.6**	**-0.7**
JMM				IAmb	IAmb	18 32 59.2	
	comp=Z,50nm,1.0s						
JMM	**Marumori**	**26.60**	**0**	P	**P**	**18 32 41.8**	**+6.6**
BKB	**Balikpapan**	**26.73**	**244**	P	**P**	**18 32 33.2**	**-3.5**
JSD	**Sado**	**26.86**	**356**	P	**P**	**18 32 36.5**	**-1.1**
SSE	**Sheshan**	**26.88**	**321**	P	**P**	**18 32 40.3**	**+2.5**
SSE				sP	**pwP**	**18 32 49.0**	**+1.2**
SSE				S	**S**	**18 37 19.3**	**+6.0**
SSE				pmax	pmax		
	comp=Z,20nm,1.1s						
SSE				LR	LR		
	comp=Z,200nm,18.5s						
MMRI	**Maumere**	**26.94**	**224**	P	**P**	**18 32 35.0**	**-3.5**
MMRI	**Maumere**	**26.94**	**224**	P	**P**	**18 32 40.1**	**+1.6**
MMRI	**Maumere**	**26.94**	**224**	P	P	18 32 46.5	+8.0
BATI	**Baumata**	**27.18**	**219**	LR	LR	18 42 31.2	
	comp=Z,722nm,21.3s,baz=50,slow=35						
BATI	**Baumata**	**27.18**	**219**	P	**P**	**18 32 42.1**	**+1.4**
HKPS	**Hong Kong Po S**	**27.73**	**297**	P	**P**	**18 32 43.0**	**-2.6**
TJN	**Taejon**	**27.88**	**336**	P	**P**	**18 32 45.4**	**-1.3**
TJN	**Taejon**	**27.88**	**336**	P	**P**	**18 32 45.4**	**-1.3**
TJN				pmax	pmax		
	comp=Z,148nm,0.9s						
HNR	**Honiara**	**27.97**	**136**	P	**P**	**18 32 45.2**	**-2.5**
HNR	**Honiara**	**27.97**	**136**	P	**P**	**18 32 47.3**	**-0.5**
	comp=Z,61nm,0.7s,baz=92,slow=4.3,SNR=3.9						
HNR				LR	LR	18 43 34.3	
	comp=Z,550nm,19.1s,baz=306,slow=36						
	comp=Z,61nm,0.7s						
HNR	**Honiara**	**27.97**	**136**	P	**P**	**18 32 49.3**	**+1.5**
HNR	**Honiara**	**27.97**	**136**	P	**P**	**18 32 45.2**	**-2.5**
HNR				pmax	pmax		
	comp=Z,220nm,1.0s						
KSRS	**Korea Array**	**28.62**	**338**	P	**P**	**18 32 52.4**	**-0.8**
	comp=Z,4.1nm,1.0s,baz=165,slow=10,SNR=16						
KSRS				ScP	**ScP**	**18 39 45.0**	**+0.8**
	comp=Z,3.5nm,1.0s,baz=157,slow=3.5,SNR=10						
KSRS				LR	LR	18 43 28.3	
	comp=Z,1μm,18.7s,baz=155,slow=35						
	comp=Z,4.1nm,1.0s						
KSAR	**Wonju Array Be**	**28.62**	**338**	P	**P**	**18 32 52.0**	**-1.3**
KSAR	**Wonju Array Be**	**28.62**	**338**	P	**P**	**18 32 52.0**	**-1.3**
KS19	**Wonju Array Si**	**28.68**	**338**	P	**P**	**18 32 52.4**	**-1.5**
NJ2	**Nanjing**	**28.99**	**319**	*e*P	**P**	**18 32 59.1**	**+2.4**
NJ2				sP	**pwP**	**18 33 10.0**	**+3.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				LR	LR		
	comp=Z,1μm,18.2s						
NJ2				LR	LR		
	comp=Z,1μm,16.1s						
NJ2				LR	LR		
	comp=Z,1μm,18.6s						
KNRA	**Kununurra**	**29.18**	**204**	P	**P**	**18 32 57.2**	**-1.2**
KNRA	**Kununurra**	**29.18**	**204**	P	**P**	**18 32 57.4**	**-1.0**
	comp=Z,85nm,1.5s						
MTSU	**Mount Surprise**	**29.31**	**173**	P	**P**	**18 33 00.6**	**+1.0**
SBUM	**Sibu**	**29.59**	**255**	P	**P**	**18 32 58.0**	**-4.2**
SBUM	**Sibu**	**29.59**	**255**	P	**P**	**18 33 06.6**	**+4.4**
QIZ	**Qiongzhong**	**30.82**	**288**	P	**P**	**18 33 11.8**	**-1.2**
QIZ				S	**S**	**18 38 15.3**	**-0.4**
QIZ				LR	LR		
	comp=Z,310nm,14.2s						
QIZ				LR	LR		
	comp=Z,450nm,15.9s						
QIZ				LR	LR		
	comp=Z,710nm,18.1s						
CNSH	**ChangSha**	**31.08**	**307**	P	P	18 33 23.6	+8.4
CNSH				S	S	18 38 35.9	+16
CNSH				pmax	pmax		
	comp=Z,12nm,1.8s						
CNSH				LR	LR		
	comp=N,690nm,15.8s						
CNSH				LR	LR		
	comp=E,440nm,15.8s						
CNSH				LR	LR		
	comp=Z,720nm,16.4s						
STKI	**Sintang**	**31.10**	**251**	P	P	18 33 21.6	+6.0
	comp=Z,33nm,1.5s						
WHN	**Wuhan**	**31.18**	**312**	P	P	18 33 21.1	+5.0
WHN				LR	LR		
	comp=Z,4μm,18.0s						
WHN				LR	LR		
	comp=Z,2μm,17.8s						
WHN				LR	LR		
	comp=Z,3μm,14.9s						
WB0	**Warramunga Arr**	**31.36**	**192**	P	**P**	**18 33 14.8**	**-2.9**
WB0				IAmb	IAmb	18 33 29.9	
	comp=Z,33nm,1.1s						
CTA	**Charters Tower**	**31.51**	**170**	LR	LR	18 44 49.4	
	comp=Z,42nm,20.2s,baz=346,slow=34						
CTAO	**Charters Tower**	**31.51**	**170**	P	**P**	**18 33 19.7**	**+0.7**
CTAO	**Charters Tower**	**31.51**	**170**	P	**P**	**18 33 20.1**	**+1.0**
CTAO	**Charters Tower**	**31.51**	**170**	P	**P**	**18 33 19.7**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,19nm,0.9s						
WR0	**Warramunga Arr**	**31.51**	**191**	P	**P**	**18 33 16.6**	**-2.5**
WRAB	**Tennant Creek**	**31.53**	**192

comp=Z,13nm,0.6s
SNY pmax pmax
comp=Z,41nm,3.7s
SNY LR LR
comp=Z,800nm,16.9s
SNY LR LR
comp=Z,1μm,17.8s
SNY LR LR
comp=Z,2μm,17.7s
PWJI Pagerwojo 34.53 238 P **P 18 33 45.1 -0.5**
comp=Z,41nm,1.1s
ENH Enshi 34.71 308 IAmb IAmb 18 34 04.1
comp=Z,38nm,0.9s
ENH Enshi 34.71 308 P P 18 33 53.0 +6.0
LYN LuoYang 34.74 317 *e*P **P 18 33 50.8 +3.7**
LYN S **S 18 39 17.8 +1.5**
LYN sS sS 18 39 33.3 +7.8
LYN pmax pmax
comp=Z,31nm,0.8s
LYN pmax pmax
comp=Z,300nm,4.5s
LYN LR LR
comp=Z,1μm,17.2s
LYN LR LR
comp=Z,830nm,18.9s
LYN LR LR
comp=Z,2μm,17.2s
HNS HongShan 35.08 323 ⇑P **P 18 33 50.4 +0.4**
HNS S **S 18 39 19.3 -2.1**
HNS pmax pmax
comp=Z,13nm,1.0s
HNS LR LR
comp=Z,960nm,17.7s
HNS LR LR
comp=Z,250nm,16.9s
HNS LR LR
comp=Z,1μm,17.7s
CN2 Changchun 35.12 341 *e*P **P 18 33 50.4 +0.1**
CN2 PP **PnPn 18 35 07.9 -0.2**
CN2 *e*S **S 18 39 19.3 -2.7**
CN2 SS **SnSn 18 41 38.9 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.5s
CN2 LR LR
comp=Z,1μm,18.0s
CN2 LR LR
comp=Z,800nm,18.0s
CN2 LR LR
comp=Z,1μm,19.0s
AS01 Alice Springs 35.24 191 P **P 18 33 51.5 0.0**
comp=Z,19nm,0.7s
AS31 Alice Springs 35.24 191 P **P 18 33 50.0 -1.7**
ASAR Alice Springs 35.25 191 P **P 18 33 50.9 -0.7**
ASAR Alice Springs 35.25 191 P **P 18 33 51.2 -0.4**
comp=Z,8.5nm,0.6s,baz=17,slow=12,SNR=264
ASAR PcP **PcP 18 36 23.4 +1.0**
comp=Z,9.3nm,1.0s,baz=12,slow=2.1,SNR=10.0
ASAR LR LR 18 48 09.5
comp=Z,1μm,19.5s,baz=12,slow=36
comp=Z,8.5nm,0.6s
GYA Guiyang 35.54 300 P **P 18 33 52.9 -1.4**
GYA S **S 18 39 29.5 +0.4**
GYA pmax pmax
comp=Z,8.0nm,1.2s
GYA LR LR
comp=Z,350nm,12.1s
GYA LR LR
comp=Z,340nm,16.3s
GYA LR LR
comp=Z,550nm,17.2s
TPI Tanjungpandan 35.71 249 P P 18 34 00.6 +4.9
comp=Z,60nm,1.5s,comp=Z,596nm
YSS Yuzh-Sakhalins 35.72 2 *e*P P 18 33 47.7 -7.7
YSS *e*S **S 18 39 23.4 -7.7**
YSS *e*SS **SnSn 18 41 58.5 +4.8**
YSS pmax pmax
comp=Z,200nm,5.8s
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,600nm,17.0s
YSS MLR MLR
comp=N,400nm,12.0s
YSS MLR MLR
comp=E,400nm,14.0s
BJT Baijiatuau 36.06 327 IAmb IAmb 18 34 07.8
comp=Z,26nm,0.8s
BJI Beijing 36.07 327 P **P 18 33 58.9 +0.4**
BJI sP **pP 18 34 04.8 +0.6**
BJI S S 18 39 47.5 +11
BJI pmax pmax
comp=Z,9.0nm,1.4s
BJI LR LR
comp=Z,400nm,19.3s
BJI LR LR
comp=Z,430nm,16.8s
BJI LR LR
comp=Z,710nm,17.7s
BNX BinXian 36.31 344 ⇓P **P 18 34 01.8 +1.4**
BNX S **S 18 39 38.4 -1.7**
BNX pmax pmax
comp=Z,50nm,1.4s
BNX pmax pmax
comp=Z,280nm,3.7s
BNX LR LR
comp=Z,600nm,17.1s
BNX LR LR
comp=Z,530nm,16.2s
BNX LR LR
comp=Z,920nm,16.6s
KPJI Karang Pucung 36.61 241 P P 18 34 09.4 +6.0
comp=Z,37nm,1.2s
TIY Taiyuan 36.66 321 *e*P **P 18 34 05.3 +1.6**
TIY S **S 18 39 49.4 +3.5**
TIY pmax pmax
comp=Z,150nm,4.1s
TIY LR LR
comp=Z,430nm,19.9s
TIY LR LR
comp=Z,700nm,17.9s
TIY LR LR
comp=Z,810nm,17.9s
SLVN Son La 36.71 291 P **P 18 34 02.8 -1.6**
SLVN Son La 36.71 291 P P 18 34 10.2 +5.8
XAN Xi'an 36.93 313 ⇑P P 18 34 12.0 +6.0
XAN pP pwP 18 34 18.6 +2.5
XAN pmax pmax
comp=Z,14nm,1.5s
QLP Quilpie 37.66 175 P **P 18 34 12.8 +0.7**
EIDS Eidsvold 37.67 165 P **P 18 34 11.8 -0.4**
BBJI Bungbulang 37.78 242 P **P 18 34 15.6 +2.2**
MYKOM Kota Tinggi 37.78 258 P **P 18 34 11.5 -1.9**
MYKOM IAmb IAmb 18 34 19.4
comp=Z,82nm,2.0s
MYKOM Kota Tinggi 37.78 258 P **P 18 34 16.2 +2.8**
VLAKA Lakatoro 37.81 135 P **P 18 34 17.6 +4.0**
WRKA Warakurna 37.97 199 P **P 18 34 14.4 -0.4**
KMI Kunming 38.55 296 ⇓P P 18 34 28.3 +8.2
KMI S **S 18 40 17.3 +2.0**
KMI SS **SnSn 18 42 59.3 -3.8**
KMI pmax pmax
comp=Z,26nm,1.6s
KMI pmax pmax
comp=Z,120nm,5.8s
KMI LR LR
comp=N,340nm,22.7s
KMI LR LR
comp=Z,400nm,16.9s
INKA Innaminka 38.66 180 P **P 18 34 23.2 +2.6**
KLR Kul'dur 38.69 351 LR LR 18 48 13.8
comp=Z,784nm,21.3s,baz=168,slow=33
KLR Kul'dur 38.69 351 *ce*P **P 18 34 20.7 +0.1**
KLR pmax pmax
comp=Z,27nm,1.0s
XLT XiLinHaoTe 38.98 331 *e*P **P 18 34 23.8 +0.6**
XLT pP pwP 18 34 34.3 +1.0
XLT S **S 18 40 15.3 -5.6**
XLT PcS **PcS 18 40 22.3 -0.7**
XLT SS **SnSn 18 43 05.8 -6.8**
XLT pmax pmax
comp=Z,16nm,1.2s
XLT pmax pmax
comp=Z,120nm,3.6s
XLT LR LR
comp=Z,690nm,17.7s
XLT LR LR
comp=Z,1μm,18.4s
OOD Oodnadatta 39.02 187 P **P 18 34 24.3 +0.7**
KOUNC Koumac, New Ca 39.09 144 P **P 18 34 24.0 -0.3**
KOUNC IAmb IAmb 18 34 27.9
comp=Z,85nm,1.2s
KOUNC Koumac, New Ca 39.09 144 P **P 18 34 26.5 +2.2**
HHC Hu-ho-hao-te 39.18 324 *e*P **P 18 34 24.5 -0.5**
HHC pP pwP 18 34 36.9 +1.7
HHC PP **PnPn 18 36 02.1 +4.4**
HHC S **S 18 40 20.0 -4.1**
HHC sS sS 18 40 40.0 +6.7
HHC pmax pmax
comp=Z,21nm,0.5s
HHC pmax pmax
comp=Z,90nm,5.1s
HHC LR LR
comp=Z,710nm,16.5s
HHC LR LR
comp=Z,450nm,17.3s
HHC LR LR
comp=Z,970nm,17.0s
DVP Devils Point 39.46 136 P **P 18 34 30.5 +3.1**
CD2 Chengdu 39.48 306 P **P 18 34 28.0 +0.5**
CD2 pP pP 18 34 29.3 -3.9
CD2 S **S 18 40 29.1 +0.4**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,110nm,7.6s
CD2 LR LR
comp=Z,660nm,14.2s
CD2 LR LR
comp=Z,480nm,15.4s
CD2 LR LR
comp=Z,400nm,10.3s
GRNR Gornyy 39.66 356 ⇓*i*P **P 18 34 29.7 +1.0**
GRNR pmax pmax
comp=Z,4.0nm,1.0s
PZH PanZhiHua 39.77 298 P **P 18 34 31.3 +1.2**
PZH S **S 18 40 35.4 +2.0**
PZH pmax pmax
comp=Z,20nm,1.5s
PZH pmax pmax
comp=Z,130nm,7.5s
PZH LR LR
comp=Z,300nm,17.1s
PZH LR LR
comp=Z,200nm,17.5s
PZH LR LR
comp=Z,290nm,21.8s
PHRA Phrae 39.78 285 P **P 18 34 28.9 -1.3**
IPM Ipoh 39.88 264 P **P 18 34 29.1 -2.0**
IPM IAmb IAmb 18 34 36.8
comp=Z,73nm,1.8s
IPM Ipoh 39.88 264 P **P 18 34 34.6 +3.5**
BTO Baotou 39.93 323 *e*P **P 18 34 33.3 +2.1**
BTO PP **PnPn 18 36 09.6 +3.0**
BTO S **S 18 40 38.3 +3.0**
BTO pmax pmax
comp=Z,27nm,1.2s
BTO pmax pmax
comp=Z,400nm,5.2s
BTO LR LR
comp=Z,1μm,15.7s
BTO LR LR
comp=Z,350nm,15.5s
BTO LR LR
comp=Z,1μm,14.1s
TW1H Toowoomba 1 Ha 39.97 164 P **P 18 34 33.1 +1.5**
comp=Z,25nm,0.8s
AUWSH Wavell State H 40.13 163 P **P 18 34 33.8 +1.0**
SURA Surathani 40.51 271 P **P 18 34 38.7 +2.5**
comp=Z,33nm,1.1s
HEH HeiHe 40.51 347 *e*P **P 18 34 36.3 +0.6**
HEH pmax pmax
comp=Z,43nm,0.8s
HEH pmax pmax
comp=Z,210nm,3.9s
HEH LR LR
comp=Z,1μm,19.5s
HEH LR LR
comp=Z,340nm,18.8s
HEH LR LR
comp=Z,1μm,20.6s
SRIT Nakonsritamara 40.60 270 P **P 18 34 36.0 -1.0**
SRIT IAmb IAmb 18 34 44.8
comp=Z,54nm,1.0s
SRIT Nakonsritamara 40.60 270 P **P 18 34 40.5 +3.5**
SRDT SRDT 40.69 279 P **P 18 34 42.4 +4.7**
BKNI Bangkinang 40.89 257 P **P 18 34 37.5 -1.9**
BKNI Bangkinang 40.89 257 P **P 18 34 43.9 +4.5**
BKNI Bangkinang 40.89 257 P P 18 34 51.8 +12
AULRC Lightning Ridg 40.94 170 P **P 18 34 40.8 +1.3**
CM31 Chiang Mai Arr 40.99 285 P **P 18 34 38.4 -1.8**
CMAR Chiang Mai Arr 40.99 285 P **P 18 34 38.1 -2.2**
CMAR Chiang Mai Arr 40.99 285 P **P 18 34 41.2 +1.0**
comp=Z,4.4nm,0.8s,baz=98,slow=6.4,SNR=45
CMAR LR LR 18 50 41.2
comp=Z,265nm,20.0s,baz=100,slow=35
comp=Z,4.4nm,0.8s
CMAR Chiang Mai Arr 40.99 285 *i*P **P 18 34 41.9 +1.7**
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CHTO Chiang Mai 41.02 286 P **P 18 34 39.6 -0.9**
CHTO Chiang Mai 41.02 286 P **P 18 34 39.6 -0.9**
CHTO pmax pmax
comp=Z,12nm,1.3s
LCRK Leigh Creek 41.43 183 P **P 18 34 43.0 -0.5**
NOUC Port Laguerre 41.48 143 P **P 18 34 47.4 +3.4**
DZM Mont Dzumac 41.54 143 P **P 18 34 43.0 -1.6**
DZM Mont Dzumac 41.54 143 *e*P **P 18 34 45.4 +0.7**
comp=Z,224nm,1.2s
DZM *e*S **S 18 40 59.2 -0.3**
comp=Z,193nm,25.8s
DZM *e*LR LR 18 46 10.0
comp=Z,1μm,22.8s
DZM Mont Dzumac 41.54 143 P **P 18 34 46.5 +1.8**
comp=Z,68nm,1.0s,baz=0.0,slow=9.0,SNR=24
DZM LR LR 18 48 57.4
comp=Z,679nm,21.8s,baz=326,slow=32
comp=Z,68nm,1.0s
DZM Mont Dzumac 41.54 143 P **P 18 34 47.0 +2.3**
LZH Lanzhou 41.56 313 *e*P **P 18 34 41.3 -3.5**
LZH sP pP 18 34 51.3 +0.8
LZH S **S 18 41 02.9 +3.0**
LZH sS sS 18 41 07.8 -1.5
LZH pmax pmax
comp=Z,19nm,1.0s
LZH LR LR
comp=Z,480nm,17.5s
LZH LR LR
comp=Z,750nm,18.2s
LZH LR LR
comp=Z,1μm,18.9s
MULG Mulgathing 41.69 189 P **P 18 34 46.0 +0.3**
YATNC Mamie plateau, 41.80 142 P **P 18 34 49.3 +2.6**
PDSI Padang 41.80 256 P **P 18 34 51.6 +4.6**
comp=Z,28nm,1.0s
HIA Hailar 41.82 339 P P 18 34 54.8 +8.2
OUENC Ouen Island, N 42.04 143 P **P 18 34 52.1 +3.5**
TNCH TengChong 42.27 295 P **P 18 34 52.0 +1.2**
TNCH sP pP 18 34 56.3 -0.2
TNCH S **S 18 41 14.0 +3.3**
TNCH sS sS 18 41 24.4 +5.1
TNCH ScS **ScS 18 44 49.9 -2.5**
TNCH pmax pmax
comp=Z,16nm,2.3s
TNCH pmax pmax
comp=Z,110nm,3.3s
TNCH LR LR
comp=Z,330nm,13.6s
TNCH LR LR
comp=Z,280nm,20.0s
TNCH LR LR
comp=Z,630nm,16.6s
PSI Prapat 42.29 262 P **P 18 34 52.7 +1.6**
RPSI Rantau Prapat 42.32 262 IAmb IAmb 18 34 58.2
comp=Z,32nm,0.8s
PINNC Pines Island, 42.55 142 P **P 18 34 55.5 +2.7**
ARMA Armidale 42.63 166 P **P 18 34 51.0 -2.5**
ARMA IAmb IAmb 18 34 54.8
comp=Z,52nm,1.1s
ARMA Armidale 42.63 166 P **P 18 34 53.7 +0.2**
CMSA Cobar Meteorol 42.71 174 P **P 18 34 54.6 +0.7**
STKA Stephens Creek 42.79 179 P **P 18 34 53.4 -1.2**
STKA Stephens Creek 42.79 179 P **P 18 34 54.1 -0.5**
comp=Z,18nm,1.0s,baz=354,slow=8.7,SNR=17
STKA LR LR 18 53 24.0
comp=Z,733nm,18.6s,baz=5.7,slow=37
comp=Z,18nm,1.0s
STKA Stephens Creek 42.79 179 P **P 18 34 54.7 +0.1**
STKA Stephens Creek 42.79 179 P **P 18 34 53.4 -1.2**
STKA pmax pmax
comp=Z,6.0nm,1.1s
AUPHS Peel High Scho 43.12 167 P **P 18 34 57.7 +0.4**
SISI Saibi 43.24 256 P P 18 35 06.2 +7.6
comp=Z,49nm,0.9s
FORT Forrest 43.44 196 P **P 18 34 57.9 -2.0**
FORT Forrest 43.44 196 P **P 18 35 00.5 +0.6**
AUDCS Dubbo College 43.79 170 P **P 18 35 03.7 +1.0**
ZEA Zeya 43.83 348 *e*P **P 18 35 03.2 +0.5**
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,20nm,1.5s
ZEA pmax pmax
comp=Z,100nm,5.6s
BBOO Buckleboo 43.94 186 P **P 18 35 01.2 -2.7**
BBOO IAmb IAmb 18 35 05.1
comp=Z,45nm,0.9s
BBOO Buckleboo 43.94 186 P **P 18 35 04.3 +0.4**
GSI Gunungsitoli 43.96 260 P **P 18 35 01.5 -3.0**
GSI IAmb IAmb 18 35 09.9
comp=Z,35nm,1.0s
GSI Gunungsitoli 43.96 260 P **P 18 35 07.9 +3.5**
GSI Gunungsitoli 43.96 260 P P 18 35 09.9 +5.5
comp=Z,42nm,1.0s
PETK Petropavlovsk- 44.01 15 P **P 18 35 04.6 +0.4**
comp=Z,1.6nm,0.7s,baz=213,slow=5.0,SNR=1.4
PETK LR LR 18 51 08.6
comp=Z,413nm,21.4s,baz=191,slow=33
comp=Z,1.6nm,0.7s
HTT Hallett 44.37 182 P **P 18 35 07.8 +0.4**
YNG Young 45.78 171 P **P 18 35 19.3 +0.8**
GTA Gaotai 45.91 315 P **P 18 35 20.3 +0.5**
GTA sP pP 18 35 25.4 -0.1
GTA PP **PP 18 37 04.8 -2.7**
GTA S **S 18 42 01.3 -2.0**
GTA pmax pmax
comp=Z,10.0nm,0.9s
GTA pmax pmax
comp=Z,120nm,8.0s
GTA LR LR
comp=Z,430nm,16.4s
GTA LR LR
comp=Z,450nm,18.2s
GTA LR LR
comp=Z,560nm,19.6s
KMBL Kambalda 45.99 203 P **P 18 35 19.9 -0.3**
AUMBR Murray Bridge 46.05 182 P **P 18 35 21.6 +1.0**
ULN Ulaanbaatar 46.23 329 P **P 18 35 20.7 -1.5**
ULN IAmb IAmb 18 35 31.9
comp=Z,16nm,0.8s
ULN Ulaanbaatar 46.23 329 *ce*P **P 18 35 21.6 -0.5**
ULN pmax pmax
comp=Z,21nm,2.5s
CIT Chita 46.34 337 *e*P P 18 35 29.4 +6.6
CIT *e* 18 35 39.2
CIT pmax pmax
comp=Z,128nm,2.4s
SONM Songino Array 46.54 328 P **P 18 35 24.3 -0.3**
SONM IAmb IAmb 18 35 39.1
comp=Z,30nm,1.3s
SONM Songino Array 46.54 328 P **P 18 35 25.4 +0.8**
comp=Z,1.5nm,0.5s,baz=142,slow=7.2,SNR=14
SONM LR LR 18 55 56.4
comp=Z,2μm,18.4s,baz=126,slow=37
comp=Z,1.5nm,0.5s
SONM Songino Array 46.54 328 P **P 18 35 24.3 -0.3**
SONM pmax pmax
comp=Z,31nm,1.3s
MORW Morawa 46.56 210 P **P 18 35 22.0 -2.8**
MORW Morawa 46.56 210 P **P 18 35 25.0 +0.2**
MSVF Nonsavu 46.70 127 P **P 18 35 26.7 +0.6**
MSVF Nonsavu 46.70 127 P **P 18 35 28.5 +2.4**
comp=Z,27nm,0.8s,baz=275,slow=4.7,SNR=11
MSVF LR LR 18 53 27.0
comp=Z,798nm,18.6s,baz=348,slow=34
comp=Z,27nm,0.8s
MSVF Nonsavu 46.70 127 P **P 18 35 29.6 +3.5**
MSVF Nonsavu 46.70 127 P **P 18 35 26.7 +0.6**
MSVF pmax pmax
comp=Z,57nm,0.9s
CAN Canberra 46.87 171 P **P 18 35 26.3 -0.9**
CAN Canberra 46.87 171 P **P 18 35 28.7 +1.5**
CAN Canberra 46.87 171 P **P 18 35 26.3 -0.9**
CAN pmax pmax
comp=Z,130nm,1.5s
CNB Canberra Magne 46.93 170 P **P 18 35 29.0 +1.4**
ARPS Mount Arapiles 47.67 179 P **P 18 35 34.6 +1.3**
KLBR Kellerberrin 47.88 207 P **P 18 35 34.7 -0.3**
AUSMG Snowy Mountain 47.89 171 P **P 18 35 36.1 +1.0**
SHL Shillong 48.28 294 P P 18 35 44.8 +6.3
SNR=8.9
GOMU GeErMu 48.32 309 P **P 18 35 40.0 +1.1**
GOMU S **S 18 42 34.9 -3.3**
GOMU pmax pmax
comp=Z,6.0nm,0.9s
BRAT Ballarat 48.53 177 P **P 18 35 41.8 +1.9**
comp=Z,29nm,1.1s
MUN Mundaring 48.90 208 P **P 18 35 42.8 -0.1**
MA2 Magadan 48.91 7 P **P 18 35 43.1 +0.5**
MA2 Magadan 48.91 7 LR LR 18 55 31.8
comp=Z,274nm,19.8s,baz=208,slow=35
MA2 Magadan 48.91 7 P **P 18 35 43.1 +0.5**
MA2 pmax pmax
comp=Z,42nm,1.0s
GEXS Deakin Univers 49.20 176 P **P 18 35 46.0 +0.9**
NWAO Narrogin (SRO) 49.24 206 P **P 18 35 44.8 -0.7**
NWAO Narrogin (SRO) 49.24 206 LR LR 18 57 26.2
comp=Z,426nm,19.4s,baz=1.5,slow=37
NWAO Narrogin (SRO) 49.24 206 P **P 18 35 45.2 -0.3**
NWAO Narrogin (SRO) 49.24 206 P **P 18 35 46.5 +0.9**
comp=Z,18nm,1.2s
NWAO Narrogin (SRO) 49.24 206 P **P 18 35 46.4 +0.9**
comp=Z,18nm,1.2s
NWAO Narrogin (SRO) 49.24 206 P **P 18 35 44.8 -0.7**
NWAO pmax pmax
comp=Z,156nm,1.8s
SHEM Shemya Is, Ala 49.38 26 LR LR 18 53 28.0
comp=Z,682nm,21.7s,baz=266,slow=32
IRK Irkutsk 50.45 332 *e*P **P 18 35 51.1 -3.4**
IRK pmax pmax
comp=Z,60nm,2.1s
YAK Yakutsk 51.43 353 P **P 18 36 00.7 -0.9**
YAK Yakutsk 51.43 353 LR LR 18 55 54.3
comp=Z,480nm,21.8s,baz=156,slow=34
YAK Yakutsk 51.43 353 *e*P **P 18 36 01.1 -0.5**
YAK *e* 18 37 12.3
YAK *e* 18 38 00.2
YAK *e*PPP PPP 18 38 58.9
YAK *e*S **S 18 43 18.5 -1.5**
YAK *e**SS sS 18 43 40.5 +11
YAK *e*SS **SS 18 46 54.4 -1.5**
YAK pmax pmax
comp=Z,37nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,224nm,4.6s
YAK pmax pmax
comp=N,145nm,4.4s
YAK pmax pmax
comp=E,123nm,3.6s
YAK smax smax
comp=E,175nm,4.2s
YAK smax smax
comp=N,158nm,3.7s
MOY Mondy 51.67 329 *e*P P 18 36 10.8 +7.0
MOY pmax pmax
comp=Z,70nm,1.6s
GLAD Gladstone 52.30 173 P **P 18 36 09.6 +1.2**
SEY Seymchan 52.37 7 *ce*P **P 18 36 09.1 +0.5**
SEY pmax pmax
comp=Z,16nm,0.9s
TAU Tasmania Unive 54.13 174 P **P 18 36 21.6 -0.2**

TAU	**Tasmania Unive**	**54.13**	**174**	P	**P**	**18 36 23.2**	**+1.4**
TAU	**Tasmania Unive**	**54.13**	**174**	P	**P**	**18 36 21.6**	**-0.2**
TAU				pmax	pmax		
	comp=Z,91nm,1.4s						
WMQ	**Urumqi**	**55.98**	**316**	*e*P	**P**	**18 36 36.0**	**+0.6**
WMQ				pP	pP	18 36 41.8	+0.5
WMQ				PcP	**PcP**	**18 37 32.3**	**-1.4**
WMQ				pmax	pmax		
	comp=Z,19nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,120nm,4.7s						
WMQ				LR	LR		
	comp=Z,320nm,21.3s						
WMQ				LR	LR		
	comp=Z,630nm,24.9s						
WMQ				LR	LR		
	comp=Z,340nm,20.3s						
NIKH	**Nikolski High**	**57.90**	**33**	P	**P**	**18 36 50.0**	**+1.3**
	baz=243						
ZSN	**Zaisan**	**59.03**	**319**	*e*P	**P**	**18 36 56.8**	**+0.1**
ZSN	**Zaisan**	**59.03**	**319**	*e*P	**P**	**18 36 56.8**	**+0.1**
SPIA	**Saint Paul Isl**	**59.22**	**29**	P	**P**	**18 36 57.9**	**+0.1**
	baz=240						
BILL	**Biilibino**	**59.26**	**11**	P	**P**	**18 36 57.6**	**-0.3**
BILL				IAmb	IAmb	18 37 06.5	
	comp=Z,21nm,1.0s						
BILL	**Biilibino**	**59.26**	**11**	*ce*P	**P**	**18 36 58.7**	**+0.7**
BILL				pmax	pmax		
	comp=Z,32nm,2.5s						
UNV	**Unalaska Valle**	**59.55**	**33**	P	**P**	**18 37 00.3**	**+0.1**
	baz=245						
URZ	**Urewera**	**59.76**	**147**	LR	LR	18 59 57.3	
	comp=Z,374nm,20.3s,baz=43,slow=33						
RTZ	**Ruatahuna**	**59.95**	**148**	P	**P**	**18 37 02.7**	**-0.6**
RTZ				IAmb	IAmb	18 37 13.2	
	comp=Z,28nm,1.0s						
BKZ	**Black Stump Fm**	**60.11**	**148**	P	**P**	**18 37 04.1**	**-0.2**
BKZ				IAmb	IAmb	18 37 41.3	
	comp=Z,30nm,1.4s						
BKZ	**Black Stump Fm**	**60.11**	**148**	P	**P**	**18 37 07.4**	**+3.1**
MK31	**Makanchi Array**	**60.51**	**318**	*i* P	**P**	**18 37 07.3**	**+0.3**
MKAR	**Makanchi Array**	**60.51**	**318**	P	**P**	**18 37 06.1**	**-0.9**
MKAR	**Makanchi Array**	**60.51**	**318**	P	**P**	**18 37 07.5**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=97,slow=9.8,SNR=43						
MKAR				LR	LR	19 04 32.2	
	comp=Z,323nm,19.0s,baz=94,slow=37						
	comp=Z,1.8nm,0.5s						
JCZ	**Jackson Bay**	**60.58**	**157**	P	**P**	**18 37 09.5**	**+2.0**
MAKZ	**Makanchi**	**60.72**	**318**	P	**P**	**18 37 08.4**	**0.0**
MAKZ				IAmb	IAmb	18 37 16.1	
	comp=Z,27nm,1.4s						
MAKZ	**Makanchi**	**60.72**	**318**	P	**P**	**18 37 08.4**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,27nm,1.4s						
TIXI	**Tiksi**	**60.89**	**356**	P	**P**	**18 37 09.2**	**+0.1**
TIXI	**Tiksi**	**60.89**	**356**	LR	LR	19 03 18.9	
	comp=Z,234nm,19.2s,baz=184,slow=36						
TIXI	**Tiksi**	**60.89**	**356**	*ce*P	**P**	**18 37 10.0**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
RPZ	**Rata Peaks**	**61.18**	**155**	P	**P**	**18 37 10.5**	**-1.0**
ZAA0	**Zalesovo Array**	**61.32**	**326**	IAmb	IAmb	18 37 25.6	
	comp=Z,20nm,1.2s						
ZALV	**Zalesovo Beam**	**61.32**	**326**	P	**P**	**18 37 11.8**	**-0.5**
ZALV	**Zalesovo Beam**	**61.32**	**326**	P	**P**	**18 37 12.1**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=112,slow=7.2,SNR=14						
ZALV				LR	LR	19 04 56.7	
	comp=Z,715nm,18.3s,baz=95,slow=37						
	comp=Z,2.6nm,0.5s						
ZALV	**Zalesovo Beam**	**61.32**	**326**	P	**P**	**18 37 11.8**	**-0.5**
LBZ	**Lake Benmore**	**61.39**	**156**	P	**P**	**18 37 12.1**	**-0.7**
FALS	**False Pass**	**61.61**	**33**	P	**P**	**18 37 15.3**	**+1.1**
	baz=247						
GAMB	**Gambell**	**62.20**	**22**	P	**P**	**18 37 19.3**	**+1.3**
	baz=235						
KPKS	**Kokpek**	**62.20**	**313**	*e*P	**P**	**18 37 18.2**	**-0.4**
KPKS	**Kokpek**	**62.20**	**313**	*e*P	**P**	**18 37 18.2**	**-0.4**
ZHN	**Zhinishke**	**62.32**	**313**	*e*P	**P**	**18 37 19.2**	**-0.2**
ZHN	**Zhinishke**	**62.32**	**313**	*e*P	**P**	**18 37 19.2**	**-0.2**
S12K	**Black Hills**	**62.65**	**32**	P	**P**	**18 37 21.7**	**+0.5**
	baz=248						
TDK	**Taldyqorghan**	**62.71**	**315**	*e*P	**P**	**18 37 22.0**	**+0.1**
	comp=Z,25nm,1.1s						
TDK	**Taldyqorghan**	**62.71**	**315**	*e*P	**P**	**18 37 21.9**	**+0.1**
TDK				pmax	pmax		
	comp=Z,25nm,1.1s						
KDJ	**Kajisay**	**63.04**	**312**	P	**P**	**18 37 23.1**	**-1.3**
KDJ				IAmb	IAmb	18 37 49.8	
	comp=Z,14nm,0.9s						
KDJ	**Kajisay**	**63.04**	**312**	P	**P**	**18 37 23.1**	**-1.3**
KDJ				pmax	pmax		
	comp=Z,14nm,0.9s						
MDOK	**Medeo**	**63.32**	**313**	*e*P	**P**	**18 37 25.7**	**-0.4**
MDOK	**Medeo**	**63.32**	**313**	*e*P	**P**	**18 37 25.7**	**-0.4**
TNSS	**Tian-Shan**	**63.37**	**313**	*e*P	**P**	**18 37 26.3**	**-0.4**
TNSS	**Tian-Shan**	**63.37**	**313**	*e*P	**P**	**18 37 26.3**	**-0.4**
AAA	**Alma-Ata**	**63.42**	**313**	*e*P	**P**	**18 37 26.4**	**-0.3**
	comp=Z,16nm,1.0s						
AAA	**Alma-Ata**	**63.42**	**313**	*e*P	**P**	**18 37 26.4**	**-0.3**
AAA				pmax	pmax		
	comp=Z,16nm,1.0s						
KSH	**Kashi**	**63.56**	**309**	P	**P**	**18 37 30.3**	**+2.5**
KSH				sP	sP	18 37 36.9	+1.0
KSH				S	**S**	**18 46 06.4**	**+5.9**
KSH				pmax	pmax		
	comp=Z,9.0nm,1.5s						
KSH				LR	LR		
	comp=Z,330nm,19.6s						
KSH				LR	LR		
	comp=Z,420nm,16.8s						
KSH				LR	LR		
	comp=Z,510nm,19.2s						
KURK	**Kurchatov**	**63.90**	**321**	P	**P**	**18 37 29.0**	**-0.6**
KURK	**Kurchatov**	**63.90**	**321**	*ce*P	**P**	**18 37 29.7**	**+0.1**
KURK				pmax	pmax		
	comp=Z,30nm,1.3s						
KURBB	**Kurchatov Arra**	**63.93**	**321**	P	**P**	**18 37 29.9**	**0.0**
	comp=Z,9.2nm,0.8s,baz=103,slow=6.8,SNR=46						
KURBB				LR	LR	19 07 06.0	
	comp=Z,833nm,18.6s,baz=164,slow=38						
	comp=Z,9.2nm,0.8s						
K13K	**Kusilvak Mount**	**64.01**	**25**	P	**P**	**18 37 30.6**	**+0.5**
	baz=243						
S14K	**Fog Glacier**	**64.17**	**32**	P	**P**	**18 37 31.6**	**+0.2**
	baz=250						
O14K	**Tigyukauivet M**	**64.39**	**29**	P	**P**	**18 37 33.7**	**+1.0**
	baz=247						
N14K	**Kuskokwak Cree**	**64.46**	**28**	P	**P**	**18 37 33.6**	**+0.6**
	baz=247						
L14K	**Kuka Creek**	**64.59**	**26**	P	**P**	**18 37 35.4**	**+1.5**
	baz=245						
M14K	**Bethel**	**64.67**	**27**	P	**P**	**18 37 35.9**	**+1.5**
	baz=246						
O15K	**Ungalikthiuk R**	**65.05**	**29**	P	**P**	**18 37 37.6**	**+0.6**
	baz=249						
F14K	**Arctic Creek**	**65.06**	**22**	P	**P**	**18 37 37.6**	**+0.7**
	baz=240						
AAK	**Ala-Archa**	**65.09**	**312**	P	**P**	**18 37 37.0**	**-0.8**
AAK	**Ala-Archa**	**65.09**	**312**	LR	LR	19 08 15.2	
	comp=Z,354nm,18.8s,baz=86,slow=38						
AAK	**Ala-Archa**	**65.09**	**312**	P	**P**	**18 37 38.4**	**+0.6**
AAK				P	**P**	**18 37 38.4**	**+0.6**
AAK	**Ala-Archa**	**65.09**	**312**	*ce*P	**P**	**18 37 37.7**	**-0.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SGDS	**Sogindy**	**65.11**	**313**	*e*P	**P**	**18 37 37.5**	**-0.2**
SGDS	**Sogindy**	**65.11**	**313**	*e*P	**P**	**18 37 37.5**	**-0.2**
NIL	**Nilore**	**65.22**	**302**	P	**P**	**18 37 38.0**	**-0.6**
NIL	**Nilore**	**65.22**	**302**	P	**P**	**18 37 39.8**	**+1.2**
NIL				P	**P**	**18 37 39.8**	**+1.2**
NIL	**Nilore**	**65.22**	**302**	P	**P**	**18 37 38.0**	**-0.6**
NIL				pmax	pmax		
	comp=Z,57nm,1.1s						
M15K	**Kasigluk River**	**65.22**	**28**	P	**P**	**18 37 39.1**	**+1.1**
	baz=247						
L15K	**Ungalak Mounta**	**65.26**	**26**	P	**P**	**18 37 39.1**	**+0.9**
	baz=246						
BTLS	**Baital**	**65.75**	**314**	*e*P	**P**	**18 37 41.6**	**-0.2**
BTLS	**Baital**	**65.75**	**314**	*e*P	**P**	**18 37 41.6**	**-0.2**
F15K	**North Star Dit**	**65.79**	**22**	P	**P**	**18 37 42.2**	**+0.6**
	baz=241						
P16K	**Nushagak River**	**65.89**	**30**	P	**P**	**18 37 43.0**	**+0.6**
	baz=250						
N16K	**Nishlik Lake**	**66.02**	**28**	P	**P**	**18 37 44.5**	**+1.2**
	baz=249						
O16K	**Kokwok River B**	**66.03**	**29**	P	**P**	**18 37 44.2**	**+0.9**
	baz=250						
M16K	**Timber Creek**	**66.13**	**28**	P	**P**	**18 37 45.2**	**+1.3**
	baz=249						
CHIR	**Chirikof Islan**	**66.13**	**34**	P	**P**	**18 37 45.6**	**+1.6**
	baz=254						
L16K	**Owhat River**	**66.15**	**27**	P	**P**	**18 37 45.2**	**+1.2**
	baz=248						
H16K	**Elim**	**66.20**	**23**	P	**P**	**18 37 45.7**	**+1.5**
	baz=244						
R17L	**Mt. Peulik Vol**	**66.26**	**32**	P	**P**	**18 37 46.2**	**+1.4**
	baz=253						
Q16K	**King Salmon**	**66.43**	**30**	P	**P**	**18 37 46.5**	**+0.6**
	baz=252						
G16K	**Koyuk River**	**66.49**	**22**	P	**P**	**18 37 47.2**	**+1.1**
	baz=244						
I17K	**Unalakleet**	**66.49**	**24**	P	**P**	**18 37 46.6**	**+0.4**
	baz=246						
O17K	**Koliganek Bris**	**66.57**	**29**	P	**P**	**18 37 46.3**	**-0.4**
	baz=251						
RAR	**Rarotonga**	**66.67**	**119**	LR	LR	18 59 60.0	
	comp=Z,245nm,21.1s,baz=301,slow=30						
P17K	**Kvichak River**	**66.70**	**30**	P	**P**	**18 37 47.8**	**+0.2**
	baz=252						
N17K	**Nushagak Hills**	**66.77**	**28**	P	**P**	**18 37 49.1**	**+1.1**
	baz=251						
C16K	**Lisburne Hills**	**66.82**	**19**	P	**P**	**18 37 49.6**	**+1.4**
	baz=240						
L17K	**Donlin**	**66.83**	**27**	P	**P**	**18 37 49.1**	**+0.8**
	baz=249						
M17K	**Holitna River**	**66.95**	**27**	P	**P**	**18 37 49.3**	**+0.1**
	baz=250						
J17K	**VABM Dome**	**66.96**	**25**	P	**P**	**18 37 49.7**	**+0.5**
	baz=248						
K17K	**Iditarod**	**67.03**	**26**	P	**P**	**18 37 50.9**	**+1.3**
	baz=249						
SII	**Sitkinak Islan**	**67.10**	**33**	P	**P**	**18 37 51.2**	**+1.0**
	baz=255						
NRIK	**Noril'sk**	**67.15**	**342**	IAmb	IAmb	18 38 03.0	
	comp=Z,22nm,0.9s						
NRIK	**Noril'sk**	**67.15**	**342**	P	**P**	**18 37 50.6**	**+0.3**
	comp=Z,8.1nm,0.8s,baz=110,slow=9.4,SNR=10						
NRIK				LR	LR	19 08 01.2	
	comp=Z,689nm,18.9s,baz=130,slow=37						
	comp=Z,8.1nm,0.8s						
G17K	**Kiwalik Mounta**	**67.18**	**23**	P	**P**	**18 37 50.9**	**+0.4**
	baz=245						
R18K	**Karluk**	**67.23**	**32**	P	**P**	**18 37 50.7**	**-0.2**
	baz=254						
H17K	**Granite Mounta**	**67.23**	**23**	P	**P**	**18 37 51.5**	**+0.6**
	baz=246						
Q18K	**Katmai Hardscr**	**67.24**	**31**	P	**P**	**18 37 51.9**	**+0.7**
	baz=253						
D17K	**Noatak River**	**67.28**	**20**	P	**P**	**18 37 52.4**	**+1.2**
	baz=242						
P18K	**Big Mountain,**	**67.35**	**30**	P	**P**	**18 37 52.9**	**+1.1**
	baz=253						
F17K	**Baldwin Pennin**	**67.36**	**22**	P	**P**	**18 37 52.5**	**+0.9**
	baz=244						
N18K	**Kilae Creek**	**67.43**	**28**	P	**P**	**18 37 52.9**	**+0.7**
	baz=252						
E17K	**Hotham Inlet**	**67.43**	**21**	P	**P**	**18 37 53.3**	**+1.2**
	baz=244						
O18K	**Koktuh Hills**	**67.50**	**29**	P	**P**	**18 37 53.5**	**+0.8**
	baz=253						
RDOG	**Red Dog Mine**	**67.51**	**20**	P	**P**	**18 37 53.6**	**+1.0**
	baz=242						
L18K	**Granite Mounta**	**67.56**	**27**	P	**P**	**18 37 53.6**	**+0.6**
	baz=250						
BTK	**Batken**	**67.57**	**309**	IAmb	IAmb	18 38 09.3	
	comp=Z,25nm,1.4s						
C17K	**DeLong Mountai**	**67.62**	**19**	P	**P**	**18 37 53.8**	**+0.5**
	baz=242						
M18K	**Stony River**	**67.71**	**28**	P	**P**	**18 37 55.0**	**+1.0**
	baz=252						
OHAK	**Old Harbor**	**67.75**	**32**	P	**P**	**18 37 54.9**	**+0.7**
	baz=256						
H18K	**Honhosa River**	**67.92**	**23**	P	**P**	**18 37 56.0**	**+0.8**
	baz=248						
J18K	**Innoko River**	**67.98**	**25**	P	**P**	**18 37 56.3**	**+0.6**
	baz=250						
Q19K	**Cape Douglas,**	**68.00**	**31**	P	**P**	**18 37 56.8**	**+0.9**
	baz=255						
F18K	**Selawik**	**68.00**	**22**	P	**P**	**18 37 56.6**	**+0.9**
	baz=246						
E18K	**Tukpahlearik C**	**68.01**	**21**	P	**P**	**18 37 56.7**	**+1.0**
	baz=245						
O19K	**Port Alsworth**	**68.02**	**29**	P	**P**	**18 37 57.0**	**+1.1**
	baz=254						
KKAR	**Karatay Array**	**68.05**	**312**	P	**P**	**18 37 55.6**	**-0.9**
KKAR	**Karatay Array**	**68.05**	**312**	P	**P**	**18 37 55.6**	**-0.9**
G18K	**Tagagawik**	**68.09**	**23**	IAmb	IAmb	18 38 01.4	
	comp=Z,17nm,1.1s						
G18K	**Tagagawik**	**68.09**	**23**	P	**P**	**18 37 57.8**	**+1.5**
	baz=247						
TTA	**Tatalina**	**68.10**	**26**	P	**P**	**18 37 56.7**	**+0.2**
	baz=251						
N19K	**Bonanza Creek**	**68.12**	**29**	IAmb	IAmb	18 38 15.4	
	comp=Z,12nm,1.0s						
N19K	**Bonanza Creek**	**68.12**	**29**	P	**P**	**18 37 57.0**	**+0.3**
	baz=253						
KDAK	**Kodiak Island**	**68.25**	**32**	LR	LR	19 08 11.6	
	comp=Z,295nm,19.0s,baz=92,slow=36						
KDAK	**Kodiak Island**	**68.25**	**32**	P	**P**	**18 37 57.9**	**+0.5**
	baz=256						
IUG	**Iuzhnay**	**68.32**	**311**	*e*P	**P**	**18 37 58.2**	**-0.2**
	comp=Z,10.0nm,1.2s						
IUG	**Iuzhnay**	**68.32**	**311**	*e*P	**P**	**18 37 58.1**	**-0.2**
IUG				pmax	pmax		
	comp=Z,10.0nm,1.2s						
C18K	**Utukok River**	**68.35**	**20**	P	**P**	**18 37 58.5**	**+0.5**
	baz=244						
GCSA	**Galena City Sc**	**68.36**	**24**	P	**P**	**18 37 58.6**	**+0.7**
	baz=249						
L19K	**White Mountain**	**68.37**	**27**	P	**P**	**18 37 57.9**	**-0.3**
	baz=252						
P19K	**Oil Pt**	**68.40**	**30**	P	**P**	**18 37 58.9**	**+0.5**
	baz=255						
B18K	**Kokolik River**	**68.48**	**19**	P	**P**	**18 37 58.8**	**+0.2**
	baz=243						
M19K	**Big River Lodg**	**68.49**	**27**	P	**P**	**18 37 59.1**	**+0.3**
	baz=253						
BRLS	**Boroloday**	**68.54**	**312**	*e*P	**P**	**18 38 00.1**	**+0.5**
BRLS	**Boroloday**	**68.54**	**312**	*e*P	**P**	**18 38 00.0**	**+0.5**
Q20K	**Shuyak Island**	**68.55**	**31**	P	**P**	**18 37 59.3**	**0.0**
	baz=256						
J19K	**Poorman**	**68.61**	**25**	P	**P**	**18 38 00.7**	**+1.1**
	baz=251						
KBL	**Kabul**	**68.73**	**303**	P	**P**	**18 38 03.2**	**+2.0**
	SNR=5.9						
KBL				P	**P**	**18 38 03.2**	**+2.0**
	SNR=5.9						
G19K	**Purcell Mounta**	**68.78**	**23**	IAmb	IAmb	18 38 06.3	
	comp=Z,15nm,0.9s						
G19K	**Purcell Mounta**	**68.78**	**23**	P	**P**	**18 38 01.7**	**+1.1**
	baz=249						
F19K	**Shaleruckik Mo**	**68.78**	**22**	P	**P**	**18 38 01.5**	**+0.9**
	baz=248						
H19K	**Roundabout Mou**	**68.80**	**23**	IAmb	IAmb	18 38 41.0	
	comp=Z,21nm,1.2s						
H19K	**Roundabout Mou**	**68.80**	**23**	P	**P**	**18 38 01.5**	**+0.8**
	baz=250						
O20K	**Slope Mountain**	**68.81**	**30**	P	**P**	**18 38 01.8**	**+0.8**
	baz=255						
SIMJ	**Simiganj**	**68.89**	**307**	P	**P**	**18 38 01.0**	**-0.9**
SIMJ				IAmb	IAmb	18 38 33.4	
	comp=Z,22nm,1.0s						
L20K	**Farewell, AK**	**68.89**	**27**	P	**P**	**18 38 02.7**	**+1.4**
	baz=253						
M20K	**Styx River**	**69.06**	**28**	P	**P**	**18 38 02.3**	**-0.2**
	baz=254						
K20K	**Telida**	**69.07**	**26**	P	**P**	**18 38 02.7**	**+0.2**
	baz=252						
C19K	**Lookout Ridge**	**69.07**	**19**	IAmb	IAmb	18 38 13.1	
	comp=Z,24nm,1.0s						
C19K	**Lookout Ridge**	**69.07**	**19**	P	**P**	**18 38 03.0**	**+0.6**
	baz=245						
HOM	**Homer**	**69.18**	**30**	P	**P**	**18 38 04.0**	**+0.8**
	baz=256						
E19K	**Redstone River**	**69.22**	**21**	IAmb	IAmb	18 38 28.5	
	comp=Z,12nm,0.8s						
E19K	**Redstone River**	**69.22**	**21**	P	**P**	**18 38 03.8**	**+0.5**
	baz=248						
J20K	**Nowinta River**	**69.29**	**25**	IAmb	IAmb	18 38 12.0	
	comp=Z,15nm,1.0s						
J20K	**Nowinta River**	**69.29**	**25**	P	**P**	**18 38 04.5**	**+0.7**
	baz=252						
N20K	**Mount Spurr**	**69.30**	**28**	P	**P**	**18 38 05.0**	**+1.0**
	baz=255						
D19K	**Kuna River**	**69.31**	**20**	IAmb	IAmb	18 38 14.1	
	comp=Z,19nm,1.0s						
D19K	**Kuna River**	**69.31**	**20**	P	**P**	**18 38 05.2**	**+1.3**
	baz=247						
I20K	**Naaghedeneel**	**69.34**	**24**	P	**P**	**18 38 05.3**	**+1.2**
	baz=252						
CNPM	**China Poot**	**69.35**	**30**	P	**P**	**18 38 04.0**	**-0.3**
BVAR	**Borovoye Array**	**69.37**	**323**	P	**P**	**18 38 04.7**	**+0.1**
	comp=Z,13nm,0.9s,baz=101,slow=7.9,SNR=31						
BVAR				LR	LR	19 09 45.4	
	comp=Z,478nm,18.5s,baz=99,slow=37						
	comp=Z,13nm,0.9s						
H20K	**Anotleneega Mo**	**69.41**	**24**	P	**P**	**18 38 05.5**	**+1.0**
	baz=251						
BRVK	**Borovoye**	**69.44**	**323**	P	**P**	**18 38 04.7**	**-0.3**
BRVK	**Borovoye**	**69.44**	**323**	P	**P**	**18 38 04.8**	**-0.1**
BRVK				P	**P**	**18 38 04.8**	**-0.1**
BRVK	**Borovoye**	**69.44**	**323**	*ce*P	**P**	**18 38 05.4**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,13nm,0.8s						
F20K	**Avaraart Lake**	**69.61**	**22**	P	**P**	**18 38 05.3**	**-0.4**
	baz=250						
BRSE	**Bradley Lake S**	**69.65**	**30**	P	**P**	**18 38 05.9**	**-0.2**
	baz=257						
PPLA	**Purkeypile**	**69.75**	**27**	P	**P**	**18 38 07.5**	**+0.6**
	baz=254						
SKT	**Skwentna**	**69.81**	**28**	P	**P**	**18 38 08.0**	**+0.9**
	baz=255						
E20K	**Nigu River**	**69.88**	**21**	P	**P**	**18 38 08.4**	**+0.9**
	baz=249						
D20K	**Etivluk River**	**69.90**	**20**	P	**P**	**18 38 08.4**	**+0.8**
	baz=248,SNR=10						
CAST	**Castle Rocks**	**69.94**	**26**	IAmb	IAmb	18 38 21.9	
	comp=Z,14nm,0.9s						
CAST	**Castle Rocks**	**69.94**	**26**	P	**P**	**18 38 08.9**	**+1.0**
	baz=254,SNR=9.0						
CHUM	**Lake Minchumin**	**69.97**	**26**	P	**P**	**18 38 07.8**	**-0.2**
	baz=254						
IMAR	**Indian Mountai**	**70.01**	**23**	P	**P**	**18 38 08.5**	**+0.3**
SUA	**Susitna One**	**70.05**	**28**	P	**P**	**18 38 08.7**	**+0.1**
	baz=256						
B20K	**Meade River**	**70.22**	**19**	P	**P**	**18 38 10.3**	**+1.0**
	baz=247						
G21K	**Allakaket**	**70.27**	**23**	P	**P**	**18 38 10.8**	**+1.0**
	baz=252						
H21K	**Melozitna Rive**	**70.28**	**24**	IAmb	IAmb	18 38 25.2	
	comp=Z,36nm,1.7s						
H21K	**Melozitna Rive**	**70.28**	**24**	P	**P**	**18 38 10.6**	**+0.7**
	baz=253,SNR=5.9						
SEW	**Seward**	**70.36**	**30**	P	**P**	**18 38 11.5**	**+1.1**
	baz=258						
M22K	**Willow**	**70.41**	**28**	P	**P**	**18 38 11.6**	**+0.9**
	baz=257						
RC01	**Rabbit Creek A**	**70.44**	**29**	IAmb	IAmb	18 38 26.3	
	comp=Z,27nm,1.3s						
RC01	**Rabbit Creek A**	**70.44**	**29**	P	**P**	**18 38 11.8**	**+0.9**
	baz=257						
I21K	**Tanana**	**70.47**	**24**	IAmb	IAmb	18 38 31.4	
	comp=Z,12nm,0.9s						
I21K	**Tanana**	**70.47**	**24**	P	**P**	**18 38 11.7**	**+0.7**
	baz=254						
KTH	**Kantishna Hill**	**70.48**	**26**	IAmb	IAmb	18 38 24.8	
	comp=Z,20nm,1.2s						
F21K	**Alatna River**	**70.50**	**22**	P	**P**	**18 38 12.2**	**+1.0**
	baz=252						
BPAW	**Bear Paw Mtn.**	**70.59**	**26**	P	**P**	**18 38 12.6**	**+0.8**
	baz=255						
C21K	**Knifeblade Rid**	**70.68**	**20**	P	**P**	**18 38 13.0**	**+0.7**
	baz=250						
E21K	**Killik River**	**70.72**	**21**	P	**P**	**18 38 12.9**	**+0.4**
	baz=251						
TRF	**Thorofare Moun**	**70.73**	**26**	P	**P**	**18 38 12.6**	**-0.2**
	baz=256						
PMR	**Palmer**	**70.83**	**28**	P	**P**	**18 38 14.5**	**+1.2**
	baz=258						
A21K	**Barrow**	**70.90**	**18**	P	**P**	**18 38 14.5**	**+1.0**
	baz=247						
B21K	**Ikpikpuk River**	**70.90**	**20**	IAmb	IAmb	18 38 30.2	
	comp=Z,29nm,1.3s						
B21K	**Ikpikpuk River**	**70.90**	**20**	P	**P**	**18 38 14.8**	**+1.2**
	baz=250						
H22K	**Ishtalitna Cre**	**70.91**	**24**	P	**P**	**18 38 15.1**	**+1.3**
	baz=254						
MLY	**Manley**	**70.94**	**25**	IAmb	IAmb	18 38 28.1	
	comp=Z,17nm,1.2s						
MLY	**Manley**	**70.94**	**25**	P	**P**	**18 38 14.3**	**+0.4**
	baz=255,SNR=10						
PWL	**Port Wells**	**71.06**	**29**	IAmb	IAmb	18 38 34.5	
	comp=Z,30nm,0.9s						
PWL	**Port Wells**	**71.06**	**29**	P	**P**	**18 38 15.6**	**+0.9**
	baz=259						
F22K	**John River**	**71.07**	**22**	P	**P**	**18 38 15.9**	**+1.3**
	baz=253						
KNK	**Knik Glacier**	**71.11**	**29**	IAmb	IAmb	18 38 28.6	
	comp=Z,22nm,1.2s						
KNK	**Knik Glacier**	**71.11**	**29**	P	**P**	**18 38 15.9**	**+0.9**
	baz=258						
G22K	**Bettles**	**71.15**	**23**	P	**P**	**18 38 15.2**	**+0.1**
	baz=254						
SML	**Sawmill**	**71.25**	**28**	P	**P**	**18 38 15.9**	**+0.1**
SML				IAmb	IAmb	18 38 28.8	
	comp=Z,20nm,1.1s						
SML	**Sawmill**	**71.25**	**28**	P	**P**	**18 38 16.3**	**+0.4**
	baz=258						
BWN	**Browne**	**71.26**	**26**	IAmb	IAmb	18 38 34.2	
	comp=Z,29nm,1.0s						
A22K	**Sinclair Lake**	**71.27**	**18**	P	**P**	**18 38 16.4**	**+0.7**
	baz=249						
D22K	**Ayikyak River**	**71.30**	**21**	IAmb	IAmb	18 38 24.0	
	comp=Z,15nm,0.8s						
D22K	**Ayikyak River**	**71.30**	**21**	P	**P**	**18 38 17.2**	**+1.1**
	baz=252						
RND	**Reindeer**	**71.35**	**27**	P	**P**	**18 38 16.4**	**-0.1**
RND	**Reindeer**	**71.35**	**27**	P	**P**	**18 38 16.4**	**-0.1**
RND				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WAT1	**Susitna Watana**	**71.36**	**27**	P	**P**	**18 38 17.1**	**+0.6**
	baz=258						
E22K	**Anaktuvuk Pass**	**71.38**	**21**	IAmb	IAmb	18 38 30.8	
	comp=Z,30nm,1.2s						
E22K	**Anaktuvuk Pass**	**71.38**	**21**	P	**P**	**18 38 17.6**	**+1.0**
	baz=253				

comp=Z,29nm,0.9s
C23K Itkillik River 72.29 20 P **P 18 38 22.7 +0.8**
baz=254,SNR=14
H24K Noodor Dome 72.29 24 IAmb IAmb 18 38 36.0
comp=Z,31nm,1.4s
H24K Noodor Dome 72.29 24 P **P 18 38 22.9 +0.8**
baz=258,SNR=7.1
M24K Tolsona, Glenn 72.30 28 P **P 18 38 23.1 +0.8**
baz=260
KLU Klutina 72.32 29 IAmb IAmb 18 38 41.9
comp=Z,15nm,1.0s
KLU Klutina 72.32 29 P **P 18 38 23.6 +1.3**
baz=261
POKR Poker Plat Res 72.32 25 P **P 18 38 23.3 +1.1**
baz=258
TOLK Toolik Lake Re 72.32 21 P **P 18 38 22.9 +0.7**
baz=255,SNR=9.0
HDA Harding Lake 72.38 26 P **P 18 38 21.9 -0.8**
HDA IAmb IAmb 18 38 49.7
comp=Z,57nm,2.0s
HDA Harding Lake 72.38 26 P **P 18 38 23.3 +0.7**
baz=259
ILAR Eielson Array 72.48 25 P **P 18 38 21.7 -1.5**
ILAR Eielson Array 72.48 25 P **P 18 38 22.5 -0.7**
comp=Z,3.0nm,0.7s,baz=246,slow=6.0,SNR=51
ILAR LR LR 19 07 20.9
comp=Z,338nm,21.3s,baz=248,slow=33
comp=Z,3.0nm,0.7s
E24K Your Creek 72.57 22 P **P 18 38 24.7 +0.9**
baz=256
G24K Hadweenzic Riv 72.64 23 P **P 18 38 23.8 -0.3**
baz=258
F24K Squaw Lake 72.66 22 P **P 18 38 24.7 +0.5**
baz=257,SNR=7.0
D24K Happy Valley 72.72 21 P **P 18 38 24.7 +0.2**
baz=256,SNR=12
PAX Paxson 72.77 27 P **P 18 38 26.1 +1.0**
baz=261,SNR=7.6
K24K Donnelly Dome 72.78 26 P **P 18 38 26.2 +1.2**
baz=260
KAIM Kayak Island 72.82 31 P **P 18 38 25.5 +0.2**
baz=262
HARP HAARP 72.82 28 P **P 18 38 25.6 +0.3**
baz=261
BMRM Bremner River 72.87 29 P **P 18 38 26.3 +0.7**
baz=262
C24K Franklin Bluff 72.90 20 IAmb IAmb 18 38 40.1
comp=Z,34nm,1.0s
C24K Franklin Bluff 72.90 20 P **P 18 38 26.8 +1.3**
baz=256
N25K Chitina, Valde 72.96 29 P **P 18 38 27.2 +1.0**
baz=262
J25K Salcha River, 73.09 26 P **P 18 38 28.1 +1.2**
baz=260
RIDG Independent Ri 73.17 27 P **P 18 38 28.3 +0.9**
baz=261
PRP Porcupine Dome 73.18 25 P **P 18 38 28.0 +0.5**
baz=260
G25K Bearman Lake 73.19 23 P **P 18 38 28.3 +1.0**
baz=259
H25L Birch Creek 73.20 24 P **P 18 38 28.6 +1.2**
baz=259
F25K Christian Rive 73.52 23 P **P 18 38 30.2 +0.9**
baz=259,SNR=6.8
CRQE Cirque 73.58 30 P **P 18 38 30.6 +0.7**
baz=263
SCRK Sand Creek 73.58 26 P **P 18 38 30.0 +0.1**
SCRK IAmb IAmb 18 38 43.2
comp=Z,37nm,1.7s
SCRK Sand Creek 73.58 26 P **P 18 38 30.6 +0.7**
baz=262,SNR=5.5
D25K Kavik River 73.60 21 P **P 18 38 30.5 +0.7**
baz=258
MCARA McCarthy VSAT 73.68 29 IAmb IAmb 18 38 54.3
comp=Z,21nm,1.0s
MCARA McCarthy VSAT 73.68 29 P **P 18 38 30.6 +0.3**
baz=263
TGL Tana Glacier 73.71 30 IAmb IAmb 18 38 56.2
comp=Z,23nm,1.0s
L26K Log Cabin Wild 73.74 27 P **P 18 38 31.4 +0.7**
baz=263,SNR=6.5
M26K Nabesna, AK 73.82 28 P **P 18 38 32.1 +0.9**
baz=263
J26L Joseph Creek 73.84 26 P **P 18 38 32.0 +0.7**
baz=262
BMAR Burnt Mountain 73.89 23 P **P 18 38 32.7 +1.1**
ISLE Juniper Island 73.93 30 IAmb IAmb 18 38 46.1
comp=Z,21nm,1.0s
MESA MESA 74.08 30 P **P 18 38 33.1 +0.1**
baz=265
F26K Sheenjek River 74.10 23 IAmb IAmb 18 38 48.0
comp=Z,20nm,1.1s
F26K Sheenjek River 74.10 23 P **P 18 38 33.4 +0.6**
baz=260
G26K Porcupine Rive 74.12 23 P **P 18 38 33.8 +1.1**
baz=261
C26K Camden Bay 74.22 20 P **P 18 38 34.1 +0.8**
baz=259
GRNC Granite Creek 74.23 30 P **P 18 38 33.4 -0.5**
M27K Edge Creek, AK 74.33 28 P **P 18 38 34.9 +0.5**
baz=264
K27K Chicken 74.43 26 P **P 18 38 35.3 +0.6**
baz=263
L27K Beaver Creek, 74.43 27 P **P 18 38 35.5 +0.8**
baz=264
BCAR Beaver Creek A 74.45 27 P **P 18 38 35.7 +0.8**
CTG Chitna Glacier 74.45 30 P **P 18 38 35.8 +0.8**
baz=265
CTGM Chitina Glacie 74.46 30 IAmb IAmb 18 38 56.3
comp=Z,27nm,1.2s
PPT Papeete 74.48 112 LR LR 19 05 48.3
comp=Z,299nm,18.4s,baz=291,slow=31
PPT2 Papeete2 74.48 112 *e*P **P 18 38 34.2 -1.7**
PPT2 comp=Z,27nm,22.5s *e*S **S 18 48 08.2 -2.1**
comp=Z,72nm,25.0s
PPT2 Papeete2 74.48 112 *e*LR LR 19 01 22.4
PPT2 comp=Z,335nm,22.5s *e*LR LR 19 01 25.7
comp=Z,299nm,23.5s
C27K Jago River 74.58 21 IAmb IAmb 18 38 43.0
comp=Z,54nm,1.7s
C27K Jago River 74.58 21 P **P 18 38 36.6 +1.2**
baz=260
I27K Kandik River 74.81 25 P **P 18 38 37.8 +0.9**
baz=263,SNR=9.0
BVCY Beaver Creek 74.81 28 P **P 18 38 38.0 +1.0**
baz=265
EGAK Eagle 74.91 26 P **P 18 38 38.5 +1.1**
baz=264
H27K Steamboat Moun 74.91 24 P **P 18 38 38.7 +1.2**
baz=263,SNR=12
PINM Pinnacle 74.92 31 P **P 18 38 38.6 +0.9**
baz=266
G27K Doyon Strip 74.93 24 IAmb IAmb 18 39 23.0
comp=Z,35nm,1.9s
G27K Doyon Strip 74.93 24 P **P 18 38 38.4 +0.8**
baz=263
YUK3 Moose Creek 74.94 29 P **P 18 38 39.5 +1.5**
baz=266,SNR=9.1
O28M Mount Upton 75.00 30 P **P 18 38 38.6 +0.2**
baz=266
E27K Coleen River 75.13 22 P **P 18 38 39.8 +1.1**
baz=263
YUK8 Steele Glacier 75.24 29 P **P 18 38 40.7 +0.9**
baz=266,SNR=5.2
PNL Peninsula 75.33 31 P **P 18 38 40.9 +1.0**
baz=267
SVE Sverdlovsk 75.34 326 *e*P **P 18 38 40.3 +0.3**
SVE pmax pmax
comp=Z,27nm,1.3s
SVE MLR MLR
comp=Z,1μm,22.0s
I28M Miner Creek 75.48 25 P **P 18 38 42.2 +1.3**
baz=265
D27M Malcolm River 75.49 21 P **P 18 38 42.1 +1.3**
baz=263
DAWY Dawson 75.61 27 P **P 18 38 41.9 +0.4**
DAWY Dawson 75.61 27 P **P 18 38 42.8 +1.3**
baz=266,SNR=11
ABKAR Akbulak array 75.65 318 P **P 18 38 41.2 -0.8**
F28M Old Crow 75.71 23 IAmb IAmb 18 39 01.3
comp=Z,21nm,0.8s
F28M Old Crow 75.71 23 P **P 18 38 42.5 +0.5**
baz=264,SNR=16
O29M Mount Kennedy 75.77 30 IAmb IAmb 18 38 59.9
comp=Z,54nm,1.8s
O29M Mount Kennedy 75.77 30 P **P 18 38 43.7 +1.1**
baz=268
YUK4 Talbot Arm 75.78 29 P **P 18 38 44.2 +1.4**
baz=267
YUK6 Outpost Mounta 75.90 30 P **P 18 38 44.4 +0.9**
baz=268
M29M Somme Creek 75.92 28 P **P 18 38 44.4 +1.0**
baz=267,SNR=14
E28M Babbage River 75.93 22 IAmb IAmb 18 39 02.6
comp=Z,20nm,0.8s
E28M Babbage River 75.93 22 P **P 18 38 44.2 +1.0**
baz=265
L29M L29M 76.11 28 IAmb IAmb 18 38 51.1
comp=Z,14nm,0.8s
L29M L29M 76.11 28 P **P 18 38 45.6 +1.2**
baz=267,SNR=12
P29M Windy Craggy 76.17 31 P **P 18 38 45.5 +0.7**
baz=268
H29M Whitestone 76.19 24 IAmb IAmb 18 39 01.9
comp=Z,30nm,1.2s
H29M Whitestone 76.19 24 P **P 18 38 45.7 +0.9**
baz=266
D28M Stokes Point 76.28 21 P **P 18 38 46.2 +1.0**
baz=265,SNR=7.6
HYT Haines Junctio 76.32 30 P **P 18 38 46.2 +0.5**
baz=268,SNR=9.8
TBI Tubual 76.35 117 *e*LR LR 19 02 14.1
comp=Z,951nm,23.2s
G29M Pine Creek 76.37 24 IAmb IAmb 18 39 05.2
comp=Z,34nm,1.0s
G29M Pine Creek 76.37 24 P **P 18 38 47.3 +1.5**
baz=266,SNR=13
K29M Barlow Dome 76.42 27 IAmb IAmb 18 39 00.5
comp=Z,59nm,1.6s
K29M Barlow Dome 76.42 27 P **P 18 38 47.4 +1.2**
baz=268
E29M Blow River 76.52 22 P **P 18 38 48.3 +1.8**
baz=266
N30M Aishikik Lake 76.53 29 P **P 18 38 47.6 +0.7**
baz=269
P30M Million Dollar 76.57 31 P **P 18 38 47.8 +0.7**
baz=269
ARTI Arti 76.58 325 P **P 18 38 45.7 -1.4**
ARTI IAmb IAmb 18 38 59.4
comp=Z,24nm,1.3s
ARTI Arti 76.58 325 LR LR 19 15 01.7
comp=Z,832nm,18.6s,baz=87,slow=38
ARTI Arti 76.58 325 *c i*P **P 18 38 46.6 -0.5**
ARTI S **S 18 48 35.0 +3.0**
ARTI SS **SS 18 53 24.4 -2.6**
ARTI pmax pmax
comp=Z,12nm,1.2s
ARTI MLR MLR
comp=Z,852nm,19.0s
PLBC Pleasant Camp 76.86 31 P **P 18 38 49.6 +1.0**
baz=270
EPYK Eagle Plains 76.86 24 P **P 18 38 48.9 +0.3**
baz=268
AKTO Aktyubinsk 76.88 319 LR LR 19 14 43.8
comp=Z,367nm,18.7s,baz=102,slow=37
S31K Pelican 76.93 33 P **P 18 38 49.5 +0.5**
baz=270
I30M Mount Dempster 76.96 25 P **P 18 38 50.6 +1.3**
baz=268,SNR=8.2
J30M Hart River 76.96 26 IAmb IAmb 18 39 01.6
comp=Z,19nm,1.1s
J30M Hart River 76.96 26 P **P 18 38 50.7 +1.4**
baz=268
O30N Mendenhall 77.01 30 P **P 18 38 50.9 +1.3**
baz=270
G30M tAoh Zraii Nji 77.08 24 P **P 18 38 50.7 +0.9**
baz=268
N31M Braeburn, Yuko 77.16 29 IAmb IAmb 18 38 56.4
comp=Z,42nm,1.4s
N31M Braeburn, Yuko 77.16 29 P **P 18 38 51.6 +1.2**
baz=270,SNR=8.4
F30M Barrier River 77.27 23 P **P 18 38 52.0 +1.1**
baz=268,SNR=8.1
SKAG Skagway 77.39 31 P **P 18 38 53.0 +1.4**
baz=271
SIT Sitka 77.43 34 P **P 18 38 52.5 +0.7**
baz=271
WHY Whitehorse 77.60 30 P **P 18 38 53.2 +0.3**
WHY IAmb IAmb 18 39 07.5
comp=Z,47nm,1.7s
WHY Whitehorse 77.60 30 P **P 18 38 53.9 +0.9**
baz=271,SNR=7.8
H31M Peel River 77.82 25 IAmb IAmb 18 39 09.1
comp=Z,17nm,0.9s
H31M Peel River 77.82 25 P **P 18 38 55.2 +1.3**
baz=270,SNR=8.6
M31M Drury Creek, Y 77.82 29 IAmb IAmb 18 39 20.0
comp=Z,14nm,0.9s
M31M Drury Creek, Y 77.82 29 P **P 18 38 54.5 +0.4**
baz=271
R32K Eaglecrest 77.83 33 P **P 18 38 54.3 +0.2**
baz=272
G31M Satah River 77.85 24 P **P 18 38 54.7 +0.7**
baz=270,SNR=10
JLN Jalan Bani Buh 77.94 290 P **P 18 38 58.8 +3.3**
F31M Tsiigehtchic 78.06 23 P **P 18 38 56.1 +0.9**
baz=270
INK Inuvik 78.14 22 P **P 18 38 55.7 +0.1**
baz=270
P32M Atlin 78.21 31 IAmb IAmb 18 39 10.6
comp=Z,41nm,1.7s
P32M Atlin 78.21 31 P **P 18 38 57.1 +0.8**
baz=272
FARO Faro, Yukon 78.31 28 P **P 18 38 57.6 +0.9**
baz=272
N32M Quiet Lake 78.47 30 IAmb IAmb 18 39 11.3
comp=Z,26nm,0.9s
N32M Quiet Lake 78.47 30 P **P 18 38 59.0 +1.3**
baz=272
P33M Teslin, Yukon 78.64 31 P **P 18 38 59.6 +0.9**
baz=273
U33K Whale Pass 78.68 35 P **P 18 38 59.2 +0.4**
baz=273
CRAG Craig 78.71 35 P **P 18 38 59.6 +0.6**
baz=273
JASK Jask - Hormozg 78.88 294 P **P 18 39 01.0 +0.4**
BIDO Bidbid 78.94 292 P **P 18 39 02.6 +1.7**
Q32M Nakina River 78.98 32 P **P 18 39 01.0 +0.2**
baz=273
SMDO Samad 79.07 291 P **P 18 39 03.2 +1.4**
JMDO Jabal Madar 79.11 291 P **P 18 39 03.9 +2.0**
JMDO P **P 18 39 03.9 +2.0**
MHTO MHTO 79.42 289 P **P 18 39 04.9 +1.3**
MHTO P **P 18 39 04.9 +1.3**
V35K Ketchikan 79.58 35 P **P 18 39 04.1 +0.3**
baz=274
R33M Jennings River 79.62 31 P **P 18 39 05.8 +1.7**
baz=274
S34M Telegraph Cree 79.65 33 IAmb IAmb 18 39 18.0
comp=Z,22nm,1.1s
HOQ Hoqain 79.67 292 P **P 18 39 06.3 +1.3**
BSY Bisya 79.89 291 P **P 18 39 07.2 +1.0**
DLBC Dease Lake 80.19 32 P **P 18 39 07.6 +0.5**
baz=275
T35M Bob Quinn 80.20 34 IAmb IAmb 18 39 15.9
comp=Z,40nm,1.4s
T35M Bob Quinn 80.20 34 P **P 18 39 08.0 +0.8**
baz=275
SOHO SOHO 80.30 293 P **P 18 39 09.4 +1.1**
SHME Shamm 80.40 295 P **P 18 39 10.6 +1.8**
ARQ Araqi 80.42 292 P **P 18 39 11.6 +2.5**
SNR=6.2
U35K Hyder 80.43 35 P **P 18 39 08.6 +0.3**
baz=276
MASF Masafi 80.47 294 P **P 18 39 10.9 +1.6**
SNR=8.2
UOSS Minazif 80.49 294 P **P 18 39 07.6 -1.8**
UOSS IAmb IAmb 18 39 22.4
comp=Z,16nm,0.8s
UOSS Minazif 80.49 294 P **P 18 39 10.0 +0.6**
UOSS P **P 18 39 10.0 +0.6**
HATD Hatta, Dubai 80.57 294 P **P 18 39 10.5 +0.6**
HATD P **P 18 39 10.5 +0.6**
WTLY Watson Lake, Y 80.65 30 P **P 18 39 09.3 -0.3**
baz=276
ASHO Ashiyiah 80.66 293 P **P 18 39 10.6 +0.3**
A36M Sachs Harbour 80.72 18 IAmb IAmb 18 39 44.0
comp=Z,24nm,0.8s
A36M Sachs Harbour 80.72 18 P **P 18 39 09.5 -0.1**
baz=277
ALNE Al Ain 81.02 293 P **P 18 39 13.6 +1.4**
SNR=6.5
KIRV Kirov 81.28 328 LR LR 19 18 33.1
comp=Z,736nm,18.2s,baz=83,slow=38
KIRV Kirov 81.28 328 *c e*P **P 18 39 14.1 +1.3**
ASUD Al Ashush, Dub 81.32 293 P **P 18 39 15.9 +2.1**
C36M Paulatuk 81.47 21 IAmb IAmb 18 39 29.2
comp=Z,22nm,1.1s
C36M Paulatuk 81.47 21 P **P 18 39 14.1 +0.5**
baz=279
UMZA Um Al Zommool 81.75 292 P **P 18 39 16.4 +0.3**
BBB Bella Bella 81.98 38 LR LR 19 10 37.3
comp=Z,460nm,19.3s,baz=283,slow=32
LIRD Liard River Hi 82.09 31 P **P 18 39 18.0 +0.9**
baz=278
DMTO DMTO 82.73 287 P **P 18 39 22.3 +1.0**
KOTAN Kotaneelee Air 83.00 30 P **P 18 39 22.5 +0.6**
baz=280
BELG Belogornoye 83.17 322 LR LR 19 18 45.4
comp=Z,437nm,18.4s,baz=131,slow=37
BELG Belogornoye 83.17 322 *i*P **P 18 39 22.4 -0.4**
BELG pmax pmax
comp=Z,14nm,1.3s
MZR Muzera 83.24 292 P **P 18 39 25.6 +1.7**
DOK Doka 83.35 288 P **P 18 39 25.3 +0.8**
GHWR Ruwais 83.64 293 P **P 18 39 26.3 +0.5**
WHFO Wadi Hawf 83.80 287 P **P 18 39 28.0 +1.1**
ABTO Aybut 84.34 287 P **P 18 39 30.5 +0.8**
ABTO P **P 18 39 30.5 +0.8**
LKRN Lenkeran, Azer 84.65 308 P **P 18 39 29.8 -1.0**
SEKA Sheki 85.40 311 P **P 18 39 33.2 -1.4**
MNGR Mingechevir, A 85.57 311 P **P 18 39 34.4 -0.9**
KLMR Klimovskoe 85.76 331 *e*P **P 18 39 33.3 -2.5**
KLMR *e* 18 42 53.9
KLMR pmax pmax
comp=Z,17nm,1.1s
SPITS Spitsbergen Ar 85.77 350 P **P 18 39 35.8 +0.2**
comp=Z,18nm,1.0s,baz=98,slow=6.0,SNR=8.1
comp=Z,18nm,1.0s
MSEY Mahe Island 86.27 265 P **P 18 39 36.7 -2.7**
MSEY IAmb IAmb 18 39 48.2
comp=Z,27nm,1.2s
MSEY Mahe Island 86.27 265 P **P 18 39 39.9 +0.5**
MSEY Mahe Island 86.27 265 P **P 18 39 36.7 -2.7**
MSEY pmax pmax
comp=Z,27nm,1.2s
F04A Amboy 86.78 44 P **P 18 39 38.6 -2.6**
YKA Yellowknife Ar 86.85 27 P **P 18 39 40.5 -0.6**
YKA Yellowknife Ar 86.85 27 P **P 18 39 42.2 +1.1**
comp=Z,8.4nm,0.9s,baz=257,slow=11,SNR=8.8
YKA LR LR 19 18 58.0
comp=Z,191nm,19.7s,baz=294,slow=36
comp=Z,8.4nm,0.9s
KHMM Horse Mountain 86.92 49 IAmb IAmb 18 39 56.8
comp=Z,20nm,1.0s
VRH Novokhopyorsk 86.99 322 *e*P **P 18 39 39.9 -2.2**
VRH pmax pmax
comp=Z,10.0nm,1.2s
NAX Nakhchivan 87.08 309 P **P 18 39 41.8 -1.1**
HUMO Hull Mountain 87.12 47 IAmb IAmb 18 39 55.4
comp=Z,10nm,0.8s
I04A Tendick Farm, 87.25 46 IAmb IAmb 18 40 07.0
comp=Z,29nm,1.3s
KCPM Cahto Peak 87.28 50 IAmb IAmb 18 39 53.0
comp=Z,13nm,0.9s
GNI Garni 87.44 310 LR LR 19 24 15.9
comp=Z,177nm,18.1s,baz=71,slow=39
YBH Yreka Blue Hor 87.49 48 IAmb IAmb 18 39 59.9
comp=Z,33nm,1.6s
YBH Yreka Blue Hor 87.49 48 LR LR 19 14 25.8
comp=Z,176nm,19.2s,baz=275,slow=32
LTY Liberty 87.65 42 IAmb IAmb 18 40 05.9
comp=Z,23nm,1.1s
O02D Mt. Diablo Mer 87.77 50 IAmb IAmb 18 40 00.9
comp=Z,22nm,1.3s
RES Resolute Bay 87.82 13 LR LR 19 21 52.1
comp=Z,135nm,19.4s,baz=5.0,slow=38
KBZ Khabaz 87.99 314 P **P 18 39 48.7 +1.6**
comp=Z,2.1nm,1.0s,baz=90,slow=1.0,SNR=2.0
KBZ LR LR 19 22 51.5
comp=Z,222nm,19.6s,baz=69,slow=38
comp=Z,2.1nm,1.0s
KBZ Khabaz 87.99 314 *i*P **P 18 39 47.3 +0.3**
KBZ pmax pmax
comp=Z,6.0nm,1.1s
MXC Moxie City 88.06 43 IAmb IAmb 18 40 27.8
comp=Z,21nm,1.3s
KIV Kislovodsk 88.08 314 *e*P **P 18 39 45.8 -1.9**
KIV *e* 18 50 13.7
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,149nm,20.0s
ARCES ARCESS Array B 88.13 341 P **P 18 39 46.7 -0.5**
comp=Z,3.6nm,0.7s,baz=122,slow=14,SNR=16
ARCES LR LR 19 22 14.3
comp=Z,424nm,20.4s,baz=72,slow=38
comp=Z,3.6nm,0.7s
MOS Moscow 88.14 327 *e*P **P 18 39 45.5 -2.0**
MOS *e* 18 43 13.6
MOS *e*S **S 18 50 23.8 -6.7**
MOS pmax pmax
comp=Z,23nm,1.1s
MOS MLR MLR
comp=Z,900nm,20.0s
J05D Fort Rock, OR 88.20 46 IAmb IAmb 18 40 03.2
comp=Z,20nm,1.0s
B08A Colville Reser 88.25 41 IAmb IAmb 18 40 04.4
comp=Z,11nm,0.8s
LPSR Galich'ya Gora 88.30 323 *e*P **P 18 39 45.8 -2.5**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
E07A Sunnyside 88.36 43 IAmb IAmb 18 40 06.5
comp=Z,10nm,0.9s
VSR Storozhevoye 88.54 322 *e*P **P 18 39 47.8 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.4s
OBN Obninsk 88.91 326 LR LR 19 21 57.1
comp=Z,690nm,19.6s,baz=6.5,slow=37
OBN Obninsk 88.91 326 ‖ *e*P **P 18 39 50.2 -0.9**
OBN *e**PP **pP 18 39 54.9 -2.3**
OBN *e**SP **sP 18 39 56.4 -3.0**
OBN *e*PPP PPP 18 45 19.2
OBN *e*S **SKSac 18 50 14.5 -4.9**
OBN *e*PS PS 18 52 08.5 +24
OBN pmax pmax
comp=Z,31nm,1.3s
OBN MLR MLR
comp=Z,713nm,20.0s
I07A Izee 89.22 45 IAmb IAmb 18 40 22.0
comp=Z,11nm,1.1s
G08A Pilot Rock 89.29 44 IAmb IAmb 18 40 07.2
comp=Z,17nm,1.7s
E09A Wood Farm, Sta 89.51 43 IAmb IAmb 18 40 22.3
comp=Z,17nm,1.3s
NEW Newport 89.70 41 LR LR 19 12 55.5
comp=Z,284nm,21.6s,baz=296,slow=31
SBA Scott Base 90.06 175 P **P 18 39 55.9 -0.1**
SBA Scott Base 90.06 175 P **P 18 39 55.9 -0.1**
SBA pmax pmax
comp=Z,12nm,1.4s
J08A Circle Bar Ran 90.13 46 IAmb IAmb 18 40 06.1
comp=Z,16nm,1.1s
WVOR Wild Horse Val 90.26 47 IAmb IAmb 18 40 06.7
comp=Z,10nm,0.8s
RAYN Ar Rayn 90.35 294 P **P 18 39 56.8 -1.9**
RAYN Ar Rayn 90.35 294 P **P 18 39 58.9 +0.3**
RAYN Ar Rayn 90.35 294 P **P 18 39 56.8 -1.9**
RAYN pmax pmax
comp=Z,7.0nm,0.9s
PNTR Pine Nut 90.42 50 IAmb IAmb 18 40 14.0
comp=Z,16nm,1.0s
PAHR Pah Rah Range 90.42 49 IAmb IAmb 18 40 07.6
comp=Z,11nm,1.1s
BMO Blue Mountains 90.54 44 IAmb IAmb 18 40 07.6
comp=Z,19nm,1.6s
WAKR Walker 90.69 51 IAmb IAmb 18 40 51.8
comp=Z,16nm,1.4s
LHV Little Huntoon 91.46 51 IAmb IAmb 18 40 36.5
comp=Z,16nm,1.3s
KVN Kaiserville 91.56 50 IAmb IAmb 18 40 19.2
comp=Z,18nm,1.5s
NVAR Mina Array Bea 91.57 50 P **P 18 40 03.6 -0.7**
NVAR Mina Array Bea 91.57 50 P **P 18 40 06.8 +2.6**
comp=Z,6.3nm,0.9s,baz=261,slow=5.8,SNR=15
NVAR LR LR 19 17 44.0
comp=Z,114nm,18.4s,baz=278,slow=33
comp=Z,6.3nm,0.9s
FINES FINESS Array B 91.62 334 P **P 18 40 02.3 -1.4**

comp=Z,4.6nm,0.7s,baz=60,slow=5.5,SNR=37
FINES LR LR 19 23 40.6
comp=Z,557nm,19.5s,baz=63,slow=37
comp=Z,4.6nm,0.7s
NV11 Mina Array Sit 91.68 50 IAmb IAmb 18 40 13.7
comp=Z,11nm,1.2s
ISA Isabella, Lake 92.17 53 IAmb IAmb 18 40 10.7
comp=Z,5.2nm,0.5s
HLID Hailey 92.90 45 IAmb IAmb 18 40 19.5
comp=Z,8.5nm,1.1s
ELK Elko 93.18 48 LR LR 19 15 06.8
comp=Z,230nm,21.3s,baz=294,slow=31
GSC Goldstone, Bar 93.58 53 IAmb IAmb 18 40 24.1
comp=Z,13nm,1.1s
NACGM Naroch 94.21 328 *e*P **P 18 40 15.1 -0.6**
comp=Z,7.0nm,0.8s,baz=64
PFO Pinyon Flats O 94.32 55 LR LR 19 16 53.9
comp=Z,85nm,20.9s,baz=315,slow=32
HVU Hansel Valley 94.62 46 IAmb IAmb 18 40 32.3
comp=Z,8.8nm,1.2s
AKASG Malin Array Be 94.63 324 LR LR 19 23 51.8
comp=Z,336nm,21.6s,baz=56,slow=36
YHL Hebgen Lake 94.67 43 IAmb IAmb 18 40 27.7
comp=Z,18nm,1.1s
YHB Horse Butte 94.69 43 IAmb IAmb 18 40 35.7
comp=Z,12nm,0.9s
MAW Mawson 95.66 202 P **P 18 40 21.3 -0.7**
comp=Z,3.6nm,0.9s,baz=32,slow=6.4,SNR=5.8
MAW LR LR 19 23 15.1
comp=Z,152nm,18.4s,baz=72,slow=35
comp=Z,3.6nm,0.9s
BR105 Keskin Array S 95.78 312 P **P 18 40 23.3 -0.2**
comp=Z,2.3nm,1.0s
LUBAR Lubar, Ukraine 95.81 323 P **P 18 40 26.0 +2.8**
RLMT Red Lodge 95.84 42 IAmb IAmb 18 40 37.3
comp=Z,18nm,1.4s
PDAR Pinedale Array 96.52 44 P **P 18 40 28.9 +2.0**
comp=Z,0.2nm,0.4s,baz=185,slow=4.3,SNR=4.6
PDAR LR LR 19 17 33.8
comp=Z,99nm,21.4s,baz=304,slow=31
comp=Z,0.2nm,0.4s
MMAI Mount Meron Ar 96.55 305 LR LR 19 28 12.1
comp=Z,125nm,20.9s,baz=354,slow=38
HFS Hagfors 97.83 338 LR LR 19 28 42.9
comp=Z,526nm,19.1s,baz=55,slow=38
NOA NORSAR Array B 97.83 338 LR LR 19 26 31.4
comp=Z,201nm,20.0s,baz=55,slow=37
EIL Elat 97.93 302 LR LR 19 30 44.4
comp=Z,53nm,18.5s,baz=69,slow=39
MLR Muntele Rosu 98.81 320 LR LR 19 28 51.6
comp=Z,318nm,18.3s,baz=68,slow=38
N23A Red Feather La 99.73 45 Pdiff **Pdif 18 40 39.9 -1.5**
baz=294
S22A 4UR Ranch, Cre 100.34 48 Pdiff **Pdif 18 40 43.0 -1.3**
baz=293
QSPA South Pole Qui 101.01 180 P **Pdif 18 40 46.1 -0.1**
comp=Z,2.6nm,1.2s,baz=247,slow=3.5,SNR=3.1
Q24A Divide 101.07 46 Pdiff **Pdif 18 40 47.1 -0.4**
baz=294
121A Cookes Peak, D 101.56 53 Pdiff **Pdif 18 40 48.6 -1.1**
baz=291
T25A Trinidad 102.35 48 Pdiff **Pdif 18 40 51.4 -1.7**
baz=294
435B Jarrell 110.21 51 PKiKP **PKiKP 18 45 27.1 -2.2**
baz=297
L44A Lake County Fo 110.69 37 PKiKP **PKiKP 18 45 28.3 -1.5**
baz=308
P49A Miami Univ. Ec 114.23 37 PKiKP **PKiKP 18 45 36.3 -0.4**
baz=310
SNAA Sanae 115.61 192 ⇑PKPdf **PKiKP 18 45 37.9 -0.6**
comp=Z,22nm,0.9s
VNA2 Neumayer--Watz 117.10 191 ⇑PKPdf **PKPdf 18 45 41.0 -0.2**
comp=Z,4.1nm,0.8s,baz=71,slow=0.9
VNA3 Neumayer Olymp 117.25 190 ⇑PKPdf **PKPdf 18 45 40.9 -0.6**
comp=Z,2.3nm,0.8s
ESDC Sonseca Array 119.74 329 PKP **PKPdf 18 45 46.1 -1.3**
comp=Z,0.2nm,0.5s,baz=126,slow=1.7,SNR=1.7
TORD Torodi Ar. Bea 132.74 300 PKP **PKPdf 18 46 11.0 -1.8**
comp=Z,1.0nm,0.8s,baz=20,slow=3.9,SNR=4.6
PLCA Paso Flores 139.65 142 PKP **PKPdf 18 46 25.7 +0.7**
comp=Z,4.4nm,1.0s,baz=292,slow=2.1,SNR=4.9
DBIC Dimbokro 141.47 296 PKP **PKPdf 18 46 29.2 +0.3**
comp=Z,2.9nm,0.8s,baz=3.4,slow=2.0,SNR=2.3
MT08 Bocatoma Ro 144.14 133 PKPbc 18 46 31.8 +0.3
LPAZ La Paz 151.50 104 **PKPdf 18 46 48.1 +1.7**
LPAZ La Paz 151.50 104 PKP **PKPdf 18 46 44.8 -1.6**
comp=Z,0.8nm,0.6s,baz=340,slow=3.3,SNR=4.3
LPAZ PKPbc **sPKPdf 18 46 53.8 -0.5**
comp=Z,16nm,1.1s,baz=268,slow=1.6,SNR=18
CPUP Villa Florida 157.22 134 PKPab **PKPab 18 47 23.8 -0.4**
comp=Z,9.1nm,1.1s,baz=237,slow=7.2,SNR=5.2

*ISK **14** 18:28:15.8, 40.°44N×26.°30E, h12km, ML2.0/12*
*AFAD **14** 18:28:16.3±0.0, 40.°42N×26.°31E, h7km±1km, ML1.8*
ISC 14 18:28:16.3±0.9, 40.°44N±0.°02×26.°31E±0.°03, h14km±6km, n21, σ0.°33/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GELI	**Tayfur-Gelibol**	**0.13**	**107**	Pg	**Pg**	**18 28 19.7**	**-0.2**
GELI				Sg	**Sg**	**18 28 22.2**	**-0.1**
ENZZ	**Sultanice-Enez**	**0.21**	**323**	Pg	**Pg**	**18 28 20.7**	**-0.3**
ENZZ				Sg	**Sg**	**18 28 25.1**	**+0.9**
CAVK	**Edirne/Enez-Ca**	**0.27**	**337**	P	**Pg**	**18 28 21.9**	**-0.2**
CAVK				*i* AML	AML	18 28 26.0	
	comp=N,191nm,0.2s						
CAVK				*i* AML	AML	18 28 26.0	
	comp=E,224nm,0.2s						
CAVK				S	**Sg**	**18 28 26.0**	**0.0**
CAVK	**Edirne/Enez-Ca**	**0.27**	**337**	P	**Pg**	**18 28 21.9**	**-0.2**
CAVK				*i* AML	AML	18 28 26.0	
	comp=N,214nm,0.2s						
CAVK				*i* AML	AML	18 28 26.0	
	comp=E,238nm,0.2s						
CAVK				S	**Sg**	**18 28 26.1**	**0.0**
ERIK	**Erikli-Kesan**	**0.28**	**34**	Pg	**Pg**	**18 28 21.9**	**-0.3**
ERIK				Sg	**Sg**	**18 28 26.3**	**+0.1**
ENEZ	**Enez**	**0.32**	**339**	Pg	**Pg**	**18 28 22.7**	**-0.2**
ENEZ				Sg	**Sg**	**18 28 27.6**	**+0.2**
CNKL	**anakkale-Mer**	**0.38**	**170**	P	**Pg**	**18 28 24.0**	**+0.1**
CNKL				*i* AML	AML	18 28 29.0	
	comp=N,58nm,0.2s						
CNKL				*i* AML	AML	18 28 29.0	
	comp=E,46nm,0.2s						
CNKL				S	**Sg**	**18 28 29.6**	**+0.6**
GADA	**Gvkgeada**	**0.40**	**232**	Pg	**Pg**	**18 28 24.3**	**0.0**
GOAD	**anakkale-G¶**	**0.41**	**228**	P	**Pg**	**18 28 24.7**	**+0.2**
GOAD				*i* AML	AML	18 28 31.0	
	comp=E,227nm,0.4s						
GOAD				S	**Sb**	**18 28 31.1**	**-0.3**
GOAD				*i* AML	AML	18 28 32.0	
	comp=N,133nm,0.4s						
ALN	**Alexandroupoli**	**0.50**	**337**	Pg	**Pg**	**18 28 26.1**	**-0.1**
EZN	**Ezine**	**0.61**	**179**	Pg	**Pg**	**18 28 27.3**	**-1.0**
RKY	**Sarkoy-Tekirda**	**0.71**	**69**	Pg	**Pb**	**18 28 30.6**	**+0.1**
BAYC	**CANAKKALE_Bayr**	**0.72**	**165**	P	**Pg**	**18 28 30.3**	**0.0**
BAYC				*i* AML	AML	18 28 40.0	
	comp=N,25nm,0.2s						
BAYC				*i* AML	AML	18 28 40.0	
	comp=E,19nm,0.2s						
BAYC				S	**Sb**	**18 28 40.2**	**-0.1**
UKOP	**Uzunkopru-Edir**	**0.73**	**20**	Pg	**Pg**	**18 28 30.4**	**-0.2**
KRBG	**Karabiga-Canak**	**0.76**	**93**	Pg	**Pg**	**18 28 30.9**	**-0.1**
TKR	**Tekirdag**	**1.08**	**59**	Pn	**Pg**	**18 28 37.6**	**+0.4**
EDC	**Edincik**	**1.19**	**94**	Pn	**Pn**	**18 28 38.6**	**+0.1**
SIGR	**SIGRI**	**1.27**	**196**	Pn	**Pn**	**18 28 39.6**	**0.0**
KIRK	**Kırklareli**	**1.47**	**24**	P	**Pn**	**18 28 42.4**	**+0.1**
KIRK				S	**Sn**	**18 29 01.2**	**-0.2**
KIRK				*i* AML	AML	18 29 06.0	
	comp=N,4.1nm,0.3s						
KIRK				*i* AML	AML	18 29 25.0	
	comp=E,5.2nm,1.4s						
VIZE	**Kirklareli, Vi**	**1.63**	**45**	P	**Pn**	**18 28 44.1**	**-0.5**
VIZE				S	**Sn**	**18 29 05.4**	**+0.1**
VIZE				*i* AML	AML	18 29 10.0	
	comp=N,12nm,0.4s						
VIZE				*i* AML	AML	18 29 17.0	
	comp=E,9.4nm,1.2s						
ARMN	**Kirklareli, Me**	**1.66**	**30**	P	**Pn**	**18 28 44.7**	**-0.2**
ARMN				S	**Sb**	**18 29 07.5**	**+0.2**
ARMN				*i* AML	AML	18 29 17.0	
	comp=E,3.1nm,0.6s						
ARMN				*i* AML	AML	18 29 41.0	
	comp=N,7.7nm,2.6s						

*ISU **14** 18:30:19.7, 40.°98N×71.°99E, h11km*
*SOME **14** 18:30:20.5, 41.°00N×71.°85E, h10km*
*KRNET **14** 18:30:20.0±0.1, 40.°97N×71.°88E, h12km, mb2.1*
*NNC **14** 18:30:23.5±4.7, 41.°11N×71.°98E, h0km, mb3.3, mpv3.0,*
Error ellipse: s-maj=36.9km s-min=17.1km az=174.0
ISC 14 18:30:20.6±0.9, 40.°99N±0.°02×71.°93E±0.°02, h16km±8km, n27, σ1.°13/51, 17C-13D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAM	**Namangan**	**0.21**	**269**	P	**Pg**	**18 30 25.2**	**-0.3**
NAM				S	**Sg**	**18 30 29.3**	**+0.5**
KSNS	**Kasansay**	**0.35**	**298**	P	**Pg**	**18 30 28.0**	**0.0**
KSNS				S	**Sb**	**18 30 34.2**	**+0.3**
FRG	**Fergana**	**0.63**	**191**	P	**Pg**	**18 30 32.3**	**-0.7**
FRG				S	**Sg**	**18 30 41.9**	**+0.5**
OHH	**Osh**	**0.80**	**126**	⇑*i*P	**Pb**	**18 30 35.8**	**-0.3**
OHH				⇑*i*S	**Sb**	**18 30 47.1**	**+0.4**
ARK	**Arkit**	**0.80**	**2**	⇑*i*P	**Pg**	**18 30 36.2**	**-0.1**
ARK				⇑*i*S	**Sb**	**18 30 47.8**	**+0.9**
TRKS	**Terek-Say**	**0.80**	**312**	⇓*i*P	**Pg**	**18 30 33.9**	**-2.4**
TRKS				⇓*i*S	**Sg**	**18 30 44.5**	**-2.5**
ARSB	**Arslanbob**	**0.86**	**67**	⇓*i*P	**Pb**	**18 30 37.5**	**+0.3**
ARSB				⇓*e*S	**Sn**	**18 30 50.6**	**+0.2**
BTK	**Batken**	**1.26**	**223**	⇑*i*P	**Pn**	**18 30 43.2**	**-0.4**
BTK				⇑*i*S	**Sb**	**18 31 00.2**	**+0.1**
SALK	**Salom-Alik**	**1.43**	**94**	⇑*e*P	**Pg**	**18 30 47.6**	**-0.6**
SALK				⇑*e*S	**Sg**	**18 31 08.1**	**+1.2**
DRK	**Karamyk**	**1.52**	**184**	⇓*i*P	**Pn**	**18 30 47.8**	**+0.5**
DRK				⇓*i*S	**Sb**	**18 31 08.6**	**+1.1**
SFK	**Sufi-Kurgan**	**1.55**	**129**	⇓*e*P	**Pb**	**18 30 49.3**	**+0.3**
SFK				⇓*e*S	**Sg**	**18 31 11.0**	**+0.5**
MNAS	**Manas**	**1.55**	**16**	⇓*i*P	**Pg**	**18 30 50.1**	**-0.4**
MNAS				⇓*i*S	**Sg**	**18 31 12.0**	**+1.3**
AML	**Almayashu**	**1.74**	**49**	⇑*i*P	**Pg**	**18 30 53.6**	**-0.5**
AML				⇑*i*S	**Sg**	**18 31 18.2**	**+1.4**
IUG	**Iuzhnay**	**1.83**	**310**	P	**Pb**	**18 30 54.4**	**+0.5**
	26nm,0.3s						
IUG				S	**Sb**	**18 31 18.8**	**+2.3**
	88nm,0.3s						
IUG	**Iuzhnay**	**1.83**	**310**	*e*P	**Pb**	**18 30 54.4**	**+0.5**
	26nm,0.3s						
IUG				*e*S	**Sb**	**18 31 18.8**	**+2.3**
	88nm,0.3s						
DZA	**Taraz**	**1.95**	**347**	*e*P	**Pb**	**18 30 56.7**	**+0.9**
	32nm,0.1s						
DZA				*e*S	**Sg**	**18 31 22.9**	**-0.4**
	48nm,0.2s						
ARLS	**Aral**	**1.99**	**63**	⇑*i*P	**Pg**	**18 30 57.7**	**-1.2**
ARLS				⇑*i*S	**Sg**	**18 31 25.4**	**+0.6**
MRKS	**Merke**	**2.00**	**28**	Pg	**Pg**	**18 30 58.9**	**-0.1**
	2.9nm,0.2s						
MRKS				Lg	Lg	18 31 26.2	
	31nm,0.3s						
MRKS	**Merke**	**2.00**	**28**	*e*P	**Pg**	**18 30 58.9**	**-0.1**
	3.2nm,0.2s						
MRKS				*e*S	**Sg**	**18 31 26.2**	**+1.3**
	31nm,0.3s						
EKS2	**Erkin-Say**	**2.16**	**39**	⇑*i*P	**Pb**	**18 31 00.0**	**+0.6**
EKS2				⇑*i*S	**Sg**	**18 31 29.1**	**-1.1**
KK31	**Karatay Array**	**2.36**	**334**	⇑Pn	**Pb**	**18 31 02.7**	**0.0**
	0.6nm,0.2s,baz=148,slow=16						
KK31				⇓Sn	**Sb**	**18 31 32.8**	**+1.2**
	5.6nm,0.3s,baz=142,slow=27						
AAK	**Ala-Archa**	**2.52**	**49**	⇓*i*P	**Pb**	**18 31 05.0**	**-0.6**
AAK				⇓*i*S	**Sb**	**18 31 38.0**	**+1.6**
BRLS	**Borolday**	**2.57**	**323**	Pg	**Pb**	**18 31 05.4**	**-0.8**
	1.4nm,0.1s						
BRLS				Lg	Lg	18 31 38.0	
	10nm,0.2s						
BRLS	**Borolday**	**2.57**	**323**	*e*P	**Pb**	**18 31 05.4**	**-0.8**
	1.0nm,0.1s						
BRLS				*e*S	**Sb**	**18 31 38.0**	**+0.5**
	10nm,0.2s						
KBK	**Karagaybulak**	**2.80**	**53**	⇑*e*P	**Pb**	**18 31 08.9**	**-1.4**
KBK				⇑*i*S	**Sb**	**18 31 44.6**	**+0.2**
KST	**Kastek**	**3.63**	**54**	Pg	**Pg**	**18 31 27.7**	**-2.5**
	0.8nm,0.4s						
KST				Lg	Lg	18 32 16.1	
	4.0nm,0.3s						
KST	**Kastek**	**3.63**	**54**	*e*P	**Pg**	**18 31 27.7**	**-2.5**
	0.6nm,0.2s						
KST				*e*S	**Sg**	**18 32 16.1**	**-1.2**
	2.0nm,0.2s						

*TIR **14** 18:35:03.8, 37.°27N×20.°41E, h28km±8km, Md3.4, Ml3.1*
*IDC **14** 18:35:04.6±5.0, 37.°80N×20.°86E, h0km, mb3.5/4,*
mbtmp3.4/5, ML3.8/1, Error ellipse: s-maj=86.1km
s-min=41.4km az=36.0
*ATH **14** 18:35:04.4, 37.°34N×20.°62E, h11km±2km, ML3.2/15, Error*
ellipse: s-maj=2.8km s-min=1.0km az=37.0
*THE **14** 18:35:04.5, 37.°38N×20.°60E, h7km, ML3.2/8, Error ellipse:*
s-maj=1.2km s-min=0.4km az=58.0
ISC 14 18:35:04.5±1.4, 37.°38N±0.°04×20.°63E±0.°05, h14km±8km, n59, σ0.°95/78, mb3.5/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.32**	**28**	P	**Pg**	**18 35 10.7**	**-0.4**
KRI1				S	**Sg**	**18 35 15.9**	**+0.4**
	9μm,0.4s						
LTHK	**Lithakia**	**0.36**	**26**	P	**Pg**	**18 35 12.0**	**+0.1**
LTHK				S	**Sg**	**18 35 17.6**	**+0.6**
LTHK				AML	AML	18 35 18.3	
	comp=E,14107μm,0.3s						
LTHK				AML	AML	18 35 18.4	
	comp=N,31674μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.70**	**9**	P	**Pg**	**18 35 18.1**	**-0.1**
RTZL				S	**Sb**	**18 35 28.4**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.73**	**357**	P	**Pg**	**18 35 18.9**	**+0.1**
PSDA				S	**Sb**	**18 35 29.5**	**+0.6**
	comp=N,3μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.73**	**357**	P	**Pg**	**18 35 18.4**	**-0.3**
PSDA				S	**Sb**	**18 35 29.5**	**+0.6**
VLS	**Valsamata**	**0.79**	**358**	P	**Pg**	**18 35 19.8**	**-0.2**
VLS	**Valsamata**	**0.79**	**358**	P	**Pg**	**18 35 19.8**	**-0.2**
VLS				S	**Sb**	**18 35 31.4**	**+0.6**
VLS				AML	AML	18 35 33.8	
	comp=N,2505μm,0.2s						
VLS				AML	AML	18 35 33.9	
	comp=E,2644μm,0.2s						
LXRA	**Lixouri, Kepha**	**0.83**	**349**	P	**Pg**	**18 35 20.8**	**+0.2**
LXRA				AML	AML	18 35 43.1	
	comp=N,6142μm,0.5s						
LXRA				AML	AML	18 35 45.8	
	comp=E,7435μm,0.4s						
SMHA	**Samh**	**0.87**	**1**	P	**Pg**	**18 35 20.6**	**-0.7**
SMHA				S	**Sb**	**18 35 34.4**	**+1.6**
SMHA				AML	AML	18 35 37.8	
	comp=N,11151μm,0.4s						
SMHA				AML	AML	18 35 37.9	
	comp=E,11420μm,0.3s						
AMT	**Artemida-Makis**	**0.87**	**80**	P	**Pg**	**18 35 21.5**	**+0.1**
AMT				S	**Sg**	**18 35 32.8**	**0.0**
AMT				AML	AML	18 35 38.6	
	comp=E,6787μm,0.4s						
AMT				AML	AML	18 35 38.8	
	comp=N,5960μm,0.3s						
DMLN	**Damoulianata-K**	**0.88**	**347**	P	**Pg**	**18 35 21.5**	**-0.1**
DMLN				S	**Sb**	**18 35 34.7**	**+1.5**
RLS	**Riolos of Patr**	**0.94**	**44**	P	**Pg**	**18 35 22.5**	**-0.3**
RLS	**Riolos of Patr**	**0.94**	**44**	P	**Pg**	**18 35 22.0**	**-0.8**
RLS				S	**Sn**	**18 35 37.0**	**+0.3**
RLS				AML	AML	18 35 41.7	
	comp=E,1317μm,0.5s						
RLS				AML	AML	18 35 43.2	
	comp=N,1433μm,0.5s						
PYL	**PYLOS**	**1.01**	**118**	P	**Pg**	**18 35 23.5**	**-0.6**
PYL				S	**Sn**	**18 35 39.5**	**+1.2**
	comp=N,1μm,0.3s						
PYL	**PYLOS**	**1.01**	**118**	P	**Pg**	**18 35 23.4**	**-0.7**
PYL				AML	AML	18 35 40.5	
	comp=E,1673μm,0.3s						
PYL				AML	AML	18 35 40.7	
	comp=N,2428μm,0.3s						
DRO	**Drossia**	**1.03**	**56**	P	**Pg**	**18 35 24.1**	**-0.3**
DRO	**Drossia**	**1.03**	**56**	P	**Pg**	**18 35 24.2**	**-0.2**
DRO				AML	AML	18 35 48.1	
	comp=N,2410μm,0.6s						
DRO				AML	AML	18 35 48.9	
	comp=E,3848μm,0.4s						

VSK1	**VASILIKIADES**	**1.03**	**357**	P	**Pg**	**18 35 23.8**	**-0.6**
VSK1				S	**Sn**	**18 35 39.0**	**+0.2**
	comp=E,1μm,0.4s						
ITM	**Ithomi**	**1.05**	**101**	P	**Pg**	**18 35 24.7**	**-0.1**
ITM				S	**Sn**	**18 35 40.3**	**+0.9**
	comp=E,868nm,0.7s						
ITM	**Ithomi**	**1.05**	**101**	P	**Pg**	**18 35 24.6**	**-0.3**
ITM				AML	AML	18 35 46.5	
	comp=E,1100μm,0.5s						
ITM				AML	AML	18 35 48.0	
	comp=N,1776μm,0.8s						
FSK	**Fiskardo**	**1.08**	**357**	P	**Pb**	**18 35 24.4**	**-0.6**
FSK	**Fiskardo**	**1.08**	**357**	P	**Pb**	**18 35 24.5**	**-0.4**
FSK				S	**Sn**	**18 35 40.7**	**+0.8**
FSK				AML	AML	18 35 45.5	
	comp=E,2308μm,0.5s						
FSK				AML	AML	18 35 49.9	
	comp=N,2816μm,0.7s						
AST1	**Astakos**	**1.21**	**17**	P	**Pn**	**18 35 26.8**	**-0.3**
AST1				S	**Sn**	**18 35 45.0**	**+1.7**
	comp=N,835nm,0.6s						
EVGI	**Lefkada island**	**1.24**	**1**	P	**Pn**	**18 35 27.6**	**+0.2**
EVGI				S	**Sn**	**18 35 45.4**	**+1.5**
	comp=N,1μm,0.3s						
EVGI	**Lefkada island**	**1.24**	**1**	P	**Pn**	**18 35 27.4**	**-0.1**
UPR	**University Cam**	**1.28**	**45**	P	**Pn**	**18 35 27.6**	**-0.4**
UPR				S	**Sg**	**18 35 47.3**	**+1.4**
DRAG	**Dragano-Lefkad**	**1.30**	**358**	P	**Pn**	**18 35 28.5**	**+0.2**
DRAG				S	**Sg**	**18 35 46.6**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.30**	**358**	P	**Pn**	**18 35 28.5**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.33**	**2**	P	**Pn**	**18 35 28.8**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.33**	**2**	P	**Pn**	**18 35 29.2**	**+0.5**
KLV	**Kalavryta, Ach**	**1.37**	**61**	P	**Pn**	**18 35 30.0**	**+0.6**
KLV	**Kalavryta, Ach**	**1.37**	**61**	P	**Pb**	**18 35 30.2**	**+0.2**
KLV				AML	AML	18 36 05.1	
	comp=N,399μm,0.7s						
KLV				AML	AML	18 36 06.8	
	comp=E,420μm,0.8s						
LKD2	**Lefkada island**	**1.40**	**1**	P	**Pg**	**18 35 32.1**	**+0.5**
LKD2				AMP			
	comp=N,2.7nm,0.6s,baz=7.0						
LKD2	**Lefkada island**	**1.40**	**1**	P	**Pn**	**18 35 30.1**	**+0.3**
LKD2				S	**Sg**	**18 35 49.7**	**-0.1**
	comp=N,775nm,0.6s						
LKD2	**Lefkada island**	**1.40**	**1**	P	**Pg**	**18 35 31.5**	**-0.1**
TSLK	**Tsoukalades, L**	**1.44**	**1**	P	**Pn**	**18 35 30.3**	**+0.1**
TSLK	**Tsoukalades, L**	**1.44**	**1**	P	**Pb**	**18 35 31.3**	**+0.1**
EFP	**Efpalio**	**1.45**	**44**	P	**Pn**	**18 35 30.9**	**+0.5**
EFP				AML	AML	18 35 59.3	
	comp=E,833μm,0.4s						
EFP				AML	AML	18 36 04.5	
	comp=N,1004μm,0.5s						
ALIK	**Aliki, Aigiali**	**1.46**	**53**	P	**Pn**	**18 35 31.4**	**+0.9**
GUR	**Goura**	**1.46**	**67**	P	**Pn**	**18 35 30.7**	**+0.1**
GUR				AML	AML	18 36 00.5	
	comp=N,1320μm,0.5s						
GUR				AML	AML	18 36 05.6	
	comp=E,1337μm,0.6s						
KALE	**Kalithea**	**1.56**	**49**	P	**Pn**	**18 35 32.6**	**+0.7**
ANX	**Ano Chora**	**1.58**	**40**	P	**Pb**	**18 35 33.6**	**0.0**
ANX				AML	AML	18 36 03.1	
	comp=E,1298μm,0.4s						
ANX				AML	AML	18 36 06.4	
	comp=N,2383μm,0.5s						
EVR	**Evrytania**	**1.79**	**31**	P	**Pg**	**18 35 38.4**	**-0.5**
EVR				AML	AML	18 36 13.9	
	comp=N,626μm,0.5s						
EVR				AML	AML	18 36 14.6	
	comp=E,602μm,0.9s						
VLI	**Veliai**	**1.96**	**109**	P	**Pb**	**18 35 40.6**	**+0.6**
MAKR	**Makrakomi, Fth**	**2.01**	**35**	P	**Pb**	**18 35 41.7**	**+0.8**
IGT	**Igoumenitsa**	**2.16**	**354**	P	**Pb**	**18 35 43.1**	**-0.3**
IGT				AMP			
	comp=N,0.4nm,0.5s,baz=359						
IGT	**Igoumenitsa**	**2.16**	**354**	P	**Pn**	**18 35 41.3**	**+1.2**
IGT				S	**Sn**	**18 36 08.3**	**+1.6**
IGT	**Igoumenitsa**	**2.16**	**354**	P	**Pn**	**18 35 42.1**	**+2.0**
THL	**Klokotos Trika**	**2.43**	**26**	P	**Pb**	**18 35 46.5**	**-1.6**
SRN	**Sarande**	**2.54**	**349**	P	**Pb**	**18 35 48.9**	**-1.0**
LSK	**Leskovik**	**2.76**	**359**	S	**Sb**	**18 36 28.2**	**+0.6**
NEST	**Nestorio**	**3.04**	**6**	P	**Pb**	**18 35 56.0**	**-2.6**
SCTE	**Santa Cesarea**	**3.17**	**328**	P	**Pn**	**18 35 56.6**	**+2.5**
SCTE				AMP			
	comp=E,0.1nm,1.0s,baz=333						
FNA	**Florina**	**3.44**	**9**	P	**Pb**	**18 36 02.4**	**-2.9**
FNA				AMP			
	comp=N,0.1nm,0.5s,baz=11						
AKASG	**Malin Array Be**	**14.66**	**22**	Pn	Pn	18 38 26.0	-5.4
	comp=N,0.5nm,0.3s,baz=215,slow=9.5,SNR=1.5						
	comp=N,0.2nm,0.3s						
HFS	**Hagfors**	**23.20**	**351**	P	**P**	**18 40 10.2**	**-0.5**
	comp=N,2.7nm,1.0s,baz=177,slow=13,SNR=5.6						
	comp=N,2.7nm,1.0s						
NOA	**NORSAR Array B**	**24.41**	**349**	P	**P**	**18 40 19.9**	**-2.5**
	comp=N,0.6nm,0.8s,baz=158,slow=9.1,SNR=1.9						
	comp=N,0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**42.63**	**53**	P	**P**	**18 42 59.8**	**-0.5**
	comp=N,0.3nm,0.7s,baz=288,slow=8.6,SNR=2.4						
	comp=N,0.3nm,0.7s						
MKAR	**Makanchi Array**	**45.65**	**58**	P	**P**	**18 43 23.2**	**-1.3**
	comp=N,0.9nm,1.0s,baz=291,slow=8.7,SNR=2.4						
	comp=N,0.9nm,1.0s						

*SOME **14** 18:35:51.9, 40.°58N×80.°12E, h15km*
NNC 14 18:35:48.0±8.7, 40.°41N×79.°51E, h0km, mb3.3, mpv3.1, 3C-1D, Error ellipse: s-maj=70.6km s-min=57.1km az=90.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.74**	**359**	Pg	Pb	18 36 38.6	+0.6
	0.6nm,0.0s						
SHLS				Lg	Lg	18 37 12.4	
	0.5nm,0.0s						
SHLS	**Shalkode**	**2.74**	**359**	*e*P	Sb	18 37 12.1	-0.1
SHLS	**Shalkode**	**2.74**	**359**	*e*P	Pb	18 36 38.6	+0.6
	0.6nm,0.0s						
SHLS				*e*S	Sb	18 37 12.4	+0.3
	0.5nm,0.0s						
SHLS	**Shalkode**	**2.74**	**359**	*e*P	Sb	18 37 12.0	-0.2
UZB	**Uzynbulak**	**2.76**	**353**	Pg	Pg	18 36 41.3	+0.5
	1.5nm,0.1s						
UZB				Lg	Lg	18 37 16.8	
	3.7nm,0.4s						
UZB	**Uzynbulak**	**2.76**	**353**	*e*P	Sg	18 37 16.4	-0.2
UZB	**Uzynbulak**	**2.76**	**353**	*e*P	Pg	18 36 41.2	+0.4
	1.5nm,0.1s		

*THE **14** 18:43:05.7, 37.°39N×20.°58E, h16km±1km, ML3.4/6, Error ellipse: s-maj=1.7km s-min=0.7km az=58.0*

ISC 14 18:43:05.5±1.7, 37.°41N±0.°06×20.°58E±0.°06, h23km±10km, n46, σ1§01/56, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.32**	**36**	P	**Pb**	**18 43 12.6**	**-0.1**
KRI1				S	**Sb**	**18 43 17.5**	**0.0**
	13μm,0.2s						
LTHK	**Lithakia**	**0.36**	**34**	P	**Pb**	**18 43 13.4**	**0.0**
LTHK				S	**Sb**	**18 43 19.1**	**+0.3**
LTHK				AML	AML	18 43 19.4	
	comp=E,21861μm,0.3s						
LTHK				AML	AML	18 43 19.5	
	comp=N,47802μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.69**	**12**	P	**Pn**	**18 43 19.3**	**-0.5**
RTZL				S	**Sn**	**18 43 29.5**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.71**	**0**	P	**Pn**	**18 43 20.0**	**-0.1**
PSDA				S	**Sn**	**18 43 30.2**	**0.0**
	comp=N,4μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.71**	**0**	P	**Pn**	**18 43 20.0**	**-0.1**
VLS	**Valsamata**	**0.77**	**0**	P	**Pn**	**18 43 20.7**	**-0.3**
VLS	**Valsamata**	**0.77**	**0**	P	**Pn**	**18 43 21.0**	**0.0**
VLS				AML	AML	18 43 34.0	
	comp=N,3800μm,0.3s						
VLS				AML	AML	18 43 35.1	
	comp=E,4327μm,0.2s						
LXRA	**Lixouri, Kepha**	**0.80**	**352**	P	**Pn**	**18 43 21.5**	**+0.1**
LXRA				AML	AML	18 43 46.9	
	comp=E,9352μm,0.4s						
LXRA				AML	AML	18 43 47.4	
	comp=N,8412μm,0.4s						
DMLN	**Damoulianata-K**	**0.85**	**349**	P	**Pn**	**18 43 22.5**	**+0.4**
AMT	**Artemida-Makis**	**0.90**	**82**	P	**Pn**	**18 43 22.4**	**-0.4**
AMT				AML	AML	18 43 42.7	
	comp=E,9567μm,0.3s						
AMT				AML	AML	18 43 43.2	
	comp=N,7960μm,0.3s						
RLS	**Riolos of Patr**	**0.95**	**47**	P	**Pn**	**18 43 23.5**	**0.0**
RLS	**Riolos of Patr**	**0.95**	**47**	P	**Pn**	**18 43 23.5**	**0.0**
RLS				AML	AML	18 43 42.8	
	comp=E,1723μm,0.5s						
RLS				AML	AML	18 43 49.8	
	comp=N,1846μm,0.4s						
VSK1	**VASILIKIADES**	**1.00**	**359**	P	**Pn**	**18 43 24.0**	**-0.2**
VSK1				S	**Sn**	**18 43 39.3**	**+1.7**
	comp=N,2μm,0.4s						
DRO	**Drossia**	**1.05**	**58**	P	**Pb**	**18 43 25.1**	**+0.1**
DRO	**Drossia**	**1.05**	**58**	P	**Pb**	**18 43 25.0**	**0.0**
DRO				AML	AML	18 43 50.0	
	comp=E,5224μm,0.3s						
DRO				AML	AML	18 43 52.1	
	comp=N,3971μm,0.9s						
FSK	**Fiskardo**	**1.05**	**359**	P	**Pn**	**18 43 24.6**	**-0.2**
FSK	**Fiskardo**	**1.05**	**359**	P	**Pb**	**18 43 25.9**	**+0.9**
FSK				AML	AML	18 43 44.7	
	comp=E,3454μm,0.2s						
FSK				AML	AML	18 43 51.0	
	comp=N,3395μm,0.7s						
PYL	**PYLOS**	**1.06**	**119**	P	**Pn**	**18 43 24.6**	**-0.3**
PYL				S	**Sn**	**18 43 39.8**	**+0.9**
	comp=N,2μm,0.3s						
PYL	**PYLOS**	**1.06**	**119**	P	**Pn**	**18 43 24.5**	**-0.3**
PYL				AML	AML	18 43 41.5	
	comp=E,2885μm,0.4s						
PYL				AML	AML	18 43 41.7	
	comp=N,3206μm,0.3s						
ITM	**Ithomi**	**1.09**	**102**	P	**Pb**	**18 43 25.7**	**-0.1**
ITM				S	**Sn**	**18 43 41.0**	**+1.1**
	comp=N,998nm,0.7s						
ITM	**Ithomi**	**1.09**	**102**	P	**Pb**	**18 43 25.6**	**-0.2**
ITM				AML	AML	18 43 51.7	
	comp=N,1585μm,0.4s						
ITM				AML	AML	18 43 52.8	
	comp=E,2125μm,0.6s						
EVGI	**Lefkada island**	**1.21**	**3**	P	**Pb**	**18 43 27.7**	**-0.1**
EVGI				S	**Sb**	**18 43 44.6**	**+1.5**
	comp=E,2μm,0.2s						
EVGI	**Lefkada island**	**1.21**	**3**	P	**Pb**	**18 43 28.8**	**+1.0**
DRAG	**Dragano-Lefkad**	**1.27**	**360**	P	**Pn**	**18 43 27.8**	**-0.1**
DRAG	**Dragano-Lefkad**	**1.27**	**360**	P	**Pb**	**18 43 29.2**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.31**	**4**	P	**Pb**	**18 43 28.9**	**-0.5**
NYDR				S	**Sb**	**18 43 46.5**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.31**	**4**	P	**Pb**	**18 43 30.1**	**+0.7**
LKD2	**Lefkada island**	**1.38**	**2**	P	**Pb**	**18 43 30.4**	**-0.3**
LKD2				AMP			
	comp=E,4.4nm,0.5s,baz=15						
KLV	**Kalavryta, Ach**	**1.40**	**62**	P	**Pb**	**18 43 30.7**	**-0.3**
KLV				S	**Sb**	**18 43 49.0**	**+0.6**
KLV	**Kalavryta, Ach**	**1.40**	**62**	P	**Pb**	**18 43 30.7**	**-0.3**
TSLK	**Tsoukalades, L**	**1.42**	**2**	P	**Pb**	**18 43 30.6**	**-0.7**
TSLK	**Tsoukalades, L**	**1.42**	**2**	P	**Pb**	**18 43 31.9**	**+0.6**
EFP	**Efpalio**	**1.46**	**45**	P	**Pb**	**18 43 32.0**	**0.0**
EFP				AML	AML	18 44 00.4	
	comp=E,1107μm,0.4s						
EFP				AML	AML	18 44 05.6	
	comp=N,1215μm,0.5s						
GUR	**Goura**	**1.49**	**69**	P	**Pb**	**18 43 32.2**	**-0.4**
GUR				AML	AML	18 44 03.1	
	comp=E,1541μm,0.6s						
GUR				AML	AML	18 44 03.8	
	comp=N,1632μm,0.4s						
KALE	**Kalithea**	**1.57**	**51**	P	**Pb**	**18 43 34.1**	**+0.1**
KALE				AML	AML	18 44 10.0	
	comp=E,1388μm,0.6s						
KALE				AML	AML	18 44 10.1	
	comp=N,1083μm,0.4s						
ANX	**Ano Chora**	**1.59**	**41**	P	**Pb**	**18 43 34.5**	**+0.3**
ANX				AML	AML	18 44 04.2	
	comp=E,1703μm,0.5s						
ANX				AML	AML	18 44 07.5	
	comp=N,3147μm,0.5s						
DLFA	**Delphi**	**1.85**	**54**	P	**Pb**	**18 43 38.7**	**0.0**
LOUT	**Loutraki**	**1.98**	**72**	P	**Pb**	**18 43 39.6**	**-1.4**
AGG	**Agios Georgios**	**2.12**	**40**	P	**Pb**	**18 43 43.7**	**+0.4**
IGT	**Igoumenitsa**	**2.13**	**355**	P	**Pb**	**18 43 42.3**	**-1.2**
IGT				AMP			
	comp=N,0.4nm,0.4s,baz=3.0						
VIL2	**Platees**	**2.27**	**68**	P	**Pb**	**18 43 43.8**	**-2.1**
THL	**Klokotos Trika**	**2.43**	**27**	P	**Pb**	**18 43 46.3**	**-2.3**
THL				AML	AML	18 44 33.4	
	comp=E,328μm,1.1s						
THL				AML	AML	18 44 37.6	
	comp=N,285μm,0.7s						
SRN	**Sarande**	**2.51**	**350**	P	**Pb**	**18 43 47.8**	**-2.1**
NEST	**Nestorio**	**3.03**	**7**	P	**Pb**	**18 43 56.1**	**-2.7**
SCTE	**Santa Cesarea**	**3.13**	**329**	P	**Pn**	**18 43 54.4**	**+0.9**
SCTE				AMP			
	comp=E,0.1nm,0.3s,baz=335						
FNA	**Florina**	**3.43**	**10**	P	**Pb**	**18 44 01.8**	**-3.8**
FNA				AMP			
	comp=N,0.1nm,0.4s,baz=15						

*NNC **14** 18:47:08.7±3.3, 44.°07N×95.°21E, h0km, mb4.4, Error ellipse: s-maj=38.0km s-min=31.0km az=32.0*
*IDC **14** 18:47:17.4±0.5, 43.°84N×94.°16E, h0km, mb4.1/18, mbtmp4.1/24, ML3.3/6, MS3.7/4, Error ellipse: s-maj=17.3km s-min=10.3km az=32.0*
*BJI **14** 18:47:18.3, 43.°94N×94.°35E, h11km, mb4.2/24, mB4.9/9, ML4.5/13, Ms4.1/21, Ms7 3.9/21*
*NEIC **14** 18:47:20.6±1.1, 43.°9N±0.°1×94.°17E±0.°07, h10km±1km, mb4.5/48, Error ellipse: s-maj=19.5km s-min=5.3km az=202.0*

ISC 14 18:47:20.1±0.4, 43.°92N±0.°05×94.°12E±0.°04, h10km, n105, σ1§86/100, mb4.4/45, MS3.8/4, 16C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**4.64**	**271**	Pg	**Pb**	**18 48 42.5**	**+0.9**
WMQ				Sn	**Sn**	**18 49 26.6**	**+2.3**
WMQ				smax	smax		
	comp=N,570nm,1.3s						
WMQ				smax	smax		
	comp=E,790nm,1.7s						
GTA	**Gaotai**	**6.20**	**135**	Pn	**Pn**	**18 48 49.9**	**-1.9**
GTA				Sg	**Sb**	**18 50 21.4**	**-1.2**
GTA				smax	smax		
	comp=N,470nm,1.0s						
GTA				smax	smax		
	comp=E,550nm,0.8s						
GTA				LR	LR		
	comp=N,2μm,8.0s						
GTA				LR	LR		
	comp=Z,460nm,8.0s						
GOMU	**GeErMu**	**7.73**	**176**	Pn	**Pn**	**18 49 12.3**	**-0.7**
GOMU				LR	LR		
	comp=N,790nm,5.5s						
GOMU				LR	LR		
	comp=E,570nm,6.7s						
GOMU				LR	LR		
	comp=Z,620nm,6.3s						
MK31	**Makanchi Array**	**8.81**	**293**	⇑Pn	**Pn**	**18 49 28.7**	**+1.3**
	2.1nm,0.3s,baz=100,slow=16,SNR=5.5						
MK31				⇑Pn	**Pn**	**18 49 28.7**	**+1.3**
	2.1nm,0.3s,baz=100,slow=16,SNR=5.5						
MK31				⇓Lg	Lg	18 52 08.4	
	53nm,0.8s,baz=93,slow=28,SNR=3.7						
MK31				⇓Lg	Lg	18 52 08.4	
	53nm,0.8s,baz=93,slow=28,SNR=3.7						
MK31	**Makanchi Array**	**8.81**	**293**	Pn	**Pn**	**18 49 28.8**	**+1.3**
MKAR	**Makanchi Array**	**8.81**	**293**	Pn	**Pn**	**18 49 28.6**	**+1.2**
MKAR				Sn	**Sn**	**18 51 08.1**	**+1.3**
MKAR	**Makanchi Array**	**8.81**	**293**	Pn	**Pn**	**18 49 27.2**	**-0.3**
	2.3nm,0.3s,baz=99,slow=14,SNR=52						
MKAR				Sn	**Sn**	**18 51 07.3**	**+0.5**
	1.1nm,0.3s,baz=92,slow=29,SNR=8.7						
MKAR				Lg	Lg	18 52 04.3	
	2.0nm,0.3s,baz=106,slow=32,SNR=3.6						
	5.4nm,0.5s						
MAKZ	**Makanchi**	**9.02**	**293**	⇑Pn	**Pn**	**18 49 29.5**	**-0.8**
	15nm,1.2s						
MAKZ				⇑Pn	**Pn**	**18 49 29.5**	**-0.8**
	15nm,1.2s						
MAKZ				⇓Lg	Lg	18 52 17.1	
	149nm,1.4s						
MAKZ				⇓Lg	Lg	18 52 17.1	
	149nm,1.4s						
MAKZ	**Makanchi**	**9.02**	**293**	Pn	**Pn**	**18 49 32.1**	**+1.8**
MAKZ				Sn	**Sn**	**18 51 08.7**	**-3.2**
SONM	**Songino Array**	**9.41**	**61**	Pn	Pn	18 49 32.1	-3.7
SONM	**Songino Array**	**9.41**	**61**	Pn	Pn	18 49 33.4	-2.5
	1.0nm,0.3s,baz=244,slow=14,SNR=31						
SONM				Pg		18 50 07.9	
	2.3nm,0.3s,baz=245,slow=19,SNR=7.8						
SONM				Lg	Lg	18 52 10.2	
	4.1nm,0.3s,baz=250,slow=30,SNR=12						
	5.3nm,0.6s						
ULN	**Ulaanbaatar**	**9.84**	**62**	Pn	Pn	18 49 38.4	-3.4
PDGK	**Podgornoye**	**10.62**	**272**	⇑Pn	**Pn**	**18 49 52.1**	**-0.3**
	16nm,0.6s						
PDGK				⇑Pn	**Pn**	**18 49 52.1**	**-0.3**
	16nm,0.6s						
PDGK				⇑Lg	Lg	18 53 12.4	
	118nm,1.4s						
PDGK				⇑Lg	Lg	18 53 12.4	
	118nm,1.4s						
LZH	**Lanzhou**	**10.80**	**133**	*e*P	**Pn**	**18 49 53.0**	**-1.9**
LZH				sP		18 49 58.3	
LZH				pmax	pmax		
	comp=Z,11nm,0.9s						
LZH				LR	LR		
	comp=N,1μm,9.3s						
LZH				LR	LR		
	comp=E,1μm,8.2s						
LZH				LR	LR		
	comp=Z,1μm,16.8s						
WUS	**Wushi**	**11.32**	**261**	Pn	**Pn**	**18 50 00.5**	**-1.5**
PRZ	**Przheval'sk**	**11.56**	**268**	Pn	**Pn**	**18 50 04.9**	**-0.4**
ZAA0	**Zalesovo Array**	**11.74**	**332**	Pn	Pn	18 50 03.9	-3.6
ZALV	**Zalesovo Beam**	**11.74**	**332**	Pn	**Pn**	**18 50 07.1**	**-0.4**
ZALV	**Zalesovo Beam**	**11.74**	**332**	Pn	**Pn**	**18 50 06.3**	**-1.1**
	0.1nm,0.3s,baz=143,slow=10,SNR=1.7						
ZALV				Lg	Lg	18 53 29.8	
	0.2nm,0.3s,baz=150,slow=19,SNR=4.2						
	0.3nm,0.3s						
KURK	**Kurchatov**	**12.51**	**308**	⇑Pn	Pn	18 50 14.0	-4.0
	3.5nm,0.8s						
KURK				⇑Pn	Pn	18 50 14.0	-4.0
	3.5nm,0.8s						
KURK				⇓Lg	Lg	18 54 02.0	
	142nm,1.5s						
KURK				⇓Lg	Lg	18 54 02.0	
	142nm,1.5s						
KURK	**Kurchatov**	**12.51**	**308**	Pn	Pn	18 50 16.0	-1.9
KURBB	**Kurchatov Arra**	**12.52**	**308**	⇓Pn	Pn	18 50 15.0	-3.1
	3.9nm,0.9s						
KURBB				⇓Pn	Pn	18 50 15.0	-3.1
	3.9nm,0.9s						
KURBB				⇑Lg	Lg	18 54 04.9	
	112nm,1.0s						
KURBB				⇑Lg	Lg	18 54 04.9	
	112nm,1.0s						
KURBB	**Kurchatov Arra**	**12.52**	**308**	Pn	Pn	18 50 15.9	-2.2
	0.1nm,0.3s,baz=113,slow=14,SNR=7.2						
KURBB				Sn	**Sn**	**18 52 36.8**	**-0.7**
	0.1nm,0.3s,baz=118,slow=16,SNR=4.8						
KURBB				Lg	Lg	18 53 55.1	
	0.1nm,0.3s,baz=124,slow=34,SNR=5.3						
	1.9nm,0.9s						
HHC	**Hu-ho-hao-te**	**13.26**	**97**	*e*P	**Pn**	**18 50 30.1**	**+1.7**
HHC				pmax	pmax		
	comp=Z,16nm,0.5s						
HHC				pmax	pmax		
	comp=Z,170nm,3.8s						
HHC				LR	LR		
	comp=N,380nm,13.3s						
HHC				LR	LR		
	comp=E,420nm,15.3s						
HHC				LR	LR		
	comp=Z,610nm,14.1s						
TKM2	**Tokmak 2**	**13.50**	**272**	⇑Pn	**Pn**	**18 50 31.8**	**-0.1**
	5.4nm,0.8s						
TKM2				⇑Pn	**Pn**	**18 50 31.8**	**-0.1**
	5.4nm,0.8s						
KSH	**Kashi**	**14.24**	**258**	P	**P**	**18 50 50.0**	**+0.7**
KSH				sP	Pn	18 50 56.3	+14
KSH				S	Sn	18 53 32.3	+12
KSH				pmax	pmax		
	comp=Z,15nm,0.9s						
AAK	**Ala-Archa**	**14.35**	**272**	Pn	Pn	18 50 41.0	-2.4
	0.3nm,0.3s,baz=90,slow=4.0,SNR=1.8						
AAK				Lg	Lg	18 54 53.4	
	0.1nm,0.3s,baz=48,slow=19,SNR=1.7						
	1.0nm,0.4s						
LSA	**Lhasa**	**14.39**	**190**		**Pn**	**18 50 42.4**	**-1.9**
XAN	**Xi'an**	**15.14**	**126**	⇑P	**Pn**	**18 50 59.4**	**+5.4**
XAN				pP	pP	18 51 04.8	+2.6
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ARSB	**Arslanbob**	**15.77**	**268**	Pn	**Pn**	**18 51 02.6**	**+0.3**
HNS	**HongShan**	**16.91**	**106**	⇑P	**Pn**	**18 51 19.4**	**+2.7**
HNS				S	**Sn**	**18 54 26.8**	**+2.3**
HNS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HNS				LR	LR		
	comp=Z,540nm,14.8s						
HNS				LR	LR		
	comp=Z,420nm,15.4s						
HNS				LR	LR		
	comp=Z,460nm,15.5s						
KKAR	**Karatay Array**	**17.14**	**275**	Pn	**Pn**	**18 51 18.1**	**-1.4**
KKAR	**Karatay Array**	**17.14**	**275**		**Pn**	**18 51 18.0**	**-1.6**
DRK	**Karamyk**	**17.23**	**263**	P	**Pn**	**18 51 21.8**	**+0.7**
BTK	**Batken**	**17.73**	**265**	Pn	**Pn**	**18 51 25.5**	**-1.6**
BVAR	**Borovoye Array**	**18.11**	**309**	P	**Pn**	**18 51 30.2**	**-1.3**
	baz=102,slow=11,SNR=24						
BVAR				Lg	Lg	18 56 56.1	
	baz=132,slow=24,SNR=2.8						
	comp=Z,5.3nm,0.7s						
BRVK	**Borovoye**	**18.18**	**309**		**Pn**	**18 51 32.0**	**-0.3**
ENH	**Enshi**	**18.29**	**133**		**Pn**	**18 51 32.6**	**-1.3**
HIA	**Hailar**	**18.36**	**64**	P	**Pn**	**18 51 34.2**	**-0.5**
SHL	**Shillong**	**18.40**	**186**	P	**Pn**	**18 51 34.2**	**-1.2**
SHL				IAmb	IAmb	18 51 36.3	
	comp=Z,27nm,0.6s						
PZH	**PanZhiHua**	**18.44**	**158**	P	**P**	**18 51 34.6**	**-1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GAR	**Garm**	**18.48**	**263**		**P**	**18 51 36.6**	**+0.4**
NIL	**Nilore**	**19.18**	**245**	P	**P**	**18 51 44.5**	**+0.6**
NIL				IAmb	IAmb	18 51 52.0	
	comp=Z,29nm,0.8s						
TNCH	**TengChong**	**19.19**	**168**	P	**P**	**18 51 45.3**	**+1.2**
TNCH				pP	Pn	18 51 48.3	+3.3
TNCH				sP	pP	18 51 49.8	+2.7
TNCH				PP	**PnPn**	**18 52 03.8**	**+6.1**
TNCH				S	**Sn**	**18 55 15.4**	**-4.7**
TNCH				sS	S	18 55 23.4	+1.8
TNCH				SS	**SnSn**	**18 55 43.8**	**+10**
TNCH				pmax	pmax		
	comp=Z,11nm,1.3s						
TNCH				pmax	pmax		
	comp=Z,180nm,3.8s						
TNCH				LR	LR		
	comp=Z,220nm,13.0s						
TNCH				LR	LR		
	comp=Z,230nm,8.8s						
TNCH				LR	LR		
	comp=Z,160nm,15.3s						
SIMJ	**Simiganj**	**19.55**	**263**	P	**P**	**18 51 48.0**	**0.0**
SIMJ				IAmb	IAmb	18 52 05.6	
	comp=Z,13nm,0.9s						
KBL	**Kabul**	**21.50**	**253**	P	**P**	**18 52 09.2**	**0.0**
KBL				IAmb	IAmb	18 52 15.5	
	comp=Z,16nm,0.9s						
HEH	**HeiHe**	**23.40**	**63**	*e*P	**P**	**18 52 29.0**	**+0.1**
HEH				pmax	pmax		
	comp=Z,12nm,1.1s						
BNX	**BinXian**	**23.59**	**74**	⇓P	**P**	**18 52 30.0**	**-0.8**
BNX				pmax	pmax		
	comp=Z,5.0nm,1.9s						
ABKAR	**Akbulak array**	**23.95**	**295**	P	**P**	**18 52 34.0**	**-0.2**
ABKAR	**Akbulak array**	**23.95**	**295**	P	**P**	**18 52 35.0**	**+0.7**
MDJ	**Mudanjiang**	**25.29**	**76**	P	**P**	**18 52 47.8**	**+1.2**
MDJ				IAmb	IAmb	18 52 49.2	
	comp=Z,14nm,1.0s						
CHTO	**Chiang Mai**	**25.36**	**169**	P	**P**	**18 52 46.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**25.71**	**169**	P	**P**	**18 52 48.6**	**-1.8**
	comp=Z,1.7nm,0.8s,baz=354,slow=8.5,SNR=16						
CMAR				PcP	**PcP**	**18 56 19.9**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=316,slow=3.8,SNR=5.0						
CMAR				LR	LR	19 03 39.5	
	comp=Z,59nm,20.7s,baz=75,slow=38						
	comp=Z,1.7nm,0.8s						
NRIK	**Noril'sk**	**25.71**	**355**	P	**P**	**18 52 51.4**	**+1.4**
NRIK				IAmb	IAmb	18 52 55.0	
	comp=Z,13nm,0.8s						
NRIK	**Noril'sk**	**25.71**	**355**	P	**P**	**18 52 50.3**	**+0.2**
	comp=Z,10.0nm,0.8s,baz=168,slow=6.3,SNR=13						
	comp=Z,10.0nm,0.8s						
ARTI	**Arti**	**25.75**	**312**	P	**P**	**18 52 51.0**	**+0.4**
KSRS	**Korea Array**	**26.31**	**93**	P	**P**	**18 52 53.8**	**-2.0**
	comp=Z,3.0nm,0.9s,baz=280,slow=9.0,SNR=9.4						
	comp=Z,3.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**27.06**	**76**	P	**P**	**18 53 01.1**	**-1.4**
	comp=Z,2.0nm,0.9s,baz=282,slow=7.2,SNR=4.2						
	comp=Z,2.0nm,0.9s						
TIXI	**Tiksi**	**32.47**	**20**		**P**	**18 53 49.5**	**-0.6**
TIXI				IAmb	IAmb	18 53 51.7	
	comp=Z,6.9nm,0.8s						
PETK	**Petropavlovsk-**	**41.81**	**54**	P	**P**	**18 55 09.1**	**-0.6**
	comp=Z,13nm,1.0s,baz=240,slow=5.0,SNR=6.6						
	comp=Z,13nm,1.0s						
ARCES	**ARCESS Array B**	**42.29**	**331**	P	**P**	**18 55 13.0**	**-0.3**
	comp=Z,3.4nm,1.0s,baz=77,slow=9.4,SNR=3.6						
ARCES				PcP	**PcP**	**18 57 05.8**	**-1.0**
	comp=Z,6.3nm,1.2s,baz=86,slow=3.7,SNR=4.0						
	comp=Z,3.4nm,1.0s						
FINES	**FINESS Array B**	**42.60**	**319**	P	**P**	**18 55 15.5**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=74,slow=8.7,SNR=5.7						
	comp=Z,2.5nm,0.8s						
AKASG	**Malin Array Be**	**43.24**	**303**	P	**P**	**18 55 21.1**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=65,slow=8.1,SNR=5.3						
	comp=Z,0.9nm,0.5s						
BRTR	**Keskin Array B**	**44.39**	**286**	P	**P**	**18 55 29.1**	**-1.7**
	comp=Z,1.5nm,0.8s,baz=101,slow=6.4,SNR=4.5						
	comp=Z,1.5nm,0.8s						
ASF	**Jabal al Asfar**	**45.73**	**275**	LR	LR	19 17 21.8	
	comp=Z,204nm,21.4s,baz=332,slow=39						
BUR08	**Bucovina Ar. S**	**46.76**	**300**	P	**P**	**18 55 51.2**	**+1.7**
HFS	**Hagfors**	**48.81**	**319**	P	**P**	**18 56 04.8**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=81,slow=8.9,SNR=3.8						
	comp=Z,3.6nm,0.8s						
OJC	**Ojcow**	**49.06**	**305**	P	**P**	**18 56 07.3**	**+0.2**
NOA	**NORSAR Array B**	**49.66**	**321**	P	**P**	**18 56 10.6**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=70,slow=6.7,SNR=1.2						
	comp=Z,0.5nm,0.6s						
MORC	**Moravsky Berou**	**50.58**	**305**	P	**P**	**18 56 19.7**	**+1.0**
MORC				IAmb	IAmb	18 56 21.9	
	comp=Z,4.0nm,0.8s						
RONA	**Rosalia, Austr**	**52.22**	**303**	*e*pP	**P**	**18 56 33.2**	**+2.2**
	comp=Z,3.2nm,0.9s						
CONA	**Conrad Observa**	**52.38**	**304**	*i* pP	**P**	**18 56 34.3**	**+2.1**
	comp=Z,5.0nm,0.7s						
CLL	**Collm**	**52.54**	**309**	IAmb	IAmb	18 56 35.8	
	comp=Z,4.2nm,0.8s						
CLL	**Collm**	**52.54**	**309**	*i* P	**P**	**18 56 34.5**	**+1.2**
	comp=Z,7.0nm,1.1s						
GERES	**GERESS Array B**	**53.24**	**306**	P	**P**	**18 56 38.3**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=39,slow=10,SNR=7.4						
	comp=Z,0.9nm,0.4s						
SOKA	**Soboth**	**53.45**	**303**	P	**P**	**18 56 41.3**	**+1.1**
	comp=Z,4.1nm,1.0s						
BIOA	**Bad Ischl, Aus**	**53.82**	**304**	*e*pP	**P**	**18 56 44.4**	**+1.6**
	comp=Z,5.2nm,1.1s						
ABTA	**Abfaltersbach**	**54.94**	**304**	*e*pP	**P**	**18 56 52.8**	**+1.7**
	comp=Z,3.2nm,0.8s						
WTTA	**Wattenberg**	**55.21**	**305**	*e*P	**P**	**18 56 53.7**	**+0.5**
	comp=Z,3.1nm,0.6s						
SQTA	**Sankt Quirin**	**55.49**	**305**	*e*P	**P**	**18 56 55.6**	**+0.6**
	comp=Z,4.0nm,0.9s						
MOTA	**Moosalm**	**55.49**	**305**	*e*P	**P**	**18 56 55.9**	**+0.8**
	comp=Z,6.4nm,0.9s						
RETA	**Reutte**	**55.62**	**305**	*e*P	**P**	**18 56 56.9**	**+1.0**
	comp=Z,3.4nm,0.9s						
DAVA	**Damuels**	**56.24**	**305**	*e*pP	**P**	**18 57 01.6**	**+1.1**
	comp=Z,2.9nm,0.8s						
CUC	**Castrocucco**	**56.28**	**295**	IAmb	IAmb	18 57 04.3	
	comp=Z,6.8nm,0.8s						
EUNU	**Eureka**	**56.28**	**0**	P	**P**	**18 57 01.7**	**+1.5**
EUNU				IAmb	IAmb	18 57 03.2	
	comp=Z,5.5nm,0.8s						
F19K	**Shaleruckik Mo**	**56.91**	**27**	P	**P**	**18 57 05.4**	**+0.6**
F19K				IAmb	IAmb	18 57 06.9	
	comp=Z,8.2nm,1.1s						
C23K	**Itkillik River**	**57.22**	**22**	P	**P**	**18 57 07.9**	**+1.0**
F21K	**Alatna River**	**58.03**	**25**	IAmb	IAmb	18 57 15.7	
	comp=Z,9.5nm,1.0s						
H19K	**Roundabout Mou**	**58.11**	**28**	IAmb	IAmb	18 57 17.1	
	comp=Z,7.9nm,1.1s						
F25K	**Christian Rive**	**60.07**	**22**	IAmb	IAmb	18 57 50.4	
	comp=Z,6.2nm,1.4s						
BORG	**Borgar

ISC 14 18:56:25.6±0.4, 60°57S±0°08×26°8W±0°1, h19km, n117, σ1°52/95, mb4.9/28, MS3.6/8, 4C-9D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	8.18	316	Pn	Pn	18 58 22.1	-1.1
VNA1	Neumayer--Stat	12.61	151	⇓P	Pn	18 59 21.0	-2.6
	comp=Z,14nm,0.4s						
VNA1				⇑S	Sn	19 01 27.4	-16
	comp=Z,4.6nm,1.2s						
VNA3	Neumayer Olymp	12.72	154	⇓P	Pn	18 59 22.1	-3.1
	comp=Z,1.8nm,0.4s						
VNA3				⇑S	Sn	19 01 29.0	-17
	comp=Z,0.9nm,0.3s						
VNA2	Neumayer--Watz	13.01	151	⇓P	Pn	18 59 26.2	-2.9
	comp=Z,3.4nm,0.3s,baz=306,slow=17						
VNA2				⇓S	Sn	19 01 39.5	-14
	comp=Z,2.0nm,0.6s,baz=301,slow=12						
SNAA	Sanae	14.61	149	Pn	Pn	18 59 47.7	-3.4
SNAA	Sanae	14.61	149	⇓P	Pn	18 59 47.3	-3.8
	comp=Z,58nm,0.5s						
SNAA				⇑S	Sn	19 02 19.2	-13
	comp=Z,23nm,0.5s						
SNAA	Sanae	14.61	149	Pn	Pn	18 59 48.2	-2.9
	comp=Z,1.6nm,0.3s,baz=316,slow=15,SNR=61						
SNAA				Sn	Sn	19 02 19.1	-13
	comp=Z,0.2nm,0.3s,baz=266,slow=21,SNR=1.4						
SNAA				LR	LR	19 04 12.2	
	comp=Z,225nm,20.8s,baz=14,slow=32						
TROLL	Troll, Antarti	16.20	147	⇓P	Pn	19 00 10.8	-1.1
	comp=Z,94nm,0.5s						
PMSA	Palmer Station	17.42	240	LR	LR	19 06 05.9	
	comp=Z,222nm,18.6s,baz=84,slow=33						
BELA	Belgrano 2	17.57	185		P	19 00 30.3	+0.2
ELIB	Princess Elisa	22.35	141	dP	P	19 01 22.0	-0.2
	comp=Z,6.2nm,1.1s						
QSPA	South Pole Qui	29.66	180	P	P	19 02 31.4	+1.6
QSPA				IAmb	IAmb	19 02 36.1	
	comp=Z,16nm,1.1s						
QSPA	South Pole Qui	29.66	180	P	P	19 02 32.3	+2.5
	comp=Z,11nm,0.9s,baz=207,slow=5.8,SNR=18						
	comp=Z,11nm,0.9s						
TRQA	Tornquist	31.52	300	P	P	19 02 46.6	+0.4
TRQA				IAmb	IAmb	19 03 14.3	
	comp=Z,43nm,1.9s						
PLCA	Paso Flores	33.24	287	P	P	19 03 01.5	+0.1
PLCA				IAmb	IAmb	19 03 43.2	
	comp=Z,42nm,1.9s						
PLCA	Paso Flores	33.24	287	P	P	19 03 01.2	-0.2
	comp=Z,2.1nm,0.7s,baz=146,slow=10,SNR=6.2						
PLCA				LR	LR	19 15 56.5	
	comp=Z,103nm,18.6s,baz=144,slow=35						
	comp=Z,2.1nm,0.7s						
PLTB	Pedras Altas	33.80	316	eP	P	19 03 06.5	+0.4
CPSB	Cacapava Do Su	34.99	318	eP	P	19 03 17.4	+0.9
MAW	Mawson	36.46	140	P	P	19 03 29.9	+1.2
	comp=Z,4.2nm,0.9s,baz=254,slow=13,SNR=6.3						
	comp=Z,4.2nm,0.9s						
ITQB	Itaqui	36.76	314	P	P	19 03 32.3	+0.7
ITQB	Itaqui	36.76	314	eP	P	19 03 32.7	+1.1
ITAB	Concordia	37.51	321	P	P	19 03 38.1	+0.1
BI05	Punta Hualpn	37.66	288	P	P	19 03 39.7	+0.5
BI05				IAmb	IAmb	19 03 47.0	
	comp=Z,35nm,1.3s						
BO01	Tunca	38.62	292	P	P	19 03 47.9	+0.6
MT08	Bocatoma Ro	38.93	294	P	P	19 03 51.8	+1.5
MT08				IAmb	IAmb	19 03 53.0	
	comp=Z,17nm,0.8s						
MT09	Talagante	39.09	293	P	P	19 03 52.3	+0.8
MT09				IAmb	IAmb	19 03 53.0	
	comp=Z,79nm,1.5s						
MT01	Popeta	39.13	293	P	P	19 03 52.1	+0.4
MT01				IAmb	IAmb	19 04 03.8	
	comp=Z,41nm,1.4s						
MT16	COHEN	39.17	294	P	P	19 03 52.4	+0.4
PEL	Peldehue	39.48	294	P	P	19 03 54.9	+0.3
PEL				IAmb	IAmb	19 03 56.3	
	comp=Z,40nm,0.9s						
VA03	San Esteban	39.74	294	P	P	19 03 56.0	-0.9
VA03				IAmb	IAmb	19 03 59.3	
	comp=Z,42nm,1.0s						
ZON	Zonda	39.94	297	P	P	19 03 58.4	-0.1
CPUP	Villa Florida	40.06	315	P	P	19 03 58.6	-0.7
CPUP	Villa Florida	40.06	315	P	P	19 03 59.0	-0.4
	comp=Z,7.1nm,0.8s,baz=154,slow=8.2,SNR=11						
CPUP				LR	LR	19 18 28.0	
	comp=Z,56nm,20.7s,baz=138,slow=33						
	comp=Z,7.1nm,0.8s						
SJPY	San Joaquin	40.87	317	eP	P	19 04 06.2	+0.1
CO03	El Pedregal	41.44	296	P	P	19 04 11.5	+0.6
SBA	Scott Base	41.57	184	P	P	19 04 14.2	+2.9
SUR	Sutherland	41.83	70	P	P	19 04 14.3	+0.1
	comp=Z,4.1nm,1.0s,baz=204,slow=15,SNR=2.0						
	comp=Z,4.1nm,1.0s						
CO01	Juntas del Tor	41.91	297	IAmb	IAmb	19 04 17.6	
	comp=Z,27nm,0.8s						
GO04	Tololo Observa	42.05	296	P	P	19 04 16.2	+0.1
GO04				IAmb	IAmb	19 04 17.4	
	comp=Z,33nm,0.9s						
AC05	El Transito	42.97	298	P	P	19 04 23.6	+0.2
GO03	Copiapo	44.03	299	P	P	19 04 31.8	-0.2
GO03				IAmb	IAmb	19 04 32.9	
	comp=Z,25nm,0.8s						
AC06	Mina Casimiro	44.29	299	P	P	19 04 33.6	-0.3
BDQN	Bodoquena, MS	45.31	319	eP	P	19 04 41.9	-0.2
H04S2	CROZET ISLANDS	45.67	110	T	T	19 54 06.8	
	baz=223,slow=75,SNR=15						
H04S3	CROZET ISLANDS	45.68	110	T	T	19 54 20.9	
	baz=223,slow=75,SNR=16						
H04S1	CROZET ISLANDS	45.69	110	T	T	19 54 12.2	
	baz=223,slow=75,SNR=10						
GO02	Mina Guanaco	45.88	301	P	P	19 04 47.2	+0.3
H04N3	CROZET ISLANDS	46.11	109	T	T	19 54 51.2	
	baz=223						
H04N1	CROZET ISLANDS	46.12	109	T	T	19 54 53.0	
	baz=223						
H04N2	CROZET ISLANDS	46.13	109	T	T	19 54 50.6	
	baz=223						
PB14	IPOC Station P	46.70	300	P	P	19 04 52.9	-0.5
BOSA	Boshof	47.06	71	P	P	19 04 56.0	0.0
	comp=Z,2.0nm,0.5s,baz=217,slow=7.9,SNR=7.9						
	comp=Z,2.0nm,0.5s						
BDFB	Brasilia	47.42	332	P	P	19 04 58.5	-0.3
	comp=Z,1.4nm,0.3s,baz=153,slow=6.8,SNR=1.8						
BDFB				LR	LR	19 21 46.1	
	comp=Z,43nm,21.4s,baz=178,slow=32						
	comp=Z,1.4nm,0.3s						
PB06	IPOC Station P	48.05	303	P	P	19 05 03.5	-0.2
ARAG	Araguaiana, MT	48.32	327	eP	P	19 05 06.5	+0.9
PB09	IPOC Station P	48.72	303	P	P	19 05 10.0	+1.1
SALV	Santo Antonio	49.24	322	eP	P	19 05 12.9	+0.2
BBSD	Serra de San D	49.63	316	eP	P	19 05 14.9	-0.8
PB08	IPOC Station P	50.16	304	IAmb	IAmb	19 05 22.0	
	comp=Z,24nm,1.2s						
HMBC	Humberstone	50.34	304	IAmb	IAmb	19 05 22.1	
	comp=Z,17nm,0.6s						
GO01	Chusmiza	50.60	305	P	P	19 05 24.0	+0.4
GO01				IAmb	IAmb	19 05 25.1	
	comp=Z,20nm,0.7s						
PB11	IPOC Station P	50.71	304	IAmb	IAmb	19 05 25.1	
	comp=Z,17nm,0.8s						
PTLB	Pontes e Lacer	50.76	318	P	P	19 05 24.2	-0.1
PTLB	Pontes e Lacer	50.76	318	eP	P	19 05 24.1	-0.1
H10S2	ASCENSION HYDR	52.30	15	T	T	20 02 40.7	
	baz=33,slow=74,SNR=9.1						
H10S3	ASCENSION HYDR	52.31	15	T	T	20 02 35.2	
	baz=187,slow=74,SNR=9.2						
LPAZ	La Paz	53.23	308	P	P	19 05 43.7	+0.3
	comp=Z,5.3nm,0.5s,baz=145,slow=4.0,SNR=22						
LPAZ				LR	LR	19 29 17.3	
	comp=Z,25nm,21.2s,baz=176,slow=37						
	comp=Z,5.3nm,0.5s						
LPAZ	La Paz	53.23	308	eP	P	19 05 43.1	-0.3
H10N1	ASCENSION HYDR	53.42	15	T	T	20 03 46.6	
	baz=186						
H10N3	ASCENSION HYDR	53.42	15	T	T	20 03 60.0	
	baz=186,slow=74						
H10N2	ASCENSION HYDR	53.44	15	T	T	20 03 58.5	
	baz=186,slow=74						
VILB	Vilhena	53.44	318	P	P	19 05 43.8	-0.5
VILB				IAmb	IAmb	19 05 46.2	
	comp=Z,18nm,0.8s						
VILB	Vilhena	53.44	318	eP	P	19 05 44.0	-0.2
PDRB	Porto dos Gac	53.61	323	eP	P	19 05 45.0	-0.5
SAML	Samuel	58.18	316	P	P	19 06 17.1	-1.1
SAML	Samuel	58.18	316	eP	P	19 06 16.7	-1.5
ETMB	Extrema	58.44	313	P	P	19 06 19.3	-0.7
ETMB	Extrema	58.44	313	eP	P	19 06 19.6	-0.4
BOAV	Boa Vista	68.02	323	P	P	19 07 21.7	-1.7
BOAV				IAmb	IAmb	19 07 22.8	
	comp=Z,5.2nm,0.7s						
DBIC	Dimbokro	69.23	23	P	P	19 07 30.7	-0.2
	comp=Z,2.4nm,0.9s,baz=180,slow=6.2,SNR=2.0						
	comp=Z,2.4nm,0.9s						
COHC	Cochancay	70.25	303	P	P	19 07 36.7	-0.7
ROSC	El Rosal	74.96	310	LR	LR	19 41 01.2	
	comp=Z,56nm,21.6s,baz=100,slow=36						
TORD	Torodi Ar. Bea	76.92	29	P	P	19 08 16.8	+0.3
TORD				IAmb	IAmb	19 08 18.0	
	comp=Z,6.9nm,0.8s						
TORD	Torodi Ar. Bea	76.92	29	P	P	19 08 17.1	+0.7
	comp=Z,7.0nm,0.6s,baz=198,slow=5.4,SNR=48						
TORD				PP	PP	19 11 13.7	+3.8
	comp=Z,0.4nm,0.4s,baz=194,slow=6.1,SNR=4.5						
	comp=Z,7.0nm,0.6s						
NWAO	Narrogin (SRO)	82.29	150	LR	LR	19 43 02.5	
	comp=Z,22nm,18.1s,baz=242,slow=34						
SJG	San Juan	84.57	323	LR	LR	19 49 57.0	
	comp=Z,68nm,20.1s,baz=4.0,slow=38						
ASAR	Alice Springs	94.61	162	P	P	19 09 45.6	+0.5
	comp=Z,0.2nm,0.6s,baz=184,slow=5.2,SNR=5.8						
	comp=Z,0.2nm,0.6s						
FITZ	Fitzroy Crossi	98.51	154	LR	LR	19 51 16.0	
	comp=Z,28nm,18.9s,baz=190,slow=33						
WLF	Walferdange	113.06	23	dPKP	PKiKP	19 15 02.6	+2.4
BMRD	Maredsous	113.42	21	dPKP	PKiKP	19 15 03.1	+2.2
PDAR	Pinedale Array	122.85	300	PKP	PKPdf	19 15 19.7	0.0
	comp=Z,0.4nm,0.8s,baz=111,slow=4.9,SNR=2.0						
CMAR	Chiang Mai Arr	123.20	113	PKP	PKiKP	19 15 23.1	+2.1
	comp=Z,0.4nm,0.4s,baz=254,slow=3.4,SNR=2.1						
NVAR	Mina Array Bea	123.25	290	PKP	PKiKP	19 15 22.1	+1.4
	comp=Z,0.3nm,0.4s,baz=131,slow=4.1,SNR=3.6						
MOOW	Moose Ponds	124.15	299		PKiKP	19 15 22.9	+0.6
NOA	NORSAR Array B	124.77	21	PKP	PKiKP	19 15 23.4	+0.6
	comp=Z,1.8nm,1.0s,baz=238,slow=1.7,SNR=2.7						
FINES	FINESS Array B	128.27	29	PKP	PKiKP	19 15 29.9	+0.3
	comp=Z,1.5nm,0.6s,baz=211,slow=2.2,SNR=8.0						
I07A	Izee	128.28	293		PKPpre	19 15 20.8	
J05D	Fort Rock, OR	128.46	292		PKPpre	19 15 24.3	
J04A	Umpqua Nationa	128.82	291		PKPdf	19 15 29.8	-1.2
G08A	Pilot Rock	128.98	295		PKPpre	19 15 25.1	
PZH	PanZhiHua	131.43	111	PKP	PKiKP	19 15 38.6	+1.3
ARCES	ARCESS Array B	135.06	23	PKP	PKiKP	19 15 42.9	-0.3
	comp=Z,2.6nm,0.8s,baz=270,slow=0.9,SNR=2.0						
BVAR	Borovoye Array	136.92	61	PKP	PKiKP	19 15 47.0	-0.4
	comp=Z,0.4nm,0.4s,baz=193,slow=4.4,SNR=2.3						
BVAR				SKPbc	SKiKP	19 19 21.0	-1.1
	comp=Z,0.6nm,0.6s,baz=196,slow=4.2,SNR=4.0						
MKAR	Makanchi Array	137.97	76	PKP	PKiKP	19 15 49.6	-0.2
	comp=Z,0.6nm,0.8s,baz=256,slow=3.0,SNR=3.0						
WMQ	Urumqi	138.44	83	ePKP	PKiKP	19 15 51.0	+0.1
KURBB	Kurchatov Arra	138.90	69	PKP	PKPdf	19 15 49.2	-0.1
	comp=Z,0.1nm,0.4s,baz=274,slow=2.6,SNR=1.2						
LZH	Lanzhou	140.40	105	ePKP	PKPdf	19 15 47.4	-5.4
LZH				pPKP	PKiKP	19 15 53.9	-1.4
LZH				SKKS		19 25 46.8	
NJ2	Nanjing	143.66	126	eP	PKPdf	19 16 00.1	+1.6
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZALV	Zalesovo Beam	144.00	69	PKP	PKPdf	19 15 58.1	-0.2
	comp=Z,0.6nm,0.5s,baz=220,slow=4.1,SNR=4.0						
HNS	HongShan	146.49	116	⇑PKPbc	PKiKP	19 16 18.0	+10
HHC	Hu-ho-hao-te	147.84	109	eP	PKPdf	19 15 59.0	-6.5
A36M	Sachs Harbour	148.10	324		PKPbc	19 16 07.8	-0.2
H29M	Whitestone	150.28	310		PKPbc	19 16 13.9	+0.2
BCAR	Beaver Creek A	150.36	303		PKPdf	19 16 08.7	-0.1
SONM	Songino Array	150.50	94	PKPbc	PKiKP	19 16 15.5	-0.2
	comp=Z,1.6nm,0.9s,baz=223,slow=3.0,SNR=9.6						
SCRK	Sand Creek	151.63	304		PKiKP	19 16 17.5	0.0
ILAR	Eielson Array	153.09	305	PKPbc	PKiKP	19 16 20.8	+0.4
	comp=Z,1.8nm,0.8s,baz=157,slow=2.3,SNR=16						

*JMA **14** 18:57:20.8±0.2, 22°N±1°×121°8E±0°6, h15km, MV3.4/10, TAIWAN REGION*
*TAP **14** 18:57:21.3, 22°24N×121°66E, h16km, ML3.0, C*

ISC 14 18:57:18.6±1.4, 22°23N±0°03×121°75E±0°04, h7km±11km, n68, σ0°71/92, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu	0.27	223	iP	Pb	18 57 26.2	+0.5
LAY				S	Sb	18 57 29.9	-0.6
LYUB	Lan-yu	0.28	213	P	Pb	18 57 26.3	+0.5
LYUB				S	Sb	18 57 30.2	-0.6
LDUT	Ludao	0.51	330	P	Pb	18 57 30.3	+0.5
LDUT				S	Sb	18 57 36.9	-0.6
TTN	Taitung	0.76	313	eP	Pb	18 57 34.4	+0.3
TTN				eS	Sb	18 57 45.5	+0.8
TAW	Tawu	0.80	279	eP	Pb	18 57 34.7	-0.1
TAW				eS	Sg	18 57 43.9	-0.4
TAWH	Dawu Township	0.80	278	eP	Pb	18 57 34.6	-0.3
TAWH				eS	Sg	18 57 44.3	-0.2
ECL	Taimali	0.82	296	P	Pb	18 57 35.1	0.0
ECL				eS	Sb	18 57 45.3	-1.0
EDH	Donghe	0.84	331	eP	Pb	18 57 35.6	+0.1
EDH				eS	Sb	18 57 46.1	-1.0
EAST	Anshuo	0.85	280	P	Pb	18 57 35.3	-0.3
TWGBT	Beinan	0.85	313	P	Pb	18 57 36.2	+0.6
TWGBT	Beinan	0.85	313	P	Pb	18 57 36.2	+0.6
TWGBT				eS	Sb	18 57 47.8	+0.6
TWG	Pinlang	0.85	313	P	Pb	18 57 36.2	+0.4
TWG				eS	Sb	18 57 46.7	-0.7
SLIU	Shizi	0.88	269	P	Pb	18 57 35.9	-0.3
SLIU				eS	Sg	18 57 46.2	-0.7
LONT	Longtian	0.88	320	P	Pb	18 57 36.9	+0.7
LONT				eS	Sb	18 57 48.8	+0.6
TWKBT	Hengchun	0.92	252	eP	Pb	18 57 36.9	+0.1
TWKBT				eS	Sg	18 57 47.9	-0.2
TWK1	Hengchun	0.92	252	eP	Pb	18 57 37.0	+0.2
TWK1				eS	Sg	18 57 47.9	-0.3
CHKT	Chengkung	0.93	338	P	Pg	18 57 36.7	+0.3
CHKT				eS	Sg	18 57 48.3	-0.3
HEN	Hengchun	0.96	257	eP	Pb	18 57 38.1	+0.5
HEN				eS	Sg	18 57 49.2	-0.3
ECS	Chishang	0.99	330	eP	Pb	18 57 38.8	+0.8
ECS				eS	Sb	18 57 52.3	+1.0
CHKH	Chenggong	1.01	341	eP	Pg	18 57 38.1	+0.2
CHKH				eS	Sg	18 57 50.4	-0.6
EHD	Haiduan	1.04	331	eP	Pg	18 57 38.9	+0.3
EHD				eS	Sb	18 57 52.8	0.0
FULB	Fuli	1.05	337	eP	Pg	18 57 39.0	+0.3
SCZT	Fangliau	1.05	278	P	Pg	18 57 38.9	+0.1
MASBT	Mashibuluo	1.10	290	eP	Pg	18 57 39.6	0.0
ECBN	Changbin	1.11	346	eP	Pg	18 57 39.9	0.0
ECBN				eS	Sg	18 57 53.1	-1.3
TSMG	Majia	1.12	295	eP	Pb	18 57 40.3	0.0
EYUL	Yuli	1.18	340	eP	Pg	18 57 41.1	-0.1
TWF1	Yuli	1.19	340	eP	Pg	18 57 41.0	-0.3
YULB	Yu-li	1.23	340	P	Pg	18 57 42.0	-0.1
YULB	Yu-li	1.23	340	P	Pg	18 57 41.6	-0.4
YULB				eS	Sg	18 57 57.3	-0.7
HGSD	Ruisui	1.29	347	eP	Pg	18 57 42.0	-1.2
STYH	Taoyuan	1.29	316	eP	Pb	18 57 43.5	+0.2
EHY	Hungye	1.32	343	eP	Pg	18 57 43.4	-0.6
SGST	Jiashian	1.37	308	eP	Pb	18 57 44.7	+0.6
CHN1	Nanshi	1.47	310	eP	Pg	18 57 47.6	+0.8
TPUB	Ta-pu	1.48	316	P	Pg	18 57 47.2	+0.2
TPUB	Ta-pu	1.48	316	P	Pg	18 57 47.0	+0.1
WARBT	Fenglin Townsh	1.51	347	eP	Pn	18 57 45.8	-0.3
ALS	Alishan	1.54	326	eP	Pb	18 57 47.8	+0.2
CHN4	Tsaushan	1.54	316	eP	Pg	18 57 48.3	+0.2
TWK	Hsinying	1.55	312	eP	Pg	18 57 48.5	+0.2
SHUL	Shoufeng	1.56	354	eP	Pn	18 57 46.6	0.0
SHUL				eS	Sn	18 58 06.4	-0.7
WCKO	Fanlu	1.60	319	eP	Pg	18 57 49.5	+0.3
ESL	Shilin	1.60	350	eP	Pn	18 57 47.2	-0.1
VWDT	VWDT	1.61	340	eP	Pn	18 57 48.0	+0.5
WHYT	Xinyi Township	1.67	331	eP	Pb	18 57 50.2	+0.4
CHN5	Tsauling	1.68	324	eP	Pg	18 57 50.4	-0.3
SSLB	Suanglung	1.71	335	P	Pn	18 57 50.2	+1.4
SSLB	Suanglung	1.71	335	eP	Pn	18 57 50.2	+1.4
ETM	Tongmen	1.74	352	eP	Pn	18 57 49.2	0.0
OWD	Renai	1.79	343	eP	Pn	18 57 51.0	+0.9
LXIB	Xiulin Townshi	1.81	350	eP	Pn	18 57 50.4	+0.1
SMLT	Sun Moon Lake	1.82	335	eP	Pn	18 57 51.6	+1.2
WUSB	Renai	1.84	342	eP	Pn	18 57 51.7	+0.9
TYC	Yuchr	1.85	334	eP	Pb	18 57 53.5	+0.7
NACB	Ninganchiao	1.94	356	eP	Pn	18 57 52.0	0.0
EOS4	EOS4	1.95	16	eP	Pn	18 57 53.7	+1.9
WCS	Beigang Elemen	1.97	337	eP	Pb	18 57 54.7	-0.1
ETLH	Xiulin Townshi	1.98	353	eP	Pn	18 57 52.7	+0.1
FUSS	Fushou	2.06	347	eP	Pn	18 57 55.2	+1.3
WHP	Taichung City	2.16	340	eP	Pb	18 57 58.6	+0.4
NNSB	Datong	2.21	351	eP	Pn	18 57 56.9	+1.0
YHNB	Yeheng	2.45	352	P	Pn	18 58 00.9	+1.8
IRIF	Iriomote-Funau	2.77	41	eP	Pn	18 58 05.1	+1.7
IRIF				eS	Sn	18 58 37.1	-0.1
JKRS	Kuro-shima	2.88	46	eP	Pn	18 58 05.9	+1.0
JIJ	Ishigaki jima	3.06	46	eP	Pn	18 58 08.2	+0.8
JIJ				eS	Sn	18 58 42.6	-1.6
JISG	Ishigakijimahi	3.32	45	eP	Pn	18 58 11.5	+0.6
JTJ	Tarama	3.62	48	eS	Sn	18 58 56.8	-1.3

*AEIC **14** 18:58:35.7±1.6, 53°82N±0°05×164°27W±0°07, h41km±10km, Error ellipse: s-maj=8.5km s-min=5.0km az=149.0*

NEIC 14 18:58:35.1±0.7, 53°72N±0°06×164°18W±0°07, h35km±2km, ML3.4/8, ML3.1(AEIC), Error ellipse: s-maj=11.7km s-min=5.3km az=336.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	0.79	343		Pn	18 58 49.3	-0.4
WESE					Sn	18 59 00.2	-0.2
WECS	Westdahl Cape	0.88	337		Pn	18 58 50.8	-0.2
WEBT	Westdahl Beart	0.93	339		Pn	18 58 51.5	-0.2
WEBT					Sn	18 59 04.5	+0.7
AKSA	Akutan Strait	0.99	295		Pn	18 58 52.0	-0.4
AKSA					Sn	18 59 06.0	+0.9
AHB	Akutan Harbor	1.04	293		Pn	18 58 53.1	-0.1
AHB					Sn	18 59 07.7	+1.1
ISLZ	Isanotski Laza	1.04	15		Pn	18 58 52.7	-0.5
ISLZ					Sn	18 59 05.8	-0.7
AKBBA	Akutan Broad B	1.10	291		Pn	18 58 53.6	-0.3
AKBBA					Sn	18 59 07.8	-0.2
ISNN	Isanotski Nort	1.14	12		Pn	18 58 54.7	+0.3
ISNN					Sn	18 59 09.5	+0.7
AKMO	Akutan Morgan	1.14	290		Pn	18 58 54.5	0.0
AKGG	Akutan Green G	1.17	295		Pn	18 58 54.9	0.0
LVA	Lava Point	1.18	293		Pn	18 58 54.9	-0.2
LVA				IAML		18 59 19.7	
	comp=N,664nm,0.6s						
FALS	False Pass	1.22	21		Pn	18 58 55.5	0.0
FALS					Sn	18 59 10.7	-0.1
UNV	Unalaska Valle	1.38	276		Pn	18 58 57.3	-0.5
MTBL	Makushin Table	1.50	280		Pn	18 58 59.9	+0.4
MGOD	Makushin Gods	1.60	274		Pn	18 59 00.8	0.0
MGOD					Sn	18 59 21.0	+0.7
MAPS	Pakushin South	1.64	274		Pn	18 59 01.5	+0.1
MAPS					Sn	18 59 21.6	+0.4
HAG	Hague Volcano	2.08	39		Pn	18 59 08.3	+0.9
PVV	Pavlof Volcano	2.16	39		Pn	18 59 09.3	+0.8
PS1A	Pavlof South-1	2.22	39		Pn	18 59 10.8	+1.5
OKTU	Okmok Mt. Tuli	2.33	263		Pn	18 59 12.5	+1.6
S12K	Black Hills	2.33	31		Pn	18 59 12.3	+1.4
S12K	Black Hills	2.33	31	IAML		18 59 45.2	
	comp=N,156nm,0.6s						
S12K				IAML		18 59 45.5	
	comp=E,302nm,0.5s						
CNBA	Chernabura Isl	2.91	66	Pn	Pn	18 59 19.5	+0.7
CNBA				IAML		18 59 52.6	
	comp=E,76nm,3.9s						
CHGN	Chignik	4.21	50	Pn	Pn	18 59 36.5	-0.1
O14K	Tigyukauivet M	5.78	15	Pn	Pn	18 59 58.6	+0.5
O16K	Kokwok River B	6.77	27	Pn	Pn	19 00 11.7	-0.1
N15K	Kwethluk River	6.84	17	Pn	Pn	19 00 11.9	-0.8
N17K	Nushagak Hills	7.81	26	Pn	Pn	19 00 24.7	-1.3
M16K	Timber Creek	7.84	19	Pn	Pn	19 00 24.8	-1.7
L16K	Owhat River	8.39	16	Pn	Pn	19 00 36.8	+2.8
M17K	Holitna River	8.51	22	Pn	Pn	19 00 37.9	+2.3
N19K	Bonanza Creek	8.83	33	Pn	Pn	19 00 38.6	-1.5
J17K	VABM Dome	10.06	13	Pn	Pn	19 00 58.3	+1.5
J20K	Nowinta River	11.67	22	Pn	Pn	19 01 22.7	+3.8
HIN	Hinchinbrook I	11.69	48	Pn	Pn	19 01 19.0	-0.2
SCM	Sheep Creek Mo	12.09	41	Pn	Pn	19 01 25.6	+1.0
KLU	Klutina	12.47	44	Pn	Pn	19 01 29.5	-0.4

*IDC **14** 19:35:42.1±1.9, 37°84N×21°18E, h0km, mb3.5/4, mbtmp3.4/6, ML3.9/1, Error ellipse: s-maj=44.1km s-min=23.9

JOGS Gusukube 3.34 205 P **Pn 19 41 10.1 +1.0**
JOGS eS **Sn 19 41 51.1 +0.1**
JIRB Irabujima 3.37 209 P **Pn 19 41 10.0 +0.6**
JIRB S **Sn 19 41 50.5 -1.1**
JMJ2 Miyako jima3 3.39 206 P **Pn 19 41 10.6 +1.0**
JMJ2 eS **Sn 19 41 51.0 -0.9**
JTJ Tarama 3.75 213 eP **Pn 19 41 14.5 +0.5**
JTJ eS **Sn 19 41 58.1 -1.8**
JKC Kuchinoerabu 3.88 46 P **Pn 19 41 16.7 +1.2**
JYAK Yakushimahirau 3.94 51 eP **Pn 19 41 16.3 0.0**
JISG Ishigakijimahi 3.99 217 P **Pn 19 41 17.0 0.0**
JISG eS **Sn 19 42 02.8 -2.5**
JIJ Ishigaki jima 4.26 217 i P **Pn 19 41 20.0 -0.4**
JIJ eS **Sn 19 42 07.5 -4.0**
JMZ Minamidaito 2 4.31 117 Pn **Pn 19 41 22.0 +1.0**
JMZ **Sn 19 42 09.0 -3.4**
JMZ Minamidaito 2 4.31 117 eP **Pn 19 41 21.6 +0.7**
JMZ S **Sn 19 42 10.0 -2.4**
JMTN Minamitane 4.31 52 eP **Pn 19 41 20.6 -0.3**
JTN Tanegashima 3 4.52 50 P **Pn 19 41 24.2 +0.6**
JSJ Shimokoshiki 4.54 31 P **Pn 19 41 25.3 +1.4**
YOJ Yonaguni jima 4.87 228 **Pn 19 41 28.7 +0.7**
YOJ Yonaguni jima 4.87 228 eP **Pn 19 41 28.7 +0.7**
TATO Taipei 5.65 241 **Pn 19 41 38.7 +0.5**
YHNB Yeheng 5.90 239 **Pn 19 41 43.0 +1.5**
NACB Ninganchiao 6.03 234 **Pn 19 41 42.7 -0.3**
JNU Nakatsue 6.28 32 P **Pn 19 41 48.3 +2.0**
comp=N,55nm,0.7s,baz=210,slow=7.7,SNR=54
SSLB Suanglung 6.73 235 **Pn 19 41 51.9 -0.3**
YULB Yu-li 6.74 230 **Pn 19 41 50.7 -1.6**
TPUB Ta-pu 7.26 233 **Pn 19 41 58.7 -0.5**
TWG Pinlang 7.28 228 **Pn 19 41 57.2 -2.2**
JMN Monobe 8.38 44 Pn **Pn 19 42 11.9 -1.7**
KNMB Chin-men Tao 8.38 248 Pn **Pn 19 42 13.2 -0.5**
TJN Taejon 8.54 2 **Pn 19 42 18.0 +2.3**
KSAR Wonju Array Be 9.63 4 Pn **Pn 19 42 31.3 +1.4**
KSRS Korea Array 9.65 5 P **Pn 19 42 31.9 +1.9**
comp=N,6.5nm,0.7s,baz=183,slow=13,SNR=28
MJAR Matsushiro Arr 12.90 45 P **P 19 43 13.8 -1.4**
comp=N,2.2nm,0.6s,baz=237,slow=12,SNR=4.1
BJT Baijiatuau 15.09 327 P **P 19 43 41.2 +1.7**
BJT IAmb IAmb 19 43 45.1
comp=Z,9.6nm,0.6s
USRK Ussuriysk Ar. 16.84 13 P **P 19 43 59.4 +0.7**
comp=Z,1.7nm,0.4s,baz=189,slow=8.5,SNR=10.0
MDJ Mudanjiang 16.90 7 P **Pn 19 44 00.5 -0.1**
MDJ IAmb IAmb 19 44 04.5
comp=Z,5.7nm,0.7s
BNX BinXian 17.89 1 ⇑P **Pn 19 44 11.5 -0.7**
BNX pmax pmax
comp=Z,7.0nm,0.9s
HHC Hu-ho-hao-te 18.14 320 eP **Pn 19 44 15.0 -0.3**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,41nm,3.6s
BTO Baotou 18.90 317 eP **Pn 19 44 25.4 +1.2**
BTO sP **sP 19 45 16.3 -2.4**
BTO S **S 19 47 46.6 +1.1**
BTO pmax pmax
comp=Z,14nm,0.6s
BTO pmax pmax
comp=Z,140nm,3.4s
BTO LR LR
comp=N,160nm,5.5s
BTO LR LR
comp=E,110nm,4.8s
BTO LR LR
comp=Z,120nm,4.9s
ASAJ Asahikawa 20.56 34 P **P 19 44 38.4 -0.5**
comp=Z,4.9nm,0.7s,baz=250,slow=12,SNR=5.2
comp=Z,4.9nm,0.7s
LZH Lanzhou 21.23 299 eP **P 19 44 44.1 -2.2**
LZH pP sP 19 45 44.3 -0.1
LZH S S 19 48 17.1 -13
LZH pmax pmax
comp=Z,11nm,1.0s
KLR Kul'dur 21.70 9 P **P 19 44 49.2 -1.6**
comp=Z,2.1nm,0.5s,baz=190,slow=9.4,SNR=9.8
comp=Z,2.1nm,0.5s
GTA Gaotai 25.29 304 P **P 19 45 24.4 +0.5**
GTA PcP **PcP 19 48 53.3 +1.8**
GTA pmax pmax
comp=Z,10.0nm,0.7s
ULN Ulaanbaatar 25.31 328 P **P 19 45 24.4 +0.3**
ULN IAmb IAmb 19 45 28.2
comp=Z,7.2nm,0.7s
SONM Songino Array 25.61 327 P **P 19 45 26.3 -0.4**
SONM IAmb IAmb 19 45 31.0
comp=Z,12nm,0.9s
SONM Songino Array 25.61 327 P **P 19 45 27.3 +0.6**
comp=Z,9.5nm,0.5s,baz=151,slow=10,SNR=60
SONM PcP **PcP 19 48 52.5 +0.4**
comp=Z,0.7nm,0.6s,baz=142,slow=2.8,SNR=5.3
comp=Z,9.5nm,0.5s
CMAR Chiang Mai Arr 27.33 256 P **P 19 45 44.4 +2.1**
comp=Z,0.4nm,0.8s,baz=56,slow=7.2,SNR=4.4
comp=Z,0.4nm,0.8s
GOMU GeErMu 28.40 295 P **P 19 45 54.3 +2.3**
GOMU pmax pmax
comp=Z,8.0nm,0.7s
SHL Shillong 31.35 274 P **P 19 46 17.3 -0.6**
WMQ Urumqi 35.24 307 eP **P 19 46 52.9 +1.7**
MK31 Makanchi Array 39.63 311 P **P 19 47 27.7 -0.2**
MKAR Makanchi Array 39.63 311 P **P 19 47 28.3 +0.3**
MKAR Makanchi Array 39.63 311 P **P 19 47 27.9 0.0**
comp=Z,2.2nm,0.6s,baz=91,slow=10,SNR=27
MKAR PcP **PcP 19 49 31.6 +0.8**
comp=Z,0.5nm,0.7s,baz=72,slow=4.7,SNR=2.1
MKAR ScP **ScP 19 53 00.5 -0.4**
comp=Z,0.5nm,0.7s,baz=96,slow=7.8,SNR=5.2
comp=Z,2.2nm,0.6s
ZAA0 Zalesovo Array 40.30 322 P **P 19 47 32.9 -0.4**
ZALV Zalesovo Beam 40.30 322 P **P 19 47 32.3 -0.9**
ZALV Zalesovo Beam 40.30 322 P **P 19 47 33.0 -0.3**
comp=Z,1.3nm,0.3s,baz=111,slow=9.0,SNR=7.8
ZALV PcP **PcP 19 49 32.9 +0.1**
comp=Z,0.3nm,0.3s,baz=127,slow=3.8,SNR=2.2
ZALV ScP **ScP 19 53 02.5 -0.8**
comp=Z,2.2nm,0.6s,baz=128,slow=3.1,SNR=9.7
comp=Z,1.3nm,0.3s
WUS Wushi 41.05 302 P **P 19 47 39.9 0.0**
WUS IAmb IAmb 19 47 43.5
comp=Z,3.2nm,0.7s
KURBB Kurchatov Arra 42.92 316 P **P 19 47 54.3 -0.3**
comp=Z,0.8nm,0.3s,baz=104,slow=9.0,SNR=6.1
comp=Z,0.8nm,0.3s
FITZ Fitzroy Crossi 45.66 182 P **P 19 48 18.3 +1.7**
comp=Z,2.9nm,0.9s,baz=24,slow=13,SNR=2.1
comp=Z,2.9nm,0.9s
KKAR Karatay Array 47.57 304 P **P 19 48 32.1 +0.8**
BVAR Borovoye Array 48.34 318 P **P 19 48 36.9 -0.1**
comp=Z,3.2nm,0.7s,baz=78,slow=6.5,SNR=12
BVAR PcP **PcP 19 49 58.8 -1.7**
comp=Z,0.6nm,0.4s,baz=101,slow=2.9,SNR=3.8
comp=Z,3.2nm,0.7s
BRVK Borovoye 48.40 318 P **P 19 48 37.8 +0.3**
ABKAR Akbulak array 54.73 312 P **P 19 49 24.3 -0.1**
ABKAR IAmb IAmb 19 49 25.2
comp=Z,2.5nm,0.6s
SUA Susitna One 62.35 32 P **P 19 50 17.1 +0.2**
RND Reindeer 62.95 30 P **P 19 50 20.6 -0.2**
ILAR Eielson Array 63.59 29 P **P 19 50 24.4 -0.6**
comp=Z,0.4nm,0.5s,baz=237,slow=4.6,SNR=12
comp=Z,0.4nm,0.5s
J26L Joseph Creek 65.05 29 P **P 19 50 34.3 -0.2**
J26L IAmb IAmb 19 50 34.8
comp=Z,2.5nm,0.7s
FINES FINESS Array B 70.92 330 P **P 19 51 09.9 -1.1**
comp=Z,0.5nm,0.3s,baz=58,slow=5.4,SNR=15
comp=Z,0.5nm,0.3s
AKASG Malin Array Be 73.59 319 P **P 19 51 25.8 -1.2**
comp=Z,0.4nm,0.3s,baz=63,slow=6.5,SNR=4.0
comp=Z,0.4nm,0.3s
AKBB Malin Array Si 73.59 319 P **P 19 51 26.0 -0.9**
AK04 Malin Array Si 73.61 319 P **P 19 51 26.2 -0.9**
BRTR Keskin Array B 75.16 307 P **P 19 51 34.7 -1.7**
comp=Z,0.9nm,0.7s,baz=92,slow=7.6,SNR=2.6
comp=Z,0.9nm,0.7s
CLL Collm 82.20 325 eP **P 19 52 15.0 +0.6**
NVAR Mina Array Bea 90.22 46 P **P 19 52 55.6 +1.4**
comp=Z,0.5nm,0.7s,baz=284,slow=5.0,SNR=4.0
comp=Z,0.5nm,0.7s
PDAR Pinedale Array 92.63 38 P **P 19 53 05.7 +0.4**
comp=Z,0.5nm,0.6s,baz=132,slow=1.3,SNR=5.3
comp=Z,0.5nm,0.6s

*SJA **14** 19:55:01.0, 22°.855S×68°.65W, h111km, ML3.6*
*GUC **14** 19:55:04.0±0.8, 22°.815S×68°.69W, h102km±4km, ML3.5*
ISC 14 19:55:01.4±1.7,**22°.84S**±0°.04×**68°.67W**±0°.07,
h119km±10km,**n25**,σ0°.73/32,**3C-3D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**0.47**	**104**	⇓iP	**Pn**	**19 55 19.7**	**+0.2**
AF01				eS	**Sn**	**19 55 32.5**	**-0.5**
AF01				IAML		19 55 38.1	
comp=E,2μm,0.3s							
AF01	**San Pedro de A**	**0.47**	**104**	i P	**Pn**	**19 55 19.0**	**-0.4**
PB15	**IPOC Station P**	**0.82**	**244**	eP	**Pn**	**19 55 22.6**	**+0.6**
PB15				eS	**Sn**	**19 55 37.3**	**-0.1**
PB15	**IPOC Station P**	**0.82**	**244**	i P	**Pn**	**19 55 22.0**	**+0.1**
PB06	**IPOC Station P**	**0.84**	**279**	⇑iP	**Pn**	**19 55 22.3**	**+0.3**
PB06				eS	**Sn**	**19 55 37.0**	**-0.6**
PB06				IAML		19 55 37.4	
comp=N,2μm,0.3s							
PB06	**IPOC Station P**	**0.84**	**279**	i P	**Pn**	**19 55 21.6**	**-0.5**
PB09	**IPOC Station P**	**1.17**	**333**	⇑iP	**Pn**	**19 55 26.4**	**+1.1**
PB09				eS	**Sn**	**19 55 43.1**	**-0.2**
PB09				IAML		19 55 44.6	
comp=N,2μm,0.5s							
PB09	**IPOC Station P**	**1.17**	**333**	i P	**Pn**	**19 55 25.6**	**+0.3**
PB04	**IPOC Station P**	**1.46**	**290**	⇑iP	**Pn**	**19 55 28.9**	**+0.4**
PB04				eS	**Sn**	**19 55 48.2**	**-0.7**
PB04				IAML		19 55 53.7	
comp=N,445nm,0.3s							
PB04	**IPOC Station P**	**1.46**	**290**	i P	**Pn**	**19 55 28.4**	**0.0**
PB01	**IPOC Station P**	**1.94**	**337**	⇓iP	**Pn**	**19 55 34.9**	**+0.6**
PB01				eS	**Sn**	**19 55 59.8**	**+0.5**
PB01				IAML		19 56 01.6	
comp=N,720nm,0.2s							
PB01	**IPOC Station P**	**1.94**	**337**	i P	**Pn**	**19 55 34.4**	**+0.2**
PB14	**IPOC Station P**	**2.38**	**221**	eP	**Pn**	**19 55 41.0**	**+1.1**
PB14	**IPOC Station P**	**2.38**	**221**	i P	**Pn**	**19 55 40.4**	**+0.4**
GO02	**Mina Guanaco**	**2.46**	**200**	⇓iP	**Pn**	**19 55 42.1**	**+1.2**
GO02				eS	**Sn**	**19 56 12.7**	**+1.4**
GO02				IAML		19 56 18.5	
comp=E,208nm,0.3s							
GO02	**Mina Guanaco**	**2.46**	**200**	i P	**Pn**	**19 55 41.4**	**+0.5**
TA01	**Diego Aracena**	**2.67**	**328**	eP	**Pn**	**19 55 43.0**	**-0.4**
TA01	**Diego Aracena**	**2.67**	**328**	i P	**Pn**	**19 55 42.4**	**-1.0**
GO01	**Chusmiza**	**3.19**	**351**	eP	**Pn**	**19 55 51.9**	**+1.1**
GO01	**Chusmiza**	**3.19**	**351**	i P	**Pn**	**19 55 51.2**	**+0.4**
PB11	**IPOC Station P**	**3.20**	**343**	i P	**Pn**	**19 55 49.9**	**-0.6**
AC01	**Pan de Azucar**	**3.73**	**208**	eP	**Pn**	**19 55 57.1**	**-0.3**
AC01	**Pan de Azucar**	**3.73**	**208**	i P	**Pn**	**19 55 56.4**	**-1.0**
GO03	**Copiapo**	**4.94**	**196**	eP	**Pn**	**19 56 12.9**	**-0.7**
GO03	**Copiapo**	**4.94**	**196**	i P	**Pn**	**19 56 12.4**	**-1.2**

*NEIC **14** 20:06:09.4±1.9, 23°.56S±0°.06×177°.8W±0°.1, h245km±8km, mb4.8/112, Error ellipse: s-maj=17.3km s-min=4.6km az=117.0*
*IDC **14** 20:06:12.9±0.6, 23°.58S×177°.84W, h280km±4km, mb4.1/18, mbtmp4.8/21, Error ellipse: s-maj=12.8km s-min=10.6km az=107.0*
*NOU **14** 20:06:13.7, 23°.46S×177°.32W, h323km, mb5.1/83, South of Fiji Islands*
*GCMT **14** 20:06:13.4±0.4, 23°.65S±0°.03×177°.49W±0°.02, h284km±3km, MW5.0/71, Moment Tensor Solution. s42,c45; s71,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.40±.18; $M_{\theta\theta}$-0.82±.17; $M_{\phi\phi}$ 1.22±.16; $M_{r\theta}$ 1.38±.16; $M_{\phi\theta}$ 1.76±.15; $M_{\phi r}$-3.23±.14; Best double couple: $M_0$4.05300×10^{16} NP1:ϕ_s344.00000°, δ87.00000°, λ-120.00000°. NP2:ϕ_s249.00000°, δ31.00000°, λ-6.00000°. Principal axes: T 3.8140, Plg35.0000°, Azm100.0000°; N 0.4780, Plg30.0000°, Azm345.0000°; P -4.2920, Plg40.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 14 20:06:12.3±0.4,**23°.63S**±0°.04×**177°.62W**±0°.05,
h281km±3km,**h281**km:**pP-P**,**n412**,σ1§**57**/409,**mb4.9**/108,
50C-17D,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.61**	**183**	Pn	**Pn**	**20 07 32.8**	**-3.5**
RAO				Sn	**S**	**20 08 44.6**	**+0.8**
RAO	**Raoul Island**	**5.61**	**183**	S	**S**	**20 08 43.3**	**-0.5**
609nm,0.3s,baz=266,slow=23,SNR=5.6							
MSVF	**Nonsavu**	**7.13**	**325**	Pn	**Pn**	**20 07 54.8**	**-0.3**
MSVF	**Nonsavu**	**7.13**	**325**	P	**Pn**	**20 07 55.1**	**-0.1**
229nm,0.8s,baz=151,slow=8.9,SNR=140							
MSVF				S	**S**	**20 09 16.4**	**-1.7**
22nm,0.8s,baz=65,slow=18,SNR=0.9							
MSVF	**Nonsavu**	**7.13**	**325**	P	**Pn**	**20 07 55.2**	**0.0**
NIUE	**Niue**	**8.48**	**59**	Pn	**Pn**	**20 08 09.5**	**-2.4**
NIUE					S	20 09 36.0	-13
NIUE	**Niue**	**8.48**	**59**	P	**Pn**	**20 08 10.7**	**-1.2**
comp=Z,805nm,0.6s							
NIUE	**Niue**	**8.48**	**59**	P	**Pn**	**20 08 10.6**	**-1.2**
FUTU	**Fugatoga**	**9.29**	**357**	P	**Pn**	**20 08 21.5**	**-0.3**
AFI	**Afiamalu**	**11.14**	**31**	Pn	Pn	20 08 38.0	-6.8
AFI	**Afiamalu**	**11.14**	**31**	P	Pn	20 08 39.8	-5.1
PINNC	**Pines Island,**	**13.78**	**271**	Pn	**P**	**20 09 18.7**	**+1.7**
PINNC	**Pines Island,**	**13.78**	**271**	P	**P**	**20 09 20.0**	**+3.0**
NFK	**Norfolk Island**	**14.02**	**244**	P	**Pn**	**20 09 24.4**	**+4.7**
NFK	**Norfolk Island**	**14.02**	**244**	P	Pn	20 09 24.8	+5.1
KUZ	**Kuaotunu**	**14.28**	**202**	P	**Pn**	**20 09 24.2**	**+1.5**
KUZ	**Kuaotunu**	**14.28**	**202**	P	**Pn**	**20 09 24.6**	**+1.9**
LIFNC	**LIFOU**	**14.30**	**279**	P	**Pn**	**20 09 25.5**	**+2.3**
MXZ	**Matakaoa Point**	**14.32**	**193**	Pn	P	20 09 17.5	-5.3
OUENC	**Ouen Island, N**	**14.36**	**272**	P	**Pn**	**20 09 26.3**	**+2.5**
YATNC	**Mamie plateau,**	**14.36**	**273**	P	**Pn**	**20 09 25.7**	**+1.8**
DVP	**Devils Point**	**14.52**	**291**	P	**Pn**	**20 09 27.1**	**+1.3**
ONTNC	**Ouen Toro**	**14.73**	**272**		**P**	**20 09 24.8**	**-2.7**
DZM	**Mont Dzumac**	**14.77**	**273**	eP	**Pn**	**20 09 29.8**	**+0.9**
comp=Z,291nm,1.6s							
DZM				eS	**S**	**20 12 09.7**	**-1.0**
comp=Z,421nm,23.2s							
DZM	**Mont Dzumac**	**14.77**	**273**	P	**Pn**	**20 09 30.2**	**+1.3**
comp=Z,52nm,0.8s,baz=98,slow=16,SNR=38							
DZM				S	**S**	**20 12 16.4**	**+5.7**
comp=Z,7.1nm,0.9s,baz=179,slow=23,SNR=2.1							
DZM	**Mont Dzumac**	**14.77**	**273**	P	**Pn**	**20 09 30.9**	**+2.0**
NOUC	**Port Laguerre**	**14.90**	**273**	P	**Pn**	**20 09 32.0**	**+1.7**
TOZ	**Tahuroa Road**	**15.24**	**201**	P	**Pn**	**20 09 33.9**	**-0.3**
URZ	**Urewera**	**15.26**	**196**	P	**P**	**20 09 32.7**	**-0.4**
comp=Z,170nm,0.4s,baz=102,slow=6.5,SNR=63							
URZ				S	**S**	**20 12 11.0**	**-9.1**
comp=Z,59nm,0.3s,baz=342,slow=19,SNR=16							
URZ	**Urewera**	**15.26**	**196**	P	**P**	**20 09 32.9**	**-0.3**
RTZ	**Ruatahuna**	**15.63**	**196**	P	**P**	**20 09 34.9**	**-2.5**
VLAKA	**Lakatoro**	**15.93**	**295**	P	**Pn**	**20 09 43.0**	**+0.6**
HIZ	**Hauiti**	**16.16**	**202**	P	**P**	**20 09 40.0**	**-3.1**
BKZ	**Black Stump Fm**	**16.27**	**197**	P	**P**	**20 09 40.5**	**-3.8**
RAR	**Rarotonga**	**16.68**	**85**		**Pn**	**20 09 50.4**	**-0.8**
RAR				IAmb	IAmb	20 09 54.6	
comp=Z,106nm,1.1s							
RAR	**Rarotonga**	**16.68**	**85**	P	**Pn**	**20 09 50.6**	**-0.6**
comp=Z,95nm,1.1s,baz=240,slow=8.1,SNR=11							
RAR	**Rarotonga**	**16.68**	**85**	P	**P**	**20 09 46.9**	**-2.0**
KOUNC	**Koumac, New Ca**	**17.04**	**277**	P	**Pn**	**20 09 54.5**	**-1.0**
BFZ	**Birch Farm**	**17.77**	**195**	P	**P**	**20 09 55.4**	**-5.1**
MRZ	**Mangatainoka R**	**17.92**	**197**	P	**P**	**20 09 59.1**	**-3.0**
MSWZ	**Moikau Station**	**18.71**	**197**	P	**P**	**20 10 07.2**	**-3.4**
SNZO	**South Karori**	**18.77**	**198**	P	**P**	**20 10 06.5**	**-4.7**
TCW	**Tory Channel**	**18.80**	**199**	P	**P**	**20 10 07.7**	**-3.9**
TCW	**Tory Channel**	**18.80**	**199**	P	**P**	**20 10 08.1**	**-3.4**
BHW	**Baring Head**	**18.81**	**198**	P	**P**	**20 10 07.9**	**-3.7**
BHW				IAmb	IAmb	20 10 15.1	
comp=Z,45nm,0.7s							
BHW	**Baring Head**	**18.81**	**198**	P	**P**	**20 10 08.5**	**-3.1**
PLWZ	**Palliser**	**18.86**	**197**	P	**P**	**20 10 08.9**	**-3.2**
QRZ	**Quartz Range**	**19.04**	**203**	P	**P**	**20 10 14.0**	**-0.1**
QRZ	**Quartz Range**	**19.04**	**203**	P	**P**	**20 10 14.8**	**+0.7**
TKNZ	**Takaka Hill**	**19.07**	**202**	P	**P**	**20 10 09.8**	**-4.7**
TKNZ	**Takaka Hill**	**19.07**	**202**	P	**P**	**20 10 12.5**	**-1.9**
NNZ	**Nelson**	**19.09**	**201**	P	**P**	**20 10 10.7**	**-4.0**
NNZ				IAmb	IAmb	20 10 12.9	
comp=Z,36nm,0.5s							
NNZ	**Nelson**	**19.09**	**201**	P	**P**	**20 10 11.4**	**-3.2**
TUWZ	**Tuamarina**	**19.10**	**200**	P	**P**	**20 10 12.1**	**-2.6**
TUWZ	**Tuamarina**	**19.10**	**200**	P	**P**	**20 10 12.6**	**-2.1**
BSWZ	**Blackbirch Sta**	**19.38**	**199**	P	**P**	**20 10 15.0**	**-2.8**
THZ	**Tophouse**	**19.74**	**201**	P	**P**	**20 10 18.2**	**-3.4**
THZ	**Tophouse**	**19.74**	**201**	P	**P**	**20 10 19.8**	**-1.8**
CTZ	**Chatham Island**	**20.07**	**178**	P	Pn	20 10 28.4	-1.9
CTZ				IAmb	IAmb	20 10 29.3	
comp=Z,30nm,1.0s							
CTZ	**Chatham Island**	**20.07**	**178**	P	**P**	**20 10 26.8**	**+1.8**
DSZ	**Denniston Nort**	**20.11**	**204**	P	**P**	**20 10 23.4**	**-2.1**
DSZ	**Denniston Nort**	**20.11**	**204**	P	**P**	**20 10 24.3**	**-1.2**
KHZ	**Kahutara**	**20.12**	**199**	P	**P**	**20 10 22.1**	**-3.5**
KHZ	**Kahutara**	**20.12**	**199**	P	**P**	**20 10 22.7**	**-2.8**
GVZ	**Greta Valley S**	**20.78**	**200**	P	**P**	**20 10 28.6**	**-3.8**
GVZ	**Greta Valley S**	**20.78**	**200**	P	**P**	**20 10 29.1**	**-3.2**
LTZ	**Lake Taylor**	**20.86**	**201**	P	**P**	**20 10 31.3**	**-1.9**
LTZ	**Lake Taylor**	**20.86**	**201**	P	**P**	**20 10 31.2**	**-1.9**
AMCZ	**Amberley**	**21.09**	**200**	P	**P**	**20 10 35.2**	**-0.2**
INZ	**Inchbonnie**	**21.09**	**203**	P	**P**	**20 10 34.5**	**-0.9**
OXZ	**Oxford**	**21.42**	**201**	P	**P**	**20 10 34.2**	**-4.3**
LHI	**Lord Howe Isla**	**22.08**	**244**	P	**P**	**20 10 46.0**	**+1.4**
RPZ	**Rata Peaks**	**22.10**	**202**	P	**P**	**20 10 43.5**	**-1.1**
comp=Z,30nm,0.4s,baz=335,slow=1.3,SNR=7.4							
RPZ				S	**S**	**20 14 24.4**	**-3.0**
comp=Z,11nm,1.0s,baz=37,slow=14,SNR=1.8							
comp=Z,30nm,0.4s							
FOZ	**Fox Glacier**	**22.39**	**205**	P	**P**	**20 10 45.7**	**-1.5**
LBZ	**Lake Benmore**	**22.99**	**203**	P	**P**	**20 10 50.8**	**-1.9**
LBZ				IAmb	IAmb	20 10 51.9	
comp=Z,27nm,0.7s							
JCZ	**Jackson Bay**	**23.25**	**205**	P	**P**	**20 10 55.4**	**+0.2**
ODZ	**Otahua Downs**	**23.41**	**201**	P	**P**	**20 10 56.1**	**-0.4**
ODZ				IAmb	IAmb	20 10 57.1	
comp=Z,41nm,0.9s							
WKZ	**Wanaka**	**23.79**	**204**	P	**P**	**20 10 58.1**	**-2.0**
MLZ	**Mavora Lakes**	**24.59**	**205**	P	**P**	**20 11 06.3**	**-1.0**
MLZ				IAmb	IAmb	20 11 08.0	
comp=Z,56nm,0.8s							
DCZ	**Deep Cove**	**25.05**	**206**	P	**P**	**20 11 10.8**	**-0.5**
DCZ				IAmb	IAmb	20 11 16.0	
comp=Z,27nm,0.7s							
WHZ	**Wether Hill Ro**	**25.10**	**204**	P	**P**	**20 11 10.8**	**-0.9**
ALEG	**Aligegeo Malai**	**25.48**	**302**	P	**P**	**20 11 14.3**	**-1.2**
GC1S	**Gold Coast 1 S**	**26.32**	**254**	P	**P**	**20 11 24.5**	**+1.6**
TATA	**Tatamba Isabel**	**26.40**	**301**	P	**P**	**20 11 21.9**	**-1.9**
AUWSH	**Wavell State H**	**26.71**	**256**	P	**P**	**20 11 27.5**	**+1.1**
PPT2	**Papeete2**	**26.90**	**82**	eP	P	20 11 18.9	-9.4
comp=Z,28nm,22.5s							
PPT2				eS	sS	20 17 25.8	+4.3
comp=Z,115nm,25.8s							
TW1H	**Toowoomba 1 Ha**	**27.66**	**255**	P	**P**	**20 11 36.0**	**+1.1**
ARMA	**Armidale**	**28.16**	**249**	P	**P**	**20 11 39.6**	**+0.3**
ARMA				IAmb	IAmb	20 11 41.8	
comp=Z,44nm,0.8s							
ARMA	**Armidale**	**28.16**	**249**	P	**P**	**20 11 40.0**	**+0.6**
comp=Z,63nm,0.8s							
ARMA	**Armidale**	**28.16**	**249**	P	**P**	**20 11 40.4**	**+1.1**
NTLH	**Newcastle Hard**	**28.47**	**244**	P	**P**	**20 11 43.4**	**+1.5**
EIDS	**Eidsvold**	**28.50**	**260**	P	**P**	**20 11 41.8**	**-0.5**
AUPHS	**Peel High Scho**	**28.87**	**248**	P	**P**	**20 11 46.0**	**+0.5**
MGCD	**Mangrove Creek**	**29.02**	**244**	P	**P**	**20 11 47.7**	**+1.0**
comp=Z,126nm,0.6s							
MGCD	**Mangrove Creek**	**29.02**	**244**	P	**P**	**20 11 47.8**	**+1.0**
PMOR	**Pomariorio Ree**	**29.29**	**78**	eP	**P**	**20 11 47.2**	**-2.1**
comp=Z,103nm,1.2s							
SYDH	**Sydney Hard Ro**	**29.43**	**243**	P	**P**	**20 11 51.1**	**+0.8**
WOLH	**Wollongong Har**	**29.46**	**241**	P	**P**	**20 11 51.8**	**+1.2**
CNB	**Canberra Magne**	**30.87**	**240**	P	**P**	**20 12 03.6**	**+0.4**
comp=Z,62nm,1.8s							
CNB	**Canberra Magne**	**30.87**	**240**	P	**P**	**20 12 03.9**	**+0.8**
AUDCS	**Dubbo College**	**30.92**	**246**	P	**P**	**20 12 04.2**	**+0.7**
CAN	**Canberra**	**31.16**	**240**	P	**P**	**20 12 06.2**	**+0.5**
CAN				IAmb	IAmb	20 12 07.5	
comp=Z,48nm,1.1s							
CAN	**Canberra**	**31.16**	**240**	P	**P**	**20 12 06.5**	**+0.8**
comp=Z,48nm,1.0s							
CAN	**Canberra**	**31.16**	**240**	P	**P**	**20 12 06.2**	**+0.5**
CAN	**Canberra**	**31.16**	**240**	P	**P**	**20 12 05.9**	**+0.2**
AULRC	**Lightning Ridg**	**31.24**	**252**	P	**P**	**20 12 07.3**	**+1.0**
YNG	**Young**	**31.44**	**243**	P	**P**	**20 12 08.2**	**+0.1**
comp=Z,209nm,0.8s							
YNG	**Young**	**31.44**	**243**	P	**P**	**20 12 08.9**	**+0.9**
AUSMG	**Snowy Mountain**	**31.73**	**238**	P	**P**	**20 12 10.5**	**-0.1**
CMSA	**Cobar Meteorol**	**33.34**	**248**	P	**P**	**20 12 23.7**	**-0.7**
comp=Z,106nm,0.8s							
CMSA	**Cobar Meteorol**	**33.34**	**248**	P	**P**	**20 12 24.2**	**-0.3**
TV1H	**Townsville Har**	**33.35**	**271**	P	**P**	**20 12 24.9**	**+0.2**
CTAO	**Charters Tower**	**33.66**	**269**	P	**P**	**20 12 26.8**	**-0.6**
CTAO	**Charters Tower**	**33.66**	**269**	P	**P**	**20 12 27.4**	**0.0**
CTAO	**Charters Tower**	**33.66**	**269**	P	**P**	**20 12 27.1**	**-0.2**
CTAO				PcP	**PcP**	**20 15 00.8**	**+0.5**
CORO	**Coronation Par**	**34.31**	**230**	P	**P**	**20 12 33.3**	**+0.7**
TOO	**Toolangi**	**34.43**	**238**	P	**P**	**20 12 34.0**	**+0.2**
TOO				IAmb	IAmb	20 12 35.4	
comp=Z,12nm,0.8s							
QLP	**Quilpie**	**34.58**	**257**	P	**P**	**20 12 35.0**	**-0.2**
comp=Z,171nm,1.4s							
QLP	**Quilpie**	**34.58**	**257**	P	**P**	**20 12 35.5**	**+0.3**
TAU	**Tasmania Unive**	**34.72**	**228**	P	**P**	**20 12 37.9**	**+1.8**
TAU				PcP	**PcP**	**20 15 03.9**	**+0.9**
GEXS	**Deakin Univers**	**35.49**	**237**	P	**P**	**20 12 43.3**	**+0.5**
BRAT	**Ballarat**	**35.63**	**238**	P	**P**	**20 12 44.5**	**+0.6**
MTSU	**Mount Surprise**	**35.90**	**271**	P	**P**	**20 12 46.2**	**-0.3**
comp=Z,102nm,0.9s							
MTSU	**Mount Surprise**	**35.90**	**271**	P	**P**	**20 12 46.1**	**-0.4**
PMG	**Port Moresby**	**36.48**	**287**	P

WRA Warramunga Arr 44.60 265 P **P** **20 13 55.6 -1.9**
comp=Z,39nm,0.7s,baz=96,slow=8.4,SNR=221
WRA pP **pP** **20 14 55.6 +0.7**
comp=Z,6.8nm,1.0s,baz=90,slow=8.2,SNR=2.7
WRA PcP **PcP** **20 15 35.5 +0.3**
comp=Z,8.8nm,0.9s,baz=102,slow=3.5,SNR=7.4
WRA ScP **ScP** **20 19 02.3 +2.1**
comp=Z,1.8nm,1.1s,baz=104,slow=4.2,SNR=5.4
WRA S **S** **20 20 05.5 -6.5**
comp=Z,1.6nm,1.0s,baz=113,slow=14,SNR=5.0
comp=Z,39nm,0.7s
GENI Genyem 45.85 291 P **P** **20 14 06.1 -1.2**
KDU Kakadu 48.44 274 P **P** **20 14 25.0 -2.1**
comp=Z,45nm,1.0s
KDU Kakadu 48.44 274 P **P** **20 14 25.8 -1.4**
FORT Forrest 48.44 249 P **P** **20 14 25.0 -2.0**
FORT Forrest 48.44 249 P **P** **20 14 25.0 -2.0**
comp=Z,183nm,0.6s
FORT Forrest 48.44 249 P **P** **20 14 26.2 -0.8**
WRKA Warakurna 49.02 257 P **P** **20 14 29.9 -1.7**
comp=Z,52nm,0.7s
WRKA Warakurna 49.02 257 P **P** **20 14 30.3 -1.2**
MTN Manton Dam 49.61 273 IAmb IAmb 20 15 08.2
comp=Z,25nm,1.1s
DRV Dumont d'Urvil 50.54 200 P **P** **20 14 43.6 +1.4**
KNRA Kununurra 50.87 269 IAmb IAmb 20 14 45.4
comp=Z,63nm,1.1s
KNRA Kununurra 50.87 269 P **P** **20 14 44.3 -1.1**
comp=Z,47nm,1.0s
FAKI Fak Fak 52.60 285 P **P** **20 14 56.8 -1.3**
FAKI IAmb IAmb 20 14 57.5
comp=Z,34nm,1.0s
FAKI Fak Fak 52.60 285 P **P** **20 14 57.0 -1.2**
FAKI Fak Fak 52.60 285 P **P** **20 14 56.7 -1.5**
FITZ Fitzroy Crossi 53.02 265 P **P** **20 15 00.3 -0.9**
SWI Sorong 54.44 287 P **P** **20 15 10.1 -1.3**
comp=Z,142nm,1.0s,comp=Z,1μm
SBA Scott Base 54.79 184 P **P** **20 15 16.8 +3.8**
SBA IAmb IAmb 20 15 18.4
comp=Z,27nm,1.1s
SBA Scott Base 54.79 184 P **P** **20 15 17.3 +4.3**
AAI Ambon 55.87 282 P **P** **20 15 20.4 -1.2**
comp=Z,82nm,0.6s,comp=Z,1μm
SOEI Soe 57.00 274 P **P** **20 15 30.1 +0.4**
SOEI Soe 57.00 274 P **P** **20 15 29.9 +0.2**
comp=Z,121nm,0.8s
NLAI Namlea 57.05 282 P **P** **20 15 28.7 -1.2**
comp=Z,77nm,0.5s,comp=Z,1μm
KLBR Kellerberrin 57.10 247 P **P** **20 15 28.4 -1.7**
comp=Z,82nm,0.8s
KLBR Kellerberrin 57.10 247 P **P** **20 15 28.7 -1.4**
MEEK Meekatharra 57.27 253 P **P** **20 15 30.4 -1.0**
NWAO Narrogin (SRO) 57.33 245 P **P** **20 15 29.3 -2.3**
NWAO IAmb IAmb 20 15 31.7
comp=Z,18nm,1.1s
PSA00 Pilbara Seismi 57.35 259 P **P** **20 15 30.2 -1.7**
PSA00 IAmb IAmb 20 15 32.7
comp=Z,15nm,0.6s
PSA00 Pilbara Seismi 57.35 259 P **P** **20 15 30.2 -1.7**
comp=Z,30nm,0.8s
PSA00 Pilbara Seismi 57.35 259 P **P** **20 15 30.7 -1.3**
BATI Baumata 57.38 273 P **P** **20 15 32.7 +0.4**
comp=Z,92nm,0.6s
PSAC1 Pilbara Seismi 57.40 259 P **P** **20 15 30.6 -1.7**
comp=Z,36nm,0.9s
MBWA Marble Bar 57.56 259 P **P** **20 15 32.0 -1.4**
MBWA Marble Bar 57.56 259 P **P** **20 15 31.6 -1.8**
comp=Z,66nm,0.8s
MBWA Marble Bar 57.56 259 P **P** **20 15 32.4 -1.0**
MBWA Marble Bar 57.56 259 P **P** **20 15 31.7 -1.8**
SANI Sanana 58.57 283 P **P** **20 15 38.8 -1.6**
SANI Sanana 58.57 283 P **P** **20 15 38.4 -2.0**
comp=Z,35nm,0.6s,comp=Z,436nm
TNTI Ternate 58.63 286 P **P** **20 15 38.7 -2.2**
TNTI IAmb IAmb 20 15 39.9
comp=Z,20nm,0.7s
TNTI Ternate 58.63 286 P **P** **20 15 40.2 -0.7**
TNTI Ternate 58.63 286 P **P** **20 15 39.6 -1.3**
comp=Z,35nm,0.8s
MORW Morawa 59.01 249 IAmb IAmb 20 15 42.8
comp=Z,23nm,0.8s
MORW Morawa 59.01 249 P **P** **20 15 42.0 -1.3**
comp=Z,25nm,0.9s
MORW Morawa 59.01 249 P **P** **20 15 42.4 -0.9**
CCD Concordia, Ant 59.54 195 P **P** **20 15 48.5 +1.9**
BBSI Bau Bau 60.20 277 P **P** **20 15 53.6 +2.1**
WSI Waingapu 60.66 272 P **P** **20 15 53.9 -0.8**
CASY Casey 61.31 206 P **P** **20 15 58.7 +0.6**
CASY IAmb IAmb 20 16 00.0
comp=Z,50nm,0.8s
CASY Casey 61.31 206 P **P** **20 15 59.0 +0.9**
WBSI Waikabubak, Su 61.51 272 P **P** **20 16 02.5 +2.1**
LUWI Luwuk 61.89 282 P **P** **20 16 01.4 -1.5**
LUWI IAmb IAmb 20 16 03.8
comp=Z,46nm,1.2s
LUWI Luwuk 61.89 282 P **P** **20 16 03.8 +0.9**
LUWI Luwuk 61.89 282 P **P** **20 16 02.8 -0.1**
comp=Z,44nm,1.3s,comp=Z,604nm
BNSI Bone 62.88 277 P **P** **20 16 08.7 -0.7**
comp=Z,38nm,0.7s
KAPI Kappang 62.95 277 P **P** **20 16 08.7 -1.2**
KAPI IAmb IAmb 20 16 10.1
comp=Z,12nm,0.7s
PLAI Plampang 63.28 272 P **P** **20 16 11.8 -0.3**
PLAI Plampang 63.28 272 P **P** **20 16 11.2 -0.9**
comp=Z,106nm,0.9s
MRSI Marisa 63.31 283 P **P** **20 16 10.9 -1.3**
SPSI Sidrap Palu 63.36 278 P **P** **20 16 11.1 -1.5**
comp=Z,20nm,0.7s
TOLI2 Tolitoli 64.63 283 P **P** **20 16 18.9 -1.8**
TOLI2 IAmb IAmb 20 16 21.3
comp=Z,30nm,0.7s
TOLI2 Tolitoli 64.63 283 P **P** **20 16 19.4 -1.3**
QSPA South Pole Qui 66.45 180 P **P** **20 16 33.4 +1.7**
QSPA IAmb IAmb 20 16 35.3
comp=Z,27nm,0.9s
QSPA South Pole Qui 66.45 180 P **P** **20 16 33.5 +1.8**
comp=Z,23nm,1.0s,baz=41,slow=1.8,SNR=50
comp=Z,23nm,1.0s
QSPA South Pole Qui 66.45 180 P **P** **20 16 34.4 +2.7**
GRJI Gresik 68.86 272 P **P** **20 16 47.8 +0.4**
comp=Z,176nm,0.9s
MTKI Muara Teweh, K 69.04 278 P **P** **20 16 48.9 +0.4**
comp=Z,28nm,0.8s
PWJI Pagerwojo 69.06 270 P **P** **20 16 50.0 +1.4**
comp=Z,31nm,0.8s
PCJI Pacitan 69.57 270 P **P** **20 16 52.0 +0.3**
comp=Z,91nm,0.6s
STKI Sintang 72.56 278 P **P** **20 17 10.4 +0.8**
MJAR Matsushiro Arr 72.93 324 P **P** **20 17 10.0 -1.2**
comp=Z,1.8nm,0.6s,baz=138,slow=5.7,SNR=3.8
comp=Z,1.8nm,0.6s
KSM Kuching 74.21 279 P **P** **20 17 18.3 -0.9**
KSM IAmb IAmb 20 17 19.2
comp=Z,14nm,0.7s
KSM Kuching 74.21 279 P **P** **20 17 18.3 -0.9**
BELA Belgrano 2 76.42 172 P **P** **20 17 31.5 +0.9**
BELA IAmb IAmb 20 17 33.1
comp=Z,20nm,1.4s
MAW Mawson 78.75 200 P **P** **20 17 45.1 +1.6**
comp=Z,19nm,0.8s,baz=132,slow=5.9,SNR=43
comp=Z,19nm,0.8s
PET Petropavlovsk 79.07 346 P **P** **20 17 43.2 -2.1**
comp=Z,59nm,1.9s
PETK Petropavlovsk- 79.37 345 P **P** **20 17 46.8 -0.1**
comp=Z,2.7nm,0.9s,baz=222,slow=1.9,SNR=1.4
comp=Z,2.7nm,0.9s
KSRS Korea Array 79.46 319 P **P** **20 17 48.0 +0.2**
comp=Z,1.5nm,0.8s,baz=134,slow=5.5,SNR=7.3
comp=Z,1.5nm,0.8s
USRK Ussuriysk Ar. 81.74 326 P **P** **20 18 00.2 +0.5**
comp=Z,3.2nm,0.9s,baz=100,slow=3.4,SNR=4.8
comp=Z,3.2nm,0.9s
NJ2 Nanjing 82.14 310 *e*P **P** **20 18 03.8 +1.7**
NJ2 pmax pmax
comp=Z,13nm,0.5s
WAKR Walker 82.40 42 P **P** **20 18 04.6 +1.0**
DSP Deep Springs 82.63 44 P **P** **20 18 05.4 +0.9**
PNTR Pine Nut 82.66 42 IAmb IAmb 20 18 07.9
comp=Z,9.6nm,0.8s
NVAR Mina Array Bea 83.06 43 P **P** **20 18 08.4 +1.5**
comp=Z,3.8nm,0.8s,baz=225,slow=8.4,SNR=24
NVAR pP **pP** **20 19 13.7 +1.4**
comp=Z,1.1nm,0.7s,baz=225,slow=8.8,SNR=4.3
comp=Z,3.8nm,0.8s
KVN Kaiserville 83.56 42 P **P** **20 18 11.2 +1.7**

IPM Ipoh 83.88 278 P **P** **20 18 11.0 -0.4**
IPM IAmb IAmb 20 18 11.7
comp=Z,16nm,0.7s
IPM Ipoh 83.88 278 P **P** **20 18 11.4 0.0**
H03S2 Juan Fernandez 83.94 124 T T 21 50 29.0
baz=244,slow=75,SNR=13
H03S1 Juan Fernandez 83.96 124 T T 21 50 30.1
baz=244,slow=75,SNR=12
H03S3 Juan Fernandez 83.96 124 T T 21 50 31.1
baz=244,slow=75,SNR=3.9
PRN Pahroc Range 84.53 45 IAmb IAmb 20 18 17.6
comp=Z,8.2nm,1.0s
TROLL Troll, Antarti 84.62 180 ⇑P **P** **20 18 15.7 +1.5**
comp=Z,586nm,0.6s
TROLL ⇑pP **pwP** **20 19 21.7 -0.6**
comp=Z,33nm,0.4s
N15K Kwethluk River 84.72 9 IAmb IAmb 20 18 17.3
comp=Z,22nm,0.8s
SNAA Sanae 84.89 178 P **P** **20 18 16.0 +0.5**
SNAA IAmb IAmb 20 18 17.6
comp=Z,11nm,1.2s
SNAA Sanae 84.89 178 ⇑P **P** **20 18 16.5 +1.0**
comp=Z,57nm,0.8s
SNAA Sanae 84.89 178 P **P** **20 18 16.2 +0.8**
comp=Z,4.7nm,1.0s,baz=161,slow=3.4,SNR=12
comp=Z,4.7nm,1.0s
VNA3 Neumayer Olymp 85.01 176 ⇑P **P** **20 18 17.1 +1.0**
comp=Z,12nm,0.7s
VNA3 ⇑pP **pP** **20 19 23.4 +1.4**
comp=Z,0.8nm,0.6s
BNX BinXian 85.17 325 ⇑P **P** **20 18 16.8 -0.3**
BNX pmax pmax
comp=Z,5.0nm,0.9s
O18K Koktuh Hills 85.19 11 P **P** **20 18 17.7 +0.9**
O18K IAmb IAmb 20 18 18.7
comp=Z,19nm,1.0s
KLR Kul'dur 85.39 329 P **P** **20 18 17.6 -0.5**
comp=Z,0.7nm,0.4s,baz=75,slow=5.8,SNR=4.1
comp=Z,0.7nm,0.4s
VNA2 Neumayer--Watz 85.45 177 ⇓P **P** **20 18 19.0 +0.8**
comp=Z,6.1nm,0.8s,baz=199,slow=4.6
VNA2 ⇑pP **pwP** **20 19 26.0 -0.7**
comp=Z,2.9nm,0.6s,baz=189,slow=4.9
TIA Tai'an 85.64 313 P **P** **20 18 19.5 -0.1**
TIA Tai'an 85.64 313 S S 20 28 40.6 +13
TIA pmax pmax
comp=Z,13nm,0.8s
TIA LR LR
comp=N,220nm,19.6s
TIA LR LR
comp=E,92nm,3.9s
TIA LR LR
comp=Z,82nm,4.3s
VNA1 Neumayer--Stat 85.68 176 ⇑P **P** **20 18 20.3 +1.1**
comp=Z,7.2nm,0.9s
VNA1 ⇑pP **pP** **20 19 25.8 +0.6**
comp=Z,4.4nm,1.0s
ILSW Iliamna Southw 85.69 12 IAmb IAmb 20 18 21.0
comp=Z,22nm,1.0s
U15A North Rim 85.81 47 IAmb IAmb 20 18 23.7
comp=Z,5.2nm,0.7s
DUN6 Lazy B Ranch 85.98 52 IAmb IAmb 20 18 24.9
comp=Z,21nm,0.8s
ENH Enshi 88.08 304 IAmb IAmb 20 18 32.6
comp=Z,7.6nm,0.8s
TMUT Trail Mountain 88.09 45 IAmb IAmb 20 18 34.9
comp=Z,7.7nm,0.8s
HEH HeiHe 88.14 328 *e*P **P** **20 18 30.8 -0.4**
HEH pmax pmax
comp=Z,7.0nm,1.4s
GHO Glory Hole Cre 88.17 13 IAmb IAmb 20 18 32.9
comp=Z,11nm,0.8s
SRU San Rafael Swe 88.44 46 IAmb IAmb 20 18 35.8
comp=Z,6.0nm,0.8s
TXAR Lajitas Array 88.45 57 P **P** **20 18 35.1 +1.8**
comp=Z,1.9nm,0.7s,baz=219,slow=6.7,SNR=5.3
TXAR pP **pP** **20 19 41.6 +1.9**
comp=Z,1.9nm,0.8s,baz=202,slow=8.7,SNR=4.4
comp=Z,1.9nm,0.7s
K20K Telida 88.67 10 IAmb IAmb 20 18 35.0
comp=Z,8.9nm,0.9s
CAST Castle Rocks 89.06 11 P **P** **20 18 35.1 -0.2**
CAST IAmb IAmb 20 18 35.7
comp=Z,12nm,1.0s
KTH Kantishna Hill 89.40 12 P **P** **20 18 36.9 0.0**
KTH IAmb IAmb 20 18 38.0
comp=Z,6.3nm,0.8s
SEY Seymchan 89.49 347 P **P** **20 18 37.2 0.0**
comp=Z,4.6nm,0.9s,baz=170,slow=12,SNR=5.5
comp=Z,4.6nm,0.9s
RND Reindeer 89.66 13 IAmb IAmb 20 18 40.2
comp=Z,9.0nm,1.0s
H19K Roundabout Mou 90.35 9 IAmb IAmb 20 18 43.6
comp=Z,9.7nm,1.0s
DRIO Del Rio 90.85 58 IAmb IAmb 20 18 46.9
comp=Z,8.3nm,0.9s
CCB Clear Creek Bu 90.98 12 IAmb IAmb 20 18 45.8
comp=Z,5.3nm,1.0s
PDAR Pinedale Array 91.00 43 P **P** **20 18 45.9 +0.8**
comp=Z,1.4nm,0.7s,baz=219,slow=1.9,SNR=7.1
comp=Z,1.4nm,0.7s
ILAR Eielson Array 91.28 13 P **P** **20 18 46.0 +0.5**
comp=Z,0.9nm,0.8s,baz=219,slow=6.0,SNR=7.1
ILAR pP **pP** **20 19 51.4 -0.6**
comp=Z,2.1nm,1.1s,baz=235,slow=4.3,SNR=3.0
comp=Z,0.9nm,0.8s
CM31 Chiang Mai Arr 91.48 289 IAmb IAmb 20 18 49.6
comp=Z,9.8nm,0.9s
CMAR Chiang Mai Arr 91.48 289 P **P** **20 18 48.0 +0.4**
comp=Z,5.9nm,0.8s,baz=136,slow=3.2,SNR=45
comp=Z,5.9nm,0.8s
CHTO Chiang Mai 91.63 290 P **P** **20 18 48.6 +0.4**
CHTO IAmb IAmb 20 18 49.9
comp=Z,10nm,0.8s
HHC Hu-ho-hao-te 91.78 314 *e*P P 20 18 54.8 +6.3
HHC pmax pmax
comp=Z,19nm,0.5s
HHC pmax pmax
comp=Z,63nm,3.6s
F20K Avaraart Lake 91.89 8 IAmb IAmb 20 18 50.0
comp=Z,5.3nm,0.9s
E19K Redstone River 92.08 8 IAmb IAmb 20 18 50.9
comp=Z,8.7nm,0.8s
PZH PanZhiHua 92.47 298 P **P** **20 18 52.3 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,70nm,6.2s
ZALV Zalesovo Beam 113.13 320 PKiKP **PKiKP** **20 24 15.1 -0.8**
comp=Z,0.6nm,0.5s,baz=132,slow=2.1,SNR=3.9
MKAR Makanchi Array 113.58 312 PKiKP **PKiKP** **20 24 16.2 -0.9**
comp=Z,0.7nm,0.6s,baz=57,slow=5.3,SNR=9.3
KURBB Kurchatov Arra 116.56 316 PKP **PKPdf** **20 24 21.4 -1.3**
comp=Z,1.5nm,0.9s,baz=109,slow=1.6,SNR=11
BVAR Borovoye Array 121.67 319 PKP **PKPdf** **20 24 32.1 -0.4**
comp=Z,1.9nm,0.5s,baz=98,slow=1.4,SNR=16
BOSA Boshof 123.58 204 PKP **PKiKP** **20 24 37.7 +0.3**
comp=Z,2.5nm,1.0s,baz=131,slow=8.6,SNR=3.1
ARCES ARCESS Array B 132.05 349 PKP **PKPdf** **20 24 50.9 -0.9**
comp=Z,1.4nm,0.6s,baz=350,slow=3.7,SNR=4.1
KMBO Kilima Mbogo 138.12 239 PKP **PKPdf** **20 25 05.4 +0.3**
comp=Z,0.7nm,0.5s,baz=133,slow=3.9,SNR=3.7
FINES FINESS Array B 138.86 343 PKhKP PKPpre 20 24 55.6
comp=Z,1.4nm,0.7s,baz=29,slow=4.4,SNR=5.7
FINES PKP **PKPdf** **20 25 04.7 0.0**
comp=Z,1.4nm,0.5s,baz=101,slow=4.4,SNR=9.1
NB2 NORSAR Subarra142.12 353 PKP **PKPdf** **20 25 06.7 -3.9**
comp=Z,3.2nm,0.7s,baz=21,slow=3.7
NOA NORSAR Array B 142.12 353 PKhKP PKPpre 20 25 06.2
comp=Z,2.7nm,0.8s,baz=22,slow=3.9,SNR=9.1
NOA PKP **PKPdf** **20 25 11.8 +1.2**
comp=Z,0.9nm,0.8s,baz=42,slow=1.2,SNR=2.6
HFS Hagfors 142.67 351 PKhKP PKPpre 20 25 08.1
comp=Z,6.3nm,0.6s,baz=62,slow=4.1,SNR=36
HFS PKP **PKPdf** **20 25 13.0 +1.4**
comp=Z,1.9nm,0.4s,baz=74,slow=5.1,SNR=13
MNK Minsk 143.76 335 *i* PKP PKPbc 20 25 11.8 -0.3
comp=E,9.0nm,0.8s
MNK *i* PKP PKPbc 20 25 11.8 -0.3
comp=N,11nm,0.9s
MNK *i* PKP PKPbc 20 25 11.8 -0.3
comp=Z,27nm,0.8s,baz=42
MNK *i* pPKP pPKPdf 20 26 27.1 +3.4
MNK *i* PP **PP** **20 28 29.7 +0.3**
MNK *i* PPP PPP 20 31 43.0
MNK *i* SKKS 20 41 38.1
MNK *i* SS **SS** **20 46 50.9 +2.5**
MNK *i* SSS SSS 20 52 18.7

NACGM **Naroch 143.87 336** *e*PKP PKPab 20 25 11.0 -0.8
comp=Z,38nm,0.8s,baz=40
STRU Stroemstad 144.07 352 *i* P **PKPab** **20 25 11.9 -0.5**
TJOU Tjoern 144.99 351 *i* P PKPbc 20 25 15.0 -0.6
HOMB Homborsund 145.11 354 *i* P **PKPdf** **20 25 13.6 -2.2**
SNART Snartemo 145.15 356 *i* P **PKPab** **20 25 16.6 0.0**
ONAU Onsala 145.56 351 *i* P **PKPdf** **20 25 16.4 -0.2**
FABU Falkenberg 145.82 350 *i* P **PKPdf** **20 25 17.3 +0.2**
SUW Suwalki 145.87 338 *e*PKP **PKPbc** **20 25 18.9 +0.4**
AKASG **Malin Array Be 145.89 329** PKPbc **PKPdf** **20 25 17.7 +0.3**
comp=Z,29nm,0.7s,baz=44,slow=3.9,SNR=156
AKASG pPKPbc pPKPab 20 26 27.8 +0.3
comp=Z,1.1nm,0.6s,baz=42,slow=4.4,SNR=1.3
AKBB Malin Array Si 145.89 329 PKPdf **PKPdf** **20 25 17.7 +0.3**
KIEV Kiev 145.90 329 ⇑P **PKPbc** **20 25 18.3 -0.4**
KIEV Kiev 145.90 329 PKPdf **PKPdf** **20 25 17.8 +0.4**
DEL Delary 146.13 349 *i* P **PKPdf** **20 25 18.3 +0.6**
MI28 Mi28,Pidlybu 146.44 331 PKPdf **PKPbc** **20 25 19.5 -0.7**
RNPP9 Sopachiv 146.87 333 PKPdf **PKPbc** **20 25 21.0 -0.4**
RNPP8 Varash 146.94 333 PKPdf **PKPbc** **20 25 20.8 -0.8**
LUNU Lund 147.00 348 *i* P **PKPdf** **20 25 19.2 0.0**
RNPP5 Staryi Chortor 147.01 333 PKPdf **PKPbc** **20 25 21.3 -0.5**
LUBAR Lubar, Ukraine 147.11 329 PKPdf **PKPbc** **20 25 21.2 -0.9**
DIKM Dikmen 147.26 311 PKPdf **PKPbc** **20 25 22.6 -0.2**
SORM Soroca 148.02 326 ⇓P **PKPbc** **20 25 24.5 0.0**
SORM Soroca 148.02 326 PKPdf **PKPbc** **20 25 23.9 -0.7**
EKA Eskdalemuir Ar 148.07 6 PKPbc **PKPbc** **20 25 24.2 -0.3**
comp=Z,5.7nm,0.8s,baz=319,slow=2.8,SNR=6.8
NDNU Novodnistrovsk 148.21 328 PKPdf **PKPbc** **20 25 24.7 -0.3**
PURM Purcari 148.21 323 ⇑P **PKPbc** **20 25 25.2 +0.1**
GKP Gorka Klasztor 148.33 343 *e*PKP **PKiKP** **20 25 26.0 -0.6**
BEL Belsk 148.49 338 *e*PKP **PKPbc** **20 25 26.3 +0.7**
MILM Milestii Mici 148.56 324 ⇓P **PKPbc** **20 25 25.6 -0.4**
BRTR Keskin Array B 149.13 309 PKPbc **PKPbc** **20 25 27.4 -0.5**
comp=Z,10nm,0.7s,baz=132,slow=3.9,SNR=28
KIRS Kirsehir-Merke 149.15 308 ⇑P **PKPbc** **20 25 28.1 +0.2**
KWP Kalwaria Pacla 149.54 334 *e*PKP **PKiKP** **20 25 29.0 -0.3**
MMAI Mount Meron Ar 149.56 295 PKPbc **PKiKP** **20 25 29.6 -0.4**
comp=Z,38nm,0.6s,baz=89,slow=6.2,SNR=75
TLCR 149.60 322 ⇑P **PKPbc** **20 25 28.3 -0.4**
VLDR Vladesti 149.62 323 ⇑P **PKPbc** **20 25 29.1 +0.5**
ANTO Ankara 149.68 309 ⇓P **PKPbc** **20 25 29.4 +0.3**
VARL Varlezi 149.71 323 ⇓P **PKPbc** **20 25 29.3 +0.4**
SCTR Scanteiesti 149.77 323 ⇑P **PKiKP** **20 25 29.9 +0.1**
JURR Jurilovca 149.81 321 ⇑P **PKiKP** **20 25 29.7 -0.3**
GHRR 149.85 324 ⇓P **PKPbc** **20 25 29.6 +0.4**
NEGRR **Negrea 149.92 323** ⇑P **PKPbc** **20 25 28.7 -0.7**
BURAR **Bucovina Array 149.92 328** ⇑P **PKiKP** **20 25 30.5 +0.2**
TESR Tescani 149.96 325 ⇓P **PKPbc** **20 25 29.1 -0.4**
IZVR Izvoarele 149.98 323 ⇑P **PKiKP** **20 25 29.9 -0.3**
CFR Carcaliu 150.00 322 ⇑P **PKiKP** **20 25 30.1 -0.2**
TUDR 150.00 323 ⇓P **PKiKP** **20 25 31.0 +0.7**
PANC Panciu 150.11 324 ⇓P **PKiKP** **20 25 30.6 +0.1**
OJC Ojcow 150.18 337 *e*PKP **PKiKP** **20 25 30.7 +0.1**
ONER Baraj Valea Uz 150.21 325 ⇑P **PKiKP** **20 25 31.0 +0.2**
KOLS Kolonicke sedl 150.26 333 *e*PKP **PKiKP** **20 25 31.4 +0.6**
KOLS *e* 20 25 38.5
STHS Stebnicka Huta 150.30 335 *e*PKP **PKPbc** **20 25 30.3 +0.1**
STHS *e* 20 25 37.3
VRI Vrincioaia 150.34 324 ⇑P **PKPbc** **20 25 30.6 +0.2**
PLOR Plostina 150.39 324 ⇑P **PKPbc** **20 25 30.8 +0.2**
HARR Harsova 150.40 321 ⇑P **PKiKP** **20 25 31.0 -0.2**
MFTR Murfatlar 150.42 320 ⇑P **PKiKP** **20 25 31.5 +0.2**
TLBR Topalu 150.43 321 ⇑P **PKiKP** **20 25 31.0 -0.3**
MANR Mangalia 150.53 319 ⇑P **PKiKP** **20 25 31.8 +0.3**
TURR Turia 150.59 325 ⇑P **PKiKP** **20 25 31.8 +0.2**
NIE Niedzica 150.66 336 *e*PKP **PKiKP** **20 25 33.2 +1.6**
OZUR 150.68 326 ⇑P **PKPbc** **20 25 31.5 +0.2**
BMR Baia Mare 150.69 330 ⇓P **PKPab** **20 25 39.1 -0.1**
ARCR ARCALIA 150.71 328 ⇓P **PKiKP** **20 25 32.1 +0.4**
KSP Ksiaz 150.76 342 *e*PKP **PKiKP** **20 25 32.5 +0.7**
ICOR Ion Corvin 150.82 321 ⇑P **PKPbc** **20 25 31.8 +0.3**
DOPR Dopca 150.97 326 ⇑P **PKiKP** **20 25 32.6 +0.3**
MLR Muntele Rosu 151.00 325 ⇓P **PKPbc** **20 25 32.0 -0.1**
OSTC Ostas 151.04 342⇑*e*PKP **PKiKP** **20 25 32.9 +0.5**
CLL Collm 151.17 346⇓*i*PKPbc **PKiKP** **20 25 32.6 0.0**
comp=Z,18nm,0.7s
CLL *i* PKPab **PKPab** **20 25 40.9 -0.1**
comp=Z,17nm,0.8s
CLL *i* pPKPab **pPKPab** **20 26 46.5 -1.8**
comp=Z,4.0nm,0.7s
LANS Liptovska Anna 151.19 336 *e*PKP **PKiKP** **20 25 33.5 +0.7**
LANS *e* 20 25 39.5
DPC Dobruska-Polom 151.20 341⇑*e*PKP **PKiKP** **20 25 33.3 +0.6**
KRLC Kraliky 151.30 341⇑*e*PKP **PKiKP** **20 25 33.3 +0.3**
KRLC *e*PKPAB **PKPab** **20 25 42.3 +0.6**
MORC Moravsky Berou 151.32 339 *e*PKP **PKiKP** **20 25 33.1 +0.1**
MORC Moravsky Berou 151.32 339 ⇓P **PKPbc** **20 25 32.6 0.0**
CBBR Cluj-Babes-Bol 151.32 329 ⇓P **PKiKP** **20 25 33.7 +0.6**
CJR Cluj-Napoca 151.34 329 ⇑P **PKiKP** **20 25 33.2 0.0**
BRG Berggiesshubel 151.36 345 *i* PKP **PKiKP** **20 25 33.5 +0.5**
BRG Amp 20 25 34.2
comp=Z,11nm,0.7s
BRG Berggiesshubel 151.36 345 P **PKPab** **20 25 38.0 -3.8**
BRG Amp 20 25 38.7
comp=Z,5.8nm,0.7s
BRG Berggiesshubel 151.36 345 P **PKPab** **20 25 42.4 +0.6**
BRG Amp 20 25 43.3
comp=Z,6.1nm,0.8s
VOIR 151.51 325 ⇑P **PKiKP** **20 25 33.5 -0.1**
PVCC Panska Ves 151.52 344⇑*e*PKP **PKiKP** **20 25 34.0 +0.7**
MAUC Maruska 151.58 339⇑*e*PKP **PKiKP** **20 25 34.2 +0.7**
DRGR 151.70 330 ⇑P **PKPbc** **20 25 33.3 -0.3**
HSKC Hora Svate Kat 151.73 345⇑*e*PKP **PKiKP** **20 25 34.3 +0.5**
ARR Arges 151.77 326 ⇑P **PKiKP** **20 25 35.2 +1.1**
VYHS Vyhne 151.97 336 *e*PKP **PKiKP** **20 25 34.5 +0.2**
VYHS *e* 20 25 45.2
VRAC Vranov 152.03 340 *e*PKP **PKiKP** **20 25 34.4 -0.1**
LOT Lotru 152.16 327 ⇑P **PKPbc** **20 25 34.3 -0.4**
KRUC Moravsky 152.31 340 *e*PKP **PKiKP** **20 25 35.1 +0.1**
SIRR Siria 152.57 330 ⇑P **PKiKP** **20 25 35.9 +0.2**
MODS Modra-Piesok 152.62 338 *e*PKP **PKiKP** **20 25 36.2 +0.5**
MODS *e* 20 25 48.9
ELND Elena 152.65 320 ⇑P **PKPbc** **20 25 35.5 -0.2**
GZR Gura Zlata 152.69 328 ⇑P **PKPbc** **20 25 35.5 -0.3**
SURR Surduc 152.74 329 ⇑P **PKPbc** **20 25 35.7 -0.1**
VLAD Vladila 152.81 324 ⇑P **PKPdf** **20 25 29.6 +1.0**
KHC Kasperske Hory 153.06 344⇑*e*PKP **PKiKP** **20 25 36.6 0.0**
KHC *e*PKPAB **PKPab** **20 25 49.5 +0.4**
BZS Buzias 153.08 329 ⇑P **PKPbc** **20 25 36.5 -0.1**
HERR Herculane 153.23 327 ⇓P **PKPbc** **20 25 36.9 -0.1**
GERES **GERESS Array B 153.29 343** PKPbc **PKPbc** **20 25 36.6 -0.5**
comp=Z,0.5nm,0.4s,baz=343,slow=3.1,SNR=4.7
GERES pPKPbc **pPKPbc** **20 26 48.8 +2.0**
comp=Z,1.7nm,0.9s,baz=20,slow=3.1,SNR=3.0
CONA Conrad Observa 153.48 339 *e*PKiKP **PKiKP** **20 25 38.2 +0.6**
comp=Z,4.1nm,1.0s
CONA *e*PKP **PKPab** **20 25 51.8 +0.8**
comp=Z,4.3nm,0.9s
RONA Rosalia, Austr 153.54 339 *e*PKP **PKiKP** **20 25 38.2 +0.6**
comp=Z,3.0nm,0.7s
RONA *e*PKP **PKPab** **20 25 51.8 +0.6**
comp=Z,9.2nm,1.1s
MDVR Moldovita 153.65 328 ⇓P **PKiKP** **20 25 38.1 +0.1**
MORH Mrgy, Hungar 153.92 334 ⇑P **PKPbc** **20 25 38.4 +0.1**
BIOA Bad Ischl, Aus 154.36 342 *e*PKP **PKPab** **20 25 55.7 +1.0**
comp=Z,13nm,1.6s
SOKA Soboth 154.85 339 *e*PKiKP **PKiKP** **20 25 41.4 +1.0**
comp=Z,6.9nm,1.7s
LESA Schwarzleotal 154.87 343 *e*PKP **PKPab** **20 25 57.9 +1.0**
comp=Z,5.4nm,1.0s
WATA Walderalm 155.22 345 *e*PKP **PKPab** **20 25 59.7 +1.2**
comp=Z,3.8nm,0.6s
RETA Reutte 155.27 346 *e*PKP **PKPab** **20 25 59.1 +0.5**
comp=Z,7.4nm,1.1s
MOTA Moosalm 155.32 346 *e*PKP **PKPab** **20 25 59.3 +0.3**
comp=Z,11nm,1.2s
ABTA Abfaltersbach 155.53 343 *e*PKP **PKPab** **20 25 59.2 -0.6**
comp=Z,6.4nm,0.9s
DAVA Damuels 155.64 348 *e*PKP **PKPab** **20 26 00.4 +0.1**
comp=Z,3.3nm,0.9s
FETA Feichten 155.72 346 *e*PKP **PKPab** **20 26 00.2 -0.4**
comp=Z,3.2nm,0.9s
TORD Torodi Ar. Bea 169.55 176 PKP **PKPdf** **20 25 46.4 -0.5**
comp=Z,2.2nm,0.8s,baz=227,slow=0.8,SNR=12
TORD PKPab **PKPab** **20 27 01.5 -0.3**
comp=Z,2.4nm,0.9s,baz=226,slow=5.5,SNR=8.0
TORD pPKPab **pPKPab** **20 28 11.2 +2.4**
comp=Z,0.6nm,0.7s,baz=170,slow=1.3,SNR=1.8

WEL 14 20:07:58.2±0.3,**42°S**±3°×**17°4E**±°,**h5**km,**M3.4**/24,

ML3.7/13, MLv3.4/24, Error ellipse: s-maj=4.1km s-min=2.8km az=130.2, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEKS	**Kekerengu Vall**	**0.14**	**73**	P	Pg	20 08 01.4	+0.3
KEKS				S	Sg	20 08 04.0	+1.0
BSWZ	**Blackbirch Sta**	**0.29**	**12**	P	Pg	20 08 04.2	+0.4
BSWZ				S	Sg	20 08 08.9	+1.3
CMWZ	**Cape Campbell**	**0.40**	**51**	P	Pb	20 08 06.8	-0.9
CMWZ				S	Sb	20 08 13.9	-0.2
KIKS	**Kaikoura**	**0.44**	**191**	P	Pg	20 08 07.0	+0.4
KIKS				S	Sb	20 08 14.0	-1.3
KHZ	**Kahutara**	**0.46**	**205**	P	Pg	20 08 07.0	-0.1
TUWZ	**Tuamarina**	**0.58**	**11**	P	Pb	20 08 10.6	-0.2
THZ	**Tophouse**	**0.71**	**289**	P	Pg	20 08 11.9	+0.2
THZ				S	Sg	20 08 21.9	+1.0
NNZ	**Nelson**	**0.84**	**338**	P	Pg	20 08 14.1	-0.2
TCW	**Tory Channel**	**0.86**	**25**	P	Pg	20 08 14.5	-0.3
MRNZ	**Matariki Terra**	**0.98**	**307**	P	Pg	20 08 17.2	+0.2
BHW	**Baring Head**	**1.00**	**54**	P	Pg	20 08 17.2	-0.1
WEL	**Wellington**	**1.02**	**46**	P	Pg	20 08 18.0	+0.3
GVZ	**Greta Valley S**	**1.12**	**210**	P	Pg	20 08 18.9	-0.7
GVZ				S	Sn	20 08 35.7	-0.7
TKNZ	**Takaka Hill**	**1.15**	**327**	P	Pg	20 08 19.9	-0.4
PLWZ	**Palliser**	**1.17**	**69**	P	Pg	20 08 19.1	-1.6
DUWZ	**D'Urville Isla**	**1.20**	**5**	P	Pg	20 08 20.3	-0.8
MSWZ	**Moikau Station**	**1.23**	**62**	P	Pg	20 08 20.0	-1.8
PAWZ	**Paruwai Farm**	**1.37**	**64**	P	Pn	20 08 21.5	-2.5
LTZ	**Lake Taylor**	**1.38**	**235**	P	Pn	20 08 23.1	-1.0
KIW	**Kapiti Island**	**1.41**	**37**	P	Pn	20 08 23.6	-1.0
AMCZ	**Amberley**	**1.45**	**215**	P	Pn	20 08 23.1	-1.9
DSZ	**Denniston Nort**	**1.51**	**279**	P	Pb	20 08 26.7	0.0
QRZ	**Quartz Range**	**1.51**	**320**	P	Pn	20 08 26.1	+0.2
MTW	**Mount Morrison**	**1.53**	**57**	P	Pn	20 08 23.7	-2.5
TRWZ	**Traveller**	**1.54**	**68**	P	Pn	20 08 23.6	-2.7
OGWZ	**Otaki Gorge**	**1.57**	**42**	P	Pn	20 08 25.3	-1.4
HOWZ	**Holdsworth Sta**	**1.70**	**50**	P	Pn	20 08 26.3	-2.2
TMWZ	**Te Maipa**	**1.81**	**61**	P	Pn	20 08 27.2	-2.7
OKCZ	**Okains Bay**	**1.81**	**197**	P	Pn	20 08 27.4	-2.6
OXZ	**Oxford**	**1.86**	**224**	P	Pn	20 08 28.2	-2.4
INZ	**Inchbonnie**	**1.89**	**247**	MLv			
MRZ	**Mangatainoka R**	**1.89**	**46**	P	Pn	20 08 29.2	-2.0
MQZ	**McQueen's Vall**	**1.90**	**206**	P	Pn	20 08 28.0	-3.3
AKCZ	**Akaroa Harbour**	**1.98**	**199**	P	Pn	20 08 29.6	-2.8
TIWZ	**Tintock**	**1.99**	**53**	P	Pn	20 08 30.3	-2.3
PRWZ	**Pori Road**	**2.18**	**49**	P	Pn	20 08 32.7	-2.4
POWZ	**Post Office Ro**	**2.19**	**43**	P	Pn	20 08 34.0	-1.2
MHCZ	**Mount Hutt**	**2.25**	**226**	P	Pn	20 08 33.6	-2.5
BFZ	**Birch Farm**	**2.27**	**55**	P	Pn	20 08 33.0	-3.3
WAZ	**Wanganui**	**2.42**	**22**	P	Pb	20 08 42.2	+0.1
WACZ	**Wakanui South**	**2.42**	**216**	P	Pn	20 08 35.9	-2.4
DVHZ	**Dannevirke**	**2.47**	**47**	P	Pn	20 08 36.1	-3.0
WVZ	**Waitaha Valley**	**2.50**	**244**	P	Pn	20 08 38.9	-0.7
TSZ	**Takapari Road**	**2.54**	**41**	P	Pn	20 08 37.9	-2.2
LREZ	**Lake Rotokare**	**2.58**	**10**	P	Pb	20 08 43.5	-1.3
RPZ	**Rata Peaks**	**2.65**	**229**	P	Pn	20 08 39.7	-1.9
PREZ	**Palmer Road**	**2.67**	**6**	P	Pb	20 08 45.5	-1.0
KHEZ	**Kahui Hut**	**2.71**	**4**	P	Pb	20 08 45.7	-1.4
NBEZ	**Newall Road No**	**2.73**	**1**	P	Pb	20 08 48.1	+0.7
NEZ	**North Egmont**	**2.73**	**5**	P	Pb	20 08 47.1	-0.5
ARCZ	**Arundel**	**2.74**	**224**	P	Pn	20 08 40.6	-2.2
PRHZ	**Porangahau**	**2.75**	**52**	P	Pn	20 08 39.5	-3.5
WPHZ	**Waipukurau**	**2.78**	**47**	P	Pn	20 08 41.7	-1.7
PKE	**Pukeiti**	**2.81**	**3**	P	Pb	20 08 46.3	-2.5
MTVZ	**Mangateitei**	**2.90**	**27**	P	Pb	20 08 49.6	-0.9
PKVZ	**Pokaka**	**2.95**	**24**	P	Pb	20 08 49.3	-2.0
VRZ	**Vera Road**	**2.96**	**15**	P	Pn	20 08 48.2	+2.4
MOVZ	**Moawhango**	**2.98**	**31**	P	Pn	20 08 46.2	0.0
WNVZ	**Wahianoa**	**3.00**	**28**	P	Pn	20 08 46.9	+0.4
TRVZ	**Turoa**	**3.01**	**27**	P	Pn	20 08 49.4	+2.7
WHVZ	**Whangaehu Hut**	**3.04**	**27**	P	Pn	20 08 49.8	+2.7
MNVZ	**Matarangi**	**3.04**	**27**	P	Pb	20 08 51.4	-1.6
FWVZ	**Far West T-bar**	**3.05**	**27**	P	Pn	20 08 49.8	+2.5
KRHZ	**Kereru**	**3.06**	**41**	P	Pn	20 08 44.5	-2.7
TUVZ	**Tukino**	**3.07**	**28**	P	Pn	20 08 47.2	-0.3
NGZ	**Ngauruhoe**	**3.14**	**27**	P	Pn	20 08 50.2	+1.8
TMZ	**Timaru**	**3.14**	**220**	P	Pn	20 08 45.8	-2.5
SNVZ	**South Ngauruho**	**3.14**	**27**	P	Pn	20 08 49.3	+0.9
OTVZ	**Oturere**	**3.17**	**27**	P	Pn	20 08 48.5	-0.4
TWVZ	**Taurewa**	**3.18**	**24**	P	Pn	20 08 51.2	+2.2
NNVZ	**North Ngauruho**	**3.18**	**26**	P	Pn	20 08 52.0	+3.0
WTVZ	**West Tongariro**	**3.19**	**26**	P	Pn	20 08 51.4	+2.3
ETVZ	**East Tongariro**	**3.21**	**28**	P	Pn	20 08 52.3	+2.9
KAHZ	**Kahuranaki**	**3.21**	**48**	P	Pn	20 08 46.3	-3.0
KRVZ	**Karewarewa**	**3.22**	**26**	P	Pb	20 08 53.5	-2.5
TMVZ	**Te Maari**	**3.23**	**27**	P	Pn	20 08 50.1	+0.6
NTVZ	**North Tongarir**	**3.23**	**27**	P	Pb	20 08 53.9	-2.2
FOZ	**Fox Glacier**	**3.31**	**241**	P	Pn	20 08 49.7	-0.9
BKZ	**Black Stump Fm**	**3.50**	**37**	P	Pn	20 08 50.9	-2.3
LBZ	**Lake Benmore**	**3.56**	**227**	P	Pn	20 08 52.3	-1.7
HIZ	**Hauiti**	**3.57**	**13**	P	Pb	20 08 58.2	-3.7
ARHZ	**Aropaoanui**	**3.66**	**43**	P	Pn	20 08 58.6	+3.1
ODZ	**Otahua Downs**	**3.81**	**216**	P	Pn	20 08 54.4	-3.1
MTHZ	**Maungataniwha**	**3.91**	**37**	P	Pn	20 09 00.7	+1.8
JCZ	**Jackson Bay**	**4.22**	**239**	P	Pn	20 09 02.0	-1.2
TUZ	**Tuapeka**	**4.97**	**216**	P	Pn	20 09 11.5	-1.9
WMGZ	**Waiomatatini S**	**5.48**	**42**	P	Pn	20 09 23.4	+3.0
MXZ	**Matakaoa Point**	**5.63**	**40**	P	Pn	20 09 21.2	-1.3
SYZ	**Scrubby Hill**	**5.64**	**215**	P	Pn	20 09 20.5	-2.1
APZ	**The Paps**	**6.38**	**219**	P	Pn	20 09 30.5	-2.3

*ATH **14** 20:35:55.7, 37.58N×20.35E, h9km±3km, ML3.6/9, Error ellipse: s-maj=3.5km s-min=1.2km az=52.0*
*IDC **14** 20:35:56.2±1.4, 37.78N×20.94E, h0km, mb3.6/5, mbtmp3.5/6, ML3.3/1, MS2.8/1, Error ellipse: s-maj=54.5km s-min=23.7km az=125.0*
*THE **14** 20:35:56.7, 37.62N×20.42E, h5km±1km, ML3.5/4, Error ellipse: s-maj=1.5km s-min=0.5km az=42.0*
ISC 14 20:35:57.4±1.3, 37.65N±0.04×20.47E±0.05, h14km±7km, n43, σ1°24/59, mb3.5/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.28**	**87**	P	Pg	20 36 03.0	-0.3
KRI1				S	Sg	20 36 07.5	+0.2
LTHK	**Lithakia**	**0.30**	**78**	P	Pg	20 36 03.4	-0.3
LTHK				S	Sg	20 36 08.9	+1.0
LTHK				AML	AML	20 36 09.3	
	comp=E,69082μm,0.4s						
LTHK				AML	AML	20 36 09.9	
	comp=N,55843μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.47**	**11**	P	Pg	20 36 06.3	-0.6
PSDA				S	Sg	20 36 14.1	+0.9
PSDA	**Pessada-Kefalo**	**0.47**	**11**	P	Pg	20 36 06.2	-0.6
PSDA				S	Sg	20 36 13.9	+0.7
RTZL	**Ratzakli, Kefa**	**0.49**	**29**	P	Pg	20 36 06.8	-0.3
VLS	**Valsamata**	**0.54**	**10**	P	Pg	20 36 07.2	-0.8
VLS	**Valsamata**	**0.54**	**10**	P	Pg	20 36 07.3	-0.8
VLS				S	Sg	20 36 15.9	+0.7
VLS				AML	AML	20 36 18.1	
	comp=E,5776μm,0.1s						
VLS				AML	AML	20 36 22.7	
	comp=N,5433μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.55**	**358**	P	Pg	20 36 07.9	-0.4
LXRA				S	Sb	20 36 16.3	-0.3
LXRA				AML	AML	20 36 22.7	
	comp=E,17865μm,0.2s						
LXRA				AML	AML	20 36 24.2	
	comp=N,14286μm,0.3s						
LXR1	**Lixouri, Cepha**	**0.55**	**358**	P	Pg	20 36 07.8	-0.5
LXR1				S	Sg	20 36 16.0	+0.4
	comp=N,17μm,0.3s						
DMLN	**Damoulianata-K**	**0.59**	**353**	P	Pg	20 36 08.3	-0.8
DMLN				S	Sb	20 36 17.5	-0.4
SMHA	**Samh**	**0.62**	**13**	P	Pg	20 36 08.2	-1.3
SMHA				AML	AML	20 36 23.9	
	comp=N,39701μm,0.3s						
SMHA				AML	AML	20 36 23.9	
	comp=E,28056μm,0.4s						
VSK1	**VASILIKIADES**	**0.76**	**6**	P	Pb	20 36 12.2	-0.3
VSK1				S	Sb	20 36 23.5	+0.7
	comp=E,7μm,0.4s						
FSK	**Fiskardo**	**0.81**	**5**	P	Pg	20 36 12.1	-1.1
FSK	**Fiskardo**	**0.81**	**5**	P	Pg	20 36 12.2	-1.1
FSK				S	Sb	20 36 25.1	+0.9
FSK				AML	AML	20 36 29.9	
	comp=E,6671μm,0.2s						
FSK				AML	AML	20 36 29.9	
	comp=N,3777μm,0.4s						
RLS	**Riolos of Patr**	**0.89**	**62**	P	Pg	20 36 14.2	-0.5
RLS	**Riolos of Patr**	**0.89**	**62**	P	Pg	20 36 14.1	-0.6
RLS				AML	AML	20 36 33.1	
	comp=N,2609μm,0.4s						
RLS				AML	AML	20 36 34.0	
	comp=E,3158μm,0.6s						
AMT	**Artemida-Makis**	**0.99**	**96**	P	Pg	20 36 16.1	-0.6
AMT				AML	AML	20 36 35.2	
	comp=E,14148μm,0.8s						
AMT				AML	AML	20 36 37.6	
	comp=N,14045μm,0.5s						
DRO	**Drossia**	**1.03**	**73**	P	Pg	20 36 16.7	-0.6
DRAG	**Dragano-Lefkad**	**1.04**	**5**	P	Pg	20 36 16.8	-0.7
DRAG	**Dragano-Lefkad**	**1.04**	**5**	P	Pg	20 36 16.5	-1.0
NYDR	**Nydri-Lefkada**	**1.08**	**10**	P	Pg	20 36 17.1	-1.1
NYDR				S	Sb	20 36 33.3	+1.5
NYDR	**Nydri-Lefkada**	**1.08**	**10**	P	Pg	20 36 17.1	-1.1
NYDR				S	Sb	20 36 32.8	+1.0
LKD2	**Lefkada island**	**1.15**	**7**	P	Pn	20 36 19.5	+0.3
LKD2				AML	AML	20 36 41.4	
	comp=E,6472μm,0.6s						
LKD2				AML	AML	20 36 42.1	
	comp=N,3770μm,0.9s						
TSLK	**Tsoukalades, L**	**1.18**	**7**	P	Pn	20 36 20.3	+0.7
TSLK	**Tsoukalades, L**	**1.18**	**7**	P	Pg	20 36 18.8	-1.5
UPR	**University Cam**	**1.22**	**58**	P	Pg	20 36 20.4	-0.5
ITM	**Ithomi**	**1.25**	**112**	P	Pg	20 36 20.5	-1.1
ITM				S	Sn	20 36 38.2	+0.9
	comp=N,695nm,0.6s						
ITM	**Ithomi**	**1.25**	**112**	P	Pg	20 36 19.6	-2.0
PYL	**PYLOS**	**1.27**	**126**	P	Pg	20 36 20.7	-1.1
PYL				S	Sn	20 36 38.1	+0.6
PYL	**PYLOS**	**1.27**	**126**	P	Pg	20 36 20.4	-1.4
KLV	**Kalavryta, Ach**	**1.39**	**73**	P	Pn	20 36 22.9	+0.4
KLV				S	Sg	20 36 43.3	+1.0
KLV	**Kalavryta, Ach**	**1.39**	**73**	P	Pb	20 36 23.3	0.0
KLV				AML	AML	20 36 55.1	
	comp=E,1222μm,1.0s						
KLV				AML	AML	20 36 55.3	
	comp=N,743μm,0.9s						
ALIK	**Aliki, Aigiali**	**1.44**	**64**	P	Pn	20 36 23.9	+0.9
ALIK				S	Sg	20 36 43.8	+0.1
ANX	**Ano Chora**	**1.48**	**50**	P	Pn	20 36 24.6	+0.8
AGG	**Agios Georgios**	**2.01**	**46**	P	Pb	20 36 32.8	-0.9
AGG				S	Sn	20 36 58.0	+2.1
	comp=N,255nm,0.6s						
THL	**Klokotos Trika**	**2.26**	**32**	P	Pn	20 36 36.3	+1.9
EIL	**Elat**	**14.44**	**119**	LR	LR	20 47 03.4	
	comp=N,34nm,19.2s,baz=249,slow=47						
AKASG	**Malin Array Be**	**14.47**	**23**	Pn	Pn	20 39 20.2	-1.4
	comp=N,0.1nm,0.3s,baz=252,slow=28,SNR=1.2						
	comp=N,0.1nm,0.3s						
FINES	**FINESS Array B**	**24.08**	**7**	P	P	20 41 10.4	-1.7
	comp=N,0.5nm,0.4s,baz=170,slow=9.2,SNR=11						
	comp=N,0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**29.59**	**219**	P	P	20 42 06.4	+4.3
	comp=N,0.5nm,0.6s,baz=26,slow=10,SNR=5.0						
	comp=N,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**42.58**	**53**	P	P	20 43 50.1	-2.6
	comp=N,0.4nm,0.6s,baz=278,slow=8.5,SNR=1.8						
	comp=N,0.4nm,0.6s						
MKAR	**Makanchi Array**	**45.62**	**58**	P	P	20 44 15.4	-1.8
	comp=N,0.4nm,0.5s,baz=270,slow=6.3,SNR=6.2						
	comp=N,0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**46.08**	**48**	P	P	20 44 18.0	-2.7
	comp=N,1.1nm,0.5s,baz=278,slow=8.3,SNR=5.2						
	comp=N,1.1nm,0.5s						

*IDC **14** 20:42:11.7±0.8, 16.35S×178.05E, h0km, mb4.1/12, mbtmp4.1/12, MS3.4/9, Error ellipse: s-maj=25.1km s-min=17.5km az=106.0*
*NEIC **14** 20:42:17.8±2.1, 16.89S±0.02×177.6E±0.1, h10km±1km, mb4.6/28, Error ellipse: s-maj=21.9km s-min=3.3km az=269.0*
ISC 14 20:42:20.4±0.5, 16.77S±0.07×177.5E±0.1, h35km, n68, σ1°57/55, mb4.4/28, MS3.2/8, 5C-1D, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.07**	**153**	Pn	Pn	20 42 37.3	-1.8
MSVF	**Nonsavu**	**1.07**	**153**	Pn	Pn	20 42 37.7	-1.3
	39nm,0.3s,baz=333,slow=16,SNR=103						
MSVF				Sn	Sn	20 42 55.3	+2.4
	381nm,0.3s,baz=277,slow=22,SNR=8.7						
MSVF				LR	LR	20 43 17.2	
	comp=Z,270nm,21.7s,baz=10,slow=47						
FUTU	**Fugatoga**	**4.86**	**60**	Pn	Pn	20 43 30.9	-0.2
DZM	**Mont Dzumac**	**11.71**	**242**	LR	LR	20 48 46.7	
	comp=Z,283nm,21.5s,baz=36,slow=32						
HNR	**Honiara**	**18.61**	**291**	LR	LR	20 52 40.0	
	comp=Z,70nm,18.7s,baz=88,slow=33						
URZ	**Urewera**	**21.41**	**181**	P	P	20 47 07.5	+2.3
	2.0nm,0.3s,baz=87,slow=12,SNR=2.3						
URZ				LR	LR	20 54 14.0	
	comp=Z,207nm,19.1s,baz=90,slow=33						
	2.0nm,0.3s						
RAR	**Rarotonga**	**21.90**	**105**	LR	LR	20 55 08.2	
	comp=Z,35nm,18.4s,baz=294,slow=36						
CTA	**Charters Tower**	**29.83**	**259**	LR	LR	20 58 13.4	
	comp=Z,4.8nm,21.0s,baz=84,slow=32						
PMG	**Port Moresby**	**30.44**	**280**	LR	LR	20 58 42.7	
	comp=Z,48nm,21.5s,baz=74,slow=32						
PPT	**Papeete**	**31.42**	**96**	LR	LR	20 59 22.3	
	comp=Z,28nm,20.3s,baz=241,slow=33						
STKA	**Stephens Creek**	**35.84**	**239**	P	P	20 49 14.2	-2.7
STKA	**Stephens Creek**	**35.84**	**239**	P	P	20 49 20.2	+3.3
	6.7nm,0.8s,baz=58,slow=9.4,SNR=11						
STKA				LR	LR	21 03 02.2	
	comp=Z,96nm,19.3s,baz=31,slow=34						
	6.7nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**36.63**	**343**	T	T	21 27 59.5	
	baz=163						
H11S3	**WAKE ISLAND Hy**	**36.64**	**343**	T	T	21 27 44.0	
	baz=163						
H11S1	**WAKE ISLAND Hy**	**36.65**	**343**	T	T	21 27 44.9	
	baz=163						
WB0	**Warramunga Arr**	**40.99**	**259**	P	P	20 50 01.2	+0.9
WB2	**Warramunga Arr**	**41.02**	**259**	P	P	20 50 00.8	+0.2
WRA	**Warramunga Arr**	**41.03**	**259**	P	P	20 50 01.9	+1.2
WRA	**Warramunga Arr**	**41.03**	**259**	P	P	20 50 00.9	+0.2
	2.8nm,1.0s,baz=90,slow=8.5,SNR=10						
	2.8nm,1.0s						
AS31	**Alice Springs**	**41.38**	**253**	P	P	20 50 05.0	+1.4
ASAR	**Alice Springs**	**41.38**	**253**	P	P	20 50 03.6	+0.1
ASAR	**Alice Springs**	**41.38**	**253**	P	P	20 50 04.2	+0.7
	8.8nm,1.0s,baz=92,slow=8.8,SNR=29						
ASAR				LR	LR	21 05 48.1	
	comp=Z,104nm,20.3s,baz=90,slow=34						
	8.8nm,1.0s						
GUMO	**Guam**	**44.17**	**311**	LR	LR	21 05 57.2	
	comp=Z,38nm,20.2s,baz=114,slow=32						
MJAR	**Matsushiro Arr**	**64.74**	**326**	P	P	20 52 49.8	-5.5
	2.2nm,0.9s,baz=133,slow=8.4,SNR=3.7						
	2.2nm,0.9s						
QSPA	**South Pole Qui**	**73.27**	**180**		P	20 53 49.6	+1.5
QSPA				IAmb	IAmb	20 54 01.9	
	comp=Z,6.9nm,1.0s						
QSPA	**South Pole Qui**	**73.27**	**180**	P	P	20 53 45.3	-2.7
	comp=Z,0.9nm,0.3s,baz=14,slow=4.7,SNR=3.7						
	comp=Z,0.9nm,0.3s						
BNX	**BinXian**	**76.97**	**327**	⇑P	P	20 54 11.6	+2.2
BNX				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KMRM	**Mail Ridge**	**78.70**	**42**		P	20 54 21.3	+2.0
KMRM				IAmb	IAmb	20 54 22.5	
	comp=Z,9.4nm,1.0s						
O02D	**Mt. Diablo Mer**	**79.27**	**42**		P	20 54 24.5	+2.1
O02D				IAmb	IAmb	20 54 25.8	
	comp=Z,6.0nm,1.2s						
WAKR	**Walker**	**80.62**	**45**	P	P	20 54 31.5	+1.6
WAKR				IAmb	IAmb	20 54 32.9	
	comp=Z,6.3nm,1.2s						
LHV	**Little Huntoon**	**81.13**	**46**	P	P	20 54 34.2	+1.9
LHV				IAmb	IAmb	20 54 35.5	
	comp=Z,9.9nm,1.2s						
NVAR	**Mina Array Bea**	**81.36**	**46**	P	P	20 54 28.6	-5.3
	comp=Z,0.8nm,0.8s,baz=226,slow=8.9,SNR=5.5						
	comp=Z,0.8nm,0.8s						
NV11	**Mina Array Sit**	**81.46**	**46**	P	P	20 54 35.2	+0.9
NV11				IAmb	IAmb	20 54 37.6	
	comp=Z,10.0nm,1.5s						
GMN	**Gold Mountain**	**81.53**	**47**	P	P	20 54 35.6	+0.8
KVN	**Kaiserville**	**81.80**	**45**	P	P	20 54 37.2	+1.1
KVN				IAmb	IAmb	20 54 38.7	
	comp=Z,3.8nm,1.0s						
BMN	**Battle Mountai**	**83.06**	**44**	P	P	20 54 43.8	+1.1
BMN				IAmb	IAmb	20 54 45.4	
	comp=Z,4.8nm,1.1s						
MAW	**Mawson**	**83.58**	**201**	P	P	20 54 44.9	+0.2
	comp=Z,2.1nm,0.8s,baz=40,slow=7.3,SNR=4.1						
	comp=Z,2.1nm,0.8s						
BELA	**Belgrano 2**	**83.75**	**174**		P	20 54 45.5	+0.1
ELK	**Elko**	**84.54**	**45**	P	P	20 54 51.6	+1.3
ELK				IAmb	IAmb	20 54 53.0	
	comp=Z,5.3nm,1.1s						
HAWA	**Hanford**	**84.57**	**38**	P	P	20 54 50.2	+0.1
CMAR	**Chiang Mai Arr**	**84.86**	**291**	P	P	20 54 52.1	0.0
CMAR	**Chiang Mai Arr**	**84.86**	**291**	P	P	20 54 51.4	-0.8
	comp=Z,0.7nm,0.3s,baz=123,slow=2.9,SNR=7.0						
	comp=Z,0.7nm,0.3s						
MENT	**Mentasta**	**85.03**	**17**	P	P	20 54 49.9	-2.1
PKCU	**Pink Cliffs**	**85.12**	**49**	P	P	20 54 52.6	-0.8
MFID	**Camas Ranch**	**85.39**	**42**		P	20 54 55.0	+0.6
MFID				IAmb	IAmb	20 54 57.2	
	comp=Z,8.1nm,1.1s						
ILAR	**Eielson Array**	**85.71**	**14**	P	P	20 54 49.4	-5.9
	comp=Z,1.4nm,0.9s,baz=233,slow=5.5,SNR=13						
	comp=Z,1.4nm,0.9s						
F10A	**Beach Ranch, E**	**85.74**	**39**	P	P	20 54 56.8	+0.7
F10A				IAmb	IAmb	20 54 58.3	
	comp=Z,4.4nm,0.8s						
HVU	**Hansel Valley**	**86.66**	**45**	P	P	20 55 00.1	-0.6
YAK	**Yakutsk**	**87.13**	**340**	P	P	20 55 03.0	+0.7
LZH	**Lanzhou**	**87.15**	**309**	*eP*	P	20 55 04.8	+1.5
LZH				pP	PcP	20 55 09.3	+3.9
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PDAR	**Pinedale Array**	**89.24**	**45**	P	P	20 55 05.8	-7.3
	comp=Z,0.2nm,0.7s,baz=243,slow=4.0,SNR=2.3						
	comp=Z,0.2nm,0.7s						
ELIB	**Princess Elisa**	**89.79**	**188**	*dP*	P	20 55 14.5	-0.7
	comp=Z,2.0nm,1.4s						
SONM	**Songino Array**	**90.19**	**320**	P	P	20 55 15.3	-2.0
	comp=Z,0.6nm,0.9s,baz=70,slow=1.7,SNR=3.9						
	comp=Z,0.6nm,0.9s						
TROLL	**Troll, Antarti**	**91.37**	**182**	⇑P	P	20 55 21.5	-1.0
	comp=Z,96nm,0.7s						
SNAA	**Sanae**	**91.78**	**180**		P	20 55 23.5	-0.8
SNAA				IAmb	IAmb	20 55 32.1	
	comp=Z,4.2nm,1.1s						
SNAA	**Sanae**	**91.78**	**180**	⇑P	P	20 55 23.4	-0.9
	comp=Z,10nm,0.8s						
VNA3	**Neumayer Olymp**	**92.07**	**178**	⇑P	P	20 55 24.1	-1.5
	comp=Z,0.7nm,0.6s						
VNA2	**Neumayer–Watz**	**92.46**	**178**	⇑P	P	20 55 26.2	-1.2
	comp=Z,1.0nm,0.6s,baz=185,slow=3.0						
GERES	**GERESS Array B**	**145.40**	**341**	PKPbc	**PKPbc**	21 01 49.5	-5.2
	comp=Z,0.2nm,0.3s,baz=60,slow=6.3,SNR=4.6						
CONA	**Conrad Observa**	**145.47**	**338**	*e*PKP	**PKPbc**	21 01 54.6	-0.4
	comp=Z,3.4nm,1.0s						
RONA	**Rosalia, Austr**	**145.51**	**337**	*e*PKP	**PKPab**	21 01 55.6	+0.4
	comp=Z,1.8nm,1.2s						
LESA	**Schwarzleotal**	**146.98**	**341**	*e*PKP	**PKiKP**	21 02 02.5	+0.4
	comp=Z,2.5nm,1.0s						
OBKA	**Obir**	**147.15**	**338**	*e*PKP	**PKPdf**	21 01 56.7	-1.1
	comp=Z,9.7nm,1.4s						
WTTA	**Wattenberg**	**147.44**	**342**	*e*PKP	**PKPbc**	21 01 59.8	-1.1
	comp=Z,8.1nm,1.7s						
RETA	**Reutte**	**147.49**	**343**	*e*PKP	**PKPdf**	21 01 57.4	-1.0
	comp=Z,8.7nm,1.6s						
MOTA	**Moosalm**	**147.52**	**343**	*e*PKiKP	**PKiKP**	21 02 04.2	+1.0
	comp=Z,6.0nm,0.9s						
DAVA	**Damuels**	**147.91**	**344**	*e*PKP	**PKPdf**	21 02 00.0	+0.9
	comp=Z,5.5nm,1.1s						
FETA	**Feichten**	**147.92**	**343**	*e*PKP	**PKPbc**	21 02 01.1	-1.1
	comp=Z,4.2nm,1.1s						

*IDC **14** 21:20:36.7±1.4, 2.91S×119.37E, h0km, mb3.8/4, mbtmp4.0/6, ML3.5/2, MS2.9/2, Error ellipse: s-maj=59.8km s-min=20.7km az=60.0*
*DJA **14** 21:20:39.9±0.3, 3°S±3°×11°9E±°, h10km, M4.5/13, mb4.6/2

at Kluchi, kordon Aerodrom, kordon Semyachik; [IV] at cape Afrika, springs Tumrokskie, kordon Uzon, HMS Semyachik, HMS cape Ozernoy; [III-IV] at Kozyrevsk, Nikolskoe; [III] at Atlasovo, Tayegniy; [II-III] at Petropavlovsk; [II] at Lazo, Pionersky, Ribachiy, Viluchinsk; felt at Dolinovka (Milkovo).

NEIC **14** *21:21:50.9±1.5, 55°.64N±0°.07×162°.0E±0°.1, h49km±1km, mb6.1/410, Ms_20 5.7/562, Mwb6.1/86, Mww6.1/37, Error ellipse: s-maj=11.1km s-min=10.2km az=356.0, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr2.04; Mθθ-1.86; Mφφ-0.18; Mrθ0.16; Mθφ-0.55; Mφr0.26; Fault plane solution: M0 2.05000×10^18 NP1: φs258.79000°, δ42.10000°, λ98.15000°. NP2: φs67.88000°, δ48.42000°, λ82.70000°. Principal axes: T 2.0668, Plg84.0000°, Azm283.0000°; N -0.0301, Plg5.0000°, Azm73.0000°; P -2.0367, Plg3.0000°, Azm163.0000°;*

NEIC **14** *21:21:50.5, 55°.22N×162°.36E, h50km, Moment Tensor Solution. Duration: 5≥6 Moment tensor: Scale 10^18Nm; Mrr1.69; Mθθ-2.02; Mφφ0.33; Mrθ0.19; Mθφ-0.82; Mφr0.30; Fault plane solution: M0 2.03000×10^18 NP1: φs61.91000°, δ49.97000°, λ75.46000°. NP2: φs263.87000°, δ42.16000°, λ106.64000°. Principal axes: T 1.7575, Plg78.0000°, Azm272.0000°; N 0.5431, Plg11.0000°, Azm71.0000°; P -2.3006, Plg4.0000°, Azm162.0000°;*

NEIC **14** *21:21:50.5, 55°.62N×162°.00E, h50km*

IDC **14** *21:21:50.9±0.9, 55°.73N×161°.94E, h46km±7km, mb5.6/44, mbtmp5.8/48, ML5.3/4, MS5.7/94, Error ellipse: s-maj=8.1km s-min=6.7km az=142.0*

NEIC **14** *21:21:51, 55°.63N×162°.00E, h50km*

MOS **14** *21:21:51.4±0.8, 55°.60N×162°.07E, h78km, mb6.3/121, MS5.8/102, Error ellipse: s-maj=5.1km s-min=3.1km az=84.1 Broadband fault plane solution: P waves. M0 3.00000×10^18 NP1: φs60.00000°, δ58.00000°, λ84.00000°. NP2: φs251.00000°, δ32.00000°, λ99.00000°. Principal axes: T Plg76.0000°, Azm314.0000°; N Plg5.0000°, Azm63.0000°; P Plg13.0000°, Azm155.0000°;*

MOS Fault plane solution: P-wave C78, D5 . Felt (IV-V) at Klyuchi; (III) at Kozyrevsk; (II-III) at Petropavlovsk-Kamchatskiy.

GCMT **14** *21:21:53.9±0.1, 55°.54N×162°.33E, h52km, MW6.2/176, Moment Tensor Solution. s176, c398; s169, c587; Duration: 2≥9 Moment tensor: Scale 10^18Nm; Mrr1.81±.01; Mθθ-2.22±.01; Mφφ0.40±.01; Mrθ0.36±.01; Mθφ-0.61±.01; Mφr0.52±.01; Best double couple: M0 2.19800×10^18 NP1: φs62.00000°, δ53.00000°, λ69.00000°. NP2: φs274.00000°, δ41.00000°, λ115.00000°. Principal axes: T 1.9890, Plg72.0000°, Azm277.0000°; N 0.4160, Plg16.0000°, Azm75.0000°; P -2.4070, Plg6.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

BGR **14** *21:21:56.5, 56°.63N×162°.01E, h25km±1km, mb6.2, mB_BB6.7, Ms5.8*

ISC 14 21:21:51.9±0.2, 55°.57N±0°.02×162°.11E±0°.02, h60km±1km, h60km:pP-P, n2622, σ1953/3029, mb6.1/495, 269C-98D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.75**	**32**	*e*P	**Pn**	**21 22 06.0**	**-0.8**
KBTR	**Krutoberegovo**	**0.75**	**32**	PN	**Pn**	**21 22 06.0**	**-0.8**
KBG	**Krutoberegovo**	**0.76**	**26**	*e*P	**Pn**	**21 22 06.4**	**-0.6**
KBG				*e*S	**Sn**	**21 22 18.9**	**+1.0**
KBG	**Krutoberegovo**	**0.76**	**26**	PN	**Pn**	**21 22 06.3**	**-0.6**
KBG				S	**Sn**	**21 22 18.8**	**+1.0**
ZLN	**Zelenaya**	**0.86**	**302**	*e*P	**Pn**	**21 22 09.4**	**+1.1**
ZLN	**Zelenaya**	**0.86**	**302**	PN	**Pn**	**21 22 09.4**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**0.88**	**295**	*e*P	**Pn**	**21 22 09.9**	**+1.3**
BZGR				*e*S	**Sn**	**21 22 25.2**	**+4.5**
BZGR	**Bezymyannyi-Gr**	**0.88**	**295**	PN	**Pn**	**21 22 09.8**	**+1.3**
BZGR				S	**Sn**	**21 22 25.2**	**+4.5**
CIRR	**Tsirk**	**0.94**	**306**	*i* P	**Pn**	**21 22 10.5**	**+1.1**
CIRR	**Tsirk**	**0.94**	**306**	PN	**Pn**	**21 22 10.4**	**+1.1**
BZP	**Bezymyannyi-Pe**	**0.95**	**292**	*i* P	**Pn**	**21 22 10.5**	**+1.0**
BZMR	**Bezymyannaya**	**0.98**	**292**	*e*P	**Pn**	**21 22 11.1**	**+1.2**
BZMR	**Bezymyannaya**	**0.98**	**292**	PN	**Pn**	**21 22 11.1**	**+1.2**
BZWR	**Bezymyannyi-We**	**0.99**	**294**	*i* P	**Pn**	**21 22 11.6**	**+1.5**
BZWR	**Bezymyannyi-We**	**0.99**	**294**	PN	**Pn**	**21 22 11.5**	**+1.5**
TUMD	**Tumrok D**	**1.04**	**250**	*e*P	**Pn**	**21 22 11.7**	**+1.1**
TUMD				*e*S	**Sn**	**21 22 28.1**	**+3.8**
KIRR	**Kirishev**	**1.07**	**292**	*i* P	**Pn**	**21 22 12.6**	**+1.6**
KIRR	**Kirishev**	**1.07**	**292**	PN	**Pn**	**21 22 12.6**	**+1.6**
SMKR	**Semkarok**	**1.07**	**341**	*e*P	**Pn**	**21 22 11.6**	**+0.6**
SMKR	**Semkarok**	**1.07**	**341**	PN	**Pn**	**21 22 11.6**	**+0.6**
KMNR	**Kamenistaya**	**1.07**	**281**	*i* P	**Pn**	**21 22 12.6**	**+1.6**
KMNR	**Kamenistaya**	**1.07**	**281**	PN	**Pn**	**21 22 12.6**	**+1.6**
KRSR	**Krestovskiy**	**1.08**	**307**	*e*P	**Pn**	**21 22 12.1**	**+1.0**
KRSR	**Krestovskiy**	**1.08**	**307**	PN	**Pn**	**21 22 12.1**	**+1.0**
KLY	**Klyuchi**	**1.10**	**313**	*e*P	**Pn**	**21 22 11.2**	**-0.1**
KLY				*e*S	**Sn**	**21 22 27.1**	**+1.3**
KLY	**Klyuchi**	**1.10**	**313**	PN	**Pn**	**21 22 11.2**	**-0.1**
KLY				S	**Sn**	**21 22 27.0**	**+1.3**
BDR	**Baidarnaya**	**1.12**	**334**	*e*P	**Pn**	**21 22 13.0**	**+1.4**
BDR	**Baidarnaya**	**1.12**	**334**	PN	**Pn**	**21 22 12.9**	**+1.4**
KPT	**Kopyto**	**1.14**	**291**	*e*P	**Pn**	**21 22 13.3**	**+1.4**
KPT	**Kopyto**	**1.14**	**291**	PN	**Pn**	**21 22 13.2**	**+1.4**
TUMR	**Tumrok**	**1.16**	**256**	*e*P	**Pn**	**21 22 13.6**	**+1.5**
TUMR	**Tumrok**	**1.16**	**256**	PN	**Pn**	**21 22 13.6**	**+1.5**
SRKR	**Sorokina**	**1.20**	**334**	*e*P	**Pn**	**21 22 13.8**	**+1.0**
SRKR	**Sorokina**	**1.20**	**334**	PN	**Pn**	**21 22 13.7**	**+1.0**
KOZ	**Kozyrevsk**	**1.35**	**292**	*e*P	**Pn**	**21 22 16.7**	**+2.1**
KOZ				*e*S	**Sn**	**21 22 37.1**	**+5.4**
KOZ	**Kozyrevsk**	**1.35**	**292**	PN	**Pn**	**21 22 16.7**	**+2.1**
KOZ				S	**Sn**	**21 22 37.0**	**+5.4**
ESO	**Esso**	**1.96**	**282**	*e*P	**Pn**	**21 22 24.2**	**+1.4**
ESO				*e*S	**Sn**	**21 22 50.6**	**+4.3**
ESO	**Esso**	**1.96**	**282**	PN	**Pn**	**21 22 24.2**	**+1.4**
ESO				S	**Sn**	**21 22 50.5**	**+4.3**
BKI	**Bering**	**2.24**	**98**	*e*P	**Pn**	**21 22 24.6**	**-1.9**
BKI				*e*S	**Sn**	**21 22 49.1**	**-3.8**
BKI	**Bering**	**2.24**	**98**	PN	**Pn**	**21 22 24.6**	**-1.9**
BKI				S	**Sn**	**21 22 49.1**	**-3.8**
SPN	**Mys Shipunski**	**2.76**	**207**	*e*P	**Pn**	**21 22 33.0**	**-0.7**
SPN				*e*S	**Sn**	**21 23 05.5**	**-0.4**
SPN	**Mys Shipunski**	**2.76**	**207**	PN	**Pn**	**21 22 33.0**	**-0.7**
SPN				S	**Sn**	**21 23 05.5**	**-0.4**
NLC	**Nalytchevo**	**2.90**	**215**	*e*P	**Pn**	**21 22 36.4**	**+0.8**
NLC				*e*S	**Sn**	**21 23 10.7**	**+1.5**
NLC	**Nalytchevo**	**2.90**	**215**	PN	**Pn**	**21 22 36.4**	**+0.8**
NLC				S	**Sn**	**21 23 10.6**	**+1.5**
SDLR	**Sedlovina**	**2.97**	**221**	*e*P	**Pn**	**21 22 37.9**	**+1.2**
SDLR	**Sedlovina**	**2.97**	**221**	PN	**Pn**	**21 22 37.9**	**+1.2**
KRX	**Arik**	**3.00**	**224**	*e*P	**Pn**	**21 22 38.2**	**+1.1**
KRX	**Arik**	**3.00**	**224**	PN	**Pn**	**21 22 38.2**	**+1.1**
KRER	**Koryakskii**	**3.00**	**222**	*e*P	**Pn**	**21 22 38.7**	**+1.5**
KRER	**Koryakskii**	**3.00**	**222**	PN	**Pn**	**21 22 38.7**	**+1.5**
SMAR	**Somma**	**3.02**	**221**	*e*P	**Pn**	**21 22 38.7**	**+1.3**
SMAR	**Somma**	**3.02**	**221**	PN	**Pn**	**21 22 38.7**	**+1.3**
AVH	**Avacha**	**3.04**	**222**	*e*P	**Pn**	**21 22 39.4**	**+1.8**
AVH	**Avacha**	**3.04**	**222**	PN	**Pn**	**21 22 39.3**	**+1.8**
UGLR	**Uglovaya**	**3.05**	**220**	*e*P	**Pn**	**21 22 39.3**	**+1.5**
UGLR	**Uglovaya**	**3.05**	**220**	PN	**Pn**	**21 22 39.2**	**+1.5**
KOK	**Koryaka**	**3.06**	**223**	*e*P	**Pn**	**21 22 39.6**	**+1.8**
KOK	**Koryaka**	**3.06**	**223**	PN	**Pn**	**21 22 39.6**	**+1.8**
DALK	**Dalny**	**3.22**	**219**	*e*P	**Pn**	**21 22 41.1**	**+1.2**
DALK				*e*S	**Sn**	**21 23 19.8**	**+2.8**
DALK	**Dalny**	**3.22**	**219**	PN	**Pn**	**21 22 41.1**	**+1.2**
DALK				S	**Sn**	**21 23 19.7**	**+2.8**
INSR	**Institute**	**3.24**	**221**	*e*P	**Pn**	**21 22 41.8**	**+1.4**
INSR				*e*S	**Sn**	**21 23 20.0**	**+2.3**
INSR	**Institute**	**3.24**	**221**	PN	**Pn**	**21 22 41.7**	**+1.4**
INSR				S	**Sn**	**21 23 19.9**	**+2.3**
PET	**Petropavlovsk**	**3.26**	**220**		**Pn**	**21 22 41.6**	**+1.1**
PET	**Petropavlovsk**	**3.26**	**220**	*e*P	**Pn**	**21 22 41.8**	**+1.3**
PET				*e*S	**Sn**	**21 23 21.3**	**+3.3**
PET	**Petropavlovsk**	**3.26**	**220**	P	**Pn**	**21 22 42.5**	**+2.0**
PET	**Petropavlovsk**	**3.26**	**220**	⇓P	**Pn**	**21 22 41.8**	**+1.3**
PET	**Petropavlovsk**	**3.26**	**220**	*κ i*PN	**Pn**	**21 22 41.9**	**+1.4**
PET				*e*S	**Sn**	**21 23 21.0**	**+3.0**
PET	comp=E,15μm,0.8s			pmax	pmax		
PET	comp=N,55μm,0.9s			smax	smax		
PET	comp=E,62μm,1.0s			smax	smax		
PET	comp=Z,106μm,14.0s			MLR	MLR		
PET	comp=Z,95μm,17.0s			MLR	MLR		
PET	**Petropavlovsk**	**3.26**	**220**	P	**Pn**	**21 22 41.6**	**+1.1**
I44RU	**PETROPAVLOVSK-**	**3.57**	**228**	P	**Pn**	**21 22 43.1**	**-1.6**
PEA0B	**Petropavlovsk-**	**3.57**	**228**		**Pn**	**21 22 46.4**	**+1.6**
PEA0B	**Petropavlovsk-**	**3.57**	**228**	*ce*PN	**Pn**	**21 22 46.9**	**+2.1**
PETK	**Petropavlovsk-**	**3.57**	**228**		**Pn**	**21 22 45.7**	**+0.8**
PETK	**Petropavlovsk-**	**3.57**	**228**	P	**Pn**	**21 22 45.2**	**+0.4**
PETK	comp=Z,133nm,0.3s,baz=44,slow=14,SNR=726			S	**Sn**	**21 23 26.5**	**+0.8**
PETK	comp=Z,3μm,0.6s,baz=83,slow=20,SNR=1.9			LR	LR	21 24 24.9	
PETK	comp=Z,113μm,19.8s,baz=328,slow=43 comp=Z,2μm,0.9s						
KRMR	**Karymshinskiy**	**3.61**	**222**	*e*P	**Pn**	**21 22 47.0**	**+1.7**
KRMR	**Karymshinskiy**	**3.61**	**222**	PN	**Pn**	**21 22 46.9**	**+1.7**
PALN	**Palana**	**3.71**	**343**	*e*P	**Pn**	**21 22 47.9**	**+1.2**
PALN	**Palana**	**3.71**	**343**	PN	**Pn**	**21 22 47.8**	**+1.2**
OSSR	**Ossora**	**3.72**	**8**	*e*P	**Pn**	**21 22 46.9**	**0.0**
OSSR	**Ossora**	**3.72**	**8**	PN	**Pn**	**21 22 46.8**	**0.0**
RUS	**Russkaya**	**3.79**	**215**	*e*P	**Pn**	**21 22 48.4**	**+0.5**
RUS	**Russkaya**	**3.79**	**215**	PN	**Pn**	**21 22 48.3**	**+0.5**
GRL	**Gorelyy**	**3.85**	**220**	*e*P	**Pn**	**21 22 50.7**	**+2.0**
GRL	**Gorelyy**	**3.85**	**220**	PN	**Pn**	**21 22 50.7**	**+2.0**
MTVR	**Mutnovka**	**3.87**	**218**	*e*P	**Pn**	**21 22 50.3**	**+1.3**
MTVR	**Mutnovka**	**3.87**	**218**	PN	**Pn**	**21 22 50.2**	**+1.3**
APC	**Apacha**	**3.93**	**230**	*e*P	**Pn**	**21 22 52.2**	**+2.4**
APC	**Apacha**	**3.93**	**230**	PN	**Pn**	**21 22 52.1**	**+2.4**
ASAK	**Asacha**	**4.05**	**220**	*e*P	**Pn**	**21 22 53.3**	**+1.9**
ASAK	**Asacha**	**4.05**	**220**	PN	**Pn**	**21 22 53.3**	**+1.9**
KDTR	**Khodutka, Kamc**	**4.47**	**214**	*e*P	**Pn**	**21 22 56.8**	**-0.2**
KDTR	**Khodutka, Kamc**	**4.47**	**214**	PN	**Pn**	**21 22 56.8**	**-0.2**
PAU	**Pauzhetka**	**5.19**	**220**	*e*P	**Pn**	**21 23 08.2**	**+1.3**
PAU	**Pauzhetka**	**5.19**	**220**	PN	**Pn**	**21 23 08.1**	**+1.3**
TILK	**Tilichiki**	**5.34**	**22**	*e*P	**Pn**	**21 23 09.8**	**+0.9**
TILK	**Tilichiki**	**5.34**	**22**	PN	**Pn**	**21 23 09.7**	**+0.9**
SKR	**Severo-Kuril's**	**6.08**	**219**	*e*P	**Pn**	**21 23 20.5**	**+1.3**
SKR	**Severo-Kuril's**	**6.08**	**219**	*e*PN	**Pn**	**21 23 23.1**	**+4.0**
SKR				*e*S	**Sn**	**21 24 30.8**	**+3.6**
SKR	comp=Z,17μm,6.0s			pmax	pmax		
SKR	comp=Z,3μm,0.7s			pmax	pmax		
SKR	comp=E,18μm,0.8s			smax	smax		
SKR	comp=N,14μm,0.8s			smax	smax		
SKR	comp=Z,34μm,16.0s			MLR	MLR		
KMSK	**Kamenskaya**	**7.23**	**15**	*e*P	**Pn**	**21 23 36.2**	**+1.5**
KMSK	**Kamenskaya**	**7.23**	**15**	PN	**Pn**	**21 23 36.2**	**+1.5**
MA2	**Magadan**	**7.29**	**308**		**Pn**	**21 23 36.8**	**+1.1**
MA2	**Magadan**	**7.29**	**308**	P	**Pn**	**21 23 38.9**	**+3.2**
MA2	comp=E,651nm,0.8s,baz=113,slow=9.7,SNR=108			S	**Sn**	**21 24 52.5**	**-4.4**
MA2	comp=Z,412nm,1.0s,baz=38,slow=16,SNR=1.2			LR	LR	21 26 43.6	
MA2	**Magadan**	**7.29**	**308**	⇓P	**Pn**	**21 23 37.9**	**+2.2**
MA2	**Magadan**	**7.29**	**308**	*ce*PN	**Pn**	**21 23 38.4**	**+2.7**
MA2	comp=Z,2μm,1.7s			pmax	pmax		
SHEM	**Shemya Is, Ala**	**7.60**	**107**	P	**Pn**	**21 23 39.7**	**-0.1**
SHEM	comp=Z,75nm,0.3s,baz=339,slow=4.2,SNR=35 comp=Z,3μm,0.8s,baz=292,slow=20,SNR=16 comp=Z,783nm,0.6s			S	**Sn**	**21 24 56.7**	**-7.7**
SEY	**Seymchan**	**8.89**	**330**	P	**Pn**	**21 24 00.5**	**+3.0**
SEY	comp=Z,188nm,1.0s,baz=133,slow=12,SNR=86 comp=Z,98μm,21.5s,baz=129,slow=40			LR	LR	21 27 43.3	
SEY	**Seymchan**	**8.89**	**330**	*ce*PN	**Pn**	**21 23 59.0**	**+1.5**
SEY	comp=Z,379nm,1.3s			pmax	pmax		
TYV	**Tymovskoe**	**12.56**	**256**	*e*P	**Pn**	**21 24 51.7**	**+4.1**
TYV	**Tymovskoe**	**12.56**	**256**	*e*PN	**P**	**21 24 53.3**	**-3.9**
TYV	comp=Z,23μm,3.3s			pmax	pmax		
TYV	comp=Z,806nm,1.6s			pmax	pmax		
BILL	**Bilibino**	**12.66**	**7**		**Pn**	**21 24 51.8**	**+3.0**
BILL	**Bilibino**	**12.66**	**7**	*ce*PN	**Pn**	**21 24 50.8**	**+1.9**
BILL	comp=Z,7μm,1.7s			pmax	pmax		
NKL	**Nikolayevsk**	**12.72**	**268**	*e*PN	**Pn**	**21 24 48.0**	**-1.7**
NKL				*e*S	Sn	21 27 20.3	+11
NKL	comp=N,2μm,1.2s			pmax	pmax		
NKL	comp=E,361nm,1.2s			pmax	pmax		
NKL	comp=Z,5μm,1.2s			pmax	pmax		
NKL	comp=N,3μm,2.0s			smax	smax		
NKL	comp=E,2μm,2.0s			smax	smax		
NKL	comp=E,31μm,11.0s			MLR	MLR		
NKL	comp=N,57μm,20.0s			MLR	MLR		
NKL	comp=Z,85μm,21.0s			MLR	MLR		
KIWB	**Kanaga Island**	**12.82**	**98**		**Pn**	**21 24 50.2**	**-1.0**
ADK	**Adak**	**13.07**	**98**	Pn	**Pn**	**21 24 52.0**	**-2.6**
ADK	**Adak**	**13.07**	**98**	P	**Pn**	**21 24 54.3**	**-0.3**
ADK	**Adak**	**13.07**	**98**	PN	**Pn**	**21 24 52.0**	**-2.6**
GSTR	**Great Sitkin T**	**13.34**	**96**		**Pn**	**21 24 56.3**	**-2.0**
KUR	**Kuril'sk**	**13.74**	**227**	*e*P	**Pn**	**21 25 05.0**	**+1.4**
KUR				S	**Sn**	**21 27 37.6**	**+3.2**
KUR	comp=Z,10μm,8.2s			pmax	pmax		
KUR	comp=Z,2μm,1.4s			pmax	pmax		
KUR	comp=N,596nm,1.6s			pmax	pmax		
KUR	comp=N,49μm,11.0s			smax	smax		
KUR	comp=E,26μm,9.8s			smax	smax		
KUR	comp=Z,36μm,16.0s			MLR	MLR		
KUR	comp=E,35μm,15.0s			MLR	MLR		
KUR	comp=N,34μm,16.0s			MLR	MLR		
UGL	**Uglegorsk**	**13.85**	**250**	*c i*P	**P**	**21 25 09.6**	**-1.9**
UGL				*e*S	Sn	21 27 46.2	+9.3
UGL	comp=Z,19μm,4.6s			pmax	pmax		
UGL	comp=E,17μm,4.9s			pmax	pmax		
UGL	comp=N,7μm,6.3s			pmax	pmax		
UGL	comp=Z,1μm,1.0s			smax	smax		
UGL	comp=E,8μm,11.6s			smax	smax		
UGL	comp=N,13μm,11.7s			MLR	MLR		
UGL	comp=Z,24μm,15.0s			MLR	MLR		
UGL	comp=E,29μm,14.0s			MLR	MLR		
UGL	comp=N,18μm,15.0s						
ATKA	**Atka Island**	**14.35**	**94**		**Pn**	**21 25 10.0**	**-1.7**
ATKA	**Atka Island**	**14.35**	**94**	P	**Pn**	**21 25 12.2**	**+0.5**
ATKA	**Atka Island**	**14.35**	**94**	⇑P	**Pn**	**21 25 10.9**	**-0.8**
YSS	**Yuzh-Sakhalins**	**14.83**	**242**		**Pn**	**21 25 19.2**	**+1.3**
YSS	**Yuzh-Sakhalins**	**14.83**	**242**	⇑P	**P**	**21 25 20.5**	**-1.9**
YSS	**Yuzh-Sakhalins**	**14.83**	**242**	⇑*e*P	**P**	**21 25 20.7**	**-1.7**
YSS				*e*S	**Sn**	**21 28 01.6**	**+0.7**
YSS	comp=Z,8μm,6.4s			pmax	pmax		
YSS	comp=N,5μm,5.1s			pmax	pmax		
YSS	comp=E,6μm,6.3s			pmax	pmax		
YSS	comp=Z,360nm,1.0s			pmax	pmax		
YSS	comp=N,7μm,12.8s			smax	smax		
YSS	comp=E,5μm,10.5s			smax	smax		
YSS	comp=Z,40μm,14.0s			MLR	MLR		
YSS	comp=E,28μm,16.0s			MLR	MLR		
SPIA	**Saint Paul Isl**	**15.36**	**73**	P	**Pn**	**21 25 24.3**	**-0.4**
SPIA	**Saint Paul Isl**	**15.36**	**73**	P	**P**	**21 25 26.5**	**-1.7**
GAMB	**Gambell**	**15.46**	**47**	P	**Pn**	**21 25 26.0**	**0.0**
GAMB	baz=250			S	**Sn**	**21 28 17.7**	**+1.7**
GAMB	**Gambell**	**15.46**	**47**	⇑P	**P**	**21 25 29.0**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**15.55**	**229**	*e*P	**Pn**	**21 25 25.1**	**-2.1**
YUK				*i* S	**Sn**	**21 28 19.5**	**+1.1**
YUK	comp=Z,2μm,0.5s			pmax	pmax		
YUK	comp=N,644nm,0.4s			pmax	pmax		
YUK	comp=E,1μm,0.4s			pmax	pmax		
P08K	**Saint George I**	**15.81**	**75**	P	**Pn**	**21 25 31.8**	**+1.4**
P08K	**Saint George I**	**15.81**	**75**	P	**Pn**	**21 25 31.5**	**+1.1**
P08K	baz=278			S	**Sn**	**21 28 22.9**	**-1.5**
P08K	baz=278			S	**Sn**	**21 28 22.9**	**-1.5**
GRNR	**Gornyy**	**16.09**	**263**	⇓*i*P	**P**	**21 25 37.2**	**+0.8**
GRNR	comp=Z,130nm,0.7s			pmax	pmax		
GRNR	comp=E,10μm,14.0s			MLR	MLR		
GRNR	comp=N,5μm,17.0s			MLR	MLR		
GRNR	comp=Z,120μm,18.0s			MLR	MLR		
JKA	**Kamikawa-asahi**	**16.95**	**236**	P	**Pn**	**21 25 44.3**	**-0.6**
ASAJ	**Asahikawa**	**16.95**	**236**	P	**P**	**21 25 46.5**	**+0.5**
ASAJ	comp=Z,44nm,0.3s,baz=66,slow=9.2,SNR=69			S	**Sn**	**21 28 55.4**	**+3.0**
ASAJ	comp=Z,20nm,0.6s,baz=32,slow=2.4,SNR=1.1 comp=Z,40μm,21.0s,baz=54,slow=36 comp=Z,581nm,0.6s			LR	LR	21 32 00.9	
ASAJ	**Asahikawa**	**16.95**	**236**	P	**Pn**	**21 25 44.3**	**-0.6**
ASAJ	comp=Z,767nm,0.8s			pmax	pmax		
NIKH	**Nikolski High**	**17.10**	**87**	P	**P**	**21 25 47.4**	**-0.1**
NIKH	baz=291,SNR=12			S	**Sn**	**21 28 53.0**	**-2.8**
NIKH	**Nikolski High**	**17.10**	**87**	P	**P**	**21 25 50.2**	**+2.7**
M11K	**Mekoryuk**	**17.37**	**61**	P	**Pn**	**21 25 49.9**	**+0.1**
M11K	**Mekoryuk**	**17.37**	**61**	P	**P**	**21 25 50.8**	**+0.3**
M11K	baz=268,SNR=10			S	**Sn**	**21 29 03.8**	**+1.6**
TNA	**Tin City**	**17.61**	**43**	P	**P**	**21 25 53.2**	**+0.2**
TNA	baz=250,SNR=19			S	**Sn**	**21 29 07.8**	**0.0**
TNA	**Tin City**	**17.61**	**43**	⇑P	**P**	**21 25 54.3**	**+1.3**
YAK	**Yakutsk**	**17.85**	**304**	P	**Pn**	**21 25 55.8**	**+0.1**
YAK	comp=Z,1μm,0.8s			IAmb	IAmb	21 26 02.3	
YAK	**Yakutsk**	**17.85**	**304**	P	**Pn**	**21 25 56.5**	**+0.8**
YAK	comp=Z,1μm,0.8s,baz=272,slow=1.4,SNR=138			S	**Sn**	**21 29 12.1**	**-1.5**
YAK	comp=Z,44nm,0.7s,baz=90,slow=23,SNR=1.3 comp=Z,30μm,19.6s,baz=102,slow=39			LR	LR	21 33 22.8	
YAK	**Yakutsk**	**17.85**	**304**	⇑P	**P**	**21 25 55.4**	**-0.3**
YAK	**Yakutsk**	**17.85**	**304**	*c i*P	**P**	**21 25 55.4**	**-0.3**
YAK				*e*S	**Sn**	**21 29 14.2**	**+0.5**
YAK	comp=Z,2μm,1.0s			pmax	pmax		
YAK	comp=N,273nm,1.2s			pmax	pmax		
YAK	comp=E,592nm,1.4s			pmax	pmax		
YAK	comp=E,10μm,2.5s			smax	smax		
YAK	comp=N,2μm,1.5s			smax	smax		
UNV	**Unalaska Valle**	**18.14**	**82**	P	**Pn**	**21 25 59.2**	**-0.1**
UNV	baz=288,SNR=26			S	**Sn**	**21 29 19.4**	**-1.4**
UNV	**Unalaska Valle**	**18.14**	**82**	P	**Pn**	**21 26 00.3**	**+1.0**
F14K	**Arctic Creek**	**18.21**	**44**	P	**Pn**	**21 26 01.3**	**+1.3**
F14K	baz=252			S	**Sn**	**21 29 20.5**	**-1.8**
K13K	**Kusilvak Mount**	**18.22**	**56**	P	**Pn**	**21 26 00.4**	**+0.2**
K13K	**Kusilvak Mount**	**18.22**	**56**	P	**Pn**	**21 26 00.8**	**+0.6**
K13K	baz=265,SNR=35			S	**Sn**	**21 29 22.2**	**-0.4**
LVA	**Lava Point**	**18.31**	**81**		**P**	**21 26 00.9**	**0.0**
ANM	**Nome**	**18.35**	**48**		**P**	**21 26 00.4**	**-0.8**
ANM	**Nome**	**18.35**	**48**	P	**Pn**	**21 26 02.8**	**+1.1**
ANM	baz=256			S	**S**	**21 29 26.7**	**-0.4**
ANM	**Nome**	**18.35**	**48**	P	**P**	**21 26 00.4**	**-0.8**
ANM	comp=Z,233nm,1.0s			pmax	pmax		
ERM	**Erimo**	**18.35**	**230**	P	**P**	**21 25 58.2**	**-3.2**
ERM				IAmb	IAmb	21 26 09.6	
ERM	**Erimo**	**18.35**	**230**	⇑P	**P**	**21 25 57.9**	**-3.5**
ERM	**Erimo**	**18.35**	**230**	*ce*P	**P**	**21 25 58.5**	**-2.8**
ERM	comp=Z,391nm,0.5s			pmax	pmax		
ERM	comp=Z,20μm,19.0s			MLR	MLR		
M13K	**Dall Lake**	**18.79**	**61**		**Pn**	**21 26 06.8**	**-0.2**
M13K	**Dall Lake**	**18.79**	**61**	P	**Pn**	**21 26 08.2**	**+1.1**
M13K	baz=271,SNR=37			S	**S**	**21 29 33.7**	**-2.5**
J14K	**Nanvaranak Lak**	**18.82**	**54**		**P**	**21 26 06.3**	**0.0**
J14K	**Nanvaranak Lak**	**18.82**	**54**	P	**Pn**	**21 26 07.4**	**0.0**
J14K	baz=264,SNR=18			S	**Sn**	**21 29 37.1**	**+0.2**
F15K	**North Star Dit**	**18.94**	**44**	P	**Pn**	**21 26 09.8**	**+0.9**
F15K	baz=254,SNR=44			S	**Sn**	**21 29 41.6**	**+1.6**
G15K	**Niukluk**	**19.00**	**47**	P	**Pn**	**21 26 09.6**	**-0.1**
G15K	baz=257,SNR=28			S	**Sn**	**21 29 41.2**	**-0.3**
L14K	**Kuka Creek**	**19.12**	**58**	P	**Pn**	**21 26 11.1**	**+0.1**
L14K	baz=268,SNR=48			S	**S**	**21 29 43.1**	**+0.1**
TEY	**Ternei**	**19.29**	**248**	⇑*e*P	**Pn**	**21 26 13.0**	**-0.2**
TEY						21 29 42.2	
TEY	comp=N,30nm,1.7s			pmax	pmax		
TEY	comp=Z,60nm,1.2s			pmax	pmax		
TEY	comp=E,40nm,1.5s			pmax	pmax		
M14K	**Bethel**	**19.47**	**60**	P	**Pn**	**21 26 14.4**	**-0.8**
M14K	**Bethel**	**19.47**	**60**	P	**Pn**	**21 26 15.1**	**0.0**
KLR	**Kul'dur**	**19.47**	**264**	P	**P**	**21 26 13.2**	**-0.3**
KLR	comp=E,4.1nm,0.3s,baz=64,slow=10.0,SNR=69			S	**S**	**21 29 50.6**	**+0.4**
KLR	comp=E,13nm,0.9s,baz=186,slow=3.4,SNR=1.1			LR	LR	21 34 45.3	
KLR	**Kul'dur**	**19.47**	**264**	*i* P	**P**	**21 26 12.3**	**-1.3**

baz=286
FALS False Pass 19.57 78 P **Pn** **21 26 16.3 0.0**
C16K Lisburne Hills 19.59 37 P **P** **21 26 15.4 +0.7**
C16K Lisburne Hills 19.59 37 P **Pn** **21 26 15.6 -0.8**
baz=246
C16K S **S** **21 29 52.7 +0.5**
baz=246
N14K Kuskokwak Cree 19.63 62 P **Pn** **21 26 16.6 -0.5**
baz=273,SNR=84
N14K S **S** **21 29 54.9 +1.7**
baz=273
H16K Elim 19.68 48 P **Pn** **21 26 17.0 -0.6**
baz=260,SNR=82
H16K S **Sn** **21 29 56.4 -1.4**
baz=260
L15K Ungalak Mounta 19.71 57 P **Pn** **21 26 17.5 -0.4**
baz=269,SNR=64
L15K S **Sn** **21 29 57.2 -1.2**
baz=269
K15K Wolf Creek Mou 19.71 55 P **Pn** **21 26 17.2 -0.8**
K15K IAmb IAmb 21 26 20.6
comp=Z,812nm,1.0s
K15K Wolf Creek Mou 19.71 55 P **Pn** **21 26 17.6 -0.4**
baz=267,SNR=165
K15K S **Sn** **21 29 57.3 -1.3**
baz=267
G16K Koyuk River 19.79 46 P **P** **21 26 17.4 +0.6**
G16K Koyuk River 19.79 46 P **Pn** **21 26 18.0 -0.9**
baz=257
G16K S **Sn** **21 30 01.2 +0.9**
baz=257
O14K Tigyukauivet M 19.90 64 P **Pn** **21 26 19.2 -1.0**
baz=276,SNR=25
O14K S **S** **21 29 59.9 +1.4**
baz=276
S12K Black Hills 20.09 75 P **P** **21 26 20.1 -0.2**
S12K IAmb IAmb 21 26 25.6
comp=Z,973nm,0.9s
S12K Black Hills 20.09 75 P **P** **21 26 21.3 +1.0**
baz=285,SNR=55
S12K S **S** **21 30 04.6 +2.2**
baz=285
M15K Kasigluk River 20.10 60 P **P** **21 26 21.4 +1.1**
baz=272,SNR=177
M15K S **S** **21 30 05.1 +2.7**
baz=272
ZEA Zeya 20.12 279 *e*P **P** **21 26 20.1 -0.5**
ZEA *e* 21 26 36.2
ZEA *e*S S 21 29 51.1 -12
ZEA *e* 21 30 31.1
ZEA pmax pmax
comp=E,2μm,4.0s
ZEA pmax pmax
comp=N,400nm,3.7s
ZEA pmax pmax
comp=Z,2μm,4.0s
ZEA pmax pmax
comp=E,80nm,0.8s
ZEA pmax pmax
comp=Z,170nm,0.8s
ZEA MLR MLR
comp=N,7μm,13.0s
ZEA MLR MLR
comp=E,6μm,13.0s
ZEA MLR MLR
comp=Z,10μm,14.0s
D17K Noatak River 20.16 39 P **P** **21 26 21.8 +0.9**
baz=250,SNR=162
D17K S **S** **21 30 05.7 +2.1**
baz=250
J16K Anvik River 20.21 52 P Pn 21 26 22.9 -0.9
baz=265,SNR=92
J16K S **S** **21 30 05.8 +1.1**
baz=265
I17K Unalakleet 20.23 51 P Pn 21 26 23.5 -0.6
baz=263,SNR=150
I17K S **S** **21 30 07.6 +2.5**
baz=263
JTM Tenmabayashi 20.27 232 P **P** **21 26 19.4 -2.9**
JTM Tenmabayashi 20.27 232 P **P** **21 26 22.8 +0.5**
RDOG Red Dog Mine 20.34 38 P **P** **21 26 23.1 +0.2**
RDOG IAmb IAmb 21 26 29.8
comp=Z,860nm,1.0s
RDOG IAMs_20 IAMs_20 21 34 07.0
comp=Z,36μm,22.0s
RDOG Red Dog Mine 20.34 38 P **P** **21 26 23.6 +0.7**
baz=250,SNR=239
RDOG S **S** **21 30 07.2 -0.1**
baz=250
C17K DeLong Mountai 20.40 37 P **P** **21 26 24.5 +0.9**
baz=248,SNR=158
C17K S **S** **21 30 09.4 +0.9**
baz=248
N15K Kwethluk River 20.42 61 IAMs_20 IAMs_20 21 33 41.9
comp=Z,28μm,21.0s
N15K Kwethluk River 20.42 61 P Pn 21 26 25.4 -1.0
baz=274,SNR=340
N15K S **S** **21 30 10.7 +1.9**
baz=274
E17K Hotham Inlet 20.43 41 P Pn 21 26 25.2 -1.2
baz=254,SNR=222
E17K S **S** **21 30 10.2 +1.3**
baz=254
F17K Baldwin Pennin 20.48 43 P Pn 21 26 25.9 -1.0
baz=256
F17K S **S** **21 30 12.8 +3.0**
baz=256
G17K Kiwalik Mounta 20.51 46 P **P** **21 26 25.8 +1.2**
baz=259
G17K S **S** **21 30 12.6 +2.1**
baz=259
O15K Ungalikthiuk R 20.64 64 P **P** **21 26 26.9 +0.7**
baz=277,SNR=124
O15K S **S** **21 30 13.6 +0.4**
baz=277
L16K Owhat River 20.67 57 P **P** **21 26 26.3 -0.1**
L16K Owhat River 20.67 57 P **P** **21 26 27.2 +0.8**
baz=270,SNR=144
L16K S **S** **21 30 15.4 +1.8**
baz=270
H17K Granite Mounta 20.71 48 P **P** **21 26 28.1 +1.1**
baz=261,SNR=125
H17K S Sn 21 30 19.0 -3.5
baz=261
J17K VABM Dome 20.91 52 P **P** **21 26 29.1 +0.1**
J17K VABM Dome 20.91 52 P **P** **21 26 30.1 +1.2**
baz=266,SNR=145
J17K S **S** **21 30 22.6 +4.3**
baz=266
J17K S **S** **21 30 22.6 +4.3**
baz=266
M16K Timber Creek 20.93 59 P **P** **21 26 30.1 +0.8**
M16K IAmb IAmb 21 26 33.9
comp=Z,808nm,1.1s
M16K Timber Creek 20.93 59 P **P** **21 26 30.2 +0.9**
baz=273,SNR=189
M16K S **S** **21 30 21.4 +2.5**
baz=273
E18K Tukpahlearik C 20.98 41 P **P** **21 26 30.9 +1.1**
baz=254,SNR=66
E18K S **S** **21 30 22.9 +3.1**
baz=254
N16K Nishlik Lake 21.05 60 P **P** **21 26 31.6 +1.0**
baz=274
N16K S **S** **21 30 24.8 +3.4**
baz=274
F18K Selawik 21.14 43 P **P** **21 26 32.7 +1.3**
baz=257,SNR=99
F18K S **S** **21 30 26.1 +3.3**
baz=257
C18K Utukok River 21.15 37 IAMs_20 IAMs_20 21 34 55.2
comp=Z,34μm,21.0s
C18K Utukok River 21.15 37 P **P** **21 26 32.0 +0.4**
baz=250
C18K S **S** **21 30 26.2 +3.0**
baz=250
B18K Kokolik River 21.20 35 P **P** **21 26 33.1 +1.0**
baz=248
B18K S **S** **21 30 24.7 +0.6**
baz=248
L17K Donlin 21.22 56 P **P** **21 26 33.3 +0.9**
baz=270,SNR=183
L17K S **S** **21 30 27.1 +2.4**
baz=270
K17K Iditarod 21.23 54 P **P** **21 26 33.6 +1.2**
baz=269
K17K S **S** **21 30 27.1 +2.4**
baz=269

S14K Fog Glacier 21.31 72 P **P** **21 26 34.2 +0.8**
baz=284
S14K S **S** **21 30 29.7 +3.0**
baz=284
TIXI Tiksi 21.39 332 P **P** **21 26 34.7 +0.7**
TIXI Tiksi 21.39 332 IAMs_20 IAMs_20 21 35 29.4
comp=Z,30μm,20.0s
TIXI Tiksi 21.39 332 P **P** **21 26 35.1 +1.1**
baz=121,slow=8.9
TIXI S **S** **21 30 28.0 +0.3**
comp=Z,17nm,0.9s,baz=147,slow=9.9,SNR=1.3
TIXI LR LR 21 35 49.7
comp=Z,31μm,18.2s,baz=138,slow=40
TIXI Tiksi 21.39 332 ⇑P **P** **21 26 34.9 +0.9**
TIXI Tiksi 21.39 332 *c i*P **P** **21 26 35.1 +1.1**
TIXI pmax pmax
comp=Z,2μm,1.0s
TIXI MLR MLR
comp=Z,37μm,22.0s
G18K Tagagawik 21.39 45 P **P** **21 26 35.5 +1.3**
baz=260,SNR=142
G18K S **S** **21 30 30.4 +2.4**
baz=260
H18K Honhosa River 21.40 47 P **P** **21 26 35.3 +1.0**
baz=262,SNR=64
H18K S **S** **21 30 29.4 +1.3**
baz=262
HEH HeiHe 21.43 270 *e*P **P** **21 26 32.0 -2.7**
HEH S **S** **21 30 25.0 -4.0**
HEH PcP **PcP** **21 30 34.1 -1.6**
HEH SS **SnSn** **21 30 59.6 +4.0**
HEH ScP **ScP** **21 34 08.4 +1.3**
HEH pmax pmax
comp=Z,190nm,0.6s
HEH pmax pmax
comp=Z,5μm,5.9s
HEH LR LR
comp=Z,13μm,17.2s
HEH LR LR
comp=Z,20μm,21.7s
HEH LR LR
comp=Z,23μm,22.4s
O16K Kokwok River B 21.47 63 P **P** **21 26 35.4 +0.3**
baz=277,SNR=80
O16K S **S** **21 30 32.7 +3.0**
baz=277
P16K Nushagak River 21.60 64 P **P** **21 26 36.8 +0.4**
baz=278,SNR=32
P16K S **S** **21 30 34.8 +2.7**
baz=278
P16K S **S** **21 30 34.8 +2.7**
baz=278
M17K Holitna River 21.65 58 P **P** **21 26 37.9 +0.9**
baz=273,SNR=134
M17K S **S** **21 30 34.3 +1.1**
baz=273
CHNA Chernabura Isl 21.69 76 P **P** **21 26 37.8 +0.4**
baz=288,SNR=64
CHNA S **S** **21 30 31.2 -2.8**
baz=288
CHNA Chernabura Isl 21.69 76 P **P** **21 26 39.3 +1.9**
CNBA Chernabura Isl 21.70 76 P **P** **21 26 36.2 -1.2**
CNBA IAmb IAmb 21 26 40.1
comp=Z,732nm,0.6s
A19K Wainwright 21.76 33 P **P** **21 26 39.1 +1.1**
baz=247,SNR=56
A19K S **S** **21 30 34.8 -0.3**
baz=247
N17K Nushagak Hills 21.83 60 P **P** **21 26 39.3 +0.4**
baz=275,SNR=35
N17K S **S** **21 30 36.7 +0.1**
baz=275
C19K Lookout Ridge 21.85 37 IAMs_20 IAMs_20 21 36 09.7
comp=Z,36μm,19.0s
C19K Lookout Ridge 21.85 37 P **P** **21 26 39.5 +0.4**
baz=251,SNR=64
C19K S **S** **21 30 36.3 -0.6**
baz=251
F19K Shaleruckik Mo 21.91 43 P **P** **21 26 40.2 +0.5**
baz=259,SNR=280
F19K S **S** **21 30 39.1 +1.1**
baz=259
CHGN Chignik 21.92 72 P **P** **21 26 38.8 -1.1**
CHGN IAmb IAmb 21 26 59.3
comp=Z,1μm,1.2s
CHGN Chignik 21.92 72 P **P** **21 26 38.4 -1.5**
baz=285,SNR=21
CHGN S **S** **21 30 38.3 0.0**
baz=285
O17K Koliganek Bris 21.95 62 P **P** **21 26 40.6 +0.4**
baz=277,SNR=75
O17K S **S** **21 30 40.7 +1.8**
baz=277
J18K Innoko River 21.97 52 P **P** **21 26 40.9 +0.5**
baz=268,SNR=135
J18K S **S** **21 30 41.3 +2.1**
baz=268
L18K Granite Mounta 21.98 56 IAMs_20 IAMs_20 21 35 30.9
comp=Z,23μm,19.0s
L18K Granite Mounta 21.98 56 P **P** **21 26 41.2 +0.8**
baz=272,SNR=79
L18K S **S** **21 30 39.8 +0.5**
baz=272
L18K S **S** **21 30 39.8 +0.5**
baz=272
GCSA Galena City Sc 21.98 49 P **P** **21 26 40.3 -0.1**
baz=265,SNR=42
GCSA S **S** **21 30 40.8 +1.6**
baz=265
G19K Purcell Mounta 22.06 45 P **P** **21 26 41.6 +0.2**
baz=261,SNR=270
G19K S **S** **21 30 42.8 +1.9**
baz=261
R16K Pilot Point 22.07 68 P **P** **21 26 41.8 +0.3**
baz=282,SNR=9.2
R16K S **S** **21 30 43.5 +2.4**
baz=282
R16K S **S** **21 30 43.5 +2.4**
baz=282
D19K Kuna River 22.18 39 IAMs_20 IAMs_20 21 35 39.5
comp=Z,30μm,21.0s
D19K Kuna River 22.18 39 P **P** **21 26 42.4 -0.2**
baz=254,SNR=166
D19K S **S** **21 30 42.4 -0.5**
baz=254
H19K Roundabout Mou 22.24 47 P **P** **21 26 43.1 -0.1**
H19K Roundabout Mou 22.24 47 P **P** **21 26 43.6 +0.3**
baz=264,SNR=468
H19K S **S** **21 30 45.7 +1.7**
baz=264
E19K Redstone River 22.25 42 P **P** **21 26 44.5 +1.1**
baz=258
E19K S **S** **21 30 46.8 +2.6**
baz=258
TTA Tatalina 22.28 54 P **P** **21 26 43.6 -0.2**
TTA IAmb IAmb 21 27 02.9
comp=Z,687nm,0.9s
TTA Tatalina 22.28 54 P **P** **21 26 44.1 +0.3**
baz=270,SNR=163
TTA S **S** **21 30 46.2 +1.2**
baz=270
TTA Tatalina 22.28 54 P **P** **21 26 44.3 +0.5**
TTA Tatalina 22.28 54 ⇑P **P** **21 26 44.1 +0.3**
TTA Tatalina 22.28 54 P **P** **21 26 43.6 -0.2**
TTA pmax pmax
comp=Z,687nm,0.9s
USA0B Ussuriysk Arra 22.31 252 P **P** **21 26 41.5 -2.6**
USA0B Ussuriysk Arra 22.31 252 P **P** **21 26 41.5 -2.6**
USA0B pmax pmax
comp=Z,119nm,0.7s
USRK Ussuriysk Ar. 22.31 252 P **P** **21 26 41.2 -3.0**
USRK Ussuriysk Ar. 22.31 252 P **P** **21 26 41.9 -2.3**
comp=Z,47nm,0.8s,baz=52,slow=11,SNR=38
USRK PcP **PcP** **21 30 38.1 +0.6**
comp=Z,26nm,1.0s,baz=66,slow=2.0,SNR=3.7
USRK ScP **ScP** **21 34 12.3 +2.8**
comp=Z,15nm,0.8s,baz=23,slow=1.6,SNR=9.3
USRK LR LR 21 35 44.1
comp=Z,15μm,20.2s,baz=60,slow=37
comp=Z,47nm,0.8s
Q16K King Salmon 22.34 65 P **P** **21 26 44.9 +0.5**
baz=280,SNR=71
Q16K S **S** **21 30 48.9 +3.2**
baz=280
P17K Kvichak River 22.37 64 P **P** **21 26 45.1 +0.4**
baz=279,SNR=111
P17K S **S** **21 30 50.8 +4.5**

baz=279
P17K S **S** **21 30 50.8 +4.5**
baz=279
M18K Stony River 22.42 57 P **P** **21 26 45.7 +0.5**
baz=274
M18K S **S** **21 30 48.7 +1.5**
baz=274
N18K Kilae Creek 22.45 60 IAMs_20 IAMs_20 21 34 56.6
comp=Z,24μm,20.0s
N18K Kilae Creek 22.45 60 P **P** **21 26 45.8 +0.2**
baz=276,SNR=103
N18K S **S** **21 30 48.5 +0.7**
baz=276
N18K S **S** **21 30 48.5 +0.7**
baz=276
J19K Poorman 22.48 51 P **P** **21 26 45.4 -0.4**
baz=268,SNR=183
J19K S **S** **21 30 48.2 +0.1**
baz=268
J19K S **S** **21 30 48.2 +0.1**
baz=268
SVW2 Sparrevohn 22.56 58 P **P** **21 26 46.1 -0.7**
SVW2 Sparrevohn 22.56 58 P **P** **21 26 48.1 +1.3**
R17L Mt. Peulik Vol 22.70 68 P **P** **21 26 48.5 +0.2**
baz=283
R17L S **S** **21 30 53.4 +1.4**
baz=283
F20K Avaraart Lake 22.75 43 P **P** **21 26 48.8 +0.2**
baz=261
F20K S **S** **21 30 52.6 +0.1**
baz=261
D20K Etivluk River 22.77 39 P **P** **21 26 48.7 -0.2**
baz=256,SNR=222
D20K S **S** **21 30 53.8 +0.8**
baz=256
JMM Marumori 22.80 228 P **P** **21 26 48.5 -0.9**
JMM IAmb IAmb 21 26 53.2
comp=Z,1μm,1.2s
JMM Marumori 22.80 228 P **P** **21 26 50.8 +1.4**
JMM Marumori 22.80 228 ⇑P **P** **21 26 49.4 -0.1**
E20K Nigu River 22.81 40 P **P** **21 26 49.6 +0.2**
baz=257
E20K S **S** **21 30 53.3 -0.5**
baz=257
Q17K Contact Creek 22.82 66 P **P** **21 26 49.3 -0.2**
baz=282
Q17K S **S** **21 30 55.4 +1.3**
baz=282
L19K White Mountain 22.84 56 IAMs_20 IAMs_20 21 36 06.6
comp=Z,22μm,19.0s
L19K White Mountain 22.84 56 P **P** **21 26 49.7 0.0**
baz=273,SNR=63
L19K S **S** **21 30 55.7 +1.4**
baz=273
L19K S **S** **21 30 55.7 +1.4**
baz=273
H20K Anotleneega Mo 22.89 47 P **P** **21 26 50.2 0.0**
baz=265,SNR=153
H20K S **S** **21 30 57.2 +2.2**
baz=265
O18K Koktuh Hills 22.89 62 IAMs_20 IAMs_20 21 35 10.3
comp=Z,23μm,21.0s
O18K Koktuh Hills 22.89 62 P **P** **21 26 50.2 0.0**
baz=278,SNR=122
O18K S **S** **21 30 57.3 +2.2**
baz=278
O18K S **S** **21 30 57.3 +2.2**
baz=278
B20K Meade River 22.95 35 P **P** **21 26 50.5 -0.1**
baz=252
B20K S **S** **21 30 56.6 +0.8**
baz=252
P18K Big Mountain, 22.95 63 P **P** **21 26 50.7 -0.1**
baz=279,SNR=82
P18K S **S** **21 30 57.4 +1.3**
baz=279
I20K Naaghedeneel 23.01 49 P **P** **21 26 51.3 0.0**
baz=267
I20K S **S** **21 31 01.1 +4.2**
baz=267
M19K Big River Lodg 23.07 56 P **P** **21 26 52.3 +0.3**
baz=274
M19K S **S** **21 30 58.0 0.0**
baz=274
M19K S **S** **21 30 58.0 0.0**
baz=274
VLA Vladivostok 23.09 250 *i*P **P** **21 26 50.4 -1.9**
VLA MLR MLR
comp=Z,21μm,16.0s
ACHA Angle Creek He 23.12 66 P **P** **21 26 51.8 -0.7**
ACHA IAmb IAmb 21 27 09.4
comp=Z,1μm,1.8s
N19K Bonanza Creek 23.12 59 IAMs_20 IAMs_20 21 35 29.4
comp=Z,23μm,20.0s
N19K Bonanza Creek 23.12 59 P **P** **21 26 52.8 +0.2**
baz=277,SNR=87
N19K S **S** **21 31 00.3 +1.2**
baz=277
N19K S **S** **21 31 00.3 +1.2**
baz=277
J20K Nowinta River 23.13 50 P **P** **21 26 52.3 -0.2**
baz=269,SNR=334
J20K S **S** **21 30 59.7 +0.8**
baz=269
J20K S **S** **21 30 59.7 +0.8**
baz=269
K20K Telida 23.16 53 P **P** **21 26 53.0 +0.1**
baz=271
K20K S **S** **21 31 02.2 +2.7**
baz=271
K20K S **S** **21 31 02.2 +2.7**
baz=271
Q18K Katmai Hardscr 23.19 65 P **P** **21 26 52.9 -0.4**
baz=281,SNR=82
Q18K S **S** **21 30 59.8 -0.4**
baz=281
L20K Farewell, AK 23.28 55 P **P** **21 26 53.9 -0.1**
baz=273,SNR=44
L20K S **S** **21 31 03.9 +2.5**
baz=273
L20K S **S** **21 31 03.9 +2.5**
baz=273
O19K Port Alsworth 23.28 61 IAMs_20 IAMs_20 21 35 32.6
comp=Z,21μm,21.0s
O19K Port Alsworth 23.28 61 P **P** **21 26 54.2 +0.3**
baz=278,SNR=34
O19K S **S** **21 31 03.4 +2.0**
baz=278
O19K S **S** **21 31 03.4 +2.0**
baz=278
MDJ Mudanjiang 23.34 256 P **P** **21 26 51.5 -3.3**
MDJ Mudanjiang 23.34 256 P **P** **21 26 51.4 -3.3**
MDJ pP pP 21 27 08.0 -0.5
MDJ S **S** **21 31 02.6 -0.1**
MDJ SS **SnSn** **21 31 44.1 +1.6**
MDJ pmax pmax
comp=Z,59nm,2.1s
MDJ pmax pmax
comp=Z,3μm,5.6s
MDJ LR LR
comp=Z,14μm,14.2s
MDJ LR LR
comp=Z,9μm,22.9s
MDJ LR LR
comp=Z,18μm,23.2s
MDJ Mudanjiang 23.34 256 P **P** **21 26 53.4 -1.3**
IMAR Indian Mountai 23.40 46 P **P** **21 26 54.8 -0.2**
C21K Knifeblade Rid 23.52 38 P **P** **21 26 56.5 +0.3**
baz=257,SNR=173
C21K S **S** **21 31 06.0 +0.9**
baz=257
G21K Allakaket 23.55 45 P **P** **21 26 56.7 +0.2**
baz=264,SNR=426
G21K S **S** **21 31 07.3 +1.7**
baz=264
A21K Barrow 23.55 32 P **P** **21 26 55.9 -0.5**
baz=250
A21K S **S** **21 31 05.8 +0.2**
baz=250
A21K S **S** **21 31 05.8 +0.2**
baz=250
CHIR Chirikof Islan 23.56 72 P **P** **21 26 55.6 -1.1**
CHIR IAmb IAmb 21 27 13.5
comp=Z,829nm,1.0s
CHIR Chirikof Islan 23.56 72 P **P** **21 26 55.5 -1.1**
baz=287
CHIR Chirikof Islan 23.56 72 P **P** **21 26 57.2 +0.6**
F21K Alatna River 23.64 43 P **P** **21 26 57.3 0.0**

baz=263,SNR=230
F21K S **S** **21 31 06.2 -1.0**
baz=263
E21K Killik River 23.65 40 IAMs_20 IAMs_20 21 37 09.9
comp=Z,23μm,19.0s
E21K Killik River 23.65 40 P **P** **21 26 57.3 -0.1**
baz=259
E21K S **S** **21 31 06.3 -1.1**
baz=259
M20K Styx River 23.67 56 IAMs_20 IAMs_20 21 36 34.1
comp=Z,22μm,20.0s
M20K Styx River 23.67 56 P **P** **21 26 58.5 +0.8**
baz=275
M20K S **S** **21 31 05.6 -2.3**
baz=275
M20K S **S** **21 31 05.6 -2.3**
baz=275
B21K Ikpikpuk River 23.69 37 IAMs_20 IAMs_20 21 36 50.3
comp=Z,23μm,20.0s
B21K Ikpikpuk River 23.69 37 P **P** **21 26 58.3 +0.6**
baz=256
B21K S **S** **21 31 08.5 +0.7**
baz=256
R18K Karluk 23.71 67 P **P** **21 26 56.4 -1.6**
baz=284
R18K S **S** **21 31 06.5 -1.9**
baz=284
R18K S **S** **21 31 06.5 -1.9**
baz=284
H21K Melozitna Rive 23.76 47 P **P** **21 26 58.5 +0.1**
baz=267,SNR=149
H21K S **S** **21 31 09.3 +0.1**
baz=267
H21K S **S** **21 31 09.3 +0.1**
baz=267
JSD Sado 23.77 232 P **P** **21 26 57.9 -0.7**
JSD Sado 23.77 232 P **P** **21 26 59.4 +0.7**
JSD Sado 23.77 232 ⇑P **P** **21 26 58.3 -0.4**
Q19K Cape Douglas, 23.84 64 P **P** **21 26 58.8 -0.3**
baz=282,SNR=90
Q19K S **S** **21 31 12.1 +1.7**
baz=282
Q19K S **S** **21 31 12.1 +1.7**
baz=282
MSHR Mys Shultsa 23.85 250 *ce*P **P** **21 26 59.2 -0.2**
BNX BinXian 23.86 260 ⇓P **P** **21 26 57.8 -1.7**
BNX sP **sP** **21 27 18.0 -3.3**
BNX S **S** **21 31 09.5 -1.6**
BNX sS **sS** **21 31 33.5 -2.0**
BNX ScS **ScS** **21 38 01.8 +1.4**
BNX pmax pmax
comp=Z,120nm,0.8s
BNX pmax pmax
comp=Z,3μm,6.7s
BNX LR LR
comp=Z,10μm,13.3s
BNX LR LR
comp=Z,10μm,12.5s
BNX LR LR
comp=Z,15μm,12.1s
ILSW Iliamna Southw 23.90 61 P **P** **21 26 59.3 -0.6**
ILSW IAmb IAmb 21 27 04.8
comp=Z,741nm,1.0s
P19K Oil Pt 23.91 62 P **P** **21 27 00.3 +0.5**
baz=280,SNR=72
P19K S **S** **21 31 14.8 +3.1**
baz=280
CHUM Lake Minchumin 23.93 51 P **P** **21 27 00.5 +0.5**
baz=271,SNR=135
CHUM S **S** **21 31 13.6 +1.7**
baz=271
A22K Sinclair Lake 23.95 33 P **P** **21 27 00.2 +0.2**
baz=252
A22K S **S** **21 31 11.8 -0.2**
baz=252
PPLA Purkeypile 24.03 54 P **P** **21 27 01.8 +0.7**
baz=274,SNR=143
PPLA S **S** **21 31 12.8 -1.0**
baz=274
CAST Castle Rocks 24.05 52 P **P** **21 27 01.1 0.0**
CAST IAmb IAmb 21 27 19.8
comp=Z,607nm,1.0s
CAST Castle Rocks 24.05 52 P **P** **21 27 01.4 +0.3**
baz=273,SNR=276
CAST S **S** **21 31 14.6 +0.7**
baz=273
I21K Tanana 24.08 48 P **P** **21 27 01.5 +0.2**
baz=269
I21K S **S** **21 31 17.6 +3.3**
baz=269
I21K S **S** **21 31 17.6 +3.3**
baz=269
SII Sitkinak Islan 24.12 69 P **P** **21 27 00.6 -1.1**
SII IAmb IAmb 21 27 04.7
comp=Z,728nm,1.0s
SII Sitkinak Islan 24.12 69 P **P** **21 27 00.4 -1.3**
baz=286,SNR=36
SII S **S** **21 31 14.9 -0.1**
baz=286
SII Sitkinak Islan 24.12 69 P **P** **21 27 02.0 +0.3**
O20K Slope Mountain 24.14 61 P **P** **21 27 02.2 +0.2**
baz=280,SNR=76
O20K S **S** **21 31 17.0 +1.6**
baz=280
O20K S **S** **21 31 17.0 +1.6**
baz=280
F22K John River 24.18 42 P **P** **21 27 02.3 +0.1**
baz=263
F22K S **S** **21 31 15.8 0.0**
baz=263
N20K Mount Spurr 24.18 58 P **P** **21 27 02.9 +0.5**
baz=277,SNR=125
N20K S **S** **21 31 18.4 +2.3**
baz=277
SPCR Spurr Chakacha 24.18 58 P **P** **21 27 02.9 +0.6**
baz=277,SNR=90
SPCR S **S** **21 31 16.8 +0.7**
baz=277
D22K Ayikyak River 24.20 39 IAMs_20 IAMs_20 21 36 44.9
comp=Z,36μm,22.0s
D22K Ayikyak River 24.20 39 P **P** **21 27 02.5 +0.1**
baz=260
D22K S **S** **21 31 17.9 +1.8**
baz=260
SPU Mount Spurr 24.26 58 P **P** **21 27 03.1 +0.1**
SPU IAmb IAmb 21 27 08.0
comp=Z,590nm,1.0s
B22K Teshekpuk Lake 24.26 35 IAMs_20 IAMs_20 21 37 07.5
comp=Z,21μm,20.0s
B22K Teshekpuk Lake 24.26 35 P **P** **21 27 02.8 -0.1**
baz=256,SNR=442
B22K S **S** **21 31 16.0 -1.1**
baz=256
H22K Ishtalitna Cre 24.36 46 P **P** **21 27 04.2 +0.3**
baz=268
H22K S **S** **21 31 19.4 +0.6**
baz=268
H22K S **S** **21 31 19.4 +0.6**
baz=268
G22K Bettles 24.38 44 P **P** **21 27 03.7 -0.3**
baz=265
G22K S **S** **21 31 25.2 +6.3**
baz=265
E22K Anaktuvuk Pass 24.40 41 P **P** **21 27 04.3 +0.1**
baz=262,SNR=632
E22K S **S** **21 31 21.8 +2.4**
baz=262
SKT Skwentna 24.41 56 P **P** **21 27 04.2 -0.1**
SKT IAmb IAmb 21 27 08.7
comp=Z,461nm,1.0s
SKT IAMs_20 IAMs_20 21 36 58.3
comp=Z,19μm,19.0s
SKT Skwentna 24.41 56 P **P** **21 27 04.6 +0.2**
baz=276,SNR=269
SKT S **S** **21 31 23.1 +3.4**
baz=276
OHAK Old Harbor 24.41 68 P **P** **21 27 02.9 -1.4**
OHAK IAmb IAmb 21 27 20.4
comp=Z,660nm,1.3s
OHAK Old Harbor 24.41 68 P **P** **21 27 03.2 -1.1**
baz=285,SNR=51
OHAK S **S** **21 31 19.0 -0.7**
baz=285
OHAK Old Harbor 24.41 68 P **P** **21 27 04.5 +0.2**
BPAW Bear Paw Mtn. 24.51 51 P **P** **21 27 05.2 -0.1**
BPAW IAmb IAmb 21 27 24.1
comp=Z,907nm,1.0s
BPAW Bear Paw Mtn. 24.51 51 P **P** **21 27 05.3 -0.1**
baz=272,SNR=105
BPAW S **S** **21 31 24.0 +2.7**
baz=272
Q20K Shuyak Island 24.54 64 P **P** **21 27 04.9 -0.6**
baz=283,SNR=120
Q20K S **S** **21 31 19.6 -2.1**
baz=283
KTH Kantishna Hill 24.57 52 P **P** **21 27 05.3 -0.5**
KTH IAmb IAmb 21 27 25.0
comp=Z,1μm,1.2s
MLY Manley 24.61 48 P **P** **21 27 06.1 -0.1**
MLY IAmb IAmb 21 27 24.6
comp=Z,718nm,1.1s
MLY Manley 24.61 48 P **P** **21 27 06.4 +0.2**
baz=270,SNR=126
MLY S **S** **21 31 24.8 +2.0**
baz=270
KDAK Kodiak Island 24.64 66 P **P** **21 27 05.3 -1.1**
KDAK IAmb IAmb 21 27 23.9
comp=Z,369nm,0.8s
KDAK Kodiak Island 24.64 66 LR LR 21 37 37.3
comp=Z,7μm,18.1s,baz=100,slow=38
KDAK Kodiak Island 24.64 66 P **P** **21 27 05.1 -1.3**
baz=285
KDAK S **S** **21 31 21.4 -1.8**
baz=285
KDAK Kodiak Island 24.64 66 ⇑P **P** **21 27 04.7 -1.7**
KDAK Kodiak Island 24.64 66 *i* P **P** **21 27 04.7 -1.7**
KDAK pmax pmax
comp=Z,438nm,0.8s
HOM Homer 24.70 61 P **P** **21 27 06.5 -0.5**
HOM IAmb IAmb 21 27 12.6
comp=Z,886nm,1.0s
HOM Homer 24.70 61 P **P** **21 27 06.3 -0.7**
baz=281,SNR=9.5
HOM S **S** **21 31 24.1 -0.1**
baz=281
CAPN Captain Cook N 24.75 59 P **P** **21 27 08.1 +0.7**
CAPN IAmb IAmb 21 27 21.6
comp=Z,724nm,1.0s
CAPN Captain Cook N 24.75 59 P **P** **21 27 08.3 +0.9**
baz=279,SNR=13
SUA Susitna One 24.84 57 P **P** **21 27 07.7 -0.8**
SUA IAmb IAmb 21 27 13.2
comp=Z,666nm,1.0s
SUA Susitna One 24.84 57 P **P** **21 27 08.1 -0.4**
baz=278,SNR=322
SUA S **S** **21 31 28.6 +1.8**
baz=278
TRF Thorofare Moun 24.86 52 P **P** **21 27 08.4 -0.2**
baz=274,SNR=370
TRF S **S** **21 31 28.1 +1.1**
baz=274
COLD Coldfoot 24.91 43 P **P** **21 27 08.7 -0.1**
baz=266,SNR=445
COLD S **S** **21 31 27.0 -0.5**
baz=266
D23K Nanushuk River 24.93 39 IAMs_20 IAMs_20 21 37 19.2
comp=Z,32μm,22.0s
D23K Nanushuk River 24.93 39 P **P** **21 27 09.3 +0.3**
baz=262
D23K S **S** **21 31 26.5 -1.3**
baz=262
CNPM China Poot 24.93 62 P **P** **21 27 08.0 -1.1**
CNPM IAmb IAmb 21 27 38.4
comp=Z,1μm,1.4s
CNPM IAMs_20 IAMs_20 21 36 25.2
comp=Z,20μm,21.0s
G23K Bananza Creek 24.95 44 P **P** **21 27 08.9 -0.3**
baz=267,SNR=114
G23K S **S** **21 31 27.3 -0.9**
baz=267
MJB9 Matsu-Tunnel 25.03 230 P **P** **21 27 11.7 +1.5**
MAJO Matsushiro 25.03 230 P **P** **21 27 10.1 -0.1**
MAJO Matsushiro 25.03 230 IAMs_20 IAMs_20 21 37 55.1
comp=Z,22μm,21.0s
MAJO Matsushiro 25.03 230 P **P** **21 27 11.3 +1.1**
MAJO Matsushiro 25.03 230 ⇑P **P** **21 27 10.4 +0.2**
MAJO Matsushiro 25.03 230 *e*P **P** **21 27 09.8 -0.4**
MAJO pmax pmax
comp=Z,1μm,0.8s
MAJO MLR MLR
comp=Z,46μm,25.0s
MJAR Matsushiro Arr 25.03 230 P **P** **21 27 10.8 +0.6**
comp=Z,580nm,0.7s,baz=29,slow=8.1,SNR=880
MJAR PcP **PcP** **21 30 44.1 +0.7**
comp=Z,29nm,0.9s,baz=52,slow=1.3,SNR=4.4
MJAR ScP **ScP** **21 34 18.4 +1.5**
comp=Z,4.8nm,0.9s,baz=16,slow=2.6,SNR=4.1
MJAR LR LR 21 38 07.3
comp=Z,23μm,21.9s,baz=40,slow=39
comp=Z,580nm,0.7s
BRLK Bradley Lake 25.06 61 P **P** **21 27 08.7 -1.6**
BRLK IAMs_20 IAMs_20 21 36 29.4
comp=Z,19μm,21.0s
C23K Itkillik River 25.09 37 IAMs_20 IAMs_20 21 38 07.5
comp=Z,22μm,20.0s
C23K Itkillik River 25.09 37 P **P** **21 27 10.4 -0.1**
baz=260
C23K S **S** **21 31 30.6 +0.2**
baz=260
M22K Willow 25.10 56 P **P** **21 27 09.5 -1.0**
baz=278,SNR=51
H23K Yukon River 25.11 46 P **P** **21 27 11.2 +0.4**
baz=270,SNR=274
H23K S **S** **21 31 33.5 +2.7**
baz=270
H23K S **S** **21 31 33.5 +2.7**
baz=270
BRSE Bradley Lake S 25.13 61 P **P** **21 27 10.0 -1.0**
baz=282,SNR=27
BRSE S **S** **21 31 30.7 -0.6**
baz=282
BWN Browne 25.18 50 P **P** **21 27 11.7 +0.4**
I23K Minto, Yukon-K 25.19 48 P **P** **21 27 11.5 +0.1**
baz=271,SNR=136
I23K S **S** **21 31 33.4 +1.5**
baz=271
I23K S **S** **21 31 33.4 +1.5**
baz=271
E23K Chandalar 25.20 41 P **P** **21 27 11.7 +0.1**
baz=265
E23K S **S** **21 31 33.3 +0.9**
baz=265
TOLK Toolik Lake Re 25.28 40 P **P** **21 27 12.0 -0.3**
TOLK Toolik Lake Re 25.28 40 IAMs_20 IAMs_20 21 37 29.6
comp=Z,26μm,22.0s
TOLK Toolik Lake Re 25.28 40 P **P** **21 27 12.2 -0.1**
baz=264,SNR=432
TOLK S **S** **21 31 33.5 0.0**
baz=264
TOLK S **S** **21 31 33.5 0.0**
baz=264
NEA2 Nenana 25.33 49 P **P** **21 27 12.2 -0.4**
NEA2 IAmb IAmb 21 27 31.6
comp=Z,403nm,1.0s
NEA2 Nenana 25.33 49 P **P** **21 27 12.5 -0.2**
baz=273,SNR=192
NEA2 S **S** **21 31 36.6 +2.3**
baz=273
RC01 Rabbit Creek A 25.38 58 P **P** **21 27 11.8 -1.4**
RC01 Rabbit Creek A 25.38 58 P **P** **21 27 11.7 -1.5**
baz=279,SNR=28
RC01 S **S** **21 31 36.0 +0.9**
baz=279
MCK McKinley 25.44 51 P **P** **21 27 13.3 -0.4**
baz=274,SNR=150
MCK S **S** **21 31 36.0 -0.1**
baz=274
O22K Cooper Landing 25.49 59 IAMs_20 IAMs_20 21 37 06.0
comp=Z,20μm,20.0s
O22K Cooper Landing 25.49 59 P **P** **21 27 12.9 -1.2**
baz=281,SNR=20
O22K S **S** **21 31 36.5 -0.3**
baz=281
RND Reindeer 25.50 52 P **P** **21 27 13.3 -1.0**
RND IAmb IAmb 21 27 39.3
comp=Z,913nm,1.5s
RND Reindeer 25.50 52 P **P** **21 27 13.3 -1.0**
RND pmax pmax
comp=Z,913nm,1.5s
RND MLR MLR
comp=Z,14μm,22.0s
PMR Palmer 25.59 56 P **P** **21 27 13.7 -1.3**
PMR Palmer 25.59 56 P **P** **21 27 13.7 -1.3**
baz=279,SNR=20
PMR S **S** **21 31 37.1 -1.3**
baz=279
PMR Palmer 25.59 56 P **P** **21 27 16.8 +1.8**
PMR Palmer 25.59 56 P **P** **21 27 13.7 -1.3**
PMR pmax pmax
comp=Z,145nm,0.9s
D24K Happy Valley 25.61 39 IAMs_20 IAMs_20 21 38 36.3
comp=Z,29μm,20.0s
D24K Happy Valley 25.61 39 P **P** **21 27 15.0 -0.2**
baz=263
D24K S **S** **21 31 46.6 +8.0**
baz=263
E24K Your Creek 25.63 41 IAMs_20 IAMs_20 21 37 43.2
comp=Z,19μm,22.0s
E24K Your Creek 25.63 41 P **P** **21 27 15.7 +0.2**
baz=266
E24K S **S** **21 31 35.5 -3.5**
baz=266
GHO Glory Hole Cre 25.66 56 P **P** **21 27 15.3 -0.5**
SEW Seward 25.70 60 P **P** **21 27 15.1 -0.9**
baz=282,SNR=29
SEW S **S** **21 31 38.7 -1.3**
baz=282
WAT1 Susitna Watana 25.70 53 P **P** **21 27 15.2 -0.9**
baz=277
WAT1 S **S** **21 31 36.7 -3.4**
baz=277
C24K Franklin Bluff 25.73 37 IAMs_20 IAMs_20 21 38 39.4
comp=Z,24μm,20.0s
C24K Franklin Bluff 25.73 37 P **P** **21 27 16.0 -0.2**
baz=262,SNR=193
C24K S **S** **21 31 40.2 -0.3**
baz=262
WRH Wood River Hil 25.76 50 P **P** **21 27 16.0 -0.5**
WRH IAmb IAmb 21 27 34.6
comp=Z,505nm,0.8s
H24K Noodor Dome 25.80 46 P **P** **21 27 17.3 +0.4**
baz=271
H24K S **S** **21 31 42.9 +1.1**
baz=271
H24K S **S** **21 31 42.9 +1.1**
baz=271
F24K Squaw Lake 25.82 43 P **P** **21 27 16.7 -0.4**
baz=268
F24K S **S** **21 31 43.6 +1.5**
baz=268
COLA College 25.84 49 P **P** **21 27 16.7 -0.5**
COLA IAmb IAmb 21 27 36.8
comp=Z,567nm,1.1s
COLA College 25.84 49 P **P** **21 27 17.0 -0.2**
baz=273
COLA S **S** **21 31 43.2 +1.0**
baz=273
COLA College 25.84 49 P **P** **21 27 17.4 +0.2**
COLA College 25.84 49 ⇑P **P** **21 27 17.1 -0.2**
COLA College 25.84 49 P **P** **21 27 16.7 -0.5**
COLA pmax pmax
comp=Z,567nm,1.2s
COLA MLR MLR
comp=Z,16μm,20.0s
SML Sawmill 25.94 56 P **P** **21 27 17.7 -0.5**
baz=279,SNR=109
SML S **S** **21 31 45.2 +1.2**
baz=279
KNK Knik Glacier 25.94 57 P **P** **21 27 17.7 -0.6**
KNK IAmb IAmb 21 27 36.4
comp=Z,404nm,0.9s
KNK Knik Glacier 25.94 57 P **P** **21 27 18.0 -0.2**
baz=280,SNR=125
KNK S **S** **21 31 44.1 +0.1**
baz=280
G24K Hadweenzic Riv 25.96 44 P **P** **21 27 18.6 +0.3**
baz=270,SNR=302
G24K S **S** **21 31 43.8 -0.4**
baz=270
POKR Poker Plat Res 26.01 48 P **P** **21 27 18.9 +0.1**
baz=273,SNR=55
POKR S **S** **21 31 42.7 -2.2**
baz=273
POKR S **S** **21 31 42.7 -2.2**
baz=273
BOD Bodaibo 26.07 295 *e*P **P** **21 27 17.7 -1.7**
BOD pmax pmax
comp=Z,1μm,1.6s
PWL Port Wells 26.09 58 P **P** **21 27 18.6 -1.1**
PWL IAmb IAmb 21 27 37.1
comp=Z,742nm,0.9s
PWL IAMs_20 IAMs_20 21 37 04.9
comp=Z,23μm,21.0s
PWL Port Wells 26.09 58 P **P** **21 27 18.9 -0.8**
baz=281,SNR=195
PWL S **S** **21 31 46.6 +0.2**
baz=281
WAT6 Susitna Watana 26.10 54 P **P** **21 27 18.9 -0.9**
baz=278,SNR=102
WAT6 S **S** **21 31 46.6 -0.1**
baz=278
CN2 Changchun 26.16 259 *e*P **P** **21 27 16.3 -4.0**
CN2 PP **PnPn** **21 27 58.8 -2.7**
CN2 *e*S **S** **21 31 51.0 +3.4**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,1μm,8.0s
CN2 LR LR
comp=Z,9μm,16.0s
CN2 LR LR
comp=Z,12μm,16.0s
CN2 LR LR
comp=Z,11μm,15.0s
JGF Kuroka 26.19 231 P **P** **21 27 20.8 +0.1**
JGF IAmb IAmb 21 27 24.3
comp=Z,636nm,0.7s
JGF Kuroka 26.19 231 P **P** **21 27 21.5 +0.8**
JGF Kuroka 26.19 231 ⇑P **P** **21 27 21.2 +0.5**
DHY Denali Highway 26.20 53 P **P** **21 27 19.5 -1.3**
DHY IAmb IAmb 21 27 45.2
comp=Z,1μm,1.6s
DHY Denali Highway 26.20 53 P **P** **21 27 19.9 -0.8**
baz=277,SNR=90
DHY S **S** **21 31 47.6 -0.8**
baz=277
M23K Glacier View 26.22 56 P **P** **21 27 20.4 -0.4**
baz=279,SNR=66
M23K S **S** **21 31 50.4 +2.0**
baz=279
HDA Harding Lake 26.26 50 P **P** **21 27 20.2 -0.9**
baz=275,SNR=97
HDA S **S** **21 31 47.5 -1.4**
baz=275
IL31 26.26 49 P **P** **21 27 19.9 -1.1**
ILAR Eielson Array 26.26 49 P **P** **21 27 19.9 -1.2**
ILAR Eielson Array 26.26 49 P **P** **21 27 20.4 -0.7**
comp=Z,126nm,0.9s,baz=267,slow=7.7,SNR=212
ILAR PcP **PcP** **21 30 45.2 -0.5**
comp=Z,19nm,0.9s,baz=274,slow=3.8,SNR=4.3
ILAR LR LR 21 37 47.8
comp=Z,15μm,20.7s,baz=242,slow=36
ILAR P3KPbc 22 00 07.3
comp=Z,2.2nm,0.9s,baz=101,slow=3.6,SNR=11
comp=Z,126nm,0.9s
HIA Hailar 26.26 274 P **P** **21 27 20.2 -1.1**
HIA Hailar 26.26 274 P **P** **21 27 20.7 -0.6**
HIA Hailar 26.26 274 P **P** **21 27 20.2 -1.1**
HIA pmax pmax
comp=Z,79nm,0.7s
HIA MLR MLR
comp=Z,16μm,22.0s
SCM Sheep Creek Mo 26.40 56 P **P** **21 27 21.8 -0.7**
SCM Sheep Creek Mo 26.40 56 P **P** **21 27 22.5 0.0**
baz=280,SNR=156
SCM S **S** **21 31 53.0 +1.7**
baz=280
SCM Sheep Creek Mo 26.40 56 P **P** **21 27 21.8 -0.7**
SCM pmax pmax
comp=Z,1μm,1.1s
SCM MLR MLR
comp=Z,11μm,19.0s
D25K Kavik River 26.50 39 IAMs_20 IAMs_20 21 38 30.7
comp=Z,26μm,22.0s
D25K Kavik River 26.50 39 P **P** **21 27 23.1 -0.1**
baz=265
D25K S **S** **21 31 49.0 -3.7**
baz=265
G25K Bearman Lake 26.50 44 P **P** **21 27 23.4 +0.2**
baz=271
G25K S **S** **21 31 54.9 +2.2**

baz=271
INU Inuyama 26.55 231 P P 21 27 24.1 +0.2
INU IAmb IAmb 21 27 28.1
comp=Z,293nm,0.7s
INU IAMs_20 IAMs_20 21 37 47.3
comp=Z,20µm,22.0s
JSG Sagara 26.62 228 P P 21 27 24.9 +0.4
JSG Sagara 26.62 228 P P 21 27 28.2 +3.7
JSG Sagara 26.62 228 ⇑P P 21 27 25.4 +0.9
H25L Birch Creek 26.63 45 P P 21 27 24.7 +0.4
baz=272,SNR=42
F25K Christian Rive 26.69 42 P P 21 27 25.4 +0.4
baz=270
F25K S **S** **21 31 57.1 +1.4**
baz=270
GLI Glacier Island 26.69 58 P P 21 27 24.5 -0.5
GLI Glacier Island 26.69 58 P P 21 27 24.0 -0.9
baz=282,SNR=26
GLI S **S** **21 31 57.2 +1.5**
baz=282
P23K Montague Islan 26.73 60 P P 21 27 24.5 -0.8
baz=283
P23K S **S** **21 31 57.0 +0.7**
baz=283
P23K S **S** **21 31 57.0 +0.7**
baz=283
PRP Porcupine Dome 26.78 47 P P 21 27 25.6 -0.3
PRP IAmb IAmb 21 27 42.9
comp=Z,641nm,1.3s
PRP Porcupine Dome 26.78 47 P P 21 27 26.0 0.0
baz=274,SNR=236
PRP S **S** **21 31 54.8 -2.6**
baz=274
K24K Donnelly Dome 26.83 51 P P 21 27 25.2 -1.1
baz=277,SNR=79
K24K S **S** **21 31 55.8 -2.2**
baz=277
K24K S **S** **21 31 55.8 -2.2**
baz=277
FYU Fort Yukon 26.86 45 P P 21 27 26.4 +0.1
M24K Tolsona, Glenn 26.89 55 P P 21 27 27.3 +0.4
baz=280,SNR=43
M24K S **S** **21 32 00.0 +1.0**
baz=280
J25K Salcha River, 26.92 49 P P 21 27 25.6 -1.5
baz=276,SNR=86
J25K S **S** **21 31 57.6 -1.8**
baz=276
J25K S **S** **21 31 57.6 -1.8**
baz=276
FID Port Fidalgo 27.01 58 P P 21 27 26.7 -1.2
FID IAMs_20 IAMs_20 21 37 43.6
comp=Z,17µm,20.0s
C26K Camden Bay 27.06 37 P P 21 27 28.8 +0.6
baz=266
C26K S **S** **21 32 01.4 +0.1**
baz=266
HIN Hinchinbrook I 27.07 58 IAMs_20 IAMs_20 21 38 06.8
comp=Z,20µm,20.0s
PAX Paxson 27.08 53 P P 21 27 27.8 -0.8
baz=279,SNR=45
PAX S **S** **21 32 01.7 -0.3**
baz=279
BMAR Burnt Mountain 27.09 43 P P 21 27 28.8 +0.2
KLU Klutina 27.12 56 P P 21 27 28.8 -0.2
baz=281,SNR=60
KLU S **S** **21 32 01.6 -1.2**
baz=281
RIDG Independent Ri 27.25 51 P P 21 27 28.7 -1.3
baz=278,SNR=91
RIDG S **S** **21 32 03.7 -0.9**
baz=278
F26K Sheenjek River 27.26 42 P P 21 27 30.6 +0.5
baz=271,SNR=81
F26K S **S** **21 32 06.4 +1.7**
baz=271
HARP HAARP 27.31 54 P P 21 27 30.6 0.0
baz=280,SNR=36
HARP S **S** **21 32 06.9 +1.3**
baz=280
Q23K Middleton Isla 27.38 60 P P 21 27 31.2 0.0
baz=285
Q23K S **S** **21 32 08.6 +2.1**
baz=285
Q23K S **S** **21 32 08.6 +2.1**
baz=285
MID Middleton Isla 27.39 60 P 21 27 30.2 -1.0
MID IAmb IAmb 21 28 05.0
comp=Z,629nm,1.0s
MID Middleton Isla 27.39 60 P P 21 27 32.2 +1.0
MID Middleton Isla 27.39 60 P P 21 27 30.2 -1.0
MID pmax pmax
comp=Z,629nm,1.0s
EYAK Cordova Ski Ar 27.40 58 P P 21 27 31.0 -0.4
baz=283,SNR=15
EYAK S **S** **21 32 08.8 +1.9**
baz=283
EYAK Cordova Ski Ar 27.40 58 P P 21 27 32.3 +1.0
G26K Porcupine Rive 27.42 44 P P 21 27 31.9 +0.5
baz=272,SNR=87
G26K S **S** **21 32 09.9 +2.8**
baz=272
C27K Jago River 27.46 38 IAMs_20 IAMs_20 21 39 54.4
comp=Z,30µm,20.0s
C27K Jago River 27.46 38 P P 21 27 32.0 +0.2
baz=267
C27K S **S** **21 32 07.0 -0.8**
baz=267
SCRK Sand Creek 27.59 50 P P 21 27 31.8 -1.4
SCRK IAmb IAmb 21 27 50.5
comp=Z,322nm,0.8s
SCRK Sand Creek 27.59 50 P P 21 27 31.9 -1.4
baz=278,SNR=220
SCRK S **S** **21 32 07.8 -2.4**
baz=278
J26L Joseph Creek 27.71 49 P P 21 27 32.4 -1.8
baz=277
J26L S **S** **21 32 09.4 -2.6**
baz=277
J26L S **S** **21 32 09.4 -2.6**
baz=277
N25K Chitina, Valde 27.72 55 P P 21 27 34.5 +0.1
baz=282,SNR=38
N25K S **S** **21 32 14.2 +2.0**
baz=282
BMRM Bremner River 27.86 57 P P 21 27 35.5 0.0
baz=283,SNR=57
BMRM S **S** **21 32 16.5 +2.2**
baz=283
MENT Mentasta 27.87 52 P P 21 27 38.5 +2.9
RAGM Ragged Mountai 27.96 58 P P 21 27 36.7 +0.3
RAGM IAmb IAmb 21 28 26.0
comp=Z,361nm,1.0s
RAGM IAMs_20 IAMs_20 21 38 47.1
comp=Z,25µm,20.0s
L26K Log Cabin Wild 28.02 52 IAMs_20 IAMs_20 21 38 33.6
comp=Z,17µm,21.0s
L26K Log Cabin Wild 28.02 52 P P 21 27 36.5 -0.5
baz=280,SNR=12
L26K S **S** **21 32 18.4 +1.6**
baz=280
L26K S **S** **21 32 18.4 +1.6**
baz=280
GLB Gilahina Butte 28.13 56 P P 21 27 37.7 -0.1
HMT Hamilton 28.17 58 P P 21 27 38.0 -0.2
HMT IAMs_20 IAMs_20 21 39 22.8
comp=Z,23µm,20.0s
KAIM Kayak Island 28.20 59 P P 21 27 38.4 -0.1
KAIM IAmb IAmb 21 27 56.9
comp=Z,510nm,0.9s
KAIM IAMs_20 IAMs_20 21 39 09.5
comp=Z,16µm,18.0s
KAIM Kayak Island 28.20 59 P P 21 27 38.7 +0.3
baz=285
KAIM S **S** **21 32 21.6 +2.1**
baz=285
E27K Coleen River 28.21 41 P P 21 27 38.8 +0.2
baz=272,SNR=44
E27K S **S** **21 32 20.4 +0.7**
baz=272
G27K Doyon Strip 28.26 44 P P 21 27 39.8 +0.7
baz=275,SNR=62
G27K S **S** **21 32 22.1 +1.6**
baz=275
M26K Nabesna, AK 28.30 53 P P 21 27 40.1 +0.7
baz=282,SNR=117
M26K S **S** **21 32 23.5 +2.3**
baz=282
M26K S **S** **21 32 23.5 +2.3**
baz=282
VRDI Verde Repeater 28.34 56 P P 21 27 39.5 -0.5
H27K Steamboat Moun 28.37 45 P P 21 27 40.7 +0.8
baz=276,SNR=132
H27K S **S** **21 32 25.6 +3.5**
baz=276
I27K Kandik River 28.40 47 P P 21 27 40.2 -0.1
baz=277,SNR=37
I27K S **S** **21 32 21.7 -0.9**
baz=277
I27K S **S** **21 32 21.7 -0.9**
baz=277
K27K Chicken 28.42 50 P P 21 27 40.0 -0.3
baz=279
K27K S **S** **21 32 23.2 +0.3**
baz=279
K27K S **S** **21 32 23.2 +0.3**
baz=279
D27M Malcolm River 28.42 39 IAMs_20 IAMs_20 21 40 28.5
comp=Z,19µm,20.0s
D27M Malcolm River 28.42 39 P P 21 27 40.6 +0.1
baz=271
D27M S **S** **21 32 23.4 +0.4**
baz=271
BERG Berg Lake 28.43 58 P P 21 27 40.0 -0.5
BERG IAMs_20 IAMs_20 21 39 41.5
comp=Z,26µm,21.0s
CIT Chita 28.43 283 *e*P **P 21 27 39.4 -1.3**
CIT *e* 21 27 55.6
CIT *e* 21 28 08.4
CIT *e* 21 28 33.8
CIT *e* 21 28 48.0
CIT *e* 21 32 19.2
CIT *e* 21 33 56.6
CIT pmax pmax
comp=Z,490nm,3.1s
SUCK Suckling Hills 28.47 58 P P 21 27 40.6 -0.3
SUCK IAMs_20 IAMs_20 21 41 03.7
comp=Z,20µm,18.0s
SNY Shenyang 28.49 257 ⇑P **P 21 27 39.0 -2.2**
SNY pmax pmax
comp=Z,45nm,0.8s
SNY pmax pmax
comp=Z,570nm,3.5s
SNY LR LR
comp=Z,8µm,14.7s
SNY LR LR
comp=Z,8µm,16.3s
SNY LR LR
comp=Z,12µm,16.3s
MCARA McCarthy VSAT 28.51 56 P P 21 27 41.1 -0.1
MCARA McCarthy VSAT 28.51 56 P P 21 27 41.6 +0.3
baz=284,SNR=20
MCARA S **S** **21 32 28.0 +3.6**
baz=284
CRQM Cirque 28.60 57 IAMs_20 IAMs_20 21 38 36.8
comp=Z,26µm,22.0s
CRQE Cirque 28.63 57 P P 21 27 42.3 -0.1
baz=285,SNR=32
CRQE S **S** **21 32 29.0 +2.5**
baz=285
EGAK Eagle 28.70 48 P P 21 27 41.4 -1.5
EGAK IAMs_20 IAMs_20 21 39 23.2
comp=Z,15µm,21.0s
EGAK Eagle 28.70 48 P P 21 27 41.8 -1.1
baz=279,SNR=123
EGAK S **S** **21 32 24.7 -2.5**
baz=279
EGAK Eagle 28.70 48 ⇑P **P 21 27 41.8 -1.1**
BGLC Bering Glacier 28.70 58 P P 21 27 44.3 +1.4
baz=286
L27K Beaver Creek, 28.70 52 P P 21 27 43.4 +0.4
baz=281,SNR=270
L27K S **S** **21 32 28.1 +0.6**
baz=281
BCAR Beaver Creek A 28.72 52 P P 21 27 42.7 -0.4
TGL Tana Glacier 28.75 57 P P 21 27 43.4 -0.1
TGL IAMs_20 IAMs_20 21 38 41.1
comp=Z,26µm,22.0s
WAX Waxell Ridge 28.82 57 P P 21 27 43.2 -0.9
WAX IAMs_20 IAMs_20 21 39 53.9
comp=Z,23µm,20.0s
M27K Edge Creek, AK 28.82 53 P P 21 27 45.0 +0.8
baz=282
M27K S **S** **21 32 30.2 +0.7**
baz=282
M27K S **S** **21 32 30.2 +0.7**
baz=282
F28M Old Crow 28.89 42 P P 21 27 45.0 +0.4
baz=275,SNR=49
F28M S **S** **21 32 30.8 +0.4**
baz=275
SNH Sunshine Point 28.90 58 IAMs_20 IAMs_20 21 40 06.9
comp=Z,22µm,19.0s
E28M Babbage River 28.96 40 IAMs_20 IAMs_20 21 39 49.7
comp=Z,19µm,22.0s
E28M Babbage River 28.96 40 P P 21 27 45.2 0.0
baz=273,SNR=41
E28M S **S** **21 32 30.8 -0.5**
baz=273
ISLE Juniper Island 29.02 57 P P 21 27 45.6 -0.3
ISLE IAMs_20 IAMs_20 21 39 01.2
comp=Z,23µm,22.0s
I28M Miner Creek 29.11 47 IAMs_20 IAMs_20 21 39 46.1
comp=Z,20µm,21.0s
I28M Miner Creek 29.11 47 P P 21 27 46.2 -0.4
baz=278,SNR=125
I28M S **S** **21 32 33.7 -0.2**
baz=278
SUJ Sinuiju 29.17 254 P P 21 27 45.2 -2.0
SUJ S **S** **21 32 32.7 -2.3**
SUJ AmB
comp=Z,4µm,5.0s
SUJ AMS AMS
comp=Z,13µm,20.6s
D28M Stokes Point 29.21 39 P P 21 27 47.5 +0.2
baz=272,SNR=41
D28M S **S** **21 32 33.0 -2.1**
baz=272
PYAG Pyongyang 29.24 251 P P 21 27 45.9 -2.0
PYAG S **S** **21 32 33.9 -2.2**
PYAG AmB
comp=Z,2µm,3.1s
KS19 Wonju Array Si 29.27 246 P P 21 27 47.3 -0.8
GRNC Granite Creek 29.27 57 IAMs_20 IAMs_20 21 39 08.7
comp=Z,18µm,22.0s
BVCY Beaver Creek 29.27 53 P P 21 27 48.7 +0.7
baz=283,SNR=80
BVCY S **S** **21 32 37.3 +0.9**
baz=283
KSRS Korea Array 29.27 246 P P 21 27 47.5 -0.6
comp=Z,70nm,0.8s,baz=36,slow=9.1,SNR=79
KSRS PcP **PcP** **21 30 54.1 +0.6**
comp=Z,77nm,1.1s,baz=18,slow=2.1,SNR=19
KSRS ScP **ScP** **21 34 33.0 +3.3**
comp=Z,0.7nm,0.5s,baz=45,slow=3.1,SNR=4.6
KSRS LR LR 21 40 42.3
comp=Z,14µm,20.3s,baz=50,slow=39
comp=Z,70nm,0.8s
KSAR Wonju Array Be 29.30 246 P P 21 27 47.6 -0.9
KSAR Wonju Array Be 29.30 246 P P 21 27 47.6 -0.9
JMN Monobe 29.32 234 P P 21 27 48.8 +0.1
JMN Monobe 29.32 234 P P 21 27 50.6 +1.9
JMN Monobe 29.32 234 ⇑P **P 21 27 49.2 +0.5**
MESA MESA 29.32 58 IAMs_20 IAMs_20 21 40 11.2
comp=Z,21µm,20.0s
MESA MESA 29.32 58 P P 21 27 49.2 +0.6
baz=286,SNR=16
MESA S **S** **21 32 40.4 +2.8**
baz=286
YAH Yahtse 29.37 57 IAMs_20 IAMs_20 21 40 11.4
comp=Z,23µm,19.0s
CTG Chitna Glacier 29.40 56 P P 21 27 49.6 +0.3
baz=285,SNR=27
CTG S **S** **21 32 40.0 +1.4**
baz=285
CTGM Chitina Glacie 29.41 56 IAMs_20 IAMs_20 21 39 03.2
comp=Z,19µm,22.0s
E29M Blow River 29.57 41 P P 21 27 50.9 +0.4
baz=275,SNR=75
E29M S **S** **21 32 42.0 +1.0**
baz=275
DAWY Dawson 29.57 49 P P 21 27 50.2 -0.5
DAWY Dawson 29.57 49 P P 21 27 50.4 -0.3
baz=281,SNR=43
DAWY S **S** **21 32 42.5 +1.4**
baz=281
LOGN Logan Glacier 29.60 56 IAMs_20 IAMs_20 21 39 20.4
comp=Z,17µm,22.0s
YUK3 Moose Creek 29.61 54 P P 21 27 51.4 +0.2
baz=284,SNR=28
YUK3 S **S** **21 32 43.4 +1.4**
baz=284
H29M Whitestone 29.64 45 P P 21 27 51.8 +0.6
baz=278,SNR=81
H29M S **S** **21 32 42.6 +0.5**
baz=278
TABL Table Mountain 29.64 57 IAMs_20 IAMs_20 21 39 09.5
comp=Z,19µm,22.0s
G29M Pine Creek 29.68 44 P P 21 27 52.5 +0.9
baz=277
G29M S **S** **21 32 44.5 +1.8**
baz=277
INCN Inchon 29.93 248 P P 21 27 51.9 -2.1
INCN Inchon 29.93 248 P P 21 27 52.6 -1.4
INCN P **P** **21 27 52.6 -1.4**
INCN Inchon 29.93 248 P P 21 27 51.9 -2.1
INCN pmax pmax
comp=Z,67nm,1.2s
INCN MLR MLR
comp=Z,9µm,20.0s
O28M Mount Upton 30.00 56 P P 21 27 55.2 +0.4
baz=286,SNR=47
O28M S **S** **21 32 49.4 +1.2**
baz=286
J29N Klondike Camp 30.00 48 IAMs_20 IAMs_20 21 39 51.7
comp=Z,16µm,21.0s
J29N Klondike Camp 30.00 48 P P 21 27 54.3 -0.2
baz=282
YUK8 Steele Glacier 30.05 55 P P 21 27 55.5 +0.3
baz=286,SNR=13
YUK8 S **S** **21 32 50.5 +1.3**
baz=286
PINM Pinnacle 30.16 57 P P 21 27 56.3 +0.3
baz=288,SNR=21
PINM S **S** **21 32 50.4 -0.1**
baz=288
EPYK Eagle Plains 30.27 44 P P 21 27 57.0 +0.2
baz=279,SNR=37
EPYK S **S** **21 32 49.7 -2.3**
baz=279
L29M L29M 30.33 51 P P 21 27 58.4 +1.0
baz=284,SNR=124
L29M S **S** **21 32 55.0 +1.9**
baz=284
M29M Somme Creek 30.35 52 P P 21 27 58.5 +0.9
baz=285,SNR=83
M29M S **S** **21 32 54.6 +1.2**
baz=285
G30M tAoh Zraii Nji 30.37 43 P P 21 27 58.4 +0.7
baz=279
G30M S **S** **21 32 54.8 +1.2**
baz=279
TJN Taejon 30.38 245 P P 21 27 56.7 -1.4
TJN IAmb IAmb 21 28 38.2
comp=Z,575nm,1.6s
TJN Taejon 30.38 245 P P 21 27 58.4 +0.4
TJN Taejon 30.38 245 *c i*P **P 21 27 56.6 -1.4**
K29M Barlow Dome 30.43 50 P P 21 27 58.1 -0.2
baz=283,SNR=30
K29M S **S** **21 32 55.4 +0.7**
baz=283
F30M Barrier River 30.45 42 P P 21 27 59.3 +0.9
baz=278,SNR=80
F30M S **S** **21 32 56.5 +1.8**
baz=278
BCPM Bancas Point 30.50 57 P P 21 27 58.6 -0.3
BCPM IAMs_20 IAMs_20 21 40 20.3
comp=Z,19µm,20.0s
YUK4 Talbot Arm 30.56 55 P P 21 27 60.0 +0.4
baz=286,SNR=25
YUK4 S **S** **21 32 55.4 -1.4**
baz=286
I30M Mount Dempster 30.62 47 IAMs_20 IAMs_20 21 40 54.0
comp=Z,19µm,20.0s
I30M Mount Dempster 30.62 47 P P 21 27 60.0 -0.1
baz=282,SNR=111
I30M S **S** **21 32 59.5 +1.9**
baz=282
PNL Peninsula 30.70 58 P P 21 28 00.4 -0.2
baz=289,SNR=25
PNL S **S** **21 33 00.4 +1.5**
baz=289
PNL Peninsula 30.70 58 P P 21 28 01.3 +0.6
J30M Hart River 30.77 48 IAMs_20 IAMs_20 21 40 49.1
comp=Z,16µm,20.0s
J30M Hart River 30.77 48 P P 21 28 01.1 -0.3
baz=283,SNR=25
J30M S **S** **21 32 59.9 -0.2**
baz=283
YUK6 Outpost Mounta 30.80 55 P P 21 28 02.3 +0.5
baz=287,SNR=22
YUK6 S **S** **21 32 57.6 -3.2**
baz=287
O29M Mount Kennedy 30.90 57 IAMs_20 IAMs_20 21 40 13.8
comp=Z,16µm,21.0s
O29M Mount Kennedy 30.90 57 P P 21 28 02.9 +0.4
baz=288,SNR=15
O29M S **S** **21 33 03.1 +1.0**
baz=288
M30M Minto, Yukon 31.06 52 P P 21 28 04.6 +0.7
baz=286
M30M S **S** **21 33 07.0 +2.5**
baz=286
MIDW Midway 31.07 143 P P 21 28 04.8 +0.7
MIDW IAmb IAmb 21 28 28.2
comp=Z,577nm,1.5s
MIDW IAMs_20 IAMs_20 21 37 03.7
comp=Z,18µm,22.0s
G31M Satah River 31.14 43 P P 21 28 04.2 -0.1
baz=280,SNR=50
G31M S **S** **21 33 06.2 +0.7**
baz=280
MAYO Mayo, Yukon 31.19 50 P P 21 28 05.5 +0.5
baz=285
INK Inuvik 31.19 40 P P 21 28 05.1 +0.3
INK IAmb IAmb 21 28 20.8
comp=Z,1µm,1.8s
INK Inuvik 31.19 40 LR LR 21 43 15.4
comp=Z,13µm,18.5s,baz=296,slow=41
INK P3KPbc 21 59 44.1
comp=Z,4.7nm,1.0s,baz=60,slow=5.9,SNR=8.6
INK Inuvik 31.19 40 P P 21 28 05.2 +0.3
baz=279,SNR=94
INK S **S** **21 33 06.1 -0.1**
baz=279
INK Inuvik 31.19 40 ⇑P **P 21 28 05.1 +0.3**
INK Inuvik 31.19 40 P P 21 28 05.1 +0.3
INK pmax pmax
comp=Z,1µm,1.8s
JNU Nakatsue 31.22 237 P P 21 28 05.0 -0.5
JNU Nakatsue 31.22 237 P P 21 28 05.6 +0.1
comp=Z,42nm,0.7s,baz=29,slow=6.3,SNR=27
JNU PcP **PcP** **21 30 59.0 +0.2**
comp=Z,39nm,0.9s,baz=68,slow=4.7,SNR=4.3
JNU LR LR 21 39 10.3
comp=Z,7µm,21.4s,baz=40,slow=33
JNU PKP2ab 22 03 31.3
comp=Z,18nm,0.4s,baz=5.5,slow=0.1,SNR=24
comp=Z,42nm,0.7s
JNU Nakatsue 31.22 237 P P 21 28 06.7 +1.2
JNU Nakatsue 31.22 237 ⇓P **P 21 28 05.7 +0.2**
HYT Haines Junctio 31.24 55 P P 21 28 05.2 -0.3
HYT Haines Junctio 31.24 55 P P 21 28 06.3 +0.8
baz=288,SNR=76
HYT S **S** **21 33 08.7 +1.3**
baz=288
N30M Aishikik Lake 31.24 54 P P 21 28 05.0 -0.4
baz=287,SNR=16
N30M S **S** **21 33 09.2 +1.9**
baz=287
F31M Tsiigehtchic 31.25 42 P P 21 28 05.1 -0.2
baz=280,SNR=34
F31M S **S** **21 33 07.7 +0.5**
baz=280
H31M Peel River 31.33 45 P P 21 28 06.0 -0.2
baz=282,SNR=32
H31M S **S** **21 33 09.4 +0.9**
baz=282
XLT XiLinHaoTe 31.38 268 *e*P **P 21 28 05.1 -1.7**
XLT sP sP 21 28 27.4 -1.4
XLT PcP **PcP** **21 30 58.8 -0.3**

XLT				S	**S**	**21 33 06.6**	**-3.2**
XLT				sS	sS	21 33 31.3	-3.3
XLT				ScP	**ScP**	**21 34 36.4**	**-0.2**
XLT				pmax	pmax		
	comp=Z,25nm,0.6s						
XLT				pmax	pmax		
	comp=Z,740nm,7.6s						
XLT				LR	LR		
	comp=Z,12μm,21.7s						
XLT				LR	LR		
	comp=Z,9μm,23.3s						
P29M	**Windy Craggy**	**31.51**	**57**	IAMs_20	IAMs_20	21 40 49.1	
	comp=Z,22μm,21.0s						
P29M	**Windy Craggy**	**31.51**	**57**	P	**P**	**21 28 08.2**	**+0.4**
	baz=290,SNR=11						
P29M				S	**S**	**21 33 13.7**	**+2.2**
	baz=290						
DL2	**Dalian**	**31.58**	**255**	P	**P**	**21 28 06.3**	**-2.2**
DL2				pP	**pP**	**21 28 19.8**	**-3.6**
DL2				PP	**PP**	**21 29 17.0**	**-3.6**
DL2				PcP	**PcP**	**21 30 59.8**	**+0.2**
DL2				S	**S**	**21 33 08.6**	**-4.3**
DL2				PcS	**PcS**	**21 34 44.0**	**0.0**
DL2				pmax	pmax		
	comp=Z,110nm,0.7s						
DL2				pmax	pmax		
	comp=Z,1μm,9.1s						
DL2				LR	LR		
	comp=Z,11μm,13.7s						
DL2				LR	LR		
	comp=Z,14μm,14.7s						
DL2				LR	LR		
	comp=Z,19μm,16.4s						
P30M	**Million Dollar**	**31.72**	**56**	P	**P**	**21 28 10.3**	**+0.7**
	baz=289						
P30M				S	**S**	**21 33 19.2**	**+4.4**
	baz=289						
N31M	**Braeburn, Yuko**	**31.83**	**54**	P	**P**	**21 28 11.4**	**+0.8**
	baz=288,SNR=16						
N31M				S	**S**	**21 33 20.1**	**+3.7**
	baz=288						
JCJ	**Chichijima**	**31.91**	**215**		**P**	**21 28 10.6**	**-0.9**
JCJ				IAmb	IAmb	21 28 42.0	
	comp=Z,483nm,1.1s						
JCJ	**Chichijima**	**31.91**	**215**	P	**P**	**21 28 15.2**	**+3.7**
O30N	**Mendenhall**	**31.91**	**55**	P	**P**	**21 28 11.9**	**+0.6**
	baz=289,SNR=40						
O30N				S	**S**	**21 33 20.3**	**+2.5**
	baz=289						
PLBC	**Pleasant Camp**	**32.23**	**57**	P	**P**	**21 28 14.5**	**+0.4**
	baz=291,SNR=22						
PLBC				S	**S**	**21 33 23.1**	**+0.5**
	baz=291						
M31M	**Drury Creek, Y**	**32.24**	**52**	P	**P**	**21 28 15.4**	**+1.2**
	baz=288,SNR=40						
M31M				S	**S**	**21 33 24.7**	**+1.9**
	baz=288						
WHY	**Whitehorse**	**32.51**	**55**	P	**P**	**21 28 17.1**	**+0.5**
WHY				IAmb	IAmb	21 28 21.4	
	comp=Z,313nm,1.2s						
WHY	**Whitehorse**	**32.51**	**55**	P	**P**	**21 28 17.9**	**+1.2**
	baz=290,SNR=63						
WHY				S	**S**	**21 33 29.2**	**+1.9**
	baz=290						
FARO	**Faro, Yukon**	**32.70**	**52**	P	**P**	**21 28 18.5**	**+0.4**
FARO	**Faro, Yukon**	**32.70**	**52**	P	**P**	**21 28 19.0**	**+0.9**
	baz=288,SNR=41						
FARO				S	**S**	**21 33 30.2**	**+0.3**
	baz=288						
SKAG	**Skagway**	**32.72**	**57**	P	**P**	**21 28 19.2**	**+0.9**
SKAG				IAmb	IAmb	21 28 37.2	
	comp=Z,224nm,1.0s						
SKAG	**Skagway**	**32.72**	**57**	P	**P**	**21 28 19.9**	**+1.5**
	baz=291,SNR=38						
SKAG				S	**S**	**21 33 32.1**	**+1.9**
	baz=291						
SKAG	**Skagway**	**32.72**	**57**	P	**P**	**21 28 19.4**	**+1.1**
SKAG	**Skagway**	**32.72**	**57**	⇑P	**P**	**21 28 19.1**	**+0.8**
S31K	**Pelican**	**32.85**	**60**	P	**P**	**21 28 20.5**	**+1.0**
	baz=293						
S31K				S	**S**	**21 33 34.2**	**+2.1**
	baz=293						
S31K				S	**S**	**21 33 34.2**	**+2.1**
	baz=293						
R31K	**City Hall, Gus**	**32.92**	**59**	P	**P**	**21 28 21.2**	**+1.2**
	baz=293						
N32M	**Quiet Lake**	**33.17**	**53**	P	**P**	**21 28 22.9**	**+0.5**
	baz=290						
N32M				S	**S**	**21 33 38.0**	**+0.7**
	baz=290						
IRK	**Irkutsk**	**33.38**	**289**	*e*P	**P**	**21 28 22.6**	**-1.6**
IRK				pmax	pmax		
	comp=Z,609nm,2.2s						
A36M	**Sachs Harbour**	**33.39**	**33**	P	**P**	**21 28 24.3**	**+0.3**
A36M				IAmb	IAmb	21 28 26.7	
	comp=Z,406nm,0.9s						
A36M	**Sachs Harbour**	**33.39**	**33**	P	**P**	**21 28 24.9**	**+0.8**
	baz=280,SNR=121						
A36M				S	**S**	**21 33 40.8**	**+0.5**
	baz=280						
P32M	**Atlin**	**33.44**	**56**	IAMs_20	IAMs_20	21 41 41.0	
	comp=Z,25μm,22.0s						
P32M	**Atlin**	**33.44**	**56**	P	**P**	**21 28 26.2**	**+1.6**
	baz=292,SNR=11						
P32M				S	**S**	**21 33 39.8**	**-1.7**
	baz=292						
MMPY	**Sheldon Lake,**	**33.49**	**50**	P	**P**	**21 28 25.5**	**+0.4**
MMPY				IAMs_20	IAMs_20	21 42 03.0	
	comp=Z,12μm,22.0s						
MMPY	**Sheldon Lake,**	**33.49**	**50**	P	**P**	**21 28 26.3**	**+1.2**
	baz=289,SNR=41						
MMPY				S	**S**	**21 33 44.9**	**+2.7**
	baz=289						
R32K	**Eaglecrest**	**33.56**	**59**	P	**P**	**21 28 27.2**	**+1.5**
	baz=294,SNR=42						
JIS	**Juneau Island**	**33.63**	**59**	P	**P**	**21 28 27.5**	**+1.3**
P33M	**Teslin, Yukon**	**33.63**	**55**	IAMs_20	IAMs_20	21 43 06.9	
	comp=Z,14μm,20.0s						
P33M	**Teslin, Yukon**	**33.63**	**55**	P	**P**	**21 28 27.3**	**+1.0**
	baz=292,SNR=28						
P33M				S	**S**	**21 33 46.7**	**+2.2**
	baz=292						
SIT	**Sitka**	**33.66**	**61**	P	**P**	**21 28 27.1**	**+0.7**
SIT				IAmb	IAmb	21 28 46.4	
	comp=Z,363nm,1.0s						
SIT	**Sitka**	**33.66**	**61**	P	**P**	**21 28 28.2**	**+1.7**
	baz=295,SNR=19						
SIT				S	**S**	**21 33 49.1**	**+4.3**
	baz=295						
SIT	**Sitka**	**33.66**	**61**	P	**P**	**21 28 28.0**	**+1.5**
SIT	**Sitka**	**33.66**	**61**	P	**P**	**21 28 27.2**	**+0.7**
SIT				pmax	pmax		
	comp=Z,363nm,1.0s						
BJI	**Beijing**	**33.83**	**262**	P	**P**	**21 28 26.3**	**-1.9**
BJI				sP	**pP**	**21 28 45.5**	**+2.3**
BJI				PcP	**PcP**	**21 31 06.3**	**+0.5**
BJI				ScP	**ScP**	**21 34 46.6**	**+1.6**
BJI				pmax	pmax		
	comp=Z,15nm,0.8s						
BJI				pmax	pmax		
	comp=Z,330nm,7.2s						
BJI				LR	LR		
	comp=Z,3μm,14.3s						
BJI				LR	LR		
	comp=Z,5μm,19.8s						
BJI				LR	LR		
	comp=Z,4μm,22.8s						
BJT	**Baijiatuau**	**33.85**	**262**	P	**P**	**21 28 26.6**	**-1.8**
BJT	**Baijiatuau**	**33.85**	**262**	P	**P**	**21 28 27.2**	**-1.2**
BJT	**Baijiatuau**	**33.85**	**262**	P	**P**	**21 28 26.6**	**-1.8**
BJT				pmax	pmax		
	comp=Z,106nm,1.3s						
BJT				MLR	MLR		
	comp=Z,7μm,22.0s						
BJT	**Baijiatuau**	**33.85**	**262**	P	**P**	**21 28 26.1**	**-2.3**
BJT				PcP	**PcP**	**21 31 06.2**	**+0.4**
S32K	**Killisnoo**	**33.86**	**60**	IAMs_20	IAMs_20	21 43 42.3	
	comp=Z,10μm,19.0s						
S32K	**Killisnoo**	**33.86**	**60**	P	**P**	**21 28 29.9**	**+1.7**
	baz=295,SNR=12						
S32K				S	**S**	**21 33 53.4**	**+5.6**
	baz=295						
S32K				S	**S**	**21 33 53.4**	**+5.6**
	baz=295						
ULN	**Ulaanbaatar**	**34.15**	**281**	P	**P**	**21 28 29.8**	**-1.3**
ULN	**Ulaanbaatar**	**34.15**	**281**	P	**P**	**21 28 29.8**	**-1.3**
ULN				P	**P**	**21 28 29.8**	**-1.3**
ULN	**Ulaanbaatar**	**34.15**	**281**	⇑P	**P**	**21 28 30.1**	**-1.0**
ULN	**Ulaanbaatar**	**34.15**	**281**	*c i*P	**P**	**21 28 28.8**	**-2.3**
ULN				pmax	pmax		
	comp=Z,55nm,0.8s						
ULN				MLR	MLR		
	comp=Z,14μm,24.0s						
ULN	**Ulaanbaatar**	**34.15**	**281**	P	**P**	**21 28 30.4**	**-0.7**
ULN				pP	**pP**	**21 28 45.1**	**-1.0**
ULN				PcP	**PcP**	**21 31 07.2**	**+0.3**
C36M	**Paulatuk**	**34.34**	**37**	IAMs_20	IAMs_20	21 43 38.9	
	comp=Z,12μm,22.0s						
C36M	**Paulatuk**	**34.34**	**37**	P	**P**	**21 28 32.1**	**-0.1**
	baz=285,SNR=164						
C36M				S	**S**	**21 33 53.7**	**-1.3**
	baz=285						
Q32M	**Nakina River**	**34.37**	**57**	IAMs_20	IAMs_20	21 42 18.6	
	comp=Z,20μm,20.0s						
Q32M	**Nakina River**	**34.37**	**57**	P	**P**	**21 28 34.7**	**+1.8**
	baz=294,SNR=34						
Q32M				S	**S**	**21 34 02.5**	**+6.3**
	baz=294						
SONM	**Songino Array**	**34.53**	**281**	P	**P**	**21 28 33.1**	**-1.3**
SONM	**Songino Array**	**34.53**	**281**	P	**P**	**21 28 33.4**	**-0.9**
	comp=Z,34nm,0.6s,baz=67,slow=8.3,SNR=69						
SONM				PcP	**PcP**	**21 31 07.9**	**0.0**
	comp=Z,72nm,0.8s,baz=67,slow=3.1,SNR=14						
SONM				ScP	**ScP**	**21 34 49.9**	**+2.3**
	comp=Z,21nm,0.9s,baz=50,slow=1.9,SNR=6.8						
SONM				LR	LR	21 43 50.3	
	comp=Z,13μm,21.1s,baz=59,slow=38						
SONM				P3KPbc		21 59 30.4	
	comp=Z,1.1nm,0.9s,baz=211,slow=2.5,SNR=5.9						
	comp=Z,34nm,0.6s						
NRIK	**Noril'sk**	**34.60**	**323**	P	**P**	**21 28 33.4**	**-1.1**
NRIK				IAmb	IAmb	21 29 02.8	
	comp=Z,245nm,1.3s						
NRIK	**Noril'sk**	**34.60**	**323**	P	**P**	**21 28 33.1**	**-1.4**
	comp=Z,11nm,0.4s,baz=80,slow=8.1,SNR=56						
NRIK				LR	LR	21 43 39.5	
	comp=Z,28μm,20.7s,baz=76,slow=38						
	comp=Z,11nm,0.4s						
NRIK	**Noril'sk**	**34.60**	**323**	*c i*P	**P**	**21 28 33.3**	**-1.1**
R33M	**Jennings River**	**34.81**	**56**	IAMs_20	IAMs_20	21 42 34.1	
	comp=Z,20μm,22.0s						
R33M	**Jennings River**	**34.81**	**56**	P	**P**	**21 28 38.3**	**+1.7**
	baz=294,SNR=40						
R33M				S	**S**	**21 34 05.2**	**+2.4**
	baz=294						
T33K	**Petersburg**	**34.94**	**60**	P	**P**	**21 28 39.3**	**+1.7**
	baz=296						
U33K	**Whale Pass**	**35.17**	**62**	IAMs_20	IAMs_20	21 43 00.0	
	comp=Z,13μm,19.0s						
U33K	**Whale Pass**	**35.17**	**62**	P	**P**	**21 28 41.1**	**+1.5**
	baz=297						
U33K				S	**S**	**21 34 13.1**	**+5.0**
	baz=297						
U33K				S	**S**	**21 34 13.1**	**+5.0**
	baz=297						
S34M	**Telegraph Cree**	**35.35**	**58**	P	**P**	**21 28 43.0**	**+1.9**
	baz=296,SNR=23						
S34M				S	**S**	**21 34 12.5**	**+1.6**
	baz=296						
WRAK	**Wrangell Islan**	**35.42**	**61**	IAMs_20	IAMs_20	21 43 08.5	
	comp=Z,12μm,20.0s						
WRAK	**Wrangell Islan**	**35.42**	**61**	P	**P**	**21 28 43.8**	**+2.1**
	baz=297,SNR=11						
WRAK				S	**S**	**21 34 17.2**	**+5.4**
	baz=297						
WRAK	**Wrangell Islan**	**35.42**	**61**	⇓P	**P**	**21 28 44.1**	**+2.5**
MOY	**Mondy**	**35.43**	**290**	*e*P	**P**	**21 28 41.9**	**-0.1**
MOY				*e*		21 30 06.5	
MOY				pmax	pmax		
	comp=Z,430nm,2.6s						
CRAG	**Craig**	**35.47**	**63**	P	**P**	**21 28 42.3**	**+0.2**
CRAG	**Craig**	**35.47**	**63**	P	**P**	**21 28 44.2**	**+2.1**
	baz=298						
CRAG				S	**S**	**21 34 12.6**	**0.0**
	baz=298						
CRAG	**Craig**	**35.47**	**63**	P	**P**	**21 28 43.0**	**+0.9**
CRAG	**Craig**	**35.47**	**63**	⇑P	**P**	**21 28 43.8**	**+1.7**
WTLY	**Watson Lake, Y**	**35.52**	**54**	P	**P**	**21 28 43.6**	**+1.0**
	baz=294,SNR=17						
WTLY				S	**S**	**21 34 14.9**	**+1.4**
	baz=294						
DLBC	**Dease Lake**	**35.65**	**57**	LR	LR	21 43 40.3	
	comp=Z,18μm,20.5s,baz=300,slow=37						
DLBC	**Dease Lake**	**35.65**	**57**	P	**P**	**21 28 45.7**	**+1.9**
	baz=296,SNR=62						
DLBC				S	**S**	**21 34 18.7**	**+3.1**
	baz=296						
HHC	**Hu-ho-hao-te**	**35.90**	**267**	⇓*i*P	**P**	**21 28 45.5**	**-0.6**
HHC				pP	pP	21 28 59.5	-1.7
HHC				sP	sP	21 29 08.5	+0.3
HHC				S	**S**	**21 34 21.0**	**+1.2**
HHC				sS	sS	21 34 43.8	-1.0
HHC				SS	**SnSn**	**21 36 40.0**	**-7.8**
HHC				pmax	pmax		
	comp=Z,28nm,1.1s						
HHC				pmax	pmax		
	comp=Z,710nm,4.9s						
HHC				LR	LR		
	comp=Z,10μm,18.6s						
HHC				LR	LR		
	comp=Z,5μm,18.0s						
HHC				LR	LR		
	comp=Z,9μm,19.1s						
H11N2	**WAKE ISLAND Hy**	**35.97**	**172**	T	T	22 08 04.7	
	baz=357,slow=76,SNR=119						
H11N3	**WAKE ISLAND Hy**	**35.98**	**172**	T	T	22 08 06.5	
	baz=357,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**35.98**	**172**	T	T	22 08 05.8	
	baz=357,slow=76,SNR=130						
TIA	**Tai'an**	**36.00**	**257**	P	**P**	**21 28 44.8**	**-2.1**
TIA				pmax	pmax		
	comp=Z,49nm,0.7s						
TIA				pmax	pmax		
	comp=Z,1μm,7.8s						
TIA				LR	LR		
	comp=Z,10μm,24.9s						
TIA				LR	LR		
	comp=Z,8μm,21.4s						
TIA				LR	LR		
	comp=Z,7μm,19.8s						
T35M	**Bob Quinn**	**36.19**	**59**	P	**P**	**21 28 51.1**	**+2.7**
	baz=297,SNR=19						
T35M				S	**S**	**21 34 25.4**	**+1.6**
	baz=297						
V35K	**Ketchikan**	**36.29**	**62**	P	**P**	**21 28 49.2**	**0.0**
V35K	**Ketchikan**	**36.29**	**62**	P	**P**	**21 28 50.9**	**+1.7**
	baz=299						
V35K				S	**S**	**21 34 29.9**	**+4.7**
	baz=299						
V35K				S	**S**	**21 34 29.9**	**+4.7**
	baz=299						
WAKE	**Wake Island**	**36.39**	**173**	IAMs_20	IAMs_20	21 40 11.2	
	comp=Z,16μm,22.0s						
HNS	**HongShan**	**36.49**	**260**	⇑P	**P**	**21 28 49.5**	**-1.6**
HNS				PP	**PnPn**	**21 30 17.5**	**+2.4**
HNS				S	**S**	**21 34 25.3**	**-3.3**
HNS				sS	**sS**	**21 34 50.1**	**-3.7**
HNS				SS	SS	21 36 50.6	-19
HNS				pmax	pmax		
	comp=Z,84nm,1.2s						
HNS				LR	LR		
	comp=Z,14μm,15.8s						
HNS				LR	LR		
	comp=Z,5μm,13.3s						
HNS				LR	LR		
	comp=Z,13μm,14.5s						
WRGLY	**Wrigley**	**36.60**	**47**	P	**P**	**21 28 52.8**	**+1.1**
	baz=294,SNR=10						
WRGLY				S	**S**	**21 34 30.4**	**+0.7**
	baz=294						
U35K	**Hyder**	**36.80**	**61**	IAMs_20	IAMs_20	21 44 01.1	
	comp=Z,10μm,20.0s						
U35K	**Hyder**	**36.80**	**61**	P	**P**	**21 28 55.2**	**+1.7**
	baz=299						
U35K				S	**S**	**21 34 36.8**	**+3.9**
	baz=299						
BTO	**Baotou**	**36.94**	**268**	*e*P	**P**	**21 28 53.8**	**-1.2**
BTO				pP	**pP**	**21 29 08.0**	**-2.1**
BTO				sP	**sP**	**21 29 16.5**	**-0.6**
BTO				PP	**PP**	**21 30 21.4**	**+1.5**
BTO				S	**S**	**21 34 33.6**	**-2.0**
BTO				SS	SS	21 36 58.5	-20
BTO				pmax	pmax		
	comp=Z,110nm,1.0s						
BTO				pmax	pmax		
	comp=Z,4μm,6.3s						
BTO				LR	LR		
	comp=Z,30μm,19.0s						
BTO				LR	LR		
	comp=Z,22μm,17.3s						
BTO				LR	LR		
	comp=Z,28μm,20.8s						
LIRD	**Liard River Hi**	**37.06**	**54**	P	**P**	**21 28 57.6**	**+1.9**
	baz=297						
LIRD				S	**S**	**21 34 37.9**	**+1.0**
	baz=297						
JMZ	**Minamidaito 2**	**37.27**	**230**	P	**P**	**21 28 58.3**	**+0.6**
JMZ	**Minamidaito 2**	**37.27**	**230**	⇓P	**P**	**21 28 59.1**	**+1.4**
RUBB	**Prince Rupert**	**37.47**	**63**	P	**P**	**21 28 59.6**	**+0.4**
RUBB				IAmb	IAmb	21 29 50.6	
	comp=Z,465nm,1.8s						
TIY	**Taiyuan**	**37.55**	**263**	*e*P	**P**	**21 28 59.1**	**-1.0**
TIY				S	**S**	**21 34 47.3**	**+2.4**
TIY				pmax	pmax		
	comp=Z,50nm,0.9s						
TIY				pmax	pmax		
	comp=Z,580nm,8.0s						
TIY				LR	LR		
	comp=Z,8μm,19.2s						
TIY				LR	LR		
	comp=Z,8μm,18.6s						
TIY				LR	LR		
	comp=Z,9μm,23.4s						
KOTAN	**Kotaneelee Air**	**37.66**	**52**	P	**P**	**21 29 02.1**	**+1.4**
	baz=297,SNR=39						
KOTAN				S	**S**	**21 34 48.1**	**+2.2**
	baz=297						
SSE	**Sheshan**	**37.71**	**247**	P	**P**	**21 28 59.9**	**-1.5**
SSE				S	**S**	**21 34 43.8**	**-3.4**
SSE				pmax	pmax		
	comp=Z,17nm,0.8s						
SSE				pmax	pmax		
	comp=Z,540nm,3.9s						
SSE				LR	LR		
	comp=Z,4μm,19.2s						
TOAD	**Toad River Com**	**37.71**	**54**	P	**P**	**21 29 02.9**	**+1.7**
	baz=298,SNR=172						
JOW	**Kunigami**	**37.71**	**234**	P	**P**	**21 29 01.1**	**-0.5**
JOW	**Kunigami**	**37.71**	**234**	P	**P**	**21 29 01.9**	**+0.4**
	comp=Z,353nm,0.9s,baz=1.9,slow=9.2,SNR=30						
JOW				PcP	**PcP**	**21 31 18.3**	**+0.8**
	comp=Z,36nm,0.6s,baz=111,slow=4.5,SNR=3.7						
JOW				LR	LR	21 44 44.7	
	comp=Z,8μm,21.4s,baz=50,slow=36						
	comp=Z,353nm,0.9s						
JOW	**Kunigami**	**37.71**	**234**	P	**P**	**21 29 01.9**	**+0.4**
JOW	**Kunigami**	**37.71**	**234**	⇑P	**P**	**21 29 01.6**	**0.0**
GRNB	**Grenville Isla**	**37.87**	**63**	P	**P**	**21 29 03.7**	**+1.1**
NJ2	**Nanjing**	**38.19**	**250**	⇑P	**P**	**21 29 03.8**	**-1.7**
NJ2				pP	**pP**	**21 29 18.1**	**-2.5**
NJ2				PP	**PnPn**	**21 30 38.6**	**+2.8**
NJ2				PcP	**PcP**	**21 31 20.8**	**+1.9**
NJ2				ScP	**ScP**	**21 35 02.9**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,36nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,790nm,9.5s						
NJ2				LR	LR		
	comp=Z,8μm,18.9s						
NJ2				LR	LR		
	comp=Z,6μm,18.9s						
NJ2				LR	LR		
	comp=Z,11μm,15.7s						
EUNU	**Eureka**	**39.25**	**15**	P	**P**	**21 29 14.6**	**+0.7**
BBB	**Bella Bella**	**39.70**	**65**	P	**P**	**21 29 17.9**	**+0.1**
	comp=Z,31nm,0.9s,baz=283,slow=7.9,SNR=2.5						
BBB				LR	LR	21 45 21.1	
	comp=Z,5μm,19.5s,baz=310,slow=36						
LYN	**LuoYang**	**39.80**	**259**	*e*P	**P**	**21 29 17.3**	**-1.7**
LYN				pP	pP	21 29 32.8	-1.4
LYN				PP	**PnPn**	**21 30 54.8**	**-0.1**
LYN				S	**S**	**21 35 13.9**	**-4.8**
LYN				sS	sS	21 35 42.1	-1.9
LYN				pmax	pmax		
	comp=Z,180nm,1.0s						
LYN				pmax	pmax		
	comp=Z,1μm,3.8s						
LYN				LR	LR		
	comp=Z,18μm,16.1s						
LYN				LR	LR		
	comp=Z,16μm,15.8s						
LYN				LR	LR		
	comp=Z,28μm,17.1s						
ALE	**Alert**	**40.30**	**8**	P	**P**	**21 29 22.8**	**+0.3**
ALE				pP	**pP**	**21 29 38.2**	**+0.6**
YKA	**Yellowknife Ar**	**40.55**	**45**	P	**P**	**21 29 24.7**	**-0.1**
YKA	**Yellowknife Ar**	**40.55**	**45**	P	**P**	**21 29 25.1**	**+0.3**
	comp=Z,73nm,0.9s,baz=300,slow=8.3,SNR=65						
YKA				PcP	**PcP**	**21 31 26.0**	**+0.1**
	comp=Z,46nm,0.9s,baz=306,slow=3.7,SNR=7.9						
YKA				ScP	**ScP**	**21 35 12.7**	**+3.0**
	comp=Z,5.9nm,1.1s,baz=298,slow=3.9,SNR=3.4						
	comp=Z,73nm,0.9s						
HOLB	**Holberg**	**40.56**	**67**	P	**P**	**21 29 26.1**	**+1.1**
HOLB				IAmb	IAmb	21 29 44.3	
	comp=Z,365nm,1.2s						
RES	**Resolute Bay**	**40.58**	**23**	P	**P**	**21 29 24.6**	**-0.3**
RES				IAmb	IAmb	21 29 41.3	
	comp=Z,316nm,1.3s						
RES	**Resolute Bay**	**40.58**	**23**	LR	LR	21 46 56.6	
	comp=Z,7μm,21.4s,baz=306,slow=37						
RES	**Resolute Bay**	**40.58**	**23**	⇑P	**P**	**21 29 24.9**	**0.0**
RES	**Resolute Bay**	**40.58**	**23**	P	**P**	**21 29 24.6**	**-0.3**
RES				pmax	pmax		
	comp=Z,316nm,1.3s						
JMJ	**Miyako jima 2**	**40.83**	**236**	P	**P**	**21 29 28.5**	**+1.0**
WHN	**Wuhan**	**41.79**	**253**	⇑P	**P**	**21 29 33.1**	**-2.2**
WHN				sP	**sP**	**21 29 59.8**	**+2.2**
WHN				PP	**PP**	**21 31 13.3**	**+0.5**
WHN				S	**S**	**21 35 45.6**	**-2.7**
WHN				ScS	**ScS**	**21 39 31.6**	**-0.7**
WHN				pmax	pmax		
	comp=Z,140nm,0.8s						
WHN				pmax	pmax		
	comp=Z,3μm,12.7s						
WHN				LR	LR		
	comp=Z,20μm,17.7s						
WHN				LR	LR		
	comp=Z,50μm,23.5s						
WHN				LR	LR		
	comp=Z,38μm,27.1s						
XAN	**Xi'an**	**42.17**	**262**	⇑P	**P**	**21 29 36.3**	**-2.1**
XAN				pP	pP	21 29 52.3	-1.5
XAN				PP	**PP**	**21 31 18.8**	**+2.0**
XAN				ScS	ScS	21 39 32.9	-1.8
XAN				pmax	pmax		
	comp=Z,34nm,1.6s						
XAN				pmax	pmax		
	comp=Z,2μm,11.4s						
XAN				LR	LR		
	comp=Z,15μm,12.4s						
XAN				LR	LR		
	comp=Z,12μm,13.1s						
XAN				LR	LR		
	comp=Z,18μm,15.1s						
YOJ	**Yonaguni jima**	**42.22**	**239**	P	**P**	**21 29 39.1**	**+0.3**
YOJ	**Yonaguni jima**	**42.22**	**239**	P	**P**	**21 29 39.1**	**+0.3**
YOJ				pmax	pmax		
	comp=Z,101nm,1.0s						
CBB	**Campbell River**	**42.35**	**66**	P	**P**	**21 29 39.6**	**-0.1**
CBB				IAmb	IAmb	21 29 59.1	
	comp=Z,593nm,1.9s						
ZAA0	**Zalesovo Array**	**42.46**	**301**	P	**P**	**21 29 39.0**	**-1.5**
ZALV	**Zalesovo Beam**	**42.46**	**301**	P	**P**	**21 29 38.9**	**-1.6**
ZALV	**Zalesovo Beam**	**42.46**	**301**	P	**P**	**21 29 39.0**	**-1.5**
	comp=Z,14nm,0.6s,baz=56,slow=6.7,SNR=60						
ZALV				PcP	**PcP**	**21 31 29.3**	**-3.0**
	comp=Z,48nm,0.9s,baz=61,slow=3.7,SNR=7.7						
ZALV				ScP	**ScP**	**21 35 17.5**	**0.0**
	comp=Z,20nm,0.9s,baz=62,slow=3.9,SNR=6.0						
ZALV				LR	LR	21 48 53.2	
	comp=Z,12μm,19.1s,baz=52,slow=38						
ZALV				P4KPbc		22 07 39.3	
	comp=Z,0.7nm,0.6s,baz=29,slow=3.4,SNR=5.6						
	comp=Z,14nm,0.6s						
TATO	**Taipei**	**42.54**	**241**	P	**P**	**21 29 41.0**	**-0.4**
YHNB	**Yeheng**	**42.85**	**241**	P	**P**	**21 29 43.4**	**-0.7**
YHNB				IAMs_20	IAMs_20	21 47 26.5	
	comp=Z,10μm,22.0s						

YHNB	**Yeheng**	**42.85 241**		P	**P**	**21 29 45.7**	**+1.6**
NOR	**Nord**	**43.06 360**	*i*	P	**P**	**21 29 44.0**	**-1.1**
NOR				IAmb	IAmb	21 30 01.1	
	comp=Z,248nm,1.5s						
NACB	**Ninganchiao**	**43.15 240**		IAMs_20	IAMs_20	21 49 24.7	
	comp=Z,10μm,20.0s						
GTA	**Gaotai**	**43.53 275**		P	**P**	**21 29 48.6**	**-0.9**
GTA				pP	pP	21 30 05.1	+0.2
GTA				sP	sP	21 30 10.9	-1.0
GTA				PP	**PP**	**21 31 32.4**	**+0.9**
GTA				PcP	**PcP**	**21 31 37.3**	**+1.0**
GTA				ScP	**ScP**	**21 35 23.6**	**+1.3**
GTA				PcS	**PcS**	**21 35 29.5**	**+0.3**
GTA				S	**S**	**21 36 18.9**	**+4.9**
GTA				ScS	**ScS**	**21 39 43.0**	**-0.2**
GTA				pmax	pmax		
	comp=Z,26nm,1.5s						
GTA				pmax	pmax		
	comp=Z,2μm,10.5s						
GTA				LR	LR		
	comp=Z,11μm,19.3s						
GTA				LR	LR		
	comp=Z,12μm,20.0s						
GTA				LR	LR		
	comp=Z,10μm,23.6s						
LZH	**Lanzhou**	**43.56 269**	⇑	*i* P	**P**	**21 29 48.3**	**-1.5**
LZH				pP	pP	21 30 04.8	-0.4
LZH				sP	sP	21 30 14.8	+2.6
LZH				PP	**PP**	**21 31 32.4**	**+0.5**
LZH				PcP	**PcP**	**21 31 37.8**	**+1.3**
LZH				PcS	**PcS**	**21 35 31.4**	**+1.9**
LZH				ScS	ScS	21 39 42.1	-1.5
LZH				pmax	pmax		
	comp=Z,110nm,1.3s						
LZH				pmax	pmax		
	comp=Z,2μm,11.6s						
LZH				LR	LR		
	comp=Z,12μm,18.2s						
LZH				LR	LR		
	comp=Z,11μm,17.5s						
LZH				LR	LR		
	comp=Z,13μm,22.0s						
LLLB	**Lillooet**	**43.79 63**		P	**P**	**21 29 52.4**	**+1.0**
SSLB	**Suanglung**	**43.79 241**		P	**P**	**21 29 51.1**	**-0.6**
SSLB				IAMs_20	IAMs_20	21 49 44.6	
	comp=Z,8μm,20.0s						
SSLB	**Suanglung**	**43.79 241**		P	**P**	**21 29 52.3**	**+0.7**
KEKH	**Kekaha**	**43.89 124**			**P**	**21 29 52.2**	**-0.1**
KEKH				IAmb	IAmb	21 30 12.8	
	comp=Z,451nm,1.1s						
YULB	**Yu-li**	**43.95 240**		P	**P**	**21 29 51.9**	**-1.1**
YULB	**Yu-li**	**43.95 240**		P	**P**	**21 29 53.4**	**+0.5**
GUMO	**Guam**	**43.98 205**		LR	LR	21 47 05.0	
	comp=Z,5μm,20.9s,baz=36,slow=34						
QZH	**Quanzhou**	**44.02 244**		P	**P**	**21 29 49.6**	**-3.8**
QZH				PP	**PP**	**21 31 35.5**	**-1.3**
QZH				PcS	**PcS**	**21 35 30.3**	**-0.9**
QZH				S	**S**	**21 36 18.3**	**-2.8**
QZH				sS	**sS**	**21 36 45.8**	**-0.9**
QZH				pmax	pmax		
	comp=Z,2μm,8.4s						
QZH				LR	LR		
	comp=Z,7μm,19.2s						
QZH				LR	LR		
	comp=Z,9μm,20.3s						
QZH				LR	LR		
	comp=Z,7μm,24.4s						
C03A	**Quillayute Air**	**44.04 68**		P	**P**	**21 29 53.2**	**0.0**
C03A				IAmb	IAmb	21 30 10.4	
	comp=Z,542nm,1.4s						
PGC	**Sidney**	**44.19 66**		P	**P**	**21 29 54.9**	**+0.4**
PGC				IAmb	IAmb	21 30 13.2	
	comp=Z,671nm,1.9s						
TULEG	**Thule**	**44.25 15**		P	**P**	**21 29 53.7**	**-0.9**
TULEG				IAmb	IAmb	21 30 32.9	
	comp=Z,410nm,1.5s						
TULEG				IAMs_20	IAMs_20	21 51 26.7	
	comp=Z,11μm,18.0s						
TULEG	**Thule**	**44.25 15**	*i*	P	**P**	**21 29 53.1**	**-1.5**
TULEG				IAmb	IAmb	21 30 14.7	
	comp=Z,359nm,1.5s						
TPUB	**Ta-pu**	**44.36 241**		P	**P**	**21 29 55.5**	**-0.7**
TPUB				IAmb	IAmb	21 31 43.0	
	comp=Z,316nm,1.1s						
TPUB	**Ta-pu**	**44.36 241**		P	**P**	**21 29 56.4**	**+0.2**
CNSH	**ChangSha**	**44.40 253**		P	**P**	**21 29 54.4**	**-2.0**
CNSH				PP	**PcP**	**21 31 35.8**	**-3.5**
CNSH				S	**S**	**21 36 27.0**	**+0.4**
CNSH				pmax	pmax		
	comp=Z,28nm,0.8s						
CNSH				LR	LR		
	comp=Z,9μm,21.0s						
CNSH				LR	LR		
	comp=Z,9μm,22.1s						
CNSH				LR	LR		
	comp=Z,11μm,18.9s						
JOHN	**Johnston Islan**	**44.41 139**		P	**P**	**21 29 56.6**	**+0.1**
JOHN				IAmb	IAmb	21 29 60.0	
	comp=Z,454nm,1.2s						
JOHN	**Johnston Islan**	**44.41 139**		P	**P**	**21 29 59.7**	**+3.2**
JOHN	**Johnston Islan**	**44.41 139**		P	**P**	**21 29 57.3**	**+0.8**
JOHN				pP	**pP**	**21 30 12.2**	**+1.4**
TWGBT	**Beinan**	**44.55 240**		P	**P**	**21 29 58.4**	**+0.8**
TWG	**Pinlang**	**44.55 240**		P	**P**	**21 29 56.7**	**-1.0**
KBS	**Kingsbay**	**44.58 352**		P	**P**	**21 29 57.5**	**+0.2**
KBS				IAmb	IAmb	21 30 18.5	
	comp=Z,808nm,1.5s						
KBS	**Kingsbay**	**44.58 352**	⇑	*i* P	**P**	**21 29 58.0**	**+0.7**
KBS				IVmB_BB		21 30 00.5	
	comp=Z,5μm,2.8s						
KBS				*e*S	**S**	**21 36 29.1**	**+1.1**
KBS				*e*SS	**SS**	**21 39 52.0**	**+3.0**
KBS				IVMs_BB	IVMs_BB	21 47 23.6	
	comp=Z,5μm,17.6s						
KBS	**Kingsbay**	**44.58 352**	⇑	P	**P**	**21 29 58.3**	**+1.0**
KBS	**Kingsbay**	**44.58 352**	*i*	P	**P**	**21 29 57.2**	**-0.1**
KBS				pmax	pmax		
	comp=Z,222nm,1.0s						
KBS				MLR	MLR		
	comp=Z,16μm,21.0s						
KBS	**Kingsbay**	**44.58 352**	*i*	P	**P**	**21 29 57.8**	**+0.5**
KBS	**Kingsbay**	**44.58 352**		P	**P**	**21 29 58.1**	**+0.9**
KBS				pP	**pP**	**21 30 13.0**	**+0.4**
ENH	**Enshi**	**44.67 258**		P	**P**	**21 29 56.5**	**-2.2**
ENH				IAmb	IAmb	21 31 42.8	
	comp=Z,236nm,1.0s						
ENH				IAMs_20	IAMs_20	21 51 21.9	
	comp=Z,10μm,20.0s						
ENH	**Enshi**	**44.67 258**		P	**P**	**21 29 56.6**	**-2.0**
ENH	**Enshi**	**44.67 258**		P	**P**	**21 29 56.5**	**-2.2**
ENH				PcP	**PcP**	**21 31 40.3**	**+0.1**
NLWA	**Neilton Lookou**	**44.76 68**		P	**P**	**21 30 00.1**	**+1.0**
NLWA	**Neilton Lookou**	**44.76 68**	⇓	P	**P**	**21 30 01.0**	**+1.9**
SPA0	**Spitsbergen Ar**	**44.88 351**	*e*	P	**P**	**21 29 59.7**	**0.0**
SPA0				IVmB_BB		21 30 16.1	
	comp=Z,13μm,1.2s						
SPA0				*e*PP	**PP**	**21 31 45.6**	**+0.5**
SPA0				*e*S	**S**	**21 36 33.8**	**+1.3**
SPITS	**Spitsbergen Ar**	**44.88 351**		P	**P**	**21 29 59.7**	**0.0**
	comp=Z,183nm,0.5s,baz=30,slow=8.0,SNR=178						
SPITS				LR	LR	21 49 17.6	
	comp=Z,14μm,18.9s,baz=352,slow=37						
	comp=Z,183nm,0.5s						
SPITS	**Spitsbergen Ar**	**44.88 351**		P	**P**	**21 29 59.4**	**-0.3**
SPITS				pmax	pmax		
	comp=Z,2μm,1.2s						
SPB2	**Spitsbergen Ar**	**44.88 351**		P	**P**	**21 29 59.2**	**-0.5**
KIP	**Kipapa**	**45.17 123**			**P**	**21 30 03.9**	**+1.3**
KIP	**Kipapa**	**45.17 123**		P	**P**	**21 30 05.5**	**+2.9**
KIP	**Kipapa**	**45.17 123**		P	**P**	**21 30 05.6**	**+2.9**
KIP	**Kipapa**	**45.17 123**	*i*	P	**P**	**21 30 03.7**	**+1.1**
KIP				pmax	pmax		
	comp=Z,146nm,0.9s						
KIP				MLR	MLR		
	comp=Z,1μm,18.0s						
KIP	**Kipapa**	**45.17 123**		P	**P**	**21 30 05.4**	**+2.8**
KIP				pP	**pwP**	**21 30 22.3**	**+0.7**
HOPEN	**Hopen**	**45.38 347**		IVmB_BB		21 30 06.1	
	comp=Z,4μm,1.9s						
HOPEN				*e*P	**P**	**21 30 06.2**	**+2.6**
HOPEN				*e*S	**S**	**21 36 40.4**	**+0.7**
HOPEN				*e*SS	**SS**	**21 40 06.9**	**+3.6**
HOPEN				IVMs_BB	IVMs_BB	21 49 36.9	
	comp=Z,5μm,23.0s						
NEEM	**North Greenlan**	**45.64 10**	*i*	P	**P**	**21 30 05.0**	**-1.1**
NEEM				IAmb	IAmb	21 30 07.6	
	comp=Z,340nm,0.7s						
HSPB	**Hornsund (broa**	**46.02 350**		*e*P	**P**	**21 30 08.8**	**+0.1**
HSPB				*e*S	**S**	**21 36 48.8**	**-0.1**
HSPB				*e*L	L	21 46 29.1	
	comp=Z,14μm,25.1s						
F04D	**Rainier, OR**	**46.05 69**		P	**P**	**21 30 09.4**	**+0.2**
F04D				IAmb	IAmb	21 30 33.6	
	comp=Z,223nm,1.0s						
ZSN	**Zaisan**	**46.40 294**		*e*P	**P**	**21 30 11.1**	**-1.0**
ZSN				*e*S	**S**	**21 36 53.7**	**-1.4**
ZSN	**Zaisan**	**46.40 294**		*e*P	**P**	**21 30 11.1**	**-1.0**
ZSN				*e*S	**S**	**21 36 53.7**	**-1.4**
HLK	**Haleakala**	**46.59 121**			**P**	**21 30 14.0**	**-0.1**
SEM	**Semipalatinsk**	**46.84 300**		*e*P	**P**	**21 30 14.5**	**-1.3**
	comp=Z,195nm,1.3s						
SEM				*e*S	**S**	**21 37 00.3**	**-1.5**
SEM				LR	LR	21 50 13.4	
	comp=Z,9μm,18.0s						
SEM	**Semipalatinsk**	**46.84 300**		*e*P	**P**	**21 30 14.4**	**-1.3**
SEM				*e*S	**S**	**21 37 00.2**	**-1.5**
SEM				pmax	pmax		
	comp=Z,195nm,1.3s						
SEM				MLR	MLR		
	comp=Z,9μm,18.0s						
COR	**Corvallis**	**46.87 71**		P	**P**	**21 30 16.1**	**+0.4**
COR				IAmb	IAmb	21 30 37.5	
	comp=Z,416nm,1.4s						
COR	**Corvallis**	**46.87 71**	⇑	P	**P**	**21 30 16.8**	**+1.1**
COR	**Corvallis**	**46.87 71**		P	**P**	**21 30 16.1**	**+0.4**
COR				pmax	pmax		
	comp=Z,416nm,1.5s						
COR	**Corvallis**	**46.87 71**		P	**P**	**21 30 17.9**	**+2.2**
COR				pP	**pwP**	**21 30 33.8**	**+0.9**
WMQ	**Urumqi**	**47.28 288**	⇑	P	**P**	**21 30 19.1**	**0.0**
WMQ				pP	pP	21 30 34.5	-0.2
WMQ				PP	**PP**	**21 32 06.5**	**-3.8**
WMQ				PcS	**PcS**	**21 35 43.5**	**-1.0**
WMQ				S	**S**	**21 37 07.8**	**-0.1**
WMQ				sS	sS	21 37 30.4	-3.3
WMQ				pmax	pmax		
	comp=Z,3μm,3.8s						
WMQ				LR	LR		
	comp=Z,37μm,16.1s						
WMQ				LR	LR		
	comp=Z,23μm,24.1s						
WMQ				LR	LR		
	comp=Z,20μm,24.0s						
CD2	**Chengdu**	**47.40 264**		P	**P**	**21 30 18.8**	**-1.3**
CD2				pP	pP	21 30 34.3	-1.4
CD2				sP	sP	21 30 40.3	-2.3
CD2				PP	**PP**	**21 32 11.0**	**-0.6**
CD2				S	**S**	**21 37 04.3**	**-5.4**
CD2				sS	sS	21 37 32.1	-3.5
CD2				pmax	pmax		
	comp=Z,70nm,0.8s						
CD2				pmax	pmax		
	comp=Z,2μm,8.7s						
CD2				LR	LR		
	comp=Z,9μm,15.3s						
CD2				LR	LR		
	comp=Z,8μm,12.4s						
CD2				LR	LR		
	comp=Z,8μm,14.8s						
KURK	**Kurchatov**	**47.45 301**		P	**P**	**21 30 18.1**	**-2.1**
KURK	**Kurchatov**	**47.45 301**		P	**P**	**21 30 18.9**	**-1.2**
KURK				P	**P**	**21 30 18.9**	**-1.2**
KURK	**Kurchatov**	**47.45 301**	⇑	P	**P**	**21 30 18.5**	**-1.6**
KURK	**Kurchatov**	**47.45 301**		P	**P**	**21 30 19.3**	**-0.8**
KURK						21 31 50.0	
KURK				S	**S**	**21 37 10.4**	**+0.6**
KURK	**Kurchatov**	**47.45 301**		P	**P**	**21 30 18.6**	**-1.6**
KURK				pP	**pP**	**21 30 34.1**	**-1.6**
HPAH	**Hawaii Prepara**	**47.48 121**			**P**	**21 30 21.4**	**+0.6**
KULLO	**Kullorsuaq**	**47.51 13**	⇑	P	**P**	**21 30 20.2**	**-0.1**
KULLO	**Kullorsuaq**	**47.51 13**	*i*	P	**P**	**21 30 19.2**	**-1.1**
KULLO				IAmb	IAmb	21 30 21.6	
	comp=Z,448nm,0.9s						
KURBB	**Kurchatov Arra**	**47.55 301**		P	**P**	**21 30 19.3**	**-1.6**
	comp=Z,318nm,0.8s,baz=56,slow=7.9,SNR=356						
KURBB				PcP	**PcP**	**21 31 50.0**	**0.0**
	comp=Z,72nm,1.0s,baz=45,slow=3.3,SNR=5.3						
KURBB				ScP	**ScP**	**21 35 38.8**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=52,slow=3.8,SNR=3.2						
KURBB				S	**S**	**21 37 10.4**	**-0.9**
	comp=Z,14nm,1.1s,baz=48,slow=12,SNR=4.7						
KURBB				LR	LR	21 51 45.0	
	comp=Z,23μm,20.1s,baz=54,slow=38						
KURBB				PKPPKP	P'P'df	22 01 09.6	-29
	comp=Z,1.5nm,1.1s,baz=195,slow=2.9,SNR=4.2						
KURBB				P4KPbc		22 08 00.9	
	comp=Z,4.1nm,0.9s,baz=51,slow=3.7,SNR=24						
	comp=Z,318nm,0.8s						
HAWA	**Hanford**	**47.67 66**		P	**P**	**21 30 22.2**	**+0.3**
HAWA				IAmb	IAmb	21 30 37.8	
	comp=Z,259nm,1.6s						
HAWA	**Hanford**	**47.67 66**	⇑	P	**P**	**21 30 22.3**	**+0.3**
NEW	**Newport**	**47.68 63**		IAMs_20	IAMs_20	21 51 48.0	
	comp=Z,6μm,19.0s						
NEW	**Newport**	**47.68 63**		LR	LR	21 52 07.9	
	comp=Z,6μm,18.0s,baz=308,slow=38						
NEW	**Newport**	**47.68 63**	⇑	P	**P**	**21 30 22.2**	**+0.1**
POHA	**Pohakuloa**	**47.79 121**			**P**	**21 30 23.8**	**+0.4**
POHA	**Pohakuloa**	**47.79 121**		P	**P**	**21 30 27.9**	**+4.5**
POHA	**Pohakuloa**	**47.79 121**		P	**P**	**21 30 26.1**	**+2.7**
POHA				pP	**pwP**	**21 30 42.6**	**0.0**
BJO1	**Bjornoya**	**47.88 347**	*e*	P	**P**	**21 30 23.6**	**+0.4**
BJO1				IVmB_BB		21 30 25.3	
	comp=Z,6μm,2.3s						
BJO1				*e*S	**S**	**21 37 15.6**	**+0.1**
BJO1				*e*SS	**SS**	**21 40 48.3**	**+4.5**
BJO1				IVMs_BB	IVMs_BB	21 51 33.3	
	comp=Z,4μm,13.2s						
DAG	**Danmarks Havn**	**47.92 0**		P	**P**	**21 30 22.3**	**-1.2**
DAG	**Danmarks Havn**	**47.92 0**	⇑	P	**P**	**21 30 22.0**	**-1.5**
DAG	**Danmarks Havn**	**47.92 0**	*i*	P	**P**	**21 30 22.0**	**-1.5**
DAG				IAmb	IAmb	21 30 39.8	
	comp=Z,286nm,0.9s						
GULI	**GuiLin**	**48.08 253**		P	**P**	**21 30 24.0**	**-1.4**
GULI				S	**S**	**21 37 11.4**	**-8.0**
GULI				pmax	pmax		
	comp=Z,60nm,0.8s						
GULI				LR	LR		
	comp=Z,6μm,22.8s						
GULI				LR	LR		
	comp=Z,5μm,18.4s						
GULI				LR	LR		
	comp=Z,9μm,19.2s						
MK31	**Makanchi Array**	**48.16 295**		P	**P**	**21 30 24.2**	**-1.6**
MK31	**Makanchi Array**	**48.16 295**		P	**P**	**21 30 24.2**	**-1.6**
MK31				pmax	pmax		
	comp=Z,104nm,0.9s						
MKAR	**Makanchi Array**	**48.16 295**		P	**P**	**21 30 24.0**	**-1.8**
MKAR	**Makanchi Array**	**48.16 295**		P	**P**	**21 30 24.4**	**-1.4**
	comp=Z,80nm,0.7s,baz=50,slow=7.2,SNR=256						
MKAR				PcP	**PcP**	**21 31 51.3**	**-1.0**
	comp=Z,30nm,0.9s,baz=53,slow=4.1,SNR=1.8						
MKAR				ScP	**ScP**	**21 35 41.6**	**+0.4**
	comp=Z,8.2nm,0.9s,baz=52,slow=4.6,SNR=2.5						
MKAR				S	**S**	**21 37 18.9**	**-1.3**
	comp=Z,10nm,1.1s,baz=51,slow=14,SNR=3.4						
MKAR				LR	LR	21 51 53.2	
	comp=Z,23μm,19.3s,baz=26,slow=38						
MKAR				PKPPKP	P'P'df	22 01 09.2	-28
	comp=Z,1.2nm,0.8s,baz=211,slow=1.2,SNR=3.9						
MKAR				P4KPbc		22 08 04.4	
	comp=Z,1.7nm,1.0s,baz=61,slow=4.4,SNR=6.7						
	comp=Z,80nm,0.7s						
GZH	**Guangzhou**	**48.27 248**		P	**P**	**21 30 22.1**	**-4.7**
GZH				PcP	**PcP**	**21 31 52.8**	**-0.1**
GZH				S	**S**	**21 37 13.0**	**-9.0**
GZH				LR	LR		
	comp=Z,7μm,21.0s						
GZH				LR	LR		
	comp=Z,6μm,18.6s						
MAKZ	**Makanchi**	**48.31 295**		P	**P**	**21 30 25.2**	**-1.7**
MAKZ				IAmb	IAmb	21 30 55.2	
	comp=Z,148nm,1.1s						
MAKZ	**Makanchi**	**48.31 295**		P	**P**	**21 30 25.2**	**-1.7**
MAKZ				pmax	pmax		
	comp=Z,148nm,1.1s						
MAKZ				MLR	MLR		
	comp=Z,21μm,19.0s						
MAKZ	**Makanchi**	**48.31 295**		P	**P**	**21 30 25.0**	**-2.0**
HUMO	**Hull Mountain**	**48.38 72**		P	**P**	**21 30 28.1**	**+0.6**
HUMO	**Hull Mountain**	**48.38 72**	⇑	P	**P**	**21 30 28.6**	**+1.1**
KSXB	**Camp Six Broad**	**48.41 74**		P	**P**	**21 30 29.0**	**+1.1**
HKPS	**Hong Kong Po S**	**48.51 247**		IAMs_20	IAMs_20	21 52 48.3	
	comp=Z,8μm,19.0s						
GOMU	**GeErMu**	**48.60 276**		P	**P**	**21 30 27.8**	**-1.9**
GOMU				PcP	**PcP**	**21 31 55.1**	**+0.6**
GOMU				PP	**PP**	**21 32 24.3**	**+1.5**
GOMU				S	**S**	**21 37 26.1**	**-1.1**
GOMU				pmax	pmax		
	comp=Z,180nm,0.7s						
GOMU				LR	LR		
	comp=Z,17μm,13.4s						
GOMU				LR	LR		
	comp=Z,8μm,14.1s						
GOMU				LR	LR		
	comp=Z,23μm,13.7s						
KRMB	**Red Mountain**	**48.61 74**		P	**P**	**21 30 30.5**	**+1.1**
KRMB				IAmb	IAmb	21 30 53.6	
	comp=Z,240nm,1.4s						
YBH	**Yreka Blue Hor**	**49.12 73**		LR	LR	21 49 14.7	
	comp=Z,4μm,21.9s,baz=312,slow=33						
F10A	**Beach Ranch, E**	**49.15 65**	⇑	P	**P**	**21 30 33.6**	**+0.2**
GYA	**Guiyang**	**49.19 257**	⇑	P	**P**	**21 30 32.6**	**-1.4**
GYA				pP	pP	21 30 47.6	-2.0
GYA				PcP	**PcP**	**21 31 57.1**	**+0.7**
GYA				PcS	**PcS**	**21 35 53.3**	**+0.1**
GYA				S	**S**	**21 37 30.9**	**-4.3**
GYA				ScS	**ScS**	**21 40 19.9**	**-0.5**
GYA				pmax	pmax		
	comp=Z,58nm,1.2s						
GYA				pmax	pmax		
	comp=Z,2μm,6.6s						
GYA				LR	LR		
	comp=Z,7μm,17.1s						
GYA				LR	LR		
	comp=Z,6μm,20.6s						
GYA				LR	LR		
	comp=Z,11μm,25.0s						
UPNV	**Upernavik**	**49.24 14**	*i*	P	**P**	**21 30 32.7**	**-1.0**
UPNV				IAmb	IAmb	21 30 34.5	
	comp=Z,274nm,1.0s						
SZP	**Santa**	**49.34 237**		P	**P**	**21 30 36.5**	**+1.5**
BVAR	**Borovoye Array**	**49.78 308**		P	**P**	**21 30 36.5**	**-1.5**
	comp=Z,251nm,0.6s,baz=57,slow=7.6,SNR=476						
BVAR				PcP	**PcP**	**21 31 58.2**	**+0.2**
	comp=Z,28nm,0.6s,baz=61,slow=4.2,SNR=1.8						
BVAR				ScP	**ScP**	**21 35 48.3**	**+0.3**
	comp=Z,31nm,1.0s,baz=49,slow=4.3,SNR=4.1						
BVAR				LR	LR	21 54 26.9	
	comp=Z,16μm,18.9s,baz=49,slow=39						
BVAR				P4KPbc		22 08 10.9	
	comp=Z,3.0nm,0.9s,baz=58,slow=3.7,SNR=11						
	comp=Z,251nm,0.6s						
BRVK	**Borovoye**	**49.81 308**		P	**P**	**21 30 36.4**	**-1.8**
BRVK	**Borovoye**	**49.81 308**		P	**P**	**21 30 37.0**	**-1.2**
BRVK	**Borovoye**	**49.81 308**	⇑	P	**P**	**21 30 36.6**	**-1.6**
BRVK	**Borovoye**	**49.81 308**	*i*	P	**P**	**21 30 36.8**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,226nm,0.6s						
BRVK				MLR	MLR		
	comp=Z,17μm,18.0s						
BRVK	**Borovoye**	**49.81 308**		P	**P**	**21 30 36.8**	**-1.4**
BMO	**Blue Mountains**	**49.86 67**		P	**P**	**21 30 39.2**	**+0.3**
BMO				IAmb	IAmb	21 31 03.2	
	comp=Z,185nm,1.4s						
BMO	**Blue Mountains**	**49.86 67**	⇑	P	**P**	**21 30 39.4**	**+0.5**
BMO	**Blue Mountains**	**49.86 67**		P	**P**	**21 30 39.2**	**+0.3**
BMO				pmax	pmax		
	comp=Z,185nm,1.4s						
BMO				MLR	MLR		
	comp=Z,5μm,21.0s						
VADS	**Vadso**	**50.09 341**	*e*	P	**P**	**21 30 39.2**	**-0.9**
VADS				IVmB_BB		21 30 40.5	
	comp=Z,4μm,2.5s						
VADS				*e*S	**S**	**21 37 44.8**	**-1.7**
VADS				IVMs_BB	IVMs_BB	21 48 19.0	
	comp=Z,3μm,40.3s						
MSO	**Missoula**	**50.25 63**	⇑	P	**P**	**21 30 41.9**	**+0.1**
PLID	**Pearl Lake**	**50.38 66**		P	**P**	**21 30 43.1**	**+0.1**
PLID				IAmb	IAmb	21 30 46.7	
	comp=Z,146nm,1.0s						
DBG	**Daneborg**	**50.39 1**	*i*	P	**P**	**21 30 41.7**	**-0.6**
DBG				IAmb	IAmb	21 30 43.5	
	comp=Z,95nm,0.8s						
FFC	**Flin Flon**	**50.47 48**		P	**P**	**21 30 42.9**	**-0.3**
FFC				IAmb	IAmb	21 31 02.9	
	comp=Z,225nm,1.2s						
FFC	**Flin Flon**	**50.47 48**	⇑	P	**P**	**21 30 43.4**	**+0.2**
FFC	**Flin Flon**	**50.47 48**		P	**P**	**21 30 42.9**	**-0.3**
FFC				pmax	pmax		
	comp=Z,225nm,1.3s						
FFC	**Flin Flon**	**50.47 48**		P	**P**	**21 30 42.9**	**-0.3**
FFC				PcP	**PcP**	**21 32 00.7**	**+0.3**
OVMT	**Ovando**	**50.56 62**		P	**P**	**21 30 44.4**	**+0.2**
HAMF	**Hammerfest**	**50.63 343**	*e*	P	**P**	**21 30 44.1**	**-0.1**
HAMF				IVmB_BB		21 30 44.3	
	comp=Z,3μm,2.6s						
HAMF				*e*S	**S**	**21 37 53.1**	**-0.9**
HAMF				IVMs_BB	IVMs_BB	21 55 00.8	
	comp=Z,3μm,3.7s						
NUUG	**Nuugaatsiaq**	**50.76 14**	*i*	P	**P**	**21 30 43.6**	**-1.6**
NUUG				IAmb	IAmb	21 30 46.3	
	comp=Z,80nm,0.9s						
FCC	**Fort Churchill**	**50.81 41**		P	**P**	**21 30 45.8**	**+0.1**
FCC				IAmb	IAmb	21 30 47.6	
	comp=Z,203nm,0.8s						
FCC	**Fort Churchill**	**50.81 41**		P	**P**	**21 30 45.8**	**+0.1**
FCC				pmax	pmax		
	comp=Z,203nm,0.8s						
WVOR	**Wild Horse Val**	**50.82 70**	⇑	P	**P**	**21 30 46.9**	**+0.7**
HOPS	**Hopland Field**	**50.83 76**		IAMs_20	IAMs_20	21 50 01.9	
	comp=Z,5μm,19.0s						
KEV	**Kevo**	**50.83 342**		P	**P**	**21 30 44.6**	**-1.1**
KEV				IAMs_20	IAMs_20	21 54 05.8	
	comp=Z,9μm,22.0s						
KEV	**Kevo**	**50.83 342**	⇓	P	**P**	**21 30 44.8**	**-0.9**
KEV	**Kevo**	**50.83 342**		P	**P**	**21 30 44.6**	**-1.1**
KEV				pmax	pmax		
	comp=Z,78nm,0.8s						
KEV				MLR	MLR		
	comp=Z,9μm,22.0s						
LVZ	**Lovozero**	**50.87 337**		P	**P**	**21 30 45.1**	**-0.9**
LVZ				IAmb	IAmb	21 30 48.0	
	comp=Z,351nm,1.2s						
LVZ	**Lovozero**	**50.87 337**	⇓	P	**P**	**21 30 45.1**	**-0.9**
LVZ	**Lovozero**	**50.87 337**	*i*	P	**P**	**21 30 44.4**	**-1.7**
LVZ				pmax	pmax		
	comp=Z,459nm,1.8s						
LVZ				MLR	MLR		
	comp=Z,20μm,24.0s						
LVZ	**Lovozero**	**50.87 337**		P	**P**	**21 30 44.7**	**-1.4**
	comp=Z,277nm,0.8s,comp=Z,5μm						
LVZ	**Lovozero**	**50.87 337**		P	**P**	**21 30 44.9**	**-1.2**
L

SUMG	**Summit**	**51.34**	**8**	P	**P**	**21 30 50.0**	**0.0**
SUMG				IAmb	IAmb	21 30 51.9	
	comp=Z,284nm,0.9s						
SUMG	**Summit**	**51.34**	**8**	P	**P**	**21 30 49.7**	**-0.3**
SUMG	**Summit**	**51.34**	**8**	⇑P	**P**	**21 30 50.0**	**0.0**
SUMG	**Summit**	**51.34**	**8**	P	**P**	**21 30 50.0**	**0.0**
SUMG				pmax	pmax		
	comp=Z,284nm,0.9s						
SUMG				MLR	MLR		
	comp=Z,16μm,21.0s						
SUMG	**Summit**	**51.34**	**8**	*i* P	**P**	**21 30 49.0**	**-1.0**
SUMG				IAmb	IAmb	21 30 52.2	
	comp=Z,264nm,0.8s						
TDK	**Taldyqorghan**	**51.37 295**		*eP*	**P**	**21 30 49.3**	**-0.8**
	comp=Z,356nm,1.1s						
TDK				*e*S	**S**	**21 38 03.8**	**-1.2**
TDK				LR	LR	21 52 57.4	
	comp=Z,12μm,18.8s						
TDK	**Taldyqorghan**	**51.37 295**		*eP*	**P**	**21 30 49.3**	**-0.8**
TDK				*e*S	**S**	**21 38 03.7**	**-1.2**
TDK				pmax	pmax		
	comp=Z,356nm,1.1s						
TDK				MLR	MLR		
	comp=Z,12μm,19.0s						
APA	**Apatity**	**51.41 337**		⇓*i* P	**P**	**21 30 48.4**	**-1.7**
APA				*i*		21 32 08.0	
APA				*i* S	**S**	**21 38 00.0**	**-4.8**
APA				*i* SSS	SSS	21 43 25.0	
APA				pmax	pmax		
	comp=Z,66nm,0.7s						
EGMT	**Eagleton**	**51.51**	**59**	P	**P**	**21 30 51.0**	**-0.2**
EGMT				IAmb	IAmb	21 31 12.4	
	comp=Z,462nm,1.6s						
EGMT	**Eagleton**	**51.51**	**59**	⇑P	**P**	**21 30 51.1**	**0.0**
MCCM	**Marconi Confer**	**51.53**	**77**	⇓P	**P**	**21 30 52.5**	**+1.1**
UMMG	**Uummannaq**	**51.70**	**14**	*i* P	**P**	**21 30 50.8**	**-1.3**
UMMG				IAmb	IAmb	21 30 53.4	
	comp=Z,108nm,1.0s						
PZH	**PanZhiHua**	**51.90 262**		P	**P**	**21 30 53.1**	**-1.4**
PZH				PcP	**PcP**	**21 32 07.0**	**+0.6**
PZH				PcS	**PcS**	**21 36 04.1**	**-0.8**
PZH				S	**S**	**21 38 09.5**	**-3.3**
PZH				ScS	**ScS**	**21 40 35.6**	**-3.4**
PZH				pmax	pmax		
	comp=Z,50nm,0.8s						
PZH				pmax	pmax		
	comp=Z,1μm,10.8s						
PZH				LR	LR		
	comp=Z,5μm,15.5s						
PZH				LR	LR		
	comp=Z,3μm,15.7s						
PZH				LR	LR		
	comp=Z,8μm,15.2s						
SHLS	**Shalkode**	**52.11 293**		*eP*	**P**	**21 30 53.3**	**-2.5**
	comp=Z,193nm,0.9s						
SHLS				*e*S	**S**	**21 38 10.6**	**-4.7**
SHLS	**Shalkode**	**52.11 293**		*eP*	**P**	**21 30 53.3**	**-2.5**
SHLS				*e*S	**S**	**21 38 10.6**	**-4.7**
SHLS				pmax	pmax		
	comp=Z,193nm,0.9s						
TGY	**Tagaytay City**	**52.12 234**		P	**P**	**21 30 58.0**	**+2.0**
	comp=Z,2μm,0.8s,baz=277,slow=3.1,SNR=32						
JETT	**Jettan, Norway**	**52.12 344**		*eP*	**P**	**21 30 55.9**	**+0.5**
JETT				IVmB_BB		21 30 57.4	
	comp=Z,7μm,1.5s						
JETT				*e*S	**S**	**21 38 12.9**	**-1.7**
JETT				IVMs_BB	IVMs_BB	21 53 40.9	
	comp=Z,2μm,23.8s						
KTK1	**Kautokeino**	**52.14 343**		*eP*	**P**	**21 30 54.7**	**-0.8**
KTK1				IVmB_BB		21 30 57.3	
	comp=Z,6μm,2.1s						
KTK1				*e*S	**S**	**21 38 12.2**	**-2.7**
KTK1				IVMs_BB	IVMs_BB	21 54 43.3	
	comp=Z,3μm,22.6s						
ARXS	**Arharly**	**52.22 295**		P	**P**	**21 30 55.4**	**-1.1**
HLID	**Hailey**	**52.26**	**66**	P	**P**	**21 30 57.2**	**+0.2**
HLID	**Hailey**	**52.26**	**66**	⇑P	**P**	**21 30 57.5**	**+0.5**
BOZ	**Bozeman (W)**	**52.26**	**62**	P	**P**	**21 30 57.1**	**+0.2**
BOZ				IAmb	IAmb	21 31 13.2	
	comp=Z,500nm,1.9s						
BOZ				IAMs_20	IAMs_20	21 52 51.0	
	comp=Z,6μm,21.0s						
BOZ	**Bozeman (W)**	**52.26**	**62**	⇑P	**P**	**21 30 57.4**	**+0.5**
BOZ	**Bozeman (W)**	**52.26**	**62**	P	**P**	**21 30 57.1**	**+0.2**
BOZ				pmax	pmax		
	comp=Z,500nm,1.9s						
BOZ				MLR	MLR		
	comp=Z,6μm,21.0s						
TRO	**Tromso**	**52.28 345**		*eP*	**P**	**21 30 56.0**	**-0.5**
TRO				IVmB_BB		21 30 57.1	
	comp=Z,5μm,2.5s						
TRO				*e*S	**S**	**21 38 12.8**	**-3.9**
TRO				IVMs_BB	IVMs_BB	21 53 46.4	
	comp=Z,2μm,3.8s						
KPKS	**Kokpek**	**52.30 294**		*eP*	**P**	**21 30 56.4**	**-0.8**
KPKS				*e*S	**S**	**21 38 16.6**	**-1.2**
KPKS	**Kokpek**	**52.30 294**		*eP*	**P**	**21 30 56.3**	**-0.8**
KPKS				*e*S	**S**	**21 38 16.6**	**-1.2**
UZB	**Uzynbulak**	**52.34 293**		*eP*	**P**	**21 30 56.6**	**-1.1**
UZB				*e*S	**S**	**21 38 17.2**	**-1.5**
UZB	**Uzynbulak**	**52.34 293**		*eP*	**P**	**21 30 56.5**	**-1.1**
UZB				*e*S	**S**	**21 38 17.1**	**-1.5**
KMI	**Kunming**	**52.42 260**		⇑P	**P**	**21 30 55.8**	**-2.6**
KMI				sP	pP	21 31 16.9	+2.7
KMI				PcP	**PcP**	**21 32 09.5**	**+1.0**
KMI				S	**S**	**21 38 24.3**	**+4.2**
KMI				pmax	pmax		
	comp=Z,80nm,0.7s						
KMI				pmax	pmax		
	comp=Z,1μm,7.2s						
KMI				LR	LR		
	comp=Z,9μm,19.4s						
KMI				LR	LR		
	comp=Z,7μm,19.8s						
ARTI	**Arti**	**52.47 317**		P	**P**	**21 30 56.6**	**-1.6**
ARTI				IAmb	IAmb	21 30 59.6	
	comp=Z,218nm,0.7s						
ARTI	**Arti**	**52.47 317**		LR	LR	21 55 54.1	
	comp=Z,22μm,19.2s,baz=46,slow=39						
ARTI	**Arti**	**52.47 317**		⇑P	**P**	**21 30 56.8**	**-1.3**
ARTI	**Arti**	**52.47 317**	*c*	*i* P	**P**	**21 30 56.7**	**-1.4**
ARTI				*PP	**pP**	**21 31 14.9**	**+1.0**
ARTI						21 32 06.9	
ARTI				PPP	PPP	21 34 02.7	
ARTI				S	**S**	**21 38 17.3**	**-2.4**
ARTI				*SS	**sS**	**21 38 51.4**	**+5.1**
ARTI						21 40 44.4	
ARTI				pmax	pmax		
	comp=Z,244nm,0.8s						
ARTI				MLR	MLR		
	comp=Z,21μm,19.0s						
ARTI	**Arti**	**52.47 317**		P	**P**	**21 30 56.8**	**-1.4**
ARTI				pP	**pP**	**21 31 12.5**	**-1.4**
ZHN	**Zhinishke**	**52.64 294**		*eP*	**P**	**21 30 58.8**	**-1.0**
ZHN	**Zhinishke**	**52.64 294**		*eP*	**P**	**21 30 58.7**	**-1.0**
SATY	**Saty**	**52.73 294**		*eP*	**P**	**21 30 59.5**	**-1.0**
SATY				*e*S	**S**	**21 38 22.7**	**-1.1**
SATY	**Saty**	**52.73 294**		*eP*	**P**	**21 30 59.4**	**-1.0**
SATY				*e*S	**S**	**21 38 22.6**	**-1.1**
BMN	**Battle Mountai**	**52.99**	**71**	P	**P**	**21 31 03.0**	**+0.6**
BMN				IAmb	IAmb	21 31 07.1	
	comp=Z,167nm,1.2s						
BMN	**Battle Mountai**	**52.99**	**71**	P	**P**	**21 31 03.0**	**+0.6**
BMN				pmax	pmax		
	comp=Z,167nm,1.2s						
YHL	**Hebgen Lake**	**53.01**	**63**	P	**P**	**21 31 03.0**	**+0.4**
PRZ	**Przheval'sk**	**53.14 293**		P	**P**	**21 31 03.7**	**+0.2**
PRZ				IAmb	IAmb	21 32 13.4	
	comp=Z,183nm,1.0s						
PRZ	**Przheval'sk**	**53.14 293**		P	**P**	**21 31 03.7**	**+0.2**
PRZ				pmax	pmax		
	comp=Z,183nm,1.0s						
KUU	**Kurty**	**53.20 296**		*eP*	**P**	**21 31 02.9**	**-0.8**
KUU				LR	LR	21 54 03.9	
KUU	**Kurty**	**53.20 296**		*eP*	**P**	**21 31 02.9**	**-0.8**
SAO	**San Andreas Ge**	**53.32**	**77**	⇑P	**P**	**21 31 05.4**	**+0.8**
MDOK	**Medeo**	**53.36 295**		*eP*	**P**	**21 31 04.1**	**-1.0**
MDOK				*e*S	**S**	**21 38 31.1**	**-1.3**
MDOK				LR	LR	21 54 08.3	
	comp=Z,7μm,16.6s						
MDOK	**Medeo**	**53.36 295**		*eP*	**P**	**21 31 04.0**	**-1.0**
MDOK				*e*S	**S**	**21 38 31.0**	**-1.3**
MDOK				MLR	MLR		
	comp=Z,7μm,17.0s						
AAA	**Alma-Ata**	**53.39 295**		*eP*	**P**	**21 31 04.2**	**-1.0**
	comp=Z,106nm,0.8s						
AAA				LR	LR	21 54 11.7	
	comp=Z,11μm,17.5s						
AAA	**Alma-Ata**	**53.39 295**		*eP*	**P**	**21 31 04.2**	**-1.0**
AAA				pmax	pmax		
	comp=Z,105nm,0.8s						
AAA				MLR	MLR		
	comp=Z,11μm,18.0s						
QIZ	**Qiongzhong**	**53.45 249**		P	**P**	**21 31 05.4**	**-0.3**
QIZ	**Qiongzhong**	**53.45 249**		IAMs_20	IAMs_20	21 56 02.9	
	comp=Z,8μm,18.0s						
QIZ	**Qiongzhong**	**53.45 249**		P	**P**	**21 31 05.8**	**+0.1**
QIZ				PcP	**PcP**	**21 32 12.0**	**-0.1**
QIZ				S	**S**	**21 38 34.3**	**+0.6**
QIZ				pmax	pmax		
	comp=Z,77nm,1.6s						
QIZ				pmax	pmax		
	comp=Z,2μm,5.0s						
QIZ				LR	LR		
	comp=Z,4μm,24.5s						
QIZ				LR	LR		
	comp=Z,5μm,23.1s						
QIZ				LR	LR		
	comp=Z,7μm,18.3s						
QIZ	**Qiongzhong**	**53.45 249**		P	**P**	**21 31 07.9**	**+2.2**
QIZ	**Qiongzhong**	**53.45 249**		P	**P**	**21 31 06.8**	**+1.1**
QIZ				pP	**pP**	**21 31 22.1**	**+0.6**
QIZ				PcP	**PcP**	**21 32 13.9**	**+1.8**
TNSS	**Tian-Shan**	**53.50 295**		*eP*	**P**	**21 31 05.1**	**-1.4**
TNSS	**Tian-Shan**	**53.50 295**		*eP*	**P**	**21 31 05.0**	**-1.4**
JNW	**Jan Mayen West**	**53.52 356**		*eP*	**P**	**21 31 06.4**	**+0.8**
JNW				IVmB_BB		21 31 31.9	
	comp=Z,8μm,4.9s						
JNW				*e*S	**S**	**21 38 34.8**	**+1.4**
JNW				IVMs_BB	IVMs_BB	21 53 06.2	
	comp=Z,4μm,4.2s						
JNE	**Jan Mayen East**	**53.55 356**		*eP*	**P**	**21 31 07.0**	**+1.1**
JNE				IVmBBB		21 31 09.4	
	comp=Z,5μm,2.0s						
JNE				*e*S	**S**	**21 38 36.1**	**+2.2**
JNE				IVMs_BB	IVMs_BB	21 48 52.8	
	comp=Z,3μm,4.1s						
BTLS	**Baital**	**53.55 298**		*eP*	**P**	**21 31 05.5**	**-0.8**
BTLS	**Baital**	**53.55 298**		*eP*	**P**	**21 31 05.4**	**-0.8**
JMIC	**Jan Mayen**	**53.56 356**		*eP*	**P**	**21 31 06.4**	**+0.5**
JMIC				IVmBBB		21 31 09.4	
	comp=Z,5μm,2.5s						
JMIC				*e*S	**S**	**21 38 36.4**	**+2.3**
JMIC				IVMs_BB	IVMs_BB	21 49 47.3	
	comp=Z,3μm,14.4s						
JMIC	**Jan Mayen**	**53.56 356**		LR	LR	21 53 10.1	
	comp=Z,5μm,20.8s,baz=22,slow=35						
LKWY	**Lake**	**53.60**	**63**	P	**P**	**21 31 08.3**	**+1.3**
LKWY				IAmb	IAmb	21 31 12.4	
	comp=Z,240nm,0.9s						
LKWY				IAMs_20	IAMs_20	21 55 28.6	
	comp=Z,9μm,19.0s						
LKWY	**Lake**	**53.60**	**63**	⇑P	**P**	**21 31 09.1**	**+2.1**
LKWY	**Lake**	**53.60**	**63**	P	**P**	**21 31 08.3**	**+1.3**
LKWY				pmax	pmax		
	comp=Z,240nm,1.0s						
LKWY				MLR	MLR		
	comp=Z,9μm,19.0s						
WUS	**Wushi**	**53.62 292**		P	**P**	**21 31 05.8**	**-1.1**
WUS	**Wushi**	**53.62 292**		IAMs_20	IAMs_20	21 56 38.4	
	comp=Z,7μm,19.0s						
JMI	**Jan Mayen**	**53.63 356**		*eP*	**P**	**21 31 06.7**	**+0.3**
JMI				*e*S	**S**	**21 38 37.9**	**+2.9**
JMI				IVMs_BB	IVMs_BB	21 49 40.0	
	comp=Z,4μm,3.6s						
RLMT	**Red Lodge**	**53.78**	**61**	IAMs_20	IAMs_20	21 54 48.1	
	comp=Z,8μm,20.0s						
RLMT	**Red Lodge**	**53.78**	**61**	⇓P	**P**	**21 31 08.3**	**+0.2**
ELK	**Elko**	**53.82**	**69**	LR	LR	21 52 28.0	
	comp=Z,4μm,21.5s,baz=318,slow=34						
ELK	**Elko**	**53.82**	**69**	⇑P	**P**	**21 31 09.7**	**+1.1**
NVAR	**Mina Array Bea**	**53.84**	**73**	P	**P**	**21 31 09.4**	**+0.7**
NVAR	**Mina Array Bea**	**53.84**	**73**	P	**P**	**21 31 10.0**	**+1.3**
	comp=Z,186nm,0.8s,baz=296,slow=6.6,SNR=504						
NVAR				LR	LR	21 52 04.9	
	comp=Z,4μm,21.5s,baz=312,slow=34						
NVAR				P4KPbc		22 08 30.9	
	comp=Z,0.5nm,0.8s,baz=293,slow=4.7,SNR=4.7						
	comp=Z,186nm,0.8s						
DGMT	**Dagmar**	**53.84**	**55**	IAMs_20	IAMs_20	21 55 51.6	
	comp=Z,7μm,21.0s						
DGMT	**Dagmar**	**53.84**	**55**	⇑P	**P**	**21 31 08.8**	**+0.4**
NV11	**Mina Array Sit**	**53.92**	**73**	P	**P**	**21 31 09.7**	**+0.5**
NV11				IAmb	IAmb	21 31 13.3	
	comp=Z,202nm,0.9s						
TARG	**Taragay, Kyrgy**	**53.98 293**		P	**P**	**21 31 09.9**	**0.0**
TARG				IAmb	IAmb	21 31 26.7	
	comp=Z,317nm,1.7s						
TARG	**Taragay, Kyrgy**	**53.98 293**		P	**P**	**21 31 10.0**	**0.0**
TARG				pmax	pmax		
	comp=Z,317nm,1.7s						
KDJ	**Kajisay**	**54.02 294**		P	**P**	**21 31 09.1**	**-0.9**
KDJ				IAmb	IAmb	21 31 28.8	
	comp=Z,215nm,1.1s						
KDJ	**Kajisay**	**54.02 294**		P	**P**	**21 31 09.1**	**-0.9**
KDJ				pmax	pmax		
	comp=Z,215nm,1.1s						
KIRV	**Kirov**	**54.10 323**		LR	LR	21 57 27.9	
	comp=Z,18μm,18.2s,baz=32,slow=40						
KIRV	**Kirov**	**54.10 323**		*i* P	**P**	**21 31 09.3**	**-0.7**
LAO	**LASA Array**	**54.15**	**58**	P	**P**	**21 31 11.2**	**+0.5**
LAO				IAMs_20	IAMs_20	21 55 35.9	
	comp=Z,9μm,20.0s						
LAO	**LASA Array**	**54.15**	**58**	⇑P	**P**	**21 31 11.7**	**+1.0**
SCO	**Scoresbysund**	**54.21**	**2**	P	**P**	**21 31 10.8**	**+0.1**
SCO	**Scoresbysund**	**54.21**	**2**	⇑P	**P**	**21 31 11.8**	**+1.1**
SCO	**Scoresbysund**	**54.21**	**2**	P	**P**	**21 31 10.8**	**+0.1**
SCO				pmax	pmax		
	comp=Z,597nm,1.8s						
SCO				MLR	MLR		
	comp=Z,11μm,21.0s						
SCO	**Scoresbysund**	**54.21**	**2**	*i* P	**P**	**21 31 11.0**	**+0.4**
SCO				IAmb	IAmb	21 31 13.4	
	comp=Z,720nm,1.9s						
TKM2	**Tokmak 2**	**54.28 295**		P	**P**	**21 31 11.3**	**-0.6**
	SNR=37						
HVU	**Hansel Valley**	**54.37**	**66**	P	**P**	**21 31 13.2**	**+0.7**
HVU	**Hansel Valley**	**54.37**	**66**	P	**P**	**21 31 13.2**	**+0.7**
HVU				pmax	pmax		
	comp=Z,91nm,1.0s						
STEI	**Steigen**	**54.39 345**		*eP*	**P**	**21 31 11.9**	**-0.1**
STEI				IVmB_BB		21 31 12.4	
	comp=Z,4μm,2.4s						
STEI				*e*S	**S**	**21 38 45.4**	**+0.2**
STEI				IVMs_BB	IVMs_BB	21 52 22.8	
	comp=Z,2μm,4.1s						
SGDS	**Sogindy**	**54.39 297**		*eP*	**P**	**21 31 11.5**	**-1.0**
SGDS	**Sogindy**	**54.39 297**		*eP*	**P**	**21 31 11.4**	**-1.0**
ULHL	**Ulahol**	**54.43 294**		P	**P**	**21 31 12.8**	**-0.1**
	SNR=29						
LOF	**Lofoten**	**54.44 346**		*eP*	**P**	**21 31 11.7**	**-0.6**
AHID	**Auburn Hatcher**	**54.53**	**65**	P	**P**	**21 31 13.8**	**+0.1**
AHID				IAmb	IAmb	21 31 18.0	
	comp=Z,184nm,1.1s						
AHID				IAMs_20	IAMs_20	21 57 23.3	
	comp=Z,6μm,18.0s						
AHID	**Auburn Hatcher**	**54.53**	**65**	⇑P	**P**	**21 31 14.4**	**+0.8**
USP	**Ospenovka**	**54.59 296**		P	**P**	**21 31 12.9**	**-1.0**
	SNR=120						
LKP	**Lekhapani**	**54.60 268**		⇑*i* P	**P**	**21 31 12.4**	**-1.6**
LKP				*i* x	x	21 32 17.3	
ICESG	**Greenland Ices**	**54.63**	**9**	*i* P	**P**	**21 31 12.7**	**-1.5**
ICESG				IAmb	IAmb	21 31 15.6	
	comp=Z,233nm,0.8s						
CHMS	**Chumysh**	**54.65 296**		P	**P**	**21 31 14.2**	**-0.1**
	SNR=36						
FRB	**Frobisher Bay**	**54.76**	**25**	LR	LR	21 58 24.9	
	comp=Z,7μm,19.4s,baz=327,slow=40						
FRB	**Frobisher Bay**	**54.76**	**25**	⇑P	**P**	**21 31 13.6**	**-1.0**
TARA	**Tarawa**	**54.76 167**		P	**P**	**21 31 15.8**	**+0.6**
SLVN	**Son La**	**54.78 256**		P	**P**	**21 31 14.6**	**-0.9**
SLVN				IAMs_20	IAMs_20	21 57 05.1	
	comp=Z,7μm,20.0s						
SLVN	**Son La**	**54.78 256**		P	**P**	**21 31 15.3**	**-0.2**
KBK	**Karagaybulak**	**54.80 296**		P	**P**	**21 31 14.8**	**-0.8**
	SNR=58						
FRU1	**Bishkek**	**54.85 296**		P	**P**	**21 31 16.0**	**+0.2**
FRU1				IAmb	IAmb	21 31 20.4	
	comp=Z,240nm,1.0s						
FRU1	**Bishkek**	**54.85 296**		P	**P**	**21 31 16.0**	**+0.2**
FRU1				pmax	pmax		
	comp=Z,240nm,1.0s						
BGU	**Big Grassy Mou**	**54.86**	**67**	P	**P**	**21 31 16.8**	**+0.9**
TNCH	**TengChong**	**54.87 263**		⇑P	**P**	**21 31 15.0**	**-1.3**
TNCH				pP	pP	21 31 29.9	-2.2
TNCH				sP	sP	21 31 35.0	-3.9
TNCH				PcP	**PcP**	**21 32 17.0**	**-0.8**
TNCH				PP	**PP**	**21 33 13.5**	**-5.9**
TNCH				S	**S**	**21 38 49.3**	**-3.8**
TNCH				SS	**SS**	**21 42 34.8**	**-2.0**
TNCH				pmax	pmax		
	comp=Z,34nm,1.1s						
TNCH				pmax	pmax		
	comp=Z,1μm,9.2s						
TNCH				LR	LR		
	comp=Z,3μm,18.1s						
TNCH				LR	LR		
	comp=Z,2μm,17.2s						
TNCH				LR	LR		
	comp=Z,5μm,25.1s						
FAUS	**Fauske**	**54.89 345**		*eP*	**P**	**21 31 15.2**	**-0.4**
FAUS				*e*S	**S**	**21 38 51.0**	**-1.0**
FAUS				IVMs_BB	IVMs_BB	21 54 41.1	
	comp=Z,3μm,24.9s						
AAK	**Ala-Archa**	**55.05 296**		P	**P**	**21 31 17.0**	**-0.3**
	SNR=92						
AAK	**Ala-Archa**	**55.05 296**		P	**P**	**21 31 16.6**	**-0.8**
AAK				IAmb	IAmb	21 31 37.5	
	comp=Z,281nm,1.1s						
AAK	**Ala-Archa**	**55.05 296**		*i* P	**P**	**21 31 16.6**	**-0.8**
	SNR=97						
AAK	**Ala-Archa**	**55.05 296**		P	**P**	**21 31 16.9**	**-0.4**
	comp=Z,139nm,0.8s,baz=63,slow=6.0,SNR=75						
AAK				LR	LR	21 56 01.8	
	comp=Z,10μm,20.0s,baz=46,slow=37						
	comp=Z,139nm,0.8s						
AAK	**Ala-Archa**	**55.05 296**		P	**P**	**21 31 16.9**	**-0.4**
AAK	**Ala-Archa**	**55.05 296**		⇑P	**P**	**21 31 16.1**	**-1.2**
AAK	**Ala-Archa**	**55.05 296**	*c*	*i* P	**P**	**21 31 16.2**	**-1.2**
AAK				pmax	pmax		
	comp=Z,181nm,0.9s						
AAK				MLR	MLR		
	comp=Z,9μm,20.0s						
AAK	**Ala-Archa**	**55.05 296**		P	**P**	**21 31 16.1**	**-1.2**
AAK				pP	**pP**	**21 31 31.4**	**-1.9**
HWUT	**Hardware Ranch**	**55.13**	**66**	⇑P	**P**	**21 31 19.2**	**+1.2**
SFJD	**Kangerlussuaq**	**55.31**	**15**	P	**P**	**21 31 17.4**	**-1.3**
SFJD				IAmb	IAmb	21 31 34.7	
	comp=Z,360nm,1.4s						
SFJD	**Kangerlussuaq**	**55.31**	**15**	LR	LR	21 58 39.7	
	comp=Z,9μm,18.3s,baz=337,slow=40						
SFJD	**Kangerlussuaq**	**55.31**	**15**	⇑P	**P**	**21 31 17.7**	**-1.0**
SFJD	**Kangerlussuaq**	**55.31**	**15**	P	**P**	**21 31 17.4**	**-1.3**
SFJD				pmax	pmax		
	comp=Z,360nm,1.4s						
SFJD				MLR	MLR		
	comp=Z,10μm,19.0s						
SFJD	**Kangerlussuaq**	**55.31**	**15**	*i* P	**P**	**21 31 16.6**	**-2.1**
SFJD				IAmb	IAmb	21 31 21.6	
	comp=Z,184nm,1.2s						
SFJD	**Kangerlussuaq**	**55.31**	**15**	P	**P**	**21 31 17.9**	**-0.8**
SFJD				pP	**pP**	**21 31 33.4**	**-1.1**
BW06	**Boulder Array**	**55.32**	**64**	⇑P	**P**	**21 31 20.2**	**+0.9**
PD31	**Pinedale Array**	**55.32**	**64**	P	**P**	**21 31 19.8**	**+0.4**
PD31				IAmb	IAmb	21 31 22.9	
	comp=Z,189nm,1.0s						
PDAR	**Pinedale Array**	**55.32**	**64**	P	**P**	**21 31 19.8**	**+0.4**
PDAR	**Pinedale Array**	**55.32**	**64**	P	**P**	**21 31 20.1**	**+0.8**
	comp=Z,137nm,0.8s,baz=330,slow=2.5,SNR=480						
PDAR				LR	LR	21 55 52.8	
	comp=Z,2μm,20.5s,baz=324,slow=37						
PDAR				PKPPKP	P'P'df	22 01 10.1	-18
	comp=Z,2.6nm,1.0s,baz=138,slow=3.1,SNR=4.9						
	comp=Z,137nm,0.8s						
UCH	**Uchtor**	**55.33 296**		P	**P**	**21 31 22.5**	**+2.8**
	SNR=12						
R11B	**Troy Canyon, C**	**55.37**	**71**	P	**P**	**21 31 20.7**	**+1.0**
	baz=317,SNR=158						
R11B				S	**S**	**21 39 02.2**	**+2.7**
	baz=317						
KLMR	**Klimovskoe**	**55.39 330**	*c*	*i* P	**P**	**21 31 18.3**	**-1.0**
KLMR				S	**S**	**21 38 56.4**	**-2.5**
KLMR				pmax	pmax		
	comp=Z,2μm,2.0s						
KLMR				pmax	pmax		
	comp=Z,716nm,1.2s						
KLMR				MLR	MLR		
	comp=Z,9μm,19.0s						
EKS2	**Erkin-Say**	**55.39 296**		P	**P**	**21 31 19.4**	**-0.4**
	SNR=139						
LSA	**Lhasa**	**55.46 273**		P	**P**	**21 31 19.9**	**-1.0**
LSA				IAmb	IAmb	21 31 27.2	
	comp=Z,148nm,0.6s						
LSA				IAMs_20	IAMs_20	21 58 29.3	
	comp=Z,7μm,18.0s						
LSA	**Lhasa**	**55.46 273**	*i*	P	**P**	**21 31 19.9**	**-1.0**
	SNR=140						
LSA	**Lhasa**	**55.46 273**		P	**P**	**21 31 20.1**	**-0.8**
LSA				S	**S**	**21 38 56.5**	**-5.1**
LSA				pmax	pmax		
	comp=Z,200nm,0.6s						
LSA				LR	LR		
	comp=Z,6μm,16.5s						
LSA				LR	LR		
	comp=Z,10μm,17.5s						
LSA	**Lhasa**	**55.46 273**		P	**P**	**21 31 20.0**	**-0.9**
LSA				P	**P**	**21 31 20.0**	**-0.9**
LSA	**Lhasa**	**55.46 273**		P	**P**	**21 31 19.9**	**-1.0**
LSA				pmax	pmax		
	comp=Z,149nm,0.6s						
LSA				MLR	MLR		
	comp=Z,7μm,18.0s						
DUG	**Dugway, Tooele**	**55.50**	**68**	⇑P	**P**	**21 31 21.9**	**+1.3**
ZIRO	**ZIRO**	**55.58 269**		⇑*i* P	**P**	**21 31 19.4**	**-2.0**
ZIRO				*i* x	x	21 32 11.9	
ARLS	**Aral**	**55.69 295**		P	**P**	**21 31 22.1**	**+0.1**
BCW	**Bitter Crk WRg**	**55.77**	**77**	P	**P**	**21 31 23.6**	**+1.0**
BCW				IAmb	IAmb	21 31 55.3	
	comp=Z,390nm,1.3s						
JOF	**Joensuu**	**55.81 335**		*eP*	**P**	**21 31 22.4**	**+0.2**
AML	**Almayashu**	**55.82 296**		P	**P**	**21 31 22.9**	**-0.3**
	SNR=89						
KONS	**Konsvik**	**56.03 346**		*eP*	**P**	**21 31 23.4**	**-0.4**
KONS				*e*S	**S**	**21 39 07.8**	**+0.7**
TPNV	**Topopah Spring**	**56.03**	**73**	P	**P**	**21 31 25.3**	**+0.8**
TPNV	**Topopah Spring**	**56.03**

DAV P **P** **21 31 28.6 +1.6**
DAV Davao City (W) 56.39 225 P **P** **21 31 28.6 +1.6**
DAV Davao City (W) 56.39 225 P **P** **21 31 28.0 +1.0**
DY2G Dye2 56.41 13 *i* P **P** **21 31 25.2 -1.6**
DY2G IAmb IAmb 21 31 27.7
comp=Z,219nm,0.9s
MDND Maddock 56.41 53 IAMs_20 IAMs_20 21 57 55.4
comp=Z,6μm,19.0s
DZA Taraz 56.46 298 *e*P **P** **21 31 26.4 -1.0**
DZA Taraz 56.46 298 *e*P **P** **21 31 26.3 -1.0**
KSH Kashi 56.55 292 P **P** **21 31 30.1 +2.0**
KSH pP sP 21 31 47.6 -3.3
KSH S **S** **21 39 19.6 +4.5**
KSH pmax pmax
comp=Z,140nm,1.3s
KSH pmax pmax
comp=Z,2μm,3.8s
KSH LR LR
comp=Z,13μm,20.3s
KSH LR LR
comp=Z,12μm,19.2s
KSH LR LR
comp=Z,17μm,26.1s
KKAR Karatay Array 56.71 299 P **P** **21 31 27.9 -1.2**
KKAR IAmb IAmb 21 31 31.3
comp=Z,111nm,0.8s
KKAR Karatay Array 56.71 299 P **P** **21 31 27.6 -1.5**
KKAR Karatay Array 56.71 299 ⇑P **P** **21 31 27.1 -2.0**
KKAR Karatay Array 56.71 299 P **P** **21 31 27.6 -1.5**
KKAR pmax pmax
comp=Z,111nm,0.8s
ARSB Arslanbob 56.77 296 P **P** **21 31 29.3 -0.4**
ARSB Arslanbob 56.77 296 P **P** **21 31 29.3 -0.4**
ARSB pmax pmax
comp=Z,58nm,0.9s
KOHI KOHIMA 56.83 268 ⇑*i*P **P** **21 31 28.8 -1.5**
KOHI *i* x x 21 32 19.1
E28A Huff 56.85 55 IAMs_20 IAMs_20 21 58 01.1
comp=Z,6μm,21.0s
K22A Casper 56.93 62 IAMs_20 IAMs_20 21 56 57.7
comp=Z,5μm,20.0s
AKTO Aktyubinsk 57.02 312 LR LR 21 58 54.9
comp=Z,23μm,19.3s,baz=34,slow=39
PASC Pasadena Art C 57.02 77 P **P** **21 31 31.7 +0.3**
PASC IAmb IAmb 21 31 34.8
comp=Z,179nm,0.9s
RSSD Black Hills 57.08 59 P **P** **21 31 31.9 0.0**
RSSD IAmb IAmb 21 31 34.5
comp=Z,220nm,0.8s
RSSD Black Hills 57.08 59 ⇑P **P** **21 31 32.5 +0.6**
RSSD Black Hills 57.08 59 P **P** **21 31 31.9 0.0**
RSSD pmax pmax
comp=Z,220nm,0.8s
RSSD MLR MLR
comp=Z,11μm,20.0s
ABKAR Akbulak array 57.09 310 P **P** **21 31 30.1 -1.5**
ABKAR Akbulak array 57.09 310 ⇑P **P** **21 31 30.2 -1.4**
BRLS Borolday 57.10 299 *e*P **P** **21 31 32.7 +0.9**
BRLS Borolday 57.10 299 *e*P **P** **21 31 32.7 +0.9**
VAF Ylistaro 57.59 339 *e*P **P** **21 31 35.2 +0.3**
IMP Imphal 57.61 267 ⇑*i*P **P** **21 31 34.1 -1.5**
IMP *i* x x 21 32 25.0
IUG Iuzhnay 57.66 298 *e*P **P** **21 31 35.1 -0.8**
comp=Z,154nm,0.7s
IUG Iuzhnay 57.66 298 *e*P **P** **21 31 35.0 -0.8**
IUG pmax pmax
comp=Z,155nm,0.7s
AGMN Agassiz Nation 57.75 51 P **P** **21 31 36.3 0.0**
AGMN IAmb IAmb 21 31 39.0
comp=Z,160nm,0.8s
AGMN Agassiz Nation 57.75 51 ⇑P **P** **21 31 36.5 +0.2**
NUUK Nuuk 57.77 17 *i* P **P** **21 31 34.7 -1.3**
NUUK IAmb IAmb 21 31 52.4
comp=Z,435nm,1.4s
KEF Keuruu 57.92 338 *e*P **P** **21 31 36.9 -0.3**
NSS Namsos 58.05 345 *e*P **P** **21 31 37.5 -0.6**
NSS *e*S **S** **21 39 33.5 -0.3**
NSS IVMs_BB IVMs_BB 21 52 41.1
comp=Z,2μm,13.4s
ISOG Isortoq, Green 58.14 10 ⇓P **P** **21 31 38.1 -0.6**
ISOG Isortoq, Green 58.14 10 *i* P **P** **21 31 37.1 -1.6**
ISOG IAmb IAmb 21 31 40.2
comp=Z,142nm,0.7s
ANGG Ammassalik, Gr 58.21 9 P **P** **21 31 38.2 -1.0**
ANGG IAmb IAmb 21 32 04.7
comp=Z,266nm,1.1s
ANGG Ammassalik, Gr 58.21 9 ⇑P **P** **21 31 37.8 -1.3**
ANGG Ammassalik, Gr 58.21 9 *i* P **P** **21 31 36.0 -3.1**
ANGG *i* P **P** **21 31 36.0 -3.1**
ANGG IAmb IAmb 21 31 40.0
comp=Z,132nm,0.9s
SHL Shillong 58.21 269 P **P** **21 31 38.1 -1.9**
SHL Shillong 58.21 269 P **P** **21 31 37.9 -2.1**
SNR=27
SHL Shillong 58.21 269 ⇑*i*P **P** **21 31 38.0 -2.1**
SHL IAmb IAmb 21 31 41.5
comp=Z,26nm,0.6s
SHL Shillong 58.21 269 P **P** **21 31 38.1 -1.9**
SHL pmax pmax
comp=Z,71nm,0.8s
FIA1 FINESS Array S 58.30 337 P **P** **21 31 39.6 -0.3**
FINES FINESS Array B 58.30 337 P **P** **21 31 39.7 -0.2**
FINES FINESS Array B 58.30 337 P **P** **21 31 39.3 -0.6**
comp=Z,380nm,0.5s,baz=31,slow=8.0,SNR=1291
FINES LR LR 21 59 18.9
comp=Z,9μm,21.9s,baz=28,slow=39
FINES PKPPKP P'P'df 22 00 58.9 -25
comp=Z,3.0nm,0.9s,baz=184,slow=2.2,SNR=4.7
comp=Z,380nm,0.5s
FINES FINESS Array B 58.30 337 *i* P **P** **21 31 39.2 -0.7**
FINES pmax pmax
comp=Z,383nm,0.5s
PFO Pinyon Flats O 58.39 76 P **P** **21 31 41.3 +0.2**
PFO IAmb IAmb 21 31 44.3
comp=Z,113nm,1.1s
PFO Pinyon Flats O 58.39 76 LR LR 21 52 57.0
comp=Z,5μm,21.6s,baz=296,slow=32
PFO Pinyon Flats O 58.39 76 P **P** **21 31 41.3 +0.2**
PFO pmax pmax
comp=Z,113nm,1.1s
PFO Pinyon Flats O 58.39 76 P **P** **21 31 41.3 +0.2**
N23A Red Feather La 58.52 63 P **P** **21 31 43.4 +1.3**
baz=318,SNR=253
N23A S **S** **21 39 42.7 +1.4**
baz=318
U15A North Rim 58.55 70 P **P** **21 31 43.4 +1.0**
U15A IAmb IAmb 21 31 47.2
comp=Z,279nm,1.4s
MANU Manus Island 58.68 197 P **P** **21 31 43.7 +0.6**
W13A Hualapai Mount 58.69 73 P **P** **21 31 44.0 +0.7**
W13A IAmb IAmb 21 32 07.7
comp=Z,175nm,1.2s
GTK Tadong 58.72 273 *e*P **P** **21 31 41.8 -1.7**
GTK *i* x x 21 32 33.7
DRK Karamyk 58.74 295 P **P** **21 31 43.3 -0.4**
DRK IAmb IAmb 21 31 46.7
comp=Z,146nm,0.9s
DRK Karamyk 58.74 295 P **P** **21 31 43.3 -0.4**
DRK pmax pmax
comp=Z,146nm,0.9s
PUL Pulkovo 58.77 334 *i* P **P** **21 31 42.6 -0.6**
PUL pmax pmax
comp=Z,651nm,1.1s
PUL MLR MLR
comp=Z,9μm,17.0s
BTK Batken 58.81 296 P **P** **21 31 43.1 -0.8**
BTK Batken 58.81 296 P **P** **21 31 43.1 -0.8**
BTK pmax pmax
comp=Z,232nm,0.7s
TJX Tijuana 58.89 77 P **P** **21 31 45.6 +1.1**
PHRA Phrae 59.09 257 P **P** **21 31 45.7 -0.3**
AZL Aizawl 59.17 267 ⇑*i*P **P** **21 31 44.9 -1.8**
AZL *i* x x 21 32 34.8
EVN Everest 59.24 275 ⇑P **P** **21 31 46.5 -1.2**
CBX Cerro Bola 59.26 77 P **P** **21 31 47.6 +0.5**
CBX IAmb IAmb 21 31 50.8
comp=Z,208nm,1.0s
F33A 5 Mile Ranch, 59.42 53 IAMs_20 IAMs_20 21 58 58.9
comp=Z,6μm,19.0s
ISCO Idaho Springs 59.51 63 P **P** **21 31 50.3 +1.3**
ISCO IAMs_20 IAMs_20 21 58 01.0
comp=Z,7μm,20.0s
ISCO Idaho Springs 59.51 63 ⇑P **P** **21 31 50.5 +1.5**
ISCO Idaho Springs 59.51 63 P **P** **21 31 50.3 +1.3**
ISCO pmax pmax
comp=Z,469nm,1.4s
ISCO MLR MLR
comp=Z,7μm,20.0s
CHTO Chiang Mai 59.55 259 P **P** **21 31 48.0 -1.1**
CHTO IAmb IAmb 21 32 38.9
comp=Z,107nm,1.0s
CHTO IAMs_20 IAMs_20 22 01 20.2
comp=Z,6μm,18.0s
CHTO Chiang Mai 59.55 259 P **P** **21 31 48.1 -1.1**
CHTO pmax pmax
comp=Z,107nm,1.0s
CHTO MLR MLR
comp=Z,6μm,18.0s
BRIGG Briggsdale 59.58 62 **P** **21 31 50.3 +1.0**
BELG Belogornoye 59.59 320 LR LR 22 00 19.7
comp=Z,14μm,19.3s,baz=40,slow=39
BELG Belogornoye 59.59 320 *i* P **P** **21 31 47.8 -1.1**
BELG pmax pmax
comp=Z,73nm,1.0s
BELG MLR MLR
comp=Z,2μm,18.0s
RAF Rauma 59.60 339 *e*P **P** **21 31 48.6 -0.2**
WUAZ Wupatki 59.72 71 P **P** **21 31 51.3 +0.9**
WUAZ IAmb IAmb 21 32 12.1
comp=Z,229nm,1.1s
WUAZ Wupatki 59.72 71 ⇑P **P** **21 31 51.8 +1.5**
MEF Metsahovi 59.77 337 *e*P **P** **21 31 50.6 +0.6**
CM31 Chiang Mai Arr 59.84 258 P **P** **21 31 50.4 -0.7**
CMAR Chiang Mai Arr 59.84 258 P **P** **21 31 50.5 -0.7**
CMAR Chiang Mai Arr 59.84 258 P **P** **21 31 50.7 -0.5**
comp=Z,74nm,1.0s,baz=20,slow=6.6,SNR=190
CMAR PcP **PcP** **21 32 37.6 +0.5**
comp=Z,99nm,0.7s,baz=12,slow=5.1,SNR=4.9
CMAR ScP **ScP** **21 36 37.2 +4.6**
comp=Z,13nm,1.0s,baz=10,slow=4.4,SNR=5.7
CMAR LR LR 22 00 08.2
comp=Z,4μm,20.7s,baz=35,slow=38
CMAR PKPPKP **P'P'df** **22 01 14.4 -3.3**
comp=Z,1.0nm,0.4s,baz=256,slow=4.6,SNR=7.1
CMAR P4KPbc 22 08 58.0
comp=Z,2.8nm,0.9s,baz=9.7,slow=4.3,SNR=18
comp=Z,74nm,1.0s
GAR Garm 59.87 296 P **P** **21 31 50.0 -1.2**
EYMN Ely 59.90 48 P **P** **21 31 50.9 -0.3**
EYMN Ely 59.90 48 ⇑P **P** **21 31 51.1 -0.1**
MVCO Mesa Verde 59.97 67 P **P** **21 31 52.4 +0.2**
MVCO IAmb IAmb 21 32 11.3
comp=Z,166nm,1.0s
MVCO Mesa Verde 59.97 67 ⇑P **P** **21 31 53.0 +0.9**
BORG Borgarnes 59.98 2 P **P** **21 31 52.6 +1.2**
BORG Borgarnes 59.98 2 LR LR 21 57 18.4
comp=Z,6μm,19.7s,baz=3.1,slow=36
BORG Borgarnes 59.98 2 ⇓P **P** **21 31 53.8 +2.4**
BORG Borgarnes 59.98 2 P **P** **21 31 52.6 +1.2**
BORG pmax pmax
comp=Z,1μm,2.0s
BORG Borgarnes 59.98 2 P **P** **21 31 53.4 +1.9**
BORG pP **pP** **21 32 09.1 +1.7**
DLV Lat 60.07 245 P **P** **21 31 53.1 +0.1**
DLV Lat 60.07 245 P **P** **21 31 54.7 +1.7**
DLV Lat 60.07 245 ⇑P **P** **21 31 53.7 +0.7**
ARBE Arbavere 60.11 336 *e*P **P** **21 31 53.4 +1.0**
RABL Rabaul 60.12 191 P **P** **21 31 53.7 +0.7**
MOS Moscow 60.20 328 *e*P **P** **21 31 48.9 -4.2**
MOS *e**PP **pP** **21 32 06.9 -2.2**
MOS *e* 21 35 41.3
MOS *e*S **S** **21 39 59.3 -2.5**
MOS pmax pmax
comp=Z,3μm,2.3s
MOS pmax pmax
comp=N,1μm,2.5s
MOS pmax pmax
comp=E,600nm,2.5s
MOS pmax pmax
comp=Z,849nm,1.7s
MOS pmax pmax
comp=N,288nm,1.0s
MOS smax smax
comp=N,3μm,5.0s
MOS smax smax
comp=E,1μm,4.8s
K30B Basset 60.29 57 IAMs_20 IAMs_20 21 58 14.3
comp=Z,6μm,20.0s
Q24A Divide 60.38 64 P **P** **21 31 56.2 +1.2**
baz=320,SNR=56
Q24A S **S** **21 40 09.1 +3.8**
baz=320
OGNE Ogallala 60.44 60 P **P** **21 31 55.8 +0.7**
OGNE IAMs_20 IAMs_20 21 59 06.3
comp=Z,7μm,19.0s
OGNE Ogallala 60.44 60 ⇑P **P** **21 31 56.0 +1.0**
S22A 4UR Ranch, Cre 60.44 66 IAMs_20 IAMs_20 21 59 38.7
comp=Z,5μm,21.0s
S22A 4UR Ranch, Cre 60.44 66 P **P** **21 31 57.0 +1.6**
baz=319
S22A S **S** **21 40 10.0 +4.0**
baz=319
JAY Jayapura 60.50 205 P **P** **21 31 57.2 +1.6**
comp=Z,53nm,0.8s,baz=342,slow=3.7,SNR=14
JAY LR LR 21 53 55.7
comp=Z,4μm,21.9s,baz=2.5,slow=32
comp=Z,53nm,0.8s
JAY Jayapura 60.50 205 P **P** **21 31 58.3 +2.7**
MOL Molde 60.53 347 *e*P **P** **21 31 55.4 +0.2**
BRDH Bariadhala 60.60 268 P **P** **21 31 56.4 +0.1**
comp=Z,146nm,0.3s,baz=58,slow=9.8,SNR=13
BRDH LR LR 22 02 30.9
comp=Z,6μm,18.0s,baz=48,slow=40
comp=Z,146nm,0.3s
GENI Genyem 60.71 205 P **P** **21 31 59.3 +2.3**
GENI Genyem 60.71 205 P **P** **21 31 59.1 +2.1**
comp=Z,225nm,1.8s,comp=Z,6μmcomp=Z,7μm
SIMJ Simiganj 60.79 296 P **P** **21 31 56.0 -1.6**
SIMJ IAmb IAmb 21 32 00.7
comp=Z,184nm,0.8s
SIMJ Simiganj 60.79 296 P **P** **21 31 56.4 -1.1**
VSU Vasula 60.81 335 ⇑P **P** **21 31 57.0 -0.1**
VSU Vasula 60.81 335 *i* P **P** **21 31 56.5 -0.6**
VSU pmax pmax
comp=Z,530nm,0.9s
VSU MLR MLR
comp=Z,12μm,23.0s
DOMB Dombas 60.83 346 *e*P **P** **21 31 56.7 -0.7**
DOMB *e*S **S** **21 40 06.8 -3.1**
DOMB IVMs_BB IVMs_BB 21 53 40.1
comp=Z,2μm,22.5s
ECSD EROS Data Cent 60.89 54 P **P** **21 31 57.9 -0.2**
ECSD IAmb IAmb 21 32 00.6
comp=Z,135nm,0.8s
ECSD EROS Data Cent 60.89 54 IAMs_20 IAMs_20 22 00 25.9
comp=Z,4μm,19.0s
ECSD EROS Data Cent 60.89 54 ⇑P **P** **21 31 57.8 -0.2**
AKN Aaknes 60.98 347 *e*P **P** **21 31 58.0 -0.3**
AKN *e*S **S** **21 40 11.7 0.0**
AKN IVMs_BB IVMs_BB 21 52 31.7
comp=Z,3μm,4.3s
OBN Obninsk 61.05 328 P **P** **21 31 58.6 -0.2**
OBN Obninsk 61.05 328 LR LR 22 01 32.4
comp=Z,13μm,20.2s,baz=26,slow=39
OBN Obninsk 61.05 328 ⇓P **P** **21 31 59.2 +0.3**
OBN Obninsk 61.05 328 ⇑P **P** **21 31 58.0 -0.9**
OBN Obninsk 61.05 328*c* *i*P **P** **21 31 57.9 -0.9**
OBN *i* *SP **sP** **21 32 20.8 -0.9**
OBN *e* 21 32 39.1
OBN *i* 21 34 09.5
OBN *e*PPP PPP 21 35 45.8
OBN *i* S **S** **21 40 11.9 -0.8**
OBN *i* *SS **sS** **21 40 40.7 +0.9**
OBN pmax pmax
comp=Z,775nm,1.4s
OBN MLR MLR
comp=Z,12μm,20.0s
OBN Obninsk 61.05 328 P **P** **21 31 58.4 -0.5**
comp=Z,577nm,1.8s,comp=Z,10μm
OBN Obninsk 61.05 328 P **P** **21 31 58.1 -0.9**
OBN pP **pP** **21 32 14.6 -0.3**
MYLDM Lahad Datu 61.09 232 P **P** **21 32 01.0 +1.4**
MYLDM IAmb IAmb 21 32 28.5
comp=Z,179nm,1.0s
MYLDM Lahad Datu 61.09 232 P **P** **21 32 03.4 +3.8**
MYLDM Lahad Datu 61.09 232 ⇑P **P** **21 32 02.2 +2.6**
SDCO Great Sand Dun 61.12 65 P **P** **21 32 00.7 +0.6**
SDCO IAmb IAmb 21 32 17.2
comp=Z,282nm,1.4s
SDCO IAMs_20 IAMs_20 21 59 16.8
comp=Z,6μm,20.0s
SDCO Great Sand Dun 61.12 65 ⇑P **P** **21 32 01.1 +1.1**
IVI Ivigtut 61.14 16 P **P** **21 31 58.9 -0.4**
MTSE Matsula 61.26 337 *e*P **P** **21 32 00.9 +0.7**
KLP Kalpa 61.30 285 ⇑*i*P **P** **21 31 59.5 -1.8**
RKPI Ransiki, Papua 61.31 212 P **P** **21 32 03.7 +2.6**
comp=Z,364nm,1.2s,comp=Z,7μm
NC405 NORSAR Array S 61.33 344 P **P** **21 31 59.9 -0.8**
KKM Kota Kinabalu 61.37 234 P **P** **21 32 01.7 +0.1**
KKM IAMs_20 IAMs_20 21 57 26.6
comp=Z,5μm,22.0s
KKM Kota Kinabalu 61.37 234 P **P** **21 32 03.0 +1.4**
TNTI Ternate 61.47 220 P **P** **21 32 02.5 +0.3**
TNTI IAmb IAmb 21 32 20.1
comp=Z,154nm,0.9s
TNTI Ternate 61.47 220 P **P** **21 32 04.1 +1.9**
TNTI Ternate 61.47 220 ⇑P **P** **21 32 02.7 +0.5**
TNTI Ternate 61.47 220 P **P** **21 32 03.0 +0.8**
comp=Z,213nm,1.1s
NB2 NORSAR Subarra 61.48 344 P **P** **21 32 01.0 -0.8**
comp=Z,1μm,2.0s,baz=20,slow=6.9
NB2 PKKP 22 01 07.8
comp=Z,46nm,1.4s,baz=155,slow=2.2
NB2 NORSAR Subarra 61.48 344 P **P** **21 32 01.0 -0.8**
baz=20,slow=6.9
NOA NORSAR Array B 61.48 344 P **P** **21 32 00.9 -0.8**
comp=Z,79nm,0.7s,baz=19,slow=6.9,SNR=222
NOA LR LR 22 00 01.3
comp=Z,5μm,19.4s,baz=15,slow=37
NOA PKPPKP P'P'df 22 01 07.8 -11
comp=Z,4.0nm,0.9s,baz=159,slow=2.6,SNR=5.0
comp=Z,79nm,0.7s
NRS Narsarsuaq 61.60 15 P **P** **21 32 01.3 -1.2**
NRS IAmb IAmb 21 32 22.8
comp=Z,248nm,1.2s
NRS Narsarsuaq 61.60 15 ⇑P **P** **21 32 01.4 -1.1**
NRS Narsarsuaq 61.60 15 P **P** **21 32 01.3 -1.2**
NRS pmax pmax
comp=Z,248nm,1.2s
NRS MLR MLR
comp=Z,10μm,22.0s
NRS Narsarsuaq 61.60 15 *i* P **P** **21 32 00.0 -2.5**
NRS IAmb IAmb 21 32 03.2
comp=Z,111nm,0.8s
SWI Sorong 61.63 216 P **P** **21 32 04.8 +1.6**
comp=Z,618nm,1.4s,comp=Z,10μmcomp=Z,7μm
NC602 NORSAR Array S 61.72 344 *e*P **P** **21 32 02.3 -1.0**
NC602 *e*S **S** **21 40 20.3 -0.7**
NC602 IVMs_BB IVMs_BB 21 56 58.1
comp=Z,3μm,24.7s
FOO Floro 61.78 348 *e*P **P** **21 32 05.3 +1.6**
FOO IVmB_BB 21 32 06.2
comp=Z,2μm,5.3s
FOO *e*S **S** **21 40 24.7 +2.9**
FOO IVMs_BB IVMs_BB 21 56 26.5
comp=Z,5μm,20.9s
DHRM DHARAMSHALA 61.82 287 *e*P **P** **21 32 03.1 -1.6**
HFS Hagfors 61.94 343 P **P** **21 32 03.8 -1.0**
comp=Z,101nm,0.6s,baz=38,slow=5.6,SNR=116
HFS LR LR 21 59 47.8
comp=Z,8μm,21.7s,baz=16,slow=37
HFS PKPPKP **P'P'df** **22 01 15.7 -2.6**
comp=Z,7.7nm,0.9s,baz=194,slow=1.7,SNR=5.7
comp=Z,101nm,0.6s
BGNE Belgrade 61.96 57 IAMs_20 IAMs_20 21 59 16.5
comp=Z,7μm,20.0s
HYA Hoyanger 62.06 347 *e*P **P** **21 32 05.6 0.0**
HYA *e*ScP **ScP** **21 36 40.4 -1.3**
HYA *e*S **S** **21 40 25.1 -0.1**
HYA IVMs_BB IVMs_BB 21 56 05.9
comp=Z,4μm,4.6s
T25A Trinidad 62.15 64 P **P** **21 32 07.0 +0.1**
T25A IAmb IAmb 21 32 23.8
comp=Z,270nm,1.2s
T25A Trinidad 62.15 64 P **P** **21 32 07.7 +0.8**
baz=320,SNR=50
T25A S **S** **21 40 32.0 +4.4**
baz=320
SMLA Simla 62.20 285 ⇑*i*P **P** **21 32 05.1 -1.9**
SMLA IAmb IAmb 21 32 12.1
comp=Z,134nm,0.8s
SKAR Skarslia 62.25 346 *e*P **P** **21 32 06.5 -0.4**
SKAR *e*ScP ScP 21 36 26.2 -16
SKAR *e*S **S** **21 40 29.2 +1.4**
SKAR IVMs_BB IVMs_BB 21 57 18.5
comp=Z,2μm,4.7s
DDI Dehra Dun 62.33 284 *e*P **P** **21 32 06.9 -1.0**
DDI IAmb IAmb 21 32 09.2
comp=Z,356nm,0.8s
SUE Sulen 62.34 348 *e*P **P** **21 32 08.4 +1.0**
SUE *e*S **S** **21 40 29.5 +0.6**
SUE IVMs_BB IVMs_BB 21 57 27.2
comp=Z,4μm,21.7s
COWI Conover 62.35 48 P **P** **21 32 07.1 -0.7**
COWI IAmb IAmb 21 32 23.8
comp=Z,266nm,1.2s
COWI Conover 62.35 48 ⇑P **P** **21 32 07.3 -0.5**
L34A Svendsen Farm, 62.37 56 IAMs_20 IAMs_20 22 02 16.1
comp=Z,6μm,18.0s
BHK Bhakra 62.39 286 ⇑*i*P **P** **21 32 06.8 -1.5**
BHK IAmb IAmb 21 32 10.5
comp=Z,118nm,0.7s
BHK IAmb IAmb 21 32 12.1
comp=Z,141nm,0.6s
NIL Nilore 62.39 290 P **P** **21 32 07.6 -0.7**
NIL IAmb IAmb 21 32 17.0
comp=Z,206nm,1.0s
NIL Nilore 62.39 290 P **P** **21 32 08.0 -0.3**
NIL Nilore 62.39 290 P **P** **21 32 07.6 -0.7**
NIL pmax pmax
comp=Z,206nm,1.0s
NIL Nilore 62.39 290 P **P** **21 32 07.5 -0.7**
NIL pP **pP** **21 32 23.1 -1.3**
LPSR Galich'ya Gora 62.44 325 *e*P **P** **21 32 06.9 -1.3**
LPSR *e**PP **pP** **21 32 22.9 -1.5**
LPSR *e*S **S** **21 40 22.9 -7.4**
LPSR pmax pmax
comp=Z,520nm,1.3s
LPSR pmax pmax
comp=Z,2μm,2.5s
LPSR smax smax
comp=N,2μm,11.4s
LPSR MLR MLR
comp=Z,6μm,16.0s
TUC Tucson 62.48 72 P **P** **21 32 09.6 +0.7**
TUC pP **pP** **21 32 25.3 +1.0**
SLIT Slitere, Latvi 62.59 337 *e*P **P** **21 32 08.9 -0.3**
SLIT Slitere, Latvi 62.59 337 ⇑P **P** **21 32 08.6 -0.6**
OSL Oslo 62.60 344 *e*P **P** **21 32 08.5 -0.7**
OSL *e*S **S** **21 40 35.0 +2.8**
OSL IVMs_BB IVMs_BB 21 56 15.4
comp=Z,2μm,4.7s
VRH Novokhopyorsk 62.67 322 *e*P **P** **21 32 08.2 -1.6**
VRH *e**PP **pP** **21 32 24.2 -1.8**
VRH *e*S **S** **21 40 30.5 -2.8**
VRH pmax pmax
comp=Z,610nm,1.6s
VRH pmax pmax
comp=Z,170nm,0.6s
VRH smax smax
comp=N,1μm,9.2s
VRH MLR MLR
comp=Z,17μm,17.0s
LBMI Labuha 62.72 220 P P 21 32 15.8 +5.2
comp=Z,341nm,0.8s,comp=Z,7μm
ANMO Albuquerque 62.77 67 P **P** **21 32 11.3 +0.4**
ANMO IAmb IAmb 21 32 14.7
comp=Z,145nm,1.0s
ANMO Albuquerque 62.77 67 IAMs_20 IAMs_20 22 02 33.4
comp=Z,4μm,18.0s
ANMO Albuquerque 62.77 67 LR LR 22 00 58.4
comp=Z,883nm,18.0s,baz=138,slow=37
ANMO PKPPKP 22 01 03.8
comp=Z,1.5nm,0.7s,baz=327,slow=4.8,SNR=2.9
ANMO Albuquerque 62.77 67 *i* P **P** **21 32 10.3 -0.7**
ANMO pmax pmax
comp=Z,58nm,0.9s
ANMO MLR MLR
comp=Z,2μm,18.0s
ANMO Albuquerque 62.77 67 P **P** **21 32 11.8 +0.8**
ANMO pP **pP** **21 32 27.4 +0.8**
ASK Askoy 62.85 347 *e*P **P** **21 32 10.9 +0.1**
ASK IVmB_BB 21 32 11.8
comp=Z,4μm,3.0s

ASK *e*S **S** **21 40 36.6 +1.4**
ASK IVMs_BB IVMs_BB 21 56 21.3
comp=Z,4μm,29.8s
SCHQ Schefferville 62.90 29 P **P** **21 32 10.6 -0.7**
SCHQ IAmb IAmb 21 32 13.2
comp=Z,149nm,0.8s
SCHQ Schefferville 62.90 29 P **P** **21 32 11.0 -0.3**
comp=Z,114nm,0.7s,baz=332,slow=5.1,SNR=54
SCHQ PKPPKP 22 01 02.6
comp=Z,7.7nm,0.8s,baz=234,slow=19,SNR=3.7
SCHQ LR LR 22 01 34.4
comp=Z,6μm,21.1s,baz=328,slow=38
comp=Z,114nm,0.7s
SCHQ Schefferville 62.90 29 ⇑P **P** **21 32 10.7 -0.7**
BER Bergen 62.93 347 *e*P **P** **21 32 12.1 +0.8**
BER IVmB_BB 21 32 12.3
comp=Z,3μm,2.2s
BER *e*S **S** **21 40 33.9 -2.3**
BER *e*SS **SS** **21 44 44.4 +3.3**
BER IVMs_BB IVMs_BB 21 57 57.4
comp=Z,4μm,22.6s
KMSI Cibinong 62.94 224 P **P** **21 32 14.2 +2.2**
BOK Bokaro 62.99 273 ⇑*i*P **P** **21 32 11.5 -0.9**
BOK IAmb IAmb 21 32 12.8
comp=Z,41nm,0.5s
BOK *i* pP **PcP** **21 32 51.2 +1.4**
KONO Kongsberg 63.05 345 P **P** **21 32 11.4 -0.8**
KONO IAmb IAmb 21 32 19.5
comp=Z,252nm,1.1s
KONO Kongsberg 63.05 345 *e*P **P** **21 32 12.3 +0.1**
KONO IVmB_BB 21 32 13.2
comp=Z,4μm,2.7s
KONO *e*S **S** **21 40 36.9 -0.9**
KONO IVMs_BB IVMs_BB 21 57 14.3
comp=Z,2μm,13.4s
KONO Kongsberg 63.05 345 ⇑P **P** **21 32 12.1 -0.1**
KONO Kongsberg 63.05 345 P **P** **21 32 11.4 -0.8**
KONO pmax pmax
comp=Z,252nm,1.2s
SRDT SRDT 63.08 256 P **P** **21 32 13.2 +0.2**
VORR Voronezh 63.13 324 *e*P **P** **21 32 11.5 -1.4**
VORR *e**PP **pP** **21 32 27.4 -1.6**
VORR *e*S **S** **21 40 38.1 -0.9**
VORR pmax pmax
comp=Z,400nm,1.3s
VORR pmax pmax
comp=Z,240nm,1.3s
VORR smax smax
comp=N,110nm,3.8s
VORR MLR MLR
comp=Z,3μm,11.0s
Y22D IRIS PASSCAL I 63.19 68 IAMs_20 IAMs_20 21 57 56.8
comp=Z,5μm,22.0s
Y22D IRIS PASSCAL I 63.19 68 P **P** **21 32 15.7 +2.0**
baz=321,SNR=7.3
CBKS Cedar Bluff 63.20 60 IAMs_20 IAMs_20 22 01 03.5
comp=Z,5μm,19.0s
CBKS Cedar Bluff 63.20 60 ⇑P **P** **21 32 13.4 -0.2**
ODD1 Odda 63.22 346 *e*P **P** **21 32 13.3 -0.1**
ODD1 IVmB_BB 21 32 15.7
comp=Z,3μm,2.9s
ODD1 *e*S **S** **21 40 40.6 +0.6**
ODD1 *e*SS **SS** **21 44 45.7 -0.2**
ODD1 IVMs_BB IVMs_BB 22 00 28.9
comp=Z,2μm,4.6s
FAKI Fak Fak 63.24 214 P **P** **21 32 14.5 +0.6**
FAKI Fak Fak 63.24 214 P **P** **21 32 15.3 +1.3**
FAKI Fak Fak 63.24 214 ⇑P **P** **21 32 14.6 +0.6**
FAKI Fak Fak 63.24 214 P **P** **21 32 15.1 +1.1**
comp=Z,387nm,1.5s,comp=Z,7μmcomp=Z,7μm
STRU Stroemstad 63.39 344 *i* P **P** **21 32 13.8 -0.6**
VSR Storozhevoye 63.53 324 *e*P **P** **21 32 14.4 -1.1**
VSR *e**PP **pP** **21 32 29.8 -1.9**
VSR *e*S **S** **21 40 40.0 -4.0**
VSR pmax pmax
comp=Z,2μm,2.3s
VSR pmax pmax
comp=Z,290nm,1.0s
VSR smax smax
comp=N,3μm,15.4s
VSR MLR MLR
comp=Z,14μm,17.0s
RTBA Rita Blanca 63.54 64 P **P** **21 32 16.1 +0.1**
N35A Tabor 63.58 56 P **P** **21 32 16.2 +0.2**
N35A IAMs_20 IAMs_20 22 03 04.1
comp=Z,6μm,18.0s
VORD Divnogorie 63.70 324 *e*P **P** **21 32 15.2 -1.4**
VORD *e**PP **pP** **21 32 31.4 -1.4**
VORD *e*S **S** **21 40 41.9 -4.2**
VORD pmax pmax
comp=Z,130nm,0.8s
VORD pmax pmax
comp=Z,1μm,2.3s
VORD smax smax
comp=N,100nm,4.0s
VORD MLR MLR
comp=Z,6μm,15.0s
BLS5 Blasjo 63.71 346 *e*P **P** **21 32 17.3 +0.7**
BLS5 IVmB_BB 21 32 18.0
comp=Z,3μm,2.7s
BLS5 *e*S **S** **21 40 46.4 +0.3**
BLS5 IVMs_BB IVMs_BB 21 57 35.5
comp=Z,3μm,11.7s
FRKB FARRUKHABAD 63.75 281 ⇑*i*P **P** **21 32 14.8 -2.4**
TOLI2 Tolitoli 63.75 227 P **P** **21 32 16.9 -0.5**
TOLI2 Tolitoli 63.75 227 P **P** **21 32 18.1 +0.7**
TATA Tatamba Isabel 63.75 183 P **P** **21 32 20.1 +2.8**
MRSI Marisa 63.84 226 P **P** **21 32 18.4 +0.4**
comp=Z,496nm,1.0s,comp=Z,7μmcomp=Z,8μm
SCIA State Center 63.88 54 IAMs_20 IAMs_20 22 01 29.9
comp=Z,7μm,19.0s
SCIA State Center 63.88 54 ⇑P **P** **21 32 18.1 +0.1**
KBU Kabul Universi 63.90 293 P **P** **21 32 15.1 -3.4**
121A Cookes Peak, D 63.92 70 P **P** **21 32 20.1 +1.5**
baz=321,SNR=89
121A S **S** **21 40 54.4 +4.7**
baz=321
KBL Kabul 63.93 293 P **P** **21 32 16.3 -2.4**
KBL Kabul 63.93 293 P **P** **21 32 17.1 -1.5**
SNR=51
KBL Kabul 63.93 293 P **P** **21 32 16.3 -2.4**
KBL pmax pmax
comp=Z,79nm,0.8s
NACGM Naroch 63.98 333 ⇑*i*P **P** **21 32 18.9 +0.5**
R32A Long Quarter, 64.01 60 IAMs_20 IAMs_20 22 01 46.8
comp=Z,7μm,21.0s
MNK Minsk 64.05 332 *i* P **P** **21 32 19.1 +0.2**
comp=E,432nm,1.1s
MNK *i* P **P** **21 32 19.1 +0.2**
comp=N,139nm,1.2s
MNK *i* P **P** **21 32 19.1 +0.2**
comp=Z,574nm,1.0s,baz=27
MNK *i* pP **pP** **21 32 35.3 +0.2**
MNK *i* PP **PP** **21 34 40.5 +0.8**
MNK *i* PPP PPP 21 36 36.1
MNK *i* S **S** **21 40 50.5 +0.1**
MNK *i* sS **sS** **21 41 19.6 +1.9**
MNK *i* SS **SS** **21 45 02.6 +3.6**
MNK *i* SSS SSS 21 48 16.3
MNK *i* LQ LQ 21 55 46.9
MNK *i* LR LR 22 00 39.5
MNK *i* LRM MLR 22 02 46.9
comp=N,3μm,17.9s
MNK *i* LRM MLR 22 02 52.5
comp=Z,13μm,21.8s
MNK *i* LRM MLR 22 02 59.1
comp=E,10μm,21.6s
MNK Minsk 64.05 332 *i* P **P** **21 32 19.1 +0.2**
MNK *i* *PP **pP** **21 32 35.3 +0.2**
MNK *i* 21 34 40.4
MNK *i* S **S** **21 40 50.5 +0.1**
MNK *i* *SS **sS** **21 41 19.6 +1.9**
MNK *i* SS **SS** **21 45 02.5 +3.6**
MNK pmax pmax
comp=Z,574nm,1.0s
MNK pmax pmax
comp=E,432nm,1.1s
MNK pmax pmax
comp=N,139nm,1.2s
MNK MLR MLR
comp=Z,13μm,22.0s
MNK MLR MLR
comp=E,10μm,22.0s
MNK MLR MLR
comp=N,3μm,18.0s

NDI New Delhi 64.06 283 ⇑*i*P **P** **21 32 17.1 -2.2**
NDI IAmb IAmb 21 32 20.7
comp=Z,116nm,0.6s
KMY Karmoy 64.08 347 *e*P **P** **21 32 18.4 -0.6**
KMY *e*S **S** **21 40 52.3 +1.9**
KMY IVMs_BB IVMs_BB 21 57 56.8
comp=Z,3μm,26.6s
ALEG Aligegeo Malai 64.10 182 P **P** **21 32 21.0 +1.4**
JMIU JAMIA UNIVERSI 64.11 283 ⇑*i*P **P** **21 32 17.6 -2.0**
ALBI Allahabad 64.12 277 ⇑*i*P **P** **21 32 16.9 -2.8**
ALBI IAmb IAmb 21 32 19.1
comp=Z,103nm,0.6s
ALBI IAmb IAmb 21 32 23.3
comp=Z,321nm,0.2s
ALBI *i* pP **PcP** **21 32 54.4 0.0**
PABE Paberze 64.14 335 P **P** **21 32 19.0 -0.4**
PABE Paberze 64.14 335 *e*P **P** **21 32 19.9 +0.5**
PBUR Paburge 64.14 336 *e*P **P** **21 32 19.9 +0.5**
TJOU Tjoern 64.28 343 *i* P **P** **21 32 18.7 -1.6**
JFWS Jewell Farm 64.41 51 ⇑P **P** **21 32 21.2 -0.2**
SONA Sohna 64.47 283 ⇑*i*P **P** **21 32 20.1 -1.9**
KSU1 Kansas State U 64.50 58 P **P** **21 32 21.2 -0.9**
KSU1 IAmb IAmb 21 32 23.8
comp=Z,177nm,0.8s
KSU1 IAMs_20 IAMs_20 22 00 34.6
comp=Z,6μm,22.0s
KSU1 Kansas State U 64.50 58 ⇓P **P** **21 32 21.7 -0.4**
HOMB Homborsund 64.54 345 *e*P **P** **21 32 24.0 +2.1**
HOMB IVmB_BB 21 32 29.1
comp=Z,1μm,3.0s
HOMB *e*S **S** **21 40 56.5 +0.3**
HOMB IVMs_BB IVMs_BB 21 56 00.6
comp=Z,1μm,3.6s
HOMB Homborsund 64.54 345 *i* P **P** **21 32 22.0 0.0**
SANI Sanana 64.58 221 P **P** **21 32 21.4 -1.4**
SANI Sanana 64.58 221 P **P** **21 32 23.0 +0.2**
SANI Sanana 64.58 221 ⇑P **P** **21 32 22.4 -0.5**
SANI Sanana 64.58 221 P **P** **21 32 22.3 -0.5**
comp=Z,434nm,1.2s,comp=Z,5μmcomp=Z,7μm
SNART Snartemo 64.66 346 *e*P **P** **21 32 22.6 -0.2**
SNART *e*S **S** **21 40 58.3 +0.6**
SNART Snartemo 64.66 346 *i* P **P** **21 32 22.5 -0.3**
MSAI Masohi 64.73 217 P **P** **21 32 26.4 +2.6**
comp=Z,377nm,1.3s,comp=Z,5μm
N38A Joes South For 64.75 54 IAMs_20 IAMs_20 22 02 53.1
comp=Z,5μm,19.0s
HNR Honiara 64.79 182 P **P** **21 32 25.1 +1.1**
HNR Honiara 64.79 182 LR LR 21 56 17.7
comp=Z,18μm,21.8s,baz=20,slow=32
HNR Honiara 64.79 182 P **P** **21 32 25.2 +1.1**
HNR pmax pmax
comp=Z,590nm,1.4s
HNR MLR MLR
comp=Z,18μm,22.0s
BNDA BANDA 64.81 279 ⇑*i*P **P** **21 32 21.3 -3.0**
ONAU Onsala 64.83 343 *i* P **P** **21 32 22.9 -1.0**
KUDL Kundal 64.88 283 *e*P **P** **21 32 22.8 -1.8**
KUDL IAmb IAmb 21 32 27.8
comp=Z,136nm,0.8s
LUWI Luwuk 64.89 224 P **P** **21 32 24.0 -0.8**
LUWI Luwuk 64.89 224 P **P** **21 32 22.1 -2.7**
LUWI Luwuk 64.89 224 P **P** **21 32 25.4 +0.6**
LUWI Luwuk 64.89 224 ⇑P **P** **21 32 23.6 -1.2**
LUWI Luwuk 64.89 224 P **P** **21 32 24.2 -0.6**
comp=Z,413nm,1.0s,comp=Z,4μmcomp=Z,8μm
HSIG 64.93 75 P **P** **21 32 25.0 0.0**
HSIG IAmb IAmb 21 32 41.8
comp=Z,254nm,1.3s
FABU Falkenberg 65.07 342 *i* P **P** **21 32 23.9 -1.6**
APSI Ampana 65.22 226 P **P** **21 32 27.5 +0.5**
comp=Z,673nm,1.3s,comp=Z,6μm
NLAI Namlea 65.28 219 P **P** **21 32 29.1 +1.8**
comp=Z,199nm,0.9s,comp=Z,3μm
AMTX Amarillo 65.29 64 IAMs_20 IAMs_20 22 01 36.0
comp=Z,4μm,21.0s
VLDQ Val d'Or 65.29 39 P **P** **21 32 24.5 -2.5**
VLDQ IAmb IAmb 21 32 28.0
comp=Z,255nm,1.0s
AAI Ambon 65.31 218 P **P** **21 32 29.0 +1.5**
comp=Z,580nm,1.1s,comp=Z,8μmcomp=Z,8μm
DEL Delary 65.37 341 *i* P **P** **21 32 26.0 -1.4**
FUNA Funafuti 65.44 161 P **P** **21 32 29.6 +1.3**
FUNA IAmb IAmb 21 33 01.0
comp=Z,226nm,1.4s
MSTX Muleshoe 65.44 66 IAMs_20 IAMs_20 22 02 43.1
comp=Z,5μm,20.0s
BNDI Bandanaira 65.50 216 P **P** **21 32 31.8 +3.0**
BNDI Bandanaira 65.50 216 ⇑P **P** **21 32 29.5 +0.8**
BNDI Bandanaira 65.50 216 P **P** **21 32 31.3 +2.5**
comp=Z,765nm,1.4s,comp=Z,8μm
OK038 West end E0370 65.52 61 P **P** **21 32 28.2 -0.5**
OK038 IAmb IAmb 21 32 30.9
comp=Z,208nm,0.9s
OK038 IAMs_20 IAMs_20 22 02 50.9
comp=Z,5μm,21.0s
KHAM Kharkiv 65.54 325 P **P** **21 32 28.8 +0.1**
P38A Dawn 65.54 55 IAMs_20 IAMs_20 22 01 13.1
comp=Z,5μm,22.0s
SUW Suwalki 65.69 335 *e*P **P** **21 32 28.3 -1.1**
SUW *e*S **S** **21 41 11.4 +0.9**
SUW *e*L L 21 59 55.0
comp=Z,15μm,27.8s
SUW Suwalki 65.69 335 P **P** **21 32 28.1 -1.4**
SUW Suwalki 65.69 335 *e*P **P** **21 32 29.3 -0.2**
SUW Suwalki 65.69 335 ⇑P **P** **21 32 28.4 -1.1**
SUW Suwalki 65.69 335 P **P** **21 32 28.1 -1.4**
SUW pmax pmax
comp=Z,1μm,1.2s
SUW MLR MLR
comp=Z,11μm,22.0s
JHSG JHARSUGUGA 65.79 273 ⇑*i*P **P** **21 32 28.9 -1.7**
HURO Huro Makira 65.79 180 P **P** **21 32 33.2 +2.7**
JHNI Jhansi 65.83 280 ⇑*i*P **P** **21 32 28.4 -2.5**
JHNI IAmb IAmb 21 32 31.8
comp=Z,126nm,1.1s
MNTX Cornudas Mount 65.85 69 P **P** **21 32 31.6 +0.6**
MNTX IAmb IAmb 21 32 52.8
comp=Z,334nm,1.1s
MNTX Cornudas Mount 65.85 69 ⇑P **P** **21 32 31.9 +0.9**
N41A Harden Midland 65.91 53 IAMs_20 IAMs_20 22 02 31.5
comp=Z,5μm,21.0s
PMG Port Moresby 65.93 196 P **P** **21 32 31.5 0.0**
PMG IAmb IAmb 21 32 34.7
comp=Z,322nm,1.4s
PMG Port Moresby 65.93 196 P **P** **21 32 32.9 +1.4**
comp=Z,118nm,0.9s,baz=32,slow=5.0,SNR=24
PMG LR LR 21 58 17.3
comp=Z,4μm,21.2s,baz=359,slow=33
comp=Z,118nm,0.9s
PMG Port Moresby 65.93 196 P **P** **21 32 33.1 +1.6**
PMG Port Moresby 65.93 196 P **P** **21 32 33.4 +1.9**
PMG Port Moresby 65.93 196 ⇑P **P** **21 32 32.9 +1.4**
PMG Port Moresby 65.93 196 P **P** **21 32 31.5 0.0**
PMG pmax pmax
comp=Z,322nm,1.4s
PMG Port Moresby 65.93 196 P **P** **21 32 32.4 +0.9**
PMG pP **pP** **21 32 48.7 +1.1**
PMG sP **sP** **21 32 55.1 +0.8**
PCI Palu 65.97 227 P **P** **21 32 31.8 0.0**
comp=Z,559nm,1.1s,comp=Z,6μmcomp=Z,7μm
L44A Lake County Fo 66.02 50 P **P** **21 32 31.0 -0.8**
baz=324,SNR=6.3
L44A S **S** **21 41 13.8 -1.1**
baz=324
LUES Luesalemba Tem 66.06 176 P **P** **21 32 35.3 +3.0**
LINV Loch Inver, As 66.17 353 *e*P **P** **21 32 32.8 +0.3**
LINV IAmb IAmb 21 32 35.4
comp=Z,1μm,2.3s
MUD Monsted U'grnd 66.18 344 ⇑P **P** **21 32 33.2 +0.6**
MUD Monsted U'grnd 66.18 344 *i* P **P** **21 32 32.0 -0.6**
MUD IAmb IAmb 21 32 40.1
comp=Z,136nm,0.9s
LUNU Lund 66.24 341 *i* P **P** **21 32 32.0 -1.0**
LEWI Lewis, Hebride 66.29 354 *e*P **P** **21 32 34.0 +0.7**
LEWI IAmb IAmb 21 32 35.4
comp=Z,176nm,1.1s
P40A Paris 66.31 54 IAMs_20 IAMs_20 22 03 59.2
comp=Z,7μm,19.0s
COP Copenhagen 66.38 342 *i* P **P** **21 32 32.3 -1.6**
COP IAmb IAmb 21 32 41.1
comp=Z,326nm,0.9s
SBUM Sibu 66.39 237 P **P** **21 32 35.0 +0.5**
SBUM IAmb IAmb 21 32 38.7
comp=Z,257nm,0.9s

SBUM Sibu 66.39 237 P **P** **21 32 36.8 +2.3**
SBUM Sibu 66.39 237 ⇑P **P** **21 32 35.6 +1.1**
PLTM Poltava 66.43 326 P **P** **21 32 35.9 +1.6**
OK051 E0350 and S346 66.44 60 IAMs_20 IAMs_20 22 04 36.1
comp=Z,7μm,20.0s
OK048 Pawnee Station 66.45 60 IAMs_20 IAMs_20 22 04 27.6
comp=Z,6μm,20.0s
BSD Bornholm Skovb 66.46 340 *e*P **P** **21 32 34.3 -0.1**
BSD Bornholm Skovb 66.46 340 ⇓P **P** **21 32 34.2 -0.2**
BSD Bornholm Skovb 66.46 340 *i* P **P** **21 32 33.1 -1.3**
BSD IAmb IAmb 21 32 36.8
comp=Z,326nm,1.3s
MCD Coleburn Disti 66.58 351 *e*P **P** **21 32 34.6 -0.6**
MCD IAmb IAmb 21 32 37.3
comp=Z,269nm,0.8s
SMKI Samarinda 66.68 230 P **P** **21 32 40.6 +4.3**
comp=Z,482nm,1.1s,comp=Z,8μm
OK029 Liberty Lake 66.69 61 IAMs_20 IAMs_20 22 02 34.9
comp=Z,6μm,19.0s
HDIL Hopedale 66.73 52 P **P** **21 32 35.5 -0.9**
BKNR BIKANER 66.74 286 ⇑*i*P **P** **21 32 34.3 -2.3**
OK052 Battle Ridge R 66.86 60 IAMs_20 IAMs_20 22 04 42.3
comp=Z,7μm,20.0s
WMOK Wichita Mounta 66.87 62 **P** **21 32 37.4 -0.1**
WMOK IAmb IAmb 21 32 40.8
comp=Z,280nm,0.9s
WMOK Wichita Mounta 66.87 62 IAMs_20 IAMs_20 22 04 44.8
comp=Z,5μm,19.0s
WMOK Wichita Mounta 66.87 62 ⇑P **P** **21 32 37.5 0.0**
WMOK Wichita Mounta 66.87 62 P **P** **21 32 37.4 0.0**
WMOK pmax pmax
comp=Z,280nm,0.9s
WMOK MLR MLR
comp=Z,6μm,19.0s
OK031 S. Brethren Rd 66.87 60 IAMs_20 IAMs_20 22 04 43.7
comp=Z,6μm,20.0s
KPL Plockton 67.01 353 *e*P **P** **21 32 38.0 +0.2**
SSRD Sdr. Stenderup 67.05 343 *i* P **P** **21 32 38.6 +0.4**
SSRD IAmb IAmb 21 32 41.3
comp=Z,246nm,1.0s
AK23 Malin Array Si 67.05 330 P **P** **21 32 37.1 -1.2**
AK03 Malin Array Si 67.06 330 P **P** **21 32 37.3 -1.0**
AKASG Malin Array Be 67.08 330 P **P** **21 32 37.4 -1.1**
AKASG Malin Array Be 67.08 330 P **P** **21 32 38.0 -0.4**
comp=Z,78nm,0.5s,baz=30,slow=6.4,SNR=230
AKASG S **S** **21 41 27.9 +0.5**
comp=Z,0.8nm,0.7s,baz=25,slow=11,SNR=6.2
AKASG PKPPKP P'P'df 22 00 53.8 -16
comp=Z,1.5nm,1.0s,baz=233,slow=0.7,SNR=5.1
AKASG LR LR 22 05 23.6
comp=Z,8μm,20.2s,baz=20,slow=39
comp=Z,78nm,0.5s
AKASG Malin Array Be 67.08 330 *i* P **P** **21 32 37.2 -1.2**
AKASG pmax pmax
comp=Z,80nm,0.5s
AKBB Malin Array Si 67.08 330 *i* P **P** **21 32 37.2 -1.2**
AKBB pmax pmax
comp=Z,328nm,1.0s
AKBB MLR MLR
comp=Z,9μm,20.0s
AKBB Malin Array Si 67.08 330 P **P** **21 32 37.3 -1.2**
SURA Surathani 67.08 252 P **P** **21 32 39.6 +0.7**
KIEV Kiev 67.09 330 P **P** **21 32 37.1 -1.4**
KIEV Kiev 67.09 330 *i* P **P** **21 32 37.2 -1.4**
SNR=40
KIEV Kiev 67.09 330 ⇓P **P** **21 32 37.9 -0.6**
KIEV Kiev 67.09 330 ⇑P **P** **21 32 37.2 -1.3**
KIEV Kiev 67.09 330 P **P** **21 32 37.1 -1.3**
KIEV pmax pmax
comp=Z,413nm,1.1s
KIEV MLR MLR
comp=Z,8μm,20.0s
KIEV Kiev 67.09 330 P **P** **21 32 36.8 -1.7**
comp=Z,2μm,1.7s,comp=Z,24μm
KIEV Kiev 67.09 330 P **P** **21 32 37.5 -1.0**
GUNA GUNA 67.14 280 ⇑*i*P **P** **21 32 36.2 -3.1**
AK14 Malin Array Si 67.18 330 P **P** **21 32 38.0 -1.1**
DRUM Mains of Drumt 67.18 351 *e*P **P** **21 32 38.8 -0.2**
S39A Bolivar 67.18 56 IAMs_20 IAMs_20 22 06 13.6
comp=Z,5μm,19.0s
R40A Maddies Statio 67.20 55 IAMs_20 IAMs_20 22 01 16.9
comp=Z,7μm,22.0s
AJM Ajmer 67.20 284 ⇑*i*P **P** **21 32 37.9 -1.8**
AJM IAmb IAmb 21 32 41.9
comp=Z,179nm,1.0s
RGN Rugen 67.30 341 P **P** **21 32 39.5 -0.2**
RGN Rugen 67.30 341 ⇓P **P** **21 32 40.5 +0.8**
RGN Rugen 67.30 341 *e*P **P** **21 32 39.8 +0.1**
comp=Z,419nm,1.1s,baz=16,slow=6.1
RGN *e*pP pP 21 32 47.1 -8.9
MI28 Mi28,Pidlybu 67.31 331 P **P** **21 32 39.1 -0.8**
comp=Z,4μm,1.1s,comp=Z,53μm
MAK Makhachkala 67.34 314 *e*P **P** **21 32 39.4 -0.8**
MAK *e**SP **pP** **21 32 58.9 +2.4**
MAK *e* 21 35 07.5
MAK *e*PPP PPP 21 36 45.8
MAK *e*S **S** **21 41 31.5 +0.8**
MAK *e**SS **pS** **21 41 54.1 +3.9**
MAK *e*SS **SS** **21 45 52.3 +1.9**
MAK pmax pmax
comp=Z,776nm,1.7s
MAK MLR MLR
comp=Z,16μm,17.0s
GOF Gofitskoye 67.35 318 *c i*P **P** **21 32 39.1 -1.2**
GOF *e*S **S** **21 41 33.6 +2.7**
RNPP9 Sopachiv 67.36 332 P **P** **21 32 39.6 -0.6**
P43A Skaggs, Pawnee 67.37 53 IAMs_20 IAMs_20 22 03 35.2
comp=Z,6μm,20.0s
TUL3 Leonard 67.42 59 IAMs_20 IAMs_20 22 04 00.1
comp=Z,7μm,19.0s
RNPP2 Kostyukhnivka 67.44 332 P **P** **21 32 40.8 +0.1**
RNPP8 Varash 67.44 332 P **P** **21 32 40.2 -0.5**
SADO Sadowa 67.47 43 LR LR 22 05 57.9
comp=Z,3μm,18.4s,baz=346,slow=39
SADO Sadowa 67.47 43 ⇓P **P** **21 32 39.5 -1.5**
HRA Herat 67.53 298 P **P** **21 32 41.2 -0.7**
RNPP5 Staryi Chortor 67.53 332 P **P** **21 32 40.3 -1.0**
BKB Balikpapan 67.54 230 P **P** **21 32 42.6 +0.9**
BKB Balikpapan 67.54 230 P **P** **21 32 44.0 +2.2**
BKB Balikpapan 67.54 230 ⇑P **P** **21 32 42.4 +0.6**
BKB Balikpapan 67.54 230 P **P** **21 32 43.4 +1.6**
LDAQ Lac Daran 67.56 36 P **P** **21 32 40.9 -0.8**
LDAQ IAmb IAmb 21 32 43.6
comp=Z,160nm,0.9s
SRIT Nakonsritamara 67.57 252 P **P** **21 32 41.8 -0.2**
SRIT Nakonsritamara 67.57 252 P **P** **21 32 42.7 +0.7**
KDI Kendari 67.61 223 P **P** **21 32 43.8 +1.6**
comp=Z,166nm,1.1s,comp=Z,4μm
U38A Gravette 67.68 58 IAMs_20 IAMs_20 22 04 47.8
comp=Z,5μm,18.0s
L48A N Adams 67.70 48 IAMs_20 IAMs_20 22 03 39.7
comp=Z,8μm,21.0s
GKP Gorka Klasztor 67.72 338 *e*P **P** **21 32 42.4 0.0**
GKP *e*S **S** **21 41 37.4 +2.3**
GKP *e*L L 21 58 20.4
comp=Z,17μm,33.2s
GKP Gorka Klasztor 67.72 338 *e*P **P** **21 32 42.8 +0.4**
AAM Ann Arbor 67.73 47 P **P** **21 32 42.0 -0.7**
AAM IAmb IAmb 21 32 44.9
comp=Z,233nm,1.2s
AAM Ann Arbor 67.73 47 P **P** **21 32 42.0 -0.7**
AAM pmax pmax
comp=Z,233nm,1.2s
AAM MLR MLR
comp=Z,8μm,21.0s
ERBR Yeremizino-Bor 67.75 320 *e*P **P** **21 32 42.2 -0.6**
ERBR *e**PP **pP** **21 32 58.9 -0.2**
ERBR *e* 21 33 10.4
ERBR *e*PPP PPP 21 36 52.8
ERBR *e*S **S** **21 41 36.2 +0.6**
ERBR pmax pmax
comp=Z,1μm,2.3s
ERBR pmax pmax
comp=N,165nm,1.9s
ERBR pmax pmax
comp=E,110nm,1.8s
ERBR MLR MLR
comp=N,10μm,13.0s
ERBR MLR MLR
comp=Z,6μm,14.0s
ERBR MLR MLR
comp=E,9μm,13.0s
INVG Invergeldie, C 67.79 352 *e*P **P** **21 32 42.2 -0.6**
INVG IAmb IAmb 21 32 44.6
comp=Z,60nm,0.8s

CCM Cathedral Cave 67.86 55 P **P** **21 32 42.6 -1.0**
CCM IAmb IAmb 21 32 46.4
comp=Z,227nm,1.1s
CCM IAMs_20 IAMs_20 22 04 16.5
comp=Z,6μm,20.0s
CCM Cathedral Cave 67.86 55 P **P** **21 32 42.6 -1.0**
CCM pmax pmax
comp=Z,227nm,1.2s
CCM MLR MLR
comp=Z,6μm,20.0s
CCM Cathedral Cave 67.86 55 P **P** **21 32 42.8 -0.8**
CCM pP **pP** **21 32 58.3 -1.2**
CCM sP **sP** **21 33 04.8 -1.3**
TRQ Mont Tremblant 67.93 39 P **P** **21 32 42.8 -1.3**
TRQ IAmb IAmb 21 32 45.5
comp=Z,158nm,0.9s
HHAR Hobbs 68.02 58 P **P** **21 32 43.8 -0.9**
HHAR IAmb IAmb 21 32 47.1
comp=Z,270nm,1.0s
N47A Urbana 68.04 49 IAMs_20 IAMs_20 22 02 18.8
comp=Z,7μm,21.0s
LAWE Loch Awe, Argy 68.06 353 *e*P **P** **21 32 44.1 -0.4**
LAWE IAmb IAmb 21 32 46.6
comp=Z,164nm,0.8s
KSM Kuching 68.15 238 P **P** **21 32 46.4 +0.7**
KSM IAmb IAmb 21 32 49.3
comp=Z,227nm,1.0s
KSM Kuching 68.15 238 P **P** **21 32 47.6 +1.9**
ESY Stoneypath 68.17 351 *e*P **P** **21 32 44.7 -0.6**
Q44A Meyer Farm, Va 68.20 53 IAMs_20 IAMs_20 22 03 51.1
comp=Z,6μm,20.0s
LUBAR Lubar, Ukraine 68.20 330 P **P** **21 32 44.0 -1.5**
BHPL Bhopal 68.20 279⇑ *i*P **P** **21 32 44.2 -1.8**
BHPL IAmb IAmb 21 32 46.7
comp=Z,212nm,0.7s
BHPL *e*S S 21 41 31.8 -10
BEL Belsk 68.26 335 *e*P **P** **21 32 46.3 +0.4**
BEL *e*S **S** **21 41 45.2 +3.7**
BEL *e*L L 22 01 03.2
comp=Z,62μm,27.7s
DELO Deloro Mine 68.27 42 P **P** **21 32 44.2 -1.9**
SAUI Saumlaki 68.31 213 P **P** **21 32 47.2 +0.6**
SAUI Saumlaki 68.31 213 P **P** **21 32 49.6 +3.0**
KVAR Kislovodsk Arr 68.42 317 LR LR 22 07 01.2
comp=Z,8μm,20.3s,baz=270,slow=40
BSEG Bad Segeberg 68.42 343 *e*P **P** **21 32 46.8 +0.1**
comp=Z,290nm,1.3s,baz=16,slow=6.1
KIV Kislovodsk 68.42 317 P **P** **21 32 47.2 0.0**
KIV Kislovodsk 68.42 317 *i* P **P** **21 32 46.9 -0.3**
SNR=42
KIV Kislovodsk 68.42 317 P **P** **21 32 47.1 -0.1**
KIV P **P** **21 32 47.1 -0.1**
KIV Kislovodsk 68.42 317 ⇓P **P** **21 32 48.0 +0.9**
KIV Kislovodsk 68.42 317 ⇑P **P** **21 32 47.1 -0.1**
KIV Kislovodsk 68.42 317 *e*P **P** **21 32 46.2 -0.9**
KIV *e* 21 35 17.2
KIV *e*PPP PPP 21 36 57.8
KIV *e*S **S** **21 41 42.3 -1.6**
KIV *e*SS **SS** **21 46 08.4 +1.1**
KIV pmax pmax
comp=Z,534nm,3.5s
KIV pmax pmax
comp=Z,81nm,1.1s
KIV MLR MLR
comp=Z,6μm,17.0s
KIV Kislovodsk 68.42 317 P **P** **21 32 47.8 +0.7**
comp=Z,196nm,2.4s,comp=Z,5μm
KIV Kislovodsk 68.42 317 P **P** **21 32 47.5 +0.4**
KIV pP **pP** **21 33 03.9 +0.4**
PGBU Glenifferbraes 68.44 352 *e*P **P** **21 32 46.6 -0.2**
PGBU IAmb IAmb 21 32 49.1
comp=Z,415nm,0.8s
NCK Nalchik 68.45 317 *i* P **P** **21 32 47.5 +0.2**
NCK pmax pmax
comp=Z,539nm,2.4s
KBZ Khabaz 68.53 317 P **P** **21 32 47.2 -0.4**
comp=Z,127nm,0.8s,baz=54,slow=4.8,SNR=109
KBZ PKP2bc 22 00 53.9
comp=Z,3.2nm,0.9s,baz=333,slow=3.7,SNR=2.3
KBZ LR LR 22 06 04.3
comp=Z,9μm,21.7s,baz=20,slow=39
comp=Z,127nm,0.8s
LABN Labinsk 68.58 319 *e*P **P** **21 32 48.3 +0.3**
LABN *e*S **S** **21 41 49.0 +3.5**
LABN *e*SS **SS** **21 46 04.2 -5.3**
LABN pmax pmax
comp=N,49nm,1.2s
LABN pmax pmax
comp=Z,652nm,2.5s
LABN pmax pmax
comp=E,79nm,1.9s
LABN MLR MLR
comp=Z,10μm,18.0s
SHA1 Shidzhatmaz 68.61 317 *i* P **P** **21 32 47.5 -1.0**
TXAR Lajitas Array 68.62 69 P **P** **21 32 48.9 +0.3**
TXAR Lajitas Array 68.62 69 P **P** **21 32 49.2 +0.6**
comp=Z,120nm,0.8s,baz=300,slow=4.5,SNR=242
TXAR PKP2bc 22 00 59.0
comp=Z,10.0nm,1.1s,baz=142,slow=6.3,SNR=18
TXAR LR LR 22 01 19.6
comp=Z,2μm,21.0s,baz=326,slow=34
comp=Z,120nm,0.8s
Z35A Perchaven, San 68.76 62 IAMs_20 IAMs_20 22 05 00.6
comp=Z,5μm,20.0s
NRDN NARMADA NAGAR 68.76 279⇑ *i*P **P** **21 32 52.1 +2.6**
NRDN IAmb IAmb 21 32 54.7
comp=Z,102nm,0.5s
SPSI Sidrap Palu 68.76 226 P **P** **21 32 50.2 +0.8**
comp=Z,525nm,1.3s,comp=Z,8μmcomp=Z,8μm
O48B Farmland 68.79 49 IAMs_20 IAMs_20 22 02 52.5
comp=Z,5μm,21.0s
O48B Farmland 68.79 49 P **P** **21 32 48.3 -1.1**
baz=326,SNR=14
O48B S **S** **21 41 46.5 -1.7**
baz=326
EKA Eskdalemuir Ar 68.80 351 P **P** **21 32 48.8 -0.4**
comp=Z,67nm,0.6s,baz=16,slow=5.0,SNR=119
EKA PKP2bc 22 00 53.8
comp=Z,8.4nm,1.0s,baz=152,slow=3.7,SNR=4.8
comp=Z,67nm,0.6s
EKB Eskdalemuir 68.80 351 P **P** **21 32 49.2 0.0**
EKB IAmb IAmb 21 32 51.5
comp=Z,149nm,0.8s
ESK Eskdalemuir 68.82 351 P **P** **21 32 48.9 -0.4**
ESK IAmb IAmb 21 32 51.6
comp=Z,157nm,0.8s
ESK Eskdalemuir 68.82 351 P **P** **21 32 48.9 -0.4**
ESK pmax pmax
comp=Z,157nm,0.8s
PBA Port Blair 68.82 259 P **P** **21 32 49.1 -0.8**
PBA Port Blair 68.82 259 P **P** **21 32 48.9 -0.9**
SNR=8.2
PBA Port Blair 68.82 259 *e*P **P** **21 32 48.1 -1.8**
PBA Port Blair 68.82 259⇑P **P** **21 32 47.7 -2.1**
STKI Sintang 68.83 236 P **P** **21 32 51.1 +1.2**
comp=Z,405nm,1.0s,comp=Z,9μmcomp=Z,9μm
MNTQ Montreal, Queb 68.89 39 P **P** **21 32 49.2 -0.6**
SEKA Sheki 68.92 313 P **P** **21 32 50.4 +0.1**
NGP Nagpur 68.94 277⇑ *i*P **P** **21 32 47.7 -2.9**
BNSI Bone 69.02 226 P **P** **21 32 53.2 +2.2**
comp=Z,350nm,1.2s,comp=Z,5μmcomp=Z,8μm
BBSI Bau Bau 69.03 223 P **P** **21 32 53.7 +2.6**
comp=Z,352nm,1.2s,comp=Z,6μmcomp=Z,7μm
SIUC Southern Illin 69.07 54 P **P** **21 32 50.5 -0.7**
NEWG New Galloway 69.11 352 *e*P **P** **21 32 50.9 -0.2**
NEWG IAmb IAmb 21 32 53.0
comp=Z,128nm,0.8s
LPIG La Paz 69.14 78 LR LR 22 00 56.9
comp=Z,1μm,19.3s,baz=308,slow=34
GORT1 Trebel 69.15 342 *e*P **P** **21 32 51.4 +0.1**
comp=Z,579nm,1.5s,baz=16,slow=6.1
RUE Ruedersdorf 69.17 340 *e*P **P** **21 32 51.8 +0.3**
RUE Ruedersdorf 69.17 340⇑P **P** **21 32 51.5 0.0**
RUE Ruedersdorf 69.17 340 *e*P **P** **21 32 51.5 0.0**
comp=Z,379nm,1.1s,baz=16,slow=6.1
RUE *e*pP pP 21 32 58.6 -9.3
EDMD Edmundbyers 69.19 350 *e*P **P** **21 32 51.6 0.0**
HORU Horodok 69.21 331 P **P** **21 32 50.5 -1.3**
HORU Horodok 69.21 331 P **P** **21 32 50.5 -1.3**
CLGH Cloghs, Cushen 69.28 353 *e*P **P** **21 32 52.8 +0.6**
LONY Lake Ozonia 69.30 40 IAMs_20 IAMs_20 22 04 20.5
comp=Z,5μm,20.0s
LONY Lake Ozonia 69.30 40⇑P **P** **21 32 50.9 -1.6**
LVV L'vov 69.31 332 P **P** **21 32 52.6 +0.2**
LVV L'vov 69.31 332 P **P** **21 32 52.6 +0.2**

M52A Chesterland 69.31 46 IAMs_20 IAMs_20 22 03 46.1
comp=Z,7μm,21.0s
MNGR Mingechevir, A 69.33 313 P **P** **21 32 52.8 +0.1**
ERPA Erie 69.38 45 IAMs_20 IAMs_20 22 04 32.8
comp=Z,7μm,20.0s
ERPA Erie 69.38 45⇑P **P** **21 32 52.1 -0.9**
IDGL Inch Island, C 69.39 354 P **P** **21 32 52.7 -0.1**
IDGL Inch Island, C 69.39 354 *e*P **P** **21 32 53.2 +0.4**
BAL3X Bal3x, Balta 69.44 328 P **P** **21 32 52.5 -0.8**
HPIG 69.44 72 P **P** **21 32 53.8 -0.1**
FRNY Flat Rock 69.47 39 P **P** **21 32 52.0 -1.6**
NDNU Novodnistrovsk 69.50 330 P **P** **21 32 52.7 -1.0**
NDNU Novodnistrovsk 69.50 330 P **P** **21 32 52.7 -1.0**
FW14 Alvarado 69.53 63 IAMs_20 IAMs_20 22 06 34.2
comp=Z,4μm,19.0s
KESW Keswick, Cumbr 69.53 351 *e*P **P** **21 32 53.6 -0.1**
KESW IAmb IAmb 21 32 56.0
comp=Z,312nm,0.9s
P49A Miami Univ. Ec 69.58 49 IAMs_20 IAMs_20 22 03 16.4
comp=Z,7μm,22.0s
P49A Miami Univ. Ec 69.58 49 P **P** **21 32 53.4 -0.9**
P49A S **S** **21 41 57.1 -0.3**
baz=326
MIAR Mount Ida 69.59 59 P **P** **21 32 54.2 -0.3**
MIAR IAMs_20 IAMs_20 22 04 59.6
comp=Z,5μm,20.0s
MIAR Mount Ida 69.59 59⇑P **P** **21 32 54.1 -0.3**
MIAR Mount Ida 69.59 59 P **P** **21 32 54.2 -0.3**
MIAR pmax pmax
comp=Z,146nm,1.0s
MIAR MLR MLR
comp=Z,5μm,20.0s
WHAR Wooly Hollow 69.61 57 P **P** **21 32 53.8 -0.8**
SORM Soroca 69.63 329⇓P **P** **21 32 53.7 -0.7**
SORM Soroca 69.63 329 P **P** **21 32 53.7 -0.7**
SORM Soroca 69.63 329 P **P** **21 32 52.8 -1.6**
comp=Z,625nm,1.0s,comp=Z,8μm
ANN Anapa 69.64 321 *e*P **P** **21 32 52.9 -1.6**
ANN *e**PP **pP** **21 33 10.0 -0.9**
ANN *e* 21 35 29.7
ANN *e*PPP PPP 21 37 08.6
ANN *e*S **S** **21 41 57.1 -0.8**
ANN pmax pmax
comp=N,43nm,1.4s
ANN pmax pmax
comp=Z,349nm,2.2s
ANN pmax pmax
comp=E,70nm,2.0s
ANN MLR MLR
comp=N,7μm,20.0s
ANN MLR MLR
comp=Z,4μm,18.0s
ANN MLR MLR
comp=E,6μm,18.0s
SLBS Sierra La Lagu 69.67 78 P **P** **21 32 55.4 +0.3**
SLBS IAmb IAmb 21 33 12.5
comp=Z,263nm,1.6s
SLBS Sierra La Lagu 69.67 78⇑P **P** **21 32 56.8 +1.6**
KAPI Kappang 69.72 226 P **P** **21 32 55.3 0.0**
KAPI IAmb IAmb 21 33 16.1
comp=Z,592nm,1.6s
KAPI Kappang 69.72 226 P **P** **21 32 56.7 +1.4**
KAPI P **P** **21 32 56.7 +1.4**
KAPI Kappang 69.72 226 P **P** **21 32 57.0 +1.7**
KAPI Kappang 69.72 226 P **P** **21 32 55.3 0.0**
KAPI pmax pmax
comp=Z,592nm,1.6s
KAPI Kappang 69.72 226 P **P** **21 32 56.3 +1.0**
KAPI pP **pP** **21 33 12.4 +0.7**
WHTX Lake Whitney, 69.72 63 IAMs_20 IAMs_20 22 06 38.4
comp=Z,6μm,20.0s
RETH Rethem/Aller, 69.73 343 *e*P **P** **21 32 54.6 -0.3**
comp=Z,334nm,1.5s,baz=16,slow=6.1
JCT Junction City 69.73 66 P **P** **21 32 55.1 -0.3**
JCT IAmb IAmb 21 32 58.0
comp=Z,258nm,0.8s
JCT IAMs_20 IAMs_20 22 05 47.8
comp=Z,6μm,20.0s
JCT Junction City 69.73 66⇑P **P** **21 32 55.3 -0.1**
JCT Junction City 69.73 66 P **P** **21 32 55.1 -0.3**
JCT pmax pmax
comp=Z,258nm,0.9s
JCT MLR MLR
comp=Z,6μm,20.0s
ACSO Alum Creek Sta 69.73 48 P **P** **21 32 54.1 -1.1**
ACSO IAmb IAmb 21 33 12.1
comp=Z,317nm,1.4s
ACSO Alum Creek Sta 69.73 48⇑P **P** **21 32 54.6 -0.6**
FLTG Flechtingen 69.79 341⇑P **P** **21 32 54.6 -0.7**
FLTG Flechtingen 69.79 341 *e*P **P** **21 32 54.6 -0.7**
comp=Z,230nm,1.3s,baz=16,slow=6.1
FLTG *e*pP pP 21 33 01.7 -10
KWP Kalwaria Pacla 69.82 333 *e*P **P** **21 32 56.2 +0.6**
KWP *e*S **S** **21 42 04.2 +4.2**
KWP *e*L L 22 02 09.2
comp=Z,7μm,28.1s
KWP Kalwaria Pacla 69.82 333 P **P** **21 32 55.4 -0.2**
KWP Kalwaria Pacla 69.82 333⇑P **P** **21 32 55.5 -0.2**
KWP Kalwaria Pacla 69.82 333 P **P** **21 32 55.4 -0.2**
KWP pmax pmax
comp=Z,1μm,1.0s
KWP MLR MLR
comp=Z,13μm,20.0s
KWP Kalwaria Pacla 69.82 333 P **P** **21 32 55.8 +0.2**
comp=Z,1μm,1.7s,comp=Z,17μm
NRDL Niedersach Rie 69.84 342 *e*P **P** **21 32 55.1 -0.4**
comp=Z,179nm,1.2s,baz=16,slow=6.1
VSLR Vesyoloye 69.84 319 *i* P **P** **21 32 55.6 -0.3**
VSLR pmax pmax
comp=Z,198nm,0.8s
SOC Sochi 69.86 319*c* *i*P **P** **21 32 54.0 -1.9**
SOC *e**PP **pP** **21 33 11.2 -1.1**
SOC *e**SP **sP** **21 33 20.5 +1.5**
SOC *e* 21 35 28.9
SOC *e*PPP PPP 21 37 10.6
SOC *e*S **S** **21 41 58.2 -2.4**
SOC *e**SS **sS** **21 42 27.5 -1.0**
SOC pmax pmax
comp=Z,92nm,1.0s
SOC MLR MLR
comp=Z,8μm,18.0s
T45A Paducah 69.90 54 IAMs_20 IAMs_20 22 04 56.5
comp=Z,7μm,20.0s
TRLG Trialeti 69.91 315 P **P** **21 32 56.1 -0.4**
WCI Wyandotte Cave 69.97 51 P **P** **21 32 56.0 -0.7**
WCI IAmb IAmb 21 32 58.7
comp=Z,151nm,0.8s
WCI Wyandotte Cave 69.97 51⇑P **P** **21 32 56.1 -0.5**
WCI Wyandotte Cave 69.97 51 P **P** **21 32 56.0 -0.7**
WCI pmax pmax
comp=Z,151nm,0.9s
WCI MLR MLR
comp=Z,11μm,20.0s
MORS Morshin 69.97 332 P **P** **21 32 53.8 -2.7**
OJC Ojcow 70.00 335 *e*P **P** **21 32 56.8 +0.1**
OJC *e*S **S** **21 42 03.7 +1.6**
OJC *e*L L 22 03 02.4
comp=Z,15μm,26.6s
OJC Ojcow 70.00 335 P **P** **21 32 56.5 -0.1**
OJC Ojcow 70.00 335⇑P **P** **21 32 56.7 +0.1**
OJC Ojcow 70.00 335 P **P** **21 32 56.5 -0.1**
OJC pmax pmax
comp=Z,888nm,1.3s
OJC Ojcow 70.00 335 P **P** **21 32 56.3 -0.4**
comp=Z,614nm,1.2s,comp=Z,9μm
HPK Haverah Park 70.01 350 *e*P **P** **21 32 56.4 -0.3**
HPK IAmb IAmb 21 32 58.8
comp=Z,214nm,0.9s
N53A Lisbon 70.14 46 IAMs_20 IAMs_20 22 05 22.1
comp=Z,6μm,19.0s
NE56 Odesa 70.17 327 P **P** **21 32 55.8 -1.9**
CHRU Chernivtsi 70.18 331 P **P** **21 32 55.0 -2.8**
comp=Z,295nm,1.1s,comp=Z,4μm
STNU Starunia 70.19 332 P **P** **21 32 56.9 -1.0**
KSP Ksiaz 70.20 338 *e*P **P** **21 32 57.9 -0.1**
KSP *e*S **S** **21 42 05.8 +1.3**
KSP *e*L L 21 59 32.4
comp=Z,13μm,32.4s
KSP Ksiaz 70.20 338⇑P **P** **21 32 57.8 -0.1**
KSP Ksiaz 70.20 338 P **P** **21 32 57.7 -0.2**
comp=Z,452nm,1.3s,comp=Z,6μm
K57A Scipio Center 70.21 42 IAMs_20 IAMs_20 22 08 05.6
comp=Z,4μm,20.0s
VT1 Waterbury 70.21 39 P **P** **21 32 57.8 -0.3**

VT1 IAMs_20 IAMs_20 22 09 14.6
comp=Z,5μm,19.0s
IPM Ipoh 70.27 248 P **P** **21 32 58.1 -0.7**
IPM IAmb IAmb 21 33 00.9
comp=Z,398nm,1.1s
IPM Ipoh 70.27 248 P **P** **21 32 58.6 -0.2**
LKRN Lenkeran, Azer 70.33 310 P **P** **21 32 59.0 +0.2**
J59A Piesco 70.33 40 IAMs_20 IAMs_20 22 09 29.6
comp=Z,5μm,18.0s
ILTH Belurgan, Co L 70.35 353 P **P** **21 32 58.4 -0.3**
STHS Stebnicka Huta 70.39 334 *e*P **P** **21 32 59.2 +0.1**
STHS pmax pmax
comp=Z,301nm,1.0s
STHS Stebnicka Huta 70.39 334 *e*P **P** **21 32 59.2 +0.1**
STHS *e*S **S** **21 42 08.3 +1.6**
IBBN Ibbenburen 70.41 344⇑P **P** **21 32 59.2 +0.1**
IBBN Ibbenburen 70.41 344 *e*P **P** **21 32 59.0 -0.1**
comp=Z,272nm,1.2s,baz=16,slow=6.1
CLZ Clausthal 70.42 342 *e*P **P** **21 32 59.4 +0.2**
comp=Z,367nm,1.3s,baz=16,slow=6.1
DRLN Deer Lake 70.42 26 P **P** **21 32 58.0 -1.2**
DRLN IAmb IAmb 21 33 16.5
comp=Z,270nm,1.4s
DRLN Deer Lake 70.42 26⇑P **P** **21 33 01.0 +1.7**
CLL Collm 70.44 340 P **P** **21 32 58.5 -0.8**
CLL Collm 70.44 340 *i* P **P** **21 32 58.6 -0.8**
CLL *i* *PP **pP** **21 33 15.4 -0.3**
CLL *e*S **S** **21 42 07.0 -0.1**
CLL pmax pmax
comp=Z,517nm,1.4s
CLL Collm 70.44 340 *e*P **P** **21 32 58.8 -0.5**
comp=Z,479nm,1.3s,baz=16,slow=6.1
CLL Collm 70.44 340 AMS AMS 22 03 00.0
CLL Collm 70.44 340 P **P** **21 32 58.3 -1.0**
comp=Z,200nm,0.9s,comp=Z,5μm
CLL Collm 70.44 340 *i* P **P** **21 32 58.6 -0.8**
comp=Z,517nm,1.4s
CLL Collm 70.44 340 *e*Pmax 21 33 00.0
CLL Collm 70.44 340 *e*Plp 21 33 00.0
CLL Collm 70.44 340 *e*Plp 21 33 00.0
CLL Collm 70.44 340 *i* pP pP 21 33 15.4 -0.3
comp=Z,344nm,1.4s
CLL Collm 70.44 340 *e*PP PP 21 35 35.0 -0.1
CLL Collm 70.44 340 *e*pPP 21 35 49.0
CLL Collm 70.44 340 *e*sPPP 21 37 38.0
CLL Collm 70.44 340 *e*pPPPP 21 38 26.0
CLL Collm 70.44 340 *e*S **S** **21 42 07.0 -0.1**
CLL Collm 70.44 340 *e*S **S** **21 42 07.0 -0.1**
comp=N,2μm,13.3s
CLL Collm 70.44 340 *e*S **S** **21 42 07.0 -0.1**
comp=Z,900nm,17.8s
CLL Collm 70.44 340 *i* sS sS 21 42 31.6 -3.3
CLL Collm 70.44 340 *e*SKSac **SKSac** **21 42 57.0 +1.6**
CLL Collm 70.44 340 *e*(pSKSac) 21 43 15.0
CLL Collm 70.44 340 *e*SS SS 21 46 36.0 -1.7
CLL Collm 70.44 340 *e*sSS 21 46 59.0
CLL Collm 70.44 340 *e*SSS SSS 21 50 24.0
CLL Collm 70.44 340 *e*PKPPKPdf 22 00 56.0
AKL Akola 70.44 278⇑ *i*P **P** **21 32 58.4 -1.4**
OSTC Ostas 70.49 338 *e*P **P** **21 32 59.8 +0.1**
OSTC AMS AMS 22 04 30.0
comp=Z,10μm,21.8s
OSTC Ostas 70.49 338 *e*P **P** **21 32 59.8 +0.1**
OSTC MLR MLR
comp=Z,10μm,21.8s
CHVC Chvalec 70.50 338 *e*P **P** **21 32 59.8 +0.1**
CHVC *e*S **S** **21 42 07.8 -0.1**
CHVC AMS AMS 22 06 10.0
comp=Z,8μm,20.1s
CHVC Chvalec 70.50 338 *e*P **P** **21 32 59.8 +0.1**
CHVC *e*S **S** **21 42 07.8 -0.1**
CHVC MLR MLR
comp=Z,8μm,20.1s
RAC Raciborz 70.50 336 *e*P **P** **21 33 00.1 +0.4**
RAC *e*S **S** **21 42 05.7 -2.2**
RAC AMS AMS 22 02 58.6
comp=Z,15nm,27.3s
RAC Raciborz 70.50 336 *e*P **P** **21 33 00.1 +0.4**
RAC *e*S **S** **21 42 05.7 -2.2**
KIS Kishinev 70.52 328⇓P **P** **21 33 00.0 +0.1**
KIS Kishinev 70.52 328 P **P** **21 33 00.0 +0.1**
KIS Kishinev 70.52 328 P **P** **21 32 58.8 -1.1**
comp=Z,212nm,0.8s,comp=Z,3μm
KOLS Kolonicke sedl 70.58 333 *e*P **P** **21 33 00.4 +0.2**
KOLS pmax pmax
comp=Z,230nm,0.9s
KOLS Kolonicke sedl 70.58 333 *e*P **P** **21 33 00.4 +0.2**
KOLS *e*S **S** **21 42 13.5 +4.6**
LBNH Lisbon 70.58 38 IAMs_20 IAMs_20 22 07 08.1
comp=Z,4μm,20.0s
PKME Peaks-Kenny Pk 70.58 36⇓P **P** **21 33 00.1 -0.1**
UPC Upice 70.58 338 *e*P **P** **21 33 00.4 +0.2**
UPC AMS AMS 22 06 00.0
comp=Z,9μm,20.4s
UPC Upice 70.58 338 *e*P **P** **21 33 00.4 +0.2**
UPC MLR MLR
comp=Z,9μm,20.4s
Q51A Peebles 70.59 49 IAMs_20 IAMs_20 22 08 44.1
comp=Z,4μm,22.0s
MILM Milestii Mici 70.59 328⇓P **P** **21 33 00.4 0.0**
MILM Milestii Mici 70.59 328 P **P** **21 33 00.3 0.0**
PURM Purcari 70.62 327⇑P **P** **21 33 00.1 -0.4**
PURM Purcari 70.62 327 P **P** **21 32 59.5 -1.0**
comp=Z,638nm,1.0s,comp=Z,8μm
NIE Niedzica 70.62 335 *e*P **P** **21 33 01.5 +1.0**
NIE *e*S **S** **21 42 12.1 +2.6**
NIE *e*L L 22 03 29.1
NIE Niedzica 70.62 335 P **P** **21 33 01.2 +0.7**
comp=Z,134nm,1.1s,comp=Z,2μm
435B Jarrell 70.63 64 IAMs_20 IAMs_20 22 05 57.4
comp=Z,4μm,20.0s
435B Jarrell 70.63 64 P **P** **21 33 00.5 -0.3**
baz=324
435B S **S** **21 42 09.4 -0.6**
baz=324
T47A Sharon Grove 70.63 53 IAMs_20 IAMs_20 22 04 55.5
comp=Z,6μm,21.0s
MEZ Mezhgor'ye 70.64 332 P **P** **21 33 01.7 +1.1**
SIM Simferopol' 70.65 324 *e*P **P** **21 33 00.6 -0.2**
SIM *e**PP **pP** **21 33 19.0 +1.8**
SIM *e*PPP PPP 21 37 20.0
SIM *e*S **S** **21 42 13.0 +3.1**
SIM pmax pmax
comp=Z,115nm,1.1s
DPC Dobruska-Polom 70.66 338 *e*P **P** **21 33 01.3 +0.5**
DPC *e*S **S** **21 42 12.5 +2.6**
DPC AMS AMS 22 04 20.0
comp=Z,10μm,24.4s
DPC Dobruska-Polom 70.66 338 *e*P **P** **21 33 01.3 +0.5**
DPC *e*S **S** **21 42 12.5 +2.6**
DPC MLR MLR
comp=Z,10μm,24.4s
DPC Dobruska-Polom 70.66 338 P **P** **21 33 00.6 -0.2**
comp=Z,419nm,1.4s,comp=Z,7μm
BRG Berggiesshubel 70.67 339 Amp 21 33 03.8
comp=Z,214nm,1.1s
BRG Berggiesshubel 70.67 339 Amp 21 33 08.2
comp=Z,95nm,0.9s
BRG Berggiesshubel 70.67 339 Amp 21 35 37.5
comp=Z,28nm,1.1s
BRG Berggiesshubel 70.67 339 SS SS 21 46 39.0 -2.2
BRG PKPPKP 22 00 50.4
BRG Amp 22 00 57.4
comp=Z,6.6nm,1.2s
BRG Berggiesshubel 70.67 339⇑ *i*P **P** **21 33 00.3 -0.4**
BRG 21 33 16.9
BRG 21 35 35.1
BRG S **S** **21 42 10.0 +0.2**
BRG 21 42 34.6
BRG SS **SS** **21 46 39.0 -2.2**
BRG pmax pmax
comp=Z,214nm,1.2s
BRG pmax pmax
comp=Z,28nm,1.1s
BRG MLR MLR
comp=N,6μm,22.4s
BRG MLR MLR
comp=E,4μm,23.0s
BRG MLR MLR
comp=Z,8μm,20.8s
BRG Berggiesshubel 70.67 339 *e*P **P** **21 33 00.2 -0.4**
comp=Z,214nm,1.1s,baz=16,slow=6.1
BRG Berggiesshubel 70.67 339⇑ *i*P **P** **21 33 00.4 -0.4**
BRG Berggiesshubel 70.67 339 P P 21 33 07.5 +6.8

BRG Berggiesshubel 70.67 339 P P 21 33 16.9 +16
BRG Berggiesshubel 70.67 339 Amp 21 33 17.3
comp=Z,101nm,0.9s
BRG Berggiesshubel 70.67 339 PP PP 21 35 35.2 -1.9
IAS Iasi 70.72 329 ⇑P **P** **21 33 00.5 -0.6**
IAS Iasi 70.72 329 P **P** **21 33 00.5 -0.6**
OKC Ostrava-Krasne 70.74 336 *e*P **P** **21 33 01.5 +0.3**
OKC *e*S **S** **21 42 12.5 +1.8**
OKC AMS AMS 22 03 00.0
comp=Z,11μm,28.2s
OKC Ostrava-Krasne 70.74 336 *e*P **P** **21 33 01.5 +0.3**
OKC *e*S **S** **21 42 12.5 +1.8**
NEUB Neuenburg 70.77 341 *e*P **P** **21 33 01.0 -0.3**
comp=Z,214nm,1.1s,baz=16,slow=6.1
GTTG Gottingen 70.77 342 *e*P **P** **21 33 01.2 -0.1**
comp=Z,249nm,1.5s,baz=16,slow=6.1
GNI Garni 70.82 314 P **P** **21 33 02.5 +0.4**
GNI IAmb IAmb 21 33 32.7
comp=Z,271nm,1.1s
GNI Garni 70.82 314 P **P** **21 33 01.5 -0.6**
GNI Garni 70.82 314 LR LR 22 09 29.6
comp=Z,11μm,18.9s,baz=30,slow=40
GNI Garni 70.82 314 P **P** **21 33 03.0 +0.9**
GNI Garni 70.82 314 ⇑P **P** **21 33 02.5 +0.4**
GNI Garni 70.82 314*c i*P **P** **21 33 02.2 +0.1**
GNI pmax pmax
comp=Z,352nm,1.2s
GNI MLR MLR
comp=Z,10μm,18.0s
GNI Garni 70.82 314 P **P** **21 33 03.4 +1.3**
comp=Z,277nm,1.2s,comp=Z,8μm
KRLC Kraliky 70.82 337 *e*P **P** **21 33 02.1 +0.3**
KRLC *e*S **S** **21 42 12.5 +0.7**
KRLC AMS AMS 22 06 20.0
comp=Z,7μm,21.1s
KRLC Kraliky 70.82 337 *e*P **P** **21 33 02.1 +0.3**
KRLC *e*S **S** **21 42 12.5 +0.7**
KRLC MLR MLR
comp=Z,7μm,21.1s
WPS Cemaes, Angles 70.83 352 *e*P **P** **21 33 01.6 0.0**
WPS IAmb IAmb 21 33 03.1
comp=Z,107nm,1.0s
UZHM Uzhgorod 70.85 333 P **P** **21 33 01.8 -0.1**
PVCC Panska Ves 70.86 339 *e*P **P** **21 33 02.3 +0.4**
PVCC AMS AMS 22 05 20.0
comp=Z,10μm,21.5s
PVCC Panska Ves 70.86 339 *e*P **P** **21 33 02.3 +0.4**
PVCC MLR MLR
comp=Z,10μm,21.5s
BINY Binghamton 70.87 42 P **P** **21 33 01.3 -0.8**
BINY IAmb IAmb 21 33 17.7
comp=Z,427nm,1.9s
BINY IAMs_20 IAMs_20 22 10 10.0
comp=Z,4μm,20.0s
BINY Binghamton 70.87 42 ⇑P **P** **21 33 00.8 -1.3**
RAK Rakhov 70.88 332 P **P** **21 33 01.8 -0.3**
MUKU Mukachevo 70.91 333 P **P** **21 33 02.4 +0.2**
HNH Hanover 70.92 39 IAMs_20 IAMs_20 22 03 18.1
comp=Z,6μm,21.0s
HOLU Holmets 70.92 333 P **P** **21 33 02.1 -0.2**
BRIU Brid 70.93 332 P **P** **21 33 02.0 -0.4**
MORC Moravsky Berou 70.93 337 P **P** **21 33 02.3 -0.1**
MORC IAmb IAmb 21 33 05.4
comp=Z,318nm,1.0s
MORC Moravsky Berou 70.93 337 *e*P **P** **21 33 02.5 +0.1**
MORC *e*S **S** **21 42 13.6 +0.5**
MORC Moravsky Berou 70.93 337 ⇓P **P** **21 33 03.1 +0.6**
MORC Moravsky Berou 70.93 337 ⇑P **P** **21 33 02.6 +0.1**
MORC Moravsky Berou 70.93 337 P **P** **21 33 03.0 +0.6**
PRAR RASCA 70.95 330 ⇑P **P** **21 33 02.0 -0.5**
RICC Richard 70.95 339 *e*P **P** **21 33 02.6 +0.2**
RICC AMS AMS 22 04 50.0
comp=Z,8μm,22.3s
BUR08 Bucovina Ar. S 70.98 331 P **P** **21 33 02.1 -0.8**
BUR08 IAmb IAmb 21 33 05.1
comp=Z,348nm,1.1s
WACR West Acre 70.99 348 *e*P **P** **21 33 03.4 +0.8**
WACR IAmb IAmb 21 33 04.5
comp=Z,317nm,0.9s
BURAR Bucovina Array 71.00 331 P **P** **21 33 02.2 -0.7**
BURAR IAmb IAmb 21 33 05.6
comp=Z,351nm,1.1s
BURAR Bucovina Array 71.00 331 ⇑P **P** **21 33 02.6 -0.3**
BURAR Bucovina Array 71.00 331 P **P** **21 33 02.6 -0.3**
WVT Waverly 71.01 54 P **P** **21 33 02.6 -0.4**
WVT IAmb IAmb 21 33 06.3
comp=Z,214nm,1.1s
WVT Waverly 71.01 54 ⇑P **P** **21 33 02.9 -0.1**
WVT Waverly 71.01 54 P **P** **21 33 02.6 -0.4**
WVT pmax pmax
comp=Z,214nm,1.1s
WVT MLR MLR
comp=Z,7μm,20.0s
WVT Waverly 71.01 54 P **P** **21 33 02.8 -0.2**
WVT pP **pP** **21 33 18.8 -0.2**
WVT sP **sP** **21 33 25.6 0.0**
HSKC Hora Svate Kat 71.02 339 *e*P **P** **21 33 03.0 +0.1**
HSKC AMS AMS 22 09 10.0
comp=Z,7μm,18.4s
KORU Korolevo 71.07 332 P **P** **21 33 03.3 +0.1**
LANS Liptovska Anna 71.07 335 *e*P **P** **21 33 04.5 +1.3**
LANS pmax pmax
comp=Z,283nm,0.9s
LANS Liptovska Anna 71.07 335 *e*P **P** **21 33 04.5 +1.3**
LANS Liptovska Anna 71.07 335 *e*P **P** **21 33 04.6 +1.3**
LANS *e*S **S** **21 42 21.5 +6.8**
WVL Waterville 71.07 36 IAMs_20 IAMs_20 22 06 14.1
comp=Z,7μm,21.0s
COEN Coen 71.08 199 P **P** **21 33 03.7 +0.2**
COEN IAmb IAmb 21 33 22.9
comp=Z,296nm,1.1s
COEN Coen 71.08 199 P **P** **21 33 05.1 +1.6**
KARS Kars 71.09 315 P **P** **21 33 04.2 +0.5**
KARS Kars 71.09 315 P **P** **21 33 04.2 +0.5**
KARS pmax pmax
comp=Z,2μm,2.0s
Q52A Bidwell 71.10 48 IAMs_20 IAMs_20 22 06 51.6
comp=Z,5μm,20.0s
I62A Tamworth 71.11 38 IAMs_20 IAMs_20 22 06 50.0
comp=Z,5μm,20.0s
BERU Beregovo 71.12 333 P **P** **21 33 03.7 +0.2**
IGLA Glengowla, Co 71.14 355 P **P** **21 33 04.1 +0.6**
IGLA Glengowla, Co 71.14 355 *e*P **P** **21 33 03.0 -0.5**
TRSU Trosnyk 71.17 332 P **P** **21 33 04.3 +0.5**
TRSU Trosnyk 71.17 332 P **P** **21 33 04.3 +0.5**
G65A Princeton 71.20 35 IAMs_20 IAMs_20 22 05 38.4
comp=Z,6μm,19.0s
FOEL Foel Wylfa 71.22 351 *e*P **P** **21 33 03.3 -0.8**
FOEL IAmb IAmb 21 33 06.1
comp=Z,200nm,1.0s
L59A Walton 71.23 41 IAMs_20 IAMs_20 22 10 15.5
comp=Z,5μm,19.0s
MAUC Maruska 71.25 336 *e*P **P** **21 33 04.9 +0.5**
TRY Troy 71.27 40 IAMs_20 IAMs_20 22 06 45.5
comp=Z,4μm,21.0s
LLW Llanuwychllyn 71.31 351 *e*P **P** **21 33 04.6 0.0**
BUG Bochum--Univer 71.33 344 *e*P **P** **21 33 04.4 -0.3**
comp=Z,161nm,1.0s,baz=16,slow=6.1
BUG *e*pP pP 21 33 11.1 -10
NAX Nakhchivan 71.33 313 P **P** **21 33 05.1 0.0**
MOX Moxa 71.34 341 *e*P **P** **21 33 04.6 -0.2**
comp=Z,225nm,1.1s,baz=16,slow=6.1
MOX *e*L L 22 05 59.8
comp=Z,6μm,22.0s
KASTN Kahler Asten 71.37 343 *e*P **P** **21 33 04.9 -0.1**
comp=Z,224nm,1.4s,baz=16,slow=6.1
PRU Pruhonice 71.38 339 *e*P **P** **21 33 05.2 +0.1**
PRU *e*S **S** **21 42 15.0 -3.2**
PRU AMS AMS 22 05 30.0
comp=Z,10μm,22.7s
PRU Pruhonice 71.38 339 *e*P **P** **21 33 05.2 +0.1**
PRU *e*S **S** **21 42 15.0 -3.2**
PRU MLR MLR
comp=Z,10μm,22.7s
PLN Plauen 71.39 340 *e*P **P** **21 33 05.1 0.0**
comp=Z,293nm,1.2s,baz=16,slow=6.1
TANN Tannenbergstha 71.39 340 *e*P **P** **21 33 05.2 0.0**
comp=Z,419nm,1.5s,baz=16,slow=6.1
GOPC GO Pecny, Ondr 71.40 338 *e*P **P** **21 33 05.6 +0.4**
GOPC *e*S **S** **21 42 18.3 -0.1**
GOPC AMS AMS 22 05 50.0
comp=Z,10μm,22.5s
GOPC GO Pecny, Ondr 71.40 338 *e*P **P** **21 33 05.6 +0.4**
GOPC *e*S **S** **21 42 18.3 -0.1**
GOPC MLR MLR
comp=Z,10μm,22.5s
BMR Baia Mare 71.42 332 ⇑P **P** **21 33 06.1 +0.8**
BMR Baia Mare 71.42 332 P **P** **21 33 06.1 +0.8**
KECS Kecovo 71.44 334 *e*P **P** **21 33 07.1 +1.6**
KECS pmax pmax
comp=Z,168nm,1.0s
KECS Kecovo 71.44 334 *e*P **P** **21 33 07.1 +1.6**
SSPA Standing Stone 71.47 44 P **P** **21 33 04.7 -1.1**
SSPA Standing Stone 71.47 44 IAMs_20 IAMs_20 22 06 18.1
comp=Z,6μm,20.0s
SSPA Standing Stone 71.47 44 ⇑P **P** **21 33 04.7 -1.1**
SSPA Standing Stone 71.47 44 P **P** **21 33 04.6 -1.1**
SSPA pP **pP** **21 33 20.9 -0.9**
SSPA sP **sP** **21 33 27.2 -1.2**
TPRI Tanjung Pinang 71.49 243 P **P** **21 33 07.5 +1.4**
BTDF Bukit Timah Da 71.49 244 P **P** **21 33 08.1 +1.9**
BIR Birlad 71.53 329 ⇓P **P** **21 33 06.4 +0.4**
BIR Birlad 71.53 329 P **P** **21 33 06.4 +0.4**
VLAKA Lakatoro 71.54 175 P **P** **21 33 08.3 +2.1**
HLM1 Long Mynd 71.56 350 *e*P **P** **21 33 06.2 +0.1**
HLM1 IAmb IAmb 21 33 08.1
comp=Z,162nm,1.0s
NKC Novy Kostel 71.57 340 *e*P **P** **21 33 06.4 +0.2**
NKC *e*S **S** **21 42 18.2 -2.2**
NKC AMS AMS 22 04 20.0
comp=Z,10μm,23.1s
NKC Novy Kostel 71.57 340 *e*P **P** **21 33 06.4 +0.2**
NKC *e*S **S** **21 42 18.2 -2.2**
NKC MLR MLR
comp=Z,10μm,23.1s
FUTU Fugatoga 71.58 160 P **P** **21 33 07.4 +0.9**
FUTU Fugatoga 71.58 160 P **P** **21 33 10.3 +3.8**
VRAC Vranov 71.58 337 LR LR 22 09 25.1
comp=Z,8μm,19.0s,baz=26,slow=40
VRAC Vranov 71.58 337 *e*P **P** **21 33 06.6 +0.2**
VRAC *e*S **S** **21 42 21.3 +0.7**
VRAC Vranov 71.58 337 ⇓P **P** **21 33 06.6 +0.2**
VRAC Vranov 71.58 337 P **P** **21 33 06.5 +0.2**
TESR Tescani 71.60 329 ⇑P **P** **21 33 05.8 -0.6**
TESR Tescani 71.60 329 P **P** **21 33 05.5 -0.9**
comp=Z,419nm,1.6s,comp=Z,6μm
S51A Beattyville 71.64 50 IAMs_20 IAMs_20 22 07 36.0
comp=Z,6μm,19.0s
833A Chaparral WMA, 71.67 67 P **P** **21 33 07.4 +0.3**
baz=324,SNR=12
833A S **S** **21 42 24.8 +2.7**
baz=324
EMMW East Machias 71.68 35 IAMs_20 IAMs_20 22 05 53.9
comp=Z,6μm,20.0s
ARCR ARCALIA 71.72 331 ⇓P **P** **21 33 08.3 +1.1**
JAVC Velka Javorina 71.76 336 *e*P **P** **21 33 08.7 +1.2**
JAVC *e*S **S** **21 42 23.7 +1.0**
VLDR Vladesti 71.78 328 ⇑P **P** **21 33 07.2 -0.3**
GHRR 71.78 329 ⇓P **P** **21 33 07.1 -0.4**
GHRR 71.78 329 P **P** **21 33 07.6 0.0**
V48A Smith Brothers 71.79 53 IAMs_20 IAMs_20 22 05 54.3
comp=Z,6μm,20.0s
VARL Varlezi 71.80 328 ⇑P **P** **21 33 07.9 +0.3**
LHMI Lhok Sumawe 71.81 252 P **P** **21 33 08.2 +0.1**
LHMI IAMs_20 IAMs_20 22 06 35.5
comp=Z,4μm,20.0s
LHMI Lhok Sumawe 71.81 252 P **P** **21 33 10.2 +2.1**
LHMI Lhok Sumawe 71.81 252 ⇑P **P** **21 33 08.5 +0.4**
LHMI Lhok Sumawe 71.81 252 P **P** **21 33 09.3 +1.2**
ONER Baraj Valea Uz 71.83 329 ⇑P **P** **21 33 08.5 +0.6**
VYHS Vyhne 71.83 335 *e*P **P** **21 33 08.2 +0.4**
VYHS pmax pmax
comp=Z,353nm,1.3s
VYHS Vyhne 71.83 335 *e*P **P** **21 33 08.2 +0.4**
TREC Trest 71.84 338 *e*P **P** **21 33 07.7 -0.2**
TREC AMS AMS 22 05 00.0
comp=Z,11μm,23.8s
TREC Trest 71.84 338 *e*P **P** **21 33 07.7 -0.2**
TREC MLR MLR
comp=Z,11μm,23.8s
PLAL Pickwick Lake 71.84 54 IAMs_20 IAMs_20 22 06 15.7
comp=Z,6μm,20.0s
K62A Royalston 71.85 39 IAMs_20 IAMs_20 22 03 43.7
comp=Z,6μm,22.0s
KRUC Moravsky 71.86 337 *e*P **P** **21 33 08.2 +0.2**
KRUC *e*S **S** **21 42 24.0 +0.3**
MANZ Manzenberg 71.87 340 *e*P **P** **21 33 07.9 -0.2**
comp=Z,47nm,1.1s,baz=16,slow=6.1
L61B Northampton 71.87 40 IAMs_20 IAMs_20 22 03 46.5
comp=Z,7μm,22.0s
L61B Northampton 71.87 40 P **P** **21 33 07.3 -0.8**
baz=331
SCTR Scanteiesti 71.96 328 ⇓P **P** **21 33 08.4 -0.2**
ZVC Zvikov 71.98 339 *e*P **P** **21 33 09.0 +0.3**
ZVC *e*S **S** **21 42 26.8 +1.8**
ZVC AMS AMS 22 05 50.0
comp=Z,10μm,22.7s
CMBY CAMPBELL BAY 71.98 256 *e*P **P** **21 33 07.3 -1.8**
COSR Cosmesti PH 72.00 329 ⇓P **P** **21 33 09.3 +0.5**
TATR Tatarca 72.01 328 ⇑P **P** **21 33 08.5 -0.4**
IWEX Carrickbyrne, 72.03 353 P **P** **21 33 09.4 +0.5**
IWEX Carrickbyrne, 72.03 353 *e*P **P** **21 33 09.0 +0.1**
PANC Panciu 72.03 329 ⇓P **P** **21 33 09.1 +0.1**
MESR Meseseni 72.04 332 ⇑P **P** **21 33 10.2 +1.1**
MMRI Maumere 72.05 222 P **P** **21 33 09.0 -0.4**
MMRI Maumere 72.05 222 P **P** **21 33 10.7 +1.3**
MMRI Maumere 72.05 222 ⇑P **P** **21 33 09.0 -0.4**
MMRI Maumere 72.05 222 P **P** **21 33 09.8 +0.4**
comp=Z,282nm,1.0s,comp=Z,8μm
ROTZ Rotzenmuhle 72.06 340 *e*P **P** **21 33 09.3 +0.2**
comp=Z,73nm,1.2s,baz=16,slow=6.1
735A Kenedy 72.06 65 IAMs_20 IAMs_20 22 03 55.5
comp=Z,5μm,22.0s
GIUM Giurgiulesti 72.06 328 ⇓P **P** **21 33 09.8 +0.6**
Y45A Yeager Farm, C 72.08 56 IAMs_20 IAMs_20 22 06 48.1
comp=Z,4μm,19.0s
MCH1 Michaelchurch 72.09 350 *e*P **P** **21 33 09.2 0.0**
MCH1 IAmb IAmb 21 33 11.1
comp=Z,160nm,0.9s
SLCR Slobozia Conac 72.10 328 ⇓P **P** **21 33 09.2 -0.2**
PSZ Piszkesteto 72.11 334 P **P** **21 33 09.1 -0.5**
PSZ IAmb IAmb 21 33 12.8
comp=Z,314nm,1.1s
PSZ Piszkesteto 72.11 334 *e*P **P** **21 33 09.3 -0.3**
PSZ Piszkesteto 72.11 334 ⇓P **P** **21 33 10.2 +0.6**
PSZ Piszkesteto 72.11 334 ⇑P **P** **21 33 09.9 +0.3**
PSZ Piszkesteto 72.11 334 P **P** **21 33 09.1 -0.5**
PSZ pmax pmax
comp=Z,314nm,1.1s
PSZ MLR MLR
comp=Z,7μm,18.0s
NEGRR Negrea 72.12 328 ⇓P **P** **21 33 09.8 +0.3**
TUDR 72.13 328 ⇓P **P** **21 33 09.6 0.0**
143A Socs Landing, 72.14 58 IAMs_20 IAMs_20 22 07 45.0
comp=Z,5μm,18.0s
SMOL Smolenice 72.14 336 *e*P **P** **21 33 11.2 +1.5**
SMOL pmax pmax
comp=Z,71nm,1.2s
IZVR Izvoarele 72.15 328 ⇑P **P** **21 33 10.1 +0.4**
TLCR 72.15 327 ⇑P **P** **21 33 10.2 +0.5**
TLCR 72.15 327 P **P** **21 33 10.2 +0.5**
ODBI Odobesti 72.16 329 ⇓P **P** **21 33 10.7 +0.9**
ODBI Odobesti 72.16 329 P **P** **21 33 10.5 +0.7**
comp=Z,232nm,1.0s,comp=Z,2μm
VRI Vrincioaia 72.16 329 ⇑P **P** **21 33 10.3 +0.5**
VRI Vrincioaia 72.16 329 P **P** **21 33 10.3 +0.5**
VRI Vrincioaia 72.16 329 P **P** **21 33 09.7 -0.2**
comp=Z,84nm,0.8s,comp=Z,623nm
SCHL Schela 72.17 328 ⇓P **P** **21 33 10.4 +0.6**
HKT Hockley 72.19 63 P **P** **21 33 10.2 0.0**
HKT IAmb IAmb 21 33 41.0
comp=Z,502nm,1.9s
HKT Hockley 72.19 63 P **P** **21 33 10.2 0.0**
HKT pmax pmax
comp=Z,502nm,1.9s
HKT MLR MLR
comp=Z,6μm,19.0s
SCHLR Schela 72.19 328 ⇑P **P** **21 33 09.6 -0.4**
PLOR3 Plostina Array 72.20 329 P **P** **21 33 09.7 -0.4**
comp=Z,89nm,1.3s,comp=Z,3μm
TURR Turia 72.20 330 ⇓P **P** **21 33 10.6 +0.6**
PLOR Plostina 72.20 329 ⇑P **P** **21 33 09.6 -0.5**
PLOR Plostina 72.20 329 P **P** **21 33 09.6 -0.5**
BEBN Eben Emael 72.20 345 *d*P **P** **21 33 09.8 -0.1**
comp=Z,68nm,1.0s
BEBN *d*PP **PP** **21 35 49.7 -0.5**
HYB Hyderabad 72.20 275 *e*P **P** **21 33 09.2 -1.3**
HYB IVmB_BB 21 33 10.4
comp=Z,3μm,2.9s
HYB *e*pP **pP** **21 33 24.3 -2.7**
HYB *e*PcP **PcP** **21 33 27.9 -0.5**
HYB *e* 21 42 26.3
HYB *e*S **S** **21 42 28.4 0.0**
HYB IVMs_BB IVMs_BB 22 07 56.0
comp=Z,4μm,17.4s
PLOR5 Plostina Array 72.20 329 P **P** **21 33 11.1 +1.0**
comp=Z,230nm,1.0s,comp=Z,4μm
STRD Stroud 72.22 350 *e*P **P** **21 33 10.5 +0.4**
MONM Monmouth 72.22 350 *e*P **P** **21 33 09.3 -0.7**
MONM IAmb IAmb 21 33 12.1
comp=Z,269nm,0.9s
OZUR 72.22 330 ⇓P **P** **21 33 10.7 +0.4**
HRV Adam Dziewonsk 72.23 39 P **P** **21 33 09.5 -0.8**
HRV Adam Dziewonsk 72.23 39 IAMs_20 IAMs_20 22 06 58.7
comp=Z,4μm,21.0s
HRV Adam Dziewonsk 72.23 39 ⇑P **P** **21 33 10.0 -0.2**
HRV Adam Dziewonsk 72.23 39 P **P** **21 33 09.5 -0.8**
HRV pmax pmax
comp=Z,112nm,1.0s
HRV MLR MLR
comp=Z,4μm,21.0s
CBBR Cluj-Babes-Bol 72.23 331 ⇓P **P** **21 33 10.7 +0.4**
CJR Cluj-Napoca 72.27 331 ⇓P **P** **21 33 11.3 +0.8**
CJR Cluj-Napoca 72.27 331 P **P** **21 33 11.3 +0.8**
RSBS Rosebush, Pemb 72.29 352 *e*P **P** **21 33 10.3 -0.1**
TNS Taunus Mts 72.31 343 *e*P **P** **21 33 10.5 -0.3**
comp=Z,172nm,1.2s,baz=16,slow=6.1
TNS *e*pP pP 21 33 17.6 -10
MODS Modra-Piesok 72.31 336 *e*P **P** **21 33 12.0 +1.3**
MODS pmax pmax
comp=Z,750nm,1.2s
MODS Modra-Piesok 72.31 336 *e*P **P** **21 33 12.0 +1.3**
MODS *e*S **SKiKP** **21 42 36.0 -4.3**
GRA1 Grafenberg Arr 72.32 341 P **P** **21 33 10.5 -0.3**
GRA1 IAmb IAmb 21 33 13.8
comp=Z,317nm,1.0s
GRF Grafenberg Arr 72.32 341 P **P** **21 33 10.5 -0.3**
GRF pmax pmax
comp=Z,317nm,1.0s
GRF MLR MLR
comp=Z,7μm,22.0s
GRF Grafenberg Arr 72.32 341 *e*P **P** **21 33 11.2 +0.4**
comp=Z,391nm,1.1s,baz=16,slow=6.1
GRF *e*L L 22 07 49.6
comp=Z,6μm,22.0s
GRFO Grafenberg 72.32 341 P **P** **21 33 10.4 -0.3**
GRFO IAmb IAmb 21 33 13.7
comp=Z,350nm,1.1s
GRFO Grafenberg 72.32 341 P **P** **21 33 10.4 -0.3**
GRFO pmax pmax
comp=Z,350nm,1.1s
GRFO MLR MLR
comp=Z,8μm,22.0s
SOEI Soe 72.33 219 P **P** **21 33 10.8 -0.4**
SOEI Soe 72.33 219 P **P** **21 33 10.0 -1.2**
SOEI Soe 72.33 219 P **P** **21 33 13.9 +2.7**
SOEI Soe 72.33 219 ⇑P **P** **21 33 11.2 -0.1**
SOEI Soe 72.33 219 P **P** **21 33 12.4 +1.2**
comp=Z,386nm,1.3s,comp=Z,5μmcomp=Z,8μm
MEM Membach 72.33 344 *d*P **P** **21 33 09.5 -1.2**
comp=Z,269nm,1.0s
BTNL Ternell 72.33 344 *d*P **P** **21 33 10.5 -0.3**
comp=Z,182nm,1.0s
BTNL *d*PP **PP** **21 35 52.5 +1.1**
CFR Carcaliu 72.36 328 ⇓P **P** **21 33 10.7 -0.4**
CFR Carcaliu 72.36 328 P **P** **21 33 10.6 -0.4**
UCC Uccle 72.39 345 *d*P **P** **21 33 11.1 0.0**
comp=Z,47nm,0.9s
KHC Kasperske Hory 72.39 339 P **P** **21 33 11.4 +0.1**
KHC IAmb IAmb 21 33 15.0
comp=Z,284nm,1.1s
KHC Kasperske Hory 72.39 339 *e*P **P** **21 33 11.4 +0.1**
KHC *e*pP **pP** **21 33 28.0 +0.3**
KHC *e*PP PP 21 36 07.5 +15
KHC *e*S **S** **21 42 29.9 0.0**
KHC AMS AMS 22 09 50.0
KHC Kasperske Hory 72.39 339 P **P** **21 33 11.4 +0.1**
KHC pmax pmax
comp=Z,284nm,1.1s
KHC Kasperske Hory 72.39 339 P **P** **21 33 11.3 +0.1**
comp=Z,292nm,1.4s,comp=Z,5μm
BORR Bors 72.41 333 ⇑P **P** **21 33 12.0 +0.8**
KDU Kakadu 72.41 210 P **P** **21 33 12.4 +0.9**
KDU Kakadu 72.41 210 ⇑P **P** **21 33 11.8 +0.3**
WES Weston 72.42 39 IAMs_20 IAMs_20 22 05 04.8
comp=Z,6μm,22.0s
BSTI Sart Tilman 72.42 345 *d*P **P** **21 33 11.3 0.0**
comp=Z,23nm,1.0s
MARR Marisel-Cluj 72.44 332 ⇑P **P** **21 33 12.0 +0.4**
DRGR 72.44 332 ⇑P **P** **21 33 11.5 0.0**
DRGR 72.44 332 P **P** **21 33 11.5 0.0**
SWN1 Swindon 72.45 350 *e*P **P** **21 33 11.7 +0.3**
SWN1 IAmb IAmb 21 33 13.6
comp=Z,433nm,1.1s
BISRR Bisoca 72.45 329 ⇓P **P** **21 33 12.8 +1.1**
BISRR Bisoca 72.45 329 P **P** **21 33 13.7 +2.0**
comp=Z,674nm,0.9s,comp=Z,11μm
DOPR Dopca 72.46 330 ⇑P **P** **21 33 12.0 +0.4**
S54A Dingess, Beckl 72.48 48 IAMs_20 IAMs_20 22 06 28.2
comp=Z,5μm,20.0s
JURR Jurilovca 72.51 327 ⇓P **P** **21 33 12.4 +0.5**
WET Wettzell 72.53 339 *e*P **P** **21 33 12.3 +0.3**
comp=Z,306nm,1.1s,baz=16,slow=6.1
WET *e*pP pP 21 33 19.4 -9.1
GRER 72.53 329 ⇓P **P** **21 33 12.9 +0.9**
CKRC Cesky Krumlov 72.54 338 *e*P **P** **21 33 12.0 -0.1**
CKRC *e*S **S** **21 42 32.6 +1.1**
CKRC AMS AMS 22 09 30.0
comp=Z,7μm,17.6s
CKRC Cesky Krumlov 72.54 338 *e*P **P** **21 33 12.0 -0.1**
CKRC *e*S **S** **21 42 32.6 +1.1**
CKRC MLR MLR
comp=Z,7μm,17.6s
TZTN Tazewell 72.58 50 P **P** **21 33 11.9 -0.5**
TZTN IAmb IAmb 21 33 14.8
comp=Z,178nm,0.9s
TZTN Tazewell 72.58 50 ⇑P **P** **21 33 12.2 -0.2**
BHOU Houvegnez 72.58 344 *d*P **P** **21 33 12.6 +0.3**
comp=Z,65nm,1.0s
MDB Medias 72.58 331 ⇑P **P** **21 33 13.0 +0.7**
MDB Medias 72.58 331 P **P** **21 33 13.0 +0.7**
SRO Srobarova 72.59 335 *e*P **P** **21 33 13.6 +1.3**
SRO pmax pmax
comp=Z,211nm,1.1s
SRO Srobarova 72.59 335 *e*P **P** **21 33 13.6 +1.3**
BCLA Clavier 72.62 345 *d*P **P** **21 33 11.8 -0.7**
comp=Z,52nm,1.0s
GEC2 GERESS Array S 72.64 339 P **P** **21 33 12.1 -0.7**
GEC2 IAmb IAmb 21 33 16.1
comp=Z,329nm,1.4s
GEC2 GERESS Array S 72.64 339 *e*P **P** **21 33 12.6 -0.2**
comp=Z,177nm,1.0s,baz=16,slow=6.1
GERES GERESS Array B 72.64 339 P **P** **21 33 12.2 -0.5**
GERES GERESS Array B 72.64 339 P **P** **21 33 12.6 -0.2**
comp=Z,145nm,1.1s,baz=31,slow=5.4,SNR=106
GERES LR LR 22 10 34.6
comp=Z,7μm,18.7s,baz=19,slow=40
comp=Z,145nm,1.1s
VAL Valentia 72.67 355 P **P** **21 33 12.7 0.0**
VAL Valentia 72.67 355 P **P** **21 33 12.4 -0.3**
BGES Gesves 72.69 345 *d*P **P** **21 33 12.1 -0.8**
comp=Z,46nm,1.1s
NEHR Nehoiu 72.69 329 ⇑P **P** **21 33 13.6 +0.6**
MLR Muntele Rosu 72.73 329 P **P** **21 33 13.4 0.0**
MLR Muntele Rosu 72.73 329 LR LR 22 09 22.8
comp=Z,11μm,19.0s,baz=20,slow=39
MLR Muntele Rosu 72.73 329 ⇑P **P** **21 33 14.2 +0.7**
MLR Muntele Rosu 72.73 329 P **P** **21 33 14.1 +0.7**
MLR Muntele Rosu 72.73 329 P **P** **21 33 13.4 0.0**
comp=Z,337nm,1.0s,comp=Z,5μm
PSI Prapat 72.79 249 P **P** **21 33 14.1 0.0**
PSI Prapat 72.79 249 P **P** **21 33 13.7 -0.4**
PSI pmax pmax
comp=Z,503nm,1.2s
PSI MLR MLR
comp=Z,3μm,21.0s
BMRD Maredsous 72.81 345 *d*P **P** **21 33 13.2 -0.4**
comp=Z,78nm,1.0s
BMRD *d*PP **PP** **21 35 56.9 +1.4**
441A DeRidder 72.86 61 IAMs_20 IAMs_20 22 07 57.3
comp=Z,6μm,20.0s
HARR Harsova 72.87 328 ⇑P **P** **21 33 14.0 0.0**

HARR Harsova 72.87 328 P **P 21 33 14.0 0.0**
RPSI Rantau Prapat 72.88 249 P **P 21 33 13.7 -0.8**
RCHB Rochefort 72.89 345 *d*P **P 21 33 13.5 -0.6**
comp=Z,44nm,1.1s
ISR Istrita 72.89 329 ⇑P **P 21 33 15.2 +0.9**
ISR Istrita 72.89 329 P **P 21 33 15.2 +0.9**
ISR Istrita 72.89 329 P **P 21 33 15.1 +0.8**
comp=Z,477nm,1.7s,comp=Z,8μm
N62A Caumsett State 72.91 41 IAMs_20 IAMs_20 22 08 43.9
comp=Z,5μm,18.0s
MTN Manton Dam 72.95 212 P **P 21 33 15.3 +0.5**
MTN Manton Dam 72.95 212 P **P 21 33 16.0 +1.2**
BATI Baumata 72.96 220 LR LR 22 05 28.8
comp=Z,630nm,20.9s,baz=358,slow=36
TLBR Topalu 72.96 327 ⇓P **P 21 33 15.2 +0.6**
VBMS Vicksburg 72.97 58 P **P 21 33 14.4 -0.4**
VBMS IAmb IAmb 21 33 18.4
comp=Z,284nm,1.1s
VBMS IAMs_20 IAMs_20 22 06 57.8
comp=Z,4μm,20.0s
L64A Middleborough 72.98 39 IAMs_20 IAMs_20 22 08 16.7
comp=Z,5μm,20.0s
M63A Gales Ferry 73.02 40 IAMs_20 IAMs_20 22 08 19.7
comp=Z,6μm,20.0s
VOIR 73.04 330 ⇑P **P 21 33 15.2 0.0**
VOIR 73.04 330 P **P 21 33 15.1 0.0**
VOIR 73.04 330 P **P 21 33 14.9 -0.2**
comp=Z,257nm,1.1s,comp=Z,3μm
DOU Dourbes 73.04 345 *d*P **P 21 33 14.8 -0.2**
comp=Z,48nm,1.0s
CONA Conrad Observa 73.05 337 *i* P **P 21 33 15.6 +0.4**
comp=Z,91nm,1.1s,SNR=173
TNR Turnu Rosu 73.06 331 ⇓P **P 21 33 15.4 +0.1**
TNR Turnu Rosu 73.06 331 P **P 21 33 15.3 +0.1**
AMRR Amara 73.12 328 ⇓P **P 21 33 15.7 +0.2**
AMRR Amara 73.12 328 P **P 21 33 15.7 +0.2**
CVDA Cernavoda 73.16 327 ⇓P **P 21 33 16.2 +0.5**
DIKM Dikmen 73.16 321 ⇑P **P 21 33 16.4 +0.6**
DIKM Dikmen 73.16 321 P **P 21 33 16.6 +0.8**
comp=Z,146nm,1.0s,comp=Z,4μm
RONA Rosalia, Austr 73.17 337 *e*P **P 21 33 16.0 +0.2**
comp=Z,60nm,1.0s,SNR=112
MFTR Murfatlar 73.18 327 ⇑P **P 21 33 16.1 +0.2**
DVP Devils Point 73.19 174 P **P 21 33 19.1 +3.1**
SIRR Siria 73.20 333 ⇑P **P 21 33 15.9 -0.1**
HTL Hartland 73.22 351 *e*P **P 21 33 16.4 +0.4**
HTL IAmb IAmb 21 33 18.0
comp=Z,184nm,1.0s
ARR Arges 73.22 330 ⇑P **P 21 33 16.8 +0.6**
TKL Tuckaleechee C 73.22 51 P **P 21 33 15.6 -0.7**
TKL Tuckaleechee C 73.22 51 LR LR 22 06 55.6
comp=Z,10μm,19.4s,baz=345,slow=37
TKL Tuckaleechee C 73.22 51 P **P 21 33 15.6 -0.7**
TKL pmax pmax
comp=Z,96nm,1.1s
DEV Deva 73.22 332 ⇓P **P 21 33 16.1 -0.1**
DEV Deva 73.22 332 P **P 21 33 16.0 -0.1**
WLF Walferdange 73.22 344 P **P 21 33 16.3 +0.3**
WLF Walferdange 73.22 344 P **P 21 33 14.8 -1.3**
WLF Walferdange 73.22 344 ⇑P **P 21 33 16.1 +0.1**
WLF Walferdange 73.22 344 P **P 21 33 16.3 +0.3**
WLF pmax pmax
comp=Z,116nm,1.0s
WLF MLR MLR
comp=Z,7μm,21.0s
WLF Walferdange 73.22 344 *d*P **P 21 33 15.9 -0.2**
comp=Z,73nm,1.0s
WLF *d*PP **PP 21 36 01.2 +2.2**
MTUR Matau 73.23 330 ⇑P **P 21 33 16.9 +0.6**
MTUR Matau 73.23 330 P **P 21 33 16.8 +0.6**
GURO Guroymak-BITLI 73.28 315 P **P 21 33 17.4 +0.7**
Z47A Carrollton 73.32 55 IAMs_20 IAMs_20 22 07 44.9
comp=Z,5μm,20.0s
U54A Nelsons Funny 73.34 49 IAMs_20 IAMs_20 22 09 35.1
comp=Z,4μm,18.0s
BLA Blacksburg 73.35 48 P **P 21 33 16.5 -0.6**
BLA IAmb IAmb 21 33 19.8
comp=Z,252nm,1.0s
BLA IAMs_20 IAMs_20 22 07 06.3
comp=Z,6μm,21.0s
BLA Blacksburg 73.35 48 ⇑P **P 21 33 15.5 -1.6**
BLA Blacksburg 73.35 48 P **P 21 33 16.5 -0.6**
BLA pmax pmax
comp=Z,252nm,1.0s
BLA MLR MLR
comp=Z,6μm,21.0s
M65A Busby, Falmout 73.38 39 IAMs_20 IAMs_20 22 08 38.2
comp=Z,5μm,18.0s
MPLH Magyarpolny 73.38 336 P **P 21 33 17.6 +0.6**
comp=Z,952nm,1.2s,comp=Z,21μm
LOT Lotru 73.39 331 ⇑P **P 21 33 16.9 -0.3**
LEHL Lehliu 73.40 328 ⇓P **P 21 33 17.8 +0.6**
ICOR Ion Corvin 73.43 327 ⇑P **P 21 33 18.1 +0.8**
MANR Mangalia 73.45 327 ⇓P **P 21 33 18.3 +0.8**
MOA Molln 73.47 338 *i* P **P 21 33 17.7 +0.1**
comp=Z,38nm,0.8s,SNR=59
P61A Hammonton 73.50 42 IAMs_20 IAMs_20 22 11 32.8
comp=Z,5μm,19.0s
SURR Surduc 73.55 332 ⇓P **P 21 33 17.6 -0.5**
STU Stuttgart 73.58 342 P **P 21 33 17.5 -0.6**
STU IAMs_20 IAMs_20 22 08 31.1
comp=Z,6μm,22.0s
STU Stuttgart 73.58 342 *e*P **P 21 33 18.3 +0.1**
STU Stuttgart 73.58 342 P **P 21 33 17.5 -0.6**
STU Stuttgart 73.58 342 *e*P **P 21 33 18.0 -0.2**
comp=Z,334nm,1.1s,baz=16,slow=6.1
GZR Gura Zlata 73.71 331 ⇓P **P 21 33 19.1 0.0**
GZR Gura Zlata 73.71 331 P **P 21 33 19.1 0.0**
DYA Yadsworthy 73.72 351 *e*P **P 21 33 17.9 -1.1**
DYA IAmb IAmb 21 33 21.1
comp=Z,153nm,0.8s
BIOA Bad Ischl, Aus 73.75 338 *i* P **P 21 33 20.5 +1.2**
comp=Z,24nm,0.6s,SNR=64
CBN Corbin Frederi 73.76 45 P **P 21 33 18.7 -0.6**
CBN IAmb IAmb 21 33 35.6
comp=Z,290nm,1.4s
PSN Preselentsi 73.76 327 *e*P **P 21 33 20.0 +0.7**
R58B Mineral 73.76 45 IAMs_20 IAMs_20 22 07 06.8
comp=Z,6μm,20.0s
ARSA Arzberg 73.77 337 *i* P **P 21 33 19.8 +0.5**
comp=Z,53nm,0.8s,SNR=82
ARSA Arzberg 73.77 337 ⇑P **P 21 33 19.8 +0.5**
BKNI Bangkinang 73.78 246 P **P 21 33 19.7 0.0**
BKNI Bangkinang 73.78 246 P **P 21 33 18.1 -1.6**
BKNI Bangkinang 73.78 246 P **P 21 33 20.9 +1.2**
FUR Furstenfeldbru 73.78 340 *e*P **P 21 33 19.3 -0.1**
comp=Z,232nm,1.0s,baz=16,slow=6.1
TIM Timisoara 73.81 333 ⇓P **P 21 33 20.6 +1.0**
TIM Timisoara 73.81 333 P **P 21 33 20.5 +1.0**
BZS Buzias 73.81 332 ⇑P **P 21 33 19.2 -0.4**
BZS Buzias 73.81 332 ⇑P **P 21 33 18.9 -0.7**
BZS Buzias 73.81 332 P **P 21 33 19.1 -0.4**
SGRR Singureni 73.88 329 ⇑P **P 21 33 19.9 -0.1**
RJOB Jochberg 73.88 339 *e*P **P 21 33 20.2 +0.1**
comp=Z,195nm,0.9s,baz=16,slow=6.1
LRAL Lakeview Retre 73.95 55 IAMs_20 IAMs_20 22 07 10.6
comp=Z,6μm,21.0s
LRAL Lakeview Retre 73.95 55 ⇑P **P 21 33 19.7 -0.9**
POO Poona 73.96 279 *e*P **P 21 33 18.5 -2.4**
PLAI Plampang 73.98 226 P **P 21 33 20.1 -0.7**
MORH Mrgy, Hungar 74.01 335 ⇓P **P 21 33 20.6 -0.1**
MORH Mrgy, Hungar 74.01 335 P **P 21 33 19.8 -0.9**
comp=Z,146nm,1.4s,comp=Z,2μm
U56A King 74.10 48 IAMs_20 IAMs_20 22 07 28.1
comp=Z,4μm,21.0s
BG3 Lake Jocassee 74.15 51 P **P 21 33 21.4 -0.3**
BG3 IAmb IAmb 21 33 24.7
comp=Z,217nm,1.2s
346A Big Creek Wild 74.16 58 IAMs_20 IAMs_20 22 10 44.3
comp=Z,5μm,18.0s
BFO Black Forest 74.16 342 P **P 21 33 20.8 -0.8**
BFO Black Forest 74.16 342 P **P 21 33 20.8 -0.8**
BFO pmax pmax
comp=Z,162nm,1.2s
BFO Black Forest 74.16 342 *e*P **P 21 33 21.0 -0.6**
comp=Z,146nm,1.1s,baz=16,slow=6.1
BANR Banloc 74.16 333 ⇑P **P 21 33 22.5 +0.9**
V55A Taylorsville 74.17 49 IAMs_20 IAMs_20 22 08 50.0
comp=Z,5μm,18.0s
LESA Schwarzleotal 74.21 339 *i* P **P 21 33 22.4 +0.4**
comp=Z,42nm,0.7s
MSVF Nonsavu 74.26 164 P **P 21 33 23.9 +1.5**
MSVF Nonsavu 74.26 164 P **P 21 33 24.3 +1.9**
comp=Z,46nm,1.1s,baz=112,slow=2.0,SNR=9.8
MSVF LR LR 22 00 57.8
comp=Z,3μm,20.1s,baz=357,slow=32
comp=Z,46nm,1.1s
MSVF Nonsavu 74.26 164 P **P 21 33 25.1 +2.7**
MSVF Nonsavu 74.26 164 P **P 21 33 23.9 +1.5**
MSVF pmax pmax
comp=Z,114nm,1.3s
KOVH Kovagotottos 74.26 335 ⇑P **P 21 33 21.7 -0.5**
SRE Strehaia 74.27 331 ⇑P **P 21 33 22.6 +0.3**
SRE Strehaia 74.27 331 P **P 21 33 22.5 +0.3**
HERR Herculane 74.28 331 ⇓P **P 21 33 22.0 -0.3**
KOGS Kog 74.36 336 *i* P **P 21 33 22.5 -0.2**
KOGS *e*S **S 21 42 55.2 +3.1**
NEF NEVSHA 74.36 327 *e*P **P 21 33 22.3 -0.5**
KBA Koelnbreinsper 74.40 338 *i* P **P 21 33 24.2 +1.0**
comp=Z,154nm,0.7s,SNR=198
PRD Provadia 74.41 327 *e*P **P 21 33 23.0 -0.1**
SOKA Soboth 74.42 337 *i* P **P 21 33 23.6 +0.5**
comp=Z,40nm,0.6s,SNR=72
ZAIG Zacatecas 74.45 73 P **P 21 33 24.1 +0.1**
DJES Djerdap 74.45 331 ⇑P **P 21 33 22.9 -0.4**
UBR Ueberruh 74.46 341 *e*P **P 21 33 23.3 -0.1**
comp=Z,259nm,1.1s,baz=16,slow=6.1
ECH Echery 74.47 343 IAMs_20 IAMs_20 22 08 51.7
comp=Z,5μm,21.0s
WATA Walderalm 74.51 340 *i* P **P 21 33 24.2 +0.4**
comp=Z,112nm,1.1s,SNR=108
RETA Reutte 74.52 340 *i* P **P 21 33 23.9 +0.1**
comp=Z,47nm,1.0s,SNR=39
VLAD Vladila 74.54 330 ⇑P **P 21 33 23.8 -0.1**
MDVR Moldovita 74.56 332 ⇓P **P 21 33 23.7 -0.3**
WTTA Wattenberg 74.57 340 *i* P **P 21 33 24.5 +0.3**
comp=Z,81nm,0.8s,SNR=116
MOTA Moosalm 74.59 340 *e*P **P 21 33 24.3 0.0**
comp=Z,81nm,0.8s
PMBI Palembang 74.67 241 P **P 21 33 25.2 +0.3**
PMBI Palembang 74.67 241 P **P 21 33 25.7 +0.8**
OBKA Obir 74.68 337 *i* P **P 21 33 25.0 +0.2**
comp=Z,174nm,0.9s,SNR=108
OBKA Obir 74.68 337 ⇑*i*P **P 21 33 25.0 +0.2**
SQTA Sankt Quirin 74.69 340 *i* P **P 21 33 25.2 +0.3**
comp=Z,120nm,0.8s,SNR=152
PUNG Punghina 74.70 331 ⇓P **P 21 33 24.2 -0.5**
FRGS Fruska Gora 74.71 333 ⇑*i*P **P 21 33 23.7 -1.1**
KMSC Kings Mountain 74.72 49 IAMs_20 IAMs_20 22 06 05.6
comp=Z,6μm,22.0s
MDRS Chennai 74.74 271 ⇑*i*P **P 21 33 24.7 -0.6**
T59A Double "B" Far 74.74 46 IAMs_20 IAMs_20 22 07 04.9
comp=Z,6μm,22.0s
KAD Karad 74.75 278 ⇑*i*P **P 21 33 24.1 -1.4**
SZH Strazhitsa 74.75 328 *e*P **P 21 33 24.3 -0.8**
MYKA Terra Mystica 74.76 338 *i* P **P 21 33 26.2 +1.0**
comp=Z,41nm,0.7s,SNR=58
GSI Gunungsitoli 74.77 249 P **P 21 33 25.1 -0.4**
GSI IAMs_20 IAMs_20 22 06 09.9
comp=Z,4μm,22.0s
GSI Gunungsitoli 74.77 249 P **P 21 33 26.2 +0.7**
GSI Gunungsitoli 74.77 249 ⇓P **P 21 33 25.2 -0.4**
GSI ⇑P **P 21 33 28.6 +3.1**
JSA Saint Aubin 74.78 349 *e*P **P 21 33 24.4 -0.8**
JSA IAmb IAmb 21 33 26.9
comp=Z,170nm,0.9s
DAVA Damuels 74.88 341 *i* P **P 21 33 26.1 +0.1**
comp=Z,39nm,1.3s,SNR=38
ABTA Abfaltersbach 74.89 339 *i* P **P 21 33 25.8 -0.1**
comp=Z,92nm,0.8s,SNR=154
MTSU Mount Surprise 74.95 198 P **P 21 33 28.3 +1.9**
FETA Feichten 74.98 340 *i* P **P 21 33 26.8 +0.3**
comp=Z,149nm,0.9s,SNR=119
PTCC Patocco-Chiusa 75.04 338 ⇑P **P 21 33 26.1 -0.7**
ELND Elena 75.09 328 ⇓P **P 21 33 26.6 -0.5**
VALD Valchedram 75.10 330 *e*P **P 21 33 27.2 +0.2**
CRES Cresnjevec Ost 75.13 337 ⇑*i*P **P 21 33 26.9 -0.3**
LJU Ljubljana 75.13 337 *i* P **P 21 33 27.6 +0.4**
LJU *e*S **S 21 43 02.5 +1.8**
250A Grady 75.17 55 IAMs_20 IAMs_20 22 07 21.0
comp=Z,4μm,20.0s
JAGI Jajag, Banyuwa 75.18 229 P **P 21 33 26.0 -1.8**
JAGI Jajag, Banyuwa 75.18 229 P **P 21 33 28.7 +0.9**
MPEP Malo Peshtene 75.32 330 *e*P **P 21 33 28.3 -0.1**
TEKS Tekeris 75.35 333 *e*P **P 21 33 27.4 -1.1**
NGCH Negor - Chabah 75.36 293 P **P 21 33 29.2 +0.4**
DAVOX Davos/Dischmat 75.37 341 LR LR 22 09 21.3
comp=Z,7μm,21.7s,baz=22,slow=38
CLF Chambon-Foret 75.39 346 IAMs_20 IAMs_20 22 08 41.2
comp=Z,4μm,21.0s
BNN Bunyan 75.41 319 P **P 21 33 28.4 -0.7**
BR106 Keskin Array S 75.44 321 P **P 21 33 28.6 -0.7**
comp=Z,104nm,0.8s,comp=Z,898nm
BR131 Keskin Array S 75.44 321 P **P 21 33 28.5 -0.8**
BR131 Keskin Array S 75.44 321 P **P 21 33 28.5 -0.8**
BR131 pmax pmax
comp=Z,121nm,0.9s
BRTR Keskin Array B 75.44 321 P **P 21 33 28.3 -1.0**
BRTR Keskin Array B 75.44 321 P **P 21 33 28.6 -0.7**
comp=Z,51nm,0.7s,baz=30,slow=5.6,SNR=114
BRTR LR LR 22 12 45.8
comp=Z,5μm,18.7s,baz=18,slow=41
comp=Z,51nm,0.7s
BRTR Keskin Array B 75.44 321 P **P 21 33 28.3 -1.0**
CEY Cerknica 75.44 337 *i* P **P 21 33 28.6 -0.5**
CEY *i* S **S 21 43 06.5 +2.3**
CEY Cerknica 75.44 337 ⇑*i*P **P 21 33 28.5 -0.5**
BR105 Keskin Array S 75.45 321 P **P 21 33 28.9 -0.5**
comp=Z,128nm,0.8s,comp=Z,1μm
BR104 Keskin Array S 75.45 321 P **P 21 33 28.6 -0.7**
comp=Z,110nm,1.2s,comp=Z,1μm
FUORN Ofenpass-Fuorn 75.45 340 P **P 21 33 29.5 +0.1**
BRAL Brewton 75.48 56 IAMs_20 IAMs_20 22 09 57.3
comp=Z,5μm,18.0s
BRAL Brewton 75.48 56 ⇓P **P 21 33 31.3 +1.8**
A051A Mrakovica 75.56 335 ⇑*i*P **P 21 33 29.2 -0.6**
SMRI Semarang 75.56 234 P **P 21 33 30.2 +0.1**
SMRI Semarang 75.56 234 P **P 21 33 31.6 +1.6**
ANTO Ankara 75.61 322 P **P 21 33 29.6 -0.5**
ANTO IAmb IAmb 21 33 32.8
comp=Z,244nm,1.1s
ANTO Ankara 75.61 322 P **P 21 33 30.4 +0.2**
ANTO Ankara 75.61 322 ⇑P **P 21 33 30.8 +0.6**
ANTO Ankara 75.61 322 P **P 21 33 29.6 -0.5**
ANTO pmax pmax
comp=Z,245nm,1.1s
ANTO Ankara 75.61 322 P **P 21 33 29.9 -0.3**
comp=Z,113nm,1.9s,comp=Z,2μm
KLYT Kilyos 75.63 325 P **P 21 33 30.1 0.0**
comp=Z,261nm,1.1s,comp=Z,4μm
BOVS Bovan 75.63 331 ⇓P **P 21 33 29.3 -0.8**
BR231 Keskin MP Arra 75.64 322 P **P 21 33 30.2 -0.2**
TV1H Townsville Har 75.67 195 P **P 21 33 32.2 +1.8**
SKDS Skadanscina 75.71 337 ⇑*i*P **P 21 33 29.6 -1.0**
CTI Castel Tesino 75.73 339 P **P 21 33 29.9 -0.9**
CTI Castel Tesino 75.73 339 P **P 21 33 29.9 -0.9**
CTI pmax pmax
comp=Z,140nm,0.9s
BLY Banja Luka 75.74 335 ⇑*i*P **P 21 33 30.0 -0.7**
TUE Stuetta 75.77 341 P **P 21 33 30.7 -0.4**
TUE IAmb IAmb 21 33 50.1
comp=Z,167nm,0.9s
TUE Stuetta 75.77 341 P **P 21 33 30.6 -0.5**
comp=Z,798nm,1.5s,comp=Z,14μm
KOUNC Koumac, New Ca 75.84 178 P **P 21 33 32.7 +1.3**
KOUNC IAmb IAmb 21 33 35.7
comp=Z,256nm,1.3s
KOUNC Koumac, New Ca 75.84 178 P **P 21 33 34.1 +2.7**
KIRS Kirsehir-Merke 75.86 321 ⇑P **P 21 33 31.2 -0.5**
AUAYR Ayr State High 75.89 194 P **P 21 33 34.4 +2.7**
W59A Clinton 75.93 47 IAMs_20 IAMs_20 22 08 35.4
comp=Z,6μm,20.0s
HAPS Han Pijesak,Bl 75.93 334 ⇑*i*P **P 21 33 31.4 -0.6**
PGB Panagyurishte 75.97 329 *e*P **P 21 33 32.6 +0.5**
BBLS Lazi&#263i 76.02 333 ⇑*i*P **P 21 33 32.4 0.0**
Y57A Sumter 76.08 49 IAMs_20 IAMs_20 22 07 09.7
comp=Z,5μm,22.0s
VTS Vitosha 76.14 330 *e*P **P 21 33 32.8 -0.5**
A050A Klekovaca 76.15 335 ⇑*i*P **P 21 33 32.8 -0.4**
V61A Roper 76.16 46 IAMs_20 IAMs_20 22 08 39.3
comp=Z,6μm,20.0s
LIFNC LIFOU 76.17 175 P **P 21 33 37.4 +4.2**
SENIN Lac Senin/Sane 76.24 342 P **P 21 33 33.6 -0.2**
SENIN IAmb IAmb 21 33 59.4
comp=Z,357nm,1.1s
RUDO Rudo 76.26 333 *e*P **P 21 33 33.9 +0.2**
UGM Wanagama 76.29 233 P **P 21 33 32.5 -1.7**
UGM Wanagama 76.29 233 P **P 21 33 35.3 +1.1**
KNRA Kununurra 76.35 213 P **P 21 33 34.7 +0.3**
GAZ Gaziantep 76.37 318 P **P 21 33 34.0 -0.5**
GAZ IAmb IAmb 21 33 37.3
comp=Z,343nm,1.3s
GOA Goa 76.42 278 ⇑*i*P **P 21 33 33.6 -1.3**
GOA IAmb IAmb 21 33 35.7
comp=Z,142nm,1.1s
SJES Sjenica 76.44 333 ⇑*i*P **P 21 33 34.7 -0.2**
Y58A Scranton 76.49 49 IAMs_20 IAMs_20 22 10 19.4
comp=Z,4μm,18.0s
PLE Pljevlja 76.52 333 ⇑*i*P **P 21 33 35.1 -0.3**
CTA Charters Tower 76.56 195 LR LR 22 05 11.2
comp=Z,158nm,19.6s,baz=18,slow=34
CTA Charters Tower 76.56 195 P **P 21 33 36.8 +1.3**
CTAO Charters Tower 76.56 195 P **P 21 33 35.9 +0.4**
CTAO IAmb IAmb 21 33 38.6
comp=Z,332nm,1.1s
CTAO Charters Tower 76.56 195 P **P 21 33 36.9 +1.4**
CTAO Charters Tower 76.56 195 P **P 21 33 35.9 +0.4**
CTAO pmax pmax
comp=Z,333nm,1.2s
RZN Rozhen 76.56 329 *e*P **P 21 33 35.4 -0.3**
JASK Jask - Hormozg 76.63 296 P **P 21 33 35.8 -0.2**
SNR=18
LEM Lembang 76.68 236 P **P 21 33 37.0 +0.5**
comp=Z,75nm,0.7s,baz=57,slow=3.4,SNR=14
LEM LR LR 22 07 55.4
comp=Z,2μm,21.8s,baz=358,slow=36
comp=Z,75nm,0.7s
BAND Balkesir-Ban 76.74 326 ⇓P **P 21 33 37.2 +0.7**
RDO Rodhopi 76.82 328 P **P 21 33 36.4 -0.5**
RDO IAmb IAmb 21 33 40.1
comp=Z,368nm,1.2s
KKB Krupnik 76.89 330 *e*P **P 21 33 37.5 +0.2**
ALN Alexandroupoli 76.89 327 P **P 21 33 37.0 -0.3**
ALN IAmb IAmb 21 33 40.1
comp=Z,266nm,1.2s
ALN Alexandroupoli 76.89 327 P **P 21 33 37.0 -0.3**
ALN pmax pmax
comp=Z,266nm,1.2s
KOME Kolasin 76.94 333 ⇑*i*P **P 21 33 36.9 -0.8**
NHSC New Hope 76.95 50 IAMs_20 IAMs_20 22 08 30.7
comp=Z,6μm,21.0s
MMB Musomishta 76.98 329 *e*P **P 21 33 37.5 -0.4**
Y60A Bolivia 77.02 48 IAMs_20 IAMs_20 22 08 09.4
comp=Z,5μm,22.0s
CAVK Edirne/Enez-Ca 77.04 327 ⇑P **P 21 33 37.4 -0.7**
KASI Kota Agung 77.05 240 P **P 21 33 35.8 -2.6**
BRY Bratogost 77.14 333 *e*P **P 21 33 37.6 -1.3**
BRY Bratogost 77.14 333 ⇑*i*P **P 21 33 38.5 -0.4**
NKME Niksic 77.16 333 ⇑*i*P **P 21 33 38.4 -0.5**
BBJI Bungbulang 77.22 236 P **P 21 33 39.3 -0.2**
SHME Shamm 77.35 298 *i* P **P 21 33 39.1 -1.0**
SNR=12
SHME Shamm 77.35 298 P **P 21 33 38.9 -1.2**
SNR=6.6
TREB Trebinje 77.36 333 ⇑*i*P **P 21 33 38.7 -1.2**
CEME Cevo 77.38 333 ⇑*i*P **P 21 33 39.5 -0.6**
PDG Podgorica 77.40 333 P **P 21 33 39.6 -0.5**
PDG Podgorica 77.40 333 ⇑*i*P **P 21 33 39.3 -0.8**
PDG Podgorica 77.40 333 ⇓P **P 21 33 39.7 -0.4**
PDG Podgorica 77.40 333 ⇑*i*P **P 21 33 39.9 -0.2**
DZM Mont Dzumac 77.42 176 P **P 21 33 42.3 +1.9**
DZM IAmb IAmb 21 34 01.5
comp=Z,346nm,1.2s
DZM Mont Dzumac 77.42 176 *e*P **P 21 33 42.9 +2.5**
comp=Z,764nm,1.4s
DZM Mont Dzumac 77.42 176 *e*P **P 21 33 42.4 +2.0**
comp=Z,749nm,1.4s
DZM Mont Dzumac 77.42 176 *e*PP **PP 21 36 37.9 +2.0**
comp=Z,548nm,28.9s
DZM *e*S **S 21 43 21.0 -5.2**
comp=Z,3μm,24.1s
DZM *e*SS **SS 21 48 30.2 +3.6**
comp=Z,2μm,32.6s
DZM *e*LQ LQ 21 54 25.3
comp=Z,4μm,28.5s
DZM *e*LR LR 21 57 40.1
comp=Z,17μm,26.0s
DZM Mont Dzumac 77.42 176 LR LR 22 04 02.8
comp=Z,6μm,20.1s,baz=8.5,slow=33
DZM Mont Dzumac 77.42 176 P **P 21 33 43.1 +2.7**
YATNC Mamie plateau, 77.43 175 P **P 21 33 44.5 +4.2**
NOUC Port Laguerre 77.44 176 P **P 21 33 43.8 +3.4**
ZCCA Zocca 77.49 339 P **P 21 33 41.4 +0.7**
VAY Valandovo 77.53 330 *i* P **P 21 33 40.6 -0.2**
HCY Herceg Novi 77.58 333 ⇑*i*P **P 21 33 40.3 -0.9**
HCY Herceg Novi 77.58 333 ⇑*i*P **P 21 33 40.5 -0.7**
PUK Puka 77.59 332 P **P 21 33 41.5 +0.1**
PUK IAmb IAmb 21 33 43.4
comp=Z,438nm,1.5s
BUM Brajici-Budva 77.61 333 ⇑*i*P **P 21 33 41.1 -0.3**
DRME Dracevica, Mon 77.65 333 ⇑*i*P **P 21 33 41.0 -0.5**
ONTNC Ouen Toro 77.66 176 P **P 21 33 42.6 +1.1**
ONTNC IAmb IAmb 21 33 46.2
comp=Z,289nm,1.3s
ONTNC Ouen Toro 77.66 176 P **P 21 33 46.0 +4.4**
MOIG Morelia 77.70 73 P **P 21 33 42.7 +0.3**
SSB Saint Sauveur 77.75 344 P **P 21 33 41.5 -0.6**
SSB Saint Sauveur 77.75 344 IAMs_20 IAMs_20 22 08 18.4
comp=Z,5μm,22.0s
SSB Saint Sauveur 77.75 344 P **P 21 33 41.5 -0.6**
SSB pmax pmax
comp=Z,127nm,1.1s
SSB MLR MLR
comp=Z,5μm,22.0s
OUENC Ouen Island, N 77.78 176 P **P 21 33 46.5 +4.2**
EZN Ezine 77.78 327 P **P 21 33 40.8 -1.5**
comp=Z,182nm,1.4s,comp=Z,4μm
VLC Villacollemand 77.79 340 P **P 21 33 42.3 -0.1**
MDH Madha 77.89 297 *i* P **P 21 33 41.1 -2.0**
SNR=17
MDH Madha 77.89 297 P **P 21 33 42.0 -1.2**
SNR=7.4
MASF Masafi 77.90 297 P **P 21 33 41.8 -1.5**
SNR=7.8
MSFE Esma-Masafi 77.91 297 *i* P **P 21 33 42.3 -1.0**
SNR=19
MNGI Mangalore 77.91 275 *e*P **P 21 33 41.9 -1.4**
PINNC Pines Island, 78.00 175 P **P 21 33 44.4 +0.9**
PINNC IAmb IAmb 21 34 06.0
comp=Z,283nm,1.5s
UMQ Umm Al-Quwin 78.03 298 *i* P **P 21 33 43.7 -0.2**
SNR=8.6
UMQ Umm Al-Quwin 78.03 298 P **P 21 33 43.6 -0.2**
SNR=5.2
QIS Mount Isa 78.21 201 P **P 21 33 46.2 +1.5**
OHR Ohrid 78.22 331 *i* P **P 21 33 44.4 -0.4**
ISP Isparta 78.22 323 P **P 21 33 43.9 -1.1**
ISP Isparta 78.22 323 P **P 21 33 43.9 -1.1**
ISP pmax pmax
comp=Z,779nm,1.8s
UOSS Minazif 78.23 297 P **P 21 33 43.4 -1.6**
UOSS IAmb IAmb 21 33 45.6
comp=Z,489nm,1.8s
UOSS Minazif 78.23 297 *i* P **P 21 33 43.0 -2.0**
SNR=33
UOSS Minazif 78.23 297 P **P 21 33 43.8 -1.2**
TIR Tirane 78.25 332 ⇑P **P 21 33 45.1 +0.2**
TIR Tirane 78.25 332 P **P 21 33 45.1 +0.2**
TIR Tirane 78.25 332 P **P 21 33 44.8 -0.1**
comp=Z,267nm,1.0s,comp=Z,7μm
MALK Mahakanadarawa 78.36 268 P **P 21 33 43.8 -2.0**
HATD Hatta, Dubai 78.37 297 *i* P **P 21 33 44.7 -1.1**
SNR=36
HATD Hatta, Dubai 78.37 297 P **P 21 33 44.9 -0.9**
SNR=16
WSAR Wadi Sarin 78.39 294 LR LR 22 12 35.6
comp=Z,7μm,21.0s,baz=74,slow=39
BIDO Bidbid 78.42 295 P **P 21 33 45.2 -0.9**
SNR=16
NAZ Nazwa, Dubai 78.47 297 *i* P **P 21 33 45.1 -1.3**
SNR=12
NAZ Nazwa, Dubai 78.47 297 P **P 21 33 44.8 -1.6**
ASHO Ashiyiah 78.52 297 *i* P **P 21 33 45.4 -1.3**
SNR=26
ASHO Ashiyiah 78.52 297 P **P 21 33 45.7 -1.0**
SNR=14
WB0 Warramunga Arr 78.65 207 P **P 21 33 46.4 -0.8**
FAQ Al Faqa, Dubai 78.71 297 P **P 21 33 45.7 -2.0**
FAQ Al Faqa, Dubai 78.71 297 P **P 21 33 46.4 -1.2**
SNR=8.8
SOHO SOHO 78.73 296 *i* P **P 21 33 45.3 -2.5**
SNR=32
SOHO SOHO 78.73 296 P **P 21 33 46.1 -1.7**

HOQ	Hoqain	78.79 295	P	P	21 33 47.3	-0.9	
	SNR=46						
KBD	Kabd	78.82 306	P	P	21 33 47.6	-0.6	
WRA	Warramunga Arr	78.83 207	P	P	21 33 48.0	-0.2	
WRA	Warramunga Arr	78.83 207	P	P	21 33 48.1	0.0	
	comp=Z,108nm,0.8s,baz=16,slow=5.9,SNR=274						
WRA			S	S	21 43 39.1	-2.2	
	comp=Z,8.6nm,1.2s,baz=20,slow=10,SNR=8.7						
WRA			PKKPbc	PKKPbc	21 52 41.0	+0.5	
	comp=Z,1.9nm,1.0s,baz=206,slow=2.1,SNR=4.6						
WRA			PKPPKP		22 00 41.8		
	comp=Z,2.3nm,1.0s,baz=204,slow=2.6,SNR=6.9						
WRA			LR	LR	22 04 40.1		
	comp=Z,3μm,21.4s,baz=16,slow=33						
	comp=Z,108nm,0.8s						
WRA	Warramunga Arr	78.83 207	P	P	21 33 48.0	-0.2	
WRA			pmax	pmax			
	comp=Z,79nm,1.5s						
SMDO	Samad	78.84 294	P	P	21 33 48.0	-0.5	
	SNR=18						
JLN	Jalan Bani Buh	78.88 293	P	P	21 33 48.4	-0.2	
	SNR=16						
ASUD	Al Ashush, Dub	78.94 297	*i* P	P	21 33 47.5	-1.4	
	SNR=8.2						
ASUD	Al Ashush, Dub	78.94 297	P	P	21 33 48.0	-0.9	
	SNR=5.9						
AJN	Ajban	79.16 298	*i* P	P	21 33 48.5	-1.6	
	SNR=9.3						
AJN	Ajban	79.16 298	P	P	21 33 49.0	-1.1	
	SNR=5.5						
ALNE	Al Ain	79.20 297	*i* P	P	21 33 49.5	-0.9	
	SNR=24						
ALNE	Al Ain	79.20 297	P	P	21 33 49.7	-0.7	
	SNR=18						
JMDO	Jabal Madar	79.38 294	P	P	21 33 51.0	-0.4	
	SNR=34						
ARQ	Araqi	79.40 296	P	P	21 33 49.7	-1.8	
	SNR=41						
BSY	Bisya	79.54 295	P	P	21 33 52.0	-0.3	
	SNR=46						
FITZ	Fitzroy Crossi	79.61 215	LR	LR	22 08 41.5		
	comp=Z,2μm,21.9s,baz=21,slow=35						
GD1S	Gladstone Soft	79.64 190	P	P	21 33 54.7	+2.2	
MATE	Matera	79.72 334	⇑P	P	21 33 53.3	+0.3	
CSS	Mathiatis	79.78 319	P	P	21 33 52.6	-0.9	
CSS	Mathiatis	79.78 319	P	P	21 33 52.5	-0.9	
	comp=Z,326nm,1.8s,comp=Z,6μm						
TAOE	Nuku Hiva Isla	80.00 122	*e*P	P	21 33 56.0	+1.2	
	comp=Z,1μm,27.1s						
TAOE			*e*S	S	21 43 48.7	-5.4	
	comp=Z,1μm,25.9s						
TAOE			*e*SS	SS	21 49 03.0	-2.4	
	comp=Z,829nm,29.6s						
TAOE			*e*LR	LR	21 58 48.4		
	comp=Z,10μm,31.5s						
SHMA	Al-Shehemyia	80.07 301	P	P	21 33 54.1	-0.9	
	SNR=5.7						
SAKB	Bahrain	80.18 302	P	P	21 33 54.4	-1.2	
TRD	Trivandrum	80.30 271	⇑*i*P	P	21 33 55.6	-0.8	
TRD			IAmb	IAmb	21 33 59.4		
	comp=Z,163nm,1.2s						
MHTO	MHTO	80.59 293	P	P	21 33 57.0	-0.9	
	SNR=60						
UMZA	Um Al Zommool	80.61 296	P	P	21 33 56.7	-1.3	
DWPF	Disney Wildern	80.66 53	P	P	21 33 57.6	-0.5	
DWPF			IAmb	IAmb	21 34 01.3		
	comp=Z,201nm,1.1s						
GHWR	Ruwais	80.72 299	P	P	21 33 57.2	-1.4	
MMAI	Mount Meron Ar	80.73 317	P	P	21 33 58.0	-0.6	
	comp=Z,89nm,0.8s,baz=34,slow=6.2,SNR=80						
MMAI			LR	LR	22 16 03.5		
	comp=Z,9μm,18.7s,baz=326,slow=40						
	comp=Z,89nm,0.8s						
EJON	La Jonquera	80.77 345	P	P	21 33 58.9	+0.3	
XMIS	Christmas Isla	80.80 236	P	P	21 33 58.0	-0.9	
XMIS			IAmb	IAmb	21 34 25.9		
	comp=Z,501nm,1.6s						
XMIS	Christmas Isla	80.80 236	P	P	21 33 58.9	-0.1	
TLIG	Tlapa	80.85 72	P	P	21 33 59.8	+0.3	
ASF	Jabal al Asfar	80.88 315	LR	LR	22 15 53.8		
	comp=Z,11μm,19.1s,baz=335,slow=40						
TRNA	Turayna	80.89 301	P	P	21 33 58.2	-1.2	
SMRA	Abu-Samra	81.07 301	P	P	21 33 59.1	-1.3	
	SNR=7.8						
TIP	Timpagrande	81.10 333	⇑P	P	21 34 00.3	-0.2	
TIP	Timpagrande	81.10 333	P	P	21 34 00.8	+0.3	
	comp=Z,191nm,1.5s,comp=Z,5μm						
EIDS	Eidsvold	81.16 190	P	P	21 34 01.4	+0.8	
EIDS			IAmb	IAmb	21 34 20.0		
	comp=Z,244nm,1.1s						
EIDS	Eidsvold	81.16 190	P	P	21 34 02.6	+2.0	
SLWR	Sila	81.22 300	P	P	21 33 60.0	-1.2	
MZR	Muzera	81.22 298	P	P	21 33 59.8	-1.4	
MZR	Muzera	81.22 298	P	P	21 34 00.2	-1.1	
	SNR=18						
KARP	Karpathos	81.42 324	P	P	21 34 00.4	-1.8	
KARP			IAmb	IAmb	21 34 03.3		
	comp=Z,296nm,0.9s						
KARP	Karpathos	81.42 324	*e*P	P	21 34 01.7	-0.5	
KARP	Karpathos	81.42 324	P	P	21 34 01.3	-0.9	
	comp=Z,364nm,1.0s						
PMOR	Pomariorio Ree	81.89 132	*e*P	P	21 34 07.2	+2.6	
	comp=Z,84nm,0.9s						
PMOR	Pomariorio Ree	81.89 132	*e*P	P	21 34 04.5	-0.1	
	comp=Z,84nm,0.9s						
PMOR	Pomariorio Ree	81.89 132	*e*LR	LR	21 59 40.7		
	comp=Z,4μm,23.7s						
GHAJ	Ghor Haditha	82.18 316	P	P	21 34 05.5	-0.6	
GHAJ			IAmb	IAmb	21 34 08.2		
	comp=Z,217nm,1.1s						
CEL	Celeste	82.19 334	P	P	21 34 05.4	-0.8	
	comp=Z,121nm,1.0s,comp=Z,2μm						
VAH	Vaihoa	82.21 131	*e*P	P	21 34 08.8	+2.5	
	comp=Z,94nm,0.9s						
VAH	Vaihoa	82.21 131	*e*P	P	21 34 07.5	+1.2	
	comp=Z,94nm,0.9s						
VAH			*e*S	S	21 44 01.8	-15	
	comp=Z,1μm,23.3s						
VAH	Vaihoa	82.21 131	*e*LR	LR	21 59 57.9		
	comp=Z,3μm,22.1s						
ECAL	Calabor	82.39 352	P	P	21 34 06.6	-0.6	
IDI	Anoyia	82.39 326	P	P	21 34 05.2	-2.1	
IDI	Anoyia	82.39 326	LR	LR	22 14 09.4		
	comp=Z,5μm,21.7s,baz=18,slow=38						
PGAV	Gavieira, Arco	82.49 353	*e*P	P	21 34 08.1	+0.3	
PGAV			A	A	21 34 12.3		
	comp=Z,172nm,1.6s						
PGAV	Gavieira, Arco	82.49 353	*e*S	SKSac	21 44 20.3	-3.2	
PGAV	Gavieira, Arco	82.49 353	*e*LQ	LQ	21 56 51.0		
PGAV			*e*LR	LR	22 01 32.8		
PGAV			A	A	22 11 01.4		
	comp=Z,5μm,20.0s						
AS01	Alice Springs	82.50 206	P	P	21 34 09.8	+2.1	
AS31	Alice Springs	82.51 206	P	P	21 34 07.9	+0.1	
ASAR	Alice Springs	82.51 206	P	P	21 34 08.0	+0.2	
ASAR	Alice Springs	82.51 206	P	P	21 34 08.3	+0.6	
	comp=Z,209nm,1.0s,baz=13,slow=4.8,SNR=40						
ASAR			PKP2bc		22 00 23.2		
	comp=Z,1.0nm,0.8s,baz=186,slow=2.3,SNR=4.2						
ASAR			PKPPKP		22 00 40.5		
	comp=Z,3.1nm,0.9s,baz=175,slow=1.6,SNR=9.9						
ASAR			LR	LR	22 08 13.1		
	comp=Z,4μm,22.0s,baz=30,slow=34						
	comp=Z,209nm,1.0s						
ASAR	Alice Springs	82.51 206	P	P	21 34 08.0	+0.2	
PBRG	Braganca	82.53 352	*e*P	P	21 34 07.7	-0.2	
PBRG			A	A	21 34 12.2		
	comp=Z,134nm,2.1s						
PCAB	Cabril	82.72 353	*e*P	P	21 34 09.6	+0.7	
PCAB			A	A	21 34 13.3		
	comp=Z,145nm,1.7s						
AUWSH	Wavell State H	83.00 188	P	P	21 34 13.7	+3.6	
MAHO	Mahon	83.04 343	P	P	21 34 10.8	+0.3	
MAHO			IAmb	IAmb	21 34 13.6		
	comp=Z,308nm,1.2s						
POLO	Lamas de Olo	83.04 352	*e*P	P	21 34 10.9	+0.3	
POLO			A	A	21 34 15.1		
	comp=Z,82nm,2.0s						
RAR	Rarotonga	83.06 145	P	P	21 34 11.7	+1.1	
	comp=Z,28nm,1.2s,baz=15,slow=2.5,SNR=2.7						
RAR			LR	LR	22 03 03.6		
	comp=Z,3μm,20.9s,baz=335,slow=30						
	comp=Z,28nm,1.2s						
PVRL	Vila Real	83.13 352	*e*P	P	21 34 11.2	+0.2	
PVRL			A	A	21 34 15.4		
	comp=Z,269nm,1.7s						
MVO	Moncorvo	83.19 352	*e*P	P	21 34 11.4	0.0	
MVO			A	A	21 34 15.8		
	comp=Z,235nm,1.6s						
MVO	Moncorvo	83.19 352	*e*S	SKSac	21 44 25.3	-2.8	
MVO	Moncorvo	83.19 352	*e*LQ	LQ	21 56 10.7		
MVO			*e*LR	LR	22 01 53.9		
MVO			A	A	22 10 39.5		
	comp=Z,4μm,20.0s						
CMIG	Matias Romero	83.22 70	LR	LR	22 08 53.6		
	comp=Z,2μm,21.4s,baz=312,slow=34						
TW1H	Toowoomba 1 Ha	83.23 189	P	P	21 34 13.7	+2.2	
QLP	Quilpie	83.24 196	P	P	21 34 13.6	+2.2	
VAE	Valguarnera	83.29 335	LR	LR	22 16 26.0		
	comp=Z,5μm,18.0s,baz=33,slow=39						
PTO	Porto	83.33 353	*e*P	P	21 34 13.2	+1.2	
PTO			A	A	21 34 17.1		
	comp=Z,203nm,2.2s						
ETOS	Mallorca	83.40 344	P	P	21 34 12.8	+0.4	
PPT	Papeete	83.49 134	P	P	21 34 14.9	+2.0	
	comp=Z,24nm,0.3s,baz=270,slow=13,SNR=2.0						
PPT			LR	LR	22 03 34.1		
	comp=Z,3μm,21.2s,baz=322,slow=30						
	comp=Z,24nm,0.3s						
PPT2	Papeete2	83.51 134	*e*P	P	21 34 14.3	+1.2	
	comp=Z,123nm,1.2s						
PPT2	Papeete2	83.51 134	*e*PP	PP	21 37 24.4	-2.0	
	comp=Z,332nm,26.2s						
PPT2			*e*S	SKSac	21 44 25.8	-4.5	
	comp=Z,608nm,22.5s						
PPT2			*e*SS	SS	21 49 55.4	-2.2	
	comp=Z,2μm,34.2s						
PPT2			*e*LQ	LQ	21 56 21.6		
	comp=Z,4μm,24.5s						
PPT2			*e*LR	LR	22 00 18.2		
	comp=Z,7μm,24.5s						
PPT2			*e*LR	LR	22 00 25.7		
	comp=Z,9μm,24.0s						
PPTF	Pamatai, Papee	83.51 134	P	P	21 34 14.4	+1.3	
PPTF			IAmb	IAmb	21 34 53.9		
	comp=Z,185nm,1.2s						
PPTF	Pamatai, Papee	83.51 134	P	P	21 34 16.7	+3.6	
PAE	Paea	83.57 134	*e*P	P	21 34 15.9	+2.6	
PAE	Paea	83.57 134	*e*P	P	21 34 12.7	-0.6	
	comp=Z,54nm,1.2s						
PAE	Paea	83.57 134	*e*S	S	21 44 27.8	-2.6	
	comp=Z,327nm,25.7s						
PAE	Paea	83.57 134	*e*LQ	LQ	21 56 38.0		
	comp=Z,506nm,29.6s						
PAE			*e*LR	LR	22 00 30.8		
	comp=Z,1μm,22.7s						
UCM	Universidad Co	83.67 349	P	P	21 34 13.9	0.0	
PVIS	Viseu	83.70 352	*e*P	P	21 34 14.1	+0.1	
BBSR	BB Station	83.71 38	P	P	21 34 13.7	-0.3	
BBSR			IAmb	IAmb	21 34 16.5		
	comp=Z,177nm,0.9s						
BBSR	BB Station	83.71 38	IAMs_20	IAMs_20	22 13 23.6		
	comp=Z,4μm,22.0s						
GC1S	Gold Coast 1 S	83.72 188	P	P	21 34 16.7	+2.9	
EIL	Elat	83.87 316	LR	LR	22 17 57.4		
	comp=Z,7μm,18.3s,baz=33,slow=40						
MTE	Manteigas	83.99 352	P	P	21 34 15.2	-0.3	
MTE			IAmb	IAmb	21 34 18.3		
	comp=Z,243nm,1.2s						
MTE			IAMs_20	IAMs_20	22 11 30.7		
	comp=Z,4μm,22.0s						
MTE	Manteigas	83.99 352	*e*P	P	21 34 15.7	+0.2	
MTE			A	A	21 34 20.0		
	comp=Z,346nm,1.7s						
MTE	Manteigas	83.99 352	*e*S	S	21 44 36.3	+1.7	
MTE	Manteigas	83.99 352	*e*LQ	LQ	21 56 43.9		
MTE			*e*LR	LR	22 02 18.5		
MTE			A	A	22 11 48.0		
	comp=Z,3μm,22.0s						
ECHE	Chera	84.11 347	P	P	21 34 16.7	+0.6	
COI	Coimbra	84.25 353	IAMs_20	IAMs_20	22 11 36.5		
	comp=Z,4μm,20.0s						
COI	Coimbra	84.25 353	*e*P	P	21 34 18.0	+1.3	
COI			A	A	21 34 20.8		
	comp=Z,410nm,2.1s						
ESBB	Sonseca Array	84.38 349	P	P	21 34 17.2	-0.3	
ESBB			IAmb	IAmb	21 34 20.3		
	comp=Z,278nm,1.2s						
ESDC	Sonseca Array	84.38 349	P	P	21 34 17.2	-0.3	
ESDC			IAmb	IAmb	21 34 20.3		
	comp=Z,269nm,1.2s						
ESDC	Sonseca Array	84.38 349	P	P	21 34 17.4	-0.1	
	comp=Z,96nm,0.9s,baz=1.3,slow=4.5,SNR=152						
ESDC			PKKPbc	PKKPbc	21 52 27.2	+1.0	
	comp=Z,1.8nm,0.9s,baz=195,slow=2.1,SNR=7.4						
ESDC			PKPPKP	P'P'df	22 00 23.6	-15	
	comp=Z,2.9nm,1.0s,baz=185,slow=1.1,SNR=11						
	comp=Z,96nm,0.9s						
PCAS	Casmilo, Conde	84.41 353	*e*P	P	21 34 17.7	+0.2	
PCAS			A	A	21 34 20.8		
	comp=Z,370nm,2.1s						
MBWA	Marble Bar	84.48 219	P	P	21 34 17.4	-0.4	
MBWA	Marble Bar	84.48 219	P	P	21 34 18.8	+0.9	
MBWA	Marble Bar	84.48 219	P	P	21 34 18.7	+0.8	
PCBR	Castelo Branco	84.54 352	*e*P	P	21 34 18.4	+0.2	
PCBR			A	A	21 34 22.5		
	comp=Z,339nm,1.9s						
PAB	San Pablo	84.55 350	P	P	21 34 17.9	-0.4	
PAB			IAmb	IAmb	21 34 21.1		
	comp=Z,186nm,1.1s						
PAB	San Pablo	84.55 350	IAMs_20	IAMs_20	22 16 14.5		
	comp=Z,4μm,21.0s						
PAB	San Pablo	84.55 350	P	P	21 34 17.9	-0.4	
PAB			pmax	pmax			
	comp=Z,186nm,1.1s						
PAB			MLR	MLR			
	comp=Z,4μm,21.0s						
DOK	Doka	84.55 295	P	P	21 34 17.2	-1.4	
	SNR=70						
RAYN	Ar Rayn	84.65 304	P	P	21 34 17.6	-1.5	
RAYN	Ar Rayn	84.65 304	*i* P	P	21 34 17.9	-1.2	
	SNR=150						
RAYN	Ar Rayn	84.65 304	P	P	21 34 18.7	-0.3	
RAYN	Ar Rayn	84.65 304	P	P	21 34 17.6	-1.5	
RAYN			pmax	pmax			
	comp=Z,663nm,1.2s						
PSA00	Pilbara Seismi	84.82 219	P	P	21 34 19.1	-0.5	
PSA00			IAmb	IAmb	21 34 21.9		
	comp=Z,312nm,1.4s						
PSA00	Pilbara Seismi	84.82 219	P	P	21 34 22.6	+3.0	
WDD	Wied Dalam	84.82 334	IAMs_20	IAMs_20	22 17 56.8		
	comp=Z,3μm,20.0s						
DMTO	DMTO	84.88 294	P	P	21 34 18.7	-1.5	
	SNR=12						
PMRV	Marv??o	84.94 352	*e*P	P	21 34 20.0	-0.2	
PMRV			A	A	21 34 24.5		
	comp=Z,278nm,1.6s						
PMRV	Marv??o	84.94 352	*e*S	S	21 44 41.1	-2.9	
PMRV	Marv??o	84.94 352	*e*LQ	LQ	21 58 23.4		
PMRV			*e*LR	LR	22 02 44.9		
PMRV			A	A	22 12 40.6		
	comp=Z,3μm,20.0s						
PSBE	So Bento	84.96 353	*e*P	P	21 34 21.2	+0.9	
PSBE			A	A	21 34 24.7		
	comp=Z,391nm,1.7s						
INKA	Innaminka	84.97 199	P	P	21 34 23.7	+3.5	
CAMR	Camarioca	85.01 56	P	P	21 34 21.4	+0.6	
CAMR			IAmb	IAmb	21 34 40.0		
	comp=Z,332nm,1.0s						
WRKA	Warakurna	85.32 210	P	P	21 34 23.3	+1.2	
WHFO	Wadi Hawf	85.32 295	P	P	21 34 21.0	-1.5	
	SNR=95						
PMTG	Montargil	85.36 352	*e*P	P	21 34 22.1	-0.2	
PMTG			A	A	21 34 26.3		
	comp=Z,281nm,1.9s						
RBK	Rabkut	85.44 294	P	P	21 34 21.7	-1.4	
	SNR=38						
PESTR	Estremoz	85.52 352	P	P	21 34 23.0	-0.1	
PESTR			IAmb	IAmb	21 34 25.5		
	comp=Z,290nm,1.3s						
PESTR	Estremoz	85.52 352	*e*P	P	21 34 23.0	-0.1	
PESTR			A	A	21 34 27.1		
	comp=Z,295nm,2.1s						
LIS	Lisbon	85.78 353	*e*P	P	21 34 25.7	+1.3	
LIS	Lisbon	85.78 353	*e*P	P	21 34 23.3	-1.1	
LIS			*e*SKSac	SKSac	21 44 43.7	-0.9	
LIS			IAMs_20	IAMs_20	22 09 58.0		
	comp=Z,5μm,25.2s						
LIS	Lisbon	85.78 353	*e*P	P	21 34 23.3	-1.1	
LIS			*e*		21 44 43.7		
EVO	Evora	85.88 352	*e*P	P	21 34 24.9	0.0	
EVO			A	A	21 34 29.1		
	comp=Z,306nm,2.0s						
ABTO	Aybut	86.04 295	P	P	21 34 25.0	-1.1	
	SNR=79						
OOD	Oodnadatta	86.05 203	P	P	21 34 27.7	+2.1	
CART	Cartagena	86.09 347	IAMs_20	IAMs_20	22 13 08.2		
	comp=Z,4μm,22.0s						
ARMA	Armidale	86.11 189	P	P	21 34 26.9	+1.0	
ARMA			IAmb	IAmb	21 34 30.2		
	comp=Z,172nm,1.1s						
ARMA	Armidale	86.11 189	P	P	21 34 28.8	+2.8	
KEST	Kesra	86.12 338	P	P	21 34 26.2	0.0	
KEST	Kesra	86.12 338	P	P	21 34 26.1	-0.1	
	comp=Z,51nm,0.9s,baz=180,slow=1.8,SNR=40						
KEST			LR	LR	22 16 33.0		
	comp=Z,5μm,22.0s,baz=12,slow=38						
	comp=Z,51nm,0.9s						
PBAR	Barrancos	86.16 351	*e*P	P	21 34 26.5	+0.2	
PBAR			A	A	21 34 30.4		
	comp=Z,308nm,2.0s						
RAO	Raoul Island	86.20 163	LR	LR	22 07 19.9		
	comp=Z,6μm,21.0s,baz=9.0,slow=32						
ABA	Alger-Bouzarea	86.26 343	P	P	21 34 25.4	-1.4	
PBEJ	Beja	86.37 352	*e*P	P	21 34 28.3	+1.0	
PBEJ			A	A	21 34 31.6		
	comp=Z,217nm,1.9s						
COCO	West Island	86.58 243	P	P	21 34 30.6	+2.1	
MESJ	Messejana	86.59 352	*e*P	P	21 34 29.9	+1.5	
MESJ			A	A	21 34 32.6		
	comp=Z,147nm,2.0s						
MESJ	Messejana	86.59 352	*e*P	P	21 34 27.4	-1.0	
MESJ			*e*SKSac	SKSac	21 44 48.9	-0.8	
MESJ			IAMs_20	IAMs_20	22 09 34.1		
	comp=Z,3μm,15.8s						
MESJ	Messejana	86.59 352	*e*P	P	21 34 27.4	-1.0	
MESJ			*e*		21 44 48.9		
AUPHS	Peel High Scho	86.86 190	P	P	21 34 32.0	+2.5	
PTEO	Sao Teotonio	86.92 353	*e*P	P	21 34 28.3	-1.7	
PTEO			A	A	21 34 35.3		
	comp=Z,178nm,1.8s						
PVAQ	Vaqueiros	86.98 352	P	P	21 34 30.8	+0.5	
PVAQ			IAmb	IAmb	21 35 04.5		
	comp=Z,152nm,1.4s						
PVAQ	Vaqueiros	86.98 352	*e*P	P	21 34 31.0	+0.7	
PVAQ			A	A	21 34 34.9		
	comp=Z,197nm,1.8s						
PVAQ	Vaqueiros	86.98 352	*e*S	S	21 45 06.4	+2.5	
PVAQ	Vaqueiros	86.98 352	*e*LQ	LQ	21 58 51.3		
PVAQ			*e*LR	LR	22 04 16.5		
PVAQ			A	A	22 22 00.9		
	comp=Z,3μm,20.0s						
MORF	Marmelete	87.15 353	P	P	21 34 32.0	+0.8	
MORF			IAmb	IAmb	21 35 06.1		
	comp=Z,286nm,1.6s						
MORF	Marmelete	87.15 353	*e*P	P	21 34 31.7	+0.5	
MORF	Marmelete	87.15 353	*e*P	P	21 34 30.1	-1.1	
MORF			IAMs_20	IAMs_20	22 11 06.2		
	comp=Z,5μm,21.1s						
MORF	Marmelete	87.15 353	*e*P	P	21 34 30.1	-1.1	
PBDV	Barranco-do-Ve	87.16 352	*e*P	P	21 34 32.0	+0.8	
PFVI	Vila Bisbo	87.33 353	*e*P	P	21 34 32.3	+0.3	
GIRL	Giralia	87.89 223	P	P	21 34 34.8	+0.2	
GIRL	Giralia	87.89 223	P	P	21 34 36.4	+1.8	
OJGS	Djebel Guires	87.89 345	P	P	21 34 33.9	-0.9	
CMSA	Cobar Meteorol	87.89 194	P	P	21 34 36.9	+2.5	
LCRK	Leigh Creek	88.08 200	P	P	21 34 37.5	+2.2	
AUDCS	Dubbo College	88.21 191	P	P	21 34 38.4	+2.5	
ESQI	Esquipulas	88.24 67	P	P	21 34 37.0	+0.2	
MTO3	Montecristo	88.37 67	P	P	21 34 37.6	+0.1	
NTLH	Newcastle Hard	88.57 189	P	P	21 34 40.0	+2.5	
TBI	Tubuai	88.74 137	*e*P	P	21 34 42.0	+3.4	
	comp=Z,225nm,1.0s						
TBI	Tubuai	88.74 137	*e*P	P	21 34 39.6	+1.0	
	comp=Z,225nm,1.0s						
TBI	Tubuai	88.74 137	*e*PP	PP	21 38 06.7	-1.9	
	comp=Z,2μm,31.2s						
TBI			*e*S	S	21 45 21.2	+0.6	
	comp=Z,7μm,29.8s						
TBI			*e*SS	SS	21 51 14.3	+0.2	
	comp=Z,6μm,26.0s						
TBI			*e*LQ	LQ	21 58 08.2		
	comp=Z,11μm,30.2s						
TBI			*e*LR	LR	22 02 41.9		
	comp=Z,7μm,30.5s						
TBI			*e*LR	LR	22 02 47.7		
	comp=Z,39μm,32.5s						
MULG	Mulgathing	88.82 204	P	P	21 34 39.8	+1.0	
STKA	Stephens Creek	88.85 197	P	P	21 34 39.4	+0.5	
STKA	Stephens Creek	88.85 197	P	P	21 34 39.6	+0.7	
	comp=Z,36nm,0.8s,baz=353,slow=5.7,SNR=45						
STKA			PKKPbc	PKKPbc	21 52 17.1	-0.1	
	comp=Z,1.2nm,0.7s,baz=335,slow=10,SNR=2.9						
STKA			LR	LR	22 10 57.1		
	comp=Z,3μm,21.8s,baz=8.2,slow=33						
	comp=Z,36nm,0.8s						
STKA	Stephens Creek	88.85 197	P	P	21 34 40.6	+1.7	
STKA	Stephens Creek	88.85 197	P	P	21 34 39.4	+0.5	
STKA			pmax	pmax			
	comp=Z,103nm,1.8s						
MGCD	Mangrove Creek	88.93 189	P	P	21 34 42.3	+3.1	
KAAM	Kaadhehdhoo	89.09 270	P	P	21 34 39.6	-1.0	
KAAM	Kaadhehdhoo	89.09 270	P	P	21 34 40.1	-0.5	
SYDH	Sydney Hard Ro	89.51 189	P	P	21 34 44.9	+3.0	
RIV	Riverview	89.54 189	P	P	21 34 44.7	+2.6	
TGUH	Tegucigalpa,Un	89.74 65	IAMs_20	IAMs_20	22 21 15.8		
	comp=Z,2μm,20.0s						
MEEK	Meekatharra	89.90 218	P	P	21 34 44.5	+0.5	
WOLH	Wollongong Har	90.14 189	P	P	21 34 47.3	+2.5	
YNG	Young	90.28 191	P	P	21 34 49.1	+3.5	
WHYH	Whyalla	90.72 200	P	P	21 34 49.7	+2.1	
FORT	Forrest	90.81 209	P	P	21 34 47.8	-0.3	
FORT	Forrest	90.81 209	P	P	21 34 49.4	+1.3	
BBOO	Buckleboo	90.81 202	P	P	21 34 48.3	+0.2	
BBOO			IAmb	IAmb	21 34 50.8		
	comp=Z,140nm,1.2s						
BBOO	Buckleboo	90.81 202	P	P	21 34 50.2	+2.1	
HTT	Hallett	90.84 199	P	P	21 34 50.5	+2.2	
GRTK	Grand Turk	90.94 48	IAMs_20	IAMs_20	22 18 08.1		
	comp=Z,2μm,21.0s						
MTDJ	Mount Denham	90.97 55	P	P	21 34 49.2	-0.3	
MTDJ			IAMs_20	IAMs_20	22 17 28.5		
	comp=Z,4μm,22.0s						
AUUHS	Ulladulla High	91.12 189	P	P	21 34 53.0	+3.6	
CNB	Canberra Magne	91.18 190	P	P	21 34 53.8	+4.0	
CAN	Canberra	91.23 191	P	P	21 34 51.8	+1.8	
CAN			IAmb	IAmb	21 35 09.9		
	comp=Z,97nm,1.2s						
CAN	Canberra	91.23 191	P	P	21 34 52.0	+2.0	
CAN	Canberra	91.23 191	P	P	21 34 51.8

comp=Z,4μm,22.0s
KLBR Kellerberrin 94.73 217 P **P** **21 35 06.7 +0.5**
BKZ Black Stump Fm 95.17 169 IAMs_20 IAMs_20 22 17 26.5
comp=Z,3μm,20.0s
BKZ Black Stump Fm 95.17 169 P **P** **21 35 10.5 +2.4**
MUN Mundaring 95.62 218 P **P** **21 35 11.6 +1.4**
DGAR Diego Garcia 95.86 266 P **P** **21 35 10.9 -0.9**
DGAR Diego Garcia 95.86 266 P **P** **21 35 11.5 -0.3**
DGAR Diego Garcia 95.86 266 P **P** **21 35 10.9 -0.9**
DGAR pmax pmax
comp=Z,178nm,1.2s
CELP Cerrillos 95.90 46 P **P** **21 35 12.0 -0.1**
CELP IAmb IAmb 21 35 14.2
comp=Z,42nm,0.9s
H08S3 Diego Garcia H 96.02 265 P **P** **21 35 11.8 -0.4**
baz=4.5,slow=9.0,SNR=8.3
H08S2 Diego Garcia H 96.03 265 P **P** **21 35 11.7 -0.6**
baz=4.5,slow=9.0,SNR=6.4
H08S1 Diego Garcia H 96.04 265 P **P** **21 35 11.7 -0.6**
baz=4.5,slow=9.0,SNR=5.6
SJG San Juan 96.05 46 P **P** **21 35 12.5 -0.2**
SJG IAmb IAmb 21 35 15.7
comp=Z,82nm,1.2s
SJG IAMs_20 IAMs_20 22 21 31.1
comp=Z,3μm,20.0s
SJG San Juan 96.05 46 LR LR 22 21 31.6
comp=Z,2μm,20.1s,baz=330,slow=37
SJG San Juan 96.05 46 P **P** **21 35 12.5 -0.2**
SJG pmax pmax
comp=Z,82nm,1.3s
SJG MLR MLR
comp=Z,3μm,20.0s
NWAO Narrogin (SRO) 96.13 217 P **P** **21 35 12.4 -0.1**
NWAO IAmb IAmb 21 35 14.2
comp=Z,51nm,0.9s
NWAO Narrogin (SRO) 96.13 217 LR LR 22 18 24.6
comp=Z,1μm,21.6s,baz=11,slow=35
NWAO Narrogin (SRO) 96.13 217 P **P** **21 35 12.6 0.0**
NWAO Narrogin (SRO) 96.13 217 P **P** **21 35 14.1 +1.6**
NWAO Narrogin (SRO) 96.13 217 P **P** **21 35 13.1 +0.6**
NWAO Narrogin (SRO) 96.13 217 P **P** **21 35 12.4 -0.1**
NWAO pmax pmax
comp=Z,51nm,1.0s
NWAO MLR MLR
comp=Z,2μm,22.0s
HUMP Col San Antoni 96.14 45 P **P** **21 35 13.3 +0.2**
HUMP IAmb IAmb 21 35 15.2
comp=Z,46nm,1.1s
ATD Arta Tunnel 96.23 301 P **P** **21 35 14.0 +0.3**
ATD IAmb IAmb 21 35 16.1
comp=Z,120nm,1.2s
ATD Arta Tunnel 96.23 301 LR LR 22 24 10.5
comp=Z,412nm,20.0s,baz=28,slow=39
ATD Arta Tunnel 96.23 301 *eP* **P** **21 35 12.8 -0.9**
MACI Morro de la Ar 96.51 359 IAMs_20 IAMs_20 22 13 53.3
comp=Z,4μm,22.0s
MRZ Mangatainoka R 96.55 170 IAMs_20 IAMs_20 22 16 45.1
comp=Z,4μm,20.0s
BFZ Birch Farm 96.64 169 IAMs_20 IAMs_20 22 14 30.4
comp=Z,3μm,21.0s
TEND Ethiopian Broa 96.90 302 *eP* **P** **21 35 16.1 -0.6**
BHW Baring Head 97.22 170 IAMs_20 IAMs_20 22 11 36.8
comp=Z,3μm,22.0s
DSZ Denniston Nort 97.30 173 IAMs_20 IAMs_20 22 21 35.8
comp=Z,4μm,20.0s
SMRT St. Maarten 97.32 43 IAMs_20 IAMs_20 22 21 48.5
comp=Z,4μm,21.0s
SEUS St. Eustatius 97.86 43 IAMs_20 IAMs_20 22 21 41.9
comp=Z,4μm,20.0s
HARA HARA 97.95 299 *eP* Pdif 21 35 22.4 +0.7
DESE Dese 98.14 303 *eP* Pdif 21 35 24.0 +1.4
ANWB Willy Bob 98.16 42 IAMs_20 IAMs_20 22 22 45.7
comp=Z,3μm,21.0s
RPZ Rata Peaks 99.21 173 LR LR 22 14 08.1
comp=Z,7μm,22.0s,baz=342,slow=32
MQZ McQueen's Vall 99.31 172 IAMs_20 IAMs_20 22 15 23.1
comp=Z,4μm,21.0s
ANKE Ethiopia-Afar 99.42 302 *eP* **Pdif** **21 35 28.6 +0.2**
TAM Tamanrasset 99.44 338 P **Pdif** **21 35 27.0 -1.1**
TAM IAMs_20 IAMs_20 22 26 46.7
comp=Z,3μm,21.0s
TAM Tamanrasset 99.44 338 P **Pdif** **21 35 27.0 -1.1**
TAM pmax pmax
comp=Z,46nm,1.7s
TAM MLR MLR
comp=Z,3μm,21.0s
GDHS Morne Mazeau, 99.44 42 IAMs_20 IAMs_20 22 21 24.3
comp=Z,3μm,22.0s
GDSD La Dsirade Is 99.67 42 IAMs_20 IAMs_20 22 23 00.8
comp=Z,3μm,20.0s
CBE Ff, Capester 99.69 42 IAMs_20 IAMs_20 22 23 58.2
comp=Z,3μm,19.0s
HATO Hato, Curacao 100.16 51 IAMs_20 IAMs_20 22 21 17.6
comp=Z,4μm,22.0s
GRD1 Great Renaissa 100.25 307 *eP* **Pdif** **21 35 30.3 -1.4**
WLRA Wolmera 100.34 303 *eP* **Pdif** **21 35 33.2 +0.7**
FURI Furi 100.53 303 IAMs_20 IAMs_20 22 28 10.2
comp=Z,4μm,20.0s
FURI Furi 100.53 303 *eP* **Pdif** **21 35 33.2 0.0**
ILAM Ilet Lapin Mar 101.15 42 IAMs_20 IAMs_20 22 22 32.0
comp=Z,2μm,20.0s
PYZ Puysegur Point 101.44 177 IAMs_20 IAMs_20 22 15 19.4
comp=Z,3μm,20.0s
MPOM Morne Pois Mar 101.45 42 IAMs_20 IAMs_20 22 23 56.1
comp=Z,3μm,21.0s
DILA Dilla 102.86 302 *eP* **Pdif** **21 35 44.9 +1.5**
MSEY Mahe Island 103.22 281 IAMs_20 IAMs_20 22 26 33.9
comp=Z,2μm,20.0s
MSEY Mahe Island 103.22 281 *i P* **Pdif** **21 35 44.0 -0.7**
SNR=7.8
MSEY Mahe Island 103.22 281 P **Pdif** **21 35 44.1 -0.7**
GRGR Grenville 103.25 44 IAMs_20 IAMs_20 22 25 03.9
comp=Z,3μm,21.0s
ROSC El Rosal 104.12 59 PKiKP **PKiKP** **21 40 09.4 +3.3**
comp=Z,4.6nm,0.4s,baz=355,slow=10,SNR=6.2
TORD Torodi Ar. Bea 109.58 340 Pdiff **Pdif** **21 36 12.7 -0.5**
comp=Z,1.1nm,0.8s,baz=4.4,slow=6.4,SNR=6.7
TORD PKiKP **PKiKP** **21 40 15.5 -0.3**
comp=Z,2.6nm,0.7s,baz=10.0,slow=2.6,SNR=12
TORD PP **PP** **21 40 41.2 -5.0**
comp=Z,12nm,0.6s,baz=7.6,slow=7.8,SNR=14
TORD PKKPbc **PKKPbc** **21 51 18.9 +1.3**
comp=Z,4.3nm,0.9s,baz=200,slow=1.3,SNR=9.8
TORD PKKPab **PKKPdf** **21 51 32.1 -0.1**
comp=Z,3.2nm,0.7s,baz=193,slow=2.4,SNR=7.6
KMBO Kilima Mbogo 109.91 299 Pdiff **Pdif** **21 36 14.3 -0.5**
comp=Z,0.5nm,0.3s,baz=312,slow=4.0,SNR=4.9
KMBO PKiKP **PKiKP** **21 40 17.1 +0.4**
comp=Z,3.9nm,0.9s,baz=316,slow=4.3,SNR=6.3
KMBO PKKPbc **PKKPbc** **21 51 16.9 +0.1**
comp=Z,0.8nm,0.7s,baz=241,slow=22,SNR=1.5
KIBK Kibwezi 110.56 298 IAMs_20 IAMs_20 22 35 16.9
comp=Z,2μm,20.0s
ATAH Atahualpa 112.28 69 PKiKP **PKiKP** **21 40 21.9 +0.5**
comp=Z,3.6nm,0.7s,baz=54,slow=3.1,SNR=4.4
ATAH PKKPab **PKKPab** **21 51 22.6 +1.9**
comp=Z,6.3nm,0.8s,baz=78,slow=2.5,SNR=6.3
CZSB Cruzeiro do Su 115.74 64 *eP* **PKiKP** **21 40 29.7 +2.2**
DBIC Dimbokro 117.04 345 **PKPdf** **21 40 28.2 -1.8**
DBIC Dimbokro 117.04 345 PKP **PKPdf** **21 40 28.5 -1.5**
comp=Z,5.9nm,0.5s,baz=34,slow=2.5,SNR=13
DBIC PP **PP** **21 41 37.1 -2.1**
comp=Z,4.3nm,0.6s,baz=352,slow=5.2,SNR=3.6
DBIC PKKPbc **PKKPbc** **21 50 54.2 +1.6**
comp=Z,8.9nm,0.9s,baz=159,slow=3.7,SNR=5.7
DBIC Dimbokro 117.04 345 PKiKP **PKPdf** **21 40 28.2 -1.8**
ACRG Accra 117.27 340 IAMs_20 IAMs_20 22 32 30.2
comp=Z,3μm,22.0s
ABPO Ambohimpanom 119.52 280 **PKPdf** **21 40 34.1 -0.7**
ABPO Ambohimpanom 119.52 280 IAMs_20 IAMs_20 22 34 17.9
comp=Z,2μm,19.0s
ABPO Ambohimpanom 119.52 280 PKiKP **PKPdf** **21 40 34.1 -0.7**
ABPO MLR MLR
comp=Z,2μm,19.0s
ITTB Itaituba 120.63 45 *eP* **PKiKP** **21 40 39.0 +2.0**
ETMB Extrema 120.77 59 **PKPdf** **21 40 35.9 -1.2**
ETMB IAMs_20 IAMs_20 22 34 55.6
comp=Z,2μm,22.0s
ETMB Extrema 120.77 59 *eP* **PKiKP** **21 40 39.2 +2.0**
SAML Samuel 121.46 55 **PKPdf** **21 40 37.5 -1.0**
SAML IAMs_20 IAMs_20 22 39 38.6
comp=Z,2μm,19.0s
SAML Samuel 121.46 55 PKiKP **PKPdf** **21 40 37.5 -1.0**
SAML MLR MLR
comp=Z,2μm,19.0s
SAML Samuel 121.46 55 *eP* **PKiKP** **21 40 40.6 +2.0**

TMAB Tom-Au,PA,Br 121.62 36 *eP* **PKiKP** **21 40 40.9 +1.9**
VOI Vohitsoka 122.06 278 **PKPdf** **21 40 38.5 -1.0**
VOI IAMs_20 IAMs_20 22 32 51.5
comp=Z,2μm,22.0s
NPGB Novo Progresso 123.21 46 *eP* **PKiKP** **21 40 43.2 +1.1**
FOMA Nahampoana Res 124.37 275 **PKPdf** **21 40 43.1 -0.6**
FOMA IAMs_20 IAMs_20 22 46 52.7
comp=Z,2μm,20.0s
PRPB Parauapebas 124.56 40 *eP* **PKiKP** **21 40 44.9 +0.1**
LPAZ La Paz 125.33 65 **PKPdf** **21 40 45.8 -0.8**
LPAZ La Paz 125.33 65 PKP **PKPdf** **21 40 46.5 -0.1**
comp=Z,19nm,0.9s,baz=22,slow=6.4,SNR=26
LPAZ PKKPab **PKKPab** **21 50 25.4 +0.9**
comp=Z,2.6nm,0.8s,baz=140,slow=1.1,SNR=5.6
LPAZ La Paz 125.33 65 PKiKP **PKPdf** **21 40 45.8 -0.8**
LPAZ La Paz 125.33 65 *eP* **PKiKP** **21 40 47.0 +0.1**
NBCL Cascavel-CE 126.24 26 *eP* **PKiKP** **21 40 48.7 +0.6**
VILB Vilhena 126.36 55 **PKPdf** **21 40 47.5 -0.3**
VILB Vilhena 126.36 55 *eP* **PKiKP** **21 40 49.0 +0.7**
CLDB Colider 126.47 49 *eP* **PKiKP** **21 40 49.3 +0.8**
LSZ Lusaka 126.56 300 **PKPdf** **21 40 47.6 -0.7**
LSZ Lusaka 126.56 300 P **PKiKP** **21 40 48.7 -0.1**
LSZ Lusaka 126.56 300 *i P* **PKiKP** **21 40 55.0 +6.2**
LSZ Lusaka 126.56 300 PKIKP **PKPdf** **21 40 47.6 -0.7**
LSZ MLR MLR
comp=Z,4μm,21.0s
PDRB Porto dos Gac 126.73 50 *eP* **PKiKP** **21 40 49.5 +0.5**
KRI Karoi 127.18 298 *i P* **PKiKP** **21 40 50.1 +0.1**
KRI Karoi 127.18 298 *i P* **PKiKP** **21 40 50.7 +0.7**
NBPB Pedra_Branca-C 127.18 27 *eP* **PKiKP** **21 40 50.6 +0.6**
PB11 IPOC Station P 127.42 69 IAMs_20 IAMs_20 22 46 37.7
comp=Z,2μm,20.0s
CASY Casey 127.58 204 **PKPdf** **21 40 48.6 +0.1**
GO01 Chusmiza 127.59 68 IAMs_20 IAMs_20 22 43 45.1
comp=Z,1μm,20.0s
HMBC Humberstone 127.72 69 **PKPdf** **21 40 50.0 -0.4**
TA01 Diego Aracena 127.80 70 IAMs_20 IAMs_20 22 47 27.9
comp=Z,1μm,19.0s
SMTB Santa Maria do 127.84 38 *eP* **PKiKP** **21 40 51.8 +0.5**
PB08 IPOC Station P 128.00 68 PKP **PKPdf** **21 40 50.1 -1.1**
RCBR Riachuelo 128.34 23 **PKPdf** **21 40 51.5 -0.2**
RCBR Riachuelo 128.34 23 IAMs_20 IAMs_20 22 36 33.1
comp=Z,2μm,20.0s
RCBR Riachuelo 128.34 23 PKIKP **PKPdf** **21 40 51.5 -0.2**
RCBR MLR MLR
comp=Z,2μm,20.0s
RCBR Riachuelo 128.34 23 *eP* **PKiKP** **21 40 52.1 -0.2**
SIV San Ignacio 128.59 57 PKP **PKPdf** **21 40 52.0 -0.1**
comp=Z,67nm,0.9s,baz=342,slow=0.8,SNR=61
SIV PP **PP** **21 42 53.8 -4.2**
comp=Z,13nm,0.8s,baz=335,slow=6.1,SNR=4.7
PTLB Pontes e Lacer 129.03 55 **PKPdf** **21 40 52.4 -0.4**
PTLB Pontes e Lacer 129.03 55 *eP* **PKiKP** **21 40 54.1 +0.6**
PB04 IPOC Station P 129.26 71 **PKPdf** **21 40 53.4 +0.1**
PB09 IPOC Station P 129.31 70 IAMs_20 IAMs_20 22 47 50.8
comp=Z,2μm,22.0s
SNDB Serra Nova Dou 129.32 44 *eP* **PKiKP** **21 40 54.7 +0.5**
BBSD Serra de San D 129.84 58 *eP* **PKiKP** **21 40 55.4 +0.2**
PB06 IPOC Station P 129.87 71 **PKPdf** **21 40 54.8 +0.3**
KSANE Kasane 130.20 302 *i P* **PKiKP** **21 40 56.7 +0.7**
PB15 IPOC Station P 130.33 71 **PKPdf** **21 40 55.8 +0.3**
PB15 IAMs_20 IAMs_20 22 26 25.0
comp=Z,1μm,21.0s
BLWY Bulawayo 130.47 296 *i P* **PKPdf** **21 40 56.0 +0.3**
BLWY Bulawayo 130.47 296 *i P* **PKPdf** **21 40 56.0 +0.3**
NBCA Caruaru-PE 130.64 24 *eP* **PKiKP** **21 40 57.0 +0.1**
MATP Matopo 130.76 296 *i P* **PKPdf** **21 40 56.3 +0.1**
MATP Matopo 130.76 296 *i P* **PKPdf** **21 40 56.5 +0.3**
PB14 IPOC Station P 130.97 73 IAMs_20 IAMs_20 22 27 02.0
comp=Z,2μm,22.0s
PB14 IPOC Station P 130.97 73 PKP **PKPdf** **21 40 55.5 -1.2**
SALV Santo Antonio 130.99 51 *eP* **PKiKP** **21 40 57.8 +0.4**
MUSN Musina, Limpop 131.61 294 *i P* **PKPdf** **21 40 54.3 -3.3**
MUSN Musina, Limpop 131.61 294 *i P* **PKPdf** **21 40 54.3 -3.3**
MOPA Mopani 131.81 291 *i P* **PKPdf** **21 40 51.8 -6.1**
MOPA Mopani 131.81 291 *i P* **PKPdf** **21 40 50.7 -7.3**
BROLN Tlhalogang 131.92 297 *i P* **PKiKP** **21 40 59.7 +0.3**
NBAN Anadia - AL 131.97 25 *eP* **PKiKP** **21 40 60.0 +0.4**
SDBA SAO DESIDERIO 132.07 37 *eP* **PKiKP** **21 40 59.8 0.0**
ARAG Araguaiana, MT 132.48 47 *eP* **PKiKP** **21 41 00.6 +0.1**
NBLA Lagarto - SE 132.87 27 *eP* **PKiKP** **21 41 01.2 -0.2**
MREMI Moremi 133.09 296 *i P* **PKiKP** **21 41 01.4 -0.3**
AC06 Mina Casimiro 133.16 75 **PKiKP** **21 41 01.3 -0.3**
SBA Scott Base 133.19 179 PKPdf **PKiKP** **21 41 01.4 +1.3**
SBA Scott Base 133.19 179 PKIKP **PKiKP** **21 41 01.4 +1.3**
SBA MLR MLR
comp=Z,4μm,21.0s
GO03 Copiapo 133.41 75 **PKiKP** **21 41 02.0 -0.2**
GO03 IAMs_20 IAMs_20 22 28 43.8
comp=Z,2μm,22.0s
AC04 Llanos de Chal 133.42 77 IAMs_20 IAMs_20 22 44 15.3
comp=Z,1μm,20.0s
BDFB Brasilia 133.93 42 **PKPdf** **21 41 02.5 +0.2**
BDFB Brasilia 133.93 42 PKP **PKPdf** **21 41 02.3 0.0**
comp=Z,21nm,0.9s,baz=223,slow=1.9,SNR=19
BDFB SKPbc **SKPbc** **21 44 27.0 +1.0**
comp=Z,3.8nm,0.5s,baz=333,slow=4.7,SNR=4.0
CKGRV CKGRV 133.95 301 *i P* **PKiKP** **21 41 03.2 -0.2**
LCO Las Campanas 134.25 77 **PKPdf** **21 41 02.4 -0.3**
LCO Las Campanas 134.25 77 IAMs_20 IAMs_20 22 30 25.3
comp=Z,1μm,22.0s
LCO Las Campanas 134.25 77 PKIKP **PKPdf** **21 41 02.4 -0.3**
LCO MLR MLR
comp=Z,1μm,22.0s
FDPY Filadelfia 134.50 60 *eP* **PKiKP** **21 41 04.6 +0.2**
LPHEP Lephephe 134.55 297 *i P* **PKiKP** **21 41 04.4 -0.2**
CO05 La Serena 134.65 78 IAMs_20 IAMs_20 22 52 24.0
comp=Z,2μm,21.0s
POGA Pongola 134.71 288 **PKiKP** **21 41 04.2 -0.6**
JANB Januaria 134.74 37 *eP* **PKiKP** **21 41 04.7 -0.4**
C2SB Chapadao do Su 134.78 50 *eP* **PKiKP** **21 41 05.0 0.0**
AQDB Aquidauana 134.99 54 *eP* **PKiKP** **21 41 05.2 -0.2**
GRTLG Ghanzi 135.14 304 *i P* **PKiKP** **21 41 06.7 +0.7**
KDWAN Kaudwane 135.17 298 *i P* **PKiKP** **21 41 07.2 +1.3**
CO03 El Pedregal 135.66 79 IAMs_20 IAMs_20 22 30 22.7
comp=Z,2μm,22.0s
RPRD Ribas do Rio P 135.90 52 *eP* **PKiKP** **21 41 07.0 -0.3**
KGCAE Kacgae 135.94 301 *i P* **PKiKP** **21 41 07.9 +0.4**
IPMB Ipameri, GO 135.99 44 *eP* **PKiKP** **21 41 07.3 -0.3**
LBTB Lobatse 136.05 296 **PKPdf** **21 41 05.8 -0.2**
LBTB Lobatse 136.05 296 PKIKP **PKPdf** **21 41 05.8 -0.2**
CMC01 Camacan, BA 136.55 31 *eP* **PKiKP** **21 41 08.1 -0.7**
ITRB Iturama 136.66 47 *eP* **PKiKP** **21 41 08.3 -0.6**
PAPY Pozo Azul 136.86 60 *eP* **PKiKP** **21 41 08.9 -0.3**
VA03 San Esteban 137.19 80 IAMs_20 IAMs_20 22 54 10.2
comp=Z,2μm,22.0s
MT02 Curacav 137.22 81 IAMs_20 IAMs_20 22 28 11.3
comp=Z,1μm,20.0s
ZON Zonda 137.31 77 **PKPdf** **21 41 07.9 -0.2**
ZON Zonda 137.31 77 PKIKP **PKPdf** **21 41 07.9 -0.2**
PEL Peldehue 137.39 81 IAMs_20 IAMs_20 22 54 31.9
comp=Z,2μm,21.0s
AMBA Amambai (Brazi 137.43 55 *eP* **PKPdf** **21 41 09.1 +0.6**
LKGWB Lokgwabe 137.48 301 *i P* **PKiKP** **21 41 10.0 -0.6**
MT01 Popeta 137.61 82 IAMs_20 IAMs_20 22 28 18.5
comp=Z,1μm,22.0s
GUA01 Guaratinga, BA 137.62 32 *eP* **PKPdf** **21 41 09.5 +0.5**
MT09 Talagante 137.69 82 IAMs_20 IAMs_20 22 54 41.6
comp=Z,1μm,22.0s
MT16 CCHEN 137.69 81 IAMs_20 IAMs_20 22 28 26.7
comp=Z,2μm,22.0s
MT03 Universidad Ad 137.75 81 **PKPdf** **21 41 08.9 0.0**
DIAM Diamantina, MG 137.96 38 *eP* **PKPdf** **21 41 10.2 +0.5**
MT08 Bocatoma Ro 137.99 80 IAMs_20 IAMs_20 22 56 08.5
comp=Z,2μm,22.0s
BO04 La Punta 138.06 82 IAMs_20 IAMs_20 22 54 43.4
comp=Z,1μm,22.0s
GO05 Hualane 138.06 84 IAMs_20 IAMs_20 22 55 26.6
comp=Z,2μm,21.0s
BO01 Tunca 138.09 82 **PKPdf** **21 41 09.5 +0.1**
BO01 IAMs_20 IAMs_20 22 55 29.2
comp=Z,2μm,20.0s
LMEL Las Melosas 138.18 81 IAMs_20 IAMs_20 22 48 00.6
comp=Z,2μm,22.0s
BI05 Punta Hualpn 138.59 87 **PKPdf** **21 41 10.6 +0.5**
BB19B Bebedouro 138.64 46 *eP* **PKPdf** **21 41 11.8 +1.0**
SJPY San Joaquin 138.66 58 *eP* **PKiKP** **21 41 12.4 -0.5**
NAN01 Guarapari, ES 138.71 33 *eP* **PKPdf** **21 41 09.1 -1.9**
ML02 Panimavida 138.89 84 IAMs_20 IAMs_20 22 37 50.6
comp=Z,1μm,20.0s
BOSA Boshof 139.15 293 PKPdf **PKPdf** **21 41 11.1 -0.6**
BOSA Boshof 139.15 293 PKhKP PKPpre 21 41 04.5
comp=Z,6.1nm,0.6s,baz=20,slow=2.8,SNR=16

BOSA PKP **PKPdf** **21 41 12.1 +0.5**
comp=Z,32nm,0.7s,baz=36,slow=1.5,SNR=25
BOSA Boshof 139.15 293 *i P* **PKPdf** **21 41 04.0 -7.7**
BOSA Boshof 139.15 293 PKIKP **PKPdf** **21 41 11.1 -0.6**
BOSA Boshof 139.15 293 *i P* **PKPdf** **21 41 04.0 -7.7**
CPUP Villa Florida 139.18 61 PKhKP PKPpre 21 41 02.4
comp=Z,11nm,0.9s,baz=326,slow=3.7,SNR=7.2
SJMB Sao Joao De Ma 139.18 35 *eP* **PKPdf** **21 41 12.8 +1.1**
LDASE Londrina, Braz 139.59 51 *eP* **PKiKP** **21 41 13.8 -1.0**
BI02 San Fabin de 139.62 85 IAMs_20 IAMs_20 22 39 13.8
comp=Z,2μm,21.0s
RIB01 Linhares ES 140.01 34 *eP* **PKPdf** **21 41 14.4 +1.1**
BSCB Bom Sucesso 140.04 41 *eP* **PKPdf** **21 41 14.4 +1.0**
FRTB Fartura 140.22 49 *eP* **PKiKP** **21 41 15.1 -1.0**
RCLB Rio Claro- Sao 140.25 46 *eP* **PKPdf** **21 41 14.9 +1.2**
PTGB Pitanga 140.32 53 *eP* **PKPdf** **21 41 14.4 +0.6**
VAO Valinhos 141.00 45 IAMs_20 IAMs_20 22 44 22.4
comp=Z,2μm,21.0s
VAO Valinhos 141.00 45 *eP* **PKPdf** **21 41 16.2 +1.1**
SPB Sao Paulo 141.34 46 IAMs_20 IAMs_20 22 45 53.5
comp=Z,2μm,21.0s
SPB Sao Paulo 141.34 46 *eP* **PKiKP** **21 41 17.0 -1.3**
VAS01 Vassouras-RJ 141.71 40 *eP* **PKPdf** **21 41 15.8 -0.5**
PARB Paraibuna 141.84 44 *eP* **PKPdf** **21 41 17.7 +1.1**
LL04 Puerto Octay 141.89 91 **PKPdf** **21 41 16.7 +0.7**
CAM01 Campos-RJ 141.93 37 *eP* **PKPdf** **21 41 17.3 +0.7**
SLP01 Ubatuba-SP 142.01 43 *eP* **PKPdf** **21 41 15.8 -1.2**
MAN01 Angra dos Reis 142.05 41 *eP* **PKPdf** **21 41 16.9 0.0**
ITQB Itaqui 142.28 63 IAMs_20 IAMs_20 22 55 00.5
comp=Z,2μm,20.0s
ITQB Itaqui 142.28 63 *eP* **PKPdf** **21 41 18.4 +1.4**
MAW Mawson 142.67 219 PKhKP PKPpre 21 41 12.7
comp=Z,44nm,0.9s,baz=57,slow=3.5,SNR=49
PLCA Paso Flores 142.82 89 **PKPdf** **21 41 18.5 +0.7**
PLCA Paso Flores 142.82 89 PKhKP PKPpre 21 41 13.6
comp=Z,9.8nm,0.7s,baz=295,slow=3.3,SNR=16
PLCA PKP **PKPdf** **21 41 18.7 +0.9**
comp=Z,85nm,0.9s,baz=310,slow=2.3,SNR=43
PLCA SKPbc **SKiKP** **21 44 51.1 -0.5**
comp=Z,30nm,1.1s,baz=309,slow=8.1,SNR=4.3
PLCA Paso Flores 142.82 89 *eP* **PKiKP** **21 41 19.6 -1.4**
PSAL Palomas, Salto 142.91 65 *eP* **PKPdf** **21 41 19.2 +1.1**
MAJ01 Sao Joao Batis 144.00 51 *eP* **PKPdf** **21 41 21.4 +1.2**
SUR Sutherland 144.46 294 **PKPab** **21 41 19.6 +0.1**
SUR Sutherland 144.46 294 P PKPbc 21 41 20.2 +0.4
CPSB Cacapava Do Su 144.46 60 *eP* **PKPdf** **21 41 21.9 +1.0**
CNLB Canela 144.79 56 *eP* **PKPdf** **21 41 22.7 +1.1**
AY02 Valle Explorad 144.92 99 PKPbc **PKPdf** **21 41 21.0 -0.1**
COYC Coyhaique 145.01 97 **PKPbc** **21 41 20.7 -0.1**
QSPA South Pole Qui 145.32 180 **PKPdf** **21 41 20.5 -0.8**
QSPA South Pole Qui 145.32 180 PKPbc **PKPdf** **21 41 21.0 -0.3**
comp=Z,712nm,1.0s,baz=340,slow=0.8,SNR=286
PLTB Pedras Altas 145.49 61 **PKPdf** **21 41 22.2 -0.4**
PLTB Pedras Altas 145.49 61 *eP* **PKPab** **21 41 23.6 +0.5**
TRQA Tornquist 145.82 78 **PKPdf** **21 41 22.9 -0.1**
TRQA Tornquist 145.82 78 PKP2 **PKPdf** **21 41 23.0 -0.1**
TRQA MLR MLR
comp=Z,2μm,22.0s
SMAI San Martin Ant 154.44 139 **PKPdf** **21 41 35.5 +0.1**
SMAI PKPbc **PKiKP** **21 41 45.6 +1.8**
PMSA Palmer Station 155.82 131 PKP **PKPdf** **21 41 37.2 -0.2**
comp=Z,31nm,1.0s,baz=130,slow=4.5,SNR=2.5
BELA Belgrano 2 156.84 171 **PKPdf** **21 41 38.0 -0.5**
NVL N'Iazarevskaya 160.05 209 *e*PKIKP **PKPdf** **21 41 42.1 -0.4**
NVL *e*SS SS 22 06 04.8 -5.0
NVL *e*SSS SSS 22 12 17.6
NVL pmax pmax
comp=Z,11nm,0.9s
TROLL Troll, Antarti 161.39 200 ⇓PKPab **PKPab** **21 42 29.6 +0.8**
comp=Z,5μm,0.8s
TROLL ⇑PKPdf **PKPdf** **21 41 43.5 -0.6**
comp=Z,219nm,0.9s
TROLL ⇓PP **PP** **21 46 12.6 -0.3**
comp=Z,1μm,1.1s
SNAA Sanae 162.61 196 **PKPdf** **21 41 44.4 -0.8**
SNAA PKPab **PKPab** **21 42 34.4 +0.4**
SNAA Sanae 162.61 196 ⇓PKPab **PKPab** **21 42 33.1 -1.0**
comp=Z,369nm,0.6s
SNAA ⇑PKPdf **PKPdf** **21 41 44.2 -1.1**
comp=Z,151nm,0.9s
SNAA ⇑PP **PP** **21 46 15.0 -4.3**
comp=Z,48nm,0.7s
SNAA Sanae 162.61 196 PKP **PKPdf** **21 41 44.1 -1.1**
comp=Z,5.5nm,0.9s,baz=157,slow=1.6,SNR=22
SNAA PKPab **PKPab** **21 42 34.0 -0.1**
comp=Z,86nm,1.2s,baz=152,slow=3.5,SNR=16
SNAA PP **PP** **21 46 18.0 -1.3**
comp=Z,16nm,1.1s,baz=169,slow=5.6,SNR=7.0
VNA3 Neumayer Olymp 163.87 190 ⇓PKPab **PKPab** **21 42 37.6 -2.0**
comp=Z,86nm,0.9s
VNA3 ⇑PKPdf **PKPdf** **21 41 45.0 -1.4**
comp=Z,3.1nm,0.8s
VNA3 ⇓PP **PP** **21 46 25.1 -0.8**
comp=Z,544nm,3.7s
VNA2 Neumayer--Watz 163.93 192 ⇓PKPab **PKPab** **21 42 39.2 -0.6**
comp=Z,42nm,1.0s,baz=159,slow=3.3
VNA2 ⇑PKPdf **PKPdf** **21 41 45.6 -0.9**
comp=Z,4.5nm,0.7s,baz=9.4,slow=0.6
VNA2 ⇓PP **PP** **21 46 24.4 -1.7**
comp=Z,335μm,0.0s,baz=100,slow=4.7
VNA1 Neumayer--Stat 164.29 192 ⇓PKPab **PKPab** **21 42 41.5 +0.2**
comp=Z,60nm,1.0s
VNA1 ⇑PKPdf **PKPdf** **21 41 46.0 -0.8**
comp=Z,6.7nm,0.9s

RSNC 14 21:22:43.4±0.0, 7°N±1°×7°3W±°, h123km±1km, M1.9, mb4.0, mB4.6, ML1.7, Mw(mB)3.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**154**	P	Pn	21 23 00.6	-0.4
BARC				S	Sn	21 23 13.6	-0.6
BRJC	**Barrancabermej**	**0.45**	**285**	P	Pn	21 23 00.9	-0.5
BRJC				S	Sn	21 23 14.9	0.0
PAMC	**Pamplona, Colo**	**0.77**	**52**	P	Pn	21 23 04.0	-0.2
PAMC				S	Sn	21 23 20.0	+0.2
RUSC	**La Rusia**	**0.99**	**167**	P	Pn	21 23 05.6	-0.5
RUSC				S	Sn	21 23 23.2	-0.1
PTBC	**PUERTO BERRIO,**	**1.18**	**254**	P	Pn	21 23 05.8	-1.7
PTBC				S	Sn	21 23 25.5	-0.4
OCAC	**Ocana**	**1.37**	**360**	P	Pn	21 23 08.9	-0.8
OCAC				S	Sn	21 23 29.3	-0.5
SPBC	**San Pablo de B**	**1.42**	**212**	P	Pn	21 23 09.7	-0.5
SPBC				S	Sn	21 23 30.6	0.0
NORC	**Norcasia**	**2.02**	**230**	P	Pn	21 23 17.4	+0.1
NORC				S	Sn	21 23 43.3	+0.1
GUY2C	**Guyana, Caldas**	**2.61**	**232**	P	Pn	21 23 25.4	+0.2
GUY2C				S	Sn	21 23 56.2	-1.1
PRAC	**Prado**	**3.50**	**207**	P	Pn	21 23 36.8	+0.4
PRAC				S	Sn	21 24 17.7	+0.3
FLOC	**Florencia**	**5.74**	**204**	P	Pn	21 24 05.0	-1.4

IGQ 14 21:22:57.9±0.8, 3°S±5°×7°6W±°, h10km, M4.0/15, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSC	**San Juan Bosco**	**2.40**	**270**	P	Pn	21 23 37.2	-0.3
BOSC				S	Sn	21 24 07.4	+0.3
PUYO	**Puyo, Santa Ro**	**2.54**	**311**	P	Pn	21 23 39.4	0.0
BIBL	**Biblin**	**2.82**	**278**	P	Pn	21 23 44.5	+1.0
BPAT	**Tungurahua Vol**	**2.86**	**305**	P	Pn	21 23 44.0	-0.1
ARRY	**Arrayan**	**2.88**	**305**	P	Pn	21 23 44.0	-0.2
BULB	**Ulba Tungurahu**	**2.88**	**306**	P	Pn	21 23 43.9	-0.4
BMAS	**Trigal station**	**2.90**	**305**	P	Pn	21 23 43.4	-1.1
TUYU	**Q. Yuibug Volc**	**2.91**	**305**	P	Pn	21 23 44.6	0.0
POND	**Pondoa**	**2.92**	**306**	S	Sn	21 24 20.4	+0.2
JUI6	**Juive**	**2.94**	**306**	P	Pn	21 23 44.7	-0.2
BBIL	**Ulba T

ZUMB	**Zumba**	**3.48 241**	P	Pn	21 23 51.2	-1.2
CASC	**Dorado de Casc**	**3.50 339**	P	Pn	21 23 50.5	-2.1
ILLI	**Illinizas Sur**	**3.58 313**	P	Pn	21 23 55.1	+1.1
ANGU	**Angureal**	**3.72 329**	P	Pn	21 23 54.4	-1.6
GGPC	**Guagua Pichinc**	**3.88 320**	P	Pn	21 23 59.1	+1.0
TERV	**Terraza Guagua**	**3.89 320**	P	Pn	21 23 59.5	+1.2
URCU	**Urcuqui**	**4.18 329**	P	Pn	21 24 01.4	-0.8
LNGL	**El Angel-Carch**	**4.32 334**	P	Pn	21 24 02.4	-1.8

*KRSC **14** 21:29:35.0±0.4, 55°.54N×162°.40E, h81km±9km, Ml5.1, Felt [II] at Krutoberegovo, HMS cape Afrika.*
*BJI **14** 21:29:36.0, 55°.80N×161°.90E, h60km, mb4.7/14, mB5.5/9, Ms5.9/7, Ms7 5.7/7*
*MOS **14** 21:29:37.0±0.8, 55°.61N×162°.15E, h74km, mb5.1/22, Error ellipse: s-maj=7.7km s-min=4.0km az=78.7*
*NEIC **14** 21:29:38.7±1.4, 55°.73N±0°.09×162°.0E±0°.2, h67km±6km, mb5.1/86, Error ellipse: s-maj=15.4km s-min=10.4km az=136.0*
*IDC **14** 21:29:39.3±1.7, 55°.67N×161°.93E, h77km±15km, mb4.3/31, mbtmp4.6/36, Error ellipse: s-maj=12.2km s-min=9.5km az=138.0*
ISC 14 21:29:37.2±0.4, 55°.56N±0°.03×162°.28E±0°.03, h63km±3km, h62km; pP-P, n331, σ1s51/379, mb4.9/105, 10C-5D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.72**	**25**	*eP*	**Pn**	**21 29 51.8**	**0.0**
KBTR	**Krutoberegovo**	**0.72**	**25**	PN	**Pn**	**21 29 51.8**	**-0.6**
KBG	**Krutoberegovo**	**0.74**	**19**	*eP*	**Pn**	**21 29 52.1**	**+0.1**
KBG				*eS*	**Sn**	**21 30 04.7**	**+1.8**
KBG	**Krutoberegovo**	**0.74**	**19**	PN	**Pn**	**21 29 52.0**	**+0.1**
KBG				S	**Sn**	**21 30 04.7**	**+1.8**
ZLN	**Zelenaya**	**0.95**	**299**	*eP*	**Pn**	**21 29 55.5**	**+0.7**
ZLN	**Zelenaya**	**0.95**	**299**	PN	**Pn**	**21 29 55.4**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**0.97**	**294**	*eP*	**Pn**	**21 29 55.9**	**+0.8**
BZGR				*eS*	**Sn**	**21 30 10.2**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**0.97**	**294**	PN	**Pn**	**21 29 55.9**	**+0.8**
BZGR				S	**Sn**	**21 30 10.2**	**+1.9**
CIRR	**Tsirk**	**1.03**	**303**	*eP*	**Pn**	**21 29 56.5**	**+0.7**
BZP	**Bezymyannyi-Pe**	**1.04**	**290**	*eP*	**Pn**	**21 29 56.6**	**+0.5**
BZP				*eS*	**Sn**	**21 30 11.7**	**+1.7**
BZMR	**Bezymyannaya**	**1.08**	**291**	*eP*	**Pn**	**21 29 57.2**	**+0.8**
BZMR	**Bezymyannaya**	**1.08**	**291**	PN	**Pn**	**21 29 57.2**	**+0.8**
BZWR	**Bezymyannyi-We**	**1.08**	**293**	*eP*	**Pn**	**21 29 57.8**	**+1.2**
BZWR				*eS*	**Sn**	**21 30 13.8**	**+2.8**
SMKR	**Semkarok**	**1.12**	**336**	*eP*	**Pn**	**21 29 57.8**	**+0.8**
SMKR	**Semkarok**	**1.12**	**336**	PN	**Pn**	**21 29 57.7**	**+0.8**
TUMD	**Tumrok D**	**1.13**	**252**	*eP*	**Pn**	**21 29 57.5**	**+0.4**
TUMD				*eS*	**Sn**	**21 30 13.1**	**+1.3**
KIRR	**Kirishev**	**1.16**	**291**	*eP*	**Pn**	**21 29 58.8**	**+1.2**
KIRR				*eS*	**Sn**	**21 30 15.6**	**+2.8**
KIRR	**Kirishev**	**1.16**	**291**	PN	**Pn**	**21 29 58.8**	**+1.2**
KIRR				S	**Sn**	**21 30 15.5**	**+2.8**
KRSR	**Krestovskiy**	**1.17**	**305**	*eP*	**Pn**	**21 29 58.0**	**+0.4**
KRSR				*eS*	**Sn**	**21 30 14.2**	**+1.3**
KRSR	**Krestovskiy**	**1.17**	**305**	PN	**Pn**	**21 29 58.0**	**+0.4**
KRSR				S	**Sn**	**21 30 14.1**	**+1.3**
KMNR	**Kamenistaya**	**1.17**	**280**	*eP*	**Pn**	**21 29 58.7**	**+1.0**
KMNR				*eS*	**Sn**	**21 30 15.6**	**+2.7**
KMNR	**Kamenistaya**	**1.17**	**280**	PN	**Pn**	**21 29 58.6**	**+1.0**
KMNR				S	**Sn**	**21 30 15.6**	**+2.7**
BDR	**Baidarnaya**	**1.17**	**330**	*eP*	**Pn**	**21 29 59.1**	**+1.4**
BDR				*eS*	**Sn**	**21 30 15.7**	**+2.7**
BDR	**Baidarnaya**	**1.17**	**330**	PN	**Pn**	**21 29 59.0**	**+1.4**
BDR				S	**Sn**	**21 30 15.6**	**+2.7**
KLY	**Klyuchi**	**1.19**	**310**	*eP*	**Pn**	**21 29 57.2**	**-0.6**
KLY				*eS*	**Sn**	**21 30 12.9**	**-0.2**
KLY	**Klyuchi**	**1.19**	**310**	PN	**Pn**	**21 29 57.1**	**-0.6**
KLY				S	**Sn**	**21 30 12.8**	**-0.2**
KPT	**Kopyto**	**1.23**	**290**	*eP*	**Pn**	**21 29 59.5**	**+1.0**
KPT				*eS*	**Sn**	**21 30 17.3**	**+3.1**
KPT	**Kopyto**	**1.23**	**290**	PN	**Pn**	**21 29 59.4**	**+1.0**
KPT				S	**Sn**	**21 30 17.3**	**+3.1**
TUMR	**Tumrok**	**1.25**	**258**	*eP*	**Pn**	**21 29 59.6**	**+0.9**
TUMR	**Tumrok**	**1.25**	**258**	PN	**Pn**	**21 29 59.5**	**+0.9**
SRKR	**Sorokina**	**1.26**	**331**	*eP*	**Pn**	**21 29 59.9**	**+1.1**
SRKR	**Sorokina**	**1.26**	**331**	PN	**Pn**	**21 29 59.8**	**+1.1**
SRDR	**Sredinnyy**	**1.63**	**299**	*eS*	**Sn**	**21 30 26.5**	**+2.8**
ESO	**Esso**	**2.06**	**282**	*eP*	**Pn**	**21 30 10.0**	**+0.5**
ESO	**Esso**	**2.06**	**282**	PN	**Pn**	**21 30 09.9**	**+0.5**
BKI	**Bering**	**2.14**	**98**	*eP*	**Pn**	**21 30 09.9**	**-0.6**
BKI				*eS*	**Sn**	**21 30 33.6**	**-2.3**
BKI	**Bering**	**2.14**	**98**	PN	**Pn**	**21 30 09.9**	**-0.6**
BKI				S	**Sn**	**21 30 33.6**	**-2.3**
NLC	**Nalytchevo**	**2.94**	**217**	*eP*	**Pn**	**21 30 21.7**	**+0.1**
NLC				*eS*	**Sn**	**21 30 55.6**	**0.0**
NLC	**Nalytchevo**	**2.94**	**217**	PN	**Pn**	**21 30 21.6**	**+0.1**
NLC				S	**Sn**	**21 30 55.6**	**0.0**
TIGL	**Tigil**	**2.97**	**319**	*eP*	**Pn**	**21 30 23.2**	**+1.3**
KRX	**Arik**	**3.06**	**225**	*eP*	**Pn**	**21 30 24.8**	**+1.6**
KRX	**Arik**	**3.06**	**225**	PN	**Pn**	**21 30 24.8**	**+1.6**
KRER	**Koryakskii**	**3.06**	**224**	*eP*	**Pn**	**21 30 24.5**	**+1.2**
KRER	**Koryakskii**	**3.06**	**224**	PN	**Pn**	**21 30 24.5**	**+1.2**
SMAR	**Somma**	**3.07**	**223**	*eP*	**Pn**	**21 30 24.2**	**+0.8**
SMAR	**Somma**	**3.07**	**223**	PN	**Pn**	**21 30 24.2**	**+0.8**
AVH	**Avacha**	**3.09**	**223**	*eP*	**Pn**	**21 30 24.8**	**+1.1**
AVH	**Avacha**	**3.09**	**223**	PN	**Pn**	**21 30 24.7**	**+1.1**
UGLR	**Uglovaya**	**3.10**	**222**	*eP*	**Pn**	**21 30 24.5**	**+0.7**
UGLR	**Uglovaya**	**3.10**	**222**	PN	**Pn**	**21 30 24.4**	**+0.7**
KOK	**Koryaka**	**3.11**	**225**	*eP*	**Pn**	**21 30 25.2**	**+1.3**
KOK	**Koryaka**	**3.11**	**225**	PN	**Pn**	**21 30 25.2**	**+1.3**
DALK	**Dalny**	**3.27**	**221**	*eP*	**Pn**	**21 30 26.4**	**+0.4**
DALK				*eS*	**Sn**	**21 31 05.0**	**+1.4**
DALK	**Dalny**	**3.27**	**221**	PN	**Pn**	**21 30 26.3**	**+0.4**
DALK				S	**Sn**	**21 31 04.9**	**+1.4**
INSR	**Institute**	**3.30**	**222**	*eP*	**Pn**	**21 30 27.3**	**+0.9**
INSR				*eS*	**Sn**	**21 31 07.3**	**+3.1**
INSR	**Institute**	**3.30**	**222**	PN	**Pn**	**21 30 27.2**	**+0.9**
INSR				S	**Sn**	**21 31 07.3**	**+3.1**
PET	**Petropavlovsk**	**3.31**	**221**		**Pn**	**21 30 27.0**	**+0.5**
PET	**Petropavlovsk**	**3.31**	**221**	*eP*	**Pn**	**21 30 27.5**	**+1.0**
PET				*eS*	**Sn**	**21 31 05.6**	**+1.0**
PET	**Petropavlovsk**	**3.31**	**221**	*e*PN	**Pn**	**21 30 27.5**	**+1.0**
PET				*eS*	**Sn**	**21 31 06.1**	**+1.5**
PET				pmax	pmax		
	comp=Z,680nm,0.5s						
PET				smax	smax		
	comp=E,1μm,0.6s						
PET				smax	smax		
	comp=N,2μm,0.7s						
PET	**Petropavlovsk**	**3.31**	**221**	P	**Pn**	**21 30 27.4**	**+1.0**
PEA0B	**Petropavlovsk-**	**3.64**	**229**	Pn	**Pn**	**21 30 31.7**	**+0.7**
PEA0B	**Petropavlovsk-**	**3.64**	**229**	PN	**Pn**	**21 30 32.5**	**+1.5**
PETK	**Petropavlovsk-**	**3.64**	**229**	Pn	**Pn**	**21 30 30.8**	**-0.2**
PETK	**Petropavlovsk-**	**3.64**	**229**	P	**Pn**	**21 30 32.2**	**+1.3**
	comp=N,88nm,0.5s,baz=63,slow=17,SNR=19						
PETK				S	**Sn**	**21 31 13.6**	**+1.0**
	comp=N,89nm,0.6s,baz=68,slow=19,SNR=1.1						
KRMR	**Karymshinskiy**	**3.66**	**223**	*eP*	**Pn**	**21 30 32.5**	**+1.1**
KRMR				*eS*	**Sn**	**21 31 15.7**	**+2.4**
KRMR	**Karymshinskiy**	**3.66**	**223**	PN	**Pn**	**21 30 32.4**	**+1.1**
KRMR				S	**Sn**	**21 31 15.6**	**+2.4**
OSSR	**Ossora**	**3.72**	**6**	*eP*	**Pn**	**21 30 32.6**	**+0.4**
OSSR				*eS*	**Sn**	**21 31 14.0**	**-0.6**
OSSR	**Ossora**	**3.72**	**6**	PN	**Pn**	**21 30 32.5**	**+0.4**
OSSR				S	**Sn**	**21 31 14.0**	**-0.6**
PALN	**Palana**	**3.75**	**341**	*eP*	**Pn**	**21 30 34.2**	**+1.6**
PALN	**Palana**	**3.75**	**341**	PN	**Pn**	**21 30 34.1**	**+1.6**
RUS	**Russkaya**	**3.84**	**217**	*eP*	**Pn**	**21 30 34.1**	**+0.4**
RUS				*eS*	**Sn**	**21 31 17.5**	**-0.1**
RUS	**Russkaya**	**3.84**	**217**	PN	**Pn**	**21 30 34.1**	**+0.4**
RUS				S	**Sn**	**21 31 17.4**	**-0.1**
GRL	**Gorelyy**	**3.90**	**221**	*eP*	**Pn**	**21 30 36.5**	**+1.7**
GRL	**Gorelyy**	**3.90**	**221**	PN	**Pn**	**21 30 36.4**	**+1.7**
MTVR	**Mutnovka**	**3.92**	**220**	*eP*	**Pn**	**21 30 35.8**	**+0.8**
MTVR	**Mutnovka**	**3.92**	**220**	PN	**Pn**	**21 30 35.7**	**+0.8**
APC	**Apacha**	**4.00**	**231**	*eP*	**Pn**	**21 30 38.0**	**+2.1**
APC	**Apacha**	**4.00**	**231**	PN	**Pn**	**21 30 37.9**	**+2.1**
ASAK	**Asacha**	**4.10**	**221**	*eP*	**Pn**	**21 30 39.4**	**+2.0**
ASAK	**Asacha**	**4.10**	**221**	PN	**Pn**	**21 30 39.3**	**+2.0**
PAU	**Pauzhetka**	**5.24**	**221**	*eP*	**Pn**	**21 30 54.5**	**+1.6**
PAU	**Pauzhetka**	**5.24**	**221**	PN	**Pn**	**21 30 54.4**	**+1.6**
TILK	**Tilichiki**	**5.31**	**21**	*eP*	**Pn**	**21 30 55.6**	**+1.7**
TILK				*eS*	**Sn**	**21 31 53.9**	**+0.4**
TILK	**Tilichiki**	**5.31**	**21**	PN	**Pn**	**21 30 55.5**	**+1.7**
TILK				S	**Sn**	**21 31 53.9**	**+0.4**
SKR	**Severo-Kuril's**	**6.13**	**220**	*i* PN	**Pn**	**21 31 06.2**	**+1.1**
MA2	**Magadan**	**7.38**	**308**	P	**Pn**	**21 31 21.4**	**-0.7**
	comp=N,17nm,1.0s,baz=16,slow=18,SNR=1.4						
BILL	**Bilibino**	**12.66**	**7**	Pn	**Pn**	**21 32 32.1**	**-2.0**
BILL	**Bilibino**	**12.66**	**7**	*i* PN	**Pn**	**21 32 34.1**	**0.0**
ATKA	**Atka Island**	**14.26**	**94**	Pn	**Pn**	**21 32 57.3**	**+1.7**
JKA	**Kamikawa-asahi**	**17.02**	**236**		**P**	**21 33 31.6**	**-0.2**
ASAJ	**Asahikawa**	**17.03**	**236**	P	**P**	**21 33 31.5**	**-0.4**
	comp=N,35nm,0.7s,baz=70,slow=11,SNR=13						
YAK	**Yakutsk**	**17.94**	**304**		**P**	**21 33 39.8**	**-1.9**
YAK	**Yakutsk**	**17.94**	**304**	P	**P**	**21 33 40.0**	**-1.7**
	comp=N,33nm,0.6s,baz=255,slow=0.6,SNR=4.9						
YAK	**Yakutsk**	**17.94**	**304**	*i* P	**P**	**21 33 40.3**	**-1.4**
M14K	**Bethel**	**19.39**	**60**	P	**Pn**	**21 33 59.6**	**+0.3**
KLR	**Kul'dur**	**19.57**	**264**	P	**P**	**21 33 60.0**	**+0.3**
	comp=N,5.8nm,0.9s,baz=61,slow=9.2,SNR=5.4						
KLR				S	**Sn**	**21 37 44.1**	**+3.7**
	comp=N,27nm,1.2s,baz=341,slow=23,SNR=7.8						
KLR	**Kul'dur**	**19.57**	**264**	*i* P	**P**	**21 33 59.5**	**-0.2**
KLR				pmax	pmax		
	comp=Z,54nm,1.8s						
S12K	**Black Hills**	**20.00**	**75**	P	Pn	21 34 05.6	-0.9
S12K				IAmb	IAmb	21 34 11.1	
	comp=Z,60nm,0.9s						
RDOG	**Red Dog Mine**	**20.30**	**38**	P	Pn	21 34 09.1	-0.9
L16K	**Owhat River**	**20.59**	**57**	P	Pn	21 34 12.6	-0.9
TIXI	**Tiksi**	**21.44**	**332**	P	**P**	**21 34 19.5**	**-0.2**
TIXI				IAmb	IAmb	21 34 19.6	
	comp=Z,107nm,1.2s						
TIXI	**Tiksi**	**21.44**	**332**	P	**P**	**21 34 19.1**	**-0.6**
	comp=Z,38nm,0.4s,baz=32,slow=11,SNR=6.4						
	comp=Z,38nm,0.4s						
TIXI	**Tiksi**	**21.44**	**332**	*i* P	**P**	**21 34 17.8**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,855nm,4.0s						
TTA	**Tatalina**	**22.21**	**54**	P	**P**	**21 34 29.8**	**+1.7**
TTA	**Tatalina**	**22.21**	**54**	P	**P**	**21 34 29.8**	**+1.7**
TTA				pmax	pmax		
	comp=Z,80nm,1.6s						
USRK	**Ussuriysk Ar.**	**22.39**	**252**	P	**P**	**21 34 29.5**	**-0.6**
	comp=Z,5.9nm,0.9s,baz=49,slow=12,SNR=1.9						
	comp=Z,5.9nm,0.9s						
JMM	**Marumori**	**22.87**	**228**	P	**P**	**21 34 35.1**	**-0.1**
JMM				IAmb	IAmb	21 34 53.6	
	comp=Z,218nm,2.0s						
IMAR	**Indian Mountai**	**23.34**	**46**	P	**P**	**21 34 40.3**	**+0.7**
ILSW	**Iliamna Southw**	**23.82**	**61**	P	**P**	**21 34 45.4**	**+1.2**
ILSW				IAmb	IAmb	21 34 46.9	
	comp=Z,37nm,0.8s						
P19K	**Oil Pt**	**23.83**	**62**	P	**P**	**21 34 45.3**	**+1.2**
P19K				IAmb	IAmb	21 34 47.2	
	comp=Z,56nm,0.8s						
JSD	**Sado**	**23.83**	**233**	P	**P**	**21 34 43.9**	**-0.4**
JSD				IAmb	IAmb	21 34 49.4	
	comp=Z,103nm,1.9s						
SPU	**Mount Spurr**	**24.18**	**58**	P	**P**	**21 34 48.5**	**+1.2**
CNPM	**China Poot**	**24.85**	**62**	P	**P**	**21 34 53.6**	**+0.2**
CNPM				IAmb	IAmb	21 34 56.9	
	comp=Z,145nm,1.7s						
MAJO	**Matsushiro**	**25.09**	**231**	P	**P**	**21 34 56.1**	**+0.3**
MAJO	**Matsushiro**	**25.09**	**231**	*i* P	**P**	**21 34 53.6**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,23nm,0.9s						
MJAR	**Matsushiro Arr**	**25.09**	**231**	P	**P**	**21 34 55.8**	**0.0**
	comp=Z,14nm,0.7s,baz=36,slow=7.7,SNR=19						
	comp=Z,14nm,0.7s						
TOLK	**Toolik Lake Re**	**25.23**	**40**	P	**P**	**21 34 57.3**	**+0.5**
WRH	**Wood River Hil**	**25.70**	**50**	P	**P**	**21 35 01.7**	**+0.8**
COLA	**College**	**25.78**	**49**	*i* P	**P**	**21 35 01.9**	**+0.2**
COLA				pmax	pmax		
	comp=Z,35nm,1.4s						
CCB	**Clear Creek Bu**	**25.81**	**49**	P	**P**	**21 35 02.1**	**+0.1**
PWL	**Port Wells**	**26.02**	**58**	P	**P**	**21 35 04.0**	**0.0**
PWL				IAmb	IAmb	21 35 05.7	
	comp=Z,47nm,1.1s						
ILAR	**Eielson Array**	**26.19**	**49**	P	**P**	**21 35 05.7**	**+0.2**
	comp=Z,5.3nm,0.9s,baz=268,slow=9.5,SNR=6.1						
	comp=Z,5.3nm,0.9s						
JGF	**Kuroka**	**26.26**	**231**	P	**P**	**21 35 06.2**	**-0.2**
KLU	**Klutina**	**27.05**	**56**	P	**P**	**21 35 14.8**	**+1.5**
EGAK	**Eagle**	**28.63**	**48**	P	**P**	**21 35 27.2**	**-0.1**
EGAK				IAmb	IAmb	21 35 27.4	
	comp=Z,65nm,1.8s						
INK	**Inuvik**	**31.14**	**40**	P	**P**	**21 35 50.5**	**+1.1**
INK				IAmb	IAmb	21 36 34.4	
	comp=Z,40nm,1.6s						
INK	**Inuvik**	**31.14**	**40**	P	**P**	**21 35 50.5**	**+1.1**
INK				pmax	pmax		
	comp=Z,40nm,1.7s						
HYT	**Haines Junctio**	**31.17**	**55**	P	**P**	**21 35 51.1**	**+1.2**
HYT				IAmb	IAmb	21 36 09.0	
	comp=Z,63nm,2.0s						
WHY	**Whitehorse**	**32.44**	**55**	P	**P**	**21 36 02.4**	**+1.3**
SONM	**Songino Array**	**34.63**	**281**	P	**P**	**21 36 19.3**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=56,slow=8.8,SNR=0.9						
SONM				PcP	**PcP**	**21 38 52.2**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=60,slow=3.3,SNR=4.7						
	comp=Z,2.0nm,0.8s						
DLBC	**Dease Lake**	**35.58**	**57**	P	**P**	**21 36 29.5**	**+1.3**
DLBC				IAmb	IAmb	21 36 48.9	
	comp=Z,50nm,1.9s						
H11N2	**WAKE ISLAND Hy**	**35.94**	**173**	T	T	22 15 46.4	
	baz=357,slow=76,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**35.96**	**173**	T	T	22 15 50.8	
	baz=357,slow=76,SNR=5.4						
H11N1	**WAKE ISLAND Hy**	**35.96**	**173**	T	T	22 15 51.2	
	baz=357,slow=76,SNR=5.0						
HHC	**Hu-ho-hao-te**	**35.99**	**268**	*e*P	**P**	**21 36 30.8**	**-1.2**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,290nm,5.0s						
HHC				LR	LR		
	comp=Z,5μm,17.6s						
HHC				LR	LR		
	comp=Z,3μm,19.1s						
HHC				LR	LR		
	comp=Z,6μm,19.1s						
BTO	**Baotou**	**37.03**	**269**	*e*P	**P**	**21 36 37.3**	**-3.5**
BTO				pP	**pP**	**21 36 51.3**	**-5.0**
BTO				sP	**sP**	**21 37 01.6**	**-2.0**
BTO				S	**S**	**21 42 15.9**	**-6.0**
BTO				pmax	pmax		
	comp=Z,13nm,0.5s						
BTO				pmax	pmax		
	comp=Z,5μm,10.0s						
BTO				LR	LR		
	comp=Z,9μm,10.2s						
BTO				LR	LR		
	comp=Z,11μm,10.6s						
BTO				LR	LR		
	comp=Z,11μm,13.0s						
NJ2	**Nanjing**	**38.28**	**250**	*e*P	**P**	**21 36 50.1**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
EUNU	**Eureka**	**39.24**	**15**	P	**P**	**21 37 00.2**	**+1.4**
EUNU				IAmb	IAmb	21 37 01.2	
	comp=Z,20nm,0.6s						
ALE	**Alert**	**40.30**	**8**	P	**P**	**21 37 08.2**	**+0.7**
ALE				pP	**pP**	**21 37 24.7**	**+1.6**
YKA	**Yellowknife Ar**	**40.49**	**45**	P	**P**	**21 37 10.6**	**+1.3**
	comp=Z,6.2nm,0.7s,baz=303,slow=7.8,SNR=8.0						
	comp=Z,6.2nm,0.7s						
ZALV	**Zalesovo Beam**	**42.55**	**301**	PKKP	**PKKPdf**	**22 00 55.7**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=263,slow=1.2,SNR=2.3						
JOHN	**Johnston Islan**	**44.34**	**140**	P	**P**	**21 37 42.9**	**+2.0**
SPITS	**Spitsbergen Ar**	**44.91**	**351**	P	**P**	**21 37 45.1**	**+0.2**
	comp=Z,5.7nm,0.4s,baz=54,slow=8.4,SNR=30						
	comp=Z,5.7nm,0.4s						
SPITS	**Spitsbergen Ar**	**44.91**	**351**	P	**P**	**21 37 45.0**	**+0.1**
SPITS				pmax	pmax		
	comp=Z,134nm,1.7s						
SPB2	**Spitsbergen Ar**	**44.91**	**351**	P	**P**	**21 37 44.9**	**0.0**
COR	**Corvallis**	**46.78**	**71**	P	**P**	**21 38 00.0**	**0.0**
WMQ	**Urumqi**	**47.38**	**289**	*e*P	**P**	**21 38 06.5**	**+1.7**
WMQ				LR	LR		
	comp=Z,4μm,11.3s						
WMQ				LR	LR		
	comp=Z,7μm,13.5s						
WMQ				LR	LR		
	comp=Z,8μm,15.5s						
KURK	**Kurchatov**	**47.53**	**301**	P	**P**	**21 38 04.2**	**-1.6**
KURK				IAmb	IAmb	21 38 05.6	
	comp=Z,24nm,1.1s						
KURK	**Kurchatov**	**47.53**	**301**	P	**P**	**21 38 04.2**	**-1.6**
KURK				pmax	pmax		
	comp=Z,24nm,1.1s						
KURK	**Kurchatov**	**47.53**	**301**	P	**P**	**21 38 04.3**	**-1.6**
KURBB	**Kurchatov Arra**	**47.64**	**301**	P	**P**	**21 38 04.9**	**-1.7**
	comp=Z,4.8nm,0.4s,baz=56,slow=8.0,SNR=6.6						
KURBB				PcP	**PcP**	**21 39 34.4**	**-0.8**
	comp=Z,2.6nm,0.8s,baz=41,slow=3.0,SNR=2.8						
	comp=Z,4.8nm,0.4s						
KBO	**Bosley Butte**	**47.87**	**74**	P	**P**	**21 38 11.0**	**+2.3**
KBO				IAmb	IAmb	21 38 12.2	
	comp=Z,77nm,1.7s						
MK31	**Makanchi Array**	**48.26**	**295**	P	**P**	**21 38 10.0**	**-1.5**
MK31				IAmb	IAmb	21 38 38.9	
	comp=Z,21nm,1.4s						
MK31	**Makanchi Array**	**48.26**	**295**	P	**P**	**21 38 10.0**	**-1.5**
MK31				pmax	pmax		
	comp=Z,21nm,1.4s						
MKAR	**Makanchi Array**	**48.26**	**295**	P	**P**	**21 38 09.6**	**-1.9**
MKAR	**Makanchi Array**	**48.26**	**295**	P	**P**	**21 38 09.7**	**-1.8**
	comp=Z,3.4nm,0.6s,baz=52,slow=6.6,SNR=14						
MKAR				PcP	**PcP**	**21 39 36.5**	**-1.1**
	comp=Z,1.0nm,0.6s,baz=47,slow=3.6,SNR=1.6						
	comp=Z,3.4nm,0.6s						
MKAR	**Makanchi Array**	**48.26**	**295**	*i* P	**P**	**21 38 10.0**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
L04D	**Klamath Falls**	**48.91**	**73**	P	**P**	**21 38 18.8**	**+2.1**
L04D				IAmb	IAmb	21 38 19.6	
	comp=Z,12nm,0.6s						
KMRM	**Mail Ridge**	**49.52**	**75**	P	**P**	**21 38 23.8**	**+2.5**
KMRM				IAmb	IAmb	21 38 34.8	
	comp=Z,48nm,1.9s						
BVAR	**Borovoye Array**	**49.87**	**308**	P	**P**	**21 38 22.1**	**-1.6**
	comp=Z,8.5nm,0.5s,baz=55,slow=8.0,SNR=26						
BVAR				ScP	**ScP**	**21 43 31.8**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=35,slow=5.3,SNR=2.1						
	comp=Z,8.5nm,0.5s						
BRVK	**Borovoye**	**49.89**	**308**	P	**P**	**21 38 22.4**	**-1.5**
BRVK				IAmb	IAmb	21 38 22.9	
	comp=Z,9.9nm,0.6s						
BRVK	**Borovoye**	**49.89**	**308**	P	**P**	**21 38 22.4**	**-1.5**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BRVK	**Borovoye**	**49.89**	**308**	P	**P**	**21 38 22.3**	**-1.6**
BRVK				pP	**pP**	**21 38 40.0**	**-0.1**
PLID	**Pearl Lake**	**50.30**	**66**	P	**P**	**21 38 29.0**	**+1.6**
FFC	**Flin Flon**	**50.41**	**49**	P	**P**	**21 38 28.8**	**+1.1**
FCC	**Fort Churchill**	**50.76**	**41**	P	**P**	**21 38 31.1**	**+0.8**
FCC	**Fort Churchill**	**50.76**	**41**	P	**P**	**21 38 31.1**	**+0.8**
FCC				pmax	pmax		
	comp=Z,210nm,1.9s						
LVZ	**Lovozero**	**50.91**	**337**	P	**P**	**21 38 30.2**	**-1.2**
LVZ	**Lovozero**	**50.91**	**337**	P	**P**	**21 38 30.2**	**-1.2**
LVZ				pmax	pmax		
	comp=Z,130nm,1.6s						
LVZ	**Lovozero**	**50.91**	**337**	P	**P**	**21 38 30.0**	**-1.4**
	comp=Z,41nm,2.1s						
LVZ	**Lovozero**	**50.91**	**337**	P	**P**	**21 38 30.3**	**-1.2**
ARCES	**ARCESS Array B**	**51.33**	**342**	P	**P**	**21 38 34.5**	**0.0**
ARCES	**ARCESS Array B**	**51.33**	**342**	P	**P**	**21 38 33.8**	**-0.7**
	comp=Z,4.9nm,0.8s,baz=31,slow=7.9,SNR=19						
	comp=Z,4.9nm,0.8s						
ARCES	**ARCESS Array B**	**51.33**	**342**	P	**P**	**21 38 34.5**	**0.0**
ARCES				pmax	pmax		
	comp=Z,123nm,1.9s						
SUMG	**Summit**	**51.34**	**8**	P	**P**	**21 38 35.4**	**+0.4**
SUMG	**Summit**	**51.34**	**8**	P	**P**	**21 38 35.4**	**+0.4**
SUMG				pmax	pmax		
	comp=Z,207nm,1.9s						
PZH	**PanZhiHua**	**52.00**	**262**	P	**P**	**21 38 42.0**	**+1.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,280nm,5.3s						
MPK	**Martis Peak**	**52.19**

RSSD	Black Hills	57.00 59	P	P	21 39 17.8	+1.4
ABKAR	Akbulak array	57.17 310	P	P	21 39 15.8	-1.3
ABKAR	Akbulak array	57.17 310	P	P	21 39 15.6	-1.5
O20A	White River Ci	57.84 65	P	P	21 39 24.0	+1.8
PFO	Pinyon Flats O	58.30 76	PKKP		22 00 39.6	
	comp=Z,2.8nm,0.8s,baz=84,slow=21,SNR=2.1					
PFO	Pinyon Flats O	58.30 76	P	P	21 39 26.8	+1.3
FIA1	FINESS Array S	58.35 337	P	P	21 39 24.8	-0.4
FINES	FINESS Array B	58.35 337	P	P	21 39 24.7	-0.5
FINES	FINESS Array B	58.35 337	P	P	21 39 24.9	-0.3
	comp=Z,18nm,0.3s,baz=43,slow=6.9,SNR=109					
	comp=Z,18nm,0.3s					
BTK	Batken	58.91 296	P	P	21 39 29.5	-0.1
BTK	Batken	58.91 296	P	P	21 39 29.5	-0.1
BTK			pmax	pmax		
	comp=Z,76nm,1.4s					
PHRA	Phrae	59.19 257	P	P	21 39 31.4	-0.2
ISCO	Idaho Springs	59.43 63	P	P	21 39 35.6	+2.2
ISCO			IAmb	IAmb	21 39 36.8	
	comp=Z,27nm,1.4s					
ISCO	Idaho Springs	59.43 63	P	P	21 39 35.6	+2.2
ISCO			pmax	pmax		
	comp=Z,27nm,1.4s					
WUAZ	Wupatki	59.64 71	P	P	21 39 36.8	+2.1
WUAZ			IAmb	IAmb	21 39 38.0	
	comp=Z,12nm,1.1s					
CMAR	Chiang Mai Arr	59.94 259	P	P	21 39 36.3	-0.5
	comp=Z,0.5nm,0.4s,baz=35,slow=8.1,SNR=1.1					
CMAR			PcP	PcP	21 40 22.6	+0.1
	comp=Z,2.3nm,0.5s,baz=9.4,slow=3.5,SNR=4.9					
	comp=Z,0.5nm,0.4s					
GAR	Garm	59.96 296	P	P	21 39 35.4	-1.5
S22A	4UR Ranch, Cre	60.35 66	P	P	21 39 42.2	+2.4
S22A			IAmb	IAmb	21 39 42.6	
	comp=Z,8.1nm,0.7s					
IVI	Ivigtut	61.12 16	P	P	21 39 44.1	-0.1
IVI	Ivigtut	61.12 16	P	P	21 39 44.0	-0.1
IVI			pP	pP	21 40 02.1	+1.5
NC204	NORSAR Array S	61.36 345	P	P	21 39 45.7	-0.2
NB2	NORSAR Subarra	61.52 344	P	P	21 39 45.9	-1.1
	comp=Z,1.6nm,0.5s,baz=18,slow=6.9					
NOA	NORSAR Array B	61.52 344	P	P	21 39 46.2	-0.7
	comp=Z,3.3nm,0.7s,baz=19,slow=6.9,SNR=9.4					
	comp=Z,3.3nm,0.7s					
HFS	Hagfors	61.98 343	P	P	21 39 49.1	-0.9
	comp=Z,3.8nm,0.5s,baz=21,slow=6.7,SNR=13					
	comp=Z,3.8nm,0.5s					
ANMO	Albuquerque	62.68 68	P	P	21 39 57.0	+1.6
ANMO	Albuquerque	62.68 68	P	P	21 39 57.0	+1.6
ANMO			pmax	pmax		
	comp=Z,4.0nm,0.7s					
ANMO	Albuquerque	62.68 68	P	P	21 39 57.2	+1.9
SCHQ	Schefferville	62.87 29	P	P	21 39 56.1	0.0
	comp=Z,9.4nm,0.7s,baz=322,slow=5.1,SNR=7.3					
	comp=Z,9.4nm,0.7s					
PABE	Paberze	64.19 335	P	P	21 40 04.4	-0.3
WMOK	Wichita Mounta	66.79 62	P	P	21 40 22.8	+0.9
WMOK			IAmb	IAmb	21 40 23.7	
	comp=Z,15nm,0.9s					
WMOK	Wichita Mounta	66.79 62	P	P	21 40 22.8	+0.9
WMOK			pmax	pmax		
	comp=Z,15nm,1.0s					
AK21	Malin Array Si	67.12 330	P	P	21 40 22.8	-0.9
AKASG	Malin Array Be	67.14 330	P	P	21 40 22.9	-0.9
	comp=Z,3.2nm,0.3s,baz=30,slow=6.9,SNR=21					
	comp=Z,3.2nm,0.3s					
AKASG	Malin Array Be	67.14 330	*i* P	P	21 40 22.8	-1.0
AKASG			pmax	pmax		
	comp=Z,3.0nm,0.3s					
AKBB	Malin Array Si	67.14 330	P	P	21 40 22.5	-1.3
KIEV	Kiev	67.15 330	P	P	21 40 22.8	-1.1
KIEV			IAmb	IAmb	21 42 14.0	
	comp=Z,45nm,1.6s					
KIEV	Kiev	67.15 330	P	P	21 40 22.8	-1.1
KIEV			pmax	pmax		
	comp=Z,45nm,1.6s					
KIEV	Kiev	67.15 330	P	P	21 40 22.4	-1.5
	comp=Z,32nm,0.5s					
KIEV	Kiev	67.15 330	P	P	21 40 22.8	-1.1
MI28	Mi28,Pidlybu	67.37 331	P	P	21 40 24.4	-0.9
	comp=Z,166nm,0.8s					
MAK	Makhachkala	67.41 314	*e*P	P	21 40 25.3	-0.4
MAK			*e**PP	pP	21 40 41.2	-1.3
MAK			*e**SP	sP	21 40 48.6	-0.9
MAK			*e*		21 42 53.4	
MAK			*e*PPP	PPP	21 44 31.1	
MAK			*e*S	S	21 49 16.6	+0.2
MAK			*e**SS	sS	21 49 44.4	-0.6
MAK			*e*SS	SS	21 53 38.6	+2.2
MAK			MLR	MLR		
	comp=Z,3μm,15.0s					
RNPP9	Sopachiv	67.42 332	P	P	21 40 25.0	-0.6
RNPP8	Varash	67.50 332	P	P	21 40 25.9	-0.2
RNPP5	Staryi Chortor	67.59 332	P	P	21 40 25.9	-0.7
LUBAR	Lubar, Ukraine	68.26 330	P	P	21 40 29.7	-1.2
KIV	Kislovodsk	68.49 318	*e*P	P	21 40 31.8	-0.8
KIV			pmax	pmax		
	comp=Z,11nm,1.1s					
TXAR	Lajitas Array	68.53 69	P	P	21 40 34.7	+1.7
	comp=Z,6.9nm,0.7s,baz=298,slow=4.4,SNR=12					
	comp=Z,6.9nm,0.7s					
KBZ	Khabaz	68.60 317	P	P	21 40 32.6	-0.5
	comp=Z,3.4nm,0.7s,baz=174,slow=2.9,SNR=4.6					
	comp=Z,3.4nm,0.7s					
EKA	Eskdalemuir Ar	68.83 351	P	P	21 40 34.2	-0.1
	comp=Z,1.5nm,0.4s,baz=16,slow=5.1,SNR=16					
	comp=Z,1.5nm,0.4s					
D62A	Allapoint, All	69.01 35	P	P	21 40 35.8	+0.2
NDNU	Novodnistrovsk	69.56 330	P	P	21 40 38.3	-0.7
SORM	Soroca	69.69 329	⇓P	P	21 40 39.0	-0.8
SORM	Soroca	69.69 329	P	P	21 40 38.7	-1.1
	comp=Z,18nm,0.8s					
OJC	Ojcow	70.05 335	P	P	21 40 42.1	+0.1
	comp=Z,18nm,0.8s					
STHS	Stebnicka Huta	70.44 334	*e*P	P	21 40 44.4	0.0
STHS			pmax	pmax		
	comp=Z,8.0nm,0.8s					
STHS	Stebnicka Huta	70.44 334	*e*P	P	21 40 44.3	-0.1
CLL	Collm	70.48 340	*i* P	P	21 40 46.4	+1.8
CLL			pmax	pmax		
	comp=Z,17nm,1.5s					
CLL	Collm	70.48 340	*i* P	P	21 40 46.4	+1.8
KOLS	Kolonicke sedl	70.63 333	*e*P	P	21 40 45.9	+0.4
KOLS			pmax	pmax		
	comp=Z,9.0nm,1.0s					
KOLS	Kolonicke sedl	70.63 333	*e*P	P	21 40 45.9	+0.4
DPC	Dobruska-Polom	70.71 338	P	P	21 40 45.8	-0.3
WVT	Waverly	70.94 54	P	P	21 40 48.2	+0.6
MORC	Moravsky Berou	70.98 337	P	P	21 40 47.8	+0.1
MORC			IAmb	IAmb	21 42 41.3	
	comp=Z,80nm,2.0s					
MORC	Moravsky Berou	70.98 337	*e*P	P	21 40 47.8	+0.1
MORC	Moravsky Berou	70.98 337	P	P	21 40 47.8	+0.1
MORC			pmax	pmax		
	comp=Z,80nm,2.0s					
BUR08	Bucovina Ar. S	71.04 331	P	P	21 40 47.7	-0.4
BURAR	Bucovina Array	71.06 331	P	P	21 40 48.0	-0.3
BURAR	Bucovina Array	71.06 331	⇑P	P	21 40 47.2	-1.0
LANS	Liptovska Anna	71.12 335	*e*P	P	21 40 49.9	+1.3
LANS			pmax	pmax		
	comp=Z,9.0nm,1.0s					
LANS	Liptovska Anna	71.12 335	*e*P	P	21 40 49.9	+1.3
VRAC	Vranov	71.63 337	*e*P	P	21 40 51.6	0.0
VRAC	Vranov	71.63 337	⇓P	P	21 40 51.3	-0.3
VYHS	Vyhne	71.89 335	*e*P	P	21 40 53.5	+0.4
VYHS			pmax	pmax		
	comp=Z,28nm,1.9s					
VYHS	Vyhne	71.89 335	*e*P	P	21 40 53.5	+0.4
MODS	Modra-Piesok	72.36 336	*e*P	P	21 41 02.8	+6.8
MODS			pmax	pmax		
	comp=Z,28nm,1.4s					
MODS	Modra-Piesok	72.36 336	*e*P	P	21 41 02.8	+6.8
DRGR		72.49 332	⇑P	P	21 40 56.2	-0.7
GEC2	GERESS Array S	72.69 339	P	P	21 40 57.9	-0.1
GERES	GERESS Array B	72.69 339	P	P	21 40 57.9	-0.1
	comp=Z,1.5nm,0.4s,baz=27,slow=5.1,SNR=6.2					
	comp=Z,1.5nm,0.4s					
MLR	Muntele Rosu	72.79 329	P	P	21 40 58.4	-0.3
MLR			IAmb	IAmb	21 43 20.2	
	comp=Z,79nm,2.0s					
MLR	Muntele Rosu	72.79 329	⇑P	P	21 40 58.4	-0.3
MLR	Muntele Rosu	72.79 329	P	P	21 40 58.4	-0.3
MLR			pmax	pmax		
	comp=Z,79nm,2.0s					
VOIR		73.10 330	⇑P	P	21 41 00.6	+0.1
CONA	Conrad Observa	73.10 337	*e*P	P	21 41 01.4	+1.0
	comp=Z,3.1nm,0.8s					
RONA	Rosalia, Austr	73.22 337	*e*P	P	21 41 02.3	+1.2
	comp=Z,1.5nm,0.5s					
SIRR	Siria	73.25 333	⇑P	P	21 41 00.8	-0.5
ARR	Arges	73.28 330	⇓P	P	21 40 59.4	-2.1
GZR	Gura Zlata	73.77 332	⇓P	P	21 41 03.5	-0.9
ARSA	Arzberg	73.81 337	*e*P	P	21 41 05.3	+0.8
	comp=Z,3.6nm,0.7s					
BZS	Buzias	73.87 332	⇑P	P	21 41 03.4	-1.5
MSVF	Nonsavu	74.22 164	P	P	21 41 08.6	+1.5
	comp=Z,0.7nm,0.3s,baz=358,slow=0.9,SNR=1.2					
	comp=Z,0.7nm,0.3s					
HERR	Herculane	74.34 332	⇑P	P	21 41 07.0	-0.7
KBA	Koelnbreinsper	74.44 339	*e*P	P	21 41 09.1	+0.7
	comp=Z,6.2nm,0.6s					
WTTA	Wattenberg	74.61 340	*e*P	P	21 41 09.7	+0.3
	comp=Z,3.6nm,0.8s					
MOTA	Moosalm	74.64 340	*e*P	P	21 41 09.4	-0.1
	comp=Z,4.0nm,0.8s					
OBKA	Obir	74.73 338	*e*P	P	21 41 10.9	+0.9
	comp=Z,4.9nm,0.5s					
SQTA	Sankt Quirin	74.74 340	*e*P	P	21 41 10.5	+0.4
	comp=Z,4.7nm,0.6s					
ABTA	Abfaltersbach	74.93 339	*e*P	P	21 41 11.2	0.0
	comp=Z,4.5nm,0.7s					
FETA	Feichten	75.02 340	*e*P	P	21 41 12.6	+0.8
	comp=Z,4.7nm,0.8s					
FUORN	Ofenpass-Fuorn	75.50 340	P	P	21 41 15.0	+0.4
BRTR	Keskin Array B	75.51 322	P	P	21 41 14.1	-0.6
BRTR	Keskin Array B	75.51 322	P	P	21 41 14.2	-0.5
	comp=Z,2.7nm,0.9s,baz=28,slow=6.0,SNR=4.4					
	comp=Z,2.7nm,0.9s					
NRCA	Norcia	78.54 337	P	P	21 41 32.0	+0.5
NRCA			IAmb	IAmb	21 41 33.5	
	comp=Z,17nm,0.9s					
WB2	Warramunga Arr	78.86 207	P	P	21 41 36.6	+3.3
WB2			IAmb	IAmb	21 44 15.1	
	comp=Z,73nm,1.8s					
WRA	Warramunga Arr	78.86 207	P	P	21 41 36.6	+3.3
WRA	Warramunga Arr	78.86 207	P	P	21 41 33.9	+0.6
	comp=Z,2.1nm,0.8s,baz=27,slow=6.0,SNR=5.6					
	comp=Z,2.1nm,0.8s					
WRA	Warramunga Arr	78.86 207	P	P	21 41 36.6	+3.3
WRA			pmax	pmax		
	comp=Z,5.0nm,1.8s					
FITZ	Fitzroy Crossi	79.66 215	P	P	21 41 41.0	+3.4
MMAI	Mount Meron Ar	80.80 317	P	P	21 41 43.7	-0.2
	comp=Z,1.3nm,0.4s,baz=32,slow=4.9,SNR=8.0					
	comp=Z,1.3nm,0.4s					
ASAR	Alice Springs	82.54 206	P	P	21 41 53.5	+0.6
	comp=Z,11nm,0.4s,baz=16,slow=5.0,SNR=3.0					
	comp=Z,11nm,0.4s					
ESDC	Sonseca Array	84.41 349	P	P	21 42 02.8	+0.2
	comp=Z,2.1nm,0.8s,baz=8.9,slow=4.6,SNR=5.8					
	comp=Z,2.1nm,0.8s					
RAYN	Ar Rayn	84.74 305	P	P	21 42 03.0	-1.5
RAYN	Ar Rayn	84.74 305	P	P	21 42 03.0	-1.5
RAYN			pmax	pmax		
	comp=Z,8.0nm,0.7s					
KEST	Kesra	86.17 338	P	P	21 42 11.4	0.0
	comp=Z,1.2nm,0.4s,baz=189,slow=0.5,SNR=7.5					
	comp=Z,1.2nm,0.4s					
TORD	Torodi Ar. Bea	109.63 340	PKiKP	PKiKP	21 47 59.6	-1.2
	comp=Z,0.2nm,0.4s,baz=35,slow=2.0,SNR=1.7					
SIV	San Ignacio	128.51 58	PKP	PKPdf	21 48 36.8	-0.1
	comp=Z,1.8nm,0.8s,baz=339,slow=0.9,SNR=3.5					
PLCA	Paso Flores	142.73 89	PKP	PKPdf	21 49 03.2	+0.7
	comp=Z,2.4nm,0.9s,baz=106,slow=1.4,SNR=3.4					
QSPA	South Pole Qui	145.31 180	PKPbc	PKPbc	21 49 05.6	-0.6
	comp=Z,8.2nm,0.9s,baz=280,slow=4.4,SNR=4.3					
TROLL	Troll, Antarti	161.41 200	⇑SKPdf	SKPdf	21 52 53.6	-1.7
	comp=Z,1.2nm,0.1s					
SNAA	Sanae	162.63 196	⇓SKPdf	SKPdf	21 52 57.6	+1.3
	comp=Z,3μm,3.9s					
VNA3	Neumayer Olymp	163.88 189	⇑SKPdf	SKPdf	21 53 01.1	+3.8
	comp=Z,0.0nm,0.2s					
VNA2	Neumayer--Watz	163.94 192	⇑SKPdf	SKPdf	21 53 04.1	+6.7
	comp=Z,201μm,0.0s,baz=83,slow=2.0					

*LDG **14** 21:31:10.9±0.2, 44°.16N×8°.54E, h10km, MI1.8/5, Error ellipse: s-maj=3.4km s-min=2.2km az=146.0*

STR 14 21:31:11.1±0.7, 44°N±5°×°±°, h20km±4km, MLv1.3/8, 1C, Error ellipse: s-maj=0.0km s-min=0.0km az=152.5, preliminary, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANO	Canova, Maglio	0.20	275	Sg	Sg	21 31 19.5	-0.4
CANO	Canova, Maglio	0.20	275	Pg	Pb	21 31 15.9	+0.1
RORO	Rocca Rossa	0.33	256	Pg	Pg	21 31 17.8	-0.6
RORO	Rocca Rossa	0.33	256	Sg	Sg	21 31 23.0	-0.3
RNCA	Ronca, Sant'Ol	0.42	48	Sg	Sb	21 31 26.8	+0.9
RNCA	Ronca, Sant'Ol	0.42	48	Pg	Pg	21 31 19.6	-0.2
GBOS	Grotte di Boss	0.49	276	Sg	Sb	21 31 28.5	+0.6
GBOS	Grotte di Boss	0.49	276	Pg	Pg	21 31 21.2	0.0
MGRO	Montegrosso	0.53	254	Sg	Sg	21 31 29.4	+0.2
MGRO	Montegrosso	0.53	254	Pg	Pb	21 31 21.5	-0.4
PIAF	les Granges de	0.65	264	Pg	Pb	21 31 23.8	0.0
PIAF				Sg	Sg	21 31 33.2	+0.4
SAOF	Saorge	0.72	254	Pg	Pb	21 31 25.0	-0.1
SAOF				Sg	Sg	21 31 35.5	+0.5
BURY	Giardini Botan	0.80	240	Sg	Sg	21 31 37.7	+0.1
BURY	Giardini Botan	0.80	240	Pg	Pb	21 31 26.3	-0.1
TURF	col de Turini	0.84	255	Pg	Pb	21 31 27.2	+0.1
TURF				Sg	Sg	21 31 39.2	+0.4
SBF	Sospel	0.84	247	*e*Pg	Pb	21 31 26.7	-0.5
SBF				*e*Sg	Sb	21 31 38.5	+0.4
	7.6nm,0.2s						
STV	Sant Anna di V	0.86	274	Sg	Sg	21 31 39.4	+0.2
STV	Sant Anna di V	0.86	274	Pg	Pg	21 31 28.0	+0.1
SPIF	crte de Spivo	0.93	262	Pg	Pn	21 31 29.1	-0.2
SPIF				Sg	Sn	21 31 42.3	+0.2
PZZ	Stroppo	1.05	288	Sg	Sn	21 31 45.3	+0.2
PZZ	Stroppo	1.05	288	Pg	Pb	21 31 30.7	0.0
BHB	Bricherasio	1.11	306	Sg	Sn	21 31 46.6	+0.4
BHB	Bricherasio	1.11	306	Pg	Pb	21 31 31.7	+0.1
CALF	Calern	1.23	250	Pg	Pg	21 31 34.7	-0.3
CALF				Sg	Sg	21 31 50.8	-0.3
SURF	Saint Ours	1.25	284	Pg	Pg	21 31 35.2	-0.3
SURF				Sg	Sg	21 31 51.4	-0.5
JAUF	Jausiers	1.29	281	Pg	Pb	21 31 35.2	+0.4
JAUF				Sg	Sg	21 31 52.7	-0.3
MBDF	Montbardon	1.36	294	*e*Pg	Pb	21 31 36.7	+0.7
MBDF				*e*Sg	Sg	21 31 54.4	-0.8
	1.2nm,0.3s						
LMR	La Mourre	1.69	240	*e*Pg	Pb	21 31 41.5	0.0
LMR				*e*Sg	Sb	21 32 03.7	+1.4
	0.6nm,0.2s						
SMRF	Simiane la Rot	2.13	265	*e*Pg	Pg	21 31 51.2	-0.8
SMRF				*e*Sg	Sg	21 32 18.4	-1.3
	0.9nm,0.3s						
IVA	Berane	8.37	95	⇑*i*P	Pb	21 33 36.7	+1.3

KRSC 14 21:31:39.7±0.8, 55°.53N×162°.42E, h79km±16km, MI3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.71	18	*e*P	Pn	21 31 56.6	+1.2
KBTR				*e*S	Sn	21 32 08.9	+1.9
KBG	Krutoberegovo	0.74	12	*e*P	Pn	21 31 56.8	+1.1
KBG				*e*S	Sn	21 32 09.3	+1.8
ZLN	Zelenaya	1.04	299	*e*P	Pn	21 32 00.8	+1.6
ZLN				*e*S	Sn	21 32 15.0	+1.3
BZGR	Bezymyannyi-Gr	1.06	293	*e*P	Pn	21 32 00.9	+1.4
BZGR				*e*S	Sn	21 32 15.6	+1.3
CIRR	Tsirk	1.11	302	*e*P	Pn	21 32 02.4	+2.3
CIRR				*e*S	Sn	21 32 17.0	+1.5
BZP	Bezymyannyi-Pe	1.13	290	*e*P	Pn	21 32 01.6	+1.2
BZP				*e*S	Sn	21 32 15.9	-0.1
BZMR	Bezymyannaya	1.17	291	*e*P	Pn	21 32 01.9	+1.0
BZMR				*e*S	Sn	21 32 18.0	+1.4
BZWR	Bezymyannyi-We	1.17	292	*e*P	Pn	21 32 02.5	+1.5
BZWR				*e*S	Sn	21 32 18.2	+1.3
SMKR	Semkarok	1.18	333	*e*P	Pn	21 32 02.7	+1.8
SMKR				*e*S	Sn	21 32 18.6	+1.7
TUMD	Tumrok D	1.20	255	*e*P	Pn	21 32 02.4	+1.2
TUMD				*e*S	Sn	21 32 17.9	+0.7
BDR	Baidarnaya	1.24	327	*e*S	Sn	21 32 19.1	+0.8
KIRR	Kirishev	1.25	291	*e*P	Pn	21 32 04.1	+2.2
KIRR				*e*S	Sn	21 32 21.0	+2.4
KRSR	Krestovskiy	1.25	304	*e*P	Pn	21 32 03.1	+1.2
KRSR				*e*S	Sn	21 32 18.5	0.0
KMNR	Kamenistaya	1.26	281	*e*P	Pn	21 32 03.9	+1.9
KMNR				*e*S	Sn	21 32 20.9	+2.2
KLY	Klyuchi	1.27	309	*e*P	Pn	21 32 02.0	+0.1
KLY				*e*S	Sn	21 32 17.8	-0.9
KPT	Kopyto	1.32	290	*e*P	Pn	21 32 04.6	+1.9
TUMR	Tumrok	1.32	260	*e*P	Pn	21 32 04.7	+1.9
TUMR				*e*S	Sn	21 32 20.4	+0.3
SRKR	Sorokina	1.33	328	*e*S	Sn	21 32 23.8	+3.6
KOZ	Kozyrevsk	1.53	291	*e*P	Pn	21 32 07.7	+2.3
KOZ				*e*S	Sn	21 32 28.1	+3.3
BKI	Bering	2.05	98	*e*S	Sn	21 32 38.1	+1.1
ESO	Esso	2.14	282	*e*P	Pn	21 32 15.3	+1.9
ESO				*e*S	Sn	21 32 39.7	+0.5
SPN	Mys Shipunski	2.81	211	*e*P	Pn	21 32 23.4	+1.0
SPN				*e*S	Sn	21 32 54.6	-0.8
NLC	Nalytchevo	2.97	219	*e*P	Pn	21 32 26.2	+1.6
NLC				*e*S	Sn	21 33 01.3	+2.2
SDLR	Sedlovina	3.06	224	*e*P	Pn	21 32 28.8	+2.9
KRER	Koryakskii	3.10	225	*e*P	Pn	21 32 29.6	+3.2
KRX	Arik	3.10	227	*e*P	Pn	21 32 30.0	+3.6
SMAR	Somma	3.11	224	*e*P	Pn	21 32 29.0	+2.4
AVH	Avacha	3.13	225	*e*P	Pn	21 32 30.5	+3.7
DALK	Dalny	3.30	222	*e*P	Pn	21 32 31.5	+2.5
PET	Petropavlovsk	3.35	223	*e*P	Pn	21 32 32.6	+3.0
OSSR	Ossora	3.75	5	*e*P	Pn	21 32 37.0	+2.0
OSSR				*e*S	Sn	21 33 19.3	+1.4
MTVR	Mutnovka	3.95	221	*e*P	Pn	21 32 41.6	+3.7

*TEH **14** 21:32:03.3, 27°.74N×53°.64E, h8km±43km, ML3.6*
*DSN **14** 21:32:04.1±1.8, 27°.94N×53°.50E, h30km±55km, ML3.4/11, Error ellipse: s-maj=43.8km s-min=10.7km az=155.0*

ISC 14 21:32:05.0±1.0, 27°.74N±0°.04×53°.62E±0°.04, h16km, n23, σ1°53/24, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	Lamerd	0.57	226	Pg	Pg	21 32 14.9	-1.3
LAR1	LAR	0.67	96	Pg	Pg	21 32 16.5	-1.7
JHRM	Jahrom	0.77	357	Pg	Pg	21 32 18.2	-1.7
QIR1	Qir	0.90	325	Pg	Pb	21 32 20.5	-1.6
SHI	Shiraz	2.13	333	Pn	Pn	21 32 41.1	+1.0
GENO	Geno	2.29	98	Pn	Pn	21 32 42.8	+0.6
AHBU	AHRAM	2.34	299	Pn	Pn	21 32 44.6	+1.8
SHME	Shamm	2.81	126	P	Pn	21 32 50.2	+1.0
MSFE	Esma-Masafi	3.28	136	P	Pn	21 32 57.3	+1.5
MSFE				S	Sn	21 33 37.5	+2.9
NAZ	Nazwa, Dubai	3.29	146	P	Pn	21 32 57.1	+1.1
MDH	Madha	3.41	135	P	Pn	21 32 58.2	+0.6
TVBK	TV Kerman	3.55	50	Pn	Pn	21 33 01.4	+1.6
UOSS	Minazif	3.62	140	P	Pn	21 33 00.8	+0.4
KHGB	Koh Gabri	3.63	43	Pn	Pn	21 33 02.0	+1.3
HATD	Hatta, Dubai	3.67	142	P	Pn	21 33 01.2	+0.1
IMEH	Mehriz	3.74	13	Pn	Pn	21 33 04.1	+1.8
ASHO	Ashiyiah	3.75	144	P	Pn	21 33 03.2	+1.0
ALNE	Al Ain	4.14	152	P	Pn	21 33 09.1	+1.5
IBAF	Bafgh	4.20	23	Pn	Pn	21 33 10.0	+1.5
IRAM	Ramesheh	4.20	345	Pn	Pn	21 33 10.4	+1.9
SOHO	SOHO	4.44	143	P	Pn	21 33 11.8	+0.1
MZR	Muzera	4.72	182	P	Pn	21 33 15.7	+0.2
IGAR	Gharneh	4.85	344	Pn	Pn	21 33 19.4	+2.0

KRSC 14 21:33:03.9±0.7, 55°.55N×162°.42E, h79km±15km, MI3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.70	19	*e*P	Pn	21 33 20.7	+1.3
KBTR				*e*S	Sn	21 33 32.5	+1.5
KBG	Krutoberegovo	0.73	13	*e*P	Pn	21 33 21.0	+1.3
KBG				*e*S	Sn	21 33 33.3	+1.8
ZLN	Zelenaya	1.03	298	*e*P	Pn	21 33 24.5	+1.2
ZLN				*e*S	Sn	21 33 39.1	+1.4
BZGR	Bezymyannyi-Gr	1.05	293	*e*P	Pn	21 33 24.6	+1.1
BZGR				*e*S	Sn	21 33 38.8	+0.5
CIRR	Tsirk	1.10	302	*e*P	Pn	21 33 25.5	+1.3
CIRR				*e*S	Sn	21 33 42.2	+2.8
BZP	Bezymyannyi-Pe	1.12	290	*e*P	Pn	21 33 25.3	+0.8
BZP				*e*S	Sn	21 33 40.1	+0.1
BZMR	Bezymyannaya	1.16	291	*e*P	Pn	21 33 26.0	+1.1
BZMR				*e*S	Sn	21 33 42.1	+1.4
BZWR	Bezymyannyi-We	1.16	292	*e*S	Sn	21 33 42.7	+1.9
SMKR	Semkarok	1.17	333	*e*P	Pn	21 33 26.7	+1.7
SMKR				*e*S	Sn	21 33 42.9	+2.2
TUMD	Tumrok D	1.20	254	*e*P	Pn	21 33 26.2	+0.8
TUMD				*e*S	Sn	21 33 41.8	+0.3
BDR	Baidarnaya	1.23	327	*e*S	Sn	21 33 44.2	+2.0
KIRR	Kirishev	1.24	290	*e*P	Pn	21 33 27.6	+1.6
KIRR				*e*S	Sn	21 33 44.7	+2.2
KRSR	Krestovskiy	1.24	304	*e*P	Pn	21 33 26.8	+0.9
KRSR				*e*S	Sn	21 33 42.7	+0.2
KMNR	Kamenistaya	1.25	281	*e*P	Pn	21 33 27.7	+1.7

	comp=N,18nm,2.2s						
INCE				*i* AML	AML	21 39 38.0	
	comp=Z,16nm,2.6s						
BRDR	**BURDUR-Merkez**	**0.61**	**148**	P	Pg	21 39 17.7	-0.2
BRDR				S	Sb	21 39 27.1	-0.9
BRDR				*i* AML	AML	21 39 30.0	
	comp=Z,13nm,1.4s						
BRDR				*i* AML	AML	21 39 30.0	
	comp=E,7.9nm,0.5s						
BRDR				*i* AML	AML	21 39 34.0	
	comp=N,7.7nm,0.8s						
USAK	**Uak-Merkez**	**0.71**	**315**	P	Pg	21 39 19.9	+0.2
USAK				S	Sg	21 39 29.6	+0.8
USAK				*i* AML	AML	21 39 30.0	
	comp=Z,10.0nm,1.6s						
USAK				*i* AML	AML	21 39 30.0	
	comp=E,146nm,1.4s						
USAK				*i* AML	AML	21 39 50.0	
	comp=N,22nm,2.1s						
MANT	**Manisa**	**0.90**	**288**	P	Pb	21 39 24.8	+0.5
MANT				S	Sg	21 39 35.5	+0.3
MANT				*i* AML	AML	21 39 40.0	
	comp=N,13nm,0.6s						
MANT				*i* AML	AML	21 39 47.0	
	comp=E,4.3nm,0.6s						
MANT				*i* AML	AML	21 39 56.0	
	comp=Z,2.4nm,0.5s						

*IDC **14** 21:40:54.4±2.0, 3°.39S×128°.73E, h0km, mb4.2/2, mbtmp4.3/3, ML4.3/1, Error ellipse: s-maj=138.8km s-min=26.4km az=68.0*
*DJA **14** 21:41:10.4±0.7, 4°.5±5°.5×12°.9E±°, h110km±6km, M3.3/8, MLv3.3/8*
ISC 14 21:41:08.3±0.8, **3°.81S**±0°.09×**128°.59E**±0°.05, **h100**km, **n17**, σ**2**§**42**/19, **Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.41**	**286**	P	**Pn**	**21 41 28.0**	**+4.4**
MSAI	**Masohi**	**0.56**	**36**	P	**Pn**	**21 41 28.1**	**+3.4**
MSAI				S	**Sn**	**21 41 40.8**	**+4.0**
NLAI	**Namlea**	**1.59**	**291**	P	**Pn**	**21 41 38.5**	**+2.7**
NLAI				S	**Sn**	**21 41 59.6**	**+3.0**
SANI	**Sanana**	**3.13**	**304**	P	**Pn**	**21 41 56.2**	**+0.3**
SANI	**Sanana**	**3.13**	**304**	P	**Pn**	**21 41 55.6**	**-0.3**
FAKI	**Fak Fak**	**3.75**	**77**	P	**Pn**	**21 42 07.0**	**+2.8**
FAKI	**Fak Fak**	**3.75**	**77**	P	**Pn**	**21 42 05.9**	**+1.7**
SWI	**Sorong**	**3.95**	**42**	P	**Pn**	**21 42 05.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**14.50**	**191**	P	**P**	**21 44 32.8**	**+0.2**
WRA	**Warramunga Arr**	**16.99**	**161**	P	**Pn**	**21 44 58.6**	**-1.4**
	1.1nm,0.3s,baz=341,slow=12,SNR=33						
	3.7nm,0.5s						
COEN	**Coen**	**17.57**	**126**	P	**P**	**21 45 06.4**	**-0.3**
MBWA	**Marble Bar**	**19.28**	**206**	P	**P**	**21 45 23.9**	**-1.5**
PSA00	**Pilbara Seismi**	**19.60**	**205**	P	**P**	**21 45 27.2**	**-1.6**
QIS	**Mount Isa**	**19.81**	**148**	P	**P**	**21 45 30.5**	**-0.6**
ASAR	**Alice Springs**	**20.40**	**166**	P	**P**	**21 45 36.4**	**-1.2**
	15nm,0.5s,baz=347,slow=12,SNR=33						
	15nm,0.5s						
WRKA	**Warakurna**	**21.11**	**181**	P	**P**	**21 45 44.2**	**-0.9**
MKAR	**Makanchi Array**	**64.80**	**327**	P	**P**	**21 51 33.5**	**-3.0**
	0.3nm,0.4s,baz=117,slow=7.2,SNR=10						
	0.3nm,0.4s						

*KRSC **14** 21:52:17.9±0.5, 55°.59N×162°.44E, h79km±10km, Mc4.6, Ml4.4*
*NEIC **14** 21:52:18.8±1.7, 55°.7N±0°.1×162°.1E±0°.2, h35km±2km, mb4.4/17, Error ellipse: s-maj=26.6km s-min=16.5km az=139.0*
*MOS **14** 21:52:19.3±0.7, 55°.62N×162°.36E, h72km, mb4.7/7, Error ellipse: s-maj=8.5km s-min=4.7km az=74.0*
*IDC **14** 21:52:22.2±3.0, 55°.60N×162°.18E, h80km±29km, mb3.6/11, mbtmp3.9/13, Error ellipse: s-maj=21.5km s-min=16.3km az=141.0*
ISC 14 21:52:21.0±0.7, **55°.60N**±0°.03×**162°.37E**±0°.03, **h67**km±7km, **n132**, σ1§**09**/145, **mb4.2**/22, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.66**	**22**	*e*P	**Pn**	**21 52 34.0**	**-1.2**
KBTR	**Krutoberegovo**	**0.66**	**22**	PN	**Pn**	**21 52 34.0**	**-1.2**
KBG	**Krutoberegovo**	**0.68**	**16**	*e*P	**Pn**	**21 52 34.3**	**-1.2**
KBG				*e*S	**Sn**	**21 52 46.7**	**+0.6**
KBG	**Krutoberegovo**	**0.68**	**16**	PN	**Pn**	**21 52 34.2**	**-1.2**
KBG				S	**Sn**	**21 52 46.7**	**+0.6**
ZLN	**Zelenaya**	**0.98**	**296**	*e*P	**Pn**	**21 52 38.4**	**-0.7**
ZLN	**Zelenaya**	**0.98**	**296**	PN	**Pn**	**21 52 38.4**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**1.00**	**291**	*e*P	**Pn**	**21 52 38.4**	**-1.1**
BZGR	**Bezymyannyi-Gr**	**1.00**	**291**	PN	**Pn**	**21 52 38.4**	**-1.1**
CIRR	**Tsirk**	**1.05**	**300**	*e*P	**Pn**	**21 52 38.7**	**-1.4**
CIRR	**Tsirk**	**1.05**	**300**	PN	**Pn**	**21 52 38.6**	**-1.4**
SMKR	**Semkarok**	**1.11**	**333**	*i* P	**Pn**	**21 52 40.1**	**-0.7**
SMKR	**Semkarok**	**1.11**	**333**	PN	**Pn**	**21 52 40.1**	**-0.7**
BZMR	**Bezymyannaya**	**1.11**	**288**	*e*P	**Pn**	**21 52 39.9**	**-1.1**
BZMR	**Bezymyannaya**	**1.11**	**288**	PN	**Pn**	**21 52 39.8**	**-1.1**
TUMD	**Tumrok D**	**1.19**	**251**	*e*P	**Pn**	**21 52 40.7**	**-1.1**
TUMD				*e*S	**Sn**	**21 52 56.3**	**-1.0**
KIRR	**Kirishev**	**1.20**	**288**	*e*P	**Pn**	**21 52 41.3**	**-0.7**
KIRR				*e*S	**Sn**	**21 52 58.1**	**+0.4**
KIRR	**Kirishev**	**1.20**	**288**	PN	**Pn**	**21 52 41.3**	**-0.7**
KIRR				S	**Sn**	**21 52 58.1**	**+0.4**
KLY	**Klyuchi**	**1.20**	**307**	*e*P	**Pn**	**21 52 39.8**	**-2.1**
KLY				*e*S	**Sn**	**21 52 55.2**	**-2.4**
KLY	**Klyuchi**	**1.20**	**307**	PN	**Pn**	**21 52 39.8**	**-2.1**
KLY				S	**Sn**	**21 52 55.1**	**-2.4**
KMNR	**Kamenistaya**	**1.22**	**278**	*e*P	**Pn**	**21 52 41.7**	**-0.5**
KMNR	**Kamenistaya**	**1.22**	**278**	PN	**Pn**	**21 52 41.7**	**-0.5**
SRKR	**Sorokina**	**1.25**	**328**	*e*P	**Pn**	**21 52 42.4**	**-0.2**
SRKR	**Sorokina**	**1.25**	**328**	PN	**Pn**	**21 52 42.4**	**-0.2**
KPT	**Kopyto**	**1.27**	**288**	*e*P	**Pn**	**21 52 42.6**	**-0.2**
KPT	**Kopyto**	**1.27**	**288**	PN	**Pn**	**21 52 42.6**	**-0.2**
TUMR	**Tumrok**	**1.30**	**257**	*e*P	**Pn**	**21 52 43.0**	**-0.4**
TUMR	**Tumrok**	**1.30**	**257**	PN	**Pn**	**21 52 43.0**	**-0.4**
KOZ	**Kozyrevsk**	**1.48**	**289**	*e*P	**Pn**	**21 52 45.6**	**0.0**
KOZ	**Kozyrevsk**	**1.48**	**289**	PN	**Pn**	**21 52 45.6**	**0.0**
BKI	**Bering**	**2.09**	**99**	*e*P	**Pn**	**21 52 52.6**	**-1.2**
BKI				*e*S	**Sn**	**21 53 16.8**	**-2.0**
BKI	**Bering**	**2.09**	**99**	PN	**Pn**	**21 52 52.6**	**-1.2**
BKI				S	**Sn**	**21 53 16.8**	**-2.0**
ESO	**Esso**	**2.10**	**280**	*e*P	**Pn**	**21 52 53.6**	**-0.4**
ESO	**Esso**	**2.10**	**280**	PN	**Pn**	**21 52 53.5**	**-0.4**
SPN	**Mys Shipunski**	**2.86**	**210**	*e*P	**Pn**	**21 53 02.1**	**-2.1**
SPN				*e*S	**Sn**	**21 53 34.9**	**-2.5**
SPN	**Mys Shipunski**	**2.86**	**210**	PN	**Pn**	**21 53 02.1**	**-2.1**
SPN				S	**Sn**	**21 53 34.9**	**-2.5**
TIGL	**Tigil**	**2.98**	**318**	*e*P	**Pn**	**21 53 04.8**	**-1.0**
NLC	**Nalytchevo**	**3.01**	**217**	*e*P	**Pn**	**21 53 05.2**	**-1.0**
NLC				*e*S	**Sn**	**21 53 39.4**	**-1.7**
NLC	**Nalytchevo**	**3.01**	**217**	PN	**Pn**	**21 53 05.2**	**-1.0**
NLC				S	**Sn**	**21 53 39.3**	**-1.7**
SDLR	**Sedlovina**	**3.09**	**223**	*e*P	**Pn**	**21 53 07.4**	**0.0**
SDLR	**Sedlovina**	**3.09**	**223**	PN	**Pn**	**21 53 07.4**	**0.0**
KRX	**Arik**	**3.12**	**226**	*e*P	**Pn**	**21 53 08.6**	**+0.7**
KRX	**Arik**	**3.12**	**226**	PN	**Pn**	**21 53 08.6**	**+0.7**
KRER	**Koryakskii**	**3.12**	**224**	*e*P	**Pn**	**21 53 08.3**	**+0.2**
KRER	**Koryakskii**	**3.12**	**224**	PN	**Pn**	**21 53 08.2**	**+0.2**
SMAR	**Somma**	**3.13**	**223**	*e*P	**Pn**	**21 53 08.2**	**+0.1**
SMAR	**Somma**	**3.13**	**223**	PN	**Pn**	**21 53 08.2**	**+0.1**
AVH	**Avacha**	**3.16**	**224**	*e*P	**Pn**	**21 53 08.6**	**+0.2**
AVH	**Avacha**	**3.16**	**224**	PN	**Pn**	**21 53 08.5**	**+0.2**
UGLR	**Uglovaya**	**3.17**	**222**	*e*P	**Pn**	**21 53 08.6**	**0.0**
UGLR	**Uglovaya**	**3.17**	**222**	PN	**Pn**	**21 53 08.5**	**0.0**
KOK	**Koryaka**	**3.18**	**225**	*e*P	**Pn**	**21 53 08.9**	**+0.3**
KOK	**Koryaka**	**3.18**	**225**	PN	**Pn**	**21 53 08.9**	**+0.3**
GNL	**Ganaly**	**3.20**	**235**	*e*P	**Pn**	**21 53 09.4**	**+0.4**
GNL	**Ganaly**	**3.20**	**235**	PN	**Pn**	**21 53 09.4**	**+0.4**
DALK	**Dalny**	**3.33**	**221**	*e*P	**Pn**	**21 53 10.4**	**-0.2**
DALK	**Dalny**	**3.33**	**221**	PN	**Pn**	**21 53 10.4**	**-0.2**
PET	**Petropavlovsk**	**3.38**	**222**		**Pn**	**21 53 10.6**	**-0.6**
PET	**Petropavlovsk**	**3.38**	**222**	*e*P	**Pn**	**21 53 11.1**	**-0.2**
PET				*e*S	**Sn**	**21 53 49.6**	**-0.5**
PET	**Petropavlovsk**	**3.38**	**222**	*e*PN	**Pn**	**21 53 11.0**	**-0.2**
PET				*e*S	**Sn**	**21 53 49.5**	**-0.5**
PET				smax	smax		
	comp=N,276nm,0.5s						
PET				smax	smax		
	comp=E,206nm,0.5s						
OSSR	**Ossora**	**3.68**	**6**	*e*P	**Pn**	**21 53 14.9**	**-0.4**
OSSR				*e*S	**Sn**	**21 53 56.3**	**-1.2**
OSSR	**Ossora**	**3.68**	**6**	PN	**Pn**	**21 53 14.9**	**-0.4**
OSSR				S	**Sn**	**21 53 56.2**	**-1.2**
PEA0B	**Petropavlovsk-**	**3.70**	**229**		**Pn**	**21 53 16.0**	**+0.3**
PEA0B	**Petropavlovsk-**	**3.70**	**229**	PN	**Pn**	**21 53 16.0**	**+0.3**
PETK	**Petropavlovsk-**	**3.70**	**229**		**Pn**	**21 53 15.1**	**-0.6**
PETK	**Petropavlovsk-**	**3.70**	**229**	P	**Pn**	**21 53 15.8**	**+0.1**
	comp=E,14nm,0.5s,baz=49,slow=14,SNR=23						
PETK				S	**Sn**	**21 54 01.6**	**+3.6**
	comp=E,12nm,0.5s,baz=24,slow=19,SNR=1.2						
PETK	**Petropavlovsk-**	**3.70**	**229**	PN	**Pn**	**21 53 15.1**	**-0.6**
KRMR	**Karymshinskiy**	**3.73**	**224**	*e*P	**Pn**	**21 53 16.2**	**+0.1**
KRMR	**Karymshinskiy**	**3.73**	**224**	PN	**Pn**	**21 53 16.1**	**+0.1**
PALN	**Palana**	**3.73**	**341**	*e*P	**Pn**	**21 53 16.2**	**+0.1**
PALN	**Palana**	**3.73**	**341**	PN	**Pn**	**21 53 16.1**	**+0.1**
RUS	**Russkaya**	**3.90**	**217**	*i* P	**Pn**	**21 53 18.0**	**-0.4**
RUS	**Russkaya**	**3.90**	**217**	PN	**Pn**	**21 53 18.0**	**-0.4**
GRL	**Gorelyy**	**3.96**	**221**	*e*P	**Pn**	**21 53 20.9**	**+1.4**
GRL	**Gorelyy**	**3.96**	**221**	PN	**Pn**	**21 53 20.8**	**+1.4**
MTVR	**Mutnovka**	**3.98**	**220**	*e*P	**Pn**	**21 53 20.3**	**+0.7**
MTVR	**Mutnovka**	**3.98**	**220**	PN	**Pn**	**21 53 20.3**	**+0.7**
ASAK	**Asacha**	**4.16**	**221**	*e*P	**Pn**	**21 53 22.6**	**+0.5**
ASAK	**Asacha**	**4.16**	**221**	PN	**Pn**	**21 53 22.5**	**+0.5**
TILK	**Tilichiki**	**5.26**	**21**	*e*P	**Pn**	**21 53 36.8**	**-0.1**
TILK	**Tilichiki**	**5.26**	**21**	PN	**Pn**	**21 53 36.7**	**-0.1**
JKA	**Kamikawa-asahi**	**17.09**	**236**		**Pn**	**21 56 15.5**	**+0.3**
ASAJ	**Asahikawa**	**17.09**	**236**	P	**Pn**	**21 56 15.0**	**-0.2**
	comp=E.5.1nm,0.6s,baz=59,slow=2.6,SNR=4.1						
ASAJ	**Asahikawa**	**17.09**	**236**	P	**Pn**	**21 56 15.5**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,25nm,1.2s						
YAK	**Yakutsk**	**17.96**	**304**	*i* P	**Pn**	**21 56 25.2**	**-0.5**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ERM	**Erimo**	**18.48**	**231**	P	**P**	**21 56 29.4**	**-2.0**
ERM	**Erimo**	**18.48**	**231**	P	**P**	**21 56 29.4**	**-2.0**
ERM				pmax	pmax		
	comp=Z,79nm,1.2s						
K15K	**Wolf Creek Mou**	**19.58**	**55**	P	**P**	**21 56 45.2**	**+2.1**
N15K	**Kwethluk River**	**20.27**	**62**	P	**P**	**21 56 53.2**	**+2.5**
N15K				IAmb	IAmb	21 56 54.6	
	comp=Z,14nm,0.9s						
M16K	**Timber Creek**	**20.79**	**59**	P	**P**	**21 56 58.0**	**+1.7**
M16K				IAmb	IAmb	21 57 04.3	
	comp=Z,24nm,1.4s						
C18K	**Utukok River**	**21.04**	**37**	P	**P**	**21 57 00.0**	**+1.0**
C18K				IAmb	IAmb	21 57 26.9	
	comp=Z,16nm,1.3s						
TIXI	**Tiksi**	**21.43**	**331**	P	**P**	**21 57 03.0**	**-0.1**
TIXI	**Tiksi**	**21.43**	**331**	P	**P**	**21 57 03.1**	**+0.1**
	comp=Z,6.8nm,0.7s,baz=123,slow=8.9,SNR=19						
	comp=Z,6.8nm,0.7s						
TIXI	**Tiksi**	**21.43**	**331**	P	**P**	**21 57 03.0**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
B20K	**Meade River**	**22.84**	**35**	P	**P**	**21 57 18.0**	**-0.1**
IMAR	**Indian Mountai**	**23.27**	**46**	P	**P**	**21 57 23.1**	**+0.7**
Q19K	**Cape Douglas,**	**23.69**	**64**	P	**P**	**21 57 27.2**	**+0.9**
Q19K				IAmb	IAmb	21 57 46.8	
	comp=Z,34nm,1.2s						
D22K	**Ayikyak River**	**24.09**	**39**	P	**P**	**21 57 30.5**	**+0.8**
D22K				IAmb	IAmb	21 57 44.1	
	comp=Z,16nm,1.5s						
KDAK	**Kodiak Island**	**24.49**	**66**	P	**P**	**21 57 33.6**	**+0.1**
KDAK	**Kodiak Island**	**24.49**	**66**	P	**P**	**21 57 33.9**	**+0.5**
	comp=Z,7.2nm,0.8s,baz=148,slow=2.7,SNR=5.5						
	comp=Z,7.2nm,0.8s						
KDAK	**Kodiak Island**	**24.49**	**66**	P	**P**	**21 57 33.6**	**+0.1**
KDAK				pmax	pmax		
	comp=Z,39nm,1.3s						
SUA	**Susitna One**	**24.71**	**57**	P	**P**	**21 57 36.2**	**+0.6**
SUA				IAmb	IAmb	21 57 45.9	
	comp=Z,9.7nm,1.1s						
MJAR	**Matsushiro Arr**	**25.16**	**231**	P	**P**	**21 57 39.1**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=31,slow=7.5,SNR=5.2						
	comp=Z,1.9nm,0.7s						
ILAR	**Eielson Array**	**26.13**	**49**	P	**P**	**21 57 48.7**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=256,slow=6.4,SNR=6.5						
	comp=Z,0.7nm,0.8s						
SCM	**Sheep Creek Mo**	**26.27**	**56**	P	**P**	**21 57 50.7**	**+1.1**
SCM				IAmb	IAmb	21 58 01.1	
	comp=Z,11nm,1.1s						
SCM	**Sheep Creek Mo**	**26.27**	**56**	P	**P**	**21 57 50.7**	**+1.1**
SCM				pmax	pmax		
	comp=Z,11nm,1.1s						
BMAR	**Burnt Mountain**	**26.97**	**43**	P	**P**	**21 57 57.1**	**+1.2**
GLB	**Gilahina Butte**	**27.99**	**56**	P	**P**	**21 58 06.2**	**+1.1**
GLB				IAmb	IAmb	21 58 33.6	
	comp=Z,11nm,1.4s						
BCAR	**Beaver Creek A**	**28.59**	**52**	P	**P**	**21 58 11.2**	**+0.8**
INK	**Inuvik**	**31.08**	**40**	P	**P**	**21 58 33.3**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=310,slow=6.4,SNR=1.4						
	comp=Z,0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**35.97**	**173**	T	T	22 38 23.8	
	baz=357,slow=76,SNR=9.9						
H11N3	**WAKE ISLAND Hy**	**35.99**	**173**	T	T	22 38 30.3	
	baz=357,slow=76,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**35.99**	**173**	T	T	22 38 21.4	
	baz=357,slow=76,SNR=8.2						
EUNU	**Eureka**	**39.19**	**15**	P	**P**	**21 59 43.1**	**+1.3**
KURK	**Kurchatov**	**47.56**	**301**	P	**P**	**22 00 48.5**	**-0.8**
KURBB	**Kurchatov Arra**	**47.66**	**301**	P	**P**	**22 00 48.5**	**-1.6**
	comp=Z,0.5nm,0.4s,baz=56,slow=7.9,SNR=3.7						
	comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array**	**48.28**	**295**	P	**P**	**22 00 54.4**	**-0.7**
MKAR	**Makanchi Array**	**48.28**	**295**	P	**P**	**22 00 53.9**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=39,slow=6.8,SNR=4.2						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**48.28**	**295**	P	**P**	**22 00 54.4**	**-0.7**
MAKZ	**Makanchi**	**48.44**	**295**	P	**P**	**22 00 55.5**	**-0.7**
MAKZ	**Makanchi**	**48.44**	**295**	P	**P**	**22 00 55.5**	**-0.7**
MAKZ				pmax	pmax		
	comp=Z,13nm,1.4s						
BVAR	**Borovoye Array**	**49.88**	**308**	P	**P**	**22 01 05.8**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=61,slow=7.6,SNR=9.0						
	comp=Z,0.9nm,0.4s						
BRVK	**Borovoye**	**49.91**	**308**	P	**P**	**22 01 06.3**	**-1.0**
BRVK				IAmb	IAmb	22 01 33.1	
	comp=Z,4.3nm,0.9s						
BRVK	**Borovoye**	**49.91**	**308**	P	**P**	**22 01 06.3**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARTI	**Arti**	**52.55**	**317**	*i* P	**P**	**22 01 27.5**	**+0.4**
ARTI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
AAK	**Ala-Archa**	**55.17**	**296**	*i* P	**P**	**22 01 44.8**	**-1.7**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SPR3	**Spring Creek 3**	**55.42**	**70**	P	**P**	**22 01 51.7**	**+3.1**
FINES	**FINESS Array B**	**58.34**	**337**	P	**P**	**22 02 08.4**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=38,slow=8.0,SNR=15						
	comp=Z,1.6nm,0.4s						
AKASG	**Malin Array Be**	**67.13**	**330**	P	**P**	**22 03 06.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=28,slow=6.8,SNR=4.7						
	comp=Z,0.4nm,0.3s						
CLL	**Collm**	**70.46**	**340**	*i* P	P	22 03 33.2	+5.4
CLL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CLL	**Collm**	**70.46**	**340**	*i* P	P	22 03 33.2	+5.4
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**78.92**	**207**	P	**P**	**22 04 16.5**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=18,slow=5.2,SNR=2.0						
	comp=Z,0.5nm,0.8s						
QSPA	**South Pole Qui**	**145.35**	**180**	PKPbc	**PKPdf**	**22 11 48.8**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=47,slow=2.0,SNR=6.9						

*TEH **14** 22:01:08.9, 34°.66N×46°.30E, h10km±18km, ML2.8*
*ISN **14** 22:01:08.7±2.5, 34°.66N×46°.25E, h10km, ML2.7*
ISC 14 22:01:08.7±1.0, **34°.66N**±0°.05×**46°.28E**±0°.04, **h11**km±8km, **n10**, σ0§**49**/16, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.10**	**63**	Pg	**Pg**	**22 01 11.6**	**0.0**
IDHR				Sg	**Sg**	**22 01 13.7**	**-0.1**
IGHG	**Ghaleghazi**	**0.40**	**144**	Pg	**Pg**	**22 01 17.1**	**+0.4**
IGHG				Sg	**Sb**	**22 01 24.0**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.59**	**256**	Pg	**Pb**	**22 01 21.3**	**+0.4**
ILIN	**Lien**	**0.62**	**65**	Pg	**Pg**	**22 01 20.8**	**0.0**
ILIN				Sg	**Sb**	**22 01 30.4**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.62**	**210**	Pg	**Pb**	**22 01 21.4**	**-0.2**
GLG1				Sg	**Sb**	**22 01 30.7**	**+0.4**
KCHF	**Cheshme Sefid,**	**0.73**	**121**	Pg	**Pg**	**22 01 22.5**	**-0.4**
KCHF				Sg	**Sb**	**22 01 33.7**	**+0.1**
ILBA	**Ilam Banvizeh**	**1.03**	**183**	Pg	**Pb**	**22 01 28.8**	**+0.3**
SNQR	**Sonqor, Kerman**	**1.13**	**79**	Pg	**Pn**	**22 01 30.8**	**+0.2**
IBZA	**Bozab**	**1.32**	**98**	Pg	**Pb**	**22 01 33.8**	**+0.3**
IKRK	**Kirkuk**	**1.76**	**296**	*e*Pg	**Pn**	**22 01 38.0**	**-1.0**
	baz=115						
IKRK				*e*Sg	**Sb**	**22 02 04.0**	**+1.0**
IKRK				AML	AML	22 02 10.3	
	comp=N,142nm,0.3s						
IKRK				AML	AML	22 02 10.5	
	comp=E,70nm,0.4s						

*IDC **14** 22:27:17.9±1.4, 7°.18S×120°.62E, h424km±14km, mb2.9/3, mbtmp3.7/7, Error ellipse: s-maj=82.4km s-min=14.0km az=57.0*
ISC 14 22:27:17.0±1.2, **7°.3S**±0°.2×**120°.3E**±0°.4, **h400**km, **n8**, σ1§**96**/8, **mb3.4**/3, **Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.35**	**346**	P	**Pn**	**22 28 18.4**	**+3.0**
	5.8nm,0.3s,baz=158,slow=8.0,SNR=7.2						
BATI	**Baumata**	**4.38**	**131**	P	**Pn**	**22 28 34.0**	**+1.2**
	23nm,0.2s,baz=101,slow=3.8,SNR=2.5						
BATI				S	**S**	**22 29 35.5**	**+1.1**
	36nm,0.3s,baz=280,slow=22,SNR=14						
FITZ	**Fitzroy Crossi**	**11.91**	**155**	P	**P**	**22 29 56.0**	**+0.3**
	1.7nm,0.5s,baz=328,slow=11,SNR=7.0						
WRA	**Warramunga Arr**	**18.51**	**134**	P	**P**	**22 31 05.7**	**-1.4**
	1.0nm,0.5s,baz=313,slow=11,SNR=19						
ASAR	**Alice Springs**	**20.84**	**143**	P	**P**	**22 31 28.3**	**-1.0**
	1.1nm,0.4s,baz=318,slow=8.3,SNR=6.4						
SONM	**Songino Array**	**56.27**	**349**	P	**P**	**22 36 15.8**	**-1.9**
	0.2nm,0.5s,baz=163,slow=7.5,SNR=1.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**63.58**	**332**	P	**P**	**22 37 05.7**	**-1.0**
	0.6nm,0.6s,baz=135,slow=6.6,SNR=6.1						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**67.95**	**338**	P	P	22 37 32.1	-1.9
	0.4nm,0.3s,baz=147,slow=6.4,SNR=1.9						
	0.4nm,0.3s						

IDC 14 22:35:40.7±2.0, **16°.65S**×**174°.54W**, **h0**km, **mb4.2**/3, **mbtmp4.2**/3, **MS4.4**/2, **Error ellipse: s-maj=56.8km s-min=43.3km az=22.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.73**	**250**	LR	LR	22 47 00.8	
	comp=Z,895nm,18.1s,baz=54,slow=36						
WRA	**Warramunga Arr**	**48.50**	**258**	P	P	22 44 25.6	-0.2
	0.8nm,0.7s,baz=94,slow=8.3,SNR=14						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**48.69**	**253**	P	P	22 44 27.2	0.0
	3.5nm,0.7s,baz=86,slow=8.3,SNR=8.7						
	3.5nm,0.7s						
QSPA	**South Pole Qui**	**73.40**	**180**	P	P	22 47 14.6	+0.1
	3.8nm,0.9s,baz=27,slow=4.5,SNR=8.7						
	3.8nm,0.9s						
PFO	**Pinyon Flats O**	**74.57**	**47**	LR	LR	23 10 53.0	
	comp=Z,270nm,21.9s,baz=19,slow=28						
GERES	**GERESS Array B**	**147.19**	**350**	PKPbc	PKPbc	22 55 25.3	-0.8
	0.8nm,0.6s,baz=350,slow=2.3,SNR=4.1						

*ATH **14** 22:37:02.0, 37°.51N×20°.52E, h16km±3km, ML2.5/2, Error ellipse: s-maj=5.4km s-min=2.4km az=64.0*
*THE **14** 22:37:01.9, 37°.54N×20°.54E, h26km, ML2.7/4, Error ellipse: s-maj=2.5km s-min=0.8km az=59.0*
ISC 14 22:37:01.3±2.3, **37°.51N**±0°.09×**20°.5E**±0°.1, **h23**km±15km, **n18**, σ0§**65**/29, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.28**	**58**	P	**Pb**	**22 37 07.3**	**-0.5**
KRI1				S	**Sb**	**22 37 12.9**	**+0.7**
	2μm,0.2s						
LTHK	**Lithakia**

KZN	Kozani	1.65	107	P		Pn	22 42 16.3	-0.6
KZN				S		Sn	22 42 38.3	-0.3
comp=E,142nm,0.5s								
PDG	Podgorica	1.66	348	*e*Pg		Pn	22 42 16.2	-0.8
PDG				*e*Sg		Sg	22 42 40.5	+0.3
PDG	Podgorica	1.66	348	*i* Pn		Pg	22 42 19.1	+0.3
PDG	Podgorica	1.66	348	⇑*i*Pg		Pn	22 42 17.6	+0.6
PDG				*i* Sg		Sg	22 42 41.1	+0.9
PVY	Plav	1.79	6	⇓*i*Pn		Pb	22 42 20.4	-0.2
PVY				*i* Sn		Sg	22 42 44.9	+0.2
CEME	Cevo	1.83	341	⇑*i*Pn		Pn	22 42 18.5	-1.0
CEME				*i* Sn		Sb	22 42 45.3	+0.6
HCY	Herceg Novi	1.88	331	⇓*i*Pn		Pn	22 42 19.3	-0.7
HCY				*i* Sn		Sb	22 42 46.5	+0.8
KTI	Kastanea	1.88	102	P		Pn	22 42 19.4	-0.7
NKME	Niksic	2.04	344	⇑*i*Pn		Pn	22 42 23.6	+1.3
NKME				*i* Sn		Sb	22 42 50.7	+0.2
KOME	Kolasin	2.04	356	*e*Pn		Pn	22 42 23.7	+1.3
KOME				*i* Sn		Sb	22 42 50.8	+0.1
BEY	Berane	2.06	4	*i* Pn		Pb	22 42 24.2	-1.0
IVA	Berane	2.06	4	⇓*i*Pn		Pb	22 42 24.0	-1.2
IVA				*i* Sn		Sb	22 42 51.6	+0.3
TREB	Trebinje	2.16	332	*e*Pn		Pn	22 42 23.8	-0.1
VAY	Valandovo	2.22	76	*i* Pn		Pn	22 42 26.0	+1.3
BRY	Bratogost	2.27	338	*e*Pn		Pn	22 42 26.4	+0.9
BRY				*e*Sn		Sb	22 42 56.0	-1.2
SJES	Sjenica	2.46	4	*e*Pn		Pn	22 42 29.2	+1.1
SJES				*e*Sg		Sg	22 43 05.4	-0.6
BARS	Barje	2.55	37	*e*Pn		Pn	22 42 29.7	+0.5
SELS	Selova	2.63	23	*e*Pn		Pn	22 42 31.3	+1.0
SELS				*e*Sn		Sn	22 43 02.8	+0.1
BOSS	Bosilegrad	2.67	50	*e*Pn		Pn	22 42 31.2	+0.2
SOH	Sokhos	2.76	89	*i* Pn		Pn	22 42 33.4	+1.2
KKB	Krupnik	2.77	67	*i* Pn		Pn	22 42 33.7	+1.3
IVAS	Ivanjica	2.78	7	*e*Pn		Pn	22 42 32.4	-0.2
BBLS	Lazi&#263i	3.06	356	*e*Pn		Pn	22 42 37.2	+0.8
MMB	Musomishta	3.13	75	*i* Pn		Pn	22 42 38.7	+1.3
GRUS	Gruza	3.17	13	*e*Pn		Pn	22 42 37.0	-0.7
BOVS	Bovan	3.19	27	*e*Pn		Pn	22 42 37.5	-0.5
ZAPS	Zavoj	3.29	40	*e*Pn		Pn	22 42 39.3	-0.1
ZAPS				*e*Sn		Sn	22 43 17.8	-1.2
DIVS	Divibare	3.29	3	*e*Pn		Pn	22 42 39.9	+0.3
ZAGS	Zajecar	3.54	31	*e*Pn		Pn	22 42 42.3	-0.5
ZAGS				*e*Sn		Sn	22 43 24.5	-0.6
KUBS	Kucevo	3.88	21	*e*Pn		Pn	22 42 47.1	-0.5

IDC ***14*** *23:01:18.5±0.3,2°.93S×119°.22E,h0km,mb4.7/24, mbtmp4.7/28,ML4.4/4,MS4.9/58,Error ellipse: s-maj=12.4km s-min=6.6km az=61.0*

MOS ***14*** *23:01:19.0±1.0,2°.85S×119°.40E,h15km,mb5.5/65, MS5.0/34,Error ellipse: s-maj=10.0km s-min=4.5km az=121.1*

NEIC ***14*** *23:01:20.7,2°.92S×119°.60E,h18km,Moment Tensor Solution. Duration:3s1 Moment tensor: Scale 10^17^Nm; Mrr=1.41; Mθθ1.41; Mφφ0.00; Mrθ0.45; Mθφ1.72; Mφr0.84; Fault plane solution: M0 2.30000×10^17^ NP1: φs=210.37000°,δ63.40000°,λ-124.90000°. NP2: φs=87.67000°,δ42.84000°,λ-41.20000°. Principal axes: T 2.7383, Plg12.0000°, Azm325.0000°; N -0.8843, Plg31.0000°, Azm228.0000°; P -1.8540, Plg57.0000°, Azm73.0000°;*

NEIC ***14*** *23:01:20.7,2°.92S×119°.40E,h18km*

GCMT ***14*** *23:01:21.8±0.1,2°.83S±0°.01×119°.49E±0°.01,h12km, MW5.5/151,Moment Tensor Solution. s86,c137; s151,c299; Duration: 1s4 Moment tensor: Scale 10^17^ Nm; Mrr=1.28±.03; Mθθ1.29±.03; Mφφ-0.01±.03; Mrθ1.17±.09; Mθφ1.79±.02; Mφr1.03±.10; Best double couple: M0 2.48300×10^17^ NP1:φs=223.00000°,δ66.00000°, λ-105.00000°. NP2:φs=77.00000°,δ28.00000°, λ-60.00000°. Principal axes: T 3.0940, Plg20.0000°, Azm324.0000°; N -1.2220, Plg14.0000°, Azm229.0000°; P -1.8720, Plg66.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***14*** *23:01:21.8±1.7,2°.91S±0°.05×119°.39E±0°.06,h14km±3km, mb5.4/121,Ms_20 5.2/167,Mww5.5/45 Error ellipse: s-maj=8.3km s-min=7.2km az=70.0*

DJA ***14*** *23:01:22.0±0.1,3°S±1°×11°9E±°,h10km,M5.4/101, mb5.3/101,mB5.8/76,MLv5.6/34,Mw5.4/141, Mw(mB)5.4/76,MwMwp5.3/30,Mwp5.5/30*

ISC 14 23:01:21.5±0.5,2°.89S±0°.03×119°.44E±0°.04,h16km±2km, h16km:pP-P,n702,σ2°09/749,mb5.3/195,MS5.1/171, 15C-5D,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
TTSI	Tana Toraja	0.41	112	P	Pg	23 01 27.5	-2.3
TTSI				S	Sg	23 01 33.8	-1.7
SPSI	Sidrap Palu	1.12	163	P	Pb	23 01 39.0	-3.5
BNSI	Bone	1.64	156	P	Pn	23 01 48.5	-1.3
PCI	Palu	2.01	11	P	Pn	23 01 55.8	+0.9
KAPI	Kappang	2.13	172	Pn	Pn	23 01 55.0	-1.5
KAPI				Sn	Sn	23 02 24.4	+1.6
KAPI	Kappang	2.13	172	Pn	Pn	23 01 55.6	-1.0
430nm,0.3s,baz=345,slow=15,SNR=151							
KAPI				Sn	Sn	23 02 22.8	0.0
645nm,0.3s,baz=95,slow=21,SNR=6.0							
KAPI				LR	LR	23 02 33.2	
comp=Z,19μm,18.3s,baz=274,slow=35 2μm,0.4s							
KAPI	Kappang	2.13	172	P	Pn	23 01 55.3	-1.3
KAPI				S	Sb	23 02 25.6	-0.6
KAPI	Kappang	2.13	172	P	Pn	23 01 56.2	-0.4
KAPI	Kappang	2.13	172	P	Pn	23 01 55.1	-1.5
KAPI						23 02 24.4	
APSI	Ampana	2.96	48	P	Pn	23 02 08.0	+0.1
BKB	Balikpapan	3.01	302	Pn	Pn	23 02 09.3	+0.6
BKB	Balikpapan	3.01	302	P	Pn	23 02 10.2	+1.5
BKB	Balikpapan	3.01	302	P	Pn	23 02 08.7	0.0
SMKI	Samarinda	3.30	317	P	Pn	23 02 12.2	-0.4
KDI	Kendari	3.35	109	P	Pn	23 02 14.4	+1.1
BSSI	Bau Bau, Buton	3.40	162	P	Pn	23 02 13.0	-1.0
LUWI	Luwuk	3.80	61	Pn	Pn	23 02 19.3	-0.3
LUWI	Luwuk	3.80	61	P	Pn	23 02 20.1	+0.5
LUWI	Luwuk	3.80	61	P	Pn	23 02 19.4	-0.2
BBSI	Bau Bau	4.05	130	P	Pn	23 02 24.1	+1.1
MRSI	Marisa	4.18	37	P	Pn	23 02 24.2	-0.5
TOLI2	Tolitoli	4.20	19	Pn	Pn	23 02 26.3	+1.3
TOLI2	Tolitoli	4.20	19	P	Pn	23 02 27.8	+2.8
MTKI	Muara Teweh, K	4.94	293	P	Pn	23 02 35.2	0.0
KMSI	Cibinong	5.70	53	P	Pn	23 02 47.5	+1.9
PLAI	Plampang	6.13	196	P	Pn	23 02 52.5	+1.0
PLAI	Plampang	6.13	196	P	Pn	23 02 49.9	-1.6
224nm,0.7s,4μm12μm2.0nm							
MMRI	Maumere	6.35	154	Pn	Pn	23 02 55.0	+0.4
MMRI	Maumere	6.35	154	P	Pn	23 02 55.1	+0.5
438nm,1.6s							
MMRI	Maumere	6.35	154	P	Pn	23 02 55.7	+1.1
436nm,1.7s,8μm1.9nm							
SANI	Sanana	6.60	83	P	Pn	23 02 57.5	-0.5
SANI	Sanana	6.60	83	P	Pn	23 02 56.6	-1.4
212nm,1.0s,4μm1.3nm							
SRBI	Singaraja	6.66	219	P	Pn	23 02 56.7	-2.1
WBSI	Waikabubak, Su	6.71	180	P	Pn	23 02 58.3	-1.2
1μm,1.1s,9μm3.7nm							
WSI	Waingapu	6.79	173	P	Pn	23 03 02.0	+1.4
KMMI	Kalianget	6.84	233	P	Pn	23 03 02.5	+1.2
146nm,0.7s,6μm10μm2.8nm							
ABJI	Asem Bagus	7.11	227	P	Pn	23 03 06.1	+1.0
DNP	Denpasar	7.12	216	P	Pn	23 03 06.5	+1.3
BASI	Baing, Sumba	7.37	171	P	Pn	23 03 10.2	+1.6
JAGI	Jajag, Banyuwa	7.64	223	Pn	Pn	23 03 10.7	-1.6
JAGI	Jajag, Banyuwa	7.64	223	P	Pn	23 03 12.4	0.0
175nm,0.9s							
JAGI	Jajag, Banyuwa	7.64	223	P	Pn	23 03 10.3	-2.1
177nm,0.9s,0.7nm							
NLAI	Namlea	7.66	93	P	Pn	23 03 15.9	+3.3
389nm,1.1s,5μm1.3nm							
GRJI	Gresik	8.00	240	P	Pn	23 03 18.0	+0.7
135nm,0.9s,4μm1.4nm							
GMJI	Gumukmas	8.01	228	P	Pn	23 03 16.9	-0.5
MYLDM	Lahad Datu	8.07	353	Pn	Pn	23 03 20.0	+1.8
MYLDM	Lahad Datu	8.07	353	P	Pn	23 03 20.6	+2.4
675nm,0.8s							
SOEI	Soe	8.34	145	Pn	Pn	23 03 22.8	+0.8
SOEI	Soe	8.34	145	P	Pn	23 03 24.2	+2.2
834nm,1.7s							
SOEI	Soe	8.34	145	P	Pn	23 03 25.2	+3.2
835nm,1.7s,15μm23μm							
LBMI	Labuha	8.36	75	P	Pn	23 03 23.3	+1.0
BATI	Baumata	8.39	150	Pn	Pn	23 03 25.6	+2.9
6.3nm,0.3s,baz=330,slow=0.8,SNR=20							
BATI				LR	LR	23 07 05.2	
comp=Z,26μm,20.3s,baz=354,slow=41							
BATI	Baumata	8.39	150	P	Pn	23 03 26.6	+3.9
315nm,1.0s,8μm15μm							
STKI	Sintang	8.48	290	P	Pn	23 03 25.2	+1.3
150nm,0.8s,8μm							
TNTI	Ternate	8.72	65	Pn	Pn	23 03 26.7	-0.4
TNTI	Ternate	8.72	65	P	Pn	23 03 28.0	+0.8
231nm,1.0s							
TNTI	Ternate	8.72	65	P	Pn	23 03 27.7	+0.5
232nm,1.0s,2μm							
SBUM	Sibu	8.96	306		Pn	23 03 30.1	-0.3
SBUM	Sibu	8.96	306	P	Pn	23 03 31.7	+1.3
37nm,0.9s							
NGJI	Ngawi	9.11	240	P	Pn	23 03 34.7	+2.3
89nm,1.0s							
PWJI	Pagerwojo	9.15	236	P	Pn	23 03 35.0	+1.9
KKM	Kota Kinabalu	9.44	340	Pn	Pn	23 03 38.4	+1.2
KKM	Kota Kinabalu	9.44	340	P	Pn	23 03 40.0	+2.9
177nm,0.8s							
MSAI	Masohi	9.49	93	P	Pn	23 03 41.1	+3.4
334nm,1.9s,6μm							
PCJI	Pacitan	9.77	237	P	Pn	23 03 44.7	+3.2
142nm,1.2s,3μm							
SMRI	Semarang	9.87	245	Pn	Pn	23 03 43.7	+0.8
SMRI	Semarang	9.87	245	P	Pn	23 03 44.8	+1.9
141nm,1.5s							
SMRI	Semarang	9.87	245	P	Pn	23 03 46.0	+3.1
139nm,1.5s,7μm							
KSM	Kuching	10.11	295		Pn	23 03 45.7	-0.5
KSM	Kuching	10.11	295	P	Pn	23 03 48.6	+2.4
52nm,1.3s							
UGM	Wanagama	10.18	240	P	Pn	23 03 48.7	+1.5
189nm,1.5s							
BNDI	Bandanaira	10.57	99	P	Pn	23 03 55.2	+2.7
BNDI	Bandanaira	10.57	99	P	Pn	23 03 56.8	+4.3
KPJI	Karang Pucung	11.36	247	P	Pn	23 04 06.0	+2.7
91nm,1.2s							
DAV	Davao City (W)	11.64	32	Pn	Pn	23 04 08.8	+1.7
DAV	Davao City (W)	11.64	32	Pn	Pn	23 04 09.3	+2.1
21nm,0.3s,baz=207,slow=2.3,SNR=1.4							
DAV				Sn	Sn	23 06 20.8	+3.8
31nm,0.3s,baz=227,slow=19,SNR=1.5							
86nm,0.4s							
DAV	Davao City (W)	11.64	32	P	Pn	23 04 11.8	+4.6
DAV				P	Pn	23 04 11.8	+4.6
DAV	Davao City (W)	11.64	32	P	Pn	23 04 12.0	+4.8
TPI	Tanjungpandan	11.77	270	P	Pn	23 04 11.0	+2.0
182nm,1.8s,4μm							
CMJI	Cimerak	11.97	246	P	Pn	23 04 14.6	+2.9
SWI	Sorong	11.98	81	P	Pn	23 04 14.3	+2.4
134nm,1.0s,2μm							
LEM	Lembang	12.41	251	Pn	Pn	23 04 14.5	-3.4
1.6nm,0.3s,baz=69,slow=16,SNR=1.4							
LEM				Lg	Lg	23 07 45.0	
3.3nm,0.3s,baz=95,slow=18,SNR=1.3							
LEM				LR	LR	23 09 16.2	
comp=Z,8μm,18.9s,baz=40,slow=39							
9.6nm,0.3s							
LEM	Lembang	12.41	251	P	Pn	23 04 19.6	+1.7
92nm,1.7s,3μm							
BBJI	Bungbulang	12.59	248	P	Pn	23 04 21.9	+1.7
102nm,1.6s							
FAKI	Fak Fak	12.79	90	Pn	Pn	23 04 23.6	+0.6
FAKI	Fak Fak	12.79	90	P	Pn	23 04 26.1	+3.1
171nm,1.9s							
FAKI	Fak Fak	12.79	90	P	Pn	23 04 25.1	+2.1
171nm,1.9s,4μm							
SAUI	Saumlaki	12.84	114	P	Pn	23 04 25.6	+1.9
995nm,1.1s							
SAUI	Saumlaki	12.84	114	P	Pn	23 04 26.6	+2.9
CNJI	Cibinong	13.02	250	P	Pn	23 04 29.4	+3.3
94nm,1.0s,3μm							
PPBI	Pangkal Pinang	13.31	273	P	Pn	23 04 32.2	+2.2
29nm,0.5s,4μm							
PMBI	Palembang	14.65	269	Pn	Pn	23 04 48.3	-0.1
MTN	Manton Dam	15.22	131		Pn	23 04 55.8	-0.2
MTN				IAmb	IAmb	23 05 00.3	
comp=Z,240nm,1.3s							
MTN	Manton Dam	15.22	131	P	Pn	23 04 54.5	-1.5
MTN	Manton Dam	15.22	131	P	Pn	23 04 57.4	+1.4
comp=Z,144nm,1.3s							
TPRI	Tanjung Pinang	15.38	284	P	P	23 05 01.1	-1.6
comp=Z,121nm,1.6s,comp=Z,3μm							
LWLI	Liwa	15.49	262	P	P	23 05 04.0	-0.1
comp=Z,485nm,1.2s,comp=Z,6μm							
KNRA	Kununurra	15.68	145	Pn	Pn	23 05 01.1	-0.9
KNRA				IAmb	IAmb	23 05 07.3	
comp=Z,272nm,1.6s							
KNRA	Kununurra	15.68	145	P	Pn	23 05 02.4	+0.4
comp=Z,0.0nmcomp=Z,106nm,1.5s							
KDU	Kakadu	16.16	128	P	Pn	23 05 08.1	-0.1
comp=Z,166nm,1.3s							
KDU	Kakadu	16.16	128	P	Pn	23 05 08.1	-0.1
comp=Z,166nm,1.3s							
BTDF	Bukit Timah Da	16.22	285	P	P	23 05 11.4	-0.7
comp=Z,157nm,1.2s							
FITZ	Fitzroy Crossi	16.29	159		Pn	23 05 09.4	-0.5
FITZ	Fitzroy Crossi	16.29	159	Pn	Pn	23 05 07.5	-2.4
comp=Z,0.2nm,0.3s,baz=347,slow=15,SNR=10							
FITZ				Sn	Sn	23 08 12.3	+1.9
comp=Z,0.1nm,0.3s,baz=351,slow=19,SNR=0.8							
FITZ				LR	LR	23 13 19.5	
comp=Z,10μm,18.0s,baz=326,slow=44							
comp=Z,5.4nm,0.8s							
FITZ	Fitzroy Crossi	16.29	159	P	P	23 05 11.7	-1.1
KSI	Kapahiang	16.84	267	P	P	23 05 19.5	+0.5
comp=Z,273nm,1.3s,comp=Z,11μm							
TGY	Tagaytay City	16.95	5	Pn	P	23 05 22.4	+2.2
comp=Z,64nm,0.3s,baz=178,slow=6.7,SNR=5.8							
MBWA	Marble Bar	18.16	179		Pn	23 05 31.6	-1.6
MBWA				IAmb	IAmb	23 05 41.4	
comp=Z,357nm,1.6s							
MBWA	Marble Bar	18.16	179	P	P	23 05 34.7	+1.2
comp=Z,0.0nmcomp=Z,150nm,1.6s							
MBWA	Marble Bar	18.16	179	P	P	23 05 35.5	+2.0
MBWA				P	P	23 05 35.5	+2.0
MBWA				P	P	23 05 35.5	+2.0
MBWA				S	S	23 09 00.1	-1.1
MBWA				S	S	23 09 00.1	-1.1
MBWA				S	S	23 09 00.1	-1.1
MBWA	Marble Bar	18.16	179	P	P	23 05 35.7	+2.2
comp=Z,86nm,1.6s							
I39PW	PALAU INFRASON	18.29	55	I	I	00 50 20.0	
baz=237,slow=310,SNR=1.1							
DLV	Lat	18.32	324	P	Pn	23 05 33.7	-1.7
DLV	Lat	18.32	324	P	P	23 05 38.7	+3.2
comp=Z,58nm,1.4s							
PSAC1	Pilbara Seismi	18.54	179	P	Pn	23 05 39.2	+1.4
comp=Z,157nm,1.2s							
PSA00	Pilbara Seismi	18.57	179	P	P	23 05 37.6	-0.5
PSA00	Pilbara Seismi	18.57	179	P	P	23 05 37.1	-0.9
PSA00				IAmb	IAmb	23 05 46.3	
comp=Z,80nm,1.3s							
PSA00	Pilbara Seismi	18.57	179	P	Pn	23 05 39.6	+1.3
comp=Z,91nm,1.4s							
PSA00	Pilbara Seismi	18.57	179	P	Pn	23 05 40.5	+2.2
comp=Z,109nm,2.0s							
BKNI	Bangkinang	18.67	280	P	Pn	23 05 39.5	0.0
BKNI				IAmb	IAmb	23 05 44.9	
comp=Z,583nm,1.3s							
BKNI	Bangkinang	18.67	280	P	Pn	23 05 43.1	+3.6
comp=Z,424nm,1.1s							
BKNI	Bangkinang	18.67	280	P	Pn	23 05 41.2	+1.7
comp=Z,437nm,1.0s,comp=Z,8μm							
IPM	Ipoh	19.80	292	P	P	23 05 51.8	+0.2
IPM	Ipoh	19.80	292	P	Pn	23 05 53.0	-0.2
comp=Z,148nm,1.6s							
GIRL	Giralia	20.27	194	P	Pn	23 05 57.7	-1.0
GIRL				IAmb	IAmb	23 06 08.0	
comp=Z,219nm,1.1s							
GIRL	Giralia	20.27	194	P	Pn	23 05 59.8	+1.2
comp=Z,212nm,1.1s							
GIRL	Giralia	20.27	194	P	Pn	23 05 59.8	+1.2
SZP	Santa	20.34	3	P	Pn	23 05 59.9	+0.5
comp=Z,127nm,1.1s							
SISI	Saibi	20.39	274	P	P	23 05 56.6	-1.4
comp=Z,605nm,1.0s,comp=Z,6μm							
GENI	Genyem	20.71	90	P	Pn	23 06 03.7	-0.1
comp=Z,424nm,2.2s							
GENI	Genyem	20.71	90	P	Pn	23 06 03.8	0.0
comp=Z,430nm,1.5s,comp=Z,10μmcomp=Z,5μm							
RPSI	Rantau Prapat	21.24	285	P	P	23 06 07.1	-0.1
RPSI				IAMs_20	IAMs_20	23 15 30.7	
comp=Z,6μm,19.0s							
JAY	Jayapura	21.25	90	P	P	23 06 07.8	+0.5
comp=Z,29nm,1.0s,baz=283,slow=14,SNR=2.6							
JAY				S	Sn	23 10 09.0	-1.4
comp=Z,3.6nm,0.4s,baz=319,slow=20,SNR=1.1							
JAY				LR	LR	23 16 16.9	
comp=Z,3μm,20.3s,baz=283,slow=42							
comp=Z,29nm,1.0s							
JAY	Jayapura	21.25	90	P	P	23 06 10.1	+2.8
comp=Z,145nm,1.2s,comp=Z,3μm							
PSI	Prapat	21.27	285	P	P	23 06 09.8	+2.1
comp=Z,198nm,1.3s							
PSI	Prapat	21.27	285	P	P	23 06 07.1	-0.6
PSI				pmax	pmax		
comp=Z,700nm,1.7s							
PSI				MLR	MLR		
comp=Z,6μm,19.0s							
PBSI	Pulau Batu	21.34	277	P	P	23 06 10.3	+2.1
comp=Z,673nm,1.1s							
WB0	Warramunga Arr	22.24	140	P	P	23 06 16.6	-1.4
GSI	Gunungsitoli	22.25	281	P	P	23 06 17.5	-0.6
GSI				IAmb	IAmb	23 06 23.8	
comp=Z,213nm,1.1s							
GSI				IAMs_20	IAMs_20	23 15 24.7	
comp=Z,8μm,18.0s							
GSI	Gunungsitoli	22.25	281	P	P	23 06 20.2	+2.1
comp=Z,224nm,1.6s							
GSI	Gunungsitoli	22.25	281	P	P	23 06 20.0	+1.9
comp=Z,224nm,1.8s,comp=Z,4μm							
WRA	Warramunga Arr	22.34	140	P	P	23 06 17.2	-1.8
WRA	Warramunga Arr	22.34	140	P	P	23 06 17.5	-1.4
comp=Z,166nm,1.1s,baz=320,slow=11,SNR=134							
WRA				PcP	PcP	23 10 13.5	-1.0
comp=Z,1.8nm,0.7s,baz=327,slow=1.9,SNR=2.3							
WRA				S	S	23 10 28.6	+4.4
comp=Z,1.6nm,1.0s,baz=317,slow=16,SNR=4.6							
WRA				LR	LR	23 16 29.7	
comp=Z,6μm,18.9s,baz=316,slow=41							
WRAB	Tennant Creek	22.34	140	P	P	23 06 18.1	-0.8
WRAB				IAmb	IAmb	23 06 27.8	
comp=Z,349nm,1.2s							
WRAB				IAMs_20	IAMs_20	23 16 19.1	
comp=Z,6μm,19.0s							
WRAB	Tennant Creek	22.34	140	*i* P	P	23 06 17.4	-1.5
WRAB				pmax	pmax		
comp=Z,363nm,1.3s							
WRAB				MLR	MLR		
comp=Z,5μm,19.0s							
SRIT	Nakonsritamara	22.83	300	P	P	23 06 24.8	+0.5
SRIT				IAmb	IAmb	23 06 29.4	
comp=Z,107nm,1.0s							
SRIT	Nakonsritamara	22.83	300	P	P	23 06 26.6	+2.3
comp=Z,154nm,2.2s							
SURA	Surathani	23.09	301	P	P	23 06 28.4	+1.5
comp=Z,114nm,1.2s							
WRKA	Warakurna	23.61	160	P	P	23 06 32.0	-0.1
comp=Z,143nm,1.5s							
WRKA	Warakurna	23.61	160	P	P	23 06 34.5	+2.4
comp=Z,143nm,1.5s							
MEEK	Meekatharra	23.63	182	P	P	23 06 31.1	-1.1
comp=Z,329nm,1.6s							
MEEK	Meekatharra	23.63	182	P	P	23 06 34.3	+2.1
comp=Z,329nm,1.6s							
SNSI	Sinabang, Aceh	23.70	283	P	P	23 06 34.5	+1.5
comp=Z,254nm,1.8s,comp=Z,7μm							
QIZ	Qiongzhong	23.74	337	P	P	23 06 34.1	+0.8
QIZ				IAmb	IAmb	23 06 38.7	
comp=Z,175nm,1.3s							
QIZ	Qiongzhong	23.74	337	P	P	23 06 33.3	0.0
QIZ				S	S	23 10 50.4	+2.2
QIZ				pmax	pmax		
comp=Z,94nm,1.4s							
QIZ				pmax	pmax		
comp=Z,1μm,5.6s							
QIZ				LR	LR		
comp=Z,3μm,15.2s							
QIZ				LR	LR		
comp=Z,2μm,20.7s							
QIZ				LR	LR		
comp=Z,3μm,17.9s							
QIZ	Qiongzhong	23.74	337	P	P	23 06 36.3	+3.0
comp=Z,107nm,1.3s							
LHMI	Lhok Sumawe	23.87	290	P	P	23 06 34.2	-0.4
LHMI				IAMs_20	IAMs_20	23 15 37.8	
comp=Z,5μm,18.0s							
LHMI	Lhok Sumawe	23.87	290	P	P	23 06 35.7	+1.1
comp=Z,416nm,1.3s							
LHMI	Lhok Sumawe	23.87	290	P	P	23 06 35.3	+0.7
comp=Z,416nm,1.3s,comp=Z,7μmcomp=Z,6μm							
MLSI	Meulaboh, Aceh	24.09	287	P	P	23 06 35.6	-1.1
AS31	Alice Springs	24.95	147	P	P	23 06 43.6	-0.8
AS31	Alice Springs	24.95	147	P	P	23 06 46.1	+1.6
comp=Z,0.0nmcomp=Z,22nm,0.9s							
ASAR	Alice Springs	24.95	147	P	P	23 06 44.4	-0.1
comp=Z,50nm,0.8s,baz=327,slow=8.5,SNR=9.1							
ASAR				PcP	PcP	23 10 19.0	-0.9
comp=Z,6.4nm,0.7s,baz=335,slow=2.0,SNR=7.7							
ASAR				S	S	23 11 10.4	+2.8
comp=Z,0.9nm,0.9s,baz=319,slow=22,SNR=1.3							
ASAR				LR	LR	23 17 21.6	
comp=Z,6μm,20.1s,baz=312,slow=38							
comp=Z,50nm,0.8s							
AS01	Alice Springs	24.97	147	P	P	23 06 46.1	+1.4
comp=Z,118nm,1.1s							
BSI	Banda Aceh	25.51	289	P	P	23 06 50.4	+0.7
comp=Z,114nm,1.6s,comp=Z,2μmcomp=Z,3

MANU	**Manus Island**	**27.91 89**	P	**P**	**23 07 11.1 -0.2**
MANU			IAmb	IAmb	23 07 14.8
	comp=Z,64nm,1.4s				
PMG	**Port Moresby**	**28.30 104**	P	**P**	**23 07 13.9 -0.8**
PMG			IAmb	IAmb	23 07 18.6
	comp=Z,134nm,1.2s				
PMG	**Port Moresby**	**28.30 104**	LR	LR	23 21 08.5
	comp=Z,2μm,19.8s,baz=279,slow=42				
PMG	**Port Moresby**	**28.30 104**	P	**P**	**23 07 17.1 +2.4**
	comp=Z,87nm,1.3s				
PMG	**Port Moresby**	**28.30 104**	P	**P**	**23 07 16.7 +2.0**
	comp=Z,87nm,1.3s				
PMG	**Port Moresby**	**28.30 104**	*i* P	**P**	**23 07 14.3 -0.4**
PMG			pmax	pmax	
	comp=Z,116nm,1.2s				
PMG			MLR	MLR	
	comp=Z,3μm,24.0s				
KMBL	**Kambalda**	**28.42 176**	P	**P**	**23 07 15.6 0.0**
	comp=Z,80nm,1.1s				
KMBL	**Kambalda**	**28.42 176**	P	**P**	**23 07 16.9 +1.3**
	comp=Z,104nm,1.1s				
PHRA	**Phrae**	**28.45 319**	P	**P**	**23 07 16.4 +0.3**
SLVN	**Son La**	**28.48 328**	P	**P**	**23 07 15.3 -1.0**
SLVN			IAMs_20	IAMs_20	23 20 28.6
	comp=Z,4μm,21.0s				
SLVN	**Son La**	**28.48 328**	P	**P**	**23 07 19.5 +3.2**
KLBR	**Kellerberrin**	**28.59 183**	P	**P**	**23 07 17.6 +0.4**
	comp=Z,63nm,1.2s				
KLBR	**Kellerberrin**	**28.59 183**	P	**P**	**23 07 19.2 +2.0**
	comp=Z,63nm,1.2s				
MTSU	**Mount Surprise**	**28.70 124**	P	**P**	**23 07 19.4 +1.1**
	comp=Z,18nm,1.1s				
MTSU	**Mount Surprise**	**28.70 124**	P	**P**	**23 07 20.8 +2.4**
	comp=Z,18nm,1.1s				
FORT	**Forrest**	**28.91 165**	P	**P**	**23 07 19.1 -0.9**
FORT			IAmb	IAmb	23 07 30.0
	comp=Z,42nm,0.9s				
FORT			IAMs_20	IAMs_20	23 20 46.9
	comp=Z,6μm,18.0s				
FORT	**Forrest**	**28.91 165**	P	**P**	**23 07 21.2 +1.2**
	comp=Z,58nm,1.0s				
FORT	**Forrest**	**28.91 165**	P	**P**	**23 07 21.5 +1.5**
	comp=Z,58nm,1.0s				
OOD	**Oodnadatta**	**29.23 149**	P	**P**	**23 07 25.3 +2.5**
	comp=Z,45nm,1.2s				
CM31	**Chiang Mai Arr**	**29.28 317**	P	**P**	**23 07 24.0 +0.5**
CMAR	**Chiang Mai Arr**	**29.28 317**	P	**P**	**23 07 23.7 +0.2**
	comp=Z,10nm,1.1s,baz=146,slow=6.4,SNR=28				
CMAR			PcP	**PcP**	**23 10 31.2 +1.0**
	comp=Z,2.2nm,0.7s,baz=174,slow=1.9,SNR=3.0				
CMAR			S	**S**	**23 12 16.5 +0.4**
	comp=Z,1.6nm,0.3s,baz=124,slow=24,SNR=6.3				
CMAR			LR	LR	23 21 30.1
	comp=Z,4μm,18.8s,baz=130,slow=42				
	comp=Z,10nm,1.1s				
GULI	**GuiLin**	**29.36 343**	P	**P**	**23 07 28.8 +4.7**
GULI			S	**S**	**23 12 19.8 +2.6**
GULI			pmax	pmax	
	comp=Z,10.0nm,1.6s				
GULI			LR	LR	
	comp=Z,1μm,18.4s				
GULI			LR	LR	
	comp=Z,2μm,20.6s				
GULI			LR	LR	
	comp=Z,4μm,21.7s				
CHTO	**Chiang Mai**	**29.53 318**	P	**P**	**23 07 26.2 +0.6**
CHTO			IAmb	IAmb	23 07 31.8
	comp=Z,43nm,1.1s				
CHTO			IAMs_20	IAMs_20	23 21 18.0
	comp=Z,4μm,19.0s				
CHTO	**Chiang Mai**	**29.53 318**	P	**P**	**23 07 26.2 +0.6**
CHTO			pmax	pmax	
	comp=Z,43nm,1.1s				
CHTO			MLR	MLR	
	comp=Z,4μm,19.0s				
NWAO	**Narrogin (SRO)**	**29.95 184**	LR	LR	23 21 20.5
	comp=Z,2μm,18.4s,baz=330,slow=40				
NWAO	**Narrogin (SRO)**	**29.95 184**	P	**P**	**23 07 31.7 +2.5**
	comp=Z,29nm,1.0s				
NWAO	**Narrogin (SRO)**	**29.95 184**	P	**P**	**23 07 31.6 +2.4**
	comp=Z,29nm,1.0s				
MULG	**Mulgathing**	**30.56 155**	P	**P**	**23 07 36.3 +1.7**
	comp=Z,46nm,1.2s				
JOW	**Kunigami**	**30.76 16**	IAMs_20	IAMs_20	23 18 32.2
	comp=Z,4μm,22.0s				
JOW	**Kunigami**	**30.76 16**	LR	LR	23 19 16.8
	comp=Z,3μm,21.7s,baz=187,slow=35				
CTA	**Charters Tower**	**31.25 125**	LR	LR	23 20 57.7
	comp=Z,214nm,19.6s,baz=300,slow=38				
CTAO	**Charters Tower**	**31.25 125**	P	**P**	**23 07 41.1 +0.3**
CTAO			IAmb	IAmb	23 07 44.8
	comp=Z,82nm,1.5s				
CTAO	**Charters Tower**	**31.25 125**	P	**P**	**23 07 42.7 +1.8**
	comp=Z,33nm,1.3s				
CTAO	**Charters Tower**	**31.25 125**	P	**P**	**23 07 41.2 +0.3**
CTAO			pmax	pmax	
	comp=Z,82nm,1.5s				
CTAO			MLR	MLR	
	comp=Z,3μm,20.0s				
CNSH	**ChangSha**	**31.52 349**	P	**P**	**23 07 46.3 +3.2**
CNSH			S	**S**	**23 12 53.6 +2.6**
CNSH			pmax	pmax	
	comp=Z,20nm,1.4s				
CNSH			LR	LR	
	comp=Z,1μm,19.9s				
CNSH			LR	LR	
	comp=Z,1μm,17.5s				
CNSH			LR	LR	
	comp=Z,3μm,34.3s				
RKGY	**Rocky Gully**	**31.64 184**	P	**P**	**23 07 46.9 +2.8**
	comp=Z,153nm,1.2s				
GYA	**Guiyang**	**31.68 338**	P	**P**	**23 07 46.1 +1.4**
GYA			PP	**PP**	**23 08 52.8 -3.6**
GYA			S	**S**	**23 12 56.9 +3.1**
GYA			pmax	pmax	
	comp=Z,35nm,1.0s				
GYA			LR	LR	
	comp=Z,1μm,21.0s				
GYA			LR	LR	
	comp=Z,2μm,21.3s				
GYA			LR	LR	
	comp=Z,3μm,22.0s				
INKA	**Innaminka**	**32.01 143**	P	**P**	**23 07 49.5 +2.0**
	comp=Z,78nm,1.6s				
KMI	**Kunming**	**32.22 331**	⇑P	**P**	**23 07 52.3 +2.8**
KMI			PP	**PnPn**	**23 08 57.5 +1.7**
KMI			S	**S**	**23 13 08.4 +6.0**
KMI			pmax	pmax	
	comp=Z,57nm,1.3s				
KMI			pmax	pmax	
	comp=Z,710nm,5.0s				
KMI			LR	LR	
	comp=Z,1μm,20.6s				
KMI			LR	LR	
	comp=Z,2μm,21.2s				
LCRK	**Leigh Creek**	**32.66 149**	P	**P**	**23 07 55.3 +2.2**
	comp=Z,62nm,1.1s				
RABL	**Rabaul**	**32.69 93**	P	**P**	**23 07 53.7 +0.1**
QLP	**Quilpie**	**33.47 137**	P	**P**	**23 08 02.0 +1.8**
	comp=Z,133nm,1.6s				
QLP	**Quilpie**	**33.47 137**	P	**P**	**23 08 02.0 +1.8**
	comp=Z,133nm,1.6s				
BBOO	**Buckleboo**	**33.60 154**	P	**P**	**23 08 01.4 +0.1**
BBOO			IAmb	IAmb	23 08 04.3
	comp=Z,61nm,1.4s				
BBOO			IAMs_20	IAMs_20	23 22 35.3
	comp=Z,4μm,20.0s				
BBOO	**Buckleboo**	**33.60 154**	P	**P**	**23 08 02.3 +1.0**
	comp=Z,40nm,1.5s				
BBOO	**Buckleboo**	**33.60 154**	P	**P**	**23 08 02.9 +1.6**
	comp=Z,40nm,1.5s				
WHN	**Wuhan**	**33.60 352**	⇑P	**P**	**23 08 02.5 +1.2**
WHN			PP	**PP**	**23 09 17.3 -0.2**
WHN			S	**S**	**23 13 27.8 +4.5**
WHN			pmax	pmax	
	comp=Z,370nm,1.6s				
WHN			pmax	pmax	
	comp=Z,2μm,4.4s				
WHN			LR	LR	
	comp=Z,5μm,15.3s				
WHN			LR	LR	
	comp=Z,5μm,15.3s				
WHN			LR	LR	
	comp=Z,9μm,18.3s				
SSE	**Sheshan**	**33.84 3**	P	**P**	**23 08 04.0 +0.7**
SSE			S	**S**	**23 13 30.3 +3.4**
SSE			pmax	pmax	
	comp=Z,27nm,0.8s				
SSE			pmax	pmax	
	comp=Z,220nm,4.2s				
SSE			LR	LR	
	comp=Z,450nm,16.1s				
PZH	**PanZhiHua**	**33.86 331**	P	**P**	**23 08 06.3 +2.5**
PZH			PP	**PnPn**	**23 09 17.3 +0.7**
PZH			S	**S**	**23 13 28.9 +1.2**
PZH			pmax	pmax	
	comp=Z,50nm,1.2s				
PZH			pmax	pmax	
	comp=Z,550nm,6.1s				
PZH			LR	LR	
	comp=Z,1μm,18.0s				
PZH			LR	LR	
	comp=Z,2μm,17.3s				
PZH			LR	LR	
	comp=Z,1μm,15.5s				
ENH	**Enshi**	**34.32 345**	P	**P**	**23 08 07.8 +0.2**
ENH			IAmb	IAmb	23 08 11.4
	comp=Z,51nm,0.9s				
ENH	**Enshi**	**34.32 345**	P	**P**	**23 08 09.6 +2.0**
	comp=Z,65nm,1.0s				
TNCH	**TengChong**	**34.39 325**	P	**P**	**23 08 10.0 +1.6**
TNCH			pP	pP	23 08 14.3 +0.6
TNCH			S	**S**	**23 13 36.5 +0.5**
TNCH			sS	sS	23 13 50.3 +6.0
TNCH			pmax	pmax	
	comp=Z,120nm,1.2s				
TNCH			pmax	pmax	
	comp=Z,760nm,3.6s				
TNCH			LR	LR	
	comp=Z,2μm,20.7s				
TNCH			LR	LR	
	comp=Z,3μm,17.8s				
TNCH			LR	LR	
	comp=Z,6μm,19.8s				
NJ2	**Nanjing**	**34.75 359**	⇓P	**P**	**23 08 11.8 +0.5**
NJ2			pP	**pP**	**23 08 15.3 -1.4**
NJ2			S	**S**	**23 13 45.6 +4.5**
NJ2			pmax	pmax	
	comp=Z,89nm,1.2s				
NJ2			pmax	pmax	
	comp=Z,640nm,3.5s				
NJ2			LR	LR	
	comp=Z,2μm,17.7s				
NJ2			LR	LR	
	comp=Z,730nm,17.1s				
NJ2			LR	LR	
	comp=Z,2μm,20.4s				
HTT	**Hallett**	**35.43 151**	P	**P**	**23 08 18.8 +1.6**
	comp=Z,47nm,1.5s				
HTT	**Hallett**	**35.43 151**	P	**P**	**23 08 19.5 +2.3**
	comp=Z,48nm,1.5s				
STKA	**Stephens Creek**	**35.58 147**	P	**P**	**23 08 18.6 +0.1**
STKA	**Stephens Creek**	**35.58 147**	P	**P**	**23 08 19.8 +1.4**
	comp=Z,11nm,1.4s				
STKA	**Stephens Creek**	**35.58 147**	P	**P**	**23 08 19.9 +1.4**
	comp=Z,26nm,1.0s,baz=310,slow=8.2,SNR=24				
STKA			PcP	**PcP**	**23 10 48.5 +1.2**
	comp=Z,7.7nm,0.9s,baz=323,slow=5.1,SNR=3.4				
STKA			S	**S**	**23 13 58.9 +4.9**
	comp=Z,1.3nm,0.7s,baz=350,slow=19,SNR=1.4				
STKA			LR	LR	23 24 26.1
	comp=Z,4μm,19.2s,baz=312,slow=39				
	comp=Z,26nm,1.0s				
STKA	**Stephens Creek**	**35.58 147**	P	**P**	**23 08 20.3 +1.8**
	comp=Z,11nm,1.4s				
CD2	**Chengdu**	**36.79 337**	P	**P**	**23 08 30.6 +1.8**
CD2			pP	pP	23 08 33.6 -0.6
CD2			sP	sP	23 08 35.0 -1.4
CD2			PP	**PP**	**23 09 58.0 +5.2**
CD2			S	**S**	**23 14 12.8 +0.3**
CD2			sS	sS	23 14 22.3 +1.0
CD2			pmax	pmax	
	comp=Z,90nm,0.9s				
CD2			pmax	pmax	
	comp=Z,540nm,4.4s				
CD2			LR	LR	
	comp=Z,3μm,18.8s				
CD2			LR	LR	
	comp=Z,2μm,19.2s				
CD2			LR	LR	
	comp=Z,3μm,19.8s				
BRDH	**Bariadhala**	**37.17 315**	LR	LR	23 25 50.2
	comp=Z,4μm,20.8s,baz=130,slow=40				
JNU	**Nakatsue**	**37.42 16**	LR	LR	23 23 27.8
	comp=Z,2μm,21.1s,baz=198,slow=35				
CMSA	**Cobar Meteorol**	**37.73 142**	P	**P**	**23 08 38.6 +1.8**
	comp=Z,31nm,1.4s				
CMSA	**Cobar Meteorol**	**37.73 142**	P	**P**	**23 08 39.1 +2.3**
	comp=Z,32nm,1.4s				
EIDS	**Eidsvold**	**37.76 129**	P	**P**	**23 08 37.0 -0.1**
EIDS			IAMs_20	IAMs_20	23 25 08.3
	comp=Z,3μm,20.0s				
EIDS	**Eidsvold**	**37.76 129**	P	**P**	**23 08 38.3 +1.1**
	comp=Z,18nm,2.6s				
EIDS	**Eidsvold**	**37.76 129**	P	**P**	**23 08 39.0 +1.8**
	comp=Z,18nm,1.6s				
LYN	**LuoYang**	**37.81 351**	*e*P	**P**	**23 08 37.1 -0.3**
LYN			pP	sP	23 08 45.8 +0.7
LYN			S	**S**	**23 14 32.9 +5.0**
LYN			sS	ScP	23 14 40.6 -0.5
LYN			pmax	pmax	
	comp=Z,32nm,1.2s				
LYN			pmax	pmax	
	comp=Z,740nm,3.7s				
LYN			LR	LR	
	comp=Z,2μm,21.3s				
LYN			LR	LR	
	comp=Z,2μm,17.5s				
LYN			LR	LR	
	comp=Z,3μm,17.5s				
AULRC	**Lightning Ridg**	**37.83 137**	P	**P**	**23 08 39.8 +2.2**
	comp=Z,102nm,1.5s				
XAN	**Xi'an**	**38.05 346**	⇑P	**P**	**23 08 39.0 -0.5**
XAN			pP	sP	23 08 46.9 -0.2
XAN			S	**S**	**23 14 28.4 -3.1**
XAN			sS	sS	23 14 39.4 -1.0
XAN			pmax	pmax	
	comp=Z,22nm,1.0s				
XAN			pmax	pmax	
	comp=Z,790nm,4.7s				
XAN			LR	LR	
	comp=Z,3μm,22.1s				
XAN			LR	LR	
	comp=Z,2μm,22.8s				
XAN			LR	LR	
	comp=Z,6μm,23.1s				
SHL	**Shillong**	**38.90 318**	P	**P**	**23 08 46.5 -0.4**
SHL			IAmb	IAmb	23 08 50.8
	comp=Z,104nm,1.1s				
SHL			IAMs_20	IAMs_20	23 27 50.8
	comp=Z,3μm,22.0s				
SHL	**Shillong**	**38.90 318**	P	**P**	**23 08 45.5 -1.4**
	SNR=28				
SHL	**Shillong**	**38.90 318**	P	**P**	**23 08 46.5 -0.4**
SHL			pmax	pmax	
	comp=Z,104nm,1.1s				
SHL			MLR	MLR	
	comp=Z,3μm,22.0s				
TIA	**Tai'an**	**38.96 357**	P	**P**	**23 08 45.6 -1.4**
TIA			sP	**sP**	**23 08 55.8 +1.1**
TIA			S	**S**	**23 14 41.4 -3.8**
TIA			SS	**SnSn**	**23 17 25.4 -11**
TIA			pmax	pmax	
	comp=Z,7.0nm,0.6s				
TIA			pmax	pmax	
	comp=Z,670nm,4.3s				
TIA			LR	LR	
	comp=Z,1μm,15.1s				
TIA			LR	LR	
	comp=Z,2μm,24.7s				
TIA			LR	LR	
	comp=Z,2μm,24.7s				
ARPS	**Mount Arapiles**	**39.53 151**	P	**P**	**23 08 53.5 +1.6**
	comp=Z,44nm,0.8s				
ARPS	**Mount Arapiles**	**39.53 151**	P	**P**	**23 08 54.2 +2.4**
	comp=Z,44nm,0.8s				
AUDCS	**Dubbo College**	**40.05 140**	P	**P**	**23 08 58.9 +2.7**
	comp=Z,61nm,2.0s				
HNS	**HongShan**	**40.33 354**	⇑P	**P**	**23 08 57.9 -0.5**
HNS			PP	**PP**	**23 10 30.8 -0.6**
HNS			S	**S**	**23 15 06.4 +0.8**
HNS			pmax	pmax	
	comp=Z,18nm,2.2s				
HNS			LR	LR	
	comp=Z,2μm,17.1s				
HNS			LR	LR	
	comp=Z,1μm,18.4s				
HNS			LR	LR	
	comp=Z,2μm,16.3s				
JHJ	**Hachijo jima 2**	**40.66 27**	LR	LR	23 24 31.3
	comp=Z,1μm,20.2s,baz=248,slow=34				
INCN	**Inchon**	**40.72 9**	P	**P**	**23 09 01.7 0.0**
HNR	**Honiara**	**40.77 101**	P	**P**	**23 09 01.8 -0.6**
HNR	**Honiara**	**40.77 101**	P	**P**	**23 09 01.8 -0.6**
HNR			pmax	pmax	
	comp=Z,184nm,1.0s				
KSAR	**Wonju Array Be**	**40.89 10**	P	**P**	**23 09 03.2 +0.2**
KSAR	**Wonju Array Be**	**40.89 10**	P	**P**	**23 09 03.2 +0.2**
KSRS	**Korea Array**	**40.91 10**	P	**P**	**23 09 02.8 -0.4**
	comp=Z,4.1nm,0.6s,baz=190,slow=9.4,SNR=18				
KSRS			PcP	**PcP**	**23 11 03.8 +0.1**
	comp=Z,0.8nm,0.5s,baz=212,slow=2.7,SNR=1.9				
KSRS			S	**S**	**23 15 19.1 +4.8**
	comp=Z,0.5nm,0.3s,baz=195,slow=32,SNR=1.6				
KSRS			LR	LR	23 26 50.4
	comp=Z,2μm,20.2s,baz=200,slow=37				
	comp=Z,4.1nm,0.6s				
TIY	**Taiyuan**	**40.92 352**	*e*P	**P**	**23 09 02.4 -1.0**
TIY			PP	**PP**	**23 10 43.0 +5.1**
TIY			S	**S**	**23 15 18.3 +3.7**
TIY			pmax	pmax	
	comp=Z,460nm,4.0s				
TIY			LR	LR	
	comp=Z,1μm,21.3s				
TIY			LR	LR	
	comp=Z,650nm,19.2s				
TIY			LR	LR	
	comp=Z,1μm,22.7s				
ARMA	**Armidale**	**40.94 135**	P	**P**	**23 09 03.8 0.0**
ARMA			IAMs_20	IAMs_20	23 28 41.7
	comp=Z,3μm,18.0s				
ARMA	**Armidale**	**40.94 135**	P	**P**	**23 09 05.9 +2.1**
	comp=Z,48nm,2.0s				
ARMA	**Armidale**	**40.94 135**	P	**P**	**23 09 06.3 +2.5**
	comp=Z,48nm,2.0s				
KS19	**Wonju Array Si**	**40.94 10**	P	**P**	**23 09 02.8 -0.7**
KS19			IAmb	IAmb	23 09 07.1
	comp=Z,91nm,1.9s				
YNG	**Young**	**41.27 143**	P	**P**	**23 09 08.7 +2.3**
	comp=Z,238nm,1.2s				
YNG	**Young**	**41.27 143**	P	**P**	**23 09 09.1 +2.7**
	comp=Z,100nm,1.3s				
LZH	**Lanzhou**	**41.42 341**	*e*P	**P**	**23 09 07.3 -0.4**
LZH			pP	pP	23 09 10.3 -2.9
LZH			sP	sP	23 09 12.3 -2.8
LZH			PP	**PnPn**	**23 10 51.4 +3.2**
LZH			S	**S**	**23 15 24.4 +2.0**
LZH			sS	sS	23 15 33.8 +2.6
LZH			pmax	pmax	
	comp=Z,53nm,1.2s				
LZH			pmax	pmax	
	comp=Z,720nm,4.8s				
LZH			LR	LR	
	comp=Z,2μm,21.0s				
LZH			LR	LR	
	comp=Z,2μm,19.9s				
LZH			LR	LR	
	comp=Z,4μm,21.6s				
ALEG	**Aligegeo Malai**	**41.43 100**	P	**P**	**23 09 09.6 +1.7**
	comp=Z,83nm,1.3s				
DL2	**Dalian**	**41.64 3**	P	**P**	**23 09 10.8 +1.6**
DL2			S	**S**	**23 15 26.8 +1.7**
DL2			pmax	pmax	
	comp=Z,77nm,0.8s				
DL2			pmax	pmax	
	comp=Z,720nm,10.1s				
DL2			LR	LR	
	comp=Z,1μm,19.7s				
DL2			LR	LR	
	comp=Z,890nm,18.1s				
DL2			LR	LR	
	comp=Z,2μm,19.5s				
TOO	**Toolangi**	**41.98 149**	P	**P**	**23 09 12.3 +0.2**
TOO			IAMs_20	IAMs_20	23 27 54.8
	comp=Z,2μm,20.0s				
TOO	**Toolangi**	**41.98 149**	P	**P**	**23 09 12.4 +0.2**
TOO			pmax	pmax	
	comp=Z,42nm,1.7s				
TOO			MLR	MLR	
	comp=Z,2μm,20.0s				
LSA	**Lhasa**	**42.23 322**	P	**P**	**23 09 14.7 0.0**
LSA			IAmb	IAmb	23 09 20.9
	comp=Z,145nm,1.5s				
LSA			IAMs_20	IAMs_20	23 28 16.7
	comp=Z,2μm,22.0s				
LSA	**Lhasa**	**42.23 322**	*i* P	**P**	**23 09 16.2 +1.5**
	SNR=17				
LSA	**Lhasa**	**42.23 322**	P	**P**	**23 09 15.3 +0.6**
LSA			S	**S**	**23 15 37.8 +2.7**
LSA			pmax	pmax	
	comp=Z,55nm,1.2s				
LSA			LR	LR	
	comp=Z,2μm,23.5s				
LSA			LR	LR	
	comp=Z,2μm,26.0s				
LSA	**Lhasa**	**42.23 322**	P	**P**	**23 09 15.6 +0.9**
LSA			P	**P**	**23 09 15.6 +0.9**
LSA	**Lhasa**	**42.23 322**	P	**P**	**23 09 14.7 0.0**
LSA			pmax	pmax	
	comp=Z,145nm,1.5s				
LSA			MLR	MLR	
	comp=Z,2μm,22.0s				
CAN	**Canberra**	**42.33 143**	P	**P**	**23 09 15.7 +0.6**
CAN			IAmb	IAmb	23 09 19.7
	comp=Z,96nm,1.2s				
CAN	**Canberra**	**42.33 143**	P	**P**	**23 09 17.5 +2.4**
	comp=Z,72nm,1.4s				
CAN	**Canberra**	**42.33 143**	P	**P**	**23 09 18.0 +3.0**
	comp=Z,110nm,1.4s				
CAN	**Canberra**	**42.33 143**	P	**P**	**23 09 15.7 +0.6**
CAN			pmax	pmax	
	comp=Z,96nm,1.2s				
CAN			MLR	MLR	
	comp=Z,4μm,20.0s				
CNB	**Canberra Magne**	**42.55 143**	P	**P**	**23 09 18.7 +1.9**
	comp=Z,67nm,1.5s				
CNB	**Canberra Magne**	**42.55 143**	P	**P**	**23 09 19.3 +2.5**
	comp=Z,67nm,1.5s				
BJT	**Baijiatuau**	**42.80 356**	P	**P**	**23 09 18.6 0.0**
BJT			IAmb	IAmb	23 09 23.0
	comp=Z,48nm,0.7s				
BJT	**Baijiatuau**	**42.80 356**	P	**P**	**23 09 19.8 +1.1**
	comp=Z,82nm,0.7s				
BJT	**Baijiatuau**	**42.80 356**	P	**P**	**23 09 18.7 0.0**
BJT			pmax	pmax	
	comp=Z,48nm,0.7s				
BJT			MLR	MLR	
	comp=Z,2μm,20.0s				
BJI	**Beijing**	**42.83 356**	P	**P**	**23 09 17.6 -1.2**
BJI			S	**S**	**23 15 42.9 +0.3**
BJI			pmax	pmax	
	comp=Z,16nm,1.0s				
BJI			pmax	pmax	
	comp=Z,320nm,4.3s				
BJI			LR	LR	
	comp=Z,830nm,19.5s				
BJI			LR	LR	
	comp=Z,270nm,15.5s				
BJI			LR	LR	
	comp=Z,970nm,20.8s				
WOLH	**Wollongong Har**	**42.88 141**	P	**P**	**23 09 23.1 +3.7**
	comp=Z,56nm,1.1s				
MAJO	**Matsushiro**	**42.96 22**	P	**P**	**23 09 20.1 +0.1**
MAJO	**Matsushiro**	**42.96 22**	P	**P**	**23 09 20.1 +0.1**
MAJO			pmax	pmax	
	comp=Z,15nm,1.0s				
MAJO			MLR	MLR	
	comp=Z,1μm,22.0s				
MJAR	**Matsushiro Arr**	**42.96 22**	P	**P**	**23 09 19.1 -0.9**
	comp=Z,2.7nm,0.8s,baz=206,slow=9.2,SNR=5.8				
MJAR			PcP	**PcP**	**23 11 10.9 +0.4**
	comp=Z,4.4nm,1.0s,baz=206,slow=5.3,SNR=2.5				
MJAR			LR	LR	23 26 46.7
	comp=Z,906nm,21.7s,baz=211,slow=36				
	comp=Z,2.7nm,0.8s				
HHC	**Hu-ho-hao-te**	**44.12 351**	⇑*i*P	**P**	**23 09 28.8 -0.6**
HHC			pP	pP	23 09 35.5 +0.5
HHC			sP	sP	23 09 38.8 +1.9
HHC			S	**S**	**23 16 01.4 -0.4**

HHC sS sS 23 16 13.3 +2.6
HHC SS **SS** **23 19 10.5 -9.2**
HHC pmax pmax
comp=Z,16nm,1.6s
HHC pmax pmax
comp=Z,510nm,5.0s
HHC LR LR
comp=Z,990nm,19.4s
HHC LR LR
comp=Z,490nm,15.9s
HHC LR LR
comp=Z,2μm,20.2s
BTO Baotou 44.14 350 *e*P **P** **23 09 30.0 +0.4**
BTO pP **pP** **23 09 34.6 -0.5**
BTO sP **sP** **23 09 37.4 +0.4**
BTO S **S** **23 16 04.8 +2.8**
BTO SS **SS** **23 19 17.0 -3.0**
BTO pmax pmax
comp=Z,34nm,0.8s
BTO pmax pmax
comp=Z,830nm,6.6s
BTO LR LR
comp=Z,3μm,21.5s
BTO LR LR
comp=Z,2μm,16.5s
BTO LR LR
comp=Z,3μm,19.2s
HYB Hyderabad 45.09 298 *e*P **P** **23 09 36.9 -0.6**
HYB IVmB_BB 23 09 39.3
comp=Z,2μm,1.9s
GOMU GeErMu 45.18 332 P **P** **23 09 39.3 +1.0**
GOMU pP sP 23 09 45.8 0.0
GOMU sP pP 23 09 50.5 +6.8
GOMU PP **PP** **23 11 26.0 +1.9**
GOMU S **S** **23 16 24.6 +6.8**
GOMU pmax pmax
comp=Z,20nm,1.2s
GOMU LR LR
comp=Z,3μm,15.5s
GOMU LR LR
comp=Z,2μm,16.7s
GOMU LR LR
comp=Z,2μm,15.3s
GTA Gaotai 45.80 339 P **P** **23 09 42.8 -0.1**
GTA pP pP 23 09 46.0 -2.3
GTA S **S** **23 16 30.4 +4.1**
GTA sS sS 23 16 43.1 +7.9
GTA SS **ScS** **23 19 41.8 +3.0**
GTA pmax pmax
comp=Z,9.0nm,1.3s
GTA pmax pmax
comp=Z,560nm,8.0s
GTA LR LR
comp=Z,1μm,20.0s
GTA LR LR
comp=Z,1μm,24.1s
GTA LR LR
comp=Z,2μm,24.4s
KAAM Kaadhehdhoo 46.55 273 IAMs_20 IAMs_20 23 31 19.2
comp=Z,3μm,18.0s
XLT XiLinHaoTe 46.68 357 *e*P **P** **23 09 47.8 -1.8**
XLT S **S** **23 16 36.0 -2.6**
XLT ScS **ScS** **23 19 44.9 +0.7**
XLT SS **SS** **23 19 59.3 -5.9**
XLT pmax pmax
comp=Z,40nm,0.9s
XLT pmax pmax
comp=Z,650nm,4.3s
XLT LR LR
comp=Z,860nm,21.3s
XLT LR LR
comp=Z,1μm,20.5s
CN2 Changchun 46.79 6 *e*P **P** **23 09 51.3 +0.9**
CN2 SS SS 23 19 58.0 -8.9
CN2 pmax pmax
comp=Z,10.0nm,0.4s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,900nm,18.0s
CN2 LR LR
comp=Z,900nm,18.0s
CN2 LR LR
comp=Z,1μm,18.0s
TAU Tasmania Unive 46.95 152 P **P** **23 09 51.8 +0.1**
TAU Tasmania Unive 46.95 152 P **P** **23 09 54.3 +2.6**
TAU Tasmania Unive 46.95 152 P **P** **23 09 51.8 +0.1**
TAU pmax pmax
comp=Z,164nm,1.6s
TAU MLR MLR
comp=Z,6μm,21.0s
AUTAR Taroona High S 47.00 152 P **P** **23 09 55.7 +3.7**
comp=Z,129nm,1.5s
MDJ Mudanjiang 48.16 10 P **P** **23 09 59.6 -1.4**
MDJ IAmb IAmb 23 10 06.7
comp=Z,70nm,1.1s
MDJ Mudanjiang 48.16 10 P **P** **23 09 59.8 -1.2**
MDJ PcP **PcP** **23 11 25.4 -3.0**
MDJ ScP **ScP** **23 15 18.6 -4.0**
MDJ PcS **PcS** **23 15 19.9 -4.1**
MDJ S **S** **23 16 54.3 -5.2**
MDJ SS **SS** **23 20 25.6 -3.4**
MDJ pmax pmax
comp=Z,17nm,1.7s
MDJ pmax pmax
comp=Z,450nm,3.8s
MDJ LR LR
comp=Z,720nm,21.4s
MDJ LR LR
comp=Z,1μm,21.6s
MDJ LR LR
comp=Z,2μm,24.4s
MDJ Mudanjiang 48.16 10 P **P** **23 10 01.9 +0.8**
comp=Z,64nm,1.2s
USA0B Ussuriysk Arra 48.21 12 P **P** **23 10 00.9 -0.5**
USA0B IAmb IAmb 23 10 07.3
comp=Z,55nm,1.6s
USA0B Ussuriysk Arra 48.21 12 P **P** **23 10 00.9 -0.5**
USA0B pmax pmax
comp=Z,55nm,1.7s
USRK Ussuriysk Ar. 48.21 12 P **P** **23 10 01.2 -0.3**
USRK Ussuriysk Ar. 48.21 12 P **P** **23 10 00.9 -0.5**
comp=Z,5.5nm,0.6s,baz=196,slow=7.0,SNR=14
USRK LR LR 23 29 25.8
comp=Z,1μm,22.0s,baz=198,slow=35
comp=Z,5.5nm,0.6s
USRK Ussuriysk Ar. 48.21 12 P **P** **23 10 01.2 -0.3**
BNX BinXian 48.93 7 ||P **P** **23 10 03.3 -3.7**
BNX sP **pP** **23 10 12.9 +0.5**
BNX S **S** **23 17 07.3 -3.1**
BNX pmax pmax
comp=Z,8.0nm,2.1s
BNX pmax pmax
comp=Z,500nm,10.1s
BNX LR LR
comp=N,690nm,23.4s
BNX LR LR
comp=E,1μm,20.4s
BNX LR LR
comp=Z,1μm,23.2s
VLAKA Lakatoro 48.97 109 P **P** **23 10 10.2 +2.4**
comp=Z,64nm,1.2s
NOUC Port Laguerre 49.30 117 P **P** **23 10 13.0 +2.7**
comp=Z,36nm,1.4s
DZM Mont Dzumac 49.42 117 P **P** **23 10 11.0 -0.3**
DZM IAmb IAmb 23 10 15.8
comp=Z,91nm,1.5s
DZM Mont Dzumac 49.42 117 *e*P **P** **23 10 11.7 +0.4**
comp=Z,101nm,1.3s
DZM *e*S **S** **23 17 10.9 -7.4**
comp=Z,1μm,34.8s
DZM *e*SS **SS** **23 20 43.7 -6.6**
comp=Z,1μm,24.4s
DZM *e*LQ LQ 23 22 08.8
comp=Z,8μm,35.5s
DZM *e*LR LR 23 24 12.6
comp=Z,4μm,23.1s
DZM Mont Dzumac 49.42 117 LR LR 23 31 04.9
comp=Z,2μm,21.6s,baz=270,slow=36
DZM Mont Dzumac 49.42 117 P **P** **23 10 13.5 +2.2**
comp=Z,21nm,1.1s
ONTNC Ouen Toro 49.50 117 P **P** **23 10 11.4 -0.4**
ONTNC IAMs_20 IAMs_20 23 31 14.7
comp=Z,2μm,20.0s
ONTNC Ouen Toro 49.50 117 P **P** **23 10 14.2 +2.5**
comp=Z,75nm,1.8s

ERM Erimo 49.61 23 IAMs_20 IAMs_20 23 31 20.8
comp=Z,2μm,21.0s
YATNC Mamie plateau, 49.82 117 P **P** **23 10 17.4 +3.2**
comp=Z,113nm,1.5s
OUENC Ouen Island, N 49.87 117 P **P** **23 10 17.0 +2.4**
comp=Z,0.2nm,1.3s
ASAJ Asahikawa 51.20 21 LR LR 23 32 46.0
comp=Z,740nm,20.4s,baz=226,slow=37
ULN Ulaanbaatar 51.70 349 P **P** **23 10 27.1 -1.0**
ULN IAmb IAmb 23 10 31.0
comp=Z,91nm,0.9s
ULN Ulaanbaatar 51.70 349 P **P** **23 10 27.9 -0.2**
ULN P **P** **23 10 27.9 -0.2**
ULN S **S** **23 17 49.2 0.0**
ULN S **S** **23 17 49.2 0.0**
ULN Ulaanbaatar 51.70 349 *i* P **P** **23 10 26.7 -1.4**
ULN MLR MLR
comp=Z,1μm,21.0s
SONM Songino Array 51.79 349 P **P** **23 10 27.8 -1.0**
SONM IAmb IAmb 23 10 33.4
comp=Z,65nm,0.8s
SONM Songino Array 51.79 349 P **P** **23 10 27.6 -1.2**
comp=Z,52nm,0.9s,baz=167,slow=8.5,SNR=99
SONM S **S** **23 17 54.0 +3.6**
comp=Z,0.2nm,0.4s,baz=183,slow=16,SNR=1.7
SONM LR LR 23 35 42.2
comp=Z,1μm,19.6s,baz=156,slow=40
comp=Z,52nm,0.9s
SONM Songino Array 51.79 349 P **P** **23 10 27.8 -1.0**
SONM pmax pmax
comp=Z,65nm,0.8s
KLR Kul'dur 53.00 10 LR LR 23 35 46.5
comp=Z,576nm,18.6s,baz=196,slow=39
KLR Kul'dur 53.00 10 *i* P **P** **23 10 36.6 -0.9**
KLR pmax pmax
comp=Z,29nm,2.1s
KLR MLR MLR
comp=Z,732nm,19.0s
HEH HeiHe 53.38 6 *e*P **P** **23 10 38.5 -1.8**
HEH S **S** **23 18 09.3 -2.4**
HEH pmax pmax
comp=Z,37nm,1.0s
HEH LR LR
comp=Z,910nm,16.1s
HEH LR LR
comp=Z,970nm,20.3s
HEH LR LR
comp=Z,1μm,19.8s
WMQ Urumqi 54.53 332 *e*P **P** **23 10 49.5 +0.5**
WMQ PcP **PcP** **23 11 56.3 +4.1**
WMQ S **S** **23 18 29.8 +2.0**
WMQ SS **SS** **23 22 09.9 -0.8**
WMQ pmax pmax
comp=Z,65nm,1.3s
WMQ pmax pmax
comp=Z,1μm,4.1s
WMQ LR LR
comp=Z,2μm,17.7s
WMQ LR LR
comp=Z,1μm,17.7s
WMQ LR LR
comp=Z,1μm,21.1s
IRK Irkutsk 56.41 349 *e*P **P** **23 11 00.9 -1.4**
IRK *e* 23 13 08.3
IRK pmax pmax
comp=Z,94nm,2.0s
MOY Mondy 56.57 346 *e*P **P** **23 11 03.7 +0.1**
MOY pmax pmax
comp=Z,116nm,1.8s
NIL Nilore 56.69 314 P **P** **23 11 04.8 +0.2**
NIL Nilore 56.69 314 P **P** **23 11 04.4 -0.2**
NIL P **P** **23 11 04.4 -0.2**
NIL Nilore 56.69 314 P **P** **23 11 04.8 +0.2**
NIL pmax pmax
comp=Z,213nm,1.6s
ZEA Zeya 56.80 6 *e*P **P** **23 11 03.1 -1.9**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=E,400nm,14.0s
ZEA MLR MLR
comp=N,500nm,21.0s
ZEA MLR MLR
comp=Z,600nm,18.0s
WUS Wushi 57.14 325 P **P** **23 11 07.8 0.0**
WUS Wushi 57.14 325 IAMs_20 IAMs_20 23 39 20.2
comp=Z,2μm,22.0s
KSH Kashi 58.06 321 P **P** **23 11 14.1 -0.3**
KSH sP sP 23 11 22.4 +0.4
KSH S **S** **23 19 12.9 -2.0**
KSH pmax pmax
comp=Z,81nm,1.2s
KSH pmax pmax
comp=Z,830nm,3.6s
KSH LR LR
comp=Z,1μm,27.1s
KSH LR LR
comp=Z,1μm,29.9s
KSH LR LR
comp=Z,2μm,29.5s
SHLS Shalkode 58.27 326 *e*P **P** **23 11 13.3 -2.4**
comp=Z,48nm,1.2s
SHLS *e*S **S** **23 19 14.4 -3.1**
SHLS Shalkode 58.27 326 *e*P **P** **23 11 13.3 -2.4**
SHLS *e*S **S** **23 19 14.3 -3.1**
SHLS pmax pmax
comp=Z,49nm,1.2s
TARG Taragay, Kyrgy 58.30 324 P **P** **23 11 16.3 0.0**
TARG IAmb IAmb 23 11 49.9
comp=Z,57nm,1.2s
TARG Taragay, Kyrgy 58.30 324 P **P** **23 11 16.3 0.0**
TARG pmax pmax
comp=Z,57nm,1.2s
UZB Uzynbulak 58.51 326 *e*P **P** **23 11 16.5 -1.0**
comp=Z,24nm,1.2s
UZB *e*S **S** **23 19 20.4 -0.3**
UZB Uzynbulak 58.51 326 *e*P **P** **23 11 16.4 -1.0**
UZB *e*S **S** **23 19 20.3 -0.3**
UZB pmax pmax
comp=Z,24nm,1.2s
ZSN Zaisan 58.58 333 *e*P **P** **23 11 16.6 -1.0**
comp=Z,22nm,0.8s
ZSN *e*S **S** **23 19 20.9 -0.2**
ZSN Zaisan 58.58 333 *e*P **P** **23 11 16.6 -1.0**
ZSN *e*S **S** **23 19 20.9 -0.2**
ZSN pmax pmax
comp=Z,22nm,0.8s
SATY Saty 58.80 326 *e*P **P** **23 11 18.4 -1.0**
comp=Z,30nm,0.9s
SATY Saty 58.80 326 *e*P **P** **23 11 18.4 -1.0**
SATY pmax pmax
comp=Z,30nm,0.9s
ZHN Zhinishke 58.85 326 *e*P **P** **23 11 18.8 -0.9**
comp=Z,32nm,1.1s
ZHN Zhinishke 58.85 326 *e*P **P** **23 11 18.8 -0.9**
ZHN pmax pmax
comp=Z,32nm,1.1s
KPKS Kokpek 58.90 326 *e*P **P** **23 11 19.1 -1.0**
comp=Z,38nm,1.2s
KPKS Kokpek 58.90 326 *e*P **P** **23 11 19.1 -1.0**
KPKS pmax pmax
comp=Z,39nm,1.2s
KDJ Kajisay 58.91 324 IAMs_20 IAMs_20 23 40 49.7
comp=Z,1μm,21.0s
MSVF Nonsavu 59.27 109 P **P** **23 11 23.6 +0.5**
MSVF Nonsavu 59.27 109 P **P** **23 11 26.1 +3.0**
comp=Z,55nm,1.3s
MSVF Nonsavu 59.27 109 *i* P **P** **23 11 21.8 -1.3**
MSVF pmax pmax
comp=Z,53nm,1.0s
MK31 Makanchi Array 59.30 331 P **P** **23 11 23.7 +1.0**
MK31 Makanchi Array 59.30 331 *i* P **P** **23 11 21.6 -1.1**
MK31 pmax pmax
comp=Z,120nm,0.9s
MKAR Makanchi Array 59.30 331 P **P** **23 11 22.4 -0.3**
MKAR Makanchi Array 59.30 331 P **P** **23 11 21.8 -0.9**
comp=Z,51nm,0.9s,baz=136,slow=6.9,SNR=84
MKAR S **S** **23 19 31.7 +1.2**
comp=Z,0.9nm,1.0s,baz=122,slow=21,SNR=2.6
MKAR LR LR 23 39 56.2
comp=Z,793nm,21.7s,baz=130,slow=39
comp=Z,51nm,0.9s
MKAR Makanchi Array 59.30 331 *i* P **P** **23 11 22.2 -0.5**
MKAR pmax pmax
comp=Z,50nm,0.9s
MAKZ Makanchi 59.46 331 P **P** **23 11 23.5 -0.3**

MAKZ Makanchi 59.46 331 P **P** **23 11 23.5 -0.3**
MAKZ pmax pmax
comp=Z,80nm,1.1s
MAKZ MLR MLR
comp=Z,900nm,22.0s
OUZ Omahuta 59.50 130 IAMs_20 IAMs_20 23 35 35.9
comp=Z,2μm,22.0s
TNSS Tian-Shan 59.61 325 *e*P **P** **23 11 23.8 -1.6**
TNSS Tian-Shan 59.61 325 *e*P **P** **23 11 23.8 -1.6**
MDOK Medeo 59.63 325 *e*P **P** **23 11 24.2 -1.0**
MDOK *e*S **S** **23 19 35.1 -0.2**
MDOK LR LR 23 38 37.7
comp=Z,799nm,17.9s
MDOK Medeo 59.63 325 *e*P **P** **23 11 24.2 -1.0**
MDOK *e*S **S** **23 19 35.0 -0.2**
MDOK MLR MLR
comp=Z,799nm,18.0s
AAA Alma-Ata 59.73 325 *e*P **P** **23 11 25.2 -0.7**
AAA Alma-Ata 59.73 325 *e*P **P** **23 11 25.1 -0.7**
JCZ Jackson Bay 59.75 141 P **P** **23 11 28.2 +2.2**
comp=Z,133nm,1.4s
ARXS Arharly 59.86 326 *i* P **P** **23 11 25.3 -1.4**
TDK Taldyqorghan 60.05 327 *e*P **P** **23 11 26.1 -1.8**
TDK LR LR 23 39 07.3
TDK Taldyqorghan 60.05 327 *e*P **P** **23 11 26.9 -1.0**
KBL Kabul 60.18 313 P **P** **23 11 28.4 -0.8**
KBL Kabul 60.18 313 P **P** **23 11 27.9 -1.3**
SNR=78
KBL P **P** **23 11 27.9 -1.3**
SNR=78
KBL S **S** **23 19 45.4 +2.8**
KBL S **S** **23 19 45.4 +2.8**
KBL Kabul 60.18 313 P **P** **23 11 28.4 -0.8**
KBL pmax pmax
comp=Z,152nm,1.1s
TKM2 Tokmak 2 60.32 324 P **P** **23 11 32.9 +2.8**
SNR=53
TKM2 Tokmak 2 60.32 324 *i* P **P** **23 11 29.8 -0.2**
TKM2 pmax pmax
comp=Z,99nm,1.2s
KUU Kurty 60.49 325 *e*P **P** **23 11 30.2 -0.8**
KUU LR LR 23 39 48.6
comp=Z,2μm,21.8s
KUU Kurty 60.49 325 *e*P **P** **23 11 30.1 -0.8**
KUU MLR MLR
comp=Z,2μm,22.0s
KBK Karagaybulak 60.54 324 P **P** **23 11 34.7 +3.2**
SNR=48
UCH Uchtor 60.55 323 P **P** **23 11 35.0 +3.1**
SNR=6.5
DSZ Denniston Nort 60.69 137 P **P** **23 11 32.7 +0.3**
DRK Karamyk 60.72 319 P **P** **23 11 32.3 -0.6**
DRK IAmb IAmb 23 11 43.2
comp=Z,64nm,1.2s
DRK Karamyk 60.72 319 P **P** **23 11 32.3 -0.6**
DRK pmax pmax
comp=Z,64nm,1.2s
LBZ Lake Benmore 60.79 140 IAMs_20 IAMs_20 23 39 08.6
comp=Z,2μm,20.0s
AAK Ala-Archa 60.80 323 P **P** **23 11 36.4 +3.1**
SNR=17
AAK Ala-Archa 60.80 323 P **P** **23 11 33.0 -0.3**
AAK IAmb IAmb 23 11 37.2
comp=Z,54nm,1.1s
AAK Ala-Archa 60.80 323 IAMs_20 IAMs_20 23 41 17.1
comp=Z,1μm,22.0s
AAK Ala-Archa 60.80 323 *i* P **P** **23 11 34.2 +0.9**
SNR=16
AAK Ala-Archa 60.80 323 LR LR 23 42 37.2
comp=Z,1μm,20.8s,baz=136,slow=41
AAK Ala-Archa 60.80 323 P **P** **23 11 33.4 +0.2**
AAK P **P** **23 11 33.4 +0.2**
AAK S **S** **23 19 53.8 +3.5**
AAK S **S** **23 19 53.8 +3.5**
AAK Ala-Archa 60.80 323 *ce*P **P** **23 11 33.9 +0.6**
AAK pmax pmax
comp=Z,87nm,1.7s
AAK MLR MLR
comp=Z,1μm,22.0s
FRU1 Bishkek 60.82 324 IAMs_20 IAMs_20 23 42 20.7
comp=Z,2μm,21.0s
CHMS Chumysh 60.86 324 P **P** **23 11 35.8 +2.3**
SNR=9.8
ARSB Arslanbob 60.97 321 P **P** **23 11 34.4 0.0**
ARSB IAmb IAmb 23 11 38.0
comp=Z,42nm,1.2s
ARSB Arslanbob 60.97 321 P **P** **23 11 34.4 0.0**
ARSB pmax pmax
comp=Z,42nm,1.2s
AML Almayashu 60.99 322 P **P** **23 11 37.1 +2.3**
SNR=42
RPZ Rata Peaks 61.04 139 P **P** **23 11 35.1 +0.4**
RPZ Rata Peaks 61.04 139 LR LR 23 39 27.8
comp=Z,1μm,19.0s,baz=292,slow=37
USP Ospenovka 61.17 324 P **P** **23 11 37.5 +1.8**
SNR=42
SGDS Sogindy 61.20 324 *e*P **P** **23 11 34.1 -1.8**
comp=Z,46nm,1.8s
SGDS Sogindy 61.20 324 *e*P **P** **23 11 34.9 -1.0**
SGDS pmax pmax
comp=Z,47nm,1.8s
EKS2 Erkin-Say 61.24 323 P **P** **23 11 38.3 +2.1**
SNR=32
THZ Tophouse 61.44 137 P **P** **23 11 37.5 0.0**
THZ IAmb IAmb 23 11 41.0
comp=Z,65nm,1.1s
THZ IAMs_20 IAMs_20 23 39 08.1
comp=Z,2μm,20.0s
GAR Garm 61.45 318 P **P** **23 11 37.4 -0.3**
OXZ Oxford 61.52 139 IAMs_20 IAMs_20 23 40 52.0
comp=Z,3μm,22.0s
HIZ Hauiti 61.59 133 IAMs_20 IAMs_20 23 40 32.2
comp=Z,1μm,21.0s
BTK Batken 61.67 319 P **P** **23 11 38.8 -0.3**
BTK IAMs_20 IAMs_20 23 43 21.9
comp=Z,2μm,22.0s
BTK Batken 61.67 319 P **P** **23 11 38.8 -0.3**
BTK pmax pmax
comp=Z,97nm,1.4s
BTK MLR MLR
comp=Z,2μm,22.0s
TOZ Tahuroa Road 61.80 132 P **P** **23 11 40.3 +0.5**
TOZ IAMs_20 IAMs_20 23 40 37.7
comp=Z,2μm,20.0s
SIMJ Simiganj 62.16 317 P **P** **23 11 42.6 +0.1**
SIMJ IAMs_20 IAMs_20 23 43 38.2
comp=Z,956nm,20.0s
BTLS Baital 62.49 325 *e*P **P** **23 11 43.5 -0.9**
comp=Z,36nm,1.8s
BTLS Baital 62.49 325 *e*P **P** **23 11 43.5 -0.9**
BTLS pmax pmax
comp=Z,36nm,1.8s
SNZO South Karori 62.51 136 P **P** **23 11 44.7 +0.1**
BHW Baring Head 62.66 136 IAMs_20 IAMs_20 23 41 33.4
comp=Z,2μm,19.0s
SEM Semipalatinsk 62.82 333 *e*P **P** **23 11 46.0 -0.8**
comp=Z,19nm,1.1s
SEM LR LR 23 41 10.0
SEM Semipalatinsk 62.82 333 *e*P **P** **23 11 45.9 -0.8**
SEM pmax pmax
comp=Z,19nm,1.1s
DZA Taraz 62.86 322 *e*P **P** **23 11 46.2 -0.8**
DZA Taraz 62.86 322 *e*P **P** **23 11 46.1 -0.8**
MRZ Mangatainoka R 62.88 135 P **P** **23 11 47.4 +0.3**
BKZ Black Stump Fm 63.01 133 IAMs_20 IAMs_20 23 43 03.9
comp=Z,1μm,20.0s
BKZ Black Stump Fm 63.01 133 P **P** **23 11 49.4 +1.3**
comp=Z,71nm,1.4s
URZ Urewera 63.17 132 LR LR 23 39 17.5
comp=Z,2μm,21.7s,baz=6.0,slow=36
RTZ Ruatahuna 63.19 132 IAMs_20 IAMs_20 23 43 33.6
comp=Z,2μm,20.0s
IUG Iuzhnay 63.27 321 *e*P **P** **23 11 48.9 -0.9**
IUG Iuzhnay 63.27 321 *e*P **P** **23 11 48.9 -0.9**
BFZ Birch Farm 63.36 135 P **P** **23 11 52.7 +2.4**
comp=Z,79nm,1.5s
KKAR Karatay Array 63.48 322 P **P** **23 11 50.2 -0.8**
KKAR Karatay Array 63.48 322 P **P** **23 11 50.6 -0.5**
KKAR IAmb IAmb 23 11 55.0
comp=Z,20nm,1.1s
KKAR Karatay Array 63.48 322 P **P** **23 11 50.3 -0.8**
KKAR 23 11 50.6
KKAR pmax pmax
comp=Z,20nm,1.1s
ZAA0 Zalesovo Array 63.55 338 P **P** **23 11 48.9 -2.3**

ZAA0 IAmb IAmb 23 11 54.4
comp=Z,33nm,1.0s
ZALV Zalesovo Beam 63.55 338 P **P** **23 11 48.9 -2.3**
ZALV Zalesovo Beam 63.55 338 P **P** **23 11 48.5 -2.7**
comp=Z,8.3nm,0.6s,baz=142,slow=4.9,SNR=36
ZALV PKP2bc 23 40 53.7
comp=Z,1.5nm,0.7s,baz=298,slow=3.1,SNR=7.9
ZALV LR LR 23 43 30.7
comp=Z,508nm,19.0s,baz=142,slow=40
comp=Z,8.3nm,0.6s
ZALV Zalesovo Beam 63.55 338 *i* P **P** **23 11 51.7 +0.5**
ZALV pmax pmax
comp=Z,30nm,0.9s
CASY Casey 63.58 184 P **P** **23 11 50.7 -0.5**
KURBB Kurchatov Arra 63.76 332 P **P** **23 11 50.8 -1.9**
comp=Z,44nm,1.2s,baz=137,slow=5.9,SNR=40
KURBB S **S** **23 20 31.4 +4.5**
comp=Z,0.2nm,0.2s,baz=137,slow=13,SNR=6.1
KURBB PKP2bc 23 40 53.4
comp=Z,0.5nm,0.2s,baz=308,slow=3.4,SNR=6.8
KURBB LR LR 23 43 40.2
comp=Z,1μm,19.4s,baz=147,slow=40
comp=Z,44nm,1.2s
KURK Kurchatov 63.78 332 P **P** **23 11 51.3 -1.5**
KURK IAMs_20 IAMs_20 23 43 29.8
comp=Z,1μm,19.0s
KURK Kurchatov 63.78 332 P **P** **23 11 51.5 -1.3**
KURK P **P** **23 11 51.5 -1.3**
KURK S **S** **23 20 27.2 +0.1**
KURK S **S** **23 20 27.2 +0.1**
KURK Kurchatov 63.78 332 P **P** **23 11 51.3 -1.5**
KURK pmax pmax
comp=Z,113nm,1.2s
KURK MLR MLR
comp=Z,1μm,19.0s
MSEY Mahe Island 63.83 266 P **P** **23 11 52.8 -1.1**
MSEY IAmb IAmb 23 11 55.6
comp=Z,51nm,1.9s
MSEY Mahe Island 63.83 266 P **P** **23 11 53.8 -0.1**
MSEY P **P** **23 11 53.8 -0.1**
MSEY P **P** **23 11 53.8 -0.1**
MSEY Mahe Island 63.83 266 P **P** **23 11 52.8 -1.1**
MSEY pmax pmax
comp=Z,51nm,2.0s
BRLS Borolday 63.86 322 *e*P **P** **23 11 52.6 -1.0**
comp=Z,51nm,1.8s
BRLS Borolday 63.86 322 *e*P **P** **23 11 52.6 -1.0**
BRLS pmax pmax
comp=Z,51nm,1.8s
PETK Petropavlovsk- 64.35 24 LR LR 23 40 50.7
comp=Z,244nm,19.9s,baz=214,slow=37
WSAR Wadi Sarin 64.63 297 LR LR 23 40 53.4
comp=Z,821nm,21.4s,baz=128,slow=37
MHTO MHTO 64.67 295 P **P** **23 11 57.2 -2.0**
MHTO P **P** **23 11 57.2 -2.0**
RAO Raoul Island 64.82 121 LR LR 23 40 18.2
comp=Z,856nm,19.3s,baz=107,slow=36
JMDO Jabal Madar 64.88 296 P **P** **23 11 59.8 -0.9**
JMDO P **P** **23 11 59.8 -0.9**
JMDO P **P** **23 11 59.8 -0.9**
SMDO Samad 65.10 297 P **P** **23 12 00.4 -1.8**
SMDO P **P** **23 12 00.4 -1.8**
BIDO Bidbid 65.15 297 P **P** **23 12 03.2 +0.8**
BIDO P **P** **23 12 03.2 +0.8**
HRA Herat 65.21 310 P **P** **23 12 02.0 -0.8**
YAK Yakutsk 65.22 5 P **P** **23 11 60.0 -2.0**
YAK IAmb IAmb 23 12 04.6
comp=Z,49nm,1.1s
YAK Yakutsk 65.22 5 IAMs_20 IAMs_20 23 40 05.9
comp=Z,934nm,21.0s
YAK Yakutsk 65.22 5 LR LR 23 43 10.0
comp=Z,442nm,18.4s,baz=193,slow=38
YAK Yakutsk 65.22 5 *e*P **P** **23 11 59.5 -2.5**
YAK pmax pmax
comp=Z,40nm,1.1s
YAK pmax pmax
comp=N,34nm,1.4s
YAK pmax pmax
comp=E,17nm,1.4s
YAK MLR MLR
comp=E,557nm,24.0s
BSY Bisya 65.78 296 P **P** **23 12 07.5 +1.0**
BSY P **P** **23 12 07.5 +1.0**
HOQ Hoqain 65.89 297 P **P** **23 12 10.0 +2.8**
SNR=5.3
HOQ P **P** **23 12 10.0 +2.8**
SNR=5.3
HOQ P **P** **23 12 10.0 +2.8**
SNR=5.3
ARQ Araqi 66.53 297 P **P** **23 12 13.4 +2.1**
ARQ P **P** **23 12 13.4 +2.1**
ARQ P **P** **23 12 13.4 +2.1**
SOHO SOHO 66.72 298 *i* P **P** **23 12 11.5 -1.0**
SNR=6.2
SOHO SOHO 66.72 298 P **P** **23 12 14.7 +2.3**
SOHO P **P** **23 12 14.7 +2.3**
DMTO DMTO 66.75 291 P **P** **23 12 11.0 -1.7**
UOSS Minazif 67.21 298 P **P** **23 12 13.3 -2.3**
UOSS Minazif 67.21 298 P **P** **23 12 14.2 -1.4**
UOSS P **P** **23 12 14.2 -1.4**
HATD Hatta, Dubai 67.25 298 *i* P **P** **23 12 14.7 -1.1**
SNR=8.6
HATD Hatta, Dubai 67.25 298 P **P** **23 12 12.8 -3.0**
SNR=5.9
HATD P **P** **23 12 12.8 -3.0**
SNR=5.9
ASHO Ashiyiah 67.28 298 *i* P **P** **23 12 15.3 -0.8**
SNR=6.7
ASHO Ashiyiah 67.28 298 P **P** **23 12 14.9 -1.2**
ASHO P **P** **23 12 14.9 -1.2**
MSFE Esma-Masafi 67.36 299 P **P** **23 12 15.5 -1.1**
MASF Masafi 67.36 299 P **P** **23 12 15.1 -1.4**
MASF P **P** **23 12 15.1 -1.4**
ALNE Al Ain 67.39 297 *i* P **P** **23 12 15.6 -1.2**
SNR=7.0
ALNE Al Ain 67.39 297 P **P** **23 12 15.6 -1.2**
SNR=8.0
ALNE P **P** **23 12 15.6 -1.2**
SNR=8.0
RBK Rabkut 67.40 290 P **P** **23 12 14.8 -2.1**
RBK P **P** **23 12 14.8 -2.1**
SHME Shamm 67.55 300 P **P** **23 12 16.5 -1.2**
UMZA Um Al Zommool 67.60 296 P P 23 12 11.4 -6.7
UMZA P P 23 12 11.4 -6.7
DOK Doka 67.68 291 P **P** **23 12 16.2 -2.5**
DOK P **P** **23 12 16.2 -2.5**
NAZ Nazwa, Dubai 67.70 298 P **P** **23 12 16.8 -1.8**
NAZ Nazwa, Dubai 67.70 298 P **P** **23 12 14.6 -4.0**
NAZ P **P** **23 12 14.6 -4.0**
FAQ Al Faqa, Dubai 67.70 298 P **P** **23 12 17.2 -1.5**
FAQ Al Faqa, Dubai 67.70 298 P **P** **23 12 17.6 -1.0**
FAQ P **P** **23 12 17.6 -1.0**
WHFO Wadi Hawf 67.89 291 P **P** **23 12 17.1 -2.9**
WHFO P **P** **23 12 17.1 -2.9**
WHFO P **P** **23 12 17.1 -2.9**
ASUD Al Ashush, Dub 67.91 298 *i* P **P** **23 12 19.2 -0.8**
SNR=8.9
ASUD Al Ashush, Dub 67.91 298 P **P** **23 12 15.3 -4.6**
SNR=7.5
ASUD P **P** **23 12 15.3 -4.6**
SNR=7.5
AJN Ajban 68.19 298 P **P** **23 12 20.1 -1.7**
AJN P **P** **23 12 20.1 -1.7**
ABTO Aybut 68.23 290 P **P** **23 12 22.5 +0.3**
SNR=11
ABTO P **P** **23 12 22.5 +0.3**
SNR=11
BVAR Borovoye Array 69.18 331 P **P** **23 12 25.7 -1.6**
comp=E,19nm,1.0s,baz=125,slow=7.2,SNR=29
BVAR LR LR 23 47 06.2
comp=E,905nm,20.0s,baz=126,slow=40
comp=E,19nm,1.0s
MZR Muzera 69.18 296 P **P** **23 12 26.5 -1.5**
MZR Muzera 69.18 296 P **P** **23 12 28.4 +0.4**
BRVK Borovoye 69.25 331 P **P** **23 12 27.9 +0.1**
BRVK IAmb IAmb 23 12 31.6
comp=Z,60nm,1.4s
BRVK Borovoye 69.25 331 IAMs_20 IAMs_20 23 46 56.4
comp=Z,2μm,21.0s
BRVK Borovoye 69.25 331 P **P** **23 12 29.0 +1.2**
BRVK P **P** **23 12 29.0 +1.2**
BRVK Borovoye 69.25 331 *ce*P **P** **23 12 27.1 -0.7**
BRVK pmax pmax
comp=Z,46nm,1.3s
BRVK MLR MLR
comp=Z,1μm,21.0s
CTZ Chatham Island 69.36 136 P **P** **23 12 31.6 +2.9**
comp=Z,82nm,2.0s
SEY Seymchan 70.19 15 *e*P **P** **23 12 33.4 0.0**
SEY pmax pmax
comp=Z,14nm,1.5s
SLWR Sila 71.01 297 P **P** **23 12 41.5 +2.3**
SHEM Shemya Is, Ala 71.85 31 LR LR 23 38 38.7
comp=Z,307nm,21.3s,baz=233,slow=31
ABPO Ambohimpanom 72.25 251 P **P** **23 12 44.9 -2.1**
ABPO IAmb IAmb 23 12 51.8
comp=Z,34nm,1.4s
ABPO Ambohimpanom 72.25 251 P **P** **23 12 44.9 -2.1**
ABPO pmax pmax
comp=Z,34nm,1.4s
VOI Vohitsoka 72.83 248 P **P** **23 12 50.0 -0.3**
VOI IAmb IAmb 23 12 58.2
comp=Z,45nm,1.3s
VOI IAMs_20 IAMs_20 23 38 44.4
comp=Z,1μm,21.0s
AB31 Akbulak array 72.88 324 *i* P **P** **23 12 49.5 -0.4**
AB31 pmax pmax
comp=Z,32nm,1.1s
ABKAR Akbulak array 72.88 324 P **P** **23 12 49.0 -0.9**
ABKAR IAmb IAmb 23 12 54.4
comp=Z,29nm,1.1s
ABKAR Akbulak array 72.88 324 P **P** **23 12 48.7 -1.2**
AKTO Aktyubinsk 74.51 324 LR LR 23 48 45.7
comp=Z,1μm,21.9s,baz=129,slow=38
AKTO Aktyubinsk 74.51 324 *i* P **P** **23 12 59.9 +0.4**
AKTO pmax pmax
comp=Z,19nm,0.9s
TIXI Tiksi 74.66 3 P **P** **23 12 56.0 -3.8**
TIXI IAmb IAmb 23 12 59.9
comp=Z,46nm,1.1s
TIXI Tiksi 74.66 3 IAMs_20 IAMs_20 23 46 52.0
comp=Z,2μm,22.0s
TIXI Tiksi 74.66 3 LR LR 23 47 25.1
comp=Z,1μm,21.7s,baz=206,slow=37
TIXI Tiksi 74.66 3 *ce*P **P** **23 12 56.6 -3.2**
TIXI pmax pmax
comp=Z,60nm,1.3s
TIXI MLR MLR
comp=Z,1μm,21.0s
MAW Mawson 75.10 199 P **P** **23 13 01.9 -0.6**
comp=Z,12nm,0.9s,baz=57,slow=4.2,SNR=17
MAW LR LR 23 45 43.3
comp=Z,825nm,18.1s,baz=62,slow=36
comp=Z,12nm,0.9s
NRIK Noril'sk 75.28 349 P **P** **23 13 00.4 -3.1**
NRIK Noril'sk 75.28 349 P **P** **23 13 02.2 -1.3**
comp=Z,7.5nm,0.8s,baz=147,slow=7.1,SNR=11
NRIK LR LR 23 49 47.0
comp=Z,719nm,18.9s,baz=152,slow=39
comp=Z,7.5nm,0.8s
NRIK Noril'sk 75.28 349 *ce*P **P** **23 13 01.5 -2.0**
NRIK pmax pmax
comp=Z,22nm,1.2s
NRIK MLR MLR
comp=Z,825nm,19.0s
SVE Sverdlovsk 75.96 331 *e*P **P** **23 13 08.1 +0.5**
SVE pmax pmax
comp=Z,29nm,1.0s
RAYN Ar Rayn 76.48 295 P **P** **23 13 09.9 -1.5**
RAYN Ar Rayn 76.48 295 IAMs_20 IAMs_20 23 47 57.4
comp=Z,1μm,20.0s
RAYN Ar Rayn 76.48 295 *i* P **P** **23 13 11.4 0.0**
SNR=7.8
RAYN Ar Rayn 76.48 295 P **P** **23 13 11.4 0.0**
RAYN Ar Rayn 76.48 295 P **P** **23 13 09.9 -1.5**
RAYN pmax pmax
comp=Z,26nm,1.5s
RAYN MLR MLR
comp=Z,1μm,20.0s
ARTI Arti 76.87 330 P **P** **23 13 11.4 -1.4**
ARTI IAMs_20 IAMs_20 23 53 00.9
comp=Z,1μm,20.0s
ARTI Arti 76.87 330 LR LR 23 51 14.3
comp=Z,590nm,20.9s,baz=132,slow=39
ARTI Arti 76.87 330 *d* P **P** **23 13 12.6 -0.2**
ARTI 23 16 04.8
ARTI S **S** **23 23 00.1 +0.2**
ARTI SS **SS** **23 27 50.9 -5.6**
ARTI pmax pmax
comp=Z,16nm,0.9s
ATD Arta Tunnel 77.47 282 LR LR 23 44 26.5
comp=Z,24nm,19.6s,baz=143,slow=34
BILL Bilibino 77.84 16 *i* P **P** **23 13 18.5 +0.5**
BILL pmax pmax
comp=Z,13nm,1.5s
MAK Makhachkala 78.85 315 *e*P P 23 13 18.8 -5.3
MAK *e**PP pP 23 13 28.7 -1.2
MAK *e**SP **PcP** **23 13 33.1 +0.3**
MAK *e* 23 16 19.4
MAK *e*PPP PPP 23 18 13.5
MAK *e*S **S** **23 23 14.8 -7.0**
MAK *e**SS sS 23 23 32.2 +0.7
MAK *e*SS **SS** **23 28 20.5 -6.4**
MAK pmax pmax
comp=Z,348nm,1.0s
SBA Scott Base 78.91 171 P **P** **23 13 23.9 +0.1**
SBA Scott Base 78.91 171 P **P** **23 13 23.9 +0.1**
SBA pmax pmax
comp=Z,23nm,1.2s
GNI Garni 80.22 311 LR LR 23 57 19.7
comp=Z,454nm,19.0s,baz=142,slow=42
GNI Garni 80.22 311 *ce*P **P** **23 13 28.7 -3.2**
GNI pmax pmax
comp=Z,72nm,2.5s
RAR Rarotonga 80.38 111 LR LR 23 47 47.2
comp=Z,231nm,20.6s,baz=230,slow=35
BELG Belogornoye 81.29 324 LR LR 23 55 37.5
comp=Z,646nm,20.6s,baz=104,slow=40
BELG Belogornoye 81.29 324 *i* P **P** **23 13 35.4 -1.7**
BELG pmax pmax
comp=Z,7.0nm,1.0s
BELG MLR MLR
comp=Z,207nm,25.0s
KIBK Kibwezi 81.29 268 P **P** **23 13 36.8 -1.3**
FURI Furi 81.33 279 LR LR 23 48 34.6
comp=Z,741nm,19.2s,baz=136,slow=35
GURO Guroymak-BITLI 81.97 309 P **P** **23 13 41.1 -0.1**
GURO IAmb IAmb 23 13 45.1
comp=Z,44nm,1.5s
GURO IAMs_20 IAMs_20 23 54 23.5
comp=Z,774nm,22.0s
KMBO Kilima Mbogo 82.14 269 P **P** **23 13 41.6 -1.1**
KMBO Kilima Mbogo 82.14 269 IAMs_20 IAMs_20 23 48 28.5
comp=Z,893nm,19.0s
KMBO Kilima Mbogo 82.14 269 P **P** **23 13 42.6 -0.1**
KMBO Kilima Mbogo 82.14 269 P **P** **23 13 40.7 -2.0**
comp=Z,1.2nm,0.7s,baz=95,slow=7.7,SNR=3.2
KMBO LR LR 23 48 50.8
comp=Z,708nm,18.9s,baz=95,slow=35
comp=Z,1.2nm,0.7s
KMBO Kilima Mbogo 82.14 269 P **P** **23 13 41.6 -1.1**
KMBO pmax pmax
comp=Z,8.0nm,1.2s
KMBO MLR MLR
comp=Z,900nm,19.0s
KIRV Kirov 82.18 330 *ce*P **P** **23 13 42.9 +1.3**
KBZ Khabaz 82.30 315 P **P** **23 13 41.0 -1.6**
comp=Z,5.5nm,1.1s,baz=98,slow=13,SNR=3.5
KBZ LR LR 23 59 19.6
comp=Z,457nm,18.9s,baz=110,slow=42
comp=Z,5.5nm,1.1s
KBZ Khabaz 82.30 315 *ce*P **P** **23 13 42.1 -0.5**
KBZ pmax pmax
comp=Z,11nm,1.4s
KBZ MLR MLR
comp=Z,794nm,21.0s
KVAR Kislovodsk Arr 82.49 315 LR LR 00 00 03.6
comp=Z,522nm,18.9s,baz=132,slow=43
KIV Kislovodsk 82.49 315 IAMs_20 IAMs_20 23 53 59.1
comp=Z,766nm,22.0s
KIV Kislovodsk 82.49 315 P **P** **23 13 43.3 -0.5**
KIV Kislovodsk 82.49 315 *e*P **P** **23 13 42.8 -1.0**
KIV *e* 23 24 02.8
KIV *e*SS SS 23 29 20.3 -1.3
KIV *e*SSS SSS 23 32 51.1
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,491nm,19.0s
SOC Sochi 84.54 314 *e*P **P** **23 13 52.2 -2.0**
SOC *i* 23 17 08.9
SOC *e*S **SKSac** **23 24 15.4 -2.4**
SOC *e*SS **SS** **23 29 54.3 +2.6**
SOC pmax pmax
comp=Z,14nm,0.8s
SOC MLR MLR
comp=Z,479nm,17.0s
VRH Novokhopyorsk 84.56 322 *e*P **P** **23 13 55.2 +1.1**
VRH pmax pmax
comp=Z,23nm,0.9s
VORD Divnogorie 86.03 321 *e*P **P** **23 14 01.4 0.0**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 86.15 322 *e*P **P** **23 14 01.2 -0.8**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 86.20 322 *e*P **P** **23 14 03.8 +1.6**
VORR pmax pmax
comp=Z,30nm,0.6s
LPSR Galich'ya Gora 86.52 323 *e*P **P** **23 14 03.8 0.0**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MMAI Mount Meron Ar 86.56 303 P **P** **23 14 01.9 -2.7**
comp=Z,1.7nm,0.7s,baz=116,slow=6.6,SNR=8.1
MMAI LR LR 23 57 24.2
comp=Z,534nm,19.1s,baz=98,slow=39
comp=Z,1.7nm,0.7s
POGA Pongola 86.67 243 P **P** **23 14 05.1 -0.1**
POGA IAmb IAmb 23 14 09.2
comp=Z,24nm,0.9s
POGA IAMs_20 IAMs_20 23 51 24.5
comp=Z,1μm,19.0s
QSPA South Pole Qui 87.06 180 P **P** **23 14 05.7 -0.7**
QSPA IAmb IAmb 23 14 20.9
comp=Z,18nm,1.1s
QSPA South Pole Qui 87.06 180 P **P** **23 14 04.8 -1.6**
comp=Z,4.2nm,0.8s,baz=325,slow=3.5,SNR=13
QSPA S **SKSac** **23 24 34.1 +1.1**
comp=Z,0.4nm,0.3s,baz=3.4,slow=19,SNR=1.4
QSPA LR LR 23 52 09.3
comp=Z,792nm,19.7s,baz=334,slow=35
comp=Z,4.2nm,0.8s
KLMR Klimovskoe 87.60 331 *e*P **P** **23 14 05.2 -3.7**
KLMR pmax pmax
comp=Z,29nm,1.4s
KLMR MLR MLR
comp=Z,654nm,17.0s
MOS Moscow 87.76 326 *e*P **P** **23 14 07.9 -1.8**
MOS *e* 23 17 29.0
OBN Obninsk 88.27 325 IAMs_20 IAMs_20 23 58 50.5
comp=Z,1μm,22.0s
OBN Obninsk 88.27 325 LR LR 23 58 32.4
comp=Z,1μm,21.8s,baz=123,slow=39
OBN Obninsk 88.27 325 || *e*P **P** **23 14 12.2 0.0**
OBN *e**SP **pP** **23 14 16.9 -1.0**
OBN *e*PS PS 23 26 06.3 +5.0
OBN pmax pmax
comp=Z,7.0nm,0.9s
CSS Mathiatis 88.45 305 IAMs_20 IAMs_20 23 59 16.1
comp=Z,761nm,20.0s
BRTR Keskin Array B 88.59 310 P **P** **23 14 13.7 -0.7**
comp=Z,1.9nm,0.8s,baz=98,slow=5.2,SNR=7.7
BRTR PP **PP** **23 17 39.0 -3.8**
comp=Z,1.7nm,0.9s,baz=116,slow=5.3,SNR=2.5
comp=Z,1.9nm,0.8s
MBAR Mbarara 88.67 269 P **P** **23 14 13.8 -1.5**
MBAR IAmb IAmb 23 14 17.2
comp=Z,40nm,1.9s
MBAR Mbarara 88.67 269 P **P** **23 14 13.8 -1.5**
MBAR pmax pmax
comp=Z,41nm,1.9s
ANTO Ankara 89.25 310 P **P** **23 14 17.9 +0.6**
ANTO IAmb IAmb 23 14 20.6
comp=Z,34nm,1.8s
ANTO Ankara 89.25 310 P **P** **23 14 17.9 +0.6**
ANTO pmax pmax
comp=Z,34nm,1.8s
ANTO Ankara 89.25 310 P **P** **23 14 17.1 -0.2**
comp=Z,4.5nm,1.3s
TBI Tubuai 89.88 113 *e*SS SS 23 31 09.1 -1.5
comp=Z,2μm,27.8s
TBI *e*LQ LQ 23 39 05.5
comp=Z,7μm,32.2s
TBI *e*LR LR 23 42 52.2
comp=Z,2μm,26.2s
TBI *e*LR LR 23 43 01.1
comp=Z,6μm,25.8s
MATP Matopo 89.89 250 LR LR 23 50 04.4
comp=Z,454nm,20.2s,baz=67,slow=33
ACHA Angle Creek He 89.92 32 IAMs_20 IAMs_20 23 48 59.2
comp=Z,620nm,22.0s
PPT2 Papeete2 90.08 108 *e*SS SS 23 31 04.7 -9.1
comp=Z,614nm,25.5s
PPT2 *e*LQ LQ 23 39 13.3
comp=Z,2μm,30.8s
PPT2 *e*LR LR 23 43 04.1
comp=Z,1μm,27.0s
PPT2 *e*LR LR 23 43 04.1
comp=Z,798nm,27.5s
LSZ Lusaka 90.45 255 P **P** **23 14 22.1 -1.4**
LSZ Lusaka 90.45 255 P **P** **23 14 22.1 -1.4**
LSZ pmax pmax
comp=Z,18nm,1.6s
LSZ MLR MLR
comp=Z,2μm,20.0s
APA Apatity 91.13 337 || *i*P **P** **23 14 27.5 +2.2**
APA pmax pmax
comp=Z,6.0nm,1.3s
APA MLR MLR
comp=Z,2μm,19.0s
IMAR Indian Mountai 91.32 24 P **P** **23 14 27.8 +1.6**
KDAK Kodiak Island 91.34 32 LR LR 23 50 39.7
comp=Z,467nm,20.8s,baz=95,slow=32
E21K Killik River 91.41 22 P **P** **23 14 26.6 -0.1**
SOE Somerset East 91.72 237 IAMs_20 IAMs_20 23 45 50.8
comp=Z,1μm,21.0s
E22K Anaktuvuk Pass 92.19 22 P **P** **23 14 30.1 -0.2**
LBTB Lobatse 92.27 245 LR LR 23 52 19.4
comp=Z,408nm,19.0s,baz=79,slow=33
BOSA Boshof 92.30 241 LR LR 23 50 16.0
comp=Z,1μm,21.5s,baz=96,slow=32
AKASG Malin Array Be 92.35 320 P **P** **23 14 28.8 -2.5**
comp=Z,2.6nm,0.9s,baz=75,slow=4.8,SNR=5.6
AKASG PP **PP** **23 18 09.1 -3.0**
comp=Z,0.2nm,0.2s,baz=86,slow=7.0,SNR=5.2
AKASG LR LR 00 03 49.3
comp=Z,454nm,19.6s,baz=112,slow=41
comp=Z,2.6nm,0.9s
AKASG Malin Array Be 92.35 320 *i* P **P** **23 14 29.1 -2.3**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 92.35 320 *ce*P **P** **23 14 30.3 -1.1**
AKBB pmax pmax
comp=Z,23nm,2.8s
AKBB MLR MLR
comp=Z,1μm,25.0s
AKBB Malin Array Si 92.35 320 P **P** **23 14 30.5 -0.9**
KIEV Kiev 92.36 320 IAMs_20 IAMs_20 00 03 37.9
comp=Z,687nm,21.0s
KIEV Kiev 92.36 320 P **P** **23 14 30.5 -0.9**
comp=Z,36nm,2.0s
C23K Itkillik River 92.67 20 P **P** **23 14 33.6 +1.2**
E23K Chandalar 93.02 22 P **P** **23 14 34.5 +0.3**
E23K IAmb IAmb 23 14 50.5
comp=Z,37nm,1.9s
LUBAR Lubar, Ukraine 93.28 320 P **P** **23 14 35.3 -0.4**
KEV Kevo 93.54 340 IAMs_20 IAMs_20 00 03 20.5
comp=Z,1μm,21.0s
NACGM Naroch 93.88 325 LRM MLR 00 00 18.7
comp=Z,737nm,24.0s
VRI Vrincioaia 93.95 316 P **P** **23 14 38.8 -0.1**
DHY Denali Highway 94.01 27 P **P** **23 14 39.0 +0.1**
DHY IAmb IAmb 23 16 00.7
comp=Z,28nm,1.9s
ARCES ARCESS Array B 94.07 339 P **P** **23 14 39.0 +0.1**
ARCES ARCESS Array B 94.07 339 P **P** **23 14 39.0 +0.1**
comp=Z,3.7nm,0.9s,baz=62,slow=11,SNR=2.3
comp=Z,3.7nm,0.9s
ARCES ARCESS Array B 94.07 339 P **P** **23 14 39.0 +0.1**
ARCES pmax pmax
comp=Z,107nm,2.0s
FINES FINESS Array B 94.13 331 P **P** **23 14 39.5 +0.2**
comp=Z,2.3nm,0.9s,baz=77,slow=7.9,SNR=4.9
FINES LR LR 00 03 41.3
comp=Z,568nm,18.0s,baz=120,slow=40
comp=Z,2.3nm,0.9s
ILAR Eielson Array 94.17 25 P **P** **23 14 38.6 -0.9**
comp=Z,0.4nm,0.7s,baz=261,slow=4.1,SNR=3.4

comp=Z,0.4nm,0.7s
BMAR Burnt Mountain 94.95 23 P **P 23 14 43.1 +0.1**
BUR08 Bucovina Ar. S 94.98 317 P **P 23 14 42.4 -1.3**
BUR08 IAmb IAmb 23 17 52.3
comp=Z,18nm,1.6s
TROLL Troll, Antarti 95.33 196 ⇑P **P 23 14 44.4 -0.4**
comp=Z,30nm,0.6s
J26L Joseph Creek 95.61 26 P **P 23 14 47.0 +0.8**
SUR Sutherland 95.74 237 LR LR 23 54 41.0
comp=Z,408nm,18.8s,baz=102,slow=34
SUW Suwalki 96.01 324 IAMs_20 IAMs_20 00 03 49.3
comp=Z,737nm,21.0s
KBS Kingsbay 96.15 349 IAMs_20 IAMs_20 00 03 08.5
comp=Z,989nm,21.0s
L27K Beaver Creek, 96.53 27 P **P 23 14 50.0 -0.3**
BCAR Beaver Creek A 96.55 27 P **P 23 14 49.9 -0.6**
KWP Kalwaria Pacla 96.56 319 IAMs_20 IAMs_20 00 04 46.2
comp=Z,757nm,21.0s
E28M Babbage River 96.70 21 P **P 23 14 50.3 -0.6**
SNAA Sanae 96.96 196 ⇑P **P 23 14 52.3 +0.1**
comp=Z,32nm,0.7s
SNAA Sanae 96.96 196 P **P 23 14 52.0 -0.2**
comp=Z,1.2nm,0.7s,baz=90,slow=20,SNR=2.6
SNAA LR LR 23 56 43.4
comp=Z,778nm,19.7s,baz=112,slow=34
comp=Z,1.2nm,0.7s
SNAA Sanae 96.96 196 P **P 23 14 52.0 -0.2**
I28M Miner Creek 97.03 24 P Pdif 23 14 53.7 +1.0
I28M IAmb IAmb 23 15 02.7
comp=Z,8.4nm,0.9s
ITM Ithomi 97.73 307 IAMs_20 IAMs_20 00 03 06.8
comp=Z,521nm,19.0s
BELA Belgrano 2 98.10 185 IAMs_20 IAMs_20 23 59 18.8
comp=Z,940nm,19.0s
INK Inuvik 98.93 21 Pdif 23 15 01.2 +0.3
INK Inuvik 98.93 21 P Pdif 23 15 01.3 +0.4
INK pmax pmax
comp=Z,5.0nm,0.9s
TAOE Nuku Hiva Isla 99.83 99 *e*LR LR 23 47 35.4
comp=Z,591nm,26.3s
MORC Moravsky Berou 99.88 320 IAMs_20 IAMs_20 00 06 43.1
comp=Z,729nm,18.0s
MORC Moravsky Berou 99.88 320 *e*PP **PP 23 19 14.5 +4.1**
VRAC Vranov 100.56 320 PP **PP 23 19 14.6 -0.9**
comp=Z,0.7nm,0.4s,baz=45,slow=10.0,SNR=1.7
VRAC Vranov 100.56 320 *e*PP **PP 23 19 16.8 +1.3**
KRUC Moravsky 100.72 319 *e*PP **PP 23 19 17.0 +0.3**
RONA Rosalia, Austr 100.97 318 *e*PP **PP 23 19 23.7 +5.0**
comp=Z,4.5nm,1.1s
CONA Conrad Observa 101.23 318 *i* PP **PP 23 19 24.7 +4.0**
comp=Z,9.5nm,1.2s
BRG Berggiesshubel 101.99 321 P **PP 23 19 27.9 +1.6**
BRG Amp 23 19 29.8
comp=Z,7.4nm,1.4s
BRG Berggiesshubel 101.99 321 P **PKiKP 23 19 41.8 +4.1**
BRG Amp 23 19 43.6
comp=Z,6.1nm,1.2s
MOA Molln 102.30 318 *e*PKiKP **PKiKP 23 19 35.8 -2.6**
comp=Z,7.6nm,1.2s
OBKA Obir 102.33 317 *e*PP **PKiKP 23 19 33.8 -4.7**
comp=Z,12nm,1.2s
CLL Collm 102.50 322 IAMs_20 IAMs_20 00 08 35.1
comp=Z,765nm,21.0s
CLL Collm 102.50 322 *i* P **Pdif 23 15 14.7 -2.5**
CLL MLR MLR
comp=Z,1µm,22.7s
CLL Collm 102.50 322 *i* Pdif **Pdif 23 15 14.7 -2.5**
CLL *e*PPP PPP 23 21 54.0
CLL *e*PS **PS 23 28 48.0 +11**
CLL *e*SS SS 23 34 12.0 +4.2
CLL *e*SSS SSS 23 38 00.0
CLL *e*SSSS 23 41 24.0
GERES GERESS Array B 102.51 319 PP **PP 23 19 30.6 +0.3**
comp=Z,0.9nm,0.6s,baz=69,slow=5.4,SNR=6.6
KBA Koelnbreinsper 103.05 318 *e*PKiKP **PKiKP 23 19 41.1 +1.1**
comp=Z,7.9nm,1.6s
FDMO Fiordimonte 103.90 314 IAMs_20 IAMs_20 00 06 54.8
comp=Z,556nm,20.0s
GRA1 Grafenberg Arr 103.94 321 IAMs_20 IAMs_20 00 07 19.3
comp=Z,832nm,20.0s
GRFO Grafenberg 103.94 321 IAMs_20 IAMs_20 00 07 18.3
comp=Z,869nm,21.0s
WTTA Wattenberg 104.16 318 *e*pPKiKP **PKiKP 23 19 46.1 +4.1**
comp=Z,4.5nm,1.1s
CESX Cesi 104.34 313 IAMs_20 IAMs_20 23 48 07.3
comp=Z,811nm,22.0s
SQTA Sankt Quirin 104.45 318 *e*pPKiKP **PKiKP 23 19 47.5 +5.1**
comp=Z,7.1nm,1.4s
MOTA Moosalm 104.50 318 *e*pPKiKP **PKiKP 23 19 47.9 +5.4**
comp=Z,8.5nm,1.2s
RETA Reutte 104.70 318 *e*PP **PP 23 19 50.3 +3.6**
comp=Z,7.8nm,1.6s
FETA Feichten 104.82 318 *e*PP **PP 23 19 51.0 +3.3**
comp=Z,7.9nm,1.1s
FUORN Ofenpass-Fuorn 105.21 318 IAMs_20 IAMs_20 00 07 09.3
comp=Z,668nm,22.0s
DAVA Damuels 105.33 318 *e*PP **PP 23 19 55.1 +3.7**
comp=Z,15nm,1.5s
BFO Black Forest 106.10 320 IAMs_20 IAMs_20 00 09 00.6
comp=Z,785nm,22.0s
ECH Echery 106.89 320 IAMs_20 IAMs_20 23 57 59.4
comp=Z,640nm,21.0s
KEST Kesra 107.96 307 PP **PP 23 20 09.0 -2.1**
comp=Z,14nm,1.2s,baz=45,slow=4.3,SNR=6.3
EMB Emerald Bay 115.21 48 IAMs_20 IAMs_20 23 56 14.9
comp=Z,535nm,22.0s
CART Cartagena 115.62 311 IAMs_20 IAMs_20 00 05 33.6
comp=Z,372nm,22.0s
LHV Little Huntoon 116.63 48 IAMs_20 IAMs_20 00 19 18.4
comp=Z,469nm,21.0s
ESDC Sonseca Array 117.14 314 PKP **PKPdf 23 20 03.7 -2.8**
comp=Z,0.5nm,0.9s,baz=125,slow=0.7,SNR=2.4
ESDC PP **PP 23 21 14.4 -2.0**
comp=Z,1.1nm,0.9s,baz=81,slow=4.0,SNR=4.4
TORD Torodi Ar. Bea 117.66 283 **PKPdf 23 20 05.5 -2.6**
TORD Torodi Ar. Bea 117.66 283 PKP **PKPdf 23 20 05.2 -2.9**
comp=Z,2.7nm,0.8s,baz=90,slow=1.8,SNR=11
TORD PKKPbc **PKKPbc 23 30 29.5 -0.1**
comp=Z,0.6nm,0.9s,baz=232,slow=1.6,SNR=2.3
YFT Old Faithful 119.48 39 IAMs_20 IAMs_20 23 54 25.8
comp=Z,508nm,22.0s
YNE Yellowstone No 119.73 38 IAMs_20 IAMs_20 00 20 53.4
comp=Z,693nm,20.0s
DUG Dugway, Tooele 120.03 44 IAMs_20 IAMs_20 00 04 35.1
comp=Z,481nm,20.0s
JLU Jordanelle 120.81 43 IAMs_20 IAMs_20 00 12 18.5
comp=Z,612nm,21.0s
DBIC Dimbokro 124.39 276 PKPdf **PKPdf 23 20 19.1 -2.0**
DBIC Dimbokro 124.39 276 PKP **PKiKP 23 20 21.6 +0.3**
comp=Z,8.2nm,1.1s,baz=90,slow=1.0,SNR=5.8
DBIC Dimbokro 124.39 276 PKIKP **PKPdf 23 20 19.1 -2.0**
TXAR Lajitas Array 131.38 53 PKP **PKPdf 23 20 34.5 +0.4**
comp=Z,0.3nm,0.7s,baz=294,slow=0.9,SNR=2.6
S39A Bolivar 134.17 37 **PKPdf 23 20 38.8 -0.2**
MEDO Medina 136.85 19 IAMs_20 IAMs_20 00 06 37.1
comp=Z,441nm,18.0s
VA03 San Esteban 143.30 166 IAMs_20 IAMs_20 00 16 13.9
comp=Z,515nm,20.0s
LCO Las Campanas 146.82 164 **PKPdf 23 21 02.9 +0.5**
LCO Las Campanas 146.82 164 PKP2 **PKPdf 23 21 02.9 +0.5**
AC05 El Transito 147.10 164 **PKPbc 23 21 03.8 -1.0**
AC04 Llanos de Chal 147.47 163 PKPbc **PKPbc 23 21 05.7 0.0**
AC06 Mina Casimiro 148.48 163 PKPbc **PKPbc 23 21 07.6 -0.8**
AC01 Pan de Azucar 149.54 162 PKPbc **PKPbc 23 21 09.2 -2.0**
CPUP Villa Florida 150.78 186 **PKPbc 23 21 12.3 -1.8**
CPUP Villa Florida 150.78 186 PKPbc **PKPbc 23 21 12.9 -1.2**
comp=Z,9.9nm,0.9s,baz=149,slow=2.5,SNR=7.7
ESPN Las Esperanzas 154.74 67 IAMs_20 IAMs_20 00 41 10.8
comp=Z,208nm,19.0s
TA01 Diego Aracena 154.85 158 IAMs_20 IAMs_20 00 09 45.6
comp=Z,312nm,18.0s
HDC Heredia 155.57 72 IAMs_20 IAMs_20 00 41 06.2
comp=Z,481nm,21.0s
CHIV Chivirico 157.02 41 IAMs_20 IAMs_20 00 41 35.9
comp=Z,442nm,21.0s
BDFB Brasilia 157.79 214 PKPab **PKPab 23 21 50.1 -1.1**
comp=Z,3.2nm,0.9s,baz=135,slow=4.0,SNR=2.1
LPAZ La Paz 159.53 159 PKPab **PKPab 23 22 00.4 +1.2**
comp=Z,10nm,0.7s,baz=197,slow=3.8,SNR=6.5
LPAZ PP **PP 23 25 39.2 +0.2**
comp=Z,2.3nm,1.1s,baz=179,slow=2.8,SNR=4.2
ATAH Atahualpa 159.60 119 PKPab **PKPab 23 22 01.1 +1.5**
comp=Z,2.7nm,0.7s,baz=236,slow=8.5,SNR=1.6
SIV San Ignacio 161.23 178 PKP **PKPdf 23 21 22.2 -0.4**
comp=Z,1.6nm,0.5s,baz=212,slow=3.9,SNR=4.7

*IDC **14** 23:10:05.6±0.8,2°.80S×119°.53E,h0km,mb4.1/8, mbtmp4.1/10,ML4.0/2,Error ellipse: s-maj=45.5km s-min=14.1km az=68.0*
*DJA **14** 23:10:08.7±0.3,3°S±2°×11°9E±°,h10km,M4.5/14,mb4.4/1, MLv4.5/14*
*NEIC **14** 23:10:08.2±1.2,2°.98S±0°.05×119°.44E±0°.07,h10km±1km, mb4.5/11,Error ellipse: s-maj=12.1km s-min=7.8km az=63.0*
ISC 14 23:10:07.8±0.6,**2°.92S**±0°.05×**119°.45E**±0°.06,**h10**km,**n46,** σ1§**17**/47,**mb4.2**/13,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.40**	**109**	P	**Pg**	**23 10 14.1**	**-1.5**
TTSI				S	**Sg**	**23 10 20.5**	**-0.4**
SPSI	**Sidrap Palu**	**1.09**	**163**	P	Pg	23 10 26.9	-1.9
SPSI				S	**Sg**	**23 10 43.6**	**+0.6**
BNSI	**Bone**	**1.62**	**156**	P	**Pn**	**23 10 37.1**	**+0.7**
PCI	**Palu**	**2.03**	**11**	P	**Pn**	**23 10 42.3**	**+0.1**
KAPI	**Kappang**	**2.11**	**172**		**Pn**	**23 10 42.5**	**-0.6**
KAPI	**Kappang**	**2.11**	**172**	Pn	**Pn**	**23 10 43.5**	**+0.4**
	90nm,0.3s,baz=359,slow=10,SNR=41						
KAPI				Sn	**Sn**	**23 11 12.5**	**+3.0**
	89nm,0.3s,baz=25,slow=13,SNR=9.4						
	601nm,0.6s						
APSI	**Ampana**	**2.97**	**48**	P	**Pn**	**23 10 56.4**	**+1.4**
BKB	**Balikpapan**	**3.03**	**303**	Pn	**Pn**	**23 10 57.2**	**+1.3**
KDI	**Kendari**	**3.33**	**108**	P	**Pn**	**23 11 01.8**	**+1.8**
BSSI	**Bau Bau, Buton**	**3.37**	**162**	P	**Pn**	**23 11 01.3**	**+0.7**
LUWI	**Luwuk**	**3.81**	**61**	Pn	**Pn**	**23 11 06.9**	**+0.3**
LUWI	**Luwuk**	**3.81**	**61**	P	**Pn**	**23 11 07.9**	**+1.3**
BBSI	**Bau Bau**	**4.03**	**129**	P	**Pn**	**23 11 10.9**	**+1.3**
MRSI	**Marisa**	**4.19**	**37**	P	**Pn**	**23 11 12.4**	**+0.6**
TOLI2	**Tolitoli**	**4.22**	**18**		**Pn**	**23 11 14.0**	**+1.8**
GTOI	**Gorontalo**	**5.01**	**45**	P	**Pn**	**23 11 25.6**	**+2.4**
JAGI	**Jajag, Banyuwa**	**7.63**	**223**	Pn	**Pn**	**23 11 58.2**	**-0.9**
MYLDM	**Lahad Datu**	**8.10**	**353**	Pn	**Pn**	**23 12 07.5**	**+2.0**
SOEI	**Soe**	**8.31**	**145**	Pn	**Pn**	**23 12 08.9**	**+0.2**
SBUM	**Sibu**	**8.98**	**306**	Pn	**Pn**	**23 12 19.1**	**+1.5**
KKM	**Kota Kinabalu**	**9.47**	**340**	Pn	**Pn**	**23 12 26.5**	**+2.1**
FITZ	**Fitzroy Crossi**	**16.27**	**159**	Pn	**Pn**	**23 13 55.8**	**-0.8**
	0.2nm,0.3s,baz=336,slow=10.0,SNR=1.9						
	1.6nm,0.6s						
RPSI	**Rantau Prapat**	**21.26**	**285**	P	**P**	**23 14 54.4**	**0.0**
RPSI				IAmb	IAmb	23 14 59.9	
	comp=Z,22nm,0.9s						
WB0	**Warramunga Arr**	**22.22**	**140**	P	**P**	**23 15 03.6**	**-1.1**
WB0				IAmb	IAmb	23 15 05.3	
	comp=Z,8.6nm,0.9s						
WRA	**Warramunga Arr**	**22.31**	**140**	P	**P**	**23 15 04.5**	**-1.3**
WRA	**Warramunga Arr**	**22.31**	**140**	P	**P**	**23 15 04.7**	**-1.1**
	comp=Z,7.7nm,1.0s,baz=316,slow=11,SNR=19						
	comp=Z,7.7nm,1.0s						
AS31	**Alice Springs**	**24.92**	**147**	P	**P**	**23 15 31.0**	**-0.4**
ASAR	**Alice Springs**	**24.92**	**147**	P	**P**	**23 15 29.8**	**-1.6**
ASAR	**Alice Springs**	**24.92**	**147**	P	**P**	**23 15 31.9**	**+0.5**
	comp=Z,4.7nm,0.9s,baz=331,slow=9.5,SNR=11						
ASAR				PcP	**PcP**	**23 19 06.4**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=327,slow=2.3,SNR=2.6						
	comp=Z,4.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**29.30**	**317**	P	**P**	**23 16 09.9**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=144,slow=6.3,SNR=2.1						
	comp=Z,1.1nm,0.3s						
STKA	**Stephens Creek**	**35.56**	**147**	P	**P**	**23 17 06.7**	**+1.3**
LSA	**Lhasa**	**42.25**	**322**	P	**P**	**23 18 02.5**	**+0.4**
LSA				IAmb	IAmb	23 18 06.1	
	comp=Z,4.2nm,0.5s						
MJAR	**Matsushiro Arr**	**42.98**	**22**	P	P	23 18 05.2	-2.1
	comp=Z,0.6nm,0.3s,baz=194,slow=7.1,SNR=1.5						
	comp=Z,0.6nm,0.3s						
ULN	**Ulaanbaatar**	**51.72**	**349**	P	**P**	**23 19 15.7**	**+0.3**
ULN				IAmb	IAmb	23 19 16.7	
	comp=Z,6.8nm,1.0s						
SONM	**Songino Array**	**51.82**	**349**	P	**P**	**23 19 16.0**	**-0.1**
SONM				IAmb	IAmb	23 19 18.0	
	comp=Z,5.1nm,1.2s						
SONM	**Songino Array**	**51.82**	**349**	P	**P**	**23 19 15.5**	**-0.6**
	comp=Z,3.3nm,0.9s,baz=164,slow=7.5,SNR=7.6						
	comp=Z,3.3nm,0.9s						
MK31	**Makanchi Array**	**59.32**	**331**	P	**P**	**23 20 10.0**	**0.0**
MK31				IAmb	IAmb	23 20 17.4	
	comp=Z,4.3nm,1.1s						
MKAR	**Makanchi Array**	**59.32**	**331**	P	**P**	**23 20 09.9**	**-0.1**
MKAR	**Makanchi Array**	**59.32**	**331**	P	**P**	**23 20 09.0**	**-1.0**
	comp=Z,4.2nm,0.9s,baz=140,slow=6.2,SNR=18						
	comp=Z,4.2nm,0.9s						
MAKZ	**Makanchi**	**59.48**	**331**	P	**P**	**23 20 10.8**	**-0.3**
GAR	**Garm**	**61.47**	**318**	P	**P**	**23 20 25.1**	**+0.1**
KKAR	**Karatay Array**	**63.50**	**322**	P	**P**	**23 20 38.2**	**-0.2**
ZALV	**Zalesovo Beam**	**63.57**	**338**	P	**P**	**23 20 37.2**	**-1.3**
ZALV	**Zalesovo Beam**	**63.57**	**338**	P	P	23 20 36.9	-1.7
	comp=Z,0.9nm,0.6s,baz=124,slow=7.2,SNR=4.2						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**63.78**	**332**	P	**P**	**23 20 38.9**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=143,slow=6.0,SNR=5.6						
	comp=Z,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**117.67**	**283**	PKP	**PKPdf**	**23 28 54.5**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=93,slow=0.6,SNR=2.2						

*NEIC **14** 23:17:57.8±2.2,16°.49S±0°.08×71°.5W±0°.1,h87km±10km, mb4.0/5,Error ellipse: s-maj=16.7km s-min=9.8km az=112.0*
*IDC **14** 23:18:06.6±4.7,16°.45S×70°.74W,h154km±32km,mb3.5/4, mbtmp4.0/6,Error ellipse: s-maj=56.0km s-min=28.1km az=114.0*
ISC 14 23:17:58.3±0.9,**16°.50S**±0°.07×**71°.39W**±0°.10,**h100**km,**n35,** σ1§**47**/36,**mb3.9**/5,**Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**2.11**	**152**	Pn	**Pn**	**23 18 31.5**	**-0.8**
AP01				Sn	**Sn**	**23 18 57.4**	**-0.9**
PB18	**Visviri**	**2.12**	**121**		**Pn**	**23 18 34.7**	**+1.7**
PB18				Sn	**Sn**	**23 19 02.6**	**+3.3**
LPAZ	**La Paz**	**3.13**	**87**		**Pn**	**23 18 48.5**	**+2.0**
LPAZ				Sn	**Sn**	**23 19 24.0**	**+0.5**
LPAZ	**La Paz**	**3.13**	**87**	P	**Pn**	**23 18 48.4**	**+2.0**
	100nm,0.4s,baz=263,slow=9.7,SNR=457						
LPAZ				S	**Sn**	**23 19 22.1**	**-1.3**
	8.7nm,0.5s,baz=249,slow=5.7,SNR=3.8						
PB11	**IPOC Station P**	**3.63**	**153**	Pn	**Pn**	**23 18 52.5**	**-0.2**
GO01	**Chusmiza**	**3.78**	**147**	Pn	**Pn**	**23 18 56.1**	**+1.1**
TA02	**Huaiquique**	**3.93**	**163**	Pn	**Pn**	**23 18 56.8**	**+0.2**
PB08	**IPOC Station P**	**4.19**	**150**	Pn	**Pn**	**23 19 00.9**	**+0.4**
TA01	**Diego Aracena**	**4.20**	**164**	Pn	**Pn**	**23 19 00.6**	**+0.4**
PATCX	**Punta Patache**	**4.45**	**165**	Pn	**Pn**	**23 19 03.9**	**+0.2**
PB01	**IPOC Station P**	**4.86**	**159**	Pn	**Pn**	**23 19 08.7**	**-0.6**
PB09	**IPOC Station P**	**5.64**	**159**	Pn	**Pn**	**23 19 20.5**	**+0.5**
PB04	**IPOC Station P**	**5.92**	**169**	Pn	**Pn**	**23 19 23.1**	**-0.5**
PB06	**IPOC Station P**	**6.40**	**165**	Pn	**Pn**	**23 19 29.3**	**-0.9**
PB15	**IPOC Station P**	**6.91**	**165**	Pn	**Pn**	**23 19 36.1**	**-1.1**
PB14	**IPOC Station P**	**8.13**	**174**	Pn	**Pn**	**23 19 53.0**	**-1.0**
ETMB	**Extrema**	**8.34**	**38**		**Pn**	**23 19 57.0**	**+0.4**
GO02	**Mina Guanaco**	**8.78**	**169**	Pn	**Pn**	**23 20 01.2**	**-1.5**
AC01	**Pan de Azucar**	**9.62**	**176**		**Pn**	**23 20 12.3**	**-1.7**
SIV	**San Ignacio**	**9.92**	**89**	P	**Pn**	**23 20 15.4**	**-2.7**
	4.6nm,0.5s,baz=275,slow=12,SNR=28						
SAML	**Samuel**	**10.97**	**48**		**Pn**	**23 20 30.2**	**-2.2**
VILB	**Vilhena**	**11.38**	**73**	Pn	**Pn**	**23 20 35.9**	**-2.0**
H03N1	**Juan Fernandez**	**18.18**	**201**	T	T	23 40 26.8	
	baz=23,slow=73,SNR=18						
H03N2	**Juan Fernandez**	**18.18**	**201**	T	T	23 40 25.9	
	baz=23,slow=73,SNR=11						
H03N3	**Juan Fernandez**	**18.20**	**201**	T	T	23 40 25.6	
	baz=23,slow=73,SNR=18						
BOAV	**Boa Vista**	**21.63**	**31**	P	**P**	**23 22 40.9**	**+0.2**
BOAV				IAmb	IAmb	23 22 50.0	
	comp=Z,7.6nm,1.3s						
BAUV	**El Baul**	**25.50**	**8**	P	**P**	**23 23 18.7**	**+1.2**
SNAA	**Sanae**	**67.74**	**161**	P	**P**	**23 28 45.9**	**+1.0**
SNAA				IAmb	IAmb	23 29 00.9	
	comp=Z,4.3nm,1.3s						
SNAA	**Sanae**	**67.74**	**161**	P	**P**	**23 28 46.4**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=281,slow=14,SNR=18						
	comp=Z,1.0nm,0.6s						
DBIC	**Dimbokro**	**69.70**	**76**	P	**P**	**23 28 56.7**	**-1.2**
	comp=Z,2.2nm,0.6s,baz=250,slow=5.4,SNR=1.8						
	comp=Z,2.2nm,0.6s						
QSPA	**South Pole Qui**	**73.66**	**180**	P	**P**	**23 29 22.7**	**+1.8**
QSPA				IAmb	IAmb	23 29 48.4	
	comp=Z,3.5nm,1.4s						
QSPA	**South Pole Qui**	**73.66**	**180**	P	**P**	**23 29 23.4**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=156,slow=11,SNR=1.9						
	comp=Z,0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.99**	**72**	P	**P**	**23 29 45.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**77.99**	**72**	P	**P**	**23 29 45.0**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=255,slow=6.8,SNR=6.1						
	comp=Z,0.6nm,0.7s						
SONM	**Songino Array**	**148.70**	**3**	PKPbc	**PKPbc**	**23 37 35.3**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=337,slow=1.9,SNR=5.3						

DJA 14 23:19:01.2±0.3,**3°S**±3°×**11°9E**±°,**h10**km,**M4.0**/13,**mb4.1**/1, **MLv3.9**/13,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.35**	**101**	P	Pg	23 19 07.3	-0.9
TTSI				S	Sg	23 19 13.7	+0.7
SPSI	**Sidrap Palu**	**1.02**	**163**	P	Pg	23 19 19.1	-1.8
SPSI				S	Sn	23 19 35.4	-0.6
BNSI	**Bone**	**1.55**	**156**	P	Pn	23 19 29.1	+0.3
PCI	**Palu**	**2.09**	**10**	P	Pn	23 19 35.1	-1.3
APSI	**Ampana**	**2.99**	**47**	P	Pn	23 19 50.7	+1.9
KDI	**Kendari**	**3.29**	**107**	P	Pn	23 19 54.2	+1.4
BSSI	**Bau Bau, Buton**	**3.30**	**162**	P	Pn	23 19 54.1	+1.1
LUWI	**Luwuk**	**3.82**	**60**	P	Pn	23 19 59.0	-1.1
PLAI	**Plampang**	**6.05**	**196**	P	Pn	23 20 30.0	-0.8

*IDC **14** 23:20:44.9±1.1,2°.86S×119°.81E,h0km,mb3.6/5, mbtmp3.6/6,ML3.9/1,Error ellipse: s-maj=59.9km s-min=17.6km az=72.0*
ISC 14 23:20:49.9±1.1,**2°.84S**±0°.10×**119°.9E**±0°.3,**h35**km,**n6,** σ1§**18**/7,**mb3.8**/5,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.16**	**183**	Pn	**Pn**	**23 21 22.2**	**-1.2**
	38nm,0.3s,baz=4.5,slow=13,SNR=4.5						
KAPI				Sn	**Sn**	**23 21 50.4**	**+1.4**
	58nm,0.3s,baz=307,slow=20,SNR=4.2						
	86nm,0.3s						
WRA	**Warramunga Arr**	**22.11**	**141**	P	**P**	**23 25 43.3**	**+0.9**
	0.7nm,0.7s,baz=317,slow=12,SNR=5.0						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**24.76**	**148**	P	**P**	**23 26 07.5**	**-1.0**
	0.1nm,0.3s,baz=329,slow=8.6,SNR=2.0						
	0.1nm,0.3s						
SONM	**Songino Array**	**51.83**	**348**	P	**P**	**23 29 54.5**	**-0.1**
	1.2nm,0.6s,baz=170,slow=8.0,SNR=9.2						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**59.46**	**331**	P	**P**	**23 30 49.8**	**+0.5**
	1.2nm,0.8s,baz=145,slow=7.3,SNR=5.6						
	1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**63.91**	**332**	P	**P**	**23 31 19.5**	**+0.3**
	0.5nm,0.6s,baz=134,slow=5.3,SNR=2.7						
	0.5nm,0.6s						

*IDC **14** 23:25:13.8±0.8,2°.83S×119°.61E,h0km,mb3.9/9, mbtmp3.9/10,ML3.9/1,Error ellipse: s-maj=50.7km s-min=14.3km az=69.0*
*DJA **14** 23:25:16.0±0.3,3°S±2°×11°9E±°,h10km,M4.3/13,mb4.5/3, MLv4.3/13*
*NEIC **14** 23:25:16.4±0.9,2°.88S±0°.05×119°.47E±0°.08,h15km±6km, mb4.4/11,Error ellipse: s-maj=11.4km s-min=7.5km az=73.0*
ISC 14 23:25:14.4±1.8,**2°.90S**±0°.04×**119°.48E**±0°.06,**h3**km±12km, **n35,** σ0§**93**/40,**mb4.2**/14,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.37**	**113**	P	**Pb**	**23 25 22.9**	**-0.8**
TTSI				S	**Sb**	**23 25 29.4**	**-0.5**
SPSI	**Sidrap Palu**	**1.10**	**165**	P	**Pg**	**23 25 35.4**	**-0.1**
SPSI				S	**Sb**	**23 25 51.9**	**+1.1**
BNSI	**Bone**	**1.62**	**157**	P	**Pb**	**23 25 44.9**	**-0.1**
BNSI				S	**Sg**	**23 26 06.8**	**+0.3**
PCI	**Palu**	**2.01**	**10**	P	**Pb**	**23 25 50.5**	**-1.2**
KAPI	**Kappang**	**2.12**	**173**	Pn	**Pn**	**23 25 51.4**	**+0.6**
KAPI				Sn	**Sn**	**23 26 17.6**	**-0.1**
KAPI	**Kappang**	**2.12**	**173**	Pn	**Pn**	**23 25 51.1**	**+0.3**
	40nm,0.3s,baz=352,slow=9.7,SNR=22						
KAPI				Sn	**Sb**	**23 26 19.6**	**-0.7**
	48nm,0.3s,baz=18,slow=19,SNR=12						
	113nm,0.3s						
APSI	**Ampana**	**2.93**	**48**	P	**Pn**	**23 26 04.3**	**+2.3**
BKB	**Balikpapan**	**3.05**	**302**	Pn	**Pn**	**23 26 04.9**	**+1.3**
BSSI	**Bau Bau, Buton**	**3.38**	**163**	P	**Pn**	**23 26 09.2**	**+1.1**
LUWI	**Luwuk**	**3.77**	**61**	Pn	**Pn**	**23 26 13.7**	**+0.1**
LUWI	**Luwuk**	**3.77**	**61**	P	**Pn**	**23 26 14.7**	**+1.1**
TOLI2	**Tolitoli**	**4.19**	**18**	Pn	**Pn**	**23 26 19.8**	**+0.5**
PLAI	**Plampang**	**6.13**	**196**	P	**Pn**	**23 26 43.9**	**-2.1**
	20nm,0.9s,0.1nm						
SRBI	**Singaraja**	**6.68**	**219**	P	**Pn**	**23 26 53.0**	**-0.5**
	41nm,0.7s,0.2nm						
WBSI	**Waikabubak, Su**	**6.70**	**181**	P	**Pn**	**23 26 54.4**	**+0.5**
KKM	**Kota Kinabalu**	**9.46**	**340**	Pn	**Pn**	**23 27 33.5**	**+1.6**
RPSI	**Rantau Prapat**	**21.29**	**285**	P	**P**	**23 30 03.0**	**+0.6**
RPSI				IAmb	IAmb	23 30 06.7	
	comp=Z,14nm,0.8s						
WB0	**Warramunga Arr**	**22.21**	**140**	P	**P**	**23 30 12.2**	**-0.1**
WRA	**Warramunga Arr**	**22.30**	**141**	P	**P**	**23 30 12.5**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=316,slow=12,SNR=9.6						
	comp=Z,1.9nm,0.7s						
ASAR	**Alice Springs**	**24.92**	**147**	P	**P**	**23 30 39.2**	**+0.2**
	comp=Z,1.9nm,1.0s,baz=325,slow=7.9,SNR=9.9						
	comp=Z,1.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**29.31**	**317**	P	**P**	**23 31 19.8**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=134,slow=6.4,SNR=5.0						
	comp=Z,1.1nm,0.3s						
SHL	**Shillong**	**38.93**	**318**	P	**P**	**23 32 41.9**	**-0.2**
SHL		

moment-rate function
*NEIC **14** 23:31:25.2±1.3, 2°.93S±0°.03×119°.33E±0°.05, h10km±1km, mb4.9/52 Error ellipse: s-maj=9.2km s-min=4.7km az=104.0*

ISC 14 23:31:25.6±0.4, 2°.95S±0°.04×119°.46E±0°.06, h10km, n167, σ1§66/155, mb4.7/52, MS4.0/5, 1C-1D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.37**	**105**	P	Pg	23 31 32.0	-1.0
SPSI	**Sidrap Palu**	**1.06**	**163**	P	Pb	23 31 44.5	-1.5
BNSI	**Bone**	**1.58**	**156**	P	**Pn**	**23 31 54.3**	**+0.6**
PCI	**Palu**	**2.06**	**11**	P	**Pn**	**23 31 59.9**	**-0.4**
KAPI	**Kappang**	**2.08**	**172**	Pn	**Pn**	**23 32 00.4**	**-0.1**
KAPI				Sn	**Sn**	**23 32 27.1**	**+0.6**
KAPI	**Kappang**	**2.08**	**172**	Pn	**Pn**	**23 32 00.4**	**-0.1**
	233nm,0.3s,baz=348,slow=13,SNR=136						
KAPI				Sn	**Sn**	**23 32 27.7**	**+1.3**
	596nm,0.3s,baz=18,slow=20,SNR=6.7						
KAPI				LR	LR	23 32 31.2	
	comp=Z,501nm,18.6s,baz=336,slow=32 1μm,0.3s						
KAPI	**Kappang**	**2.08**	**172**	P	**Pn**	**23 32 01.7**	**+1.2**
APSI	**Ampana**	**2.98**	**47**	P	**Pn**	**23 32 12.4**	**-0.5**
BKB	**Balikpapan**	**3.06**	**303**	Pn	**Pn**	**23 32 14.0**	**0.0**
BKB	**Balikpapan**	**3.06**	**303**	P	**Pn**	**23 32 14.4**	**+0.4**
BKB	**Balikpapan**	**3.06**	**303**	P	**Pn**	**23 32 14.0**	**0.0**
KDI	**Kendari**	**3.31**	**108**	P	**Pn**	**23 32 18.8**	**+1.3**
BSSI	**Bau Bau, Buton**	**3.34**	**162**	P	**Pn**	**23 32 17.9**	**0.0**
SMKI	**Samarinda**	**3.35**	**318**	P	**Pn**	**23 32 17.3**	**-0.7**
LUWI	**Luwuk**	**3.81**	**60**		**Pn**	**23 32 24.4**	**0.0**
LUWI	**Luwuk**	**3.81**	**60**	P	**Pn**	**23 32 24.5**	**+0.1**
LUWI	**Luwuk**	**3.81**	**60**	P	**Pn**	**23 32 23.9**	**-0.5**
BBSI	**Bau Bau**	**4.00**	**129**	P	**Pn**	**23 32 27.8**	**+0.8**
MRSI	**Marisa**	**4.21**	**36**	P	**Pn**	**23 32 29.2**	**-0.7**
TOLI2	**Tolitoli**	**4.24**	**18**	Pn	**Pn**	**23 32 31.2**	**+0.8**
MTKI	**Muara Teweh, K**	**4.97**	**293**	P	**Pn**	**23 32 39.5**	**-0.9**
GTOI	**Gorontalo**	**5.03**	**45**	P	**Pn**	**23 32 40.6**	**-0.5**
	166nm,0.8s						
KMSI	**Cibinong**	**5.71**	**52**	P	**Pn**	**23 32 51.5**	**+0.9**
PLAI	**Plampang**	**6.08**	**196**	P	**Pn**	**23 32 55.7**	**+0.1**
PLAI	**Plampang**	**6.08**	**196**	P	**Pn**	**23 32 54.9**	**-0.7**
	103nm,0.8s,0.7nm						
MMRI	**Maumere**	**6.29**	**154**	Pn	**Pn**	**23 32 58.5**	**-0.1**
MMRI	**Maumere**	**6.29**	**154**	P	**Pn**	**23 33 00.6**	**+2.1**
MMRI	**Maumere**	**6.29**	**154**	P	**Pn**	**23 33 00.3**	**+1.8**
	119nm,0.9s,0.5nm						
SANI	**Sanana**	**6.58**	**82**	P	**Pn**	**23 33 04.1**	**+1.6**
SANI	**Sanana**	**6.58**	**82**	P	**Pn**	**23 33 01.8**	**-0.7**
	39nm,0.6s,0.4nm						
SRBI	**Singaraja**	**6.63**	**219**	P	**Pn**	**23 33 02.0**	**-1.1**
WBSI	**Waikabubak, Su**	**6.65**	**181**	P	**Pn**	**23 33 03.9**	**+0.4**
	189nm,0.7s,3μm						
WSI	**Waingapu**	**6.73**	**173**	P	**Pn**	**23 33 06.3**	**+1.7**
	221nm,0.7s,5μm1.4nm						
BASI	**Baing, Sumba**	**7.31**	**171**	P	**Pn**	**23 33 13.6**	**+1.1**
	223nm,1.6s,3μm0.9nm						
JAGI	**Jajag, Banyuwa**	**7.61**	**224**	Pn	**Pn**	**23 33 15.9**	**-0.8**
JAGI	**Jajag, Banyuwa**	**7.61**	**224**	P	**Pn**	**23 33 16.4**	**-0.3**
JAGI	**Jajag, Banyuwa**	**7.61**	**224**	P	**Pn**	**23 33 15.9**	**-0.8**
	72nm,0.6s,0.3nm						
NLAI	**Namlea**	**7.64**	**92**	P	**Pn**	**23 33 17.2**	**+0.2**
	90nm,0.8s,0.3nm						
MYLDM	**Lahad Datu**	**8.13**	**353**	Pn	**Pn**	**23 33 24.6**	**+0.9**
MYLDM	**Lahad Datu**	**8.13**	**353**	P	**Pn**	**23 33 25.7**	**+2.0**
SOEI	**Soe**	**8.28**	**145**	Pn	**Pn**	**23 33 28.3**	**+2.3**
SOEI	**Soe**	**8.28**	**145**	P	**Pn**	**23 33 30.1**	**+4.1**
BATI	**Baumata**	**8.34**	**150**	Pn	**Pn**	**23 33 29.7**	**+3.0**
	3.0nm,0.3s,baz=319,slow=4.7,SNR=2.5						
BATI				LR	LR	23 37 20.3	
	comp=Z,824nm,18.1s,baz=300,slow=42 19nm,0.5s						
BATI	**Baumata**	**8.34**	**150**	P	**Pn**	**23 33 29.2**	**+2.6**
	55nm,1.1s,1μm						
STKI	**Sintang**	**8.52**	**290**	P	**Pn**	**23 33 28.1**	**-1.0**
	69nm,0.9s,10μm						
TNTI	**Ternate**	**8.73**	**65**	Pn	**Pn**	**23 33 32.7**	**+0.8**
TNTI	**Ternate**	**8.73**	**65**	P	**Pn**	**23 33 35.6**	**+3.6**
SBUM	**Sibu**	**9.00**	**306**	Pn	**Pn**	**23 33 33.7**	**-2.1**
SBUM	**Sibu**	**9.00**	**306**	P	**Pn**	**23 33 35.0**	**-0.8**
KKM	**Kota Kinabalu**	**9.50**	**340**		**Pn**	**23 33 41.9**	**-0.7**
KKM	**Kota Kinabalu**	**9.50**	**340**	P	**Pn**	**23 33 43.3**	**+0.6**
KSM	**Kuching**	**10.14**	**296**	Pn	**Pn**	23 33 49.1	-2.4
UGM	**Wanagama**	**10.17**	**241**	Pn	**Pn**	**23 33 51.5**	**-0.4**
DAV	**Davao City (W)**	**11.68**	**32**	LR	LR	23 39 19.0	
	comp=Z,1μm,18.7s,baz=227,slow=40						
BBJI	**Bungbulang**	**12.58**	**249**	P	**Pn**	**23 34 27.3**	**+2.4**
CNJI	**Cibinong**	**13.02**	**250**	P	**Pn**	**23 34 34.3**	**+3.5**
	34nm,1.1s						
MTN	**Manton Dam**	**15.17**	**131**	Pn	**Pn**	**23 34 57.8**	**-2.3**
KNRA	**Kununurra**	**15.62**	**145**	Pn	**Pn**	**23 35 03.7**	**-2.3**
KNRA				IAmb	IAmb	23 35 09.0	
	comp=Z,89nm,1.6s						
KNRA	**Kununurra**	**15.62**	**145**	P	**Pn**	**23 35 06.2**	**+0.2**
	comp=Z,34nm,1.9s						
FITZ	**Fitzroy Crossi**	**16.23**	**159**		**Pn**	**23 35 12.1**	**-1.9**
FITZ	**Fitzroy Crossi**	**16.23**	**159**	P	**Pn**	**23 35 14.4**	**+0.5**
	comp=Z,495nm,1.3s						
FITZ	**Fitzroy Crossi**	**16.23**	**159**	Pn	**Pn**	**23 35 12.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=328,slow=19,SNR=3.9						
	comp=Z,7.9nm,1.1s						
FITZ	**Fitzroy Crossi**	**16.23**	**159**	P	**Pn**	**23 35 16.5**	**+2.6**
BTDF	**Bukit Timah Da**	**16.25**	**285**	P	**Pn**	**23 35 15.5**	**+1.3**
MBWA	**Marble Bar**	**18.11**	**179**	P	**Pn**	**23 35 38.2**	**+0.9**
	comp=Z,23nm,1.7s						
PSAD1	**Pilbara Seismi**	**18.40**	**179**	P	**P**	**23 35 40.4**	**-0.6**
	comp=Z,17nm,2.4s						
PSA00	**Pilbara Seismi**	**18.52**	**179**	P	**P**	**23 35 39.1**	**-3.2**
PSA00	**Pilbara Seismi**	**18.52**	**179**	P	**Pn**	**23 35 45.8**	**+3.4**
IPM	**Ipoh**	**19.84**	**292**	P	**P**	**23 35 53.9**	**-3.0**
IPM				IAmb	IAmb	23 36 01.1	
	comp=Z,76nm,1.5s						
IPM	**Ipoh**	**19.84**	**292**	P	**P**	**23 35 57.8**	**+0.9**
SISI	**Saibi**	**20.42**	**274**	P	**P**	**23 36 02.5**	**-0.6**
	comp=Z,112nm,0.8s						
GENI	**Genyem**	**20.69**	**90**	P	**P**	**23 36 08.6**	**+2.5**
GENI	**Genyem**	**20.69**	**90**	P	**P**	**23 36 08.1**	**+2.0**
RPSI	**Rantau Prapat**	**21.28**	**285**	P	**P**	**23 36 10.7**	**-1.8**
PSI	**Prapat**	**21.30**	**285**	P	**P**	**23 36 13.3**	**+0.4**
WB0	**Warramunga Arr**	**22.19**	**140**	P	**P**	**23 36 20.4**	**-1.8**
WB0				IAmb	IAmb	23 36 25.9	
	comp=Z,40nm,1.3s						
GSI	**Gunungsitoli**	**22.28**	**281**	P	**P**	**23 36 19.8**	**-3.4**
GSI				IAmb	IAmb	23 36 30.5	
	comp=Z,36nm,0.9s						
GSI	**Gunungsitoli**	**22.28**	**281**	P	**P**	**23 36 24.9**	**+1.7**
GSI	**Gunungsitoli**	**22.28**	**281**	P	**P**	**23 36 22.4**	**-0.8**
	comp=Z,51nm,0.8s,comp=Z,2μm						
WRA	**Warramunga Arr**	**22.28**	**140**	P	**P**	**23 36 19.9**	**-3.3**
WRA	**Warramunga Arr**	**22.28**	**140**	P	**P**	**23 36 21.7**	**-1.5**
	comp=Z,8.2nm,0.7s,baz=317,slow=11,SNR=28						
WRA				PcP	**PcP**	**23 40 17.9**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=321,slow=2.0,SNR=2.3						
WRA				LR	LR	23 46 32.5	
	comp=Z,647nm,20.0s,baz=238,slow=40						
WB2	**Warramunga Arr**	**22.29**	**140**	P	**P**	**23 36 22.3**	**-1.0**
SRIT	**Nakonsritamara**	**22.88**	**300**	P	**P**	**23 36 26.9**	**-2.7**
SRIT	**Nakonsritamara**	**22.88**	**300**	P	**P**	**23 36 31.2**	**+1.6**
	comp=Z,22nm,0.8s						
SURA	**Surathani**	**23.14**	**302**	P	**P**	**23 36 32.4**	**+0.2**
	comp=Z,18nm,0.9s						
WRKA	**Warakurna**	**23.56**	**160**	P	**P**	**23 36 40.0**	**+3.6**
MEEK	**Meekatharra**	**23.57**	**182**	P	**P**	**23 36 39.4**	**+2.9**
LHMI	**Lhok Sumawe**	**23.91**	**290**	P	**P**	**23 36 37.8**	**-2.1**
LHMI	**Lhok Sumawe**	**23.91**	**290**	P	**P**	**23 36 41.2**	**+1.3**
	comp=Z,94nm,1.2s						
LHMI	**Lhok Sumawe**	**23.91**	**290**	P	**P**	**23 36 39.5**	**-0.4**
	comp=Z,94nm,1.4s,comp=Z,4μm						
MLSI	**Meulaboh, Aceh**	**24.12**	**287**	P	**P**	**23 36 40.9**	**-1.0**
	comp=Z,93nm,1.2s						
AS31	**Alice Springs**	**24.89**	**147**	P	**P**	**23 36 48.2**	**-0.7**
ASAR	**Alice Springs**	**24.89**	**147**	P	**P**	**23 36 47.8**	**-1.0**
ASAR	**Alice Springs**	**24.89**	**147**	P	**P**	**23 36 49.0**	**+0.1**
	comp=Z,6.3nm,0.9s,baz=331,slow=9.3,SNR=45						
ASAR				PcP	**PcP**	**23 40 24.7**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=336,slow=2.1,SNR=5.4						
ASAR				LR	LR	23 48 03.5	
	comp=Z,559nm,18.3s,baz=212,slow=40 comp=Z,6.3nm,0.9s						
COEN	**Coen**	**25.85**	**116**	P	**P**	**23 36 55.9**	**-1.7**
COEN				IAmb	IAmb	23 37 26.0	
	comp=Z,29nm,1.3s						
QIS	**Mount Isa**	**26.31**	**133**	P	**P**	**23 36 60.0**	**-1.7**
	comp=Z,11nm,1.3s						
QIS	**Mount Isa**	**26.31**	**133**	P	**P**	**23 37 05.5**	**+3.8**
SRDT	**SRDT**	**26.49**	**311**	P	**P**	**23 37 05.7**	**+2.4**
	comp=Z,11nm,1.2s						
CMAR	**Chiang Mai Arr**	**29.33**	**317**	P	**P**	**23 37 27.3**	**-1.5**
CMAR	**Chiang Mai Arr**	**29.33**	**317**	P	**P**	**23 37 28.6**	**-0.3**
	comp=Z,1.3nm,0.3s,baz=145,slow=6.8,SNR=23						
CMAR				LR	LR	23 51 34.0	
	comp=Z,322nm,18.2s,baz=130,slow=42 comp=Z,1.3nm,0.3s						
CHTO	**Chiang Mai**	**29.58**	**318**	P	P	23 37 28.9	-2.1
NWAO	**Narrogin (SRO)**	**29.90**	**184**	P	**P**	**23 37 32.4**	**-1.3**
CTA	**Charters Tower**	**31.21**	**125**	LR	LR	23 52 49.1	
	comp=Z,46nm,19.4s,baz=207,slow=41						
KMI	**Kunming**	**32.27**	**331**	⇑P	**P**	**23 37 55.8**	**+0.8**
KMI				pP	pP	23 38 00.3	+1.8
KMI				pmax	pmax		
	comp=Z,16nm,0.9s						
PZH	**PanZhiHua**	**33.92**	**331**	P	**P**	**23 38 09.3**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ENH	**Enshi**	**34.38**	**345**	P	**P**	**23 38 11.6**	**-1.4**
ENH				IAmb	IAmb	23 39 02.0	
	comp=Z,19nm,1.3s						
TNCH	**TengChong**	**34.44**	**325**	*e*P	**P**	**23 38 14.4**	**+0.6**
TNCH				sP	pP	23 38 20.9	+3.5
TNCH				S	**S**	**23 43 45.5**	**+3.1**
TNCH				sS	sS	23 43 51.6	+3.3
TNCH				pmax	pmax		
	comp=Z,24nm,0.5s						
TNCH				pmax	pmax		
	comp=Z,400nm,10.9s						
TNCH				LR	LR		
	comp=N,210nm,9.4s						
TNCH				LR	LR		
	comp=E,270nm,17.1s						
TNCH				LR	LR		
	comp=Z,500nm,18.9s						
NJ2	**Nanjing**	**34.81**	**359**	*e*P	**P**	**23 38 17.8**	**+1.2**
NJ2				sP	**sP**	**23 38 24.4**	**+2.7**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
STKA	**Stephens Creek**	**35.53**	**147**	P	**P**	**23 38 22.9**	**0.0**
STKA	**Stephens Creek**	**35.53**	**147**	P	**P**	**23 38 24.3**	**+1.4**
	comp=Z,3.4nm,0.7s,baz=322,slow=13,SNR=6.1 comp=Z,3.4nm,0.7s						
STKA	**Stephens Creek**	**35.53**	**147**	P	**P**	**23 38 25.7**	**+2.8**
CD2	**Chengdu**	**36.84**	**337**	P	**P**	**23 38 33.6**	**-0.6**
CD2				pP	pP	23 38 37.3	-0.5
CD2				pmax	pmax		
	comp=Z,20nm,1.0s						
SHL	**Shillong**	**38.95**	**318**	P	**P**	**23 38 50.3**	**-2.0**
SHL				IAmb	IAmb	23 38 52.3	
	comp=Z,21nm,0.9s						
HNS	**HongShan**	**40.38**	**354**	⇓P	**P**	**23 39 05.0**	**+1.2**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KSAR	**Wonju Array Be**	**40.94**	**10**	P	**P**	**23 39 07.2**	**-1.2**
KSRS	**Korea Array**	**40.96**	**10**	P	**P**	**23 39 09.2**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=199,slow=10,SNR=2.8 comp=Z,0.8nm,0.5s						
LZH	**Lanzhou**	**41.48**	**341**	*e*P	**P**	**23 39 15.8**	**+2.7**
LZH				pP	pP	23 39 19.0	+2.3
LZH				pmax	pmax		
	comp=Z,11nm,1.1s						
LSA	**Lhasa**	**42.28**	**322**	P	**P**	**23 39 18.8**	**-1.3**
LSA				IAmb	IAmb	23 39 21.5	
	comp=Z,12nm,0.5s						
BJT	**Baijiatuan**	**42.86**	**356**	P	**P**	**23 39 22.7**	**-1.3**
HHC	**Hu-ho-hao-te**	**44.18**	**351**	*e*P	**P**	**23 39 36.3**	**+1.5**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,310nm,5.0s						
GTA	**Gaotai**	**45.86**	**339**	P	**P**	**23 39 48.3**	**0.0**
GTA				sP	pP	23 39 53.9	+1.9
GTA				pmax	pmax		
	comp=Z,12nm,0.8s						
MDJ	**Mudanjiang**	**48.21**	**10**	P	**P**	**23 40 05.5**	**-0.9**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.3s						
USRK	**Ussuriysk Ar.**	**48.26**	**12**	P	**P**	**23 40 07.4**	**+0.6**
USRK	**Ussuriysk Ar.**	**48.26**	**12**	P	**P**	**23 40 08.0**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=193,slow=5.9,SNR=4.3 comp=Z,1.3nm,0.6s						
ULN	**Ulaanbaatar**	**51.75**	**349**	P	**P**	**23 40 32.1**	**-1.4**
ULN				IAmb	IAmb	23 40 35.8	
	comp=Z,18nm,1.1s						
SONM	**Songino Array**	**51.85**	**349**	P	**P**	**23 40 32.8**	**-1.3**
SONM				IAmb	IAmb	23 40 36.4	
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	**51.85**	**349**	P	**P**	**23 40 33.1**	**-1.1**
	comp=Z,7.8nm,0.7s,baz=171,slow=8.2,SNR=30 comp=Z,7.8nm,0.7s						
HEH	**HeiHe**	**53.43**	**6**	*e*P	**P**	**23 40 44.3**	**-1.3**
HEH				pmax	pmax		
	comp=Z,12nm,1.2s						
WMQ	**Urumqi**	**54.59**	**332**	*e*P	**P**	**23 40 54.0**	**-0.3**
WMQ				PcP	**PcP**	**23 41 55.6**	**-1.8**
WMQ				pmax	pmax		
	comp=Z,14nm,1.5s						
NIL	**Nilore**	**56.74**	**314**		P	23 41 07.7	-2.2
NIL				IAmb	IAmb	23 41 13.4	
	comp=Z,11nm,0.8s						
WUS	**Wushi**	**57.19**	**325**	P	**P**	**23 41 12.2**	**-0.9**
WUS				IAmb	IAmb	23 41 13.9	
	comp=Z,18nm,1.1s						
KSH	**Kashi**	**58.12**	**321**	P	**P**	**23 41 19.5**	**-0.2**
KSH				pmax	pmax		
	comp=Z,16nm,0.9s						
TARG	**Taragay, Kyrgy**	**58.35**	**324**	P	**P**	**23 41 20.3**	**-1.3**
TARG				IAmb	IAmb	23 41 36.6	
	comp=Z,24nm,1.5s						
MK31	**Makanchi Array**	**59.35**	**331**	P	**P**	**23 41 26.6**	**-1.5**
MK31				IAmb	IAmb	23 41 32.1	
	comp=Z,13nm,1.1s						
MKAR	**Makanchi Array**	**59.35**	**331**	P	**P**	**23 41 26.8**	**-1.2**
MKAR	**Makanchi Array**	**59.35**	**331**	P	**P**	**23 41 27.0**	**-1.1**
	comp=Z,12nm,0.5s,baz=137,slow=7.5,SNR=34 comp=Z,12nm,0.9s						
KBL	**Kabul**	**60.23**	**313**	P	P	23 41 32.4	-2.1
KBL				IAmb	IAmb	23 41 38.3	
	comp=Z,12nm,0.8s						
DRK	**Karamyk**	**60.77**	**319**	P	**P**	**23 41 36.5**	**-1.7**
DRK				IAmb	IAmb	23 42 01.4	
	comp=Z,12nm,1.1s						
AAK	**Ala-Archa**	**60.86**	**323**	P	**P**	**23 41 36.7**	**-1.9**
AAK				IAmb	IAmb	23 41 42.5	
	comp=Z,7.8nm,0.8s						
ARSB	**Arslanbob**	**61.02**	**321**	P	**P**	**23 41 38.3**	**-1.4**
THZ	**Tophouse**	**61.39**	**137**	P	**P**	**23 41 41.0**	**-1.2**
GAR	**Garm**	**61.50**	**318**	P	**P**	**23 41 41.1**	**-1.9**
BTK	**Batken**	**61.72**	**319**	P	**P**	**23 41 43.0**	**-1.4**
BTK				IAmb	IAmb	23 41 55.6	
	comp=Z,12nm,1.2s						
SIMJ	**Simiganj**	**62.22**	**317**	P	P	23 41 45.8	-2.0
SIMJ				IAmb	IAmb	23 41 50.5	
	comp=Z,16nm,1.4s						
KKAR	**Karatay Array**	**63.53**	**322**	P	**P**	**23 41 54.6**	**-1.7**
KKAR	**Karatay Array**	**63.53**	**322**	P	**P**	**23 41 55.0**	**-1.4**
KKAR				IAmb	IAmb	23 42 02.9	
	comp=Z,2.3nm,0.9s						
ZAA0	**Zalesovo Array**	**63.61**	**338**	P	P	23 41 53.8	-2.7
ZAA0				IAmb	IAmb	23 42 26.4	
	comp=Z,3.9nm,0.8s						
ZALV	**Zalesovo Beam**	**63.61**	**338**	P	P	23 41 53.8	-2.7
ZALV	**Zalesovo Beam**	**63.61**	**338**	P	P	23 41 54.0	-2.5
	comp=Z,2.1nm,0.6s,baz=132,slow=4.3,SNR=7.2 comp=Z,2.1nm,0.6s						
KURBB	**Kurchatov Arra**	**63.81**	**332**	P	**P**	**23 41 56.4**	**-1.6**
	comp=Z,2.6nm,0.5s,baz=153,slow=7.3,SNR=16 comp=Z,2.6nm,0.5s						
KURK	**Kurchatov**	**63.84**	**332**	P	P	23 41 56.1	-2.1
BVAR	**Borovoye Array**	**69.23**	**331**	P	P	23 42 30.3	-2.4
	comp=Z,2.0nm,0.8s,baz=116,slow=6.6,SNR=9.1 comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**69.31**	**331**	P	P	23 42 31.1	-2.0
BRVK				IAmb	IAmb	23 42 36.4	
	comp=Z,4.4nm,0.8s						
ABKAR	**Akbulak array**	**72.94**	**324**	P	P	23 42 52.6	-2.5
ABKAR	**Akbulak array**	**72.94**	**324**	P	P	23 42 53.2	-2.0
ABKAR				IAmb	IAmb	23 42 58.0	
	comp=Z,4.8nm,1.1s						
TIXI	**Tiksi**	**74.71**	**3**	P	P	23 43 01.6	-3.5
TIXI				IAmb	IAmb	23 43 07.5	
	comp=Z,6.5nm,0.8s						
MAW	**Mawson**	**75.06**	**199**	P	**P**	**23 43 07.5**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=56,slow=9.3,SNR=4.8						
	comp=Z,4.1nm,0.8s						
GURO	**Guroymak-BITLI**	**82.02**	**309**	P	**P**	23 43 43.4	-3.1
QSPA	**South Pole Qui**	**87.01**	**180**	P	**P**	**23 44 10.7**	**-0.4**
QSPA				IAmb	IAmb	23 44 20.2	
	comp=Z,17nm,1.6s						
QSPA	**South Pole Qui**	**87.01**	**180**	P	**P**	**23 44 11.6**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=325,slow=4.4,SNR=2.3 comp=Z,1.3nm,0.9s						
C18K	**Utukok River**	**88.85**	**21**	P	**P**	**23 44 19.1**	**-0.7**
J18K	**Innoko River**	**89.85**	**27**	P	**P**	**23 44 24.7**	**+0.2**
D19K	**Kuna River**	**89.94**	**21**	P	**P**	**23 44 25.0**	**+0.2**
ILAR	**Eielson Array**	**94.21**	**25**	P	**P**	**23 44 46.2**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=261,slow=4.5,SNR=2.9 comp=Z,0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**117.69**	**283**	PKP	**PKPdf**	**23 50 10.8**	**-2.3**
	comp=Z,0.5nm,0.8s,baz=62,slow=2.8,SNR=3.6						
CPUP	**Villa Florida**	**150.73**	**186**	PKPbc	**PKPdf**	**23 51 19.1**	**+5.6**
	comp=Z,2.3nm,0.8s,baz=200,slow=3.4,SNR=3.0						
LPAZ	**La Paz**	**159.47**	**159**	PKPab	**PKPab**	**23 52 02.9**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=222,slow=1.6,SNR=3.7						

IDC 14 23:36:42.6±1.3, 2°.78S×119°.93E, h0km, mb3.3/4, mbtmp3.4/5, ML3.9/1, Error ellipse: s-maj=67.5km s-min=21.8km az=71.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.22**	**185**	Pn	Pn	23 37 21.0	+0.2
	36nm,0.3s,baz=358,slow=12,SNR=9.9 121nm,0.5s						
WRA	**Warramunga Arr**	**22.11**	**142**	P	P	23 41 38.1	-1.7
	0.3nm,0.7s,baz=318,slow=11,SNR=3.8 0.3nm,0.7s						
ASAR	**Alice Springs**	**24.77**	**148**	P	P	23 42 07.7	+1.4
	0.2nm,0.3s,baz=334,slow=10,SNR=2.0 0.2nm,0.3s						
SONM	**Songino Array**	**51.78**	**348**	P	P	23 45 53.4	+1.1
	0.4nm,0.5s,baz=172,slow=6.8,SNR=3.7 0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.45**	**331**	P	P	23 46 46.0	-1.3
	0.8nm,0.9s,baz=126,slow=7.4,SNR=2.5 0.8nm,0.9s						

KRSC 14 23:36:52.0±2.2, 48°.61N×156°.38E, h16km±33km, Ml4.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.08**	**355**	*e*P	Pn	23 37 25.9	-0.2
SKR				*e*S	Sn	23 37 51.5	-0.1
PAU	**Pauzhetka**	**2.87**	**5**	*e*P	Pb	23 37 41.0	-1.7
PAU				*e*S	Sb	23 38 15.3	-2.2
KDTR	**Khodutka, Kamc**	**3.38**	**18**	*e*P	Pn	23 37 47.2	+3.3
KDTR				*e*S	Sb	23 38 29.5	-2.7
ASAK	**Asacha**	**3.90**	**14**	*e*P	Pn	23 37 54.9	+3.8
MTVR	**Mutnovka**	**4.04**	**16**	*e*P	Pn	23 37 57.0	+3.8
MTVR				*e*S	Sb	23 38 46.7	-4.7
RUS	**Russkaya**	**4.06**	**19**	*e*S	Sn	23 38 45.6	+5.3
GRL	**Gorelyy**	**4.09**	**15**	*e*P	Pn	23 37 57.9	+4.0
KOK	**Koryaka**	**4.90**	**16**	*e*P	Pn	23 38 10.0	+5.1
KRER	**Koryakskii**	**4.93**	**17**	*e*P	Pn	23 38 09.9	+4.5
SPN	**Mys Shipunski**	**5.05**	**26**	*e*P	Pn	23 38 11.0	+4.2

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*IDC **14** 23:40:32.0±1.2, 52°.46S×12°.98E, h0km, mb4.1/6, mbtmp4.1/6, Error ellipse: s-maj=54.2km s-min=25.6km az=83.0*
*NEIC **14** 23:40:34.4±1.4, 52°.5S±0°.1×12°.2E±0°.3, h10km±1km, mb4.4/12, Error ellipse: s-maj=27.2km s-min=20.6km az=103.0*

ISC 14 23:40:34.0±0.7, 52°.5S±0°.1×12°.5E±0°.2, h10km, n25, σ1§33/19, mb4.3/9, 5C, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TROLL	**Troll, Antarti**	**20.03**	**189**	⇑P	Pn	23 45 10.6	+2.1
	comp=Z,2μm,0.8s						
SNAA	**Sanae**	**20.37**	**194**	P	**P**	**23 45 11.0**	**+0.6**
SNAA				IAmb	IAmb	23 45 15.3	
	comp=Z,23nm,1.2s						
SNAA	**Sanae**	**20.37**	**194**	⇑P	**P**	**23 45 11.5**	**+1.1**
	comp=Z,91nm,0.8s						
SNAA	**Sanae**	**20.37**	**194**	P	**P**	**23 45 11.4**	**+1.1**
	comp=Z,8.9nm,0.9s,baz=22,slow=11,SNR=25 comp=Z,8.9nm,0.9s						
VNA1	**Neumayer--Stat**	**20.47**	**200**	⇑P	Pn	23

URZ	**Urewera**	0.59	3	P		**Pn**	23 53 33.8 -1.4
MWZ	**Matawai**	0.63	35	P		**Pn**	23 53 35.2 -0.5
PRGZ	**Paritu Road**	0.64	97	P		**Pn**	23 53 35.4 -0.4
PRRZ	**Plateau Road**	0.64	303	P		**Pn**	23 53 35.0 -0.9
ALRZ	**Allen Road**	0.64	297	P		**Pn**	23 53 35.1 -0.7
MCHZ	**McNeill Hill**	0.66	206	P		**Pn**	23 53 36.8 +0.6
RRRZ	**Republican Roa**	0.67	319	P		**Pn**	23 53 35.4 -0.9
MHGZ	**Mahia Peninsul**	0.71	115	P		**Pn**	23 53 36.6 -0.3
TKGZ	**Te Karaka**	0.73	56	P		**Pn**	23 53 37.0 -0.1
TARZ	**Mount Tarawera**	0.76	324	P		**Pn**	23 53 36.9 -0.7
KWHZ	**Kaweka Forest**	0.76	221	P		**Pn**	23 53 37.8 +0.2
KWHZ				S		**Sb**	23 53 51.1 +3.0
HATZ	**Hinemaiaia**	0.77	267	P		**Pn**	23 53 37.0 -0.7
HRRZ	**Handcock Road**	0.77	306	P		**Pn**	23 53 36.6 -1.1
WPRZ	**Whakapapatarin**	0.79	295	P		**Pn**	23 53 37.0 -0.9
EDRZ	**Edgecumbe**	0.79	340	P		**Pn**	23 53 36.9 -1.1
CKHZ	**Cape Kidnapper**	0.81	180	P		**Pn**	23 53 38.1 0.0
HLRZ	**Highlands Stat**	0.82	316	P		**Pn**	23 53 37.8 -0.6
HSRZ	**Hossack Road**	0.84	309	P		**Pn**	23 53 37.7 -0.9
MKRZ	**Makatiti**	0.86	326	P		**Pn**	23 53 38.3 -0.6
WHTZ	**Whakaora**	0.89	282	P		**Pn**	23 53 38.9 -0.4
GRRZ	**Galatos Road**	0.91	303	P		**Pn**	23 53 38.9 -0.6
OMRZ	**Omania**	0.93	323	P		**Pn**	23 53 38.6 -1.2
KAHZ	**Kahuranaki**	0.95	189	P		**Pn**	23 53 40.2 0.0
RITZ	**Rihia Road**	0.96	262	P		**Pn**	23 53 40.0 -0.2
CNGZ	**Carnagh Statio**	0.96	68	P		**Pn**	23 53 40.6 +0.4
KRHZ	**Kereru**	0.96	214	P		**Pn**	23 53 40.1 -0.2
KRHZ				S		**Sb**	23 53 54.5 +0.9
UTU	**Utuhina**	0.97	314	P		**Pn**	23 53 39.8 -0.5
TWGZ	**Tauwhareparae**	0.98	47	P		**Pn**	23 53 40.7 +0.2
WHRZ	**Whale Island**	1.00	355	P		**Pn**	23 53 39.9 -0.9
RUGZ	**Raukumara Rang**	1.00	28	P		**Pn**	23 53 40.5 -0.5
LIRZ	**Lichensteins R**	1.01	327	P		**Pn**	23 53 39.9 -1.0
RATZ	**Rangitukua**	1.02	269	P		**Pn**	23 53 40.3 -0.7
NGRZ	**Ngongotaha**	1.02	317	P		**Pn**	23 53 40.4 -0.7
KUTZ	**Kaahu Road**	1.04	290	P		**Pn**	23 53 40.7 -0.7
KARZ	**Kaharoa**	1.06	322	P		**Pn**	23 53 40.2 -1.4
WATZ	**Wairara**	1.06	277	P		**Pn**	23 53 41.0 -0.7
KATZ	**Kakaramea**	1.08	263	P		**Pn**	23 53 41.6 -0.5
OPRZ	**Ohinepanea**	1.09	338	P		**Pn**	23 53 40.4 -1.6
ETVZ	**East Tongariro**	1.10	255	P		**Pn**	23 53 42.0 -0.3
ETVZ				S		**Sn**	23 53 57.2 +0.8
TMVZ	**Te Maari**	1.10	256	P		**Pn**	23 53 41.9 -0.3
TMVZ				S		**Sn**	23 53 56.8 +0.4
NTVZ	**North Tongarir**	1.12	257	P		**Pn**	23 53 42.1 -0.4
OTVZ	**Oturere**	1.14	254	P		**Pn**	23 53 42.6 -0.3
OTVZ				S		**Sn**	23 53 58.4 +0.9
KRVZ	**Karewarewa**	1.14	257	P		**Pn**	23 53 42.5 -0.4
SNVZ	**South Ngauruho**	1.17	253	P		**Pn**	23 53 43.0 -0.2
SNVZ				S		**Sn**	23 53 59.4 +1.3
MOVZ	**Moawhango**	1.17	241	P		**Pn**	23 53 43.1 -0.1
NNVZ	**North Ngauruho**	1.17	256	P		**Pn**	23 53 43.0 -0.3
TUVZ	**Tukino**	1.18	249	P		**Pn**	23 53 43.3 -0.1
WTVZ	**West Tongariro**	1.19	257	P		**Pn**	23 53 43.1 -0.4
PXZ	**Pawanui**	1.19	188	P		**Pn**	23 53 42.4 -1.0
NGZ	**Ngauruhoe**	1.19	254	P		**Pn**	23 53 43.3 -0.3
NGZ				S		**Sn**	23 53 59.8 +1.1
PUZ	**Puketiti**	1.21	50	P		**Pn**	23 53 43.1 -0.6
HAZ	**Te Kaha**	1.23	27	P		**Pn**	23 53 42.8 -1.1
WHVZ	**Whangaehu Hut**	1.23	249	P		**Pn**	23 53 44.0 -0.2
COVZ	**Chateau Observ**	1.24	253	P		**Pn**	23 53 43.9 -0.3
WNVZ	**Wahianoa**	1.24	247	P		**Pn**	23 53 44.2 -0.1
MAVZ	**Matarangi**	1.25	250	P		**Pn**	23 53 44.2 -0.3
FWVZ	**Far West T-bar**	1.25	251	P		**Pn**	23 53 44.1 -0.3
TRVZ	**Turoa**	1.27	249	P		**Pn**	23 53 44.4 -0.3
TGRZ	**Tauranga**	1.29	330	P		**Pn**	23 53 43.3 -1.5
TWVZ	**Taurewa**	1.29	260	P		**Pn**	23 53 44.1 -0.8
WPHZ	**Waipukurau**	1.31	202	P		**Pn**	23 53 44.4 -0.7
TLZ	**Tolley Road**	1.31	293	P		**Pn**	23 53 43.9 -1.2
WIZ	**White Island**	1.33	4	P		**Pn**	23 53 43.8 -1.4
WSRZ	**White Island S**	1.33	4	P		**Pn**	23 53 45.0 -0.4
MTVZ	**Mangateitei**	1.36	246	P		**Pn**	23 53 45.7 -0.1
PKVZ	**Pokaka**	1.42	251	P		**Pn**	23 53 46.2 -0.3
PRHZ	**Porangahau**	1.45	193	P		**Pn**	23 53 45.7 -1.4
WMGZ	**Waiomatatini S**	1.47	46	P		**Pn**	23 53 46.7 -0.6
TSZ	**Takapari Road**	1.48	215	P		**Pn**	23 53 46.5 -1.0
DVHZ	**Dannevirke**	1.61	206	P		**Pn**	23 53 47.5 -1.7
MXZ	**Matakaoa Point**	1.61	37	P		**Pn**	23 53 48.9 -0.3
MXZ	**Matakaoa Point**	1.61	37	P		**Pn**	23 53 48.4 -0.8
TOZ	**Tahuroa Road**	1.67	312	P		**Pn**	23 53 48.6 -1.4
ANWZ	**Angora Road**	1.67	196	P		**Pn**	23 53 48.9 -1.1
MYRZ	**Mayor Island**	1.70	337	P		**Pn**	23 53 49.0 -1.5
HIZ	**Hauiti**	1.77	280	P		**Pn**	23 53 51.3 0.0
HIZ	**Hauiti**	1.77	280	P		**Pn**	23 53 51.5 +0.1
VRZ	**Vera Road**	1.83	261	P		**Pn**	23 53 52.3 +0.1
POWZ	**Post Office Ro**	1.84	213	P		**Pn**	23 53 51.4 -1.0
WAZ	**Wanganui**	1.85	240	P		**Pb**	23 53 55.4 -0.9
PRWZ	**Pori Road**	1.90	206	P		**Pn**	23 53 51.8 -1.4
OHWZ	**Ohakea**	1.92	225	P		**Pn**	23 53 54.5 +1.1
BFZ	**Birch Farm**	1.94	199	P		**Pn**	23 53 51.6 -2.1
BFZ	**Birch Farm**	1.94	199	P		**Pn**	23 53 51.5 -2.1
TIWZ	**Tintock**	2.13	205	P		**Pn**	23 53 54.8 -1.6
MRZ	**Mangatainoka R**	2.14	212	P		**Pn**	23 53 54.3 -2.2
CPWZ	**Castlepoint**	2.16	198	P		**Pn**	23 53 55.2 -1.6
LREZ	**Lake Rotokare**	2.17	253	P		**Pn**	23 53 57.9 +1.1
MKAZ	**Moumakai**	2.31	318	P		**Pn**	23 53 58.4 -0.4
PREZ	**Palmer Road**	2.32	257	P		**Pn**	23 54 00.5 +1.5
NEZ	**North Egmont**	2.36	259	P		**Pn**	23 54 00.7 +1.1
KUZ	**Kuaotunu**	2.36	333	P		**Pn**	23 53 57.7 -1.8
KUZ	**Kuaotunu**	2.36	333	P		**Pn**	23 53 59.2 -0.3
HOWZ	**Holdsworth Sta**	2.37	210	P		**Pn**	23 53 57.0 -2.6
KHEZ	**Kahui Hut**	2.42	259	P		**Pn**	23 54 01.7 +1.3
KHEZ	**Kahui Hut**	2.42	259	P		**Pn**	23 54 01.5 +1.1
TMWZ	**Te Maipa**	2.43	202	P		**Pn**	23 53 57.7 -2.8
PKE	**Pukeiti**	2.43	261	P		**Pn**	23 54 01.3 +0.9
OGWZ	**Otaki Gorge**	2.45	216	P		**Pn**	23 53 58.4 -2.3
NBEZ	**Newall Road No**	2.53	260	P		**Pn**	23 54 03.5 +1.6
ETAZ	**East Tamaki Re**	2.54	317	P		**Pn**	23 54 02.8 +0.8
WIAZ	**Waiheke Island**	2.57	323	P		**Pn**	23 54 02.7 +0.4
MTW	**Mount Morrison**	2.60	207	P		**Pn**	23 53 59.7 -3.1
KIW	**Kapiti Island**	2.61	219	P		**Pn**	23 54 00.6 -2.3
AWAZ	**Awhitu Peninsu**	2.62	312	P		**Pn**	23 54 03.4 +0.4
MBAZ	**Motutapu North**	2.70	320	P		**Pn**	23 54 04.4 +0.2
WTAZ	**Waiatarua**	2.75	313	P		**Pn**	23 54 05.4 +0.4
TRWZ	**Traveller**	2.76	202	P		**Pn**	23 54 01.8 -3.1
PAWZ	**Paruwai Farm**	2.83	206	P		**Pn**	23 54 02.6 -3.3
ABAZ	**Army Bay**	2.87	321	P		**Pn**	23 54 06.7 +0.2
MSWZ	**Moikau Station**	2.92	208	P		**Pn**	23 54 03.8 -3.4
SNZO	**South Karori**	3.06	216	P		**Pn**	23 54 07.6 -1.4
DUWZ	**D'Urville Isla**	3.11	230	P		**Pn**	23 54 08.3 -1.5
TCW	**Tory Channel**	3.19	227	P		**Pn**	23 54 08.2 -2.7
TUWZ	**Tuamarina**	3.52	222	P		**Pn**	23 54 12.9 -2.5
WCZ	**Waipu Caves**	3.63	322	P		**Pn**	23 54 16.3 -0.7
NNZ	**Nelson**	3.69	229	P		**Pn**	23 54 18.2 +0.4
BSWZ	**Blackbirch Sta**	3.76	220	P		**Pn**	23 54 15.7 -3.1
TKNZ	**Takaka Hill**	3.84	234	P		**Pn**	23 54 18.0 -1.9
QRZ	**Quartz Range**	4.02	239	P		**Pn**	23 54 23.4 +1.2
QRZ	**Quartz Range**	4.02	239	P		**Pn**	23 54 23.5 +1.2
MRNZ	**Matariki Terra**	4.17	231	P		**Pn**	23 54 21.6 -2.9
THZ	**Tophouse**	4.31	226	P		**Pn**	23 54 23.4 -3.0
KHZ	**Kahutara**	4.46	216	P		**Pn**	23 54 26.3 -2.1
KHZ	**Kahutara**	4.46	216	P		**Pn**	23 54 27.7 -0.6
OUZ	**Omahuta**	4.57	321	P		**Pn**	23 54 29.8 0.0
OUZ	**Omahuta**	4.57	321	P		**Pn**	23 54 29.9 0.0
DSZ	**Dennistoun Nort**	4.96	233	P		**Pn**	23 54 34.5 -0.7
GVZ	**Greta Valley S**	5.12	215	P		**Pn**	23 54 34.8 -2.7
LTZ	**Lake Taylor**	5.36	221	P		**Pn**	23 54 37.3 -3.3
CTZ	**Chatham Island**	6.81	138	P		**Pn**	23 54 58.7 -1.8
CTZ	**Chatham Island**	6.81	138	P		**Pn**	23 54 58.5 -2.1
FOZ	**Fox Glacier**	7.20	227	P		**Pn**	23 55 04.7 -1.2
ODZ	**Otahua Downs**	7.82	216	P		**Pn**	23 55 13.7 -0.8
JCZ	**Jackson Bay**	8.12	227	P		**Pn**	23 55 18.9 +0.2
JCZ	**Jackson Bay**	8.12	227	P		**Pn**	23 55 18.7 0.0

IDC ***14*** *23:57:05.7±0.8, 37°.18N×20°.77E, h0km, mb3.7/11, mbtmp3.7/20, ML3.5/7, MS4.6/4, Error ellipse: s-maj=17.4km s-min=14.2km az=178.0*
ATH ***14*** *23:57:05.5, 37°.13N×20°.53E, h10km±1km, ML3.9/11, Error ellipse: s-maj=2.3km s-min=1.2km az=44.0*
NEIC ***14*** *23:57:08.2±1.6, 37°.22N±0°.03×20°.62E±0°.05, h10km±1km, mb4.3/11, Error ellipse: s-maj=8.5km s-min=3.0km az=130.0*
THE ***14*** *23:57:08.1, 37°.26N×20°.52E, h0km±1km, ML3.8/6, Error ellipse: s-maj=2.6km s-min=1.3km az=228.0*
BEO ***14*** *23:57:09.3±1.0, 37°.38N×20°.69E, h0km, ML3.7/8*
ISC 14 23:57:08.1±1.2,**37°.22N**±0°.04×**20°.64E**±0°.03,**h16**km±7km,

2018 NOV

n134,σ1§47/149,mb3.7/15,MS4.6/4,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.47**	**18**	P	**Pg**	**23 57 16.7**	**-0.7**
KRI1				S	**Sg**	**23 57 24.2**	**+0.4**
	24μm,0.5s						
LTHK	**Lithakia**	**0.52**	**18**	P	**Pg**	**23 57 17.3**	**-1.1**
LTHK				S	**Sg**	**23 57 25.5**	**+0.2**
LTHK				AML	AML	23 57 26.9	
	comp=N,52300μm,0.3s						
LTHK				AML	AML	23 57 27.3	
	comp=E,22901μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.86**	**7**	P	**Pg**	**23 57 23.3**	**-1.6**
PSDA	**Pessada-Kefalo**	**0.90**	**357**	P	**Pg**	**23 57 24.3**	**-1.2**
PSDA				S	**Sg**	**23 57 37.2**	**-0.1**
AMT	**Artemida-Makis**	**0.91**	**69**	P	**Pg**	**23 57 25.0**	**-0.8**
AMT				S	**Sn**	**23 57 39.0**	**-0.1**
AMT				AML	AML	23 57 44.0	
	comp=N,54632μm,0.5s						
AMT				AML	AML	23 57 44.6	
	comp=E,64373μm,0.6s						
PYL	**PYLOS**	**0.94**	**110**	P	**Pg**	**23 57 24.3**	**-2.0**
PYL				AML	AML	23 57 46.5	
	comp=E,7055μm,0.6s						
PYL				AML	AML	23 57 48.3	
	comp=N,8186μm,0.7s						
VLS	**Valsamata**	**0.96**	**358**	P	**Pg**	**23 57 24.9**	**-1.8**
VLS				S	**Sb**	**23 57 39.6**	**+0.8**
VLS				AML	AML	23 57 45.7	
	comp=E,5598μm,0.3s						
VLS				AML	AML	23 57 51.3	
	comp=N,8915μm,0.6s						
LXR1	**Lixouri, Cepha**	**0.99**	**351**	P	**Pg**	**23 57 26.5**	**-0.9**
LXR1				S	**Sg**	**23 57 39.2**	**-1.2**
	comp=N,17μm,0.5s						
LXRA	**Lixouri, Kepha**	**0.99**	**351**	P	**Pg**	**23 57 26.1**	**-1.2**
LXRA				S	**Sg**	**23 57 40.4**	**0.0**
LXRA				AML	AML	23 57 47.7	
	comp=E,19728μm,0.9s						
LXRA				AML	AML	23 57 49.9	
	comp=N,21990μm,0.8s						
ITM	**Ithomi**	**1.03**	**92**		**Pg**	**23 57 26.3**	**-1.8**
ITM	**Ithomi**	**1.03**	**92**	P	**Pg**	**23 57 26.3**	**-1.8**
ITM				AML	AML	23 57 48.6	
	comp=E,9917μm,0.6s						
ITM				AML	AML	23 57 50.8	
	comp=N,10568μm,0.6s						
SMHA	**Samh**	**1.03**	**0**	P	**Pb**	**23 57 25.9**	**-1.7**
SMHA				S	**Sb**	**23 57 41.7**	**+0.8**
SMHA				AML	AML	23 57 48.4	
	comp=N,39222μm,0.5s						
SMHA				AML	AML	23 57 49.5	
	comp=E,29036μm,0.7s						
DMLN	**Damoulianata-K**	**1.04**	**348**	P	**Pb**	**23 57 26.7**	**-1.1**
RLS	**Riolos of Patr**	**1.07**	**38**	P	**Pb**	**23 57 27.1**	**-1.1**
RLS				AML	AML	23 57 52.9	
	comp=E,5727μm,1.5s						
RLS				AML	AML	23 57 57.2	
	comp=N,5192μm,0.7s						
DRO	**Drossia**	**1.12**	**49**	P	**Pb**	**23 57 28.2**	**-1.0**
DRO				S	**Sn**	**23 57 45.1**	**+0.7**
DRO				AML	AML	23 57 52.7	
	comp=N,11990μm,0.7s						
DRO				AML	AML	23 57 57.6	
	comp=E,15075μm,0.5s						
VSK1	**VASILIKIADES**	**1.19**	**357**	P	**Pn**	**23 57 29.5**	**-0.7**
VSK1				S	**Sb**	**23 57 46.5**	**+1.0**
	comp=E,4μm,0.6s						
AST1	**Astakos**	**1.37**	**15**	P	**Pn**	**23 57 32.6**	**0.0**
AST1				S	**Sg**	**23 57 53.2**	**+0.9**
	comp=E,2μm,0.7s						
EVGI	**Lefkada island**	**1.40**	**1**	P	**Pn**	**23 57 32.5**	**-0.5**
UPR	**University Cam**	**1.40**	**40**	P	**Pb**	**23 57 34.5**	**+0.6**
UPR				S	**Sg**	**23 57 55.6**	**+2.3**
KLV	**Kalavryta, Ach**	**1.46**	**55**	P	**Pn**	**23 57 33.7**	**-0.2**
KLV				AML	AML	23 58 01.3	
	comp=E,2531μm,0.8s						
KLV				AML	AML	23 58 10.6	
	comp=N,2556μm,1.2s						
DRAG	**Dragano-Lefkad**	**1.47**	**358**	P	**Pn**	**23 57 34.5**	**+0.6**
DRAG				S	**Sg**	**23 57 55.2**	**-0.2**
ALIK	**Aliki, Aigiali**	**1.56**	**48**	P	**Pb**	**23 57 36.9**	**+0.2**
ALIK				S	**Sg**	**23 57 59.0**	**+0.4**
LKD2	**Lefkada island**	**1.57**	**1**	P	**Pb**	**23 57 36.5**	**-0.3**
LKD2				S	**Sb**	**23 57 57.3**	**+0.9**
	comp=N,4μm,0.7s						
ANX	**Ano Chora**	**1.71**	**36**	P	**Pn**	**23 57 37.9**	**+0.6**
ANX				AML	AML	23 58 14.9	
	comp=N,5754μm,0.9s						
ANX				AML	AML	23 58 15.8	
	comp=E,6373μm,0.7s						
EVR	**Evrytania**	**1.93**	**28**	P	**Pb**	**23 57 42.4**	**-0.7**
AGG	**Agios Georgios**	**2.24**	**36**	Pn	**Pn**	**23 57 46.3**	**+1.7**
AGG	**Agios Georgios**	**2.24**	**36**	P	**Pn**	**23 57 46.5**	**+1.9**
AGG				S	**Sb**	**23 58 15.4**	**-0.4**
	comp=E,832nm,0.7s						
IGT	**Igoumenitsa**	**2.32**	**354**	P	**Pn**	**23 57 47.9**	**+2.2**
KEK	**Kerkira**	**2.58**	**345**		**Pn**	**23 57 50.1**	**+0.9**
TYRN	**Tyrnavos**	**2.79**	**26**	P	**Pn**	**23 57 52.8**	**+0.7**
KPRO	**Kipourio**	**2.79**	**12**	P	**Pn**	**23 57 54.4**	**+2.2**
NEST	**Nestorio**	**3.21**	**6**	P	**Pn**	**23 58 00.0**	**+2.0**
AOS	**Alonnisos**	**3.21**	**52**	P	**Pn**	**23 57 58.3**	**+0.4**
LIT	**Litokhoron**	**3.22**	**26**		**Pn**	**23 57 59.0**	**+0.9**
SCTE	**Santa Cesarea**	**3.32**	**330**	Pn	**Pn**	**23 57 59.5**	**+0.1**
FNA	**Florina**	**3.61**	**9**	Pn	**Pn**	**23 58 04.3**	**+0.9**
FNA	**Florina**	**3.61**	**9**	P	**Pn**	**23 58 03.9**	**+0.5**
FNA	**Florina**	**3.61**	**9**	*e*Pn	**Pn**	**23 58 03.8**	**+0.4**
TIP	**Timpagrande**	**3.63**	**304**	Pn	**Pn**	**23 58 04.0**	**+0.3**
OHR	**Ohrid**	**3.89**	**2**	*e*Pn	**Pn**	**23 58 08.9**	**+1.6**
OHR	**Ohrid**	**3.89**	**2**	*i* Pn	**Pn**	**23 58 10.8**	**+3.5**
CEL	**Celeste**	**3.90**	**287**	Pn	**Pn**	**23 58 08.0**	**+0.5**
IDI	**Anoyia**	**3.94**	**118**	Pn	**Pn**	**23 58 09.1**	**+1.1**
IDI	**Anoyia**	**3.94**	**118**	Pn	**Pn**	**23 58 06.6**	**-1.4**
	comp=E,12nm,1.0s,baz=320,slow=17,SNR=1.6						
IDI				Sn	**Sn**	**23 58 54.6**	**+0.7**
	comp=E,4.1nm,0.3s,baz=315,slow=20,SNR=2.4						
OUR	**Ouranopolis**	**4.06**	**39**	P	**Pn**	**23 58 09.7**	**+0.1**
TIR	**Tirane**	**4.17**	**352**	Pn	**Pn**	**23 58 10.7**	**-0.3**
KNT	**Kendrikon**	**4.31**	**23**	P	**Pn**	**23 58 15.0**	**+1.9**
VAY	**Valandovo**	**4.36**	**20**	*i* Pn	**Pn**	**23 58 11.7**	**-2.1**
KOKK	**Kokkinochori,**	**4.45**	**35**	P	**Pn**	**23 58 15.3**	**+0.4**
SRS	**Serrai**	**4.52**	**30**	*e*Pn	**Pn**	**23 58 16.5**	**+0.6**
CUC	**Castrocucco**	**4.68**	**308**		**Pn**	**23 58 18.4**	**+0.2**
KAVA	**Kavala**	**4.83**	**37**	P	**Pn**	**23 58 21.5**	**+1.4**
PUK	**Puka**	**4.85**	**353**	Pn	**Pn**	**23 58 22.0**	**+1.5**
MMB	**Musomishta**	**4.95**	**28**	*e*P	**Pn**	**23 58 23.5**	**+1.7**
VAE	**Valguarnera**	**4.97**	**275**	Pn	**Pn**	**23 58 24.2**	**+2.1**
	comp=E,18nm,0.6s,baz=124,slow=15,SNR=18						
VAE				Sn	**Sn**	**23 59 20.4**	**+1.2**
	baz=41,slow=19						
KKB	**Krupnik**	**5.00**	**22**	*e*P	**Pn**	**23 58 24.2**	**+1.6**
RAFF	**Raffo Rosso**	**5.01**	**272**	Pn	**Pn**	**23 58 22.6**	**0.0**
WDD	**Wied Dalam**	**5.11**	**256**	Pn	**Pn**	**23 58 24.1**	**+0.1**
PDG	**Podgorica**	**5.31**	**349**	Pn	**Pn**	**23 58 27.6**	**+0.8**
BOSS	**Bosilegrad**	**5.46**	**14**	*e*Pn	**Pn**	**23 58 29.0**	**+0.2**
RDO	**Rodhopi**	**5.47**	**43**		**Pn**	**23 58 29.0**	**+0.1**
KARP	**Karpathos**	**5.52**	**106**	Pn	**Pn**	**23 58 32.0**	**+2.3**
ALN	**Alexandroupoli**	**5.59**	**47**	Pn	**Pn**	**23 58 31.6**	**+1.0**
BARS	**Barje**	**5.67**	**9**	*e*Pn	**Pn**	**23 58 31.8**	**+0.2**
BARS				*e*Sn	**Sn**	**23 59 33.8**	**-2.6**
KDZ	**Kurdzhali**	**5.71**	**38**	*e*P	**Pn**	**23 58 31.6**	**-0.7**
VTS	**Vitosha**	**5.75**	**20**	*e*P	**Pn**	**23 58 34.6**	**+1.6**
PLD	**Plovdiv**	**5.86**	**32**	*e*P	**Pn**	**23 58 36.3**	**+2.1**
SELS	**Selova**	**6.01**	**3**	*e*Pn	**Pn**	**23 58 35.4**	**-0.9**
SJES	**Sjenica**	**6.06**	**355**	*e*Pn	**Pn**	**23 58 37.9**	**+0.8**
SJES				*e*Sn	**Sn**	**23 59 43.2**	**-3.0**
PAOL	**Paolisi**	**6.06**	**311**	Pn	**Pn**	**23 58 36.5**	**-0.6**
ARG	**Arkhangelos**	**6.10**	**97**	Pn	**Pn**	**23 58 40.0**	**+2.4**
DIM	**Dimitrovgrad**	**6.15**	**37**	*e*P	**Pn**	**23 58 42.3**	**+4.1**
ZAPS	**Zavoj**	**6.24**	**14**	*e*Pn	**Pn**	**23 58 40.0**	**+0.5**
IVAS	**Ivanjica**	**6.36**	**357**	*e*Pn	**Pn**	**23 58 40.2**	**-1.1**
BOVS	**Bovan**	**6.46**	**7**	*e*Pn	**Pn**	**23 58 41.9**	**-0.7**
GRUS	**Gruza**	**6.66**	**0**	*e*Pn	**Pn**	**23 58 45.7**	**+0.4**
BBLS	**Lazi&#263i**	**6.71**	**352**	*e*Pn	**Pn**	**23 58 45.7**	**-0.3**
DIVS	**Divibare**	**6.89**	**356**	*e*Sn	**Sn**	**00 00 03.5**	**-3.2**
DIVS	**Divibare**	**6.89**	**356**	*e*Pn	**Pn**	**23 58 50.2**	**+1.7**
TRUS	**Trudelj**	**7.00**	**359**	*e*Pn	**Pn**	**23 58 48.7**	**-1.3**
INTR	**Introdacqua**	**7.07**	**315**	Pn	**Pn**	**23 58 51.8**	**+0.9**
ELL	**Elmali**	**7.44**	**91**	Pn	**Pn**	**23 58 58.2**	**+2.1**
NRCA	**Norcia**	**8.05**	**317**	Pn	**Pn**	**23 59 05.2**	**+0.8**
FDMO	**Fiordimonte**	**8.20**	**317**	Pn	**Pn**	**23 59 08.5**	**+2.1**
MLR	**Muntele Rosu**	**9.18**	**24**	Pn	**Pn**	**23 59 21.6**	**+1.7**
MLR	**Muntele Rosu**	**9.18**	**24**	Pn	**Pn**	**23 59 22.4**	**+2.5**
	comp=E,0.1nm,0.3s,baz=180,slow=20,SNR=2.1						
	comp=E,1.4nm,0.8s						
KEST	**Kesra**	**9.21**	**264**	Pn	**Pn**	**23 59 21.0**	**+0.5**
KEST	**Kesra**	**9.21**	**264**	Pn	**Pn**	**23 59 21.8**	**+1.4**
	comp=E,0.1nm,0.3s,baz=83,slow=4.9,SNR=5.1						
KEST				Sn	**Sn**	**00 01 01.3**	**-2.5**
	baz=90,slow=19						
	comp=E,5.6nm,0.9s						
SABO	**M.te Sabotino**	**10.21**	**331**	Pn	**Pn**	**23 59 34.2**	**+0.2**
SOKA	**Soboth**	**10.33**	**338**	*e*Pn	**Pn**	**23 59 36.4**	**+0.8**
	comp=E,2.1nm,0.4s						
OBKA	**Obir**	**10.33**	**336**	*e*Pn	**Pn**	23 59 40.7	+5.0
	comp=E,0.8nm,0.2s						
BRTR	**Keskin Array B**	**10.50**	**72**	Pn	**Pn**	23 59 44.4	+6.3
	comp=E,0.2nm,0.3s,baz=266,slow=14,SNR=1.7						
CSS	**Mathiatis**	**10.52**	**99**	Pn	**Pn**	**23 59 40.5**	**+2.3**
CTI	**Castel Tesino**	**11.09**	**326**	Pn	**Pn**	**23 59 47.3**	**+1.2**
KBA	**Koelnbreinsper**	**11.24**	**334**	*e*Pn	**Pn**	**23 59 51.4**	**+3.2**
	comp=E,2.5nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**12.15**	**324**	Pn	**Pn**	**00 00 00.4**	**-0.4**
VRAC	**Vranov**	**12.44**	**348**	Pn	Pn	00 00 09.9	+5.5
	comp=E,0.2nm,0.3s,baz=179,slow=15,SNR=2.2						
DAVOX	**Davos/Dischmat**	**12.45**	**323**	Pn	**Pn**	**00 00 09.5**	**+4.7**
	comp=E,0.1nm,0.3s,baz=151,slow=19,SNR=2.8						
TUE	**Stuetta**	**12.49**	**321**	Pn	**Pn**	**00 00 06.0**	**+0.7**
GERES	**GERESS Array B**	**12.67**	**339**	Pn	**Pn**	**00 00 08.6**	**+0.9**
	comp=E,0.2nm,0.3s,baz=151,slow=16,SNR=1.7

Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.43**	**139⇑**	*i*P	**Pb**	**00 09 14.6**	**-0.3**
JNW				*e*S	**Sg**	**00 09 20.4**	**+1.1**
JNW				IAML		00 09 21.9	
	comp=Z,72μm,0.6s						
JMIC	**Jan Mayen**	**0.45**	**145**	Pg	**Pg**	**00 09 14.5**	**+0.6**
JMIC				Lg	Lg	00 09 20.4	
JMIC	**Jan Mayen**	**0.45**	**145⇑**	*i*P	**Pg**	**00 09 14.6**	**+0.6**
JMIC	**Jan Mayen**	**0.45**	**145**	Pn	**Pg**	**00 09 14.2**	**+0.3**
	comp=Z,17μm,0.3s,baz=179,slow=16,SNR=2762						
JMIC				Sn	**Sb**	**00 09 21.4**	**-0.5**
	comp=Z,16μm,0.3s,baz=228,slow=22,SNR=16						
JMI	**Jan Mayen**	**0.46**	**157**	Pg	**Pg**	**00 09 14.8**	**+0.5**
JMI				Lg	Lg	00 09 21.1	
JMI	**Jan Mayen**	**0.46**	**157⇑**	*i*P	**Pg**	**00 09 14.8**	**+0.5**
JNE	**Jan Mayen East**	**0.49**	**138⇑**	*i*P	**Pg**	**00 09 15.2**	**+0.5**
JNE				*e*S	**Sg**	**00 09 21.5**	**+0.4**
JNE				IAML		00 09 22.6	
	comp=Z,89μm,0.4s						
SCO	**Scoresbysund**	**4.25**	**264**	Pn	**Pn**	**00 10 08.8**	**-1.0**
SCO	**Scoresbysund**	**4.25**	**264**	*i*P	**Pn**	**00 10 09.0**	**-0.9**
SCO				IAmb	IAmb	00 10 15.9	
	comp=Z,70nm,0.8s						
SCO				IAML		00 11 20.2	
	comp=Z,60nm,1.6s						
SCO	**Scoresbysund**	**4.25**	**264**	P	**Pn**	**00 10 08.9**	**-1.0**
SCO	**Scoresbysund**	**4.25**	**264**	*i*P	**Pn**	**00 10 09.0**	**-0.9**
SCO				IAmb	IAmb	00 10 15.9	
	comp=Z,70nm,0.8s						
SCO				IAML		00 11 20.2	
	comp=Z,60nm,1.6s						
DBG	**Daneborg**	**4.39**	**318**	Pn	**Pn**	**00 10 10.0**	**-1.8**
DBG				Sn	**Sn**	**00 10 56.3**	**-6.6**
DBG	**Daneborg**	**4.39**	**318**	*i*P	**Pn**	**00 10 08.8**	**-3.0**
DBG				IAmb	IAmb	00 10 23.6	
	comp=Z,715nm,1.1s						
DBG				*e*S	**Sn**	**00 10 55.8**	**-7.0**
DBG				IAML		00 11 13.4	
	comp=Z,393nm,1.3s						
DBG	**Daneborg**	**4.39**	**318**	*i*P	**Pn**	**00 10 08.8**	**-3.0**
DBG				IAmb	IAmb	00 10 23.6	
	comp=Z,715nm,1.1s						
DBG				IAML		00 11 13.4	
	comp=Z,393nm,1.3s						
ILEI	**Leirhofn**	**5.61**	**211**	P	**Pn**	**00 10 24.4**	**-4.1**
ILEI				S	**Sn**	**00 11 28.2**	**-4.7**
IGRI	**Grimsey**	**5.76**	**217**	S	**Sn**	**00 11 29.8**	**-6.8**
IGRI				P	**Pn**	**00 10 28.3**	**-2.3**
IGIL	**Gilhagi**	**5.89**	**209**	S	**Sn**	**00 11 34.5**	**-5.2**
IGIL				P	**Pn**	**00 10 28.7**	**-3.7**
DAG	**Danmarks Havn**	**6.02**	**339⇑**	*i*P	**Pn**	**00 10 32.8**	**-1.3**
DAG				IAmb	IAmb	00 10 33.6	
	comp=Z,824nm,0.8s						
DAG				*e*S	**Sn**	**00 11 36.5**	**-6.3**
DAG				IAML		00 11 39.2	
	comp=Z,281nm,1.5s						
DAG	**Danmarks Havn**	**6.02**	**339**	P	**Pn**	**00 10 29.8**	**-4.3**
DAG	**Danmarks Havn**	**6.02**	**339**	*i*P	**Pn**	**00 10 32.4**	**-1.7**
DAG				IAmb	IAmb	00 10 33.6	
	comp=Z,824nm,0.8s						
DAG				IAML		00 11 39.2	
	comp=Z,281nm,1.5s						
IHED	**Heoinshofoi**	**6.04**	**213**	S	**Sn**	**00 11 38.2**	**-5.3**
IHED				P	**Pn**	**00 10 30.7**	**-3.8**
IDIM	**Dimmadalss**	**6.09**	**211**	P	**Pn**	**00 10 31.5**	**-3.6**
IGHA	**Grjothals**	**6.15**	**210**	P	**Pn**	**00 10 31.6**	**-4.4**
IGHA				S	**Sn**	**00 11 42.7**	**-3.6**
ISKI	**Skildingahlsh**	**6.19**	**211**	P	**Pn**	**00 10 33.2**	**-3.3**
IGRS	**Grimsstaoir**	**6.26**	**207**	P	**Pn**	**00 10 33.5**	**-4.0**
IGRS				S	**Sn**	**00 11 45.2**	**-3.9**
ISIG	**Siglufjorour**	**6.30**	**218**	P	**Pn**	**00 10 35.4**	**-2.6**
IKVO	**Krokottuvotn**	**6.31**	**210**	P	**Pn**	**00 10 35.5**	**-2.6**
IHLA	**Hella**	**6.36**	**216**	P	**Pn**	**00 10 34.9**	**-4.0**
IHLA				S	**Sn**	**00 11 46.2**	**-5.2**
IMEL	**Melhnausar**	**6.41**	**209**	P	**Pn**	**00 10 35.4**	**-4.1**
IHRN	**Hraun**	**6.57**	**222**	P	**Pn**	**00 10 41.2**	**-0.4**
IADA	**Aoalbol**	**6.78**	**203**	P	**Pn**	**00 10 41.2**	**-3.4**
IADA				S	**Sn**	**00 11 58.4**	**-3.4**
IMKO	**Mokollar**	**6.92**	**206**	P	**Pn**	**00 10 42.9**	**-3.7**
IMKO				S	**Sn**	**00 12 02.9**	**-2.3**
IVSH	**V-Sauoahnukur**	**7.00**	**203**	P	**Pn**	**00 10 44.3**	**-3.3**
IKRE	**Kreppuhraun**	**7.11**	**205**	P	**Pn**	**00 10 45.8**	**-3.4**
IURH	**Urdarhals**	**7.18**	**208**	P	**Pn**	**00 10 47.4**	**-2.8**
IDYN	**Dyngjuhals**	**7.25**	**209**	P	**Pn**	**00 10 47.9**	**-3.2**
IKIS	**Kista**	**7.38**	**209**	P	**Pn**	**00 10 50.6**	**-2.4**
IKSK	**Karasker**	**7.71**	**204**	P	**Pn**	**00 10 54.1**	**-3.4**
IHAE	**Haedir**	**7.91**	**205**	P	**Pn**	**00 10 57.5**	**-2.7**
BORG	**Borgarnes**	**8.00**	**220**	Pn	**Pn**	**00 11 02.0**	**+0.7**
	comp=Z,4.5nm,0.3s,baz=10,slow=6.6,SNR=17						
BORG				Sn	**Sn**	**00 12 32.1**	**+0.3**
	baz=286,slow=21						
BORG				LR	LR	00 13 05.2	
	comp=Z,660nm,20.5s,baz=26,slow=30						
	comp=Z,27nm,0.8s						
SOEG	**Soedalen**	**8.25**	**258**	*i*P	**Pn**	**00 11 07.8**	**+3.1**
SOEG				IAmb	IAmb	00 11 10.6	
	comp=Z,174nm,1.4s						
SOEG				IAML		00 14 46.0	
	comp=Z,120nm,7.7s						
SOEG	**Soedalen**	**8.25**	**258**	*i*P	**Pn**	**00 11 07.8**	**+3.1**
SOEG				IAmb	IAmb	00 11 10.6	
	comp=Z,174nm,1.4s						
SOEG				IAML		00 14 46.0	
	comp=Z,120nm,7.7s						
LOF	**Lofoten**	**8.52**	**101**	Pn	**Pn**	**00 11 06.8**	**-1.7**
LOF	**Lofoten**	**8.52**	**101**	*e*P	**Pn**	**00 11 07.2**	**-1.3**
LOF				*e*S	**Sn**	**00 12 38.6**	**-5.8**
LOF				IAML		00 12 54.0	
	comp=Z,39nm,0.5s						
HSPB	**Hornsund (broa**	**8.75**	**39**	*e*P	**Pn**	**00 11 11.4**	**-0.2**
HSPB				*e*S	**Sn**	**00 12 49.0**	**-1.0**
HSPB	**Hornsund (broa**	**8.75**	**39**	Pn	**Pn**	**00 11 11.2**	**-0.4**
HSPB	**Hornsund (broa**	**8.75**	**39**	*e*P	**Pn**	**00 11 12.6**	**+1.0**
BJO1	**Bjornoya**	**8.83**	**56**	Pn	**Pn**	**00 11 14.1**	**+1.4**
BJO1	**Bjornoya**	**8.83**	**56**	*e*P	**Pn**	**00 11 14.1**	**+1.4**
BJO1	**Bjornoya**	**8.83**	**56**	*e*P	**Pn**	**00 11 13.8**	**+1.2**
BRBA	**Barentsburg A**	**9.06**	**32**	Pn	**Pn**	**00 11 16.0**	**+0.2**
BRBA				Sn	**Sn**	**00 12 51.8**	**-5.9**
SUMG	**Summit**	**9.07**	**291**	Pn	**Pn**	**00 11 17.8**	**+1.4**
SUMG	**Summit**	**9.07**	**291**	*i*P	**Pn**	**00 11 18.3**	**+1.9**
SUMG				IAmb	IAmb	00 11 26.7	
	comp=Z,152nm,1.1s						
SUMG				IAML		00 13 47.4	
	comp=Z,71nm,1.6s						
SUMG	**Summit**	**9.07**	**291**	P	**Pn**	**00 11 17.8**	**+1.4**
SUMG	**Summit**	**9.07**	**291**	*i*P	**Pn**	**00 11 18.3**	**+1.9**
SUMG				IAmb	IAmb	00 11 26.7	
	comp=Z,152nm,1.1s						
SUMG				IAML		00 13 47.4	
	comp=Z,71nm,1.6s						
BRBB	**Barentsburg B**	**9.08**	**32**	Pn	**Pn**	**00 11 16.3**	**+0.2**
BRBB				Sn	**Sn**	**00 12 52.5**	**-5.6**
STEI	**Steigen**	**9.17**	**100**	*e*P	**Pn**	**00 11 16.9**	**-0.4**
KBS	**Kingsbay**	**9.26**	**26**	Pn	**Pn**	**00 11 19.2**	**+0.6**
KBS				Sn	**Sn**	**00 12 55.1**	**-7.5**
KBS	**Kingsbay**	**9.26**	**26**		**Pn**	**00 11 19.1**	**+0.5**
KBS	**Kingsbay**	**9.26**	**26**	*e*P	**Pn**	**00 11 18.4**	**-0.2**
KBS				*e*S	**Sn**	**00 12 53.9**	**-8.7**
KBS				IAML		00 13 01.3	
	comp=Z,168nm,0.5s						
KBS	**Kingsbay**	**9.26**	**26**	*e*P	**Pn**	**00 11 18.3**	**-0.2**
KBS				*e*S	**Sn**	**00 12 55.6**	**-7.0**
KBS	**Kingsbay**	**9.26**	**26**	*i*P	**Pn**	**00 11 18.9**	**+0.3**
KBS	**Kingsbay**	**9.26**	**26**	*i*P	**Pn**	**00 11 18.3**	**-0.2**
KONS	**Konsvik**	**9.38**	**110**	Pn	**Pn**	**00 11 18.2**	**-1.9**
KONS				Sn	**Sn**	**00 12 57.8**	**-7.6**
KONS	**Konsvik**	**9.38**	**110**	*e*P	**Pn**	**00 11 18.7**	**-1.4**
KONS				*e*S	**Sn**	**00 12 57.7**	**-7.8**
KONS				IAML		00 13 05.0	
	comp=Z,75nm,0.4s						
STOK	**Stokkvaagen**	**9.46**	**111**	Pn	**Pn**	**00 11 20.5**	**-0.7**
STOK				Sn	**Sn**	**00 12 59.6**	**-7.8**
STOK	**Stokkvaagen**	**9.46**	**111**	*e*P	**Pn**	**00 11 20.2**	**-1.0**
STOK				*e*S	**Sn**	**00 12 59.2**	**-8.2**
STOK				IAML		00 13 04.1	
	comp=Z,133nm,0.4s						
FAUS	**Fauske**	**9.49**	**103**	*e*P	**Pn**	**00 11 20.4**	**-1.3**
FAUS				*e*S	**Sn**	**00 13 02.0**	**-6.3**
FAUS				IAML		00 13 15.5	
	comp=Z,42nm,0.6s						
SPA0	**Spitsbergen Ar**	**9.50**	**33**	Pn	**Pn**	**00 11 22.8**	**+1.0**
	baz=230,slow=14						
SPA0				Sn	**Sn**	**00 13 07.3**	**-1.1**
	baz=233,slow=28						
SPA0	**Spitsbergen Ar**	**9.50**	**33**	Pn	**Pn**	**00 11 22.8**	**+1.0**
	baz=230,slow=14						
SPA0				Sn	**Sn**	**00 13 07.3**	**-1.1**
	baz=233,slow=28						
SPA0	**Spitsbergen Ar**	**9.50**	**33⇑**	*i*P	**Pn**	**00 11 22.9**	**+1.0**
SPA0				*i*S	**Sn**	**00 13 05.0**	**-3.3**
SPITS	**Spitsbergen Ar**	**9.50**	**33**	Pn	**Pn**	**00 11 22.1**	**+0.3**
	baz=219,slow=14						
SPITS				Sn	**Sn**	**00 13 08.1**	**-0.3**
	baz=238,slow=26						
SPB2	**Spitsbergen Ar**	**9.50**	**33**		**Pn**	**00 11 23.0**	**+1.2**
TRO	**Tromso**	**9.54**	**87**	Pn	**Pn**	**00 11 21.4**	**-1.0**
TRO	**Tromso**	**9.54**	**87**	*e*P	**Pn**	**00 11 21.4**	**-1.0**
MOR8	**Moi Rana**	**9.99**	**110**	*e*P	**Pn**	**00 11 28.7**	**0.0**
MOR8				*e*S	**Sn**	**00 13 14.7**	**-5.9**
MOR8				IAML		00 13 21.3	
	comp=Z,181nm,0.4s						
JETT	**Jettan, Norway**	**10.05**	**86**	Pn	**Pn**	**00 11 29.1**	**-0.3**
JETT	**Jettan, Norway**	**10.05**	**86**	Pn	**Pn**	**00 11 29.1**	**-0.3**
KIF	**Kilpisjarvi**	**10.41**	**88**	Pn	**Pn**	**00 11 34.3**	**0.0**
KIF	**Kilpisjarvi**	**10.41**	**88**	*e*P	**Pn**	**00 11 34.3**	**0.0**
NOR	**Nord**	**10.43**	**354**	Pn	**Pn**	**00 11 33.7**	**-0.8**
NOR				Sn	**Sn**	**00 13 24.2**	**-7.1**
NOR	**Nord**	**10.43**	**354**	*i*P	**Pn**	**00 11 33.1**	**-1.4**
NOR				IAmb	IAmb	00 11 35.1	
	comp=Z,341nm,0.6s						
NOR				IAML		00 13 29.4	
	comp=Z,258nm,0.9s						
NOR	**Nord**	**10.43**	**354**	*i*P	**Pn**	**00 11 33.1**	**-1.4**
NOR				IAmb	IAmb	00 11 35.1	
	comp=Z,341nm,0.6s						
NOR				IAML		00 13 29.4	
	comp=Z,258nm,0.9s						
NSS	**Namsos**	**10.46**	**120**	*e*P	**Pn**	**00 11 33.0**	**-2.0**
NSS				*e*S	Sn	00 13 22.3	-10
NSS				IAML		00 13 31.6	
	comp=Z,89nm,0.4s						
ICESG	**Greenland Ices**	**10.46**	**272**	*i*P	**Pn**	**00 11 35.2**	**-0.1**
ICESG				IAmb	IAmb	00 11 47.2	
	comp=Z,105nm,1.1s						
ICESG				IAML		00 15 39.8	
	comp=Z,60nm,5.0s						
ICESG	**Greenland Ices**	**10.46**	**272**	*i*P	**Pn**	**00 11 35.2**	**-0.1**
ICESG				IAmb	IAmb	00 11 47.2	
	comp=Z,105nm,1.1s						
ICESG				IAML		00 15 39.8	
	comp=Z,60nm,5.0s						
HOPEN	**Hopen**	**10.65**	**46**	Pn	**Pn**	**00 11 38.9**	**+1.4**
HOPEN	**Hopen**	**10.65**	**46**	*e*P	**Pn**	**00 11 39.1**	**+1.6**
HOPEN	**Hopen**	**10.65**	**46⇑**	*i*P	**Pn**	**00 11 38.5**	**+1.0**
HOPEN				S	**Sn**	**00 13 30.6**	**-6.0**
HAMF	**Hammerfest**	**10.69**	**78**	Pn	**Pn**	**00 11 38.0**	**-0.1**
HAMF	**Hammerfest**	**10.69**	**78**	*e*P	**Pn**	**00 11 38.0**	**-0.1**
MOL	**Molde**	**10.95**	**135**	*e*P	**Pn**	**00 11 39.0**	**-2.8**
MOL				*e*S	Sn	00 13 32.8	-11
MOL				IAML		00 13 39.5	
	comp=Z,55nm,0.5s						
AKN	**Aaknes**	**11.18**	**137**	Pn	**Pn**	**00 11 42.3**	**-2.6**
AKN				Sn	Sn	00 13 39.0	-11
AKN	**Aaknes**	**11.18**	**137**	Pn	**Pn**	**00 11 42.3**	**-2.6**
AKN				Sn	Sn	00 13 39.0	-11
KTK1	**Kautokeino**	**11.19**	**86**	*e*P	**Pn**	**00 11 45.3**	**+0.3**
FOO	**Floro**	**11.30**	**143**	*e*P	**Pn**	**00 11 44.5**	**-1.9**
FOO				IAML		00 13 47.6	
	comp=Z,95nm,0.4s						
HEF	**Hetta**	**11.62**	**89**	Pn	**Pn**	**00 11 50.7**	**-0.1**
HEF	**Hetta**	**11.62**	**89**	*e*P	**Pn**	**00 11 50.8**	**0.0**
ARCES	**ARCESS Array B**	**11.69**	**82**	Pn	**Pn**	**00 11 51.5**	**-0.2**
	comp=Z,3.2nm,0.3s,baz=290,slow=12,SNR=188						
	comp=Z,34nm,0.7s						
ARA0	**ARCESS Array S**	**11.69**	**82**	Pn	**Pn**	**00 11 52.1**	**+0.4**
	baz=289,slow=11						
ARA0	**ARCESS Array S**	**11.69**	**82**	Pn	**Pn**	**00 11 52.1**	**+0.4**
	baz=289,slow=11						
LRW	**Lerwick**	**11.73**	**160**	*e*P	**Pn**	**00 11 51.8**	**-0.5**
SUE	**Sulen**	**11.74**	**145**	*e*P	**Pn**	**00 11 50.4**	**-2.1**
SUE				*e*S	Sn	00 13 50.3	-13
SUE				IAML		00 13 54.8	
	comp=Z,30nm,0.3s						
DOMB	**Dombas**	**11.76**	**133**	*e*P	**Pn**	**00 11 50.3**	**-2.6**
HYA	**Hoyanger**	**11.92**	**141**	*e*P	**Pn**	**00 11 52.8**	**-2.1**
HYA				*e*S	Sn	00 13 55.5	-12
HYA				IAML		00 14 05.3	
	comp=Z,58nm,0.4s						
KEV	**Kevo**	**12.07**	**80**	Pn	**Pn**	**00 11 57.8**	**+0.8**
KEV	**Kevo**	**12.07**	**80**	Pn	**Pn**	**00 11 56.2**	**-0.8**
KEV	**Kevo**	**12.07**	**80**	*e*P	**Pn**	**00 11 58.3**	**+1.3**
KEV	**Kevo**	**12.07**	**80**	P	**Pn**	**00 11 56.2**	**-0.8**
BER	**Bergen**	**12.47**	**145**	*e*P	**Pn**	**00 11 59.1**	**-3.4**
BER				*e*S	Sn	00 14 08.0	-13
BER				IAML		00 14 20.4	
	comp=Z,21nm,0.4s						
NEEM	**North Greenlan**	**12.47**	**318**	*i*P	Pn	00 11 58.0	-4.7
NEEM				IAmb	IAmb	00 12 08.0	
	comp=Z,140nm,0.8s						
NEEM	**North Greenlan**	**12.47**	**318**	*i*P	Pn	00 11 58.0	-4.7
NEEM				IAmb	IAmb	00 12 08.0	
	comp=Z,140nm,0.8s						
VADS	**Vadso**	**12.66**	**77**	*e*P	**Pn**	**00 12 06.0**	**+0.9**
SKAR	**Skarslia**	**12.80**	**138**	*e*P	**Pn**	**00 12 05.0**	**-2.0**
SKAR				*e*S	Sn	00 14 18.4	-11
SKAR				IAML		00 14 23.5	
	comp=Z,32nm,0.4s						
NC303	**NORSAR Array S**	**13.03**	**131**		**Pn**	**00 12 07.6**	**-2.5**
NB2	**NORSAR Subarra**	**13.15**	**131**	Pn	**Pn**	**00 12 07.6**	**-4.2**
	baz=336,slow=18						
NB2	**NORSAR Subarra**	**13.15**	**131**	Pn	**Pn**	**00 12 07.6**	**-4.2**
	baz=336,slow=18						
NOA	**NORSAR Array B**	**13.15**	**131**	Pn	**Pn**	**00 12 08.4**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=314,slow=27,SNR=18						
NOA				Sn	Sn	00 14 28.7	-9.2
	comp=Z,0.2nm,0.3s,baz=306,slow=12,SNR=3.4						
NOA				LR	LR	00 16 50.1	
	comp=Z,610nm,21.9s,baz=330,slow=36						
ODD1	**Odda**	**13.16**	**143**	*e*P	**Pn**	**00 12 09.8**	**-2.1**
LEWI	**Lewis, Hebride**	**13.30**	**174**	*e*P	**Pn**	**00 12 15.3**	**+1.4**
LINV	**Loch Inver, As**	**13.37**	**171**	*e*P	**Pn**	**00 12 14.0**	**-0.7**
NRA0	**NORESS Array S**	**13.49**	**132**	Pn	Pn	00 12 11.7	-4.7
	baz=333,slow=16						
NRA0	**NORESS Array S**	**13.49**	**132**	Pn	Pn	00 12 11.7	-4.7
	baz=333,slow=16						
BLS5	**Blasjo**	**13.58**	**144**	*e*P	**Pn**	**00 12 15.1**	**-2.5**
DY2G	**Dye2**	**13.98**	**268**	*i*P	**Pn**	**00 12 22.2**	**-1.1**
DY2G				IAmb	IAmb	00 12 28.5	
	comp=Z,195nm,1.5s						
DY2G	**Dye2**	**13.98**	**268**	*i*P	**Pn**	**00 12 22.2**	**-1.1**
DY2G				IAmb	IAmb	00 12 28.5	
	comp=Z,195nm,1.5s						
OSL	**Oslo**	**14.01**	**135**	*e*P	**Pn**	**00 12 22.8**	**-0.6**
KONO	**Kongsberg**	**14.02**	**137**	Pn	**Pn**	**00 12 20.6**	**-2.9**
KONO	**Kongsberg**	**14.02**	**137**	*e*P	**Pn**	**00 12 21.4**	**-2.1**
KONO	**Kongsberg**	**14.02**	**137**	*ce*P	**Pn**	**00 12 23.1**	**-0.4**
KONO				pmax	pmax		
	comp=Z,38nm,1.3s						
MCD	**Coleburn Disti**	**14.06**	**167**	*e*P	**Pn**	**00 12 23.6**	**-0.5**
MCD				IAmb	IAmb	00 12 30.0	
	comp=Z,279nm,1.5s						
KULLO	**Kullorsuaq**	**14.07**	**305**	*i*P	Pn	00 12 18.7	-5.5
KULLO				IAmb	IAmb	00 12 27.5	
	comp=Z,44nm,1.1s						
KULLO	**Kullorsuaq**	**14.07**	**305**	*i*P	Pn	00 12 18.7	-5.5
KULLO				IAmb	IAmb	00 12 27.5	
	comp=Z,44nm,1.1s						
KPL	**Plockton**	**14.15**	**172**	*e*P	**Pn**	**00 12 25.4**	**-0.1**
HFS	**Hagfors**	**14.55**	**129**	P	**Pn**	**00 12 27.6**	**-3.2**
	baz=323,slow=10						
HFS	**Hagfors**	**14.55**	**129**	P	**Pn**	**00 12 27.6**	**-3.2**
	baz=323,slow=10						
HFS	**Hagfors**	**14.55**	**129**	Pn	**Pn**	**00 12 28.3**	**-2.6**
	comp=Z,2.6nm,0.3s,baz=327,slow=11,SNR=64						
HFS				Sn	Sn	00 15 02.9	-9.0
	comp=Z,1.5nm,0.3s,baz=341,slow=22,SNR=2.5						
HFS				LR	LR	00 18 11.9	
	comp=Z,960nm,18.9s,baz=330,slow=38						
	comp=Z,11nm,0.4s						
SNART	**Snartemo**	**14.73**	**144**	*e*	**Pn**	**00 12 30.2**	**-3.1**
SNART				*e*P	P	00 12 30.8	-8.7
DRUM	**Mains of Drumt**	**14.78**	**165**	*e*P	**Pn**	**00 12 33.6**	**-0.4**
APA0	**Apatity Array**	**15.03**	**84**	P	**Pn**	**00 12 36.6**	**-0.7**
	baz=309,slow=12						
APA0	**Apatity Array**	**15.03**	**84**	P	**Pn**	**00 12 36.6**	**-0.7**
	baz=309,slow=12						
HOMB	**Homborsund**	**15.05**	**142**	*e*	**Pn**	**00 12 35.0**	**-2.6**
HOMB				*e*P	P	00 12 36.0	-7.0
SFJD	**Kangerlussuaq**	**15.08**	**274**	*i*P	**Pn**	**00 12 35.4**	**-2.5**
SFJD				IAmb	IAmb	00 12 50.5	
	comp=Z,77nm,1.1s						
SFJD	**Kangerlussuaq**	**15.08**	**274**	Pn	**Pn**	**00 12 37.6**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=60,slow=9.3,SNR=5.7						
SFJD				LR	LR	00 17 34.1	
	comp=Z,2μm,19.4s,baz=52,slow=34						
	comp=Z,49nm,1.0s						
SFJD	**Kangerlussuaq**	**15.08**	**274**	*i*P	**Pn**	**00 12 35.4**	**-2.5**
SFJD				IAmb	IAmb	00 12 50.5	
	comp=Z,77nm,1.1s						
INVG	**Invergeldie, C**	**15.15**	**169**	*e*P	**Pn**	**00 12 39.0**	**0.0**
APA	**Apatity**	**15.18**	**83⇓**	*i*P	**Pn**	**00 12 38.3**	**-1.0**
APA				*i*		00 15 26.9	
APA				pmax	pmax		
	comp=Z,20nm,1.3s						
LVZ	**Lovozero**	**15.40**	**81**		**Pn**	**00 12 41.1**	**-1.2**
LVZ				IAmb	IAmb	00 12 48.7	
	comp=Z,117nm,1.1s						
LVZ	**Lovozero**	**15.40**	**81**	*i*P	**Pn**	**00 12 41.7**	**-0.5**
LVZ				pmax	pmax		
	comp=Z,167nm,1.4s						
LVZ	**Lovozero**	**15.40**	**81**	P	**Pn**	**00 12 40.9**	**-1.3**
	comp=Z,129nm,1.5s						
ZFI2	**Zemlya Franca-**	**15.69**	**30**	*e*P	**Pn**	**00 12 47.6**	**+1.8**
ZFI2				S	**Sn**	**00 15 32.0**	**-7.3**
OMEGA	**Omega**	**15.70**	**30**	*e*P	**Pn**	**00 12 47.8**	**+1.8**
OMEGA				S	**Sn**	**00 15 32.0**	**-7.7**
EDI	**Edinburgh**	**15.71**	**167**	*e*P	**Pn**	**00 12 46.5**	**+0.2**
ESY	**Stoneypath**	**15.76**	**166**	*e*P	**Pn**	**00 12 45.9**	**-1.0**
TJOU	**Tjoern**	**15.93**	**136**	*e*P	**P**	**00 12 52.7**	**0.0**
TJOU	**Tjoern**	**15.93**	**136**	*e*P	**P**	**00 12 52.7**	**0.0**
EKA	**Eskdalemuir Ar**	**16.30**	**167**	P	**Pn**	**00 12 52.7**	**-1.2**
EKA	**Eskdalemuir Ar**	**16.30**	**167**	P	**Pn**	**00 12 52.7**	**-1.2**
EKA	**Eskdalemuir Ar**	**16.30**	**167**	Pn	**Pn**	**00 12 52.8**	**-1.0**
	baz=348,slow=14						
EKA				Sn	**Sn**	**00 15 48.2**	**-6.2**
	baz=8.6,slow=23						
	comp=Z,4.9nm,0.4s						
ESK	**Eskdalemuir**	**16.31**	**168**	Pn	**Pn**	**00 12 53.5**	**-0.5**
ESK				IAmb	IAmb	00 12 59.2	
	comp=Z,143nm,1.4s						
ESK	**Eskdalemuir**	**16.31**	**168**	P	**Pn**	**00 12 53.6**	**-0.5**
ESK				pmax	pmax		
	comp=Z,143nm,1.4s						
IDGL	**Inch Island, C**	**16.36**	**176**	P	**P**	**00 12 58.0**	**+0.5**
NEWG	**New Galloway**	**16.45**	**170**	*e*P	**Pn**	**00 12 56.1**	**+0.4**
TULEG	**Thule**	**16.52**	**315**	Pn	**Pn**	**00 12 51.2**	**-5.4**
TULEG				IAmb	IAmb	00 12 53.9	
	comp=Z,153nm,1.1s						
TULEG	**Thule**	**16.52**	**315**	*i*P	**Pn**	**00 12 49.7**	**-6.9**
TULEG				IAmb	IAmb	00 12 53.1	
	comp=Z,105nm,0.8s						
TULEG	**Thule**	**16.52**	**315**	*i*P	**Pn**	**00 12 49.7**	**-6.9**
TULEG				IAmb	IAmb	00 12 53.1	
	comp=Z,105nm,0.8s						
ONAU	**Onsala**	**16.58**	**137**	*i*P	**Pn**	**00 12 55.3**	**-2.0**
ONAU	**Onsala**	**16.58**	**137**	*i*P	**Pn**	**00 12 55.3**	**-2.0**
MUD	**Monsted U'grnd**	**16.88**	**143**	*i*P	**Pn**	**00 13 01.6**	**+0.5**
MUD	**Monsted U'grnd**	**16.88**	**143**	*i*P	**Pn**	**00 13 01.6**	**+0.5**
FIA0	**FINESS Array S**	**16.98**	**108**	P	**Pn**	**00 13 02.8**	**+0.4**
	baz=320,slow=12						
FIA0	**FINESS Array S**	**16.98**	**108**	P	**Pn**	**00 13 02.8**	**+0.4**
	baz=320,slow=12						
FIA1	**FINESS Array S**	**16.98**	**108**		**Pn**	**00 13 01.4**	**-0.9**
FIA1				IAmb	IAmb	00 13 09.0	
	comp=Z,278nm,1.7s						
FINES	**FINESS Array B**	**16.98**	**108**	Pn	**Pn**	**00 13 01.0**	**-1.4**
	comp=Z,7.0nm,0.3s,baz=321,slow=12,SNR=201						
FINES				Sn	**Sn**	**00 16 02.6**	**-8.1**
	comp=Z,1.6nm,0.3s,baz=316,slow=24,SNR=2.3						
FINES				LR

comp=Z,795nm,1.2s
KLMR eS S 00 17 45.5 -9.4
KLMR Klimovskoe 21.67 94 *d iP* **P 00 13 55.8 +0.3**
KLMR S Sn 00 17 59.9 -3.9
KLMR pmax pmax
comp=Z,795nm,1.2s
KLMR pmax pmax
comp=Z,1μm,1.3s
KLMR MLR MLR
comp=Z,1μm,18.0s
GTTG Gottingen 21.69 146 *eP* **P 00 13 57.2 +1.4**
comp=Z,148nm,1.7s,baz=345,slow=10
BEBN Eben Emael 21.73 154 *dP* **P 00 13 56.7 +0.5**
comp=Z,121nm,0.6s
KASTN Kahler Asten 21.75 149 *eP* **P 00 13 57.3 +0.7**
comp=Z,95nm,1.4s,baz=345,slow=10
BSTI Sart Tilman 21.92 154 *dP* **P 00 13 58.7 +0.4**
MEM Membach 21.96 153 *dP* **P 00 13 58.9 +0.2**
comp=Z,65nm,0.9s
BTNL Ternell 22.00 153 *dP* **P 00 13 59.5 +0.3**
comp=Z,59nm,0.9s
BCLA Clavier 22.04 155 *dP* **P 00 13 59.9 +0.3**
comp=Z,30nm,1.1s
BGES Gesves 22.05 155 *dP* **P 00 14 00.0 +0.3**
BMRD Maredsous 22.08 156 *dP* **P 00 13 59.8 -0.3**
comp=Z,47nm,0.7s
BHOU Houvegnez 22.21 153 *dP* **P 00 14 02.0 +0.6**
comp=Z,41nm,1.0s
DOU Dourbes 22.26 156 *dP* **P 00 14 01.8 -0.2**
comp=Z,23nm,1.3s
RCHB Rochefort 22.29 155 *dP* **P 00 14 02.0 -0.3**
NEUB Neuenburg 22.35 144 *eP* **P 00 14 03.2 +0.3**
comp=Z,86nm,1.4s,baz=345,slow=10
UBBA Unterbreizbach 22.40 147 *eP* **P 00 14 03.7 +0.4**
comp=Z,168nm,1.8s,baz=345,slow=10
SUW Suwalki 22.40 124 *eP* **P 00 14 02.6 -0.8**
SUW *eS* **S 00 18 13.3 +4.2**
SUW *eL* L 00 22 04.4
comp=Z,2μm,19.0s
SUW Suwalki 22.40 124 P **P 00 14 02.6 -0.8**
SUW Suwalki 22.40 124 *eP* **P 00 14 03.8 +0.4**
SUW Suwalki 22.40 124 P **P 00 14 02.6 -0.8**
SUW pmax pmax
comp=Z,318nm,1.4s
JSA Saint Aubin 22.48 168 *eP* **P 00 14 03.6 -0.7**
CLL Collm 22.50 142 P **P 00 14 03.2 -1.3**
CLL IAmb IAmb 00 14 09.3
comp=Z,135nm,1.6s
CLL Collm 22.50 142 ⇑ *iP* **P 00 14 04.7 +0.3**
CLL *eS* **S 00 18 12.0 +1.1**
CLL pmax pmax
comp=Z,135nm,1.5s
CLL MLR MLR
comp=Z,2μm,14.5s
CLL Collm 22.50 142 *eP* **P 00 14 04.5 +0.1**
comp=Z,146nm,1.6s,baz=345,slow=10
CLL Collm 22.50 142 ⇑ *iP* **P 00 14 04.7 +0.3**
comp=Z,135nm,1.5s
CLL *i* Pmax 00 14 04.9
CLL *e*PIp 00 14 05.0
CLL *eS* **S 00 18 12.0 +1.1**
comp=N,900nm,15.0s
CLL *eS* **S 00 18 12.0 +1.1**
comp=E,800nm,18.6s
CLL Collm 22.50 142 P **P 00 14 03.6 -0.8**
comp=E,49nm,1.6s
NACGM Naroch 22.61 118 *eP* **P 00 14 06.3 +0.7**
MOX Moxa 22.86 144 *eP* **P 00 14 08.0 -0.3**
comp=E,32nm,0.9s,baz=345,slow=10
MOX *eL* L 00 22 33.3
comp=E,391nm,20.2s
WLF Walferdange 22.90 154 P **P 00 14 07.9 -0.8**
WLF IAmb IAmb 00 14 23.7
comp=Z,48nm,1.2s
WLF Walferdange 22.90 154 P **P 00 14 09.1 +0.3**
WLF Walferdange 22.90 154 P **P 00 14 07.9 -0.8**
WLF pmax pmax
comp=Z,48nm,1.2s
WLF Walferdange 22.90 154 *eP* **P 00 14 09.3 +0.6**
comp=Z,116nm,1.7s,baz=345,slow=10
WLF Walferdange 22.90 154 *dP* **P 00 14 09.5 +0.8**
comp=Z,19nm,1.2s
FRB Frobisher Bay 22.90 281 P **P 00 14 10.3 +1.7**
comp=Z,8.9nm,0.8s,baz=111,slow=12,SNR=2.3
FRB LR LR 00 22 32.3
comp=Z,2μm,18.5s,baz=46,slow=35
comp=Z,8.9nm,0.8s
BRG Berggiesshubel 23.10 140 *eP* **P 00 14 10.8 0.0**
BRG Amp 00 14 18.6
comp=Z,41nm,1.2s
BRG Berggiesshubel 23.10 140 *eP* **P 00 14 10.8 0.0**
BRG S **S 00 18 25.0 +3.4**
BRG pmax pmax
comp=Z,41nm,1.2s
BRG pmax pmax
comp=Z,35nm,1.2s
BRG MLR MLR
comp=E,380nm,13.0s
BRG MLR MLR
comp=Z,846nm,14.3s
BRG MLR MLR
comp=N,638nm,12.4s
BRG Berggiesshubel 23.10 140 *eP* **P 00 14 10.2 -0.5**
comp=N,41nm,1.2s,baz=345,slow=10
PLN Plauen 23.11 143 *eP* **P 00 14 11.1 +0.2**
comp=N,68nm,1.0s,baz=345,slow=10
RES Resolute Bay 23.17 318 P **P 00 14 11.5 +0.2**
RES Resolute Bay 23.17 318 P **P 00 14 12.4 +1.1**
comp=N,14nm,1.0s,baz=42,slow=9.6,SNR=7.0
RES LR LR 00 22 55.8
comp=N,1μm,19.8s,baz=51,slow=36
comp=N,14nm,1.0s
TANN Tannenbergstha 23.24 143 *eP* **P 00 14 12.6 +0.4**
comp=N,160nm,1.5s,baz=345,slow=10
HSKC Hora Svate Kat 23.25 141 *eP* **P 00 14 14.1 +1.8**
HSKC AMS AMS 00 25 20.0
comp=N,1μm,14.5s
MNK Minsk 23.27 117 *i P* **P 00 14 14.0 +1.4**
comp=E,104nm,1.3s
MNK *i* P **P 00 14 14.0 +1.4**
comp=N,84nm,1.3s
MNK *i* P **P 00 14 14.0 +1.4**
baz=331
MNK *i* PP **PnPn 00 14 39.9 +1.9**
MNK *i* PPP PPP 00 14 47.9
MNK *i* S **S 00 18 28.1 +3.6**
MNK *i* SS **SnSn 00 19 02.6 +4.5**
MNK *i* SSS SSS 00 19 17.0
MNK *i* LQ LQ 00 20 48.2
MNK *i* LR LR 00 21 60.0
MNK *i* LRM MLR 00 22 31.7
comp=Z,1μm,18.6s
MNK *i* LRM MLR 00 22 57.6
comp=N,1μm,18.3s
MNK *i* LRM MLR 00 24 27.1
comp=E,644nm,15.1s
MNK Minsk 23.27 117 *i P* **P 00 14 13.9 +1.4**
MNK *i* PPP PPP 00 14 47.9
MNK *i* S **S 00 18 28.1 +3.6**
MNK *i* SS **SnSn 00 19 02.6 +4.5**
MNK *i* SSS SSS 00 19 17.0
MNK pmax pmax
comp=N,84nm,1.3s
MNK pmax pmax
comp=E,104nm,1.3s
MNK MLR MLR
comp=Z,1μm,19.0s
MNK MLR MLR
comp=N,1μm,18.0s
MNK MLR MLR
comp=E,644nm,15.0s
NKC Novy Kostel 23.41 143 *eP* **P 00 14 14.4 +0.4**
NKC AMS AMS 00 25 30.0
comp=E,1μm,13.3s
NKC Novy Kostel 23.41 143 *eP* **P 00 14 14.4 +0.4**
NKC MLR MLR
comp=Z,1μm,13.3s
RICC Richard 23.44 140 AMS AMS 00 26 10.0
comp=Z,1μm,15.0s
PVCC Panska Ves 23.55 140 AMS AMS 00 26 30.0
comp=Z,900nm,13.4s
MANZ Manzenberg 23.58 144 *eP* **P 00 14 15.9 +0.2**
comp=Z,22nm,1.8s,baz=345,slow=10
KSP Ksiaz 23.63 137 *eP* **P 00 14 16.4 +0.3**
KSP *eL* L 00 20 38.0
comp=Z,844nm,31.7s
KSP Ksiaz 23.63 137 P **P 00 14 15.8 -0.3**
comp=Z,74nm,1.4s,comp=Z,1μm
GRA1 Grafenberg Arr 23.70 146 P **P 00 14 16.5 -0.3**
GRF Grafenberg Arr 23.70 146 P **P 00 14 16.5 -0.3**
GRF pmax pmax
comp=Z,159nm,1.6s
GRF Grafenberg Arr 23.70 146 *eP* **P 00 14 17.4 +0.6**
comp=Z,179nm,1.7s,baz=345,slow=10
GRF *eL* L 00 23 29.0
comp=Z,701nm,19.5s
GRFO Grafenberg 23.70 146 P **P 00 14 16.8 0.0**
GRFO Grafenberg 23.70 146 P **P 00 14 16.8 0.0**
GRFO pmax pmax
comp=Z,164nm,1.6s
BEL Belsk 23.76 129 *eP* **P 00 14 19.1 +1.8**
BEL *eS* **S 00 18 33.2 +1.0**
BEL *eL* L 00 21 38.6
comp=Z,3μm,31.4s
ROTZ Rotzenmuhle 23.81 144 *eP* **P 00 14 18.3 +0.4**
comp=Z,18nm,1.6s,baz=345,slow=10
CHVC Chvalec 23.81 137 *eP* **P 00 14 18.8 +0.9**
CHVC *ex* x 00 14 27.7
CHVC AMS AMS 00 26 00.0
comp=Z,1μm,14.0s
CHVC Chvalec 23.81 137 *eP* **P 00 14 18.8 +0.9**
CHVC *e* 00 14 27.7
CHVC MLR MLR
comp=Z,1μm,14.0s
OSTC Ostas 23.88 137 *eP* **P 00 14 19.7 +1.2**
OSTC *eS* **S 00 18 35.5 +1.2**
OSTC AMS AMS 00 26 00.0
comp=Z,1μm,13.6s
OSTC Ostas 23.88 137 *eP* **P 00 14 19.7 +1.2**
OSTC *eS* **S 00 18 35.5 +1.2**
OSTC MLR MLR
comp=Z,1μm,13.6s
UPC Upice 23.88 138 *eP* **P 00 14 19.5 +1.0**
UPC AMS AMS 00 26 10.0
comp=Z,1μm,11.6s
UPC Upice 23.88 138 *eP* **P 00 14 19.5 +1.0**
UPC MLR MLR
comp=Z,1μm,11.6s
CLF Chambon-Foret 24.02 161 P **P 00 14 19.4 -0.5**
PRU Pruhonice 24.06 140 *eP* **P 00 14 21.4 +1.2**
PRU *eS* **S 00 18 39.2 +2.1**
PRU AMS AMS 00 26 30.0
comp=Z,900nm,13.6s
PRU Pruhonice 24.06 140 *eP* **P 00 14 21.4 +1.2**
PRU *eS* **S 00 18 39.2 +2.1**
PRU MLR MLR
comp=Z,900nm,13.6s
DPC Dobruska-Polom 24.10 137 *eP* **P 00 14 22.0 +1.4**
DPC *eS* **S 00 18 37.1 -0.7**
DPC AMS AMS 00 25 20.0
comp=Z,1μm,14.1s
DPC Dobruska-Polom 24.10 137 *eP* **P 00 14 22.0 +1.4**
DPC *eS* **S 00 18 37.1 -0.7**
DPC MLR MLR
comp=Z,1μm,14.1s
GOPC GO Pecny, Ondr 24.18 140 *eP* **P 00 14 22.6 +1.2**
GOPC *eS* S 00 18 49.9 +11
GOPC AMS AMS 00 26 30.0
comp=Z,1μm,11.7s
GOPC GO Pecny, Ondr 24.18 140 *eP* **P 00 14 22.6 +1.2**
GOPC MLR MLR
comp=Z,1μm,11.7s
STU Stuttgart 24.24 149 P **P 00 14 21.5 -0.4**
STU Stuttgart 24.24 149 *eP* **P 00 14 22.7 +0.8**
STU Stuttgart 24.24 149 P **P 00 14 21.5 -0.4**
STU pmax pmax
comp=Z,188nm,2.0s
KRLC Kraliky 24.45 137 *eP* **P 00 14 24.8 +0.9**
KRLC AMS AMS 00 26 20.0
comp=Z,800nm,14.9s
KRLC Kraliky 24.45 137 *eP* **P 00 14 24.8 +0.9**
KRLC MLR MLR
comp=Z,800nm,14.9s
ECH Echery 24.46 153 P **P 00 14 23.9 0.0**
ECH Echery 24.46 153 P **P 00 14 23.9 0.0**
ECH pmax pmax
comp=Z,228nm,2.0s
ZVC Zvikov 24.51 141 *eP* **P 00 14 25.5 +1.1**
ZVC AMS AMS 00 25 50.0
comp=Z,1μm,14.9s
BFO Black Forest 24.53 151 P **P 00 14 24.4 -0.2**
BFO IAmb IAmb 00 14 49.0
comp=Z,51nm,1.2s
BFO Black Forest 24.53 151 P **P 00 14 24.4 -0.2**
BFO pmax pmax
comp=Z,51nm,1.2s
BFO Black Forest 24.53 151 *eP* **P 00 14 25.3 +0.7**
comp=Z,48nm,1.2s,baz=345,slow=10
WET Wettzell 24.53 143 *eP* **P 00 14 25.9 +1.3**
comp=Z,138nm,1.8s,baz=345,slow=10
KHC Kasperske Hory 24.68 142 P **P 00 14 26.1 +0.1**
KHC IAmb IAmb 00 14 32.5
comp=Z,101nm,1.8s
KHC Kasperske Hory 24.68 142 *eP* **P 00 14 27.3 +1.3**
KHC *eS* **S 00 18 53.3 +6.0**
KHC AMS AMS 00 26 50.0
comp=Z,1μm,13.3s
KHC Kasperske Hory 24.68 142 *eP* **P 00 14 27.3 +1.3**
KHC *eS* **S 00 18 53.3 +6.0**
KHC MLR MLR
comp=Z,1μm,13.3s
KHC Kasperske Hory 24.68 142 P **P 00 14 26.6 +0.6**
comp=Z,20nm,1.3s,comp=Z,1μm
MORC Moravsky Berou 24.91 136 P **P 00 14 28.0 0.0**
MORC IAmb IAmb 00 14 57.3
comp=Z,76nm,1.8s
MORC Moravsky Berou 24.91 136 *eP* **P 00 14 28.6 +0.6**
MORC Moravsky Berou 24.91 136 ⇓ P **P 00 14 27.7 -0.3**
MORC Moravsky Berou 24.91 136 ⇓ P **P 00 14 27.7 -0.3**
TREC Trest 24.91 139 *eP* **P 00 14 27.9 -0.1**
TREC AMS AMS 00 27 00.0
comp=Z,1μm,13.4s
TREC Trest 24.91 139 *eP* **P 00 14 27.9 -0.1**
TREC MLR MLR
comp=Z,1μm,13.4s
GEC2 GERESS Array S 24.98 142 P **P 00 14 28.1 -0.6**
GEC2 IAmb IAmb 00 14 51.5
comp=Z,35nm,1.2s
GEC2 GERESS Array S 24.98 142 *eP* **P 00 14 30.1 +1.4**
comp=Z,33nm,1.2s,baz=345,slow=10
GERES GERESS Array B 24.98 142 P **P 00 14 29.6 +0.9**
comp=Z,5.1nm,0.7s,baz=340,slow=10.0,SNR=30
GERES LR LR 00 24 25.5
comp=Z,517nm,18.1s,baz=349,slow=37
comp=Z,5.1nm,0.7s
OKC Ostrava-Krasne 24.98 135 AMS AMS 00 26 20.0
comp=Z,1μm,13.1s
OJC Ojcow 25.01 132 *eP* **P 00 14 29.4 +0.6**
OJC *eL* L 00 23 42.6
comp=Z,2μm,18.8s
OJC Ojcow 25.01 132 P **P 00 14 28.6 -0.2**
OJC IAmb IAmb 00 14 46.3
comp=Z,40nm,0.9s
OJC Ojcow 25.01 132 P **P 00 14 28.6 -0.2**
OJC pmax pmax
comp=Z,40nm,0.9s
OJC Ojcow 25.01 132 P **P 00 14 29.0 +0.1**
comp=Z,48nm,1.0s,comp=Z,951nm
CKRC Cesky Krumlov 25.12 141 *eP* **P 00 14 31.1 +1.2**
CKRC Cesky Krumlov 25.12 141 *eP* **P 00 14 31.1 +1.2**
VRAC Vranov 25.14 138 P **P 00 14 31.0 +0.9**
comp=Z,9.6nm,1.0s,baz=342,slow=10,SNR=11
VRAC LR LR 00 24 08.5
comp=Z,448nm,18.6s,baz=342,slow=36
comp=Z,9.6nm,1.0s
VRAC Vranov 25.14 138 *eP* **P 00 14 30.7 +0.7**
VRAC Vranov 25.14 138 ⇓ P **P 00 14 30.7 +0.7**
VRAC Vranov 25.14 138 ⇓ P **P 00 14 30.7 +0.7**
MOS Moscow 25.16 104 *eP* **P 00 14 32.1 +2.0**
MOS *e* 00 15 07.5
MOS *eS* **S 00 18 59.7 +5.1**
MOS *eSS* SnSn 00 19 59.5 +15
MOS pmax pmax
comp=Z,93nm,1.6s
MOS MLR MLR
comp=Z,900nm,14.0s
KRUC Moravsky 25.33 138 *eP* **P 00 14 32.4 +0.7**
OBN Obninsk 25.35 106 P **P 00 14 32.1 +0.3**
OBN Obninsk 25.35 106 LR LR 00 24 50.6
comp=Z,320nm,18.6s,baz=328,slow=37
OBN Obninsk 25.35 106 *eP* **P 00 14 32.5 +0.7**
OBN *e*PPP PPP 00 15 13.7
OBN *e* 00 18 04.7
OBN pmax pmax
comp=Z,36nm,1.0s
OBN MLR MLR
comp=Z,553nm,14.0s
OBN Obninsk 25.35 106 P **P 00 14 30.7 -1.1**
comp=Z,63nm,1.3s,comp=Z,2μm
UBR Ueberruh 25.45 149 *eP* **P 00 14 34.1 +1.2**
comp=Z,113nm,1.9s,baz=345,slow=10
RNPP9 Sopachiv 25.47 123 P **P 00 14 34.3 +1.4**
RNPP8 Varash 25.53 123 P **P 00 14 33.2 -0.3**
RETA Reutte 25.74 148 *i* P **P 00 14 37.6 +2.0**
comp=Z,3.7nm,0.6s,SNR=9.4
DAVA Damuels 25.79 149 *ep*P pP 00 14 39.2 +0.4
comp=Z,8.4nm,0.8s,SNR=9.7
JAVC Velka Javorina 25.80 137 *eP* **P 00 14 37.1 +1.0**
RJOB Jochberg 25.87 144 *eP* **P 00 14 38.1 +1.4**
comp=Z,25nm,0.9s,baz=345,slow=10
NIE Niedzica 25.88 132 *eP* **P 00 14 38.7 +1.9**
NIE *eS* S 00 19 27.0 +21
NIE *eL* L 00 25 08.2
comp=Z,664nm,18.9s
NIE Niedzica 25.88 132 P **P 00 14 37.6 +0.8**
comp=Z,38nm,1.3s,comp=Z,636nm
LANS Liptovska Anna 25.93 134 *eP* **P 00 14 38.7 +1.4**
LANS pmax pmax
comp=Z,22nm,1.5s
LANS Liptovska Anna 25.93 134 *eP* **P 00 14 38.7 +1.4**
MOTA Moosalm 25.94 147 *eP* **P 00 14 38.8 +1.3**
comp=Z,1.6nm,0.5s
WATA Walderalm 26.03 147 *eP* **P 00 14 39.6 +1.3**
comp=Z,1.8nm,0.4s
MOA Molln 26.04 142 *i* P **P 00 14 40.1 +1.8**
comp=Z,2.6nm,0.5s,SNR=8.4
SMOL Smolenice 26.07 137 *eP* **P 00 14 40.0 +1.5**
SMOL pmax pmax
comp=Z,5.0nm,1.2s
BIOA Bad Ischl, Aus 26.07 143 *i* pP pP 00 14 42.6 +1.3
comp=Z,2.1nm,0.6s,SNR=10
SQTA Sankt Quirin 26.08 147 *eP* **P 00 14 40.1 +1.4**
comp=Z,3.5nm,0.5s
STHS Stebnicka Huta 26.10 131 *eP* **P 00 14 41.5 +2.6**
STHS pmax pmax
comp=Z,21nm,0.7s
STHS Stebnicka Huta 26.10 131 *eP* **P 00 14 41.4 +2.6**
WTTA Wattenberg 26.11 146 *i* pP pP 00 14 42.6 +0.8
comp=Z,3.1nm,0.5s
LESA Schwarzleotal 26.15 145 *ep*P pP 00 14 43.0 +1.0
comp=Z,5.4nm,0.8s
MODS Modra-Piesok 26.17 137 *eP* **P 00 14 40.8 +1.4**
MODS pmax pmax
comp=Z,152nm,1.4s
MODS Modra-Piesok 26.17 137 *eP* **P 00 14 40.8 +1.4**
FETA Feichten 26.19 148 *eP* **P 00 14 42.2 +2.4**
comp=Z,2.2nm,0.6s
KWP Kalwaria Pacla 26.27 129 *eP* **P 00 14 42.8 +2.6**
KWP *eL* L 00 23 08.3
comp=Z,996nm,26.3s
KWP Kalwaria Pacla 26.27 129 P **P 00 14 40.6 +0.4**
KWP Kalwaria Pacla 26.27 129 P **P 00 14 40.6 +0.4**
KWP pmax pmax
comp=Z,1μm,1.5s
KWP Kalwaria Pacla 26.27 129 P **P 00 14 42.8 +2.6**
comp=Z,81nm,1.5s,comp=Z,1μm
DAVOX Davos/Dischmat 26.28 149 P **P 00 14 42.0 +1.4**
comp=Z,3.1nm,0.7s,baz=319,slow=13,SNR=9.2
DAVOX LR LR 00 25 14.4
comp=Z,660nm,20.6s,baz=342,slow=37
comp=Z,3.1nm,0.7s
DAVOX Davos/Dischmat 26.28 149 P **P 00 14 42.0 +1.4**
CONA Conrad Observa 26.29 140 *eP* **P 00 14 41.4 +0.8**
comp=Z,2.7nm,0.5s
SENIN Lac Senin/Sane 26.29 153 P **P 00 14 40.2 -0.5**
MI28 Mi28,Pidlybu 26.39 121 P **P 00 14 42.3 +1.0**
comp=Z,1μm,1.2s
VYHS Vyhne 26.40 135 *eP* **P 00 14 43.9 +2.4**
VYHS pmax pmax
comp=Z,41nm,1.4s
VYHS Vyhne 26.40 135 *eP* **P 00 14 43.9 +2.4**
TUE Stuetta 26.50 150 P **P 00 14 42.2 -0.4**
TUE IAmb IAmb 00 15 10.3
comp=Z,45nm,1.4s
TUE Stuetta 26.50 150 P **P 00 14 43.7 +1.1**
comp=Z,88nm,1.1s
FUORN Ofenpass-Fuorn 26.50 149 P **P 00 14 42.5 -0.2**
RONA Rosalia, Austr 26.60 139 *eP* **P 00 14 44.5 +1.2**
comp=Z,2.5nm,0.6s
KBA Koelnbreinsper 26.61 144 *ep*P **P 00 14 44.9 +1.3**
comp=Z,2.8nm,0.5s
KIRV Kirov 26.61 88 P **P 00 14 44.1 +0.9**
comp=Z,16nm,1.0s,baz=313,slow=8.7,SNR=6.6
KIRV LR LR 00 24 32.6
comp=Z,573nm,19.7s,baz=317,slow=35
comp=Z,16nm,1.0s
KIRV Kirov 26.61 88 *i* P **P 00 14 43.1 -0.1**
MI30 MI30,Zelenitsa 26.70 121 P **P 00 14 44.6 +0.5**
comp=Z,66nm,1.7s
KOLS Kolonicke sedl 26.80 130 *eP* **P 00 14 48.8 +3.7**
KOLS pmax pmax
comp=Z,32nm,0.7s
KOLS Kolonicke sedl 26.80 130 *eP* **P 00 14 48.8 +3.7**
SRO Srobarova 26.93 136 *eP* **P 00 14 49.0 +2.8**
SRO pmax pmax
comp=Z,35nm,1.5s
SRO Srobarova 26.93 136 *eP* **P 00 14 49.0 +2.8**
SSB Saint Sauveur 26.99 158 P **P 00 14 46.4 -0.5**
SSB Saint Sauveur 26.99 158 P **P 00 14 46.4 -0.5**
SSB pmax pmax
comp=Z,18nm,0.9s
AKASG Malin Array Be 27.02 119 P **P 00 14 46.3 -0.8**
comp=Z,3.7nm,0.5s,baz=332,slow=10,SNR=30
AKASG LR LR 00 24 49.1
comp=Z,638nm,19.5s,baz=332,slow=35
comp=Z,3.7nm,0.5s
AKASG Malin Array Be 27.02 119 *i* P **P 00 14 49.5 +2.5**
AKASG pmax pmax
comp=Z,21nm,0.8s
AKBB Malin Array Si 27.02 119 P **P 00 14 47.3 +0.2**
AKBB IAmb IAmb 00 14 55.5
comp=Z,42nm,0.9s
AKBB Malin Array Si 27.02 119 *ce*P **P 00 14 48.9 +1.9**
AKBB pmax pmax
comp=Z,57nm,1.0s
AKBB Malin Array Si 27.02 119 P **P 00 14 48.0 +1.0**
KIEV Kiev 27.03 119 P **P 00 14 47.5 +0.4**
KIEV IAmb IAmb 00 14 55.5
comp=Z,36nm,0.9s
KIEV Kiev 27.03 119 ⇓ P **P 00 14 47.5 +0.4**
KIEV Kiev 27.03 119 P **P 00 14 47.5 +0.4**
KIEV pmax pmax
comp=Z,36nm,0.9s
KIEV Kiev 27.03 119 P **P 00 14 49.1 +2.0**
comp=Z,228nm,1.2s
PSZ Piszkesteto 27.19 134 P **P 00 14 47.7 -0.9**
PSZ IAmb IAmb 00 14 59.3
comp=Z,62nm,1.5s
PSZ Piszkesteto 27.19 134 *eP* **P 00 14 49.5 +0.9**
PSZ Piszkesteto 27.19 134 ⇓ P **P 00 14 48.4 -0.2**
PSZ Piszkesteto 27.19 134 ⇓ P **P 00 14 48.4 -0.2**
CTI Castel Tesino 27.29 147 P **P 00 14 49.0 -0.6**
CTI IAmb IAmb 00 15 05.7
comp=Z,51nm,1.1s
CTI Castel Tesino 27.29 147 P **P 00 14 49.0 -0.6**
CTI pmax pmax
comp=Z,51nm,1.1s
SOKA Soboth 27.32 142 *ep*P **P 00 14 51.0 +1.2**
comp=Z,3.0nm,0.6s
LUBAR Lubar, Ukraine 27.32 122 P **P 00 14 49.4 -0.3**
MUKU Mukachevo 27.35 130 P **P 00 14 50.1 +0.1**
MPLH Magyarpolny 27.37 138 P **P 00 14 54.0 +3.8**
BNI Bardonecchia 27.49 155 P **P 00 14 50.9 -0.6**
BNI IAmb IAmb 00 15 10.9
comp=Z,39nm,1.2s
BNI Bardonecchia 27.49 155 P **P 00 14 50.9 -0.6**
BNI pmax pmax
comp=Z,39nm,1.3s
MEZ Mezhgor'ye 27.50 129 P **P 00 14 51.9 +0.5**
BRIU Brid 27.54 130 P **P 00 14 53.5 +1.8**
STNU Starunia 27.57 127 P **P 00 14 54.0 +2.0**
BEHE Becsehely 27.87 139 P **P 00 14 54.7 0.0**
TEOL Teolo 27.96 147 P **P 00 14 54.4 -1.1**
TEOL IAmb IAmb 00 15 04.1
comp=Z,20nm,0.8s
RAKU Rahkiv 28.12 128 P **P 00 14 58.2 +1.3**

LPSR Galich'ya Gora 28.23 106 *e*P **P 00 15 00.2 +2.4**
LPSR pmax pmax
comp=Z,50nm,1.6s
LPSR MLR MLR
comp=Z,700nm,14.0s
BMR Baia Mare 28.28 129 ⇑P **P 00 15 02.0 +3.7**
BMR Baia Mare 28.28 129 ⇑P **P 00 15 02.0 +3.7**
PRMA PARMA 28.31 150 P **P 00 14 58.1 -0.5**
MORH Mrgy, Hungar 28.51 137 ⇓P **P 00 15 00.8 +0.4**
BUR08 Bucovina Ar. S 28.74 127 P **P 00 15 03.4 +0.9**
BURAR Bucovina Array 28.77 127 ⇑P **P 00 15 03.8 +1.0**
BURAR Bucovina Array 28.77 127 ⇑P **P 00 15 03.8 +1.0**
VLC Villacollemand 28.91 150 P **P 00 15 05.0 +0.9**
ARCR ARCALIA 29.04 129 ⇑P **P 00 15 09.1 +4.0**
SORM Soroca 29.11 123 ⇓P **P 00 15 05.6 -0.1**
SORM Soroca 29.11 123 ⇓P **P 00 15 05.6 -0.1**
SORM Soroca 29.11 123 P **P 00 15 04.5 -1.2**
comp=Z,30nm,0.6s,comp=Z,632nm
MARR Marisel-Cluj 29.12 131 ⇑P **P 00 15 05.8 0.0**
VORR Voronezh 29.12 107 *e*P **P 00 15 09.5 +3.8**
VORR pmax pmax
comp=Z,52nm,0.4s
SIRR Siria 29.15 133 ⇑P **P 00 15 08.1 +2.0**
SCHQ Schefferville 29.29 266 P **P 00 15 06.8 -0.4**
SCHQ Schefferville 29.29 266 P **P 00 15 08.7 +1.5**
comp=Z,17nm,0.9s,baz=26,slow=8.3,SNR=9.3
SCHQ LR LR 00 26 37.2
comp=Z,1μm,18.0s,baz=36,slow=36
comp=Z,17nm,0.9s
NRIK Noril'sk 29.35 46 P **P 00 15 07.5 -0.1**
NRIK Noril'sk 29.35 46 P **P 00 15 07.7 +0.1**
comp=Z,1.9nm,0.9s,baz=332,slow=8.9,SNR=3.7
comp=Z,1.9nm,0.9s
NRIK Noril'sk 29.35 46*ce*P **P 00 15 07.2 -0.4**
NRIK pmax pmax
comp=Z,18nm,1.0s
PGAV Gavieira, Arco 29.47 178 *e*P **P 00 15 10.9 +1.9**
PGAV *e*LR LR 00 23 23.5
PGAV A A 00 26 20.7
comp=Z,2μm,18.0s
VSR Storozhevoye 29.50 107 *e*P **P 00 15 11.2 +2.1**
VSR pmax pmax
comp=Z,30nm,1.2s
VSR MLR MLR
comp=Z,1μm,21.0s
PBRG Braganca 29.65 176 *e*P **P 00 15 11.7 +1.1**
BZS Buzias 29.75 133 ⇓P **P 00 15 13.1 +1.7**
BZS Buzias 29.75 133 ⇓P **P 00 15 13.1 +1.7**
VORD Divnogorie 29.76 107 *e*P **P 00 15 12.4 +1.0**
VORD pmax pmax
comp=Z,10.0nm,1.1s
POLO Lamas de Olo 30.06 178 *e*P **P 00 15 15.4 +1.1**
POLO A A 00 15 28.7
comp=Z,19nm,1.6s
TESR Tescani 30.16 126 ⇑P **P 00 15 16.1 +1.1**
TESR Tescani 30.16 126 P **P 00 15 15.6 +0.6**
comp=Z,29nm,1.1s
PVRL Vila Real 30.16 178 *e*P **P 00 15 16.5 +1.4**
GZR Gura Zlata 30.24 132 ⇑P **P 00 15 16.6 +0.8**
GZR Gura Zlata 30.24 132 ⇑P **P 00 15 16.6 +0.8**
MVO Moncorvo 30.28 177 *e*P **P 00 15 17.3 +1.1**
MVO A A 00 15 38.7
comp=Z,31nm,2.2s
MVO *e*LR LR 00 23 52.0
MVO A A 00 27 35.5
comp=Z,1μm,20.0s
VRH Novokhopyorsk 30.31 104 *e*P **P 00 15 18.5 +2.3**
VRH pmax pmax
comp=Z,20nm,1.0s
VRH MLR MLR
comp=Z,730nm,12.0s
DOPR Dopca 30.34 128 ⇑P **P 00 15 18.7 +2.0**
TURR Turia 30.42 127 ⇑P **P 00 15 17.5 +0.1**
MDVR Moldovita 30.56 134 ⇓P **P 00 15 19.7 +1.1**
HERR Herculane 30.63 133 ⇑P **P 00 15 20.6 +1.4**
PVIS Viseu 30.72 178 *e*P **P 00 15 21.2 +1.2**
VOIR 30.75 129 ⇓P **P 00 15 24.1 +3.8**
VOIR 30.75 129 ⇓P **P 00 15 24.1 +3.8**
VOIR 30.75 129 P **P 00 15 21.2 +0.9**
comp=Z,6.1nm,1.1s
PLOR3 Plostina Array 30.77 127 P **P 00 15 22.2 +1.8**
comp=Z,19nm,1.9s
PLOR Plostina 30.77 127 ⇓P **P 00 15 21.3 +0.9**
PLOR Plostina 30.77 127 ⇓P **P 00 15 21.3 +0.9**
VRI Vrincioaia 30.78 127 ⇑P **P 00 15 21.5 +1.0**
VRI Vrincioaia 30.78 127 ⇑P **P 00 15 21.5 +1.0**
VRI Vrincioaia 30.78 127 P **P 00 15 21.8 +1.3**
comp=Z,8.1nm,1.1s,comp=Z,118nm
MLR Muntele Rosu 30.93 128 P **P 00 15 22.1 +0.1**
MLR lAmb lAmb 00 15 53.4
comp=Z,25nm,1.4s
MLR Muntele Rosu 30.93 128 P **P 00 15 21.5 -0.4**
comp=Z,0.8nm,0.4s,baz=104,slow=18,SNR=1.9
MLR LR LR 00 28 09.8
comp=Z,2μm,19.4s,baz=342,slow=37
comp=Z,0.8nm,0.4s
MLR Muntele Rosu 30.93 128 ⇑P **P 00 15 22.0 +0.1**
MLR Muntele Rosu 30.93 128 ⇑P **P 00 15 22.0 +0.1**
MTE Manteigas 31.04 177 P **P 00 15 23.1 +0.2**
MTE lAmb lAmb 00 15 30.0
comp=Z,23nm,1.2s
MTE Manteigas 31.04 177 *e*P **P 00 15 24.1 +1.2**
MTE A A 00 15 32.5
comp=Z,31nm,1.4s
MTE *e*LR LR 00 24 05.9
MTE A A 00 27 23.9
comp=Z,1μm,18.0s
NEHR Nehoiu 31.08 127 ⇓P **P 00 15 24.1 +1.0**
A36M Sachs Harbour 31.12 327 P **P 00 15 24.4 +1.2**
A36M lAmb lAmb 00 16 15.9
comp=Z,26nm,1.0s
BELG Belogornoye 31.15 97 P **P 00 15 23.2 -0.5**
comp=Z,9.4nm,0.9s,baz=267,slow=3.6,SNR=8.7
BELG LR LR 00 27 14.0
comp=Z,759nm,19.1s,baz=336,slow=35
comp=Z,9.4nm,0.9s
BELG Belogornoye 31.15 97 *i* P **P 00 15 23.1 -0.5**
BELG pmax pmax
comp=Z,8.0nm,1.1s
VLDR Vladesti 31.15 125 ⇑P **P 00 15 25.1 +1.4**
ARTI Arti 31.25 83 P **P 00 15 24.1 -0.4**
ARTI lAmb lAmb 00 15 33.7
comp=Z,25nm,1.1s
ARTI Arti 31.25 83 P **P 00 15 24.0 -0.5**
comp=Z,3.3nm,0.5s,baz=310,slow=4.8,SNR=8.6
ARTI LR LR 00 27 42.3
comp=Z,537nm,18.7s,baz=325,slow=36
comp=Z,3.3nm,0.5s
ARTI Arti 31.25 83*c i* P **P 00 15 25.6 +1.1**
ARTI S **S 00 20 32.7 +2.1**
ARTI SS **SnSn 00 22 11.9 -0.7**
ARTI pmax pmax
comp=Z,21nm,1.8s
ARTI MLR MLR
comp=Z,592nm,17.0s
UCM Universidad Co 31.27 171 P **P 00 15 24.5 -0.4**
PCAS Casmilo, Conde 31.38 179 *e*P **P 00 15 27.4 +1.6**
PCAS A A 00 15 35.6
comp=Z,43nm,1.7s
NEGRR Negrea 31.38 125 ⇑P **P 00 15 26.5 +0.7**
PCBR Castelo Branco 31.60 177 *e*P **P 00 15 28.8 +1.1**
PCBR A A 00 15 37.4
comp=Z,30nm,1.8s
SVE Sverdlovsk 31.61 80 *e*P P 00 15 33.8 +6.1
CFR Carcaliu 31.78 125 ⇑P **P 00 15 30.0 +0.7**
CFR Carcaliu 31.78 125 ⇑P **P 00 15 30.0 +0.7**
ESBB Sonseca Array 31.87 172 P **P 00 15 30.1 0.0**
ESBB lAmb lAmb 00 15 39.4
comp=Z,33nm,1.4s
ESDC Sonseca Array 31.87 172 P **P 00 15 30.1 -0.1**
comp=Z,6.4nm,0.8s,baz=358,slow=9.0,SNR=49
ESDC LR LR 00 27 10.3
comp=Z,648nm,21.0s,baz=353,slow=34
comp=Z,6.4nm,0.8s
PSBE So Bento 31.91 179 *e*P **P 00 15 32.6 +2.1**
PSBE A A 00 15 40.5
comp=Z,87nm,1.4s
PAB San Pablo 31.98 173 P **P 00 15 30.9 -0.3**
PAB lAmb lAmb 00 15 43.9
comp=Z,32nm,1.6s
PAB San Pablo 31.98 173 P **P 00 15 30.9 -0.3**
PAB pmax pmax
comp=Z,32nm,1.6s
PMRV Marv??o 32.01 177 *e*P **P 00 15 32.5 +1.1**
PMRV A A 00 15 41.0
comp=Z,40nm,1.3s
PMRV *e*LR LR 00 24 34.7
PMRV A A 00 27 50.2
comp=Z,1μm,18.0s
HARR Harsova 32.18 126 ⇑P **P 00 15 33.3 +0.5**
HARR Harsova 32.18 126 ⇑P **P 00 15 33.3 +0.5**
PDG Podgorica 32.25 138 P **P 00 15 33.4 0.0**
TLBR Topalu 32.35 126 ⇑P **P 00 15 35.1 +0.8**
PMTG Montargil 32.36 178 *e*P **P 00 15 35.4 +1.0**
PMTG A A 00 15 43.8
comp=Z,50nm,1.4s
PESTR Estremoz 32.57 178 P **P 00 15 35.7 -0.6**
PESTR lAmb lAmb 00 15 44.9
comp=Z,21nm,0.9s
PESTR Estremoz 32.57 178 *e*P **P 00 15 37.0 +0.7**
PESTR A A 00 15 45.6
comp=Z,46nm,1.3s
PESTR Estremoz 32.57 178 P **P 00 15 35.5 -0.8**
EVO Evora 32.90 178 P **P 00 15 38.1 -1.0**
PBAR Barrancos 33.27 177 *e*P **P 00 15 42.7 +0.3**
PBAR A A 00 15 52.0
comp=Z,32nm,1.5s
PBAR Barrancos 33.27 177 P **P 00 15 42.3 -0.1**
ELND Elena 33.31 130 ⇑P **P 00 15 42.8 +0.1**
PBEJ Beja 33.41 178 *e*P **P 00 15 44.2 +0.6**
PBEJ A A 00 15 53.4
comp=Z,45nm,1.5s
MESJ Messejana 33.59 178 *e*P **P 00 15 46.5 +1.3**
MESJ Messejana 33.59 178 *e*P **P 00 15 45.9 +0.7**
MESJ lAMs_20 lAMs_20 00 28 30.2
comp=Z,1μm,18.3s
MESJ Messejana 33.59 178 *e*P **P 00 15 45.9 +0.7**
PVAQ Vaqueiros 34.03 178 *e*LR LR 00 25 46.0
PVAQ A A 00 29 35.4
comp=Z,1μm,18.0s
FNA Florina 34.29 137 P **P 00 15 51.0 -0.3**
FNA Florina 34.29 137 P **P 00 15 51.0 -0.3**
FNA pmax pmax
comp=Z,33nm,0.9s
ESPR Espera 34.60 175 P **P 00 15 53.2 -0.7**
TIXI Tiksi 34.69 22 P **P 00 15 55.4 +1.1**
TIXI Tiksi 34.69 22*ce*P **P 00 15 54.2 -0.2**
TIXI pmax pmax
comp=Z,11nm,1.3s
ANN Anapa 34.72 115 *e*P **P 00 15 52.8 -2.1**
ANN *e**PP **pP 00 15 56.9 -0.4**
ANN *e*S **S 00 21 23.8 -0.7**
ANN pmax pmax
comp=Z,39nm,0.9s
ANN MLR MLR
comp=N,924nm,14.0s
ANN MLR MLR
comp=E,387nm,14.0s
ANN MLR MLR
comp=Z,828nm,13.0s
RDO Rodhopi 34.91 131 P **P 00 15 56.0 -0.5**
RDO lAmb lAmb 00 16 17.3
comp=Z,30nm,1.3s
INK Inuvik 35.74 328 P **P 00 16 04.1 +0.7**
INK lAmb lAmb 00 17 17.1
comp=Z,26nm,1.3s
INK Inuvik 35.74 328 LR LR 00 31 32.5
comp=Z,832nm,21.1s,baz=24,slow=38
INK Inuvik 35.74 328 P **P 00 16 04.1 +0.7**
INK pmax pmax
comp=Z,26nm,1.3s
D27M Malcolm River 36.06 333 P **P 00 16 06.6 +0.3**
C27K Jago River 36.09 335 P **P 00 16 07.4 +0.9**
VAE Valguarnera 36.10 147 LR LR 00 32 33.3
comp=Z,519nm,18.5s,baz=30,slow=39
AKTO Aktyubinsk 36.17 89 LR LR 00 30 25.7
comp=Z,653nm,19.4s,baz=335,slow=36
E29M Blow River 36.38 331 P **P 00 16 09.1 +0.2**
E29M lAmb lAmb 00 16 25.4
comp=Z,25nm,1.4s
E28M Babbage River 36.43 332 P **P 00 16 10.1 +0.7**
SOC Sochi 36.51 113 *e*P **P 00 16 07.5 -2.7**
SOC *e* 00 17 29.8
SOC *e*S **S 00 21 48.6 -3.3**
SOC *e*SS **SnSn 00 24 24.2 +4.0**
SOC MLR MLR
comp=Z,669nm,16.0s
B22K Teshekpuk Lake 36.61 341 P **P 00 16 11.9 +1.2**
B22K lAmb lAmb 00 16 44.1
comp=Z,41nm,1.4s
D25K Kavik River 36.73 336 P **P 00 16 13.2 +1.2**
D25K lAmb lAmb 00 16 44.5
comp=Z,24nm,1.2s
YKA Yellowknife Ar 36.95 312 P **P 00 16 13.2 -0.7**
comp=Z,5.7nm,1.1s,baz=334,slow=8.4,SNR=4.4
YKA LR LR 00 31 07.0
comp=Z,2μm,18.6s,baz=4.5,slow=36
comp=Z,5.7nm,1.1s
KEST Kesra 37.01 154 P **P 00 16 14.9 +0.1**
KEST lAmb lAmb 00 16 17.6
comp=Z,33nm,1.4s
KEST Kesra 37.01 154 P **P 00 16 14.5 -0.2**
comp=Z,4.8nm,0.9s,baz=344,slow=4.6,SNR=9.1
KEST LR LR 00 30 53.9
comp=Z,589nm,21.8s,baz=353,slow=35
comp=Z,4.8nm,0.9s
KIV Kislovodsk 37.06 109 P **P 00 16 15.1 0.0**
KIV lAmb lAmb 00 16 26.0
comp=Z,36nm,1.1s
KIV Kislovodsk 37.06 109 P **P 00 16 18.3 +3.2**
KIV Kislovodsk 37.06 109 *e*P **P 00 16 17.1 +2.0**
KIV *e* 00 17 35.8
KIV *e*S **S 00 22 04.0 +3.4**
KIV pmax pmax
comp=Z,24nm,1.1s
KIV MLR MLR
comp=Z,236nm,16.0s
KVAR Kislovodsk Arr 37.06 109 LR LR 00 31 05.0
comp=Z,698nm,19.4s,baz=128,slow=36
G31M Satah River 37.11 328 P **P 00 16 15.4 +0.3**
G31M lAmb lAmb 00 16 24.6
comp=Z,21nm,1.0s
E27K Coleen River 37.13 333 P **P 00 16 15.9 +0.6**
SHA1 Shidzhatmaz 37.25 109 *i* P **P 00 16 16.2 -0.6**
KBZ Khabaz 37.33 109 P **P 00 16 18.2 +1.1**
comp=Z,3.0nm,0.9s,baz=14,slow=15,SNR=2.7
comp=Z,3.0nm,0.9s
KBZ Khabaz 37.33 109 *i* P **P 00 16 19.6 +2.4**
KBZ pmax pmax
comp=Z,19nm,1.1s
NCK Nalchik 37.75 109 *i* P **P 00 16 20.9 0.0**
NCK pmax pmax
comp=Z,53nm,1.6s
TOLK Toolik Lake Re 37.78 338 P **P 00 16 21.9 +1.0**
TOLK lAmb lAmb 00 17 35.7
comp=Z,47nm,1.6s
BRVK Borovoye 37.81 76 P **P 00 16 21.8 +0.6**
BRVK Borovoye 37.81 76 P **P 00 16 23.0 +1.8**
BRVK Borovoye 37.81 76*ce*P **P 00 16 23.6 +2.4**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 37.81 88 P **P 00 16 21.5 +0.2**
ABKAR lAmb lAmb 00 16 31.0
comp=Z,27nm,1.1s
BVAR Borovoye Array 37.87 75 P **P 00 16 22.7 +1.0**
comp=Z,3.3nm,0.6s,baz=331,slow=8.7,SNR=12
BVAR PP **PnPn 00 17 50.4 +1.3**
comp=Z,6.7nm,1.0s,baz=351,slow=8.3,SNR=4.2
BVAR LR LR 00 33 38.8
comp=Z,253nm,20.1s,baz=323,slow=39
comp=Z,3.3nm,0.6s
IFR Ifrane 37.96 174 P **P 00 16 23.1 +0.2**
E24K Your Creek 38.18 337 P **P 00 16 24.9 +0.7**
BMAR Burnt Mountain 38.26 334 P **P 00 16 25.8 +0.9**
BR131 Keskin Array S 38.34 122 P **P 00 16 25.6 -0.4**
BR131 Keskin Array S 38.34 122 P **P 00 16 25.6 -0.4**
BR131 pmax pmax
comp=Z,6.0nm,0.7s
BRTR Keskin Array B 38.34 122 P **P 00 16 26.9 +0.9**
BRTR Keskin Array B 38.34 122 P **P 00 16 27.1 +1.2**
comp=Z,3.3nm,0.5s,baz=325,slow=6.2,SNR=20
comp=Z,3.3nm,0.5s
H29M Whitestone 38.44 330 P **P 00 16 26.5 +0.1**
H29M lAmb lAmb 00 16 42.1
comp=Z,39nm,1.6s
MDT Midelt 38.68 174 LR LR 00 31 06.8
comp=Z,628nm,21.8s,baz=3.5,slow=34
PMOZ Porto Moniz, M 38.83 191 *e*LR LR 00 27 40.7
PMOZ A A 00 28 48.3
comp=Z,442nm,20.0s
TRQ Mont Tremblant 39.21 266 P **P 00 16 33.9 +0.8**
TRQ lAmb lAmb 00 16 41.0
comp=Z,31nm,0.9s
MAK Makhachkala 39.44 105 *e*P **P 00 16 31.3 -3.7**
MAK *e*S **S 00 22 32.0 -4.4**
MAK pmax pmax
comp=Z,496nm,1.3s
MAK MLR MLR
comp=Z,812nm,14.0s
BNN Bunyan 39.76 120 P **P 00 16 38.9 +1.0**
BNN lAmb lAmb 00 16 52.8
comp=Z,43nm,1.0s
F20K Avaraart Lake 40.01 340 P **P 00 16 40.3 +0.8**
ELL Elmali 40.16 128 P **P 00 16 42.1 +1.0**
ELL Elmali 40.16 128 P **P 00 16 42.1 +1.0**
ELL pmax pmax
comp=Z,65nm,1.0s
PRP Porcupine Dome 40.19 333 P **P 00 16 41.9 +0.7**
EGAK Eagle 40.22 330 P **P 00 16 41.5 +0.2**
EGAK lAmb lAmb 00 17 08.5
comp=Z,52nm,1.8s
FFC Flin Flon 40.31 296 P **P 00 16 42.6 +0.5**
FFC Flin Flon 40.31 296 P **P 00 16 42.6 +0.5**
FFC pmax pmax
comp=Z,20nm,0.9s
IDI Anoyia 40.34 135 LR LR 00 33 02.0
comp=Z,374nm,20.8s,baz=340,slow=36
TIO Tiouine 40.49 177 P **P 00 16 42.0 -2.1**
WBO Williamsburg 40.52 266 P **P 00 16 44.5 +0.5**
WBO lAmb lAmb 00 16 52.5
comp=Z,34nm,1.0s
DAWY Dawson 40.60 329 P **P 00 16 45.4 +0.9**
IMAR Indian Mountai 40.82 339 P **P 00 16 47.1 +0.9**
BILL Bilibino 40.83 3 P **P 00 16 47.2 +1.0**
BILL Bilibino 40.83 3*ce*P **P 00 16 47.7 +1.5**
BILL pmax pmax
comp=Z,5.0nm,0.8s
J25K Salcha River, 41.02 333 P **P 00 16 48.9 +0.9**
I23K Minto, Yukon-K 41.07 336 P **P 00 16 49.6 +1.4**
I23K lAmb lAmb 00 17 04.9
comp=Z,30nm,1.4s
IL31 41.09 334 P **P 00 16 49.0 +0.6**
IL31 lAmb lAmb 00 17 21.4
comp=Z,35nm,1.5s
ILAR Eielson Array 41.09 334 P **P 00 16 49.5 +1.0**
comp=Z,2.7nm,1.0s,baz=13,slow=7.5,SNR=24
ILAR LR LR 00 35 23.7
comp=Z,440nm,20.7s,baz=66,slow=38
comp=Z,2.7nm,1.0s
COLA College 41.13 335 *i* P **P 00 16 49.4 +0.7**
COLA pmax pmax
comp=Z,18nm,1.1s
GNI Garni 41.15 110 P **P 00 16 50.7 +1.2**
GNI lAmb lAmb 00 17 11.9
comp=Z,47nm,1.1s
GNI Garni 41.15 110 P **P 00 16 53.7 +4.3**
GNI P **P 00 16 53.7 +4.3**
GNI Garni 41.15 110 *i* P **P 00 16 50.2 +0.8**
GNI pmax pmax
comp=Z,51nm,1.2s
CCB Clear Creek Bu 41.34 334 P **P 00 16 51.3 +0.9**
ZAA0 Zalesovo Array 41.40 63 P **P 00 16 51.7 +0.6**
ZALV Zalesovo Beam 41.40 63 P **P 00 16 50.7 -0.3**
comp=Z,2.8nm,0.7s,baz=334,slow=8.1,SNR=14
ZALV PP **PnPn 00 18 32.3 +1.3**
comp=Z,0.9nm,0.6s,baz=338,slow=11,SNR=4.4
ZALV LR LR 00 36 41.6
comp=Z,599nm,20.1s,baz=326,slow=40
comp=Z,2.8nm,0.7s
ZALV Zalesovo Beam 41.40 63 *i* P **P 00 16 52.0 +0.9**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
HDA Harding Lake 41.44 334 P **P 00 16 52.4 +1.1**
GAZ Gaziantep 41.71 119 P **P 00 16 54.3 +0.4**
GURO Guroymak-BITLI 41.82 113 P **P 00 16 54.9 +0.1**
BCAR Beaver Creek A 41.92 330 P **P 00 16 56.7 +1.3**
SADO Sadowa 41.97 269 LR LR 00 33 06.5
comp=Z,1μm,20.6s,baz=38,slow=34
E46A Sault Ste Mari 42.21 275 P **P 00 16 59.2 +1.4**
E46A lAmb lAmb 00 17 06.2
comp=Z,40nm,1.1s
BPAW Bear Paw Mtn. 42.29 336 P **P 00 16 59.0 +0.7**
KURK Kurchatov 42.41 70 P **P 00 17 00.1 +0.8**
KURK Kurchatov 42.41 70 P P 00 17 06.1 +6.8
KURK P P 00 17 06.1 +6.8
KURK Kurchatov 42.41 70*ce*P **P 00 17 00.9 +1.6**
KURK pmax pmax
comp=Z,14nm,1.7s
ULM Lac du Bonnet 42.42 288 P **P 00 17 02.1 +2.7**
comp=Z,11nm,1.1s,baz=32,slow=8.4,SNR=8.8
ULM LR LR 00 33 33.3
comp=Z,652nm,20.4s,baz=26,slow=35
comp=Z,11nm,1.1s
KURBB Kurchatov Arra 42.46 71 P **P 00 17 00.2 +0.4**
comp=Z,2.2nm,0.5s,baz=328,slow=7.6,SNR=13
KURBB PP **PP 00 18 37.0 -0.8**
comp=Z,0.8nm,0.3s,baz=329,slow=9.3,SNR=7.9
KURBB LR LR 00 37 12.8
comp=Z,559nm,19.0s,baz=330,slow=40
comp=Z,2.2nm,0.5s
CSS Mathiatis 42.73 125 P **P 00 17 03.3 +1.1**
DHY Denali Highway 42.77 333 P **P 00 17 03.0 +0.7**
CAST Castle Rocks 43.08 337 P **P 00 17 05.5 +0.8**
HYT Haines Junctio 43.29 326 P **P 00 17 07.7 +1.2**
YAK Yakutsk 43.89 27 P **P 00 17 11.6 +0.4**
YAK Yakutsk 43.89 27 P **P 00 17 12.7 +1.6**
comp=Z,14nm,0.4s,baz=72,slow=3.2,SNR=1.3
comp=Z,14nm,0.4s
YAK Yakutsk 43.89 27 *e*P **P 00 17 10.2 -1.0**
YAK *e**PP **pwP 00 17 20.1 +3.8**
YAK *e* 00 18 51.6
YAK *e*PPP PPP 00 19 28.9
YAK *e*S **S 00 23 38.4 -3.4**
YAK *e*SSS SSS 00 27 39.8
YAK pmax pmax
comp=Z,13nm,1.2s
YAK pmax pmax
comp=N,2.0nm,0.7s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,147nm,3.9s
YAK pmax pmax
comp=N,80nm,3.8s
YAK pmax pmax
comp=E,75nm,3.3s
YAK smax smax
comp=N,48nm,2.5s
YAK smax smax
comp=E,34nm,2.4s
DLBC Dease Lake 44.04 319 LR LR 00 35 06.1
comp=E,708nm,20.0s,baz=18,slow=35
AGMN Agassiz Nation 44.14 287 P **P 00 17 14.5 +1.2**
AGMN lAmb lAmb 00 17 23.5
comp=Z,33nm,1.5s
M20K Styx River 44.70 337 P **P 00 17 17.5 -0.3**
M20K lAmb lAmb 00 17 34.5
comp=Z,18nm,1.1s
SUA Susitna One 44.79 335 P **P 00 17 18.9 +0.4**
SUA lAmb lAmb 00 17 31.1
comp=Z,27nm,1.0s
RC01 Rabbit Creek A 45.01 334 P **P 00 17 20.9 +0.7**
RC01 lAmb lAmb 00 17 32.4
comp=Z,28nm,1.0s
MMAI Mount Meron Ar 45.12 124 P **P 00 17 22.9 +1.4**
comp=Z,3.1nm,0.5s,baz=342,slow=7.0,SNR=13
MMAI LR LR 00 37 31.4
comp=Z,342nm,21.1s,baz=296,slow=38
comp=Z,3.1nm,0.5s
SSPA Standing Stone 45.29 266 P **P 00 17 23.8 +1.2**
SEY Seymchan 45.39 12 P **P 00 17 24.9 +1.8**
comp=Z,1.6nm,0.2s,baz=122,slow=22,SNR=1.8
comp=Z,1.6nm,0.2s
SEY Seymchan 45.39 12 *e*P P 00 17 33.4 +10
SEY pmax pmax
comp=Z,11nm,1.1s
BTLS Baital 46.03 78 *e*P **P 00 17 30.1 +1.6**
BTLS Baital 46.03 78 *e*P **P 00 17 30.0 +1.6**
BRLS Borolday 46.50 83 *e*P **P 00 17 35.1 +2.8**
BRLS Borolday 46.50 83 *e*P **P 00 17 35.0 +2.8**
KKAR Karatay Array 46.65 82 P **P 00 17 34.5 +1.1**
KKAR lAmb lAmb 00 17 43.6
comp=Z,16nm,1.1s
KKAR Karatay Array 46.65 82 P **P 00 17 34.5 +1.1**
KKAR pmax pmax

comp=Z,16nm,1.2s
MAKZ Makanchi 46.90 70 P **P 00 17 35.9 +0.6**
MAKZ Makanchi 46.90 70 P **P 00 17 35.9 +0.6**
MAKZ pmax pmax
comp=Z,78nm,2.0s
MK31 Makanchi Array 47.01 70 P **P 00 17 37.0 +0.9**
MK31 IAmb IAmb 00 17 45.9
comp=Z,9.8nm,0.9s
MK31 Makanchi Array 47.01 70 *i* P **P 00 17 35.1 -1.0**
MKAR Makanchi Array 47.01 70 P **P 00 17 37.5 +1.4**
comp=Z,3.5nm,0.8s,baz=335,slow=5.7,SNR=14
MKAR PP **PP 00 19 25.7 -0.6**
comp=Z,0.7nm,0.6s,baz=1.9,slow=7.3,SNR=1.3
MKAR LR LR 00 39 47.7
comp=Z,554nm,19.3s,baz=316,slow=39
comp=Z,3.5nm,0.8s
MKAR Makanchi Array 47.01 70 *i* P **P 00 17 36.2 +0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
DZA Taraz 47.10 82 *e*P **P 00 17 38.3 +1.4**
DZA Taraz 47.10 82 *e*P **P 00 17 38.3 +1.4**
ZSN Zaisan 47.19 67 *e*P **P 00 17 38.9 +1.4**
ZSN Zaisan 47.19 67 *e*P **P 00 17 38.9 +1.4**
IUG Iuzhnay 47.36 83 *e*P **P 00 17 40.4 +1.3**
comp=Z,19nm,1.1s
IUG Iuzhnay 47.36 83 *e*P **P 00 17 40.3 +1.3**
IUG pmax pmax
comp=Z,19nm,1.1s
TDK Taldyqorghan 47.43 74 *e*P **P 00 17 41.0 +1.5**
comp=Z,8.2nm,0.6s
TDK Taldyqorghan 47.43 74 *e*P **P 00 17 40.9 +1.5**
TDK pmax pmax
comp=Z,8.0nm,0.6s
SGDS Sogindy 47.65 78 *e*P **P 00 17 42.8 +1.6**
SGDS Sogindy 47.65 78 *e*P **P 00 17 42.8 +1.6**
Q54A Coxs Mills 47.73 268 P **P 00 17 43.8 +2.0**
MOY Mondy 47.83 52 *e*P **P 00 17 44.8 +2.3**
MOY pmax pmax
comp=Z,38nm,2.8s
EIL Elat 48.17 125 LR LR 00 39 45.9
comp=Z,277nm,20.3s,baz=348,slow=38
AAK Ala-Archa 48.34 79 P **P 00 17 47.0 +0.3**
AAK IAmb IAmb 00 17 57.3
comp=Z,14nm,1.1s
AAK Ala-Archa 48.34 79 LR LR 00 39 06.7
comp=Z,241nm,18.4s,baz=327,slow=37
AAK Ala-Archa 48.34 79 P **P 00 17 49.4 +2.7**
AAK P **P 00 17 49.4 +2.7**
AAK Ala-Archa 48.34 79 *ce*P **P 00 17 46.6 -0.1**
AAK pmax pmax
comp=Z,22nm,2.5s
EGMT Eagleton 48.50 298 P **P 00 17 48.5 +0.7**
KDAK Kodiak Island 48.59 335 LR LR 00 41 11.6
comp=Z,390nm,19.2s,baz=254,slow=40
MA2 Magadan 48.61 13 LR LR 00 37 11.8
comp=Z,344nm,20.5s,baz=10,slow=35
MDOK Medeo 48.67 77 *e*P **P 00 17 50.7 +1.5**
MDOK Medeo 48.67 77 *e*P **P 00 17 50.6 +1.5**
TNSS Tian-Shan 48.75 77 *e*P **P 00 17 51.0 +0.9**
TNSS Tian-Shan 48.75 77 *e*P **P 00 17 51.0 +0.9**
KPKS Kokpek 48.90 75 *e*P **P 00 17 52.5 +1.6**
comp=Z,13nm,1.1s
KPKS Kokpek 48.90 75 *e*P **P 00 17 52.5 +1.6**
KPKS pmax pmax
comp=Z,13nm,1.1s
SCIA State Center 49.05 281 P **P 00 17 52.7 +0.8**
ARSB Arslanbob 49.05 81 P **P 00 17 53.0 +0.9**
ARSB Arslanbob 49.05 81 P **P 00 17 53.0 +0.9**
ARSB pmax pmax
comp=Z,4.0nm,1.3s
ZHN Zhinishke 49.09 75 *e*P **P 00 17 53.9 +1.5**
comp=Z,25nm,1.4s
ZHN Zhinishke 49.09 75 *e*P **P 00 17 53.9 +1.5**
ZHN pmax pmax
comp=Z,25nm,1.4s
SATY Saty 49.18 75 *e*P **P 00 17 54.6 +1.5**
SATY Saty 49.18 75 *e*P **P 00 17 54.6 +1.5**
UZB Uzynbulak 49.30 75 *e*P **P 00 17 55.4 +1.4**
UZB Uzynbulak 49.30 75 *e*P **P 00 17 55.4 +1.4**
TAM Tamanrasset 49.33 162 P **P 00 17 54.6 +0.2**
TAM IAmb IAmb 00 17 57.3
comp=Z,12nm,0.9s
TAM Tamanrasset 49.33 162 P **P 00 17 54.6 +0.2**
TAM pmax pmax
comp=Z,12nm,0.9s
LLLB Lilloet 49.38 309 P **P 00 17 55.2 +0.8**
LLLB IAmb IAmb 00 18 14.8
comp=Z,22nm,1.3s
N41A Harden Midland 49.38 278 P **P 00 17 55.4 +0.9**
BBB Bella Bella 49.41 315 LR LR 00 39 15.2
comp=Z,536nm,18.1s,baz=28,slow=37
SHLS Shalkode 49.42 74 *e*P **P 00 17 57.3 +2.4**
comp=Z,18nm,1.0s
SHLS Shalkode 49.42 74 *e*P **P 00 17 57.3 +2.4**
SHLS pmax pmax
comp=Z,18nm,1.0s
R50A Paris 49.49 270 P **P 00 17 55.7 +0.3**
R50A IAmb IAmb 00 18 03.5
comp=Z,18nm,0.8s
BTK Batken 49.50 84 P **P 00 17 56.6 +1.1**
BTK Batken 49.50 84 P **P 00 17 56.6 +1.1**
BTK pmax pmax
comp=Z,61nm,1.8s
P43A Skaggs, Pawnee 49.92 276 P **P 00 17 59.8 +1.2**
P43A IAmb IAmb 00 18 07.2
comp=Z,20nm,0.9s
SIMJ Simiganj 50.20 86 P **P 00 18 01.8 +1.0**
SIMJ IAmb IAmb 00 18 11.3
comp=Z,25nm,1.1s
TARG Taragay, Kyrgy 50.20 77 P **P 00 18 02.1 +0.9**
TARG IAmb IAmb 00 18 11.1
comp=Z,17nm,0.9s
TARG Taragay, Kyrgy 50.20 77 P **P 00 18 02.1 +0.9**
TARG pmax pmax
comp=Z,17nm,0.9s
GAR Garm 50.31 85 P **P 00 18 02.2 +0.5**
NEW Newport 50.31 304 LR LR 00 38 13.1
comp=Z,642nm,20.2s,baz=20,slow=35
DRK Karamyk 50.34 83 P **P 00 18 03.2 +1.0**
DRK Karamyk 50.34 83 P **P 00 18 03.2 +1.0**
DRK pmax pmax
comp=Z,60nm,1.4s
MSO Missoula 50.77 301 P **P 00 18 05.2 +0.2**
B08A Colville Reser 50.80 306 P **P 00 18 05.7 +0.5**
B08A IAmb IAmb 00 18 17.6
comp=Z,27nm,1.4s
WUS Wushi 51.12 76 P **P 00 18 08.4 +0.5**
WUS IAmb IAmb 00 18 26.6
comp=Z,26nm,1.1s
WMQ Urumqi 51.32 67 *e*P **P 00 18 10.9 +1.7**
WMQ sP pwP 00 18 19.0 +4.6
WMQ PcP **PcP 00 19 28.3 +4.4**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ LR LR
comp=Z,410nm,14.3s
WMQ LR LR
comp=Z,670nm,17.3s
WMQ LR LR
comp=Z,550nm,23.5s
ZEA Zeya 51.47 31 *e*P **P 00 18 12.8 +2.8**
ZEA *e*S **S 00 25 36.1 +6.6**
ZEA *e*SS **SS 00 29 02.4 -2.1**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA smax smax
comp=E,200nm,12.8s
ZEA MLR MLR
comp=N,200nm,17.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
S44A Carbondale 51.61 275 P **P 00 18 12.0 +0.7**
S44A IAmb IAmb 00 18 19.1
comp=Z,23nm,0.9s
KSH Kashi 51.64 79 P **P 00 18 14.8 +3.1**
KSH sP pwP 00 18 20.1 +3.2
KSH pmax pmax
comp=Z,10.0nm,1.1s
KSH LR LR
comp=Z,310nm,13.4s
KSH LR LR
comp=Z,370nm,15.1s
KSH LR LR
comp=Z,340nm,23.0s
HRA Herat 51.93 95 P **P 00 18 15.0 +0.9**
HRA IAmb IAmb 00 18 25.1
comp=Z,31nm,1.4s
BG3 Lake Jocassee 52.05 267 P **P 00 18 15.6 +0.9**
BG3 IAmb IAmb 00 18 21.5
comp=Z,36nm,1.2s
KBD Kabd 52.23 112 P P 00 18 21.1 +5.1
E07A Sunnyside 52.60 306 P **P 00 18 19.4 +0.8**
W50A Signal Mountai 52.63 270 P **P 00 18 19.6 +0.6**
W50A IAmb IAmb 00 18 29.6
comp=Z,26nm,1.0s
SONM Songino Array 52.72 50 P **P 00 18 19.3 -0.3**
comp=Z,0.9nm,1.0s,baz=320,slow=4.4,SNR=6.4
SONM LR LR 00 43 39.2
comp=Z,602nm,18.4s,baz=348,slow=39
comp=Z,0.9nm,1.0s
ULN Ulaanbaatar 52.85 49 P **P 00 18 21.1 +0.4**
ULN Ulaanbaatar 52.85 49 P P 00 18 26.0 +5.4
ULN P P 00 18 26.0 +5.4
ULN Ulaanbaatar 52.85 49 *ce*P **P 00 18 23.0 +2.4**
ULN pmax pmax
comp=Z,15nm,1.7s
MGMO Mountain Grove 53.07 277 P **P 00 18 22.6 +0.4**
MGMO IAmb IAmb 00 18 30.1
comp=Z,25nm,0.9s
PD31 Pinedale Array 53.25 295 P **P 00 18 23.4 -0.4**
PDAR Pinedale Array 53.25 295 P **P 00 18 23.7 0.0**
comp=Z,1.9nm,0.9s,baz=46,slow=6.4,SNR=9.9
PDAR LR LR 00 41 01.7
comp=Z,688nm,18.8s,baz=12,slow=36
comp=Z,1.9nm,0.9s
BMO Blue Mountains 53.50 303 P **P 00 18 24.9 -0.5**
BMO Blue Mountains 53.50 303 P **P 00 18 24.9 -0.5**
BMO pmax pmax
comp=Z,8.0nm,1.0s
X48A Hartselle 53.87 271 P **P 00 18 29.2 +1.1**
X48A IAmb IAmb 00 18 34.4
comp=Z,14nm,1.0s
HLID Hailey 53.90 300 P **P 00 18 29.0 +0.5**
KBL Kabul 53.98 88 P **P 00 18 29.0 -0.1**
KBL Kabul 53.98 88 P P 00 18 35.4 +6.2
SNR=6.0
KBL P P 00 18 35.4 +6.2
SNR=6.0
KBL Kabul 53.98 88 P **P 00 18 29.0 -0.1**
KBL pmax pmax
comp=Z,9.0nm,1.0s
HIA Hailar 54.36 39 P **P 00 18 32.5 +1.0**
HIA IAmb IAmb 00 18 40.4
comp=Z,33nm,1.8s
HIA Hailar 54.36 39 P **P 00 18 32.5 +1.0**
HIA pmax pmax
comp=Z,33nm,1.8s
HEH HeiHe 54.85 33 *e*P **P 00 18 36.5 +1.5**
HEH pmax pmax
comp=Z,8.0nm,1.1s
HWUT Hardware Ranch 54.90 296 P **P 00 18 36.1 +0.4**
BGU Big Grassy Mou 55.95 297 P **P 00 18 43.7 +0.4**
NIL Nilore 56.15 85 P **P 00 18 45.4 +0.8**
NIL IAmb IAmb 00 18 54.9
comp=Z,27nm,1.3s
NIL Nilore 56.15 85 P **P 00 18 45.4 +0.8**
NIL pmax pmax
comp=Z,27nm,1.3s
TYV Tymovskoe 56.46 21 *e*P P 00 18 56.1 +10
TYV pmax pmax
comp=Z,18nm,1.1s
TYV pmax pmax
comp=Z,300nm,3.1s
KLR Kul'dur 56.56 30 P **P 00 18 47.1 -0.2**
comp=Z,1.0nm,0.9s,baz=340,slow=7.9,SNR=2.3
KLR LR LR 00 43 12.2
comp=Z,301nm,19.4s,baz=340,slow=36
comp=Z,1.0nm,0.9s
KLR Kul'dur 56.56 30 *e*P P 00 18 54.4 +7.1
KLR pmax pmax
comp=Z,5.0nm,1.2s
BBTS Babate 56.84 188 LR LR 00 41 29.2
comp=Z,265nm,18.2s,baz=264,slow=34
RAYN Ar Rayn 56.91 116 P **P 00 18 50.0 -0.1**
RAYN IAmb IAmb 00 19 04.1
comp=Z,14nm,1.1s
RAYN Ar Rayn 56.91 116 P **P 00 18 50.8 +0.6**
RAYN Ar Rayn 56.91 116 P **P 00 18 50.0 -0.1**
RAYN pmax pmax
comp=Z,14nm,1.1s
SMRA Abu-Samra 57.32 111 P **P 00 18 55.5 +2.6**
WMOK Wichita Mounta 57.35 282 P **P 00 18 54.0 +0.8**
WMOK IAmb IAmb 00 19 01.8
comp=Z,33nm,1.6s
WMOK Wichita Mounta 57.35 282 P **P 00 18 54.0 +0.8**
WMOK pmax pmax
comp=Z,33nm,1.7s
YBH Yreka Blue Hor 57.85 306 LR LR 00 42 33.0
comp=Z,662nm,20.3s,baz=6.0,slow=35
MVCO Mesa Verde 58.06 292 P **P 00 18 58.9 +0.6**
MVCO IAmb IAmb 00 19 31.5
comp=Z,13nm,0.9s
SPR3 Spring Creek 3 58.10 298 P **P 00 18 59.0 +0.3**
SPR3 IAmb IAmb 00 19 08.3
comp=Z,17nm,1.4s
MASF Masafi 58.37 105 P P 00 19 06.9 +6.5
SNR=9.0
MASF P P 00 19 06.9 +6.5
SNR=9.0
MDH Madha 58.48 105 P P 00 19 07.7 +6.6
SNR=5.7
MDH P P 00 19 07.7 +6.6
SNR=5.7
TORD Torodi Ar. Bea 58.56 167 P **P 00 19 01.8 +0.1**
comp=Z,16nm,0.6s,baz=350,slow=7.8,SNR=157
TORD LR LR 00 45 04.3
comp=Z,286nm,18.2s,baz=352,slow=37
comp=Z,16nm,0.6s
NAZ Nazwa, Dubai 58.58 106 P P 00 19 08.8 +7.0
NAZ P P 00 19 08.8 +7.0
GHWR Ruwais 58.68 109 P **P 00 19 07.0 +4.5**
XLT XiLinHaoTe 58.69 44 *e*P P 00 19 11.5 +9.0
XLT sP pwP 00 19 17.9 +10
XLT pmax pmax
comp=Z,15nm,0.9s
XLT LR LR
comp=N,27nm,20.8s
XLT LR LR
comp=E,1μm,18.7s
XLT LR LR
comp=Z,830nm,17.4s
UOSS Minazif 58.78 105 P **P 00 19 03.4 +0.2**
UOSS Minazif 58.78 105 P **P 00 19 04.6 +1.3**
GTA Gaotai 58.86 59 P **P 00 19 04.8 +1.1**
GTA pP pwP 00 19 12.8 +3.8
GTA sS sS 00 27 17.8 +4.5
GTA pmax pmax
comp=Z,6.0nm,1.6s
GTA pmax pmax
comp=Z,100nm,7.6s
GTA LR LR
comp=Z,320nm,19.3s
GTA LR LR
comp=Z,350nm,17.4s
GTA LR LR
comp=Z,380nm,20.0s
HATD Hatta, Dubai 58.87 105 P **P 00 19 06.9 +3.1**
SNR=8.4
ASHO Ashiyiah 58.98 105 P P 00 19 09.7 +5.0
SNR=5.6
R11B Troy Canyon, C 59.06 298 P **P 00 19 05.9 +0.7**
BNX BinXian 59.20 34 ⇓P **P 00 19 06.4 +0.5**
BNX pmax pmax
comp=Z,8.0nm,1.2s
ALNE Al Ain 59.48 106 P **P 00 19 12.6 +4.6**
YERR Yerington 59.49 302 P **P 00 19 09.3 +1.1**
YERR IAmb IAmb 00 19 22.0
comp=Z,14nm,1.1s
ABTX Abilene, Hawle 59.58 282 P **P 00 19 09.3 +0.6**
ABTX IAmb IAmb 00 19 19.0
comp=Z,17nm,1.0s
SOHO SOHO 59.65 105 P **P 00 19 10.0 +0.9**
NVAR Mina Array Bea 59.75 301 P **P 00 19 09.4 -0.7**
comp=Z,0.6nm,0.7s,baz=29,slow=4.9,SNR=4.6
NVAR LR LR 00 44 57.5
comp=Z,713nm,18.2s,baz=20,slow=36
comp=Z,0.6nm,0.7s
MZR Muzera 59.77 109 P **P 00 19 12.6 +2.5**
U15A North Rim 59.91 295 P **P 00 19 11.6 +0.3**
U15A IAmb IAmb 00 19 34.1
comp=Z,32nm,1.8s
AFDM Forest Hills D 59.99 303 P **P 00 19 11.8 +0.3**
AFDM IAmb IAmb 00 19 21.8
comp=Z,25nm,1.8s
YSS Yuzh-Sakhalins 60.32 22 *ce*P **P 00 19 14.8 +1.3**
YSS pmax pmax
comp=Z,59nm,1.7s
ARQ Araqi 60.39 105 P **P 00 19 18.3 +4.0**
BTO Baotou 60.40 50 *e*P **P 00 19 13.8 -0.5**
BTO pP **sP 00 19 18.1 +0.3**
BTO sP **pwP 00 19 20.3 +0.8**
BTO PP **PP 00 21 27.9 +1.0**
BTO S **S 00 27 29.3 +0.5**
BTO SS **SS 00 31 22.9 -2.7**
BTO pmax pmax
comp=Z,16nm,0.5s
BTO pmax pmax
comp=Z,320nm,4.1s
BTO LR LR
comp=Z,450nm,6.1s
BTO LR LR
comp=Z,480nm,9.7s
BTO LR LR
comp=Z,1μm,15.3s
HOQ Hoqain 60.40 104 P P 00 19 19.2 +4.8
HOQ P P 00 19 19.2 +4.8
GOMU GeErMu 60.44 64 P **P 00 19 15.0 0.0**
GOMU pP pwP 00 19 20.1 -0.1
GOMU sP sP 00 19 23.8 +5.3
GOMU S **S 00 27 23.3 -6.7**
GOMU pmax pmax
comp=Z,18nm,1.0s
GOMU LR LR
comp=Z,520nm,18.2s
GOMU LR LR
comp=Z,280nm,16.0s
GOMU LR LR
comp=Z,680nm,18.6s
HHC Hu-ho-hao-te 60.54 48 *e*P **P 00 19 16.3 +1.0**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,66nm,4.1s
HHC LR LR
comp=Z,180nm,15.3s
HHC LR LR
comp=Z,380nm,16.8s
HHC LR LR
comp=Z,360nm,17.6s
UMZA Um Al Zommool 60.55 107 P **P 00 19 19.8 +4.4**
TPNV Topopah Spring 60.56 298 P **P 00 19 15.7 +0.1**
TPNV IAmb IAmb 00 19 32.3
comp=Z,12nm,1.1s
TPNV Topopah Spring 60.56 298 P **P 00 19 15.7 +0.1**
TPNV pmax pmax
comp=Z,12nm,1.2s
MDJ Mudanjiang 60.68 33 P **P 00 19 17.0 +1.0**
MDJ IAmb IAmb 00 19 40.0
comp=Z,13nm,1.1s
MDJ Mudanjiang 60.68 33 P **P 00 19 16.3 +0.3**
MDJ pmax pmax
comp=Z,5.0nm,1.0s
CMB Columbia Colle 60.69 302 P **P 00 19 17.0 +0.7**
CMB Columbia Colle 60.69 302 P **P 00 19 17.0 +0.7**
CMB pmax pmax
comp=Z,8.0nm,1.3s
BIDO Bidbid 60.72 104 P **P 00 19 21.2 +4.6**
SNR=8.3
CN2 Changchun 60.72 36 *e*P **P 00 19 16.9 +0.6**
CN2 *e*S **S 00 27 29.5 -3.1**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 LR LR
comp=Z,130nm,15.0s
CN2 LR LR
comp=Z,260nm,15.0s
SMDO Samad 61.12 104 P **P 00 19 20.5 +1.1**
SNR=5.5
SMDO P **P 00 19 20.5 +1.1**
SNR=5.5
WSAR Wadi Sarin 61.14 103 LR LR 00 46 46.2
comp=Z,250nm,20.1s,baz=350,slow=37
BSY Bisya 61.15 105 P **P 00 19 20.6 +1.1**
BSY P **P 00 19 20.6 +1.1**
USRK Ussuriysk Ar. 61.49 31 P **P 00 19 21.6 +0.1**
comp=Z,0.6nm,0.4s,baz=142,slow=43,SNR=2.4
comp=Z,0.6nm,0.4s
JCT Junction City 61.62 281 P **P 00 19 24.3 +1.7**
JCT IAmb IAmb 00 19 31.1
comp=Z,10nm,1.0s
JCT Junction City 61.62 281 P **P 00 19 24.3 +1.7**
JCT pmax pmax
comp=Z,10.0nm,1.0s
JMDO Jabal Madar 61.79 104 P **P 00 19 24.6 +0.8**
SNR=6.3
JMDO P **P 00 19 24.6 +0.8**
SNR=6.3
ISA Isabella, Lake 62.39 300 P **P 00 19 28.8 +1.0**
ISA Isabella, Lake 62.39 300 P **P 00 19 28.8 +1.0**
ISA pmax pmax
comp=Z,6.0nm,0.9s
BJT Baijiatuau 62.41 45 P **P 00 19 28.7 +0.9**
BJT Baijiatuau 62.41 45 P **P 00 19 28.7 +0.9**
BJT pmax pmax
comp=Z,42nm,2.0s
SJG San Juan 62.63 244 LR LR 00 43 52.9
comp=Z,246nm,19.8s,baz=40,slow=33
MHTO MHTO 63.04 105 P P 00 19 38.1 +6.0
LZH Lanzhou 63.07 57 *e*P **P 00 19 34.3 +1.9**
LZH pP pwP 00 19 38.5 +0.8
LZH sP sP 00 19 41.8 +5.8
LZH pmax pmax
comp=Z,13nm,1.2s
LZH LR LR
comp=Z,500nm,16.3s
LZH LR LR
comp=Z,580nm,14.9s
LZH LR LR
comp=Z,560nm,19.2s
PFO Pinyon Flats O 63.74 297 LR LR 00 46 10.5
comp=Z,310nm,19.3s,baz=11,slow=35
TX31 Lajitas Ar. Si 63.89 284 P **P 00 19 38.8 +0.9**
TX31 IAmb IAmb 00 19 51.0
comp=Z,30nm,1.8s
TXAR Lajitas Array 63.89 284 P **P 00 19 38.2 +0.3**
comp=Z,2.2nm,1.1s,baz=32,slow=4.0,SNR=14
TXAR LR LR 00 47 01.3
comp=Z,498nm,19.3s,baz=12,slow=36
comp=Z,2.2nm,1.1s
DOK Doka 64.09 109 P **P 00 19 40.5 +1.4**
SNR=8.3
DOK P **P 00 19 40.5 +1.4**
SNR=8.3
HNS HongShan 64.57 47 *e*P **P 00 19 44.1 +2.0**
HNS LR LR
comp=Z,200nm,19.1s
HNS LR LR
comp=Z,990nm,19.1s
HNS LR LR
comp=Z,470nm,16.2s
WHFO Wadi Hawf 64.64 110 P **P 00 19 46.9 +4.1**
WHFO P **P 00 19 46.9 +4.1**
DBIC Dimbokro 64.67 175 LR LR 00 49 37.4
comp=Z,315nm,18.1s,baz=358,slow=38
ABTO Aybut 65.03 111 P **P 00 19 49.6 +4.2**
SNR=6.6
ABTO P **P 00 19 49.6 +4.2**
SNR=6.6
DMTO DMTO 65.19 109 P **P 00 19 50.9 +4.6**
LSA Lhasa 65.41 70 P **P 00 19 49.2 +0.9**
LSA Lhasa 65.41 70 P **P 00 19 49.2 +0.9**
LSA pmax pmax
comp=Z,55nm,1.8s
TIA Tai'an 66.26 45 P **P 00 19 54.4 +1.3**
TIA pmax pmax
comp=Z,7.0nm,1.0s
TIA pmax pmax
comp=Z,180nm,5.6s
TIA LR LR
comp=Z,400nm,20.7s
TIA LR LR
comp=Z,820nm,16.9s
TIA LR LR
comp=Z,340nm,25.0s
XAN Xi'an 66.34 53 ⇑P **P 00 19 58.0 +4.3**
XAN pmax pmax
comp=Z,16nm,1.4s

KSRS	**Korea Array**	**67.32**	**36**	P	**P**	**00 20 00.1 +0.4**
	comp=Z,0.4nm,0.3s,baz=350,slow=18,SNR=1.6					
KSRS				LR	LR	00 50 24.5
	comp=Z,130nm,18.6s,baz=60,slow=37					
	comp=Z,0.4nm,0.3s					
ATD	**Arta Tunnel**	**67.57**	**123**	LR	LR	00 50 01.4
	comp=Z,4.8nm,18.4s,baz=354,slow=36					
CD2	**Chengdu**	**67.93**	**59**	P	**P**	**00 20 02.8 -1.0**
CD2				S	**S**	**00 29 01.3 -0.9**
CD2				pmax	pmax	
	comp=Z,20nm,1.1s					
CD2				LR	LR	
	comp=Z,380nm,12.2s					
CD2				LR	LR	
	comp=Z,580nm,17.9s					
CD2				LR	LR	
	comp=Z,450nm,19.5s					
TJN	**Taejon**	**68.26**	**37**	*e*P	**P**	**00 20 06.8 +1.1**
FURI	**Furi**	**69.00**	**128**	LR	LR	00 51 29.6
	comp=Z,114nm,20.7s,baz=358,slow=37					
SHL	**Shillong**	**69.50**	**71**	P	**P**	**00 20 14.4 +0.6**
SHL				IAmb	IAmb	00 20 32.2
	comp=Z,17nm,1.1s					
SHL	**Shillong**	**69.50**	**71**	P	**P**	**00 20 14.4 +0.6**
SHL				pmax	pmax	
	comp=Z,17nm,1.1s					
MJAR	**Matsushiro Arr**	**69.95**	**27**	P	**P**	**00 20 17.2 +1.0**
	comp=Z,0.7nm,0.3s,baz=348,slow=5.6,SNR=4.5					
	comp=Z,0.7nm,0.3s					
ENH	**Enshi**	**70.06**	**54**	P	**P**	**00 20 17.4 +0.4**
NJ2	**Nanjing**	**70.65**	**45**	*e*P	**P**	**00 20 20.1 -0.4**
NJ2				pmax	pmax	
	comp=Z,9.0nm,0.7s					
LPIG	**La Paz**	**70.83**	**288**	LR	LR	00 51 27.9
	comp=Z,402nm,18.0s,baz=28,slow=36					
PZH	**PanZhiHua**	**71.53**	**62**	P	**P**	**00 20 30.3 +4.2**
PZH				S	**S**	**00 29 44.8 0.0**
PZH				pmax	pmax	
	comp=Z,10.0nm,1.4s					
PZH				pmax	pmax	
	comp=Z,90nm,6.1s					
PZH				LR	LR	
	comp=Z,340nm,16.5s					
PZH				LR	LR	
	comp=Z,160nm,16.1s					
PZH				LR	LR	
	comp=Z,540nm,24.0s					
BAUV	**El Baul**	**71.88**	**243**	P	**P**	**00 20 28.2 +0.1**
TNCH	**TengChong**	**71.99**	**65**	*e*P	**P**	**00 20 29.1 +0.1**
TNCH				pP	pP	00 20 31.8 +0.2
TNCH				pmax	pmax	
	comp=Z,130nm,6.6s					
LODK	**Lodwar**	**73.47**	**133**	P	**P**	**00 20 37.8 +0.1**
LODK				IAmb	IAmb	00 20 49.5
	comp=Z,20nm,1.4s					
RUSC	**La Rusia**	**76.24**	**247**	P	**P**	**00 20 54.6 +0.4**
MBAR	**Mbarara**	**76.32**	**139**	P	**P**	**00 20 54.4 +0.1**
MBAR	**Mbarara**	**76.32**	**139**	LR	LR	00 57 37.4
	comp=Z,178nm,18.6s,baz=350,slow=38					
MBAR	**Mbarara**	**76.32**	**139**	P	P	00 21 00.1 +5.8
MBAR	**Mbarara**	**76.32**	**139**	P	**P**	**00 20 54.4 +0.1**
MBAR				pmax	pmax	
	comp=Z,7.0nm,1.2s					
SLVN	**Son La**	**77.03**	**62**	P	**P**	**00 20 59.1 +1.0**
SLVN				IAmb	IAmb	00 21 09.5
	comp=Z,16nm,1.2s					
ROSC	**El Rosal**	**77.61**	**248**	P	**P**	**00 21 03.0 +1.2**
ROSC				IAmb	IAmb	00 21 08.4
	comp=Z,10.0nm,0.6s					
ROSC	**El Rosal**	**77.61**	**248**	P	**P**	**00 21 03.2 +1.4**
	comp=Z,6.9nm,0.4s,baz=14,slow=19,SNR=1.1					
	comp=Z,6.9nm,0.4s					
ROSC	**El Rosal**	**77.61**	**248**	P	**P**	**00 21 03.0 +1.2**
ROSC				pmax	pmax	
	comp=Z,10.0nm,0.6s					
CHTO	**Chiang Mai**	**77.98**	**67**	P	**P**	**00 21 03.5 +0.1**
CHTO				IAmb	IAmb	00 21 14.4
	comp=Z,18nm,1.2s					
CHTO	**Chiang Mai**	**77.98**	**67**	P	**P**	**00 21 03.5 +0.1**
CHTO				pmax	pmax	
	comp=Z,18nm,1.3s					
KMBO	**Kilima Mbogo**	**78.30**	**132**	P	**P**	**00 21 05.3 -0.1**
	comp=Z,0.4nm,0.3s,baz=256,slow=14,SNR=1.2					
KMBO				LR	LR	00 57 04.9
	comp=Z,79nm,19.9s,baz=280,slow=37					
	comp=Z,0.4nm,0.3s					
CMAR	**Chiang Mai Arr**	**78.32**	**67**	P	**P**	**00 21 05.2 -0.1**
	comp=Z,1.1nm,0.5s,baz=325,slow=6.1,SNR=9.5					
CMAR				LR	LR	01 02 29.8
	comp=Z,73nm,18.8s,baz=310,slow=41					
	comp=Z,1.1nm,0.5s					
PHRA	**Phrae**	**78.66**	**66**	P	**P**	**00 21 07.5 +0.4**
KIBK	**Kibwezi**	**79.66**	**132**	P	**P**	**00 21 13.6 +0.9**
QIZ	**Qiongzhong**	**80.87**	**57**	P	**P**	**00 21 19.8 +0.7**
QIZ				S	**S**	**00 31 25.3 -2.0**
QIZ				LR	LR	
	comp=Z,210nm,21.6s					
QIZ				LR	LR	
	comp=Z,440nm,18.0s					
QIZ				LR	LR	
	comp=Z,410nm,15.0s					
OTAV	**Otavalo**	**83.21**	**250**	P	**P**	**00 21 32.4 +0.4**
OTAV				IAmb	IAmb	00 21 46.4
	comp=Z,14nm,1.1s					
OTAV	**Otavalo**	**83.21**	**250**	P	**P**	**00 21 32.4 +0.4**
OTAV				pmax	pmax	
	comp=Z,14nm,1.1s					
OTAV	**Otavalo**	**83.21**	**250**	*e*P	P	00 21 18.2 -14
TBTG	**Tabatinga, AM**	**84.91**	**241**	P	**P**	**00 21 41.1 +1.0**
SAML	**Samuel**	**87.65**	**233**	P	**P**	**00 21 53.5 0.0**
SAML				IAmb	IAmb	00 22 00.0
	comp=Z,9.7nm,1.1s					
SAML	**Samuel**	**87.65**	**233**	P	**P**	**00 21 53.5 0.0**
SAML				pmax	pmax	
	comp=Z,10.0nm,1.1s					
ETMB	**Extrema**	**89.28**	**236**	P	**P**	**00 22 01.2 +0.1**
ETMB				IAmb	IAmb	00 22 10.0
	comp=Z,8.6nm,1.0s					
TSUM	**Tsumeb**	**92.20**	**155**	LR	LR	01 09 12.4
	comp=Z,117nm,18.1s,baz=350,slow=39					
PSI	**Prapat**	**93.12**	**72**	P	**P**	**00 22 21.0 +1.7**
PSI				pmax	pmax	
	comp=Z,13nm,1.0s					
RPSI	**Rantau Prapat**	**93.22**	**72**	P	**P**	**00 22 21.0 +1.4**
GUMO	**Guam**	**93.46**	**25**	LR	LR	01 04 57.1
	comp=Z,52nm,20.7s,baz=42,slow=36					
DAV	**Davao City (W)**	**96.28**	**45**	LR	LR	01 11 25.0
	comp=Z,107nm,19.0s,baz=346,slow=39					
OPO	**Ambohidratompo**	**97.54**	**127**	LR	LR	01 08 37.7
	comp=Z,75nm,20.3s,baz=180,slow=37					
LBTB	**Lobatse**	**99.14**	**148**	LR	LR	01 12 40.9
	comp=Z,179nm,18.1s,baz=352,slow=38					
TAOE	**Nuku Hiva Isla**	**110.66**	**307**	*e*LR	LR	01 00 14.7
	comp=Z,236nm,24.0s					
PPT2	**Papeete2**	**121.36**	**314**	*e*LR	LR	01 05 16.2
	comp=Z,292nm,25.5s					
PPT2				*e*LR	LR	01 05 20.7
	comp=Z,225nm,27.0s					
WRA	**Warramunga Arr**	**124.38**	**43**	PKP	**PKPdf**	**00 28 04.2 +0.3**
	comp=Z,1.0nm,1.0s,baz=318,slow=2.0,SNR=4.8					
TBI	**Tubuai**	**126.88**	**313**	*e*LR	LR	01 07 49.9
	comp=Z,888nm,26.0s					
ASAR	**Alice Springs**	**127.88**	**44**	PKP	**PKiKP**	**00 28 11.2 +0.1**
	comp=Z,0.1nm,0.3s,baz=48,slow=1.4,SNR=2.2					
DZM	**Mont Dzumac**	**130.64**	**5**	*e*LR	LR	01 09 36.2
	comp=Z,180nm,23.2s					
VNA2	**Neumayer--Watz**	**142.05**	**179**	⇑PKPdf	**PKiKP**	**00 28 37.8 -0.4**
	comp=Z,0.3nm,0.6s,baz=332,slow=0.2					
VNA3	**Neumayer Olymp**	**142.36**	**180**	⇑PKPdf	**PKPdf**	**00 28 34.5 -1.4**
	comp=Z,0.4nm,0.7s					
SNAA	**Sanae**	**142.85**	**177**	PKPdf	**PKPdf**	**00 28 38.2 +1.4**
SNAA	**Sanae**	**142.85**	**177**	⇑PKPdf	**PKPdf**	**00 28 34.3 -2.5**
	comp=Z,16nm,1.0s					
SNAA	**Sanae**	**142.85**	**177**	PKP	**PKPdf**	**00 28 36.9 +0.1**
	comp=Z,1.7nm,1.0s,baz=31,slow=6.1,SNR=4.7					
SNAA	**Sanae**	**142.85**	**177**	PKIKP	**PKPdf**	**00 28 38.2 +1.4**
TROLL	**Troll, Antarti**	**143.33**	**174**	⇑PKPdf	PKPbc	00 28 36.1 +1.1
	comp=Z,26nm,0.6s					
SMAI	**San Martin Ant**	**144.46**	**213**	PKPdf	**PKiKP**	**00 28 42.4 -0.9**
ELIB	**Princess Elisa**	**144.61**	**163**	*d*PKP	**PKPdf**	**00 28 40.0 0.0**
MAW	**Mawson**	**146.81**	**138**	PKPbc	**PKPab**	**00 28 47.3 +0.5**
	comp=Z,2.2nm,0.8s,baz=301,slow=3.6,SNR=3.6					
QSPA	**South Pole Qui**	**161.30**	**180**	PKPab	**PKPab**	**00 29 48.2 0.0**
	comp=Z,4.6nm,1.1s,baz=270,slow=5.1,SNR=5.7					

JMA 15 00:16:57.5±0.1, 23°.9N±0°.6×123°.3E±0°.3, h26km±1km, MV2.7/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.47**	**67**	P	Pb	00 17 07.0	-0.2
HATJ				S	Sb	00 17 13.5	-0.3
IRIF	**Iriomote-Funau**	**0.59**	**38**	P	Pb	00 17 09.0	-0.2
IRIF				S	Sb	00 17 17.1	0.0
YOJ	**Yonaguni jima**	**0.66**	**334**	P	Pb	00 17 10.2	-0.1
YOJ				S	Sb	00 17 18.9	-0.1
JYNG	**Yonagunijimaku**	**0.68**	**329**	P	Pb	00 17 10.2	-0.4
JYNG				S	Sb	00 17 19.2	-0.4
JKRS	**Kuro-shima**	**0.72**	**60**	*e*P	Pb	00 17 11.1	-0.2
JIJ	**Ishigaki jima**	**0.89**	**57**	P	Pb	00 17 13.9	-0.3
JIJ				S	Sb	00 17 25.9	+0.2
JISG	**Ishigakijimahi**	**1.14**	**51**	P	Pn	00 17 17.2	-0.6
JISG				S	Sn	00 17 32.4	-0.2
JTJ	**Tarama**	**1.47**	**58**	*e*P	Pn	00 17 22.9	+0.7

TAP 15 00:17:32.6, 24°.94N×121°.99E, h14km±1km, ML1.2, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.07**	**359**	P	Pg	00 17 35.6	+0.1
TWB1				S	Sg	00 17 37.9	+0.6
EGS		**0.11**	**209**	*e*P	Pb	00 17 36.3	-0.1
EGS				*e*S	Sb	00 17 38.9	-0.1
TIPB	**Shuangxi**	**0.15**	**282**	*i* P	Pb	00 17 36.9	-0.4
TIPB				*i* S	Sb	00 17 39.9	-0.4
SXI1	**Grass Mountain**	**0.18**	**326**	*e*P	Pb	00 17 38.1	+0.3
TWC	**Suao**	**0.35**	**201**	*e*P	Pg	00 17 40.1	+0.3

IDC 15 00:18:27.9±1.8, 5°.37S×148°.83E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=99.5km s-min=26.5km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.34**	**202**	Sn	Sn	00 20 27.4	+1.0
	3.2nm,0.3s,baz=10,slow=11,SNR=1.9						
WRA	**Warramunga Arr**	**20.21**	**223**	P	Pn	00 23 05.8	-0.7
	0.6nm,0.4s,baz=49,slow=11,SNR=7.9						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**23.18**	**217**	P	P	00 23 36.1	-0.5
	0.4nm,0.8s,baz=52,slow=9.6,SNR=2.2						
	0.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.94**	**239**	P	P	00 24 02.5	+0.3
	1.0nm,0.4s,baz=52,slow=11,SNR=6.2						
	1.0nm,0.4s						
ILAR	**Eielson Array**	**84.20**	**23**	P	P	00 31 01.6	+0.7
	0.6nm,0.6s,baz=241,slow=5.3,SNR=11						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**146.69**	**286**	PKPbc	PKPdf	00 38 10.1	-1.2
	0.1nm,0.4s,baz=98,slow=2.7,SNR=1.3						

*IDC **15** 00:34:12.6±1.0, 2°.93S×119°.45E, h0km, mb3.6/6, mbtmp3.7/7, ML4.0/1, MS3.0/2, Error ellipse: s-maj=63.6km s-min=16.1km az=68.0*

*NEIC **15** 00:34:15.7±0.9, 2°.91S±0°.05×119°.34E±0°.09, h10km±1km, mb4.0/5, Error ellipse: s-maj=14.7km s-min=8.6km az=272.0*

*DJA **15** 00:34:16.0±0.3, 3°S±2°×12°0E±°, h10km, M4.1/14, mb4.1/2, MLv4.1/14*

ISC 15 00:34:14.7±0.8, 2°.92S±0°.04×119°.43E±0°.06, h10km, n26, σ1°31/29, mb3.6/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.41**	**107**	P	**Pg**	**00 34 22.8**	**+0.1**
TTSI				S	**Sg**	**00 34 25.6**	**-2.5**
SPSI	**Sidrap Palu**	**1.09**	**162**	P	**Pb**	**00 34 34.3**	**-1.3**
BNSI	**Bone**	**1.61**	**155**	P	**Pn**	**00 34 45.1**	**+1.8**
PCI	**Palu**	**2.05**	**11**	P	**Pb**	**00 34 52.5**	**+0.5**
KAPI	**Kappang**	**2.10**	**171**	Pn	**Pn**	**00 34 50.9**	**+0.9**
KAPI				Sn	**Sn**	**00 35 17.8**	**+1.6**
KAPI	**Kappang**	**2.10**	**171**	Pn	**Pn**	**00 34 49.6**	**-0.3**
	50nm,0.3s,baz=345,slow=11,SNR=16						
KAPI				Sn	**Sn**	**00 35 17.4**	**+1.2**
	54nm,0.3s,baz=244,slow=21,SNR=10						
KAPI				LR	LR	00 35 19.6	
	comp=Z,81nm,21.2s,baz=60,slow=32						
	147nm,0.3s						
APSI	**Ampana**	**2.99**	**48**	P	**Pn**	**00 35 02.3**	**+0.1**
MPSI	**Mapaga**	**3.27**	**8**	P	**Pn**	**00 35 07.0**	**+0.9**
KDI	**Kendari**	**3.34**	**108**	P	**Pn**	**00 35 08.0**	**+0.9**
BSSI	**Bau Bau, Buton**	**3.37**	**162**	P	**Pn**	**00 35 09.7**	**+2.3**
LUWI	**Luwuk**	**3.83**	**61**	Pn	**Pn**	**00 35 15.2**	**+1.4**
LUWI				Sn	**Sn**	**00 36 00.4**	**+1.5**
LUWI	**Luwuk**	**3.83**	**61**	P	**Pn**	**00 35 15.0**	**+1.3**
BBSI	**Bau Bau**	**4.04**	**129**	P	**Pn**	**00 35 18.4**	**+1.8**
TOLI2	**Tolitoli**	**4.23**	**19**		**Pn**	**00 35 20.3**	**+1.0**
PLAI	**Plampang**	**6.09**	**196**	P	**Pn**	**00 35 46.1**	**+1.2**
WB0	**Warramunga Arr**	**22.22**	**140**	P	**P**	**00 39 12.7**	**+1.0**
WB0				IAmb	IAmb	00 39 22.3	
	comp=Z,2.3nm,0.9s						
WRA	**Warramunga Arr**	**22.32**	**140**	P	**P**	**00 39 11.4**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=315,slow=12,SNR=7.5						
	comp=Z,1.0nm,0.7s						
AS31	**Alice Springs**	**24.92**	**147**	P	**P**	**00 39 40.2**	**+2.0**
ASAR	**Alice Springs**	**24.92**	**147**	P	**P**	**00 39 37.2**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=330,slow=9.1,SNR=2.8						
	comp=Z,0.5nm,0.7s						
SONM	**Songino Array**	**51.82**	**349**	P	**P**	**00 43 22.3**	**-0.8**
SONM				IAmb	IAmb	00 43 27.8	
	comp=Z,2.1nm,0.9s						
SONM	**Songino Array**	**51.82**	**349**	P	**P**	**00 43 22.4**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=169,slow=8.6,SNR=10						
	comp=Z,1.9nm,0.7s						
MK31	**Makanchi Array**	**59.32**	**331**	P	**P**	**00 44 16.6**	**-0.3**
MKAR	**Makanchi Array**	**59.32**	**331**	P	**P**	**00 44 16.8**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=134,slow=6.9,SNR=7.1						
	comp=Z,1.2nm,0.7s						
KURBB	**Kurchatov Arra**	**63.78**	**332**	P	**P**	**00 44 46.3**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=142,slow=6.2,SNR=4.3						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**69.20**	**331**	P	**P**	**00 45 21.0**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=142,slow=7.3,SNR=2.6						
	comp=Z,0.6nm,0.8s						
GNI	**Garni**	**80.24**	**311**	LR	LR	01 26 42.4	
	comp=Z,41nm,20.7s,baz=359,slow=39						

*NEIC **15** 00:45:31.6±1.9, 17°.5S±0°.2×178°.79W±0°.09, h541km±8km, mb4.2/21, Error ellipse: s-maj=23.2km s-min=9.6km az=159.0*

*IDC **15** 00:45:32.4±1.5, 16°.91S×179°.07W, h561km±11km, mb3.2/7, mbtmp4.1/8, Error ellipse: s-maj=80.5km s-min=16.5km az=149.0*

ISC 15 00:45:31.4±0.7, 17°.4S±0°.1×178°.8W±0°.1, h550km, n34, σ1°29/34, mb4.2/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.02**	**263**	P	**P**	**00 46 47.6**	**+0.9**
MSVF	**Nonsavu**	**3.02**	**263**	P	**P**	**00 46 46.3**	**-0.4**
	96nm,0.7s,baz=101,slow=4.6,SNR=73						
MSVF				S	**S**	**00 47 50.1**	**+2.1**
	4.9nm,0.8s,baz=125,slow=22,SNR=0.8						
FUTU	**Fugatoga**	**3.14**	**12**	P	**P**	**00 46 47.4**	**0.0**
EIDS	**Eidsvold**	**29.10**	**249**	P	**P**	**00 50 48.0**	**-0.2**
EIDS				IAmb	IAmb	00 50 48.9	
	comp=Z,4.9nm,0.9s						
WKZ	**Wanaka**	**29.20**	**198**	P	**P**	**00 50 46.7**	**-2.2**
ARMA	**Armidale**	**29.88**	**239**	P	**P**	**00 50 55.6**	**+0.6**
ARMA				IAmb	IAmb	00 50 56.5	
	comp=Z,6.0nm,0.8s						
MLZ	**Mavora Lakes**	**29.96**	**199**	P	**P**	**00 50 54.2**	**-1.2**
COEN	**Coen**	**36.73**	**270**	P	**P**	**00 51 52.8**	**0.0**
STKA	**Stephens Creek**	**38.55**	**240**	P	**P**	**00 52 07.7**	**+0.2**
STKA	**Stephens Creek**	**38.55**	**240**	P	**P**	**00 52 07.5**	**+0.1**
	comp=Z,2.4nm,0.3s,baz=88,slow=9.8,SNR=11						
	comp=Z,2.4nm,0.3s						
BBOO	**Buckleboo**	**43.33**	**240**	P	**P**	**00 52 45.2**	**-0.2**
BBOO				IAmb	IAmb	00 52 45.7	
	comp=Z,9.1nm,0.8s						
WR0	**Warramunga Arr**	**44.17**	**259**	P	**P**	**00 52 51.2**	**-0.9**
WR0				IAmb	IAmb	00 53 18.0	
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Arr**	**44.36**	**259**	P	**P**	**00 52 52.2**	**-1.3**
WRA	**Warramunga Arr**	**44.36**	**259**	P	**P**	**00 52 52.4**	**-1.2**
	comp=Z,1.1nm,0.3s,baz=94,slow=7.9,SNR=60						
	comp=Z,1.1nm,0.3s						
AS31	**Alice Springs**	**44.57**	**254**	P	**P**	**00 52 55.0**	**-0.2**
AS31				IAmb	IAmb	00 52 55.6	
	comp=Z,4.3nm,0.6s						
ASAR	**Alice Springs**	**44.57**	**254**	P	**P**	**00 52 55.1**	**-0.1**
ASAR	**Alice Springs**	**44.57**	**254**	P	**P**	**00 52 54.5**	**-0.6**
	comp=Z,11nm,0.4s,baz=86,slow=8.3,SNR=129						
	comp=Z,11nm,0.4s						
FORT	**Forrest**	**49.89**	**244**	P	**P**	**00 53 34.2**	**-0.8**
KNRA	**Kununurra**	**50.17**	**264**	P	**P**	**00 53 36.9**	**-0.3**
KNRA				IAmb	IAmb	00 54 03.1	
	comp=Z,19nm,1.4s						
PSA00	**Pilbara Seismi**	**57.68**	**255**	P	**P**	**00 54 29.5**	**-0.6**
PSA00				IAmb	IAmb	00 54 42.8	
	comp=Z,29nm,1.4s						
MBWA	**Marble Bar**	**57.84**	**256**	P	**P**	**00 54 30.7**	**-0.5**
MBWA				IAmb	IAmb	00 54 38.9	
	comp=Z,21nm,1.2s						
CASY	**Casey**	**66.45**	**205**	P	**P**	**00 55 29.5**	**+3.4**
GRAC	**Grapevine Rang**	**79.19**	**46**	P	**P**	**00 56 41.0**	**+1.1**
NVAR	**Mina Array Bea**	**79.31**	**44**	P	**P**	**00 56 40.3**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=238,slow=9.4,SNR=3.2						
	comp=Z,0.5nm,0.7s						
O18K	**Koktuh Hills**	**79.33**	**12**	P	**P**	**00 56 40.2**	**+0.2**
O18K				IAmb	IAmb	00 56 53.4	
	comp=Z,20nm,1.5s						
S11A	**Rachel**	**80.63**	**46**	P	**P**	**00 56 48.7**	**+1.2**
S11A				IAmb	IAmb	00 56 49.4	
	comp=Z,4.2nm,0.4s						
L18K	**Granite Mounta**	**81.26**	**10**	P	**P**	**00 56 51.1**	**+1.1**
L18K				IAmb	IAmb	00 56 55.9	
	comp=Z,8.7nm,1.4s						
BELA	**Belgrano 2**	**82.72**	**173**	P	**P**	**00 56 57.2**	**-0.1**
ILAR	**Eielson Array**	**85.47**	**13**	P	**P**	**00 57 08.4**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=224,slow=5.1,SNR=8.3						
	comp=Z,0.2nm,0.3s						
TXAR	**Lajitas Array**	**86.04**	**58**	P	**P**	**00 57 14.4**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=203,slow=7.1,SNR=6.9						
	comp=Z,0.6nm,0.8s						
PDAR	**Pinedale Array**	**87.24**	**44**	P	**P**	**00 57 19.3**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=206,slow=3.7,SNR=4.6						
	comp=Z,0.4nm,0.5s						
F31M	**Tsiigehtchic**	**90.79**	**16**	P	**P**	**00 57 38.7**	**+3.1**
HFS	**Hagfors**	**136.37**	**351**	PKP	**PKPdf**	**01 03 48.8**	**-1.6**
	comp=Z,2.0nm,0.8s,baz=354,slow=1.4,SNR=2.0						
BUR08	**Bucovina Ar. S**	**143.97**	**332**	PKPbc	PKPbc	01 04 04.4	+0.4

RSNC 15 00:46:39.0±0.0, 7°N±1°×7°3W±°, h141km±2km, M2.4, mb3.9, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.19**	**193**	P	Pn	00 46 58.1	-0.4
BARC				S	Sn	00 47 13.0	-0.3
BRJC	**Barrancabermej**	**0.63**	**288**	P	Pn	00 46 59.8	-0.3
BRJC				S	Sn	00 47 16.1	+0.1
PAMC	**Pamplona, Colo**	**0.71**	**38**	P	Pn	00 47 00.9	-0.3
PAMC				S	Sn	00 47 17.6	-0.4
RUSC	**La Rusia**	**0.88**	**176**	P	Pn	00 47 02.0	-0.5
RUSC				S	Sn	00 47 20.2	-0.2
PTBC	**PUERTO BERRIO,**	**1.33**	**260**	P	Pn	00 47 04.9	-1.2
PTBC				S	Sn	00 47 25.6	-1.2
TAMC	**Tame, Arauca**	**1.38**	**104**	P	Pn	00 47 06.4	-0.3
TAMC				S	Sn	00 47 27.6	-0.2
SPBC	**San Pablo de B**	**1.45**	**220**	P	Pn	00 47 07.6	+0.1
SPBC				S	Sn	00 47 29.1	-0.2
OCAC	**Ocana**	**1.46**	**353**	P	Pn	00 47 06.8	-0.9
OCAC				S	Sn	00 47 27.9	-1.6
ZARC	**Zaragoza, Cauc**	**1.85**	**293**	P	Pn	00 47 11.1	-0.7
ZARC				S	Sn	00 47 36.8	-0.1
NORC	**Norcasia**	**2.10**	**235**	P	Pn	00 47 13.0	-1.9
NORC				S	Sn	00 47 41.9	-0.5
CHIC	**Chingaza**	**2.22**	**195**	P	Pn	00 47 16.7	+0.1
CHIC				S	Sn	00 47 44.7	-0.8
ROSC	**El Rosal**	**2.26**	**211**	P	Pn	00 47 19.4	+2.3
ROSC				S	Sn	00 47 46.0	-0.3
CVER	**Cruz Verde, Cu**	**2.43**	**203**	P	Pn	00 47 18.3	-1.0
CVER				S	Sn	00 47 49.6	-0.6
HELC	**Santa Helena**	**2.44**	**256**	P	Pn	00 47 20.4	+1.0
HELC				S	Sn	00 47 48.8	-1.6
UREC	**San Jos de Ur**	**2.56**	**292**	P	Pn	00 47 18.7	-1.8
UREC				S	Sn	00 47 49.7	-2.8
GUY2C	**Guyana, Caldas**	**2.70**	**235**	P	Pn	00 47 23.8	+1.1
GUY2C				S	Sn	00 47 55.8	-0.4
PTGC	**Puerto Gaitan,**	**2.75**	**159**	P	Pn	00 47 21.0	-1.9
PTGC				S	Sn	00 47 54.2	-2.6
CBOC	**Ciudad Bolivar**	**3.00**	**252**	P	Pn	00 47 24.7	-1.4
CBOC				S	Sn	00 48 02.2	-0.3
PRAC	**Prado**	**3.51**	**210**	P	Pn	00 47 32.8	+0.1
PRAC				S	Sn	00 48 13.7	-0.5
ORTC	**Ortega, Tolima**	**3.54**	**216**	P	Pn	00 47 33.1	0.0
ORTC				S	Sn	00 48 16.1	+1.1
APAC	**Apartado, Choc**	**3.59**	**288**	P	Pn	00 47 32.7	-1.0
APAC				S	Sn	00 48 15.1	-0.9
SJCC	**San Jacinto, C**	**3.70**	**327**	P	Pn	00 47 32.5	-2.6
SJCC				S	Sn	00 48 14.0	-4.6
URMC	**La Uribe, Meta**	**3.72**	**199**	P	Pn	00 47 35.8	+0.3
URMC				S	Sn	00 48 19.2	-0.1
CRJC	**Cerrejon, Guaj**	**4.22**	**3**	P	Pn	00 47 38.3	-3.8
URIC	**Uribia, Colomb**	**5.02**	**13**	P	Pn	00 47 48.9	-3.7
URIC				S

OK029	Liberty Lake	1.63 181		Pb	00 49 21.4	-0.3
DEOK	Depew	1.74 155		Pn	00 49 22.7	+0.6
TUL3	Leonard	2.00 139	Pn	Pn	00 49 25.4	-0.1
FNO	Franklin	2.17 180		Pn	00 49 28.6	+0.7
RLO	Rose Lookout	2.29 123		Pn	00 49 31.1	+1.4
U38A	Gravette	2.62 111	Pn	Pn	00 49 36.0	+1.9
WMOK	Wichita Mounta	2.91 203	Pn	Pn	00 49 38.5	+0.4
HHAR	Hobbs	3.01 111		Pn	00 49 40.7	+1.2
S39A	Bolivar	3.26 84		Pn	00 49 44.0	+1.1
X37A	Clayton	3.28 149	Pn	Pn	00 49 44.3	+1.1
P38A	Dawn	3.75 53	Pn	Pn	00 49 50.5	+0.8

*IDC **15** 00:54:09.9±3.4,24°.02S×66°.84W,h173km±35km,mb3.4/3, mbtmp3.8/6,Error ellipse: s-maj=31.3km s-min=26.2km az=115.0*
*SJA **15** 00:54:10.6±0.6,24°.02S×67°.31W,h224km±4km,ML3.8, MW3.7*
*NEIC **15** 00:54:10.9±1.5,24°.08S±0°.08×67°.2W±0°.2,h204km±11km, mb4.2/3,Error ellipse: s-maj=20.4km s-min=11.1km az=98.0*
*GUC **15** 00:54:11.7±0.7,24°.04S×67°.39W,h221km±6km,ML3.9*

ISC 15 00:54:10.5±0.7,24°.05S±0°.04×67°.11W±0°.06,h194km±7km, n62,σ1°49/89,mb3.7/5,9C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		0.73	104	eP	Pn	00 54 37.9	-0.7
AF01	San Pedro de A	1.47	318	Pn	Pn	00 54 44.8	+1.0
AF01				Sn	Sn	00 55 10.6	+1.1
AF01	San Pedro de A	1.47	318	⇑eP	Pn	00 54 45.1	+1.3
AF01				eS	Sn	00 55 11.2	+1.7
AF01				IAML		00 55 15.0	
	comp=N,497nm,0.2s						
AF01	San Pedro de A	1.47	318	eP	Pn	00 54 45.7	+1.9
AF01				eS	Sn	00 55 11.8	+2.4
AF01				IAML		00 55 17.3	
	comp=Z,270nm,0.1s						
PB15	IPOC Station P	2.32	291	Pn	Pn	00 54 53.0	+0.8
PB15				Sn	Sn	00 55 23.9	-0.8
PB15	IPOC Station P	2.32	291	⇑eP	Pn	00 54 53.0	+0.8
PB15				eS	Sn	00 55 23.9	-0.8
PB15	IPOC Station P	2.32	291	eP	Pn	00 54 53.1	+0.8
PB15				eS	Sn	00 55 24.3	-0.4
GO02	Mina Guanaco	2.52	243		Pn	00 54 55.3	+0.8
GO02	Mina Guanaco	2.52	243	⇑eP	Pn	00 54 55.3	+0.8
GO02				eS	Sn	00 55 28.8	-0.1
GO02	Mina Guanaco	2.52	243	eP	Pn	00 54 55.3	+0.8
GO02				eS	Sn	00 55 28.7	-0.1
PB06	IPOC Station P	2.62	300		Pn	00 54 56.1	+0.4
PB06	IPOC Station P	2.62	300	⇑eP	Pn	00 54 56.3	+0.6
PB06				eS	Sn	00 55 29.5	-1.3
PB06	IPOC Station P	2.62	300	eP	Pn	00 54 56.3	+0.6
PB06				eS	Sn	00 55 29.8	-1.0
PB06				IAML		00 55 31.7	
	comp=Z,699nm,0.3s						
PB09	IPOC Station P	2.98	318	Pn	Pn	00 55 00.9	+1.0
PB09	IPOC Station P	2.98	318	eP	Pn	00 55 00.8	+1.0
PB09				eS	Sn	00 55 37.2	-1.1
PB09				IAML		00 55 43.8	
	comp=N,194nm,0.5s						
PB09	IPOC Station P	2.98	318	eP	Pn	00 55 00.9	+1.0
PB09				eS	Sn	00 55 38.2	-0.1
PB09				IAML		00 55 40.5	
	comp=Z,164nm,0.6s						
PB14	IPOC Station P	3.06	258		Pn	00 55 01.0	+0.2
PB14	IPOC Station P	3.06	258	⇑eP	Pn	00 55 01.1	+0.2
PB14				eS	Sn	00 55 38.1	-2.0
PB14				IAML		00 55 39.9	
	comp=E,202nm,0.2s						
PB14	IPOC Station P	3.06	258	eP	Pn	00 55 01.1	+0.2
PB14				eS	Sn	00 55 38.5	-1.6
PB14				IAML		00 55 41.6	
	comp=Z,237nm,0.3s						
PB04	IPOC Station P	3.27	301		Pn	00 55 03.6	+0.2
PB04	IPOC Station P	3.27	301	eP	Pn	00 55 03.5	+0.2
PB04				eS	Sn	00 55 42.2	-2.4
PB04	IPOC Station P	3.27	301	eP	Pn	00 55 03.6	+0.2
PB04				eS	Sn	00 55 42.8	-1.9
PB04				IAML		00 55 44.7	
	comp=Z,388nm,0.1s						
PB01	IPOC Station P	3.71	323		Pn	00 55 08.2	-0.4
PB01	IPOC Station P	3.71	323	eP	Pn	00 55 08.4	-0.2
PB01				eS	Sn	00 55 51.8	-2.3
PB01	IPOC Station P	3.71	323	eP	Pn	00 55 08.5	-0.1
PB01				eS	Sn	00 55 52.2	-1.9
AC01	Pan de Azucar	3.79	236		Pn	00 55 09.0	-0.6
AC01	Pan de Azucar	3.79	236	i P	Pn	00 55 08.8	-0.7
AC01				i S	Sn	00 55 53.0	-2.7
AC01	Pan de Azucar	3.79	236	eP	Pn	00 55 08.9	-0.6
AC01				eS	Sn	00 55 53.5	-2.3
AC01				IAML		00 55 56.4	
	comp=Z,93nm,0.2s						
PATCX	Punta Patache	4.27	318	Pn	Pn	00 55 15.8	+0.2
PB08	IPOC Station P	4.32	334		Pn	00 55 17.0	+0.4
PB08	IPOC Station P	4.32	334	eP	Pn	00 55 17.3	+0.7
PB08				eS	Sn	00 56 07.7	-0.8
AC06	Mina Casimiro	4.41	221		Pn	00 55 16.3	-1.0
TA01	Diego Aracena	4.48	320	Pn	Pn	00 55 18.2	0.0
TA01	Diego Aracena	4.48	320	eP	Pn	00 55 17.6	-0.6
TA01				eS	Sn	00 56 07.6	-3.8
TA01				IAML		00 56 14.1	
	comp=Z,40nm,0.2s						
GO03	Copiapo	4.52	218		Pn	00 55 17.7	-0.9
GO03	Copiapo	4.52	218	eP	Pn	00 55 18.1	-0.6
GO03				eS	Sn	00 56 10.3	-2.0
HMBC	Humberstone	4.55	325		Pn	00 55 19.2	0.0
GO01	Chusmiza	4.77	336		Pn	00 55 23.1	+0.8
PB11	IPOC Station P	4.88	331		Pn	00 55 24.2	+0.8
PB11	IPOC Station P	4.88	331	eP	Pn	00 55 22.7	-0.7
PB11				eS	Sn	00 56 17.3	-3.5
PB11				IAML		00 56 20.7	
	comp=Z,44nm,0.5s						
AC04	Llanos de Chal	5.46	220	Pn	Pn	00 55 29.2	-1.5
AC04	Llanos de Chal	5.46	220	eP	Pn	00 55 29.2	-1.5
AC04				eS	Sn	00 56 30.9	-3.1
AC04				IAML		00 56 33.4	
	comp=Z,39nm,0.2s						
AC05	El Transito	5.55	210		Pn	00 55 31.1	-0.9
LCO	Las Campanas	5.90	212	Pn	Pn	00 55 35.0	-1.6
CO01	Juntas del Tor	6.48	204	Pn	Pn	00 55 43.9	-0.2
GO04	Tololo Observa	6.93	207	Pn	Pn	00 55 47.9	-2.1
LPAZ	La Paz	7.78	353	P	Pn	00 56 01.6	+0.1
	comp=Z,0.7nm,0.3s,baz=173,slow=16,SNR=7.6						
LPAZ				S	Sn	00 57 28.2	-1.4
	comp=Z,0.8nm,0.6s,baz=178,slow=24,SNR=2.3						
SIV	San Ignacio	9.82	36	P	Pn	00 56 25.2	-2.4
	comp=Z,2.3nm,0.4s,baz=216,slow=10,SNR=21						
SIV				S	Sn	00 58 12.6	-4.7
	comp=Z,0.8nm,0.7s,baz=262,slow=20,SNR=2.0						
TRQA	Tornquist	14.64	164		Pn	00 57 29.8	+1.3
VAO	Valinhos	18.50	91	P	P	00 58 11.1	-1.3
VAO				IAmb	IAmb	00 58 12.3	
	comp=Z,15nm,1.2s						
BDFB	Brasilia	19.80	69	P	P	00 58 26.2	-0.2
BDFB				IAmb	IAmb	00 58 27.6	
	comp=Z,4.1nm,0.7s						
BDFB	Brasilia	19.80	69	P	P	00 58 24.4	-2.0
	comp=Z,4.8nm,0.7s,baz=237,slow=12,SNR=7.0						
VNA3	Neumayer Olymp	57.14	161	⇑P	P	01 03 37.7	+1.2
	comp=Z,1.0nm,0.7s						
VNA2	Neumayer--Watz	57.71	160	⇑P	P	01 03 42.6	+2.1
	comp=Z,0.7nm,0.6s,baz=271,slow=3.9						
SNAA	Sanae	59.34	161	P	P	01 03 53.4	+1.6
SNAA				IAmb	IAmb	01 03 55.1	
	comp=Z,7.2nm,1.5s						
SNAA	Sanae	59.34	161	⇑P	P	01 03 54.0	+2.2
	comp=Z,17nm,0.6s						
SNAA	Sanae	59.34	161	P	P	01 03 52.8	+1.0
	comp=Z,1.1nm,0.9s,baz=270,slow=10,SNR=5.9						
	comp=Z,1.1nm,0.9s						
TROLL	Troll, Antarti	61.05	161	⇑P	P	01 04 05.8	+2.3
	comp=Z,20nm,0.4s						
QSPA	South Pole Qui	66.16	180	P	P	01 04 38.6	+1.6
	comp=Z,1.1nm,0.3s,baz=216,slow=5.4,SNR=3.7						
	comp=Z,1.1nm,0.3s						
TORD	Torodi Ar. Bea	76.68	69	P	P	01 05 41.0	+0.4
	comp=Z,0.2nm,0.4s,baz=248,slow=4.3,SNR=2.2						
	comp=Z,0.2nm,0.4s						
WRA	Warramunga Arr	131.54	207	PKP	PKiKP	01 13 02.9	+1.1
	comp=Z,0.3nm,0.5s,baz=165,slow=1.5,SNR=5.4						
MKAR	Makanchi Array	146.63	39	PKPbc	PKPbc	01 13 29.6	+0.4
	comp=Z,1.0nm,0.7s,baz=316,slow=2.9,SNR=6.5						

KRSC 15 01:20:27.8±0.6,55°.52N×162°.42E,h61km±19km,Ml3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.73	18	eP	Pn	01 20 43.5	+1.1
KBTR				eS	Sn	01 20 54.7	+1.6
KBG	Krutoberegovo	0.76	12	eP	Pn	01 20 43.7	+1.0
KBG				eS	Sn	01 20 55.9	+2.2
ZLN	Zelenaya	1.04	299	eP	Pn	01 20 47.6	+1.1
ZLN				eS	Sn	01 21 02.1	+1.8
BZGR	Bezymyannyi-Gr	1.06	294	eP	Pn	01 20 47.9	+1.1
BZGR				eS	Sn	01 21 02.3	+1.5
CIRR	Tsirk	1.12	303	eP	Pn	01 20 48.7	+1.2
LGNR	Loginova	1.13	301	eP	Pn	01 20 49.0	+1.2
LGNR				eS	Sn	01 21 04.4	+1.8
BZP	Bezymyannyi-Pe	1.14	291	eP	Pn	01 20 48.6	+0.9
BZP				eS	Sn	01 21 03.9	+1.2
BZMR	Bezymyannaya	1.17	292	eP	Pn	01 20 49.3	+1.1
BZMR				eS	Sn	01 21 05.4	+2.1
BZWR	Bezymyannyi-We	1.18	293	eP	Pn	01 20 49.7	+1.3
BZWR				eS	Sn	01 21 05.8	+2.2
SMKR	Semkarok	1.19	334	eP	Pn	01 20 49.7	+1.2
SMKR				eS	Sn	01 21 05.4	+1.6
TUMD	Tumrok D	1.20	256	eP	Pn	01 20 49.8	+1.4
TUMD				eS	Sn	01 21 05.6	+1.8
KIRR	Kirishev	1.25	291	eP	Pn	01 20 50.5	+1.2
KIRR				eS	Sn	01 21 07.4	+2.0
KRSR	Krestovskiy	1.26	305	eP	Pn	01 20 50.1	+0.7
KRSR				eS	Sn	01 21 06.0	+0.6
KMNR	Kamenistaya	1.26	282	eP	Pn	01 20 50.9	+1.6
KMNR				eS	Sn	01 21 07.9	+2.5
KLY	Klyuchi	1.27	309	eP	Pn	01 20 49.2	-0.3
KLY				eS	Sn	01 21 04.6	-1.0
TUMR	Tumrok	1.32	261	eP	Pn	01 20 52.1	+1.9
KPT	Kopyto	1.32	291	eP	Pn	01 20 51.5	+1.3
KPT				eS	Sn	01 21 08.8	+1.9
KOZ	Kozyrevsk	1.54	292	eP	Pn	01 20 54.9	+1.9
KOZ				eS	Sn	01 21 15.2	+3.3
BKI	Bering	2.05	97	eP	Pn	01 21 02.1	+2.2
BKI				eS	Sn	01 21 26.8	+2.4
ESO	Esso	2.14	283	eP	Pn	01 21 02.4	+1.2
SPN	Mys Shipunski	2.80	211	eP	Pn	01 21 11.6	+1.5
SPN				eS	Sn	01 21 43.2	+0.5
NLC	Nalytchevo	2.96	219	eS	Sn	01 21 49.5	+3.0
SMAR	Somma	3.10	225	eP	Pn	01 21 17.3	+3.0
AVH	Avacha	3.12	225	eP	Pn	01 21 18.1	+3.6
KOK	Koryaka	3.14	226	eP	Pn	01 21 18.5	+3.7
GNL	Ganaly	3.18	237	eP	Pn	01 21 18.7	+3.3
PET	Petropavlovsk	3.33	223	eP	Pn	01 21 21.2	+3.8
ASAK	Asacha	4.12	222	eP	Pn	01 21 32.2	+4.0

RSNC 15 01:28:13.9±0.0,7°N±1°×7°3W±°,h149km±2km,M3.0,mb3.5, mB6.1,ML2.8,Mw(mB)5.7,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.21	192	P	Pn	01 28 34.1	-0.3
BARC				S	Sn	01 28 48.3	-1.7
BRJC	Barrancabermej	0.62	286	P	Pn	01 28 35.9	+0.1
BRJC				S	Sn	01 28 52.6	+0.1
PAMC	Pamplona, Colo	0.69	39	P	Pn	01 28 37.0	+0.2
PAMC				S	Sn	01 28 54.3	0.0
RUSC	La Rusia	0.90	176	P	Pn	01 28 38.0	-0.4
RUSC				S	Sn	01 28 56.7	-0.3
PTBC	PUERTO BERRIO,	1.33	259	P	Pn	01 28 40.6	-1.1
PTBC				S	Sn	01 29 01.9	-1.0
TAMC	Tame, Arauca	1.39	105	P	Pn	01 28 42.5	+0.2
TAMC				S	Sn	01 29 03.9	0.0
OCAC	Ocana	1.44	353	P	Pn	01 28 42.2	-0.8
OCAC				S	Sn	01 29 04.2	-1.0
SPBC	San Pablo de B	1.47	219	P	Pn	01 28 43.1	-0.1
SPBC				S	Sn	01 29 05.0	-0.6
ZARC	Zaragoza, Cauc	1.84	292	P	Pn	01 28 46.8	-0.3
ZARC				S	Sn	01 29 12.1	-0.5
NORC	Norcasia	2.11	235	P	Pn	01 28 50.2	-0.2
NORC				S	Sn	01 29 18.3	-0.1
CHIC	Chingaza	2.23	195	P	Pn	01 28 51.9	-0.3
CHIC				S	Sn	01 29 21.7	+0.1
ROSC	El Rosal	2.27	211	P	Pn	01 28 53.8	+1.2
ROSC				S	Sn	01 29 24.1	+1.7
BOG	Bogota	2.35	203	P	Pn	01 28 54.1	+0.6
CVER	Cruz Verde, Cu	2.45	202	P	Pn	01 28 55.4	+0.6
CVER				S	Sn	01 29 27.0	+0.7
HELC	Santa Helena	2.45	256	P	Pn	01 28 55.3	+0.6
HELC				S	Sn	01 29 25.8	-0.3
UREC	San Jos de Ur	2.56	292	P	Pn	01 28 54.6	-1.1
UREC				S	Sn	01 29 24.5	-3.4
GUY2C	Guyana, Caldas	2.71	235	P	Pn	01 28 58.8	+0.7
GUY2C				S	Sn	01 29 31.6	-0.5
VILC	Villavicencio,	2.73	192	P	Pn	01 28 57.5	-0.5
VILC				S	Sn	01 29 31.9	-0.1
PTGC	Puerto Gaitan,	2.77	159	P	Pn	01 28 57.2	-1.2
PTGC				S	Sn	01 29 30.4	-2.4
RECRC	Villamaria, Ca	2.86	230	P	Pn	01 29 02.9	+2.9
RECRC				S	Sn	01 29 36.3	+0.8
NIZA	Niza - Manizal	2.89	233	P	Pn	01 28 59.8	-0.4
NIZA				S	Sn	01 29 37.8	+1.9
CBOC	Ciudad Bolivar	3.00	252	P	Pn	01 29 01.7	+0.3
CBOC				S	Sn	01 29 38.3	+0.2
DBBC	Dabeiba	3.06	274	P	Pn	01 29 02.1	+0.1
DBBC				S	Sn	01 29 37.3	-1.9
ARGC	Ariguani, Magd	3.23	340	P	Pn	01 29 04.7	+0.5
ARGC				S	Sn	01 29 42.7	-0.5
SDV	Santo Domingo	3.23	50	P	Pn	01 29 03.6	-0.8
SDV				S	Sn	01 29 41.5	-2.0
PRAC	Prado	3.52	210	P	Pn	01 29 07.7	-0.3
PRAC				S	Sn	01 29 49.2	-0.8
ORTC	Ortega, Tolima	3.56	216	P	Pn	01 29 08.4	0.0
ORTC				S	Sn	01 29 51.3	+0.6
APAC	Apartado, Choc	3.58	288	P	Pn	01 29 08.4	-0.3
APAC				S	Sn	01 29 49.1	-2.1
SJCC	San Jacinto, C	3.68	327	P	Pn	01 29 08.3	-1.7
SJCC				S	Sn	01 29 49.3	-4.3
URMC	La Uribe, Meta	3.74	199	P	Pn	01 29 11.0	+0.1
URMC				S	Sn	01 29 54.8	-0.3
CRJC	Cerrejon, Guaj	4.20	3	P	Pn	01 29 14.5	-2.4
CRJC				S	Sn	01 30 02.5	-3.4
YOTC	Yotoco, Valle	4.24	229	P	Pn	01 29 17.3	-0.2
YOTC				S	Sn	01 30 07.3	+0.4
GUVC	San Jose del G	4.26	173	P	Pn	01 29 16.9	-0.7
GUVC				S	Sn	01 30 06.9	-0.2
SOLC	Bahia Solano	4.28	263	P	Pn	01 29 19.6	+1.8
SOLC				S	Sn	01 30 08.5	+1.0
CAPC	Capurgana	4.55	294	P	Pn	01 29 21.6	+0.2
CAPC				S	Sn	01 30 08.9	-5.1
MACC	Macarena, Meta	4.68	189	P	Pn	01 29 21.1	-2.0
MACC				S	Sn	01 30 12.8	-4.2
URIC	Uribia, Colomb	5.00	13	P	Pn	01 29 24.6	-2.7
	9.5nm,1.6s						
URIC				S	Sn	01 30 21.4	-3.2
	9.5nm,1.6s						
JAMC	Jamundi, Valle	5.01	225	P	Pn	01 29 27.3	-0.4
JAMC				S	Sn	01 30 23.1	-2.0
MALC	Bahia Malaga	5.01	237	P	Pn	01 29 28.5	+1.0
MALC				S	Sn	01 30 24.8	-0.1
FLOC	Florencia	5.76	206	P	Pn	01 29 36.8	-0.6
	8.3nm,0.7s						
FLOC				S	Sn	01 30 41.8	-0.9
	8.3nm,0.7s						

KRSC 15 01:31:58.2±0.7,55°.61N×162°.41E,h74km±16km,Ml3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.65	21	eP	Pn	01 32 14.2	+1.3
KBTR				eS	Sn	01 32 25.6	+1.9
KBG	Krutoberegovo	0.67	14	eP	Pn	01 32 14.4	+1.3
KBG				eS	Sn	01 32 26.2	+2.1
ZLN	Zelenaya	0.99	295	eP	Pn	01 32 18.2	+1.3
ZLN				eS	Sn	01 32 32.6	+1.7
BZGR	Bezymyannyi-Gr	1.02	290	eP	Pn	01 32 18.5	+1.2
BZGR				eS	Sn	01 32 32.7	+1.2
CIRR	Tsirk	1.07	299	eP	Pn	01 32 19.2	+1.3
CIRR				eS	Sn	01 32 33.8	+1.3
LGNR	Loginova	1.08	297	eP	Pn	01 32 19.7	+1.5
LGNR				eS	Sn	01 32 35.2	+2.1
BZP	Bezymyannyi-Pe	1.10	287	eP	Pn	01 32 19.2	+0.9
BZP				eS	Sn	01 32 34.3	+0.9
SMKR	Semkarok	1.11	332	eP	Pn	01 32 20.3	+1.9
SMKR				eS	Sn	01 32 36.4	+2.9
BZMR	Bezymyannaya	1.13	288	eP	Pn	01 32 19.9	+1.2
BZMR				eS	Sn	01 32 35.1	+1.1
BZWR	Bezymyannyi-We	1.14	289	eP	Pn	01 32 20.2	+1.5
BZWR				eS	Sn	01 32 35.8	+1.6
KRSR	Krestovskiy	1.21	301	eP	Pn	01 32 20.7	+1.1
KRSR				eS	Sn	01 32 36.7	+1.1
TUMD	Tumrok D	1.21	251	eP	Pn	01 32 20.4	+0.8
TUMD				eS	Sn	01 32 35.8	+0.2
KLY	Klyuchi	1.22	306	eP	Pn	01 32 19.7	+0.2
KLY				eS	Sn	01 32 34.4	-1.2
KIRR	Kirishev	1.22	288	eP	Pn	01 32 21.5	+1.7
KIRR				eS	Sn	01 32 37.8	+1.9
KMNR	Kamenistaya	1.24	278	eP	Pn	01 32 21.6	+1.6
KMNR				eS	Sn	01 32 38.4	+2.1
SRKR	Sorokina	1.26	327	eP	Pn	01 32 21.9	+1.6
SRKR				eS	Sn	01 32 39.2	+2.4
TUMR	Tumrok	1.33	257	eP	Pn	01 32 22.6	+1.4
TUMR				eS	Sn	01 32 39.6	+1.2
KOZ	Kozyrevsk	1.50	289	eP	Pn	01 32 25.6	+2.4
KOZ				eS	Sn	01 32 43.9	+1.6
BKI	Bering	2.07	100	eP	Pn	01 32 33.0	+2.1
BKI				eS	Sn	01 32 56.9	+1.2
ESO	Esso	2.12	280	eP	Pn	01 32 32.9	+1.4
SPN	Mys Shipunski	2.87	210	eP	Pn	01 32 42.4	+0.7
SPN				eS	Sn	01 33 13.9	-1.2
NLC	Nalytchevo	3.02	218	eS	Sn	01 33 20.2	+1.4
KRER	Koryakskii	3.14	224	eP	Pn	01 32 48.3	+2.8
KRER				eS	Sn	01 33 24.1	+2.1
SMAR	Somma	3.15	223	eP	Pn	01 32 48.0	+2.4
SMAR				eS	Sn	01 33 25.1	+2.8
AVH	Avacha	3.18	224	eP	Pn	01 32 50.0	+4.1
UGLR	Uglovaya	3.19	223	eP	Pn	01 32 50.4	+4.3
UGLR				eS	Sn	01 33 26.5	+3.5
KOK	Koryaka	3.20	225	eP	Pn	01 32 50.1	+3.9
GNL	Ganaly	3.22	235	eP	Pn	01 32 49.3	+2.7
DALK	Dalny	3.35	221	eP	Pn	01 32 51.0	+2.9
DALK				eS	Sn	01 33 28.1	+1.4
PET	Petropavlovsk	3.39	222	eP	Pn	01 32 50.2	+1.5
OSSR	Ossora	3.67	5	eP	Pn	01 32 55.1	+2.6
OSSR				eS	Sn	01 33 35.3	+0.8
PALN	Palana	3.74	340	eP	Pn	01 32 57.6	+4.3
KRMR	Karymshinskiy	3.75	224	eP	Pn	01 32 57.7	+4.2
KRMR				eS	Sn	01 33 40.7	+4.3
GRL	Gorelyy	3.98	222	eP	Pn	01 33 01.4	+4.5
MTVR	Mutnovka	4.00	220	eP	Pn	01 32 59.7	+2.6

RSNC 15 01:39:43.5±0.0,9°N±1°×7°7W±°,h25km±1km,M2.6,mb3.7, mB6.0,ML2.4,Mw(mB)5.6,Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPC	Capurgana	0.12	151	P	Pb	01 39 47.8	-0.5
CAPC				S	Sb	01 39 52.1	+0.5
APAC	Apartado, Choc	1.17	135	P	Pn	01 40 04.2	-0.1
APAC				S	Sb	01 40 19.8	-0.1
PTAC	Punta Ardita,	1.63	194	P	Pn	01 40 09.1	-1.6
PTAC				S	Sn	01 40 30.3	-0.6
DBBC	Dabeiba	2.08	145	P	Pn	01 40 18.8	+1.8
DBBC				S	Sn	01 40 43.6	+1.4
BCIP	Isla Barro Col	2.44	280	P	Pn	01 40 20.7	-1.0
BCIP				S	Sn	01 40 50.3	-0.4
SJCC	San Jacinto, C	2.48	62	P	Pn	01 40 23.5	+1.1
SJCC				S	Sn	01 40 50.8	-1.2
ZARC	Zaragoza, Cauc	2.81	116	P	Pn	01 40 26.0	-1.0
ZARC				S	Sn	01 40 56.7	-3.4
AZU	Azuero	2.99	252	P	Pn	01 40 27.5	-1.8
AZU				S	Sn	01 41 00.0	-4.3
CBOC	Ciudad Bolivar	3.18	154	P	Pn	01 40 33.5	+1.4
CBOC				S	Sn	01 41 09.4	+0.1
PTBC	PUERTO BERRIO,	3.65	127	P	Pn	01 40 39.2	+0.7
PTBC				S	Sn	01 41 17.9	-3.0
BRJC	Barrancabermej	4.03	116	P	Pn	01 40 44.1	+0.4
BRJC				S	Sn	01 41 27.8	-2.4
GUY2C	Guyana, Caldas	4.04	150	P	Pn	01 40 45.7	+1.5
OCAC	Ocana	4.08	97	P	Pn	01 40 43.8	-0.7
OCAC				S	Sn	01 41 29.3	-2.2
PAMC	Pamplona, Colo	4.87	106	P	Pn	01 40 55.1	-0.5
PAMC				S	Sn	01 41 46.9	-4.6
CRJC	Cerrejon, Guaj	5.00	63	P	Pn	01 40 57.4	+0.3
	21nm,0.7s,15μm						
CRJC				S	Sn	01 41 48.9	-5.4
	21nm,0.7s,15μm						
RUSC	La Rusia	5.14	123	P	Pn	01 41 00.3	+0.9
	5.3nm,2.5s						
RUSC				S	Sn	01 41 53.8	-4.4
	5.3nm,2.5s						

*IDC **15** 01:57:38.5±0.7,37°.61N×20°.60E,h0km,mb3.9/15, mbtmp3.8/24,ML3.6/7,MS3.2/18,Error ellipse: s-maj=14.6km s-min=12.5km az=12.0*
*NAO **15** 01:57:41.3,37°.39N×20°.47E,h10km,mb4.2*
*ATH **15** 01:57:41.1,37°.39N×20°.45E,h13km±2km,ML3.9/15,Error ellipse: s-maj=3.1km s-min=1.1km az=43.0*
*NEIC **15** 01:57:41.1±1.9,37°.41N±0°.04×20°.50E±0°.05,h10km±1km, mb4.7/29,Error ellipse: s-maj=9.3km s-min=2.9km az=226.0*
*THE **15** 01:57:

AMT Artemida-Makis 0.94 85 P Pn 01 58 00.1 0.0
AMT AML AML 01 58 25.6
comp=N,21068μm,0.6s
AMT AML AML 01 58 27.1
comp=E,31964μm,0.5s
VSK1 VASILIKIADES 0.95 2 P Pn 01 58 00.1 -0.1
RLS Riolos of Patr 0.96 51 P Pn 01 57 59.9 -0.4
RLS S Sn 01 58 13.7 +0.4
comp=E,4μm,0.6s
RLS Riolos of Patr 0.96 51 P Pn 01 58 00.0 -0.2
RLS AML AML 01 58 19.5
comp=N,8068μm,0.7s
RLS AML AML 01 58 20.7
comp=E,8617μm,0.6s
FSK Fiskardo 1.00 2 P Pn 01 58 01.0 +0.1
FSK S Sn 01 58 15.9 +1.5
comp=E,8μm,0.7s
FSK Fiskardo 1.00 2 P Pn 01 58 01.0 +0.1
FSK S Sn 01 58 15.5 +1.1
FSK AML AML 01 58 24.6
comp=N,14802μm,0.6s
FSK AML AML 01 58 25.8
comp=E,13054μm,0.5s
DRO Drossia 1.06 62 P Pn 01 58 01.6 -0.1
DRO S Sn 01 58 16.8 +0.9
comp=E,6μm,0.6s
DRO Drossia 1.06 62 P Pn 01 58 02.2 +0.5
DRO AML AML 01 58 30.2
comp=E,11543μm,0.4s
DRO AML AML 01 58 37.8
comp=N,10673μm,0.7s
PYL PYLOS 1.12 119 P Pb 01 58 02.6 0.0
PYL S Sn 01 58 16.9 -0.4
PYL PYLOS 1.12 119 P Pb 01 58 02.7 0.0
PYL AML AML 01 58 27.4
comp=E,3249μm,0.7s
PYL AML AML 01 58 31.2
comp=N,2049μm,0.5s
ITM Ithomi 1.15 103 Pb 01 58 03.7 +0.5
ITM Sn Sn 01 58 19.0 +1.0
ITM Ithomi 1.15 103 P **Pb 01 58 03.4 +0.2**
ITM S Sn 01 58 18.2 +0.1
ITM Ithomi 1.15 103 P **Pb 01 58 03.2 0.0**
ITM AML AML 01 58 30.2
comp=E,3725μm,0.8s
ITM AML AML 01 58 32.1
comp=N,3039μm,0.8s
EVGI Lefkada island 1.17 5 P Pb 01 58 04.0 +0.5
EVGI S Sn 01 58 20.3 +1.8
comp=N,5μm,0.4s
EVGI Lefkada island 1.17 5 P Pb 01 58 04.1 +0.5
DRAG Dragano-Lefkad 1.23 2 P Pb 01 58 04.5 0.0
DRAG S Sn 01 58 22.2 +2.2
DRAG Dragano-Lefkad 1.23 2 P Pb 01 58 04.9 +0.4
NYDR Nydri-Lefkada 1.27 6 P Pb 01 58 05.1 0.0
NYDR Nydri-Lefkada 1.27 6 P Pb 01 58 05.6 +0.5
LKD2 Lefkada island 1.34 4 P Pb 01 58 08.0 +1.6
LKD2 S Sb 01 58 24.7 +1.6
comp=N,4μm,0.6s
LKD2 Lefkada island 1.34 4 P Pb 01 58 07.5 +1.1
TSLK Tsoukalades, L 1.37 4 P Pb 01 58 07.2 +0.2
TSLK S Sb 01 58 25.3 +1.2
comp=N,5μm,0.6s
TSLK Tsoukalades, L 1.37 4 P Pb 01 58 07.4 +0.4
KLV Kalavryta, Ach 1.42 65 P Pb 01 58 08.3 +0.5
KLV AML AML 01 58 43.7
comp=E,1761μm,1.2s
KLV AML AML 01 58 46.1
comp=N,2648μm,0.9s
EFP Efpalio 1.46 48 P Pb 01 58 09.3 +0.9
EFP AML AML 01 58 38.8
comp=E,4644μm,0.5s
EFP AML AML 01 58 42.6
comp=N,3946μm,0.9s
GUR Goura 1.52 71 P Pb 01 58 09.5 0.0
GUR AML AML 01 58 41.5
comp=E,4033μm,0.5s
GUR AML AML 01 58 43.0
comp=N,4818μm,0.5s
ANX Ano Chora 1.58 44 P Pb 01 58 11.2 +0.6
ANX AML AML 01 58 46.3
comp=N,14432μm,0.6s
ANX AML AML 01 58 47.2
comp=E,12245μm,0.7s
AGG Agios Georgios 2.12 42 Pb 01 58 18.9 -0.8
KEK Kerkira 2.33 346 Pn 01 58 20.4 +1.3
LIT Litokhoron 3.06 30 Pn 01 58 31.3 +2.2
SCTE Santa Cesarea 3.07 329 Pn 01 58 29.4 +0.1
FNA Florina 3.39 11 Pn **Pn 01 58 35.9 +2.2**
FNA Florina 3.39 11 *e*Pn **Pn 01 58 36.3 +2.5**
TIP Timpagrande 3.43 301 Pn 01 58 34.7 +0.4
TIP Timpagrande 3.43 301 ⇑P **Pn 01 58 35.5 +1.3**
OHR Ohrid 3.66 3 *e*Pn **Pn 01 58 40.8 +3.4**
OHR Ohrid 3.66 3 *i* Pn **Pn 01 58 40.6 +3.2**
CEL Celeste 3.75 284 Pn 01 58 39.9 +1.2
TIR Tirane 3.92 353 Pn 01 58 43.6 +2.6
TIR Tirane 3.92 353 ⇑P **Pn 01 58 40.4 -0.6**
IDI Anoyia 4.13 120 Pn **Pn 01 58 44.7 +0.8**
IDI Anoyia 4.13 120 Pn **Pn 01 58 45.1 +1.1**
comp=E,11nm,1.0s,baz=296,slow=13,SNR=1.4
IDI Sn **Sn 01 59 32.6 +0.9**
comp=E,3.7nm,0.3s,baz=341,slow=23,SNR=3.9
VAY Valandovo 4.17 22 *e*Pn **Pn 01 58 45.3 +0.8**
VAY Valandovo 4.17 22 *i* Pn **Pn 01 58 46.5 +2.0**
SRS Serrai 4.36 32 *e*Pn **Pn 01 58 48.8 +1.7**
CUC Castrocucco 4.47 306 Pn 01 58 50.0 +1.4
PUK Puka 4.61 354 Pn 01 58 51.4 +0.9
MMB Musomishta 4.79 30 *e*P **Pn 01 58 55.1 +2.2**
KKB Krupnik 4.82 24 *e*P **Pn 01 58 55.3 +1.9**
DRME Dracevica, Mon 4.84 348 ⇓*i*Pn **Pn 01 58 54.3 +0.7**
DRME *i* Sn **Sn 01 59 46.5 -2.5**
VAE Valguarnera 4.86 272 Pn **Pn 01 58 56.6 +2.6**
comp=E,11nm,0.5s,baz=353,slow=20,SNR=23
VAE Sn **Sn 01 59 51.6 +1.9**
comp=E,8.5nm,0.3s,baz=309,slow=4.1,SNR=5.8
RAFF Raffo Rosso 4.92 269 Pn **Pn 01 58 54.6 -0.1**
BUM Brajici-Budva 5.00 346 ⇓*i*Pn **Pn 01 58 56.0 +0.1**
BUM *i* Sn **Sn 01 59 50.4 -2.7**
PDG Podgorica 5.07 349 Pn **Pn 01 58 56.9 +0.2**
PDG Podgorica 5.07 349 *e*Pn **Pn 01 58 57.7 +1.0**
PDG Podgorica 5.07 349 ⇓*i*Pn **Pn 01 58 57.0 +0.3**
PDG *i* Sn **Sn 01 59 52.0 -2.5**
WDD Wied Dalam 5.09 253 Pn **Pn 01 58 57.3 +0.3**
PVY Plav 5.15 355 ⇓*i*Pn **Pn 01 58 58.2 +0.2**
PVY *i* Sn **Sn 01 59 54.2 -2.7**
HCY Herceg Novi 5.22 343 *e*Pn **Pn 01 58 58.8 -0.1**
HCY Herceg Novi 5.22 343 ⇑*i*Pn **Pn 01 58 58.8 -0.1**
HCY *i* Sn **Sn 01 59 55.8 -2.7**
CEME Cevo 5.23 347 ⇓*i*Pn **Pn 01 58 59.6 +0.5**
CEME *i* Sn **Sn 01 59 55.9 -2.9**
BOSS Bosilegrad 5.25 16 *e*Pn **Pn 01 59 00.9 +1.6**
RZN Rozhen 5.34 36 *e*P **Pn 01 59 02.7 +2.0**
RDO Rodhopi 5.36 45 Pn 01 59 02.0 +1.3
IVA Berane 5.43 355 ⇓*i*Pn **Pn 01 59 02.9 +1.1**
IVA *i* Sn **Sn 02 00 00.5 -3.3**
NKME Niksic 5.44 348 ⇑*i*Pn **Pn 01 59 02.4 +0.5**
NKME *i* Sn **Sn 02 00 00.9 -3.0**
KOME Kolasin 5.45 352 ⇓*i*Pn **Pn 01 59 02.4 +0.4**
KOME *i* Sn **Sn 02 00 01.2 -2.9**
BARS Barje 5.45 10 *e*Pn **Pn 01 59 03.1 +1.1**
BARS *e*Sn **Sn 02 00 01.7 -2.3**
PLNA Plana 5.49 23 *e*P **Pn 01 59 05.1 +2.5**
ALN Alexandroupoli 5.50 50 Pn **Pn 01 59 03.3 +0.7**
TREB Trebinje 5.51 343 *e*Pn **Pn 01 59 01.2 -1.7**
VTS Vitosha 5.56 21 *e*P **Pn 01 59 05.4 +1.7**
KDZ Kurdzhali 5.59 40 *e*P **Pn 01 59 05.2 +1.3**
BRY Bratogost 5.65 345 *e*Pn **Pn 01 59 04.8 -0.1**
BRY Bratogost 5.65 345 ⇓*i*Pn **Pn 01 59 04.8 -0.1**
BRY *i* Sn **Sn 02 00 05.7 -3.5**
KARP Karpathos 5.67 108 Pn **Pn 01 59 05.6 +0.5**
SELS Selova 5.78 4 *e*Pn **Pn 01 59 07.6 +1.1**
SELS *e*Sn **Sn 02 00 11.5 -0.6**
SJES Sjenica 5.82 356 *e*Pn **Pn 01 59 08.5 +1.4**
SJES *e*Sn **Sn 02 00 12.3 -0.9**
SJES Sjenica 5.82 356 *e*Pn **Pn 01 59 07.5 +0.4**
STON Ston 5.83 339 *e*Pn **Pn 01 59 03.9 -3.2**
PAOL Paolisi 5.84 310 Pn **Pn 01 59 09.5 +2.1**
PLE Pljevlja 5.93 352 ⇑*i*Pn **Pn 01 59 09.0 +0.3**
PLE *i* Sn **Sn 02 00 12.7 -3.4**
DIM Dimitrovgrad 6.01 39 *e*P **Pn 01 59 11.8 +2.1**
ZAPS Zavoj 6.03 15 *e*Pn **Pn 01 59 11.9 +1.9**
IVAS Ivanjica 6.12 357 *e*Pn **Pn 01 59 11.8 +0.5**

IVAS *e*Sn **Sn 02 00 19.1 -1.6**
BOVS Bovan 6.24 8 *e*Pn **Pn 01 59 12.9 +0.1**
BOVS Bovan 6.24 8 ⇓P **Pn 01 59 13.1 +0.2**
MPEP Malo Peshtene 6.38 22 *e*P **Pn 01 59 17.1 +2.3**
GRUS Gruza 6.43 1 *e*Pn **Pn 01 59 15.8 +0.4**
BBLS Lazi&#263i 6.46 353 *e*Pn **Pn 01 59 17.6 +1.7**
BBLS Lazi&#263i 6.46 353 *e*Pn **Pn 01 59 17.1 +1.2**
ZAGS Zajecar 6.48 11 *e*Pn **Pn 01 59 17.3 +1.1**
DIVS Divibare 6.65 357 *e*Pn **Pn 01 59 19.3 +0.8**
HAPS Han Pijesak,BI 6.73 350 *e*Pn **Pn 01 59 19.0 -0.7**
TRUS Trudelj 6.76 359 *e*Pn **Pn 01 59 20.8 +0.8**
ELND Elena 6.83 35 ⇑P **Pn 01 59 23.4 +2.4**
TEKS Tekeris 7.13 354 *e*Pn **Pn 01 59 24.7 -0.3**
TEKS Tekeris 7.13 354 *e*Pn **Pn 01 59 23.0 -2.0**
AVAS Avala Beograd 7.24 360 *e*Pn **Pn 01 59 26.1 -0.4**
MDVR Moldovita 7.38 7 ⇓P **Pn 01 59 28.4 0.0**
HERR Herculane 7.56 10 ⇑P **Pn 01 59 31.1 +0.2**
A050A Klekovaca 7.64 338 *e*Pn **Pn 01 59 32.8 +0.7**
BLY Banja Luka 7.71 342 *e*Pn **Pn 01 59 34.0 +1.0**
FRGS Fruska Gora 7.72 356 *e*Pn **Pn 01 59 32.8 -0.3**
FRGS Fruska Gora 7.72 356 *e*Pn Pn 01 59 26.2 -6.9
NRCA Norcia 7.81 316 Pn 01 59 36.5 +2.0
FDMO Fiordimonte 7.96 317 Pn **Pn 01 59 38.5 +2.0**
A051A Mrakovica 8.03 341 *e*Pn **Pn 01 59 35.0 -2.4**
GZR Gura Zlata 8.11 11 ⇑P **Pn 01 59 39.2 +0.6**
BZS Buzias 8.20 5 ⇑P **Pn 01 59 39.8 +0.1**
ARR Arges 8.49 20 ⇓P **Pn 01 59 45.4 +1.7**
VOIR 8.67 22 ⇓P **Pn 01 59 48.4 +2.1**
MORH Mrgy, Hungar 8.87 351 ⇓P **Pn 01 59 48.9 +0.1**
ISR Istrita 8.89 29 ⇑P **Pn 01 59 52.3 +3.0**
MLR Muntele Rosu 9.00 25 Pn **Pn 01 59 51.8 +1.0**
MLR Muntele Rosu 9.00 25 Pn **Pn 01 59 49.1 -1.7**
comp=E,0.2nm,0.3s,baz=181,slow=11,SNR=1.3
comp=E,0.5nm,0.3s
KEST Kesra 9.15 263 Pn **Pn 01 59 54.4 +1.5**
KEST Kesra 9.15 263 Pn **Pn 01 59 53.9 +0.9**
comp=E,0.5nm,0.3s,baz=86,slow=12,SNR=10
KEST Sn **Sn 02 01 32.8 -2.5**
comp=E,0.2nm,0.3s,baz=62,slow=20,SNR=2.0
KEST LR LR 02 04 03.8
comp=E,46nm,18.1s,baz=320,slow=42
comp=E,1.8nm,0.5s
CRES Cresnjevec Ost 9.18 337 *e*Pn **Pn 01 59 51.6 -1.6**
CEY Cerknica 9.45 333 *e*Pn **Pn 01 59 55.5 -1.4**
DRGR 9.47 9 ⇑P **Pn 01 59 58.4 +1.2**
OZUR 9.48 23 ⇓P **Pn 01 59 59.6 +2.2**
PLOR Plostina 9.56 27 ⇑P **Pn 02 00 00.5 +2.2**
VRI Vrincioaia 9.60 27 ⇓P **Pn 02 00 01.1 +2.2**
SABO M.te Sabotino 9.96 331 Pn **Pn 02 00 03.5 -0.4**
SOKA Soboth 10.08 338 *i* Pn **Pn 02 00 05.2 -0.3**
comp=E,3.4nm,0.6s,SNR=4.9
OBKA Obir 10.08 336 *e*Pn **Pn 02 00 07.3 +1.8**
comp=E,2.3nm,0.5s
OBKA Obir 10.08 336 *e*Pn **Pn 02 00 06.1 +0.5**
TEOL Teolo 10.32 323 Pn **Pn 02 00 07.2 -1.6**
ARSA Arzberg 10.46 341 *e*Pn **Pn 02 00 11.8 +1.0**
comp=E,2.0nm,0.4s
PSZ Piszkesteto 10.47 358 Pn **Pn 02 00 10.4 -0.5**
SRO Srobarova 10.48 352 *e*PN **Pn 02 00 12.8 +1.9**
PRMA PARMA 10.61 317 Pn **Pn 02 00 14.2 +1.5**
CSS Mathiatis 10.64 100 Pn **Pn 02 00 12.9 -0.3**
RONA Rosalia, Austr 10.70 344 *e*Pn **Pn 02 00 16.0 +2.0**
comp=E,0.4nm,0.2s
BURAR Bucovina Array 10.72 17 Pn **Pn 02 00 15.3 +0.9**
BUR08 Bucovina Ar. S 10.75 17 Pn 02 00 15.4 +0.7
CTI Castel Tesino 10.84 325 Pn 02 00 15.7 -0.3
KBA Koelnbreinsper 10.98 333 *e*Pn **Pn 02 00 21.2 +3.2**
comp=E,2.0nm,0.5s
ABTA Abfaltersbach 11.02 330 *e*Pn **Pn 02 00 19.6 +1.1**
comp=E,0.8nm,0.4s
VYHS Vyhne 11.10 354 *e*PN **Pn 02 00 21.0 +1.5**
MOA Molln 11.36 338 *i* Pn **Pn 02 00 23.8 +0.8**
comp=E,1.3nm,0.3s,SNR=4.8
BIOA Bad Ischl, Aus 11.41 336 *e*Pn **Pn 02 00 25.7 +1.9**
comp=E,1.7nm,0.4s
LESA Schwarzleotal 11.52 332 *e*Pn **Pn 02 00 26.4 +1.2**
comp=E,4.1nm,0.5s
KOLS Kolonicke sedl 11.54 6 *e*PN **Pn 02 00 27.1 +1.6**
LANS Liptovska Anna 11.72 357 *e*PN **Pn 02 00 28.1 +0.2**
FUORN Ofenpass-Fuorn 11.91 323 Pn **Pn 02 00 32.2 +1.5**
FETA Feichten 11.99 326 *e*Pn Pn 02 00 43.3 +12
comp=E,2.1nm,0.8s
DAVOX Davos/Dischmat 12.21 323 Pn **Pn 02 00 36.0 +1.2**
comp=E,0.3nm,0.3s,baz=165,slow=20,SNR=7.6
DAVOX Sn **Sn 02 02 47.2 -3.1**
comp=E,0.3nm,0.3s,baz=291,slow=21,SNR=1.8
DAVOX LR LR 02 05 48.5
comp=E,85nm,18.2s,baz=122,slow=40
CKRC Cesky Krumlov 12.23 340 *e*PN **Pn 02 00 34.8 -0.1**
TUE Stuetta 12.25 321 Pn **Pn 02 00 36.2 +0.8**
GEC2 GERESS Array S 12.42 339 Pn **Pn 02 00 39.0 +1.5**
GERES GERESS Array B 12.42 339 Pn **Pn 02 00 38.1 +0.5**
comp=E,0.3nm,0.3s,baz=149,slow=12,SNR=5.7
GERES Sn **Sn 02 02 49.4 -5.9**
comp=E,0.3nm,0.3s,baz=308,slow=16,SNR=1.9
GERES LR LR 02 06 03.0
comp=E,73nm,20.3s,baz=79,slow=41
comp=E,0.7nm,0.5s
KHC Kasperske Hory 12.71 339 *e*PN **Pn 02 00 40.1 -1.4**
HNTI Hanita 12.74 106 P **Pn 02 00 41.0 -0.9**
MMAI Mount Meron Ar 12.94 106 Pn **Pn 02 00 45.5 +0.7**
comp=E,0.5nm,0.3s,baz=286,slow=10,SNR=2.2
comp=E,0.3nm,0.3s
SENIN Lac Senin/Sane 13.26 316 Pn **Pn 02 00 50.3 +1.1**
SHMJ Saham 13.34 106 P **Pn 02 00 49.7 -0.4**
HMDT Nahal Hemdat 13.36 108 P **Pn 02 00 48.7 -1.7**
MSBI Mazada 13.69 112 P **Pn 02 00 53.4 -1.5**
LISJ El Lisan 13.82 112 P **Pn 02 00 54.9 -1.7**
MBRI Mt Berech 14.21 118 P **Pn 02 01 00.7 -1.3**
SWQJ Swaqa 14.24 111 P **Pn 02 01 00.6 -2.0**
EIL Elat 14.30 119 Pn **Pn 02 01 04.5 +1.1**
comp=E,0.2nm,0.3s,baz=344,slow=16,SNR=1.5
EIL Sn **Sn 02 03 39.3 -2.1**
comp=E,0.3nm,0.3s,baz=2.0,slow=20,SNR=1.7
comp=E,2.4nm,0.7s
AQBJ Aqaba 14.34 118 P **Pn 02 01 02.5 -1.3**
ASF Jabal al Asfar 14.44 107 P **Pn 02 01 04.0 -1.3**
AKASG Malin Array Be 14.63 22 Pn **Pn 02 01 05.4 -2.2**
comp=E,0.3nm,0.3s,baz=213,slow=12,SNR=4.7
AKASG LR LR 02 08 10.9
comp=E,107nm,20.5s,baz=202,slow=44
comp=E,0.7nm,0.5s
CLL Collm 14.85 341 *i* PP **P 02 01 19.7 +3.5**
comp=Z,14nm,1.4s
SUW Suwalki 16.66 5 Pn **Pn 02 01 34.6 +0.5**
SUW IAmb IAmb 02 01 39.0
comp=Z,28nm,0.9s
NACGM Naroch 17.97 12 *e*P **Pn 02 01 48.5 -1.8**
PABE Paberze 18.21 6 Pn 02 01 52.7 -0.5
PABE IAmb IAmb 02 01 54.5
comp=Z,50nm,0.9s
PABE Paberze 18.21 6 *e*P **Pn 02 01 52.7 -0.5**
GNI Garni 19.05 74 LR LR 02 09 34.6
comp=Z,61nm,18.8s,baz=304,slow=38
ESDC Sonseca Array 19.26 284 P **Pn 02 02 06.5 +0.2**
baz=82,slow=12,SNR=1.9
comp=Z,0.5nm,0.6s
OBN Obninsk 20.77 27 LR LR 02 11 53.1
comp=Z,82nm,18.1s,baz=4.5,slow=42
MDT Midelt 21.05 265 P **P 02 02 24.4 -0.2**
comp=Z,1.4nm,0.7s,baz=77,slow=7.7,SNR=2.8
MDT LR LR 02 11 31.4
comp=Z,17nm,18.3s,baz=94,slow=39
comp=Z,1.4nm,0.7s
MTSE Matsula 21.38 5 *e*P **P 02 02 28.9 +1.0**
ARBE Arbavere 22.28 7 *e*P **P 02 02 38.5 +1.0**
HFS Hagfors 23.11 351 P **P 02 02 43.4 -2.9**
comp=Z,2.7nm,0.5s,baz=156,slow=11,SNR=17
HFS LR LR 02 13 30.1
comp=Z,38nm,18.6s,baz=149,slow=41
comp=Z,2.7nm,0.5s
RAF Rauma 23.60 2 *e*P **P 02 02 50.6 -0.5**
NC602 NORSAR Array S 23.99 349 P **P 02 02 54.8 -0.1**
NC602 IAmb IAmb 02 03 12.4
comp=Z,15nm,1.2s
EKA Eskdalemuir Ar 24.02 326 P **P 02 02 53.5 -1.8**
comp=Z,1.8nm,0.5s,baz=129,slow=7.4,SNR=12
comp=Z,1.8nm,0.5s
ESK Eskdalemuir 24.03 326 P **P 02 02 56.9 +1.5**
ESK IAmb IAmb 02 03 13.8
comp=Z,34nm,1.4s
EKB Eskdalemuir 24.04 326 P **P 02 02 56.4 +1.0**
EKB IAmb IAmb 02 02 56.5
comp=Z,45nm,1.4s
BELG Belogornoye 24.12 43 LR LR 02 13 58.2
comp=Z,51nm,18.1s,baz=125,slow=41
NAO01 NORSAR Array S 24.19 348 P **P 02 02 57.2 +0.4**
NAO01 IAmb IAmb 02 03 07.5
comp=Z,17nm,1.1s
FINES FINESS Array B 24.27 6 P **P 02 02 57.0 -0.4**
FINES FINESS Array B 24.27 6 P **P 02 02 55.6 -1.8**
comp=Z,2.7nm,0.6s,baz=177,slow=9.9,SNR=19
comp=Z,2.7nm,0.6s
FIA1 FINESS Array S 24.27 6 P **P 02 02 56.6 -0.8**
FIA1 IAmb IAmb 02 03 11.7
comp=Z,22nm,0.9s
NC405 NORSAR Array S 24.32 350 P **P 02 02 58.2 +0.2**
NB2 NORSAR Subarra 24.33 349 P **P 02 02 58.4 +0.4**
comp=Z,4.1nm,0.8s,baz=162,slow=9.3
NOA NORSAR Array B 24.33 349 P **P 02 02 56.5 -1.6**
comp=Z,1.1nm,0.6s,baz=159,slow=9.0,SNR=9.2
NOA LR LR 02 13 27.9
comp=Z,29nm,18.6s,baz=150,slow=39
comp=Z,1.1nm,0.6s
NC204 NORSAR Array S 24.62 349 P **P 02 03 01.8 +1.1**
KIRV Kirov 28.26 32 LR LR 02 14 46.6
comp=Z,60nm,20.1s,baz=202,slow=37
TORD Torodi Ar. Bea 29.47 220 P **P 02 03 45.5 +0.9**
comp=Z,0.5nm,0.5s,baz=31,slow=9.3,SNR=7.7
comp=Z,0.5nm,0.5s
AKTO Aktyubinsk 29.62 52 LR LR 02 17 26.7
comp=Z,31nm,20.1s,baz=35,slow=40
ARTI Arti 31.50 41 P **P 02 04 01.2 -1.0**
ARTI Arti 31.50 41 LR LR 02 17 51.4
comp=Z,54nm,18.1s,baz=251,slow=39
ARCES ARCESS Array B 32.25 3 P **P 02 04 06.6 -2.1**
comp=Z,1.2nm,0.8s,baz=192,slow=10,SNR=7.5
ARCES LR LR 02 18 26.7
comp=Z,43nm,20.2s,baz=247,slow=39
comp=Z,1.2nm,0.8s
KEV Kevo 32.55 4 P **P 02 04 13.7 +2.4**
BVAR Borovoye Array 37.58 49 P **P 02 04 51.9 -2.9**
comp=Z,0.7nm,0.5s,baz=276,slow=4.3,SNR=5.4
comp=Z,0.7nm,0.5s
CHGR Chuyangaron 37.96 73 P **P 02 04 58.8 +0.6**
CHGR IAmb IAmb 02 04 59.8
comp=Z,6.0nm,0.7s
KKAR Karatay Array 38.09 65 P **P 02 05 00.2 +0.9**
KKAR Karatay Array 38.09 65 P **P 02 04 59.5 +0.3**
DBIC Dimbokro 38.37 223 LR LR 02 20 32.8
comp=Z,32nm,22.0s,baz=212,slow=36
KURBB Kurchatov Arra 42.66 53 P **P 02 05 35.3 -1.6**
comp=Z,1.1nm,0.5s,baz=282,slow=8.5,SNR=9.8
KURBB LR LR 02 27 03.5
comp=Z,26nm,19.1s,baz=165,slow=42
comp=Z,1.1nm,0.5s
MK31 Makanchi Array 45.68 58 P **P 02 06 00.6 -0.6**
MK31 IAmb IAmb 02 06 18.4
comp=Z,6.5nm,1.3s
MKAR Makanchi Array 45.68 58 P **P 02 06 00.6 -0.6**
MKAR Makanchi Array 45.68 58 P **P 02 05 59.9 -1.3**
comp=Z,1.5nm,0.6s,baz=267,slow=7.8,SNR=18
MKAR PcP **PcP 02 07 38.0 -1.0**
comp=Z,0.6nm,0.6s,baz=271,slow=2.8,SNR=2.3
comp=Z,1.5nm,0.6s
ZAA0 Zalesovo Array 46.17 48 P **P 02 06 04.7 -0.2**
ZALV Zalesovo Beam 46.17 48 P **P 02 06 04.6 -0.3**
ZALV Zalesovo Beam 46.17 48 P **P 02 06 03.8 -1.1**
comp=Z,1.9nm,0.5s,baz=271,slow=8.9,SNR=8.6
comp=Z,1.9nm,0.5s
SCHQ Schefferville 58.99 318 P **P 02 07 39.7 -0.2**
RES Resolute Bay 60.46 344 P **P 02 07 51.5 +1.9**
RES IAmb IAmb 02 07 57.0
comp=Z,13nm,1.4s
SONM Songino Array 60.92 50 P **P 02 07 51.8 -1.6**
comp=Z,0.5nm,0.7s,baz=262,slow=8.5,SNR=3.9
comp=Z,0.5nm,0.7s
ULN Ulaanbaatar 61.30 50 P **P 02 07 56.5 +0.5**
G62A West of Eustis 65.29 309 P **P 02 08 22.6 +0.3**
I63A Otisfield 65.89 308 P **P 02 08 25.4 -0.7**
HHC Hu-ho-hao-te 67.44 55 *e*P **P 02 08 36.3 0.0**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,90nm,4.4s
PZH PanZhiHua 67.81 73 P **P 02 08 40.3 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,5.3s
A36M Sachs Harbour 68.24 349 P **P 02 08 41.2 +0.7**
A36M IAmb IAmb 02 08 44.1
comp=Z,3.7nm,1.1s
DELO Deloro Mine 69.97 311 P **P 02 08 51.5 -0.3**
DELO IAmb IAmb 02 09 10.7
comp=Z,12nm,1.5s
CMAR Chiang Mai Arr 69.99 82 P **P 02 08 52.5 +0.2**
CMAR Chiang Mai Arr 69.99 82 P **P 02 08 51.7 -0.6**
comp=Z,8.1nm,0.3s,baz=299,slow=8.1,SNR=12
D25K Kavik River 73.10 355 P **P 02 09 11.2 +0.9**
E29M Blow River 73.24 352 P **P 02 09 12.9 +1.8**
E29M IAmb IAmb 02 09 13.6
comp=Z,4.5nm,0.6s
J30M Hart River 76.68 350 P **P 02 09 31.7 +0.5**
NJ2 Nanjing 77.18 60 *e*P **P 02 09 34.3 -0.1**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,94nm,3.8s
ILAR Eielson Array 77.63 355 P **P 02 09 34.6 -1.8**
comp=Z,0.2nm,0.6s,baz=347,slow=4.1,SNR=6.0
comp=Z,0.2nm,0.6s
USRK Ussuriysk Ar. 77.80 43 P **P 02 09 36.8 -0.9**
comp=Z,1.4nm,0.7s,baz=285,slow=2.2,SNR=3.0
comp=Z,1.4nm,0.7s
KSRS Korea Array 79.79 50 P **P 02 09 48.1 -0.5**
comp=Z,1.5nm,0.7s,baz=298,slow=4.7,SNR=4.8
comp=Z,1.5nm,0.7s
PETK Petropavlovsk- 82.46 24 LR LR 02 54 42.6
comp=Z,23nm,19.1s,baz=165,slow=42
SIV San Ignacio 93.09 252 LR LR 02 52 45.3
comp=Z,84nm,20.0s,baz=270,slow=36
PETF Flores 95.18 296 P **P 02 11 03.6 -0.6**
WRA Warramunga Arr 120.50 93 PKP **PKPdf 02 16 30.6 -1.7**
comp=Z,0.9nm,1.1s,baz=278,slow=1.2,SNR=2.1
ASAR Alice Springs 122.09 97 PKP **PKPdf 02 16 34.5 -0.8**
comp=Z,0.2nm,0.3s,baz=288,slow=0.9,SNR=1.3

ROM 15 01:58:27.3±0.1, 42°.692N±0°.003×13°.231E±0°.005,
h12km, ML1.5/18, 4C-2D, Error ellipse: s-maj=0.4km
s-min=0.1km az=61.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.10**	**129**	⇑P	Pg	01 58 30.6	+0.3
SMA1				S	Sg	01 58 32.9	+0.6
SMA1				AML	AML		
	comp=E,311μm,0.8s						
SMA1				AML	AML		
	comp=N,256μm,0.5s						
SMA1				AML	AML		
	comp=N,256μm,1.5s						
MTRA	**Matera**	**0.14**	**62**	P	Pg	01 58 30.9	+0.2
MTRA				S	Sg	01 58 33.4	+0.2
MTRA				AML	AML		
	comp=E,510μm,1.1s						
MTRA				AML	AML		
	comp=N,474μm,1.0s						
MTRA				AML	AML		
	comp=N,474μm,1.0s						
MTRA				AML	AML		
	comp=E,510μm,0.9s						
NRCA	**Norcia**	**0.17**	**329**	⇓P	Pg	01 58 31.4	+0.2
NRCA				S	Sg	01 58 34.1	+0.2
NRCA				AML	AML		
	comp=N,1565μm,0.7s						
NRCA				AML	AML		
	comp=E,2570μm,0.1s						
NRCA				AML	AML		
	comp=E,2495μm,0.1s						
NRCA				AML	AML		
	comp=N,1560μm,0.7s						
NRCA				AML	AML		
	comp=N,1695μm,0.7s						
LNSS	**Leonessa**	**0.17**	**238**	⇑P	Pg	01 58 31.6	+0.4
LNSS				S	Sg	01 58 34.7	+0.8
LNSS				AML	AML		
	comp=N,705μm,0.4s						
LNSS				AML	AML		
	comp=E,384μm,0.1s						
LNSS				AML	AML		

comp=N,705μm,1.6s
RM33 Pellescritta (0.18 184 ⇑P Pg 01 58 31.9 +0.5
RM33 S Sg 01 58 35.3 +1.0
RM33 AML AML
comp=E,300μm,1.4s
RM33 AML AML
comp=N,235μm,0.2s
RM33 AML AML
comp=E,396μm,1.4s
RM33 AML AML
comp=N,244μm,0.2s
RM33 AML AML
comp=N,234μm,0.2s
RM33 AML AML
comp=E,396μm,0.6s
RM33 AML AML
comp=E,300μm,0.6s
CAMP Campotosto 0.20 140 ⇑P Pg 01 58 32.1 +0.4
CAMP S Sg 01 58 35.7 +0.8
CAMP AML AML
comp=N,68μm,1.3s
CAMP AML AML
comp=N,68μm,0.7s
CAMP AML AML
comp=E,104μm,0.3s
MMO1 Montemonaco 0.22 19 P Pg 01 58 32.2 +0.2
MMO1 S Sg 01 58 36.0 +0.7
MC2 Monte Cornacci 0.22 352 P Pg 01 58 32.4 +0.3
MC2 S Sg 01 58 36.3 +0.7
GAVE Gavelli 0.25 270 P Pg 01 58 33.1 +0.5
GAVE S Sg 01 58 37.0 +0.9
TERO Teramo 0.28 104 P Pg 01 58 33.4 +0.2
TERO S Sg 01 58 37.8 +0.8
TERO AML AML
comp=E,67μm,0.2s
TERO AML AML
comp=N,63μm,0.1s
FEMA Monte Fema 0.30 334 P Pg 01 58 34.0 +0.5
FEMA S Sg 01 58 38.5 +0.8
MF5 Montefalcone A 0.34 30 ⇓P Pb 01 58 34.8 -0.5
MF5 S Sb 01 58 40.6 -0.2
MF5 AML AML
comp=E,97μm,1.1s
MF5 AML AML
comp=N,79μm,1.2s
GIGS Gran Sasso 0.35 134 P Pg 01 58 34.5 +0.2
GIGS S Sg 01 58 39.8 +0.8
GIGS AML AML
comp=E,23μm,1.5s
GIGS AML AML
comp=N,24μm,1.5s
GIGS AML AML
comp=N,24μm,1.5s
GIGS AML AML
comp=E,23μm,0.5s
FDMO Fiordimonte 0.36 343 P Pg 01 58 34.5 0.0
FDMO S Sb 01 58 40.6 -0.7
FDMO AML AML
comp=E,64μm,0.5s
FDMO AML AML
comp=N,89μm,0.3s
FDMO AML AML
comp=E,64μm,1.5s
CESI CESI - Serrava 0.40 323 P Pg 01 58 35.2 +0.1
CESI S Sb 01 58 41.5 -0.8
CESI AML AML
comp=N,108μm,1.0s
CESI AML AML
comp=N,108μm,1.0s
CESI AML AML
comp=E,71μm,1.0s
FIAM Fiamignano 0.43 191 P Pg 01 58 36.0 +0.2
FIAM S Sb 01 58 42.7 -0.6
FIAM AML AML
comp=E,56μm,1.1s
FIAM AML AML
comp=N,41μm,1.3s
FIAM AML AML
comp=N,41μm,0.7s
PF6 Pievefavera 0.46 356 P Pg 01 58 36.0 -0.3
PF6 S Sg 01 58 43.1 +0.7
FAGN Fagnano 0.50 148 P Pb 01 58 38.0 0.0
FAGN AML AML
comp=E,72μm,0.3s
FAGN AML AML
comp=N,61μm,1.0s
FAGN AML AML
comp=N,61μm,1.0s
FAGN AML AML
comp=E,72μm,1.7s
EL6 Elcito 0.64 352 P Pg 01 58 39.6 -0.2
EL6 S Sb 01 58 50.1 +0.6

*IDC **15** 02:14:16.0±1.3, 15°.69N×48°.83W, h0km, mb3.6/4, mbtmp3.9/6, ML4.5/2, Error ellipse: s-maj=32.9km s-min=28.6km az=165.0*
*NEIC **15** 02:14:16.7±1.3, 15°.6N±0°.1×48°.8W±0°.1, h10km±2km, mb4.6/9, Error ellipse: s-maj=21.8km s-min=17.6km az=40.0*
ISC 15 02:14:16.8±0.8, 15°.6N±0°.1×48°.90W±0°.10, h10km, n47, σ1§93/33, mb3.8/6, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**10.62**	**258**	Pn	**Pn**	**02 16 51.6**	**+2.5**
BBGH	**Gun Hill**	**10.62**	**258**	*eP*	**Pn**	**02 16 51.4**	**+2.3**
MDP	**Montagnes des**	**11.10**	**200**	Pn	**Pn**	**02 16 56.0**	**+0.3**
	6.9nm,0.3s,baz=12,slow=16,SNR=64						
MDP				Sn	Sn	02 18 49.4	-11
	3.2nm,0.3s,baz=118,slow=19,SNR=11						
	17nm,0.4s						
MPOM	**Morne Pois Mar**	**11.61**	**266**	Pn	**Pn**	**02 17 02.2**	**-0.5**
H05N1	**Guadeloupe/Mar**	**11.71**	**275**	T	T	02 28 54.6	
SLBI	**Saint Lucia, B**	**11.78**	**264**	*eP*	**Pn**	**02 17 04.7**	**-0.3**
SLBI	**Saint Lucia, B**	**11.78**	**264**	*eS*	Sn	02 19 04.4	-12
BIM	**Bigot**	**11.81**	**266**	Pn	**Pn**	**02 17 06.2**	**+0.9**
BIM	**Bigot**	**11.81**	**266**	*eP*	**Pn**	**02 17 06.5**	**+1.2**
BIM	**Bigot**	**11.81**	**266**	*eS*	Sn	02 19 06.0	-11
FDF	**Fort de France**	**11.86**	**267**	Pn	**Pn**	**02 17 07.9**	**+1.8**
TOSP	**Speyside**	**12.11**	**251**	*eP*	**Pn**	**02 17 10.0**	**+0.5**
SVOC	**Richmond Hill,**	**12.19**	**260**	*eP*	**Pn**	**02 17 10.5**	**-0.1**
SVOC	**Richmond Hill,**	**12.19**	**260**	*eS*	Sn	02 19 20.1	-6.5
SVB	**Belmont**	**12.19**	**260**	*eP*	**Pn**	**02 17 11.0**	**+0.3**
SVB	**Belmont**	**12.19**	**260**	*eS*	Sn	02 19 20.2	-6.5
SVT	**Saint Vincent**	**12.20**	**260**	*eP*	**Pn**	**02 17 10.5**	**-0.3**
SVT	**Saint Vincent**	**12.20**	**260**	*eS*	Sn	02 19 20.2	-6.8
TDBA	**Terre de Bas,**	**12.26**	**273**	Pn	**Pn**	**02 17 13.1**	**+1.5**
ANBD	**Bethesda, Anti**	**12.43**	**278**	*eP*	Pn	02 17 08.2	-5.6
ANWB	**Willy Bob**	**12.51**	**281**	*eP*	**Pn**	**02 17 13.5**	**-1.5**
ANWB	**Willy Bob**	**12.51**	**281**	*eS*	Sn	02 19 22.8	-12
GCMP	**Grenada, Carri**	**12.55**	**257**	*eP*	**Pn**	**02 17 15.3**	**-0.2**
MBWH		**12.81**	**277**	*eS*	Sn	02 19 32.4	-10
GRGR	**Grenville**	**12.86**	**256**	*eP*	**Pn**	**02 17 20.4**	**+0.6**
GRGR	**Grenville**	**12.86**	**256**	*eS*	Sn	02 19 33.9	-9.3
TRN	**Trinidad (W)**	**13.15**	**249**	*eP*	**Pn**	**02 17 24.2**	**+0.6**
SKI	**Saint Kitts**	**13.38**	**279**	*eS*	Sn	02 19 46.1	-10
PCRV	**Puerto La Cruz**	**16.27**	**252**	Pn	**Pn**	**02 18 05.4**	**-0.2**
	0.9nm,0.3s,baz=66,slow=13,SNR=10						
	4.9nm,0.5s						
HUMP	**Col San Antoni**	**16.41**	**281**	Pn	**Pn**	**02 18 08.5**	**+1.2**
HUMP				IAmb	IAmb	02 18 45.0	
	comp=Z,25nm,1.1s						
PDPR	**Patillas Dam,**	**16.56**	**281**		**Pn**	**02 18 11.5**	**+2.3**
BOAV	**Boa Vista**	**17.45**	**222**	P	**Pn**	**02 18 21.3**	**+0.8**
BOAV				IAmb	IAmb	02 18 34.2	
	comp=Z,23nm,1.3s						
BAUV	**El Baul**	**19.84**	**253**	P	**P**	**02 18 48.7**	**+0.7**
BAUV				IAmb	IAmb	02 19 24.3	
	comp=Z,15nm,1.0s						
BAUV	**El Baul**	**19.84**	**253**	*eP*	**P**	**02 18 49.8**	**+1.8**
BAUV	**El Baul**	**19.84**	**253**	*eS*	**S**	**02 22 24.1**	**-7.6**
SACV	**Santiago Islan**	**24.40**	**88**	P	**P**	**02 19 33.2**	**-2.4**
SACV				IAmb	IAmb	02 19 56.0	
	comp=Z,73nm,1.2s						
G65A	**Princeton**	**33.40**	**336**	P	**P**	**02 20 54.4**	**-1.0**
L61B	**Northampton**	**33.62**	**327**	P	**P**	**02 20 57.2**	**-0.2**
L61B				IAmb	IAmb	02 21 30.1	
	comp=Z,46nm,1.5s						
LPAZ	**La Paz**	**36.97**	**212**	P	**P**	**02 21 25.8**	**-1.4**
LPAZ	**La Paz**	**36.97**	**212**	P	**P**	**02 21 29.5**	**+2.3**
	comp=Z,0.9nm,0.5s,baz=28,slow=8.9,SNR=4.1						
	comp=Z,0.9nm,0.5s						
TEIG	**Tepich**	**37.68**	**283**	P	**P**	**02 21 32.6**	**+0.1**
H10N3	**ASCENSION HYDR**	**41.30**	**122**	T	T	03 05 57.3	
	baz=304,slow=75,SNR=8.5						
H10N2	**ASCENSION HYDR**	**41.30**	**122**	T	T	03 05 55.4	
	baz=304,slow=75,SNR=9.7						
H10N1	**ASCENSION HYDR**	**41.32**	**122**	T	T	03 06 00.4	
	baz=304,slow=75,SNR=11						
TORD	**Torodi Ar. Bea**	**48.98**	**86**	P	**P**	**02 23 03.8**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=298,slow=9.3,SNR=5.7						
	comp=Z,0.9nm,0.8s						
TXAR	**Lajitas Array**	**51.98**	**295**	P	**P**	**02 23 26.3**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=118,slow=7.1,SNR=3.9						
	comp=Z,0.6nm,0.9s						
PDAR	**Pinedale Array**	**58.06**	**311**	P	**P**	**02 24 13.1**	**+2.5**
	comp=Z,0.1nm,0.4s,baz=113,slow=6.9,SNR=2.5						
	comp=Z,0.1nm,0.4s						

*IDC **15** 02:26:10.1±0.8, 11°.73N×143°.56E, h0km, mb4.1/12, mbtmp4.1/13, ML3.8/1, Error ellipse: s-maj=28.3km s-min=16.9km az=107.0*
*NEIC **15** 02:26:13.2±1.3, 11°.77N±0°.05×143°.49E±0°.08, h10km±1km, mb5.0/64, Error ellipse: s-maj=14.9km s-min=4.2km az=236.0*
ISC 15 02:26:12.3±0.6, 11°.75N±0°.09×143°.5E±0°.1, h10km, n81, σ0§84/83, mb4.9/43, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.26**	**36**	Pn	**Pn**	**02 26 50.5**	**+0.7**
GUMO					**Sn**	**02 27 17.7**	**0.0**
GUMO	**Guam**	**2.26**	**36**	Pn	**Pn**	**02 26 49.6**	**-0.2**
	24nm,0.3s,baz=172,slow=6.8,SNR=7.3						
GUMO				Sn	**Sn**	**02 27 16.5**	**-1.3**
	35nm,0.3s,baz=345,slow=23,SNR=8.9						
	74nm,0.4s						
NACB	**Ninganchiao**	**24.18**	**304**	P	**P**	**02 31 29.6**	**+0.5**
TPUB	**Ta-pu**	**24.61**	**301**	P	**P**	**02 31 32.8**	**-0.2**
WB0	**Warramunga Arr**	**32.58**	**196**	P	**P**	**02 32 44.0**	**-0.1**
WR0	**Warramunga Arr**	**32.73**	**196**	P	**P**	**02 32 44.9**	**-0.5**
WR0				IAmb	IAmb	02 32 45.3	
	comp=Z,27nm,1.6s						
WB2	**Warramunga Arr**	**32.76**	**196**	P	**P**	**02 32 44.9**	**-0.8**
WB2				IAmb	IAmb	02 33 19.4	
	comp=Z,27nm,1.8s						
WRA	**Warramunga Arr**	**32.76**	**196**	P	**P**	**02 32 46.7**	**+1.0**
WRA	**Warramunga Arr**	**32.76**	**196**	P	**P**	**02 32 44.9**	**-0.8**
	comp=Z,1.5nm,0.7s,baz=20,slow=9.7,SNR=11						
	comp=Z,1.5nm,0.7s						
ASAR	**Alice Springs**	**36.43**	**195**	P	**P**	**02 33 16.6**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=16,slow=12,SNR=10.0						
	comp=Z,0.5nm,0.6s						
DZM	**Mont Dzumac**	**40.45**	**146**	P	**P**	**02 33 51.4**	**0.0**
DZM				IAmb	IAmb	02 35 10.2	
	comp=Z,54nm,1.8s						
PETK	**Petropavlovsk-**	**42.79**	**13**	P	**P**	**02 34 10.3**	**+0.2**
	comp=Z,2.3nm,0.4s,baz=225,slow=3.9,SNR=5.1						
	comp=Z,2.3nm,0.4s						
BBOO	**Buckleboo**	**44.88**	**189**	P	**P**	**02 34 27.4**	**+0.3**
BBOO				IAmb	IAmb	02 34 55.8	
	comp=Z,51nm,1.8s						
SONM	**Songino Array**	**47.49**	**327**	P	**P**	**02 34 48.2**	**+0.5**
SONM	**Songino Array**	**47.49**	**327**	P	**P**	**02 34 47.3**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=121,slow=10,SNR=2.0						
	comp=Z,0.3nm,0.5s						
MK31	**Makanchi Array**	**61.90**	**317**	P	**P**	**02 36 31.3**	**-0.8**
MKAR	**Makanchi Array**	**61.90**	**317**	P	**P**	**02 36 32.2**	**+0.1**
MKAR	**Makanchi Array**	**61.90**	**317**	P	**P**	**02 36 32.0**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=102,slow=8.8,SNR=7.0						
	comp=Z,1.2nm,0.7s						
MAKZ	**Makanchi**	**62.11**	**317**	P	**P**	**02 36 34.1**	**+0.6**
MAKZ				IAmb	IAmb	02 36 37.6	
	comp=Z,15nm,1.5s						
ZALV	**Zalesovo Beam**	**62.35**	**325**	P	**P**	**02 36 33.5**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=134,slow=4.3,SNR=3.9						
	comp=Z,0.8nm,0.4s						
I17K	**Unalakleet**	**64.85**	**24**	P	**P**	**02 36 52.3**	**+1.0**
N17K	**Nushagak Hills**	**64.97**	**28**	P	**P**	**02 36 52.1**	**-0.1**
N17K				IAmb	IAmb	02 37 32.3	
	comp=Z,32nm,1.7s						
KURK	**Kurchatov**	**65.13**	**321**	P	**P**	**02 36 53.1**	**-0.3**
KURK				IAmb	IAmb	02 36 54.8	
	comp=Z,4.2nm,0.8s						
KURBB	**Kurchatov Arra**	**65.17**	**321**	P	**P**	**02 36 53.5**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=106,slow=6.7,SNR=26						
	comp=Z,2.4nm,0.6s						
C18K	**Utukok River**	**66.89**	**19**	P	**P**	**02 37 04.8**	**+0.3**
CNPM	**China Poot**	**67.48**	**30**	P	**P**	**02 37 09.3**	**+1.0**
C19K	**Lookout Ridge**	**67.62**	**19**	P	**P**	**02 37 09.2**	**+0.2**
D19K	**Kuna River**	**67.83**	**20**	P	**P**	**02 37 10.1**	**-0.2**
G21K	**Allakaket**	**68.68**	**23**	P	**P**	**02 37 19.3**	**+3.6**
G21K				IAmb	IAmb	02 37 20.6	
	comp=Z,4.9nm,0.8s						
B20K	**Meade River**	**68.79**	**19**	P	**P**	**02 37 16.3**	**0.0**
PWL	**Port Wells**	**69.22**	**29**	P	**P**	**02 37 19.8**	**+0.6**
D22K	**Ayikyak River**	**69.80**	**20**	P	**P**	**02 37 22.9**	**+0.2**
D22K				IAmb	IAmb	02 37 45.8	
	comp=Z,37nm,1.8s						
E22K	**Anaktuvuk Pass**	**69.85**	**21**	P	**P**	**02 37 23.4**	**+0.5**
E22K				IAmb	IAmb	02 37 53.5	
	comp=Z,28nm,2.0s						
B22K	**Teshekpuk Lake**	**70.09**	**19**	P	**P**	**02 37 24.5**	**+0.2**
D23K	**Nanushuk River**	**70.52**	**20**	P	**P**	**02 37 28.1**	**+1.2**
BVAR	**Borovoye Array**	**70.54**	**322**	P	**P**	**02 37 27.9**	**+0.4**
	comp=Z,2.5nm,0.4s,baz=104,slow=7.7,SNR=23						
	comp=Z,2.5nm,0.4s						
E23K	**Chandalar**	**70.61**	**21**	P	**P**	**02 37 29.1**	**+1.5**
BRVK	**Borovoye**	**70.61**	**322**	P	**P**	**02 37 28.6**	**+0.8**
ILAR	**Eielson Array**	**70.79**	**25**	P	**P**	**02 37 27.0**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=252,slow=5.9,SNR=13						
	comp=Z,0.5nm,0.5s						
TOLK	**Toolik Lake Re**	**70.80**	**21**	P	**P**	**02 37 29.4**	**+0.6**
TOLK				IAmb	IAmb	02 38 12.0	
	comp=Z,27nm,1.9s						
C23K	**Itkillik River**	**70.82**	**20**	P	**P**	**02 37 29.6**	**+0.8**
E24K	**Your Creek**	**71.02**	**22**	P	**P**	**02 37 31.0**	**+0.9**
E24K				IAmb	IAmb	02 37 40.0	
	comp=Z,15nm,1.8s						
G24K	**Hadweenzic Riv**	**71.03**	**23**	P	**P**	**02 37 30.4**	**+0.2**
G24K				IAmb	IAmb	02 39 15.9	
	comp=Z,26nm,1.9s						
F24K	**Squaw Lake**	**71.08**	**22**	P	**P**	**02 37 32.1**	**+1.6**
D24K	**Happy Valley**	**71.21**	**20**	P	**P**	**02 37 32.5**	**+1.4**
C24K	**Franklin Bluff**	**71.42**	**20**	P	**P**	**02 37 32.7**	**+0.3**
SCRK	**Sand Creek**	**71.85**	**26**	P	**P**	**02 37 35.3**	**-0.1**
J26L	**Joseph Creek**	**72.13**	**26**	P	**P**	**02 37 36.3**	**-0.7**
J26L				IAmb	IAmb	02 37 51.5	
	comp=Z,17nm,2.0s						
BMAR	**Burnt Mountain**	**72.30**	**23**	P	**P**	**02 37 38.6**	**+0.7**
GRNC	**Granite Creek**	**72.37**	**30**	P	**P**	**02 37 39.5**	**+0.9**
GRNC				IAmb	IAmb	02 39 43.0	
	comp=Z,24nm,1.4s						
F26K	**Sheenjek River**	**72.52**	**22**	P	**P**	**02 37 40.2**	**+1.0**
F26K				IAmb	IAmb	02 37 49.2	
	comp=Z,22nm,1.9s						
CTGM	**Chitina Glacie**	**72.60**	**30**	P	**P**	**02 37 40.8**	**+0.8**
CTGM				IAmb	IAmb	02 38 13.5	
	comp=Z,44nm,2.0s						
TABL	**Table Mountain**	**72.63**	**30**	P	**P**	**02 37 40.1**	**0.0**
TABL				IAmb	IAmb	02 39 56.6	
	comp=Z,27nm,1.3s						
BCAR	**Beaver Creek A**	**72.68**	**27**	P	**P**	**02 37 40.0**	**-0.2**
C27K	**Jago River**	**73.08**	**20**	P	**P**	**02 37 43.1**	**+0.7**
E27K	**Coleen River**	**73.56**	**22**	P	**P**	**02 37 45.4**	**+0.1**
I28M	**Miner Creek**	**73.80**	**25**	P	**P**	**02 37 46.9**	**0.0**
I28M				IAmb	IAmb	02 37 55.5	
	comp=Z,20nm,1.9s						
D27M	**Malcolm River**	**73.96**	**21**	P	**P**	**02 37 47.2**	**-0.5**
F28M	**Old Crow**	**74.11**	**23**	P	**P**	**02 37 49.5**	**+0.9**
F28M				IAmb	IAmb	02 37 58.9	
	comp=Z,19nm,1.8s						
L29M	**L29M**	**74.33**	**28**	P	**P**	**02 37 50.8**	**+0.9**
L29M				IAmb	IAmb	02 40 11.8	
	comp=Z,23nm,1.9s						
E28M	**Babbage River**	**74.38**	**22**	P	**P**	**02 37 51.2**	**+1.2**
HYT	**Haines Junctio**	**74.45**	**30**	P	**P**	**02 37 51.7**	**+0.9**
HYT				IAmb	IAmb	02 38 22.7	
	comp=Z,16nm,1.6s						
H29M	**Whitestone**	**74.53**	**24**	P	**P**	**02 37 51.0**	**0.0**
H29M				IAmb	IAmb	02 38 18.2	
	comp=Z,31nm,1.9s						
K29M	**Barlow Dome**	**74.67**	**27**	P	**P**	**02 37 52.6**	**+0.7**
M30M	**Minto, Yukon**	**74.91**	**28**	P	**P**	**02 37 54.6**	**+1.4**
M30M				IAmb	IAmb	02 39 55.9	
	comp=Z,16nm,1.8s						
E29M	**Blow River**	**74.95**	**22**	P	**P**	**02 37 54.1**	**+0.8**
J30M	**Hart River**	**75.24**	**26**	P	**P**	**02 37 56.0**	**+0.7**
SIT	**Sitka**	**75.43**	**34**	P	**P**	**02 37 56.6**	**+0.3**
G30M	**tAoh Zraii Nji**	**75.46**	**24**	P	**P**	**02 37 56.4**	**0.0**
G30M				IAmb	IAmb	02 40 38.3	
	comp=Z,32nm,2.0s						
WHY	**Whitehorse**	**75.73**	**30**	P	**P**	**02 37 59.3**	**+1.1**
WHY				IAmb	IAmb	02 40 31.2	
	comp=Z,25nm,1.8s						
H31M	**Peel River**	**76.14**	**25**	P	**P**	**02 38 01.1**	**+0.8**
H31M				IAmb	IAmb	02 38 15.8	
	comp=Z,32nm,1.8s						
G31M	**Satah River**	**76.22**	**24**	P	**P**	**02 38 00.3**	**-0.3**
G31M				IAmb	IAmb	02 40 20.9	
	comp=Z,37nm,1.9s						
F31M	**Tsiigehtchic**	**76.45**	**23**	P	**P**	**02 38 01.4**	**-0.5**
F31M				IAmb	IAmb	02 38 42.1	
	comp=Z,22nm,1.8s						
INK	**Inuvik**	**76.56**	**22**	P	**P**	**02 38 04.0**	**+1.5**
INK				IAmb	IAmb	02 38 20.5	
	comp=Z,29nm,1.9s						
ABKAR	**Akbulak array**	**77.00**	**318**	P	**P**	**02 38 05.5**	**0.0**
ABKAR	**Akbulak array**	**77.00**	**318**	P	**P**	**02 38 05.3**	**-0.1**
ABKAR				IAmb	IAmb	02 38 06.2	
	comp=Z,2.2nm,0.6s						
ARTI	**Arti**	**77.61**	**325**	P	**P**	**02 38 08.6**	**-0.1**
ARTI				IAmb	IAmb	02 40 05.3	
	comp=Z,22nm,2.0s						
A36M	**Sachs Harbour**	**79.30**	**18**	P	**P**	**02 38 18.2**	**+0.5**
ARCES	**ARCESS Array B**	**88.41**	**342**	P	**P**	**02 39 03.8**	**-0.5**
	comp=Z,3.6nm,0.9s,baz=69,slow=6.6,SNR=4.1						
	comp=Z,3.6nm,0.9s						
NVAR	**Mina Array Bea**	**89.10**	**51**	P	**P**	**02 39 08.6**	**0.0**
	comp=Z,0.4nm,0.6s,baz=267,slow=5.5,SNR=6.5						
	comp=Z,0.4nm,0.6s						
FINES	**FINESS Array B**	**92.25**	**335**	P	**P**	**02 39 21.1**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=73,slow=6.6,SNR=5.0						
	comp=Z,1.2nm,0.7s						

*IDC **15** 02:29:21.1±1.6, 49°.78S×115°.49W, h0km, mb3.8/4, mbtmp3.8/4, MS3.6/23, Error ellipse: s-maj=56.4km s-min=33.1km az=127.0*
*NEIC **15** 02:29:23.5±1.7, 50°.2S±0°.1×115°.2W±0°.2, h10km±1km, mb4.6/14, Error ellipse: s-maj=21.0km s-min=17.3km az=262.0*
ISC 15 02:29:23.4±0.7, 50°.1S±0°.1×115°.2W±0°.1, h10km, n52, σ1§20/19, mb4.5/11, MS3.7/23, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**23.35**	**13**	LR	LR	02 40 06.4	
	comp=Z,62nm,19.5s,baz=201,slow=28						
GO08	**Villa O'Higgin**	**27.60**	**103**	P	**P**	**02 35 11.1**	**+0.5**
GO08				IAmb	IAmb	02 35 18.1	
	comp=Z,24nm,1.4s						
AY03	**Cochrane**	**28.01**	**101**	P	**P**	**02 35 13.8**	**-0.5**
AY03				IAmb	IAmb	02 35 21.6	
	comp=Z,28nm,1.4s						
MG01	**Puerto William**	**28.91**	**118**	P	**P**	**02 35 21.5**	**-0.7**
PMSA	**Palmer Station**	**30.21**	**138**	LR	LR	02 44 25.9	
	comp=Z,138nm,20.0s,baz=266,slow=30						
H03S2	**Juan Fernandez**	**31.11**	**72**	T	T	03 08 34.3	
	baz=227,slow=74,SNR=19						
H03S1	**Juan Fernandez**	**31.11**	**72**	T	T	03 08 33.0	
	baz=227,slow=74,SNR=23						
H03S3	**Juan Fernandez**	**31.12**	**72**	T	T	03 08 33.0	
	baz=227,slow=74,SNR=18						
H03N3	**Juan Fernandez**	**31.36**	**72**	T	T	03 08 49.2	
	baz=230,slow=72,SNR=24						
H03N2	**Juan Fernandez**	**31.38**	**72**	T	T	03 08 52.2	
	baz=230,slow=72,SNR=29						
H03N1	**Juan Fernandez**	**31.38**	**72**	T	T	03 08 47.5	
	baz=230,slow=72,SNR=32						
PLCA	**Paso Flores**	**32.28**	**91**	LR	LR	02 46 03.0	
	comp=Z,64nm,19.0s,baz=236,slow=31						
QSPA	**South Pole Qui**	**40.13**	**180**	P	**P**	**02 36 57.5**	**-1.7**
QSPA	**South Pole Qui**	**40.13**	**180**	P	**P**	**02 36 59.1**	**0.0**
	comp=Z,1.6nm,0.7s,baz=118,slow=5.3,SNR=4.4						
	comp=Z,1.6nm,0.7s						
AC06	**Mina Casimiro**	**40.90**	**73**	P	**P**	**02 37 05.0**	**-0.7**
AC06				IAmb	IAmb	02 37 18.1	
	comp=Z,12nm,1.1s						
PPT	**Papeete**	**42.54**	**307**	LR	LR	02 49 37.7	
	comp=Z,96nm,20.8s,baz=150,slow=29						
RAR	**Rarotonga**	**45.30**	**293**	LR	LR	02 50 44.2	
	comp=Z,48nm,19.5s,baz=143,slow=28						
TAOE	**Nuku Hiva Isla**	**46.03**	**325**	P	**P**	**02 37 47.4**	**+0.2**
SNZO	**South Karori**	**48.07**	**252**	P	**P**	**02 38 02.9**	**+0.1**
URZ	**Urewera**	**48.38**	**257**	LR	LR	02 53 37.2	
	comp=Z,79nm,19.8s,baz=223,slow=30						
RPZ	**Rata Peaks**	**48.90**	**247**	P	**P**	**02 38 08.8**	**-0.4**
RPZ				IAmb	IAmb	02 38 30.5	
	comp=Z,1.9nm,0.4s						
NNA	**Nana**	**49.29**	**53**	LR	LR	02 54 00.4	
	comp=Z,76nm,19.4s,baz=211,slow=30						
SNAA	**Sanae**	**49.62**	**157**	P	**P**	**02 38 13.6**	**-0.9**
SNAA				IAmb	IAmb	02 38 21.9	
	comp=Z,5.8nm,1.4s						
SNAA	**Sanae**	**49.62**	**157**	P	**P**	**02 38 17.9**	**+3.4**
	comp=Z,0.8nm,1.0s,baz=270,slow=10,SNR=3.5						
SNAA				LR	LR	02 59 09.3	
	comp=Z,63nm,19.0s,baz=216,slow=36						
	comp=Z,0.8nm,1.0s						
CPUP	**Villa Florida**	**49.84**	**84**	P	**P**	**02 38 17.4**	**+0.8**
CPUP	**Villa Florida**	**49.84**	**84**	LR	LR	02 56 03.2	
	comp=Z,57nm,20.7s,baz=238,slow=32						
LPAZ	**La Paz**	**50.61**	**65**	P	**P**	**02 38 22.2**	**-1.0**
LPAZ	**La Paz**	**50.61**	**65**	P	**P**	**02 38 22.3**	**-0.9**
	comp=Z,2.2nm,1.0s,baz=220,slow=7.1,SNR=5.1						
	comp=Z,2.2nm,1.0s						
ATAH	**Atahualpa**	**52.68**	**48**	LR	LR	02 55 54.2	
	comp=Z,82nm,18.4s,baz=235,slow=30						
VILB	**Vilhena**	**57.95**	**70**	P	**P**	**02 39 16.6**	**+0.6**
VILB				IAmb	IAmb	02 39 19.6	
	comp=Z,7.7nm,0.9s						
OTAV	**Otavalo**	**59.13**	**44**	P	**P**	**02 39 24.0**	**-0.7**
OTAV				IAmb	IAmb	02 39 34.8	
	comp=Z,5.7nm,1.4s						
MAW	**Mawson**	**62.64**	**179**	LR	LR	03 05 30.3	
	comp=Z,83nm,20.1s,baz=176,slow=34						
ROSC	**El Rosal**	**65.08**	**46**	LR	LR	03 02 49.1	
	comp=Z,71nm,18.9s,baz=200,slow=31						
LCR2	**La Lucha 2**	**65.50**	**34**	P	**P**	**02 40 07.7**	**+0.7**
LCR2				IAmb	IAmb	02 40 09.0	
	comp=Z,10.0nm,1.2s						
DZM	**Mont Dzumac**	**66.02**	**264**	LR	LR	03 07 41.4	
	comp=Z,36nm,18.1s,baz=93,slow=35						
SDV	**Santo Domingo**	**70.35**	**47**	LR	LR	03 08 16.3	
	comp=Z,56nm,18.0s,baz=254,slow=33						
STKA	**Stephens Creek**	**73.94**	**240**	LR	LR	03 09 15.5	
	comp=Z,17nm,21.0s,baz=206,slow=32						
MDP	**Montagnes des**	**76.81**	**65**	LR	LR	03 10 25.0	
	comp=Z,41nm,18.7s,baz=165,slow=32		

RSNC 15 02:33:00.2±0.0, 7°N±1°×7°3W±°, h143km±2km, M3.1, mb3.6, ML2.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.20**	**198**	P	Pn	02 33 19.9	-0.1
BARC				S	Sn	02 33 33.8	-1.1
BRJC	**Barrancabermej**	**0.65**	**287**	P	Pn	02 33 21.6	0.0
BRJC				S	Sn	02 33 38.2	+0.3
PAMC	**Pamplona, Colo**	**0.69**	**37**	P	Pn	02 33 22.7	+0.2
PAMC				S	Sn	02 33 39.6	+0.2
RUSC	**La Rusia**	**0.88**	**178**	P	Pn	02 33 23.9	0.0
RUSC				S	Sn	02 33 41.6	-0.3
PTBC	**PUERTO BERRIO,**	**1.35**	**260**	P	Pn	02 33 26.6	-1.1
PTBC				S	Sn	02 33 47.3	-1.3
TAMC	**Tame, Arauca**	**1.36**	**104**	P	Pn	02 33 28.2	+0.4
TAMC				S	Sn	02 33 48.2	-0.7
OCAC	**Ocana**	**1.46**	**352**	P	Pn	02 33 28.3	-0.7
OCAC				S	Sn	02 33 50.2	-0.9
SPBC	**San Pablo de B**	**1.47**	**220**	P	Pn	02 33 29.0	0.0
SPBC				S	Sn	02 33 51.0	0.0
ZARC	**Zaragoza, Cauc**	**1.86**	**292**	P	Pn	02 33 33.0	-0.3
ZARC				S	Sn	02 33 57.9	-0.8
NORC	**Norcasia**	**2.12**	**235**	P	Pn	02 33 36.5	+0.1
NORC				S	Sn	02 34 04.3	+0.1
CHIC	**Chingaza**	**2.22**	**196**	P	Pn	02 33 38.1	+0.1
CHIC				S	Sn	02 34 07.1	+0.1
ROSC	**El Rosal**	**2.27**	**212**	P	Pn	02 33 39.5	+1.0
ROSC				S	Sn	02 34 07.9	0.0
CVER	**Cruz Verde, Cu**	**2.44**	**203**	P	Pn	02 33 41.7	+1.0
CVER				S	Sn	02 34 13.0	+1.2
HELC	**Santa Helena**	**2.46**	**256**	P	Pn	02 33 40.8	-0.1
HELC				S	Sn	02 34 11.8	-0.4
UREC	**San Jos de Ur**	**2.58**	**292**	P	Pn	02 33 40.7	-1.3
UREC				S	Sn	02 34 11.9	-2.3
VILC	**Villavicencio,**	**2.71**	**192**	P	Pn	02 33 44.8	+1.0
VILC				S	Sn	02 34 17.1	-0.3
GUY2C	**Guyana, Caldas**	**2.72**	**235**	P	Pn	02 33 44.4	+0.2
GUY2C				S	Sn	02 34 18.0	0.0
PTGC	**Puerto Gaitan,**	**2.75**	**159**	P	Pn	02 33 43.1	-1.0
PTGC				S	Sn	02 34 16.0	-2.0
RECRC	**Villamaria, Ca**	**2.86**	**231**	P	Pn	02 33 49.0	+2.9
RECRC				S	Sn	02 34 22.3	+0.9
NIZA	**Niza - Manizal**	**2.90**	**234**	P	Pn	02 33 46.0	-0.3
NIZA				S	Sn	02 34 22.4	+0.6
CBOC	**Ciudad Bolivar**	**3.02**	**253**	P	Pn	02 33 48.0	+0.3
CBOC				S	Sn	02 34 24.3	0.0
DBBC	**Dabeiba**	**3.08**	**275**	P	Pn	02 33 48.0	-0.4
DBBC				S	Sn	02 34 25.2	-0.4
SDV	**Santo Domingo**	**3.23**	**49**	P	Pn	02 33 50.7	+0.2
SDV				S	Sn	02 34 26.3	-3.0
ARGC	**Ariguani, Magd**	**3.25**	**340**	P	Pn	02 33 51.2	+0.6
ARGC				S	Sn	02 34 28.7	-0.9
PRAC	**Prado**	**3.52**	**210**	P	Pn	02 33 53.6	-0.5
PRAC				S	Sn	02 34 35.7	-0.1
ORTC	**Ortega, Tolima**	**3.55**	**217**	P	Pn	02 33 54.6	+0.1
ORTC				S	Sn	02 34 36.6	0.0
APAC	**Apartado, Choc**	**3.61**	**288**	P	Pn	02 33 54.3	-0.9
APAC				S	Sn	02 34 35.7	-2.0
SJCC	**San Jacinto, C**	**3.71**	**327**	P	Pn	02 33 54.7	-1.8
SJCC				S	Sn	02 34 36.2	-4.0
URMC	**La Uribe, Meta**	**3.73**	**200**	P	Pn	02 33 57.5	+0.7
URMC				S	Sn	02 34 40.4	-0.3
CRJC	**Cerrejon, Guaj**	**4.22**	**3**	P	Pn	02 34 00.7	-2.6
CRJC				S	Sn	02 34 48.0	-4.3
GUVC	**San Jose del G**	**4.24**	**173**	P	Pn	02 34 04.3	+0.9
GUVC				S	Sn	02 34 51.0	-1.6
YOTC	**Yotoco, Valle**	**4.25**	**229**	P	Pn	02 34 03.7	0.0
YOTC				S	Sn	02 34 53.6	+0.6
CAPC	**Capurgana**	**4.58**	**294**	P	Pn	02 34 05.6	-2.4
CAPC				S	Sn	02 34 54.6	-6.1
MACC	**Macarena, Meta**	**4.66**	**189**	P	Pn	02 34 07.7	-1.4
MACC				S	Sn	02 34 59.5	-3.2
JAMC	**Jamundi, Valle**	**5.01**	**225**	P	Pn	02 34 14.0	+0.1
7.4nm,2.3s							
JAMC				S	Sn	02 35 09.2	-2.0
7.4nm,2.3s							
URIC	**Uribia, Colomb**	**5.01**	**13**	P	Pn	02 34 10.8	-2.9
17nm,0.8s							
URIC				S	Sn	02 35 08.9	-2.2
17nm,0.8s							
MALC	**Bahia Malaga**	**5.02**	**237**	P	Pn	02 34 15.8	+2.0
MALC				S	Sn	02 35 10.7	-0.4
FLOC	**Florencia**	**5.75**	**206**	P	Pn	02 34 23.4	-0.2
6.6nm,1.4s							
FLOC				S	Sn	02 35 26.5	-2.1
6.6nm,1.4s							
BBAC	**Balboa, Cauca**	**6.27**	**221**	P	Pn	02 34 31.9	+1.2
BBAC				S	Sn	02 35 40.5	-0.9

*IDC **15** 02:51:21.9±0.6, 6°85N×73°01W, h162km±7km, mb3.4/8, mbtmp3.9/12, Error ellipse: s-maj=15.9km s-min=7.1km az=132.0*
*NEIC **15** 02:51:22.3±1.3, 6°78N±0°09×73°01W±0°09, h159km±9km, mb4.1/32, Error ellipse: s-maj=13.6km s-min=11.5km az=140.0*
*RSNC **15** 02:51:22.1±0.0, 7°N±1°×7°3W±°, h149km±2km, M3.9, mb4.3, mB4.7, ML3.6, Mw(mB)3.9*

ISC 15 02:51:21.3±0.6, 6°85N±0°03×73°09W±0°04, h153km±5km, n100, σ1°32/143, mb4.1/21, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**201**	P	**Pn**	**02 51 42.8**	**+0.4**
BARC				S	**Sn**	**02 51 58.0**	**-0.4**
PAMC	**Pamplona, Colo**	**0.62**	**38**	P	**Pn**	**02 51 45.6**	**+1.4**
PAMC				S	**Sn**	**02 52 01.7**	**+0.1**
BRJC	**Barrancabermej**	**0.67**	**281**	P	**Pn**	**02 51 44.4**	**+0.6**
BRJC				S	**Sn**	**02 52 01.0**	**0.0**
RUSC	**La Rusia**	**0.95**	**180**	P	**Pn**	**02 51 46.7**	**+0.2**
RUSC				S	**Sn**	**02 52 05.6**	**-0.1**
TAMC	**Tame, Arauca**	**1.35**	**108**	P	**Pn**	**02 51 51.2**	**+1.7**
TAMC				S	**Sn**	**02 52 11.5**	**+0.3**
PTBC	**PUERTO BERRIO,**	**1.40**	**258**	P	**Pn**	**02 51 49.2**	**-0.8**
PTBC				S	**Sn**	**02 52 09.8**	**-2.2**
OCAC	**Ocana**	**1.40**	**350**	P	**Pn**	**02 51 50.8**	**+0.6**
OCAC				S	**Sn**	**02 52 12.8**	**+0.3**
SPBC	**San Pablo de B**	**1.54**	**220**	P	**Pn**	**02 51 51.5**	**-0.1**
SPBC				S	**Sn**	**02 52 13.7**	**-1.1**
ZARC	**Zaragoza, Cauc**	**1.87**	**290**	P	**Pn**	**02 52 55.3**	**+0.2**
ZARC				S	**Sn**	**02 52 20.9**	**-0.2**
NORC	**Norcasia**	**2.18**	**234**	P	**Pn**	**02 51 58.3**	**-0.5**
NORC				S	**Sn**	**02 52 26.0**	**-1.7**
CHIC	**Chingaza**	**2.29**	**196**	P	**Pn**	**02 52 00.7**	**+0.2**
CHIC				S	**Sn**	**02 52 30.0**	**-0.6**
ROSC	**El Rosal**	**2.34**	**212**		**Pn**	**02 52 02.5**	**+1.4**
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**02 52 02.6**	**+1.6**
503nm,0.4s,baz=55,slow=5.7,SNR=143							
ROSC				S	**Sn**	**02 52 34.5**	**+2.9**
557nm,0.3s,baz=181,slow=22,SNR=15							
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**02 52 02.4**	**+1.4**
ROSC				S	**Sn**	**02 52 32.5**	**+0.9**
CVER	**Cruz Verde, Cu**	**2.51**	**203**	P	**Pn**	**02 52 04.2**	**+1.1**
CVER				S	**Sn**	**02 52 34.6**	**-0.8**
HELC	**Santa Helena**	**2.51**	**255**	P	**Pn**	**02 52 05.1**	**+2.0**
HELC				S	**Sn**	**02 52 33.7**	**-1.5**
UREC	**San Jos de Ur**	**2.59**	**291**	P	**Pn**	**02 52 02.6**	**-1.0**
UREC				S	**Sn**	**02 52 34.0**	**-2.4**
GUY2C	**Guyana, Caldas**	**2.78**	**235**	P	**Pn**	**02 52 07.8**	**+1.3**
GUY2C				S	**Sn**	**02 52 42.1**	**+0.8**
VILC	**Villavicencio,**	**2.78**	**193**	P	**Pn**	**02 52 06.2**	**0.0**
VILC				S	**Sn**	**02 52 40.1**	**-0.8**
PTGC	**Puerto Gaitan,**	**2.79**	**160**	P	**Pn**	**02 52 06.0**	**-0.2**
PTGC				S	**Sn**	**02 52 38.4**	**-2.6**
RECRC	**Villamaria, Ca**	**2.93**	**230**	P	**Pn**	**02 52 10.9**	**+2.5**
RECRC				S	**Sn**	**02 52 45.3**	**+0.5**
NIZA	**Niza - Manizal**	**2.96**	**233**	P	**Pn**	**02 52 10.4**	**+1.8**
NIZA				S	**Sn**	**02 52 46.1**	**+1.0**
CBOC	**Ciudad Bolivar**	**3.07**	**252**	P	**Pn**	**02 52 10.5**	**+0.7**
CBOC				S	**Sn**	**02 52 46.0**	**-1.3**
DBBC	**Dabeiba**	**3.11**	**273**	P	**Pn**	**02 52 10.2**	**0.0**
DBBC				S	**Sn**	**02 52 45.7**	**-2.3**
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**02 52 12.3**	**+1.3**
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**02 52 11.9**	**+0.8**
23nm,0.3s,baz=231,slow=12,SNR=12							
SDV				S	**Sn**	**02 52 49.7**	**+0.1**
181nm,0.5s,baz=70,slow=21,SNR=35							
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**02 52 12.3**	**+1.3**
SDV				S	**Sn**	**02 52 49.5**	**0.0**
ARGC	**Ariguani, Magd**	**3.21**	**339**	P	**Pn**	**02 52 12.8**	**+1.4**
ARGC				S	**Sn**	**02 52 51.7**	**+1.4**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**02 52 16.1**	**-0.3**
PRAC				S	**Sn**	**02 52 57.9**	**-1.2**
APAC	**Apartado, Choc**	**3.62**	**287**	P	**Pn**	**02 52 16.6**	**-0.1**
APAC				S	**Sn**	**02 52 59.6**	**-0.1**
ORTC	**Ortega, Tolima**	**3.62**	**217**	P	**Pn**	**02 52 17.1**	**+0.3**
ORTC				S	**Sn**	**02 52 58.7**	**-1.2**
SJCC	**San Jacinto, C**	**3.67**	**326**	P	**Pn**	**02 52 16.3**	**-1.1**
SJCC				S	**Sn**	**02 52 57.9**	**-3.1**
URMC	**La Uribe, Meta**	**3.80**	**200**	P	**Pn**	**02 52 19.8**	**+0.7**
URMC				S	**Sn**	**02 53 02.7**	**-1.4**
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	P	**Pn**	**02 52 23.2**	**-0.5**
CRJC				S	**Sn**	**02 53 09.6**	**-2.7**
GUVC	**San Jose del G**	**4.30**	**174**	P	**Pn**	**02 52 25.3**	**-0.2**
GUVC				S	**Sn**	**02 53 13.7**	**-1.9**
YOTC	**Yotoco, Valle**	**4.31**	**229**	P	**Pn**	**02 52 25.3**	**-0.6**
YOTC				S	**Sn**	**02 53 16.3**	**+0.2**
CAPC	**Capurgana**	**4.59**	**293**	P	**Pn**	**02 52 28.6**	**-0.7**
CAPC				S	**Sn**	**02 53 18.5**	**-3.8**
MACC	**Macarena, Meta**	**4.73**	**189**	P	**Pn**	**02 52 29.7**	**-1.6**
MACC				S	**Sn**	**02 53 20.7**	**-5.1**
URIC	**Uribia, Colomb**	**4.95**	**13**	P	**Pn**	**02 52 33.2**	**-0.8**
20nm,0.4s,1μm							
URIC				S	**Sn**	**02 53 26.8**	**-4.0**
20nm,0.4s,1μm							
JAMC	**Jamundi, Valle**	**5.08**	**225**	P	**Pn**	**02 52 36.0**	**0.0**
30nm,0.8s							
JAMC				S	**Sn**	**02 53 33.3**	**-1.0**
30nm,0.8s							
MALC	**Bahia Malaga**	**5.08**	**237**	P	**Pn**	**02 52 37.4**	**+1.6**
MALC				S	**Sn**	**02 53 32.6**	**-1.4**
BAUV	**El Baul**	**5.41**	**67**		**Pn**	**02 52 39.2**	**-1.1**
FLOC	**Florencia**	**5.82**	**206**	P	**Pn**	**02 52 45.2**	**-0.5**
56nm,1.0s,709nm							
FLOC				S	**Sn**	**02 53 48.8**	**-3.0**
56nm,1.0s,709nm							
BBAC	**Balboa, Cauca**	**6.34**	**221**	P	**Pn**	**02 52 54.0**	**+1.2**
BBAC				S	**Sn**	**02 54 03.9**	**-0.5**
GR1C	**Gorgona, Isla**	**6.34**	**233**	P	**Pn**	**02 52 52.7**	**+0.1**
GR1C				S	**Sn**	**02 54 02.8**	**-1.3**
BCIP	**Isla Barro Col**	**7.07**	**289**	Pn	**Pn**	**02 53 00.4**	**-2.0**
OTAV	**Otavalo**	**8.47**	**219**		**Pn**	**02 53 21.4**	**0.0**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**02 53 28.3**	**+0.4**
7.0nm,0.8s,baz=31,slow=16,SNR=1.5							
PCRV				S	**Sn**	**02 55 07.8**	**0.0**
9.5nm,0.7s,baz=214,slow=15,SNR=1.5							
LCR2	**La Lucha 2**	**11.18**	**286**	Pn	**Pn**	**02 53 58.8**	**+1.7**
MTDJ	**Mount Denham**	**12.12**	**339**	Pn	**Pn**	**02 54 11.8**	**+2.7**
JTS	**Las Juntas de**	**12.22**	**287**	P	**Pn**	**02 54 11.2**	**+0.7**
1.7nm,0.4s,baz=148,slow=21,SNR=1.8							
SJG	**San Juan**	**13.08**	**30**	Pn	**Pn**	**02 54 21.1**	**-0.3**
BOAV	**Boa Vista**	**13.28**	**109**	Pn	**Pn**	**02 54 22.5**	**-1.5**
ETMB	**Extrema**	**17.91**	**157**	P	**P**	**02 55 18.8**	**-0.7**
ETMB				IAmb	IAmb	02 55 19.8	
comp=Z,6.5nm,0.7s							
SAML	**Samuel**	**18.54**	**148**	P	**P**	**02 55 25.2**	**-1.1**
SAML				IAmb	IAmb	02 55 26.5	
comp=Z,6.1nm,0.9s							
VILB	**Vilhena**	**23.47**	**147**	P	**P**	**02 56 14.7**	**-2.6**
LPAZ	**La Paz**	**23.50**	**168**	P	**P**	**02 56 17.9**	**-0.3**
comp=Z,0.7nm,0.4s,baz=322,slow=12,SNR=3.8							
comp=Z,0.7nm,0.4s							
HBVL	**Hebbronville**	**31.55**	**313**	P	**P**	**02 57 31.0**	**+1.7**
WHAR	**Wooly Hollow**	**33.36**	**331**	P	**P**	**02 57 45.4**	**+0.4**
BDFB	**Brasilia**	**33.41**	**132**	P	**P**	**02 57 45.9**	**+0.2**
BDFB				IAmb	IAmb	02 57 47.7	
comp=Z,4.6nm,1.1s							
BDFB	**Brasilia**	**33.41**	**132**	P	**P**	**02 57 45.2**	**-0.5**
comp=Z,1.2nm,0.4s,baz=276,slow=11,SNR=4.9							
comp=Z,1.2nm,0.4s							
FCAR	**Ozark Folk Cen**	**33.77**	**332**	P	**P**	**02 57 49.2**	**+0.7**
FCAR				IAmb	IAmb	02 58 19.2	
comp=Z,6.0nm,1.4s							
CCM	**Cathedral Cave**	**35.16**	**335**	P	**P**	**02 58 01.5**	**+1.0**
CCM				IAmb	IAmb	02 58 02.0	
comp=Z,5.2nm,0.7s							
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**02 58 12.5**	**+0.6**
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**02 58 12.6**	**+0.7**
comp=Z,0.4nm,0.7s,baz=131,slow=10,SNR=6.1							
comp=Z,0.4nm,0.7s							
TX31	**Lajitas Ar. Si**	**36.47**	**312**	P	**P**	**02 58 13.2**	**+1.3**
P38A	**Dawn**	**37.46**	**334**	P	**P**	**02 58 20.5**	**+0.5**
P38A				IAmb	IAmb	02 59 04.1	
comp=Z,0.6nm,0.2s							
JFWS	**Jewell Farm**	**38.98**	**340**	P	**P**	**02 58 33.6**	**+0.9**
ECSD	**EROS Data Cent**	**42.14**	**334**	P	**P**	**02 58 59.0**	**+0.4**
ULM	**Lac du Bonnet**	**47.27**	**340**	P	**P**	**02 59 38.8**	**-0.3**
comp=Z,2.4nm,0.5s,baz=138,slow=8.4,SNR=5.4							
comp=Z,2.4nm,0.5s							
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**02 59 46.0**	**+0.3**
comp=Z,0.4nm,0.5s,baz=122,slow=10.0,SNR=4.8							
comp=Z,0.4nm,0.5s							
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**03 01 32.8**	**-0.4**
comp=Z,1.6nm,0.6s,baz=137,slow=6.5,SNR=5.4							
comp=Z,1.6nm,0.6s							
H31M	**Peel River**	**72.26**	**338**	P	**P**	**03 02 30.5**	**+0.9**
H31M				IAmb	IAmb	03 02 44.0	
comp=Z,5.5nm,1.4s							
A36M	**Sachs Harbour**	**72.42**	**345**	P	**P**	**03 02 30.7**	**+0.3**
A36M				IAmb	IAmb	03 02 31.7	
comp=Z,5.2nm,0.8s							
G31M	**Satah River**	**72.69**	**339**	P	**P**	**03 02 32.9**	**+0.8**
G31M				IAmb	IAmb	03 03 14.0	
comp=Z,5.3nm,1.5s							
I30M	**Mount Dempster**	**72.82**	**337**	P	**P**	**03 02 33.5**	**+0.4**
I30M				IAmb	IAmb	03 02 35.2	
comp=Z,4.3nm,1.3s							
H29M	**Whitestone**	**73.94**	**337**	P	**P**	**03 02 39.9**	**+0.4**
G29M	**Pine Creek**	**74.06**	**338**	P	**P**	**03 02 40.5**	**+0.4**
M27K	**Edge Creek, AK**	**74.20**	**333**	P	**P**	**03 02 41.5**	**+0.2**
M27K				IAmb	IAmb	03 03 01.7	
comp=Z,4.5nm,1.4s							
I28M	**Miner Creek**	**74.30**	**336**	P	**P**	**03 02 42.3**	**+0.6**
BCAR	**Beaver Creek A**	**74.36**	**334**	P	**P**	**03 02 42.7**	**+0.7**
E29M	**Blow River**	**74.54**	**340**	P	**P**	**03 02 43.6**	**+0.7**
E28M	**Babbage River**	**75.18**	**340**	P	**P**	**03 02 46.7**	**+0.1**
BMAR	**Burnt Mountain**	**76.65**	**338**	P	**P**	**03 02 55.7**	**+0.7**
IL31		**76.96**	**335**	P	**P**	**03 02 55.6**	**-1.0**
ILAR	**Eielson Array**	**76.96**	**335**	P	**P**	**03 02 55.2**	**-1.5**
comp=Z,0.1nm,0.5s,baz=104,slow=3.0,SNR=2.3							
comp=Z,0.1nm,0.5s							
GHO	**Glory Hole Cre**	**77.31**	**332**	P	**P**	**03 02 58.3**	**-0.5**
SUA	**Susitna One**	**78.13**	**331**	P	**P**	**03 03 04.0**	**+0.6**
SKT	**Skwentna**	**78.56**	**332**	P	**P**	**03 03 06.3**	**+0.6**
SKT				IAmb	IAmb	03 03 09.1	
comp=Z,7.5nm,1.4s							
CAST	**Castle Rocks**	**78.99**	**333**	P	**P**	**03 03 08.6**	**+0.7**
M20K	**Styx River**	**79.31**	**332**	P	**P**	**03 03 10.1**	**+0.3**
M20K				IAmb	IAmb	03 03 26.5	
comp=Z,8.5nm,1.5s							
J20K	**Nowinta River**	**79.98**	**334**	P	**P**	**03 03 13.7**	**+0.5**
J20K				IAmb	IAmb	03 03 20.0	
comp=Z,6.6nm,1.3s							
L19K	**White Mountain**	**80.14**	**332**	P	**P**	**03 03 14.2**	**0.0**
L19K				IAmb	IAmb	03 03 15.2	
comp=Z,7.8nm,1.4s							
N18K	**Kilae Creek**	**80.54**	**330**	P	**P**	**03 03 16.5**	**+0.1**
N18K				IAmb	IAmb	03 03 22.6	
comp=Z,10.0nm,1.4s							
GRFO	**Grafenberg**	**81.14**	**41**	P	**P**	**03 03 20.1**	**+0.3**
D19K	**Kuna River**	**81.85**	**338**	P	**P**	**03 03 24.3**	**+1.2**
C19K	**Lookout Ridge**	**82.40**	**339**	P	**P**	**03 03 27.8**	**+1.8**
FINES	**FINESS Array B**	**88.40**	**28**	P	**P**	**03 03 55.2**	**-0.6**
comp=Z,2.8nm,1.0s,baz=292,slow=7.4,SNR=2.3							
comp=Z,2.8nm,1.0s							
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**03 10 51.6**	**-1.0**
comp=Z,0.3nm,0.5s,baz=125,slow=3.7,SNR=6.1							
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**03 10 54.7**	**-0.9**
comp=Z,0.5nm,0.6s,baz=106,slow=2.8,SNR=7.2							

*RSPR **15** 02:54:44.0±1.8, 19°3N±0°2×68°40W±0°07, h89km±9km, Error ellipse: s-maj=23.5km s-min=8.5km az=188.0*
*SDD **15** 02:54:44.6±2.0, 19°09N×68°39W, h15km±113km, MD3.6, ML3.3, MW3.5*
*NEIC **15** 02:54:47.8±1.3, 18°88N±0°09×68°33W±0°05, h35km±2km, ML3.3/34, Md3.3/17(RSPR), Error ellipse: s-maj=17.2km s-min=3.1km az=204.0*
*OSPL **15** 02:54:47.3±5.7, 18°94N×68°36W, h0km±31km, ML3.0*

ISC 15 02:54:45.2±1.6, 18°97N±0°07×68°36W±0°03, h6km±10km, n44, σ1°18/50, 15C-3D, Mona Passage

RSNC 15 02:55:35.7±0.0, 7°N±1°×7°3W±°, h145km±2km, M2.2, mB6.7, ML2.0, Mw(mB)6.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.20**	**189**	P	Pn	02 55 55.0	-0.7
BARC				S	Sn	02 56 10.2	-0.7
PCDR	**Punta Cana, DR**	**0.46**	**183**		**Pg**	**02 54 54.8**	**+0.7**
PCDR					**Sb**	**02 55 02.4**	**-0.4**
PCDR				IAML		02 55 04.0	
comp=N,2μm,0.7s							
PCDR	**Punta Cana, DR**	**0.46**	**183**	⇓*e*Pg	**Pg**	**02 54 54.9**	**+0.8**
PCDR				⇑*e*Sg	**Sb**	**02 55 02.4**	**-0.4**
PCDR				IAML		02 55 03.5	
comp=E,488nm,0.4s							
PCDR				IAML		02 55 03.8	
comp=N,2μm,0.8s							
PCDR	**Punta Cana, DR**	**0.46**	**183**	*i* P	**Pg**	**02 54 54.9**	**+0.8**
PCDR				*e*S	**Sg**	**02 55 01.1**	**+1.0**
PCDR				IAML		02 55 04.4	
comp=Z,936nm,0.5s							
HIDR	**Higuey Centro**	**0.51**	**222**	⇑*e*Pg	**Pg**	**02 54 55.0**	**-0.1**
HIDR				⇑*e*Sg	**Sg**	**02 55 02.0**	**+0.2**
HIDR				IAML		02 55 03.7	
comp=E,4μm,0.2s							
HIDR				IAML		02 55 03.7	
comp=N,5μm,0.2s							
MIDR	**Miches**	**0.66**	**271**	⇑*e*Pg	Pg	02 54 56.0	-1.9
MIDR				⇓*e*Sg	**Sg**	**02 55 04.2**	**-2.2**
MIDR				IAML		02 55 06.9	
comp=E,138nm,0.4s							
MIDR				IAML		02 55 07.3	
comp=N,325nm,0.4s							
MIDR				IAML		02 55 07.3	
comp=N,325nm,0.4s							
SADR	**Isla Saona**	**0.88**	**207**	⇑*e*Pg	**Pg**	**02 55 01.4**	**-0.7**
SADR				⇑*e*Sg	**Sb**	**02 55 14.8**	**0.0**
SADR				IAML		02 55 15.5	
comp=E,576nm,0.8s							
SADR				IAML		02 55 15.7	
comp=N,1μm,0.8s							
SADR				IAML		02 55 15.7	
comp=N,1μm,0.8s							
IDE	**Isla Desecheo**	**1.02**	**125**		Pg	02 55 02.9	-1.9
IDE					**Sg**	**02 55 17.8**	**-0.2**
AGPR	**Aguadilla, PR**	**1.28**	**113**		Pn	02 55 07.3	-2.4
AGPR				IAML		02 55 29.4	
comp=E,508nm,0.3s							
AGPR				IAML		02 55 31.8	
comp=N,630nm,0.5s							
AGPR	**Aguadilla, PR**	**1.28**	**113**	⇑*e*Pg	Pn	02 55 07.5	-2.3
AGPR				⇑*e*Sg	**Sb**	**02 55 27.9**	**+1.3**
AGPR				IAML		02 55 28.6	
comp=E,483nm,0.9s							
AGPR				IAML		02 55 31.7	
comp=N,580nm,0.4s							
AGPR	**Aguadilla, PR**	**1.28**	**113**	*i* P	**Pn**	**02 55 08.3**	**-1.4**
AGPR				*e*S	**Sb**	**02 55 27.9**	**+1.3**
AGPR				IAML		02 55 33.1	
comp=Z,190nm,0.2s							
PRSN	**Puerto Rico Se**	**1.37**	**123**		**Pn**	**02 55 09.9**	**-1.1**
LSP	**Las Mesas**	**1.44**	**123**		**Pn**	**02 55 11.7**	**-0.3**
NADR	**Nagua**	**1.47**	**285**	⇑*e*Pg	Pn	02 55 09.7	-2.6
NADR				IAML		02 55 31.9	
comp=N,1μm,0.3s							
NADR				IAML		02 55 34.9	
comp=E,719nm,0.5s							
CRPR	**Cabo Rojo, PR**	**1.52**	**129**	Pn	**Pn**	**02 55 11.0**	**-2.1**
CRPR	**Cabo Rojo, PR**	**1.52**	**129**	⇑*e*Pg	**Pn**	**02 55 12.4**	**-0.7**
CRPR				⇑*e*Sg	**Sn**	**02 55 33.6**	**+0.4**
CRPR				IAML		02 55 36.9	
comp=E,192nm,0.6s							
CRPR				IAML		02 55 37.9	
comp=N,182nm,0.9s							
CRPR	**Cabo Rojo, PR**	**1.52**	**129**	*i* P	**Pn**	**02 55 13.3**	**+0.2**
CRPR				*e*S	**Sn**	**02 55 34.6**	**+1.3**
CRPR				IAML		02 55 40.6	
comp=Z,390nm,0.6s							
SDD	**Santo Domingo**	**1.56**	**251**		**Pn**	**02 55 13.1**	**-0.6**
SDD				IAML		02 55 34.7	
comp=E,416nm,1.1s							
SDD				IAML		02 55 35.0	
comp=N,318nm,0.3s							
SDD	**Santo Domingo**	**1.56**	**251**	*i* P	**Pn**	**02 55 13.1**	**-0.6**
SDD				*e*S	**Sn**	**02 55 32.4**	**-1.8**
MLPR	**Magueyes Islan**	**1.59**	**129**	Pn	**Pn**	**02 55 11.7**	**-2.3**
MLPR				IAML		02 55 37.8	
comp=E,261nm,0

BRJC	**Barrancabermej**	**0.62 287**	P	Pn	02 55 56.7	-0.4
BRJC			S	Sn	02 56 14.0	+0.6
PAMC	**Pamplona, Colo**	**0.71 39**	P	Pn	02 55 58.1	-0.2
PAMC			S	Sn	02 56 14.9	-0.5
RUSC	**La Rusia**	**0.89 176**	P	Pn	02 55 59.2	-0.5
RUSC			S	Sn	02 56 16.7	-1.2
PTBC	**PUERTO BERRIO,**	**1.32 259**	P	Pn	02 56 01.8	-1.2
PTBC			S	Sn	02 56 22.9	-1.0
TAMC	**Tame, Arauca**	**1.40 105**	P	Pn	02 56 03.5	-0.3
TAMC			S	Sn	02 56 25.5	+0.2
OCAC	**Ocana**	**1.45 353**	P	Pn	02 56 03.5	-1.0
OCAC			S	Sn	02 56 26.6	0.0
SPBC	**San Pablo de B**	**1.46 219**	P	Pn	02 56 04.3	-0.2
SPBC			S	Sn	02 56 26.2	-0.4
ZARC	**Zaragoza, Cauc**	**1.83 292**	P	Pn	02 56 08.5	-0.1
ZARC			S	Sn	02 56 33.8	0.0
NORC	**Norcasia**	**2.10 235**	P	Pn	02 56 11.7	-0.1
NORC			S	Sn	02 56 40.1	+0.6
CHIC	**Chingaza**	**2.22 195**	P	Pn	02 56 13.9	+0.3
CHIC			S	Sn	02 56 43.0	+0.2
ROSC	**El Rosal**	**2.26 211**	P	Pn	02 56 15.0	+0.9
CVER	**Cruz Verde, Cu**	**2.43 202**	P	Pn	02 56 17.1	+0.8
CVER			S	Sn	02 56 48.0	+0.6
HELC	**Santa Helena**	**2.44 256**	P	Pn	02 56 18.6	+2.4
HELC			S	Sn	02 56 50.7	+3.4
GUY2C	**Guyana, Caldas**	**2.70 235**	P	Pn	02 56 20.1	+0.6
GUY2C			S	Sn	02 56 52.6	-0.6
PTGC	**Puerto Gaitan,**	**2.77 158**	P	Pn	02 56 18.7	-1.3
PTGC			S	Sn	02 56 52.0	-2.1
CBOC	**Ciudad Bolivar**	**2.99 252**	P	Pn	02 56 22.0	-0.9
CBOC			S	Sn	02 56 59.7	+0.3
PRAC	**Prado**	**3.51 210**	P	Pn	02 56 29.7	+0.2
ORTC	**Ortega, Tolima**	**3.54 216**	P	Pn	02 56 30.4	+0.5
SJCC	**San Jacinto, C**	**3.68 327**	P	Pn	02 56 31.4	-0.4
URMC	**La Uribe, Meta**	**3.73 199**	P	Pn	02 56 32.1	-0.3

RSNC 15 02:56:16.7±0.0, 7°N±1°×7°3W±°, h144km±2km, M2.4, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**193**	P	Pn	02 56 36.1	-0.6
BARC				S	Sn	02 56 51.6	-0.2
BRJC	**Barrancabermej**	**0.63**	**284**	P	Pn	02 56 37.8	-0.3
BRJC				S	Sn	02 56 54.6	+0.3
PAMC	**Pamplona, Colo**	**0.67**	**40**	P	Pn	02 56 38.9	-0.1
PAMC				S	Sn	02 56 55.8	0.0
RUSC	**La Rusia**	**0.92**	**177**	P	Pn	02 56 40.1	-0.7
RUSC				S	Sn	02 56 58.8	-0.4
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	P	Pn	02 56 42.9	-1.3
PTBC				S	Sn	02 57 04.1	-1.1
TAMC	**Tame, Arauca**	**1.38**	**106**	P	Pn	02 56 44.3	-0.3
TAMC				S	Sn	02 57 05.6	-0.3
OCAC	**Ocana**	**1.42**	**352**	P	Pn	02 56 46.2	+1.0
OCAC				S	Sn	02 57 05.8	-1.2
SPBC	**San Pablo de B**	**1.49**	**219**	P	Pn	02 56 45.2	-0.6
SPBC				S	Sn	02 57 08.4	+0.3
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	P	Pn	02 56 50.4	+0.8
ZARC				S	Sn	02 57 13.9	-0.9
NORC	**Norcasia**	**2.13**	**234**	P	Pn	02 56 52.8	-0.3
NORC				S	Sn	02 57 20.7	-0.4
CHIC	**Chingaza**	**2.26**	**195**	P	Pn	02 56 54.3	-0.7
CHIC				S	Sn	02 57 23.7	-0.7
ROSC	**El Rosal**	**2.30**	**211**	P	Pn	02 56 56.7	+1.3
ROSC				S	Sn	02 57 25.3	+0.1
HELC	**Santa Helena**	**2.46**	**255**	P	Pn	02 56 54.7	-2.8
HELC				S	Sn	02 57 28.8	0.0
CVER	**Cruz Verde, Cu**	**2.47**	**202**	P	Pn	02 56 57.8	+0.1
CVER				S	Sn	02 57 29.1	0.0
UREC	**San Jos de Ur**	**2.56**	**291**	P	Pn	02 56 56.6	-1.7
UREC				S	Sn	02 57 26.9	-3.4
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	02 57 00.2	-0.7
GUY2C				S	Sn	02 57 35.3	+0.4
VILC	**Villavicencio,**	**2.75**	**192**	P	Pn	02 57 00.3	-0.5
VILC				S	Sn	02 57 34.9	+0.1
CBOC	**Ciudad Bolivar**	**3.02**	**252**	P	Pn	02 57 04.8	+0.6
CBOC				S	Sn	02 57 40.3	-0.6
PRAC	**Prado**	**3.55**	**210**	P	Pn	02 57 10.4	-0.6
PRAC				S	Sn	02 57 52.6	-0.4
ORTC	**Ortega, Tolima**	**3.58**	**216**	P	Pn	02 57 10.6	-0.8
ORTC				S	Sn	02 57 53.9	+0.2
APAC	**Apartado, Choc**	**3.59**	**288**	P	Pn	02 57 10.7	-0.7
APAC				S	Sn	02 57 52.2	-1.6
SJCC	**San Jacinto, C**	**3.67**	**327**	P	Pn	02 57 10.3	-2.2
SJCC				S	Sn	02 57 51.8	-4.1
URMC	**La Uribe, Meta**	**3.76**	**199**	P	Pn	02 57 13.6	-0.2
URMC				S	Sn	02 57 58.1	0.0
CRJC	**Cerrejon, Guaj**	**4.18**	**3**	P	Pn	02 57 16.3	-3.0
CRJC				S	Sn	02 58 05.0	-2.9
CAPC	**Capurgana**	**4.56**	**294**	P	Pn	02 57 25.1	+0.9
CAPC				S	Sn	02 58 10.8	-5.8

*IDC **15** 03:01:58.0±1.7, 7°.03N×126°.79E, h101km±15km, mb3.7/12, mbtmp4.1/12, MS3.3/4, Error ellipse: s-maj=26.3km s-min=14.6km az=67.0*
*NEIC **15** 03:01:58.1±1.5, 7°.08N±0°.10×126°.9E±0°.1, h97km±1km, mb4.5/21, Error ellipse: s-maj=19.1km s-min=14.2km az=92.0*

ISC 15 03:01:57.7±0.5, 7°.03N±0°.07×126°.85E±0°.10, h100km, n43, σ1°94/42, mb4.3/23, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.26**	**272**	Pn	**Pn**	**03 02 22.3**	**+1.2**
DAV	**Davao City (W)**	**1.26**	**272**	P	**Pn**	**03 02 22.2**	**+1.1**
	702nm,0.5s,baz=85,slow=11,SNR=11						
DAV				S	**Sn**	**03 02 37.6**	**-1.2**
	375nm,0.3s,baz=276,slow=24,SNR=8.5						
TOLI2	**Tolitoli**	**8.44**	**226**	Pn	**Pn**	**03 03 55.6**	**-1.6**
KNRA	**Kununurra**	**22.64**	**175**	P	**P**	**03 06 51.7**	**+1.1**
KNRA				IAmb	IAmb	03 07 00.1	
	comp=Z,28nm,1.5s						
FITZ	**Fitzroy Crossi**	**25.00**	**183**	P	**P**	**03 07 12.6**	**+0.2**
WB0	**Warramunga Arr**	**27.65**	**165**	P	**P**	**03 07 35.9**	**-0.3**
WRA	**Warramunga Arr**	**27.80**	**165**	P	**P**	**03 07 38.0**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=346,slow=11,SNR=2.2						
WRA				ScP	**ScP**	**03 14 22.9**	**-0.7**
	comp=Z,0.5nm,1.0s,baz=331,slow=3.2,SNR=2.3						
	comp=Z,0.4nm,0.7s						
WB2	**Warramunga Arr**	**27.80**	**165**	P	**P**	**03 07 36.7**	**-0.9**
MBWA	**Marble Bar**	**28.88**	**194**	P	**P**	**03 07 46.6**	**-0.4**
MBWA				IAmb	IAmb	03 07 49.2	
	comp=Z,27nm,1.4s						
CMAR	**Chiang Mai Arr**	**29.44**	**295**	P	**P**	**03 07 52.9**	**+0.7**
	comp=Z,2.3nm,0.3s,baz=106,slow=5.7,SNR=1.6						
	comp=Z,2.3nm,0.3s						
MJAR	**Matsushiro Arr**	**31.15**	**18**	P	**P**	**03 08 06.7**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=203,slow=12,SNR=4.4						
	comp=Z,1.7nm,0.8s						
ASAR	**Alice Springs**	**31.28**	**167**	P	**P**	**03 08 08.5**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=342,slow=7.3,SNR=10						
	comp=Z,0.4nm,0.3s						
JMM	**Marumori**	**33.20**	**20**	P	**P**	**03 08 24.4**	**-0.5**
USA0B	**Ussuriysk Arra**	**37.29**	**6**	P	**P**	**03 08 57.4**	**-2.6**
USA0B				IAmb	IAmb	03 09 04.8	
	comp=Z,7.7nm,1.4s						
FORT	**Forrest**	**37.62**	**178**	P	**P**	**03 09 03.6**	**+0.8**
BBOO	**Buckleboo**	**40.58**	**168**	P	**P**	**03 09 28.6**	**+1.1**
BBOO				IAmb	IAmb	03 10 07.1	
	comp=Z,20nm,1.4s						
NWAO	**Narrogin (SRO)**	**40.78**	**192**	P	**P**	**03 09 29.8**	**+0.6**
STKA	**Stephens Creek**	**41.17**	**161**	P	**P**	**03 09 32.6**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=325,slow=16,SNR=2.8						
	comp=Z,1.1nm,0.8s						
PETK	**Petropavlovsk-**	**52.35**	**23**	P	**P**	**03 10 59.9**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=236,slow=10,SNR=1.7						
PETK				LR	LR	03 32 07.5	
	comp=Z,40nm,21.3s,baz=105,slow=34						
	comp=Z,3.2nm,0.8s						
MK31	**Makanchi Array**	**54.95**	**324**	P	**P**	**03 11 19.1**	**+0.7**
MK31				IAmb	IAmb	03 11 35.8	
	comp=Z,6.5nm,1.4s						
MKAR	**Makanchi Array**	**54.95**	**324**	P	**P**	**03 11 19.1**	**+0.7**
MKAR	**Makanchi Array**	**54.95**	**324**	P	**P**	**03 11 18.0**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=113,slow=7.1,SNR=21						
	comp=Z,1.1nm,0.4s						
MA2	**Magadan**	**55.49**	**14**	LR	LR	03 36 37.4	
	comp=Z,14nm,19.6s,baz=268,slow=38						
KURK	**Kurchatov**	**59.05**	**326**	P	**P**	**03 11 47.5**	**+0.3**
KURK				IAmb	IAmb	03 11 49.1	
	comp=Z,3.8nm,0.6s						
KURBB	**Kurchatov Arra**	**59.06**	**326**	P	**P**	**03 11 47.5**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=122,slow=7.1,SNR=16						
	comp=Z,1.5nm,0.5s						
KKAR	**Karatay Array**	**60.94**	**316**	P	**P**	**03 12 00.5**	**+0.1**
TIXI	**Tiksi**	**64.56**	**1**	LR	LR	03 42 29.4	
	comp=Z,27nm,19.5s,baz=232,slow=38						
BVAR	**Borovoye Array**	**64.65**	**326**	P	**P**	**03 12 25.2**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=125,slow=7.6,SNR=9.1						
	comp=Z,2.4nm,0.7s						
NRIK	**Noril'sk**	**67.27**	**346**	P	**P**	**03 12 40.7**	**-0.5**
NRIK				IAmb	IAmb	03 13 07.8	
	comp=Z,5.5nm,1.4s						
ABKAR	**Akbulak array**	**69.70**	**320**	P	**P**	**03 12 56.8**	**+0.1**
ABKAR	**Akbulak array**	**69.70**	**320**	P	**P**	**03 12 56.6**	**-0.1**
D19K	**Kuna River**	**78.02**	**21**	P	**P**	**03 13 46.9**	**+2.0**
D19K				IAmb	IAmb	03 14 29.8	
	comp=Z,7.3nm,1.4s						
KDAK	**Kodiak Island**	**79.05**	**33**	P	**P**	**03 13 52.1**	**+1.3**
H21K	**Melozitna Rive**	**79.65**	**25**	P	**P**	**03 13 55.9**	**+2.1**
H21K				IAmb	IAmb	03 14 08.5	
	comp=Z,6.4nm,1.4s						
SUA	**Susitna One**	**80.23**	**29**	P	**P**	**03 13 57.0**	**-0.2**
SUA				IAmb	IAmb	03 14 32.0	
	comp=Z,9.0nm,1.3s						
SML	**Sawmill**	**81.39**	**29**	P	**P**	**03 14 02.6**	**-0.7**
SML				IAmb	IAmb	03 14 22.5	
	comp=Z,14nm,1.4s						
CCB	**Clear Creek Bu**	**81.69**	**26**	P	**P**	**03 14 05.0**	**+0.3**
ILAR	**Eielson Array**	**82.09**	**26**	P	**P**	**03 14 06.2**	**-0.7**
ILAR	**Eielson Array**	**82.09**	**26**	P	**P**	**03 14 07.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=235,slow=5.5,SNR=11						
	comp=Z,0.4nm,0.6s						
SCRK	**Sand Creek**	**83.36**	**26**	P	**P**	**03 14 14.8**	**+1.2**
ARCES	**ARCESS Array B**	**87.41**	**340**	LR	LR	03 56 56.4	
	comp=Z,12nm,18.2s,baz=198,slow=38						
FINES	**FINESS Array B**	**89.00**	**332**	P	**P**	**03 14 40.9**	**-0.2**
	comp=Z,2.7nm,1.1s,baz=72,slow=6.0,SNR=4.1						
	comp=Z,2.7nm,1.1s						
AKASG	**Malin Array Be**	**89.42**	**321**	P	**P**	**03 14 42.9**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=68,slow=4.6,SNR=3.1						
	comp=Z,0.7nm,0.6s						

*IDC **15** 03:02:18.7±1.4, 55°.92N×162°.19E, h0km, mb3.6/3, mbtmp3.5/4, ML2.4/1, Error ellipse: s-maj=44.0km s-min=26.8km az=145.0*
*KRSC **15** 03:02:22.6±0.6, 55°.52N×162°.44E, h74km±16km, Ml3.6*

ISC 15 03:02:24.9±1.1, 55°.53N±0°.04×162°.43E±0°.04, h65km±12km, n47, σ1°13/65, mb3.5/3, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.71**	**18**	*eP*	**Pn**	**03 02 39.4**	**-0.1**
KBTR				*eS*	**Sn**	**03 02 51.9**	**+1.5**
KBG	**Krutoberegovo**	**0.74**	**12**	*eP*	**Pn**	**03 02 39.7**	**-0.2**
KBG				*eS*	**Sn**	**03 02 52.3**	**+1.4**
ZLN	**Zelenaya**	**1.04**	**298**	*eP*	**Pn**	**03 02 43.3**	**-0.4**
ZLN				*eS*	**Sn**	**03 02 58.3**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**1.06**	**293**	*eP*	**Pn**	**03 02 43.6**	**-0.4**
BZGR				*eS*	**Sn**	**03 02 58.5**	**+0.2**
CIRR	**Tsirk**	**1.11**	**302**	*eP*	**Pn**	**03 02 44.9**	**+0.2**
CIRR				*eS*	**Sn**	**03 02 60.0**	**+0.5**
LGNR	**Loginova**	**1.13**	**300**	*eP*	**Pn**	**03 02 44.9**	**-0.2**
LGNR				*eS*	**Sn**	**03 03 00.4**	**+0.5**
BZP	**Bezymyannyi-Pe**	**1.14**	**290**	*eP*	**Pn**	**03 02 44.3**	**-0.7**
BZP				*eS*	**Sn**	**03 02 59.1**	**-0.9**
BZMR	**Bezymyannaya**	**1.17**	**291**	*eP*	**Pn**	**03 02 45.0**	**-0.4**
BZMR				*eS*	**Sn**	**03 02 59.9**	**-0.8**
BZWR	**Bezymyannyi-We**	**1.18**	**292**	*eP*	**Pn**	**03 02 45.4**	**-0.2**
BZWR				*eS*	**Sn**	**03 03 01.2**	**+0.3**
SMKR	**Semkarok**	**1.18**	**333**	*eP*	**Pn**	**03 02 45.3**	**-0.2**
SMKR				*eS*	**Sn**	**03 03 01.9**	**+1.0**
TUMD	**Tumrok D**	**1.21**	**255**	*eP*	**Pn**	**03 02 45.3**	**-0.5**
TUMD				*eS*	**Sn**	**03 03 00.5**	**-1.0**
BDR	**Baidarnaya**	**1.24**	**327**	*eS*	**Sn**	**03 03 02.9**	**+0.5**
KIRR	**Kirishev**	**1.25**	**290**	*eP*	**Pn**	**03 02 46.4**	**-0.1**
KIRR				*eS*	**Sn**	**03 03 03.4**	**+0.6**
KRSR	**Krestovskiy**	**1.25**	**304**	*eP*	**Pn**	**03 02 46.0**	**-0.5**
KRSR				*eS*	**Sn**	**03 03 02.1**	**-0.6**
KMNR	**Kamenistaya**	**1.26**	**281**	*eP*	**Pn**	**03 02 46.5**	**-0.2**
KMNR				*eS*	**Sn**	**03 03 02.1**	**-0.8**
KLY	**Klyuchi**	**1.27**	**309**	*eP*	**Pn**	**03 02 45.0**	**-1.6**
KLY				*eS*	**Sn**	**03 03 00.2**	**-2.6**
KPT	**Kopyto**	**1.32**	**290**	*eP*	**Pn**	**03 02 48.0**	**+0.6**
KPT				*eS*	**Sn**	**03 03 06.1**	**+1.8**
SRKR	**Sorokina**	**1.33**	**328**	*eS*	**Sn**	**03 03 05.3**	**+1.0**
TUMR	**Tumrok**	**1.33**	**260**	*eP*	**Pn**	**03 02 47.4**	**-0.1**
TUMR				*eS*	**Sn**	**03 03 03.1**	**-1.3**
KOZ	**Kozyrevsk**	**1.54**	**291**	*eS*	**Sn**	**03 03 10.5**	**+1.2**
SRDR	**Sredinnyy**	**1.72**	**298**	*eP*	**Pn**	**03 02 52.8**	**+0.1**
BKI	**Bering**	**2.05**	**98**	*eP*	**Pn**	**03 02 57.2**	**+0.2**
BKI				*eS*	**Sn**	**03 03 20.9**	**-0.6**
ESO	**Esso**	**2.15**	**282**	*eP*	**Pn**	**03 02 58.7**	**+0.2**
SPN	**Mys Shipunski**	**2.82**	**211**	*eP*	**Pn**	**03 03 06.1**	**-1.4**
SPN				*eS*	**Sn**	**03 03 37.2**	**-3.1**
NLC	**Nalytchevo**	**2.98**	**219**	*eP*	**Pn**	**03 03 09.0**	**-0.7**
NLC				*eS*	**Sn**	**03 03 43.2**	**-1.0**
KRER	**Koryakskii**	**3.10**	**225**	*eP*	**Pn**	**03 03 12.5**	**+0.9**
KRX	**Arik**	**3.10**	**227**	*eP*	**Pn**	**03 03 12.2**	**+0.6**
SMAR	**Somma**	**3.11**	**224**	*eP*	**Pn**	**03 03 11.8**	**+0.1**
AVH	**Avacha**	**3.13**	**225**	*eP*	**Pn**	**03 03 12.7**	**+0.8**
UGLR	**Uglovaya**	**3.14**	**224**	*eP*	**Pn**	**03 03 12.3**	**+0.2**
KOK	**Koryaka**	**3.16**	**226**	*eP*	**Pn**	**03 03 12.9**	**+0.7**
GNL	**Ganaly**	**3.19**	**237**	*eP*	**Pn**	**03 03 13.4**	**+0.7**
DALK	**Dalny**	**3.31**	**222**	*eP*	**Pn**	**03 03 14.6**	**+0.4**
PET	**Petropavlovsk**	**3.35**	**223**	*eP*	**Pn**	**03 03 15.5**	**+0.8**
PETK	**Petropavlovsk-**	**3.69**	**231**	Pn	**Pn**	**03 03 19.1**	**-0.3**
	1.3nm,0.3s,baz=60,slow=17,SNR=13						
PETK				Sn	**Sn**	**03 04 06.0**	**+4.5**
	0.2nm,0.3s,baz=8.2,slow=21,SNR=2.0						
	3.0nm,0.5s						
KRMR	**Karymshinskiy**	**3.71**	**225**	*eP*	**Pn**	**03 03 20.4**	**+0.8**
KRMR				*eS*	**Sn**	**03 04 03.6**	**+1.6**
OSSR	**Ossora**	**3.74**	**5**	*eP*	**Pn**	**03 03 20.4**	**+0.3**
OSSR				*eS*	**Sn**	**03 04 01.8**	**-1.0**
GRL	**Gorelyy**	**3.94**	**222**	*eP*	**Pn**	**03 03 23.3**	**+0.4**
MTVR	**Mutnovka**	**3.95**	**221**	*eP*	**Pn**	**03 03 24.2**	**+1.0**
APC	**Apacha**	**4.05**	**232**	*eP*	**Pn**	**03 03 25.9**	**+1.6**
ASAK	**Asacha**	**4.14**	**222**	*eP*	**Pn**	**03 03 27.0**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**35.90**	**173**	T	T	03 48 35.0	
	baz=354						
H11N3	**WAKE ISLAND Hy**	**35.92**	**173**	T	T	03 48 35.4	
	baz=354						
H11N1	**WAKE ISLAND Hy**	**35.92**	**173**	T	T	03 48 31.8	
	baz=354						
NVAR	**Mina Array Bea**	**53.67**	**73**	P	P	03 11 42.9	+2.9
	0.3nm,0.6s,baz=306,slow=7.7,SNR=4.2						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**58.41**	**337**	P	**P**	**03 12 12.5**	**-0.6**
	2.0nm,1.0s,baz=23,slow=7.5,SNR=6.6						
	2.0nm,1.0s						
TXAR	**Lajitas Array**	**68.46**	**69**	P	P	03 13 21.9	+1.8
	0.2nm,0.7s,baz=297,slow=4.0,SNR=3.5						
	0.2nm,0.7s						

*IDC **15** 03:24:42.2±6.2, 37°.32N×71°.72E, h137km±56km, mb3.3/2, mbtmp3.9/7, MS3.6/1, Error ellipse: s-maj=67.6km s-min=43.4km az=134.0*
*NNC **15** 03:24:49.9±2.1, 37°.88N×71°.88E, h227km±29km, mb2.7, mpv4.0, Error ellipse: s-maj=24.4km s-min=12.0km az=23.0*

ISC 15 03:24:44.3±1.6, 37°.5N±0°.1×71°.7E±0°.1, h150km, n23, σ1°52/26, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.89**	**18**	P	**Pn**	**03 25 58.0**	**+1.4**
	SNR=322						
UCH	**Uchtor**	**5.21**	**24**	P	**Pn**	**03 26 02.4**	**+1.5**
	SNR=8.7						
EKS2	**Erkin-Say**	**5.41**	**17**	P	**Pn**	**03 26 05.2**	**+1.9**
	SNR=17						
AAK	**Ala-Archa**	**5.58**	**22**	P	**Pn**	**03 26 06.7**	**+1.2**
	SNR=49						
AAK	**Ala-Archa**	**5.58**	**22**	P	**Pn**	**03 26 07.1**	**+1.6**
	26nm,0.3s,baz=187,slow=7.3,SNR=127						
AAK				S	**Sn**	**03 27 08.8**	**-0.1**
	12nm,0.3s,baz=332,slow=21,SNR=20						
KK31	**Karatay Array**	**5.67**	**351**	P	**Pn**	**03 26 09.0**	**+2.4**
	4.9nm,0.3s,baz=18,slow=25,SNR=77						
KK31				⇑S	**Sn**	**03 27 12.3**	**+1.4**
	37nm,0.5s,baz=156,slow=18,SNR=34						
KBK	**Karagaybulak**	**5.74**	**25**	P	**Pn**	**03 26 09.0**	**+1.4**
	SNR=10						
ULHL	**Ulahol**	**5.91**	**35**	P	**Pn**	**03 26 10.0**	**+0.1**
	SNR=17						
CHMS	**Chumysh**	**5.99**	**22**	P	**Pn**	**03 26 12.0**	**+1.3**
	SNR=18						
CHMS	**Chumysh**	**5.99**	**22**	⇑P	**Pn**	**03 26 11.8**	**+1.0**
	10nm,0.3s						
CHMS				⇓S	**Sn**	**03 27 17.8**	**-0.6**
	13nm,0.5s						
USP	**Ospenovka**	**6.16**	**20**	P	**Pn**	**03 26 14.1**	**+1.0**
	SNR=11						
TKM2	**Tokmak 2**	**6.20**	**28**	P	**Pn**	**03 26 14.8**	**+1.0**
	SNR=6.9						
TKM2	**Tokmak 2**	**6.20**	**28**	⇓P	**Pn**	**03 26 14.4**	**+0.6**
	8.6nm,0.6s						
MDOK	**Medeo**	**7.00**	**34**	P	**Pn**	**03 26 24.6**	**+0.2**
	7.5nm,0.7s						
MK31	**Makanchi Array**	**12.18**	**37**	P	**Pn**	**03 27 32.6**	**-0.2**
	0.3nm,0.5s,baz=226,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**12.18**	**37**	P	**Pn**	**03 27 32.5**	**-0.3**
	1.2nm,0.8s,baz=226,slow=14,SNR=6.0						
KURBB	**Kurchatov Arra**	**14.01**	**18**	P	**Pn**	**03 27 54.5**	**-1.7**
	0.5nm,0.6s,baz=208,slow=10,SNR=4.4						
AB31	**Akbulak array**	**14.49**	**328**	P	**Pn**	**03 28 02.9**	**+0.7**
	0.6nm,0.3s,baz=136,slow=14,SNR=52						
AB31				⇑S	**Sn**	**03 30 38.8**	**-4.1**
	2.3nm,0.6s,baz=131,slow=26,SNR=8.0						
BVAR	**Borovoye Array**	**15.55**	**357**	P	**P**	**03 28 16.0**	**-0.4**
	1.4nm,0.4s,baz=158,slow=12,SNR=6.2						
ZALV	**Zalesovo Beam**	**18.79**	**25**	P	**Pn**	**03 28 52.9**	**-1.3**
	4.1nm,0.4s,baz=220,slow=11,SNR=12						
HFS	**Hagfors**	**42.61**	**321**	P	**P**	**03 32 27.0**	**+1.7**
	1.9nm,0.9s,baz=100,slow=7.5,SNR=1.6						
	1.9nm,0.9s						
KLR	**Kul'dur**	**44.14**	**55**	LR	LR	03 51 56.3	
	comp=Z,64nm,18.8s,baz=0.5,slow=37						
TORD	**Torodi Ar. Bea**	**66.27**	**269**	P	**P**	**03 35 15.4**	**-1.3**
	0.2nm,0.4s,baz=45,slow=6.3,SNR=5.6						
	0.2nm,0.4s						

*IDC **15** 03:26:57.6±2.2, 35°.90N×0°.37W, h0km, mb2.9/1, mbtmp3.4/3, ML3.4/2, MS2.2/1, Error ellipse: s-maj=42.9km s-min=27.1km az=57.0*
*CRAAG **15** 03:26:58.8, 35°.76N×0°.36W, Ml3.4, Algerie 08km SE Gdyel*
*CNRM **15** 03:26:59.7, 35°.84N×0°.44W, h17km, ML3.2*
*MDD **15** 03:27:00.9±0.4, 35°.80N×0°.46W, h12km±3km, mb_Lg3.2/59, Error ellipse: s-maj=3.2km s-min=1.8km az=148.0*
*IGIL **15** 03:27:01.8, 35°.78N×0°.46W, h12km*
*INMG **15** 03:27:02.1±1.5, 35°.88N×0°.52W, h18km±10km, ML2.6, Error ellipse: s-maj=7.2km s-min=3.4km az=134.0*

ISC 15 03:26:59.9±1.3, 35°.83N±0°.03×0°.46W±0°.03, h19km±4km, n133, σ1°42/206, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.12**	**215**	P	**Pg**	**03 27 03.4**	**-0.5**
OFRG	**Douar Fergoug**	**0.52**	**127**	P	**Pg**	**03 27 08.1**	**-2.2**
ODJA	**Bouhanifia**	**0.56**	**153**	P	**Pg**	**03 27 10.0**	**-1.2**
OTSS	**Djebel Tessala**	**0.61**	**206**	P	**Pb**	**03 27 12.9**	**+0.9**
OJBR	**Djebel Berber**	**0.70**	**111**	P	**Pg**	**03 27 13.0**	**-0.8**
OSBL	**Sidi Abdelli**	**0.93**	**217**	P	**Pb**	**03 27 17.3**	**-0.2**
OLHC	**Oulhaca**	**0.97**	**234**	P	**Pg**	**03 27 18.7**	**-0.1**
OJGS	**Djebel Guires**	**1.04**	**108**	P	**Pg**	**03 27 22.8**	**+2.7**
EANR	**´Ain N'Sour**	**1.27**	**84**	P	**Pn**	**03 27 21.5**	**-1.2**
OBBL	**Beni Bahdel**	**1.41**	**217**	P	**Pn**	**03 27 24.5**	**-0.1**
ECHA	**Ech Chlef**	**1.52**	**77**	P	**Pg**	**03 27 33.1**	**+4.0**
EBNR	**Beni Rached**	**1.68**	**74**	P	**Pn**	**03 27 27.3**	**-1.0**
EBNH	**Beni Haoua**	**1.77**	**67**	P	Pn	03 27 23.5	-6.1
CART	**Cartagena**	**1.80**	**346**	Pn	**Pn**	**03 27 29.6**	**-0.3**
CART				Sn	**Sn**	**03 27 50.5**	**-1.8**
CART	**Cartagena**	**1.80**	**346**	P	**Pn**	**03 27

EMAL			Sn	Sn	03 28 27.9	-2.3
ADJF	Tadmit	3.34 118	P	Pg	03 28 03.8	-0.1
EVIV	Cofrentes, Val	3.47 352	Pn	Pn	03 27 53.9	+1.0
EVIV			Sn	Sn	03 28 31.9	-1.6
EVIV			*i* Vmb_Lg		03 28 38.9	
EIBI	Ibiza	3.50 24	Pn	Pn	03 27 53.9	+0.6
EIBI			Sn	Sn	03 28 31.4	-2.7
EIBI	Ibiza	3.50 24	Pn	Pn	03 27 54.2	+0.9
EIBI			Sn	Sn	03 28 34.0	-0.1
EIBI			*i* Vmb_Lg		03 28 35.5	
ECHE	Chera	3.77 354	Pn	Pn	03 27 58.1	+1.0
ECHE			Sn	Sn	03 28 39.7	-1.2
ECHE	Chera	3.77 354	Pn	Pn	03 27 58.1	+1.0
ECHE			Sn	Sn	03 28 40.9	-0.1
ECHE			*i* Vmb_Lg		03 28 55.3	
ABSD	Ouled Sidi Bra	3.82 95	P	Pb	03 28 04.5	-2.2
ECEU	Ceuta	3.99 272	Pn	Pn	03 28 01.5	+1.4
ECEU			Sn	Sn	03 28 44.3	-2.1
ECEU			*i* Vmb_Lg		03 28 57.3	
SMIR	Smir Dam	4.00 269	P	Pn	03 28 01.5	+1.3
SMIR	Smir Dam	4.00 269	S	Sn	03 28 48.4	+1.8
EADA	Adamuz	4.03 306	Pn	Pn	03 28 02.5	+1.7
EADA	Adamuz	4.03 306	Pn	Pn	03 28 02.4	+1.7
EADA			Sn	Sn	03 28 47.1	-0.3
EADA			*i* Vmb_Lg		03 29 06.6	
EJIF	Jimena Fronter	4.10 280	Pn	Pn	03 28 02.1	+0.6
EJIF			Sn	Sn	03 28 47.5	-1.5
ECOL	Islas Columbre	4.16 12	Pn	Pn	03 28 02.4	+0.1
ECOL			Sn	Sn	03 28 47.9	-2.5
AFRS	Ain Fares	4.17 104	P	Pn	03 28 04.1	+1.5
ESPR	Espera	4.47 285	Pn	Pn	03 28 07.1	+0.4
ESPR			Sn	Sn	03 28 57.5	-0.7
ESPR			*i* Vmb_Lg		03 29 16.7	
IFR	Ifrane	4.49 240	Pn	Pn	03 28 08.1	+1.1
EMOS	Mosqueruela	4.52 360	Pn	Pn	03 28 09.4	+1.9
EMOS			Sn	Sn	03 28 58.8	-0.9
EMOS			*i* Vmb_Lg		03 29 01.2	
ECAB	El Cabril	4.56 301	Pn	Pn	03 28 08.5	+0.7
ECAB			Sn	Sn	03 28 57.4	-2.9
ECAB	El Cabril	4.56 301	Pn	Pn	03 28 08.2	+0.4
ECAB			Sn	Sn	03 28 58.0	-2.3
ECAB			*i* Vmb_Lg		03 29 16.7	
MD31	MD31	4.62 231	P	Pn	03 28 09.8	+0.9
MD31	MD31	4.62 231	S	Sn	03 29 04.5	+2.4
E0901	Celadas (Terue	4.67 354	Pn	Pn	03 28 09.5	+0.1
E0901			Sn	Sn	03 29 03.0	-0.2
E0901			*i* Vmb_Lg		03 29 20.4	
ETOS	Mallorca	4.71 32	Pn	Pn	03 28 10.7	+0.8
ETOS	Mallorca	4.71 32	Pn	Pn	03 28 10.6	+0.7
ETOS			Sn	Sn	03 29 03.0	-1.0
ETOS			*i* Vmb_Lg		03 29 33.0	
ESDC	Sonseca Array	4.73 325	Pn	Pn	03 28 11.9	+1.6
ESDC			Sn	Sn	03 29 04.5	-0.1
ESDC	Sonseca Array	4.73 325	Pn	Pn	03 28 11.0	+0.7
	1.3nm,0.3s,baz=138,slow=13,SNR=62					
ESDC			Sn	Sn	03 29 04.1	-0.6
	0.7nm,0.3s,baz=135,slow=23,SNR=7.8					
ESDC			Lg	Lg	03 29 20.2	
	0.7nm,0.3s,baz=135,slow=28,SNR=5.8					
ESDC			LR	LR	03 29 47.0	
	comp=Z,23nm,18.9s,baz=113,slow=36 4.7nm,0.3s					
PAB	San Pablo	4.82 321	Pn	Pn	03 28 12.7	+1.1
PAB			Sn	Sn	03 29 06.0	-0.9
PAB			*i* Vmb_Lg		03 29 26.7	
ETOR	Torete	5.13 346	Pn	Pn	03 28 18.1	+2.3
ETOR			Sn	Sn	03 29 12.6	-2.0
ERTA	Horta de San J	5.15 7	Pn	Pn	03 28 17.6	+1.6
ERTA			Sn	Sn	03 29 14.2	-0.8
ERTA			*i* Vmb_Lg		03 29 44.4	
EMIN	Mina Concepcio	5.34 293	Pn	Pn	03 28 19.4	+0.8
EMIN			Sn	Sn	03 29 19.4	-0.3
EMIN			*i* Vmb_Lg		03 29 41.0	
GUD	Guadarrama	5.61 330	Pn	Pn	03 28 24.5	+2.0
GUD			Sn	Sn	03 29 24.3	-2.1
EPOB	Poblet	5.64 12	Pn	Pn	03 28 23.7	+0.9
EPOB			Sn	Sn	03 29 23.5	-3.6
EPOB			*i* Vmb_Lg		03 29 30.2	
PBAR	Barrancos	5.76 296	*e*P	Pn	03 28 25.4	+1.1
PBAR			*e*S	Sn	03 29 27.2	-2.7
PBAR			A	A	03 29 47.9	
	2.5nm,0.5s					
PBAR	Barrancos	5.76 296	Pn	Pn	03 28 25.2	+0.9
ESAC	San Caprasio	5.88 360	Pn	Pn	03 28 27.0	+0.9
ESAC			Sn	Sn	03 29 33.2	+0.2
ESAC			*i* Vmb_Lg		03 29 45.1	
EGRO	El Granado	5.89 289	Pn	Pn	03 28 26.8	+0.7
EGRO			Sn	Sn	03 29 32.0	-1.2
EGRO			*i* Vmb_Lg		03 29 39.8	
EBAD	Badajoz	5.98 301	Pn	Pn	03 28 27.9	+0.5
EBAD			Sn	Sn	03 29 32.8	-2.6
EBAD	Badajoz	5.98 301	Pn	Pn	03 28 27.9	+0.5
EBAD			Sn	Sn	03 29 32.8	-2.6
EBAD			*i* Vmb_Lg		03 29 37.1	
PVAQ	Vaqueiros	6.04 287	*e*P	Pn	03 28 28.7	+0.5
PVAQ			*e*S	Sn	03 29 35.4	-1.5
PVAQ			A	A	03 29 42.7	
	3.2nm,0.8s					
PVAQ	Vaqueiros	6.04 287	Pn	Pn	03 28 28.6	+0.3
PVAQ			Sn	Sn	03 29 35.1	-1.8
PVAQ	Vaqueiros	6.04 287	P	Pn	03 28 28.7	+0.5
PVAQ	Vaqueiros	6.04 287	S	Sn	03 29 37.8	+0.9
PBDV	Barranco-do-Ve	6.18 285	*e*P	Pn	03 28 31.7	+1.6
PBDV			*e*S	Sn	03 29 38.9	-1.3
PBDV			A	A	03 29 43.1	
	6.3nm,0.7s					
PBEJ	Beja	6.32 292	*e*P	Pn	03 28 32.7	+0.6
PBEJ			*e*S	Sn	03 29 43.0	-0.8
PBEJ			A	A	03 30 01.2	
	2.8nm,0.7s					
PESTR	Estremoz	6.43 300	*e*P	Pn	03 28 34.6	+1.0
PESTR			*e*S	Sn	03 29 44.5	-2.1
PESTR			A	A	03 30 27.9	
	3.8nm,0.6s					
PESTR	Estremoz	6.43 300	Pn	Pn	03 28 34.6	+1.0
PESTR	Estremoz	6.43 300	P	Pn	03 28 34.8	+1.1
PESTR	Estremoz	6.43 300	S	Sn	03 29 47.7	+1.2
MESJ	Messejana	6.54 290	*e*P	Pn	03 28 35.6	+0.5
MESJ			*e*S	Sn	03 29 48.3	-0.7
MESJ			A	A	03 29 49.4	
	3.4nm,1.0s					
MESJ	Messejana	6.54 290	*e*P	Pn	03 28 35.5	+0.5
PMRV	Marv??o	6.56 305	*e*P	Pn	03 28 37.2	+1.8
PMRV			*e*S	Sn	03 29 48.6	-1.2
PMRV			A	A	03 30 40.1	
	2.4nm,0.8s					
EVO	Evora	6.60 296	*e*P	Pn	03 28 36.7	+0.8
EVO			*e*S	Sn	03 29 48.5	-2.2
EVO			A	A	03 29 53.0	
	3.1nm,0.5s					
PCBR	Castelo Branco	6.84 308	*e*P	Pn	03 28 41.0	+1.8
PCBR			*e*S	Sn	03 29 55.9	-0.6
PCBR			A	A	03 29 58.2	
	5.9nm,0.7s					
PMTG	Montargil	6.97 300	*e*P	Pn	03 28 41.8	+0.9
PMTG			*e*S	Sn	03 29 58.5	-1.2
PMTG			A	A	03 30 12.6	
	2.8nm,0.7s					
EORO	Oroz-Betelu	7.08 355	Pn	Pn	03 28 44.3	+1.7
EORO			Sn	Sn	03 30 00.9	-1.6
EORO			*i* Vmb_Lg		03 30 20.7	
MTE	Manteigas	7.21 311	*e*P	Pn	03 28 45.6	+1.3
MTE			*e*S	Sn	03 30 05.3	-0.3
MTE			A	A	03 30 49.5	
	3.5nm,0.7s					
MVO	Moncorvo	7.40 318	*e*P	Pn	03 28 49.1	+2.1
MVO			*e*S	Sn	03 30 09.6	-0.9
MVO			A	A	03 30 53.6	
	3.6nm,0.7s					
PSBE	So Bento	7.56 302	*e*P	Pn	03 28 50.6	+1.5
PVIS	Viseu	7.61 312	*e*P	Pn	03 28 51.2	+1.4
PVIS			*e*S	Sn	03 30 14.3	-1.2
PCAS	Casmilo, Conde	7.62 306	*e*P	Pn	03 28 51.9	+2.0
PCAS			*e*S	Sn	03 30 13.2	-2.5
PCAS			A	A	03 30 16.1	
	3.6nm,0.6s					
COI	Coimbra	7.64 307	*e*P	Pn	03 28 52.9	+2.7
COI			*e*S	Sn	03 30 16.7	+0.4
PBRG	Braganca	7.72 322	*e*P	Pn	03 28 53.5	+2.3
PBRG			*e*S	Sn	03 30 16.1	-2.0
PBRG			A	A	03 30 19.8	
	1.6nm,0.5s					
ELAN	Lanestosa	7.74 344	Pn	Pn	03 28 54.1	+2.6
ELAN			*i* Vmb_Lg		03 30 45.9	
ECAL	Calabor	7.82 323	Pn	Pn	03 28 54.0	+1.4
ECAL			*i* Vmb_Lg		03 31 02.3	
KEST	Kesra	7.97 88	Pn	Pn	03 28 55.6	+0.8
	0.2nm,0.3s,baz=270,slow=3.0,SNR=2.4					
KEST			Sn	Sn	03 30 20.8	-3.7
	baz=73,slow=24,SNR=1.5 3.1nm,0.7s					
EARI	Arriondas	8.31 335	Pn	Pn	03 29 01.7	+2.3
EARI			*i* Vmb_Lg		03 31 14.8	
VSL	Villasalto	8.62 62	Pn	Pn	03 29 04.3	+0.7
VSL			Sn	Sn	03 30 36.5	-3.7
PGAV	Gavieira, Arco	8.63 318	*e*P	Pn	03 29 05.5	+1.7
EPON	Pontenova	9.09 327	Pn	Pn	03 29 12.5	+2.5
TORD	Torodi Ar. Bea	22.67 175	P	P	03 32 00.3	+0.1
	0.5nm,1.0s,baz=359,slow=9.9,SNR=2.4 0.5nm,1.0s					

*IDC **15** 03:31:26.1±1.0,37°.62N×20°.84E, h0km, mb3.8/12, mbtmp3.7/21, ML3.6/7, Error ellipse: s-maj=18.3km s-min=15.7km az=178.0*
*ATH **15** 03:31:27.0,37°.35N×20°.59E, h14km±1km, ML3.9/11, Error ellipse: s-maj=3.0km s-min=1.1km az=57.0*
*THE **15** 03:31:26.7,37°.37N×20°.62E, h5km, ML3.8/13, Error ellipse: s-maj=1.4km s-min=0.7km az=52.0*
*NEIC **15** 03:31:26.8±1.8,37°.26N±0°.06×20°.70E±0°.04, h10km±1km, mb4.4/18, Error ellipse: s-maj=10.3km s-min=5.5km az=185.0*
*NAO **15** 03:31:27.8,37°.39N×20°.47E, h10km, mb3.9*
ISC 15 03:31:27.2±1.2,**37°.39N**±0°.04×**20.71E**±0°.03,**h12**km±7km, **n133**,σ1°**43**/156,**mb3.9**/16,**5C-8D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.29	17	P	Pb	03 31 34.1	-0.2
KRI1				S	Sg	03 31 38.2	+1.1
	29μm,0.4s						
LTHK	Lithakia	0.34	17	P	Pg	03 31 34.3	+0.3
LTHK				S	Sb	03 31 39.8	-0.7
LTHK	Lithakia	0.34	17	P	Pb	03 31 34.9	-0.2
LTHK				S	Sb	03 31 40.6	+0.1
LTHK				AML	AML	03 31 40.9	
	comp=E,53091μm,0.3s						
LTHK				AML	AML	03 31 41.1	
RTZL	Ratzakli, Kefa	0.69	4	P	Pg	03 31 39.9	-0.7
RTZL				S	Sb	03 31 50.8	+0.2
PSDA	Pessada-Kefalo	0.73	352	P	Pg	03 31 40.6	-0.8
PSDA				S	Sb	03 31 51.7	-0.2
	comp=E,7μm,0.3s						
PSDA	Pessada-Kefalo	0.73	352	P	Pg	03 31 41.5	+0.1
PSDA				S	Sb	03 31 51.7	-0.2
VLS	Valsamata	0.80	353	P	Pg	03 31 41.6	-1.0
VLS				S	Sg	03 31 53.5	+0.5
	comp=E,5μm,0.5s						
VLS	Valsamata	0.80	353	P	Pg	03 31 42.4	-0.2
VLS				S	Sb	03 31 54.4	+0.7
VLS				AML	AML	03 31 59.6	
	comp=N,10030μm,0.4s						
VLS				AML	AML	03 32 02.3	
	comp=E,10467μm,0.7s						
AMT	Artemida-Makis	0.81	79	P	Pn	03 31 44.0	-0.4
AMT				AML	AML	03 32 04.3	
	comp=E,36513μm,0.3s						
AMT				AML	AML	03 32 04.3	
	comp=N,26202μm,0.3s						
LXRA	Lixouri, Kepha	0.84	345	P	Pb	03 31 43.8	0.0
LXRA				AML	AML	03 32 05.8	
	comp=N,27773μm,0.5s						
LXRA				AML	AML	03 32 08.4	
	comp=E,26098μm,0.5s						
SMHA	Samh	0.86	357	P	Pg	03 31 43.1	-0.8
SMHA				S	Sb	03 31 56.1	+0.4
DMLN	Damoulianata-K	0.89	343	P	Pg	03 31 43.3	-1.1
DMLN				S	Sb	03 31 56.5	0.0
	comp=E,9μm,0.6s						
DMLN	Damoulianata-K	0.89	343	P	Pg	03 31 43.7	-0.8
RLS	Riolos of Patr	0.90	42	P	Pg	03 31 43.9	-0.7
RLS				S	Sn	03 31 58.5	-0.1
	comp=E,3μm,0.5s						
RLS	Riolos of Patr	0.90	42	P	Pb	03 31 44.9	+0.2
PYL	PYLOS	0.96	120	P	Pn	03 31 46.1	-0.4
DRO	Drossia	0.97	54	P	Pb	03 31 46.2	+0.2
DRO				S	Sn	03 32 01.5	+1.0
	comp=E,8μm,0.4s						
DRO	Drossia	0.97	54	P	Pn	03 31 46.5	-0.2
DRO				AML	AML	03 32 11.6	
	comp=E,18823μm,0.4s						
DRO				AML	AML	03 32 13.6	
	comp=N,13643μm,0.9s						
ITM	Ithomi	0.99	102		Pn	03 31 46.7	-0.3
ITM				Sg	Sg	03 31 58.1	-1.2
ITM	Ithomi	0.99	102	P	Pn	03 31 46.7	-0.3
ITM				S	Sn	03 32 02.0	+1.1
	comp=N,3μm,0.5s						
ITM	Ithomi	0.99	102	P	Pn	03 31 47.3	+0.4
ITM				AML	AML	03 32 10.8	
	comp=N,5619μm,0.5s						
ITM				AML	AML	03 32 14.4	
	comp=E,7361μm,0.6s						
VSK1	VASILIKIADES	1.03	354	P	Pg	03 31 46.1	-0.9
VSK1				S	Sb	03 32 00.9	+0.5
	comp=E,5μm,0.5s						
FSK	Fiskardo	1.08	354	P	Pb	03 31 46.9	-0.9
FSK				S	Sn	03 32 02.9	-0.1
	comp=E,6μm,0.6s						
FSK	Fiskardo	1.08	354	P	Pb	03 31 47.3	-0.5
FSK				S	Sn	03 32 02.9	-0.1
FSK				AML	AML	03 32 08.2	
	comp=E,9561μm,0.4s						
FSK				AML	AML	03 32 12.5	
	comp=N,11891μm,0.7s						
EVGI	Lefkada island	1.23	358	P	Pn	03 31 49.4	-0.9
EVGI				S	Sn	03 32 07.8	+1.0
	comp=N,3μm,0.4s						
EVGI	Lefkada island	1.23	358	P	Pn	03 31 49.9	-0.3
DRAG	Dragano-Lefkad	1.30	355	P	Pn	03 31 50.8	-0.4
DRAG				S	Sg	03 32 09.1	0.0
KLV	Kalavryta, Ach	1.32	60	P	Pg	03 31 52.3	-0.2
KLV				AML	AML	03 32 31.6	
	comp=E,2903μm,0.7s						
KLV				AML	AML	03 32 33.5	
	comp=N,2483μm,0.9s						
NYDR	Nydri-Lefkada	1.32	360	P	Pn	03 31 50.5	-1.0
NYDR				S	Sg	03 32 10.0	+0.1
	comp=N,2μm,0.6s						
NYDR	Nydri-Lefkada	1.32	360	P	Pn	03 31 51.3	-0.2
LKD2	Lefkada island	1.40	358	P	Pb	03 31 53.5	+0.2
LKD2				S	Sg	03 32 12.8	+0.5
	comp=N,3μm,0.6s						
LKD2	Lefkada island	1.40	358	P	Pg	03 31 54.3	+0.1
LKD2				AML	AML	03 32 22.6	
	comp=E,6562μm,0.5s						
LKD2				AML	AML	03 32 27.5	
	comp=N,6959μm,0.7s						
EFP	Efpalio	1.41	42	P	Pg	03 31 53.8	-0.4
EFP				AML	AML	03 32 25.6	
	comp=E,3952μm,0.6s						
EFP				AML	AML	03 32 28.4	
	comp=N,4595μm,0.8s						
TSLK	Tsoukalades, L	1.44	358	P	Pn	03 31 53.5	+0.5
TSLK				S	Sg	03 32 13.5	0.0
	comp=N,3μm,0.5s						
AGG	Agios Georgios	2.07	38		Pn	03 32 03.0	+1.2
AGG				Sn	Sb	03 32 30.9	+0.5
KEK	Kerkira	2.43	343		Pb	03 32 08.9	-1.9
LIT	Litokhoron	3.05	27		Pn	03 32 17.1	+1.9
SCTE	Santa Cesarea	3.20	328	Pn	Pn	03 32 18.2	+0.9
FNA	Florina	3.43	8		Pn	03 32 22.6	+2.1
TIP	Timpagrande	3.59	301		Pn	03 32 22.4	-0.3
OHR	Ohrid	3.72	1	*i* Pn	Pn	03 32 27.8	+3.3
CEL	Celeste	3.91	284	Pn	Pn	03 32 26.8	-0.3
IDI	Anoyia	3.97	121	Pn	Pn	03 32 26.9	-1.1
IDI	Anoyia	3.97	121	Pn	Pn	03 32 29.2	+1.3
	comp=N,18nm,1.2s,baz=50,slow=17,SNR=1.2						
IDI				Sn	Sn	03 33 13.7	-0.8
	comp=N,3.6nm,0.3s,baz=279,slow=19,SNR=3.9						
TIR	Tirane	4.01	351		Pn	03 32 29.6	+1.2
VAY	Valandovo	4.18	20	*i* Pn	Pn	03 32 32.8	+1.9
CUC	Castrocucco	4.63	306		Pn	03 32 37.8	+0.8
PUK	Puka	4.69	353		Pn	03 32 38.5	+0.6
VAE	Valguarnera	5.01	273	Pn	Pn	03 32 46.1	+3.8
	comp=N,9.5nm,0.4s,baz=29,slow=19,SNR=8.3						
VAE				Sn	Sn	03 33 40.5	+0.3
	baz=234,slow=18						
RAFF	Raffo Rosso	5.06	270		Pn	03 32 43.4	+0.5
PDG	Podgorica	5.16	348	Pn	Pn	03 32 46.6	+2.4
PDG	Podgorica	5.16	348	*e*Pn	Pn	03 32 43.0	-1.2
WDD	Wied Dalam	5.21	255		Pn	03 32 45.3	+0.4
RDO	Rodhopi	5.30	43		Pn	03 32 47.8	+1.6
ALN	Alexandroupoli	5.43	48		Pn	03 32 48.8	+0.9
TREB	Trebinje	5.62	342	*e*Pn	Pn	03 32 49.7	-0.9
SJES	Sjenica	5.89	355	*e*Pn	Pn	03 32 54.6	+0.2
STON	Ston	5.94	338	*e*Pn	Pn	03 32 52.8	-2.2
PAOL	Paolisi	6.00	309	Pn	Pn	03 32 56.6	+0.8
ARG	Arkhangelos	6.06	99	Pn	Pn	03 32 56.5	-0.2
BOVS	Bovan	6.29	7	⇓P	Pn	03 32 59.5	-0.2
RUDO	Rudo	6.31	351	*e*Pn	Pn	03 33 00.1	+0.1
BBLS	Lazi&#263i	6.55	352	*e*Pn	Pn	03 33 01.9	-1.5
HAPS	Han Pijesak,Bl	6.83	349	*e*Pn	Pn	03 33 07.1	-0.1
INTR	Introdacqua	6.99	313	Pn	Pn	03 33 11.6	+2.2
TEKS	Tekeris	7.21	353	*e*Pn	Pn	03 33 09.7	-2.7
AKAS	Kas	7.23	96	Pn	Pn	03 33 13.3	+0.6
HERR	Herculane	7.60	9	⇑P	Pn	03 33 18.2	+0.5
A050A	Klekovaca	7.76	337	*e*Pn	Pn	03 33 20.0	0.0
FRGS	Fruska Gora	7.79	355	*e*Pn	Pn	03 33 16.0	-4.4
BLY	Banja Luka	7.82	341	*e*Pn	Pn	03 33 21.1	+0.4
A051A	Mrakovica	8.14	341	*e*Pn	Pn	03 33 24.1	-1.1
GZR	Gura Zlata	8.15	10	⇑P	Pn	03 33 25.1	-0.2
BZS	Buzias	8.25	4	⇓P	Pn	03 33 27.5	+0.9
ARR	Arges	8.50	19	⇑P	Pn	03 33 31.5	+1.4
VOIR		8.68	21	⇓P	Pn	03 33 34.3	+1.7
SIRR	Siria	8.90	4	⇓P	Pn	03 33 35.2	-0.4
MORH	Mrgy, Hungar	8.96	351	⇓P	Pn	03 33 38.0	+1.7
MLR	Muntele Rosu	9.00	24		Pn	03 33 38.1	+1.1
MLR	Muntele Rosu	9.00	24	Pn	Pn	03 33 36.6	-0.4
	comp=N,0.2nm,0.3s,baz=264,slow=18,SNR=2.0 comp=N,2.1nm,0.7s						
MLR	Muntele Rosu	9.00	24	⇓P	Pn	03 33 40.6	+3.6
DOPR	Dopca	9.26	21	⇑P	Pn	03 33 42.5	+2.0
KEST	Kesra	9.29	263	Pn	Pn	03 33 44.2	+3.2
	comp=N,0.1nm,0.3s,baz=12,slow=19,SNR=3.3 comp=N,4.6nm,1.1s						
CRES	Cresnjevec Ost	9.30	337	*e*Pn	Pn	03 33 40.0	-1.1
MARR	Marisel-Cluj	9.45	10	⇓P	Pn	03 33 43.7	+0.5
PLOR	Plostina	9.55	26	⇓P	Pn	03 33 47.8	+3.3
CEY	Cerknica	9.58	333	*e*Pn	Pn	03 33 48.6	+3.7
VRI	Vrincioaia	9.59	26	⇑P	Pn	03 33 49.1	+4.1
SOKA	Soboth	10.20	337	*e*Pn	Pn	03 33 52.7	-0.7
	comp=N,1.5nm,0.4s						
OBKA	Obir	10.20	335	*e*Pn	Pn	03 33 56.4	+3.0
	comp=N,4.1nm,0.7s						
OBKA	Obir	10.20	335	*e*Pn	Pn	03 33 53.6	+0.1
ABTA	Abfaltersbach	11.16	330	*e*Pn	Pn	03 34 15.5	+8.9
	comp=N,0.2nm,0.2s						
VYHS	Vyhne	11.19	354	*e*PN	Pn	03 34 07.9	+1.1
BIOA	Bad Ischl, Aus	11.54	335	*i* Pn	Pn	03 34 12.4	+0.8
	comp=N,2.8nm,0.7s						
KOLS	Kolonicke sedl	11.60	5	*e*PN	Pn	03 34 21.8	+9.3
LESA	Schwarzleotal	11.65	332	*e*Pn	Pn	03 34 16.9	+3.7
	comp=N,1.6nm,0.4s						
WATA	Walderalm	12.01	329	*e*Pn	Pn	03 34 25.7	+7.4
	comp=N,1.1nm,0.5s						
SQTA	Sankt Quirin	12.07	327	*e*Pn	Pn	03 34 22.2	+3.1
	comp=N,0.2nm,0.2s						
MOTA	Moosalm	12.22	328	*e*Pn	Pn	03 34 23.9	+2.8
	comp=N,0.8nm,0.4s						
GERES	GERESS Array B	12.54	338	Pn	Pn	03 34 23.5	-1.9
	comp=N,0.2nm,0.3s,baz=141,slow=11,SNR=2.1 comp=N,0.3nm,0.3s						
MMAI	Mount Meron Ar	12.78	106	Pn	Pn	03 34 28.6	-0.1
	comp=N,0.5nm,0.3s,baz=329,slow=13,SNR=1.4 comp=N,0.5nm,0.4s						
EIL	Elat	14.14	119	Pn	Pn	03 34 47.8	+0.4
	comp=N,0.4nm,0.3s,baz=336,slow=18,SNR=4.6 comp=N,1.0nm,0.3s						
AKASG	Malin Array Be	14.64	22	Pn	Pn	03 34 49.6	-4.4
	comp=N,0.1nm,0.3s,baz=209,slow=9.8,SNR=1.0 comp=N,0.3nm,0.4s						
CLL	Collm	14.96	341		P	03 35 03.5	-0.4
CLL	Collm	14.96	341	*i* PP	P	03 35 05.7	+1.9
	comp=Z,6.0nm,1.0s						
CLL				AMS	AMS	03 41 00.0	
	comp=Z,100nm,18.8s						
CLL				AMS	AMS	05 00 00.0	
	comp=Z,100nm,19.6s						
SUW	Suwalki	16.72	5	Pn	Pn	03 35 20.5	-0.5
SUW				IAmb	IAmb	03 35 25.2	
	comp=Z,36nm,0.9s						
GURO	Guroymak-BITLI	16.85	80	Pn	Pn	03 35 22.2	-0.8
NACGM	Naroch	18.01	11	*e*P	Pn	03 35 36.2	-0.9
PABE	Paberze	18.26	6		Pn	03 35 38.9	-1.2
ESDC	Sonseca Array	19.42	284	P	Pn	03 35 55.1	+0.5
	baz=88,slow=11,SNR=2.1 comp=Z,0.9nm,1.1s						
OBN	Obninsk	20.76	26	P	P	03 36 05.1	-2.6
	comp=Z,8.6nm,0.4s,baz=162,slow=20,SNR=3.4 comp=Z,8.6nm,0.4s						
PESTR	Estremoz	22.28	283	P	P	03 36 23.2	-1.0
PESTR				IAmb	IAmb	03 36 45.1	
	comp=Z,7.2nm,1.1s						
HFS	Hagfors	23.20	351	P	P	03 36 32.6	-1.0
	comp=Z,3.4nm,0.6s,baz=147,slow=12,SNR=15 comp=Z,3.4nm,0.6s						
EKA	Eskdalemuir Ar	24.16	326	P	P	03 36 42.6	-0.4
	comp=Z,4.0nm,0.9s,baz=133,slow=5.9,SNR=4.8 comp=Z,4.0nm,0.9s						
FINES	FINESS Array B	24.32	6	P	P	03 36 43.0	-1.4
	comp=Z,2.2nm,0.8s,baz=163,slow=9.9,SNR=9.9 comp=Z,2.2nm,0.8s						
NB2	NORSAR Subarra	24.42	349	P	P	03 36 44.4	-1.0
	comp=Z,2.3nm,0.9s,baz=162,slow=9.3						
NOA	NORSAR Array B	24.42	349	P	P	03 36 44.4	-1.0
	comp=Z,1.9nm,0.8s,baz=157,slow=9.0,SNR=8.9 comp=Z,1.9nm,0.8s				

σ2°18/52, mb4.0/9, 4C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.74**	**48**	P	**Pn**	**03 36 43.4**	**-1.7**
GLKZ				S	**Sn**	**03 37 10.2**	**-2.7**
RIZ	**Raoul Island**	**1.75**	**47**	P	**Pn**	**03 36 43.9**	**-1.3**
RAO	**Raoul Island**	**1.75**	**48**	Pn	**Pn**	**03 36 43.6**	**-1.6**
RAO	**Raoul Island**	**1.75**	**48**	P	**Pn**	**03 36 43.8**	**-1.4**
	847nm,0.2s,baz=112,slow=5.2,SNR=19						
RAO				S	**Sn**	**03 37 09.7**	**-3.4**
	217nm,0.3s,baz=66,slow=23,SNR=1.3						
KUZ	**Kuaotunu**	**7.49**	**212**	S	**Sn**	**03 39 14.8**	**-5.6**
HAZ	**Te Kaha**	**7.66**	**197**	P	**Pn**	**03 37 58.8**	**+0.9**
HAZ				S	**Sn**	**03 39 29.7**	**+5.3**
PKGZ	**Pakihiroa**	**7.70**	**195**	P	**Pn**	**03 37 58.9**	**+0.6**
PUZ	**Puketiti**	**7.85**	**194**	P	**Pn**	**03 37 60.0**	**-0.5**
PUZ				S	**Sn**	**03 39 31.2**	**+2.1**
RUGZ	**Raukumara Rang**	**7.88**	**197**	P	**Pn**	**03 38 02.1**	**+1.2**
TWGZ	**Tauwhareparae**	**8.01**	**195**	P	**Pn**	**03 38 03.0**	**+0.4**
TWGZ				S	**Sn**	**03 39 38.9**	**+6.0**
MWZ	**Matawai**	**8.27**	**197**	P	**Pn**	**03 38 05.3**	**-0.6**
MWZ				S	**Sn**	**03 39 42.5**	**+3.5**
URZ	**Urewera**	**8.31**	**199**	P	**Pn**	**03 38 05.8**	**-0.6**
	2.2nm,0.3s,baz=78,slow=2.7,SNR=13						
URZ				S	**Sn**	**03 39 41.2**	**+1.3**
	10.0nm,0.3s,baz=154,slow=21,SNR=17						
URZ	**Urewera**	**8.31**	**199**	P	**Pn**	**03 38 07.1**	**+0.7**
URZ				S	**Sn**	**03 39 43.8**	**+3.9**
RAGZ	**Rawiri**	**8.45**	**197**	P	**Pn**	**03 38 09.0**	**+0.7**
RAGZ				S	**Sn**	**03 39 47.3**	**+3.9**
RTZ	**Ruatahuna**	**8.68**	**199**	Pn	**Pn**	**03 38 09.9**	**-1.4**
KNZ	**Kokohu**	**8.89**	**195**	P	**Pn**	**03 38 12.6**	**-1.3**
RAHZ	**Arahi**	**8.94**	**198**	P	**Pn**	**03 38 14.5**	**0.0**
MTHZ	**Maungataniwha**	**8.94**	**199**	P	**Pn**	**03 38 14.3**	**-0.4**
NMHZ	**Naumai**	**9.18**	**199**	P	**Pn**	**03 38 17.6**	**-0.2**
BKZ	**Black Stump Fm**	**9.33**	**200**	Pn	**Pn**	**03 38 18.1**	**-1.7**
BKZ	**Black Stump Fm**	**9.33**	**200**	P	**Pn**	**03 38 19.4**	**-0.3**
PXZ	**Pawanui**	**10.04**	**197**	P	Pn	03 38 24.8	-4.0
PXZ				S	**Sn**	**03 40 20.1**	**-0.8**
TSZ	**Takapari Road**	**10.32**	**200**	P	**Pn**	**03 38 33.0**	**+0.6**
BFZ	**Birch Farm**	**10.81**	**198**	P	**Pn**	**03 38 36.8**	**-2.0**
MRZ	**Mangatainoka R**	**10.98**	**200**	P	Pn	03 38 36.5	-4.5
QRZ	**Quartz Range**	**12.26**	**210**	P	**Pn**	**03 38 57.5**	**+0.3**
MSVF	**Nonsavu**	**12.86**	**349**	P	**Pn**	**03 39 03.4**	**-1.8**
	3.7nm,0.6s,baz=143,slow=20,SNR=1.7						
ASAR	**Alice Springs**	**41.90**	**268**	P	**P**	**03 43 40.5**	**+0.2**
	0.3nm,0.3s,baz=106,slow=7.4,SNR=4.6						
	0.3nm,0.3s						
WB2	**Warramunga Arr**	**42.88**	**273**	P	**P**	**03 43 49.9**	**+1.8**
WB2				IAmb	IAmb	03 44 12.5	
	comp=Z,9.0nm,1.5s						
WRA	**Warramunga Arr**	**42.89**	**273**	P	**P**	**03 43 49.7**	**+1.4**
WRA	**Warramunga Arr**	**42.89**	**273**	P	**P**	**03 43 48.8**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=110,slow=8.0,SNR=27						
	comp=Z,0.5nm,0.3s						
WB0	**Warramunga Arr**	**42.92**	**273**	P	**P**	**03 43 49.8**	**+1.4**
WB0				IAmb	IAmb	03 44 00.7	
	comp=Z,6.2nm,1.2s						
SBA	**Scott Base**	**47.91**	**184**	P	P	03 44 30.7	+4.0
QSPA	**South Pole Qui**	**59.67**	**180**	P	**P**	**03 45 53.7**	**+1.5**
QSPA				IAmb	IAmb	03 45 54.9	
	comp=Z,2.5nm,0.7s						
QSPA	**South Pole Qui**	**59.67**	**180**	P	**P**	**03 45 52.9**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=33,slow=1.1,SNR=8.7						
	comp=Z,1.7nm,0.6s						
PMSA	**Palmer Station**	**72.72**	**156**	P	**P**	**03 47 14.6**	**-0.3**
TROLL	**Troll, Antarti**	**77.82**	**181**	⇑P	**P**	**03 47 44.1**	**0.0**
	comp=Z,84nm,0.7s						
SNAA	**Sanae**	**78.14**	**179**	P	**P**	**03 47 45.6**	**-0.2**
SNAA				IAmb	IAmb	03 48 07.4	
	comp=Z,4.5nm,1.5s						
SNAA	**Sanae**	**78.14**	**179**	⇑P	**P**	**03 47 45.2**	**-0.5**
	comp=Z,6.5nm,0.5s						
SNAA	**Sanae**	**78.14**	**179**	P	**P**	**03 47 45.3**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=197,slow=14,SNR=6.3						
	comp=Z,0.5nm,0.7s						
VNA3	**Neumayer Olymp**	**78.34**	**177**	⇑P	**P**	**03 47 46.4**	**-0.4**
	comp=Z,2.6nm,0.7s						
VNA2	**Neumayer--Watz**	**78.76**	**177**	⇑P	**P**	**03 47 48.7**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=308,slow=11						
PLK4	**Peulik 4**	**89.86**	**12**	P	**P**	**03 48 49.4**	**+4.6**
Q09A	**Carvers**	**90.02**	**44**	P	**P**	**03 48 48.9**	**+2.7**
Q09A				IAmb	IAmb	03 49 33.1	
	comp=Z,17nm,0.8s						
TORD	**Torodi Ar. Bea**	**162.76**	**184**	PKPab	**PKPab**	**03 56 36.5**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=162,slow=4.7,SNR=4.6						

*IDC **15** 03:43:48.5±1.1, 37.°65N×20.°67E, h0km, mb3.5/7, mbtmp3.5/12, ML1.0/2, MS3.0/1, Error ellipse: s-maj=21.5km s-min=19.7km az=150.0*
*THE **15** 03:43:51.6, 37.°55N×20.°49E, h10km, ML3.6/11, Error ellipse: s-maj=1.5km s-min=0.6km az=47.0*
*ATH **15** 03:43:51.6, 37.°55N×20.°47E, h16km±1km, ML3.7/18, Error ellipse: s-maj=3.1km s-min=1.1km az=46.0*
ISC 15 03:43:51.2±1.1, 37.°54N±0.°03×20.°50E±0.°04, h17km±7km, n60, σ1°05/80, mb3.5/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.28**	**64**	P	**Pg**	**03 43 57.7**	**+0.4**
KRI1				S	**Sg**	**03 44 01.6**	**+0.1**
	28μm,0.3s						
LTHK	**Lithakia**	**0.31**	**58**	P	**Pg**	**03 43 58.0**	**+0.1**
LTHK				S	**Sg**	**03 44 02.6**	**+0.1**
	27μm,0.1s						
LTHK	**Lithakia**	**0.31**	**58**	P	**Pg**	**03 43 58.3**	**+0.4**
LTHK				S	**Sg**	**03 44 02.9**	**+0.4**
LTHK				AML	AML	03 44 04.0	
	comp=N,47637μm,0.1s						
LTHK				AML	AML	03 44 04.6	
	comp=E,53630μm,0.1s						
RTZL	**Ratzakli, Kefa**	**0.57**	**22**	P	**Pg**	**03 44 02.6**	**0.0**
RTZL				S	**Sg**	**03 44 10.6**	**+0.3**
PSDA	**Pessada-Kefalo**	**0.57**	**6**	P	**Pg**	**03 44 02.4**	**-0.3**
PSDA				S	**Sg**	**03 44 10.7**	**+0.3**
	comp=E,9μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.57**	**6**	P	**Pg**	**03 44 02.5**	**-0.1**
PSDA				S	**Sg**	**03 44 10.6**	**+0.3**
VLS	**Valsamata**	**0.64**	**6**	P	**Pg**	**03 44 03.5**	**-0.4**
VLS				S	**Sg**	**03 44 12.4**	**0.0**
	comp=E,3μm,0.2s						
VLS	**Valsamata**	**0.64**	**6**	P	**Pg**	**03 44 03.5**	**-0.4**
VLS				S	**Sg**	**03 44 11.9**	**-0.4**
VLS				AML	AML	03 44 17.7	
	comp=N,8103μm,0.4s						
VLS				AML	AML	03 44 17.9	
	comp=E,7266μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.66**	**355**	P	**Pb**	**03 44 04.6**	**+0.3**
DMLN	**Damoulianata-K**	**0.70**	**352**	P	**Pg**	**03 44 04.7**	**-0.4**
DMLN				S	**Sb**	**03 44 15.2**	**+0.8**
	comp=E,7μm,0.4s						
DMLN	**Damoulianata-K**	**0.70**	**352**	P	**Pg**	**03 44 04.7**	**-0.4**
SMHA	**Samh**	**0.72**	**9**	P	**Pg**	**03 44 04.4**	**-0.9**
VSK1	**VASILIKIADES**	**0.87**	**3**	P	**Pg**	**03 44 07.3**	**-0.8**
VSK1				S	**Sg**	**03 44 19.7**	**+0.1**
	comp=E,4μm,0.5s						
FSK	**Fiskardo**	**0.92**	**3**	P	**Pg**	**03 44 08.3**	**-0.8**
FSK				S	**Sb**	**03 44 21.4**	**+0.8**
	comp=E,2μm,0.2s						
FSK	**Fiskardo**	**0.92**	**3**	P	**Pg**	**03 44 08.1**	**-1.0**
FSK				AML	AML	03 44 24.7	
	comp=E,4404μm,0.2s						
FSK				AML	AML	03 44 26.4	
	comp=N,4523μm,0.3s						
RLS	**Riolos of Patr**	**0.92**	**56**	P	**Pg**	**03 44 08.3**	**-0.8**
RLS				S	**Sb**	**03 44 22.4**	**+1.7**
RLS	**Riolos of Patr**	**0.92**	**56**	P	**Pg**	**03 44 08.6**	**-0.5**
RLS				AML	AML	03 44 26.6	
	comp=E,10416μm,0.6s						
RLS				AML	AML	03 44 28.2	
	comp=N,9478μm,0.9s						
AMT	**Artemida-Makis**	**0.96**	**90**	P	**Pg**	**03 44 09.8**	**-0.1**
AMT				AML	AML	03 44 29.8	
	comp=E,69542μm,0.4s						
AMT				AML	AML	03 44 35.4	
	comp=N,49429μm,0.6s						
DRO	**Drossia**	**1.04**	**66**	P	**Pg**	**03 44 10.9**	**-0.5**
DRO				S	**Sn**	**03 44 26.6**	**+1.4**
DRO	**Drossia**	**1.04**	**66**	P	**Pg**	**03 44 11.3**	**-0.1**
DRO				AML	AML	03 44 39.7	
	comp=E,27556μm,0.4s						
DRO				AML	AML	03 44 44.3	
	comp=N,12919μm,0.5s						
EVGI	**Lefkada island**	**1.08**	**6**	P	**Pg**	**03 44 11.1**	**-1.1**
EVGI				S	**Sn**	**03 44 27.1**	**+0.8**
	comp=N,3μm,0.2s						
EVGI	**Lefkada island**	**1.08**	**6**	P	**Pg**	**03 44 11.3**	**-0.9**
DRAG	**Dragano-Lefkad**	**1.14**	**3**	P	**Pb**	**03 44 12.4**	**-0.1**
DRAG	**Dragano-Lefkad**	**1.14**	**3**	P	**Pb**	**03 44 12.4**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.18**	**7**	P	**Pb**	**03 44 12.8**	**-0.3**
NYDR				S	**Sn**	**03 44 29.9**	**+1.3**
	comp=N,1μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.18**	**7**	P	**Pb**	**03 44 13.0**	**-0.1**
PYL	**PYLOS**	**1.18**	**123**	P	**Pb**	**03 44 13.1**	**-0.1**
PYL				S	**Sg**	**03 44 30.1**	**+0.6**
PYL	**PYLOS**	**1.18**	**123**	P	**Pb**	**03 44 13.2**	**+0.1**
PYL				AML	AML	03 44 32.5	
	comp=N,4790μm,0.4s						
PYL				AML	AML	03 44 35.0	
	comp=E,6549μm,0.5s						
ITM	**Ithomi**	**1.19**	**107**	P	**Pb**	**03 44 13.7**	**+0.4**
ITM				S	**Sg**	**03 44 30.3**	**+0.5**
ITM	**Ithomi**	**1.19**	**107**	P	**Pb**	**03 44 13.8**	**+0.4**
ITM				AML	AML	03 44 36.8	
	comp=N,5818μm,0.4s						
ITM				AML	AML	03 44 38.7	
	comp=E,5528μm,0.7s						
LKD2	**Lefkada island**	**1.25**	**6**	P	**Pg**	**03 44 16.1**	**+0.7**
LKD2				S	**Sn**	**03 44 32.0**	**+1.6**
	comp=E,2μm,0.6s						
LKD2	**Lefkada island**	**1.25**	**6**	P	**Pn**	**03 44 14.9**	**+0.9**
LKD2				AML	AML	03 44 46.3	
	comp=E,4009μm,1.0s						
LKD2				AML	AML	03 44 48.5	
	comp=N,3174μm,0.8s						
UPR	**University Cam**	**1.26**	**53**	P	**Pn**	**03 44 15.3**	**+1.3**
TSLK	**Tsoukalades, L**	**1.29**	**5**	P	**Pn**	**03 44 14.9**	**+0.5**
TSLK				S	**Sg**	**03 44 32.7**	**-0.2**
	comp=N,2μm,0.6s						
TSLK	**Tsoukalades, L**	**1.29**	**5**	P	**Pn**	**03 44 14.1**	**-0.3**
KLV	**Kalavryta, Ach**	**1.40**	**68**	P	**Pn**	**03 44 17.4**	**+1.4**
KLV				AML	AML	03 44 46.5	
	comp=E,2768μm,0.8s						
KLV				AML	AML	03 44 46.6	
	comp=N,3138μm,0.8s						
EFP	**Efpalio**	**1.42**	**51**	P	**Pn**	**03 44 17.2**	**+1.0**
EFP				AML	AML	03 44 49.8	
	comp=N,3110μm,0.8s						
EFP				AML	AML	03 44 49.9	
	comp=E,3640μm,0.6s						
GUR	**Goura**	**1.51**	**74**	P	**Pn**	**03 44 18.8**	**+1.2**
GUR				AML	AML	03 44 51.7	
	comp=E,6281μm,0.5s						
GUR				AML	AML	03 44 53.6	
	comp=N,8409μm,0.8s						
ANX	**Ano Chora**	**1.53**	**46**	P	**Pn**	**03 44 19.3**	**+1.4**
ANX				AML	AML	03 44 46.4	
	comp=E,7034μm,0.5s						
ANX				AML	AML	03 44 46.9	
	comp=N,12112μm,0.5s						
KALE	**Kalithea**	**1.55**	**56**	P	**Pn**	**03 44 19.7**	**+1.7**
KALE				AML	AML	03 44 52.8	
	comp=E,4697μm,0.5s						
KALE				AML	AML	03 44 59.1	
	comp=N,4436μm,0.7s						
EVR	**Evrytania**	**1.71**	**36**	P	**Pb**	**03 44 23.7**	**+1.3**
EVR				AML	AML	03 44 56.5	
	comp=E,2480μm,1.0s						
EVR				AML	AML	03 45 01.5	
	comp=N,2268μm,0.6s						
DLFA	**Delphi**	**1.83**	**59**	P	**Pb**	**03 44 24.5**	**+0.3**
AXAR	**Agios Charalam**	**2.09**	**54**	P	**Pn**	**03 44 27.3**	**+1.8**
AXAR				AML	AML	03 45 10.9	
	comp=N,4264μm,0.8s						
AXAR				AML	AML	03 45 13.9	
	comp=E,3736μm,0.4s						
VLI	**Veliai**	**2.11**	**112**	P	**Pb**	**03 44 28.8**	**-0.2**
VLI				AML	AML	03 45 10.6	
	comp=E,1500μm,1.2s						
VLI				AML	AML	03 45 22.9	
	comp=N,1296μm,1.2s						
THL	**Klokotos Trika**	**2.34**	**30**	P	**Pn**	**03 44 31.9**	**+3.0**
THL				AML	AML	03 45 15.3	
	comp=E,1503μm,1.5s						
THL				AML	AML	03 45 22.1	
	comp=N,966μm,0.7s						
IDI	**Anoyia**	**4.19**	**121**	Pn	**Pn**	**03 44 53.8**	**-0.6**
	comp=N,0.4nm,0.3s,baz=328,slow=15,SNR=2.6						
IDI				Sn	**Sn**	**03 45 43.1**	**+0.1**
	comp=N,8.6nm,0.3s,baz=344,slow=20,SNR=9.5						
	comp=N,14nm,0.9s						
VAE	**Valguarnera**	**4.84**	**271**	Pn	**Pn**	**03 45 05.0**	**+1.7**
	comp=N,0.3nm,0.3s,baz=122,slow=9.5,SNR=1.5						
VAE				Sn	**Sn**	**03 45 59.8**	**+0.7**
	comp=N,1.7nm,0.3s,baz=21,slow=8.6,SNR=2.0						
	comp=N,2.5nm,0.5s						
MLR	**Muntele Rosu**	**8.93**	**25**	Pn	**Pn**	**03 45 58.0**	**-1.4**
	comp=N,0.9nm,0.4s,baz=188,slow=22,SNR=3.1						
KEST	**Kesra**	**9.15**	**262**	Pn	**Pn**	**03 46 04.6**	**+2.1**
	comp=N,1.4nm,0.8s,baz=115,slow=16,SNR=1.6						
SOKA	**Soboth**	**9.99**	**338**	*e*Pn	**Pn**	**03 46 13.9**	**0.0**
	comp=N,0.5nm,0.3s						
OBKA	**Obir**	**9.99**	**336**	*e*Pn	**Pn**	**03 46 17.0**	**+3.0**
	comp=N,0.4nm,0.3s						
GERES	**GERESS Array B**	**12.33**	**339**	LR	LR	03 53 05.4	
	comp=N,73nm,19.9s,baz=240,slow=45						
EIL	**Elat**	**14.36**	**119**	Pn	**Pn**	**03 47 13.3**	**-0.4**
	comp=N,2.5nm,0.7s,baz=69,slow=23,SNR=2.0						
EIL				Sn	Sn	03 49 36.1	-17
	comp=N,0.4nm,0.3s,baz=359,slow=15,SNR=2.1						
HFS	**Hagfors**	**23.02**	**351**	P	**P**	**03 48 53.7**	**-1.4**
	comp=N,1.4nm,0.7s,baz=138,slow=12,SNR=1.9						
	comp=N,1.4nm,0.7s						
FINES	**FINESS Array B**	**24.18**	**7**	P	**P**	**03 49 05.9**	**-0.5**
	comp=N,0.9nm,0.7s,baz=167,slow=13,SNR=3.9						
	comp=N,0.9nm,0.7s						
NOA	**NORSAR Array B**	**24.24**	**349**	P	**P**	**03 49 06.5**	**-0.5**
	comp=N,0.5nm,0.8s,baz=162,slow=9.2,SNR=1.3						
	comp=N,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.53**	**220**	P	**P**	**03 49 55.8**	**+0.9**
	comp=N,0.2nm,0.6s,baz=34,slow=9.6,SNR=2.9						
	comp=N,0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**42.62**	**53**	P	**P**	**03 51 46.0**	**-0.4**
	comp=N,0.3nm,0.3s,baz=271,slow=9.1,SNR=2.4						
	comp=N,0.3nm,0.3s						
MKAR	**Makanchi Array**	**45.65**	**58**	P	**P**	**03 52 07.7**	**-3.1**
	comp=N,0.7nm,0.9s,baz=271,slow=7.6,SNR=1.6						
	comp=N,0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**46.13**	**48**	P	**P**	**03 52 12.3**	**-2.1**
	comp=N,0.6nm,0.4s,baz=281,slow=8.9,SNR=1.4						
	comp=N,0.6nm,0.4s						

*UCR **15** 03:46:44.1±1.1, 10.°29N×86.°40W, h18km±5km, MW4.9*
*CATAC **15** 03:46:46.1±0.7, 10.°34N×86.°31W, h25km±7km, ML4.2*
*NEIC **15** 03:46:49.9±1.9, 10.°51N±0.°01×86.°10W±0.°07, h44km±6km, mb4.6/101, Error ellipse: s-maj=9.7km s-min=1.2km az=81.0*
*IDC **15** 03:46:50.4±1.8, 10.°84N×85.°84W, h45km±17km, mb3.8/15, mbtmp4.1/16, ML3.6/1, MS3.5/11, Error ellipse: s-maj=31.1km s-min=13.7km az=38.0*
ISC 15 03:46:45.7±1.2, 10.°43N±0.°04×86.°20W±0.°04, h19km±6km, n226, σ1°21/237, mb4.6/65, MS3.4/9, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.63**	**105**	*e*P	**Pn**	**03 46 59.0**	**-0.6**
SACU				*e*S	**Sn**	**03 47 09.2**	**+0.1**
ELI1	**Hacienda Flor**	**0.67**	**71**	*e*P	**Pn**	**03 47 01.5**	**+1.3**
ELI1				*e*S	**Sn**	**03 47 14.3**	**+4.1**
ERIA	**Liberia**	**0.78**	**74**	*e*P	**Pn**	**03 47 02.6**	**+1.1**
NICO	**Nicoya**	**0.80**	**111**	*e*P	**Pn**	**03 47 02.1**	**+0.3**
NICO				*e*S	**Sn**	**03 47 13.7**	**+0.5**
LCRUZ	**La Cruz**	**0.86**	**41**	*e*P	**Pn**	**03 47 03.6**	**+0.9**
GPS3	**Bodega del ICE**	**0.89**	**68**	*e*P	**Pn**	**03 47 03.9**	**+0.8**
VRLE	**La Escondida,**	**0.90**	**66**	*e*P	**Pn**	**03 47 03.9**	**+0.6**
VORI	**VORI**	**0.93**	**65**	*e*P	**Pn**	**03 47 04.4**	**+0.6**
BAGA	**Bagaces**	**0.93**	**84**	*e*P	**Pn**	**03 47 04.6**	**+0.9**
CARN	**Rivas**	**1.01**	**41**	*i* P	**Pn**	**03 47 06.1**	**+1.3**
CARN				IAML		03 47 36.8	
	comp=Z,36μm,1.0s						
COLC	**Colonia**	**1.01**	**76**	*e*P	**Pn**	**03 47 05.6**	**+0.8**
CUI	**Cuipilapa**	**1.05**	**77**	*e*P	**Pn**	**03 47 06.2**	**+0.9**
ARIN	**Rivas**	**1.08**	**19**	*i* P	**Pg**	**03 47 06.8**	**0.0**
ARIN				IAML		03 47 35.4	
	comp=Z,9μm,1.0s						
CNAS	**Canas**	**1.09**	**90**	*e*P	**Pg**	**03 47 06.8**	**0.0**
JAPN	**AI SSO del Vol**	**1.21**	**25**	*i* P	**Pg**	**03 47 09.2**	**+0.1**
JAPN				IAML		03 47 16.6	
	comp=Z,5μm,1.0s						
JUNT	**Juntas**	**1.23**	**97**	*e*P	**Pg**	**03 47 08.3**	**-1.3**
TENO	**El Achiote**	**1.23**	**77**	*e*P	**Pg**	**03 47 08.2**	**-1.4**
JTS	**Las Juntas de**	**1.24**	**96**		**Pg**	**03 47 08.1**	**-1.5**
JTS				Sn	**Sg**	**03 47 24.5**	**-1.3**
JTS	**Las Juntas de**	**1.24**	**96**	P	**Pg**	**03 47 08.3**	**-1.3**
	comp=Z,380nm,0.3s,baz=307,slow=20,SNR=308						
JTS				S	**Sg**	**03 47 30.9**	**+5.1**
	comp=Z,716nm,0.3s,baz=298,slow=21,SNR=4.5						
JTS	**Las Juntas de**	**1.24**	**96**	*e*P	**Pg**	**03 47 08.3**	**-1.3**
MORN	**AI O del Volca**	**1.24**	**26**	*i* P	**Pg**	**03 47 09.4**	**-0.3**
MORN				IAML		03 47 16.8	
	comp=Z,930nm,1.0s						
CONN	**Concepcion**	**1.27**	**26**	*i* P	**Pg**	**03 47 09.7**	**-0.5**
CONN				IAML		03 47 17.1	
	comp=Z,58μm,1.0s						
NADN	**Granada**	**1.33**	**7**	*i* P	**Pb**	**03 47 09.9**	**0.0**
NADN				*i* S	**Sg**	**03 47 30.0**	**+1.3**
MTEVE	**Monteverde**	**1.36**	**94**	*e*P	**Pg**	**03 47 11.5**	**-0.4**
CBL1	**Cabuya**	**1.37**	**127**	*e*P	**Pn**	**03 47 09.0**	**-0.7**
VERA	**Finca Concepci**	**1.38**	**72**	*e*P	**Pg**	**03 47 11.3**	**-1.0**
ARE1	**Arenal 1**	**1.46**	**88**	*e*P	**Pg**	**03 47 12.7**	**-1.1**
CEDE	**Laguna Cedeo**	**1.48**	**87**	*e*P	**Pg**	**03 47 13.0**	**-1.1**
VACR	**Volcan Arenal**	**1.50**	**88**	*e*P	**Pg**	**03 47 13.2**	**-1.5**
FORC	**Fortuna**	**1.51**	**88**	*e*P	**Pg**	**03 47 13.2**	**-1.6**
NANN	**Nandasmo**	**1.51**	**3**	*i* P	**Pg**	**03 47 13.6**	**-1.2**
NANN				IAML		03 48 01.8	
	comp=Z,70μm,1.0s						
SABN	**Sabanita**	**1.52**	**1**	*i* P	**Pb**	**03 47 12.8**	**-0.5**
SABN				IAML		03 47 52.8	
	comp=Z,18μm,1.0s						
TUNA	**La Fortuna**	**1.53**	**88**	*e*P	**Pg**	**03 47 13.6**	**-1.7**
MASN	**Masaya**	**1.55**	**2**	*i* P	**Pg**	**03 47 14.5**	**-1.2**
MASN				*i* S	**Sg**	**03 47 35.3**	**-0.6**
MASN				IAML		03 47 45.0	
	comp=Z,910nm,1.0s						
SOCE	**Pocosol**	**1.56**	**91**	Pn	**Pb**	**03 47 13.5**	**-0.4**
SOCE				Sn	**Sb**	**03 47 32.7**	**-0.5**
SOCE	**Pocosol**	**1.56**	**91**	*i* P	**Pg**	**03 47 13.9**	**-1.8**
SOCE				IAML		03 47 23.8	
	comp=Z,4μm,1.0s						
SOCE	**Pocosol**	**1.56**	**91**	*e*P	**Pb**	**03 47 13.5**	**-0.4**
LCHIL	**Los Chiles**	**1.58**	**67**	*e*P	**Pb**	**03 47 13.9**	**-0.3**
MAS3	**AI N del Volca**	**1.59**	**1**	*i* P	**Pb**	**03 47 13.4**	**-1.0**
MAS3				*i* S	**Sg**	**03 47 35.8**	**-1.3**
MAS3				IAML		03 48 02.6	
	comp=Z,3μm,1.0s						
UNAN	**Cigeo UNAN**	**1.68**	**358**	*i* P	**Pb**	**03 47 15.1**	**-0.8**
UNAN				IAML		03 47 34.8	
	comp=Z,19μm,1.0s						
R0529	**La Mascota**	**1.69**	**359**	*i* P	**Pb**	**03 47 15.2**	**-0.9**
R0529				IAML		03 47 53.1	
	comp=Z,2μm,1.0s						
TISN	**Laguna Tiscapa**	**1.71**	**358**	*i* P	**Pn**	**03 47 14.2**	**-0.2**
TISN				IAML		03 47 58.1	
	comp=Z,140nm,1.0s						
R4DEC	**Barrio San Lui**	**1.71**	**358**	*i* P	**Pb**	**03 47 15.3**	**-1.2**
R4DEC				IAML		03 48 00.1	
	comp=Z,2μm,1.0s						
SAPS	**Ciudad Sandino**	**1.75**	**353**	*i* P	**Pn**	**03 47 15.7**	**+0.8**
SAPS				IAML		03 47 55.8	
	comp=Z,2μm,1.0s						
APQ2	**Apoyeque**	**1.77**	**356**	*i* P	**Pb**	**03 47 16.2**	**-1.2**
APQ2				IAML		03 47 26.5	
	comp=Z,2μm,1.0s						
COPN	**Copaltepe**	**1.79**	**348**	*i* P	**Pn**	**03 47 15.9**	**+0.4**
COPN				IAML		03 47 47.0	
	comp=Z,2μm,1.0s						
COVE	**Coope Vega, Sa**	**1.79**	**80**	*i* P	**Pb**	**03 47 16.3**	**-1.6**
COVE				IAML		03 48 03.9	
	comp=Z,4μm,1.0s						
APYN	**Apoyeque**	**1.80**	**355**	*i* P	**Pb**	**03 47 17.3**	**-0.8**
APYN				IAML		03 48 00.1	
	comp=Z,22nm,1.0s						
ACON	**Acoyapa**	**1.83**	**33**		**Pb**	**03 47 17.6**	**-1.0**
ACON				Sn	**Sn**	**03 47 38.4**	**-0.5**
ACON	**Acoyapa**	**1.83**	**33**	*i* P	**Pb**	**03 47 17.4**	**-1.2**
ACON				IAML		03 47 24.9	
	comp=Z,2μm,1.0s						
ACON	**Acoyapa**	**1.83**	**33**	*e*P	**Pb**	**03 47 17.5**	**-1.1**
ITAL	**Pital**	**1.90**	**89**	*e*P	**Pb**	**03 47 18.1**	**-1.5**
TCS1	**Tacares**	**1.91**	**101**	*i* P	**Pb**	**03 47 18.7**	**-1.3**
TCS1				IAML		03 48 00.8	
	comp=Z,31μm,1

NUBE Las Nubes 4.92 315 *i* P **Pn 03 47 59.6 +0.9**
NUBE IAML 03 48 54.9
comp=Z,130nm,1.0s
MTO3 Montecristo 5.01 322 Pn **Pn 03 48 03.0 +3.0**
CMIG Matias Romero 10.72 309 P **Pn 03 49 20.2 +1.9**
comp=Z,0.4nm,0.3s,baz=154,slow=10,SNR=8.4
comp=Z,4.0nm,0.7s
SDV Santo Domingo 15.43 94 LR LR 03 57 37.1
comp=Z,85nm,18.4s,baz=268,slow=43
ATAH Atahualpa 19.10 156 LR LR 03 57 30.9
comp=Z,177nm,19.3s,baz=334,slow=33
HBVL Hebbronville 20.30 326 Pn 03 51 21.9 -0.6
HBVL IAmb IAmb 03 51 33.1
comp=Z,15nm,0.9s
PCRV Puerto La Cruz 21.22 89 P **P 03 51 31.3 +0.7**
comp=Z,8.9nm,0.7s,baz=284,slow=5.9,SNR=5.7
comp=Z,8.9nm,0.7s
833A Chaparral WMA, 21.69 327 P **P 03 51 37.0 +1.6**
833A IAmb IAmb 03 51 39.8
comp=Z,14nm,0.8s
152A Waverly Hall 22.18 3 P **P 03 51 41.8 +1.1**
CZSB Cruzeiro do Su 22.49 143 *e*P **P 03 51 48.7 +4.5**
LRAL Lakeview Retre 22.51 358 P **P 03 51 45.2 +0.9**
LRAL IAmb IAmb 03 51 47.6
comp=Z,14nm,0.7s
435B Jarrell 22.85 334 P **P 03 51 47.1 -0.8**
435B IAmb IAmb 03 51 51.6
comp=Z,22nm,1.1s
Y49A Blount Mountai 23.32 360 P **P 03 51 53.7 +1.0**
Y49A IAmb IAmb 03 51 54.5
comp=Z,19nm,0.7s
Y52A Lilburn 23.41 4 P **P 03 51 54.7 +1.2**
Y52A IAmb IAmb 03 51 54.9
comp=Z,30nm,0.9s
JCT Junction City 23.63 330 P **P 03 51 56.2 +0.4**
BRDY Brady 23.91 332 P **P 03 51 58.6 +0.2**
BRDY IAmb IAmb 03 52 00.0
comp=Z,10.0nm,0.7s
HODGE Hodges 23.97 8 P **P 03 51 59.0 +0.1**
HODGE IAmb IAmb 03 52 00.0
comp=Z,21nm,0.7s
TREL Terrell 24.00 339 P **P 03 51 59.9 +0.7**
FPAL Fort Paine 24.01 1 P **P 03 51 59.3 0.0**
FPAL IAmb IAmb 03 52 00.8
comp=Z,7.0nm,0.7s
X51A Calhoun 24.06 3 P **P 03 52 00.3 +0.6**
PAULI Pauline 24.61 9 P **P 03 52 05.3 +0.5**
PAULI IAmb IAmb 03 52 06.1
comp=Z,22nm,0.8s
BG3 Lake Jocassee 24.64 6 P **P 03 52 04.6 -0.5**
W52A Murphy 24.64 4 P **P 03 52 06.0 +0.8**
W50A Signal Mountai 24.68 2 P **P 03 52 04.4 -1.0**
W50A IAmb IAmb 03 52 05.9
comp=Z,16nm,0.7s
UALR University of 24.88 348 P **P 03 52 06.6 -0.6**
UALR IAmb IAmb 03 52 07.5
comp=Z,21nm,1.0s
TXAR Lajitas Array 24.91 322 P **P 03 52 08.8 +1.1**
TXAR Lajitas Array 24.91 322 P **P 03 52 08.3 +0.7**
comp=Z,2.7nm,0.6s,baz=137,slow=9.8,SNR=40
TXAR PcP **PcP 03 55 45.3 +2.0**
comp=Z,1.1nm,0.9s,baz=141,slow=5.8,SNR=5.5
comp=Z,2.7nm,0.6s
TX31 Lajitas Ar. Si 24.91 322 P **P 03 52 08.3 +0.6**
MIAR Mount Ida 24.94 345 P **P 03 52 06.8 -0.9**
MIAR IAmb IAmb 03 52 09.0
comp=Z,7.5nm,0.8s
CPCT Cooper Cave 24.96 3 P **P 03 52 06.4 -1.5**
CPCT IAmb IAmb 03 52 09.0
comp=Z,16nm,0.7s
Z35A Perchaven, San 24.96 338 P **P 03 52 07.0 -0.9**
Z35A IAmb IAmb 03 52 10.5
comp=Z,15nm,0.8s
KMSC Kings Mountain 25.00 9 P **P 03 52 07.5 -0.8**
KMSC IAmb IAmb 03 52 09.6
comp=Z,22nm,0.9s
V48A Smith Brothers 25.21 359 P **P 03 52 09.7 -0.5**
V48A IAmb IAmb 03 52 10.5
comp=Z,12nm,1.0s
TKL Tuckaleechee C 25.22 5 P **P 03 52 10.0 -0.3**
comp=Z,11nm,0.9s,baz=165,slow=7.5,SNR=12
TKL LR LR 04 01 43.9
comp=Z,77nm,21.1s,baz=201,slow=36
comp=Z,11nm,0.9s
V53A Saluda 25.32 6 P **P 03 52 11.7 +0.4**
V53A IAmb IAmb 03 52 13.3
comp=Z,13nm,0.7s
ABTX Abilene, Hawle 25.33 333 P **P 03 52 11.6 +0.2**
ABTX IAmb IAmb 03 52 14.2
comp=Z,14nm,0.9s
WHAR Wooly Hollow 25.37 348 P **P 03 52 10.5 -1.1**
WHAR IAmb IAmb 03 52 12.0
comp=Z,30nm,1.2s
SGCY Sterling City 25.45 329 P **P 03 52 12.5 0.0**
LOOK Love County 25.52 338 P **P 03 52 13.1 0.0**
LOOK IAmb IAmb 03 52 16.3
comp=Z,23nm,0.9s
MNHN Monahans 25.86 326 P **P 03 52 15.6 -0.7**
MNHN IAmb IAmb 03 52 18.8
comp=Z,16nm,0.9s
U49A Red Boiling Sp 25.98 1 P **P 03 52 16.5 -0.6**
U49A IAmb IAmb 03 52 17.6
comp=Z,11nm,0.8s
APMT Aspermont 26.14 333 P **P 03 52 19.3 +0.6**
APMT IAmb IAmb 03 52 22.0
comp=Z,10nm,0.8s
T47A Sharon Grove 26.46 358 P **P 03 52 21.1 -0.4**
T47A IAmb IAmb 03 52 21.4
comp=Z,14nm,0.8s
POST Post 26.57 330 P **P 03 52 22.3 -0.4**
POST IAmb IAmb 03 52 41.3
comp=Z,12nm,1.3s
LPIG La Paz 26.68 304 LR LR 04 03 39.1
comp=Z,71nm,19.2s,baz=108,slow=38
FNO Franklin 26.74 339 P **P 03 52 22.7 -1.4**
FNO IAmb IAmb 03 52 28.3
comp=Z,16nm,0.8s
DKNS Dickens 26.79 332 P **P 03 52 24.8 +0.2**
WMOK Wichita Mounta 26.79 337 P **P 03 52 25.8 +1.3**
WMOK IAmb IAmb 03 52 28.2
comp=Z,10.0nm,0.8s
S51A Beattyville 27.20 5 P **P 03 52 28.0 -0.2**
WCI Wyandotte Cave 27.68 360 P **P 03 52 32.7 +0.2**
WCI IAmb IAmb 03 52 32.9
comp=Z,17nm,0.8s
MSTX Muleshoe 27.93 330 P **P 03 52 35.6 +0.8**
MSTX IAmb IAmb 03 52 36.5
comp=Z,7.7nm,0.8s
ETMB Extrema 28.28 135 P **P 03 52 39.0 +1.0**
ETMB Extrema 28.28 135 *e*P **P 03 52 39.2 +1.1**
Q51A Peebles 28.59 5 P **P 03 52 41.0 +0.3**
Q52A Bidwell 28.63 6 P **P 03 52 40.9 -0.1**
MACA Manacapuru-AM 28.77 117 P **P 03 52 44.2 +1.7**
MACA IAmb IAmb 03 52 48.4
comp=Z,11nm,0.7s
MACA Manacapuru-AM 28.77 117 *e*P **P 03 52 43.2 +0.7**
P48A Milroy 28.92 1 P **P 03 52 42.9 -0.6**
P48A IAmb IAmb 03 52 43.4
comp=Z,15nm,0.8s
P53A Whipple 29.26 8 P **P 03 52 46.1 -0.4**
ACSO Alum Creek Sta 29.82 5 P **P 03 52 51.5 0.0**
N49A Columbus Grove 30.43 3 P **P 03 52 55.3 -1.5**
ANMO Albuquerque 30.61 326 P **P 03 52 60.0 +1.1**
ANMO Albuquerque 30.61 326 P **P 03 52 59.6 +0.8**
comp=Z,2.2nm,0.9s,baz=144,slow=19,SNR=10
comp=Z,2.2nm,0.9s
L42A Oliver, Polo 31.60 355 P **P 03 53 05.6 -1.6**
LPAZ La Paz 32.00 146 LR LR 04 06 40.3
comp=Z,64nm,18.1s,baz=337,slow=37
SDCO Great Sand Dun 32.27 331 P **P 03 53 13.6 +0.1**
JFWS Jewell Farm 32.56 354 P **P 03 53 15.3 -0.3**
ITTB Itaituba 33.71 114 *e*P **P 03 53 27.0 +1.0**
SADO Sadowa 34.76 9 P **P 03 53 32.7 -2.0**
comp=Z,4.8nm,0.7s,baz=220,slow=7.9,SNR=4.4
comp=Z,4.8nm,0.7s
NPGB Novo Progresso 35.28 118 *e*P **P 03 53 40.3 +0.7**
SRU San Rafael Swe 35.87 327 P **P 03 53 45.7 +1.1**
SRU IAmb IAmb 03 53 46.8
comp=Z,4.1nm,0.8s
PFO Pinyon Flats O 36.09 314 LR LR 04 08 31.9
comp=Z,61nm,18.0s,baz=128,slow=36
BBSD Serra de San D 37.32 137 *e*P **P 03 53 58.9 +1.9**
TPNV Topopah Spring 37.84 319 P **P 03 54 03.4 +2.0**
TPNV IAmb IAmb 03 54 05.4
comp=Z,6.1nm,1.1s

PD31 Pinedale Array 38.12 332 P **P 03 54 03.4 -0.4**
PDAR Pinedale Array 38.12 332 P **P 03 54 03.4 -0.4**
comp=Z,0.8nm,0.6s,baz=131,slow=11,SNR=12
PDAR PcP **PcP 03 56 19.6 +1.0**
comp=Z,0.4nm,0.7s,baz=120,slow=5.4,SNR=3.7
comp=Z,0.8nm,0.6s
HWUT Hardware Ranch 38.23 329 P **P 03 54 04.5 -0.1**
HWUT IAmb IAmb 03 54 06.3
comp=Z,5.6nm,0.7s
GRAC Grapevine Rang 38.59 318 P **P 03 54 07.7 +0.1**
GRAC IAmb IAmb 03 54 11.6
comp=Z,7.7nm,1.1s
GMN Gold Mountain 38.70 319 P **P 03 54 09.4 +0.7**
MDND Maddock 38.97 346 P **P 03 54 10.5 -0.1**
MZP Montezuma Peak 39.01 319 P **P 03 54 12.0 +0.7**
TPH Tonopah 39.13 320 P **P 03 54 13.2 +0.9**
TPH IAmb IAmb 03 54 16.3
comp=Z,11nm,0.8s
DSP Deep Springs 39.20 318 P **P 03 54 13.8 +1.3**
ELK Elko 39.62 325 P **P 03 54 17.3 +1.0**
ELK Elko 39.62 325 P **P 03 54 17.4 +1.0**
comp=Z,1.6nm,0.7s,baz=140,slow=7.1,SNR=8.3
comp=Z,1.6nm,0.7s
NV11 Mina Array Sit 39.93 320 P **P 03 54 19.5 +0.6**
NV11 IAmb IAmb 03 54 22.7
comp=Z,7.5nm,1.0s
SALV Santo Antonio 39.95 130 *e*P **P 03 54 20.0 +0.9**
OMMB Old Mammoth Mi 40.01 318 P **P 03 54 21.2 +1.4**
NVAR Mina Array Bea 40.03 320 P **P 03 54 21.5 +1.7**
comp=Z,3.8nm,0.8s,baz=138,slow=7.3,SNR=28
NVAR PcP **PcP 03 56 26.0 +1.4**
comp=Z,1.0nm,0.6s,baz=116,slow=4.1,SNR=7.1
comp=Z,3.8nm,0.8s
LHV Little Huntoon 40.05 319 P **P 03 54 21.6 +1.9**
LHV IAmb IAmb 03 54 23.9
comp=Z,7.3nm,0.9s
KVN Kaiserville 40.26 320 P **P 03 54 23.0 +1.3**
ULM Lac du Bonnet 40.50 350 P **P 03 54 20.8 -2.5**
comp=Z,3.3nm,0.9s,baz=158,slow=14,SNR=3.0
comp=Z,3.3nm,0.9s
YERR Yerington 40.95 320 P **P 03 54 28.3 +1.0**
HLID Hailey 41.10 328 P **P 03 54 29.4 +0.9**
PNTR Pine Nut 41.23 319 P **P 03 54 31.4 +1.6**
PAHR Pah Rah Range 41.45 320 P **P 03 54 32.5 +1.1**
EMB Emerald Bay 41.49 319 P **P 03 54 33.8 +1.9**
MPK Martis Peak 41.63 319 P **P 03 54 34.1 +1.0**
WVOR Wild Horse Val 42.65 324 P **P 03 54 41.8 +0.6**
J08A Circle Bar Ran 43.14 325 P **P 03 54 46.4 +1.3**
BMO Blue Mountains 43.49 328 P **P 03 54 46.9 -1.0**
RPN Rapa Nui 43.56 211 LR LR 04 08 36.7
comp=Z,49nm,19.6s,baz=102,slow=30
YBH Yreka Blue Hor 44.68 321 P **P 03 54 57.5 0.0**
comp=Z,0.7nm,0.7s,baz=80,slow=10,SNR=2.5
comp=Z,0.7nm,0.7s
PINE Pine Mountain 44.82 324 P **P 03 54 59.7 +1.0**
PINE IAmb IAmb 03 55 00.5
comp=Z,7.9nm,1.0s
J04A Umpqua Nationa 45.17 323 P **P 03 55 02.2 +0.7**
I04A Tendick Farm, 45.67 323 P **P 03 55 06.1 +0.8**
I04A IAmb IAmb 03 55 06.8
comp=Z,7.2nm,0.8s
BDFB Brasilia 45.83 124 P **P 03 55 07.4 +0.4**
comp=Z,1.7nm,0.5s,baz=306,slow=14,SNR=3.3
BDFB LR LR 04 14 49.9
comp=Z,65nm,20.2s,baz=333,slow=37
comp=Z,1.7nm,0.5s
H04A Detroit Lake 46.07 324 P **P 03 55 07.5 -0.8**
H04A IAmb IAmb 03 55 09.9
comp=Z,5.2nm,0.5s
SCHQ Schefferville 46.88 15 P **P 03 55 11.4 -3.1**
comp=Z,4.2nm,0.7s,baz=228,slow=15,SNR=5.6
SCHQ LR LR 04 15 16.2
comp=Z,91nm,18.2s,baz=311,slow=37
comp=Z,4.2nm,0.7s
SFJD Kangerlussuaq 61.33 15 LR LR 04 23 26.8
comp=Z,64nm,18.6s,baz=184,slow=36
ILAR Eielson Array 68.36 336 P **P 03 57 44.3 -1.3**
comp=Z,1.2nm,0.9s,baz=113,slow=4.2,SNR=10
comp=Z,1.2nm,0.9s
RND Reindeer 68.66 335 P **P 03 57 47.9 +0.3**
RND IAmb IAmb 03 57 48.4
comp=Z,8.3nm,1.0s
MLY Manley 69.98 336 P **P 03 57 55.0 -0.7**
MLY IAmb IAmb 03 57 55.9
comp=Z,6.0nm,1.1s
CAST Castle Rocks 70.04 334 P **P 03 57 55.0 -1.0**
CAST IAmb IAmb 03 58 02.3
comp=Z,6.4nm,1.5s
M20K Styx River 70.07 332 P **P 03 57 56.1 -0.2**
M20K IAmb IAmb 03 58 39.8
comp=Z,11nm,1.5s
N17K Nushagak Hills 71.65 330 P **P 03 58 05.6 -0.3**
N17K IAmb IAmb 03 58 43.5
comp=Z,8.4nm,1.2s
J19K Poorman 71.71 334 P **P 03 58 05.2 -0.9**
J19K IAmb IAmb 03 58 41.9
comp=Z,6.5nm,1.2s
L18K Granite Mounta 71.77 332 P **P 03 58 06.6 0.0**
L18K IAmb IAmb 03 58 11.0
comp=Z,14nm,1.4s
D22K Ayikyak River 71.95 340 P **P 03 58 07.3 -0.3**
D22K IAmb IAmb 03 58 20.9
comp=Z,5.8nm,1.4s
K17K Iditarod 72.61 333 P **P 03 58 11.3 -0.3**
K17K IAmb IAmb 03 58 49.5
comp=Z,9.1nm,1.1s
B22K Teshekpuk Lake 72.66 341 P **P 03 58 13.1 +1.4**
J16K Anvik River 73.74 333 P **P 03 58 17.4 -0.8**
UNV Unalaska Valle 75.94 323 P **P 03 58 31.6 +0.5**
C16K Lisburne Hills 76.36 338 P **P 03 58 33.1 -0.1**
ESDC Sonseca Array 77.48 52 P **P 03 58 37.6 -2.6**
comp=Z,0.9nm,0.9s,baz=258,slow=6.4,SNR=4.7
comp=Z,0.9nm,0.9s
ESK Eskdalemuir 77.52 36 P **P 03 58 39.6 -0.4**
EKB Eskdalemuir 77.53 36 P **P 03 58 39.3 -0.8**
ADK Adak 82.19 321 P **P 03 59 06.5 +1.1**
SPB5 Spitsbergen Ar 82.43 12 P **P 03 59 06.3 +0.2**
TORD Torodi Ar. Bea 85.65 77 P **P 03 59 20.7 -3.1**
TORD Torodi Ar. Bea 85.65 77 P **P 03 59 21.5 -2.3**
comp=Z,0.3nm,0.8s,baz=294,slow=5.0,SNR=1.8
comp=Z,0.3nm,0.8s
PETK Petropavlovsk- 96.75 327 P **P 04 00 13.7 -1.3**
ALN Alexandroupoli 99.50 45 P **Pdif 04 00 26.9 -0.8**
NRIK Noril'sk 100.31 2 LR LR 04 47 25.1
comp=Z,56nm,19.6s,baz=132,slow=36
KURK Kurchatov 117.69 11 PKPdf **PKiKP 04 05 32.4 +1.8**
KSRS Korea Array 122.63 328 PKP **PKiKP 04 05 40.9 +0.2**
comp=Z,1.4nm,0.7s,baz=8.8,slow=2.1,SNR=2.6
KKAR Karatay Array 122.64 20 PKPpre PKPpre 04 05 32.1
WB2 Warramunga Arr 139.83 251 PKPdf **PKPdf 04 06 13.0 -0.4**
WRA Warramunga Arr 139.84 251 PKP **PKiKP 04 06 17.0 +1.1**
comp=Z,0.5nm,0.7s,baz=94,slow=2.3,SNR=6.2
PZH PanZhiHua 142.49 348 PKP **PKPdf 04 06 18.1 -0.1**
CMAR Chiang Mai Arr 150.85 350 PKPbc **PKPbc 04 06 37.4 -0.5**
comp=Z,1.4nm,0.4s,baz=326,slow=2.8,SNR=9.2

IDC ***15*** *03:52:15.6±1.5, 10°.56N×86°.15W, h0km, mb3.7/4, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=44.3km s-min=16.3km az=33.0*
UCR ***15*** *03:52:15.4±1.0, 10°.35N×86°.42W, h20km±5km, MW4.3*
CATAC ***15*** *03:52:19.0±0.8, 10°.44N×86°.29W, h29km±12km, ML3.8*
NEIC ***15*** *03:52:21.0±0.8, 10°.57N±0°.07×86°.10W±0°.07, h35km±2km, mb4.5/29, Error ellipse: s-maj=14.6km s-min=8.1km az=221.0*
ISC 15 03:52:17.6±0.8, 10°.41N±0°.05×86°.26W±0°.05, h21km±4km, n98, σ0=86/112, mb4.5/17, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIA	**Liberia**	**0.83**	**75**	*e*P	**Pn**	**03 52 34.0**	**-0.2**
NICO	**Nicoya**	**0.84**	**109**	*e*P	**Pb**	**03 52 33.2**	**-0.4**
LCRUZ	**La Cruz**	**0.90**	**43**	*e*P	**Pn**	**03 52 35.0**	**-0.2**
LCRUZ				*e*S	**Sn**	**03 52 49.4**	**+1.8**
GPS3	**Bodega del ICE**	**0.94**	**69**	*e*P	**Pn**	**03 52 35.6**	**-0.1**
GPS3				*e*S	**Sn**	**03 52 50.9**	**+2.3**
VRLE	**La Escondida,**	**0.95**	**67**	*e*P	**Pb**	**03 52 35.2**	**-0.3**
VORI	**VORI**	**0.98**	**66**	*e*P	**Pb**	**03 52 35.6**	**-0.5**
BAGA	**Bagaces**	**0.99**	**83**	*e*P	**Pb**	**03 52 35.7**	**-0.3**
CARN	**Rivas**	**1.05**	**43**	*i* P	**Pn**	**03 52 37.2**	**0.0**
CARN				*i* S	**Sn**	**03 52 51.6**	**+0.3**
CARN				IAML		03 53 07.7	
comp=Z,7μm,1.0s
COLC Colonia 1.06 76 *e*P **Pb 03 52 36.8 -0.6**

CUI Cuipilapa 1.10 77 *e*P **Pn 03 52 37.4 -0.5**
JAPN AI SSO del Vol 1.24 27 *i* P **Pb 03 52 40.5 +0.1**
JAPN IAML 03 52 48.0
comp=Z,2μm,1.0s
MORN AI O del Volca 1.27 28 *i* P **Pn 03 52 40.5 +0.2**
MORN IAML 03 52 50.9
comp=Z,330nm,1.0s
JUNT Juntas 1.28 96 *e*P **Pn 03 52 39.6 -0.8**
JTS Las Juntas de 1.29 95 Pn **Pn 03 52 39.9 -0.5**
JTS Sn **Sn 03 52 54.2 -2.9**
JTS Las Juntas de 1.29 95 Pn **Pn 03 52 39.4 -1.1**
comp=Z,55nm,0.3s,baz=112,slow=23,SNR=51
JTS Sn **Sb 03 52 59.4 +2.1**
comp=Z,72nm,0.3s,baz=296,slow=23,SNR=10.0
JTS Las Juntas de 1.29 95 *e*P **Pn 03 52 39.4 -1.1**
TENO El Achiote 1.29 77 *e*P **Pn 03 52 39.5 -1.0**
CONN Concepcion 1.30 28 *i* P **Pn 03 52 40.7 +0.1**
CONN IAML 03 52 48.2
comp=Z,14μm,1.0s
CONN *i* S **Sb 03 52 57.6 -0.1**
NADN Granada 1.34 9 *i* P **Pn 03 52 40.8 -0.4**
NADN *i* S **Sn 03 52 58.5 0.0**
NADN IAML 03 53 16.2
comp=Z,3μm,1.0s
CBL1 Cabuya 1.41 125 *e*P **Pn 03 52 41.9 -0.2**
VERA Finca Concepci 1.43 72 *e*P **Pn 03 52 42.5 +0.1**
ARE1 Arenal 1 1.51 88 *e*P **Pn 03 52 43.8 +0.2**
NANN Nandasmo 1.52 5 *i* P **Pb 03 52 45.0 -0.2**
NANN IAML 03 53 22.9
comp=Z,21μm,1.0s
CEDE Laguna Cedeo 1.53 87 *e*P **Pn 03 52 44.2 +0.4**
SABN Sabanita 1.54 3 *i* P **Pn 03 52 44.3 +0.4**
SABN IAML 03 53 23.8
comp=Z,4μm,1.0s
VACR Volcan Arenal 1.55 88 *e*P **Pn 03 52 44.3 +0.2**
FORC Fortuna 1.56 88 *e*P **Pn 03 52 44.6 +0.4**
MASN Masaya 1.57 4 *i* P **Pn 03 52 45.1 +0.8**
MASN IAML 03 53 04.6
comp=Z,390nm,1.0s
MAS3 AI N del Volca 1.60 3 *i* P **Pn 03 52 44.9 +0.1**
MAS3 IAML 03 53 10.3
comp=Z,770nm,1.0s
SOCE Pocosol 1.61 91 **Pn 03 52 44.7 -0.2**
SOCE Pocosol 1.61 91 *e*P **Pn 03 52 44.9 -0.1**
LCHIL Los Chiles 1.64 68 *e*P **Pn 03 52 45.1 -0.1**
UNAN Cigeo UNAN 1.69 360 *i* P **Pn 03 52 46.2 +0.3**
UNAN IAML 03 53 05.9
comp=Z,4μm,1.0s
R0529 La Mascota 1.70 1 *i* P **Pn 03 52 46.5 +0.4**
R0529 IAML 03 53 16.0
comp=Z,690nm,1.0s
TISN Laguna Tiscapa 1.72 360 *i* P **Pn 03 52 45.7 -0.7**
TISN IAML 03 53 16.3
comp=Z,50nm,1.0s
SAPS Ciudad Sandino 1.75 355 *i* P **Pn 03 52 47.1 +0.3**
SAPS IAML 03 53 28.8
comp=Z,850nm,1.0s
APQ2 Apoyeque 1.77 358 *i* P **Pn 03 52 47.3 +0.2**
APQ2 *i* S **Sn 03 53 09.5 +0.4**
APQ2 IAML 03 53 25.5
comp=Z,960nm,1.0s
COPN Copaltepe 1.79 349 *i* P **Pn 03 52 47.3 0.0**
COPN IAML 03 53 17.9
comp=Z,590nm,1.0s
COVE Coope Vega, Sa 1.85 80 *i* P **Pn 03 52 49.1 +0.9**
COVE IAML 03 53 32.9
comp=Z,910nm,1.0s
ACON Acoyapa 1.88 34 **Pn 03 52 48.2 -0.3**
ACON Acoyapa 1.88 34 *i* P **Pn 03 52 48.5 0.0**
ACON IAML 03 53 55.9
comp=Z,830nm,1.0s
ACON *i* S **Sb 03 53 13.3 -0.9**
ACON Acoyapa 1.88 34 *e*P **Pn 03 52 48.6 +0.1**
TCS1 Tacares 1.96 101 *i* P **Pn 03 52 50.5 +0.7**
TCS1 IAML 03 53 31.6
comp=Z,6μm,1.0s
MOMN Momotombo 2.00 352 *i* P **Pn 03 52 50.3 0.0**
MOMN *i* S **Sn 03 53 15.4 +0.6**
MOMN IAML 03 53 17.0
comp=Z,19nm,1.0s
LEVN Ruinas Leon Vi 2.01 350 *i* P **Pn 03 52 50.3 0.0**
LEVN IAML 03 53 27.1
comp=Z,500nm,1.0s
MOM2 El Cardon 2.02 354 *i* P **Pn 03 52 50.7 +0.1**
MOM2 IAML 03 53 27.4
comp=Z,460nm,1.0s
CNGA AI SSO del Vol 2.11 348 *i* P **Pn 03 52 51.9 0.0**
CNGA IAML 03 53 30.3
comp=Z,450nm,1.0s
PACN AI O del Volca 2.14 346 *i* P **Pn 03 52 52.6 +0.4**
PACN *i* S **Sn 03 53 17.7 -0.4**
PACN IAML 03 53 23.1
comp=Z,650nm,1.0s
HDC Heredia 2.15 101 Pn **Pn 03 52 51.3 -1.1**
ILCN San Idelfonso 2.19 349 *i* P **Pn 03 52 52.7 -0.2**
ILCN *i* S **Sn 03 53 18.3 -1.2**
ILCN IAML 03 53 23.2
comp=Z,140nm,1.0s
CVIMO Finca Echandi 2.31 99 *e*P **Pn 03 52 54.9 +0.2**
LCR2 La Lucha 2 2.31 107 **Pn 03 52 54.4 -0.4**
LCR2 La Lucha 2 2.31 107 *e*P **Pn 03 52 54.8 0.0**
PKGN Cerro Pekin 2.35 343 *i* P **Pn 03 52 55.1 0.0**
PKGN *i* S **Sn 03 53 23.4 +0.1**
PKGN IAML 03 53 25.7
comp=Z,1μm,1.0s
CRIN San Cristobal 2.40 341 **Pn 03 52 54.5 -1.4**
ESPN Las Esperanzas 2.61 47 **Pn 03 52 56.9 -1.7**
ESPN Las Esperanzas 2.61 47 *e*P **Pn 03 52 58.6 -0.1**
BUS1 Rivas 2.62 109 *e*P **Pn 03 52 58.9 -0.2**
LIMN Finca el Limon 2.63 358 *i* P **Pn 03 52 58.9 -0.2**
LIMN IAML 03 53 18.3
comp=Z,170nm,1.0s
CSGN Cosiguina Volc 2.85 334 *i* P **Pn 03 53 02.1 +0.1**
CSGN *i* S **Sn 03 53 34.5 -1.2**
CSGN IAML 03 53 38.7
comp=Z,130nm,1.0s
RCPN Sur Rio San Ju 3.10 3 *i* P **Pn 03 53 06.5 +1.0**
RCPN IAML 03 53 08.0
comp=Z,1.1nm,1.0s
LCND La Caada 3.29 331 *i* P **Pn 03 53 08.4 +0.4**
LCND IAML 03 53 55.5
comp=Z,140nm,1.0s
PIRO Carate, Puerto 3.50 124 *e*P **Pn 03 53 11.2 +0.3**
TGUH Tegucigalpa,Un 3.75 345 Pn **Pn 03 53 13.9 -0.6**
BRU2 Volcan 3.87 114 Pn **Pn 03 53 16.9 +0.8**
SDD Santo Domingo 17.72 61 **Pn 03 56 22.8 -0.5**
ATAH Atahualpa 19.11 156 P **Pn 03 56 41.4 +0.7**
comp=Z,0.2nm,0.3s,baz=315,slow=17,SNR=3.7
comp=Z,4.0nm,0.8s
352A Blakely 21.00 3 P **P 03 56 56.2 -3.6**
352A IAmb IAmb 03 57 20.2
comp=Z,51nm,1.3s
LRAL Lakeview Retre 22.52 358 P **P 03 57 16.5 +0.3**
GOGA Godfrey 23.03 6 P **P 03 57 22.2 +0.7**
GOGA IAmb IAmb 03 58 03.5
comp=Z,24nm,1.4s
Y49A Blount Mountai 23.34 360 P **P 03 57 24.3 -0.3**
Y49A IAmb IAmb 03 57 53.8
comp=Z,17nm,1.4s
Y52A Lilburn 23.43 5 P **P 03 57 24.8 -0.6**
Y52A IAmb IAmb 03 57 43.3
comp=Z,23nm,1.3s
HODGE Hodges 23.99 8 P **P 03 57 30.5 -0.4**
HODGE IAmb IAmb 03 57 34.0
comp=Z,20nm,1.2s
JSC Jenkinsville 24.19 10 P **P 03 57 32.1 -0.7**
BG3 Lake Jocassee 24.65 7 P **P 03 57 36.1 -0.9**
BG3 IAmb IAmb 03 57 42.2
comp=Z,19nm,1.4s
W50A Signal Mountai 24.69 2 P **P 03 57 36.7 -0.6**
W50A IAmb IAmb 03 57 48.9
comp=Z,11nm,0.9s
TXAR Lajitas Array 24.88 322 P **P 03 57 40.2 +0.9**
comp=Z,0.8nm,0.5s,baz=133,slow=10,SNR=6.8
comp=Z,0.8nm,0.5s
TX31 Lajitas Ar. Si 24.89 322 P **P 03 57 40.4 +1.2**
MIAR Mount Ida 24.94 346 P **P 03 57 39.4 -0.1**
V48A Smith Brothers 25.22 359 P **P 03 57 41.9 -0.2**
TKL Tuckaleechee C 25.23 5 P **P 03 57 41.6 -0.6**
TKL IAmb IAmb 03 58 18.5
comp=Z,18nm,1.2s
TKL Tuckaleechee C 25.23 5 P **P 03 57 42.0 -0.2**
comp=Z,5.8nm,1.0s,baz=169,slow=5.2,SNR=4.8
comp=Z,5.8nm,1.0s

V53A	Saluda	25.34	7	P	P	03 57 42.9	-0.3
V53A				IAmb	IAmb	03 58 00.0	
	comp=Z,9.3nm,1.2s						
WVT	Waverly	25.64	357	P	P	03 57 44.2	-1.7
WVT				IAmb	IAmb	03 57 50.1	
	comp=Z,14nm,1.4s						
U49A	Red Boiling Sp	25.99	1	P	P	03 57 48.3	-0.7
U49A				IAmb	IAmb	03 57 48.5	
	comp=Z,13nm,1.1s						
APMT	Aspermont	26.12	333	P	P	03 57 50.3	0.0
TZTN	Tazewell	26.13	5	P	P	03 57 49.7	-0.7
BOAV	Boa Vista	26.76	106	P	P	03 57 56.0	-0.3
S51A	Beattyville	27.21	5	P	P	03 57 59.3	-0.8
S51A				IAmb	IAmb	03 58 15.8	
	comp=Z,28nm,1.4s						
T59A	Double "B" Far	27.59	15	P	P	03 58 01.4	-2.0
T59A				IAmb	IAmb	03 58 04.8	
	comp=Z,22nm,1.3s						
S54A	Dingess, Beckl	27.63	8	P	P	03 58 03.8	0.0
Q51A	Peebles	28.61	5	P	P	03 58 12.2	-0.4
Q52A	Bidwell	28.65	6	P	P	03 58 11.9	-1.0
P53A	Whipple	29.28	8	P	P	03 58 17.5	-1.0
P53A				IAmb	IAmb	03 58 18.9	
	comp=Z,13nm,0.8s						
O52A	Adamsville	29.84	7	P	P	03 58 22.8	-0.6
PDAR	Pinedale Array	38.11	332	P	P	03 59 34.2	-1.2
	comp=Z,0.2nm,0.5s,baz=128,slow=10,SNR=3.7						
	comp=Z,0.2nm,0.5s						
NVAR	Mina Array Bea	40.00	320	P	P	03 59 53.1	+1.8
	comp=Z,1.0nm,0.8s,baz=139,slow=8.4,SNR=7.5						
	comp=Z,1.0nm,0.8s						
M16K	Timber Creek	72.58	331	P	P	04 03 43.9	+0.7
M16K				IAmb	IAmb	04 03 44.6	
	comp=Z,9.6nm,1.2s						

*IDC **15** 03:54:59.1±0.5,2˚.88S×119˚.39E, h0km, mb4.3/14, mbtmp4.3/17, ML4.0/3, MS3.8/43, Error ellipse: s-maj=33.4km s-min=11.0km az=71.0*
*NEIC **15** 03:55:01.8±1.4,2˚.89S±0˚.05×119˚.41E±0˚.07, h10km±1km, mb4.8/34, Error ellipse: s-maj=12.0km s-min=8.5km az=250.0*
*DJA **15** 03:55:02.3±0.2,3˚S±2˚×11˚.9E±˚, h10km, M4.9/28, mb5.1/28, mB5.4/15, MLv5.1/26, Mw(mB)4.8/15, MwMwp4.8/4, Mwp5.2/4*
*GCMT **15** 03:55:02.8±0.2,2˚.99S±0˚.02×119˚.33E±0˚.03, h15km, MW5.0/82, Moment Tensor Solution. s46,c51; s82,c117; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.01±.10; $M_{\theta\theta}$1.23±.07; $M_{\phi\phi}$0.77±.11; $M_{r\theta}$-1.70±.37; $M_{\theta\phi}$1.31±.06; $M_{\phi r}$3.42±.37; Best double couple: $M_0$4.06600×10^{16} NP1:ϕ_s171.00000°, δ80.00000°, λ-110.00000°. NP2: ϕ_s55.00000°, δ22.00000°, λ-29.00000°. Principal axes: T 3.0910, Plg32.0000°, Azm277.0000°; N 1.9460, Plg19.0000°, Azm175.0000°; P -5.0420, Plg51.0000°, Azm59.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 03:55:01.5±0.3,2˚.98S±0˚.04×119˚.38E±0˚.06, h10km, n148, σ1970/126, mb4.7/37, MS3.9/44, 1D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.44	99	P	Pg	03 55 09.5	-0.7
SPSI	Sidrap Palu	1.06	159	P	Pb	03 55 20.8	-1.1
BNSI	Bone	1.59	153	P	Pn	03 55 30.5	+0.7
KAPI	Kappang	2.06	170	Pn	Pn	03 55 36.8	+0.6
	189nm,0.3s,baz=322,slow=10,SNR=194						
KAPI				Sn	Sn	03 56 04.1	+2.2
	251nm,0.3s,baz=354,slow=19,SNR=10						
KAPI				LR	LR	03 56 04.3	
	comp=Z,2μm,18.3s,baz=10,slow=30						
	1μm,0.5s						
PCI	Palu	2.10	12	P	Pn	03 55 37.3	+0.4
BKB	Balikpapan	3.01	304		Pn	03 55 50.7	+1.3
BKB	Balikpapan	3.01	304	P	Pn	03 55 50.1	+0.8
APSI	Ampana	3.06	48	P	Pn	03 55 50.1	+0.2
SMKI	Samarinda	3.32	319	P	Pn	03 55 54.2	+0.6
BSSI	Bau Bau, Buton	3.33	161	P	Pn	03 55 54.3	+0.5
KDI	Kendari	3.38	107	P	Pn	03 55 55.9	+1.6
LUWI	Luwuk	3.89	61	Pn	Pn	03 56 01.1	-0.4
LUWI	Luwuk	3.89	61	P	Pn	03 55 59.7	-1.8
BBSI	Bau Bau	4.04	128	P	Pn	03 56 04.0	+0.5
MRSI	Marisa	4.28	37	P	Pn	03 56 06.2	-0.6
TOLI2	Tolitoli	4.29	19	Pn	Pn	03 56 05.8	-1.2
MTKI	Muara Teweh, K	4.92	294	P	Pn	03 56 16.0	+0.4
KMSI	Cibinong	5.79	53	P	Pn	03 56 30.1	+2.5
PLAI	Plampang	6.03	195	P	Pn	03 56 31.5	+0.6
	92nm,0.7s,1μm0.4nm						
MMRI	Maumere	6.30	153	Pn	Pn	03 56 34.0	-0.5
MMRI	Maumere	6.30	153	P	Pn	03 56 35.9	+1.3
	97nm,0.7s,5μm0.6nm						
SRBI	Singaraja	6.56	219	P	Pn	03 56 38.2	+0.1
	60nm,0.5s,0.3nm						
WBSI	Waikabubak, Su	6.62	180	P	Pn	03 56 40.0	+0.9
	270nm,1.3s,2μm0.9nm						
SANI	Sanana	6.66	82	P	Pn	03 56 37.8	-1.8
BASI	Baing, Sumba	7.29	171	P	Pn	03 56 49.0	+0.8
	240nm,0.8s,4μm3μm1.1nm						
NLAI	Namlea	7.71	92	P	Pn	03 56 56.5	+2.5
	74nm,0.8s,0.2nm						
MYLDM	Lahad Datu	8.15	354	Pn	Pn	03 57 00.4	+0.5
SOEI	Soe	8.30	144	Pn	Pn	03 57 02.8	+0.6
SOEI	Soe	8.30	144	P	Pn	03 57 05.9	+3.7
	148nm,1.1s,3μm						
BATI	Baumata	8.35	150	Pn	Pn	03 57 01.5	-1.3
	2.8nm,0.3s,baz=325,slow=9.4,SNR=1.6						
BATI				LR	LR	04 00 47.5	
	comp=Z,1μm,20.6s,baz=332,slow=41						
	16nm,0.3s						
LBMI	Labuha	8.44	74	P	Pn	03 57 05.4	+1.4
	170nm,0.8s,4μm						
TNTI	Ternate	8.81	65		Pn	03 57 08.0	-1.0
TNTI	Ternate	8.81	65	P	Pn	03 57 10.0	+1.0
	73nm,0.9s						
AAI	Ambon	8.82	95	P	Pn	03 57 13.2	+3.9
	148nm,1.3s,2μm						
BNDI	Bandanaira	10.61	99	P	Pn	03 57 33.2	-0.6
	258nm,1.4s						
DAV	Davao City (W)	11.74	32	LR	LR	04 03 08.5	
	comp=Z,554nm,19.2s,baz=184,slow=42						
SWI	Sorong	12.05	80	P	Pn	03 57 56.7	+3.2
	32nm,1.0s						
LEM	Lembang	12.33	251	LR	LR	04 02 57.1	
	comp=Z,586nm,19.1s,baz=22,slow=39						
FAKI	Fak Fak	12.85	90	P	Pn	03 58 06.9	+2.5
	35nm,1.2s,650nm						
KMPI	Kaimana, Papua	14.31	93	P	Pn	03 58 26.1	+1.6
	62nm,0.8s						
MTN	Manton Dam	15.21	131	Pn	Pn	03 58 39.0	+2.5
KNRA	Kununurra	15.64	144	Pn	Pn	03 58 43.5	+1.2
FITZ	Fitzroy Crossi	16.23	158	Pn	Pn	03 58 48.4	-1.5
	0.1nm,0.3s,baz=324,slow=8.7,SNR=2.4						
FITZ				LR	LR	04 07 08.9	
	comp=Z,450nm,18.7s,baz=330,slow=45						
	2.1nm,0.8s						
TGY	Tagaytay City	17.04	5	LR	LR	04 05 42.5	
	comp=Z,232nm,20.4s,baz=158,slow=38						
MBWA	Marble Bar	18.08	179		P	03 59 15.3	+2.0
IPM	Ipoh	19.78	292	P	P	03 59 32.4	+0.3
GENI	Genyem	20.76	89	P	Pn	03 59 44.5	-0.8
	73nm,1.3s						
RPSI	Rantau Prapat	21.21	285	P	P	03 59 48.6	+1.0
RPSI				IAmb	IAmb	03 59 55.3	
	comp=Z,40nm,1.0s						
JAY	Jayapura	21.30	89	LR	LR	04 09 35.7	
	comp=Z,241nm,20.9s,baz=334,slow=41						
JAY	Jayapura	21.30	89	P	P	03 59 50.1	+1.4
GSI	Gunungsitoli	22.21	281	P	P	04 00 00.1	+1.7
WB0	Warramunga Arr	22.21	140	P	P	03 59 58.5	+0.1
WB0				IAmb	IAmb	04 00 08.8	
	comp=Z,25nm,1.0s						
WRA	Warramunga Arr	22.31	140	P	P	03 59 59.3	-0.1
WRA	Warramunga Arr	22.31	140	P	P	03 59 57.4	-2.1
	comp=Z,6.0nm,0.8s,baz=317,slow=11,SNR=27						
WRA				PcP	PcP	04 03 53.6	-1.7
	comp=Z,0.7nm,0.8s,baz=315,slow=2.2,SNR=2.6						
WRA				LR	LR	04 10 10.3	
	comp=Z,375nm,19.2s,baz=328,slow=41						
	comp=Z,6.0nm,0.8s						
WRAB	Tennant Creek	22.31	140	P	P	03 59 59.5	0.0
WRAB				IAmb	IAmb	04 00 03.0	
	comp=Z,24nm,0.8s						
WB2	Warramunga Arr	22.31	140	P	P	03 59 58.9	-0.6
WB2				IAmb	IAmb	04 00 03.0	
	comp=Z,25nm,0.8s						
WR0	Warramunga Arr	22.45	140	P	P	04 00 01.0	+0.1
WR0				IAmb	IAmb	04 00 11.0	
	comp=Z,32nm,0.8s						
QIZ	Qiongzhong	23.80	337	P	P	04 00 15.9	+1.2
QIZ				S	S	04 04 33.8	+3.3
QIZ				PcS	PcS	04 07 23.0	-15
QIZ				LR	LR		
	comp=N,370nm,15.1s						
QIZ				LR	LR		
	comp=E,240nm,19.2s						
QIZ				LR	LR		
	comp=Z,290nm,16.0s						
AS31	Alice Springs	24.91	147	P	P	04 00 25.4	+0.5
ASAR	Alice Springs	24.91	147	P	P	04 00 25.6	+0.7
ASAR	Alice Springs	24.91	147	P	P	04 00 24.9	-0.1
	comp=Z,7.9nm,1.0s,baz=322,slow=8.5,SNR=40						
ASAR				PcP	PcP	04 04 00.2	-0.6
	comp=Z,1.9nm,0.6s,baz=337,slow=1.9,SNR=13						
	comp=Z,7.9nm,1.0s						
PMG	Port Moresby	28.33	104	LR	LR	04 14 38.1	
	comp=Z,148nm,21.0s,baz=349,slow=42						
CMAR	Chiang Mai Arr	29.30	317	P	P	04 01 03.0	-1.6
	comp=Z,1.7nm,0.3s,baz=160,slow=5.6,SNR=1.8						
CMAR				LR	LR	04 15 08.8	
	comp=Z,156nm,18.3s,baz=145,slow=41						
	comp=Z,1.7nm,0.3s						
NWAO	Narrogin (SRO)	29.86	184	LR	LR	04 13 35.4	
	comp=Z,128nm,20.8s,baz=306,slow=37						
JOW	Kunigami	30.85	16	LR	LR	04 12 56.3	
	comp=Z,240nm,21.2s,baz=158,slow=35						
CTA	Charters Tower	31.25	125	LR	LR	04 14 29.1	
	comp=Z,16nm,18.9s,baz=288,slow=37						
PZH	PanZhiHua	33.91	331	P	P	04 01 48.8	+3.8
PZH				S	S	04 07 09.5	-0.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,110nm,5.5s						
PZH				LR	LR		
	comp=N,130nm,15.5s						
PZH				LR	LR		
	comp=E,190nm,15.5s						
PZH				LR	LR		
	comp=Z,120nm,12.9s						
NJ2	Nanjing	34.84	359	⇓P	P	04 01 54.9	+2.1
NJ2				pP	sP	04 02 00.3	+2.5
NJ2				sP	pP	04 02 03.4	+7.1
NJ2				pmax	pmax		
	comp=Z,18nm,0.7s						
STKA	Stephens Creek	35.54	146	P	P	04 02 00.1	+1.1
STKA	Stephens Creek	35.54	146	P	P	04 02 00.0	+1.0
	comp=Z,1.5nm,0.5s,baz=344,slow=12,SNR=7.6						
	comp=Z,1.5nm,0.5s						
CD2	Chengdu	36.84	337	P	P	04 02 10.1	-0.1
CD2				pP	sP	04 02 19.5	+4.4
CD2				sP	pP	04 02 22.1	+8.4
CD2				S	S	04 07 55.1	+0.3
CD2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CD2				LR	LR		
	comp=N,230nm,12.8s						
CD2				LR	LR		
	comp=E,140nm,13.9s						
CD2				LR	LR		
	comp=Z,240nm,16.5s						
JNU	Nakatsue	37.51	16	LR	LR	04 16 57.0	
	comp=Z,135nm,21.8s,baz=206,slow=35						
SHL	Shillong	38.93	318	P	P	04 02 27.1	-1.0
SHL				IAmb	IAmb	04 02 29.5	
	comp=Z,12nm,1.0s						
HNS	HongShan	40.40	354	eP	P	04 02 43.8	+3.9
HNS				eS	S	04 08 46.4	-1.8
HNS				LR	LR		
	comp=N,140nm,23.1s						
HNS				LR	LR		
	comp=E,170nm,20.7s						
HNS				LR	LR		
	comp=Z,210nm,22.3s						
JHJ	Hachijo jima 2	40.76	27	LR	LR	04 16 50.1	
	comp=Z,159nm,21.0s,baz=227,slow=32						
KSRS	Korea Array	41.00	10	P	P	04 02 43.6	-1.2
	comp=Z,0.8nm,0.5s,baz=184,slow=8.5,SNR=7.6						
	comp=Z,0.8nm,0.5s						
LZH	Lanzhou	41.48	341	eP	P	04 02 53.3	+4.2
LZH				pP	sP	04 03 00.3	+6.3
LZH				PcP	PcP	04 04 46.3	-0.5
LZH				S	S	04 09 07.3	+2.6
LZH				sS	sS	04 09 19.1	+8.4
LZH				pmax	pmax		
	comp=Z,20nm,0.9s						
LZH				LR	LR		
	comp=N,190nm,15.6s						
LZH				LR	LR		
	comp=E,230nm,15.1s						
LZH				LR	LR		
	comp=Z,340nm,18.0s						
MJAR	Matsushiro Arr	43.06	22	LR	LR	04 21 38.9	
	comp=Z,71nm,19.6s,baz=216,slow=37						
HHC	Hu-ho-hao-te	44.20	351	eP	P	04 03 12.6	+1.7
GTA	Gaotai	45.86	339	P	P	04 03 25.1	+0.9
GTA				pP	sP	04 03 37.0	+7.8
GTA				pmax	pmax		
	comp=Z,16nm,0.9s						
GTA				LR	LR		
	comp=N,74nm,13.8s						
GTA				LR	LR		
	comp=E,110nm,19.6s						
GTA				LR	LR		
	comp=Z,170nm,20.0s						
XLT	XiLinHaoTe	46.76	357	eP	P	04 03 29.8	-1.3
XLT				pP	pP	04 03 34.3	-0.4
XLT				sP	sP	04 03 36.3	+0.2
XLT				pmax	pmax		
	comp=Z,16nm,0.8s						
CN2	Changchun	46.88	6	eP	P	04 03 31.3	-0.7
MDJ	Mudanjiang	48.25	10	P	P	04 03 41.3	-1.3
MDJ	Mudanjiang	48.25	10	P	P	04 03 41.4	-1.3
MDJ				pmax	pmax		
	comp=Z,12nm,1.0s						
USRK	Ussuriysk Ar.	48.31	12	P	P	04 03 41.0	-2.0
	comp=Z,1.2nm,0.5s,baz=196,slow=8.3,SNR=4.0						
	comp=Z,1.2nm,0.5s						
DZM	Mont Dzumac	49.44	117	eP	P	04 03 51.6	-0.7
	comp=Z,22nm,21.9s						
DZM				eS	S	04 11 01.2	+1.3
	comp=Z,123nm,34.5s						
DZM				eSS	SS	04 14 31.0	-0.9
	comp=Z,344nm,24.1s						
DZM				eLR	LR	04 18 00.3	
	comp=Z,206nm,23.0s						
DZM	Mont Dzumac	49.44	117	LR	LR	04 24 35.3	
	comp=Z,133nm,21.9s,baz=256,slow=36						
ASAJ	Asahikawa	51.30	21	LR	LR	04 26 36.6	
	comp=Z,59nm,20.7s,baz=172,slow=37						
ULN	Ulaanbaatar	51.77	349	P	P	04 04 08.8	-0.7
SONM	Songino Array	51.86	349	P	P	04 04 09.4	-0.8
SONM				IAmb	IAmb	04 04 14.7	
	comp=Z,13nm,0.8s						
SONM	Songino Array	51.86	349	P	P	04 04 09.2	-1.0
	comp=Z,16nm,0.9s,baz=166,slow=8.7,SNR=48						
SONM				LR	LR	04 27 06.7	
	comp=Z,90nm,21.0s,baz=154,slow=37						
	comp=Z,16nm,0.9s						
KLR	Kul'dur	53.09	10	P	P	04 04 17.8	-1.4
	comp=Z,0.9nm,0.5s,baz=276,slow=10,SNR=3.9						
	comp=Z,0.9nm,0.5s						
WUS	Wushi	57.17	325	P	P	04 04 48.3	-0.7
WUS				IAmb	IAmb	04 04 56.1	
	comp=Z,11nm,0.9s						
MK31	Makanchi Array	59.35	331	P	P	04 05 04.5	+0.6
MKAR	Makanchi Array	59.35	331	P	P	04 05 03.5	-0.4
MKAR	Makanchi Array	59.35	331	P	P	04 05 03.1	-0.8
	comp=Z,6.9nm,0.9s,baz=138,slow=7.2,SNR=19						
	comp=Z,6.9nm,0.9s						
KBL	Kabul	60.19	313	P	P	04 05 08.6	-1.7
AAK	Ala-Archa	60.84	323	P	P	04 05 13.9	-0.5
AAK				IAmb	IAmb	04 05 25.2	
	comp=Z,8.0nm,0.9s						
AAK	Ala-Archa	60.84	323	LR	LR	04 35 42.8	
	comp=Z,105nm,21.1s,baz=142,slow=40						
RPZ	Rata Peaks	61.01	139	P	P	04 05 15.8	+0.4
SIMJ	Simiganj	62.19	317	P	P	04 05 22.6	-1.0
SIMJ				IAmb	IAmb	04 05 29.0	
	comp=Z,9.3nm,1.1s						
URZ	Urewera	63.16	132	LR	LR	04 33 28.4	
	comp=Z,101nm,18.9s,baz=20,slow=36						
CASY	Casey	63.49	184	P	P	04 05 31.7	+0.2
CASY				IAmb	IAmb	04 05 38.5	
	comp=Z,6.8nm,1.0s						
KKAR	Karatay Array	63.51	322	P	P	04 05 31.3	-0.9
KKAR	Karatay Array	63.51	322	P	P	04 05 31.1	-1.1
KKAR				IAmb	IAmb	04 05 43.7	
	comp=Z,2.0nm,0.9s						
ZAA0	Zalesovo Array	63.61	338	P	P	04 05 31.4	-1.2
ZAA0				IAmb	IAmb	04 05 42.5	
	comp=Z,5.4nm,0.9s						
ZALV	Zalesovo Beam	63.61	338	P	P	04 05 30.1	-2.4
	comp=Z,1.6nm,0.5s,baz=145,slow=5.3,SNR=6.4						
ZALV				LR	LR	04 37 00.4	
	comp=Z,42nm,18.0s,baz=152,slow=40						
	comp=Z,1.6nm,0.5s						
KURBB	Kurchatov Arra	63.81	332	P	P	04 05 31.4	-2.5
	comp=Z,1.7nm,0.6s,baz=157,slow=8.0,SNR=16						
KURBB				LR	LR	04 38 00.2	
	comp=Z,67nm,18.8s,baz=164,slow=40						
	comp=Z,1.7nm,0.6s						
KURK	Kurchatov	63.83	332	P	P	04 05 33.3	-0.8
KURK				IAmb	IAmb	04 05 34.4	
	comp=Z,8.1nm,0.8s						
PETK	Petropavlovsk-	64.45	24	LR	LR	04 35 30.4	
	comp=Z,32nm,19.1s,baz=205,slow=38						
MA2	Magadan	67.08	17	LR	LR	04 37 15.1	
	comp=Z,30nm,20.0s,baz=202,slow=38						
BVAR	Borovoye Array	69.22	331	P	P	04 06 07.2	-1.4
	comp=Z,2.2nm,0.8s,baz=134,slow=10,SNR=10						
BVAR				LR	LR	04 39 41.1	
	comp=Z,70nm,21.6s,baz=134,slow=39						
	comp=Z,2.2nm,0.8s						
ABKAR	Akbulak array	72.92	324	P	P	04 06 29.4	-1.6
ABKAR				IAmb	IAmb	04 06 36.6	
	comp=Z,4.2nm,0.9s						
ABKAR	Akbulak array	72.92	324	P	P	04 06 31.0	0.0
AKTO	Aktyubinsk	74.55	324	LR	LR	04 43 10.6	
	comp=Z,78nm,20.3s,baz=226,slow=39						
TIXI	Tiksi	74.75	3	P	P	04 06 38.2	-3.1
TIXI				IAmb	IAmb	04 06 43.4	
	comp=Z,9.1nm,0.9s						
TIXI	Tiksi	74.75	3	LR	LR	04 41 05.6	
	comp=Z,90nm,21.8s,baz=218,slow=37						
MAW	Mawson	75.00	199	P	P	04 06 43.3	+0.5
	comp=Z,5.8nm,0.9s,baz=55,slow=7.3,SNR=9.1						
MAW				LR	LR	04 37 06.2	
	comp=Z,110nm,20.9s,baz=58,slow=34						
	comp=Z,5.8nm,0.9s						
NRIK	Noril'sk	75.35	349	P	P	04 06 43.0	-1.8
NRIK				IAmb	IAmb	04 06 54.2	
	comp=Z,7.3nm,1.4s						
KIWB	Kanaga Island	76.33	35	P	P	04 06 49.1	-1.7
ARTI	Arti	76.91	330	LR	LR	04 45 15.0	
	comp=Z,70nm,18.6s,baz=142,slow=39						
SBA	Scott Base	78.83	171	P	P	04 07 04.7	+0.4
SBA				IAmb	IAmb	04 07 23.5	
	comp=Z,8.9nm,1.2s						
BELG	Belogornoye	81.33	324	LR	LR	04 49 08.0	
	comp=Z,48nm,18.6s,baz=131,slow=40						
KMBO	Kilima Mbogo	82.08	269	LR	LR	04 42 23.3	
	comp=Z,37nm,18.1s,baz=93,slow=35						
KIRV	Kirov	82.23	330	LR	LR	04 45 38.5	
	comp=Z,106nm,20.9s,baz=119,slow=37						
KBZ	Khabaz	82.32	315	LR	LR	04 50 40.2	
	comp=Z,47nm,19.1s,baz=104,slow=41						
MMAI	Mount Meron Ar	86.56	303	LR	LR	04 51 58.1	
	comp=Z,43nm,18.6s,baz=48,slow=40						
EIL	Elat	86.62	300	LR	LR	04 52 28.8	
	comp=Z,47nm,18.8s,baz=74,slow=40						
QSPA	South Pole Qui	86.98	180	P	P	04 07 45.5	-1.4
	comp=Z,1.4nm,0.9s,baz=322,slow=5.9,SNR=2.7						
QSPA				LR	LR	04 45 28.9	
	comp=Z,90nm,19.3s,baz=4.5,slow=35						
	comp=Z,1.4nm,0.9s						
MBAR	Mbarara	88.62	269	LR	LR	04 46 18.7	
	comp=Z,38nm,18.1s,baz=82,slow=35						
PPT2	Papeete2	90.10	108	eS	S	04 18 45.5	-11
	comp=Z,38nm,25.0s						
PPT2				eSS	SS	04 24 56.5	+0.8
	comp=Z,56nm,26.8s						
PPT2	Papeete2	90.10	108	eLR	LR	04 36 43.9	
	comp=Z,74nm,27.8s						
KDAK	Kodiak Island	91.44	32	LR	LR	04 41 51.9	
	comp=Z,38nm,21.8s,baz=88,slow=31						
BOSA	Boshof	92.21	241	LR	LR	04 43 43.8	
	comp=Z,116nm,21.5s,baz=108,slow=32						
ARCES	ARCESS Array B	94.13	339	LR	LR	04 57 39.5	
	comp=Z,66nm,18.1s,baz=108,slow=40						
FINES	FINESS Array B	94.18	331	LR	LR	04 55 51.0	
	comp=Z,29nm,18.5s,baz=106,slow=39						
MLR	Muntele Rosu	94.52	315	LR	LR	05 00 08.0	
	comp=Z,31nm,18.2s,baz=90,slow=41						
SUR	Sutherland	95.65	237	LR	LR	04 46 24.4	
	comp=Z,40nm,18.9s,baz=116,slow=32						
F31M	Tsiigehtchic	99.17	22	P	Pdif	04 08 42.4	-0.6
F31M				IAmb	IAmb	04 09 01.7	
	comp=Z,4.3nm,1.4s						
TULEG	Thule	106.36	2	Pdif	Pdif	04 09 10.8	-4.0
ESBB	Sonseca Array	117.16	314	PKPdf	PKPdf	04 13 45.9	-1.7
TORD	Torodi Ar. Bea	117.62	283	PKP	PKPdf	04 13 48.0	-1.0
	comp=Z,0.8nm,0.6s,baz=44,slow=2.8,SNR=6.4						
GRAC	Grapevine Rang	117.99	49	PKPdf	PKPdf	04 13 46.9	-2.3
MORF	Marmelete	121.45	313	PKPdf	PKPdf	04 13 54.1	-1.7
X18A	Snowflake	124.50	49	PKPdf	PKPdf	04 14 00.9	-1.1
LC02	Puerto Saavedr	136.80	165	PKPdf	PKPdf	04 14 23.9	-0.9
ZON	Zonda	144.82	168	PKPdf	PKPab	04 14 37.0	-1.5
CPUP	Villa Florida	150.69	186	PKPbc	PKPbc	04 14 54.2	-0.6
	comp=Z,3.4nm,0.7s,baz=127,slow=0.7,SNR=5.8						

*IDC **15** 03:58:26.5±1.3, 10˚.81N×86˚.08W, h0km, mb3.9/6, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=50.6km s-min=11.5km az=33.0*
*CATAC **15** 03:58:26.9±0.7, 10˚.37N×86˚.32W, h14km±6km, ML4.3*
*UCR **15** 03:58:27.5±0.8, 10˚.37N×86˚.29W, h14km±5km, MW4.8*
*NEIC **15** 03:58:31.3±1.8, 10˚.46N±0˚.08×86˚.13W±0˚.07, h43km±8km, mb4.6/66, Error ellipse: s-maj=13.9km s-min=7.9km az=217.0*

ISC 15 03:58:28.7±1.5, 10˚.42N±0˚.05×86˚.22W±0˚.06, h28km±10km, n142, σ0.976/150, mb4.6/40, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	Santa Cruz	0.64	104	eP	Pb	03 58 40.7	-0.7
SACU				eS	Sb	03 58 50.5	+0.5
ERIA	Liberia	0.79	75	eP	Pb	03 58 44.5	+0.5
NICO	Nicoya	0.81	111	eP	Pn	03 58 43.4	-0.9
LCR

comp=Z,51μm,1.0s
VACR Volcan Arenal 1.51 88 *e*P **Pn 03 58 54.9 +0.8**
FORC Fortuna 1.52 88 *e*P **Pn 03 58 55.1 +1.0**
SABN Sabanita 1.52 2 *i* P **Pn 03 58 54.5 +0.3**
SABN IAML 03 59 35.8
comp=Z,10μm,1.0s
MASN Masaya 1.56 2 *i* P **Pn 03 58 55.8 +1.2**
MASN IAML 03 59 40.9
comp=Z,720nm,1.0s
RA5A7 El Crucero 1.56 357 *i* P **Pn 03 58 55.3 +0.5**
RA5A7 IAML 03 59 40.5
comp=Z,11μm,1.0s
SOCE Pocosol 1.57 91 Pn 03 58 55.3 +0.4
SOCE Pocosol 1.57 91 *i* P **Pn 03 58 55.6 +0.8**
SOCE IAML 03 59 42.2
comp=Z,2μm,1.0s
SOCE Pocosol 1.57 91 *e*P **Pn 03 58 55.6 +0.8**
MAS3 Al N del Volca 1.59 1 *i* P **Pn 03 58 55.5 +0.4**
MAS3 *i* S **Sb 03 59 17.0 -0.2**
MAS3 IAML 03 59 20.7
comp=Z,2μm,1.0s
UNAN Cigeo UNAN 1.68 358 *i* P **Pn 03 58 56.5 +0.2**
UNAN IAML 03 59 16.3
comp=Z,13μm,1.0s
UNAN *i* S **Sb 03 59 19.1 -0.6**
USIM UNAN 1.68 358 *i* P **Pn 03 58 56.2 -0.2**
USIM IAML 03 59 55.1
comp=Z,7μm,1.0s
R0529 La Mascota 1.69 359 *i* P **Pn 03 58 56.7 +0.2**
R0529 IAML 03 59 34.9
comp=Z,2μm,1.0s
TISN Laguna Tiscapa 1.71 358 *i* P **Pn 03 58 55.8 -0.9**
TISN IAML 03 59 06.3
comp=Z,120nm,1.0s
R4DEC Barrio San Lui 1.71 359 *i* P **Pn 03 58 56.8 0.0**
R4DEC IAML 03 59 41.5
comp=Z,2μm,1.0s
SAPS Ciudad Sandino 1.74 354 *i* P **Pn 03 58 57.2 0.0**
SAPS IAML 03 59 38.8
comp=Z,2μm,1.0s
APQ2 Apoyeque 1.77 356 *i* P **Pn 03 58 57.5 0.0**
APQ2 *i* S **Sb 03 59 20.7 -1.5**
APQ2 IAML 03 59 36.0
comp=Z,2μm,1.0s
COPN Copaltepe 1.78 348 *i* P **Pn 03 58 57.6 -0.2**
COPN IAML 03 59 28.4
comp=Z,2μm,1.0s
COVE Coope Vega, Sa 1.81 80 *i* P **Pn 03 58 59.3 +1.3**
COVE IAML 03 59 47.2
comp=Z,2μm,1.0s
ACON Acoyapa 1.84 34 Pn 03 58 59.1 +0.5
ACON Acoyapa 1.84 34 *i* P **Pn 03 58 58.9 +0.3**
ACON IAML 03 59 06.4
comp=Z,2μm,1.0s
ACON *i* S **Sb 03 59 24.8 +0.4**
ACON Acoyapa 1.84 34 *e*P **Pn 03 58 59.0 +0.5**
TCS1 **Tacares 1.92 101** *i* P **Pb 03 59 02.3 -0.9**
TCS1 IAML 03 59 42.4
comp=Z,14μm,1.0s
MOMN Momotombo 2.00 351 *i* P **Pn 03 59 00.4 -0.3**
MOMN IAML 03 59 19.2
comp=Z,40nm,1.0s
LEVN Ruinas Leon Vi 2.00 349 *i* P **Pn 03 59 00.9 +0.1**
LEVN IAML 03 59 36.3
comp=Z,970nm,1.0s
MOM2 El Cardon 2.02 352 *i* P **Pn 03 59 01.1 +0.1**
MOM2 IAML 03 59 11.1
comp=Z,960nm,1.0s
BELE Belen 2.04 102 *e*P **Pn 03 59 02.3 +0.9**
HDC Heredia 2.11 101 Pn 03 59 02.8 +0.5
CNGA Al SSO del Vol 2.11 347 *i* P **Pn 03 59 02.4 +0.1**
CNGA IAML 03 59 16.0
comp=Z,630nm,1.0s
PACN Al O del Volca 2.14 345 *i* P **Pn 03 59 03.1 +0.4**
PACN IAML 03 59 33.5
comp=Z,860nm,1.0s
ILCN San Idelfonso 2.19 348 *i* P **Pn 03 59 03.3 -0.1**
ILCN IAML 03 59 33.6
comp=Z,370nm,1.0s
PLRN Geotermica Pol 2.21 346 *i* P **Pn 03 59 03.5 -0.2**
PLRN IAML 03 59 33.7
comp=Z,640nm,1.0s
LCR2 La Lucha 2 2.28 107 Pn **Pn 03 59 04.9 +0.2**
LCR2 La Lucha 2 2.28 107 *i* P **Pn 03 59 05.3 +0.6**
LCR2 IAML 04 00 02.5
comp=Z,520nm,1.0s
PKGN Cerro Pekin 2.35 342 *i* P **Pn 03 59 06.0 +0.4**
PKGN IAML 03 59 39.2
comp=Z,2μm,1.0s
CRIN San Cristobal 2.41 340 Pn 03 59 06.3 0.0
TRT2 Tortugero 2.44 87 *i* P **Pn 03 59 07.0 +0.2**
TRT2 IAML 03 59 57.9
comp=Z,1μm,1.0s
ESPN Las Esperanzas 2.57 47 Pn 03 59 08.6 0.0
ESPN Las Esperanzas 2.57 47 *i* P **Pn 03 59 09.0 +0.4**
ESPN IAML 04 00 02.1
comp=Z,850nm,1.0s
CSGN Cosiguina Volc 2.86 333 *i* P **Pn 03 59 11.6 -1.0**
CSGN IAML 03 59 49.1
comp=Z,180nm,1.0s
BLUN Bluefields 2.86 56 *i* P **Pn 03 59 12.8 +0.2**
BLUN IAML 04 00 12.4
comp=Z,310nm,1.0s
RCVN Varilla2 3.14 0 *i* P **Pn 03 59 17.1 +0.5**
RCVN IAML 04 00 01.6
comp=Z,4μm,1.0s
TGUH Tegucigalpa,Un 3.76 344 Pn **Pn 03 59 25.4 +0.4**
BRU2 Volcan 3.83 115 Pn 03 59 26.8 +0.7
CMIG Matias Romero 10.71 309 Pn **Pn 04 01 01.5 +1.0**
comp=Z,0.6nm,0.3s,baz=136,slow=12,SNR=11
comp=Z,2.0nm,0.4s
HBVL Hebbronville 20.30 326 P Pn 04 03 04.0 -0.6
152A Waverly Hall 22.18 3 P **P 04 03 23.6 +0.9**
152A IAmb IAmb 04 03 25.4
comp=Z,24nm,0.7s
LRAL Lakeview Retre 22.52 358 P **P 04 03 26.9 +0.6**
LRAL IAmb IAmb 04 03 29.1
comp=Z,9.8nm,0.7s
Y52A Lilburn 23.41 5 P **P 04 03 35.9 +0.3**
Y52A IAmb IAmb 04 03 36.5
comp=Z,16nm,0.9s
JCT Junction City 23.62 330 P **P 04 03 38.3 +0.6**
BRDY Brady 23.91 332 P **P 04 03 39.6 -0.8**
HODGE Hodges 23.97 8 P **P 04 03 41.4 +0.5**
HODGE IAmb IAmb 04 03 41.6
comp=Z,14nm,0.7s
TREL Terrell 23.99 339 P **P 04 03 40.7 -0.4**
TREL IAmb IAmb 04 03 43.4
comp=Z,22nm,0.8s
X51A Calhoun 24.06 3 P **P 04 03 41.8 +0.1**
X51A IAmb IAmb 04 03 43.1
comp=Z,17nm,0.7s
BG3 Lake Jocassee 24.64 6 P **P 04 03 47.5 +0.4**
BG3 IAmb IAmb 04 03 48.0
comp=Z,20nm,0.7s
W52A Murphy 24.64 4 P **P 04 03 47.6 +0.5**
W52A IAmb IAmb 04 03 48.2
comp=Z,18nm,0.8s
TXAR Lajitas Array 24.90 322 P **P 04 03 50.3 +0.7**
comp=Z,2.2nm,0.6s,baz=135,slow=10,SNR=26
TXAR PcP **PcP 04 07 26.7 +1.7**
comp=Z,0.3nm,0.7s,baz=160,slow=5.8,SNR=3.8
comp=Z,2.2nm,0.6s
TX31 Lajitas Ar. Si 24.90 322 P **P 04 03 50.3 +0.7**
FW03 Perrin-Whitt E 25.01 336 P **P 04 03 50.5 0.0**
FW03 IAmb IAmb 04 03 51.9
comp=Z,8.3nm,0.6s
TKL Tuckaleechee C 25.22 5 P **P 04 03 51.5 -0.7**
comp=Z,9.2nm,0.8s,baz=164,slow=10,SNR=9.4
comp=Z,9.2nm,0.8s
V53A Saluda 25.32 6 P **P 04 03 53.1 -0.1**
V53A IAmb IAmb 04 04 06.4
comp=Z,24nm,1.4s
ABTX Abilene, Hawle 25.33 333 P **P 04 03 54.2 +0.9**
MNHN Monahans 25.86 326 P **P 04 03 59.2 +1.1**
MNHN IAmb IAmb 04 04 00.3
comp=Z,9.3nm,0.9s
U49A Red Boiling Sp 25.98 1 P **P 04 03 59.0 -0.1**
U49A IAmb IAmb 04 03 59.1
comp=Z,16nm,1.0s
APMT Aspermont 26.13 333 P **P 04 04 01.3 +0.7**
ODSA Odessa 26.34 327 P **P 04 04 03.7 +1.1**
ODSA IAmb IAmb 04 04 04.1
comp=Z,8.5nm,0.8s
T47A Sharon Grove 26.46 358 P **P 04 04 03.3 -0.2**
T47A IAmb IAmb 04 04 09.5
comp=Z,12nm,1.0s
WMOK Wichita Mounta 26.79 337 P **P 04 04 07.6 +1.1**
WMOK IAmb IAmb 04 04 10.2
comp=Z,8.1nm,0.9s
S51A Beattyville 27.20 5 P **P 04 04 09.7 -0.5**
S51A IAmb IAmb 04 04 12.3
comp=Z,13nm,0.7s
Q51A Peebles 28.60 5 P **P 04 04 22.4 -0.3**
Q52A Bidwell 28.64 6 P **P 04 04 22.8 -0.1**
Q52A IAmb IAmb 04 04 23.1
comp=Z,17nm,0.8s
N49A Columbus Grove 30.43 3 P **P 04 04 37.0 -1.8**
SDCO Great Sand Dun 32.26 331 P **P 04 04 54.6 -0.8**
PDAR Pinedale Array 38.12 332 P **P 04 05 44.8 -0.9**
comp=Z,0.7nm,0.6s,baz=128,slow=10,SNR=9.6
comp=Z,0.7nm,0.6s
ELK Elko 39.61 325 P **P 04 05 58.9 +0.7**
NV11 Mina Array Sit 39.92 320 P **P 04 06 00.4 -0.4**
NVAR Mina Array Bea 40.02 320 P **P 04 06 03.6 +1.9**
comp=Z,2.4nm,0.8s,baz=131,slow=7.7,SNR=20
NVAR PcP **PcP 04 08 07.9 +1.5**
comp=Z,0.6nm,0.6s,baz=149,slow=3.8,SNR=4.8
comp=Z,2.4nm,0.8s
KVN Kaiserville 40.26 320 P **P 04 06 04.4 +0.8**
YERR Yerington 40.94 320 P **P 04 06 10.0 +0.8**
WVOR Wild Horse Val 42.64 324 P **P 04 06 23.5 +0.5**
J04A Umpqua Nationa 45.16 323 P **P 04 06 44.5 +1.1**
HUMO Hull Mountain 45.31 322 P **P 04 06 45.0 +0.7**
KRMB Red Mountain 45.31 320 P **P 04 06 44.8 +0.3**
KRMB IAmb IAmb 04 07 03.6
comp=Z,17nm,1.5s
KSXB Camp Six Broad 45.46 320 P **P 04 06 46.4 +0.8**
KSXB IAmb IAmb 04 07 06.1
comp=Z,9.6nm,1.2s
DBO Dodson Butte 45.78 322 P **P 04 06 48.8 +0.7**
DBO IAmb IAmb 04 06 59.1
comp=Z,9.9nm,1.3s
KBO Bosley Butte 45.88 320 P **P 04 06 50.1 +1.2**
H04A Detroit Lake 46.06 324 P **P 04 06 50.8 +0.5**
H04A IAmb IAmb 04 06 52.1
comp=Z,3.6nm,0.7s
J01E Myrtle Point 46.22 322 P **P 04 06 52.1 +0.7**
I02E Swisshome, OR 46.70 323 P **P 04 06 55.6 +0.5**
G03D McMinnville, O 46.99 324 P **P 04 06 58.4 +0.9**
TRQA Tornquist 53.29 156 P **P 04 07 44.9 -0.4**
N31M Braeburn, Yuko 62.36 336 P **P 04 08 49.3 +0.6**
N31M IAmb IAmb 04 08 50.0
comp=Z,9.1nm,1.2s
J26L Joseph Creek 66.94 337 P **P 04 09 19.0 +0.4**
J26L IAmb IAmb 04 09 19.2
comp=Z,4.4nm,1.2s
MACI Morro de la Ar 67.32 64 P **P 04 09 21.1 -0.8**
J25K Salcha River, 67.69 336 P **P 04 09 23.4 +0.1**
DHY Denali Highway 67.91 335 P **P 04 09 22.6 -2.2**
ILAR Eielson Array 68.35 336 P **P 04 09 26.7 -0.7**
ILAR Eielson Array 68.35 336 P **P 04 09 25.8 -1.6**
comp=Z,0.7nm,0.9s,baz=131,slow=4.3,SNR=7.5
comp=Z,0.7nm,0.9s
RND Reindeer 68.65 335 P **P 04 09 29.2 -0.2**
RND IAmb IAmb 04 09 30.4
comp=Z,7.7nm,1.1s
KTH Kantishna Hill 69.58 334 P **P 04 09 35.5 +0.3**
KTH IAmb IAmb 04 09 49.0
comp=Z,6.3nm,1.3s
MLY Manley 69.98 336 P **P 04 09 37.2 -0.4**
MLY IAmb IAmb 04 09 55.4
comp=Z,5.5nm,1.4s
M20K Styx River 70.06 332 P **P 04 09 37.1 -1.1**
M20K IAmb IAmb 04 09 46.2
comp=Z,16nm,1.5s
I21K Tanana 70.53 336 P **P 04 09 42.1 +1.3**
I21K IAmb IAmb 04 10 26.2
comp=Z,6.0nm,0.8s
N18K Kilae Creek 71.06 331 P **P 04 09 43.8 -0.4**
N18K IAmb IAmb 04 09 57.1
comp=Z,12nm,1.4s
J20K Nowinta River 71.13 335 P **P 04 09 43.6 -0.8**
J20K IAmb IAmb 04 09 44.9
comp=Z,11nm,1.5s
G21K Allakaket 71.53 337 P **P 04 09 45.9 -1.0**
G21K IAmb IAmb 04 09 47.9
comp=Z,4.5nm,0.9s
D22K Ayikyak River 71.95 340 P **P 04 09 48.6 -0.8**
D22K IAmb IAmb 04 10 21.9
comp=Z,6.1nm,1.4s
H18K Honhosa River 73.12 335 P **P 04 09 56.6 +0.2**
D19K Kuna River 73.75 339 P **P 04 09 59.2 -0.9**
D19K IAmb IAmb 04 10 00.5
comp=Z,6.4nm,1.1s
J14K Nanvaranak Lak 75.00 332 P **P 04 10 07.8 +0.4**
C16K Lisburne Hills 76.36 338 P **P 04 10 13.5 -1.5**
ESDC Sonseca Array 77.49 52 P **P 04 10 20.5 -1.6**
comp=Z,0.1nm,0.3s,baz=274,slow=4.9,SNR=1.7
comp=Z,0.1nm,0.3s
ADK Adak 82.18 321 P **P 04 10 48.5 +1.3**
NC204 NORSAR Array S 84.28 29 P **P 04 10 56.3 -1.6**
NC204 IAmb IAmb 04 11 18.4
comp=Z,9.1nm,1.0s
GRFO Grafenberg 86.90 40 P **P 04 11 10.3 -0.9**
NRCA Norcia 89.74 47 P **P 04 11 24.9 0.0**
ASAR Alice Springs 139.59 246 PKP **PKPdf 04 17 55.3 +0.5**
comp=Z,0.3nm,0.6s,baz=92,slow=2.5,SNR=2.1
WRA Warramunga Arr 139.83 251 PKP **PKPdf 04 17 56.0 +0.8**
comp=Z,0.3nm,0.6s,baz=97,slow=2.0,SNR=2.0
PZH PanZhiHua 142.49 348 PKP **PKPdf 04 18 01.0 +1.0**
CMAR Chiang Mai Arr 150.85 350 PKPbc **PKiKP 04 18 20.2 -0.1**
comp=Z,1.2nm,0.3s,baz=329,slow=3.4,SNR=6.0

NOU 15 04:09:38.5, 10°.59S×164°.80E, h4km, MLv4.5/8, Santa Cruz Islands Region, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**1.10**	**94**	P	Pg	04 09 59.2	-0.4
HURO	**Huro Makira**	**2.85**	**272**	P	Pn	04 10 24.2	-0.6
ALEG	**Aligegeo Malai**	**4.44**	**294**	P	Pn	04 10 46.6	-0.1
TATA	**Tatamba Isabel**	**5.39**	**294**	P	Pn	04 11 00.4	+0.6
VLAKA	**Lakatoro**	**6.05**	**155**	P	Pn	04 11 09.0	+0.2
DZM	**Mont Dzumac**	**11.53**	**172**	P	Pn	04 12 24.0	0.0
NOUC	**Port Laguerre**	**11.54**	**173**	P	Pn	04 12 24.5	+0.4

*IDC **15** 04:20:12.6±3.6, 19°.93S×179°.12W, h636km±32km, mb2.9/5, mbtmp3.9/7, Error ellipse: s-maj=126.2km s-min=20.4km az=152.0*
*NEIC **15** 04:20:15.6±0.9, 20°.1S±0°.2×179°.56W±0°.08, h615km±8km, mb4.3/17, Error ellipse: s-maj=29.7km s-min=9.4km az=171.0*

ISC 15 04:20:14.1±0.7, 20°.2S±0°.2×179°.5W±0°.1, h600km, n29, σ1§42/26, mb4.0/15, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.36**	**316**	P	**P**	**04 21 36.8**	**+1.2**
	18nm,0.6s,baz=160,slow=12,SNR=20						
DZM	**Mont Dzumac**	**13.24**	**259**	P	**P**	**04 23 06.8**	**+1.3**
DZM	**Mont Dzumac**	**13.24**	**259**	P	**P**	**04 23 08.7**	**+3.2**
	3.3nm,0.5s,baz=106,slow=17,SNR=2.0						
EIDS	**Eidsvold**	**27.57**	**254**	P	**P**	**04 25 15.6**	**+0.7**
EIDS				IAmb	IAmb	04 25 29.3	
	comp=Z,7.4nm,1.4s						
COEN	**Coen**	**36.15**	**274**	P	**P**	**04 26 25.6**	**-2.1**
COEN				IAmb	IAmb	04 26 45.1	
	comp=Z,15nm,1.4s						
STKA	**Stephens Creek**	**36.65**	**243**	P	**P**	**04 26 30.5**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=76,slow=12,SNR=3.3						
	comp=Z,1.1nm,0.5s						
BBOO	**Buckleboo**	**41.42**	**243**	P	**P**	**04 27 08.5**	**-1.3**
BBOO				IAmb	IAmb	04 27 27.0	
	comp=Z,22nm,1.5s						
WR0	**Warramunga Arr**	**43.05**	**262**	P	**P**	**04 27 22.5**	**-0.3**
WR0				IAmb	IAmb	04 27 31.4	
	comp=Z,6.9nm,1.3s						
AS31	**Alice Springs**	**43.21**	**257**	P	**P**	**04 27 23.7**	**-0.3**
ASAR	**Alice Springs**	**43.21**	**257**	P	**P**	**04 27 23.7**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=96,slow=7.5,SNR=34						
	comp=Z,2.3nm,0.5s						
WB0	**Warramunga Arr**	**43.22**	**262**	P	**P**	**04 27 23.8**	**-0.3**
WB0				IAmb	IAmb	04 27 58.5	
	comp=Z,8.2nm,1.4s						
WB2	**Warramunga Arr**	**43.23**	**262**	P	**P**	**04 27 23.8**	**-0.3**
WB2				IAmb	IAmb	04 27 29.9	
	comp=Z,5.8nm,1.2s						
WRA	**Warramunga Arr**	**43.24**	**262**	P	**P**	**04 27 23.8**	**-0.5**
WRA	**Warramunga Arr**	**43.24**	**262**	P	**P**	**04 27 23.8**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=97,slow=7.4,SNR=53						
	comp=Z,0.9nm,0.3s						
MTN	**Manton Dam**	**47.74**	**271**	P	**P**	**04 27 58.0**	**-0.5**
MTN				IAmb	IAmb	04 28 24.0	
	comp=Z,20nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.66**	**263**	P	**P**	**04 28 26.2**	**-0.8**
FITZ				IAmb	IAmb	04 29 08.6	
	comp=Z,143nm,1.4s						
QSPA	**South Pole Qui**	**69.88**	**180**	P	**P**	**04 30 26.6**	**+1.0**
XMIS	**Christmas Isla**	**72.32**	**265**	P	**P**	**04 30 39.8**	**-0.9**
ESJX	**Sierra Juarez**	**79.96**	**51**	P	**P**	**04 31 20.8**	**-1.7**
NVAR	**Mina Array Bea**	**81.78**	**44**	P	P	04 31 25.3	-6.4
	comp=Z,0.4nm,0.8s,baz=224,slow=7.2,SNR=2.9						
	comp=Z,0.4nm,0.8s						
SNH	**Sunshine Point**	**85.45**	**17**	P	**P**	**04 31 48.4**	**-0.6**
TXAR	**Lajitas Array**	**88.09**	**58**	P	P	04 31 55.2	-7.0
	comp=Z,0.4nm,0.9s,baz=218,slow=5.7,SNR=3.7						
	comp=Z,0.4nm,0.9s						
VNA1	**Neumayer--Stat**	**89.20**	**177**	⇑P	**P**	**04 32 07.4**	**+0.9**
	comp=Z,0.4nm,0.2s						
F24K	**Squaw Lake**	**90.52**	**12**	P	**P**	**04 32 14.9**	**+2.3**
F24K				IAmb	IAmb	04 32 17.0	
	comp=Z,1.3nm,0.6s						
EGMT	**Eagleton**	**92.07**	**39**	P	**P**	**04 32 22.3**	**+2.1**
AC06	**Mina Casimiro**	**96.74**	**122**	P	**P**	**04 32 41.6**	**-0.3**
EMMW	**East Machias**	**119.47**	**49**	PKPdf	**PKPdf**	**04 37 53.9**	**-2.6**
MARD	**Mardin**	**141.11**	**305**	PKPdf	**PKPdf**	**04 38 36.6**	**-1.0**
AKASG	**Malin Array Be**	**142.05**	**330**	PKP	PKPdf	04 38 30.6	-8.1
	comp=Z,0.5nm,0.4s,baz=45,slow=4.3,SNR=5.4						

*IDC **15** 04:31:21.6±0.6, 6°.35N×93°.25E, h0km, mb4.4/18, mbtmp4.4/18, MS3.5/13, Error ellipse: s-maj=28.3km s-min=12.2km az=55.0*
*NEIC **15** 04:31:24.9±1.0, 6°.2N±0°.1×93°.1E±0°.1, h23km±3km, mb5.2/43, Error ellipse: s-maj=21.0km s-min=10.4km az=55.0*
*DJA **15** 04:31:26.6±1.6, 6°N±6°×9°3E±°, h22km±15km, M4.8/8, mB5.6/2, mb4.9/8, MLv4.8/7, Mw(mB)5.2/2*

ISC 15 04:31:24.6±0.4, 6°.20N±0°.05×93°.08E±0°.06, h27km, n130, σ1§51/120, mb4.8/48, MS3.6/14, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMBY	**CAMPBELL BAY**	**1.17**	**46**	*e*P	**Pn**	**04 31 44.1**	**-1.0**
CMBY				*e*S	**Sn**	**04 31 55.9**	**-4.3**
CMBY				IAML		04 32 16.2	
	7μm,0.6s						
BSI	**Banda Aceh**	**2.31**	**107**	P	**Pn**	**04 32 00.9**	**0.0**
BSI				S	**Sn**	**04 32 26.4**	**-2.1**
MLSI	**Meulaboh, Aceh**	**3.82**	**120**	P	**Pn**	**04 32 21.0**	**-0.7**
MLSI				S	**Sn**	**04 33 03.3**	**-2.5**
LHMI	**Lhok Sumawe**	**3.96**	**104**	Pn	**Pn**	**04 32 23.7**	**0.0**
LHMI	**Lhok Sumawe**	**3.96**	**104**	P	**Pn**	**04 32 23.7**	**0.0**
LHMI				S	**Sn**	**04 33 04.5**	**-4.8**
KCSI	**Kotacane, Aceh**	**5.38**	**119**	P	**Pn**	**04 32 43.2**	**+0.1**
	82nm,0.8s,0.5nm						
PBA	**Port Blair**	**5.43**	**356**	Pn	**Pn**	**04 32 45.1**	**+1.2**
PBA	**Port Blair**	**5.43**	**356**	*e*P	**Pn**	**04 32 46.3**	**+2.4**
PBA				*e*S	**Sn**	**04 33 40.8**	**-4.8**
PBA				IAML		04 33 46.9	
	1μm,0.2s						
PBA				IAML		04 33 49.8	
	1μm,0.2s						
RPSI	**Rantau Prapat**	**6.78**	**121**	Pn	**Pn**	**04 33 02.9**	**+0.5**
SRIT	**Nakonsritamara**	**6.89**	**69**	Pn	**Pn**	**04 33 04.3**	**+0.4**
IPM	**Ipoh**	**8.09**	**102**		**Pn**	**04 33 20.4**	**0.0**
PBSI	**Pulau Batu**	**8.09**	**140**	P	**Pn**	**04 33 17.3**	**-3.1**
	96nm,1.5s,0.7nm						
CMAR	**Chiang Mai Arr**	**13.46**	**25**	Pn	**Pn**	**04 34 33.8**	**-0.1**
	0.9nm,0.3s,baz=229,slow=14,SNR=1.7						
CMAR				LR	LR	04 40 00.8	
	comp=Z,137nm,18.3s,baz=230,slow=39						
CHTO	**Chiang Mai**	**13.78**	**24**	Pn	**Pn**	**04 34 40.2**	**+1.9**
PHRA	**Phrae**	**14.07**	**29**	Pn	**Pn**	**04 34 41.9**	**-0.4**
KOD	**Kodaikanal**	**15.96**	**286**	*e*P	P	04 35 15.9	+4.8
KOD				IAmb	IAmb	04 35 17.4	
	comp=Z,36nm,0.9s						
AZL	**Aizawl**	**17.45**	**359**	*e*P	**P**	**04 35 26.5**	**-0.8**
AZL				IAmb	IAmb	04 35 33.0	
	comp=Z,31nm,0.5s						
HYB	**Hyderabad**	**18.05**	**309**	*e*P	**P**	**04 35 33.1**	**-0.9**
HYB				*e*S	**S**	**04 38 55.7**	**-4.1**
SLVN	**Son La**	**18.34**	**34**	P	**Pn**	**04 35 37.8**	**+0.6**
SHL	**Shillong**	**19.30**	**357**	P	**P**	**04 35 45.1**	**-2.7**
SHL				IAmb	IAmb	04 35 56.0	
	comp=Z,21nm,0.3s						
LEM	**Lembang**	**19.44**	**131**	LR	LR	04 44 28.5	
	comp=Z,278nm,20.9s,baz=344,slow=40						
KOHI	**KOHIMA**	**19.44**	**3**	*e*P	**P**	**04 35 44.6**	**-4.7**
KOHI				IAmb	IAmb	04 35 54.9	
	comp=Z,31nm,0.6s						
MOKO	**MOKOCHONG**	**20.06**	**4**	*e*P	**P**	**04 35 55.1**	**-0.9**
MOKO				IAmb	IAmb	04 36 11.4	
	comp=Z,33nm,0.9s						
QIZ	**Qiongzhong**	**20.71**	**50**	P	Pn	04 36 04.4	-1.1
QIZ				S	**S**	**04 39 55.3**	**+2.1**
QIZ				LR	LR		
	comp=N,290nm,11.5s						
QIZ				LR	LR		
	comp=E,250nm,12.3s						
QIZ				LR	LR		
	comp=Z,250nm,12.9s						
PZH	**PanZhiHua**	**21.82**	**21**	P	**P**	**04 36 14.8**	**-0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,120nm,4.4s						
GYA	**Guiyang**	**23.95**	**31**	P	**P**	**04 36 36.3**	**-0.6**
GYA				pP	sP	04 36 46.8	-0.8
GYA				pmax	pmax		
	comp=Z,17nm,0.9s						
H08S3	**Diego Garcia H**	**24.71**	**237**	T	T	05 02 37.2	
	baz=56,slow=76,SNR=1102						
H08S2	**Diego Garcia H**	**24.71**	**236**	T	T	05 02 33.3	
	baz=56,slow=76,SNR=886						
H08S1	**Diego Carcia H**	**24.73**	**237**	T	T	05 02 37.6	
	baz=56,slow=76,SNR=916						
SMKI	**Samarinda**	**24.97**	**104**	P	**P**	**04 36 49.1**	**+2.9**
MYLDM	**Lahad Datu**	**25.31**	**91**	P	**P**	**04 36 48.0**	**-1.2**
MYLDM				IAmb	IAmb	04 36 51.8	
	comp=Z,22nm,0.9s						
LGTI	**Lohaghat**	**26.11**	**334**	*e*P	**P**	**04 36 58.5**	**+2.2**
MPSI	**Mapaga**	**27.39**	**101**	P	**P**	**04 37 09.2**	**+1.2**
KAPI	**Kappang**	**28.86**	**112**	P	**P**	**04 37 22.2**	**+1.1**
	comp=Z,10.0nm,0.3s,baz=270,slow=3.0,SNR=1.2						
	comp=Z,10.0nm,0.3s						
HNLY	**HANLEY**	**29.53**	**335**	*e*P	**P**	**04 37 28.9**	**+1.3**
HNLY				IAmb	IAmb	04 37 40.5	
	comp=Z,13nm,0.6s						
GTA	**Gaotai**	**33.62**	**9**	*e*P	**P**	**04 38 03.4**	**+0.4**
GTA				pP	sP	04 38 12.5	-1.2
GTA				sP	pwP	04 38 16.1	+5.5
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NJ2	**Nanjing**	**35.22**	**40**	*e*P	**P**	**04 38 20.1**	**+3.3**
NJ2				sP	**sP**	**04 38 31.1**	**+3.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HNS	**HongShan**	**36.78**	**29**	⇓P	**P**	**04 38 30.0**	**-0.1**
HNS				pP	**sP**	**04 38 40.9**	**+0.1**
HNS				pmax	pmax		
	comp=Z,17nm,0.7s						
HNS				LR	LR		
	comp=N,140nm,11.9s						
HNS				LR	LR		
	comp=E,140nm,12.7s						
HNS				LR	LR		
	comp=Z,180nm,17.5s						
WMQ	**Urumqi**	**37.77**	**354**	*e*P	**P**	**04 38 39.4**	**+0.9**
WMQ				pP	sP	04 38 51.9	+2.8
WMQ				pmax	pmax		
	comp=Z,13nm,1.1s						
PSA00	**Pilbara Seismi**	**38.09**	**137**	P	**P**	**04 38 40.5**	**-0.9**
PSA00				IAmb	IAmb	04 39 53.5	
	comp=Z,36nm,1.4s						
HHC	**Hu-ho-hao-te**	**38.26**	**23**	*e*P	P	04 38 46.6	+3.9
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				LR	LR		
	comp=N,140nm,19.1s						

HHC LR LR
comp=E,140nm,19.9s
HHC LR LR
comp=Z,120nm,17.7s
ARSB Arslanbob 39.31 336 P **P 04 38 52.4 +0.9**
BJI Beiging 39.57 28 P **P 04 38 53.8 +0.3**
BJI pmax pmax
comp=Z,4.0nm,0.6s
AAK Ala-Archa 39.85 338 P **P 04 38 56.1 +0.1**
AAK Ala-Archa 39.85 338 LR LR 04 56 31.0
comp=Z,56nm,18.9s,baz=146,slow=38
FITZ Fitzroy Crossi 40.19 128 P **P 04 38 59.0 +0.1**
comp=Z,6.1nm,0.7s,baz=336,slow=7.7,SNR=13
FITZ PcP **PcP 04 41 04.1 +1.2**
comp=Z,2.6nm,0.6s,baz=256,slow=3.6,SNR=3.5
FITZ LR LR 04 56 44.0
comp=Z,50nm,20.5s,baz=334,slow=38
comp=Z,6.1nm,0.7s
MK31 Makanchi Array 41.50 349 P **P 04 39 09.7 +0.2**
MKAR Makanchi Array 41.50 349 P **P 04 39 09.4 0.0**
MKAR Makanchi Array 41.50 349 P **P 04 39 09.7 +0.3**
comp=Z,2.9nm,0.6s,baz=166,slow=8.0,SNR=24
MKAR PcP **PcP 04 41 07.5 +0.7**
comp=Z,1.0nm,0.8s,baz=195,slow=4.8,SNR=2.8
comp=Z,2.9nm,0.6s
KKAR Karatay Array 41.80 335 P **P 04 39 12.5 +0.5**
KKAR Karatay Array 41.80 335 P **P 04 39 12.8 +0.8**
SONM Songino Array 43.02 13 P **P 04 39 20.9 -1.0**
comp=Z,1.2nm,0.7s,baz=195,slow=10,SNR=5.6
SONM PcP **PcP 04 41 12.4 +0.5**
comp=Z,0.8nm,0.6s,baz=204,slow=2.0,SNR=3.3
comp=Z,1.2nm,0.7s
KSRS Korea Array 44.41 41 P **P 04 39 32.1 -1.0**
comp=Z,0.8nm,0.4s,baz=241,slow=11,SNR=4.6
KSRS LR LR 04 59 16.1
comp=Z,28nm,18.8s,baz=180,slow=38
comp=Z,0.8nm,0.4s
H01W3 Cape Leeuwin H 45.43 156 T T 05 28 28.0
baz=328
H01W2 Cape Leeuwin H 45.44 156 T T 05 28 31.7
baz=328
H01W1 Cape Leeuwin H 45.45 155 T T 05 28 29.0
baz=328
KURBB Kurchatov Arra 45.92 347 P **P 04 39 45.4 +0.5**
comp=Z,3.8nm,0.6s,baz=169,slow=6.7,SNR=35
KURBB PcP **PcP 04 41 22.9 +1.3**
comp=Z,0.9nm,0.3s,baz=156,slow=2.7,SNR=4.5
KURBB LR LR 05 01 26.0
comp=Z,49nm,20.5s,baz=163,slow=39
comp=Z,3.8nm,0.6s
KURK Kurchatov 45.99 347 P **P 04 39 46.0 +0.5**
ZALV Zalesovo Beam 48.08 353 P **P 04 40 02.2 +0.5**
comp=Z,7.4nm,0.4s,baz=182,slow=7.2,SNR=10
comp=Z,7.4nm,0.4s
WB0 Warramunga Arr 48.14 123 P **P 04 40 02.0 -0.7**
WB0 IAmb IAmb 04 40 03.3
comp=Z,6.5nm,0.8s
WRA Warramunga Arr 48.18 124 P **P 04 40 03.2 +0.2**
comp=Z,5.3nm,0.8s,baz=303,slow=9.1,SNR=30
WRA PcP **PcP 04 41 31.4 +1.1**
comp=Z,1.6nm,0.7s,baz=312,slow=3.0,SNR=5.1
comp=Z,5.3nm,0.8s
WRAB Tennant Creek 48.19 124 P **P 04 40 01.9 -1.1**
WRAB IAmb IAmb 04 40 04.3
comp=Z,8.7nm,0.8s
WB2 Warramunga Arr 48.19 124 P **P 04 40 02.2 -0.9**
WB2 IAmb IAmb 04 40 04.3
comp=Z,11nm,0.8s
WR0 Warramunga Arr 48.35 124 P **P 04 40 04.0 -0.4**
WR0 IAmb IAmb 04 40 17.6
comp=Z,12nm,1.1s
AS31 Alice Springs 49.68 128 P **P 04 40 13.5 -1.0**
ASAR Alice Springs 49.68 128 P **P 04 40 14.9 +0.4**
comp=Z,7.2nm,0.7s,baz=303,slow=7.3,SNR=68
ASAR PcP **PcP 04 41 37.1 +1.5**
comp=Z,2.3nm,0.6s,baz=308,slow=3.6,SNR=8.0
comp=Z,7.2nm,0.7s
BVAR Borovoye Array 50.24 342 P **P 04 40 18.4 +0.2**
comp=Z,2.0nm,0.7s,baz=147,slow=8.5,SNR=9.0
BVAR PcP **PcP 04 41 38.1 +1.0**
comp=Z,1.4nm,0.8s,baz=151,slow=3.3,SNR=3.6
comp=Z,2.0nm,0.7s
USRK Ussuriysk Ar. 50.88 36 P **P 04 40 22.5 -0.8**
comp=Z,1.9nm,0.8s,baz=242,slow=8.0,SNR=4.3
comp=Z,1.9nm,0.8s
MJAR Matsushiro Arr 51.06 47 P **P 04 40 24.2 -0.6**
comp=Z,2.0nm,0.7s,baz=254,slow=7.0,SNR=4.4
comp=Z,2.0nm,0.7s
ABKAR Abkulak array 51.21 333 P **P 04 40 25.6 0.0**
ABKAR Abkulak array 51.21 333 P **P 04 40 25.8 +0.2**
FURI Furi 53.96 276 LR LR 05 01 56.5
comp=Z,73nm,18.4s,baz=50,slow=34
KMBO Kilima Mbogo 56.20 265 LR LR 05 03 31.5
comp=Z,42nm,18.4s,baz=90,slow=34
ARTI Arti 57.06 338 LR LR 05 07 09.2
comp=Z,76nm,20.1s,baz=165,slow=38
CTA Charters Tower 58.43 118 LR LR 05 08 07.1
comp=Z,5.4nm,18.4s,baz=272,slow=38
STKA Stephens Creek 59.74 132 P **P 04 41 28.2 +1.0**
comp=Z,3.6nm,0.7s,baz=320,slow=9.2,SNR=11
comp=Z,3.6nm,0.7s
MBAR Mbarara 62.59 266 LR LR 05 05 38.4
comp=Z,45nm,19.4s,baz=87,slow=33
H04N2 CROZET ISLANDS 63.76 211 T T 05 51 31.3
baz=47,slow=75,SNR=556
H04N1 CROZET ISLANDS 63.77 211 T T 05 51 31.0
baz=47,slow=75,SNR=493
H04N3 CROZET ISLANDS 63.77 211 T T 05 51 29.3
baz=47,slow=75,SNR=535
H04S1 CROZET ISLANDS 64.16 210 T T 05 52 04.7
baz=46,slow=76,SNR=5.4
H04S3 CROZET ISLANDS 64.17 210 T T 05 51 57.9
baz=46,slow=76,SNR=13
H04S2 CROZET ISLANDS 64.18 210 T T 05 52 02.9
baz=46,slow=76,SNR=10
AKASG Malin Array Be 68.82 322 P **P 04 42 26.1 -0.3**
comp=Z,0.1nm,0.3s,baz=88,slow=4.3,SNR=4.1
TIXI Tiksi 69.07 11 P **P 04 42 27.0 -0.7**
TIXI IAmb IAmb 04 42 27.8
comp=Z,15nm,0.7s
LBTB Lobatse 72.52 241 LR LR 05 11 11.5
comp=Z,34nm,18.6s,baz=130,slow=33
FIA1 FINESS Array S 73.70 333 P **P 04 42 56.1 +0.4**
FINES FINESS Array B 73.70 333 P **P 04 42 56.0 +0.2**
FINES FINESS Array B 73.70 333 P **P 04 42 56.4 +0.6**
comp=Z,1.8nm,0.6s,baz=106,slow=7.5,SNR=7.7
comp=Z,1.8nm,0.6s
BOSA Boshof 73.81 238 LR LR 05 13 05.4
comp=Z,32nm,18.5s,baz=155,slow=34
VYHS Vyhne 74.95 318 *e*P P 04 43 14.0 +11
ARCES ARCESS Array B 76.48 340 P **P 04 43 12.9 +1.2**
comp=Z,2.9nm,0.8s,baz=108,slow=5.8,SNR=7.0
comp=Z,2.9nm,0.8s
GERES GERESS Array B 78.37 318 P **P 04 43 24.4 +1.6**
comp=Z,1.0nm,0.6s,baz=114,slow=3.3,SNR=6.1
comp=Z,1.0nm,0.6s
SPB1 Spitsbergen Ar 81.25 348 P **P 04 43 38.7 +0.9**
SPA0 Spitsbergen Ar 81.25 348 P **P 04 43 38.6 +0.8**
SPITS Spitsbergen Ar 81.25 348 P **P 04 43 38.4 +0.6**
comp=Z,1.6nm,1.1s,baz=108,slow=9.4,SNR=7.0
comp=Z,16nm,1.1s
SPB4 Spitsbergen Ar 81.26 348 P **P 04 43 38.9 +1.1**
MRZ Mangatainoka R 88.33 131 P **P 04 44 14.6 +0.5**
EKA Eskdalemuir Ar 88.50 325 P **P 04 44 16.0 +1.4**
comp=Z,1.5nm,0.6s,baz=81,slow=5.1,SNR=4.5
comp=Z,1.5nm,0.6s
C18K Utukok River 89.94 21 P **P 04 44 21.5 +0.3**
D19K Kuna River 91.06 20 P **P 04 44 27.0 +0.6**
D19K IAmb IAmb 04 46 46.5
comp=Z,50nm,1.9s
E19K Redstone River 91.73 21 P **P 04 44 30.2 +0.7**
E19K IAmb IAmb 04 44 44.4
comp=Z,4.8nm,0.7s
H18K Honhosa River 92.09 24 P **P 04 44 31.6 +0.4**
J17K VABM Dome 92.37 25 P **P 04 44 32.9 +0.4**
J18K Innoko River 93.35 25 P **P 04 44 37.2 +0.2**
J18K IAmb IAmb 04 47 19.0
comp=Z,28nm,1.9s
IMAR Indian Mountai 93.57 22 P **P 04 44 38.5 +0.6**
J19K Poorman 93.61 24 P **P 04 44 38.8 +0.6**
J19K IAmb IAmb 04 46 59.8
comp=Z,18nm,1.6s
L18K Granite Mounta 93.81 26 P **P 04 44 39.6 +0.5**
TOLK Toolik Lake Re 93.87 19 P **P 04 44 39.7 +0.4**
TOLK IAmb IAmb 04 45 20.0
comp=Z,25nm,1.8s
J20K Nowinta River 94.14 24 P **P 04 44 41.6 +1.0**
J20K IAmb IAmb 04 45 16.0
comp=Z,25nm,1.8s
K20K Telida 94.49 25 P **P 04 44 43.6 +1.3**
K20K IAmb IAmb 04 44 44.3
comp=Z,5.9nm,0.8s
L19K White Mountain 94.62 26 P **P 04 44 43.0 0.0**
L19K IAmb IAmb 04 44 44.5
comp=Z,40nm,1.9s
M19K Big River Lodg 94.93 26 P **P 04 44 45.3 +1.0**
M19K IAmb IAmb 04 46 47.1
comp=Z,37nm,2.0s
CAST Castle Rocks 95.28 24 P **P 04 44 46.6 +0.7**
CAST IAmb IAmb 04 47 47.5
comp=Z,11nm,1.6s
N19K Bonanza Creek 95.31 27 P **P 04 44 47.0 +0.8**
N19K IAmb IAmb 04 45 00.6
comp=Z,30nm,1.8s
BMAR Burnt Mountain 96.11 19 P **P 04 44 50.0 +0.4**
ILAR Eielson Array 96.68 22 P **P 04 44 52.9 +0.7**
SUA Susitna One 96.69 26 P **P 04 44 52.9 +0.4**
SUA IAmb IAmb 04 48 20.7
comp=Z,30nm,1.9s
A36M Sachs Harbour 98.09 11 P Pdif 04 44 58.8 +0.4
A36M IAmb IAmb 04 44 59.4
comp=Z,4.1nm,0.8s
LON Longmire 118.88 27 PKPdf **PKiKP 04 50 10.3 -0.6**
HUMO Hull Mountain 121.42 31 PKPdf **PKiKP 04 50 13.9 -2.0**
NVAR Mina Array Bea 126.89 31 PKP **PKiKP 04 50 27.7 +0.5**
comp=Z,0.8nm,0.7s,baz=332,slow=1.5,SNR=6.3
PDAR Pinedale Array 127.10 21 PKPdf **PKiKP 04 50 27.9 +0.3**
PDAR Pinedale Array 127.10 21 PKP **PKiKP 04 50 27.6 +0.1**
comp=Z,0.7nm,0.7s,baz=42,slow=2.4,SNR=7.1
PAL Palisades 131.53 347 PKPdf **PKiKP 04 50 35.6 -0.5**
W13A Hualapai Mount 131.70 30 PKPdf **PKiKP 04 50 38.2 +1.3**
X34A Smith Ranch, M 138.13 14 PKPdf **PKPdf 04 50 44.2 -3.5**
TXAR Lajitas Array 141.18 24 PKP **PKiKP 04 50 55.8 -0.5**
comp=Z,0.3nm,0.5s,baz=357,slow=1.4,SNR=5.7
CPUP Villa Florida 145.41 231 PKPbc **PKiKP 04 51 02.8 -2.0**
comp=Z,1.5nm,0.8s,baz=123,slow=4.4,SNR=4.4
GDSD La Dsirade Is 146.02 311 PKPdf **PKiKP 04 51 03.3 -3.1**

IDC ***15*** *04:44:52.4±0.6, 11°.71N×143°.66E, h0km, mb4.4/22, mbtmp4.4/23, ML4.1/1, MS3.4/10, Error ellipse: s-maj=18.9km s-min=12.0km az=94.0*
NEIC ***15*** *04:44:57.3±1.0, 11°.80N±0°.09×143°.5E±0°.1, h20km±5km, mb4.9/94, Error ellipse: s-maj=20.0km s-min=6.0km az=129.0*
ISC 15 04:44:54.7±0.5,**11°.71N**±0°.07×**143°.62E**±0°.09,**h10**km,**n145**, σ0°**93**/135,**mb4.8**/78,**MS3.3**/9,**1C-1D**,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.23**	**33**		**Pn**	**04 45 32.8**	**+1.0**
GUMO				Sn	**Sn**	**04 45 59.5**	**+0.1**
GUMO	**Guam**	**2.23**	**33**	Pn	**Pn**	**04 45 32.2**	**+0.5**
	55nm,0.3s,baz=175,slow=13,SNR=11						
GUMO				Sn	**Sn**	**04 45 58.9**	**-0.5**
	63nm,0.3s,baz=142,slow=19,SNR=4.0						
	371nm,0.5s						
JAY	**Jayapura**	**14.42**	**192**	LR	LR	04 53 40.0	
	comp=Z,423nm,18.8s,baz=330,slow=37						
JOW	**Kunigami**	**20.85**	**318**	LR	LR	04 56 17.0	
	comp=Z,85nm,21.6s,baz=168,slow=33						
H11S3	**WAKE ISLAND Hy**	**23.26**	**70**	T	T	05 14 04.2	
	baz=258						
H11S1	**WAKE ISLAND Hy**	**23.27**	**70**	T	T	05 14 13.5	
	baz=258						
H11S2	**WAKE ISLAND Hy**	**23.27**	**70**	T	T	05 14 24.0	
	baz=258						
H11N1	**WAKE ISLAND Hy**	**23.75**	**68**	T	T	05 15 00.1	
	baz=256						
H11N2	**WAKE ISLAND Hy**	**23.76**	**67**	T	T	05 15 06.2	
	baz=256						
H11N3	**WAKE ISLAND Hy**	**23.77**	**68**	T	T	05 15 02.2	
	baz=256						
LUWI	**Luwuk**	**24.28**	**240**	P	**P**	**04 50 10.6**	**-1.8**
JNU	**Nakatsue**	**24.30**	**333**	P	**P**	**04 50 11.1**	**-1.4**
JNU	**Nakatsue**	**24.30**	**333**	P	**P**	**04 50 11.7**	**-0.8**
	5.5nm,0.7s,baz=134,slow=5.1,SNR=5.5						
JNU				LR	LR	04 59 26.3	
	comp=Z,48nm,18.2s,baz=135,slow=36						
	5.5nm,0.7s						
SSLB	**Suanglung**	**24.66**	**302**	P	**P**	**04 50 15.9**	**+0.1**
SSLB				IAmb	IAmb	04 50 20.0	
	comp=Z,24nm,1.1s						
TATO	**Taipei**	**24.75**	**305**	P	**P**	**04 50 15.0**	**-1.6**
TOLI2	**Tolitoli**	**24.99**	**247**	P	**P**	**04 50 18.8**	**0.0**
MJAR	**Matsushiro Arr**	**25.20**	**350**	P	**P**	**04 50 18.2**	**-2.3**
	comp=Z,1.8nm,0.7s,baz=152,slow=11,SNR=2.6						
MJAR				LR	LR	05 00 24.2	
	comp=Z,69nm,18.3s,baz=208,slow=37						
	comp=Z,1.8nm,0.7s						
COEN	**Coen**	**25.50**	**181**	P	**P**	**04 50 23.8**	**+0.4**
KAPI	**Kappang**	**28.98**	**236**	P	**P**	**04 50 54.2**	**-0.5**
	comp=Z,7.0nm,0.5s,baz=60,slow=20,SNR=3.9						
	comp=Z,7.0nm,0.5s						
KSRS	**Korea Array**	**29.25**	**334**	P	**P**	**04 50 56.1**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=149,slow=15,SNR=4.8						
	comp=Z,0.9nm,0.5s						
NJ2	**Nanjing**	**30.49**	**315**	*e*P	**P**	**04 51 11.3**	**+3.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WB0	**Warramunga Arr**	**32.57**	**196**	P	**P**	**04 51 26.8**	**+0.4**
WB0				IAmb	IAmb	04 51 27.5	
	comp=Z,29nm,1.6s						
WR0	**Warramunga Arr**	**32.71**	**196**	P	**P**	**04 51 28.1**	**+0.5**
WR0				IAmb	IAmb	04 51 30.1	
	comp=Z,37nm,1.9s						
WRAB	**Tennant Creek**	**32.74**	**196**	P	**P**	**04 51 28.5**	**+0.7**
WRAB				IAmb	IAmb	04 51 29.0	
	comp=Z,8.9nm,0.8s						
WB2	**Warramunga Arr**	**32.75**	**196**	P	**P**	**04 51 28.4**	**+0.5**
WB2				IAmb	IAmb	04 51 29.1	
	comp=Z,9.5nm,0.8s						
WRA	**Warramunga Arr**	**32.75**	**196**	P	**P**	**04 51 27.1**	**-0.8**
WRA	**Warramunga Arr**	**32.75**	**196**	P	**P**	**04 51 28.0**	**0.0**
	comp=Z,6.1nm,0.7s,baz=20,slow=9.6,SNR=52						
	comp=Z,6.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**33.89**	**345**	LR	LR	05 04 29.7	
	comp=Z,71nm,19.6s,baz=192,slow=35						
FITZ	**Fitzroy Crossi**	**34.53**	**211**	P	**P**	**04 51 44.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**34.53**	**211**	P	**P**	**04 51 42.6**	**-0.8**
	comp=Z,5.2nm,0.9s,baz=22,slow=11,SNR=8.4						
	comp=Z,5.2nm,0.9s						
HNS	**HongShan**	**36.41**	**320**	⇑P	**P**	**04 51 59.5**	**0.0**
HNS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AS31	**Alice Springs**	**36.42**	**195**	P	**P**	**04 52 00.8**	**+1.1**
ASAR	**Alice Springs**	**36.42**	**195**	P	**P**	**04 51 60.0**	**+0.3**
ASAR	**Alice Springs**	**36.42**	**195**	P	**P**	**04 52 00.0**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=19,slow=12,SNR=38						
ASAR				LR	LR	05 06 56.3	
	comp=Z,173nm,19.3s,baz=1.0,slow=36						
	comp=Z,2.2nm,0.7s						
BNX	**BinXian**	**36.62**	**341**	⇓P	**P**	**04 52 01.6**	**+0.4**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KLR	**Kul'dur**	**38.68**	**348**	LR	LR	05 07 34.1	
	comp=Z,62nm,18.5s,baz=178,slow=35						
DZM	**Mont Dzumac**	**40.35**	**146**	P	**P**	**04 52 32.4**	**-0.5**
	comp=Z,7.7nm,0.7s,baz=265,slow=11,SNR=3.0						
	comp=Z,7.7nm,0.7s						
HHC	**Hu-ho-hao-te**	**40.44**	**322**	*e*P	**P**	**04 52 34.3**	**+0.8**
HHC				pmax	pmax		
	comp=Z,27nm,0.7s						
HHC				pmax	pmax		
	comp=Z,91nm,5.0s						
HEH	**HeiHe**	**40.68**	**344**	*e*P	**P**	**04 52 34.4**	**-0.8**
HEH				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PZH	**PanZhiHua**	**42.01**	**297**	P	**P**	**04 52 48.6**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.2s						
STKA	**Stephens Creek**	**43.38**	**183**	P	P	04 52 54.7	-2.7
	comp=Z,1.7nm,0.7s,baz=332,slow=15,SNR=3.6						
	comp=Z,1.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**43.57**	**284**	P	**P**	**04 52 59.2**	**0.0**
	comp=Z,1.9nm,0.3s,baz=84,slow=6.4,SNR=10						
CMAR				LR	LR	05 11 50.7	
	comp=Z,19nm,18.5s,baz=85,slow=37						
	comp=Z,1.9nm,0.3s						
TNCH	**TengChong**	**44.60**	**294**	*e*P	**P**	**04 53 11.4**	**+3.8**
TNCH				pmax	pmax		
	comp=Z,110nm,3.2s						
GTA	**Gaotai**	**47.54**	**313**	P	**P**	**04 53 31.8**	**+1.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
SONM	**Songino Array**	**47.59**	**326**	P	**P**	**04 53 30.9**	**+0.1**
SONM	**Songino Array**	**47.59**	**326**	P	**P**	**04 53 30.8**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=150,slow=9.4,SNR=8.4						
SONM				LR	LR	05 14 39.1	
	comp=Z,42nm,18.3s,baz=142,slow=38						
	comp=Z,1.5nm,0.8s						
WMQ	**Urumqi**	**57.56**	**315**	*e*P	**P**	**04 54 45.8**	**+1.1**
WMQ				pP	pwP	04 54 52.0	-4.4
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
MK31	**Makanchi Array**	**62.01**	**317**	P	**P**	**04 55 15.0**	**-0.2**
MKAR	**Makanchi Array**	**62.01**	**317**	P	**P**	**04 55 14.8**	**-0.4**
MKAR	**Makanchi Array**	**62.01**	**317**	P	**P**	**04 55 14.9**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=92,slow=9.0,SNR=18						
	comp=Z,3.8nm,0.8s						
ZALV	**Zalesovo Beam**	**62.45**	**325**	P	**P**	**04 55 17.3**	**-0.7**
ZALV	**Zalesovo Beam**	**62.45**	**325**	P	**P**	**04 55 17.1**	**-0.9**
	comp=Z,2.9nm,0.6s,baz=105,slow=7.7,SNR=10						
ZALV				PcP	**PcP**	**04 55 56.1**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=88,slow=4.1,SNR=4.5						
	comp=Z,2.9nm,0.6s						
KURBB	**Kurchatov Arra**	**65.28**	**321**	P	**P**	**04 55 36.6**	**-0.1**
	comp=Z,7.3nm,0.6s,baz=106,slow=6.7,SNR=47						
	comp=Z,7.3nm,0.6s						
KSH	**Kashi**	**65.42**	**308**	P	**P**	**04 55 40.3**	**+2.3**
KSH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AAK	**Ala-Archa**	**66.82**	**311**	LR	LR	05 27 38.0	
	comp=Z,18nm,19.4s,baz=70,slow=38						
G19K	**Purcell Mounta**	**67.19**	**22**	P	**P**	**04 55 48.6**	**-0.1**
G19K				IAmb	IAmb	04 55 50.3	
	comp=Z,8.2nm,0.9s						
NRIK	**Noril'sk**	**67.51**	**341**	P	**P**	**04 55 50.3**	**-0.4**
NRIK				IAmb	IAmb	04 55 54.0	
	comp=Z,16nm,1.2s						
NRIK	**Noril'sk**	**67.51**	**341**	P	**P**	**04 55 50.6**	**0.0**
	comp=Z,8.8nm,0.9s,baz=116,slow=12,SNR=10						
	comp=Z,8.8nm,0.9s						
J20K	**Nowinta River**	**67.60**	**25**	P	**P**	**04 55 51.7**	**+0.4**
E19K	**Redstone River**	**67.69**	**21**	P	**P**	**04 55 51.6**	**-0.3**
E19K				IAmb	IAmb	04 55 53.6	
	comp=Z,8.7nm,0.9s						
PWL	**Port Wells**	**69.20**	**29**	P	**P**	**04 56 00.6**	**-0.9**
E21K	**Killik River**	**69.21**	**21**	P	**P**	**04 56 01.6**	**+0.3**
MLY	**Manley**	**69.27**	**24**	P	**P**	**04 56 01.7**	**-0.1**
MLY				IAmb	IAmb	04 56 03.6	
	comp=Z,6.8nm,1.0s						
B21K	**Ikpikpuk River**	**69.44**	**19**	P	**P**	**04 56 03.3**	**+0.6**
KKAR	**Karatay Array**	**69.77**	**312**	P	**P**	**04 56 05.4**	**0.0**
KKAR	**Karatay Array**	**69.77**	**312**	P	**P**	**04 56 04.8**	**-0.5**
KKAR				IAmb	IAmb	04 56 06.5	
	comp=Z,3.9nm,1.0s						
GAR	**Garm**	**69.78**	**307**	P	**P**	**04 56 05.4**	**-0.2**
GAR				IAmb	IAmb	04 56 06.7	
	comp=Z,9.0nm,0.9s						
D22K	**Ayikyak River**	**69.81**	**20**	P	**P**	**04 56 05.6**	**+0.6**
E22K	**Anaktuvuk Pass**	**69.85**	**21**	P	**P**	**04 56 05.7**	**+0.4**
E22K				IAmb	IAmb	04 56 06.9	
	comp=Z,9.8nm,0.8s						
H23K	**Yukon River**	**69.98**	**24**	P	**P**	**04 56 06.8**	**+0.6**
H23K				IAmb	IAmb	04 56 08.7	
	comp=Z,6.1nm,0.9s						
B22K	**Teshekpuk Lake**	**70.10**	**19**	P	**P**	**04 56 07.3**	**+0.6**
CCB	**Clear Creek Bu**	**70.37**	**25**	P	**P**	**04 56 07.7**	**-0.8**
D23K	**Nanushuk River**	**70.52**	**20**	P	**P**	**04 56 10.3**	**+0.9**
D23K				IAmb	IAmb	04 56 11.6	
	comp=Z,12nm,0.8s						
E23K	**Chandalar**	**70.61**	**21**	P	**P**	**04 56 10.2**	**+0.2**
H24K	**Noodor Dome**	**70.64**	**24**	P	**P**	**04 56 10.5**	**+0.2**
BVAR	**Borovoye Array**	**70.65**	**322**	P	**P**	**04 56 10.4**	**0.0**
	comp=Z,6.5nm,0.4s,baz=106,slow=7.2,SNR=44						
	comp=Z,6.5nm,0.4s						
BRVK	**Borovoye**	**70.71**	**322**	P	**P**	**04 56 10.7**	**-0.1**
BRVK				IAmb	IAmb	04 56 11.9	
	comp=Z,12nm,1.2s						
IL31		**70.78**	**25**	P	**P**	**04 56 09.8**	**-1.2**
IL31				IAmb	IAmb	04 56 12.1	
	comp=Z,7.8nm,1.1s						
ILAR	**Eielson Array**	**70.78**	**25**	P	**P**	**04 56 09.8**	**-1.3**
	comp=Z,1.6nm,0.5s,baz=252,slow=5.8,SNR=34						
	comp=Z,1.6nm,0.5s						
SIMJ	**Simiganj**	**70.80**	**307**	P	**P**	**04 56 11.4**	**-0.5**
SIMJ				IAmb	IAmb	04 56 13.0	
	comp=Z,5.8nm,0.8s						
TOLK	**Toolik Lake Re**	**70.80**	**21**	P	**P**	**04 56 12.0**	**+0.9**
TOLK				IAmb	IAmb	04 56 16.8	
	comp=Z,15nm,1.2s						
C23K	**Itkillik River**	**70.82**	**20**	P	**P**	**04 56 12.0**	**+0.9**
E24K	**Your Creek**	**71.02**	**22**	P	**P**	**04 56 13.3**	**+0.8**
G24K	**Hadweenzic Riv**	**71.02**	**23**	P	**P**	**04 56 12.9**	**+0.4**
F24K	**Squaw Lake**	**71.08**	**22**	P	**P**	**04 56 13.9**	**+1.0**
F24K				IAmb	IAmb	04 56 15.3	
	comp=Z,7.7nm,0.9s						
D24K	**Happy Valley**	**71.21**	**20**	P	**P**	**04 56 14.6**	**+1.0**
C24K	**Franklin Bluff**	**71.42**	**20**	P	**P**	**04 56 15.8**	**+1.0**
GLB	**Gilahina Butte**	**71.47**	**29**	P	**P**	**04 56 15.7**	**+0.3**
GLB				IAmb	IAmb	04 56 21.1	
	comp=Z,25nm,1.6s						
FYU	**Fort Yukon**	**71.86**	**23**	P	**P**	**04 56 18.6**	**+1.1**
F25K	**Christian Rive**	**71.94**	**22**	P	**P**	**04 56 18.8**	**+0.7**
F25K				IAmb	IAmb	04 56 20.5	
	comp=Z,5.7nm,0.8s						
L26K	**Log Cabin Wild**	**71.95**	**27**	P	**P**	**04 56 18.7**	**+0.5**
D25K	**Kavik River**	**72.10**	**21**	P	**P**	**04 56 19.4**	**+0.4**
D25K				IAmb	IAmb	04 56 20.6	
	comp=Z,9.4nm,0.8s						
J26L	**Joseph Creek**	**72.12**	**26**	P	**P**	**04 56 19.6**	**+0.3**
BMAR	**Burnt Mountain**	**72.30**	**23**	P	**P**	**04 56 21.0**	**+0.8**
F26K	**Sheenjek River**	**72.52**	**22**	P	**P**	**04 56 22.5**	**+1.0**
F26K				IAmb	IAmb	04 56 24.1	
	comp=Z,10nm,0.9s						
L27K	**Beaver Creek,**	**72.64**	**27**	P	**P**	**04 56 22.7**	**+0.3**
L27K				IAmb	IAmb	04 56 23.9	
	comp=Z,15nm,1.8s						
C27K	**Jago River**	**73.08**	**20**	P	**P**	**04 56 25.9**	**+1.1**
C27K				IAmb	IAmb	04 56 26.6	
	comp=Z,8.2nm,0.8s						
E27K	**Coleen River**	**73.56**	**22**	P	**P**	**04 56 28.7**	**+1.1**
I28M	**Miner Creek**	**73.79**	**25**	P	**P**	**04 56 29.5**	**+0.3**
I28M				IAmb	IAmb	04 56 33.7	
	comp=Z,18nm,1.7s						
DAWY	**Dawson**	**73.86**	**26**	P	**P**	**04 56 30.4**	**+0.9**
DAWY				IAmb	IAmb	04 56 35.6	
	comp=Z,26nm,1.9s						
D27M	**Malcolm River**	**73.96**	**21**	P	**P**	**04 56 30.7**	**+0.7**
M29M	**Somme Creek**	**74.11**	**28**	P	**P**	**04 56 31.9**	**+0.8**
M29M				IAmb	IAmb	04 58 12.0	
	comp=Z,27nm,2.0s						
F28M	**Old Crow**	**74.11**	**23**	P	**P**	**04 56 31.6**	**+0.8**
F28M				IAmb	IAmb	04 56 33.2	
	comp=Z,6.1nm,0.8s						
L29M	**L29M**	**74.32**	**28**	P	**P**	**04 56 33.6**	**+1.3**
L29M				IAmb	IAmb	04 56 46.4	
	comp=Z,9.9nm,1.2s						
E28M	**Babbage River**	**74.38**	**22**	P	**P**	**04 56 33.4**	**+0.9**
E28M				IAmb	IAmb	04 56 34.5	
	comp=Z,7.6nm,0.9s						
HYT	**Haines Junctio**	**74.44**	**30**	P	**P**

ABKAR Akbulak array 77.11 318 P P 04 56 48.2 -0.2
ABKAR IAmb IAmb 04 56 49.0
comp=Z,7.9nm,0.7s
ABKAR Akbulak array 77.11 318 P P 04 56 48.0 -0.5
ARTI Arti 77.71 325 P P 04 56 51.3 -0.4
ARTI IAmb IAmb 04 56 52.2
comp=Z,7.8nm,1.0s
WTLY Watson Lake, Y 78.75 31 P P 04 56 56.6 -0.8
A36M Sachs Harbour 79.31 18 P P 04 57 00.0 -0.1
A36M IAmb IAmb 04 57 01.4
comp=Z,5.9nm,0.8s
YBH Yreka Blue Hor 85.02 49 P P 04 57 31.6 +0.8
YBH IAmb IAmb 04 58 13.1
comp=Z,15nm,1.9s
YKA Yellowknife Ar 85.08 27 P P 04 57 30.2 -0.3
comp=Z,1.9nm,0.9s,baz=286,slow=4.4,SNR=2.8
comp=Z,1.9nm,0.9s
PINE Pine Mountain 85.88 46 P P 04 57 35.0 -0.3
PINE IAmb IAmb 04 57 45.1
comp=Z,6.7nm,1.0s
B08A Colville Reser 85.98 42 P P 04 57 35.4 0.0
B08A IAmb IAmb 04 57 37.5
comp=Z,10nm,1.0s
NEW Newport 87.44 41 P P 04 57 43.1 +0.5
NEW IAmb IAmb 04 57 44.4
comp=Z,7.5nm,1.1s
J08A Circle Bar Ran 87.73 46 P P 04 57 45.2 +1.0
J08A IAmb IAmb 04 57 49.8
comp=Z,8.8nm,1.3s
WVOR Wild Horse Val 87.83 47 P P 04 57 45.2 +0.5
WVOR IAmb IAmb 04 57 48.6
comp=Z,5.0nm,1.1s
BMO Blue Mountains 88.18 45 P P 04 57 46.6 +0.4
BMO IAmb IAmb 04 58 35.8
comp=Z,8.6nm,1.6s
ARCES ARCESS Array B 88.49 342 P P 04 57 46.5 -0.6
comp=Z,3.2nm,0.7s,baz=61,slow=7.3,SNR=10
comp=Z,3.2nm,0.7s
NVAR Mina Array Bea 89.04 51 P P 04 57 50.6 0.0
NVAR Mina Array Bea 89.04 51 P P 04 57 51.1 +0.5
comp=Z,1.7nm,0.6s,baz=270,slow=5.4,SNR=20
comp=Z,1.7nm,0.6s
KVN Kaiserville 89.05 50 P P 04 57 50.4 -0.2
BMN Battle Mountai 89.36 49 P P 04 57 52.5 +0.5
MFID Camas Ranch 89.58 46 P P 04 57 51.5 -1.4
MFID IAmb IAmb 04 57 55.0
comp=Z,6.2nm,1.1s
ELK Elko 90.73 48 P P 04 57 58.6 +0.1
WCT Wildcat Mounta 90.75 52 P P 04 57 57.6 -0.8
WCT IAmb IAmb 04 58 05.0
comp=Z,7.7nm,1.5s
FINES FINESS Array B 92.34 335 P P 04 58 03.4 -1.8
comp=Z,1.0nm,0.4s,baz=73,slow=4.7,SNR=9.6
comp=Z,1.0nm,0.4s
YNE Yellowstone No 93.08 43 P P 04 58 08.8 -0.5
PDAR Pinedale Array 94.15 45 P P 04 58 13.8 -0.4
comp=Z,0.2nm,0.7s,baz=251,slow=2.8,SNR=2.1
comp=Z,0.2nm,0.7s
TORD Torodi Ar. Bea 134.87 302 PKP PKPdf 05 04 13.3 -1.7
comp=Z,0.9nm,1.0s,baz=36,slow=3.8,SNR=3.2
DBIC Dimbokro 143.71 299 PKP PKPab 05 04 28.3 +0.5
comp=Z,3.4nm,0.7s,baz=38,slow=4.6,SNR=6.0
AC05 El Transito 144.10 123 PKPdf PKPab 05 04 30.4 +1.3
PB14 IPOC Station P 145.32 116 PKPbc PKPbc 05 04 34.4 +0.6
LPAZ La Paz 148.88 102 PKPbc PKPdf 05 04 42.1 +1.6
comp=Z,3.0nm,0.9s,baz=353,slow=6.8,SNR=8.0

*IDC **15** 04:50:40.4±0.7, 11°.77N×143°.60E, h0km, mb4.2/14, mbtmp4.1/15, ML4.2/1, Error ellipse: s-maj=25.1km s-min=14.9km az=99.0*
*NEIC **15** 04:50:42.2±1.6, 11°.83N±0°.09×143°.49E±0°.07, h10km±5km, mb4.9/56, Error ellipse: s-maj=14.0km s-min=7.8km az=206.0*
ISC 15 04:50:41.7±0.5, 11°.78N±0°.07×143°.5E±0°.1, h10km, n82, σ0s83/77, mb4.9/41, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.23**	**36**		**Pb**	**04 51 21.3**	**-0.9**
GUMO	**Guam**	**2.23**	**36**	Pn	**Pn**	**04 51 20.1**	**+1.3**
	77nm,0.3s,baz=180,slow=10,SNR=8.2						
GUMO				Sn	**Sn**	**04 51 45.8**	**-0.6**
	77nm,0.3s,baz=180,slow=20,SNR=10						
	188nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**23.33**	**71**	T	T	05 20 07.4	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**23.34**	**71**	T	T	05 20 21.3	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**23.34**	**71**	T	T	05 19 44.5	
	baz=253						
H11N1	**WAKE ISLAND Hy**	**23.82**	**68**	T	T	05 20 47.4	
	baz=255						
H11N2	**WAKE ISLAND Hy**	**23.83**	**68**	T	T	05 20 46.0	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**23.84**	**68**	T	T	05 20 53.6	
	baz=255						
COEN	**Coen**	**25.57**	**181**		**P**	**04 56 11.0**	**0.0**
KAPI	**Kappang**	**28.93**	**236**		**P**	**04 56 39.4**	**-1.9**
WB0	**Warramunga Arr**	**32.61**	**196**		**P**	**04 57 13.8**	**+0.1**
WR0	**Warramunga Arr**	**32.75**	**196**		**P**	**04 57 15.0**	**0.0**
WR0				IAmb	IAmb	04 57 16.2	
	comp=Z,49nm,1.9s						
WB2	**Warramunga Arr**	**32.79**	**196**		**P**	**04 57 15.2**	**-0.1**
WRA	**Warramunga Arr**	**32.79**	**196**		**P**	**04 57 15.1**	**-0.2**
WRA	**Warramunga Arr**	**32.79**	**196**		**P**	**04 57 15.3**	**0.0**
	comp=Z,3.4nm,0.6s,baz=19,slow=9.6,SNR=29						
	comp=Z,3.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**34.53**	**211**		**P**	**04 57 31.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**34.53**	**211**		**P**	**04 57 31.3**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=14,slow=15,SNR=2.7						
	comp=Z,2.1nm,0.7s						
AS31	**Alice Springs**	**36.46**	**195**		**P**	**04 57 46.9**	**-0.2**
ASAR	**Alice Springs**	**36.46**	**195**		**P**	**04 57 45.5**	**-1.5**
ASAR	**Alice Springs**	**36.46**	**195**		**P**	**04 57 47.3**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=16,slow=12,SNR=22						
	comp=Z,1.1nm,0.6s						
EIDS	**Eidsvold**	**37.65**	**169**		**P**	**04 57 57.0**	**-0.1**
MBWA	**Marble Bar**	**40.22**	**216**		**P**	**04 58 18.7**	**0.0**
MBWA				IAmb	IAmb	04 59 12.0	
	comp=Z,27nm,1.4s						
DZM	**Mont Dzumac**	**40.47**	**146**		**P**	**04 58 21.5**	**+0.7**
DZM				IAmb	IAmb	04 58 24.7	
	comp=Z,27nm,1.4s						
DZM	**Mont Dzumac**	**40.47**	**146**		**P**	**04 58 21.1**	**+0.2**
	comp=Z,6.1nm,0.7s,baz=320,slow=13,SNR=2.4						
	comp=Z,6.1nm,0.7s						
PINNC	**Pines Island,**	**41.45**	**146**		**P**	**04 58 29.5**	**+0.7**
ARMA	**Armidale**	**42.67**	**170**		**P**	**04 58 38.7**	**-0.1**
ARMA				IAmb	IAmb	05 00 16.2	
	comp=Z,48nm,1.6s						
FORT	**Forrest**	**44.84**	**199**		**P**	**04 58 57.5**	**+1.3**
BBOO	**Buckleboo**	**44.90**	**189**		**P**	**04 58 56.7**	**+0.1**
BBOO				IAmb	IAmb	05 00 19.6	
	comp=Z,38nm,1.6s						
MORW	**Morawa**	**48.51**	**213**		**P**	**04 59 25.2**	**+0.2**
MORW				IAmb	IAmb	04 59 26.6	
	comp=Z,12nm,0.9s						
BKZ	**Black Stump Fm**	**59.27**	**151**		**P**	**05 00 43.6**	**+0.1**
BKZ				IAmb	IAmb	05 01 18.2	
	comp=Z,18nm,1.4s						
MKAR	**Makanchi Array**	**61.89**	**317**		**P**	**05 01 00.9**	**-0.6**
MKAR	**Makanchi Array**	**61.89**	**317**		**P**	**05 01 02.9**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=95,slow=8.1,SNR=4.6						
	comp=Z,0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**62.34**	**325**		**P**	**05 01 04.7**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=77,slow=6.4,SNR=2.0						
	comp=Z,0.6nm,0.4s						
CHIR	**Chirikof Islan**	**64.12**	**33**		**P**	**05 01 15.1**	**-0.9**
KURBB	**Kurchatov Arra**	**65.16**	**321**		**P**	**05 01 23.6**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=107,slow=6.6,SNR=17						
	comp=Z,2.3nm,0.6s						
E18K	**Tukpahlearik C**	**66.47**	**20**		**P**	**05 01 30.5**	**-0.6**
E18K				IAmb	IAmb	05 02 29.4	
	comp=Z,18nm,1.4s						
C18K	**Utukok River**	**66.86**	**19**		**P**	**05 01 33.2**	**-0.5**
H19K	**Roundabout Mou**	**67.16**	**23**		**P**	**05 01 33.7**	**-1.8**
H19K				IAmb	IAmb	05 02 00.1	
	comp=Z,19nm,1.6s						
NRIK	**Noril'sk**	**67.41**	**341**		**P**	**05 01 37.9**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=99,slow=9.0,SNR=2.3						
	comp=Z,1.6nm,0.7s						
C19K	**Lookout Ridge**	**67.59**	**19**		**P**	**05 01 38.2**	**-0.1**
D19K	**Kuna River**	**67.80**	**20**		**P**	**05 01 38.7**	**-0.8**
SKT	**Skwentna**	**68.00**	**27**		**P**	**05 01 39.9**	**-1.1**
SKT				IAmb	IAmb	05 02 25.1	
	comp=Z,12nm,1.5s						
F20K	**Avaraart Lake**	**68.03**	**22**		**P**	**05 01 41.7**	**+0.7**
F20K				IAmb	IAmb	05 02 27.5	
	comp=Z,18nm,1.7s						
CAST	**Castle Rocks**	**68.19**	**26**		**P**	**05 01 41.6**	**-0.6**
CAST				IAmb	IAmb	05 04 05.1	
	comp=Z,17nm,1.8s						
B20K	**Meade River**	**68.76**	**19**		**P**	**05 01 45.7**	**+0.2**
PWL	**Port Wells**	**69.19**	**29**		**P**	**05 01 48.3**	**-0.1**
B21K	**Ikpikpuk River**	**69.41**	**19**		**P**	**05 01 48.8**	**-0.7**
D22K	**Ayikyak River**	**69.78**	**20**		**P**	**05 01 52.4**	**+0.6**
E22K	**Anaktuvuk Pass**	**69.82**	**21**		**P**	**05 01 51.8**	**-0.4**
E22K				IAmb	IAmb	05 02 57.7	
	comp=Z,8.0nm,1.3s						
B22K	**Teshekpuk Lake**	**70.06**	**19**		**P**	**05 01 53.8**	**+0.2**
D23K	**Nanushuk River**	**70.49**	**20**		**P**	**05 01 56.6**	**+0.4**
D23K				IAmb	IAmb	05 03 19.0	
	comp=Z,35nm,1.9s						
BVAR	**Borovoye Array**	**70.53**	**322**		**P**	**05 01 57.8**	**+1.1**
	comp=Z,3.6nm,0.4s,baz=104,slow=7.7,SNR=28						
	comp=Z,3.6nm,0.4s						
E23K	**Chandalar**	**70.58**	**21**		**P**	**05 01 57.6**	**+0.7**
E23K				IAmb	IAmb	05 02 03.3	
	comp=Z,11nm,1.0s						
IL31		**70.76**	**25**		**P**	**05 01 58.0**	**+0.1**
IL31				IAmb	IAmb	05 02 26.1	
	comp=Z,19nm,1.9s						
ILAR	**Eielson Array**	**70.76**	**25**		**P**	**05 01 57.0**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=252,slow=5.3,SNR=10						
	comp=Z,0.5nm,0.6s						
TOLK	**Toolik Lake Re**	**70.77**	**21**		**P**	**05 01 58.1**	**+0.1**
TOLK				IAmb	IAmb	05 03 09.5	
	comp=Z,34nm,1.9s						
C23K	**Itkillik River**	**70.79**	**20**		**P**	**05 01 59.4**	**+1.4**
C23K				IAmb	IAmb	05 02 04.0	
	comp=Z,24nm,1.3s						
E24K	**Your Creek**	**70.99**	**22**		**P**	**05 02 00.3**	**+1.0**
E24K				IAmb	IAmb	05 02 03.2	
	comp=Z,22nm,2.0s						
G24K	**Hadweenzic Riv**	**71.00**	**23**		**P**	**05 01 58.9**	**-0.5**
G24K				IAmb	IAmb	05 02 03.4	
	comp=Z,13nm,1.4s						
F24K	**Squaw Lake**	**71.06**	**22**		**P**	**05 01 59.6**	**-0.1**
D24K	**Happy Valley**	**71.18**	**20**		**P**	**05 02 01.7**	**+1.3**
D24K				IAmb	IAmb	05 02 06.8	
	comp=Z,21nm,1.4s						
J25K	**Salcha River,**	**71.36**	**25**		**P**	**05 02 01.7**	**+0.1**
GLB	**Gilahina Butte**	**71.46**	**29**		**P**	**05 01 60.0**	**-2.3**
GLB				IAmb	IAmb	05 02 16.6	
	comp=Z,11nm,1.4s						
VRDI	**Verde Repeater**	**71.59**	**29**		**P**	**05 02 02.5**	**-0.7**
VRDI				IAmb	IAmb	05 02 04.3	
	comp=Z,39nm,1.9s						
SCRK	**Sand Creek**	**71.83**	**26**		**P**	**05 02 05.3**	**+0.7**
SCRK				IAmb	IAmb	05 02 28.3	
	comp=Z,21nm,2.0s						
F25K	**Christian Rive**	**71.91**	**22**		**P**	**05 02 05.4**	**+0.5**
D25K	**Kavik River**	**72.07**	**21**		**P**	**05 02 06.9**	**+1.1**
D25K				IAmb	IAmb	05 02 12.2	
	comp=Z,6.0nm,0.9s						
J26L	**Joseph Creek**	**72.10**	**26**		**P**	**05 02 06.2**	**0.0**
J26L				IAmb	IAmb	05 02 15.8	
	comp=Z,24nm,1.9s						
BMAR	**Burnt Mountain**	**72.27**	**23**		**P**	**05 02 08.0**	**+0.9**
F26K	**Sheenjek River**	**72.49**	**22**		**P**	**05 02 09.0**	**+0.6**
DGAR	**Diego Garcia**	**73.19**	**259**		**P**	**05 02 12.5**	**-1.0**
D27M	**Malcolm River**	**73.93**	**21**		**P**	**05 02 18.5**	**+1.6**
E28M	**Babbage River**	**74.35**	**22**		**P**	**05 02 20.1**	**+0.8**
E28M				IAmb	IAmb	05 02 23.7	
	comp=Z,11nm,1.6s						
ABKAR	**Akbulak array**	**77.00**	**318**		**P**	**05 02 34.9**	**+0.1**
ABKAR	**Akbulak array**	**77.00**	**318**		**P**	**05 02 35.4**	**+0.7**
ABKAR				IAmb	IAmb	05 02 36.2	
	comp=Z,2.2nm,0.6s						
V35K	**Ketchikan**	**77.50**	**36**		**P**	**05 02 37.4**	**0.0**
DLBC	**Dease Lake**	**78.21**	**32**		**P**	**05 02 40.3**	**-1.2**
DLBC				IAmb	IAmb	05 04 42.3	
	comp=Z,28nm,1.9s						
ARCES	**ARCESS Array B**	**88.39**	**342**		**P**	**05 03 34.1**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=40,slow=4.7,SNR=5.9						
	comp=Z,1.4nm,0.7s						
NVAR	**Mina Array Bea**	**89.08**	**51**		**P**	**05 03 38.8**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=251,slow=5.6,SNR=6.4						
	comp=Z,0.4nm,0.5s						
FINES	**FINESS Array B**	**92.23**	**335**		**P**	**05 03 50.8**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=56,slow=5.2,SNR=1.8						
	comp=Z,1.5nm,0.9s						
PDAR	**Pinedale Array**	**94.17**	**45**		**P**	**05 04 00.8**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=309,slow=12,SNR=1.8						
	comp=Z,0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**134.75**	**302**	PKP	**PKiKP**	**05 10 03.4**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=358,slow=3.1,SNR=1.4						

UPA 15 04:53:59.5±0.3, 8°.50N×83°.19W, h12km±1km, ML3.5, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.57**	**59**	*e*P	Pb	04 54 11.5	-0.1
BRU2				*e*S	Sb	04 54 20.7	+0.9
BCO2	**Palmira**	**0.69**	**71**	⇓*i*P	Pb	04 54 13.7	+0.1
BCO2				AMP		04 54 13.7	
	comp=Z,2μm,0.1s						
BCO2				*e*S	Sb	04 54 24.3	+1.1
CNI2	**El Empalme, Bo**	**1.16**	**38**	*e*P	Pb	04 54 19.6	-2.0
CNI2				*e*S	Sb	04 54 35.0	-1.5

*IDC **15** 04:54:12.8±1.4, 17°.45S×178°.83W, h542km±14km, mb3.5/11, mbtmp4.4/13, Error ellipse: s-maj=24.8km s-min=13.4km az=151.0*
*NEIC **15** 04:54:13.1±1.6, 17°.5S±0°.1×178°.7W±0°.1, h543km±9km, mb4.2/30, Error ellipse: s-maj=22.5km s-min=15.9km az=147.0*
ISC 15 04:54:13.0±0.5, 17°.4S±0°.1×178°.75W±0°.09, h550km, n61, σ1s11/62, mb4.1/27, 5C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.07**	**263**	P	**P**	**04 55 29.0**	**+0.4**
	212nm,0.7s,baz=90,slow=4.4,SNR=152						
FUTU	**Fugatoga**	**3.14**	**11**	P	**P**	**04 55 29.2**	**+0.1**
AFI	**Afiamalu**	**7.56**	**64**	P	**P**	**04 56 03.8**	**-2.8**
NIUE	**Niue**	**8.54**	**103**	P	**P**	**04 56 15.0**	**-1.2**
PINNC	**Pines Island,**	**13.97**	**246**	P	**P**	**04 57 11.1**	**-0.7**
DZM	**Mont Dzumac**	**14.69**	**249**	P	**P**	**04 57 18.4**	**-1.0**
	4.6nm,0.7s,baz=90,slow=19,SNR=1.8						
LTZ	**Lake Taylor**	**26.43**	**195**	P	**P**	**04 59 05.5**	**-0.7**
EIDS	**Eidsvold**	**29.14**	**249**	P	**P**	**04 59 29.3**	**-0.8**
EIDS				IAmb	IAmb	04 59 30.2	
	comp=Z,6.6nm,0.7s						
ARMA	**Armidale**	**29.92**	**239**	P	**P**	**04 59 36.9**	**0.0**
CTAO	**Charters Tower**	**33.21**	**260**	P	**P**	**05 00 04.7**	**-0.4**
CTAO				IAmb	IAmb	05 00 05.9	
	comp=Z,7.6nm,1.1s						
CAN	**Canberra**	**33.76**	**232**	P	**P**	**05 00 09.7**	**+0.2**
CAN				IAmb	IAmb	05 00 09.9	
	comp=Z,9.2nm,0.8s						
PMG	**Port Moresby**	**34.06**	**279**	P	**P**	**05 00 11.3**	**-0.9**
	comp=Z,18nm,0.8s,baz=108,slow=20,SNR=4.0						
	comp=Z,18nm,0.8s						
COEN	**Coen**	**36.78**	**270**	P	**P**	**05 00 35.0**	**+0.2**
COEN				IAmb	IAmb	05 00 36.0	
	comp=Z,7.7nm,0.7s						
TOO	**Toolangi**	**37.24**	**230**	P	**P**	**05 00 38.6**	**+0.3**
TOO				IAmb	IAmb	05 00 39.6	
	comp=Z,6.1nm,1.2s						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**05 00 49.9**	**+0.6**
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**05 00 49.4**	**0.0**
	comp=Z,6.3nm,0.6s,baz=91,slow=12,SNR=13						
	comp=Z,6.3nm,0.6s						
STKA	**Stephens Creek**	**38.59**	**241**	P	**P**	**05 00 49.9**	**+0.6**
INKA	**Innaminka**	**38.64**	**247**	P	**P**	**05 00 50.3**	**+0.5**
MCQ	**Macquarie Isla**	**40.82**	**200**	P	**P**	**05 01 08.5**	**+1.7**
HTT	**Hallett**	**41.12**	**239**	P	**P**	**05 01 09.8**	**+0.1**
OOD	**Oodnadatta**	**43.11**	**248**	P	**P**	**05 01 25.6**	**+0.4**
BBOO	**Buckleboo**	**43.37**	**240**	P	**P**	**05 01 26.9**	**-0.3**
BBOO				IAmb	IAmb	05 01 27.7	
	comp=Z,10.0nm,0.8s						
BBOO	**Buckleboo**	**43.37**	**240**	P	**P**	**05 01 26.9**	**-0.3**
WR0	**Warramunga Arr**	**44.22**	**259**	P	**P**	**05 01 33.1**	**-0.9**
WR0				IAmb	IAmb	05 01 41.9	
	comp=Z,6.4nm,1.2s						
WB0	**Warramunga Arr**	**44.37**	**259**	P	**P**	**05 01 34.1**	**-1.1**
WB0				IAmb	IAmb	05 01 54.7	
	comp=Z,12nm,1.5s						
WB2	**Warramunga Arr**	**44.40**	**259**	P	**P**	**05 01 34.3**	**-1.1**
WB2				IAmb	IAmb	05 01 35.2	
	comp=Z,3.5nm,0.6s						
WRA	**Warramunga Arr**	**44.41**	**259**	P	**P**	**05 01 34.1**	**-1.4**
WRA	**Warramunga Arr**	**44.41**	**259**	P	**P**	**05 01 34.2**	**-1.3**
	comp=Z,2.8nm,0.6s,baz=91,slow=8.1,SNR=64						
WRA				ScP	**ScP**	**05 06 10.6**	**+3.3**
	comp=Z,0.4nm,0.9s,baz=96,slow=4.1,SNR=2.4						
	comp=Z,2.8nm,0.6s						
AS31	**Alice Springs**	**44.62**	**254**	P	**P**	**05 01 36.3**	**-0.8**
ASAR	**Alice Springs**	**44.62**	**254**	P	**P**	**05 01 36.8**	**-0.3**
ASAR	**Alice Springs**	**44.62**	**254**	P	**P**	**05 01 36.6**	**-0.5**
	comp=Z,24nm,0.6s,baz=88,slow=8.1,SNR=243						
ASAR				ScP	**ScP**	**05 06 11.3**	**+3.2**
	comp=Z,0.6nm,0.8s,baz=100,slow=4.7,SNR=4.1						
	comp=Z,24nm,0.6s						
MULG	**Mulgathing**	**44.73**	**244**	P	**P**	**05 01 37.4**	**-0.4**
MTN	**Manton Dam**	**48.49**	**268**	P	**P**	**05 02 06.2**	**-0.1**
MTN				IAmb	IAmb	05 02 06.7	
	comp=Z,10nm,0.8s						
FORT	**Forrest**	**49.93**	**244**	P	**P**	**05 02 16.2**	**-0.6**
KNRA	**Kununurra**	**50.22**	**264**	P	**P**	**05 02 18.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**52.79**	**260**	P	**P**	**05 02 37.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.79**	**260**	P	**P**	**05 02 37.6**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=132,slow=7.7,SNR=12						
	comp=Z,3.2nm,0.7s						
QSPA	**South Pole Qui**	**72.65**	**180**	P	**P**	**05 04 45.1**	**+0.2**
QSPA	**South Pole Qui**	**72.65**	**180**	P	**P**	**05 04 44.9**	**0.0**
	comp=Z,2.1nm,0.9s,baz=38,slow=2.6,SNR=7.6						
	comp=Z,2.1nm,0.9s						
PNTR	**Pine Nut**	**78.79**	**43**	P	**P**	**05 05 20.4**	**+0.9**
PNTR				IAmb	IAmb	05 05 21.8	
	comp=Z,4.1nm,0.8s						
YERR	**Yerington**	**78.97**	**43**	P	**P**	**05 05 21.0**	**+0.6**
NVAR	**Mina Array Bea**	**79.29**	**44**	P	**P**	**05 05 23.4**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=223,slow=9.2,SNR=9.6						
	comp=Z,1.3nm,0.7s						
X16A	**Lo Mia Camp, P**	**82.11**	**50**	P	**P**	**05 05 37.8**	**+1.0**
U15A	**North Rim**	**82.42**	**48**	P	**P**	**05 05 39.9**	**+1.5**
U15A				IAmb	IAmb	05 05 41.3	
	comp=Z,3.9nm,0.8s						
CAST	**Castle Rocks**	**83.20**	**12**	P	**P**	**05 05 40.5**	**-0.9**
CAST				IAmb	IAmb	05 05 41.8	
	comp=Z,4.1nm,0.8s						
ILAR	**Eielson Array**	**85.47**	**13**	P	**P**	**05 05 52.1**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=226,slow=5.4,SNR=10						
	comp=Z,0.4nm,0.4s						
TX31	**Lajitas Ar. Si**	**86.00**	**58**	P	**P**	**05 05 58.5**	**+2.6**
TXAR	**Lajitas Array**	**86.00**	**58**	P	**P**	**05 05 57.8**	**+1.9**
	comp=Z,1.6nm,0.8s,baz=218,slow=5.7,SNR=20						
	comp=Z,1.6nm,0.8s						
PD31	**Pinedale Array**	**87.21**	**44**	P	**P**	**05 06 01.4**	**-0.1**
PDAR	**Pinedale Array**	**87.21**	**44**	P	**P**	**05 06 02.0**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=217,slow=3.9,SNR=10						
	comp=Z,0.9nm,0.6s						
DRIO	**Del Rio**	**88.51**	**59**	P	**P**	**05 06 08.7**	**+1.2**
DRIO				IAmb	IAmb	05 06 10.0	
	comp=Z,6.3nm,1.0s						
TROLL	**Troll, Antarti**	**90.81**	**180**	⇑P	**P**	**05 06 17.0**	**-0.6**
	comp=Z,52nm,0.6s						
SNAA	**Sanae**	**91.11**	**179**	P	**P**	**05 06 18.4**	**-0.5**
SNAA				IAmb	IAmb	05 06 42.7	
	comp=Z,7.1nm,1.5s						
SNAA	**Sanae**	**91.11**	**179**	⇑P	**P**	**05 06 17.9**	**-1.0**
	comp=Z,8.4nm,0.4s						
SNAA	**Sanae**	**91.11**	**179**	P	**P**	**05 06 18.2**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=196,slow=13,SNR=11						
	comp=Z,0.4nm,0.5s						
VNA3	**Neumayer Olymp**	**91.26**	**176**	⇑P	**P**	**05 06 18.7**	**-0.8**
	comp=Z,2.0nm,0.6s						
VNA2	**Neumayer--Watz**	**91.69**	**177**	⇑P	**P**	**05 06 19.8**	**-1.7**
	comp=Z,0.0nm,0.2s,baz=357,slow=4.3						
VNA1	**Neumayer--Stat**	**91.92**	**177**	⇑P	**P**	**05 06 21.6**	**-0.9**
	comp=Z,1.1nm,0.6s						
NB201	**NORSAR Array S**	**135.82**	**353**	PKPdf	**PKiKP**	**05 12 32.9**	**+0.1**
CLL	**Collm**	**144.90**	**347**	*i* PKPbc	PKPbc	05 12 48.8	+0.6
CLL				AMS	AMS	07 58 00.0	
	comp=Z,4.0nm,0.7s						
	comp=Z,100nm,21.7s						
GERES	**GERESS Array B**	**147.04**	**345**	PKPbc	**PKPbc**	**05 12 54.2**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=10,slow=6.0,SNR=4.7						

*ISK **15** 05:04:15.8, 37°.37N×37°.18E, h7km, ML2.5/11*
*AFAD **15** 05:04:16.1±0.0, 37°.37N×37°.14E, h8km, ML2.5*
ISC 15 05:04:16.0±0.9, 37°.36N±0°.03×37°.20E±0°.03, h7km±7km, n21, σ0s52/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMN	**Narli-Kahraman**	**0.04**	**311**	Pg	**Pg**	**05 04 17.7**	**0.0**
GAZ	**Gaziantep**	**0.19**	**177**	Pg	**Pg**	**05 04 20.1**	**+0.2**
GAZ				Sg	**Sg**	**05 04 23.5**	**+0.9**
KAHM	**Kahramanmaras,**	**0.23**	**312**	P	**Pg**	**05 04 20.6**	**0.0**
KAHM				*i* AML	AML	05 04 23.0	
	comp=E,1μm,0.1s						
KAHM				S	**Sg**	**05 04 23.8**	**+0.1**
KAHM				*i* AML	AML	05 04 24.0	
	comp=N,1μm,0.1s						
KHMR	**Kahramanmara**	**0.23**	**265**	P	**Pg**	**05 04 20.3**	**-0.3**
KHMR				*i* AML	AML	05 04 23.0	
	comp=N,508nm,0.3s						
KHMR				S	**Sg**	**05 04 23.4**	**-0.4**
KHMR				*i* AML	AML	05 04 25.0	
	comp=E,890

ellipse: s-maj=3.1km s-min=1.7km az=125.0
ISC 15 05:19:38.6±1.1,41°.87N±0°.03×76°.27E±0°.02,h8km±9km, n71,σ1§01/127,43C-26D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.38**	**357**	⇑P	**Pg**	**05 19 46.7**	**+0.5**
	105nm,0.1s,SNR=22						
ULHL				⇑S	**Sb**	**05 19 52.7**	**-1.3**
	2μm,0.1s						
ULHL	**Ulahol**	**0.38**	**357**	⇑*i*P	**Pg**	**05 19 46.7**	**+0.5**
ULHL				⇑*i*S	**Sb**	**05 19 52.3**	**-1.7**
BOOM	**Boomskoye usch**	**0.67**	**339**	⇑*i*P	**Pg**	**05 19 51.8**	**+0.2**
BOOM				⇑*i*S	**Sb**	**05 20 01.4**	**-0.9**
KDJ	**Kajisay**	**0.73**	**68**	⇑*i*P	**Pg**	**05 19 52.0**	**-0.7**
KDJ				⇑*i*S	**Sg**	**05 20 01.8**	**-0.4**
TKM2	**Tokmak 2**	**1.17**	**335**	⇓P	**Pg**	**05 20 01.0**	**-0.1**
	43nm,0.1s,SNR=183						
TKM2				⇑S	**Sn**	**05 20 17.4**	**-0.3**
	145nm,0.1s						
TKM2	**Tokmak 2**	**1.17**	**335**	⇓P	**Pg**	**05 20 00.9**	**-0.1**
	12nm,0.2s						
TKM2				⇑S	**Sn**	**05 20 17.1**	**-0.6**
	24nm,0.2s						
TKM2	**Tokmak 2**	**1.17**	**335**	⇓*i*P	**Pb**	**05 20 00.6**	**-0.6**
TKM2				⇓*i*S	**Sb**	**05 20 16.4**	**-0.2**
KST	**Kastek**	**1.20**	**349**	*e*P	**Pg**	**05 20 01.6**	**-0.1**
	12nm,0.3s						
KST				*e*S	**Sn**	**05 20 18.1**	**-0.3**
	122nm,0.2s						
KBK	**Karagaybulak**	**1.26**	**309**	⇓P	**Pn**	**05 20 02.5**	**-0.3**
	46nm,0.2s,SNR=38						
KBK				⇓S	**Sn**	**05 20 20.3**	**+0.3**
	179nm,0.2s						
MTBS	**Maitube**	**1.27**	**5**	P	**Pg**	**05 20 02.9**	**-0.1**
	7.2nm,0.2s						
MTBS				S	**Sn**	**05 20 20.3**	**+0.2**
	74nm,0.2s						
MTBS	**Maitube**	**1.27**	**5**	*e*P	**Pg**	**05 20 02.7**	**-0.3**
	20nm,0.1s						
MTBS				*e*S	**Sn**	**05 20 20.0**	**-0.1**
	114nm,0.2s						
TNSS	**Tian-Shan**	**1.27**	**23**	P	**Pb**	**05 20 02.6**	**-0.5**
	66nm,0.2s						
TNSS				S	**Sn**	**05 20 20.2**	**-0.4**
	46nm,0.2s						
TNSS	**Tian-Shan**	**1.27**	**23**	*e*P	**Pb**	**05 20 02.6**	**-0.5**
	88nm,0.3s						
TNSS				*e*S	**Sn**	**05 20 20.2**	**-0.4**
	46nm,0.2s						
UCH	**Uchtor**	**1.36**	**286**	⇑P	**Pn**	**05 20 04.0**	**-0.3**
	21nm,0.3s,SNR=13						
UCH				⇑S	**Sn**	**05 20 22.6**	**-0.2**
	20nm,0.1s						
UCH	**Uchtor**	**1.36**	**286**	⇑*i*P	**Pn**	**05 20 03.8**	**-0.5**
UCH				⇑*i*S	**Sb**	**05 20 22.1**	**-0.2**
MDOK	**Medeo**	**1.42**	**24**	Pg	**Pb**	**05 20 05.1**	**-0.4**
	119nm,0.3s						
MDOK				⇑P	**Pb**	**05 20 05.1**	**-0.4**
	65nm,0.4s						
MDOK				⇑S	**Sg**	**05 20 24.2**	**-0.1**
	49nm,0.3s						
MDOK				Lg	Lg	05 20 24.3	
	138nm,0.3s						
MDOK	**Medeo**	**1.42**	**24**	*e*P	**Pb**	**05 20 05.1**	**-0.4**
	119nm,0.3s						
MDOK				*e*S	**Sg**	**05 20 24.3**	**0.0**
	138nm,0.3s						
DGS	**Degeres**	**1.43**	**345**	*e*P	**Pg**	**05 20 05.7**	**-0.2**
	17nm,0.2s						
DGS				*e*S	**Sg**	**05 20 25.3**	**+0.9**
	91nm,0.2s						
AAA	**Alma-Ata**	**1.43**	**19**	P	**Pg**	**05 20 06.0**	**0.0**
	192nm,0.2s						
AAA				S	**Sg**	**05 20 25.9**	**+1.4**
	210nm,0.2s						
KNDC	**Almaty**	**1.45**	**21**	⇑P	**Pg**	**05 20 06.0**	**-0.4**
	148nm,0.5s						
KNDC				⇓S	**Sg**	**05 20 26.1**	**+1.0**
	64nm,0.2s						
ARLS	**Aral**	**1.45**	**271**	⇓*i*P	**Pn**	**05 20 05.0**	**-0.4**
ARLS				⇓*i*S	**Sn**	**05 20 24.4**	**-0.3**
AAK	**Ala-Archa**	**1.53**	**301**	⇓P	**Pb**	**05 20 07.3**	**0.0**
	27nm,0.2s,SNR=24						
AAK				⇑S	**Sg**	**05 20 28.0**	**+0.3**
	98nm,0.2s						
AAK	**Ala-Archa**	**1.53**	**301**	⇑*i*P	**Pn**	**05 20 06.5**	**+0.1**
AAK				⇑*i*S	**Sb**	**05 20 27.4**	**+0.5**
FRU1	**Bishkek**	**1.54**	**308**	⇓*i*P	**Pb**	**05 20 07.1**	**-0.4**
FRU1				⇓*i*S	**Sg**	**05 20 28.3**	**+0.2**
CHMS	**Chumysh**	**1.60**	**316**	⇑P	**Pb**	**05 20 08.6**	**+0.2**
	44nm,0.3s,SNR=13						
CHMS				⇑S	**Sg**	**05 20 29.8**	**-0.1**
	64nm,0.2s						
CHMS	**Chumysh**	**1.60**	**316**	⇑P	**Pb**	**05 20 08.5**	**+0.1**
	23nm,0.6s						
CHMS				⇑S	**Sg**	**05 20 29.8**	**-0.1**
	22nm,0.5s						
CHMS	**Chumysh**	**1.60**	**316**	⇑*i*P	**Pb**	**05 20 07.7**	**-0.7**
CHMS				⇑*i*S	**Sb**	**05 20 29.2**	**+0.5**
PRZ	**Przheval'sk**	**1.70**	**68**	⇓*e*P	**Pb**	**05 20 09.5**	**-0.8**
PRZ				⇓*e*S	**Sg**	**05 20 31.8**	**-1.5**
KTBS	**Karatobe**	**1.87**	**9**	*e*P	**Pg**	**05 20 13.6**	**-0.9**
	51nm,0.2s						
KTBS				*e*S	**Sg**	**05 20 38.8**	**0.0**
	213nm,0.4s						
KRBS	**Karabastau**	**1.88**	**347**	Pg	**Pg**	**05 20 13.9**	**-0.9**
KRBS				Lg	Lg	05 20 39.1	
USP	**Ospenovka**	**1.92**	**318**	⇓P	**Pb**	**05 20 14.2**	**+0.3**
	45nm,0.3s,SNR=113						
USP				⇑S	**Sg**	**05 20 40.7**	**+0.5**
	104nm,0.3s						
USP	**Ospenovka**	**1.92**	**318**	⇑*i*P	**Pb**	**05 20 12.5**	**-1.4**
USP				⇑*i*S	**Sb**	**05 20 37.7**	**-0.3**
AML	**Almayashu**	**1.94**	**279**	⇑P	**Pb**	**05 20 14.3**	**-0.1**
	49nm,0.2s,SNR=37						
AML				⇓S	**Sg**	**05 20 40.6**	**-0.4**
	113nm,0.3s						
AML	**Almayashu**	**1.94**	**279**	⇓*i*P	**Pn**	**05 20 13.1**	**+0.9**
AML				⇓*i*S	**Sb**	**05 20 38.3**	**-0.6**
SATY	**Saty**	**1.98**	**52**	Pg	**Pb**	**05 20 14.3**	**-0.8**
	26nm,0.2s						
SATY				Lg	Lg	05 20 40.5	
	253nm,0.2s						
SATY	**Saty**	**1.98**	**52**	*e*P	**Pb**	**05 20 14.4**	**-0.6**
	30nm,0.3s						
SATY				*e*S	**Sg**	**05 20 40.5**	**-1.8**
	253nm,0.2s						
SGDS	**Sogindy**	**2.00**	**323**	Pg	**Pb**	**05 20 14.7**	**-0.5**
	27nm,0.3s						
SGDS				Lg	Lg	05 20 41.4	
	32nm,0.3s						
EKS2	**Erkin-Say**	**2.01**	**294**	⇑P	**Pb**	**05 20 16.0**	**+0.5**
	29nm,0.2s,SNR=42						
EKS2	**Erkin-Say**	**2.01**	**294**	⇑*i*P	**Pn**	**05 20 14.0**	**+1.0**
EKS2				⇑*i*S	**Sb**	**05 20 40.0**	**-0.9**
KUU	**Kurty**	**2.03**	**1**	Pg	**Pb**	**05 20 16.0**	**+0.3**
	13nm,0.1s						
KUU				Lg	Lg	05 20 43.0	
	167nm,0.2s						
KUU	**Kurty**	**2.03**	**1**	*e*P	**Pb**	**05 20 16.0**	**+0.3**
	13nm,0.1s						
KUU				*e*S	**Sg**	**05 20 43.0**	**-0.7**
	167nm,0.2s						
ZHN	**Zhinishke**	**2.06**	**50**	Pg	**Pb**	**05 20 15.3**	**-1.1**
	18nm,0.2s						
ZHN				Lg	Lg	05 20 42.6	
	90nm,0.2s						
ZHN	**Zhinishke**	**2.06**	**50**	*e*P	**Pb**	**05 20 15.6**	**-0.9**
	18nm,0.2s						
ZHN				*e*S	**Sb**	**05 20 42.6**	**+0.3**
	175nm,0.2s						
SALK	**Salom-Alik**	**2.09**	**243**	⇑*e*P	**Pn**	**05 20 14.7**	**+0.6**
SALK				⇑*e*S	**Sn**	**05 20 41.0**	**+0.6**
KURS	**Kuram**	**2.14**	**40**	Pg	**Pb**	**05 20 17.3**	**-0.5**
	14nm,0.3s						
KURS				Lg	Lg	05 20 45.9	
	34nm,0.2s						
KURS	**Kuram**	**2.14**	**40**	*e*P	**Pb**	**05 20 17.4**	**-0.4**
	14nm,0.3s						
KURS				*e*S	**Sg**	**05 20 45.9**	**-1.6**
	34nm,0.5s						
KPKS	**Kokpek**	**2.39**	**47**	Pg	**Pb**	**05 20 21.1**	**-1.0**
	21nm,0.3s						
KPKS				Lg	Lg	05 20 53.0	
	57nm,0.3s						
KPKS	**Kokpek**	**2.39**	**47**	*e*P	**Pb**	**05 20 21.1**	**-1.0**
	21nm,0.3s						
KPKS				*e*S	**Sb**	**05 20 52.3**	**+0.5**
	57nm,0.3s						
UZB	**Uzynbulak**	**2.41**	**57**	Pg	**Pb**	**05 20 21.0**	**-1.2**
	15nm,0.3s						
UZB				Lg	Lg	05 20 52.3	
	65nm,0.4s						
UZB	**Uzynbulak**	**2.41**	**57**	*e*P	**Pb**	**05 20 21.2**	**-1.1**
	19nm,0.3s						
UZB				*e*S	**Sb**	**05 20 52.3**	**+0.1**
	98nm,0.4s						
MRKS	**Merke**	**2.42**	**292**	Pg	**Pb**	**05 20 23.0**	**+0.5**
	18nm,0.3s						
MRKS				Lg	Lg	05 20 55.5	
	24nm,0.5s						
MRKS	**Merke**	**2.42**	**292**	*e*P	**Pb**	**05 20 23.3**	**+0.8**
	18nm,0.3s						
MRKS				*e*S	**Sg**	**05 20 55.5**	**-0.9**
	24nm,0.5s						
ARSB	**Arslanbob**	**2.52**	**259**	⇑*e*P	**Pn**	**05 20 20.9**	**+0.8**
ARSB				⇑*e*S	**Sn**	**05 20 51.5**	**+0.4**
ARXS	**Arharly**	**2.61**	**25**	Pg	**Pb**	**05 20 25.4**	**-0.3**
	18nm,0.4s						
ARXS				Lg	Lg	05 20 58.9	
	35nm,0.3s						
ARXS	**Arharly**	**2.61**	**25**	*e*P	**Pb**	**05 20 25.2**	**-0.5**
	18nm,0.4s						
ARXS				*e*S	**Sb**	**05 20 58.9**	**+0.9**
	34nm,0.2s						
SHLS	**Shalkode**	**2.69**	**60**	Pg	**Pg**	**05 20 31.0**	**+0.8**
	11nm,0.3s						
SHLS				Lg	Lg	05 21 08.8	
	115nm,0.5s						
SHLS	**Shalkode**	**2.69**	**60**	*e*P	**Pg**	**05 20 31.0**	**+0.8**
	10nm,0.2s						
SHLS				*e*S	**Sg**	**05 21 08.8**	**+3.8**
	114nm,0.5s						
SFK	**Sufi-Kurgan**	**2.79**	**229**	⇑*e*P	**Pn**	**05 20 23.8**	**-0.1**
SFK				⇑*e*S	**Sn**	**05 20 57.4**	**-0.5**
MNAS	**Manas**	**2.87**	**284**	⇓*i*P	**Pn**	**05 20 25.9**	**+1.1**
MNAS				⇓*i*S	**Sn**	**05 21 00.5**	**+0.9**
ARK	**Arkit**	**3.22**	**270**	⇓*i*P	**Pn**	**05 20 30.5**	**+0.9**
ARK				⇓*i*S	**Sn**	**05 21 08.6**	**+0.4**
BTLS	**Baital**	**3.56**	**334**	Pg	**Pb**	**05 20 43.9**	**+2.0**
	2.2nm,0.1s						
BTLS				Lg	Lg	05 21 30.8	
	16nm,0.3s						
BTLS	**Baital**	**3.56**	**334**	*e*P	**Pb**	**05 20 43.9**	**+2.0**
	2.2nm,0.1s						
BTLS				*e*S	**Sg**	**05 21 30.8**	**-2.2**
	16nm,0.3s						
DJR	**Jarkent**	**3.57**	**45**	Pg	**Pb**	**05 20 41.6**	**-0.5**
	1.5nm,0.1s						
DJR				Lg	Lg	05 21 28.0	
	20nm,0.4s						
DJR	**Jarkent**	**3.57**	**45**	*e*P	**Pb**	**05 20 42.2**	**+0.1**
	1.8nm,0.4s						
DJR				*e*S	**Sb**	**05 21 27.9**	**+2.4**
	19nm,0.3s						
TRKS	**Terek-Say**	**3.85**	**267**	⇑*i*P	**Pn**	**05 20 39.1**	**+0.7**
TRKS				⇑*i*S	**Sn**	**05 21 23.4**	**-0.6**
KK31	**Karatay Array**	**4.43**	**288**	⇓Pg	**Pb**	**05 20 59.7**	**+2.9**
	1.4nm,0.3s,baz=106,slow=17,SNR=42						
KK31				⇓Lg	Lg	05 21 57.5	
	4.9nm,0.5s,baz=100,slow=29,SNR=7.8						
KKAR	**Karatay Array**	**4.43**	**288**	⇓*i*P	**Pn**	**05 20 47.4**	**+1.2**
KKAR				⇓*i*S	**Sn**	**05 21 37.8**	**-0.2**
BTK	**Batken**	**4.50**	**248**	⇑*i*P	**Pn**	**05 20 47.9**	**+0.7**
BTK				⇑*i*S	**Sn**	**05 21 39.2**	**-0.7**
IUG	**Iuzhnay**	**4.66**	**276**	*e*P	**Pb**	**05 21 04.2**	**+3.6**
	10nm,0.3s						
IUG				*e*S	**Sg**	**05 22 05.7**	**-2.4**
	47nm,0.5s						
BRLS	**Borolday**	**4.90**	**286**	Pg	**Pg**	**05 21 10.0**	**-2.5**
	1.0nm,0.3s						
BRLS				Lg	Lg	05 22 15.6	
	2.9nm,0.3s						
BRLS	**Borolday**	**4.90**	**286**	*e*P	**Pg**	**05 21 10.0**	**-2.5**
	1.5nm,0.5s						
BRLS				*e*S	**Sg**	**05 22 15.6**	**-0.4**
	4.5nm,0.6s						

*IDC **15** 05:59:15.6±2.0,50°.93N×174°.97E,h0km,mb3.3/4, mbtmp3.4/5,ML2.7/1,Error ellipse: s-maj=41.5km s-min=24.3km az=26.0*
ISC 15 05:59:19.9±1.3,51°.0N±0°.1×174°.83E±0°.10,h29km,n6, σ1§31/8,mb3.4/4,South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.81**	**346**	Pn	**Pn**	**05 59 49.6**	**+0.6**
	17nm,0.3s,baz=176,slow=7.2,SNR=8.9						
SHEM				Sn	**Sb**	**06 00 14.5**	**+0.1**
	54nm,0.3s,baz=119,slow=4.5,SNR=22						
PETK	**Petropavlovsk-**	**10.76**	**288**	Pn	**Pn**	**06 01 52.8**	**+0.9**
	0.3nm,0.3s,baz=112,slow=18,SNR=1.8						
PETK				Sn	**Sn**	**06 03 49.4**	**-1.9**
	0.2nm,0.3s,baz=84,slow=18,SNR=1.1						
	4.5nm,1.0s						
ILAR	**Eielson Array**	**24.11**	**41**	P	**P**	**06 04 31.7**	**-1.1**
	0.6nm,0.9s,baz=253,slow=6.8,SNR=5.1						
	0.6nm,0.9s						
PDAR	**Pinedale Array**	**50.22**	**68**	P	**P**	**06 08 12.0**	**-1.3**
	0.2nm,0.6s,baz=328,slow=4.4,SNR=2.3						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**56.41**	**311**	P	**P**	**06 08 58.9**	**+0.6**
	0.5nm,0.6s,baz=45,slow=6.2,SNR=4.6						
	0.5nm,0.6s						
TXAR	**Lajitas Array**	**62.66**	**76**	P	**P**	**06 09 42.8**	**+1.0**
	0.3nm,0.9s,baz=306,slow=7.7,SNR=1.8						
	0.3nm,0.9s						

*MEX **15** 06:16:11.2±1.0,16°.19N×95°.18W,h64km±22km,MD4.4*
*NEIC **15** 06:16:11.3±2.7,16°.08N±0°.03×95°.19W±0°.04,h35km±2km, mb4.0/26,Md4.4/97(MEX),Error ellipse: s-maj=6.4km s-min=4.7km az=57.0*
ISC 15 06:16:08.5±0.6,16°.14N±0°.03×95°.17W±0°.02,h10km,n122, σ2§21/174,Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.97**	**248**		**Pg**	**06 16 27.1**	**-0.3**
HUIG					**Sg**	**06 16 41.1**	**+1.1**
HUIG	**Huatulco**	**0.97**	**248**	*e*P	**Pg**	**06 16 27.1**	**-0.3**
HUIG				*e*S	**Sg**	**06 16 41.1**	**+1.1**
CMIG	**Matias Romero**	**0.99**	**16**		Pg	06 16 23.9	-3.7
CMIG	**Matias Romero**	**0.99**	**16**	*e*P	Pg	06 16 23.9	-3.7
CMIG				*e*S	**Sg**	**06 16 34.8**	**-5.6**
UXUV	**UXUV**	**1.53**	**40**	*e*P	Pn	06 16 34.0	-2.0
UXUV				*e*S	**Sn**	**06 16 52.9**	**-3.1**
NEUV	**Arroyo Zacate**	**1.68**	**339**	*e*P	Pn	06 16 35.9	-2.1
NEUV				*e*S	**Sn**	**06 16 56.1**	**-3.6**
OXBJ	**Oaxaca**	**1.75**	**302**		**Pn**	**06 16 39.8**	**+0.6**
OXBJ					**Sn**	**06 17 00.9**	**-0.8**
OXBJ	**Oaxaca**	**1.75**	**302**	*e*P	**Pn**	**06 16 39.8**	**+0.6**
OXBJ				*e*S	**Sn**	**06 17 00.9**	**-0.8**
OXIG	**Oaxaca**	**1.77**	**302**		**Pn**	**06 16 38.2**	**-1.1**
OXIG					**Sn**	**06 16 59.5**	**-2.5**
VHO	**Vista Hermosa**	**1.77**	**302**	*e*P	**Pn**	**06 16 38.2**	**-1.1**
VHO				*e*S	**Sn**	**06 16 59.5**	**-2.5**
PEIG	**Puerto Escondi**	**1.91**	**266**		**Pn**	**06 16 39.8**	**-1.3**
PEIG					**Sn**	**06 17 04.6**	**-0.6**
PEIG	**Puerto Escondi**	**1.91**	**266**	*e*P	**Pn**	**06 16 39.8**	**-1.3**
PEIG				*e*S	**Sn**	**06 17 04.6**	**-0.6**
PCIG		**1.92**	**103**		**Pn**	**06 16 40.0**	**-1.3**
PCIG					**Sn**	**06 17 04.4**	**-1.2**
PCIG		**1.92**	**103**	*e*P	**Pn**	**06 16 40.0**	**-1.3**
PCIG				*e*S	**Sn**	**06 17 04.4**	**-1.2**
TUIG	**Tuzandepetl**	**2.02**	**21**	*e*P	**Pn**	**06 16 42.3**	**-0.3**
TUIG				*e*S	**Sn**	**06 17 08.4**	**+0.5**
TGIG		**2.06**	**72**		**Pn**	**06 16 43.9**	**+0.6**
TGIG					**Sn**	**06 17 10.9**	**+1.7**
TGIG		**2.06**	**72**	*e*P	**Pn**	**06 16 43.9**	**+0.6**
TGIG				*e*S	**Sn**	**06 17 10.9**	**+1.7**
TGBT	**Tuxtla Gutierr**	**2.09**	**72**		**Sn**	**06 17 11.5**	**+1.7**
TGBT	**Tuxtla Gutierr**	**2.09**	**72**	*e*S	**Sn**	**06 17 11.5**	**+1.7**
YOIG	**Yosondua**	**2.39**	**288**		**Pn**	**06 16 48.9**	**+0.8**
YOIG					**Sn**	**06 17 18.0**	**+0.5**
YOIG	**Yosondua**	**2.39**	**288**	*e*P	**Pn**	**06 16 48.9**	**+0.8**
YOIG				*e*S	**Sn**	**06 17 18.0**	**+0.5**
TOIG	**Toxpalan**	**2.66**	**317**		**Pn**	**06 16 52.0**	**+0.4**
TOIG					**Sn**	**06 17 22.1**	**-1.9**
TOIG	**Toxpalan**	**2.66**	**317**	*e*P	**Pn**	**06 16 52.0**	**+0.4**
TOIG				*e*S	**Sn**	**06 17 22.1**	**-1.9**
TXIG	**Tlaxiaco**	**2.73**	**294**		**Pn**	**06 16 53.7**	**+1.0**
TXIG					**Sn**	**06 17 25.9**	**0.0**
TXIG	**Tlaxiaco**	**2.73**	**294**	*e*P	**Pn**	**06 16 53.7**	**+1.0**
TXIG				*e*S	**Sn**	**06 17 25.9**	**0.0**
PNIG	**Pinotepa**	**2.85**	**276**		**Pn**	**06 16 53.4**	**-0.8**
PNIG					**Sn**	**06 17 26.8**	**-1.8**
PNIG	**Pinotepa**	**2.85**	**276**	*e*P	**Pn**	**06 16 53.4**	**-0.8**
PNIG				*e*S	**Sn**	**06 17 26.8**	**-1.8**
CCIG	**Comitan**	**2.92**	**87**		**Pn**	**06 16 55.6**	**+0.4**
CCIG	**Comitan**	**2.92**	**87**	*e*P	**Pn**	**06 16 58.1**	**+3.0**
CCIG				*e*S	**Sn**	**06 17 31.5**	**+1.1**
HLIG	**Huajuapan de L**	**3.03**	**304**		**Pn**	**06 16 59.4**	**+2.6**
HLIG					Sn	06 17 25.9	-7.4
HLIG	**Huajuapan de L**	**3.03**	**304**	*e*P	**Pn**	**06 16 59.4**	**+2.6**
HLIG				*e*S	Sn	06 17 25.9	-7.4
THIG		**3.05**	**113**		**Pn**	**06 16 56.9**	**0.0**
THIG					**Sn**	**06 17 32.3**	**-1.2**
THIG		**3.05**	**113**	*e*P	**Pn**	**06 16 56.9**	**0.0**
THIG				*e*S	**Sn**	**06 17 32.3**	**-1.2**
TPIG	**Tehuac#an**	**3.09**	**318**		**Pn**	**06 16 59.5**	**+1.9**
TPIG					**Sn**	**06 17 33.7**	**-1.0**
TPIG	**Tehuac#an**	**3.09**	**318**	*e*P	**Pn**	**06 16 59.5**	**+1.9**
TPIG				*e*S	**Sn**	**06 17 33.7**	**-1.0**
CHUJ	**Union Juarez**	**3.13**	**109**	*e*P	**Pn**	**06 16 58.6**	**+0.5**
CHUJ				*e*S	**Sn**	**06 17 35.1**	**-0.5**
FTIG	**Fresnillo de T**	**3.34**	**302**		**Pn**	**06 17 03.8**	**+2.8**
FTIG					**Sn**	**06 17 40.6**	**-0.1**
FTIG	**Fresnillo de T**	**3.34**	**302**	*e*P	**Pn**	**06 17 03.8**	**+2.8**
FTIG				*e*S	**Sn**	**06 17 40.6**	**-0.1**
MGIG	**Malinaltepec**	**3.50**	**289**		**Pn**	**06 17 05.8**	**+2.6**
MGIG					**Sn**	**06 17 39.7**	**-5.0**
MGIG	**Malinaltepec**	**3.50**	**289**	*e*P	**Pn**	**06 17 05.8**	**+2.6**
MGIG				*e*S	**Sn**	**06 17 39.7**	**-5.0**
TLIG	**Tlapa**	**3.55**	**294**	Pn	**Pn**	**06 17 04.0**	**+0.2**
TLIG	**Tlapa**	**3.55**	**294**	*e*P	**Pn**	**06 17 06.9**	**+3.0**
TLIG				*e*S	**Sn**	**06 17 41.9**	**-4.0**
JAUV	**Jalcomulco**	**3.57**	**334**	*e*P	Pn	06 16 58.7	-5.4
JAUV				*e*S	Sn	06 17 39.2	-7.1
HUEH	**Huehuetenango**	**3.62**	**102**	Pn	**Pn**	**06 17 05.2**	**+0.3**
HUEH	**Huehuetenango**	**3.62**	**102**	*e*P	**Pn**	**06 17 05.8**	**+0.8**
HUEH				*e*S	**Sn**	**06 17 43.9**	**-4.1**
HMTT	**Tlapaneco**	**3.64**	**297**		**Pn**	**06 17 09.3**	**+4.2**
HMTT					**Sn**	**06 17 52.5**	**+4.3**
HMTT	**Tlapaneco**	**3.64**	**297**	*e*P	**Pn**	**06 17 09.3**	**+4.2**
HMTT				*e*S	**Sn**	**06 17 52.5**	**+4.3**
RTAL	**Retalhuleu**	**3.71**	**115**	Pn	**Pn**	**06 17 06.3**	**+0.3**
RTAL	**Retalhuleu**	**3.71**	**115**	*e*P	Pn	06 17 04.2	-1.8
RTAL				*e*S	**Sn**	**06 17 48.4**	**-1.5**
CRIG	**Cruz Grande**	**3.85**	**279**		Pn	06 17 03.7	-4.1
CRIG					**Sn**	**06 17 48.6**	**-4.6**
CRIG	**Cruz Grande**	**3.85**	**279**	*e*P	Pn	06 17 03.7	-4.1
CRIG				*e*S	**Sn**	**06 17 48.6**	**-4.6**
PBCV	**Popocatepetl**	**4.30**	**312**	*e*P	Pn	06 17 19.5	+5.2
PBCV				*e*S	**Sn**	**06 18 07.6**	**+2.8**
PBXN	**Popocatepetl**	**4.38**	**311**	*e*P	**Pn**	**06 17 19.9**	**+4.2**
PBXN				*e*S	**Sn**	**06 18 07.8**	**+0.6**
PBXN	**Popocatepetl**	**4.38**	**311**	*e*P	Pn	06 17 09.3	-6.3
PBXN	**Popocatepetl**	**4.38**	**311**	*e*S	Sn	06 17 54.1	-13
DAIG	**Los Arroyos**	**4.39**	**282**		**Pn**	**06 17 16.2**	**+1.0**
DAIG					**Sn**	**06 18 13.1**	**+6.7**
DAIG	**Los Arroyos**	**4.39**	**282**	*e*P	**Pn**	**06 17 16.2**	**+1.0**
DAIG				*e*S	**Sn**	**06 18 13.1**	**+6.7**
PPM	**Popocatepetl**	**4.40**	**312**	*e*P	**Pn**	**06 17 19.1**	**+3.2**
PPM				*e*S	**Sn**	**06 18 07.3**	**-0.2**
PPIG	**Popocatepetl**	**4.40**	**312**		**Pn**	**06 17 19.1**	**+3.1**
PPIG					**Sn**	**06 18 07.3**	**-0.3**
YAIG	**Yautepec**	**4.60**	**307**		**Pn**	**06 17 18.7**	**+0.3**
YAIG					**Sn**	**06 18 09.8**	**-2.2**
YAIG	**Yautepec**	**4.60**	**307**	*e*P	**Pn**	**06 17 18.7**	**+0.3**
YAIG				*e*S	**Sn**	**06 18 09.8**	**-2.2**
CXUV	**Coxquihui**	**4.63**	**331**	*e*P	Pn	06 17 16.3	-2.3
CXUV				*e*S	**Sn**	**06 18 15.1**	**+2.7**
PLIG	**Platanillo**	**4.71**	**299**		**Pn**	**06 17 23.3**	**+3.5**
PLIG					**Sn**	**06 18 19.7**	**+5.1**
PLIG	**Platanillo**	**4.71**	**299**	*e*P	**Pn**	**06 17 23.3**	**+3.5**
PLIG				*e*S	**Sn**	**06 18 19.7**	**+5.1**
SCIG	**Sabancuy**	**4.73**	**53**	*e*P	**Pn**	**06 17 19.3**	**-0.6**
SCIG				*e*S	**Sn**	**06 18 10.8**	**-4.0**
MPVM	**San Francisco**	**4.76**	**310**	*e*P	**Pn**	**06 17 21.3**	**+0.7**
THVM	**De Xico**	**4.81**	**312**	*e*P	**Pn**	**06 17 23.5**	**+2.2**
THVM				*e*S	**Sn**	**06 18 17.6**	**+0.4**
XCVM	**Xochimilco**	**4.88**	**310**	*e*P	**Pn**	**06 17 22.8**	**+0.6**
XCVM				*e*S	**Sn**	**06 18 20.3**	**+1.4**
TLVM	**San Miguel Top**	**4.88**	**309**	*e*P	Pn	06 17 29.4	+7.1
TLVM

CPRX	Cap Rock	18.57	336	P	P	06 20 25.2	-0.7
W35A	Tecumseh	19.00	356	P	P	06 20 30.2	-0.2
W35A				IAmb	IAmb	06 20 37.9	
	comp=Z,8.5nm,0.8s						
SMWD	Samnorwood	19.43	347	P	P	06 20 35.8	+0.6
SMWD				IAmb	IAmb	06 20 38.3	
	comp=Z,7.8nm,0.6s						
121A	Cookes Peak, D	19.93	327	P	P	06 20 41.2	+0.3
ANMO	Albuquerque	21.29	334	P	P	06 20 54.7	-0.8
ANMO				IAmb	IAmb	06 21 02.9	
	comp=Z,5.3nm,1.2s						
RTBA	Rita Blanca	21.31	343	P	P	06 20 54.9	-0.8
RTBA				IAmb	IAmb	06 20 58.5	
	comp=Z,7.0nm,0.8s						
ISCO	Idaho Springs	25.28	341	P	P	06 21 36.2	+0.8
PV23	Carpenter Ridg	25.34	334	P	P	06 21 37.2	+1.1
SNOW	Snow King Moun	30.30	337	P	P	06 22 19.5	-0.8

*VAO **15** 06:27:08.8±0.9, 18°.57S×69°.68W, h100km±8km, mb4.5*
*NEIC **15** 06:27:13.2±1.8, 18°.37S±0°.05×69°.70W±0°.05, h149km±7km, mb4.1/10, Error ellipse: s-maj=7.8km s-min=5.2km az=139.0*
*SJA **15** 06:27:13.3±0.7, 18°.43S×69°.69W, h138km±4km, ML3.9, MW3.8*
*GUC **15** 06:27:15.3±0.8, 18°.42S×69°.61W, h131km±4km, ML4.0*
*IDC **15** 06:27:16.7±3.2, 18°.34S×69°.24W, h148km±23km, mb3.5/7, mbtmp4.0/10, MS2.3/1, Error ellipse: s-maj=37.6km s-min=16.5km az=29.0*

ISC 15 06:27:13.2±0.6, 18°.40S±0°.03×69°.55W±0°.05, h133km±5km, n100, σ1§53/124, mb4.0/8, 2C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	Chacalluta	0.75	272		Pn	06 27 35.0	+0.7
AP01				Sn	Sn	06 27 50.5	+0.4
AP01	Chacalluta	0.75	272	⇑iP	Pn	06 27 35.0	+0.7
AP01				eS	Sn	06 27 50.6	+0.4
AP01	Chacalluta	0.75	272	i P	Pn	06 27 35.0	+0.7
AP01				eS	Sn	06 27 50.2	0.0
PB18	Visviri	0.80	5	Pn	Pn	06 27 37.5	+2.1
PB18				Sn	Sn	06 27 54.1	+2.0
PB18	Visviri	0.80	5	⇓iP	Pn	06 27 37.4	+2.1
PB18				eS	Sn	06 27 54.2	+2.0
PX02	IPOC Station P	0.83	227	eP	Pn	06 27 34.7	-0.4
PX02				eS	Sn	06 27 50.7	-1.0
PX02				IAML		06 27 51.3	
	comp=N,3μm,0.2s						
GO01	Chusmiza	1.31	165		Pn	06 27 41.8	+1.8
GO01				Sn	Sn	06 28 02.1	+1.7
GO01	Chusmiza	1.31	165	⇓iP	Pn	06 27 41.8	+1.8
GO01				eS	Sn	06 28 02.1	+1.7
GO01				IAML		06 28 03.6	
	comp=E,6μm,0.1s						
GO01	Chusmiza	1.31	165	i P	Pn	06 27 41.2	+1.2
GO01				eS	Sn	06 28 01.9	+1.5
PB11	IPOC Station P	1.36	184		Pn	06 27 41.5	+1.3
PB11				Sn	Sn	06 28 01.5	+0.7
PB11	IPOC Station P	1.36	184	⇓iP	Pn	06 27 41.4	+1.3
PB11				eS	Sn	06 28 01.6	+0.8
PB11				IAML		06 28 02.4	
	comp=N,2μm,0.2s						
PB11	IPOC Station P	1.36	184	i P	Pn	06 27 41.5	+1.3
PB11				eS	Sn	06 28 01.6	+0.8
PB11				IAML		06 28 06.8	
	comp=Z,1μm,0.2s						
PB08	IPOC Station P	1.78	168		Pn	06 27 47.0	+2.0
PB08	IPOC Station P	1.78	168	⇑iP	Pn	06 27 47.0	+2.0
PB08				eS	Sn	06 28 10.8	+1.4
PB08				IAML		06 28 13.0	
	comp=N,924nm,0.2s						
PB08	IPOC Station P	1.78	168	i P	Pn	06 27 46.3	+1.3
PB08				eS	Sn	06 28 11.3	+1.8
PB08				IAML		06 28 11.8	
	comp=Z,708nm,0.5s						
HMBC	Humberstone	1.90	190		Pn	06 27 47.1	+0.9
HMBC	Humberstone	1.90	190	eP	Pn	06 27 47.0	+0.8
HMBC				IAML		06 28 18.9	
	comp=N,1μm,0.1s						
HMBC	Humberstone	1.90	190	i P	Pn	06 27 46.6	+0.3
HMBC				eS	Sn	06 28 11.7	+0.1
HMBC				IAML		06 28 22.3	
	comp=Z,608nm,0.3s						
TA02	Huaiquique	1.94	196		Pn	06 27 47.6	+0.9
TA02	Huaiquique	1.94	196	i P	Pn	06 27 46.9	+0.3
TA02				eS	Sn	06 28 12.0	-0.4
TA02				IAML		06 28 18.7	
	comp=Z,685nm,0.3s						
PX03	IPOC Station P	2.00	182	eP	Pn	06 27 48.0	+0.5
PX03				IAML		06 28 19.2	
	comp=N,2μm,0.2s						
TA01	Diego Aracena	2.24	195		Pn	06 27 50.7	+0.4
TA01	Diego Aracena	2.24	195	eP	Pn	06 27 50.6	+0.4
TA01				eS	Sn	06 28 17.2	-1.5
TA01				IAML		06 28 29.0	
	comp=N,417nm,0.2s						
TA01	Diego Aracena	2.24	195	i P	Pn	06 27 50.7	+0.4
TA01				eS	Sn	06 28 18.4	-0.4
TA01				IAML		06 28 19.7	
	comp=Z,229nm,0.3s						
PATCX	Punta Patache	2.48	193		Pn	06 27 54.2	+0.9
PATCX	Punta Patache	2.48	193	eP	Pn	06 27 53.6	+0.3
PATCX				IAML		06 28 34.4	
	comp=E,490nm,0.3s						
PATCX	Punta Patache	2.48	193	i P	Pn	06 27 53.9	+0.6
PATCX				eS	Sn	06 28 23.7	-0.5
PATCX				IAML		06 28 31.4	
	comp=Z,252nm,0.5s						
LPAZ	La Paz	2.50	33		Pn	06 27 56.3	+2.2
LPAZ	La Paz	2.50	33	P	Pn	06 27 56.2	+2.1
	comp=Z,107nm,0.4s,baz=228,slow=6.0,SNR=916						
LPAZ				S	Sn	06 28 26.9	+1.5
	comp=Z,40nm,0.5s,baz=108,slow=6.1,SNR=5.2						
LPAZ				LR	LR	06 28 54.7	
	comp=Z,59nm,20.5s,baz=9.5,slow=43						
LPAZ	La Paz	2.50	33	i P	Pn	06 27 56.4	+2.2
LPAZ	La Paz	2.50	33	eP	Pn	06 27 51.0	-3.1
LPAZ				eS	Sn	06 28 24.4	-1.1
PB01	IPOC Station P	2.63	179		Pn	06 27 56.4	+1.2
PB01	IPOC Station P	2.63	179	i P	Pn	06 27 56.5	+1.2
PB01				eS	Sn	06 28 27.6	-0.2
PB01				IAML		06 28 29.3	
	comp=E,978nm,0.4s						
PB01	IPOC Station P	2.63	179	i P	Pn	06 27 56.5	+1.2
PB01				IAML		06 28 31.3	
	comp=Z,334nm,0.1s						
PB09	IPOC Station P	3.40	175		Pn	06 28 07.5	+2.2
PB09	IPOC Station P	3.40	175	eP	Pn	06 28 07.0	+1.8
PB09				IAML		06 28 50.5	
	comp=E,320nm,0.3s						
PB09	IPOC Station P	3.40	175	i P	Pn	06 28 06.5	+1.3
PB09				IAML		06 28 52.1	
	comp=Z,326nm,0.4s						
PB04	IPOC Station P	3.96	188		Pn	06 28 13.4	+0.8
PB04	IPOC Station P	3.96	188	eP	Pn	06 28 13.4	+0.8
PB06	IPOC Station P	4.29	180		Pn	06 28 18.0	+1.0
PB06	IPOC Station P	4.29	180	eP	Pn	06 28 17.7	+0.7
PB06				eS	Sn	06 29 06.1	-0.4
PB06	IPOC Station P	4.29	180	i P	Pn	06 28 17.8	+0.8
AF01	San Pedro de A	4.71	164	Pn	Pn	06 28 25.0	+2.2
AF01	San Pedro de A	4.71	164	eP	Pn	06 28 25.2	+2.5
AF01	San Pedro de A	4.71	164	i P	Pn	06 28 24.5	+1.7
AF01				IAML		06 29 58.0	
	comp=Z,172nm,0.5s						
PB15	IPOC Station P	4.79	179		Pn	06 28 24.9	+1.2
YJA	Yavi	5.34	135	eP	Pn	06 28 33.9	+2.6
YJA				eS	Sn	06 29 01.5	-31
PB14	IPOC Station P	6.25	187	Pn	Pn	06 28 42.2	-1.2
GO02	Mina Guanaco	6.74	180	Pn	Pn	06 28 50.0	+0.1
AZAP	Zapla	7.15	145	eP	Pn	06 28 55.3	-0.1
SLA	San Lorenzo	7.33	150	eP	Pn	06 28 58.3	+0.5
SLA				eS	Sn	06 29 40.4	-39
SLA				IAML		06 29 52.2	
	comp=Z,12nm,4.2s						
ALOL	LOMAS DE OLMED	7.49	137	i P	Pn	06 28 59.8	0.0
AC01	Pan de Azucar	7.78	187	Pn	Pn	06 29 01.6	-2.0
SIV	San Ignacio	8.45	75	P	Pn	06 29 11.2	-1.5
	comp=Z,6.0nm,0.4s,baz=265,slow=10,SNR=53						
SIV				S	Sn	06 30 41.8	-4.9
	comp=Z,3.4nm,0.6s,baz=317,slow=24,SNR=6.1						
BBSD	Serra de San D	8.60	83	eP	Pn	06 29 13.0	-1.8
ETMB	Extrema	9.12	21	Pn	Pn	06 29 20.6	-1.1
NNA	Nana	9.49	311		Pn	06 29 26.5	-0.2
NNA	Nana	9.49	311	P	Pn	06 29 26.6	-0.1
	comp=Z,13nm,0.3s,baz=124,slow=11,SNR=13						
NNA				S	Sn	06 31 07.7	-4.2
	comp=Z,3.0nm,0.3s,baz=218,slow=23,SNR=1.5						
PTLB	Pontes e Lacer	10.39	75	Pn	Pn	06 29 37.8	-0.9
PTLB	Pontes e Lacer	10.39	75	eP	Pn	06 29 36.6	-2.1
AC05	El Transito	10.41	184	Pn	Pn	06 29 37.4	-1.7
VILB	Vilhena	10.51	60	Pn	Pn	06 29 40.5	+0.2
VILB	Vilhena	10.51	60	eP	Pn	06 29 38.5	-1.9
CZSB	Cruzeiro do Su	11.04	343	Pn	Pn	06 29 45.3	-2.0
CZSB	Cruzeiro do Su	11.04	343	eP	Pn	06 29 44.8	-2.5
SAML	Samuel	11.24	34		Pn	06 29 49.2	-0.8
PAPY	Pozo Azul	11.98	120	eP	Pn	06 29 56.5	-3.1
BDQN	Bodoquena, MS	12.25	102	eP	Pn	06 30 00.7	-2.6
SALV	Santo Antonio	13.48	81	eP	Pn	06 30 18.0	-1.2
CPUP	Villa Florida	13.79	127	Pn	Pn	06 30 22.9	-0.1
CPUP	Villa Florida	13.79	127	P	Pn	06 30 22.8	-0.3
	comp=Z,1.2nm,0.6s,baz=304,slow=15,SNR=2.1						
PDRB	Porto dos Gac	14.10	63	eP	Pn	06 30 26.3	-0.8
RPRD	Ribas do Rio P	15.10	100	eP	Pn	06 30 38.3	-1.3
ITQB	Itaqui	16.28	136		Pn	06 30 54.4	+0.2
ITQB				IAmb	IAmb	06 31 02.3	
	comp=Z,16nm,1.2s						
MACA	Manacapuru-AM	17.45	31	P	Pn	06 31 08.3	-0.3
MACA				IAmb	IAmb	06 31 25.4	
	comp=Z,8.1nm,1.0s						
LDASE	Londrina, Braz	17.92	109	eP	P	06 31 12.1	-0.8
ITAB	Concordia	18.30	122	P	Pn	06 31 17.8	-0.7
ITAB				IAmb	IAmb	06 31 20.9	
	comp=Z,8.7nm,0.9s						
SNDB	Serra Nova Dou	18.73	73	eP	P	06 31 21.5	-0.3
ITTB	Itaituba	19.41	46	eP	P	06 31 28.8	-0.4
PLTB	Pedras Altas	19.61	136	P	P	06 31 31.5	+0.4
PLTB	Pedras Altas	19.61	136	eP	P	06 31 29.3	-1.9
TRQA	Tornquist	20.68	163	P	Pn	06 31 44.7	-1.7
TRQA				IAmb	IAmb	06 31 45.6	
	comp=Z,8.0nm,0.8s						
BDFB	Brasilia	20.77	86	P	P	06 31 43.5	-0.4
BDFB	Brasilia	20.77	86	P	P	06 31 44.3	+0.4
	comp=Z,2.7nm,0.5s,baz=250,slow=12,SNR=6.7						
	comp=Z,2.7nm,0.5s						
SPB	Sao Paulo	21.28	108	P	P	06 31 48.8	-0.4
SPB				IAmb	IAmb	06 32 03.1	
	comp=Z,7.8nm,1.1s						
VAO	Valinhos	21.61	106	P	P	06 31 52.1	-0.8
VAO				IAmb	IAmb	06 32 11.0	
	comp=Z,9.0nm,1.1s						
SMTB	Santa Maria do	23.33	69	eP	P	06 32 10.1	+0.4
BAUV	El Baul	27.21	3	P	P	06 32 41.4	-3.2
TXAR	Lajitas Array	57.75	325	P	P	06 36 52.6	+2.1
	comp=Z,0.2nm,0.5s,baz=161,slow=8.6,SNR=2.3						
	comp=Z,0.2nm,0.5s						
SNAA	Sanae	65.40	161	P	P	06 37 40.0	-1.1
DBIC	Dimbokro	68.47	75	P	P	06 38 01.4	-0.1
	comp=Z,4.4nm,0.7s,baz=239,slow=5.0,SNR=5.3						
	comp=Z,4.4nm,0.7s						
PDAR	Pinedale Array	71.13	330	P	P	06 38 19.7	+2.2
	comp=Z,0.3nm,0.5s,baz=118,slow=9.2,SNR=4.0						
	comp=Z,0.3nm,0.5s						
NVAR	Mina Array Bea	72.69	322	P	P	06 38 29.2	+2.4
	comp=Z,0.8nm,0.8s,baz=151,slow=7.2,SNR=5.4						
	comp=Z,0.8nm,0.8s						
TORD	Torodi Ar. Bea	76.91	71	P	P	06 38 51.6	+0.3
	comp=Z,2.8nm,0.7s,baz=256,slow=4.7,SNR=16						
	comp=Z,2.8nm,0.7s						
YKA	Yellowknife Ar	88.07	341	P	P	06 39 50.6	+2.5
	comp=Z,0.9nm,0.5s,baz=132,slow=3.4,SNR=5.0						
	comp=Z,0.9nm,0.5s						
ASAR	Alice Springs	132.34	210	PKP	PKiKP	06 46 14.6	+1.2
	comp=Z,0.1nm,0.5s,baz=147,slow=2.0,SNR=4.3						
WRA	Warramunga Arr	135.27	213	PKP	PKiKP	06 46 20.2	+0.7
	comp=Z,0.3nm,0.4s,baz=139,slow=1.5,SNR=7.6						
KLR	Kul'dur	144.76	336	PKP	PKPdf	06 46 35.5	+1.3
	comp=Z,0.6nm,0.5s,baz=107,slow=6.3,SNR=3.6						
SONM	Songino Array	150.45	6	PKPbc	PKiKP	06 46 50.9	+1.1
	comp=Z,0.5nm,0.4s,baz=6.7,slow=1.3,SNR=3.2						
PZH	PanZhiHua	168.61	43	PKP	PKPdf	06 47 01.8	-3.1

*NEIC **15** 06:40:25.9±1.7, 33°.162N±0°.008×115°.642W±0°.007, h10km±1km, Error ellipse: s-maj=2.9km s-min=1.5km az=353.0*
*PAS **15** 06:40:26.2±1.7, 33°.157N±0°.003×115°.636W±0°.010, h3km±2km, ML3.5/279, ML3.3/26(NEIC), Error ellipse: s-maj=1.1km s-min=0.5km az=97.0*

ISC 15 06:40:25.8±0.8, 33°.16N±0°.01×115°.64W±0°.02, h15km±5km, n94, σ0§82/136, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLI2	Calipatria 2	0.06	126		Pg	06 40 27.8	-0.9
CLI2					Sg	06 40 30.1	-0.4
WEMD	Westmorland, C	0.13	158		Pg	06 40 29.4	0.0
WEMD					Sg	06 40 32.7	+1.0
ERRC	Elmore Ranch	0.16	255		Pb	06 40 30.4	-0.1
ERRC					Sg	06 40 34.0	+1.5
BOMB	Bombay Beach	0.22	340		Pb	06 40 34.9	+3.3
FRK	Frink	0.24	0		Pb	06 40 31.2	-0.7
FRK					Sg	06 40 34.6	-0.2
SUP	Superstition M	0.25	218		Pg	06 40 31.4	+0.1
IMPE	Imperial	0.26	165		Pb	06 40 32.1	-0.2
IMPE					Sb	06 40 37.2	+0.6
SLVP	Salvation Pass	0.29	74		Pb	06 40 31.9	-0.9
SLVP					Sb	06 40 36.1	-1.4
COK2	Cook Ranch 2	0.32	194		Pb	06 40 33.1	-0.1
COK2					Sb	06 40 38.5	+0.5
SALN	Salton City	0.32	293		Pb	06 40 33.1	0.0
SNR	Schaffner Ranc	0.34	150		Pb	06 40 33.4	-0.2
SNR					Sb	06 40 39.5	+0.7
CRR	Carrizo Plain	0.39	226		Pg	06 40 33.9	+0.2
CRR					Sg	06 40 40.3	+1.3
DREC	Desert Rsrch C	0.39	155		Pb	06 40 34.6	+0.2
DREC					Sb	06 40 40.2	0.0
WESC	Westside Schoo	0.41	191		Pg	06 40 34.3	+0.3
WESC					Sb	06 40 41.5	+0.8
5053	Calexico	0.50	166		Pb	06 40 36.3	0.0
5053					Sb	06 40 44.4	+0.9
SLH	Sleepy Hollow	0.52	274		Pb	06 40 36.5	-0.1
SLH					Sb	06 40 44.3	+0.3
BC3	Big Chuckawall	0.52	17		Pb	06 40 36.4	-0.4
BC3					Sb	06 40 44.2	0.0
COA	Coachella	0.52	124		Pb	06 40 36.5	-0.3
COA					Sb	06 40 45.0	+0.8
5054	Holtville Bond	0.53	151		Pb	06 40 36.8	0.0
5054					Sb	06 40 45.9	+1.7
HAY	Hayfield	0.55	356		Pb	06 40 37.1	-0.1
HAY					Sb	06 40 45.6	+0.6
UABX	UABC, Campus M	0.55	162		Pg	06 40 36.5	-0.1
UABX					Sb	06 40 46.1	+1.3
CTW	Cottonwood Mou	0.55	340		Pb	06 40 37.1	-0.2
CTW					Sb	06 40 45.8	+0.7
YUH	Yuha Desert	0.56	205	Pg	Pg	06 40 36.7	-0.2
YUH	Yuha Desert	0.56	205		Sg	06 40 44.5	+0.2
CTCC	Cactus City	0.58	330		Pb	06 40 37.5	-0.2
CTCC					Sb	06 40 46.5	+0.8
IKP	In-Ko-Pah, Jac	0.64	218		Pg	06 40 38.3	-0.1
IKP					Sg	06 40 47.0	0.0
BORC	Borrego Spring	0.66	280		Pg	06 40 38.9	+0.1
BORC					Sg	06 40 47.9	+0.4
RMX	La Rumorosa	0.67	214		Pg	06 40 39.0	+0.1
RMX					Sg	06 40 48.9	+1.1
GLA	Glamis	0.69	99		Pb	06 40 39.0	-0.6
GLA				Sg	Sb	06 40 48.6	-0.4
GLA				IAML		06 40 50.2	
	comp=N,841nm,0.5s						
GLA				IAML		06 40 50.6	
	comp=E,1μm,0.6s						
EMSC	East Mesa	0.69	127		Pb	06 40 39.2	-0.4
EMSC					Sb	06 40 49.7	+0.8
MONP2	Monument Peak	0.71	248		Pg	06 40 39.7	0.0
MONP2					Sg	06 40 49.2	+0.1
CPBX	Cerro Prieto	0.79	159		Pg	06 40 40.2	-1.0
PMD	Palm Desert	0.79	309		Pg	06 40 40.6	-0.5
PMD					Sg	06 40 51.5	-0.1
JUEM	Julian Eagle M	0.81	265		Pg	06 40 41.3	-0.3
JUEM					Sg	06 40 52.5	+0.3
XPFO	Pinon Flat	0.82	304		Pg	06 40 41.5	-0.3
XPFO					Sb	06 40 53.6	+0.8
PFO	Pinyon Flats O	0.82	304		Pn	06 40 43.0	-0.1
PFO					Sb	06 40 52.8	-0.1
PFO	Pinyon Flats O	0.82	304		Pg	06 40 41.6	-0.2
PFO				Sg	Sb	06 40 52.8	-0.1
PFO				IAML		06 40 53.9	
	comp=E,1μm,0.6s						
PFO				IAML		06 40 54.0	
	comp=E,766nm,0.3s						
MATG	Mataguay Scout	0.85	273		Pg	06 40 41.9	-0.4
MATG					Sg	06 40 53.5	0.0
FRD	Ford Ranch, An	0.87	293		Pg	06 40 42.5	-0.4
FRD					Sb	06 40 55.0	+0.7
FRD	Ford Ranch, An	0.87	293		Pg	06 40 42.4	-0.4
FRD					Sb	06 40 54.9	+0.7
BELC	Belle Mtn. Jos	0.89	341		Pb	06 40 42.8	-0.3
BELC					Sb	06 40 55.4	+0.4
SNDA	J Saunders Pla	0.90	296		Pg	06 40 43.1	-0.3
SNDA					Sb	06 40 56.5	+1.2
BZNA	Buzz No.'s Pla	0.92	291		Pg	06 40 43.2	-0.6
BZNA					Sb	06 40 56.5	+0.7
DNR	Dunn Ranch,Anz	0.92	296		Pg	06 40 43.4	-0.4
DNR					Sn	06 40 57.1	-0.5
BAR	Barrett	0.99	242		Pb	06 40 44.0	-0.8
TKX	Tecate	1.00	234		Pb	06 40 44.2	-0.8
TKX				IAML		06 40 59.0	
	comp=E,1μm,0.2s						
TKX				IAML		06 40 59.0	
	comp=N,1μm,0.2s						
CRY	Cary Ranch	1.00	294		Pb	06 40 44.4	-0.6
TPC	Twentynine Pal	1.01	340		Pg	06 40 44.5	-0.8
EW2	E Wide Canyon	1.01	321		Pb	06 40 44.3	-0.8
PLM	Palomar	1.04	281		Pb	06 40 45.1	-0.6
EML	El Monte Cty P	1.05	256		Pb	06 40 44.7	-1.0
EML					Sb	06 40 58.7	-0.5
IRM	Iron Mountain	1.08	22		Pn	06 40 46.7	+0.2
DUZA	Dulzura	1.10	240		Pb	06 40 45.8	-0.9
DUZA					Sb	06 41 01.1	+0.3
DEVC	Devers	1.10	315		Pb	06 40 46.1	-0.5
BLAC	Blackrock camp	1.10	326		Pb	06 40 46.5	-0.2
DPP	Dos Picos Cty	1.10	262		Pb	06 40 45.7	-1.0
BLYC	Blythe	1.10	57	Pg	Pn	06 40 47.3	+0.5
BLYC				IAML		06 41 04.4	
	comp=E,674nm,0.6s						
BLYC				IAML		06 41 04.4	
	comp=N,400nm,0.7s						
SDRC	San Diego Road	1.17	249		Pn	06 40 47.9	+0.2
SDRC					Sb	06 41 02.1	-0.8
ESJX	Sierra Juarez	1.18	193		Pn	06 40 47.1	-0.9
ESJX				IAML		06 41 03.6	
	comp=E,486nm,0.4s						
POB	Polly Butte	1.20	297		Pn	06 40 47.0	-1.1
CBX	Cerro Bola	1.21	226		Pn	06 40 47.5	-0.8
CBX				IAML		06 41 09.5	
	comp=N,1μm,0.8s						
OLP	Otay Lakes Par	1.22	244		Pb	06 40 49.0	+0.4
DGR	Domenigoni Val	1.25	294		Pn	06 40 47.6	-1.2
BACC	Bachelor Mtn.	1.26	292		Pn	06 40 47.8	-1.1
CPE	Camp Elliot	1.26	258		Pn	06 40 48.2	-0.8
CPE	Camp Elliot	1.26	258	IAML		06 41 06.9	
	comp=E,1μm,0.3s						
HMTC	Hemet	1.27	296		Pn	06 40 48.0	-1.1
GORC	Green Oak Ranc	1.33	270		Pn	06 40 49.0	-0.9
GORC					Sb	06 41 06.4	-1.1
TJX	Tijuana	1.35	242	Pg	Pn	06 40 50.4	+0.1
MURC	Murrieta	1.37	289		Pn	06 40 49.5	-1.0
MURC					Sg	06 41 09.7	-0.5
CFT	Crafton Hills	1.51	306		Pn	06 40 52.2	-0.2
ELS	Elsinore Mount	1.57	289		Pn	06 40 52.4	-0.9
ELS				IAML		06 41 22.1	
	comp=N,213nm,0.3s						
VTX	Valle De La Tr	1.77	184		Pn	06 40 55.6	-0.4
CSP	Cedar Springs	1.83	309		Pn	06 40 57.3	+0.4
SSK	Sunset Peak	2.01	302		Pn	06 40 59.3	-0.1
SFX	San Felipe	2.22	162		Pb	06 41 04.6	-1.0
Y14A	Wickenburg	2.33	70		Pb	06 41 05.3	-2.4
GSC	Goldstone, Bar	2.35	336	Pn	Pn	06 41 03.7	-0.3
W13A	Hualapai Mount	2.42	36		Pb	06 41 07.8	-1.4
GWY	Greenwater Val	3.14	345	Pn	Pn	06 41 16.8	+1.8
SHPR	Sheep Range	3.36	7		Pn	06 41 20.0	+2.0
BCW	Bitter Crk WRg	3.60	301	Pn	Pn	06 41 22.6	+1.4
BCW				IAML		06 42 40.9	
	comp=E,86nm,1.7s						
BCW				IAML		06 42 42.7	
	comp=N,73nm,1.0s						
X16A	Lo Mia Camp, P	3.72	69		Pn	06 41 24.3	+1.4
TPNV	Topopah Spring	3.82	353		Pn	06 41 25.7	+1.4
GRAC	Grapevine Rang	4.08	340		Pn	06 41 28.3	+0.5
LCMT	Little Creek M	4.32	26		Pn	06 41 32.3	+1.2
GMN	Gold Mountain	4.34	343		Pn	06 41 31.7	+0.2
KNB	Kanab	4.49	30	Pn	Pn	06 41 34.6	+1.1
DSP	Deep Springs	4.62	336	Pn	Pn	06 41 35.6	+0.5
MZP	Montezuma Peak	4.75	343	Pn	Pn	06 41 38.0	+0.8
X18A	Snowflake	4.93	72	Pn	Pn	06 41 40.4	+0.8
DUN6	Lazy B Ranch	5.54	94	Pn	Pn	06 41 48.6	+0.6
SPR3	Spring Creek 3	5.92	10	Pn	Pn	06 41 54.8	+1.4
121A	Cookes Peak, D	6.64	93	Pn	Pn	06 42 03.5	+0.4

*SJA **15** 06:46:00.0±0.7, 30°.16S×71°.28W, h70km±4km, ML3.7, MW3.8*
*GUC **15** 06:46:01.5±0.8, 30°.16S×71°.24W, h78km±2km, ML4.0*

ISC 15 06:46:00.4±1.3, 30°.17S±0°.03×71°.33W±0°.05, h78km±7km, n56, σ1§94/82, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.26

VA03 eS Sn 06 46 56.6 -16
VA03 IAML 06 47 35.7
comp=Z,369nm,0.6s
RTLL Cerro Villicun 2.71 116 eP Pn 06 46 42.2 +0.3
RTLL eS Sn 06 47 16.1 +2.3
GO03 Copiapo 2.74 21 eP Pn 06 46 42.5 +0.2
GO03 IAML 06 47 38.2
comp=N,427nm,0.3s
GO03 Copiapo 2.74 21 eP Pn 06 46 42.9 +0.6
GO03 eS Sn 06 47 13.8 -0.6
ROCH El Roble 2.81 175 eP Pn 06 46 44.0 +0.6
ROCH IAML 06 47 34.8
comp=N,305nm,0.5s
ROC1 El Roble 2.81 175 eP Pn 06 46 44.1 +0.6
ROC1 eS Sn 06 47 26.8 +10
VA01 Torpederas 2.86 185 eP Pn 06 46 44.0 +0.1
VA01 IAML 06 47 42.7
comp=Z,97nm,0.5s
AC06 Mina Casimiro 2.93 17⇑iP Pn 06 46 45.1 +0.3
AC06 IAML 06 47 37.9
comp=E,308nm,0.4s
RTCV Cerro Valdivia 2.93 126 eP Pn 06 46 47.4 +2.6
RTCV eS Sn 06 47 10.1 -8.9
PEL Peldehue 3.02 170 eP Pn 06 46 47.0 +1.0
PEL IAML 06 47 25.1
comp=N,399nm,0.3s
PEL Peldehue 3.02 170 eP Pn 06 46 47.4 +1.3
PEL eS Sn 06 47 08.8 -12
MT02 Curacav 3.09 177 eP Pn 06 46 47.4 +0.5
MT02 IAML 06 47 24.4
comp=E,203nm,0.3s
MT02 Curacav 3.09 177 eP Pn 06 46 47.4 +0.5
MT02 eS Sn 06 47 17.9 -4.8
MT02 eS 06 47 22.9
MT02 IAML 06 47 40.6
comp=Z,83nm,0.2s
MT10 Hacienda Santa 3.17 168 eP Pn 06 46 49.7 +1.5
MT10 IAML 06 47 28.7
comp=N,1μm,0.5s
MT05 Renca 3.25 171 eP Pn 06 46 50.9 +1.7
MT05 IAML 06 47 30.0
comp=E,1μm,0.2s
MT05 Renca 3.25 171 eP Pn 06 46 50.5 +1.3
MT05 eS Sn 06 47 28.9 +1.9
MT05 IAML 06 47 48.2
comp=Z,216nm,0.8s
FCH Farellones 3.27 165 eP Pn 06 46 51.7 +2.0
FCH IAML 06 47 46.5
comp=E,206nm,0.3s
MT14 Cerro Calıın 3.29 168 eP Pn 06 46 51.2 +1.4
MT14 IAML 06 47 52.4
comp=E,596nm,0.6s
MT16 CCHEN 3.32 168 eP Pn 06 46 51.8 +1.6
MT16 IAML 06 47 31.6
comp=N,140nm,0.4s
MT04 Ro Olivares 3.38 163 eP Pn 06 46 53.4 +2.3
MT04 IAML 06 47 36.1
comp=E,213nm,0.2s
MT04 Ro Olivares 3.38 163 eP Pn 06 46 53.5 +2.4
MT04 eS Sn 06 47 16.6 -14
MT04 IAML 06 47 54.8
comp=Z,129nm,1.4s
MT03 Universidad Ad 3.39 168 eP Pn 06 46 52.6 +1.5
MT03 Universidad Ad 3.39 168 eP Pn 06 46 52.7 +1.6
MT03 eS Sn 06 47 31.1 +0.8
MT03 IAML 06 47 33.9
comp=Z,290nm,0.2s
MT08 Bocatoma Ro 3.45 162 eP Pn 06 46 55.4 +3.3
MT08 Bocatoma Ro 3.45 162 eP Pn 06 46 51.5 -0.6
MT08 eS Sn 06 47 33.0 +1.0
MT08 IAML 06 48 00.9
comp=Z,90nm,0.5s
VA05 Santo Domingo 3.49 184 eP Pn 06 46 52.2 -0.2
VA05 IAML 06 47 41.2
comp=E,344nm,0.4s
MT15 Las Vizcachas 3.49 169 eP Pn 06 46 53.9 +1.4
MT15 IAML 06 47 36.0
comp=E,590nm,0.3s
MT09 Talagante 3.61 176 eP Pn 06 46 54.9 +0.7
MT12 Pirque 3.62 170 iP Pn 06 46 55.2 +1.1
MT01 Popeta 3.69 179 eP Pn 06 46 55.2 +0.2
MT01 Popeta 3.69 179 eP Pn 06 46 55.6 +0.6
MT01 eS Sn 06 47 37.0 -0.3
MT01 IAML 06 47 39.7
comp=Z,132nm,0.4s
LMEL Las Melosas 3.79 166 eP Pn 06 46 58.8 +2.1
LMEL Las Melosas 3.79 166 eP Pn 06 46 54.2 -2.4
LMEL eS Sn 06 47 41.9 +1.8
BO04 La Punta 3.86 171 eP Pn 06 46 58.2 +0.7
AC01 Pan de Azucar 4.06 9 eP Pn 06 46 58.9 -1.3
AC01 IAML 06 48 14.9
comp=Z,73nm,0.6s
BO01 Tunca 4.22 177 eP Pn 06 47 02.8 +0.5
BO01 eS Sn 06 47 50.2 -0.1
BO01 IAML 06 47 55.2
comp=Z,72nm,0.3s
BO02 Sierra Bellavi 4.63 174 eP Pn 06 47 09.1 +1.1
BO02 eS Sn 06 48 00.3 -0.3
BO02 IAML 06 48 05.6
comp=Z,100nm,0.2s
GO05 Hualane 4.86 186 eP Pn 06 47 10.3 -0.7
GO05 eS Sn 06 48 03.8 -2.1
GO02 Mina Guanaco 5.22 18 eP Pn 06 47 15.3 -0.9

IDC 15 07:01:56.0±1.4, 56°.00N×162°.15E, h0km, mb3.6/3, mbtmp3.5/4, ML2.2/1, Error ellipse: s-maj=46.2km s-min=27.0km az=144.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**3.89**	**224**	Pn	Pn	07 02 56.9	0.0
	0.7nm,0.3s,baz=61,slow=18,SNR=9.5						
PETK				Sn	Sn	07 03 44.5	+1.2
	0.5nm,0.3s,baz=94,slow=20,SNR=1.3 2.5nm,0.5s						
NVAR	**Mina Array Bea**	**53.69**	**73**	P	P	07 11 19.9	+0.4
	0.4nm,0.7s,baz=312,slow=7.0,SNR=4.1 0.4nm,0.7s						
FINES	**FINESS Array B**	**57.92**	**337**	P	P	07 11 49.2	0.0
	1.1nm,0.8s,baz=28,slow=8.6,SNR=4.4 1.1nm,0.8s						
TXAR	**Lajitas Array**	**68.44**	**69**	P	P	07 12 59.2	-0.5
	0.3nm,0.7s,baz=336,slow=2.7,SNR=3.5 0.3nm,0.7s						

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*NNC **15** 07:09:11.6±0.5, 49°.98N×78°.72E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=13.3km s-min=2.0km az=73.0, Suspected Mining explosion.*
*IDC **15** 07:09:13.2±0.9, 50°.04N×78°.74E, h0km, mbtmp2.6/3, ML1.8/2, Error ellipse: s-maj=14.4km s-min=6.6km az=60.0*

ISC 15 07:09:12.4±1.0, 49°.98N±0°.06×78°.61E±0°.08, h0km, n17, σ0s63/28, 20C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.60**	**355**	⇑P	**Pg**	**07 09 23.7**	**-0.2**
KUR07				⇑S	**Sg**	**07 09 32.9**	**+1.1**
KUR06	**Kurchatov Arra**	**0.62**	**355**	⇑P	**Pg**	**07 09 24.2**	**-0.2**
KUR06				⇑S	**Sg**	**07 09 33.5**	**+1.0**
KUR14	**Kurchatov Arra**	**0.63**	**359**	⇑P	**Pg**	**07 09 23.9**	**-0.6**
KUR14				⇑S	**Sg**	**07 09 32.8**	**0.0**
KUR15	**Kurchatov Arra**	**0.64**	**357**	⇑P	**Pg**	**07 09 24.0**	**-0.6**
KUR15				⇑S	**Sg**	**07 09 33.3**	**+0.4**
KURBB	**Kurchatov Arra**	**0.64**	**356**	⇑P	**Pg**	**07 09 24.4**	**-0.3**
	16nm,0.5s						
KURBB				⇑S	**Sg**	**07 09 34.4**	**+1.3**
	82nm,0.7s						
KURBB	**Kurchatov Arra**	**0.64**	**356**	Pg	**Pg**	**07 09 25.0**	**+0.2**
	0.8nm,0.3s,baz=166,slow=18,SNR=19						
KURBB				Lg	Lg	07 09 33.8	
	1.8nm,0.3s,baz=177,slow=32,SNR=11						
KUR16	**Kurchatov Arra**	**0.65**	**354**	⇑P	**Pg**	**07 09 24.2**	**-0.6**
KUR16				⇑S	**Sg**	**07 09 33.7**	**+0.4**
KUR17	**Kurchatov Arra**	**0.66**	**352**	⇑P	**Pg**	**07 09 24.8**	**-0.2**
KUR05	**Kurchatov Arra**	**0.66**	**356**	⇑P	**Pg**	**07 09 24.6**	**-0.5**
KUR05				⇑S	**Sg**	**07 09 34.1**	**+0.4**
KUR04	**Kurchatov Arra**	**0.68**	**357**	⇑P	**Pg**	**07 09 24.9**	**-0.5**
KUR04				⇑S	**Sg**	**07 09 34.5**	**+0.2**
KURK	**Kurchatov**	**0.73**	**1**	⇑P	**Pg**	**07 09 25.8**	**-0.7**
	14nm,0.9s						
KURK				⇑S	**Sg**	**07 09 36.2**	**+0.2**
	49nm,0.9s						
MAKZ	**Makanchi**	**3.89**	**143**	⇓Pg	**Pb**	**07 10 22.4**	**+0.6**
	4.6nm,0.9s						
MAKZ				⇓Lg	Lg	07 11 14.5	
	8.0nm,0.7s						
MK31	**Makanchi Array**	**4.03**	**141**	⇑Pn	**Pn**	**07 10 14.7**	**-0.6**
	1.5nm,0.8s,baz=327,slow=11,SNR=6.9						
MK31				⇓Pg	**Pb**	**07 10 24.1**	**-0.1**
	1.8nm,0.6s,baz=328,slow=13,SNR=8.8						
MK31				Lg	Lg	07 11 19.3	
	6.1nm,0.5s,baz=322,slow=26,SNR=16						
MKAR	**Makanchi Array**	**4.03**	**141**	Pn	**Pn**	**07 10 16.5**	**+1.2**
	0.1nm,0.3s,baz=330,slow=11,SNR=5.6						
MKAR				Pg	**Pb**	**07 10 24.1**	**-0.1**
	0.3nm,0.3s,baz=334,slow=13,SNR=8.5						
MKAR				Lg	Lg	07 11 17.7	
	1.9nm,0.3s,baz=336,slow=24,SNR=14 0.3nm,0.5s						
I46RU	**ZALESOVO INFRA**	**5.52**	**42**	I	I	07 42 50.0	
	baz=223,slow=310,SNR=2.8						
ZALV	**Zalesovo Beam**	**5.52**	**42**	Pn	**Pn**	**07 10 35.3**	**-0.5**
	0.8nm,0.3s,baz=224,slow=12,SNR=2.0						
BVAR	**Borovoye Array**	**5.97**	**304**	Pn	**Pn**	**07 10 41.1**	**-0.8**
	baz=111,slow=7.9,SNR=1.8						
BVAR				Sn	**Sn**	**07 11 51.4**	**+0.5**
	baz=103,slow=22,SNR=2.4						
BVAR				Lg	Lg	07 12 24.4	
	baz=112,slow=22,SNR=3.6 0.3nm,0.5s						

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*IDC **15** 07:09:22.5±1.9, 19°.45S×177°.55W, h576km±21km, mb2.8/6, mbtmp3.8/8, Error ellipse: s-maj=27.3km s-min=18.1km az=141.0*

ISC 15 07:09:20.5±0.8, 19°.5S±0°.2×177°.4W±0°.2, h550km, n13, σ1s83/14, mb3.3/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.69**	**291**	P	**P**	**07 10 50.2**	**+2.3**
	3.3nm,0.4s,baz=153,slow=4.5,SNR=9.2						
URZ	**Urewera**	**19.29**	**193**	P	**P**	**07 13 10.5**	**+0.6**
	4.6nm,0.5s,baz=13,slow=2.2,SNR=9.3						
ASAR	**Alice Springs**	**45.33**	**256**	P	**P**	**07 16 49.4**	**-0.6**
	0.6nm,0.4s,baz=86,slow=8.1,SNR=18						
ASAR				PcP	**PcP**	**07 18 17.1**	**-0.9**
	0.4nm,0.5s,baz=96,slow=3.8,SNR=4.9 0.6nm,0.4s						
WRA	**Warramunga Arr**	**45.33**	**261**	P	**P**	**07 16 48.9**	**-1.2**
	0.5nm,0.4s,baz=98,slow=7.9,SNR=19						
WRA				PcP	**PcP**	**07 18 17.1**	**-0.9**
	0.3nm,0.7s,baz=90,slow=3.6,SNR=2.4 0.5nm,0.4s						
NVAR	**Mina Array Bea**	**79.90**	**43**	P	**P**	**07 20 33.3**	**+0.6**
	0.2nm,0.3s,baz=234,slow=5.5,SNR=3.0 0.2nm,0.3s						
TXAR	**Lajitas Array**	**86.02**	**57**	P	**P**	**07 21 04.9**	**+1.5**
	0.4nm,0.6s,baz=216,slow=7.5,SNR=7.1 0.4nm,0.6s						
ILAR	**Eielson Array**	**87.22**	**13**	P	**P**	**07 21 06.3**	**-1.9**
	0.4nm,0.7s,baz=220,slow=6.2,SNR=6.6 0.4nm,0.7s						
PDAR	**Pinedale Array**	**87.83**	**43**	P	**P**	**07 21 12.2**	**+0.3**
	0.3nm,0.7s,baz=191,slow=4.3,SNR=1.7 0.3nm,0.7s						
MKAR	**Makanchi Array**	**110.95**	**314**	PKiKP	**PKiKP**	**07 26 48.6**	**-2.8**
	0.4nm,0.9s,baz=182,slow=1.1,SNR=4.2						
ARCES	**ARCESS Array B**	**128.05**	**350**	PKP	**PKPdf**	**07 27 22.5**	**-1.0**
	4.3nm,0.9s,baz=0.0,slow=0.4,SNR=5.1						
EKA	**Eskdalemuir Ar**	**143.97**	**6**	PKP	PKPbc	07 27 50.8	-1.8
	0.7nm,0.5s,baz=356,slow=2.1,SNR=2.9						
MMAI	**Mount Meron Ar**	**147.82**	**301**	PKPbc	**PKPdf**	**07 28 04.0**	**+3.5**
	0.9nm,0.4s,baz=56,slow=5.6,SNR=1.8						
DAVOX	**Davos/Dischmat**	**152.16**	**349**	PKPbc	**PKPbc**	**07 28 13.2**	**-1.1**
	3.3nm,0.7s,baz=69,slow=2.6,SNR=3.7						

IDC 15 07:11:56.9±1.3, 40°.33S×91°.65W, h0km, mb3.8/5, mbtmp3.8/5, MS3.3/4, Error ellipse: s-maj=56.0km s-min=32.9km az=93.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.05**	**61**	T	T	07 27 10.3	
	baz=232,slow=73,SNR=1041						
H03S1	**Juan Fernandez**	**12.06**	**62**	T	T	07 27 11.8	
	baz=232,slow=73,SNR=794						
H03S3	**Juan Fernandez**	**12.06**	**61**	T	T	07 27 10.5	
	baz=232,slow=73,SNR=770						
H03N3	**Juan Fernandez**	**12.28**	**60**	T	T	07 27 26.0	
	baz=234,slow=71,SNR=2400						
H03N2	**Juan Fernandez**	**12.28**	**60**	T	T	07 27 24.3	
	baz=234,slow=71,SNR=1701						
H03N1	**Juan Fernandez**	**12.29**	**60**	T	T	07 27 25.2	
	baz=234,slow=71,SNR=1684						
PLCA	**Paso Flores**	**16.05**	**98**	LR	LR	07 19 35.4	
	comp=Z,41nm,20.1s,baz=253,slow=29						
RPN	**Rapa Nui**	**19.69**	**307**	LR	LR	07 21 56.8	
	comp=Z,116nm,19.0s,baz=122,slow=30						
LPAZ	**La Paz**	**31.48**	**47**	P	P	07 18 21.1	0.0
	2.1nm,0.7s,baz=226,slow=6.2,SNR=4.0 2.1nm,0.7s						
CPUP	**Villa Florida**	**31.68**	**74**	LR	LR	07 29 15.1	
	comp=Z,63nm,20.0s,baz=232,slow=33						
ATAH	**Atahualpa**	**35.12**	**23**	LR	LR	07 29 28.4	
	comp=Z,60nm,20.9s,baz=229,slow=30						
QSPA	**South Pole Qui**	**49.90**	**180**	P	P	07 20 51.9	-0.1
	0.8nm,0.9s,baz=146,slow=5.3,SNR=2.2 0.8nm,0.9s						
TXAR	**Lajitas Array**	**70.20**	**349**	P	P	07 23 11.6	+0.1
	1.2nm,1.0s,baz=172,slow=10,SNR=8.1 1.2nm,1.0s						
NVAR	**Mina Array Bea**	**82.09**	**339**	P	P	07 24 19.9	+0.7
	0.4nm,0.7s,baz=161,slow=6.1,SNR=4.9 0.4nm,0.7s						
PDAR	**Pinedale Array**	**84.29**	**347**	P	P	07 24 29.7	-0.8
	0.6nm,0.7s,baz=158,slow=5.8,SNR=6.4 0.6nm,0.7s						
H11S2	**WAKE ISLAND Hyl**	**10.46**	**277**	T	T	09 30 12.5	
	baz=126						
H11S1	**WAKE ISLAND Hyl**	**10.48**	**277**	T	T	09 30 10.0	
	baz=126,slow=74						
H11S3	**WAKE ISLAND Hyl**	**10.48**	**277**	T	T	09 30 13.8	
	baz=126,slow=74						

IDC 15 07:12:07.9±2.6, 54°.72N×83°.67E, h0km, mbtmp2.6/2, ML1.3/1, Error ellipse: s-maj=21.3km s-min=12.8km az=170.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**138**	I	I	07 17 43.2	
	0.4nm,1.1s,baz=318,slow=335,SNR=10.0						
ZALV	**Zalesovo Beam**	**1.03**	**138**	Pg	Pg	07 12 26.9	-0.6
	1.5nm,0.3s,baz=321,slow=16,SNR=9.9						
ZALV				Lg	Lg	07 12 42.4	
	5.3nm,0.3s,baz=319,slow=28,SNR=16						
KURBB	**Kurchatov Arra**	**5.16**	**219**	Pn	Pn	07 13 26.4	+0.2
	baz=30,slow=17,SNR=1.6 0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.99**	**187**	Pn	Pn	07 14 05.2	+0.1
	0.7nm,0.9s,baz=3.3,slow=14,SNR=1.8						

IDC 15 07:20:50.8±2.1, 54°.50N×83°.50E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=18.5km s-min=10.2km az=163.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**125**	I	I	07 26 09.3	
	0.1nm,0.7s,baz=307,slow=330,SNR=1.9						
ZALV	**Zalesovo Beam**	**0.95**	**125**	Pg	Pg	07 21 08.9	-0.1
	3.3nm,0.3s,baz=306,slow=15,SNR=18						
ZALV				Lg	Lg	07 21 22.5	
	4.3nm,0.3s,baz=308,slow=29,SNR=11						
KURBB	**Kurchatov Arra**	**4.93**	**220**	Pn	Pn	07 22 06.1	+0.1
	baz=42,slow=14,SNR=1.8						
KURBB				Sn	Sn	07 23 01.5	-2.2
	baz=42,slow=31,SNR=4.4 0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.76**	**186**	Pn	Pn	07 22 45.7	+0.8
	0.2nm,0.3s,baz=352,slow=10,SNR=7.8 0.3nm,0.3s						

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*BEO **15** 07:25:02.8±4.2, 34°.65N×20°.90E, h135km±9km, ML3.8/4*

*IDC **15** 07:25:11.3±1.4, 35°.97N×21°.32E, h0km, mb3.8/11, mbtmp3.8/13, ML3.3/2, MS3.1/4, Error ellipse: s-maj=33.9km s-min=21.1km az=156.0*
*NEIC **15** 07:25:15.5±1.9, 36°.05N±0°.09×21°.31E±0°.03, h10km±2km, mb4.1/6, Error ellipse: s-maj=15.7km s-min=3.0km az=187.0*
*THE **15** 07:25:16.0, 35°.95N×21°.21E, h14km±3km, ML3.4/3, Error ellipse: s-maj=4.7km s-min=1.2km az=249.0*
*ATH **15** 07:25:16.5±0.5, 36°.01N×21°.31E, h5km, ML3.6/12, Manual Solution by S.Liakopoulos This location: 2020/09/20 11:57:00 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
*MCSM **15** 07:25:21.4±2.4, 36°N±4°×2°2E±°, h14km±19km, mb3.8, MLv4.2*

ISC 15 07:25:13.9±1.6, 36°.00N±0°.05×21°.14E±0°.04, h15km±10km, n115, σ2s00/123, mb4.0/11, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTHA	**Methoni**	**0.94**	**29**	P	**Pn**	**07 25 32.9**	**+0.4**
MTHA				S	**Sn**	**07 25 46.6**	**+1.0**
PYL	**PYLOS**	**1.01**	**29**	P	**Pb**	**07 25 33.2**	**0.0**
PYL				S	**Sn**	**07 25 50.3**	**+2.6**
	2μm,0.5s						
PYL	**PYLOS**	**1.01**	**29**	P	**Pn**	**07 25 34.2**	**+0.6**
PYL				S	**Sb**	**07 25 47.8**	**+1.4**
ITM	**Ithomi**	**1.33**	**28**		**Pb**	**07 25 38.7**	**0.0**
ITM	**Ithomi**	**1.33**	**28**	P	**Pg**	**07 25 39.4**	**-0.2**
ITM				S	**Sn**	**07 25 58.2**	**+2.6**
	1μm,0.7s						
ITM	**Ithomi**	**1.33**	**28**	P	**Pg**	**07 25 39.5**	**-0.2**
ITM				S	**Sb**	**07 25 56.8**	**+1.2**
AMT	**Artemida-Makis**	**1.59**	**17**	P	**Pg**	**07 25 44.2**	**-0.4**
VLI	**Veliai**	**1.62**	**63**	P	**Pb**	**07 25 43.0**	**-0.5**
VLI				S	**Sn**	**07 26 04.0**	**+1.4**
	1μm,0.8s						
VLI	**Veliai**	**1.62**	**63**	P	**Pb**	**07 25 42.9**	**-0.5**
NPS1	**Neapolis Lacon**	**1.64**	**71**	P	**Pb**	**07 25 43.3**	**-0.5**
MNVA	**Monemvasia**	**1.68**	**65**	P	**Pg**	**07 25 45.3**	**-0.9**
ANKY	**Antikythira Is**	**1.76**	**94**	P	**Pb**	**07 25 44.7**	**-1.2**
ANKY	**Antikythira Is**	**1.76**	**94**	P	**Pb**	**07 25 45.4**	**-0.5**
DRO	**Drossia**	**2.00**	**13**	P	**Pb**	**07 25 49.4**	**-0.6**
GUR	**Goura**	**2.16**	**26**	P	**Pb**	**07 25 52.8**	**0.0**
KLV	**Kalavryta, Ach**	**2.19**	**21**	P	**Pb**	**07 25 52.3**	**-1.0**
VLS	**Valsamata**	**2.21**	**349**	P	**Pb**	**07 25 53.5**	**-0.1**
DMLN	**Damoulianata-K**	**2.31**	**345**	P	**Pb**	**07 25 55.0**	**-0.3**
FSK	**Fiskardo**	**2.49**	**350**	P	**Pb**	**07 25 57.8**	**-0.6**
EFP	**Efpalio**	**2.50**	**14**	P	**Pb**	**07 25 57.9**	**-0.6**
KALE	**Kalithea**	**2.51**	**18**	P	**Pb**	**07 25 58.1**	**-0.7**
EVGI	**Lefkada island**	**2.64**	**352**	P	**Pb**	**07 26 00.0**	**-0.9**
ANX	**Ano Chora**	**2.66**	**13**	P	**Pb**	**07 26 00.7**	**-0.6**
DRAG	**Dragano-Lefkad**	**2.71**	**351**	P	**Pb**	**07 26 01.6**	**-0.6**
NYDR	**Nydri-Lefkada**	**2.73**	**353**	P	**Pb**	**07 26 01.4**	**-1.0**
TSLK	**Tsoukalades, L**	**2.84**	**352**	P	**Pb**	**07 26 03.0**	**-1.3**
MAKR	**Makrakomi, Fth**	**3.11**	**14**	P	**Pb**	**07 26 06.6**	**-2.3**
IDI	**Anoyia**	**3.14**	**102**		**Pn**	**07 26 03.3**	**+0.4**
IDI	**Anoyia**	**3.14**	**102**	Pn	**Pn**	**07 26 03.8**	**+0.9**
	2.8nm,0.3s,baz=336,slow=23,SNR=12						
IDI				Sn	**Sn**	**07 26 39.2**	**-1.0**
	6.8nm,0.3s,baz=345,slow=19,SNR=4.2						
AGG	**Agios Georgios**	**3.16**	**17**		**Pn**	**07 26 06.5**	**+3.3**
IGT	**Igoumenitsa**	**3.58**	**350**	*e*Pn	**Pn**	**07 26 11.8**	**+2.9**
IGT				*e*Sn	**Sn**	**07 26 52.8**	**+1.8**
KEK	**Kerkira**	**3.85**	**344**	Pn	**Pn**	**07 26 15.2**	**+2.5**
LIT	**Litokhoron**	**4.23**	**14**		**Pn**	**07 26 18.6**	**+0.8**
SCTE	**Santa Cesarea**	**4.58**	**333**	Pn	**Pn**	**07 26 24.9**	**+2.3**
TIP	**Timpagrande**	**4.71**	**314**		**Pn**	**07 26 27.6**	**+3.1**
TIP	**Timpagrande**	**4.71**	**314**	P	**Pb**	**07 26 34.6**	**-1.6**
CEL	**Celeste**	**4.76**	**300**		**Pn**	**07 26 29.0**	**+3.8**
CEL	**Celeste**	**4.76**	**300**	P	**Pb**	**07 26 36.6**	**-0.4**
	33nm,0.8s,0.2nm						
FNA	**Florina**	**4.78**	**2**		**Pn**	**07 26 28.0**	**+2.6**
FNA	**Florina**	**4.78**	**2**	*e*Pn	**Pn**	**07 26 28.8**	**+3.4**
KARP	**Karpathos**	**4.92**	**94**	Pn	**Pn**	**07 26 28.6**	**+1.2**
OHR	**Ohrid**	**5.11**	**357**	*e*Pn	**Pn**	**07 26 33.8**	**+3.8**
OHR				*e*Sn	**Sn**	**07 27 30.9**	**+2.2**
VAY	**Valandovo**	**5.43**	**11**	*e*Pn	**Pn**	**07 26 36.7**	**+2.4**
TIR	**Tirane**	**5.43**	**350**	P	Pn	07 26 40.2	+5.9
	62nm,0.9s,0.4nm						
SRS	**Serrai**	**5.46**	**20**	*e*Pn	**Pn**	**07 26 36.7**	**+2.0**
RAFF	**Raffo Rosso**	**5.58**	**285**	Pn	**Pn**	**07 26 39.7**	**+3.2**
EZN	**Ezine**	**5.60**	**46**	P	**Pn**	**07 26 38.0**	**+1.3**
	17nm,1.0s,0.1nm						
CUC	**Castrocucco**	**5.79**	**315**		**Pn**	**07 26 43.7**	**+4.4**
PUK	**Puka**	**6.11**	**351**	Pn	**Pn**	**07 26 45.4**	**+1.6**
ALN	**Alexandroupoli**	**6.22**	**37**	Pn	**Pn**	**07 26 45.3**	**+0.1**
BOSS	**Bosilegrad**	**6.57**	**9**	*e*Pn	**Pn**	**07 26 52.5**	**+2.5**
VTS	**Vitosha**	**6.80**	**13**	*e*Pn	**Pn**	**07 26 55.3**	**+2.0**
BARS	**Barje**	**6.82**	**4**	*e*Pn	**Pn**	**07 26 55.1**	**+1.6**
BARS				*e*Sn	**Sn**	**07 28 10.8**	**-0.1**
SELS	**Selova**	**7.21**	**360**	*e*Pn	**Pn**	**07 26 59.4**	**+0.6**
SJES	**Sjenica**	**7.30**	**353**	*e*Sn	**Sn**	**07 28 22.0**	**-0.9**
ZAPS	**Zavoj**	**7.35**	**9**	*e*Pn	**Pn**	**07 27 02.6**	**+1.8**
STON	**Ston**	**7.36**	**340**	*e*Pn	**Pn**	**07 27 02.5**	**+1.8**
STON				*e*Sn	**Sn**	**07 28 19.0**	**-4.9**
IVAS	**Ivanjica**	**7.60**	**355**	*e*Pn	**Pn**	**07 27 05.1**	**+0.9**
IVAS				*e*Sn	**Sn**	**07 28 28.4**	**-1.7**
CTYL	**Yalikoy Yolu**	**7.81**	**43**	P	**Pn**	**07 27 08.5**	**+1.5**
	43nm,1.4s,0.3nm						
GRUS	**Gruza**	**7.88**	**358**	*e*Pn	**Pn**	**07 27 08.8**	**+0.8**
KLYT	**Kilyos**	**8.11**	**47**	P	**Pn**	**07 27 12.5**	**+1.5**
	79nm,1.3s,0.4nm						
DIVS	**Divibare**	**8.13**	**354**	*e*Pn	**Pn**	**07 27 12.0**	**+0.5**
DIVS				*e*Sn	**Sn**	**07 28 38.3**	**-4.9**
NRCA	**Norcia**	**9.22**	**320**	Pn	**Pn**	**07 27 29.6**	**+3.2**
GZR	**Gura Zlata**	**9.46**	**7**	*e*Pn	**Pn**	**07 27 30.0**	**+0.3**
ANTO	**Ankara**	**9.98**	**64**	P	**Pn**	**07 27 37.9**	**+1.0**
	5.1nm,0.6s						
MLR	**Muntele Rosu**	**10.15**	**20**	P	**Pn**	**07 27 42.0**	**+2.8**
	7.5nm,1.4s						
BR105	**Keskin Array S**	**10.54**	**66**	P	**Pn**	**07 27 45.6**	**+1.0**
	4.4nm,1.2s						
BR106	**Keskin Array S**	**10.54**	**66**	P	**Pn**	**07 27 45.6**	**+1.0**
	3.2nm,0.9s						
BRTR	**Keskin Array B**	**10.56**	**66**	Pn	**Pn**	**07 27 43.5**	**-1.3**
	0.1nm,0.3s,baz=256,slow=15,SNR=2.5 0.6nm,0.4s						
PLOR3	**Plostina Array**	**10.68**	**21**	P	**Pn**	**07 27 49.2**	**+2.8**
	8.3nm,2.0s						
GHRR		**11.10**	**23**	P	**Pn**	**07 27 54.8**	**+2.7**
BERU	**Beregovo**	**12.27**	**5**	P	**Pn**	**07 28 12.2**	**+4.1**
BRIU	**Brid**	**12.40**	**6**	P	**Pn**	**07 28 14.3**	**+4.4**
NSLU	**Nyzhne Selyshc**	**12.43**	**10**	P	**Pn**	**07 28 12.7**	**+2.5**
MUKU	**Mukachevo**	**12.49**	**5**	P	**Pn**	**07 28 15.5**	**+4.4**
HOLU	**Holmets**	**12.55**	**4**	P	**Pn**	**07 28 16.2**	**+4.4**
MEZ	**Mezhgor'ye**	**12.62**	**7**	P	**Pn**	**07 28 16

ESDC Sonseca Array 20.14 288 P Pn 07 29 48.0 -1.4
comp=Z,0.4nm,0.6s,baz=96,slow=11,SNR=2.3
comp=Z,0.4nm,0.6s
HFS Hagfors 24.62 351 P **P 07 30 34.2 +0.7**
comp=Z,1.4nm,0.5s,baz=182,slow=9.8,SNR=2.2
comp=Z,1.4nm,0.5s
BELG Belogornoye 24.88 41 P **P 07 30 35.0 -0.8**
comp=Z,8.7nm,0.7s,baz=280,slow=11,SNR=5.2
comp=Z,8.7nm,0.7s
FINES FINESS Array B 25.65 5 P **P 07 30 43.7 +0.9**
comp=Z,2.1nm,0.7s,baz=166,slow=10.0,SNR=8.5
comp=Z,2.1nm,0.7s
TORD Torodi Ar. Bea 28.70 222 P **P 07 31 11.2 +0.6**
comp=Z,0.3nm,0.5s,baz=33,slow=8.8,SNR=3.1
comp=Z,0.3nm,0.5s
ABKAR Akbulak array 31.11 53 P **P 07 31 31.8 +0.2**
FURI Furi 31.36 145 LR LR 07 44 53.9
comp=Z,16nm,19.4s,baz=168,slow=38
ARCES ARCESS Array B 33.67 3 P **P 07 31 52.7 -1.2**
comp=Z,4.4nm,1.0s,baz=195,slow=10,SNR=2.1
comp=Z,4.4nm,1.0s
BVAR Borovoye Array 38.17 48 P **P 07 32 30.2 -2.4**
comp=Z,0.3nm,0.3s,baz=251,slow=4.4,SNR=1.5
comp=Z,0.3nm,0.3s
KKAR Karatay Array 38.27 64 P **P 07 32 33.6 0.0**
BOOM Boomskoye usch 42.31 64 P **P 07 33 09.0 +1.8**
BOOM IAmb IAmb 07 33 31.5
comp=Z,7.4nm,1.2s
KURBB Kurchatov Arra 43.16 52 P **P 07 33 12.6 -1.2**
comp=Z,0.4nm,0.5s,baz=282,slow=8.7,SNR=4.2
comp=Z,0.4nm,0.5s
MK31 Makanchi Array 46.05 57 P **P 07 33 36.9 -0.2**
MKAR Makanchi Array 46.05 57 P **P 07 33 36.9 -0.1**
comp=Z,1.0nm,0.3s,baz=267,slow=7.3,SNR=22
comp=Z,1.0nm,0.3s
ZALV Zalesovo Beam 46.80 47 P **P 07 33 41.8 -0.9**
comp=Z,1.0nm,0.4s,baz=278,slow=12,SNR=3.9
comp=Z,1.0nm,0.4s
SONM Songino Array 61.47 50 P **P 07 35 28.0 -2.0**
comp=Z,0.7nm,0.6s,baz=282,slow=7.1,SNR=2.4
comp=Z,0.7nm,0.6s
INK Inuvik 74.29 350 LR LR 08 11 49.2
comp=Z,70nm,18.5s,baz=250,slow=38

IDC ***15*** *07:36:10.1±0.8, 32°.87N×39°.80W, h0km, mb3.9/10, mbtmp3.9/10, MS3.7/48, Error ellipse: s-maj=25.0km s-min=21.5km az=153.0*
ISC 15 07:36:13.4±0.7, 32°.9N±0°.1×39°.8W±0°.1, h22km, n58, σ0s73/10, mb4.0/10, MS3.7/48, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**		**27.84 125**	LR	LR	07 50 19.3	
	comp=Z,218nm,20.4s,baz=150,slow=30						
SJG	**San Juan**		**27.86 245**	LR	LR	07 51 10.6	
	comp=Z,31nm,21.8s,baz=44,slow=32						
SCHQ	**Schefferville**		**29.06 327**	LR	LR	07 52 17.8	
	comp=Z,160nm,22.0s,baz=316,slow=33						
MDT	**Midelt**		**29.48 80**	LR	LR	07 51 16.9	
	comp=Z,210nm,21.0s,baz=299,slow=31						
ESDC	**Sonseca Array**		**29.54 66**	LR	LR	07 51 06.5	
	comp=Z,51nm,20.5s,baz=290,slow=30						
MDP	**Montagnes des**		**30.11 206**	LR	LR	07 51 43.6	
	comp=Z,76nm,19.3s,baz=17,slow=31						
SADO	**Sadowa**		**32.59 303**	LR	LR	07 54 54.7	
	comp=Z,83nm,20.0s,baz=250,slow=34						
SFJD	**Kangerlussuaq**		**34.77 353**	LR	LR	07 53 47.0	
	comp=Z,62nm,20.1s,baz=166,slow=30						
FRB	**Frobisher Bay**		**35.73 339**	LR	LR	07 55 06.3	
	comp=Z,56nm,20.1s,baz=199,slow=32						
TKL	**Tuckaleechee C**		**36.24 287**	LR	LR	07 55 33.1	
	comp=Z,233nm,21.5s,baz=92,slow=32						
SDV	**Santo Domingo**		**37.16 237**	LR	LR	07 55 54.6	
	comp=Z,62nm,19.6s,baz=72,slow=32						
RCBR	**Riachuelo**		**38.65 174**	LR	LR	07 57 53.7	
	comp=Z,20nm,18.0s,baz=62,slow=34						
DAVOX	**Davos/Dischmat**		**39.95 55**	LR	LR	07 57 59.9	
	comp=Z,78nm,18.2s,baz=271,slow=33						
TORD	**Torodi Ar. Bea**		**42.58 108**	P	**P**	**07 44 08.2 +0.2**	
	2.7nm,0.8s,baz=305,slow=5.5,SNR=13						
TORD			LR	LR	LR	08 00 17.5	
	comp=Z,126nm,19.7s,baz=322,slow=34						
	2.7nm,0.8s						
ROSC	**El Rosal**		**42.59 237**	LR	LR	07 59 42.6	
	comp=Z,264nm,18.5s,baz=57,slow=33						
GERES	**GERESS Array B**		**42.59 52**	LR	LR	07 58 43.7	
	comp=Z,53nm,19.0s,baz=272,slow=32						
NOA	**NORSAR Array B**		**43.16 34**	LR	LR	07 58 58.4	
	comp=Z,44nm,18.1s,baz=260,slow=32						
VAE	**Valguarnera**		**44.04 68**	LR	LR	08 01 14.4	
	comp=Z,113nm,18.5s,baz=145,slow=34						
HFS	**Hagfors**		**44.10 35**	LR	LR	07 58 52.3	
	comp=Z,89nm,19.9s,baz=269,slow=31						
VRAC	**Vranov**		**44.50 51**	LR	LR	08 01 30.9	
	comp=Z,44nm,18.6s,baz=262,slow=34						
TEIG	**Tepich**		**44.81 266**	LR	LR	08 00 10.9	
	comp=Z,173nm,21.7s,baz=32,slow=32						
H10N2	**ASCENSION HYDR**		**47.08 145**	T	T	08 34 54.1	
	baz=330,slow=75,SNR=152						
H10N3	**ASCENSION HYDR**		**47.09 145**	T	T	08 34 54.5	
	baz=330,slow=75,SNR=133						
H10N1	**ASCENSION HYDR**		**47.10 145**	T	T	08 34 55.5	
	baz=330,slow=75,SNR=154						
JTS	**Las Juntas de**		**47.17 252**	LR	LR	08 01 24.5	
	comp=Z,70nm,21.7s,baz=62,slow=32						
H10S3	**ASCENSION HYDR**		**47.98 146**	T	T	08 36 05.2	
	baz=330,slow=74,SNR=59						
H10S2	**ASCENSION HYDR**		**47.99 146**	T	T	08 36 06.3	
	baz=250,slow=74,SNR=70						
BDFB	**Brasilia**		**48.86 191**	P	**P**	**07 44 57.6 +0.1**	
	3.6nm,0.9s,baz=54,slow=9.0,SNR=4.2						
	3.6nm,0.9s						
RES	**Resolute Bay**		**49.57 343**	LR	LR	08 01 41.8	
	comp=Z,30nm,21.2s,baz=22,slow=31						
FINES	**FINESS Array B**		**50.29 35**	P	**P**	**07 45 08.7 +0.8**	
	0.9nm,0.5s,baz=264,slow=9.0,SNR=7.2						
	0.9nm,0.5s						
MLR	**Muntele Rosu**		**51.16 55**	LR	LR	08 03 32.3	
	comp=Z,34nm,21.2s,baz=262,slow=32						
AKASG	**Malin Array Be**		**52.52 48**	P	**P**	**07 45 25.1 +0.3**	
	1.8nm,0.6s,baz=277,slow=6.7,SNR=14						
AKASG			LR	LR	LR	08 05 30.2	
	comp=Z,80nm,19.4s,baz=264,slow=34						
	1.8nm,0.6s						
SIV	**San Ignacio**		**52.66 206**	LR	LR	08 05 59.0	
	comp=Z,65nm,18.6s,baz=144,slow=34						
TXAR	**Lajitas Array**		**54.07 284**	P	**P**	**07 45 37.1 +0.4**	
	0.6nm,1.0s,baz=100,slow=6.6,SNR=4.3						
	0.6nm,1.0s						
ANMO	**Albuquerque**		**54.43 292**	LR	LR	08 06 41.0	
	comp=Z,128nm,20.8s,baz=240,slow=34						
YKA	**Yellowknife Ar**		**54.51 327**	LR	LR	08 07 08.2	
	comp=Z,97nm,21.9s,baz=68,slow=34						
PDAR	**Pinedale Array**		**54.58 302**	P	**P**	**07 45 40.0 -0.3**	
	1.5nm,1.1s,baz=90,slow=7.6,SNR=5.6						
PDAR			LR	LR	LR	08 10 11.4	
	comp=Z,45nm,18.2s,baz=82,slow=37						
	1.5nm,1.1s						
LPAZ	**La Paz**		**55.88 213**	P	**P**	**07 45 50.2 -0.1**	
	0.8nm,0.8s,baz=351,slow=6.9,SNR=2.6						
LPAZ			LR	LR	LR	08 08 08.1	
	comp=Z,73nm,19.0s,baz=20,slow=34						
	0.8nm,0.8s						
NEW	**Newport**		**58.33 310**	LR	LR	08 10 55.1	
	comp=Z,103nm,18.9s,baz=77,slow=36						
LPIG	**La Paz**		**61.59 282**	LR	LR	08 11 15.8	
	comp=Z,58nm,20.6s,baz=56,slow=34						
KIRV	**Kirov**		**62.22 36**	LR	LR	08 12 27.4	
	comp=Z,53nm,18.1s,baz=282,slow=35						
NVAR	**Mina Array Bea**		**62.24 300**	LR	LR	08 12 51.7	
	comp=Z,124nm,19.1s,baz=65,slow=35						
BELG	**Belogornoye**		**63.26 43**	LR	LR	08 12 33.7	
	comp=Z,67nm,19.8s,baz=253,slow=34						
BBB	**Bella Bella**		**63.86 317**	LR	LR	08 14 36.5	
	comp=Z,104nm,18.0s,baz=306,slow=36						
YBH	**Yreka Blue Hor**		**64.17 304**	LR	LR	08 13 51.5	
	comp=Z,42nm,20.4s,baz=90,slow=35						
ILAR	**Eielson Array**		**67.56 334**	P	**P**	**07 47 08.1 +0.3**	
	0.7nm,1.1s,baz=46,slow=3.9,SNR=2.6						
ILAR			LR	LR	LR	08 15 19.9	
	comp=Z,47nm,19.4s,baz=86,slow=35						
	0.7nm,1.1s						
KDAK	**Kodiak Island**		**73.67 329**	LR	LR	08 21 57.3	
	comp=Z,79nm,18.1s,baz=270,slow=37						
MBAR	**Mbarara**		**74.04 101**	LR	LR	08 19 19.9	
	comp=Z,73nm,19.5s,baz=303,slow=35						
BVAR	**Borovoye Array**		**75.23 36**	LR	LR	08 20 43.8	
	comp=Z,46nm,18.4s,baz=335,slow=36						
FURI	**Furi**		**75.57 89**	LR	LR	08 21 56.6	
	comp=Z,55nm,18.3s,baz=167,slow=36						
PLCA	**Paso Flores**		**78.54 203**	LR	LR	08 22 48.4	
	comp=Z,26nm,18.7s,baz=22,slow=36						
KMBO	**Kilima Mbogo**		**79.74 98**	LR	LR	08 23 26.6	
	comp=Z,67nm,18.2s,baz=84,slow=36						
KURBB	**Kurchatov Arra**		**80.68 35**	P	**P**	**07 48 22.9 -1.7**	
	0.3nm,0.2s,baz=322,slow=5.9,SNR=4.0						
	0.3nm,0.2s						
AAK	**Ala-Archa**		**83.74 43**	LR	LR	08 24 57.0	
	comp=Z,43nm,19.1s,baz=301,slow=35						
LBTB	**Lobatse**		**84.78 124**	LR	LR	08 21 10.0	
	comp=Z,44nm,19.5s,baz=291,slow=32						
SUR	**Sutherland**		**86.45 132**	LR	LR	08 20 32.1	
	comp=Z,27nm,20.6s,baz=322,slow=31						
BOSA	**Boshof**		**86.85 127**	LR	LR	08 22 18.1	
	comp=Z,42nm,19.5s,baz=18,slow=32						
SONM	**Songino Array**		**94.14 22**	P	**P**	**07 49 30.6 0.0**	
	0.5nm,0.5s,baz=355,slow=3.3,SNR=2.4						
	0.5nm,0.5s						

MOS ***15*** *07:48:22.7±2.2, 54°.67N×57°.94E, h10km, mb4.5/7, Error ellipse: s-maj=6.2km s-min=4.7km az=110.6*
MOS Felt (III-IV) at Katav-Ivanovsk.
NEIC ***15*** *07:48:24.6±2.5, 54°.80N±0°.04×58°.04E±0°.10, h10km±2km, mb4.4/27, Error ellipse: s-maj=11.7km s-min=3.0km az=232.0*
IDC ***15*** *07:48:24.2±0.5, 54°.74N×58°.04E, h0km, mb3.8/9, mbtmp4.1/19, ML4.0/10, Error ellipse: s-maj=7.7km s-min=6.7km az=22.0*
MIRAS ***15*** *07:48:25.0, 54°.74N×58°.11E, h5km, ML4.2/21, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
NNC ***15*** *07:48:27.3±1.1, 54°.66N×58°.46E, h7km±5km, mb4.6, mpv4.2, Error ellipse: s-maj=9.7km s-min=3.4km az=136.0*
ISC 15 07:48:24.4±0.6, 54°.71N±0°.03×58°.08E±0°.02, h8km±3km, n214, σ2s21/270, mb4.2/26, 30C-29D, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KI04	**Katav-Ivanovsk**	**0.05**	**48**	*i* P	**Pg**	**07 48 25.7**	**-0.5**
KI04				*i* S	**Sg**	**07 48 26.4**	**-1.0**
KI04	**Katav-Ivanovsk**	**0.05**	**48**	*i* P	**Pg**	**07 48 25.7**	**-0.5**
KI04				*i* S	**Sg**	**07 48 26.4**	**-1.0**
KI05	**Katav-Ivanovsk**	**0.16**	**360**	*i* P	**Pg**	**07 48 27.2**	**-0.5**
	4μm,0.1s						
KI05				*i* S	**Sg**	**07 48 29.2**	**-0.9**
	19μm,0.4s						
KI05				*i* AML	AML	07 48 29.4	
	33μm,0.5s						
KI05	**Katav-Ivanovsk**	**0.16**	**360**	*i* P	**Pg**	**07 48 27.2**	**-0.5**
	3μm,0.1s						
KI05				*i* S	**Sg**	**07 48 29.6**	**-0.5**
	18μm,0.4s						
KI05				*i* AML	AML	07 48 29.6	
	33μm,0.5s						
KI05				*i* AML	AML	07 48 29.6	
	20μm,0.5s						
BA1R	**Ufa**		**1.39 266**	*i* P	**Pg**	**07 48 51.5**	**+0.6**
	707nm,0.6s						
BA1R				*i* S	**Sg**	**07 49 10.7**	**+1.8**
	1μm,0.2s						
BA1R				*i* AML	AML	07 49 12.7	
	4μm,0.7s						
BA1R	**Ufa**		**1.39 266**	*i* P	**Pg**	**07 48 51.3**	**+0.4**
BA1R				*i* S	**Sg**	**07 49 10.5**	**+1.6**
	868nm,0.2s						
BA1R				*i* AML	AML	07 49 12.6	
	4μm,0.7s						
BA1R				*i* AML	AML	07 49 13.2	
	3μm,0.6s						
BA1R	**Ufa**		**1.39 266**	P	**Pg**	**07 48 51.3**	**+0.4**
BA1R				S	**Sg**	**07 49 10.5**	**+1.6**
ARTI	**Arti**		**1.69 6**	P	**Pn**	**07 48 53.2**	**-0.9**
ARTI	**Arti**		**1.69 6**	Pg	**Pn**	**07 48 54.4**	**+0.2**
	56nm,0.3s,baz=190,slow=9.0,SNR=231						
ARTI				Lg	Lg	07 49 16.8	
	58nm,0.3s,baz=113,slow=21,SNR=18						
ARTI	**Arti**		**1.69 6**	*i* P	**Pn**	**07 48 54.4**	**+0.2**
	227nm,0.6s						
ARTI				*i* S	**Sb**	**07 49 16.6**	**-0.5**
	375nm,0.5s						
ARTI				*i* AML	AML	07 49 18.7	
	1μm,0.6s						
ARTI	**Arti**		**1.69 6**	*i* P	**Pn**	**07 48 55.0**	**+0.8**
ARTI				*i* S	**Sg**	**07 49 18.1**	**-0.7**
	375nm,0.5s						
ARTI				*i* AML	AML	07 49 18.9	
	771nm,0.7s						
ARTI				*i* AML	AML	07 49 19.6	
	1μm,0.6s						
ARTI	**Arti**		**1.69 6**	P	**Pn**	**07 48 54.3**	**+0.1**
ARTI				S	**Sb**	**07 49 17.0**	**-0.1**
SVE	**Sverdlovsk**		**2.57 33**	*i* P	**Pn**	**07 49 07.8**	**+1.6**
	280nm,0.4s						
SVE				*i* S	**Sb**	**07 49 40.4**	**-1.9**
SVE				*i* AML	AML	07 49 42.0	
	1μm,0.5s						
SVE	**Sverdlovsk**		**2.57 33**	*i* P	**Pn**	**07 49 08.1**	**+1.9**
SVE				*i* S	**Sb**	**07 49 40.2**	**-2.0**
	439nm,0.3s						
SVE				*i* AML	AML	07 49 41.8	
	1μm,0.4s						
SVE				*i* AML	AML	07 49 41.8	
	1μm,0.5s						
SVE	**Sverdlovsk**		**2.57 33**	*e* P	**Pn**	**07 49 07.9**	**+1.7**
SVE				*e* S	**Sb**	**07 49 40.1**	**-2.2**
SVE				pmax	pmax		
	comp=Z,162nm,0.6s						
PR3R	**Kungur**		**2.81 348**	*i* P	**Pb**	**07 49 15.7**	**+1.0**
PR3R				*i* S	**Sb**	**07 49 51.2**	**+2.0**
PR3R				*i* AML	AML	07 49 52.1	
	comp=Z,496nm,0.6s						
PR3R				*i* AML	AML	07 49 52.5	
	comp=Z,620nm,0.7s						
PR3R	**Kungur**		**2.81 348**	P	**Pb**	**07 49 15.7**	**+1.0**
PR3R				S	**Sb**	**07 49 51.2**	**+2.0**
PR0R	**Verkhnechusovs**		**3.54 352**	*i* P	**Pn**	**07 49 20.0**	**+0.5**
	comp=Z,85nm,0.5s						
PR0R				*i* S	**Sn**	**07 50 02.9**	**+1.4**
	comp=Z,736nm,0.2s						
PR0R				*i* AML	AML	07 50 12.5	
	comp=Z,2μm,0.4s						
PR6R	**Ekimyata**		**3.64 343**	*i* P	**Pn**	**07 49 21.7**	**+0.9**
	comp=Z,76nm,0.3s						
PR6R				*i* S	**Sn**	**07 50 05.7**	**+1.8**
PR6R				*i* AML	AML	07 50 11.2	
	comp=Z,796nm,0.3s						
PR6R	**Ekimyata**		**3.64 343**	*i* P	**Pn**	**07 49 21.9**	**+1.0**
PR6R				*i* S	**Sn**	**07 50 06.9**	**+3.0**
	comp=Z,671nm,0.3s						
PR6R				*i* AML	AML	07 50 09.5	
	comp=Z,818nm,0.8s						
PR6R				*i* AML	AML	07 50 10.5	
	comp=Z,796nm,0.3s						
PR6R	**Ekimyata**		**3.64 343**	P	**Pn**	**07 49 21.9**	**+1.0**
PR6R				S	**Sn**	**07 50 06.9**	**+3.0**
PR7R	**Sarany**		**3.87 5**	*i* P	**Pn**	**07 49 24.9**	**+0.7**
	comp=Z,72nm,0.2s						
PR7R				*i* S	**Sn**	**07 50 11.3**	**+1.6**
	comp=Z,462nm,0.5s						
PR7R				*i* AML	AML	07 50 19.3	
	comp=Z,805nm,0.3s						
PR7R	**Sarany**		**3.87 5**	*i* P	**Pb**	**07 49 34.0**	**+1.1**
PR7R				*i* S	**Sb**	**07 50 23.1**	**+3.3**
	comp=Z,442nm,0.3s						
PR7R				*i* AML	AML	07 50 24.5	
	comp=Z,805nm,0.3s						
PR7R				*i* AML	AML	07 50 25.9	
	comp=Z,708nm,0.7s						
PR7R	**Sarany**		**3.87 5**	P	**Pb**	**07 49 34.0**	**+1.1**
AKTO	**Aktyubinsk**		**4.28 181**	⇓Pn	**Pn**	**07 49 32.3**	**+2.5**
	comp=Z,12nm,0.7s						
AKTO				⇓Pg	**Pg**	**07 49 45.2**	**-1.2**
	comp=Z,26nm,0.6s						
AKTO				⇑Sn	**Sn**	**07 50 22.6**	**+2.8**
	comp=Z,57nm,0.5s						
AKTO				⇑Lg	Lg	07 50 41.4	
	comp=Z,118nm,0.7s						
AKTO	**Aktyubinsk**		**4.28 181**	Pn	**Pn**	**07 49 31.6**	**+1.9**
	comp=Z,2.0nm,0.3s,baz=347,slow=1.7,SNR=14						
AKTO				Sn	**Sn**	**07 50 23.2**	**+3.4**
	comp=Z,12nm,0.3s,baz=344,slow=12,SNR=4.7						
AKTO				Lg	Lg	07 50 41.9	
	comp=Z,27nm,0.3s,baz=282,slow=19,SNR=6.6						
	comp=Z,4.0nm,0.3s						
PR1R	**Pomanovo**		**4.55 351**	*i* P	**Pn**	**07 49 35.3**	**+2.0**
	comp=Z,14nm,0.4s						
PR1R				*i* S	**Sn**	**07 50 29.3**	**+3.0**
PR1R				*i* AML	AML	07 50 42.1	
	comp=Z,288nm,0.9s						
PR1R	**Pomanovo**		**4.55 351**	*i* P	**Pn**	**07 49 36.3**	**+2.9**
PR1R				*i* S	**Sn**	**07 50 28.4**	**+2.1**
PR1R				*i* AML	AML	07 50 37.2	
	comp=Z,326nm,1.0s						
PR1R				*i* AML	AML	07 50 37.8	
	comp=Z,514nm,1.0s						
PR1R	**Pomanovo**		**4.55 351**	P	**Pn**	**07 49 36.3**	**+2.9**
PR1R				S	**Sn**	**07 50 28.4**	**+2.1**
AB31	**Akbulak array**		**5.58 167**	⇓Pn	**Pn**	**07 49 49.9**	**+2.3**
	comp=Z,9.3nm,0.4s,baz=357,slow=11,SNR=319						
AB31				⇓Sn	**Sn**	**07 50 54.2**	**+2.4**
	comp=Z,16nm,0.3s,baz=0.0,slow=0.1,SNR=7.1						
AB31				⇑Lg	Lg	07 51 20.9	
	comp=Z,153nm,0.7s,baz=8.0,slow=27,SNR=3.8						
AB31	**Akbulak array**		**5.58 167**	P	**Pn**	**07 49 49.9**	**+2.3**
AB31				S	**Sn**	**07 50 54.2**	**+2.4**
ABKAR	**Akbulak array**		**5.58 167**		**Pn**	**07 49 49.9**	**+2.3**
ABKAR	**Akbulak array**		**5.58 167**		**Pn**	**07 49 49.4**	**+1.8**
ABKAR	**Akbulak array**		**5.58 167**	*i* P	**Pn**	**07 49 50.1**	**+2.5**
	comp=Z,23nm,0.4s						
ABKAR				*i* S	**Sn**	**07 50 56.3**	**+4.5**
	comp=Z,58nm,0.4s						
ABKAR				*i* AML	AML	07 51 06.0	
	comp=Z,186nm,0.6s						
ABKAR	**Akbulak array**		**5.58 167**	*i* P	**Pn**	**07 49 50.4**	**+2.8**
ABKAR				*i* S	**Sn**	**07 50 55.0**	**+3.2**
	comp=Z,38nm,0.2s						
ABKAR				*i* AML	AML	07 51 10.3	
	comp=Z,186nm,0.6s						
ABKAR				*i* AML	AML	07 51 12.6	
	comp=Z,84nm,0.5s						
SVUR	**Severouralsk**		**5.60 10**	*i* P	**Pn**	**07 49 49.3**	**+1.5**
	comp=Z,6.2nm,0.2s						
SVUR				*i* S	**Sn**	**07 50 54.7**	**+2.5**
	comp=Z,17nm,0.3s						
SVUR				*i* AML	AML	07 51 10.6	
	comp=Z,92nm,1.0s						
SVUR	**Severouralsk**		**5.60 10**	*i* P	**Pn**	**07 49 49.8**	**+2.0**
SVUR				*i* S	**Sn**	**07 50 56.2**	**+4.0**
	comp=Z,17nm,0.3s						
SVUR				*i* AML	AML	07 51 12.1	
	comp=Z,92nm,1.0s						
SVUR	**Severouralsk**		**5.60 10**	P	**Pn**	**07 49 49.8**	**+2.0**
SVUR				S	**Sn**	**07 50 56.2**	**+4.0**
KIRV	**Kirov**		**6.16 313**	Pn	**Pn**	**07 49 56.0**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=116,slow=7.5,SNR=1.5						
KIRV				Lg	Lg	07 51 36.8	
	comp=Z,6.8nm,0.3s,baz=49,slow=23,SNR=14						
	comp=Z,4.2nm,0.4s						
KIRV	**Kirov**		**6.16 313**	*i* P	**Pn**	**07 49 57.4**	**+1.9**
	comp=Z,2.5nm,0.3s						
KIRV				*i* S	**Sn**	**07 51 09.3**	**+3.3**
	comp=Z,6.7nm,0.6s						
KIRV				*i* AML	AML	07 51 22.4	
	comp=Z,47nm,1.4s						
KIRV	**Kirov**		**6.16 313**	*i* P	Pb	07 50 06.4	-5.4
KIRV				*i* S	**Sb**	**07 51 18.0**	**-7.5**
KIRV				*i* AML	AML	07 51 33.3	
	comp=Z,37nm,0.7s						
KIRV				*i* AML	AML	07 51 33.3	
	comp=Z,47nm,1.4s						
KIRV	**Kirov**		**6.16 313**	⇓*e* P	**Pn**	**07 49 57.3**	**+1.8**
BELG	**Belogornoye**		**6.65 254**	Pn	**Pn**	**07 50 02.4**	**+0.2**
	comp=Z,6.5nm,0.3s,baz=262,slow=5.0,SNR=29						
BELG				Sn	**Sn**	**07 51 18.7**	**+0.6**
	comp=Z,6.5nm,0.3s,baz=331,slow=9.1,SNR=6.1						
BELG				Lg	Lg	07 51 52.1	
	comp=Z,4.6nm,0.3s,baz=11,slow=21,SNR=6.4						
	comp=Z,20nm,0.3s						
BELG	**Belogornoye**		**6.65 254**	*c i* P	**Pn**	**07 50 02.3**	**+0.1**
BELG				MLR	MLR		
	comp=Z,18nm,10.0s						
BRVK	**Borovoye**		**7.40 98**	⇓Pn	**Pn**	**07 50 12.4**	**-0.1**
	comp=Z,52nm,0.9s						
BRVK				⇑Sn	**Sn**	**07 51 36.6**	**+0.1**
	comp=Z,39nm,0.5s						
BRVK				⇓Lg	Lg	07 52 14.9	
	comp=Z,101nm,0.8s						
BRVK	**Borovoye**		**7.40 98**	Pn	**Pn**	**07 50 14.2**	**+1.7**
BRVK	**Borovoye**		**7.40 98**	*d i* P	**Pn**	**07 50 14.4**	**+1.9**
BRVK				pmax	pmax		
	comp=Z,50nm,0.8s						
BRVK				MLR	MLR		
	comp=Z,77nm,7.0s						
BVA0	**Borovoye Array**		**7.47 98**	⇓Pn	**Pn**	**07 50 13.6**	**+0.1**
	comp=Z,18nm,0.5s,baz=292,slow=14,SNR=115						
BVA0				⇑Sn	**Sn**	**07 51 37.2**	**-1.1**
	comp=Z,22nm,0.4s,baz=284,slow=24,SNR=10						
BVA0				⇓Lg	Lg	07 52 17.1	
	comp=Z,78nm,0.8s,baz=278,slow=31,SNR=4.4						
BVA0	**Borovoye Array**		**7.47 98**	P	**Pn**	**07 50 13.6**	**+0.1**
BVAR	**Borovoye Array**		**7.47 98**	Pn	**Pn**	**07 50 15.4**	**+1.9**
	comp=Z,1.9nm,0.3s,baz=291,slow=13,SNR=139						
BVAR				Sn	**Sn**	**07 51 39.1**	**+0.8**
	comp=Z,2.5nm,0.3s,baz=284,slow=24,SNR=9.2						
BVAR				Lg	Lg	07 52 21.0	
	comp=Z,1.3nm,0.3s,baz=284,slow=30,SNR=7.2						
	comp=Z,34nm,0.4s						
VRH	**Novokhopyorsk**		**10.47 257**	*e* P	**Pn**	**07 50 53.5**	**-1.1**
VRH				pmax	pmax		
	comp=Z,20nm,0.8s						
LPSR	**Galich'ya Gora**		**11.56 267**	*e* P	**Pn**	**07 51 07.6**	**-1.8**
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
MOS	**Moscow**		**11.72 283**	*e* P	**Pn**	**07 51 08.5**	**-3.2**
MOS				*e* S	**Sn**	**07 53 14.8**	**-7.8**
MOS				MLR	MLR		
	comp=Z,200nm,7.0s						
VSR	**Storozhevoye**		**11.92 261**	*e* P	**Pn**	**07 51 10.7**	**-3.8**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
VORD	**Divnogorie**		**11.96 259**	*e* P	**Pn**	**07 51 13.5**	**-1.4**
VORD				pmax	pmax		
	comp=Z,8.0nm,0.4s						
OBN	**Obninsk**		**12.38 281**	Pn	**Pn**	**07 51 19.6**

KVAR Kislovodsk Arr 14.67 229 Pn **Pn** 07 51 52.0 -0.1
baz=119,slow=19
KVAR Sn Sn 07 54 24.7 -10
baz=0.0,slow=20
KIV Kislovodsk 14.68 229 Pn **Pn** 07 51 51.1 -1.1
KIV Kislovodsk 14.68 229 *e*P **Pn** 07 51 50.2 -2.0
KIV pmax pmax
comp=Z,16nm,1.0s
KBZ Khabaz 14.77 228 Pn **Pn** 07 51 49.4 -3.9
comp=Z,2.1nm,0.3s,baz=17,slow=8.0,SNR=23
KBZ Sn Sn 07 54 25.7 -11
comp=Z,1.1nm,0.3s,baz=90,slow=19,SNR=2.7
comp=Z,5.7nm,0.3s
KBZ Khabaz 14.77 228 *c*e**P** **Pn** 07 51 50.9 -2.4
KBZ pmax pmax
comp=Z,19nm,0.9s
IUG Iuzhnay 14.83 143 *e*P **Pn** 07 51 54.0 -0.3
SHA1 Shidzhatmaz 14.86 229 *de*P **Pn** 07 51 52.3 -2.6
LABN Labinsk 15.05 235 *e*P **Pn** 07 51 53.5 -3.6
LABN *e*S **Sn** 07 54 40.2 -3.6
LABN pmax pmax
comp=Z,37nm,0.6s
ZAA0 Zalesovo Array 15.58 82 Pn **Pn** 07 52 02.3 -1.8
ZAA0 IAmb IAmb 07 52 11.3
comp=Z,13nm,1.1s
ZALV Zalesovo Beam 15.58 82 Pn **Pn** 07 52 03.0 -1.1
ZALV Zalesovo Beam 15.58 82 Pn **Pn** 07 52 02.8 -1.3
comp=Z,0.5nm,0.3s,baz=292,slow=12,SNR=8.9
ZALV Sn **Sn** 07 54 50.0 -6.7
comp=Z,1.1nm,0.3s,baz=287,slow=21,SNR=4.2
ZALV Zalesovo Beam 15.58 82 P **Pn** 07 52 03.0 -1.1
SGDS Sogindy 15.59 129 *e*P **Pn** 07 52 02.9 -1.4
TRKS Terek-Say 15.77 141 P **P** 07 52 10.0 -0.7
ARK Arkit 15.84 139 P **P** 07 52 10.0 -1.5
AAK Ala-Archa 16.18 132 Pn **Pn** 07 52 11.4 -0.6
AAK Ala-Archa 16.18 132 Pn **Pn** 07 52 10.4 -1.5
comp=Z,0.5nm,0.3s,baz=260,slow=3.6,SNR=7.8
AAK Sn **Sn** 07 55 01.6 -10
comp=Z,0.3nm,0.3s,baz=52,slow=19,SNR=2.9
comp=Z,3.7nm,0.7s
AAK Ala-Archa 16.18 132⇑ *e*P **Pn** 07 52 10.8 -1.2
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK MLR MLR
comp=Z,32nm,13.0s
ARXS Arharly 16.52 121 *e*P **Pn** 07 52 14.3 -2.0
ANN Anapa 16.56 242 *e*P **Pn** 07 52 13.4 -3.3
ANN *e*S **Sn** 07 55 17.5 -3.1
ANN pmax pmax
comp=Z,13nm,0.9s
ARLS Aral 16.74 134 P **P** 07 52 21.9 +0.4
BOOM Boomskoye usch 16.93 129 Pn **Pn** 07 52 21.4 -0.2
BOOM Boomskoye usch 16.93 129 P **Pn** 07 52 21.5 -0.2
BOOM pmax pmax
comp=Z,10.0nm,1.2s
BTK Batken 16.96 145 **Pn** 07 52 21.6 -0.3
BTK Batken 16.96 145 P **Pn** 07 52 21.6 -0.3
BTK pmax pmax
comp=Z,8.0nm,0.9s
MAKZ Makanchi 17.00 108 ⇓Pn **Pn** 07 52 21.9 -0.3
comp=Z,12nm,1.1s
MAKZ Makanchi 17.00 108 Pn **Pn** 07 52 22.0 -0.2
MAKZ IAmb IAmb 07 52 24.3
comp=Z,17nm,1.1s
MAKZ Makanchi 17.00 108 P **Pn** 07 52 22.0 -0.2
MAKZ pmax pmax
comp=Z,17nm,1.2s
MK31 Makanchi Array 17.18 107 ⇑Pn **Pn** 07 52 24.1 -0.5
comp=Z,6.2nm,0.8s
MK31 ⇑Sn **Sn** 07 55 34.1 -1.5
comp=Z,2.3nm,0.6s
MK31 Makanchi Array 17.18 107 **Pn** 07 52 24.2 -0.4
MK31 Makanchi Array 17.18 107 P **Pn** 07 52 24.7 +0.2
MK31 S **Sn** 07 55 34.8 -0.7
MKAR Makanchi Array 17.18 107 **Pn** 07 52 23.5 -1.0
MKAR Makanchi Array 17.18 107 P **Pn** 07 52 24.4 -0.1
comp=Z,0.5nm,0.3s,baz=307,slow=10,SNR=31
MKAR Lg Lg 07 57 23.8
baz=313,slow=25
comp=Z,6.1nm,0.8s
MKAR Makanchi Array 17.18 107 *i* P **Pn** 07 52 24.5 0.0
MKAR pmax pmax
comp=Z,6.0nm,0.8s
MNK Minsk 17.44 282 *i* P **Pn** 07 52 24.6 -3.0
comp=E,20nm,0.8s
MNK *i* P **Pn** 07 52 24.6 -3.0
comp=N,26nm,0.9s
MNK *i* P **Pn** 07 52 24.6 -3.0
comp=Z,17nm,0.6s,baz=77
MNK *i* PP **PnPn** 07 52 35.4 -2.2
MNK *i* PPP PPP 07 52 42.9
MNK *i* S **Sn** 07 55 40.1 -1.6
MNK *i* SS **SnSn** 07 55 55.0 +0.4
MNK *i* SSS SSS 07 56 07.8
MNK *i* LQ LQ 07 58 01.2
MNK *i* LR LR 07 58 47.2
MNK *i* LRM MLR 08 00 10.5
comp=N,94nm,18.3s
MNK *i* LRM MLR 08 00 10.5
comp=Z,40nm,13.6s
MNK *i* LRM MLR 08 00 40.0
comp=E,146nm,21.4s
MNK Minsk 17.44 282 *i* P **Pn** 07 52 24.6 -3.0
MNK *i* S **Sn** 07 55 40.0 -1.6
MNK pmax pmax
comp=Z,17nm,0.6s
MNK pmax pmax
comp=N,26nm,0.9s
MNK pmax pmax
comp=E,20nm,0.8s
MNK MLR MLR
comp=Z,40nm,14.0s
MNK MLR MLR
comp=N,94nm,18.0s
MNK MLR MLR
comp=E,146nm,21.0s
DZET Dzherino 17.49 151 P **P** 07 52 31.2 +1.4
VSU Vasula 17.58 295⇓ *e*P **Pn** 07 52 24.8 -4.5
VSU pmax pmax
comp=Z,19nm,1.2s
VSU MLR MLR
comp=Z,66nm,10.0s
SIMJ Simiganj 17.68 151 P **P** 07 52 32.2 +0.3
SIMJ IAmb IAmb 07 52 37.1
comp=Z,17nm,0.8s
GAR Garm 17.76 147 P **P** 07 52 33.4 +0.7
GAR IAmb IAmb 07 52 39.6
comp=Z,27nm,0.6s
DRK Karamyk 17.82 143 P **P** 07 52 34.4 +0.9
DRK IAmb IAmb 07 52 37.8
comp=Z,14nm,0.3s
DRK Karamyk 17.82 143 P **P** 07 52 34.4 +0.9
DRK pmax pmax
comp=Z,14nm,0.3s
AKASG Malin Array Be 17.88 269 Pn **Pn** 07 52 27.7 -5.4
comp=Z,1.8nm,0.3s,baz=63,slow=11,SNR=8.5
AKASG Sn Sn 07 55 36.8 -16
comp=Z,0.2nm,0.3s,baz=100,slow=11,SNR=1.6
AKASG Lg Lg 07 57 36.0
comp=Z,0.4nm,0.3s,baz=110,slow=35,SNR=1.5
comp=Z,3.5nm,0.8s
AKASG Malin Array Be 17.88 269 *i* P **Pn** 07 52 31.3 -1.8
AKASG pmax pmax
comp=Z,11nm,0.6s
AKBB Malin Array Si 17.88 269⇑ *e*P **Pn** 07 52 28.1 -5.0
AKBB pmax pmax
comp=Z,5.0nm,0.7s
AKBB MLR MLR
comp=Z,59nm,10.0s
AKBB Malin Array Si 17.88 269 P **Pn** 07 52 33.2 +0.1
KIEV Kiev 17.89 269 ⇓P **Pn** 07 52 28.1 -5.2
KIEV Kiev 17.89 269 P **Pn** 07 52 28.1 -5.2
KIEV Kiev 17.89 269 P **Pn** 07 52 33.2 -0.1
comp=Z,73nm,0.9s
NACGM Naroch 17.97 283 *e*P **Pn** 07 52 34.0 -0.3
FINES FINESS Array B 18.07 305 P **Pn** 07 52 31.3 -4.2
comp=Z,1.6nm,0.5s,baz=104,slow=15,SNR=7.5
FINES Sn Sn 07 55 41.2 -16
comp=Z,0.3nm,0.3s,baz=94,slow=21,SNR=2.7
FINES FINESS Array B 18.07 305 *i* P **Pn** 07 52 32.0 -3.4
FINES pmax pmax
comp=Z,2.0nm,0.5s
LUBAR Lubar, Ukraine 19.06 268 P **Pn** 07 52 47.6 0.0
KSH Kashi 19.38 134 P **Pn** 07 52 54.6 +2.9
KSH pmax pmax
comp=Z,5.0nm,0.6s

PABE Paberze 19.42 286 P **P** 07 52 49.2 -1.5
GURO Guroymak-BITLI 19.48 221 P **Pn** 07 52 53.5 +0.7
GURO IAmb IAmb 07 52 58.0
comp=Z,6.3nm,0.5s
RNPP9 Sopachiv 19.53 274 P **P** 07 52 52.5 +0.6
SORM Soroca 19.57 263 ⇓P **P** 07 52 52.3 -0.1
SORM Soroca 19.57 263 ⇓P **P** 07 52 52.3 -0.1
SORM Soroca 19.57 263 P **P** 07 52 52.6 +0.2
comp=Z,10nm,0.4s,comp=Z,5μm
RNPP5 Staryi Chortor 19.60 273 P **P** 07 52 53.0 +0.3
NRIK Noril'sk 19.83 31 P **P** 07 52 55.4 +0.2
NRIK Noril'sk 19.83 31 P **P** 07 52 54.8 -0.3
comp=Z,0.7nm,0.3s,baz=224,slow=11,SNR=11
comp=Z,3.7nm,0.5s
NRIK Noril'sk 19.83 31 *d i*P **Pn** 07 52 56.0 -0.7
NRIK pmax pmax
comp=Z,6.0nm,0.8s
NRIK MLR MLR
comp=Z,41nm,9.0s
HORU Horodok 20.16 267 P **P** 07 52 59.3 +0.5
HORU Horodok 20.16 267 P **P** 07 52 59.3 +0.5
HORU pP **sP** 07 53 04.6 +2.1
SUW Suwalki 20.23 282 P **P** 07 52 58.6 -0.9
SUW Suwalki 20.23 282 P **P** 07 52 58.6 -0.9
SUW pmax pmax
comp=Z,34nm,0.8s
ARCES ARCESS Array B 20.88 328 P **P** 07 53 06.2 -0.2
comp=Z,4.5nm,0.9s,baz=120,slow=13,SNR=2.6
comp=Z,4.5nm,0.9s
CFR Carcaliu 21.35 256⇑P **P** 07 53 12.7 +1.0
CFR Carcaliu 21.35 256 P **P** 07 53 12.7 +1.0
TESR Tescani 21.42 261⇑P **P** 07 53 13.1 +0.7
TESR Tescani 21.42 261 P **P** 07 53 12.2 -0.3
comp=Z,18nm,0.7s
TESR pP **pP** 07 53 15.6 +0.6
comp=Z,18nm,0.7s
BUR08 Bucovina Ar. S 21.64 265 P **P** 07 53 14.4 -0.6
BUR08 IAmb IAmb 07 53 19.3
comp=Z,6.3nm,0.8s
BURAR Bucovina Array 21.65 264⇑P **P** 07 53 14.3 -0.7
BURAR Bucovina Array 21.65 264⇑P **P** 07 53 14.3 -0.7
VRI Vrincioaia 21.74 259⇑P **P** 07 53 18.9 +2.9
VRI Vrincioaia 21.74 259⇑P **P** 07 53 18.9 +2.9
PLOR Plostina 21.80 259⇓P **P** 07 53 18.1 +1.6
PLOR Plostina 21.80 259⇓P **P** 07 53 18.1 +1.6
WMQ Urumqi 22.01 107 *e*P **P** 07 53 20.9 +2.0
WMQ sP sP 07 53 30.4 +7.7
WMQ pmax pmax
comp=Z,16nm,0.7s
TURR Turia 22.04 260⇑P **P** 07 53 20.9 +1.7
OZUR 22.15 260⇑P **P** 07 53 21.7 +1.4
BRTR Keskin Array B 22.20 238 P **P** 07 53 22.8 +1.7
comp=Z,3.4nm,0.8s,baz=58,slow=16,SNR=7.3
comp=Z,3.4nm,0.8s
MLR Muntele Rosu 22.41 259 P **P** 07 53 23.9 +0.7
MLR IAmb IAmb 07 53 44.5
comp=Z,6.8nm,0.7s
MLR Muntele Rosu 22.41 259⇑P **P** 07 53 24.7 +1.5
MLR Muntele Rosu 22.41 259⇑P **P** 07 53 24.7 +1.5
DOPR Dopca 22.45 261⇑P **P** 07 53 26.1 +2.5
MUKU Mukachevo 22.69 269 P **P** 07 53 26.7 +0.7
KOLS Kolonicke sedl 22.70 270 *e*P **P** 07 53 26.9 +0.8
KOLS pmax pmax
comp=Z,25nm,0.7s
KOLS Kolonicke sedl 22.70 270 *e*P **P** 07 53 26.9 +0.8
TRSU Trosnyk 22.71 268 P **P** 07 53 29.1 +2.9
TRSU Trosnyk 22.71 268 P **P** 07 53 29.1 +2.9
HOLU Holmets 22.83 269 P **P** 07 53 26.6 -0.9
VOIR 22.95 260⇑P **P** 07 53 31.4 +2.5
VOIR 22.95 260⇑P **P** 07 53 31.4 +2.5
VOIR 22.95 260 P **P** 07 53 29.5 +0.6
ARR Arges 23.23 260⇑P **P** 07 53 33.8 +2.0
MARR Marisel-Cluj 23.36 264⇓P **P** 07 53 34.4 +1.3
DRGR 23.53 265 P **P** 07 53 37.1 +2.3
HFS Hagfors 24.13 301 P **P** 07 53 41.7 +1.4
comp=Z,1.7nm,0.4s,baz=84,slow=14,SNR=5.9
comp=Z,1.7nm,0.4s
LANS Liptovska Anna 24.22 273 *e*P **P** 07 53 43.4 +2.1
LANS pmax pmax
comp=Z,5.0nm,0.7s
LANS Liptovska Anna 24.22 273 *e*P **P** 07 53 43.4 +2.1
GZR Gura Zlata 24.28 262⇑P **P** 07 53 45.6 +3.7
GZR Gura Zlata 24.28 262⇑P **P** 07 53 45.6 +3.7
VYHS Vyhne 24.90 272 *e*P **P** 07 53 49.8 +2.4
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 24.90 272 *e*P **P** 07 53 49.8 +2.4
NC405 NORSAR Array S 24.99 304 P **P** 07 53 45.4 -2.7
MORC Moravsky Berou 25.05 276 P **P** 07 53 49.1 +0.3
MORC IAmb IAmb 07 54 00.3
comp=Z,7.0nm,0.8s
MORC Moravsky Berou 25.05 276 *e*P **P** 07 53 49.7 +0.9
MORC Moravsky Berou 25.05 276⇓P **P** 07 53 50.8 +2.1
MORC Moravsky Berou 25.05 276⇓P **P** 07 53 50.8 +2.1
NC303 NORSAR Array S 25.15 304 P **P** 07 53 47.8 -1.7
NOA NORSAR Array B 25.24 304 P **P** 07 53 50.0 -0.4
comp=Z,1.5nm,0.8s,baz=86,slow=9.0,SNR=7.3
comp=Z,1.5nm,0.8s
NOA NORSAR Array B 25.24 304 P **P** 07 53 50.0 -0.4
KRLC Kraliky 25.35 277 *e*P **P** 07 53 53.7 +2.2
KRLC Kraliky 25.35 277 *e*P **P** 07 53 53.7 +2.2
JAVC Velka Javorina 25.40 274 *e*P **P** 07 53 52.9 +0.9
NC204 NORSAR Array S 25.43 304 P **P** 07 53 51.0 -1.1
DPC Dobruska-Polom 25.49 278 *e*P **P** 07 53 56.1 +3.3
DPC Dobruska-Polom 25.49 278 *e*P **P** 07 53 56.1 +3.3
CHVC Chvalec 25.54 278 *e*P P 07 54 04.4 +11
UPC Upice 25.60 278 *e*P P 07 54 06.1 +12
BRG Berggiesshubel 26.63 280 *e*P **P** 07 54 07.2 +4.2
BRG Amp 07 54 07.6
comp=Z,4.3nm,0.9s
BRG Berggiesshubel 26.63 280 *e*P **P** 07 54 07.2 +4.2
BRG pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 26.98 282 *i* P **P** 07 54 10.0 +3.8
CLL pmax pmax
comp=Z,6.0nm,0.6s
CLL Collm 26.98 282 *e*P **P** 07 54 07.0 +0.8
CLL *i* Pmax 07 54 10.0
comp=Z,6.0nm,0.6s
ZVC Zvikov 27.14 277 *e*P **P** 07 54 06.7 -0.9
GERES GERESS Array B 27.70 276 P **P** 07 54 14.7 +1.9
comp=Z,0.6nm,0.3s,baz=42,slow=11,SNR=0.6
comp=Z,0.6nm,0.3s
ULN Ulaanbaatar 30.84 82⇑ *e*P **P** 07 54 41.0 +0.3
ULN pmax pmax
comp=Z,5.0nm,1.8s
BMRD Maredsous 32.09 285 *d*P **P** 07 54 49.9 -1.6
TIXI Tiksi 33.60 33⇓ *e*P **P** 07 55 05.9 +1.5
TIXI pmax pmax
comp=Z,6.0nm,1.5s
EKA Eskdalemuir Ar 34.12 297 P **P** 07 55 11.4 +2.2
comp=Z,1.4nm,0.7s,baz=64,slow=11,SNR=1.9
comp=Z,1.4nm,0.7s
HHC Hu-ho-hao-te 37.57 89 *e*P **P** 07 55 38.3 -0.7
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,69nm,4.4s
PZH PanZhiHua 42.47 114 P **P** 07 56 21.9 +2.1
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.5s
ESDC Sonseca Array 43.30 276 P **P** 07 56 27.1 +0.8
comp=Z,1.9nm,0.9s,baz=47,slow=8.8,SNR=9.2
comp=Z,1.9nm,0.9s
G31M Satah River 58.33 6 P **P** 07 58 18.9 -0.2
G31M IAmb IAmb 07 58 21.5
comp=Z,4.5nm,0.9s
ILAR Eielson Array 59.31 12 P **P** 07 58 25.1 -0.9
comp=Z,0.4nm,0.8s,baz=324,slow=34,SNR=2.7
comp=Z,0.4nm,0.8s
CAST Castle Rocks 59.89 15 P **P** 07 58 29.8 -0.3
CAST IAmb IAmb 07 58 32.2
comp=Z,4.6nm,1.0s
KTH Kantishna Hill 59.94 15 P **P** 07 58 30.6 +0.2
KTH IAmb IAmb 07 58 33.2
comp=Z,4.2nm,0.9s
TORD Torodi Ar. Bea 60.20 249 P **P** 07 58 32.6 -0.1
comp=Z,0.6nm,0.5s,baz=17,slow=6.5,SNR=4.7
comp=Z,0.6nm,0.5s
DAWY Dawson 60.79 9 P **P** 07 58 36.0 -0.2
DAWY IAmb IAmb 07 58 37.9
comp=Z,2.9nm,1.0s

SKT Skwentna 61.34 15 P **P** 07 58 39.8 -0.1
BCAR Beaver Creek A 61.54 10 P **P** 07 58 42.0 +0.6
QSPA South Pole Qui 144.52 180 PKP PKPbc 08 07 58.8 +0.3
comp=Z,2.9nm,0.8s,baz=299,slow=3.8,SNR=14

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*IDC **15** 07:49:59.7±0.8, 11°.20N×85°.79W, h0km, mb4.0/11, mbtmp4.0/13, ML3.1/2, MS3.5/6, Error ellipse: s-maj=32.9km s-min=9.9km az=49.0*
*CATAC **15** 07:50:00.4±0.6, 10°.38N×86°.28W, h17km, ML4.3*
*UCR **15** 07:50:00.7±0.9, 10°.33N×86°.30W, h20km±5km, MW4.9*
*NEIC **15** 07:50:04.8±1.2, 10°.56N±0°.08×86°.08W±0°.07, h36km±11km, mb4.6/36, Error ellipse: s-maj=13.6km s-min=7.4km az=217.0*
ISC 15 07:50:02.6±1.3, **10°.47N**±0°.05×**86°.17W**±0°.05, **h33**km±9km, **n140**, σ1.9**05**/144, **mb4.6**/29, **MS3.4**/6, **18C**, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.61**	**109**⇑	*e*P			**Pb**	**07 50 14.1**	**-1.0**
SACU				*e*S			**Sb**	**07 50 23.8**	**+0.3**
ERIA	**Liberia**	**0.74**	**77**⇑	*e*P			**Pn**	**07 50 17.7**	**+0.9**
NICO	**Nicoya**	**0.79**	**115**	*e*P			**Pb**	**07 50 17.0**	**-0.9**
NICO				*e*S			**Sn**	**07 50 28.5**	**+0.5**
LCRUZ	**La Cruz**	**0.81**	**41**	*e*P			**Pn**	**07 50 18.7**	**+0.9**
GPS3	**Bodega del ICE**	**0.84**	**70**⇑	*e*P			**Pn**	**07 50 21.0**	**+2.7**
VRLE	**La Escondida,**	**0.86**	**68**⇑	*e*P			**Pb**	**07 50 18.9**	**-0.3**
VORI	**VORI**	**0.89**	**67**⇑	*e*P			**Pn**	**07 50 19.4**	**+0.5**
BAGA	**Bagaces**	**0.90**	**86**⇑	*e*P			**Pb**	**07 50 19.5**	**-0.3**
CARN	**Rivas**	**0.96**	**42**	*i* P			**Pb**	**07 50 21.0**	**+0.2**
CARN				IAML				07 50 51.4	
comp=Z,17μm,1.0s									
COLC	**Colonia**	**0.97**	**78**⇑	*e*P			**Pn**	**07 50 20.6**	**+0.5**
CUI	**Cuipilapa**	**1.01**	**79**⇑	*e*P			**Pn**	**07 50 21.2**	**+0.6**
CNAS	**Canas**	**1.06**	**92**⇑	*e*P			**Pn**	**07 50 21.8**	**+0.6**
JAPN	**AI SSO del Vol**	**1.16**	**25**	*i* P			**Pb**	**07 50 24.2**	**0.0**
JAPN				IAML				07 50 31.0	
comp=Z,5μm,1.0s									
MORN	**AI O del Volca**	**1.19**	**26**	*i* P			**Pb**	**07 50 24.3**	**-0.5**
MORN				IAML				07 50 31.7	
comp=Z,910nm,1.0s									
TENO	**El Achiote**	**1.20**	**78**⇑	*e*P			**Pn**	**07 50 23.3**	**+0.2**
JUNT	**Juntas**	**1.21**	**99**⇑	*e*P			**Pn**	**07 50 23.4**	**+0.1**
JTS	**Las Juntas de**	**1.21**	**98**	Pn			**Pn**	**07 50 23.0**	**-0.3**
JTS	**Las Juntas de**	**1.21**	**98**	Pg			**Pn**	**07 50 23.4**	**+0.1**
comp=Z,158nm,0.3s,baz=305,slow=18,SNR=202									
JTS				Lg			Lg	07 50 41.0	
comp=Z,198nm,0.3s,baz=296,slow=18,SNR=6.5									
JTS	**Las Juntas de**	**1.21**	**98**⇑	*e*P			**Pn**	**07 50 23.4**	**+0.1**
CONN	**Concepcion**	**1.22**	**26**	*i* P			**Pb**	**07 50 24.5**	**-0.7**
CONN				IAML				07 50 32.0	
comp=Z,58μm,1.0s									
NADN	**Granada**	**1.28**	**6**	*i* P			**Pn**	**07 50 24.1**	**-0.2**
NADN				IAML				07 50 52.3	
comp=Z,6μm,1.0s									
MTEVE	**Monteverde**	**1.33**	**96**	*e*P			**Pb**	**07 50 26.5**	**-0.7**
VERA	**Finca Concepci**	**1.34**	**73**	*e*P			**Pn**	**07 50 26.3**	**+1.2**
CBL1	**Cabuya**	**1.38**	**129**	*e*P			**Pn**	**07 50 24.4**	**-1.1**
ARE1	**Arenal 1**	**1.43**	**90**	*e*P			**Pb**	**07 50 27.7**	**-1.0**
CEDE	**Laguna Cedeo**	**1.45**	**89**⇑	*e*P			**Pb**	**07 50 27.9**	**-1.1**
NANN	**Nandasmo**	**1.47**	**2**	*i* P			**Pb**	**07 50 28.6**	**-0.8**
NANN				IAML				07 51 16.4	
comp=Z,72μm,1.0s									
VACR	**Volcan Arenal**	**1.47**	**90**⇑	*e*P			**Pn**	**07 50 28.2**	**+1.3**
FORC	**Fortuna**	**1.48**	**90**	*e*P			**Pb**	**07 50 28.4**	**-1.2**
SABN	**Sabanita**	**1.48**	**0**	*i* P			**Pn**	**07 50 27.9**	**+0.9**
SABN				IAML				07 51 14.8	
comp=Z,13μm,1.0s									
TUNA	**La Fortuna**	**1.50**	**90**	*e*P			**Pn**	**07 50 28.6**	**+1.3**
MASN	**Masaya**	**1.51**	**1**	*i* P			**Pb**	**07 50 28.9**	**-1.3**
MASN				IAML				07 50 39.6	
comp=Z,1μm,1.0s									
RA5A7	**El Crucero**	**1.52**	**355**	*i* P			**Pn**	**07 50 28.8**	**+1.1**
RA5A7				IAML				07 51 15.5	
comp=Z,11μm,1.0s									
SOCE	**Pocosol**	**1.53**	**93**				**Pn**	**07 50 28.4**	**+0.7**
SOCE	**Pocosol**	**1.53**	**93**	*i* P			**Pn**	**07 50 28.7**	**+1.0**
SOCE				IAML				07 50 40.9	
comp=Z,2μm,1.0s									
SOCE	**Pocosol**	**1.53**	**93**⇑	*e*P			**Pn**	**07 50 28.7**	**+1.0**
LCHIL	**Los Chiles**	**1.54**	**68**⇑	*e*P			**Pn**	**07 50 28.9**	**+1.1**
MAS3	**AI N del Volca**	**1.55**	**360**	*i* P			**Pn**	**07 50 28.6**	**+0.6**
MAS3				IAML				07 51 02.8	
comp=Z,2μm,1.0s									
ARZA	**Esparza**	**1.55**	**107**	*e*P			**Pn**	**07 50 27.9**	**-0.1**
UNAN	**Cigeo UNAN**	**1.64**	**357**	*i* P			**Pn**	**07 50 30.0**	**+0.8**
UNAN				IAML				07 51 10.0	
comp=Z,14μm,1.0s									
R0529	**La Mascota**	**1.65**	**358**	*i* P			**Pn**	**07 50 30.1**	**+0.8**
R0529				IAML				07 51 07.8	
comp=Z,2μm,1.0s									
TISN	**Laguna Tiscapa**	**1.67**	**357**	*i* P			**Pn**	**07 50 29.3**	**-0.3**
TISN				IAML				07 50 48.5	
comp=Z,150nm,1.0s									
R4DEC	**Barrio San Lui**	**1.68**	**357**	*i* P			**Pn**	**07 50 30.3**	**+0.6**
R4DEC				IAML				07 51 28.3	
comp=Z,2μm,1.0s									
SRA1	**San Ramn**	**1.71**	**103**	*e*P			**Pn**	**07 50 30.4**	**+0.2**
APQ2	**Apoyeque**	**1.73**	**355**	*i* P			**Pn**	**07 50 31.0**	**+0.6**
APQ2				IAML				07 51 07.4	
comp=Z,2μm,1.0s									
COPN	**Copaltepe**	**1.75**	**346**	*i* P			**Pn**	**07 50 31.0**	**+0.2**
COPN				IAML				07 50 41.9	
comp=Z,1μm,1.0s									
COVE	**Coope Vega, Sa**	**1.76**	**82**	*i* P			**Pn**	**07 50 31.3**	**+0.5**
COVE				IAML				07 51 19.1	
comp=Z,3μm,1.0s									
APYN	**Apoyeque**	**1.77**	**354**	*i* P			**Pn**	**07 50 31.6**	**+0.7**
APYN				IAML				07 51 02.0	
comp=Z,26nm,1.0s									
ACON	**Acoyapa**	**1.79**	**33**				**Pn**	**07 50 31.6**	**+0.4**
ACON	**Acoyapa**	**1.79**	**33**	*i* P			**Pn**	**07 50 32.4**	**+1.2**
ACON				IAML				07 50 39.7	
comp=Z,3μm,1.0s									
ACON				*i* S			**Sb**	**07 50 57.1**	**+0.3**
ACON	**Acoyapa**	**1.79**	**33**⇑	*e*P			**Pn**	**07 50 32.4**	**+1.2**
NARAN	**Naranjo de Ala**	**1.80**	**101**	*e*P			**Pn**	**07 50 32.5**	**+1.0**
ITAL	**Pital**	**1.87**	**90**⇑	*e*P			**Pn**	**07 50 33.2**	**+0.9**
MOMN	**Momotombo**	**1.96**	**349**	*i* P			**Pn**	**07 50 33.9**	**+0.2**
MOMN				IAML				07 50 50.3	
comp=Z,63nm,1.0s									
LEVN	**Ruinas Leon Vi**	**1.97**	**347**	*i* P			**Pn**	**07 50 34.2**	**+0.4**
LEVN				IAML				07 51 24.1	
comp=Z,1μm,1.0s									
MOM2	**El Cardon**	**1.98**	**351**	*i* P			**Pn**	**07 50 34.0**	**+0.1**
MOM2				IAML				07 50 45.2	
comp=Z,2μm,1.0s									
HDC	**Heredia**	**2.08**	**103**				**Pn**	**07 50 36.2**	**+0.9**
CNGA	**AI SSO del Vol**	**2.08**	**346**	*i* P			**Pn**	**07 50 35.7**	**+0.4**
CNGA				IAML				07 50 43.7	
comp=Z,700nm,1.0s									
PACN	**AI O del Volca**	**2.11**	**343**	*i* P			**Pn**	**07 50 35.0**	**-0.7**
PACN				IAML				07 50 48.8	
comp=Z,1μm,1.0s									
ILCN	**San Idelfonso**	**2.16**	**346**	*i* P			**Pn**	**07 50 36.4**	**0.0**
ILCN				IAML				07 50 52.9	
comp=Z,460nm,1.0s									
LCR2	**La Lucha 2**	**2.25**	**108**				**Pn**	**07 50 38.5**	**+0.7**
LCR2	**La Lucha 2**	**2.25**	**108**	*i* P			**Pn**	**07 50 38.2**	**+0.4**
LCR2				*i* S			**Sn**	**07 51 04.7**	**+0.1**
LCR2				IAML				07 51 26.1	
comp=Z,870nm,1.0s									
PKGN	**Cerro Pekin**	**2.33**	**340**	*i* P			**Pn**	**07 50 38.7**	**0.0**
PKGN				*i* S			**Sn**	**07 51 06.1**	**-0.1**
PKGN				IAML				07 51 12.8	
comp=Z,2μm,1.0s									
CRIN	**San Cristobal**	**2.38**	**339**				**Pn**	**07 50 39.5**	**+0.1**
TRT2	**Tortugero**	**2.40**	**88**	*i* P			**Pn**	**07 50 40.2**	**+0.6**
TRT2				IAML				07 51 44.1	
comp=Z,2μm,1.0s									
ESPN	**Las Esperanzas**	**2.52**	**47**				**Pn**	**07 50 42.2**	**+1.0**
ESPN	**Las Esperanzas**	**2.52**	**47**	*i* P			**Pn**	**07 50 42.5**	**+1.3**
ESPN				IAML				07 51 35.3	
comp=Z,1μm,1.0s									
LIMN	**Finca el Limon**	**2.59**	**356**	*i* P			**Pn**	**07 50 42.8**	**+0.5**
LIMN				IAML				07 50 57.6	
comp=Z,490nm,1.0s									
POTN	**Potosi Cosigui**	**2.84**	**333**	*i* P			**Pn**	**07 50 46.1**	**+0.4**
POTN				*i* S			**Sn**	**07 51 18.5**	**-0.2**
POTN				IAML				07 52 27.5	
comp=Z,880nm,1.0s									
CSGN	**Cosiguina Volc**	**2.84**	**332**	*i* P			**Pn**	**07 50 46.0**	**+0.2**

CSGN				*i* S		**Sn**	**07 51 19.2**	**+0.3**
CSGN				IAML			07 51 28.1	
	comp=Z,150nm,1.0s							
RCVN	**Varillal2**	**3.10**	**360**	*i* P		**Pn**	**07 50 50.6**	**+1.2**
RCVN				IAML			07 51 14.8	
	comp=Z,6μm,1.0s							
TGUH	**Tegucigalpa,Un**	**3.73**	**343**			**Pn**	**07 50 58.5**	**+0.5**
BRU2	**Volcan**	**3.81**	**116**	Pn		**Pn**	**07 51 00.7**	**+1.4**
MTO3	**Montecristo**	**5.00**	**322**	Pn		**Pn**	**07 51 17.2**	**+1.6**
ESQI	**Esquipulas**	**5.11**	**323**			**Pn**	**07 51 17.9**	**+0.8**
BCIP	**Isla Barro Col**	**6.38**	**101**	Pn		**Pn**	**07 51 34.8**	**+0.5**
RTAL	**Retalhuleu**	**6.74**	**307**	Pn		**Pn**	**07 51 40.5**	**+1.3**
HUEH	**Huehuetenango**	**7.09**	**313**	Pn		**Pn**	**07 51 45.7**	**+1.4**
CCIG	**Comitan**	**8.19**	**316**			**Pn**	**07 52 02.0**	**+2.5**
TEIG	**Tepich**	**9.91**	**348**	Pn		**Pn**	**07 52 22.6**	**-0.2**
CMIG	**Matias Romero**	**10.72**	**309**	Pn		**Pn**	**07 52 34.3**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=134,slow=7.2,SNR=14							
CMIG				Sn		**Sn**	**07 54 34.8**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=41,slow=20,SNR=1.9							
	comp=Z,6.7nm,0.8s							
COHC	**Cochancay**	**14.57**	**151**	Pn		**Pn**	**07 53 28.4**	**+1.7**
SDV	**Santo Domingo**	**15.40**	**95**	Pn		**Pn**	**07 53 35.0**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=307,slow=20,SNR=2.5							
	comp=Z,1.0nm,0.5s							
BAUV	**El Baul**	**17.94**	**93**			**P**	**07 54 10.3**	**+0.3**
451A	**Vernon**	**20.05**	**1**	P		**P**	**07 54 34.3**	**+1.2**
HBVL	**Hebbronville**	**20.29**	**326**			Pn	07 54 37.1	-0.7
HBVL				IAmb		IAmb	07 54 47.5	
	comp=Z,13nm,0.8s							
PCRV	**Puerto La Cruz**	**21.19**	**89**	P		**P**	**07 54 44.7**	**-0.9**
	comp=Z,7.5nm,0.8s,baz=324,slow=19,SNR=2.4							
	comp=Z,7.5nm,0.8s							
HKT	**Hockley**	**21.38**	**336**	P		**P**	**07 54 48.8**	**+1.4**
833A	**Chaparral WMA,**	**21.67**	**327**	P		**P**	**07 54 52.1**	**+1.5**
833A				IAmb		IAmb	07 54 55.1	
	comp=Z,14nm,0.7s							
MLDN	**Muldoon**	**21.75**	**334**	P		**P**	**07 54 52.4**	**+1.0**
MLDN				IAmb		IAmb	07 54 54.2	
	comp=Z,24nm,1.0s							
HNVL	**Huntsville, TX**	**21.96**	**338**	P		**P**	**07 54 55.0**	**+1.4**
HNVL				IAmb		IAmb	07 54 57.8	
	comp=Z,24nm,0.8s							
152A	**Waverly Hall**	**22.14**	**3**	P		**P**	**07 54 56.0**	**+0.5**
LRAL	**Lakeview Retre**	**22.48**	**358**	P		**P**	**07 54 59.7**	**+0.5**
LRAL				IAmb		IAmb	07 55 02.5	
	comp=Z,16nm,0.7s							
435B	**Jarrell**	**22.83**	**334**	P		**P**	**07 55 04.0**	**+1.1**
435B				IAmb		IAmb	07 55 06.9	
	comp=Z,23nm,0.9s							
GOGA	**Godfrey**	**22.97**	**6**	P		**P**	**07 55 04.4**	**0.0**
GOGA				IAmb		IAmb	07 55 06.2	
	comp=Z,17nm,0.8s							
DRIO	**Del Rio**	**23.20**	**326**	P		**P**	**07 55 07.5**	**+0.8**
Y49A	**Blount Mountai**	**23.29**	**359**	P		**P**	**07 55 07.9**	**+0.3**
Y49A				IAmb		IAmb	07 55 09.7	
	comp=Z,21nm,0.7s							
Y52A	**Lilburn**	**23.37**	**4**	P		**P**	**07 55 08.9**	**+0.5**
Y52A				IAmb		IAmb	07 55 09.9	
	comp=Z,24nm,0.9s							
JCT	**Junction City**	**23.61**	**329**	P		**P**	**07 55 10.7**	**-0.1**
X48A	**Hartselle**	**23.89**	**358**	P		**P**	**07 55 13.8**	**+0.5**
X48A				IAmb		IAmb	07 55 16.6	
	comp=Z,9.0nm,0.7s							
BRDY	**Brady**	**23.89**	**332**	P		**P**	**07 55 13.2**	**-0.2**
BRDY				IAmb		IAmb	07 55 14.9	
	comp=Z,11nm,0.7s							
HODGE	**Hodges**	**23.93**	**8**	P		**P**	**07 55 14.1**	**+0.4**
FPAL	**Fort Paine**	**23.97**	**1**	P		**P**	**07 55 14.1**	**0.0**
TREL	**Terrell**	**23.97**	**339**	P		**P**	**07 55 14.4**	**+0.3**
WLAR	**White Oak Lake**	**23.98**	**346**	P		**P**	**07 55 14.6**	**+0.5**
WLAR				IAmb		IAmb	07 55 15.9	
	comp=Z,16nm,0.9s							
X51A	**Calhoun**	**24.02**	**3**	P		**P**	**07 55 14.2**	**-0.3**
FW16	**Waxahatchie**	**24.04**	**337**	P		**P**	**07 55 15.9**	**+1.1**
Z38A	**Mt. Pleasant**	**24.09**	**342**	P		**P**	**07 55 15.2**	**0.0**
Z38A				IAmb		IAmb	07 55 17.7	
	comp=Z,15nm,0.8s							
BG3	**Lake Jocassee**	**24.59**	**6**	P		**P**	**07 55 20.1**	**+0.2**
W52A	**Murphy**	**24.60**	**4**	P		**P**	**07 55 20.3**	**+0.4**
W50A	**Signal Mountai**	**24.64**	**2**	P		**P**	**07 55 20.0**	**-0.2**
W50A				IAmb		IAmb	07 55 21.2	
	comp=Z,17nm,0.7s							
OZNA	**Ozona**	**24.64**	**328**	P		**P**	**07 55 21.0**	**+0.6**
FW06	**Azle**	**24.73**	**337**	P		**P**	**07 55 21.4**	**+0.3**
FW06				IAmb		IAmb	07 55 23.6	
	comp=Z,16nm,0.9s							
TXAR	**Lajitas Array**	**24.90**	**321**	P		**P**	**07 55 23.0**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=136,slow=11,SNR=44							
TXAR				PcP		**PcP**	**07 59 00.8**	**+2.7**
	comp=Z,1.0nm,0.8s,baz=156,slow=5.5,SNR=6.5							
TXAR				LR		LR	08 06 19.0	
	comp=Z,83nm,19.2s,baz=90,slow=40							
	comp=Z,3.5nm,0.6s							
CPCT	**Cooper Cave**	**24.92**	**3**	P		**P**	**07 55 23.0**	**+0.2**
CPCT				IAmb		IAmb	07 55 24.2	
	comp=Z,16nm,0.7s							
TKL	**Tuckaleechee C**	**25.17**	**5**	LR		LR	08 04 23.6	
	comp=Z,97nm,18.1s,baz=20,slow=35							
WMOK	**Wichita Mounta**	**26.77**	**336**	P		**P**	**07 55 40.2**	**+0.7**
WMOK				IAmb		IAmb	07 55 43.1	
	comp=Z,15nm,0.8s							
S51A	**Beattyville**	**27.16**	**4**	P		**P**	**07 55 42.6**	**-0.3**
MACA	**Manacapuru-AM**	**28.76**	**117**	P		**P**	**07 55 58.4**	**+0.9**
MACA				IAmb		IAmb	07 55 59.9	
	comp=Z,12nm,0.7s							
LPAZ	**La Paz**	**32.02**	**146**	P		P	07 56 31.8	+4.8
	comp=Z,1.0nm,1.0s,baz=6.5,slow=13,SNR=2.2							
	comp=Z,1.0nm,1.0s							
MDP	**Montagnes des**	**33.63**	**97**	LR		LR	08 11 17.4	
	comp=Z,46nm,18.7s,baz=302,slow=38							
PDAR	**Pinedale Array**	**38.10**	**332**	P		**P**	**07 57 17.5**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=125,slow=9.6,SNR=14							
PDAR				PcP		**PcP**	**07 59 34.1**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=99,slow=5.8,SNR=2.9							
	comp=Z,1.2nm,0.6s							
NVAR	**Mina Array Bea**	**40.01**	**319**	P		**P**	**07 57 36.6**	**+1.8**
	comp=Z,4.5nm,0.8s,baz=139,slow=7.6,SNR=32							
NVAR				PcP		**PcP**	**07 59 40.8**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=129,slow=4.1,SNR=7.0							
KVN	**Kaiserville**	**40.25**	**320**	P		**P**	**07 57 38.4**	**+1.7**
ULM	**Lac du Bonnet**	**40.47**	**350**	P		P	07 57 32.8	-5.3
	comp=Z,4.0nm,0.9s,baz=156,slow=8.4,SNR=3.4							
	comp=Z,4.0nm,0.9s							
WAKR	**Walker**	**40.79**	**319**	P		**P**	**07 57 43.7**	**+2.5**
RPN	**Rapa Nui**	**43.60**	**211**	LR		LR	08 11 12.0	
	comp=Z,55nm,18.7s,baz=8.5,slow=29							
BDFB	**Brasilia**	**45.83**	**124**	P		**P**	**07 58 24.2**	**+2.1**
	comp=Z,1.1nm,0.5s,baz=311,slow=12,SNR=3.2							
	comp=Z,1.1nm,0.5s							
SCHQ	**Schefferville**	**46.83**	**15**	P		**P**	**07 58 26.2**	**-3.0**
	comp=Z,5.9nm,0.7s,baz=204,slow=7.2,SNR=4.7							
	comp=Z,5.9nm,0.7s							
YKA	**Yellowknife Ar**	**55.85**	**345**	P		**P**	**07 59 34.8**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=151,slow=2.2,SNR=4.4							
	comp=Z,0.7nm,0.7s							
SFJD	**Kangerlussuaq**	**61.29**	**15**	LR		LR	08 26 08.0	
	comp=Z,65nm,18.6s,baz=180,slow=36							
ILAR	**Eielson Array**	**68.33**	**336**	P		**P**	**08 00 59.7**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=109,slow=4.9,SNR=9.2							
	comp=Z,1.3nm,0.9s							
ESDC	**Sonseca Array**	**77.43**	**52**	P		**P**	**08 01 52.5**	**-2.4**
	comp=Z,0.5nm,0.6s,baz=294,slow=5.7,SNR=4.7							
ESDC				LR		LR	08 32 59.0	
	comp=Z,18nm,18.8s,baz=314,slow=34							
	comp=Z,0.5nm,0.6s							
EKA	**Eskdalemuir Ar**	**77.50**	**36**	P		**P**	**08 01 52.0**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=276,slow=8.5,SNR=3.6							
	comp=Z,0.3nm,0.3s							
KSRS	**Korea Array**	**122.61**	**328**	PKP		**PKiKP**	**08 08 56.4**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=10.0,slow=1.9,SNR=2.4							
LZH	**Lanzhou**	**132.75**	**349**	*e*PKP		**PKiKP**	**08 09 17.3**	**+1.2**
LZH				sPKP			08 09 29.4	
ASAR	**Alice Springs**	**139.65**	**246**	PKP		**PKPdf**	**08 09 28.7**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=109,slow=2.7,SNR=4.9							
WRA	**Warramunga Arr**	**139.88**	**252**	PKP		**PKPdf**	**08 09 29.1**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=93,slow=2.0,SNR=4.9							
PZH	**PanZhiHua**	**142.46**	**348**	PKP		**PKPdf**	**08 09 32.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**150.82**	**350**	PKPbc		**PKPbc**	**08 09 50.8**	**-1.9**
	comp=Z,1.9nm,0.3s,baz=335,slow=3.1,SNR=10							

AUST 15 07:53:02.3±0.3, 31°S±6°×12°1E±°, h10km, mb3.9/4, ML3.0/7, Error ellipse: s-maj=12.9km s-min=6.5km az=166.2, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**3.32**	**253**	P	Pn	07 53 54.5	+0.2
MUN	**Mundaring**	**4.69**	**252**	P	Pn	07 54 12.4	-0.8
MEEK	**Meekatharra**	**4.72**	**327**	P	Pn	07 54 14.3	+0.6
MEEK	**Meekatharra**	**4.72**	**327**	S	Sn	07 55 08.3	-0.2
MORW	**Morawa**	**4.97**	**287**	P	Pn	07 54 16.6	-0.4
MORW	**Morawa**	**4.97**	**287**	S	Sn	07 55 12.4	-2.1
RKGY	**Rocky Gully**	**5.47**	**223**	P	Pn	07 54 24.3	+0.4
	comp=Z,39nm,1.4s,comp=Z,0.1nm						
RKGY	**Rocky Gully**	**5.47**	**223**	S	Sn	07 55 26.2	-0.6
FORT	**Forrest**	**5.68**	**93**	P	Pn	07 54 27.9	+1.1
	comp=Z,18nm,1.3s,comp=Z,0.1nm						
WRKA	**Warakurna**	**8.24**	**49**	P	Pn	07 55 03.1	+1.1
	comp=Z,4.5nm,1.6s,comp=Z,0.0nm						
WRKA	**Warakurna**	**8.24**	**49**	S	Sn	07 56 33.6	-1.6
MULG	**Mulgathing**	**10.88**	**91**	P	Pn	07 55 37.6	-0.4
	comp=Z,10nm,1.9s,comp=Z,0.0nm						
AS31	**Alice Springs**	**13.07**	**61**	P	Pn	07 56 06.1	-2.2

BER 15 07:54:38.2±0.5, 71°.31N×9°.36W, h3km±89km, ML2.5, Confirmed Earthquake
DNK 15 07:54:39.4±2.4, 71°.32N×11°.13W, h0km±154km, ML1.4
ISC 15 07:54:35.6±1.1, 71°.4N±0°.1×9°.6W±0°.2, h10km, n6, σ1°63/12, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.53**	**135**	*e*P	**Pg**	**07 54 46.4**	**+0.4**
JNW				*e*S	**Sg**	**07 54 52.5**	**-0.4**
JNW				IAML		07 54 54.6	
	comp=Z,333nm,0.3s						
JMIC	**Jan Mayen**	**0.55**	**140**	*e*P	**Pg**	**07 54 46.5**	**+0.3**
JMIC				*e*S	**Sg**	**07 54 52.7**	**-0.7**
JMIC				IAML		07 54 55.2	
	comp=Z,223nm,0.5s						
JMI	**Jan Mayen**	**0.56**	**150**	*e*P	**Pg**	**07 54 46.8**	**+0.4**
JMI				*e*S	**Sg**	**07 54 52.8**	**-0.8**
JMI				IAML		07 54 53.5	
	comp=Z,153nm,0.3s						
JNE	**Jan Mayen East**	**0.59**	**135**	*e*P	**Pg**	**07 54 47.1**	**+0.1**
JNE				*e*S	**Sg**	**07 54 53.6**	**-1.1**
JNE				IAML		07 54 56.5	
	comp=Z,415nm,0.2s						
DBG	**Daneborg**	**4.29**	**318**	*i* P	**Pn**	**07 55 42.8**	**+2.0**
DBG				*i* S	**Sn**	**07 56 27.4**	**-3.3**
DBG				IAML		07 56 31.2	
	comp=Z,2.2nm,0.2s						
DAG	**Danmarks Havn**	**5.93**	**339**	*i* P	**Pn**	**07 56 05.0**	**+1.7**
DAG				*i* S	**Sn**	**07 57 09.5**	**-1.7**
DAG				IAML		07 57 10.6	
	comp=Z,1.5nm,0.2s						

UCR 15 07:55:46.7±1.2, 10°.35N×86°.38W, h23km±7km, MW3.8, 6C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.78**	**96**	⇑*i*P	Pb	07 56 00.8	-0.9
SACU				*e*S	Sb	07 56 12.5	+0.6
NICO	**Nicoya**	**0.94**	**103**	*e*P	Pb	07 56 04.0	-0.4
LCRUZ	**La Cruz**	**1.03**	**45**	⇑*i*P	Pn	07 56 05.5	-0.3
GPS3	**Bodega del ICE**	**1.07**	**68**	⇑*i*P	Pn	07 56 06.3	-0.1
VRLE	**La Escondida,**	**1.08**	**66**	*e*P	Pn	07 56 05.7	-0.9
BAGA	**Bagaces**	**1.11**	**81**	*e*P	Pn	07 56 06.4	-0.5
COLC	**Colonia**	**1.19**	**75**	⇑*e*P	Pn	07 56 07.4	-0.7
CUI	**Cuipilapa**	**1.23**	**76**	⇑*i*P	Pn	07 56 08.0	-0.6
JUNT	**Juntas**	**1.40**	**93**	*e*P	Pn	07 56 10.0	-0.8
JTS	**Las Juntas de**	**1.40**	**92**	*e*P	Pn	07 56 10.0	-0.9
TENO	**El Achiote**	**1.42**	**76**	⇓*i*P	Pn	07 56 10.2	-1.0
VERA	**Finca Concepci**	**1.56**	**71**	*e*P	Pn	07 56 13.2	+0.1
ARE1	**Arenal 1**	**1.63**	**86**	*e*P	Pn	07 56 14.5	+0.4
CEDE	**Laguna Cedeo**	**1.65**	**85**	*e*P	Pn	07 56 14.8	+0.4
SOCE	**Pocosol**	**1.73**	**89**	*e*P	Pn	07 56 16.3	+0.9
LCHIL	**Los Chiles**	**1.77**	**67**	*e*P	Pn	07 56 15.4	-0.5
ACON	**Acoyapa**	**1.99**	**36**	*e*P	Pn	07 56 19.2	+0.2
ITAL	**Pital**	**2.07**	**87**	⇑*i*P	Pn	07 56 20.0	-0.1
BELE	**Belen**	**2.19**	**100**	*e*P	Pn	07 56 22.4	+0.6

NNC 15 07:56:23.4±1.9, 40°.78N×74°.90E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=13.9km s-min=8.7km az=172.0
SOME 15 07:56:23.5, 41°.03N×74°.83E, h0km
KNET 15 07:56:25.8±0.9, 41°.00N×74°.76E, h15km±8km, ml2.7, Error ellipse: s-maj=8.1km s-min=4.9km az=22.0
KRNET 15 07:56:25.8±0.1, 41°.03N×74°.71E, h35km, mb3.0
ISC 15 07:56:25.2±1.1, 40°.96N±0°.03×74°.58E±0°.02, h18km±5km, n67, σ1°38/116, 42C-22D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.93**	**348**	⇑*i*P	**Pg**	**07 56 42.1**	**-1.1**
ARLS				⇑*i*S	**Sg**	**07 56 54.1**	**-1.4**
SFK	**Sufi-Kurgan**	**1.25**	**221**	⇑*e*P	**Pg**	**07 56 50.3**	**+0.9**
SFK				⇑*e*S	**Sg**	**07 57 08.4**	**+2.6**
ARSB	**Arslanbob**	**1.26**	**287**	⇓*i*P	**Pg**	**07 56 49.9**	**+0.3**
ARSB				⇓*e*S	**Sg**	**07 57 07.7**	**+1.6**
UCH	**Uchtor**	**1.27**	**358**	⇑P	**Pg**	**07 56 49.0**	**-0.9**
	8.3nm,0.2s,SNR=7.1						
UCH				⇑S	**Sg**	**07 57 07.5**	**+1.0**
	22nm,0.2s						
UCH	**Uchtor**	**1.27**	**358**	⇑*i*P	**Pn**	**07 56 48.2**	**-0.3**
UCH				⇑*i*S	**Sb**	**07 57 04.3**	**-0.8**
AML	**Almayashu**	**1.35**	**331**	⇑P	**Pg**	**07 56 51.6**	**+0.3**
	18nm,0.2s,SNR=39						
AML				⇓S	**Sg**	**07 57 10.4**	**+1.4**
	53nm,0.3s						
AML	**Almayashu**	**1.35**	**331**	⇑*i*P	**Pg**	**07 56 50.5**	**-0.8**
AML				⇑*i*S	**Sg**	**07 57 08.0**	**-1.0**
OHH	**Osh**	**1.43**	**253**	⇑*i*P	**Pg**	**07 56 53.0**	**+0.2**
OHH				⇑*i*S	**Sg**	**07 57 13.1**	**+1.6**
AAK	**Ala-Archa**	**1.68**	**358**	⇑P	**Pg**	**07 56 56.5**	**-1.1**
	13nm,0.2s,SNR=25						
AAK				⇓S	**Sg**	**07 57 20.2**	**+0.8**
	76nm,0.7s						
AAK	**Ala-Archa**	**1.68**	**358**	⇑*e*P	**Pn**	**07 56 54.4**	**+0.5**
AAK				⇑*i*S	**Sn**	**07 57 14.9**	**-0.1**
KBK	**Karagaybulak**	**1.72**	**9**	⇓P	**Pb**	**07 56 56.5**	**+0.1**
	27nm,0.1s,SNR=65						
KBK				⇑S	**Sg**	**07 57 20.9**	**+0.1**
	98nm,0.2s						
KBK	**Karagaybulak**	**1.72**	**9**	⇑*i*P	**Pn**	**07 56 54.8**	**+0.4**
KBK				⇑*i*S	**Sn**	**07 57 15.5**	**-0.6**
ULHL	**Ulahol**	**1.79**	**43**	⇓P	**Pn**	**07 56 55.5**	**0.0**
	26nm,0.2s,SNR=24						
ULHL				⇑S	**Sn**	**07 57 18.6**	**+0.7**
	57nm,0.3s						
ULHL	**Ulahol**	**1.79**	**43**	⇑*i*P	**Pn**	**07 56 55.2**	**-0.2**
ULHL				⇑*i*S	**Sn**	**07 57 16.4**	**-1.4**
EKS2	**Erkin-Say**	**1.81**	**341**	⇑P	**Pg**	**07 56 60.0**	**0.0**
	6.5nm,0.3s,SNR=8.9						
EKS2				⇑S	**Sg**	**07 57 24.4**	**+1.0**
	18nm,0.3s						
EKS2	**Erkin-Say**	**1.81**	**341**	⇓*i*P	**Pb**	**07 56 56.7**	**-1.1**
EKS2				⇓*i*S	**Sn**	**07 57 18.9**	**+0.8**
BOOM	**Boomskoye usch**	**1.84**	**33**	⇑*i*P	**Pn**	**07 56 56.0**	**-0.1**
BOOM				⇑*i*S	**Sn**	**07 57 17.6**	**-1.4**
FRU1	**Bishkek**	**1.85**	**1**	⇑*i*P	**Pn**	**07 56 56.8**	**+0.7**
FRU1				⇑*i*S	**Sn**	**07 57 19.2**	**+0.1**
CHMS	**Chumysh**	**2.04**	**4**	⇑P	**Pb**	**07 57 02.5**	**+0.7**
	12nm,0.2s,SNR=9.8						
CHMS				⇑S	**Sg**	**07 57 30.2**	**-0.8**
	37nm,0.4s						
CHMS	**Chumysh**	**2.04**	**4**	⇑Pn	**Pg**	**07 57 04.3**	**-0.2**
	11nm,0.5s						
CHMS				⇑Sn	**Sg**	**07 57 32.6**	**+1.5**
	55nm,0.8s						
CHMS	**Chumysh**	**2.04**	**4**	⇑*i*P	**Pn**	**07 56 59.3**	**+0.6**
CHMS				⇑*i*S	**Sn**	**07 57 23.1**	**-0.7**
MRKS	**Merke**	**2.05**	**331**	Pg	**Pg**	**07 57 04.7**	**0.0**
	18nm,0.3s						
MRKS				Lg	Lg	07 57 34.2	
	119nm,0.5s						
MRKS	**Merke**	**2.05**	**331**	*e*P	**Pg**	**07 57 04.7**	**0.0**
	18nm,0.3s						
MRKS				*e*S	**Sg**	**07 57 34.2**	**+2.9**
	157nm,0.5s						
TKM2	**Tokmak 2**	**2.10**	**21**	⇑P	**Pb**	**07 57 02.4**	**-0.5**
	27nm,0.2s,SNR=45						
TKM2				⇓S	**Sb**	**07 57 30.7**	**+1.9**
	32nm,0.1s						
TKM2	**Tokmak 2**	**2.10**	**21**	⇓Pn	**Pb**	**07 57 02.7**	**-0.2**
	12nm,0.3s						
TKM2				⇓Sn	**Sg**	**07 57 31.8**	**-1.2**
	46nm,0.5s						
TKM2	**Tokmak 2**	**2.10**	**21**	⇓*i*P	**Pn**	**07 57 00.0**	**+0.3**
TKM2				⇓*i*S	**Sn**	**07 57 24.3**	**-1.3**
ARK	**Arkit**	**2.14**	**294**	⇓*i*P	**Pb**	**07 57 02.3**	**-1.2**
ARK				⇓*i*S	**Sb**	**07 57 29.4**	**-0.4**
MNAS	**Manas**	**2.18**	**315**	⇑*i*P	**Pb**	**07 57 02.9**	**-1.3**
MNAS				⇑*i*S	**Sb**	**07 57 29.3**	**-1.7**
KDJ	**Kajisay**	**2.28**	**58**	⇑*i*P	**Pn**	**07 57 01.9**	**-0.2**
KDJ				⇑*i*S	**Sn**	**07 57 28.6**	**-1.1**
USP	**Ospenovka**	**2.31**	**359**	⇓P	**Pb**	**07 57 06.2**	**-0.1**
	24nm,0.2s,SNR=65						
USP	**Ospenovka**	**2.31**	**359**	⇓*i*P	**Pn**	**07 57 03.1**	**+0.7**
USP				⇓*i*S	**Sn**	**07 57 29.8**	**-0.6**
KST	**Kastek**	**2.33**	**26**	Pg	**Pb**	**07 57 06.9**	**+0.2**
	19nm,0.2s						
KST				Lg	Lg	07 57 37.3	
	62nm,0.3s						
KST	**Kastek**	**2.33**	**26**	*e*P	**Pb**	**07 57 06.5**	**-0.2**
	22nm,0.3s						
KST				*e*S	**Sb**	**07 57 37.3**	**+2.2**
	62nm,0.3s						
DGS	**Degeres**	**2.45**	**21**	*e*P	**Pb**	**07 57 09.2**	**+0.4**
	39nm,0.5s						
DGS				*e*S	**Sg**	**07 57 42.0**	**-2.0**
	71nm,0.5s						
SGDS	**Sogindy**	**2.49**	**1**	Pg	**Pb**	**07 57 10.2**	**+0.7**
	11nm,0.5s						
SGDS				Lg	Lg	07 57 44.1	
	51nm,0.4s						
MTBS	**Maitube**	**2.57**	**32**	Pg	**Pb**	**07 57 10.4**	**-0.4**
	6.9nm,0.2s						
MTBS				Lg	Lg	07 57 44.4	
	37nm,0.3s						
MTBS	**Maitube**	**2.57**	**32**	*e*P	**Pb**	**07 57 10.4**	**-0.4**
	6.9nm,0.2s						
MTBS				*e*S	**Sb**	**07 57 44.4**	**+2.3**
	37nm,0.3s						
DRK	**Karamyk**	**2.59**	**236**	⇓*i*P	**Pb**	**07 57 09.6**	**-1.7**
DRK				⇓*i*S	**Sb**	**07 57 41.4**	**-1.5**
TRKS	**Terek-Say**	**2.66**	**284**	⇑*i*P	**Pb**	**07 57 09.2**	**-3.1**
TRKS				⇑*i*S	**Sb**	**07 57 41.0**	**-3.7**
TNSS	**Tian-Shan**	**2.73**	**40**	Pg	**Pb**	**07 57 12.7**	**-0.9**
	12nm,0.5s						
TNSS				Lg	Lg	07 57 48.4	
	31nm,0.5s						
TNSS	**Tian-Shan**	**2.73**	**40**	*e*P	**Pb**	**07 57 12.7**	**-0.9**
	12nm,0.5s						
TNSS				*e*S	**Sb**	**07 57 48.4**	**+1.4**
	31nm,0.5s						
MDOK	**Medeo**	**2.87**	**39**	Pn	**Pn**	**07 57 09.9**	**-0.3**
	7.1nm,0.4s						
MDOK				Pg	**Pb**	**07 57 15.3**	**-0.7**
	5.9nm,0.3s						
MDOK				Lg	Lg	07 57 52.6	
	49nm,0.8s						
MDOK				Lg	Lg	07 57 53.1	
	126nm,1.2s						
MDOK	**Medeo**	**2.87**	**39**	*e*P	**Pb**	**07 57 15.3**	**-0.7**
	5.9nm,0.3s						
MDOK				*e*S	**Sb**	**07 57 52.6**	**+1.8**
	49nm,0.8s						
KUU	**Kurty**	**3.21**	**23**	Pg	**Pb**	**07 57 21.5**	**-0.2**
	4.7nm,0.1s						
KUU				Lg	Lg	07 58 02.7	
	76nm,0.6s						
KUU	**Kurty**	**3.21**	**23**	*e*P	**Pb**	**07 57 21.5**	**-0.2**
	4.7nm,0.1s						
KUU				*e*S	**Sb**	**07 58 02.7**	**+2.2**
	76nm,0.6s						
SATY	**Saty**	**3.54**	**52**	Pg	**Pb**	**07 57 26.9**	**-0.5**
	5.5nm,0.3s						
SATY				Lg	Lg	07 58 12.2	
	28nm,0.4s						
SATY	**Saty**	**3.54**	**52**	*e*P	**Pb**	**07 57 26.9**	**-0.5**
	5.5nm,0.3s						
SATY				*e*S	**Sb**	**07 58 12.2**	**+2.1**
	28nm,0.4s						
IUG	**Iuzhnay**	**3.62**	**291**	Pg	**

York

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPNY	**Central Park**	**0.35**	**337**	Pg	Pg	08 23 49.5	-0.2
N62A	**Caumsett State**	**0.52**	**27**	Pg	Pg	08 23 52.9	-0.1
N62A				IAML		08 24 00.7	
	comp=E,102nm,0.7s						
N62A				IAML		08 24 09.1	
	comp=N,116nm,0.8s						
PAL	**Palisades**	**0.54**	**350**	Pg	Pg	08 23 53.0	-0.5
BRNJ	**Basking Ridge**	**0.64**	**290**	Pg	Pg	08 23 55.1	-0.1
TRNY	**Table Rock, Ra**	**0.75**	**334**	Pg	Pg	08 23 56.8	-0.8
ODNJ	**Ogdensburg**	**0.88**	**315**	Pg	Pg	08 23 59.1	-0.8
P61A	**Hammonton**	**1.11**	**225**	Pg	Pg	08 24 02.9	-1.5
P61A				Sg	Sg	08 24 18.3	-0.5
LUPA	**Lehigh Univers**	**1.22**	**277**	Pg	Pg	08 24 05.5	-0.9
LUPA				IAML		08 24 14.2	
	comp=N,33nm,3.8s						
LUPA				IAML		08 24 47.5	
	comp=E,28nm,5.0s						
KSCT	**Kent School, K**	**1.27**	**10**		Pg	08 24 06.4	-1.1
KSCT				IAML		08 24 17.2	
	comp=N,27nm,4.3s						
KSCT				Sg	Sg	08 24 23.0	-1.0
KSCT				IAML		08 24 39.9	
	comp=E,38nm,4.5s						
M63A	**Gales Ferry**	**1.61**	**54**	Pn	Pn	08 24 11.8	-0.7
M63A					Sn	08 24 33.0	-0.9
UCCT	**U. Connecticut**	**1.77**	**41**	Pn	Pn	08 24 14.9	+0.1
KSPA	**Keystone Colle**	**1.85**	**306**	Pn	Pn	08 24 15.6	-0.3
L59A	**Walton**	**1.96**	**331**	Pn	Pn	08 24 16.5	-1.0
MVL	**Millersville**	**2.02**	**257**	Pn	Pn	08 24 17.0	-1.2
L61B	**Northampton**	**2.14**	**22**	Pn	Pn	08 24 18.9	-1.0
N58A	**Sunbury**	**2.26**	**280**	Pn	Pn	08 24 20.2	-1.3
BINY	**Binghamton**	**2.40**	**317**	Pn	Pn	08 24 22.2	-1.2

*TIR **15** 08:27:49.9, 37.°56N×20.°10E, h10km±4km, Md3.4, Ml3.5*
*ATH **15** 08:27:50.8, 37.°64N×20.°58E, h16km±1km, ML3.1/11, Error ellipse: s-maj=3.3km s-min=1.3km az=40.0*
*THE **15** 08:27:51.1, 37.°65N×20.°62E, h11km, ML3.3/7, Error ellipse: s-maj=1.3km s-min=0.6km az=49.0*
ISC 15 08:27:50.8±1.4, 37.°63N±0.°05×20.°61E±0.°05, h14km±7km, n41, σ0°61/53, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.17**	**79**	P	**Pg**	**08 27 54.9**	**+0.1**
KRI1				S	**Sg**	**08 27 57.2**	**-0.4**
LTHK	**Lithakia**	**0.20**	**67**	P	**Pg**	**08 27 55.3**	**+0.1**
LTHK				S	**Sg**	**08 27 58.5**	**+0.2**
LTHK				AML	AML	08 27 58.6	
	comp=E,24011μm,0.3s						
LTHK				AML	AML	08 27 58.7	
	comp=N,24096μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.46**	**16**	P	**Pg**	**08 27 59.9**	**-0.1**
RTZL				S	**Sg**	**08 28 06.7**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.48**	**358**	P	**Pg**	**08 28 00.3**	**0.0**
PSDA				S	**Sb**	**08 28 07.5**	**-0.5**
	comp=N,5μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.48**	**358**	P	**Pg**	**08 28 00.4**	**0.0**
VLS	**Valsamata**	**0.55**	**358**	P	**Pg**	**08 28 01.1**	**-0.4**
VLS				S	**Sg**	**08 28 08.8**	**0.0**
	comp=N,2μm,0.4s						
VLS	**Valsamata**	**0.55**	**358**	P	**Pg**	**08 28 01.4**	**-0.1**
VLS				AML	AML	08 28 13.3	
	comp=E,4408μm,0.3s						
VLS				AML	AML	08 28 14.6	
	comp=N,5457μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.58**	**346**	P	**Pg**	**08 28 02.6**	**+0.3**
DMLN	**Damoulianata-K**	**0.63**	**343**	P	**Pg**	**08 28 03.2**	**0.0**
DMLN				S	**Sb**	**08 28 12.3**	**-0.1**
	comp=N,5μm,0.4s						
DMLN	**Damoulianata-K**	**0.63**	**343**	P	**Pg**	**08 28 03.1**	**0.0**
VSK1	**VASILIKIADES**	**0.78**	**357**	P	**Pg**	**08 28 05.2**	**-0.7**
VSK1				S	**Sb**	**08 28 17.1**	**+0.6**
RLS	**Riolos of Patr**	**0.80**	**58**	P	**Pg**	**08 28 06.2**	**-0.1**
RLS				S	**Sb**	**08 28 17.3**	**+0.2**
RLS	**Riolos of Patr**	**0.80**	**58**	P	**Pg**	**08 28 06.3**	**0.0**
RLS				AML	AML	08 28 19.1	
	comp=E,2342μm,0.7s						
RLS				AML	AML	08 28 22.8	
	comp=N,1786μm,0.4s						
FSK	**Fiskardo**	**0.83**	**357**	P	**Pg**	**08 28 06.0**	**-0.8**
FSK				S	**Sb**	**08 28 18.0**	**+0.1**
	comp=N,2μm,0.5s						
FSK	**Fiskardo**	**0.83**	**357**	P	**Pg**	**08 28 06.0**	**-0.8**
FSK				AML	AML	08 28 26.5	
	comp=N,3104μm,0.5s						
FSK				AML	AML	08 28 27.8	
	comp=E,4485μm,0.4s						
AMT	**Artemida-Makis**	**0.88**	**96**	P	**Pb**	**08 28 07.9**	**+0.1**
AMT				AML	AML	08 28 28.6	
	comp=N,6694μm,0.4s						
AMT				AML	AML	08 28 29.2	
	comp=E,4516μm,0.4s						
DRO	**Drossia**	**0.93**	**70**	P	**Pb**	**08 28 08.4**	**-0.3**
DRO				AML	AML	08 28 25.3	
	comp=E,2790μm,0.3s						
DRO				AML	AML	08 28 32.1	
	comp=N,2604μm,0.8s						
EVGI	**Lefkada island**	**0.99**	**2**	P	**Pb**	**08 28 08.8**	**-0.9**
EVGI				S	**Sg**	**08 28 23.2**	**+0.4**
EVGI	**Lefkada island**	**0.99**	**2**	P	**Pb**	**08 28 08.9**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.05**	**358**	P	**Pb**	**08 28 10.1**	**-0.7**
DRAG	**Dragano-Lefkad**	**1.05**	**358**	P	**Pb**	**08 28 09.5**	**-1.3**
NYDR	**Nydri-Lefkada**	**1.08**	**4**	P	**Pb**	**08 28 10.8**	**-0.5**
NYDR				S	**Sn**	**08 28 26.3**	**0.0**
	comp=N,1μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.08**	**4**	P	**Pb**	**08 28 09.6**	**-1.6**
ITM	**Ithomi**	**1.14**	**113**	P	**Pg**	**08 28 13.0**	**+0.2**
ITM				AML	AML	08 28 43.4	
	comp=E,657μm,0.8s						
ITM				AML	AML	08 28 46.5	
	comp=N,838μm,0.9s						
LKD2	**Lefkada island**	**1.16**	**2**	P	**Pg**	**08 28 14.4**	**+1.3**
LKD2				AMP			
	comp=E,4.1nm,0.7s,baz=19						
LKD2	**Lefkada island**	**1.16**	**2**	P	**Pg**	**08 28 13.2**	**+0.1**
LKD2				S	**Sn**	**08 28 28.8**	**+0.6**
	comp=E,2μm,0.6s						
LKD2	**Lefkada island**	**1.16**	**2**	P	**Pg**	**08 28 13.0**	**-0.1**
LKD2				AML	AML	08 28 37.5	
	comp=N,3919μm,0.6s						
LKD2				AML	AML	08 28 40.1	
	comp=E,2261μm,0.6s						
PYL	**PYLOS**	**1.16**	**129**	P	**Pn**	**08 28 11.5**	**-1.2**
TSLK	**Tsoukalades, L**	**1.19**	**2**	P	**Pn**	**08 28 12.8**	**-0.2**
TSLK				S	**Sg**	**08 28 29.4**	**+0.1**
	comp=E,1μm,0.5s						
TSLK	**Tsoukalades, L**	**1.19**	**2**	P	**Pn**	**08 28 12.1**	**-0.9**
KLV	**Kalavryta, Ach**	**1.29**	**71**	P	**Pn**	**08 28 14.5**	**+0.1**
KLV				AML	AML	08 28 42.1	
	comp=E,512μm,0.7s						
KLV				AML	AML	08 28 51.1	
	comp=N,391μm,0.7s						
EFP	**Efpalio**	**1.29**	**52**	P	**Pn**	**08 28 14.4**	**-0.1**
EFP				AML	AML	08 28 43.0	
	comp=N,883μm,0.8s						
EFP				AML	AML	08 28 47.2	
	comp=E,995μm,0.7s						
GUR	**Goura**	**1.41**	**77**	P	**Pb**	**08 28 17.1**	**+0.2**
ANX	**Ano Chora**	**1.41**	**47**	P	**Pn**	**08 28 16.3**	**+0.2**
ANX				AML	AML	08 28 47.0	
	comp=N,2800μm,0.5s						
ANX				AML	AML	08 28 47.3	
	comp=E,3000μm,0.6s						
KALE	**Kalithea**	**1.43**	**57**	P	**Pn**	**08 28 15.7**	**-0.6**
IGT	**Igoumenitsa**	**1.91**	**354**	P	**Pg**	**08 28 26.9**	**-0.6**
IGT				AMP			
	comp=E,1.0nm,0.4s,baz=5.0						
SRN	**Sarande**	**2.29**	**348**	P	**Pb**	**08 28 32.5**	**+0.6**
LSK	**Leskovik**	**2.52**	**360**	AMP			
	comp=E,0.8nm,0.6s,baz=8.0						
NEST	**Nestorio**	**2.80**	**7**	P	**Pb**	**08 28 41.2**	**+0.6**
SCTE	**Santa Cesarea**	**2.96**	**326**	P	**Pn**	**08 28 38.7**	**+1.4**
SCTE				AMP			
	comp=E,0.2nm,0.5s,baz=334						
FNA	**Florina**	**3.20**	**10**	P	**Pb**	**08 28 47.6**	**+0.1**
FNA				AMP			
	comp=N,0.1nm,0.5s,baz=16						

IDC 15 08:34:44.8±4.8, 5.74S×102.°33E, h0km, mb3.3/4, mbtmp3.3/4, Error ellipse: s-maj=188.0km s-min=27.9km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**29.69**	**265**	T	T	09 12 12.0	
	baz=88,slow=75,SNR=35						
H08S3	**Diego Garcia H**	**29.70**	**265**	T	T	09 12 13.9	
	baz=88,slow=75,SNR=41						
H08S1	**Diego Carcia H**	**29.71**	**265**	T	T	09 12 13.6	
	baz=88,slow=75,SNR=34						
H01W3	**Cape Leeuwin H**	**30.98**	**161**	T	T	09 13 34.4	
	baz=338,slow=76,SNR=5.4						
H01W2	**Cape Leeuwin H**	**31.00**	**161**	T	T	09 13 36.0	
	baz=338,slow=76,SNR=7.2						
H01W1	**Cape Leeuwin H**	**31.00**	**161**	T	T	09 13 36.0	
	baz=338,slow=76,SNR=6.3						
WRA	**Warramunga Arr**	**34.16**	**117**	P	P	08 41 32.3	+0.3
	0.3nm,1.0s,baz=284,slow=12,SNR=2.3						
	0.3nm,1.0s						
ASAR	**Alice Springs**	**35.22**	**124**	P	P	08 41 41.0	-0.2
	0.1nm,0.4s,baz=296,slow=8.3,SNR=1.4						
	0.1nm,0.4s						
SONM	**Songino Array**	**53.46**	**3**	P	P	08 44 06.0	-0.9
	0.7nm,0.6s,baz=187,slow=6.9,SNR=4.2						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**55.24**	**343**	P	P	08 44 20.5	+0.7
	0.3nm,0.5s,baz=159,slow=8.8,SNR=2.2						
	0.3nm,0.5s						
H04N2	**CROZET ISLANDS**	**59.27**	**219**	T	T	09 49 11.2	
	baz=63,slow=75,SNR=89						
H04N1	**CROZET ISLANDS**	**59.28**	**219**	T	T	09 49 10.0	
	baz=63,slow=75,SNR=89						
H04N3	**CROZET ISLANDS**	**59.28**	**219**	T	T	09 49 13.1	
	baz=63,slow=75,SNR=91						
H04S1	**CROZET ISLANDS**	**59.51**	**218**	T	T	09 49 29.7	
	baz=61,slow=75,SNR=7.9						
H04S3	**CROZET ISLANDS**	**59.52**	**218**	T	T	09 49 29.2	
	baz=61,slow=75,SNR=20						
H04S2	**CROZET ISLANDS**	**59.52**	**218**	T	T	09 49 30.4	
	baz=61,slow=75,SNR=9.4						

*ATH **15** 08:36:13.0, 37.°64N×20.°57E, h6km±1km, ML3.3/16, Error ellipse: s-maj=2.2km s-min=0.8km az=44.0*
*THE **15** 08:36:12.1, 37.°63N×20.°57E, h10km, ML3.4/8, Error ellipse: s-maj=1.2km s-min=0.5km az=47.0*
ISC 15 08:36:13.2±1.4, 37.°66N±0.°05×20.°61E±0.°05, h10km±7km, n41, σ0°69/62, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.17**	**89**	P	**Pg**	**08 36 16.2**	**-0.6**
KRI1				S	**Sg**	**08 36 19.1**	**-0.2**
LTHK	**Lithakia**	**0.19**	**75**	P	**Pg**	**08 36 17.8**	**+0.6**
LTHK				S	**Sg**	**08 36 19.4**	**-0.5**
LTHK				AML	AML	08 36 20.2	
	comp=E,34203μm,0.3s						
LTHK				AML	AML	08 36 22.6	
	comp=N,31971μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.44**	**17**	S	**Sg**	**08 36 28.5**	**+1.0**
PSDA	**Pessada-Kefalo**	**0.46**	**358**	P	**Pg**	**08 36 21.7**	**-0.4**
PSDA				S	**Sg**	**08 36 28.7**	**+0.6**
	comp=N,6μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.46**	**358**	P	**Pg**	**08 36 21.8**	**-0.3**
PSDA				S	**Sg**	**08 36 29.2**	**+1.1**
VLS	**Valsamata**	**0.52**	**359**	P	**Pg**	**08 36 22.7**	**-0.6**
VLS				S	**Sg**	**08 36 30.8**	**+0.7**
	comp=N,3μm,0.5s						
VLS	**Valsamata**	**0.52**	**359**	P	**Pg**	**08 36 22.9**	**-0.4**
VLS				S	**Sg**	**08 36 30.9**	**+0.7**
VLS				AML	AML	08 36 35.2	
	comp=N,9891μm,1.0s						
VLS				AML	AML	08 36 35.6	
	comp=E,5034μm,0.4s						
LXRA	**Lixouri, Kepha**	**0.56**	**346**	P	**Pg**	**08 36 24.0**	**0.0**
LXRA				S	**Sg**	**08 36 31.8**	**+0.4**
DMLN	**Damoulianata-K**	**0.61**	**342**	P	**Pg**	**08 36 24.3**	**-0.7**
DMLN				S	**Sg**	**08 36 33.4**	**+0.4**
	comp=E,9μm,0.5s						
DMLN	**Damoulianata-K**	**0.61**	**342**	P	**Pg**	**08 36 24.8**	**-0.2**
DMLN				S	**Sg**	**08 36 33.6**	**+0.6**
RLS	**Riolos of Patr**	**0.79**	**59**	P	**Pg**	**08 36 27.7**	**-0.7**
RLS	**Riolos of Patr**	**0.79**	**59**	P	**Pg**	**08 36 27.8**	**-0.6**
RLS				S	**Sb**	**08 36 39.9**	**+0.1**
RLS				AML	AML	08 36 43.7	
	comp=E,3999μm,0.6s						
RLS				AML	AML	08 36 44.3	
	comp=N,2233μm,0.6s						
FSK	**Fiskardo**	**0.80**	**358**	P	**Pg**	**08 36 27.4**	**-1.2**
FSK				S	**Sg**	**08 36 39.5**	**+0.4**
	comp=N,2μm,0.5s						
FSK	**Fiskardo**	**0.80**	**358**	P	**Pg**	**08 36 27.9**	**-0.8**
FSK				S	**Sg**	**08 36 38.9**	**-0.2**
FSK				AML	AML	08 36 44.3	
	comp=E,5665μm,0.7s						
FSK				AML	AML	08 36 48.2	
	comp=N,4622μm,0.5s						
AMT	**Artemida-Makis**	**0.89**	**98**	P	**Pg**	**08 36 30.2**	**0.0**
AMT				S	**Sb**	**08 36 42.4**	**-0.1**
AMT				AML	AML	08 36 49.3	
	comp=E,7397μm,0.7s						
AMT				AML	AML	08 36 53.1	
	comp=N,7818μm,0.5s						
DRO	**Drossia**	**0.92**	**71**	P	**Pg**	**08 36 30.0**	**-1.0**
DRO				S	**Sb**	**08 36 44.3**	**+0.6**
DRO	**Drossia**	**0.92**	**71**	P	**Pb**	**08 36 31.4**	**+0.1**
DRO				S	**Sb**	**08 36 44.1**	**+0.4**
DRO				AML	AML	08 36 49.6	
	comp=E,6302μm,0.6s						
DRO				AML	AML	08 36 52.4	
	comp=N,3255μm,0.5s						
EVGI	**Lefkada island**	**0.96**	**2**	P	**Pg**	**08 36 30.4**	**-1.3**
EVGI				S	**Sb**	**08 36 44.9**	**+0.1**
	comp=N,1μm,0.3s						
EVGI	**Lefkada island**	**0.96**	**2**	P	**Pg**	**08 36 30.9**	**-0.8**
EVGI				S	**Sg**	**08 36 44.7**	**+0.5**
DRAG	**Dragano-Lefkad**	**1.02**	**359**	P	**Pg**	**08 36 32.0**	**-0.9**
NYDR	**Nydri-Lefkada**	**1.05**	**4**	P	**Pg**	**08 36 31.9**	**-1.6**
NYDR				S	**Sb**	**08 36 48.2**	**+0.7**
	comp=N,2μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.05**	**4**	P	**Pg**	**08 36 32.6**	**-0.9**
LKD2	**Lefkada island**	**1.13**	**2**	P	**Pg**	**08 36 34.6**	**-0.3**
LKD2				S	**Sn**	**08 36 51.2**	**+0.5**
	comp=N,2μm,0.8s						
LKD2	**Lefkada island**	**1.13**	**2**	P	**Pb**	**08 36 34.8**	**0.0**
LKD2				AML	AML	08 36 58.6	
	comp=E,3409μm,0.7s						
LKD2				AML	AML	08 36 59.0	
	comp=N,5252μm,0.7s						
ITM	**Ithomi**	**1.16**	**114**	P	**Pg**	**08 36 35.0**	**-0.4**
ITM				AML	AML	08 36 59.6	
	comp=N,1370μm,0.8s						
ITM				AML	AML	08 37 01.7	
	comp=E,928μm,0.6s						
TSLK	**Tsoukalades, L**	**1.17**	**2**	P	**Pg**	**08 36 34.0**	**-1.6**
TSLK				S	**Sb**	**08 36 51.4**	**+0.8**
	comp=E,2μm,0.8s						
TSLK	**Tsoukalades, L**	**1.17**	**2**	P	**Pg**	**08 36 34.9**	**-0.7**
PYL	**PYLOS**	**1.18**	**130**	P	**Pn**	**08 36 35.5**	**-0.3**
PYL				S	**Sn**	**08 36 51.5**	**-0.5**
PYL				AML	AML	08 36 58.1	
	comp=E,1291μm,0.8s						
PYL				AML	AML	08 36 59.6	
	comp=N,819μm,0.6s						
EFP	**Efpalio**	**1.28**	**53**	P	**Pn**	**08 36 36.5**	**-0.7**
EFP				AML	AML	08 37 05.1	
	comp=E,1301μm,0.8s						
EFP				AML	AML	08 37 05.7	
	comp=N,1462μm,0.9s						
KLV	**Kalavryta, Ach**	**1.28**	**72**	P	**Pn**	**08 36 36.3**	**-0.9**
KLV				AML	AML	08 37 04.4	
	comp=N,816μm,0.9s						
KLV				AML	AML	08 37 05.5	
	comp=E,940μm,0.9s						
ANX	**Ano Chora**	**1.40**	**48**	P	**Pn**	**08 36 38.2**	**-0.7**
ANX				AML	AML	08 37 07.4	
	comp=E,3702μm,0.6s						
ANX				AML	AML	08 37 10.1	
	comp=N,4376μm,0.6s						
GUR	**Goura**	**1.40**	**78**	P	**Pn**	**08 36 38.8**	**-0.2**
KALE	**Kalithea**	**1.42**	**58**	P	**Pn**	**08 36 38.4**	**-0.7**
KALE				AML	AML	08 37 10.5	
	comp=N,1117μm,0.5s						
KALE				AML	AML	08 37 10.6	
	comp=E,1644μm,0.7s						
EVR	**Evrytania**	**1.57**	**37**	P	**Pn**	**08 36 41.3**	**0.0**
EVR				AML	AML	08 37 17.4	
	comp=E,1079μm,0.7s						
EVR				AML	AML	08 37 18.4	
	comp=N,1426μm,1.0s						
MAKR	**Makrakomi, Fth**	**1.81**	**41**	P	**Pn**	**08 36 44.6**	**+0.2**
MAKR				AML	AML	08 37 24.5	
	comp=E,2770μm,0.7s						
MAKR				AML	AML	08 37 27.5	
	comp=N,1860μm,0.8s						
IGT	**Igoumenitsa**	**1.88**	**354**	P	**Pn**	**08 36 45.8**	**+0.3**
LOUT	**Loutraki**	**1.90**	**79**	P	**Pn**	**08 36 46.5**	**+0.7**
LOUT				AML	AML	08 37 24.8	
	comp=E,132μm,0.9s						
LOUT				AML	AML	08 37 28.0	
	comp=N,152μm,0.8s						
VLI	**Veliai**	**2.08**	**116**	P	**Pn**	**08 36 49.1**	**+0.8**
KEK	**Kerkira**	**2.15**	**343**	P	**Pn**	**08 36 48.3**	**-0.8**
VIL2	**Platees**	**2.18**	**74**	P	**Pn**	**08 36 50.2**	**+0.7**
THL	**Klokotos Trika**	**2.20**	**30**	P	**Pn**	**08 36 49.8**	**0.0**

*UCR **15** 08:43:50.9±0.9, 10.°27N×86.°35W, h11km±10km, MW3.7*
*CATAC **15** 08:43:53.3±1.0, 10.°46N×86.°26W, h14km±7km, ML3.3*
ISC 15 08:43:51.0±3.6, 10.°38N±0.°10×86.°3W±0.°1, h9km±27km, n20, σ0°69/27, 1C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	**La Cruz**	**0.96**	**43**	⇑*i*P	**Pb**	**08 44 10.4**	**+0.5**
LCRUZ				*e*S	**Sn**	**08 44 25.5**	**+1.0**
VRLE	**La Escondida,**	**1.01**	**66**	*e*P	**Pb**	**08 44 10.5**	**-0.3**
VRLE				*e*S	**Sb**	**08 44 25.5**	**+1.3**
VORI	**VORI**	**1.04**	**65**	*e*P	**Pb**	**08 44 11.2**	**-0.1**
CARN	**Rivas**	**1.11**	**44**	*i* P	**Pb**	**08 44 12.1**	**-0.3**
CARN				*i* S	**Sb**	**08 44 26.5**	**-0.6**
CARN				IAML		08 44 37.0	
	comp=Z,850nm,1.0s						
COLC	**Colonia**	**1.12**	**75**	*e*P	**Pb**	**08 44 12.1**	**-0.5**
CUI	**Cuipilapa**	**1.16**	**76**	*e*P	**Pb**	**08 44 12.7**	**-0.5**
JTS	**Las Juntas de**	**1.33**	**94**	*e*P	**Pn**	**08 44 15.0**	**-0.8**
TENO	**El Achiote**	**1.35**	**76**	*e*P	**Pn**	**08 44 15.1**	**-1.0**
CONN	**Concepcion**	**1.36**	**29**	*i* P	**Pn**	**08 44 16.5**	**+0.4**
CONN				IAML		08 44 23.5	
	comp=Z,2μm,1.0s						
CONN				*i* S	**Sn**	**08 44 33.9**	**-0.4**
NADN	**Granada**	**1.39**	**11**	*i* P	**Pn**	**08 44 16.1**	**-0.5**
NADN				*i* S	**Sn**	**08 44 33.8**	**-1.3**
VERA	**Finca Concepci**	**1.49**	**71**	*e*P	**Pn**	**08 44 18.0**	**+0.1**
ARE1	**Arenal 1**	**1.56**	**87**	*e*P	**Pn**	**08 44 19.4**	**+0.4**
NANN	**Nandasmo**	**1.56**	**7**	*i* P	**Pn**	**08 44 19.8**	**+0.8**
NANN				IAML		08 44 32.4	
	comp=Z,3μm,1.0s						
CEDE	**Laguna Cedeo**	**1.58**	**86**	*e*P	**Pn**	**08 44 19.6**	**+0.4**
SOCE	**Pocosol**	**1.66**	**90**	*i* P	**Pn**	**08 44 21.7**	**+1.4**
SOCE				*i* S	**Sn**	**08 44 42.1**	**+0.3**
SOCE				IAML		08 44 57.3	
	comp=Z,140nm,1.0s						
COPN	**Copaltepe**	**1.81**	**351**	*i* P	**Pn**	**08 44 22.7**	**+0.3**
COPN				IAML		08 45 00.3	
	comp=Z,59nm,1.0s						
ACON	**Acoyapa**	**1.93**	**35**	*i* P	**Pn**	**08 44 24.0**	**0.0**
ACON				IAML		08 44 31.2	
	comp=Z,140nm,1.0s						
ACON				*i* S	**Sn**	**08 44 47.9**	**-0.6**
ACON	**Acoyapa**	**1.93**	**35**	*e*P	**Pn**	**08 44 24.1**	**0.0**
ITAL	**Pital**	**2.00**	**88**	*e*P	**Pn**	**08 44 24.8**	**-0.2**
LIMN	**Finca el Limon**	**2.67**	**359**	*i* P	**Pn**	**08 44 34.7**	**+0.4**
LIMN				IAML		08 45 12.3	
	comp=Z,55nm,1.0s						

*GII **15** 09:01:57.4±0.3, 37.°50N×20.°64E, h10km, Mws4.8, confirmed*
*BJI **15** 09:02:00.6, 37.°41N×20.°64E, h11km, mb4.8/51, mB5.1/20, Ms4.9/26, Ms7 4.6/26*
*IDC **15** 09:02:02.7±0.4, 37.°61N×20.°78E, h0km, mb4.7/35, mbtmp4.6/51, ML4.2/14, MS4.3/68, Error ellipse: s-maj=10.3km s-min=9.6km az=150.0*
*MOS **15** 09:02:02.5±1.3, 37.°55N×20.°69E, h10km, mb5.1/39, MS4.6/20, Error ellipse: s-maj=5.1km s-min=2.9km az=74.7*
*MCSM **15** 09:02:03.8±0.6, 37°N±6°×2°1E±°, h14km±3km, mB5.1, mb5.0, Mw(mB)4.5*
*TIR **15** 09:02:03.1, 37.°57N×20.°14E, h11km±1km, Md4.0, Ml5.1*
*PDG **15** 09:02:04.9±0.8, 37.°47N×20.°62E, h9km±1km, MD5.1/4, ML5.0/12, Error ellipse: s-maj=1.2km s-min=1.2km az=0.0*
*ATH **15** 09:02:05.4, 37.°52N×20.°68E, h17km, Mw4.9, Moment Tensor Solution. s8 Moment tensor: M_{rr}-0.07; $M_{\theta\theta}$0.70; $M_{\phi\phi}$-0.63; $M_{r\theta}$0.38; $M_{\theta\phi}$0.97; $M_{\phi r}$-2.47; Fault plane solution: NP1:ϕ_s276.00000°, δ21.00000°, λ6.00000°. NP2:ϕ_s180.00000°, δ88.00000°, λ111.00000°.*
*MED_RC **15** 09:02:05.0±0.2, 37.°50N×20.°64E, h20km±1km, MW4.8/25, Moment Tensor Solution. Mantle waves: s25,c39; Duration: 1s2 Moment tensor: Scale 10^{16}Nm; M_{rr}1.08±.15; $M_{\theta\theta}$0.03±.09; $M_{\phi\phi}$-1.10±.09; $M_{r\theta}$0.25±.10; $M_{\theta\phi}$0.36±.05; $M_{\phi r}$-2.02±.19; Best double couple: M_o2.34000×10^{16} NP1:ϕ_s172.00000°, δ75.00000°, λ95.00000°. NP2:ϕ_s333.00000°, δ15.00000°, λ72.00000°. Principal axes: T 2.2900, Plg59.0000°, Azm89.0000°; N 0.1000, Plg5.0000°, Azm351.0000°; P -2.3900, Plg30.0000°, Azm258.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*AFAD **15** 09:02:05.0±0.0, 37.°79N×20.°96E, h190km±23km, MW4.9*
*THE **15** 09:02:05.3, 37.°51N×20.°69E, h1km±1km, ML5.0/12, Error ellipse: s-maj=2.0km s-min=0.5km az=226.0*
*NAO **15** 09:02:05.0, 37.°50N×20.°64E, h10km, mb5.0*
*UPSL **15** 09:02:05.6, 37.°53N×20.°69E, h18km, Mw4.9, Moment Tensor Solution. s8 Moment tensor: M_{rr}0.95; $M_{\theta\theta}$0.06; $M_{\phi\phi}$-1.01; $M_{r\theta}$0.44; $M_{\theta\phi}$0.72; $M_{\phi r}$-3.06; Fault plane solution: NP1:ϕ_s307.00000°, δ13.00000°, λ47.00000°. NP2:ϕ_s171.00000°, δ80.00000°, λ99.00000°.*
*NEIC **15** 09:02:05.3±2.5, 37.°62N±0.°05×20.°67E±0.°05, h10km±1km, mb4.9/130 Error ellipse: s-maj=9.5km s-min=6.8km az=200.0*
*GCMT **15** 09:02:06.3±0.4, 37.°47N±0.°03×20.°57E±0.°03, h23km±1km, MW5.0/61, Moment Tensor Solution. s44,c57; s61,c77; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.22±.16; $M_{\theta\theta}$-0.15±.10; $M_{\phi\phi}$-2.07±

LXR1 S **Sn** **09 02 29.6 -1.2**
LXRA Lixouri, Kepha 0.70 340 P **Pb** **09 02 18.9 0.0**
LXRA AML AML 09 02 34.9
LXRA AML AML 09 02 37.5
SMHA Samh 0.72 354 P **Pg** **09 02 18.6 -0.6**
DMLN Damoulianata-K 0.76 337 P **Pb** **09 02 19.4 -0.5**
DMLN S **Sb** **09 02 30.9 +0.9**
173μm,0.5s
DMLN Damoulianata-K 0.76 337 P **Pb** **09 02 19.3 -0.5**
AMT Artemida-Makis 0.77 90 P **Pn** **09 02 20.8 -0.4**
AMT AML AML 09 02 38.2
AMT AML AML 09 02 38.7
RLS Riolos of Patr 0.77 47 P **Pb** **09 02 20.1 +0.1**
RLS S **Sn** **09 02 32.6 +0.1**
RLS Riolos of Patr 0.77 47 P **Pb** **09 02 20.2 +0.1**
RLS AML AML 09 02 39.0
comp=E,72756μm,1.0s
RLS AML AML 09 02 42.0
comp=N,66758μm,0.5s
DRO Drossia 0.87 61 P **Pg** **09 02 22.2 +0.2**
DRO Drossia 0.87 61 P **Pn** **09 02 22.5 -0.2**
DRO AML AML 09 02 41.0
DRO AML AML 09 02 52.7
VSK1 VASILIKIADES 0.88 351 P **Pg** **09 02 22.1 -0.2**
VSK1 S **Sn** **09 02 35.9 +0.6**
comp=N,115μm,0.5s
FSK Fiskardo 0.93 351 P **Pg** **09 02 23.1 -0.1**
FSK S **Sn** **09 02 37.2 +0.8**
comp=N,122μm,0.6s
FSK Fiskardo 0.93 351 P **Pb** **09 02 22.7 -0.1**
FSK AML AML 09 02 40.7
FSK AML AML 09 02 40.9
ITM Ithomi 1.01 110 *e*P **Pg** **09 02 26.4 +1.8**
ITM Ithomi 1.01 110 **Pg** **09 02 24.8 +0.2**
ITM Sg **Sn** **09 02 40.8 +2.5**
ITM Ithomi 1.01 110 P **Pg** **09 02 24.6 +0.1**
ITM S **Sn** **09 02 40.5 +2.2**
comp=N,40μm,0.6s
ITM Ithomi 1.01 110 ⇑P **Pg** **09 02 24.7 +0.1**
ITM Ithomi 1.01 110 P **Pg** **09 02 24.7 +0.1**
ITM AML AML 09 02 45.1
comp=N,87498μm,0.6s
ITM AML AML 09 02 53.1
comp=E,70996μm,0.7s
PYL PYLOS 1.02 129 P **Pn** **09 02 24.6 -0.1**
PYL S **Sn** **09 02 39.9 +1.2**
comp=E,45μm,0.5s
PYL PYLOS 1.02 129 P **Pn** **09 02 24.7 0.0**
PYL AML AML 09 02 43.6
comp=N,85411μm,0.5s
PYL AML AML 09 02 44.2
comp=E,99516μm,0.6s
AST1 Astakos 1.04 15 P **Pg** **09 02 25.7 +0.5**
EVGI Lefkada island 1.08 356 P **Pg** **09 02 26.0 -0.1**
EVGI S **Sg** **09 02 42.5 +2.2**
comp=E,58μm,0.3s
EVGI Lefkada island 1.08 356 P **Pb** **09 02 25.3 -0.2**
UPR University Cam 1.11 48 P **Pg** **09 02 27.8 +1.2**
DRAG Dragano-Lefkad 1.15 353 P **Pg** **09 02 27.7 +0.3**
DRAG S **Sg** **09 02 44.5 +2.1**
DRAG Dragano-Lefkad 1.15 353 P **Pb** **09 02 26.6 0.0**
NYDR Nydri-Lefkada 1.17 358 P **Pg** **09 02 28.0 +0.2**
NYDR S **Sg** **09 02 45.8 +2.7**
comp=E,60μm,0.6s
NYDR Nydri-Lefkada 1.17 358 P **Pb** **09 02 26.9 -0.1**
KLV Kalavryta, Ach 1.22 65 P **Pb** **09 02 28.2 +0.4**
KLV AML AML 09 03 02.4
comp=N,39476μm,0.9s
KLV AML AML 09 03 06.4
comp=E,58850μm,0.8s
LKD2 Lefkada island 1.25 357 *e*P **Pg** **09 02 30.7 +1.4**
LKD2 Lefkada island 1.25 357 P **Pb** **09 02 28.5 +0.2**
LKD2 AMP
comp=N,255nm,0.5s,baz=18
LKD2 Lefkada island 1.25 357 P **Pg** **09 02 30.6 +1.3**
LKD2 S **Sg** **09 02 48.0 +2.4**
comp=N,79μm,0.6s
LKD2 Lefkada island 1.25 357 P **Pn** **09 02 27.7 -0.2**
LKD2 AML AML 09 02 51.6
LKD2 AML AML 09 02 53.1
EFP Efpalio 1.27 46 P **Pb** **09 02 29.2 +0.5**
EFP AML AML 09 02 59.1
comp=E,69432μm,0.8s
EFP AML AML 09 03 03.2
comp=N,73508μm,0.9s
TSLK Tsoukalades, L 1.29 357 P **Pg** **09 02 30.3 +0.4**
TSLK S **Sg** **09 02 49.2 +2.5**
comp=N,83μm,0.6s
TSLK Tsoukalades, L 1.29 357 P **Pb** **09 02 28.6 -0.3**
GUR Goura 1.33 72 P **Pb** **09 02 30.1 +0.5**
GUR Goura 1.33 72 P **Pb** **09 02 29.9 +0.3**
GUR AML AML 09 02 59.2
comp=E,57364μm,0.9s
GUR AML AML 09 03 02.5
comp=N,62994μm,0.9s
KALE Kalithea 1.39 52 P **Pb** **09 02 31.0 +0.3**
KALE AML AML 09 03 03.8
comp=E,82141μm,0.7s
KALE AML AML 09 03 04.7
comp=N,72087μm,0.7s
ANX Ano Chora 1.40 41 P **Pb** **09 02 31.3 +0.3**
ANX AML AML 09 02 57.6
comp=E,69434μm,0.8s
ANX AML AML 09 02 59.5
EVR Evrytania 1.61 31 P **Pg** **09 02 35.5 -0.5**
EVR AML AML 09 03 13.4
comp=N,44980μm,1.0s
EVR AML AML 09 03 23.3
comp=E,37171μm,0.8s
DLFA Delphi 1.67 55 P **Pg** **09 02 37.0 -0.3**
DLFA AML AML 09 03 13.5
comp=N,33946μm,0.8s
DLFA AML AML 09 03 13.9
comp=E,32086μm,0.7s
MAKR Makrakomi, Fth 1.83 36 P **Pb** **09 02 39.1 +0.9**
MAKR AML AML 09 03 22.3
comp=E,86934μm,1.2s
MAKR AML AML 09 03 25.6
comp=N,64196μm,1.1s
VLI Veliai 1.93 114 P **Pb** **09 02 39.9 0.0**
AGG Agios Georgios 1.94 40 P **Pb** **09 02 41.1 +1.1**
AGG S **Sg** **09 03 08.7 +1.2**
AGG Agios Georgios 1.94 40 *e*P **Pb** **09 02 40.9 +0.9**
AGG Agios Georgios 1.94 40 **Pb** **09 02 40.9 +0.9**
AGG Agios Georgios 1.94 40 ⇑P **Pb** **09 02 40.9 +0.9**
AGG Agios Georgios 1.94 40 P **Pb** **09 02 40.9 +0.9**
AXAR Agios Charalam 1.94 50 P **Pb** **09 02 40.8 +0.7**
AXAR AML AML 09 03 21.1
comp=N,84885μm,0.9s
AXAR AML AML 09 03 30.0
comp=E,74059μm,1.2s
IGT Igoumenitsa 2.02 351 P **Pb** **09 02 39.9 -1.5**
IGT AMP
comp=E,43nm,0.5s,baz=4.0
IGT Igoumenitsa 2.02 351 *e*Pn **Pn** **09 02 39.7 +1.3**
IGT *e*Sg **Sg** **09 03 10.2 +0.2**
IGT Igoumenitsa 2.02 351 P **Pn** **09 02 39.5 +1.1**
IGT AML AML 09 03 11.8
comp=E,41110μm,0.5s
IGT AML AML 09 03 15.8
comp=N,22322μm,0.6s
VIL2 Platees 2.10 71 P **Pb** **09 02 42.3 -0.6**
VIL2 AML AML 09 03 29.4
comp=E,35467μm,1.1s
VIL2 AML AML 09 03 29.8
comp=N,32016μm,1.2s
THL Klokotos Trika 2.25 26 P **Pb** **09 02 44.4 -0.9**
THL AML AML 09 03 22.5
comp=N,14879μm,0.7s
THL AML AML 09 03 22.7
comp=E,19201μm,0.6s
KEK Kerkira 2.29 341 *e*P **Pn** **09 02 43.2 +1.0**
KEK Kerkira 2.29 341 **Pn** **09 02 43.0 +0.8**
KEK Kerkira 2.29 341 ⇑P **Pn** **09 02 43.0 +0.8**
SRN Sarande 2.41 346 P **Pn** **09 02 44.9 +1.1**
SRN AMP
comp=N,17nm,0.6s,baz=358
TYRN Tyrnavos 2.46 28 P **Pb** **09 02 47.3 -1.6**
LSK Leskovik 2.61 358 P **Pb** **09 02 49.2 -2.3**
LSK AMP
comp=E,40nm,0.8s,baz=7.0
NEST Nestorio 2.88 5 P **Pb** **09 02 54.1 -2.1**
LIT Litokhoron 2.90 27 P **Pn** **09 02 52.4 +1.9**
LIT S **Sn** **09 03 27.3 +2.2**
LIT Litokhoron 2.90 27 *e*P **Pn** **09 02 52.7 +2.2**
LIT Litokhoron 2.90 27 **Pn** **09 02 51.8 +1.3**
LIT Litokhoron 2.90 27 ⇑P **Pn** **09 02 52.7 +2.2**
LIT Litokhoron 2.90 27 P **Pn** **09 02 51.8 +1.3**
KBN Korca 3.08 1 P **Pn** **09 02 56.0 +2.8**
KBN AMP
comp=E,14nm,1.1s,baz=9.0
VLO Vlora 3.08 342 P **Pn** **09 02 53.5 +0.4**
VLO AMP
comp=E,25nm,0.5s,baz=351
SCTE Santa Cesarea 3.09 326 P **Pn** **09 02 52.5 -0.7**
SCTE AMP
comp=N,6.7nm,0.9s,baz=333
SCTE Santa Cesarea 3.09 326 **Pn** **09 02 53.1 -0.1**
FNA Florina 3.28 8 P **Pn** **09 02 55.6 -0.2**
FNA S **Sn** **09 03 36.7 +2.2**
FNA Florina 3.28 8 *e*P **Pn** **09 02 57.8 +2.0**
FNA Florina 3.28 8 P **Pb** **09 03 00.2 -2.6**
FNA AMP
comp=N,4.4nm,0.7s,baz=16
FNA Florina 3.28 8 Pn **Pn** **09 02 58.0 +2.2**
FNA Florina 3.28 8 *e*Pn **Pn** **09 02 58.4 +2.6**
FNA *e*Sn **Sn** **09 03 37.1 +2.7**
FNA Florina 3.28 8 P **Pn** **09 02 58.0 +2.2**
KNDR Palaiochora Ch 3.30 133 *e*P **Pn** **09 02 58.5 +2.4**
PAIG Paliouri 3.31 43 *e*P **Pn** **09 02 57.9 +1.8**
IMMV Iera Moni Meta 3.33 128 *e*P **Pn** **09 02 56.5 0.0**
TIP Timpagrande 3.54 299 **Pn** **09 02 58.8 -0.6**
TIP Timpagrande 3.54 299 ⇓P **Pn** **09 02 59.0 -0.4**
TIP ⇑S **Sn** **09 03 39.0 -1.8**
TIP Timpagrande 3.54 299 ⇓P **Pn** **09 02 59.1 -0.2**
HORT Hortiatis 3.56 30 *e*P **Pn** **09 03 01.1 +1.4**
OHR Ohrid 3.57 1 *e*Pn **Pn** **09 03 03.3 +3.5**
OHR Ohrid 3.57 1 *i* Pn **Pn** **09 03 03.2 +3.4**
OUR Ouranopolis 3.76 41 *e*P **Pn** **09 03 04.4 +2.0**
GVD Gavdhos 3.81 134 *e*P **Pn** **09 03 06.4 +3.3**
APE Apeiranthos 3.84 96 P **Pn** **09 03 04.1 +0.5**
APE Apeiranthos 3.84 96 ⇑P **Pb** **09 03 09.5 -3.0**
APE Apeiranthos 3.84 96 ⇑P **Pn** **09 03 04.9 +1.4**
APE Apeiranthos 3.84 96 ⇑P **Pb** **09 03 09.5 -3.0**
TIR Tirane 3.87 350 *e*P **Pn** **09 03 05.7 +1.9**
TIR Tirane 3.87 350 P **Pn** **09 03 06.5 +2.7**
TIR AMP
comp=E,4.2nm,0.8s,baz=357
TIR Tirane 3.87 350 **Pn** **09 03 04.5 +0.7**
TIR Tirane 3.87 350 *e*Pn **Pn** **09 03 05.9 +2.1**
TIR *e*Sn **Sn** **09 03 51.4 +2.6**
TIR Tirane 3.87 350 ⇓P **Pn** **09 03 05.4 +1.6**
TIR ⇑S **Sn** **09 03 50.0 +1.2**
TIR Tirane 3.87 350 ⇑P **Pn** **09 03 05.4 +1.6**
TIR Tirane 3.87 350 P **Pn** **09 03 05.4 +1.6**
TIR Tirane 3.87 350 P **Pn** **09 03 05.0 +1.2**
CEL Celeste 3.91 282 Pn **Pn** **09 03 04.1 -0.3**
IDI Anoyia 4.03 123 *e*P **Pn** **09 03 07.1 +1.0**
IDI Anoyia 4.03 123 **Pn** **09 03 08.0 +1.9**
IDI Anoyia 4.03 123 Pn **Pn** **09 03 07.6 +1.5**
comp=E,23nm,0.3s,baz=264,slow=7.5,SNR=24
IDI Sn **Sn** **09 03 55.2 +2.2**
comp=E,60nm,0.3s,baz=322,slow=22,SNR=5.6
VAY Valandovo 4.03 20 *e*Pn **Pn** **09 03 08.4 +2.3**
VAY *e*Sn **Sn** **09 03 53.9 +0.9**
VAY Valandovo 4.03 20 *i* Pn **Pn** **09 03 08.3 +2.2**
LIA Limnos Island 4.19 54 *e*P **Pn** **09 03 10.3 +2.0**
SRS Serrai 4.20 31 *e*P **Pn** **09 03 10.6 +2.2**
SRS Serrai 4.20 31 *e*Pn **Pn** **09 03 10.7 +2.3**
SRS *e*Sn **Sn** **09 03 59.5 +2.4**
SIGR SIGRI 4.35 66 *e*P **Pn** **09 03 12.0 +1.6**
MATE Matera 4.42 316 *e*P **Pn** **09 03 12.2 +0.8**
MATE Matera 4.42 316 ⇑P **Pn** **09 03 10.7 -0.7**
MATE Matera 4.42 316 ⇓P **Pn** **09 03 11.7 +0.2**
PUK Puka 4.55 352 P **Pn** **09 03 15.4 +2.2**
PUK AMP
comp=E,8.5nm,0.8s,baz=358
PUK Puka 4.55 352 **Pn** **09 03 14.1 +0.9**
CUC Castrocucco 4.57 304 **Pn** **09 03 13.6 +0.1**
ULC Ulcinj 4.57 346 ⇑*i*Pn **Pn** **09 03 13.9 +0.4**
ULC *i* Sn **Sn** **09 04 07.5 +1.3**
ZEYE Izmir, Urla-Ze 4.61 80 P **Pn** **09 03 15.2 +1.2**
KOCA Canakkale, Ayv 4.66 63 P **Pn** **09 03 16.4 +1.7**
URLA Izmir 4.70 78 *e*P **Pn** **09 03 17.2 +2.0**
BOZC Bozcaada 4.75 59 P **Pn** **09 03 17.5 +1.6**
DRME Dracevica, Mon 4.80 346 ⇑*i*Pn **Pn** **09 03 17.1 +0.5**
DRME *i* Sn **Sn** **09 04 13.0 +1.2**
GOAD anakkale-G¶ 4.81 55 P **Pn** **09 03 18.5 +1.8**
GADA Gvkgeada 4.81 55 *e*P **Pn** **09 03 18.8 +2.0**
BCI Bajram Curri 4.85 354 AMP
comp=N,15nm,0.8s,baz=0.0
EZN Ezine 4.93 61 *e*P **Pn** **09 03 18.5 +0.1**
BUM Brajici-Budva 4.96 344 ⇑*i*Pn **Pn** **09 03 19.8 +0.8**
BUM *i* Sn **Sn** **09 04 16.7 +0.6**
MRVN Minervino Murg 4.98 316 ⇑P **Pn** **09 03 19.4 +0.1**
PDG Podgorica 5.02 347 *e*P **Pn** **09 03 19.4 -0.2**
PDG Podgorica 5.02 347 Pn **Pn** **09 03 19.5 -0.1**
PDG Podgorica 5.02 347 *e*Pn **Pn** **09 03 19.7 +0.1**
PDG *e*Sn **Sn** **09 04 16.9 -0.3**
PDG Podgorica 5.02 347 *e*Pn **Pn** **09 03 19.8 +0.1**
PDG Podgorica 5.02 347 ⇓P **Pn** **09 03 20.2 +0.6**
PDG Podgorica 5.02 347 ⇓P **Pn** **09 03 19.7 +0.1**
PDG Podgorica 5.02 347 ⇑*i*Pn **Pn** **09 03 20.4 +0.8**
PDG *i* Sn **Sn** **09 04 18.2 +1.0**
ZKR Zakros 5.04 117 *e*P **Pn** **09 03 21.5 +1.6**
VAE Valguarnera 5.04 271 Pn **Pn** **09 03 20.8 +0.8**
comp=N,120nm,0.9s,baz=175,slow=18,SNR=19
VAE Sn **Sn** **09 04 17.1 -0.8**
comp=N,36nm,0.3s,baz=27,slow=2.3,SNR=2.5
VAE LR LR 09 05 34.2
comp=N,3μm,20.1s,baz=95,slow=41
BAYC CANAKKALE_Bayr 5.04 62 P **Pn** **09 03 22.4 +2.4**
BLCB Balcova 5.05 78 *e*P **Pn** **09 03 20.9 +0.9**
DKL Dikili 5.08 71 *e*P **Pn** **09 03 21.1 +0.6**
DKL Dikili 5.08 71 ⇑P **Pn** **09 03 23.4 +2.9**
PVY Plav 5.09 353 ⇑*i*Pn **Pn** **09 03 22.1 +1.4**
PVY *i* Sn **Sn** **09 04 20.3 +1.2**
RAFF Raffo Rosso 5.09 268 **Pn** **09 03 19.3 -1.4**
BOSS Bosilegrad 5.13 14 *e*Pn **Pn** **09 03 23.1 +1.9**
BOSS *e*Sn **Sn** **09 04 20.2 +0.2**
GCAM G?zelcaml? 5.15 86 *e*P **Pn** **09 03 22.3 +0.8**
RDO Rodhopi 5.17 44 *e*P **Pn** **09 03 23.3 +1.5**
RDO Rodhopi 5.17 44 **Pn** **09 03 23.0 +1.2**
RDO Rodhopi 5.17 44 ⇑P **Pn** **09 03 23.3 +1.5**
CEME Cevo 5.20 345 ⇑*i*Pn **Pn** **09 03 22.0 -0.1**
CEME *i* Sn **Sn** **09 04 22.4 +0.7**
HCY Herceg Novi 5.20 341 *e*Pn **Pn** **09 03 21.1 -1.0**
HCY Herceg Novi 5.20 341 ⇑*i*Pn **Pn** **09 03 21.7 -0.4**
HCY *i* Sn **Sn** **09 04 22.5 +0.8**
BODT Bodrum 5.25 93 *e*P **Pn** **09 03 25.9 +3.0**
CAVK Edirne/Enez-Ca 5.26 52 ⇑P **Pn** **09 03 26.1 +3.2**
ENEZ Enez 5.28 51 *e*P **Pn** **09 03 24.8 +1.6**
WDD Wied Dalam 5.28 253 **Pn** **09 03 23.4 +0.2**
WDD Wied Dalam 5.28 253 ⇓P **Pn** **09 03 23.4 +0.2**
GELI Tayfur-Gelibol 5.30 56 *e*P **Pn** **09 03 25.9 +2.4**
ALN Alexandroupoli 5.31 49 *e*P **Pn** **09 03 24.9 +1.4**
ALN Alexandroupoli 5.31 49 **Pn** **09 03 25.0 +1.4**
ALN Alexandroupoli 5.31 49 ⇑P **Pn** **09 03 25.0 +1.4**
ALN Alexandroupoli 5.31 49 P **Pn** **09 03 25.0 +1.4**
BARS Barje 5.33 8 *e*Pn **Pn** **09 03 25.3 +1.3**
BARS *e*Sn **Sn** **09 04 23.6 -1.5**
IVA Berane 5.37 353 ⇑*i*Pn **Pn** **09 03 26.2 +1.7**
IVA *i* Sn **Sn** **09 04 26.7 +0.7**
KOME Kolasin 5.39 350 ⇓*i*Pn **Pn** **09 03 26.9 +2.1**
KOME *i* Sn **Sn** **09 04 27.9 +1.4**
NKME Niksic 5.40 346 ⇓*i*Pn **Pn** **09 03 25.5 +0.6**
NKME *i* Sn **Sn** **09 04 27.4 +0.7**
KDZ Kurdzhali 5.41 40 *e*P **Pn** **09 03 26.8 +1.7**
VTS Vitosha 5.42 20 *e*Pn **Pn** **09 03 27.4 +2.1**
VTS *e*Sn **Sn** **09 04 28.1 +0.7**
ERIK Erikli-Kesan 5.47 53 *e*P **Pn** **09 03 25.1 -0.7**
TREB Trebinje 5.49 341 *e*Pn **Pn** **09 03 25.2 -0.9**
DAT Datca 5.52 96 *e*P **Pn** **09 03 28.5 +1.9**
KARP Karpathos 5.53 109 *e*P **Pn** **09 03 28.6 +1.8**
KARP Karpathos 5.53 109 **Pn** **09 03 28.7 +1.9**
KARP Karpathos 5.53 109 ⇑P **Pn** **09 03 30.3 +3.5**
PLD Plovdiv 5.54 33 *e*P **Pn** **09 03 28.8 +2.0**
PLD Plovdiv 5.54 33 *e*Pn **Pn** **09 03 28.9 +2.1**
BRY Bratogost 5.62 343 *e*Pn **Pn** **09 03 27.5 -0.5**
BRY Bratogost 5.62 343 ⇓*i*Pn **Pn** **09 03 27.3 -0.7**
BRY *i* Sn **Sn** **09 04 32.3 +0.1**
AYDB Zeytinkoy-Aydi 5.68 84 *e*P **Pn** **09 03 31.4 +2.6**
SELS Selova 5.68 3 *e*Pn **Pn** **09 03 29.9 +1.1**
SELS *e*Sn **Sn** **09 04 32.9 -0.8**
SJES Sjenica 5.75 354 *e*Pn **Pn** **09 03 30.9 +1.1**
SJES Sjenica 5.75 354 *e*Pn **Pn** **09 03 30.9 +1.1**
UKOP Uzunkopru-Edir 5.80 50 *e*P **Pn** **09 03 32.4 +2.0**
STON Ston 5.81 337 *e*Pn **Pn** **09 03 29.8 -0.8**
STON *e*Sn **Sn** **09 04 32.0 -4.8**
STON Ston 5.81 337 *e*Pn **Pn** **09 03 29.2 -1.4**
UPM Unac-Piva 5.83 347 *e*Pn **Pn** **09 03 33.0 +2.0**
KRBG Karabiga-Canak 5.85 59 *e*P **Pn** **09 03 33.7 +2.7**
PLE Pljevlja 5.88 350 ⇓*i*Pn **Pn** **09 03 32.6 +1.0**
PLE *i* Sn **Sn** **09 04 38.4 -0.2**
RKY Sarkoy-Tekirda 5.91 56 *e*P **Pn** **09 03 32.8 +0.9**
ZAPS Zavoj 5.91 14 *e*Pn **Pn** **09 03 33.8 +1.9**
PAOL Paolisi 5.93 308 **Pn** **09 03 33.2 +1.0**
CLTB Caltabellotta 5.98 273 ⇑P **Pn** **09 03 34.6 +1.6**
GORD Gordes-Manisa 6.01 75 *e*P **Pn** **09 03 36.1 +2.8**
YER Yerkesik 6.02 92 *e*P **Pn** **09 03 37.6 +4.1**
TURN Turunc 6.04 95 *e*P Pn 09 03 38.5 +4.9
IVAS Ivanjica 6.05 356 *e*Pn **Pn** **09 03 34.2 +0.3**
ARG Arkhangelos 6.06 100 *e*P **Pn** **09 03 36.9 +2.9**
ARG Arkhangelos 6.06 100 **Pn** **09 03 36.1 +2.1**
ARG Arkhangelos 6.06 100 ⇑P **Pn** **09 03 37.4 +3.4**
ARG Arkhangelos 6.06 100 P **Pn** **09 03 36.1 +2.1**
BOVS Bovan 6.13 7 *e*Pn **Pn** **09 03 35.3 +0.3**
BOVS Bovan 6.13 7 ⇑P **Pn** **09 03 35.8 +0.9**
EDC Edincik 6.21 61 *e*P **Pn** **09 03 38.7 +2.6**
EDRB Edirne 6.32 45 *e*P **Pn** **09 03 38.8 +1.3**
KULA Kula-Manisa 6.32 79 *e*P **Pn** **09 03 40.1 +2.4**
GRUS Gruza 6.34 360 *e*Pn **Pn** **09 03 38.5 +0.7**
DALY Dalyan (Mula) 6.35 94 *e*P Pn 09 03 43.4 +5.4
ZAGS Zajecar 6.37 10 *e*Pn **Pn** **09 03 39.5 +1.3**
BAND Balkesir-Ban 6.38 62 ⇓P **Pn** **09 03 41.8 +3.4**
BBLS Lazi&#263i 6.40 351 *e*Pn **Pn** **09 03 40.8 +2.1**
BBLS *e*Sn **Sn** **09 04 48.2 -3.3**
BBLS Lazi&#263i 6.40 351 *e*Pn **Pn** **09 03 38.3 -0.4**
CRLT Corlu 6.50 54 *e*P **Pg** **09 04 10.2 +0.8**
KCTX Karacabey (Bur 6.53 63 *e*P **Pn** **09 03 42.9 +2.5**
DIVS Divibare 6.58 355 *e*Pn **Pn** **09 03 41.1 -0.1**
DIVS *e*Sn **Sn** **09 04 52.7 -3.1**
SIMA Simav-Kutahya 6.66 74 *e*P **Pn** **09 03 40.3 -2.0**
ELND Elena 6.66 34 ⇑P **Pn** **09 03 44.4 +2.2**
HAPS Han Pijesak,Bl 6.68 349 *e*Pn **Pn** **09 03 42.8 +0.2**
HAPS *e*Sn **Sn** **09 04 56.3 -2.1**
TRUS Trudelj 6.68 358 *e*Pn **Pn** **09 03 42.7 +0.2**
TRUS *e*Sn **Sn** **09 04 56.7 -1.6**
FETY Fethiye 6.72 95 *e*P **Pn** **09 03 45.9 +2.8**
APMY Acipayam-Deniz 6.80 88 *e*P Pn 09 03 49.3 +5.1
CAME Cameli-Denizli 6.85 92 *e*P **Pn** **09 03 49.0 +4.0**
KUBS Kucevo 6.90 6 *e*Pn **Pn** **09 03 44.9 -0.6**
INTR Introdacqua 6.91 312 **Pn** **09 03 46.2 +0.5**
MDNY Mudanya-Bursa 6.94 63 *e*P **Pn** **09 03 48.5 +2.4**
ARMT Armutlu 7.00 62 *e*P **Pb** **09 04 06.5 +0.2**
TEKS Tekeris 7.06 353 *e*Pn **Pn** **09 03 47.1 -0.7**
TEKS Tekeris 7.06 353 *e*Pn **Pn** **09 03 46.8 -1.0**
TVSB Tavsanli 7.10 72 *e*P Pn 09 03 42.1 -6.2
AVAS Avala Beograd 7.15 359 *e*Pn **Pn** **09 03 48.6 -0.4**
AVAS *e*Sn **Sn** **09 05 07.0 -2.9**
BGKT Bogazkoy 7.20 57 *e*P **Pn** **09 03 51.9 +2.3**
AKAS Kas 7.22 98 *e*P **Pn** **09 03 53.2 +3.2**
MDVR Moldovita 7.27 5 *e*Pn **Pn** **09 03 51.2 +0.5**
MDVR *e*Sn **Sn** **09 05 09.8 -3.1**
MDVR Moldovita 7.27 5 ⇑P **Pn** **09 03 51.6 +0.9**
ISK Istanbul-Kandi 7.34 59 *e*P **Pn** **09 03 48.7 -2.9**
SRE Strehaia 7.36 14 ⇑P **Pn** **09 03 53.5 +1.8**
SRE Strehaia 7.36 14 P **Pn** **09 03 53.5 +1.8**
ELL Elmali 7.36 93 *e*P Pn 09 03 59.7 +7.8
ELL Elmali 7.36 93 Pn **Pn** **09 03 54.4 +2.5**
ELL Elmali 7.36 93 P **Pn** **09 03 54.4 +2.5**
KLYT Kilyos 7.42 57 *e*P Pb 09 04 04.1 -8.8
HERR Herculane 7.44 9 ⇑P **Pn** **09 03 54.1 +1.2**
CAMP Campotosto 7.52 314 **Pn** **09 03 55.7 +1.6**
ADVT Abdulvahap 7.58 65 *e*P **Pn** **09 03 57.4 +2.6**
VRSS Vrsac 7.59 3 *e*Pn **Pn** **09 03 54.5 -0.5**
A050A Klekovaca 7.63 337 *e*Pn **Pn** **09 03 55.8 +0.2**
FRGS Fruska Gora 7.64 355 *e*Pn **Pn** **09 03 53.9 -1.8**
HRT Hereke 7.67 62 *e*P **Pn** **09 03 57.8 +1.8**
KORT Korkueli 7.68 91 *e*P **Pn** **09 03 59.1 +2.8**
BLY Banja Luka 7.69 341 *e*Pn **Pn** **09 03 56.9 +0.6**
ISP Isparta 7.76 85 Pn **Pn** **09 03 58.3 +0.9**
ISP Isparta 7.76 85 *d* *i*P **Pn** **09 03 59.7 +2.3**
ISP pmax pmax
comp=Z,47nm,1.0s
SHUT Suhut-Afyon 7.80 80 *e*P **Pn** **09 04 02.3 +4.3**
BCK Bucak 7.83 88 *e*P **Pn** **09 04 01.8 +3.5**
NRCA Norcia 7.88 315 **Pn** **09 04 00.2 +1.2**
GUMA Gualdo di Mace 7.91 317 **Pn** **09 03 59.5 +0.2**
GZR Gura Zlata 7.99 10 *e*Pn **Pn** **09 04 01.3 +0.7**
GZR *e*Sn **Sn** **09 05 29.9 -0.7**
GZR Gura Zlata 7.99 10 ⇑P **Pn** **09 04 02.0 +1.5**
GZR Gura Zlata 7.99 10 ⇑P **Pn** **09 04 02.1 +1.5**
A051A Mrakovica 8.01 340 *e*Pn **Pn** **09 03 58.8 -1.9**
FDMO Fiordimonte 8.02 316 **Pn** **09 04 01.6 +0.7**
CESX Cesi 8.05 312 **Pn** **09 04 01.9 +0.6**
BZS Buzias 8.10 4 *e*P **Pn** **09 04 01.9 0.0**
BZS Buzias 8.10 4 *e*Pn **Pn** **09 04 01.7 -0.2**
BZS *e*Sn **Sn** **09 05 28.8 -4.2**
BZS Buzias 8.10 4 ⇑P **Pn** **09 04 03.9 +2.0**
BZS Buzias 8.10 4 ⇑P **Pn** **09 04 05.3 +3.4**
BZS Buzias 8.10 4 ⇑P **Pn** **09 04 03.9 +2.0**
SRCK Saricakaya, Es 8.11 69 *e*P **Pn** **09 04 05.4 +3.3**
GULT Gulveren 8.14 66 *e*P **Pn** **09 04 04.3 +1.7**
LOT Lotru 8.22 15 ⇑P **Pn** **09 04 05.2 +1.5**
SURR Surduc 8.27 7 ⇑P **Pn** **09 04 04.9 +0.6**
ARR Arges 8.35 19 ⇑P **Pn** **09 04 07.3 +1.9**
MGAB Montegabbione 8.51 312 ⇓P **Pn** **09 04 10.7 +3.1**
VOIR 8.53 21 ⇓P **Pn** **09 04 09.7 +1.8**
VOIR 8.53 21 ⇓P **Pn** **09 04 09.7 +1.8**
MDUB Mudurnu 8.65 67 *e*P **Pn** **09 04 12.5 +2.9**
MDUB Mudurnu 8.65 67 **Pn** **09 04 12.1 +2.6**
SVRH Sivrihisar-ESK 8.66 74 *e*P **Pn** **09 04 11.9 +2.1**
ISR Istrita 8.74 28 ⇓P **Pn** **09 04 14.1 +3.4**
ISR Istrita 8.74 28 P **Pn** **09 04 14.1 +3.4**
SIRR Siria 8.75 4 ⇑P **Pn** **09 04 12.6 +1.8**
MORH Mrgy, Hungar 8.81 350 ⇑P **Pn** **09 04 10.9 -0.7**
MLR Muntele Rosu 8.85 24 *e*P **Pn** **09 04 14.3 +2.0**
MLR Muntele Rosu 8.85 24 **Pn** **09 04 14.9 +2.6**
MLR Muntele Rosu 8.85 24 *e*Pn **Pn** **09 04 15.8 +3.5**
MLR Muntele Rosu 8.85 24 Pn **Pn** **09 04 13.3 +1.0**
comp=Z,0.9nm,0.3s,baz=218,slow=4.2,SNR=18
MLR LR LR 09 07 32.0
comp=Z,486nm,20.2s,baz=202,slow=38
comp=Z,26nm,0.8s
MLR Muntele Rosu 8.85 24 ⇑P **Pn** **09 04 16.0 +3.6**
KIZT Kizilcal 8.87 78 *e*P **Pn** **09 04 16.9 +4.3**
NEHR Nehoiu 8.91 26 ⇑P **Pn** **09 04 15.2 +2.1**
BOJS Bojanci 8.96 334 *i* Pn **Pn** **09 04 13.3 -0.5**
HARR Harsova 8.96 35 ⇑P **Pn** **09 04 16.5 +2.7**
HARR Harsova 8.96 35 P **Pn** **09 04 16.5 +2.7**
YUVA Yuva-Kibriscik 8.98 68 *e*P **Pn** **09 04 17.5 +3.3**
KDZE Karadeniz Ereo 9.09 62 ⇑P **Pn** **09 04 19.4 +3.8**
DOPR Dopca 9.11 21 ⇓P **Pn** **09 04 18.4 +2.7**
VSL Villasalto 9.12 286 **Pn** **09 04 15.7 -0.3**
VSL Villasalto 9.12 286 ⇑P **Pn** **09 04 15.8 -0.2**
GCIS Gornji Cirnik 9.16 337 *i* Pn **Pn** **09 04 15.2 -1.3**
CRES Cresnjevec Ost 9.18 336 *e*Pn **Pn** **09 04 16.1 -0.6**
KONT Konya--Tatoy 9.21 84 *e*P **Pn** **09 04 21.9 +4.7**
LADK Ladik-KONYA 9.21 82 *e*P **Pn** **09 04 21.9 +4.6**
MARR Marisel-Cluj 9.30 10 ⇓P **Pn** **09 04 20.2 +1.8**
OZUR 9.34 22 ⇓P **Pn** **09 04 21.5 +2.5**
KEST Kesra 9.34 262 **Pn** **09 04 18.9 -0.1**
KEST Kesra 9.34 262 Pn **Pn** **09 04 19.4 +0.4**
comp=Z,1.8nm,0.3s,baz=0.4,slow=2.1,SNR=20
KEST Sn **Sn** **09 06 02.4 -1.4**
comp=Z,0.8nm,0.3s,baz=107,slow=19,SNR=0.9
KEST LR LR 09 08 34.6
comp=Z,2μm,19.8s,baz=69,slow=42
comp=Z,32nm,1.0s
KEST Kesra 9.34 262 P **Pn** **09 04 20.1 +1.0**
KEST S **Sn** **09 06 02.6 -1.2**
GAZI Gazipasa 9.36 94 *e*P **Pn** **09 04 19.8 +0.5**
DRGR 9.36 8 *e*Pn **Pn** **09 04 19.2 -0.1**
DRGR 9.36 8 *e*Pn **Pn** **09 04 20.6 +1.3**
DRGR 9.36 8 ⇑P **Pn** **09 04 20.9 +1.6**
DRGR 9.36 8 ⇑P **Pn** **09 04 20.9 +1.6**
TURR Turia 9.37 23 ⇑P **Pn** **09 04 22.2 +

VRI	Vrincioaia	9.44	26	eP		Pn	09 04 22.7 +2.3
VRI	Vrincioaia	9.44	26	⇓P		Pn	09 04 23.4 +3.0
VRI	Vrincioaia	9.44	26	⇓P		Pn	09 04 23.4 +3.0
CEY	Cerknica	9.46	332	ePn		Pn	09 04 20.3 -0.3
CEY	Cerknica	9.46	332	ePn		Pn	09 04 20.3 -0.3
CHBY	Cihanbeyli	9.63	80	eP		Pn	09 04 32.2 +9.1
ANTO	Ankara	9.70	72	eP		Pn	09 04 31.9 +7.9
ONER	Baraj Valea Uz	9.74	24	⇓P		Pn	09 04 27.8 +3.4
AFSR	Afar-Bala (An	9.85	75	eP		Pn	09 04 34.5 +8.5
SABO	M.te Sabotino	9.98	330			Pn	09 04 27.9 +0.1
TESR	Tescani	9.98	24	⇓P		Pn	09 04 30.8 +3.1
PERS	Pernice	10.00	337	i Pn		Pn	09 04 26.8 -1.3
BERE	Bereket-Mersin	10.06	93	eP		Pn	09 04 33.7 +4.7
SOKA	Soboth	10.07	337	Pn		Pn	09 04 28.3 -0.7
	comp=Z,7.6nm,0.4s,SNR=12						
SOKA				eSn		Sn	09 06 14.0 -7.5
	comp=Z,17nm,0.5s						
OBKA	Obir	10.08	335	ePn		Pn	09 04 30.2 +1.1
	comp=Z,5.8nm,0.3s						
OBKA				eSn		Sn	09 06 19.4 -2.4
	comp=Z,78nm,0.7s						
OBKA	Obir	10.08	335	ePn		Pn	09 04 29.0 -0.1
SULT	Sultanhani-AKS	10.12	82	eP		Pn	09 04 34.7 +5.0
SERE	Sereflikochisa	10.18	78	eP		Pn	09 04 32.3 +1.7
BR131	Keskin Array S	10.32	74			Pn	09 04 36.0 +3.5
BR131	Keskin Array S	10.32	74	c iP		Pn	09 04 36.9 +4.4
BRTR	Keskin Array B	10.32	74			Pn	09 04 36.0 +3.5
BRTR	Keskin Array B	10.32	74	Pn		Pn	09 04 34.9 +2.4
	comp=Z,0.5nm,0.3s,baz=256,slow=12,SNR=9.6						
	comp=Z,4.6nm,0.7s						
BRTR	Keskin Array B	10.32	74	i P		Pn	09 04 37.2 +4.7
BRTR				pmax		pmax	
	comp=Z,6.0nm,0.7s						
CIDE	Kastamonu/Cide	10.35	61	⇓P		Pn	09 04 37.4 +4.6
AKKU	Akkuyu-Mersin	10.35	94	eP		Pn	09 04 38.5 +5.6
TEOL	Teolo	10.36	322			Pn	09 04 32.8 -0.1
PRED	Cave del Predi	10.37	331			Pn	09 04 35.2 +2.0
PSZ	Piszkesteto	10.39	357			Pn	09 04 33.2 -0.2
PSZ	Piszkesteto	10.39	357	⇑P		Pn	09 04 34.7 +1.3
PSZ	Piszkesteto	10.39	357	⇑P		Pn	09 04 34.7 +1.3
KEBE	Keben-Mersin	10.43	92	eP		Pn	09 04 38.9 +4.9
ARSA	Arzberg	10.44	340	ePn		Pn	09 04 34.4 +0.3
	comp=Z,5.2nm,0.3s						
ARSA	Arzberg	10.44	340	ePn		Pn	09 04 34.4 +0.3
ARSA	Arzberg	10.44	340	⇓P		Pn	09 04 33.6 -0.5
IKL	Isikli	10.45	93	eP		Pn	09 04 39.5 +5.4
KIRS	Kirsehir-Merke	10.47	77	⇓P		Pn	09 04 39.6 +5.0
CSS	Mathiatis	10.48	100			Pn	09 04 35.8 +1.1
CSS	Mathiatis	10.48	100	P		Pn	09 04 29.3 -5.4
CSS	Mathiatis	10.48	100	S		Sn	09 06 27.9 -3.9
MYKA	Terra Mystica	10.50	332	ePn		Pn	09 04 36.4 +1.5
BURAR	Bucovina Array	10.59	17			Pn	09 04 37.7 +1.5
BURAR	Bucovina Array	10.59	17	⇑P		Pn	09 04 37.9 +1.7
BURAR	Bucovina Array	10.59	17	⇑P		Pn	09 04 37.9 +1.7
BUR08	Bucovina Ar. S	10.62	17			Pn	09 04 38.2 +1.7
RONA	Rosalia, Austr	10.67	344	ePn		Pn	09 04 36.9 -0.3
	comp=Z,2.3nm,0.3s						
CTI	Castel Tesino	10.87	324			Pn	09 04 41.0 +0.9
CTI	Castel Tesino	10.87	324	P		Pn	09 04 41.0 +0.9
KECS	Kecovo	10.94	359	eP		Pn	09 04 42.5 +1.6
KECS				e			09 06 42.3
KECS	Kecovo	10.94	359	ePN		Pn	09 04 42.5 +1.6
KECS				eSN		Sn	09 06 42.3 -0.5
KBA	Koelnbreinsper	10.99	332	i Pn		Pn	09 04 42.0 +0.3
	comp=Z,26nm,0.9s,SNR=6.6						
KBA	Koelnbreinsper	10.99	332	⇑P		Pn	09 04 42.0 +0.3
MERS	Mersin	11.01	89	eP		Pn	09 04 45.6 +3.7
VYHS	Vyhne	11.04	353	eP		Pn	09 04 42.3 0.0
VYHS				e			09 06 43.5
VYHS				MLR		MLR	
	comp=Z,2μm,19.6s						
VYHS	Vyhne	11.04	353	ePN		Pn	09 04 42.2 0.0
VYHS	Vyhne	11.04	353	eSN		Sn	09 06 43.5 -1.7
VYHS				eSG			09 07 56.6
VYHS				eL		L	09 10 03.5
MODS	Modra-Piesok	11.12	348	eP		Pn	09 04 46.3 +2.9
MODS				e			09 06 42.0
MODS				MLR		MLR	
	comp=Z,8μm,15.9s						
MODS	Modra-Piesok	11.12	348	eL		L	09 10 26.4
MODS	Modra-Piesok	11.12	348	ePN		Pn	09 04 46.3 +2.9
MODS	Modra-Piesok	11.12	348	eSN		Sn	09 06 42.0 -5.3
MODS	Modra-Piesok	11.12	348	eSG			09 08 03.9
MOA	Molln	11.35	337	ePn		Pn	09 04 48.0 +1.6
	comp=Z,6.9nm,0.3s						
MOA				eSn		Sn	09 06 50.1 -2.8
	comp=Z,20nm,0.5s						
BIOA	Bad Ischl, Aus	11.41	335	Pn		Pn	09 04 48.8 +1.4
	comp=Z,8.6nm,0.3s,SNR=7.5						
KOLS	Kolonicke sedl	11.44	5	eP		Pn	09 04 50.1 +2.4
KOLS	Kolonicke sedl	11.44	5	ePN		Pn	09 04 50.1 +2.4
LESA	Schwarzleotal	11.53	332	ePn		Pn	09 04 50.3 +1.3
	comp=Z,7.0nm,0.4s						
JAVC	Velka Javorina	11.54	350	ePN		Pn	09 04 49.8 +0.8
LANS	Liptovska Anna	11.64	356	eP		Pn	09 04 54.2 +3.7
LANS	Liptovska Anna	11.64	356	ePN		Pn	09 04 54.2 +3.7
RJOB	Jochberg	11.75	333	ePn		Pn	09 04 52.8 +0.8
WTTA	Wattenberg	11.81	328	ePn		Pn	09 04 55.9 +3.0
	comp=Z,3.3nm,0.3s						
STHS	Stebnicka Huta	11.88	2	eP		Pn	09 04 58.2 +4.5
STHS	Stebnicka Huta	11.88	2	ePN		Pn	09 04 58.2 +4.5
NIE	Niedzica	11.88	359	eP		Pn	09 04 55.9 +2.2
WATA	Walderalm	11.90	328	ePn		Pn	09 04 56.6 +2.5
	comp=Z,12nm,0.5s						
KRUC	Moravsky	11.94	346	ePN		Pn	09 04 54.3 -0.3
FUORN	Ofenpass-Fuorn	11.95	323			Pn	09 04 57.1 +2.2
FETA	Feichten	12.02	325	ePn		Pn	09 04 58.3 +2.5
	comp=Z,4.0nm,0.6s						
NDNU	Novodnistrovsk	12.06	21	P		Pn	09 04 56.4 +0.3
MOTA	Moosalm	12.10	327	ePn		Pn	09 04 59.4 +2.5
	comp=Z,13nm,0.9s						
VRAC	Vranov	12.14	347	Pn		Pn	09 04 57.3 0.0
	comp=Z,0.6nm,0.3s,baz=172,slow=14,SNR=3.3						
VRAC				LR		LR	09 10 57.3
	comp=Z,809nm,18.5s,baz=171,slow=44						
	comp=Z,5.2nm,0.7s						
VRAC	Vranov	12.14	347	ePN		Pn	09 04 56.8 -0.5
KWP	Kalwaria Pacla	12.17	6	eP		Pn	09 05 01.0 +3.3
CKRC	Cesky Krumlov	12.21	339	ePN		Pn	09 04 57.6 -0.6
CKRC				eSN		Sn	09 07 08.5 -5.4
CKRC				AMS		AMS	09 10 40.0
	comp=Z,4μm,11.2s						
CKRC	Cesky Krumlov	12.21	339	eP		Pn	09 04 57.6 -0.6
CKRC				e			09 07 08.5
CKRC				MLR		MLR	
	comp=Z,4μm,11.2s						
DAVOX	Davos/Dischmat	12.25	322	Pn		Pn	09 04 59.2 +0.3
	comp=Z,1.1nm,0.3s,baz=142,slow=16,SNR=11						
DAVOX				Sn		Sn	09 07 07.8 -7.3
	comp=Z,1.4nm,0.3s,baz=294,slow=20,SNR=1.2						
DAVOX				LR		LR	09 10 10.6
	comp=Z,1μm,18.7s,baz=122,slow=40						
	comp=Z,14nm,0.9s						
TUE	Stuetta	12.30	320			Pn	09 04 59.6 -0.1
TUE	Stuetta	12.30	320	⇑P		Pn	09 05 00.2 +0.6
SARI	SarD1z-Kayseri	12.40	81	eP		Pn	09 05 05.2 +4.2
GEC2	GERESS Array S	12.41	338			Pn	09 04 59.7 -1.3
GEC2	GERESS Array S	12.41	338	ePn		Pn	09 04 60.0 -1.1
GERES	GERESS Array B	12.41	338			Pn	09 04 59.1 -1.9
GERES	GERESS Array B	12.41	338	Pn		Pn	09 04 59.9 -1.1
	comp=Z,0.7nm,0.3s,baz=155,slow=13,SNR=9.8						
GERES				Sn		Sn	09 07 13.6 -5.3
	comp=Z,2.3nm,0.3s,baz=148,slow=20,SNR=6.0						
GERES				LR		LR	09 11 24.3
	comp=Z,2μm,19.1s,baz=142,slow=46						
	comp=Z,2.1nm,0.3s						
GERES	GERESS Array B	12.41	338	P		Pn	09 04 59.1 -1.9
MORC	Moravsky Berou	12.45	350			Pn	09 05 01.4 -0.1
MORC	Moravsky Berou	12.45	350	ePN		Pn	09 05 00.2 -1.3
MORC	Moravsky Berou	12.45	350	⇓P		Pn	09 05 02.3 +0.8
MORC	Moravsky Berou	12.45	350	P		Pn	09 05 01.4 -0.1
SIM	Simferopol'	12.48	49	P		Pn	09 05 02.6 +0.7
SIM				pmax		pmax	
	comp=Z,50nm,1.1s						
HNTI	Hanita	12.59	106	P		Pn	09 04 57.8 -5.7
DAVA	Damuels	12.61	324	ePn		Pn	09 05 07.9 +4.0
	comp=Z,7.5nm,0.6s						
DAVA	Damuels	12.61	324	⇑P		Pn	09 05 07.9 +4.0
OFRI	`Ofer	12.65	109	P		Pn	09 04 58.5 -5.8
OFRI	`Ofer	12.65	109	S		Sn	09 07 20.4 -4.4
KHC	Kasperske Hory	12.70	338			Pn	09 05 03.8 -1.1
KHC	Kasperske Hory	12.70	338	ePN		Pn	09 05 03.9 -1.0
KHC				eSN		Sn	09 07 18.3 -7.6
KHC				AMS		AMS	09 11 00.0
	comp=Z,4μm,14.4s						
KHC	Kasperske Hory	12.70	338	⇑P		Pn	09 05 04.4 -0.5
KHC	Kasperske Hory	12.70	338	eP		Pn	09 05 03.9 -1.0
KHC				e			09 07 18.3
KHC				MLR		MLR	
	comp=Z,4μm,14.4s						
KHC	Kasperske Hory	12.70	338	P		Pn	09 05 05.1 +0.2
	comp=Z,30nm,1.1s						
MMA0B	Mount Meron ar	12.79	106	P		Pn	09 05 01.5 -4.8
MMA0B	Mount Meron ar	12.79	106	S		Sn	09 07 24.9 -3.5
MMAI	Mount Meron Ar	12.79	106	Pn		Pn	09 05 05.3 -1.1
	comp=Z,3.3nm,0.3s,baz=308,slow=14,SNR=6.8						
MMAI				Sn		Sn	09 07 19.6 -8.8
	comp=Z,7.4nm,0.3s,baz=301,slow=21,SNR=5.3						
MMAI				LR		LR	09 11 05.0
	comp=Z,884nm,20.2s,baz=231,slow=42						
	comp=Z,2.2nm,0.3s						
ZVC	Zvikov	12.80	340	AMS		AMS	09 11 10.0
	comp=Z,3μm,11.0s						
KMRS	Kahramanmaras	12.83	85	eP		P	09 05 12.9 -4.7
KRLC	Kraliky	12.85	348	AMS		AMS	09 11 40.0
	comp=Z,3μm,12.6s						
SLTI	Sal'it	12.87	110	P		Pn	09 05 01.5 -5.7
SLTI	Sal'it	12.87	110	S		Sn	09 07 24.7 -5.4
GEM	Giv'at Ha'Em	12.91	105	P		Pn	09 05 01.9 -6.0
GEM	Giv'at Ha'Em	12.91	105	⇑P		Pn	09 05 07.1 -0.8
GEM	Giv'at Ha'Em	12.91	105	P		Pn	09 05 01.8 -6.1
GEM	Giv'at Ha'Em	12.91	105	S		Sn	09 07 26.7 -4.6
WET	Wettzell	12.93	336	ePn		Pn	09 05 07.5 -0.5
NATI	Neve Ativ	12.95	105	P		Pn	09 05 04.6 -3.8
NATI	Neve Ativ	12.95	105	P		Pn	09 05 01.9 -6.5
NATI	Neve Ativ	12.95	105	S		Sn	09 07 28.4 -3.6
SALP	Salfit	13.06 110		P		Pn	09 05 08.3 -1.6
SALP	Salfit	13.06 110		⇑P		Pn	09 05 10.8 +0.8
SALP	Salfit	13.06 110		P		Pn	09 05 04.1 -5.8
SALP	Salfit	13.06 110		S		Sn	09 07 29.9 -4.9
MMLI	Mount Malkishu	13.06 109		P		Pn	09 05 03.7 -6.2
MMLI	Mount Malkishu	13.06 109		S		Sn	09 07 29.7 -5.2
KZIT	Kziot	13.08 116		P		Pn	09 05 06.2 -4.0
KZIT				S		Sn	09 07 26.1 -9.3
KZIT	Kziot	13.08 116		⇑P		Pn	09 05 08.2 -2.1
KZIT	Kziot	13.08 116		P		Pn	09 05 04.0 -6.2
GOPC	GO Pecny, Ondr	13.09 343		AMS		AMS	09 11 20.0
	comp=Z,2μm,11.4s						
AMAZ	Amatzia	13.12 113		P		Pn	09 05 04.5 -6.3
DPC	Dobruska-Polom	13.20 347		AMS		AMS	09 11 50.0
	comp=Z,2μm,12.7s						
PRU	Pruhonice	13.22 342		AMS		AMS	09 11 30.0
	comp=Z,2μm,13.7s						
QRNJ	Al-Qirein	13.22 109		P		Pn	09 05 08.7 -3.4
QRNJ				S		Sn	09 07 33.5 -5.2
HMDT	Nahal Hemdat	13.22 109		P		P	09 05 18.5 -3.5
HMDT				S		Sn	09 07 30.3 -8.5
HMDT	Nahal Hemdat	13.22 109		P		Pn	09 05 06.4 -5.7
DARE	Darende-Malaty	13.23 80		eP		Pn	09 05 15.4 +3.1
UJAP	Al Uja	13.32 110		P		Pn	09 05 07.7 -5.7
SENIN	Lac Senin/Sane	13.32 316				Pn	09 05 13.1 -0.5
YTIR	Yattir	13.36 113		P		Pn	09 05 13.8 -0.2
YTIR	Yattir	13.36 113		P		Pn	09 05 08.6 -5.5
YTIR	Yattir	13.36 113		S		Sn	09 07 36.8 -5.4
UPC	Upice	13.40 347		AMS		AMS	09 12 50.0
	comp=Z,2μm,10.1s						
OSTC	Ostas	13.41 347		AMS		AMS	09 12 00.0
	comp=Z,3μm,11.0s						
DSI	Dead Sea	13.44 112		P		Pn	09 05 14.9 -0.2
DSI	Dead Sea	13.44 112		P		Pn	09 05 09.2 -5.9
DSI	Dead Sea	13.44 112		S		Sn	09 07 38.7 -5.5
MDBI	Mazsada	13.56 113		P		Pn	09 05 15.5 -1.2
MDBI	Mazsada	13.56 113		P		Pn	09 05 10.7 -5.9
MSBI	Mazada	13.56 113		P		Pn	09 05 15.4 -1.3
MSBI	Mazada	13.56 113		P		Pn	09 05 10.3 -6.3
MSBI	Mazada	13.56 113		S		Sn	09 07 41.7 -5.2
KSP	Ksiaz	13.68 348		eP		Pn	09 05 15.5 -2.6
ROTZ	Rotzenmuhle	13.69 336		ePn		Pn	09 05 20.6 +2.3
LISJ	El Lisan	13.69 113		P		Pn	09 05 17.2 -1.2
GHAJ	Ghor Haditha	13.72 113				Pn	09 05 18.7 -0.1
GHAJ	Ghor Haditha	13.72 113		P		Pn	09 05 15.2 -3.6
GHAJ	Ghor Haditha	13.72 113		P		Pn	09 05 12.8 -6.0
GHAJ	Ghor Haditha	13.72 113		S		Sn	09 07 45.7 -5.1
PVCC	Panska Ves	13.72 343		AMS		AMS	09 11 40.0
	comp=Z,2μm,10.5s						
KRMI	Paran Flat	13.77 118		P		Pn	09 05 13.3 -6.3
PRNI	Paran	13.83 117		P		Pn	09 05 19.0 -1.4
PRNI	Paran	13.83 117		P		Pn	09 05 14.3 -6.1
ZFRI	Zfri	13.84 116		P		Pn	09 05 14.4 -6.1
ZFRI	Zfri	13.84 116		S		Sn	09 07 48.2 -5.5
ARPR	Arapgir-MALATY	13.90 78		eP		P	09 05 27.8 -1.9
NKC	Novy Kostel	14.02 337		AMS		AMS	09 11 50.0
	comp=Z,5μm,13.5s						
STU	Stuttgart	14.02 327		eP		P	09 05 32.0 +1.2
HRFI	Mount Harif	14.03 118		P		Pn	09 05 26.9 +3.7
HRFI	Mount Harif	14.03 118		S		Sn	09 07 53.8 -4.9
HRFI	Mount Harif	14.03 118		P		Pn	09 05 16.8 -6.4
HSKC	Hora Svate Kat	14.07 341		AMS		AMS	09 11 50.0
	comp=Z,3μm,10.6s						
MBRI	Mt Berech	14.09 119		P		Pn	09 05 22.2 -1.9
MBRI	Mt Berech	14.09 119		P		Pn	09 05 18.2 -5.9
TANN	Tannenbergstha	14.17 338		ePn		Pn	09 05 27.0 +1.9
BRG	Berggiesshubel	14.19 342		eP		Pn	09 05 24.1 -1.1
BRG				Amp			09 05 28.0
	comp=Z,3.7nm,0.7s						
BRG	Berggiesshubel	14.19 342		P		P	09 05 35.6 +3.0
BRG				Amp			09 05 36.9
	comp=Z,10nm,0.8s						
BRG	Berggiesshubel	14.19 342		eP		Pn	09 05 24.1 -1.1
BRG				pmax		pmax	
	comp=Z,4.0nm,0.7s						
BRG				pmax		pmax	
	comp=Z,11nm,0.8s						
BRG				MLR		MLR	
	comp=Z,2μm,11.6s						
BRG				MLR		MLR	
	comp=N,1μm,11.9s						
BRG				MLR		MLR	
	comp=E,584nm,11.4s						
EIL	Elat	14.19 119		eP		Pn	09 05 22.7 -2.7
EIL	Elat	14.19 119		Pn		Pn	09 05 23.9 -1.4
	comp=E,2.5nm,0.3s,baz=340,slow=17,SNR=14						
EIL				Sn		Sn	09 07 49.4 -13
	comp=E,6.5nm,0.3s,baz=33,slow=23,SNR=10						
	comp=E,9.9nm,0.5s						
EIL	Elat	14.19 119		P		Pn	09 05 26.3 +0.9
EIL	Elat	14.19 119		⇑P		Pn	09 05 26.4 +1.1
EIL	Elat	14.19 119		P		Pn	09 05 19.3 -6.0
AQBJ	Aqaba	14.22 119		P		Pn	09 05 26.2 +0.4
RNPP8	Varash	14.26 13		P		Pn	09 05 26.3 +0.1
ASF	Jabal al Asfar	14.30 107		Pn		Pn	09 05 25.0 -1.9
	comp=E,0.4nm,0.3s,baz=186,slow=0.1,SNR=8.4						
	comp=E,1.4nm,0.3s						
ASF	Jabal al Asfar	14.30 107		P		P	09 05 35.2 +1.2
ASF	Jabal al Asfar	14.30 107		P		Pn	09 05 25.0 -1.9
BEL	Belsk	14.30 0		eP		P	09 05 38.0 +4.2
URFA	Urfa	14.36 85		eP		Pn	09 05 30.5 +2.8
AK13	Malin Array Si	14.36 22		P		Pn	09 05 27.2 -0.3
AK06	Malin Array Si	14.38 22		P		Pn	09 05 27.4 -0.3
AK14	Malin Array Si	14.39 22		P		Pn	09 05 27.6 -0.3
SSB	Saint Sauveur	14.39 308				Pn	09 05 27.8 -0.3
SSB	Saint Sauveur	14.39 308		P		Pn	09 05 27.8 -0.3
AK10	Malin Array Si	14.40 22		P		Pn	09 05 27.8 -0.3
AK05	Malin Array Si	14.41 22		P		Pn	09 05 27.9 -0.3
AK12	Malin Array Si	14.41 22		P		Pn	09 05 27.9 -0.4
AK17	Malin Array Si	14.42 22		P		Pn	09 05 28.0 -0.4
AK16	Malin Array Si	14.42 22		P		Pn	09 05 28.0 -0.4
AK09	Malin Array Si	14.43 22		P		Pn	09 05 28.2 -0.3
AK08	Malin Array Si	14.43 22		P		Pn	09 05 28.3 -0.2
AK02	Malin Array Si	14.44 22		P		Pn	09 05 28.3 -0.3
AK19	Malin Array Si	14.44 21		P		Pn	09 05 28.3 -0.3
AK11	Malin Array Si	14.45 22		P		Pn	09 05 28.4 -0.3
AK15	Malin Array Si	14.45 22		P		Pn	09 05 28.4 -0.4
AK18	Malin Array Si	14.46 22		P		Pn	09 05 28.5 -0.4
AK20	Malin Array Si	14.46 21		P		Pn	09 05 28.5 -0.4
AK01	Malin Array Si	14.47 22		P		Pn	09 05 28.8 -0.3
KIEV	Kiev	14.47 22				Pn	09 05 29.0 -0.1
KIEV	Kiev	14.47 22		P		Pn	09 05 27.9 -1.2
KIEV	Kiev	14.47 22		⇓P		Pn	09 05 29.8 +0.7
KIEV	Kiev	14.47 22		P		Pn	09 05 29.0 -0.1
KIEV	Kiev	14.47 22		P		Pn	09 05 28.3 -0.8
	comp=E,154nm,0.8s						
AKASG	Malin Array Be	14.48 22				Pn	09 05 28.0 -1.2
AKASG	Malin Array Be	14.48 22		Pn		Pn	09 05 27.6 -1.7
	comp=E,1.4nm,0.3s,baz=211,slow=12,SNR=14						
AKASG				LR		LR	09 12 21.0
	comp=E,2μm,20.4s,baz=202,slow=43						
	comp=E,3.6nm,0.7s						
AKASG	Malin Array Be	14.48 22		P		Pn	09 05 28.0 -1.2
AKBB	Malin Array Si	14.48 22				Pn	09 05 28.8 -0.4
AKBB	Malin Array Si	14.48 22	⇓	eP		Pn	09 05 28.1 -1.1
AK04	Malin Array Si	14.49 22		P		Pn	09 05 29.6 +0.3
AK22	Malin Array Si	14.49 22		P		Pn	09 05 29.7 +0.4
ANN	Anapa	14.50 55		eP		P	09 05 33.7 -2.3
ANN				pmax		pmax	
	comp=Z,171nm,0.8s						
AK21	Malin Array Si	14.50 21		P		Pn	09 05 29.7 +0.3
AK03	Malin Array Si	14.51 22		P		Pn	09 05 28.5 -1.0
ECH	Echery	14.57 321				Pn	09 05 30.4 -0.2
ECH	Echery	14.57 321		P		Pn	09 05 30.4 -0.2
MOX	Moxa	14.64 336		ePn		Pn	09 05 30.5 -0.8
SVRC	Sivrice-ELAZID	14.67 81		eP		Pn	09 05 34.5 +2.5
PTK	Pertek	14.72 79		eP		P	09 05 35.9 -2.9
CLL	Collm	14.82 341				Pn	09 05 35.1 +1.3
CLL	Collm	14.82 341		P		Pn	09 05 35.1 +1.3
CLL	Collm	14.82 341		eP		Pn	09 05 35.0 +1.1
CLL				⇑ iPP		PnPn	09 05 42.3 +0.5
	comp=Z,49nm,1.1s						
CLL				i sPPP			09 05 54.9
	comp=Z,59nm,1.3s						
CLL				eSS		S	09 08 37.0 +1.2
CLL				AMS		AMS	09 12 00.0
CLL	Collm	14.82 341		P		Pn	09 05 33.7 -0.2
	comp=Z,41nm,1.1s						
NEUB	Neuenburg	15.08 338		ePn		P	09 05 45.1 +2.6
KTUT	Trabzon	15.13 71		eP		P	09 05 43.5 +0.4
BAYT	Aydıntepe-Bayb	15.35 73		eP		P	09 05 45.5 -0.3
TNS	Taunus Mts	15.44 329		ePn		Pn	09 05 42.6 +0.4
SOC	Sochi	15.62 61		eP		Pn	09 05 39.9 -4.5
SOC				e			09 08 33.3
SOC				MLR		MLR	
	comp=Z,382nm,15.0s						
RUE	Ruedersdorf	15.72 344		eP		P	09 05 52.2 +2.7
RUE	Ruedersdorf	15.72 344		i P		P	09 05 50.5 +1.0
BNGB	Bingl	15.73 79		eP		P	09 05 48.1 -1.8
LOR	Lormes	15.79 313		⇓P		P	09 05 49.9 -0.5
WLF	Walferdange	16.05 324		dP		P	09 05 52.3 -0.9
	comp=Z,97nm,1.0s						
CLZ	Clausthal	16.07 336		ePn		P	09 05 55.8 +2.4
CLZ	Clausthal	16.07 336		i P		P	09 05 55.4 +1.9
SUW	Suwalki	16.56 5		eP		Pn	09 05 56.8 +0.4
SUW	Suwalki	16.56 5				Pn	09 05 56.3 -0.1
SUW				IAmb		IAmb	09 06 03.9
	comp=Z,121nm,0.9s						
SUW	Suwalki	16.56 5		eP		Pn	09 05 57.3 +0.9
SUW	Suwalki	16.56 5		⇑P		P	09 05 58.5 -0.4
SUW	Suwalki	16.56 5		P		Pn	09 05 56.3 -0.1
SUW				pmax		pmax	
	comp=Z,121nm,0.9s						
BHOU	Houvegnez	16.60 325		dP		P	09 06 02.1 +2.7
	comp=Z,15nm,1.0s						
LABN	Labinsk	16.62 58		eP		P	09 06 01.6 +1.9
LABN				pmax		pmax	
	comp=Z,198nm,1.3s						
KOPR	Koprukoy-ERZUR	16.64 75		eP		P	09 06 01.4 +1.3
BTNL	Ternell	16.71 326		dP		P	09 06 03.2 +2.6
	comp=Z,22nm,1.0s						
NRDL	Niedersach Rie	16.71 337		i P		P	09 06 02.2 +1.7
MEM	Membach	16.77 326		dP		P	09 06 04.5 +3.2
	comp=Z,33nm,0.9s						
GURO	Guroymak-BITLI	16.80 80				Pn	09 06 00.6 +0.9
RCHB	Rochefort	16.82 324		dP		P	09 06 00.8 -0.9
	comp=Z,20nm,1.0s						
ERBR	Yeremizino-Bor	16.84 55		eP		P	09 06 02.8 +0.8
ERBR				eS		S	09 09 15.5 -1.6
ERBR				pmax		pmax	
	comp=Z,179nm,0.8s						
BCLA	Clavier	16.96 324		dP		P	09 06 04.9 +1.5
	comp=Z,16nm,0.9s						
BGES	Gesves	17.04 324		dP		P	09 06 06.7 +2.4
	comp=Z,13nm,0.9s						

GNI pmax pmax
comp=Z,47nm,1.3s
VSR Storozhevoye 18.91 38 *e*P **P 09 06 23.4 -1.4**
VSR pmax pmax
comp=Z,20nm,0.7s
VSR MLR MLR
comp=Z,5μm,11.0s
VORR Voronezh 19.22 37 *e*P **P 09 06 27.0 -1.2**
VORR pmax pmax
comp=Z,80nm,0.5s
VORR MLR MLR
comp=Z,2μm,10.0s
ESBB Sonseca Array 19.41 284 P **Pn 09 06 31.2 -0.6**
ESDC Sonseca Array 19.42 284 P **P 09 06 30.8 +0.3**
ESDC Sonseca Array 19.42 284 P **P 09 06 30.9 +0.3**
comp=Z,0.3nm,0.3s,baz=79,slow=11,SNR=91
ESDC LR LR 09 14 11.7
comp=Z,390nm,20.7s,baz=86,slow=38
comp=Z,31nm,0.9s
TAM Tamanrasset 19.69 226 P **Pn 09 06 35.7 +0.5**
TAM Tamanrasset 19.69 226 P **Pn 09 06 35.7 +0.5**
TAM pmax pmax
comp=Z,18nm,0.9s
LPSR Galich'ya Gora 19.71 34 *e*P **P 09 06 32.7 -0.8**
LPSR pmax pmax
comp=Z,180nm,0.8s
LPSR MLR MLR
comp=Z,3μm,12.0s
PAB San Pablo 19.72 284 P **P 09 06 34.1 +0.2**
PAB San Pablo 19.72 284 ⇓P **Pn 09 06 35.1 -0.2**
PAB San Pablo 19.72 284 P **P 09 06 34.1 +0.2**
PAB pmax pmax
comp=Z,28nm,1.1s
SLIT Slitere, Latvi 20.13 2 *e*P Pn 09 06 39.4 -0.5
SLIT Slitere, Latvi 20.13 2 ⇑P **P 09 06 39.0 +0.9**
VRH Novokhopyorsk 20.19 41 *e*P **P 09 06 37.9 -0.9**
VRH pmax pmax
comp=Z,60nm,0.6s
VRH MLR MLR
comp=Z,1μm,10.0s
FABU Falkenberg 20.19 347 *i*P **P 09 06 39.2 +0.4**
MUD Monsted U'grnd 20.45 341 *i*P **P 09 06 42.5 +0.9**
MUD IAmb IAmb 09 06 44.6
comp=Z,62nm,1.0s
OBN Obninsk 20.61 26 P **P 09 06 42.7 -0.6**
OBN Obninsk 20.61 26 P **P 09 06 42.8 -0.5**
comp=Z,48nm,0.5s,baz=304,slow=0.8,SNR=13
OBN LR LR 09 14 49.6
comp=Z,781nm,19.6s,baz=212,slow=37
comp=Z,48nm,0.5s
OBN Obninsk 20.61 26*c i*P **P 09 06 42.2 -1.1**
OBN *e*PPP PPP 09 07 08.3
OBN pmax pmax
comp=Z,50nm,0.6s
OBN MLR MLR
comp=Z,2μm,14.0s
OBN Obninsk 20.61 26 P **P 09 06 42.7 -0.6**
comp=Z,97nm,1.4s,comp=Z,1μm
ONAU Onsala 20.71 346 *i*P **P 09 06 45.0 +0.6**
MAK Makhachkala 21.09 67 *e*P **P 09 06 47.4 -1.2**
MAK *e*S **S 09 10 41.9 -0.7**
MAK pmax pmax
comp=Z,671nm,1.1s
MAK MLR MLR
comp=Z,1μm,12.0s
AKT Akhty 21.15 71 *e*P **P 09 06 51.0 +1.5**
AKT *e* 09 07 10.7
AKT *e*PPP PPP 09 07 18.5
AKT *e*S Sn 09 10 47.8 -3.2
AKT pmax pmax
comp=Z,62nm,1.0s
AKT MLR MLR
comp=Z,638nm,10.0s
MDT Midelt 21.23 265 P **P 09 06 51.2 +0.8**
comp=Z,29nm,0.9s,baz=88,slow=12,SNR=45
MDT LR LR 09 17 12.3
comp=Z,105nm,19.0s,baz=72,slow=43
comp=Z,29nm,0.9s
MTSE Matsula 21.29 4 *e*P **P 09 06 52.0 +1.4**
VSU Vasula 21.30 9 ⇓P **P 09 06 51.4 +0.6**
VSU Vasula 21.30 9*c i*P **P 09 06 50.7 0.0**
VSU pmax pmax
comp=Z,101nm,0.9s
TJOU Tjoern 21.36 347 *i*P **P 09 06 52.3 +0.9**
MOS Moscow 21.48 27 *e*P **P 09 06 50.2 -2.4**
MOS *e* 09 07 12.1
MOS *e*S **S 09 10 47.5 -2.6**
MOS pmax pmax
comp=Z,130nm,0.8s
MOS pmax pmax
comp=N,47nm,0.8s
MOS MLR MLR
comp=Z,3μm,13.0s
PBRG Braganca 21.54 290 *e*P **P 09 06 53.6 0.0**
PBRG A A 09 06 59.8
comp=Z,64nm,1.5s
MVO Moncorvo 21.74 288 *e*P **P 09 06 55.9 +0.1**
MVO A A 09 07 07.3
comp=Z,71nm,2.1s
MVO *e*S **S 09 10 49.3 -6.5**
MVO *e*LR LR 09 15 38.1
MVO A A 09 17 28.6
comp=Z,607nm,18.0s
PBAR Barrancos 21.92 280 *e*P **P 09 06 58.8 +1.2**
PBAR A A 09 07 11.1
comp=Z,66nm,1.9s
PMRV Marv??o 22.07 284 *e*P **P 09 06 58.9 -0.4**
PMRV A A 09 07 07.7
comp=Z,60nm,1.2s
PMRV *e*LR LR 09 14 45.4
PMRV A A 09 16 56.6
comp=Z,631nm,16.0s
PCBR Castelo Branco 22.12 285 *e*P **P 09 06 59.2 -0.5**
PCBR A A 09 07 01.3
comp=Z,59nm,1.5s
MTE Manteigas 22.14 286 P **P 09 06 59.2 -0.9**
MTE IAmb IAmb 09 07 00.9
comp=Z,52nm,1.2s
MTE Manteigas 22.14 286 *e*P **P 09 07 00.0 -0.1**
MTE A A 09 07 09.5
comp=Z,72nm,1.8s
MTE *e*S **S 09 11 07.6 +4.1**
MTE *e*LR LR 09 15 31.9
MTE A A 09 16 53.1
comp=Z,802nm,18.0s
MTE Manteigas 22.14 286 *e*P **P 09 07 00.0 -0.1**
MTE Manteigas 22.14 286 ⇑P **P 09 06 59.9 -0.2**
ARBE Arbavere 22.17 7 *e*P **P 09 07 04.7 +4.6**
PESTR Estremoz 22.28 282 P **P 09 07 00.1 -1.3**
PESTR Estremoz 22.28 282 *e*P **P 09 07 00.3 -1.1**
PESTR A A 09 07 06.5
comp=Z,47nm,1.2s
POLO Lamas de Olo 22.32 289 *e*P **P 09 07 01.2 -0.8**
POLO A A 09 07 07.8
comp=Z,21nm,1.2s
PVIS Viseu 22.40 287 *e*P **P 09 07 02.3 -0.5**
PCAB Cabril 22.50 290 *e*P **P 09 07 03.7 -0.2**
PCAB A A 09 07 10.6
comp=Z,56nm,1.3s
PVAQ Vaqueiros 22.56 278 *e*P **P 09 07 05.3 +0.8**
PVAQ *e*S **S 09 11 14.3 +3.2**
PBEJ Beja 22.59 280 *e*P **P 09 07 05.8 +1.0**
PBEJ A A 09 07 45.6
comp=Z,29nm,1.9s
SNART Snartemo 22.62 341 *i*P **P 09 07 05.2 +0.4**
EVO Evora 22.64 281 *e*P **P 09 07 05.2 -0.1**
EVO A A 09 07 08.1
comp=Z,43nm,1.4s
PGAV Gavieira, Arco 22.69 290 *e*P **P 09 07 06.0 +0.1**
PGAV A A 09 07 12.2
comp=Z,51nm,1.3s
PGAV *e*LR LR 09 14 33.8
PGAV A A 09 20 28.2
comp=Z,715nm,16.0s
PMTG Montargil 22.75 283 *e*P **P 09 07 05.1 -1.4**
PMTG A A 09 07 07.2
comp=Z,43nm,1.2s
PBDV Barranco-do-Ve 22.75 278 *e*P **P 09 07 06.5 -0.1**
PBDV A A 09 07 14.4
comp=Z,90nm,1.8s
PCVE Castro Verde 22.78 279 *e*P **P 09 07 08.3 +1.5**
COI Coimbra 22.81 286 P **P 09 07 07.2 +0.1**
COI IAmb IAmb 09 07 15.5
comp=Z,51nm,1.0s
COI Coimbra 22.81 286 P **P 09 07 07.2 +0.1**

COI pmax pmax
comp=Z,51nm,1.0s
MEF Metsahovi 22.82 5 *e*P **P 09 07 07.3 +0.4**
PCAS Casmilo, Conde 22.89 285 *e*P **P 09 07 08.4 +0.5**
PCAS A A 09 07 23.7
comp=Z,52nm,2.1s
MESJ Messejana 22.89 280 P **P 09 07 07.2 -0.8**
MESJ IAmb IAmb 09 07 10.0
comp=Z,34nm,0.9s
MESJ Messejana 22.89 280 *e*P **P 09 07 09.3 +1.4**
MESJ Messejana 22.89 280 *e*P **P 09 07 08.7 +0.8**
MESJ IAmb IAmb 09 07 10.2
comp=Z,39nm,1.0s
MESJ Messejana 22.89 280 ⇓P **P 09 07 09.2 +1.2**
MESJ Messejana 22.89 280 P **P 09 07 07.2 -0.8**
MESJ pmax pmax
comp=Z,34nm,0.9s
HFS Hagfors 23.06 351 P **P 09 07 07.6 -1.8**
comp=Z,9.6nm,0.4s,baz=155,slow=11,SNR=41
HFS LR LR 09 16 32.6
comp=Z,429nm,19.2s,baz=168,slow=38
comp=Z,9.6nm,0.4s
PUL Pulkovo 23.09 12⇓*e*P **P 09 07 10.7 +1.0**
PUL pmax pmax
comp=Z,54nm,0.7s
AVE Averroes 23.30 268 P **P 09 07 13.2 +1.1**
PTEO Sao Teotonio 23.33 279 *e*P **P 09 07 13.3 +0.9**
RAF Rauma 23.52 1 *e*P **P 09 07 15.8 +1.8**
BELG Belogornoye 23.94 43 LR LR 09 17 51.3
comp=Z,884nm,18.1s,baz=259,slow=40
BELG Belogornoye 23.94 43*c i*P **P 09 07 17.8 -0.4**
BELG pmax pmax
comp=Z,35nm,0.8s
KBD Kabd 23.94 102 P **P 09 07 19.8 +1.4**
EKA Eskdalemuir Ar 24.05 325 P **P 09 07 19.2 0.0**
comp=Z,30nm,0.6s,baz=126,slow=8.4,SNR=75
comp=Z,30nm,0.6s
ESK Eskdalemuir 24.07 325 P **P 09 07 19.5 +0.2**
ESK Eskdalemuir 24.07 325 ⇑P **P 09 07 19.9 +0.6**
ESK Eskdalemuir 24.07 325 P **P 09 07 19.5 +0.2**
ESK pmax pmax
comp=Z,45nm,0.8s
NAO01 NORSAR Array S 24.15 348 P **P 09 07 20.0 -0.1**
NAO01 IAmb IAmb 09 07 28.1
comp=Z,66nm,1.2s
FINES FINESS Array B 24.16 6 P **P 09 07 19.7 -0.4**
FINES FINESS Array B 24.16 6 P **P 09 07 19.3 -0.9**
comp=Z,5.7nm,0.4s,baz=177,slow=8.6,SNR=34
FINES LR LR 09 19 21.4
comp=Z,624nm,18.2s,baz=190,slow=43
comp=Z,5.7nm,0.4s
FINES FINESS Array B 24.16 6 P **P 09 07 19.7 -0.4**
FIA1 FINESS Array S 24.16 6 P **P 09 07 19.5 -0.7**
NB201 NORSAR Array S 24.28 349 P **P 09 07 21.0 -0.3**
NB2 NORSAR Subarra 24.28 349 P **P 09 07 21.0 -0.3**
comp=Z,35nm,1.2s,baz=162,slow=9.3
NB2 NORSAR Subarra 24.28 349 P **P 09 07 21.0 -0.3**
baz=162,slow=9.3
NOA NORSAR Array B 24.28 349 P **P 09 07 21.1 -0.3**
comp=Z,9.3nm,0.9s,baz=161,slow=9.9,SNR=18
NOA LR LR 09 18 51.0
comp=Z,560nm,18.1s,baz=170,slow=42
comp=Z,9.3nm,0.9s
IWEX Carrickbyrne, 24.28 316 P **P 09 07 21.9 +0.5**
KEF Keuruu 24.79 5 *e*P **P 09 07 26.1 +0.2**
RAYN Ar Rayn 25.40 116 P **P 09 07 32.7 +0.9**
RAYN IAmb IAmb 09 07 35.3
comp=Z,66nm,1.6s
RAYN Ar Rayn 25.40 116 *i*P **P 09 07 33.4 +1.6**
SNR=12
RAYN Ar Rayn 25.40 116 P **P 09 07 33.6 +1.9**
RAYN S **S 09 11 56.8 -1.1**
RAYN Ar Rayn 25.40 116 ⇓P **P 09 07 33.7 +1.9**
RAYN Ar Rayn 25.40 116 P **P 09 07 32.7 +0.9**
RAYN pmax pmax
comp=Z,66nm,1.6s
VAF Ylistaro 25.56 2 *e*P **P 09 07 34.5 +1.7**
IDGL Inch Island, C 25.97 322 P **P 09 07 38.6 +2.0**
KLMR Klimovskoe 26.17 21 *e*P **P 09 07 37.0 -1.4**
KLMR S **S 09 12 09.9 +0.6**
KLMR pmax pmax
comp=Z,110nm,1.5s
KLMR MLR MLR
comp=Z,1μm,11.0s
KIRV Kirov 28.10 32 P **P 09 07 54.5 -1.1**
comp=Z,12nm,0.6s,baz=166,slow=4.9,SNR=6.2
KIRV LR LR 09 19 33.6
comp=Z,506nm,20.0s,baz=243,slow=38
comp=Z,12nm,0.6s
SHMA Al-Shehemyia 28.10 106 P **P 09 07 57.6 +1.5**
AKTO Aktyubinsk 29.43 52 P **P 09 08 07.0 -0.7**
comp=Z,16nm,0.7s,baz=258,slow=7.7,SNR=51
AKTO LR LR 09 22 16.0
comp=Z,481nm,18.2s,baz=244,slow=41
comp=Z,16nm,0.7s
AKTO Aktyubinsk 29.43 52 P **P 09 08 06.5 -1.2**
TORD Torodi Ar. Bea 29.65 220 P **P 09 08 10.0 +0.1**
TORD Torodi Ar. Bea 29.65 220 P **P 09 08 10.3 +0.4**
comp=Z,10nm,0.8s,baz=28,slow=10,SNR=60
TORD LR LR 09 21 18.4
comp=Z,778nm,18.1s,baz=28,slow=39
comp=Z,10nm,0.8s
JRN Qarnain Island 30.03 105 P **P 09 08 14.6 +1.4**
AB31 Akbulak array 30.46 55 *i*P **P 09 08 16.3 -0.5**
ABKAR Akbulak array 30.46 55 P **P 09 08 16.6 -0.2**
ABKAR IAmb IAmb 09 08 18.0
comp=Z,11nm,0.8s
ABKAR Akbulak array 30.46 55 P **P 09 08 16.4 -0.4**
ABKAR Akbulak array 30.46 55 ⇓P **P 09 08 16.6 -0.2**
GHWR Ruwais 30.59 107 P **P 09 08 18.9 +0.8**
APA Apatity 30.92 9 *i*P **P 09 08 21.2 +0.6**
APA MLR MLR
comp=Z,3μm,10.0s
ARTI Arti 31.32 41 P **P 09 08 23.6 -0.7**
ARTI Arti 31.32 41 P **P 09 08 23.0 -1.3**
comp=Z,34nm,0.8s,baz=234,slow=5.8,SNR=38
ARTI LR LR 09 21 35.3
comp=Z,344nm,22.0s,baz=255,slow=38
comp=Z,34nm,0.8s
ARTI Arti 31.32 41 ⇑P **P 09 08 23.3 -1.0**
ARTI Arti 31.32 41 P **P 09 08 23.6 -0.7**
ARTI pmax pmax
comp=Z,35nm,0.9s
MZWR Madinat Zayed 31.46 106 P **P 09 08 26.7 +0.8**
MZWR S **S 09 13 32.4 -0.8**
MZR Muzera 31.58 108 P **P 09 08 28.1 +1.1**
AJN Ajban 31.88 104 P **P 09 08 30.6 +1.0**
AJN S **S 09 13 39.7 +0.1**
UMQ Umm Al-Quwin 31.90 102 P **P 09 08 29.3 -0.4**
SHME Shamm 32.01 101 *i*P **P 09 08 30.4 -0.3**
SNR=7.2
SHME Shamm 32.01 101 P **P 09 08 30.7 0.0**
SNR=5.2
SHME S **S 09 13 39.7 -2.1**
ASUD Al Ashush, Dub 32.11 104 P **P 09 08 32.5 +1.0**
ASUD Al Ashush, Dub 32.11 104 P **P 09 08 32.7 +1.2**
ASUD S **S 09 13 43.2 -0.1**
ARCES ARCESS Array B 32.16 3 P **P 09 08 31.1 -0.5**
comp=Z,2.0nm,0.5s,baz=187,slow=10,SNR=22
ARCES LR LR 09 24 24.7
comp=Z,497nm,19.1s,baz=180,slow=42
comp=Z,2.0nm,0.5s
NAZ Nazwa, Dubai 32.18 103 *i*P **P 09 08 32.7 +0.5**
SNR=5.8
NAZ Nazwa, Dubai 32.18 103 P **P 09 08 33.0 +0.8**
NAZ S **S 09 13 45.1 +0.7**
FAQ Al Faqa, Dubai 32.25 103 P **P 09 08 33.3 +0.4**
FAQ S **S 09 13 43.5 -2.0**
MASF Masafi 32.37 102 P **P 09 08 34.4 +0.5**
MASF S **S 09 13 45.8 -1.6**
MSFE Esma-Masafi 32.37 102 *i*P **P 09 08 33.7 -0.3**
SNR=5.8
MDH Madha 32.51 102 *i*P **P 09 08 34.7 -0.4**
SNR=6.7
MDH Madha 32.51 102 P **P 09 08 35.2 +0.1**
MDH S **S 09 13 48.2 -1.4**
UOSS Minazif 32.62 102 P **P 09 08 35.5 -0.6**
UOSS Minazif 32.62 102 *i*P **P 09 08 35.5 -0.6**
SNR=12
UOSS Minazif 32.62 102 P **P 09 08 36.1 0.0**
UOSS S **S 09 13 49.1 -2.2**
UOSS Minazif 32.62 102 ⇑P **P 09 08 35.9 -0.2**
HATD Hatta, Dubai 32.63 103 *i*P **P 09 08 36.2 +0.1**
SNR=13
HATD Hatta, Dubai 32.63 103 P **P 09 08 36.5 +0.4**
SNR=8.1
HATD S **S 09 13 49.8 -1.6**
SVE Sverdlovsk 32.64 41 *e*P **P 09 08 35.9 0.0**
SVE pmax pmax
comp=Z,69nm,0.9s
SVE MLR MLR
comp=Z,2μm,11.0s
ASHO Ashiyiah 32.64 103 *i*P **P 09 08 35.9 -0.4**
SNR=11
ASHO Ashiyiah 32.64 103 P **P 09 08 36.6 +0.3**
SNR=9.4
ASHO S **S 09 13 50.2 -1.5**
ALNE Al Ain 32.74 104 *i*P **P 09 08 37.3 +0.2**
SNR=23
ALNE Al Ain 32.74 104 P **P 09 08 37.7 +0.6**
SNR=9.9
ALNE S **S 09 13 51.2 -1.9**
FURI Furi 32.80 146 LR LR 09 23 25.5
comp=Z,518nm,18.4s,baz=339,slow=39
SOHO SOHO 33.30 103 *i*P **P 09 08 42.1 +0.1**
SNR=41
SOHO SOHO 33.30 103 P **P 09 08 42.3 +0.3**
SOHO S **S 09 14 00.7 -1.1**
JASK Jask - Hormozg 33.45 99 P **P 09 08 44.4 +1.1**
SNR=9.0
JASK S **S 09 14 05.0 +0.8**
HRA Herat 33.54 83 P **P 09 08 43.6 -0.7**
ARQ Araqi 33.72 105 P **P 09 08 46.2 +0.5**
SNR=11
ARQ S **S 09 14 07.8 -0.6**
HOQ Hoqain 34.19 103 P **P 09 08 49.7 -0.1**
SNR=7.3
HOQ S **S 09 14 13.1 -2.6**
BSY Bisya 34.56 105 P **P 09 08 53.4 +0.3**
SNR=5.2
BSY S **S 09 14 19.0 -2.5**
DOK Doka 34.72 114 P **P 09 08 54.6 +0.3**
SNR=7.3
DOK S **S 09 14 23.2 -0.6**
BIDO Bidbid 34.86 103 P **P 09 08 55.8 +0.2**
BIDO S **S 09 14 23.9 -2.1**
WHFO Wadi Hawf 34.91 115 P **P 09 08 56.7 +0.6**
ABTO Aybut 34.94 116 P **P 09 08 57.0 +0.7**
SMDO Samad 35.05 104 P **P 09 08 57.3 0.0**
SNR=12
SMDO S **S 09 14 28.1 -1.0**
JMDO Jabal Madar 35.47 105 P **P 09 09 00.8 -0.1**
JMDO S **S 09 14 33.7 -1.7**
RBK Rabkut 35.49 115 P **P 09 09 02.0 +0.9**
SNR=7.3
DMTO DMTO 35.89 114 P **P 09 09 04.3 -0.1**
SNR=5.2
WBK Wadi Bani Khal 36.00 103 P **P 09 09 06.2 +0.7**
MHTO MHTO 36.14 107 P **P 09 09 07.4 +0.8**
SNR=13
NGCH Negor - Chabah 36.27 98 P **P 09 09 08.5 +0.8**
LODK Lodwar 36.50 155 P **P 09 09 11.5 +1.7**
JLN Jalan Bani Buh 36.59 104 P **P 09 09 10.9 +0.5**
SNR=7.0
BORG Borgarnes 36.76 331 LR LR 09 27 10.6
comp=Z,288nm,18.9s,baz=128,slow=41
JMIC Jan Mayen 36.82 344 LR LR 09 25 57.1
comp=Z,137nm,18.6s,baz=138,slow=39
BRVK Borovoye 37.33 49 P **P 09 09 16.1 -0.3**
BRVK IAmb IAmb 09 09 29.5
comp=Z,23nm,0.8s
BRVK Borovoye 37.33 49 P **P 09 09 16.1 -0.3**
BRVK Borovoye 37.33 49 ⇑P **P 09 09 16.2 -0.3**
BRVK Borovoye 37.33 49*c i*P **P 09 09 16.0 -0.4**
BRVK pmax pmax
comp=Z,17nm,0.8s
BVA0 Borovoye Array 37.40 49 *i*P **P 09 09 16.3 -0.7**
BVAR Borovoye Array 37.40 49 P **P 09 09 16.4 -0.6**
comp=Z,10nm,0.6s,baz=270,slow=5.9,SNR=29
BVAR LR LR 09 26 05.0
comp=Z,323nm,18.7s,baz=271,slow=39
comp=Z,10nm,0.6s
SIMJ Simiganj 37.65 73 P **P 09 09 19.1 -0.3**
SIMJ IAmb IAmb 09 09 20.4
comp=Z,21nm,1.0s
KK31 Karatay Array 37.89 66 *i*P **P 09 09 20.7 -0.6**
KKAR Karatay Array 37.89 66 P **P 09 09 20.7 -0.6**
KKAR Karatay Array 37.89 66 IAmb IAmb 09 09 23.4
comp=Z,12nm,0.7s
KKAR Karatay Array 37.89 66 ⇓P **P 09 09 21.0 -0.3**
KKAR Karatay Array 37.89 66 P **P 09 09 20.7 -0.6**
DBIC Dimbokro 38.55 224 P **P 09 09 27.7 +0.7**
comp=Z,28nm,1.0s,baz=24,slow=8.7,SNR=18
DBIC LR LR 09 26 39.3
comp=Z,420nm,18.6s,baz=8.0,slow=38
comp=Z,28nm,1.0s
BTK Batken 38.69 70 IAmb IAmb 09 09 29.0
comp=Z,23nm,1.1s
MBAR Mbarara 39.06 164 LR LR 09 27 44.1
comp=Z,321nm,18.9s,baz=347,slow=39
BBTS Babate 40.11 245 LR LR 09 28 31.4
comp=Z,2μm,18.3s,baz=304,slow=40
SPITS Spitsbergen Ar 40.79 359 P **P 09 09 45.2 +0.2**
comp=Z,15nm,0.9s,baz=347,slow=25,SNR=7.0
comp=Z,15nm,0.9s
AAK Ala-Archa 40.86 65 P **P 09 09 47.2 +1.0**
AAK Ala-Archa 40.86 65 *i*P **P 09 09 46.5 +0.3**
SNR=7.5
AAK Ala-Archa 40.86 65 LR LR 09 30 18.0
comp=Z,407nm,18.1s,baz=307,slow=42
AAK Ala-Archa 40.86 65 ⇓P **P 09 09 46.7 +0.5**
AAK Ala-Archa 40.86 65⇓*e*P **P 09 09 46.7 +0.5**
AAK pmax pmax
comp=Z,9.0nm,0.8s
KMBO Kilima Mbogo 41.40 155 P **P 09 09 52.2 +1.3**
KMBO Kilima Mbogo 41.40 155 P **P 09 09 52.2 +1.3**
comp=Z,0.6nm,0.3s,baz=13,slow=6.9,SNR=5.6
KMBO LR LR 09 31 01.8
comp=Z,163nm,18.2s,baz=88,slow=42
comp=Z,0.6nm,0.3s
KMBO Kilima Mbogo 41.40 155 P **P 09 09 52.2 +1.3**
KMBO pmax pmax
comp=Z,18nm,1.8s
TKM2 Tokmak 2 41.59 65 *i*P **P 09 09 51.5 -0.9**
TKM2 pmax pmax
comp=Z,4.0nm,0.9s
NIL Nilore 42.42 79 P **P 09 09 59.6 +0.6**
NIL IAmb IAmb 09 10 28.6
comp=Z,28nm,1.2s
NIL Nilore 42.42 79 P **P 09 09 59.6 +0.6**
NIL pmax pmax
comp=Z,28nm,1.2s
KURBB Kurchatov Arra 42.47 53 P **P 09 09 58.3 -0.8**
comp=Z,14nm,0.6s,baz=281,slow=8.7,SNR=71
KURBB LR LR 09 31 29.7
comp=Z,426nm,19.6s,baz=174,slow=42
comp=Z,14nm,0.6s
KURBB Kurchatov Arra 42.47 53 P **P 09 09 57.7 -1.4**
KURK Kurchatov 42.52 53 P **P 09 09 58.2 -1.3**
KURK Kurchatov 42.52 53 ⇑P **P 09 09 58.6 -0.9**
KURK Kurchatov 42.52 53*ce*P **P 09 09 58.5 -1.0**
KURK pmax pmax
comp=Z,14nm,0.8s
KSH Kashi 42.67 70 P **P 09 09 59.6 -1.5**
KSH pmax pmax
comp=Z,10.0nm,1.1s
WUS Wushi 44.62 66 IAmb IAmb 09 10 30.6
comp=Z,15nm,1.0s
MAKZ Makanchi 45.27 58 P **P 09 10 21.9 +0.2**
MAKZ Makanchi 45.27 58 P **P 09 10 21.9 +0.2**
MAKZ pmax pmax
comp=Z,12nm,1.3s
SUMG Summit 45.48 339 P **P 09 10 23.5 0.0**
SUMG Summit 45.48 339 ⇑P **P 09 10 24.1 +0.6**
SUMG Summit 45.48 339 P **P 09 10 23.5 0.0**
SUMG pmax pmax
comp=Z,36nm,1.3s
MK31 Makanchi Array 45.49 58*d i*P **P 09 10 22.8 -0.6**
MKAR Makanchi Array 45.49 58 P **P 09 10 22.1 -1.4**
MKAR Makanchi Array 45.49 58 P **P 09 10 22.6 -0.9**
comp=Z,9.2nm,0.6s,baz=274,slow=7.6,SNR=66
MKAR LR LR 09 32 51.3
comp=Z,282nm,19.9s,baz=272,slow=41
comp=Z,9.2nm,0.6s
MKAR Makanchi Array 45.49 58 P **P 09 10 22.1 -1.4**
ZAA0 Zalesovo Array 45.99 48 P **P 09 10 26.6 -0.6**
ZALV Zalesovo Beam 45.99 48 P **P 09 10 26.2 -1.0**
ZALV Zalesovo Beam 45.99 48 P **P 09 10 26.4 -0.9**
comp=Z,7.0nm,0.2s,baz=276,slow=9.0,SNR=36
ZALV LR LR 09 32 14.2
comp=Z,293nm,18.4s,baz=297,slow=39

comp=Z,7.0nm,0.2s
ZALV Zalesovo Beam 45.99 48 *i* P **P 09 10 26.7 -0.5**
ZALV pmax pmax
comp=Z,7.0nm,0.3s
NRIK Noril'sk 47.29 26 P **P 09 10 38.4 +1.2**
NRIK IAmb IAmb 09 11 02.2
comp=Z,12nm,1.1s
NRIK Noril'sk 47.29 26 P **P 09 10 37.1 -0.1**
comp=Z,1.9nm,0.4s,baz=260,slow=5.1,SNR=5.6
NRIK LR LR 09 32 43.2
comp=Z,664nm,21.0s,baz=268,slow=39
comp=Z,1.9nm,0.4s
NRIK Noril'sk 47.29 26*c* *i* P **P 09 10 37.6 +0.4**
NRIK pmax pmax
comp=Z,12nm,1.2s
SFJD Kangerlussuaq 48.88 330 LR LR 09 31 51.3
comp=Z,480nm,21.8s,baz=94,slow=37
WMQ Urumqi 49.91 61 *e*P **P 09 11 01.8 +3.9**
WMQ PP **PP 09 12 52.3 -0.3**
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ LR LR
comp=Z,530nm,11.1s
WMQ LR LR
comp=Z,510nm,14.3s
WMQ LR LR
comp=Z,230nm,20.9s
TSUM Tsumeb 56.51 184 LR LR 09 38 20.9
comp=Z,812nm,19.1s,baz=331,slow=38
FRB Frobisher Bay 56.79 328 LR LR 09 37 48.6
comp=Z,444nm,18.0s,baz=98,slow=38
SCHQ Schefferville 59.05 318 P **P 09 12 04.1 +0.1**
comp=Z,6.5nm,0.7s,baz=47,slow=7.1,SNR=6.9
SCHQ LR LR 09 36 15.2
comp=Z,209nm,20.4s,baz=75,slow=35
comp=Z,6.5nm,0.7s
GTA Gaotai 59.97 61 P **P 09 12 10.4 -0.4**
GTA pmax pmax
comp=Z,7.0nm,0.7s
GTA LR LR
comp=Z,160nm,15.5s
GTA LR LR
comp=Z,200nm,15.5s
GTA LR LR
comp=Z,350nm,14.7s
TIXI Tiksi 60.19 20 P **P 09 12 12.4 +0.8**
TIXI IAmb IAmb 09 12 24.5
comp=Z,7.8nm,1.1s
TIXI Tiksi 60.19 20 LR LR 09 41 55.9
comp=Z,331nm,18.0s,baz=329,slow=40
TIXI Tiksi 60.19 20⇑ *e*P **P 09 12 12.1 +0.6**
TIXI pmax pmax
comp=Z,6.0nm,0.8s
SHL Shillong 60.49 79 P **P 09 12 13.4 -1.2**
SNR=11
SONM Songino Array 60.73 50 P **P 09 12 15.5 -0.4**
SONM Songino Array 60.73 50 P **P 09 12 15.4 -0.4**
comp=Z,5.6nm,0.9s,baz=288,slow=8.7,SNR=22
SONM LR LR 09 43 43.5
comp=Z,267nm,18.0s,baz=327,slow=41
comp=Z,5.6nm,0.9s
BOD Bodaibo 60.77 38 *e*P **P 09 12 15.0 -0.7**
BOD pmax pmax
comp=Z,13nm,1.5s
ULN Ulaanbaatar 61.12 50 P **P 09 12 17.3 -1.2**
ULN IAmb IAmb 09 12 33.2
comp=Z,7.1nm,0.8s
ULN Ulaanbaatar 61.12 50⇑ *i* P **P 09 12 18.1 -0.4**
ULN pmax pmax
comp=Z,6.0nm,0.8s
LBTB Lobatse 62.39 175 P **P 09 12 29.1 +2.1**
LBTB IAmb IAmb 09 12 41.8
comp=Z,10nm,1.1s
LBTB Lobatse 62.39 175 LR LR 09 42 01.9
comp=Z,168nm,18.4s,baz=7.5,slow=38
LBTB Lobatse 62.39 175 P **P 09 12 29.2 +2.1**
LBTB pmax pmax
comp=Z,10.0nm,1.2s
LZH Lanzhou 64.33 63 *e*P P 09 12 45.9 +5.8
LZH sP pwP 09 12 51.6 +4.0
LZH S **S 09 21 19.5 +1.8**
LZH sS sS 09 21 30.9 +5.0
LZH pmax pmax
comp=Z,15nm,1.0s
LZH LR LR
comp=N,310nm,14.4s
LZH LR LR
comp=E,250nm,14.9s
LZH LR LR
comp=Z,300nm,16.7s
YAK Yakutsk 65.58 29 LR LR 09 45 31.4
comp=Z,469nm,18.7s,baz=310,slow=40
YAK Yakutsk 65.58 29 *e*P **P 09 12 46.6 -0.9**
YAK *e**PP **pP 09 12 51.5 -0.7**
YAK *e* 09 13 12.9
YAK *e* 09 15 12.1
YAK *e*S **S 09 21 33.2 +1.4**
YAK *e* 09 22 41.5
YAK *e*SS **SS 09 25 45.1 +0.3**
YAK pmax pmax
comp=Z,18nm,1.1s
YAK pmax pmax
comp=N,6.0nm,1.5s
YAK pmax pmax
comp=E,4.0nm,1.6s
YAK pmax pmax
comp=Z,155nm,6.9s
YAK pmax pmax
comp=N,158nm,5.2s
YAK pmax pmax
comp=E,175nm,5.1s
YAK smax smax
comp=N,262nm,6.3s
YAK smax smax
comp=E,63nm,4.3s
YAK MLR MLR
comp=Z,503nm,18.0s
YAK MLR MLR
comp=N,327nm,30.0s
YAK MLR MLR
comp=E,409nm,26.0s
TNCH TengChong 65.92 76 *e*P **P 09 12 50.8 +0.2**
TNCH sP pP 09 12 55.8 +0.4
TNCH pmax pmax
comp=E,130nm,2.2s
BOSA Boshof 65.94 176 P **P 09 12 50.8 +0.5**
comp=E,1.6nm,0.5s,baz=1.2,slow=6.9,SNR=8.1
BOSA LR LR 09 46 12.5
comp=E,367nm,18.2s,baz=9.0,slow=40
comp=E,1.6nm,0.5s
CD2 Chengdu 66.84 68 P **P 09 12 56.1 -0.2**
CD2 sP pP 09 13 01.0 0.0
CD2 pmax pmax
comp=E,20nm,0.9s
HHC Hu-ho-hao-te 67.25 55 *e*P **P 09 12 56.9 -1.9**
HHC sP pwP 09 13 07.8 +1.5
HHC S **S 09 21 50.3 -2.8**
HHC SS **SS 09 26 11.3 -0.8**
HHC pmax pmax
comp=E,14nm,0.6s
HHC pmax pmax
comp=E,75nm,5.0s
HHC LR LR
comp=E,170nm,13.0s
HHC LR LR
comp=E,280nm,13.8s
HHC LR LR
comp=E,330nm,12.8s
PZH PanZhiHua 67.62 73 P **P 09 13 00.6 -0.8**
PZH pmax pmax
comp=E,30nm,1.0s
PZH pmax pmax
comp=E,100nm,5.3s
RCBR Riachuelo 68.06 244 LR LR 09 43 10.0
comp=E,300nm,18.3s,baz=66,slow=36
XLT XiLinHaoTe 68.54 51 *e*P **P 09 13 08.6 +1.7**
XLT pP sP 09 13 13.5 +0.1
XLT S **S 09 22 09.5 +1.1**
XLT sS sS 09 22 24.8 +7.7
XLT SS **SS 09 26 33.3 +1.5**
XLT pmax pmax
comp=E,5.0nm,0.9s
XLT LR LR
comp=E,30nm,11.5s
XLT LR LR
comp=E,250nm,11.9s
XLT LR LR
comp=E,370nm,11.9s
XAN Xi'an 68.96 63⇑P **P 09 13 10.4 +0.8**
XAN pP sP 09 13 16.3 +0.2
XAN pmax pmax
comp=E,13nm,1.5s
KMI Kunming 69.11 74⇓P **P 09 13 11.0 +0.1**
KMI sP sP 09 13 16.8 -0.7
KMI S **S 09 22 12.8 -3.2**
KMI pmax pmax
comp=E,14nm,0.5s
ZEA Zeya 69.27 38 *e*P **P 09 13 12.4 +1.3**
ZEA *e*S **S 09 22 22.4 +5.9**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ZEA smax smax
comp=E,100nm,6.7s
ZEA MLR MLR
comp=N,200nm,14.0s
ZEA MLR MLR
comp=E,300nm,14.0s
ZEA MLR MLR
comp=Z,400nm,18.0s
SUR Sutherland 69.56 180 LR LR 09 46 34.4
comp=Z,390nm,18.7s,baz=2.5,slow=38
CHTO Chiang Mai 69.60 82 P **P 09 13 13.5 -0.2**
CHTO Chiang Mai 69.60 82 P **P 09 13 13.5 -0.2**
CHTO pmax pmax
comp=Z,28nm,1.0s
CMAR Chiang Mai Arr 69.80 82 P **P 09 13 14.3 -0.6**
CMAR Chiang Mai Arr 69.80 82 P **P 09 13 14.7 -0.2**
comp=Z,12nm,0.7s,baz=304,slow=8.0,SNR=84
CMAR LR LR 09 50 20.2
comp=Z,98nm,19.7s,baz=290,slow=42
comp=Z,12nm,0.7s
CMAR Chiang Mai Arr 69.80 82 *i* P **P 09 13 14.6 -0.3**
CMAR pmax pmax
comp=Z,13nm,0.8s
HEH HeiHe 71.41 40 *e*P **P 09 13 24.5 +0.3**
HEH pP **pP 09 13 26.8 -2.1**
HEH S **S 09 22 42.4 +0.8**
HEH ScS **ScS 09 23 28.5 +0.3**
HEH pmax pmax
comp=Z,32nm,0.9s
HEH pmax pmax
comp=Z,130nm,5.7s
HEH LR LR
comp=Z,510nm,11.0s
HEH LR LR
comp=Z,430nm,11.4s
HEH LR LR
comp=Z,1μm,12.4s
BILL Bilibino 71.60 13⇓ *e*P **P 09 13 24.6 -0.5**
BILL pmax pmax
comp=Z,10.0nm,1.3s
SLVN Son La 72.08 77 IAmb IAmb 09 13 30.0
comp=Z,18nm,1.0s
C27K Jago River 72.54 354 IAmb IAmb 09 13 58.3
comp=Z,10.0nm,0.9s
SEY Seymchan 72.67 21 P **P 09 13 32.1 +0.6**
comp=Z,4.0nm,0.8s,baz=349,slow=23,SNR=9.7
comp=Z,4.0nm,0.8s
SEY Seymchan 72.67 21⇑ *e*P **P 09 13 31.1 -0.4**
SEY pmax pmax
comp=Z,8.0nm,1.1s
D27M Malcolm River 72.67 353 IAmb IAmb 09 13 48.7
comp=Z,13nm,1.2s
C23K Itkillik River 72.75 357 IAmb IAmb 09 13 48.9
comp=Z,16nm,1.1s
E28M Babbage River 73.15 353 IAmb IAmb 09 13 44.5
comp=Z,10.0nm,1.2s
F31M Tsiigehtchic 73.56 350 IAmb IAmb 09 13 46.3
comp=Z,17nm,0.9s
MDP Montagnes des 73.74 264 LR LR 09 45 11.6
comp=Z,164nm,19.8s,baz=67,slow=35
E27K Coleen River 73.76 353 IAmb IAmb 09 13 48.1
comp=Z,9.9nm,1.1s
YKA Yellowknife Ar 74.05 340 P **P 09 13 39.6 -0.1**
comp=Z,3.3nm,0.9s,baz=39,slow=5.3,SNR=5.8
comp=Z,3.3nm,0.9s
YKA Yellowknife Ar 74.05 340 *i* P **P 09 13 41.7 +2.0**
YKA pmax pmax
comp=Z,1.0nm,0.5s
G31M Satah River 74.12 350 IAmb IAmb 09 14 19.5
comp=Z,9.2nm,0.9s
BNX BinXian 74.13 44⇑P **P 09 13 40.3 -0.1**
BNX pmax pmax
comp=Z,15nm,1.0s
CN2 Changchun 74.19 47 *e*P **P 09 13 40.6 -0.3**
CN2 *e*S **S 09 23 11.3 -2.2**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,160nm,13.0s
CN2 LR LR
comp=Z,310nm,13.0s
KLR Kul'dur 74.25 39 P **P 09 13 41.1 0.0**
comp=Z,10nm,0.7s,baz=316,slow=6.6,SNR=24
comp=Z,10nm,0.7s
KLR Kul'dur 74.25 39 *e*P **P 09 13 40.2 -0.9**
KLR pmax pmax
comp=Z,19nm,1.3s
D19K Kuna River 74.28 360 IAmb IAmb 09 14 15.2
comp=Z,23nm,1.2s
G30M tAoh Zraii Nji 74.33 351 IAmb IAmb 09 14 02.0
comp=Z,23nm,1.4s
G29M Pine Creek 74.61 351 IAmb IAmb 09 13 53.0
comp=Z,14nm,0.9s
MA2 Magadan 74.81 24 P **P 09 13 44.5 +0.4**
comp=Z,9.3nm,0.7s,baz=11,slow=7.9,SNR=4.4
MA2 LR LR 09 49 04.0
comp=Z,198nm,20.9s,baz=320,slow=38
comp=Z,9.3nm,0.7s
EPYK Eagle Plains 74.97 351 IAmb IAmb 09 14 13.6
comp=Z,17nm,1.3s
G27K Doyon Strip 75.11 353 IAmb IAmb 09 14 07.2
comp=Z,31nm,2.0s
E19K Redstone River 75.32 359 IAmb IAmb 09 13 57.0
comp=Z,13nm,0.8s
E18K Tukpahlearik C 75.36 1 IAmb IAmb 09 14 10.9
comp=Z,8.8nm,0.8s
GRNR Gornyy 75.52 36⇑ *i* P **P 09 13 49.1 +0.6**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,380nm,14.0s
GRNR MLR MLR
comp=N,280nm,19.0s
GRNR MLR MLR
comp=Z,350nm,17.0s
WRGLY Wrigley 75.58 344 IAmb IAmb 09 14 05.5
comp=Z,20nm,1.1s
FFC Flin Flon 75.82 330 P **P 09 13 50.3 +0.2**
FFC IAmb IAmb 09 14 14.8
comp=Z,25nm,1.5s
FFC Flin Flon 75.82 330 P **P 09 13 50.3 +0.2**
FFC pmax pmax
comp=Z,25nm,1.5s
F19K Shaleruckik Mo 75.95 359 IAmb IAmb 09 14 11.8
comp=Z,11nm,1.0s
I30M Mount Dempster 76.02 350 IAmb IAmb 09 14 00.4
comp=Z,11nm,0.9s
I28M Miner Creek 76.24 352 IAmb IAmb 09 14 23.1
comp=Z,10nm,1.2s
ULM Lac du Bonnet 76.32 324 P **P 09 13 53.2 +0.2**
comp=Z,8.2nm,1.0s,baz=59,slow=5.3,SNR=6.7
ULM LR LR 09 48 14.3
comp=Z,303nm,19.4s,baz=44,slow=36
comp=Z,8.2nm,1.0s
J30M Hart River 76.63 350 IAmb IAmb 09 14 04.4
comp=Z,15nm,1.1s
SJG San Juan 76.80 283 LR LR 09 43 11.7
comp=Z,48nm,21.2s,baz=50,slow=32
NJ2 Nanjing 76.98 60 *e*P **P 09 13 57.1 0.0**
NJ2 pP **pP 09 14 00.3 -1.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.7s
H21K Melozitna Rive 77.01 357 IAmb IAmb 09 14 19.3
comp=Z,14nm,1.1s
DAWY Dawson 77.52 351 P **P 09 14 01.2 +1.7**
DAWY IAmb IAmb 09 14 34.9
comp=Z,7.3nm,0.8s
ILAR Eielson Array 77.56 355 P **P 09 14 00.1 +0.4**
comp=Z,1.0nm,0.9s,baz=348,slow=3.4,SNR=11
comp=Z,1.0nm,0.9s
USA0B Ussuriysk Arra 77.62 43 P **P 09 14 00.4 0.0**
USA0B IAmb IAmb 09 14 01.1
comp=Z,13nm,0.8s
USA0B Ussuriysk Arra 77.62 43 P **P 09 14 00.4 0.0**
USA0B pmax pmax
comp=Z,13nm,0.9s
USRK Ussuriysk Ar. 77.62 43 P **P 09 14 00.4 0.0**
comp=Z,10nm,0.8s,baz=288,slow=4.9,SNR=14
comp=Z,10nm,0.8s
K27K Chicken 77.86 352 IAmb IAmb 09 14 11.4
comp=Z,11nm,1.0s
HDA Harding Lake 77.92 355 IAmb IAmb 09 14 23.4
comp=Z,8.9nm,0.9s
WRH Wood River Hil 77.94 355 IAmb IAmb 09 14 23.1
comp=Z,9.7nm,0.8s
MSHR Mys Shultsa 78.21 45⇑ *e*P **P 09 14 01.4 -2.3**
MSHR pmax pmax
comp=Z,10.0nm,1.2s
FARO Faro, Yukon 78.40 348 IAmb IAmb 09 14 32.9
comp=Z,16nm,1.3s
BCAR Beaver Creek A 78.76 352 P **P 09 14 06.2 -0.3**
PSI Prapat 78.92 95 P **P 09 14 08.2 0.0**
PSI pmax pmax
comp=Z,13nm,1.0s
M29M Somme Creek 78.96 350 IAmb IAmb 09 14 18.0
comp=Z,7.9nm,0.8s
RPSI Rantau Prapat 78.99 95 P **P 09 14 08.2 -0.3**
RPSI IAmb IAmb 09 14 16.7
comp=Z,12nm,1.0s
TKL Tuckaleechee C 79.06 307 LR LR 09 49 27.6
comp=Z,182nm,18.4s,baz=51,slow=36
DHY Denali Highway 79.28 355 IAmb IAmb 09 14 30.9
comp=Z,9.8nm,0.8s
KSAR Wonju Array Be 79.58 51 P **P 09 14 10.9 -0.4**
KSAR Wonju Array Be 79.58 51 P **P 09 14 10.9 -0.4**
KSRS Korea Array 79.60 51 P **P 09 14 11.6 +0.1**
comp=Z,10nm,0.7s,baz=311,slow=4.8,SNR=40
KSRS LR LR 09 53 35.4
comp=Z,190nm,18.9s,baz=330,slow=39
comp=Z,10nm,0.7s
SKT Skwentna 80.63 356 IAmb IAmb 09 14 33.3
comp=Z,18nm,1.4s
M20K Styx River 80.80 357 IAmb IAmb 09 15 06.4
comp=Z,20nm,1.4s
GRNC Granite Creek 81.03 351 IAmb IAmb 09 14 21.8
comp=Z,8.7nm,0.8s
YSS Yuzh-Sakhalins 81.18 36 *e*P **P 09 14 20.3 +0.6**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=Z,500nm,19.0s
PETK Petropavlovsk- 82.31 25 LR LR 09 56 47.6
comp=Z,290nm,18.6s,baz=316,slow=40
ASAJ Asahikawa 83.18 38 LR LR 09 55 22.7
comp=Z,354nm,18.0s,baz=336,slow=38
BDFB Brasilia 83.40 245 LR LR 09 52 34.7
comp=Z,353nm,18.4s,baz=85,slow=36
JNU Nakatsue 84.24 52 LR LR 09 58 28.2
comp=Z,136nm,18.6s,baz=326,slow=40
KDAK Kodiak Island 84.87 356 LR LR 09 53 41.4
comp=Z,87nm,21.4s,baz=210,slow=36
JMN Monobe 85.69 50 P **P 09 14 43.1 -0.2**
SDV Santo Domingo 85.75 278 P **P 09 14 45.3 +1.3**
SDV Santo Domingo 85.75 278 LR LR 09 49 35.7
comp=Z,75nm,20.9s,baz=76,slow=33
T35A Sooner Cattle 85.92 314 P **P 09 14 45.4 +1.0**
MAJO Matsushiro 86.30 46⇓ *e*P **P 09 14 46.9 +0.7**
MAJO pmax pmax
comp=Z,9.0nm,1.0s
MJAR Matsushiro Arr 86.30 46 P **P 09 14 46.1 -0.2**
comp=Z,6.1nm,0.8s,baz=314,slow=4.5,SNR=7.8
MJAR LR LR 09 56 54.9
comp=Z,166nm,18.4s,baz=326,slow=38
comp=Z,6.1nm,0.8s
YNE Yellowstone No 86.59 327 IAmb IAmb 09 17 39.4
comp=Z,7.7nm,0.7s
BBB Bella Bella 86.61 341 LR LR 09 55 53.2
comp=Z,79nm,18.0s,baz=1.0,slow=37
NEW Newport 86.70 333 IAmb IAmb 09 15 30.8
comp=Z,9.7nm,1.2s
SHEM Shemya Is, Ala 87.16 16 LR LR 09 59 50.8
comp=Z,124nm,18.9s,baz=104,slow=40
C09A Chrisman Ranch 87.51 334 P **P 09 14 52.2 +0.3**
C09A IAmb IAmb 09 15 20.1
comp=Z,8.7nm,0.9s
PDAR Pinedale Array 88.18 326 P **P 09 14 55.1 -0.3**
comp=Z,0.7nm,0.9s,baz=86,slow=4.6,SNR=4.5
comp=Z,0.7nm,0.9s
BMO Blue Mountains 89.66 332 IAmb IAmb 09 15 11.3
comp=Z,9.4nm,1.4s
RDMU Red Mountain 89.93 324 IAmb IAmb 09 15 12.8
comp=Z,7.1nm,1.0s
HWUT Hardware Ranch 90.00 326 IAmb IAmb 09 15 15.8
comp=Z,6.2nm,1.0s
ROSC El Rosal 91.09 277 LR LR 09 55 06.7
comp=Z,102nm,19.1s,baz=70,slow=35
PTLB Pontes e Lacer 91.49 252 P **P 09 15 11.9 +0.9**
PTLB IAmb IAmb 09 15 24.4
comp=Z,14nm,1.6s
DUG Dugway, Tooele 91.69 326 IAmb IAmb 09 15 57.9
comp=Z,15nm,1.8s
NVAR Mina Array Bea 95.51 329 P **P 09 15 29.7 +0.2**
comp=Z,0.2nm,0.7s,baz=20,slow=6.0,SNR=1.7
NVAR LR LR 10 02 17.0
comp=Z,210nm,19.7s,baz=30,slow=38
comp=Z,0.2nm,0.7s
TXAR Lajitas Array 95.54 314 P **P 09 15 29.9 +0.3**
comp=Z,0.3nm,0.8s,baz=44,slow=6.8,SNR=2.6
comp=Z,0.3nm,0.8s
TXAR Lajitas Array 95.54 314 P **P 09 15 30.0 +0.3**
JTS Las Juntas de 95.97 288 LR LR 09 56 22.9
comp=Z,115nm,18.4s,baz=52,slow=34
CPUP Villa Florida 96.91 242 LR LR 10 00 49.0
comp=Z,518nm,18.8s,baz=52,slow=36
DAV Davao City (W) 97.34 75 LR LR 10 08 12.9
comp=Z,42nm,18.9s,baz=342,slow=41
PFO Pinyon Flats O 98.77 325 LR LR 10 03 18.2
comp=Z,195nm,18.2s,baz=23,slow=37
LPAZ La Paz 98.87 256 LR LR 10 02 08.6
comp=Z,96nm,18.6s,baz=52,slow=36
WRA Warramunga Arr 120.33 93 PKP **PKPdf 09 20 55.7 -0.1**
comp=Z,0.8nm,0.7s,baz=328,slow=1.8,SNR=5.1
ASAR Alice Springs 121.92 97 PKP **PKPdf 09 20 58.4 -0.5**
comp=Z,1.2nm,0.7s,baz=316,slow=1.6,SNR=12
QSPA South Pole Qui 127.39 180 PKP **PKiKP 09 21 08.4 -0.1**
comp=Z,3.2nm,1.0s,baz=274,slow=1.6,SNR=5.9
TAOE Nuku Hiva Isla 146.62 324 *e*LR LR 10 09 52.9
comp=Z,85nm,24.5s
DZM Mont Dzumac 146.70 72 *e*LR LR 10 10 00.3
comp=Z,93nm,24.6s
DZM Mont Dzumac 146.70 72 PKPbc **PKPbc 09 21 46.3 -0.1**
comp=Z,7.2nm,0.7s,baz=264,slow=9.2,SNR=2.2
PPT2 Papeete2 158.38 334 *e*LR LR 10 15 26.1
comp=Z,75nm,23.0s
TBI Tubuai 163.54 327 *e*LR LR 10 17 42.2
comp=Z,801nm,27.8s
TBI *e*LR LR 10 17 47.0
comp=Z,655nm,32.5s

STR 15 09:02:30.0±0.9, 43°N±4°×°±, h0km, MLv2.3/7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.8, preliminary, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARTF	**Artigues**	**0.69**	**323**	Pg	Pg	09 02 42.8	-0.4
ARTF				Sg	Sg	09 02 53.4	+1.4
TRIGF	**Trigance**	**0.70**	**2**	Pg	Pg	09 02 43.6	0.0
TRIGF				Sg	Sg	09 02 53.6	+0.9
CALF	**Calern**	**0.81**	**29**	Pg	Pb	09 02 46.7	-0.5
CALF				Sg	Sg	09 02 56.9	+0.6
SALSA	**La sagne**	**0.87**	**15**	Pg	Pg	09 02 47.2	+0.5
SALSA				Sg	Sg	09 02 58.4	+0.4
BLAF	**les Blancs**	**0.94**	**345**	Pg	Pg	09 02 47.8	-0.2
BLAF				Sg	Sg	09 03 00.9	+0.7
BSTF	**la Bastide-des**	**0.99**	**328**	Pg	Pg	09 02 47.8	-1.2
BSTF				Sg	Sg	09 03 00.8	-1.1
MVIF	**Mont Vial**	**1.02**	**33**	Pg	Pb	09 02 50.5	-0.3
MVIF				Sg	Sb	09 03 04.1	-0.7
MVIF	**Mont Vial**	**1.02**	**33**	P	Pb	09 02 51.0	+0.3
MLYF	**Mely**	**1.04**	**335**	Pg	Pg	09 02 50.0	0.0
MLYF				Sg	Sb	09 03 04.8	-0.5
ESCA	**l'Escarene**	**1.07**	**42**	Pg	Pb	09 02 51.7	+0.1
ESCA				Sg	Sb	09 03 05.4	-0.7
ESCA	**l'Escarene**	**1.07**	**42**	P	Pb	09 02 51.9	+0.4
RUSF	**Rustrel**	**1.11**	**325**	Pg	Pg	09 02 51.7	+0.4
RUSF				Sg	Sb	09 03 06.7	-0.4
BURY	**Giardini Botan**	**1.14**	**49**	Sg	Sg	09 03 06.5	0.0

BURY	**Giardini Botan**	**1.14**	**49**	Pg	Pg	09 02 51.4	-0.5
BURY	**Giardini Botan**	**1.14**	**49**	P	Pg	09 02 51.5	-0.3
TURF	**col de Turini**	**1.19**	**38**	Pg	Pb	09 02 53.4	-0.2
TURF				Sg	Sg	09 03 08.8	+0.5
TURF	**col de Turini**	**1.19**	**38**	P	Pb	09 02 53.7	0.0
SPIF	**crte de Spivo**	**1.19**	**31**	Pg	Pb	09 02 53.4	-0.2
SPIF				Sg	Sb	09 03 09.8	+0.1
ISO	**Isola**	**1.24**	**23**	Pg	Pg	09 02 53.6	-0.3
ISO				Sg	Sb	09 03 10.7	-0.4
ISO	**Isola**	**1.24**	**23**	P	Pb	09 02 54.5	0.0
SAOF	**Saorge**	**1.28**	**42**	Pg	Pg	09 02 54.5	-0.1
SAOF				Sg	Sb	09 03 11.8	-0.1
STV	**Sant Anna di V**	**1.39**	**30**	P	Pg	09 02 56.1	-0.6
ENR	**Entracque**	**1.41**	**32**	Sg	Sb	09 03 16.0	+0.2
ENR	**Entracque**	**1.41**	**32**	Pg	Pg	09 02 56.7	-0.3
JAUF	**Jausiers**	**1.41**	**11**	Pg	Pg	09 02 56.7	-0.5
JAUF				Sg	Sg	09 03 15.5	+0.1
OGAG	**Argentiere**	**1.42**	**5**	Pg	Pb	09 03 03.4	+6.0
OGAG				Sg	Sn	09 03 27.0	+10
MGRO	**Montegrosso**	**1.45**	**46**	P	Pn	09 02 56.5	-1.1
SURF	**Saint Ours**	**1.47**	**12**	Pg	Pn	09 02 58.1	+0.1
SURF				Sg	Sg	09 03 17.6	+0.2
SURF	**Saint Ours**	**1.47**	**12**	P	Pn	09 02 58.1	+0.1
PZZ	**Stroppo**	**1.56**	**20**	Sg	Sb	09 03 20.7	+0.4
PZZ	**Stroppo**	**1.56**	**20**	Pg	Pn	09 02 59.3	+0.1
PZZ	**Stroppo**	**1.56**	**20**	P	Pn	09 02 59.5	+0.3
GBOS	**Grotte di Boss**	**1.60**	**41**	Pg	Pn	09 03 00.0	+0.3
GBOS	**Grotte di Boss**	**1.60**	**41**	Sg	Sg	09 03 21.6	0.0
GBOS	**Grotte di Boss**	**1.60**	**41**	P	Pn	09 02 59.4	-0.3
RRL	**Rocca Remolon**	**1.90**	**9**	Pg	Pg	09 03 06.2	-0.3

NEIC ***15*** *09:08:34.8±0.3, 11°.72N±0°.08×143°.56E±0°.09, h10km±1km, mb4.7/27, Error ellipse: s-maj=17.9km s-min=9.6km az=235.0*

IDC ***15*** *09:08:38.7±2.2, 11°.72N×143°.81E, h56km±23km, mb4.0/14, mbtmp4.2/15, ML4.1/1, MS3.6/3, Error ellipse: s-maj=29.4km s-min=12.1km az=100.0*

ISC 15 09:08:37.3±0.5, 11°.73N±0°.07×143°.6E±0°.1, h35km, n46, σ0§82/42, mb4.5/28, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.22**	**33**	Pn	**Pn**	**09 09 12.1**	**+0.4**
GUMO	**Guam**	**2.22**	**33**	P	**Pn**	**09 09 12.4**	**+0.7**
	64nm,0.3s,baz=147,slow=1.3,SNR=25						
GUMO				S	**Sn**	**09 09 37.8**	**-0.1**
	209nm,0.3s,baz=345,slow=23,SNR=10						
GUMO				LR	LR	09 10 15.2	
	comp=Z,274nm,18.9s,baz=268,slow=45						
	182nm,0.3s						
JMN	**Monobe**	**23.64**	**339**	P	**P**	**09 13 45.3**	**-0.2**
JMN				IAmb	IAmb	09 14 08.4	
	comp=Z,22nm,1.3s						
JNU	**Nakatsue**	**24.29**	**333**	P	**P**	**09 13 51.6**	**0.0**
JNU				IAmb	IAmb	09 14 24.0	
	comp=Z,30nm,1.4s						
JNU	**Nakatsue**	**24.29**	**333**	P	**P**	**09 13 51.5**	**0.0**
	comp=Z,4.3nm,0.7s,baz=191,slow=4.6,SNR=1.9						
	comp=Z,4.3nm,0.7s						
WB0	**Warramunga Arr**	**32.59**	**196**	P	**P**	**09 15 05.3**	**-0.3**
WB0				IAmb	IAmb	09 15 05.8	
	comp=Z,4.9nm,0.7s						
WR0	**Warramunga Arr**	**32.73**	**196**	IAmb	IAmb	09 15 06.7	
	comp=Z,12nm,1.4s						
WR0				P	**P**	**09 15 06.7**	**-0.2**
WRAB	**Tennant Creek**	**32.76**	**196**	P	**P**	**09 15 07.0**	**-0.2**
WRAB				IAmb	IAmb	09 15 07.4	
	comp=Z,7.4nm,0.7s						
WB2	**Warramunga Arr**	**32.77**	**196**	P	**P**	**09 15 07.1**	**-0.1**
WB2				IAmb	IAmb	09 15 07.5	
	comp=Z,7.7nm,0.7s						
WRA	**Warramunga Arr**	**32.77**	**196**	P	**P**	**09 15 06.8**	**-0.4**
WRA	**Warramunga Arr**	**32.77**	**196**	P	**P**	**09 15 07.0**	**-0.2**
	comp=Z,4.7nm,0.6s,baz=19,slow=9.8,SNR=66						
	comp=Z,4.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**34.54**	**211**	P	**P**	**09 15 23.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**34.54**	**211**	P	**P**	**09 15 22.4**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=20,slow=8.2,SNR=5.7						
	comp=Z,3.6nm,0.8s						
AS31	**Alice Springs**	**36.43**	**195**	P	**P**	**09 15 38.9**	**-0.1**
ASAR	**Alice Springs**	**36.44**	**195**	P	**P**	**09 15 38.0**	**-0.9**
ASAR	**Alice Springs**	**36.44**	**195**	P	**P**	**09 15 38.9**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=18,slow=11,SNR=55						
ASAR				LR	LR	09 30 35.7	
	comp=Z,69nm,19.6s,baz=42,slow=36						
	comp=Z,1.5nm,0.6s						
EIDS	**Eidsvold**	**37.58**	**169**	P	**P**	**09 15 48.5**	**-0.2**
STKA	**Stephens Creek**	**43.40**	**182**	P	**P**	**09 16 35.3**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=6.4,slow=9.3,SNR=3.2						
	comp=Z,1.3nm,0.7s						
FORT	**Forrest**	**44.83**	**199**	P	**P**	**09 16 48.3**	**+0.1**
BBOO	**Buckleboo**	**44.87**	**189**	P	**P**	**09 16 48.0**	**-0.4**
BBOO				IAmb	IAmb	09 16 49.1	
	comp=Z,7.4nm,0.8s						
SONM	**Songino Array**	**47.57**	**326**	P	**P**	**09 17 09.8**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=143,slow=6.9,SNR=3.6						
	comp=Z,0.6nm,0.5s						
MORW	**Morawa**	**48.52**	**213**	P	**P**	**09 17 17.8**	**+0.7**
MORW				IAmb	IAmb	09 17 20.2	
	comp=Z,9.0nm,0.9s						
TOO	**Toolangi**	**49.07**	**178**	P	**P**	**09 17 22.3**	**+1.1**
BKZ	**Black Stump Fm**	**59.18**	**151**	P	**P**	**09 18 35.2**	**+0.3**
BKZ				IAmb	IAmb	09 18 52.7	
	comp=Z,8.5nm,1.1s						
MKAR	**Makanchi Array**	**61.99**	**317**	P	**P**	**09 18 54.4**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=93,slow=5.1,SNR=1.3						
	comp=Z,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**65.26**	**321**	P	**P**	**09 19 15.2**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=105,slow=6.6,SNR=5.5						
	comp=Z,1.8nm,0.3s						
NRIK	**Noril'sk**	**67.49**	**341**	P	**P**	**09 19 29.0**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=136,slow=11,SNR=2.4						
	comp=Z,2.5nm,0.6s						
D22K	**Ayikyak River**	**69.79**	**20**	P	**P**	**09 19 45.1**	**+1.3**
D22K				IAmb	IAmb	09 19 48.7	
	comp=Z,6.0nm,0.7s						
D23K	**Nanushuk River**	**70.50**	**20**	P	**P**	**09 19 49.5**	**+1.3**
D23K				IAmb	IAmb	09 20 08.1	
	comp=Z,12nm,1.3s						
E23K	**Chandalar**	**70.59**	**21**	P	**P**	**09 19 50.1**	**+1.3**
BVAR	**Borovoye Array**	**70.63**	**322**	P	**P**	**09 19 49.4**	**+0.1**
	comp=Z,4.2nm,0.4s,baz=105,slow=7.9,SNR=21						
	comp=Z,4.2nm,0.4s						
ILAR	**Eielson Array**	**70.76**	**25**	P	**P**	**09 19 48.1**	**-1.7**
	comp=Z,0.8nm,0.6s,baz=253,slow=5.3,SNR=13						
	comp=Z,0.8nm,0.6s						
C23K	**Itkillik River**	**70.81**	**20**	P	**P**	**09 19 51.2**	**+1.3**
D24K	**Happy Valley**	**71.19**	**20**	P	**P**	**09 19 53.6**	**+1.3**
C24K	**Franklin Bluff**	**71.40**	**20**	P	**P**	**09 19 54.6**	**+1.0**
F25K	**Christian Rive**	**71.92**	**22**	IAmb	IAmb	09 20 02.4	
	comp=Z,7.4nm,1.3s						
D25K	**Kavik River**	**72.08**	**21**	IAmb	IAmb	09 20 13.9	
	comp=Z,6.0nm,0.9s						
F26K	**Sheenjek River**	**72.50**	**22**	P	**P**	**09 20 01.5**	**+1.2**
C27K	**Jago River**	**73.06**	**20**	IAmb	IAmb	09 20 17.4	
	comp=Z,4.3nm,0.8s						
D27M	**Malcolm River**	**73.94**	**21**	P	**P**	**09 20 10.1**	**+1.3**
L29M	**L29M**	**74.31**	**28**	IAmb	IAmb	09 20 16.6	
	comp=Z,6.7nm,1.1s						
ABKAR	**Akbulak array**	**77.10**	**318**	P	**P**	**09 20 27.1**	**-0.1**
ARCES	**ARCESS Array B**	**88.47**	**342**	P	**P**	**09 21 24.9**	**-0.8**
	comp=Z,3.5nm,0.9s,baz=81,slow=7.5,SNR=5.5						
	comp=Z,3.5nm,0.9s						
NVAR	**Mina Array Bea**	**89.03**	**51**	P	**P**	**09 21 28.4**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=266,slow=5.6,SNR=6.4						
	comp=Z,0.6nm,0.5s						
ELK	**Elko**	**90.72**	**48**	LR	LR	10 01 10.1	
	comp=Z,148nm,18.3s,baz=37,slow=35						
FINES	**FINESS Array B**	**92.32**	**335**	P	**P**	**09 21 42.6**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=43,slow=3.4,SNR=5.0						
	comp=Z,1.2nm,0.8s						

IDC ***15*** *09:09:09.8±0.8, 37°.68N×144°.21E, h0km, mb4.0/9, mbtmp3.9/14, ML3.2/5, MS2.9/2, Error ellipse: s-maj=21.2km s-min=17.9km az=114.0*

NIED ***15*** *09:09:14.0, 37°.76N×144°.00E, h56km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=8.15; $M_{\theta\theta}$2.56; $M_{r\theta}$1.08; $M_{\phi\phi}$1.45; $M_{\phi r}$3.10; Fault plane solution: $M_0$7.88000×10^{14} NP1: ϕ_s201.00000°, δ57.00000°, λ-91.00000°. NP2:ϕ_s22.00000°, δ33.00000°, λ-89.00000°.*

JMA ***15*** *09:09:14.0±0.2, 37°.8N±0°.8×14°4E±°, h56km, MV4.1/33, FAR E OFF NORTH HONSHU*

NEIC ***15*** *09:09:15.8±2.0, 37°.8N±0°.1×144°.1E±0°.2, h36km±14km, mb4.6/4, Error ellipse: s-maj=23.0km s-min=10.9km az=124.0*

ISC 15 09:09:13.8±1.3, 37°.81N±0°.04×144°.16E±0°.07, h23km±13km, n50, σ1§89/30, mb4.1/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.19**	**284**	P	Pn	09 09 47.3	-1.4
JIKH				S	Sn	09 10 11.9	-3.2
JIO	**Ouri**	**2.31**	**287**	P	Pn	09 09 49.5	-1.0
JIO				S	**Sn**	**09 10 15.6**	**-2.5**
OFUJ	**Ofunato**	**2.33**	**304**	P	Pn	09 09 49.8	-1.0
OFUJ				S	**Sn**	**09 10 16.7**	**-2.1**
JKMT	**Kesennumamotoy**	**2.34**	**296**	P	Pn	09 09 49.7	-1.1
JKMT				S	**Sn**	**09 10 16.4**	**-2.5**
JMK	**Ichinoseki**	**2.58**	**297**	P	Pn	09 09 53.3	-0.8
JMM	**Marumori**	**2.67**	**272**		Pn	09 09 54.0	-1.3
JOM	**Ohasama**	**2.79**	**307**	P	Pn	09 09 56.9	-0.2
JOM				S	**Sn**	**09 10 29.1**	**-1.1**
JOTO	**OTAMA OYAMA**	**3.05**	**266**	S	**Sn**	**09 10 34.1**	**-2.3**
JYK	**Kaneyama**	**3.19**	**292**	P	Pn	09 10 02.3	-0.2
JYK				*e*S	**Sn**	**09 10 39.0**	**-0.8**
JANG	**Nango**	**3.29**	**322**	P	Pn	09 10 03.5	-0.4
JANG				*e*S	**Sn**	**09 10 39.5**	**-2.7**
JTM	**Tenmabayashi**	**3.82**	**322**		**Pn**	**09 10 12.8**	**+1.6**
BSO1	**Boso 1**	**4.07**	**220**	*e*P	Pn	09 10 11.4	-2.7
BSO1				*e*S	**Sn**	**09 10 57.3**	**-3.4**
ERM	**Erimo**	**4.27**	**350**	Pn	Pn	09 10 17.6	+0.2
JOT	**Ohata**	**4.30**	**327**	*e*S	Sn	09 11 03.9	-3.4
JRY	**Ryogami san**	**4.58**	**249**	*i* P	Pn	09 10 19.7	-2.0
JRY				S	Sn	09 11 08.8	-5.3
JSD	**Sado**	**4.67**	**275**	Pn	Pn	09 10 23.7	+0.8
JOD2	**Odawara 2**	**4.81**	**240**	*e*P	Pn	09 10 24.2	-0.6
JCH	**Churui**	**4.84**	**353**	*e*P	Pn	09 10 24.4	-0.8
JCH				*e*S	Sn	09 11 17.4	-3.1
MJAR	**Matsushiro Arr**	**4.92**	**257**	Pn	Pn	09 10 25.6	-0.7
	0.7nm,0.3s,baz=70,slow=11,SNR=24						
MJAR				Sn	**Sn**	**09 11 19.3**	**-3.3**
	0.3nm,0.3s,baz=199,slow=22,SNR=1.6						
MJAR				LR	LR	09 12 27.9	
	comp=Z,143nm,19.7s,baz=72,slow=40						
	5.9nm,0.5s						
MAJO	**Matsushiro**	**4.92**	**257**		Pn	09 10 26.6	+0.2
MJB9	**Matsu-Tunnel**	**4.92**	**257**		**Pn**	**09 10 27.5**	**+1.1**
JOSM	**Okushiri--Mats**	**5.58**	**321**	P	Pn	09 10 35.9	+0.5
JHJ	**Hachijo jima 2**	**5.88**	**219**	Sn	Sn	09 11 35.9	-10
	14nm,0.3s,baz=221,slow=17,SNR=2.0						
JGF	**Kuroka**	**5.89**	**250**	Pn	**Pn**	**09 10 40.6**	**+0.9**
JTKR	**Abashiri--Toko**	**6.16**	**358**	P	Pn	09 10 42.6	-0.7
JTKR				*e*S	**Sn**	**09 11 50.3**	**-2.8**
JHR	**Hokuryu**	**6.21**	**343**	P	Pn	09 10 45.1	+1.1
INU	**Inuyama**	**6.25**	**249**	Pn	Pn	09 10 43.5	-1.1
JKA	**Kamikawa-asahi**	**6.41**	**350**	Pn	Pn	09 10 47.3	+0.5
ASAJ	**Asahikawa**	**6.41**	**350**	Pn	Pn	09 10 46.8	0.0
	1.6nm,0.3s,baz=194,slow=17,SNR=14						
ASAJ				Sn	**Sn**	**09 11 56.2**	**-3.1**
	0.8nm,0.3s,baz=11,slow=30,SNR=3.5						
	5.8nm,0.4s						
USRK	**Ussuriysk Ar.**	**11.19**	**309**	Pn	Pn	09 11 51.8	-0.5
	0.1nm,0.3s,baz=116,slow=15,SNR=3.6						
	2.1nm,0.6s						
KSRS	**Korea Array**	**12.88**	**273**	Pn	Pn	09 12 15.6	+0.1
	baz=89,slow=13,SNR=8.5						
KSRS				LR	LR	09 16 44.9	
	comp=Z,51nm,18.7s,baz=130,slow=35						
	2.2nm,0.9s						
KLR	**Kul'dur**	**14.52**	**326**	Pn	**Pn**	**09 12 39.8**	**+2.1**
	0.1nm,0.3s,baz=143,slow=20,SNR=1.8						
	0.5nm,0.4s						
H11S1	**WAKE ISLAND Hy**	**27.53**	**128**	T	T	09 42 47.9	
	baz=319						
H11S3	**WAKE ISLAND Hy**	**27.53**	**128**	T	T	09 42 48.7	
	baz=319						
H11S2	**WAKE ISLAND Hy**	**27.54**	**128**	T	T	09 42 51.0	
	baz=319						
C18K	**Utukok River**	**42.62**	**26**	P	**P**	**09 17 09.3**	**+1.3**
C18K				IAmb	IAmb	09 17 32.6	
	comp=Z,18nm,1.4s						
C19K	**Lookout Ridge**	**43.31**	**26**	P	**P**	**09 17 14.4**	**+0.9**
C19K				IAmb	IAmb	09 17 16.6	
	comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**43.81**	**257**	P	**P**	**09 17 18.5**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=60,slow=5.3,SNR=4.3						
	comp=Z,1.1nm,0.3s						
B20K	**Meade River**	**44.37**	**25**	P	**P**	**09 17 24.0**	**+2.1**
MKAR	**Makanchi Array**	**45.56**	**302**	P	**P**	**09 17 32.5**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=86,slow=9.9,SNR=6.8						
	comp=Z,1.8nm,0.8s						
IL31		**47.67**	**33**	P	**P**	**09 17 47.8**	**-0.1**
ILAR	**Eielson Array**	**47.67**	**33**	P	**P**	**09 17 48.0**	**0.0**
ILAR	**Eielson Array**	**47.67**	**33**	P	**P**	**09 17 48.8**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=261,slow=6.3,SNR=11						
	comp=Z,1.1nm,0.8s						
BCAR	**Beaver Creek A**	**50.02**	**35**	P	**P**	**09 18 05.8**	**-0.3**
WRA	**Warramunga Arr**	**58.18**	**191**	P	**P**	**09 19 04.3**	**-1.7**
	comp=Z,4.3nm,0.7s,baz=11,slow=7.3,SNR=25						
	comp=Z,4.3nm,0.7s						
ASAR	**Alice Springs**	**61.90**	**191**	P	**P**	**09 19 30.3**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=10.0,slow=8.3,SNR=10						
	comp=Z,1.3nm,0.8s						
NVAR	**Mina Array Bea**	**72.77**	**55**	P	**P**	**09 20 41.3**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=282,slow=4.4,SNR=5.3						
	comp=Z,0.7nm,0.8s						
NOA	**NORSAR Array B**	**74.30**	**338**	P	**P**	**09 20 48.1**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=216,slow=22,SNR=1.9						
	comp=Z,0.5nm,0.6s						
AKASG	**Malin Array Be**	**75.00**	**323**	P	**P**	**09 20 52.9**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=45,slow=6.3,SNR=6.8						
	comp=Z,1.0nm,0.5s						
PDAR	**Pinedale Array**	**75.55**	**47**	P	**P**	**09 20 56.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=298,slow=3.2,SNR=4.2						
	comp=Z,0.3nm,0.6s						

IDC ***15*** *09:09:23.7±0.6, 37°.63N×20°.81E, h0km, mb4.4/21, mbtmp4.4/32, ML3.9/9, Error ellipse: s-maj=12.6km s-min=10.9km az=153.0*

AFAD ***15*** *09:09:24.0±0.0, 37°.73N×20°.00E, h37km, MW4.6*

MOS ***15*** *09:09:24.0±1.4, 37°.50N×20°.68E, h13km, mb4.9/26, Error ellipse: s-maj=6.6km s-min=3.5km az=70.8*

MCSM ***15*** *09:09:25.3±1.4, 37°N±3°×2°1E±°, h14km±10km, mB4.9, mb4.7, MLv4.6, Mw(mB)4.2*

NEIC ***15*** *09:09:25.7±2.1, 37°.46N±0°.06×20°.68E±0°.06, h10km±1km, mb4.7/34, Error ellipse: s-maj=10.2km s-min=8.7km az=193.0*

UPSL ***15*** *09:09:26.4, 37°.49N×20°.65E, h7km, Mw4.4, Moment Tensor Solution. s8 Moment tensor: M_{rr}0.09; $M_{\theta\theta}$1.71; $M_{\phi\phi}$-1.80; $M_{r\theta}$0.28; $M_{\theta\phi}$2.23; $M_{\phi r}$-3.91; Fault plane solution: NP1:ϕ_s282.00000°, δ36.00000°, λ1.00000°. NP2:ϕ_s191.00000°, δ89.00000°, λ126.00000°.*

THE ***15*** *09:09:26.9, 37°.53N×20°.72E, h3km±2km, ML4.4/11 Error ellipse: s-maj=2.2km s-min=0.6km az=59.0*

ATH ***15*** *09:09:26.4, 37°.49N×20°.65E, h7km±2km, ML4.5/8, Error ellipse: s-maj=3.1km s-min=1.0km az=52.0*

BEO ***15*** *09:09:26.1±2.1, 37°.22N×20°.55E, h61km±5km, ML4.2/8*

TIR ***15*** *09:09:27.9, 37°.71N×20°.05E, h19km±2km, Md3.8, Ml4.4*

PDG ***15*** *09:09:27.6±0.9, 37°.46N×20°.63E, h26km±1km, ML4.7/13, Error ellipse: s-maj=1.4km s-min=1.5km az=0.0*

NAO ***15*** *09:09:30.9, 37°.42N×20°.65E, h10km, mb4.4*

ISC 15 09:09:26.7±0.5, 37°.54N±0°.02×20°.71E±0°.02, h19km±1km, n465, σ1§60/528, mb4.7/61, MS4.2/5, 52C-27D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.15**	**34**	P	**Pb**	**09 09 30.8**	**+1.3**
KRI1				S	**Sb**	**09 09 32.4**	**+1.2**
LTHK	**Lithakia**	**0.20**	**30**	P	**Pg**	**09 09 31.6**	**-0.1**
LTHK				S	**Sg**	**09 09 34.0**	**-1.2**
	231μm,0.3s						
LTHK	**Lithakia**	**0.20**	**30**	P	**Pg**	**09 09 31.7**	**0.0**
LTHK				S	**Sg**	**09 09 34.9**	**-0.2**
LTHK				AML	AML	09 09 35.2	
LTHK				AML	AML	09 09 35.4	
RTZL	**Ratzakli, Kefa**	**0.54**	**5**	P	**Pg**	**09 09 37.1**	**-0.5**
RTZL				S	**Sb**	**09 09 45.4**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.58**	**350**	P	**Pg**	**09 09 37.8**	**-0.6**
PSDA				S	**Sb**	**09 09 46.7**	**+0.6**
	26μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.58**	**350**	P	**Pg**	**09 09 38.3**	**-0.1**
VLS	**Valsamata**	**0.65**	**352**	P	**Pb**	**09 09 39.2**	**-0.1**
VLS				S	**Sb**	**09 09 48.9**	**+0.9**
VLS	**Valsamata**	**0.65**	**352**	P	**Pb**	**09 09 39.2**	**-0.1**
VLS				S	**Sb**	**09 09 48.9**	**+0.9**
VLS				AML	AML	09 09 54.0	
	comp=E,21165μm,0.2s						
VLS				AML	AML	09 09 56.5	
	comp=N,35339μm,0.6s						
LXR1	**Lixouri, Cepha**	**0.70**	**342**	P	**Pb**	**09 09 40.3**	**+0.1**
LXR1				S	**Sg**	**09 09 50.9**	**+1.1**
LXRA	**Lixouri, Kepha**	**0.70**	**342**	P	**Pb**	**09 09 40.5**	**+0.3**
SMHA	**Samh**	**0.71**	**356**	P	**Pb**	**09 09 39.9**	**-0.6**
DMLN	**Damoulianata-K**	**0.75**	**339**	P	**Pb**	**09 09 41.0**	**-0.2**
DMLN				S	**Sg**	**09 09 52.2**	**+0.8**
	comp=N,36μm,0.5s						
DMLN	**Damoulianata-K**	**0.75**	**339**	P	**Pb**	**09 09 41.2**	**0.0**
AMT	**Artemida-Makis**	**0.79**	**90**	P	**Pb**	**09 09 42.3**	**+0.4**
AMT				S	**Sg**	**09 09 53.1**	**+0.3**
AMT				AML	AML	09 10 00.1	
AMT				AML	AML	09 10 00.3	
RLS	**Riolos of Patr**	**0.79**	**49**	P	**Pb**	**09 09 41.4**	**-0.5**
RLS				S	**Sb**	**09 09 53.0**	**+0.8**
	comp=N,17μm,0.6s						
RLS	**Riolos of Patr**	**0.79**	**49**	P	**Pb**	**09 09 41.8**	**-0.1**
RLS				S	**Sg**	**09 09 53.8**	**+1.0**
RLS				AML	AML	09 09 59.5	
	comp=N,25358μm,0.5s						
RLS				AML	AML	09 10 00.3	
	comp=E,31770μm,0.4s						
VSK1	**VASILIKIADES**	**0.88**	**353**	P	**Pb**	**09 09 43.5**	**+0.2**
VSK1				S	**Sn**	**09 09 56.6**	**+0.3**
	comp=E,26μm,0.8s						
DRO	**Drossia**	**0.90**	**62**	P	**Pb**	**09 09 43.7**	**+0.1**
DRO				AML	AML	09 10 02.6	
	comp=E,68652μm,0.6s						
DRO				AML	AML	09 10 08.0	
	comp=N,58686μm,0.4s						
FSK	**Fiskardo**	**0.93**	**353**	P	**Pb**	**09 09 44.0**	**-0.2**
FSK				S	**Sg**	**09 09 57.7**	**+0.6**
	comp=N,52μm,0.8s						
FSK	**Fiskardo**	**0.93**	**353**	P	**Pb**	**09 09 44.0**	**-0.2**
FSK				S	**Sn**	**09 09 58.3**	**+0.8**
FSK				AML	AML	09 10 01.7	
	comp=N,78870μm,0.9s						
FSK				AML	AML	09 10 02.0	
ITM	**Ithomi**	**1.03**	**110**	*e*P	**Pb**	**09 09 46.1**	**+0.1**
ITM	**Ithomi**	**1.03**	**110**		**Pb**	**09 09 46.3**	**+0.3**
ITM	**Ithomi**	**1.03**	**110**	P	**Pn**	**09 09 46.4**	**+0.2**
ITM	**Ithomi**	**1.03**	**110**	P	**Pb**	**09 09 46.2**	**+0.3**
ITM				S	**Sn**	**09 10 01.4**	**+1.3**
ITM				AML	AML	09 10 08.8	
	comp=N,35132μm,0.6s						
ITM				AML	AML	09 10 09.4	
	comp=E,27694μm,0.5s						
PYL	**PYLOS**	**1.04**	**128**	P	**Pb**	**09 09 46.4**	**+0.2**
PYL				S	**Sn**	**09 10 00.7**	**+0.4**
	comp=E,19μm,0.6s						
PYL	**PYLOS**	**1.04**	**128**	P	**Pb**	**09 09 46.3**	**+0.2**
PYL				S	**Sn**	**09 10 00.7**	**+0.4**
PYL				AML	AML	09 10 04.6	
	comp=N,27505μm,0.7s						
PYL				AML	AML	09 10 06.4	
	comp=E,47542μm,0.6s						
EVGI	**Lefkada island**	**1.08**	**358**	P	**Pb**	**09 09 47.1**	**+0.3**
EVGI				S	**Sg**	**09 10 03.4**	**+1.4**
	comp=E,11μm,0.2s						
EVGI	**Lefkada island**	**1.08**	**358**	P	**Pb**	**09 09 46.9**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.15**	**355**	P	**Pn**	**09 09 48.2**	**+0.4**
DRAG				S	**Sg**	**09 10 05.3**	**+1.2**
DRAG	**Dragano-Lefkad**	**1.15**	**355**	P	**Pn**	**09 09 48.2**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.18**	**360**	P	**Pb**	**09 09 49.2**	**+0.8**
NYDR				S	**Sg**	**09 10 06.2**	**+1.3**
	comp=E,10μm,0.4s						
NYDR	**Nydri-Lefkada**	**1.18**	**360**	P	**Pg**	**09 09 49.6**	**+0.2**
KLV	**Kalavryta, Ach**	**1.25**	**66**	P	**Pb**	**09 09 49.9**	**+0.2**
LKD2	**Lefkada island**	**1.25**	**358**	P	**Pg**	**09 09 51.1**	**+0.2**
LKD2				AMP			
	comp=E,100nm,0.8s,baz=23						
LKD2	**Lefkada island**	**1.25**	**358**	P	**Pg**	**09 09 52.0**	**+1.1**
LKD2				S	**Sg**	**09 10 08.6**	**+1.3**
	comp=E,29μm,0.6s						
TSLK	**Tsoukalades, L**	**1.29**	**358**	P	**Pb**	**09 09 51.0**	**+0.7**
TSLK				S	**Sg**	**09 10 09.7**	**

MATE Matera 4.40 316 *eP* **Pn 09 10 33.6 +1.2**
MATE Matera 4.40 316 ⇑P **Pn 09 10 33.0 +0.6**
CUC Castrocucco 4.54 304 Pn 09 10 34.8 +0.3
PUK Puka 4.54 352 Pn 09 10 35.1 +0.6
ULC Ulcinj 4.56 346 ⇑*i*Pn **Pn 09 10 37.0 +2.3**
ULC *i* Sn **Sn 09 11 29.2 +2.0**
KARB zmir-Karabur 4.64 74 P **Pn 09 10 36.4 +0.7**
ZEYE Izmir, Urla-Ze 4.64 80 P **Pn 09 10 37.6 +1.9**
KOCA Canakkale, Ayv 4.69 64 P **Pn 09 10 38.5 +2.1**
URLA Izmir 4.72 78 *eP* **Pn 09 10 38.7 +1.8**
BOZC Bozcaada 4.77 60 P **Pn 09 10 39.3 +1.7**
DRME Dracevica, Mon 4.79 346 ⇑*i*Pn **Pn 09 10 38.5 +0.7**
DRME *i* Sn **Sn 09 11 34.0 +1.2**
GOAD anakkale-G¶ 4.83 56 P **Pn 09 10 40.4 +2.1**
GADA Gvkgeada 4.84 55 *eP* **Pn 09 10 38.9 +0.4**
EZN Ezine 4.95 61 P **Pn 09 10 38.8 -1.2**
EZN Ezine 4.95 61 *eP* **Pn 09 10 40.7 +0.7**
EZN Ezine 4.95 61 P **Pn 09 10 38.8 -1.2**
EZN Ezine 4.95 61 P **Pn 09 10 39.5 -0.5**
BUM Brajici-Budva 4.96 344 ⇑*i*Pn **Pn 09 10 41.2 +1.0**
BUM *i* Sn **Sn 09 11 38.4 +1.4**
VAE Valguarnera 5.01 271 Pn **Pn 09 10 42.6 +1.8**
comp=E,54nm,0.9s,baz=83,slow=8.1,SNR=5.0
VAE Sn **Sn 09 11 38.7 +0.5**
comp=E,7.3nm,0.3s,baz=349,slow=10,SNR=3.5
PDG Podgorica 5.01 348 Pn **Pn 09 10 40.8 0.0**
PDG Podgorica 5.01 348 *eP*n **Pn 09 10 40.9 0.0**
PDG Podgorica 5.01 348 ⇑P **Pn 09 10 41.4 +0.5**
PDG Podgorica 5.01 348 ⇑*i*Pn **Pn 09 10 41.6 +0.7**
PDG *i* Sn **Sn 09 11 39.8 +1.5**
ZKR Zakros 5.06 117 *eP* **Pn 09 10 43.3 +1.8**
RAFF Raffo Rosso 5.07 268 Pn **Pn 09 10 41.1 -0.5**
BAYC CANAKKALE_Bayr 5.07 62 P **Pn 09 10 43.6 +1.9**
BLCB Balcova 5.08 78 *eP* **Pn 09 10 43.8 +2.1**
PVY Plav 5.08 354 ⇓*i*Pn **Pn 09 10 44.9 +2.9**
PVY *i* Sn **Sn 09 11 41.7 +1.5**
DKL Dikili 5.11 71 *eP* **Pn 09 10 43.3 +1.1**
BOSS Bosilegrad 5.14 15 *eP*n **Pn 09 10 44.7 +2.1**
BOSS *e*Sn **Sn 09 11 39.6 -1.8**
GCAM G?zelcaml? 5.18 86 *eP* **Pn 09 10 43.7 +0.5**
CEME Cevo 5.19 345 ⇑*i*Pn **Pn 09 10 42.7 -0.7**
CEME *i* Sn **Sn 09 11 43.7 +1.0**
HCY Herceg Novi 5.19 342 *eP*n **Pn 09 10 42.5 -0.8**
HCY Herceg Novi 5.19 342 ⇑*i*Pn **Pn 09 10 42.9 -0.4**
HCY *i* Sn **Sn 09 11 43.4 +0.7**
RDO Rodhopi 5.20 45 *eP* **Pn 09 10 44.6 +1.2**
RDO Rodhopi 5.20 45 Pn 09 10 44.6 +1.2
WDD Wied Dalam 5.25 253 Pn **Pn 09 10 44.3 +0.1**
BODT Bodrum 5.28 93 *eP* **Pn 09 10 45.9 +1.3**
ENEZ Enez 5.30 51 *eP* **Pn 09 10 45.8 +1.0**
GELI Tayfur-Gelibol 5.32 56 *eP* **Pn 09 10 47.2 +2.1**
ALN Alexandroupoli 5.33 49 *eP* **Pn 09 10 46.3 +1.1**
ALN Alexandroupoli 5.33 49 Pn 09 10 45.7 +0.4
ALN Alexandroupoli 5.33 49 P **Pn 09 10 45.7 +0.4**
BARS Barje 5.34 9 *eP*n **Pn 09 10 46.6 +1.2**
BARS *e*Sn **Sn 09 11 44.7 -1.7**
IVA Berane 5.37 354 ⇑*i*Pn **Pn 09 10 47.6 +1.8**
IVA *i* Sn **Sn 09 11 47.6 +0.5**
KOME Kolasin 5.39 351 ⇑*i*Pn **Pn 09 10 47.2 +1.1**
KOME *i* Sn **Sn 09 11 47.9 +0.3**
NKME Niksic 5.39 346 ⇑*i*Pn **Pn 09 10 48.2 +2.0**
NKME *i* Sn **Sn 09 11 48.3 +0.5**
KDZ Kurdzhali 5.43 40 *eP* **Pn 09 10 47.2 +0.6**
VTS Vitosha 5.43 20 *eP*n **Pn 09 10 48.6 +1.8**
TREB Trebinje 5.48 341 *eP*n **Pn 09 10 46.2 -1.1**
ERIK Erikli-Kesan 5.49 53 *eP* **Pn 09 10 48.5 +1.1**
DAT Datca 5.55 96 *eP* **Pn 09 10 50.5 +2.2**
KARP Karpathos 5.56 109 *eP* **Pn 09 10 49.9 +1.5**
KARP Karpathos 5.56 109 Pn 09 10 48.3 -0.1
KARP Karpathos 5.56 109 P **Pn 09 10 47.3 -1.1**
comp=E,181nm,1.0s,comp=E,0.9nm
BRY Bratogost 5.61 343 *eP*n **Pn 09 10 48.6 -0.6**
BRY Bratogost 5.61 343 ⇑*i*Pn **Pn 09 10 48.6 -0.6**
BRY *i* Sn **Sn 09 11 53.1 -0.1**
SELS Selova 5.69 3 *eP*n **Pn 09 10 50.8 +0.7**
SELS *e*Sn **Sn 09 11 54.6 -0.3**
AYDB Zeytinkoy-Aydi 5.71 84 *eP* **Pn 09 10 49.6 -0.9**
SJES Sjenica 5.75 355 *eP*n **Pn 09 10 51.9 +0.9**
SJES *e*Sn **Sn 09 11 54.6 -1.9**
SJES Sjenica 5.75 355 *eP*n **Pn 09 10 52.0 +0.9**
STON Ston 5.80 338 *eP*n **Pn 09 10 51.1 -0.7**
STON Ston 5.80 338 *eP*n **Pn 09 10 51.0 -0.7**
UPM Unac-Piva 5.83 347 ⇓*i*Pn **Pn 09 10 52.2 0.0**
UPM *i* Sn **Sn 09 11 58.7 +0.1**
PLE Pljevlja 5.87 351 ⇑*i*Pn **Pn 09 10 54.9 +2.1**
PLE *i* Sn **Sn 09 11 59.5 -0.2**
PAOL Paolisi 5.91 308 Pn **Pn 09 10 54.2 +1.1**
ZAPS Zavoj 5.92 14 *eP*n **Pn 09 10 55.6 +2.3**
RKY Sarkoy-Tekirda 5.93 56 *eP* **Pn 09 10 54.8 +1.2**
GORD Gordes-Manisa 6.04 75 *eP* **Pn 09 10 58.5 +3.5**
YER Yerkesik 6.05 92 *eP* **Pn 09 10 57.9 +2.7**
IVAS Ivanjica 6.05 356 *eP*n **Pn 09 10 55.5 +0.3**
TURN Turunc 6.07 95 *eP* **Pn 09 10 57.8 +2.5**
ARG Arkhangelos 6.09 100 Pn 09 10 58.1 +2.4
ARG Arkhangelos 6.09 100 P **Pn 09 10 58.1 +2.4**
BOVS Bovan 6.14 7 *eP*n **Pn 09 10 56.0 -0.3**
BOVS *e*Sn **Sn 09 12 04.2 -1.8**
BOVS Bovan 6.14 7 ⇑P **Pn 09 10 56.6 +0.2**
RUDO Rudo 6.16 351 *eP*n **Pn 09 10 54.4 -2.2**
MRMT Marmara Adasi 6.17 58 *eP* **Pn 09 10 58.1 +1.3**
EDC Edincik 6.24 61 *eP* **Pn 09 11 00.0 +2.2**
EDRB Edirne 6.34 45 *eP* **Pn 09 11 00.7 +1.6**
GRUS Gruza 6.35 0 *eP*n **Pn 09 10 59.3 +0.1**
GRUS *e*Sn **Sn 09 12 10.1 -1.0**
KULA Kula-Manisa 6.35 79 *eP* **Pn 09 11 01.7 +2.3**
DALY Dalyan (Mula) 6.38 94 *eP* Pn 09 11 05.3 +5.6
BBLS Lazi&#263i 6.40 352 *eP*n **Pn 09 10 59.6 -0.4**
BBLS *e*Sn **Sn 09 12 10.2 -2.3**
BBLS Lazi&#263i 6.40 352 *eP*n **Pn 09 10 58.4 -1.6**
KCTX Karacabey (Bur 6.56 63 *eP* **Pn 09 11 04.2 +2.1**
DIVS Divibare 6.58 355 *eP*n **Pn 09 11 02.1 -0.3**
DIVS *e*Sn **Sn 09 12 13.9 -3.0**
HAPS Han Pijesak,BI 6.68 349 *eP*n **Pn 09 11 03.6 -0.2**
ELND Elena 6.68 35 ⇓P **Pn 09 11 06.9 +3.1**
SIMA Simav-Kutahya 6.69 74 *eP* **Pn 09 11 05.3 +1.3**
FETY Fethiye 6.75 95 *eP* Pn 09 11 39.7 +4.9
APMY Acipayam-Deniz 6.83 88 *eP* Pn 09 11 10.8 +4.9
CAME Cameli-Denizli 6.88 92 *eP* **Pn 09 11 10.5 +3.8**
INTR Introdacqua 6.89 313 Pn 09 11 09.3 +2.6
CTYL Yalikoy Yolu 7.06 54 P **Pn 09 11 08.4 -0.5**
comp=E,71nm,1.7s,comp=E,0.4nm
TEKS Tekeris 7.06 353 *eP*n **Pn 09 11 10.1 +1.1**
TEKS *e*Sn **Sn 09 12 24.8 -4.0**
TEKS Tekeris 7.06 353 *eP*n **Pn 09 11 06.1 -2.9**
TVSB Tavsanli 7.12 72 *eP* **Pn 09 11 11.9 +1.9**
AVAS Avala Beograd 7.15 359 *eP*n **Pn 09 11 09.7 -0.6**
AVAS *e*Sn **Sn 09 12 27.0 -4.0**
BGKT Bogazkoy 7.23 57 *eP* **Pn 09 11 07.2 -4.1**
AKAS Kas 7.25 98 *eP* **Pn 09 11 15.0 +3.3**
MDVR Moldovita 7.28 6 ⇓P **Pn 09 11 14.9 +2.9**
ISK Istanbul-Kandi 7.37 59 *eP* **Pn 09 11 14.9 +1.7**
KLYT Kilyos 7.44 58 *eP* Pn 09 11 20.9 +6.7
HERR Herculane 7.45 9 ⇑P **Pn 09 11 15.5 +1.2**
CAMP Campotosto 7.50 314 Pn 09 11 17.4 +2.3
A050A Klekovaca 7.62 337 *eP*n **Pn 09 11 17.5 +0.7**
FRGS Fruska Gora 7.64 355 *eP*n **Pn 09 11 13.6 -3.4**
BLY Banja Luka 7.68 341 *eP*n **Pn 09 11 18.1 +0.6**
HRT Hereke 7.69 62 *eP* **Pn 09 11 13.9 -3.8**
NRCA Norcia 7.86 315 Pn 09 11 21.4 +1.4
GUMA Gualdo di Mace 7.89 317 Pn **Pn 09 11 21.5 +1.2**
A051A Mrakovica 8.00 340 *eP*n **Pn 09 11 20.7 -1.2**
GZR Gura Zlata 8.00 11 ⇑P **Pn 09 11 24.2 +2.2**
GZR Gura Zlata 8.00 11 ⇑P **Pn 09 11 24.2 +2.2**
BZS Buzias 8.10 5 ⇑P **Pn 09 11 25.0 +1.8**
BZS Buzias 8.10 5 ⇑P **Pn 09 11 25.0 +1.8**
LOT Lotru 8.23 15 ⇓P **Pn 09 11 27.6 +2.4**
ARR Arges 8.36 19 ⇓P **Pn 09 11 28.7 +1.9**
VOIR 8.54 21 ⇑P **Pn 09 11 32.3 +3.0**
VOIR 8.54 21 ⇑P **Pn 09 11 32.3 +3.0**
VOIR 8.54 21 P **Pn 09 11 29.0 -0.3**
comp=E,24nm,1.0s
MDUB Mudurnu 8.68 67 Pn 09 11 33.8 +2.6
ISR Istrita 8.75 28 ⇑P **Pn 09 11 35.0 +2.8**
ISR Istrita 8.75 28 ⇑P **Pn 09 11 35.0 +2.8**
ISR Istrita 8.75 28 P **Pn 09 11 31.9 -0.3**
comp=E,55nm,0.9s
SIRR Siria 8.75 4 ⇑P **Pn 09 11 34.1 +1.9**
MORH Mrgy, Hungar 8.81 351 ⇑P **Pn 09 11 34.5 +1.5**
MORH Mrgy, Hungar 8.81 351 P **Pn 09 11 32.7 -0.2**
comp=E,10nm,0.8s

MLR Muntele Rosu 8.86 25 Pn 09 11 36.1 +2.3
MLR Muntele Rosu 8.86 25 Pn **Pn 09 11 34.1 +0.3**
comp=E,0.3nm,0.3s,baz=241,slow=10,SNR=3.8
MLR Sn **Sn 09 13 11.3 -1.9**
baz=144,slow=19
comp=E,3.4nm,0.7s
MLR Muntele Rosu 8.86 25 ⇓P **Pn 09 11 36.4 +2.6**
MLR Muntele Rosu 8.86 25 ⇓P **Pn 09 11 36.4 +2.6**
MLR Muntele Rosu 8.86 25 P **Pn 09 11 33.4 -0.4**
comp=E,38nm,0.8s
HARR Harsova 8.98 35 ⇑P **Pn 09 11 38.2 +2.9**
HARR Harsova 8.98 35 ⇑P **Pn 09 11 38.2 +2.9**
VSL Villasalto 9.10 286 Pn **Pn 09 11 36.4 -0.6**
DOPR Dopca 9.12 21 ⇑P **Pn 09 11 39.8 +2.5**
KDZE Karadeniz Ereo 9.12 62 ⇓P **Pn 09 11 40.8 +3.5**
CRES Cresnjevec Ost 9.16 336 *eP*n **Pn 09 11 37.1 -0.8**
BISRR Bisoca 9.18 27 P **Pn 09 11 37.7 -0.4**
comp=E,230nm,1.0s
MARR Marisel-Cluj 9.31 10 ⇑P **Pn 09 11 42.1 +2.3**
KEST Kesra 9.31 262 Pn 09 11 40.6 +0.7
KEST Kesra 9.31 262 Pn **Pn 09 11 41.3 +1.3**
comp=E,1.0nm,0.3s,baz=301,slow=2.3,SNR=9.8
KEST Sn **Sn 09 13 23.0 -1.2**
comp=E,0.2nm,0.3s,baz=65,slow=17,SNR=1.3
comp=E,18nm,1.0s
DRGR 9.37 8 ⇑P **Pn 09 11 42.2 +1.5**
DRGR 9.37 8 ⇑P **Pn 09 11 42.2 +1.5**
TURR Turia 9.39 23 ⇑P **Pn 09 11 44.3 +3.3**
PLOR Plostina 9.42 26 ⇑P **Pn 09 11 44.1 +2.8**
PLOR Plostina 9.42 26 ⇑P **Pn 09 11 44.1 +2.8**
PLOR5 Plostina Array 9.42 26 P **Pn 09 11 41.0 -0.3**
comp=E,39nm,1.1s
PLOR3 Plostina Array 9.42 26 P **Pn 09 11 41.0 -0.4**
comp=E,46nm,1.0s
CEY Cerknica 9.45 332 *eP*n **Pn 09 11 41.5 -0.2**
CEY Cerknica 9.45 332 *eP*n **Pn 09 11 41.0 -0.7**
VRI Vrincioaia 9.46 26 ⇑P **Pn 09 11 45.4 +3.5**
VRI Vrincioaia 9.46 26 ⇑P **Pn 09 11 45.4 +3.5**
VRI Vrincioaia 9.46 26 P **Pn 09 11 41.5 -0.4**
comp=E,38nm,1.1s,comp=E,318nm
MPLH Magyarpolny 9.91 347 P **Pn 09 11 47.8 -0.2**
comp=E,48nm,1.9s
SABO M.te Sabotino 9.96 330 Pn **Pn 09 11 48.7 -0.1**
TESR Tescani 9.99 24 P **Pn 09 11 48.9 -0.3**
comp=E,16nm,1.1s
SOKA Soboth 10.06 337 *eP*n **Pn 09 11 49.6 -0.6**
SOKA *e*Sn **Sn 09 13 44.0 +1.5**
comp=E,1.8nm,0.2s
OBKA Obir 10.06 335 *i* Pn **Pn 09 11 52.0 +1.7**
comp=E,3.3nm,0.4s
OBKA *e*Sn **Sn 09 13 40.9 -1.7**
comp=E,32nm,0.9s
OBKA Obir 10.06 335 *e*Pn **Pn 09 11 50.0 -0.3**
BR105 Keskin Array S 10.33 74 P **Pn 09 11 53.1 -0.9**
comp=E,6.1nm,0.9s
BR106 Keskin Array S 10.34 74 P **Pn 09 11 53.2 -0.8**
comp=E,8.0nm,0.8s
BR104 Keskin Array S 10.35 74 P **Pn 09 11 53.4 -0.8**
comp=E,5.6nm,0.7s
BR131 Keskin Array S 10.35 74 Pn **Pn 09 11 54.6 +0.4**
BR131 Keskin Array S 10.35 74 ⇓*e*P **Pn 09 11 53.8 -0.4**
BRTR Keskin Array B 10.35 74 Pn **Pn 09 11 55.3 +1.1**
comp=E,0.3nm,0.3s,baz=264,slow=13,SNR=3.8
comp=E,2.1nm,0.5s
PSZ Piszkesteto 10.39 357 ⇑P **Pn 09 11 56.0 +1.3**
PSZ Piszkesteto 10.39 357 ⇑P **Pn 09 11 56.0 +1.3**
KIRS Kirsehir-Merke 10.50 77 ⇑P **Pn 09 12 00.5 +4.3**
CSS Mathiatis 10.51 100 Pn **Pn 09 11 56.9 +0.6**
CTI Castel Tesino 10.86 324 Pn 09 12 02.7 +1.6
CTI Castel Tesino 10.86 324 P **Pn 09 12 02.7 +1.6**
ABTA Abfaltersbach 11.03 329 Sn **Sn 09 14 03.5 -2.7**
comp=E,28nm,0.8s
VYHS Vyhne 11.04 353 *eP* Pn 09 12 09.6 +6.1
VYHS Vyhne 11.04 353 *e*PN Pn 09 12 09.6 +6.1
HOLU Holmets 11.05 6 P **Pn 09 12 03.4 -0.3**
MODS Modra-Piesok 11.12 348 *eP* **Pn 09 12 08.7 +4.1**
MODS Modra-Piesok 11.12 348 *e*PN **Pn 09 12 08.7 +4.1**
KOLS Kolonicke sedl 11.45 5 *eP* Pn 09 12 16.0 +6.9
KOLS Kolonicke sedl 11.45 5 *e*PN Pn 09 12 16.0 +6.9
MORS Morshin 11.82 10 P **Pn 09 12 13.8 -0.3**
FUORN Ofenpass-Fuorn 11.93 323 Pn **Pn 09 12 17.3 +1.3**
DAVOX Davos/Dischmat 12.23 322 Pn **Pn 09 12 19.2 -0.8**
comp=E,0.2nm,0.3s,baz=151,slow=18,SNR=2.8
DAVOX Sn **Sn 09 14 32.4 -3.5**
comp=E,0.4nm,0.3s,baz=322,slow=19,SNR=1.8
comp=E,2.2nm,0.7s
TUE Stuetta 12.28 320 Pn 09 12 21.1 +0.4
TUE Stuetta 12.28 320 P **Pn 09 12 20.1 -0.6**
comp=E,56nm,0.7s
GERES GERESS Array B 12.40 338 Pn **Pn 09 12 21.1 -1.1**
comp=E,0.1nm,0.3s,baz=155,slow=14,SNR=1.7
GERES Sn **Sn 09 14 35.2 -4.6**
comp=E,0.4nm,0.3s,baz=168,slow=24,SNR=1.4
comp=E,2.7nm,0.7s
KHC Kasperske Hory 12.69 338 *e*PN **Pn 09 12 28.3 +2.2**
KHC *e*SN **Sn 09 14 42.7 -4.1**
KHC Kasperske Hory 12.69 338 ⇓*e*P **Pn 09 12 26.3 +0.2**
KHC pmax pmax
comp=E,74nm,2.9s
KHC Kasperske Hory 12.69 338 P **Pn 09 12 25.8 -0.3**
comp=Z,12nm,1.2s
MMAI Mount Meron Ar 12.82 106 Pn **Pn 09 12 25.8 -2.3**
comp=Z,3.0nm,0.3s,baz=312,slow=11,SNR=5.5
MMAI Sn **Sn 09 14 41.9 -8.3**
comp=Z,2.5nm,0.3s,baz=298,slow=24,SNR=3.2
comp=Z,2.0nm,0.3s
GEM Giv'at Ha'Em 12.94 105 P **Pn 09 12 28.0 -1.6**
NATI Neve Ativ 12.98 105 P **Pn 09 12 26.8 -3.2**
SALP Salfit 13.09 110 P **Pn 09 12 27.4 -4.2**
KZIT Kziot 13.11 116 P **Pn 09 12 29.1 -2.8**
LUBAR Lubar, Ukraine 13.38 20 P **Pn 09 12 35.2 -0.2**
DSI Dead Sea 13.47 112 P Pn 09 12 30.6 -6.2
KSP Ksiaz 13.67 348 P **Pn 09 12 39.2 -0.2**
comp=Z,6.6nm,2.5s
LISJ El Lisan 13.71 113 P **Pn 09 12 38.0 -2.0**
PRNI Paran 13.85 117 P **Pn 09 12 45.6 +3.6**
ARPR Arapgir-MALATY 13.93 78 Pn 09 12 41.5 -1.7
GRFO Grafenberg 13.94 334 Pn **Pn 09 12 43.2 +0.1**
GRFO Grafenberg 13.94 334 P **Pn 09 12 43.2 +0.1**
MBRI Mt Berech 14.12 119 P **Pn 09 12 44.7 -1.0**
RNPP5 Staryi Chortor 14.18 13 P **Pn 09 12 46.1 -0.2**
BRG Berggiesshubel 14.18 342 *eP* **P 09 12 56.5 +2.8**
BRG Amp 09 12 57.2
comp=Z,7.8nm,0.8s
BRG Berggiesshubel 14.18 342 *eP* **P 09 12 56.5 +2.8**
BRG pmax pmax
comp=Z,8.0nm,0.9s
EIL Elat 14.22 119 Pn **Pn 09 12 44.4 -2.6**
comp=Z,1.8nm,0.3s,baz=329,slow=18,SNR=6.2
EIL Sn Sn 09 15 11.2 -13
comp=Z,2.2nm,0.3s,baz=309,slow=16,SNR=6.2
comp=Z,10nm,0.5s
EIL Elat 14.22 119 P **Pn 09 12 45.7 -1.3**
AQBJ Aqaba 14.25 119 P **Pn 09 12 45.4 -2.1**
RNPP1 Kostyukhnivka 14.27 13 P **Pn 09 12 47.3 -0.3**
MI28 Mi28,Pidlybu 14.28 18 P **Pn 09 12 47.5 -0.2**
comp=Z,295nm,0.7s
AK07 Malin Array Si 14.36 22 P **Pn 09 12 48.5 -0.3**
AK14 Malin Array Si 14.40 22 P **Pn 09 12 49.1 -0.3**
AK10 Malin Array Si 14.41 22 P **Pn 09 12 49.3 -0.3**
AK05 Malin Array Si 14.42 22 P **Pn 09 12 49.3 -0.3**
AK12 Malin Array Si 14.43 22 P **Pn 09 12 49.4 -0.3**
AK02 Malin Array Si 14.45 22 P **Pn 09 12 49.8 -0.3**
AK15 Malin Array Si 14.46 22 P **Pn 09 12 49.9 -0.3**
KIEV Kiev 14.49 22 P Pn 09 12 45.6 -4.9
KIEV Kiev 14.49 22 P **Pn 09 12 50.4 -0.2**
comp=Z,55nm,1.5s
AKASG Malin Array Be 14.50 22 Pn 09 12 53.5 +2.8
AKASG Malin Array Be 14.50 22 Pn **Pn 09 12 48.3 -2.4**
baz=214,slow=9.8
AKASG Malin Array Be 14.50 22 P **Pn 09 12 53.5 +2.8**
AKBB Malin Array Si 14.50 22⇓*e*P **Pn 09 12 49.8 -0.9**
AKBB pmax pmax
comp=Z,142nm,7.7s
AKBB Malin Array Si 14.50 22 P **Pn 09 12 50.4 -0.3**
ANN Anapa 14.52 55 *eP* **Pn 09 12 48.5 -2.6**
ANN *e*S **Sn 09 15 30.0 -1.4**
ANN pmax pmax
comp=Z,79nm,1.0s
ECH Echery 14.56 321 Pn 09 12 51.7 +0.1
ECH Echery 14.56 321 P **Pn 09 12 51.7 +0.1**
CLL Collm 14.81 341 *i* P **P 09 13 03.5 +2.7**
CLL pmax pmax
comp=Z,25nm,1.2s
CLL MLR MLR
comp=Z,1μm,13.3s
CLL Collm 14.81 341 *i* PP **P 09 13 03.5 +2.7**
comp=Z,25nm,1.2s
CLL *i* sPPP 09 13 14.8
comp=Z,12nm,1.0s
CLL Collm 14.81 341 P **Pn 09 12 54.8 -0.2**
comp=Z,17nm,1.2s
WLF Walferdange 16.03 324 *d*P **P 09 13 17.2 +2.9**
comp=Z,38nm,1.1s
SUW Suwalki 16.57 5 Pn 09 13 17.2 -0.5
SUW IAmb IAmb 09 13 39.1
comp=Z,111nm,1.1s
SUW Suwalki 16.57 5 P **Pn 09 13 17.2 -0.5**
SUW pmax pmax
comp=Z,111nm,1.1s
MEM Membach 16.76 326 *d*P **P 09 13 24.5 +2.1**
comp=Z,14nm,0.8s
GURO Guroymak-BITLI 16.83 80 P **Pn 09 13 22.4 +1.1**
MNK Minsk 17.67 14 *i* P **Pn 09 13 29.6 -1.9**
comp=E,10.0nm,0.9s
MNK *i* P **Pn 09 13 29.6 -1.9**
comp=N,7.0nm,0.9s,baz=199
MNK *i* P **Pn 09 13 29.6 -1.9**
comp=Z,5.0nm,0.8s
MNK *i* PP **sP 09 13 40.1 +1.4**
MNK *i* PPP PPP 09 13 47.4
MNK *i* S **Sn 09 16 46.4 -1.3**
MNK *i* SS **SnSn 09 17 01.2 0.0**
MNK *i* SSS SSS 09 17 13.9
MNK *i* LQ LQ 09 18 39.1
MNK *i* LR LR 09 19 57.5
MNK *i* LRM MLR 09 21 29.8
comp=Z,105nm,12.2s
MNK *i* LRM MLR 09 21 42.7
comp=E,156nm,11.4s
MNK *i* LRM MLR 09 21 47.9
comp=N,239nm,14.5s
MNK Minsk 17.67 14 *i* P **Pn 09 13 29.6 -1.9**
MNK *i* S **Sn 09 16 46.4 -1.3**
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK MLR MLR
comp=Z,105nm,12.0s
MNK MLR MLR
comp=E,156nm,11.0s
MNK MLR MLR
comp=N,239nm,15.0s
SHA1 Shidzhatmaz 17.75 63⇓*e*P **P 09 13 35.3 +1.7**
KIV Kislovodsk 17.82 62 *eP* **Pn 09 13 33.5 -0.1**
KIV pmax pmax
comp=Z,8.0nm,1.0s
NACGM Naroch 17.86 11 *eP* **P 09 13 37.7 +3.3**
KBZ Khabaz 17.92 63 P **Pn 09 13 33.6 -1.0**
comp=Z,0.3nm,0.3s,baz=305,slow=12,SNR=2.1
comp=Z,2.2nm,0.4s
KBZ Khabaz 17.92 63⇑*e*P **P 09 13 37.0 +1.8**
KBZ pmax pmax
comp=Z,16nm,1.1s
PABE Paberze 18.11 6 Pn 09 13 35.9 -1.0
PABE IAmb IAmb 09 13 46.5
comp=Z,54nm,0.9s
GOF Gofitskoye 18.35 59*ce*P **Pn 09 13 41.2 +1.2**
VORD Divnogorie 18.83 39 *eP* **P 09 13 44.1 -1.1**
VORD pmax pmax
comp=Z,10.0nm,0.9s
GNI Garni 18.89 75⇓*e*P **Pn 09 13 47.2 +0.4**
GNI pmax pmax
comp=Z,39nm,1.5s
VSR Storozhevoye 18.93 38 *eP* **P 09 13 44.7 -1.6**
VSR pmax pmax
comp=Z,10.0nm,1.0s
ESBB Sonseca Array 19.39 284 P **Pn 09 13 52.6 0.0**
ESDC Sonseca Array 19.39 284 P **P 09 13 52.1 +0.6**
ESDC Sonseca Array 19.39 284 P **P 09 13 52.3 +0.8**
comp=Z,0.2nm,0.3s,baz=79,slow=11,SNR=41
comp=Z,1.3nm,1.0s
PAB San Pablo 19.69 284 P **Pn 09 13 55.8 -0.5**
PAB San Pablo 19.69 284 ⇑P **P 09 13 54.3 -0.5**
LPSR Galich'ya Gora 19.72 34 *eP* **P 09 13 53.8 -1.2**
LPSR pmax pmax
comp=Z,20nm,0.9s
VRH Novokhopyorsk 20.21 41 *eP* **P 09 13 59.0 -1.2**
VRH pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 20.63 26 *eP* **P 09 14 05.5 +0.8**
OBN *e*PPP PPP 09 14 27.8
OBN pmax pmax
comp=Z,27nm,0.7s
OBN MLR MLR
comp=Z,204nm,15.0s
AKT Akhty 21.18 71 *eP* **P 09 14 13.3 +2.3**
AKT *e* 09 14 32.3
AKT *e*PPP PPP 09 14 40.6
AKT pmax pmax
comp=Z,24nm,1.0s
MDT Midelt 21.20 265 P **P 09 14 12.2 +1.0**
comp=Z,16nm,1.0s,baz=88,slow=12,SNR=18
comp=Z,16nm,1.0s
VSU Vasula 21.31 9⇓*e*P **P 09 14 13.6 +1.6**
VSU pmax pmax
comp=Z,49nm,0.6s
MOS Moscow 21.49 27 *eP* **P 09 14 12.2 -1.8**
MOS *e* 09 14 32.0
MOS *e*S **S 09 18 07.2 -4.2**
MOS *e*SS Sn 09 18 23.7 +3.9
MOS pmax pmax
comp=Z,42nm,0.6s
MOS MLR MLR
comp=Z,500nm,11.0s
PBRG Braganca 21.52 290 *eP* **P 09 14 15.2 +0.7**
PBRG A A 09 14 21.0
comp=Z,42nm,1.5s
MVO Moncorvo 21.72 288 *eP* **P 09 14 17.2 +0.5**
MVO A A 09 14 19.0
comp=Z,45nm,1.6s
PMRV Marv??o 22.05 284 *eP* **P 09 14 20.6 +0.4**
PMRV A A 09 14 26.0
comp=Z,34nm,1.3s
PCBR Castelo Branco 22.09 285 *eP* **P 09 14 20.6 0.0**
PCBR A A 09 14 22.7
comp=Z,35nm,1.4s
MTE Manteigas 22.12 286 *eP* **P 09 14 21.8 +0.8**
MTE A A 09 14 33.8
comp=Z,36nm,1.6s
PESTR Estremoz 22.25 282 *eP* **P 09 14 22.3 -0.1**
POLO Lamas de Olo 22.30 289 *eP* **P 09 14 27.0 +4.0**
POLO A A 09 15 06.0
comp=Z,15nm,1.7s
PVIS Viseu 22.37 287 *eP* **P 09 14 24.6 +0.8**
EVO Evora 22.61 281 *eP* **P 09 14 26.7 +0.5**
PGAV Gavieira, Arco 22.66 290 *eP* **P 09 14 27.3 +0.4**
PGAV A A 09 14 28.6
comp=Z,38nm,1.4s
PMTG Montargil 22.72 283 *eP* **P 09 14 25.9 -1.5**
PMTG A A 09 15 07.2
comp=Z,30nm,1.5s
MESJ Messejana 22.86 280 *eP* **P 09 14 30.6 +1.7**
MESJ Messejana 22.86 280 *eP* **P 09 14 30.2 +1.3**
MESJ IAmb IAmb 09 14 32.9
comp=Z,19nm,1.1s
MESJ Messejana 22.86 280 *eP* **P 09 14 30.2 +1.3**
HFS Hagfors 23.06 351 P **P 09 14 29.3 -1.3**
comp=Z,5.2nm,0.4s,baz=156,slow=11,SNR=24
comp=Z,5.2nm,0.4s
BELG Belogornoye 23.96 43*c i*P **P 09 14 39.3 -0.3**
BELG pmax pmax
comp=Z,12nm,0.9s
EKA Eskdalemuir Ar 24.04 325 P **P 09 14 40.5 +0.2**
comp=Z,12nm,0.6s,baz=126,slow=8.5,SNR=36
comp=Z,12nm,0.6s
ESK Eskdalemuir 24.05 325 P **P 09 14 40.9 +0.5**
ESK IAmb IAmb 09 14 42.0
comp=Z,24nm,0.8s
ESK Eskdalemuir 24.05 325 P **P 09 14 40.9 +0.5**
ESK pmax pmax
comp=Z,24nm,0.9s
FINES FINESS Array B 24.17 6 P **P 09 14 40.5 -1.0**
comp=Z,2.8nm,0.5s,baz=173,slow=11,SNR=18
comp=Z,2.8nm,0.5s
FINES FINESS Array B 24.17 6 *i* P **P 09 14 40.9 -0.5**
FINES pmax pmax

comp=Z,3.0nm,0.5s
NC405 NORSAR Array S 24.27 349 P P 09 14 42.3 -0.1
NC405 IAmb IAmb 09 15 01.4
comp=Z,20nm,0.9s
NB2 NORSAR Subarra 24.27 349 P P 09 14 43.1 +0.6
comp=Z,5.5nm,0.8s,baz=162,slow=9.3
NOA NORSAR Array B 24.27 349 P P 09 14 42.1 -0.4
comp=Z,1.9nm,0.5s,baz=161,slow=9.9,SNR=9.8
comp=Z,1.9nm,0.5s
NBO00 NORSAR Array S 24.34 348 P P 09 14 42.5 -0.5
NBO00 IAmb IAmb 09 15 12.2
comp=Z,18nm,1.0s
NC303 NORSAR Array S 24.43 349 P P 09 14 43.8 -0.1
NC303 IAmb IAmb 09 15 06.1
comp=Z,34nm,1.2s
RAYN Ar Rayn 25.42 116 P P 09 14 54.0 +0.7
RAYN IAmb IAmb 09 14 57.3
comp=Z,9.1nm,0.8s
RAYN Ar Rayn 25.42 116 *i* **P P 09 14 54.9 +1.7**
SNR=6.1
RAYN Ar Rayn 25.42 116 P P 09 14 54.0 +0.7
RAYN pmax pmax
comp=Z,9.0nm,0.9s
KLMR Klimovskoe 26.18 21 *e*P P 09 15 11.5 +12
KLMR pmax pmax
comp=Z,23nm,1.1s
KIRV Kirov 28.11 32⇓ *e*P **P 09 15 18.8 +1.7**
TORD Torodi Ar. Bea 29.63 220 P P 09 15 31.9 +1.0
comp=Z,4.4nm,0.8s,baz=26,slow=10.0,SNR=19
comp=Z,4.4nm,0.8s
ABKAR Akbulak array 30.48 55 P P 09 15 37.1 -1.1
ABKAR Akbulak array 30.48 55 P P 09 15 38.5 +0.3
ARTI Arti 31.34 41 P P 09 15 44.5 -1.2
ARTI IAmb IAmb 09 15 46.1
comp=Z,14nm,0.9s
ARTI Arti 31.34 41*c i*P **P 09 15 44.7 -1.0**
ARTI S **S 09 20 52.8 +1.2**
ARTI SS **SnSn 09 22 33.0 -2.3**
ARTI pmax pmax
comp=Z,18nm,1.0s
SHME Shamm 32.04 101 P P 09 15 52.0 -0.2
ASUD Al Ashush, Dub 32.14 104 P P 09 15 53.7 +0.6
ARCES ARCESS Array B 32.16 3 P P 09 15 52.2 -0.6
comp=Z,1.5nm,0.6s,baz=189,slow=11,SNR=1.5
comp=Z,1.5nm,0.6s
NAZ Nazwa, Dubai 32.20 103 P P 09 15 54.4 +0.7
FAQ Al Faqa, Dubai 32.28 103 P P 09 15 54.7 +0.4
MSFE Esma-Masafi 32.40 102 P P 09 15 55.7 +0.3
UOSS Minazif 32.65 102 P P 09 15 57.0 -0.5
UOSS Minazif 32.65 102 *i* **P P 09 15 57.5 0.0**
SNR=8.0
HATD Hatta, Dubai 32.65 103 *i* **P P 09 15 57.5 -0.1**
SNR=7.8
SVE Sverdlovsk 32.66 41 *e*P **P 09 15 57.4 +0.1**
SVE pmax pmax
comp=Z,24nm,0.8s
ASHO Ashiyiah 32.67 103 *i* **P P 09 15 58.0 +0.2**
SNR=12
ALNE Al Ain 32.76 104 *i* **P P 09 15 59.1 +0.6**
SNR=14
SOHO SOHO 33.33 103 *i* **P P 09 16 04.0 +0.5**
SNR=22
LODK Lodwar 36.52 155 P P 09 16 30.8 -0.3
BRVK Borovoye 37.36 49 P P 09 16 37.9 +0.1
BRVK IAmb IAmb 09 16 50.8
comp=Z,7.0nm,0.8s
BRVK Borovoye 37.36 49*de*P **P 09 16 38.0 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
BVAR Borovoye Array 37.42 49 P P 09 16 38.1 -0.3
comp=Z,5.9nm,0.5s,baz=269,slow=6.5,SNR=16
comp=Z,5.9nm,0.5s
SIMJ Simiganj 37.68 73 P P 09 16 40.5 -0.4
SIMJ IAmb IAmb 09 16 41.6
comp=Z,9.9nm,1.1s
KKAR Karatay Array 37.92 66 P P 09 16 42.2 -0.6
KKAR Karatay Array 37.92 66 P P 09 16 41.9 -0.9
KKAR IAmb IAmb 09 16 44.3
comp=Z,5.2nm,0.6s
KKAR Karatay Array 37.92 66 P P 09 16 41.9 -0.9
KKAR 09 16 42.2
KKAR pmax pmax
comp=Z,5.0nm,0.6s
DBIC Dimbokro 38.53 223 P P 09 16 49.3 +1.2
comp=Z,10nm,0.9s,baz=17,slow=7.8,SNR=6.1
comp=Z,10nm,0.9s
GAR Garm 38.59 72 P P 09 16 49.0 +0.4
ARSB Arslanbob 40.05 68 P P 09 17 00.4 -0.4
ARSB Arslanbob 40.05 68 P P 09 17 00.4 -0.4
SPITS Spitsbergen Ar 40.79 359 P P 09 17 04.4 -1.9
comp=Z,18nm,1.0s,baz=190,slow=2.5,SNR=2.3
comp=Z,18nm,1.0s
AAK Ala-Archa 40.88 65*ce*P **P 09 17 08.8 +1.1**
AAK pmax pmax
comp=Z,4.0nm,0.9s
KURBB Kurchatov Arra 42.49 53 P P 09 17 19.3 -1.2
comp=Z,6.3nm,0.5s,baz=280,slow=8.7,SNR=19
comp=Z,6.3nm,0.5s
KURK Kurchatov 42.54 53*ce*P **P 09 17 19.8 -1.1**
KURK pmax pmax
comp=Z,9.0nm,1.2s
MK31 Makanchi Array 45.51 58 P P 09 17 44.0 -0.9
MK31 IAmb IAmb 09 17 47.0
comp=Z,5.6nm,0.5s
MK31 Makanchi Array 45.51 58*ce*P **P 09 17 44.5 -0.4**
MKAR Makanchi Array 45.51 58 P P 09 17 44.0 -0.9
MKAR Makanchi Array 45.51 58 P P 09 17 43.8 -1.1
comp=Z,6.9nm,0.4s,baz=270,slow=7.6,SNR=58
comp=Z,6.9nm,0.4s
MKAR Makanchi Array 45.51 58 *i* **P P 09 17 44.2 -0.7**
MKAR pmax pmax
comp=Z,7.0nm,0.4s
ZALV Zalesovo Beam 46.01 48 P P 09 17 47.9 -0.7
comp=Z,9.0nm,0.5s,baz=275,slow=8.4,SNR=19
comp=Z,9.0nm,0.5s
ZALV Zalesovo Beam 46.01 48 *i* **P P 09 17 48.0 -0.6**
ZALV pmax pmax
comp=Z,9.0nm,0.5s
NRIK Noril'sk 47.30 26⇓ *e*P **P 09 17 59.1 +0.6**
NRIK pmax pmax
comp=Z,17nm,2.5s
WMQ Urumqi 49.94 61 *e*P **P 09 18 22.5 +3.2**
WMQ LR LR
comp=N,530nm,13.3s
WMQ LR LR
comp=E,470nm,13.3s
WMQ LR LR
comp=Z,230nm,18.5s
SCHQ Schefferville 59.03 318 P P 09 19 23.4 -1.7
comp=Z,8.2nm,0.9s,baz=78,slow=7.0,SNR=3.8
comp=Z,8.2nm,0.9s
TIXI Tiksi 60.20 20 P P 09 19 33.8 +1.0
TIXI IAmb IAmb 09 19 59.3
comp=Z,3.8nm,1.0s
TIXI Tiksi 60.20 20⇑ *i*P **P 09 19 34.2 +1.4**
TIXI pmax pmax
comp=Z,6.0nm,1.4s
SONM Songino Array 60.75 50 P P 09 19 35.3 -1.8
comp=Z,2.2nm,0.9s,baz=284,slow=8.6,SNR=6.2
comp=Z,2.2nm,0.9s
ULN Ulaanbaatar 61.14 50⇓ *e*P **P 09 19 39.5 -0.4**
ULN pmax pmax
comp=Z,4.0nm,0.9s
LZH Lanzhou 64.36 63 *e*P **P 09 20 01.8 +0.3**
LZH pP pP 09 20 05.3 -1.7
LZH sP sP 09 20 08.3 -0.7
LZH S S 09 28 50.3 +11
LZH sS sS 09 28 58.5 +11
LZH pmax pmax
comp=Z,21nm,0.9s
LZH LR LR
comp=N,310nm,14.4s
LZH LR LR
comp=E,250nm,14.9s
LZH LR LR
comp=Z,300nm,16.7s
YAK Yakutsk 65.59 29*ce*P **P 09 20 09.9 +1.1**
YAK pmax pmax
comp=Z,10.0nm,0.6s
BOSA Boshof 65.94 176 P P 09 20 12.3 +0.7
comp=Z,0.6nm,0.5s,baz=349,slow=12,SNR=1.3
comp=Z,0.6nm,0.5s
HHC Hu-ho-hao-te 67.28 55 *e*P **P 09 20 20.9 +0.7**
HHC S **S 09 29 12.8 -1.6**
HHC sS pS 09 29 21.9 +0.1
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,62nm,4.7s
HHC LR LR
comp=N,170nm,13.0s
HHC LR LR
comp=E,280nm,14.5s
HHC LR LR
comp=Z,330nm,15.3s
PZH PanZhiHua 67.65 73 P P 09 20 22.5 -0.2
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,110nm,5.7s
A36M Sachs Harbour 68.18 349 P P 09 20 26.5 +1.4
A36M IAmb IAmb 09 20 39.0
comp=Z,6.0nm,0.9s
ZEA Zeya 69.29 38 *e*P **P 09 20 36.0 +3.6**
CHTO Chiang Mai 69.63 82 P P 09 20 34.9 -0.2
CHTO Chiang Mai 69.63 82 P P 09 20 34.9 -0.2
CHTO pmax pmax
comp=Z,9.0nm,0.7s
CMAR Chiang Mai Arr 69.83 82 P P 09 20 36.3 0.0
CMAR Chiang Mai Arr 69.83 82 P P 09 20 35.4 -0.9
comp=Z,8.3nm,0.8s,baz=306,slow=8.1,SNR=38
comp=Z,8.3nm,0.8s
CMAR Chiang Mai Arr 69.83 82 *i* **P P 09 20 36.5 +0.2**
CMAR pmax pmax
comp=Z,7.0nm,0.7s
PHRA Phrae 70.82 81 P P 09 20 42.1 -0.3
HEH HeiHe 71.43 40 *e*P **P 09 20 45.6 +0.1**
HEH pmax pmax
comp=Z,12nm,0.8s
SLVN Son La 72.11 77 P P 09 20 50.2 0.0
SLVN IAmb IAmb 09 20 51.2
comp=Z,11nm,1.2s
SEY Seymchan 72.68 21⇓ *e*P **P 09 20 53.1 +0.3**
SEY pmax pmax
comp=Z,11nm,2.0s
E29M Blow River 73.18 352 P P 09 20 56.9 +1.2
E29M IAmb IAmb 09 21 16.1
comp=Z,13nm,1.3s
CN2 Changchun 74.22 47 *e*P **P 09 21 01.8 -0.4**
CN2 *e*S **S 09 30 32.3 -2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
KLR Kul'dur 74.27 39⇓ *i*P **P 09 21 03.2 +0.8**
KLR pmax pmax
comp=Z,8.0nm,1.1s
NJ2 Nanjing 77.01 60 *e*P **P 09 21 18.4 0.0**
NJ2 pP **pP 09 21 21.5 -2.6**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
ILAR Eielson Array 77.56 355 P P 09 21 20.2 -0.8
comp=Z,0.4nm,0.9s,baz=350,slow=3.7,SNR=1.8
USRK Ussuriysk Ar. 77.64 43 P P 09 21 21.1 -0.6
comp=Z,3.1nm,0.7s,baz=305,slow=3.7,SNR=6.0
comp=Z,3.1nm,0.7s
VLA Vladivostok 78.29 44⇓ *e*P **P 09 21 24.5 -0.8**
VLA pmax pmax
comp=Z,26nm,0.7s
PSI Prapat 78.95 95 P P 09 21 29.3 -0.3
PSI pmax pmax
comp=Z,7.0nm,0.8s
RPSI Rantau Prapat 79.02 95 P P 09 21 29.2 -0.5
RPSI IAmb IAmb 09 21 30.6
comp=Z,6.6nm,0.8s
KSAR Wonju Array Be 79.60 51 P P 09 21 31.7 -1.0
KSAR Wonju Array Be 79.60 51 P P 09 21 31.7 -1.0
KSRS Korea Array 79.62 51 P P 09 21 32.9 +0.1
comp=Z,4.0nm,0.7s,baz=308,slow=4.4,SNR=15
comp=Z,4.0nm,0.7s
MAJO Matsushiro 86.33 46⇑ *e*P **P 09 22 08.4 +0.9**
MAJO pmax pmax
comp=Z,16nm,1.7s
MJAR Matsushiro Arr 86.33 46 P P 09 22 07.2 -0.3
comp=Z,2.3nm,0.8s,baz=331,slow=3.7,SNR=4.8
comp=Z,2.3nm,0.8s
PDAR Pinedale Array 88.16 326 P P 09 22 16.5 -0.1
comp=Z,0.3nm,0.6s,baz=35,slow=3.3,SNR=2.7
comp=Z,0.3nm,0.6s
ASAR Alice Springs 121.95 97 PKP PKPdf 09 28 20.1 0.0
comp=Z,0.3nm,0.6s,baz=318,slow=1.8,SNR=5.3

STR 15 09:18:50.2±1.5, 48°N±4°×°±°, h0km, MLv1.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=70.8, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPP	**Oppenau**	**0.36**	**275**	Sg	Sg	09 19 01.8	+0.1
OPP	**Oppenau**	**0.36**	**275**	Pg	Pg	09 18 56.6	-0.5
OPP	**Oppenau**	**0.36**	**275**	Sg	Sg	09 19 01.6	-0.1
OPP	**Oppenau**	**0.36**	**275**	Pg	Pg	09 18 56.6	-0.5
BABA	**Baden-Baden-Ne**	**0.43**	**306**	Sg	Sg	09 19 05.0	+0.9
BABA	**Baden-Baden-Ne**	**0.43**	**306**	Pg	Pg	09 18 58.8	+0.3
BABA	**Baden-Baden-Ne**	**0.43**	**306**	Sg	Sg	09 19 04.9	+0.8
BABA	**Baden-Baden-Ne**	**0.43**	**306**	Pg	Pg	09 18 58.7	+0.2
SLE	**Schleitheim**	**0.72**	**192**	Sg	Sg	09 19 14.5	+1.1
SLE	**Schleitheim**	**0.72**	**192**	Pg	Pg	09 19 02.4	-1.7
KIZ	**Kirchzarten**	**0.74**	**227**	Pg	Pg	09 19 04.0	-0.5
KIZ	**Kirchzarten**	**0.74**	**227**	Sg	Sg	09 19 14.4	+0.3
FELD	**Feldberg im Sc**	**0.76**	**219**	Sg	Sg	09 19 15.9	+1.2
FELD	**Feldberg im Sc**	**0.76**	**219**	Pg	Pg	09 19 05.1	+0.3
HOHE	**HOHENGOEFT**	**0.84**	**283**	Pg	Pg	09 19 06.8	+0.4
HOHE				Sg	Sg	09 19 18.2	+0.9
WLS	**Welschbruch**	**0.91**	**267**	Pg	Pg	09 19 07.6	-0.1
ENDD	**Endenburg**	**1.00**	**221**	Pg	Pg	09 19 07.9	-1.6
SULZ	**Cheisacher**	**1.03**	**204**	Pg	Pg	09 19 08.9	-1.0
ECH	**Echery**	**1.07**	**257**	Pg	Pg	09 19 10.0	-0.8
ECH				Sg	Sg	09 19 24.1	-0.5

STR 15 09:18:55.7±0.6, 46°N±3°×°±°, h0km, MLv1.1/7, Error ellipse: s-maj=0.0km s-min=0.0km az=139.4, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG35	**Corcelles**	**0.28**	**31**	Pg	Pg	09 19 01.3	+0.2
OG35				Sg	Sg	09 19 05.5	+0.9
OGSM	**Saint Maurice**	**0.31**	**131**	Pg	Pg	09 19 01.8	+0.2
OGSM				Sg	Sg	09 19 06.4	+0.8
GRN	**Grenoble**	**0.63**	**155**	Pn	Pg	09 19 08.4	+0.6
SSB	**Saint Sauveur**	**0.79**	**228**	Pn	Pg	09 19 11.3	+0.5
SSB				Sn	Sb	09 19 23.4	-0.1
COLF	**Collangettes**	**1.21**	**257**	Pg	Pb	09 19 19.4	-0.1
COLF				Sg	Sb	09 19 35.3	-0.4

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*IDC **15** 09:18:56.5±2.6, 9°.80S×160°.91E, h114km±12km, mb3.4/4, mbtmp3.9/5, Error ellipse: s-maj=40.5km s-min=29.3km az=71.0*
ISC 15 09:18:56.0±1.8, 9°.8S±0°.2×160°.9E±0°.2, h100km, n6, σ1§82/7, mb3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.04**	**291**	P	**Pn**	**09 19 17.4**	**+0.5**
	137nm,0.4s,baz=206,slow=4.4,SNR=11						
HNR				S	**Sn**	**09 19 35.0**	**+2.3**
	423nm,0.3s,baz=188,slow=7.0,SNR=14						
DZM	**Mont Dzumac**	**13.29**	**157**	P	**Pn**	**09 22 02.6**	**+1.7**
	9.4nm,0.8s,baz=282,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**27.57**	**246**	P	**P**	**09 24 33.5**	**-0.4**
	0.6nm,0.4s,baz=75,slow=9.4,SNR=8.9						
	0.6nm,0.4s						
STKA	**Stephens Creek**	**28.35**	**216**	P	**P**	**09 24 39.4**	**-1.2**
	3.1nm,1.0s,baz=38,slow=19,SNR=4.1						
	3.1nm,1.0s						
ASAR	**Alice Springs**	**29.25**	**239**	P	**P**	**09 24 47.4**	**-1.4**
	0.3nm,0.6s,baz=62,slow=10,SNR=5.0						
	0.3nm,0.6s						
SONM	**Songino Array**	**74.92**	**325**	P	**P**	**09 30 25.2**	**-1.0**
	0.5nm,0.6s,baz=134,slow=6.2,SNR=2.1						
	0.5nm,0.6s						

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*IDC **15** 09:23:48.1±1.1, 37°.46N×20°.81E, h0km, mb3.9/9, mbtmp3.8/15, ML3.7/5, MS3.0/1, Error ellipse: s-maj=24.3km s-min=14.3km az=152.0*
*ATH **15** 09:23:52.4, 37°.49N×20°.60E, h8km±3km, ML3.7/8, Error ellipse: s-maj=4.3km s-min=1.3km az=49.0*

*THE **15** 09:23:54.0, 37°.59N×20°.73E, h8km±1km, ML3.9/8, Error ellipse: s-maj=2.4km s-min=1.3km az=43.0*
ISC 15 09:23:52.0±0.9, 37°.53N±0°.04×20°.72E±0°.04, h21km±4km, n44, σ1§36/61, mb3.8/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.16**	**30**	P	**Pb**	**09 23 57.2**	**-0.8**
KRI1				S	**Sb**	**09 23 59.3**	**-2.8**
LTHK	**Lithakia**	**0.21**	**27**	P	**Pb**	**09 23 57.7**	**-0.2**
LTHK				S	**Sb**	**09 24 00.0**	**-2.0**
	74μm,0.5s						
LTHK	**Lithakia**	**0.21**	**27**	P	**Pb**	**09 23 57.9**	**-0.1**
LTHK				S	**Sb**	**09 24 01.9**	**-0.2**
LTHK				AML	AML	09 24 02.1	
	comp=E,91266μm,0.4s						
LTHK				AML	AML	09 24 02.2	
RTZL	**Ratzakli, Kefa**	**0.55**	**4**	P	**Pb**	**09 24 03.0**	**-0.1**
RTZL				S	**Sb**	**09 24 10.3**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.60**	**350**	P	**Pb**	**09 24 03.5**	**-0.4**
PSDA				S	**Sb**	**09 24 12.4**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.60**	**350**	P	**Pb**	**09 24 03.9**	**0.0**
VLS	**Valsamata**	**0.66**	**351**	P	**Pb**	**09 24 04.6**	**-0.3**
VLS				S	**Sb**	**09 24 14.3**	**+0.6**
VLS	**Valsamata**	**0.66**	**351**	P	**Pb**	**09 24 04.9**	**0.0**
VLS				S	**Sb**	**09 24 14.5**	**+0.8**
VLS				AML	AML	09 24 19.2	
	comp=E,7957μm,0.4s						
VLS				AML	AML	09 24 20.8	
	comp=N,11425μm,0.4s						
DMLN	**Damoulianata-K**	**0.76**	**339**	P	**Pb**	**09 24 06.8**	**+0.2**
DMLN				S	**Sn**	**09 24 18.3**	**-0.1**
	comp=N,13μm,0.6s						
DMLN	**Damoulianata-K**	**0.76**	**339**	P	**Pb**	**09 24 06.7**	**+0.2**
AMT	**Artemida-Makis**	**0.79**	**89**	P	**Pn**	**09 24 08.9**	**+1.0**
AMT				S	**Sn**	**09 24 20.7**	**+1.7**
AMT				AML	AML	09 24 27.6	
	comp=E,30626μm,0.4s						
AMT				AML	AML	09 24 28.2	
	comp=N,28004μm,0.6s						
RLS	**Riolos of Patr**	**0.80**	**48**	P	**Pb**	**09 24 07.5**	**+0.3**
RLS				S	**Sb**	**09 24 17.8**	**+0.3**
RLS	**Riolos of Patr**	**0.80**	**48**	P	**Pn**	**09 24 08.4**	**+0.4**
RLS				S	**Sn**	**09 24 20.6**	**+1.4**
RLS				AML	AML	09 24 23.7	
	comp=N,4248μm,0.5s						
RLS				AML	AML	09 24 26.0	
	comp=E,3499μm,0.5s						
VSK1	**VASILIKIADES**	**0.89**	**352**	P	**Pb**	**09 24 08.9**	**+0.1**
VSK1				S	**Sn**	**09 24 21.7**	**+0.1**
	comp=E,10μm,0.5s						
DRO	**Drossia**	**0.90**	**61**	P	**Pn**	**09 24 11.2**	**+1.8**
DRO				AML	AML	09 24 28.4	
	comp=E,10968μm,0.6s						
DRO				AML	AML	09 24 41.9	
	comp=N,9608μm,0.6s						
FSK	**Fiskardo**	**0.94**	**353**	P	**Pn**	**09 24 10.3**	**+0.3**
FSK				S	**Sn**	**09 24 23.9**	**+1.1**
	comp=N,7μm,0.7s						
FSK	**Fiskardo**	**0.94**	**353**	P	**Pn**	**09 24 10.5**	**+0.5**
FSK				AML	AML	09 24 28.1	
	comp=N,11581μm,0.8s						
FSK				AML	AML	09 24 28.6	
	comp=E,16340μm,0.6s						
ITM	**Ithomi**	**1.02**	**109**	P	**Pn**	**09 24 13.5**	**+2.3**
ITM				AML	AML	09 24 34.9	
	comp=E,3534μm,0.7s						
ITM				AML	AML	09 24 36.0	
	comp=N,4614μm,0.9s						
PYL	**PYLOS**	**1.03**	**127**	P	**Pn**	**09 24 13.1**	**+1.9**
PYL				AML	AML	09 24 30.2	
	comp=N,3037μm,0.5s						
PYL				AML	AML	09 24 33.4	
	comp=E,4625μm,0.5s						
EVGI	**Lefkada island**	**1.09**	**357**	P	**Pb**	**09 24 13.3**	**+1.0**
EVGI				S	**Sn**	**09 24 28.0**	**+1.4**
	comp=E,3μm,0.5s						
EVGI	**Lefkada island**	**1.09**	**357**	P	**Pb**	**09 24 13.6**	**+1.3**
DRAG	**Dragano-Lefkad**	**1.16**	**354**	P	**Pb**	**09 24 14.5**	**+1.1**
DRAG	**Dragano-Lefkad**	**1.16**	**354**	P	**Pb**	**09 24 15.0**	**+1.6**
NYDR	**Nydri-Lefkada**	**1.19**	**359**	P	**Pb**	**09 24 15.5**	**+1.7**
NYDR				S	**Sn**	**09 24 31.2**	**+2.4**
	comp=E,2μm,0.4s						
LKD2	**Lefkada island**	**1.26**	**358**	P	**Pb**	**09 24 17.1**	**+2.0**
LKD2				S	**Sb**	**09 24 34.8**	**+3.8**
	comp=E,7μm,0.8s						
TSLK	**Tsoukalades, L**	**1.30**	**358**	P	**Pb**	**09 24 17.3**	**+1.6**
TSLK				S	**Sb**	**09 24 34.2**	**+2.2**
	comp=E,5μm,0.9s						
IDI	**Anoyia**	**4.04**	**122**	Sn	**Sn**	**09 25 39.2**	**-0.1**
	comp=E,2.5nm,0.3s,baz=330,slow=20,SNR=1.9						
VAE	**Valguarnera**	**5.01**	**271**	Pn	**Pn**	**09 25 07.2**	**+1.2**
	comp=E,12nm,0.3s,baz=34,slow=3.6,SNR=1.9						
VAE				Sn	**Sn**	**09 26 06.4**	**+3.0**
	comp=E,2.7nm,0.3s,baz=198,slow=19,SNR=1.6						
MLR	**Muntele Rosu**	**8.87**	**25**	Pn	**Pn**	**09 25 58.6**	**-0.4**
	comp=E,0.2nm,0.3s,baz=98,slow=15,SNR=1.5						
	comp=E,0.8nm,0.3s						
KEST	**Kesra**	**9.31**	**262**	Pn	**Pn**	**09 26 05.2**	**+0.1**
	comp=E,0.1nm,0.3s,baz=49,slow=17,SNR=3.8						
	comp=E,3.3nm,0.8s						
DAVOX	**Davos/Dischmat**	**12.24**	**322**	LR	LR	09 32 57.9	
	comp=E,74nm,19.0s,baz=158,slow=44						
EIL	**Elat**	**14.21**	**119**	Pn	**Pn**	**09 27 09.5**	**-2.4**
	comp=E,0.4nm,0.3s,baz=345,slow=19,SNR=1.8						
EIL				Sn	Sn	09 29 40.6	-8.2
	comp=E,0.3nm,0.3s,baz=284,slow=19,SNR=1.7						
	comp=E,1.1nm,0.4s						
AKASG	**Malin Array Be**	**14.51**	**22**	Pn	**Pn**	**09 27 16.6**	**+0.7**
	comp=E,0.4nm,0.3s,baz=41,slow=31,SNR=1.6						
	comp=E,0.2nm,0.3s						
NACGM	**Naroch**	**17.87**	**11**	*e*P	**Pn**	**09 27 57.2**	**-1.9**
	comp=E,455nm,0.7s						
ESDC	**Sonseca Array**	**19.40**	**284**	P	**P**	**09 28 16.9**	**+0.3**
	comp=E,0.1nm,0.3s,baz=83,slow=12,SNR=7.6						
	comp=E,1.6nm,0.8s						
MDT	**Midelt**	**21.20**	**265**	P	**P**	**09 28 36.2**	**-0.1**
	comp=E,2.8nm,0.7s,baz=104,slow=12,SNR=5.7						
	comp=E,2.8nm,0.7s						
HFS	**Hagfors**	**23.07**	**351**	P	**P**	**09 28 55.9**	**+0.1**
	comp=E,1.1nm,0.4s,baz=152,slow=10,SNR=5.5						
	comp=E,1.1nm,0.4s						
EKA	**Eskdalemuir Ar**	**24.05**	**325**	P	**P**	**09 29 05.2**	**-0.2**
	comp=E,3.0nm,0.8s,baz=125,slow=7.2,SNR=5.8						
	comp=E,3.0nm,0.8s						
FINES	**FINESS Array B**	**24.18**	**6**	P	**P**	**09 29 05.8**	**-0.8**
	comp=E,1.1nm,0.4s,baz=193,slow=7.8,SNR=6.6						
	comp=E,1.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**29.63**	**220**	P	**P**	**09 29 55.0**	**-0.9**
	comp=E,1.4nm,0.7s,baz=25,slow=9.9,SNR=8.5						
	comp=E,1.4nm,0.7s						
BVAR	**Borovoye Array**	**37.42**	**49**	P	**P**	**09 31 03.5**	**+0.2**
	comp=E,0.9nm,0.5s,baz=259,slow=6.8,SNR=4.2						
	comp=E,0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**42.49**	**53**	P	**P**	**09 31 43.6**	**-1.9**
	comp=E,0.4nm,0.3s,baz=282,slow=5.5,SNR=2.3						
	comp=E,0.4nm,0.3s						
MKAR	**Makanchi Array**	**45.51**	**58**	P	**P**	**09 32 08.9**	**-1.0**
	comp=E,0.6nm,0.4s,baz=273,slow=7.4,SNR=7.6						
	comp=E,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**46.01**	**48**	P	**P**	**09 32 13.2**	**-0.4**
	comp=E,1.0nm,0.4s,baz=280,slow=8.2,SNR=4.1						
	comp=E,1.0nm,0.4s						

IDC 15 09:24:03.5±1.7, 51°.57N×82°.88E, h0km, mbtmp2.3/3, ML1.9/3, Error ellipse: s-maj=24.9km s-min=17.2km az=100.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.66**	**26**	I	I	09 41 30.0	
	baz=206,slow=311,SNR=0.9						
ZALV	**Zalesovo Beam**	**2.66**	**26**	Pn	Pn	09 24 47.6	+0.1
	0.7nm,0.3s,baz=218,slow=15,SNR=6.8						
ZALV				Sn	Sn	09 25 21.3	+0.8
	0.8nm,0.3s,baz=207,slow=24,SNR=5.8						
	1.6nm,0.3s						
KURBB	**Kurchatov Arra**	**2.90**	**253**	Pn	Pn	09 24 51.1	+0.2
	0.1nm,0.3s,baz=59,slow=16,SNR=1.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**4.80**	**185**	Pn	Pn	09 25 18.1	+1.1
	0.2nm,0.3s,baz=6.7,slow=10,SNR=8.7						
MKAR				Lg	Lg	09 26 35.9	
	0.3nm,0.3s,baz=3.5,slow=26,SNR=2.4						
	0.4nm,0.4s						

*IDC **15** 09:28:52.9±2.0, 3°.01S×119°.67E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=194.9km s-min=23.7km az=60.0*
*DJA **15** 09:28:54.8±0.3, 3°S±2°×12°0E±°, h10km, M4.0/12, MLv4.0/12*
ISC 15 09:28:54.5±0.9, **2°.94S**±0°.04×**119°.51E**±0°.07, **h10km, n13, σ1°29/17, mb3.6/4, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.33**	**109**	P	**Pg**	**09 29 00.7**	**-0.4**
TTSI				S	**Sb**	**09 29 06.4**	**-1.4**
SPSI	**Sidrap Palu**	**1.05**	**166**	P	**Pg**	**09 29 13.5**	**-1.3**
SPSI				S	**Sg**	**09 29 28.2**	**-0.3**
BNSI	**Bone**	**1.57**	**158**	P	**Pn**	**09 29 23.1**	**+0.6**
BNSI				S	**Sg**	**09 29 47.1**	**+2.0**
PCI	**Palu**	**2.04**	**9**	P	**Pn**	**09 29 29.3**	**+0.3**
PCI				S	**Sn**	**09 29 55.1**	**+0.5**
BKSI	**Bulukumba**	**2.45**	**166**	P	**Pn**	**09 29 34.7**	**+0.1**
APSI	**Ampana**	**2.94**	**47**	P	**Pn**	**09 29 41.7**	**+0.4**
BSSI	**Bau Bau, Buton**	**3.33**	**163**	P	**Pn**	**09 29 49.3**	**+2.6**
SMKI	**Samarinda**	**3.38**	**317**	P	**Pn**	**09 29 47.5**	**+0.1**
LUWI	**Luwuk**	**3.76**	**60**	P	**Pn**	**09 29 53.7**	**+1.0**
WRA	**Warramunga Arr**	**22.25**	**141**	P	**P**	**09 33 49.8**	**-2.0**
	1.3nm,0.8s,baz=318,slow=11,SNR=5.6 1.3nm,0.8s						
ASAR	**Alice Springs**	**24.87**	**147**	P	**P**	**09 34 16.2**	**-1.4**
	0.7nm,0.9s,baz=323,slow=9.1,SNR=4.3 0.7nm,0.9s						
SONM	**Songino Array**	**51.85**	**349**	P	**P**	**09 38 03.7**	**+0.6**
	0.5nm,0.3s,baz=170,slow=8.8,SNR=2.3 0.5nm,0.3s						
MKAR	**Makanchi Array**	**59.37**	**331**	P	**P**	**09 38 57.9**	**+0.8**
	0.9nm,0.8s,baz=126,slow=7.8,SNR=4.4 0.9nm,0.8s						

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*IDC **15** 09:33:12.2±0.6, 42°.43N×111°.30W, h0km, mb3.5/2, mbtmp3.6/11, ML3.2/7, MS3.4/2, Error ellipse: s-maj=10.0km s-min=5.1km az=156.0*
*UUSS **15** 09:33:13.0±1.1, 42°.67N±0°.02×111°.45W±0°.06, h10km±7km, Error ellipse: s-maj=6.8km s-min=2.1km az=114.0*
*NEIC **15** 09:33:12.6±1.0, 42°.67N±0°.02×111°.46W±0°.04, h10km±6km, mb4.1/9, ML3.9/96, Mwr3.8/63, ML4.0/29(UUSS), Error ellipse: s-maj=4.8km s-min=2.1km az=113.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=2.73; $M_{\theta\theta}$=4.06; $M_{\phi\phi}$=6.79; $M_{r\theta}$=3.30; $M_{\theta\phi}$=-1.62; $M_{\phi r}$=0.82; Fault plane solution: M_0=7.02000×10^{14} NP1: ϕ_s=210.22000°, δ=57.37000°, λ=-23.86000°. NP2: ϕ_s=313.63000°, δ=70.08000°, λ=-145.01000°. Principal axes: T 7.2120, Plg=8.0000°, Azm=79.0000°; N -0.4063, Plg=50.0000°, Azm=340.0000°; P -6.8057, Plg=38.0000°, Azm=176.0000°;*
*NEIC **15** 09:33:12.5, 42°.66N×111°.47W, h10km*
ISC 15 09:33:12.1±0.9, **42°.68N**±0°.02×**111°.42W**±0°.03, **h12**km±6km, **n95, σ1°72/100, mb3.8/3, Eastern Idaho**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHID	**Auburn Hatcher**	**0.25**	**69**		**Pb**	**09 33 18.5**	**-0.1**
AHID				Sg	**Sb**	**09 33 23.1**	**+2.1**
GRRI	**Grays Lake**	**0.26**	**359**		**Pg**	**09 33 18.5**	**+0.9**
BEI	**Bear River Ran**	**0.62**	**206**		**Pb**	**09 33 24.4**	**-0.6**
L17A	**Cokeville**	**0.70**	**145**		**Pb**	**09 33 26.5**	**+0.1**
BMUT	**Black Mountain**	**0.73**	**169**		**Pb**	**09 33 26.4**	**-0.5**
MLI	**Malad Range**	**0.84**	**219**		**Pb**	**09 33 28.2**	**-0.5**
TPAW	**Teton Pass**	**0.88**	**23**		**Pn**	**09 33 30.1**	**-0.5**
TPAW				IAML		09 33 44.4	
	5μm,0.6s						
TPAW				IAML		09 33 47.1	
	3μm,0.5s						
HDU	**Hyde Park**	**0.91**	**197**		**Pb**	**09 33 29.6**	**-0.3**
SNOW	**Snow King Moun**	**0.92**	**31**		**Pb**	**09 33 30.1**	**0.0**
SNOW				Sg	**Sb**	**09 33 43.6**	**+1.2**
SNOW				IAML		09 33 44.9	
	5μm,0.5s						
SNOW				IAML		09 33 45.7	
	7μm,0.5s						
NPI	**North Pocatell**	**0.97**	**237**		**Pb**	**09 33 30.5**	**-0.5**
FXWY	**Fox Creek**	**1.00**	**16**		**Pn**	**09 33 31.9**	**-0.3**
FXWY				Sg	**Sb**	**09 33 44.9**	**+0.1**
FXWY				IAML		09 33 46.8	
	2μm,0.4s						
FXWY				IAML		09 33 46.8	
	2μm,0.3s						
PTU	**Portage**	**1.01**	**222**		**Pb**	**09 33 31.2**	**-0.4**
RSUT	**Red Spur Mount**	**1.04**	**180**		**Pb**	**09 33 32.2**	**0.0**
HWUT	**Hardware Ranch**	**1.08**	**186**		**Pb**	**09 33 32.6**	**-0.1**
HWUT	**Hardware Ranch**	**1.08**	**186**	Sg	**Sg**	**09 33 46.4**	**-0.5**
HWUT				IAML		09 33 49.6	
	2μm,0.6s						
HWUT				IAML		09 33 49.6	
	2μm,0.6s						
LOHW	**Long Hollow**	**1.11**	**32**		**Pn**	**09 33 33.5**	**-0.1**
LOHW				Sg	**Sn**	**09 33 49.0**	**+0.1**
LOHW				IAML		09 33 52.8	
	2μm,0.6s						
LOHW				IAML		09 33 53.1	
	2μm,0.4s						
WVUT	**Wellsville**	**1.14**	**201**		**Pb**	**09 33 34.2**	**+0.3**
MOOW	**Moose Ponds**	**1.18**	**24**	Pg	**Pn**	**09 33 34.9**	**+0.3**
MOOW					**Sn**	**09 33 51.0**	**+0.4**
MOOW				IAML		09 33 53.9	
	1μm,0.7s						
MCU	**Monte Cristo P**	**1.22**	**183**		**Pb**	**09 33 35.3**	**+0.1**
LTU	**Little Mountai**	**1.25**	**210**		**Pg**	**09 33 35.4**	**-0.8**
HVU	**Hansel Valley**	**1.35**	**229**		**Pg**	**09 33 36.2**	**-1.9**
PD31	**Pinedale Array**	**1.37**	**86**		**Pb**	**09 33 38.7**	**+0.9**
PDAR	**Pinedale Array**	**1.37**	**86**	Pg	**Pb**	**09 33 38.2**	**+0.4**
	178nm,0.3s,baz=255,slow=14,SNR=1235						
PDAR				Lg	Lg	09 33 54.9	
	126nm,0.3s,baz=55,slow=27,SNR=4.6						
PDAR				LR	LR	09 34 05.0	
	comp=Z,255nm,21.3s,baz=187,slow=40						
EPU	**East Promontor**	**1.48**	**210**		**Pn**	**09 33 39.1**	**+0.4**
FLWY	**Flagg Ranch**	**1.50**	**20**	Pn	**Pg**	**09 33 40.1**	**-0.7**
FLWY				IAML		09 34 02.8	
	2μm,1.1s						
FLWY				IAML		09 34 03.3	
	1μm,1.1s						
TCUT	**Toone Canyon**	**1.56**	**180**		**Pg**	**09 33 41.5**	**-0.6**
SPUT	**South Promonto**	**1.57**	**210**		**Pn**	**09 33 40.5**	**+0.6**
SPUT					**Sn**	**09 34 00.9**	**+0.6**
H17A	**Grant Village**	**1.82**	**19**		**Pg**	**09 33 45.7**	**-1.4**
H17A				IAML		09 34 12.7	
	comp=E,678nm,0.9s						
YFT	**Old Faithful**	**1.82**	**13**		**Pg**	**09 33 46.2**	**-0.9**
YFT				IAML		09 34 17.1	
	comp=N,862nm,1.0s						
YFT				IAML		09 34 17.3	
	comp=E,802nm,0.8s						
CTU	**Camp Tracy**	**2.00**	**187**		**Pn**	**09 33 47.2**	**+1.4**
CTU				IAML		09 34 20.6	
	comp=E,1μm,0.6s						
CTU				IAML		09 34 22.7	
	comp=N,1μm,0.5s						
YMR	**Madison River**	**2.02**	**9**		**Pb**	**09 33 48.4**	**-0.4**
YMR				IAML		09 34 23.1	
	comp=E,1μm,0.7s						
YMR				IAML		09 34 24.8	
	comp=N,2μm,0.7s						
LKWY	**Lake**	**2.02**	**21**		**Pg**	**09 33 49.6**	**-1.4**
JLU	**Jordanelle**	**2.08**	**181**		**Pn**	**09 33 48.5**	**+1.6**
JLU				IAML		09 34 21.8	
	comp=N,2μm,0.6s						
JLU				IAML		09 34 21.8	
	comp=E,1μm,0.5s						
YNR	**Norris Junctio**	**2.10**	**14**		**Pb**	**09 33 50.2**	**-0.1**
YNM	**Yellowstone No**	**2.11**	**14**		**Pb**	**09 33 50.0**	**-0.4**
BGU	**Big Grassy Mou**	**2.13**	**215**		**Pn**	**09 33 47.8**	**+0.2**
BGU				IAML		09 34 21.8	
	comp=E,871nm,0.4s						
BGU				IAML		09 34 23.1	
	comp=N,639nm,0.5s						
YHH	**Holmes Hill**	**2.15**	**11**		**Pb**	**09 33 50.4**	**-0.7**
YHL	**Hebgen Lake**	**2.18**	**4**		**Pb**	**09 33 50.9**	**-0.7**
YHL				IAML		09 34 28.8	
	comp=E,418nm,1.0s						
HLID	**Hailey**	**2.37**	**293**		**Pn**	**09 33 52.1**	**+1.3**
RDMU	**Red Mountain**	**2.52**	**146**		**Pn**	**09 33 55.1**	**+2.0**
RDMU				IAML		09 34 37.0	
	comp=N,877nm,0.5s						
RDMU				IAML		09 34 42.7	
	comp=E,881nm,0.9s						
YNE	**Yellowstone No**	**2.54**	**23**		**Pb**	**09 33 56.0**	**-1.8**
MPU	**Maple Canyon**	**2.67**	**184**		**Pn**	**09 33 56.5**	**+1.5**
MPU				IAML		09 34 41.8	
	comp=E,300nm,0.7s						
DUG	**Dugway, Tooele**	**2.69**	**203**		**Pn**	**09 33 56.7**	**+1.3**
DUG				IAML		09 34 40.1	
	comp=E,609nm,0.9s						
DUG				IAML		09 34 46.2	
	comp=E,440nm,1.1s						
RLMT	**Red Lodge**	**2.89**	**32**		**Pn**	**09 34 00.5**	**+2.4**
BOZ	**Bozeman (W)**	**2.92**	**357**	Pn	**Pb**	**09 34 01.8**	**-2.4**
P18A	**Preston Nutter**	**3.17**	**163**		**Pn**	**09 34 04.7**	**+2.6**
P18A				IAML		09 34 52.0	
	comp=E,642nm,0.5s						
P18A				IAML		09 34 54.3	
	comp=N,633nm,0.5s						
P17A	**Butcher Ranch,**	**3.24**	**171**		**Pn**	**09 34 05.0**	**+2.1**
MFID	**Camas Ranch**	**3.32**	**284**		**Pn**	**09 34 06.0**	**+2.1**
MFID				IAML		09 35 04.4	
	comp=N,319nm,1.0s						
MFID				IAML		09 35 06.9	
	comp=N,364nm,1.3s						
TMUT	**Trail Mountain**	**3.38**	**177**		**Pn**	**09 34 07.1**	**+2.1**
TMUT				IAML		09 35 02.5	
	comp=E,593nm,0.7s						
TMUT				IAML		09 35 02.5	
	comp=N,430nm,0.6s						
ELK	**Elko**	**3.45**	**237**		**Pn**	**09 34 07.1**	**+1.2**
ELK				IAML		09 35 02.9	
	comp=N,167nm,0.7s						
ELK	**Elko**	**3.45**	**237**	Pn	**Pn**	**09 34 07.6**	**+1.8**
	comp=N,2.5nm,0.3s,baz=51,slow=11,SNR=34						
ELK				Pg	**Pb**	**09 34 13.6**	**+0.3**
	comp=N,16nm,0.3s,baz=49,slow=15,SNR=42						
ELK				Lg	Lg	09 34 58.8	
	baz=162,slow=20 comp=N,17nm,0.5s						
O20A	**White River Ci**	**3.49**	**136**		**Pn**	**09 34 09.1**	**+2.8**
K22A	**Casper**	**3.61**	**89**		**Pn**	**09 34 11.5**	**+3.6**
SRU	**San Rafael Swe**	**3.63**	**169**	Pn	**Pn**	**09 34 11.2**	**+3.0**
SRU				IAML		09 35 11.1	
	comp=N,456nm,0.6s						
Q16A	**Castle Valley**	**3.76**	**177**		**Pn**	**09 34 12.2**	**+2.1**
Q16A				IAML		09 35 10.9	
	comp=E,251nm,0.8s						
Q16A				IAML		09 35 15.3	
	comp=N,179nm,0.8s						
PLID	**Pearl Lake**	**4.10**	**308**		**Pn**	**09 34 17.2**	**+2.5**
TCRU	**Three Creeks R**	**4.14**	**191**	Pn	**Pn**	**09 34 16.9**	**+1.5**
TCRU				IAML		09 35 27.4	
	comp=N,151nm,1.1s						
TCRU				IAML		09 35 28.2	
	comp=E,145nm,1.1s						
MSU	**Marysvale**	**4.20**	**188**		**Pn**	**09 34 18.0**	**+1.9**
MVU	**Marysvale**	**4.21**	**189**		**Pn**	**09 34 18.1**	**+1.7**
MVU				IAML		09 35 32.2	
	comp=N,316nm,0.7s						
SPR3	**Spring Creek 3**	**4.29**	**212**		**Pn**	**09 34 20.6**	**+3.2**
SPR3				IAML		09 35 30.3	
	comp=E,88nm,0.7s						
SPR3				IAML		09 35 30.4	
	comp=N,120nm,0.8s						
N23A	**Red Feather La**	**4.46**	**112**	Pn	**Pn**	**09 34 23.2**	**+3.4**
Q12A	**Willow Creek R**	**4.46**	**217**		**Pn**	**09 34 21.7**	**+2.1**
BMN	**Battle Mountai**	**4.90**	**245**	Pn	**Pn**	**09 34 26.1**	**+0.4**
R11B	**Troy Canyon, C**	**5.37**	**218**	IAML		09 36 05.1	
	comp=N,41nm,0.5s						
R11B				IAML		09 36 05.3	
	comp=E,58nm,1.2s						
RSSD	**Black Hills**	**5.57**	**72**	Pn	**Pn**	**09 34 36.1**	**+1.3**
MVCO	**Mesa Verde**	**5.90**	**157**	Pn	**Pn**	**09 34 40.6**	**+1.0**
NVAR	**Mina Array Bea**	**6.75**	**233**	Pn	**Pn**	**09 34 53.6**	**+2.6**
	comp=E,0.4nm,0.3s,baz=45,slow=11,SNR=33						
NVAR				Pg	Pb	09 35 14.6	+5.2
	comp=E,1.1nm,0.3s,baz=50,slow=15,SNR=9.5						
NVAR				Sn	**Sn**	**09 36 08.8**	**+0.9**
	comp=E,0.8nm,0.3s,baz=43,slow=17,SNR=1.1						
NVAR				Lg	Lg	09 36 40.7	
	comp=E,1.7nm,0.3s,baz=188,slow=20,SNR=1.9 comp=E,4.4nm,0.7s						
NEW	**Newport**	**6.88**	**326**	Pn	Pn	09 34 58.7	+6.0
	comp=E,0.2nm,0.3s,baz=158,slow=19,SNR=2.7						
NEW				Sn	**Sn**	**09 36 19.1**	**+8.3**
	baz=233,slow=15,SNR=1.6						
NEW				Lg	Lg	09 36 47.1	
	comp=E,1.1nm,0.3s,baz=54,slow=18,SNR=10 comp=E,2.0nm,0.6s						
OGNE	**Ogallala**	**7.22**	**101**	Pn	**Pn**	**09 34 58.2**	**+0.7**
YBH	**Yreka Blue Hor**	**8.44**	**267**	Pn	Pn	09 35 19.8	+5.6
	comp=E,0.6nm,0.5s,baz=72,slow=14,SNR=1.4						
YBH				Pg	**Pb**	**09 35 38.1**	**0.0**
	comp=E,0.1nm,0.3s,baz=25,slow=9.4,SNR=1.7						
YBH				Lg	Lg	09 37 39.1	
	baz=0.0,slow=17,SNR=2.2						
YBH				LR	LR	09 38 46.3	
	comp=E,100nm,18.6s,baz=52,slow=39						
E28A	**Huff**	**8.58**	**59**	Pn	**Pn**	**09 35 17.4**	**+1.4**
ANMO	**Albuquerque**	**8.63**	**152**	Pn	**Pn**	**09 35 14.9**	**-2.1**
	baz=127,slow=20,SNR=1.7						
ANMO				Pg	Pg	09 35 42.5	-15
	comp=E,0.2nm,0.3s,baz=163,slow=15,SNR=3.6						
ANMO				Sn	**Sn**	**09 36 48.4**	**-5.9**
	comp=E,0.3nm,0.3s,baz=144,slow=15,SNR=3.3						
ANMO				Lg	Lg	09 37 37.5	
	comp=E,0.7nm,0.3s,baz=46,slow=22,SNR=7.1 comp=E,0.4nm,0.6s						
PFO	**Pinyon Flats O**	**9.88**	**205**	Pn	**Pn**	**09 35 34.3**	**+0.2**
	comp=E,0.1nm,0.3s,baz=330,slow=14,SNR=1.4						
PFO				Lg	Lg	09 38 19.4	
	comp=E,0.1nm,0.3s,baz=142,slow=19,SNR=0.8 comp=E,0.5nm,0.3s						
AGMN	**Agassiz Nation**	**12.27**	**57**	Pn	**Pn**	**09 36 06.2**	**-0.2**
ULM	**Lac du Bonnet**	**13.10**	**49**		**Pn**	**09 36 17.6**	**-0.3**
ULM	**Lac du Bonnet**	**13.10**	**49**	Pn	**Pn**	**09 36 17.3**	**-0.5**
	comp=E,0.9nm,0.3s,baz=244,slow=12,SNR=9.7						
ULM				Lg	Lg	09 40 00.0	
	comp=E,0.3nm,0.3s,baz=156,slow=20,SNR=2.6 comp=E,3.8nm,0.5s						
SPMN	**Marine on St.**	**13.65**	**73**	Pn	**Pn**	**09 36 24.1**	**-1.3**
S39A	**Bolivar**	**14.69**	**104**	Pn	**Pn**	**09 36 39.6**	**0.0**
TXAR	**Lajitas Array**	**14.71**	**152**	Pn	**Pn**	**09 36 39.8**	**-0.3**
	comp=E,1.5nm,0.9s,baz=332,slow=31,SNR=2.2						
TXAR				Lg	Lg	09 40 48.4	
	baz=347,slow=23,SNR=1.2						
BBB	**Bella Bella**	**14.73**	**316**	Pn	**P**	**09 36 45.1**	**-1.1**
	comp=E,0.4nm,0.3s,baz=124,slow=7.3,SNR=1.7 comp=E,20nm,1.0s						
P40A	**Paris**	**14.94**	**96**	Pn	**Pn**	**09 36 43.9**	**+0.9**
CCM	**Cathedral Cave**	**16.04**	**100**	Pn	**Pn**	**09 36 56.6**	**-0.9**
CCM				IAmb	IAmb	09 37 30.6	
	comp=Z,15nm,1.4s						
FVM	**French Village**	**16.67**	**99**	Pn	**Pn**	**09 37 07.0**	**+1.6**
FVM				IAmb	IAmb	09 37 19.5	
	comp=Z,8.0nm,0.8s						
K43A	**Burlington**	**16.97**	**82**	Pn	**Pn**	**09 37 09.0**	**-0.1**
LCAR	**Lake Charles**	**16.98**	**106**	P	**P**	**09 37 12.7**	**+1.5**
Q44A	**Meyer Farm, Va**	**17.36**	**95**	P	**P**	**09 37 15.4**	**0.0**
Q44A				IAmb	IAmb	09 37 55.3	
	comp=Z,20nm,1.1s						
WVT	**Waverly**	**19.33**	**102**	P	**Pn**	**09 37 38.9**	**+0.7**
FCC	**Fort Churchill**	**19.38**	**28**	P	**Pn**	**09 37 38.9**	**+0.2**
FCC				IAmb	IAmb	09 37 44.4	
	comp=Z,30nm,1.1s						
E46A	**Sault Ste Mari**	**19.64**	**70**	P	**P**	**09 37 40.2**	**-0.2**
Q49A	**Covington**	**20.43**	**88**	P	Pn	09 37 51.8	+0.6
O49A				IAmb	IAmb	09 37 59.2	
	comp=Z,12nm,1.0s						
TKL	**Tuckaleechee C**	**22.48**	**99**	P	**P**	**09 38 11.7**	**+0.5**
	comp=Z,3.4nm,1.0s,baz=230,slow=16,SNR=1.0 comp=Z,3.4nm,1.0s						
ILAR	**Eielson Array**	**29.81**	**330**	P	P	09 39 23.8	+5.2
	comp=Z,0.2nm,0.6s,baz=112,slow=7.4,SNR=4.3 comp=Z,0.2nm,0.6s						
KLR	**Kul'dur**	**73.03**	**322**	LR	LR	10 16 56.5	
	comp=Z,54nm,19.8s,baz=9.0,slow=36						
HHC	**Hu-ho-hao-te**	**88.23**	**329**	*eP*	**P**	**09 46 01.6**	**-1.6**
HHC				pmax	pmax		
	comp=Z,19nm,0.6s						
HHC				pmax	pmax		
	comp=Z,180nm,5.1s						
WRA	**Warramunga Arr**	**120.92**	**271**	PKP	**PKiKP**	**09 52 05.6**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=56,slow=2.3,SNR=1.7						

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*IDC **15** 09:34:01.6±3.5, 35°.87N×71°.39E, h0km, mb3.9/6, mbtmp3.8/11, ML3.3/5, Error ellipse: s-maj=66.5km s-min=24.6km az=139.0*
*NNC **15** 09:34:19.7±4.6, 36°.87N×70°.96E, h187km±79km, mb3.0, mpv4.1, Error ellipse: s-maj=44.2km s-min=27.3km az=25.0*
ISC 15 09:34:26.7±1.9, **37°.2N**±0°.1×**71°.03E**±0°.10, **h150**km, **n21, σ2°48/26, mb3.8/5, 4C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.30**	**22**	P	**Pn**	**09 35 41.9**	**-2.5**
	SNR=31						
EKS2	**Erkin-Say**	**5.81**	**20**	P	**Pn**	**09 35 50.2**	**-0.8**
	SNR=16						
KK31	**Karatay Array**	**5.87**	**356**	⇓P	**Pn**	**09 35 50.1**	**-1.5**
	4.1nm,0.2s,baz=179,slow=13,SNR=217						
KK31				⇓S	**Sn**	**09 37 01.3**	**+3.2**
	4.0nm,0.5s,baz=183,slow=22,SNR=4.4						
AAK	**Ala-Archa**	**6.01**	**25**	P	**Pn**	**09 35 51.7**	**-1.9**
	SNR=7.6						
AAK	**Ala-Archa**	**6.01**	**25**	Pn	**Pn**	**09 35 50.8**	**-2.9**
	3.7nm,0.3s,baz=191,slow=5.8,SNR=39						
AAK				Sn	**Sn**	**09 37 03.7**	**+2.0**
	0.2nm,0.3s,baz=185,slow=19,SNR=1.5 8.5nm,0.3s						
CHMS	**Chumysh**	**6.42**	**25**	P	**Pn**	**09 35 56.9**	**-2.1**
	SNR=8.8						
CHMS	**Chumysh**	**6.42**	**25**	⇑P	**Pn**	**09 35 56.1**	**-2.9**
	12nm,0.6s						
CHMS				⇑S	**Sn**	**09 37 15.0**	**+3.8**
	9.6nm,1.2s						
USP	**Ospenovka**	**6.58**	**23**	P	**Pn**	**09 35 59.9**	**-1.2**
	SNR=10						
TKM2	**Tokmak 2**	**6.67**	**30**	P	**Pn**	**09 35 59.9**	**-2.5**
	SNR=7.1						
TKM2	**Tokmak 2**	**6.67**	**30**	⇑P	**Pn**	**09 35 59.4**	**-3.0**
	5.5nm,0.8s						
TKM2				⇓S	**Sn**	**09 37 20.1**	**+2.7**
	2.8nm,0.8s						
MKAR	**Makanchi Array**	**12.68**	**38**	Pn	**Pn**	**09 37 17.7**	**-4.0**
	baz=215,slow=11,SNR=2.1 0.5nm,0.9s						
KURBB	**Kurchatov Arra**	**14.41**	**20**	Pn	**Pn**	**09 37 42.1**	**-1.5**
	0.1nm,0.3s,baz=205,slow=11,SNR=4.7 0.3nm,0.3s						
AB31	**Akbulak array**	**14.45**	**330**	P	**Pn**	**09 37 41.9**	**-2.2**
	0.5nm,0.3s,baz=136,slow=13,SNR=49						
AB31				⇑S	**Sn**	**09 40 20.5**	**-3.8**
	2.6nm,1.0s,baz=156,slow=23,SNR=3.2						
BVAR	**Borovoye Array**	**15.79**	**359**	Pn	**Pn**	**09 38 00.3**	**-0.4**
	baz=157,slow=9.9,SNR=3.7 0.6nm,0.4s						
AKTO	**Aktyubinsk**	**16.15**	**329**	P	**Pn**	**09 38 05.5**	**+0.4**
	0.4nm,0.3s,baz=141,slow=12,SNR=5.1						
AKTO				S	**S**	**09 41 03.8**	**-0.8**
	0.5nm,0.5s,baz=218,slow=19,SNR=2.0 1.1nm,0.4s						
ZALV	**Zalesovo Beam**	**19.23**	**25**	P	**P**	**09 38 38.2**	**-0.9**
	1.1nm,0.3s,baz=232,slow=12,SNR=5.2 1.1nm,0.3s						
FINES	**FINESS Array B**	**36.88**	**326**	P	**P**	**09 41 22.0**	**+1.6**
	2.7nm,1.0s,baz=113,slow=5.0,SNR=4.3 2.7nm,1.0s						
ARCES	**ARCESS Array B**	**40.47**	**337**	P	**P**	**09 41 53.1**	**+2.9**
	6.3nm,1.1s,baz=115,slow=8.1,SNR=9.7 6.3nm,1.1s						
HFS	**Hagfors**	**42.50**	**321**	P	**P**	**09 42 08.0**	**+1.2**
	1.2nm,0.5s,baz=110,slow=16,SNR=5.8 1.2nm,0.5s						
NOA	**NORSAR Array B**	**43.80**	**323**	P	**P**	**09 42 19.2**	**+1.9**
	0.7nm,0.5s,baz=99,slow=8.2,SNR=3.7 0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.76**	**268**	P	P	09 44 50.7	-5.2
	0.2nm,0.3s,baz=32,slow=5.2,SNR=1.9 0.2nm,0.3s						

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*IDC **15** 09:54:50.0±1.6, 54°.63N×162°.32E, h0km, mb3.5/2, mbtmp3.4/3, ML2.2/1, Error ellipse: s-maj=116.5km s-min=24.0km az=151.0*
*KRSC **15** 09:54:58.9±0.7, 55°.01N×160°.72E, h125km±9km, Ml3.7*
ISC 15 09:55:00.6±1.0, **55°.03N**±0°.04×**160°.71E**±0°.06, **h122**km±8km, **n41, σ1°23/50, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**0.25**	**315**	*eP*	**Pn**	**09 55 17.0**	**-0.6**
TUMD				*eS*	**Sn**	**09 55 30.6**	**+0.1**
TUMR	**Tumrok**	**0.41**	**309**	*eP*	**Pn**	**09 55 18.1**	**-0.3**
TUMR				*eS*	**Sn**	**09 55 32.3**	**+0.5**
KMNR	**Kamenistaya**	**0.78**	**340**	*i P*	**Pn**	**09 55 20.7**	**-0.2**
BZP	**Bezymyannyi-Pe**	**0.89**	**354**	*eP*	**Pn**	**09 55 21.6**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**0.91**	**360**	*eP*	**Pn**	**09 55 21.8**	**-0.3**
BZMR	**Bezymyannaya**	**0.92**	**352**	*eP*	**Pn**	**09 55 22.1**	**-0.1**
KIRR	**Kirishev**	**0.95**	**348**	*eP*	**Pn**	**09 55 21.8**	**-0.7**
KPT	**Kopyto**	**0.98**	**344**	*eP*	**Pn**	**09 55 21.9**	**-0.8**
ZLN	**Zelenaya**	**0.99**	**3**	*eP*	**Pn**	**09 55 23.3**	**+0.5**
CIRR	**Tsirk**	**1.09**	**1**	*eP*	**Pn**	**09 55 24.1**	**+0.3**
KOZ	**Kozyrevsk**	**1.14**	**336**	*eP*	**Pn**	**09 55 23.4**	**-0.7**
KRSR	**Krestovskiy**	**1.20**	**356**	*eP*	**Pn**	**09 55 24.2**	**-0.7**
KRSR				*eS*	**Sn**	**09 55 43.2**	**0.0**
KLY	**Klyuchi**	**1.29**	**359**	*eP*	**Pn**	**09 55 25.6**	**-0.1**
KLY				*eS*	**Sn**	**09 55 45.7**	**+0.9**
SRDR	**Sredinnyy**	**1.41**	**337**	*eP*	**Pn**	**09 55 26.1**	**-1.0**
ESO	**Esso**	**1.45**	**309**	*eP*	**Pn**	**09 55 26.0**	**-1.6**
SMKR	**Semkarok**	**1.62**	**15**	*eP*	**Pn**	**09 55 29.5**	**0.0**
SMKR				*eS*	**Sn**	**09 55 53.0**	**+1.4**
SRKR	**Sorokina**	**1.65**	**9**	*eP*	**Pn**	**09 55 30.8**	**+0.8**
KBG	**Kruto

comp=Z,8.0nm,0.2s
RMF SG Sg 10 01 42.2 -0.6
OUL Oulu 1.48 322 PG Pn 10 01 42.2 -0.8
baz=135
OUL SG Sg 10 02 01.9 -0.8
SUF Sumiainen 1.51 216 PG Pn 10 01 42.6 -0.8
SUF MSG 10 02 00.6
comp=Z,3.5nm,0.2s
SUF SN Sg 10 02 03.6 0.0
OUF Merijarvi 1.52 288 PG Pn 10 01 42.7 -0.9
OUF MSG 10 02 00.8
comp=Z,5.7nm,0.2s
OUF SN Sg 10 02 03.0 -1.0
OBF4 Vikkela, Lumij 1.56 305 PG Pn 10 01 43.4 -0.7
OBF4 MSG 10 02 01.9
comp=Z,5.5nm,0.2s
OBF4 SN Sn 10 02 04.8 -0.1
OBF0 Syolatti, Pyha 1.76 290 PG Pn 10 01 46.9 0.0
OBF0 MSG 10 02 07.8
comp=Z,6.5nm,0.2s
OBF0 SG Sn 10 02 10.0 0.0
JOF Joensuu 1.79 124 PG Pn 10 01 47.4 +0.1
baz=302
JOF SN Sn 10 02 10.3 -0.3
KAF Kangasniemi 2.01 204 PG Pn 10 01 51.1 +0.8
KAF MSG 10 02 14.8
comp=Z,7.7nm,0.2s
KAF SG Sb 10 02 17.2 -0.9
RANF Ranua 2.15 346 PG Pn 10 01 53.5 +1.3
baz=167
RANF SG Sb 10 02 21.0 -1.0
KU6 Riekki 2.23 20 PG Pn 10 01 54.5 +1.2
baz=204
KU6 MSG 10 02 21.0
comp=Z,1.9nm,0.2s
KU6 SG Sn 10 02 22.5 +1.0
KEF Keuruu 2.31 221 PG Pn 10 01 56.0 +1.6
baz=33
KEF MSG 10 02 23.4
comp=Z,6.1nm,0.2s
KEF SG Sb 10 02 25.2 -1.3
OLKF Oulanka, Finla 2.45 13 PG Pb 10 01 58.3 -1.7
OLKF MSG 10 02 27.5
comp=Z,2.2nm,0.2s
OLKF SG Sb 10 02 29.7 -1.0
RUF Ruokolahti 2.56 170 PG Pb 10 02 00.3 -1.7
RUF MSG 10 02 30.9
comp=Z,3.1nm,0.2s
RUF SG Sb 10 02 34.1 0.0
VAF Ylistaro 2.58 252 PG Pb 10 02 00.5 -1.9
VAF MSG 10 02 31.4
comp=Z,2.6nm,0.2s
VAF SG Sb 10 02 33.5 -1.1
TOF Tornio 2.67 325 PB Pn 10 02 01.1 +1.8
TOF MSG 10 02 33.7
comp=Z,0.9nm,0.2s
TOF SB Sb 10 02 34.9 -2.1
FIA0 FINESS Array S 2.68 201 PG Pn 10 02 01.6 +2.1
baz=22
FIA0 MSG 10 02 34.0
comp=Z,3.0nm,0.2s
FIA0 SB Sn 10 02 34.5 +2.0
KALU Kalix 2.78 316 P Pn 10 02 02.0 +1.2
RNF Rovaniemi 2.81 343 SB Sb 10 02 39.6 -1.4
SJUU Sjulsmark 3.18 302 P Pn 10 02 07.5 +1.0
ODEU Stanfors 3.25 281 P Pn 10 02 06.6 -0.7
UMAU Umeaa 3.27 272 P Pn 10 02 07.0 -0.5
UMAU Umeaa 3.27 272 PN Pn 10 02 07.9 +0.3
baz=81
UMAU SG Sb 10 02 53.5 -0.7
VJF Virojoki 3.43 184 SG Sb 10 02 57.6 -1.3
KPF Kankaanpaa 3.47 235 PB Pn 10 02 12.4 +2.0
ERTU Ertsjaerv 3.60 319 P Pn 10 02 13.8 +1.6
ERTU Ertsjaerv 3.60 319 PN Pn 10 02 13.8 +1.6
ERTU SN Sn 10 02 56.2 +0.9
KLF Kolari 3.71 335 PN Pn 10 02 14.4 +0.6
baz=154
PAJU Pajala 3.71 328 P Pn 10 02 14.7 +0.9
PAJU Pajala 3.71 328 PN Pn 10 02 14.6 +0.9
PAJU SN Sn 10 02 59.0 +0.8
HARU Harads 3.74 310 P Pn 10 02 14.7 +0.7
HEMU Hemsoen 4.70 259 SG Sg 10 03 40.9 -5.1
LANU Lannavaara 4.80 332 P Pn 10 02 30.7 +2.0

*KOLA **15** 10:02:01.1, 68°.12N×33°.21E, h0km, ML2.3, Error ellipse: s-maj=2.5km s-min=1.4km az=90.0, Olenegorsk City, Mines*
HEL 15 10:01:59.8±0.1, 68°.22N×33°.21E, h0km, ML1.8, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.62**	**188**	P	Pg	10 02 10.2	-1.4
APA0				S	Sg	10 02 17.5	-2.0
LVZ	**Lovozero**	**0.63**	**120**	P	Pg	10 02 11.3	-0.4
LVZ				S	Sg	10 02 18.9	-1.0
LVZ	**Lovozero**	**0.63**	**120**	PG	Pg	10 02 11.4	-0.3
LVZ				SG	Sg	10 02 18.8	-1.1
APA	**Apatity**	**0.65**	**173**	S	Sg	10 02 19.6	-1.1
TERR	**Teriberka**	**1.21**	**34**	P	Pb	10 02 23.2	-0.3
TERR				S	Sn	10 02 41.6	+0.6
VRF	**Varrio**	**1.44**	**253**	PG	Pn	10 02 25.7	-1.3
VRF				MSG		10 02 43.1	
comp=Z,7.8nm,0.2s							
VRF				SG	Sg	10 02 44.2	-1.7
PRVG	**Vayda Guba**	**1.58**	**347**	P	Pg	10 02 31.4	+1.3
PRVG				S	Sg	10 02 53.0	+2.5
RAJF	**Raja-Jooseppi**	**1.84**	**280**	PB	Pn	10 02 32.9	+0.4
baz=183							
RAJF	**Raja-Jooseppi**	**1.84**	**280**	PG	Pn	10 02 32.9	+0.4
RAJF				SG	Sn	10 02 56.0	-0.4
VADS	**Vadso**	**2.36**	**326**	P	Pn	10 02 40.4	+0.7
VADS				S	Sb	10 03 12.1	-0.6
OLKF	**Oulanka, Finla**	**2.41**	**220**	MSG		10 03 11.1	
comp=Z,2.4nm,0.2s							
OLKF				SB	Sn	10 03 12.2	+1.6
KMNF	**Kaamanen**	**2.46**	**295**	PB	Pn	10 02 42.2	+1.1
KMNF				SG	Sb	10 03 15.1	-0.4
KU6	**Riekki**	**2.55**	**212**	MSG		10 03 15.2	
comp=Z,2.2nm,0.2s							
KU6				SB	Sb	10 03 16.2	-2.1
KEV	**Kevo**	**2.72**	**308**	PN	Pn	10 02 43.9	-0.8
KEV				MSG		10 03 19.9	
comp=Z,5.6nm,0.2s							
KEV				SG	Sb	10 03 23.0	0.0
ARCES	**ARCESS Array B**	**3.09**	**299**	P	Pn	10 02 50.5	+0.7
ARCES				S	Sn	10 03 27.4	+0.1
RNF	**Rovaniemi**	**3.21**	**243**	SN	Sn	10 03 29.5	-0.8
HEF	**Hetta**	**3.55**	**278**	PN	Pn	10 02 55.9	-0.2
HEF				SG	Sb	10 03 48.2	+1.2
KLF	**Kolari**	**3.66**	**259**	PN	Pn	10 02 57.4	-0.1
KLF	**Kolari**	**3.66**	**259**	SN	Pn	10 02 57.4	-0.1
KTK1	**Kautokeino**	**3.74**	**287**	PN	Pn	10 02 58.9	+0.2
KTK1				SG	Sb	10 03 54.5	+2.0
PAJU	**Pajala**	**4.04**	**258**	SG	Sb	10 04 04.7	+3.5
TOF	**Tornio**	**4.08**	**242**	PG	Pb	10 03 12.8	+0.5
LANU	**Lannavaara**	**4.20**	**273**	SG	Sb	10 04 07.9	+2.2
ERTU	**Ertsjaerv**	**4.57**	**254**	SN	Sn	10 04 02.8	-1.0

*KRNET **15** 10:37:52.9±0.1, 40°.53N×73°.03E, h15km, mb3.1*
*NNC **15** 10:37:53.7±3.4, 40°.54N×72°.99E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=27.6km s-min=11.7km az=176.0*
*SOME **15** 10:37:54.4, 40°.53N×73°.05E, h10km*
*ISU **15** 10:37:54.4, 40°.36N×72°.96E, h6km*
*KNET **15** 10:37:57.5±0.5, 40°.70N×73°.05E, h7km±9km, ml2.8, Error ellipse: s-maj=16.6km s-min=4.1km az=85.0*
ISC 15 10:37:51.0±1.1, 40°.45N±0°.03×73°.21E±0°.02, h4km±10km, n50, σ1§52/95, 45C-19D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.33**	**284**	⇑*i*P	**Pg**	**10 37 56.9**	**-0.5**
OHH				⇑*i*S	**Sg**	**10 37 59.6**	**-2.1**
SFK	**Sufi-Kurgan**	**0.49**	**152**	⇑*e*P	**Pn**	**10 38 04.2**	**-0.8**
SFK				⇑*e*S	**Sb**	**10 38 13.3**	**+3.4**
SALK	**Salom-Alik**	**0.64**	**47**	⇑*e*P	**Pn**	**10 38 06.2**	**-0.9**
SALK				⇑*e*S	**Sb**	**10 38 15.8**	**+1.5**
ARSB	**Arslanbob**	**0.89**	**349**	⇑*i*P	**Pg**	**10 38 08.5**	**+0.4**
ARSB				⇑*e*S	**Sg**	**10 38 19.2**	**-0.5**
FRG	**Fergana**	**1.09**	**267**	P	**Pg**	**10 38 12.3**	**+0.5**
FRG				S	**Sg**	**10 38 25.6**	**-0.3**
NAM	**Namangan**	**1.30**	**295**	P	**Pg**	**10 38 17.3**	**+1.5**
NAM				S	**Sn**	**10 38 34.3**	**+0.5**
DRK	**Karamyk**	**1.45**	**229**	⇑*i*P	**Pg**	**10 38 18.8**	**0.0**
DRK				⇑*i*S	**Sg**	**10 38 38.2**	**+0.7**
ARK	**Arkit**	**1.65**	**326**	⇑*i*P	**Pn**	**10 38 21.0**	**+0.1**
ARK				⇑*i*S	**Sn**	**10 38 40.6**	**-2.0**
ARLS	**Aral**	**1.65**	**30**	⇑*e*P	**Pg**	**10 38 23.1**	**+0.6**
ARLS				⇑*i*S	**Sg**	**10 38 45.0**	**+1.1**
MINT	**Mingtut**	**1.70**	**271**	P	**Pb**	**10 38 23.3**	**+0.4**
MINT				S	**Sb**	**10 38 44.8**	**+0.1**
AML	**Almayashu**	**1.72**	**12**	⇓P	**Pg**	**10 38 25.4**	**+1.3**
43nm,0.2s,SNR=44							
AML				⇑S	**Sg**	**10 38 48.3**	**+2.0**
133nm,0.3s							
AML	**Almayashu**	**1.72**	**12**	⇑*i*P	**Pg**	**10 38 24.4**	**+0.4**
AML				⇑*i*S	**Sb**	**10 38 46.4**	**+0.7**
BTK	**Batken**	**1.87**	**259**	⇑*i*P	**Pb**	**10 38 25.4**	**-0.4**
BTK				⇑*i*S	**Sb**	**10 38 48.6**	**-0.9**
TRKS	**Terek-Say**	**1.90**	**305**	⇓*i*P	**Pn**	**10 38 24.3**	**-0.1**
TRKS				⇓*i*S	**Sn**	**10 38 46.5**	**-2.5**
UCH	**Uchtor**	**2.03**	**29**	⇑*e*P	**Pb**	**10 38 29.7**	**+0.9**
UCH				⇑*i*S	**Sg**	**10 38 56.1**	**-0.3**
MNAS	**Manas**	**2.11**	**346**	⇓*i*P	**Pb**	**10 38 29.0**	**-0.9**
MNAS				⇓*i*S	**Sn**	**10 38 54.8**	**+0.8**
EKS2	**Erkin-Say**	**2.25**	**11**	⇓P	**Pg**	**10 38 34.9**	**+0.7**
7.9nm,0.2s,SNR=6.8							
EKS2				⇓S	**Sg**	**10 39 04.5**	**+1.1**
15nm,0.3s							
EKS2	**Erkin-Say**	**2.25**	**11**	⇑*i*P	**Pb**	**10 38 32.0**	**-0.4**
EKS2				⇑*i*S	**Sb**	**10 38 59.7**	**-1.0**
MRKS	**Merke**	**2.30**	**0**	*e*P	**Pg**	**10 38 35.5**	**+0.5**
13nm,0.3s							
MRKS				*e*S	**Sg**	**10 39 05.7**	**+0.9**
166nm,0.4s							
AAK	**Ala-Archa**	**2.39**	**23**	⇓P	**Pg**	**10 38 37.6**	**+0.8**
14nm,0.4s,SNR=21							
AAK				⇑S	**Sg**	**10 39 08.9**	**+1.0**
27nm,0.3s							
AAK	**Ala-Archa**	**2.39**	**23**	⇑*i*P	**Pb**	**10 38 34.3**	**-0.5**
AAK				⇑*i*S	**Sb**	**10 39 04.1**	**-0.6**
KBK	**Karagaybulak**	**2.57**	**30**	⇑P	**Pg**	**10 38 41.0**	**+0.8**
14nm,0.4s,SNR=6.6							
KBK				⇓S	**Sg**	**10 39 13.8**	**+0.4**
49nm,0.4s							
KBK	**Karagaybulak**	**2.57**	**30**	⇑*i*P	**Pb**	**10 38 37.0**	**-0.7**
KBK				⇑*i*S	**Sb**	**10 39 08.7**	**-1.0**
FRU1	**Bishkek**	**2.59**	**24**	⇑*i*P	**Pb**	**10 38 37.2**	**-0.9**
FRU1				⇑*i*S	**Sb**	**10 39 09.0**	**-1.4**
PSK	**Pskem**	**2.60**	**306**	P	**Pb**	**10 38 39.1**	**+0.8**
PSK				S	**Sg**	**10 39 14.9**	**+0.4**
GAR	**Garm**	**2.66**	**238**	⇑*i*P	**Pb**	**10 38 37.2**	**-2.0**
GAR				⇑*i*S	**Sn**	**10 39 09.0**	**+1.5**
CHMS	**Chumysh**	**2.80**	**24**	⇑Pg	**Pg**	**10 38 44.1**	**-0.6**
7.2nm,0.5s							
CHMS				⇑Lg	Lg	10 39 24.1	
15nm,0.6s							
CHMS	**Chumysh**	**2.80**	**24**	⇓*i*P	**Pb**	**10 38 39.9**	**-1.7**
CHMS				⇓*i*S	**Sb**	**10 39 13.7**	**-2.6**
BOOM	**Boomskoye usch**	**2.90**	**44**	⇑*i*P	**Pb**	**10 38 41.5**	**-1.9**
BOOM				⇑*i*S	**Sb**	**10 39 17.6**	**-1.6**
ULHL	**Ulahol**	**2.91**	**51**	⇑*i*P	**Pb**	**10 38 42.7**	**-0.9**
ULHL				⇑*i*S	**Sb**	**10 39 18.4**	**-1.2**
IUG	**Iuzhnay**	**2.93**	**306**	*e*P	**Pb**	**10 38 45.5**	**+1.5**
71nm,0.3s							
IUG				*e*S	**Sb**	**10 39 22.2**	**+1.9**
288nm,0.5s							
USP	**Ospenovka**	**2.98**	**18**	⇓P	**Pb**	**10 38 45.0**	**+0.3**
5.5nm,0.3s							
USP	**Ospenovka**	**2.98**	**18**	⇓*i*P	**Pb**	**10 38 42.1**	**-2.6**
USP				⇓*i*S	**Sn**	**10 39 17.5**	**+2.1**
TKM2	**Tokmak 2**	**3.05**	**35**	⇑P	**Pb**	**10 38 47.5**	**+1.5**
2.5nm,0.2s,SNR=5.2							
TKM2	**Tokmak 2**	**3.05**	**35**	⇑Pg	**Pg**	**10 38 50.1**	**+0.7**
3.3nm,0.5s							
TKM2				⇑Lg	Lg	10 39 30.3	
9.9nm,0.6s							
TKM2	**Tokmak 2**	**3.05**	**35**	⇑*i*P	**Pb**	**10 38 44.0**	**-2.0**
TKM2				⇑*i*S	**Sb**	**10 39 20.9**	**-2.9**
KUMR	**Kumaryk**	**3.10**	**286**	P	**Pb**	**10 38 45.3**	**-1.3**
KUMR				S	**Sb**	**10 39 27.9**	**+3.1**
CHM	**Chimkent**	**3.29**	**306**	*e*P	**Pg**	**10 38 52.9**	**-1.2**
58nm,0.1s							
CHM				*e*S	**Sg**	**10 39 35.3**	**-1.4**
326nm,0.4s							
KST	**Kastek**	**3.31**	**38**	*e*P	**Pg**	**10 38 56.1**	**+1.6**
5.0nm,0.5s							
KST				*e*S	**Sg**	**10 39 40.1**	**+2.7**
17nm,0.7s							
KK31	**Karatay Array**	**3.33**	**324**	⇑Pg	**Pb**	**10 38 51.8**	**+1.1**
4.0nm,0.3s,baz=145,slow=16,SNR=12							
KK31				⇓Lg	Lg	10 39 33.0	
33nm,0.7s,baz=145,slow=30,SNR=5.3							
KKAR	**Karatay Array**	**3.33**	**324**	⇓*i*P	**Pn**	**10 38 45.4**	**+1.4**
KKAR				⇓*i*S	**Sn**	**10 39 23.6**	**-0.4**
KDJ	**Kajisay**	**3.43**	**59**	⇓*i*P	**Pb**	**10 38 50.3**	**-2.2**
KDJ				⇓*i*S	**Sb**	**10 39 31.7**	**-3.0**
MTBS	**Maitube**	**3.60**	**41**	*e*P	**Pg**	**10 39 02.3**	**+2.2**
2.3nm,0.3s							
MTBS				*e*S	**Sg**	**10 39 51.2**	**+4.4**
16nm,0.5s							
BRLS	**Borolday**	**3.61**	**317**	*e*P	**Pb**	**10 38 56.5**	**+1.2**
14nm,0.3s							
BRLS				*e*S	**Sb**	**10 39 41.1**	**+1.5**
33nm,0.3s							
TNSS	**Tian-Shan**	**3.81**	**46**	*e*P	**Pg**	**10 39 04.3**	**+0.3**
2.1nm,0.5s							
TNSS				*e*S	**Sg**	**10 39 55.1**	**+1.6**
5.7nm,0.5s							
MDOK	**Medeo**	**3.95**	**45**	*e*P	**Pg**	**10 39 07.5**	**+0.8**
3.0nm,0.5s							
MDOK				*e*S	**Sg**	**10 39 60.0**	**+2.1**
7.8nm,0.8s							
KTBS	**Karatobe**	**4.16**	**37**	*e*P	**Pg**	**10 39 11.1**	**+0.4**
2.7nm,0.6s							
KTBS				*e*S	**Sg**	**10 40 06.4**	**+1.7**
8.1nm,0.7s							
BTLS	**Baital**	**4.63**	**7**	*e*P	**Pg**	**10 39 17.3**	**-2.4**
1.0nm,0.3s							
BTLS				*e*S	**Sg**	**10 40 17.2**	**-2.5**
8.3nm,1.0s							
SATY	**Saty**	**4.68**	**54**	*e*P	**Pg**	**10 39 20.1**	**-0.6**
2.2nm,0.3s							
SATY				*e*S	**Sg**	**10 40 21.4**	**0.0**
9.0nm,1.0s							
KPKS	**Kokpek**	**5.08**	**52**	*e*P	**Pg**	**10 39 28.0**	**-0.3**
1.6nm,0.4s							
KPKS				*e*S	**Sg**	**10 40 35.3**	**+1.3**
6.1nm,0.4s							

*IDC **15** 10:47:59.7±1.2, 17°.99S×177°.97W, h578km±14km, mb3.6/14, mbtmp4.6/17, Error ellipse: s-maj=13.7km s-min=10.7km az=160.0*
*NEIC **15** 10:47:59.0±1.4, 18°.1S±0°.1×177°.78W±0°.07, h567km±8km, mb4.6/30, Error ellipse: s-maj=19.2km s-min=8.8km az=169.0*
ISC 15 10:47:57.9±0.5, 17°.99S±0°.09×177°.90W±0°.07, h550km, n83, σ1§53/84, mb4.5/36, 5C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.66**	**357**	P	**P**	**10 49 19.9**	**+2.4**
MSVF	**Nonsavu**	**3.86**	**273**	P	**P**	**10 49 22.8**	**+3.9**
MSVF	**Nonsavu**	**3.86**	**273**	P	**P**	**10 49 23.2**	**+4.3**
209nm,0.7s,baz=119,slow=6.3,SNR=222							
AFI	**Afiamalu**	**7.15**	**56**	P	**P**	**10 49 48.4**	**+0.8**
PINNC	**Pines Island,**	**14.49**	**249**	P	**P**	**10 51 02.4**	**+0.1**
DZM	**Mont Dzumac**	**15.26**	**252**	P	**P**	**10 51 11.6**	**+1.4**
DZM				IAmb	IAmb	10 51 19.6	
comp=Z,27nm,1.4s							
DZM	**Mont Dzumac**	**15.26**	**252**	P	**P**	**10 51 11.3**	**+1.0**
comp=Z,6.7nm,0.5s,baz=79,slow=19,SNR=12							
KOUNC	**Koumac, New Ca**	**17.01**	**259**	P	**P**	**10 51 27.9**	**+1.0**
KOUNC				IAmb	IAmb	10 51 28.9	
comp=Z,24nm,0.8s							
RAR	**Rarotonga**	**17.38**	**104**	P	**P**	**10 51 31.2**	**+1.0**
comp=Z,13nm,0.9s,baz=267,slow=4.7,SNR=4.6							
KUZ	**Kuaotunu**	**19.52**	**195**	P	**P**	**10 51 51.3**	**+1.8**
WIAZ	**Waiheke Island**	**19.72**	**197**	P	**P**	**10 51 53.6**	**+2.3**
ETAZ	**East Tamaki Re**	**19.92**	**197**	P	**P**	**10 51 55.6**	**+2.4**
MKAZ	**Moumakai**	**20.00**	**196**	P	**P**	**10 51 55.9**	**+2.0**
WTAZ	**Waiatarua**	**20.00**	**198**	P	**P**	**10 51 56.0**	**+2.0**
HAZ	**Te Kaha**	**20.06**	**190**	P	**P**	**10 51 53.9**	**-0.5**
AWAZ	**Awhitu Peninsu**	**20.11**	**198**	P	**P**	**10 51 57.0**	**+2.1**
RUGZ	**Raukumara Rang**	**20.28**	**190**	P	**P**	**10 51 56.6**	**0.0**
TWGZ	**Tauwhareparae**	**20.44**	**189**	P	**P**	**10 51 58.6**	**+0.8**
MWZ	**Matawai**	**20.66**	**190**	P	**P**	**10 51 58.5**	**-1.4**
URZ	**Urewera**	**20.66**	**191**	P	**P**	**10 51 58.3**	**-1.6**
comp=Z,14nm,0.5s,baz=25,slow=1.3,SNR=30							
comp=Z,14nm,0.5s							
MKRZ	**Makatiti**	**20.67**	**193**	P	**P**	**10 51 56.3**	**-3.7**
OTVZ	**Oturere**	**21.83**	**194**	P	P	10 51 59.7	-11
BHW	**Baring Head**	**24.15**	**193**	P	**P**	**10 52 29.3**	**-1.7**
PLWZ	**Palliser**	**24.23**	**193**	P	**P**	**10 52 31.1**	**-0.6**
PPT	**Papeete**	**26.97**	**94**	P	**P**	**10 52 55.7**	**-0.5**
comp=Z,14nm,0.7s,baz=135,slow=14,SNR=4.0							
comp=Z,14nm,0.7s							
WHZ	**Wether Hill Ro**	**30.21**	**200**	P	**P**	**10 53 24.3**	**+0.3**
CTAO	**Charters Tower**	**33.91**	**261**	P	**P**	**10 53 55.9**	**0.0**
CTAO				IAmb	IAmb	10 53 56.6	
comp=Z,14nm,0.8s							
CAN	**Canberra**	**34.04**	**233**	P	**P**	**10 53 56.7**	**-0.1**
CAN				IAmb	IAmb	10 53 58.2	
comp=Z,38nm,1.5s							
PMG	**Port Moresby**	**34.95**	**279**	P	**P**	**10 54 05.8**	**+1.2**
COEN	**Coen**	**37.59**	**270**	P	**P**	**10 54 26.0**	**-0.3**
STKA	**Stephens Creek**	**39.02**	**241**	P	**P**	**10 54 38.4**	**+0.7**
STKA	**Stephens Creek**	**39.02**	**241**	P	**P**	**10 54 37.1**	**-0.6**
comp=Z,8.0nm,0.5s,baz=92,slow=9.1,SNR=20							
comp=Z,8.0nm,0.5s							
WR0	**Warramunga Arr**	**44.90**	**260**	P	**P**	**10 55 23.6**	**-0.6**
WR0				IAmb	IAmb	10 55 25.1	
comp=Z,11nm,1.1s							
WB0	**Warramunga Arr**	**45.06**	**260**	P	**P**	**10 55 25.0**	**-0.5**
WB0				IAmb	IAmb	10 55 25.5	
comp=Z,14nm,0.7s							
WB2	**Warramunga Arr**	**45.08**	**260**	P	**P**	**10 55 24.9**	**-0.7**
WB2				IAmb	IAmb	10 55 25.7	
comp=Z,15nm,0.6s							
WRAB	**Tennant Creek**	**45.08**	**260**	P	**P**	**10 55 24.9**	**-0.7**
WRAB				IAmb	IAmb	10 55 25.6	
comp=Z,13nm,0.6s							
WRA	**Warramunga Arr**	**45.09**	**260**	P	**P**	**10 55 24.4**	**-1.3**
WRA	**Warramunga Arr**	**45.09**	**260**	P	**P**	**10 55 24.6**	**-1.0**
comp=Z,8.8nm,0.5s,baz=96,slow=7.3,SNR=316							
WRA				PcP	**PcP**	**10 56 53.7**	**-0.9**
comp=Z,1.5nm,0.8s,baz=91,slow=3.6,SNR=3.8							
WRA				S	**S**	**11 01 21.6**	**-3.6**
comp=Z,0.3nm,0.7s,baz=96,slow=12,SNR=2.4							
comp=Z,8.8nm,0.5s							
AS31	**Alice Springs**	**45.23**	**254**	P	**P**	**10 55 26.8**	**0.0**
AS31				IAmb	IAmb	10 55 27.6	
comp=Z,12nm,0.6s							
ASAR	**Alice Springs**	**45.23**	**254**	P	**P**	**10 55 26.8**	**0.0**
ASAR	**Alice Springs**	**45.23**	**254**	P	**P**	**10 55 26.6**	**-0.2**
comp=Z,39nm,0.6s,baz=87,slow=8.6,SNR=763							
ASAR				PcP	**PcP**	**10 56 54.5**	**-0.7**
comp=Z,1.8nm,0.6s,baz=101,slow=3.1,SNR=4.4							
ASAR				S	**S**	**11 01 24.6**	**-2.6**
comp=Z,1.9nm,0.8s,baz=92,slow=16,SNR=17							
comp=Z,39nm,0.6s							
MTN	**Manton Dam**	**49.28**	**268**	IAmb	IAmb	10 55 57.0	
comp=Z,19nm,0.7s							
KNRA	**Kununurra**	**50.96**	**264**	IAmb	IAmb	10 56 09.7	
comp=Z,13nm,0.7s							
FAKI	**Fak Fak**	**51.07**	**281**	P	**P**	**10 56 10.5**	**+0.2**
FAKI				IAmb	IAmb	10 56 13.9	
comp=Z,15nm,1.0s							
SOEI	**Soe**	**56.55**	**270**	P	**P**	**10 56 49.2**	**+0.1**
MBWA	**Marble Bar**	**58.52**	**256**	P	**P**	**10 57 02.0**	**-0.3**
TOLI2	**Tolitoli**	**63.20**	**281**	P	**P**	**10 57 33.4**	**+0.2**
MJAR	**Matsushiro Arr**	**68.26**	**323**	P	**P**	**10 58 03.3**	**-0.9**
comp=Z,2.4nm,0.6s,baz=142,slow=6.1,SNR=7.1							
comp=Z,2.4nm,0.6s							
UGM	**Wanagama**	**70.13**	**268**	P	**P**	**10 58 15.7**	**-0.3**
QSPA	**South Pole Qui**	**72.07**	**180**	P	**P**	**10 58 26.2**	**-0.3**
QSPA	**South Pole Qui**	**72.07**	**180**	P	**P**	**10 58 27.3**	**+0.8**
comp=Z,6.6nm,0.7s,baz=320,slow=0.4,SNR=33							
comp=Z,6.6nm,0.7s							
YULB	**Yu-li**	**72.22**	**303**	P	**P**	**10 58 27.2**	**-0.8**
YULB				IAmb	IAmb	10 58 36.4	
comp=Z,11nm,1.0s							
TPUB	**Ta-pu**	**72.71**	**302**	P	**P**	**10 58 29.7**	**-1.1**
KSM	**Kuching**	**73.17**	**277**	P	**P**	**10 58 33.3**	**-0.3**
KSM				IAmb	IAmb	10 58 35.0	
comp=Z,20nm,0.8s							
PETK	**Petropavlovsk-**	**73.88**	**345**	P	**P**	**10 58 36.0**	**-0.7**
comp=Z,10nm,0.9s,baz=110,slow=7.6,SNR=7.7							
comp=Z,10nm,0.9s							
KSRS	**Korea Array**	**75.08**	**318**	P	**P**	**10 58 42.9**	**-1.0**
comp=Z,1.2nm,0.7s,baz=128,slow=6.2,SNR=5.4							
comp=Z,1.2nm,0.7s							
OHAK	**Old Harbor**	**77.69**	**13**	P	**P**	**10 58 57.7**	**-0.1**
OHAK				IAmb	IAmb	10 59 02.0	
comp=Z,25nm,1.5s							
NJ2	**Nanjing**	**78.36**	**309**	*e*P	**P**	**10 59 03.6**	**+1.7**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.6s							
MDJ	**Mudanjiang**	**78.53**	**325**	P	**P**	**10 59 02.9**	**+0.4**
BNX	**BinXian**	**80.44**	**325**	⇓P	**P**	**10 59 12.3**	**-0.3**
BNX				pmax	pmax		
comp=Z,9.0nm,0.8s							
BELA	**Belgrano 2**	**82.03**	**173**	P	**P**	**10 59 19.0**	**-1.3**
LYN	**LuoYang**	**84.25**	**309**	*e*P	**P**	**10 59 33.6**	**+1.5**
LYN				pmax	pmax		
comp=Z,22nm,0.5s							
LYN				pmax	pmax		
comp=Z,92nm,5.2s							
RPSI	**Rantau Prapat**	**84.34**	**275**	P	**P**	**10 59 31.4**	**-1.6**
RPSI				IAmb	IAmb	10 59 33.4	
comp=Z,8.5nm,0.9s							
TXAR	**Lajitas Array**	**85.63**	**57**	P	**P**	**10 59 39.4**	**+0.3**
comp=Z,0.7nm,0.8s,baz=240,slow=4.0,SNR=8.1							
comp=Z,0.7nm,0.8s							
ILAR	**Eielson Array**	**85.86**	**13**	P	**P**	**10 59 37.8**	**-1.4**
comp=Z,0.5nm,0.4s,baz=221,slow=5.1,SNR=17							
comp=Z,0.5nm,0.4s							
HHC	**Hu-ho-hao-te**	**87.67**	**314**	*e*P	**P**	**10 59 52.3**	**+3.9**

ellipse: s-maj=2.9km s-min=0.8km az=36.0
NEIC ***15*** *11:00:05.4±1.8, 37°.62N±0°.03×20°.51E±0°.06, h10km±1km, mb4.6/16, Error ellipse: s-maj=8.6km s-min=4.5km az=270.0*
MCSM ***15*** *11:00:05.6±0.6, 38°N±4°×2°1E±°, h8km±4km, mB4.9, mb4.5, MLv4.6, Mw(mB)4.2*
THE ***15*** *11:00:05.4, 37°.70N×20°.57E, h12km, ML4.3/13, Error ellipse: s-maj=1.0km s-min=0.4km az=56.0*
PDG ***15*** *11:00:05.0±0.3, 37°.67N×20°.43E, h14km±1km, ML4.5/12, Error ellipse: s-maj=0.8km s-min=1.1km az=0.0*
MED_RC ***15*** *11:00:06.0±0.4, 37°.72N×20°.58E, h20km±1km, MW4.6/35, Moment Tensor Solution.Mantle waves: s35,c51; Duration: 1!0 Moment tensor: Scale 10^16^Nm; Mrr-0.27±.09; Mθθ 1.08±.07; Mφφ-0.80±.05; Mrθ-0.06±.07; Mθφ0.57±.04; Mφr0.02±.07; Best double couple: M0 1.10000×10^16^ NP1:φs119.00000°, δ89.00000°, λ-4.00000°. NP2:φs209.00000°, δ86.00000°, λ-179.00000°. Principal axes: T 1.2400, Plg2.0000°, Azm164.0000°; N -0.2700, Plg86.0000°, Azm290.0000°; P -0.9600, Plg3.0000°, Azm74.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NAO ***15*** *11:00:06.3, 37°.68N×20°.53E, h10km, mb4.9*
TIR ***15*** *11:00:06.2, 37°.80N×20°.10E, h29km±1km, Md3.8, Ml4.3*
BEO ***15*** *11:00:07.4±0.6, 37°.74N×20°.49E, h11km±6km, ML4.2/5*
ISC 15 11:00:05.2±0.7, 37°.66N±0°.03×20°.52E±0°.03, h11km±4km, n370, σ1!79/397, mb4.5/37, MS3.8/54, 38C-21D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.24**	**90**	P	**Pg**	**11 00 09.6**	**-0.6**
KRI1				S	**Sg**	**11 00 13.0**	**-0.5**
LTHK	**Lithakia**	**0.26**	**79**	P	**Pg**	**11 00 09.8**	**-0.7**
LTHK				S	**Sg**	**11 00 13.4**	**-0.7**
	173μm,0.5s						
LTHK	**Lithakia**	**0.26**	**79**	P	**Pg**	**11 00 10.3**	**-0.2**
LTHK				S	**Sg**	**11 00 14.1**	**0.0**
LTHK				AML	AML	11 00 15.0	
LTHK				AML	AML	11 00 16.2	
PSDA	**Pessada-Kefalo**	**0.46**	**7**	P	**Pg**	**11 00 13.7**	**-0.5**
PSDA				S	**Sg**	**11 00 20.4**	**+0.2**
	67μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.46**	**7**	P	**Pg**	**11 00 14.0**	**-0.2**
PSDA				S	**Sb**	**11 00 21.1**	**-0.9**
RTZL	**Ratzakli, Kefa**	**0.46**	**26**	P	**Pg**	**11 00 13.8**	**-0.4**
RTZL				S	**Sg**	**11 00 19.9**	**-0.5**
VLS	**Valsamata**	**0.52**	**6**	P	**Pg**	**11 00 14.8**	**-0.5**
VLS				S	**Sg**	**11 00 21.7**	**-0.5**
	49μm,0.3s						
VLS	**Valsamata**	**0.52**	**6**	P	**Pg**	**11 00 14.9**	**-0.4**
VLS				S	**Sg**	**11 00 22.5**	**+0.3**
VLS				AML	AML	11 00 23.4	
VLS				AML	AML	11 00 24.4	
	comp=N,73624μm,0.3s						
LXR1	**Lixouri, Cepha**	**0.54**	**353**	P	**Pg**	**11 00 15.5**	**-0.3**
LXR1				S	**Sg**	**11 00 23.1**	**+0.1**
LXRA	**Lixouri, Kepha**	**0.54**	**353**	P	**Pg**	**11 00 15.8**	**+0.1**
LXRA				S	**Sg**	**11 00 23.4**	**+0.4**
DMLN	**Damoulianata-K**	**0.59**	**349**	P	**Pg**	**11 00 16.1**	**-0.6**
DMLN				S	**Sg**	**11 00 24.3**	**-0.1**
	comp=N,70μm,0.7s						
DMLN	**Damoulianata-K**	**0.59**	**349**	P	**Pg**	**11 00 16.3**	**-0.3**
DMLN				S	**Sg**	**11 00 24.8**	**+0.3**
VSK1	**VASILIKIADES**	**0.75**	**3**	P	**Pg**	**11 00 18.8**	**-0.9**
VSK1				S	**Sg**	**11 00 29.6**	**+0.1**
	comp=N,32μm,0.5s						
FSK	**Fiskardo**	**0.80**	**3**	P	**Pg**	**11 00 19.4**	**-1.2**
FSK				S	**Sg**	**11 00 31.0**	**0.0**
	comp=N,27μm,0.6s						
FSK	**Fiskardo**	**0.80**	**3**	P	**Pg**	**11 00 19.7**	**-0.9**
FSK				S	**Sg**	**11 00 31.1**	**0.0**
FSK				AML	AML	11 00 35.7	
	comp=E,40861μm,0.7s						
FSK				AML	AML	11 00 37.4	
	comp=N,36031μm,0.9s						
RLS	**Riolos of Patr**	**0.85**	**62**	P	**Pg**	**11 00 20.0**	**-1.6**
RLS				S	**Sg**	**11 00 31.7**	**-1.0**
	comp=N,23μm,0.6s						
RLS	**Riolos of Patr**	**0.85**	**62**	P	**Pg**	**11 00 20.7**	**-0.9**
RLS				S	**Sb**	**11 00 33.2**	**-0.1**
RLS				AML	AML	11 00 34.3	
	comp=N,50118μm,0.7s						
RLS				AML	AML	11 00 35.2	
	comp=E,43296μm,0.5s						
AMT	**Artemida-Makis**	**0.95**	**97**	P	**Pg**	**11 00 22.8**	**-0.8**
AMT				S	**Sg**	**11 00 35.3**	**-0.7**
AMT				AML	AML	11 00 41.0	
	comp=E,69867μm,0.3s						
AMT				AML	AML	11 00 41.6	
	comp=N,87973μm,0.5s						
EVGI	**Lefkada island**	**0.96**	**6**	P	**Pg**	**11 00 22.3**	**-1.5**
EVGI				S	**Sg**	**11 00 36.1**	**-0.3**
	comp=N,20μm,0.4s						
EVGI	**Lefkada island**	**0.96**	**6**	P	**Pg**	**11 00 22.7**	**-1.1**
EVGI				S	**Sg**	**11 00 36.1**	**-0.3**
DRO	**Drossia**	**0.99**	**73**	P	**Pg**	**11 00 23.4**	**-0.9**
DRO				S	**Sb**	**11 00 37.9**	**+0.6**
DRO				AML	AML	11 00 41.8	
	comp=E,44626μm,0.5s						
DRO				AML	AML	11 00 43.3	
	comp=N,49403μm,0.6s						
DRAG	**Dragano-Lefkad**	**1.02**	**2**	P	**Pb**	**11 00 23.6**	**-1.3**
DRAG				S	**Sb**	**11 00 38.3**	**0.0**
DRAG	**Dragano-Lefkad**	**1.02**	**2**	P	**Pb**	**11 00 23.7**	**-1.3**
NYDR	**Nydri-Lefkada**	**1.06**	**8**	P	**Pb**	**11 00 23.9**	**-1.6**
NYDR				S	**Sb**	**11 00 39.1**	**-0.3**
	comp=N,11μm,0.8s						
NYDR	**Nydri-Lefkada**	**1.06**	**8**	P	**Pb**	**11 00 24.5**	**-1.0**
LKD2	**Lefkada island**	**1.13**	**6**	P	**Pg**	**11 00 27.0**	**+0.1**
LKD2				AMP			
	comp=N,46nm,1.0s,baz=23						
LKD2	**Lefkada island**	**1.13**	**6**	P	**Pb**	**11 00 25.9**	**-0.9**
LKD2				S	**Sg**	**11 00 41.8**	**+0.1**
	comp=N,15μm,0.7s						
TSLK	**Tsoukalades, L**	**1.17**	**5**	P	**Pb**	**11 00 26.1**	**-1.2**
TSLK				S	**Sb**	**11 00 42.4**	**-0.1**
	comp=N,14μm,0.6s						
TSLK	**Tsoukalades, L**	**1.17**	**5**	P	**Pb**	**11 00 26.2**	**-1.1**
UPR	**University Cam**	**1.18**	**58**	P	**Pb**	**11 00 27.0**	**-0.6**
ITM	**Ithomi**	**1.22**	**113**		**Pn**	**11 00 27.8**	**-0.4**
ITM	**Ithomi**	**1.22**	**113**	P	**Pn**	**11 00 27.3**	**-0.9**
ITM				S	**Sb**	**11 00 43.7**	**-0.3**
	comp=N,9μm,0.9s						
ITM	**Ithomi**	**1.22**	**113**	P	**Pn**	**11 00 27.4**	**-0.7**
ITM				S	**Sb**	**11 00 43.9**	**-0.1**
ITM				AML	AML	11 00 54.0	
	comp=N,19712μm,0.9s						
ITM				AML	AML	11 00 55.4	
	comp=E,13877μm,1.3s						
PYL	**PYLOS**	**1.24**	**128**	P	**Pn**	**11 00 27.9**	**-0.6**
PYL				S	**Sg**	**11 00 45.2**	**+0.1**
	comp=E,6μm,0.5s						
PYL	**PYLOS**	**1.24**	**128**	P	**Pn**	**11 00 27.8**	**-0.6**
PYL				S	**Sb**	**11 00 44.1**	**-0.5**
PYL				AML	AML	11 00 48.6	
	comp=N,9223μm,0.4s						
PYL				AML	AML	11 00 48.8	
	comp=E,16529μm,0.6s						
EFP	**Efpalio**	**1.34**	**55**	P	**Pn**	**11 00 28.9**	**-0.9**
KLV	**Kalavryta, Ach**	**1.35**	**73**	P	**Pn**	**11 00 29.1**	**-0.9**
ANX	**Ano Chora**	**1.45**	**50**	P	**Pn**	**11 00 30.8**	**-0.5**
GUR	**Goura**	**1.47**	**79**	P	**Pn**	**11 00 31.4**	**-0.3**
IGT	**Igoumenitsa**	**1.87**	**356**	P	**Pn**	**11 00 37.8**	**+0.7**
IGT				AMP			
	comp=E,8.3nm,0.9s,baz=5.0						
IGT	**Igoumenitsa**	**1.87**	**356**	*e*Pn	**Pn**	**11 00 38.1**	**+0.9**
IGT				*e*Sn	**Sn**	**11 01 00.0**	**-0.8**
KEK	**Kerkira**	**2.12**	**345**		**Pn**	**11 00 41.4**	**+0.8**
SRN	**Sarande**	**2.25**	**350**	P	**Pn**	**11 00 43.2**	**+0.8**
SRN				AMP			
	comp=E,2.8nm,1.6s,baz=358						
LSK	**Leskovik**	**2.49**	**1**	P	**Pn**	**11 00 47.1**	**+1.5**
LSK				AMP			
	comp=N,14nm,0.8s,baz=9.0						
NEST	**Nestorio**	**2.78**	**8**	P	**Pn**	**11 00 52.1**	**+2.4**
LIT	**Litokhoron**	**2.88**	**32**	P	**Pn**	**11 00 52.3**	**+1.3**
LIT				S	**Sg**	**11 01 41.1**	**+3.4**
LIT	**Litokhoron**	**2.88**	**32**		**Pn**	**11 00 52.9**	**+1.9**
LIT	**Litokhoron**	**2.88**	**32**	P	**Pn**	**11 00 52.9**	**+1.9**
SCTE	**Santa Cesarea**	**2.89**	**327**	P	**Pn**	**11 00 50.5**	**-0.6**
SCTE				AMP			
	comp=E,3.2nm,0.7s,baz=332						
SCTE	**Santa Cesarea**	**2.89**	**327**		**Pn**	**11 00 51.2**	**+0.1**
VLO	**Vlora**	**2.91**	**344**	P	**Pn**	**11 00 51.4**	**0.0**
KBN	**Korca**	**2.97**	**4**	AMP			
	comp=E,4.6nm,0.9s,baz=10.0						
FNA	**Florina**	**3.19**	**12**	P	**Pn**	**11 00 57.5**	**+2.3**
FNA				S	**Sg**	**11 01 46.7**	**-0.9**
FNA	**Florina**	**3.19**	**12**	P	**Pn**	**11 00 58.4**	**+3.2**
FNA				AMP			
	comp=N,1.4nm,1.2s,baz=18						
FNA	**Florina**	**3.19**	**12**		**Pn**	**11 00 56.7**	**+1.4**
FNA	**Florina**	**3.19**	**12**	*e*Pn	**Pn**	**11 00 57.1**	**+1.8**
FNA	**Florina**	**3.19**	**12**	P	**Pn**	**11 00 56.7**	**+1.4**
TIP	**Timpagrande**	**3.32**	**298**		**Pn**	**11 00 58.0**	**+0.9**
TIP	**Timpagrande**	**3.32**	**298**	⇑P	**Pn**	**11 00 59.2**	**+2.2**
TIP				⇑S	**Sn**	**11 01 36.5**	**0.0**
TIP	**Timpagrande**	**3.32**	**298**	P	**Pn**	**11 00 58.0**	**+0.9**
OHR	**Ohrid**	**3.45**	**4**	*e*Pn	**Pn**	**11 01 01.1**	**+2.2**
OHR	**Ohrid**	**3.45**	**4**	*i* Pn	**Pn**	**11 01 01.5**	**+2.6**
OHR	**Ohrid**	**3.45**	**4**	P	**Pn**	**11 01 01.5**	**+2.6**
CEL	**Celeste**	**3.70**	**281**		**Pn**	**11 01 02.4**	**+0.1**
CEL	**Celeste**	**3.70**	**281**	P	**Pn**	**11 01 02.7**	**+0.4**
TIR	**Tirane**	**3.72**	**352**	P	**Pn**	**11 01 04.3**	**+1.8**
TIR				AMP			
	comp=E,1.9nm,1.5s,baz=358						
TIR	**Tirane**	**3.72**	**352**		**Pn**	**11 01 03.0**	**+0.5**
TIR	**Tirane**	**3.72**	**352**	*e*Pn	**Pn**	**11 01 03.6**	**+1.1**
TIR	**Tirane**	**3.72**	**352**	⇑P	**Pn**	**11 01 04.1**	**+1.6**
TIR	**Tirane**	**3.72**	**352**	⇑P	**Pn**	**11 01 04.1**	**+1.6**
TIR	**Tirane**	**3.72**	**352**	P	**Pn**	**11 01 03.3**	**+0.8**
VAY	**Valandovo**	**3.98**	**23**	*e*Pn	**Pn**	**11 01 07.4**	**+1.3**
VAY	**Valandovo**	**3.98**	**23**	*i* Pn	**Pn**	**11 01 07.9**	**+1.7**
APE	**Apeiranthos**	**4.04**	**97**	⇑P	**Pb**	**11 01 12.2**	**-4.1**
APE	**Apeiranthos**	**4.04**	**97**	P	**Pb**	**11 01 12.2**	**-4.1**
SRS	**Serrai**	**4.19**	**34**	*e*Pn	**Pn**	**11 01 10.5**	**+1.4**
SRS				*e*Sn	**Sn**	**11 01 56.5**	**-1.5**
SRS	**Serrai**	**4.19**	**34**	P	**Pn**	**11 01 10.4**	**+1.4**
MATE	**Matera**	**4.21**	**316**	⇑P	**Pn**	**11 01 11.0**	**+1.9**
IDI	**Anoyia**	**4.25**	**123**	Pn	**Pn**	**11 01 13.2**	**+3.4**
IDI	**Anoyia**	**4.25**	**123**	Pn	**Pn**	**11 01 09.5**	**-0.3**
	comp=E,17nm,1.0s,baz=300,slow=8.1,SNR=1.9						
IDI				Sn	**Sn**	**11 01 55.0**	**-4.3**
	comp=E,4.9nm,0.3s,baz=348,slow=16,SNR=4.8						
CUC	**Castrocucco**	**4.35**	**304**		**Pn**	**11 01 13.3**	**+2.1**
PUK	**Puka**	**4.40**	**354**		**Pn**	**11 01 12.0**	**+0.1**
ULC	**Ulcinj**	**4.41**	**348**	⇑*i*Pn	**Pn**	**11 01 10.9**	**-1.1**
ULC				*i* Sn	**Sn**	**11 02 00.7**	**-2.6**
DRME	**Dracevica, Mon**	**4.63**	**348**	⇑*i*Pn	**Pn**	**11 01 14.6**	**-0.5**
DRME				*i* Sn	**Sn**	**11 02 06.3**	**-2.6**
KOCA	**Canakkale, Ayv**	**4.77**	**66**	P	**Pn**	**11 01 18.0**	**+1.1**
BUM	**Brajici-Budva**	**4.80**	**345**	⇓*i*Pn	**Pn**	**11 01 16.8**	**-0.6**
BUM				*i* Sn	**Sn**	**11 02 10.2**	**-2.8**
BOZC	**Bozcaada**	**4.84**	**62**	P	**Pn**	**11 01 15.1**	**-2.8**
URLA	**Izmir**	**4.85**	**80**	P	**Pn**	**11 01 18.5**	**+0.4**
VAE	**Valguarnera**	**4.85**	**270**	Pn	**Pn**	**11 01 19.0**	**+0.8**
	comp=E,10nm,0.4s,baz=45,slow=2.9,SNR=1.8						
VAE				Sn	**Sn**	**11 02 12.2**	**-2.1**
	comp=E,7.7nm,0.3s,baz=255,slow=20,SNR=4.0						
PDG	**Podgorica**	**4.86**	**349**	Pn	**Pn**	**11 01 18.9**	**+0.7**
PDG	**Podgorica**	**4.86**	**349**	⇑P	**Pn**	**11 01 18.8**	**+0.7**
PDG	**Podgorica**	**4.86**	**349**	⇑*i*Pn	**Pn**	**11 01 17.6**	**-0.6**
PDG				*i* Sn	**Sn**	**11 02 11.5**	**-2.9**
GOAD	**anakkale-G¶**	**4.89**	**58**	P	**Pn**	**11 01 20.3**	**+1.7**
RAFF	**Raffo Rosso**	**4.92**	**267**		**Pn**	**11 01 18.6**	**-0.4**
PVY	**Plav**	**4.95**	**355**	⇑*i*Pn	**Pn**	**11 01 18.7**	**-0.8**
PVY				*i* Sn	**Sn**	**11 02 15.3**	**-1.4**
HCY	**Herceg Novi**	**5.03**	**343**	*e*Pn	**Pn**	**11 01 18.7**	**-1.8**
EZN	**Ezine**	**5.03**	**63**	P	**Pn**	**11 01 21.4**	**+0.9**
	comp=E,45nm,1.3s,comp=E,0.2nm						
CEME	**Cevo**	**5.03**	**346**	⇓*i*Pn	**Pn**	**11 01 20.1**	**-0.5**
CEME				*i* Sn	**Sn**	**11 02 14.7**	**-4.0**
BOSS	**Bosilegrad**	**5.06**	**17**	*e*Pn	**Pn**	**11 01 22.4**	**+1.5**
WDD	**Wied Dalam**	**5.14**	**251**		**Pn**	**11 01 22.4**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**5.15**	**64**	P	**Pn**	**11 01 23.9**	**+1.6**
RDO	**Rodhopi**	**5.22**	**47**		**Pn**	**11 01 24.3**	**+1.2**
IVA	**Berane**	**5.23**	**355**	⇓*i*Pn	**Pn**	**11 01 22.5**	**-0.8**
IVA				*i* Sn	**Sn**	**11 02 20.1**	**-3.5**
NKME	**Niksic**	**5.24**	**347**	⇑*i*Pn	**Pn**	**11 01 22.5**	**-0.9**
NKME				*i* Sn	**Sn**	**11 02 20.9**	**-2.9**
KOME	**Kolasin**	**5.24**	**352**	⇓*i*Pn	**Pn**	**11 01 24.1**	**+0.6**
KOME				*i* Sn	**Sn**	**11 02 21.2**	**-2.7**
BARS	**Barje**	**5.24**	**11**	*e*Pn	**Pn**	**11 01 24.3**	**+0.8**
BARS				*e*Sn	**Sn**	**11 02 21.9**	**-2.0**
TREB	**Trebinje**	**5.32**	**342**	*e*Pn	**Pn**	**11 01 23.1**	**-1.3**
ALN	**Alexandroupoli**	**5.37**	**51**	P	**Pn**	**11 01 26.8**	**+1.6**
ALN	**Alexandroupoli**	**5.37**	**51**		**Pn**	**11 01 25.8**	**+0.7**
ALN	**Alexandroupoli**	**5.37**	**51**	P	**Pn**	**11 01 25.8**	**+0.7**
VTS	**Vitosha**	**5.37**	**22**	*e*Pn	**Pn**	**11 01 27.0**	**+1.7**
BRY	**Bratogost**	**5.45**	**345**	*e*Pn	**Pn**	**11 01 25.4**	**-1.0**
BRY	**Bratogost**	**5.45**	**345**	⇓*i*Pn	**Pn**	**11 01 25.4**	**-1.0**
BRY				*i* Sn	**Sn**	**11 02 25.7**	**-3.4**
SELS	**Selova**	**5.57**	**5**	*e*Pn	**Pn**	**11 01 28.5**	**+0.5**
SELS				*e*Sn	**Sn**	**11 02 29.7**	**-2.3**
SJES	**Sjenica**	**5.61**	**356**	*e*Pn	**Pn**	**11 01 29.3**	**+0.7**
SJES				*e*Sn	**Sn**	**11 02 31.5**	**-1.5**
SJES	**Sjenica**	**5.61**	**356**	*e*Pn	**Pn**	**11 01 28.5**	**-0.1**
STON	**Ston**	**5.63**	**338**	*e*Pn	**Pn**	**11 01 27.8**	**-1.0**
STON				*e*Sn	**Sn**	**11 02 29.2**	**-4.2**
STON	**Ston**	**5.63**	**338**	*e*Pn	**Pn**	**11 01 27.3**	**-1.5**
UPM	**Unac-Piva**	**5.67**	**348**	⇑*i*Pn	**Pn**	**11 01 28.9**	**-0.6**
UPM				*i* Sn	**Sn**	**11 02 31.0**	**-3.7**
PAOL	**Paolisi**	**5.71**	**308**		**Pn**	**11 01 31.2**	**+1.3**
PLE	**Pljevlja**	**5.73**	**352**	⇑*i*Pn	**Pn**	**11 01 29.6**	**-0.6**
PLE				*i* Sn	**Sn**	**11 02 33.0**	**-3.0**
KARP	**Karpathos**	**5.75**	**110**	P	**Pn**	**11 01 31.4**	**+1.0**
	comp=E,82nm,0.7s,comp=E,0.7nm						
ZAPS	**Zavoj**	**5.83**	**15**	*e*Pn	**Pn**	**11 01 33.3**	**+1.7**
IVAS	**Ivanjica**	**5.92**	**357**	*e*Pn	**Pn**	**11 01 32.6**	**-0.1**
IVAS				*e*Sn	**Sn**	**11 02 39.3**	**-1.2**
BOVS	**Bovan**	**6.04**	**8**	*e*Pn	**Pn**	**11 01 35.0**	**+0.7**
BOVS	**Bovan**	**6.04**	**8**	⇑P	**Pn**	**11 01 35.3**	**+1.0**
GRUS	**Gruza**	**6.22**	**1**	*e*Pn	**Pn**	**11 01 37.3**	**+0.4**
GRUS				*e*Sn	**Sn**	**11 02 44.9**	**-3.1**
TURN	**Turunc**	**6.23**	**96**	P	Pn	11 01 44.9	+7.9
BBLS	**Lazi&#263i**	**6.26**	**353**	*e*Pn	**Pn**	**11 01 36.3**	**-1.1**
BBLS				*e*Sn	**Sn**	**11 02 46.9**	**-2.0**
BBLS	**Lazi&#263i**	**6.26**	**353**	*e*Pn	**Pn**	**11 01 35.7**	**-1.7**
EDRB	**Edirne**	**6.36**	**47**	P	**Pn**	**11 01 40.7**	**+1.9**
DIVS	**Divibare**	**6.44**	**357**	*e*Pn	**Pn**	**11 01 40.0**	**0.0**
DIVS				*e*Sn	**Sn**	**11 02 50.4**	**-3.1**
HAPS	**Han Pijesak,BI**	**6.53**	**350**	*e*Pn	**Pn**	**11 01 41.3**	**+0.1**
ELND	**Elena**	**6.67**	**36**	⇑P	**Pn**	**11 01 45.5**	**+2.5**
INTR	**Introdacqua**	**6.69**	**313**	Pn	**Pn**	**11 01 45.9**	**+2.5**
TEKS	**Tekeris**	**6.92**	**354**	*e*Pn	**Pn**	**11 01 45.7**	**-0.8**
TEKS				*e*Sn	**Sn**	**11 03 00.5**	**-4.7**
TEKS	**Tekeris**	**6.92**	**354**	*e*Pn	**Pn**	**11 01 44.5**	**-2.0**
CTYL	**Yalikoy Yolu**	**7.11**	**55**	P	**Pn**	**11 01 49.9**	**+0.9**
	comp=E,52nm,1.2s,comp=E,0.3nm						
PASA	**Karahalli, USA**	**7.12**	**82**	P	Pn	11 01 56.9	+7.6
ULDT	**Uludag**	**7.16**	**67**	P	**Pn**	**11 01 54.4**	**+4.4**
MDVR	**Moldovita**	**7.17**	**7**	⇓P	**Pn**	**11 01 50.8**	**+0.8**
CAMP	**Campotosto**	**7.30**	**314**		**Pn**	**11 01 51.4**	**-0.5**
HERR	**Herculane**	**7.35**	**11**	⇑P	**Pn**	**11 01 52.8**	**+0.4**
A050A	**Klekovaca**	**7.45**	**337**	*e*Pn	**Pn**	**11 01 54.0**	**+0.2**
KLYT	**Kilyos**	**7.51**	**59**	P	**Pn**	**11 01 55.4**	**+0.9**
	comp=E,67nm,1.1s,comp=E,0.4nm						
BLY	**Banja Luka**	**7.51**	**342**	*e*Pn	**Pn**	**11 01 55.6**	**+1.0**
FDMO	**Fiordimonte**	**7.81**	**316**	Pn	**Pn**	**11 02 00.8**	**+2.1**
A051A	**Mrakovica**	**7.83**	**341**	*e*Pn	**Pn**	**11 01 57.1**	**-1.9**
GZR	**Gura Zlata**	**7.91**	**12**	⇓P	**Pn**	**11 02 01.3**	**+1.2**
GZR	**Gura Zlata**	**7.91**	**12**	⇓P	**Pn**	**11 02 01.3**	**+1.2**
BZS	**Buzias**	**7.99**	**6**	⇑P	**Pn**	**11 02 02.7**	**+1.6**
BZS	**Buzias**	**7.99**	**6**	P	**Pn**	**11 02 02.7**	**+1.6**
LOT	**Lotru**	**8.15**	**16**	⇓P	**Pn**	**11 02 05.1**	**+1.6**
SURR	**Surduc**	**8.18**	**8**	⇑P	**Pn**	**11 02 05.2**	**+1.5**
ARR	**Arges**	**8.29**	**21**	⇑P	**Pn**	**11 02 06.7**	**+1.3**
VOIR		**8.48**	**22**	⇑P	**Pn**	**11 02 09.2**	**+1.3**
VOIR		**8.48**	**22**	⇑P	**Pn**	**11 02 09.2**	**+1.3**
VOIR		**8.48**	**22**	P	**Pn**	**11 02 08.6**	**+0.7**
	comp=E,12nm,1.3s						
SIRR	**Siria**	**8.64**	**5**	⇑P	**Pn**	**11 02 10.8**	**+0.7**
MORH	**Mrgy, Hungar**	**8.66**	**351**	⇓P	**Pn**	**11 02 11.2**	**+0.9**
MORH	**Mrgy, Hungar**	**8.66**	**351**	P	**Pn**	**11 02 11.2**	**+0.9**
	comp=E,6.1nm,0.9s						
ISR	**Istrita**	**8.72**	**29**	P	**Pn**	**11 02 11.9**	**+0.8**
	comp=E,30nm,0.8s,comp=E,2μm						
MLR	**Muntele Rosu**	**8.81**	**26**		**Pn**	**11 02 14.3**	**+1.7**
MLR	**Muntele Rosu**	**8.81**	**26**	Pn	**Pn**	**11 02 09.9**	**-2.7**
	comp=E,0.2nm,0.3s,baz=202,slow=5.4,SNR=2.2						
MLR				LR	LR	11 05 42.9	
	comp=E,505nm,19.2s,baz=203,slow=39						
	comp=E,2.4nm,0.6s						
MLR	**Muntele Rosu**	**8.81**	**26**	⇑P	**Pn**	**11 02 14.9**	**+2.3**
MLR	**Muntele Rosu**	**8.81**	**26**	P	**Pn**	**11 02 14.9**	**+2.3**
MLR	**Muntele Rosu**	**8.81**	**26**	P	**Pn**	**11 02 13.3**	**+0.7**
	comp=E,37nm,1.4s						
CRES	**Cresnjevec Ost**	**8.99**	**337**	*e*Pn	**Pn**	**11 02 13.4**	**-1.5**
DOPR	**Dopca**	**9.06**	**22**	⇑P	**Pn**	**11 02 17.4**	**+1.6**
KEST	**Kesra**	**9.18**	**261**	Pn	**Pn**	**11 02 18.1**	**+0.6**
	comp=E,0.5nm,0.3s,baz=90,slow=5.1,SNR=3.4						
KEST				Sn	**Sn**	**11 03 58.8**	**-2.0**
	comp=E,0.4nm,0.3s,baz=60,slow=20,SNR=1.5						
KEST				LR	LR	11 06 05.7	
	comp=E,441nm,21.9s,baz=57,slow=39						
	comp=E,3.6nm,0.6s						
MARR	**Marisel-Cluj**	**9.21**	**11**	⇑P	**Pn**	**11 02 19.3**	**+1.3**
CEY	**Cerknica**	**9.26**	**333**	*e*Pn	**Pn**	**11 02 18.8**	**+0.2**
CEY				*e*Sn	**Sn**	**11 03 58.5**	**-4.3**
CEY	**Cerknica**	**9.26**	**333**	*e*Pn	**Pn**	**11 02 18.4**	**-0.2**
DRGR		**9.27**	**9**	⇑P	**Pn**	**11 02 20.4**	**+1.7**
DRGR		**9.27**	**9**	P	**Pn**	**11 02 20.4**	**+1.7**
OZUR		**9.30**	**23**	⇑P	**Pn**	**11 02 20.3**	**+1.2**
TURR	**Turia**	**9.33**	**24**	⇑P	**Pn**	**11 02 21.8**	**+2.2**
PLOR	**Plostina**	**9.38**	**27**	⇑P	**Pn**	**11 02 22.7**	**+2.5**
PLOR	**Plostina**	**9.38**	**27**	⇑P	**Pn**	**11 02 22.7**	**+2.5**
PLOR5	**Plostina Array**	**9.38**	**27**	P	**Pn**	**11 02 20.9**	**+0.7**
	comp=E,48nm,0.9s						
PLOR3	**Plostina Array**	**9.38**	**27**	P	**Pn**	**11 02 20.9**	**+0.7**
	comp=E,29nm,1.2s						
VRI	**Vrincioaia**	**9.42**	**28**	⇑P	**Pn**	**11 02 22.1**	**+1.4**
VRI	**Vrincioaia**	**9.42**	**28**	P	**Pn**	**11 02 22.1**	**+1.4**
VRI	**Vrincioaia**	**9.42**	**28**	P	**Pn**	**11 02 21.5**	**+0.8**
	comp=E,14nm,1.0s,comp=E,200nm						
MPLH	**Magyarpolny**	**9.75**	**348**	P	**Pn**	**11 02 25.7**	**+0.4**
	comp=E,33nm,0.9s						
SABO	**M.te Sabotino**	**9.78**	**330**	Pn	**Pn**	**11 02 26.2**	**+0.5**
SOKA	**Soboth**	**9.88**	**337**	*i* Pn	**Pn**	**11 02 26.4**	**-0.8**
	comp=E,9.7nm,0.6s						
SOKA				*e*Sn	**Sn**	**11 04 11.3**	**-6.8**
	comp=E,19nm,0.7s						
OBKA	**Obir**	**9.89**	**335**	*e*Pn	**Pn**	**11 02 27.6**	**+0.4**
	comp=E,6.2nm,0.3s						
OBKA				*e*Sn	**Sn**	**11 04 16.6**	**-1.6**
	comp=E,40nm,0.7s						
OBKA	**Obir**	**9.89**	**335**	*e*Pn	**Pn**	**11 02 25.6**	**-1.6**
TESR	**Tescani**	**9.95**	**25**	P	**Pn**	**11 02 28.5**	**+0.6**
	comp=E,11nm,1.2s						
ARSA	**Arzberg**	**10.27**	**341**	*e*Pn	**Pn**	**11 02 32.1**	**-0.2**
	comp=E,3.0nm,0.4s						
ARSA				*e*Sn	**Sn**	**11 04 22.

comp=N,300nm,21.6s
CLL AMS AMS 11 08 00.0
comp=E,600nm,20.4s
CLL Collm 14.65 341 P **Pn 11 03 32.7 +0.5**
comp=E,15nm,1.3s
SOC Sochi 15.72 62 *e*P **P 11 03 48.5 -1.9**
SOC *e* 11 06 45.5
SOC MLR MLR
comp=Z,104nm,14.0s
WLF Walferdange 15.84 324 Pn **Pn 11 03 49.7 +1.7**
WLF IAmb IAmb 11 03 55.8
comp=Z,44nm,1.2s
WLF Walferdange 15.84 324 P **Pn 11 03 49.7 +1.7**
WLF pmax pmax
comp=Z,44nm,1.2s
WLF Walferdange 15.84 324 *d*P **P 11 03 54.7 +3.0**
comp=Z,16nm,1.1s
SUW Suwalki 16.46 6 **Pn 11 03 55.4 -0.4**
SUW IAmb IAmb 11 04 00.0
comp=Z,74nm,1.0s
SUW Suwalki 16.46 6 P **Pn 11 03 55.4 -0.4**
SUW pmax pmax
comp=Z,73nm,1.0s
MNK Minsk 17.58 14 *i* P **Pn 11 04 06.0 -4.0**
comp=E,46nm,1.2s
MNK *i* P **Pn 11 04 06.0 -4.0**
comp=N,24nm,0.7s
MNK *i* P **Pn 11 04 06.0 -4.0**
comp=Z,21nm,1.1s,baz=200
MNK *i* PP **pwP 11 04 16.4 +0.5**
MNK *i* PPP PPP 11 04 24.4
MNK *i* S **Sn 11 07 20.3 -5.3**
MNK *i* SS **S 11 07 34.5 +1.1**
MNK *i* SSS SSS 11 07 48.2
MNK *i* LQ LQ 11 09 15.3
MNK *i* LR LR 11 10 31.4
MNK *i* LRM MLR 11 11 27.7
comp=N,432nm,15.7s
MNK *i* LRM MLR 11 11 35.0
comp=Z,168nm,16.7s
MNK *i* LRM MLR 11 11 49.5
comp=E,215nm,16.6s
MNK Minsk 17.58 14 *i* P **Pn 11 04 06.0 -4.0**
MNK *i* S **Sn 11 07 20.3 -5.3**
MNK pmax pmax
comp=E,46nm,1.2s
MNK pmax pmax
comp=Z,21nm,1.1s
MNK pmax pmax
comp=N,24nm,0.7s
MNK MLR MLR
comp=N,432nm,16.0s
MNK MLR MLR
comp=Z,168nm,17.0s
MNK MLR MLR
comp=E,215nm,17.0s
NACGM Naroch 17.77 12 *e*P **Pn 11 04 10.1 -2.2**
comp=E,1μm,0.9s
KIV Kislovodsk 17.90 62 *e*P **Pn 11 04 14.0 0.0**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,64nm,14.0s
KBZ Khabaz 18.00 63 P **P 11 04 15.5 -0.1**
comp=Z,0.1nm,0.3s,baz=284,slow=18,SNR=1.5
KBZ LR LR 11 13 09.0
comp=Z,167nm,18.1s,baz=266,slow=44
comp=Z,2.7nm,1.0s
KBZ Khabaz 18.00 63⇑ *e*P **P 11 04 17.9 +2.3**
KBZ pmax pmax
comp=Z,28nm,2.8s
PABE Paberze 18.00 6 P **Pn 11 04 13.7 -1.4**
PABE Paberze 18.00 6 *e*P **Pn 11 04 13.9 -1.2**
VORD Divnogorie 18.83 39 *e*P **P 11 04 23.9 -0.9**
VORD pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 18.92 38 *e*P **P 11 04 24.1 -1.7**
VSR pmax pmax
comp=Z,4.0nm,0.9s
GNI Garni 19.00 75 LR LR 11 13 20.4
comp=Z,307nm,18.2s,baz=264,slow=42
ESDC Sonseca Array 19.21 284 P **Pn 11 04 30.1 0.0**
comp=Z,0.1nm,0.3s,baz=82,slow=12,SNR=10
comp=Z,2.5nm,1.0s
VORR Voronezh 19.23 37 *e*P **Pn 11 04 31.2 +1.1**
VORR pmax pmax
comp=Z,57nm,0.4s
LPSR Galich'ya Gora 19.71 35 *e*P **P 11 04 33.0 -1.4**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 20.21 41 *e*P Pn 11 04 42.4 +0.6
VRH pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 20.58 27 LR LR 11 12 42.4
comp=Z,309nm,21.8s,baz=182,slow=37
OBN Obninsk 20.58 27 *e*P Pn 11 04 45.1 -1.0
OBN *e*PPP PPP 11 05 06.5
OBN *e* 11 08 57.6
OBN pmax pmax
comp=Z,32nm,1.2s
OBN MLR MLR
comp=Z,294nm,15.0s
MDT Midelt 21.06 264 P **P 11 04 49.7 +0.4**
comp=Z,3.4nm,0.7s,baz=80,slow=9.5,SNR=8.3
MDT LR LR 11 14 30.5
comp=Z,87nm,19.8s,baz=74,slow=41
comp=Z,3.4nm,0.7s
MTSE Matsula 21.18 5 *e*P **P 11 04 50.2 0.0**
VSU Vasula 21.21 9*c i*P **P 11 04 50.4 -0.1**
VSU pmax pmax
comp=Z,128nm,1.3s
AKT Akhty 21.29 71 *e*P **P 11 04 53.0 +1.3**
AKT pmax pmax
comp=Z,52nm,1.7s
PBRG Braganca 21.33 290 *e*P **P 11 04 54.1 +2.0**
MOS Moscow 21.45 27 *e*P **P 11 04 50.6 -2.6**
MOS *e* 11 05 11.7
MOS pmax pmax
comp=Z,32nm,0.7s
MOS MLR MLR
comp=Z,700nm,14.0s
MVO Moncorvo 21.53 288 *e*P **P 11 04 55.8 +1.5**
MTE Manteigas 21.93 286 *e*P **P 11 04 59.9 +1.3**
PVIS Viseu 22.19 287 *e*P **P 11 05 03.1 +1.7**
HFS Hagfors 22.91 351 P **P 11 05 07.5 -1.2**
comp=Z,8.0nm,0.7s,baz=163,slow=10,SNR=15
HFS LR LR 11 16 31.0
comp=Z,235nm,18.5s,baz=173,slow=43
comp=Z,8.0nm,0.7s
PFVI Vila Bisbo 23.28 278 *e*P **P 11 05 14.2 +1.4**
RAF Rauma 23.40 2 *e*P **P 11 05 13.2 -0.4**
EKA Eskdalemuir Ar 23.85 325 P **P 11 05 18.0 -0.2**
comp=Z,8.8nm,0.8s,baz=125,slow=10,SNR=11
comp=Z,8.8nm,0.8s
BELG Belogornoye 23.98 43 P **P 11 05 19.1 -0.3**
comp=Z,24nm,0.7s,baz=129,slow=2.0,SNR=7.8
BELG S S 11 09 22.1 -14
comp=Z,3.4nm,0.4s,baz=180,slow=19,SNR=1.2
BELG LR LR 11 14 41.4
comp=Z,90nm,19.9s,baz=247,slow=37
comp=Z,24nm,0.7s
BELG Belogornoye 23.98 43⇓ *e*P **P 11 05 20.7 +1.3**
BELG pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 24.06 7 P **P 11 05 19.4 -0.7**
FINES FINESS Array B 24.06 7 P **P 11 05 19.0 -1.1**
comp=Z,9.7nm,0.8s,baz=170,slow=9.9,SNR=34
FINES LR LR 11 15 49.9
comp=Z,605nm,18.5s,baz=194,slow=40
comp=Z,9.7nm,0.8s
FINES FINESS Array B 24.06 7 P **P 11 05 19.4 -0.7**
FIA1 FINESS Array S 24.06 7 P **P 11 05 19.3 -0.8**
NC405 NORSAR Array S 24.12 350 P **P 11 05 20.2 -0.5**
NB2 NORSAR Subarra 24.12 349 P **P 11 05 20.5 -0.3**
comp=Z,34nm,1.4s,baz=162,slow=9.3
NOA NORSAR Array B 24.12 349 P **P 11 05 20.2 -0.5**
comp=Z,8.6nm,1.1s,baz=154,slow=9.0,SNR=7.1
NOA LR LR 11 17 07.7
comp=Z,178nm,18.9s,baz=165,slow=43
comp=Z,8.6nm,1.1s
NC303 NORSAR Array S 24.28 349 P **P 11 05 22.3 +0.1**
NC303 IAmb IAmb 11 05 23.3
comp=Z,22nm,0.9s
KEF Keuruu 24.68 5 *e*P **P 11 05 25.8 +0.1**
VAF Ylistaro 25.45 2 *e*P **P 11 05 33.5 +0.9**
KLMR Klimovskoe 26.12 21 *e*P **P 11 05 37.0 -1.8**
KLMR pmax pmax
comp=Z,24nm,1.5s
JOF Joensuu 26.14 11 *e*P **P 11 05 40.6 +1.7**
KIRV Kirov 28.09 33 LR LR 11 17 24.7
comp=Z,236nm,18.6s,baz=235,slow=37
AKTO Aktyubinsk 29.50 52 LR LR 11 19 07.6
comp=Z,105nm,20.0s,baz=36,slow=39
TORD Torodi Ar. Bea 29.63 219 P **P 11 06 11.2 +0.7**
comp=Z,1.8nm,0.8s,baz=40,slow=8.7,SNR=9.8
TORD LR LR 11 19 13.0
comp=Z,117nm,20.3s,baz=21,slow=39
comp=Z,1.8nm,0.8s
ABKAR Akbulak array 30.54 55 P **P 11 06 18.4 +0.1**
ARTI Arti 31.34 41 LR LR 11 18 25.6
comp=Z,94nm,20.8s,baz=253,slow=35
ARTI Arti 31.34 41*d i*P **P 11 06 26.8 +1.4**
ARTI 11 07 25.7
ARTI S **S 11 11 36.0 +3.9**
ARTI SS **SnSn 11 13 18.0 +2.7**
ARTI pmax pmax
comp=Z,7.0nm,0.9s
ARTI MLR MLR
comp=Z,259nm,13.0s
ARCES ARCESS Array B 32.05 3 P **P 11 06 30.2 -1.2**
comp=Z,3.0nm,0.6s,baz=189,slow=11,SNR=14
ARCES LR LR 11 21 08.5
comp=Z,173nm,18.0s,baz=182,slow=40
comp=Z,3.0nm,0.6s
FURI Furi 33.01 146 LR LR 11 20 55.2
comp=Z,111nm,20.4s,baz=306,slow=38
BORG Borgarnes 36.56 331 LR LR 11 25 53.2
comp=Z,136nm,18.2s,baz=119,slow=42
BRVK Borovoye 37.39 49⇓ *e*P **P 11 07 20.0 +2.2**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 37.45 49 P **P 11 07 17.5 -0.8**
comp=Z,1.3nm,0.7s,baz=243,slow=9.8,SNR=4.8
BVAR LR LR 11 26 21.7
comp=Z,66nm,18.5s,baz=270,slow=42
comp=Z,1.3nm,0.7s
KKAR Karatay Array 38.01 66 P **P 11 07 25.7 +2.5**
KKAR Karatay Array 38.01 66 P **P 11 07 24.7 +1.5**
KKAR Karatay Array 38.01 66 P **P 11 07 24.7 +1.5**
KKAR 11 07 25.7
KKAR pmax pmax
comp=Z,2.0nm,1.0s
DBIC Dimbokro 38.51 223 LR LR 11 24 33.1
comp=Z,94nm,18.2s,baz=26,slow=38
MBAR Mbarara 39.23 164 LR LR 11 27 02.7
comp=Z,89nm,18.1s,baz=356,slow=41
BBTS Babate 40.00 245 LR LR 11 26 44.9
comp=Z,199nm,19.0s,baz=319,slow=40
SPITS Spitsbergen Ar 40.66 359 LR LR 11 27 10.9
comp=Z,292nm,18.1s,baz=136,slow=40
AAK Ala-Archa 40.97 66 LR LR 11 28 07.8
comp=Z,93nm,18.2s,baz=279,slow=41
AAK Ala-Archa 40.97 66⇓ *e*P **P 11 07 51.6 +3.5**
AAK pmax pmax
comp=Z,5.0nm,1.6s
KMBO Kilima Mbogo 41.58 154 LR LR 11 27 21.1
comp=Z,61nm,18.4s,baz=82,slow=39
KURBB Kurchatov Arra 42.54 53 P **P 11 07 59.0 -1.6**
comp=Z,1.5nm,0.2s,baz=268,slow=9.1,SNR=8.0
KURBB LR LR 11 27 41.5
comp=Z,65nm,19.1s,baz=172,slow=39
comp=Z,1.5nm,0.2s
KURK Kurchatov 42.59 53 P **P 11 08 01.3 +0.3**
KURK Kurchatov 42.59 53⇓ *e*P **P 11 08 01.7 +0.8**
KURK pmax pmax
comp=Z,19nm,3.7s
MK31 Makanchi Array 45.58 58 IAmb IAmb 11 08 56.2
comp=Z,8.2nm,1.5s
MK31 Makanchi Array 45.58 58⇓ *e*P **P 11 08 27.8 +2.8**
MKAR Makanchi Array 45.58 58 P **P 11 08 24.6 -0.4**
MKAR Makanchi Array 45.58 58 P **P 11 08 24.3 -0.7**
comp=Z,1.5nm,0.6s,baz=276,slow=7.1,SNR=13
MKAR LR LR 11 31 45.6
comp=Z,64nm,19.2s,baz=296,slow=42
comp=Z,1.5nm,0.6s
MKAR Makanchi Array 45.58 58 *i* P **P 11 08 27.0 +2.0**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
ZAA0 Zalesovo Array 46.04 48 P **P 11 08 27.3 -1.2**
ZAA0 IAmb IAmb 11 08 41.6
comp=Z,5.1nm,0.8s
ZALV Zalesovo Beam 46.04 48 P **P 11 08 27.5 -1.1**
ZALV Zalesovo Beam 46.04 48 P **P 11 08 26.9 -1.6**
comp=Z,4.2nm,0.6s,baz=280,slow=9.0,SNR=15
ZALV LR LR 11 30 12.7
comp=Z,90nm,18.1s,baz=256,slow=39
comp=Z,4.2nm,0.6s
ZALV Zalesovo Beam 46.04 48 *i* P **P 11 08 27.7 -0.8**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
NRIK Noril'sk 47.26 26 LR LR 11 30 08.1
comp=Z,119nm,19.1s,baz=256,slow=38
SFJD Kangerlussuaq 48.68 330 LR LR 11 29 16.8
comp=Z,117nm,21.4s,baz=84,slow=36
TSUM Tsneb 56.63 183 LR LR 11 35 10.8
comp=Z,105nm,18.4s,baz=335,slow=37
SCHQ Schefferville 58.84 318 LR LR 11 33 57.2
comp=Z,90nm,20.6s,baz=290,slow=35
TIXI Tiksi 60.13 20 LR LR 11 40 20.9
comp=Z,266nm,18.1s,baz=353,slow=40
TIXI Tiksi 60.13 20⇓ *e*P **P 11 10 14.4 +2.3**
TIXI pmax pmax
comp=Z,7.0nm,1.4s
RES Resolute Bay 60.26 344 LR LR 11 39 23.9
comp=Z,69nm,18.8s,baz=10,slow=39
SONM Songino Array 60.79 50 P **P 11 10 16.7 -0.5**
comp=Z,0.7nm,0.7s,baz=294,slow=10,SNR=2.2
SONM LR LR 11 39 00.4
comp=Z,97nm,18.6s,baz=299,slow=38
comp=Z,0.7nm,0.7s
ULN Ulaanbaatar 61.18 50⇑ *e*P **P 11 10 22.8 +3.0**
ULN pmax pmax
comp=Z,4.0nm,1.5s
LZH Lanzhou 64.44 63 *e*P P 11 10 47.5 +5.8
LZH sP pwP 11 10 54.8 +7.8
LZH pmax pmax
comp=Z,12nm,1.1s
YAK Yakutsk 65.56 29 LR LR 11 41 11.5
comp=Z,69nm,18.8s,baz=298,slow=38
BOSA Boshof 66.08 175 LR LR 11 43 14.0
comp=Z,100nm,18.1s,baz=21,slow=39
HHC Hu-ho-hao-te 67.33 55 *e*P **P 11 11 00.3 +0.1**
HHC pmax pmax
comp=Z,19nm,0.6s
HHC pmax pmax
comp=Z,72nm,5.2s
PZH PanZhiHua 67.76 73 P **P 11 11 04.5 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,4.2s
RCBR Riachuelo 67.95 243 LR LR 11 42 09.0
comp=Z,47nm,18.1s,baz=68,slow=37
ZEA Zeya 69.29 37 *e*P **P 11 11 10.9 -1.2**
ZEA MLR MLR
comp=Z,100nm,14.0s
SUR Sutherland 69.68 180 LR LR 11 43 44.5
comp=Z,103nm,18.4s,baz=1.5,slow=38
CMAR Chiang Mai Arr 69.96 82 P **P 11 11 16.1 -0.8**
comp=Z,0.7nm,0.3s,baz=303,slow=8.2,SNR=12
CMAR LR LR 11 48 11.2
comp=Z,20nm,19.5s,baz=290,slow=41
comp=Z,0.7nm,0.3s
CMAR Chiang Mai Arr 69.96 82 *i* P **P 11 11 17.8 +0.9**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
HEH HeiHe 71.43 40 *e*P **P 11 11 25.3 0.0**
HEH pmax pmax
comp=Z,4.0nm,0.7s
BILL Bilibino 71.52 13⇓ *e*P **P 11 11 27.1 +1.6**
BILL pmax pmax
comp=Z,16nm,2.3s
E29M Blow River 73.04 352 P **P 11 11 35.3 +0.7**
E29M IAmb IAmb 11 12 12.3
comp=Z,9.7nm,1.4s
MDP Montagnes des 73.58 264 LR LR 11 42 13.3
comp=Z,35nm,20.5s,baz=94,slow=34
MA2 Magadan 74.77 24 LR LR 11 47 25.7
comp=Z,59nm,19.2s,baz=314,slow=38
NJ2 Nanjing 77.08 60 *e*P **P 11 11 58.0 -0.5**
NJ2 sP **sP 11 12 03.6 +0.5**
NJ2 pmax pmax
comp=Z,4.0nm,0.7s
NJ2 pmax pmax
comp=Z,120nm,4.3s
ILAR Eielson Array 77.42 355 P **P 11 11 59.1 -0.8**
comp=Z,0.3nm,0.8s,baz=350,slow=4.8,SNR=3.0
ILAR LR LR 11 46 26.2
comp=Z,40nm,21.3s,baz=22,slow=36
comp=Z,0.3nm,0.8s
USRK Ussuriysk Ar. 77.66 43 P **P 11 12 01.1 -0.4**
comp=Z,1.5nm,0.7s,baz=225,slow=1.8,SNR=2.5
USRK LR LR 11 48 40.4
comp=Z,78nm,18.7s,baz=351,slow=38
comp=Z,1.5nm,0.7s
KSAR Wonju Array Be 79.64 51 P **P 11 12 11.5 -1.1**
KSAR Wonju Array Be 79.64 51 P **P 11 12 11.5 -1.1**
KSRS Korea Array 79.66 51 P **P 11 12 11.3 -1.3**
comp=Z,1.5nm,0.7s,baz=321,slow=3.6,SNR=4.0
comp=Z,1.5nm,0.7s
PETK Petropavlovsk- 82.27 24 LR LR 11 54 11.2
comp=Z,72nm,19.9s,baz=309,slow=40
BDFB Brasilia 83.29 245 LR LR 11 51 14.7
comp=Z,92nm,18.4s,baz=119,slow=37
JNU Nakatsue 84.31 52 LR LR 11 54 45.3
comp=Z,71nm,18.5s,baz=318,slow=39
KDAK Kodiak Island 84.74 356 LR LR 11 52 51.6
comp=Z,37nm,18.1s,baz=232,slow=37
NEW Newport 86.51 333 LR LR 11 53 13.0
comp=Z,75nm,18.1s,baz=46,slow=37
SHEM Shemya Is, Ala 87.09 16 LR LR 11 55 51.8
comp=Z,62nm,20.1s,baz=56,slow=38
PDAR Pinedale Array 87.97 326 LR LR 11 53 00.2
comp=Z,37nm,18.6s,baz=28,slow=36
ANMO Albuquerque 92.59 319 LR LR 11 54 32.9
comp=Z,49nm,19.4s,baz=211,slow=35
YBH Yreka Blue Hor 94.15 333 LR LR 11 58 03.7
comp=Z,91nm,18.3s,baz=22,slow=37
NVAR Mina Array Bea 95.31 329 LR LR 11 57 49.9
comp=Z,79nm,18.0s,baz=28,slow=36
CPUP Villa Florida 96.80 242 LR LR 11 57 34.2
comp=Z,109nm,20.5s,baz=45,slow=36
PFO Pinyon Flats O 98.57 325 LR LR 12 00 33.3
comp=Z,77nm,18.7s,baz=32,slow=37
PFO Pinyon Flats O 98.57 325 *i* P Pdif 11 13 47.9 +3.6
LPAZ La Paz 98.72 256 LR LR 11 59 16.7
comp=Z,17nm,19.2s,baz=48,slow=36
ASAR Alice Springs 122.12 96 PKP **PKPdf 11 18 58.2 -2.0**
comp=Z,0.3nm,0.8s,baz=323,slow=2.4,SNR=2.1

SOME ***15*** *11:39:52.1, 41.°63N×84.°12E, h0km*
NNC ***15*** *11:39:55.2±2.2, 41.°49N×83.°93E, h0km, mb4.2, mpv3.9,*
Error ellipse: s-maj=15.9km s-min=10.9km az=156.0
ISC 15 11:40:00.4±2.7, 41.°6N±0.°1×83.°67E±0.°09, h10km, n16,
σ2.°30/18, 2C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.47**	**298**	Pg	**Pn**	**11 40 56.6**	**+2.0**
	25nm,0.4s						
SHLS				Lg	Lg	11 41 43.1	
	58nm,0.5s						
SHLS	**Shalkode**	**3.47**	**298**	*e*P	**Pn**	**11 40 56.6**	**+2.0**
	25nm,0.4s						
SHLS				*e*S	**Sb**	**11 41 43.1**	**-1.2**
	55nm,0.4s						
UZB	**Uzynbulak**	**3.77**	**295**	Pg	**Pb**	**11 41 07.8**	**+0.8**
	10nm,0.5s						
UZB				Lg	Lg	11 42 02.5	
	27nm,0.3s						
UZB	**Uzynbulak**	**3.77**	**295**	*e*P	**Pb**	**11 41 07.8**	**+0.8**
	10nm,0.5s						
UZB				*e*S	**Sg**	**11 42 02.5**	**+1.2**
	27nm,0.3s						
DJR	**Jarkent**	**3.93**	**315**	Pg	**Pb**	**11 41 10.8**	**+1.0**
	2.1nm,0.1s						
DJR				Lg	Lg	11 42 06.8	
	22nm,0.5s						
DJR	**Jarkent**	**3.93**	**315**	*e*P	**Pb**	**11 41 10.4**	**+0.7**
	2.1nm,0.1s						
DJR				*e*S	**Sg**	**11 42 06.8**	**+0.3**
	22nm,0.5s						
KPKS	**Kokpek**	**4.12**	**298**	Pg	**Pb**	**11 41 14.8**	**+1.8**
	9.1nm,0.5s						
KPKS				Lg	Lg	11 42 14.2	
	29nm,0.4s						
KPKS	**Kokpek**	**4.12**	**298**	*e*P	**Pb**	**11 41 14.8**	**+1.8**
	9.1nm,0.5s						
KPKS				*e*S	**Sg**	**11 42 14.2**	**+1.7**
	29nm,0.4s						
SATY	**Saty**	**4.16**	**292**	Pg	**Pg**	**11 41 16.0**	**-4.0**
	9.8nm,0.3s						
SATY				Lg	Lg	11 42 16.4	
	23nm,0.4s						
SATY	**Saty**	**4.16**	**292**	*e*P	**Pg**	**11 41 16.0**	**-4.0**
	9.8nm,0.3s						
SATY				*e*S	**Sg**	**11 42 16.4**	**+2.5**
	23nm,0.4s						
KURS	**Kuram**	**4.47**	**296**	Pg	**Pb**	**11 41 20.9**	**+2.0**
	2.8nm,0.2s						
KURS				Lg	Lg	11 42 22.1	
	10nm,0.9s						
TNSS	**Tian-Shan**	**5.18**	**288**	Pg	**Pg**	**11 41 36.0**	**-3.6**
	2.3nm,0.2s						
TNSS				Lg	Lg	11 42 47.7	
	8.1nm,0.8s						
MK31	**Makanchi Array**	**5.26**	**350**	Lg	Lg	11 42 49.4	
	19nm,0.6s,baz=159,slow=30,SNR=4.0						
MAKZ	**Makanchi**	**5.32**	**347**	⇑Lg	Lg	11 42 52.5	
	21nm,0.9s						
ZSN	**Zaisan**	**5.88**	**8**	Pg	**Pb**	**11 41 43.9**	**+0.9**
	5.9nm,0.2s						
ZSN				Lg	Lg	11 43 05.6	
	22nm,0.9s						
TKM2	**Tokmak 2**	**6.13**	**285**	⇑Lg	Lg	11 43 18.0	
	9.9nm,0.7s						

NEIC ***15*** *12:05:41.4±1.7, 24.°82S±0.°08×175.°29W±0.°07, h10km±1km,*
mb4.7/23, Error ellipse: s-maj=15.8km s-min=7.0km
az=325.0
IDC ***15*** *12:05:42.2±0.6, 25.°07S×175.°66W, h0km, mb4.2/18,*
mbtmp4.2/20, ML5.6/1, MS3.5/12, Error ellipse:
s-maj=20.9km s-min=18.0km az=140.0
ISC 15 12:05:42.0±0.4, 24.°82S±0.°07×175.°27W±0.°07, h10km, n77,
σ2.°39/73, mb4.6/37, MS3.6/10, 4C, South of Tonga
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.01**	**208**	Pn	**Pn**	**12 06 54.3**	**-2.9**
NIUE	**Niue**	**7.56**	**42**	Pn	**Pn**	**12 07 30.9**	**-1.5**
MSVF	**Nonsavu**	**9.41**	**317**		**Pn**	**12 07 56.7**	**-1.1**
MSVF	**Nonsavu**	**9.41**	**317**	Pn	**Pn**	**12 08 00.1**	**+2.3**
	2.1nm,0.3s,baz=143,slow=14,SNR=18						
MSVF				LR	LR	12 11 07.3	
	comp=Z,260nm,21.2s,baz=82,slow=35						
	25nm,0.7s						
AFI	**Afiamalu**	**11.34**	**17**	Pn	**Pn**	**12 08 22.5**	**-1.8**
RAR	**Rarotonga**	**14.71**	**79**	Pn	**Pn**	**12 09 08.8**	**-1.4**
RAR	**Rarotonga**	**14.71**	**79**	Pn	**Pn**	**12 09 08.4**	**-1.8**
	2.5nm,0.3s,baz=244,slow=12,SNR=9.8						
URZ	**Urewera**	**14.88**	**204**	Pn	**P**	**12 09 18.3**	**+0.1**
	0.7nm,0.3s,baz=94,slow=24,SNR=3.1						
URZ				Sn	Sn	12 11 45.0	-12
	0.3nm,0.3s,baz=200,slow=18,SNR=1.8						
URZ				LR	LR	12 14 04.4	
	comp=Z,172nm,19.5s,baz=100,slow=35						
RTZ	**Ruatahuna**	**15.24**	**204**	Pn	**Pn**	**12 09 18.6**	**+1.3**
DZM	**Mont Dzumac**	**17.00**	**276**	*e*P	**Pn**	**12 09 39.9**	**-0.2**
	78nm,1.6s						
DZM				*e*LR	LR	12 13 32.3	
	147nm,24.8s						
DZM	**Mont Dzumac**	**17.00**	**276**	Pn	**Pn**	**12 09 38.1**	**-2.0**
	9.2nm,1.1s,baz=91,slow=18,SNR=2.8						
DZM				LR	LR	12 14 54.6	
	comp=Z,100nm,19.3s,baz=40,slow=33						
LTZ	**Lake Taylor**	**20.65**	**207**	P	**P**	**12 10 21.9**	**+0.1**
TBI	**Tubuai**	**23.60**	**92**	*e*S	**S**	**12 15 00.2**	**-7.4**
	2μm,28.2s						
TBI				*e*LR	LR	12 16 37.5	
	508nm,28.0s						
PPT2	**Papeete2**	**24.98**	**78**	*e*S	**S**	**12 15 28.5**	**-1.6**
	332nm,24.0s						
PPT2				*e*LR	LR	12 17 16.0	
	71nm,22.5s						
HNR	**Honiara**	**28.12**	**299**	LR	LR	12 21 57.2	
	comp=Z,84nm,18.6s,baz=121,slow=35						
CTAO	**Charters Tower**	**35.79**	**270**	P	**P**	**12 12 40.6**	**-1.1**

CTAO			IAmb	IAmb	12 13 02.5	
	comp=Z,12nm,1.2s					
STKA	**Stephens Creek**	**38.42 249**	P	**P**	**12 13 02.9**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=108,slow=14,SNR=2.6					
STKA			LR	LR	12 27 58.6	
	comp=Z,83nm,18.2s,baz=27,slow=35					
	comp=Z,1.4nm,0.7s					
PMG	**Port Moresby**	**38.88 287**	P	**P**	**12 13 05.9**	**-2.0**
PMG			IAmb	IAmb	12 13 07.2	
	comp=Z,16nm,0.8s					
BBOO	**Buckleboo**	**43.08 248**	P	**P**	**12 13 41.2**	**-1.1**
BBOO			IAmb	IAmb	12 13 52.7	
	comp=Z,21nm,1.4s					
AS31	**Alice Springs**	**46.14 260**	P	**P**	**12 14 05.9**	**-1.1**
ASAR	**Alice Springs**	**46.14 260**	P	**P**	**12 14 05.3**	**-1.6**
	comp=Z,2.0nm,0.9s,baz=103,slow=7.8,SNR=15					
ASAR			PcP	**PcP**	**12 15 42.8**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=94,slow=4.0,SNR=1.3					
ASAR			LR	LR	12 30 55.4	
	comp=Z,41nm,20.8s,baz=102,slow=33					
	comp=Z,2.0nm,0.9s					
WR0	**Warramunga Arr**	**46.46 265**	P	**P**	**12 14 07.4**	**-2.1**
WR0			IAmb	IAmb	12 14 10.2	
	comp=Z,10nm,1.4s					
WB2	**Warramunga Arr**	**46.63 265**	P	**P**	**12 14 09.2**	**-1.7**
WB2			IAmb	IAmb	12 14 11.3	
	comp=Z,6.3nm,1.0s					
WRAB	**Tennant Creek**	**46.64 265**	P	**P**	**12 14 09.0**	**-1.9**
WRAB			IAmb	IAmb	12 14 10.5	
	comp=Z,12nm,1.2s					
WB0	**Warramunga Arr**	**46.64 266**	P	**P**	**12 14 09.6**	**-1.3**
WB0			IAmb	IAmb	12 14 30.7	
	comp=Z,13nm,1.2s					
WRA	**Warramunga Arr**	**46.65 265**	P	**P**	**12 14 08.5**	**-2.5**
	comp=Z,4.6nm,1.0s,baz=104,slow=7.9,SNR=18					
WRA			PcP	**PcP**	**12 15 42.5**	**-2.3**
	comp=Z,0.9nm,1.0s,baz=100,slow=3.6,SNR=1.6					
	comp=Z,4.6nm,1.0s					
SBA	**Scott Base**	**53.77 185**	P	**P**	**12 15 07.5**	**+3.5**
SBA			IAmb	IAmb	12 15 36.9	
	comp=Z,7.5nm,1.1s					
FITZ	**Fitzroy Crossi**	**55.05 265**	P	**P**	**12 15 12.7**	**-1.6**
BATI	**Baumata**	**59.59 273**	LR	LR	12 39 43.7	
	comp=Z,46nm,20.2s,baz=148,slow=34					
QSPA	**South Pole Qui**	**65.27 180**	P	**P**	**12 16 24.1**	**+0.3**
QSPA			IAmb	IAmb	12 16 28.2	
	comp=Z,9.3nm,1.1s					
QSPA	**South Pole Qui**	**65.27 180**	P	**P**	**12 16 22.4**	**-1.4**
	comp=Z,3.7nm,1.0s,baz=256,slow=4.2,SNR=4.7					
	comp=Z,3.7nm,1.0s					
MJAR	**Matsushiro Arr**	**75.17 323**	P	**P**	**12 17 25.4**	**+0.8**
	comp=Z,3.0nm,0.9s,baz=148,slow=5.6,SNR=5.0					
	comp=Z,3.0nm,0.9s					
JNU	**Nakatsue**	**77.13 316**	P	**P**	**12 17 37.3**	**+1.4**
	comp=Z,6.7nm,0.9s,baz=112,slow=9.6,SNR=2.6					
	comp=Z,6.7nm,0.9s					
MAW	**Mawson**	**78.36 199**	P	**P**	**12 17 43.4**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=138,slow=6.6,SNR=4.9					
	comp=Z,2.6nm,0.8s					
CMB	**Columbia Colle**	**80.99 41**	P	**P**	**12 17 55.5**	**-1.5**
CMB			IAmb	IAmb	12 18 02.2	
	comp=Z,7.6nm,1.4s					
PETK	**Petropavlovsk-**	**81.09 344**	P	**P**	**12 17 59.9**	**+2.9**
	comp=Z,5.6nm,1.0s,baz=178,slow=10,SNR=2.8					
	comp=Z,5.6nm,1.0s					
KSRS	**Korea Array**	**81.77 318**	P	**P**	**12 18 03.2**	**+2.2**
	comp=Z,0.6nm,0.5s,baz=116,slow=2.8,SNR=6.4					
	comp=Z,0.6nm,0.5s					
WAKR	**Walker**	**81.86 41**		**P**	**12 18 00.4**	**-1.4**
WAKR			IAmb	IAmb	12 18 08.7	
	comp=Z,11nm,1.3s					
DSP	**Deep Springs**	**82.02 43**	P	**P**	**12 18 00.8**	**-1.5**
MPK	**Martis Peak**	**82.03 40**	P	**P**	**12 18 00.8**	**-1.9**
YBH	**Yreka Blue Hor**	**82.14 37**	P	**P**	**12 18 07.3**	**+4.3**
	comp=Z,2.1nm,0.9s,baz=155,slow=4.3,SNR=4.5					
	comp=Z,2.1nm,0.9s					
NVAR	**Mina Array Bea**	**82.49 42**	P	**P**	**12 18 09.2**	**+4.1**
	comp=Z,4.0nm,1.1s,baz=224,slow=6.3,SNR=13					
NVAR			LR	LR	12 54 30.3	
	comp=Z,47nm,18.1s,baz=42,slow=35					
	comp=Z,4.0nm,1.1s					
TROLL	**Troll, Antarti**	**83.42 179**	⇑P	**P**	**12 18 11.6**	**+2.2**
	comp=Z,279nm,0.8s					
SNAA	**Sanae**	**83.63 178**	P	**P**	**12 18 12.0**	**+1.6**
	comp=Z,1.3nm,0.6s,baz=225,slow=4.3,SNR=4.5					
	comp=Z,1.3nm,0.6s					
VNA3	**Neumayer Olymp**	**83.67 175**	⇑P	**P**	**12 18 12.4**	**+1.9**
	comp=Z,2.5nm,0.7s					
USRK	**Ussuriysk Ar.**	**83.94 325**	P	**P**	**12 18 15.4**	**+3.3**
	comp=Z,3.5nm,0.9s,baz=141,slow=9.3,SNR=4.0					
	comp=Z,3.5nm,0.9s					
VNA2	**Neumayer--Watz**	**84.14 176**	⇑P	**P**	**12 18 14.1**	**+1.2**
	comp=Z,3.6nm,0.7s,baz=183,slow=1.8					
VNA1	**Neumayer--Stat**	**84.35 176**	⇑P	**P**	**12 18 15.5**	**+1.6**
	comp=Z,4.9nm,0.9s					
PINE	**Pine Mountain**	**84.50 36**	P	**P**	**12 18 15.1**	**-0.2**
NJ2	**Nanjing**	**84.56 309**	*e*P	**P**	**12 18 15.8**	**+0.3**
NJ2			sP	**pwP**	**12 18 29.3**	**+3.7**
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.5s					
NJ2			pmax	pmax		
	comp=Z,110nm,4.2s					
ELK	**Elko**	**85.78 41**	P	**P**	**12 18 25.8**	**+4.0**
	comp=Z,0.3nm,0.4s,baz=290,slow=5.8,SNR=2.5					
ELK			LR	LR	12 53 03.6	
	comp=Z,54nm,18.1s,baz=30,slow=33					
	comp=Z,0.3nm,0.4s					
CN2	**Changchun**	**87.24 321**	*e*P	**P**	**12 18 27.0**	**-1.6**
CN2			*e*pP	pwP	12 18 37.3	-1.2
TXAR	**Lajitas Array**	**87.31 56**	P	**P**	**12 18 32.8**	**+3.4**
	comp=Z,1.1nm,1.0s,baz=193,slow=3.7,SNR=6.1					
	comp=Z,1.1nm,1.0s					
GSI	**Gunungsitoli**	**87.96 272**	P	**P**	**12 18 29.6**	**-3.2**
TIA	**Tai'an**	**88.03 312**	P	**P**	**12 18 35.6**	**+3.0**
TIA			pmax	pmax		
	comp=Z,7.0nm,0.9s					
ANMO	**Albuquerque**	**88.18 50**		**P**	**12 18 34.9**	**+1.3**
ANMO			IAmb	IAmb	12 18 38.1	
	comp=Z,5.2nm,1.2s					
MA2	**Magadan**	**88.61 343**	LR	LR	12 50 20.2	
	comp=Z,22nm,20.9s,baz=108,slow=30					
NEW	**Newport**	**89.43 35**	LR	LR	12 57 42.1	
	comp=Z,54nm,18.1s,baz=14,slow=35					
HEH	**HeiHe**	**90.29 327**	*e*P	**P**	**12 18 46.3**	**+3.5**
HEH			pmax	pmax		
	comp=Z,4.0nm,1.4s					
PDAR	**Pinedale Array**	**90.41 42**	P	P	12 18 48.8	+4.9
	comp=Z,0.5nm,0.9s,baz=28,slow=2.3,SNR=2.8					
	comp=Z,0.5nm,0.9s					
ILAR	**Eielson Array**	**91.98 12**	P	**P**	**12 18 52.9**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=224,slow=5.0,SNR=4.2					
	comp=Z,0.5nm,0.8s					
L29M	**L29M**	**92.43 16**	P	**P**	**12 18 52.5**	**0.0**
CMAR	**Chiang Mai Arr**	**93.90 288**	P	**P**	**12 19 02.8**	**+2.5**
	comp=Z,1.9nm,0.8s,baz=129,slow=3.3,SNR=11					
	comp=Z,1.9nm,0.8s					
CHTO	**Chiang Mai**	**94.05 289**	P	**P**	**12 18 59.1**	**-1.9**
HHC	**Hu-ho-hao-te**	**94.15 313**	*e*P	**P**	**12 19 01.3**	**+0.2**
HHC			pmax	pmax		
	comp=Z,10.0nm,0.6s					
HHC			LR	LR		
	comp=N,170nm,13.8s					
HHC			LR	LR		
	comp=E,120nm,12.2s					
HHC			LR	LR		
	comp=Z,94nm,13.8s					
PZH	**PanZhiHua**	**94.93 297**	P	**P**	**12 19 04.9**	**-0.1**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
PZH			pmax	pmax		
	comp=Z,120nm,5.2s					
YAK	**Yakutsk**	**97.05 337**	LR	LR	13 01 43.3	
	comp=Z,13nm,19.1s,baz=32,slow=35					
MKAR	**Makanchi Array**	**115.97 312**	PKP	**PKiKP**	**12 24 24.8**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=102,slow=5.0,SNR=2.1					
KURBB	**Kurchatov Arra**	**118.90 316**	PKP	**PKiKP**	**12 24 31.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=103,slow=2.2,SNR=3.0					
BVAR	**Borovoye Array**	**123.98 318**	PKP	**PKiKP**	**12 24 41.4**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=66,slow=3.6,SNR=2.4					
NACGM	**Naroch**	**145.81 337**	*e*PKP	**PKPdf**	**12 25 15.5**	**-5.1**
	comp=N,617nm,0.7s					
AKASG	**Malin Array Be**	**148.00 330**	PKPbc	**PKiKP**	**12 25 28.6**	**-0.7**
	comp=N,2.6nm,0.7s,baz=43,slow=3.9,SNR=10					
BRTR	**Keskin Array B**	**151.55 309**	PKPbc	**PKiKP**	**12 25 38.1**	**+1.0**
	comp=N,1.4nm,0.7s,baz=159,slow=3.7,SNR=3.8					
CLL	**Collm**	**152.80 349**	*e*PKPbc	**PKPab**	**12 25 44.0**	**-5.8**
	comp=Z,3.0nm,0.6s					
BRG	**Berggiesshubel**	**153.04 347**	Amp		12 25 45.1	
	comp=Z,7.0nm,1.1s					
BRG	**Berggiesshubel**	**153.04 347**	*e*PKP	**PKiKP**	**12 25 42.6**	**+3.0**
TORD	**Torodi Ar. Bea**	**168.04 166**	PKPab	**PKPab**	**12 26 59.7**	**+2.9**
	comp=Z,0.6nm,0.8s,baz=161,slow=3.0,SNR=2.7					

SDD ***15*** *12:14:24.9±2.3, 19°.39N×69°.13W, h20km±32km, MD3.7, ML4.0, MW4.1*
NEIC ***15*** *12:14:25.2±2.4, 19°.55N±0°.04×69°.15W±0°.06, h10km±2km, ML3.8/36, Error ellipse: s-maj=11.7km s-min=3.2km az=57.0*
OSPL ***15*** *12:14:27.0±4.1, 19°.34N×69°.12W, h0km±25km, ML3.7*
ISC 15 12:14:22.8±1.2, 19°.43N±0°.03×69°.21W±0°.03, h7km±10km, n56, σ1§40/76, 16C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDR	**Miches**	**0.47**	**162**	⇑*e*Pg	**Pb**	**12 14 32.4**	**-0.9**
MIDR				⇑*e*Sg	**Sg**	**12 14 38.5**	**+0.6**
MIDR				IAML		12 14 39.2	
	comp=E,2μm,0.5s						
MIDR				IAML		12 14 39.6	
	comp=N,1μm,0.7s						
NADR	**Nagua**	**0.62**	**263**	⇑*e*Pg	**Pb**	**12 14 37.0**	**+1.1**
NADR				⇑*e*Sg	**Sn**	**12 14 48.1**	**0.0**
NADR				IAML		12 14 50.5	
	comp=N,21μm,0.4s						
NADR				IAML		12 14 50.6	
	comp=N,21μm,0.4s						
NADR				IAML		12 14 51.0	
	comp=E,11μm,0.6s						
LONA1	**Toro Cenizo, N**	**0.62**	**266**	*i* P	**Pg**	**12 14 34.9**	**0.0**
LONA1				*e*S	**Sb**	**12 14 45.9**	**+0.9**
LONA1				IAML		12 14 52.6	
	comp=Z,2μm,1.0s						
HATOM	**Hato Mayor del**	**0.66**	**195**	⇑*e*Pg	**Pb**	**12 14 35.8**	**-0.9**
HATOM				⇑*e*Sg	**Sg**	**12 14 44.1**	**0.0**
HATOM				IAML		12 14 44.6	
	comp=E,2μm,0.5s						
HATOM				IAML		12 14 45.7	
	comp=N,2μm,0.3s						
HATOM				IAML		12 14 45.7	
	comp=N,2μm,0.3s						
DR08	**Loma La Naviza**	**0.90**	**239**	⇑*e*Pg	**Pb**	**12 14 40.7**	**-0.1**
DR08				⇑*e*Sg	**Sn**	**12 14 54.5**	**-0.8**
DR08				IAML		12 14 55.2	
	comp=E,29μm,0.1s						
DR08				IAML		12 14 56.3	
	comp=N,65μm,0.2s						
DR08				IAML		12 14 56.3	
	comp=N,65μm,0.2s						
HIDR	**Higuey Centro**	**0.95**	**151**	⇑*e*Pg	**Pg**	**12 14 40.8**	**-0.3**
HIDR				⇓*e*Sg	**Sb**	**12 14 53.8**	**-0.7**
HIDR				IAML		12 14 56.7	
	comp=N,3μm,0.2s						
HIDR				IAML		12 14 56.7	
	comp=N,3μm,0.2s						
HIDR				IAML		12 14 56.8	
	comp=E,3μm,0.2s						
SDD	**Santo Domingo**	**1.18**	**215**	*i* P	**Pb**	**12 14 45.3**	**-0.2**
SDD				*e*S	**Sb**	**12 15 00.6**	**-0.3**
PCDR	**Punta Cana, DR**	**1.20**	**139**		**Pb**	**12 14 45.7**	**-0.1**
PCDR				IAML		12 15 14.2	
	comp=N,2μm,0.8s						
PCDR	**Punta Cana, DR**	**1.20**	**139**	*i* P	**Pb**	**12 14 45.8**	**0.0**
PCDR				IAML		12 15 11.1	
	comp=Z,1μm,0.7s						
SC01	**Santiago de lo**	**1.44**	**270**	⇑*e*Pg	**Pg**	**12 14 51.4**	**+1.0**
SC01				IAML		12 15 22.5	
	comp=N,2μm,0.8s						
SC01				IAML		12 15 22.5	
	comp=N,2μm,0.8s						
SC01				IAML		12 15 30.4	
	comp=E,2μm,0.7s						
SC01	**Santiago de lo**	**1.44**	**270**	*i* P	**Pg**	**12 14 53.3**	**+2.9**
SC01				IAML		12 15 22.7	
	comp=Z,1μm,1.0s						
ABDR	**Alto Bandera**	**1.48**	**246**	⇑*e*Pg	**Pb**	**12 14 50.7**	**-0.1**
ABDR				⇑*e*Sg	**Sn**	**12 15 12.6**	**+2.7**
ABDR				IAML		12 15 16.0	
	comp=N,2μm,0.8s						
ABDR				IAML		12 15 16.1	
	comp=N,2μm,0.8s						
ABDR				IAML		12 15 17.4	
	comp=E,2μm,0.6s						
BANI	**BANI**	**1.50**	**227**	⇑*e*Pg	**Pn**	**12 14 50.6**	**+0.3**
BANI				⇑*e*Sg	**Sg**	**12 15 10.8**	**-0.3**
BANI				IAML		12 15 13.1	
	comp=N,3μm,0.2s						
BANI				IAML		12 15 13.2	
	comp=N,3μm,0.2s						
BANI				IAML		12 15 14.4	
	comp=E,2μm,0.5s						
LOPP1	**Punta Rusia, P**	**1.93**	**283**	*e*S	**Sg**	**12 15 24.4**	**-0.4**
SDDR	**Presa de Saban**	**2.02**	**258**		**Sb**	**12 14 59.8**	**0.0**
SDDR				IAML		12 15 31.4	
	comp=E,721nm,0.9s						
SDDR				IAML		12 15 38.7	
	comp=E,934nm,0.7s						
SDDR	**Presa de Saban**	**2.02**	**258**	*e*P	**Pb**	**12 14 59.9**	**0.0**
SDDR				*e*S	**Sg**	**12 15 27.3**	**-0.3**
SDDR				IAML		12 15 36.1	
	comp=E,634nm,0.2s						
SDDR				IAML		12 15 38.5	
	comp=E,826nm,0.4s						
SDDR	**Presa de Saban**	**2.02**	**258**	*i* P	**Pg**	**12 15 01.1**	**-0.4**
SDDR				*e*S	**Sg**	**12 15 28.7**	**+1.0**
SDDR				IAML		12 15 31.7	
	comp=Z,422nm,0.3s						
AGPR	**Aguadilla, PR**	**2.20**	**115**		**Pb**	**12 15 02.2**	**-0.7**
AGPR				IAML		12 15 41.2	
	comp=N,544nm,0.4s						
AGPR				IAML		12 15 42.6	
	comp=E,589nm,0.5s						
AGPR	**Aguadilla, PR**	**2.20**	**115**	*i* P	**Pb**	**12 15 02.0**	**-0.9**
AGPR				IAML		12 15 40.5	
	comp=Z,388nm,0.5s						
LONE3	**El Aguacate, B**	**2.28**	**249**	*i* P	**Pg**	**12 15 05.4**	**-1.2**
LONE3				IAML		12 15 44.8	
	comp=Z,389nm,0.5s						
PRSN	**Puerto Rico Se**	**2.29**	**121**		**Pb**	**12 15 03.7**	**-0.8**
PRSN				IAML		12 15 48.6	
	comp=E,645nm,0.4s						
PODR	**Polo**	**2.33**	**238**	*e*Pg	**Pb**	**12 15 05.3**	**0.0**
PODR				⇑*e*Sg	**Sb**	**12 15 35.7**	**+1.3**
PODR				IAML		12 15 46.2	
	comp=N,538nm,1.1s						
PODR				IAML		12 15 46.3	
	comp=N,538nm,1.1s						
PODR				IAML		12 15 52.9	
	comp=E,523nm,0.4s						
PODR	**Polo**	**2.33**	**238**	*i* P	**Pg**	**12 15 06.7**	**-0.9**
PODR				*e*S	**Sg**	**12 15 38.0**	**+0.2**
PODR				IAML		12 15 40.9	
	comp=Z,538nm,0.5s						
LODA1	**ITESIL, Dajabo**	**2.36**	**273**	*i* P	**Pb**	**12 15 05.1**	**-0.5**
LODA1				IAML		12 15 38.5	
	comp=Z,1μm,1.0s						
LODU1	**El Espartillar**	**2.40**	**244**	*i* P	**Pg**	**12 15 07.6**	**-1.2**
LODU1				IAML		12 15 42.1	
	comp=Z,460nm,3.9s						
CRPR	**Cabo Rojo, PR**	**2.44**	**125**		**Pb**	**12 15 05.3**	**-1.7**
CRPR	**Cabo Rojo, PR**	**2.44**	**125**	*i* P	**Pb**	**12 15 06.6**	**-0.4**
CRPR				IAML		12 15 47.6	
	comp=Z,420nm,1.2s						
MLPR	**Magueyes Islan**	**2.51**	**125**		**Pb**	**12 15 06.5**	**-1.8**
AOPR	**Arecibo Observ**	**2.56**	**114**		**Pb**	**12 15 08.5**	**-0.6**
LOVI	**El Cajuil, Ovi**	**2.61**	**232**	*i* P	**Pb**	**12 15 09.5**	**-0.5**
LOVI				IAML		12 15 53.4	
	comp=Z,185nm,0.8s						
UUPR	**Utuado, UPR, P**	**2.63**	**116**		**Pb**	**12 15 09.1**	**-1.2**
EMPR	**Esperanza - Ma**	**2.70**	**110**	Pn	**Pb**	**12 15 11.0**	**-0.5**
EMPR				IAML		12 15 55.6	
	comp=N,500nm,0.8s						
GRTK	**Grand Turk**	**2.75**	**319**	Pn	**Pn**	**12 15 09.1**	**+1.7**
GRTK				IAML		12 15 57.4	
	comp=N,342nm,1.2s						
GRTK				IAML		12 16 03.4	
	comp=N,484nm,0.7s						
GRTK	**Grand Turk**	**2.75**	**319**	*e*P	**Pn**	**12 15 09.2**	**+1.9**
GRTK				*e*S	**Sn**	**12 15 42.5**	**+1.7**
GRTK				IAML		12 15 54.4	
	comp=N,378nm,0.2s						
GRTK				IAML		12 15 55.9	
	comp=N,323nm,0.2s						
GRTK	**Grand Turk**	**2.75**	**319**	⇓*i*P	**Pb**	**12 15 10.1**	**-2.2**
GRTK				*e*S	**Sb**	**12 15 45.6**	**-0.6**
GRTK				IAML		12 15 52.7	
	comp=Z,96nm,0.7s						
LOBH	**Bahia de las A**	**2.78**	**236**	*i* P	**Pb**	**12 15 12.9**	**+0.1**
LOBH				IAML		12 16 05.3	
	comp=Z,294nm,0.9s						
OBIP	**Obispado Ponce**	**2.82**	**119**		**Pn**	**12 15 10.9**	**+2.5**
OBIP				IAML		12 15 54.5	
	comp=N,313nm,0.7s						
OBIP				IAML		12 15 56.0	
	comp=E,351nm,0.6s						
CELP	**Cerrillos**	**2.83**	**118**		**Pb**	**12 15 11.3**	**-2.4**
CELP				IAML		12 16 00.0	
	comp=E,385nm,0.7s						
PAPH	**Port-au-Prince**	**3.06**	**253**		**Pb**	**12 15 14.8**	**-2.9**
PAPH	**Port-au-Prince**	**3.06**	**253**	*e*P	**Pb**	**12 15 15.9**	**-1.7**
PAPH				*e*S	**Sb**	**12 15 53.3**	**-2.0**
PAPH				IAML		12 16 13.5	
	comp=N,211nm,0.4s						
PAPH				IAML		12 16 16.3	
	comp=E,188nm,0.9s						
PAPH	**Port-au-Prince**	**3.06**	**253**	*i* P	**Pb**	**12 15 15.5**	**-2.2**
PAPH				IAML		12 16 09.7	
	comp=Z,124nm,0.8s						
GCPR	**Guaynabo City**	**3.16**	**110**		**Pn**	**12 15 14.6**	**+1.6**
GCPR				IAML		12 16 09.8	
	comp=N,194nm,1.0s						
SJG	**San Juan**	**3.18**	**114**		**Pn**	**12 15 13.8**	**+0.6**
SJG				IAML		12 16 05.8	
	comp=N,274nm,0.6s						
SJG				IAML		12 16 07.7	
	comp=N,225nm,0.6s						
IGPR	**InterUniversit**	**3.28**	**116**		**Pn**	**12 15 17.3**	**+2.7**
IGPR				IAML		12 16 09.0	
	comp=E,231nm,0.3s						
IGPR				IAML		12 16 10.9	
	comp=N,240nm,0.3s						
PDPR	**Patillas Dam,**	**3.33**	**114**		**Pn**	**12 15 16.2**	**+1.0**
HUMP	**Col San Antoni**	**3.43**	**111**		**Pn**	**12 15 18.0**	**+1.3**
HUMP				IAML		12 16 09.9	
	comp=E,182nm,0.5s						
QMBU	**Quimbuelo**	**5.33**	**279**	*e*P	**Pn**	**12 15 42.1**	**-0.8**
QMBU				*e*S	**Sn**	**12 16 44.8**	**+0.2**
MOAC	**Moa**	**5.55**	**284**	*e*P	**Pn**	**12 15 44.5**	**-1.3**
NMDO	**Nuevo Mundo**	**5.55**	**283**	Pn	**Pn**	**12 15 44.4**	**-1.4**
NMDO	**Nuevo Mundo**	**5.55**	**283**	*e*P	**Pn**	**12 15 44.7**	**-1.1**
NMDO				⇓*e*S	**Sn**	**12 16 44.5**	**-5.4**
GTBY	**Guantanamo Bay**	**5.59**	**276**	*e*P	**Pn**	**12 15 46.0**	**-0.4**
GTBY				*e*S	**Sn**	**12 16 50.8**	**-0.1**
RCC	**Rio Carpintero**	**6.14**	**276**	*e*P	**Pn**	**12 15 53.5**	**-0.4**
RCC				*e*S	**Sn**	**12 17 03.4**	**-1.1**
MARVS	**Santiago de Cu**	**6.33**	**276**	*e*P	**Pn**	**12 15 55.9**	**-0.7**
CHIV	**Chivirico**	**6.81**	**276**	Pn	**Pn**	**12 16 02.2**	**-1.0**
BAUV	**El Baul**	**10.48**	**174**		**Pn**	**12 16 54.6**	**+1.0**
SDV	**Santo Domingo**	**10.57**	**188**	Pn	**Pn**	**12 16 56.4**	**+1.4**

SOME ***15*** *12:27:29.2, 39°.53N×71°.48E, h5km*
KRNET ***15*** *12:27:29.9±0.1, 39°.58N×71°.22E, h17km, mb2.9*
ISU ***15*** *12:27:31.6, 39°.60N×71°.32E, h20km*
NNC ***15*** *12:27:33.9±1.9, 39°.73N×71°.41E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=15.7km s-min=9.0km az=17.0*
ISC 15 12:27:31.3±0.9, 39°.63N±0°.03×71°.26E±0°.02, h10km, n34, σ1§92/62, 31C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.45**	**109**	⇑*i*P	**Pg**	**12 27 39.0**	**-1.1**
DRK				⇑*i*S	**Sg**	**12 27 45.6**	**-0.4**
BTK	**Batken**	**0.55**	**322**	⇑*i*P	**Pg**	**12 27 41.2**	**-0.8**
BTK				⇑*i*S	**Sg**	**12 27 48.9**	**-0.4**
FRG	**Fergana**	**0.85**	**28**	P	**Pb**	**12 27 48.2**	**0.0**
FRG				S	**Sb**	**12 28 00.3**	**+0.6**
MINT	**Mingtut**	**0.87**	**346**	P	**Pn**	**12 27 48.9**	**-0.7**
MINT				S	**Sn**	**12 28 01.8**	**-0.5**
GAR	**Garm**	**0.96**	**230**	⇓*i*P	**Pg**	**12 27 47.1**	**-2.7**
GAR				⇓*i*S	**Sg**	**12 27 59.3**	**-3.1**
OHH	**Osh**	**1.48**	**52**	⇑*i*P	**Pn**	**12 27 57.9**	**-0.2**
OHH				⇑*i*S	**Sb**	**12 28 18.5**	**+0.7**
SFK	**Sufi-Kurgan**	**1.77**	**77**	⇑*e*P	**Pb**	**12 28 03.5**	**-0.6**
SFK				⇑*e*S	**Sg**	**12 28 27.5**	**-0.9**
TRKS	**Terek-Say**	**1.90**	**357**	⇑*i*P	**Pn**	**12 28 04.3**	**+0.3**
TRKS				⇑*i*S	**Sb**	**12 28 29.4**	**-0.8**
ARSB	**Arslanbob**	**2.15**	**37**	⇑*i*P	**Pb**	**12 28 08.7**	**-1.7**
ARSB				⇑*e*S	**Sb**	**12 28 36.7**	**-0.4**
TGS	**TashGRES**	**2.23**	**324**	P	**Pg**	**12 28 12.7**	**-1.4**
TGS				S	**Sg**	**12 28 44.2**	**+1.2**
ARK	**Arkit**	**2.23**	**14**	⇑*i*P	**Pb**	**12 28 09.9**	**-2.0**
ARK				⇑*i*S	**Sb**	**12 28 39.2**	**-0.5**
SALK	**Salom-Alik**	**2.33**	**57**	⇑*e*P	**Pn**	**12 28 11.1**	**+1.2**
SALK				⇑*e*S	**Sb**	**12 28 41.3**	**-1.1**
PSK	**Pskem**	**2.39**	**344**	P	**Pb**	**12 28 14.1**	**-0.5**
PSK				S	**Sg**	**12 28 47.1**	**-1.2**
BXML	**Bakhmal**	**2.49**	**272**	P	**Pg**	**12 28 18.7**	**-0.4**
BXML				S	**Sg**	**12 28 55.2**	**+3.8**
IUG	**Iuzhnay**	**2.68**	**340**	Pg	**Pg**	**12 28 21.0**	**-1.8**
	28nm,0.3s						
IUG				Lg	Lg	12 28 58.5	
	39nm,0.7s						
IUG	**Iuzhnay**	**2.68**	**340**	*e*P	**Pg**	**12 28 21.0**	**-1.8**
	28nm,0.3s						
IUG				*e*S	**Sg**	**12 28 58.5**	**+0.9**
	39nm,0.7s						
MNAS	**Manas**	**3.01**	**18**	⇓*i*P	**Pn**	**12 28 20.7**	**+1.5**
MNAS				⇓*i*S	**Sn**	**12 28 57.7**	**+2.3**

UPA 15 12:36:52.8±1.3, 7°.44N×80°.52W, h0km±5km, MW4.8, 4C-3D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACHO3	**Achotines, Los**	**0.34**	**94**	⇓*iP*	Pg	12 37 00.3	+0.9
ACHO3				*eS*	Sg	12 37 05.4	+1.6
CACAO	**El Cacao, Vera**	**0.35**	**255**	⇓*iP*	Pb	12 37 01.0	-1.0
CACAO				*eS*	Sb	12 37 06.5	-1.6
AZU	**Azuero**	**0.42**	**34**	⇑*iP*	Pb	12 37 02.5	-0.7
AZU				*eS*	Sb	12 37 08.6	-1.5
MARI3	**Mariato, Verag**	**0.51**	**294**	⇑*iP*	Pb	12 37 04.3	-0.4
MARI3				*eS*	Sb	12 37 12.4	-0.4
CHIT3	**Chitre**	**0.52**	**11**	⇑*iP*	Pb	12 37 04.3	-0.6
CHIT3				*eS*	Sb	12 37 12.2	-0.8
GMAL	**Guarumal, Vera**	**0.78**	**294**	⇓*eP*	Pb	12 37 09.2	0.0
GMAL				*eS*	Sb	12 37 21.7	+1.3
FLAM	**Flamenco Islan**	**1.76**	**33**	*eP*	Pn	12 37 24.5	0.0
FLAM				*eP*	Pb	12 37 24.6	-1.3
FLAM				*eS*	Sn	12 37 47.3	-0.3
BCIP	**Isla Barro Col**	**1.84**	**21**	⇑*eP*	Pn	12 37 26.3	+0.5
BCIP				*eS*	Sn	12 37 50.0	+0.3
CHPO	**Chepo, Panama**	**2.21**	**39**	*eS*	Sn	12 37 60.0	+1.2

DJA 15 12:46:31.0±0.2, 8°.S±4°.×11°.6E±°, h10km, M3.9/17, mb4.1/3, MLv3.8/17, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**1.14**	**277**	P	Pb	12 46 51.3	-1.6
SRBI				S	Sb	12 47 06.8	-1.0
DNP	**Denpasar**	**1.23**	**248**	P	Pg	12 46 55.3	+0.7
PLAI	**Plampang**	**1.53**	**113**	P	Pn	12 46 58.5	+0.1
PLAI				S	Sb	12 47 19.0	+0.2
ABJI	**Asem Bagus**	**2.15**	**281**	P	Pb	12 47 09.0	-1.0
ABJI				S	Sn	12 47 34.6	+1.0
JAGI	**Jajag, Banyuwa**	**2.20**	**263**	P	Pn	12 47 06.3	-1.3
KMMI	**Kalianget**	**2.64**	**296**	P	Pn	12 47 13.0	-0.7
BLJI	**Banyuglugur**	**2.78**	**280**	P	Pb	12 47 20.4	-0.4
GMJI	**Gumukmas**	**2.89**	**269**	P	Pn	12 47 17.5	+0.4
WBSI	**Waikabubak, Su**	**3.31**	**115**	P	Pn	12 47 22.4	-0.6
PWJI	**Pagerwojo**	**4.51**	**272**	P	Pn	12 47 38.9	-0.6
BSSI	**Bau Bau, Buton**	**4.59**	**64**	P	Pn	12 47 39.2	-1.3
BASI	**Baing, Sumba**	**4.61**	**116**	P	Pn	12 47 40.2	-0.6
PCJI	**Pacitan** 29nm,1.0s,0.2nm	**5.13**	**270**	P	Pn	12 47 47.9	-0.1
BNSI	**Bone** 8.9nm,1.7s,0.1nm	**5.32**	**45**	P	Pn	12 47 51.2	+0.7
UGM	**Wanagama**	**5.79**	**273**	P	Pn	12 47 58.4	+1.4

UPA 15 12:59:35.2±0.8, 7°.45N×80°.52W, h9km±4km, MD4.0, ML3.6, 1C-2D, Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOSI3	**Tonosi**	**0.08**	**117**	⇓*iP*	Pg	12 59 38.0	+0.6
ACHO3	**Achotines, Los**	**0.34**	**95**	*eP*	Pg	12 59 42.0	+0.1
ACHO3	comp=Z,4μm,0.2s			AMP		12 59 42.2	
CACAO	**El Cacao, Vera**	**0.36**	**254**	⇓*iP*	Pg	12 59 42.6	+0.3
CACAO	comp=Z,26μm,0.1s			AMP		12 59 43.0	
CACAO				*eS*	Sb	12 59 48.3	-1.2
AZU	**Azuero**	**0.42**	**35**	*eP*	Pg	12 59 44.0	+0.6
AZU				*eS*	Sb	12 59 50.2	-1.0
MARI3	**Mariato, Verag**	**0.51**	**293**	*eP*	Pg	12 59 45.7	+0.5
CHIT3	**Chitre**	**0.52**	**11**	⇑*iP*	Pb	12 59 45.9	-0.6
CHIT3	comp=Z,4μm,0.1s			AMP		12 59 46.0	
CHIT3				*eS*	Sg	12 59 52.6	+0.5
GMAL	**Guarumal, Vera**	**0.78**	**294**	*eP*	Pb	12 59 50.9	-0.1
GMAL	comp=Z,1μm,0.1s			AMP		12 59 52.3	
GMAL				*eS*	Sb	13 00 02.6	+1.0
MESA3	**La Mesa, Verag**	**0.96**	**316**	*eP*	Pg	12 59 53.6	-0.2
BCIP	**Isla Barro Col**	**1.84**	**21**	*eP*	Pn	13 00 08.0	+1.0
BCIP				*eS*	Sb	13 00 31.8	-0.4

RSNC ***15*** *13:19:12.2±0.0, 6°.N±1°.×7°.8W±°, h14km±3km, M4.0, mb5.0, mB5.3, ML3.6, Mw4.4, Mw(mB)4.7*
NEIC ***15*** *13:19:12.8±2.2, 6°.32N±0°.08×77°.58W±0°.04, h35km±2km, mb4.6/14, Error ellipse: s-maj=14.3km s-min=4.4km az=203.0*
IDC ***15*** *13:19:14.1±4.1, 6°.21N×77°.50W, h35km±32km, mb3.8/11, mbtmp4.1/14, ML3.0/3, MS3.5/12, Error ellipse: s-maj=24.1km s-min=15.3km az=41.0*
VAO ***15*** *13:19:15.8±1.6, 6°.18N×77°.37W, h50km±8km, mb4.5*
UPA ***15*** *13:19:20.7±0.5, 6°.76N×78°.17W, h117km±59km*
ISC 15 13:19:11.1±1.0, 6°.29N±0°.03×77°.61W±0°.03, h17km±6km, n102, σ1°85/119, mb4.3/16, MS3.6/6, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.21**	**107**	P	**Pg**	**13 19 16.0**	**0.0**
SOLC				S	**Sg**	**13 19 19.0**	**-0.4**
PTAC	**Punta Ardita,**	**0.88**	**347**	P	**Pb**	**13 19 27.8**	**-0.1**
PTAC				S	**Sg**	**13 19 41.2**	**+1.4**
DBBC	**Dabeiba**	**1.57**	**62**	P	**Pn**	**13 19 37.8**	**-0.4**
DBBC				S	**Sn**	**13 19 58.6**	**+0.5**
CBOC	**Ciudad Bolivar**	**1.64**	**105**	P	**Pn**	**13 19 37.9**	**-1.4**
CBOC				S	**Sn**	**13 20 00.1**	**0.0**
APAC	**Apartado, Choc**	**1.90**	**32**	P	**Pn**	**13 19 44.0**	**+1.3**
APAC				S	**Sb**	**13 20 10.5**	**+1.8**
PLMC	**San Jos del P**	**1.90**	**136**	P	**Pn**	**13 19 41.0**	**-1.8**
PLMC				S	**Sn**	**13 20 01.9**	**-4.5**
HELC	**Santa Helena**	**2.07**	**93**	P	**Pn**	**13 19 45.4**	**+0.1**
HELC				S	**Sn**	**13 20 11.8**	**+0.9**
MALC	**Bahia Malaga**	**2.27**	**173**	P	**Pn**	**13 19 48.7**	**+0.9**
MALC				S	**Sn**	**13 20 16.3**	**+0.8**
CAPC	**Capurgana**	**2.35**	**6**	P	**Pn**	**13 19 51.5**	**+2.6**
CAPC				S	**Sb**	**13 20 21.1**	**-0.5**
NIZA	**Niza - Manizal**	**2.45**	**120**	P	**Pn**	**13 19 52.6**	**+2.1**
GUY2C	**Guyana, Caldas**	**2.47**	**115**	P	**Pn**	**13 19 50.7**	**-0.2**
GUY2C				S	**Sn**	**13 20 23.9**	**+3.0**
UREC	**San Jos de Ur**	**2.52**	**55**	P	**Pn**	**13 19 51.7**	**+0.4**
UREC				S	**Sb**	**13 20 27.9**	**+1.2**
RECRC	**Villamaria, Ca**	**2.60**	**120**	P	**Pn**	**13 19 54.2**	**+1.4**
RECRC				S	**Sn**	**13 20 25.7**	**+1.4**
YOTC	**Yotoco, Valle**	**2.61**	**151**	P	**Pn**	**13 19 51.8**	**-0.8**
YOTC				S	**Sn**	**13 20 25.7**	**+1.8**
ACHO3	**Achotines, Los**	**2.78**	**294**	*eP*	**Pn**	**13 19 54.5**	**-0.3**
NORC	**Norcasia**	**2.82**	**105**	P	**Pn**	**13 19 56.3**	**+0.9**
NORC				S	**Sn**	**13 20 31.4**	**+2.4**
ZARC	**Zaragoza, Cauc**	**2.98**	**66**	P	**Pn**	**13 19 58.2**	**+0.6**
ZARC				S	**Sn**	**13 20 35.5**	**+2.5**
AZU	**Azuero**	**3.04**	**300**	P	**Pn**	**13 19 58.0**	**-0.3**
AZU				S	**Sn**	**13 20 32.2**	**-2.2**
AZU	**Azuero**	**3.04**	**300**	*eP*	**Pn**	**13 19 58.1**	**-0.3**
AZU				*eS*	Sn	13 20 25.7	-8.7
PTBC	**PUERTO BERRIO,**	**3.14**	**85**	P	**Pn**	**13 20 01.2**	**+1.4**
PTBC				S	**Sn**	**13 20 40.4**	**+3.5**
JAMC	**Jamundi, Valle**	**3.19**	**163**	P	**Pn**	**13 20 00.9**	**+0.3**
GR1C	**Gorgona, Isla**	**3.31**	**190**	P	**Pn**	**13 20 04.8**	**+2.7**
ORTC	**Ortega, Tolima**	**3.33**	**135**	P	**Pn**	**13 20 04.9**	**+2.5**
ORTC				S	**Sn**	**13 20 45.6**	**+3.9**
CACAO	**El Cacao, Vera**	**3.40**	**288**	P	**Pn**	**13 20 02.5**	**-0.8**
CACAO				S	**Sn**	**13 20 40.1**	**-3.1**
CACAO	**El Cacao, Vera**	**3.40**	**288**	*eP*	**Pn**	**13 20 02.8**	**-0.5**
SPBC	**San Pablo de B**	**3.57**	**100**	P	**Pn**	**13 20 08.0**	**+2.2**
ROSC	**El Rosal**	**3.57**	**114**	Pn	**Pn**	**13 20 06.4**	**+0.4**
ROSC	**El Rosal**	**3.57**	**114**	Pn	**Pn**	**13 20 06.7**	**+0.6**
ROSC	11nm,0.3s,baz=271,slow=4.0,SNR=17			Sn	**Sn**	**13 20 43.6**	**-4.5**
ROSC	23nm,0.3s,baz=12,slow=17,SNR=5.9 comp=Z,383nm,20.6s,baz=310,slow=34 57nm,0.7s			LR	LR	13 21 09.9	
ROSC	**El Rosal**	**3.57**	**114**	P	**Pn**	**13 20 09.5**	**+3.4**
ROSC				S	**Sn**	**13 20 49.3**	**+1.2**
BCIP	**Isla Barro Col**	**3.62**	**322**	Pn	**Pn**	**13 20 05.1**	**-1.2**
BCIP	**Isla Barro Col**	**3.62**	**322**	P	**Pn**	**13 20 05.2**	**-1.1**
BCIP	**Isla Barro Col**	**3.62**	**322**	*eP*	**Pn**	**13 20 05.1**	**-1.2**
BCIP				*eS*	**Sn**	**13 20 47.9**	**-0.7**
PRAC	**Prado**	**3.73**	**133**	P	**Pn**	**13 20 11.4**	**+3.5**
PRAC				S	**Sn**	**13 20 51.1**	**-0.3**
GMAL	**Guarumal, Vera**	**3.89**	**292**	P	**Pn**	**13 20 10.6**	**+0.6**
GMAL				S	**Sn**	**13 20 55.5**	**+0.2**
BRJC	**Barrancabermej**	**3.90**	**80**	P	**Pn**	**13 20 13.7**	**+3.5**
CVER	**Cruz Verde, Cu**	**3.93**	**116**	P	**Pn**	**13 20 14.1**	**+3.0**
CHIC	**Chingaza**	**4.19**	**113**	P	**Pn**	**13 20 17.4**	**+2.8**
BBAC	**Balboa, Cauca**	**4.25**	**175**	P	**Pn**	**13 20 17.1**	**+1.8**
BBAC				S	**Sn**	**13 21 02.3**	**-2.3**
SJCC	**San Jacinto, C**	**4.32**	**34**	P	**Pn**	**13 20 17.5**	**+1.5**
BARC	**Barichara**	**4.41**	**86**	P	**Pn**	**13 20 19.8**	**+2.4**
URMC	**La Uribe, Meta**	**4.41**	**133**	P	**Pn**	**13 20 20.4**	**+3.1**
URMC				S	**Sn**	**13 21 11.2**	**+2.8**
VILC	**Villavicencio,**	**4.46**	**119**	P	**Pn**	**13 20 22.1**	**+4.1**
RUSC	**La Rusia**	**4.51**	**95**	Pn	**Pn**	**13 20 19.0**	**-0.1**
RUSC	**La Rusia**	**4.51**	**95**	P	**Pn**	**13 20 21.5**	**+2.4**
OCAC	**Ocana**	**4.67**	**65**	P	Pb	13 20 28.2	-4.5
PAMC	**Pamplona, Colo**	**4.98**	**78**	P	**Pn**	**13 20 27.8**	**+2.2**
FLOC	**Florencia** 34nm,0.8s,748nm	**5.06**	**157**	P	**Pn**	**13 20 27.3**	**+1.1**
TAMC	**Tame, Arauca** 317nm,1.0s,3μm	**5.78**	**88**	P	**Pn**	**13 20 38.3**	**+2.1**
OTAV	**Otavalo**	**6.07**	**188**	Pn	**Pn**	**13 20 38.3**	**-2.2**
OTAV	**Otavalo**	**6.07**	**188**	*eP*	**Pn**	**13 20 42.0**	**+1.6**
PAC1	**Pacto, Paraso**	**6.10**	**191**	P	**Pn**	**13 20 40.2**	**-0.4**
CRJC	**Cerrejon, Guaj**	**6.63**	**44**	P	**Pn**	**13 20 47.2**	**-0.6**
SDV	**Santo Domingo**	**7.38**	**69**	Pn	**Pn**	**13 20 57.2**	**-1.1**
SDV	**Santo Domingo** 3.9nm,0.3s,baz=248,slow=10.0,SNR=19	**7.38**	**69**	Pn	**Pn**	**13 20 58.1**	**-0.1**
SDV	baz=96,slow=23			Sn	**Sn**	**13 22 18.3**	**-3.4**
SDV	comp=Z,641nm,18.3s,baz=247,slow=43 9.5nm,0.4s			LR	LR	13 24 28.4	
SDV	**Santo Domingo**	**7.38**	**69**	P	**Pn**	**13 20 59.5**	**+1.3**
SDV	**Santo Domingo**	**7.38**	**69**	*eP*	**Pn**	**13 20 58.6**	**+0.3**
JTS	**Las Juntas de** 0.6nm,0.3s,baz=2.1,slow=21,SNR=2.7	**8.29**	**299**	Pn	**Pn**	**13 21 13.7**	**+3.1**
JTS	comp=Z,582nm,20.1s,baz=105,slow=38 6.2nm,0.6s			LR	LR	13 24 31.5	
BAUV	**El Baul**	**9.84**	**74**	Pn	**Pn**	**13 21 31.0**	**-0.9**
ATAH	**Atahualpa**	**13.36**	**183**	LR	LR	13 28 45.8	
	comp=Z,245nm,18.6s,baz=20,slow=43						
PCRV	**Puerto La Cruz**	**13.40**	**72**	LR	LR	13 29 26.8	
	comp=Z,262nm,18.9s,slow=46						
SDDR	**Presa de Saban**	**14.04**	**25**	P	**P**	**13 22 36.4**	**-0.8**
MLPR	**Magueyes Islan**	**15.53**	**41**		**Pn**	**13 22 51.8**	**+2.4**
MLPR	comp=Z,57nm,1.4s			IAmb	IAmb	13 23 23.2	
AOPR	**Arecibo Observ**	**15.99**	**40**	Pn	**Pn**	**13 22 53.5**	**-1.8**
AOPR	comp=Z,56nm,1.4s			IAmb	IAmb	13 23 03.7	
RTAL	**Retalhuleu**	**16.09**	**302**	Pn	**Pn**	**13 22 55.4**	**-1.1**
SJG	**San Juan**	**16.22**	**43**	LR	LR	13 29 33.2	
	comp=Z,109nm,18.7s,baz=222,slow=38						
PDPR	**Patillas Dam,**	**16.24**	**43**	Pn	**Pn**	**13 22 54.7**	**-3.8**
BOAV	**Boa Vista**	**17.46**	**102**		**Pn**	**13 23 13.0**	**-1.0**
BOAV	**Boa Vista**	**17.46**	**102**	*eP*	**Pn**	**13 23 12.5**	**-1.5**
TDBA	**Terre de Bas,**	**18.32**	**57**	P	**Pn**	**13 23 21.4**	**-3.1**
ETMB	**Extrema**	**19.61**	**145**	*eP*	**P**	**13 23 38.4**	**-0.4**
CMIG	**Matias Romero**	**20.02**	**304**	LR	LR	13 32 57.5	
	comp=Z,84nm,18.5s,baz=114,slow=41						
SAML	**Samuel**	**20.88**	**136**	P	**P**	**13 23 50.6**	**-1.9**
SAML	comp=Z,45nm,1.5s			IAmb	IAmb	13 24 04.7	
SAML	**Samuel**	**20.88**	**136**	*eP*	**P**	**13 23 50.9**	**-1.6**
LPAZ	**La Paz**	**24.31**	**157**	P	**P**	**13 24 28.6**	**0.0**
	comp=Z,1.6nm,0.5s,baz=344,slow=12,SNR=4.1 comp=Z,1.6nm,0.5s						
MDP	**Montagnes des**	**24.87**	**91**	LR	LR	13 36 02.3	
	comp=Z,28nm,18.2s,baz=277,slow=41						
VILB	**Vilhena**	**25.78**	**138**	P	**P**	**13 24 40.6**	**-0.7**
VILB	comp=Z,24nm,0.8s			IAmb	IAmb	13 24 43.6	
VILB	**Vilhena**	**25.78**	**138**	*eP*	**P**	**13 24 40.6**	**-0.7**
NPGB	**Novo Progresso**	**25.85**	**120**	*eP*	**P**	**13 24 41.4**	**-0.6**
PB11	**IPOC Station P**	**27.04**	**163**	P	**P**	**13 24 52.6**	**-0.2**
PB11	comp=Z,24nm,1.0s			IAmb	IAmb	13 25 01.1	
PDRB	**Porto dos Gac**	**27.34**	**131**	*eP*	**P**	**13 24 53.4**	**-2.1**
BBSD	**Serra de San D**	**28.74**	**144**	*eP*	**P**	**13 25 06.3**	**-1.6**
BDFB	**Brasilia**	**36.52**	**127**	P	**P**	**13 26 15.5**	**-0.6**
	comp=Z,3.7nm,0.8s,baz=302,slow=2.7,SNR=4.8 comp=Z,3.7nm,0.8s						
CPUP	**Villa Florida**	**37.92**	**150**	P	**P**	**13 26 26.2**	**-1.4**
	comp=Z,1.9nm,0.3s,baz=354,slow=5.6,SNR=3.4 comp=Z,1.9nm,0.3s						
ANMO	**Albuquerque**	**38.99**	**321**	P	**P**	**13 26 36.5**	**-0.3**
ANMO	comp=Z,4.6nm,0.8s			IAmb	IAmb	13 26 40.1	
EMMW	**East Machias**	**39.29**	**11**	P	**P**	**13 26 38.7**	**-0.2**
SDCO	**Great Sand Dun**	**40.29**	**325**	P	**P**	**13 26 46.0**	**-1.7**
PFO	**Pinyon Flats O**	**45.09**	**312**	LR	LR	13 47 36.7	
	comp=Z,65nm,19.5s,baz=45,slow=38						
RPN	**Rapa Nui**	**45.23**	**221**	LR	LR	13 42 18.4	
	comp=Z,62nm,18.5s,baz=148,slow=31						
PDAR	**Pinedale Array**	**46.00**	**327**	P	**P**	**13 27 34.9**	**+1.1**
	comp=Z,0.9nm,1.0s,baz=134,slow=8.5,SNR=4.1 comp=Z,0.9nm,1.0s						
NVAR	**Mina Array Bea**	**48.76**	**317**	P	**P**	**13 27 57.8**	**+2.5**
	comp=Z,1.9nm,0.8s,baz=126,slow=6.8,SNR=18 comp=Z,1.9nm,0.8s						
YKA	**Yellowknife Ar**	**62.29**	**342**	P	**P**	**13 29 32.4**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=130,slow=6.6,SNR=6.8 comp=Z,1.5nm,0.7s						
A36M	**Sachs Harbour**	**71.83**	**346**	P	**P**	**13 30 31.4**	**-1.1**
A36M	comp=Z,5.3nm,0.8s			IAmb	IAmb	13 30 33.4	
INK	**Inuvik**	**72.06**	**341**	P	**P**	**13 30 34.0**	**+0.1**
INK	comp=Z,4.7nm,1.4s			IAmb	IAmb	13 30 35.2	
DBIC	**Dimbokro**	**72.22**	**85**	P	**P**	**13 30 36.3**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=239,slow=5.9,SNR=2.4 comp=Z,3.6nm,0.8s						
ESDC	**Sonseca Array**	**73.43**	**51**	P	**P**	**13 30 43.5**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=281,slow=6.0,SNR=8.2 comp=Z,1.4nm,0.9s						
PPT	**Papeete**	**74.88**	**250**	LR	LR	13 57 15.4	
	comp=Z,40nm,18.2s,baz=120,slow=30						
ILAR	**Eielson Array**	**75.58**	**336**	P	**P**	**13 30 55.5**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=109,slow=7.4,SNR=2.2 comp=Z,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**78.21**	**78**	P	**P**	**13 31 10.1**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=290,slow=7.3,SNR=5.6 comp=Z,1.2nm,0.8s						
RAR	**Rarotonga**	**84.99**	**248**	LR	LR	14 00 14.5	
	comp=Z,75nm,19.9s,baz=136,slow=29						
GERES	**GERESS Array B**	**86.18**	**41**	P	**P**	**13 31 52.9**	**+1.3**
	comp=Z,0.5nm,0.2s,baz=262,slow=4.9,SNR=3.6 comp=Z,0.5nm,0.2s						
ASAR	**Alice Springs**	**145.13**	**237**	PKPbc	**PKPbc**	**13 38 48.2**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=126,slow=3.6,SNR=10						
WRA	**Warramunga Arr**	**146.14**	**243**	PKPbc	**PKPdf**	**13 38 50.4**	**0.0**
	comp=Z,1.3nm,0.9s,baz=99,slow=3.6,SNR=7.9						

IDC ***15*** *13:20:32.4±2.5, 18°.09S×178°.33W, h540km±20km, mb3.5/4, mbtmp4.4/5, Error ellipse: s-maj=43.6km s-min=31.0km az=27.0*
NEIC ***15*** *13:20:32.4±1.1, 18°.2S±0°.2×178°.3W±0°.2, h541km±15km, mb4.1/23, Error ellipse: s-maj=31.3km s-min=24.0km az=64.0*
ISC 15 13:20:33.2±1.6, 18°.2S±0°.2×178°.4W±0°.2, h550km, n33, σ0°86/33, mb4.1/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.37**	**277**	P	**P**	**13 21 50.1**	**-0.6**
MSVF	**Nonsavu**	**3.37**	**277**	P	**P**	**13 21 49.8**	**-1.0**
	53nm,0.7s,baz=126,slow=12,SNR=58						
FUTU	**Fugatoga**	**3.85**	**5**	P	P	13 21 47.3	-6.8
AFI	**Afiamalu**	**7.68**	**57**	P	P	13 22 18.5	-9.5
BKZ	**Black Stump Fm**	**21.38**	**191**	P	**P**	**13 24 39.7**	**-1.9**
BKZ				IAmb	IAmb	13 24 53.4	
	comp=Z,3.5nm,1.0s						
QRZ	**Quartz Range**	**23.88**	**197**	P	**P**	**13 25 05.2**	**+1.3**
TKNZ	**Takaka Hill**	**23.95**	**196**	P	**P**	**13 25 03.9**	**-0.6**
THZ	**Tophouse**	**24.65**	**196**	P	**P**	**13 25 10.9**	**+0.1**
THZ				IAmb	IAmb	13 25 21.1	
	comp=Z,8.9nm,1.2s						
DSZ	**Denniston Nort**	**24.93**	**198**	P	**P**	**13 25 12.3**	**-0.9**
DSZ				IAmb	IAmb	13 25 28.3	
	comp=Z,9.2nm,1.1s						
INZ	**Inchbonnie**	**25.94**	**197**	P	**P**	**13 25 21.4**	**-0.7**
EIDS	**Eidsvold**	**29.15**	**250**	P	**P**	**13 25 49.3**	**-1.1**
EIDS				IAmb	IAmb	13 25 56.3	
	comp=Z,2.7nm,0.9s						
ARMA	**Armidale**	**29.78**	**240**	P	**P**	**13 25 57.0**	**+1.0**
ARMA				IAmb	IAmb	13 26 09.2	
	comp=Z,8.7nm,1.1s						
CTAO	**Charters Tower**	**33.37**	**261**	P	**P**	**13 26 26.7**	**+0.1**
CTAO				IAmb	IAmb	13 26 27.7	
	comp=Z,4.0nm,0.8s						
CAN	**Canberra**	**33.52**	**233**	P	**P**	**13 26 27.8**	**+0.1**
CAN				IAmb	IAmb	13 26 41.7	
	comp=Z,5.5nm,1.0s						
TOO	**Toolangi**	**36.98**	**231**	P	**P**	**13 26 57.9**	**+1.5**
TOO				IAmb	IAmb	13 27 05.2	
	comp=Z,3.5nm,1.1s						
STKA	**Stephens Creek**	**38.48**	**241**	P	**P**	**13 27 09.5**	**+0.9**
STKA	**Stephens Creek**	**38.48**	**241**	P	**P**	**13 27 10.1**	**+1.5**
	comp=Z,3.1nm,0.5s,baz=88,slow=9.2,SNR=9.7 comp=Z,3.1nm,0.5s						
WB0	**Warramunga Arr**	**44.52**	**260**		**P**	**13 27 56.5**	**-0.1**
WB0				IAmb	IAmb	13 27 57.6	
	comp=Z,3.4nm,0.8s						
WB2	**Warramunga Arr**	**44.54**	**260**	P	**P**	**13 27 56.8**	**+0.1**
WB2				IAmb	IAmb	13 27 57.5	
	comp=Z,4.2nm,0.5s						
WRAB	**Tennant Creek**	**44.55**	**260**	P	**P**	**13 27 56.5**	**-0.2**
WRA	**Warramunga Arr**	**44.55**	**260**		**P**	**13 27 56.4**	**-0.5**
WRA	**Warramunga Arr**	**44.55**	**260**	P	**P**	**13 27 56.6**	**-0.2**
	comp=Z,2.5nm,0.5s,baz=94,slow=6.7,SNR=107						
WRA				PcP	**PcP**	**13 29 27.7**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=86,slow=3.5,SNR=2.4 comp=Z,2.5nm,0.5s						
AS31	**Alice Springs**	**44.69**	**254**		**P**	**13 27 58.6**	**+0.8**
AS31				IAmb	IAmb	13 27 59.5	
	comp=Z,5.8nm,0.6s						
ASAR	**Alice Springs**	**44.69**	**254**	P	**P**	**13 27 58.6**	**+0.7**
	comp=Z,19nm,0.6s,baz=88,slow=8.3,SNR=540						
ASAR				PcP	**PcP**	**13 29 28.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=112,slow=4.8,SNR=2.8 comp=Z,19nm,0.6s						
FORT	**Forrest**	**49.87**	**245**	P	**P**	**13 28 37.0**	**+0.5**
KNRA	**Kununurra**	**50.43**	**264**	P	**P**	**13 28 41.2**	**+0.4**
KNRA				IAmb	IAmb	13 28 41.8	
	comp=Z,5.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.95**	**261**	P	**P**	**13 28 59.1**	**+0.1**
PSA00	**Pilbara Seismi**	**57.81**	**256**	P	**P**	**13 29 30.9**	**-1.9**
MORW	**Morawa**	**60.35**	**246**	P	**P**	**13 29 49.4**	**-0.2**
MORW				IAmb	IAmb	13 30 02.9	
	comp=Z,8.9nm,1.0s						
JSG	**Sagara**	**66.79**	**322**	P	**P**	**13 30 30.9**	**+0.4**
QSPA	**South Pole Qui**	**71.88**	**180**	P	**P**	**13 31 01.1**	**+0.4**
QSPA	**South Pole Qui**	**71.88**	**180**	P	**P**	**13 31 01.0**	**+0.3**
	comp=Z,1.2nm,1.0s,baz=222,slow=1.2,SNR=7.9 comp=Z,1.2nm,1.0s						
MMAI	**Mount Meron Ar**	**146.26**	**303**	PKPbc	**PKPbc**	**13 39 13.3**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=70,slow=6.3,SNR=4.0						

IDC 15 13:25:18.3±2.1, 16°.95S×13°.56W, h0km, mb3.9/5, mbtmp3.9/5, MS3.6/28, Error ellipse: s-maj=182.5km s-min=29.4km az=103.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**8.01**	**352**	T	T	13 35 08.4	
	baz=179,slow=74,SNR=75						
H10S3	**ASCENSION HYDR**	**8.02**	**352**	T	T	13 35 11.4	
	baz=41,slow=74,SNR=78						
H10N1	**ASCENSION HYDR**	**9.09**	**354**	T	T	13 36 31.1	
	baz=180,slow=73,SNR=4.9						
H10N3	**ASCENSION HYDR**	**9.10**	**354**	T	T	13 36 33.1	
	baz=180,slow=73,SNR=16						
H10N2	**ASCENSION HYDR**	**9.11**	**354**	T	T	13 36 31.6	
	baz=180,slow=73,SNR=4.8						
RCBR	**Riachuelo**	**24.50**	**294**	LR	LR	13 37 47.7	
	comp=Z,45nm,19.9s,baz=88,slow=31						
DBIC	**Dimbokro**	**24.99**	**21**	P	P	13 30 43.7	-0.3
	3.4nm,0.9s,baz=206,slow=10.0,SNR=3.6 3.4nm,0.9s						
TSUM	**Tsumeb**	**29.67**	**99**	LR	LR	13 41 34.4	
	comp=Z,93nm,21.2s,baz=187,slow=33						
BDFB	**Brasilia**	**33.07**	**267**	LR	LR	13 42 09.6	
	comp=Z,285nm,21.5s,baz=43,slow=31						
TORD	**Torodi Ar. Bea**	**33.48**	**28**	P	P	13 31 59.7	+0.1
	3.9nm,0.9s,baz=218,slow=7.7,SNR=13						
TORD				LR	LR	13 43 31.8	
	comp=Z,120nm,19.7s,baz=198,slow=33 3.9nm,0.9s						
SUR	**Sutherland**	**34.63**

0.4nm,0.4s
MKAR Makanchi Array 59.83 327 P P 14 13 13.0 +0.3
0.3nm,0.4s,baz=113,slow=7.7,SNR=6.3
0.3nm,0.4s
KURBB Kurchatov Arra 64.09 328 P P 14 13 41.3 0.0
0.4nm,0.6s,baz=125,slow=6.1,SNR=4.6
0.4nm,0.6s

*IDC **15** 14:07:19.8±1.4, 37°.71N×20°.69E, h0km, mb3.7/6, mbtmp3.7/7, ML1.4/1, Error ellipse: s-maj=30.2km s-min=24.0km az=77.0*
*ATH **15** 14:07:21.7, 37°.65N×20°.51E, h7km±2km, ML3.7/17, Error ellipse: s-maj=2.9km s-min=0.9km az=36.0*
*THE **15** 14:07:22.1, 37°.67N×20°.55E, h16km, ML4.0/12, Error ellipse: s-maj=0.9km s-min=0.3km az=55.0*
*TIR **15** 14:07:23.5, 37°.90N×19°.98E, h16km±1km, Md3.7, Ml3.7*
ISC 15 14:07:22.1±1.0, 37°.70N±0°.04×20°.57E±0°.04, h16km±6km, n60, σ0s76/84, mb3.7/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	0.20	100	P	Pg	14 07 27.0	+0.1
KRI1				S	Sg	14 07 30.4	+0.2
	56μm,0.4s						
LTHK	**Lithakia**	0.21	87	P	Pg	14 07 27.2	+0.1
LTHK				S	Sg	14 07 30.7	+0.2
	54μm,0.3s						
LTHK	**Lithakia**	0.21	87	P	Pg	14 07 27.2	+0.1
LTHK				S	Sg	14 07 30.4	-0.1
LTHK				AML	AML	14 07 31.0	
	comp=E,82810μm,0.1s						
LTHK				AML	AML	14 07 31.1	
RTZL	**Ratzakli, Kefa**	0.41	23	P	Pb	14 07 30.8	-0.2
RTZL				S	Sb	14 07 37.6	+0.6
PSDA	**Pessada-Kefalo**	0.41	2	P	Pb	14 07 30.9	-0.2
PSDA				S	Sb	14 07 37.8	+0.6
	comp=E,31μm,0.3s						
PSDA	**Pessada-Kefalo**	0.41	2	P	Pb	14 07 30.9	-0.2
PSDA				S	Sb	14 07 37.3	+0.1
VLS	**Valsamata**	0.48	2	P	Pb	14 07 31.8	-0.4
VLS				S	Sb	14 07 39.8	+0.8
	comp=E,17μm,0.1s						
VLS	**Valsamata**	0.48	2	P	Pb	14 07 31.7	-0.4
VLS				S	Sb	14 07 39.4	+0.3
VLS				AML	AML	14 07 40.4	
	comp=E,38692μm,0.2s						
VLS				AML	AML	14 07 40.8	
	comp=N,28536μm,0.1s						
LXRA	**Lixouri, Kepha**	0.51	349	P	Pb	14 07 32.6	-0.1
LXR1	**Lixouri, Cepha**	0.51	349	P	Pb	14 07 32.6	-0.1
LXR1				S	Sb	14 07 41.0	+1.1
	comp=N,63μm,0.4s						
SMHA	**Samh**	0.56	7	P	Pg	14 07 32.7	-0.5
DMLN	**Damoulianata-K**	0.56	344	P	Pb	14 07 33.4	-0.2
DMLN				S	Sb	14 07 42.4	+1.0
	comp=N,21μm,0.3s						
DMLN	**Damoulianata-K**	0.56	344	P	Pb	14 07 33.4	-0.2
DMLN				S	Sb	14 07 41.8	+0.5
VSK1	**VASILIKIADES**	0.71	360	P	Pb	14 07 35.8	-0.3
VSK1				S	Sn	14 07 46.6	-1.5
	comp=N,19μm,0.2s						
FSK	**Fiskardo**	0.76	360	P	Pb	14 07 36.8	-0.2
FSK				S	Sn	14 07 48.5	-0.8
	comp=N,16μm,0.2s						
FSK	**Fiskardo**	0.76	360	P	Pg	14 07 36.5	-0.5
FSK				S	Sn	14 07 48.2	-1.1
FSK				AML	AML	14 07 49.4	
	comp=N,27236μm,0.2s						
FSK				AML	AML	14 07 49.6	
	comp=E,34859μm,0.2s						
RLS	**Riolos of Patr**	0.80	63	P	Pb	14 07 37.5	-0.1
RLS				S	Sn	14 07 49.6	-0.7
	comp=E,5μm,0.3s						
RLS	**Riolos of Patr**	0.80	63	P	Pb	14 07 37.5	-0.1
RLS				S	Sn	14 07 49.5	-0.7
RLS				AML	AML	14 07 51.4	
	comp=N,12026μm,0.4s						
RLS				AML	AML	14 07 51.9	
	comp=E,9047μm,0.3s						
AMT	**Artemida-Makis**	0.92	100	P	Pb	14 07 39.6	-0.1
AMT				S	Sg	14 07 52.7	+0.5
AMT				AML	AML	14 07 56.5	
	comp=E,17488μm,0.4s						
AMT				AML	AML	14 07 56.7	
	comp=N,13731μm,0.4s						
EVGI	**Lefkada island**	0.92	4	P	Pb	14 07 39.4	-0.4
EVGI				S	Sn	14 07 53.4	0.0
	comp=N,12μm,0.2s						
EVGI	**Lefkada island**	0.92	4	P	Pg	14 07 39.7	-0.4
DRO	**Drossia**	0.94	74	P	Pb	14 07 40.2	+0.1
DRO	**Drossia**	0.94	74	P	Pb	14 07 39.8	-0.3
DRO				S	Sn	14 07 53.7	-0.1
DRO				AML	AML	14 08 01.7	
	comp=N,7467μm,0.5s						
DRO				AML	AML	14 08 03.6	
	comp=E,7251μm,0.4s						
DRAG	**Dragano-Lefkad**	0.98	0	P	Pb	14 07 40.5	-0.3
DRAG				S	Sn	14 07 55.3	+0.4
DRAG	**Dragano-Lefkad**	0.98	0	P	Pb	14 07 40.6	-0.3
NYDR	**Nydri-Lefkada**	1.02	6	P	Pb	14 07 41.1	-0.3
NYDR				S	Sn	14 07 56.1	+0.4
	comp=E,3μm,0.6s						
NYDR	**Nydri-Lefkada**	1.02	6	P	Pb	14 07 41.1	-0.3
LKD2	**Lefkada island**	1.09	4	P	Pg	14 07 43.7	+0.5
LKD2				AMP			
	comp=E,12nm,0.2s,baz=30						
LKD2	**Lefkada island**	1.09	4	P	Pg	14 07 43.8	+0.5
LKD2				AML	AML	14 08 04.9	
	comp=E,8565μm,0.7s						
LKD2				AML	AML	14 08 07.3	
	comp=N,6643μm,0.5s						
TSLK	**Tsoukalades, L**	1.13	4	P	Pn	14 07 43.1	-0.2
TSLK				AML	AML	14 08 05.4	
	comp=N,7916μm,0.5s						
TSLK				AML	AML	14 08 06.0	
	comp=E,6682μm,0.5s						
UPR	**University Cam**	1.13	58	P	Pb	14 07 43.0	-0.2
ITM	**Ithomi**	1.20	115	P	Pn	14 07 43.7	-0.6
ITM				S	Sb	14 08 00.2	+0.4
	comp=E,2μm,0.7s						
ITM	**Ithomi**	1.20	115	P	Pn	14 07 43.9	-0.4
ITM				S	Sg	14 08 01.5	+0.5
ITM				AML	AML	14 08 07.0	
	comp=E,2648μm,0.7s						
ITM				AML	AML	14 08 10.4	
	comp=N,3519μm,0.8s						
PYL	**PYLOS**	1.23	130	P	Pn	14 07 44.1	-0.6
PYL				S	Sb	14 08 00.4	-0.3
PYL	**PYLOS**	1.23	130	P	Pn	14 07 44.7	+0.1
PYL				AML	AML	14 08 05.2	
	comp=E,3059μm,0.6s						
PYL				AML	AML	14 08 05.9	
	comp=N,1773μm,0.4s						
EFP	**Efpalio**	1.28	55	P	Pn	14 07 45.1	-0.3
EFP	**Efpalio**	1.28	55	P	Pb	14 07 45.8	-0.1
EFP				AML	AML	14 08 11.2	
	comp=N,3633μm,0.3s						
EFP				AML	AML	14 08 13.8	
	comp=E,2853μm,0.7s						
KLV	**Kalavryta, Ach**	1.30	74	P	Pn	14 07 45.5	-0.2
KLV	**Kalavryta, Ach**	1.30	74	P	Pn	14 07 45.9	+0.2
KLV				AML	AML	14 08 10.3	
	comp=N,1363μm,0.5s						
KLV				AML	AML	14 08 16.6	
	comp=E,1419μm,0.9s						
ANX	**Ano Chora**	1.39	50	P	Pn	14 07 46.4	-0.6
ANX	**Ano Chora**	1.39	50	P	Pb	14 07 47.8	0.0
ANX				AML	AML	14 08 14.7	
	comp=N,11018μm,0.6s						
ANX				AML	AML	14 08 15.6	
	comp=E,4937μm,0.5s						
KALE	**Kalithea**	1.42	60	P	Pb	14 07 48.2	-0.2
KALE				AML	AML	14 08 13.2	
	comp=N,2474μm,0.5s						
KALE				AML	AML	14 08 24.2	
	comp=E,2777μm,0.6s						
GUR	**Goura**	1.43	80	P	Pn	14 07 47.8	+0.3
GUR				AML	AML	14 08 17.2	
	comp=N,3157μm,0.4s						
GUR				AML	AML	14 08 19.8	
	comp=E,2510μm,0.4s						
IGT	**Igoumenitsa**	1.84	354	P	Pb	14 07 54.6	-0.8
IGT				AMP			
	comp=E,2.3nm,0.4s,baz=9.0						
IGT	**Igoumenitsa**	1.84	354	P	Pn	14 07 53.2	+0.2
IGT				AML	AML	14 08 26.2	
	comp=E,1442μm,0.6s						
IGT				AML	AML	14 08 29.4	
	comp=N,1466μm,0.5s						
SRN	**Sarande**	2.22	349	P	Pb	14 08 00.2	-1.7
SRN				AMP			
	comp=E,1.0nm,0.9s,baz=0.0						
LSK	**Leskovik**	2.45	1	P	Pb	14 08 04.4	-1.4
LSK				AMP			
	comp=N,2.5nm,0.5s,baz=11						
NEST	**Nestorio**	2.74	8	P	Pb	14 08 09.7	-1.1
SCTE	**Santa Cesarea**	2.88	326	P	Pn	14 08 07.0	-0.3
SCTE				AMP			
	comp=N,0.5nm,0.5s,baz=333						
KBN	**Korca**	2.93	3	AMP			
	comp=N,0.8nm,0.6s,baz=12						
FNA	**Florina**	3.15	11	P	Pb	14 08 15.6	-2.1
TIR	**Tirane**	3.69	352	P	Pn	14 08 21.5	+3.1
NOCI	**Noci**	4.11	320	P	Pn	14 08 24.7	+0.4
IDI	**Anoyia**	4.23	123	Pn	Pn	14 08 24.1	-1.9
	comp=N,1.1nm,0.3s,baz=344,slow=10,SNR=1.6						
IDI				Sn	Sn	14 09 17.3	+2.2
	comp=N,1.5nm,0.3s,baz=41,slow=3.3,SNR=2.0						
	comp=N,19nm,1.1s						
HFS	**Hagfors**	22.88	351	P	P	14 12 25.2	+0.5
	comp=N,3.7nm,0.7s,baz=170,slow=12,SNR=4.4						
	comp=N,3.7nm,0.7s						
FINES	**FINESS Array B**	24.02	7	P	P	14 12 35.5	-0.4
	comp=N,0.9nm,0.4s,baz=170,slow=9.2,SNR=6.4						
	comp=N,0.9nm,0.4s						
TORD	**Torodi Ar. Bea**	29.68	220	P	P	14 13 28.1	+0.8
	comp=N,0.4nm,0.7s,baz=34,slow=8.8,SNR=2.8						
	comp=N,0.4nm,0.7s						
ARCES	**ARCESS Array B**	32.01	3	P	P	14 13 47.5	+0.2
	comp=N,3.0nm,0.9s,baz=190,slow=10,SNR=2.1						
	comp=N,3.0nm,0.9s						
KURBB	**Kurchatov Arra**	42.49	53	P	P	14 15 15.4	-0.9
	comp=N,0.4nm,0.5s,baz=278,slow=8.8,SNR=3.1						
	comp=N,0.4nm,0.5s						
MKAR	**Makanchi Array**	45.52	58	P	P	14 15 40.2	-0.6
	comp=N,0.3nm,0.3s,baz=273,slow=8.4,SNR=7.5						
	comp=N,0.3nm,0.3s						

*PRE **15** 14:24:07.6±0.8, 26°.07S×29°.25E, h0km, ML2.4, Explosion*
*BGSI **15** 14:24:19.7±2.4, 23°.77S×31°.48E, h186km±149km, ML2.7*
ISC 15 14:24:07.7±0.8, 26°.08S±0°.03×29°.24E±0°.03, h10km, n15, σ1s74/25, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	0.71	83	eP	Pg	14 24 20.5	-0.9
CRLN				eS	Sb	14 24 31.3	-0.9
CRLN				IAML		14 24 34.1	
	comp=Z,52nm,0.4s						
HRAO	**HartRAO**	1.41	277	eP	Pg	14 24 34.6	-0.3
HRAO				eS	Sg	14 24 54.7	+1.4
HRAO				IAML		14 24 56.2	
	comp=Z,63nm,0.9s						
PILG	**Pilgrimsrest,**	1.75	50	eP	Pb	14 24 39.6	-0.5
PILG				eS	Sg	14 25 02.7	-1.3
PILG				IAML		14 25 10.4	
	comp=Z,65nm,0.4s						
NWCL	**Newcastle**	1.75	161	eP	Pb	14 24 40.6	+0.5
NWCL				eS	Sg	14 25 04.0	-0.1
NWCL				IAML		14 25 15.4	
	comp=Z,29nm,0.4s						
PRYS	**Parys**	1.89	243	eP	Pb	14 24 41.8	-0.6
PRYS				eS	Sg	14 25 07.6	-0.9
PRYS				IAML		14 25 12.4	
	comp=Z,98nm,0.6s						
POGA	**Pongola**	2.54	120	eP	Pn	14 24 50.6	+1.6
POGA				eS	Sb	14 25 22.3	-2.5
POGA				IAML		14 25 38.0	
	comp=Z,23nm,0.4s						
SNKL	**Senekal, Frees**	2.55	211	eP	Pb	14 24 51.6	-2.1
SNKL				eS	Sn	14 25 22.6	+2.0
SNKL				IAML		14 25 38.7	
	comp=Z,29nm,0.7s						
LEPH	**Lephalale, Lim**	2.57	329	eP	Pn	14 24 51.5	+1.9
LEPH				eS	Sb	14 25 23.6	-2.1
LEPH				IAML		14 25 30.6	
	comp=Z,65nm,0.5s						
MOPA	**Mopani**	3.21	38	eP	Pn	14 25 00.4	+2.0
MOPA				eS	Sn	14 25 38.1	+1.3
MOPA				IAML		14 25 48.7	
	comp=Z,27nm,0.4s						
LBTB	**Lobatse**	3.46	287	eP	Pn	14 25 03.1	+1.4
LBTB				eS	Sn	14 25 44.6	+1.7
LBTB				IAML		14 26 01.9	
	comp=Z,26nm,0.5s						
MUSN	**Musina, Limpop**	3.81	9	eP	Pn	14 25 08.4	+1.8
MUSN				eS	Sn	14 25 52.8	+1.2
MUSN				IAML		14 26 13.8	
	comp=Z,11nm,0.5s						
MREMI	**Moremi**	3.86	334	i P	Pb	14 25 16.6	+0.6
MREMI				IAML		14 26 11.6	
	comp=N,50nm,0.3s						
LPHEP	**Lephephe**	4.09	311	i P	Pg	14 25 35.1	+8.8
LPHEP				IAML		14 26 18.9	
	comp=E,15nm,0.7s						
BROLN	**Tlhalogang**	5.25	340	i P	Pn	14 25 28.3	+1.8
BROLN				i S	Sn	14 26 17.6	-10
BROLN				IAML		14 26 55.5	
	comp=N,5.2nm,0.5s						
CKGRV	**CKGRV**	6.84	312	i P	Pb	14 26 02.9	-3.9
CKGRV				IAML		14 28 10.7	
	comp=N,36nm,0.3s						

*AZER **15** 14:34:02.8, 41°.58N×46°.10E, h2km, ml2.8*
*DRS **15** 14:34:03.9, 41°.83N×46°.08E, h9km*
*MOS **15** 14:34:03.4, 41°.75N×46°.05E, h23km, MPVA3.8*
*NORS **15** 14:34:04.0, 41°.77N×46°.04E, h25km, MPVA3.7*
ISC 15 14:34:04.9±1.1, 41°.74N±0°.02×46°.04E±0°.02, h5km±10km, n40, σ0s95/78, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKTA	**Zakatala**	0.45	103	P	Pg	14 34 12.9	-0.6
ZKTA				S	Sg	14 34 20.1	+0.7
QZX	**Qazax, Azerbai**	0.84	216	P	Pg	14 34 20.3	-0.8
QZX				S	Sg	14 34 33.1	+1.0
BTLR	**Botlikh**	0.93	8	ePg	Pg	14 34 22.1	-0.6
	36nm,0.4s						
BTLR				eSg	Sg	14 34 35.3	+0.5
	260nm,0.3s						
XNZR	**Khunzakh**	0.94	32	ePg	Pg	14 34 22.8	-0.1
	26nm,0.3s						
XNZR				eSg	Sg	14 34 36.5	+1.3
	184nm,0.5s						
GNBR	**Gunib**	0.95	47	ePg	Pg	14 34 22.5	-0.5
	37nm,0.2s						
GNBR				eSg	Sg	14 34 36.5	+1.2
	287nm,0.5s						
SEKA	**Sheki**	1.02	121	P	Pb	14 34 24.3	-0.8
SEKA				S	Sn	14 34 40.7	0.0
GDB	**GEDABAY**	1.04	192	P	Pb	14 34 23.0	-2.4
GDB				S	Sb	14 34 37.9	-1.6
ARKR	**Arakani**	1.12	39	ePg	Pb	14 34 25.9	-0.8
	34nm,0.4s						
ARKR				eSg	Sb	14 34 41.8	+0.2
	190nm,0.4s						
UNCR	**Uncukul**	1.12	30	ePg	Pb	14 34 25.7	-1.1
	50nm,0.3s						
UNCR				eSg	Sb	14 34 41.7	-0.1
	231nm,0.6s						
MNGR	**Mingechevir, A**	1.25	140	P	Pn	14 34 28.5	-0.4
MNGR				S	Sn	14 34 45.9	-0.3
KRNR	**Karanay**	1.26	31	ePg	Pn	14 34 28.2	-1.0
	10.0nm,0.2s						
KRNR				eSg	Sb	14 34 45.9	+0.1
	47nm,0.6s						
URKR	**Urkarakh**	1.27	70	ePg	Pn	14 34 28.1	-1.2
	27nm,0.4s						
URKR				eSg	Sb	14 34 45.9	0.0
	76nm,0.3s						
AKT	**Akhty**	1.30	101	ePg	Pn	14 34 28.0	-1.7
	20nm,0.3s						
AKT				eSg	Sb	14 34 46.3	-0.5
	111nm,0.4s						
BUJR	**Buynaksk**	1.34	36	ePg	Pn	14 34 29.5	-0.8
	90nm,0.2s						
BUJR				eSg	Sn	14 34 48.2	-0.3
	251nm,0.4s						
GUDG	**Gudauri**	1.37	302	ePg	Pn	14 34 29.8	-1.0
GUDG				eSg	Sb	14 34 49.0	+0.2
DLMR	**Dylym**	1.40	18	ePg	Pn	14 34 29.9	-1.2
	45nm,0.5s						
DLMR				eSg	Sn	14 34 49.5	-0.5
	276nm,0.3s						
SGKR	**Sergokala**	1.41	59	ePg	Pn	14 34 30.0	-1.1
	28nm,0.6s						
SGKR				eSg	Sb	14 34 50.1	+0.3
	95nm,0.6s						
DBC	**Dubki**	1.41	24	ePg	Pn	14 34 30.6	-0.6
	13nm,0.7s						
DBC				eSg	Sb	14 34 50.3	+0.4
	73nm,0.6s						
QBL	**Gabala**	1.57	120	Pn	Pn	14 34 33.0	-0.4
QBL				Sn	Sb	14 34 55.4	+0.7
KSMR	**Kasumkent**	1.57	94	ePg	Pn	14 34 33.6	+0.1
KSMR				eSg	Sg	14 34 56.2	+0.8
XNQ	**Khinaliq**	1.68	109	Pn	Pn	14 34 35.3	+0.2
XNQ				Sn	Sb	14 34 58.9	+1.0
QSAR	**Qusar**	1.69	97	Pn	Pb	14 34 36.7	+0.4
QSAR				Sn	Sg	14 35 01.2	+2.2
LACR	**Lac**	1.69	311	ePg	Pn	14 34 34.9	-0.2
LACR				eSg	Sb	14 34 58.1	+0.2
BRDA	**Brd**	1.71	149	Pn	Pn	14 34 34.3	-1.0
BRDA				Sn	Sg	14 35 00.3	+0.5
AGDM	**Agdam**	1.82	153	Pn	Pn	14 34 36.4	-0.5
AGDM				Sn	Sb	14 35 02.2	+0.4
GNI	**Garni**	1.87	212	ePg	Pn	14 34 37.7	+0.1
GNI				eSg	Sb	14 35 03.3	+0.1
IML	**Ismayilli**	1.88	120	Pn	Pn	14 34 39.0	+1.3
IML				Sn	Sb	14 35 04.0	+0.6
QUBA	**Quba, Azerbaij**	1.89	101	Pn	Pb	14 34 39.2	-0.5
QUBA				Sn	Sb	14 35 04.9	+1.3
ZRD	**Zardab**	1.92	139	Pn	Pn	14 34 37.1	-1.0
ZRD				Sn	Sb	14 35 03.9	-0.7
AKH	**Akhalkalaki**	1.94	261	ePg	Pn	14 34 39.3	+0.8
AKH				eSg	Sn	14 35 04.0	+0.7
KORR	**Kora**	1.98	313	ePg	Pb	14 34 41.3	-0.1
KORR				eSg	Sb	14 35 07.6	+1.2
PQL	**Pirkuli**	2.15	115	Pn	Pn	14 34 41.6	+0.1
PQL				Sn	Sb	14 35 12.2	+0.8
DIGR	**Digorskoe uzhe**	2.16	303	ePg	Pn	14 34 42.5	+0.9
DIGR				eSg	Sb	14 35 10.9	-0.7
SIZA	**Siyzn**	2.25	106	Pn	Pn	14 34 43.7	+0.8
SIZA				Sn	Sb	14 35 16.1	+1.8
BLQ	**Beylaqan**	2.33	150	Sn	Sn	14 35 12.4	-0.3
ATGJ	**Altiaghaj**	2.36	111	Pn	Pn	14 34 45.0	+0.7
ATGJ				Sn	Sb	14 35 17.4	+0.1
SBZ	**Shahbuz**	2.37	189	Pn	Pn	14 34 46.5	+2.0
SBZ				Sn	Sb	14 35 18.4	+0.7
QRD	**Qoradiz**	2.48	156	Sn	Sn	14 35 18.5	+2.0
KBZ	**Khabaz**	3.05	312	ePn	Pn	14 34 55.9	+2.3
KBZ				eSn	Sn	14 35 29.9	-0.6
YRD	**Yardimli**	3.29	148	Pn	Pn	14 34 56.3	-0.8
YRD				S	Sn	14 35 36.7	0.0

*DNK **15** 14:34:18.0±2.1, 71°.20N×9°.98W, h17km±26km, ML1.9*
*BER **15** 14:34:18.0±3.3, 71°.21N×10°.04W, h0km±29km, mb(Pn)3.8, ML2.8, ML1.9(DNK), Confirmed Earthquake*
ISC 15 14:34:14.5±1.0, 71°.16N±0°.10×10°.39W±0°.06, h10km, n17, σ2s18/30, 5C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	0.59	112	eP	Pn	14 34 28.3	-0.6
JMI				eS	Sb	14 34 34.8	-0.5
JMIC	**Jan Mayen**	0.64	105	⇑iP	Pb	14 34 27.9	+0.2
JMIC				⇑iP	Pg	14 34 28.0	+1.2
JMIC				eS	Sg	14 34 33.9	-1.2
JMIC				i S	Sg	14 34 34.0	-1.2
JMIC				IAML		14 34 35.4	
	comp=Z,470nm,0.3s						
JMIC	**Jan Mayen**	0.64	105	⇑iP	Pb	14 34 27.9	+0.2
JMIC				i S	Sg	14 34 34.0	-1.2
JNW	**Jan Mayen West**	0.65	100	⇑iP	Pb	14 34 28.0	+0.1
JNW				eS	Sg	14 34 34.2	-1.4
JNW				IAML		14 34 34.7	
	comp=Z,514nm,0.5s						
JNE	**Jan Mayen East**	0.70	103	⇑iP	Pb	14 34 28.6	-0.2
JNE				eS	Sg	14 34 35.0	-2.2
JNE				IAML		14 34 36.4	
	comp=Z,746nm,0.2s						
DBG	**Daneborg**	4.31	322	i P	Pn	14 35 23.1	+3.1
DBG				i S	Sn	14 36 09.1	-1.0
DBG				IAML		14 36 13.5	
	comp=Z,5.7nm,0.2s						
DBG	**Daneborg**	4.31	322	i P	Pn	14 35 23.1	+3.1
DBG				i S	Sn	14 36 09.1	-1.0
DBG				IAML		14 36 13.5	
	comp=Z,5.7nm,0.2s						
DAG	**Danmarks Havn**	6.08	342	i P	Pn	14 35 46.8	+2.5
DAG				i S	Sn	14 36 50.7	-3.1
DAG				IAML		14 36 52.4	
	comp=Z,5.5nm,0.2s						
DAG	**Danmarks Havn**	6.08	342	i P	Pn	14 35 46.8	+2.5
DAG				i S	Sn	14 36 50.7	-3.1
DAG				IAML		14 36 52.4	
	comp=Z,5.5nm,0.2s						
SUMG	**Summit**	8.82	292	eP	Pn	14 36 24.3	+2.2
SUMG				i S	Sn	14 37 56.8	-4.8
SUMG	**Summit**	8.82	292	eP	Pn	14 36 24.3	+2.2
SUMG				i S	Sn	14 37 56.8	-4.8
KBS	**Kingsbay**	9.60	26	eP	Pn	14 36 33.2	+0.8
KBS				eS	Sn	14 38 10.2	-10
KBS				IAML		14 38 14.7	
	comp=Z,4.1nm,0.3s						
KBS	**Kingsbay**	9.60	26	i P	Pn	14 36 32.0	-0.4
KBS				i S	Sn	14 38 09.2	-11
STOK	**Stokkvaagen**	9.73	108	eP	Pn	14 36 34.9	+0.7
SPA0	**Spitsbergen Ar**	9.86	33	eP	Pn	14 36 37.6	+1.6
NOR	**Nord**	10.60	355	i	Pn	14 36 47.0	+0.9
NOR				i		14 38 38.1	
NOR	**Nord**	10.60	355	i	Pn	14 36 47.0	+0.9
NOR				i		14 38 38.1	

*AEIC **15** 14:59:55.1±0.7, 53°.0N±0°.1×162°.2W±0°.2, h41km±10km, Error ellipse: s-maj=18.6km s-min=13.3km az=140.0*
NEIC 15 14:59:53.6±1.3, 52°.9N±0°.1×161°.9W±0°.2, h39km±10km, ML2.5(AEIC), Error ellipse: s-maj=18.5km s-min=14.0km az=142.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISLZ	**Isanotski Laza**	2.11	331		Pn	15 00 25.8	-0.7
ISLZ					Sn	15 00 50.4	-1.1
ISNN	**Isanotski Nort**	2.23	331		Pn	15 00 28.5	+0.5
ISNN					Sn	15 00 54.2	0.0
AKSA	**Akutan Strait**	2.57	300		Pn	15 00 32.7	+0.1
AKSA					Sn	15 01 00.5	-2.1
ZRO	**Akutan Zero**	2.70	298		Pn	15 00 34.4	0.0
ZRO					Sn	15 01 04.0	-1.8
S12K	**Black Hills**	2.81	359		Pn	15 00 36.1	+0.1
UNV	**Unalaska Valle**	2.90	291		Pn	15 00 37.1	0.0
MSW	**Makushin Switc**	3.08	291		Pn	15 00 40.0	+0.4
MSW					Sn	15 01 13.7	-1.5
MGOD	**Makushin Gods**	3.10	289		Pn	15 00 40.1	+0.2
MAPS	**Pakushin South**	3.14	289		Pn	15 00 40.7	+0.2

*NEIC **15** 15:02:37.5±0.5, 35°.962N±0°.006×96°.76W±0°.01, h6km±1km, ML2.3/41, ML2.7/14, Error ellipse: s-maj=1.2km s-min=0.9km az=91.0*
**NEIC 15 15:02:37

QUOK IAML 15 02 45.8
comp=E,954nm,0.1s
DEOK Depew 0.24 119 Pg 15 02 42.8 +0.8
DEOK Sg 15 02 46.4 +1.1
DEOK IAML 15 02 46.5
comp=E,523nm,0.2s
OK048 Pawnee Station 0.48 342 Pg 15 02 47.1 +0.4
OK048 Sg 15 02 53.5 +0.7
OK048 IAML 15 02 53.8
comp=E,184nm,0.2s
ADOK Arcadia Dam 0.58 239 Pg Pg 15 02 48.9 +0.3
OK029 Liberty Lake 0.59 254 Pg 15 02 49.0 +0.3
OK029 Sg 15 02 57.1 +0.7
BCOK Bluff Creek, N 0.76 247 Pg 15 02 52.0 +0.2
BCOK Sg 15 03 02.5 +0.8
TUL3 Leonard 0.79 93 Pg Pg 15 02 52.5 +0.1
TUL3 Sg 15 03 03.3 +0.7
W35A Tecumseh 0.81 187 Pg Pg 15 02 52.7 -0.2
W35A Sg 15 03 04.2 +0.7
W35A IAML 15 03 04.3
comp=E,155nm,0.3s
W35A IAML 15 03 04.3
comp=N,69nm,0.3s
FNO Franklin 0.88 217 Pg Pg 15 02 53.8 -0.3
FNO Sg 15 03 06.1 +0.6
FNO IAML 15 03 11.4
comp=E,90nm,0.4s
BLOK Blackwell 0.88 335 Pg Pg 15 02 54.2 0.0
BLOK Sg 15 03 06.2 +0.5
T35A Sooner Cattle 0.97 12 Pg 15 02 56.1 0.0
T35A Sg 15 03 09.1 +0.4
T35A IAML 15 03 09.9
comp=N,85nm,0.1s
T35A IAML 15 03 09.9
comp=E,73nm,0.4s
CROK Carrier 1.13 299 Pg 15 02 58.3 -0.7
CROK Sb 15 03 14.1 -0.3
CROK IAML 15 03 15.8
comp=E,88nm,0.3s
KAN13 South Haven SW 1.20 331 Pg Pg 15 02 59.9 -0.5
KAN13 Sg 15 03 15.3 -0.7
GC02 Grant County # 1.26 315 Pg 15 03 01.1 -0.3
GC02 Sg 15 03 17.1 -0.7
KAN17 Caldwell West 1.35 323 Pn 15 03 02.5 -0.4
KAN09 Caldwell North 1.36 330 Pn 15 03 02.8 -0.3
KAN14 Manchester OK 1.39 316 Pn 15 03 03.0 -0.5
RLO Rose Lookout 1.42 81 Pn 15 03 03.4 -0.4
KAN01 Argonia South 1.44 326 Pn 15 03 03.6 -0.6
KAN08 Anthony NE Sta 1.60 323 Pn 15 03 06.0 -0.3
CSTR Hydro, Custer 1.60 259 Pb 15 03 06.9 -0.5
X34A Smith Ranch, M 1.61 213 Pn 15 03 07.0 +0.4
KAN12 Harper NE Stat 1.67 324 Pn 15 03 06.3 -0.9
OK038 West end E0370 1.69 288 Pn 15 03 07.2 -0.3
NOKA Waynoka 1.88 292 Pn Pn 15 03 10.1 -0.1
U38A Gravette 1.98 75 Pn Pn 15 03 11.8 +0.3
LOOK Love County 1.99 190 Pn 15 03 12.0 +0.3
WMOK Wichita Mounta 2.05 234 Pn 15 03 13.2 +0.6
HHAR Hobbs 2.30 81 Pn 15 03 16.9 +0.8
MIAR Mount Ida 2.96 118 Pn Pn 15 03 24.2 -0.8
S39A Bolivar 3.25 57 Pn 15 03 30.2 +1.1
WHAR Wooly Hollow 3.70 99 Pn Pn 15 03 34.8 -0.4
CBKS Cedar Bluff 3.71 321 Pn Pn 15 03 34.4 -1.0
WLAR White Oak Lake 3.76 126 Pn Pn 15 03 35.9 -0.1
FCAR Ozark Folk Cen 3.76 90 Pn Pn 15 03 35.7 -0.3
MGMO Mountain Grove 3.81 70 Pn 15 03 36.8 +0.1
R40A Maddies Statio 4.28 56 Pn 15 03 40.3 -2.8
P38A Dawn 4.46 34 Pn 15 03 45.0 -0.6
LCAR Lake Charles 4.54 87 Pn Pn 15 03 45.0 -1.8
POST Post 4.86 235 Pn Pn 15 03 50.2 -1.1
CCM Cathedral Cave 4.88 63 Pn Pn 15 03 50.5 -1.0
P40A Paris 5.16 45 Pn Pn 15 03 52.8 -2.5
FVM French Village 5.46 66 Pn Pn 15 03 56.7 -2.6

*IDC **15** 15:09:59.0±1.4, 1°.64N×126°.69E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=153.2km s-min=19.3km az=65.0*
*DJA **15** 15:10:12.6±0.5, 2°N±3°×12°7E±°, h113km±5km, M4.0/12, mb4.3/4, mB4.7/1, MLv3.9/12, Mw(mB)3.9/1*
*NEIC **15** 15:10:14.5±1.4, 1°.7N±0°.1×127°.2E±0°.1, h132km±10km, mb4.1/11, Error ellipse: s-maj=19.2km s-min=12.3km az=55.0*
ISC 15 15:10:15.2±1.0,**1°.65N**±0°.10×**127°.27E**±0°.07,**h150**km,**n26,**
σ**1**§**60**/32,**mb4.0**/9,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.88 173**			**Pn**	**15 10 36.7**	**-2.4**
TNTI				Sn	**Sn**	**15 10 55.1**	**-2.1**
TNTI	**Ternate**	**0.88 173**		P	**Pn**	**15 10 37.3**	**-1.7**
TNTI				S	**Sn**	**15 10 54.9**	**-2.3**
KMSI	**Cibinong**	**3.45 252**		P	**Pn**	**15 11 08.7**	**+0.3**
KMSI				S	**Sn**	**15 11 51.0**	**+1.4**
SANI	**Sanana**	**3.89 199**		P	**Pn**	**15 11 13.5**	**-0.6**
SANI				S	**Sn**	**15 11 57.0**	**-2.8**
LUWI	**Luwuk**	**5.23 239**		Pn	**Pn**	**15 11 31.8**	**+0.1**
LUWI	**Luwuk**	**5.23 239**		P	**Pn**	**15 11 32.5**	**+0.8**
	32nm,0.9s,819nm						
TOLI2	**Tolitoli**	**6.50 265**			**Pn**	**15 11 47.1**	**-1.5**
TOLI2				Sn	**Sn**	**15 12 56.7**	**-5.2**
KDI	**Kendari**	**7.25 220**		P	**Pn**	**15 11 59.1**	**+0.4**
KNRA	**Kununurra**	**17.28 175**		P	**P**	**15 14 06.6**	**0.0**
KNRA				IAmb	IAmb	15 14 19.1	
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.69 185**		P	**P**	**15 14 32.4**	**-0.5**
WB0	**Warramunga Arr**	**22.41 162**		P	**P**	**15 15 02.3**	**+0.8**
WB0				IAmb	IAmb	15 15 03.2	
	comp=Z,6.0nm,0.6s						
WRAB	**Tennant Creek**	**22.55 162**		P	**P**	**15 15 04.1**	**+1.3**
WRA	**Warramunga Arr**	**22.55 162**		P	**P**	**15 15 03.9**	**+0.9**
	comp=Z,6.0nm,0.5s,baz=338,slow=12,SNR=140						
	comp=Z,6.0nm,0.5s						
WB2	**Warramunga Arr**	**22.56 162**		P	**P**	**15 15 04.0**	**+1.0**
WB2				IAmb	IAmb	15 15 04.7	
	comp=Z,7.5nm,0.7s						
AS31	**Alice Springs**	**25.98 166**		P	**P**	**15 15 34.5**	**+0.4**
ASAR	**Alice Springs**	**25.98 166**		P	**P**	**15 15 34.8**	**+0.6**
ASAR	**Alice Springs**	**25.98 166**		P	**P**	**15 15 35.4**	**+1.2**
	comp=Z,1.1nm,0.4s,baz=349,slow=7.6,SNR=12						
ASAR				PcP	**PcP**	**15 18 59.6**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=335,slow=2.0,SNR=2.2						
	comp=Z,1.1nm,0.4s						
FORT	**Forrest**	**32.26 179**		P	**P**	**15 16 31.4**	**+1.8**
BBOO	**Buckleboo**	**35.27 167**		P	**P**	**15 16 56.6**	**+1.0**
STKA	**Stephens Creek**	**36.01 159**		P	**P**	**15 17 03.1**	**+1.1**
STKA	**Stephens Creek**	**36.01 159**		P	**P**	**15 17 03.2**	**+1.3**
	comp=Z,1.9nm,0.6s,baz=334,slow=12,SNR=6.7						
	comp=Z,1.9nm,0.6s						
TOO	**Toolangi**	**42.52 158**		P	**P**	**15 17 56.6**	**+0.7**
TOO				IAmb	IAmb	15 18 06.6	
	comp=Z,4.5nm,1.3s						
MK31	**Makanchi Array**	**59.56 326**		P	**P**	**15 20 03.6**	**+0.6**
MK31				IAmb	IAmb	15 20 11.4	
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**59.56 326**		P	**P**	**15 20 03.0**	**0.0**
MKAR	**Makanchi Array**	**59.56 326**		P	**P**	**15 20 03.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=114,slow=7.7,SNR=6.5						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**63.77 328**		P	**P**	**15 20 30.5**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=127,slow=6.6,SNR=5.1						
	comp=Z,0.3nm,0.5s						

*DJA **15** 15:16:50.8±0.4, 6°S±4°×10°8E±°, h302km±5km, M4.1/19, mb4.0/4, MLv4.1/19*
*IDC **15** 15:16:50.7±0.5, 6°.07S×107°.95E, h313km±6km, mb3.3/15, mbtmp4.1/16, Error ellipse: s-maj=24.3km s-min=9.3km az=56.0*
*NEIC **15** 15:16:51.0±2.7, 6°.15S±0°.08×108°.04E±0°.08, h312km±5km, mb4.0/33, Error ellipse: s-maj=13.1km s-min=10.8km az=224.0*
ISC 15 15:16:50.1±0.6,**6°.13S**±0°.07×**108°.06E**±0°.05,**h311**km±5km,
n79,σ**1**§**32**/96,**mb3.9**/28,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**0.82 213**		P	**Pn**	**15 17 32.5**	**+1.3**
	239nm,0.5s,baz=323,slow=2.4,SNR=78						
LEM				S	**S**	**15 18 05.0**	**+1.2**
	93nm,0.4s,baz=309,slow=20,SNR=1.8						
LEM	**Lembang**	**0.82 213**		P	**Pn**	**15 17 32.6**	**+1.4**
DBJI	**Dramaga**	**1.37 252**		P	**Pn**	**15 17 34.8**	**+1.2**
DBJI				S	**S**	**15 18 08.1**	**-0.1**
KPJI	**Karang Pucung**	**1.47 144**		P	**Pn**	**15 17 35.4**	**+1.2**
CNJI	**Cibinong**	**1.49 218**		P	**Pn**	**15 17 34.2**	**-0.1**
CNJI				S	**S**	**15 18 08.5**	**-1.0**
CMJI	**Cimerak**	**1.68 167**		P	**Pn**	**15 17 35.0**	**-0.6**
CMJI				S	**S**	**15 18 09.6**	**-2.2**
SKJI	**Sukabumi**	**1.73 240**		P	**Pn**	**15 17 36.6**	**+0.7**
SKJI				S	**S**	**15 18 12.6**	**+0.2**
SMRI	**Semarang**	**2.53 111**			**Pn**	**15 17 43.7**	**+1.4**
SMRI	**Semarang**	**2.53 111**		P	**Pn**	**15 17 43.9**	**+1.6**
UGM	**Wanagama**	**3.02 126**			**Pn**	**15 17 46.3**	**-0.5**
UGM	**Wanagama**	**3.02 126**		P	**Pn**	**15 17 46.6**	**-0.2**
UGM				S	**S**	**15 18 30.5**	**-1.7**
TPI	**Tanjungpandan**	**3.38 353**		P	**Pn**	**15 17 51.4**	**+0.9**
KASI	**Kota Agung**	**3.60 280**		P	**Pn**	**15 17 54.2**	**+1.5**
KASI				S	**S**	**15 18 40.4**	**-2.4**
PCJI	**Pacitan**	**3.71 124**		P	**Pn**	**15 17 53.2**	**-0.6**
PCJI				S	**S**	**15 18 40.7**	**-4.1**
LWLI	**Liwa**	**4.14 285**		P	**Pn**	**15 18 01.1**	**+2.6**
PWJI	**Pagerwojo**	**4.16 117**		P	**Pn**	**15 17 58.4**	**-0.3**
PWJI				S	**S**	**15 18 52.4**	**-1.3**
PPBI	**Pangkal Pinang**	**4.39 334**		P	**Pn**	**15 18 01.8**	**+0.6**
XMIS	**Christmas Isla**	**4.93 209**		Pn	**Pn**	**15 18 07.5**	**+0.2**
MNAI	**Manna**	**5.38 289**		Pn	**Pn**	**15 18 13.8**	**+1.3**
MNAI	**Manna**	**5.38 289**		P	**Pn**	**15 18 14.1**	**+1.6**
	212nm,1.2s						
MNAI				S	**S**	**15 19 14.8**	**-4.1**
	212nm,1.2s						
JAGI	**Jajag, Banyuwa**	**6.47 111**		Pn	**Pn**	**15 18 26.2**	**+0.8**
JAGI	**Jajag, Banyuwa**	**6.47 111**		P	**Pn**	**15 18 22.8**	**-2.6**
	24nm,1.1s,0.2nm						
SBUM	**Sibu**	**9.48 26**			**Pn**	**15 19 03.8**	**+1.8**
MMRI	**Maumere**	**14.28 101**			**Pn**	**15 20 00.2**	**+0.4**
KKM	**Kota Kinabalu**	**14.58 34**			**Pn**	**15 20 03.4**	**-0.1**
BATI	**Baumata**	**15.96 106**		P	**Pn**	**15 20 19.4**	**-0.2**
	17nm,0.2s,baz=270,slow=4.0,SNR=7.2						
BATI				S	**S**	**15 23 08.6**	**-0.7**
	8.7nm,0.4s,baz=43,slow=21,SNR=1.3						
SOEI	**Soe**	**16.45 104**			**P**	**15 20 22.4**	**-0.3**
SOEI					**S**	**15 23 20.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**20.87 126**		P	**P**	**15 21 10.6**	**+1.5**
FITZ	**Fitzroy Crossi**	**20.87 126**		P	**P**	**15 21 10.8**	**+1.8**
	0.6nm,0.3s,baz=331,slow=9.2,SNR=1.7						
	0.6nm,0.3s						
KNRA	**Kununurra**	**22.41 117**		P	**P**	**15 21 22.3**	**-0.9**
KNRA				IAmb	IAmb	15 21 41.8	
	comp=Z,14nm,1.4s						
MTN	**Manton Dam**	**23.70 108**			**P**	**15 21 34.2**	**-0.7**
MTN				IAmb	IAmb	15 21 38.3	
	comp=Z,20nm,1.2s						
PHRA	**Phrae**	**25.67 343**		P	**P**	**15 21 50.9**	**-1.6**
CMAR	**Chiang Mai Arr**	**26.04 340**		P	**P**	**15 21 57.0**	**+1.1**
	comp=Z,1.8nm,0.5s,baz=177,slow=8.2,SNR=16						
	comp=Z,1.8nm,0.5s						
CHTO	**Chiang Mai**	**26.37 340**		P	**P**	**15 21 58.6**	**-0.2**
CHTO				IAmb	IAmb	15 22 00.1	
	comp=Z,3.6nm,0.5s						
WB0	**Warramunga Arr**	**28.95 120**		P	**P**	**15 22 22.6**	**+0.8**
WB0				IAmb	IAmb	15 22 38.0	
	comp=Z,8.2nm,1.5s						
WRA	**Warramunga Arr**	**28.98 121**		P	**P**	**15 22 22.2**	**+0.3**
WRA	**Warramunga Arr**	**28.98 121**		P	**P**	**15 22 22.9**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=293,slow=10,SNR=20						
WRA				PcP	**PcP**	**15 25 22.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=316,slow=2.1,SNR=8.1						
WRA				ScP	**ScP**	**15 28 33.8**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=318,slow=2.5,SNR=2.4						
	comp=Z,0.4nm,0.5s						
WB2	**Warramunga Arr**	**28.99 121**		P	**P**	**15 22 22.2**	**+0.2**
WB2				IAmb	IAmb	15 22 26.6	
	comp=Z,6.3nm,1.4s						
AS31	**Alice Springs**	**30.36 128**		P	**P**	**15 22 35.7**	**+1.7**
ASAR	**Alice Springs**	**30.36 128**			**P**	**15 22 35.5**	**+1.5**
ASAR	**Alice Springs**	**30.36 128**		P	**P**	**15 22 35.2**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=303,slow=8.1,SNR=41						
ASAR				PcP	**PcP**	**15 25 26.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=307,slow=2.2,SNR=12						
ASAR				ScP	**ScP**	**15 28 39.0**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=305,slow=3.0,SNR=1.7						
	comp=Z,0.3nm,0.3s						
TPUB	**Ta-pu**	**31.73 22**		P	**P**	**15 22 46.8**	**+0.8**
BBOO	**Buckleboo**	**37.19 139**		P	**P**	**15 23 34.0**	**+1.6**
BBOO				IAmb	IAmb	15 24 16.6	
	comp=Z,8.5nm,1.1s						
CTAO	**Charters Tower**	**39.58 114**		P	**P**	**15 23 52.9**	**+0.6**
CTAO				IAmb	IAmb	15 24 21.9	
	comp=Z,7.1nm,1.2s						
STKA	**Stephens Creek**	**40.45 134**		P	**P**	**15 24 00.5**	**+1.2**
STKA	**Stephens Creek**	**40.45 134**		P	**P**	**15 24 01.4**	**+2.1**
	comp=Z,1.1nm,0.8s,baz=264,slow=9.2,SNR=1.7						
	comp=Z,1.1nm,0.8s						
TOO	**Toolangi**	**46.22 138**		P	**P**	**15 24 47.9**	**+2.9**
TOO				IAmb	IAmb	15 25 05.3	
	comp=Z,11nm,1.5s						
KSRS	**Korea Array**	**47.16 22**		P	**P**	**15 24 53.3**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=211,slow=7.6,SNR=4.7						
	comp=Z,1.3nm,0.8s						
SONM	**Songino Array**	**53.76 359**		P	**P**	**15 25 42.2**	**+1.0**
SONM	**Songino Array**	**53.76 359**		P	**P**	**15 25 41.7**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=171,slow=8.5,SNR=16						
SONM				PcP	**PcP**	**15 26 42.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=172,slow=4.3,SNR=4.9						
	comp=Z,1.6nm,0.4s						
ULN	**Ulaanbaatar**	**53.77 359**		P	**P**	**15 25 41.8**	**+0.5**
USA0B	**Ussuriysk Arra**	**54.55 21**		P	**P**	**15 25 46.5**	**-0.2**
USRK	**Ussuriysk Ar.**	**54.55 21**		P	**P**	**15 25 46.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**54.55 21**		P	**P**	**15 25 46.3**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=186,slow=6.5,SNR=14						
	comp=Z,2.3nm,0.5s						
MK31	**Makanchi Array**	**57.45 339**		P	**P**	**15 26 06.4**	**-0.6**
MK31				IAmb	IAmb	15 26 39.4	
	comp=Z,5.6nm,1.4s						
MKAR	**Makanchi Array**	**57.45 339**		P	**P**	**15 26 06.7**	**-0.4**
MKAR	**Makanchi Array**	**57.45 339**		P	**P**	**15 26 06.5**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=150,slow=7.9,SNR=34						
	comp=Z,2.3nm,0.6s						
JKA	**Kamikawa-asahi**	**58.91 28**		P	**P**	**15 26 16.3**	**-0.8**
YSS	**Yuzh-Sakhalins**	**61.14 26**		P	**P**	**15 26 31.9**	**-0.2**
KURBB	**Kurchatov Arra**	**62.01 339**		P	**P**	**15 26 37.1**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=150,slow=6.1,SNR=11						
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**62.06 339**		P	**P**	**15 26 37.5**	**-0.7**
KURK				IAmb	IAmb	15 26 38.1	
	comp=Z,2.1nm,0.5s						
ZAA0	**Zalesovo Array**	**62.97 345**		P	**P**	**15 26 42.7**	**-1.4**
ZALV	**Zalesovo Beam**	**62.97 345**		P	**P**	**15 26 43.2**	**-0.9**
ZALV	**Zalesovo Beam**	**62.97 345**		P	**P**	**15 26 42.8**	**-1.3**
	comp=Z,1.2nm,0.3s,baz=156,slow=6.5,SNR=11						
	comp=Z,1.2nm,0.3s						
BVAR	**Borovoye Array**	**67.00 336**		P	**P**	**15 27 09.2**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=145,slow=9.3,SNR=17						
	comp=Z,2.4nm,0.6s						
BRVK	**Borovoye**	**67.06 336**		P	**P**	**15 27 09.6**	**-0.7**
BRVK				IAmb	IAmb	15 27 16.4	
	comp=Z,2.8nm,1.2s						
MSVF	**Nonsavu**	**69.12 107**		P	**P**	**15 27 22.6**	**-1.2**
MSVF	**Nonsavu**	**69.12 107**		P	**P**	**15 27 22.5**	**-1.3**
	comp=Z,1.7nm,0.3s,baz=308,slow=17,SNR=7.6						
ABKAR	**Akbulak array**	**69.22 329**		P	**P**	**15 27 22.7**	**-1.0**
ABKAR				IAmb	IAmb	15 27 23.5	
	comp=Z,3.1nm,1.0s						
ABKAR	**Akbulak array**	**69.22 329**		P	**P**	**15 27 22.6**	**-1.1**
BKZ	**Black Stump Fm**	**69.45 129**		P	**P**	**15 27 26.4**	**+0.9**
NRIK	**Noril'sk**	**76.63 353**		P	**P**	**15 28 05.6**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=107,slow=4.5,SNR=2.6						
	comp=Z,1.3nm,0.5s						
TIXI	**Tiksi**	**78.83 7**		P	**P**	**15 28 17.2**	**-1.3**
TIXI				IAmb	IAmb	15 28 17.9	
	comp=Z,2.4nm,0.8s						
BRTR	**Keskin Array B**	**82.05 311**		P	**P**	**15 28 35.6**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=99,slow=8.0,SNR=2.3						
	comp=Z,1.0nm,0.6s						
QSPA	**South Pole Qui**	**83.85 180**		P	**P**	**15 28 46.8**	**+1.7**
QSPA				IAmb	IAmb	15 29 12.3	
	comp=Z,3.8nm,1.4s						
QSPA	**South Pole Qui**	**83.85 180**		P	**P**	**15 28 46.6**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=266,slow=5.4,SNR=1.8						
	comp=Z,0.3nm,0.5s						
H18K	**Honhosa River**	**97.03 25**		P	**P**	**15 29 44.4**	**-2.2**
CPUP	**Villa Florida**	**144.75 203**		PKP	**PKPdf**	**15 35 51.1**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=239,slow=5.9,SNR=4.1						
WVT	**Waverly**	**146.78 24**			**PKPbc**	**15 35 55.4**	**-0.9**

*NEIC **15** 15:20:25.3±1.0, 14°.79S±0°.09×167°.4E±0°.1, h119km±9km, mb4.5/25, Error ellipse: s-maj=18.4km s-min=12.8km az=79.0*
*IDC **15** 15:20:26.4±4.7, 14°.88S×167°.29E, h131km±39km, mb3.7/7, mbtmp4.2/8, MS3.2/3, Error ellipse: s-maj=30.6km s-min=24.9km az=26.0*
*NOU **15** 15:20:27.2, 14°.88S×167°.27E, h118km, mb4.2/8, Vanuatu Islands*
ISC 15 15:20:26.3±0.7,**14°.85S**±0°.07×**167°.32E**±0°.10,**h129**km,**n52,**
σ**0**§**77**/52,**mb4.5**/17,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**1.25 175**		P	**Pn**	**15 20 51.3**	**-0.3**
DVP	**Devils Point**	**2.98 164**		P	**Pn**	**15 21 12.5**	**-0.1**
LUES	**Luesalemba Tem**	**4.38 342**		P	**Pn**	**15 21 31.9**	**+0.8**
KOUNC	**Koumac, New Ca**	**6.36 207**			**Pn**	**15 21 57.5**	**-0.2**
KOUNC					**Sn**	**15 23 08.4**	**-0.7**
KOUNC	**Koumac, New Ca**	**6.36 207**		P	**Pn**	**15 21 58.3**	**+0.7**
HURO	**Huro Makira**	**6.85 309**		P	**Pn**	**15 22 05.0**	**+0.8**
DZM	**Mont Dzumac**	**7.23 186**			**Pn**	**15 22 09.1**	**-0.4**
DZM					**Sn**	**15 23 32.2**	**+2.0**
DZM	**Mont Dzumac**	**7.23 186**		P	**Pn**	**15 22 09.5**	**+0.1**
	15nm,0.3s,baz=348,slow=7.8,SNR=64						
DZM				S	**Sn**	**15 23 29.5**	**-0.7**
	3.8nm,0.3s,baz=329,slow=23,SNR=1.4						
ONTNC	**Ouen Toro**	**7.46 186**			**Pn**	**15 22 12.5**	**0.0**
PINNC	**Pines Island,**	**7.72 179**			**Pn**	**15 22 15.3**	**-0.7**
HNR	**Honiara**	**8.99 306**		Pn	**Pn**	**15 22 32.3**	**-0.8**
HNR	**Honiara**	**8.99 306**		LR	LR	15 25 35.5	
	comp=Z,74nm,20.5s,baz=98,slow=34						
MSVF	**Nonsavu**	**10.70 107**		LR	LR	15 26 23.0	
	comp=Z,94nm,21.4s,baz=252,slow=33						
EIDS	**Eidsvold**	**18.47 233**		P	**Pn**	**15 24 34.0**	**0.0**
EIDS				IAmb	IAmb	15 24 35.6	
	comp=Z,29nm,1.3s						
PMG	**Port Moresby**	**20.43 283**		P	**P**	**15 24 53.2**	**-0.3**
PMG				IAmb	IAmb	15 24 55.5	
	comp=Z,36nm,1.4s						
CTAO	**Charters Tower**	**20.75 252**		P	**P**	**15 24 57.6**	**+0.7**
TOZ	**Tahuroa Road**	**23.92 164**		P	**P**	**15 25 28.3**	**0.0**
TOZ				IAmb	IAmb	15 25 31.6	
	comp=Z,15nm,0.7s						
HIZ	**Hauiti**	**24.49 166**		P	**P**	**15 25 34.1**	**+0.7**
HIZ				IAmb	IAmb	15 25 38.2	
	comp=Z,16nm,0.8s						
RTZ	**Ruatahuna**	**25.16 162**		P	**P**	**15 25 39.3**	**-0.4**
RTZ				IAmb	IAmb	15 25 41.9	
	comp=Z,23nm,1.3s						
BKZ	**Black Stump Fm**	**25.53 163**		P	**P**	**15 25 42.4**	**-0.6**
BKZ				IAmb	IAmb	15 25 44.5	
	comp=Z,6.5nm,0.6s						
QRZ	**Quartz Range**	**26.28 171**		P	**P**	**15 25 50.7**	**+1.1**
BFZ	**Birch Farm**	**26.89 165**		P	**P**	**15 25 54.1**	**-1.0**
TCW	**Tory Channel**	**26.95 168**		P	**P**	**15 25 54.2**	**-1.4**
TUWZ	**Tuamarina**	**27.10 169**		P	**P**	**15 25 57.1**	**+0.1**
MSWZ	**Moikau Station**	**27.35 167**		P	**P**	**15 25 58.8**	**-0.5**
KHZ	**Kahutara**	**27.99 170**		P	**P**	**15 26 04.0**	**-0.8**
INZ	**Inchbonnie**	**28.00 174**		P	**P**	**15 26 05.4**	**+0.5**
INZ				IAmb	IAmb	15 26 06.4	
	comp=Z,26nm,1.1s						
LTZ	**Lake Taylor**	**28.16 172**		P	**P**	**15 26 06.5**	**+0.1**
LTZ				IAmb	IAmb	15 26 07.8	
	comp=Z,8.7nm,0.8s						
RPZ	**Rata Peaks**	**28.95 174**		LR	LR	15 35 49.2	
	comp=Z,186nm,21.3s,baz=130,slow=32						
STKA	**Stephens Creek**	**28.95 230**		P	**P**	**15 26 14.1**	**+0.5**
STKA	**Stephens Creek**	**28.95 230**		P	**P**	**15 26 13.8**	**+0.2**
	comp=Z,3.9nm,0.6s,baz=47,slow=7.9,SNR=11						
	comp=Z,3.9nm,0.6s						
MQZ	**McQueen's Vall**	**29.12 172**		P	**P**	**15 26 15.0**	**+0.2**
ODZ	**Otahua Downs**	**30.23 175**		P	**P**	**15 26 25.8**	**+1.1**
ODZ				IAmb	IAmb	15 26 55.9	
	comp=Z,27nm,1.4s						
WR0	**Warramunga Arr**	**31.65 256**		P	**P**	**15 26 35.9**	**-1.6**
WB0	**Warramunga Arr**	**31.78 256**		P	**P**	**15 26 37.7**	**-1.0**
WRA	**Warramunga Arr**	**31.84 256**		P	**P**	**15 26 37.9**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=86,slow=9.4,SNR=11						
	comp=Z,0.7nm,0.5s						
AS31	**Alice Springs**	**32.67 249**		P	**P**	**15 26 45.1**	**-1.3**
ASAR	**Alice Springs**	**32.67 249**		P	**P**	**15 26 45.3**	**-1.2**
ASAR	**Alice Springs**	**32.67 249**		P	**P**	**15 26 45.8**	**-0.6**
	comp=Z,2.4nm,0.4s,baz=79,slow=8.9,SNR=83						
	comp=Z,2.4nm,0.4s						
BBOO	**Buckleboo**	**33.54 232**		P	**P**	**15 26 53.5**	**-0.4**
BBOO				IAmb	IAmb	15 27 04.3	
	comp=Z,20nm,1.5s						
KNRA	**Kununurra**	**37.17 264**		P	**P**	**15 27 24.5**	**-0.6**
KNRA				IAmb	IAmb	15 27 40.9	
	comp=Z,13nm,1.3s						
FORT	**Forrest**	**39.27 239**		P	**P**	**15 27 42.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**40.03 259**		P	**P**	**15 27 48.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**40.03 259**		P	**P**	**15 27 48.8**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=83,slow=8.6,SNR=9.5						
	comp=Z,1.9nm,0.6s						
SBA	**Scott Base**	**63.02 180**		P	**P**	**15 30 39.3**	**+0.3**
SBA				IAmb	IAmb	15 30 41.

PYL			AML	AML	15 21 20.0	
	comp=N,2192μm,0.4s					
DMLN	**Damoulianata-K**	**0.97 347**	P	**Pb**	**15 21 01.4**	**-0.1**
DMLN			S	**Sb**	**15 21 15.5**	**+0.9**
	comp=N,5μm,0.7s					
DMLN	**Damoulianata-K**	**0.97 347**	P	**Pb**	**15 21 01.4**	**-0.1**
DMLN			S	**Sb**	**15 21 15.1**	**+0.5**
RLS	**Riolos of Patr**	**1.00 40**	P	**Pb**	**15 21 01.9**	**0.0**
RLS			S	**Sb**	**15 21 16.1**	**+0.8**
	comp=N,1μm,0.8s					
RLS	**Riolos of Patr**	**1.00 40**	P	**Pb**	**15 21 01.7**	**-0.2**
RLS			S	**Sb**	**15 21 16.1**	**+0.8**
RLS			AML	AML	15 21 21.2	
	comp=N,1942μm,0.8s					
RLS			AML	AML	15 21 23.2	
	comp=E,2512μm,0.7s					
ITM	**Ithomi**	**1.02 96**	P	**Pn**	**15 21 02.8**	**-0.2**
ITM			S	**Sn**	**15 21 16.9**	**-0.6**
	comp=E,1μm,0.6s					
ITM	**Ithomi**	**1.02 96**	P	**Pn**	**15 21 02.7**	**-0.2**
ITM			S	**Sn**	**15 21 17.6**	**+0.1**
ITM			AML	AML	15 21 20.9	
	comp=N,2566μm,0.7s					
ITM			AML	AML	15 21 25.4	
	comp=E,2338μm,0.5s					
DRO	**Drossia**	**1.06 51**	P	**Pb**	**15 21 03.3**	**+0.2**
DRO			S	**Sn**	**15 21 18.6**	**-0.1**
	comp=E,3μm,0.4s					
DRO	**Drossia**	**1.06 51**	P	**Pb**	**15 21 03.3**	**+0.2**
DRO			S	**Sb**	**15 21 17.9**	**+0.7**
DRO			AML	AML	15 21 28.5	
	comp=E,5688μm,0.4s					
DRO			AML	AML	15 21 32.9	
	comp=N,6811μm,0.4s					
VSK1	**VASILIKIADES**	**1.12 356**	P	**Pg**	**15 21 03.8**	**-0.1**
VSK1			S	**Sb**	**15 21 19.4**	**+0.6**
	comp=N,3μm,0.4s					
FSK	**Fiskardo**	**1.17 356**	P	**Pb**	**15 21 05.0**	**+0.1**
FSK			S	**Sb**	**15 21 20.7**	**+0.5**
	comp=N,2μm,0.3s					
FSK	**Fiskardo**	**1.17 356**	P	**Pg**	**15 21 04.7**	**-0.1**
FSK			S	**Sb**	**15 21 20.5**	**+0.2**
FSK			AML	AML	15 21 24.5	
	comp=E,4658μm,0.2s					
FSK			AML	AML	15 21 26.8	
	comp=N,4710μm,0.6s					
EVGI	**Lefkada island**	**1.33 360**	P	**Pg**	**15 21 07.5**	**-0.4**
EVGI			S	**Sg**	**15 21 24.9**	**-0.2**
	comp=N,1μm,0.2s					
EVGI	**Lefkada island**	**1.33 360**	P	**Pb**	**15 21 07.8**	**+0.2**
DRAG	**Dragano-Lefkad**	**1.39 357**	P	**Pb**	**15 21 08.9**	**+0.2**
KLV	**Kalavryta, Ach**	**1.40 57**	P	**Pb**	**15 21 09.1**	**+0.3**
KLV			AML	AML	15 21 41.0	
	comp=E,851μm,0.6s					
KLV			AML	AML	15 21 41.9	
	comp=N,935μm,0.5s					
NYDR	**Nydri-Lefkada**	**1.42 1**	P	**Pg**	**15 21 09.4**	**-0.2**
GUR	**Goura**	**1.48 64**	P	**Pn**	**15 21 09.4**	**-0.1**
GUR			AML	AML	15 21 44.8	
	comp=E,1792μm,0.5s					
GUR			AML	AML	15 21 45.3	
	comp=N,3472μm,0.6s					
LKD2	**Lefkada island**	**1.50 360**	P	**Pb**	**15 21 10.4**	**-0.1**
LKD2			AML	AML	15 21 36.0	
	comp=E,5063μm,0.4s					
LKD2			AML	AML	15 21 36.4	
	comp=N,3988μm,0.5s					
EFP	**Efpalio**	**1.50 41**	P	**Pn**	**15 21 09.8**	**+0.2**
EFP			AML	AML	15 21 39.3	
	comp=N,970μm,0.5s					
EFP			AML	AML	15 21 43.4	
	comp=E,1355μm,0.6s					
TSLK	**Tsoukalades, L**	**1.53 360**	P	**Pn**	**15 21 10.6**	**+0.6**
TSLK			AML	AML	15 21 36.5	
	comp=E,3178μm,0.7s					
TSLK			AML	AML	15 21 40.2	
	comp=N,4958μm,0.6s					
ANX	**Ano Chora**	**1.64 37**	P	**Pn**	**15 21 11.7**	**+0.1**
ANX			AML	AML	15 21 43.4	
	comp=E,1598μm,0.5s					
ANX			AML	AML	15 21 54.3	
	comp=N,2478μm,0.6s					
IGT	**Igoumenitsa**	**2.25 354**	P	**Pn**	**15 21 19.5**	**-0.5**
IGT			AML	AML	15 22 02.9	
	comp=E,621μm,0.3s					
IGT			AML	AML	15 22 05.8	
	comp=N,715μm,0.5s					

IDC 15 15:30:33.2±5.3, 11°.73N×144°.08E, h86km±82km, mb3.5/5, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=142.9km s-min=17.0km az=89.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.00**	**23**	P	Pn	15 31 05.5	+0.1
	32nm,0.3s,baz=66,slow=11,SNR=11						
GUMO				S	Sn	15 31 30.4	+0.5
	98nm,0.3s,baz=348,slow=21,SNR=10						
	57nm,0.3s						
WRA	**Warramunga Arr**	**32.90**	**197**	P	P	15 36 59.1	-0.3
	0.9nm,0.6s,baz=20,slow=9.7,SNR=14						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**36.56**	**196**	P	P	15 37 31.1	+0.1
	0.3nm,0.6s,baz=22,slow=10.0,SNR=13						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**62.30**	**317**	P	P	15 40 46.0	-0.5
	0.4nm,0.7s,baz=108,slow=7.7,SNR=2.4						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**65.55**	**320**	P	P	15 41 07.9	+0.3
	0.9nm,0.6s,baz=105,slow=6.7,SNR=6.7						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**70.91**	**322**	P	P	15 41 41.1	0.0
	0.9nm,0.4s,baz=107,slow=7.5,SNR=7.5						
	0.9nm,0.4s						

*IDC **15** 15:37:31.2±0.8, 35°.94N×141°.23E, h0km, mb3.6/10, mbtmp3.6/14, ML3.4/4, MS2.8/6, Error ellipse: s-maj=19.3km s-min=17.3km az=85.0*
*NIED **15** 15:37:34.2, 36°.00N×141°.18E, h34km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.02; $M_{\theta\theta}$-0.51; $M_{\phi\phi}$-0.51; $M_{r\theta}$2.56; $M_{\theta\phi}$0.49; $M_{\phi r}$-3.92; Fault plane solution: $M_0$4.79000×10^{14} NP1: ϕ_s=147.00000°, δ84.00000°, λ92.00000°. NP2: ϕ_s=305.00000°, δ6.00000°, λ69.00000°.*
*JMA **15** 15:37:34.2±0.2, 36°.0N±0°.5×14°.1E±°, h34km±2km, MV3.6/37, E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .

ISC 15 15:37:36.2±0.8, 36°.04N±0°.05×141°.19E±0°.07, h35km, n34, σ1°74/31, mb3.6/10, MS3.0/3, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.55**	**262**	⇓*iP*	**Pn**	**15 37 45.7**	**-1.8**
JIHU				⇓*eS*	**Sn**	**15 37 54.0**	**-1.4**
JHYU	**Hitachinakayam**	**0.57**	**301**	⇓*iP*	**Pn**	**15 37 46.1**	**-1.7**
JSMT	**Sammumatsuo**	**0.72**	**237**	⇓P	**Pn**	**15 37 48.3**	**-1.6**
JSMT				⇓*eS*	**Sn**	**15 37 57.9**	**-1.9**
JHO	**Hitachi**	**0.76**	**319**	*i* P	**Pn**	**15 37 48.6**	**-1.8**
JHO				S	**Sn**	**15 37 59.1**	**-1.6**
JYT	**Yasato**	**0.83**	**283**	⇓*iP*	**Pn**	**15 37 49.2**	**-2.2**
ONAJ	**Iwakimizuishiy**	**1.10**	**343**	P	**Pn**	**15 37 53.8**	**-1.4**
JFK	**Kawauchi**	**1.34**	**349**	*e*P	**Pn**	**15 37 57.1**	**-1.5**
BSO3	**Boso 3**	**1.36**	**204**	P	**Pn**	**15 37 57.8**	**-0.7**
JAG	**Ashikaga**	**1.46**	**286**	⇓*iP*	**Pn**	**15 37 58.3**	**-1.7**
JAG				⇓S	**Sn**	**15 38 15.8**	**-2.1**
MJAR	**Matsushiro Arr**	**2.46**	**283**	Pn	**Pn**	**15 38 13.1**	**-0.8**
	1.6nm,0.3s,baz=114,slow=7.1,SNR=78						
MJAR				Sn	**Sn**	**15 38 46.1**	**+3.4**
	1.5nm,0.3s,baz=104,slow=24,SNR=4.4						
MJAR				LR	LR	15 39 32.1	
	comp=Z,109nm,18.2s,baz=123,slow=48						
	7.2nm,0.3s						
JHJ	**Hachijo jima 2**	**3.14**	**202**	Pn	**Pn**	**15 38 22.6**	**-0.6**
	12nm,0.3s,baz=342,slow=6.9,SNR=1.6						
JHJ				Sn	**Sn**	**15 38 57.9**	**-1.6**
	46nm,0.3s,baz=230,slow=22,SNR=6.8						
	148nm,0.7s						
ASAJ	**Asahikawa**	**8.13**	**7**	Pn	**Pn**	**15 39 29.8**	**-1.9**
	1.7nm,0.3s,baz=235,slow=9.3,SNR=17						
ASAJ				Sn	**Sn**	**15 40 59.4**	**-3.0**
	0.2nm,0.3s,baz=89,slow=23,SNR=1.6						
	4.0nm,0.3s						
JNU	**Nakatsue**	**8.99**	**254**	Pn	Pn	15 39 46.1	+2.6
	0.2nm,0.3s,baz=349,slow=8.0,SNR=1.7						
JNU				LR	LR	15 43 23.7	
	comp=Z,71nm,21.4s,baz=135,slow=39						
KSRS	**Korea Array**	**10.74**	**281**	Pn	**Pn**	**15 40 07.6**	**+0.1**
	0.1nm,0.3s,baz=86,slow=15,SNR=2.4						
KSRS				LR	LR	15 44 08.6	
	comp=Z,21nm,21.5s,baz=75,slow=37						
	0.4nm,0.4s						
USRK	**Ussuriysk Ar.**	**10.76**	**322**	Pn	Pn	15 40 13.3	+5.6
	0.1nm,0.3s,baz=142,slow=14,SNR=2.4						
PETK	**Petropavlovsk-**	**20.63**	**29**	LR	LR	15 50 50.3	
	comp=Z,18nm,20.7s,baz=142,slow=39						
YAK	**Yakutsk**	**27.00**	**348**	LR	LR	15 53 49.9	
	comp=Z,35nm,18.0s,baz=330,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.81**	**119**	T	T	16 12 31.7	
	baz=311,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**27.82**	**119**	T	T	16 12 25.7	
	baz=311,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**27.83**	**119**	T	T	16 12 32.1	
	baz=311,slow=75,SNR=17						
SONM	**Songino Array**	**28.20**	**306**	P	**P**	**15 43 25.9**	**+0.3**
	0.5nm,0.6s,baz=106,slow=9.6,SNR=3.6						
	0.5nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**28.49**	**121**	T	T	16 13 16.4	
	baz=312,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**28.49**	**121**	T	T	16 13 17.0	
	baz=312,slow=75,SNR=23						
H11S2	**WAKE ISLAND Hy**	**28.50**	**121**	T	T	16 13 18.1	
	baz=312,slow=75,SNR=21						
TIXI	**Tiksi**	**36.25**	**353**	LR	LR	15 59 49.5	
	comp=Z,28nm,19.4s,baz=16,slow=37						
ZALV	**Zalesovo Beam**	**42.45**	**313**	P	**P**	**15 45 28.3**	**+0.8**
	0.4nm,0.3s,baz=94,slow=13,SNR=2.2						
ZALV				PcP	**PcP**	**15 47 23.4**	**+3.5**
	0.4nm,0.5s,baz=186,slow=3.9,SNR=2.4						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**44.50**	**303**	P	**P**	**15 45 44.0**	**-0.1**
	0.6nm,0.6s,baz=91,slow=10,SNR=4.8						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**46.47**	**309**	P	**P**	**15 45 59.9**	**+0.2**
	1.0nm,0.4s,baz=83,slow=7.7,SNR=16						
	1.0nm,0.4s						
ILAR	**Eielson Array**	**50.43**	**32**	P	**P**	**15 46 30.9**	**+1.0**
	0.4nm,0.6s,baz=268,slow=6.3,SNR=5.4						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**51.11**	**313**	P	**P**	**15 46 36.5**	**+1.3**
	0.5nm,0.6s,baz=54,slow=7.3,SNR=2.7						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**56.06**	**188**	P	**P**	**15 47 10.2**	**-1.6**
	0.5nm,0.5s,baz=3.0,slow=7.7,SNR=11						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**59.78**	**188**	P	**P**	**15 47 37.4**	**-0.4**
	0.3nm,0.7s,baz=17,slow=9.9,SNR=3.0						
	0.3nm,0.7s						
NVAR	**Mina Array Bea**	**75.72**	**53**	P	**P**	**15 49 19.8**	**+1.2**
	0.2nm,0.4s,baz=278,slow=7.0,SNR=1.7						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**78.49**	**45**	P	**P**	**15 49 34.6**	**+0.6**
	0.3nm,0.5s,baz=324,slow=4.5,SNR=1.9						
	0.3nm,0.5s						

*IDC **15** 16:10:03.8±0.7, 8°.95S×158°.83E, h532km±7km, mb3.1/7, mbtmp4.0/8, Error ellipse: s-maj=24.0km s-min=16.9km az=136.0*
*NEIC **15** 16:10:03.0±1.4, 8°.8S±0°.1×158°.9E±0°.1, h519km±7km, mb4.5/34, Error ellipse: s-maj=18.5km s-min=15.5km az=54.0*

ISC 15 16:10:01.5±0.6, 8°.86S±0°.09×158°.77E±0°.09, h500km, n48, σ1°76/52, mb4.3/22, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.30**	**116**	P	**P**	**16 11 04.2**	**+0.6**
HNR				S	**S**	**16 11 58.2**	**+4.2**
HNR	**Honiara**	**1.30**	**116**	P	P	16 11 09.7	+6.0
	31nm,0.4s,baz=214,slow=3.6,SNR=4.4						
HNR				S	**S**	**16 12 01.6**	**+7.5**
	47nm,0.5s,baz=288,slow=20,SNR=6.7						
KOUNC	**Koumac, New Ca**	**12.79**	**156**	P	**P**	**16 12 45.4**	**-3.0**
DZM	**Mont Dzumac**	**15.07**	**152**	P	**P**	**16 13 13.6**	**+1.1**
DZM				IAmb	IAmb	16 13 41.6	
	comp=Z,19nm,1.3s						
ONTNC	**Ouen Toro**	**15.28**	**152**	P	**P**	**16 13 15.2**	**+0.7**
COEN	**Coen**	**16.10**	**250**	P	**P**	**16 13 25.6**	**+2.4**
CTAO	**Charters Tower**	**16.46**	**226**	P	**P**	**16 13 28.3**	**+1.3**
JAY	**Jayapura**	**19.04**	**288**	P	**P**	**16 13 52.9**	**+1.4**
	comp=Z,6.9nm,0.5s,baz=108,slow=9.6,SNR=6.0						
WR0	**Warramunga Arr**	**25.89**	**242**	P	**P**	**16 14 54.3**	**+1.4**
WR0				IAmb	IAmb	16 14 58.9	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**26.06**	**242**	P	**P**	**16 14 55.0**	**+0.5**
WRA	**Warramunga Arr**	**26.06**	**242**	P	**P**	**16 14 56.0**	**+1.5**
	comp=Z,2.2nm,0.3s,baz=68,slow=9.0,SNR=84						
WRA				S	**S**	**16 18 46.3**	**-3.7**
	comp=Z,0.6nm,1.0s,baz=89,slow=13,SNR=3.1						
	comp=Z,2.2nm,0.3s						
MTN	**Manton Dam**	**27.42**	**259**	P	**P**	**16 15 07.9**	**+1.4**
MTN				IAmb	IAmb	16 15 21.5	
	comp=Z,16nm,1.2s						
AS31	**Alice Springs**	**27.97**	**235**	P	**P**	**16 15 12.4**	**+1.1**
ASAR	**Alice Springs**	**27.97**	**235**	P	**P**	**16 15 11.3**	**0.0**
ASAR	**Alice Springs**	**27.97**	**235**	P	**P**	**16 15 12.3**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=66,slow=9.1,SNR=26						
ASAR				PcP	**PcP**	**16 18 08.5**	**-2.3**
	comp=Z,0.4nm,1.0s,baz=80,slow=3.0,SNR=2.1						
ASAR				ScP	**ScP**	**16 21 01.8**	**-2.4**
	comp=Z,0.3nm,0.9s,baz=72,slow=3.0,SNR=2.3						
	comp=Z,0.6nm,0.5s						
KNRA	**Kununurra**	**30.06**	**254**	P	**P**	**16 15 30.9**	**+1.3**
KNRA				IAmb	IAmb	16 15 31.4	
	comp=Z,8.9nm,0.6s						
BBOO	**Buckleboo**	**31.76**	**218**	P	**P**	**16 15 44.8**	**+0.8**
BBOO				IAmb	IAmb	16 16 18.5	
	comp=Z,20nm,1.4s						
FITZ	**Fitzroy Crossi**	**33.44**	**251**	P	**P**	**16 15 59.1**	**+0.6**
RTZ	**Ruatahuna**	**33.85**	**154**	P	**P**	**16 16 02.3**	**+0.6**
RTZ				IAmb	IAmb	16 16 04.0	
	comp=Z,6.0nm,0.8s						
BKZ	**Black Stump Fm**	**34.11**	**155**	P	**P**	**16 16 03.9**	**+0.1**
BKZ				IAmb	IAmb	16 16 32.6	
	comp=Z,14nm,1.3s						
MRNZ	**Matariki Terra**	**34.69**	**161**	P	**P**	**16 16 08.3**	**-0.4**
DSZ	**Denniston Nort**	**34.72**	**163**	P	**P**	**16 16 11.0**	**+2.0**
DSZ				IAmb	IAmb	16 16 15.5	
	comp=Z,10nm,1.0s						
NNZ	**Nelson**	**34.73**	**160**	P	**P**	**16 16 09.4**	**+0.4**
MRZ	**Mangatainoka R**	**35.02**	**157**	P	**P**	**16 16 11.5**	**+0.1**
MRZ				IAmb	IAmb	16 16 14.3	
	comp=Z,14nm,1.1s						
TCW	**Tory Channel**	**35.03**	**159**	P	**P**	**16 16 10.9**	**-0.6**
THZ	**Tophouse**	**35.07**	**161**	P	**P**	**16 16 12.3**	**+0.4**
THZ				IAmb	IAmb	16 16 16.0	
	comp=Z,15nm,1.0s						
BHW	**Baring Head**	**35.41**	**159**	P	**P**	**16 16 14.3**	**-0.3**
FORT	**Forrest**	**35.98**	**228**	P	**P**	**16 16 20.5**	**+0.9**
FORT				IAmb	IAmb	16 16 46.4	
	comp=Z,25nm,1.2s						
WKZ	**Wanaka**	**36.92**	**168**	P	**P**	**16 16 26.0**	**-1.1**
TOLI2	**Tolitoli**	**39.12**	**283**	P	**P**	**16 16 44.8**	**-0.8**
TOLI2				IAmb	IAmb	16 16 47.7	
	comp=Z,5.8nm,0.7s						
JCJ	**Chichijima**	**39.19**	**336**	P	**P**	**16 16 46.6**	**+0.6**
PSA00	**Pilbara Seismi**	**39.50**	**247**	P	**P**	**16 16 49.2**	**+0.6**
PSA00				IAmb	IAmb	16 17 03.8	
	comp=Z,23nm,1.5s						
MBWA	**Marble Bar**	**39.52**	**247**	P	**P**	**16 16 48.9**	**+0.2**
MBWA				IAmb	IAmb	16 17 23.9	
	comp=Z,26nm,1.5s						
JAGI	**Jajag, Banyuwa**	**44.09**	**267**	P	**P**	**16 17 24.4**	**-0.6**
JAGI				IAmb	IAmb	16 18 01.9	
	comp=Z,33nm,1.2s						
KKM	**Kota Kinabalu**	**44.93**	**288**	P	**P**	**16 17 32.2**	**+0.6**
TPUB	**Ta-pu**	**49.12**	**311**	P	**P**	**16 18 03.0**	**0.0**
SSLB	**Suanglung**	**49.17**	**312**	P	**P**	**16 18 03.1**	**-0.3**
SSLB				IAmb	IAmb	16 18 06.4	
	comp=Z,18nm,1.1s						
YHNB	**Yeheng**	**49.40**	**313**	P	**P**	**16 18 04.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**64.95**	**295**	P	**P**	**16 19 52.5**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=124,slow=5.1,SNR=14						
	comp=Z,1.2nm,0.6s						
CASY	**Casey**	**66.03**	**199**	P	**P**	**16 19 56.5**	**-1.2**
SONM	**Songino Array**	**72.94**	**326**	P	**P**	**16 20 40.0**	**+0.4**
SONM	**Songino Array**	**72.94**	**326**	P	**P**	**16 20 39.8**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=135,slow=5.0,SNR=8.6						
	comp=Z,1.4nm,0.6s						
QSPA	**South Pole Qui**	**81.13**	**180**	P	**P**	**16 21 23.1**	**-1.0**
QSPA	**South Pole Qui**	**81.13**	**180**	P	**P**	**16 21 23.5**	**-0.6**
	comp=Z,0.9nm,1.0s,baz=56,slow=11,SNR=1.9						
	comp=Z,0.9nm,1.0s						
IMAR	**Indian Mountai**	**82.31**	**18**	P	**P**	**16 21 28.6**	**-1.3**
G21K	**Allakaket**	**82.75**	**17**	P	**P**	**16 21 31.0**	**-1.1**
MKAR	**Makanchi Array**	**87.27**	**318**	P	**P**	**16 21 53.6**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=102,slow=5.7,SNR=4.3						
	comp=Z,0.5nm,0.7s						
NVAR	**Mina Array Bea**	**89.95**	**51**	P	**P**	**16 22 05.5**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=262,slow=6.2,SNR=2.5						
	comp=Z,0.2nm,0.3s						

*IDC **15** 16:24:25.8±1.7, 41°.49N×20°.17E, h0km, mb3.8/2, mbtmp3.8/7, ML3.5/4, Error ellipse: s-maj=21.8km s-min=14.4km az=29.0*
*SKO **15** 16:24:26.8, 41°.30N×19°.73E, h15km, ML3.5*
*PDG **15** 16:24:27.7±0.3, 41°.64N×20°.17E, h12km, MD3.7/7, ML3.6/12, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*
*BEO **15** 16:24:28.9±0.3, 41°.63N×20°.26E, h4km±3km, ML3.2/21*
*PRU **15** 16:24:29.0, 41°.37N×20°.02E, h10km*
*THE **15** 16:24:29.1, 41°.63N×20°.22E, h0km±2km, ML3.0/6, Error ellipse: s-maj=4.1km s-min=1.1km az=357.0*
*RHSSO **15** 16:24:29.2±0.6, 41°.63N×20°.14E, h6km±3km, ML3.5/7*

ISC 15 16:24:28.4±1.0, 41°.62N±0°.02×20°.13E±0°.02, h11km±8km, n127, σ1°45/194, 13C-19D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.33**	**217**	P	**Pg**	**16 24 35.3**	**+0.2**
TIR				S	**Sb**	**16 24 41.6**	**-0.1**
	4μm,0.5s						
TIR	**Tirane**	**0.33**	**217**	*e*Pg	**Pg**	**16 24 35.4**	**+0.3**
TIR				*e*Sg	**Sb**	**16 24 42.7**	**+1.0**
OHR	**Ohrid**	**0.71**	**135**	*e*Pg	**Pg**	**16 24 41.8**	**-0.4**
OHR				*e*Sg	**Sg**	**16 24 51.4**	**-0.1**
OHR	**Ohrid**	**0.71**	**135**	*i* Pg	**Pg**	**16 24 41.8**	**-0.4**
OHR				*i* Sg	**Sb**	**16 24 53.8**	**+1.1**
OHR				*e*Lg	Lg	16 24 54.0	
	comp=E,316nm,0.6s						
OHR				*e*Lg	Lg	16 24 54.0	
	comp=N,2μm,1.2s						
ULC	**Ulcinj**	**0.75**	**298**	*i* Pg	**Pg**	**16 24 40.8**	**-2.0**
ULC	**Ulcinj**	**0.75**	**298**	⇓*iPg*	**Pg**	**16 24 42.2**	**-0.6**
ULC				*i* Sg	**Sb**	**16 24 54.2**	**+0.5**
DRME	**Dracevica, Mon**	**0.91**	**309**	⇑*iPg*	**Pg**	**16 24 44.9**	**-1.0**
DRME				*i* Sg	**Sb**	**16 24 59.3**	**+1.0**
PVY	**Plav**	**0.99**	**353**	⇓*iPg*	**Pg**	**16 24 46.0**	**-1.4**
PVY				*i* Sg	**Sb**	**16 25 01.0**	**+0.3**
PDG	**Podgorica**	**1.04**	**322**	*e*Pg	**Pg**	**16 24 47.3**	**-1.2**
PDG				*e*Sg	**Sn**	**16 25 03.9**	**+0.4**
PDG	**Podgorica**	**1.04**	**322**	⇑*iPg*	**Pg**	**16 24 47.0**	**-1.5**
PDG				*e*Sg	**Sb**	**16 25 02.5**	**+0.4**
PDG	**Podgorica**	**1.04**	**322**	⇓P	**Pg**	**16 24 47.6**	**-0.8**
PDG	**Podgorica**	**1.04**	**322**	*i* Pg	**Pg**	**16 24 47.3**	**-1.2**
PDG				*i* Sg	**Sn**	**16 25 04.6**	**+1.1**
PDG	**Podgorica**	**1.04**	**322**	⇑*iPg*	**Pg**	**16 24 46.9**	**-1.5**
PDG				*i* Sg	**Sn**	**16 25 03.4**	**-0.1**
BUM	**Brajici-Budva**	**1.15**	**307**	⇓*iPg*	**Pb**	**16 24 49.2**	**-1.1**
BUM				*i* Sg	**Sn**	**16 25 07.6**	**+1.4**
FNA	**Florina**	**1.26**	**131**	P	**Pn**	**16 24 51.4**	**-0.6**
FNA				S	**Sn**	**16 25 09.6**	**+0.7**
	comp=N,945nm,0.5s						
FNA	**Florina**	**1.26**	**131**	*i* Pg	**Pn**	**16 24 51.3**	**-0.7**
FNA				*i* Sg	**Sn**	**16 25 09.6**	**+0.7**
IVA	**Berane**	**1.27**	**352**	⇓*iPg*	**Pn**	**16 24 51.1**	**-1.1**
IVA				*i* Sg	**Sn**	**16 25 10.2**	**+0.9**
CEME	**Cevo**	**1.29**	**316**	⇑*iPg*	**Pn**	**16 24 51.4**	**-1.1**
CEME				*i* Sg	**Sg**	**16 25 12.2**	**+2.1**
KOME	**Kolasin**	**1.32**	**340**	⇓*iPg*	**Pn**	**16 24 52.0**	**-0.8**
KOME				*i* Sg	**Sg**	**16 25 12.0**	**+1.2**
NEST	**Nestorio**	**1.39**	**150**	P	**Pb**	**16 24 54.5**	**+0.1**
NEST				S	**Sg**	**16 25 14.1**	**+1.1**
	comp=N,565nm,0.7s						
NKME	**Niksic**	**1.45**	**323**	⇓*iPg*	**Pn**	**16 24 53.8**	**-0.8**
NKME				*i* Sg	**Sg**	**16 25 16.3**	**+1.4**
HCY	**Herceg Novi**	**1.47**	**305**	⇑*iPg*	**Pn**	**16 24 54.8**	**-0.1**
HCY				*e*Sg	**Sg**	**16 25 16.6**	**+0.8**
HCY	**Herceg Novi**	**1.47**	**305**	⇓*iPg*	**Pn**	**16 24 54.8**	**-0.1**
HCY				*i* Sg	**Sg**	**16 25 17.2**	**+1.4**
LSK	**Leskovik**	**1.51**	**166**	P	**Pb**	**16 24 56.7**	**+0.3**
PENT	**Pentalofos**	**1.61**	**151**	P	**Pb**	**16 24 58.0**	**-0.2**
SJES	**Sjenica**	**1.65**	**356**	*e*Pg	**Pb**	**16 24 58.6**	**-0.3**
SJES				*e*Sg	**Sb**	**16 25 20.0**	**+0.3**
SJES	**Sjenica**	**1.65**	**356**	*e*Pn	**Pn**	**16 24 57.9**	**+0.5**
SJES				*e*Sn	**Sb**	**16 25 20.0**	**+0.3**
TREB	**Trebinje**	**1.72**	**310**	*e*Pn	**Pb**	**16 24 59.6**	**-0.4**
TREB				*e*Sn	**Sb**	**16 25 21.7**	**0.0**
BARS	**Barje**	**1.73**	**46**	*e*Pn	**Pn**	**16 24 58.5**	**0.0**
BARS				*e*Sn	**Sn**	**16 25 20.3**	**-0.4**
BARS	**Barje**	**1.73**	**46**	*i* Pn	**Pb**

ZAGS	**Zajecar**	**2.69**	**35**	*e*Pn	**Pn**	**16 25 12.0**	**+0.4**
MMB	**Musomishta**	**2.72**	**90**	P	**Pn**	**16 25 14.4**	**+2.3**
MMB	**Musomishta**	**2.72**	**90**	*i* Pn	**Pb**	**16 25 14.6**	**-2.5**
TEKS	**Tekeris**	**2.96**	**352**	*e*Pn	**Pn**	**16 25 16.7**	**+1.3**
TEKS				*e*Sn	**Sn**	**16 25 51.3**	**+0.3**
TEKS	**Tekeris**	**2.96**	**352**	*e*Pn	**Pn**	**16 25 16.8**	**+1.3**
TEKS				*e*Sn	**Sn**	**16 25 52.5**	**+1.5**
KUBS	**Kucevo**	**3.02**	**22**	*e*Pn	**Pn**	**16 25 15.5**	**-0.6**
KUBS				*e*Sn	**Sn**	**16 25 53.3**	**+1.0**
AVAS	**Avala Beograd**	**3.09**	**5**	*e*Pn	**Pn**	**16 25 18.1**	**+0.9**
AVAS				*e*Sn	**Sn**	**16 25 56.6**	**+2.5**
MPEP	**Malo Peshtene**	**3.19**	**56**	P	**Pn**	**16 25 19.5**	**+1.0**
MDVR	**Moldovita**	**3.37**	**20**	⇓P	**Pn**	**16 25 22.4**	**+1.4**
RZN	**Rozhen**	**3.46**	**87**	P	**Pb**	**16 25 29.9**	**+0.2**
TIP	**Timpagrande**	**3.54**	**228**	⇓P	**Pn**	**16 25 24.1**	**+0.7**
FRGS	**Fruska Gora**	**3.55**	**356**	*e*Pn	**Pn**	**16 25 22.9**	**-0.6**
FRGS				*e*Sn	**Sn**	**16 26 05.9**	**+0.5**
FRGS	**Fruska Gora**	**3.55**	**356**	*e*Pn	**Pn**	**16 25 23.9**	**+0.4**
VRSS	**Vrsac**	**3.61**	**14**	*e*Pn	**Pn**	**16 25 24.7**	**+0.4**
HERR	**Herculane**	**3.67**	**26**	⇑P	**Pn**	**16 25 25.8**	**+0.7**
BLY	**Banja Luka**	**3.80**	**326**	*e*Pn	**Pn**	**16 25 28.5**	**+1.6**
BLY				*e*Sn	**Sn**	**16 26 12.1**	**+0.5**
A050A	**Klekovaca**	**3.89**	**319**	⇓*i*Pn	**Pn**	**16 25 30.0**	**+1.8**
A050A				*e*Sn	**Sn**	**16 26 14.4**	**+0.4**
A051A	**Mrakovica**	**4.13**	**326**	⇑*i*Pn	**Pn**	**16 25 32.7**	**+1.2**
A051A				*e*Sn	**Sn**	**16 26 20.0**	**+0.2**
BZS	**Buzias**	**4.14**	**15**	⇑P	**Pn**	**16 25 32.6**	**+1.0**
GZR	**Gura Zlata**	**4.24**	**26**	⇓P	**Pn**	**16 25 33.7**	**+0.7**
MORH	**Mrgy, Hungar**	**4.72**	**347**	⇓P	**Pn**	**16 25 41.1**	**+1.6**
SIRR	**Siria**	**4.78**	**13**	⇓P	**Pn**	**16 25 42.3**	**+1.9**
VOIR		**5.23**	**41**	⇑P	**Pn**	**16 25 48.5**	**+1.9**
CRES	**Cresnjevec Ost**	**5.40**	**323**	*e*Pn	**Pn**	**16 25 50.2**	**+1.3**
CRES				*e*Sn	**Sn**	**16 26 50.1**	**-0.9**
MLR	**Muntele Rosu**	**5.73**	**46**	Pn	**Pn**	**16 25 55.3**	**+1.8**
	comp=E,1.1nm,0.3s,baz=274,slow=19,SNR=5.5						
MLR				Sn	**Sn**	**16 27 00.5**	**+1.1**
	comp=E,0.2nm,0.3s,baz=203,slow=15,SNR=1.6						
	comp=E,3.9nm,0.5s						
MLR	**Muntele Rosu**	**5.73**	**46**	⇓P	**Pn**	**16 25 56.1**	**+2.5**
CEY	**Cerknica**	**5.84**	**317**	*e*Pn	**Pn**	**16 25 55.7**	**+0.8**
CEY				*e*Sn	**Sn**	**16 26 59.9**	**-1.9**
NEHR	**Nehoiu**	**5.88**	**48**	⇓P	**Pn**	**16 25 57.6**	**+2.0**
SOKA	**Soboth**	**6.25**	**326**	*i* Pn	**Pn**	**16 26 02.3**	**+1.7**
	comp=E,4.9nm,0.4s						
OBKA	**Obir**	**6.33**	**322**	*e*Pn	**Pn**	**16 26 03.8**	**+2.1**
	comp=E,1.3nm,0.2s						
OBKA	**Obir**	**6.33**	**322**	*e*Pn	**Pn**	**16 26 02.2**	**+0.5**
OBKA				*e*Sn	**Sn**	**16 27 12.1**	**-1.9**
PLOR	**Plostina**	**6.34**	**46**	⇓P	**Pn**	**16 26 03.0**	**+1.1**
ARSA	**Arzberg**	**6.53**	**331**	*i* Pn	**Pn**	**16 26 05.8**	**+1.5**
	comp=E,1.0nm,0.3s						
ARSA				*e*Sn	**Sn**	**16 27 21.4**	**+2.6**
	comp=E,2.7nm,0.5s						
RONA	**Rosalia, Austr**	**6.67**	**337**	*i* Pn	**Pn**	**16 26 08.7**	**+2.4**
	comp=E,1.0nm,0.3s						
MYKA	**Terra Mystica**	**6.85**	**319**	*e*Pn	**Pn**	**16 26 10.8**	**+2.0**
	comp=E,1.1nm,0.2s						
KECS	**Kecovo**	**6.87**	**2**	*e*PN	**Pn**	**16 26 11.8**	**+2.7**
KECS				*e*SN	**Sn**	**16 27 27.7**	**+0.5**
VYHS	**Vyhne**	**6.94**	**353**	*e*PN	**Pn**	**16 26 12.3**	**+2.3**
VYHS				*e*SN	**Sn**	**16 27 29.3**	**+0.4**
CONA	**Conrad Observa**	**7.00**	**336**	*i* Pn	**Pn**	**16 26 13.9**	**+3.0**
	comp=E,1.3nm,0.5s						
CONA				*e*Sn	**Sn**	**16 27 36.2**	**+5.6**
	comp=E,3.3nm,0.5s						
MODS	**Modra-Piesok**	**7.05**	**344**	*e*PN	**Pn**	**16 26 14.9**	**+3.3**
MODS				*e*SN	**Sn**	**16 27 31.4**	**-0.3**
KBA	**Koelnbreinsper**	**7.31**	**321**	*e*Pn	**Pn**	**16 26 17.0**	**+1.8**
	comp=E,3.8nm,0.4s						
IDI	**Anoyia**	**7.34**	**148**	Pn	**Pn**	**16 26 13.0**	**-2.6**
	comp=E,13nm,0.9s,baz=312,slow=12,SNR=1.6						
IDI				Sn	**Sn**	**16 27 35.2**	**-3.7**
	comp=E,0.3nm,0.3s,baz=335,slow=16,SNR=2.1						
KOLS	**Kolonicke sedl**	**7.47**	**11**	*e*PN	**Pn**	**16 26 20.8**	**+3.5**
ABTA	**Abfaltersbach**	**7.50**	**316**	*e*Pn	**Pn**	**16 26 19.3**	**+1.5**
	comp=E,1.4nm,0.2s						
BIOA	**Bad Ischl, Aus**	**7.63**	**325**	*e*Pn	**Pn**	**16 26 21.9**	**+2.3**
	comp=E,5.0nm,0.4s						
STHS	**Stebnicka Huta**	**7.84**	**5**	*e*PN	Pn	16 26 28.2	+5.8
STHS				*e*SN	**Sn**	**16 27 54.7**	**+3.6**
LESA	**Schwarzleotal**	**7.88**	**320**	*e*Pn	**Pn**	**16 26 24.8**	**+1.8**
	comp=E,8.9nm,0.6s						
CKRC	**Cesky Krumlov**	**8.29**	**332**	*e*PN	**Pn**	**16 26 31.1**	**+2.6**
WTTA	**Wattenberg**	**8.29**	**316**	*e*Pn	**Pn**	**16 26 31.1**	**+2.4**
	comp=E,2.6nm,0.2s,SNR=5.4						
WATA	**Walderalm**	**8.37**	**316**	*i* Pn	**Pn**	**16 26 32.3**	**+2.5**
	comp=E,1.5nm,0.2s						
SQTA	**Sankt Quirin**	**8.49**	**314**	*e*Pn	**Pn**	**16 26 33.2**	**+1.9**
	comp=E,2.8nm,0.2s						
GERES	**GERESS Array B**	**8.53**	**330**	Pn	**Pn**	**16 26 33.1**	**+1.2**
	comp=E,0.3nm,0.3s,baz=147,slow=16,SNR=6.3						
GERES				Sn	**Sn**	**16 28 10.5**	**+2.3**
	comp=E,0.3nm,0.3s,baz=152,slow=22,SNR=1.9						
	comp=E,1.4nm,0.6s						
MOTA	**Moosalm**	**8.62**	**315**	*e*Pn	**Pn**	**16 26 35.8**	**+2.5**
	comp=E,5.3nm,0.6s						
FETA	**Feichten**	**8.63**	**312**	*e*Pn	**Pn**	**16 26 37.3**	**+3.9**
	comp=E,1.2nm,0.4s						
KHC	**Kasperske Hory**	**8.81**	**331**	*e*PN	**Pn**	**16 26 37.4**	**+1.7**
KHC				*e*SN	**Sn**	**16 28 14.9**	**-0.1**
RETA	**Reutte**	**8.89**	**314**	*e*Pn	**Pn**	**16 26 39.3**	**+2.4**
	comp=E,0.7nm,0.3s						
DAVOX	**Davos/Dischmat**	**8.99**	**309**	Pn	**Pn**	**16 26 39.4**	**+1.1**
	comp=E,0.5nm,0.3s,baz=132,slow=9.6,SNR=6.0						
	comp=E,1.8nm,0.4s						
DAVA	**Damuels**	**9.26**	**311**	*i* Pn	**Pn**	**16 26 44.5**	**+2.5**
	comp=E,1.5nm,0.3s						
HFS	**Hagfors**	**18.96**	**350**	P	**P**	**16 28 49.0**	**-0.4**
	comp=E,0.1nm,0.3s,baz=193,slow=10,SNR=2.2						
	comp=E,2.1nm,0.8s						
ZALV	**Zalesovo Beam**	**43.69**	**51**	P	**P**	**16 32 32.1**	**-0.9**
	comp=E,0.8nm,0.4s,baz=288,slow=7.7,SNR=4.8						
	comp=E,0.8nm,0.4s						
MKAR	**Makanchi Array**	**43.84**	**61**	P	**P**	**16 32 33.8**	**-0.6**
	comp=E,0.9nm,0.8s,baz=289,slow=6.9,SNR=4.9						
	comp=E,0.9nm,0.8s						

IDC 15 16:31:28.7±999.0, 53°.89N×0°.75E, h0km, Error ellipse: s-maj=542.3km s-min=187.6km az=102.0, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS**	**9.55**	**117**	I	I	17 24 00.5	
	0.1nm,1.2s,baz=309,slow=324,SNR=2.5						
I43RU	**DUBNA INFRASON**	**20.79**	**67**	I	I	18 36 12.3	
	baz=279,slow=327,SNR=1.4						
I31KZ	**AKTYUBINSK INF**	**34.50**	**72**	I	I	20 06 00.0	
	baz=301,slow=331,SNR=0.9						

KRSC ***15*** *16:36:03.1±0.5, 55°.54N×162°.46E, h66km±16km, Ml3.9*
IDC ***15*** *16:36:08.8±3.4, 55°.58N×161°.83E, h90km±32km, mb3.4/9, mbtmp3.7/10, Error ellipse: s-maj=25.8km s-min=21.0km az=79.0*

ISC 15 16:36:05.1±0.9, 55°.59N±0°.04×162°.44E±0°.04, h67km±9km, n48, σ1°10/62, mb3.6/9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.65**	**19**	*e*P	**Pn**	**16 36 19.2**	**0.0**
KBTR				*e*S	**Sn**	**16 36 30.5**	**+0.9**
KBG	**Krutoberegovo**	**0.68**	**12**	*e*P	**Pn**	**16 36 19.5**	**0.0**
KBG				*e*S	**Sn**	**16 36 31.2**	**+1.1**
ZLN	**Zelenaya**	**1.02**	**295**	*e*P	**Pn**	**16 36 23.4**	**-0.4**
ZLN				*e*S	**Sn**	**16 36 37.8**	**+0.2**
BZGR	**Bezymyannyi-Gr**	**1.05**	**290**	*e*P	**Pn**	**16 36 23.7**	**-0.4**
BZGR				*e*S	**Sn**	**16 36 38.0**	**-0.2**
CIRR	**Tsirk**	**1.09**	**299**	*e*S	**Sn**	**16 36 39.6**	**+0.3**
BZP	**Bezymyannyi-Pe**	**1.12**	**287**	*e*P	**Pn**	**16 36 24.4**	**-0.7**
BZP				*e*S	**Sn**	**16 36 39.5**	**-0.6**
SMKR	**Semkarok**	**1.13**	**332**	*e*P	**Pn**	**16 36 25.5**	**+0.3**
SMKR				*e*S	**Sn**	**16 36 41.3**	**+1.1**
BZMR	**Bezymyannaya**	**1.16**	**288**	*e*P	**Pn**	**16 36 25.2**	**-0.4**
BZMR				*e*S	**Sn**	**16 36 41.1**	**+0.3**
BZWR	**Bezymyannyi-We**	**1.16**	**290**	*e*S	**Sn**	**16 36 41.5**	**+0.6**
KRSR	**Krestovskiy**	**1.23**	**301**	*e*P	**Pn**	**16 36 26.0**	**-0.5**
KRSR				*e*S	**Sn**	**16 36 42.1**	**-0.4**
TUMD	**Tumrok D**	**1.23**	**252**	*e*P	**Pn**	**16 36 25.6**	**-0.7**
TUMD				*e*S	**Sn**	**16 36 41.7**	**-0.6**
KLY	**Klyuchi**	**1.24**	**306**	*e*P	**Pn**	**16 36 25.0**	**-1.5**
KLY				*e*S	**Sn**	**16 36 40.7**	**-1.8**
KIRR	**Kirishev**	**1.24**	**288**	*e*P	**Pn**	**16 36 26.8**	**+0.1**
KIRR				*e*S	**Sn**	**16 36 43.6**	**+0.8**
KMNR	**Kamenistaya**	**1.26**	**278**	*e*P	**Pn**	**16 36 26.9**	**0.0**
KMNR				*e*S	**Sn**	**16 36 43.8**	**+0.6**
KPT	**Kopyto**	**1.31**	**288**	*e*P	**Pn**	**16 36 27.8**	**+0.3**
KPT				*e*S	**Sn**	**16 36 45.2**	**+0.9**
TUMR	**Tumrok**	**1.35**	**258**	*e*P	**Pn**	**16 36 27.9**	**-0.1**
KOZ	**Kozyrevsk**	**1.52**	**289**	*e*P	**Pn**	**16 36 30.8**	**+0.6**
KOZ				*e*S	**Sn**	**16 36 50.8**	**+1.6**
BKI	**Bering**	**2.05**	**99**	*e*S	**Sn**	**16 37 01.5**	**-0.3**
ESO	**Esso**	**2.14**	**281**	*e*P	**Pn**	**16 36 38.7**	**+0.1**
SPN	**Mys Shipunski**	**2.87**	**211**	*e*P	**Pn**	**16 36 47.4**	**-1.0**
SPN				*e*S	**Sn**	**16 37 19.1**	**-2.8**
NLC	**Nalytchevo**	**3.03**	**218**	*e*P	**Pn**	**16 36 50.6**	**0.0**
NLC				*e*S	**Sn**	**16 37 25.1**	**-0.5**
KRER	**Koryakskii**	**3.15**	**225**	*e*P	**Pn**	**16 36 53.3**	**+0.9**
SMAR	**Somma**	**3.16**	**224**	*e*P	**Pn**	**16 36 53.1**	**+0.5**
AVH	**Avacha**	**3.18**	**224**	*e*P	**Pn**	**16 36 53.8**	**+1.0**
UGLR	**Uglovaya**	**3.19**	**223**	*e*P	**Pn**	**16 36 53.7**	**+0.8**
KOK	**Koryaka**	**3.20**	**226**	*e*P	**Pn**	**16 36 53.9**	**+0.9**
GNL	**Ganaly**	**3.23**	**236**	*e*P	**Pn**	**16 36 54.4**	**+0.9**
DALK	**Dalny**	**3.35**	**222**	*e*P	**Pn**	**16 36 55.5**	**+0.5**
DALK				*e*S	**Sn**	**16 37 33.1**	**-0.5**
PET	**Petropavlovsk**	**3.40**	**222**	*e*P	**Pn**	**16 36 56.2**	**+0.6**
PET				*e*S	**Sn**	**16 37 34.8**	**+0.1**
OSSR	**Ossora**	**3.68**	**5**	*e*P	**Pn**	**16 37 00.2**	**+0.7**
PETK	**Petropavlovsk-**	**3.73**	**230**	P	**Pn**	**16 37 00.4**	**+0.2**
	6.6nm,0.5s,baz=68,slow=16,SNR=9.2						
PETK				S	**Sn**	**16 37 47.5**	**+4.8**
	6.9nm,0.4s,baz=55,slow=18,SNR=2.1						
KRMR	**Karymshinskiy**	**3.75**	**224**	*e*P	**Pn**	**16 37 01.2**	**+0.7**
GRL	**Gorelyy**	**3.99**	**222**	*e*P	**Pn**	**16 37 05.3**	**+1.5**
MTVR	**Mutnovka**	**4.00**	**221**	*e*P	**Pn**	**16 37 05.2**	**+1.2**
APC	**Apacha**	**4.09**	**231**	*e*P	**Pn**	**16 37 06.9**	**+1.8**
ASAK	**Asacha**	**4.19**	**222**	*e*P	**Pn**	**16 37 07.8**	**+1.3**
TIXI	**Tiksi**	**21.46**	**331**	P	**P**	**16 40 48.3**	**+0.8**
	2.6nm,0.4s,baz=122,slow=8.5,SNR=15						
	2.6nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**35.96**	**173**	T	T	17 20 34.5	
	baz=355,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**35.97**	**173**	T	T	17 20 34.9	
	baz=355,slow=76,SNR=7.8						
H11N1	**WAKE ISLAND Hy**	**35.98**	**173**	T	T	17 20 33.0	
	baz=355,slow=76,SNR=8.4						
KURBB	**Kurchatov Arra**	**47.70**	**301**	P	**P**	**16 44 33.5**	**-1.2**
	0.3nm,0.4s,baz=56,slow=8.1,SNR=4.1						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**49.92**	**308**	P	**P**	**16 44 50.0**	**-1.6**
	0.6nm,0.4s,baz=63,slow=7.5,SNR=5.2						
	0.6nm,0.4s						
PDAR	**Pinedale Array**	**55.14**	**64**	P	P	16 45 33.6	+3.1
	0.3nm,0.6s,baz=342,slow=0.3,SNR=4.0						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**58.36**	**337**	P	**P**	**16 45 53.3**	**+0.5**
	1.3nm,0.5s,baz=39,slow=9.0,SNR=14						
	1.3nm,0.5s						
AKASG	**Malin Array Be**	**67.16**	**330**	P	**P**	**16 46 50.8**	**-0.6**
	0.3nm,0.5s,baz=30,slow=6.3,SNR=2.1						
	0.3nm,0.5s						
TXAR	**Lajitas Array**	**68.43**	**70**	P	P	16 47 03.0	+3.2
	0.4nm,0.5s,baz=331,slow=5.4,SNR=1.5						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**78.93**	**207**	P	**P**	**16 48 00.3**	**-0.8**
	0.2nm,0.7s,baz=354,slow=6.7,SNR=2.1						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**82.61**	**206**	P	**P**	**16 48 22.0**	**+1.3**
	0.3nm,0.6s,baz=17,slow=5.4,SNR=6.6						
	0.3nm,0.6s						

IDC 15 16:48:22.0±26.0, 16°.14S×177°.48W, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=494.6km s-min=47.8km az=57.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.54**	**191**	P	P	16 53 23.6	0.0
	3.4nm,0.4s,baz=0.0,slow=10,SNR=8.4						
	3.4nm,0.4s						
URZ	**Urewera**	**22.54**	**191**	P	P	16 53 23.5	0.0
STKA	**Stephens Creek**	**40.27**	**240**	P	P	16 56 01.1	+0.2
	0.7nm,0.4s,baz=92,slow=18,SNR=1.9						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**45.85**	**258**	P	P	16 56 46.4	+0.1
	0.3nm,0.9s,baz=93,slow=7.4,SNR=4.7						
	0.3nm,0.9s						
ASAR	**Alice Springs**	**46.14**	**253**	P	P	16 56 48.1	-0.5
	0.6nm,0.5s,baz=87,slow=8.6,SNR=32						
	0.6nm,0.5s						

MOS ***15*** *16:49:40.6±1.2, 56°.79S×25°.65W, h10km, mb5.6/14, MS5.0/11, Error ellipse: s-maj=18.1km s-min=10.1km az=114.0*
IDC ***15*** *16:49:40.7±0.4, 56°.74S×25°.30W, h0km, mb5.3/19, mbtmp5.3/20, ML4.5/1, MS4.9/41, Error ellipse: s-maj=17.6km s-min=12.0km az=54.0*
NEIC ***15*** *16:49:41.8, 56°.83S×25°.66W, h10km*
NEIC ***15*** *16:49:41.6±2.2, 56°.82S±0°.10×25°.6W±0°.1, h10km±1km, mb5.6/155, Ms_20 5.2/80, Mwb5.3/22, Mww5.5/18, Error ellipse: s-maj=16.8km s-min=12.4km az=203.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.95; $M_{\theta\theta}$0.00; $M_{\phi\phi}$-0.95; $M_{r\theta}$-0.62; $M_{\theta\phi}$0.43; $M_{\phi r}$0.54; Fault plane solution: $M_0$1.33000×10^{17} NP1: ϕ_s177.79000°, δ30.30000°, λ122.51000°. NP2: ϕ_s321.36000°, δ64.82000°, λ72.56000°. Principal axes: T 1.2962, Plg66.0000°, Azm200.0000°; N 0.0595, Plg16.0000°, Azm329.0000°; P -1.3557, Plg18.0000°, Azm64.0000°;*
NEIC ***15*** *16:49:41.8, 56°.81S×25°.69W, h20km*
NEIC ***15*** *16:49:41.8, 56°.41S×26°.05W, h20km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^{17}Nm; M_{rr}2.33; $M_{\theta\theta}$-0.63; $M_{\phi\phi}$-1.70; $M_{r\theta}$-0.45; $M_{\theta\phi}$0.35; $M_{\phi r}$-1.17; Fault plane solution: $M_0$2.39000×10^{17} NP1: ϕ_s179.79000°, δ59.69000°, λ102.67000°. NP2: ϕ_s335.78000°, δ32.62000°, λ69.44000°. Principal axes: T 2.7259, Plg72.0000°, Azm120.0000°; N -0.6752, Plg11.0000°, Azm353.0000°; P -2.0508, Plg14.0000°, Azm261.0000°;*
GCMT ***15*** *16:49:47.6±0.1, 56°.83S±0°.01×25°.02W±0°.01, h18km, MW5.5/151, Moment Tensor Solution. s133,c230; s151,c287; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}1.76±.03; $M_{\theta\theta}$0.08±.02; $M_{\phi\phi}$-1.84±.02; $M_{r\theta}$-0.36±.05; $M_{\theta\phi}$0.60±.02; $M_{\phi r}$1.22±.05; Best double couple: $M_0$2.27600×10^{17} NP1:ϕ_s344.00000°, δ62.00000°, λ90.00000°. NP2:ϕ_s164.00000°, δ28.00000°, λ91.00000°. Principal axes: T 2.1490, Plg73.0000°, Azm253.0000°; N 0.2550, Plg0.0000°, Azm344.0000°; P -2.4040, Plg17.0000°, Azm74.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 16:49:43.0±0.5, 56°.87S±0°.05×25°.61W±0°.04, h17km±3km, h18km:pP-P, n847, σ1°40/840, mb5.6/111, MS5.1/101, 20C-12D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.69**	**288**		**Pn**	**16 51 21.9**	**+1.7**
HOPE				Sn	**Sn**	**16 52 35.4**	**-0.5**
HOPE	**Hope Point**	**6.69**	**288**	P	**Pn**	**16 51 21.9**	**+1.7**
HOPE						16 52 35.4	
ORCD	**Orcadas**	**10.64**	**241**		Pn	16 52 06.7	-7.6
VNA1	**Neumayer--Stat**	**15.71**	**158**	⇑P	**P**	**16 53 25.1**	**-1.8**
	comp=Z,32nm,0.7s						
VNA1				⇑ScP	**ScP**	**17 01 58.6**	**+3.2**
	comp=Z,3.2nm,0.6s						
VNA3	**Neumayer Olymp**	**15.93**	**161**	⇑P	**P**	**16 53 27.7**	**-1.8**
	comp=Z,26nm,0.8s						
VNA3				⇑S	**S**	**16 56 33.6**	**-2.1**
	comp=Z,8.7nm,0.8s						
VNA3				⇑ScP	**ScP**	**17 02 00.5**	**+4.6**
	comp=Z,4.2nm,0.8s						
VNA2	**Neumayer--Watz**	**16.10**	**158**	⇑P	**Pn**	**16 53 29.5**	**+1.4**
	comp=Z,2.7nm,0.3s,baz=324,slow=15						
VNA2				⇑S	**S**	**16 56 35.7**	**-3.6**
	comp=Z,0.0nm,0.1s,baz=317,slow=24						
VNA2				⇑ScP	**ScP**	**17 01 59.8**	**+3.6**
	comp=Z,4.9nm,0.6s,baz=334,slow=3.4						
SNAA	**Sanae**	**17.64**	**156**		**P**	**16 53 49.4**	**+1.0**
SNAA	**Sanae**	**17.64**	**156**	*e*P	**P**	**16 53 48.4**	**0.0**
SNAA	**Sanae**	**17.64**	**156**	⇑P	**P**	**16 53 50.5**	**+2.1**
	comp=Z,126nm,0.7s						
SNAA				⇓S	**S**	**16 57 10.6**	**0.0**
	comp=Z,32nm,0.5s						
SNAA				⇑ScP	**ScP**	**17 02 02.0**	**+2.7**
	comp=Z,42nm,0.5s						
SNAA	**Sanae**	**17.64**	**156**	P	**P**	**16 53 49.7**	**+1.2**
	comp=Z,1.7nm,0.3s,baz=324,slow=12,SNR=43						
SNAA				LR	LR	16 59 52.8	
	comp=Z,3μm,18.6s,baz=322,slow=35						
	comp=Z,64nm,1.1s						
SNAA	**Sanae**	**17.64**	**156**	*c iP*	**P**	**16 53 49.6**	**+1.2**
SNAA				pmax	pmax		
	comp=Z,240nm,1.5s						
TROLL	**Troll, Antarti**	**19.12**	**153**	⇑S	**S**	**16 57 41.4**	**+0.7**
	comp=Z,63nm,0.5s						
TROLL				⇑ScP	**ScP**	**17 02 06.6**	**+4.0**
	comp=Z,85nm,0.7s						
TROLL	**Troll, Antarti**	**19.12**	**153**	⇑P	**Pn**	**16 54 07.0**	**+1.4**
	comp=Z,33nm,0.7s						
EFI	**East Falkland**	**19.53**	**272**	P	**P**	**16 54 08.3**	**-0.9**
EFI				IAmb	IAmb	16 54 13.6	
	comp=Z,307nm,1.1s						
EFI	**East Falkland**	**19.53**	**272**	*c iP*	**Pn**	**16 54 11.0**	**+0.5**
EFI				pmax	pmax		
	comp=Z,160nm,1.1s						
PMSA	**Palmer Station**	**20.04**	**231**	P	**P**	**16 54 15.2**	**+0.5**
PMSA				IAmb	IAmb	16 54 20.1	
	comp=Z,193nm,0.9s						
PMSA	**Palmer Station**	**20.04**	**231**	IAMs_20	IAMs_20	17 01 00.9	
	comp=Z,8μm,18.0s						
PMSA	**Palmer Station**	**20.04**	**231**	P	Pn	16 54 19.0	+2.5
	comp=Z,142nm,0.8s,baz=84,slow=9.3,SNR=23						
PMSA				LR	LR	17 01 12.5	
	comp=Z,8μm,19.0s,baz=83,slow=34						
	comp=Z,142nm,0.8s						
PMSA	**Palmer Station**	**20.04**	**231**	*e*P	Pn	16 54 18.4	+1.9
NVL	**N'lazarevskaya**	**21.09**	**146**	*e*P	**P**	**16 54 26.0**	**0.0**
NVL				*e*S	**S**	**16 58 18.8**	**-0.9**
NVL				pmax	pmax		
	comp=Z,90nm,1.4s						
NVL				MLR	MLR		
	comp=Z,987nm,16.0s						
BELA	**Belgrano 2**	**21.33**	**185**	P	**P**	**16 54 29.4**	**+0.8**
BELA				IAmb	IAmb	16 54 31.6	
	comp=Z,512nm,1.3s						
SMAI	**San Martin Ant**	**21.73**	**222**	P	**P**	**16 54 33.1**	**+0.3**
MG01	**Puerto William**	**23.37**	**257**	P	**P**	**16 54 49.3**	**-1.0**
MG01				IAmb	IAmb	16 54 57.2	
	comp=Z,374nm,1.2s						
ELIB	**Princess Elisa**	**24.97**	**146**	*d*P	**P**	**16 55 06.3**	**+1.1**
	comp=Z,34nm,0.9s						
ELIB				*d*S	**S**	**16 59 29.3**	**+1.5**
MG02	**Cerro Sombrero**	**25.12**	**261**	P	**P**	**16 55 07.6**	**+1.0**
MG03	**Isla Dawson**	**25.32**	**258**	P	**P**	**16 55 08.5**	**+0.1**
MG03				IAmb	IAmb	16 55 26.5	
	comp=Z,316nm,1.8s						
GO10	**Punta Arenas**	**25.94**	**259**	P	**P**	**16 55 14.7**	**+0.6**
GO10				IAmb	IAmb	16 55 16.7	
	comp=Z,230nm,1.1s						
MG04	**Isla Riesco**	**26.36**	**259**	P	**P**	**16 55 18.4**	**+0.7**
MG04				IAmb	IAmb	16 55 32.8	
	comp=Z,163nm,0.9s						
GO09	**Cerro Castillo**	**27.54**	**262**	P	**P**	**16 55 28.2**	**-0.2**
GO09				IAmb	IAmb	16 55 57.4	
	comp=Z,86nm,1.1s						
GO08	**Villa O'Higgin**	**29.16**	**266**	P	**P**	**16 55 43.2**	**+0.4**
GO08				IAmb	IAmb	16 56 08.6	
	comp=Z,53nm,1.1s						
AY03	**Cochrane**	**29.88**	**268**	P	**P**	**16 55 49.0**	**-0.3**
AY03				IAmb	IAmb	16 56 41.0	
	comp=Z,68nm,1.6s						
TRQA	**Tornquist**	**30.45**	**293**	P	**P**	**16 55 53.5**	**-0.9**
TRQA					**PcP**	**16 58 53.7**	**+0.3**
COYC	**Coyhaique**	**30.63**	**272**	P	**P**	**16 55 56.2**	**+0.4**
**P

PEL Peldehue 38.73 288 P **P 16 57 04.2 -1.8**
PEL pmax pmax
comp=Z,38nm,0.9s
VA05 Santo Domingo 38.81 287 P **P 16 57 04.9 -1.7**
VA05 IAmb IAmb 16 57 09.3
comp=Z,58nm,0.9s
MT02 Curacav 38.87 288 P **P 16 57 05.7 -1.5**
VA03 San Esteban 38.95 289 P **P 16 57 05.8 -2.1**
VA03 **S 17 03 03.9 -1.7**
ZON Zonda 38.96 292 P **P 16 57 06.3 -1.6**
ZON IAmb IAmb 16 57 08.6
comp=Z,40nm,0.7s
ZON Zonda 38.96 292 P **P 16 57 06.3 -1.6**
ZON pmax pmax
comp=Z,40nm,0.7s
MAW Mawson 38.97 142 P **P 16 57 09.3 +1.8**
comp=Z,9.4nm,0.7s,baz=235,slow=8.7,SNR=22
MAW PcP **PcP 16 59 18.6 +1.2**
comp=Z,12nm,0.9s,baz=262,slow=5.5,SNR=5.5
MAW LR LR 17 10 46.8
comp=Z,2µm,21.5s,baz=253,slow=32
comp=Z,9.4nm,0.7s
RIB01 Linhares ES 39.09 338 *e*P **P 16 57 10.8 +1.9**
BB19B Bebedouro 39.55 325 *e*P **P 16 57 16.0 +3.0**
SJMB Sao Joao De Ma 39.85 337 *e*P **P 16 57 17.1 +1.8**
SUR Sutherland 40.03 72 P **P 16 57 16.1 -0.9**
SUR Sutherland 40.03 72 *e*P **P 16 57 16.5 -0.5**
SUR Sutherland 40.03 72 LR LR 17 11 09.1
comp=Z,5µm,18.1s,baz=215,slow=32
AMBA Amambai (Brazi 40.10 315 *e*P **P 16 57 17.5 +0.1**
MERW Merweville 40.17 73 *e*P **P 16 57 16.1 -2.0**
CVNA Calvinia 40.19 70 *e*P **P 16 57 18.1 -0.2**
CVNA IAmb IAmb 16 57 19.3
comp=Z,50nm,1.3s
PAPY Pozo Azul 40.37 310 *e*P **P 16 57 20.9 +1.3**
NAN01 Guarapari, ES 40.46 338 *e*P **P 16 57 21.3 +0.9**
CO03 El Pedregal 40.55 290 P **P 16 57 20.1 -1.1**
FRAZ Fraserburg 40.70 73 *e*P **P 16 57 20.7 -1.8**
DIAM Diamantina, MG 40.82 333 *e*P **P 16 57 24.9 +1.3**
CO01 Juntas del Tor 40.94 292 P **P 16 57 24.9 +0.3**
GO04 Tololo Observa 41.14 291 P **P 16 57 25.2 -1.1**
GO04 IAmb IAmb 16 57 26.0
comp=Z,75nm,1.4s
CO06 Fray Jorge 41.17 290 P **P 16 57 25.9 -0.3**
PMNB Patos De Minas 41.32 329 *e*P **P 16 57 29.1 +1.5**
ROOI Rooidraai Farm 41.38 75 *e*P **P 16 57 28.1 0.0**
ITRB Iturama 41.41 323 *e*P **P 16 57 30.0 +1.7**
CO05 La Serena 41.57 291 P **P 16 57 28.9 -0.6**
CO05 IAmb IAmb 16 57 30.4
comp=Z,55nm,0.7s
BRAK Brakfontein 41.59 74 *e*P **P 16 57 29.9 +0.1**
BRAK IAmb IAmb 16 57 31.5
comp=Z,271nm,2.6s
GUA01 Guaratinga, BA 41.62 339 *e*P **P 16 57 31.6 +1.6**
RPRD Ribas do Rio P 41.85 319 *e*P **P 16 57 33.6 +1.7**
AC05 El Transito 41.95 293 P **P 16 57 31.9 -0.9**
AC05 IAmb IAmb 16 57 34.6
comp=Z,68nm,0.8s
LCO Las Campanas 42.03 292 P **P 16 57 32.2 -1.4**
LCO Las Campanas 42.03 292 P **P 16 57 32.2 -1.4**
LCO pmax pmax
comp=Z,40nm,0.9s
LCO MLR MLR
comp=Z,2µm,18.0s
GRAF Camdeboo Natio 42.05 76 *e*P **P 16 57 33.0 -0.5**
GRAF IAmb IAmb 16 57 52.9
comp=Z,26nm,1.0s
MURT Porto Murtinho 42.28 313 *e*P **P 16 57 35.1 -0.2**
IPMB Ipameri, GO 42.36 327 *e*P **P 16 57 37.8 +1.7**
AQDB Áquidauana 42.60 316 P **P 16 57 37.4 -0.6**
AQDB IAmb IAmb 16 57 40.0
comp=Z,284nm,1.6s
AQDB Áquidauana 42.60 316 *e*P **P 16 57 38.5 +0.5**
VA04 Juan Fernndez 42.68 280 P **P 16 57 38.5 0.0**
VA04 IAmb IAmb 16 57 41.2
comp=Z,44nm,0.7s
FDPY Filadelfia 42.69 310 *e*P **P 16 57 40.5 +1.8**
ALKP Alkanpan, Nort 42.71 72 *e*P **P 16 57 37.1 -1.8**
CMC01 Camacan, BA 42.76 340 *e*P **P 16 57 40.5 +1.2**
AC04 Llanos de Chal 42.87 292 P **P 16 57 39.2 -0.9**
AC04 IAmb IAmb 16 57 42.3
comp=Z,125nm,1.1s
GO03 Copiapo 42.95 294 P **P 16 57 39.6 -1.3**
GO03 IAmb IAmb 16 57 41.4
comp=Z,99nm,1.5s
BDQN Bodoquena, MS 43.03 315 *e*P **P 16 57 41.1 -0.3**
C2SB Chapadao do Su 43.12 321 *e*P **P 16 57 44.3 +2.1**
AC06 Mina Casimiro 43.20 294 P **P 16 57 40.9 -2.0**
AC06 IAmb IAmb 16 57 43.4
comp=Z,106nm,1.4s
UPI Upington 43.46 69 *e*P **P 16 57 42.6 -2.4**
UPI IAmb IAmb 16 57 45.5
comp=Z,25nm,1.2s
HVD Gariep Dam 43.89 75 *e*P **P 16 57 47.9 -0.6**
JANB Januaria 44.09 334 *e*P **P 16 57 51.0 +0.9**
AC01 Pan de Azucar 44.33 295 P **P 16 57 50.6 -1.2**
GDU01 Guandu, BA 44.37 340 *e*P **P 16 57 53.0 +0.7**
BDFB Brasilia 44.52 328 P **P 16 57 53.3 -0.2**
BDFB IAmb IAmb 16 57 56.5
comp=Z,46nm,1.1s
BDFB Brasilia 44.52 328 P **P 16 57 54.5 +1.0**
comp=Z,23nm,0.9s,baz=144,slow=4.4,SNR=25
BDFB LR LR 17 16 04.8
comp=Z,3µm,18.8s,baz=152,slow=36
comp=Z,23nm,0.9s
GO02 Mina Guanaco 44.65 296 P **P 16 57 53.9 -0.8**
GO02 IAmb IAmb 16 57 56.2
comp=Z,129nm,1.2s
GO02 **PcP 16 59 38.0 +0.8**
SBA Scott Base 45.32 184 P **P 16 58 01.0 +1.9**
SBA IAmb IAmb 16 58 03.6
comp=Z,86nm,1.2s
SBA Scott Base 45.32 184 P **P 16 58 01.0 +1.9**
SBA pmax pmax
comp=Z,87nm,1.2s
BOSA Boshof 45.34 73 P **P 16 57 59.0 -1.1**
BOSA Boshof 45.34 73 *e*P **P 16 57 57.3 -2.8**
BOSA IAmb IAmb 16 58 17.2
comp=Z,18nm,1.1s
BOSA Boshof 45.34 73 P **P 16 57 59.0 -1.1**
comp=Z,11nm,0.9s,baz=206,slow=6.1,SNR=13
BOSA LR LR 17 14 24.3
comp=Z,5µm,18.1s,baz=222,slow=33
comp=Z,11nm,0.9s
BOSA Boshof 45.34 73 P **P 16 57 59.0 -1.1**
BOSA pmax pmax
comp=Z,21nm,1.1s
PB14 IPOC Station P 45.49 296 IAmb IAmb 16 58 12.3
comp=Z,30nm,1.0s
ARAG Araguaiana, MT 45.62 323 *e*P **P 16 58 03.6 +1.4**
WIN Windhoek 46.22 60 IAMs_20 IAMs_20 17 15 27.5
comp=Z,3µm,18.0s
PB15 IPOC Station P 46.23 298 P **P 16 58 07.2 0.0**
PB15 IAmb IAmb 16 58 13.6
comp=Z,100nm,0.9s
H04S2 CROZET ISLANDS 46.42 112 T T 17 49 24.2
baz=225,slow=75
H04S3 CROZET ISLANDS 46.43 112 T T 17 49 31.3
baz=225,slow=75
H04S1 CROZET ISLANDS 46.44 112 T T 17 49 27.0
baz=225,slow=75
SWZ Schweizer 46.53 72 *e*P **P 16 58 08.1 -1.4**
SWZ IAmb IAmb 16 58 31.4
comp=Z,161nm,2.4s
PB06 IPOC Station P 46.70 298 IAmb IAmb 16 58 13.0
comp=Z,89nm,1.1s
PB06 PcP **PcP 16 59 45.1 +0.8**
NBLA Lagarto - SE 46.73 343 *e*P **P 16 58 12.1 +1.2**
SDBA SAO DESIDERIO 46.78 334 *e*P **P 16 58 11.9 +0.5**
SALV Santo Antonio 46.78 319 *e*P **P 16 58 12.6 +1.2**
SNKL Senekal, Frees 46.94 76 *e*P **P 16 58 11.9 -0.8**
SNKL IAmb IAmb 16 58 29.9
comp=Z,32nm,1.2s
PB04 IPOC Station P 47.30 298 P **P 16 58 15.4 -0.1**
BBSD Serra de San D 47.51 312 *e*P **P 16 58 17.0 0.0**
PRYS Parys 47.80 74 *e*P **P 16 58 18.1 -1.4**
PRYS IAmb IAmb 16 58 43.3
comp=Z,26nm,1.1s
NBAN Anadia - AL 47.82 346 *e*P **P 16 58 19.7 +0.3**
LBTB Lobatse 48.43 71 P **P 16 58 22.8 -1.4**
LBTB IAmb IAmb 16 59 02.4
comp=Z,42nm,1.6s
LBTB Lobatse 48.43 71 *e*P **P 16 58 23.6 -0.6**

LBTB Lobatse 48.43 71 LR LR 17 15 56.4
comp=Z,2µm,18.5s,baz=211,slow=33
LBTB Lobatse 48.43 71 P **P 16 58 22.8 -1.4**
LBTB pmax pmax
comp=Z,42nm,1.6s
MRCO Marico , North 48.47 72 *e*P **P 16 58 23.4 -1.1**
PTLB Pontes e Lacer 48.50 315 P **P 16 58 24.7 +0.1**
PTLB Pontes e Lacer 48.50 315 *e*P **P 16 58 24.4 -0.2**
PB08 IPOC Station P 48.70 300 PcP **PcP 16 59 52.9 +1.3**
SIV San Ignacio 48.78 312 LR LR 17 18 23.8
comp=Z,1µm,21.7s,baz=170,slow=35
TA01 Diego Aracena 48.82 299 P **P 16 58 26.0 -1.1**
TA01 IAmb IAmb 16 58 29.3
comp=Z,127nm,1.2s
HMBC Humberstone 48.93 300 IAmb IAmb 16 58 34.6
comp=Z,87nm,0.8s
SNDB Serra Nova Dou 48.97 326 *e*P **P 16 58 29.9 +1.7**
GO01 Chusmiza 49.12 301 P **P 16 58 29.6 -0.4**
GO01 PcP **PcP 16 59 54.2 +0.9**
TSUM Tsumeb 49.34 59 P **P 16 58 29.8 -1.5**
TSUM IAmb IAmb 16 58 43.2
comp=Z,43nm,1.6s
TSUM Tsumeb 49.34 59 *e*P **P 16 58 28.0 -3.3**
TSUM Tsumeb 49.34 59 LR LR 17 17 08.2
comp=Z,1µm,18.1s,baz=165,slow=34
TSWA Tswaing Meteor 49.40 74 *e*P **P 16 58 30.2 -1.4**
TSWA IAML 16 58 54.2
comp=Z,6.6nm,0.2s
RUST Rust De Winter 49.78 74 *e*P **P 16 58 32.7 -1.9**
MTLB Matlabas, Limp 50.17 71 *e*P **P 16 58 35.3 -2.2**
AP01 Chacalluta 50.78 300 P **P 16 58 40.3 -1.7**
SMTB Santa Maria do 50.87 332 *e*P **P 16 58 44.0 +1.3**
PDRB Porto dos Gac 51.12 319 *e*P **P 16 58 44.9 +0.3**
VILB Vilhena 51.18 315 P **P 16 58 44.9 -0.2**
VILB IAmb IAmb 16 58 46.8
comp=Z,123nm,1.0s
VILB PcP **PcP 16 59 59.2 -1.1**
VILB Vilhena 51.18 315 *e*P **P 16 58 46.0 +0.9**
PILG Pilgrimsrest, 51.18 76 *e*P **P 16 58 46.0 +0.7**
CLDB Colider 51.47 321 *e*P **P 16 58 47.8 +0.5**
RCBR Riachuelo 51.55 347 LR LR 17 17 37.1
comp=Z,376nm,18.9s,baz=182,slow=33
LPAZ La Paz 51.56 304 P **P 16 58 49.0 +0.3**
comp=Z,340nm,0.8s,baz=153,slow=5.4,SNR=832
LPAZ LR LR 17 25 00.5
comp=Z,625nm,18.1s,baz=160,slow=41
LPAZ La Paz 51.56 304 P **P 16 58 49.0 +0.3**
LPAZ La Paz 51.56 304 *e*P **P 16 58 49.5 +0.9**
CRAIL Swartwater, Li 51.62 72 *e*P **P 16 58 47.8 -0.6**
NBPB Pedra_Branca-C 52.37 342 *e*P **P 16 58 54.7 +0.8**
MOPA Mopani 52.70 75 *e*P **P 16 58 59.6 +3.3**
MOPA IAmb IAmb 16 59 08.6
comp=Z,443nm,2.8s
CASY Casey 52.84 159 P **P 16 58 57.8 +1.0**
CASY IAmb IAmb 16 59 00.2
comp=Z,55nm,0.9s
CASY Casey 52.84 159 IAMs_20 IAMs_20 17 20 52.8
comp=Z,3µm,19.0s
NBCL Cascavel-CE 53.46 344 *e*P **P 16 59 02.0 +0.1**
MATP Matopo 53.71 71 LR LR 17 18 41.4
comp=Z,980nm,19.4s,baz=229,slow=32
BLWY Bulawayo 54.01 70 *e*P **P 16 59 04.3 -1.8**
PRPB Parauapebas 54.04 330 *e*P **P 16 59 07.8 +1.6**
NPGB Novo Progresso 54.90 323 *e*P **P 16 59 12.9 +0.5**
SAML Samuel 56.00 313 P **P 16 59 20.1 -0.3**
SAML IAmb IAmb 16 59 22.3
comp=Z,140nm,1.3s
SAML IAMs_20 IAMs_20 17 21 07.3
comp=Z,2µm,22.0s
SAML Samuel 56.00 313 P **P 16 59 20.1 -0.3**
SAML pmax pmax
comp=Z,140nm,1.3s
SAML MLR MLR
comp=Z,2µm,22.0s
SAML Samuel 56.00 313 *e*P **P 16 59 21.4 +1.0**
ETMB Extrema 56.46 310 IAmb IAmb 16 59 26.4
comp=Z,64nm,0.9s
ETMB Extrema 56.46 310 *e*P **P 16 59 24.1 +0.4**
TMAB Tom-Au,PA,Br 57.23 333 *e*P **P 16 59 30.5 +1.4**
ITTB Itaituba 57.53 324 *e*P **P 16 59 32.3 +1.1**
LSZ Lusaka 57.87 67 P **P 16 59 33.5 -0.3**
LSZ Lusaka 57.87 67 IAMs_20 IAMs_20 17 23 19.2
comp=Z,2µm,18.0s
LSZ Lusaka 57.87 67 *e*P **P 16 59 34.5 +0.7**
LSZ IAmb IAmb 17 00 17.2
comp=Z,127nm,2.4s
LSZ Lusaka 57.87 67 P **P 16 59 33.5 -0.3**
LSZ pmax pmax
comp=Z,13nm,1.0s
LSZ MLR MLR
comp=Z,2µm,18.0s
NNA Nana 59.41 298 P **P 16 59 43.7 -0.7**
NNA IAmb IAmb 16 59 46.1
comp=Z,68nm,1.0s
NNA Nana 59.41 298 LR LR 17 28 22.2
comp=Z,374nm,18.0s,baz=140,slow=39
NNA Nana 59.41 298 P **P 16 59 43.7 -0.7**
NNA pmax pmax
comp=Z,68nm,1.0s
FOMA Nahampoana Res 60.00 90 IAMs_20 IAMs_20 17 22 56.7
comp=Z,2µm,18.0s
MACA Manacapuru-AM 60.36 319 P **P 16 59 49.9 -1.0**
MACA Manacapuru-AM 60.36 319 *e*P **P 16 59 51.0 +0.1**
CZSB Cruzeiro do Su 61.17 304 P **P 16 59 55.3 -1.1**
CZSB Cruzeiro do Su 61.17 304 *e*P **P 16 59 56.2 -0.3**
TBTG Tabatinga, AM 63.09 309 P **P 17 00 08.6 -0.7**
TBTG Tabatinga, AM 63.09 309 *e*P **P 17 00 09.5 +0.2**
ATAH Atahualpa 64.36 299 P **P 17 00 20.2 +2.0**
comp=Z,72nm,1.0s,baz=157,slow=3.9,SNR=44
ATAH LR LR 17 31 27.1
comp=Z,821nm,18.3s,baz=148,slow=39
comp=Z,72nm,1.0s
RPN Rapa Nui 64.37 259 P **P 17 00 18.3 +0.6**
RPN Rapa Nui 64.37 259 LR LR 17 24 34.7
comp=Z,630nm,18.2s,baz=107,slow=32
RPN Rapa Nui 64.37 259 P **P 17 00 18.3 +0.6**
RPN pmax pmax
comp=Z,394nm,1.7s
OPO Ambohidratompo 65.25 86 LR LR 17 23 52.1
comp=Z,1µm,19.5s,baz=332,slow=32
BOAV Boa Vista 65.47 321 P **P 17 00 24.5 -0.4**
BOAV IAmb IAmb 17 00 26.2
comp=Z,75nm,1.0s
BOAV Boa Vista 65.47 321 *e*P **P 17 00 24.0 -0.8**
DBIC Dimbokro 65.57 23 P **P 17 00 25.2 -0.2**
comp=Z,9.2nm,0.7s,baz=181,slow=8.6,SNR=8.4
DBIC LR LR 17 23 14.6
comp=Z,1µm,19.2s,baz=183,slow=31
comp=Z,9.2nm,0.7s
MDP Montagnes des 65.58 330 LR LR 17 28 25.7
comp=Z,983nm,19.2s,baz=136,slow=36
PCRA Pucara 2 68.31 300 P **P 17 00 44.7 +1.1**
COHC Cochancay 68.84 300 IAmb IAmb 17 00 48.9
comp=Z,33nm,0.8s
BPAT Tungurahua Vol 69.30 302 P **P 17 00 52.0 +2.3**
TUYU Q. Yuibug Volc 69.34 302 P **P 17 00 51.4 +1.5**
BULB Ulba Tungurahu 69.35 302 P **P 17 00 51.8 +1.9**
JSCH Cashca Tororas 69.37 301 P **P 17 00 51.8 +1.8**
BBIL Ulba Tungurahu 69.37 302 P **P 17 00 51.0 +1.0**
IGUA Igualata 69.41 301 P **P 17 00 52.7 +2.2**
MONB Balzapamba Mon 69.42 301 P **P 17 00 50.7 +0.7**
TAMH Tambohuasha Ch 69.43 301 P **P 17 00 51.6 +1.1**
CHSH Refugio Sur-Vo 69.51 301 P **P 17 00 53.2 +2.0**
VCES Cotopaxi 69.90 302 P **P 17 00 55.0 +1.5**
BRRN Barrancas-Volc 69.95 302 P **P 17 00 55.8 +2.0**
BMOR Cotopaxi Volca 69.99 302 P **P 17 00 56.0 +1.9**
BTAM Cotopaxi Volca 70.01 302 P **P 17 00 56.1 +1.8**
BVC2 Cotopaxi Volca 70.03 302 P **P 17 00 56.5 +2.2**
BREF Cotopaxi Volca 70.03 302 P **P 17 00 56.8 +2.4**
VC1 Cotopaxi 1 70.04 302 P **P 17 00 56.2 +1.9**
BNAS Cotopaxi Volca 70.05 302 P **P 17 00 57.7 +3.3**
ANTS Antisana-Sarah 70.06 302 P **P 17 00 55.9 +1.3**
ANTG Antisana-Guama 70.09 302 P **P 17 00 56.0 +1.3**
ANTI Antisana 70.10 302 P **P 17 00 56.6 +1.8**
ILLI Illinizas Sur 70.13 302 P **P 17 00 56.2 +1.3**
CASC Dorado de Casc 70.24 303 P **P 17 00 55.8 +0.8**
TING Casa Alexandra 70.38 302 P **P 17 00 54.9 -1.3**
ANGU Angureal 70.47 303 P **P 17 00 57.6 +0.5**
GGPT Toaza - Volcan 70.51 302 P **P 17 00 59.0 +1.9**
JUA2 San Juan 2 70.51 302 P **P 17 00 59.4 +2.2**
GGPC Guagua Pichinc 70.54 302 P **P 17 00 59.4 +1.9**
TERV Terraza Guagua 70.55 302 P **P 17 00 59.6 +2.1**
PINO Pino 70.56 302 P **P 17 01 00.0 +2.4**
YANA Yana 70.58 302 P **P 17 00 59.6 +1.9**

IMBA Imbabura, San 70.75 303 P **P 17 01 01.1 +2.5**
OTAV Otavalo 70.84 302 P **P 17 01 00.0 +0.9**
OTAV Otavalo 70.84 302 P **P 17 01 00.0 +0.9**
OTAV pmax pmax
comp=Z,185nm,1.2s
OTAV MLR MLR
comp=Z,700nm,19.0s
OTAV Otavalo 70.84 302 P **P 17 00 60.0 +0.9**
OTAV Otavalo 70.84 302 *e*P **P 17 01 00.8 +1.6**
TULM Tulcn-Chalpat 70.95 303 P **P 17 01 01.6 +1.8**
FLF1 Flavio Alfaro- 70.97 301 P **P 17 01 01.1 +1.7**
LNGL El Angel-Carch 71.07 303 P **P 17 01 01.7 +1.0**
CHL2 Volc;n Chiles 71.09 303 P **P 17 01 03.0 +2.3**
CHL1 Volc;n Chiles 71.09 303 P **P 17 01 03.0 +2.2**
ECEN Cerro Negro 71.13 303 P **P 17 01 02.7 +1.7**
CMBC Cumbal 71.17 303 P **P 17 01 03.7 +2.6**
MBAR Mbarara 71.76 61 LR LR 17 30 02.8
comp=Z,788nm,18.5s,baz=210,slow=34
BBAC Balboa, Cauca 71.86 304 P **P 17 01 04.9 -0.1**
RVRD Rio Verde 72.00 302 P **P 17 01 05.5 -0.1**
ROSC El Rosal 73.08 309 IAmb IAmb 17 01 15.8
comp=Z,48nm,0.8s
ROSC El Rosal 73.08 309 P **P 17 01 14.1 +1.7**
comp=Z,34nm,0.7s,baz=135,slow=8.6,SNR=5.9
ROSC LR LR 17 36 15.9
comp=Z,1µm,18.7s,baz=156,slow=38
comp=Z,34nm,0.7s
TORD Torodi Ar. Bea 73.36 28 P **P 17 01 13.2 -0.3**
TORD Torodi Ar. Bea 73.36 28 P **P 17 01 13.2 -0.3**
comp=Z,11nm,0.7s,baz=200,slow=4.3,SNR=55
TORD LR LR 17 26 29.5
comp=Z,727nm,21.4s,baz=172,slow=30
comp=Z,11nm,0.7s
KIBK Kibwezi 73.90 69 P **P 17 01 15.0 -2.0**
PCRV Puerto La Cruz 74.14 320 P **P 17 01 19.6 +1.4**
comp=Z,149nm,0.9s,baz=161,slow=8.3,SNR=31
PCRV LR LR 17 34 49.7
comp=Z,978nm,20.8s,slow=36
comp=Z,149nm,0.9s
KMBO Kilima Mbogo 74.53 67 P **P 17 01 18.5 -2.3**
KMBO Kilima Mbogo 74.53 67 LR LR 17 30 26.8
comp=Z,826nm,21.9s,baz=219,slow=33
KMBO Kilima Mbogo 74.53 67 *e*P P 17 01 27.6 +6.7
KMBO Kilima Mbogo 74.53 67 ||*e*P **P 17 01 22.6 +1.8**
SDV Santo Domingo 75.21 314 P **P 17 01 24.7 +0.1**
SDV IAmb IAmb 17 01 26.7
comp=Z,60nm,0.9s
SDV Santo Domingo 75.21 314 P **P 17 01 25.7 +1.1**
comp=Z,46nm,0.8s,baz=172,slow=2.2,SNR=26
SDV LR LR 17 37 01.5
comp=Z,2µm,18.9s,baz=154,slow=38
comp=Z,46nm,0.8s
SDV Santo Domingo 75.21 314 *e*P **P 17 01 25.7 +1.1**
CTZ Chatham Island 76.84 201 P **P 17 01 32.9 -0.6**
CTZ IAmb IAmb 17 01 35.9
comp=Z,68nm,1.1s
MPOM Morne Pois Mar 76.86 325 P **P 17 01 32.0 -1.7**
BIM Bigot 77.00 325 P **P 17 01 33.9 -0.6**
FDF Fort de France 77.23 325 P **P 17 01 33.4 -2.4**
FDF Fort de France 77.23 325 P **P 17 01 33.4 -2.4**
FDF pmax pmax
comp=Z,280nm,1.4s
MLZ Mavora Lakes 77.48 190 P **P 17 01 37.8 +0.7**
MLZ IAmb IAmb 17 02 01.5
comp=Z,161nm,1.7s
LODK Lodwar 77.50 63 P **P 17 01 36.1 -1.4**
LODK IAMs_20 IAMs_20 17 33 54.5
comp=Z,1µm,19.0s
ODZ Otahua Downs 77.54 192 P **P 17 01 37.7 +0.4**
ODZ IAmb IAmb 17 01 42.2
comp=Z,58nm,1.4s
HATO Hato, Curacao 77.57 317 IAMs_20 IAMs_20 17 33 45.9
comp=Z,2µm,22.0s
LBZ Lake Benmore 78.25 191 P **P 17 01 41.2 0.0**
LBZ IAmb IAmb 17 01 48.8
comp=Z,71nm,1.2s
TDBA Terre de Bas, 78.43 325 P **P 17 01 40.4 -2.0**
CBE Ff, Capester 78.63 325 P **P 17 01 43.0 -0.5**
RPZ Rata Peaks 78.81 192 P **P 17 01 44.8 +0.4**
RPZ IAmb IAmb 17 01 47.4
comp=Z,81nm,1.1s
OXZ Oxford 79.07 193 P **P 17 01 45.2 -0.7**
OXZ IAmb IAmb 17 01 48.6
comp=Z,76nm,1.4s
LTZ Lake Taylor 79.58 193 P **P 17 01 48.8 +0.1**
LTZ IAmb IAmb 17 01 57.9
comp=Z,88nm,1.1s
INZ Inchbonnie 79.74 193 P **P 17 01 49.2 -0.3**
INZ IAmb IAmb 17 01 51.7
comp=Z,47nm,1.0s
KHZ Kahutara 79.78 194 P **P 17 01 48.9 -0.8**
KHZ IAmb IAmb 17 01 52.0
comp=Z,77nm,1.2s
CMWZ Cape Campbell 80.34 195 P **P 17 01 52.8 +0.1**
TAU Tasmania Unive 80.41 175 P **P 17 01 52.3 -0.8**
TAU IAmb IAmb 17 02 20.9
comp=Z,96nm,1.4s
TAU Tasmania Unive 80.41 175 P **P 17 01 52.3 -0.8**
TAU pmax pmax
comp=Z,96nm,1.5s
BSWZ Blackbirch Sta 80.42 195 P **P 17 01 51.9 -1.3**
THZ Tophouse 80.50 194 IAmb IAmb 17 01 57.9
comp=Z,54nm,0.9s
DSZ Denniston Nort 80.66 193 P **P 17 01 54.1 -0.4**
DSZ IAmb IAmb 17 01 55.8
comp=Z,131nm,1.2s
SNZO South Karori 80.70 195 P **P 17 01 54.9 +0.3**
MRNZ Matariki Terra 80.88 194 P **P 17 01 55.9 +0.3**
NNZ Nelson 80.97 194 IAMs_20 IAMs_20 17 37 09.3
comp=Z,936nm,18.0s
MRZ Mangatainoka R 81.20 196 IAmb IAmb 17 01 60.0
comp=Z,62nm,1.1s
QRZ Quartz Range 81.47 194 P **P 17 01 58.1 -0.7**
QRZ IAmb IAmb 17 01 59.5
comp=Z,115nm,1.7s
LCR2 La Lucha 2 81.77 302 IAmb IAmb 17 02 04.2
comp=Z,80nm,1.2s
IGPR InterUniversit 81.88 321 IAmb IAmb 17 02 05.4
comp=Z,64nm,1.1s
PDPR Patillas Dam, 81.90 321 IAmb IAmb 17 02 02.2
comp=Z,24nm,1.0s
HUMP Col San Antoni 81.96 322 IAmb IAmb 17 02 03.3
comp=Z,52nm,0.9s
SJG San Juan 82.03 321 P **P 17 02 00.9 -0.9**
SJG IAmb IAmb 17 02 02.7
comp=Z,69nm,1.2s
SJG San Juan 82.03 321 P **P 17 02 02.0 +0.2**
comp=Z,26nm,0.8s,baz=12,slow=3.0,SNR=5.8
SJG LR LR 17 43 07.8
comp=Z,314nm,18.0s,baz=192,slow=39
comp=Z,26nm,0.8s
SJG San Juan 82.03 321 P **P 17 02 02.0 +0.2**
OBIP Obispado Ponce 82.12 321 IAmb IAmb 17 02 03.1
comp=Z,50nm,1.0s
MLPR Magueyes Islan 82.21 321 IAmb IAmb 17 02 04.3
comp=Z,63nm,1.0s
BKZ Black Stump Fm 82.52 197 IAmb IAmb 17 02 13.1
comp=Z,49nm,1.0s
JTS Las Juntas de 82.69 301 P **P 17 02 05.2 -0.3**
JTS Las Juntas de 82.69 301 P **P 17 02 06.4 +1.0**
comp=Z,37nm,1.1s,baz=145,slow=1.4,SNR=10
JTS LR LR 17 43 55.9
comp=Z,329nm,18.2s,baz=131,slow=39
comp=Z,37nm,1.1s
JTS Las Juntas de 82.69 301 *c*e*P* **P 17 02 06.2 +0.8**
JTS pmax pmax
comp=Z,96nm,1.4s
RTZ Ruatahuna 82.98 198 IAMs_20 IAMs_20 17 39 46.3
comp=Z,1µm,18.0s
URZ Urewera 83.30 198 P **P 17 02 09.7 +1.3**
comp=Z,38nm,0.9s,baz=130,slow=2.1,SNR=16
URZ LR LR 17 37 18.9
comp=Z,554nm,18.2s,baz=244,slow=34
comp=Z,38nm,0.9s
HIZ Hauiti 83.42 196 IAmb IAmb 17 02 10.6
comp=Z,52nm,0.7s
TAM Tamanrasset 83.58 29 P **P 17 02 09.7 -0.3**
TAM Tamanrasset 83.58 29 P **P 17 02 09.7 -0.3**
TAM pmax pmax
comp=Z,12nm,1.2s
TAM MLR MLR
comp=Z,700nm,21.0s
FURI Furi 83.86 64 IAMs_20 IAMs_20 17 36 56.0
comp=Z,1µm,21.0s
FURI Furi 83.86 64 LR LR 17 37 16.9
comp=Z,1µm,19.7s,baz=206,slow=34

TOZ	Tahuroa Road	84.08	197	P	P	17 02 11.9	-0.5
TOZ				IAmb	IAmb	17 02 14.2	
	comp=Z,48nm,1.0s						
SDDR	Presa de Saban	84.67	317	P	P	17 02 14.6	-0.9
SDDR				IAmb	IAmb	17 02 17.1	
	comp=Z,40nm,1.1s						
ANKE	Ethiopia-Afar	84.98	64	eP	P	17 02 22.1	+4.5
NWAO	Narrogin (SRO)	85.18	149	LR	LR	17 39 05.2	
	comp=Z,374nm,18.0s,baz=116,slow=35						
DESE	Dese	86.24	63	eP	P	17 02 28.6	+4.8
MTDJ	Mount Denham	86.44	311	IAMs_20	IAMs_20	17 40 36.0	
	comp=Z,936nm,20.0s						
HARA	HARA	86.49	67	eP	P	17 02 28.6	+3.7
KLBR	Kellerberrin	86.58	149	P	P	17 02 25.7	+0.7
	comp=Z,65nm,1.2s						
GTBY	Guantanamo Bay	87.00	314	IAMs_20	IAMs_20	17 43 19.7	
	comp=Z,1µm,20.0s						
TBI	Tubuai	87.23	230	eP	P	17 02 28.3	0.0
	comp=Z,570nm,26.0s						
TBI	Tubuai	87.23	230	ePP	PP	17 05 50.9	-0.7
	comp=Z,316nm,31.0s						
TBI				eS	S	17 13 07.5	+0.3
	comp=Z,2µm,26.2s						
TBI	Tubuai	87.23	230	eLQ	LQ	17 26 23.8	
	comp=Z,4µm,31.0s						
TBI				eLR	LR	17 30 02.8	
	comp=Z,2µm,24.0s						
TBI				eLR	LR	17 30 05.8	
	comp=Z,5µm,21.8s						
TEND	Ethiopian Broa	87.50	64	eP	P	17 02 32.5	+2.9
NMDO	Nuevo Mundo	87.52	315	IAmb	IAmb	17 02 31.8	
	comp=Z,34nm,1.1s						
CHIV	Chivirico	87.56	313	IAmb	IAmb	17 02 32.2	
	comp=Z,56nm,1.0s						
KMBL	Kambalda	87.89	153	P	P	17 02 32.2	+0.8
	comp=Z,46nm,1.8s						
CAN	Canberra	88.05	176	P	P	17 02 33.4	+1.3
	comp=Z,25nm,1.8s						
ATD	Arta Tunnel	88.19	66	LR	LR	17 41 08.3	
	comp=Z,63nm,18.1s,baz=198,slow=35						
ATD	Arta Tunnel	88.19	66	eP	P	17 02 39.0	+6.1
HTT	Hallett	89.10	167	P	P	17 02 37.9	+0.8
	comp=Z,39nm,1.2s						
BBOO	Buckleboo	89.33	165	IAmb	IAmb	17 02 40.0	
	comp=Z,24nm,1.0s						
BBOO	Buckleboo	89.33	165	P	P	17 02 38.5	+0.4
	comp=Z,26nm,1.1s						
FORT	Forrest	89.89	158	P	P	17 02 41.7	+0.9
FORT	Forrest	89.89	158	P	P	17 02 42.0	+1.3
	comp=Z,84nm,1.0s						
STKA	Stephens Creek	90.94	169	P	P	17 02 46.2	+0.6
	comp=Z,3.1nm,1.4s						
STKA	Stephens Creek	90.94	169	P	P	17 02 46.0	+0.4
	comp=Z,6.2nm,1.0s,baz=174,slow=6.6,SNR=8.4						
STKA				LR	LR	17 43 59.3	
	comp=Z,1µm,18.0s,baz=192,slow=36						
	comp=Z,6.2nm,1.0s						
STKA	Stephens Creek	90.94	169	ceP	P	17 02 46.6	+1.0
MDT	Midelt	91.09	18	LR	LR	17 39 39.5	
	comp=Z,2µm,19.4s,baz=202,slow=33						
AVE	Averroes	91.13	15	IAMs_20	IAMs_20	17 38 04.3	
	comp=Z,1µm,20.0s						
CMSA	Cobar Meteorol	91.63	173	P	P	17 02 49.1	+0.3
	comp=Z,16nm,1.7s						
PPT2	Papeete2	92.38	232	eP	P	17 02 51.2	-1.4
	comp=Z,66nm,24.5s						
PPT2	Papeete2	92.38	232	ePP	PP	17 06 24.8	-8.0
	comp=Z,65nm,26.2s						
PPT2				eS	S	17 13 55.6	+0.2
	comp=Z,492nm,29.5s						
PPT2				eSS	SS	17 20 06.7	+1.6
	comp=Z,557nm,29.0s						
PPT2				eLQ	LQ	17 28 28.9	
	comp=Z,418nm,26.2s						
PPT2				eLR	LR	17 32 29.7	
	comp=Z,2µm,29.5s						
PPT2				eLR	LR	17 32 34.2	
	comp=Z,3µm,27.5s						
PPT	Papeete	92.40	232	LR	LR	17 35 09.7	
	comp=Z,615nm,21.9s,baz=161,slow=30						
TEIG	Tepich	92.89	303	P	P	17 02 54.9	+0.3
TEIG	Tepich	92.89	303	P	P	17 02 55.3	+0.8
	comp=Z,36nm,0.7s,baz=155,slow=3.1,SNR=12						
TEIG				LR	LR	17 49 25.3	
	comp=Z,372nm,18.7s,baz=181,slow=39						
	comp=Z,36nm,0.7s						
RAR	Rarotonga	93.23	222	LR	LR	17 40 40.1	
	comp=Z,344nm,18.2s,baz=175,slow=33						
WRKA	Warakurna	95.49	156	P	P	17 03 05.3	-1.4
	comp=Z,13nm,2.4s						
TAOE	Nuku Hiva Isla	95.60	245	eSS	SS	17 20 54.7	+3.2
	comp=Z,492nm,28.3s						
TAOE	Nuku Hiva Isla	95.60	245	eLR	LR	17 33 51.9	
	comp=Z,503nm,23.3s						
KEST	Kesra	96.88	28	LR	LR	17 42 47.2	
	comp=Z,718nm,19.6s,baz=203,slow=33						
MBWA	Marble Bar	96.99	148	IAMs_20	IAMs_20	17 40 06.5	
	comp=Z,804nm,20.0s						
ESDC	Sonseca Array	97.91	17	P	Pdif	17 03 18.0	+0.9
	comp=Z,0.3nm,0.4s,baz=188,slow=3.2,SNR=4.3						
ESDC				LR	LR	17 45 40.3	
	comp=Z,324nm,18.9s,baz=168,slow=34						
	comp=Z,0.3nm,0.4s						
ASAR	Alice Springs	97.94	161	P	Pdif	17 03 18.2	+0.3
	comp=Z,6.1nm,0.9s,baz=189,slow=4.1,SNR=36						
ASAR				PP	PP	17 07 13.7	-1.8
	comp=Z,2.4nm,1.0s,baz=192,slow=7.0,SNR=4.0						
ASAR				PKKPbc	PKKPdf	17 19 50.6	+0.8
	comp=Z,1.0nm,0.9s,baz=17,slow=4.4,SNR=4.3						
	comp=Z,6.1nm,0.9s						
AS31	Alice Springs	97.94	161	P	P	17 03 16.4	-1.4
WDD	Wied Dalam	98.40	32	IAMs_20	IAMs_20	17 51 54.1	
	comp=Z,616nm,18.0s						
VAE	Valguarnera	99.89	31	LR	LR	17 45 30.1	
	comp=Z,600nm,19.0s,baz=150,slow=34						
EIL	Elat	100.18	50	LR	LR	17 47 29.6	
	comp=Z,880nm,18.1s,baz=222,slow=35						
VSL	Villasalto	100.45	27	IAMs_20	IAMs_20	17 44 10.2	
	comp=Z,769nm,20.0s						
DZM	Mont Dzumac	100.71	191	eP	Pdif	17 03 24.2	-6.1
DZM	Mont Dzumac	100.71	191	ePP	PP	17 07 29.5	-7.2
	comp=Z,34nm,23.2s						
DZM	Mont Dzumac	100.71	191	eSS	SS	17 22 03.6	+1.5
	comp=Z,190nm,22.4s						
DZM	Mont Dzumac	100.71	191	eLQ	LQ	17 32 04.6	
	comp=Z,1µm,38.5s						
DZM				eLR	LR	17 36 25.5	
	comp=Z,558nm,20.8s						
CEL	Celeste	101.05	32	IAMs_20	IAMs_20	17 52 20.3	
	comp=Z,501nm,18.0s						
WRA	Warramunga Arr	101.65	161	Pdif	Pdif	17 03 35.0	+0.6
WRA	Warramunga Arr	101.65	161	P	Pdif	17 03 34.5	+0.1
	comp=Z,1.8nm,0.9s,baz=197,slow=4.7,SNR=12						
WRA				PP	PP	17 07 40.6	-3.2
	comp=Z,2.6nm,1.1s,baz=192,slow=6.2,SNR=4.4						
WRA				PKKPbc	PKKPbc	17 19 40.4	+1.9
	comp=Z,0.8nm,0.8s,baz=5.4,slow=3.2,SNR=3.5						
GHAJ	Ghor Haditha	101.86	50	IAMs_20	IAMs_20	17 48 12.8	
	comp=Z,898nm,19.0s						
CSS	Mathiatis	104.13	47	IAMs_20	IAMs_20	17 48 37.8	
	comp=Z,723nm,21.0s						
FUORN	Ofenpass-Fuorn	107.39	25	IAMs_20	IAMs_20	17 48 35.8	
	comp=Z,574nm,20.0s						
PMBI	Palembang	108.23	127	IAMs_20	IAMs_20	17 47 26.8	
	comp=Z,550nm,19.0s						
ARPR	Arapgir-MALATY	109.71	48	IAMs_20	IAMs_20	17 59 25.5	
	comp=Z,595nm,19.0s						
CKRC	Cesky Krumlov	110.42	27	AMS	AMS	17 50 30.0	
	comp=Z,700nm,20.5s						
KRLC	Kraliky	112.20	28	AMS	AMS	17 51 00.0	
	comp=Z,400nm,19.2s						
DPC	Dobruska-Polom	112.33	28	AMS	AMS	17 51 10.0	
	comp=Z,600nm,17.9s						
UPC	Upice	112.40	27	AMS	AMS	17 51 50.0	
	comp=Z,500nm,19.7s						
CLL	Collm	112.41	25	ePS	PS	17 18 40.0	+3.5
CLL				eSS	SS	17 25 00.0	+17
CLL				L	L	17 54 00.0	
	comp=Z,300nm,19.2s						
121A	Cookes Peak, D	112.59	295	P	PKiKP	17 08 19.6	+1.7
	baz=144						
GNI	Garni	113.28	52	IAMs_20	IAMs_20	17 55 27.2	
	comp=Z,515nm,19.0s						
ANMO	Albuquerque	113.88	298	i PKIKP	PKiKP	17 08 20.7	+0.4
SOC	Sochi	114.05	46	i PKIKP	PKiKP	17 08 21.3	+1.3
SOC				e		17 09 17.1	
SOC				ePPP	PPP	17 11 41.9	
SOC				ePS	PS	17 18 48.6	-3.1
SOC				eSSS	SSS	17 29 14.0	
SOC				MLR	MLR		
	comp=Z,546nm,19.0s						
T25A	Trinidad	114.66	300	P	PKiKP	17 08 23.1	+1.3
	baz=144						
KIV	Kislovodsk	115.56	48	i PKIKP	PKiKP	17 08 24.5	+1.4
KIV				e		17 09 27.3	
KIV				ePS	PS	17 19 07.4	+1.7
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,370nm,22.0s						
X16A	Lo Mia Camp, P	115.93	294		PKiKP	17 08 25.0	+0.7
S22A	4UR Ranch, Cre	116.30	299	P	PKiKP	17 08 26.3	+1.4
	baz=143						
AKASG	Malin Array Be	116.35	35	PKP	PKiKP	17 08 26.3	+2.1
	comp=Z,0.6nm,0.6s,baz=240,slow=1.5,SNR=2.3						
MAK	Makhachkala	116.77	52	i P	Pdif	17 04 37.4	-3.4
MAK				e		17 09 31.4	
MAK				e		17 15 12.6	
MAK				ePS	PS	17 19 16.6	+0.1
MAK				eSS	SS	17 25 39.2	-1.1
MAK				pmax	pmax		
	comp=Z,404nm,1.2s						
YUH	Yuha Desert	116.82	289	PKPdf	PKiKP	17 08 26.6	+0.8
HMU	Henry Mountain	118.35	296	PP	PP	17 09 46.6	+0.7
KNB	Kanab	118.66	294		PP	17 09 47.4	-0.5
V12A	Nelson	118.68	292		PKPdf	17 08 29.4	0.0
V12A				PP	PP	17 09 48.3	+0.3
SRU	San Rafael Swe	119.16	297	PKPdf	PKiKP	17 08 30.8	+0.4
SRU	San Rafael Swe	119.16	297	PKIKP	PKiKP	17 08 30.8	+0.4
MNK	Minsk	119.23	32	i PKP	PKiKP	17 08 32.5	+2.8
	comp=E,10.0nm,0.8s						
MNK				i PKP	PKiKP	17 08 32.5	+2.8
	comp=N,16nm,0.8s						
MNK				i PKP	PKiKP	17 08 32.5	+2.8
	comp=Z,6.0nm,0.6s,baz=210						
MNK				i PP	PP	17 09 53.2	+1.8
MNK				i PPP	PPP	17 12 27.2	
MNK				i SKS	SKSdf	17 15 45.5	+5.4
MNK				i SS	SS	17 26 14.9	+3.0
MNK				i SSS	SSS	17 30 40.8	
MNK				i LQ	LQ	17 52 36.1	
MNK				i LR	LR	17 56 35.9	
MNK				i LRM	MLR	17 59 50.7	
	comp=E,141nm,17.7s						
MNK				i LRM	MLR	18 00 02.3	
	comp=N,238nm,18.1s						
MNK				i LRM	MLR	18 00 19.8	
	comp=Z,382nm,19.2s						
MNK	Minsk	119.23	32	i PKIKP	PKiKP	17 08 32.5	+2.8
MNK				i		17 09 53.2	
MNK				i PPP	PPP	17 12 27.1	
MNK				i		17 15 45.5	
MNK				i SS	SS	17 26 14.9	+3.0
MNK				i		17 26 28.1	
MNK				i SSS	SSS	17 30 40.8	
MNK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MNK				pmax	pmax		
	comp=N,16nm,0.8s						
MNK				pmax	pmax		
	comp=E,10.0nm,0.8s						
MNK				MLR	MLR		
	comp=E,141nm,18.0s						
MNK				MLR	MLR		
	comp=N,238nm,18.0s						
MNK				MLR	MLR		
	comp=Z,382nm,19.0s						
NACGM	Naroch	119.26	32	ePKP	PKiKP	17 08 30.1	+0.4
	comp=Z,14nm,0.8s,baz=210						
GSC	Goldstone, Bar	119.35	290	PP	PP	17 09 52.0	-0.6
SHPR	Sheep Range	119.44	292	PKPdf	PKPdf	17 08 29.6	-1.3
SHPR				PP	PP	17 09 55.5	+2.2
MSU	Marysvale	119.50	296	PKPdf	PKPdf	17 08 29.8	-1.3
MSU				PP	PP	17 09 51.2	-2.7
MSU	Marysvale	119.50	296	PKIKP	PKPdf	17 08 29.8	-1.3
MSU						17 09 51.2	
MVU	Marysvale	119.51	296		PKiKP	17 08 31.4	+0.2
MVU					PP	17 09 52.9	-1.0
TMUT	Trail Mountain	119.63	297		PKPdf	17 08 29.0	-2.4
AGMN	Agassiz Nation	119.88	314		PKPdf	17 08 30.4	-0.7
PSUT	Pine Spring	120.35	295	PKPdf	PKiKP	17 08 33.1	+0.3
WCT	Wildcat Mounta	120.41	291		PKiKP	17 08 32.8	0.0
WCT				PP	PP	17 09 53.8	-6.1
HFS	Hagfors	120.72	22	PKP	PKPdf	17 08 32.1	-0.2
	comp=Z,2.0nm,0.8s,baz=214,slow=4.9,SNR=2.0						
SPR3	Spring Creek 3	120.95	295	PKPdf	PKiKP	17 08 34.5	+0.4
NOA	NORSAR Array B	121.08	20	PKP	PKiKP	17 08 33.2	+0.1
	comp=Z,1.1nm,0.8s,baz=202,slow=2.0,SNR=3.6						
NOA				PKKPbc	PKKPbc	17 18 37.0	+1.6
	comp=Z,2.6nm,0.9s,baz=21,slow=2.8,SNR=5.6						
R11B	Troy Canyon, C	121.08	293	P	PKiKP	17 08 34.9	+0.7
	baz=140						
Q12A	Willow Creek R	121.23	294		PKPdf	17 08 34.0	-0.2
ULM	Lac du Bonnet	121.45	315	PKP	PKPdf	17 08 33.7	-0.4
	comp=Z,9.5nm,0.9s,baz=117,slow=2.6,SNR=8.4						
DSP	Deep Springs	121.54	291	PKPdf	PKiKP	17 08 34.9	+0.1
SPUT	South Promonto	121.79	298		PKPdf	17 08 34.6	-0.7
NIL	Nilore	122.11	77	PKPdf	PKPdf	17 08 35.0	-0.9
NIL	Nilore	122.11	77	PKIKP	PKPdf	17 08 35.0	-0.9
HVU	Hansel Valley	122.31	298		PKPdf	17 08 36.1	-0.1
HVU	Hansel Valley	122.31	298	PKIKP	PKPdf	17 08 36.1	-0.1
OBN	Obninsk	122.47	37	i PKIKP	PKiKP	17 08 38.3	+2.3
OBN				e		17 10 13.2	
OBN				ePPP	PPP	17 12 49.0	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
NVAR	Mina Array Bea	122.52	292		PKPdf	17 08 36.5	-0.3
NVAR	Mina Array Bea	122.52	292	PKP	PKiKP	17 08 38.4	+1.4
	comp=Z,4.8nm,0.9s,baz=142,slow=3.1,SNR=24						
ELK	Elko	122.73	295	PKPdf	PKPdf	17 08 37.3	+0.1
ELK	Elko	122.73	295	PKIKP	PKPdf	17 08 37.3	+0.1
DLV	Lat	123.08	123	IAMs_20	IAMs_20	18 02 43.8	
	comp=Z,503nm,18.0s						
HEL	Helsinki	123.33	28	PKIKP	PKPdf	17 08 32.6	-4.7
SIMJ	Simiganj	123.68	70	PKPdf	PKPdf	17 08 38.9	-0.1
CMAR	Chiang Mai Arr	123.96	110	PKPdf	PKPdf	17 08 38.4	-1.6
CMAR	Chiang Mai Arr	123.96	110	PKP	PKiKP	17 08 40.1	-0.1
	comp=Z,4.8nm,0.9s,baz=233,slow=3.8,SNR=36						
CMAR				PKKPab	PKKPab	17 18 27.4	+1.6
	comp=Z,0.3nm,0.3s,baz=33,slow=2.8,SNR=5.0						
DY2G	Dye2	124.00	350	i P	PKPdf	17 08 38.7	-0.1
PAHR	Pah Rah Range	124.03	292		PKPdf	17 08 38.9	-0.7
PAHR				PP	PP	17 10 19.8	-4.8
CHTO	Chiang Mai	124.26	109	PKPdf	PKPdf	17 08 39.0	-1.4
CHTO				IAMs_20	IAMs_20	17 51 39.4	
	comp=Z,473nm,22.0s						
CHTO	Chiang Mai	124.26	109	PKIKP	PKPdf	17 08 39.1	-1.4
CHTO				MLR	MLR		
	comp=Z,500nm,22.0s						
BELG	Belogornoye	124.29	45	ePKIKP	PKiKP	17 08 42.4	+2.7
GAR	Garm	124.61	70	PKPdf	PKPdf	17 08 40.7	-0.0
FINES	FINESS Array B	124.71	27	PKP	PKPdf	17 08 39.0	-0.9
	comp=Z,3.2nm,0.6s,baz=192,slow=1.3,SNR=11						
FINES	FINESS Array B	124.71	27	PKIKP	PKPdf	17 08 39.0	-0.9
BTK	Batken	125.66	70	PKPdf	PKPdf	17 08 42.4	-0.2
BTK	Batken	125.66	70	PKIKP	PKPdf	17 08 42.4	-0.2
ICESG	Greenland Ices	126.07	354	i P	PKPdf	17 08 41.9	-1.0
BMO	Blue Mountains	126.80	297	IAMs_20	IAMs_20	18 09 31.9	
	comp=Z,627nm,21.0s						
ABKAR	Akbulak array	127.12	55	PKPdf	PKPdf	17 08 44.3	-0.7
ABKAR	Akbulak array	127.12	55	PKPdf	PKPdf	17 08 44.4	-0.5
ARSB	Arslanbob	127.70	70		PKPdf	17 08 45.4	-1.1
ARSB	Arslanbob	127.70	70	PKIKP	PKPdf	17 08 45.4	-1.1
KKAR	Karatay Array	127.73	67	PKPdf	PKPdf	17 08 44.2	-2.2
KKAR	Karatay Array	127.73	67	PKIKP	PKPdf	17 08 44.2	-2.2
G08A	Pilot Rock	127.92	297	PKPdf	PKiKP	17 08 47.5	+0.1
KSH	Kashi	127.95	74	PKP	PKPdf	17 08 47.3	+0.2
KSH				LR	LR		
	comp=Z,400nm,15.1s						
KSH				LR	LR		
	comp=Z,310nm,16.8s						
KSH				LR	LR		
	comp=Z,340nm,16.5s						
KLMR	Klimovskoe	128.00	34	ePKIKP	PKPdf	17 08 44.1	-2.1
KLMR				pmax	pmax		
	comp=Z,49nm,1.6s						
I05D	Terrebonne, OR	128.42	294		PKiKP	17 08 48.2	-0.2
LSA	Lhasa	128.84	94	IAMs_20	IAMs_20	18 03 32.5	
	comp=Z,591nm,18.0s						
HAWA	Hanford	128.99	297	PKPdf	PKPdf	17 08 48.6	0.0
D08A	Wollman Farm,	129.16	298	PKPdf	PKiKP	17 08 49.3	-0.3
AAK	Ala-Archa	129.43	70	PKPdf	PKPdf	17 08 49.1	-0.7
AAK	Ala-Archa	129.43	70	dePKIKP	PKiKP	17 08 50.4	-0.2
SUMG	Summit	129.47	355	PKPdf	PKPdf	17 08 49.4	+0.1
SUMG	Summit	129.47	355	PKIKP	PKPdf	17 08 49.4	+0.1
SUMG	Summit	129.47	355	i P	PKPdf	17 08 48.8	-0.5
NUUG	Nuugaatsiaq	129.58	349	i P	PKPdf	17 08 46.0	-2.9
KIRV	Kirov	129.62	41	ePKIKP	PKPdf	17 08 48.4	-1.0
QIZ	Qiongzhong	129.87	120	IAMs_20	IAMs_20	17 58 20.7	
	comp=Z,524nm,20.0s						
QIZ	Qiongzhong	129.87	120	PKP	PKPdf	17 08 50.1	-1.1
QIZ				PP	PP	17 11 03.4	+0.7
QIZ				SS	SS	17 28 29.9	+3.9
QIZ				LR	LR		
	comp=Z,420nm,16.3s						
QIZ				LR	LR		
	comp=Z,180nm,17.3s						
QIZ				LR	LR		
	comp=Z,520nm,20.3s						
LON	Longmire	130.36	296		PKPdf	17 08 51.2	-0.1
LON	Longmire	130.36	296	PKIKP	PKPdf	17 08 51.2	-0.1
WUS	Wushi	130.88	75	IAMs_20	IAMs_20	18 11 33.5	
	comp=Z,380nm,18.0s						
ARCES	ARCESS Array B	131.38	21	PKhKP	PKPpre	17 08 42.9	
	comp=Z,2.2nm,0.9s,baz=257,slow=20,SNR=1.4						
ARCES				PKP	PKPdf	17 08 52.7	+0.2
	comp=Z,4.6nm,0.9s,baz=207,slow=1.0,SNR=11						
ARTI	Arti	131.50	48		PKPdf	17 08 52.1	-0.9
ARTI	Arti	131.50	48	IAMs_20	IAMs_20	18 09 00.1	
	comp=Z,471nm,20.0s						
ARTI	Arti	131.50	48	i PKIKP	PKPdf	17 08 53.1	0.0
ARTI						17 11 09.9	
ARTI				MLR	MLR		
	comp=Z,347nm,18.0s						
PZH	PanZhiHua	132.03	106	PKP	PKPdf	17 08 55.3	+0.1
PZH				PP	PP	17 11 17.6	+0.7
PZH				PKS	PKSdf	17 12 29.3	-2.6
PZH				SKKS		17 18 08.4	
PZH				SS	SS	17 28 52.6	-0.3
PZH				AMB	AMB		
	comp=Z,80nm,6.7s						
PZH				LR	LR		
	comp=Z,230nm,16.9s						
PZH				LR	LR		
	comp=Z,340nm,17.8s						
PZH				LR	LR		
	comp=Z,290nm,20.6s						
SVE	Sverdlovsk	132.72	48	ePKIKP	PKiKP	17 08 56.1	-0.4
DAG	Danmarks Havn	133.45	2	i P	PKPdf	17 08 55.0	-1.2
BRVK	Borovoye	134.46	57	cePKIKP	PKPdf	17 08 58.8	+0.1
BVAR	Borovoye Array	134.49	57	PKhKP	PKPpre	17 08 47.0	
	comp=Z,0.6nm,0.8s,baz=338,slow=3.1,SNR=2.5						
BVAR				PKP	PKPdf	17 08 56.2	-2.6
	comp=Z,4.1nm,0.9s,baz=264,slow=1.4,SNR=11						
BVAR				SKPab	SKPab	17 12 30.2	-0.7
	comp=Z,2.3nm,0.9s,baz=222,slow=1.9,SNR=3.8						
GYA	Guiyang	134.55	111	PKP	PKPdf	17 09 00.0	0.0
GYA				PP	PP	17 11 39.3	+6.3
GYA				SKKS		17 18 26.8	
GYA				LR	LR		
	comp=Z,450nm,17.5s						
NEEM	North Greenlan	134.99	352	i P	PKPdf	17 08 53.6	-5.9
GOMU	GeErMu	135.75	92	PKP	PKPdf	17 08 56.6	-5.6
GOMU				sPKP		17 09 09.4	
GOMU				LR	LR		
	comp=Z,280nm,12.7s						
GOMU				LR	LR		
	comp=Z,280nm,14.1s						
GOMU				LR	LR		
	comp=Z,630nm,12.5s						
MAKZ	Makanchi	136.17	71	IAMs_20	IAMs_20	18 14 16.4	
	comp=Z,481nm,18.0s						
MK31	Makanchi Array	136.32	71	ePKIKP	PKiKP	17 09 04.7	+0.5
MKAR	Makanchi Array	136.32	71		PKPdf	17 09 01.0	-1.5
MKAR	Makanchi Array	136.32	71	PKhKP	PKPpre	17 08 52.8	
	comp=Z,0.7nm,0.8s,baz=302,slow=41,SNR=3.9						
MKAR				PKP	PKPdf	17 09 00.8	-1.7
	comp=Z,2.3nm,1.0s,baz=217,slow=2.6,SNR=5.4						
MKAR	Makanchi Array	136.32	71	PKIKP	PKPdf	17 09 01.0	-1.5
CD2	Chengdu	136.60	105	PKP	PKPdf	17 09 03.1	-0.5
KURBB	Kurchatov Arra	136.86	65	PKhKP	PKPpre	17 08 56.8	
	comp=Z,0.4nm,0.3s,baz=227,slow=3.6,SNR=4.4						
KURBB				PKP	PKPdf	17 09 02.1	-1.2
	comp=Z,1.1nm,0.5s,baz=235,slow=3.3,SNR=8.0						
KURK	Kurchatov	136.97	65	ePKIKP	PKiKP	17 09 04.9	-0.4
WMQ	Urumqi	137.22	78	ePKP	PKiKP	17 09 05.8	-0.4
WMQ				LR	LR		
	comp=Z,320nm,21.9s						
WMQ				LR	LR		
	comp=Z,200nm,17.7s						
WMQ				LR	LR		
	comp=Z,310nm,21.9s						
YKA	Yellowknife Ar	137.37	317	PKPdf	PKPdf	17 09 02.1	-1.7
YKA	Yellowknife Ar	137.37	317	PKP	PKPdf	17 09 04.2	+0.3
	comp=Z,21nm,0.9s,baz=129,slow=2.0,SNR=38						
YKA				SKPbc	SKPbc	17 12 35.9	-0.2
	comp=Z,2.8nm,0.8s,baz=118,slow=2.1,SNR=6.7						
ENH	Enshi	139.09	111	IAMs_20	IAMs_20	18 10 46.3	
	comp=Z,426nm,20.0s						
TOAD	Toad River Com	139.61	308	P	PKPdf	17 09 09.0	+0.9
	baz=123,SNR=8.6						
LIRD	Liard River Hi	140.29	308	P	PKiKP	17 09 10.8	-1.1
	baz=122						
V35K	Ketchikan	140.56	300	P	PKiKP	17 09 11.7	-0.8
	baz=124						
LZH	Lanzhou	140.60	100	ePKP	PKPdf	17 09 09.3	-1.6
LZH				sPKP		17 09 19.1	
LZH				SKKS		17 19 05.

baz=116
HYT Haines Junctio 145.98 306 P PKPab 17 09 21.8 +0.8
baz=114,SNR=27
N30M Aishikik Lake 146.06 307 P PKPab 17 09 21.6 +0.5
baz=114
O29M Mount Kennedy 146.25 304 PKPdf 17 09 18.8 -1.1
O29M Mount Kennedy 146.25 304 P PKPab 17 09 21.7 -0.3
baz=114
PNL Peninsula 146.36 303 P PKPab 17 09 22.1 -0.1
baz=115,SNR=8.7
M30M Minto, Yukon 146.37 309 P PKPab 17 09 22.1 -0.2
baz=112
TIY Taiyuan 146.40 107 PKPbc **PKPab 17 09 23.1 0.0**
TIY LR LR
comp=Z,160nm,15.1s
TIY LR LR
comp=Z,170nm,13.1s
TIY LR LR
comp=Z,190nm,15.8s
YUK6 Outpost Mounta 146.41 306 P PKPab 17 09 22.6 -0.1
baz=114,SNR=8.5
H31M Peel River 146.53 315 P PKPbc 17 09 22.1 +0.4
baz=110
YUK4 Talbot Arm 146.70 306 P PKPab 17 09 23.3 -0.5
baz=113,SNR=14
F31M Tsiigehtchic 146.82 318 P PKPbc 17 09 23.0 +0.6
baz=108
G31M Satah River 146.86 317 P PKPbc 17 09 22.9 +0.4
baz=108
J30M Hart River 146.90 312 P PKPbc 17 09 23.4 +0.5
baz=110
PINM Pinnacle 146.93 303 P PKPab 17 09 24.0 -0.5
baz=114,SNR=14
KRAR Krasnoyarsk 146.99 65 ||*e*PKP2 **PKPbc 17 09 23.8 +0.6**
INK Inuvik 147.00 319 PKPdf 17 09 19.4 -1.4
INK Inuvik 147.00 319 P PKPbc 17 09 23.5 +0.6
baz=106
INK Inuvik 147.00 319 PKIKP **PKPdf 17 09 19.4 -1.4**
M29M Somme Creek 147.04 308 P PKPab 17 09 24.5 -0.5
baz=112,SNR=60
I30M Mount Dempster 147.13 313 P PKPbc 17 09 24.1 +0.6
baz=109
L29M L29M 147.14 309 P PKPbc 17 09 24.1 +0.6
baz=111,SNR=85
K29M Barlow Dome 147.14 311 P PKPbc 17 09 24.1 +0.5
baz=110
O28M Mount Upton 147.17 305 P PKPab 17 09 25.1 -0.6
baz=113,SNR=24
YUK8 Steele Glacier 147.18 306 P PKPab 17 09 25.0 -0.7
baz=112,SNR=27
BTO Baotou 147.22 101 *e*PKPbc **PKPbc 17 09 24.8 +0.3**
BTO PKPab **pPKPab 17 09 30.9 -0.1**
BTO AMB AMB
comp=Z,310nm,6.5s
BTO LR LR
comp=Z,490nm,16.7s
BTO LR LR
comp=Z,560nm,15.7s
BTO LR LR
comp=Z,470nm,14.5s
HNS HongShan 147.35 110 ||PKPbc **PKPbc 17 09 24.9 +0.1**
HNS PP **PP 17 12 53.4 +2.4**
HNS LR LR
comp=Z,240nm,16.7s
HNS LR LR
comp=Z,270nm,17.9s
LOGN Logan Glacier 147.56 304 PKPdf 17 09 20.4 -1.8
G30M tAoh Zrail Nji 147.61 317 P PKPbc 17 09 24.9 +0.2
baz=106
F30M Barrier River 147.62 318 P PKPbc 17 09 25.1 +0.4
baz=106
EPYK Eagle Plains 147.62 315 P PKPbc 17 09 25.1 +0.4
baz=107
J29N Klondike Camp 147.63 312 P PKPbc 17 09 25.8 +0.9
baz=109,SNR=20
YUK3 Moose Creek 147.67 306 P PKPbc 17 09 25.7 +0.5
baz=111,SNR=18
TIA Tai'an 147.67 114 PKPbc **PKPdf 17 09 22.4 -0.6**
TIA AMB AMB
comp=Z,230nm,7.8s
TIA LR LR
comp=Z,250nm,23.9s
TIA LR LR
comp=Z,340nm,17.6s
TIA LR LR
comp=Z,290nm,21.8s
MESA MESA 147.74 303 P PKPbc 17 09 26.2 +0.8
baz=113,SNR=9.1
CTG Chitna Glacier 147.76 305 P PKPbc 17 09 26.2 +0.8
baz=112,SNR=23
DAWY Dawson 147.99 311 PKPdf **PKPdf 17 09 21.5 -1.2**
DAWY Dawson 147.99 311 P PKPbc 17 09 26.1 +0.3
baz=108,SNR=47
BVCY Beaver Creek 148.07 307 P PKPbc 17 09 26.5 +0.4
baz=110,SNR=37
HHC Hu-ho-hao-te 148.22 102 *e*PKPbc **PKPbc 17 09 26.6 -0.6**
HHC LR LR
comp=Z,180nm,18.3s
HHC LR LR
comp=Z,300nm,19.1s
HHC LR LR
comp=Z,410nm,20.6s
H29M Whitestone 148.22 315 P PKPbc 17 09 26.8 +0.5
baz=106
G29M Pine Creek 148.27 316 P PKPbc 17 09 26.8 +0.4
baz=105
CRQE Cirque 148.48 304 P PKPbc 17 09 28.0 +0.7
baz=111
M27K Edge Creek, AK 148.50 307 P PKPbc 17 09 27.9 +0.5
baz=110
CRQM Cirque 148.50 304 PKPdf 17 09 22.1 -1.7
E29M Blow River 148.59 319 P PKPbc 17 09 27.3 +0.1
baz=103
I28M Miner Creek 148.63 313 P PKPbc 17 09 27.8 +0.3
baz=106
MCARA McCarthy VSAT 148.68 305 P PKiKP 17 09 28.4 -0.7
baz=110,SNR=5.4
BCAR Beaver Creek A 148.69 308 PKPdf **PKPdf 17 09 22.2 -1.6**
L27K Beaver Creek, 148.71 308 P PKPbc 17 09 28.4 +0.7
baz=108
KAIM Kayak Island 148.79 302 PKPdf 17 09 22.6 -1.4
KAIM Kayak Island 148.79 302 P PKPbc 17 09 27.7 -0.2
baz=112
EGAK Eagle 148.94 311 P PKPbc 17 09 28.4 +0.3
baz=106,SNR=18
M26K Nabesna, AK 149.00 307 P PKPbc 17 09 28.9 +0.4
baz=109
D28M Stokes Point 149.08 321 P PKiKP 17 09 29.4 -0.2
baz=101
NRIK Noril'sk 149.09 39 PKPbc **PKPbc 17 09 28.5 +0.1**
comp=Z,16nm,1.1s,baz=218,slow=0.5,SNR=19
NRIK Noril'sk 149.09 39 *de*PKP2 **PKPbc 17 09 27.7 -0.7**
K27K Chicken 149.11 310 P PKiKP 17 09 29.8 -0.1
baz=107
F28M Old Crow 149.14 317 P PKiKP 17 09 29.2 -0.6
baz=103
E28M Babbage River 149.22 319 PKPdf **PKPdf 17 09 22.1 -2.3**
E28M **PKPbc 17 09 28.0 -0.8**
E28M Babbage River 149.22 319 P PKPbc 17 09 28.7 -0.1
baz=101
BMRM Bremner River 149.25 303 P PKiKP 17 09 30.0 -0.3
baz=110,SNR=6.0
I27K Kandik River 149.34 313 P PKiKP 17 09 30.0 -0.3
baz=104
L26K Log Cabin Wild 149.35 308 P PKiKP 17 09 30.1 -0.3
baz=108,SNR=8.0
H27K Steamboat Moun 149.46 314 P PKiKP 17 09 30.2 -0.4
baz=104,SNR=6.6
N25K Chitina, Valde 149.46 305 P PKiKP 17 09 30.6 -0.2
baz=109,SNR=8.1
Q23K Middleton Isla 149.52 300 P PKiKP 17 09 30.8 +0.1
baz=112
EYAK Cordova Ski Ar 149.63 302 P PKiKP 17 09 31.3 +0.3
baz=110,SNR=11
G27K Doyon Strip 149.64 315 P PKiKP 17 09 30.7 -0.2
baz=102
D27M Malcolm River 149.84 320 PKPdf **PKPdf 17 09 23.3 -2.3**
D27M PKPbc **PKiKP 17 09 31.2 0.0**
D27M Malcolm River 149.84 320 P PKiKP 17 09 31.3 0.0
baz=99
J26L Joseph Creek 149.86 310 P PKiKP 17 09 31.7 +0.1
baz=105
I26K Coal Creek Min 149.89 312 PKPdf 17 09 23.7 -1.9
I26K PKPbc **PKPbc 17 09 30.9 +0.5**
I26K Coal Creek Min 149.89 312 P PKiKP 17 09 31.4 -0.1
baz=104
E27K Coleen River 149.89 318 P PKiKP 17 09 31.2 -0.2
baz=100
SCRK Sand Creek 149.90 309 P PKiKP 17 09 31.7 +0.1
baz=106,SNR=29
SONM Songino Array 149.90 87 PKPdf **PKPdf 17 09 24.9 -1.5**
SONM Songino Array 149.90 87 PKP **PKPdf 17 09 25.0 -1.4**
comp=Z,10nm,1.2s,baz=262,slow=2.9,SNR=5.1
SONM PKPbc **PKPbc 17 09 31.6 +0.4**
comp=Z,17nm,0.8s,baz=231,slow=3.1,SNR=63
HARP HAARP 149.96 306 P PKiKP 17 09 31.8 +0.1
baz=107,SNR=7.3
KLU Klutina 150.03 304 PKPdf 17 09 24.8 -1.3
KLU **PKiKP 17 09 32.3 +0.3**
KLU Klutina 150.03 304 P PKiKP 17 09 32.2 +0.3
baz=108,SNR=7.1
BJT Baijiatuau 150.06 108 PKPdf 17 09 25.8 -0.9
BJT PKPbc **sPKPdf 17 09 32.3 -0.9**
BJT Baijiatuau 150.06 108 IAMs_20 IAMs_20 18 17 16.8
comp=Z,298nm,19.0s
BJT Baijiatuau 150.06 108 PKIKP **PKPdf 17 09 25.8 -0.9**
BJT 17 09 32.3
BJT MLR MLR
comp=Z,300nm,19.0s
BJI Beijing 150.09 108 PKPbc **PKiKP 17 09 32.3 -0.3**
BJI LR LR
comp=Z,180nm,18.1s
BJI LR LR
comp=Z,130nm,17.5s
BJI LR LR
comp=Z,200nm,17.4s
RIDG Independent Ri 150.20 309 P PKiKP 17 09 33.0 +0.8
baz=105,SNR=29
P23K Montague Islan 150.22 301 P PKiKP 17 09 32.1 -0.1
baz=110
PAX Paxson 150.26 307 P PKiKP 17 09 32.2 -0.1
baz=106,SNR=40
ULN Ulaanbaatar 150.28 87 PKPdf **PKPdf 17 09 25.3 -1.7**
ULN PKPbc **pPKPdf 17 09 31.7 -0.1**
ULN Ulaanbaatar 150.28 87 IAMs_20 IAMs_20 18 23 02.3
comp=Z,330nm,20.0s
ULN Ulaanbaatar 150.28 87 ||*e*PKIKP **PKPdf 17 09 25.7 -1.3**
M24K Tolsona, Glenn 150.33 305 P PKiKP 17 09 33.4 +0.9
baz=107,SNR=19
GLI Glacier Island 150.37 302 P PKiKP 17 09 32.6 0.0
baz=109,SNR=5.7
G26K Porcupine Rive 150.50 315 P PKiKP 17 09 32.6 0.0
baz=101,SNR=28
K24K Donnelly Dome 150.62 309 P PKiKP 17 09 33.2 +0.1
baz=105,SNR=7.3
J25K Salcha River, 150.65 310 P PKiKP 17 09 33.4 +0.3
baz=104
F26K Sheenjek River 150.76 317 P PKiKP 17 09 33.9 +0.8
baz=99
SCM Sheep Creek Mo 150.77 304 P PKiKP 17 09 33.8 +0.4
baz=107,SNR=20
C27K Jago River 150.86 321 P PKiKP 17 09 33.9 +0.6
baz=96
BMAR Burnt Mountain 150.88 316 PKPdf 17 09 25.0 -2.2
BMAR **PKiKP 17 09 33.4 -0.1**
BMAR PKPab **pPKPab 17 09 42.8 -2.2**
PRP Porcupine Dome 150.91 312 P PKiKP 17 09 33.7 0.0
baz=102,SNR=21
M23K Glacier View 150.94 304 P PKiKP 17 09 33.9 +0.2
baz=107,SNR=18
PWL Port Wells 150.94 302 P PKiKP 17 09 34.1 +0.3
baz=108,SNR=17
IRK Irkutsk 151.11 78 *e*PKIKP **PKPdf 17 09 27.4 -0.5**
IRK pmax pmax
comp=Z,48nm,2.0s
DHY Denali Highway 151.13 307 P PKiKP 17 09 34.8 +0.5
baz=105,SNR=16
KNK Knik Glacier 151.16 303 P PKiKP 17 09 34.4 +0.2
baz=107,SNR=11
WAT6 Susitna Watana 151.16 306 P PKiKP 17 09 34.8 +0.4
baz=105
SML Sawmill 151.22 304 P PKiKP 17 09 34.7 +0.4
baz=106,SNR=19
SEW Seward 151.22 300 P PKiKP 17 09 34.4 +0.2
baz=109,SNR=12
HDA Harding Lake 151.26 310 P PKiKP 17 09 34.1 -0.2
baz=103,SNR=18
C26K Camden Bay 151.30 321 P PKiKP 17 09 35.0 +0.8
baz=94
F25K Christian Rive 151.31 316 P PKiKP 17 09 35.1 +0.7
baz=98
ILAR Eielson Array 151.32 310 PKPdf 17 09 25.2 -2.7
ILAR PKPbc **PKiKP 17 09 34.6 +0.3**
ILAR Eielson Array 151.32 310 PKP **PKPdf 17 09 25.6 -2.3**
comp=Z,4.6nm,1.1s,baz=166,slow=0.7,SNR=22
ILAR PKPbc **PKiKP 17 09 35.0 +0.7**
comp=Z,81nm,0.9s,baz=138,slow=1.3,SNR=144
G25K Bearman Lake 151.37 314 P PKiKP 17 09 35.3 +0.9
baz=99
O22K Cooper Landing 151.47 301 P PKiKP 17 09 35.0 +0.3
baz=108
GHO Glory Hole Cre 151.48 304 PKPdf 17 09 25.2 -3.1
GHO PKPbc **PKiKP 17 09 35.4 +0.5**
GHO PKPab **PKPab 17 09 43.6 +0.6**
PMR Palmer 151.52 303 P PKiKP 17 09 35.0 +0.2
baz=106,SNR=6.0
WAT1 Susitna Watana 151.59 306 P PKiKP 17 09 35.2 +0.2
baz=104
POKR Poker Plat Res 151.61 311 P PKPbc 17 09 34.7 +0.2
baz=101,SNR=5.3
RC01 Rabbit Creek A 151.66 302 P PKiKP 17 09 35.8 +0.6
baz=107,SNR=12
BRSE Bradley Lake S 151.72 299 P PKiKP 17 09 35.7 +0.3
baz=108,SNR=12
COLA College 151.74 310 PKPdf **PKPdf 17 09 26.3 -2.1**
COLA **sPKPdf 17 09 34.2 -0.7**
COLA PKPab **PKPab 17 09 44.5 +0.6**
COLA College 151.74 310 P PKPbc 17 09 35.0 +0.2
baz=101
COLA College 151.74 310 PKIKP **PKPdf 17 09 26.3 -2.1**
COLA 17 09 34.2
D25K Kavik River 151.76 320 P PKiKP 17 09 35.4 +0.1
baz=94
G24K Hadweenzic Riv 151.90 314 PKPdf 17 09 26.4 -2.3
G24K PKPbc **PKiKP 17 09 36.3 +0.7**
G24K **PKPab 17 09 46.0 +1.4**
G24K Hadweenzic Riv 151.90 314 P PKiKP 17 09 36.0 +0.5
baz=98,SNR=26
H24K Noodor Dome 151.93 312 P PKiKP 17 09 35.9 +0.3
baz=99
KDAK Kodiak Island 151.96 294 PKiKP 17 09 36.0 +0.1
KDAK Kodiak Island 151.96 294 P PKiKP 17 09 36.4 +0.6
baz=111
KDAK Kodiak Island 151.96 294 PKIKP **PKiKP 17 09 36.0 +0.1**
MCK McKinley 151.97 308 P PKiKP 17 09 36.4 +0.6
baz=102,SNR=36
DL2 Dalian 152.01 116 PKPbc **PKPbc 17 09 36.3 0.0**
M22K Willow 152.02 303 P PKiKP 17 09 36.4 +0.5
baz=105,SNR=13
OHAK Old Harbor 152.11 293 P PKiKP 17 09 36.9 +0.7
baz=112,SNR=9.0
HOM Homer 152.13 299 P PKiKP 17 09 36.7 +0.5
baz=108
Q20K Shuyak Island 152.16 296 P PKiKP 17 09 37.0 +0.8
baz=110
F24K Squaw Lake 152.16 316 PKPdf 17 09 26.2 -2.9
F24K PKPbc **PKiKP 17 09 36.7 +0.6**
F24K Squaw Lake 152.16 316 P PKiKP 17 09 36.7 +0.6
baz=96
NEA2 Nenana 152.20 309 P PKiKP 17 09 36.2 0.0
baz=101,SNR=36
SUA Susitna One 152.23 303 P PKiKP 17 09 37.2 +0.7
baz=105,SNR=8.9
SII Sitkinak Islan 152.32 291 P PKPbc 17 09 36.3 -0.2
baz=112
I23K Minto, Yukon-K 152.42 311 P PKPbc 17 09 36.3 0.0
baz=100,SNR=5.3
E24K Your Creek 152.44 317 PKPdf 17 09 26.6 -2.9
E24K **PKPbc 17 09 36.3 -0.1**
E24K Your Creek 152.44 317 P PKiKP 17 09 36.9 +0.2
baz=95
TRF Thorofare Moun 152.50 307 P PKiKP 17 09 37.3 +0.3
baz=102,SNR=14
H23K Yukon River 152.60 312 P PKiKP 17 09 37.2 +0.1
baz=98
C24K Franklin Bluff 152.60 321 P PKiKP 17 09 37.2 +0.3
baz=91
D24K Happy Valley 152.63 319 PKPdf 17 09 27.5 -2.2
D24K **PKPbc 17 09 36.5 -0.2**
D24K PKPab **PKPab 17 09 48.5 +0.9**
D24K Happy Valley 152.63 319 P PKiKP 17 09 37.4 +0.4
baz=92
SKT Skwentna 152.72 303 P PKiKP 17 09 37.8 +0.4
baz=104,SNR=5.8
O20K Slope Mountain 152.73 299 P PKiKP 17 09 37.8 +0.3
baz=107
XLT XiLinHaoTe 152.74 102 *e*PKPbc **PKPdf 17 09 29.0 -1.8**
XLT pPKP PKiKP 17 09 38.8 +0.7
XLT PKPab **PKPab 17 09 49.1 +0.2**
XLT PP **PP 17 13 24.3 +2.0**
XLT AMB AMB
comp=Z,130nm,5.7s
CHIR Chirikof Islan 152.77 289 P PKiKP 17 09 38.0 +0.4
baz=113
R18K Karluk 152.82 293 P PKPbc 17 09 37.4 0.0
baz=110
N20K Mount Spurr 152.84 302 P PKiKP 17 09 37.8 +0.1
baz=105,SNR=6.0
SPCR Spurr Chakacha 152.84 302 P PKPbc 17 09 37.5 0.0
baz=105,SNR=5.5
E23K Chandalar 152.86 317 P PKiKP 17 09 37.9 +0.3
baz=94
Q19K Cape Douglas, 152.88 296 P PKiKP 17 09 38.0 +0.2
baz=108
TOLK Toolik Lake Re 152.88 318 PKPdf 17 09 27.4 -2.8
TOLK PKPbc **PKiKP 17 09 37.9 +0.3**
TOLK Toolik Lake Re 152.88 318 P PKiKP 17 09 37.9 +0.3
baz=93,SNR=9.0
P19K Oil Pt 152.90 298 P PKiKP 17 09 38.3 +0.4
baz=107
G23K Bananza Creek 152.90 314 P PKiKP 17 09 38.0 +0.4
baz=96,SNR=34
BPAW Bear Paw Mtn. 152.93 308 P PKiKP 17 09 37.9 +0.1
baz=100,SNR=25
ILSW Iliamna Southw 152.95 299 PKPdf 17 09 28.1 -2.5
ILSW PKPbc **PKPbc 17 09 37.6 -0.3**
MLY Manley 152.98 310 P PKPbc 17 09 37.4 -0.3
baz=99,SNR=17
COLD Coldfoot 153.02 315 P PKiKP 17 09 38.3 +0.5
baz=95,SNR=15
PPLA Purkeypile 153.23 305 P PKiKP 17 09 39.1 +0.5
baz=102,SNR=9.7
INCN Inchon 153.25 125 IAMs_20 IAMs_20 18 12 56.6
comp=Z,526nm,20.0s
C23K Itkillik River 153.27 321 P PKiKP 17 09 39.0 +0.8
baz=89
CAST Castle Rocks 153.28 306 P PKPbc 17 09 38.4 0.0
baz=101,SNR=28
D23K Nanushuk River 153.29 319 P PKiKP 17 09 38.7 +0.3
baz=91
H22K Ishtalitna Cre 153.36 312 P PKiKP 17 09 39.0 +0.5
baz=96
M20K Styx River 153.44 303 PKPdf **PKPdf 17 09 29.8 -1.4**
M20K **PKPbc 17 09 38.4 -0.4**
M20K Styx River 153.44 303 P PKiKP 17 09 39.2 +0.2
baz=103,SNR=15
Q18K Katmai Hardscr 153.46 295 P PKiKP 17 09 39.1 -0.1
baz=108,SNR=5.5
CHUM Lake Minchumin 153.47 307 P PKiKP 17 09 39.2 +0.4
baz=100,SNR=11
G22K Bettles 153.51 314 P PKiKP 17 09 39.4 +0.5
baz=94
I21K Tanana 153.52 310 P PKiKP 17 09 39.1 +0.2
baz=97
O19K Port Alsworth 153.58 299 P PKiKP 17 09 39.2 +0.1
baz=106
E22K Anaktuvuk Pass 153.69 317 P PKiKP 17 09 39.9 +0.6
baz=92,SNR=10
KSAR Wonju Array Be 153.78 127 PKPdf 17 09 29.5 -2.9
KSAR Wonju Array Be 153.78 127 PKIKP **PKPdf 17 09 29.5 -2.9**
Q17K Contact Creek 153.78 294 P PKiKP 17 09 40.4 +0.7
baz=108
P18K Big Mountain, 153.79 297 P PKPbc 17 09 39.6 -0.1
baz=107
F22K John River 153.80 316 P PKiKP 17 09 40.3 +0.8
baz=92
KSRS Korea Array 153.80 127 PKP **PKPdf 17 09 32.5 +0.1**
comp=Z,1.4nm,0.9s,baz=141,slow=1.1,SNR=3.7
KSRS PKPbc **PKPbc 17 09 39.5 -0.8**
comp=Z,2.5nm,0.9s,baz=227,slow=1.8,SNR=7.4
R17L Mt. Peulik Vol 153.81 293 P PKiKP 17 09 40.6 +0.8
baz=110
N19K Bonanza Creek 153.82 300 P PKiKP 17 09 39.8 0.0
baz=104
O18K Koktuh Hills 153.91 298 P PKiKP 17 09 40.3 +0.4
baz=106,SNR=5.4
H21K Melozitna Rive 153.92 311 P PKiKP 17 09 40.4 +0.6
baz=96,SNR=12
D22K Ayikyak River 154.01 319 PKPdf **PKPdf 17 09 29.9 -1.8**
D22K **PKiKP 17 09 40.1 +0.2**
D22K PKPab **PKPab 17 09 53.5 0.0**
D22K Ayikyak River 154.01 319 P PKiKP 17 09 40.6 +0.8
baz=89
M19K Big River Lodg 154.02 303 P PKiKP 17 09 40.5 +0.4
baz=102
K20K Telida 154.15 306 P PKPbc 17 09 40.2 0.0
baz=100,SNR=10
B22K Teshekpuk Lake 154.20 322 P PKiKP 17 09 40.9 +0.8
baz=86
G21K Allakaket 154.27 313 P PKiKP 17 09 41.1 +0.7
baz=93,SNR=6.5
Q16K King Salmon 154.29 295 P PKiKP 17 09 41.0 +0.4
baz=107
L19K White Mountain 154.29 303 PKPdf **PKPdf 17 09 30.0 -2.3**
L19K **PKPbc 17 09 39.4 -1.2**
L19K **PKPab 17 09 54.5 -0.4**
L19K White Mountain 154.29 303 P PKPbc 17 09 40.4 -0.2
baz=101
F21K Alatna River 154.30 315 P PKiKP 17 09 41.0 +0.5
baz=92
J20K Nowinta River 154.31 308 P PKiKP 17 09 40.7 +0.1
baz=98,SNR=6.0
P17K Kvichak River 154.33 296 P PKiKP 17 09 41.2 +0.5
baz=106
CHGN Chignik 154.40 289 P PKiKP 17 09 42.1 +1.2
baz=111
N18K Kilae Creek 154.45 299 P PKPab 17 09 54.8 -0.8
baz=104,SNR=5.5
M18K Stony River 154.60 301 P PKPab 17 09 56.3 +0.1
baz=102
A22K Sinclair Lake 154.65 324 P PKPab 17 09 57.2 +1.2
baz=82
B21K Ikpikpuk River 154.67 320 PKPdf 17 09 30.8 -1.7
B21K PKPbc **PKiKP 17 09 41.5 +0.4**
B21K Ikpikpuk River 154.67 320 P PKPab 17 09 56.9 +0.8
baz=86
C21K Knifeblade Rid 154.76 319 P PKPab 17 09 58.0 +1.3
baz=87
O17K Koliganek Bris 154.81 297 P PKPab 17 09 57.7 +0.6
baz=105
J19K Poorman 154.93 307 P PKPab 17 09 58.0 +0.5
baz=97
TTA Tatalina 154.96 305 P PKPab 17 09 58.1 +0.4
baz=99
S14K Fog Glacier 154.99 288 P PKPab 17 09 57.2 -0.8
baz=111
N17K Nushagak Hills 155.04 299 P PKPab 17 09 58.1 +0.1
baz=103
P16K Nushagak River 155.06 295 P PKPab 17 09 57.7 -0.4
baz=106
A21K Barrow 155.13 325 P PKPab 17 09 58.6 +0.5
baz=80
L18K Granite Mounta 155.15 303 P PKPab 17 09 58.8 +0.4
baz=100
F20K Avaraart Lake 155.17 314 P PKPab 17 09 58.7 +0.4
baz=90
O16K Kokwok River B 155.26 296 P PKPab 17 09 58.9 -0.1
baz=105
E20K Nagu River 155.32 317 P PKPab 17 09 59.1 -0.1
baz=87
M17K Holitna River 155.34 301 P PKPab 17 10 00.0 +0.7
baz=101
J18K Innoko River 155.35 306 PKPab 17 10 00.6 +1.3
J18K Innoko River 155.35 306 P PKPab 17 09 59.4 +0.2
baz=97
H19K Roundabout Mou 155.42 311 P PKPab 17 09 59.9 +0.4
baz=93
D20K Etivluk River 155.45 318 P PKPab 17 10 00.0 +0.4
baz=86
B20K Meade River 155.51 322 P PKPab 17 10 00.6 +0.8
baz=82
GCSA Galena City Sc 155.55 309 P PKPab 17 10 01.0 +0.9
baz=94,SNR=5.4
G19K Purcell Mounta 155.70 312 P PKPab 17 10 01.5 +0.8
baz=91
E19K Redstone River 155.75 315 PKPdf **PKPdf 17 09 31.8 -2.4**
E19K **sPKPdf 17 09 43.0 +2.4**
E19K PKPab **PKPab 17 10 01.2 +0.3**
E19K Redstone River 155.75 315 P PKPab 17 10 01.6 +0.7
baz=88

N16K	Nishlik Lake	155.79 298	P	PKPab	17 10 01.4	+0.1
	baz=102					
L17K	Donlin	155.88 302	P	PKPab	17 10 01.7	+0.1
	baz=99,SNR=6.0					
K17K	Iditarod	155.96 304	PKPdf	PKPdf	17 09 34.1	-0.5
K17K				sPKPdf	17 09 44.3	+3.3
K17K			PKPab	PKPab	17 10 01.5	-0.4
K17K	Iditarod	155.96 304	P	PKPab	17 10 01.9	-0.1
	baz=98					
F19K	Shaleruckik Mo	155.98 314	P	PKPab	17 10 02.0	+0.1
	baz=89					
M16K	Timber Creek	156.00 299	P	PKPab	17 10 03.5	+1.4
	baz=101					
O15K	Ungalikthiuk R	156.01 295	P	PKPab	17 10 03.4	+1.2
	baz=104					
D19K	Kuna River	156.02 318	P	PKPab	17 10 03.6	+1.6
	baz=85					
S12K	Black Hills	156.10 286	P	PKPab	17 10 03.4	+0.7
	baz=111					
H18K	Honhosa River	156.20 310	P	PKPab	17 10 03.9	+1.0
	baz=92					
G18K	Tagagawik	156.34 312	P	PKPab	17 10 04.5	+1.0
	baz=90					
L16K	Owhat River	156.36 301	P	PKPab	17 10 04.1	+0.4
	baz=99,SNR=6.0					
N15K	Kwethluk River	156.37 297	P	PKPab	17 10 04.2	+0.4
	baz=102					
J17K	VABM Dome	156.39 305	PKPdf	PKPdf	17 09 33.1	-1.9
J17K				sPKPdf	17 09 46.0	+4.5
J17K			PKPab	PKPab	17 10 04.4	+0.7
J17K	VABM Dome	156.39 305	P	PKPab	17 10 04.9	+1.2
	baz=96					
C19K	Lookout Ridge	156.48 320	P	PKPab	17 10 05.0	+1.0
	baz=82					
FALS	False Pass	156.51 283	P	PKPab	17 10 05.1	+0.6
	baz=112					
F18K	Selawik	156.73 313	P	PKPab	17 10 05.7	+0.6
	baz=88,SNR=5.8					
O14K	Tigyukauivet M	156.75 295	P	PKPab	17 10 05.4	0.0
	baz=104					
M15K	Kasigluk River	156.76 298	P	PKPab	17 10 06.2	+0.8
	baz=101					
A19K	Wainwright	156.79 323	P	PKPab	17 10 06.3	+1.1
	baz=78					
H17K	Granite Mounta	156.85 309	P	PKPab	17 10 06.4	+0.7
	baz=91					
MAJO	Matsushiro	156.95 145	PKPdf	PKPdf	17 09 34.4	-2.3
MAJO			PKPab	PKPab	17 10 06.4	-0.5
MAJO	Matsushiro	156.95 145	PKIKP	PKPdf	17 09 34.4	-2.3
MJAR	Matsushiro Arr	156.95 145	PKP	PKPdf	17 09 34.3	-2.4
	comp=Z,1.1nm,0.9s,baz=234,slow=4.1,SNR=1.8					
MJAR			PKPab	PKPab	17 10 08.2	+1.3
	comp=Z,7.9nm,0.9s,baz=188,slow=4.8,SNR=9.9					
E18K	Tukpahlearik C	157.05 316	P	PKPab	17 10 06.9	+0.4
	baz=85					
J16K	Anvik River	157.07 305	P	PKPab	17 10 07.7	+1.1
	baz=95					
N14K	Kuskokwak Cree	157.10 296	P	PKPab	17 10 07.5	+0.7
	baz=102					
C18K	Utukok River	157.12 319	IAMs_20	IAMs_20	18 22 20.1	
	comp=Z,487nm,20.0s					
C18K	Utukok River	157.12 319	P	PKPab	17 10 07.6	+0.7
	baz=81					
I17K	Unalakleet	157.15 306	P	PKPab	17 10 07.1	+0.2
	baz=93					
G17K	Kiwalik Mounta	157.17 311	P	PKPab	17 10 08.0	+0.9
	baz=89					
B18K	Kokolik River	157.21 321	P	PKPab	17 10 08.4	+1.2
	baz=79					
L15K	Ungalak Mounta	157.30 301	P	PKPab	17 10 08.8	+1.1
	baz=98					
F17K	Baldwin Pennin	157.38 313	P	PKPab	17 10 08.6	+0.7
	baz=86					
M14K	Bethel	157.39 298	P	PKPab	17 10 08.5	+0.4
	baz=100,SNR=6.8					
K15K	Wolf Creek Mou	157.40 302	P	PKPab	17 10 09.4	+1.3
	baz=96					
E17K	Hotham Inlet	157.55 315	P	PKPab	17 10 09.2	+0.6
	baz=84,SNR=13					
CN2	Changchun	157.58 113	ePKP	PKPdf	17 09 37.4	+0.2
L14K	Kuka Creek	157.83 300	P	PKPab	17 10 10.8	+0.9
	baz=98					
RDOG	Red Dog Mine	157.84 317	PKPdf	PKPdf	17 09 35.9	-1.0
RDOG			PKPab	PKPab	17 10 09.4	-0.5
RDOG	Red Dog Mine	157.84 317	P	PKPab	17 10 10.2	+0.3
	baz=81,SNR=7.0					
H16K	Elim	157.85 308	P	PKPab	17 10 10.6	+0.7
	baz=90					
C17K	DeLong Mountai	157.87 319	P	PKPab	17 10 10.6	+0.6
	baz=80					
G16K	Koyuk River	157.88 310	P	PKPab	17 10 10.2	+0.1
	baz=88					
D17K	Noatak River	157.96 317	P	PKPab	17 10 10.7	+0.3
	baz=82,SNR=6.2					
M13K	Dall Lake	158.01 297	P	PKPab	17 10 11.4	+0.6
	baz=100					
HIA	Hailar	158.03 95	IAMs_20	IAMs_20	18 26 34.6	
	comp=Z,362nm,20.0s					
G15K	Niukluk	158.61 309	P	PKPab	17 10 13.6	+0.3
	baz=87					
NIKH	Nikolski High	158.69 275	P	PKPab	17 10 15.0	+1.0
	baz=115					
C16K	Lisburne Hills	158.69 319	P	PKPab	17 10 14.3	+0.7
	baz=78					
F15K	North Star Dit	158.81 311	P	PKPab	17 10 14.5	+0.4
	baz=85					
K13K	Kusilvak Mount	158.83 301	P	PKPab	17 10 14.2	-0.1
	baz=95					
ANM	Nome	159.20 308	P	PKPab	17 10 16.5	+0.6
	baz=87					
M11K	Mekoryuk	159.41 296	P	PKPab	17 10 16.8	0.0
	baz=98					
F14K	Arctic Creek	159.53 311	P	PKPab	17 10 18.9	+1.6
	baz=84					
MDJ	Mudanjiang	160.22 118	PKP	PKPdf	17 09 39.9	-0.4
P08K	Saint George I	160.35 284	P	PKPab	17 10 20.9	-0.2
	baz=106					
SPIA	Saint Paul Isl	160.88 286	P	PKPab	17 10 24.3	+0.9
	baz=104					
USRK	Ussuriysk Ar.	161.05 122	PKPab	PKPab	17 10 24.6	+0.1
	comp=Z,1.5nm,0.6s,baz=217,slow=5.8,SNR=5.4					
TIXI	Tiksi	161.75 26		PKPdf	17 09 40.3	-0.8
TIXI			PKPab	PKPab	17 10 27.1	+0.3
TIXI	Tiksi	161.75 26	PKIKP	PKPdf	17 09 40.3	-0.8
HEH	HeiHe	162.74 101	ePKP	PKPdf	17 09 42.9	+0.2
KLR	Kul'dur	164.44 110	ePKIKP	PKPdf	17 09 43.6	-0.8
KLR			pmax	pmax		
	comp=Z,4.0nm,1.4s					
YSS	Yuzh-Sakhalins	167.76 139	*i* PKIKP	PKPdf	17 09 44.5	-2.6
YSS			*e*		17 14 45.6	
YSS			*e*		17 16 47.7	
YSS			*e*PPS	PPS	17 28 40.5	
YSS			*e*SS	SS	17 35 36.6	+6.8
YSS			pmax	pmax		
	comp=Z,20nm,1.1s					
PET	Petropavlovsk	175.43 214	*e*PKIKP	PKPdf	17 10 00.7	+10
PET			*e*		17 15 17.8	
PET			*e*SS	SS	17 36 41.7	-3.1
PETK	Petropavlovsk-	175.78 208	PKPab	PKPab	17 11 28.9	-0.3
	comp=Z,6.9nm,0.9s,baz=141,slow=7.1,SNR=4.2					

WEL 15 16:52:46.9, 40°S±10°×17°5E±1°8, h141km±25km, M2.3/18, ML2.0/8, MLv2.3/18, Error ellipse: s-maj=27.6km s-min=14.5km az=78.8, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.33	107	P	Pn	16 53 08.7	+2.2
NEZ	North Egmont	0.54	316	P	Pn	16 53 07.1	-0.5
VRZ	Vera Road	0.55	15	P	Pn	16 53 07.0	-0.5
TRVZ	Turoa	0.83	65	P	Pn	16 53 10.7	+0.9
FWVZ	Far West T-bar	0.86	62	P	Pn	16 53 08.0	-1.9
WNVZ	Wahianoa	0.86	67	P	Pn	16 53 10.7	+0.9
TUVZ	Tukino	0.92	65	P	Pn	16 53 11.3	+1.0
MOVZ	Moawhango	0.94	75	P	Pn	16 53 11.0	+0.6
WTVZ	West Tongariro	0.95	56	P	Pn	16 53 10.6	0.0
NNVZ	North Ngauruho	0.96	57	P	Pn	16 53 11.1	+0.4
OTVZ	Oturere	0.98	60	P	Pn	16 53 11.4	+0.6
TMVZ	Te Maari	1.03	58	P	Pn	16 53 12.1	+0.9
KIW	Kapiti Island	1.23	168	P	Pn	16 53 13.4	+0.5
OGWZ	Otaki Gorge	1.24	159	P	Pn	16 53 13.9	+0.8
MRZ	Mangatainoka R	1.26	143	P	Pn	16 53 14.3	+1.0
KRHZ	Kereru	1.38	90	P	Pn	16 53 15.4	+0.8
HOWZ	Holdsworth Sta	1.43	150	P	Pn	16 53 15.5	+0.5
KWHZ	Kaweka Forest	1.45	81	P	Pn	16 53 15.9	+0.6
BKZ	Black Stump Fm	1.56	72	P	Pn	16 53 16.2	-0.4
TCW	Tory Channel	1.57	188	P	Pn	16 53 16.1	-0.4
MCHZ	McNeill Hill	1.65	83	P	Pn	16 53 18.3	+0.9
MTW	Mount Morrison	1.65	155	P	Pn	16 53 17.4	-0.1
TMWZ	Te Maipa	1.76	146	P	Pn	16 53 18.7	0.0
KAHZ	Kahuranaki	1.78	95	P	Pn	16 53 19.7	+0.8
NNZ	Nelson	1.81	210	P	Pn	16 53 16.2	-3.0
TUWZ	Tuamarina	1.83	195	P	Pn	16 53 18.3	-1.2
MTHZ	Maungataniwha	1.93	66	P	Pn	16 53 19.5	-1.3
HLRZ	Highlands Stat	1.97	45	P	Pn	16 53 25.4	+4.1
OMRZ	Omania	2.09	43	P	Pn	16 53 20.5	-2.1
BSWZ	Blackbirch Sta	2.12	194	P	Pn	16 53 21.6	-1.3
RTZ	Ruatahuna	2.14	62	P	Pn	16 53 21.4	-1.8
THZ	Tophouse	2.46	211	P	Pn	16 53 24.4	-2.7
RIGZ	Rimuhau	2.65	70	P	Pn	16 53 27.7	-1.8
MWZ	Matawai	2.65	61	P	Pn	16 53 26.7	-2.8
RUGZ	Raukumara Rang	2.95	56	P	Pn	16 53 29.3	-4.1
HAZ	Te Kaha	3.15	54	P	Pn	16 53 31.4	-4.4

CATAC ***15*** *17:01:01.5±0.5, 12°.97N×89°.04W, h26km±4km, ML3.5*
SNET ***15*** *17:01:02.5±0.7, 13°.02N×89°.02W, h42km±9km, ML3.4*
ISC 15 17:01:02.1±1.4, **12°.98N**±0°.06×**89°.04W**±0.03, **h30**km±11km, **n53**, σ0°**39**/93, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.58	332	*e*P	Pb	17 01 14.0	+0.2
LALI				*e*S	Sn	17 01 22.8	0.0
LALI	Alcalda de L	0.58	332	*i* P	Pb	17 01 14.1	+0.3
LALI				*i* S	Sn	17 01 23.6	+0.8
LALI				IAML		17 01 25.8	
	comp=Z,660nm,1.0s						
TECO	Alcaldia de Te	0.61	24	*e*P	Pb	17 01 14.3	-0.1
TECO				*e*S	Sn	17 01 23.6	-0.1
TECO	Alcaldia de Te	0.61	24	*i* P	Pb	17 01 14.3	-0.1
TECO				*i* S	Sn	17 01 23.7	0.0
TECO				IAML		17 01 27.0	
	comp=Z,2μm,1.0s						
LFRS	El Faro	0.65	358	*e*P	Pb	17 01 14.7	-0.3
LFRS				*e*S	Sn	17 01 24.5	-0.1
COEG	Centro de Oper	0.66	14	*e*P	Pb	17 01 14.9	-0.3
COEG				IAML		17 01 27.9	
	comp=Z,900nm,0.3s						
COEG	Centro de Oper	0.66	14	*i* P	Pn	17 01 15.3	-0.2
COEG				*i* S	Sn	17 01 24.8	-0.1
COEG				IAML		17 01 29.2	
	comp=Z,800nm,1.0s						
SNVI	San Vicente	0.66	17	*e*P	Pn	17 01 15.5	-0.1
LOMA	Loma Larga	0.68	349	*e*P	Pb	17 01 15.4	-0.2
LOMA				*e*S	Sn	17 01 25.4	0.0
LOMA	Loma Larga	0.68	349	*i* P	Pb	17 01 15.4	-0.2
LOMA				*i* S	Sn	17 01 25.5	+0.1
LOMA				IAML		17 01 26.5	
	comp=Z,2μm,1.0s						
UESV	Universidad de	0.70	20	*e*P	Pb	17 01 15.7	-0.2
UESV				*e*S	Sn	17 01 26.0	+0.1
UESV	Universidad de	0.70	20	*i* P	Pb	17 01 15.7	-0.2
UESV				*i* S	Sn	17 01 26.1	+0.2
UESV				IAML		17 01 28.5	
	comp=Z,2μm,1.0s						
SNET	Serv Nac Est T	0.73	345	*i* P	Pn	17 01 16.0	-0.5
SNET				*i* S	Sb	17 01 26.2	0.0
SNET				IAML		17 01 28.8	
	comp=Z,2μm,1.0s						
TECA	Tecapa	0.73	45	*e*P	Pn	17 01 16.3	-0.3
TECA				*e*P	Pb	17 01 16.5	0.0
TECA				*e*S	Sn	17 01 27.3	+0.3
TECA				*e*S	Sb	17 01 27.6	+1.2
PAVA	Las Pavas	0.74	8	*e*P	Pn	17 01 15.9	-0.7
PAVA				*e*S	Sn	17 01 26.6	-0.3
PAVA	Las Pavas	0.74	8	*i* P	Pn	17 01 16.4	-0.2
PAVA				IAML		17 01 16.9	
	comp=Z,2μm,1.0s						
PAVA				*i* S	Sn	17 01 27.3	+0.4
IGN	Direccin Gen	0.74	350	*e*P	Pn	17 01 16.3	-0.4
LFU	La Fuente	0.77	355	*e*P	Pn	17 01 16.8	-0.2
LFU				*e*S	Sn	17 01 28.0	+0.4
PMON	Piamonte	0.78	340	*e*P	Pn	17 01 16.8	-0.4
PMON				*e*S	Sn	17 01 27.9	0.0
PMON	Piamonte	0.78	340	*i* P	Pn	17 01 16.8	-0.4
PMON				*i* S	Sn	17 01 28.3	+0.4
PMON				IAML		17 01 29.2	
	comp=Z,2μm,1.0s						
JAYA	Jayaque - finc	0.78	330	*e*P	Pn	17 01 16.5	-0.7
JAYA				*e*S	Sb	17 01 27.4	-0.4
JAYA	Jayaque - finc	0.78	330	*i* P	Pn	17 01 16.8	-0.5
JAYA				*i* S	Sn	17 01 28.0	-0.1
JAYA				IAML		17 01 29.4	
	comp=Z,11μm,1.0s						
SCLA	Alcaldia de Sa	0.78	23	*e*P	Pb	17 01 17.1	-0.2
SCLA	Alcaldia de Sa	0.78	23	*i* P	Pb	17 01 17.2	-0.1
SCLA				IAML		17 01 17.4	
	comp=Z,2μm,1.0s						
SCLA				*i* S	Sn	17 01 28.8	+0.9
BOQS	Boqueron	0.79	343	*e*P	Pn	17 01 17.2	-0.2
BOQS				*e*S	Sn	17 01 28.4	0.0
PIC2	El Picacho	0.79	345	*e*P	Pn	17 01 17.1	-0.3
PIC2				*e*S	Sn	17 01 29.0	+0.6
PQSS	Presa 15 de Se	0.80	36	*e*P	Pn	17 01 16.9	-0.4
PQSS	Presa 15 de Se	0.80	36	*i* P	Pb	17 01 17.4	0.0
PQSS				*i* S	Sn	17 01 29.1	+1.0
PQSS				IAML		17 01 30.0	
	comp=Z,5μm,1.0s						
LCY	Lacayo	0.85	58	*e*P	Pn	17 01 18.0	-0.2
LCY				*e*S	Sb	17 01 29.5	-0.1
RANC	El Ranchito	0.86	58	*e*P	Pn	17 01 18.0	-0.2
RANC				*e*S	Sb	17 01 30.4	+0.4
RANC	El Ranchito	0.86	58	*i* P	Pn	17 01 18.1	-0.2
RANC				*i* S	Sb	17 01 30.3	+0.4
RANC				IAML		17 01 34.6	
	comp=Z,2μm,1.0s						
VSM	San Miguel	0.87	59	*e*P	Pn	17 01 18.4	-0.1
BLLM	Bellamira	0.91	59	*e*P	Pn	17 01 18.6	-0.3
BLLM				*e*S	Sb	17 01 30.8	-0.4
CEVE	Cerro Verde	1.02	326	*e*P	Pb	17 01 21.3	-0.1
CEVE				IAML		17 01 38.4	
	comp=Z,2μm,0.4s						
SBLS	San Blas	1.03	327	*e*P	Pn	17 01 20.8	+0.1
SBLS				*e*S	Sb	17 01 35.1	+0.4
RTR	El Retiro	1.09	327	*e*P	Pn	17 01 21.6	+0.2
RTR				*e*S	Sb	17 01 36.7	+0.2
CAHU	Cacacuatique	1.13	45	*e*P	Pn	17 01 21.8	-0.2
LCND	La Caada	1.17	73	*e*P	Pn	17 01 22.1	-0.3
LCND				*e*S	Sn	17 01 37.3	0.0
LCND				IAML		17 01 40.0	
	comp=Z,1μm,0.5s						
LCND	La Caada	1.17	73	*i* P	Pn	17 01 22.1	-0.3
LCND				*i* S	Sn	17 01 37.4	0.0
LCND				IAML		17 01 39.4	
	comp=Z,910nm,1.0s						
NUBE	Las Nubes	1.17	322	*e*P	Pn	17 01 22.2	-0.4
NUBE	Las Nubes	1.17	322	*i* P	Pn	17 01 22.3	-0.3
NUBE				*i* S	Sn	17 01 37.5	-0.1
NUBE				IAML		17 01 38.0	
	comp=Z,1μm,1.0s						
LLGN	La Laguna	1.18	4	*e*P	Pn	17 01 22.5	-0.2
LLGN	La Laguna	1.18	4	*i* P	Pn	17 01 22.5	-0.2
LLGN				IAML		17 01 55.6	
	comp=Z,640nm,1.0s						
CNCH	Conchagua	1.21	76	*e*P	Pn	17 01 22.9	-0.2
CNCH	Conchagua	1.21	76	*i* P	Pn	17 01 22.7	-0.4
CNCH				*i* S	Sb	17 01 39.2	-0.7
CNCH				IAML		17 01 45.2	
	comp=Z,1μm,1.0s						
CSGN	Cosiguina Volc	1.44	90	*i* P	Pn	17 01 26.0	-0.2
CSGN				*i* S	Sn	17 01 44.9	+0.7
CSGN				IAML		17 01 47.8	
	comp=Z,120nm,1.0s						
MTO3	Montecristo	1.45	348	*e*P	Pn	17 01 26.2	-0.2
MTO3	Montecristo	1.45	348	*i* P	Pn	17 01 26.3	-0.2
MTO3				*i* S	Sn	17 01 45.3	+0.7
MTO3				IAML		17 01 45.4	
	comp=Z,110nm,1.0s						
POTN	Potosi Cosigui	1.50	89	*i* P	Pn	17 01 26.3	-0.6
POTN				*i* S	Sn	17 01 45.5	+0.1
POTN				IAML		17 01 48.8	
	comp=Z,130nm,1.0s						
ESQI	Esquipulas	1.60	349	*e*P	Pn	17 01 28.4	0.0
PKGN	Cerro Pekin	2.04	98	*i* P	Pn	17 01 33.5	-0.8
PKGN				*i* S	Sn	17 01 59.2	+0.5
PKGN				IAML		17 02 05.7	
	comp=Z,660nm,1.0s						
MACN	El Madrono	2.36	102	*i* P	Pn	17 01 39.4	+0.5
MACN				*i* S	Sn	17 02 07.6	+0.7
MACN				IAML		17 02 13.6	
	comp=Z,83nm,1.0s						
LIMN	Finca el Limon	2.61	88	*i* P	Pn	17 01 41.5	-0.8
LIMN				IAML		17 02 22.5	
	comp=Z,100nm,1.0s						

NEIC ***15*** *17:09:48.1±1.6, 22°.05S±0°.10×170°.34E±0°.08, h10km±1km, mb4.8/38, Error ellipse: s-maj=16.8km s-min=12.2km az=348.0*
GCMT ***15*** *17:09:49.1±0.3, 22°.19S±0°.03×170°.65E±0°.02, h17km±1km, MW5.0/85, Moment Tensor Solution. s26,c29; s85,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.74±.26; $M_{\theta\theta}$-0.67±.16; $M_{\phi\phi}$3.41±.17; $M_{r\theta}$0.27±.48; $M_{\theta\phi}$0.96±.09; $M_{\phi r}$0.93±.35; Best double couple: $M_0$3.32600×10^{16} NP1:ϕ_s194.00000°, δ53.00000°, λ-88.00000°. NP2: ϕ_s11.00000°, δ37.00000°, λ-93.00000°. Principal axes: T 3.7670, Plg8.0000°, Azm283.0000°; N -0.8840, Plg2.0000°, Azm13.0000°; P -2.8840, Plg81.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***15*** *17:09:50.7±2.2, 21°.91S×170°.45E, h45km±18km, mb4.0/12, mbtmp4.4/16, ML4.4/4, MS4.1/16 Error ellipse: s-maj=17.5km s-min=15.7km az=0.0*
PPT ***15*** *17:09:50.4±0.3, 21°.93S×170°.28E, h10km, mb4.9/11, MLv4.5/7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
NOU ***15*** *17:09:50.5, 22°.03S×170°.08E, h0km, MLv4.2/13, Southeast of Loyalty Islands*
ISC 15 17:09:46.7±0.4, **22°.08S**±0°.06×**170°.40E**±0°.06, **h10**km, **n143**, σ1°**57**/128, **mb4.7**/33, **MS4.3**/16, **16C-4D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	2.28	285	P	Pn	17 10 25.0	+0.6
PINNC	Pines Island,	2.78	258		Pn	17 10 31.3	-0.1
PINNC	Pines Island,	2.78	258	P	Pn	17 10 31.8	+0.4
LIFNC	LIFOU	3.21	293	P	Pn	17 10 37.6	+0.3
YATNC	Mamie plateau,	3.25	270	P	Pn	17 10 37.9	+0.1
OUENC	Ouen Island, N	3.31	263	P	Pn	17 10 39.4	+0.8
ONTNC	Ouen Toro	3.66	266		Pn	17 10 43.5	0.0
ONTNC	Ouen Toro	3.66	266	P	Pn	17 10 44.6	+1.1
DZM	Mont Dzumac	3.67	269		Pn	17 10 44.2	+0.6
DZM	Mont Dzumac	3.67	269	*e*Pn	Pn	17 10 43.4	-0.2
	433nm,0.9s						
DZM				*e*Sn	Sn	17 11 27.2	+0.2
DZM				*e*LR	LR	17 11 31.6	
	6μm,26.1s						
DZM	Mont Dzumac	3.67	269	P	Pn	17 10 44.7	+1.1
	63nm,0.3s,baz=89,slow=16,SNR=1274						
DZM				S	Sn	17 11 28.9	+1.9
	88nm,0.5s,baz=133,slow=19,SNR=6.9						
	140nm,0.3s						
DZM	Mont Dzumac	3.67	269	P	Pn	17 10 45.0	+1.4
NOUC	Port Laguerre	3.80	269	P	Pn	17 10 46.7	+1.4
DVP	Devils Point	4.80	334	P	Pn	17 11 00.8	+1.6
KOUNC	Koumac, New Ca	5.90	284	Pn	Pn	17 11 15.2	+1.0
KOUNC	Koumac, New Ca	5.90	284	P	Pn	17 11 16.6	+2.4
VLAKA	Lakatoro	6.57	334	P	Pn	17 11 27.7	+4.2
MSVF	Nonsavu	8.40	60		Pn	17 11 50.4	+1.7
MSVF	Nonsavu	8.40	60	P	Pn	17 11 49.4	+0.8
	0.2nm,0.3s,baz=278,slow=19,SNR=6.8						
MSVF				LR	LR	17 14 24.4	
	comp=Z,2μm,18.4s,baz=243,slow=33						
	11nm,0.9s						
RAO	Raoul Island	12.73	127	LR	LR	17 15 33.6	
	comp=Z,370nm,21.3s,baz=129,slow=27						
HNR	Honiara	16.09	320		Pn	17 13 30.1	-3.1
HNR				IAmb	IAmb	17 13 41.8	
	comp=Z,70nm,1.1s						
HNR	Honiara	16.09	320	P	Pn	17 13 32.5	-0.7
	comp=Z,2.8nm,0.3s,baz=180,slow=1.0,SNR=2.4						
HNR				LR	LR	17 19 06.7	
	comp=Z,702nm,21.2s,baz=142,slow=35						
	comp=Z,18nm,0.5s						
TOZ	Tahuroa Road	16.21	165		Pn	17 13 34.5	-0.1
HIZ	Hauiti	16.82	168		Pn	17 13 43.0	+0.6
HIZ				IAmb	IAmb	17 13 52.3	
	comp=Z,72nm,1.1s						
URZ	Urewera	17.13	162	P	Pn	17 13 47.4	+1.1
	comp=Z,0.2nm,0.3s,baz=307,slow=5.1,SNR=7.7						
	comp=Z,11nm,0.8s						
RTZ	Ruatahuna	17.43	163	P	Pn	17 13 49.5	-0.5
BKZ	Black Stump Fm	17.81	164	P	Pn	17 13 53.2	-1.6
EIDS	Eidsvold	17.98	256	P	Pn	17 13 57.3	+0.3
MRZ	Mangatainoka R	19.04	168	P	P	17 14 09.9	+0.9
MRZ				IAmb	IAmb	17 14 19.0	
	comp=Z,50nm,1.1s						
MRNZ	Matariki Terra	19.37	175	P	Pn	17 14 14.9	+1.2
BSWZ	Blackbirch Sta	19.80	172	P	P	17 14 15.7	-1.6
PLWZ	Palliser	19.86	169	P	P	17 14 19.2	+1.2
KHZ	Kahutara	20.45	173	P	P	17 14 26.0	+1.6
KHZ				IAmb	IAmb	17 14 36.2	
	comp=Z,75nm,1.4s						
INZ	Inchbonnie	20.61	178	P	P	17 14 27.8	+1.7
INZ				IAmb	IAmb	17 14 30.4	
	comp=Z,51nm,1.2s						
LTZ	Lake Taylor	20.70	176	P	P	17 14 28.9	+1.7
LTZ				IAmb	IAmb	17 14 34.2	
	comp=Z,32nm,1.1s						
OXZ	Oxford	21.23	177	P	P	17 14 34.0	+1.2
OXZ				IAmb	IAmb	17 14 48.5	
	comp=Z,41nm,0.6s						
RPZ	Rata Peaks	21.59	179	P	P	17 14 38.5	+1.9
RPZ				IAmb	IAmb	17 14 40.2	
	comp=Z,37nm,1.1s						
RPZ	Rata Peaks	21.59	179	P	P	17 14 38.6	+1.9
	comp=Z,17nm,0.8s,baz=36,slow=5.5,SNR=7.5						
	comp=Z,17nm,0.8s						
CTA	Charters Tower	22.61	271	LR	LR	17 23 27.6	
	comp=Z,62nm,18.5s,baz=94,slow=36						
CAN	Canberra	22.88	230	P	P	17 14 52.0	+1.4
CAN				IAmb	IAmb	17 14 59.0	
	comp=Z,32nm,1.1s						
PMG	Port Moresby	25.62	296	P	P	17 15 16.6	+0.1
PMG				IAmb	IAmb	17 15 43.2	
	comp=

MJAR	Matsushiro Arr	65.75 332	P	P	17 20 30.0	-1.9
	comp=Z,4.2nm,1.0s,baz=159,slow=7.6,SNR=6.4					
	comp=Z,4.2nm,1.0s					
QSPA	South Pole Qui	67.99 180	P	P	17 20 47.5	+1.6
KSRS	Korea Array	71.45 325	P	P	17 21 06.0	-1.3
	comp=Z,1.4nm,0.9s,baz=152,slow=4.5,SNR=4.8					
	comp=Z,1.4nm,0.9s					
RPN	Rapa Nui	71.99 113	LR	LR	17 44 43.5	
	comp=Z,151nm,19.4s,baz=150,slow=29					
IPM	Ipoh	72.73 282	IAmb	IAmb	17 21 22.9	
	comp=Z,11nm,0.8s					
NJ2	Nanjing	72.99 316	eP	P	17 21 18.8	+2.0
NJ2			pmax	pmax		
	comp=Z,11nm,0.6s					
GSI	Gunungsitoli	74.61 278	P	P	17 21 26.6	-0.1
MAW	Mawson	76.22 202	P	P	17 21 36.7	+1.7
	comp=Z,7.3nm,0.8s,baz=109,slow=7.0,SNR=20					
	comp=Z,7.3nm,0.8s					
TIA	Tai'an	76.77 318	P	P	17 21 38.1	-0.5
TIA			pmax	pmax		
	comp=Z,8.0nm,0.7s					
CN2	Changchun	77.43 328	eP	P	17 21 39.9	-2.2
CN2			pmax	pmax		
	comp=Z,10.0nm,1.0s					
SLVN	Son La	77.89 299	IAmb	IAmb	17 21 46.5	
	comp=Z,6.7nm,1.2s					
ENH	Enshi	78.31 309	IAmb	IAmb	17 21 54.3	
	comp=Z,15nm,1.2s					
PHRA	Phrae	79.58 295	P	P	17 21 55.4	+0.8
CMAR	Chiang Mai Arr	80.65 294		P	17 22 00.8	+0.4
CMAR	Chiang Mai Arr	80.65 294	P	P	17 22 01.1	+0.8
	comp=Z,3.3nm,0.8s,baz=139,slow=4.6,SNR=23					
	comp=Z,3.3nm,0.8s					
KMI	Kunming	80.69 302	⇑P	P	17 22 01.9	+1.2
KMI			pmax	pmax		
	comp=Z,11nm,1.1s					
CHTO	Chiang Mai	80.81 295		P	17 22 01.8	+0.6
CHTO			IAmb	IAmb	17 22 10.3	
	comp=Z,10.0nm,0.8s					
PZH	PanZhiHua	82.14 303	P	P	17 22 10.4	+2.2
PZH			pmax	pmax		
	comp=Z,10.0nm,0.8s					
PZH			pmax	pmax		
	comp=Z,110nm,7.6s					
CHGN	Chignik	82.41 17		pwP	17 22 19.0	+3.4
HHC	Hu-ho-hao-te	83.07 319	eP	P	17 22 15.3	+2.6
HHC			pmax	pmax		
	comp=Z,27nm,0.8s					
HHC			pmax	pmax		
	comp=Z,110nm,4.6s					
HHC			LR	LR		
	comp=Z,140nm,19.9s					
HHC			LR	LR		
	comp=Z,150nm,20.6s					
HHC			LR	LR		
	comp=Z,130nm,19.9s					
ELIB	Princess Elisa	83.55 190	dP	P	17 22 15.8	+1.0
	comp=Z,3.7nm,1.0s					
LZH	Lanzhou	85.42 312	eP	P	17 22 35.0	+10
LZH			pP	pwP	17 22 45.1	+13
LZH			pmax	pmax		
	comp=Z,14nm,1.2s					
TROLL	Troll, Antarti	85.79 184	⇑P	P	17 22 23.6	-2.5
	comp=Z,132nm,0.6s					
SNAA	Sanae	86.38 182	P	P	17 22 27.9	-1.1
SNAA			IAmb	IAmb	17 22 35.5	
	comp=Z,8.6nm,1.3s					
SNAA	Sanae	86.38 182	⇑P	P	17 22 26.5	-2.5
	comp=Z,20nm,0.7s					
SNAA	Sanae	86.38 182	P	P	17 22 27.0	-2.0
	comp=Z,3.0nm,1.0s,baz=153,slow=2.3,SNR=5.2					
	comp=Z,3.0nm,1.0s					
VNA3	Neumayer Olymp	86.93 180	⇑P	P	17 22 28.9	-2.7
	comp=Z,4.1nm,0.7s					
VNA2	Neumayer--Watz	87.24 181	⇑P	P	17 22 30.1	-3.0
	comp=Z,5.4nm,0.7s,baz=234,slow=4.0					
VNA1	Neumayer--Stat	87.52 180	⇑P	P	17 22 32.0	-2.4
	comp=Z,3.9nm,1.0s					
ULN	Ulaanbaatar	89.78 323	P	P	17 22 44.8	-0.7
ULN			IAmb	IAmb	17 22 45.6	
	comp=Z,9.5nm,1.4s					
GTA	Gaotai	89.85 313	P	P	17 22 45.1	-1.0
GTA			pmax	pmax		
	comp=Z,2.0nm,1.4s					
GTA			LR	LR		
	comp=Z,130nm,19.1s					
GTA			LR	LR		
	comp=Z,190nm,17.9s					
GTA			LR	LR		
	comp=Z,200nm,18.3s					
NVAR	Mina Array Bea	89.87 48	P	P	17 22 43.4	-2.9
	comp=Z,0.4nm,0.7s,baz=249,slow=3.8,SNR=2.1					
NVAR			LR	LR	17 54 47.0	
	comp=Z,216nm,21.6s,baz=114,slow=30					
	comp=Z,0.4nm,0.7s					
SONM	Songino Array	90.13 323	P	P	17 22 45.1	-2.0
SONM			IAmb	IAmb	17 22 47.1	
	comp=Z,5.9nm,1.2s					
SONM	Songino Array	90.13 323	P	P	17 22 45.2	-2.0
	comp=Z,2.7nm,0.9s,baz=134,slow=4.8,SNR=10					
	comp=Z,2.7nm,0.9s					
ILAR	Eielson Array	92.61 17	P	P	17 22 57.3	-0.8
	comp=Z,0.6nm,1.1s,baz=216,slow=4.5,SNR=2.7					
	comp=Z,0.6nm,1.1s					
ELK	Elko	93.04 47	LR	LR	17 59 14.8	
	comp=Z,262nm,19.7s,baz=120,slow=32					
H03S2	Juan Fernandez	93.75 129	T	T	19 06 48.4	
	baz=239,slow=74,SNR=21					
H03S1	Juan Fernandez	93.77 129	T	T	19 06 51.3	
	baz=239,slow=74,SNR=17					
H03S3	Juan Fernandez	93.77 129	T	T	19 06 51.2	
	baz=239,slow=74,SNR=23					
PDAR	Pinedale Array	97.75 47	LR	LR	18 01 08.2	
	comp=Z,132nm,18.9s,baz=118,slow=32					
WMQ	Urumqi	99.94 313	eP	Pdif	17 23 33.4	+1.4
WMQ			LR	LR		
	comp=Z,380nm,14.1s					
WMQ			LR	LR		
	comp=Z,310nm,20.3s					
WMQ			LR	LR		
	comp=Z,310nm,24.0s					
TNR	Turnu Rosu	143.76 319	⇑P	PKPab	17 29 19.5	+0.5
MARR	Marisel-Cluj	143.93 321	⇓P	PKPab	17 29 19.0	-0.7
DRGR		144.11 321	⇑P	PKPab	17 29 19.8	-0.6
LOT	Lotru	144.16 319	⇑P	PKPab	17 29 19.9	-0.7
GZR	Gura Zlata	144.80 319	⇑P	PKPab	17 29 21.8	-1.2
SIRR	Siria	145.00 321	⇑P	PKPab	17 29 22.8	-0.8
SURR	Surduc	145.00 320	⇑P	PKPab	17 29 23.3	-0.3
MORC	Moravsky Berou	145.05 329	ePKP	PKPab	17 29 22.2	-1.5
MORC	Moravsky Berou	145.05 329	⇑P	PKPab	17 29 22.2	-1.5
CHVC	Chvalec	145.17 331	ePKP	PKPbc	17 29 23.0	-1.0
KRLC	Kraliky	145.20 330	ePKP	PKPbc	17 29 22.7	-1.5
DPC	Dobruska-Polom	145.22 331	ePKP	PKPbc	17 29 23.1	-1.1
HERR	Herculane	145.28 319	⇑P	PKPbc	17 29 23.3	-1.2
BZS	Buzias	145.38 320	⇓P	PKPbc	17 29 23.1	-1.7
JAVC	Velka Javorina	145.60 328	ePKP	PKPdf	17 29 25.1	-0.2
MDVR	Moldovita	145.76 319	⇓P	PKPdf	17 29 24.8	-0.9
VRAC	Vranov	145.82 329	PKPbc	PKPdf	17 29 24.6	-1.0
	comp=Z,10nm,1.0s,baz=64,slow=4.6,SNR=8.9					
VRAC	Vranov	145.82 329	ePKP	PKPdf	17 29 25.1	-0.5
VRAC	Vranov	145.82 329	⇑P	PKPdf	17 29 25.3	-0.4
BRG	Berggiesshubel	145.88 333	ePKP	PKPdf	17 29 24.8	-0.9
BRG			Amp		17 29 25.9	
	comp=Z,23nm,1.2s					
BRG	Berggiesshubel	145.88 333	P	PKiKP	17 29 31.5	+1.8
BRG			Amp		17 29 32.4	
	comp=Z,17nm,0.9s					
CLL	Collm	145.93 334	i PKPbc	PKPdf	17 29 24.2	-1.5
	comp=Z,23nm,1.3s					
CLL			i PKPab	PKPbc	17 29 27.5	+1.1
	comp=Z,45nm,2.0s					
CLL			i PKiKP	sPKPab	17 29 30.8	+1.0
	comp=Z,15nm,1.0s					
KRUC	Moravsky	146.08 329	ePKP	PKPdf	17 29 25.5	-0.6
EKA	Eskdalemuir Ar	146.44 353	PKPbc	PKPdf	17 29 23.9	-2.5
	comp=Z,2.3nm,0.8s,baz=347,slow=2.9,SNR=2.7					
MORH	Mrgy, Hungar	146.75 323	⇑P	PKPdf	17 29 26.8	-0.5
RONA	Rosalia, Austr	147.05 327	ePKP	PKPdf	17 29 26.5	-1.3
	comp=Z,6.0nm,1.3s					
CONA	Conrad Observa	147.12 328	ePKP	PKPdf	17 29 28.1	+0.2
	comp=Z,6.8nm,1.0s					
CKRC	Cesky Krumlov	147.23 330	ePKP	PKPdf	17 29 29.0	+1.0
KHC	Kasperske Hory	147.34 331	ePKP	PKPdf	17 29 29.2	+1.0
GERES	GERESS Array B	147.49 331	PKPbc	PKPdf	17 29 29.0	+0.5
	comp=Z,1.5nm,0.8s,baz=27,slow=4.6,SNR=7.9					
ARSA	Arzberg	147.74 327	ePKP	PKPdf	17 29 30.5	+1.6
	comp=Z,8.2nm,1.7s					
BIOA	Bad Ischl, Aus	148.35 329	ePKP	PKPdf	17 29 31.7	+1.8
	comp=Z,9.0nm,1.7s					
KBA	Koelnbreinsper	148.93 329	ePKP	PKPbc	17 29 35.3	+0.2
	comp=Z,8.2nm,1.4s					
LESA	Schwarzleotal	149.00 330	ePKP	PKiKP	17 29 38.6	+2.2
	comp=Z,8.9nm,1.2s					
WATA	Walderalm	149.57 331	ePKP	PKPdf	17 29 34.5	+2.4
	comp=Z,7.6nm,1.2s					
ABTA	Abfaltersbach	149.57 329	ePKP	PKPdf	17 29 33.0	+1.0
	comp=Z,7.4nm,1.2s					
WTTA	Wattenberg	149.59 331	ePKP	PKPdf	17 29 34.7	+2.6
	comp=Z,6.9nm,1.1s					
MOTA	Moosalm	149.77 331	ePKP	PKPdf	17 29 35.1	+2.7
	comp=Z,6.7nm,1.2s					
SQTA	Sankt Quirin	149.82 331	ePKP	PKPdf	17 29 35.3	+2.9
	comp=Z,5.9nm,1.0s					
FETA	Feichten	150.18 331	ePKP	PKPdf	17 29 36.2	+3.1
	comp=Z,4.8nm,0.9s					
DAVA	Damuels	150.35 333	ePKP	PKPdf	17 29 36.4	+3.1
	comp=Z,5.4nm,1.0s					
DAVOX	Davos/Dischmat	150.74 332	PKPbc	PKPdf	17 29 36.9	+2.9
	comp=Z,3.7nm,0.8s,baz=11,slow=7.0,SNR=7.0					
TORD	Torodi Ar. Bea	166.05 232	PKPab	PKPab	17 30 52.0	-1.1
	comp=Z,0.3nm,0.6s,baz=92,slow=5.8,SNR=2.2					

DJA 15 17:11:11.2±0.3, 3°S±2°×11°9E±°, h10km, M4.1/17, mb4.3/6, MLv4.0/17, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.34	108	P	Pg	17 11 17.4	-0.7
TTSI				S	Sg	17 11 23.5	+0.8
SPSI	Sidrap Palu	1.05	165	P	Pg	17 11 29.9	-1.6
BNSI	Bone	1.58	157	P	Pn	17 11 39.3	+0.1
BNSI				S	Sg	17 12 02.2	+0.2
PCI	Palu	2.05	10	P	Pn	17 11 45.7	-0.1
PCI				S	Sn	17 12 12.3	+0.8
APSI	Ampana	2.95	47	P	Pg	17 12 08.8	+1.0
KDI	Kendari	3.28	108	P	Pn	17 12 02.6	-0.1
BSSI	Bau Bau, Buton	3.33	163	P	Pn	17 12 03.7	+0.2
LUWI	Luwuk	3.78	60	P	Pn	17 12 09.8	+0.2
BBSI	Bau Bau	3.98	130	P	Pn	17 12 13.7	+1.4
PLAI	Plampang	6.09	196	P	Pn	17 12 41.1	-0.3
	31nm,1.3s,0.1nm						
WBSI	Waikabubak, Su	6.66	181	P	Pn	17 12 49.5	+0.3
WSI	Waingapu	6.73	173	P	Pn	17 12 50.1	-0.1

*NEIC **15** 17:16:57.6±1.6, 37°.53N±0°.04×20°.36E±0°.05, h10km±1km, mb4.6/16, Error ellipse: s-maj=8.3km s-min=6.2km az=147.0*
*IDC **15** 17:16:57.8±0.8, 37°.53N×20°.60E, h0km, mb3.9/14, mbtmp3.9/21, ML4.0/6, Error ellipse: s-maj=16.6km s-min=13.5km az=169.0*
*PDG **15** 17:16:59.8±0.3, 37°.60N×20°.36E, h4km, ML3.9/11, Error ellipse: s-maj=0.9km s-min=1.1km az=0.0*
*THE **15** 17:16:59.5, 37°.59N×20°.35E, h5km, ML3.9/12, Error ellipse: s-maj=1.0km s-min=0.3km az=40.0*
*ATH **15** 17:16:59.3, 37°.58N×20°.34E, h13km±1km, ML3.8/18, Error ellipse: s-maj=2.3km s-min=0.9km az=37.0*
*NAO **15** 17:17:17.9, 39°.14N×19°.81E, h10km, mb4.4*
ISC 15 17:17:00.4±0.5, 37°.63N±0°.03×20°.41E±0°.03, h21km±2km, n182, σ1.987/211, mb4.2/18, 13C-8D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.33	84	P	Pb	17 17 06.9	-0.6
KRI1				S	Sb	17 17 12.4	0.0
	53μm,0.5s						
LTHK	Lithakia	0.35	77	P	Pb	17 17 07.2	-0.6
LTHK				S	Sb	17 17 12.9	0.0
	41μm,0.5s						
LTHK	Lithakia	0.35	77	P	Pb	17 17 07.2	-0.6
LTHK				S	Sb	17 17 12.6	-0.3
LTHK				AML	AML	17 17 13.4	
LTHK				AML	AML	17 17 13.8	
	comp=N,43244μm,0.3s						
PSDA	Pessada-Kefalo	0.50	16	P	Pb	17 17 10.1	-0.4
PSDA				S	Sb	17 17 18.1	+0.6
	comp=N,15μm,0.4s						
PSDA	Pessada-Kefalo	0.50	16	P	Pb	17 17 10.2	-0.4
PSDA				S	Sb	17 17 18.2	+0.8
RTZL	Ratzakli, Kefa	0.53	33	P	Pb	17 17 10.3	-0.8
RTZL				S	Sb	17 17 19.0	+0.7
VLS	Valsamata	0.56	15	P	Pb	17 17 10.9	-0.8
VLS				S	Sb	17 17 20.2	+0.8
	comp=N,9μm,0.5s						
VLS	Valsamata	0.56	15	P	Pb	17 17 11.0	-0.8
VLS				S	Sb	17 17 19.6	+0.2
VLS				AML	AML	17 17 23.3	
	comp=N,17115μm,0.3s						
VLS				AML	AML	17 17 24.3	
	comp=E,15797μm,0.4s						
LXRA	Lixouri, Kepha	0.57	2	P	Pb	17 17 11.8	0.0
LXR1	Lixouri, Cepha	0.57	2	P	Pb	17 17 11.5	-0.3
DMLN	Damoulianata-K	0.61	358	P	Pb	17 17 11.7	-0.8
DMLN				S	Sb	17 17 21.5	+0.8
	comp=E,20μm,0.6s						
DMLN	Damoulianata-K	0.61	358	P	Pb	17 17 11.8	-0.7
DMLN				S	Sb	17 17 21.4	+0.8
VSK1	VASILIKIADES	0.79	9	P	Pb	17 17 15.0	-0.4
FSK	Fiskardo	0.84	8	P	Pb	17 17 16.0	-0.3
FSK				S	Sn	17 17 29.0	+0.4
	comp=E,7μm,0.7s						
FSK	Fiskardo	0.84	8	P	Pb	17 17 15.9	-0.4
FSK				S	Sn	17 17 28.5	-0.1
FSK				AML	AML	17 17 35.1	
	comp=N,12367μm,0.9s						
FSK				AML	AML	17 17 36.3	
	comp=E,13902μm,0.6s						
RLS	Riolos of Patr	0.94	63	P	Pn	17 17 18.2	-0.2
RLS				S	Sn	17 17 32.7	+1.5
	comp=E,4μm,0.7s						
RLS	Riolos of Patr	0.94	63	P	Pb	17 17 18.0	0.0
RLS				S	Sn	17 17 31.6	+0.4
RLS				AML	AML	17 17 40.4	
	comp=E,7575μm,0.9s						
RLS				AML	AML	17 17 42.5	
	comp=N,8240μm,0.5s						
EVGI	Lefkada island	1.01	11	P	Pn	17 17 19.2	-0.1
EVGI				S	Sn	17 17 34.4	+1.5
	comp=N,6μm,0.5s						
EVGI	Lefkada island	1.01	11	P	Pb	17 17 18.8	-0.4
AMT	Artemida-Makis	1.04	95	P	Pb	17 17 19.5	-0.2
AMT				S	Sn	17 17 34.1	+0.5
AMT				AML	AML	17 17 40.2	
	comp=E,22884μm,0.8s						
AMT				AML	AML	17 17 43.5	
	comp=N,18220μm,0.7s						
DRAG	Dragano-Lefkad	1.06	7	P	Pb	17 17 20.1	0.0
DRAG	Dragano-Lefkad	1.06	7	P	Pn	17 17 19.7	-0.3
DRO	Drossia	1.08	72	P	Pb	17 17 20.7	+0.3
DRO	Drossia	1.08	72	P	Pb	17 17 20.4	0.0
DRO				S	Sn	17 17 36.1	+1.4
DRO				AML	AML	17 17 48.5	
	comp=E,10717μm,0.5s						
DRO				AML	AML	17 17 49.0	
	comp=N,9749μm,0.4s						
NYDR	Nydri-Lefkada	1.11	12	P	Pb	17 17 20.7	-0.1
NYDR				S	Sn	17 17 37.9	+2.7
	comp=N,4μm,0.7s						
NYDR	Nydri-Lefkada	1.11	12	P	Pb	17 17 20.8	-0.1
LKD2	Lefkada island	1.17	10	P	Pb	17 17 22.3	+0.2
LKD2				AML	AML	17 17 45.0	
	comp=E,14498μm,1.2s						
LKD2				AML	AML	17 17 51.9	
	comp=N,11574μm,0.8s						
TSLK	Tsoukalades, L	1.21	9	P	Pb	17 17 22.6	0.0
TSLK				S	Sn	17 17 41.4	+3.6
	comp=N,9μm,0.6s						
TSLK	Tsoukalades, L	1.21	9	P	Pb	17 17 22.5	-0.1
TSLK				AML	AML	17 17 46.5	
	comp=E,20584μm,0.5s						
TSLK				AML	AML	17 17 47.9	
	comp=N,18637μm,0.5s						
UPR	University Cam	1.27	59	P	Pb	17 17 24.0	+0.4
ITM	Ithomi	1.29	110	P	Pn	17 17 22.2	-1.0
ITM	Ithomi	1.29	110	P	Pb	17 17 23.9	-0.1
ITM				S	Sb	17 17 42.5	+2.4
	comp=N,2μm,1.0s						
ITM	Ithomi	1.29	110	P	Pn	17 17 23.5	+0.3
ITM				S	Sb	17 17 40.7	+0.6
ITM				AML	AML	17 17 51.8	
	comp=N,4769μm,0.9s						
ITM				AML	AML	17 17 56.4	
	comp=E,4111μm,1.1s						
PYL	PYLOS	1.29	124	P	Pn	17 17 23.4	+0.2
PYL				S	Sb	17 17 41.9	+1.7
	comp=E,2μm,0.7s						
PYL	PYLOS	1.29	124	P	Pn	17 17 23.3	+0.2
PYL				S	Sb	17 17 40.3	+0.1
PYL				AML	AML	17 17 47.2	
	comp=E,5151μm,0.6s						
PYL				AML	AML	17 17 48.5	
	comp=N,1814μm,0.6s						
EFP	Efpalio	1.43	56	P	Pb	17 17 26.3	0.0
EFP	Efpalio	1.43	56	P	Pb	17 17 26.3	0.0
EFP				AML	AML	17 17 57.1	
	comp=N,3074μm,0.4s						
EFP				AML	AML	17 18 00.6	
	comp=E,4394μm,0.7s						
KLV	Kalavryta, Ach	1.44	73	P	Pb	17 17 26.1	-0.5
KLV	Kalavryta, Ach	1.44	73	P	Pb	17 17 26.2	-0.5
KLV				AML	AML	17 17 59.6	
	comp=E,2860μm,1.2s						
KLV				AML	AML	17 18 00.0	
	comp=N,3043μm,1.0s						
ANX	Ano Chora	1.53	51	P	Pb	17 17 27.7	-0.5
ANX	Ano Chora	1.53	51	P	Pb	17 17 27.9	-0.3
ANX				AML	AML	17 17 58.8	
	comp=E,6343μm,0.5s						
ANX				AML	AML	17 18 01.4	
	comp=N,11363μm,0.7s						
GUR	Goura	1.56	78	P	Pb	17 17 28.2	-0.5
GUR	Goura	1.56	78	P	Pb	17 17 28.6	-0.1
GUR				AML	AML	17 18 00.7	
	comp=E,3816μm,0.6s						
GUR				AML	AML	17 18 03.5	
	comp=N,4822μm,0.7s						
KALE	Kalithea	1.57	60	P	Pb	17 17 29.0	+0.3
KALE				_0		17 17 29.6	
KALE				AML	AML	17 18 06.3	
	comp=E,4364μm,0.6s						
KALE				AML	AML	17 18 08.8	
	comp=N,3821μm,0.5s						
IGT	Igoumenitsa	1.90	358	P	Pb	17 17 33.4	-1.0
IGT				AML	AML	17 18 08.0	
	comp=E,2779μm,0.5s						
IGT				AML	AML	17 18 27.7	
	comp=N,2077μm,0.7s						
AGG	Agios Georgios	2.06	47	Pg	Pb	17 17 37.2	+0.2
KEK	Kerkira	2.13	347		Pb	17 17 38.8	+0.4
KEK	Kerkira	2.13	347	P	Pb	17 17 36.9	-1.4
KEK				AML	AML	17 18 19.1	
	comp=E,3396μm,0.6s						
KEK				AML	AML	17 18 28.2	
	comp=N,2391μm,0.8s						
SCTE	Santa Cesarea	2.87	329	Pn	Pn	17 17 45.1	+0.2
LIT	Litokhoron	2.96	33		Pn	17 17 44.6	-1.5
FNA	Florina	3.24	13		Pn	17 17 50.9	+0.8
TIP	Timpagrande	3.26	299		Pn	17 17 47.9	-2.4
TIP	Timpagrande	3.26	299	⇑P	Pn	17 17 51.9	+1.6
OHR	Ohrid	3.49	5	i Pn	Pb	17 17 57.6	-3.9
CEL	Celeste	3.62	281		Pn	17 17 54.3	-1.0
TIR	Tirane	3.74	354	Pn	Pn	17 17 56.1	-0.7
VAY	Valandovo	4.05	24	i Pn	Pn	17 18 04.0	+2.9
CUC	Castrocucco	4.29	305		Pn	17 18 04.0	-0.5
IDI	Anoyia	4.30	122	Pn	Pn	17 18 03.8	-0.9
	comp=N,10nm,1.0s,baz=289,slow=16,SNR=2.1						
IDI				Sn	Sn	17 18 54.6	+0.4
	comp=N,5.4nm,0.3s,baz=322,slow=18,SNR=6.6						
ULC	Ulcinj	4.42	349	ePn	Pn	17 18 07.2	+1.0
ULC				i Sn	Sn	17 18 58.8	+1.7
PUK	Puka	4.42	355		Pn	17 18 08.1	+1.7
DRME	Dracevica, Mon	4.65	349	⇑i Pn	Pn	17 18 10.6	+1.3
DRME				i Sn	Sn	17 19 04.8	+2.2
MMB	Musomishta	4.69	32	P	Pn	17 18 13.3	+3.4
KKB	Krupnik	4.70	26	P	Pn	17 18 13.0	+2.9
VAE	Valguarnera	4.77	270	Pn	Pn	17 18 13.2	+2.2
	comp=N,15nm,0.6s,baz=101,slow=18,SNR=3.7						
VAE				Sn	Sn	17 19 10.5	+4.9
	comp=N,4.1nm,0.3s,baz=90,slow=18,SNR=2.3						
BUM	Brajici-Budva	4.81	346	ePn	Pn	17 18 13.0	+1.4
BUM				i Sn	Sn	17 19 08.3	+1.6
RAFF	Raffo Rosso	4.83	267		Pn	17 18 12.1	+0.3
PDG	Podgorica	4.88	350		Pn	17 18 13.8	+1.4
PDG	Podgorica	4.88	350	ePn	Pn	17 18 12.7	+0.3
PDG	Podgorica	4.88	350	⇑i Pn	Pn	17 18 13.8	+1.4
PDG				i Sn	Sn	17 19 09.6	+1.4
PVY	Plav	4.97	356	ePn	Pn	17 18 15.2	+1.3
PVY				i Sn	Sn	17 19 12.2	+1.4
HCY	Herceg Novi	5.03	344	⇑i Pn	Pn	17 18 14.3	-0.3
HCY				i Sn	Sn	17 19 14.0	+1.9
CEME	Cevo	5.04	347	ePn	Pn	17 18 16.2	+1.4
CEME				i Sn	Sn	17 19 13.6	+1.2
WDD	Wied Dalam	5.05	251		Pn	17 18 12.6	-2.3
IVA	Berane	5.25	356	⇓i Pn	Pn	17 18 19.7	+2.0
IVA				i Sn	Sn	17 19 19.2	+1.6
NKME	Niksic	5.25	348	⇑i Pn	Pn	17 18 19.1	+1.4
RZN	Rozhen	5.26	38	P	Pn	17 18 20.6	+2.7
KOME	Kolasin	5.26	353	⇑i Pn	Pn	17 18 19.1	+1.3
KOME				i Sn	Sn	17 19 19.5	+1.7
RDO	Rodhopi	5.30	47		Pn	17 18 17.4	-0.9
TREB	Trebinje	5.32	343	ePn	Pn	17 18 16.7	-1.9
PLNA	Plana	5.37	25	P	Pn	17 18 22.4	+3.1
VTS	Vitosha	5.43	23	P	Pn	17 18 23.2	+2.9
BRY	Bratogost	5.46	345	ePn	Pn	17 18 22.5	+1.9
BRY				i Sn	Sn	17 19 23.7	+0.9
KDZ	Kurdzhali	5.52	42	P	Pn	17 18 24.0	+2.7
STON	Ston	5.63	339	ePn	Pn	17 18 24.4	+1.6
SJES	Sjenica	5.63	357	ePn	Pn	17 18 24.5	+1.5
PAOL	Paolisi	5.66	309	Pn	Pn	17 18 25.2	+1.9
RUDO	Rudo	6.03	353	ePn	Pn	17 18 27.0	-1.4
MPEP	Malo Peshtene	6.26	23	P	Pn	17 18 34.6	+3.1
BBLS	Lazi&#263i	6.28	353	ePn	Pn	17 18 36.4	+4.6
HAPS	Han Pijesak,Bl	6.54	351	ePn	Pn	17 18 35.2	-0.3
INTR	Introdacqua	6.65	313	Pn	Pn	17 18 39.7	+2.8
ELND	Elena	6.74	37	⇓P	Pn	17 18 41.9	+3.8
TEKS	Tekeris	6.95	355	ePn	Pn	17 18 40.3	-0.6
CAMP	Campotosto	7.26	315	Pn	Pn	17 18 43.0	-2.4
HERR	Herculane	7.40	11	⇓P	Pn	17 18 49.3	+2.2
A050A	Klekovaca	7.44	338	ePn	Pn	17 18 49.6	+1.8
BLY	Banja Luka	7.51	342	ePn	Pn	17 18 50.8	+2.1
NRCA	Norcia	7.62	315

BIOA	Bad Ischl, Aus	11.22	336	*e*Pn		Pn	17 19 48.4	+8.9
	comp=N,3.2nm,0.5s							
LESA	Schwarzleotal	11.32	332	*e*Pn		Pn	17 19 44.9	+4.0
	comp=N,2.2nm,0.5s							
SQTA	Sankt Quirin	11.74	328	*i* Sn		Sn	17 21 57.4	+0.3
	comp=N,5.3nm,0.5s							
FETA	Feichten	11.80	326	Pn		Pn	17 19 54.8	+7.3
	comp=N,6.7nm,1.2s							
MOTA	Moosalm	11.88	328	*i* Pn		Pn	17 19 56.6	+8.0
	comp=N,1.8nm,0.5s							
MOTA				*e*Sn		Sn	17 21 59.9	-0.7
	comp=N,3.9nm,0.6s							
DAVOX	Davos/Dischmat	12.01	323	Pn		Pn	17 19 54.4	+3.9
	comp=N,0.2nm,0.3s,baz=145,slow=18,SNR=2.7							
DAVOX				Sn		Sn	17 22 02.0	-1.8
	comp=N,0.2nm,0.3s,baz=165,slow=20,SNR=2.0							
	comp=N,0.8nm,0.5s							
TUE	Stuetta	12.06	321	Pn		Pn	17 19 49.4	-1.7
GERES	GERESS Array B	12.22	339	Pn		Pn	17 19 57.5	+4.2
	comp=N,0.2nm,0.3s,baz=153,slow=13,SNR=4.0							
GERES				Sn		Sn	17 22 02.7	-6.1
	comp=N,0.2nm,0.3s,baz=152,slow=23,SNR=2.4							
	comp=N,0.6nm,0.5s							
SENIN	Lac Senin/Sane	13.07	316	Pn		Pn	17 20 06.6	+1.7
GRA1	Grafenberg Arr	13.75	334	Pn		Pn	17 20 13.4	-0.6
GRFO	Grafenberg	13.75	334	Pn		Pn	17 20 14.0	0.0
GHAJ	Ghor Haditha	14.00	112	Pn		Pn	17 20 15.1	-2.4
KIEV	Kiev	14.49	23	Pn		Pn	17 20 24.2	+0.1
AKASG	Malin Array Be	14.50	23	Pn		Pn	17 20 26.2	+1.9
AKASG	Malin Array Be	14.50	23	Pn		Pn	17 20 24.6	+0.3
	comp=N,0.3nm,0.3s,baz=216,slow=12,SNR=6.1							
	comp=N,1.3nm,0.8s							
AKBB	Malin Array Si	14.50	23	Pn		Pn	17 20 23.8	-0.5
CLL	Collm	14.65	341	*es*PP			17 20 39.0	
WLF	Walferdange	15.81	324	Pn		Pn	17 20 40.8	-0.9
WLF	Walferdange	15.81	324	*d*P		P	17 20 46.6	+1.3
SUW	Suwalki	16.50	6	P		P	17 20 52.2	-0.6
SUW				IAmb		IAmb	17 21 02.8	
	comp=Z,77nm,1.3s							
NACGM	Naroch	17.82	12	*e*P		P	17 21 09.1	+1.6
	comp=Z,19nm,1.4s,baz=197							
PABE	Paberze	18.04	7			Pn	17 21 09.4	-0.2
PABE				IAmb		IAmb	17 21 11.1	
	comp=Z,49nm,0.8s							
ESDC	Sonseca Array	19.13	284	P		Pn	17 21 23.6	+0.6
	comp=Z,0.2nm,0.3s,baz=79,slow=11,SNR=3.2							
	comp=Z,2.3nm,1.0s							
MDT	Midelt	20.97	264	P		Pn	17 21 44.0	-0.8
	comp=Z,0.8nm,0.3s,baz=75,slow=12,SNR=2.1							
	comp=Z,0.8nm,0.3s							
HFS	Hagfors	22.93	351	P		P	17 22 03.6	+0.9
	comp=Z,2.7nm,0.6s,baz=157,slow=9.4,SNR=7.0							
	comp=Z,2.7nm,0.6s							
EKA	Eskdalemuir Ar	23.83	326	P		P	17 22 14.5	+2.8
	comp=Z,9.3nm,0.9s,baz=128,slow=9.2,SNR=11							
	comp=Z,9.3nm,0.9s							
FINES	FINESS Array B	24.10	7	P		P	17 22 14.2	-0.1
FINES	FINESS Array B	24.10	7	P		P	17 22 14.6	+0.3
	comp=Z,4.4nm,0.6s,baz=170,slow=9.9,SNR=22							
	comp=Z,4.4nm,0.6s							
FIA1	FINESS Array S	24.10	7	P		P	17 22 13.2	-1.0
NB2	NORSAR Subarra	24.14	349	P		P	17 22 17.2	+2.6
	comp=Z,25nm,1.7s,baz=162,slow=10							
NOA	NORSAR Array B	24.14	349	P		P	17 22 17.9	+3.3
	comp=Z,2.8nm,1.0s,baz=162,slow=9.9,SNR=6.3							
	comp=Z,2.8nm,1.0s							
TORD	Torodi Ar. Bea	29.55	219	P		P	17 23 04.8	+1.1
	comp=Z,1.9nm,0.9s,baz=27,slow=9.7,SNR=9.2							
	comp=Z,1.9nm,0.9s							
ARCES	ARCESS Array B	32.08	3	P		P	17 23 25.4	-0.1
	comp=Z,3.7nm,0.9s,baz=189,slow=11,SNR=5.9							
	comp=Z,3.7nm,0.9s							
BRVK	Borovoye	37.48	49	P		P	17 24 09.4	-2.8
KURBB	Kurchatov Arra	42.63	53	P		P	17 24 55.2	+0.3
	comp=Z,0.5nm,0.6s,baz=277,slow=8.6,SNR=6.5							
	comp=Z,0.5nm,0.6s							
MK31	Makanchi Array	45.67	58	P		P	17 25 18.7	-0.8
MKAR	Makanchi Array	45.67	58	P		P	17 25 18.3	-1.2
MKAR	Makanchi Array	45.67	58	P		P	17 25 18.7	-0.8
	comp=Z,0.9nm,0.5s,baz=274,slow=7.1,SNR=12							
	comp=Z,0.9nm,0.5s							
ZAA0	Zalesovo Array	46.12	48	P		P	17 25 21.2	-1.7
ZAA0				IAmb		IAmb	17 25 30.2	
	comp=Z,7.4nm,1.3s							
ZALV	Zalesovo Beam	46.12	48	P		P	17 25 21.8	-1.1
ZALV	Zalesovo Beam	46.12	48	P		P	17 25 23.1	+0.2
	comp=Z,2.2nm,0.5s,baz=277,slow=8.5,SNR=12							
	comp=Z,2.2nm,0.5s							
SONM	Songino Array	60.88	50	P		P	17 27 11.7	+0.3
	comp=Z,0.9nm,0.8s,baz=276,slow=8.3,SNR=4.3							
	comp=Z,0.9nm,0.8s							
CMAR	Chiang Mai Arr	70.06	82	P		P	17 28 10.6	-0.5
	comp=Z,0.4nm,0.3s,baz=302,slow=5.2,SNR=6.6							
	comp=Z,0.4nm,0.3s							
MVL	Millersville	71.49	306	P		P	17 28 14.5	-4.9
SDMD	Soldier's Deli	72.13	306	P		P	17 28 20.4	-2.9
G29M	Pine Creek	74.48	351	P		P	17 28 32.6	-4.1
G29M				IAmb		IAmb	17 28 45.2	
	comp=Z,4.9nm,1.1s							
E19K	Redstone River	75.22	359	P		P	17 28 40.4	-0.6
E18K	Tukpahlearik C	75.27	0	P		P	17 28 39.6	-1.6
E18K				IAmb		IAmb	17 28 53.5	
	comp=Z,10.0nm,1.2s							
J30M	Hart River	76.49	350	P		P	17 28 46.5	-1.9
J30M				IAmb		IAmb	17 29 01.9	
	comp=Z,6.4nm,1.3s							
ILAR	Eielson Array	77.44	354	P		P	17 28 56.9	+3.3
	comp=Z,0.3nm,0.9s,baz=354,slow=5.7,SNR=4.0							
	comp=Z,0.3nm,0.9s							
M29M	Somme Creek	78.82	350	P		P	17 29 01.7	+0.2
M29M				IAmb		IAmb	17 29 11.7	
	comp=Z,5.0nm,0.9s							
KSRS	Korea Array	79.75	50	P		P	17 29 07.2	+0.4
	comp=Z,1.2nm,0.8s,baz=301,slow=4.1,SNR=4.6							
	comp=Z,1.2nm,0.8s							

NEIC 15 17:20:30.4±0.6, 36°.79N±0°.01×97°.73W±0°.02, h5km±1km, mb_Lg2.9/31, ML3.2/47, Error ellipse: s-maj=2.7km s-min=2.1km az=283.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	Grant County #	0.12	300	Pg	Pg	17 20 33.4	+0.6
KAN14	Manchester OK	0.25	312	Pg	Pg	17 20 35.8	+0.6
KAN14				IAML		17 20 43.0	
	comp=N,3μm,0.1s						
KAN14				IAML		17 20 43.2	
	comp=E,3μm,0.1s						
KAN17	Caldwell West	0.25	354	Pg	Pg	17 20 36.1	+0.7
KAN17				Sg	Sg	17 20 39.6	+0.9
KAN17				IAML		17 20 40.0	
	comp=N,3μm,0.3s						
KAN13	South Haven SW	0.30	43		Pg	17 20 37.0	+0.7
KAN13				IAML		17 20 41.6	
	comp=E,5μm,0.3s						
KAN13				IAML		17 20 41.6	
	comp=N,5μm,0.3s						
CROK	Carrier	0.35	215	Pg	Pg	17 20 37.5	+0.3
KAN09	Caldwell North	0.36	15		Pg	17 20 37.9	+0.6
KAN09				Sg	Sg	17 20 43.2	+1.2
KAN01	Argonia South	0.36	357		Pg	17 20 38.1	+0.7
BLOK	Blackwell	0.42	94		Pg	17 20 38.9	+0.5
BLOK				IAML		17 20 45.4	
	comp=E,3μm,0.2s						
KAN08	Anthony NE Sta	0.47	336		Pg	17 20 40.1	+0.6
KAN08				IAML		17 20 47.1	
	comp=E,1μm,0.5s						
KAN12	Harper NE Stat	0.55	337		Pg	17 20 41.4	+0.5
KAN12				IAML		17 20 51.1	
	comp=N,2μm,0.4s						
KAN12				IAML		17 20 56.0	
	comp=E,2μm,0.4s						
OK048	Pawnee Station	0.74	120		Pg	17 20 44.5	0.0
OK048					Sg	17 20 53.9	-0.2
OK048				IAML		17 20 54.8	
	comp=E,1μm,0.4s						
OK048				IAML		17 20 54.8	
	comp=E,586nm,0.2s						
OK051	E0350 and S346	0.78	111		Pg	17 20 45.0	-0.3
OK051					Sg	17 20 55.9	+0.6
OK051				IAML		17 20 56.0	
	comp=E,1μm,0.2s						
OK051				IAML		17 20 56.5	
	comp=E,1μm,0.2s						
OK038	West end E0370	0.87	249		Pg	17 20 46.9	-0.2
OK038				IAML		17 21 01.5	
	comp=E,1μm,0.3s						
NOKA	Waynoka	0.98	261		Pg	17 20 48.9	-0.2
NOKA				IAML		17 21 10.9	
	comp=N,586nm,0.2s						
NOKA				IAML		17 21 21.5	
	comp=E,540nm,0.3s						
T35A	Sooner Cattle	0.99	82		Pg	17 20 49.3	0.0
OK029	Liberty Lake	1.02	167	Pg	Pg	17 20 49.7	-0.2
QUOK	Quay	1.03	127	Pg	Pg	17 20 50.2	+0.1
OK052	Battle Ridge R	1.09	136		Pg	17 20 51.1	-0.2
OK052				IAML		17 21 08.1	
	comp=E,934nm,0.2s						
OK031	S. Brethren Rd	1.10	139		Pg	17 20 51.3	-0.2
OK031				IAML		17 21 07.1	
	comp=E,626nm,0.2s						
ADOK	Arcadia Dam	1.17	165		Pg	17 20 52.5	-0.4
DEOK	Depew	1.38	133		Pn	17 20 55.9	-0.4
CSTR	Hydro, Custer	1.38	214		Pn	17 20 55.9	-0.4
ELIS	Ellis County	1.54	242		Pn	17 20 58.5	0.0
FNO	Franklin	1.56	170		Pn	17 20 58.4	-0.3
W35A	Tecumseh	1.78	157		Pn	17 21 01.5	-0.3
TUL3	Leonard	1.80	119		Pn	17 21 01.8	-0.2
R32A	Long Quarter,	1.80	335		Pb	17 21 03.5	-0.5
X34A	Smith Ranch, M	2.19	182	Pn	Pn	17 21 07.0	-0.4
X34A				Pg	Pb	17 21 09.8	-0.6
WMOK	Wichita Mounta	2.22	203	Pn	Pn	17 21 08.0	+0.1
WMOK				IAmb_Lg		17 21 42.6	
	comp=Z,40nm,0.8s						
RLO	Rose Lookout	2.27	105		Pn	17 21 08.4	-0.1
KSU1	Kansas State U	2.47	21		Pn	17 21 11.1	-0.3
KSU1					Sb	17 21 46.9	+0.9
CBKS	Cedar Bluff	2.57	322		Pn	17 21 11.8	-0.9
U38A	Gravette	2.72	96		Pn	17 21 14.8	+0.1
LOOK	Love County	2.83	171		Pn	17 21 16.0	-0.2
HHAR	Hobbs	3.10	98		Pn	17 21 20.5	+0.6
HHAR				IAmb_Lg		17 22 16.4	
	comp=Z,24nm,0.8s						
AMTX	Amarillo	3.73	240	IAmb_Lg		17 22 32.7	
	comp=Z,23nm,0.8s						
MIAR	Mount Ida	4.06	122	IAmb_Lg		17 22 47.9	
	comp=Z,30nm,0.8s						
FW07	Weatherford	4.08	181	IAmb_Lg		17 22 47.3	
	comp=Z,24nm,0.9s						
P38A	Dawn	4.35	48	IAmb_Lg		17 22 50.0	
	comp=Z,31nm,0.8s						
ABTX	Abilene, Hawle	4.45	201	IAmb_Lg		17 22 59.0	
	comp=Z,16nm,1.0s						
FCAR	Ozark Folk Cen	4.62	100	IAmb_Lg		17 22 56.1	
	comp=Z,39nm,1.0s						
BGNE	Belgrade	4.62	356	IAmb_Lg		17 22 59.3	
	comp=Z,25nm,0.7s						
WHAR	Wooly Hollow	4.66	107	IAmb_Lg		17 22 57.5	
	comp=Z,23nm,0.8s						
WLAR	White Oak Lake	4.89	128	IAmb_Lg		17 23 13.1	
	comp=Z,20nm,0.7s						
CCM	Cathedral Cave	5.32	74	IAmb_Lg		17 23 25.9	
	comp=Z,32nm,1.1s						
OGNE	Ogallala	5.33	322	IAmb_Lg		17 23 27.6	
	comp=Z,30nm,0.7s						
BRDY	Brady	5.59	191	IAmb_Lg		17 23 35.0	
	comp=Z,10nm,0.7s						
SGCY	Sterling City	5.62	211	IAmb_Lg		17 23 38.1	
	comp=Z,20nm,1.1s						
CGM3	Cape Girardeau	6.48	83	IAmb_Lg		17 23 58.2	
	comp=Z,14nm,0.9s						

BUC 15 17:38:08.5±0.4, 45°.75N×26°.57E, h121km±2km, ml2.8/12, 29C-12D, Error ellipse: s-maj=3.4km s-min=2.2km az=8.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	Plostina	0.12	28	↑P	Pn	17 38 25.5	+0.4
PLOR				↓S	Sn	17 38 38.4	+0.8
PLOR	Plostina	0.12	28	↑P	Pn	17 38 25.5	+0.4
PLOR				↓S	Sn	17 38 38.4	+0.8
SPBR	Spulber	0.13	89	↑P	Pn	17 38 25.6	+0.5
SPBR	Spulber	0.13	89	↑P	Pn	17 38 25.4	+0.3
VRI	Vrincioaia	0.16	43	↑P	Pn	17 38 25.6	+0.5
VRI				↑S	Sn	17 38 38.4	+0.8
VRI	Vrincioaia	0.16	43	↑P	Pn	17 38 25.6	+0.5
VRI				↑S	Sn	17 38 38.4	+0.8
ODBI	Odobesti	0.34	87	↑P	Pn	17 38 26.2	+0.6
ODBI				↑S	Sn	17 38 40.2	+1.6
ODBI	Odobesti	0.34	87	↑P	Pn	17 38 26.2	+0.6
ODBI				↓S	Sn	17 38 39.6	+1.0
PANC	Panciu	0.42	73	↓P	Pn	17 38 26.3	+0.3
PANC				↑S	Sn	17 38 40.1	+0.8
MLR	Muntele Rosu	0.51	240	↑P	Pn	17 38 26.7	0.0
MLR				↓S	Sn	17 38 40.5	0.0
ISR	Istrita	0.63	182	↑S	Sn	17 38 42.8	+1.1
ISR	Istrita	0.63	182	↑S	Sn	17 38 42.1	+0.4
OZUR		0.65	303	↑P	Pn	17 38 27.5	-0.1
OZUR				↑S	Sn	17 38 41.8	-0.2
OZUR		0.65	303	↑P	Pn	17 38 27.5	-0.1
OZUR				↑S	Sn	17 38 42.1	+0.1
TESR	Tescani	0.77	4	↑P	Pn	17 38 28.6	+0.2
TESR				↓S	Sn	17 38 43.0	-0.5
DOPR	Dopca	0.85	285	↑P	Pn	17 38 29.6	+0.4
DOPR				↑S	Sn	17 38 45.0	+0.1
IZVR	Izvoarele	0.86	103	↓S	Sn	17 38 44.5	-0.4
BIR	Birlad	0.90	54	↓S	Sn	17 38 45.5	-0.1
VARL	Varlezi	0.91	80	↓S	Sn	17 38 46.1	+0.5
SCHLR	Schela	0.93	107	↑S	Sn	17 38 46.0	+0.1
VLDR	Vladesti	1.06	84	↓P	Pn	17 38 31.5	+0.4
VLDR				↑S	Sn	17 38 48.2	-0.1
VOIR		1.11	254	↑P	Pn	17 38 31.8	+0.1
VOIR				↑S	Sn	17 38 48.4	-0.9
VOIR		1.11	254	↑P	Pn	17 38 31.8	+0.1
CFR	Carcaliu	1.24	117	↓P	Pn	17 38 32.8	-0.2
ICOR	Ion Corvin	1.85	151	↓P	Pn	17 38 39.8	-0.3
MILM	Milestii Mici	1.95	52	↑S	Sn	17 39 05.2	-1.1
SIRR	Siria	3.46	280	↑S	Sn	17 39 40.6	-0.7

DJA 15 17:54:11.7±0.5, 1°.N±4°.×12°.2E±°, h78km±7km, M3.7/10, mb3.8/2, MLv3.6/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	1.80	177	P	Pn	17 54 42.1	+1.2
LUWI	Luwuk	2.29	147	P	Pn	17 54 48.2	+0.8
LUWI				S	Sn	17 55 16.5	+1.7
KMSI	Cibinong	2.46	98	P	Pn	17 54 48.3	-1.4
PCI	Palu	2.47	224	P	Pn	17 54 48.6	-1.3
TTSI	Tana Toraja	4.28	204	P	Pn	17 55 14.2	-0.3
KDI	Kendari	4.94	167	P	Pn	17 55 22.9	-0.6
BNSI	Bone	5.46	195	P	Pn	17 55 31.0	+0.5

*IDC **15** 17:59:02.0±1.0, 35°.05N×81°.03E, h0km, mb3.5/6, mbtmp3.5/11, ML2.8/5, Error ellipse: s-maj=31.6km s-min=17.1km az=67.0*

ISC 15 17:59:04.2±1.0, 35°.16N±0°.10×81°.3E±0°.1, h10km, n11, σ1§48/12, mb3.5/6, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	9.15	327	Pn	Pn	18 01 18.4	+2.0
	0.1nm,0.3s,baz=168,slow=9.3,SNR=3.0						
AAK				Lg	Lg	18 03 40.2	
	0.2nm,0.3s,baz=41,slow=19,SNR=3.7						
	1.8nm,0.9s						
MKAR	Makanchi Array	11.65	3	Pn	Pn	18 01 50.0	-0.5
	0.1nm,0.3s,baz=185,slow=13,SNR=2.3						
MKAR				Sn	Sn	18 03 59.5	-1.1
	0.1nm,0.3s,baz=192,slow=27,SNR=2.1						
	1.1nm,0.5s						
KURBB	Kurchatov Arra	15.59	353	Pn	Pn	18 02 42.1	-1.7
	baz=176,slow=12,SNR=4.0						
	0.5nm,0.7s						
ZALV	Zalesovo Beam	18.95	6	P	P	18 03 25.9	+0.6
	0.1nm,0.3s,baz=190,slow=15,SNR=3.5						
	0.4nm,0.4s						
BVAR	Borovoye Array	19.46	340	P	P	18 03 31.5	+0.6
	baz=146,slow=11,SNR=5.6						
	0.7nm,0.5s						
SONM	Songino Array	22.56	48	P	P	18 04 07.3	+2.7
	0.5nm,0.7s,baz=241,slow=11,SNR=2.9						
	0.5nm,0.7s						
CMAR	Chiang Mai Arr	22.85	132	P	P	18 04 07.8	+0.1
	0.5nm,0.7s,baz=308,slow=11,SNR=6.2						
	0.5nm,0.7s						
ILAR	Eielson Array	73.52	19	P	P	18 10 36.2	-0.6
	0.3nm,0.8s,baz=324,slow=4.5,SNR=2.8						
	0.3nm,0.8s						
TORD	Torodi Ar. Bea	74.11	275	P	P	18 10 39.2	-1.8
	0.7nm,0.9s,baz=38,slow=7.5,SNR=4.4						
	0.7nm,0.9s						
WRA	Warramunga Arr	74.40	129	P	P	18 10 42.5	0.0
	0.4nm,0.6s,baz=327,slow=5.7,SNR=3.7						
	0.4nm,0.6s						
ASAR	Alice Springs	76.86	132	P	P	18 10 56.7	+0.1
	0.4nm,0.5s,baz=316,slow=5.6,SNR=15						
	0.4nm,0.5s						

NOU 15 18:03:47.6, 22°.43S×172°.95E, h118km, mb3.7/9, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	4.66	281	P	Pn	18 04 56.3	+0.3
PINNC	Pines Island,	5.09	267	P	Pn	18 05 01.8	+0.1
LIFNC	LIFOU	5.56	286	P	Pn	18 05 08.0	-0.1
YATNC	Mamie plateau,	5.62	273	P	Pn	18 05 08.1	-0.9
OUENC	Ouen Island, N	5.65	269	P	Pn	18 05 09.4	+0.1
ONTNC	Ouen Toro	6.01	270	P	Pn	18 05 14.7	+0.5
DZM	Mont Dzumac	6.04	272	P	Pn	18 05 14.6	0.0
NOUC	Port Laguerre	6.17	272	P	Pn	18 05 16.6	+0.3

*UPP **15** 18:06:44.0±0.1, 67°.06N×20°.98E, h0km, ML2.6, Unknown*
*IDC **15** 18:06:45.4±0.8, 67°.01N×21°.28E, h0km, mbtmp3.3/5, ML2.1/5, Error ellipse: s-maj=14.4km s-min=7.0km az=111.0*
*HEL **15** 18:06:45.2±0.2, 67°.08N×21°.08E, h0km, ML2.2, Explosion*

ISC 15 18:06:44.3±0.7, 67°.06N±0°.02×20°.96E±0°.02, h0km, n44, σ1§20/68, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.16	291	P	Pg	18 06 47.5	+0.1
DUNU				S	Sg	18 06 50.1	+0.6
ERTU	Ertsjaerv	0.71	136	PG	Pg	18 06 57.1	-0.7
	baz=317						
ERTU				SG	Sb	18 07 10.5	+0.8
PAJU	Pajala	0.84	92	P	Pg	18 06 59.8	-0.6
PAJU	Pajala	0.84	92	PG	Pg	18 06 59.7	-0.8
PAJU				SB	Sg	18 07 10.0	-1.3
HARU	Harads	0.91	180	P	Pg	18 07 00.8	-0.8
KUA	Kurravaara	0.93	345	P	Pg	18 07 01.4	-0.6
RATU	Laukkuluspa	0.93	326	P	Pg	18 07 01.4	-0.6
SALU	Saltoluokta	1.01	289	P	Pg	18 07 03.1	-0.4
LANU	Lannavaara	1.06	21	P	Pg	18 07 04.0	-0.6
LANU	Lannavaara	1.06	21	PG	Pg	18 07 03.6	-1.1
LANU				SN	Sn	18 07 21.5	-0.5
KLF	Kolari	1.19	80	PG	Pg	18 07 06.1	-0.9
KLF				MSG		18 07 19.7	
	comp=Z,26nm,0.2s						
KLF				SG	Sg	18 07 20.3	-2.0
KOVU	Salmi	1.20	346	P	Pg	18 07 06.8	-0.5
KALU	Kalix	1.55	140	P	Pn	18 07 12.4	-0.6
KALU	Kalix	1.55	140	PG	Pn	18 07 12.1	-0.9
	baz=325						
SJUU	Sjulsmark	1.58	170	P	Pn	18 07 12.9	-0.6
TOF	Tornio	1.67	125	PG	Pn	18 07 14.6	-0.1
TOF				MSG		18 07 34.5	
	comp=Z,24nm,0.2s						
TOF				SN	Sb	18 07 38.4	+1.1
HEF	Hetta	1.70	36	*e*P	Pn	18 07 15.2	+0.1
HEF	Hetta	1.70	36	PG	Pn	18 07 14.8	-0.3
	baz=213						
HEF				MSG		18 07 34.7	
	comp=Z,28nm,0.2s						
HEF				SN	Sg	18 07 40.3	+1.6
KIF	Kilpisjarvi	1.95	358	*e*P	Pb	18 07 20.2	-0.4
RNF	Rovaniemi	2.05	101	PG	Pn	18 07 20.8	+0.9
RNF				SG	Sb	18 07 48.8	+0.5
KTK1	Kautokeino	2.14	23	PG	Pb	18 07 22.5	-1.3
KTK1				SG	Sg	18 07 52.5	-0.3
RANF	Ranua	2.56	112	PB	Pn	18 07 27.4	+0.4
	baz=301						
RANF				SG	Sb	18 08 03.8	+0.9
TRO	Tromso	2.69	345	PG	Pb	18 07 33.9	+0.7
TRO				SB	Sb	18 08 06.1	-0.5
OBF4	Vikkela, Lumij	2.83	141	PB	Pn	18 07 32.1	+1.5
	baz=323						
OBF4				MSG		18 08 07.9	
	comp=Z,6.6nm,0.2s						
OUL	Oulu	2.83	132	PN	Pn	18 07 31.9	+1.3
OUL				SG	Sb	18 08 13.7	+3.0
OBF0	Syolatti, Pyha	2.91	151	PB	Pn	18 07 33.6	+1.8
OBF0				MSG		18 08 10.4	
	comp=Z,7.1nm,0.2s						
ARCES	ARCESS Array B	3.00	32	Pn	Pn	18 07 33.9	+0.8
	comp=Z,0.2nm,0.3s,baz=215,slow=14,SNR=32						
ARCES				Sn	Sn	18 08 09.7	0.0
	comp=Z,0.6nm,0.3s,baz=214,slow=19,SNR=10						
	comp=Z,1.3nm,0.2s						
KMNF	Kaamanen	3.08	44	PN	Pn	18 07 34.4	+0.3
KMNF				SB	Sn	18 08 12.3	+0.7
OUF	Merijarvi	3.12	148	PN	Pn	18 07 35.8	+1.1
	baz=337						
OUF				MSG		18 08 16.7	
	comp=Z,5.9nm,0.2s						
RAJF	Raja-Jooseppi	3.13	60	PB	Pn	18 07 36.8	+2.0
RAJF				SG	Sb	18 08 18.3	-1.2
UMAU	Umeaa	3.20	182	PN	Pn	18 07 36.6	+0.9
UMAU				SB	Sb	18 08 19.4	-1.8
VRF	Varrio	3.41	74	PN	Pn	18 07 39.2	+0.6
VRF				SG	Sb	18 08 27.4	0.0
OLKF	Oulanka, Finla	3.44	99	PN	Pn	18 07 40.6	+1.6
OLKF				SN	Sn	18 08 21.2	+0.9
KEV

$M_{\theta\theta}$-1.26±.18; $M_{\phi\phi}$1.27±.17; $M_{r\theta}$-1.93±.08; $M_{r\phi}$0.99±.11; $M_{\theta\gamma}$-0.56±.08; Best double couple: $M_0$2.55700×10^{16} NP1:ϕ_s66.00000°, δ89.00000°, λ-51.00000°. NP2: ϕ_s157.00000°, δ39.00000°, λ-179.00000°. Principal axes: T 2.3890, Plg33.0000°, Azm124.0000°; N 0.3330, Plg39.0000°, Azm246.0000°; P -2.7250, Plg34.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 15 18:13:25.0±0.4, **53.79N**±0.05×**166.23W**±0.03, **h83**km±3km, **n573**, σ1.9**35**/508, **mb4.6**/110, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase Id Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.17**	**288**		**Pn**	**18 13 37.1**	**+0.1**
UNV					**Sn**	**18 13 45.9**	**0.0**
UNV	**Unalaska Valle**	**0.17**	**288**	P	**Pn**	**18 13 37.1**	**+0.1**
	baz=106						
UNV				S	**Sn**	**18 13 45.7**	**-0.2**
	baz=106						
MREP	**Makushin Rep't**	**0.31**	**274**		**Pn**	**18 13 38.1**	**+0.4**
MTBL	**Makushin Table**	**0.32**	**304**		**Pn**	**18 13 38.3**	**+0.5**
MTBL					**Sn**	**18 13 48.2**	**+0.9**
AKMO	**Akutan Morgan**	**0.33**	**23**		**Pn**	**18 13 38.2**	**+0.4**
AKMO					**Sn**	**18 13 47.7**	**+0.4**
ZRO	**Akutan Zero**	**0.34**	**26**		**Pn**	**18 13 38.2**	**+0.4**
ZRO					**Sn**	**18 13 47.9**	**+0.5**
MSW	**Makushin Switc**	**0.35**	**291**		**Pn**	**18 13 38.2**	**+0.2**
MSW					**Sn**	**18 13 48.2**	**+0.6**
AKRB	**Akutan Reef Bi**	**0.35**	**16**		**Pn**	**18 13 38.4**	**+0.4**
AKRB					**Sn**	**18 13 48.3**	**+0.8**
AKBBA	**Akutan Broad B**	**0.35**	**30**		**Pn**	**18 13 38.3**	**+0.3**
AKBBA					**Sn**	**18 13 47.7**	**+0.1**
AKV	**Akutan Volcano**	**0.37**	**25**		**Pn**	**18 13 38.5**	**+0.3**
MGOD	**Makushin Gods**	**0.38**	**271**		**Pn**	**18 13 38.6**	**+0.4**
MGOD					**Sn**	**18 13 48.4**	**+0.5**
LVA	**Lava Point**	**0.39**	**17**	Pn	**Pn**	**18 13 38.5**	**+0.2**
AHB	**Akutan Harbor**	**0.41**	**37**		**Pn**	**18 13 38.6**	**+0.3**
MAPS	**Pakushin South**	**0.42**	**273**		**Sn**	**18 13 48.9**	**+0.5**
AKGG	**Akutan Green G**	**0.43**	**19**		**Pn**	**18 13 39.0**	**+0.5**
AKGG					**Sn**	**18 13 49.0**	**+0.5**
AKSA	**Akutan Strait**	**0.47**	**42**		**Sn**	**18 13 48.8**	**-0.2**
WECS	**Westdahl Cape**	**1.13**	**48**		**Pn**	**18 13 46.7**	**+0.9**
OKNC	**Okmok New Cone**	**1.18**	**254**		**Pn**	**18 13 47.1**	**+0.7**
OKNC					**Sn**	**18 14 03.3**	**+0.9**
WEBT	**Westdahl Beart**	**1.18**	**47**		**Sn**	**18 14 03.3**	**+0.8**
OKRE	**Okmok R'deer P**	**1.18**	**257**		**Pn**	**18 13 47.1**	**+0.7**
WESE	**West Dahl East**	**1.18**	**54**		**Pn**	**18 13 47.1**	**+0.6**
SSLW	**Shishaldin Wes**	**1.58**	**51**		**Pn**	**18 13 52.4**	**+0.9**
ISLZ	**Isanotski Laza**	**1.75**	**57**		**Pn**	**18 13 54.6**	**+0.9**
NIKH	**Nikolski High**	**1.77**	**243**		**Pn**	**18 13 54.7**	**+0.7**
NIKH	**Nikolski High**	**1.77**	**243**	P	**Pn**	**18 13 54.7**	**+0.7**
	baz=61,SNR=17						
NIKH				S	**Sn**	**18 14 17.0**	**+1.1**
	baz=61						
FALS	**False Pass**	**1.96**	**56**		**Pn**	**18 13 57.6**	**+1.2**
FALS	**False Pass**	**1.96**	**56**	P	**Pn**	**18 13 57.6**	**+1.2**
	baz=238,SNR=234						
FALS				S	**Sn**	**18 14 20.7**	**+0.4**
	baz=238						
CLCO	**Concord Point,**	**2.33**	**246**		**Pn**	**18 14 02.9**	**+1.6**
S12K	**Black Hills**	**3.08**	**50**	Pn	**Pn**	**18 14 12.2**	**+0.7**
S12K				IAML		18 15 05.6	
	comp=N,2μm,0.7s						
S12K				IAML		18 15 07.7	
	comp=E,2μm,0.7s						
S12K	**Black Hills**	**3.08**	**50**	P	**Pn**	**18 14 12.6**	**+1.2**
	baz=233,SNR=28						
S12K				S	**Sn**	**18 14 48.2**	**+0.9**
	baz=233						
P08K	**Saint George I**	**3.40**	**327**		**Pn**	**18 14 16.8**	**+1.2**
P08K				IAML		18 15 24.6	
	comp=E,938nm,1.2s						
P08K	**Saint George I**	**3.40**	**327**	P	**Pn**	**18 14 16.6**	**+1.0**
	baz=144						
P08K				S	**Sn**	**18 14 55.4**	**+0.6**
	baz=144						
P08K				S	**Sn**	**18 14 55.4**	**+0.6**
	baz=144						
CNBA	**Chernabura Isl**	**4.03**	**72**		**Pn**	**18 14 24.5**	**+0.3**
CNBA	**Chernabura Isl**	**4.03**	**72**	IAML		18 15 28.5	
	comp=E,865nm,0.6s						
CNBA				IAML		18 15 29.0	
	comp=N,990nm,0.6s						
CHNA	**Chernabura Isl**	**4.03**	**72**	P	**Pn**	**18 14 24.2**	**0.0**
	baz=258						
SPIA	**Saint Paul Isl**	**4.09**	**328**		**Pn**	**18 14 26.9**	**+1.9**
SPIA	**Saint Paul Isl**	**4.09**	**328**	P	**Pn**	**18 14 25.8**	**+0.7**
	baz=144,SNR=8.0						
SPIA				S	**Sn**	**18 15 12.8**	**+1.1**
	baz=144						
S14K	**Fog Glacier**	**4.58**	**54**	P	**Pn**	**18 14 32.3**	**+0.4**
	baz=240						
KOFP	**Korovin Flat P**	**4.99**	**255**		**Pn**	**18 14 40.1**	**+2.8**
ATKA	**Atka Island**	**5.07**	**255**	Pn	**Pn**	**18 14 40.1**	**+1.8**
CHGN	**Chignik**	**5.15**	**58**	Pn	**Pn**	**18 14 39.2**	**-0.3**
CHGN				IAML		18 16 05.1	
	comp=N,673nm,1.2s						
CHGN	**Chignik**	**5.15**	**58**	P	**Pn**	**18 14 40.2**	**+0.7**
	baz=244						
O14K	**Tigyukauivet M**	**6.12**	**25**	Pn	**Pn**	**18 14 55.2**	**+2.5**
O14K	**Tigyukauivet M**	**6.12**	**25**	P	**Pn**	**18 14 54.0**	**+1.2**
	baz=209,SNR=13						
R16K	**Pilot Point**	**6.19**	**49**	P	**Pn**	**18 14 54.1**	**+0.5**
	baz=236						
GSMY	**Great Sitkin M**	**6.20**	**258**		**Pn**	**18 14 56.0**	**+2.2**
O15K	**Ungalikthiuk R**	**6.46**	**31**		**Pn**	**18 14 59.3**	**+2.0**
O15K	**Ungalikthiuk R**	**6.46**	**31**	P	**Pn**	**18 14 58.7**	**+1.4**
	baz=216,SNR=22						
O15K				S	**Sn**	**18 16 10.6**	**+1.1**
	baz=216						
CHIR	**Chirikof Islan**	**6.46**	**67**	Pn	**Pn**	**18 14 57.3**	**0.0**
CHIR	**Chirikof Islan**	**6.46**	**67**	P	**Pn**	**18 14 58.4**	**+1.1**
	baz=256						
M11K	**Mekoryuk**	**6.61**	**0**	Pn	**Pn**	**18 14 57.9**	**-1.5**
M11K	**Mekoryuk**	**6.61**	**0**	P	**Pn**	**18 15 01.0**	**+1.6**
	baz=180,SNR=5.4						
M11K				S	**Sn**	**18 16 13.7**	**+0.6**
	baz=180						
ADK	**Adak**	**6.62**	**257**	Pn	**Pn**	**18 15 01.1**	**+1.5**
N14K	**Kuskokwak Cree**	**6.63**	**20**		**Pn**	**18 15 01.8**	**+2.1**
N14K	**Kuskokwak Cree**	**6.63**	**20**	P	**Pn**	**18 15 01.9**	**+2.2**
	baz=204						
R17L	**Mt. Peulik Vol**	**6.77**	**51**	P	**Pn**	**18 15 03.8**	**+2.1**
	baz=240,SNR=30						
PLK4	**Peulik 4**	**6.78**	**51**	Pn	**Pn**	**18 15 03.8**	**+2.1**
M13K	**Dall Lake**	**6.82**	**12**	Pn	**Pn**	**18 15 05.0**	**+2.8**
M13K	**Dall Lake**	**6.82**	**12**	P	**Pn**	**18 15 05.3**	**+3.1**
	baz=194,SNR=22						
PLK3	**Peulik 3**	**6.84**	**51**		**Pn**	**18 15 04.9**	**+2.3**
PLK2	**Peulik 2**	**6.86**	**51**		Pn	18 15 07.5	+4.7
KIWB	**Kanaga Island**	**6.90**	**258**		**Pn**	**18 15 04.3**	**+1.0**
P16K	**Nushagak River**	**6.96**	**38**	P	**Pn**	**18 15 06.1**	**+2.0**
	baz=224,SNR=8.6						
N15K	**Kwethluk River**	**7.22**	**25**		**Pn**	**18 15 10.4**	**+2.7**
N15K	**Kwethluk River**	**7.22**	**25**	P	**Pn**	**18 15 10.4**	**+2.7**
	baz=210,SNR=63						
N15K				S	**Sn**	**18 16 29.5**	**+1.5**
	baz=210						
Q16K	**King Salmon**	**7.24**	**44**	P	**Pn**	**18 15 10.4**	**+2.5**
	baz=232,SNR=14						
Q17K	**Contact Creek**	**7.32**	**48**	P	**Pn**	**18 15 10.8**	**+1.6**
	baz=237,SNR=25						
O16K	**Kokwok River B**	**7.34**	**34**		**Pn**	**18 15 11.6**	**+2.3**
O16K	**Kokwok River B**	**7.34**	**34**	P	**Pn**	**18 15 11.4**	**+2.1**
	baz=221,SNR=60						
O16K				S	**Sn**	**18 16 32.3**	**+1.4**
	baz=221						
M14K	**Bethel**	**7.35**	**17**	Pn	**Pn**	**18 15 11.5**	**+2.1**
M14K	**Bethel**	**7.35**	**17**	P	**Pn**	**18 15 11.5**	**+2.1**
	baz=200,SNR=22						
M14K				S	**Sn**	**18 16 32.6**	**+1.4**
	baz=200						
SII	**Sitkinak Islan**	**7.43**	**63**		**Pn**	**18 15 06.7**	**-3.9**
SII	**Sitkinak Islan**	**7.43**	**63**	P	**Pn**	**18 15 11.8**	**+1.2**
	baz=253						
ANCK	**Angle Creek**	**7.46**	**49**		**Pn**	**18 15 12.6**	**+1.5**
M15K	**Kasigluk River**	**7.54**	**21**		**Pn**	**18 15 13.7**	**+1.6**
M15K	**Kasigluk River**	**7.54**	**21**	P	**Pn**	**18 15 14.0**	**+2.0**
	baz=206,SNR=30						
M15K				S	**Sn**	**18 16 36.1**	**+0.2**
	baz=206						
ACHA	**Angle Creek He**	**7.54**	**50**	Pn	**Pn**	**18 15 14.0**	**+1.8**
R18K	**Karluk**	**7.66**	**56**	P	**Pn**	**18 15 15.2**	**+1.6**
	baz=245						
R18K				S	**Sn**	**18 16 37.7**	**-1.0**
	baz=245						
R18K				S	**Sn**	**18 16 37.7**	**-1.0**
	baz=245						
P17K	**Kvichak River**	**7.66**	**41**		**Pn**	**18 15 17.1**	**+3.5**
P17K	**Kvichak River**	**7.66**	**41**	P	**Pn**	**18 15 15.7**	**+2.1**
	baz=229,SNR=18						
L14K	**Kuka Creek**	**7.81**	**13**		**Pn**	**18 15 17.8**	**+2.2**
L14K	**Kuka Creek**	**7.81**	**13**	P	**Pn**	**18 15 18.0**	**+2.4**
	baz=196						
L14K				S	**Sn**	**18 16 42.8**	**+0.5**
	baz=196						
O17K	**Koliganek Bris**	**7.81**	**36**		**Pn**	**18 15 18.2**	**+2.4**
O17K	**Koliganek Bris**	**7.81**	**36**	P	**Pn**	**18 15 17.6**	**+1.8**
	baz=224,SNR=37						
O17K				S	**Sn**	**18 16 43.1**	**+0.6**
	baz=224						
N16K	**Nishlik Lake**	**7.83**	**28**		**Pn**	**18 15 18.7**	**+2.8**
N16K	**Nishlik Lake**	**7.83**	**28**	P	**Pn**	**18 15 18.8**	**+2.8**
	baz=214						
N16K				S	**Sn**	**18 16 44.5**	**+1.6**
	baz=214						
Q18K	**Katmai Hardscr**	**7.92**	**48**	P	**Pn**	**18 15 18.7**	**+1.4**
	baz=237,SNR=22						
KAHG	**Katmai Hook Gl**	**8.04**	**49**		**Pn**	**18 15 21.8**	**+2.8**
OHAK	**Old Harbor**	**8.11**	**60**		**Pn**	**18 15 18.3**	**-1.5**
OHAK	**Old Harbor**	**8.11**	**60**	P	**Pn**	**18 15 20.4**	**+0.5**
	baz=250						
K13K	**Kusilvak Mount**	**8.21**	**5**		**Pn**	**18 15 23.8**	**+2.7**
K13K	**Kusilvak Mount**	**8.21**	**5**	P	**Pn**	**18 15 24.0**	**+2.8**
	baz=186,SNR=18						
K13K				S	**Sn**	**18 16 52.9**	**+0.8**
	baz=186						
M16K	**Timber Creek**	**8.24**	**25**		**Pn**	**18 15 23.4**	**+1.8**
M16K	**Timber Creek**	**8.24**	**25**	P	**Pn**	**18 15 23.4**	**+1.8**
	baz=212,SNR=20						
P18K	**Big Mountain,**	**8.26**	**43**	Pn	**Pn**	**18 15 24.3**	**+2.3**
P18K	**Big Mountain,**	**8.26**	**43**	P	**Pn**	**18 15 24.0**	**+2.1**
	baz=232,SNR=19						
P18K				S	**Sn**	**18 16 54.4**	**+0.9**
	baz=232						
L15K	**Ungalak Mounta**	**8.30**	**16**		**Pn**	**18 15 24.4**	**+2.0**
L15K	**Ungalak Mounta**	**8.30**	**16**	P	**Pn**	**18 15 24.6**	**+2.1**
	baz=200,SNR=16						
L15K				S	**Sn**	**18 16 56.0**	**+1.6**
	baz=200						
N17K	**Nushagak Hills**	**8.34**	**32**	Pn	**Pn**	**18 15 23.5**	**+0.5**
N17K	**Nushagak Hills**	**8.34**	**32**	P	**Pn**	**18 15 25.4**	**+2.3**
	baz=220,SNR=37						
N17K				S	**Sn**	**18 16 56.4**	**+0.9**
	baz=220						
O18K	**Koktuh Hills**	**8.56**	**40**	Pn	**Pn**	**18 15 29.1**	**+3.0**
O18K	**Koktuh Hills**	**8.56**	**40**	P	**Pn**	**18 15 27.7**	**+1.6**
	baz=230,SNR=22						
O18K				S	**Sn**	**18 17 01.8**	**+1.0**
	baz=230						
O18K				S	**Sn**	**18 17 01.8**	**+1.0**
	baz=230						
KDAK	**Kodiak Island**	**8.66**	**57**	P	**Pn**	**18 15 26.3**	**-1.0**
	comp=N,22nm,0.5s,baz=270,slow=3.0,SNR=46						
KDAK				S	**Sn**	**18 16 56.0**	**-7.2**
	comp=N,26nm,0.8s,baz=309,slow=17,SNR=1.9						
KDAK	**Kodiak Island**	**8.66**	**57**	P	**Pn**	**18 15 26.4**	**-0.9**
	baz=248						
Q19K	**Cape Douglas,**	**8.67**	**49**		**Pn**	**18 15 28.1**	**+0.5**
Q19K	**Cape Douglas,**	**8.67**	**49**	P	**Pn**	**18 15 28.0**	**+0.5**
	baz=239						
L16K	**Owhat River**	**8.72**	**22**	Pn	**Pn**	**18 15 29.1**	**+1.0**
L16K	**Owhat River**	**8.72**	**22**	P	**Pn**	**18 15 29.6**	**+1.5**
	baz=207,SNR=22						
K15K	**Wolf Creek Mou**	**8.88**	**14**		**Pn**	**18 15 33.0**	**+2.7**
K15K	**Wolf Creek Mou**	**8.88**	**14**	P	**Pn**	**18 15 33.0**	**+2.7**
	baz=198,SNR=42						
N18K	**Kilae Creek**	**8.89**	**35**		**Pn**	**18 15 31.9**	**+1.4**
N18K	**Kilae Creek**	**8.89**	**35**	P	**Pn**	**18 15 31.9**	**+1.4**
	baz=224,SNR=9.6						
M17K	**Holitna River**	**8.96**	**28**	P	**Pn**	**18 15 32.6**	**+1.1**
	baz=216,SNR=22						
Q20K	**Shuyak Island**	**9.09**	**52**	P	**Pn**	**18 15 33.7**	**+0.5**
	baz=244,SNR=22						
J14K	**Nanvaranak Lak**	**9.09**	**8**		**Pn**	**18 15 35.6**	**+2.4**
J14K	**Nanvaranak Lak**	**9.09**	**8**	P	**Pn**	**18 15 34.7**	**+1.6**
	baz=190,SNR=11						
SYI	**Shuyak Island**	**9.09**	**52**		**Pn**	**18 15 35.3**	**+2.1**
O19K	**Port Alsworth**	**9.12**	**41**	P	**Pn**	**18 15 36.0**	**+2.4**
	baz=230,SNR=7.2						
P19K	**Oil Pt**	**9.24**	**45**	P	**Pn**	**18 15 37.1**	**+1.9**
	baz=236						
L17K	**Donlin**	**9.36**	**24**	P	**Pn**	**18 15 38.3**	**+1.5**
	baz=210,SNR=17						
ILSW	**Iliamna Southw**	**9.46**	**44**		**Pn**	**18 15 42.0**	**+3.6**
N19K	**Bonanza Creek**	**9.47**	**37**	P	**Pn**	**18 15 39.6**	**+1.2**
	baz=227,SNR=30						
ILS	**Iliamna Low So**	**9.48**	**44**		**Pn**	**18 15 42.7**	**+4.1**
M18K	**Stony River**	**9.51**	**32**	P	**Pn**	**18 15 40.8**	**+1.9**
	baz=220,SNR=23						
O20K	**Slope Mountain**	**9.73**	**44**		Pn	18 15 46.9	+4.9
O20K	**Slope Mountain**	**9.73**	**44**	P	**Pn**	**18 15 43.9**	**+1.9**
	baz=236,SNR=9.6						
L18K	**Granite Mounta**	**9.84**	**27**	P	**Pn**	**18 15 44.7**	**+1.3**
	baz=215,SNR=14						
K17K	**Iditarod**	**9.87**	**22**	P	**Pn**	**18 15 45.6**	**+1.9**
	baz=208						
J16K	**Anvik River**	**9.96**	**15**	P	**Pn**	**18 15 46.3**	**+1.3**
	baz=200,SNR=7.1						
CNPM	**China Poot**	**10.04**	**49**	Pn	**Pn**	**18 15 46.0**	**-0.2**
M19K	**Big River Lodg**	**10.28**	**33**	P	**Pn**	**18 15 51.7**	**+2.4**
	baz=223						
J17K	**VABM Dome**	**10.32**	**18**	P	**Pn**	**18 15 51.4**	**+1.5**
	baz=204,SNR=32						
L19K	**White Mountain**	**10.34**	**31**	P	**Pn**	**18 15 52.2**	**+2.0**
	baz=221,SNR=28						
BRSE	**Bradley Lake S**	**10.37**	**49**	P	**Pn**	**18 15 51.8**	**+1.2**
	baz=242						
GAMB	**Gambell**	**10.40**	**346**	P	**Pn**	**18 15 53.5**	**+2.5**
	baz=162						
I17K	**Unalakleet**	**10.52**	**14**	P	**Pn**	**18 15 54.1**	**+1.5**
	baz=198						
N20K	**Mount Spurr**	**10.57**	**40**	P	**Pn**	**18 15 55.7**	**+2.4**
	baz=232,SNR=14						
SPCR	**Spurr Chakacha**	**10.57**	**40**	P	**Pn**	**18 15 55.9**	**+2.5**
	baz=232,SNR=9.2						
TTA	**Tatalina**	**10.60**	**26**	P	**Pn**	**18 15 54.7**	**+0.8**
	baz=215,SNR=15						
M20K	**Styx River**	**10.68**	**35**	P	**Pn**	**18 15 56.5**	**+1.6**
	baz=226						
CAPN	**Captain Cook N**	**10.72**	**43**	P	**Pn**	**18 15 57.1**	**+1.7**
	baz=236						
ANM	**Nome**	**10.82**	**2**	P	**Pn**	**18 15 57.9**	**+1.2**
	baz=183						
L20K	**Farewell, AK**	**10.86**	**32**	P	**Pn**	**18 15 58.6**	**+1.2**
	baz=222,SNR=12						
J18K	**Innoko River**	**10.88**	**23**	P	**Pn**	**18 15 58.8**	**+1.3**
	baz=211,SNR=7.0						
H16K	**Elim**	**11.07**	**9**	P	**Pn**	**18 16 00.9**	**+0.8**
	baz=192						
SEW	**Seward**	**11.11**	**49**	P	**Pn**	**18 16 00.7**	**+0.1**
	baz=243						
O22K	**Cooper Landing**	**11.17**	**47**	P	**Pn**	**18 16 01.0**	**-0.5**
	baz=240,SNR=11						
SUA	**Susitna One**	**11.29**	**41**	P	**Pn**	**18 16 04.5**	**+1.3**
	baz=234						
G15K	**Niukluk**	**11.29**	**5**	P	**Pn**	**18 16 05.0**	**+1.9**
	baz=187						
SKT	**Skwentna**	**11.31**	**38**	P	**Pn**	**18 16 04.3**	**+0.9**
	baz=230,SNR=15						
K20K	**Telida**	**11.47**	**29**	P	**Pn**	**18 16 06.0**	**+0.4**
	baz=219,SNR=17						
RC01	**Rabbit Creek A**	**11.48**	**44**	P	**Pn**	**18 16 06.6**	**+0.9**
	baz=238						
J19K	**Poorman**	**11.59**	**24**	P	**Pn**	**18 16 08.1**	**+0.9**
	baz=213,SNR=12						
H17K	**Granite Mounta**	**11.63**	**13**	P	**Pn**	**18 16 09.7**	**+2.1**
	baz=199,SNR=9.0						
M22K	**Willow**	**11.70**	**41**	P	**Pn**	**18 16 10.8**	**+2.2**
	baz=234,SNR=5.5						
PPLA	**Purkeypile**	**11.70**	**33**	P	**Pn**	**18 16 11.5**	**+2.6**
	baz=225,SNR=8.6						
F14K	**Arctic Creek**	**11.72**	**360**	P	**Pn**	**18 16 11.2**	**+2.3**
	baz=180						
G16K	**Koyuk River**	**11.80**	**8**	P	**Pn**	**18 16 13.1**	**+3.1**
	baz=191						
TNA	**Tin City**	**11.84**	**357**	P	**Pn**	**18 16 13.6**	**+3.2**
	baz=175						
PWL	**Port Wells**	**11.96**	**47**	P	**Pn**	**18 16 13.6**	**+1.4**
	baz=242,SNR=17						
GCSA	**Galena City Sc**	**11.96**	**20**	P	**Pn**	**18 16 13.9**	**+1.7**
	baz=208,SNR=5.2						
F15K	**North Star Dit**	**11.98**	**3**	P	**Pn**	**18 16 13.5**	**+1.1**
	baz=184						
P23K	**Montague Islan**	**12.00**	**51**	P	**Pn**	**18 16 14.1**	**+1.4**
	baz=247						
PMR	**Palmer**	**12.00**	**43**	P	**Pn**	**18 16 13.3**	**+0.7**
	baz=237						
H18K	**Honhosa River**	**12.06**	**16**	P	**Pn**	**18 16 16.0**	**+2.5**
	baz=203						
G17K	**Kiwalik Mounta**	**12.07**	**11**	P	**Pn**	**18 16 15.3**	**+1.6**
	baz=196						
J20K	**Nowinta River**	**12.11**	**26**	P	**Pn**	**18 16 15.3**	**+1.1**
	baz=216,SNR=19						
CAST	**Castle Rocks**	**12.11**	**32**	P	**Pn**	**18 16 15.7**	**+1.5**
	baz=224,SNR=20						
KNK	**Knik Glacier**	**12.18**	**44**	P	**Pn**	**18 16 15.3**	**+0.2**
	baz=239						
Q23K	**Middleton Isla**	**12.29**	**55**	P	**Pn**	**18 16 17.0**	**+0.3**
	baz=251						
CHUM	**Lake Minchumin**	**12.38**	**30**	P	**Pn**	**18 16 18.9**	**+1.0**
	baz=222,SNR=15						
SML	**Sawmill**	**12.44**	**43**	P	**Pn**	**18 16 19.5**	**+0.8**
	baz=238						
GLI	**Glacier Island**	**12.50**	**48**	P	**Pn**	**18 16 19.8**	**+0.3**
	baz=244						
I20K	**Naaghedeneel**	**12.53**	**24**	P	**Pn**	**18 16 20.5**	**+0.6**
	baz=214,SNR=9.6						
M23K	**Glacier View**	**12.67**	**43**	P	**Pn**	**18 16 22.3**	**+0.4**
	baz=239,SNR=18						
G18K	**Tagagawik**	**12.71**	**14**	P	**Pn**	**18 16 23.3**	**+1.0**
	baz=201,SNR=15						
TRF	**Thorofare Moun**	**12.71**	**34**	P	**Pn**	**18 16 24.6**	**+2.1**
	baz=228						
H19K	**Roundabout Mou**	**12.74**	**19**	P	**Pn**	**18 16 23.2**	**+0.5**
	baz=207,SNR=28						
SCM	**Sheep Creek Mo**	**12.86**	**44**	P	**Pn**	**18 16 23.9**	**-0.5**
	baz=240,SNR=17						
F17K	**Baldwin Pennin**	**12.93**	**9**	P	**Pn**	**18 16 26.8**	**+1.6**
	baz=193						
WAT1	**Susitna Watana**	**12.93**	**39**	P	**Pn**	**18 16 24.5**	**-0.8**
	baz=234						
BPAW	**Bear Paw Mtn.**	**12.94**	**31**	P	**Pn**	**18 16 25.5**	**0.0**
	baz=224						
EYAK	**Cordova Ski Ar**	**12.97**	**50**	P	**Pn**	**18 16 26.4**	**+0.6**
	baz=248						
H20K	**Anotleneega Mo**	**13.03**	**21**	P	**Pn**	**18 16 26.0**	**-0.6**
	baz=211,SNR=8.0						
WAT6	**Susitna Watana**	**13.09**	**40**	P	**Pn**	**18 16 26.7**	**-0.9**
	baz=236						
G19K	**Purcell Mounta**	**13.19**	**16**	P	**Pn**	**18 16 28.6**	**0.0**
	baz=204						
F18K	**Selawik**	**13.25**	**12**	P	**Pn**	**18 16 29.8**	**+0.4**
	baz=197						
KLU	**Klutina**	**13.29**	**46**	P	**Pn**	**18 16 28.5**	**-1.5**
	baz=244,SNR=44						
MCK	**McKinley**	**13.36**	**35**	P	**Pn**	**18 16 32.4**	**+1.6**
	baz=230,SNR=9.5						
KAIM	**Kayak Island**	**13.38**	**54**	P	**Pn**	**18 16 32.0**	**+0.8**
	baz=252						
M24K	**Tolsona, Glenn**	**13.47**	**44**	P	**Pn**	**18 16 31.8**	**-0.6**
	baz=241,SNR=14						
I21K	**Tanana**	**13.47**	**26**	P	**Pn**	**18 16 32.2**	**-0.1**
	baz=219						
E17K	**Hotham Inlet**	**13.51**	**7**	P	**Pn**	**18 16 33.2**	**+0.4**
	baz=191,SNR=17						
DHY	**Denali Highway**	**13.51**	**39**	P	**Pn**	**18 16 33.4**	**+0.4**
	baz=235						
H21K	**Melozitna Rive**	**13.65**	**24**	P	**Pn**	**18 16 35.9**	**+1.3**
	baz=216,SNR=17						
BMRM	**Bremner River**	**13.65**	**50**	P	**Pn**	**18 16 34.4**	**-0.4**
	baz=248,SNR=12						
IMAR	**Indian Mountai**	**13.70**	**22**	Pn	**Pn**	**18 16 35.7**	**+0.4**
MLY	**Manley**	**13.70**	**29**	Pn	**Pn**	**18 16 34.5**	**-0.9**
MLY	**Manley**	**13.70**	**29**	P	**Pn**	**18 16 36.2**	**+0.8**
	baz=222,SNR=11						
F19K	**Shaleruckik Mo**	**13.72**	**14**	P	**Pn**	**18 16 35.7**	**+0.2**
	baz=202						
NEA2	**Nenana**	**13.89**	**32**	P	**Pn**	**18 16 38.8**	**+1.0**
	baz=227						
N25K	**Chitina, Valde**	**13.91**	**47**	P	**Pn**	**18 16 37.0**	**-1.2**
	baz=246,SNR=18						
E18K	**Tukpahlearik C**	**13.94**	**9**	P	**Pn**	**18 16 38.2**	**-0.3**
	baz=194						
BGLC	**Bering Glacier**	**13.98**	**54**	P	**Pn**	**18 16 40.1**	**+1.1**
	baz=253						
HARP	**HAARP**	**14.03**	**44**	P	**Pn**	**18 16 40.0**	**+0.4**
	baz=242						
D17K	**Noatak River**	**14.04**	**5**	P	**Pn**	**18 16 40.2**	**+0.5**
	baz=188						
PAX	**Paxson**	**14.18**	**41**	P	**Pn**	**18 16 40.8**	**-0.9**
	baz=239,SNR=13						
I23K	**Minto, Yukon-K**	**14.19**	**30**	P	**Pn**	**18 16 42.0**	**+0.4**
	baz=225						
H22K	**Ishtalitna Cre**	**14.19**	**25**	P	**Pn**	**18 16 43.1**	**+1.4**
	baz=218						
G21K	**Allakaket**	**14.20**	**21**	P	**Pn**	**18 16 42.4**	**+0.5**
	baz=212		

SCRK	Sand Creek	15.28	39	P	Pn	18 16 56.2	+0.3
	baz=238,SNR=10						
F22K	John River	15.32	21	P	Pn	18 16 56.4	+0.2
	baz=213						
M27K	Edge Creek, AK	15.39	46	Pn	Pn	18 16 56.5	-0.7
M27K	Edge Creek, AK	15.39	46	P	Pn	18 16 57.4	+0.1
	baz=247						
PINM	Pinnacle	15.45	55	P	Pn	18 16 57.9	0.0
	baz=257						
COLD	Coldfoot	15.54	24	P	Pn	18 16 59.9	+1.0
	baz=218,SNR=15						
PRP	Porcupine Dome	15.63	33	IAmb	IAmb	18 17 10.1	
	comp=Z,37nm,1.4s						
PRP	Porcupine Dome	15.63	33	P	Pn	18 17 00.9	+0.6
	baz=231,SNR=6.0						
D20K	Etivluk River	15.63	13	P	Pn	18 17 00.7	+0.5
	baz=202,SNR=14						
O28M	Mount Upton	15.64	53	P	Pn	18 17 00.7	+0.1
	baz=255,SNR=9.7						
C19K	Lookout Ridge	15.67	9	IAmb	IAmb	18 17 25.0	
	comp=Z,36nm,0.9s						
C19K	Lookout Ridge	15.67	9	P	Pn	18 17 01.4	+0.7
	baz=195						
L27K	Beaver Creek,	15.69	44	P	Pn	18 17 01.0	0.0
	baz=245						
J26L	Joseph Creek	15.71	38	P	Pn	18 17 01.5	+0.2
	baz=238						
BCAR	Beaver Creek A	15.71	44		Pn	18 17 00.9	-0.3
B18K	Kokolik River	15.76	6	P	Pn	18 17 01.9	+0.2
	baz=190						
PNL	Peninsula	15.78	57	P	Pn	18 17 01.6	-0.6
	baz=260,SNR=8.7						
YUK3	Moose Creek	15.80	49	P	Pn	18 17 02.2	-0.3
	baz=251,SNR=9.1						
G24K	Hadweenzic Riv	15.84	28	P	Pn	18 17 03.2	+0.4
	baz=224,SNR=11						
BVCY	Beaver Creek	15.85	47	P	Pn	18 17 03.0	+0.1
	baz=249,SNR=5.3						
E22K	Anaktuvuk Pass	15.93	20	P	Pn	18 17 04.7	+0.8
	baz=212,SNR=13						
YUK8	Steele Glacier	15.97	51	P	Pn	18 17 04.7	0.0
	baz=254,SNR=10						
K27K	Chicken	16.03	41	P	Pn	18 17 05.7	+0.5
	baz=242						
G25K	Bearman Lake	16.28	29	P	Pn	18 17 07.3	-0.9
	baz=227						
I26K	Coal Creek Min	16.30	36	P	Pn	18 17 08.9	+0.4
	baz=236,SNR=6.4						
C21K	Knifeblade Rid	16.31	15	P	P	18 17 10.0	-0.1
	baz=205,SNR=12						
O29M	Mount Kennedy	16.31	55	IAmb	IAmb	18 17 16.4	
	comp=Z,34nm,1.0s						
O29M	Mount Kennedy	16.31	55	P	Pn	18 17 09.4	+0.7
	baz=259						
F24K	Squaw Lake	16.33	25	P	Pn	18 17 09.7	+0.7
	baz=222,SNR=14						
E23K	Chandalar	16.34	22	P	Pn	18 17 09.4	+0.3
	baz=217						
D22K	Ayikyak River	16.40	17	P	Pn	18 17 10.3	+0.5
	baz=209						
YUK6	Outpost Mounta	16.55	53	P	Pn	18 17 11.7	-0.2
	baz=257,SNR=14						
E24K	Your Creek	16.61	24	P	P	18 17 13.2	-0.3
	baz=219						
P29M	Windy Craggy	16.61	58	IAmb	IAmb	18 17 23.5	
	comp=Z,29nm,0.7s						
P29M	Windy Craggy	16.61	58	P	Pn	18 17 13.0	+0.6
	baz=262,SNR=11						
A19K	Wainwright	16.64	6	P	Pn	18 17 13.0	+0.4
	baz=191						
EGAK	Eagle	16.74	39	P	P	18 17 14.9	0.0
	baz=241,SNR=5.6						
B21K	Ikpikpuk River	16.75	14	P	P	18 17 16.1	+1.1
	baz=204						
B20K	Meade River	16.79	11	P	P	18 17 15.5	+0.1
	baz=199						
TOLK	Toolik Lake Re	16.82	21	IAmb	IAmb	18 17 46.1	
	comp=Z,28nm,1.1s						
TOLK	Toolik Lake Re	16.82	21	P	P	18 17 15.7	0.0
	baz=216,SNR=9.0						
D23K	Nanushuk River	16.85	20	IAmb	IAmb	18 17 19.4	
	comp=Z,53nm,1.3s						
D23K	Nanushuk River	16.85	20	P	P	18 17 16.0	-0.1
	baz=213,SNR=20						
M29M	Somme Creek	16.91	48	P	Pn	18 17 16.7	+0.5
	baz=252,SNR=16						
HYT	Haines Junctio	16.93	54	P	P	18 17 17.8	+0.6
HYT				IAmb	IAmb	18 17 25.6	
	comp=Z,38nm,0.8s						
HYT	Haines Junctio	16.93	54	P	Pn	18 17 16.8	+0.3
	baz=258,SNR=34						
F25K	Christian Rive	16.98	27	IAmb	IAmb	18 17 38.6	
	comp=Z,30nm,1.1s						
F25K	Christian Rive	16.98	27	P	Pn	18 17 17.0	0.0
	baz=226,SNR=12						
I27K	Kandik River	17.00	36	P	Pn	18 17 17.4	+0.1
	baz=238,SNR=14						
P30M	Million Dollar	17.07	57	P	Pn	18 17 18.5	+0.4
	baz=261						
G26K	Porcupine Rive	17.09	31	P	Pn	18 17 17.3	-0.8
	baz=230						
DAWY	Dawson	17.11	42	Pn	Pn	18 17 15.8	-2.7
DAWY	Dawson	17.11	42	P	P	18 17 19.0	0.0
	baz=246,SNR=12						
BMAR	Burnt Mountain	17.16	29		Pn	18 17 19.1	-0.1
S31K	Pelican	17.26	64	IAmb	IAmb	18 17 26.1	
	comp=Z,37nm,0.9s						
S31K	Pelican	17.26	64	P	P	18 17 21.0	+0.4
	baz=269						
N30M	Aishikik Lake	17.27	52	IAmb	IAmb	18 17 28.9	
	comp=Z,21nm,0.7s						
N30M	Aishikik Lake	17.27	52	P	P	18 17 20.9	+0.1
	baz=257,SNR=18						
L29M	L29M	17.27	46	P	P	18 17 21.5	+0.8
	baz=250,SNR=17						
PLBC	Pleasant Camp	17.28	59	P	P	18 17 22.1	+1.2
	baz=264,SNR=26						
H27K	Steamboat Moun	17.38	35	P	Pn	18 17 21.9	+0.1
	baz=236						
D24K	Happy Valley	17.39	21	IAmb	IAmb	18 17 59.5	
	comp=Z,45nm,1.3s						
D24K	Happy Valley	17.39	21	P	P	18 17 22.5	+0.5
	baz=216						
F26K	Sheenjek River	17.47	29	P	Pn	18 17 22.9	0.0
	baz=228,SNR=9.0						
I28M	Miner Creek	17.52	38	P	P	18 17 24.4	+0.7
	baz=241,SNR=8.8						
B22K	Teshekpuk Lake	17.58	14	IAmb	IAmb	18 17 26.8	
	comp=Z,40nm,1.1s						
B22K	Teshekpuk Lake	17.58	14	P	P	18 17 25.3	+1.2
	baz=206,SNR=14						
O30N	Mendenhall	17.60	55	P	P	18 17 24.4	0.0
	baz=260,SNR=11						
C23K	Itkillik River	17.60	18	IAmb	IAmb	18 17 35.6	
	comp=Z,42nm,1.1s						
C23K	Itkillik River	17.60	18	P	P	18 17 24.8	+0.5
	baz=212,SNR=12						
G27K	Doyon Strip	17.66	33	P	P	18 17 24.9	-0.2
	baz=234						
M30M	Minto, Yukon	17.69	49	P	P	18 17 24.7	-0.7
	baz=254,SNR=6.1						
J29N	Klondike Camp	17.73	42	P	Pn	18 17 26.9	+0.7
	baz=246,SNR=9.7						
K29M	Barlow Dome	17.78	44	P	Pn	18 17 27.1	+0.3
	baz=249,SNR=13						
SKAG	Skagway	17.81	59	IAmb	IAmb	18 17 34.0	
	comp=Z,39nm,0.8s						
SKAG	Skagway	17.81	59	P	P	18 17 26.8	+0.2
	baz=265,SNR=9.9						
C24K	Franklin Bluff	17.88	20	IAmb	IAmb	18 17 31.9	
	comp=Z,43nm,1.1s						
C24K	Franklin Bluff	17.88	20	P	Pn	18 17 28.4	+0.7
	baz=216						
N31M	Braeburn, Yuko	17.89	52	IAmb	IAmb	18 17 36.9	
	comp=Z,34nm,0.7s						
N31M	Braeburn, Yuko	17.89	52	P	Pn	18 17 28.8	+0.8
	baz=258,SNR=16						
A22K	Sinclair Lake	17.98	12	P	Pn	18 17 29.5	+0.5
	baz=202						
D25K	Kavik River	18.07	23	P	Pn	18 17 30.8	+0.6
	baz=220						
A21K	Barrow	18.10	10	P	Pn	18 17 31.8	+1.4
	baz=199						
S32K	Killisnoo	18.15	66	IAmb	IAmb	18 17 37.3	
	comp=Z,86nm,1.2s						
S32K	Killisnoo	18.15	66	P	Pn	18 17 31.9	+0.7
	baz=272,SNR=7.4						
WHY	Whitehorse	18.17	55	IAmb	IAmb	18 17 37.4	
	comp=Z,25nm,0.9s						
WHY	Whitehorse	18.17	55	P	Pn	18 17 33.1	+1.5
	baz=262,SNR=18						
R32K	Eaglecrest	18.17	63	P	Pn	18 17 31.6	+0.1
	baz=269						
MAYO	Mayo, Yukon	18.38	46	P	Pn	18 17 34.3	+0.3
	baz=252						
H29M	Whitestone	18.46	37	P	P	18 17 33.6	-0.3
H29M	Whitestone	18.46	37	P	P	18 17 33.7	-0.1
	baz=241						
E27K	Coleen River	18.52	29	P	P	18 17 34.7	+0.3
	baz=231						
J30M	Hart River	18.53	43	P	P	18 17 35.4	+0.6
	baz=248						
P32M	Atlin	18.64	59	IAmb	IAmb	18 17 42.1	
	comp=Z,54nm,1.0s						
P32M	Atlin	18.64	59	P	Pn	18 17 38.0	+0.9
	baz=266,SNR=13						
M31M	Drury Creek, Y	18.68	51	IAmb	IAmb	18 17 43.6	
	comp=Z,47nm,0.8s						
M31M	Drury Creek, Y	18.68	51	P	Pn	18 17 38.2	+0.7
	baz=258,SNR=44						
F28M	Old Crow	18.70	32	P	Pn	18 17 37.5	-0.2
	baz=235						
I30M	Mount Dempster	18.76	41	P	P	18 17 36.9	-0.3
	baz=247,SNR=6.0						
C26K	Camden Bay	18.85	23	P	P	18 17 38.2	+0.2
	baz=222,SNR=21						
C27K	Jago River	18.93	24	IAmb	IAmb	18 18 09.9	
	comp=Z,34nm,1.1s						
C27K	Jago River	18.93	24	P	P	18 17 39.5	+0.7
	baz=224,SNR=22						
G29M	Pine Creek	18.93	35	IAmb	IAmb	18 18 16.8	
	comp=Z,32nm,1.2s						
G29M	Pine Creek	18.93	35	P	P	18 17 38.5	-0.4
	baz=240,SNR=9.7						
U33K	Whale Pass	19.05	70	P	Pn	18 17 42.0	+0.1
	baz=277						
EPYK	Eagle Plains	19.12	37	IAmb	IAmb	18 17 47.1	
	comp=Z,18nm,0.8s						
EPYK	Eagle Plains	19.12	37	P	P	18 17 41.6	+0.5
	baz=243,SNR=13						
P33M	Teslin, Yukon	19.14	57	IAmb	IAmb	18 17 45.5	
	comp=Z,41nm,1.1s						
P33M	Teslin, Yukon	19.14	57	P	P	18 17 42.0	+0.7
	baz=265,SNR=15						
CRAG	Craig	19.14	72	P	Pn	18 17 42.7	-0.2
	baz=279						
FARO	Faro, Yukon	19.16	51	IAmb	IAmb	18 17 48.9	
	comp=Z,29nm,0.7s						
FARO	Faro, Yukon	19.16	51	P	P	18 17 42.2	+0.6
	baz=259,SNR=24						
BILL	Bilibino	19.30	328	P	P	18 17 43.8	+0.9
BILL				IAmb	IAmb	18 18 06.5	
	comp=Z,42nm,1.4s						
Q32M	Nakina River	19.36	61	P	P	18 17 44.8	+1.0
	baz=269,SNR=6.6						
D27M	Malcolm River	19.38	27	P	P	18 17 44.6	+0.8
	baz=230						
E28M	Babbage River	19.38	30	P	P	18 17 44.8	+1.0
	baz=233						
WRAK	Wrangell Islan	19.45	69	P	P	18 17 45.4	+0.8
	baz=276						
G30M	tAoh Zraii Nji	19.58	36	IAmb	IAmb	18 17 46.8	
	comp=Z,25nm,1.0s						
G30M	tAoh Zraii Nji	19.58	36	P	P	18 17 44.5	-1.5
	baz=242						
E29M	Blow River	19.75	31	IAmb	IAmb	18 18 05.1	
	comp=Z,45nm,1.5s						
E29M	Blow River	19.75	31	P	P	18 17 47.2	-0.7
	baz=236						
H31M	Peel River	19.77	40	IAmb	IAmb	18 18 31.5	
	comp=Z,33nm,1.2s						
H31M	Peel River	19.77	40	P	P	18 17 47.7	-0.4
	baz=248						
S34M	Telegraph Cree	19.98	64	P	P	18 17 50.6	+0.3
	baz=273,SNR=8.5						
V35K	Ketchikan	20.01	72	P	P	18 17 51.3	+0.6
	baz=280						
F30M	Barrier River	20.03	35	P	P	18 17 49.4	-1.5
	baz=241,SNR=9.5						
R33M	Jennings River	20.03	60	IAmb	IAmb	18 18 00.5	
	comp=Z,62nm,1.2s						
R33M	Jennings River	20.03	60	P	P	18 17 52.1	+1.0
	baz=269,SNR=5.7						
D28M	Stokes Point	20.05	29	P	P	18 17 51.9	+0.9
	baz=233,SNR=5.9						
MMPY	Sheldon Lake,	20.19	50	P	P	18 17 53.0	+0.3
MMPY				IAmb	IAmb	18 17 56.8	
	comp=Z,46nm,1.0s						
MMPY	Sheldon Lake,	20.19	50	P	P	18 17 53.5	+0.8
	baz=260,SNR=23						
G31M	Satah River	20.24	37	P	P	18 17 50.5	-2.6
G31M	Satah River	20.24	37	P	P	18 17 51.5	-1.6
	baz=245,SNR=9.4						
T35M	Bob Quinn	20.53	67	P	P	18 17 55.5	-0.9
	baz=276						
DLBC	Dease Lake	20.54	62	P	P	18 17 56.0	-0.5
	comp=Z,2.2nm,0.7s,baz=299,slow=13,SNR=2.0						
	comp=Z,2.2nm,0.7s						
DLBC	Dease Lake	20.54	62	P	P	18 17 56.3	-0.2
	baz=273,SNR=5.2						
F31M	Tsiigehtchic	20.65	36	P	P	18 17 54.3	-3.2
F31M	Tsiigehtchic	20.65	36	P	P	18 17 56.1	-1.4
	baz=245						
INK	Inuvik	21.11	34	P	P	18 17 59.4	-3.0
INK	Inuvik	21.11	34	P	P	18 18 00.3	-2.1
	comp=Z,9.5nm,1.0s,baz=216,slow=8.9,SNR=23						
	comp=Z,9.5nm,1.0s						
INK	Inuvik	21.11	34	P	P	18 18 00.8	-1.6
	baz=243,SNR=12						
PETK	Petropavlovsk-	21.35	283	P	P	18 18 04.5	-0.6
	comp=Z,2.7nm,0.5s,baz=88,slow=15,SNR=2.7						
PETK				pP	pP	18 18 20.2	-1.2
	comp=Z,5.9nm,0.9s,baz=90,slow=11,SNR=2.4						
	comp=Z,2.7nm,0.5s						
TOAD	Toad River Com	23.01	61	P	P	18 18 22.3	-0.3
	baz=275						
KOTAN	Kotaneelee Air	23.52	57	P	P	18 18 28.5	+1.2
	baz=273,SNR=16						
C36M	Paulatuk	24.68	35	P	P	18 18 36.8	-0.8
C36M				IAmb	IAmb	18 18 39.6	
	comp=Z,32nm,1.3s						
C36M	Paulatuk	24.68	35	P	P	18 18 37.1	-0.5
	baz=252						
A36M	Sachs Harbour	25.26	29	P	P	18 18 43.6	+0.7
A36M				IAmb	IAmb	18 18 48.0	
	comp=Z,32nm,0.9s						
A36M	Sachs Harbour	25.26	29	P	P	18 18 44.1	+1.2
	baz=246,SNR=12						
YKA	Yellowknife Ar	27.88	51	P	P	18 19 06.5	+0.1
YKA	Yellowknife Ar	27.88	51	P	P	18 19 07.5	+1.0
	comp=Z,2.3nm,0.5s,baz=278,slow=8.9,SNR=32						
	comp=Z,2.3nm,0.5s						
B08A	Colville Reser	29.52	81	IAmb	IAmb	18 19 24.9	
	comp=Z,12nm,0.9s						
H04A	Detroit Lake	29.73	90	IAmb	IAmb	18 19 27.2	
	comp=Z,13nm,1.0s						
I04A	Tendick Farm,	30.10	91	IAmb	IAmb	18 19 59.0	
	comp=Z,17nm,1.2s						
HAWA	Hanford	30.39	85	IAmb	IAmb	18 19 32.5	
	comp=Z,11nm,0.8s						
D08A	Wollman Farm,	30.40	83	IAmb	IAmb	18 19 31.9	
	comp=Z,6.2nm,0.7s						
C09A	Chrisman Ranch	30.41	82	IAmb	IAmb	18 19 32.4	
	comp=Z,14nm,0.9s						
NEW	Newport	30.86	80	IAmb	IAmb	18 19 36.4	
	comp=Z,16nm,0.8s						
J05D	Fort Rock, OR	31.09	91	P	P	18 19 36.5	+1.2
J05D				IAmb	IAmb	18 20 14.6	
	comp=Z,12nm,1.2s						
E09A	Wood Farm, Sta	31.14	84	IAmb	IAmb	18 19 38.7	
	comp=Z,22nm,1.2s						
YBH	Yreka Blue Hor	31.15	95	LR	LR	18 28 24.0	
	comp=Z,187nm,20.8s,baz=328,slow=29						
G08A	Pilot Rock	31.31	86	IAmb	IAmb	18 19 43.9	
	comp=Z,11nm,1.4s						
I07A	Izee	31.66	89	IAmb	IAmb	18 19 44.2	
	comp=Z,6.4nm,0.8s						
O02D	Mt. Diablo Mer	32.08	97	P	P	18 19 46.4	+2.4
O02D				IAmb	IAmb	18 20 12.7	
	comp=Z,8.3nm,0.8s						
J08A	Circle Bar Ran	32.69	89	IAmb	IAmb	18 19 53.0	
	comp=Z,7.8nm,0.7s						
WVOR	Wild Horse Val	33.14	90	IAmb	IAmb	18 19 57.2	
	comp=Z,8.3nm,0.9s						
PLID	Pearl Lake	33.17	84	P	P	18 19 55.4	+1.8
MSO	Missoula	33.45	80	IAmb	IAmb	18 19 59.5	
	comp=Z,8.6nm,0.8s						
YAK	Yakutsk	33.68	310	LR	LR	18 35 17.4	
	comp=Z,256nm,18.1s,baz=44,slow=39						
MFID	Camas Ranch	34.22	87	IAmb	IAmb	18 20 05.7	
	comp=Z,8.2nm,0.8s						
RES	Resolute Bay	34.26	27	LR	LR	18 35 17.5	
	comp=Z,195nm,18.3s,baz=357,slow=38						
MPK	Martis Peak	34.27	96	IAmb	IAmb	18 20 44.4	
	comp=Z,11nm,1.0s						
PAHR	Pah Rah Range	34.38	95	IAmb	IAmb	18 20 36.0	
	comp=Z,8.4nm,0.8s						
YERR	Yerington	34.94	96	IAmb	IAmb	18 20 35.9	
	comp=Z,9.5nm,0.9s						
HLID	Hailey	34.98	85	IAmb	IAmb	18 20 12.4	
	comp=Z,6.1nm,0.8s						
DLMT	Dillon	35.02	82	IAmb	IAmb	18 20 12.4	
	comp=Z,18nm,1.4s						
WAKR	Walker	35.13	96	IAmb	IAmb	18 20 43.5	
	comp=Z,9.5nm,0.8s						
EGMT	Eagleton	35.25	76	P	P	18 20 13.0	+1.6
KVN	Kaiserville	35.57	95	IAmb	IAmb	18 20 46.8	
	comp=Z,5.6nm,1.0s						
RYN	Ryan	35.59	95	IAmb	IAmb	18 20 46.5	
	comp=Z,5.4nm,0.8s						
LHV	Little Huntoon	35.85	96	IAmb	IAmb	18 20 55.0	
	comp=Z,13nm,1.2s						
NVAR	Mina Array Bea	35.85	96	P	P	18 20 18.8	+2.1
NVAR	Mina Array Bea	35.85	96	P	P	18 20 19.6	+2.8
	comp=Z,2.8nm,0.7s,baz=296,slow=8.3,SNR=15						
NVAR				pP	pP	18 20 38.6	+2.4
	comp=Z,3.3nm,0.7s,baz=298,slow=8.7,SNR=9.1						
	comp=Z,2.8nm,0.7s						
NV11	Mina Array Sit	35.94	95	IAmb	IAmb	18 20 52.4	
	comp=Z,6.1nm,1.1s						
OMMB	Old Mammoth Mi	35.98	97	IAmb	IAmb	18 20 50.6	
	comp=Z,5.8nm,0.7s						
ELK	Elko	36.19	90	IAmb	IAmb	18 20 23.2	
	comp=Z,7.0nm,0.9s						
ELK	Elko	36.19	90	LR	LR	18 34 24.2	
	comp=Z,186nm,18.6s,baz=314,slow=35						
YHH	Holmes Hill	36.37	81	P	P	18 20 23.3	+2.1
DSP	Deep Springs	36.76	97	P	P	18 20 25.8	+1.6
DSP				IAmb	IAmb	18 20 51.2	
	comp=Z,11nm,1.3s						
FXWY	Fox Creek	36.93	83	IAmb	IAmb	18 20 29.4	
	comp=Z,5.7nm,0.8s						
HVU	Hansel Valley	37.01	87	IAmb	IAmb	18 20 29.9	
	comp=Z,7.2nm,0.8s						
TPAW	Teton Pass	37.06	83	IAmb	IAmb	18 20 30.6	
	comp=Z,5.9nm,0.7s						
RLMT	Red Lodge	37.11	80	P	P	18 20 29.6	+2.2
LOHW	Long Hollow	37.19	83	IAmb	IAmb	18 20 31.5	
	comp=Z,5.8nm,0.7s						
BGU	Big Grassy Mou	37.38	88	IAmb	IAmb	18 20 33.0	
	comp=Z,5.0nm,0.9s						
Q12A	Willow Creek R	37.51	92	IAmb	IAmb	18 20 56.0	
	comp=Z,11nm,1.1s						
R11B	Troy Canyon, C	37.51	93	IAmb	IAmb	18 20 34.3	
	comp=Z,11nm,1.1s						
R11B	Troy Canyon, C	37.51	93	P	P	18 20 31.1	+0.3
	baz=311,SNR=14						
HWUT	Hardware Ranch	37.83	86	IAmb	IAmb	18 20 36.8	
	comp=Z,7.1nm,1.1s						
SPR3	Spring Creek 3	37.83	91	IAmb	IAmb	18 20 38.7	
	comp=Z,8.4nm,1.3s						
DUG	Dugway, Tooele	37.97	89	IAmb	IAmb	18 20 38.0	
	comp=Z,12nm,1.0s						
TPNV	Topopah Spring	38.05	96	IAmb	IAmb	18 21 07.5	
	comp=Z,7.0nm,0.9s						
TCUT	Toone Canyon	38.22	86	IAmb	IAmb	18 20 39.6	
	comp=Z,11nm,1.1s						
PD31	Pinedale Array	38.31	83	IAmb	IAmb	18 20 40.5	
	comp=Z,10nm,0.9s						
PDAR	Pinedale Array	38.31	83	P	P	18 20 38.6	+1.1
PDAR	Pinedale Array	38.31	83	P	P	18 20 39.3	+1.7
	comp=Z,6.7nm,0.7s,baz=306,slow=5.0,SNR=45						
	comp=Z,6.7nm,0.7s						
GWY	Greenwater Val	38.32	97	IAmb	IAmb	18 21 03.8	
	comp=Z,4.7nm,0.8s						
PSUT	Pine Spring	38.42	92	IAmb	IAmb	18 20 41.8	
	comp=Z,11nm,1.2s						
GSC	Goldstone, Bar	38.85	98	IAmb	IAmb	18 21 07.4	
	comp=Z,16nm,1.5s						
P17A	Butcher Ranch,	39.66	88	IAmb	IAmb	18 20 52.2	
	comp=Z,8.5nm,0.8s						
MTPU	Mount Pierson	39.73	91	IAmb	IAmb	18 20 53.5	
	comp=Z,7.2nm,1.1s						
H11N2	WAKE ISLAND Hy	39.76	222	T	T	19 03 16.7	
	baz=25,slow=76,SNR=244						
H11N3	WAKE ISLAND Hy	39.77	222	T	T	19 03 17.2	
	baz=25,slow=76,SNR=217						
H11N1	WAKE ISLAND Hy	39.78	222	T	T	19 03 13.4	
	baz=25,slow=76,SNR=167						
LCMT	Little Creek M	39.79	93	IAmb	IAmb	18 20 53.1	
	comp=Z,6.0nm,1.0s						
P18A	Preston Nutter	39.85	87	IAmb	IAmb	18 20 55.8	
	comp=Z,16nm,1.1s						
SRU	San Rafael Swe	40.02	88	IAmb	IAmb	18 20 55.2	
	comp=Z,18nm,1.2s						
PKCU	Pink Cliffs	40.05	92	IAmb	IAmb	18 20 56.1	
	comp=Z,9.7nm,1.1s						
USRK	Ussuriysk Ar.	40.44	282	P	P	18 20 54.0	-0.9
	comp=Z,0.5nm,0.5s,baz=49,slow=10.0,SNR=2.3						
	comp=Z,0.5nm,0.5s						
RSSD	Black Hills	40.73	78	P	P	18 20 58.3	+0.7
RSSD				IAmb	IAmb	18 20 59.5	
	comp=Z,3.9nm,0.6s						
U15A	North Rim	40.75	93	IAmb	IAmb	18 21 01.5	
	comp=Z,13nm,1.2s						
H11S1	WAKE ISLAND Hy	40.95	221	T	T	19 04 51.4	
	baz=25,slow=76,SNR=581						
H11S2	WAKE ISLAND Hy	40.96	221	T	T	19 04 37.2	
	baz=25,slow=76,SNR=304						
H11S3	WAKE ISLAND Hy	40.96	221	T	T	19 04 40.0	
	baz=25,slow=76,SNR=263						
N23A	Red Feather La	41.59	83	IAmb	IAmb	18 21 07.0	
	comp=Z,6.4nm,0.6s						
N23A	Red Feather La	41.59	83	P	P	18 21 03.9	-0.9
	baz=309,SNR=5.2						
ESJX	Sierra Juarez	41.70	101	IAmb	IAmb	18 21 20.4	
	comp=Z,6.5nm,0.8s						
WUAZ	Wupatki	41.91	93	IAmb	IAmb	18 21 10.8	
	comp=Z,11nm,0.9s						
MVCO	Mesa Verde	42.47	89	IAmb	IAmb	18 21 19.1	
	comp=Z,11nm,1.2s						
X16A	Lo Mia Camp, P	42.63	94	IAmb	IAmb	18 21 16.9	
	comp=Z,7.0nm,1.0s						
NEEM	North Greenlan	43.09	17	*i* P	P	18 21 15.7	-0.8
NEEM				IAmb	IAmb	18 21 17.6	
	comp=Z,17nm,1.0s						
S22A	4UR Ranch, Cre	43.10	87	P	P	18 21 18.6	+1.5
	baz=312						
Q24A	Divide	43.

WMOK Wichita Mounta 49.91 84 P **P** **18 22 11.4 +1.4**
MNHN Monahans 49.95 90 IAmb IAmb 18 22 12.9
comp=Z,13nm,1.5s
DBG Daneborg 50.16 11 *i* P **P** **18 22 08.3 -2.9**
DBG IAmb IAmb 18 22 12.5
comp=Z,14nm,1.2s
P40A Paris 50.55 74 P **P** **18 22 14.7 0.0**
TXAR Lajitas Array 50.87 93 P **P** **18 22 19.2 +1.8**
comp=Z,4.0nm,0.6s,baz=303,slow=5.8,SNR=19
TXAR pP **pP** **18 22 38.7 +0.9**
comp=Z,2.0nm,0.5s,baz=307,slow=5.8,SNR=4.9
comp=Z,4.0nm,0.6s
L44A Lake County Fo 51.11 69 P **P** **18 22 19.2 +0.3**
baz=312
ICESG Greenland Ices 51.36 22 *i* P **P** **18 22 19.3 -1.6**
ULN Ulaanbaatar 51.83 301 P **P** **18 22 23.4 -1.0**
ULN IAmb IAmb 18 22 30.4
comp=Z,6.2nm,1.4s
SONM Songino Array 52.18 302 P **P** **18 22 26.6 -0.4**
comp=Z,0.8nm,0.6s,baz=59,slow=5.7,SNR=4.2
SONM pP **pP** **18 22 46.7 -0.5**
comp=Z,1.3nm,0.8s,baz=53,slow=7.4,SNR=3.5
SONM PcP **PcP** **18 23 38.3 +0.8**
comp=Z,2.9nm,0.5s,baz=77,slow=2.3,SNR=12
SONM ScP **ScP** **18 27 27.1 +0.4**
comp=Z,1.7nm,0.7s,baz=42,slow=3.3,SNR=9.1
comp=Z,0.8nm,0.6s
BRDY Brady 52.23 87 IAmb IAmb 18 22 29.6
comp=Z,9.4nm,1.0s
SCHQ Schefferville 53.09 46 P **P** **18 22 33.5 +0.1**
comp=Z,3.9nm,0.6s,baz=306,slow=9.3,SNR=6.3
comp=Z,3.9nm,0.6s
435B Jarrell 53.43 86 P **P** **18 22 36.9 +0.7**
baz=317
O48B Farmland 53.94 69 P **P** **18 22 38.6 -1.3**
baz=314
833A Chaparral WMA, 54.15 90 P **P** **18 22 41.4 -0.1**
baz=318
HHC Hu-ho-hao-te 54.16 292 *eP* **P** **18 22 43.5 +1.9**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,230nm,6.2s
HHC LR LR
comp=N,150nm,16.0s
HHC LR LR
comp=E,160nm,16.0s
HHC LR LR
comp=Z,160nm,16.8s
P49A Miami Univ. Ec 54.69 70 P **P** **18 22 44.8 -0.5**
baz=314
NJ2 Nanjing 56.20 279 *eP* **P** **18 22 56.8 +0.6**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
ARCES ARCESS Array B 56.69 355 P **P** **18 22 58.2 -0.9**
comp=Z,2.0nm,0.7s,baz=23,slow=6.6,SNR=4.2
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 57.63 319 P **P** **18 23 05.9 0.0**
comp=Z,1.5nm,0.5s,baz=38,slow=7.6,SNR=7.9
ZALV PcP **PcP** **18 23 58.0 -0.1**
comp=Z,2.6nm,0.5s,baz=37,slow=5.1,SNR=9.2
ZALV ScP **ScP** **18 27 49.7 -0.7**
comp=Z,0.8nm,0.6s,baz=40,slow=6.0,SNR=3.0
comp=Z,1.5nm,0.5s
L61B Northampton 59.06 59 P **P** **18 23 15.7 -0.4**
baz=316
LZH Lanzhou 61.79 293 *eP* P 18 23 28.6 -6.4
LZH sP pP 18 23 53.6 -2.5
LZH pmax pmax
comp=Z,10.0nm,1.2s
KURBB Kurchatov Arra 62.65 320 P **P** **18 23 39.8 -0.5**
comp=Z,0.7nm,0.4s,baz=359,slow=7.0,SNR=18
KURBB pP **pP** **18 24 00.1 -1.4**
comp=Z,1.6nm,1.0s,baz=43,slow=6.9,SNR=4.3
KURBB PcP **PcP** **18 24 18.1 -0.3**
comp=Z,1.0nm,0.4s,baz=42,slow=3.8,SNR=12
comp=Z,0.7nm,0.4s
BVAR Borovoye Array 63.62 326 P **P** **18 23 46.5 -0.2**
comp=Z,2.3nm,0.5s,baz=56,slow=7.3,SNR=12
BVAR pP **pP** **18 24 06.9 -0.6**
comp=Z,2.5nm,0.9s,baz=54,slow=4.9,SNR=4.2
BVAR PcP **PcP** **18 24 22.4 +0.1**
comp=Z,2.2nm,0.5s,baz=39,slow=3.1,SNR=11
comp=Z,2.3nm,0.5s
MK31 Makanchi Array 64.17 315 P **P** **18 23 49.0 -1.5**
MKAR Makanchi Array 64.17 315 P **P** **18 23 49.5 -1.0**
MKAR Makanchi Array 64.17 315 P **P** **18 23 49.8 -0.7**
comp=Z,0.8nm,0.5s,baz=53,slow=6.6,SNR=18
MKAR LR LR 18 56 30.8
comp=Z,139nm,18.3s,baz=32,slow=40
comp=Z,0.8nm,0.5s
ARTI Arti 64.27 334 P **P** **18 23 50.4 -0.5**
ARTI IAmb IAmb 18 24 14.7
comp=Z,6.5nm,1.1s
ARTI Arti 64.27 334 P **P** **18 23 51.0 +0.1**
comp=Z,2.2nm,0.4s,baz=45,slow=6.4,SNR=6.8
ARTI pP **pP** **18 24 11.3 -0.6**
comp=Z,3.6nm,0.8s,baz=59,slow=5.5,SNR=3.4
comp=Z,2.2nm,0.4s
MAKZ Makanchi 64.30 315 P **P** **18 23 50.7 -0.5**
MAKZ IAmb IAmb 18 24 34.8
comp=Z,18nm,1.4s
KIRV Kirov 64.33 340 LR LR 18 53 45.2
comp=Z,228nm,19.7s,baz=40,slow=38
FINES FINESS Array B 64.70 353 P **P** **18 23 52.7 -0.9**
FINES FINESS Array B 64.70 353 P **P** **18 23 52.3 -1.3**
comp=Z,0.9nm,0.4s,baz=358,slow=5.7,SNR=10
FINES pP **pP** **18 24 12.7 -2.0**
comp=Z,3.0nm,0.9s,baz=41,slow=4.4,SNR=2.1
comp=Z,0.9nm,0.4s
NC303 NORSAR Array S 65.31 1 P **P** **18 23 57.4 -0.2**
NC405 NORSAR Array S 65.43 1 P **P** **18 23 57.0 -1.4**
NB2 NORSAR Subarra 65.50 1 P **P** **18 23 58.7 -0.1**
comp=Z,0.5nm,0.5s,baz=6.2,slow=6.9
NOA NORSAR Array B 65.50 1 P **P** **18 23 58.0 -0.9**
comp=Z,1.1nm,0.6s,baz=1.6,slow=6.2,SNR=4.5
NOA LR LR 18 53 05.3
comp=Z,36nm,20.4s,baz=20,slow=36
comp=Z,1.1nm,0.6s
TAOE Nuku Hiva Isla 66.20 152 *e*LR LR 18 43 50.6
comp=Z,1.12nm,23.4s
HFS Hagfors 66.42 0 P **P** **18 24 03.9 -0.8**
comp=Z,4.1nm,0.4s,baz=29,slow=3.4,SNR=34
comp=Z,4.1nm,0.4s
AKTO Aktyubinsk 69.69 332 P **P** **18 24 25.1 -0.3**
comp=Z,1.4nm,0.5s,baz=356,slow=5.3,SNR=4.0
AKTO pP **pP** **18 24 46.3 -0.2**
comp=Z,5.3nm,0.8s,baz=4.9,slow=5.4,SNR=4.6
comp=Z,1.4nm,0.5s
ABKAR Akbulak array 70.19 330 P **P** **18 24 28.0 -0.4**
PZH PanZhiHua 70.22 288 P **P** **18 24 29.1 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
EKA Eskdalemuir Ar 70.35 10 P **P** **18 24 29.2 -0.1**
comp=Z,2.8nm,0.8s,baz=12,slow=4.6,SNR=5.7
comp=Z,2.8nm,0.8s
KKAR Karatay Array 71.95 320 P **P** **18 24 39.0 -0.2**
KKAR Karatay Array 71.95 320 P **P** **18 24 38.6 -0.6**
ARSB Arslanbob 72.50 317 P **P** **18 24 43.1 +0.5**
PPT Papeete 72.50 163 LR LR 18 49 37.9
comp=Z,68nm,21.9s,baz=334,slow=30
MSVF Nonsavu 72.50 196 LR LR 18 48 56.4
comp=Z,105nm,21.7s,baz=351,slow=29
PPT2 Papeete2 72.52 163 *e*LR LR 18 46 51.3
comp=Z,213nm,31.5s
PPT2 *e*LR LR 18 46 56.5
comp=Z,142nm,23.8s
KSH Kashi 72.77 314 P **P** **18 24 47.4 +3.1**
KSH pP pP 18 25 09.1 +3.3
KSH pmax pmax
comp=Z,5.0nm,0.5s
BTK Batken 74.44 318 IAmb IAmb 18 24 55.1
comp=Z,7.7nm,0.9s
AKASG Malin Array Be 75.07 350 P **P** **18 24 56.1 -1.2**
comp=Z,1.2nm,0.5s,baz=15,slow=5.9,SNR=8.5
AKASG pP **pP** **18 25 17.0 -2.0**
comp=Z,1.0nm,0.5s,baz=14,slow=5.4,SNR=3.3
AKASG LR LR 19 03 14.8
comp=Z,97nm,19.6s,baz=26,slow=40
comp=Z,1.2nm,0.5s
AKBB Malin Array Si 75.07 350 P **P** **18 24 56.0 -1.2**
KIEV Kiev 75.08 350 P **P** **18 24 55.5 -1.8**
CLL Collm 75.27 0 *i* P **P** **18 25 01.3 +2.9**
SIMJ Simiganj 76.35 319 P **P** **18 25 04.7 -0.4**
SIMJ IAmb IAmb 18 25 05.9
comp=Z,9.6nm,0.9s
KWP Kalwaria Pacla 76.67 354 P **P** **18 25 06.9 +0.4**
STHS Stebnicka Huta 76.97 355 *eP* **P** **18 25 08.1 -0.1**
LANS Liptovska Anna 77.32 356 *eP* **P** **18 25 11.3 +1.2**
KOLS Kolonicke sedl 77.40 354 *eP* **P** **18 25 11.3 +0.8**
SDDR Presa de Saban 77.77 75 P **P** **18 25 13.6 +0.5**
SDDR IAmb IAmb 18 25 21.3
comp=Z,15nm,1.0s
VYHS Vyhne 78.00 357 *eP* **P** **18 25 14.5 +0.6**
CMAR Chiang Mai Arr 78.12 285 P **P** **18 25 14.9 -0.1**
comp=Z,1.3nm,1.0s,baz=11,slow=5.1,SNR=11
comp=Z,1.3nm,1.0s
TBI Tubuai 78.18 164 *e*LR LR 18 49 24.0
comp=Z,1μm,32.8s
BUR08 Bucovina Ar. S 78.47 352 P **P** **18 25 16.3 -0.3**
BUR08 IAmb IAmb 18 25 52.3
comp=Z,7.7nm,1.4s
DZM Mont Dzumac 79.15 206 *e*LR LR 18 49 54.9
comp=Z,109nm,26.4s
MOTA Moosalm 79.21 2 *eP* **P** **18 25 21.5 +0.7**
comp=Z,4.6nm,1.1s
SQTA Sankt Quirin 79.34 2 *eP* **P** **18 25 22.1 +0.7**
comp=Z,6.9nm,1.2s
KBA Koelnbreinsper 79.50 0 P **P** **18 25 22.8 +0.4**
comp=Z,2.8nm,0.6s
KBZ Khabaz 79.70 339 LR LR 19 03 17.9
comp=Z,101nm,19.9s,baz=22,slow=38
ABTA Abfaltersbach 79.83 1 *eP* **P** **18 25 24.3 +0.3**
BRTR Keskin Array B 85.29 345 P **P** **18 25 51.0 -1.6**
comp=Z,1.1nm,0.7s,baz=27,slow=5.7,SNR=4.2
comp=Z,1.1nm,0.7s
ESDC Sonseca Array 85.66 14 P **P** **18 25 52.5 -1.8**
comp=Z,0.9nm,0.8s,baz=341,slow=4.4,SNR=6.4
comp=Z,0.9nm,0.8s
WRA Warramunga Arr 89.37 234 P **P** **18 26 12.4 +0.2**
comp=Z,1.0nm,0.8s,baz=35,slow=5.6,SNR=10
WRA pP **pP** **18 26 33.5 -1.0**
comp=Z,1.5nm,0.9s,baz=48,slow=4.6,SNR=4.9
comp=Z,1.0nm,0.8s
MMAI Mount Meron Ar 91.54 342 LR LR 19 15 14.1
comp=Z,53nm,18.1s,baz=326,slow=41
ASAR Alice Springs 92.76 233 P **P** **18 26 28.4 +0.6**
comp=Z,0.4nm,0.8s,baz=30,slow=5.4,SNR=6.9
ASAR pP **pP** **18 26 50.4 +0.1**
comp=Z,0.7nm,0.9s,baz=37,slow=4.9,SNR=4.2
comp=Z,0.4nm,0.8s
H03N2 Juan Fernandez 114.72 113 T T 20 36 58.3
baz=322,slow=77,SNR=97
H03N1 Juan Fernandez 114.73 113 T T 20 36 59.6
baz=322,slow=77,SNR=100
H03N3 Juan Fernandez 114.73 113 T T 20 36 56.6
baz=322,slow=77,SNR=111
QSPA South Pole Qui 143.56 180 PKhKP PKPpre 18 32 46.5
comp=Z,3.7nm,0.9s,baz=133,slow=0.3,SNR=10
MAW Mawson 153.18 220 PKPbc **PKPbc** **18 33 11.7 +0.2**
comp=Z,2.3nm,0.8s,baz=60,slow=20,SNR=4.8
BOSA Boshof 153.47 337 PKPbc **PKPbc** **18 33 13.8 +0.2**
comp=Z,1.5nm,0.5s,baz=36,slow=3.1,SNR=9.5
SNAA Sanae 160.65 164 PKPab **PKPab** **18 33 55.4 -0.5**
comp=Z,0.5nm,0.4s,baz=217,slow=8.5,SNR=7.7

*CNRM **15** 18:40:42.3,35˚.68N×3˚.60W,h28km,ML1.9*
*MDD **15** 18:40:43.9±0.6,35˚.69N×3˚.50W,h20km±5km,mb_Lg2.1/6,*
Error ellipse: s-maj=5.6km s-min=4.2km az=51.0
*SFS **15** 18:40:43.6,35˚.68N×3˚.56W,h17km,ML2.4/8,ML2.7/8,*
MLv2.2/8
ISC 15 18:40:41.6±1.4,35˚.66N±0˚.02×3˚.53W±0˚.03,h19km±4km,
n39,σ0˚88/58,1C,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.49**	**55**	Pg	**Pn**	**18 40 53.0**	**-0.5**
EALB				Sg	**Sn**	**18 41 01.1**	**-0.4**
EALB	**Alboran**	**0.49**	**55**	⇑P	**Pn**	**18 40 53.0**	**-0.5**
EALB				S	**Sb**	**18 40 59.6**	**+1.2**
PALE	**Palemas**	**0.55**	**218**	P	**Pn**	**18 40 53.9**	**-0.6**
PALE	**Palemas**	**0.55**	**218**	S	**Sb**	**18 41 01.2**	**+1.1**
WMELI	**Melilla**	**0.58**	**126**	Pg	**Pn**	**18 40 54.7**	**-0.1**
WMELI				Sg	**Sn**	**18 41 03.2**	**-0.5**
EMEL	**Melilla**	**0.58**	**127**	P	**Pn**	**18 40 54.9**	**+0.1**
EMEL				S	**Sn**	**18 41 03.5**	**-0.4**
EMLI	**Melilla**	**0.59**	**127**	Pg	**Pn**	**18 40 55.0**	**0.0**
EMLI				Sg	**Sn**	**18 41 04.2**	**+0.3**
GOG	**Mont Gurugu**	**0.61**	**135**	P	**Pn**	**18 40 55.3**	**0.0**
GOG	**Mont Gurugu**	**0.61**	**135**	S	**Sn**	**18 41 05.1**	**+0.4**
CHAS	**Isla Isabel II**	**1.01**	**117**	Pg	**Pg**	**18 41 02.1**	**+0.8**
CHAS				Sg	**Sn**	**18 41 16.8**	**+2.4**
AKLM	**AKL**	**1.18**	**194**	S	**Sb**	**18 41 17.6**	**-0.6**
ELGU	**Los Guajares,**	**1.21**	**356**	Pn	**Pn**	**18 41 02.9**	**-0.7**
ELGU				Sn	**Sb**	**18 41 19.0**	**-0.3**
ELGU	**Los Guajares,**	**1.21**	**356**	P	**Pn**	**18 41 02.9**	**-0.7**
ELGU				S	**Sn**	**18 41 19.3**	**-0.2**
TAF	**Taforalt**	**1.24**	**132**	P	**Pg**	**18 41 04.7**	**-0.9**
TAF	**Taforalt**	**1.24**	**132**	S	**Sg**	**18 41 22.0**	**+0.1**
EMAL	**Malaga-Limoner**	**1.32**	**327**	Sn	**Sn**	**18 41 20.7**	**-1.4**
EBER	**Berja**	**1.34**	**22**	Pn	**Pn**	**18 41 05.2**	**-0.3**
EBER				Sn	**Sb**	**18 41 23.4**	**+0.3**
EBER	**Berja**	**1.34**	**22**	P	**Pn**	**18 41 05.2**	**-0.3**
EBER				S	**Sn**	**18 41 20.7**	**-2.1**
EBER				*i* Vmb_Lg		18 41 31.6	
SMIR	**Smir Dam**	**1.51**	**272**	P	**Pn**	**18 41 07.3**	**-0.3**
SMIR	**Smir Dam**	**1.51**	**272**	S	**Sn**	**18 41 26.0**	**-0.7**
CEU	**Ceuta**	**1.52**	**280**	Sn	**Sb**	**18 41 28.3**	**+0.3**
EGOR	**Sierra Gorda,**	**1.53**	**342**	Pn	**Pn**	**18 41 08.4**	**+0.4**
EGOR				Sn	**Sn**	**18 41 27.1**	**-0.3**
EGOR	**Sierra Gorda,**	**1.53**	**342**	P	**Pb**	**18 41 09.0**	**-0.4**
EGOR				S	**Sn**	**18 41 27.4**	**+0.1**
EGOR				*i* Vmb_Lg		18 41 32.4	
JBK	**JBK**	**1.54**	**149**	P	**Pb**	**18 41 09.0**	**-0.5**
JBK	**JBK**	**1.54**	**149**	S	**Sb**	**18 41 29.0**	**+0.3**
EQTA	**Presa de Quent**	**1.55**	**2**	Pn	**Pb**	**18 41 10.0**	**+0.3**
ENIJ	**Nijar**	**1.69**	**39**	Sn	**Sb**	**18 41 32.8**	**-0.2**
ENIJ	**Nijar**	**1.69**	**39**	P	**Pb**	**18 41 11.6**	**-0.5**
ENIJ				S	**Sn**	**18 41 30.2**	**-1.1**
ENIJ				*i* Vmb_Lg		18 41 48.6	
EJIF	**Jimena Fronter**	**1.76**	**297**	P	**Pn**	**18 41 11.5**	**+0.4**
EJIF				S	**Sn**	**18 41 33.4**	**+0.4**
TLOR	**Lorca, Murcia**	**2.48**	**36**	Pn	**Pn**	**18 41 21.8**	**+0.7**
EADA	**Adamuz**	**2.64**	**342**	Pn	**Pn**	**18 41 24.9**	**+1.6**
EADA				Sn	**Sn**	**18 41 55.1**	**+0.3**
EADA	**Adamuz**	**2.64**	**342**	P	**Pn**	**18 41 24.0**	**+0.7**
EADA				S	**Sn**	**18 41 54.1**	**-0.7**
EADA				*i* Vmb_Lg		18 42 07.4	
ECAB	**El Cabril**	**2.85**	**328**	P	**Pn**	**18 41 26.5**	**+0.4**
ECAB				S	**Sn**	**18 42 00.5**	**+0.6**
ECAB				*i* Vmb_Lg		18 42 08.4	
CZD	**Col de Zad**	**2.90**	**206**	P	**Pn**	**18 41 26.3**	**-0.7**
MD31	**MD31**	**2.96**	**201**	P	**Pn**	**18 41 27.5**	**-0.1**
PBAR	**Barrancos**	**3.77**	**313**	*eP*	**Pn**	**18 41 40.0**	**+1.3**
PBAR				*eS*	**Sn**	**18 42 21.9**	**-0.7**
PBAR				A	A	18 42 22.0	
	1.2nm,0.6s						
PVAQ	**Vaqueiros**	**3.80**	**299**	*eP*	**Pn**	**18 41 41.0**	**+1.9**
PVAQ				*eS*	**Sn**	**18 42 21.8**	**-1.4**
PVAQ				A	A	18 42 25.2	
	1.6nm,1.0s						
PVAQ	**Vaqueiros**	**3.80**	**299**	P	**Pn**	**18 41 38.1**	**-1.0**
MESJ	**Messejana**	**4.35**	**301**	*eP*	**Pn**	**18 41 48.9**	**+2.2**

*IDC **15** 18:40:49.3±5.7,22˚.26S×170˚.08E,h0km,mb3.7/3,*
mbtmp3.7/3,MS3.5/7,Error ellipse: s-maj=208.7km
s-min=58.8km az=150.0
*NOU **15** 18:41:17.1,21˚.91S×168˚.08E,h0km,MLv2.2/5,Loyalty Islands*
ISC 15 18:40:51.7±2.3,22˚.0S±0˚.3×170˚.1E±0˚.2,h10km,n15,
σ1§36/8,mb3.6/3,MS3.4/8,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.00**	**286**	P	**Pn**	**18 41 26.5**	**+0.9**
PINNC	**Pines Island,**	**2.52**	**256**	P	**Pn**	**18 41 33.6**	**+0.8**
YATNC	**Mamie plateau,**	**2.98**	**269**	P	**Pn**	**18 41 39.3**	**+0.2**
OUENC	**Ouen Island, N**	**3.04**	**262**	P	**Pn**	**18 41 41.3**	**+1.4**
CTA	**Charters Tower**	**22.33**	**271**	LR	LR	18 54 00.4	
	comp=Z,8.8nm,19.7s,baz=94,slow=35						
PMG	**Port Moresby**	**25.36**	**296**	LR	LR	18 54 11.9	
	comp=Z,92nm,21.2s,baz=78,slow=32						
ASAR	**Alice Springs**	**33.34**	**260**	P	**P**	**18 47 29.2**	**-1.1**
	0.7nm,0.8s,baz=86,slow=9.4,SNR=1.4						
ASAR				LR	LR	19 00 46.2	
	comp=Z,82nm,18.5s,baz=86,slow=36						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**33.41**	**267**	P	**P**	**18 47 29.1**	**-1.7**
	0.4nm,0.5s,baz=101,slow=8.0,SNR=3.2						
	0.4nm,0.5s						
BATI	**Baumata**	**45.97**	**277**	LR	LR	19 09 03.0	
	comp=Z,166nm,19.6s,baz=120,slow=37						
KAPI	**Kappang**	**51.52**	**282**	LR	LR	19 11 06.4	
	comp=Z,56nm,21.6s,baz=68,slow=35						
MJAR	**Matsushiro Arr**	**65.59**	**332**	LR	LR	19 23 06.9	
	comp=Z,15nm,18.2s,baz=52,slow=39						
JNU	**Nakatsue**	**66.41**	**325**	LR	LR	19 17 46.5	
	comp=Z,23nm,21.3s,baz=130,slow=33						
CMAR	**Chiang Mai Arr**	**80.39**	**294**	P	**P**	**18 53 03.7**	**-0.2**
	0.6nm,0.3s,baz=145,slow=4.3,SNR=5.7						
	0.6nm,0.3s						
ILAR	**Eielson Array**	**92.66**	**17**	LR	LR	19 30 47.5	
	comp=Z,22nm,19.4s,baz=57,slow=32						
GERES	**GERESS Array B**	**147.32**	**331**	PKPbc	**PKPdf**	**19 00 34.6**	**+1.3**
	0.5nm,0.7s,baz=33,slow=3.9,SNR=3.5						

*RSNC **15** 18:43:44.8±0.0,10˚.8N×7˚.1W±˚,h3km±10km,M3.5,mb4.1,*
ML3.3
*FUNV **15** 18:43:46.4,9˚.97N×71˚.00W,h5km,MW3.8*
ISC 15 18:43:45.7±0.9,10˚.00N±0˚.04×70˚.98W±0˚.02,h10km,n24,
σ1§85/44,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**1.16**	**163**	P	**Pb**	**18 44 06.2**	**-1.7**
SDV				S	**Sb**	**18 44 21.7**	**-1.4**
MCQV	**Machiques**	**1.54**	**272**	*eP*	**Pn**	**18 44 12.8**	**-0.4**
MCQV				*eS*	**Sb**	**18 44 34.3**	**+0.5**
SOCV	**Socops**	**1.71**	**176**	*eP*	**Pn**	**18 44 15.7**	**0.0**
SOCV				*eS*	**Sn**	**18 44 38.0**	**+0.5**
TEPV	**Terepaima**	**1.76**	**91**	*eP*	**Pn**	**18 44 17.2**	**+1.0**
TEPV				*eS*	**Sb**	**18 44 40.6**	**+0.3**
URIC	**Uribia, Colomb**	**1.96**	**330**	P	**Pn**	**18 44 16.9**	**-2.2**
URIC				S	**Sn**	**18 44 44.0**	**+0.2**
CRJC	**Cerrejon, Guaj**	**2.13**	**299**	P	**Pn**	**18 44 21.9**	**+0.4**
CRJC				S	**Sn**	**18 44 49.2**	**+1.2**
JACV	**Jacura**	**2.37**	**63**	*eP*	**Pn**	**18 44 26.0**	**+1.3**
JACV				*eS*	**Sn**	**18 44 55.4**	**+1.5**
MAPV	**Macapo**	**2.49**	**94**	*eP*	**Pn**	**18 44 27.6**	**+1.3**
MAPV				*eS*	**Sn**	**18 44 57.5**	**+0.7**
CAPV	**Capacho**	**2.50**	**212**	*eP*	**Pn**	**18 44 26.6**	**0.0**
CAPV				*eS*	**Sn**	**18 44 57.4**	**0.0**
OCAC	**Ocana**	**2.90**	**233**	P	**Pb**	**18 44 36.7**	**-1.0**
OCAC				S	**Sb**	**18 45 14.5**	**+1.2**
BAUV	**El Baul**	**3.08**	**110**	*eP*	**Pn**	**18 44 34.8**	**+0.3**
BAUV				*eS*	**Sn**	**18 45 11.5**	**+0.2**
TURV	**Turiamo**	**3.12**	**81**	*eP*	**Pn**	**18 44 34.5**	**-0.5**
TURV				*eS*	**Sn**	**18 45 11.8**	**-0.5**
PAMC	**Pamplona, Colo**	**3.15**	**213**	P	**Pn**	**18 44 35.0**	**-0.8**
PAMC				S	**Sb**	**18 45 22.4**	**+1.8**
BENV	**Beln**	**3.33**	**90**	*eP*	**Pn**	**18 44 38.5**	**+0.6**
BENV				*eS*	**Sn**	**18 45 17.6**	**+0.1**
TAMC	**Tame, Arauca**	**3.63**	**193**	P	**Pb**	**18 44 51.8**	**+1.7**
TAMC				S	**Sg**	**18 45 40.3**	**-2.2**
TACV	**Tcata**	**3.89**	**88**	*eP*	**Pn**	**18 44 46.9**	**+1.2**
TACV				*eS*	**Sn**	**18 45 30.9**	**-0.6**
SJCC	**San Jacinto, C**	**4.14**	**269**	P	**Pn**	**18 44 49.2**	**+0.1**
SJCC				S	**Sn**	**18 45 40.1**	**+2.4**
ZARC	**Zaragoza, Cauc**	**4.58**	**237**	P	**Pn**	**18 44 56.9**	**+1.9**
ZARC				S	**Sn**	**18 45 51.9**	**+3.6**
RUSC	**La Rusia**	**4.58**	**207**	P	**Pn**	**18 44 55.5**	**-0.1**
RUSC				S	**Sg**	**18 46 09.5**	**-3.6**
MERV	**Las Mercedes**	**4.67**	**99**	*eP*	**Pn**	**18 44 56.5**	**+0.1**
MERV				*eS*	**Sn**	**18 45 48.0**	**-2.8**
CACV	**CAICARA DEL OR**	**5.01**	**119**	*eP*	Pn	18 45 06.9	+5.9
CACV				*eS*	**Sn**	**18 46 06.5**	**+7.6**
CHIC	**Chingaza**	**6.00**	**207**	P	**Pn**	**18 45 14.1**	**-0.8**
	15nm,1.0s						
ROSC	**El Rosal**	**6.11**	**213**	P	**Pn**	**18 45 14.8**	**-1.6**
	14nm,0.7s						
GUY2C	**Guyana, Caldas**	**6.44**	**223**	P	**Pn**	**18 45 22.2**	**+1.2**

*IDC **15** 18:48:10.9±1.5,6˚.14S×106˚.59W,h0km,mb3.6/6,*
mbtmp3.6/6,MS3.7/16,Error ellipse: s-maj=147.8km
s-min=29.4km az=90.0
ISC 15 18:48:12.5±1.4,6˚.1S±0˚.2×106˚.8W±0˚.9,h10km,n30,
σ1§16/7,mb3.6/6,MS3.7/16,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**21.04**	**186**	LR	LR	18 58 53.2	
	comp=Z,101nm,18.0s,baz=122,slow=30						
CMIG	**Matias Romero**	**25.88**	**27**	LR	LR	19 01 48.0	
	comp=Z,114nm,20.7s,baz=174,slow=32						
JTS	**Las Juntas de**	**27.16**	**53**	LR	LR	19 02 07.5	
	comp=Z,293nm,20.8s,baz=260,slow=31						
LPIG	**La Paz**	**30.23**	**354**	LR	LR	19 03 13.1	
	comp=Z,133nm,21.7s,baz=348,slow=30						
TXAR	**Lajitas Array**	**35.37**	**5**	P	**P**	**18 55 07.9**	**-0.7**
	0.3nm,0.5s,baz=184,slow=11,SNR=1.7						
	0.3nm,0.5s						
H03N2	**Juan Fernandez**	**37.50**	**140**	T	T	19 35 24.1	
	baz=313,slow=77,SNR=17						
H03N1	**Juan Fernandez**	**37.52**	**140**	T	T	19 35 25.3	
	baz=313,slow=77,SNR=32						
H03N3	**Juan Fernandez**	**37.52**	**140**	T	T	19 35 29.2	
	baz=313,slow=77,SNR=28						
SDV	**Santo Domingo**	**38.98**	**68**	LR	LR	19 09 05.1	
	comp=Z,65nm,21.1s,baz=253,slow=32						
LPAZ	**La Paz**	**39.16**	**108**	LR	LR	19 08 45.9	
	comp=Z,46nm,19.1s,baz=288,slow=32						
PPT	**Papeete**	**43.31**	**251**	LR	LR	19 08 53.4	
	comp=Z,101nm,21.8s,baz=328,slow=29						
NVAR	**Mina Array Bea**	**45.60**	**347**	P	**P**	**18 56 34.2**	**+0.9**
	0.5nm,0.7s,baz=156,slow=7.8,SNR=5.1						
NVAR				LR	LR	19 10 53.6	
	comp=Z,92nm,19.6s,baz=126,slow=30						
	0.5nm,0.7s						
ELK	**Elko**	**47.28**	**351**	LR	LR	19 13 10.9	
	comp=Z,105nm,18.9s,baz=350,slow=32						
PDAR	**Pinedale Array**	**48.72**	**357**	P	**P**	**18 56 59.2**	**+1.6**
	0.5nm,0.8s,baz=145,slow=5.4,SNR=4.2						
	0.5nm,0.8s						
YBH	**Yreka Blue Hor**	**49.80**	**344**	LR	LR	19 13 16.1	
	comp=Z,114nm,20.8s,baz=180,slow=30						
CPUP	**Villa Florida**	**51.17**	**119**	LR	LR	19 15 35.7	
	comp=Z,66nm,19.2s,baz=245,slow=32						
NEW	**Newport**	**54.91**	**352**	LR	LR	19 16 43.5	
	comp=Z,60nm,18.0s,baz=174,slow=31						
BDFB	**Brasilia**	**58.31**	**105**	LR	LR	19 20 57.6	
	comp=Z,71nm,19.2s,baz=325,slow=34						
PMSA	**Palmer Station**	**65.88**	**161**	LR	LR	19 20 08.1	
	comp=Z,154nm,20.4s,baz=306,slow=29						
YKA	**Yellowknife Ar**	**68.68**	**356**	P	**P**	**18 59 15.6**	**-0.2**
	0.9nm,0.9s,baz=168,slow=6.0,SNR=2.7						
YKA				LR	LR	19 26 13.0	
	comp=Z,79nm,19.7s,baz=286,slow=33						
	0.9nm,0.9s						
URZ	**Urewera**	**75.34**	**232**	LR	LR	19 27 22.5	
	comp=Z,81nm,18.1s,baz=110,slow=31						
ILAR	**Eielson Array**	**76.69**	**344**	P	**P**	**19 00 02.4**	**-1.1**
	0.5nm,0.9s,baz=149,slow=4.2,SNR=2.2						
	0.5nm,0.9s						
QSPA	**South Pole Qui**	**83.94**	**180**	P	**P**	**19 00 42.8**	**+0.1**

0.6nm,0.6s
ZALV Zalesovo Beam 21.85 16 P P 19 16 16.8 -1.1
0.7nm,0.4s,baz=214,slow=9.8,SNR=4.7
0.7nm,0.4s
TORD Torodi Ar. Bea 68.70 272 P P 19 22 30.0 +0.1
0.2nm,0.4s,baz=49,slow=6.2,SNR=2.7
0.2nm,0.4s

JMA 15 19:20:29.6±0.3, 24°.2N±0°.6×123°.7E±0°.8, h19km±2km, MV0.5/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.12**	**138**	*eP*	Pg	19 20 33.4	-0.2
HATJ				*eS*	Sg	19 20 36.0	-0.3
IRIF	**Iriomote-Funau**	**0.19**	**4**	*i P*	Pg	19 20 34.4	-0.1
IRIF				*eS*	Sg	19 20 37.8	+0.1
JKRS	**Kuro-shima**	**0.28**	**71**	P	Pb	19 20 36.0	0.0
JKRS				*eS*	Sb	19 20 40.5	+0.2
JIJ	**Ishigaki jima**	**0.45**	**61**	P	Pg	19 20 38.3	-0.4
JIJ				*eS*	Sg	19 20 44.3	-0.6
JISG	**Ishigakijimahi**	**0.70**	**51**	P	Pb	19 20 43.2	+0.1
JISG				*eS*	Sb	19 20 50.8	-1.5
JTJ	**Tarama**	**1.02**	**61**	*eS*	Sg	19 21 03.0	0.0

TAP 15 19:20:56.9, 24°.38N×121°.73E, h5km, ML1.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.05**	**13**	*i P*	Pg	19 20 58.5	+0.4
ENA				*i S*	Sg	19 20 59.5	+0.4
EAHA	**Aohua**	**0.05**	**170**	P	Pg	19 20 58.6	+0.4
EAHA				S	Sg	19 20 59.8	+0.6
EWUT	**Wuta**	**0.08**	**35**	*i P*	Pg	19 20 58.9	+0.3
EWUT				*i S*	Sg	19 21 00.2	+0.3
LATG	**Datong**	**0.24**	**310**	*eP*	Pg	19 21 02.5	+0.9
LATG				S	Sg	19 21 06.3	+1.5
NACB	**Ninganchiao**	**0.24**	**211**	*i P*	Pg	19 21 02.0	+0.4
NACB				S	Sg	19 21 05.5	+0.7
NDS	**Dongshan**	**0.25**	**357**	*eP*	Pg	19 21 02.3	+0.5
NDS				S	Sg	19 21 06.1	+1.0
TWC	**Suao**	**0.25**	**26**	*eP*	Pg	19 21 02.3	+0.5
TWC				*eS*	Sg	19 21 06.1	+0.9
ETLH	**Xiulin Townshi**	**0.28**	**232**	*i P*	Pg	19 21 02.9	+0.5
ETLH				*eS*	Sg	19 21 07.4	+1.1
ENTT	**Nioudou**	**0.30**	**330**	*i P*	Pg	19 21 03.5	+0.9
ENTT				*eS*	Sb	19 21 08.6	-1.3
NNSB	**Datong**	**0.32**	**278**	*eP*	Pg	19 21 03.4	+0.3
NNSB				S	Sg	19 21 08.4	+1.0
NNSH	**Datong**	**0.32**	**278**	P	Pg	19 21 04.1	+0.9
NNSH				*i S*	Sg	19 21 08.0	+0.6
TWD	**Chiawan**	**0.32**	**202**	P	Pg	19 21 03.6	+0.5
TWD				*eS*	Sg	19 21 08.4	+1.0
NNS	**Nan Shan**	**0.33**	**280**	*eP*	Pg	19 21 03.3	0.0
NNS				S	Sg	19 21 08.6	+0.9
FUSB	**Fushanzhiwuyua**	**0.40**	**341**	P	Pg	19 21 05.2	+0.6
FUSB				*eS*	Sb	19 21 11.6	-1.2
YHNB	**Yeheng**	**0.43**	**312**	P	Pb	19 21 06.3	-0.7
YHNB				*eS*	Sg	19 21 12.2	+1.3
NSK	**Sanguang**	**0.45**	**311**	*eP*	Pb	19 21 06.5	-0.8
NSK				*eS*	Sg	19 21 12.6	+1.2
TIPB	**Shuangxi**	**0.59**	**8**	P	Pg	19 21 08.7	+0.4
TIPB				S	Sg	19 21 17.1	+1.0
OWD	**Renai**	**0.66**	**230**	*eP*	Pg	19 21 09.5	-0.1
OWD				*eS*	Sb	19 21 19.4	-1.1

IDC 15 19:24:49.6±5.9, 32°.80N×71°.49E, h0km, mb3.7/3, mbtmp3.6/4, ML3.2/1, Error ellipse: s-maj=151.7km s-min=36.0km az=136.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.23**	**27**	Pn	P	19 28 40.6	-1.5
	0.1nm,0.3s,baz=214,slow=11,SNR=5.3						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**23.18**	**20**	P	P	19 29 56.5	-1.1
	0.5nm,0.3s,baz=211,slow=9.0,SNR=3.0						
	0.5nm,0.3s						
ARCES	**ARCESS Array B**	**44.72**	**339**	P	P	19 33 04.0	-0.1
	7.8nm,1.2s,baz=111,slow=9.8,SNR=5.1						
	7.8nm,1.2s						
TORD	**Torodi Ar. Bea**	**66.09**	**271**	P	P	19 35 39.0	+0.1
	0.1nm,0.4s,baz=45,slow=6.4,SNR=1.5						
	0.1nm,0.4s						

*IDC **15** 19:40:16.4±1.4, 21°.71N×121°.73E, h0km, mb3.2/6, mbtmp3.3/6, Error ellipse: s-maj=56.9km s-min=21.8km az=62.0*
*JMA **15** 19:40:17.7±0.3, 22°N±1°×12°1E±°, h27km, MV3.7/16, TAIWAN REGION*
*TAP **15** 19:40:18.1, 21°.88N×121°.42E, h26km, ML3.6, D*
*ASIES **15** 19:40:18.1, 21°.88N×121°.42E, h26km, ML3.6, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.74; $M_{\theta\theta}$0.87; $M_{\phi\phi}$-1.60; $M_{r\theta}$-1.27; $M_{\theta\phi}$-0.65; $M_{\phi r}$1.85; Fault plane solution: $M_0$2.71872×10^{21} NP1: ϕ_s=334.28000°, δ80.99000°, λ58.67000°. NP2: ϕ_s=229.85000°, δ32.47000°, λ163.04000°. Principal axes: T Plg45.0160°, Azm212.9420°; N Plg30.8980°, Azm339.7240°; P Plg29.0670°, Azm89.1520°;*

ISC 15 19:40:19.2±0.9, 21°.93N±0°.04×121°.41E±0°.02, h24km±6km, n127, σ1°13/182, mb3.2/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.17**	**51**	*i P*	**Pb**	**19 40 24.2**	**-0.3**
LAY				*eS*	**Sb**	**19 40 28.8**	**+0.8**
LYUB	**Lan-yu**	**0.18**	**67**	*i P*	**Pb**	**19 40 23.9**	**-0.6**
LYUB				S	**Sb**	**19 40 27.9**	**-0.2**
SMST	**Manzhou Townsh**	**0.54**	**280**	*eP*	**Pb**	**19 40 29.5**	**-0.6**
TWKBT	**Hengchun**	**0.55**	**271**	*i P*	**Pb**	**19 40 29.8**	**-0.6**
TWKBT				*eS*	**Sb**	**19 40 37.6**	**-0.2**
TWK1	**Hengchun**	**0.56**	**271**	*i P*	**Pb**	**19 40 29.7**	**-0.7**
TWK1				S	**Sb**	**19 40 37.7**	**-0.4**
HEN	**Hengchun**	**0.63**	**277**	P	**Pb**	**19 40 31.1**	**-0.4**
HEN				S	**Sb**	**19 40 40.2**	**+0.3**
TAWH	**Dawu Township**	**0.63**	**310**	*i P*	**Pb**	**19 40 31.0**	**-0.6**
TAWH				S	**Sb**	**19 40 40.2**	**+0.2**
SLIU	**Shizi**	**0.63**	**297**	*eP*	**Pb**	**19 40 31.1**	**-0.5**
TAW	**Tawu**	**0.64**	**312**	*i P*	**Pb**	**19 40 31.1**	**-0.6**
TAW				*i S*	**Sb**	**19 40 40.4**	**+0.2**
EAST	**Anshuo**	**0.69**	**311**	*eP*	**Pb**	**19 40 31.6**	**-0.9**
LDUT	**Ludao**	**0.74**	**4**	*i P*	**Pb**	**19 40 32.8**	**-0.6**
LDUT				S	**Sb**	**19 40 43.5**	**+0.3**
ECL	**Taimali**	**0.79**	**328**	*eP*	**Pb**	**19 40 33.2**	**-1.0**
SCZT	**Fangliau**	**0.85**	**301**	*eP*	**Pn**	**19 40 34.8**	**-0.9**
TTN	**Taitung**	**0.85**	**344**	*eP*	**Pb**	**19 40 36.0**	**+0.6**
TTN				*eS*	**Sn**	**19 40 47.6**	**+0.2**
TWGBT	**Beinan**	**0.93**	**341**	P	**Pn**	**19 40 35.5**	**-1.4**
TWGBT	**Beinan**	**0.93**	**341**	P	**Pn**	**19 40 35.4**	**-1.4**
TWGBT				*eS*	**Sb**	**19 40 48.5**	**-0.2**
TWG	**Pinlang**	**0.94**	**341**	*eP*	**Pn**	**19 40 35.5**	**-1.4**
TWG				*eS*	**Sb**	**19 40 47.9**	**-1.0**
MASBT	**Mashibuluo**	**0.99**	**313**	*eP*	**Pn**	**19 40 36.5**	**-1.0**
LONT	**Longtian**	**1.00**	**345**	*eP*	**Pn**	**19 40 36.9**	**-0.9**
LONT				*eS*	**Sn**	**19 40 49.1**	**-2.1**
EDH	**Donghe**	**1.04**	**355**	*eP*	**Pn**	**19 40 37.8**	**-0.5**
EDH				*i S*	**Sn**	**19 40 52.0**	**-0.1**
WLCH	**Liuqiu**	**1.04**	**294**	*eP*	**Pb**	**19 40 40.3**	**+1.7**
TSMG	**Majia**	**1.05**	**318**	*eP*	**Pn**	**19 40 37.6**	**-0.8**
TWP	**Hsiaoliuchiu**	**1.05**	**293**	*eP*	**Pb**	**19 40 41.3**	**+2.5**
SGLT	**Jiouru**	**1.16**	**313**	*eP*	**Pb**	**19 40 42.3**	**+1.7**
CHKT	**Chengkung**	**1.16**	**358**	*eP*	**Pn**	**19 40 39.6**	**-0.4**
CHKT				S	**Sn**	**19 40 55.3**	**+0.2**
ECS	**Chishang**	**1.17**	**351**	*eP*	**Pn**	**19 40 39.3**	**-0.8**
ECS				*eS*	**Sb**	**19 40 56.3**	**+0.7**
EHD	**Haiduan**	**1.23**	**351**	*eP*	**Pn**	**19 40 39.7**	**-1.2**
EHD				*eS*	**Sn**	**19 40 55.8**	**-0.9**
CHKH	**Chenggong**	**1.25**	**359**	*eP*	**Pn**	**19 40 41.0**	**-0.2**
CHKH				*eS*	**Sn**	**19 40 57.8**	**+0.4**
FULB	**Fuli**	**1.27**	**355**	*i P*	**Pn**	**19 40 41.6**	**+0.2**
FULB				*i S*	**Sb**	**19 40 59.0**	**+0.7**
SCST	**Cishan**	**1.27**	**318**	*eP*	**Pb**	**19 40 42.7**	**+0.2**
TWM1	**Shoushan**	**1.27**	**314**	*eP*	**Pb**	**19 40 43.5**	**+0.9**
WSSB	**Gushan**	**1.28**	**304**	P	**Pb**	**19 40 42.6**	**0.0**
ELDTW	**Lidau**	**1.30**	**344**	P	**Pn**	**19 40 40.9**	**-1.1**
STYH	**Taoyuan**	**1.36**	**335**	P	**Pn**	**19 40 42.6**	**-0.1**
SGST	**Jiashian**	**1.38**	**326**	*eP*	**Pb**	**19 40 43.6**	**-0.7**
SGST				*eS*	**Sb**	**19 41 03.3**	**+1.8**
ECBN	**Changbin**	**1.38**	**2**	*eP*	**Pn**	**19 40 42.6**	**-0.3**
ECBN				*eS*	**Sn**	**19 41 01.1**	**+0.7**
EYUL	**Yuli**	**1.41**	**357**	*eP*	**Pn**	**19 40 43.4**	**0.0**
TWF1	**Yuli**	**1.42**	**356**	*eP*	**Pn**	**19 40 42.6**	**-0.9**
YULB	**Yu-li**	**1.46**	**356**	P	**Pb**	**19 40 45.2**	**-0.5**
YULB	**Yu-li**	**1.46**	**356**	*eP*	**Pn**	**19 40 42.8**	**-1.3**
CHN1	**Nanshi**	**1.49**	**327**	*eP*	**Pb**	**19 40 46.2**	**0.0**
CHN1				*eS*	**Sb**	**19 41 06.9**	**+2.2**
SNST	**Tainan City**	**1.54**	**327**	*eP*	**Pb**	**19 40 46.4**	**-0.5**
SNST				*eS*	**Sb**	**19 41 08.0**	**+1.9**
TPUB	**Ta-pu**	**1.54**	**332**	P	**Pb**	**19 40 46.6**	**-0.5**
TPUB	**Ta-pu**	**1.54**	**332**	P	**Pb**	**19 40 46.6**	**-0.5**
TPUB				*eS*	**Sb**	**19 41 07.6**	**+1.4**
HGSD	**Ruisui**	**1.55**	**0**	*eP*	**Pn**	**19 40 45.9**	**+0.5**
EHY	**Hungye**	**1.57**	**357**	*eP*	**Pn**	**19 40 45.0**	**-0.5**
TWK	**Hsinying**	**1.58**	**328**	*eP*	**Pb**	**19 40 47.3**	**-0.4**
TWK				*eS*	**Sb**	**19 41 09.7**	**+2.4**
CHN4	**Tsaushan**	**1.60**	**332**	*eP*	**Pb**	**19 40 47.9**	**-0.3**
CHN4				*eS*	**Sb**	**19 41 09.4**	**+1.5**
ALS	**Alishan**	**1.67**	**341**	*eP*	**Pn**	**19 40 47.8**	**+0.6**
WCKO	**Fanlu**	**1.67**	**334**	*eP*	**Pb**	**19 40 48.7**	**-0.7**
WCKO				*eS*	**Sb**	**19 41 11.1**	**+1.0**
TSCK	**Chigu Township**	**1.72**	**315**	*eP*	**Pn**	**19 40 48.1**	**+0.5**
TSCK				*eS*	**Sb**	**19 41 10.8**	**-0.5**
EGFH	**Guangfu**	**1.73**	**1**	*eP*	**Pn**	**19 40 48.5**	**+0.8**
ICHU	**Yijhu**	**1.76**	**324**	*eP*	**Pn**	**19 40 48.8**	**+0.6**
WARBT	**Fenglin Townsh**	**1.78**	**359**	*eP*	**Pn**	**19 40 48.0**	**-0.4**
CHY	**Chiayi**	**1.81**	**330**	*eP*	**Pb**	**19 40 50.0**	**-1.6**
CHY				*eS*	**Sb**	**19 41 13.7**	**-0.1**
WHYT	**Xinyi Township**	**1.83**	**344**	*eP*	**Pb**	**19 40 50.8**	**-1.3**
WHYT				*eS*	**Sb**	**19 41 13.5**	**-0.9**
VWDT	**VWDT**	**1.83**	**352**	*eP*	**Pn**	**19 40 49.5**	**+0.3**
VWDT				*eS*	**Sn**	**19 41 13.0**	**+1.5**
SHUL	**Shoufeng**	**1.85**	**4**	*eP*	**Pn**	**19 40 50.1**	**+0.7**
SHUL				*eS*	**Sn**	**19 41 13.7**	**+1.5**
ESL	**Shilin**	**1.87**	**1**	*eP*	**Pn**	**19 40 50.3**	**+0.5**
SSLB	**Suanglung**	**1.90**	**347**	P	**Pb**	**19 40 51.5**	**-1.6**
SSLB	**Suanglung**	**1.90**	**347**	*eP*	**Pn**	**19 40 51.1**	**+1.0**
SSLB				*eS*	**Sb**	**19 41 15.3**	**-1.1**
WDLH	**Douliu**	**1.93**	**335**	*eP*	**Pn**	**19 40 50.5**	**0.0**
WDLH				*eS*	**Sn**	**19 41 15.8**	**+1.8**
TEYL	**Yanliau Villag**	**1.94**	**5**	*eP*	**Pb**	**19 40 52.4**	**-1.4**
WJS	**Zhushan**	**1.98**	**342**	*eP*	**Pb**	**19 40 53.3**	**-1.3**
WJS				*eS*	**Sb**	**19 41 20.5**	**+1.6**
WTK	**Tuku**	**1.99**	**332**	*eP*	**Pn**	**19 40 51.6**	**+0.3**
WTK				*eS*	**Sn**	**19 41 17.4**	**+2.0**
SMLT	**Sun Moon Lake**	**2.00**	**346**	*eP*	**Pn**	**19 40 52.4**	**+0.8**
SMLT				*eS*	**Sb**	**19 41 18.4**	**-1.0**
WSF	**Szhu**	**2.02**	**327**	*eP*	**Pn**	**19 40 51.8**	**0.0**
WSF				*eS*	**Sb**	**19 41 18.4**	**-1.6**
OWD	**Renai**	**2.02**	**354**	*eP*	**Pn**	**19 40 52.6**	**+0.6**
OWD				*eS*	**Sn**	**19 41 16.6**	**0.0**
ETM	**Tongmen**	**2.03**	**2**	*eP*	**Pn**	**19 40 51.9**	**+0.1**
TYC	**Yuchr**	**2.03**	**346**	*eP*	**Pb**	**19 40 54.2**	**-1.2**
TYC				*eS*	**Sb**	**19 41 20.6**	**+0.4**
WNT	**Mingjian**	**2.05**	**341**	*eP*	**Pb**	**19 40 54.5**	**-1.3**
WNT				*eS*	**Sb**	**19 41 20.7**	**-0.1**
WUSB	**Renai**	**2.07**	**353**	P	**Pn**	**19 40 53.4**	**+0.9**
WUSB				S	**Sn**	**19 41 17.7**	**+0.1**
LXIB	**Xiulin Townshi**	**2.08**	**0**	*eP*	**Pn**	**19 40 52.3**	**-0.5**
LXIB				*eS*	**Sn**	**19 41 16.9**	**-1.1**
WDGT	**Dungji**	**2.09**	**310**	*eP*	**Pn**	**19 40 52.2**	**-0.5**
WDGT				*eS*	**Sn**	**19 41 17.0**	**-0.9**
WCS	**Beigang Elemen**	**2.17**	**348**	*eP*	**Pb**	**19 40 55.8**	**-2.0**
WCS				*eS*	**Sn**	**19 41 22.1**	**+2.3**
WHF	**Hehuan Shan**	**2.21**	**357**	*eP*	**Pn**	**19 40 55.2**	**+0.5**
VCHM	**Qimei**	**2.23**	**305**	P	**Pn**	**19 40 53.3**	**-1.3**
VCHM				*eS*	**Sn**	**19 41 20.0**	**-1.4**
NACB	**Ninganchiao**	**2.24**	**4**	P	**Pn**	**19 40 55.6**	**+0.8**
NACB	**Ninganchiao**	**2.24**	**4**	*eP*	**Pn**	**19 40 54.6**	**-0.2**
NACB				*eS*	**Sn**	**19 41 22.6**	**+1.0**
ETLH	**Xiulin Townshi**	**2.27**	**2**	*eP*	**Pn**	**19 40 55.9**	**+0.7**
FUSS	**Fushou**	**2.31**	**356**	*eP*	**Pn**	**19 40 56.6**	**+0.6**
PHUB	**P'eng-hu**	**2.31**	**313**	P	**Pn**	**19 40 54.7**	**-1.1**
PHUB				*eS*	**Sn**	**19 41 22.6**	**-0.9**
TWT	**Tachien**	**2.32**	**355**	*eP*	**Pn**	**19 40 56.6**	**+0.6**
TDCB	**Techi**	**2.32**	**354**	*eP*	**Pn**	**19 40 56.9**	**+0.9**
PNG	**Penghu**	**2.36**	**314**	*eP*	**Pn**	**19 40 55.9**	**-0.5**
PNG				*eS*	**Sn**	**19 41 23.8**	**-0.9**
WHP	**Taichung City**	**2.37**	**350**	P	**Pb**	**19 40 58.9**	**-2.4**
WHP				*eS*	**Sb**	**19 41 29.6**	**-0.7**
TWQ1	**Liyutan**	**2.48**	**346**	*eP*	**Pn**	**19 40 59.7**	**+1.7**
TWQ1				*eS*	**Sb**	**19 41 31.6**	**-1.4**
NNSB	**Datong**	**2.49**	**359**	*eP*	**Pn**	**19 40 59.1**	**+0.8**
EOS3	**EOS3**	**2.49**	**19**	*eP*	**Pn**	**19 40 58.8**	**+0.8**
LATG	**Datong**	**2.59**	**2**	*eP*	**Pn**	**19 41 00.3**	**+0.6**
ENTT	**Nioudou**	**2.70**	**3**	*eP*	**Pn**	**19 41 02.2**	**+1.0**
NFF	**Wufeng Townshi**	**2.70**	**354**	*eP*	**Pn**	**19 41 03.6**	**+2.4**
NFF				*eS*	**Sb**	**19 41 36.7**	**-2.9**
NSTT	**Nanjuang**	**2.71**	**352**	*eP*	**Pb**	**19 41 04.0**	**-3.0**
YHNB	**Yeheng**	**2.73**	**359**	P	**Pn**	**19 41 03.4**	**+1.8**
YHNB	**Yeheng**	**2.73**	**359**	P	**Pn**	**19 41 03.3**	**+1.8**
NSK	**Sanguang**	**2.73**	**359**	*eP*	**Pn**	**19 41 03.3**	**+1.7**
NSK				*eS*	**Sn**	**19 41 35.2**	**+1.2**
FUSB	**Fushanzhiwuyua**	**2.82**	**3**	*eP*	**Pn**	**19 41 03.4**	**+0.5**
NWLT	**Wulai**	**2.83**	**2**	*eP*	**Pn**	**19 41 04.2**	**+1.2**
JYNG	**Yonagunijimaku**	**2.88**	**29**	*eP*	**Pn**	**19 41 04.6**	**+1.1**
JYNG				*eS*	**Sn**	**19 41 38.0**	**+0.6**
YOJ	**Yonaguni jima**	**2.92**	**30**	P	**Pn**	**19 41 06.4**	**+2.3**
TIPB	**Shuangxi**	**3.05**	**7**	*eP*	**Pn**	**19 41 08.0**	**+2.1**
HATJ	**Hateruma jima**	**3.06**	**46**	*eP*	**Pn**	**19 41 06.1**	**+0.1**
HATJ				*eS*	**Sn**	**19 41 41.2**	**-0.6**
IRIF	**Iriomote-Funau**	**3.21**	**41**	P	**Pn**	**19 41 08.6**	**+0.5**
JKRS	**Kuro-shima**	**3.32**	**46**	P	**Pn**	**19 41 10.1**	**+0.5**
JIJ	**Ishigaki jima**	**3.49**	**46**	*eP*	**Pn**	**19 41 11.9**	**-0.1**
JIJ				*eS*	**Sn**	**19 41 51.9**	**-0.7**
PTMZ	**Houxiangcun**	**3.74**	**326**	*eP*	**Pn**	**19 41 15.5**	**+0.1**
PTMZ				*eS*	**Sn**	**19 41 56.9**	**-1.8**
KNMB	**Chin-men Tao**	**3.75**	**313**	*eP*	**Pn**	**19 41 15.0**	**-0.6**
KNMB				*eS*	**Sn**	**19 41 58.1**	**-0.9**
JISG	**Ishigakijimahi**	**3.76**	**45**	*eP*	**Pn**	**19 41 15.5**	**-0.1**
JISG				*eS*	**Sn**	**19 41 58.6**	**-0.5**
JTJ	**Tarama**	**4.05**	**48**	P	**Pn**	**19 41 20.1**	**+0.4**
JTJ				*eS*	**Sn**	**19 42 05.2**	**-1.2**
MATB	**Ma-tsu**	**4.41**	**343**	*eP*	**Pn**	**19 41 24.7**	**+0.1**
MATB				*eS*	**Sn**	**19 42 13.9**	**-1.3**
JIRB	**Irabujima**	**4.50**	**49**	*eP*	**Pn**	**19 41 26.0**	**+0.2**
JMJ2	**Miyako jima3**	**4.56**	**51**	*eP*	**Pn**	**19 41 26.9**	**+0.2**
JMJ2				*eS*	**Sn**	**19 42 19.4**	**+0.5**
JMJ	**Miyako jima 2**	**4.58**	**50**	P	**Pn**	**19 41 30.2**	**+3.2**
JIKM	**Ikemajima**	**4.62**	**49**	*eP*	**Pn**	**19 41 27.9**	**+0.5**
JIKM				*eS*	**Sn**	**19 42 20.6**	**+0.3**
MHZQ	**Yeshan**	**4.69**	**333**	*eP*	**Pn**	**19 41 28.7**	**+0.3**
MHZQ				*eS*	**Sn**	**19 42 21.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**21.36**	**265**	P	**P**	**19 45 07.6**	**+2.7**
	0.2nm,0.5s,baz=84,slow=9.2,SNR=2.0						
	0.2nm,0.5s						
SONM	**Songino Array**	**28.52**	**339**	P	**P**	**19 46 14.5**	**+1.6**
	0.2nm,0.6s,baz=148,slow=9.2,SNR=1.5						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**40.12**	**318**	P	P	19 47 57.7	+4.7
	0.8nm,0.8s,baz=109,slow=9.5,SNR=2.8						
	0.8nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**42.45**	**84**	T	T	20 33 24.4	
	baz=282						
H11N2	**WAKE ISLAND Hy**	**42.45**	**84**	T	T	20 33 27.4	
	baz=282						
H11N3	**WAKE ISLAND Hy**	**42.47**	**84**	T	T	20 33 23.9	
	baz=282						
H11S3	**WAKE ISLAND Hy**	**42.51**	**86**	T	T	20 33 26.0	
	baz=283,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**42.52**	**86**	T	T	20 33 23.9	
	baz=283,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**42.53**	**86**	T	T	20 33 27.4	
	baz=283,slow=75,SNR=13						
WRA	**Warramunga Arr**	**43.49**	**162**	P	**P**	**19 48 18.3**	**-2.5**
	0.2nm,0.7s,baz=344,slow=8.9,SNR=1.9						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**46.93**	**164**	P	**P**	**19 48 47.1**	**-0.9**
	0.1nm,0.3s,baz=344,slow=6.8,SNR=7.5						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**49.55**	**322**	P	P	19 49 12.9	+4.8
	0.3nm,0.5s,baz=105,slow=9.1,SNR=2.4						
	0.3nm,0.5s						

*IDC **15** 19:45:00.9±1.0, 34°.63N×46°.28E, h0km, mb3.6/12, mbtmp3.7/23, ML3.7/10, MS2.8/3, Error ellipse: s-maj=18.3km s-min=13.0km az=161.0*
*ISN **15** 19:45:02.3±0.4, 34°.64N×46°.30E, h6km±4km, ML4.2*
*TEH **15** 19:45:03.1, 34°.63N×46°.32E, h8km±24km, ML3.8*
*AFAD **15** 19:45:04.7±0.0, 34°.39N×45°.52E, h7km±4km, MW4.0*
*OMAN **15** 19:45:12.4±1.4, 33°.94N×46°.82E, h10km, mb4.0/25, ms2.7/4, Error ellipse: s-maj=13.3km s-min=10.6km az=39.0*

ISC 15 19:45:02.2±0.9, 34°.60N±0°.02×46°.35E±0°.03, h15km±6km, n112, σ3°14/148, mb3.6/11, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.10**	**18**	Pg	**Pg**	**19 45 05.7**	**-0.1**
IGHG	**Ghaleghazi**	**0.33**	**146**	Pg	**Pb**	**19 45 11.2**	**+1.3**
ILIN	**Lien**	**0.60**	**58**	Pg	**Pb**	**19 45 14.6**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.61**	**217**	Pg	**Pb**	**19 45 15.0**	**+0.4**
KGS1	**Ghasr-e-Shirin**	**0.63**	**262**	Pg	**Pb**	**19 45 15.2**	**+0.2**
KCHF	**Cheshme Sefid,**	**0.66**	**119**	Pg	**Pb**	**19 45 16.4**	**+0.9**
KCHF				Sg	**Sn**	**19 45 27.7**	**+0.2**
ILBA	**Ilam Banvizeh**	**0.98**	**187**	Pg	**Pn**	**19 45 22.6**	**+1.0**
SNQR	**Sonqor, Kerman**	**1.08**	**76**	Pg	**Pn**	**19 45 24.5**	**+1.3**
IBZA	**Bozab**	**1.26**	**96**	Pg	**Pg**	**19 45 27.0**	**+0.5**
IKFM	**Kafar-mosalman**	**1.64**	**130**	Pg	**Pg**	**19 45 34.4**	**+0.6**
SDS1	**Sardasht. Az.**	**1.70**	**336**	Pg	**Pg**	**19 45 33.6**	**-1.2**
IDOB	**Doab**	**1.72**	**118**	Pg	**Pg**	**19 45 35.9**	**+0.6**
IKRK	**Kirkuk**	**1.83**	**296**	*e*Pn	**Pb**	**19 45 35.5**	**0.0**
IKRK				*e*Sn	**Sg**	**19 45 59.5**	**-1.7**
IKRK				AML	AML	19 46 04.2	
	comp=E,3μm,0.4s						
IKRK				AML	AML	19 46 04.8	
	comp=N,4μm,0.4s						
BHD	**Baghdad**	**2.11**	**232**	*e*Pn	**Pb**	**19 45 39.5**	**-0.6**
BHD				*e*Sn	**Sb**	**19 46 07.0**	**+0.9**
MAHB	**Mahabad**	**2.22**	**347**	Pn	**Pb**	**19 45 42.6**	**+0.4**
IHSH	**Hashtrud**	**2.80**	**15**	Pn	**Pb**	**19 45 50.8**	**-1.3**
QABG	**Abgarm-Qazvin**	**2.87**	**66**	Pn	**Pb**	**19 45 52.4**	**-1.0**
RAFI	**Al-Rafai**	**2.88**	**184**	*e*Pn	**Pb**	**19 45 51.0**	**-2.3**
RAFI				*e*Sn	**Sb**	**19 46 26.5**	**-1.8**
IAZR	**Azarshahr**	**3.09**	**355**	Pn	**Pb**	**19 45 54.5**	**-2.5**
ISRB	**Sarab**	**3.39**	**18**	Pn	**Pb**	**19 45 58.6**	**-3.6**
YOVA	**Hakkari_Yksek**	**3.42**	**331**	P	**Pb**	**19 45 59.3**	**-3.3**
YOVA				S	**Sb**	**19 46 41.7**	**-2.3**
CUKT	**Cukurca**	**3.45**	**321**	P	**Pn**	**19 45 59.0**	**+3.4**
CUKT				S	**Sb**	**19 46 46.8**	**+1.8**
HAKT	**HAKKARI**	**3.65**	**325**	P	**Pn**	**19 46 01.2**	**+2.8**
HAKT				S	**Sb**	**19 46 53.8**	**+3.2**
IHRS	**Heris**	**3.75**	**8**	Pn	**Pb**	**19 46 04.1**	**-4.3**
IPIR	**Pirpir**	**4.25**	**115**	Pn	**Pn**	**19 46 10.3**	**+3.7**
QAMS	**Qamsar**	**4.27**	**100**	Pn	Pn	19 46 11.9	+4.9
SIRN	**Sırnak**	**4.30**	**313**	P	**Pn**	**19 46 09.8**	**+2.5**
SIRN				S	**Sn**	**19 46 57.7**	**+0.4**
GRMI	**Germi**	**4.38**	**16**	Pn	**Pn**	**19 46 12.3**	**+4.0**
ZNGN	**Zangian**	**4.51**	**122**	Pn	**Pn**	**19 46 14.6**	**+4.3**
IKLH	**Kolahrood**	**4.53**	**105**	Pn	**

BSY			S	Sn	19 51 18.8	-4.9
SMDO	**Samad**	**15.39 135**	P	Pn	19 48 40.1	+1.1
SMDO			P	Pn	19 48 40.1	+1.1
SMDO			S	Sn	19 51 22.1	-7.3
SMDO			S	Sn	19 51 22.1	-7.3
WSAR	**Wadi Sarin**	**15.60 133**	Pn	Pn	19 48 41.5	-0.2
	comp=N,1.4nm,0.3s,baz=350,slow=12,SNR=18					
WSAR			Sn	Sn	19 51 23.2	-11
	comp=N,0.1nm,0.3s,baz=316,slow=22,SNR=2.4					
	comp=N,4.3nm,0.3s					
JMDO	**Jabal Madar**	**15.96 137**	P	Pn	19 48 46.5	+0.2
JLN	**Jalan Bani Buh**	**16.89 134**	P	P	19 49 00.9	+0.7
MHTO	**MHTO**	**17.00 140**	P	Pn	19 48 59.6	0.0
MHTO			S	Sn	19 51 58.9	-9.4
DOK	**Doka**	**17.36 155**	P	Pn	19 49 03.1	-0.9
DOK			S	Sn	19 52 08.5	-8.6
IDI	**Anoyia**	**17.61 278**	P	Pn	19 49 06.8	-0.3
	comp=N,10nm,0.9s,baz=134,slow=15,SNR=1.5					
BELG	**Belogornoye**	**17.81 3**	P	Pn	19 49 09.5	+0.1
	comp=N,0.3nm,0.3s,baz=103,slow=10,SNR=2.7					
	comp=N,5.7nm,0.7s					
WHFO	**Wadi Hawf**	**17.89 156**	P	Pn	19 49 10.0	-0.7
	SNR=18					
WHFO			S	Sn	19 52 27.5	-2.4
AKTO	**Aktyubinsk**	**17.97 25**	P	P	19 49 13.7	+1.7
	comp=N,0.1nm,0.3s,baz=214,slow=4.3,SNR=1.4					
	comp=N,0.9nm,0.5s					
ABTO	**Aybut**	**18.27 158**	P	Pn	19 49 14.3	-1.0
	SNR=9.0					
ABTO			S	Sn	19 52 35.2	-3.9
RBK	**Rabkut**	**18.42 156**	P	P	19 49 16.7	-0.4
DMTO	**DMTO**	**18.49 153**	P	P	19 49 17.0	-0.8
	SNR=6.6					
DMTO			S	Sn	19 52 34.0	-10
MLR	**Muntele Rosu**	**18.98 311**	P	P	19 49 21.6	-1.6
	comp=N,0.2nm,0.3s,baz=93,slow=18,SNR=1.7					
	comp=N,0.8nm,0.4s					
AKASG	**Malin Array Be**	**20.35 327**	P	P	19 49 37.3	-0.6
	comp=N,0.3nm,0.3s,baz=142,slow=9.1,SNR=2.5					
	comp=N,0.3nm,0.3s					
ARTI	**Arti**	**23.30 17**	P	P	19 50 08.3	-1.0
	comp=N,0.7nm,0.4s,baz=280,slow=20,SNR=1.7					
	comp=N,0.7nm,0.4s					
BVAR	**Borovoye Array**	**25.10 35**	P	P	19 50 28.1	+1.9
	comp=N,0.4nm,0.5s,baz=222,slow=1.9,SNR=3.0					
	comp=N,0.4nm,0.5s					
KURBB	**Kurchatov Arra**	**28.30 46**	P	P	19 50 55.6	+0.5
	comp=N,0.5nm,0.3s,baz=243,slow=9.9,SNR=1.3					
	comp=N,0.5nm,0.3s					
MKAR	**Makanchi Array**	**29.59 55**	P	P	19 51 09.2	+2.5
	comp=N,0.7nm,0.9s,baz=221,slow=11,SNR=1.4					
MKAR			LR	LR	20 04 16.8	
	comp=N,36nm,19.6s,baz=26,slow=39					
	comp=N,0.7nm,0.9s					
FINES	**FINESS Array B**	**29.82 340**	P	P	19 51 08.9	+0.5
	comp=N,1.9nm,0.8s,baz=148,slow=11,SNR=4.3					
	comp=N,1.9nm,0.8s					
HFS	**Hagfors**	**33.18 330**	P	P	19 51 38.8	+0.8
	comp=N,0.8nm,0.4s,baz=128,slow=9.3,SNR=1.9					
	comp=N,0.8nm,0.4s					
NOA	**NORSAR Array B**	**34.70 331**	P	P	19 51 52.3	+1.1
	comp=N,1.3nm,1.0s,baz=124,slow=8.6,SNR=2.9					
	comp=N,1.3nm,1.0s					
EKA	**Eskdalemuir Ar**	**39.65 317**	P	P	19 52 33.1	-0.2
	comp=N,0.7nm,0.6s,baz=108,slow=9.0,SNR=1.7					
	comp=N,0.7nm,0.6s					
ESDC	**Sonseca Array**	**40.00 292**	P	P	19 52 37.1	+0.6
	comp=N,0.6nm,0.9s,baz=59,slow=8.3,SNR=4.6					
	comp=N,0.6nm,0.9s					
TORD	**Torodi Ar. Bea**	**45.62 253**	P	P	19 53 23.5	+1.3
	comp=N,0.2nm,0.5s,baz=27,slow=9.7,SNR=1.5					
	comp=N,0.2nm,0.5s					
CMAR	**Chiang Mai Arr**	**49.19 95**	P	P	19 53 50.9	+0.9
	comp=N,0.4nm,0.8s,baz=300,slow=9.2,SNR=3.1					
	comp=N,0.4nm,0.8s					

IDC 15 19:53:16.1±2.7, 6°.41N×91°.98E, h0km, mb3.8/3, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=90.9km s-min=28.2km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.77**	**29**	Pn	Pn	19 56 30.7	-2.1
	0.1nm,0.3s,baz=230,slow=14,SNR=15						
	1.4nm,0.8s						
H08S3	**Diego Garcia H**	**23.93**	**235**	T	T	20 24 18.5	
	baz=54,slow=76,SNR=205						
H08S2	**Diego Garcia H**	**23.93**	**235**	T	T	20 24 27.7	
	baz=54,slow=76,SNR=176						
H08S1	**Diego Garcia H**	**23.94**	**235**	T	T	20 24 25.5	
	baz=54,slow=76,SNR=173						
MKAR	**Makanchi Array**	**41.09**	**350**	P	P	20 01 02.7	+1.0
	2.3nm,1.0s,baz=156,slow=7.8,SNR=3.6						
	2.3nm,1.0s						
WRA	**Warramunga Arr**	**49.21**	**123**	P	P	20 02 05.1	-1.5
	0.8nm,0.8s,baz=297,slow=7.2,SNR=9.2						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**50.67**	**128**	P	P	20 02 18.5	+0.8
	0.6nm,0.6s,baz=300,slow=7.6,SNR=13						
	0.6nm,0.6s						
H04N2	**CROZET ISLANDS**	**63.38**	**210**	T	T	21 13 43.8	
	baz=46,slow=75,SNR=188						
H04N1	**CROZET ISLANDS**	**63.39**	**210**	T	T	21 14 06.2	
	baz=46,slow=75,SNR=127						
H04N3	**CROZET ISLANDS**	**63.40**	**210**	T	T	21 14 05.5	
	baz=46,slow=75,SNR=138						
H04S1	**CROZET ISLANDS**	**63.80**	**210**	T	T	21 14 36.6	
	baz=46						
H04S3	**CROZET ISLANDS**	**63.81**	**210**	T	T	21 14 33.1	
	baz=46						
H04S2	**CROZET ISLANDS**	**63.82**	**210**	T	T	21 14 37.6	
	baz=46						

*IDC **15** 20:02:20.6±0.3, 56°.70S×25°.42W, h0km, mb5.4/17, mbtmp5.4/18, ML4.8/1, MS6.2/45, Error ellipse: s-maj=17.2km s-min=12.1km az=58.0*

*MOS **15** 20:02:21.5±1.2, 56°.71S×25°.80W, h10km, mb6.0/24, MS6.3/29, Error ellipse: s-maj=17.1km s-min=9.3km az=106.9*

*BJI **15** 20:02:22.0, 56°.66S×25°.69W, h10km, mB6.3/33, Ms6.7/82, Ms7 6.6/80*

*NEIC **15** 20:02:22, 56°.78S×25°.39W, h20km*

*NEIC **15** 20:02:22, 56°.38S×25°.57W, h20km, Moment Tensor Solution. Duration: 7s0 Moment tensor: Scale 10^18^Nm; Mrr3.91; Mθθ-0.16; Mφφ-3.76; Mrθ0.33; Mrφ1.65; Mθφ1.60; Fault plane solution: M0 4.48000×10^18^ NP1: φs351.13000°, δ55.49000°, λ105.06000°. NP2: φs145.74000°, δ37.28000°, λ69.30000°. Principal axes: T 4.3327, Plg74.0000°, Azm304.0000°; N 0.2897, Plg12.0000°, Azm162.0000°; P -4.6224, Plg9.0000°, Azm70.0000°;*

*NEIC **15** 20:02:22, 56°.78S×25°.39W, h10km*

*NEIC **15** 20:02:22.9±1.5, 56°.71S±0°.09×25°.6W±0°.1, h15km±1km, mb5.9/179, Ms_20 6.5/694, Mwb6.2/47, Mww6.4/39, Error ellipse: s-maj=15.6km s-min=12.6km az=30.0, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr2.12; Mθθ0.16; Mφφ-2.27; Mrθ-0.61; Mθφ1.36; Mφr1.23; Fault plane solution: M0 2.93000×10^18^ NP1: φs157.91000°, δ30.65000°, λ93.00000°. NP2: φs334.43000°, δ59.40000°, λ88.22000°. Principal axes: T 2.4707, Plg76.0000°, Azm239.0000°; N 0.7607, Plg2.0000°, Azm335.0000°; P -3.2314, Plg14.0000°, Azm66.0000°;*

*GCMT **15** 20:02:29.9±0.0, 56°.79S×25°.08W, h18km, MW6.4/175, Moment Tensor Solution. s175, c427; s173, c747; Duration: 3s8 Moment tensor: Scale 10^18^Nm; Mrr3.90±.02; Mθθ-0.10±.01; Mφφ-3.80±.02; Mrθ-0.84±.04; Mθφ1.30±.01; Mrφ2.62±.05; Best double couple: M0 4.90100×10^18^ NP1: φs342.00000°, δ62.00000°, λ90.00000°. NP2: φs163.00000°, δ28.00000°, λ90.00000°. Principal axes: T 4.7460, Plg73.0000°, Azm252.0000°; N 0.3100, Plg0.0000°, Azm342.0000°; P -5.0570, Plg17.0000°, Azm72.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 15 20:02:22.2±0.2, 56°.84S±0°.04×25°.77W±0°.04, h10km, h10km: pP-P, n1400, σ2s27/1065, mb5.9/140, MS6.5/462, 64C-26D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.59**	**288**		**Pn**	**20 04 01.4**	**+2.4**
HOPE	**Hope Point**	**6.59**	**288**	⇑P	**Pn**	**20 04 02.4**	**+3.4**
HOPE	**Hope Point**	**6.59**	**288**	P	**Pn**	**20 04 01.4**	**+2.4**
VNA1	**Neumayer--Stat**	**15.77**	**158**	⇑P	**Pn**	**20 06 05.6**	**+1.6**
	comp=Z,161nm,0.8s						
VNA3	**Neumayer Olymp**	**15.99**	**161**	⇑P	**Pn**	**20 06 07.9**	**+1.0**
	comp=Z,1.2nm,0.2s						
VNA3				⇓S	**Sn**	**20 09 10.8**	**+6.9**
	comp=Z,18nm,0.6s						
VNA2	**Neumayer--Watz**	**16.17**	**158**	⇑P	**Pn**	**20 06 09.9**	**+0.8**
	comp=Z,7.5nm,0.4s,baz=328,slow=15						
VNA2				⇓S	**Sn**	**20 09 13.0**	**+4.8**
	comp=Z,3.9nm,0.3s,baz=328,slow=29						
SNAA	**Sanae**	**17.70**	**156**	Pn	**Pn**	**20 06 27.3**	**-1.2**
SNAA	**Sanae**	**17.70**	**156**	⇑*i*P	**Pn**	**20 06 29.0**	**+0.5**
SNAA	**Sanae**	**17.70**	**156**	⇑P	**Pn**	**20 06 30.3**	**+1.8**
	comp=Z,179nm,0.5s						
SNAA				⇑S	**Sn**	**20 09 49.0**	**+3.6**
	comp=Z,158nm,0.6s						
SNAA	**Sanae**	**17.70**	**156**	P	**Pn**	**20 06 29.8**	**+1.3**
	comp=Z,3.5nm,0.3s,baz=314,slow=15,SNR=174						
SNAA				LR	LR	20 12 35.7	
	comp=Z,51μm,19.0s,baz=321,slow=35						
	comp=Z,53nm,0.7s						
SNAA	**Sanae**	**17.70**	**156**	⇑P	**Pn**	**20 06 29.6**	**+1.1**
SNAA	**Sanae**	**17.70**	**156**	*c i*P	**Pn**	**20 06 29.9**	**+1.4**
SNAA				pmax	pmax		
	comp=Z,703nm,1.5s						
TROLL	**Troll, Antarti**	**19.19**	**153**	⇑P	**Pn**	**20 06 48.6**	**+1.9**
	comp=Z,786nm,0.7s						
TROLL				⇓S	**Sn**	**20 10 23.4**	**+2.0**
	comp=Z,164μm,4.2s						
EFI	**East Falkland**	**19.44**	**272**		**Pn**	**20 06 51.4**	**+1.7**
EFI				IAmb	IAmb	20 06 55.2	
	comp=Z,656nm,1.0s						
EFI	**East Falkland**	**19.44**	**272**	P	**P**	**20 06 48.8**	**+0.4**
EFI				IAmb	IAmb	20 06 55.2	
	comp=Z,659nm,1.0s						
EFI	**East Falkland**	**19.44**	**272**	⇑P	**P**	**20 06 50.6**	**+2.1**
EFI	**East Falkland**	**19.44**	**272**	*c i*P	**P**	**20 06 50.5**	**+2.1**
EFI				pmax	pmax		
	comp=Z,323nm,1.0s						
EFI				MLR	MLR		
	comp=Z,23μm,18.0s						
PMSA	**Palmer Station**	**20.00**	**231**	P	**P**	**20 06 57.6**	**+3.1**
PMSA				IAmb	IAmb	20 07 03.3	
	comp=Z,409nm,0.9s						
PMSA	**Palmer Station**	**20.00**	**231**	P	**P**	**20 06 58.0**	**+3.5**
	comp=Z,350nm,0.9s,baz=83,slow=8.3,SNR=39						
PMSA				LR	LR	20 13 55.2	
	comp=Z,128μm,19.3s,baz=84,slow=34						
PMSA				ScP	**ScP**	**20 14 45.6**	**-0.3**
	comp=Z,31nm,0.9s,baz=105,slow=2.6,SNR=4.3						
	comp=Z,350nm,0.9s						
PMSA	**Palmer Station**	**20.00**	**231**	⇑P	Pn	20 06 58.5	+2.3
PMSA	**Palmer Station**	**20.00**	**231**	*e*P	**P**	**20 06 54.1**	**-0.3**
NVL	**N'lazarevskaya**	**21.17**	**146**	*e*P	**P**	**20 07 07.9**	**+0.8**
NVL				*e*S	**S**	**20 10 59.8**	**-2.4**
NVL				MLR	MLR		
	comp=Z,38μm,18.0s						
BELA	**Belgrano 2**	**21.36**	**185**	P	**P**	**20 07 09.6**	**+0.5**
BELA				IAmb	IAmb	20 07 18.9	
	comp=Z,570nm,0.9s						
SMAI	**San Martin Ant**	**21.69**	**222**	P	**P**	**20 07 14.5**	**+1.8**
SMAI				IAmb	IAmb	20 07 33.2	
	comp=Z,920nm,1.9s						
TRIS	**Tristan da Cun**	**21.73**	**30**	P	**P**	**20 07 11.3**	**-2.0**
TRIS				IAmb	IAmb	20 07 29.2	
	comp=Z,523nm,1.2s						
MG01	**Puerto William**	**23.29**	**257**	P	**P**	**20 07 31.6**	**+1.8**
MG01				IAmb	IAmb	20 07 43.1	
	comp=Z,485nm,1.1s						
MG02	**Cerro Sombrero**	**25.04**	**261**	P	**P**	**20 07 47.0**	**+0.9**
MG02	**Cerro Sombrero**	**25.04**	**261**	⇑P	**P**	**20 07 47.9**	**+1.7**
ELIB	**Princess Elisa**	**25.05**	**146**	*d*P	**P**	**20 07 45.9**	**-0.4**
	comp=Z,77nm,1.2s						
ELIB				*d*S	**S**	**20 12 08.1**	**-2.1**
MG03	**Isla Dawson**	**25.24**	**258**	P	**P**	**20 07 47.7**	**-0.2**
GO10	**Punta Arenas**	**25.86**	**259**	P	**P**	**20 07 55.3**	**+1.7**
GO10				IAmb	IAmb	20 07 59.3	
	comp=Z,311nm,0.9s						
MG04	**Isla Riesco**	**26.28**	**259**	P	**P**	**20 07 59.0**	**+1.7**
MG04				IAmb	IAmb	20 08 03.5	
	comp=Z,380nm,0.9s						
GO09	**Cerro Castillo**	**27.45**	**262**		**P**	**20 08 08.8**	**+0.8**
GO08	**Villa O'Higgin**	**29.07**	**267**	P	**P**	**20 08 23.4**	**+1.0**
TRQA	**Tornquist**	**30.35**	**293**	P	**P**	**20 08 33.1**	**-0.8**
TRQA	**Tornquist**	**30.35**	**293**	P	**P**	**20 08 33.1**	**-0.8**
TRQA				pmax	pmax		
	comp=Z,99nm,1.2s						
TRQA				MLR	MLR		
	comp=Z,40μm,19.0s						
COYC	**Coyhaique**	**30.54**	**272**	P	**P**	**20 08 36.0**	**+0.6**
PLTB	**Pedras Altas**	**31.61**	**311**	P	**P**	**20 08 45.3**	**+0.3**
PLTB				IAmb	IAmb	20 08 48.5	
	comp=Z,226nm,0.8s						
PLTB	**Pedras Altas**	**31.61**	**311**	*e*P	**P**	**20 08 46.1**	**+1.1**
LL02	**Futaleuf**	**31.94**	**275**	P	**P**	**20 08 46.8**	**-1.0**
LL02	**Futaleuf**	**31.94**	**275**	⇑P	**P**	**20 08 49.2**	**+1.4**
CNLB	**Canela**	**32.68**	**317**	*e*P	**P**	**20 08 56.2**	**+1.8**
TER01	**Tubaro-SC**	**32.76**	**320**	*e*P	**P**	**20 08 57.1**	**+2.0**
LL01	**San Ignacio de**	**32.79**	**276**	⇑P	**P**	**20 08 54.8**	**-0.5**
PLCA	**Paso Flores**	**32.91**	**280**	P	**P**	**20 08 55.2**	**-1.2**
PLCA	**Paso Flores**	**32.91**	**280**	⇑P	**P**	**20 08 55.9**	**-0.5**
PLCA	**Paso Flores**	**32.91**	**280**	P	**P**	**20 08 55.2**	**-1.2**
PLCA				pmax	pmax		
	comp=Z,114nm,1.6s						
PLCA	**Paso Flores**	**32.91**	**280**	*e*P	**P**	**20 08 56.2**	**-0.2**
GO07	**Milladeo Hill,**	**32.99**	**274**	IAmb	IAmb	20 09 19.1	
	comp=Z,70nm,0.5s						
QSPA	**South Pole Qui**	**33.41**	**180**	P	**P**	**20 09 01.6**	**+1.0**
QSPA	**South Pole Qui**	**33.41**	**180**	P	**P**	**20 09 02.3**	**+1.6**
	comp=Z,182nm,0.5s,baz=205,slow=2.3,SNR=321						
QSPA				LR	LR	20 22 48.1	
	comp=Z,51μm,18.7s,baz=190,slow=37						
	comp=Z,182nm,0.5s						
QSPA	**South Pole Qui**	**33.41**	**180**	⇑P	**P**	**20 09 02.2**	**+1.6**
LL03	**Petrohue**	**33.63**	**278**	P	**P**	**20 09 00.4**	**-2.2**
LL03				IAmb	IAmb	20 09 21.2	
	comp=Z,82nm,0.8s						
MAJ01	**Sao Joao Batis**	**33.76**	**321**	*e*P	**P**	**20 09 06.4**	**+2.6**
PSAL	**Palomas, Salto**	**33.92**	**306**	*e*P	**P**	**20 09 06.2**	**+1.0**
GO06	**Curarrehue**	**34.22**	**280**	⇑P	**P**	**20 09 10.2**	**+2.3**
ITQB	**Itaqui**	**34.70**	**308**	*e*P	**P**	**20 09 13.0**	**+1.1**
ITAB	**Concordia**	**35.04**	**316**	P	**P**	**20 09 14.7**	**-0.2**
ITAB				IAmb	IAmb	20 09 21.7	
	comp=Z,428nm,1.3s						
ITAB	**Concordia**	**35.04**	**316**	*e*P	**P**	**20 09 16.8**	**+1.9**
LR04	**Corral**	**35.07**	**278**	IAmb	IAmb	20 09 22.4	
	comp=Z,274nm,1.6s						
SLP01	**Ubatuba-SP**	**36.34**	**329**	*e*P	**P**	**20 09 28.1**	**+1.8**
MAN01	**Angra dos Reis**	**36.45**	**331**	*e*P	**P**	**20 09 29.6**	**+2.5**
PARB	**Paraibuna**	**36.46**	**328**	*e*P	**P**	**20 09 29.2**	**+2.0**
SPB	**Sao Paulo**	**36.77**	**326**	P	**P**	**20 09 29.0**	**-0.7**
SPB				IAmb	IAmb	20 09 45.9	
	comp=Z,513nm,1.5s						
SPB				IAMs_20	IAMs_20	20 23 43.1	
	comp=Z,46μm,18.0s						
SPB	**Sao Paulo**	**36.77**	**326**	*e*P	**P**	**20 09 32.5**	**+2.8**
DUB01	**Friburgo-RJ**	**36.80**	**334**	*e*P	**P**	**20 09 32.1**	**+2.0**
CAM01	**Campos-RJ**	**36.87**	**335**	*e*P	**P**	**20 09 32.7**	**+2.1**
VAS01	**Vassouras-RJ**	**36.87**	**332**	*e*P	**P**	**20 09 33.4**	**+2.7**
VAO	**Valinhos**	**37.18**	**327**	P	**P**	**20 09 34.9**	**+1.6**
VAO				IAmb	IAmb	20 09 38.0	
	comp=Z,147nm,0.7s						
VAO	**Valinhos**	**37.18**	**327**	*e*P	**P**	**20 09 35.1**	**+1.8**
PTGB	**Pitanga**	**37.30**	**318**	*e*P	**P**	**20 09 35.6**	**+1.3**
BO02	**Sierra Bellavi**	**37.41**	**287**	⇑P	**P**	**20 09 35.1**	**0.0**
FRTB	**Fartura**	**37.68**	**323**	*e*P	**P**	**20 09 40.0**	**+2.4**
ELIM	**Elim**	**37.83**	**74**	*e*P	**P**	**20 09 38.2**	**-0.5**
ELIM				IAmb	IAmb	20 09 52.5	
	comp=Z,229nm,1.1s						
ALF01	**Guarapari-ES**	**37.83**	**337**	*e*P	**P**	**20 09 40.7**	**+2.0**
GO05	**Hualane**	**37.85**	**285**	⇑P	**P**	**20 09 38.1**	**-0.7**
RCLB	**Rio Claro- Sao**	**37.90**	**326**	*e*P	**P**	**20 09 41.8**	**+2.4**
CPUP	**Villa Florida**	**37.92**	**310**	IAmb	IAmb	20 09 44.2	
	comp=Z,211nm,0.8s						
CPUP	**Villa Florida**	**37.92**	**310**	P	**P**	**20 09 39.8**	**+0.3**
	comp=Z,205nm,0.8s,baz=148,slow=8.1,SNR=121						
CPUP				LR	LR	20 24 56.7	
	comp=Z,33μm,20.7s,baz=157,slow=36						
	comp=Z,205nm,0.8s						
CPUP	**Villa Florida**	**37.92**	**310**	⇑P	**P**	**20 09 39.5**	**+0.1**
LDASE	**Londrina, Braz**	**38.17**	**320**	*e*P	**P**	**20 09 43.5**	**+1.9**
BSCB	**Bom Sucesso**	**38.45**	**331**	*e*P	**P**	**20 09 45.3**	**+1.3**
CER	**Ceres**	**38.54**	**72**	*e*P	**P**	**20 09 44.5**	**-0.3**
CER				IAmb	IAmb	20 09 51.0	
	comp=Z,1μm,2.8s						
SJPY	**San Joaquin**	**38.60**	**313**	*e*P	**P**	**20 09 45.3**	**+0.1**
PEL	**Peldehue**	**38.63**	**288**	IAmb	IAmb	20 09 53.9	
	comp=Z,251nm,1.5s						
PRTV	**Porterville,We**	**38.67**	**71**	*e*P	**P**	**20 09 44.8**	**-1.1**
PRTV				IAmb	IAmb	20 09 52.4	
	comp=Z,359nm,1.6s						
VA05	**Santo Domingo**	**38.72**	**287**	IAmb	IAmb	20 09 49.8	
	comp=Z,118nm,0.8s						
RIB01	**Linhares ES**	**39.02**	**338**	*e*P	**P**	**20 09 50.2**	**+1.4**
MAW	**Mawson**	**39.05**	**143**	P	**P**	**20 09 48.8**	**+0.3**
	comp=Z,18nm,0.6s,baz=221,slow=7.2,SNR=36						
MAW				LR	LR	20 23 29.7	
	comp=Z,35μm,21.6s,baz=254,slow=32						
	comp=Z,18nm,0.6s						
MATJ	**Matjiesfontein**	**39.30**	**73**	*e*P	**P**	**20 09 51.4**	**+0.2**
MATJ				IAmb	IAmb	20 10 05.1	
	comp=Z,288nm,1.3s						
SJMB	**Sao Joao De Ma**	**39.78**	**337**	*e*P	**P**	**20 09 56.1**	**+1.0**
AMBA	**Amambai (Brazi**	**40.02**	**316**	*e*P	**P**	**20 09 57.5**	**+0.4**
SUR	**Sutherland**	**40.10**	**73**	P	**P**	**20 09 57.8**	**-0.2**
SUR				IAmb	IAmb	20 10 12.0	
	comp=Z,231nm,1.4s						
SUR	**Sutherland**	**40.10**	**73**	*e*P	**P**	**20 09 58.2**	**+0.2**
SUR				IAmb	IAmb	20 10 04.9	
	comp=Z,2μm,3.0s						
SUR	**Sutherland**	**40.10**	**73**	LR	LR	20 23 51.1	
	comp=Z,107μm,18.1s,baz=216,slow=32						
SUR	**Sutherland**	**40.10**	**73**	⇑P	**P**	**20 09 58.1**	**+0.1**
MERW	**Merweville**	**40.25**	**74**	*e*P	**P**	**20 09 58.1**	**-1.0**
CVNA	**Calvinia**	**40.27**	**71**	*e*P	**P**	**20 09 59.4**	**+0.2**
CVNA				IAmb	IAmb	20 10 13.7	
	comp=Z,266nm,1.3s						
PAPY	**Pozo Azul**	**40.28**	**311**	*e*P	**P**	**20 10 00.3**	**+1.1**
NAN01	**Guarapari, ES**	**40.39**	**339**	*e*P	**P**	**20 10 00.8**	**+0.6**
KOMG	**Komaggas**	**40.45**	**67**	*e*P	**P**	**20 10 00.5**	**-0.1**
KOMG				IAmb	IAmb	20 10 07.5	
	comp=Z,464nm,2.0s						
DIAM	**Diamantina, MG**	**40.75**	**333**	*e*P	**P**	**20 10 04.1**	**+0.8**
FRAZ	**Fraserburg**	**40.77**	**73**	*e*P	**P**	**20 10 03.2**	**-0.3**
FRAZ				IAmb	IAmb	20 10 10.3	
	comp=Z,249nm,1.4s						
BUFB	**Buffelsbos**	**40.83**	**78**	*e*P	**P**	**20 10 03.2**	**-0.5**
BUFB				IAmb	IAmb	20 10 10.1	
	comp=Z,232nm,1.4s						
GRAN	**Grantham**	**40.88**	**74**	*e*P	**P**	**20 10 03.8**	**-0.4**
GRAN				IAmb	IAmb	20 10 17.4	
	comp=Z,323nm,1.4s						
GO04	**Tololo Observa**	**41.05**	**291**	⇑P	**P**	**20 10 06.0**	**+0.1**
PMNB	**Patos De Minas**	**41.24**	**329**	*e*P	**P**	**20 10 08.5**	**+1.2**
ITRB	**Iturama**	**41.33**	**324**	*e*P	**P**	**20 10 09.6**	**+1.6**
NMMU	**Nelson Mandela**	**41.44**	**79**	*e*P	**P**	**20 10 08.8**	**+0.1**
ROOI	**Rooidraai Farm**	**41.46**	**75**	*e*P	**P**	**20 10 08.2**	**-0.8**
ROOI				IAmb	IAmb	20 10 22.7	
	comp=Z,221nm,1.4s						
GUA01	**Guaratinga, BA**	**41.56**	**339**	*e*P	**P**	**20 10 10.8**	**+0.9**
BRAK	**Brakfontein**	**41.67**	**74**	*e*P	**P**	**20 10 09.7**	**-1.1**
BRAK				IAmb	IAmb	20 10 23.8	
	comp=Z,208nm,1.5s						
RPRD	**Ribas do Rio P**	**41.77**	**319**	*e*P	**P**	**20 10 13.2**	**+1.7**
LCO	**Las Campanas**	**41.93**	**292**	P	**P**	**20 10 11.8**	**-1.4**
LCO				IAmb	IAmb	20 10 17.2	
	comp=Z,126nm,0.8s						
LCO	**Las Campanas**	**41.93**	**292**	⇑P	**P**	**20 10 13.1**	**-0.1**
LCO	**Las Campanas**	**41.93**	**292**	P	**P**	**20 10 11.8**	**-1.4**
LCO				pmax	pmax		
	comp=Z,126nm,0.9s						
LCO				MLR	MLR		
	comp=Z,31μm,18.0s						
GRAF	**Camdeboo Natio**	**42.13**	**76**	*e*P	**P**	**20 10 14.4**	**-0.2**
GRAF				IAmb	IAmb	20 10 28.6	
	comp=Z,224nm,1.1s						
MURT	**Porto Murtinho**	**42.19**	**313**	*e*P	**P**	**20 10 14.5**	**-0.5**
IPMB	**Ipameri, GO**	**42.28**	**327**	*e*P	**P**	**20 10 16.9**	**+1.1**
SOE	**Somerset East**	**42.37**	**78**	P	**P**	**20 10 14.3**	**-2.1**
SOE				IAmb	IAmb	20 10 22.9	
	comp=Z,288nm,1.5s						
SOE	**Somerset East**	**42.37**	**78**	*e*P	**P**	**20 10 16.9**	**+0.5**
SOE				IAmb	IAmb	20 10 22.5	
	comp=Z,295nm,1.5s						
SOE	**Somerset East**	**42.37**	**78**	⇑P	**P**	**20 10 16.1**	**-0.3**
GRHM	**Grahamstown, E**	**42.38**	**79**	*e*P	**P**	**20 10 14.7**	**-1.8**
GRHM				IAmb	IAmb	20 10 29.1	
	comp=Z,220nm,1.6s						
GRHM	**Grahamstown, E**	**42.38**	**79**	⇑P	**P**	**20 10 17.6**	**+1.1**
H03S1	**Juan Fernandez**	**42.48**	**280**	P	**P**	**20 10 19.1**	**+2.2**
	SNR=3.8						
H03S3	**Juan Fernandez**	**42.49**	**280**	P	**P**	**20 10 20.4**	**+3.4**
	SNR=4.1						
H03S2	**Juan Fernandez**	**42.49**	**280**	P	**

BOSA Boshof 45.42 74 *i* P **P 20 10 39.8 -1.3**
ARAG Araguaiana, MT 45.54 324 *e*P **P 20 10 43.5 +1.5**
KSTD Kokstad 46.01 79 *e*P **P 20 10 45.5 -0.2**
KSTD IAmb IAmb 20 10 52.0
comp=Z,267nm,1.8s
H04S2 CROZET ISLANDS 46.51 112 T T 21 02 00.5
baz=225,slow=75,SNR=16
H04S3 CROZET ISLANDS 46.52 112 T T 21 02 02.8
baz=225,slow=75,SNR=12
H04S1 CROZET ISLANDS 46.53 112 T T 21 01 39.8
baz=225,slow=75,SNR=12
SWZ Schweizer 46.60 73 *e*P **P 20 10 48.5 -1.9**
SWZ IAmb IAmb 20 10 56.0
comp=Z,271nm,1.4s
PB06 IPOC Station P 46.61 298 IAmb IAmb 20 10 58.8
comp=Z,182nm,0.9s
NBLA Lagarto - SE 46.68 344 *e*P **P 20 10 51.2 +0.3**
SALV Santo Antonio 46.70 319 *e*P **P 20 10 52.3 +1.3**
SDBA SAO DESIDERIO 46.71 334 *e*P **P 20 10 52.1 +0.9**
H04N3 CROZET ISLANDS 46.91 112 P **P 20 10 53.9 +1.6**
H04N1 CROZET ISLANDS 46.92 112 P **P 20 10 53.7 +1.5**
H04N2 CROZET ISLANDS 46.93 112 P **P 20 10 53.8 +1.4**
SNKL Senekal, Frees 47.02 76 *e*P **P 20 10 52.3 -1.4**
SNKL IAmb IAmb 20 10 59.9
comp=Z,323nm,1.4s
BBSD Serra de San D 47.42 312 *e*P **P 20 10 57.0 +0.2**
KOOLE Kule 47.43 64 *i* P **P 20 10 55.1 -1.8**
PMBG Pietermaritzbu 47.52 79⇓*e*P **P 20 11 00.1 +2.7**
NBAN Anadia - AL 47.76 346 *e*P **P 20 10 59.2 -0.2**
PRYS Parys 47.88 74 *e*P **P 20 10 58.9 -1.5**
PRYS IAmb IAmb 20 11 14.0
comp=Z,196nm,1.2s
SKOMA Sekoma 48.05 69 *i* P **P 20 10 59.9 -1.8**
WDLM Western Deep L 48.32 74 *e*P **P 20 11 02.6 -1.2**
WDLM IAmb IAmb 20 11 09.5
comp=Z,137nm,1.2s
PTLB Pontes e Lacer 48.41 315 *e*P **P 20 11 04.9 +0.6**
LBTB Lobatse 48.50 71 IAmb IAmb 20 11 11.3
comp=Z,350nm,1.6s
LBTB Lobatse 48.50 71 *e*P **P 20 11 03.1 -2.0**
LBTB IAmb IAmb 20 11 18.3
comp=Z,302nm,1.6s
LBTB Lobatse 48.50 71 LR LR 20 28 47.5
comp=Z,55µm,18.2s,baz=212,slow=33
LBTB Lobatse 48.50 71 *i* P **P 20 11 04.1 -1.0**
LBTB Lobatse 48.50 71 ⇑P **P 20 11 03.0 -2.0**
LBTB Lobatse 48.50 71 *i* P **P 20 11 04.1 -1.0**
H10S2 ASCENSION HYDR 48.55 15 T T 21 03 11.2
baz=32,slow=74,SNR=21
MRCO Marico , North 48.55 72 *e*P **P 20 11 04.5 -1.0**
MRCO IAmb IAmb 20 11 11.3
comp=Z,299nm,1.4s
H10S3 ASCENSION HYDR 48.55 15 T T 21 03 09.1
baz=188,slow=74,SNR=13
KGCAE Kacgae 48.55 66 *i* P **P 20 11 03.9 -1.6**
PB08 IPOC Station P 48.60 301 P **P 20 11 04.9 -1.4**
SIV San Ignacio 48.69 312 P **P 20 11 06.7 +0.2**
comp=Z,80nm,0.9s,baz=154,slow=7.6,SNR=96
SIV LR LR 20 30 54.4
comp=Z,33µm,21.9s,baz=168,slow=35
comp=Z,80nm,0.9s
TA01 Diego Aracena 48.73 299 IAmb IAmb 20 11 11.7
comp=Z,273nm,1.1s
HRAO HartRAO 48.89 74 *e*P **P 20 11 08.4 +0.3**
SNDB Serra Nova Dou 48.89 326 *e*P **P 20 11 09.1 +1.1**
NBCA Caruaru-PE 49.15 347 *e*P **P 20 11 10.2 +0.1**
NYAT Nyati, Northwe 49.24 73 *e*P **P 20 11 08.8 -2.0**
NYAT IAmb IAmb 20 11 24.1
comp=Z,223nm,1.6s
GRTLG Ghanzi 49.31 64 *i* P **P 20 11 09.6 -1.7**
KDWAN Kaudwane 49.36 69 *i* P **P 20 11 10.6 -1.1**
TSUM Tsumeb 49.40 59 P **P 20 11 10.1 -2.0**
TSUM IAmb IAmb 20 11 26.1
comp=Z,156nm,1.2s
TSUM Tsumeb 49.40 59 IAMs_20 IAMs_20 20 29 56.9
comp=Z,39µm,18.0s
TSUM Tsumeb 49.40 59⇓*i*P **P 20 11 10.6 -1.5**
TSUM IAmb IAmb 20 11 25.8
comp=Z,172nm,1.2s
TSUM Tsumeb 49.40 59 LR LR 20 29 50.1
comp=Z,32µm,18.0s,baz=220,slow=34
TSUM Tsumeb 49.40 59 *i* P **P 20 11 11.5 -0.6**
TSUM Tsumeb 49.40 59 ⇑P **P 20 11 11.0 -1.1**
TSUM Tsumeb 49.40 59 *i* P **P 20 11 11.5 -0.6**
H10N1 ASCENSION HYDR 49.66 15 T T 21 05 25.2
baz=192,slow=72,SNR=37
H10N3 ASCENSION HYDR 49.66 15 T T 21 05 13.3
baz=192,slow=72,SNR=59
H10N2 ASCENSION HYDR 49.68 15 T T 21 05 25.8
baz=192,slow=72,SNR=38
RUST Rust De Winter 49.85 74 *e*P **P 20 11 15.7 +0.2**
RUST IAmb IAmb 20 11 21.4
comp=Z,164nm,1.5s
POGA Pongola 49.87 79 IAmb IAmb 20 11 22.0
comp=Z,236nm,1.7s
POGA Pongola 49.87 79 *e*P **P 20 11 13.9 -1.5**
POGA IAmb IAmb 20 11 21.5
comp=Z,191nm,1.6s
POGA Pongola 49.87 79 ⇑P **P 20 11 15.2 -0.3**
LPHEP Lephephe 49.99 70 *i* P **P 20 11 15.1 -1.5**
CRLN Carolina, Mapu 50.04 76 *e*P **P 20 11 15.8 -1.2**
CRLN IAmb IAmb 20 11 22.4
comp=Z,182nm,2.0s
MTLB Matlabas, Limp 50.24 72 *e*P **P 20 11 15.9 -2.5**
MTLB IAmb IAmb 20 11 30.7
comp=Z,282nm,1.6s
CKGRV CKGRV 50.55 67 *i* P **P 20 11 19.7 -1.1**
LEPH Lephalale, Lim 50.59 72 *e*P **P 20 11 19.2 -1.9**
LEPH IAmb IAmb 20 11 26.8
comp=Z,478nm,2.0s
DULL Dullstroom, Mp 50.63 76 *e*P **P 20 11 19.5 -2.0**
DULL IAmb IAmb 20 11 39.8
comp=Z,83nm,1.1s
SMTB Santa Maria do 50.80 332 *e*P **P 20 11 23.5 +0.9**
QNGWA Qangwa 50.84 63 *i* P **P 20 11 21.5 -1.5**
WTBG Waterberg Wild 50.88 74 *e*P **P 20 11 22.7 -0.6**
WTBG IAmb IAmb 20 12 05.2
comp=Z,247nm,2.1s
PDRB Porto dos Gac 51.03 320 *e*P **P 20 11 24.4 0.0**
VILB Vilhena 51.09 315 *e*P **P 20 11 25.2 +0.4**
PILG Pilgrimsrest, 51.26 76 *e*P **P 20 11 25.6 -0.6**
PILG IAmb IAmb 20 11 38.7
comp=Z,257nm,1.6s
CLDB Colider 51.39 321 *e*P **P 20 11 27.7 +0.7**
MREMI Moremi 51.47 71 *i* P **P 20 11 26.7 -1.0**
LPAZ La Paz 51.47 304 P **P 20 11 29.4 +1.1**
comp=Z,824nm,0.8s,baz=163,slow=4.9,SNR=339
LPAZ LR LR 20 37 33.1
comp=Z,11µm,18.1s,baz=158,slow=41
LPAZ La Paz 51.47 304 ⇑P **P 20 11 28.9 +0.6**
LPAZ La Paz 51.47 304 *e*P **P 20 11 29.4 +1.1**
RCBR Riachuelo 51.50 347 P **P 20 11 27.4 -0.5**
comp=Z,4.7nm,0.8s,baz=162,slow=17,SNR=5.6
RCBR LR LR 20 30 18.4
comp=Z,8µm,18.9s,baz=176,slow=33
comp=Z,4.7nm,0.8s
CRAIL Swartwater, Li 51.69 72 *e*P **P 20 11 27.5 -1.9**
CRAIL IAmb IAmb 20 11 42.4
comp=Z,5µm,1.2s
XAUDM Khaudum 51.76 62 *i* P **P 20 11 29.6 -0.3**
NBPB Pedra_Branca-C 52.31 343 *e*P **P 20 11 35.2 +1.3**
BROLN Tlhalogang 52.62 70 *i* P **P 20 11 34.8 -1.5**
MOPA Mopani 52.77 76 *e*P **P 20 11 36.4 -0.9**
MOPA IAmb IAmb 20 11 43.5
comp=Z,426nm,1.4s
MOPA Mopani 52.77 76 *i* P **P 20 11 35.0 -2.3**
MOPA Mopani 52.77 76 *i* P **P 20 11 35.0 -2.3**
CASY Casey 52.90 159 P **P 20 11 37.5 -0.1**
CASY IAmb IAmb 20 11 42.5
comp=Z,77nm,0.8s
CASY Casey 52.90 159 ⇑P **P 20 11 38.8 +1.1**
MUSN Musina, Limpop 52.96 73 *e*P **P 20 11 37.4 -1.3**
MUSN IAmb IAmb 20 11 52.1
comp=Z,235nm,1.4s
MUSN Musina, Limpop 52.96 73 *i* P **P 20 11 37.0 -1.7**
MUSN Musina, Limpop 52.96 73 *i* P **P 20 11 37.0 -1.7**
NBCL Cascavel-CE 53.40 344 *e*P **P 20 11 42.9 +1.1**
MATP Matopo 53.78 71 LR LR 20 31 23.5
comp=Z,22µm,19.6s,baz=203,slow=32
MATP Matopo 53.78 71 *i* P **P 20 11 44.8 -0.1**
MATP Matopo 53.78 71 *i* P **P 20 11 44.8 -0.1**
PRPB Paraupebas 53.96 330 *e*P **P 20 11 47.6 +1.5**
BLWY Bulawayo 54.08 71 *e*P **P 20 11 45.2 -1.9**
BLWY IAmb IAmb 20 11 52.6
comp=Z,711nm,1.3s
BLWY Bulawayo 54.08 71 *i* P **P 20 11 45.6 -1.4**
BLWY Bulawayo 54.08 71 *i* P **P 20 11 45.6 -1.4**
KSANE Kasane 54.28 66 *i* P **P 20 11 47.6 -0.9**
NPGB Novo Progresso 54.82 323 *e*P **P 20 11 52.7 +0.4**
SAML Samuel 55.91 314 P **P 20 11 59.7 -0.5**
SAML IAmb IAmb 20 12 05.2
comp=Z,248nm,1.1s
SAML IAMs_20 IAMs_20 20 34 55.8
comp=Z,31µm,21.0s
SAML Samuel 55.91 314 P **P 20 11 59.7 -0.5**
SAML pmax pmax
comp=Z,248nm,1.1s
SAML MLR MLR
comp=Z,31µm,21.0s
SAML Samuel 55.91 314 *e*P **P 20 12 00.2 0.0**
ETMB Extrema 56.37 310 *e*P **P 20 12 03.7 +0.3**
TMAB Tom-Au,PA,Br 57.16 333 *e*P **P 20 12 10.4 +1.4**
KRI Karoi 57.36 69 *e*P **P 20 12 08.5 -2.1**
KRI Karoi 57.36 69 *i* P **P 20 12 10.5 -0.1**
KRI Karoi 57.36 69 *i* P **P 20 12 10.5 -0.1**
ITTB Itaituba 57.45 324 *e*P **P 20 12 11.7 +0.6**
LSZ Lusaka 57.94 67 P **P 20 12 12.9 -1.8**
LSZ IAmb IAmb 20 12 21.3
comp=Z,262nm,1.5s
LSZ Lusaka 57.94 67 *e*P **P 20 12 14.1 -0.6**
LSZ IAmb IAmb 20 12 20.9
comp=Z,396nm,1.5s
LSZ Lusaka 57.94 67 ⇑P **P 20 12 12.9 -1.8**
LSZ Lusaka 57.94 67 P **P 20 12 12.9 -1.8**
LSZ pmax pmax
comp=Z,262nm,1.5s
LSZ MLR MLR
comp=Z,43µm,18.0s
NNA Nana 59.31 298 P **P 20 12 23.1 -1.1**
NNA IAmb IAmb 20 12 27.2
comp=Z,134nm,0.9s
NNA Nana 59.31 298 LR LR 20 37 02.8
comp=Z,12µm,22.0s,baz=146,slow=35
NNA Nana 59.31 298 ⇑P **P 20 12 24.2 0.0**
NNA Nana 59.31 298 P **P 20 12 23.1 -1.1**
NNA pmax pmax
comp=Z,134nm,1.0s
MACA Manacapuru-AM 60.28 319 P **P 20 12 29.7 -1.0**
MACA Manacapuru-AM 60.28 319 *e*P **P 20 12 30.3 -0.5**
CZSB Cruzeiro do Su 61.08 304 P **P 20 12 34.7 -1.5**
CZSB Cruzeiro do Su 61.08 304 *e*P **P 20 12 35.3 -0.9**
VOI Vohitsoka 62.43 88 P **P 20 12 42.2 -3.2**
VOI IAmb IAmb 20 12 53.9
comp=Z,239nm,2.0s
VOI IAMs_20 IAMs_20 20 34 20.9
comp=Z,26µm,20.0s
TBTG Tabatinga, AM 63.00 309 *e*P **P 20 12 48.8 -0.3**
KSMZ Kasama 63.81 67 *i* P **P 20 12 54.4 -0.4**
ATAH Atahualpa 64.27 299 LR LR 20 44 17.9
comp=Z,15µm,18.3s,baz=148,slow=39
RPN Rapa Nui 64.29 259 LR LR 20 37 16.6
comp=Z,12µm,18.5s,baz=134,slow=32
ABPO Ambohimpanom 65.00 87 *e*P P 20 12 47.4 -15
ABPO IAmb IAmb 20 13 10.9
comp=Z,114nm,1.6s
OPO Ambohidratompo 65.34 86 LR LR 20 36 43.8
comp=Z,30µm,19.3s,baz=330,slow=32
BOAV Boa Vista 65.39 321 P **P 20 13 03.4 -1.3**
BOAV Boa Vista 65.39 321 *e*P **P 20 13 04.8 0.0**
MDP Montagnes des 65.51 330 P **P 20 13 05.3 -0.1**
comp=Z,85nm,0.9s,baz=176,slow=6.9,SNR=17
MDP LR LR 20 40 57.1
comp=Z,21µm,19.2s,baz=148,slow=35
comp=Z,85nm,0.9s
DBIC Dimbokro 65.57 23 P **P 20 13 04.4 -1.5**
comp=Z,23nm,0.9s,baz=176,slow=6.1,SNR=17
DBIC LR LR 20 35 56.2
comp=Z,26µm,19.2s,baz=189,slow=31
comp=Z,23nm,0.9s
ACRG Accra 65.68 28 IAMs_20 IAMs_20 20 37 56.3
comp=Z,20µm,18.0s
RER Riviere de l'E 67.95 95 IAMs_20 IAMs_20 20 40 11.7
comp=Z,30µm,18.0s
COHC Cochancay 68.75 301 IAmb IAmb 20 13 30.5
comp=Z,91nm,1.0s
DODT Dodoma, Tanzan 69.51 69 *i* P **P 20 13 30.6 -0.4**
DODT *i* S **S 20 22 37.7 -1.1**
OTAV Otavalo 70.74 303 P **P 20 13 39.5 +0.5**
OTAV Otavalo 70.74 303 ⇑P **P 20 13 40.0 +1.0**
OTAV Otavalo 70.74 303 P **P 20 13 39.5 +0.5**
OTAV pmax pmax
comp=Z,396nm,1.3s
OTAV MLR MLR
comp=Z,14µm,21.0s
OTAV Otavalo 70.74 303 *e*P **P 20 13 40.1 +1.1**
BBTS Babate 71.64 9 LR LR 20 39 43.1
comp=Z,13µm,19.1s,baz=80,slow=31
MBAR Mbarara 71.82 61⇓*i*P **P 20 13 47.7 +2.6**
MBAR IAmb IAmb 20 14 06.6
comp=Z,279nm,1.9s
MBAR Mbarara 71.82 61 LR LR 20 42 44.6
comp=Z,18µm,18.5s,baz=209,slow=34
MBAR Mbarara 71.82 61 ⇑P **P 20 13 47.6 +2.4**
MBAR Mbarara 71.82 61*d*i*P* **P 20 13 46.0 +0.8**
MBAR pmax pmax
comp=Z,104nm,1.8s
MBAR MLR MLR
comp=Z,52µm,16.0s
ROSC El Rosal 72.99 309 IAmb IAmb 20 13 58.0
comp=Z,189nm,1.1s
ROSC El Rosal 72.99 309 P **P 20 13 53.1 +0.8**
comp=Z,97nm,0.8s,baz=135,slow=3.3,SNR=22
ROSC LR LR 20 48 38.8
comp=Z,25µm,19.0s,baz=174,slow=38
comp=Z,97nm,0.8s
ROCAM Rodrigues Isla 73.24 100 IAMs_20 IAMs_20 20 38 03.2
comp=Z,27µm,20.0s
TORD Torodi Ar. Bea 73.37 28 P **P 20 13 52.2 -1.8**
TORD Torodi Ar. Bea 73.37 28 P **P 20 13 52.7 -1.4**
comp=Z,25nm,0.7s,baz=201,slow=5.4,SNR=84
TORD LR LR 20 39 10.6
comp=Z,16µm,21.2s,baz=188,slow=30
TORD PKPPKP P'P'df 20 41 35.6 +10
comp=Z,1.1nm,0.7s,baz=15,slow=3.4,SNR=4.8
comp=Z,25nm,0.7s
TRN Trinidad (W) 73.39 323 *e*P **P 20 13 55.6 +1.4**
TOSP Speyside 73.72 324 *e*P **P 20 13 57.2 +1.1**
KIBK Kibwezi 73.97 69 P **P 20 13 59.0 +1.2**
PCRV Puerto La Cruz 74.06 320 LR LR 20 47 31.1
comp=Z,20µm,20.7s,slow=37
KMBO Kilima Mbogo 74.60 68⇓*i*P **P 20 14 06.2 +4.6**
KMBO Kilima Mbogo 74.60 68 P **P 20 14 01.6 0.0**
comp=Z,4.0nm,1.0s,baz=197,slow=6.0,SNR=3.4
KMBO LR LR 20 43 08.3
comp=Z,18µm,21.9s,baz=197,slow=33
comp=Z,4.0nm,1.0s
KMBO Kilima Mbogo 74.60 68 ⇑P **P 20 14 05.2 +3.5**
GRGR Grenville 74.87 324 IAMs_20 IAMs_20 20 48 28.0
comp=Z,19µm,20.0s
GRGR Grenville 74.87 324 ⇑P **P 20 14 03.5 +0.7**
GRGR Grenville 74.87 324 *e*P **P 20 14 03.3 +0.5**
GRW Mount Saint Ca 74.90 324 *e*P **P 20 14 00.9 -2.1**
GRHS Sauteurs 74.95 324 *e*P **P 20 14 04.1 +0.9**
GRSS Sisters 75.01 324 *e*P **P 20 14 05.5 +1.9**
SDV Santo Domingo 75.12 314 P **P 20 14 03.0 -1.6**
SDV IAmb IAmb 20 14 12.3
comp=Z,156nm,0.9s
SDV Santo Domingo 75.12 314 LR LR 20 49 43.0
comp=Z,40µm,18.8s,baz=154,slow=38
SDV Santo Domingo 75.12 314 *e*P **P 20 14 05.3 +0.8**
GCMP Grenada, Carri 75.12 324 *e*P **P 20 14 05.6 +1.3**
BBGH Gun Hill 75.15 326 *e*P **P 20 14 07.3 +2.9**
SVT Saint Vincent 75.71 324 *e*P **P 20 14 03.5 -4.1**
SVB Belmont 75.81 324 *e*P **P 20 14 10.4 +2.2**
SSV Crater Summit 75.84 324 *e*P **P 20 14 09.0 +0.5**
SLAC Saint Lucia, A 76.28 325 *e*P **P 20 14 10.2 -0.6**
SLBI Saint Lucia, B 76.42 325 *e*P **P 20 14 13.0 +1.3**
PTCN Pitcairn Islan 76.78 245 IAMs_20 IAMs_20 20 45 35.3
comp=Z,23µm,18.0s
CTZ Chatham Island 76.84 201 P **P 20 14 14.9 +1.0**
CTZ IAmb IAmb 20 14 19.2
comp=Z,77nm,1.0s
CTZ IAMs_20 IAMs_20 20 50 17.0
comp=Z,16µm,18.0s
BIM Bigot 76.92 325 *e*P **P 20 14 17.0 +2.5**
WHZ Wether Hill Ro 77.00 190 P **P 20 14 15.9 +1.2**
WHZ IAmb IAmb 20 14 20.3
comp=Z,179nm,1.1s
WHZ IAMs_20 IAMs_20 20 51 49.4
comp=Z,20µm,18.0s
ILAM Ilet Lapin Mar 77.10 325 *e*P **P 20 14 16.8 +1.3**
MLZ Mavora Lakes 77.50 190 IAmb IAmb 20 14 23.1
comp=Z,163nm,1.1s
ODZ Otahua Downs 77.56 192 IAmb IAmb 20 14 35.2
comp=Z,235nm,1.7s
ODZ IAMs_20 IAMs_20 20 50 10.0
comp=Z,18µm,18.0s
ODZ Otahua Downs 77.56 192 ⇑P **P 20 14 19.9 +2.1**
LBZ Lake Benmore 78.26 192 IAmb IAmb 20 14 28.3
comp=Z,171nm,1.2s
LBZ IAMs_20 IAMs_20 20 50 50.6
comp=Z,19µm,18.0s
TBG Guadaloupe-3 78.35 325 *e*P **P 20 14 24.2 +1.7**
H05N1 Guadeloupe/Mar 78.61 326 P **P 20 14 26.4 +2.6**
SNR=10
MQZ McQueen's Vall 78.63 194 IAmb IAmb 20 14 29.3
comp=Z,133nm,1.1s
MQZ IAMs_20 IAMs_20 20 51 09.1
comp=Z,18µm,18.0s
RPZ Rata Peaks 78.82 192 P **P 20 14 25.3 +0.4**
RPZ IAmb IAmb 20 14 30.6
comp=Z,225nm,1.1s
RPZ IAMs_20 IAMs_20 20 51 19.5
comp=Z,17µm,18.0s
RPZ Rata Peaks 78.82 192 LR LR 20 46 36.2
comp=Z,11µm,19.4s,baz=165,slow=34
OXZ Oxford 79.09 193 IAmb IAmb 20 14 31.8
comp=Z,130nm,1.2s
FOZ Fox Glacier 79.14 191 IAmb IAmb 20 14 31.8
comp=Z,90nm,1.1s
FOZ IAMs_20 IAMs_20 20 46 24.9
comp=Z,17µm,20.0s
BCIP Isla Barro Col 79.26 306 ⇑P **P 20 14 28.2 +0.6**
GVZ Greta Valley S 79.31 194 IAMs_20 IAMs_20 20 53 36.0
comp=Z,22µm,18.0s
MBWH 79.36 325 *e*P **P 20 14 29.0 +0.9**
MBFL Flemmings, Mon 79.38 325 *e*P **P 20 14 29.0 +0.9**
ANBD Bethesda, Anti 79.52 325 *e*P **P 20 14 29.0 +0.2**
LTZ Lake Taylor 79.59 193 P **P 20 14 30.1 +0.9**
LTZ IAmb IAmb 20 14 34.8
comp=Z,228nm,1.1s
LTZ IAMs_20 IAMs_20 20 52 06.4
comp=Z,22µm,18.0s
INZ Inchbonnie 79.75 193 IAmb IAmb 20 14 34.9
comp=Z,194nm,1.1s
KHZ Kahutara 79.78 194 IAmb IAmb 20 14 35.2
comp=Z,139nm,1.0s
KHZ IAMs_20 IAMs_20 20 53 22.6
comp=Z,21µm,18.0s
KHZ Kahutara 79.78 194 ⇑P **P 20 14 31.1 +1.0**
SKI Saint Kitts 80.09 324 *e*P **P 20 14 33.0 +1.0**
ANWB Willy Bob 80.10 325 ⇑P **P 20 14 32.6 +0.6**
ANWB Willy Bob 80.10 325 *e*P **P 20 14 31.4 -0.6**
CMWZ Cape Campbell 80.35 195 P **P 20 14 35.9 +2.6**
PLWZ Palliser 80.37 196 P **P 20 14 34.5 +1.1**
BSWZ Blackbirch Sta 80.43 195 P **P 20 14 35.5 +1.8**
TAU Tasmania Unive 80.45 175 P **P 20 14 34.5 +0.7**
TAU IAmb IAmb 20 14 38.4
comp=Z,157nm,1.1s
TAU Tasmania Unive 80.45 175 ⇑P **P 20 14 34.3 +0.6**
TAU Tasmania Unive 80.45 175 P **P 20 14 34.5 +0.7**
TAU pmax pmax
comp=Z,157nm,1.1s
TAU MLR MLR
comp=Z,41µm,19.0s
TRWZ Traveller 80.47 196 P **P 20 14 35.4 +1.5**
THZ Tophouse 80.51 194 IAmb IAmb 20 14 43.2
comp=Z,137nm,0.8s
THZ IAMs_20 IAMs_20 20 54 06.8
comp=Z,19µm,18.0s
MSWZ Moikau Station 80.52 196 P **P 20 14 35.9 +1.7**
PAWZ Paruwai Farm 80.53 196 P **P 20 14 35.5 +1.2**
BHW Baring Head 80.58 196 IAmb IAmb 20 14 39.9
comp=Z,118nm,1.4s
BHW Baring Head 80.58 196 P **P 20 14 35.9 +1.4**
DSZ Denniston Nort 80.67 193 IAmb IAmb 20 14 39.0
comp=Z,231nm,1.0s
DSZ IAMs_20 IAMs_20 20 54 16.5
comp=Z,16µm,18.0s
SNZO South Karori 80.70 195 P **P 20 14 36.2 +1.1**
SNZO IAmb IAmb 20 14 42.2
comp=Z,190nm,0.8s
SNZO South Karori 80.70 195 IAMs_20 IAMs_20 20 48 02.0
comp=Z,13µm,19.0s
SNZO South Karori 80.70 195 ⇑P **P 20 14 36.3 +1.2**
TMWZ Te Maipa 80.72 196 P **P 20 14 36.6 +1.3**
MTW Mount Morrison 80.73 196 P **P 20 14 36.5 +1.2**
TCW Tory Channel 80.86 195 P **P 20 14 36.9 +0.9**
SMRT St. Maarten 80.87 324 IAmb IAmb 20 14 40.5
comp=Z,203nm,0.8s
MRNZ Matariki Terra 80.89 194 P **P 20 14 37.2 +1.0**
NNZ Nelson 80.98 195 IAMs_20 IAMs_20 20 50 39.3
comp=Z,15µm,19.0s
NNZ Nelson 80.98 195 P **P 20 14 37.8 +1.1**
HOWZ Holdsworth Sta 80.99 196 P **P 20 14 37.7 +1.0**
BFZ Birch Farm 81.08 197 IAmb IAmb 20 14 42.8
comp=Z,167nm,1.1s
BFZ IAMs_20 IAMs_20 20 54 31.1
comp=Z,17µm,18.0s
BFZ Birch Farm 81.08 197 P **P 20 14 38.6 +1.4**
KIW Kapiti Island 81.11 196 P **P 20 14 38.9 +1.5**
OGWZ Otaki Gorge 81.12 196 P **P 20 14 38.3 +0.9**
MRZ Mangatainoka R 81.21 196 IAmb IAmb 20 15 08.4
comp=Z,81nm,1.0s
MRZ IAMs_20 IAMs_20 20 47 55.3
comp=Z,16µm,20.0s
MRZ Mangatainoka R 81.21 196 P **P 20 14 38.7 +0.9**
DUWZ D'Urville Isla 81.32 195 P **P 20 14 39.6 +1.1**
MSEY Mahe Island 81.32 85⇓*i*P **P 20 14 39.4 +0.6**
PRHZ Porangahau 81.43 197 P **P 20 14 40.5 +1.5**
POWZ Post Office Ro 81.44 196 P **P 20 14 40.4 +1.3**
DVHZ Dannevirke 81.47 197 P **P 20 14 40.8 +1.5**
QRZ Quartz Range 81.48 194 IAmb IAmb 20 14 43.3
comp=Z,209nm,1.5s
QRZ IAMs_20 IAMs_20 20 54 38.5
comp=Z,21µm,18.0s
QRZ Quartz Range 81.48 194 P **P 20 14 38.5 -0.8**
LCR2 La Lucha 2 81.67 302 IAmb IAmb 20 14 47.2
comp=Z,172nm,1.3s
IGPR InterUniversit 81.80 322 IAmb IAmb 20 14 44.8
comp=Z,161nm,1.1s
PDPR Patillas Dam, 81.82 322 IAmb IAmb 20 14 45.0
comp=Z,74nm,1.1s
KAHZ Kahuranaki 81.85 197 P **P 20 14 43.0 +1.7**
SJG San Juan 81.95 322 P **P 20 14 40.8 -1.0**
SJG IAmb IAmb 20 14 45.7
comp=Z,153nm,1.1s
SJG San Juan 81.95 322 LR LR 20 55 40.3
comp=Z,6µm,18.0s,baz=158,slow=39
SJG San Juan 81.95 322 ⇑P **P 20 14 41.4 -0.4**
SJG San Juan 81.95 322 P **P 20 14 40.8 -1.0**
SJG pmax pmax
comp=Z,153nm,1.1s
SJG MLR MLR
comp=Z,11µm,19.0s
SJG San Juan 81.95 322 *e*P **P 20 14 40.9 -0.9**
HDC Heredia 81.95 302 *e*P **P 20 14 43.1 +1.0**
OBIP Obispado Ponce 82.04 321 IAmb IAmb 20 14 46.0
comp=Z,86nm,0.9s
CELP Cerrillos 82.06 321 IAmb IAmb 20 14 46.0
comp=Z,98nm,0.9s
KRHZ Kereru 82.08 197 P **P 20 14 44.2 +1.7**
GCPR Guaynabo City 82.11 322 IAmb IAmb 20 14 46.7
comp=Z,209nm,1.1s
CRPR Cabo Rojo, PR 82.18 321 IAmb IAmb 20 14 53.1
comp=Z,215nm,1.1s
UUPR Utuado, UPR, P 82.28 321 IAmb IAmb 20 14 46.2
comp=Z,103nm,0.9s
AOPR Arecibo Observ 82.37 321 IAmb IAmb 20 14 54.6
comp=Z,68nm,0.8s
AOPR Arecibo Observ 82.37 321 *e*P **P 20 14 41.7 -2.3**
PRSN Puerto Rico Se 82.39 321 IAmb IAmb 20 14 48.6
comp=Z,120nm,0.9s
MOVZ Moawhango 82.41 197 P **P 20 14 45.4 +1.1**
WNVZ Wahianoa 82.51 197 P **P 20 14 46.2 +1.3**
H01W2 Cape Leeuwin H 82.52 148 P **P 20 14 48.5 +4.0**
baz=182,slow=3.8,SNR=6.1
SOCE Pocosol 82.52 302 IAmb IAmb 20 15 28.8
comp=Z,353nm,0.5s
BKZ Black Stump Fm 82.53 197 IAmb IAmb 20 14 54.9
comp=Z,77nm,0.9s
BKZ Black Stump Fm 82.53 197 P **P 20 14 46.4 +1.6**
H01W1 Cape Leeuwin H 82.53 148 P **P 20 14 48.8 +4.2**
baz=182,slow=3.8,SNR=3.6

H01W3 Cape Leeuwin H 82.53 148 P **P** **20 14 47.4 +2.8**
baz=182,slow=3.8,SNR=3.7
TRVZ Turoa 82.55 197 P **P** **20 14 46.5 +1.3**
WHVZ Whangaehu Hut 82.56 197 P **P** **20 14 47.1 +1.9**
TUVZ Tukino 82.56 197 P **P** **20 14 46.6 +1.4**
MAVZ Matarangi 82.57 197 P **P** **20 14 47.2 +1.8**
PKVZ Pokaka 82.59 196 P **P** **20 14 46.3 +1.1**
FWVZ Far West T-bar 82.59 197 P **P** **20 14 47.0 +1.5**
JTS Las Juntas de 82.60 302 P **P** **20 14 46.2 +0.8**
JTS IAmb IAmb 20 14 51.9
comp=Z,248nm,1.3s
JTS Las Juntas de 82.60 302 LR LR 20 56 37.5
comp=Z,6μm,18.2s,baz=134,slow=39
JTS Las Juntas de 82.60 302 ⇑P **P** **20 14 46.5 +1.1**
JTS Las Juntas de 82.60 302 *c iP* **P** **20 14 46.1 +0.7**
JTS pmax pmax
comp=Z,234nm,1.3s
SNVZ South Ngauruho 82.64 197 P **P** **20 14 46.9 +1.2**
NGZ Ngauruhoe 82.66 197 P **P** **20 14 47.1 +1.4**
OTVZ Oturere 82.66 197 P **P** **20 14 46.5 +0.8**
ETVZ East Tongariro 82.68 197 P **P** **20 14 46.8 +1.0**
NNVZ North Ngauruho 82.70 197 P **P** **20 14 47.5 +1.6**
TMVZ Te Maari 82.70 197 P **P** **20 14 47.1 +1.2**
WTVZ West Tongariro 82.72 197 P **P** **20 14 47.5 +1.6**
NTVZ North Tongarir 82.72 197 P **P** **20 14 47.3 +1.3**
KRVZ Karewarewa 82.73 197 P **P** **20 14 48.6 +2.5**
MTHZ Maungataniwha 82.77 198 P **P** **20 14 48.1 +2.0**
KHEZ Kahui Hut 82.78 195 P **P** **20 14 46.9 +0.7**
TWVZ Taurewa 82.79 196 P **P** **20 14 47.1 +0.8**
VRZ Vera Road 82.84 196 P **P** **20 14 46.7 +0.3**
KATZ Kakaramea 82.84 197 P **P** **20 14 48.3 +1.7**
PKE Pukeiti 82.89 195 P **P** **20 14 48.5 +1.8**
RATZ Rangitukua 82.93 197 P **P** **20 14 47.7 +0.7**
RTZ Ruatahuna 82.98 198 IAms_20 IAms_20 20 49 42.3
comp=Z,16μm,19.0s
RTZ Ruatahuna 82.98 198 P **P** **20 14 49.0 +1.8**
TKGZ Te Karaka 83.00 198 P P 20 14 55.7 +8.4
URZ Urewera 83.31 198 LR LR 20 49 52.6
comp=Z,10μm,18.4s,baz=244,slow=34
URZ Urewera 83.31 198 ⇑P **P** **20 14 49.2 +0.4**
HIZ Hauiti 83.42 196 P **P** **20 14 49.6 +0.1**
TARZ Mount Tarawera 83.43 197 P **P** **20 14 52.2 +2.5**
TLZ Tolley Road 83.50 197 P **P** **20 14 51.9 +2.0**
TAM Tamanrasset 83.59 29 P **P** **20 14 50.9 +0.4**
TAM IAmb IAmb 20 14 59.9
comp=Z,97nm,1.8s
TAM IAms_20 IAms_20 20 54 45.9
comp=Z,14μm,18.0s
TAM Tamanrasset 83.59 29 P **P** **20 14 50.9 +0.4**
TAM pmax pmax
comp=Z,97nm,1.8s
TAM MLR MLR
comp=Z,14μm,18.0s
FURI Furi 83.92 64 LR LR 20 49 58.8
comp=Z,32μm,19.7s,baz=204,slow=34
ESPN Las Esperanzas 83.96 303 IAmb IAmb 20 15 05.7
comp=Z,76nm,0.9s
TOZ Tahuroa Road 84.09 197 IAmb IAmb 20 14 57.3
comp=Z,110nm,1.1s
TOZ IAms_20 IAms_20 20 56 40.5
comp=Z,12μm,18.0s
ACON Acoyapa 84.17 302 IAmb IAmb 20 14 58.8
comp=Z,150nm,1.0s
PAPH Port-au-Prince 84.55 316 IAmb IAmb 20 15 20.4
comp=Z,133nm,0.9s
SDDR Presa de Saban 84.59 317 IAmb IAmb 20 15 01.3
comp=Z,132nm,1.0s
NWAO Narrogin (SRO) 85.25 149 LR LR 20 50 22.4
comp=Z,5μm,18.9s,baz=158,slow=34
MTDJ Mount Denham 86.35 312 IAmb IAmb 20 15 28.9
comp=Z,138nm,1.1s
MTDJ IAms_20 IAms_20 20 53 38.6
comp=Z,21μm,22.0s
MTDJ Mount Denham 86.35 312 ⇑P **P** **20 15 05.8 +1.5**
OUZ Omahuta 86.84 196 IAms_20 IAms_20 20 51 43.5
comp=Z,15μm,20.0s
OUZ Omahuta 86.84 196 ⇑P **P** **20 15 07.5 +0.8**
GTBY Guantanamo Bay 86.91 314 IAmb IAmb 20 15 12.1
comp=Z,98nm,1.1s
GTBY Guantanamo Bay 86.91 314 ⇑P **P** **20 15 08.1 +1.1**
TBI Tubuai 87.19 230 *e*P **P** **20 15 06.8 -1.7**
comp=Z,10μm,26.0s
TBI Tubuai 87.19 230 *e*PP **PP** **20 18 32.0 +0.4**
comp=Z,5μm,29.0s
TBI *e*S **S** **20 25 47.3 -0.7**
comp=Z,37μm,26.0s
TBI *e*SS **SS** **20 31 28.9 -1.7**
comp=Z,9μm,25.2s
TBI *e*LQ LQ 20 39 06.7
comp=Z,34μm,28.2s
TBI *e*LR LR 20 42 48.1
comp=Z,122μm,31.0s
TBI *e*LR LR 20 42 51.1
comp=Z,25μm,29.8s
NMDO Nuevo Mundo 87.43 315 IAmb IAmb 20 15 15.4
comp=Z,112nm,1.1s
CHIV Chivirico 87.47 313 IAmb IAmb 20 15 15.3
comp=Z,171nm,1.1s
CAN Canberra 88.09 176 IAmb IAmb 20 15 43.3
comp=Z,81nm,1.5s
CAN IAms_20 IAms_20 20 55 58.4
comp=Z,19μm,18.0s
MTO3 Montecristo 88.25 300 IAmb IAmb 20 15 29.3
comp=Z,82nm,0.9s
ATD Arta Tunnel 88.25 66 LR LR 20 53 04.7
comp=Z,1μm,18.8s,baz=200,slow=35
TIO Tiouine 88.82 16 P **P** **20 15 16.7 +0.7**
PMOZ Porto Moniz, M 89.60 7 *e*S S 20 26 27.6 +17
PMOZ *e*SS **SS** **20 32 08.2 +0.8**
PMOZ Porto Moniz, M 89.60 7 *e*LR LR 20 43 26.6
PMOZ A A 20 49 44.9
comp=Z,8μm,20.0s
PETF Flores 90.67 301 IAmb IAmb 20 15 29.7
comp=Z,57nm,1.2s
STKA Stephens Creek 90.99 169 P **P** **20 15 26.8 +0.5**
comp=Z,21nm,0.9s,baz=151,slow=4.4,SNR=20
STKA LR LR 20 56 51.4
comp=Z,28μm,18.1s,baz=185,slow=36
comp=Z,21nm,0.9s
STKA Stephens Creek 90.99 169 ||*e*P **P** **20 15 27.0 +0.7**
RAO Raoul Island 91.06 204 LR LR 20 51 36.0
comp=Z,2μm,19.9s,baz=144,slow=32
MDT Midelt 91.09 18 LR LR 20 52 21.1
comp=Z,34μm,19.4s,baz=202,slow=33
AVE Averroes 91.12 15 IAms_20 IAms_20 20 50 45.4
comp=Z,20μm,20.0s
AVE Averroes 91.12 15 P **P** **20 15 25.3 -1.3**
IFR Ifrane 91.69 17 P **P** **20 15 30.6 +1.2**
TVO Taravao 92.02 233 *e*P P 20 15 26.4 -4.9
comp=Z,885nm,26.6s
TVO Taravao 92.02 233 *e*PP PP 20 19 04.1 -6.2
comp=Z,615nm,26.9s
TVO *e*S **S** **20 26 29.0 -4.4**
comp=Z,2μm,27.4s
TVO Taravao 92.02 233 *e*LR LR 20 45 03.4
comp=Z,5μm,23.1s
PAE Paea 92.27 232 *e*P **P** **20 15 30.6 -1.8**
comp=Z,286nm,22.8s
PAE Paea 92.27 232 *e*PP **PP** **20 19 11.0 -1.2**
comp=Z,173nm,23.2s
PAE *e*S **S** **20 26 31.4 -4.0**
comp=Z,1μm,27.3s
PAE Paea 92.27 232 *e*LR LR 20 45 07.3
comp=Z,5μm,23.0s
PPTF Pamatai, Papee 92.33 232 IAms_20 IAms_20 20 54 44.9
comp=Z,15μm,18.0s
PPT2 Papeete2 92.33 232 *e*P P 20 15 28.3 -4.5
comp=Z,2μm,25.0s
PPT2 Papeete2 92.33 232 *e*PP **PP** **20 19 07.4 -5.4**
comp=Z,2μm,25.8s
PPT2 *e*S **S** **20 26 37.1 +0.9**
comp=Z,11μm,29.8s
PPT2 *e*SS **SS** **20 32 38.6 -6.9**
comp=Z,5μm,25.0s
PPT2 *e*LQ LQ 20 41 19.5
comp=Z,8μm,28.8s
PPT2 *e*LR LR 20 45 12.1
comp=Z,35μm,29.8s
PPT2 *e*LR LR 20 45 15.5
comp=Z,52μm,27.8s
PPT Papeete 92.35 233 LR LR 20 47 51.9
comp=Z,11μm,21.9s,baz=169,slow=30
TEIG Tepich 92.80 303 P **P** **20 15 34.8 +0.3**
TEIG IAms_20 IAms_20 21 01 26.9
comp=Z,11μm,19.0s
TEIG Tepich 92.80 303 LR LR 21 01 57.3
comp=Z,8μm,18.9s,baz=143,slow=38
TEIG Tepich 92.80 303 ⇑P **P** **20 15 35.2 +0.6**
RAR Rarotonga 93.19 222 IAms_20 IAms_20 21 00 57.9
comp=Z,12μm,18.0s
RAR Rarotonga 93.19 222 LR LR 20 52 55.8
comp=Z,4μm,18.0s,baz=187,slow=32
VAH Vaihoa 93.54 235 *e*P **P** **20 15 38.5 +0.2**
comp=Z,5μm,33.0s
VAH Vaihoa 93.54 235 *e*LR LR 20 45 44.5
comp=Z,9μm,21.8s
CHAS Isla Isabel II 93.78 19 P **P** **20 15 37.7 -1.0**
EMLI Melilla 93.80 19 P **P** **20 15 37.7 -1.1**
WMELI Melilla 93.81 19 P **P** **20 15 37.4 -1.5**
PMOR Pomariorio Ree 93.87 235 *e*P **P** **20 15 37.5 -2.3**
comp=Z,2μm,26.0s
PMOR Pomariorio Ree 93.87 235 *e*PP **PP** **20 19 20.6 -4.2**
comp=Z,4μm,28.9s
PMOR *e*S **S** **20 26 47.6 -2.0**
comp=Z,5μm,27.6s
PMOR Pomariorio Ree 93.87 235 *e*LR LR 20 45 51.2
comp=Z,7μm,21.8s
ECEU Ceuta 93.98 16 P **P** **20 15 38.8 -0.8**
CEU Ceuta 93.98 16 P **P** **20 15 40.9 +1.3**
PFVI Vila Bisbo 94.70 14 IAms_20 IAms_20 20 52 20.0
comp=Z,15μm,20.0s
PFVI Vila Bisbo 94.70 14 *e*P **P** **20 15 45.1 +2.2**
PFVI A A 20 16 01.5
comp=Z,113nm,1.7s
PFVI Vila Bisbo 94.70 14 P **P** **20 15 41.9 -1.0**
ESPR Espera 94.86 16 P **P** **20 15 42.2 -1.5**
MORF Marmelete 94.89 14 IAms_20 IAms_20 20 52 46.1
comp=Z,15μm,20.0s
MORF Marmelete 94.89 14 *e*P **P** **20 15 46.0 +2.1**
MORF A A 20 15 51.4
comp=Z,57nm,1.6s
MORF Marmelete 94.89 14 *e*P **P** **20 15 43.1 -0.7**
MORF *e*SKSac **SKSac** **20 26 19.6 +0.7**
MORF IAms_20 IAms_20 20 52 40.0
comp=Z,14μm,19.7s
MORF Marmelete 94.89 14 *e*P **P** **20 15 43.2 -0.7**
MORF *e* 20 26 19.6
PBDV Barranco-do-Ve 94.93 14 *e*P **P** **20 15 45.9 +1.9**
PBDV A A 20 15 54.3
comp=Z,82nm,1.5s
PVAQ Vaqueiros 95.12 14 *e*P **P** **20 15 47.0 +2.2**
PVAQ A A 20 15 52.6
comp=Z,62nm,1.7s
PVAQ Vaqueiros 95.12 14 *e*SKSac **SKSac** **20 26 19.8 -0.2**
PVAQ *e*S **ScS** **20 27 04.1 +3.9**
PVAQ Vaqueiros 95.12 14 *e*LR LR 20 48 07.8
PVAQ A A 20 53 41.8
comp=Z,10μm,18.0s
PTEO Sao Teotonio 95.12 14 *e*P **P** **20 15 47.4 +2.6**
PTEO A A 20 15 55.7
comp=Z,67nm,1.5s
KAAM Kaadhehdhoo 95.22 97 IAms_20 IAms_20 20 48 59.7
comp=Z,18μm,21.0s
MESJ Messejana 95.48 14 IAmb IAmb 20 16 04.5
comp=Z,38nm,1.2s
MESJ IAms_20 IAms_20 20 52 55.7
comp=Z,15μm,20.0s
MESJ Messejana 95.48 14 *e*P **P** **20 15 49.2 +2.7**
MESJ A A 20 16 12.7
comp=Z,61nm,1.5s
MESJ Messejana 95.48 14 *e*P **P** **20 15 45.5 -1.0**
MESJ *e*SKSac **SKSac** **20 26 22.7 +0.8**
MESJ IAms_20 IAms_20 20 52 51.0
comp=Z,16μm,22.9s
MESJ Messejana 95.48 14 *e*P **P** **20 15 45.5 -1.0**
MESJ *e* 20 26 22.7
TAOE Nuku Hiva Isla 95.53 245 *e*P P 20 15 42.5 -5.1
comp=Z,1μm,24.8s
TAOE Nuku Hiva Isla 95.53 245 *e*PP **PP** **20 19 33.8 -4.2**
comp=Z,2μm,25.1s
TAOE *e*S **S** **20 27 00.0 -4.4**
comp=Z,5μm,27.2s
TAOE Nuku Hiva Isla 95.53 245 *e*LR LR 20 46 42.1
comp=Z,10μm,20.7s
PBEJ Beja 95.71 14 *e*P **P** **20 15 49.4 +1.9**
PBEJ A A 20 15 53.5
comp=Z,27nm,1.7s
PBAR Barrancos 95.97 15 *e*P **P** **20 15 52.0 +3.3**
PBAR A A 20 16 00.3
comp=Z,43nm,1.6s
EVO Evora 96.19 14 *e*P **P** **20 15 52.3 +2.6**
EVO A A 20 16 07.7
comp=Z,38nm,1.6s
LIS Lisbon 96.22 13 *e*P **P** **20 15 49.1 -0.7**
LIS *e*SKSac **SKSac** **20 26 26.4 +0.7**
LIS IAms_20 IAms_20 20 52 55.6
comp=Z,13μm,18.2s
LIS Lisbon 96.22 13 *e*P **P** **20 15 49.1 -0.7**
LIS *e* 20 26 26.4
PESTR Estremoz 96.57 14 *e*P **P** **20 15 52.4 +0.9**
PESTR A A 20 16 11.3
comp=Z,45nm,1.7s
PMTG Montargil 96.69 14 *e*P **P** **20 15 51.7 -0.2**
PMTG A A 20 16 10.6
comp=Z,46nm,1.7s
KEST Kesra 96.89 28 P **P** **20 15 53.7 +0.6**
comp=Z,5.0nm,0.9s,baz=233,slow=5.1,SNR=4.6
KEST PKKP **PKKPdf** **20 32 40.4 +4.5**
comp=Z,6.1nm,1.2s,baz=45,slow=8.4,SNR=3.6
KEST LR LR 20 55 38.5
comp=Z,15μm,19.5s,baz=201,slow=33
comp=Z,5.0nm,0.9s
MBWA Marble Bar 97.07 148 P Pdif 20 15 55.5 +1.0
MBWA Marble Bar 97.07 148 IAms_20 IAms_20 20 53 09.2
comp=Z,10μm,20.0s
PMRV Marv??o 97.15 14 *e*P **P** **20 15 58.2 +4.1**
PMRV A A 20 16 11.7
comp=Z,26nm,1.5s
PMRV Marv??o 97.15 14 *e*S **S** **20 27 22.3 +5.5**
PMRV *e*SS **SS** **20 33 56.3 +1.1**
PMRV Marv??o 97.15 14 *e*LR LR 20 49 11.1
PMRV A A 20 54 31.6
comp=Z,13μm,22.0s
UNM Universidad Na 97.28 294 IAms_20 IAms_20 20 57 02.1
comp=Z,13μm,18.0s
PAB San Pablo 97.71 17 IAms_20 IAms_20 20 58 14.6
comp=Z,13μm,18.0s
COI Coimbra 97.79 13 IAms_20 IAms_20 20 53 27.8
comp=Z,11μm,22.0s
ESDC Sonseca Array 97.90 17 P **P** **20 15 57.2 -0.3**
ESDC Sonseca Array 97.90 17 P **P** **20 15 56.9 -0.6**
comp=Z,1.0nm,0.9s,baz=188,slow=2.7,SNR=6.9
ESDC PKKP **PKKPdf** **20 32 35.1 +0.9**
comp=Z,1.0nm,1.0s,baz=5.6,slow=3.2,SNR=5.0
ESDC LR LR 20 57 46.4
comp=Z,7μm,18.0s,baz=172,slow=34
comp=Z,1.0nm,0.9s
ASAR Alice Springs 98.00 161 P **P** **20 15 59.0 +0.4**
comp=Z,23nm,0.9s,baz=193,slow=3.7,SNR=46
ASAR PP **PP** **20 19 58.0 +1.7**
comp=Z,7.6nm,0.9s,baz=188,slow=8.0,SNR=9.3
ASAR PKPPKP P'P'df 20 40 43.3 -9.1
comp=Z,1.2nm,0.9s,baz=7.0,slow=1.9,SNR=6.3
ASAR LR LR 20 58 01.9
comp=Z,12μm,19.8s,baz=192,slow=34
comp=Z,23nm,0.9s
ASAR Alice Springs 98.00 161 P **P** **20 15 59.0 +0.4**
MTE Manteigas 98.09 14 IAms_20 IAms_20 20 55 12.7
comp=Z,18μm,20.0s
MTE Manteigas 98.09 14 *e*SKSac **SKSac** **20 26 37.8 +2.3**
MTE *e*S **ScS** **20 27 27.2 +2.2**
MTE *e*SS **SS** **20 34 09.3 +0.9**
MTE Manteigas 98.09 14 *e*LR LR 20 52 19.5
MTE A A 20 55 46.0
comp=Z,16μm,20.0s
WDD Wied Dalam 98.42 32 IAms_20 IAms_20 21 04 36.1
comp=Z,12μm,18.0s
MVO Moncorvo 98.91 14 *e*SKSac **SKSac** **20 26 41.2 +1.6**
MVO *e*S **ScS** **20 27 32.1 +0.2**
MVO Moncorvo 98.91 14 *e*LR LR 20 52 36.3
MVO A A 20 56 59.3
comp=Z,14μm,20.0s
PGAV Gavieira, Arco 99.53 13 *e*SKSac **SKSac** **20 26 44.7 +2.0**
PGAV *e*SS **SS** **20 34 29.6 +0.9**
PGAV Gavieira, Arco 99.53 13 *e*LR LR 20 51 34.3
PGAV A A 20 55 02.1
comp=Z,11μm,20.0s
RAFF Raffo Rosso 99.66 31 IAms_20 IAms_20 21 05 47.1
comp=Z,15μm,18.0s
VAE Valguarnera 99.91 31 LR LR 20 58 30.8
comp=Z,11μm,18.9s,baz=140,slow=34
257A Skidaway Islan 100.02 315 IAms_20 IAms_20 21 05 41.4
comp=Z,11μm,19.0s
PINNC Pines Island, 100.08 192 IAms_20 IAms_20 21 05 43.1
comp=Z,14μm,18.0s
EIL Elat 100.23 50 LR LR 21 00 11.4
comp=Z,20μm,18.1s,baz=208,slow=35
VSL Villasalto 100.46 27 IAms_20 IAms_20 21 00 09.5
comp=Z,16μm,18.0s
ONTNC Ouen Toro 100.49 192 IAms_20 IAms_20 20 58 38.0
comp=Z,11μm,21.0s
DZM Mont Dzumac 100.73 192 IAms_20 IAms_20 20 58 35.2
comp=Z,11μm,20.0s
DZM Mont Dzumac 100.73 192 *e*P **Pdif** **20 16 05.6 -5.2**
comp=Z,896nm,24.7s
DZM Mont Dzumac 100.73 192 *e*PP **PP** **20 20 12.7 -4.5**
comp=Z,1μm,25.8s
DZM Mont Dzumac 100.73 192 *e*SS SS 20 34 44.5 +1.0
comp=Z,3μm,23.8s
DZM Mont Dzumac 100.73 192 *e*LQ LQ 20 44 46.0
comp=Z,14μm,31.8s
DZM *e*LR LR 20 49 00.8
comp=Z,10μm,20.8s
Y60A Bolivia 100.76 318 IAms_20 IAms_20 21 05 03.4
comp=Z,11μm,20.0s
CEL Celeste 101.07 32 IAms_20 IAms_20 21 05 10.3
comp=Z,13μm,18.0s
154A Montrose 101.41 314 IAms_20 IAms_20 21 06 20.2
comp=Z,13μm,19.0s
FITZ Fitzroy Crossi 101.60 152 P **Pdif** **20 16 16.2 +1.6**
comp=Z,2.0nm,0.8s,baz=203,slow=12,SNR=2.7
FITZ PP **PP** **20 20 23.5 -0.3**
comp=Z,4.4nm,1.1s,baz=236,slow=10,SNR=3.0
CEST Esterri de Car 101.65 20 IAms_20 IAms_20 20 57 47.5
comp=Z,11μm,20.0s
WRA Warramunga Arr 101.71 161 P **Pdif** **20 16 16.5 +1.4**
comp=Z,6.4nm,0.9s,baz=197,slow=4.0,SNR=35
WRA PP **PP** **20 20 23.1 -1.5**
comp=Z,2.9nm,0.9s,baz=192,slow=6.2,SNR=2.3
WRAB Tennant Creek 101.72 161 ⇑*e*P **Pdif** **20 16 16.8 +1.6**
WRAB pmax pmax
comp=Z,27nm,2.5s
WRAB MLR MLR
comp=Z,3μm,17.0s
BRAL Brewton 101.76 310 IAms_20 IAms_20 21 05 36.9
comp=Z,12μm,20.0s
250A Grady 102.14 311 IAms_20 IAms_20 21 05 55.7
comp=Z,10μm,19.0s
GOGA Godfrey 102.25 314 IAms_20 IAms_20 21 05 35.5
comp=Z,11μm,20.0s
545A Edgard 102.28 307 IAms_20 IAms_20 21 10 37.7
comp=Z,16μm,19.0s
KARP Karpathos 102.32 42 IAms_20 IAms_20 21 01 49.0
comp=Z,14μm,20.0s
KOUNC Koumac, New Ca 102.45 190 IAms_20 IAms_20 21 03 10.6
comp=Z,10μm,18.0s
BALJ Balqa 102.62 50 IAms_20 IAms_20 21 05 33.5
comp=Z,13μm,18.0s
Y52A Lilburn 102.88 313 IAms_20 IAms_20 21 07 23.3
comp=Z,15μm,20.0s
PAOL Paolisi 103.26 30 IAms_20 IAms_20 21 03 15.5
comp=Z,9μm,18.0s
ARG Arkhangelos 103.27 42 IAms_20 IAms_20 21 03 02.0
comp=Z,11μm,20.0s
LRAL Lakeview Retre 103.36 311 IAms_20 IAms_20 21 07 12.2
comp=Z,16μm,20.0s
AGG Agios Georgios 103.77 37 IAms_20 IAms_20 21 01 44.5
comp=Z,9μm,20.0s
146A Union 103.88 309 IAms_20 IAms_20 21 04 08.1
comp=Z,15μm,21.0s
W52A Murphy 103.91 314 IAms_20 IAms_20 21 08 08.3
comp=Z,11μm,19.0s
Z47A Carrollton 103.95 310 IAms_20 IAms_20 21 05 44.8
comp=Z,9μm,20.0s
V53A Saluda 103.97 315 IAms_20 IAms_20 21 08 04.1
comp=Z,13μm,19.0s
AFI Afiamalu 104.06 214 IAms_20 IAms_20 21 04 07.9
comp=Z,9μm,18.0s
CSS Mathiatis 104.17 47 IAms_20 IAms_20 21 06 23.6
comp=Z,15μm,19.0s
R58B Mineral 104.18 320 IAms_20 IAms_20 21 07 37.7
comp=Z,10μm,18.0s
CESX Cesi 104.20 28 IAms_20 IAms_20 20 58 11.5
comp=Z,14μm,21.0s
U54A Nelsons Funny 104.34 316 IAms_20 IAms_20 21 07 39.7
comp=Z,9μm,19.0s
W50A Signal Mountai 104.55 313 IAms_20 IAms_20 21 05 03.4
comp=Z,14μm,21.0s
P61A Hammonton 104.66 323 IAms_20 IAms_20 21 01 15.1
comp=Z,10μm,22.0s
FDMO Fiordimonte 104.73 28 IAms_20 IAms_20 20 58 30.6
comp=Z,9μm,21.0s
SSB Saint Sauveur 104.87 22 IAms_20 IAms_20 21 02 38.7
comp=Z,12μm,18.0s
TZTN Tazewell 105.03 315 IAms_20 IAms_20 21 08 44.9
comp=Z,10μm,19.0s
M65A Busby, Falmout 105.06 327 IAms_20 IAms_20 21 00 54.5
comp=Z,16μm,21.0s
Y45A Yeager Farm, C 105.14 309 IAms_20 IAms_20 21 08 02.5
comp=Z,13μm,20.0s
M63A Gales Ferry 105.34 326 IAms_20 IAms_20 21 02 38.1
comp=Z,12μm,21.0s
N62A Caumsett State 105.36 324 IAms_20 IAms_20 21 03 00.7
comp=Z,10μm,20.0s
ZCCA Zocca 105.43 26 IAms_20 IAms_20 21 00 24.1
comp=Z,14μm,20.0s
L64A Middleborough 105.46 327 IAms_20 IAms_20 21 01 07.1
comp=Z,16μm,21.0s
ISP Isparta 105.58 43 IAms_20 IAms_20 21 14 14.6
comp=Z,8μm,18.0s
V48A Smith Brothers 105.63 312 IAms_20 IAms_20 21 04 40.0
comp=Z,12μm,22.0s
PRMA PARMA 105.66 26 IAms_20 IAms_20 21 00 41.2
comp=Z,16μm,20.0s
U49A Red Boiling Sp 105.88 313 IAms_20 IAms_20 21 04 57.6
comp=Z,11μm,22.0s
BCX Boston College 105.93 327 IAms_20 IAms_20 21 01 09.4
comp=Z,15μm,21.0s
WES Weston 106.02 327 IAms_20 IAms_20 21 01 21.8
comp=Z,16μm,20.0s
Q54A Coxs Mills 106.15 318 IAms_20 IAms_20 21 07 54.9
comp=Z,8μm,19.0s
HRV Adam Dziewonsk 106.20 327 IAms_20 IAms_20 21 02 29.6
comp=Z,14μm,20.0s
MNAI Manna 106.25 126 IAms_20 IAms_20 20 55 51.4
comp=Z,11μm,21.0s
N58A Sunbury 106.35 322 IAms_20 IAms_20 21 03 40.9
comp=Z,8μm,19.0s
MCWV Mont Chateau 106.39 319 IAms_20 IAms_20 21 08 50.1
comp=Z,12μm,19.0s
SLBS Sierra La Lagu 106.41 288 IAms_20 IAms_20 21 01 10.4
comp=Z,11μm,18.0s
L61B Northampton 106.49 326 IAms_20 IAms_20 21 03 23.5
comp=Z,14μm,21.0s
K62A Royalston 106.55 326 IAms_20 IAms_20 21 03 13.0
comp=Z,15μm,20.0s
T47A Sharon Grove 106.82 313 IAms_20 IAms_20 21 06 01.6
comp=Z,12μm,21.0s
M57A Sunshine Farm, 106.93 322 IAms_20 IAms_20 21 03 51.4
comp=Z,10μm,20.0s
SMRI Semarang 106.98 134 IAms_20 IAms_20 20 59 06.0
comp=Z,9μm,20.0s
L59A Walton 107.01 324 IAms_20 IAms_20 21 01 01.2
comp=Z,12μm,22.0s
EMMW East Machias 107.04 330 IAms_20 IAms_20 21 03 37.5
comp=Z,11μm,20.0s
O54A Avella 107.04 319 IAms_20 IAms_20 21 09 10.4
comp=Z,11μm,20.0s
TUE Stuetta 107.04 25 IAms_20 IAms_20 21 01 37.9
comp=Z,12μm,20.0s
TRY Troy 107.06 325 IAms_20 IAms_20 21 03 51.4
comp=Z,13μm,21.0s
CLF Chambon-Foret 107.07 19 IAms_20 IAms_20 21 01 18.1
comp=Z,15μm,20.0s
R49A Shelbyville 107.18 315 IAms_20 IAms_20 21 09 33.9
comp=Z,15μm,19.0s
J61A Chester 107.27 326 IAms_20 IAms_20 21 03 13.9
comp=Z,13μm,20.0s
I63A Otisfield 107.32 328 IAms_20 IAms_20 21 03 36.4
comp=Z,10μm,20.0s
BINY Binghamton 107.32 323 IAms_20 IAms_20 21 02 09.6
comp=Z,12μm,22.0s
I62A Tamworth 107.38 327 IAms_20 IAms_20 21 01 28.8
comp=Z,13μm,21.0s
FUORN Ofenpass-Fuorn 107.39 25 IAms_20 IAms_20 21 01 07.2
comp=Z,12μm,20.0s
HNH Hanover 107.51 327 IAms_20 IAms_20 21 02 19.4
comp=Z,14μm,21.0s
WVL Waterville 107.52 329 IAms_20 IAms_20 21 03 10.5
comp=Z,13μm,20.0s

G65A	Princeton	107.52	330		IAMs_20	IAMs_20	21 04	02.3	
	comp=Z,12µm,20.0s								
SABO	M.te Sabotino	107.61	28		IAMs_20	IAMs_20	21 05	21.1	
	comp=Z,11µm,18.0s								
CIMO	Cimolais	107.63	27		IAMs_20	IAMs_20	21 02	14.5	
	comp=Z,13µm,20.0s								
N53A	Lisbon	107.75	319		IAMs_20	IAMs_20	21 09	40.4	
	comp=Z,10µm,19.0s								
TXAR	Lajitas Array	107.85	296		PKiKP	PKiKP	20 20	50.1	+0.7
	comp=Z,3.2nm,0.9s,baz=177,slow=3.3,SNR=7.8								
FETA	Feichten	107.88	25	e	PKKP	PKKPbc	20 32	07.1	+5.7
	comp=Z,7.6nm,1.2s								
LBNH	Lisbon	107.89	327		IAMs_20	IAMs_20	21 02	50.3	
	comp=Z,13µm,21.0s								
DAVA	Damuels	107.93	25	e	PKKP	PKKPbc	20 32	05.0	+3.7
	comp=Z,7.9nm,1.1s								
H62A	Milan	107.96	328		IAMs_20	IAMs_20	21 04	17.2	
	comp=Z,12µm,21.0s								
K57A	Scipio Center	107.97	323		IAMs_20	IAMs_20	21 02	40.8	
	comp=Z,13µm,22.0s								
J59A	Piesco	107.98	325		IAMs_20	IAMs_20	21 04	29.9	
	comp=Z,12µm,20.0s								
PRED	Cave del Predi	108.03	27		IAMs_20	IAMs_20	21 03	35.9	
	comp=Z,13µm,19.0s								
PKME	Peaks-Kenny Pk	108.06	329		IAMs_20	IAMs_20	21 04	29.6	
	comp=Z,10µm,20.0s								
P49A	Miami Univ. Ec	108.08	316		IAMs_20	IAMs_20	21 08	56.7	
	comp=Z,13µm,20.0s								
SQTA	Sankt Quirin	108.18	26	e	PKKP	PKKPbc	20 32	02.8	+2.4
	comp=Z,5.3nm,1.0s								
VT1	Waterbury	108.22	326		IAMs_20	IAMs_20	21 03	20.9	
	comp=Z,14µm,20.0s								
MYKA	Terra Mystica	108.22	27	e	PKKP	PKKPbc	20 32	04.2	+4.0
	comp=Z,3.9nm,0.6s								
ANTO	Ankara	108.23	44		IAMs_20	IAMs_20	21 10	17.3	
	comp=Z,8µm,19.0s								
MOTA	Moosalm	108.27	25	e	PKKP	PKKPbc	20 32	05.1	+4.9
	comp=Z,5.6nm,1.1s								
P48A	Milroy	108.29	315		IAMs_20	IAMs_20	21 10	39.3	
	comp=Z,11µm,20.0s								
RETA	Reutte	108.33	25	e	PKKP	PKKPbc	20 32	03.4	+3.5
	comp=Z,5.0nm,1.1s								
PMBI	Palembang	108.33	127		IAMs_20	IAMs_20	20 57	01.3	
	comp=Z,9µm,20.0s								
F64A	Sherman	108.35	330		IAMs_20	IAMs_20	21 04	18.2	
	comp=Z,12µm,20.0s								
G62A	West of Eustis	108.37	328		IAMs_20	IAMs_20	21 03	34.9	
	comp=Z,14µm,21.0s								
J57A	Williamstown	108.41	324		IAMs_20	IAMs_20	21 01	54.3	
	comp=Z,12µm,22.0s								
GSI	Gunungsitoli	108.72	118		IAMs_20	IAMs_20	20 56	43.8	
	comp=Z,15µm,20.0s								
O48B	Farmland	108.88	316		IAMs_20	IAMs_20	21 09	10.7	
	comp=Z,9µm,20.0s								
J55A	Hilton	108.88	323		IAMs_20	IAMs_20	21 08	59.9	
	comp=Z,9µm,19.0s								
LONY	Lake Ozonia	109.05	325		IAMs_20	IAMs_20	21 04	51.0	
	comp=Z,14µm,20.0s								
M50A	Fremont	109.08	318		IAMs_20	IAMs_20	21 10	23.5	
	comp=Z,8µm,18.0s								
N49A	Columbus Grove	109.08	317		IAMs_20	IAMs_20	21 11	41.7	
	comp=Z,11µm,19.0s								
P46A	Rosedale	109.12	314		IAMs_20	IAMs_20	21 10	44.4	
	comp=Z,13µm,19.0s								
Q44A	Meyer Farm, Va	109.23	312		IAMs_20	IAMs_20	21 06	53.5	
	comp=Z,14µm,22.0s								
WLF	Walferdange	109.39	21		IAMs_20	IAMs_20	21 05	35.1	
	comp=Z,12µm,18.0s								
N47A	Urbana	109.62	316		IAMs_20	IAMs_20	21 11	38.5	
	comp=Z,10µm,19.0s								
SFIN	Lafayette	109.73	315		IAMs_20	IAMs_20	21 07	15.5	
	comp=Z,11µm,21.0s								
ARPR	Arapgir-MALATY	109.75	48		IAMs_20	IAMs_20	21 09	58.3	
	comp=Z,11µm,18.0s								
CONA	Conrad Observa	110.00	28	e	PKKP	PKKPbc	20 31	59.5	+4.9
	comp=Z,5.1nm,1.1s								
S39A	Bolivar	110.01	309		IAMs_20	IAMs_20	21 07	45.3	
	comp=Z,15µm,22.0s								
L48A	N Adams	110.06	317		IAMs_20	IAMs_20	21 09	12.6	
	comp=Z,9µm,19.0s								
P43A	Skaggs, Pawnee	110.07	313		IAMs_20	IAMs_20	21 06	44.6	
	comp=Z,14µm,22.0s								
GERES	GERESS Array B	110.30	27		PKiKP	PKiKP	20 20	54.0	+0.6
	comp=Z,1.5nm,0.9s,baz=212,slow=3.5,SNR=3.9								
CKRC	Cesky Krumlov	110.43	27	e	PDIFF	Pdif	20 16	59.0	+6.0
CKRC				e	SKS	SKSac	20 27	34.3	+2.7
CKRC					AMS	AMS	21 06	20.0	
	comp=Z,12µm,17.5s								
CKRC	Cesky Krumlov	110.43	27	e	P	Pdif	20 16	59.0	+6.0
CKRC				e			20 27	34.3	
CKRC					MLR	MLR			
	comp=Z,12µm,17.5s								
GRFO	Grafenberg	110.50	25		IAMs_20	IAMs_20	21 04	21.4	
	comp=Z,8µm,20.0s								
GRA1	Grafenberg Arr	110.50	25		IAMs_20	IAMs_20	21 04	21.4	
	comp=Z,8µm,20.0s								
KHC	Kasperske Hory	110.53	26	e	PP	PP	20 21	36.4	+5.8
KHC				e	SKS	SKSac	20 27	33.8	+1.7
KHC				e	PKKP	PKKPbc	20 31	51.0	-1.7
KHC					AMS	AMS	21 05	00.0	
	comp=Z,8µm,18.5s								
MLR	Muntele Rosu	110.75	36		IAMs_20	IAMs_20	21 09	22.3	
	comp=Z,10µm,20.0s								
HDIL	Hopedale	110.75	313		IAMs_20	IAMs_20	21 11	55.7	
	comp=Z,8µm,20.0s								
L46A	Eue Claire	110.83	316		IAMs_20	IAMs_20	21 13	23.3	
	comp=Z,12µm,18.0s								
M44A	Midewin, Midew	110.97	315		IAMs_20	IAMs_20	21 11	52.2	
	comp=Z,10µm,19.0s								
ZVC	Zvikov	110.97	27		AMS	AMS	21 05	50.0	
	comp=Z,6µm,18.6s								
TREC	Trest	111.16	28		AMS	AMS	21 05	50.0	
	comp=Z,10µm,18.9s								
HQIL	Hanson Quary C	111.24	315		IAMs_20	IAMs_20	21 10	34.5	
	comp=Z,14µm,21.0s								
NKC	Novy Kostel	111.29	25		AMS	AMS	21 02	40.0	
	comp=Z,8µm,19.3s								
VYHS	Vyhne	111.32	30	e	PKiKP	PKiKP	20 20	57.5	+2.3
VYHS	Vyhne	111.32	30	e	PKP	PKiKP	20 20	57.5	+2.3
N41A	Harden Midland	111.51	312		IAMs_20	IAMs_20	21 07	38.9	
	comp=Z,12µm,22.0s								
GOPC	GO Pecny, Ondr	111.56	27		AMS	AMS	21 13	10.0	
	comp=Z,7µm,17.4s								
PRU	Pruhonice	111.57	27	e	PDIFF	Pdif	20 17	11.5	+14
PRU					AMS	AMS	21 06	20.0	
	comp=Z,5µm,17.7s								
L44A	Lake County Fo	111.59	315		IAMs_20	IAMs_20	21 12	30.6	
	comp=Z,11µm,19.0s								
P38A	Dawn	111.72	310		IAMs_20	IAMs_20	21 11	59.4	
	comp=Z,13µm,19.0s								
HSKC	Hora Svate Kat	111.87	26		AMS	AMS	21 03	00.0	
	comp=Z,10µm,20.7s								
RICC	Richard	111.97	26		AMS	AMS	21 05	40.0	
	comp=Z,9µm,18.7s								
PVCC	Panska Ves	112.07	26		AMS	AMS	21 11	00.0	
	comp=Z,6µm,17.9s								
L42A	Oliver, Polo	112.13	314		IAMs_20	IAMs_20	21 13	19.1	
	comp=Z,9µm,21.0s								
MORC	Moravsky Berou	112.14	29		IAMs_20	IAMs_20	21 06	20.5	
	comp=Z,9µm,19.0s								
K43A	Burlington	112.20	315		IAMs_20	IAMs_20	21 13	16.8	
	comp=Z,12µm,18.0s								
KRLC	Kraliky	112.21	28		AMS	AMS	21 04	50.0	
	comp=Z,7µm,19.9s								
HYB	Hyderabad	112.23	92	e	PKiKP	PKiKP	20 20	57.8	-0.1
HYB				ep	PKiKP	pPKiKP	20 21	03.2	+2.9
HYB				e	PP	PP	20 21	41.2	-1.8
HYB				e	SKSac	SKSac	20 27	37.4	-3.2
HYB				e	SKKSac	SKKSac	20 28	40.2	-5.0
HYB				e	SP	SP	20 31	13.9	-1.4
HYB				e	SS	SS	20 37	22.3	+0.4
HYB					IVMs_BB	IVMs_BB	21 04	37.5	
	comp=Z,6µm,18.9s								
BRG	Berggiesshubel	112.24	26	⇓e	Pif		20 17	07.0	
BRG	Berggiesshubel	112.24	26		PP	PP	20 21	58.0	+15
BRG	Berggiesshubel	112.24	26	⇓	Sif		20 29	38.0	
BRG	Berggiesshubel	112.24	26	i	P	Pdif	20 17	07.0	+6.1
BRG					SP	SP	20 31	17.0	+2.9
BRG					SS	SS	20 37	23.0	+1.4
DPC	Dobruska-Polom	112.35	28		AMS	AMS	21 06	40.0	
	comp=Z,10µm,18.0s								
OKC	Ostrava-Krasne	112.35	29		AMS	AMS	21 08	00.0	
	comp=Z,8µm,17.2s								
UPC	Upice	112.41	27		AMS	AMS	21 06	10.0	
	comp=Z,8µm,18.3s								
CLL	Collm	112.42	25	es	Pdif	Pdif	20 17	12.0	+10
CLL				e	PKiKP	PKiKP	20 20	59.0	+1.9
CLL				e	PP	PP	20 21	45.0	+1.0
	comp=Z,600nm,13.1s								
CLL				e	SKSac	SKSac	20 27	42.0	+2.5
CLL				e	SKKSac	SKKSac	20 28	45.0	+0.1
CLL				e	Sdif	Sdif	20 29	30.0	+6.1
CLL				e	PS	PS	20 31	18.0	+1.1
CLL				e	PPS	PPS	20 32	28.0	
CLL				e	SS	SS	20 37	23.0	-1.0
CLL				e	SSS	SSS	20 41	36.0	
CHVC	Chvalec	112.50	27		AMS	AMS	21 06	10.0	
	comp=Z,6µm,17.7s								
OSTC	Ostas	112.51	28		AMS	AMS	21 06	40.0	
	comp=Z,8µm,17.4s								
I45A	Fountain	112.54	317		IAMs_20	IAMs_20	21 12	47.1	
	comp=Z,10µm,20.0s								
KSU1	Kansas State U	112.60	307		IAMs_20	IAMs_20	21 09	00.2	
	comp=Z,12µm,22.0s								
SAUI	Saumlaki	112.71	155		IAMs_20	IAMs_20	21 06	08.0	
	comp=Z,15µm,21.0s								
L40A	Anamosa	112.80	313		IAMs_20	IAMs_20	21 09	02.9	
	comp=Z,13µm,22.0s								
JFWS	Jewell Farm	113.13	314		IAMs_20	IAMs_20	21 10	14.5	
	comp=Z,8µm,20.0s								
ESK	Eskdalemuir	113.29	14		IAMs_20	IAMs_20	21 13	22.9	
	comp=Z,9µm,18.0s								
Y22D	IRIS PASSCAL I	113.31	297		IAMs_20	IAMs_20	21 08	32.6	
	comp=Z,7µm,18.0s								
GNI	Garni	113.33	52		IAMs_20	IAMs_20	21 09	11.0	
	comp=Z,12µm,19.0s								
I42A	Draeger Farm,	113.43	315		IAMs_20	IAMs_20	21 12	39.3	
	comp=Z,12µm,19.0s								
KWP	Kalwaria Pacla	113.44	32		IAMs_20	IAMs_20	21 07	58.9	
	comp=Z,13µm,20.0s								
H43A	Windswept, Lux	113.48	316		IAMs_20	IAMs_20	21 11	08.6	
	comp=Z,9µm,19.0s								
N35A	Tabor	113.64	309		IAMs_20	IAMs_20	21 17	23.4	
	comp=Z,12µm,18.0s								
ANMO	Albuquerque	113.78	298		IAMs_20	IAMs_20	21 06	43.1	
	comp=Z,11µm,19.0s								
ANMO	Albuquerque	113.78	298	⇓i	PKiKP	PKiKP	20 21	02.1	+1.5
ANMO					MLR	MLR			
	comp=Z,6µm,19.0s								
HNR	Honiara	113.80	186		IAMs_20	IAMs_20	21 08	04.9	
	comp=Z,13µm,19.0s								
E46A	Sault Ste Mari	113.83	320		IAMs_20	IAMs_20	21 13	10.1	
	comp=Z,9µm,19.0s								
AKL	Akola	114.05	89	e	P	PKiKP	20 21	02.6	+1.3
SOC	Sochi	114.09	46	i	PKiKP	PKiKP	20 21	01.8	+1.2
SOC				e			20 21	55.7	
SOC				e	PPP	PPP	20 24	24.2	
SOC				e			20 27	41.0	
SOC				e	PS	PS	20 31	33.8	+1.4
SOC				e	SS	SS	20 37	45.6	-0.8
SOC					MLR	MLR			
	comp=Z,6µm,19.0s								
I40A	Norwalk	114.09	314		IAMs_20	IAMs_20	21 08	40.0	
	comp=Z,10µm,21.0s								
ANN	Anapa	114.22	44	i	PKiKP	PKiKP	20 21	02.6	+1.8
ANN				e			20 21	06.2	
ANN				e			20 27	48.9	
ANN					pmax	pmax			
	comp=Z,42nm,0.8s								
F42A	Maple Grove Fa	114.71	317		IAMs_20	IAMs_20	21 10	14.1	
	comp=Z,8µm,20.0s								
BGNE	Belgrade	115.17	308		IAMs_20	IAMs_20	21 09	27.0	
	comp=Z,14µm,22.0s								
I37A	Lemond, Waseca	115.31	312		IAMs_20	IAMs_20	21 10	42.3	
	comp=Z,12µm,21.0s								
COWI	Conover	115.38	316		IAMs_20	IAMs_20	21 11	05.7	
	comp=Z,11µm,20.0s								
LABN	Labinsk	115.38	46	i	PKiKP	PKiKP	20 21	04.4	+1.3
LABN				e			20 21	07.4	
LABN				e			20 27	52.1	
LABN					pmax	pmax			
	comp=Z,30nm,0.9s								
RGN	Rugen	115.50	24		IAMs_20	IAMs_20	21 08	06.8	
	comp=Z,10µm,19.0s								
KIV	Kislovodsk	115.60	48		IAMs_20	IAMs_20	21 15	49.3	
	comp=Z,10µm,18.0s								
KIV	Kislovodsk	115.60	48	i	P	Pdif	20 17	16.9	+0.7
KIV				i			20 21	05.8	
KIV				e			20 22	06.7	
KIV				e			20 27	53.0	
KIV				e	PS	PS	20 31	47.9	+1.5
KIV				e	SS	SS	20 38	07.0	+0.6
KIV					pmax	pmax			
	comp=Z,13nm,1.1s								
KIV					MLR	MLR			
	comp=Z,9µm,22.0s								
NRDN	NARMADA NAGAR	115.75	88	e	P	PKPdf	20 21	02.8	-1.7
SPMN	Marine on St.	116.07	314		IAMs_20	IAMs_20	21 10	59.4	
	comp=Z,9µm,21.0s								
ERBR	Yeremizino-Bor	116.17	46	i	PKiKP	PKiKP	20 21	06.0	+1.5
ERBR				e			20 21	08.9	
ERBR				e			20 27	55.4	
ERBR					pmax	pmax			
	comp=Z,72nm,1.6s								
SCHQ	Schefferville	116.21	335		PKP	PKPdf	20 21	02.7	-1.6
	comp=Z,4.1nm,0.6s,baz=135,slow=13,SNR=5.2								
BHPL	Bhopal	116.31	87	ex		PP	20 22	11.7	-0.1
SBUM	Sibu	116.33	132		PKPdf	PKPdf	20 21	06.4	+0.5
KIEV	Kiev	116.37	36		PKPdf	PKPdf	20 21	04.1	-0.6
KIEV	Kiev	116.37	36		PKiKP	PKPdf	20 21	04.1	-0.6
KIEV					MLR	MLR			
	comp=Z,5µm,20.0s								
AKASG	Malin Array Be	116.38	36			PKPdf	20 21	02.0	-2.7
AKASG	Malin Array Be	116.38	36		PKP	PKPdf	20 21	03.6	-1.1
	comp=Z,4.4nm,0.9s,baz=239,slow=2.0,SNR=9.2								
AKBB	Malin Array Si	116.38	36	d	iPKiKP	PKiKP	20 21	06.5	+1.8
AKBB					MLR	MLR			
	comp=Z,5µm,20.0s								
OGNE	Ogallala	116.52	305		IAMs_20	IAMs_20	21 12	24.0	
	comp=Z,8µm,21.0s								
MVCO	Mesa Verde	116.58	298		IAMs_20	IAMs_20	21 09	56.9	
	comp=Z,9µm,18.0s								
WUAZ	Wupatki	116.67	294		IAMs_20	IAMs_20	21 10	08.6	
	comp=Z,7µm,18.0s								
MAK	Makhachkala	116.82	52	c	iP	Pdif	20 17	17.5	-4.0
MAK				e			20 27	50.1	
MAK				e	PS	PS	20 31	56.1	-1.2
MAK				e	SS	SS	20 38	15.4	-6.7
MAK				e	SSS	SSS	20 42	38.8	
MAK					pmax	pmax			
	comp=Z,565nm,1.2s								
MAK					pmax	pmax			
	comp=Z,1µm,1.6s								
LUWI	Luwuk	116.98	144		PKP	PKiKP	20 21	09.7	+2.5
AJM	Ajmer	117.36	83	e	P	PKiKP	20 21	09.0	+1.5
PFO	Pinyon Flats O	117.76	289			PKPdf	20 21	08.0	-0.2
PFO	Pinyon Flats O	117.76	289		PKP	PKPdf	20 21	08.4	+0.3
	comp=Z,9.1nm,0.9s,baz=177,slow=1.8,SNR=7.9								
PFO	Pinyon Flats O	117.76	289	⇑i	PKiKP	PKiKP	20 21	09.6	+1.4
EYMN	Ely	117.81	316		IAMs_20	IAMs_20	21 17	56.1	
	comp=Z,11µm,18.0s								
FAKI	Fak Fak	117.82	155		IAMs_20	IAMs_20	21 16	47.2	
	comp=Z,7µm,20.0s								
BKNR	BIKANER	117.83	81	ex		x	20 25	33.4	
TOLI2	Tolitoli	118.33	141		PKPdf	PKPdf	20 21	08.9	-0.9
JHNI	Jhansi	118.69	87	e	P	PKPdf	20 21	09.7	-0.4
O20A	White River Ci	118.76	300		IAMs_20	IAMs_20	21 10	28.7	
	comp=Z,12µm,20.0s								
PABE	Paberze	119.01	30		IAMs_20	IAMs_20	21 10	51.3	
	comp=Z,9µm,19.0s								
PASC	Pasadena Art C	119.09	289		IAMs_20	IAMs_20	21 08	30.3	
	comp=Z,8µm,18.0s								
MNK	Minsk	119.25	33		PKP	PKPdf	20 21	09.8	-0.3
	comp=E,18nm,0.8s								
MNK					PKP	PKPdf	20 21	09.8	-0.3
	comp=N,17nm,0.9s								
MNK					PKP	PKPdf	20 21	09.8	-0.3
	comp=Z,14nm,0.7s,baz=210								
MNK				i	PP	PP	20 22	29.4	-2.5
MNK				i	PPP	PPP	20 25	00.2	
MNK				i	SKS	SKSdf	20 28	21.6	0.0
MNK				i	SS	SS	20 38	54.3	+0.9
MNK				i	SSS	SSS	20 43	15.3	
MNK				i	LQ	LQ	21 05	14.0	
MNK				i	LR	LR	21 10	02.8	
MNK				i	LRM	MLR	21 12	21.3	
	comp=E,3µm,17.3s								
MNK				i	LRM	MLR	21 12	46.5	
	comp=Z,8µm,18.5s								
MNK				i	LRM	MLR	21 13	14.6	
	comp=N,5µm,17.2s								
MNK	Minsk	119.25	33		PKIKP	PKPdf	20 21	09.8	-0.3
MNK				i			20 22	29.4	
MNK				i	PPP	PPP	20 25	00.2	
MNK				i			20 28	21.5	
MNK				i	SS	SS	20 38	54.2	+0.9
MNK				i			20 39	06.5	
MNK				i	SSS	SSS	20 43	15.2	
MNK					pmax	pmax			
	comp=E,18nm,0.8s								
MNK					pmax	pmax			
	comp=N,17nm,0.9s								
MNK					pmax	pmax			
	comp=Z,14nm,0.7s								
MNK					MLR	MLR			
	comp=E,3µm,17.0s								
MNK					MLR	MLR			
	comp=Z,8µm,18.0s								
MNK					MLR	MLR			
	comp=N,5µm,17.0s								
NACGM	Naroch	119.28	32	e	PKP	PKPdf	20 21	10.0	-0.1
	comp=E,699nm,0.8s								
KUDL	Kundal	119.68	83	e	P	PKPdf	20 21	09.7	-2.2
AGMN	Agassiz Nation	119.79	314		IAMs_20	IAMs_20	21 14	18.9	
	comp=Z,11µm,20.0s								
K22A	Casper	119.92	303		IAMs_20	IAMs_20	21 19	16.1	
	comp=Z,7µm,18.0s								
VORD	Divnogorie	120.05	41	e	PKiKP	PKPdf	20 21	10.3	-1.5
VORD					pmax	pmax			
	comp=Z,6.0nm,1.0s								
SONA	Sohna	120.08	84	e	P	PKPdf	20 21	13.1	+0.5
VSR	Storozhevoye	120.20	41	e	PKiKP	PKPdf	20 21	10.6	-1.5
VSR					pmax	pmax			
	comp=Z,6.0nm,1.0s								
VORR	Voronezh	120.59	41	e	PKiKP	PKiKP	20 21	13.5	+0.6
VORR					pmax	pmax			
	comp=Z,21nm,0.4s								
KBU	Kabul Universi	120.67	73		PP	PP	20 22	42.3	+0.1
HFS	Hagfors	120.72	22		PKP	PKPdf	20 21	11.8	-1.0
	comp=Z,5.6nm,0.8s,baz=202,slow=7.2,SNR=8.2								
NB2	NORSAR Subarra	121.07	20		PKPdf	PKPdf	20 21	13.1	-0.4
	comp=Z,16nm,1.2s,baz=202,slow=1.9								
NB2					PKKP	PKKPbc	20 31	17.5	+1.5
	comp=Z,3.2nm,0.8s,baz=28,slow=4.4								
NB2					P3KP		20 36	06.5	
	comp=Z,0.9nm,0.6s,baz=40,slow=4.8								
NB2	NORSAR Subarra	121.07	20		PKPdf	PKPdf	20 21	13.1	-0.4
	baz=202,slow=1.9								
NOA	NORSAR Array B	121.07	20		PKP	PKPdf	20 21	12.5	-1.0
	comp=Z,5.0nm,0.9s,baz=199,slow=1.7,SNR=11								
NOA					PKKPbc	PKKPbc	20 31	16.6	+0.6
	comp=Z,8.2nm,0.9s,baz=22,slow=2.8,SNR=14								
VRH	Novokhopyorsk	121.13	43	e	PKiKP	PKPdf	20 21	12.8	-1.1
VRH					pmax	pmax			
	comp=Z,10.0nm,0.9s								
LPSR	Galich'ya Gora	121.25	40	e	PKiKP	PKPdf	20 21	13.7	-0.4
LPSR					pmax	pmax			
	comp=Z,10.0nm,0.9s								
MYLDM	Lahad Datu	121.29	137		PKPdf	PKiKP	20 21	16.4	+0.8
MYLDM					IAMs_20	IAMs_20	21 12	46.2	
	comp=Z,9µm,19.0s								
ULM	Lac du Bonnet	121.36	315		PKP	PKPdf	20 21	13.1	-1.3
	comp=Z,27nm,0.9s,baz=189,slow=2.2,SNR=16								
ULM					PP	PP	20 22	44.3	-2.2
	comp=Z,18nm,0.9s,baz=137,slow=3.7,SNR=4.8								
ULM					PKKPbc	PKKPbc	20 31	19.1	+4.5
	comp=Z,4.4nm,0.6s,baz=285,slow=4.8,SNR=3.3								
BOK	Bokaro	121.40	94	ex		PP	20 22	45.5	-1.4
PDAR	Pinedale Array	121.42	301		PKP	PKPdf	20 21	13.8	-1.3
	comp=Z,2.0nm,0.5s,baz=93,slow=3.6,SNR=7.8								
PDAR					PP	PP	20 22	46.3	-1.1
	comp=Z,9.7nm,1.1s,baz=145,slow=5.4,SNR=6.6								
HWUT	Hardware Ranch	121.49	299		IAMs_20	IAMs_20	21 12	44.1	
	comp=Z,9µm,18.0s								
NIL	Nilore	122.19	77		PKPdf	PKPdf	20 21	15.4	-1.2
NIL	Nilore	122.19	77		PKiKP	PKPdf	20 21	15.4	-1.2
DDI	Dehra Dun	122.23	83	e	P	PKiKP	20 21	19.4	+2.4
DDI				i	x	PP	20 22	53.9	+1.3
NUUK	Nuuk	122.32	347	i	P	PKiKP	20 21	16.5	+0.6
NUUK					IAMs_20	IAMs_20	21 09	25.8	
	comp=Z,8µm,22.2s								
VSU	Vasula	122.34	30	di	PKiKP	PKiKP	20 21	16.6	+0.5
VSU					MLR	MLR			
	comp=Z,6µm,19.0s								
SMLA	Simla	122

SHL				*i* x		**PP**	**20 23 14.8**	**-3.8**
PLID	**Pearl Lake**	**126.24**	**299**	IAMs_20		IAMs_20	21 16 00.8	
	comp=Z,8μm,22.0s							
IMP	**Imphal**	**126.62**	**101**	*e*P		**PKPdf**	**20 21 24.7**	**-0.7**
IMP				*i* x		x	20 23 37.6	
BMO	**Blue Mountains**	**126.70**	**298**	IAMs_20		IAMs_20	21 16 39.1	
	comp=Z,9μm,21.0s							
IUG	**Iuzhnay**	**126.86**	**68**	*e*PKP		**PKPdf**	**20 21 25.4**	**0.0**
IUG				*e*PP		**PP**	**20 23 22.1**	**-1.6**
IUG	**Iuzhnay**	**126.86**	**68**	*e*PKIKP		**PKPdf**	**20 21 25.4**	**0.0**
IUG				*e*			20 23 22.1	
SCO	**Scoresbysund**	**127.05**	**2**	*i* P		**PKPdf**	**20 21 23.6**	**-1.0**
SCO				IAMs_20		IAMs_20	21 07 52.6	
	comp=Z,5μm,18.8s							
YBH	**Yreka Blue Hor**	**127.14**	**291**	PKP		**PKPdf**	**20 21 25.8**	**-0.1**
	comp=Z,10nm,0.9s,baz=117,slow=2.9,SNR=15							
FFC	**Flin Flon**	**127.19**	**315**	PKPdf		**PKPdf**	**20 21 25.4**	**0.0**
FFC	**Flin Flon**	**127.19**	**315**	PKIKP		**PKPdf**	**20 21 25.4**	**0.0**
BRLS	**Borolday**	**127.40**	**67**	*e*PKP		**PKPdf**	**20 21 25.2**	**-1.0**
BRLS	**Borolday**	**127.40**	**67**	*e*PKIKP		**PKPdf**	**20 21 25.2**	**-1.0**
KOHI	**KOHIMA**	**127.42**	**100**	*e*P		**PKPdf**	**20 21 27.6**	**+0.6**
KOHI				*i* x		x	20 23 46.9	
KKAR	**Karatay Array**	**127.80**	**67**	PKPdf		**PKPdf**	**20 21 24.0**	**-3.0**
KKAR	**Karatay Array**	**127.80**	**67**	PKIKP		**PKPdf**	**20 21 24.0**	**-3.0**
KSH	**Kashi**	**128.03**	**74**	PKP		**PKPdf**	**20 21 26.8**	**-0.9**
KSH				PP		**PP**	**20 23 31.3**	**-0.1**
KSH				SKS		**SKSac**	**20 28 35.3**	**+0.7**
KSH				SKKS		**SKKSac**	**20 30 23.8**	**-4.3**
KSH				AMB		AMB		
	comp=Z,710nm,5.8s							
KSH				LR		LR		
	comp=Z,6μm,18.6s							
KSH				LR		LR		
	comp=Z,6μm,19.2s							
KSH				LR		LR		
	comp=Z,10μm,20.6s							
KLMR	**Klimovskoe**	**128.03**	**34**	*e*PKIKP		**PKPdf**	**20 21 25.1**	**-1.7**
KLMR				*e*			20 23 27.6	
KLMR				PS		**PS**	**20 33 37.2**	**+0.6**
KLMR				SS		SS	20 40 38.5	-5.7
KLMR				pmax		pmax		
	comp=Z,104nm,1.5s							
KLMR				MLR		MLR		
	comp=Z,7μm,20.0s							
DZA	**Taraz**	**128.06**	**68**	*e*PKP		**PKPdf**	**20 21 27.5**	**-0.1**
DZA	**Taraz**	**128.06**	**68**	*e*PKIKP		**PKPdf**	**20 21 27.4**	**-0.1**
UMMG	**Uummannaq**	**128.60**	**349**	*i* P		**PKPdf**	**20 21 27.6**	**+0.1**
UMMG				IAMs_20		IAMs_20	21 13 49.2	
	comp=Z,11μm,17.6s							
HAWA	**Hanford**	**128.90**	**297**	IAMs_20		IAMs_20	21 21 09.1	
	comp=Z,7μm,20.0s							
LSA	**Lhasa**	**128.93**	**94**	PKP		**PKPdf**	**20 21 28.8**	**-1.4**
LSA				LR		LR		
	comp=Z,6μm,18.2s							
LSA				LR		LR		
	comp=Z,12μm,18.2s							
NEW	**Newport**	**129.06**	**301**	PKP		**PKPdf**	**20 21 29.2**	**0.0**
	comp=Z,10nm,1.0s,baz=147,slow=3.4,SNR=6.1							
TNCH	**TengChong**	**129.23**	**105**	PKP		**PKPdf**	**20 21 29.4**	**-1.1**
TNCH				sPKP			20 21 33.8	
TNCH				PP		**PP**	**20 23 39.1**	**-0.2**
TNCH				SKS		**SKSac**	**20 28 35.5**	**-3.5**
TNCH				SKKS		**SKKSac**	**20 30 32.9**	**-3.4**
TNCH				AMB		AMB		
	comp=Z,570nm,5.6s							
TNCH				LR		LR		
	comp=Z,2μm,15.8s							
TNCH				LR		LR		
	comp=Z,3μm,17.1s							
TNCH				LR		LR		
	comp=Z,5μm,18.5s							
SUMG	**Summit**	**129.43**	**355**	PKPdf		**PKPdf**	**20 21 29.4**	**-0.3**
SUMG	**Summit**	**129.43**	**355**	PKIKP		**PKPdf**	**20 21 29.4**	**-0.3**
SUMG	**Summit**	**129.43**	**355**	*i* P		**PKPdf**	**20 21 26.0**	**-3.7**
SUMG				IAMs_20		IAMs_20	21 15 47.2	
	comp=Z,15μm,17.6s							
COR	**Corvallis**	**129.49**	**293**			**PKiKP**	**20 21 32.3**	**+1.4**
COR	**Corvallis**	**129.49**	**293**	PKIKP		**PKiKP**	**20 21 32.3**	**+1.4**
COR				MLR		MLR		
	comp=Z,6μm,21.0s							
AAK	**Ala-Archa**	**129.50**	**70**	PKPdf		**PKPdf**	**20 21 30.0**	**-0.5**
AAK	**Ala-Archa**	**129.50**	**70***c*	*i*PKIKP		**PKPdf**	**20 21 29.7**	**-0.8**
AAK				MLR		MLR		
	comp=Z,10μm,18.0s							
NUUG	**Nuugaatsiaq**	**129.53**	**349**	*i* P		**PKPdf**	**20 21 28.9**	**-0.4**
NUUG				IAMs_20		IAMs_20	21 14 25.9	
	comp=Z,10μm,19.3s							
LKP	**Lekhapani**	**129.64**	**100**	*i* x		x	20 23 56.1	
KIRV	**Kirov**	**129.65**	**41***d*	*i*PKIKP		**PKPdf**	**20 21 29.7**	**-0.2**
QIZ	**Qiongzhong**	**129.97**	**120**	IAMs_20		IAMs_20	21 10 54.0	
	comp=Z,10μm,20.0s							
QIZ	**Qiongzhong**	**129.97**	**120**	PKP		**PKPdf**	**20 21 32.0**	**+0.2**
QIZ				PP		**PP**	**20 23 44.1**	**+0.4**
QIZ				SS		SS	20 41 12.1	+3.7
QIZ				AMB		AMB		
	comp=Z,1μm,13.5s							
QIZ				LR		LR		
	comp=Z,7μm,20.1s							
QIZ				LR		LR		
	comp=Z,3μm,19.3s							
QIZ				LR		LR		
	comp=Z,10μm,19.7s							
SGDS	**Sogindy**	**130.15**	**70**	*e*PKP		**PKPdf**	**20 21 30.6**	**-1.0**
SGDS	**Sogindy**	**130.15**	**70**	*e*PKIKP		**PKPdf**	**20 21 30.5**	**-1.0**
DBG	**Daneborg**	**130.92**	**2**	*i* P		**PKPdf**	**20 21 32.0**	**+0.1**
DBG				IAMs_20		IAMs_20	21 13 44.8	
	comp=Z,6μm,18.6s							
WUS	**Wushi**	**130.96**	**75**	IAMs_20		IAMs_20	21 24 07.5	
	comp=Z,8μm,19.0s							
BTLS	**Baital**	**130.97**	**68**	*e*PKP		**PKPdf**	**20 21 33.0**	**+0.1**
BTLS	**Baital**	**130.97**	**68**	*e*PKIKP		**PKPdf**	**20 21 33.0**	**+0.1**
UPNV	**Upernavik**	**131.02**	**348**	*i* P		**PKPdf**	**20 21 31.5**	**-0.7**
UPNV				IAMs_20		IAMs_20	21 15 43.3	
	comp=Z,13μm,17.6s							
TNSS	**Tian-Shan**	**131.06**	**72**	*e*PKP		**PKPdf**	**20 21 33.3**	**-0.4**
TNSS	**Tian-Shan**	**131.06**	**72**	*e*PKIKP		**PKPdf**	**20 21 33.3**	**-0.4**
AAA	**Alma-Ata**	**131.16**	**71**	*e*PKP		**PKPdf**	**20 21 33.6**	**+0.1**
AAA	**Alma-Ata**	**131.16**	**71**	*e*PKIKP		**PKPdf**	**20 21 33.6**	**+0.1**
MDOK	**Medeo**	**131.20**	**71**	*e*PKP		**PKPdf**	**20 21 33.5**	**-0.1**
MDOK				*e*PP		**PP**	**20 23 51.1**	**-1.1**
MDOK				LR		LR	21 21 20.5	
	comp=Z,4μm,17.8s							
MDOK	**Medeo**	**131.20**	**71**	*e*PKIKP		**PKPdf**	**20 21 33.5**	**-0.1**
MDOK				*e*			20 23 51.1	
ARCES	**ARCESS Array B**	**131.39**	**21**	PKPdf		**PKPdf**	**20 21 32.4**	**-0.5**
ARCES	**ARCESS Array B**	**131.39**	**21**	PKP		**PKPdf**	**20 21 32.8**	**-0.1**
	comp=Z,3.2nm,0.5s,baz=178,slow=1.2,SNR=17							
KMI	**Kunming**	**131.53**	**109**	⇑PKP		**PKPdf**	**20 21 34.5**	**-0.4**
KMI				SKS		**SKSac**	**20 28 44.1**	**-1.4**
KMI				AMB		AMB		
	comp=Z,460nm,8.7s							
KMI				LR		LR		
	comp=Z,4μm,17.0s							
KMI				LR		LR		
	comp=Z,6μm,18.7s							
KMI				LR		LR		
	comp=Z,7μm,17.5s							
ARTI	**Arti**	**131.54**	**48**	PKPdf		**PKPdf**	**20 21 32.6**	**-1.1**
ARTI				IAMs_20		IAMs_20	21 21 38.0	
	comp=Z,9μm,20.0s							
ARTI	**Arti**	**131.54**	**48**	*i* PKIKP		**PKPdf**	**20 21 33.3**	**-0.3**
ARTI				PPP		PPP	20 26 41.0	
ARTI				MLR		MLR		
	comp=Z,9μm,20.0s							
APA	**Apatity**	**131.56**	**26**	⇓*i*PKIKP		**PKiKP**	**20 21 34.5**	**+0.2**
APA				*i*			20 23 56.0	
APA				pmax		pmax		
	comp=Z,16nm,1.0s							
APA				MLR		MLR		
	comp=Z,9μm,20.0s							
JOHN	**Johnston Islan**	**131.59**	**229**	IAMs_20		IAMs_20	21 15 07.0	
	comp=Z,11μm,20.0s							
NLWA	**Neilton Lookou**	**131.72**	**296**	IAMs_20		IAMs_20	21 16 57.1	
	comp=Z,7μm,19.0s							
SATY	**Saty**	**131.84**	**73**	*e*PKP		**PKPdf**	**20 21 34.6**	**-0.2**
SATY	**Saty**	**131.84**	**73**	*e*PKIKP		**PKPdf**	**20 21 34.6**	**-0.2**
ZHN	**Zhinishke**	**131.93**	**72**	*e*PKP		**PKPdf**	**20 21 35.0**	**0.0**
ZHN	**Zhinishke**	**131.93**	**72**	*e*PKIKP		**PKPdf**	**20 21 35.0**	**0.0**
LVZ	**Lovozero**	**132.12**	**26**	IAMs_20		IAMs_20	21 19 47.0	
	comp=Z,9μm,19.0s							
PZH	**PanZhiHua**	**132.12**	**107**	PKP		**PKPdf**	**20 21 35.3**	**-0.6**
PZH				PP		**PP**	**20 23 58.3**	**+0.3**
PZH				PKS		**PKSdf**	**20 25 12.6**	**+0.1**
PZH				SKKS			20 30 48.3	
PZH				SS		**SS**	**20 41 39.3**	**+4.0**
PZH				AMB		AMB		
	comp=Z,1μm,11.8s							
PZH				LR		LR		
	comp=Z,5μm,18.1s							
PZH				LR		LR		
	comp=Z,6μm,17.7s							
PZH				LR		LR		
	comp=Z,5μm,19.1s							
UZB	**Uzynbulak**	**132.22**	**73**	*e*PKP		**PKPdf**	**20 21 35.7**	**+0.1**
UZB	**Uzynbulak**	**132.22**	**73**	*e*PKIKP		**PKPdf**	**20 21 35.6**	**+0.1**
KPKS	**Kokpek**	**132.27**	**72**	*e*PKP		**PKPdf**	**20 21 35.8**	**+0.2**
KPKS	**Kokpek**	**132.27**	**72**	*e*PKIKP		**PKPdf**	**20 21 35.8**	**+0.2**
ARXS	**Arharly**	**132.34**	**71**	*e*PKIKP		**PKPdf**	**20 21 35.0**	**-0.7**
SHLS	**Shalkode**	**132.46**	**73**	*e*PKP		**PKPdf**	**20 21 36.3**	**+0.2**
SHLS	**Shalkode**	**132.46**	**73**	*e*PKIKP		**PKPdf**	**20 21 36.2**	**+0.2**
SVE	**Sverdlovsk**	**132.76**	**48**	*i* PKIKP		**PKPdf**	**20 21 36.8**	**+0.9**
SVE				pmax		pmax		
	comp=Z,62nm,1.5s							
SVE				MLR		MLR		
	comp=Z,9μm,22.0s							
SVE				MLR		MLR		
	comp=E,5μm,21.0s							
KULLO	**Kullorsuaq**	**132.81**	**349**	*i* P		**PKPdf**	**20 21 35.0**	**-0.5**
KULLO				IAMs_20		IAMs_20	21 15 04.9	
	comp=Z,11μm,19.4s							
TDK	**Taldyqorghan**	**133.18**	**71**	*e*PKP		**PKPdf**	**20 21 37.2**	**+0.1**
TDK				*e*PP		**PP**	**20 24 03.9**	**-0.8**
TDK				LR		LR	21 22 25.1	
	comp=Z,5μm,16.7s							
TDK	**Taldyqorghan**	**133.18**	**71**	*e*PKIKP		**PKPdf**	**20 21 37.2**	**+0.1**
TDK				*e*			20 24 03.9	
DAG	**Danmarks Havn**	**133.42**	**2**	*i* P		**PKPdf**	**20 21 35.0**	**-1.6**
DAG				*i* P		**PKPdf**	**20 21 35.0**	**-1.6**
DAG				IAMs_20		IAMs_20	21 18 43.6	
	comp=Z,7μm,18.1s							
BRVK	**Borovoye**	**134.51**	**57**	PKPdf		**PKPdf**	**20 21 36.4**	**-2.9**
BRVK	**Borovoye**	**134.51**	**57***c*	*i*PKIKP		**PKPdf**	**20 21 38.4**	**-0.9**
BVAR	**Borovoye Array**	**134.54**	**57**	PKhKP		PKPpre	20 21 26.9	
	comp=Z,0.8nm,0.5s,baz=252,slow=42,SNR=4.4							
BVAR				PKP		**PKPdf**	**20 21 39.3**	**-0.1**
	comp=Z,32nm,0.9s,baz=240,slow=1.7,SNR=22							
GYA	**Guiyang**	**134.64**	**112**	PKP		**PKPdf**	**20 21 41.3**	**+0.7**
GYA				PKS		**PKSdf**	**20 25 10.8**	**-6.4**
GYA				SS		SS	20 42 07.3	+1.6
GYA				LR		LR		
	comp=Z,6μm,17.2s							
GYA				LR		LR		
	comp=Z,3μm,17.8s							
GYA				LR		LR		
	comp=Z,10μm,17.8s							
HKPS	**Hong Kong Po S**	**134.78**	**123**	IAMs_20		IAMs_20	21 12 45.5	
	comp=Z,8μm,20.0s							
NEEM	**North Greenlan**	**134.95**	**352**	*i* P		PKPdf	20 21 31.7	-8.2
NEEM				IAMs_20		IAMs_20	21 19 12.0	
	comp=Z,6μm,17.5s							
GULI	**GuiLin**	**135.54**	**116**	⇓PKP		**PKiKP**	**20 21 44.9**	**+1.2**
GULI				LR		LR		
	comp=Z,3μm,19.5s							
GULI				LR		LR		
	comp=Z,3μm,20.6s							
GULI				LR		LR		
	comp=Z,6μm,21.2s							
GOMU	**GeErMu**	**135.84**	**92**	PKP		**PKiKP**	**20 21 45.4**	**+0.9**
GOMU				AMB		AMB		
	comp=Z,1μm,7.5s							
GOMU				LR		LR		
	comp=Z,12μm,18.1s							
GOMU				LR		LR		
	comp=Z,10μm,18.7s							
GOMU				LR		LR		
	comp=Z,20μm,18.6s							
TULEG	**Thule**	**135.90**	**347**			**PKPdf**	**20 21 41.0**	**-0.3**
TULEG				IAMs_20		IAMs_20	21 18 11.3	
	comp=Z,8μm,19.0s							
TULEG	**Thule**	**135.90**	**347**	*i* P		**PKPdf**	**20 21 41.2**	**0.0**
TULEG				IAMs_20		IAMs_20	21 18 04.2	
	comp=Z,9μm,19.6s							
MK31	**Makanchi Array**	**136.40**	**71***d*	*i*PKIKP		**PKiKP**	**20 21 45.0**	**+0.2**
MKAR	**Makanchi Array**	**136.40**	**71**	PKhKP		PKPpre	20 21 32.1	
	comp=Z,6.2nm,1.1s,baz=255,slow=2.9,SNR=9.4							
MKAR				PKP		**PKPdf**	**20 21 42.9**	**-0.2**
	comp=Z,11nm,0.9s,baz=239,slow=2.0,SNR=11							
CD2	**Chengdu**	**136.69**	**105**	PKP		**PKiKP**	**20 21 47.6**	**+1.6**
CD2				SKS		**SKSac**	**20 28 55.6**	**-2.4**
CD2				SKKS		**SKKSac**	**20 31 20.9**	**-0.4**
CD2				SS		**SS**	**20 42 27.5**	**-2.7**
CD2				AMB		AMB		
	comp=Z,190nm,7.4s							
CD2				LR		LR		
	comp=Z,5μm,17.1s							
CD2				LR		LR		
	comp=Z,4μm,17.8s							
CD2				LR		LR		
	comp=Z,5μm,19.4s							
KURBB	**Kurchatov Arra**	**136.93**	**65**	PKhKP		PKPpre	20 21 34.0	
	comp=Z,2.0nm,1.0s,baz=239,slow=4.1,SNR=8.5							
KURBB				PKP		**PKPdf**	**20 21 44.1**	**+0.2**
	comp=Z,15nm,0.9s,baz=233,slow=2.4,SNR=23							
KURBB				PP		**PP**	**20 24 28.4**	**+0.1**
	comp=Z,2.3nm,1.0s,baz=236,slow=5.1,SNR=4.3							
KURK	**Kurchatov**	**137.03**	**65**	PKPdf		**PKPdf**	**20 21 41.3**	**-2.8**
KURK	**Kurchatov**	**137.03**	**65***de*	PKIKP		**PKPdf**	**20 21 42.5**	**-1.6**
KURK				MLR		MLR		
	comp=Z,8μm,18.0s							
SPITS	**Spitsbergen Ar**	**137.18**	**12**	PKhKP		PKPpre	20 21 34.9	
	comp=Z,12nm,0.9s,baz=19,slow=3.8,SNR=2.1							
SPITS				PKP		**PKPdf**	**20 21 44.8**	**+1.1**
	comp=Z,43nm,1.0s,baz=147,slow=4.7,SNR=6.0							
YKA	**Yellowknife Ar**	**137.28**	**317**	PKhKP		PKPpre	20 21 34.4	
	comp=Z,3.6nm,0.9s,baz=118,slow=2.6,SNR=9.0							
YKA				PKP		**PKPdf**	**20 21 44.8**	**+0.6**
	comp=Z,65nm,0.9s,baz=129,slow=1.6,SNR=44							
YKA				PP		**PP**	**20 24 30.9**	**+0.7**
	comp=Z,7.3nm,0.8s,baz=121,slow=5.8,SNR=7.2							
WMQ	**Urumqi**	**137.30**	**78**	PKP		**PKPdf**	**20 21 44.8**	**-0.1**
WMQ				PKS		**PKSdf**	**20 25 20.0**	**-1.0**
WMQ				SS		SS	20 42 39.6	+2.0
WMQ				AMB		AMB		
	comp=Z,2μm,11.9s							
WMQ				LR		LR		
	comp=Z,7μm,20.7s							
WMQ				LR		LR		
	comp=Z,4μm,23.8s							
WMQ				LR		LR		
	comp=Z,8μm,24.2s							
KBS	**Kingsbay**	**137.36**	**10**	IAMs_20		IAMs_20	21 20 33.1	
	comp=Z,9μm,18.0s							
SEM	**Semipalatinsk**	**137.65**	**66**	*e*PKP		**PKPdf**	**20 21 45.6**	**0.0**
SEM				LR		LR	21 24 02.1	
	comp=Z,4μm,17.6s							
SEM	**Semipalatinsk**	**137.65**	**66**	*e*PKIKP		**PKPdf**	**20 21 45.5**	**0.0**
ZSN	**Zaisan**	**138.16**	**72**	*e*PKP		**PKPdf**	**20 21 46.9**	**+0.5**
ZSN	**Zaisan**	**138.16**	**72**	*e*PKIKP		**PKPdf**	**20 21 46.8**	**+0.5**
NOR	**Nord**	**138.29**	**2**	*i* P		**PKPdf**	**20 21 42.5**	**-3.1**
NOR				IAMs_20		IAMs_20	21 21 49.7	
	comp=Z,7μm,17.6s							
TPUB	**Ta-pu**	**138.55**	**130**	IAMs_20		IAMs_20	21 25 52.5	
	comp=Z,8μm,19.0s							
KNMB	**Chin-men Tao**	**138.60**	**126**	IAMs_20		IAMs_20	21 22 55.7	
	comp=Z,7μm,18.0s							
YULB	**Yu-li**	**138.91**	**131**	IAMs_20		IAMs_20	21 25 48.1	
	comp=Z,8μm,18.0s							
SSLB	**Suanglung**	**139.11**	**130**	IAMs_20		IAMs_20	21 28 31.5	
	comp=Z,6μm,19.0s							
ENH	**Enshi**	**139.18**	**111**	IAMs_20		IAMs_20	21 23 18.0	
	comp=Z,8μm,19.0s							
CNSH	**ChangSha**	**139.20**	**117**	PKP		**PKPdf**	**20 21 43.3**	**-5.5**
CNSH				PP		**PP**	**20 24 43.9**	**+1.6**
H02S1	**DAWSON INLET T**	**139.67**	**297**	PKP		**PKiKP**	**20 21 51.1**	**-0.1**
	SNR=7.1							
U35K	**Hyder**	**140.05**	**302**	IAMs_20		IAMs_20	21 24 38.8	
	comp=Z,11μm,22.0s							
U35K	**Hyder**	**140.05**	**302**	P		**PKPdf**	**20 21 49.4**	**0.0**
	baz=124							
YHNB	**Yeheng**	**140.07**	**130**	IAMs_20		IAMs_20	21 29 05.8	
	comp=Z,6μm,20.0s							
LIRD	**Liard River Hi**	**140.20**	**308**	P		**PKPdf**	**20 21 50.0**	**+0.4**
	baz=122							
TATO	**Taipei**	**140.39**	**130**	IAMs_20		IAMs_20	21 22 07.3	
	comp=Z,6μm,19.0s							
V35K	**Ketchikan**	**140.47**	**300**	P		**PKPdf**	**20 21 49.7**	**-0.5**
	baz=124							
LZH	**Lanzhou**	**140.70**	**100**	*e*PKP		PKPdf	20 21 43.9	-7.6
LZH				pPKP		pPKPdf	20 21 49.8	-4.0
LZH				sPKP			20 21 54.8	
LZH				PP		PP	20 25 11.1	+19
LZH				PKS		**PKSdf**	**20 25 26.8**	**-0.8**
LZH				SKKS			20 31 41.0	
T35M	**Bob Quinn**	**140.74**	**303**	P		**PKPdf**	**20 21 51.3**	**+0.6**
	baz=122							
GTA	**Gaotai**	**140.90**	**93**	PKP		**PKPdf**	**20 21 45.9**	**-5.9**
GTA				sPKP			20 21 54.6	
GTA				PKS		**PKSdf**	**20 25 31.3**	**+3.6**
GTA				SKKS			20 31 42.5	
WRGLY	**Wrigley**	**141.09**	**314**	P		**PKPdf**	**20 21 50.9**	**-0.1**
	baz=120							
CRAG	**Craig**	**141.27**	**300**	P		**PKPdf**	**20 21 51.1**	**-0.6**
	baz=123							
WAKE	**Wake Island**	**141.37**	**199**	IAMs_20		IAMs_20	21 26 57.9	
	comp=Z,7μm,19.0s							
WRAK	**Wrangell Islan**	**141.41**	**301**	P		**PKPdf**	**20 21 51.7**	**-0.1**
	baz=122							
DLBC	**Dease Lake**	**141.42**	**305**	PKP		**PKPdf**	**20 21 51.0**	**-0.9**
	comp=Z,18nm,1.0s,baz=81,slow=2.6,SNR=8.4							
DLBC				PP		**PP**	**20 24 57.8**	**+1.8**
	comp=Z,8.8nm,1.0s,baz=122,slow=7.0,SNR=3.5							
DLBC	**Dease Lake**	**141.42**	**305**	P		**PKPdf**	**20 21 51.6**	**-0.3**
	baz=121							
U33K	**Whale Pass**	**141.62**	**301**	P		**PKPdf**	**20 21 53.3**	**+1.1**
	baz=122							
S34M	**Telegraph Cree**	**141.64**	**304**	IAMs_20		IAMs_20	21 26 28.6	
	comp=Z,8μm,20.0s							
S34M	**Telegraph Cree**	**141.64**	**304**	P		**PKPdf**	**20 21 52.6**	**+0.3**
	baz=121							
WHN	**Wuhan**	**141.84**	**116**	PKP		**PKPdf**	**20 21 52.8**	**-0.7**
WHN				PKS		**PKSdf**	**20 25 24.6**	**-4.8**
WHN				LR		LR		
	comp=Z,6μm,17.8s							
WHN				LR		LR		
	comp=Z,10μm,20.5s							
WHN				LR		LR		
	comp=Z,15μm,24.2s							
XAN	**Xi'an**	**141.86**	**107**	PKP		**PKPdf**	**20 21 50.3**	**-3.2**
XAN				SKS		**SKSdf**	**20 28 56.5**	**-6.8**
XAN				SKKS		**SKKSac**	**20 31 48.9**	**-2.6**
XAN				SS		**SS**	**20 43 29.8**	**-1.1**
XAN				LR		LR		
	comp=Z,6μm,20.6s							
XAN				LR		LR		
	comp=Z,5μm,19.8s							
XAN				LR		LR		
	comp=Z,8μm,18.3s							
ZAA0	**Zalesovo Array**	**142.01**	**64**			PKPpre	20 21 45.5	
ZALV	**Zalesovo Beam**	**142.01**	**64**	PKhKP		PKPpre	20 21 46.2	
	comp=Z,2.9nm,0.4s,baz=246,slow=3.9,SNR=20							
ZALV				PKP		**PKPdf**	**20 21 54.1**	**+1.1**
	comp=Z,6.1nm,0.6s,baz=237,slow=2.9,SNR=10							
R33M	**Jennings River**	**142.32**	**306**	IAMs_20		IAMs_20	21 27 21.4	
	comp=Z,8μm,20.0s							
R33M	**Jennings River**	**142.32**	**306**	P		**PKiKP**	**20 21 56.1**	**-0.5**
	baz=120							
Q32M	**Nakina River**	**142.69**	**305**	IAMs_20		IAMs_20	21 26 28.2	
	comp=Z,8μm,20.0s							
Q32M	**Nakina River**	**142.69**	**305**	P		**PKPdf**	**20 21 56.1**	**+1.7**
	baz=119							
S32K	**Killisnoo**	**143.00**	**302**	P		**PKPdf**	**20 21 56.7**	**+2.1**
	baz=120							
SIT	**Sitka**	**143.15**	**301**	P		PKPbc	20 21 54.2	+2.2
	baz=120							
R32K	**Eaglecrest**	**143.38**	**303**	P		PKPab	20 21 52.6	+1.1
	baz=119							
P33M	**Teslin, Yukon**	**143.54**	**307**	IAMs_20		IAMs_20	21 24 22.5	
	comp=Z,8μm,22.0s							
P33M	**Teslin, Yukon**	**143.54**	**307**	P		PKPab	20 21 53.2	+1.0
	baz=118							
P32M	**Atlin**	**143.65**	**305**	IAMs_20		IAMs_20	21 27 05.5	
	comp=Z,7μm,20.0s							
P32M	**Atlin**	**143.65**	**305**	P		PKPab	20 21 52.7	+0.2
	baz=118							
MMPY	**Sheldon Lake,**	**143.96**	**311**	P		PKPab	20 21 53.6	-0.1
	baz=116							
R31K	**City Hall, Gus**	**144.01**	**303**	P		**PKPab**	**20 21 54.6**	**+0.7**
	baz=118							
C36M	**Paulatuk**	**144.02**	**323**	PKPdf		PKPab	20 21 53.8	+0.2
C36M				IAMs_20		IAMs_20	21 25 03.3	
	comp=Z,9μm,20.0s							
C36M	**Paulatuk**	**144.02**	**323**	P		PKPab	20 21 53.9	+0.3
	baz=112							
S31K	**Pelican**	**144.02**	**302**	IAMs_20		IAMs_20	21 28 56.7	
	comp=Z,9μm,20.0s							
S31K	**Pelican**	**144.02**	**302**	P		**PKPab**	**20 21 54.9**	**+1.0**
	baz=118							
N32M	**Quiet Lake**	**144.09**	**308**	IAMs_20		IAMs_20	21 24 07.8	
	comp=Z,9μm,21.0s							
N32M	**Quiet Lake**	**144.09**	**308**	P		**PKPab**	**20 21 55.2**	**+1.0**
	baz=116						

MAYO	Mayo, Yukon	146.28 311	P	PKPdf	20 21 59.8	-0.4
	baz=111,SNR=7.5					
YUK6	Outpost Mounta	146.32 306	P	PKPdf	20 21 59.7	-1.0
	baz=114,SNR=10					
H31M	Peel River	146.44 315	P	PKPdf	20 21 59.6	-0.9
	baz=109					
BCPM	Bancas Point	146.49 304	IAMs_20	IAMs_20	21 35 12.9	
	comp=Z,8μm,18.0s					
TIY	Taiyuan	146.50 107	PKPbc	PKPdf	20 22 02.8	+1.3
TIY			PKPab	pPKPbc	20 22 05.9	+0.6
TIY			SKKS		20 32 14.3	
TIY			SS	SS	20 44 24.0	-0.3
TIY			LR	LR		
	comp=Z,3μm,19.9s					
TIY			LR	LR		
	comp=Z,2μm,19.2s					
TIY			LR	LR		
	comp=Z,3μm,19.9s					
YUK4	Talbot Arm	146.61 306	P	PKPdf	20 21 59.7	-1.5
	baz=113,SNR=28					
F31M	Tsiigehtchic	146.74 318	IAMs_20	IAMs_20	21 27 37.7	
	comp=Z,8μm,20.0s					
F31M	Tsiigehtchic	146.74 318	P	PKPdf	20 21 58.9	-1.9
	baz=107					
G31M	Satah River	146.77 317	P	PKPdf	20 21 59.4	-1.5
	baz=108,SNR=66					
J30M	Hart River	146.81 312	P	PKPdf	20 21 59.8	-1.5
	baz=110					
PINM	Pinnacle	146.83 304	P	PKPdf	20 21 59.8	-1.5
	baz=114					
INK	Inuvik	146.91 320	P	PKPdf	20 21 59.2	-1.9
	baz=106,SNR=170					
M29M	Somme Creek	146.95 308	P	PKPdf	20 21 59.3	-2.2
	baz=111,SNR=229					
L29M	L29M	147.05 309	P	PKPdf	20 22 00.2	-1.4
	baz=110,SNR=337					
I30M	Mount Dempster	147.05 314	P	PKPdf	20 21 59.7	-2.0
	baz=105					
K29M	Barlow Dome	147.05 311	IAMs_20	IAMs_20	21 30 16.8	
	comp=Z,9μm,20.0s					
K29M	Barlow Dome	147.05 311	P	PKPdf	20 21 59.2	-2.4
	baz=110					
O28M	Mount Upton	147.07 305	P	PKPdf	20 22 00.2	-1.8
	baz=113					
YUK8	Steele Glacier	147.08 306	P	PKPdf	20 21 59.1	-2.9
	baz=112,SNR=68					
BTO	Baotou	147.31 101	ePKPbc	PKPdf	20 21 59.4	-3.4
BTO			ePKPab	pPKPdf	20 22 04.6	-0.6
BTO			pPKP	sPKPab	20 22 11.0	+0.9
BTO			sPKP		20 22 12.6	
BTO			AMB	AMB		
	comp=Z,7μm,11.2s					
BTO			LR	LR		
	comp=Z,8μm,17.8s					
BTO			LR	LR		
	comp=Z,8μm,18.4s					
BTO			LR	LR		
	comp=Z,13μm,17.8s					
TABL	Table Mountain	147.38 304	IAMs_20	IAMs_20	21 30 14.3	
	comp=Z,7μm,20.0s					
HNS	HongShan	147.45 110	⇑PKPbc	PKPdf	20 22 02.3	-0.7
HNS			ePP	PP	20 25 33.1	+1.1
HNS			SS	SS	20 44 32.9	-1.9
HNS			LR	LR		
	comp=Z,5μm,21.5s					
HNS			LR	LR		
	comp=Z,2μm,19.1s					
HNS			LR	LR		
	comp=Z,4μm,18.6s					
LOGN	Logan Glacier	147.46 304	IAMs_20	IAMs_20	21 34 23.5	
	comp=Z,6μm,20.0s					
G30M	tAoh Zraii Nji	147.52 317	IAMs_20	IAMs_20	21 28 43.7	
	comp=Z,8μm,20.0s					
G30M	tAoh Zraii Nji	147.52 317	P	PKPdf	20 21 59.1	-3.2
	baz=106					
EPYK	Eagle Plains	147.54 315	P	PKPdf	20 21 59.8	-2.5
	baz=107,SNR=71					
F30M	Barrier River	147.54 318	P	PKPdf	20 21 59.8	-2.5
	baz=106					
J29N	Klondike Camp	147.54 312	P	PKPdf	20 22 00.0	-2.4
	baz=108					
YUK3	Moose Creek	147.58 306	P	PKPdf	20 22 00.1	-2.6
	baz=111					
YAH	Yahtse	147.62 303	IAMs_20	IAMs_20	21 30 42.9	
	comp=Z,8μm,21.0s					
MESA	MESA	147.65 303	IAMs_20	IAMs_20	21 35 43.5	
	comp=Z,8μm,19.0s					
MESA	MESA	147.65 303	P	PKPdf	20 22 00.2	-2.6
	baz=112,SNR=27					
CTGM	Chitina Glacie	147.67 305	IAMs_20	IAMs_20	21 34 55.9	
	comp=Z,7μm,20.0s					
CTG	Chitna Glacier	147.67 305	P	PKPdf	20 22 00.3	-2.5
	baz=112,SNR=28					
TIA	Tai'an	147.77 114	PKPbc	PKPdf	20 22 03.0	-0.6
TIA			SKKS		20 32 23.3	
TIA			AMB	AMB		
	comp=Z,3μm,13.7s					
TIA			LR	LR		
	comp=Z,4μm,16.5s					
TIA			LR	LR		
	comp=Z,4μm,17.3s					
TIA			LR	LR		
	comp=Z,4μm,19.0s					
GRNC	Granite Creek	147.77 304	IAMs_20	IAMs_20	21 33 47.6	
	comp=Z,5μm,19.0s					
I29M	Ogilvie Camp,	147.86 313	P	PKPdf	20 21 59.9	-3.0
	baz=107					
DAWY	Dawson	147.90 311	P	PKPdf	20 21 59.9	-3.0
	baz=108					
BVCY	Beaver Creek	147.98 307	P	PKPdf	20 22 01.9	-1.2
	baz=110					
ISLE	Juniper Island	147.99 304	IAMs_20	IAMs_20	21 31 52.4	
	comp=Z,7μm,20.0s					
SNH	Sunshine Point	148.06 303	IAMs_20	IAMs_20	21 30 42.4	
	comp=Z,8μm,20.0s					
H29M	Whitestone	148.13 315	P	PKPdf	20 22 00.8	-2.5
	baz=106					
WAX	Waxell Ridge	148.16 303	IAMs_20	IAMs_20	21 29 45.2	
	comp=Z,5μm,19.0s					
G29M	Pine Creek	148.19 316	P	PKPdf	20 22 01.8	-1.5
	baz=105					
BGLC	Bering Glacier	148.24 302	P	PKPdf	20 22 01.7	-1.9
	baz=112					
TGL	Tana Glacier	148.27 304	IAMs_20	IAMs_20	21 33 02.8	
	comp=Z,6μm,20.0s					
HHC	Hu-ho-hao-te	148.31 102	ePKPbc	PKPdf	20 22 03.8	-0.7
HHC			pPKP	sPKPbc	20 22 11.1	+0.1
HHC			sPKP		20 22 14.6	
HHC			LR	LR		
	comp=Z,4μm,16.0s					
HHC			LR	LR		
	comp=Z,5μm,18.3s					
HHC			LR	LR		
	comp=Z,7μm,16.8s					
CRQE	Cirque	148.39 304	P	PKPdf	20 22 01.4	-2.6
	baz=111,SNR=24					
M27K	Edge Creek, AK	148.41 307	IAMs_20	IAMs_20	21 29 26.1	
	comp=Z,7μm,20.0s					
M27K	Edge Creek, AK	148.41 307	P	PKPdf	20 22 01.5	-2.5
	baz=109					
CRQM	Cirque	148.41 304	IAMs_20	IAMs_20	21 30 56.0	
	comp=Z,6μm,20.0s					
E29M	Blow River	148.50 319	P	PKPdf	20 22 01.1	-2.7
	baz=103					
BERG	Berg Lake	148.54 303	IAMs_20	IAMs_20	21 24 35.0	
	comp=Z,7μm,20.0s					
I28M	Miner Creek	148.54 313	P	PKPdf	20 22 01.9	-2.2
	baz=106					
MCARA	McCarthy VSAT	148.58 305	IAMs_20	IAMs_20	21 28 50.0	
	comp=Z,7μm,20.0s					
MCARA	McCarthy VSAT	148.58 305	P	PKPdf	20 22 01.7	-2.4
	baz=110,SNR=27					
L27K	Beaver Creek,	148.62 308	IAMs_20	IAMs_20	21 31 30.5	
	comp=Z,8μm,20.0s					
L27K	Beaver Creek,	148.62 308	P	PKPdf	20 22 01.8	-2.4
	baz=108					
KAIM	Kayak Island	148.70 302	P	PKPdf	20 22 01.3	-3.1
	baz=112,SNR=9.0					
VRDI	Verde Repeater	148.72 304	IAMs_20	IAMs_20	21 27 18.8	
	comp=Z,9μm,21.0s					
HMT	Hamilton	148.77 303	IAMs_20	IAMs_20	21 35 39.3	
	comp=Z,8μm,20.0s					
EGAK	Eagle	148.85 312	P	PKPdf	20 22 02.1	-2.3
	baz=106					
M26K	Nabesna, AK	148.91 307	IAMs_20	IAMs_20	21 30 40.5	
	comp=Z,7μm,21.0s					
M26K	Nabesna, AK	148.91 307	P	PKPdf	20 22 02.5	-2.2
	baz=108					
GLB	Gilahina Butte	148.96 305	IAMs_20	IAMs_20	21 29 11.0	
	comp=Z,8μm,21.0s					
D28M	Stokes Point	148.99 321	P	PKPdf	20 22 02.3	-2.2
	baz=100					
K27K	Chicken	149.02 310	IAMs_20	IAMs_20	21 31 17.9	
	comp=Z,9μm,20.0s					
K27K	Chicken	149.02 310	P	PKPdf	20 22 02.8	-1.9
	baz=106					
F28M	Old Crow	149.06 317	IAMs_20	IAMs_20	21 29 54.1	
	comp=Z,8μm,20.0s					
F28M	Old Crow	149.06 317	P	PKPdf	20 22 02.2	-2.5
	baz=102,SNR=27					
NRIK	Noril'sk	149.12 39		PKPdf	20 22 05.9	+1.1
NRIK	Noril'sk	149.12 39	PKPbc	PKPbc	20 22 08.6	-0.4
	comp=Z,61nm,1.0s,baz=316,slow=2.2,SNR=34					
NRIK	Noril'sk	149.12 39	d/PKIKP	PKPdf	20 22 04.1	-0.7
NRIK			MLR	MLR		
	comp=Z,9μm,22.0s					
E28M	Babbage River	149.14 319	IAMs_20	IAMs_20	21 30 16.1	
	comp=Z,8μm,20.0s					
E28M	Babbage River	149.14 319	P	PKPdf	20 22 02.1	-2.7
	baz=101,SNR=31					
MOY	Mondy	149.15 77	ePKIKP	PKPdf	20 22 07.6	+2.1
MOY			pmax	pmax		
	comp=Z,297nm,3.1s					
BMRM	Bremner River	149.16 304	P	PKPdf	20 22 02.7	-2.5
	baz=110,SNR=15					
I27K	Kandik River	149.25 313	P	PKPdf	20 22 02.6	-2.6
	baz=104,SNR=24					
L26K	Log Cabin Wild	149.26 308	IAMs_20	IAMs_20	21 30 10.7	
	comp=Z,8μm,22.0s					
L26K	Log Cabin Wild	149.26 308	P	PKPdf	20 22 03.3	-1.9
	baz=107					
N25K	Chitina, Valde	149.37 305	IAMs_20	IAMs_20	21 29 10.8	
	comp=Z,7μm,21.0s					
N25K	Chitina, Valde	149.37 305	P	PKPdf	20 22 03.0	-2.5
	baz=109					
H27K	Steamboat Moun	149.37 314	P	PKPdf	20 22 03.2	-2.1
	baz=103					
Q23K	Middleton Isla	149.42 300	IAMs_20	IAMs_20	21 34 54.6	
	comp=Z,6μm,19.0s					
EYAK	Cordova Ski Ar	149.54 302	P	PKPdf	20 22 03.0	-2.6
	baz=110,SNR=16					
G27K	Doyon Strip	149.56 315	IAMs_20	IAMs_20	21 26 37.6	
	comp=Z,7μm,21.0s					
G27K	Doyon Strip	149.56 315	P	PKPdf	20 22 02.6	-3.0
	baz=102,SNR=22					
D27M	Malcolm River	149.76 320	IAMs_20	IAMs_20	21 30 49.4	
	comp=Z,8μm,20.0s					
D27M	Malcolm River	149.76 320	P	PKPdf	20 22 03.5	-2.4
	baz=99					
J26L	Joseph Creek	149.77 310	P	PKPdf	20 22 03.1	-2.9
	baz=105					
I26K	Coal Creek Min	149.80 312	IAMs_20	IAMs_20	21 32 57.5	
	comp=Z,9μm,20.0s					
I26K	Coal Creek Min	149.80 312	P	PKPdf	20 22 03.2	-2.8
	baz=104					
E27K	Coleen River	149.81 318	P	PKPdf	20 22 03.6	-2.3
	baz=100					
SCRK	Sand Creek	149.81 309	P	PKPdf	20 22 04.3	-1.8
	baz=105,SNR=10.0					
HARP	HAARP	149.87 306	P	PKPdf	20 22 02.6	-3.6
	baz=107					
KLU	Klutina	149.93 304	IAMs_20	IAMs_20	21 34 32.8	
	comp=Z,7μm,19.0s					
KLU	Klutina	149.93 304	P	PKPdf	20 22 03.9	-2.5
	baz=108					
FID	Port Fidalgo	149.95 303	IAMs_20	IAMs_20	21 27 57.6	
	comp=Z,9μm,22.0s					
SONM	Songino Array	149.99 87	PKPdf	PKPdf	20 22 05.5	-1.4
SONM	Songino Array	149.99 87	PKPbc	PKPbc	20 22 11.2	-0.8
	comp=Z,30nm,0.5s,baz=226,slow=3.4,SNR=50					
RIDG	Independent Ri	150.11 309	IAMs_20	IAMs_20	21 34 01.1	
	comp=Z,9μm,20.0s					
RIDG	Independent Ri	150.11 309	P	PKPdf	20 22 04.1	-2.5
	baz=105					
P23K	Montague Islan	150.12 301	P	PKPdf	20 22 04.4	-2.2
	baz=110,SNR=29					
BJT	Baijiatuau	150.16 108	IAMs_20	IAMs_20	21 29 32.4	
	comp=Z,7μm,20.0s					
PAX	Paxson	150.17 307	P	PKPdf	20 22 03.8	-3.0
	baz=106					
BJI	Beijing	150.18 108	PKPbc	PKPdf	20 22 05.9	-1.4
BJI			SKKS		20 32 35.9	
BJI			AMB	AMB		
	comp=Z,610nm,10.8s					
BJI			LR	LR		
	comp=Z,3μm,18.5s					
BJI			LR	LR		
	comp=Z,2μm,18.6s					
BJI			LR	LR		
	comp=Z,4μm,18.3s					
M24K	Tolsona, Glenn	150.24 305	IAMs_20	IAMs_20	21 30 31.7	
	comp=Z,6μm,21.0s					
M24K	Tolsona, Glenn	150.24 305	P	PKPdf	20 22 04.1	-2.7
	baz=107					
GLI	Glacier Island	150.27 303	IAMs_20	IAMs_20	21 38 03.0	
	comp=Z,8μm,19.0s					
GLI	Glacier Island	150.27 303	P	PKPdf	20 22 03.7	-3.1
	baz=108,SNR=13					
ULN	Ulaanbaatar	150.37 87	PKPdf	PKPdf	20 22 06.4	-1.2
ULN	Ulaanbaatar	150.37 87	IAMs_20	IAMs_20	21 28 02.2	
	comp=Z,8μm,19.0s					
ULN	Ulaanbaatar	150.37 87	PKIKP	PKPdf	20 22 06.4	-1.2
ULN			MLR	MLR		
	comp=Z,8μm,19.0s					
G26K	Porcupine Rive	150.41 315	P	PKPdf	20 22 04.6	-2.3
	baz=100,SNR=99					
K24K	Donnelly Dome	150.53 309	P	PKPdf	20 22 04.5	-2.7
	baz=104					
J25K	Salcha River,	150.55 310	P	PKPdf	20 22 05.3	-2.0
	baz=103					
F26K	Sheenjek River	150.68 317	P	PKPdf	20 22 04.5	-2.8
	baz=99					
SCM	Sheep Creek Mo	150.68 304	IAMs_20	IAMs_20	21 33 13.4	
	comp=Z,6μm,20.0s					
SCM	Sheep Creek Mo	150.68 304	P	PKPdf	20 22 04.3	-3.2
	baz=107					
C27K	Jago River	150.77 321	IAMs_20	IAMs_20	21 29 15.1	
	comp=Z,9μm,21.0s					
C27K	Jago River	150.77 321	P	PKPdf	20 22 04.6	-2.7
	baz=96					
BMAR	Burnt Mountain	150.80 316	PKPdf	PKPdf	20 22 05.0	-2.6
PRP	Porcupine Dome	150.82 312	P	PKPdf	20 22 04.7	-3.0
	baz=102,SNR=37					
PWL	Port Wells	150.84 302	P	PKPdf	20 22 04.6	-3.2
	baz=108,SNR=15					
M23K	Glacier View	150.84 304	P	PKPdf	20 22 04.6	-3.1
	baz=106,SNR=13					
FYU	Fort Yukon	150.90 314	IAMs_20	IAMs_20	21 31 27.3	
	comp=Z,8μm,21.0s					
DHY	Denali Highway	151.04 307	IAMs_20	IAMs_20	21 29 09.7	
	comp=Z,8μm,22.0s					
DHY	Denali Highway	151.04 307	P	PKPdf	20 22 06.0	-2.2
	baz=104,SNR=24					
KNK	Knik Glacier	151.07 303	P	PKPdf	20 22 05.6	-2.4
	baz=107					
WAT6	Susitna Watana	151.07 306	P	PKPdf	20 22 05.8	-2.4
	baz=105,SNR=233					
SML	Sawmill	151.12 304	IAMs_20	IAMs_20	21 35 09.3	
	comp=Z,6μm,20.0s					
SML	Sawmill	151.12 304	P	PKPdf	20 22 04.5	-3.7
	baz=106,SNR=9.1					
SEW	Seward	151.13 300	P	PKPdf	20 22 05.9	-2.2
	baz=108,SNR=36					
HDA	Harding Lake	151.17 310	P	PKPdf	20 22 04.6	-3.5
	baz=102,SNR=13					
IRK	Irkutsk	151.19 78	ePKIKP	PKPdf	20 22 07.2	-1.4
IRK			e		20 25 53.4	
IRK			pmax	pmax		
	comp=Z,313nm,2.6s					
C26K	Camden Bay	151.22 321	P	PKPdf	20 22 06.0	-2.0
	baz=94					
ILAR	Eielson Array	151.22 310	PKPdf	PKPdf	20 22 04.8	-3.4
ILAR	Eielson Array	151.22 310	PKP	PKPdf	20 22 05.5	-2.7
	comp=Z,7.1nm,1.0s,baz=225,slow=0.1,SNR=36					
ILAR			PKPbc	PKPbc	20 22 14.0	-0.2
	comp=Z,232nm,0.9s,baz=130,slow=3.2,SNR=108					
F25K	Christian Rive	151.23 316	P	PKPdf	20 22 05.8	-2.4
	baz=98					
G25K	Bearman Lake	151.28 315	P	PKPdf	20 22 06.6	-1.6
	baz=99					
O22K	Cooper Landing	151.38 301	P	PKPdf	20 22 04.7	-3.8
	baz=108					
JNU	Nakatsue	151.38 136	PKPbc	PKPdf	20 22 13.2	+3.7
	comp=Z,46nm,0.8s,baz=78,slow=4.2,SNR=11					
GHO	Glory Hole Cre	151.38 304	IAMs_20	IAMs_20	21 42 26.2	
	comp=Z,7μm,19.0s					
PMR	Palmer	151.43 303	P	PKPdf	20 22 05.2	-3.3
	baz=106					
WAT1	Susitna Watana	151.50 306	P	PKPdf	20 22 05.8	-2.9
	baz=104					
POKR	Poker Plat Res	151.52 311	P	PKPdf	20 22 05.1	-3.5
	baz=101,SNR=8.7					
RC01	Rabbit Creek A	151.56 302	IAMs_20	IAMs_20	21 28 55.2	
	comp=Z,8μm,22.0s					
RC01	Rabbit Creek A	151.56 302	P	PKPdf	20 22 05.4	-3.4
	baz=106,SNR=11					
BRSE	Bradley Lake S	151.63 299	P	PKPdf	20 22 06.0	-3.0
	baz=108					
COLA	College	151.65 310		PKPbc	20 22 14.9	-0.2
COLA	College	151.65 310	P	PKPdf	20 22 05.1	-3.7
	baz=101					
COLA	College	151.65 310	PKIKP	PKPbc	20 22 14.9	-0.2
COLA			MLR	MLR		
	comp=Z,11μm,20.0s					
WRH	Wood River Hil	151.67 309	IAMs_20	IAMs_20	21 32 18.1	
	comp=Z,9μm,20.0s					
D25K	Kavik River	151.68 320	IAMs_20	IAMs_20	21 30 35.2	
	comp=Z,10μm,22.0s					
D25K	Kavik River	151.68 320	P	PKPdf	20 22 06.6	-2.3
	baz=94					
G24K	Hadweenzic Riv	151.81 314	IAMs_20	IAMs_20	21 35 08.2	
	comp=Z,6μm,19.0s					
G24K	Hadweenzic Riv	151.81 314	P	PKPdf	20 22 07.1	-1.9
	baz=98,SNR=21					
H24K	Noodor Dome	151.84 312	P	PKPdf	20 22 06.5	-2.7
	baz=99,SNR=19					
KDAK	Kodiak Island	151.87 295		PKPbc	20 22 14.6	-1.2
KDAK	Kodiak Island	151.87 295	P	PKPdf	20 22 06.4	-3.0
	baz=111					
KDAK	Kodiak Island	151.87 295	PKIKP	PKPbc	20 22 14.6	-1.2
MCK	McKinley	151.88 308	P	PKPdf	20 22 06.3	-2.9
	baz=102,SNR=42					
M22K	Willow	151.93 303	IAMs_20	IAMs_20	21 42 30.6	
	comp=Z,7μm,20.0s					
M22K	Willow	151.93 303	P	PKPdf	20 22 06.4	-2.9
	baz=105,SNR=40					
OHAK	Old Harbor	152.01 293	P	PKPdf	20 22 07.3	-2.3
	baz=111,SNR=18					
HOM	Homer	152.04 299	IAMs_20	IAMs_20	21 32 17.1	
	comp=Z,8μm,19.0s					
HOM	Homer	152.04 299	P	PKPdf	20 22 06.4	-3.1
	baz=108					
SYI	Shuyak Island	152.06 296	PKPdf	PKPdf	20 22 09.8	+0.3
SYI			IAMs_20	IAMs_20	21 22 56.8	
	comp=Z,9μm,20.0s					
Q20K	Shuyak Island	152.06 296	P	PKPdf	20 22 06.4	-3.2
	baz=109,SNR=9.4					
F24K	Squaw Lake	152.07 316	IAMs_20	IAMs_20	21 31 50.0	
	comp=Z,7μm,20.0s					
F24K	Squaw Lake	152.07 316	P	PKPdf	20 22 06.8	-2.6
	baz=96					
DL2	Dalian	152.11 116	PKPbc	PKPdf	20 22 10.5	+0.2
DL2			PP	PP	20 26 00.8	+1.9
DL2			SS	SS	20 45 29.8	+3.2
DL2			AMB	AMB		
	comp=Z,2μm,11.2s					
DL2			LR	LR		
	comp=Z,5μm,17.0s					
DL2			LR	LR		
	comp=Z,5μm,17.0s					
DL2			LR	LR		
	comp=Z,7μm,18.7s					
NEA2	Nenana	152.11 310	P	PKPdf	20 22 06.2	-3.3
	baz=100,SNR=43					
CAPN	Captain Cook N	152.13 301	P	PKPdf	20 22 08.1	-1.5
	baz=106					
SUA	Susitna One	152.14 303	IAMs_20	IAMs_20	21 32 15.2	
	comp=Z,6μm,20.0s					
SUA	Susitna One	152.14 303	P	PKPdf	20 22 07.4	-2.4
	baz=105,SNR=12					
I23K	Minto, Yukon-K	152.33 311	P	PKPdf	20 22 07.0	-2.8
	baz=99,SNR=16					
E24K	Your Creek	152.35 317	P	PKPdf	20 22 06.8	-3.1
	baz=94					
TRF	Thorofare Moun	152.41 307	P	PKPdf	20 22 06.7	-3.6
	baz=102,SNR=20					
H23K	Yukon River	152.51 312	IAMs_20	IAMs_20	21 33 26.0	
	comp=Z,9μm,21.0s					
H23K	Yukon River	152.51 312	P	PKPdf	20 22 06.6	-3.6
	baz=98					
C24K	Franklin Bluff	152.52 321	P	PKPdf	20 22 07.5	-2.5
	baz=91					
D24K	Happy Valley	152.54 319	IAMs_20	IAMs_20	21 31 23.0	
	comp=Z,7μm,20.0s					
D24K	Happy Valley	152.54 319	P	PKPdf	20 22 08.4	-1.6
	baz=92,SNR=16					
SKT	Skwentna	152.63 304	IAMs_20	IAMs_20	21 39 51.2	
	comp=Z,8μm,19.0s					
SKT	Skwentna	152.63 304	P	PKPdf	20 22 09.2	-1.2
	baz=104,SNR=12					
O20K	Slope Mountain	152.64 299	P	PKPdf	20 22 08.4	-2.1
	baz=106					
CHIR	Chirikof Islan	152.68 289	P	PKPdf	20 22 07.6	-3.0
	baz=113					
R18K	Karluk	152.73 293	P	PKPdf	20 22 07.9	-2.7
	baz=110					
N20K	Mount Spurr	152.75 302	P	PKPdf	20 22 06.0	-4.6
	baz=105,SNR=12					
SPCR	Spurr Chakacha	152.75 302	P	PKPdf	20 22 06.0	-4.7
	baz=105,SNR=10					
TJN	Taejon	152.75 127		PKPdf	20 22 10.3	-1.1
TJN	Taejon	152.75 127	PKIKP	PKPdf	20 22 10.3	-1.1
E23K	Chandalar	152.77 317	P	PKPdf	20 22 07.6	-2.9
	baz=93					
Q19K	Cape Douglas,	152.78 296	P	PKPdf	20 22 06.9	-3.8
	baz=108					
TOLK	Toolik Lake Re	152.79 318	IAMs_20	IAMs_20	21 31 52.7	
	comp=Z,8μm,21.0s					
TOLK	Toolik Lake Re	152.79 318	P	PKPdf	20 22 07.2	-3.3
	baz=92,SNR=24					
P19K	Oil Pt	152.80 298	IAMs_20	IAMs_20	21 30 03.3	
	comp=Z,7μm,20.0s					
P19K	Oil Pt	152.80 298	P	PKPdf	20 22 07.0	-3.8
	baz=107,SNR=7.0					
G23K	Bananza Creek	152.81 314	IAMs_20	IAMs_20	21 32 46.8	
	comp=Z,9μm,21.0s					
G23K	Bananza Creek	152.81 314	P	PKPdf	20 22 06.9	-3.7
	baz=96					
XLT	XiLinHaoTe	152.84 102	ePKPbc	PKPdf	20 22 08.4	-3.0
XLT			sPKP		20 22 21.6	
XLT			PKPab	pPKPab	20 22 31.4	-0.5
XLT			SKKS		20 32 51.5	
XLT			AMB	AMB		
	comp=Z,2μm,14.9s					
XLT			LR	LR		
	comp=Z,5μm,17.6s					
XLT			LR	LR		
	comp=Z,4μm,20.4s					
BPAW	Bear Paw Mtn.	152.84 308	IAMs_20	IAMs_20	21 33 48.2	
	comp=Z,7μm,20.0s					
BPAW	Bear Paw Mtn.	152.84 308	P	PKPdf	20 22 06.5	-4.1
	baz=100,SNR=39					
MLY	Manley	152.89 310	P	PKPdf	20 22 07.3	-3.5
	baz=98,SNR=24					
COLD	Coldfoot	152.93 315	P	PKPdf	20 22 07.3	-3.4
	baz=94					
JMN	Monobe	153.02 140	PKPdf	PKPdf	20 22 10.2	-1.7
PPLA	Purkeypile	153.13 305	P	PKPdf	20 22 07.6	-3.7
	baz=102,SNR=9.5					
C23K	Itkillik River	153.18 321	IAMs_20	IAMs_20	21 32 47.8	
	comp=Z,8μm,22.0s					
C23K	Itkillik River	153.18 321	P	PKPdf	20 22 07.7	-3.2
	baz=89					
CAST	Castle Rocks	153.19 307	P	PKPdf	20 22 07.5	-3.7
	baz=100,SNR=36					
D23K	Nanushuk River	153.21 319	P	PKPdf	20 22 08.8	-2.3
	baz=91					
H22K	Ishtalitna Cre	153.27 312	P	PKPdf	20 22 07.4	-3.9
	baz=96					
M20K	Styx River	153.34 303	IAMs_20	IAMs_20	21 38 37.1	
	comp=Z,8μm,19.0s					
M20K	Styx River	153.34 303	P	PKPdf	20 22 06.6	-4.9
	baz=103					
Q18K	Katmai Hardscr	153.37 295	P	PKPdf	20 22 08.0	-3.7
	baz=108					
CHUM	Lake Minchumin	153.38 307	P	PKPdf	20 22 07.5	-3.9
	baz=99,SNR=29					
G22K	Bettles	153.42 314	P	PKPdf	20 22 08.2

	comp=Z,8μm,21.0s					
E22K	**Anaktuvuk Pass**	153.60 317	P	PKPdf	20 22 08.5	-3.2
	baz=91					
Q17K	**Contact Creek**	153.68 294	P	PKPdf	20 22 08.9	-3.3
	baz=108,SNR=9.0					
P18K	**Big Mountain,**	153.70 297	IAMs_20	IAMs_20	21 23 22.1	
	comp=Z,8μm,19.0s					
P18K	**Big Mountain,**	153.70 297	P	PKPdf	20 22 08.2	-3.8
	baz=106					
R17L	**Mt. Peulik Vol**	153.71 293	P	PKPdf	20 22 09.8	-2.3
	baz=109,SNR=9.5					
F22K	**John River**	153.72 316	P	PKPdf	20 22 09.6	-2.3
	baz=92					
N19K	**Bonanza Creek**	153.72 300	IAMs_20	IAMs_20	21 30 17.4	
	comp=Z,8μm,22.0s					
N19K	**Bonanza Creek**	153.72 300	P	PKPdf	20 22 08.5	-3.6
	baz=104					
L20K	**Farewell, AK**	153.81 304	P	PKPdf	20 22 09.3	-2.9
	baz=101					
O18K	**Koktuh Hills**	153.82 298	IAMs_20	IAMs_20	21 40 07.2	
	comp=Z,7μm,19.0s					
O18K	**Koktuh Hills**	153.82 298	P	PKPdf	20 22 09.5	-2.7
	baz=106,SNR=13					
H21K	**Melozitna Rive**	153.83 311	P	PKPdf	20 22 08.8	-3.2
	baz=96,SNR=7.8					
KSRS	**Korea Array**	153.90 127	PKP	PKPdf	20 22 13.3	+0.3
	comp=Z,1.0nm,0.8s,baz=215,slow=1.7,SNR=9.0					
D22K	**Ayikyak River**	153.93 319	P	PKPdf	20 22 07.4	-4.7
	baz=89,SNR=12					
M19K	**Big River Lodg**	153.93 303	P	PKPdf	20 22 08.8	-3.5
	baz=102,SNR=11					
K20K	**Telida**	154.06 306	IAMs_20	IAMs_20	21 43 48.7	
	comp=Z,8μm,20.0s					
K20K	**Telida**	154.06 306	P	PKPdf	20 22 08.1	-4.4
	baz=99					
B22K	**Teshekpuk Lake**	154.12 322	IAMs_20	IAMs_20	21 45 34.4	
	comp=Z,6μm,21.0s					
B22K	**Teshekpuk Lake**	154.12 322	P	PKPdf	20 22 07.8	-4.4
	baz=85					
G21K	**Allakaket**	154.18 313	IAMs_20	IAMs_20	21 33 41.1	
	comp=Z,8μm,21.0s					
G21K	**Allakaket**	154.18 313	P	PKPdf	20 22 09.5	-3.0
	baz=93					
L19K	**White Mountain**	154.20 303	P	PKPdf	20 22 08.0	-4.6
	baz=101					
F21K	**Alatna River**	154.21 315	IAMs_20	IAMs_20	21 33 19.6	
	comp=Z,8μm,21.0s					
F21K	**Alatna River**	154.21 315	P	PKPdf	20 22 08.9	-3.7
	baz=92					
PYAG	**Pyongyang**	154.21 121	PKPbc	PKPdf	20 22 06.7	-6.6
PYAG			PP	PP	20 26 02.4	-8.3
PYAG			AmB			
	comp=Z,11nm,0.7s					
PYAG			AMS	AMS		
	comp=Z,10μm,16.7s					
J20K	**Nowinta River**	154.22 308	IAMs_20	IAMs_20	21 33 27.7	
	comp=Z,8μm,21.0s					
J20K	**Nowinta River**	154.22 308	P	PKPdf	20 22 08.7	-3.9
	baz=97,SNR=5.5					
P17K	**Kvichak River**	154.24 296	P	PKPdf	20 22 09.2	-3.5
	baz=106,SNR=7.5					
IMAR	**Indian Mountai**	154.25 312	PKPdf	PKPdf	20 22 08.5	-4.1
N18K	**Kilae Creek**	154.36 300	IAMs_20	IAMs_20	21 41 38.3	
	comp=Z,6μm,20.0s					
N18K	**Kilae Creek**	154.36 300	P	PKPdf	20 22 08.7	-4.2
	baz=103					
E21K	**Killik River**	154.41 318	P	PKPdf	20 22 09.0	-3.8
	baz=89					
SUJ	**Sinuiju**	154.44 118	PKPbc	PKPbc	20 22 20.3	-1.7
SUJ			AMS	AMS		
	comp=Z,450nm,5.9s					
I20K	**Naaghedeneel**	154.44 309	IAMs_20	IAMs_20	21 32 45.3	
	comp=Z,7μm,21.0s					
I20K	**Naaghedeneel**	154.44 309	P	PKPdf	20 22 09.7	-3.2
	baz=96					
M18K	**Stony River**	154.51 301	P	PKPdf	20 22 10.2	-2.8
	baz=102					
A22K	**Sinclair Lake**	154.57 324	P	PKPdf	20 22 09.7	-3.2
	baz=82					
B21K	**Ikpikpuk River**	154.59 321	IAMs_20	IAMs_20	21 34 14.9	
	comp=Z,8μm,20.0s					
B21K	**Ikpikpuk River**	154.59 321	P	PKPdf	20 22 09.6	-3.3
	baz=86					
H20K	**Anotleneega Mo**	154.67 311	P	PKPdf	20 22 09.1	-4.1
	baz=94,SNR=6.9					
C21K	**Knifeblade Rid**	154.68 319	P	PKPdf	20 22 10.2	-2.9
	baz=86					
O17K	**Koliganek Bris**	154.72 297	P	PKPdf	20 22 09.4	-4.0
	baz=104					
J19K	**Poorman**	154.84 307	P	PKPdf	20 22 09.8	-3.7
	baz=97					
TTA	**Tatalina**	154.86 305	P	PKPdf	20 22 07.5	-6.2
	baz=99,SNR=9.0					
S14K	**Fog Glacier**	154.89 288	P	PKPdf	20 22 11.4	-2.5
	baz=110					
N17K	**Nushagak Hills**	154.94 299	IAMs_20	IAMs_20	21 32 31.9	
	comp=Z,8μm,21.0s					
N17K	**Nushagak Hills**	154.94 299	P	PKPdf	20 22 10.4	-3.3
	baz=103					
P16K	**Nushagak River**	154.96 295	P	PKPdf	20 22 09.3	-4.4
	baz=106					
A21K	**Barrow**	155.05 325	P	PKPdf	20 22 09.3	-4.2
	baz=80					
L18K	**Granite Mounta**	155.05 303	P	PKPdf	20 22 10.8	-3.1
	baz=100					
F20K	**Avaraart Lake**	155.08 314	P	PKPdf	20 22 09.1	-4.6
	baz=90					
O16K	**Kokwok River B**	155.16 296	P	PKPdf	20 22 10.3	-3.8
	baz=104					
E20K	**Nigu River**	155.23 317	P	PKPdf	20 22 10.7	-3.3
	baz=87					
M17K	**Holitna River**	155.25 301	P	PKPdf	20 22 09.9	-4.2
	baz=101					
J18K	**Innoko River**	155.25 306	P	PKPdf	20 22 10.8	-3.3
	baz=97					
SNY	**Shenyang**	155.29 114	⇑PKP	PKPdf	20 22 13.8	-1.0
SNY			PP	PP	20 26 15.0	-1.8
SNY			SKKS		20 33 01.3	
SNY			SS	SS	20 46 01.0	-0.4
SNY			AMB	AMB		
	comp=Z,520nm,7.8s					
SNY			LR	LR		
	comp=Z,4μm,24.1s					
SNY			LR	LR		
	comp=Z,4μm,22.7s					
SNY			LR	LR		
	comp=Z,5μm,24.1s					
H19K	**Roundabout Mou**	155.33 311	P	PKPdf	20 22 10.4	-3.6
	baz=93					
D20K	**Etivluk River**	155.36 318	P	PKPdf	20 22 09.6	-4.5
	baz=86					
B20K	**Meade River**	155.43 322	IAMs_20	IAMs_20	21 35 06.9	
	comp=Z,6μm,19.0s					
B20K	**Meade River**	155.43 322	P	PKPdf	20 22 10.4	-3.7
	baz=82					
GCSA	**Galena City Sc**	155.46 309	P	PKPdf	20 22 10.6	-3.6
	baz=94,SNR=8.1					
INU	**Inuyama**	155.55 144	IAMs_20	IAMs_20	21 38 04.5	
	comp=Z,5μm,20.0s					
G19K	**Purcell Mounta**	155.61 312	IAMs_20	IAMs_20	21 35 21.0	
	comp=Z,7μm,20.0s					
G19K	**Purcell Mounta**	155.61 312	P	PKPdf	20 22 10.4	-4.1
	baz=91,SNR=11					
E19K	**Redstone River**	155.66 315	IAMs_20	IAMs_20	21 34 08.9	
	comp=Z,6μm,19.0s					
E19K	**Redstone River**	155.66 315	P	PKPdf	20 22 10.4	-4.1
	baz=88,SNR=6.8					
N16K	**Nishlik Lake**	155.70 298	P	PKPdf	20 22 10.8	-4.0
	baz=102					
L17K	**Donlin**	155.78 302	P	PKPdf	20 22 10.1	-4.7
	baz=99,SNR=7.0					
K17K	**Iditarod**	155.87 304	P	PKPdf	20 22 11.2	-3.7
	baz=97					
F19K	**Shaleruckik Mo**	155.89 314	IAMs_20	IAMs_20	21 34 24.1	
	comp=Z,8μm,20.0s					
F19K	**Shaleruckik Mo**	155.89 314	P	PKPdf	20 22 11.8	-3.0
	baz=88					
M16K	**Timber Creek**	155.90 300	P	PKPdf	20 22 11.1	-3.9
	baz=101					
O15K	**Ungalikthiuk R**	155.91 295	P	PKPdf	20 22 10.3	-4.8
	baz=104					
D19K	**Kuna River**	155.93 318	P	PKPdf	20 22 11.8	-3.1
	baz=84					
S12K	**Black Hills**	156.00 286	IAMs_20	IAMs_20	21 30 44.0	
	comp=Z,7μm,21.0s					
S12K	**Black Hills**	156.00 286	P	PKPdf	20 22 09.6	-5.7
	baz=111					
H18K	**Honhosa River**	156.11 310	IAMs_20	IAMs_20	21 38 49.5	
	comp=Z,8μm,20.0s					
H18K	**Honhosa River**	156.11 310	P	PKPdf	20 22 12.1	-3.0
	baz=92					
CIT	**Chita**	156.12 84	*e*PKIKP	PKPdf	20 22 15.2	-0.4
CIT			*e*		20 26 24.0	
CIT			*e*		20 29 24.6	
CIT			pmax	pmax		
	comp=Z,211nm,3.0s					
G18K	**Tagagawik**	156.25 312	P	PKPdf	20 22 12.1	-3.2
	baz=90					
L16K	**Owhat River**	156.27 301	IAMs_20	IAMs_20	21 39 32.5	
	comp=Z,7μm,21.0s					
L16K	**Owhat River**	156.27 301	P	PKPdf	20 22 12.6	-2.8
	baz=99,SNR=9.0					
N15K	**Kwethluk River**	156.28 297	P	PKPdf	20 22 11.9	-3.6
	baz=102					
J17K	**VABM Dome**	156.30 305	IAMs_20	IAMs_20	21 40 36.0	
	comp=Z,8μm,20.0s					
J17K	**VABM Dome**	156.30 305	P	PKPdf	20 22 12.4	-3.0
	baz=95					
C19K	**Lookout Ridge**	156.39 320	P	PKPdf	20 22 12.0	-3.5
	baz=82					
FALS	**False Pass**	156.41 283	P	PKPdf	20 22 10.7	-5.1
	baz=112					
F18K	**Selawik**	156.64 313	P	PKPdf	20 22 11.7	-4.0
	baz=87					
O14K	**Tigyukauivet M**	156.65 295	P	PKPdf	20 22 12.0	-4.0
	baz=103					
M15K	**Kasigluk River**	156.67 298	P	PKPdf	20 22 11.6	-4.4
	baz=100					
A19K	**Wainwright**	156.71 323	P	PKPdf	20 22 11.8	-4.0
	baz=78					
H17K	**Granite Mounta**	156.76 309	P	PKPdf	20 22 11.6	-4.4
	baz=91					
E18K	**Tukpahlearik C**	156.96 316	P	PKPdf	20 22 12.5	-3.6
	baz=84					
J16K	**Anvik River**	156.98 305	P	PKPdf	20 22 12.4	-3.9
	baz=94					
N14K	**Kuskokwak Cree**	157.01 296	P	PKPdf	20 22 12.4	-4.0
	baz=101					
MJAR	**Matsushiro Arr**	157.03 145	PKP	PKPdf	20 22 18.2	+0.9
	comp=Z,4.9nm,1.0s,baz=180,slow=1.6,SNR=6.4					
MJAR			PKPab	PKPab	20 22 45.8	-1.8
	comp=Z,29nm,1.0s,baz=181,slow=4.3,SNR=11					
C18K	**Utukok River**	157.04 319	IAMs_20	IAMs_20	21 34 31.8	
	comp=Z,7μm,21.0s					
C18K	**Utukok River**	157.04 319	P	PKPdf	20 22 12.2	-4.2
	baz=81					
I17K	**Unalakleet**	157.06 306	P	PKPdf	20 22 12.9	-3.4
	baz=93					
G17K	**Kiwalik Mounta**	157.08 311	P	PKPdf	20 22 12.7	-3.7
	baz=89					
B18K	**Kokolik River**	157.13 321	P	PKPdf	20 22 12.3	-4.0
	baz=79					
L15K	**Ungalak Mounta**	157.21 301	P	PKPdf	20 22 12.7	-4.0
	baz=97					
F17K	**Baldwin Pennin**	157.29 313	IAMs_20	IAMs_20	21 36 14.2	
	comp=Z,8μm,21.0s					
F17K	**Baldwin Pennin**	157.29 313	P	PKPdf	20 22 13.2	-3.4
	baz=86					
M14K	**Bethel**	157.29 298	P	PKPdf	20 22 13.2	-3.5
	baz=99,SNR=9.1					
K15K	**Wolf Creek Mou**	157.31 302	IAMs_20	IAMs_20	21 26 05.9	
	comp=Z,7μm,18.0s					
K15K	**Wolf Creek Mou**	157.31 302	P	PKPdf	20 22 13.2	-3.5
	baz=96					
E17K	**Hotham Inlet**	157.47 315	P	PKPdf	20 22 13.0	-3.8
	baz=84,SNR=19					
CN2	**Changchun**	157.67 113	*e*PKP	PKPdf	20 22 17.0	-0.8
CN2			*e*PP	PP	20 26 30.8	+0.8
CN2			SKKS		20 33 16.9	
CN2			*e*SS	SS	20 46 26.6	-0.4
CN2			AMB	AMB		
	comp=Z,680nm,6.0s					
CN2			LR	LR		
	comp=Z,1μm,17.0s					
CN2			LR	LR		
	comp=Z,2μm,17.0s					
CN2			LR	LR		
	comp=Z,2μm,18.0s					
UNV	**Unalaska Valle**	157.68 279	P	PKPdf	20 22 10.5	-7.0
	baz=113					
L14K	**Kuka Creek**	157.73 300	P	PKPdf	20 22 13.2	-4.1
	baz=97					
H16K	**Elim**	157.75 308	P	PKPdf	20 22 14.2	-3.0
	baz=90,SNR=5.9					
RDOG	**Red Dog Mine**	157.75 318	P	PKPdf	20 22 12.7	-4.5
	baz=80,SNR=6.7					
C17K	**DeLong Mountai**	157.78 319	P	PKPdf	20 22 13.3	-3.9
	baz=79					
G16K	**Koyuk River**	157.79 310	IAMs_20	IAMs_20	21 39 58.8	
	comp=Z,9μm,21.0s					
G16K	**Koyuk River**	157.79 310	P	PKPdf	20 22 14.0	-3.2
	baz=88					
D17K	**Noatak River**	157.88 317	P	PKPdf	20 22 13.7	-3.6
	baz=81,SNR=7.1					
M13K	**Dall Lake**	157.91 297	P	PKPdf	20 22 14.9	-2.6
	baz=99					
HIA	**Hailar**	158.12 96	IAMs_20	IAMs_20	21 31 25.7	
	comp=Z,7μm,20.0s					
J14K	**Nanvaranak Lak**	158.28 303	P	PKPdf	20 22 14.2	-3.7
	baz=93					
BOD	**Bodaibo**	158.48 70	*e*PKIKP	PKPdf	20 22 15.4	-2.9
BOD			pmax	pmax		
	comp=Z,46nm,1.6s					
G15K	**Niukluk**	158.52 309	P	PKPdf	20 22 15.1	-3.0
	baz=87,SNR=11					
NIKH	**Nikolski High**	158.60 275	P	PKPdf	20 22 11.7	-6.9
	baz=115					
C16K	**Lisburne Hills**	158.61 319	P	PKPdf	20 22 13.2	-4.9
	baz=77					
F15K	**North Star Dit**	158.72 311	IAMs_20	IAMs_20	21 39 16.4	
	comp=Z,7μm,20.0s					
F15K	**North Star Dit**	158.72 311	P	PKPdf	20 22 14.5	-3.9
	baz=84					
K13K	**Kusilvak Mount**	158.73 301	P	PKPdf	20 22 15.4	-3.1
	baz=94					
ANM	**Nome**	159.11 308	P	PKPdf	20 22 16.3	-2.6
	baz=87					
M11K	**Mekoryuk**	159.31 296	P	PKPdf	20 22 16.2	-2.9
	baz=97					
F14K	**Arctic Creek**	159.44 311	P	PKPdf	20 22 15.4	-3.8
	baz=83					
BNX	**BinXian**	160.03 112	⇓PKP	PKPdf	20 22 21.0	+0.5
BNX			PP	PP	20 26 42.8	-0.1
BNX			SS	SS	20 46 55.1	+3.1
BNX			LR	LR		
	comp=Z,4μm,17.9s					
BNX			LR	LR		
	comp=Z,4μm,19.8s					
BNX			LR	LR		
	comp=Z,7μm,20.9s					
TNA	**Tin City**	160.09 311	P	PKPdf	20 22 17.8	-2.1
	baz=82					
P08K	**Saint George I**	160.26 285	P	PKPdf	20 22 17.8	-2.6
	baz=106					
MDJ	**Mudanjiang**	160.31 118	PKPdf	PKPdf	20 22 20.6	-0.3
MDJ	**Mudanjiang**	160.31 118	PKP	PKPdf	20 22 20.8	-0.1
MDJ			pPKP	pPKPdf	20 22 23.3	+0.1
MDJ			SS	SS	20 46 55.5	+0.6
MDJ			LR	LR		
	comp=Z,6μm,16.1s					
MDJ			LR	LR		
	comp=Z,2μm,16.5s					
MDJ			LR	LR		
	comp=Z,8μm,14.4s					
SPIA	**Saint Paul Isl**	160.78 286	P	PKPdf	20 22 16.9	-4.1
	baz=104					
USRK	**Ussuriysk Ar.**	161.14 123	PKP	PKPdf	20 22 22.8	+1.0
	comp=Z,3.9nm,1.0s,baz=198,slow=9.1,SNR=4.2					
USRK			PKPab	PKPab	20 23 02.8	-2.5
	comp=Z,12nm,1.0s,baz=210,slow=4.5,SNR=14					
TIXI	**Tiksi**	161.75 26	PKPdf	PKPdf	20 22 20.9	-0.7
TIXI	**Tiksi**	161.75 26	PKIKP	PKPdf	20 22 20.9	-0.7
GAMB	**Gambell**	161.94 307	P	PKPdf	20 22 18.5	-3.5
	baz=83					
ADK	**Adak**	162.42 266	PKPab	PKPab	20 23 10.4	-0.3
ADK	**Adak**	162.42 266	PKP2	PKPab	20 23 10.4	-0.3
HEH	**HeiHe**	162.83 101	PKP	PKPdf	20 22 22.5	-0.8
HEH			LR	LR		
	comp=Z,3μm,15.6s					
HEH			LR	LR		
	comp=Z,9μm,18.1s					
HEH			LR	LR		
	comp=Z,11μm,17.6s					
TEY	**Ternei**	163.85 130	*e*PKIKP	PKPdf	20 22 27.1	+2.7
TEY			*e*		20 47 28.3	
ZEA	**Zeya**	164.37 90	*i* PKIKP	PKPdf	20 22 24.1	-0.5
ZEA			*e*		20 47 39.1	
ZEA			pmax	pmax		
	comp=Z,10.0nm,1.7s					
ZEA			pmax	pmax		
	comp=N,200nm,11.9s					
ZEA			pmax	pmax		
	comp=Z,1μm,11.1s					
ZEA			pmax	pmax		
	comp=E,200nm,17.3s					
ZEA			pmax	pmax		
	comp=N,300nm,18.4s					
ZEA			pmax	pmax		
	comp=Z,1μm,16.7s					
KLR	**Kul'dur**	164.54 110	*e*PKIKP	PKPdf	20 22 20.6	-4.4
KLR			pmax	pmax		
	comp=Z,15nm,1.3s					
YUK	**Yuzh-Kuril'sk**	166.14 154	*i* PKP2	PKPab	20 23 29.7	+2.5
YUK			*i* SS	SS	20 47 54.3	+0.1
YAK	**Yakutsk**	166.52 57		PKPdf	20 22 23.6	-2.5
YAK	**Yakutsk**	166.52 57	*e*PKIKP	PKPdf	20 22 20.6	-5.5
YAK			pmax	pmax		
	comp=Z,7.0nm,1.6s					
YAK			pmax	pmax		
	comp=N,6.0nm,2.0s					
YAK			pmax	pmax		
	comp=E,3.0nm,2.2s					
YAK			pmax	pmax		
	comp=Z,2μm,8.9s					
YAK			pmax	pmax		
	comp=N,392nm,7.6s					
YAK			pmax	pmax		
	comp=E,554nm,9.9s					
BILL	**Bilibino**	167.49 339		PKPab	20 23 32.3	-0.3
KUR	**Kuril'sk**	167.72 158	*e*PKIKP	PKPdf	20 22 27.0	-0.6
KUR			*e*		20 27 22.1	
KUR			*e*		20 29 31.0	
KUR			*e*SS	SS	20 48 07.7	-2.4
KUR			*e*SSS	SSS	20 54 45.7	
KUR			pmax	pmax		
	comp=Z,4μm,18.1s					
KUR			MLR	MLR		
	comp=Z,8μm,18.0s					
YSS	**Yuzh-Sakhalins**	167.85 140		PKPdf	20 22 26.4	-1.2
YSS	**Yuzh-Sakhalins**	167.85 140	*i* PKIKP	PKPdf	20 22 27.0	-0.6
YSS			*e*		20 23 34.5	
YSS			*e*PPS	PPS	20 41 09.4	
YSS			*e*SS	SS	20 48 06.4	-5.5
YSS			pmax	pmax		
	comp=Z,40nm,1.1s					
UGL	**Uglegorsk**	169.33 132	*e*PKIKP	PKPdf	20 22 28.1	-0.4
UGL			pmax	pmax		
	comp=Z,3μm,10.0s					
UGL			pmax	pmax		
	comp=E,1μm,8.0s					
UGL			pmax	pmax		
	comp=Z,4μm,10.0s					
TYV	**Tymovskoe**	170.92 126	*e*PKIKP	PKPdf	20 22 29.4	0.0
TYV			pmax	pmax		
	comp=Z,2μm,6.0s					
TYV			pmax	pmax		
	comp=Z,42nm,1.2s					
NKL	**Nikolayevsk**	171.38 110	*i* PKIKP	PKPdf	20 22 24.1	-5.4
NKL			*e*		20 27 42.8	
SEY	**Seymchan**	173.81 8	*e*PKIKP	PKPdf	20 22 26.8	-3.5
SEY			pmax	pmax		
	comp=Z,29nm,1.7s					
PET	**Petropavlovsk**	175.41 216	*e*PKIKP	PKPdf	20 22 28.1	-2.9
PET			*e*		20 27 59.3	
PET			*e*SS	SS	20 49 24.2	-1.7
PETK	**Petropavlovsk-**	175.76 210	PKP	PKPdf	20 22 33.0	+1.9
	comp=Z,12nm,0.9s,baz=93,slow=2.9,SNR=7.2					
PETK			PKPab	PKPab	20 24 09.1	-0.6
	comp=Z,22nm,0.9s,baz=135,slow=4.9,SNR=8.3					

AUST 15 20:03:36.5±1.9, 34°S±6°×11°7E±°, h0km, ML2.0/1, Error ellipse: s-maj=18.5km s-min=13.1km az=103.1, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LM01	**Lskr Muir 01**	**0.08**	**265**	P	Pg	20 03 38.1	+0.1
LM04	**Lake Muir 04**	**0.20**	**284**	P	Pg	20 03 40.7	+0.3
LM04				S	Sg	20 03 42.5	-0.5
LM02	**Lake Muir 02**	**0.23**	**243**	P	Pg	20 03 41.2	+0.4
LM02				S	Sg	20 03 43.3	-0.5
LM05	**Lake Muir 05**	**0.46**	**270**	P	Pg	20 03 45.3	-0.1

*IDC **15** 20:04:40.5±1.2, 35°.92N×27°.60E, h0km, mb3.6/4, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=38.4km s-min=20.6km az=166.0*
*THE **15** 20:04:42.9, 35°.97N×27°.60E, h6km±1km, ML3.3/5, Error ellipse: s-maj=1.7km s-min=0.6km az=100.0*
*NIC **15** 20:04:42.7, 35°.88N×27°.63E, h10km±1km, Ml3.4/11*
*ATH **15** 20:04:42.4, 36°.06N×27°.47E, h10km±31km, ML3.1/3, Error ellipse: s-maj=31.6km s-min=1.4km az=0.0*
*GII **15** 20:04:43.5±0.6, 35°.71N±0°.01×27°.437E±0°.004, h40km, Mws3.2, confirmed*

ISC 15 20:04:42.5±1.0, 35°.93N±0°.03×27°.59E±0°.03, h14km±8km, n46, σ1°15/68, mb3.4/4, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.52**	**223**	P	**Pg**	**20 04 53.0**	**+0.3**
KARP				S	**Sb**	**20 05 00.7**	**-0.1**
KARP	**Karpathos**	**0.52**	**223**	⇑*i* P	**Pg**	**20 04 53.1**	**+0.3**
KARP				S	**Sb**	**20 05 00.4**	**-0.3**
KARP				AML	AML	20 05 02.2	
	3.4nm,0.1s						
KARP				AML	AML	20 05 04.7	
	4.2nm,0.4s						
KARP	**Karpathos**	**0.52**	**223**	P	**Pg**	**20 04 53.1**	**+0.3**
KARP				S	**Sb**	**20 05 00.7**	**-0.1**
KARP				AML	AML	20 05 03.2	
	comp=E,3308μm,0.1s						
KARP				AML	AML	20 05 05.1	
	comp=N,4206μm,0.4s						
ARG	**Arkhangelos**	**0.52**	**56**	P	**Pg**	**20 04 52.8**	**0.0**
ARG				S	**Sg**	**20 05 00.2**	**+0.4**
	comp=N,5μm,0.2s						
ARG	**Arkhangelos**	**0.52**	**56**	⇑*i* P	**Pg**	**20 04 52.9**	**+0.1**
ARG				S	**Sb**	**20 05 00.8**	**-0.1**
ARG				AML	AML	20 05 01.3	
	comp=N,11nm,0.2s						
ARG				AML	AML	20 05 01.7	
	comp=N,7.3nm,0.2s						
ARG	**Arkhangelos**	**0.52**	**56**	P	**Pg**	**20 04 53.0**	**+0.1**
ARG				S	**Sg**	**20 05 00.0**	**+0.2**
ARG				AML	AML	20 05 01.6	
	comp=E,11216μm,0.2s						
ARG				AML	AML	20 05 02.0	
	comp=N,7334μm,0.2s						
NISR	**Nisiros**	**0.78**	**331**	P	**Pg**	**20 04 57.9**	**+0.2**
NISR				S	**Sg**	**20 05 08.8**	**+0.9**
	comp=N,2μm,0.4s						
DAT	**Datca**	**0.80**	**359**	P	**Pg**	**20 04 57.6**	**-0.5**
DAT				S	**Sg**	**20 05 08.7**	**0.0**
BODT	**Bodrum**	**1.16**	**349**	P	**Pb**	**20 05 03.1**	**-1.2**
YER	**Yerkesik**	**1.33**	**25**	P	**Pn**	**20 05 06.3**	**-0.4**
YER				S	**Sb**	**20 05 23.3**	**-0.9**
ZKR	**Zakros**	**1.38**	**235**	P	**Pn**	**20 05 08.3**	**+0.9**
ZKR				S	**Sg**	**20 05 26.8**	**-0.3**
	comp=N,630nm,0.6s						
ZKR	**Zakros**	**1.38**	**235**	P	**Pn**	**20 05 08.2**	**+0.8**
ZKR				S	**Sg**	**20 05 27.0**	**-0.1**
ZKR				AML	AML	20 05 31.7	
	comp=N,0.8nm,0.6s						
ZKR				AML	AML	20 05 35.0	
	comp=N,1.7nm,0.5s						
ZKR	**Zakros**	**1.38**	**235**	P	**Pn**	**20 05 08.3**	**+0.9**
ZKR				S	**Sn**	**20 05 26.6**	**+1.1**
ZKR				AML	AML	20 05 29.4	
	comp=N,566μm,0.4s						
ZKR				AML	AML	20 05 34.0	
	comp=E,1571μm,0.5s						
THR3	**Thira Island,**	**1.84**	**286**	P	**Pn**	**20 05 13.2**	**-0.4**
CMBO	**Columbo, Santo**	**1.85**	**288**	P	**Pn**	**20 05 13.4**	**-0.4**
CMBO				S	**Sn**	**20 05 37.6**	**+0.6**
	comp=E,892nm,0.5s						
SMG	**Samos**	**1.88**	**341**	P	**Pn**	**20 05 13.0**	**-1.3**
SMG	**Samos**	**1.88**	**341**	P	**Pn**	**20 05 13.8**	**-0.4**

APE	**Apeiranthos**	**2.01 305**	P	**Pn**	**20 05 15.4**	**-0.7**
APE	**Apeiranthos**	**2.01 305**	P	**Pn**	**20 05 15.1**	**-1.1**
APE	**Apeiranthos**	**2.01 305**	P	**Pn**	**20 05 15.0**	**-1.1**
IDI	**Anoyia**	**2.29 255**	P	**Pn**	**20 05 19.8**	**-0.2**
IDI			S	**Sn**	**20 05 47.0**	**-1.0**
ISP	**Isparta**	**3.02 50**	P	**Pn**	**20 05 33.5**	**+3.5**
AKMS	**Akamas**	**3.98 102**	P	**Pn**	**20 05 43.6**	**+0.5**
AKMS			S	**Sn**	**20 06 30.6**	**+1.1**
AKMS			AML	AML	20 06 33.6	
	comp=E,0.2nm,0.4s					
AKMS			AML	AML	20 06 33.6	
	comp=E,0.3nm,0.3s					
ALFC	**Alefka**	**4.16 99**	P	**Pn**	**20 05 46.1**	**+0.5**
ALFC			S	**Sn**	**20 06 35.7**	**+1.7**
ALFC			AML	AML	20 06 37.7	
	comp=E,0.2nm,0.3s					
ALFC			AML	AML	20 06 37.7	
	comp=E,0.3nm,0.4s					
NATA	**Nata**	**4.23 104**	P	**Pn**	**20 05 46.9**	**+0.4**
NATA			S	**Sn**	**20 06 36.8**	**+1.1**
NATA			AML	AML	20 06 40.8	
	comp=E,0.7nm,0.5s					
NATA			AML	AML	20 06 42.1	
	comp=E,0.4nm,0.6s					
TROD	**Troodos**	**4.42 101**	P	**Pn**	**20 05 49.0**	**-0.3**
TROD			S	**Sn**	**20 06 41.4**	**+0.7**
TROD			AML	AML	20 06 46.4	
	comp=E,0.1nm,0.6s					
TROD			AML	AML	20 06 49.2	
	comp=E,0.2nm,0.4s					
APOL	**The Sanctuary**	**4.49 105**	P	**Pn**	**20 05 51.0**	**+0.9**
APOL			S	**Sn**	**20 06 44.1**	**+1.9**
APOL			AML	AML	20 06 47.9	
	comp=E,0.1nm,0.4s					
APOL			AML	AML	20 06 48.1	
	comp=E,0.2nm,0.4s					
ASGA	**Asgata**	**4.76 102**	P	**Pn**	**20 05 54.5**	**+0.6**
ASGA			S	**Sn**	**20 06 50.5**	**+1.6**
ASGA			AML	AML	20 06 52.4	
	comp=E,0.2nm,0.4s					
ASGA			AML	AML	20 06 56.3	
	comp=E,0.1nm,0.5s					
CSS	**Mathiatis**	**4.78 100**	P	**Pn**	**20 05 54.6**	**+0.4**
CSS	**Mathiatis**	**4.78 100**	P	**Pn**	**20 05 54.4**	**+0.2**
CSS			S	**Sn**	**20 06 50.2**	**+0.8**
CSS			AML	AML	20 06 55.2	
	comp=E,0.1nm,0.4s					
CSS			AML	AML	20 06 55.9	
	comp=E,0.1nm,0.4s					
MVOU	**Mavrovouni**	**5.01 99**	P	**Pn**	**20 05 57.1**	**-0.3**
MVOU			AML	AML	20 07 01.2	
	comp=E,0.1nm,0.4s					
MVOU			AML	AML	20 07 05.3	
	comp=E,0.1nm,0.3s					
MMAI	**Mount Meron Ar**	**7.08 112**	Pn	**Pn**	**20 06 24.9**	**-0.8**
	comp=E,1.8nm,0.3s,baz=279,slow=12,SNR=16					
MMAI			Sn	**Sn**	**20 07 48.0**	**+2.0**
	comp=E,5.2nm,0.3s,baz=125,slow=28,SNR=12					
	comp=E,1.1nm,0.3s					
GEM	**Giv'at Ha'Em**	**7.19 110**	P	**Pn**	**20 06 27.5**	**+0.3**
GEM	**Giv'at Ha'Em**	**7.19 110**	S	**Sn**	**20 07 47.9**	**-0.7**
NATI	**Neve Ativ**	**7.22 109**	P	**Pn**	**20 06 29.4**	**+1.7**
KZIT	**Kziot**	**7.58 129**	S	**Sn**	**20 07 53.7**	**-4.6**
KZIT	**Kziot**	**7.58 129**	P	**Pn**	**20 06 32.0**	**-0.6**
DSI	**Dead Sea**	**7.81 122**	P	**Pn**	**20 06 35.8**	**+0.1**
MSBI	**Mazada**	**7.94 123**	P	**Pn**	**20 06 37.2**	**-0.3**
KRMI	**Paran Flat**	**8.33 132**	P	**Pn**	**20 06 41.9**	**-1.0**
PRNI	**Paran**	**8.34 130**	P	**Pn**	**20 06 42.4**	**-0.6**
PRNI	**Paran**	**8.34 130**	S	**Sn**	**20 08 13.5**	**-3.5**
ESDC	**Sonseca Array**	**25.14 288**	P	**P**	**20 10 07.4**	**+0.2**
	comp=E,0.4nm,0.8s,baz=82,slow=9.2,SNR=1.6					
	comp=E,0.4nm,0.8s					
TORD	**Torodi Ar. Bea**	**32.51 232**	P	**P**	**20 11 13.1**	**+0.1**
	comp=E,0.7nm,0.4s,baz=32,slow=8.6,SNR=17					
	comp=E,0.7nm,0.4s					
KURBB	**Kurchatov Arra**	**39.09 52**	P	**P**	**20 12 09.3**	**+0.2**
	comp=E,0.7nm,0.5s,baz=276,slow=8.8,SNR=7.9					
	comp=E,0.7nm,0.5s					
MKAR	**Makanchi Array**	**41.70 57**	P	**P**	**20 12 30.5**	**-0.2**
	comp=E,0.3nm,0.6s,baz=275,slow=8.7,SNR=5.8					
	comp=E,0.3nm,0.6s					

*IDC **15** 20:07:20.0±0.6, 56°.70S×25°.42W, h0km, mb4.7/12, mbtmp4.7/13, ML4.5/1, Error ellipse: s-maj=21.9km s-min=17.2km az=53.0*
*NEIC **15** 20:07:21.4±2.2, 56°.8S±0°.1×25°.6W±0°.2, h10km±1km, mb5.2/53, Error ellipse: s-maj=18.4km s-min=13.5km az=212.0*

ISC 15 20:07:21.2±0.4, 56°.75S±0°.08×25°.58W±0°.08, h10km, n98, σ0°98/91, mb5.2/32, 5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.67 287**		Pn	**Pn**	**20 08 57.6**	**-1.4**
VNA1	**Neumayer--Stat**	**15.81 159**		⇓P	**Pn**	**20 11 03.9**	**+0.4**
	comp=Z,15nm,0.4s						
VNA3	**Neumayer Olymp**	**16.03 161**		⇓P	**Pn**	**20 11 05.5**	**-0.9**
	comp=Z,9.4nm,0.3s						
VNA2	**Neumayer--Watz**	**16.20 158**		⇓P	**Pn**	**20 11 06.5**	**-2.1**
	comp=Z,18nm,0.6s,baz=331,slow=2.7						
SNAA	**Sanae**	**17.74 156**		Pn	**Pn**	**20 11 25.8**	**-2.1**
SNAA	**Sanae**	**17.74 156**		⇓P	**Pn**	**20 11 27.7**	**-0.2**
	comp=Z,392nm,0.6s						
SNAA	**Sanae**	**17.74 156**		P	**P**	**20 11 29.2**	**+0.5**
	comp=Z,1.7nm,0.3s,baz=319,slow=11,SNR=13						
	comp=Z,55nm,0.9s						
TROLL	**Troll, Antarti**	**19.22 154**		⇓P	**P**	**20 11 45.2**	**+0.1**
	comp=Z,462nm,0.8s						
EFI	**East Falkland**	**19.54 271**		P	**P**	**20 11 46.5**	**-2.1**
EFI				IAmb	IAmb	20 12 00.9	
	comp=Z,188nm,1.4s						
PMSA	**Palmer Station**	**20.13 231**			Pn	20 11 56.2	-0.5
PMSA	**Palmer Station**	**20.13 231**		P	Pn	20 11 56.4	-0.3
	comp=Z,22nm,0.8s,baz=90,slow=4.0,SNR=2.0						
	comp=Z,22nm,0.8s						
BELA	**Belgrano 2**	**21.45 185**		P	**P**	**20 12 08.9**	**-0.2**
BELA				IAmb	IAmb	20 12 11.5	
	comp=Z,65nm,0.8s						
MG02	**Cerro Sombrero**	**25.16 260**		P	**P**	**20 12 44.8**	**-1.4**
MG03	**Isla Dawson**	**25.36 257**		P	**P**	**20 12 45.7**	**-2.3**
MG03				IAmb	IAmb	20 12 56.0	
	comp=Z,89nm,1.2s						
GO09	**Cerro Castillo**	**27.57 261**		P	**P**	**20 13 08.5**	**+0.5**
GO09				IAmb	IAmb	20 13 35.5	
	comp=Z,101nm,1.4s						
GO08	**Villa O'Higgin**	**29.18 266**		P	**P**	**20 13 22.8**	**+0.4**
GO08				IAmb	IAmb	20 13 27.1	
	comp=Z,97nm,1.9s						
TRQA	**Tornquist**	**30.42 292**		P	**P**	**20 13 32.8**	**-0.6**
PLTB	**Pedras Altas**	**31.63 310**		P	**P**	**20 13 45.1**	**+1.0**
PLTB				IAmb	IAmb	20 13 47.9	
	comp=Z,33nm,0.9s						
QSPA	**South Pole Qui**	**33.49 180**		P	**P**	**20 14 00.9**	**+0.5**
QSPA	**South Pole Qui**	**33.49 180**		P	**P**	**20 14 00.9**	**+0.5**
	comp=Z,22nm,0.5s,baz=175,slow=3.9,SNR=8.9						
	comp=Z,22nm,0.5s						
ITQB	**Itaqui**	**34.73 308**		P	**P**	**20 14 11.4**	**+0.2**
SPB	**Sao Paulo**	**36.76 325**		P	**P**	**20 14 30.7**	**+2.1**
SPB				IAmb	IAmb	20 14 33.3	
	comp=Z,44nm,1.0s						
VAO	**Valinhos**	**37.17 326**		P	**P**	**20 14 33.5**	**+1.3**
VAO				IAmb	IAmb	20 14 37.3	
	comp=Z,31nm,0.9s						
CPUP	**Villa Florida**	**37.95 310**		P	**P**	**20 14 39.0**	**+0.3**
CPUP	**Villa Florida**	**37.95 310**		P	**P**	**20 14 38.9**	**+0.2**
	comp=Z,20nm,0.9s,baz=146,slow=6.2,SNR=6.5						
	comp=Z,20nm,0.9s						
MT02	**Curacav**	**38.85 288**		P	**P**	**20 14 46.0**	**-0.3**
MT02				IAmb	IAmb	20 14 47.6	
	comp=Z,106nm,1.9s						
ZON	**Zonda**	**38.93 292**		P	**P**	**20 14 46.0**	**-1.0**
MAW	**Mawson**	**39.05 143**		P	**P**	**20 14 47.6**	**+0.1**
	comp=Z,15nm,1.2s,baz=231,slow=3.7,SNR=3.7						
	comp=Z,15nm,1.2s						
SUR	**Sutherland**	**39.98 72**		P	**P**	**20 14 55.6**	**-0.3**
CO01	**Juntas del Tor**	**40.91 292**		P	**P**	**20 15 04.2**	**+0.5**
CO01				IAmb	IAmb	20 15 58.2	
	comp=Z,48nm,1.3s						
GO04	**Tololo Observa**	**41.12 291**		P	**P**	**20 15 04.3**	**-1.1**
GO04				IAmb	IAmb	20 16 16.7	
	comp=Z,108nm,1.7s						
AC05	**El Transito**	**41.92 293**		P	**P**	**20 15 10.8**	**-1.1**
LCO	**Las Campanas**	**42.00 292**		P	**P**	**20 15 12.1**	**-0.5**
AQDB	**Aquidauana**	**42.53 316**		P	**P**	**20 15 16.8**	**+0.1**
AQDB				IAmb	IAmb	20 15 19.2	
	comp=Z,36nm,1.0s						
AC01	**Pan de Azucar**	**44.29 294**		P	**P**	**20 15 30.3**	**-0.6**
AC01				IAmb	IAmb	20 17 10.2	
	comp=Z,76nm,1.6s						
GO02	**Mina Guanaco**	**44.61 296**		P	**P**	**20 15 33.6**	**-0.2**
GO02				IAmb	IAmb	20 16 20.6	
	comp=Z,29nm,1.1s						
BOSA	**Boshof**	**45.30 74**		P	**P**	**20 15 39.1**	**0.0**
BOSA				IAmb	IAmb	20 15 39.7	
	comp=Z,36nm,1.4s						
BOSA	**Boshof**	**45.30 74**		P	**P**	**20 15 38.7**	**-0.3**
	comp=Z,8.4nm,0.9s,baz=226,slow=5.2,SNR=5.0						
	comp=Z,8.4nm,0.9s						
SBA	**Scott Base**	**45.44 184**		P	**P**	**20 15 41.0**	**+1.6**
SBA				IAmb	IAmb	20 16 26.5	
	comp=Z,34nm,1.1s						
PB14	**IPOC Station P**	**45.46 296**		P	**P**	**20 15 39.0**	**-1.6**
AF01	**San Pedro de A**	**45.78 299**		P	**P**	**20 15 43.1**	**0.0**
PB15	**IPOC Station P**	**46.19 298**		P	**P**	**20 15 46.0**	**-0.3**
PB15				IAmb	IAmb	20 16 35.1	
	comp=Z,40nm,1.2s						
PB06	**IPOC Station P**	**46.66 298**		P	**P**	**20 15 50.1**	**+0.1**
PB06				IAmb	IAmb	20 15 57.0	
	comp=Z,23nm,0.7s						
PB09	**IPOC Station P**	**47.28 299**		P	**P**	**20 15 56.0**	**+1.3**
PB01	**IPOC Station P**	**48.04 299**		P	**P**	**20 16 00.7**	**+0.1**
LBTB	**Lobatse**	**48.38 71**		P	**P**	**20 16 01.9**	**-1.3**
PTLB	**Pontes e Lacer**	**48.42 315**		P	**P**	**20 16 02.6**	**-0.9**
PTLB				IAmb	IAmb	20 16 06.5	
	comp=Z,31nm,1.0s						
PB08	**IPOC Station P**	**48.65 300**		P	**P**	**20 16 06.9**	**+1.3**
SIV	**San Ignacio**	**48.71 312**		P	**P**	**20 16 06.1**	**+0.4**
	comp=Z,13nm,0.8s,baz=159,slow=8.6,SNR=3.4						
	comp=Z,13nm,0.8s						
TA02	**Huaiquique**	**49.01 299**		P	**P**	**20 16 07.7**	**-0.1**
GO01	**Chusmiza**	**49.08 301**		P	**P**	**20 16 10.0**	**+1.0**
PB11	**IPOC Station P**	**49.22 300**		P	**P**	**20 16 10.3**	**+0.6**
H10N1	**ASCENSION HYDR**	**49.56 15**		T	T	21 09 52.4	
	baz=195						
H10N3	**ASCENSION HYDR**	**49.56 14**		T	T	21 09 49.4	
	baz=195						
H10N2	**ASCENSION HYDR**	**49.57 15**		T	T	21 09 51.1	
	baz=195						
PB18	**Visviri**	**51.00 302**			**P**	**20 16 25.7**	**+2.0**
LPAZ	**La Paz**	**51.51 304**			**P**	**20 16 28.9**	**+1.3**
LPAZ	**La Paz**	**51.51 304**		P	**P**	**20 16 28.9**	**+1.3**
	comp=Z,106nm,0.7s,baz=188,slow=6.8,SNR=21						
CASY	**Casey**	**52.94 159**			**P**	**20 16 37.4**	**+0.5**
CASY				IAmb	IAmb	20 16 38.9	
	comp=Z,25nm,0.9s						
SAML	**Samuel**	**55.93 313**		P	**P**	**20 16 59.1**	**-0.2**
SAML				IAmb	IAmb	20 17 01.9	
	comp=Z,36nm,1.2s						
MACA	**Manacapuru-AM**	**60.28 319**		P	**P**	**20 17 30.0**	**+0.3**
CZSB	**Cruzeiro do Su**	**61.12 304**		P	**P**	**20 17 35.8**	**+0.3**
BOAV	**Boa Vista**	**65.39 321**		P	**P**	**20 18 04.2**	**+0.5**
BOAV				IAmb	IAmb	20 18 06.5	
	comp=Z,24nm,0.9s						
DBIC	**Dimbokro**	**65.45 23**		P	**P**	**20 18 04.5**	**+0.4**
	comp=Z,7.0nm,1.1s,baz=191,slow=10,SNR=2.2						
	comp=Z,7.0nm,1.1s						
MDP	**Montagnes des**	**65.49 330**		P	**P**	**20 18 04.9**	**+0.6**
	comp=Z,17nm,0.9s,baz=168,slow=7.1,SNR=2.8						
	comp=Z,17nm,0.9s						
COHC	**Cochancay**	**68.80 300**		P	**P**	**20 18 26.6**	**+1.2**
OTAV	**Otavalo**	**70.79 302**		P	**P**	**20 18 39.6**	**+1.4**
TORD	**Torodi Ar. Bea**	**73.25 28**		P	**P**	**20 18 51.4**	**-0.9**
TORD	**Torodi Ar. Bea**	**73.25 28**		P	**P**	**20 18 51.6**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=201,slow=6.4,SNR=4.9						
	comp=Z,2.4nm,0.7s						
KMBO	**Kilima Mbogo**	**74.47 67**		P	**P**	**20 18 59.5**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=204,slow=15,SNR=1.8						
	comp=Z,0.5nm,0.3s						
SDV	**Santo Domingo**	**75.14 314**		P	**P**	**20 19 03.0**	**-0.6**
SDV				IAmb	IAmb	20 19 07.2	
	comp=Z,24nm,1.0s						
GDHS	**Morne Mazeau,**	**78.78 325**		P	**P**	**20 19 23.2**	**-0.7**
RTZ	**Ruatahuna**	**83.09 198**		P	**P**	**20 19 47.2**	**+0.4**
RTZ				IAmb	IAmb	20 20 07.6	
	comp=Z,20nm,1.0s						
ESDC	**Sonseca Array**	**97.79 17**		P	Pdif	20 20 57.2	+1.2
	comp=Z,0.9nm,0.9s,baz=202,slow=1.9,SNR=2.2						
	comp=Z,0.9nm,0.9s						
ASAR	**Alice Springs**	**98.04 161**		P	Pdif	20 20 58.0	+0.3
	comp=Z,2.6nm,0.8s,baz=192,slow=3.7,SNR=1.1						
	comp=Z,2.6nm,0.8s						
NVAR	**Mina Array Bea**	**122.49 292**		PKP	**PKPdf**	**20 26 16.1**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=150,slow=3.8,SNR=3.0						
ELK	**Elko**	**122.69 295**		PKP	**PKPdf**	**20 26 16.9**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=142,slow=5.0,SNR=3.0						
FXWY	**Fox Creek**	**122.83 301**		PKPdf	**PKPdf**	**20 26 14.7**	**-2.1**
CMAR	**Chiang Mai Arr**	**123.98 109**		PKP	**PKPdf**	**20 26 18.9**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=231,slow=3.8,SNR=4.9						
J08A	**Circle Bar Ran**	**126.25 295**		PKPdf	**PKiKP**	**20 26 24.0**	**+0.5**
OVMT	**Ovando**	**126.31 302**		PKPdf	**PKPdf**	**20 26 20.8**	**-2.3**
MSO	**Missoula**	**126.58 301**			**PKPdf**	**20 26 23.5**	**-0.1**
BMO	**Blue Mountains**	**126.76 297**			**PKPdf**	**20 26 23.5**	**-0.5**
ARCES	**ARCESS Array B**	**131.27 21**		PKP	**PKPdf**	**20 26 32.4**	**+0.7**
	comp=Z,5.4nm,0.9s,baz=204,slow=2.0,SNR=1.7						
BVAR	**Borovoye Array**	**134.41 57**		PKP	**PKiKP**	**20 26 39.8**	**+0.3**
	comp=Z,3.7nm,0.9s,baz=210,slow=4.2,SNR=2.9						
MKAR	**Makanchi Array**	**136.27 71**		PKP	**PKiKP**	**20 26 43.0**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=299,slow=3.0,SNR=2.4						
KURBB	**Kurchatov Arra**	**136.80 64**		PKP	**PKPdf**	**20 26 43.5**	**+0.9**
	comp=Z,2.0nm,1.0s,baz=263,slow=2.9,SNR=2.5						
YKA	**Yellowknife Ar**	**137.29 317**		PKP	**PKPdf**	**20 26 43.7**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=127,slow=1.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**141.88 64**		PKP	**PKiKP**	**20 26 53.8**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=251,slow=4.5,SNR=1.9						
M29M	**Somme Creek**	**146.98 308**			**PKPbc**	**20 27 02.4**	**-0.2**
BCAR	**Beaver Creek A**	**148.63 308**			**PKPdf**	**20 27 01.5**	**-1.7**
NRIK	**Noril'sk**	**148.99 39**		PKPbc	**PKPbc**	**20 27 06.9**	**-0.7**
	comp=Z,12nm,1.0s,baz=259,slow=5.2,SNR=3.5						
SONM	**Songino Array**	**149.88 86**		PKPbc	**PKPbc**	**20 27 09.7**	**-1.0**
	comp=Z,9.5nm,0.9s,baz=226,slow=2.6,SNR=7.6						
ILAR	**Eielson Array**	**151.25 310**			**PKPbc**	**20 27 12.7**	**-0.5**
ILAR	**Eielson Array**	**151.25 310**		PKPbc	**PKPbc**	**20 27 12.9**	**-0.3**
	comp=Z,26nm,1.0s,baz=125,slow=1.4,SNR=12						
COLA	**College**	**151.68 310**			**PKPbc**	**20 27 14.1**	**0.0**
IMAR	**Indian Mountai**	**154.27 312**			**PKPdf**	**20 27 11.6**	**0.0**
USRK	**Ussuriysk Ar.**	**161.10 122**		PKP	**PKPdf**	**20 27 22.4**	**+1.7**
	comp=Z,1.8nm,0.8s,baz=146,slow=2.8,SNR=2.8						

IDC 15 20:08:34.2±8.4, 27°.45S×142°.33E, h0km, mbtmp2.7/3, ML2.6/3, Error ellipse: s-maj=148.3km s-min=29.5km az=71.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**4.45 188**		Pn	Pn	20 09 43.9	+0.8
	0.2nm,0.3s,baz=5.8,slow=12,SNR=8.0						
STKA				Sn	Sn	20 10 34.0	-1.6
	0.2nm,0.3s,baz=59,slow=22,SNR=2.0						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**8.49 295**		Pn	Pn	20 10 37.5	-1.1
	baz=116,slow=14,SNR=2.1						
ASAR				Sn	Sn	20 12 02.5	-13
	0.1nm,0.3s,baz=112,slow=23,SNR=2.3						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**10.46 314**		Pn	Pn	20 11 06.5	+1.0
	baz=130,slow=13,SNR=2.1						
	0.1nm,0.3s						

*SFS **15** 20:08:45.5, 35°.64N×3°.62W, h18km, ML2.3/7, ML2.5/7, MLv2.2/7*
*CNRM **15** 20:08:45.1, 35°.71N×3°.53W, h27km, ML1.9*
*MDD **15** 20:08:46.4±0.8, 35°.68N×3°.54W, h23km±6km, mb_Lg2.1/5, Error ellipse: s-maj=7.7km s-min=4.3km az=58.0*
*INMG **15** 20:08:46.7±2.0, 35°.71N×3°.45W, h45km±24km, ML1.9, Error ellipse: s-maj=8.1km s-min=5.2km az=91.0*

ISC 15 20:08:43.5±1.3, 35.73N±0°.02×3°.56W±0°.03, h10km±11km, n34, σ1°01/51, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**0.48 63**		Pg	**Pn**	**20 08 55.8**	**-0.5**
EALB				Sg	**Sb**	**20 09 03.6**	**+2.6**
EALB	**Alboran**	**0.48 63**		P	**Pn**	**20 08 55.3**	**-1.0**
EALB				S	**Sb**	**20 09 03.4**	**+2.4**
PALE	**Palemas**	**0.59 212**		P	**Pb**	**20 08 57.1**	**+1.1**
PALE	**Palemas**	**0.59 212**		S	**Sb**	**20 09 05.3**	**+0.9**
WMELI	**Melilla**	**0.64 129**		Pg	**Pb**	**20 08 57.5**	**+0.7**
WMELI				Sg	**Sb**	**20 09 06.1**	**+0.3**
EMEL	**Melilla**	**0.65 131**		P	**Pb**	**20 08 57.7**	**+0.8**
EMEL				S	**Sb**	**20 09 06.5**	**+0.5**
EMLI	**Melilla**	**0.65 130**		Sg	**Sb**	**20 09 06.1**	**0.0**
EMLI				Pg	**Pb**	**20 08 57.7**	**+0.7**
GOG	**Mont Gurugu**	**0.68 137**		P	**Pb**	**20 08 57.9**	**+0.4**
GOG	**Mont Gurugu**	**0.68 137**		S	**Sb**	**20 09 07.4**	**+0.4**
CHAS	**Isla Isabel Il**	**1.07 120**		Pn	**Pb**	**20 09 03.9**	**-0.1**
CHAS				Sn	**Sn**	**20 09 18.6**	**-0.8**
ELGU	**Los Guajares,**	**1.14 357**		Pn	**Pn**	**20 09 05.6**	**0.0**
ELGU				Sn	**Sn**	**20 09 22.5**	**+1.2**
ELGU	**Los Guajares,**	**1.14 357**		P	**Pn**	**20 09 05.6**	**0.0**
ELGU				S	**Sn**	**20 09 20.2**	**-1.1**
ELGU				*i* Vmb_Lg		20 09 25.2	
AKLM	**AKL**	**1.24 192**		P	**Pn**	**20 09 07.1**	**+0.2**
AKLM	**AKL**	**1.24 192**		S	**Sb**	**20 09 22.0**	**-1.0**
EMAL	**Malaga-Limoner**	**1.25 326**		Sn	**Sb**	**20 09 23.2**	**-0.1**
EMAL				Pn	**Pg**	**20 09 07.6**	**+0.1**
EBER	**Berja**	**1.29 25**		Pn	**Pg**	**20 09 07.8**	**-0.4**
EBER				Sn	**Sn**	**20 09 26.8**	**+1.7**
EBER	**Berja**	**1.29 25**		P	**Pg**	**20 09 08.0**	**-0.3**
EBER				S	**Sb**	**20 09 23.7**	**-0.9**
EBER				*i* Vmb_Lg		20 09 28.9	
TAF	**Taforalt**	**1.31 134**		P	**Pb**	**20 09 08.1**	**0.0**
EGOR	**Sierra Gorda,**	**1.45 342**		Pn	**Pg**	**20 09 11.4**	**+0.1**
EGOR	**Sierra Gorda,**	**1.45 342**		P	**Pg**	**20 09 11.9**	**+0.5**
EGOR				S	**Sg**	**20 09 29.8**	**-0.4**
EGOR				*i* Vmb_Lg		20 09 37.0	
EQTA	**Presa de Quent**	**1.48 4**		Pn	**Pg**	**20 09 11.7**	**-0.2**
SMIR	**Smir Dam**	**1.48 269**		P	**Pn**	**20 09 10.3**	**+0.1**
CHEFC	**Chefchaouen**	**1.58 248**		P	**Pn**	**20 09 11.6**	**0.0**
CHEFC	**Chefchaouen**	**1.58 248**		S	**Sn**	**20 09 31.3**	**-0.8**
JBK	**JBK**	**1.61 149**		P	**Pn**	**20 09 11.2**	**-0.9**
JBK	**JBK**	**1.61 149**		S	**Sn**	**20 09 31.1**	**-1.9**
EADA	**Adamuz**	**2.57 342**		P	**Pb**	**20 09 27.6**	**-2.1**
EADA				S	**Sn**	**20 09 56.7**	**+0.2**
EADA				*i* Vmb_Lg		20 10 06.6	
EMIN	**Mina Concepcio**	**3.23 310**		P	**Pn**	**20 09 34.1**	**-0.1**
EMIN				S	**Sn**	**20 10 11.1**	**-1.5**
EMIN				*i* Vmb_Lg		20 10 18.2	
PBAR	**Barrancos**	**3.71 312**		*e*S	**Sn**	**20 10 24.7**	**+0.2**
PBAR				A	A	20 10 44.7	
	1.4nm,0.6s						
PVAQ	**Vaqueiros**	**3.74 298**		*e*P	**Pn**	**20 09 43.1**	**+1.8**
PVAQ				*e*S	**Sn**	**20 10 24.5**	**-0.9**
PVAQ				A	A	20 10 25.8	
	2.0nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.83 295**		*e*P	**Pn**	**20 09 43.5**	**+0.9**
PBDV				*e*S	**Sn**	**20 10 26.8**	**-0.9**
PBDV				A	A	20 10 34.3	
	2.8nm,0.5s						
MESJ	**Messejana**	**4.29 301**		*e*S	**Sn**	**20 10 39.2**	**+0.2**
MESJ				A	A	20 10 42.3	
	2.0nm,0.8s						
EVO	**Evora**	**4.53 310**		*e*P	**Pn**	**20 09 53.5**	**+1.4**
EVO				*e*S	**Sn**	**20 10 43.7**	**-1.1**
EVO				A	A	20 10 44.1	
	2.1nm,0.5s						
PMRV	**Marv??o**	**4.79 322**		*e*S	**Sn**	**20 10 51.1**	**-0.1**

*IDC **15** 20:15:04.8±0.8, 56°.63S×25°.25W, h0km, mb4.3/5, mbtmp4.3/6, ML3.8/1, Error ellipse: s-maj=30.0km s-min=23.3km az=53.0*
*NEIC **15** 20:15:05.7±2.1, 56°.67S±0°.06×25°.0W±0°.2, h10km±2km, mb4.4/12, Error ellipse: s-maj=22.3km s-min=10.4km az=83.0*

ISC 15 20:15:05.8±0.6, 56°.7S±0°.1×25°.2W±0°.1, h10km, n26, σ0°85/26, mb4.3/8, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.83 286**		Pn	**Pn**	**20 16 47.5**	**+1.7**
VNA1	**Neumayer--Stat**	**15.83 159**		⇑P	**Pn**	**20 18 48.8**	**+0.4**
	comp=Z,0.6nm,0.2s						
VNA3	**Neumayer Olymp**	**16.07 162**		⇑P	**Pn**	**20 18 51.1**	**-0.3**
	comp=Z,0.5nm,0.2s						
VNA2	**Neumayer--Watz**	**16.23 159**		⇑P	**Pn**	**20 18 53.3**	**-0.2**
	comp=Z,0.2nm,0.2s,baz=323,slow=14						
SNAA	**Sanae**	**17.75 157**		Pn	**Pn**	**20 19 11.1**	**-1.7**
SNAA	**Sanae**	**17.75 157**		⇑P	**P**	**20 19 14.1**	**+0.6**
	comp=Z,11nm,0.3s

σ1§57/17, mb3.9/14, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	12.39	334	Pn	Pn	20 26 18.6	-4.1
	0.1nm,0.3s,baz=155,slow=11,SNR=4.8						
KSRS	Korea Array	18.67	314	P	Pn	20 27 45.4	+0.6
	0.1nm,0.3s,baz=127,slow=11,SNR=3.7 11nm,0.3s						
USRK	Ussuriysk Ar.	21.39	334	P	P	20 28 16.2	+2.2
	4.8nm,1.1s,baz=153,slow=9.7,SNR=2.3 4.8nm,1.1s						
SONM	Songino Array	37.50	317	P	P	20 30 41.8	+1.4
	2.1nm,0.7s,baz=132,slow=7.3,SNR=5.2 2.1nm,0.7s						
WRA	Warramunga Arr	46.28	194	P	P	20 31 49.8	-2.4
	1.0nm,0.8s,baz=18,slow=8.8,SNR=3.4 1.0nm,0.8s						
ASAR	Alice Springs	49.98	193	P	P	20 32 20.6	-0.2
	0.5nm,0.7s,baz=14,slow=9.5,SNR=7.9 0.5nm,0.7s						
ZALV	Zalesovo Beam	52.24	320	P	P	20 32 37.6	+0.2
	5.6nm,0.9s,baz=104,slow=6.7,SNR=8.0						
ZALV				PcP	PcP	20 33 48.9	+0.1
	2.1nm,0.8s,baz=97,slow=4.4,SNR=3.7 5.6nm,0.9s						
MKAR	Makanchi Array	53.31	311	P	P	20 32 46.4	+0.8
	1.2nm,0.8s,baz=85,slow=9.0,SNR=12 1.2nm,0.8s						
KURBB	Kurchatov Arra	55.84	315	P	P	20 33 04.8	+1.0
	7.0nm,0.8s,baz=91,slow=7.6,SNR=33 7.0nm,0.8s						
ILAR	Eielson Array	58.01	28	P	P	20 33 19.4	+0.4
	0.9nm,0.9s,baz=260,slow=5.4,SNR=2.0 0.9nm,0.9s						
BVAR	Borovoye Array	60.82	318	P	P	20 33 39.6	+1.1
	6.1nm,0.8s,baz=88,slow=6.9,SNR=16 6.1nm,0.8s						
NVAR	Mina Array Bea	79.65	52	P	P	20 35 35.3	+0.8
	0.7nm,0.8s,baz=284,slow=3.6,SNR=2.4 0.7nm,0.8s						
FINES	FINESS Array B	80.42	335	P	P	20 35 38.1	+0.2
	3.7nm,0.8s,baz=83,slow=6.0,SNR=5.9 3.7nm,0.8s						
AKASG	Malin Array Be	85.30	325	P	P	20 36 02.8	-0.6
	0.1nm,0.3s,baz=51,slow=4.6,SNR=2.2 0.1nm,0.3s						
HFS	Hagfors	85.82	338	P	P	20 36 05.4	-0.4
	5.0nm,1.1s,baz=55,slow=6.0,SNR=1.9 5.0nm,1.1s						
NOA	NORSAR Array B	85.96	339	P	P	20 36 06.3	-0.3
	1.5nm,0.7s,baz=40,slow=4.7,SNR=5.0 1.5nm,0.7s						

*IDC **15** 20:28:51.2±0.8, 6°.73N×72°.96W, h159km±10km, mb3.0/2, mbtmp3.9/5, Error ellipse: s-maj=32.3km s-min=7.5km az=134.0*
*RSNC **15** 20:28:52.4±0.0, 7°.N±1°×7°.3W±°, h150km±2km, M3.8, mb4.4, ML3.5*

ISC 15 20:28:51.4±0.8, **6°.86N**±0°.03×**73°.11W**±0°.04, **h154**km±6km, **n50**, σ1§31/90, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.28	195	P	Pn	20 29 12.7	0.0
BARC				S	Sn	20 29 27.7	-1.2
PAMC	Pamplona, Colo	0.63	41	P	Pn	20 29 15.5	+1.0
PAMC				S	Sn	20 29 32.3	+0.2
BRJC	Barrancabermej	0.64	280	P	Pn	20 29 14.3	+0.3
BRJC				S	Sn	20 29 31.1	-0.1
RUSC	La Rusia	0.96	178	P	Pn	20 29 16.6	-0.3
RUSC				S	Sn	20 29 35.3	-1.0
PTBC	PUERTO BERRIO,	1.38	257	P	Pn	20 29 19.0	-1.1
PTBC				S	Sn	20 29 40.3	-1.7
TAMC	Tame, Arauca	1.38	108	P	Pn	20 29 21.0	+0.9
TAMC				S	Sn	20 29 42.7	+0.7
OCAC	Ocana	1.39	351	P	Pn	20 29 20.6	+0.3
OCAC				S	Sn	20 29 42.4	-0.1
SPBC	San Pablo de B	1.54	219	P	Pn	20 29 21.3	-0.5
SPBC				S	Sn	20 29 43.3	-1.8
ZARC	Zaragoza, Cauc	1.84	290	P	Pn	20 29 25.1	0.0
ZARC				S	Sn	20 29 50.1	-0.8
NORC	Norcasia	2.17	234	P	Pn	20 29 28.4	-0.5
NORC				S	Sn	20 29 56.5	-1.3
CHIC	Chingaza	2.30	196	P	Pn	20 29 30.4	-0.4
CHIC				S	Sn	20 30 00.0	-1.1
ROSC	El Rosal	2.34	211	P	Pn	20 29 32.4	+1.2
	350nm,0.3s,baz=279,slow=19,SNR=220						
ROSC				S	Sn	20 30 01.4	-0.5
	848nm,0.5s,baz=123,slow=18,SNR=8.3						
ROSC	El Rosal	2.34	211	P	Pn	20 29 32.1	+0.8
ROSC				S	Sn	20 30 03.0	+1.1
HELC	Santa Helena	2.49	255	P	Pn	20 29 33.3	+0.2
HELC				S	Sn	20 30 03.9	-1.2
CVER	Cruz Verde, Cu	2.51	202	P	Pn	20 29 33.9	+0.5
CVER				S	Sn	20 30 05.3	-0.5
UREC	San Jos de Ur	2.56	290	P	Pn	20 29 32.3	-1.2
UREC				S	Sn	20 30 03.8	-2.2
GUY2C	Guyana, Caldas	2.77	234	P	Pn	20 29 36.7	+0.1
GUY2C				S	Sn	20 30 11.1	-0.3
VILC	Villavicencio,	2.79	192	P	Pn	20 29 35.7	-0.8
VILC				S	Sn	20 30 10.4	-1.0
PTGC	Puerto Gaitan,	2.82	160	P	Pn	20 29 35.8	-0.9
PTGC				S	Sn	20 30 09.0	-2.8
RECRC	Villamaria, Ca	2.92	230	P	Pn	20 29 40.3	+1.7
RECRC				S	Sn	20 30 15.0	+0.1
CBOC	Ciudad Bolivar	3.05	251	P	Pn	20 29 40.2	+0.4
CBOC				S	Sn	20 30 16.1	-1.1
DBBC	Dabeiba	3.08	273	P	Pn	20 29 39.9	-0.2
DBBC				S	Sn	20 30 15.8	-1.9
SDV	Santo Domingo	3.17	50	P	Pn	20 29 42.6	+1.2
	100nm,0.3s,baz=241,slow=14,SNR=39						
SDV				S	Sn	20 30 19.4	-0.7
	205nm,0.5s,baz=44,slow=20,SNR=29						
SDV	Santo Domingo	3.17	50	P	Pn	20 29 42.2	+0.8
SDV				S	Sn	20 30 19.3	-0.7
ARGC	Ariguani, Magd	3.18	339	P	Pn	20 29 42.5	+1.2
ARGC				S	Sn	20 30 20.6	+0.6
PRAC	Prado	3.59	210	P	Pn	20 29 45.9	-0.7
PRAC				S	Sn	20 30 27.8	-1.6
APAC	Apartado, Choc	3.59	287	P	Pn	20 29 46.4	-0.2
APAC				S	Sn	20 30 28.0	-1.3
ORTC	Ortega, Tolima	3.62	216	P	Pn	20 29 46.6	-0.4
ORTC				S	Sn	20 30 30.0	-0.1
SJCC	San Jacinto, C	3.65	326	P	Pn	20 29 46.3	-1.0
SJCC				S	Sn	20 30 28.0	-2.7
PLMC	San Jos del P	3.71	239	P	Pn	20 29 48.1	0.0
PLMC				S	Sn	20 30 31.2	-0.9
URMC	La Uribe, Meta	3.81	199	P	Pn	20 29 49.2	-0.2
URMC				S	Sn	20 30 33.5	-1.0
CRJC	Cerrejon, Guaj	4.14	3	P	Pn	20 29 53.0	-0.7
CRJC				S	Sn	20 30 40.6	-1.6
YOTC	Yotoco, Valle	4.31	229	P	Pn	20 29 54.9	-1.1
YOTC				S	Sn	20 30 46.0	-0.2
GUVC	San Jose del G	4.31	174	P	Pn	20 29 55.1	-0.9
GUVC				S	Sn	20 30 44.1	-2.2
PTAC	Punta Ardita,	4.67	274	P	Pn	20 29 59.8	-0.8
PTAC				S	Sn	20 30 52.5	-2.1
MACC	Macarena, Meta	4.74	189	P	Pn	20 29 59.5	-2.1
MACC				S	Sn	20 30 51.4	-4.9
URIC	Uribia, Colomb	4.94	13	P	Pn	20 30 03.0	-1.1
URIC				S	Sn	20 31 00.3	-0.5
MALC	Bahia Malaga	5.07	236	P	Pn	20 30 07.2	+1.3
JAMC	Jamundi, Valle	5.07	225	P	Pn	20 30 07.1	+1.0
	32nm,0.8s						
JAMC				S	Sn	20 31 04.0	-0.4
	32nm,0.8s						
FLOC	Florencia	5.82	206	P	Pn	20 30 15.0	-0.9
	65nm,0.7s						
FLOC				S	Sn	20 31 21.9	-0.2
	65nm,0.7s						
BBAC	Balboa, Cauca	6.33	221	P	Pn	20 30 23.5	+0.6
CRUC	La Cruz	6.50	216	P	Pn	20 30 27.3	+2.0
GCUF	Volcan Galeras	7.01	217	P	Pn	20 30 34.1	+1.9
BCIP	Isla Barro Col	7.04	289	P	Pn	20 30 34.4	-1.8
	47nm,1.9s						
PCRV	Puerto La Cruz	9.00	68	P	Pn	20 30 58.6	+0.3
	3.3nm,0.4s,baz=284,slow=3.0,SNR=8.2						
PCRV				S	Sn	20 32 35.5	-2.9
	9.8nm,0.8s,baz=336,slow=14,SNR=1.6						
MTDJ	Mount Denham	12.09	340	P	Pn	20 31 41.8	+2.8
TXAR	Lajitas Array	36.44	312	P	P	20 35 42.8	+1.1
	0.5nm,0.6s,baz=123,slow=6.5,SNR=2.1 0.5nm,0.6s						
PDAR	Pinedale Array	48.05	324	P	P	20 37 15.8	+0.2
	0.3nm,0.6s,baz=126,slow=9.1,SNR=2.7 0.3nm,0.6s						
ASAR	Alice Springs	149.14	234	PKPbc	PKPbc	20 48 21.6	-1.0
	0.4nm,0.5s,baz=117,slow=3.2,SNR=3.1						
WRA	Warramunga Arr	150.37	241	PKPbc	PKPbc	20 48 24.2	-1.3
	0.4nm,0.4s,baz=107,slow=2.8,SNR=14						

*IDC **15** 20:34:22.4±1.0, 56°.64S×25°.14W, h0km, mb4.1/4, mbtmp4.1/5, ML4.1/1, Error ellipse: s-maj=40.3km s-min=24.1km az=66.0*

ISC 15 20:34:23.6±0.9, **56°.7S**±0°.2×**25°.1W**±0°.3, **h10**km, **n11**, σ0§55/11, **mb4.1/4, 4C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	15.80	159	⇑P	Pn	20 38 06.3	+0.6
	comp=Z,4.1nm,0.4s						
VNA3	Neumayer Olymp	16.03	162	⇑P	Pn	20 38 08.2	-0.6
	comp=Z,1.4nm,0.2s						
VNA2	Neumayer--Watz	16.19	159	⇑P	Pn	20 38 10.6	-0.2
	comp=Z,1.0nm,0.2s,baz=326,slow=14						
SNAA	Sanae	17.71	157	⇑P	P	20 38 30.9	0.0
	comp=Z,21nm,0.4s						
SNAA	Sanae	17.71	157	P	P	20 38 30.5	-0.3
	comp=Z,0.6nm,0.3s,baz=318,slow=14,SNR=47 comp=Z,1.5nm,0.3s						
QSPA	South Pole Qui	33.59	180	P	P	20 41 04.1	+0.5
	comp=Z,1.6nm,0.5s,baz=201,slow=0.7,SNR=8.7 comp=Z,1.6nm,0.5s						
CPUP	Villa Florida	38.10	309	P	P	20 41 42.2	-0.2
	comp=Z,1.0nm,0.5s,baz=126,slow=8.7,SNR=1.4 comp=Z,1.0nm,0.5s						
LPAZ	La Paz	51.69	303	P	P	20 43 31.6	+0.2
	comp=Z,2.6nm,0.5s,baz=154,slow=5.1,SNR=7.1 comp=Z,2.6nm,0.5s						
TORD	Torodi Ar. Bea	73.04	27	P	P	20 45 54.0	+0.5
	comp=Z,0.7nm,0.6s,baz=200,slow=6.7,SNR=6.6 comp=Z,0.7nm,0.6s						
SONM	Songino Array	149.60	86	PKPbc	PKiKP	20 54 12.5	-0.9
	comp=Z,1.0nm,0.6s,baz=252,slow=3.2,SNR=6.6						
ILAR	Eielson Array	151.40	310	PKPbc	PKiKP	20 54 16.1	-0.4
	comp=Z,0.6nm,0.7s,baz=137,slow=1.2,SNR=6.8						

*VAO **15** 20:43:36.2±1.5, 8°.68S×74°.15W, h148km±6km, mbR4.4*
*OSUNB **15** 20:43:38.4±1.0, 9°.02S×73°.68W, h0km, mb4.4/4, Error ellipse: s-maj=3.8km s-min=7.7km az=0.0*

ISC 15 20:43:36.3±2.4, **8°.7S**±0°.1×**74°.1W**±0°.2, **h150**km, **n23**, σ1§10/25, **Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	Cruzeiro do Su	1.66	56	eP	Pn	20 44 08.7	+1.0
CZSB	Cruzeiro do Su	1.66	56	P	Pn	20 44 08.3	+0.6
CZSB				S	Sn	20 44 28.4	-3.3
ETMB	Extrema	7.86	99	eP	Pn	20 45 28.3	+0.4
ETMB	Extrema	7.86	99	P	Pn	20 45 27.7	-0.3
ETMB				S	Sn	20 46 55.0	-0.7
LPAZ	La Paz	9.55	143	eP	Pn	20 45 50.0	-1.0
LPAZ	La Paz	9.55	143	P	Pn	20 45 50.5	-0.5
SAML	Samuel	10.79	92	eP	Pn	20 46 05.4	-1.4
VILB	Vilhena	14.30	109	eP	Pn	20 46 53.2	+1.1
VILB	Vilhena	14.30	109	P	P	20 46 54.5	-0.4
MACA	Manacapuru-AM	14.41	68	eP	Pn	20 46 54.7	+1.1
MACA	Manacapuru-AM	14.41	68	P	P	20 46 56.4	+0.2
BBSD	Serra de San D	15.63	124	eP	Pn	20 47 09.3	+0.7
PTLB	Pontes e Lacer	16.10	116	eP	P	20 47 15.3	+0.5
PDRB	Porto dos Gac	17.34	101	eP	Pn	20 47 29.8	+0.3
CLDB	Colider	18.17	98	eP	P	20 47 38.4	+0.8
NPGB	Novo Progresso	18.63	86	eP	P	20 47 43.7	+1.0
ITTB	Itaituba	18.73	78	eP	P	20 47 45.0	+1.2
FDPY	Filadelfia	19.19	136	eP	P	20 47 49.4	+0.8
BDQN	Bodoquena, MS	20.44	127	eP	P	20 48 03.0	+0.9
MURT	Porto Murtinho	20.46	131	eP	P	20 48 03.4	+1.0
SNDB	Serra Nova Dou	22.67	100	eP	P	20 48 24.8	-0.4
ARAG	Araguaiana, MT	22.86	110	eP	P	20 48 27.0	0.0
PTGB	Pitanga	26.39	130	eP	P	20 48 58.0	-1.0

*IDC **15** 20:51:18.5±2.9, 43°.14N×105°.10W, h0km, mbtmp3.5/2, ML3.2/2, Error ellipse: s-maj=58.1km s-min=11.2km az=156.0*
*NEIC **15** 20:51:21.3±1.5, 43°.62N±0°.06×105°.35W±0°.10, h0km±1km, ML3.3/76, Error ellipse: s-maj=13.5km s-min=8.8km az=55.0*

ISC 15 20:51:20.0±1.0, **43°.76N**±0°.04×**105°.51W**±0°.04, **h0**km, **n35**, σ1§53/30, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	1.12	71	Pg	Pg	20 51 40.1	-1.5
K22A	Casper	1.33	214	Pg	Pg	20 51 45.7	+0.1
N23A	Red Feather La	2.88	187	Pn	Pn	20 52 08.4	+0.9
N23A				IAML		20 52 56.2	
	comp=N,104nm,0.7s						
N23A				IAML		20 52 56.3	
	comp=E,94nm,0.6s						
LAO	LASA Array	2.97	350		Pb	20 52 13.6	-0.4
RLMT	Red Lodge	3.02	298	Pn	Pb	20 52 14.6	-0.2
PD31	Pinedale Array	3.12	253	Pn	Pb	20 52 13.9	-2.6
PDAR	Pinedale Array	3.12	253	Pn	Pb	20 52 16.6	+0.1
PDAR	Pinedale Array	3.12	253	Pn	Pb	20 52 14.8	-1.6
	comp=E,1.5nm,0.3s,baz=78,slow=17,SNR=25						
PDAR				Lg	Lg	20 53 01.1	
	comp=E,2.0nm,0.3s,baz=85,slow=21,SNR=3.6 comp=E,2.4nm,0.4s						
BRIGG	Briggsdale	3.29	164	Pn	Pn	20 52 09.2	-3.9
BRIGG				IAML		20 53 09.3	
	comp=E,118nm,2.7s						
BRIGG				IAML		20 53 09.5	
	comp=N,74nm,0.9s						
YNE	Yellowstone No	3.46	293	Pn	Pb	20 52 20.5	-1.8
YNE				IAML		20 53 27.5	
	comp=N,66nm,0.8s						
YNE				IAML		20 53 30.5	
	comp=E,49nm,0.7s						
YMP	Mirror Lake Pl	3.48	288		Pb	20 52 22.4	-0.3
YMP				IAML		20 53 21.2	
	comp=E,72nm,2.3s						
YMP				IAML		20 53 34.7	
	comp=N,70nm,1.6s						
LOHW	Long Hollow	3.70	270	Pn	Pb	20 52 23.1	-3.3
H17A	Grant Village	3.71	282		Pg	20 52 30.1	-1.0
FLWY	Flagg Ranch	3.76	277		Pg	20 52 31.8	-0.4
FLWY				IAML		20 53 45.9	
	comp=N,55nm,1.2s						
FLWY				IAML		20 53 46.0	
	comp=N,52nm,3.4s						
MOOW	Moose Ponds	3.79	272	Pn	Pn	20 52 20.9	+1.0
OGNE	Ogallala	3.81	136		Pn	20 52 20.0	-0.1
SNOW	Snow King Moun	3.82	267	Pn	Pn	20 52 21.3	+0.9
SNOW				IAML		20 53 47.6	
	comp=N,49nm,3.1s						
SNOW				IAML		20 53 55.6	
	comp=N,51nm,2.2s						
YNR	Norris Junctio	3.84	286		Pn	20 52 20.6	0.0
YFT	Old Faithful	3.90	282		Pg	20 52 32.4	-2.3
TPAW	Teton Pass	3.96	268		Pb	20 52 31.8	+0.9
TPAW				IAML		20 54 00.4	
	comp=N,40nm,4.9s						
TPAW				IAML		20 54 09.6	
	comp=N,30nm,4.7s						
YHH	Holmes Hill	3.97	287		Pb	20 52 30.3	-0.8
YMR	Madison River	4.03	285	Pn	Pb	20 52 30.5	-1.5
YMR				IAML		20 53 51.7	
	comp=E,43nm,3.2s						
YMR				IAML		20 53 54.1	
	comp=N,44nm,3.6s						
O20A	White River Ci	4.15	210		Pb	20 52 32.5	-1.6
O20A				IAML		20 53 38.6	
	comp=E,53nm,4.3s						
AHID	Auburn Hatcher	4.20	258		Pb	20 52 35.6	+0.7
AHID				IAML		20 53 47.8	
	comp=E,27nm,3.7s						
YHB	Horse Butte	4.20	286	Pn	Pb	20 52 36.3	+1.3
YHB				IAML		20 53 51.0	
	comp=N,28nm,3.5s						
YHB				IAML		20 55 25.9	
	comp=E,24nm,2.7s						
YHL	Hebgen Lake	4.22	287		Pb	20 52 37.0	+1.7
YHL				IAML		20 53 55.4	
	comp=N,35nm,4.2s						
YHL				IAML		20 54 05.7	
	comp=E,33nm,1.4s						
RDMU	Red Mountain	4.39	225		Pb	20 52 38.1	0.0
RDMU				IAML		20 53 55.0	
	comp=N,26nm,3.1s						
RDMU				IAML		20 54 04.1	
	comp=E,29nm,4.6s						
E28A	Huff	4.42	49	Pn	Pn	20 52 30.8	+2.4
K30B	Basset	4.44	102	Pn	Pn	20 52 30.8	+2.1
BOZ	Bozeman (W)	4.74	295	IAML		20 54 18.1	
	comp=E,21nm,4.9s						
BOZ				IAML		20 54 20.3	
	comp=E,18nm,3.1s						
DGMT	Dagmar	4.80	11		Pn	20 52 36.1	+2.5
HWUT	Hardware Ranch	4.95	246	Pn	Pb	20 52 42.2	-5.5
HWUT				IAML		20 54 17.5	
	comp=E,26nm,2.3s						
HWUT				IAML		20 55 44.5	
	comp=E,22nm,4.6s						
EGMT	Eagleton	5.19	327	Pn	Pb	20 52 45.6	-6.1
I10CA	LAC DU BONNET	9.14	42	I	I	21 47 30.0	
	comp=E,0.1nm,1.9s,baz=219,slow=320,SNR=5.6						
ULM	Lac du Bonnet	9.24	42	Pn	Pn	20 53 34.5	0.0
	comp=E,0.6nm,0.3s,baz=230,slow=13,SNR=1.9						
ULM				Lg	Lg	20 56 10.6	
	comp=E,0.5nm,0.3s,baz=298,slow=14,SNR=1.9 comp=E,2.8nm,0.4s						

*NEIC **15** 20:56:51.0±1.8, 51°.44N±0°.06×176°.77W±0°.04, h35km±2km, mb3.8/23, ML3.2(AEIC), Error ellipse: s-maj=10.9km s-min=4.5km az=351.0*
*AEIC **15** 20:56:51.8±1.5, 51°.55N±0°.09×176°.80W±0°.04, h44km±8km, Error ellipse: s-maj=13.7km s-min=2.8km az=171.0*

ISC 15 20:56:52.1±1.9, **51°.6N**±0°.2×**176°.83W**±0°.04, **h49**km±11km, **n45**, σ0§95/50, **mb3.8/5, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	Kanaga Island	0.32	309		Pn	20 57 00.8	-0.5
ADK	Adak	0.33	16		Pn	20 57 01.0	-0.4
ADK					Sn	20 57 08.4	+0.3
KIWB	Kanaga Island	0.35	326		Pn	20 57 01.4	-0.3
KIWB	Kanaga Island	0.35	326		Sn	20 57 09.2	+0.8
KIRH	Kanaga Island	0.37	334		Pn	20 57 02.0	+0.2
KICM	Kanaga Island	0.42	328		Pn	20 57 02.5	+0.2
KICM					Sn	20 57 10.6	+0.9
GSCK	Great Sitkin C	0.61	43		Pn	20 57 04.7	0.0
GSTD	Great Sitkin T	0.65	41		Pn	20 57 05.4	+0.1
GSMY	Great Sitkin M	0.68	45		Pn	20 57 05.4	-0.1
GSTR	Great Sitkin T	0.72	42		Pn	20 57 06.2	+0.2
GSTR					Sn	20 57 15.8	-0.3
TAFP	Tanaga Falls P	0.79	296		Pn	20 57 06.8	-0.2
TAFP					Sn	20 57 18.4	+0.5
TASE	Tanaga Southea	0.80	290		Pn	20 57 07.1	0.0
TANO	Tanaga North	0.88	294		Pn	20 57 08.4	+0.3
GAEA	Gareloi East	1.21	281		Pn	20 57 13.1	+0.4
GANE	Gareloi Northe	1.24	283		Pn	20 57 13.3	+0.4
ATKA	Atka Island	1.75	68		Pn	20 57 19.3	-0.7
ATKA	Atka Island	1.75	68		Sn	20 57 40.5	-0.7
KOKL	Mount Kliuchef	1.80	64		Pn	20 57 21.3	+0.6
KOKL					Sn	20 57 43.6	+1.2
KOFP	Korovin Flat P	1.84	66		Pn	20 57 21.9	+0.7
MAPS	Pakushin South	6.42	66		Pn	20 58 26.5	+2.6
MGOD	Makushin Gods	6.46	66		Pn	20 58 26.9	+2.4
MSW	Makushin Switc	6.54	65		Pn	20 58 27.0	+1.4
D16K	Kokwok River B	13.27	45	Pn	Pn	20 59 56.2	-1.2
KDAK	Kodiak Island	15.29	57	Pn	Pn	21 00 23.1	-1.3
L19K	White Mountain	15.95	40	P	P	21 00 35.3	-0.5
M19K	Big River Lodg	15.99	41	P	P	21 00 38.1	+1.9
M19K				IAmb	IAmb	21 00 48.7	
	comp=Z,6.0nm,1.1s						
SKT	Skwentna	17.22	43		P	21 00 50.3	+0.4
SKT				IAmb	IAmb	21 00 52.0	
	comp=Z,11nm,1.5s						
J20K	Nowinta River	17.34	35	Pn	Pn	21 00 50.0	-0.2
J20K				IAmb	IAmb	21 01 13.7	
	comp=Z,12nm,1.5s						
FID	Port Fidalgo	19.08	49	P	P	21 01 08.3	-1.9
D19K	Kuna River	19.23	21	P	Pn	21 01 13.4	+0.3
D19K				IAmb	IAmb	21 01 31.7	
	comp=Z,13nm,1.4s						
DHY	Denali Highway	19.43	42	P	P	21 01 12.3	-1.9
DHY				IAmb	IAmb	21 01 26.7	
	comp=Z,5.3nm,1.3s						
E21K	Killik River	20.20	25		P	21 01 22.8	+0.5
E21K				IAmb	IAmb	21 01 29.5	
	comp=Z,8.0nm,1.5s						
H24K	Noodor Dome	20.48	35	P	P	21 01 25.5	+0.1
H24K				IAmb	IAmb	21 01 36.4	
	comp=Z,9.1nm,1.5s						
D22K	Ayikyak River	20.84	25	P	P	21 01 30.6	+1.4
D22K				IAmb	IAmb	21 01 44.8	
	comp=Z,4.8nm,1.1s						
SCRK	Sand Creek	21.18	41	P	P	21 01 33.2	+0.2
D23K	Nanushuk River	21.43	26	P	P	21 01 36.0	+0.5
D23K				IAmb	IAmb	21 01 38.0	
	comp=Z,5.8nm,1.3s						
J26L	Joseph Creek	21.54	40	P	P	21 01 36.4	-0.5
J26L				IAmb	IAmb	21 02 03.2	
	comp=Z,3.6nm,1.4s						
B22K	Teshekpuk Lake	21.72	21	P	P	21 01 38.0	-0.6
K27K	Chicken	21.99	42	P	P	21 01 41.7	+0.1
C23K	Itkillik River	22.03	24	P	P	21 01 42.0	0.0
C23K				IAmb	IAmb	21 01 51.9	
	comp=Z,8.2nm,1.4s						
YKU2	Yakutat	22.22	55	P	P	21 01 44.2	+0.1
YKU2				IAmb	IAmb	21 02 14.0	
	comp=Z,5.2nm,0.8s						
K29M	Barlow Dome	23.88	44	P	P	21 02 00.4	-0.4
H29M	Whitestone	24.17	38	P	P	21 02 02.3	-1.0
J30M	Hart River	24.55	42		P	21 02 06.4	-0.5
I30M	Mount Dempster	24.68	41	P	P	21 02 06.7	-1.4
I30M				IAmb	IAmb	21 02 44.5	
	comp=Z,4.1nm,1.2s						

*IDC **15** 20:57:52.6±0.9, 35°.98N×68°.75E, h0km, mb3.8/10, mbtmp3.8/14, ML3.6/4, Error ellipse: s-maj=19.3km s-min=18.1km az=159.0*
*NNC **15** 20:58:01.9±3.3, 36°.38N×68°.85E, h96km±59km, mb3.7, mpv4.1, Error ellipse: s-maj=27.3km s-min=23.9km az=143.0*

ISC 15 20:58:04.2±0.9, **36°.49N**±0°.08×**68°.90E**±0°.09, **h100**km, **n26**, σ1§52/28, **mb3.6/9, 5C-3D, Hindu Kush region**

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

	1.1nm,0.7s						
AKTO	Aktyubinsk	15.99	334	⇑P	P	21 01 42.8	-2.0
	2.5nm,0.7s						
AKTO	Aktyubinsk	15.99	334	Pn	Pn	21 01 41.5	-1.6
	0.6nm,0.3s,baz=140,slow=14,SNR=7.5						
	1.8nm,0.4s						
BVA0	Borovoye Array	16.57	3	P	P	21 01 51.1	+0.1
	5.0nm,1.2s,baz=176,slow=11,SNR=12						
BVAR	Borovoye Array	16.57	3	P	Pn	21 01 49.3	-0.9
	1.1nm,0.4s,baz=178,slow=13,SNR=6.0						
ZALV	Zalesovo Beam	20.66	27	P	Pn	21 02 37.6	-1.4
	2.6nm,0.5s,baz=221,slow=10,SNR=12						
	2.6nm,0.5s						
ARTI	Arti	21.13	344	P	P	21 02 42.3	+1.6
	2.2nm,0.8s,baz=165,slow=19,SNR=3.7						
	2.2nm,0.8s						
SONM	Songino Array	29.74	56	P	P	21 04 04.9	+3.9
	1.7nm,1.2s,baz=272,slow=10.0,SNR=2.4						
	1.7nm,1.2s						
CMAR	Chiang Mai Arr	31.96	116	P	P	21 04 20.6	0.0
	0.3nm,0.3s,baz=303,slow=8.4,SNR=1.6						
	0.3nm,0.3s						
ARCES	ARCESS Array B	40.51	338	P	P	21 05 36.3	+3.4
	3.7nm,0.9s,baz=110,slow=11,SNR=2.3						
	3.7nm,0.9s						
NOA	NORSAR Array B	43.37	323	P	P	21 05 58.1	+1.8
	0.4nm,0.6s,baz=103,slow=8.1,SNR=3.3						
	0.4nm,0.6s						
ESDC	Sonseca Array	55.96	297	P	P	21 07 34.6	+2.6
	0.4nm,0.5s,baz=53,slow=8.2,SNR=6.5						
	0.4nm,0.5s						
TORD	Torodi Ar. Bea	64.02	267	P	P	21 08 27.5	0.0
	1.1nm,0.7s,baz=37,slow=6.7,SNR=9.1						
	1.1nm,0.7s						
WRA	Warramunga Arr	83.44	121	P	P	21 10 20.4	-0.3
	0.2nm,0.6s,baz=318,slow=4.3,SNR=2.0						
	0.2nm,0.6s						
ASAR	Alice Springs	85.65	124	P	P	21 10 31.6	-0.3
	1.9nm,1.1s,baz=317,slow=4.8,SNR=4.7						
	1.9nm,1.1s						

*NEIC **15** 21:01:40.4±1.2, 18°.3S±0°.1×178°.1W±0°.1, h596km±9km, mb4.4/30, Error ellipse: s-maj=20.0km s-min=13.7km az=57.0*
*IDC **15** 21:01:54.3±10.0, 18°.04S×179°.51E, h562km±56km, mb3.6/3, mbtmp4.6/3, Error ellipse: s-maj=239.7km s-min=86.4km az=82.0*

ISC 15 21:01:40.1±1.0, 18°.3S±0°.2×178°.1W±0°.1, h600km, n38, σ0s80/38, mb4.4/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.67	278		P	21 03 03.0	-0.4
MSVF	Nonsavu	3.67	278	P	P	21 03 03.0	-0.4
	77nm,0.6s,baz=132,slow=4.3,SNR=97						
PINNC	Pines Island,	14.18	250	P	P	21 04 40.9	+0.2
DZM	Mont Dzumac	14.95	253	P	P	21 04 48.5	+0.6
THZ	Tophouse	24.61	196	P	P	21 06 15.3	+0.5
THZ				IAmb	IAmb	21 06 15.9	
	comp=Z,24nm,1.3s						
KHZ	Kahutara	25.07	195	P	P	21 06 18.2	-0.4
GVZ	Greta Valley S	25.71	195	P	P	21 06 23.4	-1.0
FOZ	Fox Glacier	27.14	199	P	P	21 06 37.9	+1.1
MLZ	Mavora Lakes	29.32	200	P	P	21 06 56.4	+0.6
MLZ				IAmb	IAmb	21 07 18.0	
	comp=Z,16nm,1.1s						
EIDS	Eidsvold	29.38	251	P	P	21 06 56.2	-0.3
EIDS				IAmb	IAmb	21 06 57.8	
	comp=Z,4.1nm,0.8s						
ARMA	Armidale	29.97	241	P	P	21 07 01.7	0.0
ARMA				IAmb	IAmb	21 07 32.5	
	comp=Z,22nm,1.4s						
CAN	Canberra	33.68	233	P	P	21 07 33.7	+0.7
CAN				IAmb	IAmb	21 08 15.8	
	comp=Z,26nm,1.4s						
PMG	Port Moresby	34.78	280	P	P	21 07 43.1	+0.7
PMG				IAmb	IAmb	21 07 44.2	
	comp=Z,10nm,0.8s						
TOO	Toolangi	37.13	231	P	P	21 08 02.3	+0.9
COEN	Coen	37.37	271	P	P	21 08 03.7	+0.1
COEN				IAmb	IAmb	21 08 05.1	
	comp=Z,9.0nm,0.7s						
STKA	Stephens Creek	38.67	242	P	P	21 08 15.4	+1.4
STKA	Stephens Creek	38.67	242	P	P	21 08 15.6	+1.7
	comp=Z,3.5nm,0.5s,baz=92,slow=11,SNR=14						
	comp=Z,3.5nm,0.5s						
BBOO	Buckleboo	43.45	241	P	P	21 08 52.6	+1.0
BBOO				IAmb	IAmb	21 08 53.4	
	comp=Z,7.3nm,0.9s						
WR0	Warramunga Arr	44.63	260	P	P	21 09 00.8	0.0
WB0	Warramunga Arr	44.78	260	P	P	21 09 01.9	-0.2
WB0				IAmb	IAmb	21 09 02.5	
	comp=Z,4.7nm,0.5s						
WB2	Warramunga Arr	44.80	260	P	P	21 09 01.9	-0.4
WB2				IAmb	IAmb	21 09 02.7	
	comp=Z,5.0nm,0.6s						
WRAB	Tennant Creek	44.81	260	P	P	21 09 01.7	-0.6
WRAB				IAmb	IAmb	21 09 02.7	
	comp=Z,4.2nm,0.6s						
WRA	Warramunga Arr	44.82	260	P	P	21 09 02.1	-0.2
WRA	Warramunga Arr	44.82	260	P	P	21 09 01.9	-0.5
	comp=Z,2.5nm,0.5s,baz=95,slow=7.2,SNR=102						
	comp=Z,2.5nm,0.5s						
AS31	Alice Springs	44.94	255	P	P	21 09 03.7	+0.5
AS31				IAmb	IAmb	21 09 04.7	
	comp=Z,4.0nm,0.5s						
ASAR	Alice Springs	44.94	255	P	P	21 09 03.8	+0.6
ASAR	Alice Springs	44.94	255	P	P	21 09 03.7	+0.5
	comp=Z,10nm,0.6s,baz=87,slow=8.7,SNR=185						
	comp=Z,10nm,0.6s						
FORT	Forrest	50.08	245	P	P	21 09 41.4	0.0
FORT				IAmb	IAmb	21 10 22.3	
	comp=Z,12nm,1.0s						
KNRA	Kununurra	50.71	264	P	P	21 09 45.4	-0.8
SOEI	Soe	56.33	270	P	P	21 10 27.2	+1.2
SOEI				IAmb	IAmb	21 10 28.1	
	comp=Z,10nm,0.8s						
PSA00	Pilbara Seismi	58.06	256	P	P	21 10 37.2	-0.3
MBWA	Marble Bar	58.23	256	P	P	21 10 38.5	-0.2
LUWI	Luwuk	60.42	279	P	P	21 10 53.5	+0.1
LUWI				IAmb	IAmb	21 10 55.1	
	comp=Z,27nm,0.9s						
GIRL	Giralia	63.03	253	P	P	21 11 09.2	-0.9
RPN	Rapa Nui	63.41	112	P	P	21 11 12.3	-0.1
JAGI	Jajag, Banyuwa	66.29	269	P	P	21 11 29.4	-1.3
JAGI				IAmb	IAmb	21 12 04.7	
	comp=Z,47nm,1.5s						
UGM	Wanagama	69.89	268	P	P	21 11 50.6	-2.0
ATKA	Atka Island	70.28	3	P	P	21 11 54.7	+0.8

DJA 15 21:06:38.1±0.5, 1°.N±8°.×12°.5E±°, h26km±7km, M3.8/7, mb4.3/1, mB5.7/1, MLv3.5/7, Mw(mB)5.3/1, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	Cibinong	1.34	246	P	Pn	21 07 00.7	-0.4
KMSI				S	Sn	21 07 16.1	-2.0
TNTI	Ternate	2.19	99	P	Pn	21 07 11.4	-1.5
LUWI	Luwuk	3.25	228	P	Pn	21 07 28.9	+1.5
SANI	Sanana	3.25	166	P	Pn	21 07 28.6	+1.1
SANI				S	Sn	21 07 59.1	-6.3
PCI	Palu	5.73	249	P	Pn	21 08 01.1	-0.5

*IDC **15** 21:12:54.8±1.4, 9°.01S×154°.61E, h0km, mb3.9/8, mbtmp3.9/9, ML1.6/1, Error ellipse: s-maj=34.5km s-min=20.9km az=96.0*

ISC 15 21:12:59.9±1.2, 9°.0S±0°.2×154°.6E±0°.1, h35km, n9, σ1s14/10, mb4.0/8, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.38	266	Pn	Pn	21 14 45.1	-0.3
	0.6nm,0.3s,baz=196,slow=5.3,SNR=2.6						
PMG				Sn	Sn	21 16 08.7	+0.7
	0.2nm,0.3s,baz=312,slow=17,SNR=1.6						
	11nm,0.7s						
WRA	Warramunga Arr	22.42	239	P	P	21 17 54.2	-1.6
	1.3nm,0.8s,baz=63,slow=9.5,SNR=1.3						
	1.3nm,0.8s						
ASAR	Alice Springs	24.60	231	P	P	21 18 16.1	-0.9
	7.2nm,0.8s,baz=64,slow=9.6,SNR=68						
	7.2nm,0.8s						
STKA	Stephens Creek	25.76	206	P	P	21 18 28.0	+0.5
	3.8nm,0.6s,baz=23,slow=9.6,SNR=11						
	3.8nm,0.6s						
MJAR	Matsushiro Arr	47.88	342	P	P	21 21 33.1	-1.6
	0.6nm,0.5s,baz=168,slow=6.3,SNR=4.1						
	0.6nm,0.5s						
KSRS	Korea Array	52.56	333	P	P	21 22 09.7	-0.4
	1.3nm,0.7s,baz=144,slow=8.0,SNR=5.2						
	1.3nm,0.7s						
CMAR	Chiang Mai Arr	61.35	297	P	P	21 23 13.2	+0.5
	0.2nm,0.2s,baz=113,slow=6.2,SNR=4.8						
	0.2nm,0.2s						
SONM	Songino Array	70.84	328	P	P	21 24 14.7	+1.4
	0.4nm,0.9s,baz=148,slow=8.5,SNR=2.9						
	0.4nm,0.9s						
QSPA	South Pole Qui	80.97	180	P	P	21 25 11.2	+0.4
	2.3nm,0.8s,baz=22,slow=1.2,SNR=7.5						
	2.3nm,0.8s						

NNC 15 21:24:14.8±6.2, 37°.22N×71°.40E, h257km±71km, mb2.4, mpv3.6, 1C-2D, Error ellipse: s-maj=65.5km s-min=39.8km az=10.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	5.91	354	P	Pn	21 25 40.9	-1.0
	1.7nm,0.3s,baz=189,slow=15,SNR=39						
KK31				⇓S	S	21 26 52.6	+0.9
	6.2nm,0.5s,baz=188,slow=20,SNR=6.7						
TKM2	Tokmak 2	6.54	28	⇓P	Pn	21 25 51.0	+1.1
	2.1nm,0.5s						
TKM2				⇑S	S	21 27 05.9	-0.2
	6.0nm,0.8s						
AB31	Akbulak array	14.62	329	P	P	21 27 29.4	-0.3
	0.5nm,0.4s,baz=146,slow=11,SNR=16						
BVA0	Borovoye Array	15.82	358	P	P	21 27 43.1	+0.2
	2.3nm,1.1s,baz=158,slow=11,SNR=10						

*KRSC **15** 21:34:16.2±0.5, 55°.54N×162°.39E, h74km±15km, Ml4.1*
*IDC **15** 21:34:23.6±4.2, 55°.51N×161°.80E, h112km±53km, mb3.5/5, mbtmp3.8/6, Error ellipse: s-maj=43.7km s-min=23.8km az=25.0*

ISC 15 21:34:19.1±1.1, 55°.56N±0°.04×162°.28E±0°.07, h66km±11km, n48, σ1s00/51, mb3.9/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	Krutoberegovo	0.72	25	*i* P	Pn	21 34 33.0	-0.9
KBTR				*e*S	Sn	21 34 45.3	+0.6
KBG	Krutoberegovo	0.74	19	*i* P	Pn	21 34 33.2	-0.8
ZLN	Zelenaya	0.95	300	*e*P	Pn	21 34 36.6	-0.1
BZGR	Bezymyannyi-Gr	0.97	294	*e*P	Pn	21 34 36.8	-0.3
BZGR				*e*S	Sn	21 34 51.1	+0.8
CIRR	Tsirk	1.03	304	*e*P	Pn	21 34 37.4	-0.4
BZP	Bezymyannyi-Pe	1.04	290	*e*P	Pn	21 34 37.4	-0.6
BZMR	Bezymyannaya	1.08	291	*e*P	Pn	21 34 38.3	-0.2
SMKR	Semkarok	1.12	337	*i* P	Pn	21 34 38.9	-0.1
SMKR				*e*S	Sn	21 34 54.9	+1.1
TUMD	Tumrok D	1.13	252	*e*P	Pn	21 34 38.4	-0.6
TUMD				*e*S	Sn	21 34 53.5	-0.4
KIRR	Kirishev	1.16	291	*e*P	Pn	21 34 39.4	-0.2
KRSR	Krestovskiy	1.17	305	*e*P	Pn	21 34 39.0	-0.5
KRSR				*e*S	Sn	21 34 55.1	+0.2
KMNR	Kamenistaya	1.17	281	*e*P	Pn	21 34 39.8	+0.1
BDR	Baidarnaya	1.18	330	*e*S	Sn	21 34 55.7	+0.7
KLY	Klyuchi	1.19	310	*e*P	Pn	21 34 38.2	-1.5
KLY				*e*S	Sn	21 34 53.4	-1.7
KPT	Kopyto	1.23	290	*e*P	Pn	21 34 40.8	+0.4
TUMR	Tumrok	1.25	258	*e*P	Pn	21 34 40.6	0.0
SRKR	Sorokina	1.26	331	*e*S	Sn	21 34 58.5	+1.5
KOZ	Kozyrevsk	1.45	291	*e*P	Pn	21 34 43.7	+0.5
SRDR	Sredinnyy	1.63	299	*e*S	Sn	21 35 07.1	+1.4
ESO	Esso	2.05	282	*e*P	Pn	21 34 52.0	+0.7
BKI	Bering	2.14	98	*e*P	Pn	21 34 51.1	-1.4
BKI				*e*S	Sn	21 35 14.9	-3.0
SPN	Mys Shipunski	2.80	209	*e*P	Pn	21 34 59.8	-1.6
SPN				*e*S	Sn	21 35 31.4	-2.5
NLC	Nalytchevo	2.94	217	*e*P	Pn	21 35 03.1	-0.3
KRX	Arik	3.06	225	*e*P	Pn	21 35 05.3	+0.2
KRER	Koryakskii	3.06	224	*e*P	Pn	21 35 05.8	+0.7
SMAR	Somma	3.07	223	*e*P	Pn	21 35 05.6	+0.3
AVH	Avacha	3.09	223	*e*P	Pn	21 35 06.4	+0.9
UGLR	Uglovaya	3.10	222	*e*P	Pn	21 35 06.1	+0.5
KOK	Koryaka	3.11	225	*e*P	Pn	21 35 06.6	+0.9
GNL	Ganaly	3.14	235	*e*P	Pn	21 35 06.1	0.0
DALK	Dalny	3.27	221	*e*P	Pn	21 35 08.0	+0.2
PET	Petropavlovsk	3.31	221	*e*P	Pn	21 35 08.8	+0.4
PET				*e*S	Sn	21 35 47.3	+0.9
PETK	Petropavlovsk-	3.63	229	P	Pn	21 35 13.8	+1.0
	6.3nm,0.5s,baz=60,slow=17,SNR=36						
PETK				S	Sn	21 35 55.8	+1.3
	3.5nm,0.4s,baz=86,slow=22,SNR=0.9						
KRMR	Karymshinskiy	3.66	223	*e*P	Pn	21 35 13.3	+0.1
OSSR	Ossora	3.73	6	*e*P	Pn	21 35 13.5	-0.5
PALN	Palana	3.75	341	*e*P	Pn	21 35 14.3	-0.1
GRL	Gorelyy	3.90	221	*e*P	Pn	21 35 18.1	+1.5
MTVR	Mutnovka	3.91	220	*e*P	Pn	21 35 17.4	+0.7
APC	Apacha	4.00	231	*e*P	Pn	21 35 18.6	+0.9
ASAK	Asacha	4.10	221	*e*P	Pn	21 35 20.6	+1.3
TIXI	Tiksi	21.44	332	P	P	21 39 01.5	+0.2
	3.5nm,0.4s,baz=116,slow=7.2,SNR=12						
	3.5nm,0.4s						
H11N2	WAKE ISLAND Hy	35.94	173	T	T	22 20 24.5	
	baz=357,slow=76,SNR=10						
H11N3	WAKE ISLAND Hy	35.95	173	T	T	22 19 56.4	
	baz=357,slow=76,SNR=11						
H11N1	WAKE ISLAND Hy	35.96	173	T	T	22 20 18.5	
	baz=357,slow=76,SNR=12						
BVAR	Borovoye Array	49.87	308	P	P	21 43 03.0	-2.2
	0.4nm,0.5s,baz=60,slow=6.6,SNR=3.8						
	0.4nm,0.5s						
NVAR	Mina Array Bea	53.75	73	P	P	21 43 36.5	+1.9
	0.8nm,0.7s,baz=300,slow=7.5,SNR=5.5						
	0.8nm,0.7s						
PDAR	Pinedale Array	55.24	64	P	P	21 43 46.9	+1.5
	0.5nm,0.7s,baz=343,slow=4.6,SNR=3.8						
	0.5nm,0.7s						
FINES	FINESS Array B	58.35	337	P	P	21 44 05.8	-0.9
	1.5nm,0.5s,baz=42,slow=8.8,SNR=16						
	1.5nm,0.5s						

*RSNC **15** 21:41:00.0±0.5, 3°.N±2°.×8°.3W±°, h0km, M3.8, mb4.3, mB5.2, mBc6.4, Mjma4.0, ML3.3, ML4.4, MLh4.1, MLv4.1, Ms(BB)3.8, Mw(mB)4.6*
*IDC **15** 21:41:01.1±1.1, 3°.71N×82°.72W, h0km, mb3.7/7, mbtmp3.9/11, ML3.5/4, MS4.3/1, Error ellipse: s-maj=36.3km s-min=17.2km az=56.0*

ISC 15 21:41:01.4±0.8, 3°.44N±0°.05×82°.91W±0°.08, h10km, n45, σ2s21/42, mb3.6/7, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CACAO	El Cacao, Vera	4.38	28	P	Pn	21 42 06.1	-1.9
CACAO				S	Sn	21 42 54.7	-4.5
GR1C	Gorgona, Isla	4.76	95	P	Pn	21 42 13.0	-0.2
GR1C				S	Sn	21 43 02.1	-6.4
AZU	Azuero	5.05	31	P	Pn	21 42 17.1	-0.2
PAC1	Pacto, Paraso	5.19	127	P	Pn	21 42 19.2	-0.1
PAC1				S	Sn	21 43 16.5	-2.9
PPLP	Puerto Lpez	5.40	157	P	Pn	21 42 19.8	-2.3
	9.9nm,0.4s,0.0nm0.1nm						
PPLP				S	Sn	21 43 20.1	-4.2
	9.9nm,0.4s,0.0nm0.1nm						
OTAV	Otavalo	5.48	125	P	Pn	21 42 22.9	-0.6
	18nm,1.0s,0.1nm0.1nm						
OTAV				S	Sn	21 43 23.1	-3.8
	18nm,1.0s,0.1nm0.1nm						
OTAV	Otavalo	5.48	125	*e*P	Pn	21 42 23.0	-0.6
CUSE	Cuicocha Este	5.48	125	P	Pn	21 42 24.2	+0.6
CUSE				S	Sn	21 43 24.6	-2.4
MALC	Bahia Malaga	5.59	84	P	Pn	21 42 26.7	+2.0
MALC				S	Sn	21 43 30.1	+1.0
BBAC	Balboa, Cauca	5.83	104	P	Pn	21 42 28.0	-0.2
	34nm,0.9s,0.7nm						
BBAC				S	Sn	21 43 31.3	-4.0
	34nm,0.9s,0.7nm						
GCUF	Volcan Galeras	5.98	111	P	Pn	21 42 32.6	+2.1
BONI	La Bonita	6.14	119	P	Pn	21 42 33.8	+1.2
CRUC	La Cruz	6.24	107	P	Pn	21 42 35.1	+1.1
PIAT	Ana Tenorio	6.41	133	P	Pn	21 42 38.3	+2.0
BCIP	Isla Barro Col	6.45	28	P	Pn	21 42 37.5	+0.9
	175nm,1.2s,0.3nm						
HDC	Heredia	6.62	350	*e*P	Pn	21 42 36.6	-2.4
PLMC	San Jos del P	6.77	77	P	Pn	21 42 42.2	+1.2
COHC	Cochancay	6.92	148	P	Pn	21 42 41.9	-1.0
JTS	Las Juntas de	7.10	344	Pn	Pn	21 42 42.7	-2.7
	16nm,0.3s,baz=119,slow=10,SNR=67						
JTS				Sn	Sn	21 44 03.7	-2.5
	6.9nm,0.3s,baz=299,slow=21,SNR=6.4						
GUY2C	Guyana, Caldas	7.73	77	P	Pn	21 42 57.3	+2.8
ROSC	El Rosal	8.68	81	Pn	Pn	21 43 04.7	-2.8
	2.3nm,0.3s,baz=245,slow=19,SNR=1.9						
	7.2nm,0.4s						
BARC	Barichara	10.18	72	P	Pn	21 43 32.0	+4.0
PAMC	Pamplona, Colo	10.88	69	P	Pn	21 43 41.6	+3.9
ATAH	Atahualpa	11.44	157	Pn	Pn	21 43 47.5	+2.1
	0.7nm,0.3s,baz=314,slow=9.9,SNR=2.2						
ATAH				LR	LR	21 47 52.0	
	comp=Z,2µm,20.4s,baz=28,slow=35						
	1.7nm,0.3s						
SDV	Santo Domingo	13.35	66	Pn	Pn	21 44 07.7	-3.6
	1.6nm,0.3s,baz=238,slow=9.5,SNR=2.0						
	3.9nm,0.3s						
SDV	Santo Domingo	13.35	66	P	Pn	21 44 12.8	+1.5
SDV	Santo Domingo	13.35	66	*e*P	Pn	21 44 11.0	-0.3
CZSB	Cruzeiro do Su	15.06	137	*e*P	Pn	21 44 33.5	-1.1
NNA	Nana	16.48	159	Pn	Pn	21 44 56.8	+3.9
	0.8nm,0.3s,baz=317,slow=16,SNR=6.4						
	16nm,0.6s						
ETMB	Extrema	21.22	129	*e*P	P	21 45 46.5	-1.1
SAML	Samuel	23.20	122	*e*P	P	21 46 07.7	-1.1
LPAZ	La Paz	24.45	144	P	P	21 46 23.0	+1.6
	5.8nm,1.1s,baz=347,slow=9.2,SNR=11						
	5.8nm,1.1s						
LPAZ	La Paz	24.45	144	*e*P	P	21 46 19.0	-2.4
H03N2	Juan Fernandez	36.88	174	T	T	22 27 35.9	
	baz=354,slow=76,SNR=22						
H03N1	Juan Fernandez	36.88	174	T	T	22 27 23.7	
	baz=354,slow=76,SNR=19						
H03N3	Juan Fernandez	36.89	174	T	T	22 27 22.5	
	baz=354,slow=76,SNR=18						
PDAR	Pinedale Array	45.78	333	P	P	21 49 23.2	-0.4
	0.6nm,0.9s,baz=140,slow=7.2,SNR=3.6						
	0.6nm,0.9s						
NVAR	Mina Array Bea	47.46	322	P	P	21 49 38.0	+1.2
	1.0nm,0.8s,baz=143,slow=6.9,SNR=6.0						
	1.0nm,0.8s						
YKA	Yellowknife Ar	63.44	344	P	P	21 51 30.1	-1.1
	0.8nm,0.8s,baz=150,slow=6.1,SNR=3.1						
	0.8nm,0.8s						
ILAR	Eielson Array	76.02	337	P	P	21 52 49.3	+0.7
	0.4nm,0.9s,baz=118,slow=5.2,SNR=2.8						
	0.4nm,0.9s						
ESDC	Sonseca Array	79.30	50	P	P	21 53 08.1	+0.5
	0.8nm,1.1s,baz=275,slow=5.8,SNR=2.1						
	0.8nm,1.1s						
TORD	Torodi Ar. Bea	83.98	77	P	P	21 53 33.6	+0.8
	0.2nm,0.5s,baz=274,slow=5.6,SNR=1.7						
	0.2nm,0.5s						
H01W1	Cape Leeuwin H	144.93	205	T	T	00 43 15.7	
	baz=151						
H01W2	Cape Leeuwin H	144.93	205	T	T	00 43 22.4	
	baz=151						
H01W3	Cape Leeuwin H	144.94	205	T	T	00 43 18.7	
	baz=151						

*IDC **15** 21:54:30.8±1.8, 3°.68S×140°.95E, h0km, mb3.5/3, mbtmp3.8/4, ML4.2/1, Error ellipse: s-maj=56.7km s-min=17.1km az=95.0*
*NEIC **15** 21:54:35.3±0.8, 3°.49S±0°.07×140°.36E±0°.10, h10km±2km, mb4.0/8, Error ellipse: s-maj=17.8km s-min=9.3km az=294.0*

ISC 15 21:54:33.8±0.9, 3°.52S±0°.07×140°.5E±0°.1, h10km, n21, σ2s29/22, mb3.6/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	1.02	13	Pg	Pg	21 54 54.2	+0.6
	144nm,0.3s,baz=207,slow=13,SNR=459						
JAY				Lg	Lg	21 55 05.6	
	180nm,0.3s,baz=253,slow=2.1,SNR=12						
FAKI	Fak Fak	8.23	274	Pn	Pn	21 56 35.7	+2.4
COEN	Coen	10.71	166	Pn	Pn	21 57 11.2	+3.8
MTN	Manton Dam	13.08	224		Pn	21 57 40.3	+0.6
KNRA	Kununurra	16.69	223		Pn	21 58 28.2	+0.3
WB0	Warramunga Arr	17.20	200		Pn	21 58 35.1	+0.7
SOEI	Soe	17.24	248	Pn	Pn	21 58 34.8	-0.1
SOEI	Soe	17.24	248	P	Pn	21 58 34.9	-0.1
WR0	Warramunga Arr	17.33	199		Pn	21 58 36.8	+0.8
WR0				IAmb	IAmb	21 58 55.6	
	comp=Z,11nm,1.1s						
WRAB	Tennant Creek	17.37	200		Pn	21 58 37.3	+0.8
WRAB				IAmb	IAmb	21 58 43.7	
	comp=Z,11nm,0.9s						
WB2	Warramunga Arr	17.38	200		Pn	21 58 37.3	+0.7
WB2				IAmb	IAmb	21 58 43.7	
	comp=Z,11nm,0.9s						
WRA	Warramunga Arr	17.39	200	Pn	Pn	21 58 34.7	-1.9
WRA	Warramunga Arr	17.39	200	P	Pn	21 58 36.3	-0.4
	comp=Z,0.8nm,0.3s,baz=19,slow=12,SNR=24						
WRA				S	Sn	22 01 37.7	-13
	comp=Z,3.4nm,0.8s,baz=15,slow=22,SNR=4.6						
	comp=Z,2.0nm,0.4s						
TOLI2	Tolitoli	20.21	283	P	P	21 59 09.3	+0.2
FITZ	Fitzroy Crossi	20.52	224	P	P	21 59 12.3	0.0
	comp=Z,2.3nm,0.6s,baz=52,slow=11,SNR=11						
	comp=Z,2.3nm,0.6s						
PCI	Palu	20.78	277	P	Pn	21 59 19.3	+1.7
AS31	Alice Springs	21.01	197	P	P	21 59 18.8	+1.1
AS31				IAmb	IAmb	21 59 38.8	
	comp=Z,3.5nm,0.6s						
ASAR	Alice Springs	21.01	197	P	P	21 59 19.2	+1.

50nm,0.3s
DZM Mont Dzumac 3.77 275 P **Pn 22 13 29.3 +0.5**
NOUC Port Laguerre 3.89 275 P **Pn 22 13 30.9 +0.4**
ASAR Alice Springs 33.62 261 P **P 22 19 12.2 +0.7**
1.5nm,0.9s,baz=85,slow=8.4,SNR=17
1.5nm,0.9s
WRA Warramunga Arr 33.74 267 P **P 22 19 11.9 -0.6**
2.0nm,0.9s,baz=100,slow=8.3,SNR=8.9
2.0nm,0.9s
QSPA South Pole Qui 67.60 180 P **P 22 23 26.9 -0.5**
1.5nm,0.8s,baz=40,slow=5.6,SNR=3.9
1.5nm,0.8s
CMAR Chiang Mai Arr 80.89 294 P **P 22 24 45.9 +0.5**
0.5nm,0.3s,baz=134,slow=3.9,SNR=1.4
0.5nm,0.3s
TROLL Troll, Antarti 85.41 184 ⇑P **P 22 25 08.0 -0.1**
comp=Z,8.5nm,0.4s
VNA3 Neumayer Olymp 86.54 180 ⇑P **P 22 25 12.7 -0.9**
comp=Z,0.7nm,0.7s
VNA2 Neumayer--Watz 86.85 181 ⇑P **P 22 25 14.3 -0.8**
comp=Z,0.9nm,0.8s,baz=120,slow=1.8
EKA Eskdalemuir Ar 146.84 353 PKPbc **PKPdf 22 32 11.7 +0.8**
comp=Z,0.6nm,0.6s,baz=347,slow=2.9,SNR=1.2

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*IDC **15** 22:14:45.7±1.8, 22°.64S×170°.39E, h0km, mb4.1/4, mbtmp4.1/5, ML4.2/1, Error ellipse: s-maj=52.7km s-min=29.8km az=26.0*
*NOU **15** 22:15:01.6, 22°.02S×169°.27E, h0km, MLv2.8/8, Southeast of Loyalty Islands*
ISC 15 22:14:45.2±1.1, 22°.1S±0°.1×170°.6E±0°.1, h10km, n17, σ1°30/18, mb4.1/4, 3C, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.46**	**284**	P	**Pn**	**22 15 25.2**	**-0.2**
LIFNC	**LIFOU**	**3.39**	**292**	P	**Pn**	**22 15 38.9**	**+0.7**
YATNC	**Mamie plateau,**	**3.43**	**270**	P	**Pn**	**22 15 38.7**	**-0.1**
OUENC	**Ouen Island, N**	**3.49**	**264**	P	**Pn**	**22 15 40.2**	**+0.7**
ONTNC	**Ouen Toro**	**3.84**	**266**	P	**Pn**	**22 15 45.5**	**+1.2**
DZM	**Mont Dzumac**	**3.85**	**270**	Pn	**Pn**	**22 15 45.0**	**+0.4**
	18nm,0.3s,baz=294,slow=19,SNR=21						
DZM				Sn	**Sn**	**22 16 28.6**	**-1.3**
	9.8nm,0.3s,baz=139,slow=17,SNR=4.2						
	43nm,0.3s						
NOUC	**Port Laguerre**	**3.98**	**269**	P	**Pn**	**22 15 46.9**	**+0.7**
DVP	**Devils Point**	**4.91**	**332**	P	**Pb**	**22 16 09.7**	**-1.6**
KOUNC	**Koumac, New Ca**	**6.08**	**284**	P	**Pn**	**22 16 17.9**	**+2.8**
ASAR	**Alice Springs**	**33.78**	**260**	P	**P**	**22 21 27.6**	**+0.2**
	0.9nm,0.7s,baz=88,slow=8.7,SNR=6.7						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**33.86**	**267**	P	**P**	**22 21 27.5**	**-0.7**
	0.8nm,0.5s,baz=100,slow=8.2,SNR=7.2						
	0.8nm,0.5s						
QSPA	**South Pole Qui**	**67.96**	**180**	P	**P**	**22 25 43.0**	**-1.3**
	1.7nm,0.7s,baz=90,slow=3.4,SNR=5.2						
	1.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**80.83**	**294**	P	**P**	**22 27 02.2**	**+2.5**
	1.4nm,0.3s,baz=140,slow=4.5,SNR=5.0						
	1.4nm,0.3s						
TROLL	**Troll, Antarti**	**85.77**	**184**	⇑P	**P**	**22 27 24.4**	**-0.1**
	comp=Z,33nm,0.7s						
VNA3	**Neumayer Olymp**	**86.90**	**180**	⇑P	**P**	**22 27 30.1**	**+0.2**
VNA2	**Neumayer--Watz**	**87.21**	**181**	⇑P	**P**	**22 27 30.2**	**-1.2**
	baz=53,slow=3.7						
GERES	**GERESS Array B**	**147.60**	**331**	PKPbc	**PKPab**	**22 34 32.7**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=48,slow=4.0,SNR=4.0						

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*IDC **15** 22:26:31.6±1.5, 37°.68N×20°.05E, h0km, mb3.5/6, mbtmp3.6/8, ML3.6/1, MS3.9/1, Error ellipse: s-maj=34.3km s-min=24.0km az=111.0*
*ATH **15** 22:26:31.5, 37°.59N×20°.34E, h14km±3km, ML3.3/7, Manual Solution by I.Dede This location: 2020/09/16 06:50:29 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
*THE **15** 22:26:32.1, 37°.59N×20°.35E, h0km±1km, ML3.4/11, Error ellipse: s-maj=2.3km s-min=0.3km az=231.0*
ISC 15 22:26:31.9±1.7, 37°.59N±0°.04×20°.34E±0°.05, h0km±10km, n39, σ0°84/58, mb3.6/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.39**	**79**	P	**Pg**	**22 26 39.3**	**0.0**
KRI1				S	**Sg**	**22 26 44.7**	**+0.4**
	11μm,0.7s						
LTHK	**Lithakia**	**0.41**	**73**	P	**Pg**	**22 26 39.5**	**-0.3**
LTHK				S	**Sg**	**22 26 45.3**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.56**	**20**	P	**Pg**	**22 26 42.6**	**0.0**
PSDA				S	**Sg**	**22 26 50.9**	**+1.0**
	6μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.56**	**20**	P	**Pg**	**22 26 42.7**	**+0.1**
PSDA				S	**Sg**	**22 26 50.1**	**+0.2**
RTZL	**Ratzakli, Kefa**	**0.59**	**35**	P	**Pg**	**22 26 43.3**	**0.0**
RTZL				S	**Sg**	**22 26 52.0**	**+1.0**
LXR1	**Lixouri, Cepha**	**0.61**	**7**	P	**Pg**	**22 26 44.1**	**+0.4**
LXR1				S	**Sb**	**22 26 53.0**	**-1.7**
	12μm,0.6s						
VLS	**Valsamata**	**0.62**	**19**	P	**Pg**	**22 26 43.6**	**-0.1**
VLS				S	**Sg**	**22 26 52.7**	**+0.9**
	3μm,0.2s						
VLS	**Valsamata**	**0.62**	**19**	P	**Pg**	**22 26 43.7**	**-0.1**
VLS				S	**Sg**	**22 26 52.4**	**+0.6**
DMLN	**Damoulianata-K**	**0.65**	**2**	P	**Pg**	**22 26 44.3**	**0.0**
DMLN				S	**Sg**	**22 26 53.7**	**+0.9**
	5μm,0.5s						
DMLN	**Damoulianata-K**	**0.65**	**2**	P	**Pg**	**22 26 44.2**	**-0.1**
VSK1	**VASILIKIADES**	**0.84**	**12**	P	**Pg**	**22 26 47.8**	**-0.2**
VSK1				S	**Sb**	**22 27 00.0**	**-1.2**
	3μm,0.6s						
FSK	**Fiskardo**	**0.89**	**11**	P	**Pg**	**22 26 48.7**	**-0.2**
FSK				S	**Sb**	**22 27 01.5**	**-1.0**
	2μm,0.5s						
FSK	**Fiskardo**	**0.89**	**11**	P	**Pg**	**22 26 48.0**	**-0.9**
FSK				S	**Sg**	**22 27 00.2**	**-0.1**
RLS	**Riolos of Patr**	**1.01**	**62**	P	**Pg**	**22 26 50.7**	**-0.5**
RLS				S	**Sb**	**22 27 05.4**	**-0.6**
	2μm,0.8s						
RLS	**Riolos of Patr**	**1.01**	**62**	P	**Pg**	**22 26 50.5**	**-0.7**
EVGI	**Lefkada island**	**1.06**	**14**	P	**Pg**	**22 26 51.8**	**-0.4**
EVGI				S	**Sb**	**22 27 07.5**	**0.0**
	2μm,0.3s						
EVGI	**Lefkada island**	**1.06**	**14**	P	**Pg**	**22 26 51.6**	**-0.6**
AMT	**Artemida-Makis**	**1.09**	**93**	P	**Pg**	**22 26 51.8**	**-1.0**
AMT				S	**Sb**	**22 27 08.1**	**-0.4**
DRAG	**Dragano-Lefkad**	**1.11**	**10**	P	**Pg**	**22 26 52.6**	**-0.6**
DRAG				S	**Sb**	**22 27 09.2**	**+0.2**
DRO	**Drossia**	**1.15**	**71**	P	**Pg**	**22 26 53.7**	**-0.1**
DRO				S	**Sb**	**22 27 09.7**	**-0.3**
	2μm,0.5s						
DRO	**Drossia**	**1.15**	**71**	P	**Pg**	**22 26 53.8**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.16**	**14**	P	**Pg**	**22 26 53.4**	**-0.7**
TSLK	**Tsoukalades, L**	**1.26**	**11**	P	**Pg**	**22 26 55.2**	**-0.8**
TSLK				S	**Sn**	**22 27 13.9**	**-0.5**
	2μm,0.5s						
PYL	**PYLOS**	**1.32**	**121**	P	**Pg**	**22 26 56.6**	**-0.5**
PYL	**PYLOS**	**1.32**	**121**	P	**Pg**	**22 26 55.7**	**-1.4**
ITM	**Ithomi**	**1.33**	**107**	P	**Pg**	**22 26 56.9**	**-0.5**
ITM				S	**Sn**	**22 27 16.3**	**+0.2**
ITM	**Ithomi**	**1.33**	**107**	P	**Pg**	**22 26 56.4**	**-1.0**
EFP	**Efpalio**	**1.49**	**55**	P	**Pn**	**22 26 59.1**	**-0.9**
KLV	**Kalavryta, Ach**	**1.50**	**72**	P	**Pn**	**22 26 59.7**	**-0.5**
KLV	**Kalavryta, Ach**	**1.50**	**72**	P	**Pn**	**22 26 58.4**	**-1.8**
IDI	**Anoyia**	**4.33**	**121**	Pn	**Pn**	**22 27 40.5**	**+1.4**
	53nm,1.3s,baz=274,slow=2.2,SNR=1.6						
IDI				Sn	**Sn**	**22 28 31.5**	**+1.3**
	0.6nm,0.3s,baz=83,slow=5.6,SNR=2.4						
MLR	**Muntele Rosu**	**8.94**	**26**	Pn	**Pn**	**22 28 43.0**	**+0.6**
	0.2nm,0.3s,baz=255,slow=22,SNR=3.7						
	3.1nm,0.8s						
HFS	**Hagfors**	**22.96**	**351**	P	**P**	**22 31 35.8**	**-1.8**
	1.3nm,0.8s,baz=170,slow=10,SNR=1.4						
	1.3nm,0.8s						
FINES	**FINESS Array B**	**24.15**	**7**	P	**P**	**22 31 48.1**	**-1.2**
	1.9nm,0.7s,baz=180,slow=11,SNR=4.3						
	1.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.48**	**219**	P	**P**	**22 32 36.7**	**-1.0**
	0.2nm,0.8s,baz=15,slow=7.4,SNR=1.8						
	0.2nm,0.8s						
JMIC	**Jan Mayen**	**36.69**	**345**	LR	LR	22 49 04.5	
	comp=Z,145nm,18.0s,baz=51,slow=37						
KURBB	**Kurchatov Arra**	**42.70**	**53**	P	**P**	**22 34 30.9**	**+0.6**
	0.3nm,0.7s,baz=282,slow=9.4,SNR=2.5						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**45.73**	**58**	P	**P**	**22 34 57.0**	**+2.2**
	3.0nm,1.2s,baz=280,slow=7.5,SNR=4.1						
	3.0nm,1.2s						
ZALV	**Zalesovo Beam**	**46.19**	**48**	P	**P**	**22 34 58.5**	**+0.2**
	0.4nm,0.5s,baz=289,slow=9.0,SNR=2.1						
	0.4nm,0.5s						

HEL 15 23:08:14.6±0.6, 67°.16N×20°.52E, h0km, ML0.8, Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.90**	**132**	PG	Pg	23 08 30.1	-1.7
	baz=313						
ERTU				SB	Sn	23 08 48.8	+0.7
PAJU	**Pajala**	**1.02**	**96**	PG	Pg	23 08 32.3	-1.9
	baz=280						
PAJU				SB	Sg	23 08 46.2	-1.2
LANU	**Lannavaara**	**1.06**	**32**	PG	Pg	23 08 33.4	-1.5
KLF	**Kolari**	**1.35**	**85**	PG	Pg	23 08 38.4	-2.0
KLF				MSG		23 08 55.3	
	comp=Z,0.6nm,0.2s						
KALU	**Kalix**	**1.73**	**138**	SN	Sg	23 09 09.9	-0.2
HEF	**Hetta**	**1.73**	**42**	PG	Pn	23 08 45.0	-1.0
HEF				MSG		23 09 06.4	
	comp=Z,0.4nm,0.2s						
HEF				SN	Sb	23 09 09.3	-0.3
TOF	**Tornio**	**1.86**	**124**	PG	Pn	23 08 47.8	0.0
TOF				MSG		23 09 10.3	
	comp=Z,0.6nm,0.2s						
TOF				SG	Sb	23 09 13.4	+0.1
KTK1	**Kautokeino**	**2.12**	**27**	SG	Sb	23 09 19.6	-1.2
RNF	**Rovaniemi**	**2.24**	**102**	SG	Sb	23 09 23.5	-0.5

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*IDC **15** 23:08:57.6±0.4, 56°.11S×122°.39W, h0km, mb4.9/18, mbtmp4.9/18, MS6.1/47, Error ellipse: s-maj=17.5km s-min=13.3km az=149.0*
*MOS **15** 23:08:59.5±1.1, 56°.27S×122°.07W, h10km, mb6.0/40, MS6.0/39, Error ellipse: s-maj=14.9km s-min=9.1km az=82.0*
*NEIC **15** 23:09:01.2, 56°.22S×122°.23W, h26km, Moment Tensor Solution. Duration: 7s3 Moment tensor: Scale 10^18^Nm; M_{rr}-0.67; $M_{\theta\theta}$2.14; $M_{\phi\phi}$-1.47; $M_{r\theta}$0.79; $M_{\theta\phi}$3.62; $M_{\phi r}$0.43; Fault plane solution: $M_0$4.12000×10^18^ NP1: ϕ_s103.67000°, δ83.70000°, λ7.57000°. NP2: ϕ_s12.84000°, δ82.47000°, λ173.65000°. Principal axes: T 4.5297, Plg10.0000°, Azm328.0000°; N -0.8195, Plg80.0000°, Azm143.0000°; P -3.7103, Plg1.0000°, Azm238.0000°;*
*BJI **15** 23:09:01.3, 56°.04S×122°.27W, h10km, mB6.0/43, Ms6.2/69, Ms7 6.0/67*
*NEIC **15** 23:09:01.2, 56°.22S×122°.05W, h26km*
*NEIC **15** 23:09:01, 56°.24S×122°.04W, h10km*
*NEIC **15** 23:09:01.1±1.8, 56°.24S±0°.10×122°.0W±0°.2, h10km±1km, mb5.8/395, Ms_20 6.2/1007, Mwb6.2/44, Mww6.3/27, Error ellipse: s-maj=16.5km s-min=14.3km az=357.0, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; M_{rr}-0.62; $M_{\theta\theta}$1.20; $M_{\phi\phi}$-0.58; $M_{r\theta}$-0.13; $M_{\theta\phi}$2.06; $M_{\phi r}$-0.24; Fault plane solution: $M_0$2.32000×10^18^ NP1: ϕ_s11.80000°, δ89.21000°, λ-173.11000°. NP2: ϕ_s281.70000°, δ83.11000°, λ-0.79000°. Principal axes: T 2.5675, Plg4.0000°, Azm147.0000°; N -0.6233, Plg83.0000°, Azm18.0000°; P -1.9442, Plg5.0000°, Azm237.0000°;*
*GCMT **15** 23:09:06.1±0.0, 56°.23S×122°.26W, h12km, MW6.3/169, Moment Tensor Solution. s169,c397; s158,c653; Duration: 3s4 Moment tensor: Scale 10^18^Nm; M_{rr}-0.38±.01; $M_{\theta\theta}$1.48±.01; $M_{\phi\phi}$-1.10±.01; $M_{r\theta}$-0.68±.04; $M_{\theta\phi}$2.99±.01; $M_{\phi r}$-0.80±.03; Best double couple: $M_0$3.39900×10^18^ NP1: ϕ_s191.00000°, δ85.00000°, λ165.00000°. NP2: ϕ_s283.00000°, δ75.00000°, λ5.00000°. Principal axes: T 3.6960, Plg14.0000°, Azm146.0000°; N -0.5980, Plg75.0000°, Azm352.0000°; P -3.1010, Plg7.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 15 23:09:00.4±0.2, 56°.10S±0°.04×122°.16W±0°.04, h10km, n1355, σ1°86/1018, mb5.8/238, MS6.2/560, 42C-44D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAI	**San Martin Ant**	**27.35**	**138**	P	**P**	**23 14 44.9**	**-0.2**
SMAI				IAmb	IAmb	23 14 49.6	
	comp=Z,400nm,1.6s						
PMSA	**Palmer Station**	**28.93**	**131**	P	**P**	**23 14 57.5**	**-1.7**
PMSA				IAmb	IAmb	23 15 03.3	
	comp=Z,234nm,1.4s						
PMSA	**Palmer Station**	**28.93**	**131**	IAMs_20	IAMs_20	23 23 02.6	
	comp=Z,69μm,20.0s						
PMSA	**Palmer Station**	**28.93**	**131**	LR	LR	23 23 24.5	
	comp=Z,74μm,19.6s,baz=264,slow=30						
PMSA	**Palmer Station**	**28.93**	**131**	*e*P	**P**	**23 15 00.3**	**+1.1**
MG04	**Isla Riesco**	**29.03**	**105**	P	**P**	**23 15 00.1**	**-0.1**
MG04				IAMs_20	IAMs_20	23 23 55.7	
	comp=Z,60μm,18.0s						
GO10	**Punta Arenas**	**29.18**	**106**	P	**P**	**23 15 01.8**	**+0.2**
GO10				IAMs_20	IAMs_20	23 23 24.5	
	comp=Z,48μm,20.0s						
MG03	**Isla Dawson**	**29.19**	**108**	P	**P**	**23 15 01.9**	**+0.3**
GO09	**Cerro Castillo**	**29.36**	**102**	P	**P**	**23 15 02.9**	**-0.3**
GO09				IAMs_20	IAMs_20	23 23 40.6	
	comp=Z,54μm,18.0s						
MG01	**Puerto William**	**30.22**	**111**	P	**P**	**23 15 11.8**	**+1.1**
MG01				IAmb	IAmb	23 15 21.7	
	comp=Z,348nm,1.6s						
MG02	**Cerro Sombrero**	**30.33**	**106**	P	**P**	**23 15 12.3**	**+0.5**
MG02				IAMs_20	IAMs_20	23 24 39.0	
	comp=Z,60μm,19.0s						
RPN	**Rapa Nui**	**30.39**	**23**	LR	LR	23 24 44.8	
	comp=Z,15μm,20.1s,baz=198,slow=31						
GO08	**Villa O'Higgin**	**30.70**	**97**	P	**P**	**23 15 15.4**	**+0.3**
GO08				IAmb	IAmb	23 15 18.5	
	comp=Z,208nm,1.8s						
GO08				IAMs_20	IAMs_20	23 24 00.3	
	comp=Z,56μm,20.0s						
AY03	**Cochrane**	**31.36**	**95**	P	**P**	**23 15 21.6**	**+0.7**
AY03				IAmb	IAmb	23 15 24.3	
	comp=Z,139nm,1.4s						
AY02	**Valle Explorad**	**31.47**	**93**	P	**P**	**23 15 23.2**	**+1.3**
PTCN	**Pitcairn Islan**	**31.54**	**346**	IAMs_20	IAMs_20	23 24 20.6	
	comp=Z,51μm,21.0s						
SBA	**Scott Base**	**32.01**	**202**	P	**P**	**23 15 27.8**	**+1.5**
SBA				IAmb	IAmb	23 15 41.2	
	comp=Z,237nm,1.9s						
SBA	**Scott Base**	**32.01**	**202**	P	**P**	**23 15 27.8**	**+1.5**
SBA				pmax	pmax		
	comp=Z,237nm,2.0s						
SBA				MLR	MLR		
	comp=Z,17μm,19.0s						
ESPZ	**Base Esperanza**	**32.27**	**130**	IAMs_20	IAMs_20	23 24 15.9	
	comp=Z,59μm,19.0s						
COYC	**Coyhaique**	**32.63**	**93**	P	**P**	**23 15 31.9**	**-0.2**
COYC				IAmb	IAmb	23 15 35.9	
	comp=Z,258nm,1.4s						
COYC	**Coyhaique**	**32.63**	**93**	IAMs_20	IAMs_20	23 25 02.8	
	comp=Z,45μm,19.0s						
GO07	**Milladeo Hill,**	**33.28**	**88**	P	**P**	**23 15 38.3**	**+0.5**
LL07	**Hotel Espejo d**	**33.57**	**88**	P	**P**	**23 15 39.9**	**-0.4**
LL07				IAMs_20	IAMs_20	23 25 06.9	
	comp=Z,67μm,21.0s						
LL06	**Loncomilla**	**33.89**	**87**	P	**P**	**23 15 43.3**	**+0.3**
LL06				IAMs_20	IAMs_20	23 25 26.4	
	comp=Z,57μm,19.0s						
QSPA	**South Pole Qui**	**34.08**	**180**	P	**P**	**23 15 44.1**	**-0.7**
	comp=Z,16nm,1.1s,baz=99,slow=3.3,SNR=21						
QSPA				LR	LR	23 27 57.8	
	comp=Z,29μm,20.2s,baz=92,slow=34						
	comp=Z,16nm,1.1s						
LL02	**Futaleuf**	**34.25**	**90**	P	**P**	**23 15 45.7**	**-0.5**
LL02				IAmb	IAmb	23 15 59.6	
	comp=Z,160nm,1.4s						
LL02				IAMs_20	IAMs_20	23 25 52.8	
	comp=Z,49μm,19.0s						
LL01	**San Ignacio de**	**34.46**	**88**	P	**P**	**23 15 47.3**	**-0.8**
LL01				IAMs_20	IAMs_20	23 25 46.5	
	comp=Z,61μm,20.0s						
LL05	**Los Muermos**	**34.51**	**86**	P	**P**	**23 15 48.8**	**+0.3**
LL03	**Petrohue**	**35.29**	**86**	P	**P**	**23 15 55.2**	**0.0**
LL03				IAmb	IAmb	23 16 02.8	
	comp=Z,167nm,0.9s						
LL03				IAMs_20	IAMs_20	23 26 26.5	
	comp=Z,46μm,18.0s						
LL04	**Puerto Octay**	**35.44**	**86**	P	**P**	**23 15 56.4**	**-0.1**
LL04				IAmb	IAmb	23 15 59.8	
	comp=Z,218nm,1.6s						
BELA	**Belgrano 2**	**35.45**	**159**	P	**P**	**23 15 56.1**	**-0.1**
BELA				IAmb	IAmb	23 16 01.9	
	comp=Z,237nm,1.6s						
BELA				IAMs_20	IAMs_20	23 28 16.4	
	comp=Z,58μm,22.0s						
LR04	**Corral**	**35.57**	**84**	P	**P**	**23 15 56.0**	**-1.6**
LR04				IAMs_20	IAMs_20	23 26 17.2	
	comp=Z,44μm,20.0s						
LR05	**Currie**	**36.13**	**86**	P	**P**	**23 16 02.8**	**+0.4**
LR05				IAmb	IAmb	23 16 06.9	
	comp=Z,378nm,1.6s						
CTZ	**Chatham Island**	**36.23**	**266**	P	**P**	**23 16 03.7**	**+0.5**
LR03	**Panguipulli**	**36.35**	**85**	P	**P**	**23 16 05.1**	**+0.8**
PLCA	**Paso Flores**	**36.60**	**87**	P	**P**	**23 16 06.8**	**+0.3**
PLCA				IAmb	IAmb	23 16 20.0	
	comp=Z,232nm,1.4s						
PLCA	**Paso Flores**	**36.60**	**87**	P	**P**	**23 16 06.8**	**+0.3**
PLCA				pmax	pmax		
	comp=Z,232nm,1.4s						
PLCA	**Paso Flores**	**36.60**	**87**	*e*P	**P**	**23 16 06.2**	**-0.3**
EFI	**East Falkland**	**36.82**	**111**	P	**P**	**23 16 08.7**	**+0.5**
EFI				IAmb	IAmb	23 16 11.1	
	comp=Z,323nm,1.5s						
EFI	**East Falkland**	**36.82**	**111**	*c i*P	**P**	**23 16 09.3**	**+1.1**
EFI				pmax	pmax		
	comp=Z,120nm,1.5s						
EFI				MLR	MLR		
	comp=Z,5μm,10.0s						
GO06	**Curarrehue**	**36.87**	**85**	P	**P**	**23 16 08.2**	**-0.7**
GO06				IAmb	IAmb	23 16 19.7	
	comp=Z,201nm,1.4s						
H03S2	**Juan Fernandez**	**36.98**	**71**	T	T	23 55 23.1	
	baz=218,slow=74,SNR=1788						
H03S1	**Juan Fernandez**	**36.98**	**71**	T	T	23 55 23.8	
	baz=218,slow=74,SNR=2224						
H03S3	**Juan Fernandez**	**36.99**	**71**	T	T	23 55 23.1	
	baz=218,slow=74,SNR=2569						
VA04	**Juan Fernndez**	**37.18**	**71**	P	**P**	**23 16 11.8**	**+0.4**
VA04				IAMs_20	IAMs_20	23 26 41.7	
	comp=Z,54μm,20.0s						
H03N3	**Juan Fernandez**	**37.27**	**71**	T	T	23 55 47.7	
	baz=221,slow=72,SNR=6735						
H03N2	**Juan Fernandez**	**37.28**	**71**	T	T	23 55 40.9	
	baz=221,slow=72,SNR=5287						
H03N1	**Juan Fernandez**	**37.29**	**71**	T	T	23 55 40.7	
	baz=221,slow=72,SNR=2833						
BI05	**Punta Hualpn**	**37.92**	**80**	P	**P**	**23 16 18.5**	**+0.9**
BI05				IAmb	IAmb	23 16 25.3	
	comp=Z,199nm,1.3s						
BI05				IAMs_20	IAMs_20	23 27 19.4	
	comp=Z,41μm,21.0s						
TBI	**Tubuai**	**38.37**	**317**	*e*P	**P**	**23 16 23.6**	**+2.1**
TBI				*e*S	**S**	**23 22 15.5**	**-0.6**
	comp=Z,5μm,40.0s						
TBI				*e*SS	**SS**	**23 25 04.2**	**-0.5**
	comp=Z,30μm,40.8s						
TBI				*e*LR	LR	23 26 49.5	
	comp=Z,13μm,18.5s						
TBI				*e*LR	LR	23 26 53.9	
	comp=Z,49μm,28.0s						
BI02	**San Fabin de**	**39.04**	**82**	P	**P**	**23 16 26.8**	**-0.4**
BI02				IAmb	IAmb	23 16 38.9	
	comp=Z,117μm,23.2s						
BI02				IAMs_20	IAMs_20	23 28 10.0	
	comp=Z,519nm,2.0s						
ML02	**Panimavida**	**39.62**	**81**	P	**P**	**23 16 31.1**	**-0.8**
ML02				IAmb	IAmb	23 16 42.1	
	comp=Z,36μm,21.0s						
GO05	**Hualane**	**39.89**	**80**	P	**P**	**23 16 34.6**	**+0.3**
BO02	**Sierra Bellavi**	**40.68**	**81**	P	**P**	**23 16 40.5**	**-0.4**
BO02				IAmb	IAmb	23 16 48.1	
	comp=Z,197nm,1.1s						
BO02				IAMs_20	IAMs_20	23 28 51.2	
	comp=Z,212nm,1.4s						
BO01	**Tunca**	**40.81**	**80**	P	**P**	**23 16 40.9**	**-1.0**
BO01				IAmb	IAmb	23 16 51.9	
	comp=Z,27μm,19.0s						
VA05	**Santo Domingo**	**41.07**	**79**	P	**P**	**23 16 42.2**	**-1.7**
VA05				IAMs_20	IAMs_20	23 29 17.5	
	comp=Z,417nm,2.0s						
MT01	**Popeta**	**41.12**	**79**	P	**P**	**23 16 44.1**	**-0.3**
MT09	**Talagante**	**41.33**	**79**	P	**P**	**23 16 44.5**	**-1.8**
MT09				IAmb	IAmb	23 16 55.9	
	comp=Z,26nm,19.0s						
MT09				IAMs_20	IAMs_20	23 29 28.2	
	comp=Z,226nm,1.4s						
BO04	**La Punta**	**41.38**	**80**	P	**P**	**23 16 47.0**	**+0.5**
VA01	**Torpederas**	**41.53**	**78**	P	**P**	**23 16 46.8**	**-1.0**
VA01				IAMs_20	IAMs_20	23 28 59.9	
	comp=Z,31μm,20.0s						
MT02	**Curacav**	**41.63**	**79**	P	**P**	**23 16 48.3**	**-0.3**
MT02				IAMs_20	IAMs_20	23 29 06.4	
	comp=Z,30μm,22.0s						
LMEL	**Las Melosas**	**41.70**	**80**	P	**P**	**23 16 49.3**	**-0.1**
LMEL				IAMs_20	IAMs_20	23 29 24.2	
	comp=Z,31μm,20.0s						
MT05	**Renca**	**41.75**	**79**	P	**P**	**23 16 49.7**	**0.0**
MT05				IAMs_20	IAMs_20	23 29 57.5	
	comp=Z,23μm,18.0s						
MT03	**Universidad Ad**	**41.80**	**79**	P	**P**	**23 16 49.4**	**-0.7**
MT03				IAMs_20	IAMs_20	23 29 42.8	
	comp=Z,25μm,18.0s						
MT16	**CCHEN**	**41.84**	**79**	P	**P**	**23 16 49.2**	**-1.2**
MT16				IAmb	IAmb	23 16 57.4	
	comp=Z,343nm,1.8s						
MT16				IAMs_20	IAMs_20	23 29 53.9	
	comp=Z,26μm,18.0s						
PEL	**Peldehue**	**41.97**	**79**	P	**P**	**23 16 50.4**	**-1.0**
PEL				IAmb	IAmb	23 16 58.6	
	comp=Z,373nm,1.6s						
PEL	**Peldehue**	**41.97**	**79**	P	**P**	**23 16 50.4**	**-1.0**
PEL				pmax	pmax		
	comp=Z,373nm,1.6s						
PEL				MLR	MLR		
	comp=Z,26μm,21.0s						
MT08	**Bocatoma Ro**	**42.11**	**80**	P	**P**	**23 16 53.1**	**+0.4**
MT08				IAmb	IAmb	23 17 05.9	
	comp=Z,427nm,1.9s						
MT08				IAMs_20	IAMs_20	23 29 54.9	
	comp=Z,28μm,20.0s						
MQZ	**McQueen's Vall**	**42.20**	**259**	P	**P**	**23

CO06	**Fray Jorge**	**43.33**	**76**	P	**P**	**23 17 02.6**	**+0.2**
WHZ	**Wether Hill Ro**	**43.34**	**253**	P	**P**	**23 17 02.2**	**-0.2**
WHZ				IAmb	IAmb	23 17 13.7	
	comp=Z,212nm,1.5s						
THZ	**Tophouse**	**43.35**	**261**	P	**P**	**23 17 02.4**	**-0.2**
TVO	**Taravao**	**43.39**	**321**	*e*P	**P**	**23 17 01.4**	**-1.6**
	comp=Z,42nm,1.4s						
TVO				*e*S	**S**	**23 23 27.4**	**-3.5**
	comp=Z,1μm,23.0s						
TVO				*e*SS	**SS**	**23 26 46.3**	**+1.6**
	comp=Z,730nm,23.0s						
TVO				*e*LR	LR	23 29 02.6	
	comp=Z,12μm,26.4s						
URZ	**Urewera**	**43.41**	**268**	LR	LR	23 30 36.3	
	comp=Z,19μm,20.9s,baz=217,slow=30						
WKZ	**Wanaka**	**43.45**	**255**	P	**P**	**23 17 04.6**	**+1.3**
WKZ				IAmb	IAmb	23 17 19.0	
	comp=Z,251nm,1.6s						
WKZ				IAMs_20	IAMs_20	23 30 17.3	
	comp=Z,33μm,22.0s						
NNZ	**Nelson**	**43.45**	**262**	P	**P**	**23 17 04.4**	**+1.1**
INZ	**Inchbonnie**	**43.51**	**259**	P	**P**	**23 17 04.1**	**+0.4**
INZ				IAMs_20	IAMs_20	23 30 36.2	
	comp=Z,24μm,20.0s						
MLZ	**Mavora Lakes**	**43.59**	**254**	P	**P**	**23 17 03.0**	**-1.4**
MLZ				IAmb	IAmb	23 17 16.9	
	comp=Z,338nm,2.0s						
PAE	**Paea**	**43.62**	**320**	*e*P	**P**	**23 17 05.5**	**+0.7**
	comp=Z,32nm,1.3s						
PAE				*e*S	**S**	**23 23 30.2**	**-3.9**
	comp=Z,1μm,24.4s						
PAE				*e*SS	**SS**	**23 26 44.3**	**-4.7**
	comp=Z,438nm,22.9s						
PAE				*e*LR	LR	23 29 07.9	
	comp=Z,10μm,24.9s						
MRNZ	**Matariki Terra**	**43.68**	**261**	P	**P**	**23 17 05.0**	**-0.2**
PPTF	**Pamatai, Papee**	**43.68**	**321**	P	**P**	**23 17 07.4**	**+2.0**
PPT2	**Papeete2**	**43.68**	**321**	*e*P	**P**	**23 17 01.9**	**-3.5**
	comp=Z,1μm,24.5s						
PPT2	**Papeete2**	**43.68**	**321**	*e*P	**P**	**23 17 05.9**	**+0.5**
	comp=Z,95nm,1.4s						
PPT2	**Papeete2**	**43.68**	**321**	*e*PP	**PP**	**23 18 42.5**	**-4.5**
	comp=Z,940nm,30.0s						
PPT2				*e*S	**S**	**23 23 40.4**	**+5.1**
	comp=Z,10μm,26.0s						
PPT2				*e*SS	**SS**	**23 26 54.8**	**+4.3**
	comp=Z,27μm,29.2s						
PPT2				*e*LR	LR	23 29 13.8	
	comp=Z,42μm,28.8s						
PPT2				*e*LR	LR	23 29 20.8	
	comp=Z,42μm,24.0s						
PPT	**Papeete**	**43.70**	**321**	P	**P**	**23 17 03.5**	**-2.0**
	comp=Z,16nm,0.3s,baz=94,slow=19,SNR=1.3						
PPT				LR	LR	23 31 03.2	
	comp=Z,12μm,19.6s,baz=152,slow=30						
	comp=Z,16nm,0.3s						
CO03	**El Pedregal**	**43.72**	**77**	P	**P**	**23 17 05.3**	**-0.4**
CO03				IAmb	IAmb	23 17 12.7	
	comp=Z,200nm,1.4s						
PYZ	**Puysegur Point**	**43.84**	**252**	P	**P**	**23 17 05.8**	**-0.6**
FOZ	**Fox Glacier**	**43.87**	**257**	P	**P**	**23 17 07.2**	**+0.6**
FOZ				IAmb	IAmb	23 17 15.6	
	comp=Z,213nm,1.6s						
FOZ				IAMs_20	IAMs_20	23 31 10.4	
	comp=Z,42μm,21.0s						
DSZ	**Denniston Nort**	**43.97**	**260**	P	**P**	**23 17 07.4**	**-0.1**
CO05	**La Serena**	**44.13**	**75**	P	**P**	**23 17 08.5**	**-0.4**
CO05				IAmb	IAmb	23 17 21.0	
	comp=Z,270nm,1.8s						
CO05				IAMs_20	IAMs_20	23 29 42.9	
	comp=Z,34μm,22.0s						
GO04	**Tololo Observa**	**44.18**	**76**	P	**P**	**23 17 09.1**	**-0.5**
GO04				IAmb	IAmb	23 17 12.6	
	comp=Z,247nm,1.3s						
QRZ	**Quartz Range**	**44.19**	**262**	P	**P**	**23 17 09.0**	**-0.2**
QRZ				IAmb	IAmb	23 17 27.0	
	comp=Z,181nm,1.6s						
ZON	**Zonda**	**44.28**	**79**	P	**P**	**23 17 09.9**	**-0.3**
ZON				IAmb	IAmb	23 17 12.7	
	comp=Z,200nm,1.6s						
ZON				IAMs_20	IAMs_20	23 30 44.4	
	comp=Z,30μm,20.0s						
ZON	**Zonda**	**44.28**	**79**	P	**P**	**23 17 09.9**	**-0.3**
ZON				pmax	pmax		
	comp=Z,200nm,1.6s						
ZON				MLR	MLR		
	comp=Z,30μm,20.0s						
VNA3	**Neumayer Olymp**	**44.40**	**155**	⇑P	**P**	**23 17 10.1**	**-0.5**
	comp=Z,6μm,0.0s						
VNA3				⇓PP	PcP	23 19 04.9	+11
	comp=Z,143nm,1.9s						
VNA3				⇑S	**S**	**23 23 51.5**	**+6.8**
	comp=Z,3μm,7.2s						
HIZ	**Hauiti**	**44.50**	**266**	P	**P**	**23 17 12.1**	**+0.3**
HIZ				IAmb	IAmb	23 17 16.5	
	comp=Z,301nm,1.8s						
RAR	**Rarotonga**	**44.60**	**306**	P	**P**	**23 17 14.0**	**+1.4**
RAR				IAmb	IAmb	23 17 32.4	
	comp=Z,311nm,1.9s						
RAR	**Rarotonga**	**44.60**	**306**	LR	LR	23 30 52.4	
	comp=Z,6μm,21.9s,baz=149,slow=30						
RAR	**Rarotonga**	**44.60**	**306**	P	**P**	**23 17 14.0**	**+1.4**
RAR				pmax	pmax		
	comp=Z,311nm,1.9s						
RAR				MLR	MLR		
	comp=Z,12μm,19.0s						
TOZ	**Tahuroa Road**	**44.69**	**267**	P	**P**	**23 17 13.7**	**+0.5**
CO01	**Juntas del Tor**	**44.71**	**77**	P	**P**	**23 17 14.1**	**+0.2**
LCO	**Las Campanas**	**45.13**	**75**	P	**P**	**23 17 17.1**	**-0.1**
LCO	**Las Campanas**	**45.13**	**75**	P	**P**	**23 17 17.1**	**-0.1**
LCO				pmax	pmax		
	comp=Z,112nm,1.4s						
LCO				MLR	MLR		
	comp=Z,9μm,18.0s						
VNA1	**Neumayer--Stat**	**45.15**	**155**	⇑P	**P**	**23 17 16.4**	**-0.1**
	comp=Z,70nm,0.9s						
VNA2	**Neumayer--Watz**	**45.16**	**155**	⇑P	**P**	**23 17 16.5**	**-0.1**
	comp=Z,65nm,1.0s,baz=221,slow=9.2						
VNA2				⇓PP	PP	23 19 12.8	+11
	comp=Z,14nm,0.8s,baz=210,slow=4.6						
VNA2				⇓S	**S**	**23 23 59.1**	**+3.5**
	comp=Z,67μm,0.0s,baz=100,slow=29						
VAH	**Vaihoa**	**45.20**	**324**	*e*P	**P**	**23 17 17.8**	**+0.3**
	comp=Z,149nm,1.2s						
VAH				*e*S	**S**	**23 23 50.6**	**-6.6**
	comp=Z,6μm,24.1s						
VAH				*e*SS	**SS**	**23 27 21.4**	**+1.7**
	comp=Z,3μm,24.1s						
VAH				*e*LR	LR	23 29 53.4	
	comp=Z,69μm,24.5s						
PMOR	**Pomariorio Ree**	**45.51**	**324**	*e*P	**P**	**23 17 20.3**	**+0.4**
	comp=Z,135nm,1.3s						
PMOR				*e*S	**S**	**23 23 56.6**	**-5.0**
	comp=Z,6μm,25.3s						
PMOR				*e*SS	**SS**	**23 27 26.2**	**+1.0**
	comp=Z,4μm,26.2s						
PMOR				*e*LR	LR	23 30 02.3	
	comp=Z,62μm,24.5s						
AC04	**Llanos de Chal**	**45.57**	**74**	P	**P**	**23 17 20.5**	**+0.2**
SNAA	**Sanae**	**45.66**	**157**	P	**P**	**23 17 19.5**	**-1.2**
SNAA				IAmb	IAmb	23 17 25.6	
	comp=Z,188nm,1.4s						
SNAA	**Sanae**	**45.66**	**157**	⇑P	**P**	**23 17 20.2**	**-0.5**
	comp=Z,24nm,0.4s						
SNAA				⇓PP	**PP**	**23 19 08.7**	**+1.6**
	comp=Z,41μm,6.5s						
SNAA				⇓S	**S**	**23 24 06.0**	**+3.0**
	comp=Z,121μm,7.9s						
SNAA	**Sanae**	**45.66**	**157**	P	**P**	**23 17 20.0**	**-0.6**
	comp=Z,18nm,0.9s,baz=225,slow=7.4,SNR=32						
SNAA				LR	LR	23 36 43.6	
	comp=Z,37μm,18.1s,baz=240,slow=36						
	comp=Z,18nm,0.9s						
HOPE	**Hope Point**	**45.91**	**126**	P	**P**	**23 17 22.7**	**0.0**
HOPE	**Hope Point**	**45.91**	**126**	P	**P**	**23 17 22.7**	**0.0**
HOPE				pmax	pmax		
	comp=Z,469nm,1.4s						
HOPE				MLR	MLR		
	comp=Z,47μm,19.0s						
GO03	**Copiapo**	**46.50**	**74**	P	**P**	**23 17 28.7**	**+0.9**
GO03				IAmb	IAmb	23 17 40.3	
	comp=Z,158nm,1.6s						
TROLL	**Troll, Antarti**	**46.51**	**159**	⇑P	**P**	**23 17 28.0**	**+0.6**
	comp=Z,902nm,1.2s						
TROLL				⇑PP	**PP**	**23 19 18.9**	**+2.6**
	comp=Z,0.7nm,0.1s						
TROLL				⇑S	**S**	**23 24 19.1**	**+3.8**
	comp=Z,0.3nm,0.1s						
AC06	**Mina Casimiro**	**46.62**	**74**	P	**P**	**23 17 29.4**	**+0.7**
AC06				IAmb	IAmb	23 17 34.8	
	comp=Z,207nm,1.9s						
RAO	**Raoul Island**	**47.30**	**281**	LR	LR	23 34 57.3	
	comp=Z,2μm,18.2s,baz=147,slow=33						
AC01	**Pan de Azucar**	**47.46**	**73**	P	**P**	**23 17 35.5**	**+0.3**
AC01				IAmb	IAmb	23 17 41.9	
	comp=Z,166nm,1.4s						
PB14	**IPOC Station P**	**48.78**	**72**	P	**P**	**23 17 44.8**	**-1.1**
PB14				IAmb	IAmb	23 17 57.8	
	comp=Z,74nm,1.0s						
PB14				IAMs_20	IAMs_20	23 32 37.3	
	comp=Z,22μm,20.0s						
PB14	**IPOC Station P**	**48.78**	**72**	P	**P**	**23 17 44.7**	**-1.1**
PB14				S	**S**	**23 24 49.7**	**+0.8**
GO02	**Mina Guanaco**	**48.79**	**73**	P	**P**	**23 17 46.8**	**+0.9**
GO02				IAmb	IAmb	23 17 55.6	
	comp=Z,299nm,1.9s						
TAOE	**Nuku Hiva Isla**	**49.21**	**336**	IAMs_20	IAMs_20	23 32 53.2	
	comp=Z,21μm,21.0s						
TAOE	**Nuku Hiva Isla**	**49.21**	**336**	*e*P	**P**	**23 17 44.2**	**-4.6**
	comp=Z,919nm,25.2s						
TAOE	**Nuku Hiva Isla**	**49.21**	**336**	*e*PP	**PP**	**23 19 38.4**	**-4.3**
	comp=Z,396nm,25.5s						
TAOE				*e*S	**S**	**23 24 52.9**	**-1.6**
	comp=Z,10μm,25.3s						
TAOE				*e*SS	**SS**	**23 28 22.8**	**-3.1**
	comp=Z,4μm,33.1s						
TAOE				*e*LR	LR	23 31 44.0	
	comp=Z,66μm,27.9s						
NVL	**N'lazarevskaya**	**49.27**	**162**	*e*P	**P**	**23 17 46.4**	**-2.2**
NVL				*e*PPP	PPP	23 20 33.2	
NVL				*e*S	**S**	**23 24 45.5**	**-8.6**
NVL				*e*SS	**SS**	**23 28 17.3**	**-7.3**
NVL				*e*SSS	SSS	23 29 35.3	
NVL				pmax	pmax		
	comp=Z,98nm,1.4s						
NVL				MLR	MLR		
	comp=Z,61μm,18.0s						
ELIB	**Princess Elisa**	**49.98**	**167**	*d*P	**P**	**23 17 53.7**	**-0.5**
	comp=Z,46nm,1.2s						
ELIB				*d*PcP	**PcP**	**23 19 12.0**	**-2.0**
PB15	**IPOC Station P**	**50.43**	**72**	P	**P**	**23 17 57.6**	**-0.6**
PB15				IAmb	IAmb	23 18 05.3	
	comp=Z,278nm,1.7s						
PB04	**IPOC Station P**	**50.78**	**70**	P	**P**	**23 18 00.1**	**-0.8**
PB04				IAmb	IAmb	23 18 07.7	
	comp=Z,118nm,1.3s						
PB04				IAMs_20	IAMs_20	23 33 34.4	
	comp=Z,20μm,21.0s						
PB06	**IPOC Station P**	**50.78**	**71**	P	**P**	**23 18 01.0**	**+0.1**
PSAL	**Palomas, Salto**	**50.80**	**89**	*e*P	**P**	**23 18 00.1**	**-0.6**
AF01	**San Pedro de A**	**51.33**	**73**	P	**P**	**23 18 05.1**	**-0.1**
AF01				IAmb	IAmb	23 18 18.2	
	comp=Z,175nm,1.1s						
AF01				IAMs_20	IAMs_20	23 33 59.6	
	comp=Z,20μm,18.0s						
CASY	**Casey**	**51.68**	**204**	P	**P**	**23 18 08.0**	**+1.1**
CASY				IAmb	IAmb	23 18 19.0	
	comp=Z,156nm,1.6s						
PB09	**IPOC Station P**	**51.70**	**71**	P	**P**	**23 18 09.0**	**+1.2**
PB09				IAmb	IAmb	23 18 15.7	
	comp=Z,337nm,1.9s						
PB09				IAMs_20	IAMs_20	23 34 04.7	
	comp=Z,19μm,21.0s						
PB01	**IPOC Station P**	**52.19**	**70**	P	**P**	**23 18 12.0**	**+0.7**
PB01				IAmb	IAmb	23 18 29.8	
	comp=Z,286nm,1.9s						
PB01				IAMs_20	IAMs_20	23 34 16.7	
	comp=Z,25μm,22.0s						
TA01	**Diego Aracena**	**52.22**	**69**	P	**P**	**23 18 12.1**	**+0.7**
TA01				IAmb	IAmb	23 18 29.6	
	comp=Z,131nm,1.2s						
TA01				IAMs_20	IAMs_20	23 34 15.5	
	comp=Z,19μm,21.0s						
ITQB	**Itaqui**	**52.42**	**88**	P	**P**	**23 18 11.9**	**-1.0**
ITQB	**Itaqui**	**52.42**	**88**	*e*P	**P**	**23 18 11.8**	**-1.0**
TA02	**Huaiquique**	**52.49**	**69**	P	**P**	**23 18 13.3**	**-0.1**
TA02				IAmb	IAmb	23 18 20.6	
	comp=Z,322nm,1.6s						
PLTB	**Pedras Altas**	**52.53**	**93**	P	**P**	**23 18 12.6**	**-1.0**
PLTB				IAmb	IAmb	23 18 15.6	
	comp=Z,151nm,1.1s						
PLTB	**Pedras Altas**	**52.53**	**93**	*e*P	**P**	**23 18 12.5**	**-1.2**
PB08	**IPOC Station P**	**53.11**	**70**	P	**P**	**23 18 19.0**	**+0.5**
PB08				IAmb	IAmb	23 18 30.0	
	comp=Z,182nm,1.7s						
PB08				IAMs_20	IAMs_20	23 34 57.0	
	comp=Z,22μm,21.0s						
PB08	**IPOC Station P**	**53.11**	**70**	P	**P**	**23 18 18.5**	**0.0**
PB08				S	**S**	**23 25 50.0**	**+1.0**
PB11	**IPOC Station P**	**53.16**	**69**	P	**P**	**23 18 18.5**	**-0.1**
PB11				IAmb	IAmb	23 18 25.4	
	comp=Z,357nm,1.8s						
GO01	**Chusmiza**	**53.48**	**69**	P	**P**	**23 18 21.3**	**0.0**
GO01				IAMs_20	IAMs_20	23 34 37.8	
	comp=Z,20μm,21.0s						
CPSB	**Cacapava Do Su**	**53.64**	**92**	*e*P	**P**	**23 18 20.8**	**-1.0**
AP01	**Chacalluta**	**53.96**	**67**	P	**P**	**23 18 25.6**	**+1.4**
AP01				IAMs_20	IAMs_20	23 35 08.7	
	comp=Z,25μm,20.0s						
CPUP	**Villa Florida**	**54.60**	**85**	P	**P**	**23 18 28.1**	**-0.8**
CPUP				IAmb	IAmb	23 18 41.0	
	comp=Z,165nm,1.5s						
CPUP	**Villa Florida**	**54.60**	**85**	P	**P**	**23 18 28.0**	**-0.8**
	comp=Z,51nm,1.1s,baz=231,slow=7.7,SNR=27						
CPUP				LR	LR	23 39 00.8	
	comp=Z,27μm,18.5s,baz=228,slow=33						
	comp=Z,51nm,1.1s						
CPUP	**Villa Florida**	**54.60**	**85**	P	**P**	**23 18 28.1**	**-0.8**
CPUP				pmax	pmax		
	comp=Z,165nm,1.5s						
PB18	**Visviri**	**55.05**	**68**	P	**P**	**23 18 34.0**	**+1.1**
PB18				IAMs_20	IAMs_20	23 35 57.8	
	comp=Z,23μm,21.0s						
PAPY	**Pozo Azul**	**55.86**	**83**	*e*P	**P**	**23 18 37.2**	**-0.8**
CNLB	**Canela**	**55.92**	**93**	*e*P	**P**	**23 18 38.1**	**-0.4**
TAU	**Tasmania Unive**	**56.07**	**242**	P	**P**	**23 18 40.0**	**+0.7**
TAU	**Tasmania Unive**	**56.07**	**242**	P	**P**	**23 18 40.0**	**+0.7**
TAU				pmax	pmax		
	comp=Z,96nm,1.4s						
TAU				MLR	MLR		
	comp=Z,12μm,21.0s						
NNA	**Nana**	**56.19**	**57**	P	**P**	**23 18 41.0**	**+0.5**
NNA				IAmb	IAmb	23 18 53.1	
	comp=Z,84nm,1.1s						
NNA	**Nana**	**56.19**	**57**	IAMs_20	IAMs_20	23 36 55.6	
	comp=Z,18μm,18.0s						
NNA	**Nana**	**56.19**	**57**	LR	LR	23 37 08.6	
	comp=Z,18μm,18.2s,baz=206,slow=30						
NNA	**Nana**	**56.19**	**57**	*de*P	**P**	**23 18 41.9**	**+1.4**
NNA				pmax	pmax		
	comp=Z,160nm,1.3s						
NNA				MLR	MLR		
	comp=Z,8μm,16.0s						
SJPY	**San Joaquin**	**56.33**	**85**	*e*P	**P**	**23 18 40.7**	**-0.7**
FDPY	**Filadelfia**	**56.35**	**80**	*e*P	**P**	**23 18 40.5**	**-1.0**
MOO	**Moorlands**	**56.48**	**243**	P	P	23 18 48.0	+5.8
MAW	**Mawson**	**56.55**	**182**	P	**P**	**23 18 41.3**	**-1.1**
	comp=Z,12nm,0.9s,baz=176,slow=8.4,SNR=18						
MAW				LR	LR	23 42 07.2	
	comp=Z,28μm,19.1s,baz=166,slow=35						
	comp=Z,12nm,0.9s						
AFI	**Afiamalu**	**56.61**	**298**	P	**P**	**23 18 44.6**	**+1.1**
AFI				IAmb	IAmb	23 19 20.1	
	comp=Z,180nm,1.4s						
AFI	**Afiamalu**	**56.61**	**298**	P	**P**	**23 18 44.6**	**+1.1**
AFI				pmax	pmax		
	comp=Z,180nm,1.5s						
AFI				MLR	MLR		
	comp=Z,7μm,22.0s						
ITAB	**Concordia**	**56.81**	**90**	P	**P**	**23 18 44.1**	**-0.6**
ITAB	**Concordia**	**56.81**	**90**	*e*P	**P**	**23 18 43.4**	**-1.4**
LPAZ	**La Paz**	**56.84**	**68**	P	**P**	**23 18 45.9**	**+0.1**
LPAZ	**La Paz**	**56.84**	**68**	P	**P**	**23 18 45.7**	**-0.1**
	comp=Z,23nm,0.9s,baz=204,slow=9.3,SNR=25						
LPAZ				LR	LR	23 37 25.8	
	comp=Z,15μm,19.7s,baz=210,slow=30						
	comp=Z,23nm,0.9s						
LPAZ	**La Paz**	**56.84**	**68**	P	**P**	**23 18 45.9**	**+0.1**
LPAZ				pmax	pmax		
	comp=Z,296nm,1.5s						
LPAZ	**La Paz**	**56.84**	**68**	*e*P	**P**	**23 18 44.5**	**-1.3**
TER01	**Tubaro-SC**	**57.49**	**94**	*e*P	**P**	**23 18 48.9**	**-0.6**
MURT	**Porto Murtinho**	**58.13**	**82**	*e*P	**P**	**23 18 52.6**	**-1.6**
LHI	**Lord Howe Isla**	**58.40**	**260**	P	**P**	**23 18 56.8**	**+0.9**
LHI				IAmb	IAmb	23 19 13.5	
	comp=Z,126nm,1.2s						
MAJ01	**Sao Joao Batis**	**58.43**	**93**	*e*P	**P**	**23 18 55.3**	**-0.8**
MSVF	**Nonsavu**	**58.71**	**285**	P	**P**	**23 18 58.2**	**-0.1**
MSVF				IAmb	IAmb	23 19 43.2	
	comp=Z,199nm,1.8s						
MSVF	**Nonsavu**	**58.71**	**285**	LR	LR	23 38 42.5	
	comp=Z,4μm,21.9s,baz=145,slow=30						
MSVF	**Nonsavu**	**58.71**	**285**	⇓*e*P	**P**	**23 18 59.1**	**+0.8**
MSVF				pmax	pmax		
	comp=Z,92nm,1.6s						
MSVF				MLR	MLR		
	comp=Z,1μm,6.0s						
PTGB	**Pitanga**	**58.81**	**88**	*e*P	**P**	**23 18 58.1**	**-0.9**
ATAH	**Atahualpa**	**59.75**	**53**	LR	LR	23 38 45.8	
	comp=Z,44μm,20.2s,baz=225,slow=30						
BBSD	**Serra de San D**	**60.10**	**76**	*e*P	**P**	**23 19 04.9**	**-3.0**
AQDB	**Aquidauana**	**60.14**	**82**	P	**P**	**23 19 07.2**	**-0.9**
AQDB				IAmb	IAmb	23 19 09.8	
	comp=Z,87nm,1.4s						
LDASE	**Londrina, Braz**	**60.38**	**88**	*e*P	**P**	**23 19 08.7**	**-1.0**
PANT	**Pantanal (Braz**	**60.83**	**81**	*e*P	**P**	**23 19 11.9**	**-0.9**
SIV	**San Ignacio**	**60.84**	**75**	LR	LR	23 41 33.0	
	comp=Z,3μm,19.8s,baz=232,slow=32						
CAN	**Canberra**	**60.92**	**249**	P	**P**	**23 19 13.5**	**+0.2**
CAN				IAmb	IAmb	23 20 11.0	
	comp=Z,109nm,1.7s						
CAN				IAMs_20	IAMs_20	23 39 05.3	
	comp=Z,21μm,21.0s						
CAN	**Canberra**	**60.92**	**249**	P	**P**	**23 19 15.1**	**+1.7**
	comp=Z,36nm,2.2s						
CAN	**Canberra**	**60.92**	**249**	P	**P**	**23 19 13.5**	**+0.2**
CAN				pmax	pmax		
	comp=Z,109nm,1.7s						
CAN				MLR	MLR		
	comp=Z,21μm,21.0s						
TOO	**Toolangi**	**61.01**	**245**	P	**P**	**23 19 13.4**	**-0.5**
TOO	**Toolangi**	**61.01**	**245**	P	**P**	**23 19 13.4**	**-0.5**
TOO				pmax	pmax		
	comp=Z,59nm,1.7s						
TOO				MLR	MLR		
	comp=Z,10μm,21.0s						
RPRD	**Ribas do Rio P**	**61.25**	**84**	*e*P	**P**	**23 19 13.1**	**-2.5**
FRTB	**Fartura**	**61.29**	**90**	*e*P	**P**	**23 19 14.3**	**-1.6**
ONTNC	**Ouen Toro**	**61.43**	**272**	P	**P**	**23 19 16.2**	**-0.6**
DZM	**Mont Dzumac**	**61.62**	**272**	P	**P**	**23 19 17.5**	**-0.8**
DZM				IAmb	IAmb	23 19 35.3	
	comp=Z,176nm,1.8s						
DZM				IAMs_20	IAMs_20	23 40 14.9	
	comp=Z,14μm,20.0s						
DZM	**Mont Dzumac**	**61.62**	**272**	*e*P	**P**	**23 19 16.4**	**-1.9**
	comp=Z,134nm,1.6s						
DZM	**Mont Dzumac**	**61.62**	**272**	*e*PP	**PP**	**23 21 26.3**	**-7.4**
	comp=Z,1μm,36.5s						
DZM				*e*S	**S**	**23 27 36.2**	**-4.3**
	comp=Z,4μm,23.9s						
DZM				*e*LQ	LQ	23 34 43.3	
	comp=Z,33μm,35.2s						
DZM				*e*LR	LR	23 37 27.5	
	comp=Z,32μm,25.8s						
DZM	**Mont Dzumac**	**61.62**	**272**	LR	LR	23 40 36.2	
	comp=Z,14μm,20.3s,baz=140,slow=31						
CZSB	**Cruzeiro do Su**	**61.86**	**59**	P	**P**	**23 19 19.6**	**-0.1**
CZSB	**Cruzeiro do Su**	**61.86**	**59**	*e*P	**P**	**23 19 19.1**	**-0.6**
YNG	**Young**	**62.02**	**250**	P	**P**	**23 19 22.0**	**+1.3**
	comp=Z,0.0nmcomp=Z,139nm,2.1s						
SPB	**Sao Paulo**	**62.29**	**91**	P	**P**	**23 19 22.4**	**-0.2**
SPB				IAmb	IAmb	23 19 25.0	
	comp=Z,82nm,1.4s						
SPB	**Sao Paulo**	**62.29**	**91**	*e*P	**P**	**23 19 22.1**	**-0.5**
PTLB	**Pontes e Lacer**	**62.33**	**76**	P	**P**	**23 19 21.9**	**-1.0**
PTLB				IAmb	IAmb	23 19 35.1	
	comp=Z,127nm,1.5s						
PTLB	**Pontes e Lacer**	**62.33**	**76**	*e*P	**P**	**23 19 21.9**	**-1.0**
VAO	**Valinhos**	**63.01**	**91**	P	**P**	**23 19 27.1**	**-0.5**
VAO				IAmb	IAmb	23 19 30.1	
	comp=Z,109nm,1.3s						
VAO	**Valinhos**	**63.01**	**91**	*e*P	**P**	**23 19 26.3**	**-1.2**
C2SB	**Chapadao do Su**	**63.10**	**84**	*e*P	**P**	**23 19 27.2**	**-0.9**
RCLB	**Rio Claro- Sao**	**63.16**	**91**	*e*P	**P**	**23 19 27.5**	**-1.0**
ETMB	**Extrema**	**63.29**	**66**	P	**P**	**23 19 28.0**	**-1.2**
ETMB				IAmb	IAmb	23 19 41.6	
	comp=Z,111nm,1.2s						
ETMB				IAMs_20	IAMs_20	23 40 41.0	
	comp=Z,22μm,21.0s						
ETMB	**Extrema**	**63.29**	**66**	*e*P	**P**	**23 19 28.1**	**-1.2**
MGBR	**Mount Gambier**	**63.35**	**242**	P	**P**	**23 19 29.8**	**+0.3**
ARPS	**Mount Arapiles**	**63.47**	**243**	P	**P**	**23 19 30.8**	**+0.5**
	comp=Z,31nm,1.0s						
COHC	**Cochancay**	**63.55**	**49**	P	**P**	**23 19 31.0**	**0.0**
ITRB	**Iturama**	**63.74**	**86**	*e*P	**P**	**23 19 31.3**	**-1.0**
SLP01	**Ubatuba-SP**	**63.77**	**93**	*e*P	**P**	**23 19 35.1**	**+2.5**
VILB	**Vilhena**	**63.81**	**74**	P	**P**	**23 19 31.9**	**-0.9**
VILB	**Vilhena**	**63.81**	**74**	*e*P	**P**	**23 19 31.9**	**-0.9**
SALV	**Santo Antonio**	**63.84**	**79**	*e*P	**P**	**23 19 32.5**	**-0.5**
KOUNC	**Koumac, New Ca**	**64.04**	**272**	P	**P**	**23 19 34.5**	**+0.3**
KOUNC				IAmb	IAmb	23 19 43.4	
	comp=Z,184nm,1.7s						
VAS01	**Vassouras-RJ**	**65.56**	**94**	*e*P	**P**	**23 19 43.1**	**-1.0**
SAML	**Samuel**	**65.59**	**68**	P	**P**	**23 19 43.7**	**-0.7**
SAML				IAmb	IAmb	23 19 56.5	
	comp=Z,87nm,1.3s						
SAML				IAMs_20	IAMs_20	23 42 26.8	
	comp=Z,14μm,20.0s						
SAML	**Samuel**	**65.59**	**68**	P	**P**	**23 19 43.7**	**-0.7**
SAML				pmax	pmax		
	comp=Z,87nm,1.3s						
SAML				MLR	MLR		
	comp=Z,14

BBOO Buckleboo 69.49 242 P **P** **23 20 08.6 -0.3**
comp=Z,81nm,2.0s
RIB01 Linhares ES 69.63 94 *e*P **P** **23 20 09.8 -0.1**
TRIS Tristan da Cun 69.82 127 P **P** **23 20 09.8 -1.0**
TRIS IAMs_20 IAMs_20 23 45 15.9
comp=Z,12µm,19.0s
QLP Quilpie 70.30 252 P **P** **23 20 11.9 -2.0**
comp=Z,90nm,1.6s
JANB Januaria 70.86 89 *e*P **P** **23 20 15.8 -1.7**
NAN01 Guarapari, ES 70.96 94 *e*P **P** **23 20 16.1 -1.9**
NPGB Novo Progresso 71.34 74 *e*P **P** **23 20 18.3 -2.0**
MACA Manacapuru-AM 71.79 67 P **P** **23 20 20.9 -2.1**
MACA IAmb IAmb 23 20 39.9
comp=Z,147nm,1.0s
MACA Manacapuru-AM 71.79 67 *e*P **P** **23 20 20.5 -2.5**
GUA01 Guaratinga, BA 72.16 93 *e*P **P** **23 20 23.8 -1.4**
ROSC El Rosal 72.22 51 P **P** **23 20 27.0 +0.9**
ROSC El Rosal 72.22 51 P **P** **23 20 26.0 0.0**
comp=Z,4.6nm,0.3s,baz=196,slow=2.6,SNR=11
ROSC LR LR 23 46 54.0
comp=Z,22µm,18.9s,baz=212,slow=32
comp=Z,4.6nm,0.3s
ROSC El Rosal 72.22 51 P **P** **23 20 27.0 +0.9**
ROSC pmax pmax
comp=Z,867nm,2.0s
BRU2 Volcan 72.44 41 P **P** **23 20 27.9 +0.9**
SDBA SAO DESIDERIO 72.69 86 *e*P **P** **23 20 24.7 -3.8**
LCR2 La Lucha 2 72.84 40 P **P** **23 20 29.8 +0.3**
JTS Las Juntas de 73.01 38 P **P** **23 20 30.5 +0.3**
JTS Las Juntas de 73.01 38 IAMs_20 IAMs_20 23 45 10.7
comp=Z,16µm,19.0s
JTS Las Juntas de 73.01 38 LR LR 23 45 23.5
comp=Z,17µm,20.0s,baz=186,slow=30
JTS Las Juntas de 73.01 38 *de*P **P** **23 20 30.6 +0.3**
JTS pmax pmax
comp=Z,155nm,1.8s
JTS MLR MLR
comp=Z,4µm,12.0s
HDC Heredia 73.04 39 P **P** **23 20 31.8 +1.2**
SOCE Pocosol 73.22 39 P **P** **23 20 31.9 +0.4**
SOCE IAmb IAmb 23 20 52.2
comp=Z,54nm,0.9s
CMC01 Camacan, BA 73.30 93 *e*P **P** **23 20 31.0 -1.1**
ITTB Itaituba 73.38 73 *e*P **P** **23 20 30.5 -2.0**
BCIP Isla Barro Col 73.86 44 IAMs_20 IAMs_20 23 45 38.9
comp=Z,14µm,20.0s
SMTB Santa Maria do 74.09 82 *e*P **P** **23 20 35.9 -0.9**
MGAN Managua 74.30 37 P **P** **23 20 37.1 -0.7**
MGAN IAMs_20 IAMs_20 23 45 27.0
comp=Z,17µm,21.0s
PAF Port-aux-Franc 74.41 188 P **P** **23 20 38.6 +0.5**
PAF IAMs_20 IAMs_20 23 55 45.7
comp=Z,14µm,19.0s
PAF Port-aux-Franc 74.41 188 P **P** **23 20 38.6 +0.5**
PAF pmax pmax
comp=Z,333nm,1.2s
PAF MLR MLR
comp=Z,14µm,19.0s
CTA Charters Tower 74.44 257 LR LR 23 48 59.0
comp=Z,527nm,19.6s,baz=140,slow=32
CTAO Charters Tower 74.44 257 P **P** **23 20 38.0 -0.7**
CTAO IAmb IAmb 23 21 13.9
comp=Z,195nm,1.9s
CTAO Charters Tower 74.44 257 P **P** **23 20 38.0 -0.7**
CTAO pmax pmax
comp=Z,195nm,1.9s
CTAO MLR MLR
comp=Z,7µm,20.0s
ACON Acoyapa 74.50 38 P **P** **23 20 40.6 +1.7**
ACON IAmb IAmb 23 20 58.5
comp=Z,179nm,1.8s
ACON IAMs_20 IAMs_20 23 46 02.1
comp=Z,17µm,19.0s
CRIN San Cristobal 74.55 36 P **P** **23 20 39.4 0.0**
CRIN IAMs_20 IAMs_20 23 45 36.6
comp=Z,12µm,20.0s
GDU01 Guandu, BA 74.60 92 *e*P **P** **23 20 37.5 -2.2**
SNET Serv Nac Est T 74.79 33 IAMs_20 IAMs_20 23 45 31.1
comp=Z,20µm,22.0s
ESPN Las Esperanzas 75.01 38 P **P** **23 20 42.9 +1.1**
ESPN IAMs_20 IAMs_20 23 46 17.6
comp=Z,14µm,21.0s
FORT Forrest 75.02 237 P **P** **23 20 41.6 -0.4**
FORT Forrest 75.02 237 P **P** **23 20 42.0 +0.1**
comp=Z,74nm,1.1s
PRPB Parauapebas 75.08 79 *e*P **P** **23 20 40.7 -1.8**
MTO3 Montecristo 75.42 33 P **P** **23 20 44.9 +0.4**
MTO3 IAmb IAmb 23 21 02.6
comp=Z,208nm,1.8s
MTO3 IAMs_20 IAMs_20 23 46 02.9
comp=Z,17µm,19.0s
HNR Honiara 75.48 275 LR LR 23 47 15.1
comp=Z,2µm,20.7s,baz=156,slow=30
ESQI Esquipulas 75.58 33 P **P** **23 20 46.0 +0.7**
TGUH Tegucigalpa,Un 75.75 35 P **P** **23 20 46.2 -0.1**
TGUH IAMs_20 IAMs_20 23 46 13.5
comp=Z,15µm,21.0s
TLIG Tlapa 76.03 23 P **P** **23 20 48.6 +0.8**
TLIG IAmb IAmb 23 21 09.2
comp=Z,198nm,1.8s
TLIG IAMs_20 IAMs_20 23 46 33.4
comp=Z,16µm,22.0s
CCIG Comitan 76.40 30 IAMs_20 IAMs_20 23 46 38.9
comp=Z,13µm,22.0s
CMIG Matias Romero 76.45 27 LR LR 23 46 51.9
comp=Z,10µm,22.0s,baz=190,slow=30
BOAV Boa Vista 76.61 65 P **P** **23 20 50.5 -0.7**
BOAV IAmb IAmb 23 21 08.7
comp=Z,140nm,1.4s
BOAV Boa Vista 76.61 65 *e*P **P** **23 20 50.0 -1.2**
RKGY Rocky Gully 76.63 227 P P 23 20 58.7 +7.7
MTSU Mount Surprise 77.09 257 P **P** **23 20 53.8 -0.1**
comp=Z,16nm,1.1s
KMBL Kambalda 77.34 232 P **P** **23 20 55.0 -0.1**
comp=Z,89nm,1.5s
TARA Tarawa 77.41 292 P **P** **23 20 56.8 +1.1**
TARA IAmb IAmb 23 21 34.8
comp=Z,92nm,0.9s
SDV Santo Domingo 77.45 52 P **P** **23 20 56.2 +0.2**
SDV IAmb IAmb 23 21 12.4
comp=Z,106nm,1.6s
SDV IAMs_20 IAMs_20 23 49 53.3
comp=Z,17µm,22.0s
SDV Santo Domingo 77.45 52 P **P** **23 20 54.1 -1.9**
comp=Z,3.9nm,0.3s,baz=226,slow=3.7,SNR=1.7
SDV LR LR 23 50 04.7
comp=Z,16µm,21.9s,baz=194,slow=32
comp=Z,3.9nm,0.3s
SDV Santo Domingo 77.45 52 *e*P **P** **23 20 54.3 -1.8**
H01W1 Cape Leeuwin H 77.51 224 T T 00 46 53.4
baz=151,slow=76,SNR=845
H01W2 Cape Leeuwin H 77.52 224 T T 00 46 53.7
baz=151,slow=76,SNR=747
H01W3 Cape Leeuwin H 77.53 224 T T 00 46 54.6
baz=151,slow=76,SNR=646
MOIG Morelia 77.54 20 P **P** **23 20 56.5 +0.1**
MOIG IAMs_20 IAMs_20 23 47 50.5
comp=Z,14µm,20.0s
UNM Universidad Na 77.61 22 IAMs_20 IAMs_20 23 48 07.3
comp=Z,12µm,22.0s
QIS Mount Isa 77.65 252 P **P** **23 20 54.8 -2.2**
comp=Z,56nm,1.5s
PETF Flores 77.65 32 P **P** **23 20 57.8 +1.0**
PETF IAmb IAmb 23 21 17.2
comp=Z,99nm,1.0s
CRZF Crozet Islands 77.72 176 P **P** **23 20 56.4 -0.6**
CRZF IAmb IAmb 23 21 04.7
comp=Z,57nm,0.9s
NBLA Lagarto - SE 77.83 92 *e*P **P** **23 20 56.3 -1.8**
NWAO Narrogin (SRO) 77.98 228 P **P** **23 20 58.5 -0.2**
NWAO IAmb IAmb 23 21 09.4
comp=Z,102nm,1.1s
NWAO Narrogin (SRO) 77.98 228 P **P** **23 20 59.9 +1.2**
NWAO P **P** **23 20 59.9 +1.2**
NWAO Narrogin (SRO) 77.98 228 P **P** **23 20 58.5 -0.2**
NWAO pmax pmax
comp=Z,102nm,1.2s
NWAO MLR MLR
comp=Z,8µm,19.0s
AS31 Alice Springs 78.06 245 P **P** **23 20 56.8 -2.6**
ASAR Alice Springs 78.06 245 P **P** **23 20 57.1 -2.1**
ASAR Alice Springs 78.06 245 P **P** **23 20 55.6 -3.7**
comp=Z,7.5nm,1.1s,baz=146,slow=4.4,SNR=19
ASAR LR LR 23 50 54.6
comp=Z,15µm,19.0s,baz=142,slow=32
comp=Z,7.5nm,1.1s

ASAR Alice Springs 78.06 245 P **P** **23 20 57.2 -2.1**
JRQG Juriquilla Cam 78.68 21 P **P** **23 21 04.7 +2.0**
KLBR Kellerberrin 78.92 229 P **P** **23 21 03.8 -0.1**
comp=Z,65nm,1.7s
TMAB Tom-Au,PA,Br 79.18 78 *e*P **P** **23 21 04.0 -1.5**
MUN Mundaring 79.23 227 P **P** **23 21 04.6 -1.0**
comp=Z,99nm,1.5s
WRKA Warakurna 79.71 240 P **P** **23 21 06.2 -2.2**
comp=Z,88nm,1.2s
NBAN Anadia - AL 79.75 92 *e*P **P** **23 21 07.9 -0.8**
SLBS Sierra La Lagu 80.14 11 P **P** **23 21 11.6 +1.2**
SLBS IAmb IAmb 23 21 26.8
comp=Z,196nm,1.9s
SLBS Sierra La Lagu 80.14 11 IAMs_20 IAMs_20 23 49 15.8
comp=Z,11µm,19.0s
STCH Steam Cracks 80.19 329 P **P** **23 21 11.5 +0.7**
STCH IAmb IAmb 23 21 16.6
comp=Z,140nm,1.3s
JOKA Jonika Flow 80.19 329 P **P** **23 21 12.1 +1.3**
JOKA IAmb IAmb 23 21 20.0
comp=Z,301nm,1.9s
JOKA IAMs_20 IAMs_20 23 48 19.3
comp=Z,9µm,20.0s
KHU Kahuku 80.20 328 P **P** **23 21 12.7 +1.7**
KHU Kahuku 80.20 328 P **P** **23 21 12.7 +1.7**
KHU pmax pmax
comp=Z,252nm,1.3s
PUH Pauahi 80.20 328 P **P** **23 21 12.6 +1.7**
BYL Byron's Ledge 80.25 328 P **P** **23 21 11.7 +0.6**
BYL IAmb IAmb 23 21 32.4
comp=Z,216nm,1.4s
HATHI Halema'uma'u T 80.26 328 P **P** **23 21 11.6 +0.4**
HATHI IAMs_20 IAMs_20 23 47 58.0
comp=Z,12µm,21.0s
UWE Uwekahuna 80.27 328 P **P** **23 21 11.5 +0.2**
ZAIG Zacatecas 80.30 18 P **P** **23 21 13.8 +2.2**
RSD Rainshed 80.30 328 P **P** **23 21 12.4 +0.9**
MLH Mauna Loa 80.36 328 P **P** **23 21 12.5 +0.5**
MWH Mokuaweoweo 80.42 328 IAMs_20 IAMs_20 23 47 16.2
comp=Z,12µm,21.0s
LPIG La Paz 80.52 11 LR LR 23 49 37.1
comp=Z,9µm,19.4s,baz=182,slow=30
POHA Pohakuloa 80.66 328 IAMs_20 IAMs_20 23 49 41.5
comp=Z,11µm,19.0s
HUH Hualalai 80.68 328 P **P** **23 21 14.7 +1.1**
HUH IAMs_20 IAMs_20 23 47 38.0
comp=Z,16µm,22.0s
WR0 Warramunga Arr 80.80 248 P **P** **23 21 12.3 -2.0**
WB2 Warramunga Arr 80.92 248 P **P** **23 21 12.5 -2.3**
WRA Warramunga Arr 80.92 248 P **P** **23 21 12.4 -2.5**
WRA Warramunga Arr 80.92 248 P **P** **23 21 11.8 -3.1**
comp=Z,5.8nm,0.7s,baz=146,slow=4.8,SNR=27
WRA LR LR 23 53 40.9
comp=Z,9µm,18.4s,baz=150,slow=33
comp=Z,5.8nm,0.7s
WRA Warramunga Arr 80.92 248 P **P** **23 21 12.4 -2.5**
WRA pmax pmax
comp=Z,7.0nm,1.6s
WRAB Tennant Creek 80.92 248 P **P** **23 21 14.0 -1.0**
WRAB IAMs_20 IAMs_20 23 53 38.7
comp=Z,10µm,18.0s
WRAB Tennant Creek 80.92 248 *c i*P **P** **23 21 15.7 +0.8**
WRAB pmax pmax
comp=Z,71nm,1.3s
WRAB MLR MLR
comp=Z,2µm,15.0s
HPAH Hawaii Prepara 80.96 328 IAMs_20 IAMs_20 23 48 07.6
comp=Z,12µm,22.0s
WB0 Warramunga Arr 81.04 248 P **P** **23 21 12.9 -2.7**
WB0 IAmb IAmb 23 21 20.2
comp=Z,196nm,1.9s
NBCA Caruaru-PE 81.08 91 *e*P **P** **23 21 14.4 -1.5**
HATO Hato, Curacao 81.11 52 P **P** **23 21 15.7 -0.1**
HATO IAMs_20 IAMs_20 23 52 33.5
comp=Z,15µm,21.0s
TEIG Tepich 81.25 32 P **P** **23 21 18.2 +1.9**
TEIG IAMs_20 IAMs_20 23 49 37.3
comp=Z,11µm,21.0s
TEIG Tepich 81.25 32 LR LR 23 50 54.0
comp=Z,9µm,18.1s,baz=199,slow=31
PCRV Puerto La Cruz 81.33 57 P **P** **23 21 14.8 -2.2**
comp=Z,22nm,1.1s,baz=53,slow=1.1,SNR=1.9
PCRV LR LR 23 53 39.9
comp=Z,14µm,20.1s,slow=33
comp=Z,22nm,1.1s
HLK Haleakala 81.81 328 IAMs_20 IAMs_20 23 48 55.1
comp=Z,13µm,20.0s
MORW Morawa 81.84 229 P **P** **23 21 19.8 +0.1**
MORW IAmb IAmb 23 21 24.7
comp=Z,141nm,1.6s
MORW Morawa 81.84 229 P **P** **23 21 20.0 +0.3**
comp=Z,53nm,1.4s
PMG Port Moresby 82.65 264 P **P** **23 21 22.6 -1.5**
PMG IAmb IAmb 23 21 30.6
comp=Z,120nm,1.4s
PMG Port Moresby 82.65 264 LR LR 23 53 43.5
comp=Z,8µm,19.0s,baz=148,slow=32
PMG Port Moresby 82.65 264 *i* P **P** **23 21 22.8 -1.2**
PMG pmax pmax
comp=Z,94nm,1.4s
PMG MLR MLR
comp=Z,3µm,16.0s
MEEK Meekatharra 82.85 232 P P 23 21 31.2 +6.2
HON Honolulu 82.88 327 P **P** **23 21 25.8 +1.0**
HON Honolulu 82.88 327 P **P** **23 21 25.8 +1.0**
HON pmax pmax
comp=Z,247nm,1.3s
KIP Kipapa 82.97 327 P **P** **23 21 26.2 +0.8**
KIP Kipapa 82.97 327 P **P** **23 21 26.2 +0.8**
KIP pmax pmax
comp=Z,389nm,2.0s
MDP Montagnes des 82.98 70 P **P** **23 21 24.4 -1.3**
comp=Z,25nm,1.1s,baz=225,slow=2.9,SNR=2.4
MDP LR LR 23 53 09.3
comp=Z,11µm,21.6s,baz=191,slow=32
comp=Z,25nm,1.1s
MTDJ Mount Denham 83.02 42 P **P** **23 21 26.1 +0.2**
MTDJ IAmb IAmb 23 22 06.5
comp=Z,131nm,1.5s
MTDJ IAMs_20 IAMs_20 23 52 05.7
comp=Z,13µm,18.0s
NBCL Cascavel-CE 83.09 87 *e*P **P** **23 21 25.3 -1.0**
RCBR Riachuelo 83.11 90 P **P** **23 21 24.2 -2.3**
RCBR Riachuelo 83.11 90 LR LR 23 55 07.5
comp=Z,9µm,20.8s,baz=216,slow=33
RCBR Riachuelo 83.11 90 P **P** **23 21 24.2 -2.3**
RCBR pmax pmax
comp=Z,36nm,1.5s
RCBR MLR MLR
comp=Z,23µm,21.0s
RCBR Riachuelo 83.11 90 *e*P **P** **23 21 24.8 -1.6**
HPIG 83.89 15 P **P** **23 21 30.5 +0.2**
HPIG IAmb IAmb 23 21 48.6
comp=Z,122nm,1.6s
KEKH Kekaha 84.03 325 IAMs_20 IAMs_20 23 50 11.8
comp=Z,14µm,19.0s
RABL Rabaul 84.13 271 P **P** **23 21 32.4 +0.7**
AIS Amsterdam Isla 84.97 196 P **P** **23 21 35.3 -0.3**
AIS IAMs_20 IAMs_20 23 53 32.4
comp=Z,11µm,20.0s
CHIV Chivirico 85.04 43 P **P** **23 21 37.3 +1.4**
CHIV IAmb IAmb 23 21 55.5
comp=Z,108nm,1.8s
CHIV IAMs_20 IAMs_20 23 53 23.2
comp=Z,8µm,18.0s
HBVL Hebbronville 85.22 21 P **P** **23 21 38.6 +1.9**
SOR Soroa 85.30 36 P **P** **23 21 38.0 +0.8**
SOR Soroa 85.30 36 P **P** **23 21 38.0 +0.8**
SOR pmax pmax
comp=Z,278nm,1.9s
HSIG 85.32 10 P **P** **23 21 39.0 +1.9**
HSIG IAmb IAmb 23 21 52.5
comp=Z,149nm,1.9s
HSIG IAMs_20 IAMs_20 23 51 40.9
comp=Z,11µm,20.0s
PAPH Port-au-Prince 85.34 47 P **P** **23 21 38.8 +1.3**
GTBY Guantanamo Bay 85.49 44 pwP 23 21 44.9 -0.8
KVTX Kingsville 85.84 21 P **P** **23 21 40.8 +1.0**
CAMR Camarioca 86.09 37 IAMs_20 IAMs_20 23 53 49.4
comp=Z,16µm,19.0s
NMDO Nuevo Mundo 86.12 44 P **P** **23 21 41.7 +0.4**
NMDO IAmb IAmb 23 21 57.5
comp=Z,140nm,1.3s
NMDO IAMs_20 IAMs_20 23 52 29.7
comp=Z,8µm,20.0s
SDDR Presa de Saban 86.17 47 P **P** **23 21 42.2 +0.5**

SDDR IAmb IAmb 23 21 56.7
comp=Z,124nm,1.7s
833A Chaparral WMA, 86.30 20 P **P** **23 21 44.1 +2.1**
BBGH Gun Hill 86.33 60 IAMs_20 IAMs_20 00 01 31.2
comp=Z,11µm,20.0s
SUR Sutherland 86.39 149 P **P** **23 21 42.8 -0.2**
SUR Sutherland 86.39 149 LR LR 23 58 04.7
comp=Z,14µm,18.1s,baz=198,slow=34
SUR Sutherland 86.39 149 P **P** **23 21 44.5 +1.5**
SUR P **P** **23 21 44.5 +1.5**
TXAR Lajitas Array 86.54 16 P **P** **23 21 46.0 +2.7**
TXAR Lajitas Array 86.54 16 P **P** **23 21 43.6 +0.2**
comp=Z,1.9nm,0.8s,baz=195,slow=7.8,SNR=14
TXAR LR LR 23 54 23.8
comp=Z,3µm,19.5s,baz=172,slow=32
comp=Z,1.9nm,0.8s
TXAR Lajitas Array 86.54 16 P **P** **23 21 46.0 +2.7**
TX31 Lajitas Ar. Si 86.55 16 P **P** **23 21 44.9 +1.5**
TX31 IAmb IAmb 23 21 59.7
comp=Z,162nm,1.9s
PSA00 Pilbara Seismi 86.68 235 P **P** **23 21 43.9 -0.4**
PSA00 IAmb IAmb 23 21 48.9
comp=Z,92nm,1.2s
FITZ Fitzroy Crossi 86.88 242 LR LR 23 54 55.7
comp=Z,10µm,21.8s,baz=146,slow=32
FDF Fort de France 86.94 58 IAMs_20 IAMs_20 23 57 00.6
comp=Z,9µm,20.0s
PCDR Punta Cana, DR 86.98 50 IAMs_20 IAMs_20 23 56 20.1
comp=Z,12µm,20.0s
SFX San Felipe 87.02 6 P **P** **23 21 47.1 +1.6**
SFX IAmb IAmb 23 21 54.7
comp=Z,89nm,1.4s
GRHM Grahamstown, E 87.02 154 P **P** **23 21 45.2 -0.7**
GRHM IAmb IAmb 23 22 14.7
comp=Z,76nm,1.6s
MBWA Marble Bar 87.09 236 P **P** **23 21 45.7 -0.7**
MBWA Marble Bar 87.09 236 IAMs_20 IAMs_20 23 55 33.8
comp=Z,13µm,18.0s
MBWA Marble Bar 87.09 236 P **P** **23 21 45.9 -0.4**
comp=Z,49nm,1.2s
MBWA Marble Bar 87.09 236 P **P** **23 21 46.0 -0.3**
MBWA P **P** **23 21 46.0 -0.3**
735A Kenedy 87.13 21 P **P** **23 21 47.9 +1.8**
735A IAmb IAmb 23 22 07.4
comp=Z,64nm,1.0s
DRIO Del Rio 87.14 19 P **P** **23 21 48.3 +2.2**
DRIO IAmb IAmb 23 22 06.4
comp=Z,100nm,1.4s
VTX Valle De La Tr 87.31 5 P **P** **23 21 47.4 +0.4**
VTX IAmb IAmb 23 22 09.1
comp=Z,138nm,1.5s
SOE Somerset East 87.36 153 P **P** **23 21 45.6 -2.0**
KNRA Kununurra 87.36 246 P **P** **23 21 48.1 +0.4**
KNRA IAmb IAmb 23 22 05.0
comp=Z,79nm,1.9s
SAND Sanderson 87.40 17 P **P** **23 21 48.4 +1.0**
SAND IAmb IAmb 23 22 08.4
comp=Z,116nm,1.5s
IGPR InterUniversit 87.48 52 IAMs_20 IAMs_20 23 57 50.4
comp=Z,8µm,18.0s
AGPR Aguadilla, PR 87.48 51 IAMs_20 IAMs_20 23 59 17.5
comp=Z,8µm,18.0s
HNDO Hondo 87.49 20 P **P** **23 21 49.9 +2.1**
ALPN Alpine 87.57 16 P **P** **23 21 49.9 +1.6**
ALPN IAmb IAmb 23 22 04.0
comp=Z,133nm,1.7s
SJG San Juan 87.59 52 IAMs_20 IAMs_20 23 57 47.2
comp=Z,10µm,18.0s
SJG San Juan 87.59 52 LR LR 23 58 06.9
comp=Z,9µm,18.1s,baz=206,slow=34
PIX Pinacate 87.63 7 P **P** **23 21 50.7 +2.3**
PIX IAmb IAmb 23 22 10.4
comp=Z,142nm,1.6s
HUMP Col San Antoni 87.75 52 IAMs_20 IAMs_20 23 58 23.5
comp=Z,9µm,18.0s
VHRN Van Horn 87.77 15 P **P** **23 21 51.3 +2.0**
CBE Ff, Capester 87.88 57 IAMs_20 IAMs_20 23 56 06.5
comp=Z,12µm,21.0s
ESJX Sierra Juarez 87.92 5 P **P** **23 21 50.0 0.0**
KDU Kakadu 87.95 250 P P 23 21 55.7 +5.2
GDHS Morne Mazeau, 87.98 57 IAMs_20 IAMs_20 23 56 09.6
comp=Z,10µm,22.0s
MLDN Muldoon 88.18 22 P **P** **23 21 53.1 +2.0**
CBX Cerro Bola 88.19 5 P **P** **23 21 53.7 +2.5**
CBX IAmb IAmb 23 22 12.6
comp=Z,89nm,1.3s
GIRL Giralia 88.25 230 P **P** **23 21 52.8 +0.9**
GIRL Giralia 88.25 230 P **P** **23 21 55.3 +3.5**
ABD La Joyeuse, An 88.29 57 IAMs_20 IAMs_20 23 56 19.3
comp=Z,12µm,22.0s
JCT Junction City 88.32 19 P **P** **23 21 54.4 +2.6**
JCT Junction City 88.32 19 P **P** **23 21 54.4 +2.6**
JCT pmax pmax
comp=Z,253nm,1.6s
JCT MLR MLR
comp=Z,4µm,21.0s
GDSD La Dsirade Is 88.35 57 IAMs_20 IAMs_20 23 55 50.9
comp=Z,10µm,22.0s
CPBX Cerro Prieto 88.36 6 P **P** **23 21 54.0 +2.1**
TKX Tecate 88.44 5 **P** **23 21 53.9 +1.6**
TKX IAmb IAmb 23 24 19.2
comp=Z,30nm,0.7s
SABA Saba 88.47 55 P **P** **23 21 53.7 +0.9**
SEUS St. Eustatius 88.48 55 IAMs_20 IAMs_20 23 56 30.6
comp=Z,12µm,21.0s
PECS Pecos 88.51 16 P **P** **23 21 54.0 +1.3**
PECS IAmb IAmb 23 22 08.4
comp=Z,83nm,1.4s
OZNA Ozona 88.52 18 P **P** **23 21 54.1 +1.4**
OZNA IAmb IAmb 23 22 13.4
comp=Z,127nm,1.6s
MTN Manton Dam 88.52 249 P **P** **23 21 51.6 -1.6**
EPT El Paso 88.54 13 P **P** **23 21 55.8 +2.9**
EPT IAmb IAmb 23 22 13.9
comp=Z,126nm,1.5s
EPT IAMs_20 IAMs_20 23 54 04.0
comp=Z,8µm,19.0s
YUH Yuha Desert 88.56 5 P **P** **23 21 54.4 +1.6**
YUH IAmb IAmb 23 22 19.6
comp=Z,122nm,1.6s
YUH IAMs_20 IAMs_20 23 51 58.7
comp=Z,10µm,21.0s
HKT Hockley 88.60 23 P **P** **23 21 54.2 +1.2**
HKT Hockley 88.60 23 ‖ *e*P **P** **23 21 53.8 +0.8**
HKT pmax pmax
comp=Z,149nm,2.0s
HKT MLR MLR
comp=Z,2µm,15.0s
MNHN Monahans 88.65 17 P **P** **23 21 56.3 +2.9**
061Z Ochoppi 88.85 36 P **P** **23 21 55.3 +1.0**
061Z IAMs_20 IAMs_20 23 54 00.3
comp=Z,12µm,21.0s
DUN6 Lazy B Ranch 89.00 11 P **P** **23 21 55.7 +0.6**
SNCC San Nicolas Is 89.02 2 P **P** **23 21 57.0 +2.0**
SNCC IAmb IAmb 23 22 22.8
comp=Z,93nm,1.3s
SNCC IAMs_20 IAMs_20 23 51 46.2
comp=Z,9µm,20.0s
435B Jarrell 89.04 21 P **P** **23 21 57.8 +2.7**
121A Cookes Peak, D 89.13 12 P **P** **23 21 58.4 +2.7**
ANWB Willy Bob 89.19 56 IAMs_20 IAMs_20 23 56 32.2
comp=Z,9µm,22.0s
BRDY Brady 89.25 20 P **P** **23 21 58.8 +2.7**
BRDY IAmb IAmb 23 22 15.3
comp=Z,114nm,1.9s
ODSA Odessa 89.45 17 P **P** **23 21 59.4 +2.2**
HNVL Huntsville, TX 89.46 23 P **P** **23 22 00.0 +3.0**
ELS Elsinore Mount 89.48 4 IAmb IAmb 23 22 18.6
comp=Z,93nm,1.6s
ELS IAMs_20 IAMs_20 23 52 19.4
comp=Z,11µm,22.0s
SGCY Sterling City 89.48 18 P **P** **23 21 59.4 +2.1**
PFO Pinyon Flats O 89.49 5 P **P** **23 21 59.5 +2.2**
PFO IAmb IAmb 23 22 28.1
comp=Z,162nm,1.9s
PFO Pinyon Flats O 89.49 5 IAMs_20 IAMs_20 23 52 21.4
comp=Z,9µm,19.0s
PFO Pinyon Flats O 89.49 5 LR LR 23 53 12.8
comp=Z,9µm,19.3s,baz=189,slow=30
PFO Pinyon Flats O 89.49 5 ‖ *e*P **P** **23 21 59.4 +2.1**
PFO pmax pmax
comp=Z,132nm,1.9s
BLYC Blythe 89.73 6 P **P** **23 22 00.7 +2.4**
BLYC IAMs_20 IAMs_20 23 52 51.9
comp=Z,8µm,20.0s

545A Edgard 89.95 27 IAMs_20 IAMs_20 00 00 39.0
comp=Z,9μm,19.0s
PASC Pasadena Art C 89.98 3 P P 23 21 59.5 0.0
PASC IAmb IAmb 23 22 20.8
comp=Z,133nm,1.5s
PASC Pasadena Art C 89.98 3 IAMs_20 IAMs_20 23 52 31.5
comp=Z,9μm,21.0s
Y14A Wickenburg 90.02 8 P P 23 21 59.9 +0.1
Y14A IAmb IAmb 23 22 16.0
comp=Z,134nm,1.8s
Y14A IAMs_20 IAMs_20 23 53 06.5
comp=Z,9μm,20.0s
WHTX Lake Whitney, 90.24 21 P P 23 22 02.8 +2.1
WHTX IAmb IAmb 23 22 22.1
comp=Z,128nm,1.5s
ABTX Abilene, Hawle 90.44 19 P P 23 22 01.9 +0.3
POST Post 90.55 17 P P 23 22 03.7 +1.5
POST IAmb IAmb 23 22 22.4
comp=Z,82nm,1.4s
237A Washetta, Mont 90.59 22 P P 23 22 04.8 +2.5
237A IAmb IAmb 23 22 31.2
comp=Z,119nm,1.7s
FW13 Cleburne 90.59 21 P P 23 22 04.7 +2.4
X16A Lo Mia Camp, P 90.62 9 P P 23 22 04.2 +1.6
SN07 Snyder 07 90.67 18 P P 23 22 03.7 +1.0
SN07 IAmb IAmb 23 22 22.9
comp=Z,129nm,1.9s
BCW Bitter Crk WRg 90.71 2 P P 23 22 03.9 +0.9
BCW IAMs_20 IAMs_20 23 53 48.9
comp=Z,11μm,19.0s
DWPF Disney Wildern 90.75 35 IAMs_20 IAMs_20 23 56 54.9
comp=Z,11μm,18.0s
Y22D IRIS PASSCAL I 90.76 13 P P 23 22 05.7 +2.4
FW07 Weatherford 90.86 20 P P 23 22 05.2 +1.5
X18A Snowflake 90.87 10 P P 23 22 05.3 +1.4
X18A IAmb IAmb 23 22 29.5
comp=Z,71nm,1.3s
X18A IAMs_20 IAMs_20 23 54 54.0
comp=Z,10μm,19.0s
CCAC Calif City Air 90.96 3 P P 23 22 05.7 +1.6
CCAC IAMs_20 IAMs_20 23 53 32.5
comp=Z,9μm,20.0s
APMT Aspermont 91.04 18 P P 23 22 06.7 +2.2
APMT IAmb IAmb 23 22 18.4
comp=Z,79nm,1.5s
W13A Hualapai Mount 91.12 7 P P 23 22 06.0 +1.0
W13A IAmb IAmb 23 22 26.4
comp=Z,69nm,1.5s
W13A IAMs_20 IAMs_20 23 53 35.5
comp=Z,9μm,20.0s
FW03 Perrin-Whitt E 91.14 20 P P 23 22 05.9 +1.0
FW03 IAmb IAmb 23 22 34.6
comp=Z,127nm,1.7s
GSC Goldstone, Bar 91.16 4 P P 23 22 05.3 +0.3
GSC IAmb IAmb 23 22 26.5
comp=Z,91nm,1.6s
GSC IAMs_20 IAMs_20 23 53 23.6
comp=Z,9μm,20.0s
GSC Goldstone, Bar 91.16 4 P P 23 22 05.3 +0.3
GSC pmax pmax
comp=Z,91nm,1.6s
GSC MLR MLR
comp=Z,9μm,20.0s
FW06 Azle 91.17 20 P P 23 22 06.2 +1.1
BOSA Boshof 91.17 152 P P 23 22 05.2 -0.4
BOSA Boshof 91.17 152 P P 23 22 05.0 -0.6
comp=Z,8.5nm,1.1s,baz=172,slow=3.6,SNR=6.2
BOSA LR LR 00 00 10.6
comp=Z,23μm,18.5s,baz=197,slow=34
comp=Z,8.5nm,1.1s
BOSA Boshof 91.17 152 P P 23 22 05.2 -0.4
BOSA pmax pmax
comp=Z,45nm,1.4s
DKNS Dickens 91.23 18 P P 23 22 06.6 +1.2
DKNS IAmb IAmb 23 22 25.8
comp=Z,150nm,2.0s
ISA Isabella, Lake 91.46 3 P P 23 22 08.1 +1.7
ISA IAmb IAmb 23 22 28.5
comp=Z,96nm,1.8s
ISA IAMs_20 IAMs_20 23 53 46.6
comp=Z,11μm,20.0s
ISA Isabella, Lake 91.46 3 P P 23 22 08.1 +1.7
ISA pmax pmax
comp=Z,96nm,1.8s
ISA MLR MLR
comp=Z,11μm,20.0s
346A Big Creek Wild 91.49 28 P P 23 22 08.3 +1.8
Z35A Perchaven, San 91.58 21 P P 23 22 08.7 +1.8
Z35A IAmb IAmb 23 22 26.6
comp=Z,81nm,1.5s
ANMO Albuquerque 91.67 13 P P 23 22 08.7 +1.1
ANMO Albuquerque 91.67 13 LR LR 23 55 53.4
comp=Z,4μm,21.4s,baz=358,slow=31
ANMO Albuquerque 91.67 13 eP P 23 22 09.3 +1.7
ANMO pmax pmax
comp=Z,28nm,2.3s
ANMO MLR MLR
comp=Z,799nm,12.0s
V12A Nelson 91.68 6 P P 23 22 08.1 +0.6
V12A IAmb IAmb 23 22 28.6
comp=Z,60nm,1.4s
V12A IAMs_20 IAMs_20 23 54 07.4
comp=Z,9μm,20.0s
WUAZ Wupatki 91.72 9 P P 23 22 08.9 +1.2
WUAZ IAmb IAmb 23 22 23.8
comp=Z,83nm,1.6s
451A Vernon 91.78 31 IAMs_20 IAMs_20 23 55 29.2
comp=Z,8μm,22.0s
BRAL Brewton 91.93 30 IAMs_20 IAMs_20 23 56 38.3
comp=Z,9μm,21.0s
PMPB Monarch Peak 91.96 1 P P 23 22 11.2 +2.5
PMPB IAMs_20 IAMs_20 23 53 10.0
comp=Z,11μm,22.0s
Z38A Mt. Pleasant 91.98 23 P P 23 22 09.2 +0.5
Z38A IAmb IAmb 23 22 34.1
comp=Z,42nm,1.2s
VBMS Vicksburg 92.01 26 P P 23 22 10.0 +1.1
GWY Greenwater Val 92.05 4 P P 23 22 10.7 +1.5
GWY IAmb IAmb 23 22 34.9
comp=Z,68nm,1.5s
GWY IAMs_20 IAMs_20 23 53 51.1
comp=Z,8μm,20.0s
LOOK Love County 92.23 21 P P 23 22 11.6 +1.7
143A Socs Landing, 92.26 26 P P 23 22 12.0 +1.9
143A IAmb IAmb 23 22 24.2
comp=Z,54nm,1.2s
AMTX Amarillo 92.30 17 P P 23 22 12.8 +2.5
AMTX IAMs_20 IAMs_20 23 57 37.4
comp=Z,7μm,19.0s
BBGB Big Mountain B 92.32 1 P P 23 22 13.0 +2.6
BBGB IAmb IAmb 23 22 51.4
comp=Z,125nm,1.7s
BBGB IAMs_20 IAMs_20 23 53 19.5
comp=Z,12μm,22.0s
SHPR Sheep Range 92.44 6 P P 23 22 12.4 +1.4
SHPR IAmb IAmb 23 22 26.7
comp=Z,55nm,1.7s
Z41A Richland Creek 92.46 24 P P 23 22 12.8 +1.8
Z41A IAmb IAmb 23 22 31.0
comp=Z,59nm,1.1s
SAO San Andreas Ge 92.50 1 P P 23 22 12.6 +1.5
SAO IAMs_20 IAMs_20 23 53 33.4
comp=Z,11μm,22.0s
SAO San Andreas Ge 92.50 1 P P 23 22 12.6 +1.5
SAO pmax pmax
comp=Z,35nm,1.4s
SAO MLR MLR
comp=Z,11μm,22.0s
SAUI Saumlaki 92.51 252 IAMs_20 IAMs_20 23 59 41.2
comp=Z,12μm,19.0s
U15A North Rim 92.55 8 P P 23 22 12.6 +0.9
U15A IAMs_20 IAMs_20 23 56 01.4
comp=Z,8μm,19.0s
WCT Wildcat Mounta 92.65 4 P P 23 22 12.8 +0.9
WCT IAmb IAmb 23 22 33.6
comp=Z,79nm,1.5s
WMOK Wichita Mounta 92.65 19 P P 23 22 13.2 +1.3
WMOK Wichita Mounta 92.65 19 P P 23 22 13.2 +1.3
WMOK pmax pmax
comp=Z,49nm,1.9s
X34A Smith Ranch, M 92.70 20 P P 23 22 13.8 +1.7
X34A IAmb IAmb 23 22 29.8
comp=Z,39nm,1.2s
SMWD Samnorwood 92.75 18 P P 23 22 14.3 +2.0
146A Union 92.78 27 P P 23 22 15.1 +2.6
WLAR White Oak Lake 92.80 24 P P 23 22 14.4 +1.8
WLAR IAmb IAmb 23 22 34.0
comp=Z,75nm,1.5s
352A Blakely 92.82 31 P P 23 22 15.0 +2.3
TPNV Topopah Spring 92.82 5 P P 23 22 13.2 +0.4
TPNV IAmb IAmb 23 22 34.6
comp=Z,69nm,1.5s
TPNV IAMs_20 IAMs_20 23 54 48.7
comp=Z,8μm,19.0s
TPNV Topopah Spring 92.82 5 P P 23 22 13.2 +0.4
TPNV pmax pmax
comp=Z,69nm,1.5s
TPNV MLR MLR
comp=Z,8μm,19.0s
GRAC Grapevine Rang 92.83 4 P P 23 22 14.3 +1.7
GRAC IAmb IAmb 23 22 55.4
comp=Z,116nm,1.8s
GRAC IAMs_20 IAMs_20 23 54 46.8
comp=Z,8μm,20.0s
250A Grady 92.91 30 P P 23 22 13.2 +0.1
250A IAMs_20 IAMs_20 23 56 54.3
comp=Z,8μm,22.0s
LCMT Little Creek M 93.06 7 P P 23 22 15.3 +1.5
LCMT IAmb IAmb 23 22 32.3
comp=Z,23nm,0.3s
LCMT IAMs_20 IAMs_20 23 55 08.0
comp=Z,7μm,20.0s
KNB Kanab 93.10 7 P P 23 22 15.6 +1.5
KNB IAmb IAmb 23 22 36.0
comp=Z,91nm,1.6s
KNB IAMs_20 IAMs_20 23 55 10.9
comp=Z,7μm,20.0s
KNB Kanab 93.10 7 P P 23 22 15.6 +1.5
KNB pmax pmax
comp=Z,91nm,1.6s
KNB MLR MLR
comp=Z,7μm,20.0s
GMN Gold Mountain 93.13 4 P P 23 22 14.5 +0.2
DSP Deep Springs 93.18 3 P P 23 22 14.7 +0.6
DSP IAmb IAmb 23 22 35.7
comp=Z,68nm,1.4s
DSP IAMs_20 IAMs_20 23 54 56.0
comp=Z,11μm,20.0s
ASCN Ascension 93.22 109 P P 23 22 12.9 -2.2
ASCN IAMs_20 IAMs_20 23 56 51.3
comp=Z,8μm,21.0s
PRN Pahroc Range 93.34 6 P P 23 22 15.7 +0.5
OMMB Old Mammoth Mi 93.39 3 P P 23 22 16.9 +1.4
OMMB IAmb IAmb 23 22 31.8
comp=Z,89nm,2.0s
OMMB IAMs_20 IAMs_20 23 56 50.7
comp=Z,8μm,18.0s
FNO Franklin 93.42 20 P P 23 22 17.1 +1.7
FNO IAmb IAmb 23 22 33.7
comp=Z,38nm,1.0s
W35A Tecumseh 93.42 21 P P 23 22 17.5 +2.1
MZP Montezuma Peak 93.53 4 P P 23 22 16.7 +0.6
S11A Rachel 93.54 5 P P 23 22 18.6 +2.5
S11A IAMs_20 IAMs_20 23 54 43.7
comp=Z,9μm,22.0s
PKCU Pink Cliffs 93.56 8 P P 23 22 17.7 +1.3
PKCU IAmb IAmb 23 22 38.8
comp=Z,80nm,1.7s
PKCU IAMs_20 IAMs_20 23 56 23.1
comp=Z,8μm,20.0s
Z47A Carrollton 93.57 28 P P 23 22 18.3 +2.2
Z47A IAmb IAmb 23 22 25.8
comp=Z,127nm,1.8s
X40A Basin Creek Fa 93.63 24 P P 23 22 18.9 +2.5
RTBA Rita Blanca 93.65 16 P P 23 22 18.5 +1.9
RTBA IAmb IAmb 23 22 37.0
comp=Z,93nm,1.8s
MVCO Mesa Verde 93.67 11 P P 23 22 18.4 +1.6
MVCO IAmb IAmb 23 22 33.2
comp=Z,78nm,1.6s
MVCO IAMs_20 IAMs_20 23 56 45.9
comp=Z,9μm,20.0s
LRAL Lakeview Retre 93.71 29 P P 23 22 18.2 +1.5
LRAL IAmb IAmb 23 22 29.5
comp=Z,86nm,1.9s
LRAL IAMs_20 IAMs_20 23 57 56.5
comp=Z,12μm,22.0s
CMB Columbia Colle 93.78 1 P P 23 22 18.6 +1.5
CMB IAMs_20 IAMs_20 23 54 49.2
comp=Z,8μm,20.0s
CMB Columbia Colle 93.78 1 P P 23 22 18.6 +1.5
CMB pmax pmax
comp=Z,54nm,1.8s
CMB MLR MLR
comp=Z,8μm,20.0s
MCCM Marconi Confer 93.88 359 IAMs_20 IAMs_20 23 55 32.9
comp=Z,8μm,20.0s
TPH Tonopah 93.91 4 P P 23 22 19.4 +1.6
TPH Tonopah 93.91 4 P P 23 22 19.4 +1.6
TPH pmax pmax
comp=Z,519nm,1.9s
TPH MLR MLR
comp=Z,34μm,21.0s
OK029 Liberty Lake 93.93 20 P P 23 22 20.0 +2.3
OK029 IAmb IAmb 23 22 37.9
comp=Z,99nm,1.8s
POGA Pongola 93.95 157 IAMs_20 IAMs_20 23 58 36.1
comp=Z,10μm,21.0s
152A Waverly Hall 94.00 31 P P 23 22 19.6 +1.5
152A IAmb IAmb 23 22 46.1
comp=Z,65nm,1.7s
UALR University of 94.02 24 P P 23 22 19.7 +1.6
UALR IAmb IAmb 23 22 47.5
comp=Z,61nm,1.7s
LHV Little Huntoon 94.04 3 P P 23 22 19.5 +1.4
LHV IAmb IAmb 23 22 40.7
comp=Z,51nm,1.5s
LHV IAMs_20 IAMs_20 23 54 40.9
comp=Z,8μm,22.0s
T25A Trinidad 94.10 14 P P 23 22 19.7 +1.0
T25A IAmb IAmb 23 22 47.6
comp=Z,84nm,1.9s
T25A IAMs_20 IAMs_20 23 57 34.3
comp=Z,7μm,19.0s
DEOK Depew 94.16 21 P P 23 22 20.9 +2.1
DEOK IAmb IAmb 23 22 30.8
comp=Z,123nm,2.0s
MTPU Mount Pierson 94.16 8 pP 23 22 21.8 +0.4
MTPU IAMs_20 IAMs_20 23 56 54.1
comp=Z,9μm,19.0s
HMU Henry Mountain 94.18 9 P P 23 22 21.5 +2.3
HMU IAmb IAmb 23 22 39.5
comp=Z,44nm,1.3s
OK031 S. Brethren Rd 94.20 20 P P 23 22 21.5 +2.6
NVAR Mina Array Bea 94.22 3 P P 23 22 20.4 +1.1
NVAR Mina Array Bea 94.22 3 P P 23 22 18.9 -0.3
comp=Z,1.3nm,0.8s,baz=182,slow=5.0,SNR=8.5
NVAR LR LR 23 56 44.7
comp=Z,8μm,18.5s,baz=185,slow=30
comp=Z,1.3nm,0.8s
NV11 Mina Array Sit 94.23 3 P P 23 22 20.9 +1.7
NV11 IAmb IAmb 23 22 40.6
comp=Z,62nm,1.6s
OK052 Battle Ridge R 94.25 20 P P 23 22 21.4 +2.3
R11B Troy Canyon, C 94.25 5 P P 23 22 20.3 +1.0
R11B IAmb IAmb 23 22 35.9
comp=Z,89nm,1.9s
R11B IAMs_20 IAMs_20 23 55 05.5
comp=Z,9μm,22.0s
WAKR Walker 94.27 2 P P 23 22 20.6 +1.1
WAKR IAmb IAmb 23 22 41.1
comp=Z,55nm,1.5s
WAKR IAMs_20 IAMs_20 23 54 51.0
comp=Z,11μm,22.0s
OK038 West end E0370 94.35 19 P P 23 22 22.1 +2.4
TUL3 Leonard 94.37 21 P P 23 22 20.6 +0.9
WIN Windhoek 94.38 143 IAMs_20 IAMs_20 23 58 10.0
comp=Z,13μm,21.0s
S22A 4UR Ranch, Cre 94.39 12 IAMs_20 IAMs_20 23 57 57.2
comp=Z,10μm,18.0s
RYN Ryan 94.42 3 P P 23 22 22.1 +2.0
RYN IAmb IAmb 23 22 42.3
comp=Z,120nm,2.0s
RYN IAMs_20 IAMs_20 23 54 52.9
comp=Z,8μm,22.0s
QUOK Quay 94.44 20 P P 23 22 20.8 +0.8
QUOK IAmb IAmb 23 22 44.8
comp=Z,87nm,2.0s
257A Skidaway Islan 94.46 34 P P 23 22 21.4 +1.2
257A IAMs_20 IAMs_20 23 59 22.2
comp=Z,11μm,18.0s
PSUT Pine Spring 94.53 7 P P 23 22 22.9 +2.2
PSUT IAMs_20 IAMs_20 23 56 48.0
comp=Z,7μm,20.0s
SDCO Great Sand Dun 94.55 13 P P 23 22 23.0 +2.1
BATI Baumata 94.59 244 LR LR 23 59 49.1
comp=Z,15μm,21.8s,baz=168,slow=32
MVU Marysvale 94.62 8 P P 23 22 23.2 +2.1
OK048 Pawnee Station 94.63 20 P P 23 22 22.6 +1.8
OK048 IAmb IAmb 23 22 40.3
comp=Z,82nm,2.0s
MSU Marysvale 94.63 8 P P 23 22 22.6 +1.4
MSU Marysvale 94.63 8 P P 23 22 22.6 +1.4
Y49A Blount Mountai 94.64 29 IAMs_20 IAMs_20 23 58 11.1
comp=Z,8μm,20.0s
Q09A Carvers 94.67 4 P P 23 22 22.1 +0.9
Q09A IAmb IAmb 23 22 49.6
comp=Z,39nm,0.9s
Q09A IAMs_20 IAMs_20 23 55 45.5
comp=Z,9μm,21.0s
SOEI Soe 94.67 245 P P 23 22 21.7 -0.3
SOEI IAmb IAmb 23 22 46.8
comp=Z,40nm,1.1s
SOEI Soe 94.67 245 P P 23 22 21.8 -0.1
LBTB Lobatse 94.68 151 P P 23 22 21.2 -0.7
LBTB Lobatse 94.68 151 LR LR 23 59 02.0
comp=Z,16μm,20.3s,baz=197,slow=32
LBTB Lobatse 94.68 151 P P 23 22 21.2 -0.7
LBTB pmax pmax
comp=Z,19nm,1.3s
AFDM Forest Hills D 94.69 1 P P 23 22 23.0 +1.9
TCRU Three Creeks R 94.71 8 P P 23 22 22.9 +1.4
TCRU IAMs_20 IAMs_20 23 56 05.5
comp=Z,10μm,20.0s
EMB Emerald Bay 94.73 2 P P 23 22 23.1 +1.5
EMB IAmb IAmb 23 22 42.8
comp=Z,40nm,1.4s
EMB IAMs_20 IAMs_20 23 55 00.1
comp=Z,11μm,21.0s
HOPS Hopland Field 94.73 359 IAMs_20 IAMs_20 23 54 33.3
comp=Z,9μm,22.0s
YERR Yerington 94.75 2 P P 23 22 22.5 +0.9
YERR IAmb IAmb 23 22 37.0
comp=Z,54nm,1.7s
YERR IAMs_20 IAMs_20 23 55 36.8
comp=Z,8μm,20.0s
RLO Rose Lookout 94.77 22 P P 23 22 23.7 +2.1
PV14 Lion Creek, Pa 94.77 10 P P 23 22 23.0 +1.2
PV15 Paradox Valley 94.80 11 P P 23 22 22.7 +0.8
PV04 Paradox Valley 94.80 10 P P 23 22 22.2 +0.3
KVN Kaiserville 94.85 3 P P 23 22 22.9 +0.8
KVN IAmb IAmb 23 22 43.2
comp=Z,47nm,1.5s
KVN IAMs_20 IAMs_20 23 55 18.3
comp=Z,11μm,22.0s
KVN Kaiserville 94.85 3 P P 23 22 22.9 +0.8
KVN pmax pmax
comp=Z,47nm,1.5s
KVN MLR MLR
comp=Z,11μm,22.0s
PNTR Pine Nut 94.85 2 P P 23 22 23.2 +1.1
PNTR IAMs_20 IAMs_20 23 55 27.4
comp=Z,10μm,20.0s
PV07 Paradox Valley 94.87 11 P P 23 22 22.8 +0.6
SPR3 Spring Creek 3 94.97 6 P P 23 22 23.1 +0.3
SPR3 IAMs_20 IAMs_20 23 56 00.5
comp=Z,9μm,20.0s
Q12A Willow Creek R 94.98 6 P P 23 22 24.4 +1.7
Q12A IAmb IAmb 23 22 44.2
comp=Z,84nm,2.0s
Q12A IAMs_20 IAMs_20 23 56 00.8
comp=Z,9μm,20.0s
X48A Hartselle 95.03 28 IAMs_20 IAMs_20 23 58 38.4
comp=Z,8μm,21.0s
MPK Martis Peak 95.05 2 P P 23 22 24.4 +1.3
MPK IAmb IAmb 23 22 44.6
comp=Z,54nm,1.6s
MPK IAMs_20 IAMs_20 23 55 10.6
comp=Z,11μm,22.0s
KAN17 Caldwell West 95.08 19 P P 23 22 23.0 0.0
KAN17 IAmb IAmb 23 22 57.0
comp=Z,62nm,1.6s
HHAR Hobbs 95.11 23 P P 23 22 24.1 +0.9
HHAR IAmb IAmb 23 22 42.4
comp=Z,57nm,2.0s
Q16A Castle Valley 95.11 9 P P 23 22 24.7 +1.3
Q16A IAmb IAmb 23 22 44.1
comp=Z,93nm,1.8s
Q16A IAMs_20 IAMs_20 23 57 45.3
comp=Z,7μm,19.0s
H11S2 WAKE ISLAND Hy 95.12 296 T T 01 08 22.8
baz=148,slow=76,SNR=439
H11S3 WAKE ISLAND Hy 95.13 296 T T 01 08 21.2
baz=148,slow=76,SNR=218
H11S1 WAKE ISLAND Hy 95.13 296 T T 01 08 34.8
baz=148,slow=76,SNR=203
FCAR Ozark Folk Cen 95.14 24 P P 23 22 24.6 +1.3
T35A Sooner Cattle 95.20 20 P P 23 22 24.7 +1.2
T35A IAmb IAmb 23 22 44.1
comp=Z,75nm,1.5s
KCPM Cahto Peak 95.43 359 IAMs_20 IAMs_20 23 54 51.8
comp=Z,8μm,21.0s
PAHR Pah Rah Range 95.47 2 P P 23 22 26.3 +1.4
PAHR IAMs_20 IAMs_20 23 56 27.9
comp=Z,10μm,19.0s
TMUT Trail Mountain 95.49 9 P P 23 22 26.6 +1.4
CSU Charleston Sou 95.70 34 IAMs_20 IAMs_20 00 00 49.0
comp=Z,7μm,18.0s
P17A Butcher Ranch, 95.70 9 IAMs_20 IAMs_20 23 58 04.8
comp=Z,7μm,20.0s
NHSC New Hope 95.78 34 IAMs_20 IAMs_20 00 00 10.0
comp=Z,8μm,19.0s
Q24A Divide 95.80 13 IAMs_20 IAMs_20 23 58 31.3
comp=Z,7μm,20.0s
P18A Preston Nutter 95.90 9 IAMs_20 IAMs_20 23 57 29.0
comp=Z,7μm,20.0s
KMRM Mail Ridge 95.97 359 IAMs_20 IAMs_20 23 56 05.4
comp=Z,8μm,20.0s
H11N3 WAKE ISLAND Hy 96.05 296 T T 01 09 33.7
baz=147,slow=76,SNR=108
H11N1 WAKE ISLAND Hy 96.05 296 T T 01 09 31.8
baz=147,slow=76,SNR=102
H11N2 WAKE ISLAND Hy 96.06 296 T T 01 09 33.4
baz=147,slow=76,SNR=96
NLU North Lily Min 96.07 8 P P 23 22 29.0 +1.3
NLU IAmb IAmb 23 22 48.8
comp=Z,41nm,1.4s
KMPM Mount Pierce 96.17 358 IAMs_20 IAMs_20 23 57 37.3
comp=Z,9μm,18.0s
MPU Maple Canyon 96.17 8 IAMs_20 IAMs_20 23 57 06.1
comp=Z,11μm,20.0s
KSCO Kaye Shedlock' 96.19 15 IAMs_20 IAMs_20 23 58 47.6
comp=Z,8μm,20.0s
W50A Signal Mountai 96.21 30 IAMs_20 IAMs_20 23 58 33.5
comp=Z,9μm,22.0s
FAKI Fak Fak 96.23 255 IAMs_20 IAMs_20 00 01 12.3
comp=Z,8μm,22.0s
BMN Battle Mountai 96.26 4 P P 23 22 29.6 +1.1
BMN IAMs_20 IAMs_20 23 56 36.6
comp=Z,10μm,21.0s
BMN Battle Mountai 96.26 4 P P 23 22 29.6 +1.1
BMN pmax pmax
comp=Z,35nm,1.6s
BMN MLR MLR
comp=Z,10μm,21.0s
DUG Dugway, Tooele 96.26 7 P P 23 22 29.4 +0.9
DUG IAMs_20 IAMs_20 23 57 48.5
comp=Z,6μm,19.0s
DUG Dugway, Tooele 96.26 7 P P 23 22 29.4 +0.9
DUG pmax pmax
comp=Z,31nm,1.6s
DUG MLR MLR
comp=Z,6μm,19.0s
V48A Smith Brothers 96.31 28 P P 23 22 29.2 +0.6
V48A IAmb IAmb 23 22 40.8
comp=Z,68nm,1.7s
V48A IAMs_20 IAMs_20 23 59 19.2
comp=Z,7μm,20.0s
MGMO Mountain Grove 96.32 24 P P 23 22 30.0 +1.3
MGMO IAmb IAmb 23 26 21.2
comp=Z,44nm,1.8s
CBKS Cedar Bluff 96.45 17 IAMs_20 IAMs_20 23 59 42.5
comp=Z,7μm,20.0s
JSC Jenkinsville 96.53 33 IAMs_20 IAMs_20 00 00 33.0
comp=Z,8μm,19.0s
HATC Hat Creek Radi 96.55 1 IAMs_20 IAMs_20 23 57 32.5
comp=Z,7μm,20.0s
Y57A Sumter 96.55 34 IAMs_20 IAMs_20 00 01 19.6

comp=Z,9µm,18.0s
ISCO Idaho Springs 96.56 13 IAMs_20 IAMs_20 23 58 31.5
comp=Z,9µm,20.0s
JCC Jacoby Creek, 96.56 359 IAMs_20 IAMs_20 23 57 58.8
comp=Z,6µm,18.0s
KHMM Horse Mountain 96.62 359 IAMs_20 IAMs_20 23 56 26.2
comp=Z,8µm,20.0s
MMRI Maumere 96.65 244 IAMs_20 IAMs_20 00 00 49.2
comp=Z,8µm,22.0s
ELK Elko 96.66 5 P **P 23 22 31.1 +0.7**
ELK IAMs_20 IAMs_20 23 58 51.2
comp=Z,7µm,18.0s
ELK Elko 96.66 5 LR LR 23 59 02.4
comp=Z,7µm,18.4s,baz=192,slow=31
ELK Elko 96.66 5 P **P 23 22 31.1 +0.7**
ELK pmax pmax
comp=Z,8.0nm,1.4s
ELK MLR MLR
comp=Z,7µm,18.0s
Y58A Scranton 96.68 34 IAMs_20 IAMs_20 00 01 35.8
comp=Z,8µm,18.0s
JLU Jordanelle 96.76 8 IAMs_20 IAMs_20 23 57 25.9
comp=Z,11µm,21.0s
CLTN Cedars of Leba 96.77 29 IAMs_20 IAMs_20 23 59 30.4
comp=Z,8µm,21.0s
CTU Camp Tracy 96.83 8 IAMs_20 IAMs_20 23 58 31.7
comp=Z,9µm,20.0s
KRPM Rodgers 96.90 359 IAMs_20 IAMs_20 23 55 23.8
comp=Z,9µm,22.0s
BGU Big Grassy Mou 96.97 7 IAMs_20 IAMs_20 23 57 39.3
comp=Z,6µm,20.0s
TKL Tuckaleechee C 97.07 31 LR LR 23 59 19.1
comp=Z,6µm,21.6s,baz=196,slow=31
BIRD Birdtown, Kers 97.11 34 IAMs_20 IAMs_20 00 01 04.4
comp=Z,7µm,18.0s
KMSC Kings Mountain 97.31 33 IAMs_20 IAMs_20 00 01 17.5
comp=Z,6µm,18.0s
U49A Red Boiling Sp 97.31 29 IAMs_20 IAMs_20 23 59 33.9
comp=Z,9µm,22.0s
X58A Rowland 97.38 34 IAMs_20 IAMs_20 00 01 15.4
comp=Z,7µm,18.0s
T47A Sharon Grove 97.41 28 IAMs_20 IAMs_20 23 59 46.5
comp=Z,8µm,22.0s
YBH Yreka Blue Hor 97.47 360 IAMs_20 IAMs_20 23 57 01.7
comp=Z,9µm,20.0s
YBH Yreka Blue Hor 97.47 360 LR LR 23 56 02.6
comp=Z,10µm,21.8s,baz=177,slow=29
BRIGG Briggsdale 97.50 14 IAMs_20 IAMs_20 23 59 15.3
comp=Z,7µm,20.0s
KSXB Camp Six Broad 97.57 359 IAMs_20 IAMs_20 23 56 55.5
comp=Z,9µm,21.0s
N23A Red Feather La 97.60 12 IAMs_20 IAMs_20 23 59 46.1
comp=Z,8µm,19.0s
TSUM Tsumeb 97.66 142 LR LR 00 00 03.5
comp=Z,12µm,21.1s,baz=190,slow=31
W57A Gilead 97.73 34 IAMs_20 IAMs_20 00 01 30.6
comp=Z,8µm,18.0s
HWUT Hardware Ranch 97.75 8 IAMs_20 IAMs_20 23 59 11.1
comp=Z,9µm,20.0s
HVU Hansel Valley 97.84 7 P Pdif 23 22 37.1 +1.5
HVU IAmb IAmb 23 23 05.1
comp=Z,30nm,1.6s
HVU Hansel Valley 97.84 7 P Pdif 23 22 37.1 +1.5
HVU pmax pmax
comp=Z,30nm,1.6s
HVU MLR MLR
comp=Z,6µm,20.0s
L02F Cave Junction 97.86 359 IAMs_20 IAMs_20 23 58 37.1
comp=Z,7µm,19.0s
L04D Klamath Falls 97.95 360 IAMs_20 IAMs_20 23 57 30.5
comp=Z,7µm,20.0s
TZTN Tazewell 97.96 30 IAMs_20 IAMs_20 23 59 24.9
comp=Z,7µm,22.0s
KBO Bosley Butte 97.96 358 IAMs_20 IAMs_20 23 56 15.8
comp=Z,9µm,20.0s
OGNE Ogallala 98.18 15 IAMs_20 IAMs_20 23 59 59.1
comp=Z,9µm,21.0s
HUMO Hull Mountain 98.34 359 IAMs_20 IAMs_20 23 56 17.8
comp=Z,7µm,21.0s
K04D Chiloquin, OR 98.36 0 IAMs_20 IAMs_20 23 57 35.2
comp=Z,7µm,19.0s
V58A Windy Hill, Pi 98.59 34 IAMs_20 IAMs_20 00 01 53.5
comp=Z,6µm,18.0s
U56A King 98.71 33 IAMs_20 IAMs_20 00 02 05.7
comp=Z,9µm,18.0s
WCI Wyandotte Cave 98.79 28 IAMs_20 IAMs_20 00 00 25.0
comp=Z,10µm,22.0s
J01E Myrtle Point 98.90 359 IAMs_20 IAMs_20 23 57 35.8
comp=Z,10µm,20.0s
AHID Auburn Hatcher 98.94 8 IAMs_20 IAMs_20 23 59 59.6
comp=Z,9µm,19.0s
J04A Umpqua Nationa 98.97 0 IAMs_20 IAMs_20 23 56 40.5
comp=Z,7µm,20.0s
PDAR Pinedale Array 99.08 9 P **Pdif 23 22 39.3 -1.9**
comp=Z,0.3nm,0.8s,baz=212,slow=3.2,SNR=2.1
PDAR LR LR 23 59 47.2
comp=Z,4µm,19.4s,baz=180,slow=31
comp=Z,0.3nm,0.8s
J08A Circle Bar Ran 99.14 3 IAMs_20 IAMs_20 23 59 56.9
comp=Z,7µm,19.0s
R49A Shelbyville 99.15 29 IAMs_20 IAMs_20 00 00 40.4
comp=Z,7µm,21.0s
MFID Camas Ranch 99.29 5 IAMs_20 IAMs_20 23 58 46.9
comp=Z,8µm,19.0s
R50A Paris 99.37 29 IAMs_20 IAMs_20 00 00 34.2
comp=Z,8µm,22.0s
BLA Blacksburg 99.50 33 IAMs_20 IAMs_20 00 02 24.5
comp=Z,7µm,18.0s
HLID Hailey 99.51 6 Pdif **Pdif 23 22 45.0 +1.9**
I04A Tendick Farm, 99.53 360 IAMs_20 IAMs_20 23 56 57.2
comp=Z,6µm,20.0s
BLO Bloomington 99.62 27 IAMs_20 IAMs_20 00 01 03.0
comp=Z,9µm,22.0s
T57A Hurt 99.66 34 IAMs_20 IAMs_20 00 02 55.7
comp=Z,8µm,19.0s
SNOW Snow King Moun 99.66 8 IAMs_20 IAMs_20 00 00 23.6
comp=Z,9µm,20.0s
TPAW Teton Pass 99.67 8 IAMs_20 IAMs_20 00 00 23.9
comp=Z,8µm,18.0s
FXWY Fox Creek 99.81 8 IAMs_20 IAMs_20 00 00 26.7
comp=Z,7µm,20.0s
MATP Matopo 99.83 152 LR LR 00 05 52.9
comp=Z,10µm,18.7s,baz=192,slow=34
I07A Izee 99.84 2 IAMs_20 IAMs_20 23 57 53.4
comp=Z,7µm,21.0s
I02E Swisshome, OR 99.85 359 IAMs_20 IAMs_20 23 58 14.8
comp=Z,10µm,20.0s
MOOW Moose Ponds 99.95 8 IAMs_20 IAMs_20 23 59 28.2
comp=Z,8µm,20.0s
SSFO Shawnee State 100.07 30 IAMs_20 IAMs_20 00 00 40.7
comp=Z,8µm,22.0s
T59A Double "B" Far 100.17 35 IAMs_20 IAMs_20 00 01 45.2
comp=Z,10µm,20.0s
P48A Milroy 100.18 28 IAMs_20 IAMs_20 00 01 27.7
comp=Z,7µm,22.0s
K30B Basset 100.24 17 IAMs_20 IAMs_20 00 01 14.7
comp=Z,7µm,22.0s
FLWY Flagg Ranch 100.28 8 IAMs_20 IAMs_20 00 00 44.1
comp=Z,8µm,20.0s
SANI Sanana 100.31 251 P **Pdif 23 22 46.2 -1.0**
SANI PP **PP 23 26 49.3 -3.8**
COR Corvallis 100.32 359 IAMs_20 IAMs_20 23 58 52.2
comp=Z,7µm,20.0s
H04A Detroit Lake 100.42 360 IAMs_20 IAMs_20 23 57 58.7
comp=Z,7µm,21.0s
P49A Miami Univ. Ec 100.43 29 IAMs_20 IAMs_20 00 01 19.5
comp=Z,7µm,22.0s
S57A Dark Hollow, R 100.45 33 IAMs_20 IAMs_20 00 03 11.8
comp=Z,7µm,18.0s
H17A Grant Village 100.60 8 IAMs_20 IAMs_20 00 01 16.5
comp=Z,9µm,20.0s
YFT Old Faithful 100.64 8 IAMs_20 IAMs_20 00 01 05.5
comp=Z,10µm,20.0s
BMO Blue Mountains 100.67 4 IAMs_20 IAMs_20 23 59 03.3
comp=Z,7µm,22.0s
LKWY Lake 100.79 9 IAMs_20 IAMs_20 00 02 19.4
comp=Z,8µm,18.0s
YNR Norris Junctio 100.91 8 IAMs_20 IAMs_20 00 01 15.7
comp=Z,7µm,20.0s
YNM Yellowstone No 100.92 8 IAMs_20 IAMs_20 00 01 17.0
comp=Z,8µm,20.0s
G03D McMinnville, O 100.95 359 IAMs_20 IAMs_20 23 59 11.8
comp=Z,6µm,19.0s
PLID Pearl Lake 100.95 4 IAMs_20 IAMs_20 23 58 56.9
comp=Z,9µm,20.0s
HEBO Mount Hebo 100.95 359 IAMs_20 IAMs_20 23 59 07.0
comp=Z,9µm,20.0s
G05A Wamic 100.98 1 IAMs_20 IAMs_20 23 59 11.5
comp=Z,8µm,21.0s
YMP Mirror Lake Pl 100.98 9 IAMs_20 IAMs_20 00 01 30.5
comp=Z,9µm,19.0s
O48B Farmland 101.00 28 IAMs_20 IAMs_20 00 02 14.4
comp=Z,7µm,20.0s
HOOD Mount Hood Mea 101.05 0 IAMs_20 IAMs_20 23 58 21.6
comp=Z,8µm,21.0s
G08A Pilot Rock 101.06 2 IAMs_20 IAMs_20 00 00 57.7
comp=Z,6µm,20.0s
YNE Yellowstone No 101.26 9 IAMs_20 IAMs_20 00 00 45.9
comp=Z,7µm,19.0s
CBN Corbin Frederi 101.35 34 IAMs_20 IAMs_20 00 02 51.6
comp=Z,9µm,19.0s
DLMT Dillon 101.41 7 IAMs_20 IAMs_20 00 01 24.0
comp=Z,6µm,19.0s
RLMT Red Lodge 101.44 9 IAMs_20 IAMs_20 00 00 21.6
comp=Z,8µm,20.0s
Q56A Snyder Ridge, 101.56 33 IAMs_20 IAMs_20 00 03 33.9
comp=Z,7µm,18.0s
ACSO Alum Creek Sta 101.56 30 IAMs_20 IAMs_20 00 01 39.2
comp=Z,8µm,22.0s
F03A Seaside 101.67 359 IAMs_20 IAMs_20 23 58 30.9
comp=Z,8µm,22.0s
BOZ Bozeman (W) 101.72 8 IAMs_20 IAMs_20 00 01 01.0
comp=Z,8µm,20.0s
F10A Beach Ranch, E 101.79 4 IAMs_20 IAMs_20 23 59 38.0
comp=Z,7µm,22.0s
F04D Rainier, OR 101.82 359 IAMs_20 IAMs_20 23 59 39.8
comp=Z,8µm,20.0s
SUSD Miller 102.07 17 IAMs_20 IAMs_20 00 02 10.2
comp=Z,8µm,22.0s
MXC Moxie City 102.32 1 IAMs_20 IAMs_20 23 59 09.1
comp=Z,7µm,22.0s
L46A Eue Claire 102.35 27 IAMs_20 IAMs_20 00 03 45.3
comp=Z,10µm,21.0s
N51A Ashland 102.36 30 IAMs_20 IAMs_20 00 02 12.6
comp=Z,6µm,21.0s
M50A Fremont 102.63 29 IAMs_20 IAMs_20 00 02 36.7
comp=Z,7µm,22.0s
L48A N Adams 102.77 28 IAMs_20 IAMs_20 00 03 06.2
comp=Z,7µm,22.0s
MSO Missoula 102.79 6 IAMs_20 IAMs_20 00 00 43.5
comp=Z,8µm,20.0s
LUWI Luwuk 102.85 248 IAMs_20 IAMs_20 00 06 34.0
comp=Z,7µm,20.0s
LUWI Luwuk 102.85 248 PP **PP 23 27 11.0 -1.2**
D05A Enumclaw 102.92 0 IAMs_20 IAMs_20 00 01 34.0
comp=Z,7µm,20.0s
LTY Liberty 103.00 1 IAMs_20 IAMs_20 23 59 26.9
comp=Z,8µm,22.0s
GNW Green Mountain 103.30 360 IAMs_20 IAMs_20 00 00 09.0
comp=Z,7µm,20.0s
AAM Ann Arbor 103.30 28 IAMs_20 IAMs_20 00 02 37.5
comp=Z,6µm,22.0s
MVL Milersville 103.31 34 IAMs_20 IAMs_20 00 03 58.5
comp=Z,9µm,20.0s
SSPA Standing Stone 103.42 33 IAMs_20 IAMs_20 00 03 28.2
comp=Z,6µm,20.0s
ALLY Alegheny Colle 103.67 31 IAMs_20 IAMs_20 00 04 38.2
comp=Z,8µm,22.0s
C03A Quillayute Air 103.70 358 IAMs_20 IAMs_20 00 00 32.6
comp=Z,7µm,19.0s
N58A Sunbury 103.96 34 IAMs_20 IAMs_20 00 04 41.7
comp=Z,6µm,21.0s
K50A Casco 104.02 29 IAMs_20 IAMs_20 00 03 18.5
comp=Z,7µm,22.0s
ERPA Erie 104.15 31 IAMs_20 IAMs_20 00 04 51.8
comp=Z,8µm,20.0s
LUPA Lehigh Univers 104.17 35 IAMs_20 IAMs_20 00 06 43.2
comp=Z,9µm,18.0s
I45A Fountain 104.27 26 IAMs_20 IAMs_20 00 04 35.1
comp=Z,8µm,21.0s
EGMT Eagleton 104.28 9 IAMs_20 IAMs_20 00 05 56.7
comp=Z,8µm,18.0s
CLRS Cowichan Lake 104.57 359 IAMs_20 IAMs_20 23 59 09.6
comp=Z,6µm,21.0s
L56A Greenwood 104.89 33 IAMs_20 IAMs_20 00 04 43.2
comp=Z,8µm,20.0s
I49A Point Hope 105.05 28 IAMs_20 IAMs_20 00 04 25.7
comp=Z,9µm,22.0s
DGMT Dagmar 105.28 12 IAMs_20 IAMs_20 00 05 08.2
comp=Z,6µm,21.0s
MDND Maddock 105.29 16 IAMs_20 IAMs_20 00 03 58.3
comp=Z,8µm,21.0s
BINY Binghamton 105.43 34 IAMs_20 IAMs_20 00 06 22.5
comp=Z,7µm,19.0s
BKB Balikpapan 105.66 243 IAMs_20 IAMs_20 00 09 18.2
comp=Z,7µm,19.0s
TOLI2 Tolitoli 105.71 248 IAMs_20 IAMs_20 00 08 37.7
comp=Z,5µm,20.0s
L59A Walton 105.72 34 IAMs_20 IAMs_20 00 05 03.1
comp=Z,7µm,20.0s
K57A Scipio Center 105.75 33 IAMs_20 IAMs_20 00 05 50.9
comp=Z,6µm,20.0s
J55A Hilton 105.84 32 IAMs_20 IAMs_20 00 04 26.5
comp=Z,7µm,22.0s
HOLB Holberg 106.49 356 IAMs_20 IAMs_20 00 02 17.5
comp=Z,5µm,19.0s
J57A Williamstown 106.52 33 IAMs_20 IAMs_20 00 06 23.4
comp=Z,7µm,20.0s
M65A Busby, Falmout 106.60 38 IAMs_20 IAMs_20 00 05 25.5
comp=Z,6µm,19.0s
PECO Prince Edward 106.69 32 IAMs_20 IAMs_20 00 05 10.1
comp=Z,7µm,20.0s
SADO Sadowa 106.83 31 IAMs_20 IAMs_20 00 07 16.7
comp=Z,9µm,18.0s
L64A Middleborough 106.87 37 IAMs_20 IAMs_20 00 07 31.5
comp=Z,7µm,19.0s
J59A Piesco 107.04 34 IAMs_20 IAMs_20 00 05 53.0
comp=Z,8µm,19.0s
DELO Deloro Mine 107.04 32 IAMs_20 IAMs_20 00 06 15.2
comp=Z,7µm,20.0s
SACV Santiago Islan 107.05 89 IAMs_20 IAMs_20 00 08 52.8
comp=Z,6µm,19.0s
WES Weston 107.11 37 IAMs_20 IAMs_20 00 04 40.8
comp=Z,10µm,20.0s
BCX Boston College 107.11 37 IAMs_20 IAMs_20 00 07 22.0
comp=Z,9µm,19.0s
ACCN Adirondack Com 107.23 35 IAMs_20 IAMs_20 00 04 31.1
comp=Z,10µm,22.0s
J61A Chester 107.56 36 IAMs_20 IAMs_20 00 06 03.7
comp=Z,10µm,20.0s
NCB Newcomb 107.58 34 IAMs_20 IAMs_20 00 06 19.5
comp=Z,7µm,20.0s
LONY Lake Ozonia 108.05 34 IAMs_20 IAMs_20 00 06 35.9
comp=Z,8µm,20.0s
WBO Williamsburg 108.18 33 IAMs_20 IAMs_20 00 07 40.4
comp=Z,6µm,18.0s
FRNY Flat Rock 108.56 34 IAMs_20 IAMs_20 00 05 35.2
comp=Z,8µm,21.0s
MNTQ Montreal, Queb 109.14 34 IAMs_20 IAMs_20 00 05 33.7
comp=Z,8µm,22.0s
DIB Dawson Inlet, 109.27 353 IAMs_20 IAMs_20 00 01 37.1
comp=Z,6µm,20.0s
G62A West of Eustis 109.88 36 IAMs_20 IAMs_20 00 06 30.3
comp=Z,9µm,20.0s
MBO M'Bour 110.30 94 IAMs_20 IAMs_20 00 05 44.6
comp=Z,7µm,20.0s
MYLDM Lahad Datu 110.35 248 IAMs_20 IAMs_20 00 11 31.6
comp=Z,7µm,20.0s
VLDQ Val d'Or 110.36 30 IAMs_20 IAMs_20 00 09 30.7
comp=Z,7µm,19.0s
F64A Sherman 111.18 37 IAMs_20 IAMs_20 00 08 55.6
comp=Z,8µm,20.0s
V35K Ketchikan 111.34 354 IAMs_20 IAMs_20 00 02 37.7
comp=Z,6µm,21.0s
CRAG Craig 111.57 353 IAMs_20 IAMs_20 00 02 54.9
comp=Z,9µm,22.0s
FFC Flin Flon 111.69 12 IAMs_20 IAMs_20 00 09 36.8
comp=Z,7µm,20.0s
U35K Hyder 111.84 355 IAMs_20 IAMs_20 00 03 06.1
comp=Z,8µm,20.0s
ACRG Accra 112.08 114 IAMs_20 IAMs_20 00 06 00.9
comp=Z,8µm,20.0s
U33K Whale Pass 112.21 353 IAMs_20 IAMs_20 00 03 12.9
comp=Z,9µm,22.0s
WRAK Wrangell Islan 112.47 354 IAMs_20 IAMs_20 00 03 37.6
comp=Z,6µm,22.0s
T35M Bob Quinn 112.92 355 IAMs_20 IAMs_20 00 03 39.5
comp=Z,9µm,21.0s
SIT Sitka 113.31 352 IAMs_20 IAMs_20 00 04 09.8
comp=Z,8µm,21.0s
S32K Killisnoo 113.66 353 IAMs_20 IAMs_20 00 03 52.1
comp=Z,8µm,22.0s
S34M Telegraph Cree 113.89 355 IAMs_20 IAMs_20 00 04 47.3
comp=Z,8µm,20.0s
BKNI Bangkinang 114.40 229 PP **PP 23 28 33.9 -2.1**
R32K Eaglecrest 114.46 353 IAMs_20 IAMs_20 00 04 58.2
comp=Z,7µm,21.0s
R33M Jennings River 115.36 355 IAMs_20 IAMs_20 00 05 44.2
comp=Z,8µm,22.0s
SKAG Skagway 115.69 353 IAMs_20 IAMs_20 00 05 54.9
comp=Z,7µm,20.0s
P32M Atlin 115.71 354 IAMs_20 IAMs_20 00 05 28.4
comp=Z,7µm,20.0s
CHGN Chignik 115.84 339 IAMs_20 IAMs_20 00 04 54.9
comp=Z,6µm,22.0s
P29M Windy Craggy 116.05 351 IAMs_20 IAMs_20 00 05 09.7
comp=Z,8µm,20.0s
S12K Black Hills 116.07 336 IAMs_20 IAMs_20 00 05 21.1
comp=Z,8µm,22.0s
P33M Teslin, Yukon 116.28 354 IAMs_20 IAMs_20 00 06 50.3
comp=Z,5µm,20.0s
ADK Adak 116.64 326 IAMs_20 IAMs_20 00 07 00.1
comp=Z,8µm,21.0s
FCC Fort Churchill 116.70 16 IAMs_20 IAMs_20 00 11 53.1
comp=Z,7µm,19.0s
GSI Gunungsitoli 116.71 226 IAMs_20 IAMs_20 00 21 13.8
comp=Z,5µm,20.0s
MID Middleton Isla 116.78 346 IAMs_20 IAMs_20 00 07 51.8
comp=Z,8µm,19.0s
R16K Pilot Point 116.85 340 IAMs_20 IAMs_20 00 12 15.8
comp=Z,8µm,18.0s
WHY Whitehorse 116.85 353 IAMs_20 IAMs_20 00 06 31.6
comp=Z,8µm,20.0s
ACHA Angle Creek He 117.03 341 IAMs_20 IAMs_20 00 07 23.3
comp=Z,8µm,20.0s
O30N Mendenhall 117.05 352 IAMs_20 IAMs_20 00 05 14.8
comp=Z,8µm,22.0s
HYT Haines Junctio 117.21 352 IAMs_20 IAMs_20 00 05 17.2
comp=Z,9µm,22.0s
N32M Quiet Lake 117.23 354 IAMs_20 IAMs_20 00 07 18.8
comp=Z,6µm,20.0s
N31M Braeburn, Yuko 117.74 353 IAMs_20 IAMs_20 00 07 08.9
comp=Z,8µm,20.0s
N30M Aishikik Lake 117.81 352 IAMs_20 IAMs_20 00 07 26.9
comp=Z,7µm,20.0s
MCARA McCarthy VSAT 118.29 349 IAMs_20 IAMs_20 00 05 37.6
comp=Z,9µm,22.0s
FARO Faro, Yukon 118.32 354 IAMs_20 IAMs_20 00 08 03.3
comp=Z,6µm,20.0s
YKA Yellowknife Ar 118.41 4 PKP **PKPdf 23 27 45.5 -1.1**
comp=Z,0.5nm,0.8s,baz=192,slow=1.7,SNR=2.0
GLB Gilahina Butte 118.43 348 IAMs_20 IAMs_20 00 07 44.4
comp=Z,8µm,20.0s
PWL Port Wells 118.44 346 IAMs_20 IAMs_20 00 08 34.5
comp=Z,7µm,20.0s
CAPN Captain Cook N 118.76 344 IAMs_20 IAMs_20 00 06 08.0
comp=Z,8µm,22.0s
RC01 Rabbit Creek A 118.86 345 IAMs_20 IAMs_20 00 05 59.6
comp=Z,9µm,22.0s
M29M Somme Creek 118.89 351 IAMs_20 IAMs_20 00 08 48.4
comp=Z,8µm,20.0s
M30M Minto, Yukon 118.89 352 IAMs_20 IAMs_20 00 08 22.5
comp=Z,8µm,20.0s
KNK Knik Glacier 118.99 346 IAMs_20 IAMs_20 00 06 04.0
comp=Z,8µm,22.0s
WRGLY Wrigley 119.00 359 IAMs_20 IAMs_20 00 10 45.3
comp=Z,5µm,18.0s
SCM Sheep Creek Mo 119.24 347 IAMs_20 IAMs_20 00 07 26.7
comp=Z,7µm,20.0s
PMR Palmer 119.25 346 IAMs_20 IAMs_20 00 05 37.0
comp=Z,6µm,22.0s
SPU Mount Spurr 119.29 344 IAMs_20 IAMs_20 00 07 12.2
comp=Z,8µm,22.0s
SML Sawmill 119.35 346 IAMs_20 IAMs_20 00 09 42.6
comp=Z,7µm,19.0s
SUA Susitna One 119.36 345 IAMs_20 IAMs_20 00 07 43.9
comp=Z,9µm,21.0s
GHO Glory Hole Cre 119.39 346 IAMs_20 IAMs_20 00 06 50.8
comp=Z,7µm,20.0s
TORD Torodi Ar. Bea 119.42 112 PKPdf **PKPdf 23 27 49.5 -0.6**
TORD Torodi Ar. Bea 119.42 112 PKP **PKPdf 23 27 48.8 -1.3**
comp=Z,1.7nm,0.8s,baz=225,slow=1.8,SNR=6.4
TORD PP **PP 23 29 11.8 +0.4**
comp=Z,1.8nm,1.1s,baz=215,slow=4.8,SNR=3.9
TORD PKKPab **PKKPab 23 38 02.3 -1.9**
comp=Z,1.5nm,0.9s,baz=5.0,slow=3.3,SNR=5.3
L29M L29M 119.52 352 IAMs_20 IAMs_20 00 07 33.2
comp=Z,8µm,21.0s
M22K Willow 119.55 345 IAMs_20 IAMs_20 00 06 56.8
comp=Z,6µm,21.0s
KIBK Kibwezi 119.55 157 PP PP 23 29 10.9 -0.8
N15K Kwethluk River 119.76 339 IAMs_20 IAMs_20 00 10 26.0
comp=Z,7µm,20.0s
MAYO Mayo, Yukon 119.84 353 IAMs_20 IAMs_20 00 07 14.5
comp=Z,7µm,22.0s
DHY Denali Highway 120.45 347 IAMs_20 IAMs_20 00 10 38.6
comp=Z,7µm,19.0s
KMBO Kilima Mbogo 120.55 156 PP **PP 23 29 16.6 -2.1**
comp=Z,0.5nm,0.3s,baz=200,slow=6.5,SNR=5.9
M13K Dall Lake 120.66 338 IAMs_20 IAMs_20 00 08 38.7
comp=Z,8µm,22.0s
M14K Bethel 120.67 339 IAMs_20 IAMs_20 00 10 20.7
comp=Z,5µm,20.0s
J30M Hart River 120.84 353 IAMs_20 IAMs_20 00 09 07.2
comp=Z,8µm,21.0s
SCRK Sand Creek 120.92 349 IAMs_20 IAMs_20 00 09 28.2
comp=Z,8µm,20.0s
RND Reindeer 120.95 346 IAMs_20 IAMs_20 00 10 26.1
comp=Z,7µm,19.0s
M11K Mekoryuk 121.26 336 IAMs_20 IAMs_20 00 10 47.1
comp=Z,8µm,20.0s
L14K Kuka Creek 121.36 338 IAMs_20 IAMs_20 00 15 43.8
comp=Z,5µm,18.0s
KTH Kantishna Hill 121.38 345 IAMs_20 IAMs_20 00 07 54.3
comp=Z,8µm,22.0s
CAST Castle Rocks 121.42 345 IAMs_20 IAMs_20 00 07 56.4
comp=Z,9µm,22.0s
I30M Mount Dempster 121.48 353 IAMs_20 IAMs_20 00 08 28.0
comp=Z,8µm,21.0s
J25K Salcha River, 121.69 348 IAMs_20 IAMs_20 00 09 20.9
comp=Z,8µm,20.0s
I29M Ogilvie Camp, 121.76 352 IAMs_20 IAMs_20 00 09 04.3
comp=Z,8µm,21.0s
BWN Browne 121.77 346 IAMs_20 IAMs_20 00 11 37.1
comp=Z,7µm,19.0s
BPAW Bear Paw Mtn. 121.91 346 IAMs_20 IAMs_20 00 08 10.3
comp=Z,6µm,22.0s
H31M Peel River 121.94 354 IAMs_20 IAMs_20 00 10 13.9
comp=Z,5µm,20.0s
CCB Clear Creek Bu 122.01 347 **PKiKP 23 27 54.1 +0.5**
IL03 Eielson Array 122.02 348 PKPdf **PKiKP 23 27 54.3 +0.6**
ILAR Eielson Array 122.02 348 PKPdf **PKPdf 23 27 53.1 -0.4**
ILAR Eielson Array 122.02 348 PKP **PKPdf 23 27 51.8 -1.7**
comp=Z,1.1nm,0.7s,baz=184,slow=2.1,SNR=12
ILAR Eielson Array 122.02 348 PKiKP **PKPdf 23 27 53.1 -0.4**
NEA2 Nenana 122.12 347 IAMs_20 IAMs_20 00 08 58.9
comp=Z,6µm,21.0s
K13K Kusilvak Mount 122.30 338 IAMs_20 IAMs_20 00 10 00.8
comp=Z,8µm,21.0s
EPYK Eagle Plains 122.64 353 IAMs_20 IAMs_20 00 10 34.7
comp=Z,8µm,20.0s
I23K Minto, Yukon-K 122.69 347 IAMs_20 IAMs_20 00 11 51.9
comp=Z,7µm,19.0s
MLY Manley 122.76 346 IAMs_20 IAMs_20 00 14 18.8
comp=Z,5µm,18.0s
J14K Nanvaranak Lak 122.81 339 IAMs_20 IAMs_20 00 14 37.6
comp=Z,6µm,18.0s
G31M Satah River 123.04 354 IAMs_20 IAMs_20 00 10 50.2
comp=Z,6µm,20.0s
I21K Tanana 123.07 345 IAMs_20 IAMs_20 00 10 27.7
comp=Z,5µm,20.0s
KAAM Kaadhehdhoo 123.22 198 IAMs_20 IAMs_20 00 15 55.9
comp=Z,8µm,20.0s
G29M Pine Creek 123.27 353 IAMs_20 IAMs_20 00 09 21.2
comp=Z,8µm,22.0s
F31M Tsiigehtchic 123.53 355 IAMs_20 IAMs_20 00 11 36.0
comp=Z,5µm,20.0s
H21K Melozitna Rive 123.64 345 IAMs_20 IAMs_20 00 10 56.2
comp=Z,5µm,20.0s
G24K Hadweenzic Riv 123.95 348 IAMs_20 IAMs_20 00 11 49.3
comp=Z,7µm,19.0s
INK Inuvik 124.38 355 IAMs_20 IAMs_20 00 15 14.5
comp=Z,6µm,18.0s
MJAR Matsushiro Arr 124.51 286 PKP **PKiKP 23 27 59.4 -0.1**
comp=Z,0.9nm,0.3s,baz=166,slow=3.2,SNR=2.5
G21K Allakaket 124.55 345 IAMs_20 IAMs_20 00 14 35.4
comp=Z,5µm,19.0s
PMOZ Porto Moniz, M 124.66 81 *e*LQ LQ 00 02 15.7
PMOZ *e*LR LR 00 08 31.7
PMOZ A A 00 18 55.4
comp=Z,4µm,18.0s
E29M Blow River 124.72 353 IAMs_20 IAMs_20 00 10 39.6
comp=Z,7µm,20.0s
F24K Squaw Lake 124.78 348 PKPdf **PKiKP 23 28 03.7 +4.6**

E28M	Babbage River	125.05	352	IAMs_20	IAMs_20	00 11 27.3	
	comp=Z,8μm,21.0s						
C36M	Paulatuk	125.15	359	IAMs_20	IAMs_20	00 11 47.8	
	comp=Z,8μm,22.0s						
UBPT	Khong Chiam	125.55	241	PKPdf	PKiKP	23 28 03.9	+1.8
E22K	Anaktuvuk Pass	125.84	347	IAMs_20	IAMs_20	00 10 35.9	
	comp=Z,7μm,22.0s						
E21K	Killik River	126.42	346	IAMs_20	IAMs_20	00 18 34.1	
	comp=Z,5μm,18.0s						
E18K	Tukpahlearik C	126.48	343	PKPdf	PKiKP	23 28 06.9	+4.5
D23K	Nanushuk River	126.49	348	PKPdf	PKiKP	23 28 08.7	+6.3
QIZ	Qiongzhong	126.50	248	PKP	PKPdf	23 28 00.8	-2.7
QIZ				PP	PP	23 30 01.8	+2.5
QIZ				SKKS		23 37 00.1	
QIZ				SS	SS	23 47 07.0	+3.2
QIZ				AMB	AMB		
	comp=Z,390nm,10.3s						
QIZ				LR	LR		
	comp=Z,2μm,20.5s						
QIZ				LR	LR		
	comp=Z,510nm,18.9s						
QIZ				LR	LR		
	comp=Z,3μm,27.8s						
D22K	Ayikyak River	126.66	347	IAMs_20	IAMs_20	00 12 36.2	
	comp=Z,6μm,20.0s						
C24K	Franklin Bluff	126.98	349	IAMs_20	IAMs_20	00 14 26.9	
	comp=Z,7μm,19.0s						
B21K	Ikpikpuk River	127.60	346	IAMs_20	IAMs_20	00 13 35.9	
	comp=Z,5μm,20.0s						
B22K	Teshekpuk Lake	128.12	347	IAMs_20	IAMs_20	00 18 11.8	
	comp=Z,7μm,18.0s						
B20K	Meade River	128.31	345	IAMs_20	IAMs_20	00 12 21.1	
	comp=Z,8μm,22.0s						
TIO	Tiouine	128.78	91	PP	PP	23 30 14.4	-0.3
TAM	Tamanrasset	129.43	109	PKPdf	PKPdf	23 28 09.5	+0.3
TAM	Tamanrasset	129.43	109	PKIKP	PKPdf	23 28 09.5	+0.3
SSE	Sheshan	129.89	268	PKP	PKiKP	23 28 12.8	+2.4
SSE				PP	PP	23 30 28.3	+6.6
SSE				SS	SS	23 47 52.3	+6.2
SSE				AMB	AMB		
	comp=Z,250nm,3.5s						
SSE				LR	LR		
	comp=Z,760nm,26.8s						
SSE				LR	LR		
	comp=Z,490nm,26.8s						
TJN	Taejon	130.34	277	IAMs_20	IAMs_20	00 15 17.6	
	comp=Z,6μm,22.0s						
AVE	Averroes	130.47	89	IAMs_20	IAMs_20	00 18 57.7	
	comp=Z,6μm,21.0s						
KSRS	Korea Array	130.80	279	PKP	PKPdf	23 28 10.1	-1.0
	comp=Z,0.5nm,0.3s,baz=122,slow=1.6,SNR=1.3						
GULI	GuiLin	131.34	253	⇓PKP	PKiKP	23 28 17.9	+4.4
GULI				PP	PP	23 30 33.0	+2.0
GULI				LR	LR		
	comp=Z,1μm,20.2s						
GULI				LR	LR		
	comp=Z,1μm,19.0s						
GULI				LR	LR		
	comp=Z,2μm,20.2s						
CMAR	Chiang Mai Arr	131.41	236	PKPdf	PKPdf	23 28 13.3	+0.4
CMAR	Chiang Mai Arr	131.41	236	PKP	PKPdf	23 28 11.6	-1.3
	comp=Z,4.2nm,0.8s,baz=214,slow=2.3,SNR=13						
CMAR	Chiang Mai Arr	131.41	236	PKIKP	PKPdf	23 28 13.3	+0.4
CHTO	Chiang Mai	131.72	237		PKiKP	23 28 14.8	+0.4
CHTO				IAMs_20	IAMs_20	00 21 10.3	
	comp=Z,5μm,20.0s						
CHTO	Chiang Mai	131.72	237	PKIKP	PKiKP	23 28 14.8	+0.4
RES	Resolute Bay	131.77	9	IAMs_20	IAMs_20	00 18 49.5	
	comp=Z,6μm,21.0s						
NJ2	Nanjing	131.91	267	*e*P	PKiKP	23 28 15.3	+0.9
NJ2				LR	LR		
	comp=Z,1μm,20.8s						
NJ2				LR	LR		
	comp=Z,1μm,23.7s						
NJ2				LR	LR		
	comp=Z,2μm,21.8s						
CNSH	ChangSha	132.24	258	PKP	PKPdf	23 28 10.3	-3.8
CNSH				PP	PP	23 30 43.4	+6.6
CNSH				LR	LR		
	comp=Z,1μm,20.0s						
CNSH				LR	LR		
	comp=Z,1μm,17.7s						
CNSH				LR	LR		
	comp=Z,3μm,19.5s						
PFVI	Vila Bisbo	132.47	84	IAMs_20	IAMs_20	00 19 58.1	
	comp=Z,6μm,21.0s						
MORF	Marmelete	132.69	84	IAMs_20	IAMs_20	00 19 53.9	
	comp=Z,6μm,21.0s						
WHN	Wuhan	133.28	261	PKP	PKiKP	23 28 30.9	+14
WHN				SKP		23 31 47.6	
WHN	Wuhan	133.28	261	SS	SS	23 48 30.6	+3.1
WHN				LR	LR		
	comp=N,850nm,17.2s						
WHN				LR	LR		
	comp=E,300nm,11.8s						
WHN				LR	LR		
	comp=Z,2μm,17.9s						
PVAQ	Vaqueiros	133.28	85	IAMs_20	IAMs_20	00 20 21.6	
	comp=Z,5μm,21.0s						
PVAQ	Vaqueiros	133.28	85	*e*SS	SS	23 48 29.5	+1.9
PVAQ	Vaqueiros	133.28	85	*e*LQ	LQ	00 02 57.8	
PVAQ				*e*LR	LR	00 12 01.3	
PVAQ				A	A	00 20 55.7	
	comp=Z,5μm,20.0s						
MESJ	Messejana	133.31	84	IAMs_20	IAMs_20	00 18 39.4	
	comp=Z,6μm,22.0s						
SFS	San Fernando	133.46	87	IAMs_20	IAMs_20	00 20 10.0	
	comp=Z,8μm,22.0s						
PMTG	Montargil	134.18	83	*e*PKP	PKPdf	23 28 17.6	+0.2
GYA	Guiyang	134.25	250	PKP	PKPdf	23 28 14.9	-3.3
GYA				PKS	PKSdf	23 31 51.8	-2.9
GYA				SKKS		23 37 43.9	
GYA				LR	LR		
	comp=Z,2μm,18.8s						
GYA				LR	LR		
	comp=Z,790nm,16.6s						
GYA				LR	LR		
	comp=Z,2μm,19.5s						
PESTR	Estremoz	134.39	83	IAMs_20	IAMs_20	00 19 08.9	
	comp=Z,6μm,20.0s						
BILL	Bilibino	134.49	330	IAMs_20	IAMs_20	00 17 29.5	
	comp=Z,6μm,21.0s						
BILL	Bilibino	134.49	330⇑	*e*PKIKP	PKiKP	23 28 18.4	-0.1
PCAS	Casmilo, Conde	134.71	82	*e*PKP	PKPdf	23 28 17.0	-1.4
DY2G	Dye2	134.73	33	*i* P	PKiKP	23 28 26.9	+7.5
PMRV	Marv??o	134.89	83	*e*PKP	PKPdf	23 28 19.3	+0.5
PMRV	Marv??o	134.89	83	*e*SS	SS	23 48 48.4	+1.4
PMRV	Marv??o	134.89	83	*e*LQ	LQ	00 06 08.6	
PMRV				*e*LR	LR	00 12 55.8	
PMRV				A	A	00 20 16.1	
	comp=Z,4μm,22.0s						
PCBR	Castelo Branco	135.13	83	*e*PKP	PKiKP	23 28 22.1	+1.4
KMI	Kunming	135.19	245	⇑PKP	PKiKP	23 28 22.3	+0.7
KMI				PP	PP	23 30 58.3	+2.5
KMI				SKS	SKSdf	23 35 28.8	-2.5
KMI				AMB	AMB		
	comp=Z,490nm,11.6s						
KMI				LR	LR		
	comp=Z,2μm,20.7s						
KMI				LR	LR		
	comp=Z,2μm,20.8s						
KMI				LR	LR		
	comp=Z,3μm,20.9s						
DL2	Dalian	135.33	275	*e*PKP	PKiKP	23 28 24.3	+3.2
DL2				PP	PP	23 30 59.9	+3.3
DL2				SS	SS	23 48 56.8	+4.5
DL2				AMB	AMB		
	comp=Z,360nm,4.1s						
DL2				LR	LR		
	comp=Z,3μm,19.8s						
DL2				LR	LR		
	comp=Z,2μm,18.9s						
DL2				LR	LR		
	comp=Z,4μm,20.9s						
MTE	Manteigas	135.48	82	IAMs_20	IAMs_20	00 21 02.8	
	comp=Z,6μm,20.0s						
MTE	Manteigas	135.48	82	*e*PKP	PKiKP	23 28 25.1	+3.6
MTE	Manteigas	135.48	82	*e*SS	SS	23 49 08.4	+14
MTE	Manteigas	135.48	82	*e*LQ	LQ	00 04 41.1	
MTE				*e*LR	LR	00 07 27.3	
MTE				A	A	00 21 25.8	
	comp=Z,6μm,22.0s						
SEY	Seymchan	135.75	319⇑	*i*PKIKP	PKiKP	23 28 22.6	+1.4
SEY				MLR	MLR		
	comp=Z,2μm,18.0s						
PVRL	Vila Real	135.98	81	*e*PKP	PKiKP	23 28 27.7	+5.2
PGAV	Gavieira, Arco	136.14	80	*e*SS	SS	23 49 05.6	+3.4
PGAV	Gavieira, Arco	136.14	80	*e*LQ	LQ	00 04 32.2	
PGAV				*e*LR	LR	00 13 37.8	
PGAV				A	A	00 24 47.7	
	comp=Z,4μm,20.0s						
SNY	Shenyang	136.25	280	⇓PKP	PKiKP	23 28 34.3	+11
SNY				PP	PP	23 31 12.1	+10
SNY				SKS	SKSdf	23 35 27.8	-3.9
MVO	Moncorvo	136.28	82	*e*PKP	PKiKP	23 28 23.1	0.0
MVO	Moncorvo	136.28	82	*e*SS	SS	23 49 14.2	+10
MVO	Moncorvo	136.28	82	*e*LQ	LQ	00 07 04.8	
MVO				*e*LR	LR	00 13 44.8	
MVO				A	A	00 25 19.1	
	comp=Z,5μm,18.0s						
CN2	Changchun	136.54	283	*e*PKP	PKPdf	23 28 19.3	-2.4
CN2				AMB	AMB		
	comp=Z,270nm,7.5s						
CN2				LR	LR		
	comp=Z,330nm,18.0s						
CN2				LR	LR		
	comp=Z,200nm,18.0s						
KLR	Kul'dur	136.66	293⇓	*i*PKIKP	PKiKP	23 28 22.8	-0.7
PAB	San Pablo	136.67	85	IAMs_20	IAMs_20	00 22 23.1	
	comp=Z,7μm,21.0s						
PZH	PanZhiHua	136.84	245	PKP	PKiKP	23 28 26.3	+1.5
PZH				PKS	PKSdf	23 31 58.3	-1.1
PZH				SS	SS	23 49 12.1	+1.9
PZH				AMB	AMB		
	comp=Z,330nm,7.1s						
PZH				LR	LR		
	comp=Z,2μm,20.4s						
PZH				LR	LR		
	comp=Z,1μm,20.8s						
PZH				LR	LR		
	comp=Z,3μm,21.8s						
PBRG	Braganca	136.88	81	*e*PKP	PKiKP	23 28 27.7	+3.4
ESDC	Sonseca Array	136.97	85	PKPdf	PKiKP	23 28 23.8	-0.7
ESDC	Sonseca Array	136.97	85	PKP	PKPdf	23 28 22.6	-0.1
	comp=Z,2.5nm,0.9s,baz=247,slow=2.2,SNR=7.2						
ESDC				PP	PP	23 31 11.6	+4.5
	comp=Z,2.8nm,1.1s,baz=217,slow=7.1,SNR=5.8						
TNCH	TengChong	137.22	241	PKP	PKPdf	23 28 22.0	-1.8
TNCH				sPKP		23 28 30.8	
TNCH				PP	PP	23 31 09.4	+0.9
TNCH				SKS	SKSdf	23 35 29.9	-4.8
TNCH				AMB	AMB		
	comp=Z,270nm,5.0s						
TNCH				LR	LR		
	comp=Z,2μm,21.9s						
TNCH				LR	LR		
	comp=Z,1μm,17.5s						
TNCH				LR	LR		
	comp=Z,3μm,20.7s						
LYN	LuoYang	137.34	263	*e*PKP	PKPdf	23 28 23.3	-0.2
LYN				sPKP		23 28 31.8	
LYN				PP	PP	23 31 18.3	+9.1
LYN				PKS	PKSdf	23 31 59.3	-0.3
LYN				SS	SS	23 49 19.3	+3.2
LYN				AMB	AMB		
	comp=Z,490nm,7.6s						
LYN				LR	LR		
	comp=Z,2μm,19.2s						
LYN				LR	LR		
	comp=Z,2μm,18.2s						
LYN				LR	LR		
	comp=Z,3μm,21.6s						
HNS	HongShan	138.15	268	⇓PKP	PKiKP	23 28 28.3	+1.4
HNS				PP	PP	23 31 23.4	+9.2
HNS				SS	SS	23 49 30.3	+4.6
HNS				LR	LR		
	comp=Z,2μm,21.5s						
HNS				LR	LR		
	comp=Z,530nm,19.1s						
HNS				LR	LR		
	comp=Z,2μm,22.3s						
XAN	Xi'an	138.92	259	PKP	PKPdf	23 28 24.0	-2.5
XAN				PP	PP	23 31 23.9	+4.8
XAN				SKKS		23 38 14.0	
XAN				SS	SS	23 49 40.9	+5.9
XAN				LR	LR		
	comp=Z,2μm,22.7s						
XAN				LR	LR		
	comp=Z,2μm,19.8s						
XAN				LR	LR		
	comp=Z,3μm,22.7s						
BJI	Beijing	139.16	272	PKP	PKPdf	23 28 26.9	+0.3
BJI				PP	PP	23 31 22.1	+1.6
BJI				SKKS		23 38 14.3	
BJI				SS	SS	23 49 40.3	+2.5
BJI				AMB	AMB		
	comp=Z,140nm,9.4s						
BJI				LR	LR		
	comp=Z,570nm,29.4s						
BJI				LR	LR		
	comp=Z,560nm,29.9s						
BJI				LR	LR		
	comp=Z,2μm,31.0s						
IMP	Imphal	139.22	235	*e*P	PKPdf	23 28 28.2	+0.9
CD2	Chengdu	139.32	251	PKP	PKiKP	23 28 34.3	+4.7
CD2				PP	PP	23 31 31.6	+10
CD2				AMB	AMB		
	comp=Z,420nm,7.8s						
CD2				LR	LR		
	comp=Z,460nm,13.6s						
CD2				LR	LR		
	comp=Z,590nm,14.0s						
CD2				LR	LR		
	comp=Z,770nm,18.9s						
HEH	HeiHe	139.52	292	PKP	PKPdf	23 28 27.4	+0.4
HEH				PP	PP	23 31 28.6	+5.9
HEH				AMB	AMB		
	comp=Z,320nm,8.3s						
HEH				LR	LR		
	comp=Z,850nm,21.6s						
HEH				LR	LR		
	comp=Z,2μm,20.3s						
HEH				LR	LR		
	comp=Z,2μm,19.5s						
TIY	Taiyuan	139.64	267	PKP	PKiKP	23 28 39.1	+9.0
TIY				PP	PP	23 31 28.9	+5.3
KOHI	KOHIMA	139.91	236	*e*P	PKPdf	23 28 29.2	+0.5
NEEM	North Greenlan	140.22	19	*i* P	PKPdf	23 28 28.7	+0.8
LKP	Lekhapani	140.45	239	*e*P	PKPdf	23 28 30.6	+1.2
JHSG	JHARSUGUGA	140.69	220	*e*x	x	23 28 44.6	
SHL	Shillong	140.79	233	*e*P	PKPdf	23 28 30.8	+0.4
ABTO	Aybut	141.17	173	P	PKiKP	23 28 35.1	+1.3
ZEA	Zeya	141.57	297	*i* PKIKP	PKiKP	23 28 32.9	-0.5
ZEA				*e*		23 50 13.3	
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ZEA				pmax	pmax		
	comp=E,100nm,4.7s						
ZEA				pmax	pmax		
	comp=Z,400nm,6.8s						
KEST	Kesra	141.60	101	PKP	PKPdf	23 28 30.2	-1.2
	comp=Z,7.1nm,1.0s,baz=248,slow=3.1,SNR=5.0						
MAHO	Mahon	141.73	92	IAMs_20	IAMs_20	00 29 57.7	
	comp=Z,5μm,19.0s						
BOK	Bokaro	141.75	224	*e*P	PKPdf	23 28 32.3	+0.5
XLT	XiLinHaoTe	141.77	277	*e*PKP	PKPdf	23 28 28.8	-2.6
XLT				SS	SS	23 50 10.8	+2.3
XLT				AMB	AMB		
	comp=Z,510nm,10.6s						
XLT				LR	LR		
	comp=Z,260nm,18.7s						
XLT				LR	LR		
	comp=Z,2μm,18.7s						
XLT				LR	LR		
	comp=Z,4μm,19.6s						
CEST	Esterri de Car	141.85	86	IAMs_20	IAMs_20	00 26 37.2	
	comp=Z,4μm,21.0s						
AKL	Akola	141.87	210	*e*P	PKPdf	23 28 33.1	+0.9
HHC	Hu-ho-hao-te	142.29	269	*e*PKP	PKPdf	23 28 31.8	-0.7
HHC				pPKP	PKiKP	23 28 41.9	+6.4
HHC				SKKS		23 38 34.3	
HHC				SS	SS	23 50 16.9	+2.3
HHC				AMB	AMB		
	comp=Z,800nm,6.2s						
HHC				LR	LR		
	comp=Z,740nm,17.6s						
HHC				LR	LR		
	comp=Z,1μm,19.1s						
HHC				LR	LR		
	comp=Z,1μm,18.3s						
DOK	Doka	142.47	174	P	PKPdf	23 28 32.4	-0.9
BTO	Baotou	143.00	268	*e*PKP	PKPdf	23 28 32.8	-0.9
BTO				pPKP	PKiKP	23 28 39.6	+2.7
BTO				AMB	AMB		
	comp=Z,2μm,5.6s						
BTO				LR	LR		
	comp=Z,1μm,16.2s						
BTO				LR	LR		
	comp=Z,2μm,22.5s						
BTO				LR	LR		
	comp=Z,3μm,20.3s						
LZH	Lanzhou	143.22	257	*e*PKP	PKPbc	23 28 31.3	-0.1
LZH				pPKP	PKiKP	23 28 38.6	+1.0
LZH				sPKP		23 28 41.8	
LZH				SKKS		23 38 38.0	
LZH				SS	SS	23 50 26.8	+1.4
LZH				AMB	AMB		
	comp=Z,1μm,6.4s						
LZH				LR	LR		
	comp=Z,810nm,18.6s						
LZH				LR	LR		
	comp=Z,4μm,18.7s						
LZH				LR	LR		
	comp=Z,5μm,20.1s						
GTK	Tadong	143.76	230	*e*P	PKPdf	23 28 35.8	+0.2
BHPL	Bhopal	144.15	212	*e*P	PKPbc	23 28 34.8	+0.6
VSL	Villasalto	144.31	97	IAMs_20	IAMs_20	00 34 52.6	
	comp=Z,5μm,19.0s						
YAK	Yakutsk	144.37	310	*e*PKHKP	PKPpre	23 28 30.3	
YAK				pmax	pmax		
	comp=Z,35nm,1.4s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,716nm,6.3s						
YAK				pmax	pmax		
	comp=N,217nm,4.7s						
YAK				pmax	pmax		
	comp=E,237nm,4.3s						
YAK				MLR	MLR		
	comp=Z,2μm,23.0s						
YAK				MLR	MLR		
	comp=N,1μm,19.0s						
YAK				MLR	MLR		
	comp=E,1μm,18.0s						
SCO	Scoresbysund	144.44	35	IAMs_20	IAMs_20	00 28 09.6	
	comp=Z,5μm,20.0s						
SCO	Scoresbysund	144.44	35	*i* P	PKiKP	23 28 45.9	+7.1
ALBI	Allahabad	144.64	219	*e*P	PKPdf	23 28 37.9	+1.0
LSA	Lhasa	144.66	236	IAMs_20	IAMs_20	00 42 37.0	
	comp=Z,5μm,20.0s						
LSA	Lhasa	144.66	236	PKPdf	PKPdf	23 28 37.0	-0.4
LSA	Lhasa	144.66	236	PKP	PKPab	23 28 35.3	-0.8
LSA				LR	LR		
	comp=Z,5μm,21.6s						
LSA				LR	LR		
	comp=Z,3μm,20.0s						
LSA	Lhasa	144.66	236	P	PKPdf	23 28 37.4	0.0
MHTO	MHTO	144.93	180	P	PKPdf	23 28 37.2	-0.4
	SNR=17						
SSB	Saint Sauveur	145.38	85	IAMs_20	IAMs_20	00 32 08.8	
	comp=Z,5μm,19.0s						
CLF	Chambon-Foret	145.74	80	IAMs_20	IAMs_20	00 28 32.6	
	comp=Z,5μm,21.0s						
DBG	Daneborg	145.95	28	*i* P	PKiKP	23 28 46.1	+4.3
JLN	Jalan Bani Buh	146.07	183	P	PKPbc	23 28 40.5	+0.2
	SNR=12						
RAYN	Ar Rayn	146.21	159		PKPdf	23 28 39.9	+0.1
RAYN	Ar Rayn	146.21	159	*i* PKPab	PKPdf	23 28 40.2	+0.5
	SNR=29						
RAYN	Ar Rayn	146.21	159	P	PKPab	23 28 42.3	+0.8
RAYN	Ar Rayn	146.21	159	⇑PKP2	PKPbc	23 28 40.5	-0.3
JMDO	Jabal Madar	146.31	180	P	PKPbc	23 28 41.2	+0.2
	SNR=8.9						
WBK	Wadi Bani Khal	146.54	182	P	PKPbc	23 28 42.2	+0.5
	SNR=6.3						
UMZA	Um Al Zommool	146.59	176	P	PKPbc	23 28 41.3	-0.5
EKA	Eskdalemuir Ar	146.61	65	PKPbc	PKPdf	23 28 38.5	-0.8
	comp=Z,15nm,0.9s,baz=245,slow=3.2,SNR=18						
BSY	Bisya	146.68	179	P	PKPbc	23 28 42.0	-0.2
	SNR=12						
BRCI	Bahraich	146.78	221	*e*P	PKPbc	23 28 41.4	-0.8
MZR	Muzera	146.78	173	*i* PKPab	PKPbc	23 28 42.1	-0.3
	SNR=14						
MZR	Muzera	146.78	173	P	PKPbc	23 28 42.8	+0.4
	SNR=8.0						
SMDO	Samad	147.00	180	P	PKPbc	23 28 43.1	-0.1
	SNR=10.0						
CEL	Celeste	147.02	105	PKP	PKPdf	23 28 40.1	-0.5
ARQ	Araqi	147.26	178	P	PKPbc	23 28 43.8	0.0
	SNR=28						
NOR	Nord	147.27	15	*i* P	PKPbc	23 28 41.6	-0.5
BIDO	Bidbid	147.46	180	P	PKPab	23 28 45.6	-0.7
	SNR=19						
TIXI	Tiksi	147.50	326	PKPdf	PKPdf	23 28 40.5	+0.2
TIXI	Tiksi	147.50	326	IAMs_20	IAMs_20	00 28 48.9	
	comp=Z,3μm,21.0s						
TIXI	Tiksi	147.50	326⇑	*e*PKIKP	PKPdf	23 28 40.3	0.0
TIXI				MLR	MLR		
	comp=Z,2μm,18.0s						
HOQ	Hoqain	147.52	179	P	PKPbc	23 28 44.3	-0.2
	SNR=11						
MZWR	Madinat Zayed	147.56	173	P	PKPbc	23 28 45.1	+0.5
SLWR	Sila	147.69	169	P	PKiKP	23 28 46.6	-0.3
GHWR	Ruwais	147.69	171	P	PKiKP	23 28 46.3	-0.7
CIT	Chita	147.81	287	*e*PKP2	PKPbc	23 28 44.3	-0.1
CIT				*e*		23 32 18.1	
CIT				pmax	pmax		
	comp=Z,488nm,2.4s						
GTA	Gaotai	147.83	257	PKPbc	PKPdf	23 28 43.3	+1.2
GTA				pPKP	pPKPab	23 28 49.4	-0.1
GTA				PKS	PP	23 32 13.8	+1.0
GTA				SKKS		23 39 03.3	
GTA				SS	SS	23 51 16.6	-1.2
GTA				LR	LR		
	comp=Z,1μm,24.3s						
GTA				LR	LR		
	comp=Z,1μm,22.7s						
GTA				LR	LR		
	comp=Z,2μm,23.5s						
ALNE	Al Ain	147.95	176	*i* PKPbc	PKPdf	23 28 44.0	+1.5
	SNR=7.0						
ALNE	Al Ain	147.95	176	P	PKPbc	23 28 46.1	+0.5
	SNR=19						
AJM	Ajmer	148.00	209	*e*P	PKPdf	23 28 43.7	+1.0
SOHO	SOHO	148.05	178	*i* PKiKP	PKPbc	23 28 46.3	+0.5
	SNR=6.6						
SOHO	SOHO	148.05	178	P	PKiKP	23 28 47.3	-0.4
GOMU	GeErMu	148.12	247	PKPbc	PKPbc	23 28 44.8	-1.4
GOMU				SKKS		23 39 08.9	
GOMU				AMB	AMB		
	comp=Z,980nm,6.8s						
GOMU				LR	LR		
	comp=Z,4μm,21.8s						
GOMU				LR	LR		
	comp=Z,3μm,20.6s						
GOMU				LR	LR		
	comp=Z,6μm,21.2s						
TIP	Timpagrande	148.15	105	PKP	PKPdf	23 28 41.9	-0.6
DOU	Dourbes	148.16	78	*d*PKPdf	PKPbc	23 28 44.0	-1.3
CESX	Cesi	148.20	96	IAMs_20	IAMs_20	00 28 53.6	
	comp=Z,6μm,21.0s						
CUC	Castrocucco	148.21	102	IAMs_20	IAMs_20	00 40 45.4	
	comp=Z,5μm,20.0s						
PAOL	Paolisi	148.24	100	IAMs_20	IAMs_20	00 42 16.5	
	comp=Z,5μm,20.0s						
SMRA	Abu-Samra	148.26	168	P	PKiKP	23 28 47.4	-0.6
	SNR=5.6						
BMRD	Maredsous	148.37	78	*d*PKPdf	PKPdf	23 28 43.6	+1.2
UCC	Uccle	148.40	77		PKPbc	23 28 45.5	-0.4
UCC	Uccle	148.40	77	PKP2	PKPbc	23 28 45.5	-0.4
UCC				MLR	MLR		
	comp=Z,600nm,18.0s						
UCC	Uccle	148.40	77	*d*PKPdf	PKPbc	23 28 44.4	-1.6
ZCCA	Zocca	148.41	92	IAMs_20	IAMs_20	00 32 02.6	
	comp=Z,5μm,20.0s						
AJN	Ajban	148.43	175	*i* PKPbc	PKPbc	23 28 45.6	-1.2
	SNR=6.3						
AJN	Ajban	148.43	175	P	PKiKP	23 28 48.8	+0.4
	SNR=5.3						
ASUD	Al Ashush, Dub	148.50	176	*i* PKPbc	PKPbc	23 28 46.2	-0.8
	SNR=7.2						
ASUD	Al Ashush, Dub	148.50	176	P	PKPbc	23 28 47.6	+0.6
	SNR=6.9						

INTR	Introdacqua	148.54	98		IAMs_20	IAMs_20	00 32 52.4	
	comp=Z,4µm,20.0s							
RCHB	Rochefort	148.54	78	dPKPdf		PKPbc	23 28 45.4	-0.9
ECH	Echery	148.56	83		IAMs_20	IAMs_20	00 32 35.0	
	comp=Z,4µm,19.0s							
BGES	Gesves	148.58	78	dPKPdf		PKPbc	23 28 45.1	-1.4
ASHO	Ashiyiah	148.59	177	i PKPbc		PKPbc	23 28 46.4	-0.9
	SNR=16							
ASHO	Ashiyiah	148.59	177	P		PKPbc	23 28 47.1	-0.2
	SNR=17							
FAQ	Al Faqa, Dubai	148.63	176	i PKPbc		PKPbc	23 28 46.6	-0.7
	SNR=12							
FAQ	Al Faqa, Dubai	148.63	176	P		PKPbc	23 28 47.1	-0.2
JRN	Qarnain Island	148.66	171	P		PKPbc	23 28 47.8	+0.4
BCLA	Clavier	148.72	78	dPKPdf		PKPbc	23 28 46.2	-0.6
HATD	Hatta, Dubai	148.73	177	i PKPbc		PKPbc	23 28 46.6	-1.1
	SNR=19							
HATD	Hatta, Dubai	148.73	177	P		PKPbc	23 28 47.7	0.0
	SNR=25							
TUE	Stuetta	148.79	87		IAMs_20	IAMs_20	00 46 16.7	
	comp=Z,5µm,19.0s							
TUE	Stuetta	148.79	87	PKP		PKPdf	23 28 42.8	-0.7
WLF	Walferdange	148.79	80	ePKPdf		PKPab	23 28 50.3	-0.6
	baz=228,slow=1.9							
WLF	Walferdange	148.79	80	dPKPdf		PKPbc	23 28 46.2	-0.8
UOSS	Minazif	148.85	177			PKPbc	23 28 47.0	-0.9
UOSS	Minazif	148.85	177	i PKPbc		PKPbc	23 28 46.5	-1.5
	SNR=6.7							
UOSS	Minazif	148.85	177	P		PKPbc	23 28 46.0	-1.9
NAZ	Nazwa, Dubai	148.88	176	i PKPbc		PKPbc	23 28 46.9	-1.1
	SNR=9.0							
NAZ	Nazwa, Dubai	148.88	176	P		PKPbc	23 28 46.8	-1.2
	SNR=6.1							
SONA	Sohna	148.95	214	eP		PKPbc	23 28 47.0	-1.1
BSTI	Sart Tilman	148.95	78	dPKP		PKiKP	23 28 48.7	0.0
KUDL	Kundal	149.03	213	eP		PKPbc	23 28 47.0	-1.3
BHOU	Houvegnez	149.07	79	dPKPdf		PKPbc	23 28 47.5	-0.3
BISR	Bishrakh	149.13	215	eP		PKPbc	23 28 48.8	+0.3
ULN	Ulaanbaatar	149.19	276			PKPbc	23 28 46.8	-1.4
ULN	Ulaanbaatar	149.19	276	P		PKiKP	23 28 49.4	-0.1
ULN	Ulaanbaatar	149.19	276	⇓PKIKP		PKPdf	23 28 45.1	+1.1
NGCH	Negor - Chabah	149.19	186	P		PKPbc	23 28 48.6	-0.1
	SNR=10							
MEM	Membach	149.21	78	dPKPdf		PKPbc	23 28 47.0	-0.9
MDH	Madha	149.21	177	i PKPbc		PKPbc	23 28 47.5	-1.3
	SNR=15							
MDH	Madha	149.21	177	P		PKPbc	23 28 48.1	-0.7
	SNR=12							
BTNL	Ternell	149.26	78	dPKPdf		PKPbc	23 28 48.7	+0.5
MSFE	Esma-Masafi	149.26	177	i PKPbc		PKPbc	23 28 47.9	-1.1
	SNR=7.1							
MASF	Masafi	149.27	177	P		PKPbc	23 28 47.7	-1.3
BFO	Black Forest	149.28	83		IAMs_20	IAMs_20	00 31 52.0	
	comp=Z,5µm,21.0s							
BFO	Black Forest	149.28	83	ePKPdf		PKPbc	23 28 47.2	-1.1
	baz=228,slow=1.9							
FUORN	Ofenpass-Fuorn	149.39	88			PKPbc	23 28 47.6	-1.3
FUORN					IAMs_20	IAMs_20	00 31 39.7	
	comp=Z,6µm,21.0s							
UMQ	Umm Al-Quwin	149.41	176	P		PKPdf	23 28 46.3	+1.4
SAKB	Bahrain	149.44	167	P		PKPbc	23 28 48.9	-0.4
SONM	Songino Array	149.54	275			PKPbc	23 28 48.1	-1.1
SONM	Songino Array	149.54	275	PKPbc		PKPbc	23 28 48.5	-0.6
	comp=Z,5.9nm,1.1s,baz=194,slow=1.8,SNR=16							
DAVA	Damuels	149.56	86	pPKP		pPKPdf	23 28 47.9	+1.2
	comp=Z,323nm,2.3s							
JASK	Jask - Hormozg	149.79	180	P		PKPbc	23 28 50.0	-0.3
	SNR=14							
CTI	Castel Tesino	149.83	90		IAMs_20	IAMs_20	00 33 35.2	
	comp=Z,4µm,20.0s							
FETA	Feichten	149.88	87	i pPKP		PKPbc	23 28 48.6	-1.4
	comp=Z,889nm,3.1s,SNR=14							
UBR	Ueberruh	149.91	86	ePKPdf		PKPbc	23 28 49.3	-0.6
	baz=228,slow=1.9							
SHME	Shamm	149.95	177	i PKPbc		PKPbc	23 28 49.7	-0.9
	SNR=7.0							
SHME	Shamm	149.95	177	P		PKPbc	23 28 50.5	-0.1
STU	Stuttgart	150.00	83		IAMs_20	IAMs_20	00 49 48.2	
	comp=Z,4µm,20.0s							
RETA	Reutte	150.16	87	i PKP		PKiKP	23 28 51.8	+0.4
	comp=Z,790nm,2.1s,SNR=15							
SQTA	Sankt Quirin	150.26	87	i pPKP		PKPbc	23 28 50.6	-0.3
	comp=Z,646nm,1.8s,SNR=17							
MOTA	Moosalm	150.28	87	ePKP		PKiKP	23 28 52.1	+0.4
	comp=Z,2µm,3.8s							
BUG	Bochum--Univer	150.31	77	ePKPdf		PKPbc	23 28 50.1	-0.6
	baz=228,slow=1.9							
CIMO	Cimolais	150.42	90		IAMs_20	IAMs_20	00 29 44.1	
	comp=Z,5µm,21.0s							
WTTA	Wattenberg	150.53	88	pPKP		pPKPdf	23 28 49.9	+1.7
	comp=Z,1µm,3.1s,SNR=11							
WATA	Walderalm	150.53	88	epPKP		pPKPdf	23 28 49.8	+1.6
	comp=Z,906nm,2.9s							
DDI	Dehra Dun	150.54	217	eP		PKPdf	23 28 46.9	+0.3
ABTA	Abfaltersbach	150.72	89	i PKP		PKiKP	23 28 52.6	0.0
	comp=Z,677nm,3.4s,SNR=12							
KASTN	Kahler Asten	150.82	79	ePKPdf		PKPbc	23 28 51.4	-0.5
	baz=228,slow=1.9							
FUR	Furstenfeldbru	150.83	86	ePKPdf		PKPbc	23 28 51.1	-1.0
	baz=228,slow=1.9							
SKDS	Skadanscina	150.85	93	eP		PKiKP	23 28 52.6	-0.2
SABO	M.te Sabotino	150.88	91		IAMs_20	IAMs_20	00 29 06.6	
	comp=Z,6µm,22.0s							
CEY	Cerknica	151.20	93	eP		PKiKP	23 28 53.8	+0.3
CEY	Cerknica	151.20	93	eP		PKPbc	23 28 50.6	-2.4
LESA	Schwarzleotal	151.20	88	epPKP		PKPbc	23 28 52.6	-0.4
	comp=Z,529nm,2.9s							
MYKA	Terra Mystica	151.28	90	i PKP		PKiKP	23 28 54.5	+0.8
	comp=Z,755nm,3.1s,SNR=12							
TIR	Tirane	151.36	105	PKP		PKPdf	23 28 47.0	-0.4
KBA	Koelnbreinsper	151.38	89	epPKiKP		PKPab	23 28 59.4	-2.5
	comp=Z,564nm,2.9s							
LJU	Ljubljana	151.44	92	eP		PKiKP	23 28 54.1	+0.1
RJOB	Jochberg	151.44	88	ePKPdf		PKPbc	23 28 52.5	-1.0
	baz=228,slow=1.9							
BOJS	Bojanci	151.52	94	eP		PKiKP	23 28 54.3	+0.1
BOJS	Bojanci	151.52	94	eP		PKPdf	23 28 36.9	-11
SMLA	Simla	151.58	217	eP		PKPdf	23 28 48.4	+0.3
A050A	Klekovaca	151.60	97	eP		PKPbc	23 28 53.5	-0.5
GRFO	Grafenberg	151.61	83		IAMs_20	IAMs_20	00 35 51.9	
	comp=Z,5µm,19.0s							
GRA1	Grafenberg Arr	151.62	83		IAMs_20	IAMs_20	00 35 51.9	
	comp=Z,5µm,19.0s							
GRF	Grafenberg Arr	151.62	83	ePKPdf		PKPbc	23 28 53.6	-0.3
	baz=228,slow=1.9							
GRF				eL		L	00 35 52.5	
	comp=Z,4µm,19.5s							
OBKA	Obir	151.72	91	epPKP		PKPbc	23 28 53.0	-1.3
	comp=Z,1µm,3.1s							
OBKA	Obir	151.72	91	eP		PKPdf	23 28 45.2	-2.7
ARG	Arkhangelos	151.73	122		IAMs_20	IAMs_20	00 35 31.3	
	comp=Z,4µm,20.0s							
PDG	Podgorica	151.77	103		IAMs_20	IAMs_20	00 35 39.8	
	comp=Z,5µm,20.0s							
PDG	Podgorica	151.77	103	eP		PKPbc	23 28 51.9	-2.5
FNA	Florina	151.78	107		IAMs_20	IAMs_20	00 32 52.7	
	comp=Z,6µm,22.0s							
CRES	Cresnjevec Ost	151.83	93	eP		PKPbc	23 28 54.1	-0.3
BIOA	Bad Ischl, Aus	151.89	89	i PKP		PKiKP	23 28 55.1	+0.2
	comp=Z,675nm,2.3s,SNR=13							
SOKA	Soboth	152.09	91	ePKP		PKPbc	23 28 55.3	+0.2
	comp=Z,346nm,2.6s							
BHK	Bhakra	152.09	216	ex		PKPab	23 29 03.1	-2.0
BLY	Banja Luka	152.13	97	eP		PKPdf	23 28 51.5	+3.0
A051A	Mrakovica	152.14	96	eP		PKPbc	23 28 52.5	-2.7
MMAI	Mount Meron Ar	152.16	137	PKPbc		PKPbc	23 28 53.2	-2.5
	comp=Z,1.5nm,0.6s,baz=195,slow=6.0,SNR=3.9							
CLZ	Clausthal	152.20	79	ePKPdf		PKPbc	23 28 54.8	-0.3
	baz=228,slow=1.9							
WET	Wettzell	152.25	85	ePKPdf		PKPbc	23 28 54.4	-1.0
	baz=228,slow=1.9							
MOX	Moxa	152.31	82	ePKPdf		PKPbc	23 28 54.9	-0.5
	baz=228,slow=1.9							
MOX				eL		L	00 30 43.9	
	comp=Z,4µm,20.9s							
MOA	Molln	152.33	89	i pPKP		PKPbc	23 28 54.5	-1.0
	comp=Z,577nm,3.2s,SNR=7.9							
NRDL	Niedersach Rie	152.35	77	ePKPdf		PKPbc	23 28 54.3	-1.0
	baz=228,slow=1.9							
GERES	GERESS Array B	152.56	87	PKPbc		PKPbc	23 28 53.0	-3.1
	comp=Z,6.0nm,0.6s,baz=293,slow=1.0,SNR=8.3							
GERES	GERESS Array B	152.56	87	PKIKP		PKPbc	23 28 53.0	-3.1
NKC	Novy Kostel	152.57	83	AMS		AMS	00 36 00.0	
	comp=Z,5µm,19.3s							
RUDO	Rudo	152.62	101	eP		PKPdf	23 28 49.5	+0.2
KHC	Kasperske Hory	152.64	86		IAMs_20	IAMs_20	00 29 45.8	
	comp=Z,5µm,22.0s							
KHC	Kasperske Hory	152.64	86	ePDIFF		PKPbc	23 28 53.4	-2.8
KHC				ex		PKPab	23 29 08.5	+1.6
KHC				eSS		SS	23 52 07.5	-3.7
KHC					AMS	AMS	00 29 30.0	
	comp=Z,6µm,23.2s							
HAPS	Han Pijesak,Bl	152.69	100	eP		PKPbc	23 28 54.0	-2.6
ARSA	Arzberg	152.70	91	i PKiKP		PKiKP	23 28 58.6	+2.0
	comp=Z,550nm,2.7s,SNR=8.2							
SJES	Sjenica	152.72	102	eP		PKPdf	23 28 52.5	+2.9
BBLS	Lazi&#263i	152.80	100	eP		PKPdf	23 28 50.5	+0.9
CKRC	Cesky Krumlov	152.88	87	ePKP		PKPbc	23 28 53.7	-3.0
DHRM	DHARAMSHALA	152.90	216	eP		PKPdf	23 28 51.0	+0.6
IRK	Irkutsk	152.96	282	ePKIKP		PKPbc	23 28 55.8	-0.9
IRK				pmax		pmax		
	comp=Z,111nm,2.1s							
BSEG	Bad Segeberg	153.09	74	ePKPdf		PKiKP	23 28 59.2	+2.2
	baz=228,slow=1.9							
ZVC	Zvikov	153.14	86	ePKP		PKPdf	23 28 53.1	+3.3
ZVC				AMS		AMS	00 30 40.0	
	comp=Z,5µm,21.6s							
CONA	Conrad Observa	153.27	90	ePKP		PKiKP	23 28 57.9	+0.1
	comp=Z,473nm,2.6s							
HSKC	Hora Svate Kat	153.31	83	eSS		SS	23 52 22.9	+4.4
TEKS	Tekeris	153.31	99	eP		PKPbc	23 28 54.6	-3.2
RONA	Rosalia, Austr	153.38	91	epPKP		PKPbc	23 28 56.5	-1.4
	comp=Z,658nm,3.1s							
CLL	Collm	153.40	81		IAMs_20	IAMs_20	00 49 19.3	
	comp=Z,6µm,21.0s							
CLL	Collm	153.40	81	ePKIKP		PKPdf	23 28 51.0	+0.9
CLL				pmax		pmax		
	comp=Z,9.0nm,1.5s							
CLL				pmax		pmax		
	comp=Z,86nm,1.8s							
CLL				pmax		pmax		
	comp=Z,198nm,2.0s							
CLL				MLR		MLR		
	comp=Z,5µm,21.4s							
CLL	Collm	153.40	81	ePKPdf		PKPdf	23 28 51.0	+0.9
	comp=Z,9.0nm,1.5s							
CLL				i PKPbc		sPKPbc	23 29 01.3	+0.9
	comp=Z,86nm,1.8s							
CLL				i PKPab		pPKPab	23 29 12.2	+0.2
	comp=Z,198nm,2.0s							
CLL				ePPlp			23 32 48.0	
CLL				ePP		PP	23 32 51.0	+6.3
	comp=Z,776nm,4.0s							
CLL				ePPP		PPP	23 36 10.0	
CLL				ePPPrev			23 42 25.0	
CLL				ePSKS			23 43 07.0	
CLL				eSS		SS	23 52 24.0	+4.6
CLL				eSKSSKSac		S'S'ac	23 53 14.0	+4.2
CLL				eSSS		SSS	23 58 06.0	
CLL					AMS	AMS	00 49 00.0	
	comp=Z,6µm,20.5s							
PRU	Pruhonice	153.62	85	eSS		SS	23 52 08.3	-13
PRU					AMS	AMS	00 30 20.0	
	comp=Z,5µm,21.8s							
GOPC	GO Pecny, Ondr	153.72	85		AMS	AMS	00 31 10.0	
	comp=Z,4µm,22.7s							
BRG	Berggiesshubel	153.72	83	ePKP		PKPbc	23 28 55.2	-3.2
BRG				Amp			23 28 58.0	
	comp=Z,6.1nm,1.1s							
BRG	Berggiesshubel	153.72	83	P		PKiKP	23 29 02.0	+3.5
BRG				Amp			23 29 08.6	
	comp=Z,23nm,1.3s							
BRG	Berggiesshubel	153.72	83	P		PKPab	23 29 13.3	+1.9
BRG				Amp			23 29 15.1	
	comp=Z,51nm,1.4s							
BRG				PP		PP	23 32 47.3	+0.8
BRG				Amp			23 32 49.3	
	comp=Z,115nm,2.3s							
BRG	Berggiesshubel	153.72	83	ePKIKP		PKPbc	23 28 55.2	-3.2
BRG							23 29 02.0	
BRG							23 32 47.2	
BRG				SS		SS	23 52 29.0	+6.1
BRG				pmax		pmax		
	comp=Z,6.0nm,1.1s							
BRG				pmax		pmax		
	comp=Z,23nm,1.3s							
BRG				pmax		pmax		
	comp=Z,51nm,1.4s							
BRG				pmax		pmax		
	comp=Z,115nm,2.3s							
BRG	Berggiesshubel	153.72	83	ePKPdf		PKPbc	23 28 55.1	-3.3
	baz=228,slow=1.9							
TREC	Trest	153.79	87	ePKP		PKPbc	23 28 56.2	-2.5
TREC				eSS		SS	23 52 29.2	+5.4
TREC					AMS	AMS	00 33 10.0	
	comp=Z,5µm,19.6s							
MORH	Mrgy, Hungar	153.84	96	⇑P		PKPdf	23 28 50.6	-0.3
FRGS	Fruska Gora	153.84	99	eP		PKPdf	23 28 52.0	+1.0
PVCC	Panska Ves	153.90	84		AMS	AMS	00 35 30.0	
	comp=Z,4µm,20.4s							
BOVS	Bovan	153.91	103	⇓P		PKPdf	23 28 48.0	-3.1
ISP	Isparta	154.16	124		IAMs_20	IAMs_20	00 38 13.8	
	comp=Z,5µm,20.0s							
KRUC	Moravsky	154.18	88	ePKP		PKPdf	23 28 50.6	-0.7
RDO	Rodhopi	154.23	112		IAMs_20	IAMs_20	00 46 27.3	
	comp=Z,5µm,19.0s							
MODS	Modra-Piesok	154.30	90	ePKIKP		PKPdf	23 28 55.7	+4.2
MODS				e			23 29 00.0	
MODS				e			23 29 12.9	
MODS				e			23 32 51.4	
MODS	Modra-Piesok	154.30	90	ePKP		PKPdf	23 28 55.7	+4.2
MODS				e			23 29 00.0	
MODS				e			23 29 12.9	
MODS				ePP		PP	23 32 51.4	+1.6
ALN	Alexandroupoli	154.32	113		IAMs_20	IAMs_20	00 41 51.2	
	comp=Z,5µm,21.0s							
VRAC	Vranov	154.42	88	ePKP		PKPdf	23 28 50.4	-1.3
VRAC	Vranov	154.42	88	⇓P		PKPdf	23 28 51.8	+0.1
VRAC	Vranov	154.42	88	⇓PKIKP		PKPdf	23 28 51.8	+0.1
MDVR	Moldovita	154.66	101	⇓P		PKPdf	23 28 50.4	-1.7
UPC	Upice	154.69	85	eSS		SS	23 52 40.1	+6.6
UPC					AMS	AMS	00 32 20.0	
	comp=Z,5µm,20.4s							
CHVC	Chvalec	154.76	85		AMS	AMS	00 37 40.0	
	comp=Z,4µm,20.0s							
JAVC	Velka Javorina	154.78	90	ePKP		PKPdf	23 28 50.6	-1.6
DPC	Dobruska-Polom	154.79	86	ePKP		PKPdf	23 28 47.2	-5.0
DPC					AMS	AMS	00 30 40.0	
	comp=Z,4µm,22.0s							
OSTC	Ostas	154.83	85		AMS	AMS	00 38 00.0	
	comp=Z,5µm,19.5s							
RGN	Rugen	154.95	75		IAMs_20	IAMs_20	00 32 08.5	
	comp=Z,5µm,21.0s							
KSP	Ksiaz	155.01	85	ePKP		PKPdf	23 28 59.2	+6.8
HERR	Herculane	155.11	102	⇑P		PKPdf	23 28 52.3	-0.4
BZS	Buzias	155.13	100	⇓P		PKPdf	23 28 52.0	-0.7
BZS	Buzias	155.13	100	⇓PKIKP		PKPdf	23 28 52.0	-0.7
NIL	Nilore	155.15	212	P		PKPdf	23 28 54.0	+0.7
MORC	Moravsky Berou	155.19	88		IAMs_20	IAMs_20	00 40 26.2	
	comp=Z,4µm,19.0s							
MORC	Moravsky Berou	155.19	88	ePKP		PKPdf	23 28 51.5	-1.2
VYHS	Vyhne	155.24	91	ePKIKP		PKPdf	23 28 52.4	-0.4
VYHS				e			23 33 00.6	
VYHS	Vyhne	155.24	91	ePKP		PKPdf	23 28 52.4	-0.4
VYHS				ePP		PP	23 33 00.6	+5.6
SURR	Surduc	155.49	100	⇑P		PKPdf	23 28 52.8	-0.4
PSZ	Piszkesteto	155.52	93		IAMs_20	IAMs_20	00 39 52.6	
	comp=Z,5µm,21.0s							
PSZ	Piszkesteto	155.52	93	⇑P		PKPdf	23 28 53.2	-0.1
PSZ	Piszkesteto	155.52	93	⇑PKIKP		PKPdf	23 28 53.2	-0.1
SIRR	Siria	155.55	98	⇓P		PKPdf	23 28 53.2	-0.1
OKC	Ostrava-Krasne	155.56	88		AMS	AMS	00 34 40.0	
	comp=Z,4µm,23.5s							
NB2	NORSAR Subarra	155.62	59	PKPdf		PKPdf	23 28 54.4	+1.4
	comp=Z,171nm,2.5s,baz=270,slow=1.9							
NB2	NORSAR Subarra	155.62	59	PKPdf		PKPdf	23 28 54.4	+1.4
	baz=270,slow=1.9							
NOA	NORSAR Array B	155.62	59	PKP		PKPdf	23 28 52.3	-0.7
	comp=Z,0.3nm,0.6s,baz=289,slow=3.0,SNR=4.5							
GZR	Gura Zlata	155.63	101	⇑P		PKPdf	23 28 53.0	-0.5
GZR	Gura Zlata	155.63	101	⇑PKIKP		PKPdf	23 28 53.0	-0.5
LANS	Liptovska Anna	155.94	91	ePKIKP		PKPdf	23 28 56.4	+2.6
LANS				e			23 29 03.4	
LANS	Liptovska Anna	155.94	91	ePKP		PKPdf	23 28 56.4	+2.6
LANS				e			23 29 03.4	
LANS				e			23 29 27.0	
DRGR		156.44	98	⇑P		PKPdf	23 28 54.2	-0.3
DRGR		156.44	98	⇑PKIKP		PKPdf	23 28 54.2	-0.3
NIE	Niedzica	156.55	91	ePKP		PKPdf	23 29 02.5	+7.9
GKP	Gorka Klasztor	156.60	80	ePKP		PKPdf	23 29 01.4	+7.0
MARR	Marisel-Cluj	156.60	99	⇓P		PKPdf	23 28 55.2	+0.4
ARR	Arges	156.63	103	⇓P		PKPdf	23 28 54.7	-0.1
OJC	Ojcow	156.67	88	ePKP		PKPdf	23 28 59.6	+5.0
HFS	Hagfors	156.68	62	PKPab		PKPab	23 29 24.0	+0.2
	comp=Z,4.8nm,0.9s,baz=204,slow=2.5,SNR=3.5							
HFS	Hagfors	156.68	62	PKP2		PKPab	23 29 24.0	+0.2
ANTO	Ankara	156.86	124	P		PKPdf	23 28 57.2	+1.9
CJR	Cluj-Napoca	156.89	99	⇑P		PKPdf	23 28 58.1	+3.0
CJR	Cluj-Napoca	156.89	99	⇑PKIKP		PKPdf	23 28 58.1	+3.0
VOIR		156.90	104	⇑P		PKPdf	23 28 54.0	-1.2
VOIR		156.90	104	⇑PKIKP		PKPdf	23 28 54.0	-1.2
STHS	Stebnicka Huta	157.08	91	ePKIKP		PKPdf	23 29 01.1	+5.9
STHS				e			23 29 09.3	
STHS	Stebnicka Huta	157.08	91	ePKP		PKPdf	23 29 01.1	+5.9
STHS				e			23 29 09.3	
KBL	Kabul	157.10	204	P		PKPdf	23 29 01.0	+5.0
	SNR=7.5							
BRTR	Keskin Array B	157.13	126	PKPdf		PKPdf	23 28 55.5	-0.3
BRTR	Keskin Array B	157.13	126	PKP		PKPdf	23 28 54.4	-1.4
	comp=Z,2.2nm,0.8s,baz=188,slow=2.0,SNR=10							
BRTR				PKPab		PKPab	23 29 27.4	+0.9
	comp=Z,6.4nm,0.8s,baz=172,slow=4.1,SNR=5.3							
BRTR				PP		PP	23 33 04.3	-1.0
	comp=Z,1.5nm,1.1s,baz=288,slow=35,SNR=6.7							
KOLS	Kolonicke sedl	157.40	93	ePKIKP		PKPdf	23 29 02.2	+6.6
KOLS				e			23 29 10.1	
KOLS	Kolonicke sedl	157.40	93	ePKP		PKPdf	23 29 02.2	+6.6
KOLS				e			23 29 10.1	
KOLS				e			23 29 29.8	
WMQ	Urumqi	157.41	250	PKP		PKPdf	23 28 55.5	-0.4
WMQ				PKPab		PKPab	23 29 26.3	-1.2
WMQ				PP		PP	23 33 06.1	-0.9
WMQ				AMB		AMB		
	comp=Z,800nm,4.7s							
WMQ				LR		LR		
	comp=Z,4µm,24.2s							
WMQ				LR		LR		
	comp=Z,3µm,24.0s							
WMQ				LR		LR		
	comp=Z,4µm,24.2s							
DOPR	Dopca	157.42	103	⇑P		PKPdf	23 28 55.5	-0.2
MLR	Muntele Rosu	157.42	105	⇓P		PKPdf	23 28 55.8	-0.1
MLR	Muntele Rosu	157.42	105	⇓PKIKP		PKPdf	23 28 55.8	-0.1
OZUR		157.71	103	⇑P		PKPdf	23 28 53.8	-2.4
BEL	Belsk	157.97	86	ePKP		PKPdf	23 29 10.9	+15
KWP	Kalwaria Pacla	158.01	92	ePKP		PKPdf	23 29 01.1	+4.8
KWP	Kalwaria Pacla	158.01	92		IAMs_20	IAMs_20	00 45 35.6	
	comp=Z,4µm,20.0s							
PLOR	Plostina	158.03	105	⇑P		PKPdf	23 28 55.8	-0.8
PLOR	Plostina	158.03	105	⇑PKIKP		PKPdf	23 28 55.8	-0.8
VRI	Vrincioaia	158.08	105	⇑P		PKPdf	23 28 55.9	-0.7
VRI	Vrincioaia	158.08	105	⇑PKIKP		PKPdf	23 28 55.9	-0.7
BURAR	Bucovina Array	158.31	99	⇓P		PKPdf	23 28 57.2	+0.3
BURAR	Bucovina Array	158.31	99	⇓PKIKP		PKPdf	23 28 57.2	+0.3
CFR	Carcaliu	158.40	108	⇑P		PKPdf	23 28 56.7	-0.2
CFR	Carcaliu	158.40	108	⇑PKIKP		PKPdf	23 28 56.7	-0.2
TESR	Tescani	158.44	103	⇑P		PKPdf	23 28 46.7	-10
ARPR	Arapgir-MALATY	158.62	135		IAMs_20	IAMs_20	00 33 44.8	
	comp=Z,5µm,22.0s							
KSH	Kashi	159.53	223	PKP		PKPdf	23 29 02.8	+4.1
KSH				PP		PP	23 33 24.9	+6.6
KSH				SKKS			23 40 07.5	
KSH				SS		SS	23 53 23.9	-0.8
KSH				LR		LR		
	comp=Z,6µm,22.7s							
KSH				LR		LR		
	comp=Z,3µm,20.6s							
KSH				LR		LR		
	comp=Z,9µm,22.7s							
WUS	Wushi	159.59	232		IAMs_20	IAMs_20	00 46 10.7	
	comp=Z,5µm,22.0s							
MILM	Milestii Mici	159.87	105	⇓P		PKPdf	23 28 58.0	-0.6
MILM	Milestii Mici

KBZ PKPab **PKPab** **23 29 56.8 -0.8**
comp=Z,18nm,1.1s,baz=213,slow=4.9,SNR=7.2
KBZ PP **PP** **23 33 43.3 -0.6**
comp=Z,1.9nm,0.9s,baz=144,slow=22,SNR=1.4
ZAA0 Zalesovo Array 164.42 273 PKPdf 23 29 03.9 +0.9
ZAA0 PKPab **PKPab** **23 29 58.0 +0.3**
ZALV Zalesovo Beam 164.42 273 PKPdf 23 29 03.7 +0.7
ZALV PKPab **PKPab** **23 29 58.6 +0.8**
ZALV Zalesovo Beam 164.42 273 PKP PKPdf 23 29 01.3 -1.7
comp=Z,3.9nm,0.9s,baz=132,slow=2.2,SNR=7.7
ZALV PKPab **PKPab** **23 29 55.9 -1.8**
comp=Z,2.3nm,0.8s,baz=90,slow=7.4,SNR=3.5
ZALV PP **PP** **23 33 44.9 +0.2**
comp=Z,0.4nm,0.3s,baz=343,slow=5.6,SNR=1.8
ZALV Zalesovo Beam 164.42 273 PKIKP **PKPdf** **23 29 03.7 +0.7**
ZALV 23 29 58.6
KIV Kislovodsk 164.47 135 PKPdf **PKPdf** **23 29 04.5 +1.0**
KIV **pPKPab** **23 29 59.8 -0.5**
KIV Kislovodsk 164.47 135 P **PKPdf** **23 29 07.1 +3.6**
KIV Kislovodsk 164.47 135 *e*PKIKP **PKPdf** **23 29 03.4 -0.1**
KIV *e* 23 33 42.8
KIV *e*PPP PPP 23 37 33.9
KIV *e*SS SS 23 54 13.8 -2.4
KIV *e*SSS SSS 00 00 42.2
KIV pmax pmax
comp=Z,20nm,1.0s
KKAR Karatay Array 164.65 217 **PKPdf** **23 29 03.1 -0.5**
KKAR **PKPab** **23 29 59.6 +0.6**
BRLS Borolday 164.81 216 *e*PKPab **PKPab** **23 29 59.0 -0.8**
BRLS Borolday 164.81 216 *e*PKP2 **PKPab** **23 29 58.9 -0.8**
BTLS Baital 164.93 230 *e*PKPab **PKPab** **23 30 00.4 +0.2**
BTLS Baital 164.93 230 *e*PKP2 **PKPab** **23 30 00.4 +0.2**
MAK Makhachkala 165.26 149 *e*PKIKP **PKPdf** **23 29 00.4 -3.6**
MAK *e* 23 33 44.5
MAK *e* 23 36 05.6
MAK *e*PPP PPP 23 37 38.7
MAK *e*SS SS 23 54 16.5 -7.2
MAK *e*SSS SSS 00 00 45.4
MAK pmax pmax
comp=Z,559nm,1.2s
GOF Gofitskoye 165.53 134 *ce*PKIKP PKPdf 23 29 13.2 +9.0
KURBB Kurchatov Arra 166.51 255 PKPdf 23 29 04.9 +0.1
comp=Z,1.6nm,0.9s,baz=99,slow=0.2,SNR=8.3
KURBB PKPab **PKPab** **23 30 05.5 -1.5**
comp=Z,0.5nm,0.7s,baz=130,slow=3.4,SNR=1.0
KURBB PP **PP** **23 33 53.7 -1.7**
comp=Z,4.3nm,1.2s,baz=145,slow=4.6,SNR=7.8
KURK Kurchatov 166.51 255 PKIKP **PKPdf** **23 29 04.9 +0.1**
KURK 23 30 05.5
VORD Divnogorie 167.84 107 *e*PKIKP **PKPdf** **23 29 04.3 -1.4**
VORD *i* 23 30 11.2
VORD pmax pmax
comp=Z,3.0nm,1.0s
VORD pmax pmax
comp=Z,30nm,1.2s
VSR Storozhevoye 167.90 106 *e*PKIKP **PKPdf** **23 29 04.0 -1.8**
VSR *i* 23 30 10.2
VSR pmax pmax
comp=Z,7.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.1s
OBN Obninsk 167.94 86 *e*PKIKP **PKPdf** **23 29 06.2 +0.5**
OBN *e* 23 34 03.5
OBN *e* 23 36 10.7
OBN *e*PPP PPP 23 37 58.2
OBN *e*SS SS 23 54 49.2 -2.7
OBN pmax pmax
comp=Z,12nm,1.1s
VORR Voronezh 168.16 104 *e*PKIKP **PKPdf** **23 29 10.4 +4.5**
VORR pmax pmax
comp=Z,10.0nm,0.9s
VORR pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 168.43 100 *e*PKIKP **PKPdf** **23 29 02.7 -3.4**
LPSR *i* 23 30 14.9
LPSR pmax pmax
comp=Z,10.0nm,1.1s
LPSR pmax pmax
comp=Z,10.0nm,1.1s
MOS Moscow 168.65 83 *e*PKIKP **PKPdf** **23 29 09.1 +3.0**
MOS *e* 23 34 05.6
MOS *e*PPP PPP 23 38 03.5
MOS *e*SSS SSS 00 01 41.9
MOS pmax pmax
comp=Z,51nm,1.1s
VRH Novokhopyorsk 169.26 110 *e*PKIKP **PKPdf** **23 29 08.5 +1.8**
VRH *i* 23 30 16.8
VRH pmax pmax
comp=Z,6.0nm,1.0s
VRH pmax pmax
comp=Z,30nm,1.1s
KLMR Klimovskoe 169.31 56 *e*PKIKP **PKPdf** **23 29 03.3 -3.1**
KLMR *e* 23 30 17.4
KLMR pmax pmax
comp=Z,70nm,1.9s
BVAR Borovoye Array 172.08 252 PKP **PKPdf** **23 29 06.1 -2.0**
comp=Z,1.3nm,0.6s,baz=239,slow=36,SNR=3.9
BVAR PKPab **PKPab** **23 30 29.4 -2.3**
comp=Z,1.7nm,0.6s,baz=238,slow=38,SNR=1.9
ABKAR Akbulak array 173.02 191 PKPdf **PKPdf** **23 29 10.1 +1.4**
ABKAR **PKPab** **23 30 35.9 +0.1**
ARTI Arti 179.58 314 PKIKP **PKPdf** **23 29 09.5 -0.3**
ARTI 23 34 54.7

UPP 15 23:09:05.3±0.0, 67°.18N×20°.68E, h0km, ML1.5, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**218**	P	Pg	23 09 07.0	+0.4
	baz=24						
DUNU				S	Sg	23 09 07.9	+0.5
MASU	**Masugnsbyn**	**0.59**	**60**	P	Pg	23 09 16.5	0.0
RATU	**Laukkuluspa**	**0.77**	**328**	P	Pg	23 09 19.6	-0.5
RATU				S	Sg	23 09 30.5	+0.4
KUA	**Kurravaara**	**0.79**	**351**	P	Pg	23 09 20.4	-0.1
KUA				S	Sg	23 09 31.2	+0.4
ERTU	**Ertsjaerv**	**0.86**	**136**	P	Pg	23 09 21.2	-0.6
SALU	**Saltoluokta**	**0.87**	**285**	P	Pg	23 09 21.5	-0.4
PAJU	**Pajala**	**0.96**	**98**	P	Pg	23 09 23.2	-0.5
LANU	**Lannavaara**	**1.01**	**29**	P	Pg	23 09 24.6	-0.1
HARU	**Harads**	**1.02**	**173**	P	Pg	23 09 24.3	-0.5
KOVU	**Salmi**	**1.07**	**350**	P	Pg	23 09 25.4	-0.4
SJUU	**Sjulsmark**	**1.72**	**167**	P	Pn	23 09 36.4	+0.1

TIR ***15*** *23:30:13.2, 41°.67N×20°.15E, h13km±1km, Md2.6, Ml2.6*
BEO ***15*** *23:30:14.8±0.3, 41°.64N×20°.15E, h6km±3km, ML2.3/16*
RHSSO ***15*** *23:30:15.1±0.7, 41°.68N×20°.19E, h9km±3km, ML2.6/7*
SKO ***15*** *23:30:15.6, 41°.67N×20°.21E, h0km, ML2.4*
ISC 15 23:30:13.6±1.1, 41°.67N±0°.02×20°.18E±0°.02, h3km±10km, n57, σ0°.83/91, 11C, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.40**	**216**	AMP			
	comp=E,1.9nm,0.2s,baz=214						
TIR	**Tirane**	**0.40**	**216**	*e*Pg	**Pg**	**23 30 20.8**	**-0.4**
TIR				*e*Sg	**Sg**	**23 30 27.3**	**+1.0**
PUK	**Puka**	**0.43**	**331**	P	**Pg**	**23 30 22.0**	**+0.2**
PUK				AMP			
	comp=N,3.6nm,0.1s,baz=333						
BCI	**Bajram Curri**	**0.70**	**353**	P	**Pg**	**23 30 27.1**	**+0.1**
BCI				AMP			
	comp=N,1.1nm,0.4s,baz=356						
OHR	**Ohrid**	**0.73**	**140**	*e*Pg	**Pg**	**23 30 27.4**	**-0.1**
OHR				*e*Sg	**Sb**	**23 30 39.1**	**-0.2**
OHR	**Ohrid**	**0.73**	**140**	*i* Pg	**Pg**	**23 30 27.4**	**-0.1**
OHR				*i* Sg	**Sb**	**23 30 39.4**	**+0.1**
OHR				*e*Lg	Lg	23 30 40.5	
	comp=N,80nm,0.3s						
OHR				*e*Lg	Lg	23 30 40.5	
	comp=E,65nm,0.5s						
ULC	**Ulcinj**	**0.76**	**293**	P	**Pg**	**23 30 27.8**	**-0.3**
ULC	**Ulcinj**	**0.76**	**293**	*i* Pg	**Pb**	**23 30 29.6**	**+0.2**
PVY	**Plav**	**0.94**	**350**	P	**Pg**	**23 30 31.3**	**-0.3**
PDG	**Podgorica**	**1.02**	**318**	*e*Pg	**Pg**	**23 30 32.8**	**-0.4**
PDG				*e*Sg	**Sb**	**23 30 48.6**	**+0.8**
PDG	**Podgorica**	**1.02**	**318**	*i*Pg	**Pg**	**23 30 32.7**	**-0.4**
PDG				*e*Sg	**Sb**	**23 30 48.2**	**+0.4**
PDG	**Podgorica**	**1.02**	**318**	*i* Pg	**Pg**	**23 30 32.9**	**-0.4**
PDG				*i* Sg	**Sn**	**23 30 50.0**	**+0.3**
KBN	**Korca**	**1.14**	**156**	P	**Pb**	**23 30 35.9**	**-0.1**
KBN				AMP			
	comp=E,0.8nm,0.5s,baz=155						
BUM	**Brajici-Budva**	**1.15**	**304**	P	**Pg**	**23 30 35.1**	**-0.4**
BEY	**Berane**	**1.22**	**350**	P	**Pg**	**23 30 36.9**	**-0.1**
BEY	**Berane**	**1.22**	**350**	*i* Pg	**Pg**	**23 30 36.7**	**-0.2**
FNA	**Florina**	**1.27**	**134**	P	**Pb**	**23 30 37.8**	**-0.2**
FNA				AMP			
	comp=N,0.4nm,0.3s,baz=133						
FNA	**Florina**	**1.27**	**134**	*i* Pg	**Pg**	**23 30 36.8**	**-0.9**
FNA				*i* Sg	**Sn**	**23 30 55.2**	**-0.6**
CEME	**Cevo**	**1.28**	**314**	P	**Pg**	**23 30 37.5**	**-0.6**
NEST	**Nestorio**	**1.42**	**152**	P	**Pb**	**23 30 40.4**	**-0.3**
NEST				AMP			
	comp=N,0.4nm,0.6s,baz=151						
NKME	**Niksic**	**1.43**	**321**	P	**Pn**	**23 30 39.7**	**-0.7**
HCY	**Herceg Novi**	**1.48**	**302**	⇑*i*Pg	**Pn**	**23 30 41.2**	**+0.1**
HCY				*e*Sg	**Sg**	**23 31 02.5**	**+1.5**
LSK	**Leskovik**	**1.55**	**168**	P	**Pb**	**23 30 42.6**	**-0.3**
LSK				AMP			
	comp=E,0.6nm,0.5s,baz=167						
SJES	**Sjenica**	**1.60**	**355**	*e*Pg	**Pg**	**23 30 43.9**	**-0.3**
SJES				*e*Sg	**Sg**	**23 31 06.2**	**+1.3**
SJES	**Sjenica**	**1.60**	**355**	⇑*i*Pn	**Pb**	**23 30 43.7**	**-0.1**
SJES				*e*Sn	**Sn**	**23 31 03.8**	**-0.3**
BARS	**Barje**	**1.67**	**46**	*e*Pn	**Pb**	**23 30 44.3**	**-0.7**
BARS				*e*Sn	**Sg**	**23 31 08.3**	**+1.0**
BARS	**Barje**	**1.67**	**46**	*i* Pn	**Pg**	**23 30 45.7**	**+0.1**
SELS	**Selova**	**1.70**	**24**	*e*Pn	**Pn**	**23 30 44.4**	**+0.2**
SELS				*e*Sn	**Sg**	**23 31 08.4**	**+0.2**
TREB	**Trebinje**	**1.71**	**308**	⇑*i*Pn	**Pb**	**23 30 45.1**	**-0.6**
TREB				*e*Sn	**Sn**	**23 31 07.0**	**+0.2**
BRY	**Bratogost**	**1.73**	**316**	⇑*i*Pn	**Pn**	**23 30 45.0**	**+0.3**
BRY				*e*Sn	**Sn**	**23 31 07.2**	**-0.2**
UPM	**Unac-Piva**	**1.80**	**329**	*e*Pn	**Pn**	**23 30 45.5**	**-0.2**
UPM				*e*Sn	**Sb**	**23 31 09.9**	**-0.4**
VAY	**Valandovo**	**1.83**	**100**	*i* Pn	**Pg**	**23 30 48.3**	**-0.3**
BOSS	**Bosilegrad**	**1.90**	**63**	*e*Pn	**Pn**	**23 30 47.4**	**+0.4**
BOSS				*e*Sn	**Sg**	**23 31 14.3**	**-0.4**
IVAS	**Ivanjica**	**1.91**	**359**	*e*Pn	**Pn**	**23 30 47.8**	**+0.7**
IVAS				*e*Sn	**Sg**	**23 31 14.9**	**+0.1**
KLINJ	**Klinje**	**1.91**	**322**	*e*Pn	**Pb**	**23 30 48.0**	**-1.1**
KLINJ				*e*Sn	**Sn**	**23 31 12.1**	**+0.4**
RUDO	**Rudo**	**2.04**	**343**	⇑*i*Pn	**Pn**	**23 30 49.2**	**+0.4**
RUDO				*e*Sn	**Sn**	**23 31 14.9**	**+0.1**
KNT	**Kendrikon**	**2.11**	**103**	*i* Pn	**Pb**	**23 30 51.8**	**-0.6**
IGT	**Igoumenitsa**	**2.14**	**177**	P	**Pb**	**23 30 51.6**	**-1.3**
KKB	**Krupnik**	**2.21**	**85**	*i* Pn	**Pb**	**23 30 53.1**	**-1.2**
KALIN	**Kalinovik**	**2.23**	**326**	⇑*i*Pn	**Pb**	**23 30 53.2**	**-1.5**
KALIN				*e*Sn	**Sn**	**23 31 20.3**	**+0.5**
GRUS	**Gruza**	**2.25**	**10**	*e*Pn	**Pn**	**23 30 52.3**	**+0.5**
GRUS				*e*Sn	**Sb**	**23 31 22.8**	**-0.4**
BOVS	**Bovan**	**2.27**	**29**	*e*Pn	**Pb**	**23 30 53.3**	**-1.8**
BOVS				*e*Sn	**Sn**	**23 31 20.3**	**-0.1**
BBLS	**Lazi&#263i**	**2.27**	**346**	*e*Pn	**Pb**	**23 30 53.7**	**-1.5**
BBLS				*e*Sn	**Sn**	**23 31 21.4**	**+0.8**
BBLS	**Lazi&#263i**	**2.27**	**346**	⇑*i*Pn	**Pb**	**23 30 53.7**	**-1.5**
BBLS				*e*Sn	**Sn**	**23 31 20.2**	**-0.4**
LIT	**Litokhoron**	**2.35**	**131**	*i* Pn	**Pb**	**23 30 55.8**	**-0.8**
ZAPS	**Zavoj**	**2.42**	**48**	*e*Pn	**Pn**	**23 30 55.6**	**+1.4**
ZAPS				*e*Sn	**Sn**	**23 31 25.4**	**+1.0**
DIVS	**Divibare**	**2.43**	**357**	*e*Pn	**Pn**	**23 30 54.6**	**+0.3**
DIVS				*e*Sn	**Sb**	**23 31 27.0**	**-1.5**
TRUS	**Trudelj**	**2.56**	**4**	*e*Pn	**Pn**	**23 30 57.7**	**+1.7**
TRUS				*e*Sn	**Sn**	**23 31 29.3**	**+1.6**
HAPS	**Han Pijesak,Bl**	**2.58**	**340**	*e*Pn	**Pn**	**23 30 57.4**	**+1.0**
HAPS				*e*Sn	**Sn**	**23 31 29.0**	**+0.7**
ZAGS	**Zajecar**	**2.62**	**35**	*e*Pn	**Pn**	**23 30 58.5**	**+1.6**
TEKS	**Tekeris**	**2.92**	**351**	*e*Pn	**Pn**	**23 31 02.0**	**+1.1**
TEKS				*e*Sn	**Sn**	**23 31 37.1**	**+0.6**
TEKS	**Tekeris**	**2.92**	**351**	*e*Pn	**Pn**	**23 31 02.3**	**+1.4**
TEKS				*e*Sn	**Sn**	**23 31 36.9**	**+0.4**
AVAS	**Avala Beograd**	**3.04**	**5**	*e*Pn	**Pn**	**23 31 04.8**	**+2.3**
AVAS				*e*Sn	**Sn**	**23 31 39.4**	**0.0**
FRGS	**Fruska Gora**	**3.50**	**356**	*e*Pn	**Pn**	**23 31 09.2**	**+0.3**
FRGS				*e*Sn	**Sn**	**23 31 50.3**	**-0.5**
BLY	**Banja Luka**	**3.78**	**326**	⇑*i*Pn	**Pn**	**23 31 13.8**	**+1.1**
BLY				*e*Sn	**Sn**	**23 31 57.7**	**0.0**
A050A	**Klekovaca**	**3.88**	**318**	⇑*i*Pn	**Pn**	**23 31 15.1**	**+0.9**
A050A				*e*Sn	**Sn**	**23 31 59.8**	**-0.5**
A051A	**Mrakovica**	**4.11**	**326**	⇑*i*Pn	**Pn**	**23 31 17.8**	**+0.5**
A051A				*e*Sn	**Sn**	**23 32 04.4**	**-1.5**

IDC ***15*** *23:34:24.0±19.0, 32°.70N×48°.30E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=385.6km s-min=37.0km az=10.0*
TEH ***15*** *23:34:25.8, 32°.70N×48°.37E, h12km±30km, ML3.4*
ISC 15 23:34:26.7±0.9, 32°.67N±0°.06×48°.35E±0°.06, h17km, n31, σ1°.49/31, mb4.0/5, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**0.95**	**334**	Pg	**Pb**	**23 34 43.6**	**-1.3**
IDOB	**Doab**	**1.13**	**353**	Pg	**Pg**	**23 34 47.2**	**-0.8**
AHWZ	**Ahwaz**	**1.35**	**169**	Pg	**Pg**	**23 34 52.8**	**0.0**
IBZA	**Bozab**	**1.84**	**347**	Pn	**Pn**	**23 35 00.2**	**+2.3**
KCHF	**Cheshme Sefid,**	**1.94**	**326**	Pn	**Pn**	**23 35 01.1**	**+1.9**
JHBN	**Jahan bin**	**2.00**	**102**	Pn	**Pn**	**23 35 01.3**	**+1.2**
IPIR	**Pirpir**	**2.14**	**89**	Pn	**Pn**	**23 35 03.2**	**+1.2**
ZNGN	**Zangian**	**2.19**	**104**	Pn	**Pn**	**23 35 03.7**	**+1.1**
IGHG	**Ghaleghazi**	**2.23**	**319**	Pn	**Pn**	**23 35 05.1**	**+2.0**
SNQR	**Sonqor, Kerman**	**2.27**	**345**	Pn	**Pn**	**23 35 05.8**	**+2.1**
GLG1	**Gilan-e-Gharb**	**2.50**	**306**	Pn	**Pn**	**23 35 08.4**	**+1.6**
ILIN	**Lien**	**2.53**	**333**	Pn	**Pn**	**23 35 09.1**	**+1.9**
IBRJ	**Brojen**	**2.58**	**106**	Pn	**Pn**	**23 35 09.0**	**+1.1**
IDHR	**Dehrash**	**2.61**	**322**	Pn	**Pn**	**23 35 10.1**	**+1.8**
QAMS	**Qamsar**	**2.77**	**66**	Pn	**Pn**	**23 35 12.0**	**+1.5**
IKLH	**Kolahrood**	**2.79**	**76**	Pn	**Pn**	**23 35 12.7**	**+1.8**
KGS1	**Ghasr-e-Shirin**	**2.95**	**309**	Pn	**Pn**	**23 35 14.0**	**+1.2**
IRAZ	**Razeghan**	**3.03**	**25**	Pn	**Pn**	**23 35 16.2**	**+2.1**
IGAR	**Gharneh**	**3.13**	**94**	Pn	**Pn**	**23 35 16.6**	**+1.1**
QABG	**Abgarm-Qazvin**	**3.20**	**18**	Pn	**Pn**	**23 35 18.2**	**+1.7**
KLNJ	**Kolanjah**	**3.21**	**120**	Pn	**Pn**	**23 35 18.3**	**+1.6**
IZEF	**Zefreh**	**3.36**	**85**	Pn	**Pn**	**23 35 19.9**	**+1.3**
KRSH	**Karshahi**	**3.42**	**67**	Pn	**Pn**	**23 35 20.9**	**+1.5**
IRAM	**Ramesheh**	**3.52**	**103**	Pn	**Pn**	**23 35 21.9**	**+1.0**
ISFB	**Sefidab**	**3.66**	**62**	Pn	**Pn**	**23 35 23.8**	**+1.2**
IDMV	**Damavand**	**4.21**	**45**	Pn	**Pn**	**23 35 31.8**	**+1.3**
MKAR	**Makanchi Array**	**29.41**	**51**	P	**P**	**23 40 29.6**	**+0.4**
	0.4nm,0.6s,baz=245,slow=7.5,SNR=4.1						
	0.4nm,0.6s						
FINES	**FINESS Array B**	**32.20**	**340**	P	**P**	**23 40 53.3**	**-0.3**
	5.0nm,1.0s,baz=145,slow=10.0,SNR=7.1						
	5.0nm,1.0s						
ZALV	**Zalesovo Beam**	**33.46**	**40**	P	**P**	**23 41 03.9**	**-0.8**
	0.5nm,0.3s,baz=242,slow=8.5,SNR=3.3						
	0.5nm,0.3s						
HFS	**Hagfors**	**35.68**	**331**	P	**P**	**23 41 22.8**	**-1.0**
	0.6nm,0.3s,baz=125,slow=8.7,SNR=7.1						
	0.6nm,0.3s						
SPITS	**Spitsbergen Ar**	**47.69**	**352**	P	**P**	**23 43 01.6**	**-0.2**
	7.8nm,0.8s,baz=134,slow=6.2,SNR=5.5						
	7.8nm,0.8s						

MOS ***15*** *23:56:44.8±1.2, 35°.00N×137°.61E, h285km, mb4.0/19, Error ellipse: s-maj=11.4km s-min=6.1km az=108.8*
IDC ***15*** *23:56:45.8±0.6, 34°.93N×137°.50E, h277km±5km, mb3.5/18, mbtmp4.3/25, Error ellipse: s-maj=10.5km s-min=8.0km az=72.0*
JMA ***15*** *23:56:46.1±0.2, 35°.0N±1°.0×137°.5E±0°.9, h288km±1km, MV4.0/40, NE AICHI PREF*
NEIC ***15*** *23:56:47.2±2.3, 34°.95N±0°.07×137°.60E±0°.09, h279km±5km, mb4.1/95, Error ellipse: s-maj=12.4km s-min=9.4km az=128.0*
ISC 15 23:56:45.9±0.5, 34°.96N±0°.04×137°.50E±0°.04, h279km±4km, n220, σ1°30/249, mb4.1/79, 5C-29D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSSY	**Shinshiroyabe**	**0.04**	**174**	P	**Pn**	**23 57 23.1**	**+1.5**
HMMJ	**Hamamatsu 2**	**0.21**	**119**	P	**Pn**	**23 57 23.0**	**+1.5**
HMMJ				S	**S**	**23 57 51.4**	**+1.6**
JHMK	**Hamakita**	**0.25**	**123**	*e*P	**Pn**	**23 57 23.0**	**+1.5**
JHMK				*e*S	**S**	**23 57 51.2**	**+1.5**
INU	**Inuyama**	**0.56**	**315**	Pn	**Pn**	**23 57 23.0**	**+0.8**
INU				Sn	**S**	**23 57 52.2**	**+1.2**
INU	**Inuyama**	**0.56**	**315**	P	**Pn**	**23 57 23.3**	**+1.1**
JGF	**Kuroka**	**0.65**	**350**	Pn	**Pn**	**23 57 23.5**	**+0.9**
JGF				Sn	**S**	**23 57 53.1**	**+1.4**
JGF	**Kuroka**	**0.65**	**350**	P	**Pn**	**23 57 23.5**	**+0.9**
JIE	**Ise**	**0.86**	**230**	⇓*i*P	**Pn**	**23 57 25.0**	**+1.6**
JIE				⇓S	**S**	**23 57 54.5**	**+1.4**
JYTA	**Yamagatataniai**	**0.89**	**316**	*i* P	**Pn**	**23 57 24.9**	**+1.4**
JYTA				S	**S**	**23 57 54.3**	**+1.1**
JYN	**Shimob**	**1.01**	**57**	⇓P	**Pn**	**23 57 25.4**	**+1.3**
JYN				⇓*e*S	**S**	**23 57 55.9**	**+1.5**
JOD2	**Odawara 2**	**1.34**	**76**	P	**Pn**	**23 57 27.1**	**+1.2**
JOD2				S	**S**	**23 57 59.6**	**+2.0**
TTO1	**TONANKAI O.B.S**	**1.46**	**204**	P	**Pn**	**23 57 29.1**	**+2.6**
JRY	**Ryogami san**	**1.56**	**47**	⇓P	**Pn**	**23 57 28.8**	**+1.4**
JRY				⇓S	**S**	**23 58 01.0**	**+0.7**
JKG	**Kaga**	**1.63**	**324**	P	**Pn**	**23 57 28.7**	**+0.9**
JKG				S	**S**	**23 58 01.8**	**+0.8**
MAJO	**Matsushiro**	**1.68**	**20**	Pn	**Pn**	**23 57 29.3**	**+1.0**
MAJO				Sn	**S**	**23 58 01.9**	**-0.1**
MAJO	**Matsushiro**	**1.68**	**20**	P	**Pn**	**23 57 28.9**	**+0.6**
MAJO	**Matsushiro**	**1.68**	**20**	P	**Pn**	**23 57 29.3**	**+1.0**
MAJO						23 58 01.9	
MAT	**Matsushiro**	**1.68**	**20**	*i* P	**Pn**	**23 57 29.1**	**+0.9**
MAT				S	**S**	**23 58 01.6**	**-0.4**
MJAR	**Matsushiro Arr**	**1.68**	**20**	P	**Pn**	**23 57 29.2**	**+0.9**
	313nm,0.5s,baz=199,slow=8.0,SNR=424						
MJAR				S	**S**	**23 58 01.3**	**-0.7**
	90nm,0.7s,baz=178,slow=17,SNR=2.3						
MJB9	**Matsu-Tunnel**	**1.69**	**20**		**Pn**	**23 57 30.1**	**+1.8**
MJB9				Sn	**S**	**23 58 02.6**	**+0.6**
JWY	**Kouya**	**1.74**	**245**	⇓*i*P	**Pn**	**23 57 30.3**	**+1.5**
JWY				⇓S	**S**	**23 58 03.4**	**+0.5**
JWT	**Wachi**	**1.75**	**281**	P	**Pn**	**23 57 30.1**	**+1.3**
JWT				S	**S**	**23 58 03.2**	**+0.3**
JTNC	**Tanabenakahech**	**1.93**	**235**	⇓*i*P	**Pn**	**23 57 31.8**	**+1.5**
JTNC				⇓S	**S**	**23 58 07.0**	**+1.4**
JSZ	**Suzu**	**2.49**	**357**	P	**Pn**	**23 57 35.6**	**+0.6**
JSZ				*e*S	**S**	**23 58 14.8**	**+0.5**
JHJ	**Hachijo jima 2**	**2.64**	**133**	P	**Pn**	**23 57 37.5**	**+0.9**
	145nm,0.6s,baz=75,slow=23,SNR=1.3						
JHJ				S	**S**	**23 58 17.2**	**+0.2**
	262nm,0.6s,baz=75,slow=22,SNR=2.5						
JAI	**Aioi**	**2.78**	**246**	⇓*i*P	**Pn**	**23 57 38.7**	**+0.8**
JAI				⇓*e*S	**S**	**23 58 19.5**	**+0.1**
BSO1	**Boso 1**	**2.88**	**95**	*e*P	**Pn**	**23 57 38.5**	**+0.2**
BSO1				S	**S**	**23 58 20.4**	**+0.2**
JSD	**Sado**	**3.13**	**11**		**Pn**	**23 57 41.8**	**+0.3**
JSD	**Sado**	**3.13**	**11**	P	**Pn**	**23 57 41.8**	**+0.3**
JMN	**Monobe**	**3.24**	**249**	Pn	**Pn**	**23 57 43.7**	**+0.9**
JMN	**Monobe**	**3.24**	**249**	P	**Pn**	**23 57 43.7**	**+0.9**
JHS	**Saijyo**	**3.60**	**272**	⇓*i*P	**Pn**	**23 57 47.3**	**+0.7**
JHS				⇓*e*S	**S**	**23 58 35.8**	**+0.8**
JMM	**Marumori**	**3.93**	**41**		**Pn**	**23 57 49.7**	**-0.5**
JMM				Sn	**S**	**23 58 38.5**	**-3.1**
JMM	**Marumori**	**3.93**	**41**	P	**Pn**	**23 57 49.9**	**-0.3**
JNU	**Nakatsue**	**5.79**	**253**	Pn	**Pn**	**23 58 13.1**	**+0.8**
JNU	**Nakatsue**	**5.79**	**253**	P	**Pn**	**23 58 12.9**	**0.7**
	94nm,0.8s,baz=68,slow=3.3,SNR=50						
JNU	**Nakatsue**	**5.79**	**253**	P	**Pn**	**23 58 13.3**	**+1.1**
JTM	**Tenmabayashi**	**6.47**	**25**	Pn	**Pn**	**23 58 19.7**	**-0.6**
JTM	**Tenmabayashi**	**6.47**	**25**	P	**Pn**	**23 58 19.8**	**-0.4**
JTU	**Tsushima**	**6.69**	**269**	P	**Pn**	**23 58 23.4**	**+0.4**
KSRS	**Korea Array**	**8.13**	**291**	P	**Pn**	**23 58 42.2**	**+1.3**
	8.4nm,0.8s,baz=107,slow=12,SNR=21						
KSAR	**Wonju Array Be**	**8.16**	**290**	Pn	**Pn**	**23 58 41.8**	**+0.6**
KSAR	**Wonju Array Be**	**8.16**	**290**	P	**Pn**	**23 58 41.8**	**+0.6**
KS19	**Wonju Array Si**	**8.19**	**291**		**Pn**	**23 58 41.6**	**0.0**
ERM	**Erimo**	**8.32**	**30**		**Pn**	**23 58 42.0**	**-1.2**
ERM	**Erimo**	**8.32**	**30**	*d i*P	**Pn**	**23 58 40.8**	**-2.4**
TJN	**Taejon**	**8.37**	**283**		**Pn**	**23 58 44.9**	**+1.0**
TJN	**Taejon**	**8.37**	**283**	P	**Pn**	**23 58 45.1**	**+1.3**
TJN	**Taejon**	**8.37**	**283**	*d i*P	**Pn**	**23 58 44.8**	**+1.0**
JCJ	**Chichijima**	**8.80**	**152**	Pn	**Pn**	**23 58 45.0**	**-4.4**
MSHR	**Mys Shultsa**	**9.08**	**329**	⇓*e*P	**Pn**	**23 58 51.1**	**-1.4**
MSHR				pmax	pmax		
	comp=Z,140nm,1.2s						
VLA	**Vladivostok**	**9.25**	**334**	⇓*i*P	**Pn**	**23 58 55.4**	**+0.8**
VLA				pmax	pmax		
	comp=Z,140nm,1.3s						
PSTR	**Posyet**	**9.29**	**328**	*d i*P	**Pn**	**23 58 55.6**	**+0.4**
ASAJ	**Asahikawa**	**9.96**	**22**	P	**Pn**	**23 59 02.5**	**-1.0**
	comp=Z,14nm,0.4s,baz=190,slow=8.1,SNR=7.7						
ASAJ				S	S	00 00 45.4	-10
	comp=Z,48nm,0.8s,baz=143,slow=32,SNR=7.2						
ASAJ	**Asahikawa**	**9.96**	**22**	P	**Pn**	**23 59 01.4**	**-2.0**
JKA	**Kamikawa-asahi**	**9.96**	**22**	Pn	**Pn**	**23 59 01.4**	**-2.0**
USA0B	**Ussuriysk Arra**	**10.16**	**337**	Pn	**Pn**	**23 59 06.3**	**+0.3**
USA0B	**Ussuriysk Arra**	**10.16**	**337**	⇑

comp=Z,14nm,2.3s
TIXI Tiksi 37.04 355⇓ eP P 00 03 28.8 -0.1
TIXI pmax pmax
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 37.89 254 P P 00 03 36.6 -0.1
comp=Z,1.1nm,0.3s,baz=46,slow=8.6,SNR=7.6
comp=Z,1.1nm,0.3s
CMAR Chiang Mai Arr 37.89 254 i P P 00 03 37.0 +0.2
CMAR pmax pmax
comp=Z,1.0nm,0.4s
ZAA0 Zalesovo Array 41.03 314 P P 00 04 02.4 +0.4
ZALV Zalesovo Beam 41.03 314 P P 00 04 02.6 +0.5
ZALV Zalesovo Beam 41.03 314 P P 00 04 02.3 +0.2
comp=Z,1.3nm,0.5s,baz=111,slow=8.3,SNR=9.3
comp=Z,1.3nm,0.5s
MK31 Makanchi Array 42.57 303 P P 00 04 15.9 +1.3
MK31 Makanchi Array 42.57 303 P P 00 04 15.9 +1.3
MK31 pmax pmax
comp=Z,7.0nm,1.2s
MKAR Makanchi Array 42.57 303 P P 00 04 16.1 +1.4
MKAR Makanchi Array 42.57 303 P P 00 04 15.3 +0.7
comp=Z,1.5nm,0.6s,baz=86,slow=11,SNR=22
comp=Z,1.5nm,0.6s
MKAR Makanchi Array 42.57 303 i P P 00 04 16.0 +1.4
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MAKZ Makanchi 42.79 304 P P 00 04 17.0 +0.7
MAKZ IAmb IAmb 00 04 42.0
comp=Z,20nm,1.3s
MAKZ Makanchi 42.79 304 P P 00 04 17.0 +0.7
MAKZ pmax pmax
comp=Z,20nm,1.3s
NRIK Noril'sk 43.88 337 P P 00 04 25.6 +1.0
comp=Z,2.9nm,0.6s,baz=112,slow=12,SNR=5.3
comp=Z,2.9nm,0.6s
NRIK Noril'sk 43.88 337⇓ eP P 00 04 25.3 +0.7
NRIK pmax pmax
comp=Z,4.0nm,0.6s
KURK Kurchatov 44.75 309 P P 00 04 31.8 +0.1
KURK Kurchatov 44.75 309⇓ eP P 00 04 31.9 +0.1
KURK pmax pmax
comp=Z,11nm,2.4s
KURBB Kurchatov Arra 44.81 309 P P 00 04 32.3 0.0
comp=Z,1.0nm,0.4s,baz=94,slow=7.5,SNR=17
comp=Z,1.0nm,0.4s
WUS Wushi 45.56 296 P P 00 04 39.3 +0.8
C16K Lisburne Hills 45.95 26 P P 00 04 41.9 +1.0
SOEI Soe 46.20 198 P P 00 04 42.5 -1.1
K15K Wolf Creek Mou 46.33 34 P P 00 04 45.5 +1.6
N15K Kwethluk River 46.83 37 P P 00 04 49.7 +1.9
F17K Baldwin Pennin 47.07 29 P P 00 04 51.8 +2.3
F17K IAmb IAmb 00 05 31.6
comp=Z,15nm,1.4s
L16K Owhat River 47.23 35 P P 00 04 52.6 +1.7
L16K IAmb IAmb 00 04 53.3
comp=Z,14nm,1.2s
M16K Timber Creek 47.44 36 P P 00 04 53.4 +0.9
M16K IAmb IAmb 00 05 26.3
comp=Z,25nm,1.4s
E18K Tukpahlearik C 47.50 28 P P 00 04 54.8 +1.9
E18K IAmb IAmb 00 04 55.7
comp=Z,5.1nm,0.8s
C18K Utukok River 47.53 26 P P 00 04 54.7 +1.5
C18K IAmb IAmb 00 05 27.1
comp=Z,19nm,1.5s
J17K VABM Dome 47.56 33 P P 00 04 55.3 +1.9
J17K IAmb IAmb 00 05 21.6
comp=Z,17nm,1.4s
O16K Kokwok River B 47.81 38 P P 00 04 56.8 +1.5
K17K Iditarod 47.86 34 P P 00 04 57.7 +2.0
K17K IAmb IAmb 00 04 58.5
comp=Z,13nm,0.9s
MTN Manton Dam 47.92 188 P P 00 04 55.9 -0.8
G18K Tagagawik 48.03 30 P P 00 04 58.0 +1.0
G18K IAmb IAmb 00 05 00.3
comp=Z,6.8nm,1.2s
H18K Honhosa River 48.06 31 P P 00 04 58.5 +1.3
H18K IAmb IAmb 00 04 59.5
comp=Z,20nm,1.4s
M17K Holitna River 48.19 36 P P 00 05 00.3 +2.1
M17K IAmb IAmb 00 05 13.4
comp=Z,22nm,1.5s
C19K Lookout Ridge 48.20 25 P P 00 04 59.7 +1.5
C19K IAmb IAmb 00 05 01.0
comp=Z,6.3nm,0.9s
N17K Nushagak Hills 48.29 37 P P 00 05 01.0 +2.1
N17K IAmb IAmb 00 05 32.4
comp=Z,13nm,1.2s
F19K Shaleruckik Mo 48.50 29 P P 00 05 01.4 +1.0
L18K Granite Mounta 48.58 35 P P 00 05 03.2 +2.1
L18K IAmb IAmb 00 05 28.0
comp=Z,7.4nm,1.3s
D19K Kuna River 48.61 26 P P 00 05 02.5 +1.1
D19K IAmb IAmb 00 05 03.7
comp=Z,6.0nm,0.9s
G19K Purcell Mounta 48.69 29 P P 00 05 03.4 +1.4
AAK Ala-Archa 48.70 299⇑ eP P 00 05 01.6 -1.0
AAK pmax pmax
comp=Z,8.0nm,1.6s
E19K Redstone River 48.79 28 P P 00 05 04.5 +1.8
E19K IAmb IAmb 00 05 05.2
comp=Z,6.0nm,0.9s
N18K Kilae Creek 48.93 37 P P 00 05 05.6 +1.8
N18K IAmb IAmb 00 05 29.3
comp=Z,12nm,1.4s
COEN Coen 48.94 173 P P 00 05 05.0 +0.6
COEN IAmb IAmb 00 05 05.3
comp=Z,8.6nm,0.8s
SMRI Semarang 48.97 217 P P 00 05 05.8 +1.1
J19K Poorman 49.14 32 P P 00 05 06.3 +0.9
B20K Meade River 49.20 24 P P 00 05 07.0 +1.4
B20K IAmb IAmb 00 05 12.8
comp=Z,13nm,1.3s
O18K Koktuh Hills 49.27 38 P P 00 05 08.6 +2.1
L19K White Mountain 49.44 35 P P 00 05 09.2 +1.5
L19K IAmb IAmb 00 05 43.7
comp=Z,11nm,1.4s
BVAR Borovoye Array 49.65 313 P P 00 05 09.4 0.0
comp=Z,1.0nm,0.3s,baz=99,slow=8.8,SNR=15
comp=Z,1.0nm,0.3s
BRVK Borovoye 49.70 313 ceP P 00 05 10.0 +0.2
BRVK pmax pmax
comp=Z,11nm,2.9s
ILAR Eielson Array 52.93 31 P P 00 05 33.5 +0.1
comp=Z,0.6nm,0.6s,baz=260,slow=5.2,SNR=9.4
comp=Z,0.6nm,0.6s
SCRK Sand Creek 54.27 32 P P 00 05 43.1 -0.1
WB0 Warramunga Arr 54.50 184 P P 00 05 44.7 -0.6
WB2 Warramunga Arr 54.68 184 P P 00 05 46.0 -0.5
WRA Warramunga Arr 54.68 184 P P 00 05 45.5 -1.0
WRA Warramunga Arr 54.68 184 P P 00 05 45.8 -0.7
comp=Z,13nm,0.4s,baz=360,slow=7.6,SNR=256
WRA Warramunga Arr 54.68 184 P P 00 05 45.5 -1.0
WRA pmax pmax
comp=Z,1.0nm,0.7s
WR0 Warramunga Arr 54.69 183 P P 00 05 46.2 -0.4
GLB Gilahina Butte 54.72 35 P P 00 05 46.8 +0.4
GLB IAmb IAmb 00 05 55.5
comp=Z,12nm,1.5s
E27K Coleen River 54.72 27 P P 00 05 47.5 +1.3
VRDI Verde Repeater 54.92 35 P P 00 05 47.1 -0.9
VRDI IAmb IAmb 00 05 49.6
comp=Z,5.5nm,1.1s
M26K Nabesna, AK 54.94 34 P P 00 05 49.3 +1.3
K27K Chicken 55.09 32 P P 00 05 50.1 +1.2
MCARA McCarthy VSAT 55.10 35 P P 00 05 50.7 +1.7
MCARA IAmb IAmb 00 06 20.9
comp=Z,6.1nm,1.1s
CRQM Cirque 55.16 36 P P 00 05 51.1 +1.5
CRQM IAmb IAmb 00 06 09.3
comp=Z,14nm,1.3s
TGL Tana Glacier 55.30 36 P P 00 05 51.5 +0.9
TGL IAmb IAmb 00 05 52.5
comp=Z,6.4nm,1.0s
CTAO Charters Tower 55.37 170 P P 00 05 51.9 +0.5
CTAO Charters Tower 55.37 170 P P 00 05 51.9 +0.5
CTAO pmax pmax
comp=Z,9.0nm,0.7s
BCAR Beaver Creek A 55.38 33 P P 00 05 52.9 +1.8
E28M Babbage River 55.42 26 P P 00 05 52.8 +1.6
F28M Old Crow 55.44 27 P P 00 05 53.6 +2.2
M27K Edge Creek, AK 55.46 34 P P 00 05 53.2 +1.4
M27K IAmb IAmb 00 05 54.2
comp=Z,4.6nm,1.0s
ISLE Juniper Island 55.57 36 P P 00 05 53.6 +1.0
ISLE IAmb IAmb 00 06 00.4
comp=Z,17nm,1.4s
I28M Miner Creek 55.76 30 P P 00 05 55.2 +1.4
GRNC Granite Creek 55.83 36 P P 00 05 54.8 +0.3
GRNC IAmb IAmb 00 05 55.9
comp=Z,3.3nm,0.8s
MESA MESA 55.84 37 P P 00 05 55.7 +1.1
YAH Yahtse 55.91 36 P P 00 05 56.1 +1.1
ARTI Arti 55.92 319 d iP P 00 05 54.5 -0.5
ARTI *PP PcP 00 06 51.5 +1.6
ARTI S S 00 13 22.1 +1.9
ARTI SS SS 00 17 11.2 +1.1
ARTI pmax pmax
comp=Z,3.0nm,0.8s
CTGM Chitina Glacie 55.98 36 P P 00 05 56.7 +1.3
CTGM IAmb IAmb 00 06 24.4
comp=Z,9.2nm,1.5s
H29M Whitestone 56.26 29 P P 00 05 58.7 +1.5
G29M Pine Creek 56.27 28 P P 00 05 59.3 +2.1
G29M IAmb IAmb 00 06 27.7
comp=Z,7.2nm,1.3s
ABKAR Akbulak array 56.85 310 P P 00 06 01.8 +0.2
ABKAR Akbulak array 56.85 310 P P 00 06 01.8 +0.2
EPYK Eagle Plains 56.88 29 P P 00 06 03.2 +1.6
G30M tAoh Zraii Nji 56.95 28 P P 00 06 03.1 +1.1
G30M IAmb IAmb 00 06 04.6
comp=Z,15nm,1.5s
L29M L29M 57.00 33 P P 00 06 04.4 +1.9
L29M IAmb IAmb 00 06 05.6
comp=Z,4.4nm,1.0s
M29M Somme Creek 57.00 33 P P 00 06 04.3 +1.7
K29M Barlow Dome 57.10 32 P P 00 06 04.4 +1.1
I30M Mount Dempster 57.27 30 P P 00 06 06.3 +1.9
I30M IAmb IAmb 00 06 07.3
comp=Z,7.6nm,1.2s
J30M Hart River 57.44 31 P P 00 06 05.3 -0.3
O29M Mount Kennedy 57.46 36 P P 00 06 07.9 +2.1
O29M IAmb IAmb 00 06 10.1
comp=Z,11nm,1.1s
INK Inuvik 57.66 26 P P 00 06 07.6 +0.7
INK Inuvik 57.66 26 P P 00 06 07.6 +0.7
INK pmax pmax
comp=Z,3.0nm,1.3s
G31M Satah River 57.71 28 P P 00 06 08.0 +0.7
G31M IAmb IAmb 00 06 45.8
comp=Z,11nm,1.5s
M30M Minto, Yukon 57.72 33 P P 00 06 09.2 +1.7
HYT Haines Junctio 57.84 35 P P 00 06 09.4 +0.9
HYT IAmb IAmb 00 06 11.9
comp=Z,6.1nm,1.0s
H31M Peel River 57.96 29 P P 00 06 10.4 +1.4
H31M IAmb IAmb 00 06 11.2
comp=Z,5.4nm,0.8s
P29M Windy Craggy 58.04 37 P P 00 06 12.0 +2.3
P29M IAmb IAmb 00 06 51.5
comp=Z,10nm,1.2s
MBWA Marble Bar 58.30 200 P P 00 06 11.5 -0.4
AS31 Alice Springs 58.40 184 P P 00 06 12.4 -0.2
AS31 IAmb IAmb 00 06 13.4
comp=Z,3.7nm,1.0s
ASAR Alice Springs 58.40 184 P P 00 06 12.2 -0.4
comp=Z,2.4nm,0.3s,baz=360,slow=5.5,SNR=63
comp=Z,2.4nm,0.3s
ASAR Alice Springs 58.40 184 P P 00 06 12.1 -0.5
A36M Sachs Harbour 59.35 21 P P 00 06 19.3 +0.9
A36M IAmb IAmb 00 06 20.6
comp=Z,6.6nm,0.9s
MMPY Sheldon Lake, 60.16 32 P P 00 06 26.0 +1.8
ARCES ARCESS Array B 64.80 339 P P 00 06 54.6 +0.1
comp=Z,3.4nm,0.9s,baz=59,slow=7.5,SNR=1.6
comp=Z,3.4nm,0.9s
FORT Forrest 65.99 189 P P 00 07 02.5 0.0
STKA Stephens Creek 66.59 176 P P 00 07 06.4 +0.1
STKA Stephens Creek 66.59 176 P P 00 07 06.5 +0.1
comp=Z,3.1nm,0.6s,baz=338,slow=7.5,SNR=8.8
comp=Z,3.1nm,0.6s
STKA Stephens Creek 66.59 176 P P 00 07 06.4 +0.1
STKA pmax pmax
comp=Z,1.0nm,0.7s
OBN Obninsk 67.83 322 eP P 00 07 14.6 +0.7
OBN pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 69.14 331 P P 00 07 21.7 -0.2
comp=Z,2.7nm,0.9s,baz=58,slow=4.7,SNR=6.8
comp=Z,2.7nm,0.9s
MNK Minsk 72.39 325 i P P 00 07 38.2 -3.3
MNK i *PP pP 00 08 42.3 -3.4
MNK i 00 10 25.8
MNK i S S 00 16 39.0 -2.5
MNK i SS SS 00 21 27.2 +2.0
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=N,10.0nm,1.3s
MNK pmax pmax
comp=Z,2.0nm,0.7s
MNK MLR MLR
comp=E,3μm,20.0s
MNK MLR MLR
comp=Z,5μm,18.0s
AKASG Malin Array Be 73.96 321 P P 00 07 50.6 0.0
comp=Z,0.3nm,0.4s,baz=53,slow=5.6,SNR=2.0
comp=Z,0.3nm,0.4s
PINE Pine Mountain 74.09 48 P P 00 07 53.8 +2.0
L04D Klamath Falls 74.11 49 P P 00 07 53.1 +1.3
YBH Yreka Blue Hor 74.11 50 P P 00 07 53.5 +1.6
YBH IAmb IAmb 00 07 54.7
comp=Z,7.0nm,1.4s
YBH Yreka Blue Hor 74.11 50 P P 00 07 53.5 +1.6
YBH pmax pmax
comp=Z,7.0nm,1.4s
J05D Fort Rock, OR 74.19 48 P P 00 07 54.1 +1.8
J05D IAmb IAmb 00 08 01.6
comp=Z,8.3nm,1.5s
NOA NORSAR Array B 74.83 336 P P 00 07 55.2 -0.3
comp=Z,0.8nm,0.8s,baz=19,slow=18,SNR=2.2
comp=Z,0.8nm,0.8s
PAHR Pah Rah Range 77.34 50 P P 00 08 11.0 +0.8
PAHR IAmb IAmb 00 08 11.6
comp=Z,9.3nm,1.5s
KVN Kaiserville 78.53 50 P P 00 08 18.1 +1.3
KVN IAmb IAmb 00 08 18.8
comp=Z,4.0nm,0.7s
KVN Kaiserville 78.53 50 P P 00 08 18.1 +1.3
KVN pmax pmax
comp=Z,4.0nm,0.7s
LHV Little Huntoon 78.74 51 P P 00 08 19.2 +1.5
LHV IAmb IAmb 00 08 20.3
comp=Z,6.2nm,1.3s
NVAR Mina Array Bea 78.76 51 P P 00 08 19.4 +1.4
NVAR Mina Array Bea 78.76 51 P P 00 08 18.9 +0.8
comp=Z,1.7nm,0.6s,baz=304,slow=5.0,SNR=16
comp=Z,1.7nm,0.6s
GWY Greenwater Val 81.14 52 P P 00 08 31.6 +0.8
GWY IAmb IAmb 00 08 31.9
comp=Z,3.6nm,0.6s
PDAR Pinedale Array 81.37 43 P P 00 08 32.5 +0.6
comp=Z,1.1nm,0.8s,baz=291,slow=2.3,SNR=9.7
comp=Z,1.1nm,0.8s
BFO Black Forest 85.49 329 i P P 00 08 49.3 -3.1
TXAR Lajitas Array 93.89 50 P P 00 09 33.3 +1.1
comp=Z,0.9nm,0.6s,baz=285,slow=2.6,SNR=14
comp=Z,0.9nm,0.6s
QSPA South Pole Qui 124.70 180 PKP PKPdf 00 15 11.2 -0.2
comp=Z,0.7nm,0.3s,baz=263,slow=2.1,SNR=4.4

JMA 15 23:57:03.0±0.2, 34°.1N±0°.3×135°.1E±0°.8, h6km±1km, MV0.1/9, NW WAKAYAMA PREF, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTNC	**Tanabenakahech**	**0.54**	**126**	*eS*	Sb	23 57 22.4	-0.6

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*IDC **16** 00:10:49.4±1.0, 56°.74S×25°.33W, h0km, mb4.2/4, mbtmp4.1/5, ML3.7/1, MS4.3/1, Error ellipse: s-maj=41.2km s-min=24.6km az=62.0*

ISC 16 00:10:50.8±0.9, 56°.8S±0°.2×25°.4W±0°.3, h10km, n12, σ1§41/12, mb4.1/4, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.77**	**159**	⇑P	**Pn**	**00 14 32.4**	**-0.3**
VNA3	**Neumayer Olymp**	**16.00**	**161**	⇑P	**Pn**	**00 14 34.6**	**-1.0**
comp=Z,1.1nm,0.3s
VNA2 Neumayer--Watz 16.17 159 ⇑P Pn 00 14 37.2 -0.5
comp=Z,0.9nm,0.3s,baz=321,slow=15
SNAA Sanae 17.70 156 ⇑P P 00 14 57.9 -0.1
comp=Z,29nm,0.4s
SNAA Sanae 17.70 156 P P 00 14 57.7 -0.3
comp=Z,0.3nm,0.3s,baz=319,slow=11,SNR=19
comp=Z,0.7nm,0.5s
TROLL Troll, Antarti 19.17 154 ⇑P Pn 00 15 18.8 +3.7
comp=Z,39nm,0.6s
QSPA South Pole Qui 33.49 180 P P 00 17 29.9 0.0
comp=Z,2.1nm,0.5s,baz=191,slow=1.1,SNR=4.4
comp=Z,2.1nm,0.5s
CPUP Villa Florida 38.01 310 P P 00 18 08.9 0.0
comp=Z,1.9nm,0.7s,baz=168,slow=11,SNR=3.6
CPUP LR LR 00 33 45.9
comp=Z,361nm,18.4s,baz=152,slow=36
comp=Z,1.9nm,0.7s
LPAZ La Paz 51.58 304 P P 00 19 58.5 +0.7
comp=Z,13nm,0.6s,baz=145,slow=5.4,SNR=44
comp=Z,13nm,0.6s
TORD Torodi Ar. Bea 73.22 28 P P 00 22 21.8 0.0
comp=Z,0.4nm,0.6s,baz=198,slow=5.9,SNR=5.7
comp=Z,0.4nm,0.6s
SONM Songino Array 149.80 86 PKPbc PKiKP 00 30 39.6 -1.5
comp=Z,0.3nm,0.4s,baz=224,slow=2.9,SNR=3.9
ILAR Eielson Array 151.32 310 PKPbc PKiKP 00 30 42.9 -0.6
comp=Z,0.8nm,0.8s,baz=131,slow=1.9,SNR=8.8

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*IDC **16** 00:31:13.4±1.7, 3°.04S×119°.76E, h0km, mb3.3/3, mbtmp3.4/3, MS4.2/1, Error ellipse: s-maj=53.4km s-min=16.9km az=85.0*
*DJA **16** 00:31:14.1±0.3, 3°S±2°×12°0E±°, h10km, M3.9/10, MLv3.9/10*

ISC 16 00:31:14.3±1.0, 2°.96S±0°.04×119°.58E±0°.08, h10km, n12, σ1§27/15, mb3.3/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**0.26**	**109**	P	**Pg**	**00 31 20.6**	**+1.1**
TTSI S **Sb** 00 31 26.1 +0.6
SPSI Sidrap Palu 1.01 169 P Pg 00 31 33.3 -0.6
SPSI S **Sn** 00 31 49.2 +0.3
BNSI Bone 1.52 160 P Pb 00 31 42.8 +0.1
BNSI S **Sg** 00 32 04.1 +0.7
KAPI Kappang 2.05 175 Pg **Pn 00 31 48.7 -0.1**
29nm,0.3s,baz=342,slow=12,SNR=48
KAPI Lg Lg 00 32 15.7
33nm,0.3s,baz=94,slow=19,SNR=5.5
PCI Palu 2.06 7 P Pn 00 31 49.3 +0.3
PCI S **Sb** 00 32 15.3 -2.2
KDI Kendari 3.19 108 P Pn 00 32 02.5 -2.1
BSSI Bau Bau, Buton 3.29 164 P Pn 00 32 05.8 -0.1
LUWI Luwuk 3.72 59 P Pn 00 32 11.9 0.0
TGY Tagaytay City 17.01 5 LR LR 00 41 51.8
comp=Z,840nm,20.3s,baz=198,slow=37
WRA Warramunga Arr 22.19 141 P P 00 36 08.8 -2.2
0.8nm,0.9s,baz=319,slow=11,SNR=3.9
0.8nm,0.9s
ASAR Alice Springs 24.81 147 P P 00 36 36.8 -0.1
0.2nm,0.3s,baz=337,slow=9.1,SNR=4.3
0.2nm,0.3s
MKAR Makanchi Array 59.43 331 P P 00 41 18.9 +1.6
0.5nm,0.6s,baz=132,slow=8.6,SNR=2.2
0.5nm,0.6s

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*NEIC **16** 00:34:16.1±2.9, 24°.31N±0°.05×122°.92E±0°.06, h35km±2km, mb4.4/81, Mwr4.3/10, Error ellipse: s-maj=9.1km s-min=8.1km az=95.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-3.08; $M_{\theta\theta}$4.01; $M_{\phi\phi}$-0.94; $M_{r\theta}$1.44; $M_{\theta\phi}$-0.22; $M_{\phi r}$1.36; Fault plane solution: M_o4.15000×10^{15} NP1:ϕ_s116.48000°, δ39.71000°, λ-50.91000°. NP2:ϕ_s249.92000°, δ60.27000°, λ-117.64000°. Principal axes: T 4.2960, Plg11.0000°, Azm359.0000°; N -0.3117, Plg24.0000°, Azm264.0000°; P -3.9843, Plg63.0000°, Azm113.0000°;*
*BJI **16** 00:34:18.3, 24°.39N×122°.67E, h70km, mb4.3/18, Ms4.1/3, Ms7 4.1/1*
*NEIC **16** 00:34:19.8, 24°.34N×122°.69E, h72km*
*JMA **16** 00:34:19.8±0.1, 24°.N±2°×122°.7E±0°.5, h69km±1km, MD4.0/15, MV4.0/15, NW OFF ISHIGAKIJIMA IS*
*TAP **16** 00:34:19.8, 24°.31N×122°.69E, h69km, ML5.0, C*
*IDC **16** 00:34:21.1±2.8, 24°.51N×122°.85E, h92km±26km, mb3.9/24, mbtmp4.2/25, Error ellipse: s-maj=18.9km s-min=11.9km az=66.0*

ISC 16 00:34:19.5±0.5, 24°.30N±0°.02×122°.70E±0°.02, h76km±4km, n310, σ1§08/450, mb4.3/63, 40C-37D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.27**	**56**	*i* P	**Pn**	**00 34 31.0**	**-0.1**
JYNG S **Sn** 00 34 39.1 -0.6
JYNG Yonagunijimaku 0.27 56 A A 00 34 31.0
comp=E,37nm,0.8s,comp=N,19nm,0.5s
YOJ Yonaguni jima 0.33 60 Pg **Pn 00 34 31.2 -0.2**
YOJ Sg **Sn** 00 34 39.6 -0.7
YOJ Yonaguni jima 0.33 60 P Pn 00 34 30.8 -0.7
YOJ Yonaguni jima 0.33 60 *i* P **Pn 00 34 31.4 -0.1**
YOJ S **Sn** 00 34 39.6 -0.7
YOJ Yonaguni jima 0.33 60 A A 00 34 31.4
comp=E,25nm,1.4s,comp=N,13nm,1.0s
YOJ Yonaguni jima 0.33 60 ⇓ *i* P **Pn 00 34 31.4 -0.1**
YOJ *i* S **Sn** 00 34 39.6 -0.7
EOS3 EOS3 0.35 268 ⇓ *i* P **Pn 00 34 32.0 +0.5**
EOS3 S **Sn** 00 34 41.2 +0.9
EOS4 EOS4 0.39 243 ⇑ P **Pn 00 34 31.5 0.0**
EOS4 S **Sn** 00 34 40.6 +0.2
EOS2 EOS2 0.45 286 ⇓ *i* P **Pn 00 34 32.7 +0.5**
EOS2 *i* S **Sn** 00 34 42.8 +1.2
ESAO Su ao 0.83 290 ⇓ P **Pn 00 34 36.3 0.0**
ESAO S **Sn** 00 34 47.8 -0.9
TWC Suao 0.84 292 ⇓ *i* P **Pn 00 34 36.0 -0.4**
TWC S **Sn** 00 34 47.9 -1.0
EWUT Wuta 0.85 280 ⇓ P **Pn 00 34 36.2 -0.3**
EWUT *e*S **Sn** 00 34 49.8 +0.5
EHP Heping Village 0.88 271 *e*P **Pn 00 34 37.2 +0.4**
EHP *e*S **Sn** 00 34 49.3 -0.5
EAHA Aohua 0.88 272 *e*P **Pn 00 34 37.0 +0.1**
EAHA *e*S **Sn** 00 34 50.0 +0.2
ENA Nanau 0.89 279 ⇓ P **Pn 00 34 36.6 -0.4**
ENA S **Sn** 00 34 49.9 -0.1
EGS 0.89 308 *e*P **Pn 00 34 36.9 -0.1**
EGS *e*S **Sn** 00 34 49.1 -0.8
IRIF Iriomote-Funau 0.94 88 *i* P **Pn 00 34 38.1 +0.6**
IRIF S **Sn** 00 34 51.6 +0.6
IRIF Iriomote-Funau 0.94 88 A A 00 34 38.1
comp=E,7.0nm,0.4s,comp=N,13nm,0.8s
NDS Dongshan 0.96 291 P **Pn 00 34 38.0 +0.2**
NDS *e*S **Sn** 00 34 51.4 -0.1
TWB1 Santiao Chiao 0.96 318 ⇓ *i* P **Pn 00 34 37.5 -0.4**
TWB1 *e*S **Sn** 00 34 50.6 -0.9
NTC Toucheng 0.97 305 *e*P **Pn 00 34 38.1 +0.2**
NTC S **Sn** 00 34 51.6 0.0
ILA Ilan 0.98 298 *e*P **Pn 00 34 38.3 +0.2**
ILA *e*S **Sn** 00 34 52.3 +0.3
ETL Fush Village 0.99 262 *e*P **Pn 00 34 37.9 -0.4**
ETL *e*S **Sn** 00 34 51.3 -1.0
NACB Ninganchiao 1.02 263 P **Pn 00 34 38.0 -0.5**
NACB Sn **Sn** 00 34 51.6 -1.2
NACB Ninganchiao 1.02 263 P **Pn 00 34 37.5 -1.0**
NACB Ninganchiao 1.02 263 ⇓ *i* P **Pn 00 34 38.1 -0.5**
NACB *i* S **Sn** 00 34 51.3 -1.5
TWE Neicheng 1.03 294 ⇓ *i* P **Pn 00 34 38.8 +0.1**
TWE *e*S **Sn** 00 34 53.2 +0.2
TWD Chiawan 1.03 258 ⇓ P **Pn 00 34 38.2 -0.5**
TWD *i* S **Sn** 00 34 51.8 -1.3
HATJ Hateruma jima 1.04 103 P **Pn 00 34 39.7 +1.0**
HATJ S **Sn** 00 34 54.1 +1.0
HATJ Hateruma jima 1.04 103 A A 00 34 39.7
comp=E,12nm,1.0s,comp=N,6.0nm,2.2s
TIPB Shuangxi 1.04 310 ⇓ *i* P **Pn 00 34 38.7 -0.2**
TIPB *e*S **Sn** 00 34 52.0 -1.4
HWA Hwalien 1.05 252 P **Pn 00 34 38.7 -0.2**
HWA *e*S **Sn** 00 34 53.6 +0.1
ENTT Nioudou 1.09 288 ⇓ *i* P **Pn 00 34 39.9 +0.5**
ENTT S **Sn** 00 34 54.5 +0.2
SXI1 Grass Mountain 1.09 317 ⇓ *i* P **Pn 00 34 39.4 -0.2**

SXI1 *i* S **Sn** **00 34 53.4 -1.1**
TEYL Yanliau Villag 1.10 247⇑*i*P Pn 00 34 40.1 +0.6
TEYL S **Sn** **00 34 54.3 -0.1**
LATG Datong 1.10 283⇓*i*P Pn 00 34 39.7 +0.1
LATG S **Sn** **00 34 54.2 -0.5**
FUSB Fushanzhiwuyua 1.11 295⇓*i*P Pn 00 34 40.1 +0.3
FUSB *e*S **Sn** **00 34 54.9 -0.1**
ETLH Xiulin Townshi 1.12 266 ⇓P Pn 00 34 39.5 -0.3
ETLH S **Sn** **00 34 54.4 -0.7**
NWF Wu-fen Shan 1.14 313 ⇓P Pn 00 34 40.4 +0.3
NWF S **Sn** **00 34 55.2 -0.3**
WFSB Wu-fen Shan 1.14 313⇓*i*P Pn 00 34 40.2 +0.1
WFSB S **Sn** **00 34 54.4 -1.0**
ETM Tongmen 1.15 254⇑*i*P Pn 00 34 39.8 -0.4
ETM *e*S **Sn** **00 34 54.1 +0.7**
SHUL Shoufeng 1.16 244⇑*i*P Pn 00 34 40.0 -0.2
SHUL S **Sn** **00 34 55.4 -0.5**
NWLT Wulai 1.19 294 ⇓P Pn 00 34 41.2 +0.5
NWLT *e*S **Sn** **00 34 56.7 +0.1**
JKRS Kuro-shima 1.20 93 *i* P Pn 00 34 41.5 +0.8
JKRS S **Sn** **00 34 57.7 +1.0**
JKRS Kuro-shima 1.20 93 A A 00 34 41.5
comp=E,6.0nm,2.2s,comp=N,6.0nm,3.0s
LXIB Xiulin Townshi 1.21 257 ⇑P Pn 00 34 40.5 -0.6
LXIB S **Sn** **00 34 55.7 -1.5**
NNSB Datong 1.21 276⇓*i*P Pn 00 34 41.0 0.0
NNSB S **Sn** **00 34 56.3 -0.9**
TEGC Jichi Village 1.21 241 *e*P Pn 00 34 40.5 -0.4
TEGC *e*S **Sn** **00 34 56.6 -0.5**
NNS Nan Shan 1.22 277 *i* P Pn 00 34 41.4 +0.2
NNS S **Sn** **00 34 56.8 -0.6**
ESL Shilin 1.26 248⇑*i*P Pn 00 34 40.8 -0.8
ESL *i* S **Sn** **00 34 56.7 -1.4**
NHDH Xindian Distri 1.26 302 *i* P Pn 00 34 41.9 +0.3
NHDH S **Sn** **00 34 57.2 -0.9**
YHNB Yeheng 1.26 287 Pn 00 34 41.7 0.0
YHNB Sn **Sn** **00 34 58.0 -0.4**
YHNB Yeheng 1.26 287 P Pn 00 34 41.7 0.0
YHNB Yeheng 1.26 287⇓*i*P Pn 00 34 42.2 +0.5
YHNB *i* S **Sn** **00 34 58.3 -0.1**
NHY Taipei 1.27 306 *e*P Pn 00 34 41.8 +0.1
NHY *e*S **Sn** **00 34 57.4 -0.9**
NSK Sanguang 1.28 287⇓*i*P Pn 00 34 42.2 +0.4
NSK *i* S **Sn** **00 34 58.4 -0.3**
TATO Taipei 1.29 302 Pn 00 34 42.0 0.0
TATO Sn **Sn** **00 34 57.8 -1.1**
TATO Taipei 1.29 302 P Pn 00 34 41.7 -0.3
JIJ Ishigaki jima 1.32 87 *i* P Pn 00 34 42.6 +0.4
JIJ S **Sn** **00 34 59.1 -0.3**
WHF Hehuan Shan 1.32 264⇑*i*P Pn 00 34 42.6 -0.2
WHF *e*S **Sn** **00 34 58.9 -1.3**
EGFH Guangfu 1.32 242 P Pn 00 34 42.0 -0.4
EGFH *e*S **Sn** **00 34 58.3 -1.3**
YM01 YM01 1.33 310 ⇓P Pn 00 34 42.5 -0.1
YM01 *i* S **Sn** **00 34 58.9 -1.0**
FUSS Fushou 1.33 268 P Pn 00 34 43.1 +0.3
FUSS S **Sn** **00 34 59.9 -0.2**
WARBT Fenglin Townsh 1.33 245⇑*i*P Pn 00 34 41.9 -0.7
WARBT S **Sn** **00 34 57.9 -2.0**
YM08 YM08 1.34 311 ⇓P Pn 00 34 42.5 -0.2
YM08 S **Sn** **00 34 59.0 -1.1**
ZUZH Zhuzihu 1.36 309 ⇓P Pn 00 34 42.9 0.0
ZUZH *e*S **Sn** **00 34 59.7 -0.8**
ANP Anpu 1.39 310 *e*P Pn 00 34 43.2 -0.1
ANP *e*S **Sn** **00 35 01.6 +0.3**
TWT Tachien 1.39 268 P Pn 00 34 44.2 +0.7
TWT S **Sn** **00 35 01.6 +0.1**
TWY Chenhua 1.40 314⇓*i*P Pn 00 34 43.8 +0.5
TWY *e*S **Sn** **00 35 01.2 0.0**
TDCB Techi 1.41 268 *e*P Pn 00 34 44.1 +0.5
TDCB *i* S **Sn** **00 35 01.3 -0.5**
TWS1 Kuangyinshan 1.42 305⇓*e*P Pn 00 34 42.9 -0.7
TWS1 *i* S **Sn** **00 35 00.7 -1.0**
HGSD Ruisui 1.42 236⇑*i*P Pn 00 34 42.9 -0.7
HGSD S **Sn** **00 35 00.6 -1.2**
NTST Danshui 1.43 307 P Pn 00 34 43.9 +0.1
NTST S **Sn** **00 35 01.6 -0.4**
OWD Renai 1.44 256 ⇑P Pn 00 34 43.9 -0.1
OWD S **Sn** **00 35 01.2 -1.2**
PCYT Pengchaiyu 1.44 337⇓*i*P Pn 00 34 44.6 +0.7
PCYT S **Sn** **00 35 02.5 +0.2**
KSHI Guanxi Townshi 1.47 289 *e*P Pn 00 34 45.2 +1.0
KSHI *e*S **Sn** **00 35 02.8 -0.2**
EHYH Wanrong 1.48 237⇑*i*P Pn 00 34 44.1 -0.3
EHYH *e*S **Sn** **00 35 01.7 -1.5**
WUSB Renai 1.48 258 ⇑P Pn 00 34 44.8 +0.2
WUSB S **Sn** **00 35 02.4 -1.0**
NFF Wufeng Townshi 1.48 283 ⇓P Pn 00 34 45.1 +0.6
NFF S **Sn** **00 35 03.3 -0.1**
EHY Hungye 1.49 238⇑*i*P Pn 00 34 43.9 -0.7
EHY S **Sn** **00 35 02.7 -0.7**
JISG Ishigakijimahi 1.49 79 *i* P Pn 00 34 45.0 +0.5
JISG S **Sn** **00 35 03.7 +0.2**
JISG Ishigakijimahi 1.49 79 A A 00 34 45.0
comp=E,6.0nm,0.4s,comp=N,9.0nm,0.5s
ECBN Changbin 1.51 230⇑*i*P Pn 00 34 44.4 -0.4
ECBN *e*S **Sn** **00 35 02.0 -1.8**
VWDT VWDT 1.53 249⇑*i*P Pn 00 34 45.3 +0.3
VWDT *i* S **Sn** **00 35 03.3 -1.0**
NCUH Zhongli 1.53 296⇑*e*P Pn 00 34 45.8 +0.7
NCUH *e*S **Sn** **00 35 04.3 -0.1**
YULB Yu-li 1.57 235 Pn 00 34 45.3 -0.3
YULB Sn **Sn** **00 35 04.1 -1.3**
YULB Yu-li 1.57 235 P Pn 00 34 44.6 -1.0
YULB Yu-li 1.57 235⇑*i*P Pn 00 34 45.2 -0.5
YULB *i* S **Sn** **00 35 04.0 -1.3**
LIOB Emei 1.57 283⇓*e*P Pn 00 34 46.5 +0.8
LIOB S **Sn** **00 35 05.5 0.0**
EYUL Yuli 1.58 233 ⇑P Pn 00 34 45.7 0.0
EYUL *i* S **Sn** **00 35 05.1 -0.5**
NSTT Nanjuang 1.58 282 ⇓P Pn 00 34 46.6 +0.8
NSTT S **Sn** **00 35 06.1 +0.4**
TWF1 Yuli 1.59 234⇑*i*P Pn 00 34 45.6 -0.3
TWF1 S **Sn** **00 35 04.4 -1.5**
WHP Taichung City 1.60 270 *i* P Pn 00 34 47.3 +1.2
WHP S **Sn** **00 35 06.6 +0.4**
CHKH Chenggong 1.63 228⇑*e*P Pn 00 34 45.4 -0.9
CHKH S **Sn** **00 35 04.2 -2.4**
SBCB Hsinchu 1.64 288 *e*P Pn 00 34 47.1 +0.6
SBCB *e*S **Sn** **00 35 06.7 -0.2**
WCS Beigang Elemen 1.65 262 *i* P Pn 00 34 47.5 +0.8
WCS S **Sn** **00 35 07.2 -0.1**
HSN Hsinchu 1.66 288 *e*P Pn 00 34 46.2 -0.5
HSN *e*S **Sn** **00 35 07.9 +0.6**
SSLB Suanglung 1.68 253 Pn 00 34 47.4 +0.3
SSLB Suanglung 1.68 253 P Pn 00 34 46.3 -0.7
SSLB Suanglung 1.68 253⇑*i*P Pn 00 34 47.2 +0.2
SSLB *i* S **Sn** **00 35 06.2 -1.7**
FULB Fuli 1.69 230 ⇑P Pn 00 34 46.5 -0.8
FULB *i* S **Sn** **00 35 06.7 -1.6**
SMLT Sun Moon Lake 1.70 256⇑*i*P Pn 00 34 46.8 -0.6
SMLT *i* S **Sn** **00 35 07.1 -1.4**
CHKT Chengkung 1.71 226⇑*i*P Pn 00 34 46.2 -1.2
CHKT S **Sn** **00 35 05.7 -2.9**
TYC Yuchr 1.73 257⇑*i*P Pn 00 34 48.2 +0.5
TYC *i* S **Sn** **00 35 08.8 -0.2**
NMLH Miaoli 1.76 278 *e*P Pn 00 34 49.2 +1.1
NMLH S **Sn** **00 35 10.5 +0.7**
TWQ1 Liyutan 1.76 272 *e*P Pn 00 34 49.1 +1.0
TWQ1 *e*S **Sn** **00 35 10.7 +0.8**
NSY Sanyi 1.77 274 *e*P Pn 00 34 49.7 +1.4
NSY *e*S **Sn** **00 35 11.4 +1.3**
EHD Haiduan 1.79 230 *e*P Pn 00 34 48.0 -0.5
EHD S **Sn** **00 35 09.1 -1.4**
WHYT Xinyi Township 1.79 251⇑*e*P Pn 00 34 49.8 +1.2
WHYT *i* S **Sn** **00 35 10.7 0.0**
ECS Chishang 1.81 229 *e*P Pn 00 34 48.9 +0.1
ECS S **Sn** **00 35 10.9 -0.1**
EDH Donghe 1.84 224⇓*e*P Pn 00 34 48.5 -0.7
EDH *e*S **Sn** **00 35 10.1 -1.6**
JTJ Tarama 1.85 79 P Pn 00 34 50.0 +0.6
JTJ S **Sn** **00 35 12.7 +0.7**
WJS Zhushan 1.87 256 *e*P Pn 00 34 51.3 +1.8
WJS S **Sn** **00 35 13.8 +1.4**
WDJ Dajia District 1.88 272 *e*P Pn 00 34 50.4 +0.7
WDJ *e*S **Sn** **00 35 13.3 +0.6**
WNT Mingjian 1.89 258 P Pn 00 34 51.6 +1.8
WNT S **Sn** **00 35 14.6 +1.7**
ELDTW Lidau 1.90 235⇑*i*P Pn 00 34 49.6 -0.5

ELDTW S **Sn** **00 35 11.1 -2.1**
ALS Alishan 1.91 246⇑*i*P Pn 00 34 51.0 +0.7
ALS S **Sn** **00 35 13.1 -0.6**
WCHH Zhanghua 1.97 264 *e*P Pn 00 34 51.3 +0.4
WCHH *e*S **Sn** **00 35 15.2 +0.5**
LDUT Ludao 1.98 215⇑*i*P Pn 00 34 50.0 -1.0
LDUT *e*S **Sn** **00 35 11.9 -3.0**
WCH1 Changhua City 1.98 264 *e*P Pn 00 34 51.0 0.0
WCH1 *e*S **Sn** **00 35 16.3 +1.3**
LONT Longtian 2.00 226 ⇑P Pn 00 34 51.0 -0.3
LONT *e*S **Sn** **00 35 15.2 -0.3**
WGK Gukeng 2.05 253 *e*P Pn 00 34 53.4 +1.5
WGK *e*S **Sn** **00 35 19.4 +2.7**
WDLH Douliu 2.07 253 *e*P Pn 00 34 52.8 +0.5
WDLH *e*S **Sn** **00 35 18.7 +1.5**
STYH Taoyuan 2.09 238⇑*i*P Pn 00 34 53.4 +0.8
STYH S **Sn** **00 35 17.3 -0.4**
TWGBT Beinan 2.10 226 P Pn 00 34 51.6 -1.0
TWGBT Beinan 2.10 226⇑*i*P Pn 00 34 52.0 -0.6
TWGBT *e*S **Sn** **00 35 15.7 -2.1**
TTN Taitung 2.10 223 *e*P Pn 00 34 52.4 -0.2
TTN *e*S **Sn** **00 35 16.8 -1.0**
TWG Pinlang 2.10 226 Pn 00 34 52.4 -0.2
TWG Pinlang 2.10 226 ⇑P Pn 00 34 51.8 -0.8
TWG *e*S **Sn** **00 35 17.4 -0.5**
WCKO Fanlu 2.10 246 *e*P Pn 00 34 54.6 +1.9
WCKO *e*S **Sn** **00 35 20.0 +2.0**
TPUB Ta-pu 2.14 243 Pn 00 34 55.0 +1.7
TPUB Ta-pu 2.14 243 P Pn 00 34 54.1 +0.9
TPUB Ta-pu 2.14 243 ⇑P Pn 00 34 54.1 +0.9
TPUB S **Sn** **00 35 20.9 +1.9**
CHN4 Tsaushan 2.15 244⇑*i*P Pn 00 34 54.6 +1.3
CHN4 S **Sn** **00 35 21.0 +1.8**
CHN2 Minshiung 2.18 250 *e*P Pn 00 34 55.7 +2.0
CHN2 *e*S **Sn** **00 35 22.3 +2.5**
WTK Tuku 2.20 254 *e*P Pn 00 34 55.5 +1.5
WTK *e*S **Sn** **00 35 23.0 +2.6**
CHY Chiayi 2.23 250 *e*P Pn 00 34 56.0 +1.5
CHY *e*S **Sn** **00 35 24.1 +3.0**
WTCT Ta-ch'eng 2.25 259 *e*P Pn 00 34 55.8 +1.1
WTCT *e*S **Sn** **00 35 22.0 +0.3**
TWK Hsinying 2.27 244 P Pn 00 34 56.3 +1.2
TWK *e*S **Sn** **00 35 24.2 +2.1**
CHN1 Nanshi 2.28 241 *e*P Pn 00 34 56.3 +1.2
CHN1 *e*S **Sn** **00 35 23.7 +1.4**
SNST Tainan City 2.29 242 *e*P Pn 00 34 56.9 +1.7
SGST Jiashian 2.29 238⇓*i*P Pn 00 34 56.1 +0.9
SGST *e*S **Sn** **00 35 24.1 +1.6**
ECL Taimali 2.33 224⇑*e*P Pn 00 34 54.6 -1.2
WSF Szhu 2.36 254 *e*P Pn 00 34 56.6 +0.4
WSL Shuilin Townsh 2.39 252 *e*P Pn 00 34 58.2 +1.6
WSL *e*S **Sn** **00 35 26.9 +2.0**
JIKM Ikemajima 2.40 74 P Pn 00 34 57.6 +0.9
ICHU Yijhu 2.41 248 *e*P Pn 00 34 57.9 +1.1
ICHU *e*S **Sn** **00 35 25.8 +0.5**
JMJ Miyako jima 2 2.42 77 P Pn 00 34 59.1 +2.2
CHN3 Shinhua 2.46 241 *e*P Pn 00 34 59.6 +2.1
CHN3 *e*S **Sn** **00 35 30.4 +3.7**
SCST Cishan 2.47 236 *e*P Pn 00 34 59.7 +2.2
SCST *e*S **Sn** **00 35 30.4 +3.6**
TSMG Majia 2.47 230 *e*P Pn 00 34 58.2 +0.6
TSMG *e*S **Sn** **00 35 25.9 -0.9**
CHN8 Yiju 2.47 248 *e*P Pn 00 34 58.4 +0.7
CHN8 *e*S **Sn** **00 35 28.4 +1.6**
LAY Lan-yu 2.49 205 *e*P Pn 00 34 56.6 -1.3
LYUB Lan-yu 2.51 204⇑*e*P Pn 00 34 56.4 -1.8
MASBT Mashibuluo 2.54 229 ⇑P Pn 00 34 59.0 +0.5
MASBT *e*S **Sn** **00 35 27.4 -1.1**
TAW Tawu 2.55 221 *e*P Pn 00 34 58.1 -0.6
TAW *e*S **Sn** **00 35 26.5 -2.2**
SCLT Jiali 2.56 245 *e*P Pn 00 34 59.8 +1.0
TWM1 Shoushan 2.56 235 *e*P Pn 00 35 02.0 +3.2
EAST Anshuo 2.56 222 ⇑P Pn 00 34 58.2 -0.6
EAST *e*S **Sn** **00 35 28.5 -0.6**
TAWH Dawu Township 2.57 221 P Pn 00 34 58.4 -0.5
TAWH *e*S **Sn** **00 35 28.8 -0.3**
TSCK Chigu Township 2.66 245 *e*P Pn 00 35 01.1 +1.0
TSCK *e*S **Sn** **00 35 32.2 +0.8**
SNJT Kaohsiung City 2.66 235 *e*P Pn 00 35 02.5 +2.3
SCZT Fangliau 2.71 225 *e*P Pn 00 35 01.5 +0.6
SCZT *e*S **Sn** **00 35 31.9 -0.8**
SLIU Shizi 2.71 221 *e*P Pn 00 35 00.5 -0.4
WSSB Gushan 2.78 234 *e*P Pn 00 35 03.4 +1.5
SMST Manzhou Townsh 2.84 217 *e*P Pn 00 35 02.6 -0.1
TWP Hsiaoliuchiu 2.90 228 *e*P Pn 00 35 06.8 +3.4
HEN Hengchun 2.91 219 *e*P Pn 00 35 04.3 +0.7
HEN *e*S **Sn** **00 35 37.2 -0.3**
TWKBT Hengchun 2.92 217 *e*P Pn 00 35 03.9 +0.1
TWKBT *e*S **Sn** **00 35 37.3 -0.5**
TWK1 Hengchun 2.92 217 *e*P Pn 00 35 04.2 +0.5
TWK1 *e*S **Sn** **00 35 37.6 -0.3**
PHUB P'eng-hu 2.97 255 *e*P Pn 00 35 04.3 -0.1
PNG Penghu 2.97 256 *e*P Pn 00 35 04.1 -0.3
WDGT Dungji 2.97 250 ⇓P Pn 00 35 04.9 +0.5
WDGT *e*S **Sn** **00 35 37.9 -1.1**
VWUC VWUC 3.04 284 *e*P Pn 00 35 05.0 -0.3
MATB Ma-tsu 3.10 307 *e*P Pn 00 35 05.7 -0.5
VCHM Qimei 3.19 251 *e*P Pn 00 35 07.3 0.0
PTMZ Houxiangcun 3.34 283 *e*P Pn 00 35 09.0 -0.4
XPSS Dashiqiu 3.46 320 *e*P Pn 00 35 10.8 -0.3
QZH Quanzhou 3.79 281⇓*i*P Pn 00 35 14.9 -0.7
QZH S **Sn** **00 35 55.1 -4.0**
QZH smax smax
comp=N,300nm,0.5s
QZH smax smax
comp=N,290nm,0.4s
KNM Kinmen 3.90 273 *e*P Pn 00 35 17.9 +0.9
KNMB Chin-men Tao 3.94 273 Pn Pn 00 35 15.5 -2.0
KNMB Chin-men Tao 3.94 273 *e*P Pn 00 35 16.6 -0.9
SXFK Yanhouchang 5.03 296 *e*P Pn 00 35 31.7 -0.8
JOW Kunigami 5.63 62 Pn 00 35 36.2 -4.4
JOW Kunigami 5.63 62 P Pn 00 35 39.9 -0.8
comp=N,30nm,0.2s,baz=227,slow=10,SNR=13
JOW S **Sn** **00 36 40.5 -3.4**
comp=N,16nm,0.2s,baz=137,slow=23,SNR=1.4
TIA Tai'an 12.81 339 P Pn 00 37 04.1 -14
TIA S Sn 00 39 17.4 -22
TIA pmax pmax
comp=Z,9.0nm,2.4s
TIA pmax pmax
comp=Z,520nm,12.0s
TIA LR LR
comp=N,340nm,13.7s
TIA LR LR
comp=E,700nm,16.5s
TIA LR LR
comp=Z,790nm,21.0s
LYN LuoYang 13.55 321 *e*P Pn 00 37 28.8 +0.4
LYN pP P 00 37 37.3 +2.5
LYN PP 00 37 42.9
LYN sP 00 37 53.6
LYN pmax pmax
comp=Z,7.0nm,1.2s
KSAR Wonju Array Be 13.83 18 P 00 37 37.4 -0.5
KSRS Korea Array 13.85 18 P Pn 00 37 33.4 +1.1
comp=Z,30nm,0.7s,baz=197,slow=13,SNR=41
KS19 Wonju Array Si 13.88 17 P 00 37 38.0 -0.6
HNS HongShan 14.74 334 ⇑P P 00 37 49.8 +1.7
HNS pmax pmax
comp=Z,10.0nm,0.8s
JHJ2 Mitsune 17.38 56 Pn 00 38 16.9 -0.1
HHC Hu-ho-hao-te 18.96 333 *e*P Pn 00 38 36.8 +0.6
HHC pmax pmax
comp=Z,21nm,0.7s
PZH PanZhiHua 19.06 281 P Pn 00 38 37.4 -0.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
KKM Kota Kinabalu 19.19 200 Pn **Pn 00 38 39.7 +0.6**
KKM IAmb IAmb 00 38 44.0
comp=Z,28nm,1.1s
MYLDM Lahad Datu 19.43 193 Pn **Pn 00 38 41.5 -0.3**
XLT XiLinHaoTe 20.29 346 *e*P P 00 38 48.8 -0.4
XLT pmax pmax
comp=Z,11nm,1.1s
USA0B Ussuriysk Arra 21.26 19 P P 00 38 58.4 -1.0
USRK Ussuriysk Ar. 21.26 19 P P 00 38 59.1 -0.4
USRK Ussuriysk Ar. 21.26 19 P P 00 38 57.7 -1.8
comp=Z,3.9nm,0.7s,baz=180,slow=6.5,SNR=8.4
comp=Z,3.9nm,0.7s
BNX BinXian 21.73 9 ⇓P P 00 39 06.4 +2.0
BNX pmax pmax

comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 22.86 260 P P 00 39 19.0 +2.3
comp=Z,0.4nm,0.3s,baz=66,slow=9.0,SNR=1.1
comp=Z,0.4nm,0.3s
SBUM Sibu 23.97 207 P P 00 39 27.2 +0.2
GTA Gaotai 24.50 313 *e*P P 00 39 32.3 +0.5
GTA pmax pmax
comp=Z,6.0nm,1.1s
ERM Erimo 24.50 39 P P 00 39 29.9 -1.8
ERM IAmb IAmb 00 39 37.5
comp=Z,30nm,1.1s
JKA Kamikawa-asahi 25.60 35 P P 00 39 40.9 -0.8
JKA IAmb IAmb 00 39 50.2
comp=Z,15nm,1.0s
BKB Balikpapan 26.02 193 P P 00 39 45.4 -0.3
ULN Ulaanbaatar 26.60 336 P P 00 39 50.6 -0.2
ULN IAmb IAmb 00 39 50.8
comp=Z,4.1nm,0.6s
SONM Songino Array 26.82 335 P P 00 39 52.5 -0.3
SONM IAmb IAmb 00 39 52.9
comp=Z,5.9nm,0.8s
SONM Songino Array 26.82 335 P P 00 39 52.3 -0.5
comp=Z,6.2nm,0.7s,baz=152,slow=9.2,SNR=35
comp=Z,6.2nm,0.7s
WMQ Urumqi 34.58 313 *e*P P 00 41 03.0 +1.9
MTN Manton Dam 37.82 167 P P 00 41 28.5 -0.4
MTN IAmb IAmb 00 41 28.9
comp=Z,4.1nm,0.5s
MK31 Makanchi Array 39.23 315 P P 00 41 40.4 0.0
MK31 IAmb IAmb 00 41 43.6
comp=Z,4.2nm,0.9s
MKAR Makanchi Array 39.23 315 P P 00 41 40.5 +0.1
MKAR Makanchi Array 39.23 315 P P 00 41 40.0 -0.4
comp=Z,1.9nm,0.5s,baz=99,slow=10,SNR=28
MKAR PcP **PcP 00 43 48.0 -0.2**
comp=Z,1.1nm,0.6s,baz=66,slow=4.5,SNR=5.5
comp=Z,1.9nm,0.5s
MAKZ Makanchi 39.43 315 P P 00 41 42.2 +0.1
MAKZ IAmb IAmb 00 41 43.2
comp=Z,14nm,1.1s
KNRA Kununurra 40.17 171 P P 00 41 48.7 +0.3
KNRA IAmb IAmb 00 41 50.9
comp=Z,5.0nm,1.0s
ZAA0 Zalesovo Array 40.91 326 P P 00 41 52.9 -1.3
ZALV Zalesovo Beam 40.91 326 P P 00 41 53.0 -1.2
ZALV Zalesovo Beam 40.91 326 P P 00 41 52.7 -1.4
comp=Z,2.0nm,0.5s,baz=106,slow=8.5,SNR=14
ZALV PcP **PcP 00 43 52.2 -1.1**
comp=Z,0.7nm,0.4s,baz=134,slow=4.1,SNR=3.6
comp=Z,2.0nm,0.5s
FITZ Fitzroy Crossi 42.24 176 P P 00 42 05.5 +0.2
KURK Kurchatov 42.90 319 P P 00 42 10.0 -0.4
KURBB Kurchatov Arra 42.92 319 P P 00 42 10.1 -0.6
comp=Z,0.9nm,0.4s,baz=114,slow=8.4,SNR=12
KURBB PcP **PcP 00 43 59.1 -0.9**
comp=Z,0.5nm,0.5s,baz=117,slow=3.5,SNR=5.0
comp=Z,0.9nm,0.4s
COEN Coen 42.96 150 P P 00 42 13.2 +1.9
ARSB Arslanbob 44.48 305 P P 00 42 23.8 +0.3
WB0 Warramunga Arr 45.26 164 P P 00 42 30.5 +0.9
WB0 IAmb IAmb 00 42 31.2
comp=Z,7.4nm,0.8s
WRA Warramunga Arr 45.41 165 P P 00 42 31.8 +1.0
WRA Warramunga Arr 45.41 165 P P 00 42 31.6 +0.8
comp=Z,9.5nm,0.8s,baz=347,slow=8.8,SNR=54
comp=Z,9.5nm,0.8s
WB2 Warramunga Arr 45.41 165 P P 00 42 31.4 +0.6
WR0 Warramunga Arr 45.48 164 P P 00 42 32.5 +1.1
PSA00 Pilbara Seismi 45.68 184 P P 00 42 32.0 -0.9
PSA00 IAmb IAmb 00 42 32.7
comp=Z,3.0nm,0.7s
KKAR Karatay Array 46.51 307 P P 00 42 40.1 +0.8
SIMJ Simiganj 47.35 301 P P 00 42 46.5 +0.4
SIMJ IAmb IAmb 00 42 54.5
comp=Z,1.7nm,0.7s
KBL Kabul 47.37 295 P P 00 42 47.2 +0.8
KBL IAmb IAmb 00 42 48.3
comp=Z,5.2nm,0.8s
BVAR Borovoye Array 48.47 320 P P 00 42 53.6 -0.7
comp=Z,1.3nm,0.6s,baz=101,slow=7.6,SNR=11
BVAR PcP **PcP 00 44 19.1 -0.3**
comp=Z,1.8nm,0.5s,baz=110,slow=2.8,SNR=10
comp=Z,1.3nm,0.6s
BRVK Borovoye 48.54 320 P P 00 42 54.9 +0.1
BRVK IAmb IAmb 00 42 55.0
comp=Z,3.2nm,1.0s
AS31 Alice Springs 48.90 166 P P 00 42 59.4 +1.5
AS31 IAmb IAmb 00 43 01.2
comp=Z,1.8nm,0.6s
ASAR Alice Springs 48.90 166 P P 00 42 59.5 +1.5
comp=Z,3.3nm,0.6s,baz=343,slow=8.3,SNR=40
comp=Z,3.3nm,0.6s
NRIK Noril'sk 49.66 344 P P 00 43 01.7 -1.4
NRIK IAmb IAmb 00 43 02.0
comp=Z,4.3nm,0.8s
NRIK Noril'sk 49.66 344 P P 00 43 01.3 -1.8
comp=Z,2.4nm,0.5s,baz=119,slow=9.1,SNR=9.4
comp=Z,2.4nm,0.5s
CTAO Charters Tower 49.73 151 P P 00 43 06.0 +1.7
CTAO IAmb IAmb 00 43 08.2
comp=Z,5.2nm,1.1s
FORT Forrest 55.01 174 P P 00 43 44.1 +1.0
ARTI Arti 55.94 323 P P 00 43 48.6 -1.0
ARTI IAmb IAmb 00 43 54.6
comp=Z,3.2nm,1.0s
EIDS Eidsvold 56.50 149 P P 00 43 54.9 +0.9
EIDS IAmb IAmb 00 43 57.4
comp=Z,2.6nm,0.9s
BBOO Buckleboo 58.20 167 P P 00 44 06.5 +0.7
BBOO IAmb IAmb 00 44 25.5
comp=Z,5.5nm,1.1s
STKA Stephens Creek 58.71 161 P P 00 44 10.0 +0.7
STKA Stephens Creek 58.71 161 P P 00 44 10.1 +0.7
comp=Z,1.2nm,0.4s,baz=326,slow=5.3,SNR=5.3
comp=Z,1.2nm,0.4s
L16K Owhat River 63.16 31 P P 00 44 39.7 +0.5
L16K IAmb IAmb 00 44 43.0
comp=Z,2.4nm,1.1s
CAST Castle Rocks 66.44 29 P P 00 45 01.6 +1.0
CAST IAmb IAmb 00 45 10.4
comp=Z,3.6nm,1.2s
TOLK Toolik Lake Re 66.80 23 P P 00 45 03.0 +0.3
SKT Skwentna 66.89 31 P P 00 45 03.6 +0.2
SKT IAmb IAmb 00 45 13.4
comp=Z,2.8nm,1.2s
KTH Kantishna Hill 66.94 29 P P 00 45 04.7 +1.0
SUA Susitna One 67.34 31 P P 00 45 06.6 +0.2
SUA IAmb IAmb 00 45 08.7
comp=Z,5.0nm,0.9s
RND Reindeer 67.88 29 P P 00 45 09.8 +0.1
RND IAmb IAmb 00 45 10.9
comp=Z,4.6nm,1.0s
O22K Cooper Landing 68.00 32 P P 00 45 11.6 +1.2
ILAR Eielson Array 68.47 27 P P 00 45 11.4 -1.9
comp=Z,0.2nm,0.4s,baz=275,slow=5.8,SNR=4.8
comp=Z,0.2nm,0.4s
PWL Port Wells 68.60 32 P P 00 45 14.1 0.0
PWL IAmb IAmb 00 45 14.5
comp=Z,4.9nm,1.0s
DHY Denali Highway 68.60 29 P P 00 45 15.4 +1.1
DHY IAmb IAmb 00 45 32.9
comp=Z,1.8nm,0.7s
BMAR Burnt Mountain 68.85 24 P P 00 45 17.6 +1.9
SCM Sheep Creek Mo 68.87 31 P P 00 45 16.6 +0.7
SCM IAmb IAmb 00 45 29.7
comp=Z,4.4nm,1.1s
M24K Tolsona, Glenn 69.35 30 P P 00 45 18.6 -0.2
M24K IAmb IAmb 00 45 27.1
comp=Z,2.3nm,0.8s
KEV Kevo 69.38 338 P P 00 45 18.1 -0.7
FID Port Fidalgo 69.51 32 P P 00 45 20.3 +0.5
RAYN Ar Rayn 69.64 287 P P 00 45 21.7 +0.4
SPB2 Spitsbergen Ar 69.66 348 P P 00 45 19.7 -0.8
SPITS Spitsbergen Ar 69.67 348 P P 00 45 19.3 -1.2
comp=Z,6.1nm,0.7s,baz=37,slow=7.4,SNR=5.3
comp=Z,6.1nm,0.7s
D27M Malcolm River 69.73 22 P P 00 45 22.3 +1.2
E27K Coleen River 69.78 23 P P 00 45 22.3 +0.9
SCRK Sand Creek 69.88 28 P P 00 45 21.9 -0.3
ARCES ARCESS Array B 69.95 338 P P 00 45 21.3 -1.1
comp=Z,3.6nm,0.9s,baz=64,slow=5.5,SNR=6.8
comp=Z,3.6nm,0.9s
GLB Gilahina Butte 70.60 31 P P 00 45 26.7 +0.2
HMT Hamilton 70.67 32 P P 00 45 29.9 +3.0
BCAR Beaver Creek A 71.07 29 P P 00 45 30.3 +0.9
DAWY Dawson 71.80 27 P P 00 45 33.8 +0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY				IAmb	IAmb	00 45 35.1	
	comp=Z,2.0nm,0.7s						
CTGM	**Chitina Glacie**	**71.88**	**31**	P	**P**	**00 45 34.7**	**+0.3**
CTGM				IAmb	IAmb	00 45 35.9	
	comp=Z,4.5nm,0.9s						
FIA1	**FINESS Array S**	**72.04**	**330**	P	**P**	**00 45 34.5**	**-0.6**
FINES	**FINESS Array B**	**72.04**	**330**	P	**P**	**00 45 34.4**	**-0.7**
	comp=Z,2.5nm,0.4s,baz=55,slow=6.0,SNR=36						
	comp=Z,2.5nm,0.4s						
LOGN	**Logan Glacier**	**72.08**	**31**	P	**P**	**00 45 35.6**	**+0.1**
EPYK	**Eagle Plains**	**72.12**	**25**	P	**P**	**00 45 35.6**	**0.0**
EPYK				IAmb	IAmb	00 45 36.2	
	comp=Z,3.2nm,0.7s						
TABL	**Table Mountain**	**72.13**	**31**	P	**P**	**00 45 36.4**	**+0.4**
INK	**Inuvik**	**72.60**	**22**	P	**P**	**00 45 38.4**	**+0.1**
INK				IAmb	IAmb	00 45 39.3	
	comp=Z,3.3nm,0.8s						
F31M	**Tsiigehtchic**	**72.84**	**23**	P	**P**	**00 45 39.5**	**-0.3**
F31M				IAmb	IAmb	00 45 40.1	
	comp=Z,3.0nm,0.6s						
G31M	**Satah River**	**72.84**	**24**	P	**P**	**00 45 39.3**	**-0.4**
M30M	**Minto, Yukon**	**73.40**	**28**	P	**P**	**00 45 44.6**	**+1.3**
A36M	**Sachs Harbour**	**73.60**	**17**	P	**P**	**00 45 43.8**	**-0.4**
AKASG	**Malin Array Be**	**73.70**	**319**	P	**P**	**00 45 43.9**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=62,slow=6.6,SNR=3.3						
	comp=Z,0.3nm,0.4s						
P29M	**Windy Craggy**	**74.01**	**31**	P	**P**	**00 45 48.3**	**+1.4**
P29M				IAmb	IAmb	00 46 00.7	
	comp=Z,3.2nm,0.9s						
BRTR	**Keskin Array B**	**74.22**	**307**	P	**P**	**00 45 49.0**	**+0.4**
BRTR	**Keskin Array B**	**74.22**	**307**	P	**P**	**00 45 48.4**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=100,slow=6.8,SNR=6.0						
	comp=Z,1.0nm,0.8s						
EUNU	**Eureka**	**74.67**	**5**	P	**P**	**00 45 50.5**	**+0.1**
WHY	**Whitehorse**	**74.96**	**30**	P	**P**	**00 45 53.2**	**+0.8**
WHY				IAmb	IAmb	00 45 53.5	
	comp=Z,3.1nm,1.0s						
PABE	**Paberze**	**75.07**	**324**	P	**P**	**00 45 53.0**	**0.0**
PABE				IAmb	IAmb	00 46 11.1	
	comp=Z,7.4nm,0.8s						
CRAG	**Craig**	**77.93**	**34**	P	**P**	**00 46 10.1**	**+1.0**
ELL	**Elmali**	**77.99**	**305**	P	**P**	**00 46 10.7**	**+0.7**
HFS	**Hagfors**	**78.14**	**331**	P	**P**	**00 46 08.3**	**-1.9**
	comp=Z,3.0nm,0.7s,baz=76,slow=6.3,SNR=8.7						
	comp=Z,3.0nm,0.7s						
RES	**Resolute Bay**	**78.32**	**10**	P	**P**	**00 46 10.4**	**-0.6**
NC405	**NORSAR Array S**	**78.52**	**332**	P	**P**	**00 46 11.9**	**-0.4**
NC303	**NORSAR Array S**	**78.61**	**333**	P	**P**	**00 46 11.9**	**-0.9**
NC303				IAmb	IAmb	00 46 23.6	
	comp=Z,7.7nm,1.1s						
NB201	**NORSAR Array S**	**78.73**	**332**	P	**P**	**00 46 12.8**	**-0.7**
NB2	**NORSAR Subarra**	**78.77**	**333**	P	**P**	**00 46 12.9**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=56,slow=5.6						
NOA	**NORSAR Array B**	**78.77**	**333**	P	**P**	**00 46 12.9**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=53,slow=5.7,SNR=8.9						
	comp=Z,1.5nm,0.6s						
NC204	**NORSAR Array S**	**78.84**	**333**	P	**P**	**00 46 13.5**	**-0.6**
NC204				IAmb	IAmb	00 46 15.6	
	comp=Z,5.5nm,0.9s						
NAO01	**NORSAR Array S**	**79.00**	**332**	P	**P**	**00 46 13.7**	**-1.3**
GRNB	**Grenville Isla**	**80.30**	**35**	P	**P**	**00 46 22.4**	**+0.2**
GRNB				IAmb	IAmb	00 46 40.4	
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**82.32**	**23**	P	**P**	**00 46 32.1**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=342,slow=3.6,SNR=8.3						
	comp=Z,1.7nm,0.7s						
GERES	**GERESS Array B**	**83.63**	**321**	P	**P**	**00 46 39.3**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=57,slow=3.6,SNR=4.3						
	comp=Z,1.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**88.26**	**332**	P	**P**	**00 47 01.0**	**-1.3**
	comp=Z,1.1nm,0.7s,baz=53,slow=2.7,SNR=4.1						
	comp=Z,1.1nm,0.7s						
KEST	**Kesra**	**93.23**	**312**	P	**P**	**00 47 25.3**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=60,slow=4.1,SNR=1.5						
	comp=Z,1.2nm,0.7s						
NVAR	**Mina Array Bea**	**95.40**	**44**	P	**P**	**00 47 34.0**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=289,slow=5.6,SNR=2.9						
	comp=Z,0.5nm,0.7s						

*SJA **16** 00:51:12.5±0.5, 23.°67S×68.°80W, h105km±2km, ML3.2, MW3.3*
*GUC **16** 00:51:13.4±0.7, 23.°70S×68.°79W, h103km±4km, ML3.5*
ISC 16 00:51:12.9±1.4**, 23.°68S**±0.°03×**68.°76W**±0.°04,
h108km±11km**, n26**, σ1§**35**/41**, 6C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.81**	**305**	⇑*e*P	**Pn**	**00 51 32.0**	**-0.3**
PB15				*e*S	**Sn**	**00 51 46.1**	**-0.8**
PB15	**IPOC Station P**	**0.81**	**305**	*e*P	**Pn**	**00 51 31.9**	**-0.4**
PB15				*e*S	**Sn**	**00 51 46.5**	**-0.3**
AF01	**San Pedro de A**	**0.90**	**36**	*e*P	**Pn**	**00 51 33.2**	**-0.1**
AF01				*e*S	**Sn**	**00 51 48.2**	**-0.4**
AF01				IAML		00 51 49.0	
	comp=N,2μm,0.4s						
AF01	**San Pedro de A**	**0.90**	**36**	*e*P	**Pn**	**00 51 33.7**	**+0.4**
AF01				*e*S	**Sn**	**00 51 48.9**	**+0.3**
AF01				IAML		00 51 49.1	
	comp=Z,512nm,0.1s						
PB06	**IPOC Station P**	**1.23**	**322**	⇑*e*P	**Pn**	**00 51 36.6**	**0.0**
PB06				*e*S	**Sn**	**00 51 54.2**	**-0.3**
PB06				IAML		00 51 55.2	
	comp=E,2μm,0.1s						
PB06	**IPOC Station P**	**1.23**	**322**	*e*P	**Pn**	**00 51 36.6**	**0.0**
PB06				*e*S	**Sn**	**00 51 54.3**	**-0.2**
PB06				IAML		00 51 56.9	
	comp=Z,825nm,0.1s						
GO02	**Mina Guanaco**	**1.66**	**207**	⇑*e*P	**Pn**	**00 51 42.2**	**+0.3**
GO02				*e*S	**Sn**	**00 52 04.2**	**+0.4**
GO02				IAML		00 52 08.3	
	comp=N,754nm,0.1s						
GO02	**Mina Guanaco**	**1.66**	**207**	*e*P	**Pn**	**00 51 42.2**	**+0.3**
GO02				*e*S	**Sn**	**00 52 04.6**	**+0.7**
PB14	**IPOC Station P**	**1.77**	**238**	⇑*e*P	**Pn**	**00 51 43.2**	**-0.1**
PB14				*e*S	**Sn**	**00 52 06.1**	**-0.3**
PB14	**IPOC Station P**	**1.77**	**238**	*e*P	**Pn**	**00 51 43.5**	**+0.2**
PB14				*e*S	**Sn**	**00 52 06.3**	**-0.1**
PB14				IAML		00 52 12.7	
	comp=Z,138nm,0.2s						
PB04	**IPOC Station P**	**1.86**	**316**	⇑*e*P	**Pn**	**00 51 44.1**	**-0.1**
PB04				*e*S	**Sn**	**00 52 07.8**	**-0.2**
PB04				IAML		00 52 12.2	
	comp=N,307nm,0.2s						
PB04	**IPOC Station P**	**1.86**	**316**	*e*P	**Pn**	**00 51 44.1**	**-0.1**
PB04				*e*S	**Sn**	**00 52 10.4**	**+2.4**
PB04				IAML		00 52 12.7	
	comp=Z,264nm,0.1s						
PB09	**IPOC Station P**	**1.93**	**346**	⇑*e*P	**Pn**	**00 51 46.2**	**+1.0**
PB09				*e*S	**Sn**	**00 52 10.9**	**+1.3**
PB09	**IPOC Station P**	**1.93**	**346**	*e*P	**Pn**	**00 51 46.3**	**+1.2**
PB09				*e*S	**Sn**	**00 52 11.2**	**+1.5**
PB09				IAML		00 52 14.2	
	comp=Z,134nm,0.3s						
PB01	**IPOC Station P**	**2.71**	**345**	*e*P	**Pn**	**00 51 55.6**	**+0.4**
PB01				IAML		00 52 37.8	
	comp=N,149nm,0.3s						
PB01	**IPOC Station P**	**2.71**	**345**	*e*P	**Pn**	**00 51 55.6**	**+0.4**
PB01				*e*S	**Sn**	**00 52 23.5**	**-4.1**
PB01				IAML		00 52 37.3	
	comp=Z,103nm,0.2s						
AC01	**Pan de Azucar**	**2.97**	**214**	*e*P	**Pn**	**00 51 58.5**	**0.0**
AC01	**Pan de Azucar**	**2.97**	**214**	*e*P	**Pn**	**00 51 57.6**	**-0.9**
AC01				*e*S	Sn	00 52 20.6	-13
AC01				IAML		00 52 46.7	
	comp=Z,64nm,0.2s						
SLA	**San Lorenzo**	**3.14**	**110**	*e*P	**Pn**	**00 52 04.2**	**+3.2**
YJA	**Yavi**	**3.34**	**64**	*e*P	**Pn**	**00 52 01.6**	**-2.2**
TA01	**Diego Aracena**	**3.37**	**337**	*e*P	**Pn**	**00 52 04.3**	**+0.5**
TA01				IAML		00 53 01.4	
	comp=Z,37nm,0.5s						
AZAP	**Zapla**	**3.42**	**100**	*e*P	**Pn**	**00 52 06.6**	**+1.9**
AZAP				IAML		00 53 25.5	
	comp=Z,17nm,2.3s						
FSA	**Cafayete**	**3.49**	**134**	*e*P	**Pn**	**00 52 02.0**	**-3.6**
PB08	**IPOC Station P**	**3.54**	**354**	*e*P	**Pn**	**00 52 07.1**	**+0.6**
PB08				*e*S	Sn	00 52 37.1	-11
PB08				IAML		00 53 19.4	
	comp=Z,15nm,0.4s						
AC06	**Mina Casimiro**	**3.94**	**201**	*e*P	**Pn**	**00 52 12.2**	**+0.9**
PB11	**IPOC Station P**	**3.99**	**348**	*e*P	**Pn**	**00 52 11.7**	**-0.6**
PB11				*e*S	Sn	00 53 11.7	+13
PB11				IAML		00 53 17.4	
	comp=Z,22nm,0.9s						

*NEIC **16** 00:56:10.7±2.5, 65.°54N×0.°03×167.°2W±0.°2, h10km±2km, ML3.5/58, Error ellipse: s-maj=13.7km s-min=5.0km az=282.0*
ISC 16 00:56:10.6±1.1**, 65.°53N**±0.°04×**166.°95W**±0.°03**, h4**km±10km**, n68**, σ1§**33**/66**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F14K	**Arctic Creek**	**0.26**	**101**	P	**Pg**	**00 56 15.7**	**0.0**
	baz=298						
F14K				S	**Sg**	**00 56 18.7**	**-0.5**
	baz=298						
TNA	**Tin City**	**0.41**	**275**	P	**Pg**	**00 56 18.6**	**+0.2**
	baz=85						
TNA				S	**Sn**	**00 56 26.8**	**+3.0**
	baz=85						
F15K	**North Star Dit**	**0.97**	**78**	Pn	**Pb**	**00 56 28.9**	**-1.1**
F15K				IAML		00 56 45.8	
	comp=N,1μm,0.6s						
F15K				IAML		00 56 46.3	
	comp=E,1μm,0.4s						
F15K	**North Star Dit**	**0.97**	**78**	P	**Pb**	**00 56 28.2**	**-1.8**
	baz=264						
F15K				S	**Sb**	**00 56 40.3**	**-2.9**
	baz=264						
ANM	**Nome**	**1.17**	**145**	Pn	**Pn**	**00 56 33.3**	**-0.5**
ANM				Sn	**Sb**	**00 56 49.7**	**+0.7**
ANM	**Nome**	**1.17**	**145**	P	**Pn**	**00 56 32.9**	**-0.9**
	baz=329						
G15K	**Niukluk**	**1.34**	**112**	P	**Pn**	**00 56 35.0**	**-1.0**
	baz=298						
G15K				S	**Sn**	**00 56 53.5**	**-0.7**
	baz=298						
G16K	**Koyuk River**	**1.92**	**92**		**Pn**	**00 56 45.6**	**+1.6**
G16K				Sn	**Sn**	**00 57 09.6**	**+1.0**
G16K	**Koyuk River**	**1.92**	**92**	P	**Pn**	**00 56 45.4**	**+1.3**
	baz=278						
G16K				S	**Sn**	**00 57 10.0**	**+1.4**
	baz=278						
H16K	**Elim**	**2.19**	**112**	P	**Pn**	**00 56 49.7**	**+2.1**
	baz=298						
H16K				S	**Sb**	**00 57 19.2**	**+1.2**
	baz=298						
F17K	**Baldwin Pennin**	**2.51**	**66**	Pn	**Pn**	**00 56 53.0**	**+1.0**
F17K				IAML		00 57 31.2	
	comp=E,143nm,0.7s						
F17K	**Baldwin Pennin**	**2.51**	**66**	P	**Pn**	**00 56 53.0**	**+1.0**
	baz=252						
E17K	**Hotham Inlet**	**2.59**	**51**	P	**Pn**	**00 56 54.9**	**+1.6**
	baz=236						
E17K				S	**Sn**	**00 57 27.8**	**+2.7**
	baz=236						
G17K	**Kiwalik Mounta**	**2.62**	**88**	P	**Pn**	**00 56 54.5**	**+0.8**
	baz=275						
G17K				S	**Sb**	**00 57 30.1**	**-0.6**
	baz=275						
D17K	**Noatak River**	**2.67**	**34**	P	**Pn**	**00 56 54.9**	**+0.6**
	baz=217						
GAMB	**Gambell**	**2.70**	**232**	S	**Sg**	**00 57 34.3**	**-2.8**
	baz=46						
C16K	**Lisburne Hills**	**2.83**	**12**		**Pn**	**00 56 55.8**	**-0.8**
C16K				IAML		00 57 46.7	
	comp=E,121nm,0.9s						
C16K				IAML		00 57 50.9	
	comp=N,109nm,1.1s						
C16K	**Lisburne Hills**	**2.83**	**12**	P	**Pn**	**00 56 56.0**	**-0.6**
	baz=193						
RDOG	**Red Dog Mine**	**3.00**	**30**	Pn	**Pn**	**00 56 58.5**	**-0.4**
RDOG	**Red Dog Mine**	**3.00**	**30**	P	**Pn**	**00 56 59.3**	**+0.4**
	baz=214						
H17K	**Granite Mounta**	**3.02**	**98**		**Pn**	**00 57 00.5**	**+1.4**
H17K				IAML		00 57 51.0	
	comp=N,139nm,0.8s						
H17K				IAML		00 57 54.1	
	comp=E,114nm,1.0s						
I17K	**Unalakleet**	**3.15**	**119**		**Pn**	**00 57 02.7**	**+1.8**
I17K				IAML		00 57 54.8	
	comp=N,108nm,1.0s						
I17K				IAML		00 57 54.9	
	comp=E,107nm,0.9s						
J14K	**Nanvaranak Lak**	**3.16**	**150**		**Pn**	**00 57 02.2**	**+1.2**
J14K				IAML		00 58 05.8	
	comp=E,92nm,0.9s						
J14K				IAML		00 58 09.9	
	comp=N,86nm,1.0s						
J14K	**Nanvaranak Lak**	**3.16**	**150**	P	**Pn**	**00 57 01.9**	**+0.9**
	baz=334						
E18K	**Tukpahlearik C**	**3.18**	**50**	Pn	**Pn**	**00 57 02.9**	**+1.6**
E18K				IAML		00 57 57.2	
	comp=N,109nm,0.8s						
C17K	**DeLong Mountai**	**3.31**	**25**	P	**Pn**	**00 57 04.3**	**+1.1**
	baz=208						
G18K	**Tagagawik**	**3.45**	**80**	IAML		00 57 59.4	
	comp=N,75nm,0.9s						
J16K	**Anvik River**	**3.56**	**126**	P	**Pn**	**00 57 06.8**	**+0.3**
	baz=313						
H18K	**Honhosa River**	**3.62**	**92**	P	**Pn**	**00 57 09.1**	**+1.7**
	baz=281						
K13K	**Kusilvak Mount**	**3.75**	**163**	IAML		00 58 27.7	
	comp=E,97nm,0.8s						
K13K				IAML		00 58 32.4	
	comp=N,82nm,1.0s						
K13K	**Kusilvak Mount**	**3.75**	**163**	P	**Pn**	**00 57 10.4**	**+1.3**
	baz=346						
F19K	**Shaleruckik Mo**	**3.95**	**66**	IAML		00 58 21.9	
	comp=E,56nm,1.1s						
J17K	**VABM Dome**	**4.02**	**118**	IAML		00 58 29.3	
	comp=E,50nm,0.9s						
J17K				IAML		00 58 34.8	
	comp=N,49nm,1.1s						
J17K	**VABM Dome**	**4.02**	**118**	P	**Pn**	**00 57 13.8**	**+0.9**
	baz=307						
K15K	**Wolf Creek Mou**	**4.03**	**141**	IAML		00 58 28.6	
	comp=E,63nm,0.7s						
B18K	**Kokolik River**	**4.33**	**25**	P	**Pn**	**00 57 18.8**	**+1.7**
	baz=210						
E19K	**Redstone River**	**4.35**	**59**	IAML		00 58 29.0	
	comp=E,43nm,0.8s						
E19K				IAML		00 58 49.4	
	comp=N,44nm,0.8s						
H19K	**Roundabout Mou**	**4.37**	**85**	IAML		00 58 37.4	
	comp=N,53nm,1.1s						
L15K	**Ungalak Mounta**	**4.57**	**145**	P	**Pn**	**00 57 21.7**	**+1.4**
	baz=331						
D19K	**Kuna River**	**4.57**	**45**	P	**Pn**	**00 57 20.6**	**+0.2**
	baz=234						
L14K	**Kuka Creek**	**4.62**	**154**	IAML		00 58 56.1	
	comp=N,48nm,1.1s						
L14K	**Kuka Creek**	**4.62**	**154**	P	**Pn**	**00 57 22.2**	**+1.2**
	baz=338						
K17K	**Iditarod**	**4.72**	**123**	IAML		00 58 48.9	
	comp=E,34nm,1.0s						
K17K				IAML		00 58 54.3	
	comp=N,36nm,1.1s						
K17K	**Iditarod**	**4.72**	**123**	P	**Pn**	**00 57 23.4**	**+0.9**
	baz=311						
F20K	**Avaraart Lake**	**4.78**	**66**	IAML		00 58 44.9	
	comp=N,31nm,0.9s						
J18K	**Innoko River**	**4.88**	**110**	IAML		00 58 49.6	
	comp=E,20nm,0.9s						
J18K				IAML		00 58 50.0	
	comp=N,36nm,0.9s						
J18K	**Innoko River**	**4.88**	**110**	P	**Pn**	**00 57 25.9**	**+1.1**
	baz=300						
E20K	**Nigu River**	**5.05**	**52**	P	**Pn**	**00 57 27.8**	**+0.8**
	baz=243						
L16K	**Owhat River**	**5.08**	**136**	P	**Pn**	**00 57 28.4**	**+1.1**
	baz=323						
J19K	**Poorman**	**5.09**	**102**	IAML		00 58 56.5	
	comp=E,31nm,1.2s						
J19K				IAML		00 59 06.3	
	comp=N,32nm,1.1s						
L17K	**Donlin**	**5.12**	**128**	P	**Pn**	**00 57 29.0**	**+1.0**
	baz=316						
D20K	**Etivluk River**	**5.15**	**47**	P	**Pn**	**00 57 28.7**	**+0.3**
	baz=237						
M14K	**Bethel**	**5.30**	**152**	P	**Pn**	**00 57 31.9**	**+1.6**
	baz=338						
M13K	**Dall Lake**	**5.39**	**161**	P	**Pn**	**00 57 33.6**	**+2.0**
	baz=344						
L18K	**Granite Mounta**	**5.62**	**121**	P	**Pn**	**00 57 36.3**	**+1.5**
	baz=312						
M15K	**Kasigluk River**	**5.62**	**147**	P	**Pn**	**00 57 36.1**	**+1.3**
	baz=333						
J20K	**Nowinta River**	**5.63**	**98**	P	**Pn**	**00 57 36.6**	**+1.7**
	baz=290						
B20K	**Meade River**	**5.83**	**35**	P	**Pn**	**00 57 38.5**	**+0.9**
	baz=224						
E21K	**Killik River**	**5.87**	**54**	P	**Pn**	**00 57 39.2**	**+1.0**
	baz=247						
C21K	**Knifeblade Rid**	**5.94**	**47**	P	**Pn**	**00 57 39.6**	**+0.3**
	baz=238						
B21K	**Ikpikpuk River**	**6.25**	**43**	P	**Pn**	**00 57 44.0**	**+0.5**
	baz=235						
L19K	**White Mountain**	**6.31**	**117**	P	**Pn**	**00 57 45.1**	**+0.8**
	baz=308						
M18K	**Stony River**	**6.41**	**124**	P	**Pn**	**00 57 46.7**	**+1.0**
	baz=315						
D22K	**Ayikyak River**	**6.48**	**52**	P	**Pn**	**00 57 47.8**	**+1.2**
	baz=246						
L20K	**Farewell, AK**	**6.50**	**112**	P	**Pn**	**00 57 47.9**	**+0.9**
	baz=304						
M19K	**Big River Lodg**	**6.65**	**117**	P	**Pn**	**00 57 50.1**	**+1.1**
	baz=309						
CAST	**Castle Rocks**	**6.76**	**101**	P	**Pn**	**00 57 51.3**	**+0.8**
	baz=295						
B22K	**Teshekpuk Lake**	**7.01**	**40**	P	**Pn**	**00 57 54.1**	**+0.3**
	baz=233						

*NERS **16** 01:05:28.0, 65.°46N×166.°37W, h10km, MPV4.5*
*AEIC **16** 01:05:30.2±2.1, 65.°58N±0.°03×166.°81W±0.°08, h9km±4km, ML4.6, mb4.9/69(NEIC), ML4.6/64(NEIC), Mwr4.6/25(NEIC), Error ellipse: s-maj=4.9km s-min=4.4km az=93.0*
*IDC **16** 01:05:31.0±0.5, 65.°71N×167.°13W, h0km, mb4.4/27, mbtmp4.4/33, ML3.8/5, Error ellipse: s-maj=14.6km s-min=8.8km az=10.0*
*NEIC **16** 01:05:31.5±2.0, 65.°60N±0.°02×166.°78W±0.°08, h10km±1km, Error ellipse: s-maj=6.0km s-min=3.6km az=92.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}4.29; $M_{\theta\theta}$2.41; $M_{\phi\phi}$-6.71; $M_{r\theta}$1.79; $M_{\theta\phi}$-5.95; $M_{\phi r}$-0.43; Fault plane solution: $M_0$8.57000×10^{15} NP1: ϕ_s167.30000°, δ63.55000°, λ26.75000°. NP2: ϕ_s64.64000°, δ66.24000°, λ150.87000°. Principal axes: T 6.6991, Plg37.0000°, Azm25.0000°; N 2.9582, Plg53.0000°, Azm209.0000°; P -9.6573, Plg2.0000°, Azm116.0000°;*
*MOS **16** 01:05:31.6±1.2, 65.°60N×166.°80W, h23km, mb5.1/42 Error ellipse: s-maj=12.0km s-min=5.8km az=101.7*
*NEIC **16** 01:05:31.4, 65.°62N×167.°03W, h24km*
*BGR **16** 01:05:38.1, 65.°89N×169.°75W, h11km±2km, mb4.5*
ISC 16 01:05:31.0±0.5**, 65.°58N**±0.°03×**166.°79W**±0.°02**, h9**km±3km**,
h10km**:pP-P, n456**, σ1§**51**/453**, mb4.9**/144**, 14C-22D,
Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F14K	**Arctic Creek**	**0.22**	**118**		**Pg**	**01 05 34.7**	**-0.8**
F14K					**Sg**	**01 05 37.6**	**-0.8**
TNA	**Tin City**	**0.47**	**269**		**Pg**	**01 05 39.7**	**-0.5**
TNA					**Sg**	**01 05 46.6**	**+0.2**
TNA	**Tin City**	**0.47**	**269**	P	**Pg**	**01 05 40.2**	**0.0**
	baz=92						
TNA				S	**Sg**	**01 05 46.6**	**+0.2**
	baz=92						
F15K	**North Star Dit**	**0.90**	**81**		**Pg**	**01 05 47.2**	**-1.1**
F15K					**Sg**	**01 05 58.8**	**-1.1**
F15K	**North Star Dit**	**0.90**	**81**	IAML		01 06 02.9	
	comp=N,17μm,0.7s						
ANM	**Nome**	**1.18**	**149**		**Pb**	**01 05 52.0**	**-1.5**
ANM				Sg	**Sb**	**01 06 07.5**	**-1.4**
ANM				IAML		01 06 13.2	
	comp=E,10μm,1.3s						
ANM	**Nome**	**1.18**	**149**	P	**Pb**	**01 05 52.4**	**-1.1**
	baz=329						
ANM				S	**Sb**	**01 06 07.7**	**-1.1**
	baz=329						
ANM	**Nome**	**1.18**	**149**	P	**Pb**	**01 05 52.0**	**-1.5**
ANM						01 06 07.5	
G15K	**Niukluk**	**1.30**	**116**		**Pn**	**01 05 54.1**	**-1.1**
G15K					**Sb**	**01 06 12.4**	**+0.3**
G16K	**Koyuk River**	**1.86**	**94**		**Sb**	**01 06 28.9**	**+0.5**
G16K	**Koyuk River**	**1.86**	**94**		**Pn**	**01 06 01.6**	**-1.3**
G16K	**Koyuk River**	**1.86**	**94**	IAML		01 06 30.8	
	comp=E,5μm,0.7s						
G16K				IAML		01 06 33.3	
	comp=N,4μm,0.7s						
H16K	**Elim**	**2.14**	**114**		**Pn**	**01 06 05.7**	**-1.2**
H16K					**Sb**	**01 06 35.3**	**-1.2**
H16K	**Elim**	**2.14**	**114**	P	**Pn**	**01 06 07.5**	**+0.7**
	baz=297						
F17K	**Baldwin Pennin**	**2.42**	**66**		**Pn**	**01 06 10.8**	**+0.1**
F17K				IAML		01 06 53.5	
	comp=N,3μm,1.3s						
F17K	**Baldwin Pennin**	**2.42**	**66**	P	**Pn**	**01 06 11.4**	**+0.7**
	baz=251						
E17K	**Hotham Inlet**	**2.51**	**51**		**Pn**	**01 06 11.3**	**-0.6**
E17K					**Sn**	**01 06 41.2**	**-1.3**
E17K					**Sb**	**01 06 44.9**	**-2.2**
E17K	**Hotham Inlet**	**2.51**	**51**	P	**Pn**	**01 06 10.8**	**-1.0**
	baz=235						
E17K				S	**Sn**	**01 06 41.2**	**-1.3**
	baz=235						
G17K	**Kiwalik Mounta**	**2.56**	**89**		**Pn**	**01 06 11.2**	**-1.3**
G17K					**Sn**	**01 06 44.8**	**+1.1**
D17K	**Noatak River**	**2.59**	**33**		**Pn**	**01 06 11.7**	**-1.3**
D17K	**Noatak River**	**2.59**	**33**	P	**Pn**	**01 06 12.0**	**-1.0**
	baz=216						
C16K	**Lisburne Hills**	**2.77**	**11**		**Pn**	**01 06 14.9**	**-0.5**
C16K				IAML		01 07 13.3	
	comp=N,3μm,1.1s						
C16K				IAML		01 07 15.2	
	comp=E,3μm,1.3s						
GAMB	**Gambell**	**2.78**	**232**		**Pn**	**01 06 14.3**	**-1.2**
GAMB					**Sn**	**01 06 47.4**	**-1.7**
GAMB	**Gambell**	**2.78**	**232**	P	**Pn**	**01 06 14.2**	**-1.4**
	baz=48						
GAMB				S	**Sn**	**01 06 47.4**	**-1.7**
	baz=48						
RDOG	**Red Dog Mine**	**2.92**	**30**	Pn	**Pn**	**01 06 17.0**	**-0.6**
RDOG	**Red Dog Mine**	**2.92**	**30**		**Sn**	**01 06 50.6**	**-2.1**
RDOG	**Red Dog Mine**	**2.92**	**30**	IAML		01 07 18.5	
	comp=E,2μm,1.4s						
RDOG	**Red Dog Mine**	**2.92**	**30**	P	**Pn**	**01 06 17.6**	**0.0**
	baz=213						
RDOG				S	**Sn**	**01 06 50.6**	**-2.1**
	baz=213						
PVDR	**Provideniya**	**2.96**	**250**	*e*P	**Pn**	**01 06 18.0**	**-0.1**
PVDR				*e*Pg	**Pb**	**01 06 24.5**	**+0

comp=N,846nm,1.4s
F19K Shaleruckik Mo 3.87 67 Pn 01 06 29.9 -0.5
J17K VABM Dome 3.99 120 Pn 01 06 32.7 +0.5
J17K VABM Dome 3.99 120 IAML 01 07 48.4
comp=E,855nm,0.9s
J17K IAML 01 07 55.4
comp=N,844nm,1.4s
G19K Purcell Mounta 4.03 77 Pn 01 06 31.2 -1.5
K15K Wolf Creek Mou 4.03 142 Pn 01 06 32.8 0.0
K15K IAML 01 07 43.4
comp=N,1μm,1.0s
K15K IAML 01 07 47.1
comp=E,1μm,0.7s
B18K Kokolik River 4.26 25 Pn 01 06 36.9 +1.0
E19K Redstone River 4.26 59 Pn 01 06 36.2 +0.2
E19K Redstone River 4.26 59 IAML 01 07 52.0
comp=E,607nm,0.8s
E19K IAML 01 07 57.5
comp=N,866nm,1.4s
H19K Roundabout Mou 4.30 86 Pn 01 06 35.9 -0.5
H19K Roundabout Mou 4.30 86 IAML 01 07 53.7
comp=E,979nm,1.5s
D19K Kuna River 4.49 45 Pn 01 06 39.4 +0.3
D19K Kuna River 4.49 45 IAML 01 08 07.7
comp=N,583nm,1.0s
D19K IAML 01 08 09.1
comp=E,579nm,1.3s
L15K Ungalak Mounta 4.57 146 Pn 01 06 40.3 +0.1
L14K Kuka Creek 4.63 155 Pn 01 06 41.2 +0.2
K17K Iditarod 4.70 124 Pn 01 06 41.9 0.0
K17K Iditarod 4.70 124 IAML 01 08 05.7
comp=N,575nm,1.0s
F20K Avaraart Lake 4.70 67 Pn 01 06 41.5 -0.4
F20K Avaraart Lake 4.70 67 IAML 01 08 07.2
comp=N,422nm,1.5s
J18K Innoko River 4.84 111 Pn 01 06 44.1 +0.2
J18K Innoko River 4.84 111 IAML 01 08 08.1
comp=E,367nm,1.3s
J18K IAML 01 08 14.3
comp=N,350nm,1.0s
H20K Anotleneega Mo 4.95 86 Pn 01 06 45.3 -0.2
E20K Nigu River 4.96 52 Pn 01 06 46.0 +0.4
J19K Poorman 5.03 103 Pn 01 06 47.0 +0.4
J19K Poorman 5.03 103 IAML 01 08 20.7
comp=N,417nm,1.4s
J19K IAML 01 08 26.7
comp=E,402nm,1.4s
D20K Etivluk River 5.06 47 Pn 01 06 47.2 +0.3
L16K Owhat River 5.07 137 Pn **Pn 01 06 46.9 0.0**
L16K IAML 01 08 16.7
comp=E,309nm,1.5s
L16K Owhat River 5.07 137 P **Pn 01 06 48.4 +1.5**
baz=323
L17K Donlin 5.10 129 Pn 01 06 47.9 +0.4
A19K Wainwright 5.12 22 Pn 01 06 48.9 +1.1
M11K Mekoryuk 5.22 177 Pn **Pn 01 06 49.2 +0.1**
I20K Naaghedeneel 5.25 93 Pn 01 06 50.2 +0.8
M14K Bethel 5.31 153 Pn **Pn 01 06 50.9 +0.5**
M14K Bethel 5.31 153 P **Pn 01 06 50.9 +0.5**
baz=338
IMAR Indian Mountai 5.39 80 Pn 01 06 52.5 +1.1
TTA Tatalina 5.40 115 Pn **Pn 01 06 50.5 -1.1**
TTA Tatalina 5.40 115 P **Pn 01 06 52.3 +0.7**
baz=304
TTA Tatalina 5.40 115 P **Pn 01 06 50.5 -1.1**
M13K Dall Lake 5.41 162 Pn 01 06 52.4 +0.7
G21K Allakaket 5.49 74 Pn **Pn 01 06 53.6 +0.8**
J20K Nowinta River 5.57 99 Pn 01 06 54.4 +0.6
L18K Granite Mounta 5.59 122 Pn 01 06 54.8 +0.7
F21K Alatna River 5.59 67 Pn 01 06 54.9 +0.7
M15K Kasigluk River 5.62 148 Pn 01 06 54.8 +0.1
B20K Meade River 5.75 35 Pn 01 06 56.3 0.0
M16K Timber Creek 5.77 139 Pn 01 06 57.3 +0.6
E21K Killik River 5.78 54 Pn 01 06 58.0 +1.1
C21K Knifeblade Rid 5.86 47 Pn 01 06 58.7 +0.9
M17K Holitna River 5.92 131 Pn 01 06 59.6 +0.9
N14K Kuskokwak Cree 6.14 155 Pn 01 07 01.7 +0.1
B21K Ikpikpuk River 6.17 43 Pn 01 07 02.7 +0.6
N15K Kwethluk River 6.23 147 Pn 01 07 03.4 +0.5
L19K White Mountain 6.27 117 Pn 01 07 04.2 +0.6
N16K Nishlik Lake 6.28 141 Pn 01 07 04.1 +0.4
D22K Ayikyak River 6.39 52 Pn 01 07 06.5 +1.3
E22K Anaktuvuk Pass 6.43 60 Pn 01 07 07.2 +1.4
L20K Farewell, AK 6.46 113 Pn 01 07 06.7 +0.5
M19K Big River Lodg 6.62 118 Pn 01 07 09.2 +0.9
ANDR Anadyr' 6.67 270 *e*P **Pn 01 07 11.2 +2.2**
ANDR *e*Pg **Pg 01 07 36.0 -2.7**
ANDR Pgmax 01 07 42.8
comp=E,450nm,0.9s
ANDR *e* 01 08 47.9
ANDR *e*Sg **Sg 01 09 01.7 -3.3**
ANDR Sgmax 01 09 13.2
comp=E,3μm,0.8s
ANDR Anadyr' 6.67 270 *e*P **Pn 01 07 11.2 +2.2**
N17K Nushagak Hills 6.68 135 Pn 01 07 10.1 +1.0
CAST Castle Rocks 6.71 102 Pn **Pn 01 07 10.0 +0.5**
MLY Manley 6.75 87 Pn **Pn 01 07 10.8 +0.7**
SVW2 Sparrevohn 6.75 127 Pn 01 07 12.0 +1.9
O14K Tigyukauivet M 6.84 155 Pn 01 07 11.6 +0.2
A21K Barrow 6.87 28 Pn 01 07 11.7 +0.1
BPAW Bear Paw Mtn. 6.90 95 Pn **Pn 01 07 12.8 +0.7**
PPLA Purkeypile 6.91 106 Pn 01 07 12.7 +0.3
B22K Teshekpuk Lake 6.93 40 Pn 01 07 12.0 -0.5
N18K Kilae Creek 6.96 130 Pn 01 07 14.1 +1.1
A22K Sinclair Lake 6.98 33 Pn 01 07 12.7 -0.4
M20K Styx River 7.10 115 Pn 01 07 15.9 +1.0
H23K Yukon River 7.12 80 Pn 01 07 16.2 +1.1
KTH Kantishna Hill 7.13 99 Pn 01 07 15.8 +0.5
O15K Ungalikthiuk R 7.19 150 Pn 01 07 16.8 +0.8
E23K Chandalar 7.21 62 Pn 01 07 18.3 +1.8
O16K Kokwok River B 7.22 142 Pn 01 07 17.3 +0.8
O17K Koliganek Bris 7.33 138 Pn 01 07 17.8 -0.2
TOLK Toolik Lake Re 7.37 58 Pn 01 07 19.4 +0.7
TRF Thorofare Moun 7.43 99 Pn 01 07 19.8 +0.3
C23K Itkillik River 7.47 48 Pn 01 07 19.8 -0.2
BWN Browne 7.50 93 Pn 01 07 22.2 +1.8
NEA2 Nenana 7.55 89 Pn 01 07 21.7 +0.7
E24K Your Creek 7.63 63 Pn 01 07 24.1 +1.9
SKT Skwentna 7.65 111 Pn 01 07 24.3 +1.8
D24K Happy Valley 7.79 55 Pn 01 07 24.9 +0.6
O18K Koktuh Hills 7.82 132 Pn 01 07 25.8 +1.1
STLK Strandline Lak 7.82 115 Pn 01 07 25.9 +1.0
SPCR Spurr Chakacha 7.87 117 Pn 01 07 26.6 +1.1
MCK McKinley 7.88 95 Pn 01 07 25.7 +0.2
MCK McKinley 7.88 95 P **Pn 01 07 25.7 +0.2**
SPCG Spurr Capps Gl 7.88 116 Pn 01 07 26.7 +1.0
G24K Hadweenzic Riv 7.91 73 Pn 01 07 26.6 +0.7
SPU Mount Spurr 7.94 117 Pn 01 07 28.3 +1.9
COLA College 7.98 86⇑*e*P **Pn 01 07 29.2 +2.3**
C24K Franklin Bluff 8.03 51 Pn 01 07 27.5 -0.1
RND Reindeer 8.04 97 Pn **Pn 01 07 28.7 +0.9**
RND Reindeer 8.04 97 P **Pn 01 07 28.7 +0.9**
NCT North Crescent 8.04 122 Pn 01 07 29.1 +1.2
POKR Poker Plat Res 8.10 84 Pn 01 07 29.9 +1.3
REF Redoubt East F 8.18 122 Pn 01 07 31.0 +1.2
RDT Redoubt 8.22 121 Pn 01 07 31.1 +0.8
SUA Susitna One 8.26 113 Pn 01 07 32.4 +1.5
IL31 8.41 86 Pn 01 07 33.0 +0.3
ILAR Eielson Array 8.41 86 Pn 01 07 32.4 -0.4
ILAR Eielson Array 8.41 86 Pn **Pn 01 07 32.1 -0.6**
comp=E,1.1nm,0.3s,baz=278,slow=13,SNR=51
ILAR Sn **Sn 01 09 03.9 -3.7**
comp=E,1.1nm,0.3s,baz=293,slow=14,SNR=4.3
ILAR Lg Lg 01 09 52.8
baz=296,slow=21
comp=E,4.7nm,0.5s
PMR Palmer 8.81 109 Pn **Pn 01 07 41.6 +3.4**
PMR Palmer 8.81 109 P **Pn 01 07 41.7 +3.4**
SML Sawmill 9.01 106 Pn 01 07 42.9 +1.8
BMAR Burnt Mountain 9.05 68 Pn 01 07 42.1 +0.6
PWL Port Wells 9.56 111 Pn 01 07 50.2 +1.6
SCRK Sand Creek 9.85 89 Pn 01 07 56.0 +3.4
KDAK Kodiak Island 10.30 133 Pn **Pn 01 08 00.3 +1.6**
comp=E,0.7nm,0.3s,baz=230,slow=5.3,SNR=8.8
KDAK Lg Lg 01 10 54.6
comp=E,0.1nm,0.3s,baz=194,slow=23,SNR=1.8
comp=E,2.9nm,0.3s
KDAK Kodiak Island 10.30 133*ce*P Pn 01 08 05.9 +7.2
F28M Old Crow 10.86 67 Pn 01 08 07.8 +1.6
BILL Bilibino 10.86 295 Pn 01 08 06.1 -0.2
BILL Bilibino 10.86 295 *e*P **Pn 01 08 05.9 -0.4**
BILL Pmax 01 08 06.4
BILL *e*Sg 01 11 12.7
BILL Sgmax 01 11 21.7
comp=E,420nm,0.9s
BILL Sgmax 01 11 21.7
comp=E,110nm,0.7s
BILL Bilibino 10.86 295⇑*e*P **Pn 01 08 05.2 -1.1**
DAWY Dawson 11.72 85 Pn 01 08 18.4 +0.2
G31M Satah River 13.09 69 Pn 01 08 37.7 +1.0
INK Inuvik 13.21 63 Pn 01 08 38.2 -0.2
INK Inuvik 13.21 63 Pn **Pn 01 08 38.7 +0.3**
comp=E,0.5nm,0.3s,baz=281,slow=20,SNR=12
INK Sn **Sn 01 11 02.2 -3.0**
comp=E,0.1nm,0.3s,baz=287,slow=19,SNR=1.3
INK Lg Lg 01 12 25.3
comp=E,0.2nm,0.3s,baz=49,slow=14,SNR=1.6
comp=E,1.8nm,0.4s
INK Inuvik 13.21 63 P **Pn 01 08 38.2 -0.2**
M30M Minto, Yukon 13.39 89 Pn 01 08 40.9 0.0
WHY Whitehorse 15.13 94 P **P 01 09 08.2 -1.7**
A36M Sachs Harbour 16.02 48 Pn **Pn 01 09 13.9 -2.2**
C36M Paulatuk 16.53 58 P **P 01 09 24.8 -0.4**
R33M Jennings River 17.47 94 P **P 01 09 36.7 +0.9**
SEY Seymchan 17.70 280 *e*P **P 01 09 39.5 +1.3**
SEY Pmax 01 09 44.2
comp=E,10.0nm,1.1s
SEY *e*Sg 01 14 54.7
SEY Seymchan 17.70 280 P **Pn 01 09 36.3 -1.0**
comp=E,0.2nm,0.3s,baz=14,slow=23,SNR=1.4
SEY Lg Lg 01 14 46.1
comp=E,0.3nm,0.3s,baz=224,slow=23,SNR=1.2
comp=E,7.6nm,0.7s
SEY Seymchan 17.70 280⇑*e*P **P 01 09 39.3 +1.1**
SEY pmax pmax
comp=Z,19nm,1.1s
DLBC Dease Lake 18.43 95 P **Pn 01 09 48.3 +1.9**
comp=Z,0.1nm,0.3s,baz=287,slow=9.9,SNR=4.7
DLBC Lg Lg 01 15 13.5
baz=67,slow=19
comp=Z,5.9nm,0.9s
SUUS Susuman 19.49 283 *e*P **Pn 01 10 00.3 +1.2**
SUUS Pmax 01 10 01.1
comp=Z,20nm,0.9s
SUUS *e*Sg 01 15 49.9
SUUS Sgmax 01 16 22.0
comp=Z,20nm,1.0s
SUUS Susuman 19.49 283 *e*P **Pn 01 10 00.3 +1.2**
MA2 Magadan 20.11 273 *e*P Pn 01 10 06.4 -0.1
MA2 Pmax 01 10 07.9
comp=Z,20nm,0.9s
MA2 Magadan 20.11 273 P **P 01 10 04.6 0.0**
comp=Z,24nm,0.9s,baz=56,slow=9.4,SNR=8.0
MA2 Magadan 20.11 273*de*P Pn 01 10 06.0 -0.5
MA2 pmax pmax
comp=Z,20nm,0.8s
PETK Petropavlovsk- 21.62 252 P **P 01 10 21.9 +1.0**
comp=Z,5.8nm,1.0s,baz=54,slow=15,SNR=2.9
comp=Z,5.8nm,1.0s
YKA Yellowknife Ar 22.50 73 P **P 01 10 31.6 +1.3**
comp=Z,5.1nm,1.1s,baz=302,slow=11,SNR=2.9
comp=Z,5.1nm,1.1s
TIXI Tiksi 23.12 313 P **P 01 10 35.8 -0.9**
TIXI IAmb IAmb 01 10 50.1
comp=Z,28nm,1.2s
TIXI Tiksi 23.12 313 *e*P **P 01 10 36.0 -0.8**
TIXI Tiksi 23.12 313 P **P 01 10 35.8 -0.9**
TIXI pmax pmax
comp=Z,29nm,1.2s
RES Resolute Bay 24.34 38 P **P 01 10 50.6 +2.1**
RES IAmb IAmb 01 10 55.9
comp=Z,31nm,1.4s
RES Resolute Bay 24.34 38 P **P 01 10 49.6 +1.1**
comp=Z,2.2nm,0.8s,baz=289,slow=8.9,SNR=7.0
comp=Z,2.2nm,0.8s
YAK Yakutsk 27.20 293 *e*P **P 01 11 14.4 0.0**
YAK Yakutsk 27.20 293 *e*P **P 01 11 14.4 0.0**
NEEM North Greenlan 32.01 22 *e*P **P 01 11 57.9 +0.6**
NEEM IAmb IAmb 01 12 03.5
comp=Z,46nm,1.0s
YSS Yuzh-Sakhalins 32.45 260⇓*e*P **P 01 12 00.6 -0.4**
YSS pmax pmax
comp=Z,47nm,1.7s
KULLO Kullorsuaq 32.96 28 *i* P **P 01 12 08.1 +2.9**
KULLO IAmb IAmb 01 12 12.1
comp=Z,26nm,1.0s
ZEA Zeya 33.67 282 *e*P **P 01 12 11.5 -0.2**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
KLR Kul'dur 35.21 273⇓*e*P **P 01 12 24.8 -0.2**
KLR pmax pmax
comp=Z,9.0nm,1.0s
KBS Kingsbay 35.71 0 *i* P P 01 12 22.3 -6.8
NRIK Noril'sk 35.86 324 P **P 01 12 30.9 +0.5**
NRIK IAmb IAmb 01 12 36.2
comp=Z,24nm,0.9s
NRIK Noril'sk 35.86 324 P **P 01 12 31.2 +0.8**
comp=Z,19nm,0.9s,baz=54,slow=7.9,SNR=32
comp=Z,19nm,0.9s
NRIK Noril'sk 35.86 324*d* *i*P **P 01 12 31.1 +0.7**
NRIK pmax pmax
comp=Z,30nm,1.0s
BOD Bodaibo 35.91 296 *e*P **P 01 12 29.9 -1.0**
BOD pmax pmax
comp=Z,27nm,1.1s
NUUG Nuugaatsiaq 36.00 30 *i* P **P 01 12 36.0 +4.5**
NUUG IAmb IAmb 01 12 38.0
comp=Z,49nm,1.3s
HEH HeiHe 36.22 278 *e*P **P 01 12 33.6 0.0**
HEH pmax pmax
comp=Z,6.0nm,0.8s
DAG Danmarks Havn 36.52 12 *i* P **P 01 12 36.0 +0.1**
DAG IAmb IAmb 01 12 41.7
comp=Z,14nm,1.2s
UMMG Uummannaq 36.89 30 *i* P **P 01 12 42.2 +3.1**
UMMG IAmb IAmb 01 12 50.9
comp=Z,26nm,1.2s
SUMG Summit 37.86 23 *i* P **P 01 12 48.0 +0.2**
SUMG IAmb IAmb 01 12 54.1
comp=Z,15nm,1.1s
PDAR Pinedale Array 38.65 97 P **P 01 12 56.4 +1.8**
PDAR Pinedale Array 38.65 97 P **P 01 12 57.0 +2.4**
comp=Z,0.8nm,0.5s,baz=342,slow=5.8,SNR=12
comp=Z,0.8nm,0.5s
NVAR Mina Array Bea 38.80 110 P **P 01 12 58.6 +2.8**
comp=Z,1.1nm,0.7s,baz=310,slow=7.8,SNR=7.4
comp=Z,1.1nm,0.7s
USRK Ussuriysk Ar. 39.12 268 P **P 01 12 58.6 +0.4**
comp=Z,2.3nm,0.8s,baz=19,slow=11,SNR=3.8
comp=Z,2.3nm,0.8s
BNX BinXian 39.78 273 ⇓P **P 01 13 03.3 -0.4**
BNX pmax pmax
comp=Z,10.0nm,1.0s
MZP Montezuma Peak 39.79 110 P **P 01 13 06.0 +1.8**
DSP Deep Springs 39.85 111 P **P 01 13 06.1 +1.8**
SPR3 Spring Creek 3 39.88 105 P **P 01 13 07.1 +2.1**
SFJD Kangerlussuaq 40.16 33 *i* P **P 01 13 09.6 +2.9**
SFJD IAmb IAmb 01 13 12.2
comp=Z,28nm,1.1s
PSUT Pine Spring 40.47 105 P **P 01 13 11.5 +1.7**
ICESG Greenland Ices 40.65 26 *i* P **P 01 13 13.2 +2.1**
ICESG IAmb IAmb 01 13 15.9
comp=Z,42nm,1.2s
TPNV Topopah Spring 40.88 109 P **P 01 13 13.7 +0.5**
TPNV Topopah Spring 40.88 109 P **P 01 13 13.7 +0.5**
TPNV pmax pmax
comp=Z,5.0nm,1.1s
PRN Pahroc Range 40.96 107 P **P 01 13 15.6 +1.9**
MSU Marysvale 41.16 104 P **P 01 13 17.4 +1.9**
MSU Marysvale 41.16 104 P **P 01 13 17.4 +1.9**
DY2G Dye2 41.57 31 *i* P **P 01 13 22.2 +3.7**
DY2G IAmb IAmb 01 13 24.1
comp=Z,37nm,1.3s
SCO Scoresbysund 42.07 17 *i* P **P 01 13 25.0 +2.7**
SCO IAmb IAmb 01 13 35.9
comp=Z,255nm,2.2s
GSC Goldstone, Bar 42.11 111 P **P 01 13 25.6 +2.5**
GSC Goldstone, Bar 42.11 111 P **P 01 13 25.6 +2.5**
GSC pmax pmax
comp=Z,17nm,1.5s
CN2 Changchun 42.16 273 P **P 01 13 23.5 +0.1**
CN2 pmax pmax
comp=Z,20nm,1.0s
MJB9 Matsu-Tunnel 43.01 255 P **P 01 13 31.2 +0.8**
MJB9 IAmb IAmb 01 13 37.2
comp=Z,20nm,1.0s
MAJO Matsushiro 43.01 255 P **P 01 13 30.3 -0.1**
MAJO IAmb IAmb 01 13 36.2
comp=Z,20nm,0.9s
MAJO Matsushiro 43.01 255⇓*e*P **P 01 13 28.7 -1.7**
MAJO pmax pmax
comp=Z,21nm,1.0s
MJAR Matsushiro Arr 43.01 255 P **P 01 13 30.8 +0.5**
comp=Z,15nm,1.0s,baz=8.1,slow=8.4,SNR=13
comp=Z,15nm,1.0s
WUAZ Wupatki 44.07 105 P **P 01 13 41.6 +2.5**
WUAZ IAmb IAmb 01 13 44.8
comp=Z,19nm,1.5s
ANGG Ammassalik, Gr 44.08 28 *i* P **P 01 13 40.2 +1.7**
ANGG IAmb IAmb 01 13 44.2
comp=Z,105nm,1.4s
ARCES ARCESS Array B 44.89 354 P **P 01 13 45.4 +0.4**
comp=Z,14nm,1.1s,baz=8.7,slow=4.6,SNR=7.0
ARCES PP **PP 01 15 28.3 -1.2**
comp=Z,2.6nm,0.8s,baz=9.8,slow=7.9,SNR=3.5
comp=Z,14nm,1.1s
X16A Lo Mia Camp, P 45.00 106 P **P 01 13 48.3 +1.8**
ULN Ulaanbaatar 46.28 292 P **P 01 13 57.2 +0.7**
ULN IAmb IAmb 01 13 59.0
comp=Z,9.3nm,1.1s
ULN Ulaanbaatar 46.28 292⇑*e*P **P 01 13 57.0 +0.5**
ULN pmax pmax
comp=Z,9.0nm,1.1s
APA Apatity 46.36 349⇓*i*P **P 01 13 57.9 +1.2**
APA *i* 01 15 26.4
APA *i* 01 15 46.6
APA pmax pmax
comp=Z,14nm,0.9s
KSRS Korea Array 46.44 266 P **P 01 13 58.4 +0.7**
comp=Z,4.1nm,0.9s,baz=28,slow=8.7,SNR=8.6
comp=Z,4.1nm,0.9s
KSAR Wonju Array Be 46.47 266 P **P 01 13 59.1 +1.2**
KSAR Wonju Array Be 46.47 266 P **P 01 13 59.1 +1.2**
ANMO Albuquerque 46.55 101⇓*e*P **P 01 14 01.4 +2.6**
ANMO pmax pmax
comp=Z,15nm,4.5s
SONM Songino Array 46.56 292 P **P 01 14 00.2 +1.6**
SONM IAmb IAmb 01 14 01.6
comp=Z,18nm,1.2s
SONM Songino Array 46.56 292 P **P 01 13 58.5 -0.2**
comp=Z,7.2nm,0.9s,baz=39,slow=6.9,SNR=30
comp=Z,7.2nm,0.9s
P40A Paris 48.61 84 IAmb IAmb 01 14 18.7
comp=Z,12nm,0.7s
ZAA0 Zalesovo Array 49.00 312 P **P 01 14 17.4 +0.1**
ZAA0 IAmb IAmb 01 14 18.4
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 49.00 312 P **P 01 14 17.2 -0.1**
ZALV Zalesovo Beam 49.00 312 P **P 01 14 17.6 +0.3**
comp=Z,6.4nm,0.6s,baz=31,slow=6.9,SNR=47
comp=Z,6.4nm,0.6s
HHC Hu-ho-hao-te 50.33 283 *e*P **P 01 14 26.5 -1.2**
HHC pmax pmax
comp=Z,15nm,0.6s
MGMO Mountain Grove 50.54 86 IAmb IAmb 01 14 30.8
comp=Z,28nm,1.4s
PBMO Poplar Bluff 51.62 84 IAmb IAmb 01 14 38.5
comp=Z,7.7nm,0.8s
FCAR Ozark Folk Cen 51.68 87 IAmb IAmb 01 14 40.9
comp=Z,9.2nm,0.6s
HNS HongShan 51.97 278 ⇑P **P 01 14 41.3 +1.3**
HNS pmax pmax
comp=Z,11nm,1.3s
KLMR Klimovskoe 52.37 344 *e*P **P 01 14 39.6 -3.0**
KLMR pmax pmax
comp=Z,60nm,1.0s
TXAR Lajitas Array 52.60 101 P **P 01 14 46.0 +1.1**
comp=Z,1.3nm,0.8s,baz=321,slow=4.5,SNR=13
comp=Z,1.3nm,0.8s
TXAR Lajitas Array 52.60 101 P **P 01 14 46.0 +1.1**
SVE Sverdlovsk 52.77 329⇓*e*P **P 01 14 46.5 +0.9**
SVE pmax pmax
comp=Z,26nm,1.6s
FINES FINESS Array B 52.93 352 P **P 01 14 47.4 +0.7**
FINES FINESS Array B 52.93 352 P **P 01 14 47.2 +0.5**
comp=Z,11nm,0.6s,baz=24,slow=5.3,SNR=26
comp=Z,11nm,0.6s
SSFO Shawnee State 52.95 77 P **P 01 14 47.1 -0.1**
SSFO IAmb IAmb 01 14 51.7
comp=Z,13nm,0.8s
JCT Junction City 53.18 97 IAmb IAmb 01 14 53.6
comp=Z,13nm,0.9s
KIRV Kirov 53.20 337*ce*P **P 01 14 48.6 -0.2**
ARTI Arti 53.64 331 P **P 01 14 52.0 -0.1**
ARTI IAmb IAmb 01 14 53.3
comp=Z,16nm,0.9s
ARTI Arti 53.64 331 P **P 01 14 52.0 -0.1**
ARTI pmax pmax
comp=Z,16nm,0.9s
NB2 NORSAR Subarra 53.68 1 P **P 01 14 52.3 -0.1**
comp=Z,14nm,1.2s,baz=356,slow=7.4
NOA NORSAR Array B 53.68 1 P **P 01 14 52.5 +0.2**
comp=Z,3.9nm,1.0s,baz=357,slow=7.4,SNR=3.9
comp=Z,3.9nm,1.0s
KURK Kurchatov 53.70 314 P **P 01 14 52.7 +0.2**
KURK IAmb IAmb 01 14 53.9
comp=Z,20nm,0.9s
KURK Kurchatov 53.70 314*d* *i*P **P 01 14 52.4 -0.1**
KURK pmax pmax
comp=Z,22nm,0.8s
DRIO Del Rio 53.77 98 IAmb IAmb 01 14 57.0
comp=Z,5.5nm,0.7s
KURBB Kurchatov Arra 53.81 314 P **P 01 14 53.6 +0.3**
comp=Z,15nm,0.9s,baz=29,slow=7.1,SNR=36
comp=Z,15nm,0.9s
BRVK Borovoye 53.94 321 P **P 01 14 54.7 +0.4**
BRVK IAmb IAmb 01 14 59.2
comp=Z,20nm,0.9s
BRVK Borovoye 53.94 321*d* *i*P **P 01 14 54.1 -0.2**
BRVK pmax pmax
comp=Z,26nm,1.0s
BVAR Borovoye Array 53.94 321 P **P 01 14 54.2 0.0**
comp=Z,13nm,0.8s,baz=40,slow=7.5,SNR=55
comp=Z,13nm,0.8s
HFS Hagfors 54.60 360 P **P 01 14 59.2 +0.2**
comp=Z,8.0nm,0.8s,baz=56,slow=5.6,SNR=6.1
comp=Z,8.0nm,0.8s
NJ2 Nanjing 54.86 271 *e*P **P 01 14 58.3 -3.0**
NJ2 pmax pmax
comp=Z,12nm,0.5s
VSU Vasula 55.86 351*ce*P **P 01 15 08.3 +0.2**
VSU pmax pmax
comp=Z,97nm,1.7s
MK31 Makanchi Array 56.03 309 P **P 01 15 10.7 +1.2**
MK31 Makanchi Array 56.03 309*ce*P **P 01 15 09.7 +0.2**
MKAR Makanchi Array 56.03 309 P **P 01 15 09.2 -0.3**
comp=Z,3.6nm,0.8s,baz=43,slow=7.3,SNR=17
comp=Z,3.6nm,0.8s
MKAR Makanchi Array 56.03 309 *i* P **P 01 15 09.6 +0.1**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 56.12 310 P **P 01 15 10.4 +0.3**
MAKZ IAmb IAmb 01 15 12.2
comp=Z,13nm,1.2s
MAKZ Makanchi 56.12 310 P **P 01 15 10.4 +0.3**
MAKZ pmax pmax
comp=Z,13nm,1.2s
GTA Gaotai 56.22 292 *e*P **P 01 15 12.6 +1.5**
GTA sP sP 01 15 19.9 +4.6
GTA pmax pmax
comp=Z,10.0nm,1.1s
WMQ Urumqi 56.84 304 *e*P **P 01 15 16.9 +1.5**
WMQ pmax pmax
comp=Z,15nm,1.9s
XAN Xi'an 57.24 281 P **P 01 15 16.9 -1.4**
XAN pP sP 01 15 23.8 +1.2
XAN pmax pmax
comp=Z,6.0nm,1.6s
LZH Lanzhou 57.52 286 *e*P **P 01 15 21.4 +1.0**
LZH sP sP 01 15 32.1 +7.5
LZH pmax pmax
comp=Z,23nm,1.1s
MOS Moscow 57.59 344 *e*P **P 01 15 20.4 0.0**
MOS pmax pmax
comp=Z,55nm,1.5s
OBN Obninsk 58.33 344⇓*i*P **P 01 15 25.4 -0.1**
OBN pmax pmax
comp=Z,42nm,1.7s
OBN Obninsk 58.33 344 P **P 01 15 22.3 -3.2**
comp=Z,23nm,1.4s
EKA Eskdalemuir Ar 58.77 11 P **P 01 15 29.3 +0.6**
comp=Z,7.2nm,0.9s,baz=357,slow=5.4,SNR=9.3
comp=Z,7.2nm,0.9s
NACGM Naroch 59.40 351 *e*P **P 01 15 33.1 +0.1**
comp=Z,34nm,1.2s,baz=6.4

BELG Belogornoye 59.44 336 *ce*P **P 01 15 31.3 -2.0**
BELG pmax pmax
comp=Z,9.0nm,0.9s

ABKAR Akbulak array 59.98 327 P **P 01 15 36.9 -0.2**
ABKAR Akbulak array 59.98 327 P **P 01 15 37.0 -0.1**
ABKAR IAmb IAmb 01 15 42.1
comp=Z,23nm,0.9s

SUW Suwalki 60.50 353 *e*P **P 01 15 45.1 +4.6**
LPSR Galich'ya Gora 60.51 342 *e*P **P 01 15 38.6 -2.1**
LPSR pmax pmax
comp=Z,10.0nm,0.9s

BSEG Bad Segeberg 60.80 2 *e*P **P 01 15 44.1 +1.5**
comp=Z,4.9nm,0.8s,baz=0.1,slow=6.6
BSEG *ep*P **sP 01 15 47.4 +0.6**

GOMU GeErMu 60.94 294 P **P 01 15 41.8 -2.6**
GOMU pP pP 01 15 45.8 -1.6
GOMU sP sP 01 15 49.3 +0.7
GOMU pmax pmax
comp=Z,4.0nm,1.5s

VORR Voronezh 61.39 342 P **P 01 15 47.5 +0.8**
VORR pmax pmax
comp=Z,23nm,1.6s

VRH Novokhopyorsk 61.51 340 *e*P **P 01 15 45.7 -1.8**
VRH pmax pmax
comp=Z,9.0nm,0.9s

TKM2 Tokmak 2 61.61 312 P **P 01 15 50.3 +1.7**
SNR=7.7

CHMS Chumysh 61.79 313 P **P 01 15 50.9 +1.3**
SNR=11

VSR Storozhevoye 61.84 342 *e*P **P 01 15 47.6 -2.1**
VSR pmax pmax
comp=Z,10.0nm,1.0s

KBK Karagaybulak 62.05 313 P **P 01 15 53.1 +1.6**
SNR=10

VORD Divnogorie 62.07 342 *e*P **P 01 15 48.1 -3.1**
VORD pmax pmax
comp=Z,10.0nm,0.9s

AAK Ala-Archa 62.20 313 P **P 01 15 53.7 +1.2**
SNR=5.4

AAK Ala-Archa 62.20 313 P **P 01 15 53.8 +1.2**
AAK IAmb IAmb 01 15 55.0
comp=Z,14nm,0.9s

AAK Ala-Archa 62.20 313 *d i*P **P 01 15 53.5 +1.0**
AAK pmax pmax
comp=Z,29nm,1.7s

NRDL Niedersach Rie 62.24 2 *e*P **P 01 15 53.7 +1.4**
baz=0.1,slow=6.6
NRDL *ep*P **sP 01 15 56.9 +0.4**

IBBN Ibbenburen 62.37 4 *e*P **P 01 15 55.1 +1.8**
baz=0.1,slow=6.6
IBBN *ep*P **sP 01 15 58.3 +0.8**

EKS2 Erkin-Say 62.40 314 P **P 01 15 54.2 +0.5**
SNR=7.5

BEL Belsk 62.78 355 *e*P P 01 16 02.7 +6.7

CLZ Clausthal 62.89 2 *e*P **P 01 15 57.9 +1.1**
comp=Z,7.6nm,0.8s,baz=0.1,slow=6.6

AML Almayashu 62.91 313 P **P 01 15 59.1 +1.6**
SNR=6.5

RNPP9 Sopachiv 62.94 351 P **P 01 15 54.3 -2.7**
KKAR Karatay Array 62.95 316 P **P 01 15 57.9 +0.6**
KKAR Karatay Array 62.95 316 P **P 01 15 57.9 +0.6**
RNPP8 Varash 63.02 351 P **P 01 15 54.5 -3.1**
RNPP5 Staryi Chortor 63.12 351 P **P 01 15 55.1 -3.2**

GTTG Gottingen 63.19 2 *e*P **P 01 15 60.0 +1.3**
baz=0.1,slow=6.6
GTTG *ep*P **sP 01 16 03.4 +0.4**

BUG Bochum--Univer 63.23 4 *e*P **P 01 16 01.0 +2.0**
baz=0.1,slow=6.6

MI28 Mi28,Pidlybu 63.29 350 P **P 01 15 56.3 -3.1**
comp=Z,197nm,1.5s

AK23 Malin Array Si 63.35 349 P **P 01 15 56.6 -3.2**
AK20 Malin Array Si 63.38 349 P **P 01 15 56.8 -3.2**
AK19 Malin Array Si 63.40 349 P **P 01 15 57.2 -2.9**

AKASG Malin Array Be 63.40 349 P **P 01 16 00.4 +0.2**
comp=Z,5.5nm,0.6s,baz=10,slow=6.1,SNR=19
comp=Z,5.5nm,0.6s

AKBB Malin Array Si 63.40 349 *de*P **P 01 15 59.7 -0.4**
AKBB pmax pmax
comp=Z,37nm,1.4s

AKBB Malin Array Si 63.40 349 P **P 01 15 57.2 -2.9**
KIEV Kiev 63.41 349 P **P 01 16 00.5 +0.3**
KIEV Kiev 63.41 349 P **P 01 16 00.5 +0.3**
KIEV pmax pmax
comp=Z,40nm,1.4s

KIEV Kiev 63.41 349 P **P 01 15 57.2 -3.0**
comp=Z,89nm,1.4s

CLL Collm 63.45 0 P **P 01 16 00.7 +0.3**
CLL IAmb IAmb 01 16 02.2
comp=Z,11nm,1.2s

CLL Collm 63.45 0 *i*P **P 01 16 00.0 -0.5**
CLL *i* 01 16 04.7
CLL pmax pmax
comp=Z,34nm,2.0s

CLL Collm 63.45 0 *e*P **P 01 16 01.5 +1.1**
comp=Z,4.2nm,1.0s,baz=0.1,slow=6.6

CLL Collm 63.45 0 *i*P **P 01 16 00.0 -0.5**
comp=Z,34nm,2.0s
CLL *i*sP **sP 01 16 04.7 0.0**
comp=Z,45nm,2.1s

KASTN Kahler Asten 63.50 3 *e*P **P 01 16 02.5 +1.7**
comp=Z,2.7nm,0.9s,baz=0.1,slow=6.6
KASTN *ep*P **sP 01 16 05.5 +0.5**

NEUB Neuenburg 63.54 1 *e*P **P 01 16 02.6 +1.5**
baz=0.1,slow=6.6

UCC Uccle 63.76 6 *d*P **P 01 16 03.2 +0.8**
BRG Berggiesshubel 63.88 359 *e*P **P 01 16 04.3 +1.0**
BRG Amp 01 16 05.3
comp=Z,7.3nm,1.1s

BRG Berggiesshubel 63.88 359 P P 01 16 08.4 +5.1
BRG Amp 01 16 09.3
comp=Z,12nm,1.2s

BRG Berggiesshubel 63.88 359 *e*P **P 01 16 04.3 +1.0**
BRG 01 16 08.4
BRG pmax pmax
comp=Z,7.0nm,1.2s
BRG pmax pmax
comp=Z,12nm,1.2s

BRG Berggiesshubel 63.88 359 *e*P **P 01 16 04.7 +1.3**
baz=0.1,slow=6.6

KSP Ksiaz 63.89 358 *e*P **P 01 16 04.6 +1.2**
KSP Ksiaz 63.89 358 P **P 01 16 00.6 -2.8**
comp=Z,9.6nm,1.0s

UBBA Unterbreizbach 63.91 2 *e*P **P 01 16 05.3 +1.9**
baz=0.1,slow=6.6
UBBA *ep*P **sP 01 16 08.2 +0.5**

BTNL Ternell 64.04 5 *d*P **P 01 16 05.4 +1.0**
comp=Z,13nm,1.0s

MOX Moxa 64.11 1 *e*P **P 01 16 06.4 +1.6**
comp=Z,4.7nm,1.0s,baz=0.1,slow=6.6

RICC Richard 64.21 359 *e*P **P 01 16 09.9 +4.4**
TANN Tannenbergstha 64.34 1 *e*P **P 01 16 07.9 +1.5**
baz=0.1,slow=6.6

DPC Dobruska-Polom 64.38 358 *e*P **P 01 16 08.0 +1.3**
DPC Dobruska-Polom 64.38 358 *e*P **P 01 16 08.0 +1.3**
DPC Dobruska-Polom 64.38 358 P **P 01 16 03.6 -3.1**
comp=Z,16nm,1.4s

OJC Ojcow 64.43 355 *e*P **P 01 16 07.9 +1.0**
OJC Ojcow 64.43 355 P **P 01 16 03.9 -3.0**
comp=Z,14nm,1.6s

RCHB Rochefort 64.44 6 *dx* x 01 16 11.1
DOU Dourbes 64.47 6 *d*P **P 01 16 07.5 +0.3**
TNS Taunus Mts 64.48 3 *e*P **P 01 16 09.3 +2.0**
baz=0.1,slow=6.6
TNS *ep*P **sP 01 16 11.9 +0.3**

NKC Novy Kostel 64.52 1 *e*P P 01 16 12.5 +4.9
NKC Novy Kostel 64.52 1 *e*P P 01 16 12.5 +4.9
KSH Kashi 64.58 310 P **P 01 16 12.6 +4.3**
KSH sP sP 01 16 23.8 +11
KSH pmax pmax
comp=Z,15nm,1.1s

KRLC Kraliky 64.65 357 *e*P **P 01 16 09.3 +0.9**
KRLC Kraliky 64.65 357 *e*P **P 01 16 09.3 +0.9**
PRU Pruhonice 64.77 359 *e*P **P 01 16 11.4 +2.3**
PRU Pruhonice 64.77 359 *e*P **P 01 16 11.4 +2.3**
MANZ Manzenberg 64.77 1 *e*P **P 01 16 10.6 +1.4**
comp=Z,1.0nm,1.1s,baz=0.1,slow=6.6

GYA Guiyang 64.82 279 P **P 01 16 11.0 +1.0**
GYA pmax pmax
comp=Z,17nm,1.1s

KWP Kalwaria Pacla 64.89 353 *e*P **P 01 16 11.4 +1.5**
KWP Kalwaria Pacla 64.89 353 P **P 01 16 06.9 -3.1**
comp=Z,29nm,1.2s

MORC Moravsky Berou 64.93 357 IAmb IAmb 01 16 15.6
comp=Z,8.1nm,1.0s
MORC Moravsky Berou 64.93 357 *e*P **P 01 16 11.2 +0.9**

WLF Walferdange 64.97 5 *e*P **P 01 16 12.4 +1.9**
comp=Z,5.3nm,0.9s,baz=0.1,slow=6.6
WLF *ep*P **sP 01 16 15.7 +1.0**
WLF Walferdange 64.97 5 *d*P **P 01 16 12.3 +1.9**
ROTZ Rotzenmuhle 64.99 1 *e*P **P 01 16 11.8 +1.1**
baz=0.1,slow=6.6

GRF Grafenberg Arr 65.06 1 *e*P **P 01 16 12.4 +1.4**
baz=0.1,slow=6.6

NIE Niedzica 65.21 355 *e*P **P 01 16 16.8 +4.7**
VRAC Vranov 65.42 358 *e*P **P 01 16 14.6 +1.2**
LANS Liptovska Anna 65.51 355 *e*P **P 01 16 15.9 +1.9**
LANS pmax pmax
comp=Z,4.0nm,1.0s

LANS Liptovska Anna 65.51 355 *e*P **P 01 16 15.9 +1.9**
KOLS Kolonicke sedl 65.61 353 *e*P **P 01 16 16.7 +2.0**
KOLS pmax pmax
comp=Z,5.0nm,0.8s

KOLS Kolonicke sedl 65.61 353 *e*P **P 01 16 16.7 +2.0**
WET Wettzell 65.61 0 *e*P **P 01 16 15.7 +1.0**
comp=Z,2.7nm,0.9s,baz=0.1,slow=6.6

KHC Kasperske Hory 65.63 360 IAmb IAmb 01 16 21.2
comp=Z,9.7nm,0.9s

KHC Kasperske Hory 65.63 360 *e*P **P 01 16 16.0 +1.2**
KHC Kasperske Hory 65.63 360 *c i*P **P 01 16 16.5 +1.7**
KHC pmax pmax
comp=Z,45nm,1.7s

KRUC Moravsky 65.67 358 *e*P **P 01 16 15.9 +0.9**
STNU Staruni a 65.72 352 P **P 01 16 12.5 -2.8**
JAVC Velka Javorina 65.85 357 *e*P **P 01 16 18.1 +1.9**
GEC2 GERESS Array S 65.91 360 IAmb IAmb 01 16 22.7
comp=Z,12nm,1.1s

GEC2 GERESS Array S 65.91 360 *e*P **P 01 16 18.1 +1.4**
comp=Z,4.5nm,1.0s,baz=0.1,slow=6.6
GEC2 *ep*P **sP 01 16 21.3 +0.3**

GERES GERESS Array B 65.91 360 P **P 01 16 17.4 +0.6**
comp=Z,5.9nm,0.9s,baz=37,slow=3.3,SNR=13
comp=Z,5.9nm,0.9s

HOLU Holmets 66.01 353 P **P 01 16 14.4 -2.8**
SORM Soroca 66.02 349 P **P 01 16 14.4 -2.9**
comp=Z,18nm,2.0s

MUKU Mukachevo 66.07 353 P **P 01 16 14.8 -2.8**
BRIU Brid 66.17 353 P **P 01 16 15.4 -2.8**
VYHS Vyhne 66.18 356 *e*P **P 01 16 19.4 +1.1**
VYHS pmax pmax
comp=Z,48nm,2.3s

VYHS Vyhne 66.18 356 *e*P **P 01 16 19.4 +1.1**
VYHS *e* 01 32 22.2

BERU Beregovo 66.29 353 P **P 01 16 16.2 -2.8**
KORU Korolevo 66.34 353 P **P 01 16 16.5 -2.8**
MODS Modra-Piesok 66.34 357 *e*P **P 01 16 21.2 +1.8**
MODS pmax pmax
comp=Z,128nm,2.4s

MODS Modra-Piesok 66.34 357 *e*P **P 01 16 21.2 +1.8**
BFO Black Forest 66.37 4 *e*P **P 01 16 21.1 +1.6**
baz=0.1,slow=6.6
BFO *ep*P **sP 01 16 24.3 +0.5**

TRSU Trosnyk 66.41 353 P **P 01 16 17.1 -2.7**
BURAR Bucovina Array 66.76 351 P **P 01 16 22.3 +0.1**
BURAR IAmb IAmb 01 16 28.1
comp=Z,8.0nm,1.3s

PZH PanZhiHua 66.79 283 P **P 01 16 22.3 -0.4**
PZH pmax pmax
comp=Z,10.0nm,1.0s

GAR Garm 66.79 315 P **P 01 16 23.0 +0.5**
CONA Conrad Observa 66.81 358 *i*pP pP 01 16 24.4 -1.2
comp=Z,4.9nm,1.0s

MOA Molln 66.91 359 *ep*P **P 01 16 23.6 +0.6**
comp=Z,6.4nm,1.0s

RJOB Jochberg 67.02 0 *e*P **P 01 16 24.8 +1.0**
comp=Z,1.9nm,0.8s,baz=0.1,slow=6.6
RJOB *ep*P **sP 01 16 28.3 +0.3**

RONA Rosalia, Austr 67.04 358 *i*pP pP 01 16 25.7 -1.3
comp=Z,8.3nm,1.0s

UBR Ueberruh 67.05 2 *e*P **P 01 16 25.3 +1.3**
comp=Z,3.7nm,0.8s,baz=0.1,slow=6.6
UBR *ep*P **sP 01 16 28.9 +0.7**

BIOA Bad Ischl, Aus 67.07 360 *i*pP **P 01 16 24.9 +0.8**
comp=Z,8.9nm,1.5s

RETA Reutte 67.26 2 *i*pP pP 01 16 26.9 -1.5
comp=Z,6.9nm,1.3s

LESA Schwarzleotal 67.34 0 *i*pP **P 01 16 27.2 +1.4**
comp=Z,8.0nm,1.2s

MOTA Moosalm 67.40 2 *i*pP **P 01 16 27.4 +1.1**
comp=Z,10nm,1.4s

WATA Walderalm 67.42 1 *i*pP **P 01 16 27.9 +1.5**
comp=Z,11nm,1.4s

DAVA Damuels 67.44 2 *i*P **P 01 16 25.0 -1.6**
comp=Z,8.4nm,1.8s

WTTA Wattenberg 67.49 1 *i*pP **P 01 16 28.4 +1.5**
comp=Z,12nm,1.2s

SIMJ Simiganj 67.49 315 P **P 01 16 27.5 +0.5**
ARSA Arzberg 67.50 358 *i*pP pP 01 16 28.4 -1.5
comp=Z,3.6nm,0.9s

SQTA Sankt Quirin 67.53 1 *i*pP pP 01 16 28.7 -1.5
comp=Z,13nm,1.2s

MPLH Magyarpolny 67.54 357 P **P 01 16 24.1 -2.9**
comp=Z,32nm,2.0s

KBA Koelnbreinsper 67.68 360 *i*pP **P 01 16 29.0 +0.9**
comp=Z,7.5nm,1.1s

FETA Feichten 67.72 2 *i*pP **P 01 16 29.3 +1.0**
comp=Z,9.7nm,1.0s

ABTA Abfaltersbach 68.01 1 *i*pP **P 01 16 31.2 +1.1**
comp=Z,9.1nm,1.4s

SOKA Soboth 68.07 359 *i*pP pP 01 16 34.9 +1.4
comp=Z,3.7nm,1.0s

FUORN Ofenpass-Fuorn 68.12 2 P **P 01 16 32.5 +1.5**
FUORN IAmb IAmb 01 16 37.4
comp=Z,13nm,1.2s

MYKA Terra Mystica 68.13 360 *i*pP **P 01 16 31.7 +0.9**
comp=Z,7.9nm,1.3s

OBKA Obir 68.25 359 *i*pP **P 01 16 32.7 +1.2**
comp=Z,22nm,1.3s

TUE Stuetta 68.25 3 P **P 01 16 33.5 +1.8**
TUE IAmb IAmb 01 16 37.9
comp=Z,7.3nm,0.8s

TUE Stuetta 68.25 3 P **P 01 16 28.5 -3.2**
KIV Kislovodsk 68.43 338 P **P 01 16 33.4 +0.6**
KIV Kislovodsk 68.43 338 *e*P **P 01 16 32.9 +0.1**
KIV pmax pmax
comp=Z,21nm,1.1s

KBZ Khabaz 68.62 337 P **P 01 16 34.4 +0.7**
comp=Z,8.7nm,0.9s,baz=13,slow=3.3,SNR=6.8
comp=Z,8.7nm,0.9s

KBZ Khabaz 68.62 337 *d i*P **P 01 16 34.3 +0.5**
KBZ pmax pmax
comp=Z,14nm,1.0s

SHA1 Shidzhatmaz 68.65 338‖ *e*P **P 01 16 35.8 +1.5**
NCK Nalchik 68.73 337‖ *e*P **P 01 16 34.5 -0.1**
NCK pmax pmax
comp=Z,21nm,1.0s

SLVN Son La 70.51 279 P **P 01 16 47.0 +1.2**
SLVN IAmb IAmb 01 16 48.1
comp=Z,8.0nm,1.0s

NIL Nilore 70.83 310 P **P 01 16 48.6 +1.0**
NIL Nilore 70.83 310 P **P 01 16 48.6 +1.0**
NIL pmax pmax
comp=Z,30nm,1.0s

GNI Garni 71.79 335 *de*P **P 01 16 56.3 +2.8**
GNI pmax pmax
comp=Z,25nm,1.7s

HRA Herat 73.39 319 IAmb IAmb 01 17 09.2
comp=Z,14nm,1.1s

BR131 Keskin Array S 73.83 344‖ *e*P **P 01 17 06.1 +0.5**
BRTR Keskin Array B 73.83 344 P **P 01 17 07.1 +1.5**
BRTR Keskin Array B 73.83 344 P **P 01 17 05.1 -0.5**
comp=Z,1.8nm,0.8s,baz=5.5,slow=3.8,SNR=4.7
comp=Z,1.8nm,0.8s

BRTR Keskin Array B 73.83 344 *i*P **P 01 17 05.6 0.0**
BRTR pmax pmax
comp=Z,2.0nm,0.8s

ESBB Sonseca Array 74.23 14 IAmb IAmb 01 17 15.1

ESDC Sonseca Array 74.23 14 P **P 01 17 09.0 +1.1**
ESDC Sonseca Array 74.23 14 P **P 01 17 08.3 +0.5**
comp=Z,5.8nm,0.8s,baz=352,slow=5.9,SNR=24
comp=Z,5.8nm,0.8s

CMAR Chiang Mai Arr 75.12 282 P **P 01 17 13.8 +0.6**
CMAR Chiang Mai Arr 75.12 282 P **P 01 17 14.0 +0.8**
comp=Z,5.5nm,0.8s,baz=6.3,slow=6.4,SNR=36
comp=Z,5.5nm,0.8s

CMAR Chiang Mai Arr 75.12 282 *i*P **P 01 17 14.1 +0.9**
CMAR pmax pmax
comp=Z,6.0nm,0.9s

RAYN Ar Rayn 87.80 331 P **P 01 18 21.3 +1.0**
RAYN IAmb IAmb 01 18 21.9
comp=Z,6.3nm,1.0s

RAYN Ar Rayn 87.80 331 P **P 01 18 21.3 +1.0**
RAYN pmax pmax
comp=Z,6.0nm,1.0s

WRA Warramunga Arr 96.09 234 P **P 01 18 59.2 +0.7**
comp=Z,0.8nm,0.9s,baz=27,slow=5.6,SNR=4.3
comp=Z,0.8nm,0.9s

QSPA South Pole Qui 155.38 180 PKPbc PKPdf 01 25 35.4 +13
comp=Z,0.6nm,0.3s,baz=37,slow=1.5,SNR=3.6
QSPA PKPab **PKPab 01 25 48.9 +0.3**
comp=Z,1.9nm,0.8s,baz=127,slow=0.2,SNR=4.6

VNA1 Neumayer--Stat 170.55 132 ⇑PKPdf **PKPdf 01 25 29.9 -7.3**
comp=Z,1.9nm,0.8s

KRSC ***16*** *01:24:16.4±0.5, 55°.58N×162°.41E, h76km±12km, Ml4.2*
IDC ***16*** *01:24:22.5±3.6, 55°.49N×161°.82E, h99km±38km, mb3.6/13, mbtmp3.9/15, MS4.2/1, Error ellipse: s-maj=35.5km s-min=26.4km az=7.0*
ISC 16 01:24:18.5±0.9, 55°.59N±0°.03×162°.40E±0°.04, h64km±8km, n62, σ1§03/81, mb4.1/13, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.66**	**21**	*e*P		**Pn**		**01 24 32.3**	**-0.2**
KBTR				*e*S		**Sn**		**01 24 43.5**	**+0.7**
KBG	**Krutoberegovo**	**0.69**	**15**	*e*P		**Pn**		**01 24 32.6**	**-0.2**
KBG				*e*S		**Sn**		**01 24 44.7**	**+1.4**
ZLN	**Zelenaya**	**0.99**	**296**	*e*P		**Pn**		**01 24 36.6**	**-0.1**
ZLN				*e*S		**Sn**		**01 24 50.6**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**1.02**	**291**	*e*P		**Pn**		**01 24 36.8**	**-0.2**
BZGR				*e*S		**Sn**		**01 24 51.0**	**+0.2**
CIRR	**Tsirk**	**1.07**	**300**	*e*P		**Pn**		**01 24 37.6**	**0.0**
CIRR				*e*S		**Sn**		**01 24 52.3**	**+0.3**
LGNR	**Loginova**	**1.08**	**298**	*e*P		**Pn**		**01 24 38.2**	**+0.2**
LGNR				*e*S		**Sn**		**01 24 53.1**	**+0.7**
BZP	**Bezymyannyi-Pe**	**1.10**	**288**	*e*P		**Pn**		**01 24 37.5**	**-0.6**
BZP				*e*S		**Sn**		**01 24 52.1**	**-0.6**
SMKR	**Semkarok**	**1.12**	**333**	*e*P		**Pn**		**01 24 38.5**	**+0.2**
SMKR				*e*S		**Sn**		**01 24 54.2**	**+1.1**
BZMR	**Bezymyannaya**	**1.13**	**289**	*e*P		**Pn**		**01 24 38.2**	**-0.3**
BZMR				*e*S		**Sn**		**01 24 53.6**	**+0.2**
BZWR	**Bezymyannyi-We**	**1.14**	**290**	*e*P		**Pn**		**01 24 38.6**	**0.0**
BZWR				*e*S		**Sn**		**01 24 54.0**	**+0.5**
BDR	**Baidarnaya**	**1.18**	**326**	*e*S		**Sn**		**01 24 56.0**	**+1.5**
TUMD	**Tumrok D**	**1.20**	**252**	*e*P		**Pn**		**01 24 38.8**	**-0.6**
TUMD				*e*S		**Sn**		**01 24 53.8**	**-1.1**
KRSR	**Krestovskiy**	**1.21**	**302**	*e*P		**Pn**		**01 24 39.0**	**-0.5**
KRSR				*e*S		**Sn**		**01 24 54.7**	**-0.3**
KIRR	**Kirishev**	**1.22**	**288**	*e*P		**Pn**		**01 24 39.7**	**+0.1**
KIRR				*e*S		**Sn**		**01 24 56.1**	**+0.8**
KLY	**Klyuchi**	**1.22**	**307**	*e*P		**Pn**		**01 24 38.3**	**-1.2**
KLY				*e*S		**Sn**		**01 24 53.7**	**-1.5**
KMNR	**Kamenistaya**	**1.23**	**279**	*e*P		**Pn**		**01 24 39.8**	**0.0**
KMNR				*e*S		**Sn**		**01 24 56.6**	**+0.9**
SRKR	**Sorokina**	**1.27**	**328**	*e*P		**Pn**		**01 24 40.7**	**+0.4**
SRKR				*e*S		**Sn**		**01 24 57.7**	**+1.2**
KPT	**Kopyto**	**1.28**	**288**	*e*P		**Pn**		**01 24 40.7**	**+0.3**
KPT				*e*S		**Sn**		**01 24 58.0**	**+1.1**
TUMR	**Tumrok**	**1.32**	**257**	*e*P		**Pn**		**01 24 41.1**	**+0.2**
KOZ	**Kozyrevsk**	**1.50**	**289**	*e*P		**Pn**		**01 24 43.7**	**+0.5**
KOZ				*e*S		**Sn**		**01 25 04.5**	**+2.7**
SRDR	**Sredinnyy**	**1.67**	**297**	*e*P		**Pn**		**01 24 45.8**	**+0.2**
SRDR				*e*S		**Sn**		**01 25 07.8**	**+1.6**
BKI	**Bering**	**2.08**	**99**	*e*P		**Pn**		**01 24 51.0**	**0.0**
BKI				*e*S		**Sn**		**01 25 15.7**	**-0.1**
ESO	**Esso**	**2.12**	**281**	*e*P		**Pn**		**01 24 51.4**	**-0.1**
SPN	**Mys Shipunski**	**2.86**	**210**	*e*P		**Pn**		**01 25 00.6**	**-1.0**
SPN				*e*S		**Sn**		**01 25 33.1**	**-1.7**
NLC	**Nalytchevo**	**3.01**	**218**	*e*P		**Pn**		**01 25 03.8**	**+0.1**
NLC				*e*S		**Sn**		**01 25 38.8**	**+0.2**
KRX	**Arik**	**3.13**	**226**	*e*P		**Pn**		**01 25 06.4**	**+0.9**
KRER	**Koryakskii**	**3.13**	**224**	*e*P		**Pn**		**01 25 06.3**	**+0.8**
SMAR	**Somma**	**3.14**	**223**	*e*P		**Pn**		**01 25 06.1**	**+0.5**
AVH	**Avacha**	**3.16**	**224**	*e*P		**Pn**		**01 25 06.8**	**+0.9**
UGLR	**Uglovaya**	**3.17**	**223**	*e*P		**Pn**		**01 25 06.5**	**+0.5**
KOK	**Koryaka**	**3.18**	**225**	*e*P		**Pn**		**01 25 07.0**	**+0.8**
GNL	**Ganaly**	**3.21**	**236**	*e*P		**Pn**		**01 25 07.5**	**+1.0**
DALK	**Dalny**	**3.34**	**221**	*e*P		**Pn**		**01 25 08.6**	**+0.4**
DALK				*e*S		**Sn**		**01 25 46.0**	**-0.5**
PET	**Petropavlovsk**	**3.38**	**222**	*e*P		**Pn**		**01 25 09.5**	**+0.8**
PET				*e*S		**Sn**		**01 25 48.7**	**+1.1**
OSSR	**Ossora**	**3.69**	**5**	*e*P		**Pn**		**01 25 13.3**	**+0.4**
OSSR				*e*S		**Sn**		**01 25 54.4**	**-0.6**
PETK	**Petropavlovsk-**	**3.71**	**230**	P		**Pn**		**01 25 13.4**	**+0.1**
	12nm,0.5s,baz=64,slow=16,SNR=48								
PETK				S		**Sn**		**01 25 59.0**	**+3.3**
	9.0nm,0.5s,baz=64,slow=17,SNR=1.1								
KRMR	**Karymshinskiy**	**3.73**	**224**	*e*P		**Pn**		**01 25 14.5**	**+0.9**
GRL	**Gorelyy**	**3.97**	**222**	*e*P		**Pn**		**01 25 18.4**	**+1.5**
MTVR	**Mutnovka**	**3.98**	**220**	*e*P		**Pn**		**01 25 18.3**	**+1.1**
APC	**Apacha**	**4.07**	**231**	*e*P		**Pn**		**01 25 19.8**	**+1.6**
ASAK	**Asacha**	**4.17**	**221**	*e*P		**Pn**		**01 25 21.0**	**+1.4**
KLR	**Kul'dur**	**19.64**	**264**	P		**P**		**01 28 39.4**	**-2.3**
	0.6nm,0.5s,baz=45,slow=19,SNR=1.4								
TIXI	**Tiksi**	**21.45**	**331**	P		**P**		**01 29 01.8**	**+0.9**
	11nm,0.7s,baz=124,slow=8.6,SNR=27								
	11nm,0.7s								
H11N2	**WAKE ISLAND Hy**	**35.96**	**173**	T		T		02 08 38.8	
	baz=353								
H11N3	**WAKE ISLAND Hy**	**35.98**	**173**	T		T		02 07 57.8	
	baz=353								
H11N1	**WAKE ISLAND Hy**	**35.98**	**173**	T		T		02 07 50.0	
	baz=353								
H11S1	**WAKE ISLAND Hy**	**37.16**	**173**	T		T		02 09 16.1	
	baz=348								
H11S3	**WAKE ISLAND Hy**	**37.18**	**173**	T		T		02 09 14.3	
	baz=348,slow=74								
H11S2	**WAKE ISLAND Hy**	**37.18**	**173**	T		T		02 08 31.5	
	baz=348,slow=74								
SPITS	**Spitsbergen Ar**	**44.89**	**351**	P		**P**		**01 32 26.0**	**+0.1**
	5.4nm,0.7s,baz=2.3,slow=7.2,SNR=5.1								
	5.4nm,0.7s								
KURBB	**Kurchatov Arra**	**47.68**	**301**	P		**P**		**01 32 45.7**	**-2.4**
	0.8nm,0.3s,baz=56,slow=7.8,SNR=2.2								
	0.8nm,0.3s								
MKAR	**Makanchi Array**	**48.30**	**295**	P		**P**		**01 32 51.8**	**-1.3**
	0.5nm,0.7s,baz=57,slow=7.0,SNR=4.4								
	0.5nm,0.7s								
BVAR	**Borovoye Array**	**49.90**	**308**	P		**P**		**01 33 03.6**	**-1.5**
	1.2nm,0.4s,baz=58,slow=8.1,SNR=14								
	1.2nm,0.4s								
ARCES	**ARCESS Array B**	**51.32**	**342**	P		**P**		**01 33 15.9**	**+0.3**
	2.1nm,0.8s,baz=26,slow=10,SNR=1.6								
	2.1nm,0.8s								
ARTI	**Arti**	**52.57**	**317**	LR		LR		01 58 28.3	
	comp=Z,215nm,18.2s,baz=54,slow=39								
FINES	**FINESS Array B**	**58.35**	**337**	P		**P**		**01 34 06.7**	**+0.3**
	1.6nm,0.4s,baz=39,slow=5.9,SNR=16								
	1.6nm,0.4s								
NOA	**NORSAR Array B**	**61.50**	**345**	P		**P**		**01 34 27.9**	**-0.1**
	0.5nm,0.6s,baz=33,slow=6.9,SNR=1.5								
	0.5nm,0.6s								
HFS	**Hagfors**	**61.97**	**343**	P		**P**		**01 34 30.5**	**-0.7**
	1.4nm,0.6s,baz=52,slow=2.4,SNR=4.4								
	1.4nm,0.6s								
AKASG	**Malin Array Be**	**67.15**	**330**	P		**P**		**01 35 04.6**	**-0.4**
	0.6nm,0.4s,baz=28,slow=6.9,SNR=4.4								
	0.6nm,0.4s								
TXAR	**Lajitas Array**	**68.46**	**69**	P		**P**		**01 35 16.0**	**+2.3**
	0.3nm,0.6s,baz=315,slow=3.7,SNR=5.1								
	0.3nm,0.6s								
EKA	**Eskdalemuir Ar**	**68.81**	**351**	P		**P**		**01 35 16.0**	**+0.7**
	0.5nm,0.5s,baz=17,slow=5.5,SNR=3.5								
	0.5nm,0.5s								
BRTR	**Keskin Array B**	**75.52**	**322**	P		**P**		**01 35 55.7**	**-0.2**
	0.2nm,0.5s,baz=50,slow=3.3,SNR=1.5								
	0.2nm,0.5s								

AEIC ***16*** *01:26:49.2±2.5, 65°.57N±0°.04×166°.8W±0°.1, h10km±5km, ML4.2, ML4.3/64(NEIC), Mwr4.1/9(SLM), Error ellipse: s-maj=7.5km s-min=6.1km az=104.0*
NEIC ***16*** *01:26:49.7±2.5, 65°.55N±0°.04×166°.8W±0°.1, h10km±1km, Error ellipse: s-maj=8.5km s-min=6.4km az=280.0*
IDC ***16*** *01:26:50.4±0.8, 65°.82N×167°.36W, h0km, mb4.0/18, mbtmp4.0/22, ML3.7/4, Error ellipse: s-maj=24.4km s-min=12.0km az=19.0*
NEIC ***16*** *01:26:50, 65°.49N×167°.08W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.84; $M_{\theta\theta}$=1.36; $M_{\phi\phi}$=-0.52; $M_{r\theta}$=-0.45; $M_{\theta\phi}$=-0.42; $M_{\phi r}$=0.66; Fault plane solution: M_0=1.50000×10^{15} NP1:ϕ_s=315.00000°,*

δ50.00000°, λ-35.00000°. NP2:φ69.00000°, δ64.00000°, λ-134.00000°. Principal axes: T 1.4954, Plg8.0000°, Azm189.0000°; N 0.0001, Plg39.0000°, Azm92.0000°; P -1.4955, Plg50.0000°, Azm289.0000°;

ISC 16 01:26:49.3±1.1, 65°.58N±0°.03×166°.79W±0°.03, h4km±8km, n168, σ1°34/170, mb4.2/18, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F14K	**Arctic Creek**	**0.22**	**119**		**Pg**	**01 26 53.8**	**+0.2**
F14K					**Sg**	**01 26 56.7**	**+0.3**
TNA	**Tin City**	**0.47**	**268**		**Pg**	**01 26 58.3**	**-0.1**
TNA					**Sg**	**01 27 05.2**	**+0.6**
TNA	**Tin City**	**0.47**	**268**	P	**Pg**	**01 26 58.4**	**-0.1**
	baz=96						
TNA				S	**Sg**	**01 27 04.9**	**+0.3**
	baz=96						
F15K	**North Star Dit**	**0.90**	**81**		**Pg**	**01 27 06.2**	**-0.3**
F15K	**North Star Dit**	**0.90**	**81**		**Sg**	**01 27 17.6**	**-0.4**
F15K				IAML		01 27 21.1	
	comp=N,14μm,0.4s						
F15K				IAML		01 27 21.3	
	comp=E,11μm,0.4s						
ANM	**Nome**	**1.18**	**149**	Pn	**Pb**	**01 27 10.8**	**-1.4**
ANM				Sg	**Sb**	**01 27 26.5**	**-1.4**
ANM	**Nome**	**1.18**	**149**	P	**Pb**	**01 27 10.9**	**-1.4**
	baz=328						
ANM				S	**Sb**	**01 27 25.0**	**-2.9**
	baz=328						
G15K	**Niukluk**	**1.30**	**116**		**Pn**	**01 27 12.9**	**-1.3**
G15K					**Sb**	**01 27 30.6**	**-0.6**
G16K	**Koyuk River**	**1.86**	**94**		**Pn**	**01 27 20.4**	**-1.5**
G16K					**Sb**	**01 27 47.5**	**+0.2**
H16K	**Elim**	**2.14**	**114**		**Pn**	**01 27 24.2**	**-1.6**
H16K					**Sb**	**01 27 54.2**	**-1.3**
H16K	**Elim**	**2.14**	**114**	P	**Pn**	**01 27 25.0**	**-0.7**
	baz=296						
F17K	**Baldwin Pennin**	**2.42**	**67**		**Pn**	**01 27 28.9**	**-0.6**
F17K				IAML		01 28 09.8	
	comp=E,2μm,0.7s						
F17K				IAML		01 28 14.1	
	comp=N,2μm,0.8s						
E17K	**Hotham Inlet**	**2.50**	**51**		**Pn**	**01 27 30.4**	**-0.3**
E17K					**Pb**	**01 27 33.2**	**-1.6**
E17K					**Sb**	**01 28 06.4**	**+0.5**
E17K	**Hotham Inlet**	**2.50**	**51**	P	**Pb**	**01 27 33.2**	**-1.6**
	baz=234						
G17K	**Kiwalik Mounta**	**2.55**	**89**		**Pn**	**01 27 30.0**	**-1.4**
D17K	**Noatak River**	**2.59**	**33**		**Pn**	**01 27 31.3**	**-0.6**
D17K	**Noatak River**	**2.59**	**33**	P	**Pn**	**01 27 31.4**	**-0.5**
	baz=216						
C16K	**Lisburne Hills**	**2.76**	**11**		**Pn**	**01 27 33.8**	**-0.5**
GAMB	**Gambell**	**2.79**	**232**		**Pn**	**01 27 33.1**	**-1.5**
GAMB	**Gambell**	**2.79**	**232**	P	**Pn**	**01 27 32.4**	**-2.1**
	baz=48						
RDOG	**Red Dog Mine**	**2.92**	**30**	Pn	**Pn**	**01 27 35.4**	**-1.0**
RDOG	**Red Dog Mine**	**2.92**	**30**		**Sn**	**01 28 12.8**	**+1.0**
RDOG	**Red Dog Mine**	**2.92**	**30**	P	**Pn**	**01 27 37.5**	**+1.1**
	baz=213						
RDOG				S	**Sn**	**01 28 12.8**	**+1.0**
	baz=213						
H17K	**Granite Mounta**	**2.96**	**99**		**Pn**	**01 27 36.0**	**-1.0**
H17K	**Granite Mounta**	**2.96**	**99**	IAML		01 28 22.5	
	comp=N,815nm,0.6s						
H17K				IAML		01 28 27.4	
	comp=E,937nm,0.4s						
F18K	**Selawik**	**3.08**	**67**		**Pn**	**01 27 37.9**	**-0.7**
F18K					**Sn**	**01 28 17.2**	**+1.4**
F18K	**Selawik**	**3.08**	**67**	P	**Pn**	**01 27 39.6**	**+1.0**
	baz=253						
F18K				S	**Sn**	**01 28 17.2**	**+1.4**
	baz=253						
E18K	**Tukpahlearik C**	**3.09**	**50**		**Pn**	**01 27 38.7**	**-0.1**
E18K				IAML		01 28 35.6	
	comp=N,859nm,0.8s						
I17K	**Unalakleet**	**3.12**	**120**		**Pn**	**01 27 38.5**	**-0.6**
I17K				IAML		01 28 32.5	
	comp=N,906nm,0.6s						
I17K				IAML		01 28 33.9	
	comp=E,1μm,0.9s						
J14K	**Nanvaranak Lak**	**3.18**	**152**		**Pn**	**01 27 39.2**	**-0.7**
J14K	**Nanvaranak Lak**	**3.18**	**152**	IAML		01 28 34.2	
	comp=E,688nm,0.6s						
C17K	**DeLong Mountai**	**3.23**	**24**		**Pn**	**01 27 40.8**	**0.0**
G18K	**Tagagawik**	**3.37**	**81**		**Pn**	**01 27 41.4**	**-1.3**
G18K	**Tagagawik**	**3.37**	**81**	IAML		01 28 45.4	
	comp=N,676nm,0.7s						
J16K	**Anvik River**	**3.54**	**128**		**Pn**	**01 27 44.1**	**-0.8**
H18K	**Honhosa River**	**3.55**	**93**		**Pn**	**01 27 44.3**	**-0.9**
H18K	**Honhosa River**	**3.55**	**93**	IAML		01 28 48.3	
	comp=N,863nm,1.0s						
C18K	**Utukok River**	**3.77**	**33**		**Pn**	**01 27 49.0**	**+0.8**
K13K	**Kusilvak Mount**	**3.78**	**165**		**Pn**	**01 27 47.7**	**-0.6**
K13K	**Kusilvak Mount**	**3.78**	**165**	IAML		01 28 57.8	
	comp=N,422nm,1.2s						
K13K				IAML		01 29 03.0	
	comp=E,525nm,0.8s						
F19K	**Shaleruckik Mo**	**3.86**	**67**		**Pn**	**01 27 49.3**	**-0.1**
F19K	**Shaleruckik Mo**	**3.86**	**67**	IAML		01 28 51.9	
	comp=N,512nm,0.8s						
F19K				IAML		01 28 54.0	
	comp=E,439nm,0.7s						
J17K	**VABM Dome**	**3.99**	**120**		**Pn**	**01 27 51.3**	**+0.2**
J17K	**VABM Dome**	**3.99**	**120**	IAML		01 28 58.8	
	comp=E,485nm,0.7s						
J17K				IAML		01 29 08.7	
	comp=N,554nm,0.9s						
G19K	**Purcell Mounta**	**4.02**	**78**		**Pn**	**01 27 50.3**	**-1.3**
K15K	**Wolf Creek Mou**	**4.03**	**143**		**Pn**	**01 27 51.1**	**-0.6**
B18K	**Kokolik River**	**4.25**	**25**		**Pn**	**01 27 56.2**	**+1.4**
E19K	**Redstone River**	**4.26**	**59**		**Pn**	**01 27 55.1**	**+0.2**
E19K	**Redstone River**	**4.26**	**59**	IAML		01 29 07.5	
	comp=E,313nm,0.6s						
E19K				IAML		01 29 23.7	
	comp=N,399nm,1.0s						
H19K	**Roundabout Mou**	**4.30**	**86**		**Pn**	**01 27 55.2**	**-0.1**
H19K	**Roundabout Mou**	**4.30**	**86**	IAML		01 29 06.5	
	comp=E,450nm,0.7s						
H19K				IAML		01 29 16.2	
	comp=N,467nm,1.5s						
D19K	**Kuna River**	**4.48**	**45**		**Pn**	**01 27 58.1**	**+0.2**
D19K	**Kuna River**	**4.48**	**45**	IAML		01 29 26.2	
	comp=N,259nm,0.9s						
C19K	**Lookout Ridge**	**4.50**	**35**		**Pn**	**01 27 59.8**	**+1.6**
L15K	**Ungalak Mounta**	**4.58**	**146**		**Pn**	**01 27 59.2**	**0.0**
L14K	**Kuka Creek**	**4.64**	**155**		**Pn**	**01 27 59.9**	**-0.1**
K17K	**Iditarod**	**4.70**	**124**		**Pn**	**01 28 00.5**	**-0.3**
F20K	**Avaraart Lake**	**4.70**	**67**		**Pn**	**01 28 01.3**	**+0.5**
F20K	**Avaraart Lake**	**4.70**	**67**	IAML		01 29 27.9	
	comp=N,242nm,0.8s						
J18K	**Innoko River**	**4.84**	**111**		**Pn**	**01 28 02.4**	**-0.4**
J18K	**Innoko River**	**4.84**	**111**	IAML		01 29 26.6	
	comp=E,187nm,1.3s						
J18K				IAML		01 29 31.9	
	comp=N,233nm,1.2s						
H20K	**Anotleneega Mo**	**4.95**	**86**		**Pn**	**01 28 04.2**	**-0.1**
E20K	**Nigu River**	**4.96**	**52**		**Pn**	**01 28 05.0**	**+0.5**
J19K	**Poorman**	**5.03**	**103**		**Pn**	**01 28 05.8**	**+0.3**
J19K	**Poorman**	**5.03**	**103**	IAML		01 29 32.6	
	comp=N,263nm,1.0s						
J19K				IAML		01 29 34.1	
	comp=E,215nm,1.1s						
D20K	**Etivluk River**	**5.06**	**47**		**Pn**	**01 28 06.3**	**+0.5**
L16K	**Owhat River**	**5.07**	**137**		**Pn**	**01 28 06.0**	**+0.1**
L16K				IAML		01 29 35.7	
	comp=N,168nm,1.5s						
L16K				IAML		01 29 37.4	
	comp=E,220nm,1.7s						
L17K	**Donlin**	**5.10**	**129**		**Pn**	**01 28 06.6**	**+0.2**
M11K	**Mekoryuk**	**5.22**	**177**		**Pn**	**01 28 07.8**	**-0.2**
M11K				IAML		01 29 50.6	
	comp=E,244nm,1.1s						
M14K	**Bethel**	**5.32**	**154**	Pn	**Pn**	**01 28 09.6**	**+0.2**
M14K	**Bethel**	**5.32**	**154**	P	**Pn**	**01 28 09.8**	**+0.5**
	baz=337						
IMAR	**Indian Mountai**	**5.38**	**80**		**Pn**	**01 28 11.2**	**+0.9**
TTA	**Tatalina**	**5.40**	**115**	Pn	**Pn**	**01 28 11.0**	**+0.5**
TTA				IAML		01 29 51.9	
	comp=N,178nm,0.9s						
TTA	**Tatalina**	**5.40**	**115**	P	**Pn**	**01 28 11.3**	**+0.8**
	baz=304						
M13K	**Dall Lake**	**5.42**	**162**		**Pn**	**01 28 11.0**	**+0.3**
G21K	**Allakaket**	**5.49**	**74**		**Pn**	**01 28 12.1**	**+0.4**
J20K	**Nowinta River**	**5.57**	**99**		**Pn**	**01 28 13.1**	**+0.3**
L18K	**Granite Mounta**	**5.59**	**122**		**Pn**	**01 28 13.6**	**+0.5**
F21K	**Alatna River**	**5.59**	**67**		**Pn**	**01 28 14.1**	**+1.0**
M15K	**Kasigluk River**	**5.63**	**148**		**Pn**	**01 28 13.8**	**+0.2**
B20K	**Meade River**	**5.75**	**35**		**Pn**	**01 28 15.4**	**+0.3**
M16K	**Timber Creek**	**5.78**	**139**		**Pn**	**01 28 16.1**	**+0.4**
E21K	**Killik River**	**5.78**	**54**		**Pn**	**01 28 16.1**	**+0.4**
H21K	**Melozitna Rive**	**5.79**	**83**		**Pn**	**01 28 16.3**	**+0.5**
C21K	**Kniefelade Rid**	**5.86**	**47**		**Pn**	**01 28 17.9**	**+1.2**
M17K	**Holitna River**	**5.92**	**131**		**Pn**	**01 28 18.1**	**+0.4**
K20K	**Telida**	**5.93**	**106**		**Pn**	**01 28 18.3**	**+0.5**
N14K	**Kuskokwak Cree**	**6.14**	**155**		**Pn**	**01 28 20.7**	**+0.1**
B21K	**Ikpikpuk River**	**6.16**	**43**		**Pn**	**01 28 21.1**	**+0.2**
N15K	**Kwethluk River**	**6.23**	**148**		**Pn**	**01 28 22.1**	**+0.1**
L19K	**White Mountain**	**6.27**	**117**		**Pn**	**01 28 22.7**	**+0.2**
N16K	**Nishlik Lake**	**6.29**	**141**		**Pn**	**01 28 23.2**	**+0.6**
M18K	**Stony River**	**6.39**	**125**		**Pn**	**01 28 24.2**	**+0.2**
D22K	**Ayikyak River**	**6.39**	**53**		**Pn**	**01 28 25.1**	**+1.0**
CHUM	**Lake Minchumin**	**6.42**	**99**		**Pn**	**01 28 25.0**	**+0.5**
E22K	**Anaktuvuk Pass**	**6.43**	**60**		**Pn**	**01 28 25.8**	**+1.1**
L20K	**Farewell, AK**	**6.46**	**113**		**Pn**	**01 28 25.2**	**+0.1**
M19K	**Big River Lodg**	**6.62**	**118**		**Pn**	**01 28 27.7**	**+0.5**
N17K	**Nushagak Hills**	**6.68**	**135**		**Pn**	**01 28 28.4**	**+0.3**
CAST	**Castle Rocks**	**6.71**	**102**	Pn	**Pn**	**01 28 28.9**	**+0.5**
O14K	**Tigyukauivet M**	**6.85**	**156**		**Pn**	**01 28 30.6**	**+0.3**
BPAW	**Bear Paw Mtn.**	**6.89**	**95**		**Pn**	**01 28 31.9**	**+0.9**
PPLA	**Purkeypile**	**6.90**	**106**		**Pn**	**01 28 31.7**	**+0.4**
B22K	**Teshekpuk Lake**	**6.92**	**40**		**Pn**	**01 28 30.8**	**-0.5**
N18K	**Kilae Creek**	**6.96**	**130**		**Pn**	**01 28 33.1**	**+1.2**
A22K	**Sinclair Lake**	**6.97**	**34**		**Pn**	**01 28 31.6**	**-0.4**
D23K	**Nanushuk River**	**7.09**	**54**		**Pn**	**01 28 35.0**	**+1.3**
M20K	**Styx River**	**7.10**	**115**		**Pn**	**01 28 34.7**	**+0.9**
KTH	**Kantishna Hill**	**7.12**	**99**	Pn	**Pn**	**01 28 34.5**	**+0.3**
O15K	**Ungalikthiuk R**	**7.19**	**159**		**Pn**	**01 28 35.4**	**+0.4**
O16K	**Kokwok River B**	**7.22**	**142**		**Pn**	**01 28 35.8**	**+0.4**
I23K	**Minto, Yukon-K**	**7.29**	**85**		**Pn**	**01 28 37.3**	**+0.9**
N19K	**Bonanza Creek**	**7.33**	**125**		**Pn**	**01 28 37.9**	**+0.9**
TOLK	**Toolik Lake Re**	**7.37**	**58**	Pn	**Pn**	**01 28 38.8**	**+1.3**
TRF	**Thorofare Moun**	**7.43**	**99**		**Pn**	**01 28 38.9**	**+0.4**
C23K	**Itkillik River**	**7.47**	**48**		**Pn**	**01 28 38.7**	**-0.1**
BWN	**Browne**	**7.50**	**93**		**Pn**	**01 28 42.3**	**+3.0**
NEA2	**Nenana**	**7.54**	**89**		**Pn**	**01 28 39.9**	**0.0**
SPNN	**North Nagishla**	**7.58**	**117**		**Pn**	**01 28 41.7**	**+1.1**
E24K	**Your Creek**	**7.63**	**63**		**Pn**	**01 28 42.1**	**+1.1**
SKT	**Skwentna**	**7.65**	**111**	Pn	**Pn**	**01 28 42.8**	**+1.4**
D24K	**Happy Valley**	**7.78**	**55**		**Pn**	**01 28 44.2**	**+1.0**
H24K	**Noodor Dome**	**7.80**	**80**		**Pn**	**01 28 44.5**	**+1.1**
O18K	**Koktuh Hills**	**7.82**	**132**		**Pn**	**01 28 44.2**	**+0.5**
STLK	**Strandline Lak**	**7.82**	**115**		**Pn**	**01 28 44.6**	**+0.8**
CKL	**Chakachamna La**	**7.83**	**117**		**Pn**	**01 28 44.6**	**+0.8**
O19K	**Port Alsworth**	**7.84**	**128**		**Pn**	**01 28 42.5**	**-1.4**
SPCR	**Spurr Chakacha**	**7.87**	**117**		**Pn**	**01 28 44.8**	**+0.3**
MCK	**McKinley**	**7.87**	**95**		**Pn**	**01 28 44.9**	**+0.5**
SPCG	**Spurr Capps Gl**	**7.88**	**116**		**Pn**	**01 28 44.9**	**+0.2**
SPU	**Mount Spurr**	**7.94**	**117**		**Pn**	**01 28 47.3**	**+1.9**
WRH	**Wood River Hil**	**7.98**	**89**		**Pn**	**01 28 46.4**	**+0.5**
RND	**Reindeer**	**8.03**	**97**	Pn	**Pn**	**01 28 47.0**	**+0.4**
NCT	**North Crescent**	**8.04**	**122**		**Pn**	**01 28 46.2**	**-0.6**
CCB	**Clear Creek Bu**	**8.05**	**88**		**Pn**	**01 28 46.5**	**-0.3**
DFR	**Drift River**	**8.11**	**122**		**Pn**	**01 28 48.0**	**+0.3**
RDT	**Redoubt**	**8.22**	**121**		**Pn**	**01 28 49.4**	**+0.1**
SUA	**Susitna One**	**8.26**	**113**	Pn	**Pn**	**01 28 52.1**	**+2.3**
WAT7	**Susitna Watana**	**8.28**	**101**		**Pn**	**01 28 49.1**	**-1.1**
IL31		**8.40**	**86**		**Pn**	**01 28 50.6**	**-1.0**
ILAR	**Eielson Array**	**8.40**	**86**	Pn	**Pn**	**01 28 51.3**	**-0.4**
	comp=N,0.5nm,0.3s,baz=280,slow=13,SNR=44						
ILAR				Sn	**Sn**	**01 30 22.4**	**-4.4**
	comp=N,0.7nm,0.3s,baz=286,slow=24,SNR=5.6						
ILAR				Lg	Lg	01 31 16.0	
	comp=N,0.4nm,0.3s,baz=286,slow=28,SNR=6.6						
	comp=N,2.8nm,0.5s						
GHO	**Glory Hole Cre**	**8.79**	**107**		**Pn**	**01 28 57.6**	**+0.5**
SCRK	**Sand Creek**	**9.84**	**89**		**Pn**	**01 29 15.2**	**+3.7**
J26L	**Joseph Creek**	**9.86**	**86**		**Pn**	**01 29 11.6**	**0.0**
E27K	**Coleen River**	**10.20**	**64**		**Pn**	**01 29 17.6**	**+1.3**
KDAK	**Kodiak Island**	**10.30**	**133**	Pn	**Pn**	**01 29 21.1**	**+3.4**
	comp=N,0.2nm,0.3s,baz=101,slow=13,SNR=1.8						
	comp=N,8.9nm,0.9s						
E28M	**Babbage River**	**10.99**	**62**		**Pn**	**01 29 29.1**	**+2.1**
INK	**Inuvik**	**13.21**	**63**	Pn	**Pn**	**01 29 59.4**	**+2.1**
	comp=N,0.2nm,0.3s,baz=221,slow=5.6,SNR=7.0						
INK				Sn	**Sn**	**01 32 16.8**	**-7.5**
	baz=316,slow=7.7,SNR=2.1						
	comp=N,0.7nm,0.6s						
A36M	**Sachs Harbour**	**16.02**	**48**		**Pn**	**01 30 32.4**	**-2.6**
DLBC	**Dease Lake**	**18.43**	**95**	P	**Pn**	**01 31 10.3**	**+4.9**
	comp=N,0.2nm,0.3s,baz=144,slow=15,SNR=2.0						
	comp=N,0.7nm,0.3s						
YKA	**Yellowknife Ar**	**22.50**	**73**	P	**P**	**01 31 52.6**	**+3.3**
	comp=N,1.6nm,1.0s,baz=302,slow=11,SNR=2.7						
	comp=N,1.6nm,1.0s						
TIXI	**Tiksi**	**23.12**	**313**	P	**P**	**01 31 54.6**	**-1.1**
	comp=N,3.2nm,0.3s,baz=85,slow=8.2,SNR=6.2						
	comp=N,3.2nm,0.3s						
NRIK	**Norilʼsk**	**35.86**	**324**	P	**P**	**01 33 50.1**	**+0.7**
	comp=N,2.1nm,0.6s,baz=38,slow=10,SNR=5.8						
	comp=N,2.1nm,0.6s						
PDAR	**Pinedale Array**	**38.65**	**97**	P	**P**	**01 34 16.8**	**+3.1**
	comp=N,0.2nm,0.6s,baz=338,slow=6.8,SNR=2.8						
	comp=N,0.2nm,0.6s						
MJAR	**Matsushiro Arr**	**43.02**	**255**	P	**P**	**01 34 49.6**	**+0.1**
	comp=N,0.9nm,0.3s,baz=39,slow=8.0,SNR=4.0						
	comp=N,0.9nm,0.3s						
ARCES	**ARCESS Array B**	**44.88**	**354**	P	**P**	**01 35 03.4**	**-0.7**
	comp=N,2.0nm,0.8s,baz=24,slow=9.3,SNR=1.4						
	comp=N,2.0nm,0.8s						
SONM	**Songino Array**	**46.56**	**292**	P	**P**	**01 35 15.7**	**-2.0**
	comp=N,1.0nm,0.8s,baz=28,slow=7.5,SNR=5.5						
	comp=N,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**49.00**	**312**	P	**P**	**01 35 36.2**	**-0.2**
	comp=N,1.8nm,0.6s,baz=29,slow=6.2,SNR=9.9						
	comp=N,1.8nm,0.6s						
TXAR	**Lajitas Array**	**52.60**	**101**	P	**P**	**01 36 07.5**	**+3.6**
	comp=N,0.4nm,0.9s,baz=331,slow=5.4,SNR=2.8						
	comp=N,0.4nm,0.9s						
FINES	**FINESS Array B**	**52.92**	**352**	P	**P**	**01 36 05.9**	**+0.1**
	comp=N,2.1nm,0.5s,baz=14,slow=7.1,SNR=2.7						
	comp=N,2.1nm,0.5s						
KURBB	**Kurchatov Arra**	**53.80**	**314**	P	**P**	**01 36 12.2**	**-0.2**
	comp=N,1.5nm,0.2s,baz=31,slow=7.3,SNR=2.8						
	comp=N,1.5nm,0.2s						
BVAR	**Borovoye Array**	**53.94**	**321**	P	**P**	**01 36 12.8**	**-0.6**
	comp=N,2.5nm,0.8s,baz=39,slow=9.3,SNR=9.3						
	comp=N,2.5nm,0.8s						
MKAR	**Makanchi Array**	**56.02**	**309**	P	**P**	**01 36 27.3**	**-1.3**
	comp=N,0.6nm,0.7s,baz=64,slow=5.5,SNR=3.8						
	comp=N,0.6nm,0.7s						
EKA	**Eskdalemuir Ar**	**58.77**	**11**	P	**P**	**01 36 46.9**	**-0.9**
	comp=N,2.2nm,0.8s,baz=202,slow=25,SNR=1.5						
	comp=N,2.2nm,0.8s						
AKASG	**Malin Array Be**	**63.40**	**349**	P	**P**	**01 37 18.8**	**-0.5**
	comp=N,0.9nm,0.6s,baz=12,slow=6.4,SNR=3.3						
	comp=N,0.9nm,0.6s						
GERES	**GERESS Array B**	**65.91**	**360**	P	**P**	**01 37 36.5**	**+0.7**
	comp=N,1.5nm,0.9s,baz=17,slow=8.3,SNR=3.7						
	comp=N,1.5nm,0.9s						
ESDC	**Sonseca Array**	**74.23**	**14**	P	**P**	**01 38 26.8**	**-0.1**
	comp=N,1.0nm,0.9s,baz=348,slow=5.7,SNR=7.2						
	comp=N,1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**75.12**	**282**	P	**P**	**01 38 32.4**	**0.0**
	comp=N,1.6nm,0.3s,baz=0.0,slow=8.1,SNR=5.8						
	comp=N,1.6nm,0.3s						

*AUST **16** 01:29:46.2±0.4, 32°.5±2°.×13°.9E±°, h11km±2km, mb3.7/3, ML2.5/15, Error ellipse: s-maj=4.3km s-min=3.7km az=103.9*
*NOU **16** 01:29:46.2, 31°.73S×138°.58E, h0km, MLv3.3/9, South Australia*

ISC 16 01:29:47.0±1.0, 31°.70S±0°.04×138°.58E±0°.04, h14km, n29, σ0°74/32, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAPP	**Yappala Statio**	**0.28**	**233**	P	**Pg**	**01 29 52.6**	**-0.4**
YAPP				S	**Sg**	**01 29 56.9**	**-0.1**
LCRK	**Leigh Creek**	**1.28**	**346**	P	**Pn**	**01 30 10.3**	**-0.2**
LCRK	**Leigh Creek**	**1.28**	**346**	S	**Sb**	**01 30 27.8**	**+0.6**
LCRK	**Leigh Creek**	**1.28**	**346**	P	**Pn**	**01 30 10.3**	**-0.2**
NAPP	**Napperby**	**1.53**	**194**	P	**Pn**	**01 30 13.5**	**-0.3**
WHYH	**Whyalla**	**1.58**	**212**	P	**Pn**	**01 30 14.2**	**-0.3**
WHYH				S	**Sn**	**01 30 34.7**	**-0.2**
HTT	**Hallett**	**1.75**	**171**	P	**Pn**	**01 30 17.5**	**+0.4**
HTT	**Hallett**	**1.75**	**171**	P	**Pn**	**01 30 17.4**	**+0.4**
BBOO	**Buckleboo**	**2.41**	**242**	P	**Pn**	**01 30 25.9**	**0.0**
BBOO	**Buckleboo**	**2.41**	**242**	S	**Sn**	**01 30 56.0**	**+0.7**
BBOO	**Buckleboo**	**2.41**	**242**	P	**Pn**	**01 30 26.7**	**+0.7**
STKA	**Stephens Creek**	**2.57**	**95**	P	**Pn**	**01 30 28.0**	**-0.3**
STKA	**Stephens Creek**	**2.57**	**95**	S	**Sn**	**01 30 59.9**	**+0.5**
STKA	**Stephens Creek**	**2.57**	**95**	P	**Pn**	**01 30 28.5**	**+0.2**
SDAN	**Sedan**	**2.88**	**167**	P	**Pn**	**01 30 32.6**	**+0.2**
SDAN				S	**Sn**	**01 31 07.7**	**+0.9**
MULG	**Mulgathing**	**4.13**	**289**	P	**Pn**	**01 30 49.7**	**+0.1**
MULG	**Mulgathing**	**4.13**	**289**	S	**Sn**	**01 31 37.3**	**-0.4**
MULG	**Mulgathing**	**4.13**	**289**	P	**Pn**	**01 30 49.9**	**+0.2**
INKA	**Innaminka**	**4.37**	**26**	P	**Pn**	**01 30 53.3**	**+0.4**
INKA	**Innaminka**	**4.37**	**26**	S	**Sn**	**01 31 43.0**	**-0.7**
INKA	**Innaminka**	**4.37**	**26**	P	**Pn**	**01 30 54.7**	**+1.8**
KELC	**Kelly Hill Cav**	**4.49**	**198**	P	**Pn**	**01 30 55.1**	**+0.5**
OOD	**Oodnadatta**	**4.63**	**326**	P	**Pn**	**01 30 56.4**	**-0.1**
OOD	**Oodnadatta**	**4.63**	**326**	P	**Pn**	**01 30 58.2**	**+1.7**
ARPS	**Mount Arapiles**	**5.74**	**153**	P	**Pn**	**01 31 11.6**	**-0.1**
	comp=Z,9.6nm,1.2s,comp=Z,0.0nm						
CMSA	**Cobar Meteorol**	**6.07**	**90**	P	**Pn**	**01 31 15.1**	**-1.2**
	comp=Z,8.7nm,3.0s,comp=Z,0.1nm						
CMSA	**Cobar Meteorol**	**6.07**	**90**	P	**Pn**	**01 31 16.8**	**+0.5**
FORT	**Forrest**	**9.05**	**273**	P	**Pn**	**01 31 55.4**	**-1.8**
	comp=Z,15nm,1.5s,comp=Z,0.1nm						
FORT	**Forrest**	**9.05**	**273**	P	**Pn**	**01 31 58.0**	**+0.7**

*IDC **16** 01:29:57.7±3.7, 47°.80N×153°.46E, h96km±28km, mb3.5/10, mbtmp3.8/13, Error ellipse: s-maj=44.6km s-min=22.5km az=153.0*

ISC 16 01:29:59.9±1.6, 47°.9N±0°.2×153°.4E±0°.2, h117km, n13, σ1°08/14, mb3.6/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.94**	**26**	P	**Pn**	**01 31 23.2**	**-2.1**
	2.2nm,0.8s,baz=180,slow=12,SNR=9.0						
PETK				S	**Sn**	**01 32 33.4**	**+1.4**
	1.9nm,0.8s,baz=246,slow=32,SNR=2.1						
KLR	**Kulʼdur**	**14.41**	**284**	P	**Pn**	**01 33 17.7**	**-0.5**
	0.3nm,0.2s,baz=257,slow=3.9,SNR=1.5						
USRK	**Ussuriysk Ar.**	**15.31**	**264**	P	**Pn**	**01 33 28.9**	**-0.7**
	1.3nm,0.6s,baz=75,slow=12,SNR=1.8						
KSRS	**Korea Array**	**21.34**	**250**	P	**P**	**01 34 37.7**	**+0.2**
	1.8nm,0.8s,baz=61,slow=8.8,SNR=4.5						
	1.8nm,0.8s						
KURBB	**Kurchatov Arra**	**47.02**	**303**	P	**P**	**01 38 19.2**	**+0.2**
	0.8nm,0.2s,baz=64,slow=8.4,SNR=1.3						
	0.8nm,0.2s						
ARCES	**ARCESS Array B**	**56.88**	**341**	P	**P**	**01 39 31.5**	**-0.4**
	3.4nm,1.1s,baz=35,slow=6.6,SNR=1.3						
	3.4nm,1.1s						
FINES	**FINESS Array B**	**63.13**	**335**	P	**P**	**01 40 15.5**	**+0.9**
	0.9nm,0.4s,baz=38,slow=7.4,SNR=17						
	0.9nm,0.4s						
NOA	**NORSAR Array B**	**67.25**	**341**	P	**P**	**01 40 42.3**	**+1.0**
	0.5nm,0.7s,baz=5.6,slow=5.0,SNR=1.6						
	0.5nm,0.7s						
HFS	**Hagfors**	**67.50**	**339**	P	**P**	**01 40 43.7**	**+1.0**
	2.6nm,0.8s,baz=56,slow=4.8,SNR=6.8						
	2.6nm,0.8s						
AKASG	**Malin Array Be**	**70.75**	**326**	P	**P**	**01 41 02.2**	**-0.7**
	0.2nm,0.3s,baz=36,slow=6.4,SNR=2.8						
	0.2nm,0.3s						
EKA	**Eskdalemuir Ar**	**75.32**	**346**	P	**

FITZ	Fitzroy Crossi	19.21 184	P	P	01 36 08.6	+0.4
FITZ	Fitzroy Crossi	19.21 184	P	P	01 36 08.1	-0.1
	comp=Z,6.6nm,0.4s,baz=14,slow=9.7,SNR=52					
KPJI	Karang Pucung	19.86 245	P	Pn	01 36 16.4	-2.0
	comp=Z,42nm,1.0s					
CMJI	Cimerak	20.49 244	P	Pn	01 36 23.5	-2.3
	comp=Z,59nm,1.0s					
LEM	Lembang	20.86 247	P	P	01 36 26.7	+0.5
	comp=Z,18nm,0.4s,baz=321,slow=22,SNR=1.7					
	comp=Z,18nm,0.4s					
BBJI	Bungbulang	21.08 246	P	P	01 36 30.3	+1.9
CNJI	Cibinong	21.49 247	P	P	01 36 33.4	+0.7
	comp=Z,19nm,1.0s					
COEN	Coen	22.03 134	P	P	01 36 38.4	+0.1
WRA	Warramunga Arr	22.22 161	P	P	01 36 38.8	-1.4
WRA	Warramunga Arr	22.22 161	P	P	01 36 40.0	-0.2
	comp=Z,17nm,0.5s,baz=340,slow=11,SNR=115					
WRA			S	S	01 40 35.4	+1.2
	comp=Z,6.8nm,0.8s,baz=334,slow=20,SNR=5.7					
WRA			ScP	ScP	01 43 54.9	+0.2
	comp=Z,0.8nm,0.8s,baz=344,slow=3.2,SNR=3.5					
	comp=Z,17nm,0.5s					
WB1	Warramunga Ar.	22.24 161	P	P	01 36 40.3	0.0
WR0	Warramunga Arr	22.30 161	P	P	01 36 40.8	-0.1
WR0			IAmb	IAmb	01 36 41.6	
	comp=Z,15nm,0.6s					
SSLB	Suanglung	23.20 346	P	P	01 36 48.6	-0.7
SSLB			IAmb	IAmb	01 36 52.5	
	comp=Z,19nm,0.8s					
SSLB	Suanglung	23.20 346	P	P	01 36 50.0	+0.7
MBWA	Marble Bar	23.31 197	P	P	01 36 50.7	+0.5
MBWA			IAmb	IAmb	01 36 52.6	
	comp=Z,30nm,0.7s					
MBWA	Marble Bar	23.31 197	P	P	01 36 50.8	+0.5
PSA00	Pilbara Seismi	23.66 197	P	P	01 36 54.3	+0.8
PSA00			IAmb	IAmb	01 36 55.7	
	comp=Z,17nm,0.6s					
QIS	Mount Isa	24.92 151	P	P	01 37 05.9	+0.9
UBPT	Khong Chiam	25.40 305	P	P	01 37 09.9	+0.6
UBPT	Khong Chiam	25.40 305	P	P	01 37 10.2	+0.8
AS31	Alice Springs	25.62 165	P	P	01 37 11.7	+0.4
AS31			IAmb	IAmb	01 37 15.4	
	comp=Z,7.3nm,0.4s					
ASAR	Alice Springs	25.62 165	P	P	01 37 11.7	+0.4
	comp=Z,5.6nm,0.3s,baz=347,slow=12,SNR=72					
ASAR			PcP	PcP	01 40 39.0	+0.7
	comp=Z,1.6nm,0.5s,baz=356,slow=2.3,SNR=7.6					
ASAR			S	S	01 41 30.5	+2.0
	comp=Z,0.4nm,0.6s,baz=334,slow=10,SNR=2.1					
ASAR			ScP	ScP	01 44 06.0	+2.1
	comp=Z,0.8nm,0.6s,baz=343,slow=3.0,SNR=4.8					
	comp=Z,5.6nm,0.3s					
MTSU	Mount Surprise	25.71 139	P	P	01 37 13.7	+1.5
WRKA	Warakurna	26.11 177	P	P	01 37 16.7	+1.0
MEEK	Meekatharra	28.81 196	P	P	01 37 40.5	+0.7
NJ2	Nanjing	31.63 347	*e*P	P	01 38 07.8	+3.3
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.5s					
FORT	Forrest	31.81 178	P	P	01 38 06.9	+0.8
MORW	Morawa	31.85 198	P	P	01 38 07.8	+1.3
MULG	Mulgathing	32.03 168	P	P	01 38 08.9	+0.9
QLP	Quilpie	32.26 150	P	P	01 38 11.2	+1.1
	comp=Z,19nm,0.6s					
CMAR	Chiang Mai Arr	32.39 304	PcP	PcP	01 40 57.2	+1.6
	comp=Z,1.4nm,0.3s,baz=186,slow=2.4,SNR=4.2					
KMBL	Kambalda	32.73 188	P	P	01 38 15.4	+1.2
LCRK	Leigh Creek	33.25 162	P	P	01 38 19.4	+0.8
KLBR	Kellerberrin	33.75 194	P	P	01 38 24.3	+1.3
BBOO	Buckleboo	34.90 167	P	P	01 38 33.3	+0.5
BBOO			IAmb	IAmb	01 38 34.3	
	comp=Z,5.9nm,0.7s					
JSG	Sagara	34.93 16	P	P	01 38 37.0	+4.0
PZH	PanZhiHua	34.93 318	P	P	01 38 36.5	+3.1
PZH			pmax	pmax		
	comp=Z,10.0nm,0.5s					
NWAO	Narrogin (SRO)	35.15 194	P	P	01 38 36.4	+1.3
STKA	Stephens Creek	35.70 158	P	P	01 38 40.4	+0.6
STKA	Stephens Creek	35.70 158	P	P	01 38 40.2	+0.4
	comp=Z,5.2nm,0.7s,baz=337,slow=10.0,SNR=13					
STKA			PP	PP	01 40 02.6	-1.4
	comp=Z,3.2nm,0.8s,baz=334,slow=13,SNR=3.2					
STKA			PcP	PcP	01 41 05.7	+1.0
	comp=Z,1.7nm,0.5s,baz=335,slow=3.6,SNR=3.9					
	comp=Z,5.2nm,0.7s					
STKA	Stephens Creek	35.70 158	P	P	01 38 40.7	+1.0
KSRS	Korea Array	36.10 1	P	P	01 38 51.6	+8.6
	comp=Z,1.5nm,0.5s,baz=181,slow=9.1,SNR=5.4					
MJAR	Matsushiro Arr	36.69 15	P	P	01 38 48.3	+0.2
	comp=Z,0.4nm,0.3s,baz=195,slow=8.3,SNR=1.8					
	comp=Z,0.4nm,0.3s					
XAN	Xi'an	36.77 335	P	P	01 38 48.8	-0.1
XAN			pP	pP	01 39 18.3	-2.5
XAN			pmax	pmax		
	comp=Z,12nm,0.8s					
RKGY	Rocky Gully	36.82 194	P	P	01 38 51.7	+2.5
ARMA	Armidale	39.26 145	P	P	01 39 11.7	+1.9
ARPS	Mount Arapiles	40.23 161	P	P	01 39 19.2	+1.6
HHC	Hu-ho-hao-te	41.86 342	*e*P	P	01 39 34.1	+3.0
HHC			PcP	PcP	01 41 25.3	+1.2
HHC			*e*S	S	01 45 45.6	+7.8
HHC			SS	SS	01 48 54.8	+4.4
HHC			pmax	pmax		
	comp=Z,6.0nm,0.6s					
USRK	Ussuriysk Ar.	43.06 5	P	P	01 39 39.6	-0.9
	comp=Z,1.1nm,0.6s,baz=212,slow=8.0,SNR=2.8					
	comp=Z,1.1nm,0.6s					
ULN	Ulaanbaatar	49.58 342	P	P	01 40 33.7	+2.1
SONM	Songino Array	49.76 342	P	P	01 40 32.7	-0.1
SONM	Songino Array	49.76 342	P	P	01 40 33.0	+0.1
	comp=Z,2.6nm,0.8s,baz=154,slow=8.1,SNR=15					
	comp=Z,2.6nm,0.8s					
PETK	Petropavlovsk-	57.69 21	P	P	01 41 30.6	+0.2
	comp=Z,1.0nm,0.5s,baz=208,slow=6.0,SNR=1.3					
	comp=Z,1.0nm,0.5s					
MK31	Makanchi Array	59.76 326	P	P	01 41 45.3	+0.6
MK31			IAmb	IAmb	01 41 46.1	
	comp=Z,3.5nm,0.8s					
MKAR	Makanchi Array	59.76 326	P	P	01 41 45.1	+0.3
MKAR	Makanchi Array	59.76 326	P	P	01 41 45.4	+0.7
	comp=Z,2.5nm,0.3s,baz=118,slow=7.8,SNR=55					
	comp=Z,2.5nm,0.3s					
MAKZ	Makanchi	59.94 326	P	P	01 41 46.5	+0.5
MAKZ			IAmb	IAmb	01 42 21.2	
	comp=Z,13nm,1.3s					
ZAA0	Zalesovo Array	62.94 334	P	P	01 42 07.8	+1.9
ZALV	Zalesovo Beam	62.94 334	P	P	01 42 07.6	+1.7
ZALV	Zalesovo Beam	62.94 334	P	P	01 42 04.9	-1.0
	comp=Z,1.7nm,0.5s,baz=123,slow=5.5,SNR=9.0					
	comp=Z,1.7nm,0.5s					
KBL	Kabul	63.24 308	P	P	01 42 09.1	+0.5
KBL			IAmb	IAmb	01 42 10.0	
	comp=Z,5.5nm,0.9s					
GAR	Garm	63.80 314	IAmb	IAmb	01 42 15.1	
	comp=Z,8.0nm,0.6s					
KURBB	Kurchatov Arra	63.98 328	P	P	01 42 13.1	+0.2
	comp=Z,4.5nm,0.5s,baz=126,slow=6.1,SNR=24					
	comp=Z,4.5nm,0.5s					
KURK	Kurchatov	63.99 328	P	P	01 42 13.2	+0.3
KURK			IAmb	IAmb	01 42 16.1	
	comp=Z,8.0nm,0.7s					
KKAR	Karatay Array	65.23 318	P	P	01 42 21.5	+0.3
KKAR	Karatay Array	65.23 318	P	P	01 42 21.6	+0.4
KKAR			IAmb	IAmb	01 42 22.5	
	comp=Z,2.4nm,0.9s					
BVAR	Borovoye Array	69.55 327	P	P	01 42 48.0	-0.1
	comp=Z,1.6nm,0.5s,baz=141,slow=9.3,SNR=7.7					
	comp=Z,1.6nm,0.5s					
NRIK	Noril'sk	72.93 346	P	P	01 43 07.6	-0.5
	comp=Z,2.5nm,0.6s,baz=110,slow=6.8,SNR=5.7					
	comp=Z,2.5nm,0.6s					
ABKAR	Akbulak array	74.24 321	P	P	01 43 16.1	-0.1
ABKAR	Akbulak array	74.24 321	P	P	01 43 16.0	-0.1
MAW	Mawson	81.46 200	P	P	01 43 57.1	+1.4
	comp=Z,5.6nm,0.6s,baz=73,slow=5.0,SNR=26					
	comp=Z,5.6nm,0.6s					
G19K	Purcell Mounta	83.25 23	P	P	01 44 06.5	+1.4
E19K	Redstone River	83.48 22	IAmb	IAmb	01 44 08.6	
	comp=Z,9.8nm,0.9s					
I21K	Tanana	85.17 25	IAmb	IAmb	01 44 48.0	
	comp=Z,9.9nm,0.7s					
E23K	Chandalar	86.44 22	P	P	01 44 20.9	-0.2
ILAR	Eielson Array	87.29 25	P	P	01 44 23.6	-1.6
	comp=Z,0.5nm,0.6s,baz=254,slow=4.8,SNR=7.0					
	comp=Z,0.5nm,0.6s					
C27K	Jago River	88.66 21	IAmb	IAmb	01 44 33.0	
	comp=Z,3.1nm,0.8s					
K27K	Chicken	89.37 26	IAmb	IAmb	01 44 37.3	
	comp=Z,5.9nm,1.2s					
I28M	Miner Creek	90.23 25	IAmb	IAmb	01 44 40.3	
	comp=Z,3.5nm,0.8s					
MMAI	Mount Meron Ar	90.65 303	P	P	01 44 42.1	+0.4
	comp=Z,4.9nm,0.9s,baz=69,slow=7.9,SNR=2.9					
	comp=Z,4.9nm,0.9s					
QSPA	South Pole Qui	91.11 180	P	P	01 44 44.1	+1.0
	comp=Z,1.6nm,0.5s,baz=116,slow=0.7,SNR=6.3					
	comp=Z,1.6nm,0.5s					
ARCES	ARCESS Array B	92.89 340	P	P	01 44 49.8	-1.4
	comp=Z,7.1nm,1.1s,baz=70,slow=5.3,SNR=3.9					
	comp=Z,7.1nm,1.1s					
FARO	Faro, Yukon	93.48 28	P	P	01 44 54.9	+0.8
MNK	Minsk	94.30 325	*i* P	P	01 44 55.9	-2.0
	comp=E,11nm,1.0s					
MNK			*i* P	P	01 44 55.9	-2.0
	comp=N,15nm,0.9s					
MNK			*i* P	P	01 44 55.9	-2.0
	comp=Z,3.0nm,0.7s,baz=82					
MNK			*i* pP	pP	01 45 29.3	-6.0
MNK			*i* PP	PP	01 48 44.6	-2.1
MNK			*i* PPP	PPP	01 50 41.8	
MNK			*i* S	SKSac	01 55 18.3	-0.6
MNK			*i* sS	ScS	01 56 19.2	+22
MNK			*i* SS	SS	02 02 22.7	+1.5
MNK			*i* SSS	SSS	02 06 10.2	
MNK			*i* LR	LR	02 27 01.9	
MNK			*i* LRM	MLR	02 28 09.8	
	comp=Z,114nm,17.6s					
MNK			*i* LRM	MLR	02 28 32.7	
	comp=E,115nm,17.5s					
MNK			*i* LRM	MLR	02 28 51.8	
	comp=N,94nm,15.8s					
PDAR	Pinedale Array	113.10 42	PKKPbc	PKKPbc	02 01 02.1	-1.7
	comp=N,0.3nm,0.5s,baz=113,slow=6.0,SNR=5.0					
PDAR			PKKPab	PKKPab	02 01 10.7	-0.4
	comp=N,0.3nm,0.6s,baz=117,slow=7.4,SNR=3.5					
TXAR	Lajitas Array	122.95 54	PKP	PKiKP	01 50 35.5	+0.3
	comp=N,0.5nm,0.7s,baz=208,slow=0.6,SNR=6.6					
TORD	Torodi Ar. Bea	123.88 287	PKP	PKiKP	01 50 37.4	+0.2
	comp=N,1.2nm,0.5s,baz=49,slow=2.2,SNR=16					
DBIC	Dimbokro	131.26 280	PKP	PKiKP	01 50 50.9	-1.2
	comp=N,1.5nm,0.6s,baz=134,slow=3.1,SNR=4.2					
CPUP	Villa Florida	154.67 171	PKPbc	PKiKP	01 51 40.2	+0.6
	comp=N,0.7nm,0.3s,baz=159,slow=3.4,SNR=3.1					
BDFB	Brasilia	164.80 199	PKPab	PKPab	01 52 38.0	-1.2
	comp=N,2.0nm,0.6s,baz=59,slow=5.2,SNR=3.7					

IDC 16 01:37:37.9±2.2, 2°.66N×126°.75E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=125.3km s-min=27.4km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.66	183	P	P	01 42 19.9	+0.5
	0.7nm,0.6s,baz=14,slow=8.3,SNR=1.3						
	0.7nm,0.6s						
WRA	Warramunga Arr	23.67	162	P	P	01 42 50.2	-1.1
	1.0nm,0.7s,baz=340,slow=10,SNR=5.4						
	1.0nm,0.7s						
ASAR	Alice Springs	27.08	165	P	P	01 43 23.4	+0.9
	0.2nm,0.4s,baz=344,slow=11,SNR=1.4						
	0.2nm,0.4s						
MKAR	Makanchi Array	58.44	326	P	P	01 47 35.5	-0.1
	0.3nm,0.7s,baz=126,slow=7.1,SNR=1.4						
	0.3nm,0.7s						

IDC 16 01:39:06.9±0.9, 2°.99N×127°.56E, h0km, mb3.9/11, mbtmp3.9/11, Error ellipse: s-maj=65.5km s-min=14.4km az=68.0
NEIC 16 01:39:08.9±2.1, 3°.02N±0°.07×127°.54E±0°.09, h10km±1km, mb4.5/12, Error ellipse: s-maj=18.6km s-min=5.1km az=124.0
DJA 16 01:39:12.8±0.6, 3°N±6°×12°7E±1°1, h10km, M3.6/4, MLv3.6/4
ISC 16 01:39:08.1±0.6, 3°.01N±0°.08×127°.6E±0°.1, h10km, n30, σ1°07/32, mb4.2/17, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.23	185		Pn	01 39 47.1	+1.8
TNTI	Ternate	2.23	185	P	Pb	01 39 48.4	-0.2
LUWI	Luwuk	6.25	230	Pn	Pn	01 40 40.9	+0.3
KNRA	Kununurra	18.61	176	P	P	01 43 25.2	-0.6
FITZ	Fitzroy Crossi	21.06	185	P	P	01 43 53.2	+0.6
	2.2nm,0.8s,baz=0.0,slow=10,SNR=3.0						
	2.2nm,0.8s						
WRA	Warramunga Arr	23.76	164	P	P	01 44 19.4	-1.6
WRA	Warramunga Arr	23.76	164	P	P	01 44 20.4	-0.6
	3.9nm,0.6s,baz=344,slow=10,SNR=21						
WRA			PcP	PcP	01 48 06.4	+1.4
	0.3nm,0.8s,baz=352,slow=5.2,SNR=1.3						
	3.9nm,0.6s						
WR0	Warramunga Arr	23.84	164	P	P	01 44 21.1	-0.6
WR0				IAmb	IAmb	01 44 50.0	
	comp=Z,8.1nm,1.3s						
ASAR	Alice Springs	27.23	167	P	P	01 44 52.0	-0.5
	comp=Z,0.7nm,0.6s,baz=349,slow=7.6,SNR=6.9						
ASAR			PcP	PcP	01 48 13.9	+1.2
	comp=Z,0.4nm,0.6s,baz=344,slow=2.5,SNR=4.8						
	comp=Z,0.7nm,0.6s						
CMAR	Chiang Mai Arr	31.95	301	P	P	01 45 34.5	+0.1
	comp=Z,0.9nm,0.3s,baz=97,slow=7.4,SNR=4.5						
	comp=Z,0.9nm,0.3s						
FORT	Forrest	33.60	179	P	P	01 45 46.9	-1.9
HNR	Honiara	34.56	111	P	P	01 45 57.8	+0.4
BBOO	Buckleboo	36.53	168	P	P	01 46 11.5	-2.5
BBOO				IAmb	IAmb	01 46 32.3	
	comp=Z,12nm,1.4s						
STKA	Stephens Creek	37.17	160	P	P	01 46 20.1	+0.7
STKA	Stephens Creek	37.17	160	P	P	01 46 19.4	-0.1
	comp=Z,4.7nm,0.7s,baz=335,slow=8.2,SNR=13						
	comp=Z,4.7nm,0.7s						
PINNC	Pines Island,	46.52	125	P	P	01 47 35.3	-0.8
SONM	Songino Array	48.24	341	P	P	01 47 49.3	0.0
	comp=Z,0.4nm,0.7s,baz=145,slow=10,SNR=1.9						
	comp=Z,0.4nm,0.7s						
MK31	Makanchi Array	58.61	325	P	P	01 49 06.3	+0.8
MK31				IAmb	IAmb	01 49 06.5	
	comp=Z,6.4nm,1.2s						
MKAR	Makanchi Array	58.61	325	P	P	01 49 06.2	+0.7
MKAR	Makanchi Array	58.61	325	P	P	01 49 06.3	+0.9
	comp=Z,0.8nm,0.6s,baz=122,slow=7.9,SNR=8.3						
	comp=Z,0.8nm,0.6s						
MAKZ	Makanchi	58.80	325	P	P	01 49 07.2	+0.4
MAKZ				IAmb	IAmb	01 49 23.1	
	comp=Z,9.5nm,1.3s						
ZALV	Zalesovo Beam	61.60	333	P	P	01 49 24.8	-0.9
	comp=Z,0.3nm,0.3s,baz=114,slow=7.0,SNR=2.1						
	comp=Z,0.3nm,0.3s						
KURBB	Kurchatov Arra	62.79	327	P	P	01 49 34.6	+0.8
	comp=Z,0.6nm,0.3s,baz=124,slow=6.4,SNR=6.4						
	comp=Z,0.6nm,0.3s						
KURK	Kurchatov	62.79	327	P	P	01 49 33.0	-0.7
KURK				IAmb	IAmb	01 49 35.5	
	comp=Z,2.8nm,0.8s						
KKAR	Karatay Array	64.32	317	P	P	01 49 41.8	-2.4
BVAR	Borovoye Array	68.37	327	P	P	01 50 11.0	+1.1
	comp=Z,0.6nm,0.4s,baz=126,slow=7.4,SNR=4.2						
	comp=Z,0.6nm,0.4s						
NRIK	Noril'sk	71.32	346	P	P	01 50 28.1	+0.4
	comp=Z,1.6nm,0.8s,baz=165,slow=16,SNR=1.9						
	comp=Z,1.6nm,0.8s						
ABKAR	Akbulak array	73.22	321	P	P	01 50 39.8	+0.3
ABKAR				IAmb	IAmb	01 51 07.7	
	comp=Z,3.6nm,1.4s						
ABKAR	Akbulak array	73.22	321	P	P	01 50 39.7	+0.2
TORD	Torodi Ar. Bea	123.93	288	PKP	PKPdf	01 58 07.6	-0.1
	comp=Z,0.5nm,0.8s,baz=39,slow=3.5,SNR=2.5						

DJA 16 01:45:26.5±0.5, 3°N±5°×12°7E±°, h10km, M3.6/5, MLv3.6/5
NEIC 16 01:45:31.5±0.5, 2°.4N±0°.1×126°.8E±0°.1, h73km±10km, mb4.3/8, Error ellipse: s-maj=25.5km s-min=11.9km az=45.0
IDC 16 01:45:39.7±6.5, 2°.48N×126°.94E, h164km±63km, mb3.6/11, mbtmp4.0/11, Error ellipse: s-maj=48.3km s-min=13.1km az=66.0
ISC 16 01:45:32.9±0.6, 2°.39N±0°.08×126°.8E±0°.1, h100km, n29, σ1°35/27, mb4.0/14, Northern Molucca Sea

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

TNTI	Ternate	1.70 161	Pn	Pn	01 45 59.4	-2.3
TNTI	Ternate	1.70 161	P	Pn	01 46 00.8	-0.9
TOLI2	Tolitoli	6.17 258	Pn	Pn	01 47 00.1	-1.4
SOEI	Soe	12.33 192	Pn	Pn	01 48 24.1	-1.1
SBUM	Sibu	14.59 271		P	01 48 58.0	-0.1
KNRA	Kununurra	18.06 174	P	Pn	01 49 36.1	-1.3
KNRA			IAmb	IAmb	01 49 48.4	
	comp=Z,16nm,1.4s					
FITZ	Fitzroy Crossi	20.39 183	P	Pn	01 50 05.3	+0.3
FITZ	Fitzroy Crossi	20.39 183	P	Pn	01 50 05.2	+0.2
	comp=Z,1.7nm,0.5s,baz=333,slow=6.8,SNR=2.6					
	comp=Z,1.7nm,0.5s					
WRA	Warramunga Arr	23.39 162	P	P	01 50 32.4	-0.6
WRA	Warramunga Arr	23.39 162	P	P	01 50 33.6	+0.6
	comp=Z,3.8nm,0.8s,baz=343,slow=10,SNR=30					
	comp=Z,3.8nm,0.8s					
WR0	Warramunga Arr	23.47 161	P	P	01 50 34.2	+0.4
WR0			IAmb	IAmb	01 50 43.9	
	comp=Z,13nm,1.5s					
ASAR	Alice Springs	26.80 165	P	P	01 51 05.0	+1.1
	comp=Z,1.0nm,0.7s,baz=344,slow=6.9,SNR=12					
ASAR			PcP	PcP	01 54 22.1	-2.4
	comp=Z,0.1nm,0.3s,baz=348,slow=2.3,SNR=1.7					
	comp=Z,1.0nm,0.7s					
CMAR	Chiang Mai Arr	31.64 302	P	P	01 51 48.0	+1.2
	comp=Z,0.7nm,0.3s,baz=139,slow=8.4,SNR=4.7					
	comp=Z,0.7nm,0.3s					
FORT	Forrest	33.01 178	P	P	01 52 01.1	+2.5
KSRS	Korea Array	34.91 2	P	P	01 52 14.3	-0.6
	comp=Z,0.6nm,0.4s,baz=170,slow=7.7,SNR=1.9					
	comp=Z,0.6nm,0.4s					
STKA	Stephens Creek	36.86 159	P	P	01 52 34.2	+2.5
STKA	Stephens Creek	36.86 159	P	P	01 52 33.3	+1.6
	comp=Z,4.4nm,0.9s,baz=331,slow=7.5,SNR=9.1					
	comp=Z,4.4nm,0.9s					
H11S3	WAKE ISLAND Hy	42.20 65	T	T	02 37 09.6	
	baz=254,slow=75,SNR=7.0					
H11S2	WAKE ISLAND Hy	42.22 65	T	T	02 37 06.5	
	baz=254,slow=75,SNR=12					
H11S1	WAKE ISLAND Hy	42.22 65	T	T	02 37 06.4	
	baz=254,slow=75,SNR=5.9					
SONM	Songino Array	48.59 342	P	P	01 54 06.6	+0.2
	comp=Z,0.5nm,0.7s,baz=168,slow=8.8,SNR=2.6					
SONM			PcP	PcP	01 55 28.7	-2.0
	comp=Z,0.5nm,0.5s,baz=145,slow=3.5,SNR=1.7					
	comp=Z,0.5nm,0.7s					
MKAR	Makanchi Array	58.70 326	P	P	01 55 19.6	-0.5
	comp=Z,1.5nm,0.6s,baz=119,slow=8.0,SNR=14					
MKAR			PcP	PcP	01 56 08.8	-0.2
	comp=Z,1.0nm,0.8s,baz=105,slow=3.4,SNR=2.6					
	comp=Z,1.5nm,0.6s					
ZALV	Zalesovo Beam	61.81 333	P	P	01 55 40.5	-0.6
	comp=Z,0.4nm,0.3s,baz=133,slow=10,SNR=2.3					
	comp=Z,0.4nm,0.3s					
GAR	Garm	62.89 313	P	P	01 55 49.5	+0.7
GAR			IAmb	IAmb	01 55 51.3	
	comp=Z,9.2nm,1.1s					
KURBB	Kurchatov Arra	62.91 328	P	P	01 55 48.0	-0.6
	comp=Z,1.3nm,0.6s,baz=130,slow=6.3,SNR=15					
	comp=Z,1.3nm,0.6s					
BVAR	Borovoye Array	68.48 327	P	P	01 56 24.5	+0.1
	comp=Z,2.3nm,0.8s,baz=146,slow=10,SNR=6.3					
ABKAR	Akbulak array	73.24 321	P	P	01 56 54.3	+1.1
ABKAR			IAmb	IAmb	01 56 54.8	
	comp=Z,1.9nm,0.7s					
ABKAR	Akbulak array	73.24 321	P	P	01 56 54.0	+0.8
ARCES	ARCESS Array B	91.73 340	P	P	01 58 28.9	0.0
	comp=Z,3.3nm,1.0s,baz=76,slow=5.7,SNR=1.3					
	comp=Z,3.3nm,1.0s					

CATAC 16 01:56:34.1±0.8, 13°.92N×90°.36W, h100km±7km, ML3.0
GCG 16 01:56:37.0±0.5, 14°.36N×90°.36W, h114km±5km, MD3.2
ISC 16 01:56:34.9±2.5, 13°.8N±0°.2×90°.3W±0°.1, h106km±19km, n13, σ0°77/24, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	Alcaldia de Sa	0.30	80	*i* P	Pn	01 56 49.4	-0.8
FAME				*i* S	Sn	01 57 01.3	-0.3
FAME				IAML		01 57 31.4	
	comp=Z,2.4nm,1.0s						
NUBE	Las Nubes	0.54	78	*i* P	Pn	01 56 51.1	-0.6
NUBE				*i* S	Sn	01 57 04.2	-0.1
NUBE				IAML		01 57 10.5	
	comp=Z,330nm,1.0s						
LOAL	Lomas de Alarc	0.56	68	*i* P	Pn	01 56 51.5	-0.3
LOAL				*i* S	Sn	01 57 05.0	+0.5
LOAL				IAML		01 57 08.9	
	comp=Z,1μm,1.0s						
PCG	Pacaya	0.66	335	*e*P	Pn	01 56 54.0	+1.2
CEVE	Cerro Verde	0.68	87	*i* P	Pn	01 56 52.0	-0.9
CEVE				*i* S	Sn	01 57 07.6	+1.1
CEVE				IAML		01 57 10.1	
	comp=Z,830nm,1.0s						
ESSG	Sabana Grande	0.77	320	*i* S	Sn	01 57 07.9	+0.3
UNIC	Universidad Ca	0.77	76	*i* P	Pn	01 56 52.6	-1.0
UNIC				*i* S	Sn	01 57 07.1	-0.5
UNIC				IAML		01 57 51.4	
	comp=Z,200nm,1.0s						
NBG	Las Nubes	0.79	358	*e*P	Pn	01 56 54.0	-0.1
FUG	Fuego 3	0.83	322	*e*P	Pn	01 56 54.5	+0.3
FUG				*e*S	Sn	01 57 08.8	+0.1
JAYA	Jayaque - finc	0.86	99	*i* P	Pn	01 56 54.1	-0.4
JAYA				*i* S	Sn	01 57 09.4	+0.2
JAYA				IAML		01 57 11.9	
	comp=Z,3μm,1.0s						
PMON	Piamonte	0.98	94	*i* P	Pn	01 56 55.5	-0.2
PMON				*i* S	Sn	01 57 12.2	+0.9
PMON				IAML		01 57 17.7	
	comp=Z,770nm,1.0s						
LALI	Alcalda de L	1.02	107	*i* P	Pn	01 56 55.8	-0.1
LALI				*i* S	Sn	01 57 13.3	+1.5
LALI				IAML		01 57

NHY			*i* S	Sn	02 01 58.1	-0.1
TATO	**Taipei**	**0.34 297**		Pn	02 01 48.1	-0.4
TATO			Sn	Sn	02 01 57.6	-0.9
TATO	**Taipei**	**0.34 297**	P	Pn	02 01 48.0	-0.6
EWUT	**Wuta**	**0.37 186** ⇑P		Pn	02 01 48.7	-0.1
EWUT			*e*S	Sn	02 01 59.7	+0.9
LATG	**Datong**	**0.39 224** ⇑*i*P		Pn	02 01 49.0	-0.1
LATG			S	Sn	02 01 58.8	-0.4
ENA	**Nanau**	**0.39 191** *e*P		Pn	02 01 48.9	0.0
ENA			S	Sn	02 01 59.7	+0.6
YM01	**YM01**	**0.40 325** ⇑*i*P		Pn	02 01 48.8	-0.3
YM01			S	Sn	02 01 58.8	-0.4
YM08	**YM08**	**0.43 330** ⇑*i*P		Pn	02 01 48.7	-0.5
YM08			S	Sn	02 01 58.5	-1.0
ZUZH	**Zhuzihu**	**0.43 324** ⇑P		Pn	02 01 49.0	-0.3
ZUZH			S	Sn	02 01 58.9	-0.7
YHNB	**Yeheng**	**0.43 250**		Pn	02 01 48.4	-0.9
YHNB			Sn	Sn	02 01 58.0	-1.7
YHNB	**Yeheng**	**0.43 250** P		Pn	02 01 48.4	-0.9
YHNB	**Yeheng**	**0.43 250** ⇑*i*P		Pn	02 01 48.7	-0.6
YHNB			S	Sn	02 01 57.7	-2.0
NSK	**Sanguang**	**0.45 252** ⇑*i*P		Pn	02 01 48.8	-0.6
NSK			*i* S	Sn	02 01 58.5	-1.4
ANP	**Anpu**	**0.46 323** ⇑*i*P		Pn	02 01 49.0	-0.5
ANP			*e*S	Sn	02 01 59.3	-0.8
TWS1	**Kuangyinshan**	**0.46 308** ⇑*i*P		Pn	02 01 48.4	-1.0
TWS1			S	Sn	02 01 59.2	-0.7
NTST	**Danshui**	**0.48 316** ⇑P		Pn	02 01 49.7	+0.1
NTST			*e*S	Sn	02 02 00.8	+0.6
EAHA	**Aohua**	**0.49 189** *e*P		Pn	02 01 49.7	+0.1
EAHA			*e*S	Sn	02 02 01.2	+0.9
TWY	**Chenhua**	**0.50 336** ⇑*i*P		Pn	02 01 49.7	0.0
TWY			*e*S	Sn	02 02 00.3	-0.2
EHP	**Heping Village**	**0.51 188** *e*P		Pn	02 01 49.7	-0.1
EHP			*e*S	Sn	02 02 02.5	+1.9
EOS2	**EOS2**	**0.54 137** *i*P		Pn	02 01 50.4	+0.5
NNS	**Nan Shan**	**0.56 228** *e*P		Pn	02 01 49.9	-0.4
NNS			*i* S	Sn	02 02 00.9	-0.6
NNSB	**Datong**	**0.56 226** ⇑*i*P		Pn	02 01 50.1	-0.3
NNSB			S	Sn	02 02 00.4	-1.1
KSHI	**Guanxi Townshi**	**0.59 266** ⇑P		Pn	02 01 50.4	-0.1
KSHI			*i* S	Sn	02 02 01.5	-0.3
NCUH	**Zhongli**	**0.60 285** ⇑P		Pn	02 01 50.5	0.0
NCUH			*i* S	Sn	02 02 01.9	-0.1
NFF	**Wufeng Townshi**	**0.67 254** ⇑P		Pn	02 01 50.9	-0.4
NFF			S	Sn	02 02 02.4	-0.8
NACB	**Ninganchiao**	**0.67 198** Pn		Pn	02 01 50.2	-1.1
NACB			Sn	Sn	02 02 02.4	-0.8
NACB	**Ninganchiao**	**0.67 198** P		Pn	02 01 50.4	-0.9
NACB	**Ninganchiao**	**0.67 198** ⇑*i*P		Pn	02 01 50.1	-1.2
NACB			*e*S	Sn	02 02 02.4	-0.8
ETL	**Fush Village**	**0.68 196** *e*P		Pn	02 01 50.3	-1.1
ETL			*e*S	Sn	02 02 02.5	-0.8
ETLH	**Xiulin Townshi**	**0.68 207** ⇑P		Pn	02 01 50.8	-0.7
ETLH			*i* S	Sn	02 02 03.3	-0.2
EOS3	**EOS3**	**0.69 139** ⇓P		Pn	02 01 51.8	+0.5
LIOB	**Emei**	**0.75 257** ⇑*i*P		Pn	02 01 51.9	-0.2
LIOB			S	Sn	02 02 04.0	-0.6
SBCB	**Hsinchu**	**0.76 268** ⇑P		Pn	02 01 52.1	-0.1
SBCB			S	Sn	02 02 03.9	-0.9
TWD	**Chiawan**	**0.76 196** ⇓*e*P		Pn	02 01 51.1	-1.1
TWD			*i* S	Sn	02 02 03.7	-1.0
NSTT	**Nanjuang**	**0.77 256** ⇑*i*P		Pn	02 01 51.9	-0.3
NSTT			S	Sn	02 02 04.0	-0.9
FUSS	**Fushou**	**0.77 223** ⇑*i*P		Pn	02 01 52.9	+0.3
FUSS			S	Sn	02 02 05.5	+0.1
HSN	**Hsinchu**	**0.78 269** *e*P		Pn	02 01 51.9	-0.4
HSN			*i* S	Sn	02 02 03.8	-1.1
TWT	**Tachien**	**0.81 227** ⇑*i*P		Pn	02 01 53.3	+0.4
TWT			*e*S	Sn	02 02 07.0	+0.9
EOS4	**EOS4**	**0.83 147** ⇓*e*P		Pn	02 01 52.2	-0.2
EOS4			*e*S	Sn	02 02 05.3	+0.1
TDCB	**Techi**	**0.83 227** ⇑*i*P		Pn	02 01 53.3	+0.3
TDCB			S	Sn	02 02 06.0	-0.2
PCYT	**Pengchaiyu**	**0.84 15** ⇑*i*P		Pn	02 01 53.0	0.0
PCYT			*e*S	Sn	02 02 04.7	-1.5
WHF	**Hehuan Shan**	**0.84 217** ⇓*i*P		Pn	02 01 53.3	-0.2
WHF			*e*S	Sn	02 02 06.7	-0.3
HWA	**Hwalien**	**0.86 193** *e*P		Pn	02 01 52.8	-0.4
HWA			*e*S	Sn	02 02 07.0	+0.4
LXIB	**Xiulin Townshi**	**0.88 205** ⇑*i*P		Pn	02 01 52.3	-1.2
LXIB			S	Sn	02 02 06.9	-0.3
ETM	**Tongmen**	**0.90 200** *e*P		Pn	02 01 52.3	-1.4
ETM			*e*S	Sn	02 02 04.9	-2.4
WHP	**Taichung City**	**0.96 236** ⇑*i*P		Pn	02 01 54.7	+0.3
WHP			*i* S	Sn	02 02 08.7	+0.2
TEYL	**Yanliau Villag**	**0.97 192** *e*P		Pn	02 01 53.7	-0.7
NMLH	**Miaoli**	**0.98 254** *e*P		Pn	02 01 54.4	-0.2
NMLH			S	Sn	02 02 08.6	-0.4
OWD	**Renai**	**1.04 215** *e*P		Pn	02 01 55.3	-0.1
OWD			S	Sn	02 02 10.5	0.0
WUSB	**Renai**	**1.04 218** ⇑P		Pn	02 01 55.6	+0.2
WUSB			*e*S	Sn	02 02 10.1	-0.4
SHUL	**Shoufeng**	**1.05 193** P		Pn	02 01 54.9	-0.5
SHUL			*e*S	Sn	02 02 10.6	+0.2
ESL	**Shilin**	**1.06 200** ⇑*e*P		Pn	02 01 53.7	-1.8
ESL			*e*S	Sn	02 02 10.1	-0.5
TWQ1	**Liyutan**	**1.06 244** ⇑*i*P		Pn	02 01 55.5	-0.1
TWQ1			S	Sn	02 02 10.3	-0.5
JYNG	**Yonagunijimaku**	**1.08 109** P		Pn	02 01 55.4	-0.3
JYNG			S	Sn	02 02 09.9	-1.2
WCS	**Beigang Elemen**	**1.12 228** ⇑P		Pn	02 01 56.5	+0.2
WCS			S	Sn	02 02 12.1	+0.1
TEGC	**Jichi Village**	**1.13 193** *e*P		Pn	02 01 55.9	-0.4
TEGC			*e*S	Sn	02 02 11.8	-0.3
YOJ	**Yonaguni jima**	**1.14 108**		Pn	02 01 55.9	-0.4
YOJ	**Yonaguni jima**	**1.14 108** P		Pn	02 01 55.8	-0.6
YOJ	**Yonaguni jima**	**1.14 108** P		Pn	02 01 56.0	-0.4
YOJ			*e*S	Sn	02 02 11.4	-0.8
YOJ	**Yonaguni jima**	**1.14 108** ⇓*i*P		Pn	02 01 56.0	-0.4
YOJ			S	Sn	02 02 11.2	-1.0
WARBT	**Fenglin Townsh**	**1.17 200** *e*P		Pn	02 01 55.2	-1.6
WARBT			*e*S	Sn	02 02 11.1	-1.8
WDJ	**Dajia District**	**1.17 247** *e*P		Pn	02 01 56.3	-0.5
WDJ			*i* S	Sn	02 02 13.0	0.0
EGFH	**Guangfu**	**1.20 198** *e*P		Pn	02 01 56.2	-1.0
EGFH			*e*S	Sn	02 02 11.6	-1.9
VWDT	**VWDT**	**1.23 211** ⇑*i*P		Pn	02 01 57.6	+0.1
VWDT			*e*S	Sn	02 02 14.4	+0.2
SMLT	**Sun Moon Lake**	**1.25 222** P		Pn	02 01 57.2	-0.8
SMLT			*e*S	Sn	02 02 14.9	0.0
TYC	**Yuchr**	**1.27 224** ⇑P		Pn	02 01 58.1	+0.1
TYC			S	Sn	02 02 14.6	-0.4
SSLB	**Suanglung**	**1.30 218**		Pn	02 01 58.4	0.0
SSLB	**Suanglung**	**1.30 218** P		Pn	02 01 58.4	0.0
SSLB	**Suanglung**	**1.30 218** ⇑P		Pn	02 01 58.5	+0.1
SSLB			*e*S	Sn	02 02 16.3	+0.6
WCHH	**Zhanghua**	**1.37 238** P		Pn	02 01 59.2	+0.1
WCHH			*e*S	Sn	02 02 17.1	-0.1
HGSD	**Ruisui**	**1.37 196** *e*P		Pn	02 01 58.6	-0.6
HGSD			*e*S	Sn	02 02 16.9	-0.4
WCH1	**Changhua City**	**1.38 238** *e*P		Pn	02 01 58.9	-0.5
WCH1			*e*S	Sn	02 02 17.0	-0.5
EHY	**Hungye**	**1.38 199** *e*P		Pn	02 01 59.9	+0.4
EHY			*e*S	Sn	02 02 17.1	-0.6
EHYH	**Wanrong**	**1.39 198** *e*P		Pn	02 01 59.1	-0.4
EHYH			*e*S	Sn	02 02 17.3	-0.4
WNT	**Mingjian**	**1.40 228** *i*P		Pn	02 01 60.0	+0.4
WNT			*i* S	Sn	02 02 18.2	+0.3
WJS	**Zhushan**	**1.41 225** P		Pn	02 02 00.1	+0.4
WJS			*i* S	Sn	02 02 18.3	+0.1
WHYT	**Xinyi Township**	**1.42 219** *i*P		Pn	02 02 00.8	+0.8
WHYT			*e*S	Sn	02 02 19.1	+0.5
YULB	**Yu-li**	**1.50 199**		Pn	02 01 59.9	-1.0
YULB	**Yu-li**	**1.50 199** P		Pn	02 02 00.1	-0.8
YULB	**Yu-li**	**1.50 199** *e*P		Pn	02 01 59.4	-1.5
YULB			*e*S	Sn	02 02 19.8	-0.4
ECBN	**Changbin**	**1.53 193** *e*P		Pn	02 02 00.7	-0.6
ECBN			*e*S	Sn	02 02 20.6	-0.4
EYUL	**Yuli**	**1.53 198** *e*P		Pn	02 02 01.5	+0.1
TWF1	**Yuli**	**1.54 198** *e*P		Pn	02 02 00.2	-1.2
TWF1			*e*S	Sn	02 02 20.1	-1.0
ALS	**Alishan**	**1.60 216** *e*P		Pn	02 02 02.9	+0.4
ALS			*e*S	Sn	02 02 24.1	+1.1
CHN5	**Tsauling**	**1.60 221** *e*P		Pn	02 02 02.5	+0.2
CHN5			*e*S	Sn	02 02 23.3	+0.5
WRL	**Guolierlin Hig**	**1.60 236** *e*P		Pn	02 02 02.0	-0.2
WRL			*e*S	Sn	02 02 22.4	-0.3
WDL	**Douliou City**	**1.60 227** *e*P		Pn	02 02 02.4	+0.2
WDL			*e*S	Sn	02 02 22.7	0.0
WGK	**Gukeng**	**1.61 226** *e*P		Pn	02 02 02.8	+0.5
WGK			*e*S	Sn	02 02 23.5	+0.7
WDLH	**Douliu**	**1.62 227** *e*P		Pn	02 02 01.8	-0.7
WDLH			*e*S	Sn	02 02 24.2	+1.2
CHKH	**Chenggong**	**1.66 194** *e*P		Pn	02 02 02.7	-0.3
CHKH			*e*S	Sn	02 02 22.4	-1.6
WTK	**Tuku**	**1.73 230** P		Pn	02 02 03.8	0.0
WTK			S	Sn	02 02 25.4	0.0
CHKT	**Chengkung**	**1.76 194** *e*P		Pn	02 02 04.3	+0.1
CHKT			*e*S	Sn	02 02 24.1	-2.1
WCKO	**Fanlu**	**1.77 219** *e*P		Pn	02 02 04.9	+0.6
WCKO			S	Sn	02 02 27.2	+0.8
CHN2	**Minshiung**	**1.78 224** *e*P		Pn	02 02 04.8	+0.4
ELDTW	**Lidau**	**1.78 205** *e*P		Pn	02 02 04.6	0.0
ELDTW			*e*S	Sn	02 02 26.7	-0.2
CHY	**Chiayi**	**1.83 225** *e*P		Pn	02 02 05.6	+0.4
CHY			*i* S	Sn	02 02 28.6	+0.7
TPUB	**Ta-pu**	**1.86 216**		Pn	02 02 06.2	+0.6
TPUB	**Ta-pu**	**1.86 216** P		Pn	02 02 06.0	+0.4
TPUB	**Ta-pu**	**1.86 216** *e*P		Pn	02 02 05.9	+0.2
TPUB			*e*S	Sn	02 02 29.1	+0.4
WSF	**Szhu**	**1.88 232** *e*P		Pn	02 02 04.8	-0.9
WSF			*e*S	Sn	02 02 29.1	+0.2
EDH	**Donghe**	**1.90 195** *e*P		Pn	02 02 05.3	-0.7
EDH			*e*S	Sn	02 02 28.6	-0.8
STYH	**Taoyuan**	**1.90 211** *e*P		Pn	02 02 06.7	+0.7
STYH			*e*S	Sn	02 02 30.0	+0.6
WSL	**Shuilin Townsh**	**1.94 229** *e*P		Pn	02 02 07.0	+0.3
WSL			*i* S	Sn	02 02 30.1	-0.5
HATJ	**Hateruma jima**	**1.96 112** *e*P		Pn	02 02 06.7	-0.1
HATJ			*e*S	Sn	02 02 31.0	+0.2
TWK	**Hsinying**	**1.97 219** *e*P		Pn	02 02 07.5	+0.4
TWK			*e*S	Sn	02 02 30.7	-0.5
SNST	**Tainan City**	**2.00 218** *e*P		Pn	02 02 07.6	+0.2
SNST			*e*S	Sn	02 02 32.4	+0.5
LONT	**Longtian**	**2.00 199** *e*P		Pn	02 02 07.2	-0.3
LONT			S	Sn	02 02 30.8	-1.2
CHN1	**Nanshi**	**2.01 216** *e*P		Pn	02 02 07.9	+0.4
CHN1			*e*S	Sn	02 02 33.1	+0.9
ICHU	**Yijhu**	**2.02 225** *e*P		Pn	02 02 08.3	+0.6
ICHU			*e*S	Sn	02 02 32.5	+0.1
SGST	**Jiashian**	**2.07 214** *e*P		Pn	02 02 08.0	-0.3
SGST			*e*S	Sn	02 02 34.0	+0.6
JKRS	**Kuro-shima**	**2.07 106** P		Pn	02 02 08.3	0.0
JKRS			*e*S	Sn	02 02 33.7	+0.1
CHN8	**Yiju**	**2.08 226** *e*P		Pn	02 02 08.7	+0.3
CHN8			*e*S	Sn	02 02 34.5	+0.8
TWG	**Pinlang**	**2.10 199** Pn		Pn	02 02 07.3	-1.5
TWG	**Pinlang**	**2.10 199** *e*P		Pn	02 02 07.3	-1.5
TWG			*e*S	Sn	02 02 33.1	-1.2
TWGBT	**Beinan**	**2.10 199** P		Pn	02 02 08.7	-0.1
TWGBT	**Beinan**	**2.10 199** *e*P		Pn	02 02 07.8	-1.0
TWGBT			*i* S	Sn	02 02 33.3	-1.0
MATB	**Ma-tsu**	**2.16 308** *e*P		Pn	02 02 08.9	-0.6
MATB			*e*S	Sn	02 02 34.8	-0.8
LDUT	**Ludao**	**2.16 189** *e*P		Pn	02 02 07.8	-1.7
LDUT			*e*S	Sn	02 02 34.8	-0.8
JIJ	**Ishigaki jima**	**2.16 102** P		Pn	02 02 09.0	-0.5
JIJ			*e*S	Sn	02 02 34.7	-1.0
VWUC	**VWUC**	**2.16 275** *e*P		Pn	02 02 08.9	-0.6
SCLT	**Jiali**	**2.21 223** *e*P		Pn	02 02 09.9	-0.3
SCLT			*e*S	Sn	02 02 38.0	+1.1
JISG	**Ishigakijimahi**	**2.27 95** P		Pn	02 02 10.8	-0.2
JISG			*e*S	Sn	02 02 37.1	-1.3
SCST	**Cishan**	**2.27 213** *e*P		Pn	02 02 12.7	+1.6
TSCK	**Chigu Township**	**2.30 224** *e*P		Pn	02 02 11.0	-0.3
ECL	**Taimali**	**2.35 200** *e*P		Pn	02 02 12.6	+0.6
ECL			*e*S	Sn	02 02 39.2	-0.9
TSMG	**Majia**	**2.36 207** *e*P		Pn	02 02 12.6	+0.3
TSMG			*e*S	Sn	02 02 41.0	+0.5
PNG	**Penghu**	**2.42 239** *e*P		Pn	02 02 11.7	-1.2
PNG			*i* S	Sn	02 02 39.7	-2.0
PHUB	**P'eng-hu**	**2.43 238** *e*P		Pn	02 02 12.2	-0.9
PHUB			*e*S	Sn	02 02 39.3	-2.8
MASBT	**Mashibuluo**	**2.45 207** *e*P		Pn	02 02 14.1	+0.7
PTMZ	**Houxiangcun**	**2.46 276** *e*P		Pn	02 02 13.2	-0.4
XPSS	**Dashiqiu**	**2.57 325** *e*P		Pn	02 02 14.3	-0.6
EAST	**Anshuo**	**2.58 200** *e*P		Pn	02 02 15.8	+0.6
TAW	**Tawu**	**2.59 199** *e*P		Pn	02 02 15.1	-0.2
TAW			*e*S	Sn	02 02 45.6	-0.3
WSSB	**Gushan**	**2.59 214** *e*P		Pn	02 02 16.0	+0.6
TAWH	**Dawu Township**	**2.61 199** *e*P		Pn	02 02 17.0	+1.5
JTJ	**Tarama**	**2.62 93** *e*P		Pn	02 02 16.1	+0.4
JTJ			*e*S	Sn	02 02 46.7	0.0
SCZT	**Fangliau**	**2.67 205** *e*P		Pn	02 02 17.0	-0.7
VCHM	**Qimei**	**2.71 234** *e*P		Pn	02 02 16.3	-0.5
VCHM			*i* S	Sn	02 02 47.3	-1.5
SLIU	**Shizi**	**2.75 200** *e*P		Pn	02 02 18.0	+0.6
LAY	**Lan-yu**	**2.78 185** *e*P		Pn	02 02 16.5	-1.3
LYUB	**Lan-yu**	**2.81 185** *e*P		Pn	02 02 16.5	-1.7
MHZQ	**Yeshan**	**2.83 297** *e*P		Pn	02 02 17.7	-0.8
TWKBT	**Hengchun**	**3.01 198** *e*P		Pn	02 02 19.4	-1.5
TSEB	**Hengchuen, Pin**	**3.02 196** *e*P		Pn	02 02 21.1	0.0
KNM	**Kinmen**	**3.11 263** *e*P		Pn	02 02 22.6	+0.4
JIKM	**Ikemajima**	**3.11 87** *e*S		Sn	02 02 59.5	+1.1
KNMB	**Chin-men Tao**	**3.15 264** Pn		Pn	02 02 21.8	-0.8
KNMB	**Chin-men Tao**	**3.15 264** *e*P		Pn	02 02 21.9	-0.8
JMJ2	**Miyako jima3**	**3.19 91** *e*S		Sn	02 03 00.7	+0.4
ZPLA	**Ao Xicun**	**3.82 257** *e*P		Pn	02 02 34.2	+2.4
SXFK	**Yanhouchang**	**4.09 294** *e*P		Pn	02 02 34.8	-0.7
JOW	**Kunigami**	**6.15 70** Pn		Pn	02 03 04.0	+0.5
JOW	**Kunigami**	**6.15 70** P		Pn	02 03 03.1	-0.4
	4.8nm,0.2s,baz=103,slow=19,SNR=6.4					
JOW			S	Sn	02 04 10.8	-1.7
	8.4nm,0.3s,baz=224,slow=25,SNR=2.0					
KSRS	**Korea Array**	**13.63 21** P		Pn	02 04 47.4	+2.6
	0.5nm,0.3s,baz=19,slow=7.6,SNR=2.0					
CMAR	**Chiang Mai Arr**	**22.18 258** P		P	02 06 24.1	-0.3
	1.0nm,0.3s,baz=68,slow=8.0,SNR=1.6					
	1.0nm,0.3s					
SONM	**Songino Array**	**26.02 336** P		P	02 06 59.9	-0.4
SONM	**Songino Array**	**26.02 336** P		P	02 07 00.2	-0.1
	1.2nm,0.8s,baz=154,slow=10,SNR=7.0					
	1.2nm,0.8s					
MKAR	**Makanchi Array**	**38.30 315** P		P	02 08 47.5	+0.2
	0.4nm,0.5s,baz=99,slow=9.8,SNR=6.1					
	0.4nm,0.5s					
ZALV	**Zalesovo Beam**	**40.04 326** P		P	02 08 60.0	-1.7
ZALV	**Zalesovo Beam**	**40.04 326** P		P	02 09 01.3	-0.4
	0.6nm,0.3s,baz=108,slow=9.3,SNR=4.1					
	0.6nm,0.3s					
COEN	**Coen**	**43.81 149** P		P	02 09 31.5	-1.3
COEN			IAmb	IAmb	02 09 33.5	
	comp=Z,8.1nm,0.9s					
KKAR	**Karatay Array**	**45.56 307** P		P	02 09 46.2	-0.2
WRA	**Warramunga Arr**	**46.13 164** P		P	02 09 49.6	-1.5
WRA	**Warramunga Arr**	**46.13 164** P		P	02 09 50.1	-1.0
	comp=Z,3.7nm,0.7s,baz=346,slow=8.7,SNR=26					
WRA			PcP	PcP	02 11 25.7	-0.2
	comp=Z,0.3nm,0.8s,baz=348,slow=3.5,SNR=1.6					
	comp=Z,3.7nm,0.7s					
WR0	**Warramunga Arr**	**46.20 163** P		P	02 09 50.2	-1.5
WR0			IAmb	IAmb	02 09 51.3	
	comp=Z,4.4nm,0.7s					
BVAR	**Borovoye Array**	**47.56 320** P		P	02 10 01.3	-0.6
	comp=Z,0.5nm,0.5s,baz=111,slow=8.1,SNR=3.6					
	comp=Z,0.5nm,0.5s					
ASAR	**Alice Springs**	**49.60 165** P		P	02 10 17.6	-0.3
	comp=Z,1.0nm,0.3s,baz=340,slow=6.9,SNR=23					
ASAR			PcP	PcP	02 11 37.8	-0.6
	comp=Z,0.2nm,0.3s,baz=343,slow=3.9,SNR=4.5					
	comp=Z,1.0nm,0.3s					
ABKAR	**Akbulak array**	**53.42 314** P		P	02 10 46.7	+0.6
ABKAR	**Akbulak array**	**53.42 314** P		P	02 10 47.1	+1.0
ABKAR			IAmb	IAmb	02 11 20.1	
	comp=Z,1.5nm,1.1s					
B20K	**Meade River**	**63.85 22** P		P	02 11 59.4	+1.2
B20K			IAmb	IAmb	02 11 59.5	
	comp=Z,7.1nm,1.2s					
B21K	**Ikpikpuk River**	**64.75 23** P		P	02 12 04.3	+0.3
B21K			IAmb	IAmb	02 12 17.5	
	comp=Z,6.8nm,1.3s					
PPLA	**Purkeypile**	**66.41 30** P		P	02 12 15.3	+0.2
ILAR	**Eielson Array**	**68.39 27** P		P	02 12 28.8	+1.5
	comp=Z,0.2nm,0.6s,baz=300,slow=9.1,SNR=2.3					
	comp=Z,0.2nm,0.6s					
BCAR	**Beaver Creek A**	**71.00 29** P		P	02 12 43.2	-0.3
FIA1	**FINESS Array S**	**71.19 330** P		P	02 12 44.1	-0.4
FINES	**FINESS Array B**	**71.20 330** P		P	02 12 44.1	-0.4
FINES	**FINESS Array B**	**71.20 330** P		P	02 12 44.6	+0.1
	comp=Z,1.3nm,0.5s,baz=60,slow=5.8,SNR=12					
	comp=Z,1.3nm,0.5s					
AKASG	**Malin Array Be**	**72.79 318** P		P	02 12 54.2	0.0
	comp=Z,0.2nm,0.4s,baz=68,slow=7.0,SNR=1.7					
	comp=Z,0.2nm,0.4s					
BRTR	**Keskin Array B**	**73.27 306** P		P	02 12 58.2	+0.7
	comp=Z,1.2nm,0.9s,baz=41,slow=3.9,SNR=4.6					
	comp=Z,1.2nm,0.9s					
NOA	**NORSAR Array B**	**77.94 332** P		P	02 13 23.0	-0.7
	comp=Z,0.8nm,0.8s,baz=57,slow=7.4,SNR=2.1					
	comp=Z,0.8nm,0.8s					
MYKA	**Terra Mystica**	**83.86 319** *e*PcP		P	02 13 56.3	+0.8
	comp=Z,1.0nm,0.3s					
LESA	**Schwarzleotal**	**84.03 320** *i* PcP		PcP	02 14 02.4	+2.3
	comp=Z,1.0nm,0.3s					
ABTA	**Abfaltersbach**	**84.47 319** *i* PcP		PcP	02 14 03.8	+1.7
	comp=Z,0.2nm,0.3s					
MOTA	**Moosalm**	**84.99 320** *i* P		P	02 14 00.1	-1.2
	comp=Z,0.8nm,0.3s					
FETA	**Feichten**	**85.37 320** *i* PcP		PcP	02 14 07.1	+0.9
	comp=Z,0.2nm,0.3s					
NVAR	**Mina Array Bea**	**95.57 43** P		P	02 14 51.2	-0.1
	comp=Z,0.2nm,0.6s,baz=288,slow=4.7,SNR=3.7					
	comp=Z,0.2nm,0.6s					

JMA ***16*** *02:07:55.9±0.1, 23°.0N±0°.8×122°.8E±0°.4, h48km, MV2.7/12, FAR S OFF ISHIGAKIJIMA*
TAP ***16*** *02:07:57.0, 22°.87N×122°.75E, h59km±1km, ML2.8, D*
ISC 16 02:07:51.4±2.7, 22°.86N±0°.05×122°.86E±0°.04, h8km±18km, n37, σ1°.89/53, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**1.29 262**		*e*P	**Pn**	**02 08 17.8**	**+2.1**
LDUT				*e*S	**Sg**	**02 08 31.7**	**-1.3**
EOS4	**EOS4**	**1.35 339**		*e*P	**Pn**	**02 08 18.7**	**+2.5**
EOS4				*e*S	**Sb**	**02 08 33.2**	**-0.8**
ECBN	**Changbin**	**1.37 290**		*e*P	**Pn**	**02 08 18.0**	**+1.2**
ECBN				S	**Sb**	**02 08 33.3**	**-1.6**
CHKH	**Chenggong**	**1.39 284**		*e*P	Pn	02 08 17.6	+0.7
CHKH				*e*S	**Sb**	**02 08 33.0**	**-2.3**
EDH	**Donghe**	**1.44 275**		*e*P	**Pn**	**02 08 18.8**	**+1.1**
EDH				S	**Sb**	**02 08 35.0**	**-1.8**
LYUB	**Lan-yu**	**1.45 234**		*e*P	**Pn**	**02 08 19.7**	**+1.8**
LYUB				*e*S	**Sb**	**02 08 37.0**	**-0.3**
HATJ	**Hateruma jima**	**1.48 36**		P	**Pn**	**02 08 19.5**	**+1.2**
HATJ				S	**Sn**	**02 08 36.8**	**-1.0**
EOS3	**EOS3**	**1.50 341**		*e*P	**Pn**	**02 08 21.7**	**+3.2**
SHUL	**Shoufeng**	**1.51 308**		*e*P	**Pn**	**02 08 20.6**	**+1.9**
TWF1	**Yuli**	**1.52 289**		*e*P	**Pn**	**02 08 20.8**	**+1.9**
TWF1				S	**Sn**	**02 08 37.2**	**-1.5**
YULB	**Yu-li**	**1.53 291**		*e*P	**Pn**	**02 08 20.5**	**+1.5**
YULB				*e*S	**Sn**	**02 08 37.5**	**-1.6**
LONT	**Longtian**	**1.59 272**		*e*P	Pn	02 08 20.6	+0.7
WARBT	**Fenglin Townsh**	**1.60 303**		*e*P	**Pn**	**02 08 20.9**	**+0.9**
WARBT				*e*S	**Sn**	**02 08 39.1**	**-1.7**
YOJ	**Yonaguni jima**	**1.60 5**		*e*S	**Sn**	**02 08 39.2**	**-1.6**
ESL	**Shilin**	**1.62 306**		*e*P	**Pn**	**02 08 21.4**	**+1.2**
ESL				*e*S	**Sn**	**02 08 39.3**	**-1.9**
TWGBT	**Beinan**	**1.64 269**		*e*P	**Pn**	**02 08 22.6

*AFAD **16** 02:37:35.5±0.0, 38°.75N×43°.48E, h7km±3km, ML2.5*
ISC 16 02:37:35.3±1.2, 38°.75N±0°.02×43°.45E±0°.03, h16km±10km, n30, σ0§82/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**197**	Pg	**Pb**	**02 37 40.8**	**+0.8**
TVAN	**Van**	**0.23**	**188**	P	**Pb**	**02 37 40.9**	**-0.2**
VMUR	**Van-Muradiye**	**0.26**	**22**	P	**Pg**	**02 37 41.1**	**0.0**
ERCV	**ERCIS-VAN**	**0.28**	**342**	Pg	**Pg**	**02 37 41.9**	**+0.4**
ERCV				Sg	**Sb**	**02 37 47.2**	**+0.6**
OZAP	**Van, Ozalp-Mer**	**0.44**	**102**	P	**Pg**	**02 37 43.7**	**-0.4**
GEVA	**Gevas**	**0.53**	**215**	P	**Pb**	**02 37 46.3**	**-0.1**
AKDM	**Akdamar-Van**	**0.56**	**221**	Pg	**Pb**	**02 37 46.9**	**+0.1**
AKDM				Sg	**Sn**	**02 37 56.1**	**-1.6**
ADCV	**BITLIS_Adilcev**	**0.57**	**276**	P	**Pn**	**02 37 48.0**	**-0.9**
MLAZ	**Malazgirt-MUS**	**0.80**	**299**	Pg	**Pn**	**02 37 52.2**	**+0.1**
MLAZ				Sg	**Sn**	**02 38 04.9**	**+1.2**
DORK	**Agr/Tutak/Do**	**0.82**	**321**	P	**Pg**	**02 37 51.3**	**0.0**
AGRB	**Hanur-Agry**	**0.90**	**337**	Pg	**Pg**	**02 37 53.2**	**+0.5**
KOTA	**Agri, Merkez-K**	**1.07**	**350**	P	**Pb**	**02 37 55.6**	**+0.1**
PERV	**Siirt/Pervari-**	**1.07**	**222**	P	**Pn**	**02 37 56.9**	**+1.1**
BLIS	**Bitlis-Merkez**	**1.10**	**253**	P	**Pg**	**02 37 56.6**	**0.0**
GURO	**Guroymak-BITLI**	**1.13**	**260**	Pn	**Pg**	**02 37 57.3**	**+0.2**
HAKT	**HAKKARI**	**1.21**	**170**	P	**Pn**	**02 37 57.4**	**-0.3**
IGDI	**IGDIR**	**1.22**	**23**	P	**Pb**	**02 37 58.4**	**+0.5**
IGDI				*i* AML	AML	02 38 22.0	
	comp=E,93nm,0.5s						
IGDI				*i* AML	AML	02 38 24.0	
	comp=N,61nm,0.6s						
TASB	**TASBURUN-IGDIR**	**1.38**	**26**	Pn	**Pg**	**02 38 01.6**	**-0.2**
SRTM	**Siirt_Merkez**	**1.42**	**238**	P	**Pg**	**02 38 03.7**	**+1.1**
SIRN	**Sirnak**	**1.50**	**213**	P	**Pg**	**02 38 05.1**	**+1.1**
SIRN				*i* AML	AML	02 38 31.0	
	comp=E,59nm,0.5s						
SIRN				*i* AML	AML	02 38 33.0	
	comp=N,77nm,0.8s						
CUKT	**Cukurca**	**1.51**	**175**	P	**Pg**	**02 38 04.1**	**-0.2**
CUKT	**Cukurca**	**1.51**	**175**	Pn	**Pb**	**02 38 03.4**	**+0.5**
MUSM	**Mu-Merkez**	**1.51**	**270**	P	**Pg**	**02 38 04.3**	**-0.1**
VRTB	**Varto-Mus**	**1.61**	**285**	P	**Pg**	**02 38 07.5**	**+1.3**
VRTB				*i* AML	AML	02 38 45.0	
	comp=N,68nm,1.0s						
VRTB				*i* AML	AML	02 38 53.0	
	comp=E,70nm,1.1s						
VRTB	**Varto-Mus**	**1.61**	**285**	Pn	**Pg**	**02 38 05.9**	**-0.3**
KARS	**Kars**	**1.90**	**351**	Pn	**Pb**	**02 38 09.3**	**-0.3**
SENK	**Senkaya-Erzuru**	**2.00**	**335**	Pn	**Pb**	**02 38 11.0**	**-0.3**
BNGB	**Bingl**	**2.17**	**277**	Pn	**Pb**	**02 38 13.9**	**-0.4**
YEDI	**Yedisu-Bingol**	**2.36**	**288**	Pn	**Pb**	**02 38 16.6**	**-0.9**
MAZI	**Mazidag**	**2.70**	**242**	Pn	**Pb**	**02 38 20.8**	**-2.4**

*SJA **16** 02:44:09.7±0.7, 30°.64S×71°.77W, h23km±2km, ML3.9, MW4.1*
*GUC **16** 02:44:11.7±0.8, 30°.66S×71°.72W, h39km±2km, ML4.2*
ISC 16 02:44:12.1±1.1, 30°.64S±0°.02×71°.79W±0°.05, h26km±7km, n47, σ1§73/71, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.14**	**106**	⇑*iP*	**Pb**	**02 44 17.3**	**+0.1**
CO06				*i* S	**Sb**	**02 44 20.9**	**+0.2**
CO06				IAML		02 44 21.3	
	comp=N,42μm,0.3s						
CO05	**La Serena**	**0.86**	**34**	⇓*iP*	**Pb**	**02 44 27.4**	**-0.9**
CO05				*i* S	**Sb**	**02 44 38.9**	**-0.6**
CO03	**El Pedregal**	**0.97**	**102**	⇑*iP*	**Pb**	**02 44 28.3**	**-2.0**
CO03				*i* S	**Sb**	**02 44 40.2**	**-2.5**
CO03				IAML		02 44 40.4	
	comp=E,10μm,0.3s						
CO03	**El Pedregal**	**0.97**	**102**	*eP*	**Pb**	**02 44 28.3**	**-2.0**
CO03				*eS*	**Sb**	**02 44 40.7**	**-2.0**
CO03				IAML		02 44 41.1	
	comp=Z,4μm,0.3s						
GO04	**Tololo Observa**	**0.97**	**62**	⇓*iP*	**Pb**	**02 44 29.0**	**-1.4**
GO04				*i* S	**Sb**	**02 44 42.1**	**-0.8**
GO04	**Tololo Observa**	**0.97**	**62**	*eP*	**Pb**	**02 44 28.3**	**-2.1**
GO04				*eS*	**Sb**	**02 44 42.1**	**-0.8**
CO04	**Los Peladeros**	**1.57**	**154**	⇑*iP*	**Pn**	**02 44 37.7**	**-0.8**
CO01	**Juntas del Tor**	**1.61**	**66**	*eP*	**Pn**	**02 44 39.1**	**+0.1**
CO01				*i* S	**Sn**	**02 44 59.4**	**+0.3**
CO01				IAML		02 45 01.9	
	comp=N,2μm,0.3s						
CO01	**Juntas del Tor**	**1.61**	**66**	*eP*	**Pn**	**02 44 39.1**	**+0.1**
CO01				*eS*	**Sb**	**02 45 00.8**	**-0.4**
CO01				IAML		02 45 01.4	
	comp=Z,1μm,0.3s						
LCO	**Las Campanas**	**1.88**	**31**	⇓*iP*	**Pn**	**02 44 42.9**	**+0.2**
LCO				*i* S	**Sn**	**02 45 06.5**	**+0.8**
LCO	**Las Campanas**	**1.88**	**31**	*eP*	**Pn**	**02 44 43.0**	**+0.2**
LCO				*eS*	**Sb**	**02 45 09.0**	**0.0**
LCO				IAML		02 45 13.2	
	comp=Z,2μm,0.4s						
ACCO	**Cerro Coronel**	**2.35**	**90**	*eP*	**Pb**	**02 44 51.9**	**-2.0**
ACCO				*eS*	**Sn**	**02 45 18.9**	**+1.4**
DOCA	**Reserva Natura**	**2.35**	**98**	*eP*	**Pn**	**02 44 51.2**	**+1.9**
DOCA				*eS*	**Sn**	**02 45 19.2**	**+1.6**
VA03	**San Esteban**	**2.37**	**154**	*eP*	**Pn**	**02 44 49.9**	**+0.5**
VA03				IAML		02 45 34.9	
	comp=E,1μm,0.7s						
VA03	**San Esteban**	**2.37**	**154**	*eP*	**Pn**	**02 44 50.0**	**+0.7**
VA03				*eS*	**Sn**	**02 45 15.7**	**-2.0**
VA03				IAML		02 45 30.2	
	comp=Z,1μm,0.6s						
VA01	**Torpederas**	**2.38**	**177**	*eP*	**Pn**	**02 44 48.6**	**-0.9**
VA01	**Torpederas**	**2.38**	**177**	*eS*	**Sn**	**02 45 18.7**	**+0.9**
VA01				IAML		02 45 31.6	
	comp=Z,368nm,0.6s						
ROCH	**El Roble**	**2.42**	**164**	⇓*iP*	**Pn**	**02 44 50.0**	**-0.2**
ROCH				IAML		02 45 30.2	
	comp=N,775nm,0.5s						
ROC1	**El Roble**	**2.42**	**164**	*eP*	**Pn**	**02 44 49.9**	**-0.4**
ROC1				*eS*	**Sn**	**02 45 18.1**	**-1.1**
RTLS	**Leoncito**	**2.43**	**119**	*eP*	**Pb**	**02 44 53.0**	**-2.3**
RTLS				*eS*	**Sb**	**02 45 26.1**	**+1.2**
RTLS				IAML		02 45 34.0	
	comp=Z,1μm,0.4s						
AC04	**Llanos de Chal**	**2.50**	**15**	IAML		02 45 34.5	
	comp=N,661nm,0.2s						
AC04	**Llanos de Chal**	**2.50**	**15**	*eP*	**Pn**	**02 44 50.8**	**-0.3**
AC04				*eS*	**Sn**	**02 45 22.8**	**+2.0**
AC04				IAML		02 45 39.0	
	comp=Z,534nm,0.6s						
PEL	**Peldehue**	**2.67**	**160**	*eP*	**Pn**	**02 44 53.5**	**+0.1**
PEL				*eS*	**Sn**	**02 45 25.7**	**+0.7**
PEL				IAML		02 45 35.6	
	comp=N,1μm,0.7s						
PEL	**Peldehue**	**2.67**	**160**	*eP*	**Pn**	**02 44 54.0**	**+0.5**
PEL				*eS*	**Sn**	**02 45 26.6**	**+1.5**
MT02	**Curacav**	**2.67**	**168**	*eP*	**Pn**	**02 44 52.8**	**-0.7**
MT02				*eS*	**Sn**	**02 45 24.2**	**-0.9**
MT02				IAML		02 45 38.8	
	comp=Z,527nm,0.6s						
ZON	**Zonda**	**2.82**	**110**	*eP*	**Pn**	**02 44 57.7**	**+2.2**
ZON				*eS*	**Sb**	**02 45 35.3**	**-0.6**
ZON				IAML		02 45 44.1	
	comp=Z,376nm,0.5s						
MT10	**Hacienda Santa**	**2.84**	**158**	IAML		02 45 40.1	
	comp=N,2μm,0.4s						
MT05	**Renca**	**2.89**	**162**	IAML		02 45 37.7	
	comp=E,1μm,0.3s						
MT05	**Renca**	**2.89**	**162**	*eP*	**Pn**	**02 44 57.1**	**+0.6**
MT05				*eS*	**Sn**	**02 45 30.3**	**-0.1**
MT05				IAML		02 45 43.7	
	comp=Z,683nm,1.0s						
SJA	**San Juan**	**2.91**	**109**	*eP*	**Pn**	**02 44 57.6**	**+0.8**
SJA				IAML		02 45 49.3	
	comp=Z,195nm,0.4s						
RTLL	**Cerro Villicun**	**2.93**	**104**	*eP*	**Pn**	**02 44 59.1**	**+2.0**
RTLL				*eS*	**Sn**	**02 45 32.5**	**+1.0**
MT14	**Cerro Calın**	**2.95**	**159**	IAML		02 45 43.8	
	comp=N,2μm,0.8s						
VA05	**Santo Domingo**	**3.02**	**177**	IAML		02 45 47.8	
	comp=N,760nm,0.3s						
MT03	**Universidad Ad**	**3.05**	**159**	IAML		02 45 50.5	
	comp=N,988nm,0.6s						
MT03	**Universidad Ad**	**3.05**	**159**	*eP*	**Pn**	**02 44 59.5**	**+0.8**
MT03				*eS*	**Sn**	**02 45 35.8**	**+1.3**
MT03				IAML		02 45 49.9	
	comp=Z,530nm,0.7s						
MT08	**Bocatoma Ro**	**3.18**	**152**	IAML		02 45 58.0	
	comp=N,553nm,0.8s						
MT08	**Bocatoma Ro**	**3.18**	**152**	*eP*	Pn	02 44 43.8	-17
MT08				*eS*	**Sn**	**02 45 37.8**	**-0.1**
MT08				IAML		02 45 54.8	
	comp=Z,340nm,0.6s						
MT01	**Popeta**	**3.25**	**172**	*eP*	**Pn**	**02 45 00.5**	**-1.0**
MT01				*eS*	**Sn**	**02 45 42.7**	**+3.4**
MT01				IAML		02 45 53.1	
	comp=Z,285nm,0.7s						
GO03	**Copiapo**	**3.32**	**25**	*eP*	**Pn**	**02 45 03.1**	**+0.7**
GO03				*eS*	**Sn**	**02 45 42.8**	**+1.6**
LMEL	**Las Melosas**	**3.47**	**158**	*eP*	**Pn**	**02 45 06.0**	**+1.4**
LMEL				*eS*	**Sn**	**02 45 44.6**	**-0.4**
BO04	**La Punta**	**3.49**	**164**	IAML		02 46 00.3	
	comp=E,447nm,0.6s						
AVFE	**Valle Fertil**	**3.73**	**91**	*eP*	**Pn**	**02 45 09.6**	**+1.4**
AVFE				*eS*	**Sn**	**02 45 51.5**	**+0.1**
AVFE				IAML		02 46 11.2	
	comp=Z,288nm,0.7s						
BO01	**Tunca**	**3.79**	**171**	*eP*	**Pn**	**02 45 08.4**	**-0.4**
BO01				*eS*	**Sn**	**02 45 57.6**	**+5.0**
BO01				IAML		02 46 12.0	
	comp=Z,168nm,0.6s						
BO02	**Sierra Bellavi**	**4.23**	**169**	*eP*	**Pn**	**02 45 15.3**	**+0.4**
BO02				*eS*	**Sn**	**02 46 09.2**	**+5.7**
BO02				IAML		02 46 20.2	
	comp=Z,228nm,0.6s						
ACLC	**CERRO LA CRUZ**	**4.36**	**75**	*eP*	**Pn**	**02 45 19.1**	**+2.1**
ACLC				*eS*	**Sn**	**02 46 07.2**	**+0.1**
ACLC				IAML		02 46 20.4	
	comp=Z,219nm,1.0s						
GO05	**Hualane**	**4.36**	**182**	*eP*	**Pn**	**02 45 15.1**	**-1.6**
GO05				*eS*	**Sb**	**02 46 20.4**	**+0.2**
RFA	**San Rafael**	**4.98**	**147**	*eP*	**Pn**	**02 45 26.8**	**+1.5**
RFA				*eS*	**Sn**	**02 46 28.3**	**+6.1**
RFA				IAML		02 46 58.0	
	comp=Z,48nm,0.4s						

*NEIC **16** 02:49:12.5±1.8, 39°.63N±0°.06×142°.1E±0°.1, h47km±7km, mb4.5/32, Error ellipse: s-maj=12.6km s-min=7.9km az=101.0*
*NIED **16** 02:49:12.0, 39°.63N×142°.11E, h48km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.28; $M_{\theta\theta}$-0.16; $M_{\phi\phi}$-1.11; $M_{r\theta}$0.56; $M_{\theta\phi}$-0.26; $M_{\phi r}$1.25; Fault plane solution: $M_0$1.84000×10^{15} NP1:ϕ_s21.00000°, δ69.00000°, λ95.00000°. NP2:ϕ_s189.00000°, δ21.00000°, λ78.00000°.*
*JMA **16** 02:49:12.0±0.1, 39°.6N±0°.2×142°.1E±0°.6, h48km, MD4.1/39, MV4.2/39, E OFF IWATE PREF*
JMA Felt III J1 at E OFF IWATE PREF .
*IDC **16** 02:49:13.8±1.8, 39°.58N×142°.10E, h72km±15km, mb3.8/23, mbtmp4.1/30, MS3.1/7, Error ellipse: s-maj=15.6km s-min=11.5km az=88.0*
ISC 16 02:49:11.8±0.7, 39°.61N±0°.03×142°.14E±0°.06, h51km±5km, n133, σ1§86/129, mb4.4/44, MS3.5/3, 3C-14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.25**	**263**	*i* P	**Pn**	**02 49 20.4**	**-0.3**
MIYJ				S	**Sn**	**02 49 26.1**	**-0.9**
MIYJ	**Miyakonagasawa**	**0.25**	**263**	A	A	02 49 20.4	
	comp=E,47nm,0.3s,comp=N,22nm,0.3s						
JTH	**Tanohata**	**0.40**	**327**	⇓*iP*	**Pn**	**02 49 21.6**	**-0.4**
JTH				⇓S	**Sn**	**02 49 28.2**	**-1.1**
JTH	**Tanohata**	**0.40**	**327**	A	A	02 49 21.6	
	comp=E,45nm,0.4s,comp=N,27nm,0.4s						
OFUJ	**Ofunato**	**0.64**	**215**	*i* P	**Pn**	**02 49 24.8**	**-0.1**
OFUJ				S	**Sn**	**02 49 33.8**	**-0.5**
OFUJ	**Ofunato**	**0.64**	**215**	A	A	02 49 24.8	
	comp=E,7.0nm,0.5s,comp=N,7.0nm,0.6s						
JOM	**Ohasama**	**0.67**	**259**	*i* P	**Pn**	**02 49 25.2**	**0.0**
JOM				S	**Sn**	**02 49 34.7**	**-0.3**
JOM	**Ohasama**	**0.67**	**259**	A	A	02 49 25.2	
	comp=E,50nm,0.4s,comp=N,31nm,0.9s						
JKEN	**Kujiedanarisaw**	**0.68**	**331**	A	A	02 49 25.0	
	comp=E,28nm,0.8s,comp=N,19nm,1.3s						
JKZ	**Kuzumaki**	**0.73**	**301**	⇓*iP*	**Pn**	**02 49 25.8**	**-0.2**
JKZ				⇓S	**Sn**	**02 49 35.3**	**-1.1**
JANG	**Nango**	**0.90**	**326**	⇓*iP*	**Pn**	**02 49 27.7**	**-0.6**
JANG				⇓S	**Sn**	**02 49 38.4**	**-2.0**
JANG	**Nango**	**0.90**	**328**	A	A	02 49 27.7	
	comp=E,4.0nm,2.3s,comp=N,13nm,2.0s						
JSZI	**Iwateshizukuis**	**0.93**	**279**	A	A	02 49 28.4	
	comp=E,15nm,1.8s,comp=N,13nm,1.5s						
JKMT	**Kesennumamotoy**	**0.95**	**213**	*i* P	**Pn**	**02 49 29.1**	**+0.2**
JKMT				S	**Sn**	**02 49 41.1**	**-0.4**
JMK	**Ichinoseki**	**0.97**	**228**	⇓*iP*	**Pn**	**02 49 29.2**	**0.0**
JMK				⇓S	**Sn**	**02 49 41.7**	**-0.2**
JRG	**Rokugo**	**1.19**	**260**	⇓*iP*	**Pn**	**02 49 32.0**	**-0.1**
JRG				⇓*eS*	**Sn**	**02 49 46.1**	**-1.0**
JRG	**Rokugo**	**1.19**	**260**	A	A	02 49 32.0	
	comp=E,5.0nm,1.0s,comp=N,6.0nm,8.5s						
JAH	**Hinai**	**1.30**	**297**	⇓*iP*	**Pn**	**02 49 33.5**	**-0.1**
JAH				⇓*eS*	**Sn**	**02 49 49.9**	**+0.1**
JAH	**Hinai**	**1.30**	**297**	A	A	02 49 33.5	
	comp=E,5.0nm,2.6s,comp=N,3.0nm,3.1s						
JIO	**Ouri**	**1.31**	**209**	*i* P	**Pn**	**02 49 33.8**	**+0.1**
JIO				S	**Sn**	**02 49 49.7**	**-0.4**
JOFO	**Osakifurukawao**	**1.39**	**224**	A	A	02 49 35.4	
	comp=E,9.0nm,2.2s,comp=N,11nm,4.3s						
JTM	**Tenmabayashi**	**1.44**	**325**	Pn	**Pn**	**02 49 35.2**	**-0.3**
JTM	**Tenmabayashi**	**1.44**	**325**	⇓*iP*	**Pn**	**02 49 35.2**	**-0.3**
JTM				⇓S	**Sn**	**02 49 52.6**	**-0.6**
JYW	**Yuwa**	**1.50**	**268**	A	A	02 49 36.6	
	comp=E,8.0nm,1.1s,comp=N,7.0nm,8.9s						
JNTW	**Noshirotokiwa**	**1.66**	**294**	A	A	02 49 38.9	
	comp=E,7.0nm,3.0s,comp=N,6.0nm,3.3s						
JAHD	**Aomorihigashid**	**1.77**	**340**	A	A	02 49 40.4	
	comp=E,6.0nm,0.4s,comp=N,5.0nm,1.5s						
JMM	**Marumori**	**2.04**	**212**		**Pn**	**02 49 44.1**	**+0.5**
JYA	**Atsumi**	**2.15**	**243**	A	A	02 49 46.1	
	comp=E,5.0nm,0.7s,comp=N,4.0nm,1.5s						
ERM	**Erimo**	**2.52**	**17**		**Pn**	**02 49 51.0**	**+0.7**
JSD	**Sado**	**3.42**	**244**	Pn	**Pn**	**02 50 03.1**	**+0.6**
MJAR	**Matsushiro Arr**	**4.36**	**227**	P	**Pn**	**02 50 17.7**	**+2.2**
	comp=N,29nm,0.6s,baz=33,slow=13,SNR=76						
MJAR				LR	LR	02 52 06.8	
	comp=N,149nm,21.8s,baz=58,slow=40						
MJB9	**Matsu-Tunnel**	**4.36**	**227**		**Pn**	**02 50 19.6**	**+4.1**
MAJO	**Matsushiro**	**4.36**	**227**	Pn	**Pn**	**02 50 18.5**	**+2.9**
ASAJ	**Asahikawa**	**4.52**	**4**	P	**Pn**	**02 50 18.6**	**+1.0**
	comp=N,7.7nm,0.4s,baz=245,slow=6.0,SNR=6.7						
ASAJ				S	**Sn**	**02 51 07.7**	**-1.1**
	comp=N,30nm,0.8s,baz=231,slow=31,SNR=1.8						
JKA	**Kamikawa-asahi**	**4.52**	**4**	Pn	**Pn**	**02 50 18.4**	**+0.7**
JGF	**Kuroka**	**5.52**	**225**		**Pn**	**02 50 34.8**	**+3.4**
INU	**Inuyama**	**5.89**	**225**		**Pn**	**02 50 39.5**	**+3.0**
JHJ	**Hachijo jima 2**	**6.75**	**197**	P	**Pn**	**02 50 48.4**	**+0.1**
	comp=N,197nm,0.9s,baz=69,slow=20,SNR=2.2						
JHJ				S	**Sn**	**02 52 00.1**	**-3.7**
	comp=N,155nm,0.9s,baz=84,slow=18,SNR=1.2						
USA0B	**Ussuriysk Arra**	**8.85**	**304**	Pn	**Pn**	**02 51 20.4**	**+3.4**
USRK	**Ussuriysk Ar.**	**8.85**	**304**	Pn	**Pn**	**02 51 20.3**	**+3.3**
USRK	**Ussuriysk Ar.**	**8.85**	**304**	P	**Pn**	**02 51 18.8**	**+1.8**
	comp=N,10nm,0.7s,baz=110,slow=15,SNR=14						
USRK				LR	LR	02 54 26.8	
	comp=N,147nm,21.8s,baz=69,slow=35						
MDJ	**Mudanjiang**	**10.58**	**302**	P	**Pn**	**02 51 39.3**	**-1.3**
MDJ				pmax	pmax		
	comp=Z,11nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,210nm,5.4s						
JNU	**Nakatsue**	**11.15**	**238**	P	**Pn**	**02 51 49.6**	**+1.1**
	comp=Z,2.5nm,0.5s,baz=214,slow=11,SNR=1.6						
JNU				LR	LR	02 56 08.3	
	comp=Z,77nm,18.5s,baz=360,slow=37						
KSRS	**Korea Array**	**11.35**	**264**	P	**Pn**	**02 51 54.6**	**+3.5**
	comp=Z,3.9nm,0.4s,baz=69,slow=14,SNR=12						
KSRS				LR	LR	02 56 00.4	
	comp=Z,45nm,19.4s,baz=100,slow=36						
KLR	**Kul'dur**	**12.14**	**326**	P	**Pn**	**02 52 02.1**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=155,slow=11,SNR=4.4						
KLR				LR	LR	02 56 43.0	
	comp=Z,86nm,19.9s,baz=8.0,slow=37						
BJI	**Beijing**	**19.93**	**280**	P	**P**	**02 53 38.9**	**-0.4**
BJI				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TIA	**Tai'an**	**20.01**	**268**	P	**P**	**02 53 33.3**	**-6.9**
TIA				pmax	pmax		
	comp=Z,11nm,1.6s						
NJ2	**Nanjing**	**20.30**	**255**	*eP*	**P**	**02 53 43.4**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MA2	**Magadan**	**20.72**	**12**	P	**P**	**02 53 48.2**	**+0.6**
	comp=Z,5.8nm,0.5s,baz=164,slow=3.5,SNR=3.6						
	comp=Z,5.8nm,0.5s						
HHC	**Hu-ho-hao-te**	**23.33**	**283**	*eP*	**P**	**02 54 17.4**	**+1.9**
HHC				PP	**PnPn**	**02 54 51.5**	**+8.3**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
GUMO	**Guam**	**26.03**	**174**	P	**P**	**02 54 41.6**	**+1.5**
	comp=Z,41nm,0.3s,baz=179,slow=22,SNR=1.5						
SONM	**Songino Array**	**26.92**	**300**	P	**P**	**02 54 48.6**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=85,slow=8.5,SNR=7.3						
SONM				LR	LR	03 05 04.6	
	comp=Z,81nm,20.2s,baz=98,slow=35						
	comp=Z,1.3nm,0.6s						
XAN	**Xi'an**	**27.07**	**269**	*eP*	**P**	**02 54 51.3**	**+1.8**
H11N2	**WAKE ISLAND Hy**	**29.08**	**126**	T	T	03 25 42.1	
	baz=318,slow=75,SNR=1562						
H11N1	**WAKE ISLAND Hy**	**29.09**	**126**	T	T	03 25 42.7	
	baz=318,slow=75,SNR=905						
H11N3	**WAKE ISLAND Hy**	**29.10**	**126**	T	T	03 25 43.4	
	baz=318,slow=75,SNR=1215						
H11S1	**WAKE ISLAND Hy**	**29.88**	**128**	T	T	03 26 42.1	
	baz=320,slow=76,SNR=175						
H11S3	**WAKE ISLAND Hy**	**29.88**	**128**	T	T	03 26 43.6	
	baz=320,slow=76,SNR=122						
H11S2	**WAKE ISLAND Hy**	**29.89**	**128**	T	T	03 26 52.3	
	baz=320,slow=76,SNR=110						
LZH	**Lanzhou**	**30.30**	**276**	*eP*	**P**	**02 55 21.5**	**+3.2**
LZH				pP	pP	02 55 27.9	-3.7
LZH				pmax	pmax		
	comp=Z,11nm,1.0s						
PZH	**PanZhiHua**	**36.00**	**261**	P	**P**	**02 56 07.8**	**-0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,6.7s						
WMQ	**Urumqi**	**40.25**	**294**	*eP*	**P**	**02 56 45.0**	**+1.4**
WMQ				sP	sP	02 57 02.8	-0.5
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
ZAA0	**Zalesovo Array**	**40.65**	**310**	P	**P**	**02 56 46.5**	**-0.2**
ZAA0				IAmb	IAmb	02 56 47.6	
	comp=Z,4.5nm,0.6s						
ZALV	**Zalesovo Beam**	**40.65**	**310**	P	**P**	**02 56 46.5**	**-0.2**
ZALV	**Zalesovo Beam**	**40.65**	**310**	P	**P**	**02 56 46.6**	**0.0**
	comp=Z,4.1nm,0.4s,baz=90,slow=8.4,SNR=24						
ZALV				PcP	**PcP**	**02 58 47.8**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=98,slow=3.1,SNR=7.7						
	comp=Z,4.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**42.75**	**253**	P	**P**	**02 57 02.8**	**-1.4**
	comp=Z,3.0nm,0.3s,baz=46,slow=6.4,SNR=4.4						
	comp=Z,3.0nm,0.3s						
G19K	**Purcell Mounta**	**42.82**	**31**	P	**P**	**02 57 05.5**	**+1.3**
G19K				IAmb	IAmb	02 57 12.6	
	comp=Z,9.7nm,1.1s						
MK31	**Makanchi Array**	**43.29**	**300**	P	**P**	**02 57 08.1**	**-0.2**
MKAR	**Makanchi Array**	**43.29**	**300**	P	**P**	**02 57 08.0**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=85,slow=9.6,SNR=19						
MKAR				LR	LR	03 15 36.1	
	comp=Z,56nm,18.9s,baz=0.5,slow=37						
	comp=Z,3.5nm,0.7s						
MAKZ	**Makanchi**	**43.49**	**300**	P	**P**	**02 57 09.8**	**-0.2**
KURK	**Kurchatov**	**44.84**	**306**	P	**P**	**02 57 20.3**	**-0.3**
KURBB	**Kurchatov Arra**	**44.91**	**306**	P	**P**	**02 57 20.9**	**-0.3**
	comp=Z,8.8nm,0.7s,baz=80,slow=8.4,SNR=55						
KURBB				PcP	**PcP**	**02 59 01.4**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=88,slow=3.2,SNR=4.1						
	comp=Z,8.8nm,0.7s						
E22K	**Anaktuvuk Pass**	**45.07**	**29**	P	**P**	**02 57 23.6**	**+1.4**
E22K				IAmb	IAmb	02 57 25.2	
	comp=Z,5.0nm,0.8s						
E23K	**Chandalar**	**45.89**	**29**	IAmb	IAmb	02 57 31.8	
	comp=Z,3.9nm,0.9s						
D24K	**Happy Valley**	**46.22**	**28**	IAmb	IAmb	02 57 33.9	
	comp=Z,4.4nm,0.8s						
E24K	**Your Creek**	**46.31**	**29**	IAmb	IAmb	02 57 35.1	
	comp=Z,3.1nm,0.7s						
IL31		**47.02**	**34**	P	**P**	**02 57 38.9**	**+1.3**
ILAR	**Eielson Array**	**47.02**	**34**	P	**P**	**02 57 38.9**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=268,slow=6.1,S

comp=Z,1.3nm,0.6s,baz=53,slow=7.0,SNR=7.8
comp=Z,1.3nm,0.6s
AKASG **Malin Array Be** 72.62 322 P **P** 03 00 33.3 -0.2
comp=Z,1.4nm,0.5s,baz=46,slow=6.4,SNR=18
comp=Z,1.4nm,0.5s
AK05 **Malin Array Si** 72.68 322 P **P** 03 00 34.0 0.0
AK05 IAmb IAmb 03 00 45.4
comp=Z,4.3nm,0.9s
NVAR **Mina Array Bea** 73.00 54 P **P** 03 00 36.4 0.0
comp=Z,0.4nm,0.7s,baz=282,slow=6.4,SNR=4.6
comp=Z,0.4nm,0.7s
PDAR **Pinedale Array** 75.46 46 P **P** 03 00 51.9 +1.2
PDAR **Pinedale Array** 75.46 46 P **P** 03 00 50.4 -0.2
comp=Z,0.6nm,0.7s,baz=275,slow=2.0,SNR=7.9
comp=Z,0.6nm,0.7s
BUR08 **Bucovina Ar. S** 76.64 322 P **P** 03 00 57.5 +0.5
BUR08 IAmb IAmb 03 00 59.0
comp=Z,10.0nm,1.4s
BURAR **Bucovina Array** 76.65 322 P **P** 03 00 57.6 +0.4
BRTR **Keskin Array B** 77.58 312 P **P** 03 01 02.4 -0.1
comp=Z,0.5nm,0.6s,baz=32,slow=8.5,SNR=1.7
comp=Z,0.5nm,0.6s
MORC **Moravsky Berou** 78.52 327 *e*P **P** 03 01 06.1 -1.3
CLL **Collm** 79.15 330 *i*P **P** 03 01 11.1 +0.3
VRAC **Vranov** 79.27 327 *e*P **P** 03 01 12.9 +1.4
GERES **GERESS Array B** 80.83 328 P **P** 03 01 18.0 -2.0
comp=Z,0.6nm,0.5s,baz=39,slow=6.8,SNR=4.0
comp=Z,0.6nm,0.5s
EKA **Eskdalemuir Ar** 80.90 341 P **P** 03 01 20.3 +0.1
comp=Z,0.4nm,0.5s,baz=27,slow=5.8,SNR=4.4
comp=Z,0.4nm,0.5s
TXAR **Lajitas Array** 88.10 53 P **P** 03 01 56.1 -1.0
comp=Z,0.1nm,0.6s,baz=289,slow=2.8,SNR=1.8
comp=Z,0.1nm,0.6s
ESDC **Sonseca Array** 95.23 334 P **P** 03 02 29.1 -0.8
comp=Z,0.2nm,0.5s,baz=13,slow=5.3,SNR=1.5
comp=Z,0.2nm,0.5s
TORD **Torodi Ar. Bea** 115.89 316 PKP **PKPdf** 03 07 47.8 -1.5
comp=Z,0.3nm,0.8s,baz=5.7,slow=2.9,SNR=1.6
MAW **Mawson** 122.10 206 PKP **PKPdf** 03 07 58.2 -1.3
comp=Z,1.2nm,0.8s,baz=138,slow=23,SNR=2.2
SNAA **Sanae** 143.37 198 PKP PKPab 03 08 35.6 +0.2
comp=Z,1.4nm,0.8s,baz=173,slow=4.3,SNR=11
LPAZ **La Paz** 144.86 57 PKP **PKPdf** 03 08 44.1 0.0
comp=Z,0.5nm,0.5s,baz=321,slow=7.2,SNR=2.0
VNA2 **Neumayer--Watz** 144.95 197 ⇑P PKPbc 03 08 40.9 -0.4
baz=136,slow=3.8
VNA3 **Neumayer Olymp** 145.20 196 ⇑P **PKPbc** 03 08 41.5 -0.7
VNA1 **Neumayer--Stat** 145.34 197 ⇑P **PKPbc** 03 08 35.2 -7.4

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*SJA **16** 02:59:56.6±0.8, 31°.25S×68°.80W, h113km±2km, ML3.4, MW3.6*

ISC 16 02:59:58.5±1.3, 31°.22S±0°.03×68°.81W±0°.03, h106km±7km, n43, σ1°58/69, 4C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	0.30	111	*e*P	**Pn**	03 00 13.2	-0.7
ZON	**Zonda**	0.34	161	*e*P	**Pn**	03 00 13.5	-0.5
ZON				*e*S	**Sn**	03 00 25.4	-0.2
ZON				IAML		03 00 26.2	
	comp=Z,1μm,0.2s						
DOCA	**Reserva Natura**	0.36	319	*e*P	**Pn**	03 00 14.0	-0.5
DOCA				*e*S	**Sn**	03 00 26.6	+0.2
SJA	**San Juan**	0.37	145	*e*P	**Pn**	03 00 14.0	-0.2
SJA				*e*S	**Sn**	03 00 27.2	+1.3
SJA				IAML		03 00 27.5	
	comp=Z,907nm,0.2s						
ACCO	**Cerro Coronel**	0.67	341	*e*P	**Pn**	03 00 16.7	+0.1
ACCO				*e*S	**Sn**	03 00 28.8	-1.3
RTCV	**Cerro Valdivia**	0.68	160	*e*P	**Pn**	03 00 16.0	-0.4
RTCV				*e*S	**Sn**	03 00 29.3	-0.4
RTCV				IAML		03 00 29.9	
	comp=Z,306nm,0.6s						
RTLS	**Leoncito**	0.71	216	*e*P	**Pn**	03 00 16.4	-0.5
RTLS				*e*S	**Sn**	03 00 31.6	+0.9
RTLS				IAML		03 00 34.2	
	comp=Z,2μm,0.4s						
AVFE	**Valle Fertil**	1.29	65	*e*P	Pn	03 00 16.7	-6.0
AVFE				*e*P	**Pn**	03 00 22.2	-0.4
AVFE				*e*S	**Sn**	03 00 41.4	+0.5
AVFE				IAML		03 00 41.5	
	comp=Z,710nm,0.6s						
CO03	**El Pedregal**	1.66	283	⇑*i*P	**Pn**	03 00 27.1	0.0
CO03				*e*S	**Sn**	03 00 49.1	+0.3
CO03	**El Pedregal**	1.66	283	*e*P	**Pn**	03 00 27.1	0.0
CO03				*e*S	**Sn**	03 00 49.4	+0.6
CO03				IAML		03 00 50.2	
	comp=Z,1μm,0.2s						
CO01	**Juntas del Tor**	1.66	318	⇑*i*P	**Pn**	03 00 28.2	+1.0
CO01				*e*S	**Sn**	03 00 50.9	+1.7
CO01				IAML		03 00 52.1	
	comp=E,741nm,0.2s						
CO01	**Juntas del Tor**	1.66	318	*e*P	**Pn**	03 00 28.2	+1.0
CO01				*e*S	**Sn**	03 00 51.2	+2.0
CO01				IAML		03 00 51.6	
	comp=Z,287nm,0.4s						
ACHE	**Chepes**	1.84	89	*e*P	**Pn**	03 00 29.3	-0.1
ACHE				*e*S	**Sn**	03 00 53.2	+0.2
GO04	**Tololo Observa**	2.01	301	⇑*e*P	**Pn**	03 00 31.1	-0.5
GO04				*e*S	**Sn**	03 00 57.0	+0.1
GO04	**Tololo Observa**	2.01	301	*e*P	**Pn**	03 00 31.1	-0.5
GO04				*e*S	**Sn**	03 00 58.6	+1.7
CO04	**Los Peladeros**	2.02	245	*e*P	**Pn**	03 00 30.8	-1.1
CO04				*e*S	**Sn**	03 00 56.5	-0.7
CO04				IAML		03 01 00.4	
	comp=N,1μm,0.1s						
VA03	**San Esteban**	2.14	223	*e*P	**Pn**	03 00 32.8	-0.3
VA03	**San Esteban**	2.14	223	*e*P	**Pn**	03 00 32.7	-0.4
VA03				*e*S	**Sn**	03 01 03.1	+3.5
VA03				IAML		03 01 12.2	
	comp=Z,111nm,0.2s						
ACLC	**CERRO LA CRUZ**	2.40	42	*e*P	**Pn**	03 00 36.4	-0.3
ACLC				*e*S	**Sn**	03 01 07.0	+1.1
ACLC				IAML		03 01 35.1	
	comp=Z,71nm,0.4s						
MT08	**Bocatoma Ro**	2.44	204	*e*P	**Pn**	03 00 38.2	+0.9
MT08				*e*S	**Sn**	03 01 04.5	-2.5
MT08				IAML		03 01 10.8	
	comp=Z,80nm,1.1s						
FCH	**Farellones**	2.45	210	*e*P	**Pn**	03 00 37.4	0.0
FCH				*e*S	**Sn**	03 01 08.0	+0.8
CO05	**La Serena**	2.46	301	*e*P	**Pn**	03 00 36.1	-1.2
CO05				IAML		03 01 07.2	
	comp=N,464nm,0.2s						
CO06	**Fray Jorge**	2.49	282	⇑*e*P	**Pn**	03 00 35.4	-2.2
PEL	**Peldehue**	2.49	219	*e*P	**Pn**	03 00 36.9	-0.9
PEL				*e*S	**Sn**	03 01 08.7	+0.8
ROC1	**El Roble**	2.56	226	*e*P	**Pn**	03 00 37.2	-1.7
ROC1				*e*S	**Sn**	03 01 09.0	-0.8
MT14	**Cerro Cal¡n**	2.62	214	*e*P	**Pn**	03 00 38.5	-0.8
MT14				*e*S	**Sn**	03 01 10.4	-0.4
MT14				IAML		03 01 16.2	
	comp=E,217nm,0.2s						
MT03	**Universidad Ad**	2.69	212	*e*P	**Pn**	03 00 39.7	-0.6
MT03				IAML		03 01 15.3	
	comp=N,253nm,0.4s						
MT03	**Universidad Ad**	2.69	212	*e*P	**Pn**	03 00 39.9	-0.4
MT03				*e*S	**Sn**	03 01 13.1	+0.7
MT03				IAML		03 01 18.6	
	comp=Z,147nm,0.2s						
MT05	**Renca**	2.71	217	*e*P	**Pn**	03 00 39.9	-0.7
MT05				*e*S	**Sn**	03 01 11.9	-1.1
MT05				IAML		03 01 18.6	
	comp=Z,92nm,0.2s						
LCO	**Las Campanas**	2.75	323	*e*P	**Pn**	03 00 40.7	-0.6
LCO				*e*S	**Sn**	03 01 14.3	+0.2
LCO				IAML		03 01 17.0	
	comp=Z,336nm,0.2s						
MT02	**Curacav**	2.83	224	*e*P	**Pn**	03 00 40.2	-1.9
MT02				*e*S	**Sn**	03 01 18.1	+2.3
LMEL	**Las Melosas**	2.87	204	*e*P	**Pn**	03 00 42.5	-0.3
LMEL	**Las Melosas**	2.87	204	*e*P	**Pn**	03 00 43.6	+0.8
LMEL				*e*S	**Sn**	03 01 24.5	+7.5
MRA	**San Martin**	2.89	115	*e*P	**Pn**	03 00 42.4	-0.6
MRA				*e*S	Sn	03 01 04.9	-12
MRA				IAML		03 01 11.2	
	comp=Z,115nm,0.6s						
VA01	**Torpederas**	3.01	233	*e*P	Pn	03 00 36.5	-7.9
VA01				IAML		03 01 23.4	
	comp=Z,54nm,0.7s						
MT01	**Popeta**	3.35	217	*e*P	**Pn**	03 00 46.3	-2.7
MT01				*e*S	Sn	03 01 14.0	-14
MT01				IAML		03 01 25.6	
	comp=Z,30nm,0.3s						
RFA	**San Rafael**	3.55	175	*e*P	**Pn**	03 00 50.0	-1.8
RFA				*e*S	Sn	03 01 18.2	-15
RFA				IAML		03 01 32.4	
	comp=Z,82nm,0.3s						
AC04	**Llanos de Chal**	3.59	326	*e*P	**Pn**	03 00 51.0	-1.3
AC04				IAML		03 01 37.6	
	comp=Z,30nm,0.6s						
BO01	**Tunca**	3.70	211	*e*P	**Pn**	03 00 51.1	-2.6
BO01				IAML		03 01 40.7	
	comp=Z,21nm,0.5s						
CYA	**Choya**	3.81	44	*e*P	**Pn**	03 00 54.0	-1.2
GO03	**Copiapo**	3.82	341	*e*P	**Pn**	03 00 55.4	-0.1
BO02	**Sierra Bellavi**	3.93	204	*e*P	**Pn**	03 00 55.4	-1.5
BO02				*e*S	**Sn**	03 01 46.1	+4.0
AC01	**Pan de Azucar**	5.29	342	IAML		03 02 48.2	
	comp=Z,28nm,3.0s						

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*IDC **16** 03:03:46.8±0.8, 57°.15S×142°.86W, h0km, mb3.9/8, mbtmp3.9/8, MS4.3/4, Error ellipse: s-maj=28.9km s-min=23.6km az=13.0*

*GCMT **16** 03:03:52.0±0.2, 56°.77S±0°.01×142°.12W±0°.03, h19km±1km, MW5.2/77, Moment Tensor Solution. s52,c70; s77,c111; Duration: 1§0 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.08±.03; $M_{\theta\theta}$=0.65±.03; $M_{\phi\phi}$=-0.57±.03; $M_{r\theta}$=0.16±.06; $M_{\theta\phi}$=0.57±.02; $M_{\phi r}$=0.09±.06; Best double couple: M_0=0.86000×10^{17} NP1:ϕ_s=293.00000°, δ=87.00000°, λ=-13.00000°. NP2:ϕ_s=24.00000°, δ=77.00000°, λ=-177.00000°. Principal axes: T 0.8950, Plg7.0000°, Azm339.0000°; N -0.0700, Plg77.0000°, Azm102.0000°; P -0.8240, Plg11.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 16 03:03:48.1±0.7, 57°.1S±0°.2×142°.9W±0°.2, h10km, n36, σ1§39/19, mb4.2/11, MS4.3/4, 5C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	33.04	180	P	**P**	03 10 23.6	+0.3
	0.5nm,0.3s,baz=62,slow=4.7,SNR=1.8						
QSPA				LR	LR	03 21 17.4	
	comp=Z,903nm,21.9s,baz=67,slow=32						
	0.5nm,0.3s						
PMSA	**Palmer Station**	36.62	135	LR	LR	03 21 49.0	
	comp=Z,598nm,19.1s,baz=258,slow=30						
RPN	**Rapa Nui**	38.24	53	LR	LR	03 22 43.7	
	comp=Z,377nm,21.2s,baz=208,slow=30						
VNA3	**Neumayer Olymp**	47.76	161	⇑P	**P**	03 12 24.5	-0.2
	comp=Z,5.9nm,0.6s						
H03S2	**Juan Fernandez**	48.39	90	T	T	04 04 15.1	
	baz=220,slow=74,SNR=51						
H03S1	**Juan Fernandez**	48.39	90	T	T	04 04 22.0	
	baz=220,slow=74,SNR=48						
H03S3	**Juan Fernandez**	48.41	90	T	T	04 04 15.5	
	baz=220,slow=74,SNR=55						
VNA2	**Neumayer--Watz**	48.42	162	⇑P	**P**	03 12 29.7	-0.1
	comp=Z,7.4nm,0.6s,baz=204,slow=7.7						
SNAA	**Sanae**	48.49	164	⇑P	**P**	03 12 30.3	-0.1
	comp=Z,60nm,0.9s						
SNAA	**Sanae**	48.49	164	P	**P**	03 12 30.0	-0.4
	comp=Z,1.6nm,0.7s,baz=211,slow=4.9,SNR=13						
SNAA				LR	LR	03 30 13.2	
	comp=Z,247nm,21.7s,baz=207,slow=33						
	comp=Z,1.6nm,0.7s						
VNA1	**Neumayer--Stat**	48.51	162	⇑P	**P**	03 12 29.9	-0.5
	comp=Z,7.0nm,0.6s						
H03N3	**Juan Fernandez**	48.68	89	T	T	04 04 42.0	
	baz=222,slow=72,SNR=54						
H03N2	**Juan Fernandez**	48.68	89	T	T	04 04 41.0	
	baz=222,slow=72,SNR=54						
H03N1	**Juan Fernandez**	48.69	89	T	T	04 04 43.3	
	baz=222,slow=72,SNR=52						
TROLL	**Troll, Antarti**	48.92	166	⇑P	**P**	03 12 33.2	-0.7
	comp=Z,108nm,0.9s						
MAW	**Mawson**	54.14	192	P	**P**	03 13 12.5	-0.2
	comp=Z,1.4nm,1.1s,baz=140,slow=12,SNR=1.4						
	comp=Z,1.4nm,1.1s						
STKA	**Stephens Creek**	56.20	262	P	**P**	03 13 26.7	-1.4
	comp=Z,0.3nm,0.3s,baz=86,slow=16,SNR=1.4						
	comp=Z,0.3nm,0.3s						
ASAR	**Alice Springs**	66.84	262	P	**P**	03 14 40.3	+0.2
	comp=Z,1.4nm,0.7s,baz=141,slow=6.5,SNR=12						
	comp=Z,1.4nm,0.7s						
H01W1	**Cape Leeuwin H**	67.89	240	T	T	04 30 04.9	
	baz=144,slow=76,SNR=171						
H01W2	**Cape Leeuwin H**	67.89	240	T	T	04 30 05.5	
	baz=144,slow=76,SNR=174						
H01W3	**Cape Leeuwin H**	67.90	240	T	T	04 30 06.0	
	baz=144,slow=76,SNR=164						
LPAZ	**La Paz**	68.18	86	P	**P**	03 14 49.9	+0.6
	comp=Z,2.0nm,1.0s,baz=238,slow=2.0,SNR=3.7						
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	69.61	265	P	**P**	03 14 57.5	0.0
	comp=Z,1.7nm,1.0s,baz=146,slow=5.5,SNR=13						
	comp=Z,1.7nm,1.0s						
TXAR	**Lajitas Array**	92.25	34	P	**P**	03 16 58.4	+0.5
	comp=Z,0.1nm,0.7s,baz=172,slow=7.3,SNR=1.8						
	comp=Z,0.1nm,0.7s						
H10S3	**ASCENSION HYDR**	101.75	128	T	T	05 12 08.0	
	baz=207,slow=74,SNR=25						
H10S2	**ASCENSION HYDR**	101.75	128	T	T	05 12 12.5	
	baz=13,slow=74,SNR=22						
H10N3	**ASCENSION HYDR**	102.81	127	T	T	05 13 27.5	
	baz=206,slow=74,SNR=19						
H10N1	**ASCENSION HYDR**	102.82	127	T	T	05 13 34.9	
	baz=206,slow=74,SNR=18						
H10N2	**ASCENSION HYDR**	102.83	127	T	T	05 13 36.9	
	baz=206,slow=74,SNR=17						
ILAR	**Eielson Array**	121.60	358	PKP	**PKPdf**	03 22 38.6	-1.7
	comp=Z,0.1nm,0.6s,baz=222,slow=13,SNR=5.0						
ESDC	**Sonseca Array**	148.23	105	PKPbc	**PKPdf**	03 23 32.7	+2.4
	comp=Z,0.8nm,0.8s,baz=228,slow=3.0,SNR=6.6						
MKAR	**Makanchi Array**	150.85	269	PKPbc	**PKPbc**	03 23 40.7	+0.9
	comp=Z,3.5nm,0.8s,baz=101,slow=1.5,SNR=16						
ZALV	**Zalesovo Beam**	153.27	284	PKPbc	**PKPbc**	03 23 47.0	+2.0
	comp=Z,0.4nm,0.4s,baz=143,slow=5.0,SNR=1.7						
KURBB	**Kurchatov Arra**	155.07	273	PKPbc		03 23 49.4	
	comp=Z,0.4nm,0.4s,baz=146,slow=1.8,SNR=1.7						
BVAR	**Borovoye Array**	160.65	272	PKPab	**PKPab**	03 24 30.5	+1.5
	comp=Z,1.4nm,0.8s,baz=123,slow=5.3,SNR=5.2						
NOA	**NORSAR Array B**	166.14	63	PKPab	**PKPab**	03 24 49.6	-3.3
	comp=Z,0.9nm,0.8s,baz=301,slow=4.7,SNR=3.3						

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*GUC **16** 03:05:20.0±0.7, 38°.81S×68°.80W, h10km±21km, ML4.0*

*SJA **16** 03:05:25.1±0.7, 38°.91S×68°.66W, h12km, ML3.5, MW3.5*

ISC 16 03:05:20.1±1.5, 38°.78S±0°.04×68°.82W±0°.08, h10km, n17, σ1§98/27, Southern Argentina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO06	**Curarrehue**	2.21	248	*e*P	**Pb**	03 05 59.0	-1.4
GO06				*i*S	**Sb**	03 06 28.9	+1.0
GO06				IAML		03 06 37.5	
	comp=N,688nm,0.5s						
GO06	**Curarrehue**	2.21	248	*e*P	**Pg**	03 06 04.1	+1.5
GO06				*e*S	**Sb**	03 06 29.3	+1.4
PLCA	**Paso Flores**	2.37	214	*e*P	**Pb**	03 06 02.8	-0.2
PLCA				*e*S	**Sb**	03 06 33.4	+1.2
PLCA	**Paso Flores**	2.37	214	*e*P	**Pb**	03 06 03.1	+0.2
PLCA				*e*S	**Sb**	03 06 33.0	+0.8
LR05	**Currie**	2.86	238	*e*P	**Pb**	03 06 09.7	-1.6
LR05				*e*S	**Sb**	03 06 48.1	+1.8
LR05				IAML		03 06 54.0	
	comp=E,822nm,0.4s						
BI02	**San Fabin de**	2.87	317	*e*P	**Pn**	03 06 05.7	-0.3
LR03	**Panguipulli**	2.87	252	*e*P	**Pb**	03 06 11.7	+0.3
LR03				*i*S	**Sb**	03 06 48.7	+2.1
LR03				IAML		03 06 55.8	
	comp=N,2μm,0.6s						
EDS3	**Malargue**	3.04	351	*e*P	**Pb**	03 06 13.0	-1.4
EDS3				*e*S	**Sb**	03 06 54.4	+2.9
LL04	**Puerto Octay**	3.49	231	*e*P	**Pg**	03 06 24.5	-2.5
LL04				*i*S	**Sg**	03 07 08.2	-4.1
LL04				IAML		03 07 13.5	
	comp=N,107nm,0.2s						
LL03	**Petrohue**	3.63	228	*e*P	**Pb**	03 06 25.7	+1.4
LL03				*e*S	**Sb**	03 07 10.1	+1.7
ML02	**Panimavida**	3.65	325	*e*P	**Pb**	03 06 23.9	-0.9
ML02				*e*S	**Sn**	03 07 04.1	+4.3
LR04	**Corral**	3.74	251	*e*P	**Pb**	03 06 26.4	+0.2
RFA	**San Rafael**	4.01	4	*e*P	**Pb**	03 06 30.1	-0.8
RFA				*e*S	**Sb**	03 07 21.8	+2.4
BO02	**Sierra Bellavi**	4.28	338	*e*P	**Pb**	03 06 35.1	-0.4
BO02				*e*S	**Sb**	03 07 25.5	-1.7
GO05	**Hualane**	4.51	325	*e*P	**Pb**	03 06 36.4	-3.0
BO01	**Tunca**	4.74	337	IAML		03 08 02.5	
	comp=Z,36nm,0.8s						
MT03	**Universidad Ad**	5.45	345	IAML		03 08 05.0	
	comp=Z,23nm,0.7s						

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*IDC **16** 03:09:59.2±0.8, 56°.62S×25°.03W, h0km, mb4.3/5, mbtmp4.2/6, ML4.1/1, Error ellipse: s-maj=39.9km s-min=20.4km az=61.0*

*NEIC **16** 03:10:06.8±1.7, 57°.0S±0°.1×26°.0W±0°.1, h35km±2km, mb4.8/21, Error ellipse: s-maj=26.5km s-min=6.1km az=21.0*

ISC 16 03:10:04.9±0.6, 56°.83S±0°.10×25°.5W±0°.1, h35km, n44, σ1§03/46, mb4.8/14, 7C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	15.72	159	⇑P	**Pn**	03 13 42.4	-0.9
	comp=Z,1.7nm,0.4s						
VNA3	**Neumayer Olymp**	15.95	161	⇑P	**Pn**	03 13 44.8	-1.4
	comp=Z,1.2nm,0.2s						
VNA3				⇑S	Sn	03 16 28.9	-13
	comp=Z,1.4nm,0.8s						
VNA2	**Neumayer--Watz**	16.12	158	⇑P	**Pn**	03 13 46.7	-1.7
	comp=Z,1.0nm,0.2s,baz=326,slow=16						
VNA2				⇑S	Sn	03 16 30.9	-15
	comp=Z,0.5nm,0.5s,baz=25,slow=5.0						
SNAA	**Sanae**	17.65	156	P	**P**	03 14 08.6	+0.3
SNAA	**Sanae**	17.65	156	⇑P	**P**	03 14 08.2	-0.1
	comp=Z,35nm,0.3s						
SNAA	**Sanae**	17.65	156	P	**Pn**	03 14 07.7	+0.1
	comp=Z,0.6nm,0.3s,baz=315,slow=14,SNR=26						
	comp=Z,2.1nm,0.5s						
TROLL	**Troll, Antarti**	19.13	154	⇑P	**Pn**	03 14 25.2	-0.5
	comp=Z,98nm,0.8s						
BELA	**Belgrano 2**	21.38	185	P	**P**	03 14 48.7	-0.1
BELA				IAmb	IAmb	03 14 53.0	
	comp=Z,14nm,0.6s						
TRQA	**Tornquist**	30.49	292	P	**P**	03 16 14.1	-0.3
TRQA				IAmb	IAmb	03 16 55.5	
	comp=Z,25nm,1.4s						
PLTB	**Pedras Altas**	31.72	310	P	**P**	03 16 25.6	+0.4
PLCA	**Paso Flores**	33.06	280	P	**P**	03 16 35.2	-1.8
PLCA				IAmb	IAmb	03 17 41.4	
	comp=Z,17nm,1.4s						
QSPA	**South Pole Qui**	33.42	180	P	**P**	03 16 40.7	+0.7
QSPA				IAmb	IAmb	03 16 42.2	
	comp=Z,5.3nm,0.6s						
QSPA	**South Pole Qui**	33.42	180	P	**P**	03 16 41.2	+1.3
	comp=Z,4.8nm,0.6s,baz=209,slow=3.3,SNR=18						
	comp=Z,4.8nm,0.6s						
QSPA	**South Pole Qui**	33.42	180	P	**P**	03 16 41.0	+1.0
QSPA				pP	**pP**	03 16 50.9	+1.9
LL04	**Puerto Octay**	33.95	278	P	**P**	03 16 43.2	-1.4
LL04				IAmb	IAmb	03 16 53.5	
	comp=Z,11nm,1.3s						
ITAB	**Concordia**	35.14	316	P	**P**	03 16 55.6	+0.7
CPUP	**Villa Florida**	38.03	310	P	**P**	03 17 18.9	-0.8
	comp=Z,1.9nm,0.6s,baz=153,slow=9.8,SNR=3.0						
	comp=Z,1.9nm,0.6s						
CPUP	**Villa Florida**	38.03	310	P	**P**	03 17 19.5	-0.2
MT09	**Talagante**	38.44	287	P	**P**	03 17 21.9	-1.3
MAW	**Mawson**	38.96	142	P	**P**	03 17 25.8	-1.2
	comp=Z,0.7nm,0.5s,baz=244,slow=3.8,SNR=2.2						
	comp=Z,0.7nm,0.5s						
ZON	**Zonda**	39.00	292	P	**P**	03 17 26.9	-1.0
GO02	**Mina Guanaco**	44.68	296	P	**P**	03 18 14.7	+0.1
GO02				IAmb	IAmb	03 18 15.5	
	comp=Z,43nm,1.8s						
AF01	**San Pedro de A**	45.86	299	P	**P**	03 18 25.2	+1.2
PB09	**IPOC Station P**	47.36	299	P	**P**	03 18 36.7	+1.2
PB01	**IPOC Station P**	48.12	299	P	**P**	03 18 41.3	0.0
PB01				IAmb	IAmb	03 18 42.7	
	comp=Z,13nm,0.8s						
LBTB	**Lobatse**	48.35	71	P	**P**	03 18 45.1	+2.0
PTLB	**Pontes e Lacer**	48.51	315	P	**P**	03 18 44.3	+0.1
PTLB				IAmb	IAmb	03 18 45.8	
	comp=Z,16nm,1.6s						
PB08	**IPOC Station P**	48.73	300	P	**P**	03 18 46.4	0.0
PB08				IAmb	IAmb	03 18 48.2	
	comp=Z,7.5nm,0.8s						
GO01	**Chusmiza**	49.16	301	P	**P**	03 18 50.4	+0.7
GO01				IAmb	IAmb	03 18 51.3	
	comp=Z,14nm,0.8s						
LPAZ	**La Paz**	51.59	304	P	**P**	03 19 09.1	+0.8
LPAZ	**La Paz**	51.59	304	P	**P**	03 19 08.6	+0.3
	comp=Z,14nm,0.6s,baz=150,slow=4.3,SNR=82						
	comp=Z,14nm,0.6s						
LPAZ	**La Paz**	51.59	304	P	**P**	03 19 09.1	+0.8
LPAZ				pP	**pP**	03 19 19.1	+1.5
SAML	**Samuel**	56.02	313	P	**P**	03 19 39.9	-0.1
DRV	**Dumont d'Urvil**	56.34	173	P	**P**	03 19 41.9	+0.3
TORD	**Torodi Ar. Bea**	73.29	28	P	**P**	03 21 31.0	-1.6
TORD	**Torodi Ar. Bea**	73.29	28	P	**P**	03 21 30.4	-2.1
	comp=Z,0.4nm,0.5s,baz=199,slow=5.9,SNR=5.3						
	comp=Z,0.4nm,0.5s						
PDAR	**Pinedale Array**	121.55	301	PKP	**PKPdf**	03 28 52.9	-1.2
	comp=Z,0.1nm,0.3s,baz=155,slow=5.0,SNR=2.1						
A36M	**Sachs Harbour**	145.37	327	PKPbc	**PKPdf**	03 29 37.6	+0.4
P29M	**Windy Craggy**	145.61	304	PKPdf	**PKPdf**	03 29 38.1	+0.1
G31

baz=188,slow=74
H11N3 WAKE ISLAND Hy 30.43 7 T T 03 54 46.8
baz=188,slow=74
H11N2 WAKE ISLAND Hy 30.45 7 T T 03 54 49.2
baz=188
AS31 Alice Springs 30.75 241 P **P** **03 23 03.8 -1.5**
ASAR Alice Springs 30.76 241 P **P** **03 23 03.9 -1.4**
ASAR Alice Springs 30.76 241 P **P** **03 23 03.6 -1.7**
comp=Z,3.6nm,0.8s,baz=68,slow=9.9,SNR=34
comp=Z,3.6nm,0.8s
BBOO Buckleboo 33.30 224 P **P** **03 23 26.5 -0.9**
BBOO IAmb IAmb 03 23 28.3
comp=Z,9.3nm,1.1s
FITZ Fitzroy Crossi 37.08 254 P **P** **03 23 58.2 -2.0**
FORT Forrest 38.24 233 P **P** **03 24 09.0 -0.9**
MJAR Matsushiro Arr 52.55 335 P **P** **03 26 03.1 0.0**
comp=Z,0.4nm,0.4s,baz=159,slow=8.2,SNR=1.6
comp=Z,0.4nm,0.4s
KSRS Korea Array 58.21 327 P **P** **03 26 44.1 +0.3**
comp=Z,0.6nm,0.5s,baz=127,slow=9.3,SNR=2.3
comp=Z,0.6nm,0.5s
USRK Ussuriysk Ar. 61.55 335 P **P** **03 27 07.6 +0.9**
comp=Z,1.7nm,0.7s,baz=144,slow=8.2,SNR=2.3
comp=Z,1.7nm,0.7s
SONM Songino Array 76.93 325 P **P** **03 28 42.7 +0.5**
comp=Z,1.1nm,0.8s,baz=136,slow=5.4,SNR=5.7
comp=Z,1.1nm,0.8s
ILAR Eielson Array 83.98 19 P **P** **03 29 19.2 -0.3**
comp=Z,1.1nm,0.8s,baz=235,slow=4.8,SNR=7.0
comp=Z,1.1nm,0.8s
J25K Salcha River, 84.38 20 P **P** **03 29 22.3 +0.8**
J25K IAmb IAmb 03 29 32.0
comp=Z,5.9nm,1.0s
SCRK Sand Creek 84.45 21 P **P** **03 29 21.3 -0.8**
SCRK IAmb IAmb 03 29 23.1
comp=Z,5.9nm,1.3s
K27K Chicken 85.15 21 P **P** **03 29 25.6 +0.2**
G27K Doyon Strip 86.94 19 IAmb IAmb 03 29 42.7
comp=Z,6.7nm,1.4s
NVAR Mina Array Bea 87.70 50 P **P** **03 29 37.1 -1.8**
comp=Z,0.5nm,0.8s,baz=242,slow=5.7,SNR=2.3
comp=Z,0.5nm,0.8s
I30M Mount Dempster 87.86 22 **P** **03 29 42.1 +3.3**
I30M IAmb IAmb 03 29 50.9
comp=Z,3.7nm,0.9s
MKAR Makanchi Array 91.57 317 P **P** **03 29 55.8 -0.7**
comp=Z,0.5nm,0.6s,baz=100,slow=6.1,SNR=4.1
comp=Z,0.5nm,0.6s
PDAR Pinedale Array 95.14 48 P **P** **03 30 13.5 +0.2**
comp=Z,0.3nm,0.8s,baz=266,slow=3.5,SNR=1.8
comp=Z,0.3nm,0.8s
KEST Kesra 145.60 321 PKPbc **PKPab** **03 36 28.6 -0.4**
comp=Z,5.3nm,0.9s,baz=54,slow=1.0,SNR=5.2
ESDC Sonseca Array 148.97 341 PKPbc **PKiKP** **03 36 39.2 -0.1**
comp=Z,0.6nm,0.9s,baz=25,slow=3.5,SNR=3.6

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*IDC **16** 03:19:02.8±1.3, 10°.84S×163°.23E, h0km, mb3.9/6, mbtmp3.9/8, ML4.0/2, Error ellipse: s-maj=31.4km s-min=29.1km az=161.0*

ISC 16 03:19:04.3±1.0, 10°.8S±0°.1×163°.2E±0°.1, h10km, n9, σ1°23/10, mb3.9/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.51 292**		Pn	**Pn**	**03 19 58.6**	**-0.3**
	18nm,0.3s,baz=66,slow=20,SNR=0.8						
HNR				Sn	**Sn**	**03 20 40.4**	**-0.1**
	22nm,0.3s,baz=90,slow=20,SNR=1.0						
	120nm,0.5s						
DZM	**Mont Dzumac**	**11.62 165**		Pn	**Pn**	**03 21 50.8**	**+0.3**
	0.6nm,0.3s,baz=315,slow=20,SNR=1.8						
	6.5nm,0.9s						
WRA	**Warramunga Arr**	**29.26 248**		P	**P**	**03 25 06.4**	**-0.5**
	1.5nm,0.9s,baz=79,slow=9.1,SNR=2.7						
	1.5nm,0.9s						
ASAR	**Alice Springs**	**30.72 242**		P	**P**	**03 25 19.2**	**-0.6**
	1.7nm,0.8s,baz=72,slow=9.7,SNR=8.2						
	1.7nm,0.8s						
SONM	**Songino Array**	**77.02 325**		P	**P**	**03 30 57.1**	**-0.5**
	0.7nm,0.7s,baz=142,slow=7.3,SNR=2.0						
	0.7nm,0.7s						
NVAR	**Mina Array Bea**	**87.76 50**		P	**P**	**03 31 52.4**	**-1.7**
	0.1nm,0.4s,baz=263,slow=6.3,SNR=1.5						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**91.66 317**		P	**P**	**03 32 13.1**	**+1.1**
	0.8nm,1.1s,baz=111,slow=3.2,SNR=1.2						
	0.8nm,1.1s						
ZALV	**Zalesovo Beam**	**91.92 325**		P	**P**	**03 32 14.6**	**+1.8**
	0.3nm,0.3s,baz=159,slow=9.5,SNR=1.9						
	0.3nm,0.3s						
ESDC	**Sonseca Array**	**149.07 341**		PKPab	**PKPab**	**03 38 58.8**	**+1.5**
	0.6nm,0.9s,baz=22,slow=1.4,SNR=3.0						

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*IDC **16** 03:26:29.2±0.7, 10°.76S×162°.96E, h0km, mb4.3/16, mbtmp4.3/19, ML5.0/3, MS5.6/2, Error ellipse: s-maj=21.5km s-min=17.7km az=113.0*
*NEIC **16** 03:26:31.9±1.2, 10°.75S±0°.04×163°.0E±0°.1, h10km±1km, mb4.8/27, Error ellipse: s-maj=17.5km s-min=7.3km az=269.0*

ISC 16 03:26:31.2±0.5, 10°.73S±0°.07×163°.05E±0°.08, h10km, n72, σ1°35/63, mb4.6/31, 3C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.31 293**		Pn	**Pn**	**03 27 23.4**	**+0.2**
HNR	**Honiara**	**3.31 293**		Pn	**Pn**	**03 27 21.0**	**-2.2**
	104nm,0.3s,baz=131,slow=9.3,SNR=13						
	326nm,0.5s						
KOUNC	**Koumac, New Ca**	**9.84 173**		Pn	**Pn**	**03 28 55.5**	**+2.7**
DZM	**Mont Dzumac**	**11.74 164**		Pn	**Pn**	**03 29 19.1**	**+0.2**
	1.2nm,0.3s,baz=332,slow=18,SNR=15						
	3.5nm,0.4s						
PINNC	**Pines Island,**	**12.54 161**		Pn	**Pn**	**03 29 29.3**	**-0.5**
MSVF	**Nonsavu**	**16.12 117**		Pn	**Pn**	**03 30 17.3**	**-0.8**
	0.8nm,0.3s,baz=291,slow=10,SNR=1.5						
	2.1nm,0.2s						
EIDS	**Eidsvold**	**18.45 216**			**Pn**	**03 30 49.9**	**+2.7**
CTAO	**Charters Tower**	**18.66 238**		P	**Pn**	**03 30 52.0**	**+2.3**
CTAO				IAmb	IAmb	03 30 53.4	
	comp=Z,65nm,1.1s						
COEN	**Coen**	**19.67 259**		P	**P**	**03 31 01.6**	**+1.0**
COEN				IAmb	IAmb	03 31 04.4	
	comp=Z,31nm,1.1s						
JAY	**Jayapura**	**23.63 289**		P	**P**	**03 31 40.1**	**-2.8**
	comp=Z,15nm,0.8s,baz=101,slow=16,SNR=3.1						
	comp=Z,15nm,0.8s						
STKA	**Stephens Creek**	**28.91 220**		P	**P**	**03 32 30.1**	**-0.4**
STKA	**Stephens Creek**	**28.91 220**		P	**P**	**03 32 30.1**	**-0.4**
	comp=Z,4.3nm,1.0s,baz=29,slow=13,SNR=8.0						
	comp=Z,4.3nm,1.0s						
WR0	**Warramunga Arr**	**28.94 248**		P	**P**	**03 32 29.6**	**-1.3**
WRA	**Warramunga Arr**	**29.12 248**		P	**P**	**03 32 31.9**	**-0.7**
WRA	**Warramunga Arr**	**29.12 248**		P	**P**	**03 32 30.8**	**-1.8**
	comp=Z,4.6nm,0.9s,baz=77,slow=9.3,SNR=16						
	comp=Z,4.6nm,0.9s						
H11S2	**WAKE ISLAND Hy 29.26**	**7**		T	T	04 02 20.0	
	baz=188						
H11S3	**WAKE ISLAND Hy 29.26**	**7**		T	T	04 02 16.8	
	baz=188						
H11S1	**WAKE ISLAND Hy 29.28**	**7**		T	T	04 02 19.6	
	baz=188						
H11N1	**WAKE ISLAND Hy 30.49**	**7**		T	T	04 03 46.1	
	baz=187						
H11N3	**WAKE ISLAND Hy 30.50**	**7**		T	T	04 03 30.7	
	baz=187						
H11N2	**WAKE ISLAND Hy 30.51**	**7**		T	T	04 03 47.5	
	baz=187						
AS31	**Alice Springs**	**30.59 241**		P	**P**	**03 32 44.3**	**-1.2**
ASAR	**Alice Springs**	**30.59 241**		P	**P**	**03 32 43.8**	**-1.8**
	comp=Z,4.9nm,0.6s,baz=74,slow=9.6,SNR=60						
	comp=Z,4.9nm,0.6s						
BBOO	**Buckleboo**	**33.15 224**		P	**P**	**03 33 07.1**	**-0.8**
BBOO				IAmb	IAmb	03 33 09.3	
	comp=Z,22nm,1.2s						
KNRA	**Kununurra**	**33.71 258**		P	**P**	**03 33 11.7**	**-1.3**
KNRA				IAmb	IAmb	03 33 12.2	
	comp=Z,7.6nm,0.9s						
FORT	**Forrest**	**38.08 233**		P	**P**	**03 33 50.1**	**-0.2**
PPT	**Papeete**	**46.34 104**		LR	LR	03 50 47.9	
	comp=Z,3μm,18.3s,baz=274,slow=31						
MORW	**Morawa**	**47.46 240**		P	**P**	**03 35 05.6**	**-0.9**
JMN	**Monobe**	**52.20 329**		P	**P**	**03 35 45.3**	**+3.0**
JMN				IAmb	IAmb	03 35 51.5	
	comp=Z,27nm,1.1s						
MJAR	**Matsushiro Arr**	**52.52 335**		P	**P**	**03 35 43.1**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=138,slow=7.9,SNR=1.7						
	comp=Z,0.5nm,0.5s						
JTM	**Tenmabayashi**	**55.14 340**		P	**P**	**03 36 03.9**	**+0.1**
JKA	**Kamikawa-asahi**	**57.66 343**		P	**P**	**03 36 23.6**	**+1.8**
KSRS	**Korea Array**	**58.15 327**		P	**P**	**03 36 26.0**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=134,slow=7.0,SNR=2.6						
	comp=Z,1.1nm,0.6s						
NJ2	**Nanjing**	**59.96 317**		*e*P	**P**	**03 36 39.0**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
USRK	**Ussuriysk Ar.**	**61.51 335**		P	**P**	**03 36 49.6**	**+1.3**
	comp=Z,7.4nm,1.1s,baz=119,slow=13,SNR=4.9						
	comp=Z,7.4nm,1.1s						
KLR	**Kul'dur**	**65.75 338**		P	**P**	**03 37 16.4**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=135,slow=8.6,SNR=4.1						
	comp=Z,2.0nm,0.8s						
HNS	**HongShan**	**65.90 319**		*e*P	P	03 37 22.3	+4.9
HNS				S	**S**	**03 46 06.3**	**+1.5**
XAN	**Xi'an**	**67.97 313**		P	**P**	**03 37 30.9**	**+0.2**
XAN				pmax	pmax		
	comp=Z,13nm,1.1s						
PHRA	**Phrae**	**68.43 295**		P	**P**	**03 37 33.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**69.56 294**		P	**P**	**03 37 40.4**	**-0.6**
CHTO	**Chiang Mai**	**69.68 295**		P	**P**	**03 37 40.9**	**-0.8**
CHTO				IAmb	IAmb	03 37 42.1	
	comp=Z,8.5nm,1.3s						
HHC	**Hu-ho-hao-te**	**69.90 321**		*e*P	**P**	**03 37 42.6**	**-0.1**
HHC				pP	sP	03 37 47.9	+2.2
PZH	**PanZhiHua**	**70.08 303**		P	**P**	**03 37 43.6**	**-0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,60nm,5.3s						
LZH	**Lanzhou**	**72.60 313**		*e*P	**P**	**03 38 02.3**	**+3.1**
LZH				sP	pwP	03 38 09.5	+3.7
LZH				pmax	pmax		
	comp=Z,9.0nm,1.1s						
ULN	**Ulaanbaatar**	**76.51 325**		P	**P**	**03 38 21.7**	**0.0**
ULN				IAmb	IAmb	03 38 31.1	
	comp=Z,7.5nm,1.1s						
SONM	**Songino Array**	**76.86 325**		P	**P**	**03 38 23.9**	**+0.2**
SONM	**Songino Array**	**76.86 325**		P	**P**	**03 38 23.0**	**-0.7**
	comp=Z,2.9nm,0.9s,baz=132,slow=2.1,SNR=11						
	comp=Z,2.9nm,0.9s						
L16K	**Owhat River**	**77.94 17**		P	**P**	**03 38 30.2**	**+1.0**
L16K				IAmb	IAmb	03 38 30.9	
	comp=Z,32nm,1.9s						
QSPA	**South Pole Qui**	**79.27 180**		P	**P**	**03 38 36.6**	**-0.1**
QSPA				IAmb	IAmb	03 38 46.2	
	comp=Z,4.8nm,1.0s						
PWL	**Port Wells**	**80.99 22**		P	**P**	**03 38 46.0**	**+0.1**
PWL				IAmb	IAmb	03 38 50.9	
	comp=Z,22nm,1.5s						
MAW	**Mawson**	**84.01 202**		P	**P**	**03 39 01.2**	**-0.4**
	comp=Z,3.9nm,1.0s,baz=98,slow=5.4,SNR=5.8						
	comp=Z,3.9nm,1.0s						
ILAR	**Eielson Array**	**84.08 19**		P	**P**	**03 39 00.0**	**-1.8**
	comp=Z,1.2nm,0.9s,baz=235,slow=3.2,SNR=4.5						
	comp=Z,1.2nm,0.9s						
J25K	**Salcha River,**	**84.47 20**		IAmb	IAmb	03 39 09.0	
	comp=Z,8.9nm,1.2s						
TIXI	**Tiksi**	**85.30 350**		P	**P**	**03 39 06.8**	**-1.0**
	comp=Z,2.3nm,0.3s,baz=107,slow=17,SNR=1.1						
	comp=Z,2.3nm,0.3s						
NVAR	**Mina Array Bea**	**87.86 50**		P	**P**	**03 39 21.1**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=239,slow=7.0,SNR=6.2						
	comp=Z,1.0nm,0.8s						
PRN	**Pahroc Range**	**90.10 52**		P	**P**	**03 39 33.5**	**+1.6**
PRN				IAmb	IAmb	03 39 38.3	
	comp=Z,5.5nm,1.0s						
MK31	**Makanchi Array**	**91.49 317**		P	**P**	**03 39 37.9**	**-0.2**
MK31				IAmb	IAmb	03 39 43.8	
	comp=Z,5.3nm,1.1s						
MKAR	**Makanchi Array**	**91.49 317**		P	**P**	**03 39 37.0**	**-1.1**
MKAR	**Makanchi Array**	**91.49 317**		P	**P**	**03 39 36.8**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=103,slow=4.8,SNR=7.5						
	comp=Z,1.3nm,0.7s						
ZALV	**Zalesovo Beam**	**91.76 325**		P	**P**	**03 39 38.0**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=90,slow=2.9,SNR=1.8						
	comp=Z,0.5nm,0.6s						
A36M	**Sachs Harbour**	**94.58 17**		P	**P**	**03 39 52.0**	**+0.3**
NRIK	**Noril'sk**	**94.91 340**		LR	LR	04 27 19.0	
	comp=Z,4μm,18.1s,baz=113,slow=38						
PDAR	**Pinedale Array**	**95.30 48**		P	**P**	**03 39 55.2**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=256,slow=3.6,SNR=2.9						
	comp=Z,0.4nm,0.8s						
VNA3	**Neumayer Olymp**	**98.06 182**		⇑SKSac	**SKSac**	**03 50 42.7**	**-2.6**
	comp=Z,1.7nm,0.8s						
VNA2	**Neumayer--Watz**	**98.27 183**		⇑SKSac	**SKSac**	**03 50 48.7**	**+2.3**
	comp=Z,2.8nm,0.8s,baz=221,slow=11						
VNA1	**Neumayer--Stat**	**98.59 183**		⇑SKSac	**SKSac**	**03 50 48.7**	**+0.8**
	comp=Z,2.9nm,0.9s						
ARCES	**ARCESS Array B**	**115.35 345**		PKP	**PKiKP**	**03 45 13.4**	**+0.7**
	comp=Z,3.2nm,0.9s,baz=41,slow=5.9,SNR=4.3						
AKASG	**Malin Array Be**	**125.14 326**		PKP	**PKPdf**	**03 45 30.8**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=70,slow=1.6,SNR=4.3						
BRG	**Berggiesshubel**	**132.64 334**		SS	SS	04 05 47.0	-2.8
GERES	**GERESS Array B**	**134.22 332**		PKP	**PKPdf**	**03 45 48.7**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=60,slow=5.9,SNR=4.9						
KEST	**Kesra**	**145.53 320**		PKPbc	**PKPdf**	**03 46 09.8**	**-0.5**
	comp=Z,7.8nm,0.9s,baz=50,slow=2.5,SNR=8.4						
ESDC	**Sonseca Array**	**148.95 340**		PKPbc	**PKPbc**	**03 46 19.0**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=29,slow=1.7,SNR=7.5						
ESDC				PKPab	**PKPab**	**03 46 24.7**	**+0.9**
	comp=Z,1.6nm,0.9s,baz=20,slow=3.1,SNR=8.5						

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*IDC **16** 03:26:52.9±0.3, 10°.60S×163°.04E, h0km, mb5.4/35, mbtmp5.4/39, ML5.8/3, MS5.9/33, Error ellipse: s-maj=13.5km s-min=11.5km az=80.0*
*NOU **16** 03:26:54.7, 10°.59S×163°.09E, h0km, ML6.3/140, Solomon Islands*
*BJI **16** 03:26:55.1, 10°.43S×163°.19E, h10km, mb5.7/94, mB6.5/86, Ms6.3/99, Ms7 6.0/99*
*MOS **16** 03:26:55.3±1.2, 10°.43S×162°.99E, h16km, mb6.0/66, MS6.0/56, Error ellipse: s-maj=8.1km s-min=5.5km az=117.4*
*NEIC **16** 03:26:55.6±2.4, 10°.54S±0°.07×163°.17E±0°.08, h10km±1km, mb6.0/538, Ms_20 6.0/926, Mww6.2/39, Error ellipse: s-maj=14.1km s-min=11.4km az=230.0*
*NEIC **16** 03:26:55.3, 10°.56S×163°.13E, h18km*
*NEIC **16** 03:26:55.3, 10°.56S×163°.13E, h18km, Moment Tensor Solution. Duration: 5±1.0 Moment tensor: Scale 10^{18} Nm; M_{rr}-1.88; $M_{\theta\theta}$1.59; $M_{\phi\phi}$0.30; $M_{r\theta}$-0.62; $M_{\theta\phi}$1.13; $M_{\phi r}$-0.92; Fault plane solution: $M_0$2.35000×10^{18} NP1: ϕ_s46.45000°, δ59.42000°, λ-105.43000°. NP2: ϕ_s254.94000°, δ33.91000°, λ-65.75000°. Principal axes: T 2.4773, Plg13.0000°, Azm148.0000°; N -0.2483, Plg13.0000°, Azm54.0000°; P -2.2290, Plg71.0000°, Azm281.0000°;*
*GCMT **16** 03:26:59.2±0.1, 10°.48S×163°.20E, h12km, MW6.1/162, Moment Tensor Solution. s162,c366; s160,c562; Duration: 28 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.42±.01; $M_{\theta\theta}$1.37±.01; $M_{\phi\phi}$0.05±.01; $M_{r\theta}$0.13±.03; $M_{\theta\phi}$1.37±.01; $M_{\phi r}$-0.12±.03; Best double couple: $M_0$1.84800×10^{18} NP1:ϕ_s252.00000°, δ48.00000°, λ-70.00000°. NP2:ϕ_s44.00000°, δ46.00000°, λ-110.00000°. Principal axes: T 2.2310, Plg1.0000°, Azm328.0000°; N -0.7660, Plg15.0000°, Azm58.0000°; P -1.4650, Plg75.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 16 03:26:55.4±0.14, 10°.65S±0°.03×163°.13E±0°.03, h14km±2km, h15km:pP-P, n1847, σ1°61/1784, mb5.9/416, MS6.0/552, 73C-120D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.36 291**		Pn	**Pn**	**03 27 50.4**	**+3.0**
HNR	**Honiara**	**3.36 291**		Pn	**Pn**	**03 27 46.5**	**-1.0**
	1μm,0.3s,baz=173,slow=5.1,SNR=37						
	5μm,0.5s						
DVP	**Devils Point**	**8.57 146**		P	**Pn**	**03 28 59.6**	**+0.4**
KOUNC	**Koumac, New Ca**	**9.91 174**			**Pn**	**03 29 17.8**	**+0.4**
KOUNC	**Koumac, New Ca**	**9.91 174**		P	**Pn**	**03 29 18.9**	**+1.5**
KOUNC	**Koumac, New Ca**	**9.91 174**		⇑P	**Pn**	**03 29 18.4**	**+1.0**
LIFNC	**LIFOU**	**10.82 159**		P	**Pn**	**03 29 31.0**	**+1.1**
MARNC	**Mare, Loyalty**	**11.75 157**		⇑P	**Pn**	**03 29 43.9**	**+1.2**
DZM	**Mont Dzumac**	**11.79 165**			**Pn**	**03 29 44.6**	**+1.2**
DZM	**Mont Dzumac**	**11.79 165**		*e*Pn	**Pn**	**03 29 45.7**	**+2.3**
	2μm,1.4s						
DZM				*e*LR	LR	03 32 28.2	
	269μm,26.1s						
DZM	**Mont Dzumac**	**11.79 165**		Pn	**Pn**	**03 29 44.0**	**+0.7**
	29nm,0.3s,baz=352,slow=15,SNR=58						
DZM				Sn	**Sn**	**03 31 53.3**	**-1.6**
	2.4nm,0.3s,baz=308,slow=20,SNR=1.7						
DZM				LR	LR	03 33 38.8	
	comp=Z,100μm,21.2s,baz=5.0,slow=34						
	108nm,0.5s						
ONTNC	**Ouen Toro**	**12.02 165**			**Pn**	**03 29 47.5**	**+1.1**
ONTNC	**Ouen Toro**	**12.02 165**		⇑P	**Pn**	**03 29 48.3**	**+1.9**
PINNC	**Pines Island,**	**12.59 161**			**Pn**	**03 29 57.2**	**+3.0**
RABL	**Rabaul**	**12.62 300**			**Pn**	**03 29 53.4**	**-1.3**
TARA	**Tarawa**	**15.40 40**		P	**Pn**	**03 30 27.0**	**-5.5**
PMG	**Port Moresby**	**15.77 273**		P	**P**	**03 30 40.3**	**-0.9**
PMG	**Port Moresby**	**15.77 273**		Pn	**Pn**	**03 30 35.5**	**-1.8**
	8.9nm,0.5s,baz=89,slow=12,SNR=5.6						
PMG				Sn	**Sn**	**03 33 31.2**	**-0.8**
	4.1nm,0.3s,baz=45,slow=4.3,SNR=1.3						
PMG	**Port Moresby**	**15.77 273**		P	**Pn**	**03 30 38.5**	**+1.2**
PMG	**Port Moresby**	**15.77 273**	⇓	P	**P**	**03 30 40.6**	**-0.6**
PMG	**Port Moresby**	**15.77 273**	*d*	P	**P**	**03 30 40.1**	**-1.0**
PMG				pmax	pmax		
	comp=Z,671nm,2.5s						
FUNA	**Funafuti**	**15.99 84**		P	**Pn**	**03 30 39.5**	**-0.6**
FUNA	**Funafuti**	**15.99 84**		P	**Pn**	**03 30 41.4**	**+1.3**
MSVF	**Nonsavu**	**16.08 118**		P	**Pn**	**03 30 41.9**	**+0.6**
MSVF	**Nonsavu**	**16.08 118**		Pn	**Pn**	**03 30 42.2**	**+0.8**
	comp=Z,2.4nm,0.3s,baz=297,slow=15,SNR=17						
MSVF				LR	LR	03 36 13.0	
	comp=Z,42μm,19.9s,baz=292,slow=35						
	comp=Z,3.8nm,0.2s						
MSVF	**Nonsavu**	**16.08 118**	⇑	P	**P**	**03 30 43.1**	**-1.6**
MSVF	**Nonsavu**	**16.08 118**	*ce*	P	**P**	**03 30 45.2**	**+0.5**
MSVF				pmax	pmax		
	comp=Z,1μm,3.6s						
GD1S	**Gladstone Soft**	**17.37 219**		P	**P**	**03 30 59.4**	**+0.6**
MANU	**Manus Island**	**17.83 298**		P	**Pn**	**03 31 02.0**	**-1.4**
TV1H	**Townsville Har**	**17.94 240**		P	**P**	**03 31 06.2**	**+1.1**
EIDS	**Eidsvold**	**18.57 216**		P	**Pn**	**03 31 13.3**	**+1.1**
EIDS	**Eidsvold**	**18.57 216**		P	**Pn**	**03 31 15.2**	**+3.0**
EIDS	**Eidsvold**	**18.57 216**		P	**Pn**	**03 31 13.6**	**+1.4**
FUTU	**Fugatoga**	**18.67 103**			**Pn**	**03 31 14.1**	**+0.5**
FUTU	**Fugatoga**	**18.67 103**		P	**Pn**	**03 31 15.1**	**+1.6**
CTAO	**Charters Tower**	**18.76 238**		P	**Pn**	**03 31 15.8**	**+1.1**
CTAO				IAmb	IAmb	03 31 25.6	
	comp=Z,613nm,0.9s						
CTAO	**Charters Tower**	**18.76 238**		P	**Pn**	**03 31 16.0**	**+1.3**
CTAO	**Charters Tower**	**18.76 238**		P	**Pn**	**03 31 15.8**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,613nm,0.9s						
GC1S	**Gold Coast 1 S**	**19.62 206**		P	**Pn**	**03 31 25.6**	**+0.7**
MTSU	**Mount Surprise**	**19.67 246**		P	**Pn**	**03 31 26.6**	**+1.0**
	comp=Z,542nm,0.8s						
COEN	**Coen**	**19.77 258**		P	**Pn**	**03 31 26.7**	**-0.1**
COEN				IAmb	IAmb	03 31 36.4	
	comp=Z,1μm,1.4s						
COEN	**Coen**	**19.77 258**		P	**Pn**	**03 31 27.1**	**+0.3**
	comp=Z,0.0nmcomp=Z,566nm,1.4s						
TW1H	**Toowoomba 1 Ha**	**19.81 210**		P	**Pn**	**03 31 27.6**	**+0.3**
LHI	**Lord Howe Isla**	**21.11 190**		P	**P**	**03 31 40.8**	**+1.2**
LHI				IAmb	IAmb	03 31 53.1	
	comp=Z,845nm,1.6s						
ARMA	**Armidale**	**22.39 207**		P	**P**	**03 31 55.4**	**+1.9**
ARMA				IAMs_20	IAMs_20	03 39 21.4	
	comp=Z,54μm,18.0s						
ARMA	**Armidale**	**22.39 207**		P	**P**	**03 31 55.1**	**+1.5**
	comp=Z,0.0nmcomp=Z,204nm,1.5s						
ARMA	**Armidale**	**22.39 207**		P	**P**	**03 31 55.5**	**+1.9**
JAY	**Jayapura**	**23.68 288**		P	**P**	**03 32 03.8**	**-3.1**
	comp=Z,97nm,0.8s,baz=118,slow=14,SNR=16						
JAY				S	**S**	**03 36 13.6**	**-8.0**
	comp=Z,10nm,0.9s,baz=98,slow=16,SNR=2.1						
JAY				LR	LR	03 41 11.3	
	comp=Z,22μm,20.2s,baz=80,slow=36						
	comp=Z,97nm,0.8s						
JAY	**Jayapura**	**23.68 288**		P	**P**	**03 32 03.9**	**-3.0**
	comp=Z,160nm,1.1s						
QLP	**Quilpie**	**23.85 226**		P	**P**	**03 32 09.1**	**+0.6**
	comp=Z,0.0nmcomp=Z,743nm,1.4s						
QLP	**Quilpie**	**23.85 226**		P	**P**	**03 32 10.2**	**+1.8**
GENI	**Genyem**	**24.15 288**		P	**P**	**03 32 10.7**	**-0.6**
GENI	**Genyem**	**24.15 288**		P	**P**	**03 32 10.5**	**-0.8**
NTLH	**Newcastle Hard**	**24.51 204**		P	**P**	**03 32 15.8**	**+1.4**
QIS	**Mount Isa**	**24.67 244**		P	**P**	**03 32 16.3**	**+0.2**
	comp=Z,0.0nmcomp=Z,80nm,0.7s						
QIS	**Mount Isa**	**24.67 244**		P	**P**	**03 32 16.6**	**+0.5**
AFI	**Afiamalu**	**24.73 100**		P	**P**	**03 32 16.4**	**-0.3**
AFI	**Afiamalu**	**24.73 100**		P	**P**	**03 32 18.7**	**+2.0**
AFI	**Afiamalu**	**24.73 100**		P	**P**	**03 32 16.4**	**-0.3**
AFI				pmax	pmax		
	comp=Z,201nm,1.2s						
MGCD	**Mangrove Creek**	**25.02 204**		P	**P**	**03 32 20.0**	**+0.9**
	comp=Z,159nm,0.9s						
MGCD	**Mangrove Creek**	**25.02 204**		P	**P**	**03 32 20.9**	**+1.8**
RIV	**Riverview**	**25.55 204**		P	**P**	**03 32 25.4**	**+1.7**
	comp=Z,0.0nmcomp=Z,193nm,1.5s						
RIV	**Riverview**	**25.55 204**		P	**P**	**03 32 25.5**	**+1.7**

KDU	Kakadu	30.08 263	P	P	03 33 03.6	-1.0
	comp=Z,0.0nmcomp=Z,71nm,1.2s					
KDU	Kakadu	30.08 263	P	P	03 33 04.5	-0.1
GUMO	Guam	30.14 323	IAms_20	IAms_20	03 43 28.7	
	comp=Z,50µm,22.0s					
GUMO	Guam	30.14 323	LR	LR	03 44 13.1	
	comp=Z,41µm,21.6s,baz=118,slow=35					
URZ	Urewera	30.21 158	⇑P	P	03 33 07.1	+1.6
H11N1	WAKE ISLAND Hy	30.40 7	T	T	04 05 18.3	
	baz=188,slow=75					
LCRK	Leigh Creek	30.40 226	P	P	03 33 09.1	+1.8
H11N3	WAKE ISLAND Hy	30.41 7	T	T	04 05 31.9	
	baz=188					
H11N2	WAKE ISLAND Hy	30.42 7	T	T	04 05 01.2	
	baz=188,slow=75					
RTZ	Ruatahuna	30.48 158	P	P	03 33 09.4	+1.4
AS31	Alice Springs	30.69 241	P	P	03 33 08.6	-1.5
ASAR	Alice Springs	30.70 241	P	P	03 33 08.0	-2.1
	comp=Z,72nm,0.6s,baz=67,slow=9.9,SNR=66					
ASAR			S	S	03 38 09.1	-3.5
	comp=Z,6.7nm,0.9s,baz=75,slow=16,SNR=6.2					
ASAR			P3KPbc		04 04 59.1	
	comp=Z,1.3nm,0.9s,baz=243,slow=4.4,SNR=6.2					
	comp=Z,72nm,0.6s					
BKZ	Black Stump Fm	30.80 159	P	P	03 33 11.2	+0.4
BKZ			IAms_20	IAms_20	03 43 45.9	
	comp=Z,29µm,19.0s					
BKZ	Black Stump Fm	30.80 159	P	P	03 33 13.0	+2.2
OOD	Oodnadatta	30.90 233	P	P	03 33 13.4	+1.7
TOO	Toolangi	31.15 208	P	P	03 33 14.7	+0.8
TOO	Toolangi	31.15 208	P	P	03 33 14.7	+0.8
TOO			pmax	pmax		
	comp=Z,36nm,1.0s					
TOO			MLR	MLR		
	comp=Z,17µm,18.0s					
QRZ	Quartz Range	31.18 166	IAms_20	IAms_20	03 43 27.1	
	comp=Z,36µm,22.0s					
MTN	Manton Dam	31.39 263	P	P	03 33 15.4	-0.8
	comp=Z,0.0nmcomp=Z,49nm,1.5s					
MTN	Manton Dam	31.39 263	P	P	03 33 16.1	-0.1
TKNZ	Takaka Hill	31.48 166	P	P	03 33 19.1	+2.3
SAUI	Saumlaki	31.51 272	IAms_20	IAms_20	03 46 28.0	
	comp=Z,24µm,19.0s					
FAKI	Fak Fak	31.58 282	IAms_20	IAms_20	03 47 38.5	
	comp=Z,33µm,20.0s					
DRS	Darwin Rock St	31.61 264	P	P	03 33 18.5	+0.3
HTT	Hallett	31.74 221	P	P	03 33 20.1	+1.0
	comp=Z,189nm,0.8s					
HTT	Hallett	31.74 221	P	P	03 33 21.0	+1.8
NNZ	Nelson	31.76 165	IAms_20	IAms_20	03 43 45.3	
	comp=Z,28µm,22.0s					
MRNZ	Matariki Terra	31.78 166	P	P	03 33 19.9	+0.6
MRZ	Mangatainoka R	31.85 162	P	P	03 33 20.6	+0.6
MRZ			IAms_20	IAms_20	03 44 25.8	
	comp=Z,39µm,21.0s					
BRAT	Ballarat	31.86 210	P	P	03 33 22.2	+2.1
DSZ	Denniston Nort	31.90 168	P	P	03 33 21.4	+1.0
BFZ	Birch Farm	32.08 161	IAms_20	IAms_20	03 44 01.8	
	comp=Z,29µm,22.0s					
THZ	Tophouse	32.16 166	IAms_20	IAms_20	03 44 20.9	
	comp=Z,32µm,22.0s					
GEXS	Deakin Univers	32.21 209	P	P	03 33 25.4	+2.3
BHW	Baring Head	32.34 163	IAms_20	IAms_20	03 44 58.6	
	comp=Z,32µm,20.0s					
ARPS	Mount Arapiles	32.34 213	P	P	03 33 25.8	+1.5
	comp=Z,182nm,0.9s					
ARPS	Mount Arapiles	32.34 213	P	P	03 33 26.3	+2.0
BSWZ	Blackbirch Sta	32.35 165	P	P	03 33 25.6	+1.3
WHYH	Whyalla	32.37 223	P	P	03 33 26.2	+1.6
INZ	Inchbonnie	32.77 169	IAmb	IAmb	03 33 36.9	
	comp=Z,507nm,2.0s					
KHZ	Kahutara	32.93 166	IAmb	IAmb	03 34 01.4	
	comp=Z,250nm,1.8s					
KHZ			IAms_20	IAms_20	03 44 44.3	
	comp=Z,42µm,22.0s					
KHZ	Kahutara	32.93 166	⇑P	P	03 33 30.5	+1.2
LTZ	Lake Taylor	32.99 168	IAmb	IAmb	03 33 37.9	
	comp=Z,365nm,1.7s					
GLAD	Gladstone	33.03 201	P	P	03 33 32.5	+2.2
SWI	Sorong	33.12 285	P	P	03 33 32.7	+1.3
	comp=Z,51nm,1.3s					
BBOO	Buckleboo	33.26 224	IAmb	IAmb	03 33 42.3	
	comp=Z,157nm,0.9s					
BBOO	Buckleboo	33.26 224	P	P	03 33 32.0	-0.4
	comp=Z,177nm,1.2s					
BBOO	Buckleboo	33.26 224	P	P	03 33 33.9	+1.4
GVZ	Greta Valley S	33.33 167	IAms_20	IAms_20	03 45 18.0	
	comp=Z,40µm,21.0s					
MULG	Mulgathing	33.35 230	P	P	03 33 33.9	+0.7
OXZ	Oxford	33.46 168	IAmb	IAmb	03 33 48.6	
	comp=Z,281nm,1.7s					
BNDI	Bandanaira	33.47 278	P	P	03 33 35.8	+1.3
BNDI	Bandanaira	33.47 278	P	P	03 33 34.2	-0.3
RPZ	Rata Peaks	33.65 170	P	P	03 33 36.3	+0.6
RPZ			IAmb	IAmb	03 33 47.0	
	comp=Z,386nm,2.0s					
RPZ			IAms_20	IAms_20	03 48 01.4	
	comp=Z,28µm,18.0s					
RPZ	Rata Peaks	33.65 170	LR	LR	03 45 26.9	
	comp=Z,26µm,21.0s,baz=346,slow=33					
JCZ	Jackson Bay	33.66 173	P	P	03 33 38.2	+2.3
CORO	Coronation Par	33.75 202	P	P	03 33 38.5	+2.0
KNRA	Kununurra	33.80 258	IAmb	IAmb	03 33 46.4	
	comp=Z,94nm,0.6s					
KNRA	Kununurra	33.80 258	P	P	03 33 37.6	+0.3
	comp=Z,0.0nmcomp=Z,151nm,0.7s					
WKZ	Wanaka	34.43 173	IAmb	IAmb	03 33 59.2	
	comp=Z,338nm,1.7s					
MOO	Moorlands	34.60 201	P	P	03 33 44.9	+0.9
	comp=Z,0.0nmcomp=Z,138nm,1.4s					
MOO	Moorlands	34.60 201	P	P	03 33 46.0	+2.1
MLZ	Mavora Lakes	34.86 174	IAms_20	IAms_20	03 46 00.3	
	comp=Z,31µm,19.0s					
TAU	Tasmania Unive	34.97 200	P	P	03 33 48.8	+1.7
TAU	Tasmania Unive	34.97 200	P	P	03 33 49.4	+2.3
TAU	Tasmania Unive	34.97 200	⇑sP	sP	03 33 50.1	-1.8
TAU	Tasmania Unive	34.97 200	P	P	03 33 48.8	+1.7
TAU			pmax	pmax		
	comp=Z,117nm,1.3s					
TAU			MLR	MLR		
	comp=Z,17µm,18.0s					
AAI	Ambon	35.31 279	P	P	03 33 57.8	+7.3
WHZ	Wether Hill Ro	35.36 174	IAms_20	IAms_20	03 46 03.6	
	comp=Z,24µm,21.0s					
WRKA	Warakurna	35.98 242	P	P	03 33 54.4	-1.7
	comp=Z,0.0nmcomp=Z,247nm,0.6s					
WRKA	Warakurna	35.98 242	P	P	03 33 56.8	+0.7
NLAI	Namlea	36.48 279	P	P	03 34 00.7	+0.2
	comp=Z,287nm,1.8s,comp=Z,7µmcomp=Z,15µm					
FITZ	Fitzroy Crossi	37.00 254	⇑P	P	03 34 04.7	-0.2
TNTI	Ternate	37.33 286	P	P	03 34 06.7	-1.0
TNTI	Ternate	37.33 286	P	P	03 34 08.0	+0.3
TNTI	Ternate	37.33 286	P	P	03 34 13.3	+5.6
SANI	Sanana	37.85 280	P	P	03 34 10.8	-1.3
SANI	Sanana	37.85 280	P	P	03 34 12.0	-0.1
SANI	Sanana	37.85 280	⇑P	P	03 34 10.5	-1.6
SANI	Sanana	37.85 280	P	P	03 34 11.2	-0.9
	comp=Z,206nm,1.4s,comp=Z,6µmcomp=Z,11µm					
FORT	Forrest	38.19 233	IAmb	IAmb	03 34 17.0	
	comp=Z,426nm,0.9s					
FORT			IAms_20	IAms_20	03 50 20.5	
	comp=Z,21µm,18.0s					
FORT	Forrest	38.19 233	P	P	03 34 14.2	-0.6
	comp=Z,0.0nmcomp=Z,525nm,0.9s					
FORT	Forrest	38.19 233	P	P	03 34 15.2	+0.4
SOEI	Soe	38.24 268	IAms_20	IAms_20	03 51 05.5	
	comp=Z,19µm,19.0s					
SOEI	Soe	38.24 268	P	P	03 34 12.3	-3.2
SOEI	Soe	38.24 268	P	P	03 34 16.1	+0.6
SOEI	Soe	38.24 268	P	P	03 34 17.1	+1.6
	comp=Z,87nm,1.3s,comp=Z,5µm					
JOHN	Johnston Islan	38.36 45	P	P	03 34 16.0	-0.4
JOHN			IAmb	IAmb	03 34 17.2	
	comp=Z,524nm,1.2s					
JOHN	Johnston Islan	38.36 45	P	P	03 34 17.8	+1.5
BATI	Baumata	38.80 267	LR	LR	03 50 23.3	
	comp=Z,16µm,21.4s,baz=110,slow=36					
BATI	Baumata	38.80 267	P	P	03 34 21.7	+1.6
	comp=Z,220nm,0.8s,comp=Z,5µmcomp=Z,8µm					
MMRI	Maumere	40.34 269	P	P	03 34 30.4	-2.6
MMRI			IAmb	IAmb	03 34 40.9	
	comp=Z,642nm,1.7s					
MMRI	Maumere	40.34 269	P	P	03 34 33.3	+0.3
MMRI	Maumere	40.34 269	P	P	03 34 31.9	-1.1
	comp=Z,206nm,1.6s,comp=Z,7µmcomp=Z,8µm					
BBSI	Bau Bau	40.45 274	P	P	03 34 41.2	+7.3
KMSI	Cibinong	40.49 284	P	P	03 34 34.3	+0.1
LUWI	Luwuk	41.21 281	P	P	03 34 39.1	-1.1
LUWI			IAmb	IAmb	03 34 47.5	
	comp=Z,662nm,1.4s					
LUWI	Luwuk	41.21 281	P	P	03 34 38.6	-1.6
LUWI	Luwuk	41.21 281	⇓P	P	03 34 39.8	-0.3
LUWI	Luwuk	41.21 281	P	P	03 34 40.4	+0.2
	comp=Z,330nm,1.3s,comp=Z,7µmcomp=Z,9µm					
DAV	Davao City (W)	41.32 294	IAms_20	IAms_20	03 49 14.0	
	comp=Z,22µm,22.0s					
DAV	Davao City (W)	41.32 294	P	P	03 34 40.0	-1.0
BASI	Baing, Sumba	41.82 267	P	P	03 34 51.1	+5.9
APSI	Ampana	42.33 280	P	P	03 34 49.5	+0.2
	comp=Z,147nm,1.4s,comp=Z,4µm					
BSSI	Bau Bau, Buton	42.39 273	P	P	03 34 49.2	-0.6
	comp=Z,189nm,1.6s,comp=Z,5µmcomp=Z,9µm					
JCJ	Chichijima	42.67 332	IAms_20	IAms_20	03 50 21.6	
	comp=Z,19µm,21.0s					
PSA00	Pilbara Seismi	42.84 250	P	P	03 34 53.2	-0.2
	comp=Z,140nm,0.9s					
PSA00	Pilbara Seismi	42.84 250	P	P	03 34 54.3	+0.9
PSAC1	Pilbara Seismi	42.87 250	P	P	03 34 53.6	-0.1
	comp=Z,161nm,0.9s					
BKSI	Bulukumba	42.88 274	P	P	03 34 53.8	0.0
	comp=Z,54nm,1.5s,comp=Z,4µmcomp=Z,8µm					
MBWA	Marble Bar	42.89 250	P	P	03 34 53.5	-0.3
MBWA	Marble Bar	42.89 250	IAms_20	IAms_20	03 52 02.6	
	comp=Z,16µm,19.0s					
MBWA	Marble Bar	42.89 250	P	P	03 34 53.7	-0.1
	comp=Z,0.0nmcomp=Z,86nm,1.2s					
MBWA	Marble Bar	42.89 250	P	P	03 34 55.2	+1.4
MBWA	Marble Bar	42.89 250	⇓P	P	03 34 53.6	-0.3
WBSI	Waikabubak, Su	43.04 267	P	P	03 34 53.9	-1.2
	comp=Z,128nm,0.8s,comp=Z,4µm					
BNSI	Bone	43.06 275	P	P	03 34 54.9	-0.4
	comp=Z,154nm,1.7s,comp=Z,4µmcomp=Z,9µm					
KAPI	Kappang	43.30 274	P	P	03 34 56.4	-0.8
KAPI	Kappang	43.30 274	LR	LR	03 54 35.6	
	comp=Z,3µm,20.1s,baz=84,slow=38					
KAPI	Kappang	43.30 274	P	P	03 34 57.6	+0.4
KAPI	Kappang	43.30 274	P	P	03 34 56.4	-0.8
KAPI			pmax	pmax		
	comp=Z,138nm,1.3s					
KAPI			MLR	MLR		
	comp=Z,2µm,21.0s					
KMBL	Kambalda	43.33 235	P	P	03 34 57.1	-0.2
	comp=Z,201nm,1.5s					
KMBL	Kambalda	43.33 235	P	P	03 34 58.4	+1.1
SPSI	Sidrap Palu	43.48 275	P	P	03 34 57.7	-0.9
	comp=Z,76nm,1.9s,comp=Z,3µmcomp=Z,7µm					
TTSI	Tana Toraja	43.61 277	P	P	03 34 59.8	+0.1
TOLI2	Tolitoli	43.71 283	P	P	03 34 58.2	-2.3
TOLI2	Tolitoli	43.71 283	P	P	03 34 59.5	-1.0
MCQ	Macquarie Isla	43.86 184	IAms_20	IAms_20	03 49 01.4	
	comp=Z,15µm,21.0s					
PCI	Palu	44.08 280	P	P	03 35 04.8	+1.3
	comp=Z,211nm,1.5s,comp=Z,6µmcomp=Z,10µm					
PLAI	Plampang	44.70 268	P	P	03 35 08.0	-0.5
PLAI	Plampang	44.70 268	P	P	03 35 07.0	-1.5
	comp=Z,100nm,1.1s,comp=Z,5µmcomp=Z,7µm					
MEEK	Meekatharra	44.82 243	P	P	03 35 09.2	-0.2
	comp=Z,0.0nmcomp=Z,295nm,1.3s					
MEEK	Meekatharra	44.82 243	P	P	03 35 09.3	0.0
PAE	Paea	46.29 104	*e*P	P	03 35 24.3	+3.3
	comp=Z,39nm,1.3s					
PAE			*e*S	S	03 42 05.7	-2.1
	comp=Z,847nm,23.0s					
PAE			*e*SS	SS	03 45 37.1	+3.6
	comp=Z,507nm,24.6s					
PAE			*e*LR	LR	03 48 22.1	
	comp=Z,2µm,23.7s					
PPT	Papete	46.29 104	P	P	03 35 21.9	+0.9
	comp=Z,20nm,0.8s,baz=252,slow=19,SNR=3.8					
	comp=Z,20nm,0.8s					
PPT2	Papeete2	46.29 104	*e*P	P	03 35 21.1	0.0
	comp=Z,67nm,1.2s					
PPT2	Papeete2	46.29 104	*e*PP	PP	03 37 04.5	-5.4
	comp=Z,386nm,26.0s					
PPT2			*e*S	S	03 42 09.7	+1.7
	comp=Z,7µm,25.8s					
PPT2			*e*SS	SS	03 45 33.1	-0.6
	comp=Z,4µm,25.2s					
PPT2			*e*LQ	LQ	03 46 28.4	
	comp=Z,38µm,28.0s					
PPT2			*e*LR	LR	03 48 20.4	
	comp=Z,15µm,26.8s					
PPT2			*e*LR	LR	03 48 20.9	
	comp=Z,10µm,32.8s					
PPTF	Pamatai, Papee	46.30 104	P	P	03 35 20.9	-0.3
PPTF			IAmb	IAmb	03 35 38.6	
	comp=Z,222nm,1.5s					
TVO	Taravao	46.60 104	*e*P	P	03 35 24.6	+1.0
	comp=Z,40nm,1.0s					
TVO			*e*S	S	03 42 10.3	-2.2
	comp=Z,1µm,23.2s					
TVO			*e*SS	SS	03 45 41.5	+2.7
	comp=Z,752nm,23.5s					
TVO			*e*LR	LR	03 48 30.7	
	comp=Z,2µm,24.2s					
SMKI	Samarinda	46.74 279	P	P	03 35 33.3	+8.7
KLBR	Kellerberrin	46.76 236	P	P	03 35 22.9	-1.7
	comp=Z,121nm,0.5s					
KLBR	Kellerberrin	46.76 236	P	P	03 35 24.9	+0.3
TBI	Tubuai	46.87 112	*e*P	P	03 35 27.4	+2.0
	comp=Z,5µm,28.8s					
TBI	Tubuai	46.87 112	*e*PP	PP	03 37 15.6	-0.2
	comp=Z,2µm,30.0s					
TBI			*e*S	S	03 42 16.8	+0.8
	comp=Z,35µm,27.8s					
TBI			*e*SS	SS	03 45 42.2	-0.5
	comp=Z,29µm,28.0s					
TBI			*e*LQ	LQ	03 46 37.2	
	comp=Z,324µm,29.5s					
TBI			*e*LR	LR	03 48 37.0	
	comp=Z,46µm,31.2s					
TBI			*e*LR	LR	03 48 39.7	
	comp=Z,221µm,29.2s					
MYLDM	Lahad Datu	47.13 287	P	P	03 35 28.1	+0.5
MYLDM	Lahad Datu	47.13 287	P	P	03 35 28.7	+1.1
MYLDM	Lahad Datu	47.13 287	⇓P	P	03 35 28.7	+1.1
NWAO	Narrogin (SRO)	47.56 235	P	P	03 35 30.7	-0.1
NWAO	Narrogin (SRO)	47.56 235	IAms_20	IAms_20	03 55 42.6	
	comp=Z,19µm,18.0s					
NWAO	Narrogin (SRO)	47.56 235	P	P	03 35 30.8	0.0
	comp=Z,433nm,1.5s					
NWAO	Narrogin (SRO)	47.56 235	LR	LR	03 54 55.6	
	comp=Z,16µm,18.3s,baz=45,slow=35					
NWAO	Narrogin (SRO)	47.56 235	P	P	03 35 31.9	+1.1
NWAO	Narrogin (SRO)	47.56 235	P	P	03 35 32.0	+1.1
NWAO	Narrogin (SRO)	47.56 235	P	P	03 35 30.7	-0.1
NWAO			pmax	pmax		
	comp=Z,326nm,1.5s					
NWAO			MLR	MLR		
	comp=Z,19µm,18.0s					
MORW	Morawa	47.57 240	IAmb	IAmb	03 35 34.3	
	comp=Z,79nm,0.7s					
MORW	Morawa	47.57 240	P	P	03 35 29.8	-1.1
	comp=Z,0.0nmcomp=Z,163nm,1.0s					
MORW	Morawa	47.57 240	P	P	03 35 30.8	-0.1
JMZ	Minamidaito 2	47.73 320	P	P	03 35 33.3	+1.2
PMOR	Pomariorio Ree	47.88 101	*e*P	P	03 35 34.2	+0.8
	comp=Z,132nm,1.1s					
PMOR			*e*S	S	03 42 28.5	-2.1
	comp=Z,3µm,23.9s					
PMOR			*e*SS	SS	03 45 59.1	-0.3
	comp=Z,3µm,21.7s					
PMOR			*e*LR	LR	03 49 09.0	
	comp=Z,8µm,23.2s					
MUN	Mundaring	48.13 236	P	P	03 35 35.3	+0.1
MUN	Mundaring	48.13 236	P	P	03 35 36.1	+0.9
GIRL	Giralia	48.13 249	IAms_20	IAms_20	03 56 29.5	
	comp=Z,17µm,18.0s					
GIRL	Giralia	48.13 249	P	P	03 35 36.4	+1.0
	comp=Z,145nm,1.2s					
GIRL	Giralia	48.13 249	P	P	03 35 36.8	+1.4
GIRL	Giralia	48.13 249	⇓P	P	03 35 36.6	+1.2
VAH	Vaihoa	48.13 101	*e*P	P	03 35 39.7	+4.3
	comp=Z,131nm,1.2s					
VAH			*e*S	S	03 42 32.1	-2.1
	comp=Z,6µm,25.0s					
VAH			*e*LR	LR	03 49 16.1	
	comp=Z,11µm,23.3s					
RKGY	Rocky Gully	48.28 233	P	P	03 35 36.5	+0.2
	comp=Z,80nm,0.8s					
RKGY	Rocky Gully	48.28 233	P	P	03 35 37.9	+1.6
JAGI	Jajag, Banyuwa	48.30 268	P	P	03 35 35.9	-0.9
JAGI	Jajag, Banyuwa	48.30 268	⇓P	P	03 35 34.6	-2.2
JAGI	Jajag, Banyuwa	48.30 268	P	P	03 35 34.8	-2.0
	comp=Z,110nm,1.4s,comp=Z,4µmcomp=Z,6µm					
ABJI	Asem Bagus	48.30 269	P	P	03 35 43.3	+6.5
TGY	Tagaytay City	48.53 300	LR	LR	03 54 31.7	
	comp=Z,11µm,20.4s,baz=128,slow=34					
KEKH	Kekaha	48.80 48	P	P	03 35 40.0	-0.3
KEKH			IAmb	IAmb	03 35 44.2	
	comp=Z,175nm,1.1s					
MTKI	Muara Teweh, K	48.87 278	P	P	03 35 47.8	+6.6
BLJI	Banyuglugur	48.94 269	P	P	03 35 41.0	-0.7
	comp=Z,87nm,1.3s,comp=Z,5µmcomp=Z,5µm					
GMJI	Gumukmas	49.02 268	P	P	03 35 42.9	+0.6
KKM	Kota Kinabalu	49.56 287	P	P	03 35 47.6	+1.1
KKM	Kota Kinabalu	49.56 287	⇓P	P	03 35 46.3	-0.3
KIP	Kipapa	49.72 50	P	P	03 35 47.1	-0.3
KIP			IAmb	IAmb	03 36 24.2	
	comp=Z,189nm,1.3s					
KIP	Kipapa	49.72 50	P	P	03 35 49.2	+1.7
KIP	Kipapa	49.72 50	P	P	03 35 49.0	+1.5
KIP	Kipapa	49.72 50*d*	*i*P	P	03 35 47.1	-0.3
KIP			pmax	pmax		
	comp=Z,63nm,1.5s					
JOW	Kunigami	50.33 318	IAmb	IAmb	03 36 03.4	
	comp=Z,302nm,1.5s					
JOW			IAms_20	IAms_20	03 56 27.9	
	comp=Z,15µm,20.0s					
JOW	Kunigami	50.33 318	LR	LR	03 56 17.6	
	comp=Z,14µm,20.1s,baz=120,slow=35					
JOW	Kunigami	50.33 318	P	P	03 35 53.3	+1.3
JOW	Kunigami	50.33 318	⇓P	P	03 35 53.5	+1.5
SZP	Santa	50.62 303	P	P	03 35 55.5	+1.2
KHLH	Kahului Airpor	50.63 52	IAmb	IAmb	03 35 59.6	
	comp=Z,167nm,1.2s					
HMH	Humu'ula Sheep	50.66 54	IAmb	IAmb	03 35 59.8	
	comp=Z,272nm,1.1s					
PWJI	Pagerwojo	50.66 268	P	P	03 35 54.0	-0.8
	comp=Z,119nm,0.9s,comp=Z,4µm					
MLH	Mauna Loa	50.67 54	IAmb	IAmb	03 36 23.6	
	comp=Z,485nm,1.8s					
HLK	Haleakala	50.69 52	IAmb	IAmb	03 35 59.1	
	comp=Z,213nm,1.1s					
POHA	Pohakuloa	50.70 54	P	P	03 35 53.5	-1.8
POHA			IAmb	IAmb	03 35 58.3	
	comp=Z,155nm,0.8s					
POHA	Pohakuloa	50.70 54	IAms_20	IAms_20	03 55 24.7	
	comp=Z,11µm,19.0s					
POHA	Pohakuloa	50.70 54	P	P	03 35 55.4	+0.2
JSG	Sagara	50.90 333	P	P	03 35 57.4	+1.2
JOD2	Odawara 2	51.02 335	P	P	03 35 57.2	+0.1
JMJ	Miyako jima 2	51.03 314	P	P	03 35 58.5	+1.2
NGJI	Ngawi	51.09 269	P	P	03 36 06.2	+8.2
PCJI	Pacitan	51.26 268	P	P	03 35 58.8	-0.5
	comp=Z,196nm,1.1s,comp=Z,4µm					
JRY	Ryogami san	51.74 335	P	P	03 36 02.9	+0.4
UGM	Wanagama	51.94 268	IAmb	IAmb	03 36 14.9	
	comp=Z,384nm,1.5s					
UGM	Wanagama	51.94 268	P	P	03 36 05.5	+1.1
UGM	Wanagama	51.94 268	P	P	03 36 12.8	+8.4
INU	Inuyama	51.99 333	P	P	03 36 03.4	-0.9
INU			IAmb	IAmb	03 36 16.4	
	comp=Z,165nm,1.2s					
INU	Inuyama	51.99 333	P	P	03 36 04.8	+0.5
JGF	Kuroka	52.05 333	P	P	03 36 03.8	-1.0
JGF	Kuroka	52.05 333	P	P	03 36 05.6	+0.8
JGF	Kuroka	52.05 333	⇓P	P	03 36 04.5	-0.3
SMRI	Semarang	52.13 269	P	P	03 36 07.1	+1.3
SMRI	Semarang	52.13 269	P	P	03 36 11.5	+5.7
JMN	Monobe	52.17 329	P	P	03 36 06.8	+1.0
JMN	Monobe	52.17 329	⇓P	P	03 36 05.8	0.0
YOGI	Yogyakarta	52.17 268	P	P	03 36 08.0	+1.9
	comp=Z,138nm,1.6s,comp=Z,5µm					
SBUM	Sibu	52.30 281	P	P	03 36 07.9	+0.8
STKI	Sintang	52.43 278	P	P	03 36 08.9	+0.9
	comp=Z,93nm,2.4s,comp=Z,7µm					
YOJ	Yonaguni jima	52.45 312	IAmb	IAmb	03 36 15.1	
	comp=Z,285nm,1.0s					
YOJ	Yonaguni jima	52.45 312	P	P	03 36 09.0	+1.1
YOJ	Yonaguni jima	52.45 312	⇓P	P	03 36 08.8	+0.9
MJAR	Matsushiro Arr	52.48 335	P	P	03 36 06.2	-1.8
	comp=Z,52nm,1.1s,baz=160,slow=7.6,SNR=30					
MJAR			S	S	03 43 32.8	-1.2
	comp=Z,1.2nm,0.3s,baz=154,slow=6.7,SNR=5.2					
MJAR			LR	LR	03 57 07.3	
	comp=Z,12µm,21.3s,baz=140,slow=35					
	comp=Z,52nm,1.1s					
MAJO	Matsushiro	52.48 335	P	P	03 36 05.9	-2.1
MAJO			IAmb	IAmb	03 36 09.2	
	comp=Z,282nm,1.8s					
MAJO	Matsushiro	52.48 335	IAms_20	IAms_20	03 57 05.3	
	comp=Z,16µm,20.0s					
MAJO	Matsushiro	52.48 335	P	P	03 36 08.2	+0.2
MAJO	Matsushiro	52.48 335	⇓P	P	03 36 06.9	-1.0
MAJO	Matsushiro	52.48 335*d*	*i*P	P	03 36 06.5	-1.5
MAJO			pmax	pmax		
	comp=Z,107nm,1.3s					
MAJO			MLR	MLR		
	comp=Z,6µm,17.0s					
MAT	Matsushiro	52.48 335	P	P	03 36 07.9	-0.1
MJB9	Matsu-Tunnel	52.48 335	IAmb	IAmb	03 36 10.1	
	comp=Z,276nm,1.8s					
JGN	Niukaw	52.59 334	P	P	03 36 09.0	+0.1
JMM	Marumori	52.60 338	IAms_20	IAms_20	03 53 59.4	
	comp=Z,11µm,20.0s					
JMM	Marumori	52.60 338	P	P	03 36 09.9	+1.1
JMM	Marumori	52.60 338	⇓P	P	03 36 09.2	+0.5
TWGBT	Beinan	52.93 309	P	P	03 36 12.5	+0.9
TWG	Pinlang	52.94 309	IAmb	IAmb	03 36 57.0	
	comp=Z,234nm,1.5s					
TWG			IAms_20	IAms_20	03 55 46.2	
	comp=Z,12µm,21.0s					
JAD	Aida	52.99 330	P	P	03 36 12.2	+0.5
YULB	Yu-li	53.09 310	IAms_20	IAms_20	03 55 40.4	
	comp=Z,14µm,19.0s					
YULB	Yu-li	53.09 310	P	P	03 36 13.6	+0.8
JNU	Nakatsue	53.29 326	IAmb	IAmb	03 36 19.1	
	comp=Z,162nm,0.9s					
JNU			IAms_20	IAms_20	03 55 01.9	

comp=Z,2μm,29.0s
TAOE *e*SS **SS** **03 48 02.8 -4.1**
comp=Z,1μm,27.7s
TAOE *e*LQ LQ 03 49 55.8
comp=Z,7μm,25.8s
TAOE *e*LR LR 03 52 38.2
comp=Z,5μm,25.1s
SKJI Sukabumi 55.96 269 P P 03 36 44.8 +11
QZH Quanzhou 56.01 310⇓*i*P **P** **03 36 34.8 +0.9**
QZH S **S** **03 44 20.9 -1.1**
QZH pmax pmax
comp=Z,190nm,1.9s
QZH pmax pmax
comp=Z,9μm,8.2s
QZH LR LR
comp=Z,8μm,19.2s
QZH LR LR
comp=Z,9μm,20.3s
QZH LR LR
comp=Z,14μm,20.3s
YUK Yuzh-Kuril'sk 56.64 345 *e*P **P** **03 36 39.1 +1.1**
YUK *i* S **S** **03 44 29.1 -0.7**
YUK *i* SS **SS** **03 48 21.4 +3.5**
YUK pmax pmax
comp=N,613nm,1.1s
YUK pmax pmax
comp=Z,674nm,1.1s
YUK pmax pmax
comp=E,292nm,0.8s
PPBI Pangkal Pinang 57.18 274 P **P** **03 36 43.3 +0.8**
KUR Kuril'sk 57.31 347 *e*P **P** **03 36 42.6 -0.1**
KUR *i* S **S** **03 44 43.4 +4.9**
KUR SSS SSS 03 50 39.3
KUR pmax pmax
comp=Z,423nm,1.1s
KUR pmax pmax
comp=Z,4μm,8.3s
KUR MLR MLR
comp=Z,10μm,19.0s
JKA Kamikawa-asahi 57.61 343 IAmb IAmb 03 36 47.4
comp=Z,165nm,1.1s
JKA IAMs_20 IAMs_20 04 00 07.5
comp=Z,13μm,20.0s
ASAJ Asahikawa 57.61 343 P **P** **03 36 45.3 +0.4**
comp=Z,108nm,0.9s,baz=180,slow=7.1,SNR=18
ASAJ S **S** **03 44 45.7 +3.1**
comp=Z,8.8nm,0.8s,baz=209,slow=10,SNR=2.2
ASAJ LR LR 03 57 15.8
comp=Z,13μm,21.7s,baz=180,slow=32
comp=Z,108nm,0.9s
TJN Taejon 57.64 326 P **P** **03 36 46.5 +1.3**
TJN Taejon 57.64 326*d i*P **P** **03 36 44.3 -0.9**
SSE Sheshan 57.80 317 P **P** **03 36 47.0 +0.5**
SSE S S 03 44 36.4 -9.1
SSE pmax pmax
comp=Z,38nm,1.4s
SSE pmax pmax
comp=Z,2μm,6.0s
SSE LR LR
comp=Z,3μm,17.6s
HKPS Hong Kong Po S 58.11 305 IAMs_20 IAMs_20 03 57 59.4
comp=Z,11μm,22.0s
HKPS Hong Kong Po S 58.11 305 P **P** **03 36 50.3 +1.5**
KSRS Korea Array 58.13 327 **S** **03 44 51.0 +1.4**
KSRS Korea Array 58.13 327 P **P** **03 36 48.0 -0.6**
comp=Z,68nm,1.2s,baz=141,slow=7.2,SNR=37
KSRS S **S** **03 44 51.0 +1.4**
comp=Z,0.4nm,0.3s,baz=131,slow=15,SNR=1.3
KSRS LR LR 03 58 55.5
comp=Z,10μm,20.6s,baz=130,slow=33
comp=Z,68nm,1.2s
KASI Kota Agung 58.20 270 P **P** **03 36 52.8 +3.1**
DLV Lat 58.74 291 P **P** **03 36 54.8 +1.2**
comp=Z,86nm,1.6s
INCN Inchon 58.84 326 P **P** **03 36 53.8 +0.1**
INCN IAmb IAmb 03 37 00.3
comp=Z,239nm,1.3s
INCN Inchon 58.84 326 IAMs_20 IAMs_20 04 04 13.7
comp=Z,10μm,18.0s
INCN Inchon 58.84 326 P **P** **03 36 55.0 +1.3**
INCN Inchon 58.84 326 P **P** **03 36 53.8 +0.1**
INCN pmax pmax
comp=Z,239nm,1.3s
INCN MLR MLR
comp=Z,10μm,18.0s
GZH Guangzhou 59.14 305 P **P** **03 36 56.5 +0.5**
GZH S **S** **03 45 05.0 +1.7**
GZH SS **SS** **03 49 03.8 +5.9**
GZH pmax pmax
comp=Z,150nm,1.5s
GZH LR LR
comp=Z,4μm,18.6s
GZH LR LR
comp=Z,3μm,15.9s
GZH LR LR
comp=Z,6μm,16.1s
NJ2 Nanjing 59.95 317⇓*i*P **P** **03 37 02.5 +1.1**
NJ2 S **S** **03 45 16.8 +3.3**
NJ2 pmax pmax
comp=Z,74nm,1.3s
NJ2 pmax pmax
comp=Z,6μm,5.9s
NJ2 LR LR
comp=Z,9μm,23.7s
NJ2 LR LR
comp=Z,6μm,20.8s
NJ2 LR LR
comp=Z,14μm,22.7s
YSS Yuzh-Sakhalins 60.17 344 P **P** **03 37 02.7 +0.1**
YSS IAmb IAmb 03 37 05.1
comp=Z,212nm,1.4s
YSS IAMs_20 IAMs_20 04 01 55.1
comp=Z,14μm,20.0s
YSS Yuzh-Sakhalins 60.17 344 P **P** **03 37 03.9 +1.3**
YSS Yuzh-Sakhalins 60.17 344 *e*P **P** **03 37 02.5 -0.1**
YSS *e*S **S** **03 45 13.0 -2.6**
YSS *e* 03 45 39.0
YSS *e*SS **SS** **03 49 11.0 -2.2**
YSS pmax pmax
comp=Z,2μm,5.8s
QIZ Qiongzhong 60.23 299 P **P** **03 37 04.8 +1.2**
QIZ S **S** **03 45 21.5 +3.9**
QIZ pmax pmax
comp=Z,160nm,1.5s
QIZ pmax pmax
comp=Z,5μm,7.7s
QIZ LR LR
comp=Z,2μm,15.7s
QIZ LR LR
comp=Z,5μm,20.1s
QIZ LR LR
comp=Z,9μm,22.6s
TEY Ternei 60.39 339 *e*P **P** **03 37 03.5 -0.6**
PYAG Pyongyang 60.46 327 P **P** **03 37 05.3 +0.6**
PYAG S **S** **03 45 19.5 -0.2**
PYAG AmB
comp=Z,3μm,3.9s
PYAG AMS AMS
comp=Z,11μm,26.8s
MSHR Mys Shultsa 60.52 333*de*P **P** **03 37 05.7 +0.6**
MSHR pmax pmax
comp=Z,136nm,1.6s
MSHR MLR MLR
comp=Z,4μm,13.0s
VLA Vladivostok 60.64 334⇑*e*P **P** **03 37 07.4 +1.5**
VLA pmax pmax
comp=Z,187nm,1.3s
VLA MLR MLR
comp=Z,3μm,13.0s
PSTR Posyet 60.73 333*ce*P **P** **03 37 08.1 +1.6**
SKR Severo-Kuril's 61.38 355 *e*P **P** **03 37 11.3 +0.5**
SKR *e*S **S** **03 45 33.7 +2.7**
SKR *e*SS **SS** **03 49 30.2 -1.9**
SKR pmax pmax
comp=Z,4μm,10.9s
SKR smax smax
comp=E,2μm,14.6s
SKR smax smax
comp=N,5μm,16.3s
SKR MLR MLR
comp=Z,12μm,18.0s
USRK Ussuriysk Ar. 61.47 335 P **P** **03 37 10.8 -0.7**
comp=Z,124nm,1.1s,baz=138,slow=6.7,SNR=38
USRK S **S** **03 45 33.9 +1.4**
comp=Z,2.5nm,0.8s,baz=127,slow=29,SNR=1.4
USRK LR LR 04 02 15.7
comp=Z,4μm,21.2s,baz=146,slow=35
comp=Z,124nm,1.1s
SUJ Sinuiju 61.89 327 P **P** **03 37 14.3 -0.1**
SUJ S **S** **03 45 37.9 0.0**
SUJ AmB
comp=Z,8μm,6.6s
SUJ AMS AMS
comp=Z,12μm,21.2s
WHN Wuhan 62.22 313⇓P **P** **03 37 17.4 +0.5**
WHN sP **sP** **03 37 22.8 +1.2**
WHN PP **PP** **03 39 35.0 +1.0**
WHN S **S** **03 45 43.1 +0.6**
WHN SS **SS** **03 49 47.6 +1.5**
WHN pmax pmax
comp=Z,930nm,1.7s
WHN pmax pmax
comp=Z,10μm,5.4s
WHN LR LR
comp=Z,21μm,15.5s
WHN LR LR
comp=Z,12μm,18.8s
WHN LR LR
comp=Z,44μm,21.3s
UGL Uglegorsk 62.30 345*d i*P **P** **03 37 17.6 +0.6**
UGL *e*S **S** **03 45 44.7 +2.0**
UGL pmax pmax
comp=Z,5μm,9.3s
UGL smax smax
comp=Z,4μm,10.0s
UGL smax smax
comp=N,8μm,7.0s
UGL smax smax
comp=E,3μm,7.0s
UGL MLR MLR
comp=E,5μm,13.0s
UGL MLR MLR
comp=N,8μm,16.0s
UGL MLR MLR
comp=Z,8μm,18.0s
GULI GuiLin 62.58 306⇓P **P** **03 37 21.3 +1.9**
GULI S **S** **03 45 50.4 +3.2**
GULI pmax pmax
comp=Z,320nm,1.5s
GULI LR LR
comp=Z,5μm,24.2s
GULI LR LR
comp=Z,2μm,19.4s
GULI LR LR
comp=Z,9μm,40.7s
DL2 Dalian 62.64 324 P **P** **03 37 19.3 -0.2**
DL2 S **S** **03 45 49.6 +2.2**
DL2 SS **SS** **03 49 49.9 -2.4**
DL2 pmax pmax
comp=Z,120nm,1.1s
DL2 pmax pmax
comp=Z,7μm,6.6s
DL2 LR LR
comp=Z,11μm,23.5s
DL2 LR LR
comp=Z,13μm,23.0s
DL2 LR LR
comp=Z,25μm,28.1s
BKNI Bangkinang 62.67 276 P **P** **03 37 18.4 -1.8**
BKNI Bangkinang 62.67 276 P **P** **03 37 21.4 +1.2**
MDJ Mudanjiang 62.83 334 IAmb IAmb 03 37 34.5
comp=Z,153nm,1.2s
MDJ Mudanjiang 62.83 334 P **P** **03 37 21.3 +0.6**
MDJ PP **PP** **03 39 38.4 -0.7**
MDJ S **S** **03 45 52.1 +2.5**
MDJ SS **SS** **03 49 55.3 +0.2**
MDJ pmax pmax
comp=Z,120nm,1.6s
MDJ LR LR
comp=Z,9μm,19.0s
MDJ LR LR
comp=Z,8μm,23.8s
MDJ LR LR
comp=Z,12μm,20.2s
PET Petropavlovsk 63.54 357 P **P** **03 37 24.4 -0.8**
PET Petropavlovsk 63.54 357 P **P** **03 37 25.6 +0.5**
PET Petropavlovsk 63.54 357 *e*P **P** **03 37 24.3 -0.8**
PET *e*S **S** **03 45 57.0 -1.1**
PET *e*SS **SS** **03 50 08.8 +3.1**
PET pmax pmax
comp=Z,135nm,1.4s
PET pmax pmax
comp=Z,3μm,8.7s
PET pmax pmax
comp=Z,2μm,11.4s
PET MLR MLR
comp=Z,5μm,18.0s
PET MLR MLR
comp=Z,5μm,19.0s
PET Petropavlovsk 63.54 357 P **P** **03 37 24.4 -0.8**
comp=Z,147nm,1.6s
SNY Shenyang 63.61 328⇓P **P** **03 37 25.8 -0.1**
SNY S **S** **03 46 03.1 +3.7**
SNY pmax pmax
comp=Z,26nm,1.7s
SNY pmax pmax
comp=Z,3μm,7.4s
SNY LR LR
comp=Z,10μm,19.6s
SNY LR LR
comp=Z,5μm,19.6s
SNY LR LR
comp=Z,14μm,20.6s
IPM Ipoh 63.62 280 P **P** **03 37 25.6 -1.0**
IPM Ipoh 63.62 280 P **P** **03 37 27.0 +0.4**
TIA Tai'an 63.63 320 P **P** **03 37 26.3 +0.1**
TIA pP **sP** **03 37 31.5 +0.6**
TIA PP **PP** **03 39 47.3 +1.0**
TIA S **S** **03 45 57.5 -2.4**
TIA pmax pmax
comp=Z,36nm,1.3s
TIA pmax pmax
comp=Z,5μm,7.2s
TIA LR LR
comp=Z,5μm,13.7s
TIA LR LR
comp=Z,4μm,14.8s
TIA LR LR
comp=Z,11μm,23.0s
PEA0B Petropavlovsk- 63.67 356*d i*P **P** **03 37 26.2 +0.1**
PETK Petropavlovsk- 63.67 356 P **P** **03 37 25.8 -0.3**
comp=Z,36nm,0.9s,baz=183,slow=5.3,SNR=16
PETK LR LR 04 00 51.4
comp=Z,8μm,20.5s,baz=177,slow=32
comp=Z,36nm,0.9s
TYV Tymovskoe 63.80 346 *e*P **P** **03 37 27.8 +0.9**
TYV *e*S **S** **03 46 04.5 +3.1**
TYV pmax pmax
comp=Z,63nm,1.5s
TYV pmax pmax
comp=Z,3μm,6.8s
TYV smax smax
comp=N,6μm,6.8s
TYV smax smax
comp=E,2μm,6.8s
TYV MLR MLR
comp=Z,10μm,18.0s
TYV MLR MLR
comp=N,10μm,18.0s
SHEM Shemya Is, Ala 63.83 7 LR LR 04 00 13.1
comp=N,14μm,20.8s,baz=183,slow=31
CN2 Changchun 64.11 331 P **P** **03 37 28.0 -1.2**
CN2 S **S** **03 46 07.8 +2.2**
CN2 SS **SS** **03 50 14.4 -0.7**
CN2 pmax pmax
comp=N,70nm,1.5s
CN2 pmax pmax
comp=N,4μm,9.0s
CN2 LR LR
comp=N,10μm,21.0s
CN2 LR LR
comp=N,12μm,21.0s
CN2 LR LR
comp=N,16μm,22.0s
MNSI Mandailing Nat 64.19 276 P **P** **03 37 29.8 -0.5**
comp=N,54nm,0.9s,comp=N,3μm
KIWB Kanaga Island 64.54 13 P **P** **03 37 32.1 +0.3**
BNX BinXian 64.67 333⇑P **P** **03 37 31.4 -1.4**
BNX S **S** **03 46 14.3 +1.8**
BNX sS **sS** **03 46 22.1 +3.4**
BNX pmax pmax
comp=N,87nm,1.6s
BNX pmax pmax
comp=N,4μm,8.1s
BNX LR LR
comp=N,9μm,24.4s
BNX LR LR
comp=N,10μm,22.8s
BNX LR LR
comp=N,13μm,27.1s
ADK Adak 64.68 14 P **P** **03 37 33.0 +0.3**
ADK Adak 64.68 14 IAMs_20 IAMs_20 03 58 49.2
comp=Z,10μm,21.0s
ADK Adak 64.68 14 P **P** **03 37 34.3 +1.6**
ADK Adak 64.68 14 P **P** **03 37 33.0 +0.3**
ADK pmax pmax
comp=Z,586nm,1.7s
RPSI Rantau Prapat 65.24 278 P **P** **03 37 35.8 -1.4**
PSI Prapat 65.27 278 P **P** **03 37 36.8 -0.7**
PSI Prapat 65.27 278 P **P** **03 37 35.8 -1.7**
PSI pmax pmax
comp=Z,82nm,1.2s
PBSI Pulau Batu 65.29 275 P **P** **03 37 37.4 -0.1**
comp=Z,271nm,1.5s,comp=Z,6μmcomp=Z,7μm
GRNR Gornyy 65.43 342⇓*i*P **P** **03 37 38.2 +0.5**
GRNR pmax pmax
comp=N,20nm,1.1s
GRNR pmax pmax
comp=Z,60nm,1.2s
ATKA Atka Island 65.58 15 P **P** **03 37 39.0 +0.5**
ATKA IAMs_20 IAMs_20 03 59 48.1
comp=Z,10μm,19.0s
ATKA Atka Island 65.58 15 P **P** **03 37 39.4 +0.9**
KLR Kul'dur 65.70 338 P **P** **03 37 39.6 +0.2**
comp=Z,42nm,1.0s,baz=146,slow=3.6,SNR=34
KLR S **S** **03 46 24.8 -0.2**
comp=Z,0.3nm,0.4s,baz=124,slow=16,SNR=1.7
KLR LR LR 04 05 46.1
comp=Z,4μm,19.7s,baz=161,slow=36
comp=Z,42nm,1.0s
KLR Kul'dur 65.70 338*d i*P **P** **03 37 39.3 -0.1**
KLR pmax pmax
comp=Z,173nm,1.7s
KLR MLR MLR
comp=Z,3μm,15.0s
LYN LuoYang 65.75 316⇓*i*P **P** **03 37 40.6 +0.5**
LYN pP sP 03 37 45.3 +0.5
LYN sP pwP 03 37 49.0 +0.7
LYN PP **PP** **03 40 08.9 +3.9**
LYN S **S** **03 46 24.8 -1.4**
LYN SS **SS** **03 50 43.1 +2.1**
LYN pmax pmax
comp=Z,88nm,1.8s
LYN pmax pmax
comp=Z,8μm,8.7s
LYN LR LR
comp=Z,11μm,21.2s
LYN LR LR
comp=Z,10μm,22.2s
LYN LR LR
comp=Z,22μm,22.2s
CASY Casey 65.82 201 P **P** **03 37 40.0 0.0**
CASY IAmb IAmb 03 37 48.6
comp=Z,196nm,1.8s
CASY Casey 65.82 201 IAMs_20 IAMs_20 04 04 11.2
comp=Z,7μm,18.0s
HNS HongShan 65.89 319⇓P **P** **03 37 41.1 +0.2**
HNS S **S** **03 46 26.3 -1.4**
HNS pmax pmax
comp=Z,200nm,1.6s
HNS pmax pmax
comp=Z,6μm,8.2s
HNS LR LR
comp=Z,7μm,17.6s
HNS LR LR
comp=Z,4μm,18.6s
HNS LR LR
comp=Z,8μm,17.0s
SRIT Nakonsritamara 66.04 284 IAmb IAmb 03 37 48.1
comp=Z,132nm,1.4s
SRIT Nakonsritamara 66.04 284 P **P** **03 37 43.5 +1.2**
comp=Z,77nm,1.4s
GYA Guiyang 66.08 305⇑P **P** **03 37 44.4 +1.9**
GYA S **S** **03 46 30.4 -0.3**
GYA SKS **SKSac** **03 47 38.3 -0.4**
GYA pmax pmax
comp=Z,200nm,1.4s
GYA pmax pmax
comp=Z,6μm,7.9s
GYA LR LR
comp=Z,4μm,22.3s
GYA LR LR
comp=Z,3μm,22.2s
GYA LR LR
comp=Z,6μm,22.2s
NAYO Nakonayok 66.10 291 P **P** **03 37 43.8 +1.1**
SURA Surathani 66.17 285 P **P** **03 37 44.2 +1.1**
GSI Gunungsitoli 66.26 276 P **P** **03 37 42.7 -1.1**
GSI IAmb IAmb 03 37 47.5
comp=Z,104nm,1.0s
GSI Gunungsitoli 66.26 276 P **P** **03 37 44.9 +1.1**
GSI Gunungsitoli 66.26 276 P **P** **03 37 43.3 -0.5**
comp=Z,109nm,2.2s,comp=Z,5μmcomp=Z,9μm
SLVN Son La 66.26 299 P **P** **03 37 44.8 +1.1**
NKL Nikolayevsk 66.38 345 *e*P **P** **03 37 41.9 -1.8**
NKL *e*S **S** **03 46 31.5 -1.6**
NKL pmax pmax
comp=N,71nm,0.9s
NKL pmax pmax
comp=E,142nm,1.7s
NKL pmax pmax
comp=Z,356nm,1.7s
NKL smax smax
comp=E,2μm,10.0s
NKL smax smax
comp=N,534nm,4.6s
NKL MLR MLR
comp=N,7μm,18.0s
NKL MLR MLR
comp=E,11μm,17.0s
NKL MLR MLR
comp=Z,21μm,17.0s
BJT Baijiatuau 66.57 322 IAmb IAmb 03 37 55.5
comp=Z,188nm,1.7s
BJT Baijiatuau 66.57 322 IAMs_20 IAMs_20 04 05 06.4
comp=Z,10μm,21.0s
BJI Beijing 66.58 322 P **P** **03 37 43.3 -1.9**
BJI PP **PP** **03 40 11.6 -0.5**
BJI S **S** **03 46 32.3 -3.7**
BJI ScS **SKSac** **03 47 35.8 -5.8**
BJI SS **SS** **03 50 50.6 -3.1**
BJI pmax pmax
comp=Z,2μm,8.1s
BJI LR LR
comp=Z,4μm,22.6s
BJI LR LR
comp=Z,3μm,21.0s
BJI LR LR
comp=Z,6μm,19.8s
SBA Scott Base 67.22 179 P **P** **03 37 50.8 +2.1**
SBA Scott Base 67.22 179 IAMs_20 IAMs_20 04 01 48.3
comp=Z,7μm,19.0s
SBA Scott Base 67.22 179 P **P** **03 37 50.8 +2.1**
SBA pmax pmax
comp=Z,349nm,1.7s
TIY Taiyuan 67.54 318 *e*P **P** **03 37 52.4 +0.9**
TIY S **S** **03 46 50.6 +2.7**
TIY pmax pmax
comp=Z,58nm,1.4s
TIY pmax pmax
comp=Z,5μm,6.5s
TIY LR LR
comp=Z,7μm,19.4s
TIY LR LR
comp=Z,3μm,21.3s
TIY LR LR
comp=Z,10μm,24.1s
NIKH Nikolski High 67.75 18 P **P** **03 37 52.0 -0.4**
baz=210,SNR=6.5
NIKH Nikolski High 67.75 18 P **P** **03 37 53.5 +1.1**
XAN Xi'an 67.97 313⇓P **P** **03 37 54.1 -0.2**
XAN sP pwP 03 38 01.3 -1.2
XAN PP **PP** **03 40 27.8 +3.4**
XAN S **S** **03 46 53.8 +0.7**
XAN ScS **ScS** **03 47 56.3 +3.1**
XAN SS **SS** **03 51 13.4 -2.2**
XAN pmax pmax
comp=Z,160nm,1.6s

XAN				pmax	pmax	
	comp=Z,8μm,7.8s					
XAN				LR	LR	
	comp=Z,7μm,18.5s					
XAN				LR	LR	
	comp=Z,9μm,19.5s					
XAN				LR	LR	
	comp=Z,16μm,21.0s					
MLSI	**Meulaboh, Aceh**	**68.05 279**		P	**P**	**03 37 55.3 +0.2**
	comp=Z,161nm,0.9s,comp=Z,5μm					
SRDT	**SRDT**	**68.14 290**		P	**P**	**03 37 56.9 +1.3**
HEH	**HeiHe**	**68.19 336**		*e*P	**P**	**03 37 55.4 +0.2**
HEH				S	**S**	**03 46 56.1 +1.1**
HEH				pmax	pmax	
	comp=Z,63nm,0.9s					
HEH				pmax	pmax	
	comp=Z,5μm,7.9s					
HEH				LR	LR	
	comp=Z,5μm,19.9s					
HEH				LR	LR	
	comp=Z,9μm,20.4s					
HEH				LR	LR	
	comp=Z,8μm,22.4s					
PHRA	**Phrae**	**68.46 295**		P	**P**	**03 37 58.4 +0.8**
KMI	**Kunming**	**68.73 302**		⇓P	**P**	**03 38 01.3 +1.9**
KMI				S	**S**	**03 47 06.4 +3.5**
KMI				SS	**SS**	**03 51 28.5 +0.5**
KMI				pmax	pmax	
	comp=Z,260nm,1.5s					
KMI				pmax	pmax	
	comp=Z,6μm,8.2s					
KMI				LR	LR	
	comp=Z,4μm,17.4s					
KMI				LR	LR	
	comp=Z,6μm,22.9s					
KMI				LR	LR	
	comp=Z,7μm,24.6s					
XLT	**XiLinHaoTe**	**69.06 325**		*e*P	**P**	**03 38 01.3 +0.3**
XLT				S	**S**	**03 47 01.4 -4.5**
XLT				ScS	**SKiKP**	**03 47 54.8 +2.9**
XLT				SS	**SS**	**03 51 36.3 +4.0**
XLT				pmax	pmax	
	comp=Z,140nm,1.5s					
XLT				pmax	pmax	
	comp=Z,3μm,5.2s					
XLT				LR	LR	
	comp=Z,8μm,20.0s					
XLT				LR	LR	
	comp=Z,10μm,19.9s					
UNV	**Unalaska Valle**	**69.23 19**		P	**P**	**03 38 00.6 -1.0**
	baz=212					
UNV	**Unalaska Valle**	**69.23 19**		P	**P**	**03 38 02.0 +0.4**
BSI	**Banda Aceh**	**69.40 280**		P	P	03 38 09.1 +5.5
	comp=Z,51nm,1.2s,comp=Z,3μm					
CM31	**Chiang Mai Arr**	**69.60 294**		IAmb	IAmb	03 38 07.8
	comp=Z,201nm,1.3s					
CMAR	**Chiang Mai Arr**	**69.60 294**		P	**P**	**03 38 05.2 +0.5**
	comp=Z,53nm,1.1s,baz=113,slow=4.3,SNR=64					
CMAR				S	**S**	**03 47 15.6 +2.6**
	comp=Z,1.4nm,0.3s,baz=118,slow=12,SNR=1.7					
CMAR				PKPPKP	**P'P'df**	**04 06 11.4 -1.1**
	comp=Z,1.0nm,0.3s,baz=292,slow=2.4,SNR=1.0					
	comp=Z,53nm,1.1s					
LVA	**Lava Point**	**69.65 19**		IAMs_20	IAMs_20	04 04 45.8
	comp=Z,8μm,20.0s					
CHTO	**Chiang Mai**	**69.72 295**		P	**P**	**03 38 05.9 +0.5**
CHTO	**Chiang Mai**	**69.72 295**		P	**P**	**03 38 05.9 +0.5**
CHTO				pmax	pmax	
	comp=Z,308nm,1.6s					
CHTO				MLR	MLR	
	comp=Z,5μm,19.0s					
HHC	**Hu-ho-hao-te**	**69.88 321**		⇓*i*P	**P**	**03 38 07.0 +0.9**
HHC				sP	pwP	03 38 14.3 -0.1
HHC				S	**S**	**03 47 16.3 +0.6**
HHC				sS	sS	03 47 21.9 -0.1
HHC				ScS	**SKSac**	**03 48 06.1 -0.8**
HHC				SS	**SS**	**03 51 47.3 +2.3**
HHC				pmax	pmax	
	comp=Z,64nm,1.2s					
HHC				pmax	pmax	
	comp=Z,5μm,6.3s					
HHC				LR	LR	
	comp=Z,7μm,17.6s					
HHC				LR	LR	
	comp=Z,8μm,18.1s					
HHC				LR	LR	
	comp=Z,18μm,17.5s					
PZH	**PanZhiHua**	**70.10 303**		P	**P**	**03 38 08.4 +0.6**
PZH				PP	**PP**	**03 40 45.9 +2.8**
PZH				S	**S**	**03 47 20.6 +1.8**
PZH				SS	**SS**	**03 51 48.5 -0.4**
PZH				pmax	pmax	
	comp=Z,130nm,1.4s					
PZH				pmax	pmax	
	comp=Z,5μm,9.0s					
PZH				LR	LR	
	comp=Z,3μm,20.6s					
PZH				LR	LR	
	comp=Z,4μm,20.1s					
PZH				LR	LR	
	comp=Z,5μm,23.5s					
CD2	**Chengdu**	**70.33 308**		P	**P**	**03 38 09.8 +0.8**
CD2				sP	pwP	03 38 17.4 +0.1
CD2				PP	**PP**	**03 40 45.6 +0.7**
CD2				S	**S**	**03 47 20.3 -0.9**
CD2				SS	**SS**	**03 51 54.5 +2.3**
CD2				pmax	pmax	
	comp=Z,300nm,0.9s					
CD2				pmax	pmax	
	comp=Z,5μm,7.4s					
CD2				LR	LR	
	comp=Z,7μm,19.8s					
CD2				LR	LR	
	comp=Z,8μm,22.6s					
CD2				LR	LR	
	comp=Z,8μm,24.9s					
MA2	**Magadan**	**70.69 353**		P	**P**	**03 38 09.2 -1.4**
MA2				IAMs_20	IAMs_20	04 03 01.2
	comp=Z,9μm,22.0s					
MA2	**Magadan**	**70.69 353**		P	**P**	**03 38 10.2 -0.3**
	comp=Z,24nm,0.7s,baz=160,slow=6.6,SNR=10					
MA2				S	**S**	**03 47 23.3 -0.9**
	comp=Z,9.2nm,1.0s,baz=180,slow=20,SNR=1.8					
	comp=Z,24nm,0.7s					
MA2	**Magadan**	**70.69 353**		P	**P**	**03 38 11.1 +0.6**
MA2	**Magadan**	**70.69 353**	*d*	*i*P	**P**	**03 38 08.9 -1.6**
MA2				pmax	pmax	
	comp=Z,37nm,0.7s					
MA2	**Magadan**	**70.69 353**		P	**P**	**03 38 09.6 -0.9**
	comp=Z,50nm,0.8s,comp=Z,3μm					
BTO	**Baotou**	**70.72 320**		*e*P	**P**	**03 38 13.6 +2.4**
BTO				pP	**pwP**	**03 38 18.8 -0.7**
BTO				sP	**sP**	**03 38 20.8 +4.8**
BTO				PP	**PP**	**03 40 53.3 +5.2**
BTO				S	**S**	**03 47 31.9 +6.5**
BTO				sS	sS	03 47 40.6 +9.2
BTO				pmax	pmax	
	comp=Z,100nm,1.3s					
BTO				pmax	pmax	
	comp=Z,13μm,8.1s					
BTO				LR	LR	
	comp=Z,16μm,24.2s					
BTO				LR	LR	
	comp=Z,14μm,24.1s					
BTO				LR	LR	
	comp=Z,27μm,23.3s					
P08K	**Saint George I**	**70.73 16**		IAMs_20	IAMs_20	04 02 43.5
	comp=Z,9μm,20.0s					
P08K	**Saint George I**	**70.73 16**		P	**P**	**03 38 09.9 -0.9**
	baz=208					
HIA	**Hailar**	**70.78 332**		IAmb	IAmb	03 38 23.0
	comp=Z,125nm,1.3s					
HIA	**Hailar**	**70.78 332**		IAMs_20	IAMs_20	04 06 58.3
	comp=Z,9μm,20.0s					
ZEA	**Zeya**	**71.01 338**		*e*P	**P**	**03 38 12.9 +0.4**
ZEA				*e*S	**S**	**03 47 30.2 +2.2**
ZEA				*e*		03 47 58.5
ZEA				*e*SS	**SS**	**03 52 06.3 +4.7**
ZEA				pmax	pmax	
	comp=E,20nm,2.0s					
ZEA				pmax	pmax	
	comp=N,60nm,1.7s					
ZEA				pmax	pmax	
	comp=Z,100nm,1.7s					
ZEA				pmax	pmax	
	comp=E,700nm,7.1s					
ZEA				pmax	pmax	
	comp=N,1μm,3.8s					
ZEA				pmax	pmax	
	comp=Z,2μm,9.4s					
ZEA				smax	smax	
	comp=Z,1μm,6.5s					
ZEA				smax	smax	
	comp=E,1μm,7.6s					
ZEA				smax	smax	
	comp=N,2μm,10.5s					
ZEA				MLR	MLR	
	comp=N,3μm,17.0s					
ZEA				MLR	MLR	
	comp=E,1μm,17.0s					
ZEA				MLR	MLR	
	comp=Z,3μm,19.0s					
SPIA	**Saint Paul Isl**	**71.06 15**		P	**P**	**03 38 13.0 +0.2**
	baz=208					
FALS	**False Pass**	**71.07 20**		P	**P**	**03 38 11.7 -1.2**
	baz=215					
FALS	**False Pass**	**71.07 20**		P	**P**	**03 38 13.3 +0.4**
S12K	**Black Hills**	**72.21 20**		IAmb	IAmb	03 38 20.8
	comp=Z,266nm,1.3s					
S12K				IAMs_20	IAMs_20	04 06 11.8
	comp=Z,6μm,19.0s					
S12K	**Black Hills**	**72.21 20**		P	**P**	**03 38 19.1 -0.7**
	baz=216,SNR=9.4					
S12K				S	**S**	**03 47 43.2 +1.2**
	baz=216					
TNCH	**TengChong**	**72.23 301**		⇓*i*P	**P**	**03 38 22.0 +1.2**
TNCH				pP	sP	03 38 25.0 -0.6
TNCH				sP	pwP	03 38 27.1 -2.0
TNCH				PP	**PP**	**03 41 02.5 +0.9**
TNCH				S	**S**	**03 47 44.0 +0.3**
TNCH				sS	sS	03 47 53.0 +3.3
TNCH				pmax	pmax	
	comp=Z,250nm,1.6s					
TNCH				pmax	pmax	
	comp=Z,3μm,3.8s					
TNCH				LR	LR	
	comp=Z,2μm,17.1s					
TNCH				LR	LR	
	comp=Z,2μm,21.3s					
TNCH				LR	LR	
	comp=Z,5μm,20.6s					
CHNA	**Chernabura Isl**	**72.38 22**		P	**P**	**03 38 19.9 -0.8**
	baz=219					
LZH	**Lanzhou**	**72.60 313**		⇓P	**P**	**03 38 24.1 +1.3**
LZH				sP	pwP	03 38 32.4 +1.4
LZH				S	**S**	**03 47 45.6 -1.9**
LZH				sS	SKiKP	03 48 02.1 +4.7
LZH				pmax	pmax	
	comp=Z,170nm,1.1s					
LZH				pmax	pmax	
	comp=Z,6μm,5.5s					
LZH				LR	LR	
	comp=Z,7μm,19.4s					
LZH				LR	LR	
	comp=Z,5μm,20.8s					
LZH				LR	LR	
	comp=Z,10μm,20.1s					
PBA	**Port Blair**	**73.35 286**		*e*P	**P**	**03 38 26.6 -0.9**
S14K	**Fog Glacier**	**73.53 21**		P	**P**	**03 38 26.6 -1.1**
	baz=218					
SEY	**Seymchan**	**73.83 355**		P	**P**	**03 38 28.6 -0.6**
	comp=Z,29nm,0.9s,baz=162,slow=4.9,SNR=24					
SEY				S	**S**	**03 48 00.7 +0.8**
	comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=1.3					
SEY				LR	LR	04 07 52.2
	comp=Z,8μm,20.1s,baz=165,slow=33					
	comp=Z,29nm,0.9s					
SEY	**Seymchan**	**73.83 355**	*d*	*i*P	**P**	**03 38 29.1 -0.1**
SEY				pmax	pmax	
	comp=Z,165nm,2.0s					
SEY				MLR	MLR	
	comp=Z,7μm,18.0s					
CHGN	**Chignik**	**73.94 21**		P	**P**	**03 38 29.4 -0.6**
	baz=220					
CHIR	**Chirikof Islan**	**74.61 23**		IAMs_20	IAMs_20	04 02 18.2
	comp=Z,8μm,21.0s					
CHIR	**Chirikof Islan**	**74.61 23**		P	**P**	**03 38 34.0 +0.2**
	baz=222					
M11K	**Mekoryuk**	**74.90 15**		IAmb	IAmb	03 38 38.2
	comp=Z,244nm,1.3s					
M11K				IAMs_20	IAMs_20	04 09 04.6
	comp=Z,6μm,19.0s					
M11K	**Mekoryuk**	**74.90 15**		P	**P**	**03 38 35.9 +0.4**
	baz=211					
M11K				S	**S**	**03 48 14.7 +2.7**
	baz=211					
R16K	**Pilot Point**	**75.21 21**		IAMs_20	IAMs_20	04 03 07.2
	comp=Z,7μm,22.0s					
LKP	**Lekhapani**	**75.29 302**		*e*P	**P**	**03 38 38.6 +0.1**
O14K	**Tigyukauivet M**	**75.34 18**		IAMs_20	IAMs_20	04 09 03.5
	comp=Z,7μm,19.0s					
O14K	**Tigyukauivet M**	**75.34 18**		P	**P**	**03 38 38.3 +0.3**
	baz=216					
O14K				S	**S**	**03 48 18.1 +1.1**
	baz=216					
CIT	**Chita**	**75.55 331**		*e*P	**P**	**03 38 39.8 +0.3**
CIT				*e*		03 38 46.3
CIT				*e*		03 41 29.6
CIT				*e*S	**S**	**03 48 25.4 +5.6**
CIT				pmax	pmax	
	comp=Z,553nm,2.8s					
M13K	**Dall Lake**	**75.69 16**		IAMs_20	IAMs_20	04 06 43.5
	comp=Z,9μm,20.0s					
M13K	**Dall Lake**	**75.69 16**		P	**P**	**03 38 40.9 +1.0**
	baz=214					
M13K				S	**S**	**03 48 25.5 +4.7**
	baz=214					
R17L	**Mt. Peulik Vol**	**75.69 21**		P	**P**	**03 38 38.9 -1.2**
	baz=221					
PLK4	**Peulik 4**	**75.69 21**		IAmb	IAmb	03 38 41.0
	comp=Z,120nm,1.1s					
SII	**Sitkinak Islan**	**75.69 23**		P	**P**	**03 38 39.7 -0.5**
	baz=223					
O15K	**Ungalikthiuk R**	**75.73 19**		P	**P**	**03 38 39.9 -0.4**
	baz=218					
O15K				S	**S**	**03 48 22.2 +0.9**
	baz=218					
N14K	**Kuskokwak Cree**	**75.76 17**		P	**P**	**03 38 40.9 +0.5**
	baz=216,SNR=9.2					
N14K				S	**S**	**03 48 22.7 +1.1**
	baz=216					
IMP	**Imphal**	**76.07 299**		⇓*i*P	**P**	**03 38 43.2 +0.1**
IMP				IAmb	IAmb	03 38 45.1
	comp=Z,205nm,0.8s					
MOKO	**MOKOCHONG**	**76.07 301**		⇓*i*P	**P**	**03 38 43.5 +0.4**
MOKO				IAmb	IAmb	03 38 46.5
	comp=Z,235nm,0.9s					
P16K	**Nushagak River**	**76.20 20**		P	**P**	**03 38 42.7 -0.2**
	baz=219					
KOHI	**KOHIMA**	**76.22 300**		⇓*i*P	**P**	**03 38 43.7 -0.3**
KOHI				IAmb	IAmb	03 38 46.2
	comp=Z,880nm,1.4s					
R18K	**Karluk**	**76.33 22**		P	**P**	**03 38 43.2 -0.5**
	baz=223					
R18K				S	**S**	**03 48 28.5 +0.5**
	baz=223					
R18K				S	**S**	**03 48 28.5 +0.5**
	baz=223					
Q17K	**Contact Creek**	**76.33 21**		P	**P**	**03 38 43.5 -0.3**
	baz=222,SNR=7.4					
Q17K				S	**S**	**03 48 27.5 -0.7**
	baz=222					
M14K	**Bethel**	**76.36 17**		IAMs_20	IAMs_20	04 06 32.2
	comp=Z,9μm,20.0s					
M14K	**Bethel**	**76.36 17**		P	**P**	**03 38 44.2 +0.4**
	baz=215,SNR=19					
M14K				S	**S**	**03 48 29.9 +1.8**
	baz=215					
Q16K	**King Salmon**	**76.38 20**		P	**P**	**03 38 43.1 -0.8**
	baz=221,SNR=9.1					
Q16K				S	**S**	**03 48 28.4 0.0**
	baz=221					
N15K	**Kwethluk River**	**76.43 18**		IAMs_20	IAMs_20	04 08 41.3
	comp=Z,6μm,20.0s					
N15K	**Kwethluk River**	**76.43 18**		P	**P**	**03 38 44.6 +0.3**
	baz=217					
N15K				S	**S**	**03 48 29.1 0.0**
	baz=217					
ULN	**Ulaanbaatar**	**76.49 325**		P	**P**	**03 38 45.6 +0.6**
ULN				IAmb	IAmb	03 39 03.3
	comp=Z,107nm,1.1s					
ULN	**Ulaanbaatar**	**76.49 325**		⇑P	**P**	**03 38 45.7 +0.6**
ULN	**Ulaanbaatar**	**76.49 325**	*c*	*i*P	**P**	**03 38 44.2 -0.9**
ULN				pmax	pmax	
	comp=Z,156nm,1.7s					
ULN				MLR	MLR	
	comp=Z,5μm,17.0s					
ACHA	**Angle Creek He**	**76.49 21**		IAmb	IAmb	03 38 54.4
	comp=Z,267nm,1.6s					
OHAK	**Old Harbor**	**76.51 23**		IAmb	IAmb	03 38 52.7
	comp=Z,344nm,1.8s					
OHAK	**Old Harbor**	**76.51 23**		P	**P**	**03 38 44.7 -0.1**
	baz=224					
OHAK	**Old Harbor**	**76.51 23**		P	**P**	**03 38 45.8 +1.0**
O16K	**Kokwok River B**	**76.61 19**		IAMs_20	IAMs_20	04 09 01.9
	comp=Z,7μm,20.0s					
O16K	**Kokwok River B**	**76.61 19**		P	**P**	**03 38 44.5 -0.7**
	baz=219					
O16K				S	**S**	**03 48 29.7 -1.2**
	baz=219					
K13K	**Kusilvak Mount**	**76.61 15**		IAMs_20	IAMs_20	04 07 08.9
	comp=Z,6μm,20.0s					
K13K	**Kusilvak Mount**	**76.61 15**		P	**P**	**03 38 46.2 +1.0**
	baz=213					
K13K				S	**S**	**03 48 34.2 +3.2**
	baz=213					
L14K	**Kuka Creek**	**76.64 16**		IAmb	IAmb	03 38 47.1
	comp=Z,148nm,1.1s					
L14K				IAMs_20	IAMs_20	04 06 50.7
	comp=Z,9μm,20.0s					
L14K	**Kuka Creek**	**76.64 16**		P	**P**	**03 38 46.1 +0.7**
	baz=215					
L14K				S	**S**	**03 48 33.4 +2.2**
	baz=215					
GAMB	**Gambell**	**76.66 11**		P	**P**	**03 38 45.6 +0.1**
	baz=205					
GAMB				S	**S**	**03 48 34.8 +3.4**
	baz=205					
M15K	**Kasigluk River**	**76.68 17**		P	**P**	**03 38 45.9 +0.2**
	baz=217,SNR=16					
M15K				S	**S**	**03 48 33.6 +1.9**
	baz=217					
AZL	**Aizawl**	**76.81 298**		⇓*i*P	**P**	**03 38 47.9 +0.5**
SONM	**Songino Array**	**76.84 325**		P	**P**	**03 38 46.4 -0.6**
	comp=Z,18nm,0.8s,baz=118,slow=2.5,SNR=42					
SONM				PP	**PP**	**03 41 42.4 +2.2**
	comp=Z,3.6nm,1.0s,baz=120,slow=5.8,SNR=2.1					
SONM				S	**S**	**03 48 35.6 +1.2**
	comp=Z,0.1nm,0.2s,baz=150,slow=12,SNR=1.0					
SONM				LR	LR	04 10 50.7
	comp=Z,13μm,21.2s,baz=124,slow=34					
	comp=Z,18nm,0.8s					
P17K	**Kvichak River**	**76.84 20**		P	**P**	**03 38 45.8 -0.8**
	baz=221					
Q18K	**Katmai Hardscr**	**76.93 21**		P	**P**	**03 38 46.6 -0.7**
	baz=222,SNR=22					
Q18K				S	**S**	**03 48 34.3 -0.4**
	baz=222					
GTA	**Gaotai**	**76.94 315**		P	**P**	**03 38 49.5 +1.7**
GTA				sP	pwP	03 38 57.3 +1.2
GTA				S	**S**	**03 48 36.8 +1.0**
GTA				SS	**SS**	**03 53 31.3 -1.6**
GTA				pmax	pmax	
	comp=Z,85nm,2.0s					
GTA				pmax	pmax	
	comp=Z,6μm,7.6s					
GTA				LR	LR	
	comp=Z,4μm,21.9s					
GTA				LR	LR	
	comp=Z,6μm,22.7s					
GTA				LR	LR	
	comp=Z,7μm,23.1s					
YAK	**Yakutsk**	**77.01 345**		P	**P**	**03 38 47.1 -0.3**
YAK	**Yakutsk**	**77.01 345**		IAMs_20	IAMs_20	04 08 38.5
	comp=Z,7μm,21.0s					
YAK	**Yakutsk**	**77.01 345**		P	**P**	**03 38 47.0 -0.5**
	comp=Z,82nm,0.7s,baz=138,slow=8.7,SNR=29					
YAK				S	**S**	**03 48 36.3 +1.0**
	comp=Z,21nm,0.3s,baz=142,slow=1.7,SNR=4.8					
	comp=Z,82nm,0.7s					
YAK	**Yakutsk**	**77.01 345**	*d*	*i*P	**P**	**03 38 46.7 -0.8**
YAK				*e**PP	**pwP**	**03 38 55.8 +0.1**
YAK				*e*		03 41 40.4
YAK				*e*PPP	PPP	03 43 26.3
YAK				*e*S	**S**	**03 48 32.4 -2.9**
YAK				*e**SS	**SKSac**	**03 48 53.9 -5.3**
YAK				*e*		03 49 08.2
YAK				pmax	pmax	
	comp=Z,121nm,1.3s					
YAK				pmax	pmax	
	comp=N,57nm,1.5s					
YAK				pmax	pmax	
	comp=E,24nm,1.3s					
YAK				pmax	pmax	
	comp=Z,613nm,5.2s					
YAK				pmax	pmax	
	comp=N,182nm,2.5s					
YAK				pmax	pmax	
	comp=E,158nm,3.5s					
YAK				smax	smax	
	comp=N,1μm,6.4s					
YAK				smax	smax	
	comp=E,1μm,7.3s					
YAK				MLR	MLR	
	comp=Z,6μm,20.0s					
O17K	**Koliganek Bris**	**77.07 19**		P	**P**	**03 38 47.6 -0.3**
	baz=220					
O17K				S	**S**	**03 48 36.7 +0.7**
	baz=220					
N16K	**Nishlik Lake**	**77.08 18**		P	**P**	**03 38 49.1 +1.2**
	baz=218					
N16K				S	**S**	**03 48 39.9 +3.7**
	baz=218					
KDAK	**Kodiak Island**	**77.18 23**		P	**P**	**03 38 48.6 +0.2**
KDAK	**Kodiak Island**	**77.18 23**		P	**P**	**03 38 49.1 +0.6**
	comp=Z,35nm,0.8s,baz=260,slow=6.1,SNR=8.6					
	comp=Z,35nm,0.8s					
KDAK	**Kodiak Island**	**77.18 23**		P	**P**	**03 38 48.9 +0.4**
	baz=225					
KDAK				S	**S**	**03 48 38.0 +0.7**
	baz=225					
KDAK	**Kodiak Island**	**77.18 23**		⇓P	**P**	**03 38 48.9 +0.4**
KDAK	**Kodiak Island**	**77.18 23**		P	**P**	**03 38 48.7 +0.2**
KDAK				pmax	pmax	
	comp=Z,77nm,1.1s					
L15K	**Ungalak Mounta**	**77.25 16**		P	**P**	**03 38 49.0 +0.2**
	baz=216,SNR=18					
L15K				S	**S**	**03 48 39.6 +1.7**
	baz=216					
P18K	**Big Mountain,**	**77.40 20**		P	**P**	**03 38 49.1 -0.7**
	baz=222,SNR=8.0					
P18K				S	**S**	**03 48 39.8 +0.1**
	baz=222					
BRDH	**Bariadhala**	**77.41 296**		P	**P**	**03 38 50.2 -0.4**
	comp=Z,84nm,0.3s,baz=85,slow=7.9,SNR=37					
	comp=Z,84nm,0.3s					
M16K	**Timber Creek**	**77.45 18**		IAMs_20	IAMs_20	04 07 37.3
	comp=Z,7μm,19.0s					
M16K	**Timber Creek**	**77.45 18**		P	**P**	**03 38 50.8 +0.8**
	baz=218,SNR=24					
M16K				S	**S**	**03 48 41.7 +1.5**
	baz=218					
J14K	**Nanvaranak Lak**	**77.58 15**		IAmb	IAmb	03 38 52.6
	comp=Z,135nm,1.1s					
J14K				IAMs_20	IAMs_20	04 05 59.5
	comp=Z,6μm,20.0s					
J14K	**Nanvaranak Lak**	**77.58 15**		P	**P**	**03 38 51.4 +0.7**
	baz=214					
J14K				S	**S**	**03 48 44.9 +3.5**
	baz=214					
N17K	**Nushagak Hills**	**77.62 19**		IAmb	IAmb	03 38 52.8
	comp=Z,145nm,1.1s					
N17K				IAMs_20	IAMs_20	04 09 44.6
	comp=Z,7μm,20.0s					
N17K	**Nushagak Hills**	**77.62 19**		P	**P**	**03 38 51.3 +0.4**
	baz=220					
N17K				S	**S**	**03 48 42.6 +0.6**
	baz=220					
Q19K	**Cape Douglas,**	**77.62 21**		IAMs_20	IAMs_20	04 05 44.7
	comp=Z,7μm,21.0s					
Q19K	**Cape Douglas,**	**77.62 21**		P	**P**	**03 38 50.6 -0.4**
	baz=224,SNR=16					
Q19K				S	**S**	**03 48 41.0 -1.1**
	baz=224					
Q19K				S	**S**	**03 48 41.0 -1.1**
	baz=224					
K15K	**Wolf Creek Mou**	**77.74 16**		IAmb	IAmb	03 38 53.5
	comp=Z,158nm,1.0s					
K15K				IAMs_20	IAMs_20	04 08 36.7
	comp=Z,8μm,20.0s					
K15K	**Wolf Creek Mou**	**77.74 16**		P	**P**	**03 38 52.3 +0.8**

	baz=216,SNR=20							
K15K					S	S	03 48 45.8	+2.6
	baz=216							
BELO	BELONIA	77.75	297	⇓i	P	P	03 38 54.3	+1.8
O18K	Koktuh Hills	77.75	20		IAmb	IAmb	03 38 53.3	
	comp=Z,268nm,1.6s							
O18K					IAMs_20	IAMs_20	04 08 48.3	
	comp=Z,6μm,20.0s							
O18K	Koktuh Hills	77.75	20		P	P	03 38 51.6	-0.1
	baz=222,SNR=10							
O18K					S	S	03 48 42.7	-0.8
	baz=222							
O18K					S	S	03 48 42.7	-0.8
	baz=222							
Q20K	Shuyak Island	77.84	22		P	P	03 38 52.6	+0.4
	baz=225							
Q20K					S	S	03 48 44.8	+0.4
	baz=225							
SYI	Shuyak Island	77.84	22		IAmb	IAmb	03 38 53.5	
	comp=Z,205nm,1.2s							
SYI					IAMs_20	IAMs_20	04 16 59.7	
	comp=Z,6μm,18.0s							
L16K	Owhat River	77.84	17		IAMs_20	IAMs_20	04 10 54.6	
	comp=Z,8μm,20.0s							
L16K	Owhat River	77.84	17		P	P	03 38 52.7	+0.6
	baz=218,SNR=19							
L16K					S	S	03 48 45.5	+1.1
	baz=218							
SHL	Shillong	78.07	299		eP	P	03 38 54.5	0.0
N18K	Kilae Creek	78.15	19		IAmb	IAmb	03 38 56.5	
	comp=Z,310nm,1.5s							
N18K					IAMs_20	IAMs_20	04 09 50.7	
	comp=Z,8μm,20.0s							
N18K	Kilae Creek	78.15	19		P	P	03 38 54.4	+0.5
	baz=221,SNR=20							
N18K					S	S	03 48 49.0	+1.2
	baz=221							
N18K					S	S	03 48 49.0	+1.2
	baz=221							
M17K	Holitna River	78.21	18		IAmb	IAmb	03 38 56.6	
	comp=Z,107nm,1.0s							
M17K					IAMs_20	IAMs_20	04 10 14.3	
	comp=Z,6μm,20.0s							
M17K	Holitna River	78.21	18		P	P	03 38 55.4	+1.2
	baz=220							
M17K					S	S	03 48 50.9	+2.6
	baz=220							
P19K	Oil Pt	78.29	21		IAmb	IAmb	03 38 59.8	
	comp=Z,157nm,0.8s							
P19K	Oil Pt	78.29	21		P	P	03 38 54.1	-0.6
	baz=224,SNR=8.7							
P19K					S	S	03 48 50.4	+1.1
	baz=224							
O19K	Port Alsworth	78.31	20		IAMs_20	IAMs_20	04 06 41.9	
	comp=Z,6μm,20.0s							
O19K	Port Alsworth	78.31	20		P	P	03 38 54.2	-0.5
	baz=223,SNR=11							
O19K					S	S	03 48 49.6	+0.2
	baz=223							
O19K					S	S	03 48 49.6	+0.2
	baz=223							
BILL	Bilibino	78.52	1		P	P	03 38 55.4	-0.4
BILL					IAMs_20	IAMs_20	04 10 03.8	
	comp=Z,8μm,20.0s							
BILL	Bilibino	78.52	1	d i	P	P	03 38 55.4	-0.4
BILL					pmax	pmax		
	comp=Z,163nm,1.5s							
BILL					MLR	MLR		
	comp=Z,4μm,16.0s							
L17K	Donlin	78.52	17		P	P	03 38 57.0	+1.1
	baz=219,SNR=22							
L17K					S	S	03 48 54.9	+3.2
	baz=219							
ILSW	Iliamna Southw	78.56	21		IAmb	IAmb	03 38 57.4	
	comp=Z,255nm,1.2s							
SVW2	Sparrevohn	78.56	19		IAmb	IAmb	03 38 58.9	
	comp=Z,274nm,1.4s							
SVW2	Sparrevohn	78.56	19		P	P	03 38 57.4	+1.2
ANM	Nome	78.68	13		IAmb	IAmb	03 38 59.3	
	comp=Z,196nm,1.4s							
ANM					IAMs_20	IAMs_20	04 07 05.5	
	comp=Z,6μm,20.0s							
ANM	Nome	78.68	13		P	P	03 38 57.7	+0.9
	baz=212							
ANM					S	S	03 48 57.3	+4.1
	baz=212							
N19K	Bonanza Creek	78.71	20		IAMs_20	IAMs_20	04 10 06.6	
	comp=Z,8μm,20.0s							
N19K	Bonanza Creek	78.71	20		P	P	03 38 56.7	-0.4
	baz=222,SNR=11							
N19K					S	S	03 48 53.7	-0.3
	baz=222							
N19K					S	S	03 48 53.7	-0.3
	baz=222							
M18K	Stony River	78.78	19		P	P	03 38 58.5	+1.2
	baz=221							
M18K					S	S	03 48 59.4	+5.0
	baz=221							
J16K	Anvik River	78.79	16		IAMs_20	IAMs_20	04 07 25.6	
	comp=Z,9μm,21.0s							
J16K	Anvik River	78.79	16		P	P	03 38 58.5	+1.1
	baz=216,SNR=21							
J16K					S	S	03 48 59.8	+5.3
	baz=216							
O20K	Slope Mountain	78.81	21		P	P	03 38 57.0	-0.7
	baz=224							
O20K					S	S	03 48 55.8	+0.8
	baz=224							
O20K					S	S	03 48 55.8	+0.8
	baz=224							
HOM	Homer	78.86	22		P	P	03 38 58.1	+0.3
	baz=225							
HOM					S	S	03 48 57.9	+2.6
	baz=225							
K17K	Iditarod	78.98	17		IAMs_20	IAMs_20	04 08 02.5	
	comp=Z,9μm,21.0s							
K17K	Iditarod	78.98	17		P	P	03 38 59.4	+1.0
	baz=219							
K17K					S	S	03 48 59.9	+3.4
	baz=219							
TNA	Tin City	79.00	12		P	P	03 38 58.7	+0.3
	baz=209							
TNA					S	S	03 48 59.0	+2.5
	baz=209							
L18K	Granite Mounta	79.07	18		IAMs_20	IAMs_20	04 10 24.0	
	comp=Z,6μm,18.0s							
L18K	Granite Mounta	79.07	18		P	P	03 39 00.0	+1.1
	baz=220,SNR=30							
L18K					S	S	03 49 02.3	+4.8
	baz=220							
L18K					S	S	03 49 02.3	+4.8
	baz=220							
BOD	Bodaibo	79.10	336		eP	P	03 38 59.5	+0.3
BOD					pmax	pmax		
	comp=Z,127nm,1.8s							
BRLK	Bradley Lake	79.21	22		IAmb	IAmb	03 39 00.9	
	comp=Z,109nm,1.0s							
BRSE	Bradley Lake S	79.24	22		P	P	03 39 00.5	+0.5
	baz=226,SNR=11							
BRSE					S	S	03 49 01.6	+2.1
	baz=226							
F14K	Arctic Creek	79.25	12		P	P	03 39 00.3	+0.5
	baz=211							
F14K					S	S	03 49 02.6	+3.3
	baz=211							
I17K	Unalakleet	79.25	15		IAmb	IAmb	03 39 02.2	
	comp=Z,205nm,1.4s							
I17K					IAMs_20	IAMs_20	04 09 12.8	
	comp=Z,8μm,21.0s							
I17K	Unalakleet	79.25	15		P	P	03 39 01.1	+1.3
	baz=216,SNR=6.5							
I17K					S	S	03 49 04.5	+5.2
	baz=216							
GOMU	GeErMu	79.29	310		P	P	03 39 01.3	+0.1
GOMU					sP	PcP	03 39 08.6	-0.8
GOMU					S	S	03 49 06.0	+4.3
GOMU					SS	SS	03 54 06.0	-2.9
GOMU					pmax	pmax		
	comp=Z,150nm,2.4s							
GOMU					LR	LR		
	comp=Z,4μm,19.3s							
GOMU					LR	LR		
	comp=Z,7μm,19.2s							
GOMU					LR	LR		
	comp=Z,10μm,19.6s							
J17K	VABM Dome	79.30	16		IAmb	IAmb	03 39 02.3	
	comp=Z,149nm,1.1s							
J17K					IAMs_20	IAMs_20	04 08 31.9	
	comp=Z,8μm,20.0s							
J17K	VABM Dome	79.30	16		P	P	03 39 01.0	+0.9
	baz=218,SNR=24							
J17K					S	S	03 49 03.5	+3.6
	baz=218							
J17K					S	S	03 49 03.5	+3.6
	baz=218							
G15K	Niukluk	79.35	14		P	P	03 39 00.5	+0.1
	baz=213							
G15K					S	S	03 49 03.5	+3.1
	baz=213							
QSPA	South Pole Qui	79.35	180		IAMs_20	IAMs_20	04 10 04.9	
	comp=Z,5μm,18.0s							
QSPA	South Pole Qui	79.35	180		P	P	03 39 00.5	-0.2
	comp=Z,11nm,0.8s,baz=20,slow=0.9,SNR=23							
QSPA					S	S	03 49 03.2	+2.3
	comp=Z,0.5nm,0.2s,baz=345,slow=20,SNR=1.6							
QSPA					PKKPbc	PKKPbc	03 57 50.2	-3.5
	comp=Z,1.4nm,0.7s,baz=207,slow=3.9,SNR=5.2							
QSPA					PKPPKP	P'P'df	04 05 53.8	-2.6
	comp=Z,2.0nm,0.9s,baz=193,slow=2.3,SNR=4.6							
	comp=Z,11nm,0.8s							
H16K	Elim	79.48	14		P	P	03 39 01.2	+0.1
	baz=215							
H16K					S	S	03 49 05.4	+3.7
	baz=215							
M19K	Big River Lodg	79.55	19		IAMs_20	IAMs_20	04 10 54.6	
	comp=Z,8μm,20.0s							
M19K	Big River Lodg	79.55	19		P	P	03 39 02.5	+0.9
	baz=222,SNR=25							
M19K					S	S	03 49 06.4	+3.8
	baz=222							
M19K					S	S	03 49 06.4	+3.8
	baz=222							
L19K	White Mountain	79.61	19		IAmb	IAmb	03 39 04.6	
	comp=Z,142nm,1.1s							
L19K					IAMs_20	IAMs_20	04 10 56.2	
	comp=Z,6μm,19.0s							
L19K	White Mountain	79.61	19		P	P	03 39 02.8	+0.9
	baz=222,SNR=28							
L19K					S	S	03 49 07.1	+3.8
	baz=222							
L19K					S	S	03 49 07.1	+3.8
	baz=222							
N20K	Mount Spurr	79.75	20		P	P	03 39 02.0	-0.8
	baz=225,SNR=12							
N20K					S	S	03 49 04.1	-0.9
	baz=225							
SPCR	Spurr Chakacha	79.75	20		P	P	03 39 01.9	-0.9
	baz=225,SNR=8.7							
SPCR					S	S	03 49 05.0	0.0
	baz=225							
CAPN	Captain Cook N	79.81	21		P	P	03 39 04.2	+1.3
	baz=226							
CAPN					S	S	03 49 09.7	+4.4
	baz=226							
F15K	North Star Dit	79.81	13		IAMs_20	IAMs_20	04 07 52.5	
	comp=Z,6μm,20.0s							
F15K	North Star Dit	79.81	13		P	P	03 39 03.5	+0.6
	baz=212,SNR=8.4							
F15K					S	S	03 49 08.8	+3.5
	baz=212							
TTA	Tatalina	79.81	18		IAMs_20	IAMs_20	04 08 29.7	
	comp=Z,8μm,22.0s							
TTA	Tatalina	79.81	18		P	P	03 39 03.7	+0.6
	baz=221,SNR=24							
TTA					S	S	03 49 09.5	+3.9
	baz=221							
TTA	Tatalina	79.81	18		P	P	03 39 04.4	+1.3
TTA	Tatalina	79.81	18	⇑	P	P	03 39 03.6	+0.5
M20K	Styx River	79.94	19		IAmb	IAmb	03 39 05.9	
	comp=Z,156nm,1.3s							
M20K					IAMs_20	IAMs_20	04 09 28.0	
	comp=Z,8μm,20.0s							
M20K	Styx River	79.94	19		P	P	03 39 03.3	-0.5
	baz=224							
M20K					S	S	03 49 08.5	+1.6
	baz=224							
M20K					S	S	03 49 08.5	+1.6
	baz=224							
SEW	Seward	79.97	22		P	P	03 39 03.6	-0.2
	baz=227,SNR=9.6							
SEW					S	S	03 49 07.4	+0.4
	baz=227							
LSA	Lhasa	79.97	303		IAmb	IAmb	03 39 12.4	
	comp=Z,381nm,1.6s							
LSA	Lhasa	79.97	303		P	P	03 39 06.5	+1.3
LSA					S	S	03 49 04.1	-5.3
LSA					pmax	pmax		
	comp=Z,120nm,2.0s							
LSA					LR	LR		
	comp=Z,4μm,23.0s							
LSA					LR	LR		
	comp=Z,3μm,18.7s							
J18K	Innoko River	80.02	17		IAMs_20	IAMs_20	04 08 44.0	
	comp=Z,9μm,21.0s							
J18K	Innoko River	80.02	17		P	P	03 39 04.7	+0.6
	baz=220,SNR=30							
J18K					S	S	03 49 08.6	+1.1
	baz=220							
G16K	Koyuk River	80.08	14		IAMs_20	IAMs_20	04 12 52.4	
	comp=Z,6μm,20.0s							
G16K	Koyuk River	80.08	14		P	P	03 39 04.7	+0.3
	baz=214							
G16K					S	S	03 49 11.5	+3.5
	baz=214							
O22K	Cooper Landing	80.12	22		IAmb	IAmb	03 39 23.7	
	comp=Z,184nm,0.8s							
O22K					IAMs_20	IAMs_20	04 09 11.0	
	comp=Z,6μm,21.0s							
O22K	Cooper Landing	80.12	22		P	P	03 39 04.3	-0.3
	baz=227,SNR=10							
O22K					S	S	03 49 09.5	+0.8
	baz=227							
L20K	Farewell, AK	80.13	19		P	P	03 39 05.9	+1.1
	baz=223							
L20K					S	S	03 49 13.0	+4.2
	baz=223							
L20K					S	S	03 49 13.0	+4.2
	baz=223							
H17K	Granite Mounta	80.30	15		P	P	03 39 06.3	+0.7
	baz=217							
H17K					S	S	03 49 14.0	+3.5
	baz=217							
IRK	Irkutsk	80.34	328		eP	P	03 39 05.1	-1.0
IRK					eS	S	03 49 14.5	+3.1
IRK					pmax	pmax		
	comp=Z,234nm,3.2s							
SUA	Susitna One	80.44	21		IAmb	IAmb	03 39 13.0	
	comp=Z,158nm,1.2s							
SUA					IAMs_20	IAMs_20	04 06 25.4	
	comp=Z,6μm,19.0s							
SUA	Susitna One	80.44	21		P	P	03 39 05.9	-0.6
	baz=226,SNR=15							
SUA					S	S	03 49 13.4	+1.1
	baz=226							
RC01	Rabbit Creek A	80.54	21		IAmb	IAmb	03 39 14.8	
	comp=Z,483nm,1.9s							
RC01	Rabbit Creek A	80.54	21		P	P	03 39 06.8	-0.2
	baz=227,SNR=14							
RC01					S	S	03 49 13.9	+0.9
	baz=227							
SKT	Skwentna	80.54	20		IAMs_20	IAMs_20	04 09 38.9	
	comp=Z,7μm,20.0s							
SKT	Skwentna	80.54	20		P	P	03 39 05.7	-1.2
	baz=225,SNR=9.5							
SKT					S	S	03 49 12.1	-1.0
	baz=225							
G17K	Kiwalik Mounta	80.58	14		P	P	03 39 07.7	+0.6
	baz=216							
G17K					S	S	03 49 16.1	+2.8
	baz=216							
P23K	Montague Islan	80.66	23		P	P	03 39 07.8	+0.2
	baz=229							
P23K					S	S	03 49 15.9	+1.5
	baz=229							
P23K					S	S	03 49 15.9	+1.5
	baz=229							
Q23K	Middleton Isla	80.70	24		P	P	03 39 07.9	+0.1
	baz=230							
Q23K					S	S	03 49 16.7	+1.9
	baz=230							
Q23K					S	S	03 49 16.7	+1.9
	baz=230							
K20K	Telida	80.72	18		IAmb	IAmb	03 39 16.7	
	comp=Z,315nm,1.6s							
K20K	Telida	80.72	18		P	P	03 39 08.6	+0.7
	baz=223							
K20K					S	S	03 49 18.4	+3.4
	baz=223							
K20K					S	S	03 49 18.4	+3.4
	baz=223							
J19K	Poorman	80.74	17		IAMs_20	IAMs_20	04 10 18.0	
	comp=Z,8μm,19.0s							
J19K	Poorman	80.74	17		P	P	03 39 08.9	+0.9
	baz=221,SNR=32							
J19K					S	S	03 49 17.5	+2.5
	baz=221							
J19K					S	S	03 49 17.5	+2.5
	baz=221							
M22K	Willow	80.86	21		P	P	03 39 08.1	-0.4
	baz=226,SNR=28							
M22K					S	S	03 49 17.5	+1.2
	baz=226							
H18K	Honhosa River	80.88	15		IAMs_20	IAMs_20	04 07 18.3	
	comp=Z,7μm,22.0s							
H18K	Honhosa River	80.88	15		P	P	03 39 08.5	-0.2
	baz=218							
H18K					S	S	03 49 18.9	+2.4
	baz=218							
PWL	Port Wells	80.89	22		IAmb	IAmb	03 39 15.7	
	comp=Z,168nm,1.2s							
PWL	Port Wells	80.89	22		P	P	03 39 08.8	0.0
	baz=228,SNR=16							
PWL					S	S	03 49 18.0	+1.2
	baz=228							
GCSA	Galena City Sc	80.96	16		P	P	03 39 09.5	+0.4
	baz=220,SNR=18							
GCSA					S	S	03 49 20.3	+3.0
	baz=220							
PPLA	Purkeypile	80.97	19		P	P	03 39 08.4	-1.0
	baz=224,SNR=9.0							
PPLA					S	S	03 49 16.6	-1.3
	baz=224							
JPG	JALPAIGURI	81.08	299		eP	P	03 39 12.6	+2.0
PMR	Palmer	81.09	21		IAmb	IAmb	03 39 17.5	
	comp=Z,279nm,1.6s							
PMR	Palmer	81.09	21		P	P	03 39 09.6	-0.2
	baz=227,SNR=22							
PMR					S	S	03 49 21.3	+2.5
	baz=227							
PMR	Palmer	81.09	21		P	P	03 39 10.7	+0.9
F17K	Baldwin Pennin	81.20	14		P	P	03 39 10.9	+0.6
	baz=215							
F17K					S	S	03 49 21.3	+1.6
	baz=215							
KNK	Knik Glacier	81.21	21		IAmb	IAmb	03 39 12.9	
	comp=Z,220nm,1.6s							
KNK	Knik Glacier	81.21	21		P	P	03 39 10.7	+0.1
	baz=228,SNR=9.5							
KNK					S	S	03 49 21.0	+0.8
	baz=228							
HIN	Hinchinbrook I	81.26	23		IAmb	IAmb	03 39 18.7	
	comp=Z,360nm,1.8s							
GHO	Glory Hole Cre	81.29	21		IAmb	IAmb	03 39 18.7	
	comp=Z,134nm,1.3s							
GHO					IAMs_20	IAMs_20	04 06 52.7	
	comp=Z,8μm,22.0s							
J20K	Nowinta River	81.31	17		IAmb	IAmb	03 39 19.7	
	comp=Z,362nm,1.8s							
J20K					IAMs_20	IAMs_20	04 09 56.1	
	comp=Z,9μm,20.0s							
J20K	Nowinta River	81.31	17		P	P	03 39 11.4	+0.5
	baz=222,SNR=29							
J20K					S	S	03 49 24.0	+3.1
	baz=222							
J20K					S	S	03 49 24.0	+3.1
	baz=222							
GLI	Glacier Island	81.35	22		P	P	03 39 11.2	-0.1
	baz=229,SNR=5.7							
GLI					S	S	03 49 22.0	+0.4
	baz=229							
CAST	Castle Rocks	81.38	19		IAMs_20	IAMs_20	04 14 14.2	
	comp=Z,6μm,20.0s							
CAST	Castle Rocks	81.38	19		P	P	03 39 10.9	-0.5
	baz=224,SNR=27							
CAST					S	S	03 49 22.2	+0.3
	baz=224							
G18K	Tagagawik	81.39	15		IAMs_20	IAMs_20	04 12 27.2	
	comp=Z,5μm,18.0s							
G18K	Tagagawik	81.39	15		P	P	03 39 11.3	-0.1
	baz=218,SNR=24							
G18K					S	S	03 49 24.8	+3.0
	baz=218							
GTK	Tadong	81.40	300	⇓i	P	P	03 39 13.7	+1.2
GTK					IAmb	IAmb	03 39 19.5	
	comp=Z,337nm,1.2s							
FID	Port Fidalgo	81.50	22		IAmb	IAmb	03 39 16.1	
	comp=Z,173nm,1.6s							
SML	Sawmill	81.52	21		IAmb	IAmb	03 39 14.5	
	comp=Z,246nm,1.5s							
SML	Sawmill	81.52	21		P	P	03 39 12.4	+0.2
	baz=228,SNR=13							
SML					S	S	03 49 26.1	+2.7
	baz=228							
E17K	Hotham Inlet	81.59	13		P	P	03 39 12.9	+0.5
	baz=215,SNR=40							
E17K					S	S	03 49 26.2	+2.3
	baz=215							
CHUM	Lake Minchumin	81.64	18		P	P	03 39 12.5	-0.2
	baz=224,SNR=16							
CHUM					S	S	03 49 24.5	+0.1
	baz=224							
EYAK	Cordova Ski Ar	81.65	23		P	P	03 39 13.0	+0.2
	baz=231,SNR=7.0							
EYAK					S	S	03 49 24.2	-0.4
	baz=231							
EYAK	Cordova Ski Ar	81.65	23		P	P	03 39 14.0	+1.2
I20K	Naaghedeneel	81.67	17		IAMs_20	IAMs_20	04 09 46.7	
	comp=Z,6μm,19.0s							
I20K	Naaghedeneel	81.67	17		P	P	03 39 13.7	+0.8
	baz=222,SNR=14							
I20K					S	SKSac	03 49 29.1	-2.9
	baz=222							
H19K	Roundabout Mou	81.68	16		IAMs_20	IAMs_20	04 13 34.8	
	comp=Z,8μm,20.0s							
H19K	Roundabout Mou	81.68	16		P	P	03 39 13.4	+0.5
	baz=220,SNR=31							
H19K					S	SKSac	03 49 28.8	-3.2
	baz=220							
F18K	Selawik	81.70	14		P	P	03 39 13.0	0.0
	baz=217,SNR=21							
F18K					S	S	03 49 26.7	+1.8
	baz=217							
M23K	Glacier View	81.73	21		P	P	03 39 13.5	+0.2
	baz=229							
M23K					S	S	03 49 28.7	+3.3
	baz=229							
KAIM	Kayak Island	81.78	24		IAmb	IAmb	03 39 15.4	
	comp=Z,121nm,1.0s							
KAIM					IAMs_20	IAMs_20	04 15 27.9	
	comp=Z,6μm,18.0s							
KAIM	Kayak Island	81.78	24		P	P	03 39 14.1	+0.6
	baz=232							
MOY	Mondy	81.81	326		eP	P	03 39 13.6	-0.5
MOY					pmax	pmax		
	comp=Z,451nm,4.2s							
D17K	Noatak River	81.83	12		P	P	03 39 14.0	+0.3
	baz=214,SNR=17							
D17K					S	S	03 49 27.7	+1.5
	baz=214							
KTH	Kantishna Hill	81.85	19		IAMs_20	IAMs_20	04 11 10.4	
	comp=Z,6μm,20.0s							
C16K	Lisburne Hills	81.86	11		IAMs_20	IAMs_20	04 08 44.6	
	comp=Z,8μm,22.0s							
C16K	Lisburne Hills	81.86	11		P	P	03 39 13.8	0.0
	baz=211							
C16K					S	S	03 49 26.3	-0.2
	baz=211							
SCM	Sheep Creek Mo	81.89	21		P	P	03 39 14.5	+0.3
	baz=229,SNR=10							
SCM					S	S	03 49 29.9	+2.6
	baz=229							
RAGM	Ragged Mountai	81.96	23		IAmb	IAmb	03 39 27.8	
	comp=Z,204nm,1.9s							
RAGM					IAMs_20	IAMs_20	04 12 23.7	
	comp=Z,5μm,19.0s							
TRF	Thorofare Moun	81.98	19		P	P	03 39 13.7	-1.1
	baz=226,SNR=13							
TRF					S	S	03 49 27.8	-0.5
	baz=226							
G19K	Purcell Mounta	81.98	15		IAMs_20	IAMs_20	04 08 38.9	
	comp=Z,7μm,22.0s							
G19K	Purcell Mounta	81.98	15		P	P	03 39 14.9	+0.4
	baz=219,SNR=43							
G19K					S	S	03 49 30.4	+2.5

	baz=219							
H20K	**Anotleneega Mo**	**82.08**	**16**	P	**P**	**03 39 15.4**	**+0.3**	
	baz=222,SNR=30							
H20K				S	**SKSac**	**03 49 33.1**	**-1.7**	
	baz=222							
HMT	**Hamilton**	**82.09**	**24**	IAmb	IAmb	03 39 23.5		
	comp=Z,296nm,1.8s							
HMT				IAMs_20	IAMs_20	04 15 38.1		
	comp=Z,5μm,19.0s							
WAT1	**Susitna Watana**	**82.13**	**20**	P	**P**	**03 39 14.8**	**-0.6**	
	baz=228							
WAT1				S	**S**	**03 49 31.8**	**+2.1**	
	baz=228							
E18K	**Tukpahlearik C**	**82.15**	**13**	IAmb	IAmb	03 39 17.7		
	comp=Z,131nm,1.1s							
E18K				IAMs_20	IAMs_20	04 09 24.8		
	comp=Z,6μm,21.0s							
E18K	**Tukpahlearik C**	**82.15**	**13**	P	**P**	**03 39 15.8**	**+0.5**	
	baz=216,SNR=23							
E18K				S	**S**	**03 49 32.5**	**+3.0**	
	baz=216							
RDOG	**Red Dog Mine**	**82.17**	**12**	IAmb	IAmb	03 39 17.8		
	comp=Z,210nm,1.2s							
RDOG				IAMs_20	IAMs_20	04 09 45.6		
	comp=Z,8μm,21.0s							
RDOG	**Red Dog Mine**	**82.17**	**12**	P	**P**	**03 39 15.5**	**0.0**	
	baz=214,SNR=15							
RDOG				S	**S**	**03 49 32.3**	**+2.6**	
	baz=214							
KLU	**Klutina**	**82.19**	**22**	IAmb	IAmb	03 39 24.1		
	comp=Z,193nm,1.7s							
KLU	**Klutina**	**82.19**	**22**	P	**P**	**03 39 15.9**	**+0.1**	
	baz=230,SNR=13							
KLU				S	**S**	**03 49 32.7**	**+2.4**	
	baz=230							
BPAW	**Bear Paw Mtn.**	**82.21**	**19**	IAmb	IAmb	03 39 16.9		
	comp=Z,215nm,2.0s							
BPAW				IAMs_20	IAMs_20	04 14 38.1		
	comp=Z,5μm,20.0s							
BPAW	**Bear Paw Mtn.**	**82.21**	**19**	P	**P**	**03 39 15.1**	**-0.6**	
	baz=225,SNR=8.4							
BPAW				S	**S**	**03 49 29.4**	**-1.0**	
	baz=225							
WAT6	**Susitna Watana**	**82.24**	**21**	P	**P**	**03 39 16.1**	**-0.1**	
	baz=229,SNR=26							
WAT6				S	**S**	**03 49 32.7**	**+1.6**	
	baz=229							
BERG	**Berg Lake**	**82.35**	**24**	IAmb	IAmb	03 39 18.8		
	comp=Z,201nm,1.1s							
BERG				IAMs_20	IAMs_20	04 15 44.9		
	comp=Z,5μm,19.0s							
BGLC	**Bering Glacier**	**82.35**	**24**	P	**P**	**03 39 17.1**	**+0.6**	
	baz=233							
F19K	**Shaleruckik Mo**	**82.35**	**15**	IAmb	IAmb	03 39 18.6		
	comp=Z,258nm,1.4s							
F19K	**Shaleruckik Mo**	**82.35**	**15**	P	**P**	**03 39 16.5**	**+0.2**	
	baz=219							
F19K				S	**S**	**03 49 33.2**	**+1.7**	
	baz=219							
BMRM	**Bremner River**	**82.35**	**23**	P	**P**	**03 39 16.5**	**-0.1**	
	baz=232,SNR=18							
BMRM				S	**S**	**03 49 32.6**	**+0.6**	
	baz=232							
RND	**Reindeer**	**82.42**	**20**	IAMs_20	IAMs_20	04 11 05.5		
	comp=Z,8μm,21.0s							
C17K	**DeLong Mountai**	**82.47**	**12**	P	**P**	**03 39 17.3**	**+0.3**	
	baz=213,SNR=17							
C17K				S	**S**	**03 49 33.5**	**+0.7**	
	baz=213							
M24K	**Tolsona, Glenn**	**82.49**	**22**	P	**P**	**03 39 18.2**	**+0.8**	
	baz=230,SNR=18							
M24K				S	**S**	**03 49 35.8**	**+2.5**	
	baz=230							
SNH	**Sunshine Point**	**82.56**	**24**	IAmb	IAmb	03 39 19.6		
	comp=Z,143nm,1.2s							
SNH				IAMs_20	IAMs_20	04 16 57.6		
	comp=Z,5μm,18.0s							
MCK	**McKinley**	**82.61**	**19**	P	**P**	**03 39 17.4**	**-0.5**	
	baz=227,SNR=21							
MCK				S	**S**	**03 49 34.0**	**-0.6**	
	baz=227							
DHY	**Denali Highway**	**82.70**	**20**	IAmb	IAmb	03 39 21.7		
	comp=Z,248nm,1.9s							
DHY				IAMs_20	IAMs_20	04 10 58.0		
	comp=Z,6μm,21.0s							
DHY	**Denali Highway**	**82.70**	**20**	P	**P**	**03 39 18.6**	**+0.1**	
	baz=229,SNR=16							
DHY				S	**S**	**03 49 35.0**	**-0.6**	
	baz=229							
WAX	**Waxell Ridge**	**82.72**	**24**	IAmb	IAmb	03 39 20.3		
	comp=Z,109nm,0.9s							
BWN	**Browne**	**82.74**	**19**	IAMs_20	IAMs_20	04 12 46.6		
	comp=Z,7μm,20.0s							
N25K	**Chitina, Valde**	**82.75**	**22**	IAmb	IAmb	03 39 27.0		
	comp=Z,167nm,1.4s							
N25K	**Chitina, Valde**	**82.75**	**22**	P	**P**	**03 39 19.1**	**+0.3**	
	baz=232,SNR=30							
N25K				S	**S**	**03 49 36.6**	**+0.4**	
	baz=232							
IMAR	**Indian Mountai**	**82.76**	**16**	P	**P**	**03 39 18.4**	**-0.2**	
H21K	**Melozitna Rive**	**82.78**	**17**	IAmb	IAmb	03 39 20.6		
	comp=Z,112nm,1.1s							
H21K				IAMs_20	IAMs_20	04 10 41.1		
	comp=Z,8μm,21.0s							
H21K	**Melozitna Rive**	**82.78**	**17**	P	**P**	**03 39 19.4**	**+0.6**	
	baz=224,SNR=39							
H21K				S	**SKSac**	**03 49 38.3**	**-1.2**	
	baz=224							
H21K				S	**SKSac**	**03 49 38.3**	**-1.2**	
	baz=224							
CRQM	**Cirque**	**82.79**	**24**	IAmb	IAmb	03 39 26.3		
	comp=Z,268nm,1.5s							
CRQE	**Cirque**	**82.80**	**24**	P	**P**	**03 39 19.1**	**0.0**	
	baz=233,SNR=18							
CRQE				S	**S**	**03 49 38.7**	**+1.9**	
	baz=233							
BOK	**Bokaro**	**82.81**	**296**	*e*P	**P**	**03 39 20.9**	**+1.1**	
TGL	**Tana Glacier**	**82.91**	**24**	IAmb	IAmb	03 39 21.0		
	comp=Z,92nm,1.1s							
MESA	**MESA**	**82.92**	**24**	IAmb	IAmb	03 39 21.6		
	comp=Z,91nm,0.9s							
MESA				IAMs_20	IAMs_20	04 16 59.1		
	comp=Z,4μm,18.0s							
MESA	**MESA**	**82.92**	**24**	P	**P**	**03 39 20.5**	**+0.7**	
	baz=234,SNR=11							
MESA				S	**SKSac**	**03 49 41.2**	**+0.2**	
	baz=234							
MLY	**Manley**	**82.94**	**18**	IAmb	IAmb	03 39 23.6		
	comp=Z,214nm,1.6s							
MLY				IAMs_20	IAMs_20	04 10 15.3		
	comp=Z,7μm,21.0s							
MLY	**Manley**	**82.94**	**18**	P	**P**	**03 39 19.4**	**-0.2**	
	baz=226,SNR=30							
MLY				S	**S**	**03 49 38.5**	**+0.6**	
	baz=226							
VRDI	**Verde Repeater**	**82.95**	**23**	IAmb	IAmb	03 39 26.9		
	comp=Z,222nm,1.8s							
VA02	**Isla de Pascua**	**82.96**	**116**	IAMs_20	IAMs_20	04 08 07.6		
	comp=Z,5μm,19.0s							
E19K	**Redstone River**	**82.97**	**14**	P	**P**	**03 39 20.2**	**+0.6**	
	baz=219							
E19K				S	**S**	**03 49 39.6**	**+1.6**	
	baz=219							
ISLE	**Juniper Island**	**83.01**	**24**	IAmb	IAmb	03 39 27.3		
	comp=Z,232nm,1.6s							
C18K	**Utukok River**	**83.02**	**12**	IAmb	IAmb	03 39 22.0		
	comp=Z,188nm,1.2s							
C18K				IAMs_20	IAMs_20	04 09 43.2		
	comp=Z,7μm,21.0s							
C18K	**Utukok River**	**83.02**	**12**	P	**P**	**03 39 19.8**	**-0.2**	
	baz=215							
C18K				S	**S**	**03 49 37.7**	**-0.9**	
	baz=215							
F20K	**Avaraart Lake**	**83.03**	**15**	IAmb	IAmb	03 39 22.6		
	comp=Z,144nm,1.2s							
F20K				IAMs_20	IAMs_20	04 09 22.5		
	comp=Z,6μm,21.0s							
F20K	**Avaraart Lake**	**83.03**	**15**	P	**P**	**03 39 20.7**	**+0.8**	
	baz=221							
F20K				S	**SKSac**	**03 49 40.5**	**-0.4**	
	baz=221							
HARP	**HAARP**	**83.04**	**22**	P	**P**	**03 39 20.1**	**0.0**	
	baz=231,SNR=16							
HARP				S	**SKSac**	**03 49 42.8**	**+1.4**	
	baz=231							
RPN	**Rapa Nui**	**83.06**	**116**	IAMs_20	IAMs_20	04 07 59.1		
	comp=Z,6μm,21.0s							
YAH	**Yahtse**	**83.11**	**24**	IAMs_20	IAMs_20	04 17 06.0		
	comp=Z,5μm,18.0s							
NEA2	**Nenana**	**83.16**	**19**	IAmb	IAmb	03 39 21.9		
	comp=Z,233nm,1.5s							
NEA2				IAMs_20	IAMs_20	04 12 19.1		
	comp=Z,6μm,21.0s							
NEA2	**Nenana**	**83.16**	**19**	P	**P**	**03 39 19.9**	**-0.8**	
	baz=227,SNR=11							
NEA2				S	**S**	**03 49 38.7**	**-1.3**	
	baz=227							
MCARA	**McCarthy VSAT**	**83.21**	**23**	IAmb	IAmb	03 39 28.3		
	comp=Z,116nm,1.2s							
MCARA	**McCarthy VSAT**	**83.21**	**23**	P	**P**	**03 39 21.7**	**+0.6**	
	baz=233,SNR=14							
MCARA				S	**S**	**03 49 40.2**	**-0.5**	
	baz=233							
G21K	**Allakaket**	**83.22**	**16**	IAmb	IAmb	03 39 23.3		
	comp=Z,219nm,1.4s							
G21K				IAMs_20	IAMs_20	04 11 57.2		
	comp=Z,8μm,20.0s							
G21K	**Allakaket**	**83.22**	**16**	P	**P**	**03 39 21.2**	**+0.3**	
	baz=223							
G21K				S	**S**	**03 49 40.9**	**+0.4**	
	baz=223							
PAX	**Paxson**	**83.29**	**21**	P	**P**	**03 39 21.4**	**-0.1**	
	baz=231,SNR=13							
PAX				S	**S**	**03 49 41.9**	**+0.3**	
	baz=231							
H22K	**Ishtalitna Cre**	**83.36**	**17**	P	**P**	**03 39 22.1**	**+0.4**	
	baz=225							
H22K				S	**SKSac**	**03 49 43.8**	**+0.5**	
	baz=225							
H22K				S	**SKSac**	**03 49 43.8**	**+0.5**	
	baz=225							
WRH	**Wood River Hil**	**83.39**	**19**	IAmb	IAmb	03 39 26.4		
	comp=Z,61nm,0.8s							
WRH				IAMs_20	IAMs_20	04 12 08.2		
	comp=Z,8μm,20.0s							
TABL	**Table Mountain**	**83.40**	**24**	IAmb	IAmb	03 39 37.5		
	comp=Z,148nm,1.1s							
I23K	**Minto, Yukon-K**	**83.45**	**18**	IAMs_20	IAMs_20	04 10 29.7		
	comp=Z,6μm,21.0s							
I23K	**Minto, Yukon-K**	**83.45**	**18**	P	**P**	**03 39 21.7**	**-0.4**	
	baz=227,SNR=7.4							
I23K				S	**S**	**03 49 43.3**	**+0.5**	
	baz=227							
I23K				S	**S**	**03 49 43.3**	**+0.5**	
	baz=227							
B18K	**Kokolik River**	**83.48**	**12**	P	**P**	**03 39 22.7**	**+0.5**	
	baz=215							
B18K				S	**SKSac**	**03 49 44.1**	**+0.2**	
	baz=215							
PINM	**Pinnacle**	**83.57**	**25**	P	**P**	**03 39 23.2**	**+0.3**	
	baz=236,SNR=15							
PINM				S	**SKSac**	**03 49 45.5**	**+0.5**	
	baz=236							
D19K	**Kuna River**	**83.57**	**13**	IAmb	IAmb	03 39 25.0		
	comp=Z,160nm,1.3s							
D19K				IAMs_20	IAMs_20	04 10 11.5		
	comp=Z,5μm,19.0s							
D19K	**Kuna River**	**83.57**	**13**	P	**P**	**03 39 23.0**	**+0.2**	
	baz=218							
D19K				S	**S**	**03 49 44.3**	**+0.1**	
	baz=218							
CCB	**Clear Creek Bu**	**83.60**	**19**	IAmb	IAmb	03 39 23.2		
	comp=Z,110nm,1.5s							
CCB				IAMs_20	IAMs_20	04 12 23.7		
	comp=Z,7μm,19.0s							
CTG	**Chitna Glacier**	**83.62**	**24**	P	**P**	**03 39 23.8**	**+0.4**	
	baz=235,SNR=17							
CTGM	**Chitina Glacie**	**83.63**	**24**	IAmb	IAmb	03 39 25.0		
	comp=Z,106nm,1.0s							
LOGN	**Logan Glacier**	**83.68**	**24**	IAmb	IAmb	03 39 25.2		
	comp=Z,97nm,1.1s							
PNL	**Peninsula**	**83.69**	**26**	P	**P**	**03 39 23.7**	**+0.2**	
	baz=236,SNR=5.6							
PNL				S	**SKSac**	**03 49 47.3**	**+1.6**	
	baz=236							
K24K	**Donnelly Dome**	**83.72**	**20**	P	**P**	**03 39 23.8**	**+0.2**	
	baz=230,SNR=20							
K24K				S	**SKSac**	**03 49 46.9**	**+1.1**	
	baz=230							
K24K				S	**SKSac**	**03 49 46.9**	**+1.1**	
	baz=230							
HDA	**Harding Lake**	**83.72**	**20**	IAMs_20	IAMs_20	04 13 15.9		
	comp=Z,8μm,20.0s							
HDA	**Harding Lake**	**83.72**	**20**	P	**P**	**03 39 23.1**	**-0.4**	
	baz=229,SNR=28							
HDA				S	**S**	**03 49 45.0**	**-0.7**	
	baz=229							
C19K	**Lookout Ridge**	**83.73**	**13**	IAMs_20	IAMs_20	04 10 50.1		
	comp=Z,8μm,22.0s							
C19K	**Lookout Ridge**	**83.73**	**13**	P	**P**	**03 39 24.2**	**+0.6**	
	baz=217,SNR=27							
C19K				S	**SKSac**	**03 49 46.7**	**+1.0**	
	baz=217							
COLA	**College**	**83.73**	**19**	P	**P**	**03 39 22.6**	**-0.9**	
COLA				IAmb	IAmb	03 39 24.6		
	comp=Z,122nm,1.1s							
COLA	**College**	**83.73**	**19**	IAMs_20	IAMs_20	04 12 36.2		
	comp=Z,6μm,20.0s							
COLA	**College**	**83.73**	**19**	P	**P**	**03 39 22.9**	**-0.6**	
	baz=228							
COLA				S	**SKSac**	**03 49 47.3**	**+1.6**	
	baz=228							
COLA	**College**	**83.73**	**19**	P	**P**	**03 39 23.7**	**+0.1**	
COLA	**College**	**83.73**	**19**	⇓P	**P**	**03 39 22.0**	**-1.6**	
COLA	**College**	**83.73**	**19**	*d*P	**P**	**03 39 22.5**	**-1.1**	
COLA				pmax	pmax			
	comp=Z,198nm,1.5s							
BCPM	**Bancas Point**	**83.74**	**25**	IAmb	IAmb	03 39 25.2		
	comp=Z,181nm,1.4s							
BCPM				IAMs_20	IAMs_20	04 15 33.9		
	comp=Z,5μm,19.0s							
F21K	**Alatna River**	**83.74**	**16**	IAmb	IAmb	03 39 25.9		
	comp=Z,144nm,1.2s							
F21K	**Alatna River**	**83.74**	**16**	P	**P**	**03 39 23.9**	**+0.3**	
	baz=223,SNR=25							
F21K				S	**SKSac**	**03 49 47.7**	**+1.9**	
	baz=223							
DIB	**Dawson Inlet,**	**83.75**	**33**	IAmb	IAmb	03 39 32.2		
	comp=Z,222nm,1.5s							
M26K	**Nabesna, AK**	**83.84**	**22**	IAmb	IAmb	03 39 25.8		
	comp=Z,78nm,1.1s							
M26K	**Nabesna, AK**	**83.84**	**22**	P	**P**	**03 39 24.6**	**+0.3**	
	baz=233,SNR=17							
M26K				S	**SKSac**	**03 49 49.4**	**+2.7**	
	baz=233							
M26K				S	**SKSac**	**03 49 49.4**	**+2.7**	
	baz=233							
E20K	**Nigu River**	**83.84**	**14**	P	**P**	**03 39 24.9**	**+0.7**	
	baz=220							
E20K				S	**S**	**03 49 49.7**	**+2.8**	
	baz=220							
H23K	**Yukon River**	**83.86**	**18**	IAMs_20	IAMs_20	04 13 51.5		
	comp=Z,7μm,20.0s							
H23K	**Yukon River**	**83.86**	**18**	P	**P**	**03 39 24.5**	**+0.2**	
	baz=227,SNR=24							
H23K				S	**SKSac**	**03 49 46.7**	**+0.1**	
	baz=227							
H23K				S	**SKSac**	**03 49 46.7**	**+0.1**	
	baz=227							
MENT	**Mentasta**	**83.90**	**22**	IAmb	IAmb	03 39 41.7		
	comp=Z,84nm,1.2s							
MENT	**Mentasta**	**83.90**	**22**	P	**P**	**03 39 26.2**	**+1.6**	
O28M	**Mount Upton**	**83.97**	**24**	P	**P**	**03 39 25.9**	**+0.6**	
	baz=236							
O28M				S	**S**	**03 49 50.7**	**+1.7**	
	baz=236							
IL31		**83.98**	**19**	IAmb	IAmb	03 39 31.2		
	comp=Z,193nm,1.4s							
ILAR	**Eielson Array**	**83.98**	**19**	P	**P**	**03 39 23.2**	**-1.6**	
	comp=Z,59nm,1.1s,baz=241,slow=5.0,SNR=49							
ILAR				S	**SKSac**	**03 49 48.1**	**+0.8**	
	comp=Z,0.6nm,1.0s,baz=232,slow=5.6,SNR=2.7							
ILAR				PKKPbc	**PKKPbc**	**03 57 40.4**	**-2.8**	
	comp=Z,0.4nm,0.6s,baz=349,slow=1.3,SNR=7.2							
ILAR				LR	LR	04 12 45.8		
	comp=Z,7μm,20.1s,baz=224,slow=33							
	comp=Z,59nm,1.1s							
RIDG	**Independent Ri**	**84.00**	**21**	IAmb	IAmb	03 39 26.4		
	comp=Z,152nm,1.3s							
RIDG				IAMs_20	IAMs_20	04 11 15.4		
	comp=Z,6μm,20.0s							
RIDG	**Independent Ri**	**84.00**	**21**	P	**P**	**03 39 24.9**	**-0.2**	
	baz=231							
POKR	**Poker Plat Res**	**84.03**	**19**	IAMs_20	IAMs_20	04 12 46.1		
	comp=Z,6μm,19.0s							
POKR	**Poker Plat Res**	**84.03**	**19**	P	**P**	**03 39 24.5**	**-0.7**	
	baz=229,SNR=13							
POKR				S	**SKSac**	**03 49 46.3**	**-1.4**	
	baz=229							
POKR				S	**SKSac**	**03 49 46.3**	**-1.4**	
	baz=229							
KMPM	**Mount Pierce**	**84.04**	**47**	IAMs_20	IAMs_20	04 12 11.4		
	comp=Z,6μm,18.0s							
G22K	**Bettles**	**84.06**	**16**	P	**P**	**03 39 25.4**	**+0.2**	
	baz=225							
G22K				S	**SKSac**	**03 49 48.3**	**+0.6**	
	baz=225							
L26K	**Log Cabin Wild**	**84.09**	**22**	IAmb	IAmb	03 39 28.3		
	comp=Z,300nm,2.0s							
L26K	**Log Cabin Wild**	**84.09**	**22**	P	**P**	**03 39 26.0**	**+0.5**	
	baz=233,SNR=14							
L26K				S	**S**	**03 49 51.6**	**+2.1**	
	baz=233							
L26K				S	**S**	**03 49 51.6**	**+2.1**	
	baz=233							
D20K	**Etivluk River**	**84.09**	**14**	P	**P**	**03 39 25.6**	**+0.2**	
	baz=220							
D20K				S	**SKSac**	**03 49 48.5**	**+0.5**	
	baz=220							
MAW	**Mawson**	**84.11**	**202**	P	**P**	**03 39 25.5**	**-0.1**	
	comp=Z,17nm,0.6s,baz=109,slow=6.2,SNR=47							
MAW				S	**SKSac**	**03 49 47.7**	**-0.6**	
	comp=Z,0.4nm,0.7s,baz=65,slow=19,SNR=1.0							
MAW				PKKPbc	**PKKPbc**	**03 57 39.6**	**-2.4**	
	comp=Z,2.0nm,0.9s,baz=238,slow=2.6,SNR=4.2							
	comp=Z,17nm,0.6s							
SIT	**Sitka**	**84.14**	**29**	P	**P**	**03 39 26.1**	**+0.3**	
	baz=240							
SIT				S	**S**	**03 49 53.4**	**+3.3**	
	baz=240							
SIT	**Sitka**	**84.14**	**29**	P	**P**	**03 39 27.3**	**+1.5**	
S31K	**Pelican**	**84.17**	**28**	P	**P**	**03 39 26.6**	**+0.7**	
	baz=240,SNR=6.5							
S31K				S	**S**	**03 49 52.3**	**+1.9**	
	baz=240							
S31K				S	**S**	**03 49 52.3**	**+1.9**	
	baz=240							
KCPM	**Cahto Peak**	**84.19**	**48**	IAmb	IAmb	03 39 28.4		
	comp=Z,156nm,1.4s							
JHSG	**JHARSUGUGA**	**84.19**	**293**	⇓*i*P	**P**	**03 39 27.5**	**+0.6**	
JHSG				IAmb	IAmb	03 39 32.9		
	comp=Z,608nm,1.5s							
M27K	**Edge Creek, AK**	**84.23**	**23**	P	**P**	**03 39 27.2**	**+0.8**	
	baz=234							
JCC	**Jacoby Creek,**	**84.23**	**47**	IAMs_20	IAMs_20	04 14 35.6		
	comp=Z,7μm,18.0s							
KMRM	**Mail Ridge**	**84.27**	**47**	IAMs_20	IAMs_20	04 12 11.4		
	comp=Z,6μm,18.0s							
F22K	**John River**	**84.30**	**16**	P	**P**	**03 39 27.2**	**+0.7**	
	baz=224							
F22K				S	**S**	**03 49 52.7**	**+1.3**	
	baz=224							
A19K	**Wainwright**	**84.32**	**12**	P	**P**	**03 39 26.8**	**+0.3**	
	baz=215,SNR=9.1							
A19K				S	**S**	**03 49 51.2**	**-0.2**	
	baz=215							
MALK	**Mahakanadarawa**	**84.32**	**280**	P	**P**	**03 39 26.3**	**-1.4**	
G23K	**Bananza Creek**	**84.33**	**17**	IAmb	IAmb	03 39 28.5		
	comp=Z,73nm,1.0s							
G23K				IAMs_20	IAMs_20	04 13 49.0		
	comp=Z,8μm,20.0s							
G23K	**Bananza Creek**	**84.33**	**17**	P	**P**	**03 39 27.2**	**+0.6**	
	baz=226,SNR=26							
G23K				S	**S**	**03 49 54.4**	**+2.6**	
	baz=226							
H24K	**Noodor Dome**	**84.37**	**18**	IAMs_20	IAMs_20	04 09 04.1		
	comp=Z,6μm,20.0s							
H24K	**Noodor Dome**	**84.37**	**18**	P	**P**	**03 39 26.6**	**-0.3**	
	baz=228							
H24K				S	**S**	**03 49 52.1**	**-0.2**	
	baz=228							
H24K				S	**S**	**03 49 52.1**	**-0.2**	
	baz=228							
J25K	**Salcha River,**	**84.37**	**20**	IAmb	IAmb	03 39 28.2		
	comp=Z,80nm,0.9s							
J25K				IAMs_20	IAMs_20	04 13 37.3		
	comp=Z,7μm,20.0s							
J25K	**Salcha River,**	**84.37**	**20**	P	**P**	**03 39 27.4**	**+0.5**	
	baz=231							
J25K				S	**S**	**03 49 55.2**	**+2.9**	
	baz=231							
J25K				S	**S**	**03 49 55.2**	**+2.9**	
	baz=231							
P29M	**Windy Craggy**	**84.37**	**26**	P	**P**	**03 39 27.8**	**+0.7**	
	baz=238							
P29M				S	**S**	**03 49 55.9**	**+3.4**	
	baz=238							
O29M	**Mount Kennedy**	**84.38**	**25**	IAmb	IAmb	03 40 02.9		
	comp=Z,206nm,1.9s							
O29M				IAMs_20	IAMs_20	04 16 03.7		
	comp=Z,5μm,18.0s							
O29M	**Mount Kennedy**	**84.38**	**25**	P	**P**	**03 39 27.9**	**+0.7**	
	baz=237,SNR=9.6							
O29M				S	**S**	**03 49 57.1**	**+4.4**	
	baz=237							
YUK8	**Steele Glacier**	**84.43**	**24**	P	**P**	**03 39 28.5**	**+0.9**	
	baz=236,SNR=30							
YUK8				S	**S**	**03 49 56.5**	**+3.0**	
	baz=236							
YUK3	**Moose Creek**	**84.44**	**23**	P	**P**	**03 39 28.2**	**+0.7**	
	baz=235,SNR=34							
YUK3				S	**S**	**03 49 55.6**	**+2.1**	
	baz=235							
SCRK	**Sand Creek**	**84.44**	**21**	P	**P**	**03 39 28.0**	**+0.6**	
	baz=232,SNR=24							
SCRK				S	**S**	**03 49 56.8**	**+3.6**	
	baz=232							
CRAG	**Craig**	**84.46**	**31**	IAMs_20	IAMs_20	04 13 10.2		
	comp=Z,6μm,18.0s							
CRAG	**Craig**	**84.46**	**31**	P	**P**	**03 39 27.6**	**+0.2**	
	baz=242							
CRAG				S	**S**	**03 49 56.6**	**+3.3**	
	baz=242							
KHMM	**Horse Mountain**	**84.47**	**47**	IAmb	IAmb	03 39 30.2		
	comp=Z,121nm,1.3s							
KHMM				IAMs_20	IAMs_20	04 14 25.7		
	comp=Z,7μm,18.0s							
E21K	**Killik River**	**84.52**	**15**	IAmb	IAmb	03 39 30.0		
	comp=Z,171nm,1.2s							
E21K	**Killik River**	**84.52**	**15**	P	**P**	**03 39 28.2**	**+0.6**	
	baz=222							
E21K				S	**S**	**03 49 56.3**	**+2.7**	
	baz=222							
KRMB	**Red Mountain**	**84.55**	**46**	IAmb	IAmb	03 39 30.5		
	comp=Z,148nm,1.6s							
KBO	**Bosley Butte**	**84.56**	**45**	IAMs_20	IAMs_20	04 11 38.0		
	comp=Z,7μm,18.0s							
R31K	**City Hall, Gus**	**84.63**	**28**	P	**P**	**03 39 28.6**	**+0.3**	
	baz=240							
R31K				S	**S**	**03 49 58.1**	**+3.2**	
	baz=240							
COLD	**Coldfoot**	**84.64**	**17**	P	**P**	**03 39 29.2**	**+1.1**	
	baz=226,SNR=21							
COLD				S	**S**	**03 49 58.2**	**+3.4**	
	baz=226							
BVCY	**Beaver Creek**	**84.65**	**23**	P	**P**	**03 39 29.2**	**+0.8**	
	baz=235,SNR=26							
BVCY				S	**S**	**03 49 58.2**	**+3.1**	
	baz=235							
L27K	**Beaver Creek,**	**84.66**	**22**	P	**P**	**03 39 29.4**	**+0.9**	
	baz=234							
L27K				S	**S**	**03 49 58.9**	**+3.6**	
	baz=234		

C21K				S	S	03 49 58.3	+1.4
	baz=221						
PLBC	**Pleasant Camp**	**84.88**	**27**	P	**P**	**03 39 29.7**	**+0.2**
	baz=239,SNR=14						
SAO	**San Andreas Ge**	**84.88**	**51**	IAmb	IAmb	03 39 31.6	
	comp=Z,123nm,1.6s						
SAO	**San Andreas Ge**	**84.88**	**51**	⇑P	**P**	**03 39 30.6**	**+0.5**
PRP	**Porcupine Dome**	**84.90**	**19**	IAMs_20	IAMs_20	04 13 51.1	
	comp=Z,7μm,20.0s						
PRP	**Porcupine Dome**	**84.90**	**19**	P	**P**	**03 39 28.9**	**-0.8**
	baz=230						
J26L	**Joseph Creek**	**84.91**	**20**	IAmb	IAmb	03 39 41.8	
	comp=Z,141nm,1.8s						
J26L				IAMs_20	IAMs_20	04 11 55.6	
	comp=Z,6μm,21.0s						
J26L	**Joseph Creek**	**84.91**	**20**	P	**P**	**03 39 30.7**	**+1.0**
	baz=232						
J26L				S	**S**	**03 50 00.8**	**+3.0**
	baz=232						
J26L				S	**S**	**03 50 00.8**	**+3.0**
	baz=232						
YUK4	**Talbot Arm**	**84.92**	**24**	P	**P**	**03 39 31.1**	**+1.1**
	baz=237,SNR=26						
YUK4				S	**S**	**03 50 02.2**	**+4.0**
	baz=237						
O02D	**Mt. Diablo Mer**	**84.92**	**48**	P	**P**	**03 39 31.1**	**+0.8**
O02D				IAmb	IAmb	03 39 32.4	
	comp=Z,91nm,1.2s						
O02D				IAMs_20	IAMs_20	04 10 20.9	
	comp=Z,5μm,20.0s						
P30M	**Million Dollar**	**84.97**	**26**	P	**P**	**03 39 30.7**	**+0.7**
	baz=239						
B20K	**Meade River**	**84.97**	**13**	IAmb	IAmb	03 39 31.4	
	comp=Z,108nm,1.1s						
B20K				IAMs_20	IAMs_20	04 10 12.8	
	comp=Z,7μm,22.0s						
B20K	**Meade River**	**84.97**	**13**	P	**P**	**03 39 30.2**	**+0.5**
	baz=219						
B20K				S	**S**	**03 49 59.2**	**+1.3**
	baz=219						
L02F	**Cave Junction**	**84.99**	**46**	IAmb	IAmb	03 39 32.3	
	comp=Z,113nm,1.6s						
L02F				IAMs_20	IAMs_20	04 11 42.4	
	comp=Z,6μm,20.0s						
G24K	**Hadweenzic Riv**	**85.07**	**18**	IAMs_20	IAMs_20	04 09 47.5	
	comp=Z,6μm,20.0s						
G24K	**Hadweenzic Riv**	**85.07**	**18**	P	**P**	**03 39 30.7**	**+0.3**
	baz=228,SNR=31						
G24K				S	**S**	**03 50 01.9**	**+2.8**
	baz=228						
HYT	**Haines Junctio**	**85.11**	**25**	IAmb	IAmb	03 39 39.3	
	comp=Z,272nm,1.9s						
HYT				IAMs_20	IAMs_20	04 15 52.9	
	comp=Z,5μm,20.0s						
HYT	**Haines Junctio**	**85.11**	**25**	P	**P**	**03 39 31.3**	**+0.5**
	baz=238,SNR=14						
HYT				S	**S**	**03 50 01.4**	**+1.5**
	baz=238						
K02D	**Willamette Mer**	**85.11**	**45**	IAmb	IAmb	03 39 32.9	
	comp=Z,84nm,1.2s						
R32K	**Eaglecrest**	**85.12**	**28**	IAmb	IAmb	03 39 39.4	
	comp=Z,140nm,1.8s						
R32K	**Eaglecrest**	**85.12**	**28**	P	**P**	**03 39 31.0**	**+0.3**
	baz=241						
R32K				S	**S**	**03 50 04.3**	**+4.4**
	baz=241						
R32K				S	**S**	**03 50 04.3**	**+4.4**
	baz=241						
BBGB	**Big Mountain B**	**85.14**	**52**	IAmb	IAmb	03 39 44.8	
	comp=Z,139nm,1.2s						
K27K	**Chicken**	**85.15**	**21**	P	**P**	**03 39 31.9**	**+1.1**
	baz=234						
K27K				S	**S**	**03 50 03.2**	**+3.3**
	baz=234						
K27K				S	**S**	**03 50 03.2**	**+3.3**
	baz=234						
V35K	**Ketchikan**	**85.16**	**31**	IAmb	IAmb	03 39 33.1	
	comp=Z,166nm,1.6s						
V35K				IAMs_20	IAMs_20	04 14 33.8	
	comp=Z,6μm,18.0s						
V35K	**Ketchikan**	**85.16**	**31**	P	**P**	**03 39 31.0**	**0.0**
	baz=244,SNR=7.9						
D22K	**Ayikyak River**	**85.16**	**15**	IAMs_20	IAMs_20	04 09 55.9	
	comp=Z,6μm,22.0s						
D22K	**Ayikyak River**	**85.16**	**15**	P	**P**	**03 39 31.6**	**+0.8**
	baz=223						
D22K				S	**S**	**03 50 03.0**	**+3.0**
	baz=223						
T33K	**Petersburg**	**85.17**	**30**	P	**P**	**03 39 31.1**	**+0.1**
	baz=242						
T33K				S	**S**	**03 50 04.2**	**+3.9**
	baz=242						
JIS	**Juneau Island**	**85.18**	**28**	P	**P**	**03 39 32.6**	**+1.6**
TIXI	**Tiksi**	**85.23**	**350**	P	**P**	**03 39 30.4**	**-0.7**
TIXI	**Tiksi**	**85.23**	**350**	IAMs_20	IAMs_20	04 12 00.2	
	comp=Z,8μm,22.0s						
TIXI	**Tiksi**	**85.23**	**350**	P	**P**	**03 39 30.2**	**-0.8**
	comp=Z,42nm,0.9s,baz=151,slow=7.1,SNR=17						
TIXI				S	**SKSac**	**03 49 53.3**	**-1.8**
	comp=Z,3.5nm,0.3s,baz=111,slow=16,SNR=2.7						
	comp=Z,42nm,0.9s						
TIXI	**Tiksi**	**85.23**	**350**	⇑P	**P**	**03 39 30.4**	**-0.7**
TIXI	**Tiksi**	**85.23**	**350** *d*	*i*P	**P**	**03 39 30.3**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,151nm,1.3s						
TIXI				MLR	MLR		
	comp=Z,4μm,15.0s						
B21K	**Ikpikpuk River**	**85.25**	**14**	IAmb	IAmb	03 39 33.1	
	comp=Z,129nm,1.1s						
B21K				IAMs_20	IAMs_20	04 09 45.1	
	comp=Z,6μm,22.0s						
B21K	**Ikpikpuk River**	**85.25**	**14**	P	**P**	**03 39 32.0**	**+0.8**
	baz=222						
B21K				S	**S**	**03 50 02.8**	**+2.1**
	baz=222						
WRAK	**Wrangell Islan**	**85.28**	**30**	IAMs_20	IAMs_20	04 13 53.0	
	comp=Z,7μm,19.0s						
WRAK	**Wrangell Islan**	**85.28**	**30**	P	**P**	**03 39 31.4**	**-0.2**
	baz=243						
WRAK				S	**S**	**03 50 04.5**	**+3.0**
	baz=243						
SKAG	**Skagway**	**85.34**	**27**	P	**P**	**03 39 32.0**	**+0.3**
	baz=240,SNR=9.9						
SKAG				S	**S**	**03 50 04.8**	**+2.8**
	baz=240						
SKAG	**Skagway**	**85.34**	**27**	⇑P	**P**	**03 39 32.1**	**+0.3**
E23K	**Chandalar**	**85.38**	**16**	IAMs_20	IAMs_20	04 13 46.7	
	comp=Z,8μm,20.0s						
E23K	**Chandalar**	**85.38**	**16**	P	**P**	**03 39 32.7**	**+0.7**
	baz=226,SNR=33						
E23K				S	**S**	**03 50 04.7**	**+2.4**
	baz=226						
SNCC	**San Nicolas Is**	**85.40**	**55**	IAmb	IAmb	03 39 34.4	
	comp=Z,197nm,1.4s						
VLK	**Valmikinagar**	**85.46**	**299**	*e*P	**P**	**03 39 34.2**	**+1.1**
YBH	**Yreka Blue Hor**	**85.47**	**46**	P	**P**	**03 39 33.5**	**+0.5**
YBH				IAmb	IAmb	03 39 34.9	
	comp=Z,96nm,1.4s						
YBH	**Yreka Blue Hor**	**85.47**	**46**	P	**P**	**03 39 33.5**	**+0.5**
YBH				pmax	pmax		
	comp=Z,96nm,1.4s						
F24K	**Squaw Lake**	**85.49**	**17**	IAmb	IAmb	03 39 35.9	
	comp=Z,274nm,1.7s						
F24K				IAMs_20	IAMs_20	04 15 32.8	
	comp=Z,7μm,20.0s						
F24K	**Squaw Lake**	**85.49**	**17**	P	**P**	**03 39 33.6**	**+1.1**
	baz=228,SNR=24						
F24K				S	**S**	**03 50 04.9**	**+1.6**
	baz=228						
G25K	**Bearman Lake**	**85.52**	**18**	P	**P**	**03 39 33.4**	**+0.8**
	baz=230						
G25K				S	**S**	**03 50 06.7**	**+3.2**
	baz=230						
DBO	**Dodson Butte**	**85.54**	**45**	IAmb	IAmb	03 39 35.0	
	comp=Z,111nm,1.5s						
DBO				IAMs_20	IAMs_20	04 15 39.0	
	comp=Z,6μm,19.0s						
I26K	**Coal Creek Min**	**85.54**	**20**	IAMs_20	IAMs_20	04 13 25.5	
	comp=Z,8μm,20.0s						
I26K	**Coal Creek Min**	**85.54**	**20**	P	**P**	**03 39 33.5**	**+0.8**
	baz=233						
I26K				S	**S**	**03 50 04.5**	**+0.7**
	baz=233						
I26K				S	**S**	**03 50 04.5**	**+0.7**
	baz=233						
MDRS	**Chennai**	**85.56**	**284**	*e*P	**P**	**03 39 34.8**	**+0.9**
HUMO	**Hull Mountain**	**85.57**	**45**	IAmb	IAmb	03 39 44.0	
	comp=Z,104nm,1.4s						
HUMO				IAMs_20	IAMs_20	04 16 41.9	
	comp=Z,6μm,19.0s						
HUMO	**Hull Mountain**	**85.57**	**45**	⇓P	**P**	**03 39 34.1**	**+0.7**
M29M	**Somme Creek**	**85.59**	**23**	IAmb	IAmb	03 39 41.8	
	comp=Z,205nm,1.8s						
M29M	**Somme Creek**	**85.59**	**23**	P	**P**	**03 39 34.1**	**+0.9**
	baz=237						
M29M				S	**S**	**03 50 06.3**	**+1.7**
	baz=237						
N30M	**Aishikik Lake**	**85.61**	**25**	IAmb	IAmb	03 39 43.1	
	comp=Z,204nm,1.9s						
N30M				IAMs_20	IAMs_20	04 17 50.3	
	comp=Z,5μm,19.0s						
N30M	**Aishikik Lake**	**85.61**	**25**	P	**P**	**03 39 33.6**	**+0.3**
	baz=238,SNR=12						
FYU	**Fort Yukon**	**85.66**	**18**	IAMs_20	IAMs_20	04 12 21.2	
	comp=Z,6μm,20.0s						
O30N	**Mendenhall**	**85.67**	**25**	IAmb	IAmb	03 39 35.9	
	comp=Z,142nm,1.8s						
O30N				IAMs_20	IAMs_20	04 18 44.9	
	comp=Z,5μm,19.0s						
O30N	**Mendenhall**	**85.67**	**25**	P	**P**	**03 39 33.6**	**0.0**
	baz=239,SNR=8.6						
O30N				S	**S**	**03 50 06.1**	**+0.8**
	baz=239						
E24K	**Your Creek**	**85.70**	**16**	IAmb	IAmb	03 39 42.5	
	comp=Z,150nm,1.8s						
E24K				IAMs_20	IAMs_20	04 13 35.2	
	comp=Z,8μm,20.0s						
E24K	**Your Creek**	**85.70**	**16**	P	**P**	**03 39 34.2**	**+0.6**
	baz=228						
E24K				S	**S**	**03 50 06.3**	**+0.9**
	baz=228						
VAR	**Varanasi**	**85.71**	**297**	*e*P	**P**	**03 39 34.7**	**+0.3**
BBB	**Bella Bella**	**85.73**	**35**	IAMs_20	IAMs_20	04 22 32.1	
	comp=Z,4μm,18.0s						
D23K	**Nanushuk River**	**85.73**	**15**	IAMs_20	IAMs_20	04 14 21.0	
	comp=Z,8μm,20.0s						
D23K	**Nanushuk River**	**85.73**	**15**	P	**P**	**03 39 34.6**	**+0.9**
	baz=225						
D23K				S	**S**	**03 50 07.4**	**+1.8**
	baz=225						
BLSP	**Bilaspur**	**85.76**	**293**	⇓*i*P	**P**	**03 39 34.5**	**-0.3**
TOLK	**Toolik Lake Re**	**85.80**	**16**	IAmb	IAmb	03 39 35.9	
	comp=Z,105nm,1.4s						
TOLK	**Toolik Lake Re**	**85.80**	**16**	P	**P**	**03 39 34.8**	**+0.8**
	baz=226,SNR=18						
TOLK				S	**S**	**03 50 06.4**	**+0.1**
	baz=226						
TOLK				S	**S**	**03 50 06.4**	**+0.1**
	baz=226						
L04D	**Klamath Falls**	**85.91**	**46**	IAmb	IAmb	03 39 36.7	
	comp=Z,113nm,1.3s						
EGAK	**Eagle**	**85.91**	**21**	P	**P**	**03 39 35.3**	**+0.7**
	baz=234,SNR=26						
EGAK				S	**S**	**03 50 07.3**	**-0.1**
	baz=234						
EGAK	**Eagle**	**85.91**	**21**	⇓P	**P**	**03 39 35.2**	**+0.6**
COR	**Corvallis**	**85.98**	**43**	P	**P**	**03 39 35.9**	**+0.6**
COR	**Corvallis**	**85.98**	**43**	P	**P**	**03 39 35.9**	**+0.6**
COR				pmax	pmax		
	comp=Z,423nm,2.0s						
OZB	**Mount Ozzard**	**86.06**	**39**	IAMs_20	IAMs_20	04 12 41.1	
	comp=Z,6μm,21.0s						
B22K	**Teshekpuk Lake**	**86.06**	**13**	IAmb	IAmb	03 39 36.9	
	comp=Z,135nm,1.2s						
B22K				IAMs_20	IAMs_20	04 12 05.6	
	comp=Z,5μm,22.0s						
B22K	**Teshekpuk Lake**	**86.06**	**13**	P	**P**	**03 39 35.5**	**+0.3**
	baz=223						
B22K				S	**S**	**03 50 08.4**	**-0.3**
	baz=223						
CMB	**Columbia Colle**	**86.06**	**50**	IAmb	IAmb	03 39 44.2	
	comp=Z,202nm,2.0s						
CMB				IAMs_20	IAMs_20	04 14 29.3	
	comp=Z,6μm,19.0s						
BUCK	**Buck Mountain**	**86.06**	**44**	IAmb	IAmb	03 39 37.7	
	comp=Z,106nm,1.4s						
L29M	**L29M**	**86.08**	**23**	P	**P**	**03 39 36.2**	**+0.6**
	baz=237,SNR=24						
L29M				S	**S**	**03 50 08.8**	**-0.5**
	baz=237						
HATC	**Hat Creek Radi**	**86.08**	**47**	IAMs_20	IAMs_20	04 14 35.6	
	comp=Z,4μm,18.0s						
A21K	**Barrow**	**86.11**	**12**	P	**P**	**03 39 36.1**	**+0.7**
	baz=220						
A21K				S	**S**	**03 50 08.6**	**-0.5**
	baz=220						
A21K				S	**S**	**03 50 08.6**	**-0.5**
	baz=220						
P32M	**Atlin**	**86.12**	**27**	P	**P**	**03 39 35.8**	**0.0**
	baz=242						
P32M				S	**S**	**03 50 10.2**	**+0.4**
	baz=242						
WHY	**Whitehorse**	**86.13**	**26**	P	**P**	**03 39 35.8**	**-0.1**
	baz=240,SNR=6.2						
WHY				S	**S**	**03 50 10.9**	**+0.9**
	baz=240						
DAWY	**Dawson**	**86.13**	**22**	P	**P**	**03 39 36.2**	**+0.4**
	baz=236,SNR=40						
DAWY				S	**S**	**03 50 12.5**	**+2.7**
	baz=236						
N31M	**Braeburn, Yuko**	**86.17**	**25**	IAmb	IAmb	03 39 44.6	
	comp=Z,148nm,1.4s						
N31M				IAMs_20	IAMs_20	04 17 55.9	
	comp=Z,5μm,18.0s						
N31M	**Braeburn, Yuko**	**86.17**	**25**	P	**P**	**03 39 36.1**	**+0.1**
	baz=240,SNR=9.8						
N31M				S	**S**	**03 50 12.3**	**+2.2**
	baz=240						
F25K	**Christian Rive**	**86.19**	**17**	IAmb	IAmb	03 39 38.5	
	comp=Z,140nm,1.4s						
F25K				IAMs_20	IAMs_20	04 12 37.3	
	comp=Z,7μm,21.0s						
F25K	**Christian Rive**	**86.19**	**17**	P	**P**	**03 39 37.1**	**+1.0**
	baz=230,SNR=32						
F25K				S	**S**	**03 50 12.8**	**+2.5**
	baz=230						
G03D	**McMinnville, O**	**86.21**	**43**	IAmb	IAmb	03 39 38.2	
	comp=Z,162nm,1.4s						
A22K	**Sinclair Lake**	**86.21**	**13**	P	**P**	**03 39 36.0**	**+0.1**
	baz=221						
A22K				S	**S**	**03 50 11.6**	**+1.5**
	baz=221						
U35K	**Hyder**	**86.23**	**31**	IAMs_20	IAMs_20	04 15 16.0	
	comp=Z,8μm,19.0s						
U35K	**Hyder**	**86.23**	**31**	P	**P**	**03 39 36.4**	**+0.1**
	baz=245						
U35K				S	**S**	**03 50 14.8**	**+4.0**
	baz=245						
I27K	**Kandik River**	**86.24**	**20**	P	**P**	**03 39 37.2**	**+0.9**
	baz=234,SNR=25						
I27K				S	**S**	**03 50 12.1**	**+1.3**
	baz=234						
I27K				S	**S**	**03 50 12.1**	**+1.3**
	baz=234						
M30M	**Minto, Yukon**	**86.32**	**24**	IAMs_20	IAMs_20	04 16 33.9	
	comp=Z,5μm,19.0s						
M30M	**Minto, Yukon**	**86.32**	**24**	P	**P**	**03 39 37.2**	**+0.5**
	baz=239,SNR=18						
M30M				S	**S**	**03 50 13.4**	**+1.8**
	baz=239						
I04A	**Tendick Farm,**	**86.33**	**44**	IAMs_20	IAMs_20	04 16 30.8	
	comp=Z,7μm,18.0s						
D24K	**Happy Valley**	**86.34**	**15**	IAmb	IAmb	03 39 39.7	
	comp=Z,163nm,1.3s						
D24K	**Happy Valley**	**86.34**	**15**	P	**P**	**03 39 37.6**	**+0.9**
	baz=227						
G26K	**Porcupine Rive**	**86.35**	**18**	P	**P**	**03 39 37.7**	**+1.0**
	baz=232,SNR=30						
C23K	**Itkillik River**	**86.36**	**15**	IAMs_20	IAMs_20	04 22 36.7	
	comp=Z,5μm,20.0s						
C23K	**Itkillik River**	**86.36**	**15**	P	**P**	**03 39 37.6**	**+0.9**
	baz=225						
J04A	**Umpqua Nationa**	**86.36**	**45**	IAmb	IAmb	03 39 39.2	
	comp=Z,80nm,1.0s						
J04A				IAMs_20	IAMs_20	04 17 16.8	
	comp=Z,7μm,18.0s						
BMAR	**Burnt Mountain**	**86.41**	**18**	P	**P**	**03 39 37.5**	**+0.5**
K04D	**Chiloquin, OR**	**86.42**	**46**	IAmb	IAmb	03 39 39.4	
	comp=Z,193nm,1.7s						
K04D				IAMs_20	IAMs_20	04 13 36.4	
	comp=Z,5μm,19.0s						
Q32M	**Nakina River**	**86.48**	**28**	P	**P**	**03 39 38.1**	**+0.3**
	baz=243						
WISH	**Wishkah**	**86.50**	**41**	IAmb	IAmb	03 39 40.0	
	comp=Z,256nm,1.6s						
WISH				IAMs_20	IAMs_20	04 16 06.1	
	comp=Z,6μm,18.0s						
EMB	**Emerald Bay**	**86.54**	**49**	IAmb	IAmb	03 39 46.9	
	comp=Z,221nm,1.8s						
S34M	**Telegraph Cree**	**86.55**	**29**	IAMs_20	IAMs_20	04 13 58.3	
	comp=Z,7μm,20.0s						
S34M	**Telegraph Cree**	**86.55**	**29**	P	**P**	**03 39 37.7**	**-0.1**
	baz=244						
S34M				S	**S**	**03 50 15.1**	**+1.2**
	baz=244						
T35M	**Bob Quinn**	**86.57**	**30**	P	**P**	**03 39 38.2**	**+0.1**
	baz=245						
H27K	**Steamboat Moun**	**86.64**	**20**	P	**P**	**03 39 39.1**	**+0.9**
	baz=234						
MPK	**Martis Peak**	**86.69**	**49**	IAmb	IAmb	03 39 51.1	
	comp=Z,133nm,1.4s						
F26K	**Sheenjek River**	**86.70**	**18**	IAMs_20	IAMs_20	04 14 51.8	
	comp=Z,6μm,19.0s						
F26K	**Sheenjek River**	**86.70**	**18**	P	**P**	**03 39 39.9**	**+1.4**
	baz=232						
F26K				S	**S**	**03 50 18.1**	**+3.0**
	baz=232						
K29M	**Barlow Dome**	**86.71**	**22**	IAmb	IAmb	03 39 55.7	
	comp=Z,135nm,1.6s						
K29M	**Barlow Dome**	**86.71**	**22**	P	**P**	**03 39 39.2**	**+0.5**
	baz=238						
K29M				S	**S**	**03 50 19.1**	**+3.6**
	baz=238						
I28M	**Miner Creek**	**86.72**	**21**	IAMs_20	IAMs_20	04 12 39.4	
	comp=Z,6μm,20.0s						
I28M	**Miner Creek**	**86.72**	**21**	P	**P**	**03 39 39.3**	**+0.6**
	baz=236						
I28M				S	**S**	**03 50 19.1**	**+3.6**
	baz=236						
PASC	**Pasadena Art C**	**86.72**	**55**	IAmb	IAmb	03 39 47.3	
	comp=Z,168nm,1.6s						
PASC	**Pasadena Art C**	**86.72**	**55**	IAMs_20	IAMs_20	04 14 03.2	
	comp=Z,6μm,18.0s						
C24K	**Franklin Bluff**	**86.76**	**15**	IAmb	IAmb	03 39 40.9	
	comp=Z,209nm,1.3s						
C24K				IAMs_20	IAMs_20	04 15 44.5	
	comp=Z,7μm,20.0s						
C24K	**Franklin Bluff**	**86.76**	**15**	P	**P**	**03 39 39.8**	**+1.2**
	baz=227						
ALBI	**Allahabad**	**86.78**	**296**	⇓*i*P	**P**	**03 39 39.4**	**-0.3**
J29N	**Klondike Camp**	**86.78**	**22**	IAMs_20	IAMs_20	04 19 58.9	
	comp=Z,5μm,19.0s						
J29N	**Klondike Camp**	**86.78**	**22**	P	**P**	**03 39 39.9**	**+0.9**
	baz=237,SNR=25						
J29N				S	**S**	**03 50 19.7**	**+3.7**
	baz=237						
P33M	**Teslin, Yukon**	**86.81**	**27**	IAMs_20	IAMs_20	04 14 40.2	
	comp=Z,8μm,19.0s						
P33M	**Teslin, Yukon**	**86.81**	**27**	P	**P**	**03 39 38.9**	**-0.3**
	baz=242						
P33M				S	**S**	**03 50 19.2**	**+2.7**
	baz=242						
CLRS	**Cowichan Lake**	**86.85**	**39**	IAMs_20	IAMs_20	04 13 32.2	
	comp=Z,7μm,19.0s						
ISA	**Isabella, Lake**	**86.88**	**53**	IAmb	IAmb	03 39 41.5	
	comp=Z,117nm,1.6s						
WAKR	**Walker**	**86.91**	**50**	IAMs_20	IAMs_20	04 14 47.7	
	comp=Z,5μm,18.0s						
G27K	**Doyon Strip**	**86.94**	**19**	P	**P**	**03 39 40.6**	**+0.9**
	baz=234						
G27K				S	**S**	**03 50 21.8**	**+4.3**
	baz=234						
PNTR	**Pine Nut**	**86.95**	**49**	IAmb	IAmb	03 39 42.2	
	comp=Z,95nm,1.4s						
PNTR				IAMs_20	IAMs_20	04 18 44.8	
	comp=Z,4μm,18.0s						
J05D	**Fort Rock, OR**	**86.99**	**45**	IAMs_20	IAMs_20	04 17 38.3	
	comp=Z,6μm,19.0s						
F04A	**Amboy**	**87.00**	**42**	IAmb	IAmb	03 39 48.7	
	comp=Z,251nm,1.7s						
WMQ	**Urumqi**	**87.00**	**315**	P	**P**	**03 39 41.3**	**+0.8**
WMQ				PP	**PP**	**03 43 01.0**	**-3.0**
WMQ				SKS	**SKSac**	**03 50 08.9**	**+1.4**
WMQ				SS	**SS**	**03 56 00.6**	**-1.8**
WMQ				pmax	pmax		
	comp=Z,100nm,2.1s						
WMQ				pmax	pmax		
	comp=Z,3μm,4.9s						
WMQ				LR	LR		
	comp=Z,4μm,21.1s						
WMQ				LR	LR		
	comp=Z,7μm,24.0s						
WMQ				LR	LR		
	comp=Z,11μm,23.1s						
M31M	**Drury Creek, Y**	**87.09**	**25**	IAMs_20	IAMs_20	04 17 15.5	
	comp=Z,6μm,19.0s						
M31M	**Drury Creek, Y**	**87.09**	**25**	P	**P**	**03 39 40.2**	**-0.3**
	baz=241						
M31M				S	**S**	**03 50 20.6**	**+1.5**
	baz=241						
D25K	**Kavik River**	**87.11**	**16**	IAmb	IAmb	03 39 42.1	
	comp=Z,88nm,1.2s						
D25K				IAMs_20	IAMs_20	04 14 22.4	
	comp=Z,8μm,21.0s						
D25K	**Kavik River**	**87.11**	**16**	P	**P**	**03 39 40.8**	**+0.4**
	baz=229						
D25K				S	**S**	**03 50 20.4**	**+1.3**
	baz=229						
N32M	**Quiet Lake**	**87.14**	**26**	IAmb	IAmb	03 39 50.1	
	comp=Z,118nm,1.8s						
N32M				IAMs_20	IAMs_20	04 19 40.0	
	comp=Z,7μm,19.0s						
N32M	**Quiet Lake**	**87.14**	**26**	P	**P**	**03 39 40.6**	**-0.2**
	baz=242						
N32M				S	**S**	**03 50 23.0**	**+3.4**
	baz=242						
YERR	**Yerington**	**87.19**	**50**	IAmb	IAmb	03 39 43.0	
	comp=Z,148nm,1.8s						
YERR				IAMs_20	IAMs_20	04 18 42.1	
	comp=Z,4μm,18.0s						
MAYO	**Mayo, Yukon**	**87.19**	**23**	P	**P**	**03 39 41.6**	**+0.6**
	baz=239						
MAYO				S	**S**	**03 50 23.0**	**+3.0**
	baz=239						
ELS	**Elsinore Mount**	**87.20**	**55**	IAmb	IAmb	03 39 43.0	
	comp=Z,138nm,1.6s						
I05D	**Terrebonne, OR**	**87.23**	**44**	IAmb	IAmb	03 39 43.1	
	comp=Z,170nm,1.6s						
I29M	**Ogilvie Camp,**	**87.24**	**21**	IAMs_20	IAMs_20	04 13 40.1	
	comp=Z,5μm,20.0s						
I29M	**Ogilvie Camp,**	**87.24**	**21**	P	**P**	**03 39 41.7**	**+0.5**
	baz=237,SNR=29						
I29M				S	**S**	**03 50 22.9**	**+2.5**
	baz=237						
GNW	**Green Mountain**	**87.26**	**41**	IAMs_20	IAMs_20	04 13 38.1	
	comp=Z,5μm,19.0s						
R33M	**Jennings River**	**87.28**	**28**	P	**P**	**03 39 41.7**	**+0.2**
	baz=244						
R33M				S	**S**	**03 50 23.7**	**+2.5**
	baz=244						
DLBC	**Dease Lake**	**87.30**	**29**	IAmb	IAmb	03 39 44.1	
	comp=Z,128nm,1.9s						
DLBC	**Dease Lake**	**87.30**	**29**	P	**P**	**03 39 40.6**	**-1.0**
	comp=Z,14nm,1.1s,baz=244,slow=5.0,SNR=5.6						
DLBC				PP	**PP**	**03 43 05.2**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=270,slow=12,SNR=2.5						
DLBC				LR	LR	04 14 16.5	
	comp=Z,9μm,18.7s,baz=258,slow=33						
	comp=Z,14nm,1.1s						
DLBC	**Dease Lake**	**87.30**	**29**	P	**P**	**03 39 41.6**	**0.0**
	baz=245						
DLBC				S	**S**	**03 50 25.4**	**+4.0**
	baz=245						
HOOD	**Mount Hood Mea**	**87.32**	**43**	IAmb	IAmb	03 39 43.4	
	comp=Z,145nm,1.6s						
PINE	**Pine Mountain**	**87.34**	**45**	IAmb	IAmb	03 39 51.0	

comp=Z,7μm,19.0s
TKX Tecate 87.60 56 IAmb IAmb 03 39 54.2
comp=Z,68nm,1.2s
D05A Enumclaw 87.68 41 IAMs_20 IAMs_20 04 14 55.2
comp=Z,4μm,18.0s
H29M Whitestone 87.69 20 IAMs_20 IAMs_20 04 15 41.9
comp=Z,7μm,20.0s
H29M Whitestone 87.69 20 P **P** **03 39 44.1 +0.9**
baz=237,SNR=24
H29M S **S** **03 50 26.0 +1.4**
baz=237
DSP Deep Springs 87.72 51 IAmb IAmb 03 39 45.9
comp=Z,115nm,1.4s
NVAR Mina Array Bea 87.75 50 P **P** **03 39 43.7 -0.7**
comp=Z,18nm,1.0s,baz=239,slow=5.1,SNR=44
NVAR PP **PP** **03 43 09.0 -1.3**
comp=Z,3.5nm,1.2s,baz=251,slow=5.6,SNR=3.1
NVAR S **SKSac** **03 50 17.4 +4.8**
comp=Z,0.1nm,0.3s,baz=228,slow=20,SNR=1.6
NVAR LR LR 04 15 58.4
comp=Z,5μm,18.0s,baz=259,slow=34
comp=Z,18nm,1.0s
E27K Coleen River 87.77 18 IAMs_20 IAMs_20 04 13 37.9
comp=Z,5μm,21.0s
E27K Coleen River 87.77 18 P **P** **03 39 44.9 +1.2**
baz=234,SNR=35
E27K S **S** **03 50 28.6 +3.2**
baz=234
TRD Trivandrum 87.82 279 *e*P **P** **03 39 46.6 +1.5**
I30M Mount Dempster 87.85 22 IAmb IAmb 03 39 52.5
comp=Z,65nm,1.1s
I30M Mount Dempster 87.85 22 P **P** **03 39 44.4 +0.1**
baz=239,SNR=18
I30M S **S** **03 50 28.6 +2.1**
baz=239
NV11 Mina Array Sit 87.86 50 IAmb IAmb 03 39 46.3
comp=Z,115nm,1.4s
C26K Camden Bay 87.89 16 P **P** **03 39 45.5 +1.5**
baz=231
C26K S **S** **03 50 28.8 +2.5**
baz=231
LKN LUCKNOW 87.92 298⇓*i*P **P** **03 39 44.7 -0.5**
LKN *i* x x 03 43 12.4
F28M Old Crow 87.97 19 IAMs_20 IAMs_20 04 16 45.3
comp=Z,6μm,18.0s
F28M Old Crow 87.97 19 P **P** **03 39 45.6 +1.0**
baz=236,SNR=17
F28M S **S** **03 50 31.1 +3.8**
baz=236
PFO Pinyon Flats O 87.97 55 P **P** **03 39 45.7 +0.2**
PFO IAmb IAmb 03 39 53.7
comp=Z,210nm,1.9s
PFO Pinyon Flats O 87.97 55 P **P** **03 39 45.7 +0.2**
PFO pmax pmax
comp=Z,210nm,1.9s
PFO MLR MLR
comp=Z,4μm,20.0s
G06A Carlson Farm, 87.98 43 IAmb IAmb 03 39 46.5
comp=Z,146nm,1.9s
VTX Valle De La Tr 87.99 58 IAmb IAmb 03 39 47.6
comp=Z,157nm,1.5s
VTX IAMs_20 IAMs_20 04 21 55.2
comp=Z,5μm,18.0s
ESJX Sierra Juarez 88.00 57 IAMs_20 IAMs_20 04 17 55.3
comp=Z,7μm,18.0s
C27K Jago River 88.03 16 P **P** **03 39 46.2 +1.4**
baz=232
C27K S **S** **03 50 30.1 +2.4**
baz=232
HYB Hyderabad 88.04 288 *e*P **P** **03 39 46.5 +0.5**
HYB *e*PP **PP** **03 43 06.6 -6.3**
HYB *e* 03 50 13.4
HYB *e*SKKSdf SKKSdf 04 04 29.3 -7.2
HYB *e* 04 04 46.7
HYB IVMs_BB IVMs_BB 04 12 15.4
comp=Z,2μm,34.6s
GSC Goldstone, Bar 88.11 54 IAmb IAmb 03 40 13.3
comp=Z,98nm,1.7s
YUH Yuha Desert 88.18 56 IAmb IAmb 03 39 48.0
comp=Z,119nm,1.4s
YUH IAMs_20 IAMs_20 04 12 17.9
comp=Z,5μm,20.0s
G29M Pine Creek 88.18 20 IAMs_20 IAMs_20 04 16 05.9
comp=Z,6μm,20.0s
G29M Pine Creek 88.18 20 P **P** **03 39 46.4 +0.8**
baz=237,SNR=27
G29M S **S** **03 50 32.1 +2.8**
baz=237
GMN Gold Mountain 88.25 52 IAMs_20 IAMs_20 04 15 23.4
comp=Z,4μm,18.0s
MZP Montezuma Peak 88.26 51 IAmb IAmb 03 39 55.1
comp=Z,122nm,1.9s
MZP IAMs_20 IAMs_20 04 15 32.6
comp=Z,4μm,18.0s
EPYK Eagle Plains 88.33 20 IAMs_20 IAMs_20 04 15 41.9
comp=Z,5μm,20.0s
EPYK Eagle Plains 88.33 20 P **P** **03 39 46.8 +0.5**
baz=239,SNR=28
EPYK S **S** **03 50 33.4 +2.6**
baz=239
NGP Nagpur 88.35 292⇓*i*P **P** **03 39 45.2 -2.2**
I07A Izee 88.42 45 IAmb IAmb 03 39 49.1
comp=Z,94nm,1.4s
I07A IAMs_20 IAMs_20 04 18 35.2
comp=Z,6μm,18.0s
GWY Greenwater Val 88.43 53 IAmb IAmb 03 39 48.9
comp=Z,171nm,1.9s
LTY Liberty 88.56 41 IAmb IAmb 03 39 49.0
comp=Z,144nm,1.8s
LTY IAMs_20 IAMs_20 04 14 18.5
comp=Z,5μm,21.0s
WVOR Wild Horse Val 88.57 46 IAmb IAmb 03 39 49.9
comp=Z,162nm,1.6s
WVOR IAMs_20 IAMs_20 04 18 13.4
comp=Z,5μm,19.0s
WVOR Wild Horse Val 88.57 46⇑P **P** **03 39 48.5 +0.3**
D27M Malcolm River 88.58 17 IAMs_20 IAMs_20 04 17 21.2
comp=Z,7μm,19.0s
D27M Malcolm River 88.58 17 P **P** **03 39 48.9 +1.4**
baz=234
D27M S **S** **03 50 35.5 +2.4**
baz=234
MMPY Sheldon Lake, 88.58 25 P **P** **03 39 47.8 +0.1**
baz=244
MMPY S **S** **03 50 35.5 +2.2**
baz=244
WTLY Watson Lake, Y 88.58 28 P **P** **03 39 47.2 -0.4**
baz=246
WTLY S **S** **03 50 34.9 +1.5**
baz=246
MXC Moxie City 88.60 42 IAmb IAmb 03 39 49.5
comp=Z,136nm,1.9s
WCT Wildcat Mounta 88.62 52 IAmb IAmb 03 39 50.0
comp=Z,161nm,1.8s
CPBX Cerro Prieto 88.63 57 IAMs_20 IAMs_20 04 17 41.9
comp=Z,4μm,18.0s
E28M Babbage River 88.64 18 IAMs_20 IAMs_20 04 16 01.8
comp=Z,5μm,20.0s
E28M Babbage River 88.64 18 P **P** **03 39 48.8 +1.1**
baz=236
E28M S **S** **03 50 36.1 +2.5**
baz=236
F07A Phinny Hill Vi 88.65 43 IAmb IAmb 03 39 49.9
comp=Z,112nm,1.6s
SFX San Felipe 88.69 58 IAmb IAmb 03 39 50.4
comp=Z,117nm,1.5s
SFX IAMs_20 IAMs_20 04 21 40.6
comp=Z,5μm,18.0s
Q09A Carvers 88.70 50 IAMs_20 IAMs_20 04 15 48.1
comp=Z,4μm,18.0s
G30M tAoh Zraii Nji 88.82 20 IAMs_20 IAMs_20 04 16 25.8
comp=Z,7μm,20.0s
G30M tAoh Zraii Nji 88.82 20 P **P** **03 39 49.1 +0.5**
baz=239,SNR=24
G30M S **S** **03 50 35.4 0.0**
baz=239
H31M Peel River 88.88 21 P **P** **03 39 49.0 0.0**
baz=241,SNR=6.7
H31M S **S** **03 50 37.9 +1.9**
baz=241
E07A Sunnyside 88.89 42 IAmb IAmb 03 39 51.0
comp=Z,107nm,1.6s
J08A Circle Bar Ran 88.94 46 IAMs_20 IAMs_20 04 17 44.0
comp=Z,4μm,20.0s
TPNV Topopah Spring 88.95 52 IAmb IAmb 03 39 51.6
comp=Z,195nm,1.8s
E29M Blow River 89.02 19 IAmb IAmb 03 39 58.2
comp=Z,187nm,1.8s
E29M Blow River 89.02 19 P **P** **03 39 49.8 +0.3**
baz=237
E29M S **S** **03 50 38.9 +1.7**
baz=237
HAWA Hanford 89.05 42 IAmb IAmb 03 39 51.8
comp=Z,121nm,1.6s
HAWA Hanford 89.05 42⇓P **P** **03 39 50.9 +0.8**
LGTI Lohaghat 89.06 300⇓*i*P **P** **03 39 50.4 -0.1**
LGTI IAmb IAmb 03 39 53.4
comp=Z,48nm,0.8s
G08A Pilot Rock 89.13 44 IAmb IAmb 03 39 52.2
comp=Z,134nm,1.6s
GLA Glamis 89.17 56 IAmb IAmb 03 40 00.8
comp=Z,134nm,1.2s
FRKB FARRUKHABAD 89.19 298⇓*i*P **P** **03 39 50.4 -0.9**
D28M Stokes Point 89.28 18 P **P** **03 39 51.4 +0.7**
baz=237
D28M S **S** **03 50 40.7 +1.2**
baz=237
F30M Barrier River 89.29 20 P **P** **03 39 51.2 +0.4**
baz=239,SNR=16
F30M S **S** **03 50 41.4 +1.6**
baz=239
E08A Dider Farm, El 89.39 42 IAmb IAmb 03 39 53.5
comp=Z,129nm,1.5s
G31M Satah River 89.45 20 IAMs_20 IAMs_20 04 16 46.6
comp=Z,6μm,20.0s
G31M Satah River 89.45 20 P **P** **03 39 52.0 +0.5**
baz=241,SNR=18
G31M S **S** **03 50 41.2 0.0**
baz=241
S11A Rachel 89.50 52 IAmb IAmb 03 40 05.4
comp=Z,280nm,2.0s
LIRD Liard River Hi 89.56 29 S **S** **03 50 42.0 -0.6**
baz=248
D08A Wollman Farm, 89.64 42 IAmb IAmb 03 39 54.5
comp=Z,186nm,1.9s
SHPR Sheep Range 89.69 53 IAMs_20 IAMs_20 04 11 10.7
comp=Z,5μm,22.0s
JHNI Jhansi 89.69 296⇓*i*P **P** **03 39 51.2 -2.4**
JHNI *i* x x 03 43 22.5
B08A Colville Reser 89.74 41 IAmb IAmb 03 39 54.4
comp=Z,193nm,2.0s
B08A IAMs_20 IAMs_20 04 14 30.6
comp=Z,6μm,19.0s
V12A Nelson 89.76 54 IAmb IAmb 03 40 02.4
comp=Z,251nm,2.0s
V12A IAMs_20 IAMs_20 04 15 50.5
comp=Z,7μm,19.0s
TOAD Toad River Com 89.77 30 P **P** **03 39 55.2 +2.0**
baz=249
R11B Troy Canyon, C 89.80 51 IAmb IAmb 03 40 02.4
comp=Z,132nm,1.7s
R11B Troy Canyon, C 89.80 51 P **P** **03 39 54.2 +0.1**
baz=256
JOSI Joshimath 89.88 301⇓*i*P **P** **03 39 54.6 -0.1**
F31M Tsiigehtchic 89.89 20 IAmb IAmb 03 39 56.0
comp=Z,223nm,1.6s
F31M IAMs_20 IAMs_20 04 17 19.0
comp=Z,5μm,20.0s
F31M Tsiigehtchic 89.89 20 P **P** **03 39 53.8 +0.2**
baz=241,SNR=21
F31M S **S** **03 50 46.7 +1.5**
baz=241
ZSN Zaisan 89.95 318 *e*P **P** **03 39 54.8 +0.4**
comp=Z,110nm,1.7s
ZSN *e*S **SKSac** **03 50 24.9 0.0**
ZSN Zaisan 89.95 318 *e*P **P** **03 39 54.7 +0.4**
ZSN *e*S **SKSac** **03 50 24.8 0.0**
ZSN pmax pmax
comp=Z,110nm,1.7s
PIX Pinacate 89.97 58 IAMs_20 IAMs_20 04 21 47.4
comp=Z,4μm,18.0s
PRN Pahroc Range 89.99 52⇓P **P** **03 39 55.3 +0.4**
E09A Wood Farm, Sta 90.01 43 IAmb IAmb 03 39 56.1
comp=Z,161nm,1.8s
AKL Akola 90.12 291⇓*i*P **P** **03 39 55.0 -0.7**
BMO Blue Mountains 90.14 44 IAmb IAmb 03 39 56.8
comp=Z,195nm,1.9s
BMO IAMs_20 IAMs_20 04 19 01.7
comp=Z,5μm,19.0s
BMO Blue Mountains 90.14 44⇑P **P** **03 39 55.1 -0.3**
BHPL Bhopal 90.25 293⇓*i*P **P** **03 39 55.9 -0.4**
BHPL IAmb IAmb 03 40 01.4
comp=Z,21nm,0.9s
INK Inuvik 90.38 19 IAmb IAmb 03 39 58.1
comp=Z,180nm,1.6s
INK IAMs_20 IAMs_20 04 17 24.9
comp=Z,6μm,20.0s
INK Inuvik 90.38 19 P **P** **03 39 56.0 +0.2**
baz=242,SNR=29
INK S **S** **03 50 51.6 +1.9**
baz=242
INK Inuvik 90.38 19⇓P **P** **03 39 55.9 +0.2**
NRDN NARMADA NAGAR 90.38 293⇓*i*P **P** **03 39 58.6 +1.7**
NRDN IAmb IAmb 03 40 05.2
comp=Z,98nm,1.4s
W13A Hualapai Mount 90.39 54 IAmb IAmb 03 39 58.7
comp=Z,115nm,1.6s
W13A IAMs_20 IAMs_20 04 19 18.2
comp=Z,4μm,18.0s
F10A Beach Ranch, E 90.48 43 IAmb IAmb 03 39 58.2
comp=Z,219nm,1.9s
F10A Beach Ranch, E 90.48 43⇓P **P** **03 39 57.2 +0.2**
GUNA GUNA 90.60 295⇓*i*P **P** **03 39 57.2 -0.7**
GUNA IAmb IAmb 03 40 04.7
comp=Z,141nm,1.3s
ELK Elko 90.62 49 IAmb IAmb 03 39 59.6
comp=Z,98nm,1.4s
ELK Elko 90.62 49⇓P **P** **03 39 58.0 +0.1**
KOTAN Kotaneelee Air 90.78 29 P **P** **03 39 57.1 -0.8**
baz=250
MFID Camas Ranch 90.82 46 IAmb IAmb 03 40 00.3
comp=Z,126nm,1.6s
HNLY HANLEY 90.84 303⇓*i*P **P** **03 39 59.9 +0.4**
Y14A Wickenburg 90.85 56 IAMs_20 IAMs_20 04 17 43.5
comp=Z,4μm,18.0s
BELA Belgrano 2 91.06 176 P **P** **03 39 58.4 -0.6**
PLID Pearl Lake 91.10 44 IAMs_20 IAMs_20 04 20 45.0
comp=Z,5μm,18.0s
DDI Dehra Dun 91.10 300 *e*P **P** **03 40 00.4 +0.2**
DDI IAmb IAmb 03 40 01.5
comp=Z,610nm,1.8s
NEW Newport 91.13 41⇑P **P** **03 40 00.0 +0.1**
PSUT Pine Spring 91.16 51 IAmb IAmb 03 40 02.2
comp=Z,93nm,1.5s
KLP Kalpa 91.18 302⇓*i*P **P** **03 40 00.8 -0.1**
LCMT Little Creek M 91.31 53 IAmb IAmb 03 40 02.9
comp=Z,77nm,1.4s
SLBS Sierra La Lagu 91.44 66 P **P** **03 40 02.4 +0.5**
SLBS Sierra La Lagu 91.44 66⇑P **P** **03 40 02.9 +1.0**
MK31 Makanchi Array 91.48 317 P **P** **03 40 01.4 -0.1**
MK31 IAmb IAmb 03 40 12.6
comp=Z,88nm,1.4s
MK31 Makanchi Array 91.48 317 P **P** **03 40 01.4 -0.1**
MK31 pmax pmax
comp=Z,88nm,1.5s
MKAR Makanchi Array 91.48 317 P **P** **03 40 00.6 -0.9**
comp=Z,18nm,0.6s,baz=96,slow=6.0,SNR=60
MKAR PP **PP** **03 43 38.7 -0.9**
comp=Z,5.1nm,1.0s,baz=96,slow=12,SNR=4.2
MKAR PKiKP **PKiKP** **03 44 53.2 -0.2**
comp=Z,1.8nm,0.9s,baz=122,slow=1.4,SNR=1.8
MKAR S **SKSac** **03 50 32.9 -0.8**
comp=Z,0.3nm,0.7s,baz=123,slow=17,SNR=1.6
MKAR LR LR 04 20 58.4
comp=Z,6μm,21.1s,baz=84,slow=36
comp=Z,18nm,0.6s
NPLP NPLP New Delhi 91.53 299⇓*i*P **P** **03 40 00.8 -1.3**
HSIG 91.57 61 IAMs_20 IAMs_20 04 16 35.3
comp=Z,4μm,19.0s
MAKZ Makanchi 91.69 317 P **P** **03 40 02.3 -0.2**
MAKZ IAmb IAmb 03 40 03.9
comp=Z,106nm,1.4s
MAKZ Makanchi 91.69 317⇑P **P** **03 40 02.1 -0.4**
MAKZ Makanchi 91.69 317 P **P** **03 40 02.3 -0.2**
MAKZ pmax pmax
comp=Z,106nm,1.4s
MAKZ MLR MLR
comp=Z,8μm,21.0s
ZAA0 Zalesovo Array 91.74 325 IAmb IAmb 03 40 03.8
comp=Z,179nm,1.8s
ZALV Zalesovo Beam 91.74 325 P **P** **03 40 00.5 -2.0**
comp=Z,11nm,0.7s,baz=112,slow=6.1,SNR=39
ZALV PP **PP** **03 43 38.9 -2.5**
comp=Z,1.6nm,0.8s,baz=106,slow=9.2,SNR=3.5
ZALV LR LR 04 19 38.8
comp=Z,9μm,21.9s,baz=101,slow=34
comp=Z,11nm,0.7s
HLID Hailey 91.85 46 IAmb IAmb 03 40 12.4
comp=Z,140nm,1.6s
HLID Hailey 91.85 46⇑P **P** **03 40 04.4 +0.9**
U15A North Rim 91.93 53 IAmb IAmb 03 40 07.2
comp=Z,185nm,1.7s
U15A IAMs_20 IAMs_20 04 17 19.0
comp=Z,5μm,19.0s
SMLA Simla 92.01 301 *e*P **P** **03 40 03.6 -0.7**
SMLA IAmb IAmb 03 40 11.0
comp=Z,516nm,1.6s
KUDL Kundal 92.02 298⇓*i*P **P** **03 40 02.5 -1.8**
WRGLY Wrigley 92.10 26 IAMs_20 IAMs_20 04 17 12.9
comp=Z,7μm,21.0s
WRGLY Wrigley 92.10 26 P **P** **03 40 03.4 -0.5**
baz=250
KAD Karad 92.12 287 *e*P **P** **03 40 04.1 -1.0**
PKCU Pink Cliffs 92.12 52 IAMs_20 IAMs_20 04 12 39.0
comp=Z,8μm,22.0s
GOA Goa 92.13 285 *e*P **P** **03 40 04.5 -0.6**
X16A Lo Mia Camp, P 92.21 56 IAMs_20 IAMs_20 04 25 12.7
comp=Z,4μm,18.0s
BGU Big Grassy Mou 92.29 49 IAmb IAmb 03 40 08.2
comp=Z,187nm,1.9s
DUG Dugway, Tooele 92.30 50 IAmb IAmb 03 40 08.4
comp=Z,128nm,1.7s
DUG Dugway, Tooele 92.30 50⇓P **P** **03 40 06.3 +0.7**
WUAZ Wupatki 92.48 54 IAmb IAmb 03 40 09.5
comp=Z,173nm,1.9s
WUAZ IAMs_20 IAMs_20 04 20 52.7
comp=Z,5μm,18.0s
WUAZ Wupatki 92.48 54⇓P **P** **03 40 07.5 +0.9**
SHLS Shalkode 92.62 313 *e*P **P** **03 40 05.5 -1.5**
comp=Z,49nm,1.4s
SHLS *e*S **SKSac** **03 50 38.3 -2.2**
SHLS Shalkode 92.62 313 *e*P **P** **03 40 05.5 -1.5**
SHLS *e*S **SKSac** **03 50 38.3 -2.2**
SHLS pmax pmax
comp=Z,49nm,1.4s
POO Poona 92.65 288 *e*P **P** **03 40 06.2 -1.4**
BHK Bhakra 92.69 301⇓*i*P **P** **03 40 06.4 -1.1**
SPUT South Promonto 92.80 49 IAmb IAmb 03 40 09.6
comp=Z,93nm,1.6s
NLU North Lily Min 92.81 50 IAmb IAmb 03 40 16.6
comp=Z,179nm,1.9s
UZB Uzynbulak 92.94 313 *e*P **P** **03 40 08.4 -0.1**
UZB *e*S **SKSac** **03 50 41.6 -0.8**
UZB Uzynbulak 92.94 313 *e*P **P** **03 40 08.4 -0.1**
UZB *e*S **SKSac** **03 50 41.5 -0.8**
DHRM DHARAMSHALA 92.95 302 *e*P **P** **03 40 08.4 -0.5**
DHRM IAmb IAmb 03 40 10.0
comp=Z,228nm,1.3s
MPU Maple Canyon 93.15 50 IAmb IAmb 03 40 12.5
comp=Z,160nm,1.8s
MPU IAMs_20 IAMs_20 04 19 20.0
comp=Z,6μm,19.0s
CTU Camp Tracy 93.19 49 IAmb IAmb 03 40 18.1
comp=Z,120nm,1.8s
KPKS Kokpek 93.24 313 *e*P **P** **03 40 09.7 -0.1**
KPKS *e*S **SKSac** **03 50 43.6 -0.4**
KPKS Kokpek 93.24 313 *e*P **P** **03 40 09.7 -0.1**
KPKS *e*S **SKSac** **03 50 43.5 -0.4**
AJM Ajmer 93.33 296⇓*i*P **P** **03 40 09.4 -1.2**
AJM IAmb IAmb 03 40 12.0
comp=Z,149nm,1.4s
AJM *i* x x 03 43 55.4
SATY Saty 93.36 313 *e*P **P** **03 40 10.3 -0.1**
SATY Saty 93.36 313 *e*P **P** **03 40 10.3 -0.1**
ZHN Zhinishke 93.36 313 *e*P **P** **03 40 10.5 +0.1**
comp=Z,120nm,2.2s
ZHN Zhinishke 93.36 313 *e*P **P** **03 40 10.5 +0.1**
ZHN pmax pmax
comp=Z,120nm,2.2s
HMU Henry Mountain 93.44 52 IAmb IAmb 03 40 13.7
comp=Z,123nm,1.9s
HMU IAMs_20 IAMs_20 04 13 43.8
comp=Z,7μm,22.0s
THN Thein Dam 93.47 302⇓*i*P **P** **03 40 10.4 -0.5**
THN IAmb IAmb 03 40 18.2
comp=Z,106nm,0.8s
DLMT Dillon 93.51 45 IAMs_20 IAMs_20 04 15 00.8
comp=Z,4μm,20.0s
TCUT Toone Canyon 93.53 49 IAMs_20 IAMs_20 04 22 43.9
comp=Z,4μm,19.0s
P17A Butcher Ranch, 93.73 51 IAMs_20 IAMs_20 04 19 11.2
comp=Z,5μm,19.0s
TDK Taldyqorghan 93.74 315 *e*P **P** **03 40 12.1 0.0**
comp=Z,68nm,1.9s
TDK LR LR 04 23 03.6
comp=Z,3μm,18.3s
TDK Taldyqorghan 93.74 315 *e*P **P** **03 40 12.0 0.0**
TDK pmax pmax
comp=Z,68nm,1.9s
TDK MLR MLR
comp=Z,3μm,18.0s
DUN6 Lazy B Ranch 93.80 58 IAmb IAmb 03 40 24.6
comp=Z,60nm,1.0s
C36M Paulatuk 93.93 20 IAmb IAmb 03 40 24.5
comp=Z,49nm,1.1s
C36M IAMs_20 IAMs_20 04 19 40.9
comp=Z,4μm,20.0s
C36M Paulatuk 93.93 20 P **P** **03 40 12.2 0.0**
baz=250,SNR=6.9
KDJ Kajisay 94.07 312 IAMs_20 IAMs_20 04 22 25.8
comp=Z,5μm,21.0s
P18A Preston Nutter 94.13 51 IAmb IAmb 03 40 22.8
comp=Z,92nm,1.9s
JMU Jammu 94.19 302 *e*P **P** **03 40 14.9 +0.7**
BOZ Bozeman (W) 94.22 45 IAmb IAmb 03 40 17.1
comp=Z,133nm,1.7s
BOZ Bozeman (W) 94.22 45⇑P **P** **03 40 14.4 +0.1**
MDOK Medeo 94.36 313 *e*P **P** **03 40 15.0 -0.1**
MDOK LR LR 04 22 51.2
comp=Z,2μm,25.6s
MDOK Medeo 94.36 313 *e*P **P** **03 40 14.9 -0.1**
MDOK MLR MLR
comp=Z,2μm,26.0s
YHB Horse Butte 94.36 45 IAmb IAmb 03 40 17.4
comp=Z,69nm,1.5s
YHL Hebgen Lake 94.39 45 IAmb IAmb 03 40 17.5
comp=Z,83nm,1.6s
TNSS Tian-Shan 94.41 313 *e*P **P** **03 40 15.2 -0.5**
TNSS Tian-Shan 94.41 313 *e*P **P** **03 40 15.1 -0.5**
A36M Sachs Harbour 94.48 17 IAmb IAmb 03 40 20.3
comp=Z,89nm,0.9s
A36M IAMs_20 IAMs_20 04 21 59.3
comp=Z,7μm,21.0s
A36M Sachs Harbour 94.48 17 P **P** **03 40 14.8 +0.1**
baz=249,SNR=18
A36M S **S** **03 51 28.0 +1.7**
baz=249
KSH Kashi 94.51 309 P **P** **03 40 17.8 +2.0**
KSH SKS **SKSac** **03 50 50.4 -0.6**
KSH S **ScS** **03 51 31.6 +2.2**
KSH SS **SS** **03 57 54.4 +3.3**
KSH pmax pmax
comp=Z,2μm,7.2s
KSH LR LR
comp=Z,3μm,22.7s
KSH LR LR
comp=Z,6μm,22.7s
KSH LR LR
comp=Z,6μm,23.4s
YMR Madison River 94.51 46 IAmb IAmb 03 40 19.1
comp=Z,143nm,1.8s
YFT Old Faithful 94.56 46 IAmb IAmb 03 40 20.1
comp=Z,93nm,1.8s
KURK Kurchatov 94.70 321 P **P** **03 40 15.4 -0.8**
KURK IAmb IAmb 03 40 23.5
comp=Z,115nm,1.8s
KURK Kurchatov 94.70 321 P **P** **03 40 15.4 -0.8**
KURK pmax pmax
comp=Z,115nm,1.8s
KURK MLR MLR
comp=Z,8μm,20.0s
YNR Norris Junctio 94.72 46 IAmb IAmb 03 40 30.9
comp=Z,85nm,1.7s
KURBB Kurchatov Arra 94.74 320 P **P** **03 40 15.2 -1.2**
comp=Z,4.4nm,0.8s,baz=103,slow=4.1,SNR=37
KURBB PP **PP** **03 44 01.9 -3.1**
comp=Z,2.7nm,0.9s,baz=102,slow=8.6,SNR=4.7
KURBB PKiKP **PKiKP** **03 44 59.4 +0.6**
comp=Z,1.4nm,0.7s,baz=103,slow=1.8,SNR=2.6
KURBB S **SKSac** **03 50 50.0 -1.4**
comp=Z,0.9nm,0.3s,baz=90,slow=0.9,SNR=4.5

KURBB LR LR 04 22 39.5
comp=Z,8µm,20.5s,baz=90,slow=35
comp=Z,4.4nm,0.8s
RDMU Red Mountain 94.81 50 IAmb IAmb 03 40 25.6
comp=Z,94nm,1.7s
NRIK Noril'sk 94.86 340 IAmb IAmb 03 40 17.6
comp=Z,134nm,1.8s
NRIK Noril'sk 94.86 340 P **P 03 40 14.8 -1.7**
comp=Z,23nm,1.1s,baz=113,slow=4.9,SNR=19
NRIK S **SKSac 03 50 53.3 +2.0**
comp=Z,0.8nm,0.3s,baz=76,slow=4.2,SNR=7.2
comp=Z,23nm,1.1s
NRIK Noril'sk 94.86 340*d* *i*P **P 03 40 15.5 -1.0**
NRIK pmax pmax
comp=Z,73nm,1.6s
121A Cookes Peak, D 94.88 58 P **P 03 40 18.5 +0.8**
baz=261
BOOM Boomskoye usch 95.04 312 IAmb IAmb 03 40 26.8
comp=Z,68nm,1.4s
BOOM IAMs_20 IAMs_20 04 25 21.7
comp=Z,5µm,20.0s
MVCO Mesa Verde 95.07 53 IAMs_20 IAMs_20 04 19 20.1
comp=Z,5µm,18.0s
BW06 Boulder Array 95.18 48 ⇑P **P 03 40 18.9 -0.1**
PDAR Pinedale Array 95.18 48 P **P 03 40 18.0 -0.9**
comp=Z,5.1nm,1.0s,baz=264,slow=2.5,SNR=17
comp=Z,5.1nm,1.0s
YNE Yellowstone No 95.24 45 IAMs_20 IAMs_20 04 23 03.7
comp=Z,5µm,18.0s
TKM2 Tokmak 2 95.36 313 P **P 03 40 20.5 +0.8**
SNR=5.0
NIL Nilore 95.71 303 P **P 03 40 21.2 -0.1**
NIL IAmb IAmb 03 40 23.0
comp=Z,125nm,1.6s
NIL Nilore 95.71 303 P **P 03 40 21.2 -0.1**
NIL pmax pmax
comp=Z,125nm,1.6s
NIL MLR MLR
comp=Z,3µm,22.0s
RLMT Red Lodge 95.78 45 IAMs_20 IAMs_20 04 16 36.9
comp=Z,5µm,20.0s
YKA Yellowknife Ar 95.81 28 P **P 03 40 19.7 -1.3**
comp=Z,6.6nm,1.0s,baz=260,slow=4.4,SNR=12
YKA PP **PP 03 44 05.7 -7.3**
comp=Z,1.3nm,0.9s,baz=259,slow=7.5,SNR=4.3
YKA LR LR 04 20 56.9
comp=Z,5µm,18.1s,baz=265,slow=34
comp=Z,6.6nm,1.0s
HPIG 95.81 64 IAMs_20 IAMs_20 04 20 25.8
comp=Z,5µm,18.0s
EPT El Paso 95.83 59 IAMs_20 IAMs_20 04 21 48.8
comp=Z,4µm,19.0s
Y22D IRIS PASSCAL I 95.84 57 IAMs_20 IAMs_20 04 17 17.8
comp=Z,4µm,20.0s
Y22D IRIS PASSCAL I 95.84 57 P **P 03 40 23.0 +0.9**
baz=261
EGMT Eagleton 95.91 42 IAMs_20 IAMs_20 04 19 14.1
comp=Z,4µm,20.0s
EGMT Eagleton 95.91 42 ⇑P **P 03 40 22.7 +0.8**
CHMS Chumysh 95.99 312 P **P 03 40 22.6 +0.3**
SNR=5.9
FRU1 Bishkek 96.05 312 IAMs_20 IAMs_20 04 23 32.4
comp=Z,5µm,22.0s
AAK Ala-Archa 96.12 312 P **P 03 40 24.0 +0.9**
SNR=6.3
AAK Ala-Archa 96.12 312 P **P 03 40 22.7 -0.4**
AAK Ala-Archa 96.12 312 IAMs_20 IAMs_20 04 30 01.3
comp=Z,5µm,18.0s
AAK Ala-Archa 96.12 312 P **P 03 40 21.9 -1.2**
comp=Z,2.7nm,0.8s,baz=90,slow=7.1,SNR=9.5
AAK PP **PP 03 44 17.4 +1.2**
comp=Z,4.5nm,1.1s,baz=83,slow=8.1,SNR=2.1
AAK S **SKSac 03 50 58.1 -1.5**
comp=Z,0.8nm,0.7s,baz=94,slow=15,SNR=0.9
AAK LR LR 04 27 46.9
comp=Z,4µm,18.1s,baz=68,slow=38
comp=Z,2.7nm,0.8s
AAK Ala-Archa 96.12 312*d* *i*P **P 03 40 22.9 -0.2**
AAK pmax pmax
comp=Z,34nm,1.9s
SGDS Sogindy 96.14 313 *e*P **P 03 40 20.9 -2.2**
USP Ospenovka 96.21 313 P **P 03 40 24.1 +0.7**
SNR=9.4
ANMO Albuquerque 96.35 56 P **P 03 40 23.6 -0.8**
ANMO Albuquerque 96.35 56⇓ *e*P **P 03 40 24.5 +0.1**
ANMO pmax pmax
comp=Z,7.0nm,1.3s
NVL N'lazarevskaya 96.46 189 *e*P **P 03 40 28.1 +4.2**
NVL *e* 03 44 29.9
NVL *e*PPP PPP 03 46 31.4
NVL *e*S **SKSac 03 51 03.5 +3.5**
NVL *e*SSS SSS 04 02 01.6
NVL pmax pmax
comp=Z,8.0nm,1.0s
NVL MLR MLR
comp=Z,3µm,17.0s
S22A 4UR Ranch, Cre 96.46 53 IAmb IAmb 03 40 30.2
comp=Z,83nm,2.0s
S22A IAMs_20 IAMs_20 04 21 11.2
comp=Z,5µm,18.0s
S22A 4UR Ranch, Cre 96.46 53 P **P 03 40 25.7 +0.7**
baz=262
TROLL Troll, Antarti 96.52 186 ⇑P **P 03 40 23.9 -0.5**
comp=Z,517nm,0.9s
TROLL ⇑PKKPdf **PKKPbc 03 57 06.1 -5.0**
comp=Z,71nm,0.8s
CRZF Crozet Islands 96.54 220 IAMs_20 IAMs_20 04 20 39.4
comp=Z,4µm,18.0s
AML Almayashu 96.63 312 P **P 03 40 26.3 +0.5**
SNR=5.8
BTLS Baital 96.79 314 *e*P **P 03 40 25.9 -0.1**
comp=Z,76nm,2.4s
BTLS Baital 96.79 314 *e*P **P 03 40 25.8 -0.1**
BTLS pmax pmax
comp=Z,76nm,2.4s
PMSA Palmer Station 96.92 162 IAMs_20 IAMs_20 04 20 11.3
comp=Z,5µm,19.0s
SNAA Sanae 97.33 184 P **P 03 40 27.1 -0.8**
SNAA Sanae 97.33 184 ⇑P **P 03 40 27.9 0.0**
comp=Z,94nm,0.9s
SNAA ⇑PKKPdf PKKPbc 03 56 56.3 -13
comp=Z,21nm,0.9s
SNAA Sanae 97.33 184 P **P 03 40 27.6 -0.4**
comp=Z,1.7nm,0.7s,baz=167,slow=4.6,SNR=15
SNAA PP **PP 03 44 23.8 -0.2**
comp=Z,5.1nm,1.3s,baz=165,slow=12,SNR=2.0
SNAA PKiKP **PKiKP 03 45 02.1 -0.9**
comp=Z,2.2nm,1.1s,baz=225,slow=5.7,SNR=2.0
SNAA LR LR 04 22 20.5
comp=Z,6µm,19.7s,baz=172,slow=34
comp=Z,1.7nm,0.7s
SNAA Sanae 97.33 184 ⇑P **P 03 40 28.0 +0.1**
SNAA Sanae 97.33 184*d* *i*P **P 03 40 26.2 -1.7**
SNAA pmax pmax
comp=Z,25nm,1.6s
SDCO Great Sand Dun 97.50 53 IAMs_20 IAMs_20 04 23 33.5
comp=Z,5µm,18.0s
N23A Red Feather La 97.58 50 P **P 03 40 29.7 -0.2**
baz=263
TXAR Lajitas Array 97.91 62 P Pdif 03 40 31.9 +0.4
comp=Z,1.7nm,0.8s,baz=255,slow=6.4,SNR=12
TXAR PP **PP 03 44 29.5 -0.7**
comp=Z,1.1nm,1.1s,baz=258,slow=4.3,SNR=2.7
comp=Z,1.7nm,0.8s
Q24A Divide 97.94 52 P Pdif 03 40 32.0 +0.3
baz=263
ZAIG Zacatecas 97.98 68 IAMs_20 IAMs_20 04 21 50.6
comp=Z,4µm,18.0s
LAO LASA Array 98.10 44 IAmb IAmb 03 40 33.8
comp=Z,47nm,1.3s
LAO LASA Array 98.10 44 ⇑P Pdif 03 40 33.4 +1.5
VNA3 Neumayer Olymp 98.15 182 ⇑P **P 03 40 30.5 -1.1**
comp=Z,6.2nm,0.8s
VNA3 ⇑PKKPdf **PKKPbc 03 57 01.2 -5.3**
comp=Z,1.8nm,0.8s
T25A Trinidad 98.29 54 IAMs_20 IAMs_20 04 24 21.3
comp=Z,4µm,20.0s
T25A Trinidad 98.29 54 P Pdif 03 40 33.5 +0.3
baz=263
VNA2 Neumayer--Watz 98.36 183 ⇑P **P 03 40 32.0 -0.5**
comp=Z,5.0nm,0.6s,baz=161,slow=3.2
DZA Taraz 98.46 312 *e*P **P 03 40 33.5 -0.1**
DZA Taraz 98.46 312 *e*P **P 03 40 33.4 -0.1**
BTK Batken 98.52 309 IAmb IAmb 03 43 59.4
BTK IAMs_20 IAMs_20 04 25 40.0
comp=Z,6µm,21.0s
BTK Batken 98.52 309 P **P 03 40 33.0 -0.9**

VNA1 Neumayer--Stat 98.67 183 ⇑Pdiff Pdif 03 40 35.5 +1.6
comp=Z,5.6nm,1.1s
GAR Garm 98.78 308 IAmb IAmb 03 40 43.0
comp=Z,61nm,1.4s
MOIG Morelia 98.81 72 IAMs_20 IAMs_20 04 18 01.0
comp=Z,4µm,20.0s
KK31 Karatay Array 99.08 312 *i*P **Pdif 03 40 35.2 -1.1**
KBU Kabul Universi 99.21 303 PP **PP 03 44 37.7 -2.5**
KBU P **Pdif 03 40 35.4 -1.9**
KBL Kabul 99.29 303 P **Pdif 03 40 36.7 -1.0**
KBL Kabul 99.29 303 P **Pdif 03 40 36.7 -1.0**
KBL pmax pmax
comp=Z,38nm,1.5s
IUG luzhnay 99.34 311 *e*P **Pdif 03 40 37.4 -0.1**
comp=Z,86nm,2.1s
IUG luzhnay 99.34 311 *e*P **Pdif 03 40 37.4 -0.1**
IUG pmax pmax
comp=Z,86nm,2.1s
RSSD Black Hills 99.35 47 P **Pdif 03 40 38.3 +0.6**
RSSD Black Hills 99.35 47 P **Pdif 03 40 38.3 +0.6**
RSSD pmax pmax
comp=Z,11nm,1.2s
BRLS Borolday 99.57 312 *e*P **Pdif 03 40 38.8 +0.3**
comp=Z,54nm,2.6s
BRLS Borolday 99.57 312 *e*P **Pdif 03 40 38.7 +0.3**
BRLS pmax pmax
comp=Z,54nm,2.6s
DGMT Dagmar 99.65 42 IAmb IAmb 03 40 46.6
comp=Z,61nm,1.6s
DGMT Dagmar 99.65 42 IAMs_20 IAMs_20 04 24 29.1
comp=Z,4µm,18.0s
KSCO Kaye Shedlock' 99.89 52 IAMs_20 IAMs_20 04 19 07.7
comp=Z,6µm,20.0s
BVA0 Borovoye Array 100.06 322 *i*P **Pdif 03 40 38.9 -1.5**
BVAR Borovoye Array 100.06 322 P **Pdif 03 40 39.0 -1.4**
comp=Z,10nm,0.9s,baz=100,slow=4.4,SNR=21
BVAR PP **PP 03 44 41.1 -4.7**
comp=Z,2.8nm,0.8s,baz=97,slow=7.4,SNR=3.6
BVAR PKiKP **PKiKP 03 45 09.4 +1.2**
comp=Z,2.2nm,0.6s,baz=90,slow=3.0,SNR=4.1
BVAR S **SKSac 03 51 20.9 +2.1**
comp=Z,0.4nm,0.4s,baz=93,slow=6.2,SNR=1.2
BVAR LR LR 04 24 54.9
comp=Z,12µm,21.9s,baz=86,slow=35
comp=Z,10nm,0.9s
BRVK Borovoye 100.13 322*d* *i*P **Pdif 03 40 38.9 -1.8**
BRVK pmax pmax
comp=Z,50nm,1.7s
BRVK MLR MLR
comp=Z,8µm,18.0s
AMTX Amarillo 100.24 56 IAMs_20 IAMs_20 04 20 09.2
comp=Z,4µm,19.0s
OGNE Ogallala 100.53 50 IAMs_20 IAMs_20 04 21 57.2
comp=Z,5µm,19.0s
TLIG Tlapa 100.99 74 IAMs_20 IAMs_20 04 22 04.8
comp=Z,3µm,18.0s
JCT Junction City 101.37 61 IAMs_20 IAMs_20 04 21 07.7
comp=Z,4µm,19.0s
MG03 Isla Dawson 101.41 151 IAMs_20 IAMs_20 04 21 53.5
comp=Z,5µm,20.0s
FFC Flin Flon 101.44 36 IAMs_20 IAMs_20 04 20 02.6
comp=Z,4µm,20.0s
833A Chaparral WMA, 101.51 63 IAMs_20 IAMs_20 04 24 40.6
comp=Z,4µm,18.0s
833A Chaparral WMA, 101.51 63 P **Pdif 03 40 47.2 -0.2**
baz=264
ABTX Abilene, Hawle 101.71 59 IAMs_20 IAMs_20 04 23 47.5
comp=Z,5µm,18.0s
GO09 Cerro Castillo 101.96 148 IAMs_20 IAMs_20 04 22 17.2
comp=Z,4µm,18.0s
MG02 Cerro Sombrero 102.64 150 IAMs_20 IAMs_20 04 22 44.2
comp=Z,6µm,20.0s
OK038 West end E0370 102.75 55 IAMs_20 IAMs_20 04 25 49.7
comp=Z,5µm,18.0s
FW03 Perrin-Whitt E 103.07 58 IAMs_20 IAMs_20 04 22 14.4
comp=Z,3µm,19.0s
435B Jarrell 103.30 61 IAMs_20 IAMs_20 04 21 27.9
comp=Z,4µm,20.0s
435B Jarrell 103.30 61 P **Pdif 03 40 54.8 -0.5**
baz=266
RES Resolute Bay 103.37 15 IAMs_20 IAMs_20 04 22 30.1
comp=Z,6µm,22.0s
RES Resolute Bay 103.37 15 Pdiff **Pdif 03 40 55.1 +0.6**
comp=Z,3.3nm,1.1s,baz=267,slow=4.6,SNR=2.1
BGNE Belgrade 103.48 50 IAMs_20 IAMs_20 04 25 37.4
comp=Z,4µm,19.0s
FW06 Azle 103.49 59 IAMs_20 IAMs_20 04 23 06.6
comp=Z,4µm,18.0s
WHTX Lake Whitney, 103.50 60 IAMs_20 IAMs_20 04 23 41.1
comp=Z,4µm,19.0s
OK029 Liberty Lake 103.75 56 IAMs_20 IAMs_20 04 27 30.2
comp=Z,4µm,20.0s
FNO Franklin 103.77 56 IAMs_20 IAMs_20 04 31 05.6
comp=Z,3µm,18.0s
Z35A Perchaven, San 103.77 58 IAMs_20 IAMs_20 04 23 16.9
comp=Z,4µm,19.0s
OK048 Pawnee Station 104.20 55 IAMs_20 IAMs_20 04 29 12.0
comp=Z,5µm,18.0s
OK031 S. Brethren Rd 104.26 56 IAMs_20 IAMs_20 04 28 13.6
comp=Z,4µm,18.0s
OK051 E0350 and S346 104.29 55 IAMs_20 IAMs_20 04 30 22.4
comp=Z,5µm,19.0s
OK052 Battle Ridge R 104.29 55 IAMs_20 IAMs_20 04 28 06.5
comp=Z,5µm,18.0s
DEOK Depew 104.53 56 IAMs_20 IAMs_20 04 22 42.8
comp=Z,4µm,22.0s
T35A Sooner Cattle 104.57 55 IAMs_20 IAMs_20 04 26 55.7
comp=Z,4µm,19.0s
KSU1 Kansas State U 104.58 52 IAMs_20 IAMs_20 04 20 22.6
comp=Z,6µm,22.0s
ECSD EROS Data Cent 104.68 48 IAMs_20 IAMs_20 04 26 37.8
comp=Z,5µm,18.0s
HKT Hockley 104.75 62 IAMs_20 IAMs_20 04 27 20.3
comp=Z,4µm,18.0s
L34A Svendsen Farm, 104.83 49 IAMs_20 IAMs_20 04 26 48.9
comp=Z,5µm,19.0s
237A Washetta, Mont 104.90 60 IAMs_20 IAMs_20 04 25 11.1
comp=Z,4µm,19.0s
F33A 5 Mile Ranch, 104.92 45 IAMs_20 IAMs_20 04 24 36.9
comp=Z,4µm,18.0s
TUL3 Leonard 105.11 56 IAMs_20 IAMs_20 04 28 30.1
comp=Z,4µm,18.0s
AGMN Agassiz Nation 105.19 43 IAMs_20 IAMs_20 04 38 31.8
comp=Z,4µm,18.0s
GO07 Milladeo Hill, 105.62 140 IAMs_20 IAMs_20 04 21 27.4
comp=Z,5µm,20.0s
Z38A Mt. Pleasant 105.66 58 IAMs_20 IAMs_20 04 27 52.0
comp=Z,4µm,19.0s
FCC Fort Churchill 105.67 32 IAMs_20 IAMs_20 04 28 49.2
comp=Z,4µm,20.0s
LL07 Hotel Espejo d 105.88 140 IAMs_20 IAMs_20 04 21 44.4
comp=Z,4µm,20.0s
LL06 Loncomilla 106.11 140 IAMs_20 IAMs_20 04 18 20.4
comp=Z,6µm,22.0s
U38A Gravette 106.26 55 IAMs_20 IAMs_20 04 29 16.6
comp=Z,4µm,18.0s
MSEY Mahe Island 106.39 262 IAMs_20 IAMs_20 04 29 32.3
comp=Z,4µm,19.0s
AB31 Akbulak array 106.59 318 *i*P **Pdif 03 41 07.5 -2.0**
HHAR Hobbs 106.62 55 IAMs_20 IAMs_20 04 30 27.0
comp=Z,4µm,18.0s
LL05 Los Muermos 106.62 139 IAMs_20 IAMs_20 04 19 02.1
comp=Z,6µm,22.0s
ARTI Arti 106.96 326 P **Pdif 03 41 11.1 +0.1**
ARTI S **SKSac 03 51 50.6 0.0**
ARTI SSS SSS 04 04 43.6
ARTI MLR MLR
comp=Z,8µm,22.0s
SPMN Marine on St. 107.39 46 IAMs_20 IAMs_20 04 25 46.2
comp=Z,4µm,20.0s
LL03 Petrohue 107.45 139 IAMs_20 IAMs_20 04 18 50.0
comp=Z,5µm,22.0s
Z41A Richland Creek 107.49 58 IAMs_20 IAMs_20 04 27 03.4
comp=Z,5µm,18.0s
LL04 Puerto Octay 107.57 139 IAMs_20 IAMs_20 04 19 40.2
comp=Z,4µm,21.0s
UALR University of 107.90 57 IAMs_20 IAMs_20 04 25 42.1
comp=Z,5µm,19.0s
R40A Maddies Statio 107.96 53 IAMs_20 IAMs_20 04 24 55.3
comp=Z,3µm,20.0s
FCAR Ozark Folk Cen 108.08 56 IAMs_20 IAMs_20 04 25 06.9
comp=Z,4µm,21.0s
P40A Paris 108.12 52 IAMs_20 IAMs_20 04 22 19.3
comp=Z,6µm,22.0s
LR05 Currie 108.19 139 IAMs_20 IAMs_20 04 18 38.6
comp=Z,3µm,22.0s
CCAR Cane Creek 108.36 58 IAMs_20 IAMs_20 04 32 19.4
comp=Z,5µm,18.0s

FOMA Nahampoana Res 108.42 239 IAMs_20 IAMs_20 04 28 58.8
comp=Z,4µm,18.0s
EFI East Falkland 108.48 154 IAMs_20 IAMs_20 04 21 12.3
comp=Z,4µm,21.0s
CCM Cathedral Cave 108.77 53 IAMs_20 IAMs_20 04 24 49.8
comp=Z,3µm,19.0s
LCAR Lake Charles 108.87 56 IAMs_20 IAMs_20 04 27 42.7
comp=Z,4µm,19.0s
GO06 Curarrehue 108.88 138 IAMs_20 IAMs_20 04 20 22.8
comp=Z,5µm,21.0s
N41A Harden Midland 109.00 51 IAMs_20 IAMs_20 04 28 22.4
comp=Z,5µm,19.0s
I40A Norwalk 109.02 47 IAMs_20 IAMs_20 04 30 00.5
comp=Z,4µm,21.0s
JFWS Jewell Farm 109.34 48 IAMs_20 IAMs_20 04 41 43.3
comp=Z,4µm,18.0s
545A Edgard 109.39 62 IAMs_20 IAMs_20 04 29 16.1
comp=Z,5µm,20.0s
VBMS Vicksburg 109.40 60 IAMs_20 IAMs_20 04 34 15.1
comp=Z,3µm,18.0s
ESQI Esquipulas 109.43 78 IAMs_20 IAMs_20 04 21 30.9
comp=Z,3µm,19.0s
PBMO Poplar Bluff 109.44 55 IAMs_20 IAMs_20 04 33 20.8
comp=Z,4µm,18.0s
SLM Saint Louis 109.55 53 IAMs_20 IAMs_20 04 30 18.3
comp=Z,4µm,18.0s
MET Memphis--Engin 109.88 56 IAMs_20 IAMs_20 04 27 01.4
comp=Z,4µm,19.0s
PEBM Pemiscott Bayo 109.92 55 IAMs_20 IAMs_20 04 30 28.4
comp=Z,4µm,18.0s
PARMO Parma 109.99 55 IAMs_20 IAMs_20 04 26 17.3
comp=Z,4µm,19.0s
P43A Skaggs, Pawnee 110.06 52 IAMs_20 IAMs_20 04 24 03.8
comp=Z,5µm,22.0s
LNXT Lenox 110.22 55 IAMs_20 IAMs_20 04 32 28.3
comp=Z,4µm,19.0s
I42A Draeger Farm, 110.25 47 IAMs_20 IAMs_20 04 31 28.0
comp=Z,4µm,19.0s
KBS Kingsbay 110.28 354 IAMs_20 IAMs_20 04 25 01.6
comp=Z,4µm,22.0s
KBS Kingsbay 110.28 354 *e*PP **PP 03 45 58.0 -2.7**
KBS *e*SKSac **SKSac 03 52 05.5 +1.6**
KBS *e*SP **SP 03 55 27.9 +0.3**
KBS *e* 04 18 18.2
KBS IVMs_BB IVMs_BB 04 18 33.9
comp=Z,4µm,3.8s
S44A Carbondale 110.36 54 IAMs_20 IAMs_20 04 33 29.8
comp=Z,4µm,20.0s
SIUC Southern Illin 110.39 54 IAMs_20 IAMs_20 04 31 26.5
comp=Z,4µm,18.0s
HICK Hickman 110.42 55 IAMs_20 IAMs_20 04 26 38.5
comp=Z,4µm,19.0s
SPA0 Spitsbergen Ar 110.44 353 *e*PP **PP 03 46 02.4 +0.5**
SPA0 *e*SP SP 03 55 29.1 0.0
Q44A Meyer Farm, Va 110.49 52 IAMs_20 IAMs_20 04 24 16.2
comp=Z,5µm,21.0s
HOPEN Hopen 110.51 350 *e*PP **PP 03 46 02.6 +0.2**
HOPEN *e*SP SP 03 55 30.5 +0.8
HOPEN IVMs_BB IVMs_BB 04 26 08.8
comp=Z,10µm,4.1s
F42A Maple Grove Fa 110.62 45 IAMs_20 IAMs_20 04 42 00.7
comp=Z,4µm,20.0s
146A Union 110.63 59 IAMs_20 IAMs_20 04 29 13.7
comp=Z,4µm,19.0s
T45A Paducah 110.87 54 IAMs_20 IAMs_20 04 31 32.4
comp=Z,4µm,19.0s
NEEM North Greenlan 110.92 8 *i*P **PKiKP 03 45 27.7 -0.2**
GO05 Hualane 110.94 134 IAMs_20 IAMs_20 04 20 04.6
comp=Z,6µm,22.0s
H43A Windswept, Lux 111.01 46 IAMs_20 IAMs_20 04 27 29.2
comp=Z,4µm,21.0s
KIRV Kirov 111.31 329⇓ *i*PKiKP **PKiKP 03 45 28.4 -0.3**
PLAL Pickwick Lake 111.40 57 IAMs_20 IAMs_20 04 36 54.9
comp=Z,4µm,20.0s
BO01 Tunca 111.85 134 IAMs_20 IAMs_20 04 20 30.8
comp=Z,5µm,22.0s
P46A Rosedale 111.85 52 IAMs_20 IAMs_20 04 24 37.1
comp=Z,6µm,22.0s
BO02 Sierra Bellavi 111.86 134 IAMs_20 IAMs_20 04 21 33.0
comp=Z,5µm,22.0s
T47A Sharon Grove 112.10 54 IAMs_20 IAMs_20 04 30 53.0
comp=Z,4µm,19.0s
VA01 Torpederas 112.13 132 IAMs_20 IAMs_20 04 21 03.6
comp=Z,4µm,21.0s
MT09 Talagante 112.23 133 IAMs_20 IAMs_20 04 20 41.0
comp=Z,5µm,22.0s
X48A Hartselle 112.27 57 IAMs_20 IAMs_20 04 29 30.9
comp=Z,3µm,18.0s
BO04 La Punta 112.39 134 IAMs_20 IAMs_20 04 20 48.2
comp=Z,5µm,22.0s
MT05 Renca 112.61 133 IAMs_20 IAMs_20 04 20 52.9
comp=Z,5µm,22.0s
WCI Wyandotte Cave 112.66 53 IAMs_20 IAMs_20 04 36 27.8
comp=Z,4µm,19.0s
MT03 Universidad Ad 112.72 133 IAMs_20 IAMs_20 04 20 56.9
comp=Z,4µm,22.0s
MT16 CCHEN 112.74 133 IAMs_20 IAMs_20 04 20 57.5
comp=Z,4µm,22.0s
Y49A Blount Mountai 112.82 58 IAMs_20 IAMs_20 04 26 47.5
comp=Z,4µm,21.0s
BJO1 Bjornoya 113.02 350 *e*PP **PP 03 46 21.9 +1.5**
BJO1 *e*SP SP 03 55 54.5 +1.7
BJO1 *e*SS **SS 04 02 05.9 +2.8**
BJO1 IVMs_BB IVMs_BB 04 22 51.4
comp=Z,6µm,3.7s
VA03 San Esteban 113.06 132 IAMs_20 IAMs_20 04 21 41.0
comp=Z,3µm,21.0s
U49A Red Boiling Sp 113.19 55 IAMs_20 IAMs_20 04 34 45.0
comp=Z,4µm,20.0s
GLMI Grayling 113.20 46 IAMs_20 IAMs_20 04 30 51.6
comp=Z,4µm,20.0s
P48A Milroy 113.24 52 IAMs_20 IAMs_20 04 25 39.7
comp=Z,5µm,21.0s
J47A Sunmer 113.27 48 IAMs_20 IAMs_20 04 27 52.1
comp=Z,4µm,20.0s
CO06 Fray Jorge 113.30 130 IAMs_20 IAMs_20 04 22 39.4
comp=Z,5µm,22.0s
R49A Shelbyville 113.54 53 IAMs_20 IAMs_20 04 26 32.9
comp=Z,3µm,21.0s
W50A Signal Mountai 113.66 56 IAMs_20 IAMs_20 04 23 42.5
comp=Z,4µm,22.0s
P49A Miami Univ. Ec 113.78 52 IAMs_20 IAMs_20 04 34 11.0
comp=Z,4µm,19.0s
P49A Miami Univ. Ec 113.78 52 P **PKiKP 03 45 34.8 +0.8**
baz=276
BELG Belogornoye 113.86 323*c* *i*PKiKP **PKiKP 03 45 34.4 +0.7**
DAG Danmarks Havn 113.89 0 *i*P **PKiKP 03 45 31.8 -1.3**
VADS Vadso 113.90 344 *e*PP **PP 03 46 28.1 +1.5**
VADS *e*SP SP 03 56 01.9 +0.9
VADS *e*SS **SS 04 02 17.2 +2.3**
VADS IVMs_BB IVMs_BB 04 27 30.5
comp=Z,2µm,3.9s
CO03 El Pedregal 113.92 131 IAMs_20 IAMs_20 04 24 22.0
comp=Z,3µm,20.0s
X51A Calhoun 114.07 57 IAMs_20 IAMs_20 04 33 53.5
comp=Z,3µm,21.0s
R50A Paris 114.20 53 IAMs_20 IAMs_20 04 31 19.4
comp=Z,4µm,18.0s
AAM Ann Arbor 114.24 48 IAMs_20 IAMs_20 04 29 40.0
comp=Z,5µm,20.0s
APA Apatity 114.25 341⇓ *i*PKiKP PKPdf 03 45 26.8 -7.3
APA *i* 03 46 26.0
APA *i* 03 48 59.0
APA *i* 03 52 22.0
APA *i*PS **PS 03 55 58.0 -9.2**
APA *i*PPS PPS 03 57 11.0
APA *i*SS SS 04 02 27.0 +7.4
APA pmax pmax
comp=Z,11nm,1.1s
APA MLR MLR
comp=Z,10µm,23.0s
152A Waverly Hall 114.29 59 IAMs_20 IAMs_20 04 31 28.6
comp=Z,3µm,19.0s
Y52A Lilburn 114.77 58 IAMs_20 IAMs_20 04 30 50.1
comp=Z,4µm,19.0s
LCO Las Campanas 114.81 129 IAMs_20 IAMs_20 04 23 13.6
comp=Z,3µm,22.0s
S51A Beattyville 114.84 53 IAMs_20 IAMs_20 04 33 17.5
comp=Z,3µm,20.0s
HAMF Hammerfest 114.97 346 *e*PP **PP 03 46 32.4 -1.8**
HAMF *e*SP SP 03 56 12.7 +2.0
HAMF *e*SS **SS 04 02 30.8 +1.9**
HAMF IVMs_BB IVMs_BB 04 28 52.0
comp=Z,3µm,4.0s
ZON Zonda 115.05 132 IAMs_20 IAMs_20 04 24 16.5
comp=Z,3µm,20.0s
NUUG Nuugaatsiaq 115.24 12 *i*P **PKiKP 03 45 35.5 -0.3**

KLMR Klimovskoe 115.24 333 *e*PKIKP **PKiKP 03 45 33.0 -3.1**
KLMR PS **PKKPbc 03 56 12.1 -1.1**
KLMR pmax pmax
comp=Z,52nm,1.7s
KLMR MLR MLR
comp=Z,6μm,23.0s
ARA0 ARCESS Array S 115.30 345 *e*PKPdf **PKPdf 03 45 36.4 +0.4**
ARA0 IVmB_BB 03 46 03.3
comp=Z,2μm,3.0s
ARA0 *e*PP **PP 03 46 38.1 +1.6**
ARA0 *e*SP SP 03 56 13.7 -0.1
ARA0 *e*SS **SS 04 02 35.0 +1.6**
ARA0 IVMs_BB IVMs_BB 04 38 54.8
comp=Z,2μm,4.7s
ARCES ARCESS Array B 115.30 345 PKP **PKiKP 03 45 36.0 -0.1**
comp=Z,17nm,0.7s,baz=40,slow=1.5,SNR=32
ARCES ARCESS Array B 115.30 345 PKIKP **PKiKP 03 45 36.0 -0.1**
GOGA Godfrey 115.30 58 IAMs_20 IAMs_20 04 29 53.1
comp=Z,4μm,19.0s
154A Montrose 115.65 59 IAMs_20 IAMs_20 04 38 12.6
comp=Z,3μm,18.0s
V53A Saluda 115.66 56 IAMs_20 IAMs_20 04 29 52.3
comp=Z,4μm,20.0s
Q52A Bidwell 115.73 52 IAMs_20 IAMs_20 04 37 50.8
comp=Z,4μm,19.0s
TRQA Tornquist 115.78 142 IAMs_20 IAMs_20 04 24 43.4
comp=Z,3μm,22.0s
MAK Makhachkala 115.89 313 *i* P **Pdif 03 41 45.7 -5.3**
MAK *e* 03 52 18.3
MAK *e*PS **PS 03 56 21.0 -2.3**
MAK *e*SS SS 04 02 36.2 -6.7
MAK *e*SSS SSS 04 06 53.7
MAK pmax pmax
comp=Z,451nm,1.2s
AKT Akhty 115.97 311 *e*PKIKP **PKPdf 03 45 36.2 -2.1**
HODGE Hodges 116.24 57 IAMs_20 IAMs_20 04 32 03.9
comp=Z,3μm,19.0s
KTK1 Kautokeino 116.24 345 *e*PKPdf **PKPdf 03 45 38.1 +0.2**
KTK1 *e*PP **PP 03 46 44.8 +1.6**
KTK1 *e*SP SP 03 56 22.8 +0.4
KTK1 *e*SS **SS 04 02 48.1 +2.4**
KTK1 IVMs_BB IVMs_BB 04 31 38.4
comp=Z,2μm,3.9s
TRO Tromso 116.82 347 *e*PKPdf **PKiKP 03 45 39.3 +0.3**
TRO *e*PP **PP 03 46 47.3 +0.1**
TRO *e*SP SP 03 56 28.0 +0.5
TRO *e*SS **SS 04 02 53.7 +0.7**
TRO IVMs_BB IVMs_BB 04 27 36.7
comp=Z,2μm,25.8s
KMSC Kings Mountain 116.91 56 IAMs_20 IAMs_20 04 30 54.6
comp=Z,3μm,20.0s
ERPA Erie 116.96 48 IAMs_20 IAMs_20 04 32 38.9
comp=Z,4μm,20.0s
CAMR Camarioca 117.47 70 IAMs_20 IAMs_20 04 32 14.2
comp=Z,2μm,20.0s
U56A King 117.54 55 IAMs_20 IAMs_20 04 36 57.1
comp=Z,4μm,18.0s
JOF Joensuu 117.59 337 *e*P **PKiKP 03 45 41.0 +0.3**
BIRD Birdtown, Kers 117.67 56 IAMs_20 IAMs_20 04 30 57.9
comp=Z,3μm,20.0s
VRH Novokhopyorsk 117.71 323 *i* PKIKP **PKPdf 03 45 39.6 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.8s
VRH MLR MLR
comp=Z,3μm,23.0s
W57A Gilead 118.00 56 IAMs_20 IAMs_20 04 33 26.4
comp=Z,4μm,20.0s
NHSC New Hope 118.07 58 IAMs_20 IAMs_20 04 31 27.5
comp=Z,4μm,19.0s
CSU Charleston Sou 118.17 58 IAMs_20 IAMs_20 04 31 31.2
comp=Z,4μm,20.0s
MOS Moscow 118.31 328 *i* PKIKP **PKPdf 03 45 41.5 -0.7**
MOS *e* 03 46 55.5
MOS *e*PPP PPP 03 49 27.3
MOS *e*PS **PS 03 56 43.2 -1.4**
MOS *e*SS SS 04 03 14.5 +1.1
MOS *e*SSS SSS 04 07 37.0
MOS pmax pmax
comp=Z,32nm,0.7s
Y58A Scranton 118.41 57 IAMs_20 IAMs_20 04 36 43.4
comp=Z,4μm,19.0s
GNI Garni 118.43 310 PKPdf **PKiKP 03 45 44.7 +1.5**
GNI Garni 118.43 310*c* *i*PKIKP **PKiKP 03 45 44.9 +1.7**
GNI MLR MLR
comp=Z,3μm,19.0s
S57A Dark Hollow, R 118.48 53 IAMs_20 IAMs_20 04 28 44.6
comp=Z,4μm,22.0s
NCK Nalchik 118.59 314⇑ *i*PKIKP **PKiKP 03 45 44.2 +1.0**
X58A Rowland 118.61 56 IAMs_20 IAMs_20 04 31 15.5
comp=Z,5μm,20.0s
V58A Windy Hill, Pi 118.63 55 IAMs_20 IAMs_20 04 37 23.0
comp=Z,4μm,18.0s
LPSR Galich'ya Gora 118.85 325 *i* PKIKP **PKPdf 03 45 41.9 -1.4**
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR MLR MLR
comp=Z,3μm,22.0s
STEI Steigen 118.99 347 *e*PKPdf **PKPdf 03 45 43.2 0.0**
STEI *e*PP **PP 03 47 03.7 +1.5**
KBZ Khabaz 119.03 314 PKP **PKiKP 03 45 44.3 +0.3**
comp=Z,3.4nm,0.7s,baz=97,slow=5.1,SNR=8.0
KBZ PP **PP 03 46 59.5 -3.9**
comp=Z,4.6nm,1.0s,baz=63,slow=11,SNR=2.0
KBZ Khabaz 119.03 314*d* *i*PKIKP **PKPdf 03 45 43.2 -0.7**
VORR Voronezh 119.03 324⇑ *i*PKIKP **PKiKP 03 45 44.7 +0.9**
VORR pmax pmax
comp=Z,81nm,1.4s
TA01 Diego Aracena 119.10 121 IAMs_20 IAMs_20 04 26 58.6
comp=Z,3μm,20.0s
KIV Kislovodsk 119.12 315 **PKPdf 03 45 43.7 -0.6**
KIV IAMs_20 IAMs_20 04 38 46.7
comp=Z,4μm,19.0s
KIV Kislovodsk 119.12 315 ⇓P **PKiKP 03 45 51.0 +6.7**
KIV Kislovodsk 119.12 315 *i* P **Pdif 03 42 03.6 -1.9**
KIV *i* 03 45 42.8
KIV *e*PS **PS 03 56 49.3 -3.4**
KIV *e*SS SS 04 03 17.6 -7.4
KIV pmax pmax
comp=Z,18nm,1.1s
KIV MLR MLR
comp=Z,3μm,22.0s
OBN Obninsk 119.12 328*d* *i*PKIKP **PKPdf 03 45 42.9 -0.9**
OBN *i* 03 45 49.2
OBN *i* 03 47 04.0
OBN *i* PS **PS 03 56 48.5 -3.4**
OBN pmax pmax
comp=Z,16nm,0.9s
OBN MLR MLR
comp=Z,5μm,22.0s
SHA1 Shidzhatmaz 119.19 314*c* *i*PKIKP **PKiKP 03 45 45.7 +1.0**
LOF Lofoten 119.20 347 *e*PP **PP 03 47 07.2 +3.5**
LOF *e*SP SP 03 56 50.8 +1.8
LOF *e*SS **SS 04 03 27.7 +3.8**
VSR Storozhevoye 119.22 323 *i* PKIKP **PKPdf 03 45 42.5 -1.6**
VSR *e*SP SP 03 56 51.4 +1.1
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 119.23 323 *e*PKIKP **PKPdf 03 45 40.9 -3.2**
VORD pmax pmax
comp=Z,9.0nm,0.9s
W59A Clinton 119.26 56 IAMs_20 IAMs_20 04 34 38.7
comp=Z,4μm,18.0s
TA02 Huaiquique 119.26 120 IAMs_20 IAMs_20 04 24 25.1
comp=Z,4μm,21.0s
SFJD Kangerlussuaq 119.35 15 *i* P **PKPdf 03 45 42.3 -1.6**
FAUS Fauske 119.42 346 *e*PKPdf **PKiKP 03 45 44.5 +0.4**
FAUS *e*PP **PP 03 47 06.8 +1.6**
FAUS *e*SP SP 03 56 51.0 0.0
FAUS *e*SS **SS 04 03 29.9 +3.2**
FAUS IVMs_BB IVMs_BB 04 26 41.5
comp=Z,2μm,4.2s
RAYN Ar Rayn 119.42 291 ⇓PKIKP **PKiKP 03 45 45.8 +0.3**
Y60A Bolivia 119.59 57 IAMs_20 IAMs_20 04 37 20.8
comp=Z,4μm,19.0s
POGA Pongola 119.64 230 IAMs_20 IAMs_20 04 29 40.4
comp=Z,4μm,22.0s
T59A Double "B" Far 119.70 54 IAMs_20 IAMs_20 04 40 12.1
comp=Z,4μm,18.0s
ICESG Greenland Ices 119.79 9 *i* P **PKPdf 03 45 42.6 -2.6**
SDMD Soldier's Deli 119.82 51 IAMs_20 IAMs_20 04 34 09.9
comp=Z,3μm,19.0s
PB11 IPOC Station P 119.89 120 IAMs_20 IAMs_20 04 24 42.6
comp=Z,4μm,21.0s
PB08 IPOC Station P 120.15 121 IAMs_20 IAMs_20 04 24 51.5
comp=Z,3μm,20.0s

ERBR Yeremizino-Bor 120.17 317 *i* PKIKP **PKPdf 03 45 45.0 -1.1**
ERBR *e* 03 47 09.1
ERBR *e*PPP PPP 03 49 40.8
ERBR *e* 03 52 42.7
ERBR *e*PS **PS 03 56 58.3 -3.5**
ERBR *e*SS SS 04 03 37.3 -0.8
ERBR *e*SSS SSS 04 07 59.5
ERBR pmax pmax
comp=Z,84nm,1.8s
ERBR MLR MLR
comp=Z,13μm,24.0s
LABN Labinsk 120.31 316 *i* PKIKP **PKPdf 03 45 45.5 -0.9**
LABN *e* 03 45 48.1
LABN *e* 03 47 10.9
LABN *e* 03 52 42.6
LABN *e*PS **PS 03 57 01.8 -1.3**
LABN *e*SS SS 04 03 35.7 -4.3
LABN *e*SSS SSS 04 08 07.1
LABN pmax pmax
comp=Z,116nm,1.9s
LABN MLR MLR
comp=Z,7μm,20.0s
GO01 Chusmiza 120.32 120 IAMs_20 IAMs_20 04 24 57.0
comp=Z,4μm,21.0s
KEF Keuruu 120.42 339 *e*P **PKiKP 03 45 46.8 +0.6**
FINES FINESS Array B 120.45 338 PKP **PKPdf 03 45 44.7 -1.5**
comp=Z,13nm,0.7s,baz=81,slow=4.4,SNR=23
VAF Ylistaro 120.59 340 *e*P **PKiKP 03 45 46.9 +0.5**
MOR8 Moi Rana 120.60 346 *e*PKPdf **PKPdf 03 45 46.0 -0.4**
MOR8 *e*PP **PP 03 47 12.3 -1.0**
MOR8 *e*SP SP 03 56 59.1 -2.5
MOR8 *e*SS **SKKSdf 04 03 39.6 -0.4**
MOR8 IVMs_BB IVMs_BB 04 29 38.7
comp=Z,1μm,4.8s
J59A Piesco 120.60 46 **PKiKP 03 45 47.6 +0.5**
J59A IAMs_20 IAMs_20 04 33 57.8
comp=Z,4μm,20.0s
DY2G Dye2 120.80 13 *i* P **PKPdf 03 45 46.1 -0.9**
STOK Stokkvaagen 120.80 346 *e*PKPdf **PKiKP 03 45 47.1 +0.3**
STOK IVmBBB 03 45 51.6
comp=Z,1μm,3.1s
STOK *e*PP **PP 03 47 15.4 +0.8**
STOK *e*SP SP 03 57 05.0 +1.7
STOK *e*SS **SS 04 03 45.1 +0.6**
STOK IVMs_BB IVMs_BB 04 37 57.9
comp=Z,2μm,4.4s
HARA HARA 120.82 274 *e*P **PKiKP 03 45 51.7 +3.0**
SCHQ Schefferville 121.04 31 PKP **PKiKP 03 45 47.7 0.0**
comp=Z,6.5nm,0.8s,baz=329,slow=5.9,SNR=2.9
NUUK Nuuk 121.22 17 *i* P **PKPdf 03 45 47.0 -0.6**
SOC Sochi 121.30 315 *i* PKIKP **PKPdf 03 45 46.9 -1.4**
SOC *e* 03 47 16.3
SOC *e* 03 52 45.5
SOC *e*PS **PS 03 57 06.7 -5.3**
SOC *e*SS SS 04 03 51.1 -1.6
SOC *e*SSS SSS 04 08 17.0
SOC MLR MLR
comp=Z,8μm,19.0s
ATD Arta Tunnel 121.48 277 *e*P **PKiKP 03 45 50.9 +1.2**
CZSB Cruzeiro do Su 121.51 106 *e*P **PKiKP 03 45 49.8 0.0**
ARBE Arbavere 121.74 336 *e*P **PKiKP 03 45 50.1 +1.3**
MEF Metsahovi 121.87 337 *e*P **PKiKP 03 45 50.1 +1.1**
VSU Vasula 122.03 335*d* *i*PKIKP **PKiKP 03 45 49.5 +0.1**
CHIV Chiviric 122.08 73 IAMs_20 IAMs_20 04 30 09.6
comp=Z,1μm,20.0s
L61B Northampton 122.17 46 P **PKPdf 03 45 49.9 -0.2**
baz=286
RAF Rauma 122.30 339 *e*P **PKiKP 03 45 50.5 +0.6**
ANN Anapa 122.50 317 *i* PKIKP **PKPdf 03 45 50.0 -0.6**
ANN *e* 03 47 25.7
ANN *e* 03 52 46.0
ANN *e*PS **PS 03 57 19.5 -3.0**
ANN *e*SS SS 04 04 08.7 +0.9
ANN *e*SSS SSS 04 08 36.4
ANN pmax pmax
comp=Z,33nm,0.9s
ANN MLR MLR
comp=Z,6μm,21.0s
NSS Namsos 122.54 346 *e*PKPdf **PKPdf 03 45 50.1 0.0**
NSS *e*PP **PP 03 47 27.9 +1.4**
NSS *e*SP SP 03 57 20.1 +1.3
LPAZ La Paz 122.66 117 PKP **PKiKP 03 45 53.0 +0.3**
comp=Z,1.3nm,0.8s,baz=243,slow=3.7,SNR=5.4
LPAZ PP **PP 03 47 34.6 +5.0**
comp=Z,1.8nm,1.1s,baz=232,slow=4.6,SNR=1.4
LPAZ La Paz 122.66 117 PKIKP **PKiKP 03 45 53.0 +0.3**
ROSC El Rosal 122.85 91 PKP **PKPdf 03 45 52.8 +0.1**
comp=Z,4.7nm,0.4s,baz=306,slow=3.5,SNR=2.7
ROSC PP **PP 03 47 32.3 +1.1**
comp=Z,3.4nm,0.4s,baz=266,slow=4.4,SNR=1.1
ANGG Ammassalik, Gr 123.28 10 *i* P **PKPdf 03 45 47.1 -4.4**
NMDO Nuevo Mundo 123.42 72 IAMs_20 IAMs_20 04 36 23.1
comp=Z,1μm,20.0s
BOSA Boshof 123.61 225 PKP **PKiKP 03 45 54.0 +0.3**
comp=Z,2.6nm,0.6s,baz=137,slow=2.1,SNR=11
MNK Minsk 123.80 330 *i* P **Pdif 03 42 25.4 -0.5**
comp=E,17nm,0.7s
MNK *i* P **Pdif 03 42 25.4 -0.5**
comp=N,13nm,0.9s
MNK *i* P **Pdif 03 42 25.4 -0.5**
comp=Z,6.0nm,0.6s,baz=56
MNK *i* PKP **PKPdf 03 45 52.9 +0.1**
MNK *i* PP **PP 03 47 35.3 -0.1**
MNK *i* PPP PPP 03 50 13.0
MNK *i* SKS **SKSdf 03 53 04.8 +0.5**
MNK *i* SS **SS 04 04 24.9 +1.4**
MNK *i* SSS SSS 04 08 58.7
MNK *i* LQ LQ 04 28 56.3
MNK *i* LR LR 04 34 18.0
MNK *i* LRM MLR 04 38 46.9
comp=E,4μm,20.7s
MNK *i* LRM MLR 04 39 52.7
comp=Z,5μm,22.0s
MNK *i* LRM MLR 04 41 35.9
comp=N,4μm,18.0s
MNK Minsk 123.80 330 *i* P **Pdif 03 42 25.4 -0.5**
MNK *i* 03 45 52.8
MNK *i* 03 47 35.2
MNK *i* PPP PPP 03 50 13.0
MNK *i* 03 53 04.8
MNK *i* SS SS 04 04 24.8 +1.3
MNK *i* SSS SSS 04 08 58.7
MNK pmax pmax
comp=E,17nm,0.7s
MNK pmax pmax
comp=N,13nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.6s
MNK MLR MLR
comp=E,4μm,21.0s
MNK MLR MLR
comp=Z,5μm,22.0s
MNK MLR MLR
comp=N,4μm,18.0s
KIBK Kibwezi 123.85 260 IAMs_20 IAMs_20 04 34 36.1
comp=Z,3μm,21.0s
KIBK Kibwezi 123.85 260 PKP **PKPdf 03 45 53.9 -0.4**
M65A Busby, Falmout 123.87 47 P **PKiKP 03 45 53.7 +0.1**
baz=287
NACGM Naroch 124.10 331⇑ *i*PKP **PKiKP 03 45 54.4 +0.8**
comp=Z,57nm,0.9s,baz=55
ANKE Ethiopia-Afar 124.33 274 *e*P **PKPdf 03 45 52.7 -2.8**
SIM Simferopol' 124.66 318 *i* PKIKP **PKiKP 03 45 55.0 -0.1**
SIM *e* 03 47 46.0
SIM *e*PPP PPP 03 50 16.0
SIM pmax pmax
comp=Z,25nm,0.7s
VSVD Vaisvydziai 124.76 333 *e*P **PKiKP 03 45 56.1 +1.2**
GAZ Gaziantep 124.82 308 IAMs_20 IAMs_20 04 48 11.5
comp=Z,3μm,19.0s
KMBO Kilima Mbogo 124.91 261 PKPdf **PKiKP 03 45 56.9 +0.1**
KMBO Kilima Mbogo 124.91 261 IAMs_20 IAMs_20 04 35 53.3
comp=Z,3μm,21.0s
KMBO Kilima Mbogo 124.91 261 PKP **PKiKP 03 45 56.8 0.0**
comp=Z,0.6nm,0.4s,baz=83,slow=3.9,SNR=10
KMBO PP **PP 03 47 44.8 0.0**
comp=Z,0.3nm,0.3s,baz=92,slow=8.4,SNR=3.5
KMBO PKKPbc **PKKPab 03 55 36.5 0.0**
comp=Z,0.8nm,0.4s,baz=299,slow=7.4,SNR=3.6
KMBO Kilima Mbogo 124.91 261 *e*P **PKiKP 03 45 57.0 +0.1**
KMBO IAMs_20 IAMs_20 04 35 40.4
comp=Z,3μm,18.8s
PABE Paberze 125.04 333 *e*P **PKiKP 03 45 56.8 +1.3**
AK03 Malin Array Si 125.10 326 PKP **PKPdf 03 45 54.8 -0.6**

AKASG Malin Array Be 125.11 326 PKP **PKPdf 03 45 55.5 +0.1**
comp=Z,14nm,0.7s,baz=56,slow=2.1,SNR=58
AKASG PP **PP 03 47 43.1 -1.2**
comp=Z,3.0nm,0.9s,baz=52,slow=6.5,SNR=3.1
AKBB Malin Array Si 125.11 326*d* *i*PKIKP **PKPdf 03 45 55.0 -0.4**
AKBB Malin Array Si 125.11 326 PKP **PKPdf 03 45 54.8 -0.6**
AK09 Malin Array Si 125.12 326 PKP **PKPdf 03 45 54.8 -0.7**
AK01 Malin Array Si 125.12 326 PKP **PKPdf 03 45 54.8 -0.6**
KIEV Kiev 125.12 326 PKPdf **PKPdf 03 45 55.1 -0.3**
KIEV Kiev 125.12 326 ⇑P **PKiKP 03 45 56.0 +0.2**
KIEV Kiev 125.12 326 ⇑PKIKP **PKiKP 03 45 56.0 +0.2**
KIEV Kiev 125.12 326 PKP **PKPdf 03 45 54.8 -0.6**
AK08 Malin Array Si 125.13 326 PKP **PKPdf 03 45 54.8 -0.7**
AK04 Malin Array Si 125.13 326 PKP **PKPdf 03 45 54.8 -0.7**
FURI Furi 125.28 273 IAMs_20 IAMs_20 04 39 14.0
comp=Z,3μm,21.0s
WLRA Wolmera 125.29 274 *e*P **PKiKP 03 46 00.3 +2.6**
DILA Dilla 125.34 270 *e*P **PKiKP 03 45 59.1 +1.6**
DOMB Dombas 125.35 345 *e*PKPdf **PKPdf 03 45 55.8 +0.2**
DOMB *e*PP **PP 03 47 46.7 +1.2**
DOMB *e*SP SP 03 57 44.3 +0.6
DOMB IVMs_BB IVMs_BB 04 38 16.6
comp=Z,3μm,5.1s
NRS Narsarsuaq 125.40 17 **PKPdf 03 45 54.7 -0.9**
NRS Narsarsuaq 125.40 17 PKIKP **PKPdf 03 45 54.7 -0.9**
NRS Narsarsuaq 125.40 17 *i* P **PKPdf 03 45 54.0 -1.6**
PBUR Paburge 125.59 334 *e*P **PKiKP 03 45 57.7 +1.2**
NB2 NORSAR Subarra125.63 344 PKPdf **PKPdf 03 45 56.4 +0.2**
comp=Z,731nm,5.0s,baz=34,slow=1.9
NB2 NORSAR Subarra125.63 344 PKPdf **PKPdf 03 45 56.4 +0.2**
baz=34,slow=1.9
NOA NORSAR Array B125.63 344 PKP **PKPdf 03 45 56.2 0.0**
comp=Z,10nm,0.7s,baz=36,slow=2.0,SNR=47
NOA PP **PP 03 47 44.5 -2.8**
comp=Z,2.0nm,1.0s,baz=31,slow=6.6,SNR=2.7
HFS Hagfors 125.63 342 PKP **PKPdf 03 45 55.4 -0.7**
comp=Z,17nm,0.7s,baz=86,slow=4.8,SNR=27
HFS PP **PP 03 47 45.6 -1.8**
comp=Z,4.0nm,1.0s,baz=19,slow=11,SNR=2.3
NC602 NORSAR Array S 125.78 343 *e*PKPdf **PKiKP 03 45 56.8 0.0**
NC602 IVmB_BB 03 46 06.3
comp=Z,1μm,4.7s
NC602 *e*PP **PP 03 47 47.8 -0.5**
NC602 *e*SP SP 03 57 47.5 0.0
NC602 IVMs_BB IVMs_BB 04 32 55.9
comp=Z,2μm,28.2s
MI28 Mi28,Pidlybu 125.84 327 PKP **PKPdf 03 45 56.6 -0.2**
PAPH Port-au-Prince 125.97 75 IAMs_20 IAMs_20 04 31 48.7
comp=Z,3μm,21.0s
ASF Jabal al Asfar 126.16 302 PKP **PKPdf 03 45 57.6 -0.6**
comp=Z,6.7nm,0.8s,baz=110,slow=0.0,SNR=7.0
ASF PP **PP 03 47 53.8 +1.4**
comp=Z,6.0nm,1.2s,baz=38,slow=20,SNR=7.4
CPUP Villa Florida 126.17 134 **PKPdf 03 45 57.6 -0.7**
CPUP Villa Florida 126.17 134 PKP **PKPdf 03 45 57.7 -0.5**
comp=Z,2.2nm,0.8s,baz=264,slow=6.5,SNR=4.0
LUBAR Lubar, Ukraine 126.32 326 PKP **PKPdf 03 45 57.2 -0.6**
SUW Suwalki 126.32 332 *e*PKP **PKiKP 03 45 58.3 +0.2**
SUW Suwalki 126.32 332 *e*P **PKiKP 03 45 59.2 +1.1**
RNPP9 Sopachiv 126.52 328 PKP **PKPdf 03 45 57.3 -0.8**
RNPP8 Varash 126.58 328 PKP **PKPdf 03 45 57.8 -0.4**
SKAR Skarslia 126.70 345 *e*PKPdf **PKiKP 03 45 59.1 +0.3**
SKAR IAmb IAmb 03 45 59.9
comp=Z,199nm,2.0s
SKAR *e*PP **PP 03 47 55.7 +1.3**
SKAR *e*SP SP 03 57 55.7 +0.1
SKAR IVMs_BB IVMs_BB 04 32 12.0
comp=Z,3μm,4.5s
PURM Purcari 126.72 321 ⇓P **PKiKP 03 46 00.3 +1.2**
KIRS Kirsehir-Merke 126.78 311 ⇑P **PKPdf 03 45 59.1 0.0**
BR131 Keskin Array S 126.80 312*c* *i*PKIKP **PKiKP 03 45 59.8 +0.1**
BRTR Keskin Array B 126.80 312 PKPdf **PKPdf 03 45 59.2 0.0**
BRTR Keskin Array B 126.80 312 PKP **PKPdf 03 45 59.0 -0.3**
comp=Z,3.8nm,0.9s,baz=140,slow=4.9,SNR=15
BRTR PP **PP 03 47 55.0 -1.3**
comp=Z,4.9nm,1.0s,baz=86,slow=6.4,SNR=6.1
BRTR Keskin Array B 126.80 312 PKIKP **PKPdf 03 45 59.2 0.0**
BR104 Keskin Array S 126.80 312 PKP **PKPdf 03 45 58.6 -0.6**
BR106 Keskin Array S 126.81 312 PKP **PKPdf 03 45 58.6 -0.6**
SORM Soroca 126.88 324 ⇑P **PKiKP 03 45 59.5 +0.1**
SORM Soroca 126.88 324 PKP **PKPdf 03 45 58.4 -0.5**
ETMB Extrema 126.88 111 *e*P **PKPdf 03 45 59.1 -0.8**
SDV Santo Domingo 127.04 87 PKPdf **PKPdf 03 45 59.7 -0.7**
MILM Milestii Mici 127.19 322 ⇑P **PKPdf 03 45 59.6 +0.1**
MILM Milestii Mici 127.19 322 ⇑PKIKP **PKPdf 03 45 59.6 +0.1**
MMAI Mount Meron Ar 127.22 303 PKP **PKiKP 03 46 01.2 +0.6**
comp=Z,8.2nm,0.8s,baz=99,slow=4.5,SNR=5.9
KONO Kongsberg 127.23 343 IAMs_20 IAMs_20 04 42 25.7
comp=Z,4μm,22.0s
KONO Kongsberg 127.23 343 *e*PKPdf **PKPdf 03 45 59.4 +0.2**
KONO IVmB_BB 03 46 09.2
comp=Z,885nm,3.6s
KONO *e*PP **PP 03 47 59.2 +1.3**
KONO *e*SP SP 03 58 00.9 +0.7
KONO *e*SS **SS 04 05 08.6 +2.8**
KONO IVMs_BB IVMs_BB 04 36 09.6
comp=Z,2μm,4.8s
KONO Kongsberg 127.23 343 ⇑PKIKP **PKiKP 03 46 00.0 +0.3**
ANTO Ankara 127.36 312 **PKiKP 03 46 00.6 -0.1**
ANTO Ankara 127.36 312 ⇑P **PKPdf 03 46 00.4 +0.2**
ANTO Ankara 127.36 312 PKIKP **PKiKP 03 46 00.6 -0.1**
ANTO Ankara 127.36 312 PKP **PKPdf 03 45 59.5 -0.7**
HORU Horodok 127.43 326 PKP **PKPdf 03 45 59.3 -0.6**
GHAJ Ghor Haditha 127.43 301 IAMs_20 IAMs_20 04 52 19.6
comp=Z,2μm,19.0s
LODK Lodwar 127.72 266 *e*P **PKiKP 03 46 02.7 +0.5**
ODD1 Odda 127.79 345 *e*PKPdf **PKPdf 03 46 00.6 +0.3**
ODD1 IVmB_BB 03 46 03.3
comp=Z,1μm,2.0s
ODD1 *e*PP **PP 03 48 03.3 +1.7**
ODD1 IVMs_BB IVMs_BB 04 32 29.0
comp=Z,2μm,4.1s
TLCR 127.98 320 ⇑P **PKiKP 03 46 03.1 +1.4**
TLCR 127.98 320 ⇑PKIKP **PKiKP 03 46 03.1 +1.4**
EIL Elat 128.26 299 PKP **PKPdf 03 46 02.3 +0.2**
comp=Z,13nm,0.9s,baz=136,slow=2.6,SNR=8.5
EIL PP **PP 03 48 06.9 +0.7**
comp=Z,11nm,1.1s,baz=83,slow=5.7,SNR=3.7
BLS5 Blasjo 128.26 345 *e*PKPdf **PKiKP 03 46 02.0 +0.2**
BLS5 IVmB_BB 03 46 20.4
comp=Z,2μm,3.7s
BLS5 *e*PP **PP 03 48 05.7 +1.0**
BLS5 *e*SP SP 03 58 10.8 +1.7
BLS5 *e*SS **SS 04 05 19.2 +0.5**
BLS5 IVMs_BB IVMs_BB 04 35 34.4
comp=Z,2μm,4.0s
ONAU Onsala 128.37 341 *i* P **PKiKP 03 46 01.8 -0.3**
CFR Carcaliu 128.41 320 ⇑P **PKiKP 03 46 02.6 0.0**
FABU Falkenberg 128.42 340 *i* P **PKPdf 03 46 01.9 +0.3**
CSS Mathiatis 128.43 306 PKP **PKPdf 03 46 01.6 -0.7**
DEL Delary 128.43 339 *i* P **PKPdf 03 46 01.0 -0.6**
LSZ Lusaka 128.46 241 **PKiKP 03 46 03.4 -0.3**
LSZ Lusaka 128.46 241 PKIKP **PKiKP 03 46 03.4 -0.3**
LSZ MLR MLR
comp=Z,5μm,19.0s
BBSD Serra de San D 128.68 122 *e*P **PKPdf 03 46 03.3 +0.1**
TESR Tescani 128.69 322 ⇑P **PKiKP 03 46 03.8 +0.7**
HOMB Homborsund 128.70 343 *e*PKPdf **PKiKP 03 46 03.1 +0.5**
HOMB IVmB_BB 03 46 03.9
comp=Z,2μm,3.6s
HOMB *e*PP **PP 03 48 08.2 +0.6**
HOMB *e*PS **PS 03 58 15.2 -1.0**
HOMB *e*SS SS 04 05 26.6 +2.6
HOMB IVMs_BB IVMs_BB 04 38 27.5
comp=Z,1μm,7.0s
MURT Porto Murtinho 128.72 129 *e*P **PKPdf 03 46 03.3 +0.1**
BEL Belsk 128.82 331 *e*PKP **PKiKP 03 46 04.1 +0.9**
BEL *e*SKS SKiKP 03 49 21.9 -17
MORS Morshin 128.86 327 PKP **PKPdf 03 46 01.8 -0.9**
CVDA Cernavoda 128.86 319 ⇓P **PKiKP 03 46 05.1 +1.7**
BURAR Bucovina Array 128.96 324 ⇓P **PKiKP 03 46 05.2 +1.4**
VRI Vrincioaia 128.96 322 ⇓P **PKiKP 03 46 03.5 -0.2**
VRI Vrincioaia 128.96 322 ⇓PKIKP **PKiKP 03 46 03.5 -0.2**
OVD Ostervraa, Den 128.99 341 *i* P **PKPdf 03 46 01.9 -0.7**
SNART Snartemo 129.00 344 *i* P **PKiKP 03 46 03.7 +0.4**
GRD1 Great Renaissa 129.06 276 *e*P **PKiKP 03 46 05.0 +0.2**
BSD Bornholm Skovb 129.07 337 *e*P **PKiKP 03 46 04.6 +1.1**
PSN Preselentsi 129.11 319 *e*P **PKiKP 03 46 05.4 +1.4**
KWP Kalwaria Pacla 129.21 328 *e*PKP **PKiKP 03 46 04.1 0.0**
KWP *e*SKS SKPbc 03 49 26.5 +2.1
OZUR 129.41 322 ⇓P **PKiKP 03 46 05.9 +1.3**
GKP Gorka Klasztor 129.47 334 *e*PKP **PKiKP 03 46 04.1 -0.3**
GKP *e*SKS SKPbc 03 49 31.2 +6.1

MLR	Muntele Rosu	129.62 322	PKP	PKPdf	03 46 04.6	+0.2	
	comp=Z,8.1nm,1.0s,baz=70,slow=1.5,SNR=4.3						
MLR	Muntele Rosu	129.62 322	⇓P	PKiKP	03 46 06.0	+0.9	
DOPR	Dopca	129.72 322	⇓P	PKiKP	03 46 05.2	0.0	
ISP	Isparta	129.72 311	IAMs_20	IAMs_20	04 50 52.8		
	comp=Z,3μm,21.0s						
ARCR	ARCALIA	129.74 324	⇓P	PKiKP	03 46 06.4	+1.2	
PRD	Provadia	129.80 318	P	PKiKP	03 46 05.2	-0.2	
KOLS	Kolonicke sedl	129.85 327	ePKIKP	PKiKP	03 46 06.4	+1.0	
KOLS	Kolonicke sedl	129.85 327	ePKP	PKiKP	03 46 06.4	+1.0	
SAML	Samuel	129.98 111	PKPdf	PKPdf	03 46 04.9	-0.9	
SAML	Samuel	129.98 111	PKIKP	PKPdf	03 46 04.9	-0.9	
UZHM	Uzhgorod	130.02 327	PKP	PKPdf	03 46 04.7	-0.2	
HOLU	Holmets	130.03 327	PKP	PKPdf	03 46 04.5	-0.4	
BERU	Beregovo	130.06 326	PKP	PKPdf	03 46 04.5	-0.4	
STHS	Stebnicka Huta	130.10 328	ePKIKP	PKiKP	03 46 05.9	0.0	
STHS			e		03 48 18.0		
STHS	Stebnicka Huta	130.10 328	ePKP	PKiKP	03 46 05.9	0.0	
STHS			ePP	PP	03 48 18.0	+0.8	
VOIR		130.19 322	⇓P	PKiKP	03 46 07.4	+1.1	
OJC	Ojcow	130.33 330	ePKP	PKPdf	03 46 05.4	0.0	
OJC			eSKS	SKPbc	03 49 32.3	+3.9	
CBBR	Cluj-Babes-Bol	130.37 324	⇑P	PKiKP	03 46 07.4	+0.9	
CJR	Cluj-Napoca	130.38 324	⇑P	PKiKP	03 46 06.8	+0.3	
ARR	Arges	130.48 322	⇓P	PKiKP	03 46 07.2	+0.4	
MESR	Meseseni	130.50 325	⇑P	PKiKP	03 46 06.9	+0.2	
NIE	Niedzica	130.59 329	ePKP	PKiKP	03 46 07.3	+0.4	
NIE			eSKS	SKiKP	03 49 36.5	-6.2	
MARR	Marisel-Cluj	130.67 324	⇑P	PKPdf	03 46 06.7	+0.4	
JMB	Yambol	130.68 318	P	PKiKP	03 46 06.9	-0.3	
SZH	Strazhitsa	130.68 319	P	PKPdf	03 46 06.2	-0.1	
PTLB	Pontes e Lacer	130.76 121	eP	PKPdf	03 46 07.4	+0.2	
DRGR		130.84 325	⇑P	PKiKP	03 46 07.6	+0.1	
ELND	Elena	130.90 319	⇑P	PKiKP	03 46 08.0	+0.4	
PANT	Pantanal (Braz	130.98 127	eP	PKPdf	03 46 08.1	+0.5	
VILB	Vilhena	131.01 118	eP	PKPdf	03 46 08.0	+0.2	
LANS	Liptovska Anna	131.18 329	ePKIKP	PKiKP	03 46 09.3	+1.2	
LANS			e		03 48 26.4		
LANS	Liptovska Anna	131.18 329	ePKP	PKiKP	03 46 09.3	+1.2	
LANS			ePP	PP	03 48 26.4	+2.2	
PVL	Pavlikeni	131.26 319	P	PKiKP	03 46 08.7	+0.3	
MBAR	Mbarara	131.35 260	IAMs_20	IAMs_20	04 42 38.0		
	comp=Z,3μm,19.0s						
MBAR	Mbarara	131.35 260	eP	PKPdf	03 46 08.8	+0.1	
OKC	Ostrava-Krasne	131.39 330	ePKPDF	PKiKP	03 46 09.0	+0.6	
OKC			ePP	PP	03 48 21.8	-3.6	
OKC			AMS	AMS	04 50 00.0		
	comp=Z,4μm,18.5s						
OKC	Ostrava-Krasne	131.39 330	ePKIKP	PKiKP	03 46 09.0	+0.6	
OKC			e		03 48 21.8		
OKC			MLR	MLR			
	comp=Z,4μm,18.5s						
RUE	Ruedersdorf	131.49 335	eP	PKiKP	03 46 10.3	+1.8	
DIM	Dimitrovgrad	131.51 318	P	PKiKP	03 46 08.7	-0.2	
GZR	Gura Zlata	131.57 323	⇑P	PKiKP	03 46 09.0	-0.1	
KSP	Ksiaz	131.58 332	ePKP	PKiKP	03 46 08.6	-0.2	
KSP			eSKS	SKPab	03 49 35.4	+1.9	
ALN	Alexandroupoli	131.72 316	IAMs_20	IAMs_20	04 51 36.8		
	comp=Z,4μm,20.0s						
MORC	Moravsky Berou	131.72 331	ePKIKP	PKiKP	03 46 09.5	+0.3	
MORC			ePP	PP	03 48 29.7	+2.1	
MORC	Moravsky Berou	131.72 331	⇑P	PKiKP	03 46 09.9	+0.7	
PSZ	Piszkesteto	131.72 327	eP	PKiKP	03 46 09.8	+0.5	
PSZ	Piszkesteto	131.72 327	⇑P	PKiKP	03 46 09.6	+0.4	
SIRR	Siria	131.74 325	⇑P	PKiKP	03 46 08.8	-0.4	
SJG	San Juan	131.81 75		PKPdf	03 46 09.3	+0.2	
SJG	San Juan	131.81 75	PKIKP	PKPdf	03 46 09.3	+0.2	
OSTC	Ostas	131.82 332	ePKPDF	PKiKP	03 46 10.1	+0.8	
OSTC			ex	x	03 48 21.8		
OSTC			AMS	AMS	04 43 40.0		
	comp=Z,7μm,19.5s						
OSTC	Ostas	131.82 332	ePKIKP	PKiKP	03 46 10.1	+0.8	
OSTC			MLR	MLR			
	comp=Z,7μm,19.5s						
MAUC	Maruska	131.86 330	ePKP	PKiKP	03 46 10.1	+0.7	
KDZ	Kurdzhali	131.86 317	P	PKPdf	03 46 08.2	-0.4	
CHVC	Chvalec	131.87 332	ePKPDF	PKiKP	03 46 09.9	+0.5	
CHVC			AMS	AMS	04 44 00.0		
	comp=Z,8μm,23.0s						
CHVC	Chvalec	131.87 332	ePKIKP	PKiKP	03 46 09.9	+0.5	
CHVC			MLR	MLR			
	comp=Z,8μm,23.0s						
KRLC	Kraliky	131.88 331	ePKPDF	PKiKP	03 46 09.6	+0.1	
KRLC			AMS	AMS	04 46 00.0		
	comp=Z,6μm,19.3s						
KRLC	Kraliky	131.88 331	ePKIKP	PKiKP	03 46 09.6	+0.1	
KRLC			MLR	MLR			
	comp=Z,6μm,19.3s						
DPC	Dobruska-Polom	131.91 332	ePKPDF	PKiKP	03 46 09.9	+0.4	
DPC			ePP	PP	03 48 30.3	+1.5	
DPC			AMS	AMS	04 42 50.0		
	comp=Z,7μm,22.3s						
DPC	Dobruska-Polom	131.91 332	ePKIKP	PKiKP	03 46 09.9	+0.4	
DPC			e		03 48 30.3		
DPC			MLR	MLR			
	comp=Z,7μm,22.3s						
VYHS	Vyhne	131.92 329	ePKIKP	PKiKP	03 46 09.5	0.0	
VYHS			e		03 48 28.8		
VYHS	Vyhne	131.92 329	ePKP	PKiKP	03 46 09.5	0.0	
VYHS			ePP	PP	03 48 28.8	-0.1	
UPC	Upice	131.94 332	ePKPDF	PKiKP	03 46 10.1	+0.6	
UPC			AMS	AMS	04 43 40.0		
	comp=Z,8μm,20.1s						
UPC	Upice	131.94 332	ePKIKP	PKiKP	03 46 10.1	+0.6	
UPC			MLR	MLR			
	comp=Z,8μm,20.1s						
RDO	Rodhopi	131.95 317	IAMs_20	IAMs_20	04 46 04.8		
	comp=Z,4μm,22.0s						
MCD	Coleburn Disti	132.01 350	eP	PKPdf	03 46 08.5	+0.1	
MPEP	Malo Peshtene	132.06 320	P	PKiKP	03 46 10.1	+0.1	
HERR	Herculane	132.07 323	⇓P	PKPdf	03 46 09.2	+0.3	
VALD	Valchedram	132.08 321	P	PKiKP	03 46 10.4	+0.4	
BZS	Buzias	132.13 324	⇓P	PKiKP	03 46 09.6	-0.4	
PGB	Panagyurishte	132.20 319	P	PKPdf	03 46 09.5	+0.2	
RZN	Rozhen	132.23 318	P	PKPdf	03 46 09.5	0.0	
JAVC	Velka Javorina	132.27 330	ePKIKP	PKiKP	03 46 11.5	+1.2	
RPRD	Ribas do Rio P	132.36 130	eP	PKPdf	03 46 10.6	+0.4	
VRAC	Vranov	132.50 331	PKP	PKPdf	03 46 09.2	-0.4	
	comp=Z,6.4nm,0.7s,baz=56,slow=4.2,SNR=13						
VRAC			PP	PP	03 48 33.0	+0.5	
	comp=Z,1.2nm,0.4s,baz=46,slow=11,SNR=4.4						
VRAC	Vranov	132.50 331	ePKIKP	PKiKP	03 46 10.7	0.0	
VRAC			ePP	PP	03 48 33.2	+0.6	
MDVR	Moldovita	132.54 323	⇑P	PKiKP	03 46 10.8	-0.1	
PVCC	Panska Ves	132.58 333	ePKPDF	PKiKP	03 46 11.4	+0.6	
PVCC			AMS	AMS	04 41 00.0		
	comp=Z,7μm,24.7s						
PVCC	Panska Ves	132.58 333	ePKIKP	PKiKP	03 46 11.4	+0.6	
PVCC			MLR	MLR			
	comp=Z,7μm,24.7s						
BRG	Berggiesshubel	132.60 334	i PKP	PKiKP	03 46 11.1	+0.2	
BRG			Amp		03 46 13.1		
	comp=Z,52nm,1.2s						
BRG	Berggiesshubel	132.60 334	PP	PP	03 48 33.0	-0.1	
BRG			Amp		03 48 38.5		
	comp=Z,14nm,1.4s						
BRG			SKP		03 49 40.0		
BRG			Amp		03 49 49.4		
	comp=Z,33nm,1.6s						
BRG	Berggiesshubel	132.60 334	i PKIKP	PKiKP	03 46 11.0	+0.2	
BRG					03 48 33.0		
BRG			PS	PS	03 58 50.0	-0.4	
BRG			pmax	pmax			
	comp=Z,52nm,1.2s						
BRG			pmax	pmax			
	comp=Z,14nm,1.5s						
BRG			pmax	pmax			
	comp=Z,33nm,1.6s						
BRG			MLR	MLR			
	comp=Z,7μm,21.9s						
BRG			MLR	MLR			
	comp=N,4μm,24.4s						
BRG			MLR	MLR			
	comp=E,4μm,20.8s						
SMOL	Smolenice	132.62 329	ePKIKP	PKiKP	03 46 11.4	+0.5	
SMOL			e		03 48 30.8		
SRO	Srobarova	132.62 328	ePKIKP	PKPdf	03 46 10.4	+0.6	
SRO	Srobarova	132.62 328	ePKP	PKPdf	03 46 10.4	+0.6	
CLL	Collm	132.69 335	⇑i PKIKP	PKiKP	03 46 10.9	-0.1	
CLL			i		03 46 17.2		
CLL			pmax	pmax			
	comp=Z,45nm,1.1s						
CLL	Collm	132.69 335	⇑i PKPdf	PKiKP	03 46 10.9	-0.1	
	comp=Z,45nm,1.1s						
CLL			i x	x	03 46 17.2		
CLL			ePP	PP	03 48 31.0	-2.6	
CLL			ePPIp		03 48 38.0		
	comp=Z,700nm,21.2s						
CLL			i PKSbc	PKSbc	03 49 38.4	+0.3	
CLL			i SKPdf	SKPab	03 49 41.4	+3.3	
	comp=Z,186nm,2.6s						
CLL			i PKSdf	PKSdf	03 49 44.2	-1.9	
CLL			i sSKPdf		03 49 52.3		
	comp=Z,231nm,2.5s						
CLL			ePPP	PPP	03 51 24.0		
CLL			eSKKSac	SKKSac	03 55 30.0	+0.2	
CLL			ePS	PS	03 58 51.0	0.0	
CLL			ePPS	PPS	04 00 24.0		
CLL			eSS	SS	04 06 05.0	-8.3	
CLL			ex	x	04 07 24.0		
CLL			eSSS	SSS	04 11 30.0		
CLL			eSSSS		04 14 54.0		
CLL			R2		05 15 00.0		
PLNA	Plana	132.70 319	P	PKPdf	03 46 09.9	-0.4	
VTS	Vitosha	132.75 320	P	PKPdf	03 46 10.8	+0.3	
KRUC	Moravsky	132.76 331	ePKIKP	PKiKP	03 46 11.2	0.0	
KRUC			ePP	PP	03 48 34.6	+0.4	
RICC	Richard	132.78 333	ePKPDF	PKiKP	03 46 11.7	+0.5	
MODS	Modra-Piesok	132.78 329	ePKIKP	PKiKP	03 46 11.8	+0.5	
MODS			e		03 48 32.9		
MODS	Modra-Piesok	132.78 329	ePKP	PKiKP	03 46 11.8	+0.5	
MODS			ePP	PP	03 48 32.9	-1.6	
GOPC	GO Pecny, Ondr	132.92 332	AMS	AMS	04 45 00.0		
	comp=Z,7μm,21.1s						
PRU	Pruhonice	132.98 333	ePKPDF	PKiKP	03 46 11.7	+0.1	
PRU			ex	x	03 48 28.0		
PRU			AMS	AMS	04 44 40.0		
	comp=Z,5μm,21.0s						
PRU	Pruhonice	132.98 333	ePKIKP	PKiKP	03 46 11.7	+0.1	
PRU			MLR	MLR			
	comp=Z,5μm,21.0s						
TRAN	Tran	133.01 320	P	PKiKP	03 46 11.9	-0.1	
HSKC	Hora Svate Kat	133.02 334	ePKPDF	PKiKP	03 46 11.9	+0.2	
HSKC			ex	x	03 48 32.4		
HSKC			AMS	AMS	04 43 50.0		
	comp=Z,8μm,22.5s						
BOVS	Bovan	133.17 322	⇓P	PKiKP	03 46 11.9	-0.3	
KKB	Krupnik	133.21 319	P	PKPdf	03 46 11.0	-0.2	
SALV	Santo Antonio	133.39 124	eP	PKPdf	03 46 12.1	-0.1	
MORH	Mrgy, Hungar	133.45 326	⇑P	PKiKP	03 46 12.7	0.0	
ZVC	Zvikov	133.53 332	ePKPDF	PKiKP	03 46 12.7	-0.1	
LAWE	Loch Awe, Argy	133.62 351	eP	PKPdf	03 46 12.1	+0.6	
NKC	Novy Kostel	133.72 334	AMS	AMS	04 42 40.0		
	comp=Z,8μm,23.4s						
RONA	Rosalia, Austr	133.72 329	i PKiKP	PKiKP	03 46 13.1	-0.1	
	comp=Z,21nm,1.2s,SNR=12						
RONA			i PP	PP	03 48 41.0	+0.5	
	comp=Z,7.5nm,1.3s						
CONA	Conrad Observa	133.79 330	i pPKP	PKiKP	03 46 14.2	+0.8	
	comp=Z,18nm,0.8s,SNR=10						
CONA			i PP	PP	03 48 38.9	-2.0	
	comp=Z,14nm,1.9s						
CKRC	Cesky Krumlov	133.92 332	ePKPDF	PKiKP	03 46 13.6	0.0	
CKRC			ePP	PP	03 48 35.2	-6.4	
CKRC			AMS	AMS	04 46 40.0		
	comp=Z,6μm,20.2s						
CKRC	Cesky Krumlov	133.92 332	ePKIKP	PKiKP	03 46 13.6	0.0	
CKRC			MLR	MLR			
	comp=Z,6μm,20.2s						
KHC	Kasperske Hory	134.03 332	ePKPDF	PKiKP	03 46 13.3	-0.5	
KHC			ex	x	03 48 36.4		
KHC			ex	x	03 58 47.2		
KHC			AMS	AMS	04 41 40.0		
	comp=Z,9μm,25.5s						
KHC	Kasperske Hory	134.03 332	ePKIKP	PKiKP	03 46 13.3	-0.5	
KHC			MLR	MLR			
	comp=Z,9μm,25.5s						
KHC	Kasperske Hory	134.03 332	PKP	PKPdf	03 46 12.0	-0.5	
EKA	Eskdalemuir Ar	134.14 349	PKP	PKPdf	03 46 12.6	+0.1	
	comp=Z,3.4nm,0.6s,baz=22,slow=4.0,SNR=9.9						
EKA			PP	PP	03 48 41.8	-0.7	
	comp=Z,5.1nm,1.1s,baz=11,slow=8.1,SNR=3.3						
ESK	Eskdalemuir	134.16 349	IAMs_20	IAMs_20	04 50 20.6		
	comp=Z,4μm,20.0s						
GERES	GERESS Array B	134.18 332	PKP	PKPdf	03 46 12.6	-0.3	
	comp=Z,9.1nm,0.8s,baz=48,slow=1.5,SNR=27						
MACA	Manacapuru-AM	134.29 105	IAMs_20	IAMs_20	04 54 24.7		
	comp=Z,3μm,19.0s						
MACA	Manacapuru-AM	134.29 105	eP	PKPdf	03 46 14.0	0.0	
EDMD	Edmundbyers	134.38 348	eP	PKiKP	03 46 14.1	-0.2	
ARSA	Arzberg	134.42 329	i PKiKP	PKPdf	03 46 13.7	+0.4	
	comp=Z,10nm,1.1s,SNR=5.8						
ARSA			i PP	PP	03 48 43.1	-1.8	
	comp=Z,16nm,1.7s						
GDLE	Glaisdale, N Y	134.51 347	eP	PKiKP	03 46 14.8	+0.2	
MOA	Molln	134.62 331	i PKiKP	PKiKP	03 46 15.4	+0.3	
	comp=Z,16nm,0.8s,SNR=5.3						
MOA			i PP	PP	03 48 44.7	-1.4	
	comp=Z,15nm,1.6s						
GRF	Grafenberg Arr	134.65 335	ePKPbc	SKPdf	03 49 49.1	+0.5	
	baz=47,slow=2.3						
IDI	Anoyia	134.86 310	PKP	PKPdf	03 46 14.0	-0.6	
BIOA	Bad Ischl, Aus	135.03 331	i PKP	PKPdf	03 46 14.7	+0.3	
	comp=Z,11nm,1.0s,SNR=7.5						
BIOA			i PP	PP	03 48 48.8	0.0	
	comp=Z,11nm,1.3s						
PERS	Pernice	135.04 329	i PKPdf	PKPdf	03 46 14.5	0.0	
PERS			ePP	PP	03 48 50.2	+1.3	
SOKA	Soboth	135.05 329	i PKiKP	PKPdf	03 46 15.2	+0.6	
	comp=Z,18nm,1.7s,SNR=6.8						
SOKA			ePP	PP	03 48 47.8	-1.2	
	comp=Z,5.0nm,1.1s						
AGG	Agios Georgios	135.11 316	IAMs_20	IAMs_20	04 55 48.6		
	comp=Z,3μm,20.0s						
PUK	Puka	135.16 321	IAMs_20	IAMs_20	04 47 45.1		
	comp=Z,3μm,22.0s						
OBKA	Obir	135.41 329	i PKiKP	PKPdf	03 46 15.6	+0.3	
	comp=Z,26nm,1.8s						
OBKA			ePP	PP	03 48 51.1	-0.2	
	comp=Z,20nm,1.7s						
VAO	Valinhos	135.43 139	IAMs_20	IAMs_20	04 37 45.8		
	comp=Z,4μm,22.0s						
KBA	Koelnbreinsper	135.61 331	i PKiKP	PKiKP	03 46 16.7	-0.5	
	comp=Z,13nm,0.9s						
KBA			i PP	PP	03 48 52.8	+0.3	
	comp=Z,23nm,1.5s						
LESA	Schwarzleotal	135.68 331	i PKiKP	PKPdf	03 46 16.3	+0.6	
	comp=Z,11nm,0.7s						
LESA			i PP	PP	03 48 51.3	-1.5	
	comp=Z,33nm,1.6s						
MYKA	Terra Mystica	135.78 330	i PKP	PKPdf	03 46 13.7	-2.2	
	comp=Z,6.4nm,0.7s						
MYKA			i PP	PP	03 48 54.8	+1.3	
	comp=Z,8.7nm,1.2s						
BEBN	Eben Emael	135.89 340	dPKPdf	PKiKP	03 46 17.3	-0.2	
BTNL	Ternell	135.91 339	dPKP	PKPdf	03 46 15.7	-0.3	
BOAV	Boa Vista	135.91 98	eP	PKPdf	03 46 17.0	0.0	
MEM	Membach	135.94 339	dPKP	PKiKP	03 46 16.8	-0.7	
CADS	Cadrg	136.01 329	i PKPdf	PKPdf	03 46 15.9	-0.4	
CADS			ePP	PP	03 48 56.4	+1.4	
CADS			e		03 49 48.4		
BHOU	Houvegnez	136.15 339	dPKP	PKiKP	03 46 18.7	+0.6	
STU	Stuttgart	136.21 335	eP	PKiKP	03 46 19.3	+1.1	
ABTA	Abfaltersbach	136.25 331	ePKiKP	PKPdf	03 46 17.2	+0.4	
	comp=Z,23nm,0.8s,SNR=5.7						
ABTA			i PP	PP	03 48 56.8	+0.3	
	comp=Z,17nm,1.5s						
ITM	Ithomi	136.25 314	IAMs_20	IAMs_20	04 48 18.1		
	comp=Z,3μm,21.0s						
WATA	Walderalm	136.26 332	i PKP	PKPdf	03 46 17.0	+0.1	
	comp=Z,19nm,0.8s,SNR=7.7						
WATA			i PP	PP	03 48 57.2	+0.7	
	comp=Z,23nm,1.4s						
WTTA	Wattenberg	136.28 332	i PKP	PKPdf	03 46 17.1	+0.1	
	comp=Z,33nm,1.9s,SNR=9.1						
WTTA			i PP	PP	03 48 56.9	+0.1	
	comp=Z,40nm,2.3s						
UCC	Uccle	136.33 341	dPKP	PKiKP	03 46 17.8	-0.6	
BCLA	Clavier	136.34 340	dPKPdf	PKPdf	03 46 16.8	+0.1	
FOEL	Foel Wylfa	136.45 348	eP	PKiKP	03 46 17.8	-0.8	
MOTA	Moosalm	136.47 332	i PKiKP	PKPdf	03 46 18.0	+0.8	
	comp=Z,27nm,0.8s						
MOTA			i PP	PP	03 48 59.7	+1.8	
	comp=Z,20nm,1.6s						
KEK	Kerkira	136.47 318	IAMs_20	IAMs_20	04 57 03.3		
	comp=Z,2μm,20.0s						
SQTA	Sankt Quirin	136.51 332	i PKiKP	PKiKP	03 46 18.3	-0.8	
	comp=Z,26nm,0.8s,SNR=9.9						
SQTA			i PP	PP	03 49 01.0	+2.9	
	comp=Z,15nm,1.4s						
RETA	Reutte	136.52 333	i PKiKP	PKPdf	03 46 18.2	+0.9	
	comp=Z,10.0nm,1.2s						
RETA			i PP	PP	03 48 59.1	+1.1	
	comp=Z,16nm,1.7s						
RCHB	Rochefort	136.59 339	dPKP	PKPdf	03 46 16.8	-0.3	
BMRD	Maredsous	136.62 340	dPKP	PKPdf	03 46 16.3	-1.0	
WLF	Walferdange	136.67 338	PKP	PKPdf	03 46 18.0	+0.7	
WLF	Walferdange	136.67 338	dPKP	PKPdf	03 46 17.9	+0.5	
DOU	Dourbes	136.86 340	dPKPdf	PKPdf	03 46 17.9	+0.2	
FETA	Feichten	136.88 332	i PKP	PKPdf	03 46 15.3	-2.8	
	comp=Z,27nm,0.9s,SNR=7.0						
FETA			i PP	PP	03 48 58.9	-1.6	
	comp=Z,11nm,1.4s						
BFO	Black Forest	136.91 335		PKPdf	03 46 18.7	+0.8	
BFO	Black Forest	136.91 335	PKIKP	PKPdf	03 46 18.7	+0.8	
DAVA	Damuels	137.06 333	i PKiKP	PKiKP	03 46 19.7	-0.5	
	comp=Z,13nm,0.8s						
DAVA			ePP	PP	03 48 56.2	-5.4	
	comp=Z,14nm,1.7s						
MCH1	Michaelchurch	137.25 347	eP	PKiKP	03 46 20.4	+0.2	
SWN1	Swindon	137.43 346	eP	PKiKP	03 46 19.7	-0.9	
DAVOX	Davos/Dischmat	137.44 333	PKP	PKiKP	03 46 20.2	-0.8	
	comp=Z,21nm,0.7s,baz=57,slow=3.3,SNR=18						
ECH	Echery	137.47 336	IAMs_20	IAMs_20	04 57 44.3		
	comp=Z,3μm,18.0s						
RSBS	Rosebush, Pemb	137.65 349	eP	PKiKP	03 46 20.4	-0.6	
FDMO	Fiordimonte	138.53 326	IAMs_20	IAMs_20	04 50 08.4		
	comp=Z,4μm,21.0s						
TIP	Timpagrande	138.74 319	IAMs_20	IAMs_20	04 57 16.0		
	comp=Z,2μm,19.0s						
TIP	Timpagrande	138.74 319	⇑P	PKPdf	03 46 21.4	-0.2	
INTR	Introdacqua	138.75 325	IAMs_20	IAMs_20	04 52 27.5		
	comp=Z,3μm,20.0s						
CUC	Castrocucco	138.86 321	IAMs_20	IAMs_20	04 51 34.1		
	comp=Z,3μm,21.0s						
CESX	Cesi	139.09 326	IAMs_20	IAMs_20	04 55 13.3		
	comp=Z,3μm,20.0s						
VLC	Villacollemand	139.15 330	PKP	PKPdf	03 46 18.6	-3.6	
BDFB	Brasilia	139.59 130	PKhKP	PKPpre	03 46 20.9		
	comp=Z,2.3nm,0.7s,baz=239,slow=5.9,SNR=3.3						
CEL	Celeste	139.81 319	IAMs_20	IAMs_20	04 56 04.6		
	comp=Z,2μm,20.0s						
SSB	Saint Sauveur	140.91 336	IAMs_20	IAMs_20	04 53 41.2		
	comp=Z,3μm,20.0s						
RAFF	Raffo Rosso	141.40 318	PKPdf	PKPdf	03 46 24.3	-2.1	
RAFF			IAMs_20	IAMs_20	05 02 43.7		
	comp=Z,2μm,18.0s						
VSL	Villasalto	142.99 325	IAMs_20	IAMs_20	04 51 57.5		
	comp=Z,3μm,22.0s						
EJON	La Jonquera	143.92 335	PKP	PKPab	03 46 27.4	-0.5	
CEST	Esterri de Car	144.45 337	PKPdf	PKPbc	03 46 30.5	+0.3	
CEST			IAMs_20	IAMs_20	04 54 48.9		
	comp=Z,4μm,22.0s						
MAHO	Mahon	145.35 331	PKP	PKPbc	03 46 32.4	-0.6	
KEST	Kesra	145.51 321	PKPbc	PKPab	03 46 34.0	0.0	
	comp=Z,113nm,0.8s,baz=67,slow=1.8,SNR=82						
ETOS	Mallorca	146.13 332	PKP	PKPdf	03 46 34.0	-0.7	
CAEH	'Ain El Ouahch	146.30 324	P	PKPab	03 46 37.7	+0.8	
CKFL	Kef-Lekhel	146.64 324	P	PKPab	03 46 38.7	+0.3	
CASM	Ain Smara	146.87 324	P	PKPab	03 46 39.3	+0.1	
DFRA	Djebel Bou Aff	147.02 325	P	PKPab	03 46 40.0	+0.2	
PBRG	Braganca	147.72 346	ePKP	PKPdf	03 46 37.6	+0.3	
PGAV	Gavieira, Arco	147.91 348	ePKP	PKPdf	03 46 38.0	+0.3	
PGAV	Gavieira, Arco	147.91 348	eSS	SS	04 09 09.9	-1.2	
PGAV	Gavieira, Arco	147.91 348	eLR	LR	04 38 08.4		
PGAV			A	A	04 56 11.2		
	comp=Z,2μm,22.0s						
PCAB	Cabril	148.10 347	ePKP	PKPdf	03 46 39.5	+1.6	
POLO	Lamas de Olo	148.37 347	ePKP	PKPdf	03 46 40.1	+1.7	
MVO	Moncorvo	148.39 346	ePKP	PKPdf	03 46 38.8	+0.4	
MVO	Moncorvo	148.39 346	eSS	SS	04 09 21.9	+5.3	
MVO	Moncorvo	148.39 346	eLR	LR	04 37 20.2		
MVO			A	A	04 55 39.6		
	comp=Z,3μm,20.0s						
PVRL	Vila Real	148.45 347	ePKP	PKPdf	03 46 39.7	+1.2	
PTO	Porto	148.77 348	ePKP	PKiKP	03 46 44.0	-0.2	
ESDC	Sonseca Array	148.90 340	PKPbc	PKPdf	03 46 40.5	+1.2	
	comp=Z,22nm,1.0s,baz=20,slow=2.8,SNR=46						
ESDC			PKPab	PKiKP	03 46 44.6	0.0	
	comp=Z,22nm,1.0s,baz=23,slow=2.2,SNR=34						
ESDC			SKP	SKPdf	03 50 13.5	+0.7	
	comp=Z,4.2nm,1.1s,baz=24,slow=4.0,SNR=3.9						
PVIS	Viseu	149.02 347	ePKP	PKPdf	03 46 39.8	+0.3	
PAB	San Pablo	149.14 341		PKPdf	03 46 40.0	+0.3	
PAB	San Pablo	149.14 341	IAMs_20	IAMs_20	04 53 54.5		
	comp=Z,3μm,22.0s						
PAB	San Pablo	149.14 341	PKIKP	PKPdf	03 46 40.0	+0.3	
PA

*AEIC **16** 03:31:15.1±1.6, 69°.54N±0°.02×144°.39W±0°.04, h8km±4km, ML4.1, mb4.2/4(NEIC), ML4.2/122(NEIC), Mwr3.9/43(NEIC), Error ellipse: s-maj=3.3km s-min=2.0km az=187.0*
*NEIC **16** 03:31:16, 69°.50N×144°.34W, h13km*
*NEIC **16** 03:31:17.3±1.4, 69°.54N±0°.02×144°.35W±0°.05, h10km±1km, Error ellipse: s-maj=4.1km s-min=3.1km az=343.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr=0.40; Mθθ=0.39; Mφφ0.79; Mrθ0.18; Mθφ=0.73; Mφr0.17; Fault plane solution: M0 1.03000×10^15^ NP1: φs=292.40000°, δ69.41000°, λ-162.38000°. NP2: φs=196.03000°, δ73.54000°, λ-21.51000°. Principal axes: T 1.1429, Plg3.0000°, Azm245.0000°; N -0.2835, Plg63.0000°, Azm340.0000°; P -0.8593, Plg27.0000°, Azm153.0000°;*
*IDC **16** 03:31:18.1±0.8, 69°.64N×143°.80W, h0km, mb4.1/14, mbtmp4.1/18, ML3.9/4, MS5.4/1 Error ellipse: s-maj=22.2km s-min=12.0km az=68.0*

ISC 16 03:31:17.5±0.4, 69°.53N±0°.03×144°.33W±0°.02, h10km, n248, σ1§21/233, mb4.2/16, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.23**	**66**		**Pg**	**03 31 20.7**	**-1.6**
C27K					**Sg**	**03 31 24.6**	**-0.9**
C27K	**Jago River**	**0.23**	**66**	IAML		03 31 24.9	
	comp=N,18μm,0.5s						
C27K				IAML		03 31 25.1	
	comp=E,15μm,0.6s						
C26K	**Camden Bay**	**0.44**	**332**		**Pg**	**03 31 25.0**	**-1.1**
C26K					**Sb**	**03 31 32.5**	**-1.4**
C26K	**Camden Bay**	**0.44**	**332**	P	**Pg**	**03 31 25.2**	**-0.8**
	baz=156						
C26K				S	**Sb**	**03 31 32.5**	**-1.4**
	baz=156						
D25K	**Kavik River**	**0.76**	**255**	Pg	**Pg**	**03 31 29.3**	**-2.7**
D25K	**Kavik River**	**0.76**	**255**		**Sg**	**03 31 40.2**	**-1.7**
D25K	**Kavik River**	**0.76**	**255**	IAML		03 31 45.1	
	comp=N,4μm,0.7s						
D25K				IAML		03 31 45.4	
	comp=E,4μm,0.6s						
D25K	**Kavik River**	**0.76**	**255**	P	**Pg**	**03 31 29.6**	**-2.4**
	baz=74						
D25K				S	**Sg**	**03 31 40.2**	**-1.7**
	baz=74						
D27M	**Malcolm River**	**1.22**	**102**		**Pn**	**03 31 38.0**	**-2.7**
D27M					**Sb**	**03 31 56.5**	**-0.1**
D27M	**Malcolm River**	**1.22**	**102**	IAML		03 32 00.4	
	comp=N,3μm,0.6s						
C24K	**Franklin Bluff**	**1.54**	**279**		**Pn**	**03 31 44.3**	**-0.7**
C24K					**Sg**	**03 32 06.1**	**-1.0**
D24K	**Happy Valley**	**1.64**	**259**		**Pn**	**03 31 46.0**	**-0.4**
D24K	**Happy Valley**	**1.64**	**259**	IAML		03 32 11.5	
	comp=E,4μm,0.6s						
E27K	**Coleen River**	**1.68**	**142**	Pn	**Pn**	**03 31 46.3**	**-0.6**
E27K	**Coleen River**	**1.68**	**142**		**Sb**	**03 32 09.7**	**+0.2**
E27K	**Coleen River**	**1.68**	**142**	IAML		03 32 13.1	
	comp=N,1μm,1.0s						
E27K				IAML		03 32 14.4	
	comp=E,1μm,0.8s						
E27K	**Coleen River**	**1.68**	**142**	P	**Pn**	**03 31 47.1**	**+0.3**
	baz=324						
E27K				S	**Sb**	**03 32 09.7**	**+0.2**
	baz=324						
F26K	**Sheenjek River**	**1.85**	**178**		**Pn**	**03 31 49.8**	**+0.6**
F26K					**Sb**	**03 32 13.7**	**-0.8**
E28M	**Babbage River**	**1.96**	**116**	Pn	**Pn**	**03 31 50.8**	**+0.1**
E28M	**Babbage River**	**1.96**	**116**		**Sb**	**03 32 18.1**	**+0.5**
E28M	**Babbage River**	**1.96**	**116**	P	**Pn**	**03 31 50.9**	**+0.2**
	baz=300						
D28M	**Stokes Point**	**1.98**	**93**		**Pn**	**03 31 51.6**	**+0.6**
D28M	**Stokes Point**	**1.98**	**93**	IAML		03 32 28.8	
	comp=N,2μm,1.2s						
F25K	**Christian Rive**	**2.01**	**195**		**Pn**	**03 31 51.9**	**+0.4**
F25K					**Sb**	**03 32 18.1**	**-0.9**
F25K	**Christian Rive**	**2.01**	**195**	IAML		03 32 23.1	
	comp=E,2μm,1.4s						
TOLK	**Toolik Lake Re**	**2.08**	**247**	Pn	**Pn**	**03 31 52.2**	**-0.3**
TOLK				IAML		03 32 31.8	
	comp=E,2μm,0.8s						
TOLK				IAML		03 32 35.9	
	comp=N,1μm,0.7s						
TOLK	**Toolik Lake Re**	**2.08**	**247**	P	**Pn**	**03 31 51.9**	**-0.6**
	baz=62						
E24K	**Your Creek**	**2.10**	**228**		**Pn**	**03 31 53.1**	**+0.4**
E24K					**Sb**	**03 32 22.0**	**+0.1**
E24K	**Your Creek**	**2.10**	**228**	IAML		03 32 27.2	
	comp=E,1μm,0.9s						
E24K				IAML		03 32 27.2	
	comp=N,1μm,0.8s						
BMAR	**Burnt Mountain**	**2.11**	**183**	Pn	**Pn**	**03 31 52.9**	**0.0**
C23K	**Itkillik River**	**2.22**	**281**		**Pn**	**03 31 53.6**	**-0.6**
C23K	**Itkillik River**	**2.22**	**281**	IAML		03 32 38.4	
	comp=E,2μm,0.6s						
C23K				IAML		03 32 41.3	
	comp=N,2μm,0.8s						
D23K	**Nanushuk River**	**2.33**	**259**		**Pn**	**03 31 55.7**	**-0.2**
D23K	**Nanushuk River**	**2.33**	**259**	IAML		03 32 39.2	
	comp=E,1μm,1.1s						
F24K	**Squaw Lake**	**2.41**	**215**		**Pn**	**03 31 57.1**	**+0.2**
E23K	**Chandalar**	**2.43**	**235**		**Pn**	**03 31 57.3**	**+0.1**
E23K	**Chandalar**	**2.43**	**235**	IAML		03 32 37.2	
	comp=N,879nm,0.7s						
F28M	**Old Crow**	**2.53**	**138**	Pn	**Pn**	**03 31 58.8**	**+0.2**
F28M	**Old Crow**	**2.53**	**138**		**Sn**	**03 32 29.5**	**+0.2**
F28M					**Sb**	**03 32 31.8**	**-2.2**
F28M	**Old Crow**	**2.53**	**138**	IAML		03 32 45.3	
	comp=E,916nm,1.0s						
F28M	**Old Crow**	**2.53**	**138**	P	**Pn**	**03 31 58.4**	**-0.2**
	baz=321						
F28M				S	**Sn**	**03 32 29.5**	**+0.2**
	baz=321						
E29M	**Blow River**	**2.59**	**113**		**Pn**	**03 32 00.5**	**+1.2**
E29M	**Blow River**	**2.59**	**113**	IAML		03 32 39.5	
	comp=N,1μm,1.0s						
E29M				IAML		03 32 44.8	
	comp=E,863nm,1.0s						
G26K	**Porcupine Rive**	**2.60**	**175**		**Pn**	**03 31 59.7**	**+0.2**
G25K	**Bearman Lake**	**2.86**	**194**		**Pn**	**03 32 03.7**	**+0.7**
G27K	**Doyon Strip**	**2.91**	**159**		**Pn**	**03 32 03.5**	**-0.3**
FYU	**Fort Yukon**	**3.00**	**187**	Pn	**Pn**	**03 32 05.3**	**+0.3**
FYU	**Fort Yukon**	**3.00**	**187**		**Sn**	**03 32 43.1**	**+2.2**
FYU	**Fort Yukon**	**3.00**	**187**	IAML		03 32 54.8	
	comp=E,916nm,0.7s						
D22K	**Ayikyak River**	**3.05**	**262**		**Pn**	**03 32 05.3**	**-0.5**
D22K	**Ayikyak River**	**3.05**	**262**	IAML		03 33 04.9	
	comp=N,728nm,1.0s						
E22K	**Anaktuvuk Pass**	**3.06**	**246**		**Pn**	**03 32 05.4**	**-0.5**
G24K	**Hadweenzic Riv**	**3.08**	**204**		**Pn**	**03 32 05.7**	**-0.4**
G24K				IAML		03 32 53.8	
	comp=E,688nm,1.3s						
G24K				IAML		03 32 57.2	
	comp=N,828nm,1.4s						
COLD	**Coldfoot**	**3.18**	**226**		**Pn**	**03 32 07.5**	**+0.1**
COLD	**Coldfoot**	**3.18**	**226**	P	**Pn**	**03 32 07.7**	**+0.3**
	baz=40						
B22K	**Teshekpuk Lake**	**3.24**	**289**		**Pn**	**03 32 07.9**	**-0.4**
H27K	**Steamboat Moun**	**3.48**	**161**		**Pn**	**03 32 11.7**	**+0.1**
G29M	**Pine Creek**	**3.53**	**135**		**Pn**	**03 32 12.5**	**+0.3**
G29M	**Pine Creek**	**3.53**	**135**	IAML		03 33 15.9	
	comp=N,606nm,0.8s						
F22K	**John River**	**3.53**	**239**		**Pn**	**03 32 12.1**	**-0.3**
G23K	**Bananza Creek**	**3.55**	**220**		**Pn**	**03 32 12.0**	**-0.6**
G23K				IAML		03 33 15.3	
	comp=E,512nm,1.3s						
G23K				IAML		03 33 16.6	
	comp=N,438nm,1.4s						
B21K	**Ikpikpuk River**	**3.61**	**276**		**Pn**	**03 32 13.1**	**-0.2**
B21K	**Ikpikpuk River**	**3.61**	**276**	IAML		03 33 27.4	
	comp=E,501nm,1.2s						
B21K				IAML		03 33 30.6	
	comp=N,543nm,0.8s						
E21K	**Killik River**	**3.64**	**257**		**Pn**	**03 32 12.9**	**-0.9**
E21K	**Killik River**	**3.64**	**257**	IAML		03 33 16.1	
	comp=N,394nm,0.7s						
E21K				IAML		03 33 20.4	
	comp=E,406nm,0.9s						
F30M	**Barrier River**	**3.68**	**118**		**Pn**	**03 32 15.6**	**+1.3**
C21K	**Knifeblade Rid**	**3.73**	**269**		**Pn**	**03 32 14.6**	**-0.4**
A22K	**Sinclair Lake**	**3.90**	**297**		**Pn**	**03 32 16.7**	**-0.6**
H24K	**Noodor Dome**	**3.95**	**202**	Pn	**Pn**	**03 32 17.7**	**-0.4**
H24K				IAML		03 33 25.5	
	comp=E,327nm,0.9s						
H24K				IAML		03 33 30.4	
	comp=N,287nm,0.8s						
H24K	**Noodor Dome**	**3.95**	**202**	P	**Pn**	**03 32 17.9**	**-0.3**
	baz=18						
G30M	**tAoh Zraii Nji**	**3.96**	**127**		**Pn**	**03 32 18.1**	**-0.1**
G30M	**tAoh Zraii Nji**	**3.96**	**127**	IAML		03 33 30.0	
	comp=N,256nm,1.1s						
H29M	**Whitestone**	**4.02**	**143**		**Pn**	**03 32 19.6**	**+0.6**
H29M	**Whitestone**	**4.02**	**143**	IAML		03 33 13.1	
	comp=E,312nm,1.1s						
H29M				IAML		03 33 36.5	
	comp=N,345nm,1.1s						
PRP	**Porcupine Dome**	**4.06**	**187**	Pn	**Pn**	**03 32 19.9**	**+0.3**
PRP				IAML		03 33 13.8	
	comp=N,311nm,0.5s						
PRP				IAML		03 33 28.9	
	comp=E,337nm,0.8s						
PRP	**Porcupine Dome**	**4.06**	**187**	P	**Pn**	**03 32 20.0**	**+0.3**
	baz=5.7						
I27K	**Kandik River**	**4.08**	**164**		**Pn**	**03 32 20.2**	**+0.3**
INK	**Inuvik**	**4.09**	**102**	Pn	**Pn**	**03 32 20.1**	**+0.2**
INK	**Inuvik**	**4.09**	**102**	Pn	**Pn**	**03 32 19.7**	**-0.2**
	comp=E,2.2nm,0.3s,baz=302,slow=6.7,SNR=66						
INK				Sn	**Sn**	**03 33 06.2**	**-1.5**
	comp=E,9.0nm,0.3s,baz=284,slow=17,SNR=5.2						
	comp=E,12nm,0.4s						
INK	**Inuvik**	**4.09**	**102**	P	**Pn**	**03 32 19.8**	**-0.2**
	baz=292						
F21K	**Alatna River**	**4.11**	**240**		**Pn**	**03 32 20.3**	**+0.1**
F21K	**Alatna River**	**4.11**	**240**	IAML		03 33 38.7	
	comp=N,273nm,0.9s						
H23K	**Yukon River**	**4.22**	**211**		**Pn**	**03 32 21.5**	**-0.3**
H23K	**Yukon River**	**4.22**	**211**	IAML		03 33 34.9	
	comp=E,333nm,1.1s						
H23K				IAML		03 33 39.9	
	comp=N,342nm,1.1s						
I26K	**Coal Creek Min**	**4.27**	**173**		**Pn**	**03 32 22.7**	**+0.3**
EPYK	**Eagle Plains**	**4.28**	**134**		**Pn**	**03 32 22.6**	**0.0**
F31M	**Tsiigehtchic**	**4.42**	**113**	Pn	**Pn**	**03 32 24.5**	**0.0**
F31M				IAML		03 33 41.1	
	comp=N,236nm,1.1s						
F31M				IAML		03 33 42.6	
	comp=E,229nm,1.4s						
F31M	**Tsiigehtchic**	**4.42**	**113**	P	**Pn**	**03 32 24.7**	**+0.2**
	baz=303						
I28M	**Miner Creek**	**4.43**	**156**		**Pn**	**03 32 25.5**	**+0.7**
I28M	**Miner Creek**	**4.43**	**156**	IAML		03 33 52.4	
	comp=E,161nm,0.8s						
D20K	**Etivluk River**	**4.47**	**265**		**Pn**	**03 32 25.9**	**+0.6**
E20K	**Nigu River**	**4.47**	**259**		**Pn**	**03 32 25.7**	**+0.4**
B20K	**Meade River**	**4.48**	**282**		**Pn**	**03 32 24.9**	**-0.4**
A21K	**Barrow**	**4.51**	**299**		**Pn**	**03 32 25.6**	**-0.1**
A21K	**Barrow**	**4.51**	**299**	P	**Pn**	**03 32 26.5**	**+0.9**
	baz=108						
H22K	**Ishtalitna Cre**	**4.53**	**220**		**Pn**	**03 32 25.8**	**-0.3**
G31M	**Satah River**	**4.57**	**120**	Pn	**Pn**	**03 32 26.6**	**+0.1**
G31M				IAML		03 33 49.4	
	comp=N,275nm,1.4s						
G31M	**Satah River**	**4.57**	**120**	P	**Pn**	**03 32 26.1**	**-0.3**
	baz=309						
G21K	**Allakaket**	**4.59**	**233**		**Pn**	**03 32 26.1**	**-0.7**
G21K	**Allakaket**	**4.59**	**233**	IAML		03 33 47.9	
	comp=N,248nm,1.1s						
POKR	**Poker Plat Res**	**4.59**	**197**	Pn	**Pn**	**03 32 27.1**	**+0.2**
POKR				IAML		03 33 56.6	
	comp=N,155nm,1.1s						
POKR	**Poker Plat Res**	**4.59**	**197**	P	**Pn**	**03 32 27.7**	**+0.8**
	baz=14						
I29M	**Ogilvie Camp,**	**4.79**	**148**	Pn	**Pn**	**03 32 29.5**	**-0.1**
I29M				IAML		03 33 51.9	
	comp=E,174nm,0.9s						
I29M				IAML		03 34 03.3	
	comp=N,135nm,0.7s						
I29M	**Ogilvie Camp,**	**4.79**	**148**	P	**Pn**	**03 32 30.5**	**+1.0**
	baz=333						
I23K	**Minto, Yukon-K**	**4.81**	**206**	Pn	**Pn**	**03 32 30.1**	**+0.3**
I23K				IAML		03 33 56.1	
	comp=N,233nm,1.2s						
I23K				IAML		03 33 57.8	
	comp=E,233nm,1.5s						
COLA	**College**	**4.88**	**198**	Pn	**Pn**	**03 32 30.8**	**+0.1**
IL31		**4.88**	**193**	Pn	**Pn**	**03 32 30.8**	**-0.1**
ILAR	**Eielson Array**	**4.88**	**193**	Pn	**Pn**	**03 32 30.5**	**-0.4**
ILAR	**Eielson Array**	**4.88**	**193**	Pn	**Pn**	**03 32 31.2**	**+0.4**
	comp=E,4.1nm,0.3s,baz=12,slow=14,SNR=116						
ILAR				Sn	**Sn**	**03 33 28.8**	**+1.4**
	comp=E,6.9nm,0.3s,baz=10,slow=22,SNR=8.6						
	comp=E,16nm,0.6s						
F20K	**Avaraart Lake**	**4.91**	**245**	Pn	**Pn**	**03 32 31.2**	**0.0**
F20K				IAML		03 34 04.0	
	comp=N,161nm,1.1s						
F20K				IAML		03 34 04.1	
	comp=E,138nm,1.2s						
F20K	**Avaraart Lake**	**4.91**	**245**	P	**Pn**	**03 32 31.9**	**+0.7**
	baz=54						
EGAK	**Eagle**	**4.93**	**164**	Pn	**Pn**	**03 32 31.5**	**0.0**
EGAK				IAML		03 34 01.9	
	comp=E,144nm,1.1s						
EGAK				IAML		03 34 12.8	
	comp=E,134nm,0.9s						
J25K	**Salcha River,**	**4.96**	**185**		**Pn**	**03 32 32.4**	**+0.4**
J25K	**Salcha River,**	**4.96**	**185**	IAML		03 34 01.8	
	comp=E,150nm,1.4s						
IMAR	**Indian Mountai**	**5.05**	**230**	Pn	**Pn**	**03 32 31.8**	**-1.3**
H21K	**Melozitna Rive**	**5.06**	**224**		**Pn**	**03 32 33.7**	**+0.4**
J26L	**Joseph Creek**	**5.06**	**176**		**Pn**	**03 32 33.7**	**+0.3**
J26L	**Joseph Creek**	**5.06**	**176**	IAML		03 33 59.4	
	comp=E,138nm,0.8s						
D19K	**Kuna River**	**5.07**	**265**		**Pn**	**03 32 33.2**	**-0.1**
CCB	**Clear Creek Bu**	**5.09**	**197**	Pn	**Pn**	**03 32 33.2**	**-0.5**
CCB				IAML		03 34 03.8	
	comp=E,105nm,0.7s						
MLY	**Manley**	**5.16**	**212**	Pn	**Pn**	**03 32 34.8**	**+0.2**
MLY				IAML		03 34 08.1	
	comp=N,107nm,1.3s						
MLY				IAML		03 34 11.1	
	comp=E,96nm,1.5s						
E19K	**Redstone River**	**5.18**	**252**		**Pn**	**03 32 34.0**	**-1.0**
HDA	**Harding Lake**	**5.25**	**193**	Pn	**Pn**	**03 32 36.8**	**+0.9**
HDA				IAML		03 34 17.5	
	comp=N,158nm,1.3s						
HDA	**Harding Lake**	**5.25**	**193**	P	**Pn**	**03 32 37.6**	**+1.8**
	baz=9.9						
WRH	**Wood River Hil**	**5.29**	**198**	Pn	**Pn**	**03 32 36.5**	**0.0**
WRH				IAML		03 34 08.1	
	comp=N,108nm,0.8s						
WRH				IAML		03 34 09.1	
	comp=E,123nm,0.9s						
NEA2	**Nenana**	**5.29**	**203**	Pn	**Pn**	**03 32 35.5**	**-1.1**
NEA2				IAML		03 34 15.5	
	comp=E,92nm,1.4s						
I30M	**Mount Dempster**	**5.30**	**141**		**Pn**	**03 32 36.8**	**0.0**
I30M	**Mount Dempster**	**5.30**	**141**	IAML		03 34 24.6	
	comp=E,101nm,0.9s						
H31M	**Peel River**	**5.33**	**130**		**Pn**	**03 32 36.8**	**-0.2**
H31M	**Peel River**	**5.33**	**130**	IAML		03 34 13.0	
	comp=E,140nm,1.2s						
H31M				IAML		03 34 17.6	
	comp=N,114nm,1.4s						
C19K	**Lookout Ridge**	**5.42**	**273**		**Pn**	**03 32 38.0**	**-0.4**
SCRK	**Sand Creek**	**5.58**	**178**	Pn	**Pn**	**03 32 40.7**	**+0.1**
SCRK	**Sand Creek**	**5.58**	**178**	P	**Pn**	**03 32 41.5**	**+0.9**
	baz=358						
K27K	**Chicken**	**5.60**	**170**		**Pn**	**03 32 41.1**	**+0.5**
J29N	**Klondike Camp**	**5.63**	**152**	Pn	**Pn**	**03 32 41.5**	**+0.3**
F19K	**Shaleruckik Mo**	**5.70**	**248**		**Pn**	**03 32 41.1**	**-0.9**
H20K	**Anotleneega Mo**	**5.73**	**230**		**Pn**	**03 32 41.6**	**-0.8**
BWN	**Browne**	**5.75**	**203**	Pn	**Pn**	**03 32 42.6**	**-0.2**
K24K	**Donnelly Dome**	**5.78**	**186**		**Pn**	**03 32 44.0**	**+0.8**
K24K	**Donnelly Dome**	**5.78**	**186**	P	**Pn**	**03 32 45.5**	**+2.2**
	baz=4.9						
A19K	**Wainwright**	**5.82**	**284**		**Pn**	**03 32 43.4**	**-0.3**
DAWY	**Dawson**	**5.82**	**158**	Pn	**Pn**	**03 32 44.0**	**+0.1**
DAWY	**Dawson**	**5.82**	**158**	P	**Pn**	**03 32 44.4**	**+0.6**
	baz=342						
J30M	**Hart River**	**5.87**	**144**		**Pn**	**03 32 44.6**	**+0.1**
G19K	**Purcell Mounta**	**5.90**	**241**		**Pn**	**03 32 44.0**	**-0.9**
C18K	**Utukok River**	**6.10**	**270**		**Pn**	**03 32 46.7**	**-0.9**
MCK	**McKinley**	**6.11**	**200**		**Pn**	**03 32 48.0**	**+0.3**
MCK	**McKinley**	**6.11**	**200**	P	**Pn**	**03 32 49.2**	**+1.6**
	baz=15						
H19K	**Roundabout Mou**	**6.14**	**235**		**Pn**	**03 32 47.6**	**-0.4**
B18K	**Kokolik River**	**6.15**	**277**		**Pn**	**03 32 47.0**	**-1.2**
K29M	**Barlow Dome**	**6.32**	**151**		**Pn**	**03 32 51.2**	**+0.6**
E18K	**Tukpahlearik C**	**6.35**	**258**		**Pn**	**03 32 50.5**	**-0.5**
RND	**Reindeer**	**6.41**	**199**	Pn	**Pn**	**03 32 51.8**	**-0.1**
F18K	**Selawik**	**6.44**	**250**	P	**Pn**	**03 32 51.8**	**-0.4**
	baz=56						
L26K	**Log Cabin Wild**	**6.55**	**176**		**Pn**	**03 32 54.2**	**+0.5**
G18K	**Tagagawik**	**6.55**	**243**		**Pn**	**03 32 53.5**	**-0.2**
KTH	**Kantishna Hill**	**6.55**	**207**		**Pn**	**03 32 53.9**	**+0.1**
BCAR	**Beaver Creek A**	**6.57**	**170**	Pn	**Pn**	**03 32 54.4**	**+0.2**
L27K	**Beaver Creek,**	**6.58**	**170**	P	**Pn**	**03 32 54.8**	**+0.7**
	baz=352						
DHY	**Denali Highway**	**6.60**	**192**		**Pn**	**03 32 55.8**	**+1.2**
PAX	**Paxson**	**6.61**	**185**		**Pn**	**03 32 55.5**	**+0.9**
PAX	**Paxson**	**6.61**	**185**	P	**Pn**	**03 32 55.7**	**+1.1**
	baz=3.3						
J20K	**Nowinta River**	**6.62**	**220**		**Pn**	**03 32 54.9**	**+0.2**
MENT	**Mentasta**	**6.63**	**178**		**Pn**	**03 32 55.6**	**+0.8**
A36M	**Sachs Harbour**	**6.75**	**60**	Pn	**Pn**	**03 32 54.6**	**-1.9**
C17K	**DeLong Mountai**	**6.85**	**270**		**Pn**	**03 32 56.2**	**-1.7**
RDOG	**Red Dog Mine**	**6.89**	**266**	Pn	**Pn**	**03 32 56.0**	**-2.4**
L29M	**L29M**	**6.91**	**156**		**Pn**	**03 32 58.9**	**+0.1**
H18K	**Honhosa River**	**6.97**	**238**		**Pn**	**03 32 58.8**	**-0.7**
WAT7	**Susitna Watana**	**6.97**	**197**		**Pn**	**03 33 00.5**	**+0.9**
F17K	**Baldwin Pennin**	**7.06**	**252**		**Pn**	**03 32 59.7**	**-1.0**
WAT6	**Susitna Watana**	**7.12**	**193**		**Pn**	**03 33 02.7**	**+1.0**
J19K	**Poorman**	**7.12**	**224**		**Pn**	**03 33 02.0**	**+0.5**
C36M	**Paulatuk**	**7.12**	**82**	Pn	**Pn**	**03 33 00.0**	**-1.5**
M26K	**Nabesna, AK**	**7.18**	**175**		**Pn**	**03 33 03.5**	**+1.0**
M27K	**Edge Creek, AK**	**7.27**	**171**		**Pn**	**03 33 04.8**	**+1.1**
PPLA	**Purkeypile**	**7.38**	**209**		**Pn**	**03 33 05.5**	**+0.3**
G17K	**Kiwalik Mounta**	**7.44**	**245**		**Pn**	**03 33 05.2**	**-0.6**
WAZA	**Wrangell Mount**	**7.49**	**179**		**Pn**	**03 33 08.0**	**+1.1**
M29M	**Somme Creek**	**7.50**	**159**		**Pn**	**03 33 07.6**	**+0.7**
WASW	**Wrangell South**	**7.64**	**179**		**Pn**	**03 33 09.4**	**+0.6**
C16K	**Lisburne Hills**	**7.67**	**270**		**Pn**	**03 33 07.2**	**-1.9**
SCM	**Sheep Creek Mo**	**7.83**	**191**		**Pn**	**03 33 12.7**	**+1.3**
N25K	**Chitina, Valde**	**7.96**	**181**		**Pn**	**03 33 14.6**	**+1.4**
G16K	**Koyuk River**	**8.05**	**248**		**Pn**	**03 33 13.4**	**-0.9**
L20K	**Farewell, AK**	**8.07**	**213**		**Pn**	**03 33 14.5**	**-0.1**
GLB	**Gilahina Butte**	**8.13**	**178**		**Pn**	**03 33 16.2**	**+0.8**
SKT	**Skwentna**	**8.13**	**205**		**Pn**	**03 33 16.4**	**+1.0**
MCARA	**McCarthy VSAT**	**8.20**	**176**	Pn	**Pn**	**03 33 17.7**	**+1.4**
KNK	**Knik Glacier**	**8.33**	**194**		**Pn**	**03 33 20.3**	**+2.2**
VRDI	**Verde Repeater**	**8.35**	**177**		**Pn**	**03 33 20.5**	**+1.9**
M31M	**Drury Creek, Y**	**8.39**	**146**		**Pn**	**03 33 18.6**	**-0.5**
PTPK	**Patty Peak**	**8.41**	**174**		**Pn**	**03 33 21.1**	**+1.6**
M20K	**Styx River**	**8.48**	**209**		**Pn**	**03 33 21.4**	**+1.0**
YUK8	**Steele Glacier**	**8.49**	**165**		**Pn**	**03 33 22.7**	**+2.1**
J17K	**VABM Dome**	**8.51**	**231**		**Pn**	**03 33 19.5**	**-1.1**
SUA	**Susitna One**	**8.52**	**201**		**Pn**	**03 33 22.5**	**+1.6**
BALM	**Baldy**	**8.57**	**174**		**Pn**	**03 33 23.5**	**+2.0**
FARO	**Faro, Yukon**	**8.58**	**143**	Pn	**Pn**	**03 33 20.6**	**-1.0**
F15K	**North Star Dit**	**8.62**	**253**		**Pn**	**03 33 20.9**	**-1.3**
N30M	**Aishikik Lake**	**8.64**	**156**		**Pn**	**03 33 23.0**	**+0.6**
STLK	**Strandline Lak**	**8.64**	**205**		**Pn**	**03 33 23.2**	**+0.7**
KIAG	**Kiagna River**	**8.68**	**174**		**Pn**	**03 33 25.0**	**+1.8**
CTGM	**Chitina Glacie**	**8.69**	**170**		**Pn**	**03 33 25.1**	**+1.9**
M19K	**Big River Lodg**	**8.69**	**213**		**Pn**	**03 33 24.3**	**+1.2**
N31M	**Braeburn, Yuko**	**8.81**	**152**		**Pn**	**03 33 25.9**	**+1.2**
TGL	**Tana Glacier**	**8.84**	**175**		**Pn**	**03 33 27.4**	**+2.3**
LOGN	**Logan Glacier**	**8.85**	**169**		**Pn**	**03 33 27.4**	**+2.0**
G15K	**Niukluk**	**8.86**	**249**		**Pn**	**03 33 25.3**	**0.0**
K17K	**Iditarod**	**8.86**	**226**		**Pn**	**03 33 25.6**	**+0.2**
PWL	**Port Wells**	**8.87**	**193**		**Pn**	**03 33 26.9**	**+1.4**
L18K	**Granite Mounta**	**8.89**	**220**		**Pn**	**03 33 25.7**	**-0.2**
GRNC	**Granite Creek**	**8.90**	**172**		**Pn**	**03 33 28.0**	**+1.9**
WHY	**Whitehorse**	**9.74**	**151**	Pn	**Pn**	**03 33 36.7**	**-0.8**
WRGLY	**Wrigley**	**10.44**	**117**	Pn	**Pn**	**03 33 46.5**	**-0.4**
SKAG	**Skagway**	**10.81**	**155**	Pn	**Pn**	**03 33 53.3**	**+1.2**
S31K	**Pelican**	**12.14**	**159**	Pn	**Pn**	**03 34 12.1**	**+1.9**
KDAK	**Kodiak Island**	**12.33**	**201**	LR	LR	03 39 50.8	
	comp=N,593nm,20.8s,baz=256,slow=41						
DLBC	**Dease Lake**	**12.73**	**144**	Pn	**Pn**	**03 34 18.0**	**-0.3**
DLBC	**Dease Lake**	**12.73**	**144**	Pn	**Pn**	**03 34 18.5**	**+0.2**
	comp=N,0.6nm,0.3s,baz=339,slow=9.7,SNR=8.3						
	comp=N,4.0nm,0.5s						
S34M	**Telegraph Cree**	**12.99**	**147**	Pn	**Pn**	**03 34 22.5**	**+0.6**
YKA	**Yellowknife Ar**	**13.85**	**106**	Pn	**Pn**	**03 34 29.4**	**-4.1**
YKA	**Yellowknife Ar**	**13.85**	**106**	Pn	**Pn**	**03 34 29.0**	**-4.5**
	comp=N,0.8nm,0.

HNR	Honiara	3.48	287	Pn	Pn	03 34 06.0	+0.4
	241nm,0.3s,baz=135,slow=7.1,SNR=5.4						
	859nm,0.4s						
DZM	Mont Dzumac	11.90	166	Pn	Pn	03 36 01.9	+0.7
DZM	Mont Dzumac	11.90	166	Pn	Pn	03 36 00.5	-0.8
	1.1nm,0.3s,baz=308,slow=19,SNR=2.0						
DZM				Sn	Sn	03 38 12.8	-1.0
	0.5nm,0.3s,baz=323,slow=20,SNR=2.4						
	4.0nm,0.5s						
PINNC	Pines Island,	12.69	162	Pn	Pn	03 36 11.6	-0.4
EIDS	Eidsvold	18.80	216	Pn	Pn	03 37 34.1	+2.5
CTAO	Charters Tower	19.00	238		Pn	03 37 35.3	+1.3
COEN	Coen	19.98	258		Pn	03 37 45.8	+0.1
COEN				IAmb	IAmb	03 37 52.7	
	comp=Z,95nm,2.0s						
ARMA	Armidale	22.61	207	P	P	03 38 14.7	+2.3
JAY	Jayapura	23.80	288	P	P	03 38 22.2	-2.3
	comp=Z,13nm,0.6s,baz=135,slow=8.6,SNR=5.9						
	comp=Z,13nm,0.6s						
H11S2	WAKE ISLAND Hy	28.99	7	T	T	04 09 39.5	
	baz=188						
H11S3	WAKE ISLAND Hy	28.99	7	T	T	04 09 34.6	
	baz=188						
H11S1	WAKE ISLAND Hy	29.01	7	T	T	04 09 39.9	
	baz=188						
STKA	Stephens Creek	29.26	220	P	P	03 39 13.4	-0.2
	comp=Z,1.9nm,0.7s,baz=63,slow=18,SNR=1.3						
	comp=Z,1.9nm,0.7s						
WB0	Warramunga Arr	29.36	248	P	P	03 39 14.4	-0.2
WB0				IAmb	IAmb	03 39 51.7	
	comp=Z,34nm,1.4s						
WRA	Warramunga Arr	29.45	248	P	P	03 39 13.9	-1.6
	comp=Z,3.0nm,0.8s,baz=77,slow=9.1,SNR=3.5						
	comp=Z,3.0nm,0.8s						
H11N1	WAKE ISLAND Hy	30.22	7	T	T	04 11 12.8	
	baz=187						
H11N3	WAKE ISLAND Hy	30.23	7	T	T	04 11 11.8	
	baz=187						
H11N2	WAKE ISLAND Hy	30.24	7	T	T	04 11 07.4	
	baz=187						
AS31	Alice Springs	30.93	241	P	P	03 39 27.6	-1.0
AS31				IAmb	IAmb	03 40 19.1	
	comp=Z,9.6nm,1.4s						
ASAR	Alice Springs	30.93	241	P	P	03 39 29.2	+0.6
ASAR	Alice Springs	30.93	241	P	P	03 39 26.4	-2.1
	comp=Z,2.3nm,0.6s,baz=71,slow=9.5,SNR=7.2						
	comp=Z,2.3nm,0.6s						
BBOO	Buckleboo	33.50	224	P	P	03 39 50.2	-0.7
BBOO				IAmb	IAmb	03 39 56.4	
	comp=Z,24nm,1.2s						
KNRA	Kununurra	34.02	258	P	P	03 39 54.0	-1.5
FITZ	Fitzroy Crossi	37.22	254	P	P	03 40 21.4	-1.7
FORT	Forrest	38.43	233	P	P	03 40 32.6	-0.6
FORT				IAmb	IAmb	03 41 02.8	
	comp=Z,37nm,1.1s						
USRK	Ussuriysk Ar.	61.41	335	P	P	03 43 27.0	-0.5
	comp=Z,3.3nm,0.9s,baz=134,slow=10,SNR=2.0						
	comp=Z,3.3nm,0.9s						
CMAR	Chiang Mai Arr	69.70	294	P	P	03 44 20.7	-1.0
CMAR	Chiang Mai Arr	69.70	294	P	P	03 44 22.7	+1.0
	comp=Z,1.3nm,0.3s,baz=114,slow=3.8,SNR=9.4						
	comp=Z,1.3nm,0.3s						
SONM	Songino Array	76.82	325	P	P	03 45 04.4	+1.1
SONM				IAmb	IAmb	03 45 06.9	
	comp=Z,9.7nm,1.6s						
SONM	Songino Array	76.82	325	P	P	03 45 03.3	0.0
	comp=Z,1.9nm,0.7s,baz=138,slow=5.2,SNR=3.8						
	comp=Z,1.9nm,0.7s						
ILAR	Eielson Array	83.77	19	P	P	03 45 40.5	+0.4
	comp=Z,1.8nm,1.0s,baz=234,slow=5.4,SNR=4.2						
	comp=Z,1.8nm,1.0s						
MKAR	Makanchi Array	91.49	317	P	P	03 46 18.7	+0.8
	comp=Z,2.2nm,0.7s,baz=95,slow=5.6,SNR=5.4						
	comp=Z,2.2nm,0.7s						
ARCES	ARCESS Array B	115.19	345	PKP	PKPdf	03 51 52.5	+0.3
	comp=Z,3.6nm,1.0s,baz=57,slow=3.3,SNR=6.5						
FINES	FINESS Array B	120.37	338	PKP	PKiKP	03 52 03.1	+0.7
	comp=Z,2.8nm,0.9s,baz=96,slow=5.6,SNR=4.6						
AKASG	Malin Array Be	125.08	326	PKP	PKiKP	03 52 11.9	-0.1
	comp=Z,0.9nm,0.6s,baz=65,slow=2.2,SNR=5.0						
NOA	NORSAR Array B	125.52	344	PKP	PKiKP	03 52 13.2	+0.4
	comp=Z,0.3nm,0.5s,baz=65,slow=1.9,SNR=1.7						
BRTR	Keskin Array B	126.83	312	PKP	PKiKP	03 52 15.9	-0.3
	comp=Z,0.6nm,1.0s,baz=101,slow=4.6,SNR=1.8						
GERES	GERESS Array B	134.13	332	PKP	PKPdf	03 52 29.4	+0.3
	comp=Z,0.6nm,0.6s,baz=32,slow=5.8,SNR=2.6						
KEST	Kesra	145.50	321	PKPbc	PKPab	03 52 50.3	0.0
	comp=Z,6.2nm,0.9s,baz=30,slow=1.1,SNR=4.7						
ESDC	Sonseca Array	148.81	341	PKPbc	PKiKP	03 53 00.4	-0.4
	comp=Z,1.4nm,1.0s,baz=20,slow=1.5,SNR=3.8						
TORD	Torodi Ar. Bea	161.81	280	PKPab	PKPab	03 53 59.2	0.0
	comp=Z,0.8nm,0.9s,baz=74,slow=2.3,SNR=1.9						

*IDC **16** 03:46:24.2±1.4,5°.85S×130°.44E,h0km,mb3.9/3,*
mbtmp4.1/6,ML4.3/3,Error ellipse: s-maj=65.9km
s-min=25.6km az=80.0

ISC 16 03:46:36.0±0.9,6°.12S±0°.09×130°.1E±0°.2,h100km,n16,
σ1§84/15,mb3.9/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	1.59	354	P	Pn	03 47 10.1	+6.7
SAUI	Saumlaki	2.22	147	P	Pn	03 47 14.5	+3.0
FAKI	Fak Fak	3.85	35	P	Pn	03 47 35.1	+1.9
DRS	Darwin Rock St	6.33	173	P	Pn	03 48 07.6	+0.8
MTN	Manton Dam	6.77	171	P	Pn	03 48 13.0	+0.2
KDU	Kakadu	6.95	160	P	Pn	03 48 14.7	-0.5
FITZ	Fitzroy Crossi	12.67	200	Pn	Pn	03 49 30.6	-2.0
	1.1nm,0.3s,baz=20,slow=7.9,SNR=29						
FITZ				Sn	Sn	03 51 39.3	-13
	1.2nm,0.3s,baz=66,slow=20,SNR=5.8						
	3.1nm,0.3s						
WRA	Warramunga Arr	14.36	164	Pn	Pn	03 49 50.6	-4.0
	1.5nm,0.3s,baz=345,slow=13,SNR=41						
WRA				Sn	Sn	03 52 19.8	-13
	1.9nm,0.3s,baz=342,slow=21,SNR=7.1						
	4.3nm,0.5s						
QIS	Mount Isa	17.08	148	P	P	03 50 29.0	+0.1
ASAR	Alice Springs	17.84	168	P	P	03 50 37.0	-0.2
	1.0nm,0.3s,baz=344,slow=9.9,SNR=37						
ASAR				S	Sn	03 53 45.2	-12
	0.6nm,0.4s,baz=353,slow=28,SNR=5.7						
	4.0nm,0.5s						
WRKA	Warakurna	18.89	185	P	Pn	03 50 50.0	-0.5
OOD	Oodnadatta	22.21	167	P	P	03 51 24.6	+0.2
MULG	Mulgathing	24.33	172	P	P	03 51 44.7	+0.2
MKAR	Makanchi Array	67.53	327	P	P	03 57 22.1	+0.5
	1.0nm,0.7s,baz=128,slow=5.4,SNR=6.4						
	1.0nm,0.7s						
KURBB	Kurchatov Arra	71.80	328	P	P	03 57 49.3	+1.6
	0.3nm,0.3s,baz=121,slow=4.6,SNR=5.1						
	0.3nm,0.3s						
ILAR	Eielson Array	92.52	25	P	P	03 59 33.9	-1.9
	0.9nm,1.1s,baz=249,slow=7.6,SNR=2.6						
	0.9nm,1.1s						

*IDC **16** 03:52:33.0±2.2,25°.46S×179°.70W,h437km±22km,*
mb3.3/11,mbtmp4.2/15,Error ellipse: s-maj=21.6km
s-min=14.7km az=92.0

ISC 16 03:52:33.8±0.6,25°.49S±0°.06×179°.6W±0°.1,h450km,n44,
σ1§44/50,mb3.5/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	4.05	158	P	P	03 53 49.6	+0.3
GLKZ				S	S	03 54 52.0	+1.3
MSVF	Nonsavu	8.02	344	P	P	03 54 28.5	-1.1
	31nm,0.6s,baz=146,slow=16,SNR=34						
NIUE	Niue	11.01	57	P	P	03 55 07.0	+5.0
OUZ	Omahuta	11.32	210	P	P	03 55 06.6	+1.4
WCZ	Waipu Caves	11.63	205	P	P	03 55 10.0	+1.5
KUZ	Kuaotunu	11.90	198	P	P	03 55 12.7	+1.2
MXZ	Matakaoa Point	12.16	188	P	P	03 55 13.0	-1.3
MBAZ	Motutapu North	12.18	201	P	P	03 55 16.3	+1.8
MKAZ	Moumakai	12.40	200	P	P	03 55 18.1	+1.3
HAZ	Te Kaha	12.43	190	P	P	03 55 16.5	-0.6
HAZ				S	S	03 57 32.1	+0.2
AWAZ	Awhitu Peninsu	12.53	202	P	P	03 55 19.7	+1.5
RUGZ	Raukumara Rang	12.65	190	P	P	03 55 19.4	-0.3
RUGZ				S	S	03 57 34.0	-2.5
PUZ	Puketiti	12.67	188	P	P	03 55 19.1	-0.7
PUZ				S	S	03 57 34.7	-2.2
TWGZ	Tauwhareparae	12.81	189	P	P	03 55 21.7	+0.3
TOZ	Tahuroa Road	12.89	198	P	P	03 55 23.8	+1.8
URZ	Urewera	13.03	191	P	P	03 55 21.7	-1.9
	19nm,0.4s,baz=16,slow=4.5,SNR=33						
URZ				S	S	03 57 38.8	-5.0
	2.5nm,0.4s,baz=90,slow=1.0,SNR=1.8						
URZ	Urewera	13.03	191	P	P	03 55 21.6	-2.0
URZ				S	S	03 57 44.4	+0.5
MWZ	Matawai	13.03	190	P	P	03 55 22.4	-1.3
MWZ				S	S	03 57 45.1	+1.1
TKGZ	Te Karaka	13.09	189	P	P	03 55 26.2	+2.0
DZM	Mont Dzumac	13.20	282	P	P	03 55 26.0	+0.2
	4.1nm,0.6s,baz=106,slow=15,SNR=1.7						
RAGZ	Rawiri	13.21	190	P	P	03 55 24.9	-0.7
RIGZ	Rimuhau	13.36	189	P	P	03 55 26.5	-0.7
RIGZ				S	S	03 57 50.2	-0.3
RPZ	Rata Peaks	19.71	200	P	P	03 56 32.1	-0.3
	6.2nm,0.5s,baz=54,slow=19,SNR=2.5						
ASAR	Alice Springs	42.14	262	P	P	03 59 44.8	-0.7
	1.2nm,0.8s,baz=101,slow=8.6,SNR=9.9						
	1.2nm,0.8s						
WRA	Warramunga Arr	42.67	268	P	P	03 59 48.1	-1.6
	1.6nm,0.8s,baz=103,slow=8.2,SNR=6.0						
	1.6nm,0.8s						
QSPA	South Pole Qui	64.60	180	P	P	04 02 26.5	+1.1
	2.1nm,0.7s,baz=67,slow=15,SNR=13						
	2.1nm,0.7s						
MJAR	Matsushiro Arr	73.40	326	P	P	04 03 17.8	-1.1
	2.2nm,0.7s,baz=155,slow=6.0,SNR=6.0						
	2.2nm,0.7s						
MAW	Mawson	76.39	200	P	P	04 03 35.8	+0.5
	0.8nm,0.7s,baz=31,slow=12,SNR=1.5						
	0.8nm,0.7s						
USRK	Ussuriysk Ar.	82.28	327	P	P	04 04 07.8	+0.9
	2.6nm,0.7s,baz=151,slow=3.3,SNR=4.4						
	2.6nm,0.7s						
NVAR	Mina Array Bea	85.66	44	P	P	04 04 25.4	+1.3
	0.5nm,0.7s,baz=229,slow=9.1,SNR=4.9						
	0.5nm,0.7s						
KLR	Kul'dur	86.08	330	P	P	04 04 27.7	+2.1
	0.4nm,0.3s,baz=125,slow=16,SNR=2.2						
	0.4nm,0.3s						
CMAR	Chiang Mai Arr	90.40	290	P	P	04 04 48.5	+2.0
	1.2nm,0.3s,baz=140,slow=2.9,SNR=5.6						
	1.2nm,0.3s						
TXAR	Lajitas Array	90.98	58	P	P	04 04 50.2	+1.1
	0.4nm,0.8s,baz=219,slow=8.1,SNR=3.8						
	0.4nm,0.8s						
ILAR	Eielson Array	93.49	13	P	P	04 04 58.2	-1.4
	0.2nm,0.9s,baz=222,slow=3.2,SNR=4.0						
	0.2nm,0.9s						
KURBB	Kurchatov Arra	116.62	316	PKP	PKiKP	04 10 24.8	-0.7
	0.6nm,0.7s,baz=100,slow=1.7,SNR=5.3						
BVAR	Borovoye Array	121.85	318	PKP	PKiKP	04 10 34.9	-0.8
	0.7nm,0.5s,baz=79,slow=2.2,SNR=3.9						
NB2	NORSAR Subarra	143.70	351	PKP	PKPbc	04 11 14.3	-0.4
	comp=Z,1.4nm,0.7s,baz=16,slow=3.3						
NOA	NORSAR Array B	143.70	351	PKP	PKPbc	04 11 14.2	-0.4
	comp=Z,2.4nm,0.8s,baz=18,slow=2.4,SNR=8.9						
HFS	Hagfors	144.17	349	PKP	PKPab	04 11 15.5	-0.8
	comp=Z,5.2nm,0.7s,baz=29,slow=3.3,SNR=11						
AKASG	Malin Array Be	146.48	326	PKPbc	PKPbc	04 11 22.9	-0.4
	comp=Z,1.9nm,0.6s,baz=46,slow=4.3,SNR=10						
MMAI	Mount Meron Ar	148.64	292	PKPbc	PKiKP	04 11 31.1	+0.3
	comp=Z,2.2nm,0.7s,baz=70,slow=4.7,SNR=5.4						
BRTR	Keskin Array B	148.79	305	PKPbc	PKiKP	04 11 29.7	-1.3
	comp=Z,0.7nm,0.6s,baz=130,slow=1.8,SNR=3.6						
BRTR				PKPab	PKPab	04 11 35.1	-0.3
	comp=Z,0.9nm,0.7s,baz=90,slow=1.4,SNR=4.7						
EKA	Eskdalemuir Ar	150.07	4	PKPbc	PKPbc	04 11 31.7	-0.6
	comp=Z,1.6nm,0.9s,baz=332,slow=4.0,SNR=2.4						
ESDC	Sonseca Array	165.39	13	PKPab	PKPab	04 12 46.7	-0.1
	comp=Z,0.1nm,0.3s,baz=322,slow=1.3,SNR=1.9						

*IDC **16** 03:55:25.8±1.0,10°.63S×163°.06E,h0km,mb3.8/8,*
mbtmp3.9/10,ML4.0/2,MS4.6/1,Error ellipse:
s-maj=24.6km s-min=22.4km az=107.0

ISC 16 03:55:29.3±0.8,10°.59S±0°.10×163°.1E±0°.1,h21km,n18,
σ1§50/13,mb3.8/8,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.31	290	Pn	Pn	03 56 20.1	+0.1
	29nm,0.3s,baz=90,slow=20,SNR=5.7						
HNR				Sn	Sn	03 56 60.0	+1.2
	24nm,0.3s,baz=93,slow=19,SNR=3.9						
	200nm,0.6s						
DZM	Mont Dzumac	11.86	165	Pn	Pn	03 58 16.0	-1.3
	0.5nm,0.3s,baz=335,slow=19,SNR=1.7						
DZM				Sn	Sn	04 00 31.9	+2.7
	0.2nm,0.3s,baz=66,slow=19,SNR=1.4						
	1.7nm,0.3s						
STKA	Stephens Creek	29.05	220	P	P	04 01 28.9	+0.7
	0.8nm,0.4s,baz=11,slow=12,SNR=1.4						
	0.8nm,0.4s						
H11S2	WAKE ISLAND Hy	29.11	7	T	T	04 32 42.0	
	baz=188,slow=76,SNR=28						
H11S3	WAKE ISLAND Hy	29.13	7	T	T	04 32 26.3	
	baz=188,slow=76,SNR=20						
H11S1	WAKE ISLAND Hy	29.13	7	T	T	04 32 24.9	
	baz=188,slow=76,SNR=19						
WRA	Warramunga Arr	29.23	248	P	P	04 01 28.8	-1.1
	1.0nm,0.7s,baz=80,slow=9.1,SNR=6.4						
	1.0nm,0.7s						
H11N1	WAKE ISLAND Hy	30.34	7	T	T	04 34 03.9	
	baz=188,slow=76,SNR=8.7						
H11N3	WAKE ISLAND Hy	30.34	7	T	T	04 33 58.6	
	baz=188,slow=76,SNR=9.6						
H11N2	WAKE ISLAND Hy	30.36	7	T	T	04 33 59.5	
	baz=188,slow=76,SNR=7.9						
ASAR	Alice Springs	30.71	241	P	P	04 01 40.6	-2.5
	0.9nm,0.5s,baz=67,slow=9.9,SNR=11						
	0.9nm,0.5s						
RAR	Rarotonga	37.14	111	LR	LR	04 16 06.8	
	comp=Z,904nm,21.1s,baz=285,slow=33						
SONM	Songino Array	76.78	325	P	P	04 07 20.8	+1.3
	0.3nm,0.5s,baz=127,slow=3.8,SNR=2.2						
	0.3nm,0.5s						
QSPA	South Pole Qui	79.41	180	P	P	04 07 33.6	-0.2
	0.8nm,0.8s,baz=355,slow=1.2,SNR=2.5						
	0.8nm,0.8s						
ILAR	Eielson Array	83.92	19	P	P	04 07 56.1	-1.2
	0.3nm,0.7s,baz=234,slow=4.3,SNR=5.9						
	0.3nm,0.7s						
NVAR	Mina Array Bea	87.72	50	P	P	04 08 18.1	+1.0
	0.1nm,0.4s,baz=248,slow=4.8,SNR=3.0						
	0.1nm,0.4s						
MKAR	Makanchi Array	91.42	317	P	P	04 08 33.8	-0.2
	0.6nm,0.7s,baz=90,slow=4.3,SNR=2.8						
	0.6nm,0.7s						
ESDC	Sonseca Array	148.83	341	PKPbc	PKPbc	04 15 16.1	+0.3
	0.3nm,0.7s,baz=46,slow=3.7,SNR=1.9						

*IDC **16** 04:10:14.0±2.1,10°.58S×163°.28E,h0km,mb3.9/5,*
mbtmp4.0/7,ML4.1/2,Error ellipse: s-maj=47.6km
s-min=33.6km az=84.0

ISC 16 04:10:16.6±1.5,10°.6S±0°.2×163°.3E±0°.2,h16km,n13,
σ0§81/7,mb3.8/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.47	289	Pn	Pn	04 11 10.4	+0.5
	58nm,0.3s,baz=123,slow=3.6,SNR=4.1						
	155nm,0.4s						
DZM	Mont Dzumac	11.83	166	Pn	Pn	04 13 05.2	+0.3
	0.3nm,0.3s,baz=335,slow=3.9,SNR=1.6						
	2.7nm,0.5s						
H11S2	WAKE ISLAND Hy	29.08	7	T	T	04 46 50.1	
	baz=188						
H11S3	WAKE ISLAND Hy	29.08	7	T	T	04 46 47.3	
	baz=188						
H11S1	WAKE ISLAND Hy	29.09	7	T	T	04 46 45.4	
	baz=188						
WRA	Warramunga Arr	29.38	248	P	P	04 16 18.8	-0.6
	0.8nm,0.9s,baz=78,slow=8.7,SNR=2.8						
	0.8nm,0.9s						
H11N1	WAKE ISLAND Hy	30.30	7	T	T	04 48 12.4	
	baz=188						
H11N3	WAKE ISLAND Hy	30.31	7	T	T	04 48 24.1	
	baz=188						
H11N2	WAKE ISLAND Hy	30.32	7	T	T	04 48 15.4	
	baz=188						
ASAR	Alice Springs	30.86	241	P	P	04 16 32.0	-0.4
	0.5nm,0.5s,baz=69,slow=9.5,SNR=6.6						
	0.5nm,0.5s						
CMAR	Chiang Mai Arr	69.70	294	P	P	04 21 26.4	+0.2
	1.0nm,0.3s,baz=123,slow=4.4,SNR=5.2						
	1.0nm,0.3s						
SONM	Songino Array	76.86	325	P	P	04 22 08.8	+0.7
	0.7nm,0.8s,baz=117,slow=4.6,SNR=4.2						
	0.7nm,0.8s						
MKAR	Makanchi Array	91.52	317	P	P	04 23 21.5	-1.1
	0.4nm,0.6s,baz=89,slow=6.5,SNR=1.9						
	0.4nm,0.6s						

*SOF **16** 04:11:54.5,40°.99N±0°.02×23°.43E±0°.01,h6km±2km,*
MD2.9/6
*THE **16** 04:11:56.1,41°.03N×23°.45E,h9km±1km,ML2.2/7,Error*
ellipse: s-maj=1.3km s-min=0.5km az=336.0
*ATH **16** 04:11:56.1,41°.04N×23°.46E,h10km±1km,ML2.3/10,Error*
ellipse: s-maj=2.3km s-min=0.8km az=316.0
*SKO **16** 04:11:57.0,41°.06N×23°.45E,h0km,ML2.2*
*BEO **16** 04:11:57.2±0.4,41°.09N×23°.43E,h2km±3km,ML2.0/7*

ISC 16 04:11:56.2±0.8,41°.03N±0°.02×23°.46E±0°.02,h8km±6km,
n57,σ0§56/98,7C,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	Serrai	0.13	49	P	Pg	04 11 58.7	-0.3
SRS				S	Sg	04 12 01.0	-0.1
SRS	Serrai	0.13	49	*e*Pg	Pg	04 11 58.8	-0.3
SRS				*e*Sg	Sg	04 12 00.9	-0.1
SRS	Serrai	0.13	49	⇑*i*Pg	Pg	04 11 58.9	-0.3
SRS				*i* Sg	Sg	04 12 00.9	-0.1
SRS	Serrai	0.13	49	P	Pg	04 11 58.8	-0.3
SRS				S	Sg	04 12 00.9	-0.1
SRS				AML	AML	04 12 01.0	
	comp=N,3959μm,0.2s						
SRS				AML	AML	04 12 01.5	
	comp=E,3251μm,0.1s						
SOH	Sokhos	0.23	201	P	Pg	04 12 00.8	0.0
SOH				S	Sg	04 12 04.2	+0.4
SOH	Sokhos	0.23	201	⇑*i*Pg	Pg	04 12 00.8	0.0
SOH				*i* Sg	Sg	04 12 04.3	+0.5
SOH	Sokhos	0.23	201	P	Pg	04 12 00.8	0.0
SOH				S	Sg	04 12 04.2	+0.4
SOH				AML	AML	04 12 04.5	
	comp=E,5218μm,0.4s						
SOH				AML	AML	04 12 05.1	
	comp=N,4230μm,0.2s						
NVR	Nevrokopi	0.44	43	P	Pg	04 12 05.5	+0.8
NVR				S	Sg	04 12 11.8	+1.3
	comp=N,235nm,0.1s						
NVR	Nevrokopi	0.44	43	P	Pg	04 12 05.2	+0.4
NVR				AML	AML	04 12 13.8	
	comp=N,416μm,0.1s						
NVR				AML	AML	04 12 13.8	
	comp=E,500μm,0.2s						
KNT	Kendrikon	0.45	287	P	Pg	04 12 04.5	-0.4
KNT				S	Sg	04 12 10.3	-0.4
KNT	Kendrikon	0.45	287	⇑*i*Pg	Pg	04 12 04.5	-0.4
KNT				*i* Sg	Sg	04 12 10.6	-0.2
KOKK	Kokkinochori,	0.46	118	P	Pg	04 12 05.1	-0.1
KOKK				S	Sg	04 12 12.2	+1.0
KOKK	Kokkinochori,	0.46	118	P	Pg	04 12 05.0	-0.1
KOKK				S	Sg	04 12 12.2	+1.0
KOKK				AML	AML	04 12 16.9	
	comp=N,700μm,0.2s						
KOKK				AML	AML	04 12 18.1	
	comp=E,512μm,0.2s						
HORT	Hortiatis	0.52	212	P	Pg	04 12 06.0	-0.2
HORT				S	Sg	04 12 13.5	+0.6
	comp=E,228nm,0.2s						
HORT	Hortiatis	0.52	212	P	Pg	04 12 06.0	-0.2
HORT				S	Sg	04 12 13.1	+0.2
HORT				AML	AML	04 12 14.3	
	comp=E,461μm,0.2s						
HORT				AML	AML	04 12 14.4	
	comp=N,504μm,0.1s						
THE	Thessaloniki	0.55	223	P	Pg	04 12 06.6	-0.2
THE				S	Sg	04 12 14.2	+0.2
	comp=N,268nm,0.2s						
THE	Thessaloniki	0.55	223	P	Pg	04 12 06.6	-0.2
THE				S	Sg	04 12 14.3	+0.3
THE				AML	AML	04 12 14.9	
	comp=E,520μm,0.1s						
THE				AML	AML	04 12 15.7	
	comp=N,605μm,0.2s						
MMB	Musomishta	0.56	23	⇑*i*Pg	Pg	04 12 06.8	-0.2
MMB				Sg	Sg	04 12 14.5	+0.2
MMB	Musomishta	0.56	23	⇑*i*Pg	Pg	04 12 06.9	-0.2
MMB				*i* Sg	Sg	04 12 14.6	+0.2
PLG	Polygyros	0.66	181	P	Pg	04 12 08.2	-0.7
PLG				S	Sg	04 12 18.0	+0.5
	comp=N,198nm,0.4s						
PLG	Polygyros	0.66	181	P	Pg	04 12 08.3	-0.7
PLG				S	Sg	04 12 18.0	+0.5
PLG				AML	AML	04 12 23.1	
	comp=N,496μm,0.5s						
PLG				AML	AML	04 12 23.2	
	comp=E,291μm,0.3s						
KVLA	Kavala	0.71	97	P	Pg	04 12 10.0	+0.2
VAY	Valandovo	0.73	293	*i* Pg	Pg	04 12 10.2	-0.1
VAY				*i* Sg	Sb	04 12 20.9	-0.5
VAY				*e*Lg	Lg	04 12 20.9	
	comp=E,44nm,0.3s						
VAY				*e*Lg	Lg	04 12 21.1	
	comp=N,80nm,0.2s						
KAVA	Kavala	0.80	92	P	Pg	04 12 11.0	-0.5
KAVA				S	Sb	04 12 22.9	-0.3
KAVA	Kavala	0.80	92	P	Pg	04 12 11.0	-0.5
KAVA				S	Sg	04 12 21.7	-0.2
OUR	Ouranopolis	0.80	150	P	Pg	04 12 11.3	-0.3
OUR	Ouranopolis	0.80	150	P	Pg	04 12 11.2	-0.5
OUR				S	Sb	04 12 23.1	-0.2
OUR				AML	AML	04 12 26.2	
	comp=N,1978μm,0.3s					

ZAPS	Zavoj	2.32	345	*e*Pn	Pn	04 12 35.2	+0.4
ZAPS				*e*Sn	Sn	04 13 02.5	-1.0
MPEP	Malo Peshtene	2.33	5	*e*P	Pn	04 12 36.5	+1.7
VALD	Valchedram	2.66	360	*e*P	Pb	04 12 43.8	-0.2
BOVS	Bovan	2.91	334	*e*Pn	Pn	04 12 45.2	+2.4
BOVS				*e*Sn	Sn	04 13 18.5	+0.6
ZAGS	Zajecar	2.92	342	*e*Pn	Pn	04 12 42.2	-0.8

IDC ***16*** *04:14:08.6±1.5, 51°.53N×130°.47W, h0km, mb3.5/3, mbtmp3.4/8, ML3.3/5, Error ellipse: s-maj=19.5km s-min=11.5km az=70.0*

ISC 16 04:14:10.6±1.4, 51°.55N±0°.09×130°.4W±0°.2, h10km, n10, σ1ᵍ38/10, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	Bella Bella	1.53	65	Pg	Pb	04 14 38.4	-0.7
	5.3nm,0.3s,baz=255,slow=17,SNR=29						
H02S1	DAWSON INLET T	2.10	323	Pg	Pn	04 14 35.7	-10
DLBC	Dease Lake	6.90	1	Pn	Pn	04 15 53.2	+1.3
	0.4nm,0.3s,baz=169,slow=13,SNR=5.1						
DLBC				Sn	Sn	04 17 10.1	-0.3
	baz=180,slow=19						
DLBC				Lg	Lg	04 17 45.6	
	0.2nm,0.3s,baz=180,slow=17,SNR=3.0						
	0.9nm,0.3s						
ELK	Elko	15.02	130	Pn	Pn	04 17 45.7	+2.6
	baz=331,slow=19,SNR=1.5						
	0.2nm,0.4s						
NVAR	Mina Array Bea	15.62	142	Pn	P	04 17 53.9	-1.3
	baz=325,slow=12,SNR=2.4						
	0.1nm,0.4s						
ILAR	Eielson Array	15.78	333	Pn	Pn	04 17 51.9	-0.8
	baz=147,slow=10,SNR=18						
	1.7nm,0.9s						
PDAR	Pinedale Array	16.61	114	Pn	P	04 18 05.5	-0.7
	0.1nm,0.3s,baz=307,slow=8.9,SNR=17						
	0.9nm,0.9s						
PFO	Pinyon Flats O	20.58	145	P	P	04 18 49.5	-0.2
	0.7nm,0.7s,baz=331,slow=19,SNR=1.9						
	0.7nm,0.7s						
ULM	Lac du Bonnet	21.67	80	P	P	04 19 01.5	+0.2
	2.9nm,0.8s,baz=277,slow=8.1,SNR=1.7						
	2.9nm,0.8s						
TXAR	Lajitas Array	29.80	128	P	P	04 20 16.6	-1.0
	0.8nm,1.0s,baz=316,slow=7.5,SNR=5.0						
	0.8nm,1.0s						

IDC ***16*** *04:17:37.5±1.6, 10°.85S×163°.32E, h0km, mb3.9/5, mbtmp4.0/7, ML3.7/2, Error ellipse: s-maj=37.8km s-min=31.4km az=110.0*

ISC 16 04:17:38.5±1.1, 10°.9S±0°.1×163°.3E±0°.1, h10km, n14, σ2ᵍ33/9, mb3.8/5, 1C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.57	293	Pn	Pn	04 18 34.4	+0.4
	29nm,0.3s,baz=98,slow=19,SNR=4.1						
HNR				Sn	Sn	04 19 15.1	-1.2
	baz=163,slow=19						
	130nm,0.5s						
DZM	Mont Dzumac	11.56	165	Pn	Pn	04 20 25.6	+1.8
	0.1nm,0.3s,baz=330,slow=20,SNR=2.0						
	6.7nm,0.9s						
WRA	Warramunga Arr	29.29	249	P	P	04 23 41.6	+0.2
	0.9nm,0.9s,baz=80,slow=9.2,SNR=5.0						
	0.9nm,0.9s						
H11S2	WAKE ISLAND Hy	29.35	7	T	T	04 54 11.1	
	baz=188						
H11S3	WAKE ISLAND Hy	29.35	7	T	T	04 54 12.2	
	baz=188						
H11S1	WAKE ISLAND Hy	29.36	7	T	T	04 54 30.0	
	baz=188						
H11N1	WAKE ISLAND Hy	30.58	7	T	T	04 55 39.1	
	baz=188						
H11N3	WAKE ISLAND Hy	30.58	7	T	T	04 56 02.5	
	baz=188						
H11N2	WAKE ISLAND Hy	30.59	7	T	T	04 55 48.9	
	baz=188						
ASAR	Alice Springs	30.74	242	P	P	04 23 54.5	+0.3
	1.6nm,0.9s,baz=74,slow=9.8,SNR=6.7						
	1.6nm,0.9s						
CMAR	Chiang Mai Arr	69.82	294	P	P	04 28 50.8	+1.0
	1.0nm,0.3s,baz=114,slow=4.4,SNR=4.3						
	1.0nm,0.3s						
SONM	Songino Array	77.09	325	P	P	04 29 34.6	+2.4
	0.6nm,0.7s,baz=134,slow=6.2,SNR=3.3						
	0.6nm,0.7s						
ILAR	Eielson Array	84.11	19	P	P	04 30 08.4	-0.9
	0.3nm,1.0s,baz=219,slow=6.9,SNR=1.7						
	0.3nm,1.0s						
SNAA	Sanae	97.14	184	⇑P	P	04 31 06.4	-4.5
	comp=Z,1.7nm,0.2s						

IDC ***16*** *04:18:12.9±0.5, 56°.60S×25°.42W, h0km, mb4.8/12, mbtmp4.9/13, ML4.7/1, MS5.0/18, Error ellipse: s-maj=15.2km s-min=12.2km az=98.0*

MOS ***16*** *04:18:13.4±1.4, 56°.70S×25°.54W, h10km, mb5.4/14, Error ellipse: s-maj=24.5km s-min=11.3km az=114.7*

NEIC ***16*** *04:18:14.7, 56°.62S×25°.44W, h18km*

NEIC ***16*** *04:18:14.7, 56°.12S×24°.89W, h18km, Moment Tensor Solution. Duration: 2ˢ5 Moment tensor: Scale 10¹⁷Nm; Mrr1.78; Mθθ-0.74; Mφφ-1.05; Mrθ-0.67; Mφθ0.63; Mφr-0.50; Fault plane solution: M₀1.81000×10¹⁷ NP1: φs303.18000°, δ48.60000°, λ63.28000°. NP2: φs160.47000°, δ47.93000°, λ117.03000°. Principal axes: T 2.0798, Plg70.0000°, Azm143.0000°; N -0.5439, Plg20.0000°, Azm322.0000°; P -1.5359, Plg0.0000°, Azm52.0000°;*

BJI ***16*** *04:18:14.5, 56°.70S×25°.30W, h10km, mB5.5/1, Ms5.4/6, Ms7 5.2/6*

NEIC ***16*** *04:18:14.5±1.9, 56°.59S±0°.10×25°.4W±0°.2, h10km±1km, mb5.4/83, Mww5.4/14, Error ellipse: s-maj=16.9km s-min=14.8km az=191.0*

GCMT ***16*** *04:18:21.5±0.2, 56°.76S±0°.02×25°.17W±0°.02, h18km, MW5.5/104, Moment Tensor Solution. s65, c82; s104, c166; Duration: 1ˢ3 Moment tensor: Scale 10¹⁷ Nm; Mrr1.94±.09; Mθθ-0.33±.06; Mφφ-1.60±.05; Mrθ-0.25±.16; Mφθ0.68±.04; Mφr0.10±.10; Best double couple: M₀1.93500×10¹⁷ NP1:φs331.00000°, δ48.00000°, λ83.00000°. NP2:φs162.00000°, δ42.00000°, λ98.00000°. Principal axes: T 1.9670, Plg84.0000°, Azm184.0000°; N -0.0590, Plg5.0000°, Azm336.0000°; P -1.9030, Plg3.0000°, Azm66.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 04:18:14.3±0.3, 56°.61S±0°.06×25°.36W±0°.06, h10km, n249, σ1ᵍ35/228, mb5.4/55, MS5.1/19, 24C-3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.75	286		Pn	04 19 56.1	+2.9
HOPE	Hope Point	6.75	286	P	Pn	04 19 56.1	+2.9
VNA1	Neumayer--Stat	15.90	159	⇑P	Pn	04 21 58.5	+0.8
	comp=Z,160nm,0.9s						
VNA1				⇑ScP	ScP	04 30 31.6	+2.3
	comp=Z,2.4nm,1.0s						
VNA3	Neumayer Olymp	16.13	162	⇑P	Pn	04 22 00.7	-0.1
	comp=Z,23nm,0.4s						
VNA3				⇑S	Sn	04 24 47.2	-12
	comp=Z,5.1nm,0.4s						
VNA3				⇑PcP	PcP	04 26 49.1	-6.5
	comp=Z,3.0nm,0.8s						
VNA3				⇑ScP	ScP	04 30 32.7	+3.0
	comp=Z,2.1nm,0.8s						
VNA2	Neumayer--Watz	16.30	159	⇑P	Pn	04 22 02.8	0.0
	comp=Z,34nm,0.4s,baz=329,slow=15						
VNA2				⇓S	Sn	04 24 50.9	-12
	comp=Z,4.5nm,0.8s,baz=172,slow=22						
VNA2				⇑PcP	PcP	04 26 51.7	-4.2
	comp=Z,3.2nm,0.6s,baz=208,slow=7.1						
VNA2				⇑ScP	ScP	04 30 29.4	-0.6
	comp=Z,1.9nm,0.7s,baz=334,slow=3.5						
SNAA	Sanae	17.82	157	P	Pn	04 22 22.6	+0.6
SNAA	Sanae	17.82	157	⇑P	P	04 22 23.6	+0.8
	comp=Z,1μm,1.0s						
SNAA				⇑S	Sn	04 25 29.7	-11
	comp=Z,77nm,0.7s						
SNAA				⇑PcP	PcP	04 26 55.2	-3.1
	comp=Z,13nm,0.4s						
SNAA				⇑ScP	ScP	04 30 38.9	+5.7
	comp=Z,39nm,0.6s						
SNAA	Sanae	17.82	157	P	P	04 22 23.3	+0.6
	comp=Z,2.5nm,0.3s,baz=326,slow=12,SNR=108						
SNAA				S	S	04 25 49.0	+1.7
	comp=Z,4.6nm,1.0s,baz=280,slow=17,SNR=2.1						
	comp=Z,69nm,0.9s						
SNAA	Sanae	17.82	157	*c*eP	Pn	04 22 22.7	+0.7
SNAA				pmax	pmax		
	comp=Z,158nm,1.2s						
TROLL	Troll, Antarti	19.29	154	⇑P	P	04 22 39.9	+0.9
	comp=Z,280nm,0.6s						
TROLL				⇑PcP	PcP	04 26 59.1	-1.8
	comp=Z,206nm,1.2s						
TROLL				⇑ScP	ScP	04 30 40.7	+4.2
	comp=Z,76nm,1.1s						
EFI	East Falkland	19.66	271	P	Pn	04 22 43.8	-0.6
EFI	East Falkland	19.66	271	*c*eP	P	04 22 42.9	-0.1
EFI				pmax	pmax		
	comp=Z,55nm,1.3s						
PMSA	Palmer Station	20.32	230	P	Pn	04 22 51.7	-0.3
PMSA				IAmb	IAmb	04 22 57.7	
	comp=Z,196nm,1.4s						
PMSA	Palmer Station	20.32	230	P	Pn	04 22 51.6	-0.5
	comp=Z,98nm,1.2s,baz=86,slow=9.2,SNR=7.8						
PMSA				S	S	04 26 37.3	-0.1
	comp=Z,15nm,1.1s,baz=143,slow=20,SNR=1.8						
PMSA				LR	LR	04 29 46.3	
	comp=Z,5μm,18.4s,baz=87,slow=34						
	comp=Z,98nm,1.2s						
PMSA	Palmer Station	20.32	230	*e*P	P	04 22 50.3	+0.3
NVL	N'lazarevskaya	21.23	146	*e*P	P	04 22 58.6	-1.3
NVL				*e*S	S	04 26 54.8	-0.7
NVL				pmax	pmax		
	comp=Z,52nm,1.1s						
NVL				MLR	MLR		
	comp=Z,4μm,17.0s						
BELA	Belgrano 2	21.60	185	P	P	04 23 02.9	-1.0
BELA				IAmb	IAmb	04 23 08.1	
	comp=Z,234nm,1.1s						
SMAI	San Martin Ant	22.01	222	P	P	04 23 07.9	-0.4
SMAI				IAmb	IAmb	04 23 12.2	
	comp=Z,134nm,1.4s						
MG02	Cerro Sombrero	25.31	260	P	P	04 23 38.9	-1.7
MG02				IAmb	IAmb	04 23 43.1	
	comp=Z,204nm,1.1s						
GO08	Villa O'Higgin	29.32	266	P	P	04 24 16.8	+0.1
GO08				IAmb	IAmb	04 24 21.1	
	comp=Z,54nm,1.6s						
TRQA	Tornquist	30.48	292	P	P	04 24 25.9	-1.2
TRQA	Tornquist	30.48	292	P	P	04 24 25.9	-1.2
TRQA				pmax	pmax		
	comp=Z,22nm,1.2s						
COYC	Coyhaique	30.76	271	P	P	04 24 28.9	-0.6
COYC				IAmb	IAmb	04 24 35.9	
	comp=Z,68nm,1.6s						
PLTB	Pedras Altas	31.64	310	P	P	04 24 37.9	+0.5
PLTB				IAmb	IAmb	04 24 40.8	
	comp=Z,28nm,0.7s						
PLTB	Pedras Altas	31.64	310	*e*P	P	04 24 37.4	0.0
TER01	Tubaro-SC	32.74	319	*e*P	P	04 24 48.3	+1.3
CPSB	Cacapava Do Su	32.75	311	*e*P	P	04 24 48.0	+1.0
PLCA	Paso Flores	33.10	279	P	P	04 24 46.7	-3.5
PLCA	Paso Flores	33.10	279	P	P	04 24 46.7	-3.5
PLCA				pmax	pmax		
	comp=Z,18nm,1.2s						
PLCA	Paso Flores	33.10	279	*e*P	P	04 24 49.2	-0.9
QSPA	South Pole Qui	33.64	180	P	P	04 24 55.2	+0.5
QSPA				IAmb	IAmb	04 24 56.9	
	comp=Z,170nm,1.5s						
QSPA	South Pole Qui	33.64	180	P	P	04 24 55.5	+0.7
	comp=Z,32nm,0.5s,baz=194,slow=5.1,SNR=204						
QSPA				S	S	04 30 20.3	+3.1
	comp=Z,2.7nm,1.1s,baz=176,slow=19,SNR=1.3						
QSPA				LR	LR	04 38 42.7	
	comp=Z,3μm,18.9s,baz=252,slow=36						
	comp=Z,32nm,0.5s						
PSAL	Palomas, Salto	33.98	305	*e*P	P	04 24 57.6	-0.1
LL04	Puerto Octay	33.99	277	P	P	04 24 54.8	-3.1
ITQB	Itaqui	34.74	308	P	P	04 25 04.7	+0.3
ITQB	Itaqui	34.74	308	*e*P	P	04 25 04.5	+0.1
ITAB	Concordia	35.03	316	P	P	04 25 08.6	+1.6
ITAB				IAmb	IAmb	04 25 11.5	
	comp=Z,150nm,1.3s						
ITAB	Concordia	35.03	316	*e*P	P	04 25 08.5	+1.6
SPB	Sao Paulo	36.71	325	P	P	04 25 21.7	+0.4
SPB				IAmb	IAmb	04 25 25.3	
	comp=Z,85nm,1.5s						
VAO	Valinhos	37.12	326	P	P	04 25 27.1	+2.2
VAO				IAmb	IAmb	04 25 29.9	
	comp=Z,44nm,1.2s						
VAO	Valinhos	37.12	326	*e*P	P	04 25 26.6	+1.8
PTGB	Pitanga	37.28	318	*e*P	P	04 25 26.5	+0.2
FRTB	Fartura	37.64	322	*e*P	P	04 25 30.8	+1.5
CPUP	Villa Florida	37.95	309	P	P	04 25 31.9	+0.1
CPUP				IAmb	IAmb	04 25 34.8	
	comp=Z,46nm,1.0s						
CPUP	Villa Florida	37.95	309	P	P	04 25 31.0	-0.9
	comp=Z,28nm,0.9s,baz=153,slow=10,SNR=25						
	comp=Z,28nm,0.9s						
CPUP	Villa Florida	37.95	309	P	P	04 25 31.0	-0.9
BO04	La Punta	38.09	287	P	P	04 25 32.2	-0.8
LDASE	Londrina, Braz	38.14	320	*e*P	P	04 25 34.7	+1.1
MT08	Bocatoma Ro	38.19	288	P	P	04 25 32.8	-1.3
BSCB	Bom Sucesso	38.36	330	*e*P	P	04 25 37.1	+1.7
MT09	Talagante	38.45	287	IAmb	IAmb	04 25 37.0	
	comp=Z,73nm,1.6s						
SJPY	San Joaquin	38.61	312	*e*P	P	04 25 37.0	-0.4
PEL	Peldehue	38.78	288	IAmb	IAmb	04 25 41.1	
	comp=Z,48nm,1.0s						
VA05	Santo Domingo	38.87	286	IAmb	IAmb	04 25 40.5	
	comp=Z,219nm,1.7s						
MAW	Mawson	39.09	143	P	P	04 25 41.8	+0.9
MAW	Mawson	39.09	143	P	P	04 25 41.8	+0.9
	comp=Z,6.9nm,0.6s,baz=237,slow=9.9,SNR=16						
MAW				LR	LR	04 40 36.6	
	comp=Z,2μm,19.4s,baz=242,slow=34						
	comp=Z,6.9nm,0.6s						
SJMB	Sao Joao De Ma	39.66	336	*e*P	P	04 25 47.4	+1.2
SUR	Sutherland	39.82	72	LR	LR	04 38 55.2	
	comp=Z,5μm,18.8s,baz=163,slow=31						
AMBA	Amambai (Brazi	40.02	315	*e*P	P	04 25 48.7	-0.5
NAN01	Guarapari, ES	40.27	338	*e*P	P	04 25 52.3	+1.0
PAPY	Pozo Azul	40.30	310	*e*P	P	04 25 53.0	+1.5
CO03	El Pedregal	40.59	290	IAmb	IAmb	04 26 12.2	
	comp=Z,34nm,0.6s						
DIAM	Diamantina, MG	40.65	333	*e*P	P	04 25 56.1	+1.5
PMNB	Patos De Minas	41.17	329	*e*P	P	04 25 60.0	+1.2
RPRD	Ribas do Rio P	41.75	318	*e*P	P	04 26 03.9	+0.4
MURT	Porto Murtinho	42.20	312	*e*P	P	04 26 06.6	-0.6
IPMB	Ipameri, GO	42.22	327	*e*P	P	04 26 08.7	+1.3
AQDB	Aquidauana	42.51	315	P	P	04 26 08.8	-0.9
AQDB				IAmb	IAmb	04 26 12.7	
	comp=Z,97nm,1.2s						
AQDB	Aquidauana	42.51	315	*e*P	P	04 26 09.4	-0.3
FDPY	Filadelfia	42.63	309	*e*P	P	04 26 12.1	+1.4
BDQN	Bodoquena, MS	42.95	314	*e*P	P	04 26 12.7	-0.5
C2SB	Chapadao do Su	43.01	320	*e*P	P	04 26 15.4	+1.7
JANB	Januaria	43.92	333	*e*P	P	04 26 21.8	+0.6
GDU01	Guandu, BA	44.17	340	*e*P	P	04 26 24.7	+1.6
BDFB	Brasilia	44.37	328	P	P	04 26 26.4	+1.5
BDFB	Brasilia	44.37	328	P	P	04 26 25.9	+1.1
	comp=Z,3.5nm,0.6s,baz=179,slow=8.5,SNR=7.9						
	comp=Z,3.5nm,0.6s						
BOSA	Boshof	45.13	73	P	P	04 26 30.8	-0.1
BOSA	Boshof	45.13	73	P	P	04 26 30.4	-0.5
	comp=Z,12nm,1.0s,baz=208,slow=10,SNR=10						
BOSA				LR	LR	04 42 11.8	
	comp=Z,3μm,18.9s,baz=192,slow=32						
	comp=Z,12nm,1.0s						
ARAG	Araguaiana, MT	45.50	323	*e*P	P	04 26 35.1	+1.4
PB14	IPOC Station P	45.51	295	IAmb	IAmb	04 27 38.6	
	comp=Z,117nm,1.9s						
PB15	IPOC Station P	46.23	298	IAmb	IAmb	04 26 49.7	
	comp=Z,49nm,0.6s						
NBLA	Lagarto - SE	46.52	343	*e*P	P	04 26 43.4	+1.6
SDBA	SAO DESIDERIO	46.61	333	*e*P	P	04 26 43.1	+0.6
SALV	Santo Antonio	46.68	318	*e*P	P	04 26 43.9	+0.9
PB06	IPOC Station P	46.70	298	IAmb	IAmb	04 26 51.9	
	comp=Z,42nm,0.8s						
KOOLE	Kule	47.12	64	*i*P	P	04 26 46.6	0.0
BBSD	Serra de San D	47.44	311	*e*P	P	04 26 48.8	-0.2
LBTB	Lobatse	48.21	71	IAmb	IAmb	04 27 11.2	
	comp=Z,18nm,1.0s						
LBTB	Lobatse	48.21	71	LR	LR	04 45 21.7	
	comp=Z,3μm,18.2s,baz=152,slow=34						
KGCAE	Kacgae	48.25	66	*i*P	P	04 26 55.5	+0.2
H10S2	ASCENSION HYDR	48.27	14	T	T	05 19 51.0	
	baz=188,slow=74,SNR=39						
H10S3	ASCENSION HYDR	48.27	14	T	T	05 19 53.7	
	baz=32,slow=74,SNR=42						
PTLB	Pontes e Lacer	48.41	314	*e*P	P	04 26 56.7	+0.2
SIV	San Ignacio	48.71	312	LR	LR	04 46 51.9	
	comp=Z,1μm,21.8s,baz=176,slow=35						
TA01	Diego Aracena	48.82	299	IAmb	IAmb	04 27 02.3	
	comp=Z,72nm,1.1s						
SNDB	Serra Nova Dou	48.83	325	*e*P	P	04 27 01.0	+1.4
GRTLG	Ghanzi	49.00	64	*i*P	P	04 26 59.8	-1.3
KDWAN	Kaudwane	49.06	69	*i*P	P	04 27 01.8	+0.2
TSUM	Tsumeb	49.09	58	P	P	04 27 02.0	+0.2
H10N1	ASCENSION HYDR	49.38	14	T	T	05 21 21.0	
	baz=188,slow=75,SNR=12						
H10N3	ASCENSION HYDR	49.39	14	T	T	05 21 13.4	
	baz=188,slow=75,SNR=32						
H10N2	ASCENSION HYDR	49.40	14	T	T	05 21 14.9	
	baz=188,slow=75,SNR=23						
CKGRV	CKGRV	50.25	66	*i*P	P	04 27 10.7	+0.1
QNGWA	Qangwa	50.53	62	*i*P	P	04 27 13.1	+0.3
SMTB	Santa Maria do	50.70	331	*e*P	P	04 27 15.0	+1.1
PDRB	Porto dos Gac	51.01	319	*e*P	P	04 27 15.4	-0.9
VILB	Vilhena	51.10	314	P	P	04 27 16.8	-0.1
VILB				IAmb	IAmb	04 27 20.3	
	comp=Z,155nm,1.5s						
VILB	Vilhena	51.10	314	*e*P	P	04 27 17.1	+0.1
CLDB	Colider	51.36	320	*e*P	P	04 27 19.4	+0.5
LPAZ	La Paz	51.53	304	P	P	04 27 21.1	+0.2
	comp=Z,74nm,0.6s,baz=160,slow=6.6,SNR=117						
LPAZ				LR	LR	04 50 27.1	
	comp=Z,651nm,21.4s,baz=171,slow=38						
LPAZ	La Paz	51.53	304	*e*P	P	04 27 21.2	+0.2
BROLN	Tlhalogang	52.33	70	*i*P	P	04 27 26.0	-0.3
CASY	Casey	53.03	159	P	P	04 27 31.3	+0.6
CASY				IAmb	IAmb	04 27 33.2	
	comp=Z,119nm,1.6s						
MATP	Matopo	53.49	70	LR	LR	04 47 41.7	
	comp=Z,1μm,18.3s,baz=164,slow=33						
PRPB	Parauapebas	53.88	329	*e*P	P	04 27 39.0	+1.4
NPGB	Novo Progresso	54.77	323	*e*P	P	04 27 44.1	0.0
SAML	Samuel	55.93	313	P	P	04 27 51.7	-0.7
SAML				IAmb	IAmb	04 27 55.8	
	comp=Z,101nm,1.6s						
SAML	Samuel	55.93	313	P	P	04 27 51.7	-0.7
SAML				pmax	pmax		
	comp=Z,101nm,1.6s						
SAML	Samuel	55.93	313	*e*P	P	04 27 52.3	-0.1
ETMB	Extrema	56.41	309	IAmb	IAmb	04 27 57.8	
	comp=Z,38nm,1.3s						
ETMB	Extrema	56.41	309	*e*P	P	04 27 55.4	-0.4
TMAB	Tom-Au,PA,Br	57.06	333	*e*P	P	04 28 01.8	+1.4
ITTB	Itaituba	57.41	323	*e*P	P	04 28 03.5	+0.6
LSZ	Lusaka	57.64	67	P	P	04 28 02.3	-2.4
LSZ				IAmb	IAmb	04 28 21.2	
	comp=Z,27nm,1.2s						
LSZ	Lusaka	57.64	67	P	P	04 28 02.3	-2.4
LSZ				pmax	pmax		
	comp=Z,27nm,1.3s						
NNA	Nana	59.41	297	LR	LR	04 53 34.1	
	comp=Z,1μm,20.4s,baz=266,slow=36						
NNA	Nana	59.41	297	*c*eP	P	04 28 16.1	-0.9
NNA				pmax	pmax		
	comp=Z,92nm,1.7s						
MACA	Manacapuru-AM	60.26	318	P	P	04 28 21.4	-1.3
MACA				IAmb	IAmb	04 28 39.7	
	comp=Z,34nm,0.7s						
MACA	Manacapuru-AM	60.26	318	*e*P	P	04 28 22.4	-0.3
CZSB	Cruzeiro do Su	61.14	304	P	P	04 28 27.0	-1.8
CZSB				IAmb	IAmb	04 28 30.8	
	comp=Z,179nm,1.4s						
CZSB	Cruzeiro do Su	61.14	304	*e*P	P	04 28 27.7	-1.1
TBTG	Tabatinga, AM	63.04	308	P	P	04 28 39.7	-1.8
TBTG				IAmb	IAmb	04 28 51.1	
	comp=Z,39nm,1.1s						
TBTG	Tabatinga, AM	63.04	308	*e*P	P	04 28 40.6	-0.8
RPN	Rapa Nui	64.56	259	LR	LR	04 52 55.6	
	comp=Z,1μm,18.1s,baz=244,slow=32						
OPO	Ambohidratompo	65.10	86	LR	LR	04 52 35.8	
	comp=Z,1μm,19.6s,baz=307,slow=32						
DBIC	Dimbokro	65.27	23	P	P	04 28 56.2	+0.2
	comp=Z,4.6nm,0.9s,baz=188,slow=8.6,SNR=4.9						
	comp=Z,4.6nm,0.9s						
BOAV	Boa Vista	65.35	321	P	P	04 28 56.1	-0.6
BOAV				IAmb	IAmb	04 28 59.5	
	comp=Z,31nm,0.9s						
BOAV	Boa Vista	65.35	321	*e*P	P	04 28 55.4	-1.2
COHC	Cochancay	68.83	300	IAmb	IAmb	04 29 22.0	
	comp=Z,20nm,1.5s						
OTAV	Otavalo	70.81	302	P	P	04 29 32.6	+1.1
OTAV	Otavalo	70.81	302	P	P	04 29 32.6	+1.1
OTAV				pmax	pmax		
	comp=Z,120nm,1.5s						
OTAV	Otavalo	70.81	302	*e*P	P	04 29 32.2	+0.7
ROSC	El Rosal	73.03	308	P	P	04 29 45.9	+1.2
	comp=Z,5.1nm,0.4s,baz=210,slow=20,SNR=4.2						
	comp=Z,5.1nm,0.4s						
TORD	Torodi Ar. Bea	73.06	28	P	P	04 29 44.3	0.0
TORD	Torodi Ar. Bea	73.06	28	P	P	04 29 44.2	-0.1
	comp=Z,4.3nm,0.8s,baz=202,slow=4.9,SNR=14						
	comp=Z,4.3nm,0.8s						
KIBK	Kibwezi	73.67	69	P	P	04 29 50.9	+2.7
BAUV	El Baul	74.16	316	P	P	04 29 50.9	0.0
KMBO	Kilima Mbogo	74.30	67	LR	LR	05 02 25.6	
	comp=Z,1μm,18.1s,baz=123,slow=36						
SDV	Santo Domingo	75.13	313	P	P	04 29 57.0	+0.2
SDV				IAmb	IAmb	04 30 03.6	
	comp=Z,24nm,0.8s						
SDV	Santo Domingo	75.13	313	*e*P	P	04 29 57.2	+0.5
THZ	Tophouse	80.79	194	P	P	04 30 28.4	+0.6
THZ				IAmb	IAmb	04 30 30.2	
	comp=Z,132nm,1.9s						
LCR2	La Lucha 2	81.75	302	IAmb	IAmb	04 30 51.2	
	comp=Z,56nm,1.7s	

PPT2 *e*LR LR 05 01 06.1
comp=Z,1μm,31.5s
PPT Papeete 92.67 232 LR LR 05 04 52.8
comp=Z,319nm,19.7s,baz=176,slow=30
RAR Rarotonga 93.52 222 LR LR 05 11 31.7
comp=Z,397nm,18.2s,baz=246,slow=34
ASAR Alice Springs 98.14 161 P **P 04 31 50.5 -0.8**
comp=Z,3.2nm,1.1s,baz=189,slow=4.2,SNR=10
ASAR PP **PP 04 35 47.9 -1.6**
comp=Z,1.6nm,0.9s,baz=192,slow=6.2,SNR=4.5
ASAR LR LR 05 13 55.6
comp=Z,539nm,18.3s,baz=192,slow=34
comp=Z,3.2nm,1.1s
DZM Mont Dzumac 101.00 191 *e*LR LR 05 05 01.6
comp=Z,2μm,24.6s
WRA Warramunga Arr 101.85 161 P **Pdif 04 32 07.1 -0.8**
comp=Z,0.1nm,0.3s,baz=201,slow=4.5,SNR=1.8
WRA PP **PP 04 36 17.0 -0.7**
comp=Z,2.4nm,1.1s,baz=198,slow=7.8,SNR=6.7
WRAB Tennant Creek 101.86 161 *i* P **Pdif 04 32 07.0 -0.9**
WRAB pmax pmax
comp=Z,4.0nm,1.0s
TXAR Lajitas Array 107.95 296 PP **PP 04 37 04.1 -0.2**
comp=Z,0.8nm,1.0s,baz=126,slow=4.6,SNR=5.0
KIV Kislovodsk 115.28 48 *i* PKIKP **PKiKP 04 36 55.6 +0.5**
KIV pmax pmax
comp=Z,6.0nm,1.0s
MAK Makhachkala 116.50 52 *i* P **Pdif 04 33 09.9 -2.3**
MAK *i* 04 36 54.1
MAK *e*SS SS 04 54 08.6 -1.5
MAK *e*SSS SSS 04 58 31.7
MAK pmax pmax
comp=Z,669nm,1.2s
RSSD Black Hills 119.99 305 **PKiKP 04 37 05.6 +1.2**
RSSD Black Hills 119.99 305 PKIKP **PKiKP 04 37 05.6 +1.2**
PDAR Pinedale Array 121.50 301 PKP **PKPdf 04 37 06.7 -0.7**
comp=Z,0.3nm,0.5s,baz=108,slow=2.9,SNR=6.2
PDAR PP **PP 04 38 39.9 -0.1**
comp=Z,2.5nm,1.1s,baz=120,slow=5.4,SNR=4.9
OBN Obninsk 122.17 37 *i* PKIKP **PKiKP 04 37 08.8 +0.8**
OBN pmax pmax
comp=Z,5.0nm,1.1s
NVAR Mina Array Bea 122.55 291 PKP **PKiKP 04 37 10.6 +1.0**
comp=Z,1.3nm,0.9s,baz=145,slow=3.3,SNR=9.3
CMAR Chiang Mai Arr 123.92 109 PKP **PKPdf 04 37 12.4 0.0**
comp=Z,0.9nm,0.3s,baz=227,slow=3.3,SNR=7.4
FINES FINESS Array B 124.41 27 PKP **PKPdf 04 37 12.3 +0.3**
comp=Z,4.0nm,0.8s,baz=180,slow=2.8,SNR=5.0
PHRA Phrae 124.62 110 PKPdf **PKPdf 04 37 13.3 -0.4**
PLID Pearl Lake 126.33 298 PKPdf **PKiKP 04 37 17.2 +0.3**
ABKAR Abkulak array 126.86 55 **PKPdf 04 37 16.0 -1.0**
ABKAR Abkulak array 126.86 55 PKPdf **PKPdf 04 37 16.4 -0.6**
KKAR Karatay Array 127.50 67 PKPdf **PKPdf 04 37 17.7 -0.8**
KKAR Karatay Array 127.50 67 PKPdf **PKPdf 04 37 18.2 -0.4**
KKAR Karatay Array 127.50 67 PKIKP **PKPdf 04 37 17.7 -0.8**
KKAR 04 37 18.2
KLMR Klimovskoe 127.71 34 *e*PKIKP **PKPdf 04 37 14.7 -3.6**
KLMR pmax pmax
comp=Z,33nm,1.7s
KSH Kashi 127.74 74 PKP **PKPdf 04 37 19.8 +0.5**
HUMO Hull Mountain 128.02 292 PKPdf **PKPdf 04 37 19.3 -0.2**
AAK Ala-Archa 129.21 70 *c i* PKIKP **PKiKP 04 37 23.5 +0.8**
AAK pmax pmax
comp=Z,10.0nm,2.5s
KIRV Kirov 129.33 41 *c i* PKIKP **PKiKP 04 37 23.3 +1.2**
ARCES ARCESS Array B 131.09 21 PKP **PKPdf 04 37 24.5 -0.1**
comp=Z,6.7nm,1.0s,baz=222,slow=1.2,SNR=5.7
ARTI Arti 131.22 47 PKPdf **PKPdf 04 37 23.7 -1.5**
ARTI Arti 131.22 47 *i* PKIKP **PKPdf 04 37 24.5 -0.6**
PZH PanZhiHua 131.97 106 PKP **PKPdf 04 37 28.3 +0.6**
BRVK Borovoye 134.20 57 *c i* PKIKP **PKPdf 04 37 29.2 -1.7**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
BVAR Borovoye Array 134.23 57 PKP **PKPdf 04 37 31.4 +0.5**
comp=Z,3.8nm,0.9s,baz=224,slow=0.9,SNR=8.9
MK31 Makanchi Array 136.10 71 *c i* PKIKP **PKiKP 04 37 37.0 +0.7**
MKAR Makanchi Array 136.10 71 PKP **PKPdf 04 37 35.4 +0.8**
comp=Z,0.8nm,0.6s,baz=218,slow=2.9,SNR=3.9
CD2 Chengdu 136.53 104 PKP **PKPdf 04 37 36.0 0.0**
KURBB Kurchatov Arra 136.62 64 PKP **PKPdf 04 37 33.7 -1.7**
comp=Z,1.4nm,0.8s,baz=231,slow=2.5,SNR=6.4
KURK Kurchatov 136.73 64 PKIKP **PKPdf 04 37 33.7 -1.9**
WMQ Urumqi 137.02 78 *e*PKP **PKiKP 04 37 38.4 0.0**
YKA Yellowknife Ar 137.27 317 PKPdf **PKPdf 04 37 36.3 0.0**
YKA Yellowknife Ar 137.27 317 PKP **PKPdf 04 37 34.3 -2.0**
comp=Z,4.4nm,1.0s,baz=126,slow=1.6,SNR=10
YKA PP **PP 04 40 22.3 0.0**
comp=Z,1.1nm,1.0s,baz=128,slow=7.9,SNR=4.3
YKA Yellowknife Ar 137.27 317 PKIKP **PKPdf 04 37 36.3 0.0**
RES Resolute Bay 138.76 338 PKPdf **PKPdf 04 37 39.4 +0.7**
RES Resolute Bay 138.76 338 PKIKP **PKPdf 04 37 39.4 +0.7**
LZH Lanzhou 140.51 99 *e*P PKiKP 04 37 56.8 +11
LZH pP sPKPdf 04 38 03.1 +18
LZH pmax pmax
comp=Z,18nm,1.3s
GTA Gaotai 140.68 92 PKP PKiKP 04 37 56.5 +10
XAN Xi'an 141.70 106 PKP **PKiKP 04 37 48.3 +0.1**
ZALV Zalesovo Beam 141.70 64 PKhKP PKPpre 04 37 40.1
comp=Z,0.9nm,0.3s,baz=250,slow=2.9,SNR=1.1
WHN Wuhan 141.74 116 PKP **PKPdf 04 37 47.0 +1.6**
SKAG Skagway 144.37 305 PKPbc 04 37 47.9 +0.3
NJ2 Nanjing 145.18 120 ⇓*i* PKPbc **PKPab 04 37 51.6 +0.5**
A36M Sachs Harbour 145.23 327 **PKPbc 04 37 49.1 -0.9**
HYT Haines Junctio 145.94 306 PKPdf **PKPab 04 37 53.4 0.0**
BTO Baotou 147.12 100 *e*PKPbc **PKPdf 04 37 51.8 -2.8**
HNS HongShan 147.31 109 ⇓PKPbc **PKPbc 04 37 57.8 +0.5**
TIA Tai'an 147.65 113 PKPbc **PKPbc 04 37 58.9 +0.6**
DAWY Dawson 147.93 311 **PKPbc 04 37 57.7 -0.5**
HHC Hu-ho-hao-te 148.13 101 *e*PKPbc **PKPdf 04 37 53.3 -3.0**
BCAR Beaver Creek A 148.64 308 PKPdf **PKPdf 04 37 54.5 -1.9**
NRIK Noril'sk 148.80 39 **PKPbc 04 37 59.8 -0.5**
NRIK Noril'sk 148.80 39 PKPbc **PKPbc 04 38 00.8 +0.6**
comp=Z,13nm,1.1s,baz=145,slow=0.6,SNR=8.7
NRIK Noril'sk 148.80 39 *i* PKIKP **PKPdf 04 37 57.2 +0.9**
SONM Songino Array 149.75 86 **PKPbc 04 38 03.0 -0.4**
SONM Songino Array 149.75 86 PKPbc **PKPbc 04 38 02.7 -0.7**
comp=Z,8.7nm,0.7s,baz=226,slow=3.0,SNR=36
BJT Baijiatuau 150.01 107 **PKPbc 04 38 03.6 -0.6**
BJT Baijiatuau 150.01 107 PKIKP **PKPbc 04 38 03.6 -0.6**
ULN Ulaanbaatar 150.13 87 **PKPbc 04 38 03.9 -0.5**
ULN Ulaanbaatar 150.13 87 *c i* PKIKP **PKPbc 04 38 04.6 +0.2**
ULN pmax pmax
comp=Z,14nm,1.3s
BMAR Burnt Mountain 150.79 316 **PKPbc 04 38 05.5 +0.2**
ILAR Eielson Array 151.25 311 PKPbc **PKPbc 04 38 05.6 -0.7**
comp=Z,29nm,1.1s,baz=118,slow=1.2,SNR=21
ILAR Eielson Array 151.25 311 PKIKP **PKPbc 04 38 05.7 -0.6**
COLA College 151.68 311 **PKPbc 04 38 06.9 -0.4**
COLA College 151.68 311 PKIKP **PKPbc 04 38 06.9 -0.4**
XLT XiLinHaoTe 152.66 101 *e*PKPbc **PKPbc 04 38 10.0 -0.3**
B22K Teshekpuk Lake 154.08 322 **PKiKP 04 38 12.9 +0.4**
IMAR Indian Mountai 154.26 312 **PKPbc 04 38 13.1 +0.1**
B21K Ikpikpuk River 154.55 321 **PKiKP 04 38 13.7 +0.2**
MJAR Matsushiro Arr 157.08 144 PKPab **PKPab 04 38 40.6 +0.7**
comp=Z,2.4nm,0.7s,baz=202,slow=5.2,SNR=4.7
BILL Bilibino 167.36 340 *i* PKIKP **PKPdf 04 38 19.6 +0.8**
BILL pmax pmax
comp=Z,4.0nm,1.2s
PETK Petropavlovsk- 176.07 208 PKP **PKPdf 04 38 23.9 +0.5**
comp=Z,4.6nm,1.1s,baz=123,slow=5.3,SNR=1.8

IDC 16 04:25:07.8±1.7, 10°.42S×163°.18E, h0km, mb3.6/3, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=38.1km s-min=32.6km az=135.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.33**	**287**	Pn	Pn	04 26 00.2	-1.0
	22nm,0.3s,baz=163,slow=19,SNR=1.6						
HNR				Sn	Sb	04 26 46.5	-2.5
	18nm,0.3s,baz=90,slow=20,SNR=1.5						
	74nm,0.3s						
DZM	**Mont Dzumac**	**12.00**	**165**	Pn	Pn	04 27 59.2	-1.1
	0.2nm,0.3s,baz=354,slow=18,SNR=9.6						
	2.5nm,0.7s						
WRA	**Warramunga Arr**	**29.35**	**248**	P	P	04 31 14.6	+1.9
	0.5nm,0.9s,baz=76,slow=9.6,SNR=3.8						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**30.85**	**241**	P	P	04 31 24.8	-1.2
	0.7nm,0.9s,baz=73,slow=9.3,SNR=6.5						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**83.75**	**19**	P	P	04 37 38.6	+0.1
	0.8nm,0.9s,baz=223,slow=4.9,SNR=5.6						
	0.8nm,0.9s						

IDC 16 04:33:51.5±1.7, 55°.58S×122°.34W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=62.4km s-min=37.9km az=94.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**34.60**	**180**	P	P	04 40 41.9	0.0
	2.7nm,0.8s,baz=84,slow=1.9,SNR=14						
	2.7nm,0.8s						
H03S2	**Juan Fernandez**	**36.91**	**72**	T	T	05 19 53.4	
	baz=218,slow=74,SNR=15						
H03S1	**Juan Fernandez**	**36.91**	**72**	T	T	05 19 54.8	
	baz=218,slow=74,SNR=7.7						
H03S3	**Juan Fernandez**	**36.93**	**72**	T	T	05 19 54.0	
	baz=218,slow=74,SNR=14						
H03N3	**Juan Fernandez**	**37.20**	**72**	T	T	05 20 14.3	
	baz=220,slow=72,SNR=27						
H03N2	**Juan Fernandez**	**37.21**	**72**	T	T	05 20 13.1	
	baz=220,slow=72,SNR=53						
H03N1	**Juan Fernandez**	**37.22**	**72**	T	T	05 20 15.9	
	baz=220,slow=72,SNR=16						
H01W1	**Cape Leeuwin H**	**77.82**	**225**	T	T	06 12 06.9	
	baz=151,slow=76,SNR=5.9						
H01W2	**Cape Leeuwin H**	**77.82**	**225**	T	T	06 12 01.0	
	baz=151,slow=76,SNR=5.9						
H01W3	**Cape Leeuwin H**	**77.83**	**225**	T	T	06 12 07.0	
	baz=151,slow=76,SNR=6.1						
ASAR	**Alice Springs**	**78.19**	**245**	P	P	04 45 52.4	-0.4
	0.4nm,0.5s,baz=157,slow=5.0,SNR=1.3						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**81.03**	**248**	P	P	04 46 08.6	+0.3
	1.4nm,1.0s,baz=156,slow=5.5,SNR=5.6						
	1.4nm,1.0s						
TXAR	**Lajitas Array**	**86.07**	**16**	P	P	04 46 33.7	0.0
	0.3nm,0.9s,baz=178,slow=9.8,SNR=2.6						
	0.3nm,0.9s						

*THE **16** 04:37:32.7, 37°.59N×20°.79E, h2km±4km, ML2.3/5, Error ellipse: s-maj=4.5km s-min=0.7km az=29.0*
*ATH **16** 04:37:32.2, 37°.58N×20°.83E, h11km±2km, ML2.5/5, Error ellipse: s-maj=3.1km s-min=0.8km az=33.0*
ISC 16 04:37:32.1±1.2, 37°.58N±0°.04×20°.82E±0°.04, h7km±7km, n23, σ0ˢ53/42, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.09**	**1**	P	**Pg**	**04 37 34.1**	**0.0**
KRI1				S	**Sg**	**04 37 35.6**	**0.0**
	17μm,0.3s						
LTHK	**Lithakia**	**0.14**	**7**	P	**Pg**	**04 37 34.9**	**0.0**
LTHK				S	**Sg**	**04 37 36.9**	**0.0**
LTHK	**Lithakia**	**0.14**	**7**	P	**Pg**	**04 37 34.9**	**0.0**
LTHK				S	**Sg**	**04 37 36.8**	**-0.1**
LTHK				AML	AML	04 37 37.1	
	comp=N,23638μm,0.3s						
LTHK				AML	AML	04 37 37.3	
	comp=E,16780μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.50**	**356**	P	**Pg**	**04 37 41.7**	**-0.1**
RTZL				S	**Sg**	**04 37 49.3**	**+1.0**
PSDA	**Pessada-Kefalo**	**0.57**	**341**	P	**Pg**	**04 37 43.2**	**+0.2**
PSDA				S	**Sb**	**04 37 51.7**	**-1.0**
	comp=E,465nm,0.3s						
PSDA	**Pessada-Kefalo**	**0.57**	**341**	P	**Pg**	**04 37 42.8**	**-0.2**
PSDA				S	**Sg**	**04 37 50.8**	**+0.4**
VLS	**Valsamata**	**0.63**	**344**	P	**Pg**	**04 37 44.5**	**+0.3**
VLS				S	**Sg**	**04 37 53.3**	**+1.0**
	comp=E,225nm,0.4s						
VLS	**Valsamata**	**0.63**	**344**	P	**Pg**	**04 37 44.0**	**-0.2**
VLS				S	**Sg**	**04 37 52.9**	**+0.6**
VLS				AML	AML	04 37 54.8	
	comp=E,346μm,0.2s						
VLS				AML	AML	04 37 58.0	
	comp=N,556μm,0.5s						
RLS	**Riolos of Patr**	**0.71**	**47**	P	**Pg**	**04 37 45.2**	**-0.5**
RLS				S	**Sb**	**04 37 56.4**	**-0.2**
	comp=N,275nm,0.4s						
RLS	**Riolos of Patr**	**0.71**	**47**	P	**Pg**	**04 37 45.2**	**-0.5**
RLS				S	**Sg**	**04 37 54.8**	**0.0**
RLS				AML	AML	04 37 58.0	
	comp=E,652μm,0.4s						
RLS				AML	AML	04 37 59.4	
	comp=N,452μm,0.4s						
AMT	**Artemida-Makis**	**0.71**	**93**	P	**Pg**	**04 37 45.9**	**+0.1**
AMT				S	**Sg**	**04 37 54.7**	**-0.3**
AMT				AML	AML	04 38 01.6	
	comp=N,1839μm,0.6s						
AMT				AML	AML	04 38 02.3	
	comp=E,2428μm,0.3s						
DMLN	**Damoulianata-K**	**0.75**	**332**	P	**Pg**	**04 37 46.9**	**+0.4**
DMLN	**Damoulianata-K**	**0.75**	**332**	P	**Pg**	**04 37 46.4**	**-0.1**
DMLN				S	**Sb**	**04 37 57.1**	**-0.8**
DRO	**Drossia**	**0.80**	**62**	P	**Pg**	**04 37 47.9**	**+0.4**
DRO				S	**Sb**	**04 38 00.8**	**+1.3**
	comp=E,320nm,0.6s						
DRO	**Drossia**	**0.80**	**62**	P	**Pg**	**04 37 47.0**	**-0.5**
DRO				S	**Sg**	**04 37 57.7**	**-0.3**
DRO				AML	AML	04 38 05.6	
	comp=E,523μm,0.4s						
DRO				AML	AML	04 38 06.0	
	comp=N,789μm,0.7s						
FSK	**Fiskardo**	**0.91**	**347**	P	**Pg**	**04 37 49.2**	**-0.3**
FSK				S	**Sb**	**04 38 02.2**	**-0.2**
FSK	**Fiskardo**	**0.91**	**347**	P	**Pg**	**04 37 48.7**	**-0.7**
FSK				S	**Sb**	**04 38 02.0**	**-0.4**
ITM	**Ithomi**	**0.97**	**114**	P	**Pg**	**04 37 50.4**	**-0.3**
ITM				S	**Sg**	**04 38 03.9**	**+0.7**
PYL	**PYLOS**	**1.00**	**132**	P	**Pg**	**04 37 51.4**	**+0.1**
PYL				S	**Sn**	**04 38 07.6**	**+0.6**
PYL	**PYLOS**	**1.00**	**132**	P	**Pg**	**04 37 50.9**	**-0.4**
PYL				S	**Sg**	**04 38 03.7**	**-0.6**
EVGI	**Lefkada island**	**1.05**	**353**	P	**Pg**	**04 37 51.8**	**-0.5**
EVGI	**Lefkada island**	**1.05**	**353**	P	**Pg**	**04 37 51.3**	**-1.0**
ANX	**Ano Chora**	**1.34**	**40**	P	**Pn**	**04 37 57.3**	**0.0**

RSNC 16 04:38:49.5±0.5, 11°N±3°×7°2W±°, h51km±9km, M2.9, mb3.7, ML2.6, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.46**	**1**	P	Pn	04 39 01.0	+0.6
URIC				S	Sn	04 39 10.4	+2.3
CRJC	**Cerrejon, Guaj**	**0.89**	**256**	P	Pn	04 39 06.7	+0.8
CRJC				S	Sn	04 39 20.7	+2.7
ARGC	**Ariguani, Magd**	**2.60**	**238**	P	Pn	04 39 28.5	-0.6
ARGC				S	Sn	04 39 58.5	-1.0
SDV	**Santo Domingo**	**2.70**	**150**	P	Pn	04 39 31.1	+0.5
SDV				S	Sn	04 40 02.7	+0.5
OCAC	**Ocana**	**3.25**	**204**	P	Pn	04 39 37.4	-0.8
OCAC				S	Sn	04 40 15.5	-0.3
SJCC	**San Jacinto, C**	**3.40**	**247**	P	Pn	04 39 40.2	+0.1
SJCC				S	Sn	04 40 18.9	-0.4
PAMC	**Pamplona, Colo**	**3.94**	**190**	P	Pn	04 39 47.6	-0.3
PAMC				S	Sn	04 40 33.1	0.0
BRJC	**Barrancabermej**	**4.58**	**202**	P	Pn	04 39 55.7	-0.5
BRJC				S	Sn	04 40 47.8	-0.4
ZARC	**Zaragoza, Cauc**	**4.67**	**217**	P	Pn	04 39 56.1	-1.4
ZARC				S	Sn	04 40 50.2	-0.3
BARC	**Barichara**	**4.76**	**194**	P	Pn	04 39 59.9	+0.9
BARC				S	Sn	04 40 54.5	+1.4
TAMC	**Tame, Arauca**	**4.78**	**178**	P	Pn	04 39 59.2	+0.1
TAMC				S	Sn	04 40 52.0	-1.2
PTBC	**PUERTO BERRIO,**	**5.26**	**208**	P	Pn	04 40 03.5	-2.2
PTBC				S	Sn	04 41 03.4	-1.7
RUSC	**La Rusia**	**5.42**	**191**	P	Pn	04 40 08.9	+0.6
RUSC				S	Sn	04 41 08.9	-0.7
SPBC	**San Pablo de B**	**5.92**	**200**	P	Pn	04 40 13.8	-0.9
	6.3nm,0.6s						
HELC	**Santa Helena**	**6.11**	**215**	P	Pn	04 40 17.7	+0.1
CHIC	**Chingaza**	**6.79**	**195**	P	Pn	04 40 27.7	+0.7
	5.7nm,1.9s						
CHIC				S	Sn	04 41 42.8	-0.4
	5.7nm,1.9s						
GUY2C	**Guyana, Caldas**	**6.84**	**209**	P	Pn	04 40 28.9	+1.1
	6.0nm,0.6s						
GUY2C				S	Sn	04 41 45.9	+1.3
	6.0nm,0.6s						
PRAC	**Prado**	**8.01**	**201**	P	Pn	04 40 43.9	+0.6

*IDC **16** 04:43:11.2±1.3, 10°.64S×163°.17E, h0km, mb3.8/4, mbtmp3.9/6, ML4.2/2, MS4.1/1, Error ellipse: s-maj=32.5km s-min=25.4km az=162.0*
ISC 16 04:43:14.9±1.1, 10°.6S±0°.1×163°.2E±0°.1, h21km, n10, σ1ˢ68/7, mb3.8/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.43**	**290**	Pn	**Pn**	**04 44 07.1**	**+0.1**
	48nm,0.3s,baz=107,slow=19,SNR=7.6						
HNR				Sn	**Sn**	**04 44 48.7**	**+1.6**
	107nm,0.3s,baz=163,slow=20,SNR=6.7						
	156nm,0.4s						
DZM	**Mont Dzumac**	**11.79**	**165**	Pn	**Pn**	**04 46 02.9**	**+0.9**
	0.6nm,0.3s,baz=346,slow=6.3,SNR=9.8						
	6.9nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**29.14**	**7**	T	T	05 20 16.6	
	baz=188,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.14**	**7**	T	T	05 19 50.8	
	baz=188,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.16**	**7**	T	T	05 20 17.9	
	baz=188						
WRA	**Warramunga Arr**	**29.31**	**248**	P	**P**	**04 49 15.1**	**-1.2**
	0.7nm,0.7s,baz=80,slow=9.3,SNR=6.1						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**30.78**	**241**	P	**P**	**04 49 27.8**	**-1.5**
	0.9nm,0.4s,baz=69,slow=9.7,SNR=15						
	0.9nm,0.4s						
RAR	**Rarotonga**	**37.03**	**111**	LR	LR	05 01 36.3	
	comp=Z,293nm,21.0s,baz=228,slow=30						
ILAR	**Eielson Array**	**83.93**	**19**	P	**P**	**04 55 41.5**	**-1.5**
	0.8nm,0.9s,baz=231,slow=5.7,SNR=5.0						
	0.8nm,0.9s						
NVAR	**Mina Array Bea**	**87.67**	**50**	P	**P**	**04 56 04.0**	**+1.5**
	0.3nm,0.7s,baz=231,slow=5.7,SNR=2.3						
	0.3nm,0.7s						

*KRNET **16** 04:46:12.1±0.1, 39°.40N×71°.65E, h12km, mb3.2*
*SOME **16** 04:46:15.0, 39°.63N×71°.70E, h10km*
*NNC **16** 04:46:29.0±10.0, 40°.15N×71°.75E, h18km±42km, mb3.5, mpv3.2, Error ellipse: s-maj=69.9km s-min=24.3km az=2.0*
ISC 16 04:46:13.1±0.9, 39°.39N±0°.05×71°.65E±0°.03, h10km, n27, σ1ˢ94/50, 32C-16D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.15**	**54**	⇓*iP*	**Pg**	**04 46 15.3**	**-1.4**
DRK				⇓*iS*	**Sg**	**04 46 17.0**	**-2.2**
BTK	**Batken**	**0.92**	**316**	⇑*iP*	**Pg**	**04 46 29.9**	**-1.0**
BTK				⇑*iS*	**Sb**	**04 46 42.5**	**-1.1**
GAR	**Garm**	**1.10**	**250**	⇓*iP*	**Pg**	**04 46 33.1**	**-1.3**
GAR				⇓*iS*	**Sb**	**04 46 48.4**	**-0.5**
OHH	**Osh**	**1.43**	**37**	⇓*iP*	**Pb**	**04 46 38.7**	**-1.2**
OHH				⇓*iS*	**Sg**	**04 46 58.0**	**-1.1**
SFK	**Sufi-Kurgan**	**1.56**	**66**	⇑*eP*	**Pb**	**04 46 41.3**	**-0.9**
SFK				⇑*eS*	**Sg**	**04 47 03.0**	**-0.4**
TRKS	**Terek-Say**	**2.17**	**350**	⇑*iP*	**Pb**	**04 46 50.1**	**-2.5**
TRKS				⇑*iS*	**Sb**	**04 47 17.8**	**-1.8**
ARSB	**Arslanbob**	**2.18**	**27**	⇑*iP*	**Pb**	**04 46 51.1**	**-1.7**
ARSB				⇑*eS*	**Sb**	**04 47 19.4**	**-0.6**
SALK	**Salom-Alik**	**2.23**	**48**	⇑*eP*	**Pb**	**04 46 51.6**	**-2.1**
SALK				⇑*eS*	**Sb**	**04 47 20.9**	**-0.6**
ARK	**Arkit**	**2.42**	**6**	⇓*iP*	**Pb**	**04 46 54.5**	**-2.2**
ARK				⇓*iS*	**Sb**	**04 47 25.3**	**-1.3**
IUG	**Iuzhnay**	**3.01**	**336**	*eP*	**Pb**	**04 47 07.7**	**+0.8**
	26nm,0.3s						
IUG				*eS*	**Sb**	**04 47 45.7**	**+1.9**
	95nm,0.4s						
AML	**Almayashu**	**3.15**	**29**	⇑*iP*	**Pn**	**04 47 04.7**	**+1.6**
AML				⇑*iS*	**Sn**	**04 47 43.1**	**+2.2**
MNAS	**Manas**	**3.16**	**12**	⇑*iP*	**Pn**	**04 47 04.7**	**+1.6**
MNAS				⇑*iS*	**Sn**	**04 47 43.2**	**+2.3**
ARLS	**Aral**	**3.20**	**39**	⇑*eP*	**Pn**	**04 47 05.7**	**+2.1**
ARLS				⇑*eS*	**Sb**	**04 47 44.9**	**-4.3**
MRKS	**Merke**	**3.56**	**19**	*eP*	**Pb**	**04 47 15.7**	**-0.5**
	1.8nm,0.3s						
MRKS				*eS*	**Sb**	**04 47 59.4**	**0.0**
	12nm,0.6s						
UCH	**Uchtor**	**3.57**	**37**	⇑*eP*	**Pn**	**04 47 10.5**	**+1.5**
UCH				⇑*iS*	**Sn**	**04 47 53.3**	**+1.8**
EKS2	**Erkin-Say**	**3.64**	**26**	⇑*iP*	**Pn**	**04 47 11.5**	**+1.8**
EKS2				⇑*iS*	**Sn**	**04 47 54.7**	**+1.9**
KK31	**Karatay Array**	**3.81**	**347**	Pn	**Pb**	**04 47 15.7**	**-4.7**
	1.6nm,0.3s,baz=173,slow=12,SNR=95						
KK31				⇑Pg	**Pg**	**04 47 26.5**	**+0.5**
	4.2nm,0.3s,baz=168,slow=14,SNR=18						
KK31				⇓Lg	Lg	04 48 07.9	
	10.0nm,0.5s,baz=168,slow=22,SNR=5.4						
KKAR	**Karatay Array**	**3.81**	**347**	⇑*iP*	**Pn**	**04 47 13.6**	**+1.8**
KKAR				⇑*iS*	**Sn**	**04 47 58.6**	**+2.0**
BRLS	**Borolday**	**3.88**	**340**	*eP*	**Pb**	**04 47 19.1**	**-2.6**
	4.4nm,0.2s						
BRLS				*eS*	**Sb**	**04 48 05.1**	**-3.6**
	8.8nm,0.3s						
AAK	**Ala-Archa**	**3.89**	**33**	⇓*iP*	**Pn**	**04 47 14.9**	**+1.8**
AAK				⇓*iS*	**Sn**	**04 48 00.8**	**+1.8**
FRU1	**Bishkek**	**4.09**	**32**	⇓*iP*	**Pn**	**04 47 17.8**	**+2.0**
FRU1				⇓*iS*	**Sn**	**04 48 05.5**	**+1.7**
KBK	**Karagaybulak**	**4.11**	**36**	⇑*iP*	**Pn**	**04 47 18.7**	**+1.7**
KBK				⇑*iS*	**Sn**	**04 48 05.9**	**+1.6**
CHMS	**Chumysh**	**4.30**	**32**	⇓Pn	Pb	04 47 23.1	-5.7
	3.5nm,0.4s						
CHMS				⇑Lg	Lg	04 48 22.3	
	8.4nm,0.8s						
CHMS	**Chumysh**	**4.30**	**32**	⇑*iP*	**Pn**	**04 47 20.3**	**+1.7**
CHMS				⇑*iS*	**Sn**	**04 48 10.1**	**+1.3**
USP	**Ospenovka**	**4.43**	**28**	⇑*iP*	**Pn**	**04 47 22.2**	**+1.8**
USP				⇑*iS*	**Sn**	**04 48 13.3**	**+1.3**
TKM2	**Tokmak 2**	**4.62**	**39**	⇓Pn	Pb	04 47 29.0	-5.3
	1.8nm,0.5s						
TKM2				⇓Lg	Lg	04 48 33.0	
	5.3nm,0.8s						
TKM2	**Tokmak 2**	**4.62**	**39**	⇑*eP*	**Pn**	**04 47 24.8**	**+1.7**
TKM2				⇑*iS*	**Sn**	**04 48 18.3**	**+1.4**

*IDC **16** 04:46:13.4±3.1, 37°.26N×20°.32E, h0km, mb3.5/4, mbtmp3.5/6, ML0.9/1, Error

AMT AML AML 04 46 55.1
comp=E,10624μm,0.3s
DMLN Damoulianata-K 0.85 344 P **Pn 04 46 34.7 -0.4**
DMLN S **Sn 04 46 48.3 +0.5**
comp=E,5μm,0.5s
DMLN Damoulianata-K 0.85 344 P **Pb 04 46 34.5 +0.6**
DMLN S **Sb 04 46 46.5 +1.0**
RLS Riolos of Patr 0.91 44 P **Pb 04 46 35.0 +0.3**
RLS S **Sn 04 46 48.9 -0.1**
comp=E,1μm,0.6s
RLS Riolos of Patr 0.91 44 P **Pb 04 46 35.0 +0.3**
RLS S **Sb 04 46 47.2 +0.3**
RLS AML AML 04 46 50.0
comp=N,2184μm,0.3s
RLS AML AML 04 46 54.5
comp=E,2535μm,0.5s
DRO Drossia 0.99 57 P **Pb 04 46 36.5 +0.4**
DRO S **Sn 04 46 52.0 +0.9**
comp=E,2μm,0.5s
DRO Drossia 0.99 57 P **Pg 04 46 35.7 0.0**
DRO S **Sb 04 46 48.8 -0.5**
PYL PYLOS 1.00 121 P **Pb 04 46 36.8 +0.4**
PYL S **Sn 04 46 52.2 +0.8**
comp=E,968nm,0.3s
PYL PYLOS 1.00 121 P **Pb 04 46 36.7 +0.4**
PYL S **Sb 04 46 49.8 +0.1**
PYL AML AML 04 46 53.2
comp=N,1910μm,0.4s
PYL AML AML 04 46 55.5
comp=E,1946μm,0.3s
ITM Ithomi 1.03 103 P **Pb 04 46 37.4 +0.6**
ITM S **Sn 04 46 53.5 +1.3**
ITM Ithomi 1.03 103 P **Pb 04 46 37.4 +0.6**
ITM S **Sb 04 46 50.5 -0.1**
ITM AML AML 04 46 58.0
comp=E,1345μm,0.3s
ITM AML AML 04 46 58.5
comp=N,1455μm,0.4s
FSK Fiskardo 1.05 356 P **Pb 04 46 37.4 +0.3**
FSK S **Sn 04 46 54.0 +1.5**
comp=N,2μm,0.4s
FSK Fiskardo 1.05 356 P **Pb 04 46 37.4 +0.3**
FSK S **Sn 04 46 52.1 -0.4**
FSK AML AML 04 46 55.7
comp=N,2639μm,0.3s
FSK AML AML 04 46 56.3
comp=E,4640μm,0.3s
EVGI Lefkada island 1.21 360 P **Pn 04 46 40.2 +0.3**
EVGI S **Sn 04 46 58.9 +2.5**
comp=E,2μm,0.2s
EVGI Lefkada island 1.21 360 P **Pn 04 46 40.0 +0.1**
EVGI S **Sn 04 46 56.7 +0.3**
DRAG Dragano-Lefkad 1.27 357 P **Pn 04 46 41.0 +0.2**
DRAG S **Sn 04 46 59.0 +1.0**
NYDR Nydri-Lefkada 1.30 1 P **Pg 04 46 41.8 +0.2**
NYDR S **Sn 04 47 00.7 +2.0**
comp=E,838nm,0.5s
NYDR Nydri-Lefkada 1.30 1 P **Pg 04 46 41.4 -0.2**
NYDR S **Sn 04 46 59.0 +0.3**
KLV Kalavryta, Ach 1.34 61 P **Pg 04 46 42.5 +0.2**
KLV Kalavryta, Ach 1.34 61 P **Pg 04 46 42.2 -0.1**
LKD2 Lefkada island 1.37 360 P **Pg 04 46 44.5 +1.4**
LKD2 S **Sn 04 47 04.6 +4.0**
comp=E,1μm,0.5s
LKD2 Lefkada island 1.37 360 P **Pg 04 46 43.6 +0.6**
LKD2 S **Sg 04 47 00.3 -0.6**
LKD2 AML AML 04 47 11.4
comp=E,2239μm,0.4s
LKD2 AML AML 04 47 14.0
comp=N,2658μm,0.6s
EFP Efpalio 1.41 44 P **Pg 04 46 44.4 +0.6**
EFP Efpalio 1.41 44 P **Pg 04 46 44.3 +0.5**
TSLK Tsoukalades, L 1.41 360 P **Pg 04 46 44.4 +0.6**
TSLK S **Sn 04 47 06.4 +5.0**
comp=N,1μm,0.6s
TSLK Tsoukalades, L 1.41 360 P **Pg 04 46 44.0 +0.2**
TSLK S **Sn 04 47 03.0 +1.5**
GUR Goura 1.43 68 P **Pg 04 46 44.0 -0.2**
GUR Goura 1.43 68 P **Pg 04 46 43.8 -0.3**
KALE Kalithea 1.52 50 P **Pg 04 46 45.6 -0.3**
ANX Ano Chora 1.54 40 P **Pg 04 46 46.4 +0.1**
ANX Ano Chora 1.54 40 P **Pg 04 46 46.1 -0.2**
ANX S **Sg 04 47 06.9 +0.7**
ANX AML AML 04 47 14.4
comp=E,1857μm,0.7s
ANX AML AML 04 47 18.4
comp=N,3346μm,0.5s
EVR Evrytania 1.75 31 P **Pg 04 46 49.9 -0.4**
VLI Velíai 1.95 110 P **Pb 04 46 52.5 +0.1**
MAKR Makrakomi, Fth 1.97 35 P **Pb 04 46 53.1 +0.2**
THL Klokotos Trika 2.40 26 P **Pb 04 46 59.2 -0.8**
IDI Anoyia 4.02 121 Pn **Pn 04 47 18.0 -0.6**
comp=N,0.3nm,0.3s,baz=320,slow=14,SNR=1.6
IDI Sn **Sn 04 48 09.6 +3.7**
comp=N,2.4nm,0.3s,baz=303,slow=17,SNR=5.7
comp=N,27nm,1.2s
AKASG Malin Array Be 14.62 22 Pn **Pn 04 49 43.7 -0.1**
comp=N,0.1nm,0.2s,baz=213,slow=9.5,SNR=1.9
HFS Hagfors 23.17 351 P **P 04 51 23.1 -0.3**
comp=N,1.4nm,0.6s,baz=163,slow=10,SNR=7.8
comp=N,1.4nm,0.6s
EKA Eskdalemuir Ar 24.12 326 P **P 04 51 29.5 -3.3**
comp=N,0.4nm,0.7s,baz=120,slow=9.9,SNR=1.5
comp=N,0.4nm,0.7s
FINES FINESS Array B 24.29 6 P **P 04 51 33.6 -0.6**
comp=N,1.1nm,0.5s,baz=184,slow=11,SNR=7.0
comp=N,1.1nm,0.5s
NOA NORSAR Array B 24.39 349 P **P 04 51 34.7 -0.6**
comp=N,0.8nm,0.7s,baz=162,slow=10,SNR=1.3
comp=N,0.8nm,0.7s

IDC ***16*** *04:48:47.8±0.5, 36°.28N×67°.67E, h0km, mb4.6/40, mbtmp4.6/47, ML4.1/7, Error ellipse: s-maj=10.6km s-min=8.9km az=156.0*
MOS ***16*** *04:48:49.2±1.2, 36°.52N×67°.50E, h11km, mb4.9/37, MS4.4/5, Error ellipse: s-maj=4.7km s-min=3.3km az=80.6*
BJI ***16*** *04:48:51.0, 36°.47N×67°.81E, h10km, mb4.6/37, mB5.2/7, Ms4.6/5, Ms7 4.4/5*
NEIC ***16*** *04:48:51.5±2.2, 36°.45N±0°.05×67°.47E±0°.07, h13km±4km, mb4.9/135, Error ellipse: s-maj=8.6km s-min=7.2km az=105.0*
NNC ***16*** *04:48:56.7±3.2, 36°.78N×67°.33E, h54km±36km, mb4.7, mpv4.8, Error ellipse: s-maj=24.6km s-min=17.3km az=10.0*
ISC 16 04:48:52.5±0.6, 36°.44N±0°.03×67°.47E±0°.03, h26km±4km, h25km; pP-P, n743, σ1§40/731, mb4.8/172, MS4.5/5, 34C-19D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.29**	**145**	Pn	**Pn**	**04 49 31.1**	**+2.4**
KBL	**Kabul**	**2.29**	**145**	P	**Pb**	**04 49 31.6**	**-1.5**
KBL	SNR=344			S	**Sb**	**04 50 00.8**	**-0.3**
KBL	**Kabul**	**2.29**	**145**	PN	**Pn**	**04 49 31.2**	**+2.4**
SIMJ	**Simiganj**	**2.53**	**28**	Pn	**Pn**	**04 49 33.2**	**+1.1**
DZET	**Dzherino**	**2.60**	**24**	PN	**Pn**	**04 49 34.1**	**+1.2**
GAR	**Garm**	**3.41**	**41**	Pn	**Pn**	**04 49 45.0**	**+0.9**
BTK	**Batken**	**4.47**	**35**	Pn	**Pn**	**04 50 01.2**	**+2.5**
BTK	**Batken**	**4.47**	**35**	PN	**Pn**	**04 50 01.2**	**+2.5**
DRK	**Karamyk**	**4.58**	**47**		**Pn**	**04 50 01.2**	**+0.9**
DRK	**Karamyk**	**4.58**	**47**	PN	**Pn**	**04 50 01.2**	**+0.9**
HRA	**Herat**	**4.73**	**246**		**Pn**	**04 50 03.3**	**+0.9**
NIL	**Nilore**	**5.50**	**119**		**Pn**	**04 50 14.5**	**+1.7**
NIL	**Nilore**	**5.50**	**119**	PN	**Pn**	**04 50 14.5**	**+1.7**
OHH	**Osh**	**5.83**	**44**	PN	**Pn**	**04 50 19.2**	**+1.8**
TRKS	**Terek-Say**	**5.83**	**28**	PN	**Pn**	**04 50 17.9**	**+0.5**
IUG	**Iuzhnay**	**6.04**	**18**	*e*Pn	**Pn**	**04 50 21.2**	**+0.9**
IUG				*e*Pg	**Pb**	**04 50 40.7**	**+3.8**
IUG				*e*S	**Sn**	**04 51 27.9**	**-0.6**
IUG	**Iuzhnay**	**6.04**	**18**	*e*PN	**Pn**	**04 50 21.1**	**+0.9**
IUG				*e*		04 50 40.7	
IUG				*e*S	**Sn**	**04 51 27.9**	**-0.6**
SRNI	**Srinagar**	**6.47**	**109**	*ex*	x	04 52 11.7	
ARSB	**Arslanbob**	**6.50**	**40**		**Pn**	**04 50 26.7**	**+0.1**
ARSB	**Arslanbob**	**6.50**	**40**	PN	**Pn**	**04 50 26.7**	**+0.1**
BRLS	**Borolday**	**6.83**	**15**	*e*Pn	**Pn**	**04 50 27.7**	**-3.4**
BRLS	**Borolday**	**6.83**	**15**	*e*PN	**Pn**	**04 50 27.6**	**-3.4**
KK31	**Karatay Array**	**7.06**	**18**	⇓P	**Pn**	**04 50 34.6**	**+0.5**
KK31	19nm,0.3s,baz=206,slow=13,SNR=130			⇓S	**Sn**	**04 51 50.1**	**-3.4**
KK31	**Karatay Array**	**7.06**	**18**	PN	**Pn**	**04 50 34.6**	**+0.5**
KKAR	**Karatay Array**	**7.06**	**18**		**Pn**	**04 50 34.5**	**+0.4**
KKAR	**Karatay Array**	**7.06**	**18**		**Pn**	**04 50 34.6**	**+0.4**
KKAR	**Karatay Array**	**7.06**	**18**	PN	**Pn**	**04 50 34.5**	**+0.4**
DZA	**Taraz**	**7.10**	**24**	*e*Pn	**Pn**	**04 50 35.9**	**+1.1**
DZA				*e*Pg	Pb	04 50 60.0	+5.0
DZA				*e*S	**Sn**	**04 51 54.0**	**-0.5**
DZA	**Taraz**	**7.10**	**24**	*e*PN	**Pn**	**04 50 35.8**	**+1.1**
DZA				*e*		04 50 59.9	
DZA				*e*S	**Sn**	**04 51 54.0**	**-0.5**
JMU	**Jammu**	**7.16**	**119**	IAML		04 52 35.2	
JMU	comp=N,673nm,0.4s			IAML		04 52 46.7	
JMU	comp=E,760nm,0.4s						
KSH	**Kashi**	**7.39**	**63**	P	**Pn**	**04 50 34.6**	**-4.1**
KSH				sP	Pn	04 50 42.3	+3.6
KSH				S	**Sn**	**04 51 54.8**	**-6.9**
KSH				pmax	pmax		
KSH	comp=E,160nm,0.8s						
AML	**Almayashu**	**7.46**	**38**	P	**Pn**	**04 50 40.0**	**0.0**
AML	SNR=85						
EKS2	**Erkin-Say**	**7.90**	**36**	P	**Pn**	**04 50 46.6**	**+0.9**
EKS2	SNR=23						
THN	**Thein Dam**	**7.90**	**118**	*e*P	**Pn**	**04 50 45.8**	**+0.2**
THN				*e*S	**Sn**	**04 52 13.1**	**-1.0**
UCH	**Uchtor**	**7.95**	**41**	P	**Pn**	**04 50 48.1**	**+1.4**
UCH	SNR=7.2						
AAK	**Ala-Archa**	**8.23**	**39**	P	**Pn**	**04 50 50.5**	**+0.2**
AAK	SNR=34						
AAK	**Ala-Archa**	**8.23**	**39**		**Pn**	**04 50 50.5**	**+0.2**
AAK	**Ala-Archa**	**8.23**	**39**	Pn	**Pn**	**04 50 50.4**	**0.0**
AAK	**Ala-Archa**	**8.23**	**39**	Pn	**Pn**	**04 50 50.3**	**0.0**
AAK	comp=E,21nm,0.3s,baz=210,slow=4.6,SNR=49			Sn	**Sn**	**04 52 23.4**	**+0.8**
AAK	comp=E,6.7nm,0.3s,baz=229,slow=20,SNR=1.7			Lg	Lg	04 53 18.1	
AAK	comp=E,3.8nm,0.3s,baz=163,slow=19,SNR=1.5						
AAK	comp=E,52nm,0.4s						
AAK	**Ala-Archa**	**8.23**	**39**	P	**Pn**	**04 50 50.7**	**+0.3**
AAK				S	**Sn**	**04 52 21.1**	**-1.4**
AAK	**Ala-Archa**	**8.23**	**39**	*c i*P	**Pn**	**04 50 50.7**	**+0.3**
AAK	comp=Z,46nm,0.6s			pmax	pmax		
DHRM	**DHARAMSHALA**	**8.41**	**117**	*e*P	**Pn**	**04 50 53.3**	**+0.4**
DHRM				*e*S	**Sn**	**04 52 21.1**	**-6.0**
DHRM				IAML		04 52 43.8	
DHRM	comp=E,439nm,0.1s			IAML		04 52 45.3	
DHRM	comp=E,297nm,0.1s						
FRU1	**Bishkek**	**8.43**	**39**		**Pn**	**04 50 52.8**	**-0.1**
FRU1	**Bishkek**	**8.43**	**39**	P	**Pn**	**04 50 52.8**	**-0.1**
KBK	**Karagaybulak**	**8.48**	**41**	P	**Pn**	**04 50 54.5**	**+0.8**
KBK	SNR=47						
CHMS	**Chumysh**	**8.62**	**38**	P	**Pn**	**04 50 55.8**	**+0.1**
CHMS	SNR=21						
CHMS	**Chumysh**	**8.62**	**38**	⇑P	**Pn**	**04 50 56.4**	**+0.8**
CHMS	comp=E,14nm,0.4s			⇓S	**Sn**	**04 52 29.6**	**-2.4**
CHMS	comp=E,135nm,0.7s						
CHMS	**Chumysh**	**8.62**	**38**	P	**Pn**	**04 50 56.4**	**+0.8**
CHMS				S	**Sn**	**04 52 29.6**	**-2.4**
USP	**Ospenovka**	**8.70**	**36**	P	**Pn**	**04 50 56.3**	**-0.4**
USP	SNR=52						
BOOM	**Boomskoye usch**	**8.91**	**45**		**Pn**	**04 50 59.9**	**+0.2**
BOOM	**Boomskoye usch**	**8.91**	**45**	P	**Pn**	**04 50 59.9**	**+0.2**
ULHL	**Ulahol**	**8.93**	**47**	P	**Pn**	**04 51 00.1**	**+0.1**
ULHL	SNR=15						
BHK	**Bhakra**	**8.96**	**121**	*ex*	**Pn**	**04 51 01.4**	**+1.2**
BHK				*ex*	x	04 52 32.2	
BHK				IAML		04 53 41.4	
BHK	comp=E,200nm,0.8s			IAML		04 53 42.2	
BHK	comp=N,231nm,1.2s						
TKM2	**Tokmak 2**	**9.01**	**42**	P	**Pn**	**04 51 01.2**	**+0.1**
TKM2	SNR=40						
TKM2	**Tokmak 2**	**9.01**	**42**	⇓P	**Pn**	**04 51 00.9**	**-0.2**
TKM2	comp=N,29nm,0.5s			⇑S	**Sn**	**04 52 41.0**	**-0.7**
TKM2	comp=N,79nm,1.0s						
TKM2	**Tokmak 2**	**9.01**	**42**	*i* P	**Pn**	**04 51 00.8**	**-0.2**
TKM2				pmax	pmax		
TKM2	comp=Z,61nm,0.5s						
KDJ	**Kajisay**	**9.43**	**50**	Pn	**Pn**	**04 51 06.8**	**0.0**
KDJ	**Kajisay**	**9.43**	**50**	P	**Pn**	**04 51 06.8**	**0.0**
SMLA	**Simla**	**9.65**	**120**	*e*P	**Pn**	**04 51 09.5**	**-0.1**
SMLA				*ex*	**Sn**	**04 52 56.1**	**-1.1**
SMLA				IAML		04 54 06.2	
SMLA	comp=E,306nm,1.0s			IAML		04 54 07.9	
SMLA	comp=E,306nm,0.4s						
TNSS	**Tian-Shan**	**9.83**	**45**	*e*Pn	**Pn**	**04 51 12.9**	**+0.4**
TNSS				*e*Pg		04 51 50.1	
TNSS				*e*S	**Sn**	**04 53 01.6**	**-0.6**
TNSS	**Tian-Shan**	**9.83**	**45**	*e*P	**Pn**	**04 51 12.9**	**+0.4**
TNSS				*e*S	**Sn**	**04 53 01.5**	**-0.6**
BTLS	**Baital**	**9.93**	**28**	*e*Pn	**Pn**	**04 51 14.6**	**+1.1**
BTLS				*e*Pg		04 51 51.9	
BTLS	**Baital**	**9.93**	**28**	*e*P	**Pn**	**04 51 14.6**	**+1.1**
MDOK	**Medeo**	**9.97**	**45**	⇑P	**Pn**	**04 51 14.4**	**+0.2**
MDOK	comp=E,34nm,0.6s						
MDOK	**Medeo**	**9.97**	**45**	*e*Pn	**Pn**	**04 51 15.1**	**+1.0**
MDOK	**Medeo**	**9.97**	**45**	*e*P	**Pn**	**04 51 15.1**	**+1.0**
KUU	**Kurty**	**10.07**	**40**	*e*Pn	**Pn**	**04 51 16.6**	**+1.1**
KUU	**Kurty**	**10.07**	**40**	*e*P	**Pn**	**04 51 16.5**	**+1.1**
HNLY	**HANLEY**	**10.16**	**108**	*e*P	**Pn**	**04 51 17.1**	**-0.1**
HNLY				*e*S	**Sn**	**04 53 16.9**	**+6.4**
KLP	**Kalpa**	**10.20**	**116**	*e*P	**Pn**	**04 51 17.4**	**-0.1**
SATY	**Saty**	**10.70**	**48**	*e*Pg	Pn	04 52 06.0	+42
DDI	**Dehra Dun**	**10.74**	**122**	*ex*	x	04 51 33.5	
KPKS	**Kokpek**	**11.10**	**47**	*e*Pn	**Pn**	**04 51 29.2**	**-0.4**
KPKS	**Kokpek**	**11.10**	**47**	*e*P	**Pn**	**04 51 29.2**	**-0.4**
UZB	**Uzynbulak**	**11.12**	**49**	*e*Pn	**Pn**	**04 51 29.1**	**-0.9**
UZB	**Uzynbulak**	**11.12**	**49**	*e*P	**Pn**	**04 51 29.9**	**-0.1**
KUDL	**Kundal**	**11.25**	**135**	*e*P	**Pn**	**04 51 29.8**	**-1.8**
NDI	**New Delhi**	**11.28**	**130**	*e*P	**Pn**	**04 51 27.9**	**-4.1**
SHLS	**Shalkode**	**11.40**	**50**	*e*Pn	**Pn**	**04 51 37.4**	**+3.6**
SHLS	**Shalkode**	**11.40**	**50**	*e*P	**Pn**	**04 51 37.3**	**+3.6**
SOHA	**Sohna**	**11.51**	**132**	*ex*	**Pn**	**04 51 37.9**	**+2.7**
AJM	**Ajmer**	**11.66**	**146**	*ex*	x	04 51 43.3	
JOSI	**Joshimath**	**11.67**	**117**	*e*P	**Pn**	**04 51 41.1**	**+3.6**
TDK	**Taldyqorghan**	**11.91**	**41**	*e*Pn	**Pn**	**04 51 41.2**	**+0.7**
TDK	**Taldyqorghan**	**11.91**	**41**	*e*P	**Pn**	**04 51 41.2**	**+0.7**
LGTI	**Lohaghat**	**12.79**	**119**	*e*P	**Pn**	**04 51 51.1**	**-1.5**
AB31	**Akbulak array**	**13.94**	**339**	P	**Pn**	**04 52 06.6**	**-1.6**
AB31	comp=E,9.8nm,0.3s,baz=159,slow=13,SNR=217			⇑S	**Sn**	**04 54 38.0**	**-4.0**
AB31	comp=E,8.3nm,0.6s,baz=300,slow=47,SNR=4.1						
AB31	**Akbulak array**	**13.94**	**339**	*e*P	**Pn**	**04 52 06.6**	**-1.6**
ABKAR	**Akbulak array**	**13.94**	**339**	Pn	**Pn**	**04 52 06.3**	**-1.9**
ABKAR	**Akbulak array**	**13.94**	**339**	Pn	**Pn**	**04 52 06.1**	**-2.1**
SHME	**Shamm**	**14.17**	**226**	P	**P**	**04 52 17.9**	**-0.8**
JHNI	**Jhansi**	**14.47**	**136**	*e*P	**Pn**	**04 52 12.2**	**-3.5**
MASF	**Masafi**	**14.68**	**224**	P	**P**	**04 52 23.8**	**-0.7**
MAKZ	**Makanchi**	**14.98**	**42**	⇓P	**Pn**	**04 52 23.9**	**+1.5**
MAKZ	comp=E,8.6nm,0.6s						
MAKZ	**Makanchi**	**14.98**	**42**		**Pn**	**04 52 23.2**	**+0.9**
MAKZ	**Makanchi**	**14.98**	**42**	P	**Pn**	**04 52 23.3**	**+0.9**
UOSS	**Minazif**	**14.99**	**223**	P	**P**	**04 52 26.6**	**-1.3**
MK31	**Makanchi Array**	**15.14**	**42**	⇑P	**Pn**	**04 52 21.8**	**-2.7**
MK31	comp=E,18nm,0.9s						
MK31	**Makanchi Array**	**15.14**	**42**	Pn	**Pn**	**04 52 22.7**	**-1.9**
MK31	**Makanchi Array**	**15.14**	**42**	*c i*P	**Pn**	**04 52 22.6**	**-1.9**
MK31				pmax	pmax		
MK31	comp=Z,21nm,0.8s						
MKAR	**Makanchi Array**	**15.14**	**42**	Pn	**Pn**	**04 52 22.0**	**-2.5**
MKAR	**Makanchi Array**	**15.14**	**42**	Pn	**Pn**	**04 52 22.3**	**-2.2**
MKAR	comp=Z,0.6nm,0.3s,baz=232,slow=14,SNR=21						
MKAR	comp=Z,3.6nm,0.6s						
MKAR	**Makanchi Array**	**15.14**	**42**	*i* P	**Pn**	**04 52 22.7**	**-1.8**
MKAR				pmax	pmax		
MKAR	comp=Z,4.0nm,0.6s						
WSAR	**Wadi Sarin**	**15.21**	**213**		**Pn**	**04 52 25.0**	**-0.6**
WSAR	**Wadi Sarin**	**15.21**	**213**	Pn	**Pn**	**04 52 25.0**	**-0.6**
WSAR	comp=Z,0.1nm,0.3s,baz=50,slow=16,SNR=2.1						
WSAR	comp=Z,2.9nm,0.8s						
NAZ	**Nazwa, Dubai**	**15.26**	**225**	P	**P**	**04 52 30.5**	**-0.3**
NAZ				P	**P**	**04 52 30.5**	**-0.3**
ASHO	**Ashiyiah**	**15.28**	**223**	Pn	**Pn**	**04 52 27.8**	**+1.3**
ASHO	**Ashiyiah**	**15.28**	**223**	P	**Pn**	**04 52 28.8**	**+2.3**
ASHO				P	**Pn**	**04 52 28.8**	**+2.3**
SOHO	**SOHO**	**15.46**	**221**	P	**P**	**04 52 32.1**	**-1.0**
FAQ	**Al Faqa, Dubai**	**15.49**	**224**	P	**P**	**04 52 33.8**	**+0.4**
HOQ	**Hoqain**	**15.53**	**217**	P	**P**	**04 52 34.4**	**+0.5**
AKTO	**Aktyubinsk**	**15.56**	**337**	⇑P	**Pn**	**04 52 28.7**	**-1.3**
AKTO	comp=Z,4.4nm,0.4s			⇑S	**Sn**	**04 55 16.8**	**-4.8**
AKTO	comp=Z,20nm,0.8s						
AKTO	**Aktyubinsk**	**15.56**	**337**	Pn	**Pn**	**04 52 29.5**	**-0.6**
AKTO	comp=Z,2.2nm,0.3s,baz=155,slow=5.5,SNR=36			Sn	**Sn**	**04 55 16.0**	**-5.6**
AKTO	comp=Z,1.4nm,0.3s,baz=143,slow=5.1,SNR=2.9						
AKTO	comp=Z,8.3nm,0.3s						
SMDO	**Samad**	**15.63**	**214**	P	**Pn**	**04 52 32.6**	**+1.5**
BHPL	**Bhopal**	**15.72**	**144**	*e*P	**Pn**	**04 52 28.3**	**-3.9**
BHPL				IAmb	IAmb	04 52 40.9	
BHPL	comp=Z,13nm,0.9s						
ASUD	**Al Ashush, Dub**	**15.73**	**225**	P	**P**	**04 52 36.8**	**+0.7**
JLN	**Jalan Bani Buh**	**15.87**	**208**	P	**Pn**	**04 52 35.2**	**+1.1**
ALNE	**Al Ain**	**15.94**	**223**	Pn	**Pn**	**04 52 35.7**	**+0.6**
ALNE	**Al Ain**	**15.94**	**223**	P	**Pn**	**04 52 36.6**	**+1.5**
NRDN	**NARMADA NAGAR**	**16.05**	**146**	*e*P	**Pn**	**04 52 34.8**	**-1.6**
JMDO	**Jabal Madar**	**16.21**	**213**	P	**P**	**04 52 41.8**	**+0.3**
KURBB	**Kurchatov Arra**	**16.26**	**26**	⇑P	**Pn**	**04 52 35.9**	**-3.1**
KURBB	comp=Z,31nm,0.7s						
KURBB	**Kurchatov Arra**	**16.26**	**26**	Pn	**Pn**	**04 52 34.3**	**-4.7**
KURBB	comp=Z,0.1nm,0.3s,baz=216,slow=12,SNR=4.0			Lg	Lg	04 57 20.5	
KURBB	comp=Z,0.1nm,0.3s,baz=218,slow=28,SNR=2.1						
KURBB	comp=Z,3.2nm,0.5s						
KURBB	**Kurchatov Arra**	**16.26**	**26**	P	**Pn**	**04 52 35.9**	**-3.1**
BSY	**Bisya**	**16.29**	**216**	P	**P**	**04 52 41.9**	**-0.5**
KURK	**Kurchatov**	**16.37**	**26**	⇓P	**P**	**04 52 41.5**	**-1.5**
KURK	comp=Z,34nm,1.2s						
KURK	**Kurchatov**	**16.37**	**26**	Pn	**Pn**	**04 52 39.7**	**-0.7**
KURK	**Kurchatov**	**16.37**	**26**	P	**Pn**	**04 52 39.7**	**-0.7**
KURK	**Kurchatov**	**16.37**	**26**	*c i*P	**Pn**	**04 52 39.6**	**-0.7**
KURK				pmax	pmax		
KURK	comp=Z,30nm,1.7s						
MAK	**Makhachkala**	**16.67**	**299**	*e*P	**Pn**	**04 52 40.4**	**-3.8**
MAK				*e*S	**Sn**	**04 55 45.6**	**-2.9**
MAK				pmax	pmax		
MAK	comp=Z,383nm,1.2s						
MAK				MLR	MLR		
MAK	comp=Z,1μm,14.0s						
BVA0	**Borovoye Array**	**16.71**	**6**	⇑P	**Pn**	**04 52 42.2**	**-2.5**
BVA0	**Borovoye Array**	**16.71**	**6**	P	**Pn**	**04 52 42.2**	**-2.5**
BVAR	**Borovoye Array**	**16.71**	**6**	Pn	**Pn**	**04 52 41.8**	**-2.9**
BVAR	comp=Z,0.9nm,0.3s,baz=179,slow=11,SNR=37			Sn	Sn	04 55 38.1	-11
BVAR	comp=Z,0.3nm,0.3s,baz=181,slow=21,SNR=3.4			Lg	Lg	04 57 41.7	
BVAR	baz=186,slow=29						
BVAR	comp=Z,31nm,0.6s						
SEM	**Semipalatinsk**	**16.73**	**29**	*e*Pn	**P**	**04 52 46.0**	**-1.4**
SEM	**Semipalatinsk**	**16.73**	**29**	*e*P	**P**	**04 52 45.9**	**-1.4**
BRVK	**Borovoye**	**16.74**	**6**	⇑P	**Pn**	**04 52 43.1**	**-1.9**
BRVK	**Borovoye**	**16.74**	**6**	Pn	**Pn**	**04 52 43.4**	**-1.6**
BRVK	**Borovoye**	**16.74**	**6**	P	**Pn**	**04 52 43.1**	**-1.9**
BRVK	**Borovoye**	**16.74**	**6**	*c e*P	**Pn**	**04 52 42.7**	**-2.3**
BRVK	comp=Z,32nm,0.8s			pmax	pmax		
ZSN	**Zaisan**	**16.95**	**44**	*e*Pn	**P**	**04 52 48.7**	**-0.8**
ZSN	**Zaisan**	**16.95**	**44**	*e*P	**P**	**04 52 48.7**	**-0.8**
WMQ	**Urumqi**	**17.11**	**58**	*e*P	**P**	**04 52 51.3**	**-0.1**
WMQ				pP	pP	04 52 55.3	-3.4
WMQ				PP	**sP**	**04 53 06.8**	**+4.7**
WMQ				S	**Sn**	**04 55 59.5**	**+0.2**
WMQ	comp=Z,21nm,0.7s			pmax	pmax		
MHTO	**MHTO**	**17.49**	**211**	P	**P**	**04 52 57.0**	**+1.4**
GNI	**Garni**	**18.21**	**289**	P	**P**	**04 53 05.3**	**+1.6**
GNI	**Garni**	**18.21**	**289**	P	**P**	**04 53 05.7**	**+2.1**
GNI	**Garni**	**18.21**	**289**	P	**P**	**04 53 05.3**	**+1.6**
GNI	comp=Z,1.0nm,0.3s,baz=90,slow=7.1,SNR=7.8						
GNI	comp=Z,18nm,0.8s						
GNI	**Garni**	**18.21**	**289**	P	**P**	**04 53 06.0**	**+2.4**
GNI	**Garni**	**18.21**	**289**	*c i*P	**P**	**04 53 05.8**	**+2.1**
GNI				pmax	pmax		
GNI	comp=Z,22nm,0.8s						
NGP	**Nagpur**	**18.28**	**143**	*e*P	**P**	**04 53 03.0**	**-1.3**
SMRA	**Abu-Samra**	**18.44**	**235**	P	**P**	**04 53 06.1**	**+0.1**
GTK	**Tadong**	**20.08**	**111**	*e*P	**P**	**04 53 23.2**	**-1.0**
GTK				IAmb	IAmb	04 53 34.6	
GTK	comp=Z,37nm,0.5s						
KBZ	**Khabaz**	**20.12**	**299**	P	**P**	**04 53 24.9**	**+0.6**
KBZ	comp=Z,7.9nm,0.7s,baz=108,slow=10,SNR=14			S	**S**	**04 57 09.4**	**+0.5**
KBZ	comp=Z,3.0nm,0.5s,baz=185,slow=12,SNR=2.5						
KBZ	comp=Z,7.9nm,0.7s						
KBZ	**Khabaz**	**20.12**	**299**	*c i*P	**P**	**04 53 24.6**	**+0.3**
KBZ				pmax	pmax		
KBZ	comp=Z,11nm,1.0s						
BOK	**Bokaro**	**20.27**	**123**	*e*P	Pn	04 53 30.3	+2.1
BOK				IAmb	IAmb	04 53 39.7	
BOK	comp=Z,22nm,0.7s						
SHA1	**Shidzhatmaz**	**20.29**	**299**	*c i*P	**P**	**04 53 26.7**	**+0.3**
KVAR	**Kislovodsk Arr**	**20.31**	**299**	P	Pn	04 53 27.9	-0.8
KVAR	comp=Z,3.4nm,0.5s,baz=90,slow=20,SNR=2.3			S	**S**	**04 57 11.4**	**-1.7**
KVAR	comp=Z,17nm,0.8s,baz=180,slow=8.1,SNR=3.9						
KVAR	comp=Z,3.4nm,0.5s						
KIV	**Kislovodsk**	**20.32**	**299**	P	**P**	**04 53 26.1**	**-0.5**
KIV	**Kislovodsk**	**20.32**	**299**	P	**P**	**04 53 26.5**	**0.0**
KIV	**Kislovodsk**	**20.32**	**299**	P	**P**	**04 53

ERBR Yeremizino-Bor 22.27 303 eP P 04 53 47.6 +0.1
ERBR e 04 54 07.6
ERBR eS **S 04 57 46.7 -4.3**
ERBR pmax pmax
comp=Z,40nm,1.1s
ERBR MLR MLR
comp=Z,2μm,18.0s
ABTO Aybut 22.78 217 P **P 04 53 53.7 +0.5**
SNR=6.0
RAYN Ar Rayn 22.91 242 P **P 04 53 54.5 0.0**
RAYN Ar Rayn 22.91 242 P **P 04 53 54.2 -0.2**
RAYN Ar Rayn 22.91 242 P **P 04 53 54.3 -0.2**
RAYN Ar Rayn 22.91 242 P **P 04 53 54.5 0.0**
RAYN pmax pmax
comp=Z,19nm,0.7s
SHL Shillong 23.50 111 P **P 04 53 58.1 -2.5**
SNR=16
SHL Shillong 23.50 111 ex **P 04 53 59.5 -1.1**
VRH Novokhopyorsk 23.56 317 eP **P 04 53 57.0 -3.7**
VRH pmax pmax
comp=Z,30nm,2.2s
ANN Anapa 24.18 300 eP **P 04 54 08.0 +1.4**
ANN e*PP **pP 04 54 14.7 +0.2**
ANN eS **S 04 58 27.2 +4.1**
ANN eSS **SnSn 04 59 10.1 +4.4**
ANN pmax pmax
comp=Z,43nm,0.7s
ANN MLR MLR
comp=Z,1μm,16.0s
MNGI Mangalore 24.31 162 ex x 04 54 27.9
VORD Divnogorie 24.82 315 eP **P 04 54 13.0 +0.6**
VORD pmax pmax
comp=Z,10.0nm,1.3s
VSR Storozhevoye 25.00 315 eP **P 04 54 12.2 -1.8**
VSR pmax pmax
comp=Z,20nm,1.7s
MOKO MOKOCHONG 25.12 106 eP **P 04 54 14.6 -0.9**
KIRV Kirov 25.13 338 P **P 04 54 15.9 +0.9**
comp=Z,16nm,0.4s,baz=144,slow=8.8,SNR=6.5
comp=Z,16nm,0.4s
KIRV Kirov 25.13 338⇑ eP **P 04 54 15.4 +0.3**
AZL Aizawl 25.14 113 eP **P 04 54 14.8 -0.8**
AZL IAmb IAmb 04 54 22.8
comp=Z,20nm,0.8s
VORR Voronezh 25.17 316 P **P 04 54 15.5 -0.1**
VORR pmax pmax
comp=Z,34nm,0.9s
IMP Imphal 25.47 110 eP **P 04 54 18.3 -0.3**
IMP IAmb IAmb 04 54 24.8
comp=Z,20nm,0.7s
ASF Jabal al Asfar 25.55 269 P **P 04 54 21.6 +2.3**
comp=Z,23nm,0.9s,baz=43,slow=0.0,SNR=16
comp=Z,23nm,0.9s
GTA Gaotai 25.61 73 eP **P 04 54 19.9 0.0**
GTA pP pP 04 54 25.8 -2.0
GTA pmax pmax
comp=Z,8.0nm,0.5s
LPSR Galich'ya Gora 25.75 318 eP **P 04 54 18.6 -2.2**
LPSR pmax pmax
comp=Z,20nm,2.6s
MMAI Mount Meron Ar 26.51 272 P **P 04 54 30.3 +2.3**
comp=Z,2.4nm,0.5s,baz=66,slow=8.4,SNR=2.2
comp=Z,2.4nm,0.5s
SIM Simferopol' 26.53 299 eP **P 04 54 29.0 +1.0**
SIM e 04 55 14.0
SIM eS **S 04 59 00.0 -0.7**
SIM pmax pmax
comp=Z,48nm,1.3s
KIRS Kirsehir-Merke 26.57 286 ⇑P **P 04 54 29.9 +1.4**
BRTR Keskin Array B 26.74 287 P **P 04 54 31.4 +1.4**
BRTR Keskin Array B 26.74 287 P **P 04 54 31.6 +1.5**
comp=Z,2.4nm,0.7s,baz=101,slow=7.7,SNR=14
BRTR PcP **PcP 04 57 53.3 +0.4**
comp=Z,0.7nm,0.7s,baz=101,slow=1.5,SNR=2.3
comp=Z,2.4nm,0.7s
BRTR Keskin Array B 26.74 287 i P **P 04 54 32.0 +1.9**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
EIL Elat 27.99 265 P **P 04 54 43.0 +1.8**
comp=Z,8.2nm,0.9s,baz=72,slow=6.4,SNR=5.3
comp=Z,8.2nm,0.9s
OBN Obninsk 28.17 321 P **P 04 54 44.6 +2.1**
comp=Z,22nm,0.4s,baz=90,slow=9.1,SNR=3.3
comp=Z,22nm,0.4s
OBN Obninsk 28.17 321 i P **P 04 54 41.9 -0.6**
OBN i 04 55 31.0
OBN pmax pmax
comp=Z,7.0nm,0.8s
TNCH TengChong 28.89 104 eP **P 04 54 50.3 +0.8**
TNCH sP pP 04 54 57.5 0.0
TNCH pmax pmax
comp=Z,190nm,4.2s
LZH Lanzhou 29.23 80 eP **P 04 54 56.8 +4.5**
LZH pP pP 04 55 00.8 +0.5
LZH pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 30.19 333 eP **P 04 54 59.0 -1.4**
KLMR pmax pmax
comp=Z,16nm,2.0s
SONM Songino Array 30.72 56 P **P 04 55 05.4 0.0**
comp=Z,2.3nm,0.8s,baz=257,slow=8.0,SNR=9.9
SONM PcP **PcP 04 58 02.1 -0.6**
comp=Z,1.1nm,0.8s,baz=290,slow=4.3,SNR=3.1
comp=Z,2.3nm,0.8s
AK09 Malin Array Si 30.72 310 P **P 04 55 05.2 0.0**
AK09 pP **pP 04 55 09.4 -3.9**
PZH PanZhiHua 30.73 99 P **P 04 55 07.6 +2.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
AK10 Malin Array Si 30.74 310 P **P 04 55 05.3 -0.1**
AK10 pP **pP 04 55 09.7 -3.8**
AK08 Malin Array Si 30.75 310 P **P 04 55 05.4 0.0**
AK08 pP **pP 04 55 09.8 -3.7**
AK07 Malin Array Si 30.76 309 P **P 04 55 05.5 0.0**
AK06 Malin Array Si 30.77 309 P **P 04 55 05.6 0.0**
AK05 Malin Array Si 30.78 310 P **P 04 55 05.4 -0.3**
AKASG Malin Array Be 30.78 310 P **P 04 55 05.9 +0.2**
comp=Z,0.9nm,0.3s,baz=93,slow=7.2,SNR=23
comp=Z,0.9nm,0.3s
AKASG Malin Array Be 30.78 310 i P **P 04 55 06.1 +0.4**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 30.78 310⇑ iP **P 04 55 06.1 +0.4**
AKBB pmax pmax
comp=Z,5.0nm,0.9s
AK02 Malin Array Si 30.78 310 P **P 04 55 05.4 -0.3**
AK01 Malin Array Si 30.79 310 P **P 04 55 05.4 -0.3**
AK03 Malin Array Si 30.79 310 P **P 04 55 05.4 -0.4**
KIEV Kiev 30.79 310 P **P 04 55 06.3 +0.5**
KIEV Kiev 30.79 310 P **P 04 55 06.3 +0.5**
KIEV pmax pmax
comp=Z,14nm,1.1s
AK11 Malin Array Si 30.81 310 P **P 04 55 05.6 -0.4**
AK12 Malin Array Si 30.81 310 P **P 04 55 05.6 -0.4**
AK04 Malin Array Si 30.82 310 P **P 04 55 05.7 -0.4**
AK14 Malin Array Si 30.84 310 P **P 04 55 05.9 -0.3**
AK15 Malin Array Si 30.84 310 P **P 04 55 05.9 -0.3**
AK16 Malin Array Si 30.85 310 P **P 04 55 06.0 -0.3**
AK13 Malin Array Si 30.86 310 P **P 04 55 06.1 -0.3**
AK17 Malin Array Si 30.88 310 P **P 04 55 06.3 -0.3**
AK18 Malin Array Si 30.88 310 P **P 04 55 05.9 -0.7**
AK19 Malin Array Si 30.92 310 P **P 04 55 06.2 -0.7**
AK20 Malin Array Si 30.92 310 P **P 04 55 06.2 -0.8**
ULN Ulaanbaatar 31.16 56 P **P 04 55 09.8 +0.5**
ULN Ulaanbaatar 31.16 56 P **P 04 55 07.1 -2.2**
ULN Ulaanbaatar 31.16 56 d iP **P 04 55 09.9 +0.5**
ULN pmax pmax
comp=Z,4.0nm,0.8s
LUBAR Lubar, Ukraine 31.55 308 P **P 04 55 11.5 -1.0**
NDNU Novodnistrovsk 31.60 305 P **P 04 55 12.7 -0.3**
BISRR Bisoca 31.79 299 P **P 04 55 14.6 -0.2**
comp=Z,990nm,0.9s,comp=Z,12μm
VRI Vrincioaia 31.79 300 P **P 04 55 14.6 -0.1**
comp=Z,5.3nm,1.0s
PLOR Plostina 31.85 300 ⇓P **P 04 55 17.4 +2.2**
PLOR Plostina 31.85 300 P **P 04 55 17.4 +2.2**
PLOR3 Plostina Array 31.85 300 P **P 04 55 14.2 -1.1**
comp=Z,23nm,1.9s
TESR Tescani 31.88 301 P **P 04 55 14.4 -1.1**
comp=Z,12nm,0.8s
TURR Turia 32.30 300 ⇓P **P 04 55 21.0 +1.9**
MLR Muntele Rosu 32.33 299 P **P 04 55 22.5 +2.9**
MLR IAmb IAmb 04 55 23.5
comp=Z,17nm,0.8s
MLR Muntele Rosu 32.33 299 P **P 04 55 22.2 +2.6**
comp=Z,13nm,0.7s,baz=90,slow=20,SNR=15
comp=Z,13nm,0.7s
MLR Muntele Rosu 32.33 299 ⇑P **P 04 55 21.9 +2.3**
MLR Muntele Rosu 32.33 299 P **P 04 55 22.5 +2.9**
MLR pmax pmax
comp=Z,17nm,0.8s
MNK Minsk 32.56 316 i P **P 04 55 19.7 -1.6**
comp=E,7.0nm,0.8s
MNK i P **P 04 55 19.7 -1.6**
comp=N,7.0nm,0.9s
MNK i P **P 04 55 19.7 -1.6**
comp=Z,7.0nm,0.6s,baz=107
MNK i PP **PnPn 04 56 27.5 -1.5**
MNK i PPP PPP 04 56 37.4
MNK i S **S 05 00 35.1 0.0**
MNK i SS **SnSn 05 02 31.0 +1.2**
MNK i SSS SSS 05 02 46.3
MNK i LQ LQ 05 06 04.5
MNK i LR LR 05 08 33.3
MNK i LRM MLR 05 09 41.2
comp=E,676nm,18.3s
MNK i LRM MLR 05 10 19.0
comp=N,601nm,16.9s
MNK i LRM MLR 05 11 23.0
comp=Z,493nm,14.4s
MNK Minsk 32.56 316 i P **P 04 55 19.7 -1.6**
MNK i 04 56 27.4
MNK i 04 58 05.6
MNK i S **S 05 00 35.0 0.0**
MNK i SS **SnSn 05 02 31.0 +1.2**
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK MLR MLR
comp=E,676nm,18.0s
MNK MLR MLR
comp=N,601nm,17.0s
MNK MLR MLR
comp=Z,493nm,14.0s
DOPR Dopca 32.73 300 ⇓P **P 04 55 24.9 +2.0**
CHTO Chiang Mai 32.75 114 P **P 04 55 22.5 -0.8**
CHTO IAmb IAmb 04 55 29.9
comp=Z,7.7nm,0.6s
CHTO Chiang Mai 32.75 114 P **P 04 55 22.5 -0.8**
CHTO pmax pmax
comp=Z,8.0nm,0.6s
BURAR Bucovina Array 32.93 303 ⇓P **P 04 55 26.4 +1.5**
BURAR Bucovina Array 32.93 303 P **P 04 55 26.3 +1.5**
RNPP5 Staryi Chortor 32.95 310 P **P 04 55 24.1 -0.7**
VOIR 32.96 299 ⇓P **P 04 55 27.0 +1.9**
VOIR 32.96 299 P **P 04 55 26.9 +1.9**
VOIR 32.96 299 P **P 04 55 24.3 -0.7**
comp=Z,8.2nm,0.7s
CM31 Chiang Mai Arr 32.97 114 P **P 04 55 24.1 -1.2**
CM31 IAmb IAmb 04 55 31.6
comp=Z,17nm,1.0s
CMAR Chiang Mai Arr 32.97 114 P **P 04 55 24.3 -1.0**
CMAR Chiang Mai Arr 32.97 114 P **P 04 55 24.2 -1.1**
comp=Z,4.7nm,0.6s,baz=303,slow=8.2,SNR=26
CMAR PcP **PcP 04 58 08.8 -0.2**
comp=Z,1.0nm,0.3s,baz=282,slow=4.5,SNR=2.3
comp=Z,4.7nm,0.6s
RNPP9 Sopachiv 32.98 310 P **P 04 55 24.4 -0.7**
RNPP8 Varash 32.99 310 P **P 04 55 23.9 -1.2**
RNPP1 Kostyukhnivka 33.05 310 P **P 04 55 24.4 -1.2**
ARR Arges 33.25 299 ⇑P **P 04 55 29.3 +1.7**
NACGM Naroch 33.29 317⇑ iP P 04 55 35.9 +8.3
comp=Z,16nm,1.0s,baz=106
STNU Starunia 33.50 305 P **P 04 55 28.5 -1.1**
XAN Xi'an 33.76 82 P **P 04 55 33.8 +1.7**
XAN pmax pmax
comp=Z,8.0nm,1.0s
LOT Lotru 33.86 299 ⇑P **P 04 55 34.7 +1.8**
PHRA Phrae 33.90 113 P **P 04 55 32.0 -1.4**
MORS Morshin 33.94 306 P P 04 55 39.5 +6.1
MORS Morshin 33.94 306 P **P 04 55 32.4 -1.0**
MARR Marisel-Cluj 34.32 301 ⇑P **P 04 55 38.9 +2.0**
IDI Anoyia 34.32 281 P **P 04 55 38.4 +1.4**
comp=Z,14nm,1.0s,baz=82,slow=14,SNR=1.7
comp=Z,14nm,1.0s
HHC Hu-ho-hao-te 34.45 69 eP **P 04 55 40.5 +2.4**
HHC pP pP 04 55 45.3 -0.8
HHC sP sP 04 55 49.3 0.0
HHC pmax pmax
comp=Z,13nm,0.6s
VSU Vasula 34.49 323⇓ iP **P 04 55 38.6 +0.6**
VSU pmax pmax
comp=Z,17nm,0.6s
GZR Gura Zlata 34.56 299 ⇑P **P 04 55 40.1 +1.2**
MUKU Mukachevo 34.68 305 P **P 04 55 38.8 -1.0**
GYA Guiyang 34.68 95 P **P 04 55 38.9 -1.4**
GYA pmax pmax
comp=Z,22nm,1.5s
BERU Beregovo 34.70 304 P **P 04 55 38.9 -1.1**
NRIK Noril'sk 34.75 12 P **P 04 55 41.4 +1.2**
NRIK IAmb IAmb 04 55 48.4
comp=Z,15nm,0.6s
NRIK Noril'sk 34.75 12 P **P 04 55 40.7 +0.5**
comp=Z,8.9nm,0.7s,baz=213,slow=9.8,SNR=16
comp=Z,8.9nm,0.7s
NRIK Noril'sk 34.75 12c iP **P 04 55 40.9 +0.7**
NRIK pmax pmax
comp=Z,12nm,0.9s
KWP Kalwaria Pacla 34.76 307 IAmb IAmb 04 55 43.3
comp=Z,23nm,1.0s
KWP Kalwaria Pacla 34.76 307 P **P 04 55 39.4 -1.1**
comp=Z,27nm,2.0s
HOLU Holmets 34.89 305 P **P 04 55 41.4 -0.2**
KOLS Kolonicke sedl 34.99 305 eP **P 04 55 44.5 +2.0**
KOLS pmax pmax
comp=Z,9.0nm,0.7s
KOLS Kolonicke sedl 34.99 305 eP **P 04 55 44.5 +2.0**
SLVN Son La 35.04 105 P **P 04 55 42.1 -1.2**
SIRR Siria 35.33 301 ⇑P **P 04 55 47.7 +2.3**
MDVR Moldovita 35.33 298 ⇑P **P 04 55 46.7 +1.2**
BZS Buzias 35.37 300 ⇓P **P 04 55 47.6 +1.7**
BZS Buzias 35.37 300 P **P 04 55 47.5 +1.7**
BOVS Bovan 35.40 296 ⇓P **P 04 55 47.5 +1.3**
FIA1 FINESS Array S 35.97 327 P **P 04 55 51.6 +0.8**
FINES FINESS Array B 35.97 327 P **P 04 55 51.6 +0.8**
FINES FINESS Array B 35.97 327 P **P 04 55 51.1 +0.4**
comp=Z,6.1nm,0.4s,baz=112,slow=11,SNR=64
comp=Z,6.1nm,0.4s
FINES FINESS Array B 35.97 327 i P **P 04 55 51.4 +0.6**
FINES pmax pmax
comp=Z,6.0nm,0.4s
NIE Niedzica 36.31 306 P **P 04 55 54.0 +0.1**
comp=Z,6.4nm,1.0s
OJC Ojcow 36.67 307 P **P 04 55 56.7 -0.2**
comp=Z,10nm,1.1s
LANS Liptovska Anna 36.84 306 eP **P 04 56 01.1 +2.7**
LANS Liptovska Anna 36.84 306 eP **P 04 56 01.1 +2.7**
VYHS Vyhne 37.24 304 eP **P 04 56 03.6 +1.8**
VYHS Vyhne 37.24 304 eP **P 04 56 03.6 +1.8**
PDG Podgorica 37.31 294 ⇑P **P 04 56 03.3 +0.8**
HNS HongShan 37.47 74 eP **P 04 56 07.3 +3.5**
SRO Srobarova 37.60 303 eP **P 04 56 07.5 +2.7**
SRO pmax pmax
comp=Z,11nm,0.9s
SRO Srobarova 37.60 303 eP **P 04 56 07.4 +2.7**
MORC Moravsky Berou 38.11 307 eP **P 04 56 10.7 +1.5**
MORC Moravsky Berou 38.11 307 ⇓P **P 04 56 11.2 +2.0**
MORC Moravsky Berou 38.11 307 P **P 04 56 11.2 +2.0**
MODS Modra-Piesok 38.28 304 eP **P 04 56 13.1 +2.5**
MODS pmax pmax
comp=Z,10.0nm,0.8s
MODS Modra-Piesok 38.28 304 eP **P 04 56 13.1 +2.5**
KRLC Kraliky 38.61 307 eP **P 04 56 14.6 +1.2**
KRLC Kraliky 38.61 307 eP **P 04 56 14.6 +1.2**
VRAC Vranov 38.73 306 P **P 04 56 15.6 +1.2**
comp=Z,5.5nm,0.7s,baz=96,slow=9.8,SNR=7.1
comp=Z,5.5nm,0.7s
VRAC Vranov 38.73 306 eP **P 04 56 16.0 +1.7**
DPC Dobruska-Polom 38.91 307 eP **P 04 56 17.8 +1.9**
DPC Dobruska-Polom 38.91 307 eP **P 04 56 17.8 +1.9**
DPC Dobruska-Polom 38.91 307 P **P 04 56 15.3 -0.6**
CHVC Chvalec 39.08 308 eP **P 04 56 18.7 +1.4**
CHVC Chvalec 39.08 308 eP **P 04 56 18.7 +1.4**
CONA Conrad Observa 39.24 304 eP **P 04 56 20.5 +1.7**
comp=Z,6.7nm,1.0s
VADS Vadso 39.40 341 eP **P 04 56 20.4 +0.8**
ARSA Arzberg 39.51 303 i P **P 04 56 20.6 -0.3**
comp=Z,8.8nm,1.9s
TIA Tai'an 39.64 75 P **P 04 56 23.0 +0.9**
TIA pmax pmax
comp=Z,9.0nm,0.5s
SOKA Soboth 39.88 302 eP **P 04 56 25.7 +1.6**
comp=Z,11nm,1.4s
ARA0 ARCESS Array S 40.14 339 eP **P 04 56 26.4 +0.6**
ARA0 IAmb IAmb 04 56 29.0
comp=Z,1μm,3.3s
ARCES ARCESS Array B 40.14 339 P **P 04 56 26.2 +0.3**
comp=Z,3.1nm,0.4s,baz=125,slow=7.8,SNR=37
comp=Z,3.1nm,0.4s
ZVC Zvikov 40.29 306 eP **P 04 56 28.8 +1.4**
MOA Molln 40.32 304 eP **P 04 56 28.9 +1.3**
comp=Z,5.8nm,1.0s
BRG Berggiesshubel 40.43 308 eP **P 04 56 30.1 +1.7**
BRG Amp 04 56 30.6
comp=Z,4.4nm,0.7s
BRG PP **PnPn 04 58 07.0 +1.6**
BRG Amp 04 58 09.8
comp=Z,2.8nm,1.1s
BRG Berggiesshubel 40.43 308 eP **P 04 56 30.1 +1.7**
BRG 04 58 07.0
BRG pmax pmax
comp=Z,4.0nm,0.7s
BRG pmax pmax
comp=Z,3.0nm,1.1s
KTK1 Kautokeino 40.55 337 eP **P 04 56 29.7 +0.5**
CEL Celeste 40.61 289 P **P 04 56 29.6 -0.6**
comp=Z,15nm,1.5s
GERES GERESS Array B 40.64 305 P **P 04 56 31.2 +0.9**
comp=Z,1.6nm,0.6s,baz=66,slow=9.8,SNR=7.0
comp=Z,1.6nm,0.6s
KHC Kasperske Hory 40.71 306 eP **P 04 56 31.6 +0.8**
KHC Kasperske Hory 40.71 306 eP **P 04 56 31.6 +0.8**
KHC e 04 56 32.2
BIOA Bad Ischl, Aus 40.75 303 i P **P 04 56 27.9 -3.4**
comp=Z,3.6nm,0.7s
DEL Delary 40.75 317 i P **P 04 56 31.2 +0.2**
LUNU Lund 40.91 316 i P **P 04 56 33.0 +0.6**
QIZ Qiongzhong 40.95 103 P **P 04 56 33.3 +0.2**
QIZ S **S 05 02 47.6 +3.9**
QIZ pmax pmax
comp=Z,390nm,11.0s
QIZ LR LR
comp=Z,280nm,18.5s
QIZ LR LR
comp=Z,450nm,16.9s
QIZ LR LR
comp=Z,550nm,21.9s
KBA Koelnbreinsper 41.00 302 i P **P 04 56 35.1 +1.6**
comp=Z,5.6nm,0.7s
CLL Collm 41.02 309 eP **P 04 56 34.0 +0.7**
CLL Collm 41.02 309 eP **P 04 56 34.0 +0.7**
CLL ePP **PP 04 58 08.0 +0.1**
HAMF Hammerfest 41.27 340 eP **P 04 56 36.2 +1.1**
HAMF IAmb IAmb 04 56 37.9
comp=Z,41nm,1.2s
HFS Hagfors 41.37 322 P **P 04 56 36.2 +0.2**
comp=Z,10nm,0.6s,baz=99,slow=8.9,SNR=21
comp=Z,10nm,0.6s
LESA Schwarzleotal 41.42 303 i P **P 04 56 37.7 +0.9**
comp=Z,6.6nm,1.2s
FABU Falkenberg 41.44 318 i P **P 04 56 33.3 -3.4**
WTTA Wattenberg 42.15 303 eP **P 04 56 44.1 +1.3**
comp=Z,7.7nm,1.1s
TRO Tromso 42.20 337 eP **P 04 56 43.0 +0.4**
TRO IAmb IAmb 04 56 43.4
comp=Z,946nm,3.6s
NJ2 Nanjing 42.30 80 eP **P 04 56 44.1 +0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
SQTA Sankt Quirin 42.44 303 eP **P 04 56 46.0 +0.8**
comp=Z,4.2nm,0.7s
STRU Stroemstad 42.47 320 i P **P 04 56 41.9 -3.2**
MOR8 Moi Rana 42.49 331 eP **P 04 56 45.1 0.0**
MOTA Moosalm 42.50 303 eP **P 04 56 45.7 0.0**
comp=Z,5.6nm,0.8s
NC602 NORSAR Array S 42.52 323 eP **P 04 56 45.5 +0.1**
NC602 IAmb IAmb 04 56 49.5
comp=Z,328nm,2.7s
FAUS Fauske 42.56 333 eP **P 04 56 46.4 +0.8**
NC303 NORSAR Array S 42.68 324 P **P 04 56 47.3 +0.5**
NC303 IAmb IAmb 04 56 49.4
comp=Z,20nm,0.9s
RETA Reutte 42.71 303 eP **P 04 56 47.9 +0.6**
comp=Z,4.9nm,0.9s
NB2 NORSAR Subarra 42.73 323 P **P 04 56 47.1 -0.1**
comp=Z,4.2nm,0.5s,baz=100,slow=7.9
NB2 NORSAR Subarra 42.73 323 P **P 04 56 47.1 -0.1**
baz=100,slow=7.9
NOA NORSAR Array B 42.73 323 P **P 04 56 47.1 -0.1**
comp=Z,5.0nm,0.6s,baz=101,slow=8.0,SNR=22
comp=Z,5.0nm,0.6s
STEI Steigen 42.76 334 eP **P 04 56 47.8 +0.5**
STEI IAmb IAmb 04 56 50.9
comp=Z,195nm,1.9s
FETA Feichten 42.79 303 i P **P 04 56 48.5 +0.4**
comp=Z,6.8nm,1.1s
NSS Namsos 43.05 329 eP **P 04 56 49.8 +0.1**
STOK Stokkvaagen 43.09 331 eP **P 04 56 50.4 +0.4**
STOK IAmb IAmb 04 56 53.4
comp=Z,53nm,1.2s
KONS Konsvik 43.10 332 eP **P 04 56 51.4 +1.4**
DAVA Damuels 43.33 303 i P **P 04 56 52.9 +0.5**
comp=Z,10nm,0.9s
KONO Kongsberg 43.35 321 eP **P 04 56 52.7 +0.6**
DOMB Dombas 43.89 325 eP **P 04 56 57.1 +0.6**
SKAR Skarslia 44.09 323 eP **P 04 56 59.5 +1.3**
SKAR IAML 04 57 06.4
comp=Z,2.9nm,0.7s
LODK Lodwar 44.20 230 P **P 04 57 00.9 +1.3**
ZEA Zeya 44.21 47 eP **P 04 57 00.5 +1.3**
ZEA e 04 57 07.6
ZEA MLR MLR
comp=Z,400nm,15.0s
BFO Black Forest 44.24 305 i P **P 04 56 58.7 -0.8**
IPM Ipoh 44.29 128 P **P 04 56 58.8 -1.4**
PSI Prapat 44.29 132 P **P 04 57 03.7 +3.3**
PSI pmax pmax
comp=Z,24nm,0.9s
RPSI Rantau Prapat 44.38 132 P **P 04 57 03.7 +2.8**
RPSI IAmb IAmb 04 57 05.8
comp=Z,24nm,0.9s
HEH HeiHe 44.54 52 eP **P 04 57 02.1 +0.2**
HEH pmax pmax
comp=Z,16nm,1.0s
MOL Molde 44.66 325 eP **P 04 57 03.4 +0.7**
BER Bergen 45.54 322 eP **P 04 57 10.5 +0.9**
ASK Askoy 45.61 322 eP **P 04 57 11.1 +0.9**
YAK Yakutsk 45.67 36 P **P 04 57 10.7 0.0**
YAK Yakutsk 45.67 36c iP **P 04 57 10.4 -0.3**
YAK pmax pmax
comp=Z,31nm,0.8s
BNI Bardonecchia 45.89 300 P **P 04 57 13.0 +0.2**
BNI IAmb IAmb 04 57 14.6
comp=Z,12nm,1.1s
BNI Bardonecchia 45.89 300 P **P 04 57 13.0 +0.2**
BNI pmax pmax
comp=Z,12nm,1.1s
KEST Kesra 46.35 287 P **P 04 57 18.1 +1.6**
comp=Z,10nm,0.7s,baz=54,slow=4.7,SNR=15
comp=Z,10nm,0.7s
KMBO Kilima Mbogo 46.75 224 P **P 04 57 20.4 +0.4**
comp=Z,1.8nm,0.4s,baz=44,slow=10,SNR=5.7
comp=Z,1.8nm,0.4s
KMBO Kilima Mbogo 46.75 224 P **P 04 57 20.8 +0.8**
KMBO Kilima Mbogo 46.75 224 i P **P 04 57 21.0 +1.0**
KMBO pmax pmax
comp=Z,2.0nm,0.4s
TIXI Tiksi 46.91 22 P **P 04 57 20.5 +0.3**
TIXI Tiksi 46.91 22c iP **P 04 57 20.4 +0.2**
TIXI pmax pmax
comp=Z,27nm,0.8s
SPITS Spitsbergen Ar 46.92 347 P **P 04 57 21.5 +1.2**
comp=Z,5.3nm,0.7s,baz=110,slow=12,SNR=7.4
comp=Z,5.3nm,0.7s
SSB Saint Sauveur 47.32 301 P **P 04 57 25.5 +1.6**
SSB Saint Sauveur 47.32 301 P **P 04 57 25.5 +1.6**
SSB pmax pmax
comp=Z,54nm,2.0s
KIBK Kibwezi 47.33 222 P **P 04 57 24.7 +0.4**
KIBK Kibwezi 47.33 222 P **P 04 57 25.5 +1.2**
KSRS Korea Array 47.58 70 P **P 04 57 24.3 -1.6**
comp=Z,1.8nm,0.8s,baz=275,slow=6.0,SNR=5.5

comp=Z,1.8nm,0.8s
KBS Kingsbay 48.05 348 eP P 04 57 30.4 +1.3
USRK Ussuriysk Ar. 48.67 60 P P 04 57 32.5 -1.8
comp=Z,1.9nm,0.6s,baz=283,slow=11,SNR=4.5
comp=Z,1.9nm,0.6s
MBAR Mbarara 50.20 231 P P 04 57 47.1 +0.6
MBAR IAmb IAmb 04 57 48.0
comp=Z,14nm,1.1s
MBAR Mbarara 50.20 231 P P 04 57 47.7 +1.2
MBAR Mbarara 50.20 231 ⇓i P P 04 57 47.4 +0.9
MBAR pmax pmax
comp=Z,19nm,1.3s
EKA Eskdalemuir Ar 50.35 316 P P 04 57 46.9 -0.1
comp=Z,4.5nm,0.6s,baz=84,slow=8.8,SNR=34
comp=Z,4.5nm,0.6s
NOR Nord 53.34 349 i P P 04 58 08.3 -0.7
NOR IAmb IAmb 04 58 16.8
comp=Z,2.6nm,0.6s
DAG Danmarks Havn 53.98 343 i P P 04 58 13.0 -0.6
DAG IAmb IAmb 04 58 14.8
comp=Z,3.7nm,0.6s
DBG Daneborg 54.70 341 i P P 04 58 16.5 -2.4
DBG IAmb IAmb 04 58 27.1
comp=Z,236nm,2.9s
TAM Tamanrasset 54.71 274 P P 04 58 20.9 +1.0
TAM Tamanrasset 54.71 274 P P 04 58 20.9 +1.0
TAM pmax pmax
comp=Z,3.0nm,0.7s
ESBB Sonseca Array 54.95 297 IAmb IAmb 04 58 23.0
comp=Z,8.2nm,0.8s
ESDC Sonseca Array 54.95 297 P P 04 58 21.9 +0.6
ESDC Sonseca Array 54.95 297 P P 04 58 21.4 0.0
comp=Z,6.9nm,0.7s,baz=63,slow=7.3,SNR=62
comp=Z,6.9nm,0.7s
PAB San Pablo 55.28 297 P P 04 58 24.4 +0.7
PAB San Pablo 55.28 297 P P 04 58 24.4 +0.7
PAB pmax pmax
comp=Z,8.0nm,1.1s
PBRG Braganca 56.17 300 eP P 04 58 31.3 +1.3
PBRG A A 04 58 32.7
comp=Z,16nm,2.4s
MVO Moncorvo 56.60 299 eP P 04 58 34.1 +1.0
MVO A A 04 58 35.0
comp=Z,18nm,0.8s
PVRL Vila Real 57.04 300 eP P 04 58 37.6 +1.4
POLO Lamas de Olo 57.06 300 eP P 04 58 37.7 +1.3
PCAB Cabril 57.10 300 eP P 04 58 38.5 +1.9
PCAB A A 04 58 40.7
comp=Z,38nm,1.8s
PGAV Gavieira, Arco 57.17 301 eP P 04 58 38.5 +1.3
PGAV A A 04 58 39.4
comp=Z,40nm,1.2s
MTE Manteigas 57.25 299 eP P 04 58 39.2 +1.5
MTE A A 04 58 40.9
comp=Z,32nm,2.1s
PVIS Viseu 57.38 299 eP P 04 58 40.1 +1.5
PCBR Castelo Branco 57.41 298 eP P 04 58 40.3 +1.5
PCBR A A 04 58 41.3
comp=Z,18nm,1.0s
PMRV Marv??o 57.51 298 eP P 04 58 39.6 +0.1
PMRV A A 04 58 44.2
comp=Z,29nm,1.7s
PBAR Barrancos 57.74 296 eP P 04 58 42.2 +1.0
PESTR Estremoz 57.87 297 eP P 04 58 43.0 +0.9
PESTR A A 04 58 45.7
comp=Z,28nm,1.9s
COI Coimbra 57.93 299 eP P 04 58 45.1 +2.6
PCAS Casmilo, Conde 58.05 299 eP P 04 58 44.4 +1.1
MDT Midelt 58.13 289 P P 04 58 44.4 +0.3
comp=Z,2.9nm,0.8s,baz=62,slow=8.6,SNR=6.9
comp=Z,2.9nm,0.8s
PMTG Montargil 58.24 297 eP P 04 58 45.7 +1.0
PMTG A A 04 58 45.9
comp=Z,35nm,1.2s
EVO Evora 58.30 297 eP P 04 58 46.1 +1.0
EVO A A 04 58 49.5
comp=Z,13nm,1.2s
PBEJ Beja 58.40 296 eP P 04 58 46.7 +0.9
PSBE So Bento 58.48 298 eP P 04 58 47.6 +1.3
PVAQ Vaqueiros 58.54 296 eP P 04 58 47.7 +0.9
BILL Biiibino 59.90 25 i P P 04 58 56.2 +0.5
BILL i *PP pP 04 59 03.1 -1.0
BILL pmax pmax
comp=Z,7.0nm,1.1s
SUMG Summit 60.18 340 i P P 04 58 58.4 +0.3
NEEM North Greenlan 60.48 347 i P P 04 58 59.1 -0.8
NEEM IAmb IAmb 04 59 06.2
comp=Z,11nm,1.0s
EUNU Eureka 62.84 355 P P 04 59 18.1 +2.6
TORD Torodi Ar. Bea 62.87 267 P P 04 59 15.9 -0.6
TORD IAmb IAmb 04 59 16.9
comp=Z,7.0nm,0.8s
TORD Torodi Ar. Bea 62.87 267 P P 04 59 16.0 -0.6
comp=Z,11nm,0.6s,baz=52,slow=6.4,SNR=88
comp=Z,11nm,0.6s
LSZ Lusaka 63.41 223 P P 04 59 20.7 +0.6
A19K Wainwright 68.03 16 P P 04 59 48.3 -0.8
baz=319
A21K Barrow 68.09 14 P P 04 59 49.1 -0.3
baz=323
C16K Lisburne Hills 68.45 19 P P 04 59 51.1 -0.6
baz=316
B18K Kokolik River 68.50 17 P P 04 59 51.6 -0.5
baz=319
A22K Sinclair Lake 68.66 14 P P 04 59 52.9 -0.1
baz=324
C17K DeLong Mountai 68.84 18 P P 04 59 53.9 -0.3
baz=318
B20K Meade River 69.03 15 P P 04 59 55.2 -0.1
baz=323
C18K Utukok River 69.19 17 P P 04 59 56.0 -0.5
baz=320
C19K Lookout Ridge 69.21 16 P P 04 59 56.3 -0.2
baz=321
RDOG Red Dog Mine 69.23 18 P P 04 59 56.5 -0.1
baz=318
D17K Noatak River 69.45 18 P P 04 59 57.8 -0.1
baz=318
B22K Teshekpuk Lake 69.50 14 P P 04 59 58.0 -0.2
baz=326
B21K Ikpikpuk River 69.86 14 IAmb IAmb 05 00 02.3
comp=Z,14nm,0.9s
B21K Ikpikpuk River 69.86 14 P P 05 00 00.3 -0.1
baz=325
D19K Kuna River 70.03 16 IAmb IAmb 05 00 03.0
comp=Z,14nm,0.9s
D19K Kuna River 70.03 16 P P 05 00 01.2 -0.3
baz=322
D20K Etivluk River 70.18 16 P P 05 00 02.5 0.0
baz=323
C21K Knifeblade Rid 70.21 15 P P 05 00 02.4 -0.3
baz=325
E17K Hotham Inlet 70.23 18 P P 05 00 02.5 -0.3
baz=320
E18K Tukpahlearik C 70.28 18 P P 05 00 02.9 -0.2
baz=320
C23K Itkillik River 70.45 13 P P 05 00 04.2 +0.1
baz=328
F15K North Star Dit 70.52 20 P P 05 00 04.5 -0.1
baz=318
E20K Nigu River 70.65 16 P P 05 00 05.5 +0.1
baz=324
D22K Ayikyak River 70.87 14 IAmb IAmb 05 00 08.5
comp=Z,13nm,1.1s
D22K Ayikyak River 70.87 14 P P 05 00 07.0 +0.4
baz=327
F17K Baldwin Pennin 70.87 19 P P 05 00 06.5 -0.1
baz=320
C24K Franklin Bluff 70.90 13 P P 05 00 07.2 +0.4
baz=330
E21K Killik River 70.97 15 IAmb IAmb 05 00 08.1
comp=Z,8.3nm,0.8s
E21K Killik River 70.97 15 P P 05 00 06.6 -0.7
baz=326
E19K Redstone River 71.06 17 IAmb IAmb 05 00 10.0
comp=Z,6.5nm,0.8s
E19K Redstone River 71.06 17 P P 05 00 07.6 -0.2
baz=323
F18K Selawik 71.16 18 P P 05 00 07.7 -0.7
baz=321
D23K Nanushuk River 71.18 14 IAmb IAmb 05 00 10.5
comp=Z,7.5nm,0.9s
D23K Nanushuk River 71.18 14 P P 05 00 08.7 +0.2
baz=328
G15K Niukluk 71.22 21 P P 05 00 08.8 -0.1
baz=318
C26K Camden Bay 71.35 11 P P 05 00 09.5 0.0
baz=333
D24K Happy Valley 71.37 13 P P 05 00 09.6 -0.1
baz=330
G16K Koyuk River 71.39 20 P P 05 00 09.8 0.0
baz=320
F19K Shaleruckik Mo 71.43 17 P P 05 00 09.2 -0.8
baz=323
A36M Sachs Harbour 71.50 4 P P 05 00 10.5 +0.1
baz=349,SNR=20
D25K Kavik River 71.64 12 IAmb IAmb 05 00 13.5
comp=Z,9.6nm,0.9s
D25K Kavik River 71.64 12 P P 05 00 11.5 +0.1
baz=332
E22K Anaktuvuk Pass 71.67 14 IAmb IAmb 05 00 12.9
comp=Z,11nm,1.0s
E22K Anaktuvuk Pass 71.67 14 P P 05 00 11.7 +0.1
baz=328
TOLK Toolik Lake Re 71.67 13 P P 05 00 11.4 -0.1
baz=329
F20K Avaraart Lake 71.73 16 P P 05 00 11.5 -0.4
baz=324
G17K Kiwalik Mounta 71.76 19 P P 05 00 11.9 -0.2
baz=321
C27K Jago River 71.80 11 IAmb IAmb 05 00 14.7
comp=Z,10nm,0.8s
C27K Jago River 71.80 11 P P 05 00 12.1 -0.2
baz=334
DBIC Dimbokro 71.86 265 P P 05 00 13.0 -0.5
comp=Z,14nm,0.8s,baz=42,slow=8.3,SNR=19
comp=Z,14nm,0.8s
DBIC Dimbokro 71.86 265 P P 05 00 13.0 -0.5
G18K Tagagawik 71.96 18 P P 05 00 13.4 +0.1
baz=322
F21K Alatna River 72.09 16 P P 05 00 14.4 +0.3
baz=326
F22K John River 72.12 15 P P 05 00 14.3 0.0
baz=327
G19K Purcell Mounta 72.15 17 IAmb IAmb 05 00 15.6
comp=Z,12nm,0.8s
G19K Purcell Mounta 72.15 17 P P 05 00 14.1 -0.3
baz=324
E23K Chandalar 72.17 14 IAmb IAmb 05 00 29.8
comp=Z,9.6nm,1.1s
E23K Chandalar 72.17 14 P P 05 00 14.0 -0.7
baz=329
E24K Your Creek 72.37 13 P P 05 00 15.3 -0.5
baz=330
H17K Granite Mounta 72.39 19 P P 05 00 15.9 0.0
baz=322
D27M Malcolm River 72.56 10 P P 05 00 16.5 -0.4
baz=336
H18K Honhosa River 72.63 19 P P 05 00 16.7 -0.6
baz=323
G21K Allakaket 72.67 16 IAmb IAmb 05 00 32.1
comp=Z,20nm,1.6s
G21K Allakaket 72.67 16 P P 05 00 17.1 -0.4
baz=326
TSUM Tsumeb 72.68 229 P P 05 00 18.8 +0.4
G22K Bettles 72.76 15 P P 05 00 17.9 -0.2
baz=328
COLD Coldfoot 72.77 14 P P 05 00 18.0 -0.1
baz=329
LBTB Lobatse 72.78 219 P P 05 00 18.4 -0.3
LBTB IAmb IAmb 05 00 27.9
comp=Z,7.2nm,0.7s
LBTB Lobatse 72.78 219 P P 05 00 18.4 -0.3
LBTB pmax pmax
comp=Z,7.0nm,0.7s
D28M Stokes Point 72.79 9 P P 05 00 18.0 -0.1
baz=338
H19K Roundabout Mou 72.80 18 P P 05 00 18.6 +0.3
baz=324
F24K Squaw Lake 72.97 13 IAmb IAmb 05 02 11.7
comp=Z,22nm,1.9s
F24K Squaw Lake 72.97 13 P P 05 00 19.0 -0.3
baz=331
I17K Unalakleet 73.01 20 P P 05 00 19.1 -0.4
baz=321
J14K Nanvaranak Lak 73.05 22 P P 05 00 19.5 -0.3
baz=319
IMAR Indian Mountai 73.06 16 P P 05 00 20.0 +0.2
H20K Anotleneega Mo 73.21 17 P P 05 00 20.6 -0.1
baz=326
G23K Bananza Creek 73.25 15 P P 05 00 20.6 -0.4
baz=329
F25K Christian Rive 73.31 13 IAmb IAmb 05 00 23.6
comp=Z,8.0nm,0.9s
F25K Christian Rive 73.31 13 P P 05 00 21.2 -0.2
baz=333
GCSA Galena City Sc 73.33 18 P P 05 00 21.5 +0.1
baz=324
E28M Babbage River 73.35 10 IAmb IAmb 05 00 23.6
comp=Z,5.9nm,0.7s
E28M Babbage River 73.35 10 P P 05 00 21.7 +0.1
baz=338
E27K Coleen River 73.44 11 IAmb IAmb 05 00 24.2
comp=Z,8.3nm,0.9s
E27K Coleen River 73.44 11 P P 05 00 22.2 +0.1
baz=336
F26K Sheenjek River 73.47 12 P P 05 00 22.3 0.0
baz=334
J16K Anvik River 73.50 21 P P 05 00 22.6 +0.1
baz=321
H21K Melozitna Rive 73.55 16 P P 05 00 23.1 +0.3
H21K Melozitna Rive 73.55 16 P P 05 00 22.6 -0.1
baz=327
BMAR Burnt Mountain 73.64 12 P P 05 00 24.7 +1.4
G24K Hadweenzic Riv 73.76 14 IAmb IAmb 05 00 26.1
comp=Z,7.9nm,0.8s
G24K Hadweenzic Riv 73.76 14 P P 05 00 24.0 0.0
baz=331
E29M Blow River 73.78 10 IAmb IAmb 05 00 26.1
comp=Z,9.4nm,0.8s
E29M Blow River 73.78 10 P P 05 00 24.1 +0.1
baz=339
J17K VABM Dome 73.84 20 P P 05 00 24.1 -0.3
baz=322
I20K Naaghedeneel 73.88 17 P P 05 00 24.8 +0.2
baz=326
M11K Mekoryuk 73.98 25 P P 05 00 24.5 -0.7
baz=318
K15K Wolf Creek Mou 74.01 22 P P 05 00 24.9 -0.6
baz=321
H23K Yukon River 74.11 15 P P 05 00 26.4 +0.3
baz=330
C36M Paulatuk 74.18 4 P P 05 00 26.1 -0.2
baz=350,SNR=7.2
G26K Porcupine Rive 74.21 12 P P 05 00 26.9 +0.4
baz=334
F28M Old Crow 74.22 11 P P 05 00 26.6 0.0
baz=337
J19K Poorman 74.27 18 IAmb IAmb 05 00 28.1
comp=Z,6.9nm,0.8s
J19K Poorman 74.27 18 P P 05 00 26.9 0.0
baz=325
INK Inuvik 74.39 8 P P 05 00 28.0 +0.4
baz=343,SNR=19
L14K Kuka Creek 74.39 23 P P 05 00 27.9 +0.2
baz=320
J18K Innoko River 74.42 19 IAmb IAmb 05 00 29.3
comp=Z,8.6nm,0.7s
J18K Innoko River 74.42 19 P P 05 00 27.8 0.0
baz=324
H24K Noodor Dome 74.44 14 IAmb IAmb 05 00 30.0
comp=Z,8.8nm,0.8s
H24K Noodor Dome 74.44 14 P P 05 00 28.2 +0.2
baz=331
J20K Nowinta River 74.48 18 P P 05 00 28.1 -0.1
baz=326
L15K Ungalak Mounta 74.50 22 P P 05 00 27.8 -0.5
baz=321
MLY Manley 74.55 16 P P 05 00 28.2 -0.4
baz=329
K17K Iditarod 74.60 20 P P 05 00 29.0 +0.1
baz=323
G27K Doyon Strip 74.69 12 P P 05 00 29.9 +0.5
baz=336
F30M Barrier River 74.79 9 P P 05 00 30.1 +0.2
baz=341
M13K Dall Lake 74.89 23 P P 05 00 30.3 -0.3
baz=320
TTA Tatalina 75.04 19 P P 05 00 31.2 -0.3
baz=325
L17K Donlin 75.07 20 P P 05 00 31.5 -0.1
baz=323
L16K Owhat River 75.07 21 IAmb IAmb 05 00 33.5
comp=Z,12nm,0.7s
L16K Owhat River 75.07 21 P P 05 00 32.3 +0.7
baz=322,SNR=5.6
M14K Bethel 75.07 23 P P 05 00 32.0 +0.4
baz=321
G29M Pine Creek 75.15 10 IAmb IAmb 05 00 33.8
comp=Z,9.3nm,0.8s
G29M Pine Creek 75.15 10 P P 05 00 32.6 +0.5
baz=339
CHUM Lake Minchumin 75.17 17 P P 05 00 33.0 +0.8
baz=328
POKR Poker Plat Res 75.17 15 IAmb IAmb 05 00 34.1
comp=Z,18nm,0.8s
POKR Poker Plat Res 75.17 15 P P 05 00 32.4 +0.2
baz=332,SNR=6.4
K20K Telida 75.18 18 P P 05 00 32.5 +0.2
baz=326
PRP Porcupine Dome 75.18 14 IAmb IAmb 05 00 34.3
comp=Z,14nm,1.5s
PRP Porcupine Dome 75.18 14 P P 05 00 32.6 +0.2
baz=333
F31M Tsiigehtchic 75.20 8 P P 05 00 32.5 +0.3
baz=342,SNR=16
H27K Steamboat Moun 75.24 12 P P 05 00 32.9 +0.3
baz=336
NEA2 Nenana 75.29 15 IAmb IAmb 05 00 34.4
comp=Z,13nm,0.7s
NEA2 Nenana 75.29 15 P P 05 00 33.4 +0.6
baz=330
BPAW Bear Paw Mtn. 75.29 16 P P 05 00 33.4 +0.5
baz=329
COLA College 75.30 15 P P 05 00 33.1 +0.3
COLA College 75.30 15 P P 05 00 33.1 +0.3
baz=331
COLA College 75.30 15 P P 05 00 33.2 +0.3
COLA pmax pmax
comp=Z,17nm,0.6s
G30M tAoh Zraii Nji 75.33 9 IAmb IAmb 05 00 35.1
comp=Z,9.7nm,0.8s
G30M tAoh Zraii Nji 75.33 9 P P 05 00 32.9 -0.2
baz=340
L18K Granite Mounta 75.44 20 P P 05 00 33.8 0.0
baz=325
M15K Kasigluk River 75.51 22 P P 05 00 34.1 -0.1
baz=322
ILAR Eielson Array 75.58 14 P P 05 00 34.2 -0.3
comp=Z,5.3nm,0.9s,baz=326,slow=4.5,SNR=47
comp=Z,5.3nm,0.9s
CAST Castle Rocks 75.62 17 P P 05 00 34.7 0.0
baz=328,SNR=15
G31M Satah River 75.63 9 IAmb IAmb 05 00 35.7
comp=Z,8.9nm,0.8s
G31M Satah River 75.63 9 P P 05 00 34.9 +0.2
baz=342,SNR=8.2
H29M Whitestone 75.75 11 P P 05 00 35.2 -0.2
baz=339
M16K Timber Creek 75.77 21 P P 05 00 35.7 0.0
baz=323
KTH Kantishna Hill 75.77 17 IAmb IAmb 05 00 36.9
comp=Z,7.7nm,0.8s
N14K Kuskokwak Cree 75.80 23 P P 05 00 35.8 -0.1
baz=321
I27K Kandik River 75.81 12 P P 05 00 35.8 -0.1
baz=336
I26K Coal Creek Min 75.81 13 IAmb IAmb 05 00 37.5
comp=Z,9.1nm,0.9s
I26K Coal Creek Min 75.81 13 P P 05 00 35.7 -0.1
baz=335
EPYK Eagle Plains 75.84 10 IAmb IAmb 05 01 12.4
comp=Z,14nm,1.2s
EPYK Eagle Plains 75.84 10 P P 05 00 36.0 -0.1
baz=340
M17K Holitna River 75.90 21 P P 05 00 36.2 -0.2
baz=324
BOSA Boshof 75.91 218 P P 05 00 35.9 -1.1
comp=Z,2.2nm,0.5s,baz=39,slow=4.7,SNR=9.9
comp=Z,2.2nm,0.5s
L19K White Mountain 75.96 19 P P 05 00 36.5 -0.3
baz=326
L20K Farewell, AK 75.97 18 P P 05 00 36.6 -0.2
baz=327
PSA00 Pilbara Seismi 75.99 131 P P 05 00 39.5 +2.1
comp=Z,21nm,1.5s
TRF Thorofare Moun 76.01 16 P P 05 00 37.2 0.0
baz=330
J25K Salcha River, 76.02 14 IAmb IAmb 05 00 38.1
comp=Z,6.3nm,0.8s
J25K Salcha River, 76.02 14 P P 05 00 36.9 -0.2
baz=333
PPLA Purkeypile 76.03 18 P P 05 00 37.1 -0.2
baz=328
MCK McKinley 76.07 16 P P 05 00 37.3 0.0
baz=330
I28M Miner Creek 76.22 11 P P 05 00 38.1 -0.3
baz=338
N16K Nishlik Lake 76.26 22 P P 05 00 38.4 -0.1
baz=323
M18K Stony River 76.28 20 P P 05 00 38.6 +0.1
baz=325
M19K Big River Lodg 76.32 19 P P 05 00 38.5 -0.3
baz=326
RND Reindeer 76.37 16 IAmb IAmb 05 00 39.5
comp=Z,8.4nm,0.7s
O14K Tigyukauivet M 76.46 23 P P 05 00 40.0 +0.4
baz=322
J26L Joseph Creek 76.47 13 P P 05 00 40.0 +0.3
baz=335
I29M Ogilvie Camp, 76.56 11 IAmb IAmb 05 00 41.3
comp=Z,14nm,0.8s
I29M Ogilvie Camp, 76.56 11 P P 05 00 40.3 +0.2
baz=339,SNR=12
EGAK Eagle 76.64 12 P P 05 00 40.9 +0.3
baz=337
M20K Styx River 76.66 18 P P 05 00 41.0 +0.2
baz=327
K24K Donnelly Dome 76.67 14 P P 05 00 41.1 +0.3
baz=333,SNR=11
H31M Peel River 76.69 9 IAmb IAmb 05 00 42.1
comp=Z,13nm,0.7s
H31M Peel River 76.69 9 P P 05 00 41.0 +0.2
baz=342
SCRK Sand Creek 76.86 14 IAmb IAmb 05 00 43.5
comp=Z,8.8nm,0.7s
SCRK Sand Creek 76.86 14 P P 05 00 42.1 +0.2
baz=334,SNR=11
N18K Kilae Creek 76.93 20 P P 05 00 42.3 +0.1
baz=325
I30M Mount Dempster 76.97 10 IAmb IAmb 05 00 44.0
comp=Z,14nm,0.8s
I30M Mount Dempster 76.97 10 P P 05 00 43.2 +0.6
baz=340
SKT Skwentna 76.98 18 P P 05 00 42.5 0.0
baz=329,SNR=9.4
O15K Ungalikthiuk R 76.98 23 P P 05 00 42.9 +0.3
baz=323
DHY Denali Highway 76.98 15 IAmb IAmb 05 00 44.3
comp=Z,10nm,0.6s
DHY Denali Highway 76.98 15 P P 05 00 42.7 0.0
baz=332,SNR=10
K27K Chicken 77.17 13 IAmb IAmb 05 00 45.5
comp=Z,11nm,0.8s
K27K Chicken 77.17 13 P P 05 00 44.2 +0.7
baz=336
O16K Kokwok River B 77.18 22 P P 05 00 44.4 +0.8
baz=324
N19K Bonanza Creek 77.20 20 P P 05 00 44.3 +0.4
baz=326
O17K Koliganek Bris 77.33 21 P P 05 00 44.8 +0.4
baz=325
WAT6 Susitna Watana 77.34 16 P P 05 00 44.6 -0.1
baz=332
J29N Klondike Camp 77.42 11 IAmb IAmb 05 00 47.1
comp=Z,12nm,0.8s
J29N Klondike Camp 77.42 11 P P 05 00 45.8 +0.8
baz=339
N20K Mount Spurr 77.47 18 P P 05 00 45.7 +0.3
baz=328
SPCR Spurr Chakacha 77.47 18 P P 05 00 45.4 0.0
baz=328
PAX Paxson 77.48 15 P P 05 00 45.5 +0.1
baz=333,SNR=9.3
M22K Willow 77.52 17 P P 05 00 45.6 +0.2
baz=330
J30M Hart River 77.59 10 IAmb IAmb 05 00 47.8
comp=Z,8.5nm,0.8s
J30M Hart River 77.59 10 P P 05 00 46.5 +0.5
baz=341
DAWY Dawson 77.60 12 IAmb IAmb 05 00 47.5
comp=Z,14nm,0.9s
DAWY Dawson 77.60 12 P P 05 00 46.7 +0.7
baz=338,SNR=13

SUA	Susitna One	77.61	18	P	P	05 00 46.1	-0.2
	baz=329						
KNRA	Kununurra	77.62	120	P	P	05 00 44.4	-2.3
KNRA				IAmb	IAmb	05 00 59.7	
	comp=Z,26nm,1.5s						
O18K	Koktuh Hills	77.80	20	P	P	05 00 47.2	+0.1
	baz=326						
L26K	Log Cabin Wild	77.85	14	P	P	05 00 47.7	+0.3
	baz=335						
SML	Sawmill	77.89	17	P	P	05 00 47.8	+0.1
	baz=331,SNR=7.6						
PMR	Palmer	77.89	17	IAmb	IAmb	05 00 48.4	
	comp=Z,9.9nm,0.7s						
PMR	Palmer	77.89	17	P	P	05 00 48.1	+0.5
	baz=331,SNR=5.9						
P17K	Kvichak River	77.99	21	P	P	05 00 49.2	+1.1
	baz=325						
M23K	Glacier View	78.04	16	P	P	05 00 48.9	+0.4
	baz=332,SNR=8.2						
HARP	HAARP	78.06	15	P	P	05 00 49.4	+0.9
	baz=334,SNR=7.0						
SCM	Sheep Creek Mo	78.09	16	P	P	05 00 49.2	+0.4
SCM	Sheep Creek Mo	78.09	16	P	P	05 00 49.2	+0.4
	baz=332						
SCM	Sheep Creek Mo	78.09	16	P	P	05 00 49.2	+0.4
SCM				pmax	pmax		
	comp=Z,13nm,0.6s						
L27K	Beaver Creek,	78.10	13	P	P	05 00 49.3	+0.5
	baz=336						
M24K	Tolsona, Glenn	78.10	15	P	P	05 00 49.8	+0.9
	baz=333						
K29M	Barlow Dome	78.10	11	P	P	05 00 49.9	+0.9
	baz=340						
BCAR	Beaver Creek A	78.11	13	P	P	05 00 49.8	+0.9
P18K	Big Mountain,	78.18	21	P	P	05 00 49.1	-0.2
	baz=326						
RC01	Rabbit Creek A	78.19	17	P	P	05 00 49.2	0.0
	baz=330						
KNK	Knik Glacier	78.21	17	P	P	05 00 50.2	+0.8
	baz=331,SNR=6.9						
O20K	Slope Mountain	78.32	19	P	P	05 00 50.6	+0.5
	baz=328						
Q16K	King Salmon	78.36	22	P	P	05 00 51.0	+0.8
	baz=325						
M26K	Nabesna, AK	78.49	14	P	P	05 00 52.0	+1.0
	baz=335						
MAYO	Mayo, Yukon	78.58	10	P	P	05 00 52.0	+0.6
	baz=341						
L29M	L29M	78.70	12	IAmb	IAmb	05 00 54.1	
	comp=Z,12nm,0.9s						
L29M	L29M	78.70	12	P	P	05 00 53.0	+0.9
	baz=339						
KLU	Klutina	78.71	16	IAmb	IAmb	05 00 53.9	
	comp=Z,9.2nm,0.8s						
KLU	Klutina	78.71	16	P	P	05 00 52.7	+0.4
	baz=333						
PWL	Port Wells	78.72	17	P	P	05 00 52.3	+0.1
	baz=331						
M27K	Edge Creek, AK	78.74	13	IAmb	IAmb	05 00 54.6	
	comp=Z,16nm,0.8s						
M27K	Edge Creek, AK	78.74	13	P	P	05 00 53.4	+0.9
	baz=336						
Q18K	Katmai Hardscr	78.86	21	P	P	05 00 53.0	-0.2
	baz=326						
BVCY	Beaver Creek	78.88	13	P	P	05 00 54.0	+0.9
	baz=337						
N25K	Chitina, Valde	78.89	15	P	P	05 00 53.5	+0.3
	baz=334						
GLI	Glacier Island	78.99	16	P	P	05 00 54.5	+0.8
	baz=332						
M29M	Somme Creek	79.27	12	IAmb	IAmb	05 00 57.5	
	comp=Z,7.5nm,0.7s						
M29M	Somme Creek	79.27	12	P	P	05 00 56.2	+0.8
	baz=339						
MCARA	McCarthy VSAT	79.41	14	P	P	05 00 56.5	+0.5
	baz=335						
M30M	Minto, Yukon	79.41	11	P	P	05 00 57.2	+1.1
M30M	Minto, Yukon	79.41	11	P	P	05 00 56.5	+0.5
	baz=340						
BMRM	Bremner River	79.46	15	P	P	05 00 57.0	+0.7
	baz=334						
YUK3	Moose Creek	79.54	13	P	P	05 00 57.4	+0.5
	baz=338						
EYAK	Cordova Ski Ar	79.59	16	P	P	05 00 57.6	+0.7
	baz=333						
Q20K	Shuyak Island	79.64	20	P	P	05 00 57.8	+0.6
	baz=328						
CTG	Chitna Glacier	80.12	14	P	P	05 01 00.9	+0.9
	baz=337						
M31M	Drury Creek, Y	80.13	10	IAmb	IAmb	05 01 01.5	
	comp=Z,10nm,0.9s						
M31M	Drury Creek, Y	80.13	10	P	P	05 01 00.6	+0.7
	baz=342						
MMPY	Sheldon Lake,	80.14	9	P	P	05 01 01.0	+1.0
	baz=345						
FARO	Faro, Yukon	80.25	10	P	P	05 01 01.0	+0.5
	baz=343						
YUK4	Talbot Arm	80.26	12	P	P	05 01 01.3	+0.5
	baz=339						
KDAK	Kodiak Island	80.29	20	P	P	05 01 00.5	-0.2
	baz=328						
WRGLY	Wrigley	80.29	5	P	P	05 01 01.4	+0.8
	baz=351						
N30M	Aishikik Lake	80.42	12	P	P	05 01 02.1	+0.5
	baz=340						
N31M	Braeburn, Yuko	80.60	11	P	P	05 01 03.3	+0.8
	baz=341						
YUK6	Outpost Mounta	80.69	12	P	P	05 01 03.7	+0.5
	baz=339						
MESA	MESA	80.73	14	P	P	05 01 04.0	+0.6
	baz=336						
HYT	Haines Junctio	80.95	12	IAmb	IAmb	05 01 06.6	
	comp=Z,9.3nm,0.9s						
HYT	Haines Junctio	80.95	12	P	P	05 01 05.2	+0.8
	baz=340						
SCHQ	Schefferville	81.00	335	P	P	05 01 05.1	+0.4
	comp=Z,4.7nm,0.6s,baz=39,slow=4.2,SNR=7.9						
	comp=Z,4.7nm,0.6s						
PINM	Pinnacle	81.14	14	P	P	05 01 05.7	+0.3
	baz=338						
O30N	Mendenhall	81.23	11	P	P	05 01 06.4	+0.5
	baz=341						
YKA	Yellowknife Ar	81.40	1	P	P	05 01 07.0	+0.4
	comp=Z,7.4nm,0.7s,baz=352,slow=5.7,SNR=42						
	comp=Z,7.4nm,0.7s						
WHY	Whitehorse	81.53	11	P	P	05 01 07.7	+0.2
	baz=342						
PNL	Peninsula	81.69	13	P	P	05 01 08.8	+0.5
	baz=338						
P30M	Million Dollar	81.70	12	P	P	05 01 08.9	+0.5
	baz=340						
P29M	Windy Craggy	82.03	13	P	P	05 01 10.4	+0.3
	baz=340						
P33M	Teslin, Yukon	82.26	10	IAmb	IAmb	05 01 12.4	
	comp=Z,14nm,0.8s						
P33M	Teslin, Yukon	82.26	10	P	P	05 01 11.6	+0.3
	baz=344						
PLBC	Pleasant Camp	82.43	12	P	P	05 01 13.0	+0.8
	baz=341						
R33M	Jennings River	83.30	9	P	P	05 01 17.2	+0.4
	baz=345						
KOTAN	Kotaneelee Air	83.31	6	P	P	05 01 17.6	+0.9
	baz=351						
Q32M	Nakina River	83.54	10	P	P	05 01 18.5	+0.3
	baz=344						
R32K	Eaglecrest	83.86	11	P	P	05 01 20.7	+1.1
	baz=342						
DLBC	Dease Lake	84.35	9	IAmb	IAmb	05 01 23.5	
	comp=Z,6.0nm,0.8s						
DLBC	Dease Lake	84.35	9	P	P	05 01 22.8	+0.7
	baz=346						
WRA	Warramunga Arr	84.40	120	P	P	05 01 19.5	-3.3
	comp=Z,0.9nm,0.5s,baz=323,slow=5.0,SNR=20						
	comp=Z,0.9nm,0.5s						
TOAD	Toad River Com	84.48	7	P	P	05 01 23.6	+0.9
	baz=350						
S32K	Killisnoo	84.62	12	P	P	05 01 23.6	+0.3
	baz=342						
S34M	Telegraph Cree	84.71	10	P	P	05 01 24.0	+0.1
	baz=345						
T35M	Bob Quinn	85.74	10	P	P	05 01 28.7	-0.4
	baz=346						
ASAR	Alice Springs	86.59	123	P	P	05 01 31.0	-2.7
	comp=Z,1.3nm,0.6s,baz=313,slow=5.2,SNR=14						
	comp=Z,1.3nm,0.6s						
ASAR	Alice Springs	86.59	123	P	P	05 01 31.0	-2.7
FFC	Flin Flon	88.75	354	P	P	05 01 44.3	+0.7
FFC	Flin Flon	88.75	354	P	P	05 01 44.3	+0.7
FFC				pmax	pmax		
	comp=Z,22nm,1.6s						
ULM	Lac du Bonnet	92.44	349	P	P	05 01 59.7	-1.2
	comp=Z,2.9nm,0.6s,baz=32,slow=5.6,SNR=3.8						
	comp=Z,2.9nm,0.6s						
PPT2	Papeete2	142.33	70	eLR	LR	05 54 35.5	
	comp=Z,347nm,28.5s						
PPT2				eLR	LR	05 54 42.7	
	comp=Z,560nm,26.8s						
TBI	Tubuai	145.64	78	eLR	LR	05 56 10.1	
	comp=Z,2μm,28.5s						

IDC 16 04:50:29.4±4.0, 10°79S×162°96E, h0km, mb3.9/4, mbtmp4.0/5, ML3.4/1, MS4.4/1, Error ellipse: s-maj=78.0km s-min=40.5km az=66.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.71	164	Pn	Pn	04 53 17.9	-0.1
	0.3nm,0.3s,baz=336,slow=20,SNR=1.5						
	2.6nm,0.6s						
STKA	Stephens Creek	28.81	220	P	P	04 56 31.0	+1.7
	0.5nm,0.2s,baz=72,slow=20,SNR=1.6						
	0.5nm,0.2s						
WRA	Warramunga Arr	29.02	248	P	P	04 56 31.3	-0.1
	0.6nm,0.8s,baz=80,slow=9.2,SNR=3.6						
	0.6nm,0.8s						
H11S2	WAKE ISLAND Hy	29.32	7	T	T	05 26 51.0	
	baz=188,slow=76,SNR=7.3						
H11S3	WAKE ISLAND Hy	29.33	7	T	T	05 26 46.9	
	baz=188,slow=76,SNR=6.1						
H11S1	WAKE ISLAND Hy	29.34	7	T	T	05 26 47.9	
	baz=188,slow=76,SNR=4.9						
ASAR	Alice Springs	30.48	241	P	P	04 56 43.4	-1.0
	0.7nm,0.8s,baz=73,slow=9.7,SNR=8.2						
	0.7nm,0.8s						
FITZ	Fitzroy Crossi	36.80	254	LR	LR	05 13 33.4	
	comp=Z,501nm,19.0s,baz=225,slow=38						
CMAR	Chiang Mai Arr	69.50	294	P	P	05 01 40.2	-0.2
	1.2nm,0.2s,baz=126,slow=4.6,SNR=1.9						
	1.2nm,0.2s						

*CATAC **16** 04:56:06.2±0.8, 8°43N×82°96W, h21km±3km, ML3.8*
*UCR **16** 04:56:07.3±1.0, 8°53N×82°90W, h36km±3km, MW4.0,*
Fault plane solution: NP1:φs101.51000°, δ60.50000°, λ5.73000°.
*UPA **16** 04:56:08.9±2.0, 8°52N×82°86W, h20km±5km, MD3.6*

ISC 16 04:56:08.1±0.9, 8°52N±0°03×82°90W±0°03, h33km±5km, n45, σ1°916/69, 8C-12D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	Canoas	0.06	29	iP	Pb	04 56 13.1	-0.6
CDITO				iS	Sb	04 56 18.0	+0.4
CDITO				IAML		04 56 21.9	
	comp=Z,8μm,1.0s						
LPPC	Paso Canoas	0.07	78⇑	eP	Pb	04 56 13.2	-0.6
LPPC				eS	Sb	04 56 17.8	+0.2
NELY	Ciudad Neily	0.14	342⇓	eP	Pb	04 56 13.6	-0.5
NELY				eS	Sb	04 56 18.8	+0.5
MLIR3	Monte Lirio, C	0.28	16⇓	eP	Pb	04 56 15.4	-0.4
MLIR3				eS	Sn	04 56 22.7	+2.2
VITO	San Vito	0.31	348⇑	eP	Pb	04 56 15.5	-0.6
PTPM	Petroterminale	0.31	176⇑	iP	Pb	04 56 15.9	-0.1
PTPM				eS	Sn	04 56 23.7	+2.3
BRU2	Volcan	0.34	38	iP	Pb	04 56 15.8	-0.9
BRU2				iS	Sb	04 56 22.6	+0.2
BRU2				IAML		04 56 28.1	
	comp=Z,4μm,1.0s						
BRU2	Volcan	0.34	38⇓	iP	Pb	04 56 15.8	-0.9
BRU2				eS	Sn	04 56 22.9	+0.4
BRU2	Volcan	0.34	38⇓	eP	Pb	04 56 15.7	-0.9
BRU2				eS	Sb	04 56 22.6	+0.2
JIME	Puerto Jimenez	0.42	273⇓	eP	Pb	04 56 16.5	-0.9
JIME				eS	Sn	04 56 24.9	+0.6
BCO2	Palmira	0.42	62	eP	Pb	04 56 17.2	-0.4
BCO2				eS	Sn	04 56 24.9	+0.3
PTAR3	Potrerillos Ar	0.44	67⇓	eP	Pb	04 56 17.2	-0.7
PTAR3				eS	Sn	04 56 25.5	+0.5
DVD	David	0.46	100⇑	eP	Pb	04 56 17.1	-0.9
DVD				eS	Sb	04 56 24.9	0.0
LOCO3	Loma Colorada,	0.49	103⇑	iP	Pb	04 56 17.7	-0.9
LOCO3				iS	Sb	04 56 25.3	-0.5
PEDE3	Pedregal, Chir	0.49	106⇑	eP	Pb	04 56 17.5	-1.1
PEDE3				eS	Sb	04 56 24.5	-1.4
LNBQ3	Los Naranjos,	0.53	59⇓	iP	Pb	04 56 18.0	-1.3
LNBQ3				iS	Sb	04 56 26.8	-0.2
EDP2	Potrero Grande	0.56	331	eP	Pb	04 56 18.4	-1.3
PSOM3	Paja de Sombre	0.60	74⇓	eP	Pb	04 56 19.0	-1.3
PSOM3				eS	Sb	04 56 28.1	-0.6
BURE	Buenos Aires	0.78	327	eP	Pn	04 56 21.1	-1.7
CHGR2	Aguacate	0.86	61	eP	Pn	04 56 22.6	-1.3
CHGR2				eS	Sn	04 56 34.6	-0.7
OCHAL	Ojochal	0.93	308	iP	Pn	04 56 23.2	-1.7
OCHAL				iS	Sn	04 56 35.9	-1.2
OCHAL				IAML		04 56 42.6	
	comp=Z,2μm,1.0s						
CNI2	El Empalme, Bo	1.00	25⇓	eP	Pn	04 56 24.8	-1.0
CNI2				eS	Sn	04 56 39.0	+0.3
BRIBI	Bribri	1.10	3⇑	eP	Pn	04 56 27.3	+0.1
RGM0	Gandoca	1.10	15	iP	Pb	04 56 28.6	-0.1
RGM0				iS	Sb	04 56 44.6	+1.8
RGM0				IAML		04 56 46.6	
	comp=Z,2μm,1.0s						
RGM0	Gandoca	1.10	15	eP	Pn	04 56 28.0	+0.8
RGM0				eS	Sb	04 56 44.9	+2.1
BUS1	Rivas	1.32	321⇑	eP	Pn	04 56 28.9	-1.8
TURIB	Turrialba	1.58	331	eP	Pn	04 56 33.2	-0.7
VINA	Juan Vinas	1.60	329	eP	Pn	04 56 33.6	-0.6
REPA	Paraso	1.61	324	eP	Pn	04 56 33.5	-0.9
RVSTA	Santa Teresita	1.62	333	eP	Pn	04 56 34.0	-0.5
LCR2	La Lucha 2	1.63	318	iP	Pn	04 56 33.5	-1.2
LCR2				IAML		04 56 58.7	
	comp=Z,820nm,1.0s						
VTCV	VTCV, Calle Va	1.67	331	eP	Pn	04 56 34.7	-0.5
VTLA	Turrialba Volc	1.71	330	eP	Pn	04 56 35.5	-0.4
GMAL	Guarumal, Vera	1.82	114	eP	Pn	04 56 35.9	-1.2
TCS1	Tacares	2.05	318	iP	Pn	04 56 40.7	+0.4
TCS1				IAML		04 57 13.9	
	comp=Z,7μm,1.0s						
TRT2	Tortugero	2.19	338	iP	Pn	04 56 41.7	-0.4
TRT2				IAML		04 56 42.5	
	comp=Z,290nm,1.0s						
CRIS3	El Cristo, Coc	2.28	96⇓	eP	Pn	04 56 44.0	+0.6
CRIS3				eS	Sn	04 57 13.2	+2.9
CACAO	El Cacao, Vera	2.33	120	eP	Pn	04 56 45.1	+0.9
CACAO				eS	Sb	04 57 15.6	-2.5
SOCE	Pocosol	2.51	318	iP	Pn	04 56 48.4	+1.8
SOCE				IAML		04 56 50.1	
	comp=Z,2μm,1.0s						
COVE	Coope Vega, Sa	2.64	326	iP	Pn	04 56 48.6	+0.2
COVE				IAML		04 57 42.6	
	comp=Z,280nm,1.0s						
JTS	Las Juntas de	2.68	311	eP	Pn	04 56 51.5	+2.5
AZU	Azuero	2.70	105⇓	eP	Pn	04 56 50.9	+1.7
BCIP	Isla Barro Col	3.10	78	iP	Pn	04 56 54.4	-0.3
BCIP				iS	Sn	04 57 32.8	+2.2
BCIP	Isla Barro Col	3.10	78⇓	eP	Pn	04 56 54.4	-0.3
ACON	Acoyapa	4.09	327	iP	Pn	04 57 08.9	+0.5
ACON				IAML		04 57 09.6	
	comp=Z,110nm,1.0s						

*IDC **16** 05:01:04.5±0.6, 56°51S×25°15W, h0km, mb4.5/10, mbtmp4.4/11, ML4.0/1, Error ellipse: s-maj=23.0km s-min=17.7km az=57.0*
*NEIC **16** 05:01:06.2±1.4, 56°6S±0°1×25°3W±0°2, h10km±1km, mb4.8/33, Error ellipse: s-maj=21.6km s-min=16.4km az=208.0*

ISC 16 05:01:05.9±0.4, 56°55S±0°08×25°26W±0°09, h10km, n87, σ0°963/87, mb4.7/19, 5C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.79	285	Pn	Pn	05 02 45.0	-0.4
VNA1	Neumayer--Stat	15.93	159	⇑P	Pn	05 04 50.4	+0.7
	comp=Z,21nm,0.9s						
VNA3	Neumayer Olymp	16.17	162	⇑P	Pn	05 04 52.5	-0.4
	comp=Z,5.6nm,0.5s						
VNA2	Neumayer--Watz	16.33	159	⇑P	Pn	05 04 55.0	+0.2
	comp=Z,11nm,0.7s,baz=325,slow=16						
ESPZ	Base Esperanza	17.15	233		P	05 05 06.7	-0.2
ESPZ				IAmb	IAmb	05 05 17.0	
	comp=Z,162nm,1.5s						
SNAA	Sanae	17.85	157	P	Pn	05 05 13.4	-0.6
SNAA	Sanae	17.85	157	⇑P	Pn	05 05 13.9	-0.1
	comp=Z,86nm,0.5s						
SNAA	Sanae	17.85	157	P	P	05 05 14.6	-0.1
	comp=Z,0.5nm,0.3s,baz=325,slow=14,SNR=30						
	comp=Z,4.0nm,0.6s						
TROLL	Troll, Antarti	19.32	154	⇑P	Pn	05 05 32.0	+0.1
	comp=Z,0.5nm,0.1s						
EFI	East Falkland	19.72	270	P	P	05 05 35.4	+0.2
EFI				IAmb	IAmb	05 06 02.6	
	comp=Z,76nm,1.2s						
PMSA	Palmer Station	20.39	230	P	P	05 05 41.6	-0.9
PMSA				IAmb	IAmb	05 05 57.6	
	comp=Z,77nm,1.5s						
PMSA	Palmer Station	20.39	230	P	P	05 05 42.5	0.0
	comp=Z,13nm,0.8s,baz=353,slow=6.2,SNR=4.3						
	comp=Z,13nm,0.8s						
BELA	Belgrano 2	21.66	185	P	P	05 05 54.9	-1.2
BELA				IAmb	IAmb	05 05 59.6	
	comp=Z,28nm,1.0s						
ELIB	Princess Elisa	25.13	147	dPKP	P	05 06 31.0	+0.4
MG02	Cerro Sombrero	25.37	260	P	P	05 06 33.4	+0.6
TRQA	Tornquist	30.51	292	P	P	05 07 17.0	-2.0
TRQA				IAmb	IAmb	05 07 30.6	
	comp=Z,18nm,1.4s						
PLTB	Pedras Altas	31.64	310	P	P	05 07 29.2	+0.2
PLTB				IAmb	IAmb	05 07 30.8	
	comp=Z,8.8nm,0.8s						
QSPA	South Pole Qui	33.70	180	P	P	05 07 46.7	-0.1
QSPA				IAmb	IAmb	05 07 54.5	
	comp=Z,9.2nm,0.6s						
QSPA	South Pole Qui	33.70	180	P	P	05 07 47.4	+0.5
	comp=Z,5.2nm,0.5s,baz=224,slow=2.1,SNR=30						
	comp=Z,5.2nm,0.5s						
LL04	Puerto Octay	34.04	277	P	P	05 07 50.3	+0.4
ITQB	Itaqui	34.75	307	P	P	05 07 55.0	-1.1
ITQB				IAmb	IAmb	05 07 59.4	
	comp=Z,18nm,1.1s						
ITAB	Concordia	35.03	315	P	P	05 08 00.4	+1.9
CPUP	Villa Florida	37.96	309	P	P	05 08 23.2	-0.3
CPUP	Villa Florida	37.96	309	P	P	05 08 24.1	+0.6
	comp=Z,5.5nm,0.8s,baz=161,slow=7.8,SNR=12						
	comp=Z,5.5nm,0.8s						
MAW	Mawson	39.10	143	P	P	05 08 32.7	+0.1
	comp=Z,1.9nm,0.8s,baz=243,slow=10,SNR=3.4						
	comp=Z,1.9nm,0.8s						
AMBA	Amambai (Brazi	40.02	315	eP	P	05 08 41.6	+0.8
RPRD	Ribas do Rio P	41.74	318	eP	P	05 08 55.8	+0.8
AQDB	Aquidauana	42.51	315	eP	P	05 09 00.5	-0.7
BDQN	Bodoquena, MS	42.95	314	eP	P	05 09 04.7	-0.1
BDFB	Brasilia	44.35	328	P	P	05 09 16.4	+0.1
	comp=Z,1.0nm,0.6s,baz=113,slow=12,SNR=2.2						
	comp=Z,1.0nm,0.6s						
BOSA	Boshof	45.06	73	P	P	05 09 21.2	-0.7
	comp=Z,4.0nm,0.9s,baz=202,slow=9.8,SNR=6.1						
	comp=Z,4.0nm,0.9s						
ARAG	Araguaiana, MT	45.49	323	eP	P	05 09 26.9	+1.7
AF01	San Pedro de A	45.84	299	P	P	05 09 28.1	-0.2
PB15	IPOC Station P	46.26	297	P	P	05 09 32.6	+1.1
PB15				IAmb	IAmb	05 09 39.8	
	comp=Z,10nm,0.6s						
SALV	Santo Antonio	46.68	318	eP	P	05 09 35.7	+1.2
PB09	IPOC Station P	47.34	299	P	P	05 09 40.8	+0.9
BBSD	Serra de San D	47.45	311	eP	P	05 09 41.7	+1.1
PB01	IPOC Station P	48.09	299	P	P	05 09 45.6	-0.1
LBTB	Lobatse	48.14	71	P	P	05 09 46.0	-0.1
LBTB				IAmb	IAmb	05 09 46.6	
	comp=Z,5.3nm,0.9s						
PTLB	Pontes e Lacer	48.41	314	P	P	05 09 48.6	+0.6
PTLB				IAmb	IAmb	05 09 50.1	
	comp=Z,5.8nm,0.8s						
PTLB	Pontes e Lacer	48.41	314	eP	P	05 09 48.2	+0.2
PB08	IPOC Station P	48.70	300	P	P	05 09 51.2	+0.4
PB08				IAmb	IAmb	05 09 53.3	
	comp=Z,12nm,0.9s						
GO01	Chusmiza	49.13	300	P	P	05 09 54.5	+0.3
PB11	IPOC Station P	49.27	300	P	P	05 09 55.5	+0.7
PDRB	Porto dos Gac	51.00	319	eP	P	05 10 07.0	-0.8
LPAZ	La Paz	51.55	303	P	P	05 10 13.1	+0.5
LPAZ				IAmb	IAmb	05 10 14.8	
	comp=Z,15nm,0.7s						
LPAZ	La Paz	51.55	303	P	P	05 10 12.9	+0.3
	comp=Z,13nm,0.5s,baz=142,slow=5.5,SNR=49						
LPAZ				PcP	PcP	05 11 26.9	+0.3
	comp=Z,1.3nm,0.5s,baz=106,slow=4.1,SNR=0.8						
	comp=Z,13nm,0.5s						
LPAZ	La Paz	51.55	303	eP	P	05 10 13.2	+0.6
SAML	Samuel	55.93	313	P	P	05 10 43.8	-0.1
SAML	Samuel	55.93	313	eP	P	05 10 43.6	-0.4
ETMB	Extrema	56.41	309	P	P	05 10 47.9	+0.4
ETMB	Extrema	56.41	309	eP	P	05 10 47.1	-0.4
MACA	Manacapuru-AM	60.25	318	P	P	05 11 13.7	-0.5
MACA				IAmb	IAmb	05 11 30.1	
	comp=Z,9.2nm,0.7s						
MACA	Manacapuru-AM	60.25	318	eP	P	05 11 14.2	0.0
CZSB	Cruzeiro do Su	61.16	304	eP	P	05 11 20.0	-0.4
BOAV	Boa Vista	65.34	321	P	P	05 11 47.9	-0.2
BOAV				IAmb	IAmb	05 11 49.1	
	comp=Z,6.7nm,0.8s						
COHC	Cochancay	68.85	300	P	P	05 12 11.2	+0.7
OTAV	Otavalo	70.83	302	P	P	05 12 22.9	-0.3
OTAV				IAmb	IAmb	05 12 39.1	
	comp=Z,5.8nm,0.9s						
OTAV	Otavalo	70.83	302	eP	P	05 12 23.6	+0.4
TORD	Torodi Ar. Bea	72.98	28	P	P	05 12 35.4	0.0
TORD	Torodi Ar. Bea	72.98	28	P	P	05 12 35.4	0.0
	comp=Z,1.0nm,0.5s,baz=202,slow=5.7,SNR=8.3						
	comp=Z,1.0nm,0.5s						
BAUV	El Baul	74.16	316	P	P	05 12 41.8	-0.7
BSWZ	Blackbirch Sta	80.77	194	P	P	05 13 18.7	-0.5
THZ	Tophouse	80.86	194	P	P	05 13 20.3	+0.6
PPT	Papeete	92.75	232	P	P	05 14 19.4	+1.1
	comp=Z,9.5nm,0.6s,baz=226,slow=17,SNR=1.5						
	comp=Z,9.5nm,0.6s						
ASAR	Alice Springs	98.17	161	P	Pdif	05 14 43.5	+0.4
	comp=Z,0.5nm,0.8s,baz=185,slow=4.8,SNR=3.1						
	comp=Z,0.5nm,0.8s						
PZH	PanZhiHua	131.93	106	PKP	PKiKP	05 20 20.6	+0.4
BVAR	Borovoye Array	134.15	57	PKP	PKPdf	05 20 22.7	+0.4
	comp=Z,1.2nm,0.7s,baz=229,slow=1.9,SNR=4.5						
KURBB	Kurchatov Arra	136.55	64	PKP	PKPdf	05

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VNA1 Neumayer--Stat 15.92 159 ⇑P          Pn    05 06 59.3  0.0
     comp=Z,7.0nm,0.7s
VNA3 Neumayer Olymp 16.14 161 ⇑P          Pn    05 07 01.2 -0.9
     comp=Z,1.2nm,0.3s
VNA2 Neumayer--Watz 16.31 158 ⇑P          Pn    05 07 03.3 -1.0
     comp=Z,0.9nm,0.2s,baz=324,slow=16
SNAA Sanae          17.85 156             Pn    05 07 23.2 -0.4
SNAA Sanae          17.85 156 ⇑P          P     05 07 24.9 +0.6
     comp=Z,25nm,0.4s
SNAA Sanae          17.85 156             P     05 07 24.3 -0.1
     comp=Z,0.3nm,0.3s,baz=16,slow=10.0,SNR=6.8
     comp=Z,1.3nm,0.5s
TROLL Troll, Antarti 19.33 154 ⇑P         Pn    05 07 45.7 +3.9
     comp=Z,111nm,0.7s
EFI  East Falkland  19.41 271 P           Pn    05 07 43.2 +0.5
PMSA Palmer Station 20.07 231 P           Pn    05 07 53.0 +2.6
     comp=Z,11nm,0.9s,baz=113,slow=11,SNR=1.7
     comp=Z,11nm,0.9s
BELA Belgrano 2     21.50 185             P     05 08 03.1 -1.0
TRQA Tornquist      30.28 292 P           P     05 09 26.5 -0.1
TRQA                          IAmb        IAmb  05 09 54.5
     comp=Z,18nm,1.4s
PLTB Pedras Altas   31.49 311 P           P     05 09 37.5 +0.1
PLTB                          IAmb        IAmb  05 09 44.6
     comp=Z,17nm,1.3s
LL06 Loncomilla     33.53 275 P           P     05 09 55.4 +0.3
QSPA South Pole Qui 33.56 180 P           P     05 09 55.4  0.0
QSPA                          IAmb        IAmb  05 10 06.2
     comp=Z,6.6nm,0.7s
QSPA South Pole Qui 33.56 180 P           P     05 09 56.3 +1.0
     comp=Z,4.1nm,0.5s,baz=242,slow=0.6,SNR=8.8
     comp=Z,4.1nm,0.5s
ITQB Itaqui         34.59 308 P           P     05 10 03.8 -0.6
ITQB                          IAmb        IAmb  05 10 23.8
     comp=Z,14nm,1.1s
CPUP Villa Florida  37.81 310 P           P     05 10 31.9 -0.1
CPUP                          IAmb        IAmb  05 10 43.2
     comp=Z,9.3nm,1.2s
CPUP Villa Florida  37.81 310 P           P     05 10 32.2 +0.3
     comp=Z,2.3nm,0.8s,baz=143,slow=9.4,SNR=3.5
     comp=Z,2.3nm,0.8s
MT09 Talagante      38.23 287 P           P     05 10 34.2 -1.4
MT09                          IAmb        IAmb  05 10 46.8
     comp=Z,26nm,1.4s
MT02 Curacav        38.71 288 P           P     05 10 38.7 -0.8
MT02                          IAmb        IAmb  05 10 48.4
     comp=Z,31nm,1.5s
MAW  Mawson         39.18 143 P           P     05 10 42.4 -0.6
     comp=Z,1.6nm,0.8s,baz=319,slow=9.9,SNR=3.0
     comp=Z,1.6nm,0.8s
AC04 Llanos de Chal 42.70 292 P           P     05 11 12.5  0.0
AC04                          IAmb        IAmb  05 11 23.2
     comp=Z,16nm,1.1s
BDFB Brasilia       44.30 329 P           P     05 11 26.1 +0.6
     comp=Z,0.6nm,0.3s,baz=65,slow=16,SNR=1.6
     comp=Z,0.6nm,0.3s
AF01 San Pedro de A 45.64 300 P           P     05 11 37.3 +0.9
PB01 IPOC Station P 47.89 300 P           P     05 11 54.1 +0.3
PB08 IPOC Station P 48.51 301 P           P     05 11 59.2 +0.3
GO01 Chusmiza       48.93 301 P           P     05 12 02.9 +0.6
LPAZ La Paz         51.37 304 P           P     05 12 21.3 +0.3
LPAZ                          IAmb        IAmb  05 12 24.0
     comp=Z,12nm,0.9s
LPAZ La Paz         51.37 304 P           P     05 12 22.0 +1.1
     comp=Z,4.9nm,0.3s,baz=102,slow=4.9,SNR=27
     comp=Z,4.9nm,0.3s
SAML Samuel         55.80 314 P           P     05 12 52.4 -0.3
SAML                          IAmb        IAmb  05 13 21.7
     comp=Z,6.7nm,1.2s
ETMB Extrema        56.26 310 P           P     05 12 56.6 +0.6
MBAR Mbarara        71.77  61 P           P     05 14 39.1 +0.8
MBAR                          IAmb        IAmb  05 14 40.2
     comp=Z,4.5nm,1.1s
TORD Torodi Ar. Bea 73.25  28 P           P     05 14 46.2 -0.5
TORD Torodi Ar. Bea 73.25  28 P           P     05 14 44.6 -2.1
     comp=Z,0.8nm,0.8s,baz=187,slow=5.6,SNR=3.3
     comp=Z,0.8nm,0.8s
FARO Faro, Yukon    144.56 310            PKPbc 05 22 50.2 +0.7
A36M Sachs Harbour  145.16 328            PKPbc 05 22 50.8 -0.3
M30M Minto, Yukon   146.17 309            PKPbc 05 22 54.7 +0.1
L29M L29M           146.94 310            PKPbc 05 22 56.3 -0.5
ILAR Eielson Array  151.11 311 PKPbc      PKPbc 05 23 07.5 +0.2
     comp=Z,2.8nm,1.0s,baz=106,slow=2.6,SNR=5.5
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*IDC **16** 05:03:42.5±0.6, 10°.78S×163°.26E, h0km, mb4.3/13, mbtmp4.4/16, ML3.1/2, MS4.0/2, Error ellipse: s-maj=20.0km s-min=17.5km az=127.0*
*BJI **16** 05:03:44.6, 10°.70S×162°.98E, h14km, mb4.7/24, mB5.1/5, Ms4.9/7, Ms7 4.7/8*
*NEIC **16** 05:03:45.0±2.0, 10°.53S±0°.09×163°.34E±0°.10, h10km±1km, mb5.0/46, Error ellipse: s-maj=17.3km s-min=14.6km az=55.0*

ISC 16 05:03:45.3±0.5, 10°.61S±0°.06×163°.28E±0°.07, h16km, n117, σ1§24/111, mb4.9/43, MS4.7/3, 1C-1D, Bougainville-Solomon Islands region

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Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC         h m s    ISC
ALEG Aligegeo Malai      3.15 306  P     Pn          05 04 32.2 -2.0
HNR  Honiara             3.48 289  Pn    Pn          05 04 39.4 +0.5
HNR  Honiara             3.48 289  Pn    Pn          05 04 39.6 +0.7
     335nm,0.5s,baz=151,slow=7.4,SNR=10
HNR                               Sn    Sn          05 05 20.2 +0.4
     91nm,0.3s,baz=180,slow=19,SNR=7.2
HNR  Honiara             3.48 289  P     Pn          05 04 39.8 +0.9
TATA Tatamba Isabel      4.08 303  P     Pn          05 04 45.9 -1.2
VLAKA Lakatoro           6.79 144  P     Pn          05 05 26.0 +1.7
KOUNC Koumac, New Ca     9.93 175  Pn    Pn          05 06 09.2 +1.7
KOUNC Koumac, New Ca     9.93 175  P     Pn          05 06 17.1 +10
     34nm,1.2s
DZM  Mont Dzumac        11.79 165          Pn        05 06 34.8 +1.7
DZM  Mont Dzumac        11.79 165  ePn    Pn          05 06 19.7  -13
     79nm,1.4s
DZM                               eLR   LR          05 09 11.5
     2μm,24.6s
DZM  Mont Dzumac        11.79 165  Pn     Pn          05 06 30.5 -2.6
     0.2nm,0.3s,baz=307,slow=20,SNR=2.7
DZM                               Sn    Sn          05 08 41.3 -3.2
     0.4nm,0.3s,baz=335,slow=20,SNR=1.4
DZM                               LR    LR          05 10 38.1
     comp=Z,882nm,19.6s,baz=330,slow=36
     17nm,1.2s
ONTNC Ouen Toro         12.02 166  Pn     Pn          05 06 38.0 +1.9
PINNC Pines Island,     12.58 162  Pn     Pn          05 06 42.6 -1.2
PMG  Port Moresby       15.92 273  Pn     Pn          05 07 28.3 -0.6
PMG  Port Moresby       15.92 273  Pn     Pn          05 07 27.6 -1.2
     2.0nm,0.3s,baz=44,slow=7.9,SNR=1.7
     5.7nm,0.3s
TV1H Townsville Har     18.09 240  P      P           05 08 00.0 +3.6
EIDS Eidsvold           18.69 217  P      Pn          05 08 05.0 +1.6
CTA  Charters Tower     18.91 238  P      Pn          05 08 08.0 +1.8
CTAO Charters Tower     18.91 238  Pn     Pn          05 08 07.7 +1.5
CTAO Charters Tower     18.91 238  P      Pn          05 08 07.9 +1.8
MTSU Mount Surprise     19.82 246  P      Pn          05 08 18.3 +1.2
COEN Coen               19.92 258          Pn        05 08 18.0 -0.3
COEN Coen               19.92 258  P      Pn          05 08 19.1 +0.8
ARMA Armidale           22.49 207  P      P           05 08 46.4 +2.0
ARMA Armidale           22.49 207  P      P           05 08 47.6 +3.2
QLP  Quilpie            23.99 226  P      P           05 09 00.1 +0.7
QIS  Mount Isa          24.82 244  P      P           05 09 07.6 +0.5
INKA Innaminka          27.18 228  P      P           05 09 29.0 +0.7
H11S2 WAKE ISLAND Hy 29.11   7  T     T           05 40 14.6
     baz=188,slow=76,SNR=86
H11S3 WAKE ISLAND Hy 29.11   7  T     T           05 40 03.1
     baz=188,slow=76,SNR=51
H11S1 WAKE ISLAND Hy 29.13   7  T     T           05 40 12.5
     baz=188,slow=76,SNR=18
STKA Stephens Creek     29.15 220  P      P           05 09 47.3 +1.4
STKA Stephens Creek     29.15 220  P      P           05 09 43.5 -2.3
     2.2nm,0.7s,baz=44,slow=13,SNR=5.8
     2.2nm,0.7s
STKA Stephens Creek     29.15 220  P      P           05 09 46.4 +0.6
WR0  Warramunga Arr     29.20 248  P      P           05 09 45.3 -1.1
WRA  Warramunga Arr     29.38 248  P      P           05 09 46.9 -1.1
WRA  Warramunga Arr     29.38 248  P      P           05 09 46.1 -1.9
     2.2nm,0.6s,baz=81,slow=9.1,SNR=14
WRA                               S      S           05 14 37.5 -3.9
     1.2nm,1.0s,baz=76,slow=15,SNR=5.2
     2.2nm,0.6s
GUMO Guam               30.20 322  LR     LR          05 21 00.8
     comp=Z,246nm,20.5s,baz=107,slow=34
H11N1 WAKE ISLAND Hy 30.34   7  T     T           05 41 37.9
     baz=188,slow=74
H11N3 WAKE ISLAND Hy 30.35   7  T     T           05 41 36.7
     baz=188,slow=74
H11N2 WAKE ISLAND Hy 30.36   7  T     T           05 41 42.4
     baz=188
LCRK Leigh Creek        30.54 226  P      P           05 09 57.8 -0.3
AS31 Alice Springs      30.84 241  P      P           05 09 59.9 -1.1
ASAR Alice Springs      30.85 241  P      P           05 09 59.9 -1.2
     6.0nm,0.8s,baz=73,slow=9.4,SNR=40
ASAR                               S      S           05 15 00.5 -3.9
     0.8nm,0.9s,baz=67,slow=17,SNR=4.4
     6.0nm,0.8s
OOD  Oodnadatta         31.04 233  P      P           05 10 03.0 +0.3
TOO  Toolangi           31.25 208  P      P           05 10 05.6 +1.2
HTT  Hallett            31.87 221  P      P           05 10 10.6 +0.7
BBOO Buckleboo          33.40 224  P      P           05 10 23.1 -0.1
BBOO                               IAmb   IAmb        05 10 31.1
     comp=Z,41nm,1.6s
MULG Mulgathing         33.49 230  P      P           05 10 23.3 -0.8
KNRA Kununurra          33.96 258  P      P           05 10 27.9 -0.4
KNRA                               IAmb   IAmb        05 10 34.7
     comp=Z,9.8nm,0.8s
WRKA Warakurna          36.13 242  P      P           05 10 46.3 -0.8
FITZ Fitzroy Crossi     37.16 254  P      P           05 10 54.2 -1.6
FORT Forrest            38.34 233  P      P           05 11 05.3 -0.3
FORT                               IAmb   IAmb        05 11 22.7
     comp=Z,33nm,1.2s
PSA00 Pilbara Seismi    43.00 250  P      P           05 11 44.6 +0.3
MBWA Marble Bar         43.05 250  P      P           05 11 44.2 -0.5
MBWA                               IAmb   IAmb        05 11 51.4
     comp=Z,33nm,1.2s
PPT2 Papeete2           46.15 104  eLR    LR          05 25 03.6
     comp=Z,411nm,28.2s
TBI  Tubuai             46.74 112  eLR    LR          05 25 17.1
     comp=Z,1μm,26.5s
MORW Morawa             47.72 240  P      P           05 12 21.6 -0.1
NJ2  Nanjing            60.03 317  eP     P           05 13 51.8 +0.2
NJ2                                pmax   pmax
     comp=Z,9.0nm,0.5s
USRK Ussuriysk Ar.      61.50 335  P      P           05 14 02.0 +0.6
     comp=Z,4.4nm,0.9s,baz=157,slow=7.7,SNR=4.2
     comp=Z,4.4nm,0.9s
ENH  Enshi              65.75 310  P      P           05 14 29.4 -0.5
ENH                                IAmb   IAmb        05 14 30.9
     comp=Z,20nm,1.2s
HNS  HongShan           65.96 319  eP     P           05 14 31.4 +0.5
SLVN Son La             66.37 299  P      P           05 14 34.6 +0.6
SLVN                               IAmb   IAmb        05 14 35.8
     comp=Z,14nm,1.2s
GSI  Gunungsitoli       66.40 276  P      P           05 14 34.1 -0.3
LHMI Lhok Sumawe        67.88 280  P      P           05 14 42.4 -1.3
XAN  Xi'an              68.05 313  P      P           05 14 44.6 +0.2
XAN                                pP     sP          05 14 50.1 +0.2
XAN                                pmax   pmax
     comp=Z,11nm,1.1s
PHRA Phrae              68.58 295  P      P           05 14 48.3 +0.4
KMI  Kunming            68.83 302  ⇑P     P           05 14 51.5 +1.8
KMI                                pmax   pmax
     comp=Z,16nm,1.3s
XLT  XiLinHaoTe         69.12 325  eP     P           05 14 52.0 +1.1
XLT                                pmax   pmax
     comp=Z,9.0nm,0.9s
CMAR Chiang Mai Arr     69.72 294  P      P           05 14 55.7 +0.6
CMAR Chiang Mai Arr     69.72 294  P      P           05 14 56.0 +0.9
     comp=Z,2.0nm,0.4s,baz=111,slow=4.2,SNR=29
     comp=Z,2.0nm,0.4s
CHTO Chiang Mai         69.84 295  P      P           05 14 56.1 +0.3
CHTO                               IAmb   IAmb        05 14 57.1
     comp=Z,10nm,1.1s
HHC  Hu-ho-hao-te       69.95 321  eP     P           05 14 58.3 +2.2
HHC                                pmax   pmax
     comp=Z,6.0nm,0.6s
HHC                                pmax   pmax
     comp=Z,150nm,6.2s
PZH  PanZhiHua          70.20 303  P      P           05 14 58.4 +0.4
PZH                                S      S           05 24 11.1 +1.6
PZH                                pmax   pmax
     comp=Z,10.0nm,1.2s
PZH                                pmax   pmax
     comp=Z,150nm,8.8s
PZH                                LR     LR
     comp=Z,260nm,16.6s
PZH                                LR     LR
     comp=Z,230nm,18.0s
PZH                                LR     LR
     comp=Z,360nm,18.1s
LZH  Lanzhou            72.68 313  eP     P           05 15 22.4  +10
LZH                                sP     PcP         05 15 26.8 -3.4
LZH                                pmax   pmax
     comp=Z,16nm,1.0s
ULN  Ulaanbaatar        76.54 325  P      P           05 15 34.4 -0.6
ULN                                IAmb   IAmb        05 18 25.6
     comp=Z,7.9nm,0.8s
SONM Songino Array      76.90 325  P      P           05 15 35.4 -1.5
SONM                               IAmb   IAmb        05 18 29.2
     comp=Z,8.5nm,0.8s
SONM Songino Array      76.90 325  P      P           05 15 37.7 +0.7
     comp=Z,3.8nm,0.8s,baz=137,slow=6.4,SNR=10
     comp=Z,3.8nm,0.8s
GTA  Gaotai             77.02 315  eP     P           05 15 39.3 +1.4
GTA                                pP     pP          05 15 42.8 +0.4
GTA                                pmax   pmax
     comp=Z,3.0nm,1.0s
M16K Timber Creek       77.37  18  P      P           05 15 39.7 +0.5
J14K Nanvaranak Lak     77.50  15  P      P           05 15 39.2 -0.6
N17K Nushagak Hills     77.53  19  P      P           05 15 40.2 +0.1
K15K Wolf Creek Mou     77.66  16  P      P           05 15 40.8  0.0
K15K                               IAmb   IAmb        05 15 42.6
     comp=Z,24nm,1.2s
M17K Holitna River      78.12  18  P      P           05 15 43.5 +0.2
SHL  Shillong           78.18 299  P      P           05 15 44.4 -0.3
SHL                                IAmb   IAmb        05 15 46.0
     comp=Z,33nm,1.3s
BILL Bilibino           78.48   1  P      P           05 15 44.8 -0.4
BILL                               IAmb   IAmb        05 15 46.2
     comp=Z,14nm,1.0s
K17K Iditarod           78.89  17  P      P           05 15 47.9 +0.3
L18K Granite Mounta     78.98  18  P      P           05 15 48.4 +0.3
L18K                               IAmb   IAmb        05 15 50.2
     comp=Z,16nm,1.1s
QSPA South Pole Qui     79.39 180  P      P           05 15 50.0 -0.6
     comp=Z,2.4nm,1.0s,baz=16,slow=7.4,SNR=3.5
     comp=Z,2.4nm,1.0s
M19K Big River Lodg     79.46  19  P      P           05 15 51.0 +0.3
M19K                               IAmb   IAmb        05 15 52.8
     comp=Z,14nm,1.1s
G19K Purcell Mounta     81.91  15  P      P           05 16 03.6 -0.1
G19K                               IAmb   IAmb        05 16 05.5
     comp=Z,28nm,1.5s
IMAR Indian Mountai     82.67  16  P      P           05 16 07.8  0.0
E19K Redstone River     82.89  14  P      P           05 16 09.4 +0.6
E19K                               IAmb   IAmb        05 16 10.7
     comp=Z,19nm,1.2s
TABL Table Mountain     83.30  24  P      P           05 16 11.3 -0.1
H23K Yukon River        83.77  18  P      P           05 16 13.5 +0.1
H23K                               IAmb   IAmb        05 18 10.2
     comp=Z,5.8nm,0.9s
IL31                    83.89  19  P      P           05 16 12.8 -1.1
IL31                               IAmb   IAmb        05 16 16.2
     comp=Z,10nm,1.3s
ILAR Eielson Array      83.89  19  P      P           05 16 13.2 -0.8
ILAR Eielson Array      83.89  19  P      P           05 16 13.4 -0.6
     comp=Z,3.4nm,1.0s,baz=240,slow=4.2,SNR=16
     comp=Z,3.4nm,1.0s
MAW  Mawson             84.21 202  P      P           05 16 15.0 -0.7
     comp=Z,2.6nm,1.0s,baz=25,slow=4.5,SNR=4.5
     comp=Z,2.6nm,1.0s
J25K Salcha River,      84.28  20  P      P           05 16 15.7 -0.5
J25K                               IAmb   IAmb        05 16 17.6
     comp=Z,5.4nm,0.9s
SCRK Sand Creek         84.35  21  P      P           05 16 16.6  0.0
SCRK                               IAmb   IAmb        05 16 22.8
     comp=Z,7.6nm,1.2s
L27K Beaver Creek,      84.57  22  P      P           05 16 17.5 -0.1
L27K                               IAmb   IAmb        05 16 19.5
     comp=Z,17nm,1.6s
TIXI Tiksi              85.22 350  P      P           05 16 19.5 -1.0
TIXI                               IAmb   IAmb        05 16 21.3
     comp=Z,9.6nm,1.2s
WMQ  Urumqi             87.08 315  eP     P           05 16 31.0 +0.5
WMQ                                pmax   pmax
     comp=Z,29nm,0.9s
WMQ                                LR     LR
     comp=Z,520nm,24.0s
NVAR Mina Array Bea     87.61  50  P      P           05 16 34.0 +0.7
     comp=Z,1.4nm,0.9s,baz=231,slow=9.1,SNR=8.1
     comp=Z,1.4nm,0.9s
ELK  Elko               90.48  49  P      P           05 16 47.2 +0.3
     comp=Z,0.5nm,0.5s,baz=270,slow=1.0,SNR=2.7
     comp=Z,0.5nm,0.5s
MKAR Makanchi Array     91.55 317  P      P           05 16 51.1 -0.4
     comp=Z,1.7nm,0.8s,baz=91,slow=6.2,SNR=9.1
     comp=Z,1.7nm,0.8s
PDAR Pinedale Array     95.05  48  P      P           05 17 08.3 +0.4
     comp=Z,0.5nm,0.9s,baz=262,slow=4.0,SNR=3.6
     comp=Z,0.5nm,0.9s
ARCES ARCESS Array B 115.30 345    PKP    PKiKP       05 22 25.4 -0.2
     comp=Z,5.8nm,1.0s,baz=54,slow=3.1,SNR=4.1
FINES FINESS Array B 120.47 338    PKP    PKiKP       05 22 35.9  0.0
     comp=Z,4.6nm,0.9s,baz=54,slow=2.3,SNR=2.7
AKASG Malin Array Be 125.16 326    PKP    PKPdf       05 22 45.1  0.0
     comp=Z,1.2nm,0.7s,baz=64,slow=2.1,SNR=7.6
NOA  NORSAR Array B 125.63 344     PKP    PKPdf       05 22 45.5 -0.3
     comp=Z,1.4nm,0.8s,baz=39,slow=2.1,SNR=4.2
GERES GERESS Array B 134.22 332    PKP    PKPdf       05 23 02.5  0.0
     comp=Z,1.1nm,0.7s,baz=63,slow=2.6,SNR=3.7
BMRD Maredsous          136.63 340 dPKP   PKiKP       05 23 09.4 +0.8
KEST Kesra              145.58 321 PKPbc  PKPab       05 23 24.4 +0.5
     comp=Z,14nm,0.9s,baz=0.6,slow=1.5,SNR=12
ESDC Sonseca Array      148.91 341 PKPbc  PKPbc       05 23 32.5 -0.4
     comp=Z,2.1nm,0.9s,baz=19,slow=4.2,SNR=9.4
TORD Torodi Ar. Bea     161.80 280 PKP    PKPdf       05 23 45.8 -1.1
     comp=Z,0.1nm,0.3s,baz=28,slow=6.5,SNR=3.2
TORD                               PKPab  PKPab       05 24 31.3 -1.1
     comp=Z,1.0nm,1.0s,baz=45,slow=5.1,SNR=4.3
```

*IDC **16** 05:09:51.1±1.2, 56°.51S×25°.16W, h0km, mb4.1/4, mbtmp4.0/5, ML3.6/1, Error ellipse: s-maj=48.4km s-min=23.5km az=66.0*
*NEIC **16** 05:09:53.7±1.9, 56°.81S±0°.08×26°.1W±0°.2, h10km±1km, mb4.7/16, Error ellipse: s-maj=19.9km s-min=13.7km az=91.0*

ISC 16 05:09:52.6±0.8, 56°.8S±0°.1×25°.9W±0°.1, h10km, n32, σ2§07/33, mb4.6/10, 6C, South Sandwich Islands region

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Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC         h m s    ISC
HOPE Hope Point          6.51 289  Pn    Pn          05 11 27.1 -1.1
VNA1 Neumayer--Stat     15.82 158  ⇑P    Pn          05 13 36.1 +1.1
     comp=Z,1.3nm,0.3s
VNA3 Neumayer Olymp     16.03 161  ⇑P    Pn          05 13 38.4 +0.6
     comp=Z,1.7nm,0.5s
VNA3                               ⇑S    Sn          05 16 27.4 -7.8
     comp=Z,0.5nm,0.7s
VNA2 Neumayer--Watz     16.21 158  ⇑P    Pn          05 13 41.0 +0.9
     comp=Z,1.5nm,0.4s,baz=326,slow=14
SNAA Sanae              17.75 156          Pn        05 14 01.1 +1.7
SNAA Sanae              17.75 156  ⇑P     Pn          05 14 00.1 +0.6
     comp=Z,24nm,0.4s
SNAA Sanae              17.75 156  P      Pn          05 14 01.5 +2.1
     comp=Z,0.2nm,0.3s,baz=12,slow=13,SNR=20
     comp=Z,1.2nm,0.5s
TROLL Troll, Antarti    19.24 153  ⇑P     P           05 14 18.7 +2.0
     comp=Z,28nm,0.5s
PMSA Palmer Station     19.94 231  P      P           05 14 25.0 +0.8
PMSA                               IAmb   IAmb        05 14 30.2
     comp=Z,56nm,1.4s
BELA Belgrano 2         21.36 185  P      P           05 14 40.3 +0.8
GO08 Villa O'Higgin     28.99 267  P      P           05 15 51.9 -0.1
GO08                               IAmb   IAmb        05 16 24.0
     comp=Z,22nm,1.4s
TRQA Tornquist          30.27 293  P      P           05 16 02.6 -0.9
QSPA South Pole Qui     33.43 180  P      P           05 16 32.4 +1.2
QSPA South Pole Qui     33.43 180  P      P           05 16 33.6 +2.4
     comp=Z,3.1nm,0.5s,baz=22,slow=1.2,SNR=17
     comp=Z,3.1nm,0.5s
CPUP Villa Florida      37.84 310  P      P           05 17 10.0 +0.8
     comp=Z,0.9nm,0.6s,baz=122,slow=10,SNR=1.8
     comp=Z,0.9nm,0.6s
MT09 Talagante          38.21 288  P      P           05 17 11.3 -1.2
MT09                               IAmb   IAmb        05 17 28.3
     comp=Z,19nm,1.4s
VA03 San Esteban        38.77 289  P      P           05 17 12.6 -4.5
VA03                               IAmb   IAmb        05 17 16.5
     comp=Z,8.1nm,0.8s
AC05 El Transito        41.77 293  P      P           05 17 41.2 -0.8
AC05                               IAmb   IAmb        05 18 01.0
     comp=Z,23nm,1.4s
AF01 San Pedro de A     45.65 300  P      P           05 18 14.8 +1.3
PB09 IPOC Station P     47.14 300  P      P           05 18 26.7 +1.6
PB01 IPOC Station P     47.90 300  P      P           05 18 31.8 +0.9
PB08 IPOC Station P     48.52 301  P      P           05 18 36.0  0.0
PB08                               IAmb   IAmb        05 19 16.2
     comp=Z,8.7nm,1.4s
GO01 Chusmiza           48.95 301  P      P           05 18 39.6 +0.2
GO01                               IAmb   IAmb        05 18 42.2
     comp=Z,10nm,1.2s
LPAZ La Paz             51.39 304  P      P           05 18 58.6 +0.5
LPAZ                               IAmb   IAmb        05 19 01.1
     comp=Z,3.6nm,0.5s
LPAZ La Paz             51.39 304  P      P           05 18 59.7 +1.6
     comp=Z,2.4nm,0.3s,baz=105,slow=2.6,SNR=33
     comp=Z,2.4nm,0.3s
TORD Torodi Ar. Bea     73.40  28  P      P           05 21 23.3 -1.2
TORD Torodi Ar. Bea     73.40  28  P      P           05 21 21.8 -2.8
     comp=Z,0.3nm,0.7s,baz=192,slow=5.8,SNR=2.4
     comp=Z,0.3nm,0.7s
A36M Sachs Harbour      145.24 327         PKPbc       05 29 27.9 -0.4
G31M Satah River        146.70 317 PKPdf   PKPdf       05 29 32.2 +1.1
INK  Inuvik             146.84 320 PKPdf   PKPbc       05 29 34.1 +0.8
I30M Mount Dempster     146.97 314 PKPdf   PKPdf       05 29 32.7 +0.8
ILAR Eielson Array      151.15 310 PKPbc   PKPbc       05 29 45.2 +0.9
     comp=Z,0.4nm,0.7s,baz=103,slow=3.1,SNR=4.4
```

*NEIC **16** 05:10:00.1±1.9, 42°.29N±0°.06×126°.7W±0°.1, h10km±2km, mb3.9/9, ML3.1/76, Error ellipse: s-maj=16.0km s-min=10.8km az=261.0*

ISC 16 05:10:00.4±1.6, 42°.32N±0°.06×126°.7W±0°.1, h12km, n55, σ0§93/55, Off coast of Oregon

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Code Station Name        Δ°   AZ°  Phase ID          Time     Res
                                  Op    ISC         h m s    ISC
KBO  Bosley Butte        1.85  92  Pn    Pn          05 10 30.6 -1.4
KBO                               IAML               05 10 57.7
     comp=E,164nm,1.8s
KBO                               IAML               05 11 03.0
     comp=N,194nm,1.7s
KSXB Camp Six Broad      2.17 102  Pn    Pn          05 10 34.6 -1.8
J01E Myrtle Point        2.22  67        Pn          05 10 35.3 -1.6
KRMB Red Mountain        2.24 110  Pn    Pn          05 10 35.5 -1.8
K02D Willamette Mer      2.29  79  Pn    Pn          05 10 36.6 -1.4
KRPM Rodgers             2.32 119  Pn    Pn          05 10 37.6 -0.9
KRPM                               IAML               05 11 12.5
     comp=E,132nm,1.9s
KRPM                               IAML               05 11 16.3
     comp=N,118nm,2.4s
L02F Cave Junction       2.34  94        Pn          05 10 37.5 -1.2
JCC  Jacoby Creek,       2.51 126  Pn    Pn          05 10 39.9 -1.1
KHMM Horse Mountain      2.66 122  Pn    Pn          05 10 42.1 -1.1
KHMM                               IAML               05 12 14.4
     comp=E,58nm,2.1s
DBO  Dodson Butte        2.68  71        Pn          05 10 42.5 -1.0
DBO                               IAML               05 11 20.0
     comp=E,60nm,1.3s
DBO                               IAML               05 11 53.7
     comp=N,54nm,1.6s
KMPM Mount Pierce        2.72 133  Pn    Pn          05 10 43.0 -0.9
KMPM                               IAML               05 11 39.9
     comp=E,70nm,2.0s
KMPM                               IAML               05 11 43.4
     comp=N,74nm,4.8s
I02E Swisshome, OR       2.76  49  Pn    Pn          05 10 44.1 -0.3
I02E                               IAML               05 11 23.3
     comp=N,59nm,4.0s
I02E                               IAML               05 11 25.9
     comp=E,82nm,4.4s
HUMO Hull Mountain       2.80  83        Pn          05 10 44.3 -0.7
YBH  Yreka Blue Hor      3.04 100  Pn    Pn          05 10 48.4 +0.1
KMRM Mail Ridge          3.08 132  Pn    Pn          05 10 48.8 -0.1
KMRM                               IAML               05 11 55.8
     comp=N,45nm,4.1s
KMRM                               IAML               05 12 36.2
     comp=E,59nm,4.7s
L04D Klamath Falls       3.27  90        Pn          05 10 51.9 +0.3
L04D                               IAML               05 11 42.2
     comp=N,50nm,2.3s
L04D                               IAML               05 12 01.2
     comp=E,64nm,3.5s
BUCK Buck Mountain       3.31  54        Pn          05 10 51.6 -0.5
BUCK                               IAML               05 11 26.8
     comp=N,42nm,4.0s
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BUCK IAML 05 11 43.0
comp=E,45nm,3.0s
COR Corvallis 3.36 46 Pn 05 10 52.8 +0.1
COR IAML 05 11 37.9
comp=E,53nm,1.4s
COR IAML 05 11 38.1
comp=E,73nm,1.7s
I04A Tendick Farm, 3.48 63 Pn 05 10 54.2 -0.2
I04A IAML 05 11 40.0
comp=N,31nm,0.7s
I04A IAML 05 11 42.6
comp=E,42nm,1.2s
J04A Umpqua Nationa 3.51 73 Pn 05 10 55.3 +0.4
KCPM Cahto Peak 3.54 137 Pn **Pn 05 10 54.2 -1.1**
KCPM IAML 05 11 52.9
comp=N,38nm,1.8s
KCPM IAML 05 12 23.0
comp=E,54nm,4.5s
HEBO Mount Hebo 3.60 36 Pn 05 10 54.3 -1.8
O02D Mt. Diablo Mer 3.65 125 Pn **Pn 05 10 56.5 -0.2**
K04D Chiloquin, OR 3.68 84 Pn 05 10 56.0 -1.3
G03D McMinnville, O 3.82 40 Pn **Pn 05 10 57.6 -1.4**
G03D IAML 05 11 39.8
comp=N,45nm,3.6s
H04A Detroit Lake 4.06 53 Pn 05 11 02.1 -0.1
H04A IAML 05 11 32.8
comp=N,19nm,0.9s
H04A IAML 05 11 52.9
comp=E,24nm,0.5s
J05D Fort Rock, OR 4.15 75 Pn **Pn 05 11 03.1 -0.5**
J05D IAML 05 12 16.8
comp=E,27nm,4.2s
J05D IAML 05 12 54.6
comp=N,28nm,3.5s
F03A Seaside 4.27 31 Pn **Pn 05 11 03.3 -1.8**
I05D Terrebonne, OR 4.41 61 Pn 05 11 07.0 -0.2
PINE Pine Mountain 4.48 69 Pn **Pn 05 11 07.6 -0.7**
PINE IAML 05 11 49.1
comp=E,17nm,3.1s
PINE IAML 05 12 18.7
comp=N,29nm,4.5s
HOOD Mount Hood Mea 4.74 49 Pn 05 11 11.4 -0.3
HOOD IAML 05 11 46.0
comp=N,25nm,2.6s
F04A Amboy 4.76 39 Pn 05 11 11.8 0.0
F04A IAML 05 13 19.1
comp=N,20nm,4.5s
G05A Wamic 4.88 51 Pn **Pn 05 11 11.8 -1.8**
G06A Carlson Farm, 5.28 54 Pn 05 11 18.8 -0.3
G06A IAML 05 14 43.6
comp=N,15nm,4.2s
NLWA Neilton Lookou 5.46 21 Pn **Pn 05 11 22.3 +0.7**
I07A Izee 5.56 69 Pn **Pn 05 11 23.3 +0.3**
LON Longmire 5.65 37 Pn 05 11 24.8 +0.6
EMB Emerald Bay 6.04 121 Pn 05 11 30.4 +0.7
PAHR Pah Rah Range 6.13 113 Pn 05 11 32.4 +1.5
MXC Moxie City 6.27 45 Pn 05 11 33.2 +0.6
G08A Pilot Rock 6.35 59 Pn **Pn 05 11 34.3 +0.5**
LTY Liberty 6.55 39 Pn 05 11 35.8 -0.8
HAWA Hanford 6.56 49 Pn **Pn 05 11 36.6 -0.1**
YERR Yerington 6.58 118 Pn **Pn 05 11 37.9 +0.8**
BMO Blue Mountains 7.29 66 Pn **Pn 05 11 47.6 +0.9**
B08A Colville Reser 7.97 38 Pn **Pn 05 11 56.4 +0.4**
PLID Pearl Lake 8.24 67 Pn **Pn 05 12 00.3 +0.3**
PIX Pinacate 15.07 131 Pn **Pn 05 13 33.2 +0.2**
PIX IAmb IAmb 05 13 54.2
comp=Z,7.2nm,1.2s
N23A Red Feather La 15.60 88 Pn **Pn 05 13 41.1 +0.8**
N23A IAmb IAmb 05 14 06.3
comp=Z,7.5nm,1.2s
S34M Telegraph Cree 15.86 351 Pn **Pn 05 13 44.1 +0.8**
S34M IAmb IAmb 05 14 05.4
comp=Z,18nm,1.4s
ISCO Idaho Springs 16.11 92 Pn **Pn 05 13 46.5 -0.4**
ISCO IAmb IAmb 05 13 56.3
comp=Z,12nm,1.4s
ANMO Albuquerque 17.43 108 P **P 05 14 04.7 0.0**
121A Cookes Peak, D 17.89 117 P **P 05 14 09.5 -0.3**
E28A Huff 19.03 68 P **Pn 05 14 22.5 -0.3**
EPT El Paso 19.22 117 P **P 05 14 23.8 -0.5**
EPT IAmb IAmb 05 14 53.2
comp=Z,6.7nm,0.8s

*IDC **16** 05:10:31.0±2.1, 10°.87S×163°.27E, h0km, mb3.9/4, mbtmp4.0/5, ML4.3/1, Error ellipse: s-maj=45.8km s-min=27.4km az=34.0*
ISC 16 05:10:33.6±1.7, 10°.9S±0°.2×163°.1E±0°.2, h10km, n12, σ1$49/7, mb3.9/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.48**	**295**	Pn	**Pn**	**05 11 26.3**	**-1.5**
	24nm,0.3s,baz=79,slow=18,SNR=3.7						
HNR				Sn	**Sn**	**05 12 09.9**	**+0.9**
	41nm,0.3s,baz=108,slow=20,SNR=2.0						
HNR				Lg	Lg	05 12 25.2	
	31nm,0.3s,baz=172,slow=16,SNR=4.1						
	125nm,0.6s						
WRA	**Warramunga Arr**	**29.12**	**249**	P	**P**	**05 16 35.0**	**+0.1**
	0.5nm,0.5s,baz=78,slow=9.3,SNR=7.1						
	0.5nm,0.5s						
H11S2	**WAKE ISLAND Hy**	**29.46**	**7**	T	T	05 46 55.1	
	baz=188,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**29.46**	**7**	T	T	05 47 00.6	
	baz=188,slow=76,SNR=8.3						
H11S1	**WAKE ISLAND Hy**	**29.48**	**7**	T	T	05 46 53.8	
	baz=188,slow=76,SNR=8.1						
ASAR	**Alice Springs**	**30.56**	**242**	P	**P**	**05 16 48.0**	**+0.3**
	1.1nm,0.8s,baz=72,slow=9.4,SNR=8.3						
	1.1nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**30.69**	**7**	T	T	05 48 29.8	
	baz=188,slow=76,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**30.70**	**7**	T	T	05 48 32.9	
	baz=188,slow=76,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**30.71**	**7**	T	T	05 48 32.2	
	baz=188,slow=76,SNR=5.0						
NJ2	**Nanjing**	**60.17**	**317**	*e*P	**P**	**05 20 43.6**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
CMAR	**Chiang Mai Arr**	**69.73**	**294**	P	**P**	**05 21 44.7**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=109,slow=4.4,SNR=7.9						
	comp=Z,0.8nm,0.3s						
MKAR	**Makanchi Array**	**91.70**	**317**	P	**P**	**05 23 39.9**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=90,slow=3.3,SNR=2.1						
	comp=Z,0.4nm,0.7s						

*IDC **16** 05:19:19.3±0.9, 42°.29N×126°.77W, h0km, mb3.8/12, mbtmp3.7/20, ML3.3/8, MS4.0/5, Error ellipse: s-maj=19.8km s-min=9.9km az=36.0*
*NEIC **16** 05:19:19.4±1.4, 42°.26N±0°.07×126°.9W±0°.1, h10km±2km, mb4.1/19, ML3.4/78, Error ellipse: s-maj=16.3km s-min=10.3km az=250.0*
ISC 16 05:19:20.9±0.7, 42°.30N±0°.07×126°.86W±0°.08, h14km, n123, σ1$51/117, mb4.0/17, 3C, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.95**	**92**	Pn	**Pn**	**05 19 51.7**	**-2.1**
KBO				IAML		05 20 18.5	
	comp=E,274nm,1.8s						
KBO				IAML		05 20 20.0	
	comp=N,297nm,1.8s						
KSXB	**Camp Six Broad**	**2.27**	**101**		**Pn**	**05 19 55.9**	**-2.2**
J01E	**Myrtle Point**	**2.32**	**67**		**Pn**	**05 19 56.8**	**-1.9**
KRMB	**Red Mountain**	**2.33**	**109**		**Pn**	**05 19 57.5**	**-1.5**
K02D	**Willamette Mer**	**2.39**	**79**		**Pn**	**05 19 58.0**	**-1.8**
KRPM	**Rodgers**	**2.41**	**117**	Pn	**Pn**	**05 19 58.0**	**-1.9**
KRPM				IAML		05 21 06.4	
	comp=N,218nm,2.0s						
KRPM				IAML		05 21 12.9	
	comp=E,179nm,3.7s						
L02F	**Cave Junction**	**2.45**	**93**		**Pn**	**05 19 58.9**	**-1.5**
JCC	**Jacoby Creek,**	**2.59**	**124**	Pn	**Pn**	**05 20 00.6**	**-1.8**
KHMM	**Horse Mountain**	**2.74**	**120**	Pn	**Pn**	**05 20 03.8**	**-0.8**
KHMM				IAML		05 21 42.4	
	comp=N,103nm,3.7s						
KHMM				IAML		05 21 49.1	
	comp=E,109nm,3.9s						
DBO	**Dodson Butte**	**2.79**	**72**	Pn	**Pn**	**05 20 03.7**	**-1.4**
DBO				IAML		05 20 41.4	
	comp=E,125nm,1.7s						
KMPM	**Mount Pierce**	**2.79**	**132**	Pn	**Pn**	**05 20 03.5**	**-1.7**
KMPM				IAML		05 20 43.1	
	comp=N,94nm,2.4s						
KMPM				IAML		05 20 44.4	
	comp=E,94nm,2.3s						
I02E	**Swisshome, OR**	**2.84**	**50**	Pn	**Pn**	**05 20 05.0**	**-0.8**
I02E				IAML		05 20 40.9	
	comp=N,102nm,1.9s						
I02E				IAML		05 20 41.3	
	comp=E,101nm,2.3s						
HUMO	**Hull Mountain**	**2.90**	**83**	Pn	**Pn**	**05 20 05.6**	**-1.1**
YBH	**Yreka Blue Hor**	**3.14**	**99**	Pn	**Pn**	**05 20 10.0**	**-0.1**
YBH	**Yreka Blue Hor**	**3.14**	**99**	Pn	**Pn**	**05 20 09.5**	**-0.5**
	comp=E,3.5nm,0.3s,baz=265,slow=11,SNR=54						
YBH				Sn	**Sn**	**05 20 48.7**	**+1.3**
	comp=E,1.2nm,0.3s,baz=347,slow=23,SNR=2.1						
YBH				LR	LR	05 21 13.5	
	comp=E,2μm,20.1s,baz=264,slow=37						
	comp=E,25nm,0.6s						
KMRM	**Mail Ridge**	**3.15**	**130**	Pn	**Pn**	**05 20 09.6**	**-0.7**
KMRM				IAML		05 20 52.9	
	comp=N,77nm,2.2s						
KMRM				IAML		05 21 40.9	
	comp=E,68nm,3.7s						
L04D	**Klamath Falls**	**3.38**	**90**	Pn	**Pn**	**05 20 13.1**	**-0.3**
L04D				IAML		05 21 04.9	
	comp=N,85nm,2.2s						
L04D				IAML		05 21 08.3	
	comp=E,76nm,2.0s						
BUCK	**Buck Mountain**	**3.40**	**55**	Pn	**Pn**	**05 20 12.7**	**-0.9**
BUCK				IAML		05 22 04.7	
	comp=E,80nm,3.3s						
BUCK				IAML		05 22 27.3	
	comp=N,87nm,4.3s						
COR	**Corvallis**	**3.45**	**47**	Pn	**Pn**	**05 20 13.5**	**-0.7**
COR				IAML		05 21 01.1	
	comp=N,74nm,2.2s						
COR				IAML		05 21 13.8	
	comp=N,62nm,2.5s						
I04A	**Tendick Farm,**	**3.58**	**64**	Pn	**Pn**	**05 20 15.3**	**-0.8**
I04A				IAML		05 21 00.5	
	comp=N,62nm,1.5s						
I04A				IAML		05 21 03.9	
	comp=E,66nm,1.1s						
KCPM	**Cahto Peak**	**3.60**	**135**	Pn	**Pn**	**05 20 15.6**	**-0.8**
KCPM				IAML		05 21 04.4	
	comp=E,75nm,2.0s						
KCPM				IAML		05 21 07.0	
	comp=N,47nm,2.7s						
J04A	**Umpqua Nationa**	**3.62**	**73**	Pn	**Pn**	**05 20 16.7**	**0.0**
HEBO	**Mount Hebo**	**3.68**	**37**	Pn	**Pn**	**05 20 16.9**	**-0.5**
O02D	**Mt. Diablo Mer**	**3.73**	**123**	Pn	**Pn**	**05 20 16.9**	**-1.2**
K04D	**Chiloquin, OR**	**3.79**	**83**	Pn	**Pn**	**05 20 18.7**	**-0.3**
G03D	**McMinnville, O**	**3.90**	**41**	Pn	**Pn**	**05 20 19.6**	**-0.9**
G03D				IAML		05 20 56.1	
	comp=E,52nm,1.8s						
G03D				IAML		05 22 37.2	
	comp=N,52nm,4.3s						
H04A	**Detroit Lake**	**4.15**	**53**	Pn	**Pn**	**05 20 23.2**	**-0.6**
H04A				IAML		05 23 10.9	
	comp=E,60nm,1.0s						
H04A				IAML		05 23 13.5	
	comp=N,44nm,0.7s						
J05D	**Fort Rock, OR**	**4.25**	**75**	Pn	**Pn**	**05 20 25.1**	**-0.2**
J05D				IAML		05 22 43.6	
	comp=N,46nm,4.7s						
J05D				IAML		05 23 12.2	
	comp=E,52nm,3.4s						
HATC	**Hat Creek Radi**	**4.31**	**108**	Pn	**Pn**	**05 20 26.9**	**+0.7**
F03A	**Seaside**	**4.33**	**32**	Pn	**Pn**	**05 20 25.4**	**-1.0**
HOPS	**Hopland Field**	**4.38**	**138**	Pn	**Pn**	**05 20 24.9**	**-2.1**
HOPS				IAML		05 21 49.5	
	comp=N,47nm,4.0s						
HOPS				IAML		05 23 07.3	
	comp=E,47nm,4.3s						
I05D	**Terrebonne, OR**	**4.51**	**61**	Pn	**Pn**	**05 20 28.0**	**-0.8**
I05D				IAML		05 23 32.7	
	comp=N,50nm,4.9s						
PINE	**Pine Mountain**	**4.58**	**69**	Pn	**Pn**	**05 20 29.1**	**-0.8**
PINE				IAML		05 23 35.5	
	comp=N,34nm,3.7s						
PINE				IAML		05 23 38.8	
	comp=E,35nm,1.2s						
HOOD	**Mount Hood Mea**	**4.83**	**50**	Pn	**Pn**	**05 20 33.1**	**-0.2**
F04A	**Amboy**	**4.83**	**40**	Pn	**Pn**	**05 20 33.3**	**+0.1**
G05A	**Wamic**	**4.97**	**52**	Pn	**Pn**	**05 20 35.4**	**+0.2**
G06A	**Carlson Farm,**	**5.37**	**55**	Pn	**Pn**	**05 20 39.9**	**-0.8**
AFDM	**Forest Hills D**	**5.59**	**125**	Pn	**Pn**	**05 20 43.7**	**0.0**
I07A	**Izee**	**5.66**	**69**	Pn	**Pn**	**05 20 44.4**	**-0.3**
LON	**Longmire**	**5.72**	**37**		**Pn**	**05 20 45.3**	**-0.3**
D05A	**Enumclaw**	**5.99**	**34**	Pn	**Pn**	**05 20 49.9**	**+0.8**
GNW	**Green Mountain**	**5.99**	**27**	Pn	**Pn**	**05 20 48.7**	**-0.4**
WVOR	**Wild Horse Val**	**6.09**	**86**	Pn	**Pn**	**05 20 49.0**	**-1.7**
F07A	**Phinny Hill Vi**	**6.15**	**52**		**Pn**	**05 20 50.9**	**-0.3**
J08A	**Circle Bar Ran**	**6.25**	**77**	Pn	**Pn**	**05 20 51.5**	**-1.3**
MXC	**Moxie City**	**6.35**	**45**		**Pn**	**05 20 53.4**	**-0.7**
PNTR	**Pine Nut**	**6.38**	**118**	Pn	**Pn**	**05 20 54.6**	**-0.1**
G08A	**Pilot Rock**	**6.45**	**60**	Pn	**Pn**	**05 20 55.3**	**-0.2**
CMB	**Columbia Colle**	**6.54**	**129**	Pn	**Pn**	**05 20 56.4**	**-0.2**
LTY	**Liberty**	**6.63**	**40**		**Pn**	**05 20 57.4**	**-0.6**
HAWA	**Hanford**	**6.65**	**50**	Pn	**Pn**	**05 20 57.9**	**-0.3**
YERR	**Yerington**	**6.67**	**117**		**Pn**	**05 20 58.2**	**-0.5**
CLRS	**Cowichan Lake**	**6.79**	**15**	Pn	**Pn**	**05 20 59.4**	**-0.7**
E08A	**Dider Farm, El**	**6.98**	**50**	Pn	**Pn**	**05 21 02.4**	**-0.3**
BMO	**Blue Mountains**	**7.39**	**67**	Pn	**Pn**	**05 21 08.2**	**-0.2**
NVAR	**Mina Array Bea**	**7.59**	**118**	Pn	**Pn**	**05 21 12.0**	**+0.7**
	comp=E,0.2nm,0.3s,baz=293,slow=13,SNR=17						
NVAR				LR	LR	05 24 23.4	
	comp=E,1μm,19.1s,baz=281,slow=40						
	comp=E,1.7nm,0.7s						
OMMB	**Old Mammoth Mi**	**7.64**	**125**	Pn	**Pn**	**05 21 11.0**	**-1.0**
F10A	**Beach Ranch, E**	**7.84**	**59**	Pn	**Pn**	**05 21 14.5**	**0.0**
B08A	**Colville Reser**	**8.04**	**39**	Pn	**Pn**	**05 21 18.0**	**+0.6**
PLID	**Pearl Lake**	**8.34**	**67**	Pn	**Pn**	**05 21 21.7**	**+0.1**
MZP	**Montezuma Peak**	**8.60**	**119**	Pn	**Pn**	**05 21 24.8**	**-0.4**
ELK	**Elko**	**8.85**	**96**	Pn	**Pn**	**05 21 29.4**	**+0.8**
	comp=E,0.1nm,0.3s,baz=258,slow=12,SNR=2.2						
	comp=E,0.6nm,0.5s						
NEW	**Newport**	**9.09**	**46**	Pn	**Pn**	**05 21 33.6**	**+2.0**
	comp=E,0.1nm,0.3s,baz=136,slow=5.8,SNR=2.0						
NEW				LR	LR	05 24 47.8	
	comp=E,515nm,21.5s,baz=284,slow=36						
	comp=E,1.5nm,0.8s						
HLID	**Hailey**	**9.21**	**78**	Pn	**Pn**	**05 21 32.5**	**-1.0**
R11B	**Troy Canyon, C**	**9.47**	**111**		**Pn**	**05 21 35.0**	**-2.0**
BBB	**Bella Bella**	**9.92**	**356**	Pn	**Pn**	**05 21 43.6**	**+0.6**
	comp=E,0.2nm,0.3s,baz=195,slow=14,SNR=1.2						
	comp=E,16nm,1.1s						
MSO	**Missoula**	**10.27**	**59**	Pn	**Pn**	**05 21 47.7**	**-0.2**
HVU	**Hansel Valley**	**10.49**	**88**		**Pn**	**05 21 51.4**	**+0.4**
DLMT	**Dillon**	**10.75**	**69**		**Pn**	**05 21 53.9**	**-0.6**
HWUT	**Hardware Ranch**	**11.41**	**88**	Pn	**Pn**	**05 22 02.5**	**-1.1**
BOZ	**Bozeman (W)**	**11.46**	**68**		**Pn**	**05 22 03.9**	**-0.3**
TCUT	**Toone Canyon**	**11.61**	**91**	Pn	**Pn**	**05 22 04.6**	**-1.8**
MVU	**Marysvale**	**11.79**	**104**	Pn	**Pn**	**05 22 09.3**	**+0.5**
MSU	**Marysvale**	**11.81**	**104**	Pn	**Pn**	**05 22 08.9**	**-0.2**
PFO	**Pinyon Flats O**	**11.93**	**133**	Pn	**Pn**	**05 22 11.8**	**+1.1**
	comp=E,0.3nm,0.3s,baz=68,slow=19,SNR=4.4						
	comp=E,0.8nm,0.3s						
PDAR	**Pinedale Array**	**12.77**	**82**	Pn	**Pn**	**05 22 24.0**	**+1.8**
	baz=283,slow=12,SNR=2.0						
PDAR				LR	LR	05 27 30.7	
	comp=E,783nm,19.6s,baz=286,slow=39						
	comp=E,0.3nm,0.7s						
MVCO	**Mesa Verde**	**15.00**	**104**	Pn	**Pn**	**05 22 51.4**	**-1.3**
MVCO				IAmb	IAmb	05 23 14.2	
	comp=Z,8.4nm,1.1s						
K22A	**Casper**	**15.01**	**82**	Pn	**Pn**	**05 22 52.2**	**-0.5**
K22A				IAmb	IAmb	05 23 14.9	
	comp=Z,13nm,1.3s						
X18A	**Snowflake**	**15.34**	**115**	Pn	**Pn**	**05 22 55.7**	**-1.4**
X18A				IAmb	IAmb	05 23 08.1	
	comp=Z,22nm,1.5s						
ISCO	**Idaho Springs**	**16.22**	**92**	Pn	**Pn**	**05 23 07.5**	**-1.1**
DLBC	**Dease Lake**	**16.28**	**354**	Pn	**P**	**05 23 13.5**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=179,slow=8.4,SNR=4.0						
DLBC				LR	LR	05 28 36.6	
	comp=Z,569nm,18.6s,baz=40,slow=34						
S31K	**Pelican**	**16.76**	**342**	Pn	**Pn**	**05 23 14.5**	**-0.5**
S31K				IAmb	IAmb	05 23 18.7	
	comp=Z,17nm,1.2s						
SDCO	**Great Sand Dun**	**16.97**	**98**	P	**Pn**	**05 23 18.3**	**+0.2**
DGMT	**Dagmar**	**17.04**	**61**	P	**P**	**05 23 19.9**	**-0.6**
ANMO	**Albuquerque**	**17.53**	**108**	P	**Pn**	**05 23 24.4**	**-0.6**
ANMO	**Albuquerque**	**17.53**	**108**	P	**P**	**05 23 26.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=24,slow=12,SNR=2.1						
	comp=Z,0.6nm,0.7s						
T25A	**Trinidad**	**18.00**	**99**	P	**P**	**05 23 31.6**	**+0.3**
T25A				IAmb	IAmb	05 23 41.8	
	comp=Z,19nm,1.4s						
P33M	**Teslin, Yukon**	**18.30**	**350**	P	**Pn**	**05 23 32.5**	**-1.8**
E28A	**Huff**	**19.13**	**68**	P	**P**	**05 23 42.2**	**-1.2**
K30B	**Basset**	**20.07**	**80**	P	**P**	**05 23 53.6**	**-0.1**
FFC	**Flin Flon**	**20.51**	**44**	P	**P**	**05 23 58.8**	**+0.4**
FFC				IAmb	IAmb	05 24 06.4	
	comp=Z,24nm,1.1s						
WAX	**Waxell Ridge**	**20.63**	**337**	P	**P**	**05 23 57.4**	**-2.3**
WAX				IAmb	IAmb	05 24 11.6	
	comp=Z,21nm,1.2s						
WRGLY	**Wrigley**	**21.06**	**4**	P	**P**	**05 24 04.0**	**-0.2**
YKA	**Yellowknife Ar**	**21.49**	**16**	P	**P**	**05 24 07.6**	**-1.3**
YKA	**Yellowknife Ar**	**21.49**	**16**	P	**P**	**05 24 09.1**	**+0.2**
	comp=Z,2.7nm,0.9s,baz=206,slow=11,SNR=8.4						
	comp=Z,2.7nm,0.9s						
POST	**Post**	**22.02**	**106**	P	**P**	**05 24 12.9**	**-2.0**
POST				IAmb	IAmb	05 24 22.4	
	comp=Z,6.5nm,1.0s						
BCAR	**Beaver Creek A**	**22.57**	**342**	P	**P**	**05 24 20.6**	**+0.1**
ULM	**Lac du Bonnet**	**22.71**	**59**	P	**P**	**05 24 22.8**	**+0.7**
	comp=Z,3.1nm,0.9s,baz=331,slow=9.2,SNR=2.0						
	comp=Z,3.1nm,0.9s						
TXAR	**Lajitas Array**	**22.74**	**117**	P	**P**	**05 24 25.1**	**+2.4**
	comp=Z,0.9nm,0.8s,baz=289,slow=8.2,SNR=9.8						
SCRK	**Sand Creek**	**23.86**	**341**	P	**P**	**05 24 32.6**	**-1.0**
SCRK				IAmb	IAmb	05 24 47.1	
	comp=Z,7.5nm,1.5s						
ILAR	**Eielson Array**	**25.23**	**340**	P	**P**	**05 24 46.1**	**0.0**
	comp=Z,0.3nm,0.7s,baz=158,slow=11,SNR=2.2						
	comp=Z,0.3nm,0.7s						
H11N3	**WAKE ISLAND Hy**	**59.57**	**270**	T	T	06 33 46.8	
	baz=56						
H11N2	**WAKE ISLAND Hy**	**59.57**	**270**	T	T	06 33 46.8	
	baz=56						
H11N1	**WAKE ISLAND Hy**	**59.58**	**270**	T	T	06 33 46.8	
	baz=56						
H11S1	**WAKE ISLAND Hy**	**60.47**	**269**	T	T	06 35 00.9	
	baz=50,slow=75,SNR=28						
H11S2	**WAKE ISLAND Hy**	**60.48**	**269**	T	T	06 34 59.6	
	baz=50,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hy**	**60.49**	**269**	T	T	06 35 01.7	
	baz=50,slow=75,SNR=19						
NOA	**NORSAR Array B**	**71.51**	**20**	P	**P**	**05 30 40.8**	**0.0**
	comp=Z,0.7nm,0.8s,baz=330,slow=5.9,SNR=3.3						
	comp=Z,0.7nm,0.8s						
FINES	**FINESS Array B**	**74.30**	**13**	P	**P**	**05 30 57.4**	**+0.1**
	comp=Z,2.6nm,1.0s,baz=337,slow=5.7,SNR=1.4						
	comp=Z,2.6nm,1.0s						
SONM	**Songino Array**	**78.67**	**327**	P	**P**	**05 31 23.9**	**+1.4**
	comp=Z,0.7nm,0.9s,baz=76,slow=6.3,SNR=4.0						
	comp=Z,0.7nm,0.9s						
LPAZ	**La Paz**	**79.46**	**123**	P	**P**	**05 31 29.1**	**+1.4**
	comp=Z,1.2nm,0.9s,baz=344,slow=6.8,SNR=4.3						
	comp=Z,1.2nm,0.9s						
ZALV	**Zalesovo Beam**	**80.35**	**342**	P	**P**	**05 31 32.4**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=353,slow=6.3,SNR=5.4						
	comp=Z,0.7nm,0.4s						
HHC	**Hu-ho-hao-te**	**81.83**	**319**	*e*P	**P**	**05 31 38.4**	**-1.2**
HHC				sP	PcP	05 31 45.3	0.0
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ESDC	**Sonseca Array**	**83.37**	**41**	P	**P**	**05 31 49.4**	**+1.8**
	comp=Z,0.7nm,0.9s,baz=330,slow=5.7,SNR=3.0						
	comp=Z,0.7nm,0.9s						
BVAR	**Borovoye Array**	**83.89**	**350**	P	**P**	**05 31 51.3**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=358,slow=3.6,SNR=6.0						
	comp=Z,1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**84.83**	**344**	P	**P**	**05 31 55.0**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=19,slow=4.7,SNR=9.6						
	comp=Z,1.5nm,0.9s						
AKASG	**Malin Array Be**	**85.05**	**15**	P	**P**	**05 31 56.6**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=348,slow=4.6,SNR=5.9						
	comp=Z,0.4nm,0.4s						
PZH	**PanZhiHua**	**98.16**	**317**	P	**P**	**05 32 56.9**	**-0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
QSPA	**South Pole Qui**	**132.11**	**180**	PKhKP	PKPpre	05 38 29.1	
	comp=Z,1.9nm,1.0s,baz=160,slow=3.5,SNR=5.4						
VNA3	**Neumayer Olymp**	**138.09**	**154**	⇑P	**Pdif**	**05 35 47.4**	**-6.6**
	comp=Z,2.2nm,1.0s						
VNA2	**Neumayer-Watz**	**138.87**	**154**	⇑P	**Pdif**	**05 35 53.5**	**-3.9**
	comp=Z,0.6nm,0.6s,baz=294,slow=14						
SNAA	**Sanae**	**140.12**	**156**	⇑P	**Pdif**	**05 36 11.7**	**+8.7**
	comp=Z,22nm,1.0s						
MAW	**Mawson**	**154.10**	**189**	PKPab	**PKPab**	**05 39 32.2**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=185,slow=5.3,SNR=4.7						

IDC 16 05:20:32.1±3.3, 54°.27N×87°.23E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=30.6km s-min=19.0km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**258**	I	I	05 28 29.6	
	baz=78,slow=346,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.46**	**258**	Pg	Pn	05 20 58.2	-1.4
	1.8nm,0.3s,baz=78,slow=15,SNR=32						
ZALV				Lg	Lg	05 21 18.7	
	2.7nm,0.3s,baz=72,slow=30,SNR=8.9						
KURBB	**Kurchatov Arra**	**6.45**	**239**	Pn	Pn	05 22 08.8	+0.6
	0.2nm,0.3s,baz=52,slow=14,SNR=4.0						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**8.12**	**205**	Pn	Pn	05 22 32.4	+1.2
	0.1nm,0.3s,baz=25,slow=14,SNR=6.8						
	0.2nm,0.3s						

*IDC **16** 05:21:55.6±0.8, 42°.36N×126°.72W, h0km, mb4.0/12, mbtmp3.9/19, ML3.1/7, MS4.1/3, Error ellipse: s-maj=20.9km s-min=10.0km az=32.0*
*NEIC **16** 05:21:57.8±2.4, 42°.38N±0°.06×126°.7W±0°.1, h10km±1km, mb4.5/37, ML3.4/76, Error ellipse: s-maj=14.6km s-min=7.3km az=241.0*
ISC 16 05:21:57.7±0.6, 42°.38N±0°.07×126°.72W±0°.07, h12km, n166, σ1$15/157, mb4.4/27, MS4.5/3, Off coast of Oregon

| Code | Station Name | Δ° | AZ° | Phase ID Op | IS

BUCK IAML 05 23 55.9
comp=N,125nm,2.6s
L04D Klamath Falls 3.28 91 Pn **Pn 05 22 48.0 -1.1**
L04D IAML 05 23 41.1
comp=N,114nm,2.1s
L04D IAML 05 23 55.9
comp=E,136nm,2.0s
COR Corvallis 3.33 47 **Pn 05 22 47.9 -1.6**
COR IAML 05 23 36.4
comp=E,101nm,1.4s
COR IAML 05 24 40.4
comp=E,78nm,2.3s
I04A Tendick Farm, 3.46 64 Pn **Pn 05 22 51.5 +0.1**
I04A IAML 05 23 40.2
comp=E,89nm,1.0s
I04A IAML 05 23 51.7
comp=N,78nm,1.8s
HEBO Mount Hebo 3.56 36 **Pn 05 22 51.7 -1.0**
HEBO IAML 05 23 43.6
comp=N,100nm,2.4s
KCPM Cahto Peak 3.59 138 Pn **Pn 05 22 52.1 -1.1**
KCPM IAML 05 23 39.0
comp=E,98nm,2.2s
O02D Mt. Diablo Mer 3.69 125 Pn **Pn 05 22 54.7 +0.1**
O02D IAML 05 23 43.0
comp=N,59nm,4.2s
G03D McMinnville, O 3.78 40 Pn **Pn 05 22 55.0 -0.8**
G03D IAML 05 23 25.9
comp=E,67nm,2.7s
H04A Detroit Lake 4.02 54 **Pn 05 22 59.2 +0.1**
H04A IAML 05 23 28.6
comp=N,48nm,0.9s
H04A IAML 05 23 55.3
comp=E,44nm,1.5s
J05D Fort Rock, OR 4.13 75 Pn **Pn 05 22 58.7 -2.1**
J05D IAML 05 24 58.4
comp=N,68nm,4.8s
F03A Seaside 4.22 32 **Pn 05 23 00.9 -0.8**
HATC Hat Creek Radi 4.24 110 Pn **Pn 05 23 01.5 -0.6**
HOPS Hopland Field 4.37 139 Pn **Pn 05 23 03.6 -0.2**
HOPS IAML 05 25 35.8
comp=E,53nm,3.5s
I05D Terrebonne, OR 4.39 62 **Pn 05 23 03.7 -0.4**
PINE Pine Mountain 4.46 70 Pn **Pn 05 23 04.2 -1.1**
PINE IAML 05 23 48.5
comp=E,49nm,4.1s
PINE IAML 05 24 39.2
comp=N,46nm,4.9s
HOOD Mount Hood Mea 4.70 50 **Pn 05 23 08.8 +0.2**
F04A Amboy 4.71 40 **Pn 05 23 08.6 +0.1**
F04A IAML 05 24 18.8
comp=N,39nm,3.0s
G05A Wamic 4.85 52 **Pn 05 23 10.1 -0.4**
WISH Wishkah 5.18 23 Pn **Pn 05 23 14.4 -0.5**
G06A Carlson Farm, 5.25 55 **Pn 05 23 15.5 -0.5**
G06A IAML 05 24 00.5
comp=E,30nm,4.9s
G06A IAML 05 24 34.2
comp=N,27nm,3.7s
I07A Izee 5.54 70 **Pn 05 23 20.1 0.0**
LON Longmire 5.60 37 **Pn 05 23 20.0 -0.8**
D05A Enumclaw 5.87 33 Pn **Pn 05 23 25.2 +0.8**
GNW Green Mountain 5.88 27 Pn **Pn 05 23 24.3 -0.2**
MPK Martis Peak 5.94 119 **Pn 05 23 25.7 +0.1**
WVOR Wild Horse Val 5.99 87 **Pn 05 23 25.0 -1.2**
EMB Emerald Bay 6.07 122 **Pn 05 23 27.5 +0.1**
J08A Circle Bar Ran 6.14 78 Pn **Pn 05 23 27.7 -0.6**
PAHR Pah Rah Range 6.16 113 **Pn 05 23 28.1 -0.4**
MXC Moxie City 6.22 45 **Pn 05 23 29.6 +0.2**
G08A Pilot Rock 6.32 60 **Pn 05 23 31.1 +0.3**
PNTR Pine Nut 6.33 119 Pn **Pn 05 23 30.4 -0.5**
E07A Sunnyside 6.45 47 Pn **Pn 05 23 32.5 +0.1**
LTY Liberty 6.50 39 Pn **Pn 05 23 33.9 +0.6**
CMB Columbia Colle 6.50 130 Pn **Pn 05 23 33.7 +0.5**
HAWA Hanford 6.53 50 **Pn 05 23 34.3 +0.8**
YERR Yerington 6.62 118 **Pn 05 23 34.8 -0.1**
PGC Sidney 6.68 19 Pn **Pn 05 23 34.8 -0.8**
CLRS Cowichan Lake 6.69 15 Pn **Pn 05 23 34.8 -0.9**
WAKR Walker 6.77 122 Pn **Pn 05 23 36.7 -0.3**
E08A Dider Farm, El 6.85 51 **Pn 05 23 37.1 -0.8**
BMO Blue Mountains 7.27 67 Pn **Pn 05 23 42.7 -1.0**
KVN Kaiserville 7.34 114 Pn **Pn 05 23 45.0 +0.2**
LHV Little Huntoon 7.51 121 Pn **Pn 05 23 46.8 -0.1**
NVAR Mina Array Bea 7.54 119 Pn **Pn 05 23 48.0 +0.5**
comp=N,0.2nm,0.3s,baz=305,slow=12,SNR=7.7
comp=N,1.4nm,0.7s
F10A Beach Ranch, E 7.71 59 **Pn 05 23 50.5 +0.7**
MFID Camas Ranch 8.07 79 Pn **Pn 05 23 55.7 +1.0**
ELK Elko 8.76 97 Pn **Pn 05 24 06.0 +1.6**
baz=320,slow=7.9,SNR=2.3
comp=N,1.1nm,0.9s
NEW Newport 8.96 46 Pn **Pn 05 24 08.7 +1.8**
comp=N,0.1nm,0.3s,baz=152,slow=21,SNR=2.0
comp=N,6.5nm,1.1s
R11B Troy Canyon, C 9.40 112 Pn **Pn 05 24 15.1 +2.0**
MSO Missoula 10.14 60 **Pn 05 24 24.0 +0.9**
MCMT McKenzie Canyo 10.36 72 Pn **Pn 05 24 29.8 +3.6**
HVU Hansel Valley 10.39 89 **Pn 05 24 29.3 +2.7**
SHPR Sheep Range 10.69 119 **Pn 05 24 31.3 +0.6**
DUG Dugway, Tooele 10.69 97 Pn **Pn 05 24 32.3 +1.6**
SPUT South Promonto 10.70 91 **Pn 05 24 32.0 +1.1**
LRM Limekiln Ridge 10.82 67 Pn **Pn 05 24 32.3 -0.3**
OVMT Ovando 10.83 60 Pn **Pn 05 24 34.0 +1.5**
HWUT Hardware Ranch 11.31 89 Pn **Pn 05 24 39.4 +0.2**
QLMT Earthquake Lak 11.36 72 Pn **Pn 05 24 39.7 -0.2**
V12A Nelson 11.36 122 Pn **Pn 05 24 40.3 +0.4**
HRY Holter Researc 11.47 63 Pn **Pn 05 24 42.0 +0.7**
TCRU Three Creeks R 11.50 104 Pn **Pn 05 24 41.7 -0.2**
YHL Hebgen Lake 11.53 72 Pn **Pn 05 24 43.8 +1.4**
FXWY Fox Creek 11.56 78 Pn **Pn 05 24 44.3 +1.6**
JLU Jordanelle 11.59 94 Pn **Pn 05 24 44.2 +1.1**
LOHW Long Hollow 11.87 79 Pn **Pn 05 24 48.9 +2.0**
YNR Norris Junctio 11.88 73 Pn **Pn 05 24 49.6 +2.6**
PFO Pinyon Flats O 11.91 134 Pn **Pn 05 24 49.3 +1.9**
comp=N,0.1nm,0.3s,baz=267,slow=8.2,SNR=1.7
comp=N,0.6nm,0.5s
H17A Grant Village 11.92 75 Pn **Pn 05 24 50.6 +3.0**
KNB Kanab 11.97 112 Pn **Pn 05 24 50.2 +2.0**
PKCU Pink Cliffs 12.11 109 Pn **Pn 05 24 51.4 +1.1**
Q16A Castle Valley 12.30 101 Pn **Pn 05 24 53.5 +0.7**
BW06 Boulder Array 12.66 82 Pn **Pn 05 24 57.1 -0.6**
PD31 Pinedale Array 12.66 82 Pn **Pn 05 24 57.1 -0.6**
PDAR Pinedale Array 12.66 82 Pn **Pn 05 24 57.5 -0.2**
PDAR Pinedale Array 12.66 82 Pn **Pn 05 25 01.5 +3.8**
baz=275,slow=13,SNR=4.4
comp=N,1.7nm,1.0s
SRU San Rafael Swe 12.71 99 Pn **Pn 05 24 58.5 +0.1**
GCMT Greycliff 12.73 69 Pn **Pn 05 24 58.9 +0.4**
RDMU Red Mountain 12.99 92 **Pn 05 25 01.2 -1.0**
Y14A Wickenburg 13.68 124 Pn **Pn 05 25 09.1 -2.4**
WUAZ Wupatki 13.76 115 **Pn 05 25 12.3 -0.4**
K22A Casper 14.90 82 Pn **Pn 05 25 28.8 +0.5**
MVCO Mesa Verde 14.92 104 Pn **Pn 05 25 28.4 -0.3**
LAO LASA Array 15.23 67 Pn **Pn 05 25 32.3 -0.2**
LAO IAmb IAmb 05 25 47.6
comp=Z,28nm,1.1s
N23A Red Feather La 15.61 88 Pn **Pn 05 25 37.1 -0.5**
N23A IAmb IAmb 05 26 10.2
comp=Z,37nm,1.5s
S34M Telegraph Cree 15.80 351 Pn **Pn 05 25 39.7 -0.1**
S32K Killisnoo 15.91 344 Pn **Pn 05 25 42.1 +0.9**
ISCO Idaho Springs 16.12 92 Pn **Pn 05 25 43.4 -0.9**
DLBC Dease Lake 16.21 354 Pn **P 05 25 50.0 +1.8**
comp=Z,0.1nm,0.3s,baz=161,slow=12,SNR=7.6
Q24A Divide 16.71 95 P **P 05 25 53.0 -1.2**
BRIGG Briggsdale 16.88 89 **P 05 25 54.9 -1.0**
SDCO Great Sand Dun 16.88 99 P **Pn 05 25 53.8 -0.2**
SDCO IAmb IAmb 05 26 03.8
comp=Z,41nm,1.5s
DGMT Dagmar 16.92 61 P **P 05 25 55.5 -0.6**
ANMO Albuquerque 17.45 108 Pn **Pn 05 26 00.4 -0.7**
comp=Z,0.1nm,0.3s,baz=265,slow=19,SNR=3.1
ANMO LR LR 05 33 22.7
comp=Z,1μm,19.0s,baz=170,slow=39
comp=Z,1.2nm,1.0s
SBM South Baldy 17.48 112 P **Pn 05 26 00.4 -1.2**
KSCO Kaye Shedlock' 18.56 92 P **P 05 26 14.0 -0.5**
KSCO IAmb IAmb 05 26 24.6
comp=Z,42nm,1.1s
N30M Aishikik Lake 20.10 345 P Pn 05 26 32.7 -0.2
N30M IAmb IAmb 05 26 46.8
comp=Z,24nm,1.4s
M31M Drury Creek, Y 20.38 350 P Pn 05 26 34.9 -1.1

FFC Flin Flon 20.39 44 P **P 05 26 33.3 -0.8**
GRNC Granite Creek 20.52 339 P Pn 05 26 37.1 -0.9
CBKS Cedar Bluff 20.76 91 P **P 05 26 37.4 -1.0**
AMTX Amarillo 20.90 103 P **P 05 26 38.4 -1.5**
AMTX IAmb IAmb 05 26 49.3
comp=Z,34nm,1.4s
M30M Minto, Yukon 21.09 347 P **P 05 26 42.6 +0.9**
M29M Somme Creek 21.27 345 P **P 05 26 46.0 +2.3**
YKA Yellowknife Ar 21.39 15 P **P 05 26 44.8 0.0**
YKA Yellowknife Ar 21.39 15 P **P 05 26 43.4 -1.5**
comp=Z,5.5nm,0.8s,baz=206,slow=11,SNR=11
comp=Z,5.5nm,0.8s
ODSA Odessa 21.73 110 P **P 05 26 49.6 +0.8**
ODSA IAmb IAmb 05 26 57.4
comp=Z,24nm,1.3s
M27K Edge Creek, AK 21.94 341 P **P 05 26 50.8 -0.1**
M27K IAmb IAmb 05 27 08.2
comp=Z,17nm,1.3s
BCAR Beaver Creek A 22.53 342 P **P 05 26 57.9 +0.8**
L27K Beaver Creek, 22.53 342 P **P 05 26 58.2 +1.0**
L27K IAmb IAmb 05 27 06.2
comp=Z,24nm,1.4s
ULM Lac du Bonnet 22.59 59 P **P 05 26 57.8 -0.1**
comp=Z,2.7nm,0.8s,baz=269,slow=13,SNR=2.1
comp=Z,2.7nm,0.8s
TXAR Lajitas Array 22.69 118 P **P 05 26 56.7 -2.4**
comp=Z,0.3nm,0.7s,baz=309,slow=7.9,SNR=3.0
J30M Hart River 22.91 349 P **P 05 27 01.0 -0.2**
DAWY Dawson 22.92 346 P **P 05 27 02.9 +1.6**
DAWY IAmb IAmb 05 27 10.1
comp=Z,22nm,1.4s
N35A Tabor 23.22 83 P **P 05 27 04.3 -0.2**
SPU Mount Spurr 24.23 330 P **P 05 27 15.8 +1.8**
SPU IAmb IAmb 05 27 22.1
comp=Z,13nm,1.4s
BRDY Brady 24.69 108 P **P 05 27 18.3 -0.2**
BRDY IAmb IAmb 05 27 26.9
comp=Z,9.7nm,1.1s
I26K Coal Creek Min 24.77 344 P **P 05 27 20.1 +1.1**
I26K IAmb IAmb 05 27 28.6
comp=Z,19nm,1.4s
M20K Styx River 25.07 330 P **P 05 27 23.4 +1.6**
M20K IAmb IAmb 05 27 48.9
comp=Z,19nm,1.4s
ILAR Eielson Array 25.20 340 P **P 05 27 21.6 -1.2**
ILAR Eielson Array 25.20 340 P **P 05 27 23.6 +0.8**
comp=Z,1.0nm,0.8s,baz=155,slow=8.8,SNR=8.4
ILAR PcP **PcP 05 30 56.2 +0.2**
comp=Z,0.7nm,0.7s,baz=176,slow=1.7,SNR=4.5
comp=Z,1.0nm,0.8s
G29M Pine Creek 25.36 350 P **P 05 27 25.8 +1.5**
G27K Doyon Strip 25.82 346 P **P 05 27 29.6 +1.1**
G24K Hadweenzic Riv 26.91 342 P **P 05 27 39.7 +1.5**
G24K IAmb IAmb 05 27 46.5
comp=Z,19nm,1.5s
HKT Hockley 27.69 107 P **P 05 27 46.6 +1.0**
HKT IAmb IAmb 05 27 56.0
comp=Z,15nm,1.4s
SEY Seymchan 49.40 323 P **P 05 30 46.3 -0.5**
comp=Z,1.1nm,0.4s,baz=56,slow=7.3,SNR=2.4
comp=Z,1.1nm,0.4s
PETK Petropavlovsk- 49.68 310 P **P 05 30 48.8 -0.3**
comp=Z,6.8nm,1.0s,baz=68,slow=7.6,SNR=4.1
comp=Z,6.8nm,1.0s
H11N3 WAKE ISLAND Hy 59.67 270 T T 06 36 26.5
baz=51,slow=75,SNR=172
H11N2 WAKE ISLAND Hy 59.67 270 T T 06 36 29.0
baz=51,slow=75,SNR=22
H11N1 WAKE ISLAND Hy 59.68 270 T T 06 36 30.1
baz=51,slow=75,SNR=98
OTAV Otavalo 60.27 121 P **P 05 32 07.3 +0.7**
H11S1 WAKE ISLAND Hy 60.57 269 T T 06 37 39.7
baz=50,slow=75,SNR=19
H11S2 WAKE ISLAND Hy 60.58 269 T T 06 37 37.8
baz=50,slow=75,SNR=23
H11S3 WAKE ISLAND Hy 60.59 269 T T 06 37 40.9
baz=50,slow=75,SNR=15
NOA NORSAR Array B 71.40 20 P **P 05 33 17.9 +0.6**
comp=Z,1.6nm,0.9s,baz=318,slow=5.0,SNR=2.0
comp=Z,1.6nm,0.9s
ETMB Extrema 75.77 118 P **P 05 33 43.6 0.0**
SONM Songino Array 78.66 327 P **P 05 33 59.8 +0.3**
comp=Z,1.8nm,1.0s,baz=42,slow=6.8,SNR=6.2
comp=Z,1.8nm,1.0s
ZALV Zalesovo Beam 80.31 342 P **P 05 34 07.4 -0.8**
comp=Z,0.8nm,0.6s,baz=42,slow=4.7,SNR=4.5
comp=Z,0.8nm,0.6s
HHC Hu-ho-hao-te 81.83 319 *eP* **P 05 34 16.0 -0.7**
HHC sP pwP 05 34 23.3 -0.1
HHC PP **PP 05 37 24.8 +1.5**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,96nm,5.5s
HHC LR LR
comp=N,470nm,17.5s
HHC LR LR
comp=Z,780nm,18.1s
TIA Tai'an 82.48 313 P **P 05 34 19.3 -0.8**
TIA pmax pmax
comp=Z,9.0nm,1.5s
ESDC Sonseca Array 83.25 41 P **P 05 34 24.0 0.0**
comp=Z,0.2nm,0.4s,baz=321,slow=4.9,SNR=2.5
comp=Z,0.2nm,0.4s
BVAR Borovoye Array 83.83 350 P **P 05 34 27.3 +0.5**
comp=Z,1.8nm,0.7s,baz=356,slow=4.3,SNR=7.9
comp=Z,1.8nm,0.7s
NJ2 Nanjing 84.58 309 *eP* **P 05 34 31.3 +0.4**
NJ2 pmax pmax
comp=Z,14nm,0.6s
KURBB Kurchatov Arra 84.79 344 P **P 05 34 31.2 -0.4**
comp=Z,1.6nm,0.7s,baz=13,slow=4.9,SNR=8.4
comp=Z,1.6nm,0.7s
AKASG Malin Array Be 84.95 15 P **P 05 34 32.1 -0.4**
comp=Z,0.5nm,0.5s,baz=345,slow=4.5,SNR=7.2
comp=Z,0.5nm,0.5s
AAK Ala-Archa 93.24 344 LR LR 06 20 08.1
comp=Z,159nm,18.0s,baz=348,slow=38
RCBR Riachuelo 94.49 94 LR LR 06 19 40.5
comp=Z,25nm,19.4s,baz=234,slow=37
PZH PanZhiHua 98.18 317 P Pdif 05 35 35.3 +0.3
PZH pmax pmax
comp=Z,10.0nm,0.5s
QSPA South Pole Qui 132.18 180 PKP **PKPdf 05 41 10.4 +0.1**
comp=Z,2.4nm,1.1s,baz=146,slow=4.7,SNR=4.2
MAW Mawson 154.19 188 PKPbc **PKPbc 05 41 55.7 -0.5**
comp=Z,1.1nm,0.7s,baz=72,slow=2.5,SNR=2.8

*IDC **16** 05:25:23.3±0.6,56.°54S×25.°28W,h0km,mb4.5/10, mbtmp4.5/11,ML4.2/1,MS4.4/3,Error ellipse: s-maj=22.4km s-min=17.0km az=61.0*
*NEIC **16** 05:25:24.9±1.2,56.°75±0.°1×25.°4W±0.°1,h10km±1km, mb5.1/36,Error ellipse: s-maj=20.5km s-min=8.4km az=195.0*
ISC 16 05:25:24.9±0.3,56.°68S±0.°07×25.°39W±0.°07,h10km,n214, σ0.978/201,mb5.0/25,MS4.6/3,7C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.75**	**286**		**Pn**	**05 27 04.6**	**+0.7**
VNA1	**Neumayer--Stat**	**15.84**	**159**	⇑P	**Pn**	**05 29 09.3**	**+1.8**
	comp=Z,23nm,0.7s						
VNA1	**Neumayer--Stat**	**15.84**	**159**	⇑P	Pn	05 28 59.6	-7.9
VNA3	**Neumayer Olymp**	**16.07**	**162**	⇑P	**Pn**	**05 29 11.2**	**+0.7**
	comp=Z,5.1nm,0.3s						
VNA2	**Neumayer--Watz**	**16.23**	**159**	⇑P	**Pn**	**05 29 13.8**	**+1.2**
	comp=Z,6.9nm,0.3s,baz=329,slow=15						
VNA2	**Neumayer--Watz**	**16.23**	**159**	⇑P	Pn	05 28 58.3	-14
	baz=19,slow=11						
SNAA	**Sanae**	**17.76**	**157**	P	**Pn**	**05 29 32.2**	**+0.3**
SNAA	**Sanae**	**17.76**	**157**	⇑P	**P**	**05 29 33.7**	**+1.0**
	comp=Z,104nm,0.4s						
SNAA	**Sanae**	**17.76**	**157**	P	**P**	**05 29 33.5**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=324,slow=13,SNR=41						
SNAA				S	**Sn**	**05 32 46.1**	**-3.3**
	comp=Z,0.6nm,0.6s,baz=339,slow=11,SNR=1.2						
	comp=Z,7.8nm,0.7s						
TROLL	**Troll, Antarti**	**19.23**	**154**	⇑P	**Pn**	**05 29 50.9**	**+1.0**
	comp=Z,115nm,0.5s						
EFI	**East Falkland**	**19.65**	**271**	P	**P**	**05 29 53.4**	**-0.1**
EFI				IAmb	IAmb	05 29 59.9	
	comp=Z,164nm,1.6s						
PMSA	**Palmer Station**	**20.26**	**231**	P	**P**	**05 29 59.8**	**-0.2**
PMSA	**Palmer Station**	**20.26**	**231**	P	Pn	05 30 00.9	-1.0
	comp=Z,26nm,1.0s,baz=94,slow=8.7,SNR=4.1						
	comp=Z,26nm,1.0s						
PMSA	**Palmer Station**	**20.26**	**231**	*eP*	Pn	05 30 02.1	+0.2
TRIS	**Tristan da Cun**	**21.49**	**30**	P	**P**	**05 30 14.3**	**+0.8**
BELA	**Belgrano 2**	**21.53**	**185**	P	**P**	**05 30 12.6**	**-1.0**
BELA				IAmb	IAmb	05 30 18.6	
	comp=Z,80nm,1.2s						
SMAI	**San Martin Ant**	**21.95**	**222**	P	**P**	**05 30 17.8**	**-0.4**
MG01	**Puerto William**	**23.54**	**256**	P	**P**	**05 30 35.0**	**+0.1**
TRQA	**Tornquist**	**30.49**	**292**	P	**P**	**05 31 36.5**	**-1.3**
TRQA				IAmb	IAmb	05 32 00.6	
	comp=Z,49nm,1.8s						
PLTB	**Pedras Altas**	**31.67**	**310**	P	**P**	**05 31 47.8**	**-0.4**
PLTB				IAmb	IAmb	05 31 49.2	
	comp=Z,13nm,0.8s						
PLCA	**Paso Flores**	**33.10**	**279**	P	**P**	**05 31 59.1**	**-1.6**
QSPA	**South Pole Qui**	**33.57**	**180**	P	**P**	**05 32 05.6**	**+0.9**
	comp=Z,9.6nm,0.6s,baz=207,slow=2.0,SNR=70						
	comp=Z,9.6nm,0.6s						
ITQB	**Itaqui**	**34.78**	**308**	P	**P**	**05 32 14.4**	**-0.9**
ITQB	**Itaqui**	**34.78**	**308**	*eP*	**P**	**05 32 15.0**	**-0.3**
ITAB	**Concordia**	**35.07**	**316**	P	**P**	**05 32 17.5**	**-0.4**
ITAB				IAmb	IAmb	05 32 20.2	
	comp=Z,40nm,1.4s						
ITAB	**Concordia**	**35.07**	**316**	*eP*	**P**	**05 32 19.1**	**+1.2**
LR04	**Corral**	**35.26**	**278**	P	**P**	**05 32 20.0**	**+0.6**
PTGB	**Pitanga**	**37.33**	**318**	*eP*	**P**	**05 32 37.6**	**+0.4**
CPUP	**Villa Florida**	**37.99**	**310**	P	**P**	**05 32 42.3**	**-0.4**
CPUP	**Villa Florida**	**37.99**	**310**	P	**P**	**05 32 42.5**	**-0.2**
	comp=Z,7.9nm,0.9s,baz=148,slow=7.1,SNR=11						
	comp=Z,7.9nm,0.9s						
MAW	**Mawson**	**39.04**	**143**	P	**P**	**05 32 52.5**	**+1.4**
	comp=Z,4.7nm,1.1s,baz=228,slow=5.7,SNR=6.2						
	comp=Z,4.7nm,1.1s						
AMBA	**Amambai (Brazi**	**40.06**	**315**	*eP*	**P**	**05 33 00.0**	**-0.1**
CO01	**Juntas del Tor**	**40.98**	**291**	P	**P**	**05 33 07.5**	**-0.5**
RPRD	**Ribas do Rio P**	**41.79**	**318**	*eP*	**P**	**05 33 14.9**	**+0.5**
MURT	**Porto Murtinho**	**42.24**	**312**	*eP*	**P**	**05 33 17.1**	**-0.9**
IPMB	**Ipameri, GO**	**42.27**	**327**	*eP*	**P**	**05 33 19.6**	**+1.3**
AQDB	**Aquidauana**	**42.55**	**316**	P	**P**	**05 33 19.9**	**-0.7**
AQDB				IAmb	IAmb	05 33 21.6	
	comp=Z,44nm,1.5s						
AQDB	**Aquidauana**	**42.55**	**316**	*eP*	**P**	**05 33 20.4**	**-0.2**
BDQN	**Bodoquena, MS**	**42.99**	**314**	*eP*	**P**	**05 33 23.8**	**-0.3**
BDFB	**Brasilia**	**44.42**	**328**	P	**P**	**05 33 35.1**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=230,slow=15,SNR=2.9						
	comp=Z,2.2nm,0.7s						
GO02	**Mina Guanaco**	**44.67**	**296**	P	**P**	**05 33 36.8**	**-1.3**
GO02				IAmb	IAmb	05 33 54.5	
	comp=Z,64nm,1.7s						
BOSA	**Boshof**	**45.17**	**73**	P	**P**	**05 33 41.8**	**+0.1**
BOSA	**Boshof**	**45.17**	**73**	P	**P**	**05 33 41.5**	**-0.2**
	comp=Z,6.8nm,1.1s,baz=208,slow=8.0,SNR=5.6						
BOSA				LR	LR	05 48 36.6	
	comp=Z,653nm,19.7s,baz=290,slow=31						
	comp=Z,6.8nm,1.1s						
AF01	**San Pedro de A**	**45.84**	**299**	P	**P**	**05 33 47.2**	**-0.1**
PB15	**IPOC Station P**	**46.25**	**298**	P	**P**	**05 33 49.7**	**-0.8**
PB15				IAmb	IAmb	05 33 54.6	
	comp=Z,14nm,0.8s						
PB09	**IPOC Station P**	**47.34**	**299**	P	**P**	**05 33 59.0**	**+0.1**
BBSD	**Serra de San D**	**47.48**	**312**	*eP*	**P**	**05 33 59.6**	**-0.2**
LBTB	**Lobatse**	**48.25**	**71**	P	**P**	**05 34 05.7**	**-0.2**
LBTB				IAmb	IAmb	05 34 06.3	
	comp=Z,9.8nm,1.1s						
LBTB	**Lobatse**	**48.25**	**71**	LR	LR	05 50 17.9	
	comp=Z,582nm,18.9s,baz=281,slow=31						
H10S2	**ASCENSION HYDR**	**48.34**	**14**	T	T	06 26 07.5	
	baz=187,slow=74,SNR=8.9						
H10S3	**ASCENSION HYDR**	**48.35**	**14**	T	T	06 26 08.8	
	baz=33,slow=74,SNR=15						
PTLB	**Pontes e Lacer**	**48.45**	**314**	P	**P**	**05 34 07.2**	**-0.2**
PTLB				IAmb	IAmb	05 34 08.8	
	comp=Z,36nm,1.4s						
SNDB	**Serra Nova Dou**	**48.88**	**325**	*eP*	**P**	**05 34 11.8**	**+1.2**
GO01	**Chusmiza**	**49.13**	**300**	P	**P**	**05 34 12.5**	**-0.7**
POGA	**Pongola**	**49.63**	**79**	P	**P**	**05 34 17.0**	**+0.6**
POGA				IAmb	IAmb	05 34 38.8	
	comp=Z,52nm,1.8s						
SMTB	**Santa Maria do**	**50.76**	**331**	*eP*	**P**	**05 34 27.5**	**+2.5**
LPAZ	**La Paz**	**51.56**	**304**	P	**P**	**05 34 31.1**	**-0.6**
LPAZ	**La Paz**	**51.56**	**304**	P	**P**	**05 34 32.0**	**+0.3**
	comp=Z,23nm,0.5s,baz=128,slow=4.6,SNR=122						
LPAZ				PcP	**PcP**	**05 35 46.2**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=170,slow=7.3,SNR=0.6						
	comp=Z,23nm,0.5s						
LPAZ	**La Paz**	**51.56**	**304**	*eP*	**P**	**05 34 32.2**	**+0.5**
PAF	**Port-aux-Franc**	**53.44**	**126**	P	**P**	**05 34 45.2**	**+0.8**
SAML	**Samuel**	**55.97**	**313**	P	**P**	**05 35 02.6**	**-0.6**
SAML				IAmb	IAmb	05 35 05.4	
	comp=Z,17nm,1.2s						
ITTB	**Itaituba**	**57.46**	**323**	*eP*	**P**	**05 35 16.5**	**+2.7**
LSZ	**Lusaka**	**57.68**	**67**	P	**P**	**05 35 15.1**	**-0.5**
LSZ				IAmb	IAmb	05 35 38.8	
	comp=Z,18nm,1.8s						
MACA	**Manacapuru-AM**	**60.30**	**318**	*eP*	**P**	**05 35 36.2**	**+2.6**
DBIC	**Dimbokro**	**65.35**	**23**	P	**P**	**05 36 06.0**	**-1.1**
	comp=Z,7.4nm,1.1s,baz=164,slow=7.6,SNR=4.2						
	comp=Z,7.4nm,1.1s						
BOAV	**Boa Vista**	**65.40**	**321**	P	**P**	**05 36 06.9**	**-0.6**
BOAV				IAmb	IAmb	05 36 07.8	
	comp=Z,11nm,1.0s						
COHC	**Cochancay**	**68.86**	**300**	P	**P**	**05 36 29.9**	**+0.4**
OTAV	**Otavalo**	**70.84**	**302**	P	**P**	**05 36 42.1**	**-0.2**
OTAV				IAmb	IAmb	05 36 48.1	
	comp=Z,27nm,1.4s						
TORD	**Torodi Ar. Bea**	**73.13**	**28**	P	**P**	**05 36 54.1**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=209,slow=4.1,SNR=9.1						
	comp=Z,1.8nm,0.9s						
BAUV	**El Baul**	**74.21**	**316**	P	**P**	**05 37 01.6**	**0.0**
BAUV				IAmb	IAmb	05 37 02.7	
	comp=Z,34nm,1.1s						
SDV	**Santo Domingo**	**75.17**	**313**	P	**P**	**05 37 07.7**	**+0.2**
SDV				IAmb	IAmb	05 37 08.3	
	comp=Z,16nm,1.1s						
THZ	**Tophouse**	**80.71**	**194**	P	**P**	**05 37 38.3**	**+0.4**
DSZ	**Denniston Nort**	**80.87**	**193**	P	**P**	**05 37 38.2**	**-0.5**
DSZ				IAmb	IAmb	05 38 20.0	
	comp=Z,28nm,1.2s						
PPT2	**Papeete2**	**92.60**	**232**	*e*LR	LR	06 08 12.2	
	comp=Z,560nm,26.8s						
PPT2				*e*LR	LR	06 08 14.4	
	comp=Z,347nm,28.5s						
PPT	**Papeete**	**92.62**	**232**	LR	LR	06 10 55.6	
	comp=Z,77nm,21.5s,baz=115,slow=30						
ASAR	**Alice Springs**	**98.07**	**161**	P	Pdif	05 39 01.9	+0.3
	comp=Z,0.7nm,0.7s,baz=186,slow=4.4,SNR=5.1						
	comp=Z,0.7nm,0.7s						
NVAR	**Mina Array Bea**	**122.57**	**291**	PKP	**PKiKP**	**05 44 20.6**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=184,slow=2.9,SNR=3.6						
CMAR	**Chiang Mai Arr**	**123.91**	**109**	PKP	**PKPdf**	**05 44 21.9**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=244,slow=4.0,SNR=5.6						
KSH	**Kashi**	**127.78**	**74**	PKP	**PKPdf**	**05 44 29.0**	**-0.9**
PZH	**PanZhiHua**	**131.96**	**106**	PKP	**PKPdf**	**05 44 38.3**	**0.0**
CD2	**Chengdu**	**136.53**	**104**	PKP	**PKPdf**	**05 44 46.0**	**-0.6**
KURBB	**Kurchatov Arra**	**136.67**	**64**	PKP	**PKPdf**	**05 44 45.3**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=239,slow=1.3,SNR=3.2						
WMQ	**Urumqi**	**137.05**	**78**	*e*PKP	**PKiKP**	**05 44 48.6**	**-0.4**
YKA	**Yellowknife Ar**	**137.32**	**317**	PKP	**PKPdf**	**05 44 46.5**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=137,slow=2.3,SNR=5.8						
LZH	**Lanzhou**	**140.51**	**99**	*e*PKP	**PKiKP**	**05 44 58.4**	**+2.0**
LZH				sPKP		05 45 12.4	
XAN	**Xi'an**	**141.70**	**107**	*e*PKP	**PKiKP**	**05 44 59.9**	**+1.1**
WHN	**Wuhan**	**141.72**	**116**	PKPbc	**PKPdf**	**05 44 55.9**	**-0.1**
N32M	**Quiet Lake**	**144.16**	**308**		PKPbc	05 44 58.0	+0.4
SKAG	**Skagway**	**144.40**	**304**	P	**PKPdf**	**05 44 59.2**	**-0.5**
	baz=117					

	baz=115						
P30M	Million Dollar	145.44 305	P		PKPab	05 45 02.2	+0.3
	baz=115						
N31M	Braeburn, Yuko	145.48 307	P		PKPab	05 45 02.1	0.0
	baz=114						
P29M	Windy Craggy	145.58 304	P		PKPab	05 45 02.5	0.0
	baz=116						
HYT	Haines Junctio	145.97 306	P		PKPbc	05 45 03.6	+0.1
	baz=114						
N30M	Aishikik Lake	146.05 307			PKPbc	05 45 03.3	-0.3
N30M	Aishikik Lake	146.05 307	P		PKPbc	05 45 03.9	+0.3
	baz=114						
O29M	Mount Kennedy	146.25 305	P		PKPbc	05 45 04.7	+0.4
	baz=114						
M30M	Minto, Yukon	146.35 309	P		PKPbc	05 45 04.8	+0.3
	baz=112,SNR=14						
PNL	Peninsula	146.36 303	P		PKPbc	05 45 04.4	-0.1
	baz=115						
YUK6	Outpost Mounta	146.41 306	P		PKPbc	05 45 04.4	-0.5
	baz=114						
H31M	Peel River	146.48 315	PKPdf		PKPbc	05 45 04.2	-0.5
H31M	Peel River	146.48 315	P		PKPbc	05 45 04.6	-0.2
	baz=109,SNR=8.1						
YUK4	Talbot Arm	146.69 306	P		PKPbc	05 45 05.2	-0.5
	baz=113						
F31M	Tsiigehtchic	146.76 318	PKPdf		PKPbc	05 45 04.9	-0.4
F31M	Tsiigehtchic	146.76 318	P		PKPbc	05 45 05.0	-0.4
	baz=107						
G31M	Satah River	146.81 317			PKPbc	05 45 05.1	-0.4
G31M	Satah River	146.81 317	P		PKPbc	05 45 05.5	0.0
	baz=108,SNR=7.7						
J30M	Hart River	146.87 312			PKPbc	05 45 05.2	-0.7
J30M	Hart River	146.87 312	P		PKPbc	05 45 06.4	+0.5
	baz=110						
INK	Inuvik	146.93 320	P		PKPbc	05 45 06.0	+0.2
	baz=106,SNR=10.0						
M29M	Somme Creek	147.02 308	P		PKPbc	05 45 06.5	0.0
	baz=111						
I30M	Mount Dempster	147.10 314	P		PKPbc	05 45 06.2	-0.4
	baz=109,SNR=13						
K29M	Barlow Dome	147.11 311	P		PKPbc	05 45 06.6	-0.1
	baz=110						
L29M	L29M	147.12 309	P		PKPbc	05 45 06.6	0.0
	baz=110,SNR=17						
O28M	Mount Upton	147.16 305	P		PKPbc	05 45 07.0	-0.1
	baz=113						
YUK8	Steele Glacier	147.17 306	P		PKPbc	05 45 07.0	-0.1
	baz=112						
HNS	HongShan	147.30 109	⇓PKPbc		PKPbc	05 45 08.3	+0.5
G30M	tAoh Zraii Nji	147.56 317	P		PKPbc	05 45 07.5	-0.3
	baz=106,SNR=7.9						
F30M	Barrier River	147.57 318	P		PKPbc	05 45 07.6	-0.1
	baz=105						
EPYK	Eagle Plains	147.58 316	P		PKPbc	05 45 07.4	-0.4
	baz=107,SNR=5.2						
J29N	Klondike Camp	147.60 312	P		PKPbc	05 45 08.0	0.0
	baz=108						
YUK3	Moose Creek	147.66 306	P		PKPbc	05 45 08.2	-0.2
	baz=111						
CTG	Chitna Glacier	147.76 305	P		PKPbc	05 45 08.1	-0.5
	baz=112						
DAWY	Dawson	147.96 311	P		PKPbc	05 45 08.6	-0.3
	baz=108,SNR=9.6						
BVCY	Beaver Creek	148.06 307	P		PKPbc	05 45 09.0	-0.1
	baz=110						
HHC	Hu-ho-hao-te	148.13 101	*e*P		PKPdf	05 45 03.0	-3.9
H29M	Whitestone	148.18 315	P		PKPbc	05 45 09.6	+0.3
	baz=106,SNR=5.4						
G29M	Pine Creek	148.22 316	P		PKPbc	05 45 10.1	+0.7
	baz=105,SNR=7.8						
M27K	Edge Creek, AK	148.49 307	P		PKPbc	05 45 10.5	+0.1
	baz=109						
E29M	Blow River	148.53 319	P		PKPbc	05 45 10.4	+0.2
	baz=103						
I28M	Miner Creek	148.59 313	P		PKPbc	05 45 10.5	-0.1
	baz=106						
MCARA	McCarthy VSAT	148.67 305	P		PKPbc	05 45 10.6	-0.2
	baz=110						
L27K	Beaver Creek,	148.69 308	P		PKPbc	05 45 11.2	+0.4
	baz=108						
KAIM	Kayak Island	148.80 302	P		PKPbc	05 45 11.4	+0.3
	baz=112						
NRIK	Noril'sk	148.87 39	PKPbc		PKPbc	05 45 10.6	-0.5
	comp=Z,1.2nm,0.3s,baz=165,slow=12,SNR=5.7						
EGAK	Eagle	148.91 312	P		PKPbc	05 45 11.5	+0.3
	baz=106						
M26K	Nabesna, AK	148.99 307	P		PKPbc	05 45 11.9	+0.3
	baz=108						
D28M	Stokes Point	149.01 321	P		PKPbc	05 45 12.0	+0.6
	baz=100						
K27K	Chicken	149.08 310	P		PKiKP	05 45 12.6	-0.3
	baz=106						
F28M	Old Crow	149.09 317	P		PKiKP	05 45 12.4	-0.5
	baz=102						
E28M	Babbage River	149.16 319	P		PKiKP	05 45 12.6	-0.4
	baz=101						
BMRM	Bremner River	149.25 304	P		PKiKP	05 45 13.3	-0.1
	baz=110						
I27K	Kandik River	149.31 313	P		PKiKP	05 45 13.0	-0.5
	baz=104						
L26K	Log Cabin Wild	149.34 308	P		PKPbc	05 45 12.9	+0.5
	baz=107						
H27K	Steamboat Moun	149.42 314	P		PKPbc	05 45 13.0	+0.5
	baz=103						
N25K	Chitina, Valde	149.46 305	P		PKPbc	05 45 13.3	+0.5
	baz=109						
Q23K	Middleton Isla	149.53 300	P		PKiKP	05 45 13.9	-0.1
	baz=111						
G27K	Doyon Strip	149.60 315	P		PKiKP	05 45 14.0	0.0
	baz=102						
EYAK	Cordova Ski Ar	149.64 302	P		PKiKP	05 45 13.9	-0.2
	baz=110						
SONM	Songino Array	149.77 86	PKPbc		PKPbc	05 45 13.4	-0.7
	comp=Z,4.9nm,1.0s,baz=232,slow=2.3,SNR=16						
D27M	Malcolm River	149.78 320	P		PKiKP	05 45 14.2	-0.1
	baz=99						
J26L	Joseph Creek	149.83 311	P		PKiKP	05 45 14.4	-0.2
	baz=105						
E27K	Coleen River	149.84 318	P		PKiKP	05 45 14.6	+0.2
	baz=100						
I26K	Coal Creek Min	149.86 312	P		PKPbc	05 45 14.0	+0.4
	baz=104						
SCRK	Sand Creek	149.88 309	P		PKPbc	05 45 14.1	+0.3
	baz=105						
HARP	HAARP	149.95 306	P		PKiKP	05 45 14.4	-0.4
	baz=107						
KLU	Klutina	150.02 304	P		PKPbc	05 45 14.7	+0.5
	baz=108						
RIDG	Independent Ri	150.18 309	P		PKiKP	05 45 15.0	-0.3
	baz=105						
P23K	Montague Islan	150.23 301	P		PKiKP	05 45 15.3	-0.1
	baz=110						
PAX	Paxson	150.25 307	P		PKiKP	05 45 16.0	+0.5
	baz=106						
M24K	Tolsona, Glenn	150.32 305	P		PKPbc	05 45 15.2	+0.4
	baz=107						
GLI	Glacier Island	150.37 303	P		PKiKP	05 45 15.6	-0.1
	baz=108						
G26K	Porcupine Rive	150.45 315	P		PKiKP	05 45 15.7	0.0
	baz=100						
K24K	Donnelly Dome	150.60 309	P		PKiKP	05 45 16.0	-0.1
	baz=104						
J25K	Salcha River,	150.62 310	P		PKPbc	05 45 15.8	+0.3
	baz=103						
F26K	Sheenjek River	150.71 317	P		PKiKP	05 45 16.5	+0.3
	baz=99						
SCM	Sheep Creek Mo	150.76 304	P		PKiKP	05 45 16.7	+0.1
	baz=107						
C27K	Jago River	150.79 321	P		PKiKP	05 45 16.4	+0.1
	baz=96						
PRP	Porcupine Dome	150.87 312	P		PKiKP	05 45 16.9	+0.1
	baz=101						
M23K	Glacier View	150.94 304	P		PKiKP	05 45 17.2	+0.3
	baz=106						
PWL	Port Wells	150.94 302	P		PKiKP	05 45 17.3	+0.4
	baz=108						
DHY	Denali Highway	151.12 307	P		PKPbc	05 45 17.1	+0.3
	baz=104						
WAT6	Susitna Watana	151.15 306	P		PKPbc	05 45 17.2	+0.2
	baz=105						
KNK	Knik Glacier	151.16 303	P		PKiKP	05 45 17.3	0.0
	baz=107						
SML	Sawmill	151.22 304	P		PKiKP	05 45 17.6	+0.1
	baz=106						
C26K	Camden Bay	151.23 321	P		PKiKP	05 45 17.2	0.0
	baz=94						
SEW	Seward	151.24 300	P		PKiKP	05 45 17.3	-0.2
	baz=108						
HDA	Harding Lake	151.24 310	P		PKPbc	05 45 17.1	+0.2
	baz=102						
F25K	Christian Rive	151.26 316	P		PKiKP	05 45 17.8	+0.4
	baz=98						
ILAR	Eielson Array	151.29 310	PKPbc		PKPbc	05 45 16.0	-1.0
	comp=Z,10.0nm,1.0s,baz=106,slow=2.6,SNR=46						
G25K	Bearman Lake	151.32 315	P		PKiKP	05 45 18.2	+0.8
	baz=99						
G24K	Hadweenzic Riv	151.85 314	P		PKiKP	05 45 18.6	0.0
	baz=98						
H24K	Noodor Dome	151.89 313	P		PKiKP	05 45 19.0	+0.2
	baz=99						
MCK	McKinley	151.95 308	P		PKiKP	05 45 19.2	+0.3
	baz=102						
TRF	Thorofare Moun	152.49 307	P		PKPbc	05 45 20.0	0.0
	baz=102						
C24K	Franklin Bluff	152.53 321	P		PKiKP	05 45 20.8	+1.0
	baz=91						
D24K	Happy Valley	152.56 320	P		PKiKP	05 45 20.8	+0.8
	baz=92						
H23K	Yukon River	152.57 312	P		PKiKP	05 45 20.5	+0.4
	baz=98						
SKT	Skwentna	152.72 304	P		PKPbc	05 45 20.4	+0.1
	baz=104						
TOLK	Toolik Lake Re	152.82 318	P		PKiKP	05 45 21.3	+0.7
	baz=92						
G23K	Bananza Creek	152.86 314	P		PKiKP	05 45 22.0	+1.3
	baz=96						
Q19K	Cape Douglas,	152.90 297	P		PKiKP	05 45 22.1	+1.1
	baz=108						
BPAW	Bear Paw Mtn.	152.91 308	P		PKiKP	05 45 21.6	+0.7
	baz=100						
P19K	Oil Pt	152.92 298	P		PKiKP	05 45 22.1	+1.0
	baz=107						
MLY	Manley	152.95 310	P		PKiKP	05 45 21.6	+0.6
	baz=98						
COLD	Coldfoot	152.98 315	P		PKiKP	05 45 21.8	+0.9
	baz=94						
C23K	Itkillik River	153.20 321	P		PKiKP	05 45 22.3	+1.0
	baz=89						
PPLA	Purkeypile	153.22 306	P		PKiKP	05 45 22.5	+0.8
	baz=101						
H22K	Ishtalitna Cre	153.32 312	P		PKiKP	05 45 23.0	+1.3
	baz=96						
M20K	Styx River	153.44 303	P		PKiKP	05 45 22.7	+0.6
	baz=103						
G22K	Bettles	153.46 315	P		PKiKP	05 45 23.2	+1.3
	baz=94						
E22K	Anaktuvuk Pass	153.63 317	P		PKiKP	05 45 23.7	+1.4
	baz=91						
F22K	John River	153.76 316	P		PKiKP	05 45 24.2	+1.7
	baz=92						
H21K	Melozitna Rive	153.89 312	P		PKiKP	05 45 23.6	+0.7
	baz=95						

*SOF **16** 05:26:36.7, 40˚.99N±0˚.02×23˚.45E±0˚.01, h5km±2km, MD3.0/6*
*ATH **16** 05:26:38.0, 41˚.03N×23˚.46E, h16km±1km, ML2.7/7, Error ellipse: s-maj=3.0km s-min=1.0km az=317.0*
*SKO **16** 05:26:38.8, 41˚.05N×23˚.47E, h1km, ML2.4*
*BEO **16** 05:26:38.8±0.5, 41˚.04N×23˚.45E, h0km, ML2.5/9*
*THE **16** 05:26:38.2, 41˚.03N×23˚.45E, h10km±1km, ML2.5/8, Error ellipse: s-maj=1.2km s-min=0.5km az=318.0*

ISC 16 05:26:38.3±0.9, 41˚.03N±0˚.02×23˚.47E±0˚.02, h7km±6km, n57, σ0˚.63/103, 6C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.13**	**46**	P	**Pg**	**05 26 41.0**	**-0.1**
SRS				S	**Sg**	**05 26 43.1**	**+0.1**
SRS	**Serrai**	**0.13**	**46**	*e*Pg	**Pg**	**05 26 40.9**	**-0.1**
SRS				*e*Sg	**Sg**	**05 26 42.7**	**-0.3**
SRS	**Serrai**	**0.13**	**46**	⇑*i*Pg	**Pg**	**05 26 41.0**	**-0.1**
SRS				*i* Sg	**Sg**	**05 26 43.1**	**+0.1**
SRS	**Serrai**	**0.13**	**46**	P	**Pg**	**05 26 41.0**	**-0.1**
SRS				S	**Sg**	**05 26 42.9**	**-0.1**
SRS				AML	AML	05 26 43.3	
	comp=E,7031μm,0.4s						
SRS				AML	AML	05 26 43.4	
	comp=N,7038μm,0.3s						
SOH	**Sokhos**	**0.22**	**203**	P	**Pg**	**05 26 43.0**	**+0.3**
SOH				S	**Sg**	**05 26 46.3**	**+0.5**
SOH	**Sokhos**	**0.22**	**203**	⇑*i*Pg	**Pg**	**05 26 43.0**	**+0.3**
SOH				*i* Sg	**Sg**	**05 26 46.6**	**+0.8**
SOH	**Sokhos**	**0.22**	**203**	P	**Pg**	**05 26 43.0**	**+0.3**
SOH				S	**Sg**	**05 26 45.8**	**0.0**
SOH				AML	AML	05 26 47.2	
	comp=N,7130μm,0.1s						
SOH				AML	AML	05 26 47.3	
	comp=E,8595μm,0.1s						
NVR	**Nevrokopi**	**0.44**	**42**	P	**Pb**	**05 26 47.7**	**-0.7**
NVR				S	**Sg**	**05 26 53.8**	**+1.2**
	comp=E,312nm,0.4s						
NVR	**Nevrokopi**	**0.44**	**42**	P	**Pb**	**05 26 47.7**	**-0.7**
NVR				S	**Sg**	**05 26 53.2**	**+0.6**
KOKK	**Kokkinochori,**	**0.45**	**117**	P	**Pg**	**05 26 47.3**	**+0.2**
KOKK				S	**Sg**	**05 26 54.2**	**+1.2**
	comp=E,228nm,0.2s						
KOKK	**Kokkinochori,**	**0.45**	**117**	P	**Pg**	**05 26 47.2**	**+0.2**
KOKK				S	**Sg**	**05 26 53.9**	**+0.9**
KNT	**Kendrikon**	**0.45**	**287**	P	**Pg**	**05 26 46.7**	**-0.4**
KNT				S	**Sg**	**05 26 52.5**	**-0.5**
KNT	**Kendrikon**	**0.45**	**287**	⇑*i*Pg	**Pg**	**05 26 46.7**	**-0.4**
KNT				*i* Sg	**Sg**	**05 26 52.8**	**-0.2**
HORT	**Hortiatis**	**0.51**	**213**	P	**Pg**	**05 26 48.1**	**-0.1**
HORT				S	**Sg**	**05 26 55.6**	**+0.7**
	comp=E,620nm,0.1s						
HORT	**Hortiatis**	**0.51**	**213**	P	**Pg**	**05 26 48.1**	**-0.1**
HORT				S	**Sg**	**05 26 54.8**	**-0.2**
HORT				AML	AML	05 26 56.5	
	comp=E,1305μm,0.2s						
HORT				AML	AML	05 26 56.9	
	comp=N,1252μm,0.2s						
THE	**Thessaloniki**	**0.55**	**224**	P	**Pg**	**05 26 48.7**	**-0.2**
THE				S	**Sg**	**05 26 56.5**	**+0.4**
	comp=N,650nm,0.2s						
THE	**Thessaloniki**	**0.55**	**224**	P	**Pg**	**05 26 48.7**	**-0.2**
THE				S	**Sg**	**05 26 56.3**	**+0.2**
THE				AML	AML	05 26 57.1	
	comp=E,1133μm,0.1s						
THE				AML	AML	05 26 57.9	
	comp=N,1403μm,0.2s						
MMB	**Musomishta**	**0.56**	**22**	⇑*i*Pg	**Pg**	**05 26 48.9**	**-0.3**
MMB				Sg	**Sg**	**05 26 56.8**	**+0.3**
MMB	**Musomishta**	**0.56**	**22**	⇑*i*Pg	**Pg**	**05 26 49.0**	**-0.1**
MMB				*i* Sg	**Sg**	**05 26 57.1**	**+0.6**
PLG	**Polygyros**	**0.65**	**182**	P	**Pg**	**05 26 50.5**	**-0.4**
PLG				S	**Sg**	**05 27 00.3**	**+0.9**
	comp=N,442nm,0.3s						
PLG	**Polygyros**	**0.65**	**182**	P	**Pg**	**05 26 50.4**	**-0.5**
PLG				S	**Sg**	**05 26 59.9**	**+0.5**
PLG				AML	AML	05 27 02.2	
	comp=E,622μm,0.2s						
PLG				AML	AML	05 27 05.3	
	comp=N,1150μm,0.5s						
KVLA	**Kavala**	**0.70**	**97**	P	**Pg**	**05 26 52.1**	**+0.4**
KVLA				S	**Sg**	**05 27 01.8**	**+0.9**
VAY	**Valandovo**	**0.74**	**294**	*i* Pg	**Pb**	**05 26 52.8**	**-0.8**
VAY				*e*Lg	Lg	05 27 02.9	
	comp=E,75nm,0.3s						
VAY				*i* Sg	**Sb**	**05 27 03.0**	**-0.8**
VAY				*e*Lg	Lg	05 27 03.2	
	comp=N,118nm,0.3s						
KAVA	**Kavala**	**0.79**	**92**	P	**Pg**	**05 26 53.2**	**-0.3**
KAVA				S	**Sb**	**05 27 05.3**	**0.0**
KAVA	**Kavala**	**0.79**	**92**	P	**Pg**	**05 26 53.1**	**-0.4**
KAVA				S	**Sg**	**05 27 03.7**	**-0.1**
OUR	**Ouranopolis**	**0.79**	**150**	P	**Pg**	**05 26 53.7**	**+0.1**
OUR				S	**Sb**	**05 27 05.8**	**+0.4**
OUR	**Ouranopolis**	**0.79**	**150**	P	**Pg**	**05 26 53.5**	**0.0**
OUR				S	**Sb**	**05 27 05.3**	**-0.1**
OUR				AML	AML	05 27 08.3	
	comp=N,4410μm,0.3s						
OUR				AML	AML	05 27 08.8	
	comp=E,2084μm,0.3s						
KKB	**Krupnik**	**0.85**	**343**	Pg	**Pg**	**05 26 54.1**	**-0.6**
KKB				Sg	**Sg**	**05 27 05.3**	**-0.5**
KKB	**Krupnik**	**0.85**	**343**	⇑*i*Pg	**Pg**	**05 26 54.1**	**-0.6**
KKB				*i* Sg	**Sg**	**05 27 05.5**	**-0.3**
THAS	**Thassos island**	**1.04**	**114**	P	**Pg**	**05 26 58.0**	**-0.2**
THAS				S	**Sg**	**05 27 12.5**	**+0.8**
	comp=E,402nm,0.2s						
THAS	**Thassos island**	**1.04**	**114**	P	**Pg**	**05 26 57.7**	**-0.5**
THAS				S	**Sg**	**05 27 10.6**	**-1.0**
THAS				AML	AML	05 27 14.0	
	comp=N,716μm,0.2s						
THAS				AML	AML	05 27 14.6	
	comp=E,890μm,0.3s						
PAIG	**Paliouri**	**1.11**	**172**	P	**Pg**	**05 26 58.9**	**-0.7**
PAIG				S	**Sg**	**05 27 14.4**	**+0.4**
	comp=E,338nm,0.3s						
RZN	**Rozhen**	**1.16**	**55**	Pg	**Pg**	**05 27 00.4**	**-0.3**
RZN				Sg	**Sg**	**05 27 15.8**	**0.0**
LIT	**Litokhoron**	**1.19**	**219**	*i* Pn	**Pg**	**05 27 00.9**	**-0.3**
PLNA	**Plana**	**1.45**	**359**	P	**Pn**	**05 27 05.3**	**+0.2**
PLNA				S	**Sg**	**05 27 25.4**	**+0.5**
PLD	**Plovdiv**	**1.47**	**40**	P	**Pn**	**05 27 05.3**	**0.0**
PLD	**Plovdiv**	**1.47**	**40**	*e*Pg	**Pn**	**05 27 04.9**	**-0.4**
PLD				*e*Sg	**Sn**	**05 27 25.0**	**+0.2**
PLD	**Plovdiv**	**1.47**	**40**	*i* Pn	**Pn**	**05 27 05.5**	**+0.2**
KDZ	**Kurdzhali**	**1.53**	**66**	P	**Pn**	**05 27 06.5**	**+0.4**
KDZ				S	**Sn**	**05 27 26.7**	**+0.4**
RDO	**Rodhopi**	**1.57**	**85**	P	**Pn**	**05 27 05.9**	**-0.7**
RDO				S	**Sn**	**05 27 27.1**	**0.0**
	comp=E,198nm,0.2s						
RDO	**Rodhopi**	**1.57**	**85**	P	**Pn**	**05 27 05.9**	**-0.7**
RDO				S	**Sn**	**05 27 26.2**	**-0.9**
PGB	**Panagyurishte**	**1.57**	**19**	P	**Pb**	**05 27 07.9**	**+0.1**
VTS	**Vitosha**	**1.60**	**354**	S	**Sb**	**05 27 28.5**	**-0.2**
VTS				P	**Pn**	**05 27 07.4**	**+0.2**
VTS	**Vitosha**	**1.60**	**354**	*e*Pg	**Pn**	**05 27 07.1**	**-0.1**
VTS				*e*Sg	**Sb**	**05 27 28.6**	**-0.2**
FNA	**Florina**	**1.61**	**262**	*e*Pg	**Pn**	**05 27 06.7**	**-0.5**
FNA				*e*Sg	**Sg**	**05 27 29.6**	**-0.3**
FNA	**Florina**	**1.61**	**262**	*i* Pn	**Pn**	**05 27 06.9**	**-0.2**
BOSS	**Bosilegrad**	**1.64**	**334**	*e*Pg	**Pn**	**05 27 07.6**	**-0.1**
BOSS				*e*Sg	**Sn**	**05 27 29.3**	**+0.2**
SMTH	**Samothraki Isl**	**1.66**	**109**	P	**Pn**	**05 27 07.0**	**-0.9**
LIA	**Limnos Island**	**1.73**	**130**	P	**Pn**	**05 27 07.9**	**-0.9**
TRAN	**Tran**	**1.91**	**342**	*e*S	**Sb**	**05 27 36.9**	**-0.6**
ALN	**Alexandroupoli**	**1.96**	**93**	P	**Pn**	**05 27 11.4**	**-0.5**
BARS	**Barje**	**2.17**	**326**	*e*Pn	**Pn**	**05 27 16.0**	**+1.1**
BARS				*e*Sn	**Sb**	**05 27 44.4**	**-0.7**
BARS	**Barje**	**2.17**	**326**	*i* Pn	**Pb**	**05 27 18.5**	**+0.5**
ZAPS	**Zavoj**	**2.33**	**345**	*e*Pn	**Pn**	**05 27 17.5**	**+0.4**
ZAPS				*e*Sn	**Sn**	**05 27 46.2**	**+0.2**
MPEP	**Malo Peshtene**	**2.34**	**5**	P	**Pn**	**05 27 18.7**	**+1.5**
SELS	**Selova**	**2.80**	**322**	*e*Pn	**Pn**	**05 27 24.3**	**+0.7**
SELS				*e*Sn	**Sn**	**05 27 59.1**	**+1.4**
BOVS	**Bovan**	**2.92**	**334**	*e*Pn	**Pn**	**05 27 27.0**	**+1.9**
BOVS				*e*Sn	**Sn**	**05 28 03.0**	**+2.6**

*IDC **16** 05:32:28.1±0.6, 5˚.33N×93˚.22E, h0km, mb4.1/13, mbtmp4.1/14, ML5.0/1, Error ellipse: s-maj=31.6km s-min=15.5km az=66.0*
*NEIC **16** 05:32:30.7±1.5, 5˚.35N±0˚.10×93˚.26E±0˚.10, h11km±4km, mb4.2/10, Error ellipse: s-maj=14.9km s-min=13.0km az=49.0*

ISC 16 05:32:29.8±0.5, 5˚.32N±0˚.08×93˚.24E±0˚.08, h10km, n50, σ0˚.72/43, mb4.2/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**3.69**	**91**		**Pn**	**05 33 28.0**	**+1.1**
LHMI				Sn	**Sn**	**05 34 09.6**	**-1.0**
GSI	**Gunungsitoli**	**5.88**	**132**	Pn	**Pn**	**05 33 57.3**	**+0.1**
RPSI	**Rantau Prapat**	**6.24**	**114**	Pn	**Pn**	**05 34 02.6**	**+0.6**
SRIT	**Nakonsritamara**	**7.11**	**62**	Pn	**Pn**	**05 34 14.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**14.20**	**23**	Pn	**Pn**	**05 35 51.4**	**+0.2**
	2.3nm,0.3s,baz=217,slow=13,SNR=4.7						
	3.8nm,0.3s						
PHRA	**Phrae**	**14.77**	**27**		**P**	**05 36 04.6**	**-0.5**
SHL	**Shillong**	**20.18**	**356**	P	**P**	**05 37 05.6**	**+0.7**
SHL				IAmb	IAmb	05 37 12.3	
	comp=Z,10nm,1.2s						
H08S3	**Diego Garcia H**	**24.38**	**238**	T	T	06 03 08.7	
	baz=58,slow=76,SNR=1531						
H08S2	**Diego Garcia H**	**24.38**	**238**	T	T	06 03 12.0	
	baz=58,slow=76,SNR=1197						
H08S1	**Diego Carcia H**	**24.39**	**238**	T	T	06 03 12.5	
	baz=58,slow=76,SNR=1148						
BOOM	**Boomskoye usch**	**40.08**	**340**	P	**P**	**05 40 05.5**	**-0.2**
BOOM				IAmb	IAmb	05 40 06.4	
	comp=Z,22nm,1.5s						
ARSB	**Arslanbob**	**40.17**	**336**	P	**P**	**05 40 06.4**	**-0.1**
MK31	**Makanchi Array**	**42.39**	**349**	P	**P**	**05 40 23.8**	**-0.7**
MKAR	**Makanchi Array**	**42.39**	**349**	P	**P**	**05 40 23.8**	**-0.7**
MKAR	**Makanchi Array**	**42.39**	**349**	P	**P**	**05 40 24.3**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=171,slow=8.7,SNR=13						
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**43.84**	**13**	P	**P**	**05 40 35.6**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=196,slow=8.0,SNR=3.7						
SONM				PcP	**PcP**	**05 42 22.5**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=218,slow=3.3,SNR=3.6						
	comp=Z,0.6nm,0.7s						
ULN	**Ulaanbaatar**	**44.02**	**13**	P	**P**	**05 40 39.5**	**+1.7**
ULN				IAmb	IAmb	05 40 45.4	
	comp=Z,2.9nm,0.9s						
H01W3	**Cape Leeuwin H**	**44.57**	**155**	T	T	06 28 21.8	
	baz=331,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**44.58**	**155**	T	T	06 28 21.4	
	baz=331,slow=76,SNR=16						
H01W1	**Cape Leeuwin H**	**44.59**	**155**	T	T	06 28 24.5	
	baz=331,slow=76,SNR=12						
KURBB	**Kurchatov Arra**	**46.81**	**347**	P	**P**	**05 40 59.6**	**0.0**
	comp=Z,1.0nm,0.5s,baz=170,slow=7.0,SNR=19						
KURBB				PcP	**PcP**	**05 42 32.6**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=163,slow=2.5,SNR=5.2						
	comp=Z,1.0nm,0.5s						
WB0	**Warramunga Arr**	**47.53**	**123**	P	**P**	**05 41 04.9**	**-0.9**
WB0				IAmb	IAmb	05 41 05.9	
	comp=Z,3.4nm,0.7s						
WRA	**Warramunga Arr**	**47.57**	**123**	P	**P**	**05 41 05.8**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=301,slow=9.0,SNR=18						
WRA				PcP	**PcP**	**05 42 35.9**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=293,slow=3.1,SNR=1.3						
	comp=Z,2.3nm,0.7s						
ZAA0	**Zalesovo Array**	**48.97**	**353**	P	**P**	**05 41 15.7**	**-0.6**
ZALV	**Zalesovo Beam**	**48.97**	**353**	P	**P**	**05 41 16.3**

comp=Z,0.2nm,0.4s,baz=328,slow=1.7,SNR=5.3
CPUP Villa Florida 144.97 230 PKPdf **PKPbc 05 52 07.4 0.0**
CPUP Villa Florida 144.97 230 PKP **PKPbc 05 52 08.0 +0.6**
comp=Z,3.7nm,0.8s,baz=102,slow=5.3,SNR=8.7
MT01 Popeta 148.15 205 PKPbc **PKPdf 05 52 15.8 +2.4**
VA03 San Esteban 148.78 207 PKPbc **PKPbc 05 52 18.0 -0.4**
LPAZ La Paz 158.72 238 PKPab **PKPab 05 53 05.2 0.0**
comp=Z,1.1nm,0.7s,baz=110,slow=1.7,SNR=4.8

*IDC **16** 05:35:50.4±0.8, 10°.55S×163°.19E, h0km, mb4.2/9, mbtmp4.2/11, ML4.2/2, Error ellipse: s-maj=23.4km s-min=22.8km az=137.0*
*NEIC **16** 05:35:52.8±1.5, 10°.6S±0°.1×163°.3E±0°.1, h10km±1km, mb4.7/19, Error ellipse: s-maj=23.9km s-min=15.6km az=45.0*
ISC 16 05:35:52.1±0.6, 10°.57S±0°.09×163°.25E±0°.09, h10km, n41, σ0s77/36, mb4.5/19, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.44**	**289**		**Pn**	**05 36 46.7**	**+0.8**
HNR	**Honiara**	**3.44**	**289**	Pn	**Pn**	**05 36 45.5**	**-0.3**
	41nm,0.3s,baz=12,slow=3.3,SNR=19						
HNR				Sn	**Sn**	**05 37 26.9**	**+0.2**
	78nm,0.3s,baz=180,slow=20,SNR=9.7						
	390nm,0.6s						
DZM	**Mont Dzumac**	**11.84**	**165**	Pn	**Pn**	**05 38 40.8**	**-0.4**
DZM	**Mont Dzumac**	**11.84**	**165**	Pn	**Pn**	**05 38 42.1**	**+0.9**
	0.7nm,0.3s,baz=8.4,slow=19,SNR=13						
	6.1nm,0.7s						
PINNC	**Pines Island,**	**12.63**	**162**	Pn	**Pn**	**05 38 50.8**	**-1.1**
CTAO	**Charters Tower**	**18.91**	**238**	P	**Pn**	**05 40 14.5**	**+0.8**
COEN	**Coen**	**19.90**	**258**	P	**Pn**	**05 40 25.3**	**-0.3**
H11S2	**WAKE ISLAND Hy**	**29.08**	**7**	T	T	06 12 09.9	
	baz=189,slow=74,SNR=35						
H11S3	**WAKE ISLAND Hy**	**29.08**	**7**	T	T	06 12 10.3	
	baz=189,slow=74,SNR=25						
H11S1	**WAKE ISLAND Hy**	**29.10**	**7**	T	T	06 12 13.9	
	baz=189,SNR=25						
WRA	**Warramunga Arr**	**29.36**	**248**	P	**P**	**05 41 53.9**	**-1.7**
	1.8nm,0.8s,baz=79,slow=9.4,SNR=6.2						
	1.8nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**30.31**	**7**	T	T	06 13 46.6	
	baz=188,SNR=10						
H11N3	**WAKE ISLAND Hy**	**30.32**	**7**	T	T	06 13 46.9	
	baz=188,SNR=13						
H11N2	**WAKE ISLAND Hy**	**30.33**	**7**	T	T	06 13 47.8	
	baz=188,SNR=11						
ASAR	**Alice Springs**	**30.84**	**241**	P	**P**	**05 42 07.0**	**-1.6**
	2.1nm,0.9s,baz=73,slow=9.7,SNR=18						
	2.1nm,0.9s						
TOO	**Toolangi**	**31.27**	**208**	P	**P**	**05 42 12.8**	**+0.5**
MRZ	**Mangatainoka R**	**31.89**	**162**	P	**P**	**05 42 17.9**	**+0.2**
FORT	**Forrest**	**38.33**	**233**	P	**P**	**05 43 12.4**	**-0.9**
FORT				IAmb	IAmb	05 43 19.6	
	comp=Z,21nm,0.9s						
PHRA	**Phrae**	**68.54**	**295**	P	**P**	**05 46 55.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**69.68**	**294**	P	**P**	**05 47 02.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**69.68**	**294**	P	**P**	**05 47 03.2**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=114,slow=4.4,SNR=15						
	comp=Z,3.3nm,0.8s						
CHTO	**Chiang Mai**	**69.79**	**295**	P	**P**	**05 47 05.0**	**+1.8**
CHTO				IAmb	IAmb	05 47 06.1	
	comp=Z,6.1nm,1.0s						
ULN	**Ulaanbaatar**	**76.49**	**325**	P	**P**	**05 47 43.0**	**+0.5**
ULN				IAmb	IAmb	05 47 46.5	
	comp=Z,3.0nm,0.7s						
SONM	**Songino Array**	**76.85**	**325**	P	**P**	**05 47 43.9**	**-0.6**
SONM	**Songino Array**	**76.85**	**325**	P	**P**	**05 47 43.9**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=123,slow=6.0,SNR=5.2						
	comp=Z,2.6nm,0.9s						
M16K	**Timber Creek**	**77.34**	**18**	P	**P**	**05 47 46.6**	**-0.2**
M16K				IAmb	IAmb	05 47 53.5	
	comp=Z,14nm,1.1s						
K15K	**Wolf Creek Mou**	**77.63**	**16**	P	**P**	**05 47 49.3**	**+1.0**
SHL	**Shillong**	**78.14**	**299**	P	**P**	**05 47 52.3**	**+0.1**
SHL				IAmb	IAmb	05 47 54.9	
	comp=Z,9.7nm,1.0s						
L18K	**Granite Mounta**	**78.96**	**18**	P	**P**	**05 47 56.2**	**+0.5**
L18K				IAmb	IAmb	05 47 57.6	
	comp=Z,13nm,1.0s						
QSPA	**South Pole Qui**	**79.43**	**180**	P	**P**	**05 47 59.5**	**+1.0**
	comp=Z,2.2nm,1.0s,baz=14,slow=1.0,SNR=4.4						
	comp=Z,2.2nm,1.0s						
M19K	**Big River Lodg**	**79.43**	**19**	P	**P**	**05 47 58.4**	**0.0**
M19K				IAmb	IAmb	05 48 00.0	
	comp=Z,7.4nm,0.9s						
L19K	**White Mountain**	**79.50**	**19**	P	**P**	**05 47 59.0**	**+0.3**
L19K				IAmb	IAmb	05 48 07.6	
	comp=Z,9.0nm,1.1s						
F19K	**Shaleruckik Mo**	**82.24**	**15**	P	**P**	**05 48 12.8**	**-0.4**
F19K				IAmb	IAmb	05 48 14.3	
	comp=Z,4.8nm,1.1s						
IMAR	**Indian Mountai**	**82.65**	**16**	P	**P**	**05 48 15.5**	**+0.2**
H23K	**Yukon River**	**83.75**	**18**	P	**P**	**05 48 20.8**	**-0.3**
H23K				IAmb	IAmb	05 48 23.7	
	comp=Z,4.7nm,1.1s						
ILAR	**Eielson Array**	**83.86**	**19**	P	**P**	**05 48 20.6**	**-1.1**
	comp=Z,2.9nm,1.0s,baz=228,slow=5.0,SNR=8.8						
	comp=Z,2.9nm,1.0s						
MAW	**Mawson**	**84.23**	**202**	P	**P**	**05 48 24.0**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=62,slow=5.6,SNR=3.0						
	comp=Z,1.4nm,0.7s						
NVAR	**Mina Array Bea**	**87.61**	**50**	P	**P**	**05 48 40.9**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=234,slow=6.5,SNR=5.0						
	comp=Z,0.9nm,0.9s						
MKAR	**Makanchi Array**	**91.51**	**317**	P	**P**	**05 48 58.7**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=106,slow=6.2,SNR=6.6						
	comp=Z,0.9nm,0.7s						
KEST	**Kesra**	**145.53**	**321**	PKPbc	**PKPdf**	**05 55 31.2**	**0.0**
	comp=Z,6.3nm,0.9s,baz=314,slow=4.8,SNR=6.3						
ESDC	**Sonseca Array**	**148.87**	**341**	PKPbc	**PKPbc**	**05 55 40.0**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=3.8,slow=3.9,SNR=5.5						

*NEIC **16** 05:38:49.5±1.7, 33°.168N±0°.007×115°.644W±0°.010, h12km±4km, Error ellipse: s-maj=1.5km s-min=0.5km az=49.0*
*PAS **16** 05:38:49.5±1.5, 33°.160N±0°.008×115°.63W±0°.01, h3km±2km, ML2.9/94, ML3.1/28(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=66.0*
*MEX **16** 05:38:57.9±0.6, 32°.21N×115°.43W, h21km±999km, MD3.6*
ISC 16 05:38:49.3±0.8, 33°.15N±0°.01×115°.65W±0°.01, h13km±5km, n101, σ0s91/141, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLI2	**Calipatria 2**	**0.06**	**118**		**Pg**	**05 38 51.0**	**-0.8**
CLI2					**Sg**	**05 38 53.5**	**-0.1**
WEMD	**Westmorland, C**	**0.12**	**154**		**Pg**	**05 38 52.8**	**+0.2**
WEMD					**Sb**	**05 38 56.2**	**-0.2**
ERRC	**Elmore Ranch**	**0.15**	**257**		**Pb**	**05 38 57.2**	**+3.1**
BOMB	**Bombay Beach**	**0.23**	**342**		**Pg**	**05 38 54.5**	**+0.3**
BOMB					**Sb**	**05 38 59.0**	**-0.2**
SUP	**Superstition M**	**0.24**	**218**		**Pg**	**05 38 54.8**	**+0.3**
FRK	**Frink**	**0.25**	**1**		**Pg**	**05 38 54.4**	**-0.2**
FRK					**Sg**	**05 38 58.3**	**0.0**
IMPE	**Imperial**	**0.26**	**164**		**Pg**	**05 38 55.5**	**+0.7**
IMPE					**Sb**	**05 39 00.6**	**+0.4**
SLVP	**Salvation Pass**	**0.30**	**73**		**Pg**	**05 38 55.0**	**-0.5**
SLVP					**Sg**	**05 38 59.3**	**-0.4**
COK2	**Cook Ranch 2**	**0.31**	**193**		**Pb**	**05 38 56.4**	**-0.3**
COK2					**Sb**	**05 39 02.0**	**+0.4**
SALN	**Salton City**	**0.31**	**295**		**Pg**	**05 38 56.4**	**+0.6**
SALN					**Sb**	**05 39 01.6**	**-0.2**
SNR	**Schaffner Ranc**	**0.34**	**149**		**Pg**	**05 38 56.8**	**+0.6**
SNR					**Sb**	**05 39 02.9**	**+0.5**
CRR	**Carrizo Plain**	**0.38**	**226**		**Pg**	**05 38 57.2**	**+0.3**
CRR					**Sb**	**05 39 03.3**	**-0.3**
DREC	**Desert Rsrch C**	**0.38**	**154**		**Pb**	**05 38 58.1**	**+0.1**
DREC					**Sb**	**05 39 05.0**	**+1.2**
WESC	**Westside Schoo**	**0.40**	**190**		**Pg**	**05 38 57.8**	**+0.6**
WESC					**Sb**	**05 39 04.5**	**+0.3**
5053	**Calexico**	**0.50**	**165**		**Pg**	**05 38 58.8**	**-0.3**
5053					**Sb**	**05 39 08.7**	**+1.6**
SLH	**Sleepy Hollow**	**0.51**	**275**		**Pg**	**05 38 59.8**	**+0.4**
SLH					**Sb**	**05 39 07.4**	**-0.1**
5054	**Holtville Bond**	**0.52**	**150**		**Pg**	**05 39 00.1**	**+0.5**
COA	**Coachella**	**0.52**	**123**		**Pg**	**05 38 59.7**	**+0.1**
COA					**Sb**	**05 39 08.4**	**+0.6**
BC3	**Big Chuckawall**	**0.53**	**18**		**Pg**	**05 38 59.6**	**-0.2**
BC3					**Sg**	**05 39 07.2**	**+0.4**

UABX	**UABC, Campus M**	**0.55**	**161**		**Sb**	**05 39 09.7**	**+1.2**
YUH	**Yuha Desert**	**0.55**	**205**		**Pg**	**05 38 59.9**	**-0.2**
YUH	**Yuha Desert**	**0.55**	**205**		**Sg**	**05 39 07.8**	**+0.3**
YUH	**Yuha Desert**	**0.55**	**205**	IAML		05 39 08.9	
	comp=E,525nm,0.2s						
YUH				IAML		05 39 09.4	
	comp=N,552nm,0.3s						
HAY	**Hayfield**	**0.56**	**357**		**Pg**	**05 39 00.0**	**-0.3**
HAY					**Sb**	**05 39 08.8**	**-0.1**
CTW	**Cottonwood Mou**	**0.56**	**340**		**Pg**	**05 39 00.3**	**+0.1**
CTW					**Sb**	**05 39 08.5**	**-0.5**
CTCC	**Cactus City**	**0.58**	**330**		**Pg**	**05 39 00.7**	**0.0**
CTCC					**Sb**	**05 39 09.5**	**-0.1**
IKP	**In-Ko-Pah, Jac**	**0.63**	**218**		**Pg**	**05 39 01.6**	**-0.1**
IKP					**Sg**	**05 39 10.2**	**+0.1**
BORC	**Borrego Spring**	**0.66**	**281**		**Pg**	**05 39 02.1**	**0.0**
BORC					**Sb**	**05 39 11.4**	**-0.4**
RMX	**La Rumorosa**	**0.66**	**214**		**Pg**	**05 39 02.4**	**+0.3**
RMX					**Sb**	**05 39 12.0**	**+0.1**
EMSC	**East Mesa**	**0.69**	**126**		**Pg**	**05 39 02.5**	**-0.2**
EMSC					**Sb**	**05 39 13.1**	**+0.4**
GLA	**Glamis**	**0.69**	**98**		**Pg**	**05 39 02.2**	**-0.6**
GLA	**Glamis**	**0.69**	**98**		**Sg**	**05 39 12.2**	**+0.2**
GLA	**Glamis**	**0.69**	**98**	IAML		05 39 14.4	
	comp=E,896nm,0.7s						
GLA				IAML		05 39 19.8	
	comp=N,586nm,0.6s						
MONP2	**Monument Peak**	**0.70**	**249**		**Pg**	**05 39 03.1**	**+0.1**
MONP2					**Sg**	**05 39 12.6**	**+0.3**
CPBX	**Cerro Prieto**	**0.78**	**158**		**Pg**	**05 39 03.6**	**-0.9**
PMD	**Palm Desert**	**0.79**	**309**		**Pg**	**05 39 03.9**	**-0.7**
PMD					**Sg**	**05 39 14.7**	**-0.3**
JUEM	**Julian Eagle M**	**0.80**	**265**		**Pg**	**05 39 04.6**	**-0.2**
JUEM					**Sg**	**05 39 15.6**	**+0.2**
XPFO	**Pinon Flat**	**0.82**	**304**		**Pg**	**05 39 04.7**	**-0.5**
XPFO					**Sg**	**05 39 15.7**	**-0.2**
PFO	**Pinyon Flats O**	**0.82**	**304**		**Pg**	**05 39 04.3**	**-1.0**
PFO	**Pinyon Flats O**	**0.82**	**304**		**Pg**	**05 39 04.8**	**-0.5**
PFO					**Sg**	**05 39 16.0**	**-0.1**
MBIG	**Mexicali**	**0.83**	**153**	*e*P	**Pg**	**05 39 03.6**	**-1.8**
MBIG				*e*P	**Pb**	**05 39 04.4**	**-1.2**
MBIG				*e*S	**Sg**	**05 39 15.1**	**-1.2**
MBIG				*e*S	**Sg**	**05 39 15.2**	**-1.2**
MATG	**Mataguay Scout**	**0.84**	**274**		**Pg**	**05 39 05.2**	**-0.5**
MATG					**Sg**	**05 39 16.9**	**+0.3**
FRD	**Ford Ranch, An**	**0.87**	**293**		**Pg**	**05 39 05.7**	**-0.5**
FRD					**Sb**	**05 39 17.9**	**-0.1**
FRD	**Ford Ranch, An**	**0.87**	**293**		**Pg**	**05 39 05.5**	**-0.7**
FRD					**Sg**	**05 39 17.4**	**-0.2**
BELC	**Belle Mtn. Jos**	**0.90**	**341**		**Pb**	**05 39 06.1**	**-0.8**
BELC					**Sg**	**05 39 18.3**	**-0.2**
SNDA	**J Saunders Pla**	**0.90**	**297**		**Pb**	**05 39 06.3**	**-0.6**
SNDA					**Sb**	**05 39 19.4**	**+0.4**
BZNA	**Buzz No.'s Pla**	**0.92**	**292**		**Pb**	**05 39 06.5**	**-0.7**
BZNA					**Sg**	**05 39 19.8**	**+0.6**
DNR	**Dunn Ranch,Anz**	**0.92**	**297**		**Pb**	**05 39 06.7**	**-0.6**
DNR					**Sg**	**05 39 20.2**	**+0.9**
BAR	**Barrett**	**0.98**	**242**		**Pb**	**05 39 07.3**	**-0.9**
TKX	**Tecate**	**1.00**	**235**		**Pb**	**05 39 08.3**	**-0.2**
TKX				IAML		05 39 22.3	
	comp=E,539nm,0.2s						
TKX				IAML		05 39 22.4	
	comp=N,556nm,0.2s						
CRY	**Cary Ranch**	**1.00**	**295**		**Pb**	**05 39 07.6**	**-1.0**
CRY					**Sg**	**05 39 22.2**	**+0.4**
TPC	**Twentynine Pal**	**1.01**	**341**		**Pb**	**05 39 07.7**	**-1.0**
EW2	**E Wide Canyon**	**1.01**	**321**		**Pb**	**05 39 07.8**	**-1.0**
PLM	**Palomar**	**1.04**	**282**		**Pb**	**05 39 08.2**	**-1.1**
EML	**El Monte Cty P**	**1.04**	**256**		**Pb**	**05 39 08.2**	**-1.0**
EML					**Sb**	**05 39 22.4**	**-0.3**
IRM	**Iron Mountain**	**1.09**	**22**		**Pb**	**05 39 09.7**	**-0.4**
DUZA	**Dulzura**	**1.09**	**241**		**Pb**	**05 39 09.1**	**-1.0**
DUZA					**Sb**	**05 39 24.6**	**+0.3**
DPP	**Dos Picos Cty**	**1.10**	**262**		**Pb**	**05 39 09.0**	**-1.2**
DPP					**Sb**	**05 39 23.7**	**-0.8**
BLYC	**Blythe**	**1.11**	**57**		**Pb**	**05 39 10.0**	**-0.4**
BLYC				IAML		05 39 25.9	
	comp=N,537nm,0.4s						
TJIG	**Tijuana**	**1.12**	**231**	*e*P	**Pb**	**05 39 09.4**	**-1.2**
TJIG				*e*S	**Sb**	**05 39 24.1**	**-1.1**
SDRC	**San Diego Road**	**1.17**	**250**		**Sb**	**05 39 25.4**	**-0.9**
ESJX	**Sierra Juarez**	**1.17**	**193**		**Sb**	**05 39 26.4**	**-0.3**
ESJX	**Sierra Juarez**	**1.17**	**193**		**Pn**	**05 39 10.3**	**-1.2**
ESJX	**Sierra Juarez**	**1.17**	**193**	IAML		05 39 26.8	
	comp=N,219nm,0.4s						
ESJX				IAML		05 39 27.1	
	comp=E,469nm,0.5s						
POB	**Polly Butte**	**1.20**	**297**		**Pn**	**05 39 10.3**	**-1.6**
POB					**Sg**	**05 39 28.2**	**+0.2**
CBX	**Cerro Bola**	**1.20**	**226**		**Sb**	**05 39 27.3**	**-0.1**
CBX	**Cerro Bola**	**1.20**	**226**		**Pn**	**05 39 11.2**	**-0.7**
CBX	**Cerro Bola**	**1.20**	**226**	IAML		05 39 28.4	
	comp=N,560nm,0.7s						
CBX				IAML		05 39 29.4	
	comp=E,712nm,0.6s						
CBX	**Cerro Bola**	**1.20**	**226**	*i* P	**Pg**	**05 39 15.3**	**+3.0**
CBX				*e*S	**Sn**	**05 39 28.1**	**0.0**
CPE	**Camp Elliot**	**1.25**	**258**		**Pb**	**05 39 13.0**	**+0.1**
CPE	**Camp Elliot**	**1.25**	**258**	IAML		05 39 29.3	
	comp=N,221nm,0.6s						
CPE				IAML		05 39 30.1	
	comp=E,256nm,0.3s						
BACC	**Bachelor Mtn.**	**1.25**	**292**		**Pb**	**05 39 13.0**	**+0.1**
HMTC	**Hemet**	**1.27**	**296**		**Pn**	**05 39 11.2**	**-1.5**
GORC	**Green Oak Ranc**	**1.33**	**271**		**Pb**	**05 39 14.1**	**0.0**
TJX	**Tijuana**	**1.35**	**242**		**Pb**	**05 39 14.4**	**0.0**
MURC	**Murrieta**	**1.37**	**290**		**Pb**	**05 39 14.7**	**-0.2**
PEC	**Perris**	**1.47**	**301**		**Sg**	**05 39 36.2**	**-0.4**
ELS	**Elsinore Mount**	**1.57**	**289**		**Pn**	**05 39 15.4**	**-1.6**
GMRC	**Granite Mounta**	**1.63**	**360**		**Pg**	**05 39 20.3**	**-0.3**
CLTC	**Calectric**	**1.68**	**304**		**Sb**	**05 39 41.0**	**-0.2**
VTX	**Valle De La Tr**	**1.76**	**184**		**Pn**	**05 39 18.6**	**-1.0**
SFX	**San Felipe**	**2.21**	**162**		**Pb**	**05 39 27.7**	**-1.5**
SFX	**San Felipe**	**2.21**	**162**	*e*S	**Pg**	**05 39 33.4**	**+1.7**
Y14A	**Wiulkenburg**	**2.34**	**70**	Pn	**Pn**	**05 39 27.7**	**+0.1**
W13A	**Hualapai Mount**	**2.43**	**36**		**Pn**	**05 39 29.6**	**+0.6**
V12A	**Nelson**	**2.65**	**14**		**Pn**	**05 39 33.2**	**+1.3**
SHPR	**Sheep Range**	**3.37**	**7**		**Pn**	**05 39 41.9**	**0.0**
WCT	**Wildcat Mounta**	**3.72**	**348**		**Pn**	**05 39 48.0**	**+1.4**
X16A	**Lo Mia Camp, P**	**3.72**	**69**		**Pn**	**05 39 46.4**	**-0.3**
TPNV	**Topopah Spring**	**3.82**	**353**		**Pn**	**05 39 48.7**	**+0.6**
TPNV				IAML		05 41 08.4	
	comp=E,22nm,3.0s						
TPNV				IAML		05 41 12.9	
	comp=E,20nm,2.8s						
GRAC	**Grapevine Rang**	**4.09**	**340**		**Pn**	**05 39 52.5**	**+0.9**
PRN	**Pahroc Range**	**4.28**	**6**		**Pn**	**05 39 56.0**	**+1.7**
U15A	**North Rim**	**4.28**	**39**		**Pn**	**05 39 56.4**	**+1.9**
LCMT	**Little Creek M**	**4.33**	**26**		**Pn**	**05 39 57.7**	**+2.7**
GMN	**Gold Mountain**	**4.35**	**343**		**Pn**	**05 39 56.2**	**+0.9**
KNB	**Kanab**	**4.50**	**30**		**Pn**	**05 39 58.9**	**+1.5**
X18A	**Snowflake**	**4.94**	**72**		**Pn**	**05 40 03.2**	**-0.2**
TPH	**Tonopah**	**5.08**	**346**		**Pn**	**05 40 07.3**	**+2.0**
PSUT	**Pine Spring**	**5.56**	**15**	Pn	**Pn**	**05 40 13.4**	**+1.3**
MTPU	**Mount Pierson**	**5.64**	**29**		**Pn**	**05 40 13.5**	**+0.4**
SPR3	**Spring Creek 3**	**5.93**	**10**	Pn	**Pn**	**05 40 20.6**	**+3.4**

*NEIC **16** 05:42:20.1±1.1, 35°.40N±0°.01×98°.121W±0°.004, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.0km az=184.0*
NEIC 16 05:42:20.2±1.4, 35°.37N±0°.01×98°.11W±0°.02, h11km±7km, mb_Lg2.4/5, ML2.5/44, ML2.9/22, Error ellipse: s-maj=2.1km s-min=2.0km az=207.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK004	**Okla Sci Mus**	**0.54**	**73**		Pg	05 42 30.3	-0.5
CSTR	**Hydro, Custer**	**0.55**	**300**		Pg	05 42 31.0	+0.1
CSTR				Sg	Sg	05 42 38.9	+0.8
FNO	**Franklin**	**0.59**	**101**	Pg	Pg	05 42 31.7	0.0
FNO					Sg	05 42 40.2	+0.6
OK029	**Liberty Lake**	**0.68**	**51**	Pg	Pg	05 42 33.1	-0.4
OK029				Sg	Sg	05 42 41.3	-1.2
OK029				IAML		05 42 45.8	
	142nm,0.3s						
OK029				IAML		05 42 48.7	
	132nm,0.1s						
X34A	**Smith Ranch, M**	**0.80**	**163**	Pg	Pb	05 42 36.4	+0.2
X34A				IAML		05 43 00.7	
	comp=N,90nm,2.0s						
X34A				IAML		05 43 03.9	
	comp=E,110nm,0.9s						
WMOK	**Wichita Mounta**	**0.84**	**221**		Pg	05 42 36.2	-0.1
WMOK				Sg	Sg	05 42 47.3	0.0
W35A	**Tecumseh**	**1.03**	**102**	Pg	Pg	05 42 39.6	-0.6
W35A					Sg	05 42 53.5	-0.1
W35A				IAML		05 43 01.0	
	comp=E,90nm,0.3s						
W35A				IAML		05 43 04.9	
	comp=N,84nm,0.4s						
CROK	**Carrier**	**1.14**	**5**		Pb	05 42 41.1	-0.9
OK031	**S. Brethren Rd**	**1.19**	**60**		Pb	05 42 41.9	-0.9
OK038	**West end E0370**	**1.22**	**335**		Pn	05 42 42.6	-0.6
OK052	**Battle Ridge R**	**1.23**	**59**		Pn	05 42 42.9	-0.6
ELIS	**Ellis County**	**1.27**	**304**	Pg	Pg	05 42 44.5	-0.1
ELIS				IAML		05 43 06.0	
	comp=E,143nm,0.3s						
ELIS				IAML		05 43 08.1	
	comp=N,135nm,0.2s						
QUOK	**Quay**	**1.39**	**55**	Pn	Pn	05 42 45.4	-0.2
DEOK	**Depew**	**1.40**	**70**		Pn	05 42 45.5	-0.2
OK048	**Pawnee Station**	**1.41**	**42**	Pn	Pn	05 42 46.0	+0.1
NOKA	**Waynoka**	**1.43**	**332**	Pn	Pn	05 42 46.0	-0.1
GC02	**Grant County #**	**1.49**	**8**		Pn	05 42 46.9	-0.1
OK051	**E0350 and S346**	**1.54**	**42**		Pn	05 42 47.3	-0.3
BLOK	**Blackwell**	**1.57**	**27**		Pn	05 42 47.8	-0.2
KAN14	**Manchester OK**	**1.59**	**4**		Pn	05 42 47.8	-0.5
KAN17	**Caldwell West**	**1.69**	**9**		Pn	05 42 50.1	+0.3
KAN13	**South Haven SW**	**1.72**	**17**		Pn	05 42 50.5	+0.3
SMWD	**Samnorwood**	**1.77**	**262**		Pn	05 42 51.7	+0.9
KAN01	**Argonia South**	**1.80**	**9**	Pn	Pn	05 42 51.5	+0.3
KAN09	**Caldwell North**	**1.81**	**13**		Pn	05 42 51.7	+0.4
TUL3	**Leonard**	**1.96**	**73**		Pn	05 42 54.2	+0.7
T35A	**Sooner Cattle**	**2.01**	**40**		Pn	05 42 54.0	-0.2
Z35A	**Perchaven, San**	**2.15**	**161**		Pn	05 42 57.6	+1.5
FW06	**Azle**	**2.44**	**169**		Pb	05 43 02.4	-1.7
PLPT	**Palo Pinto**	**2.56**	**184**		Pn	05 43 03.7	+2.1
AMTX	**Amarillo**	**2.97**	**262**	Pn	Pn	05 43 09.6	+2.2
U38A	**Gravette**	**3.21**	**69**	Pn	Pn	05 43 12.3	+1.7
U38A				IAmb_Lg		05 44 04.2	
	comp=Z,4.9nm,0.8s						
SGCY	**Sterling City**	**4.27**	**217**	IAmb_Lg		05 44 44.2	
	comp=Z,14nm,1.0s						
FVM	**French Village**	**6.70**	**65**	IAmb_Lg		05 46 04.0	
	comp=Z,5.7nm,0.8s						

*IDC **16** 05:50:57.8±1.0, 56°.52S×25°.16W, h0km, mb4.1/5, mbtmp4.1/6, ML3.6/1, Error ellipse: s-maj=34.9km s-min=22.7km az=73.0*
*NEIC **16** 05:51:01.4±1.6, 56°.8S±0°.1×25°.9W±0°.2, h10km±1km, mb4.4/12, Error ellipse: s-maj=23.9km s-min=17.8km az=203.0*
ISC 16 05:51:00.6±0.6, 56°.74S±0°.09×25°.8W±0°.1, h10km, n32, σ1s00/32, mb4.3/7, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.58**	**287**	Pn	**Pn**	**05 52 38.8**	**+1.5**
VNA1	**Neumayer--Stat**	**15.86**	**158**	⇑P	**Pn**	**05 54 43.2**	**-0.3**
	comp=Z,7.2nm,0.8s						
VNA3	**Neumayer Olymp**	**16.07**	**161**	⇑P	**Pn**	**05 54 45.7**	**-0.7**
	comp=Z,1.5nm,0.4s						
VNA2	**Neumayer--Watz**	**16.25**	**158**	⇑P	**Pn**	**05 54 48.1**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=327,slow=16						
SNAA	**Sanae**	**17.79**	**156**	P	**Pn**	**05 55 08.6**	**+0.7**
SNAA	**Sanae**	**17.79**	**156**	⇑P	**Pn**	**05 55 08.4**	**+0.4**
	comp=Z,48nm,0.7s						
SNAA	**Sanae**	**17.79**	**156**	P	**P**	**05 55 08.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=316,slow=13,SNR=23						
	comp=Z,1.2nm,0.4s						
TROLL	**Troll, Antarti**	**19.27**	**154**	⇑P	**P**	**05 55 24.4**	**-0.7**
	comp=Z,15nm,0.3s						
PMSA	**Palmer Station**	**20.07**	**231**	P	**P**	**05 55 33.5**	**-0.2**
PMSA				IAmb	IAmb	05 55 40.5	
	comp=Z,25nm,1.1s						
PMSA	**Palmer Station**	**20.07**	**231**	P	**Pn**	**05 55 35.7**	**+0.3**
	comp=Z,12nm,0.9s,baz=80,slow=6.1,SNR=2.1						
	comp=Z,12nm,0.9s						
BELA	**Belgrano 2**	**21.45**	**185**	P	**P**	**05 55 48.

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HNR  Honiara          1.36 299                Pn          06 11 08.1 -2.6
HNR                              Sn          Sn          06 11 27.1 -2.3
HNR  Honiara          1.36 299                Pn          06 11 09.6 -1.1
     302nm,0.3s,baz=160,slow=1.3,SNR=15
HNR                              S           Sn          06 11 28.0 -1.4
     3µm,0.4s,baz=96,slow=10,SNR=17
KOUNC Koumac, New Ca  10.81 164  Pn          Pn          06 13 15.8 -2.2
DZM  Mont Dzumac      12.94 158  Pn          Pn          06 13 44.9 -1.4
DZM  Mont Dzumac      12.94 158  P           Pn          06 13 46.3  0.0
     3.9nm,0.4s,baz=316,slow=18,SNR=27
DZM                              S           Sn          06 16 04.3 -4.3
     2.6nm,0.6s,baz=289,slow=24,SNR=1.1
ONTNC Ouen Toro       13.15 158  Pn          Pn          06 13 49.7 +0.6
CTAO Charters Tower   17.46 234  P           Pn          06 14 42.9 -0.6
COEN Coen             17.99 256  P           Pn          06 14 51.4 +1.4
COEN                             IAmb        IAmb        06 14 57.8
     comp=Z,18nm,1.4s
WR0  Warramunga Arr   27.46 246  P           P           06 16 24.2 +1.2
WR0                              IAmb        IAmb        06 16 43.5
     comp=Z,3.0nm,0.8s
WB0  Warramunga Arr   27.54 246  P           P           06 16 25.0 +1.2
WB0                              IAmb        IAmb        06 16 46.0
     comp=Z,3.7nm,0.8s
WRA  Warramunga Arr   27.64 246  P           P           06 16 25.0 +0.3
WRA  Warramunga Arr   27.64 246  P           P           06 16 26.2 +1.6
     comp=Z,1.0nm,0.5s,baz=77,slow=9.0,SNR=19
WRA                              pP          pP          06 16 44.7 -1.0
     comp=Z,2.3nm,0.7s,baz=75,slow=9.6,SNR=10
WRA                              PcP         PcP         06 19 39.9 +0.1
     comp=Z,0.4nm,0.8s,baz=65,slow=3.0,SNR=2.8
WRA                              LR          LR          06 26 15.4
     comp=Z,342nm,20.1s,baz=194,slow=34
     comp=Z,1.0nm,0.5s
STKA Stephens Creek   28.23 217  P           P           06 16 30.9 +1.1
     comp=Z,0.6nm,0.3s,baz=12,slow=14,SNR=3.3
     comp=Z,0.6nm,0.3s
AS31 Alice Springs    29.28 239  P           P           06 16 40.2 +1.0
ASAR Alice Springs    29.28 239  P           P           06 16 39.5 +0.2
     comp=Z,0.5nm,0.5s,baz=60,slow=10,SNR=12
ASAR                             pP          pP          06 16 58.5 -1.7
     comp=Z,0.9nm,0.8s,baz=71,slow=9.6,SNR=5.2
ASAR                             LR          LR          06 27 43.3
     comp=Z,450nm,19.8s,baz=256,slow=35
     comp=Z,0.5nm,0.5s
KNRA Kununurra        32.03 257  P           P           06 17 04.4 +0.9
KNRA                             IAmb        IAmb        06 17 28.6
     comp=Z,9.9nm,1.5s
BBOO Buckleboo        32.33 222              P           06 17 07.4 +1.5
FITZ Fitzroy Crossi   35.29 253  P           P           06 17 33.2 +1.4
MBWA Marble Bar       41.26 249  P           P           06 18 23.2 +1.4
MBWA                             IAmb        IAmb        06 18 34.1
     comp=Z,17nm,1.4s
JOW  Kunigami         48.65 320  P           P           06 19 19.0 -1.2
SONM Songino Array    75.29 325  P           P           06 22 20.3 +1.9
     comp=Z,0.5nm,0.6s,baz=136,slow=5.4,SNR=1.7
SONM                             pP          pP          06 22 40.2 -3.7
     comp=Z,1.0nm,0.6s,baz=141,slow=6.6,SNR=3.8
     comp=Z,0.5nm,0.6s
QSPA South Pole Qui   79.89 180  P           P           06 22 45.4 +1.6
QSPA                             IAmb        IAmb        06 22 46.9
     comp=Z,6.8nm,1.0s
QSPA South Pole Qui   79.89 180  P           P           06 22 45.7 +1.9
     comp=Z,4.0nm,0.8s,baz=302,slow=0.5,SNR=23
     comp=Z,4.0nm,0.8s
MAW  Mawson           83.88 202  P           P           06 23 06.5 +2.1
     comp=Z,2.5nm,0.8s,baz=111,slow=4.2,SNR=6.8
     comp=Z,2.5nm,0.8s
ILAR Eielson Array    84.11  20  P           P           06 23 07.9 +2.3
     comp=Z,0.3nm,0.8s,baz=245,slow=4.9,SNR=1.6
ILAR                             pP          pP          06 23 28.6 -2.6
     comp=Z,0.8nm,1.0s,baz=228,slow=5.3,SNR=4.1
     comp=Z,0.3nm,0.8s
LPIG La Paz           92.74  66  LR          LR          06 58 28.2
     comp=Z,54nm,18.6s,baz=303,slow=31
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*SJA **16** 06:16:24.5±0.6,24°.09S×67°.11W,h214km±4km,ML3.1, MW3.5*
*GUC **16** 06:16:27.6±0.7,24°.04S×67°.18W,h182km±8km,ML3.4*
ISC 16 06:16:24.6±1.7,24°.07S±0°.04×67°.16W±0°.04, h211km±14km,n29,σ1°18/49,5C-2D,Chile-Argentina border region

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Code Station Name      Δ°   AZ°  Phase ID   ISC        Time      Res
                                Op                    h m s     ISC
AF01 San Pedro de A    1.45 320  eP          Pn      06 16 59.2  0.0
AF01                              IAML                06 17 35.0
     comp=E,109nm,0.1s
AF01 San Pedro de A    1.45 320  eP          Pn      06 17 00.5 +1.2
AF01                              eS          Sn      06 17 26.6 +0.4
AF01                              IAML                06 17 32.3
     comp=Z,66nm,0.2s
SLA  San Lorenzo       1.64 114 ⇓iP          Pn      06 17 01.3 +0.6
SLA                               i S         Sn      06 17 26.9 -1.9
SLA  San Lorenzo       1.64 114  eP          Pn      06 17 01.3 +0.6
SLA                               eS          Sn      06 17 27.9 -0.9
AZAP Zapla             1.92  95  eP          Pn      06 17 03.5 +0.1
AZAP                              eS          Sn      06 17 32.8 -0.8
AZAP                              IAML                06 17 34.6
     comp=Z,34nm,0.9s
PB15 IPOC Station P    2.29 292 ⇑iP          Pn      06 17 08.3 +1.1
PB15                              i S         Sn      06 17 38.8 -1.5
PB15 IPOC Station P    2.29 292  eP          Pn      06 17 08.3 +1.1
PB15                              eS          Sn      06 17 39.1 -1.1
FSA  Cafayete          2.30 152  eP          Pn      06 17 08.1 +0.9
FSA                               eS          Sn      06 17 39.1 -1.4
YJA  Yavi              2.42  39  eP          Pn      06 17 09.6 +0.8
YJA  Yavi              2.42  39  eP          Pn      06 17 09.8 +1.0
YJA                               eS          Sn      06 17 43.7 +0.5
GO02 Mina Guanaco      2.47 243 ⇑iP          Pn      06 17 10.4 +1.3
GO02                              eS          Sn      06 17 43.2 -0.7
GO02                              IAML                06 17 47.0
     comp=N,122nm,0.1s
GO02 Mina Guanaco      2.47 243  eP          Pn      06 17 10.2 +1.1
GO02                              eS          Sn      06 17 44.4 +0.5
PB06 IPOC Station P    2.60 301 ⇑iP          Pn      06 17 11.5 +1.1
PB06                              i S         Sn      06 17 44.3 -2.0
PB06                              IAML                06 17 46.4
     comp=E,350nm,0.2s
PB06 IPOC Station P    2.60 301  eP          Pn      06 17 11.5 +1.1
PB06                              eS          Sn      06 17 45.2 -1.0
PB06                              IAML                06 17 46.0
     comp=Z,152nm,0.3s
ALOL LOMAS DE OLMED    2.92  86  eP          Pn      06 17 23.3 +9.3
PB09 IPOC Station P    2.97 319 ⇑iP          Pn      06 17 16.1 +1.5
PB09                              i S         Sn      06 17 52.5 -1.3
PB09                              IAML                06 17 54.3
     comp=N,72nm,0.5s
PB09 IPOC Station P    2.97 319  eP          Pn      06 17 15.7 +1.0
PB09                              eS          Sn      06 17 53.2 -0.6
PB09                              IAML                06 17 58.4
     comp=Z,44nm,0.4s
PB14 IPOC Station P    3.01 259  eP          Pn      06 17 16.2 +0.9
PB14                              IAML                06 17 56.1
     comp=E,26nm,0.2s
PB14 IPOC Station P    3.01 259  eP          Pn      06 17 16.1 +0.9
PB14                              eS          Sn      06 17 54.8 -0.1
PB14                              IAML                06 17 57.0
     comp=Z,36nm,0.3s
AHML Horco Molle       3.17 149  eP          Pn      06 17 17.9 +1.1
AHML                              eS          Sn      06 17 56.9 -0.9
PB04 IPOC Station P    3.25 302 ⇓iP          Pn      06 17 18.9 +1.0
PB04 IPOC Station P    3.25 302  eP          Pn      06 17 19.2 +1.3
PB04                              eS          Sn      06 17 58.3 -1.4
PB01 IPOC Station P    3.70 324  eP          Pn      06 17 23.7 +0.4
PB01                              IAML                06 18 07.5
     comp=E,68nm,0.4s
PB01 IPOC Station P    3.70 324  eP          Pn      06 17 23.6 +0.3
PB01                              eS          Sn      06 18 07.2 -2.2
PB01                              IAML                06 18 12.3
     comp=Z,51nm,0.2s
AC01 Pan de Azucar     3.74 236 ⇑iP          Pn      06 17 24.0 +0.3
PB08 IPOC Station P    4.33 334  eP          Pn      06 17 33.4 +2.2
PB08                              eS          Sn      06 18 22.6 -1.1
PB08                              IAML                06 18 25.5
     comp=Z,10.0nm,0.3s
GO03 Copiapo           4.47 218  eP          Pn      06 17 33.4 +0.7
GO03                              eS          Sn      06 18 25.4 -1.0
ACLC CERRO LA CRUZ     5.34 178  eP          Pn      06 17 46.3 +2.5
ACLC                              IAML                06 19 25.6
     comp=Z,3.9nm,3.8s
AC04 Llanos de Chal    5.42 220  eP          Pn      06 17 44.5 -0.1
AC04                              eS          Sn      06 18 46.6 -1.2
AC04                              IAML                06 18 48.2
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     comp=Z,17nm,0.3s
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*IDC **16** 06:21:55.4±2.8,24°.06S×66°.94W,h167km±25km,mb3.2/6, mbtmp3.7/10,Error ellipse: s-maj=27.1km s-min=15.6km az=59.0*
*SJA **16** 06:21:55.9±0.7,24°.12S×67°.08W,h205km±5km,ML3.8, MW3.8*
*NEIC **16** 06:21:56.5±1.7,24°.12S±0°.07×67°.1W±0°.1,h192km±7km, mb4.1/8,Error ellipse: s-maj=15.9km s-min=10.1km az=97.0*
*GUC **16** 06:21:56.4±0.8,24°.14S×67°.09W,h208km±10km,ML4.1*
*VAO **16** 06:22:01.8±1.3,23°.89S×66°.69W,h211km±15km,mb4.1*
ISC 16 06:21:56.5±0.6,24°.09S±0°.04×67°.08W±0°.04,h189km±6km, n98,σ1°17/118,mb3.8/10,10C-1D,Chile-Argentina border region

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Code Station Name      Δ°   AZ°  Phase ID   ISC        Time      Res
                                Op                    h m s     ISC
AF01 San Pedro de A    1.52 318  eP          Pn      06 22 30.9 +1.1
AF01 San Pedro de A    1.52 318  eP          Pn      06 22 31.5 +1.7
AF01 San Pedro de A    1.52 318  eP          Pn      06 22 27.2 -2.6
AF01                              eS          Sn      06 22 42.6 -13
AF01                              IAML                06 22 49.0
     comp=Z,150nm,0.5s
SLA  San Lorenzo       1.57 114 ⇓iP          Pn      06 22 31.3 +1.2
SLA                               i S         Sn      06 22 57.3 +1.2
SLA  San Lorenzo       1.57 114  eP          Pn      06 22 31.3 +1.2
SLA                               eS          Sn      06 22 57.2 +1.1
SLA                               IAML                06 22 58.0
     comp=Z,152nm,0.7s
AZAP Zapla             1.84  95  eP          Pn      06 22 33.6 +0.7
AZAP                              eS          Sn      06 23 02.9 +1.8
FSA  Cafayete          2.25 154  eP          Pn      06 22 38.0 +0.8
FSA                               eS          Sn      06 23 07.4 -1.5
PB15 IPOC Station P    2.36 291          Pn      06 22 39.0 +0.6
PB15 IPOC Station P    2.36 291 ⇑iP          Pn      06 22 39.7 +1.3
PB15                              i S         Sn      06 23 11.6 +0.6
PB15 IPOC Station P    2.36 291  eP          Pn      06 22 39.8 +1.3
PB15                              eS          Sn      06 23 11.9 +0.9
PB15                              IAML                06 23 16.2
     comp=Z,988nm,0.1s
YJA  Yavi              2.38  37  eP          Pn      06 22 40.1 +1.1
YJA  Yavi              2.38  37  eP          Pn      06 22 40.0 +1.1
YJA                               eP                  06 22 40.6
YJA                               eS          Sn      06 23 11.6 -0.3
GO02 Mina Guanaco      2.53 244  Pn          Pn      06 22 41.0 +0.6
GO02 Mina Guanaco      2.53 244 ⇑iP          Pn      06 22 41.5 +1.2
GO02                              i S         Sn      06 23 15.0 +0.4
GO02                              IAML                06 23 15.9
     comp=N,1µm,0.3s
GO02 Mina Guanaco      2.53 244  eP          Pn      06 22 41.6 +1.2
GO02                              eS          Sn      06 23 14.2 -0.3
PB06 IPOC Station P    2.67 300          Pn      06 22 42.5 +0.6
PB06 IPOC Station P    2.67 300 ⇑iP          Pn      06 22 43.0 +1.1
PB06                              IAML                06 23 18.3
     comp=N,384nm,0.3s
PB06 IPOC Station P    2.67 300  eP          Pn      06 22 43.1 +1.1
PB06                              eS          Sn      06 23 17.4 +0.1
PB06                              IAML                06 23 18.6
     comp=Z,234nm,0.3s
ALOL LOMAS DE OLMED    2.84  85  eP          Pn      06 22 44.7 +0.9
PB09 IPOC Station P    3.03 318          Pn      06 22 47.3 +1.1
PB09 IPOC Station P    3.03 318 ⇑iP          Pn      06 22 47.4 +1.2
PB09                              IAML                06 23 26.2
     comp=N,228nm,0.4s
PB09 IPOC Station P    3.03 318  eP          Pn      06 22 47.4 +1.2
PB09                              eS          Sn      06 23 25.4 +0.4
PB09                              IAML                06 23 26.0
     comp=Z,211nm,0.5s
PB14 IPOC Station P    3.08 259  Pn          Pn      06 22 47.2 +0.2
PB14 IPOC Station P    3.08 259 ⇑iP          Pn      06 22 47.5 +0.5
PB14                              IAML                06 23 25.6
     comp=E,123nm,0.3s
PB14 IPOC Station P    3.08 259  eP          Pn      06 22 47.3 +0.4
PB14                              eS          Sn      06 23 25.6 -0.6
PB14                              IAML                06 23 26.8
     comp=Z,145nm,0.3s
AHML Horco Molle       3.12 150  eP          Pn      06 22 47.5 +0.4
AHML Horco Molle       3.12 150  eP          Pn      06 22 47.5 +0.4
AHML                              eS          Sn      06 23 25.7 -1.0
PB04 IPOC Station P    3.32 301  Pn          Pn      06 22 50.1 +0.3
PB04 IPOC Station P    3.32 301  eP          Pn      06 22 50.6 +0.8
PB04 IPOC Station P    3.32 301  eP          Pn      06 22 50.0 +0.3
PB04                              IAML                06 23 33.1
     comp=Z,237nm,0.3s
PB01 IPOC Station P    3.76 323          Pn      06 22 55.0 -0.1
PB01 IPOC Station P    3.76 323  eP          Pn      06 22 55.2 +0.1
PB01                              eS          Sn      06 23 40.2 -0.7
PB01                              IAML                06 23 41.9
     comp=Z,60nm,0.5s
AC01 Pan de Azucar     3.80 237  Pn          Pn      06 22 55.0 -0.4
AC01 Pan de Azucar     3.80 237  eP          Pn      06 22 55.1 -0.3
AC01                              eS          Sn      06 23 40.0 -1.5
AC01                              IAML                06 23 40.5
     comp=Z,86nm,0.5s
PB08 IPOC Station P    4.37 333          Pn      06 23 02.9 -0.2
PB08 IPOC Station P    4.37 333  eP          Pn      06 23 03.3 +0.2
PB08                              eS          Sn      06 23 54.6 -0.6
PB08                              IAML                06 23 55.9
     comp=Z,56nm,0.4s
AC06 Mina Casimiro     4.40 222  Pn          Pn      06 23 01.3 -1.7
CYA  Choya             4.49 165  eP          Pn      06 23 05.1 +1.0
CYA                               eS          Sn      06 23 44.5 -13
GO03 Copiapo           4.50 218  Pn          Pn      06 23 03.8 -0.6
GO03 Copiapo           4.50 218  eP          Pn      06 23 04.1 -0.3
GO03                              eS          Sn      06 23 56.0 -1.8
TA01 Diego Aracena     4.53 320  Pn          Pn      06 23 03.8 -1.0
TA01 Diego Aracena     4.53 320  eP          Pn      06 23 04.1 -0.6
TA01                              eS          Sn      06 23 56.7 -1.6
TA01                              IAML                06 24 00.6
     comp=Z,48nm,0.3s
TA02 Huaiquique        4.74 323          Pn      06 23 06.7 -0.6
GO01 Chusmiza          4.81 335  Pn          Pn      06 23 09.1 +0.2
GO01 Chusmiza          4.81 335  eP          Pn      06 23 08.6 -0.3
GO01                              eS          Sn      06 24 05.5 -0.1
PB11 IPOC Station P    4.92 330          Pn      06 23 08.7 -1.3
PB11 IPOC Station P    4.92 330  eS          Sn      06 24 04.2 -3.5
PB11                              IAML                06 24 06.8
     comp=Z,94nm,0.6s
ACLC CERRO LA CRUZ     5.32 179  eP          Pn      06 23 15.3 +0.3
ACLC                              eS          Sn      06 24 15.3 -1.5
AC04 Llanos de Chal    5.45 220  Pn          Pn      06 23 13.7 -2.8
AC04 Llanos de Chal    5.45 220  eP          Pn      06 23 06.0 -10
AC04                              eS          Sn      06 24 06.0 -14
AC04                              IAML                06 24 23.7
     comp=Z,43nm,0.5s
AC05 El Transito       5.53 211  Pn          Pn      06 23 17.1 -0.6
LCO  Las Campanas      5.88 213  Pn          Pn      06 23 20.9 -1.5
CO01 Juntas del Tor    6.46 204  Pn          Pn      06 23 29.7 -0.1
GO04 Tololo Observa    6.91 208  Pn          Pn      06 23 34.2 -1.6
CO03 El Pedregal       7.45 205  Pn          Pn      06 23 41.5 -1.2
ZON  Zonda             7.57 190  Pn          Pn      06 23 44.5 +0.4
LPAZ La Paz            7.82 353          Pn      06 23 47.9 -0.2
LPAZ La Paz            7.82 353  P           Pn      06 23 48.0 -0.1
     comp=Z,1.4nm,0.3s,baz=134,slow=7.5,SNR=21
LPAZ                              S           Sn      06 25 13.4 -3.1
     comp=Z,3.5nm,1.0s,baz=94,slow=19,SNR=4.0
MURT Porto Murtinho    9.06  76  eP          Pn      06 24 03.1 -0.6
CPUP Villa Florida     9.11 106  P           Pn      06 24 01.7 -2.6
     comp=Z,1.9nm,0.9s,baz=296,slow=7.1,SNR=3.1
SIV  San Ignacio       9.83  36  P           Pn      06 24 11.9 -2.0
     comp=Z,0.9nm,0.4s,baz=225,slow=11,SNR=10
CPSB Cacapava Do Su   13.66 120  eP          P       06 25 04.4 -0.9
PTGB Pitanga          13.70  96  eP          P       06 25 05.3 -0.4
ITAB Concordia        13.84 106              P       06 25 06.4 -0.9
TRQA Tornquist        14.59 164  P           Pn      06 25 13.4 -0.8
LDASE Londrina, Braz  14.63  91  eP          Pn      06 25 14.0 -0.8
SAML Samuel           15.51  15  P           Pn      06 25 24.4 -1.1
ITRB Iturama          16.11  78  eP          Pn      06 25 32.2 -0.6
ARAG Araguaiana, MT   16.59  63  eP          Pn      06 25 38.2 -0.4
CZSB Cruzeiro do Su   17.13 341  eP          Pn      06 25 47.0 +1.9
VAO  Valinhos         18.47  91  P           P       06 25 57.3 -1.1
VAO  Valinhos         18.47  91  eP          P       06 25 57.5 -0.9
IPMB Ipameri, GO      18.62  75  eP          P       06 25 59.6 -0.3
SNDB Serra Nova Dou   19.22  54  eP          P       06 26 05.2 -1.3
BDFB Brasilia         19.78  68  P           P       06 26 12.0 -0.6
BDFB                              IAmb        IAmb    06 26 13.3
     comp=Z,15nm,0.7s
BDFB Brasilia         19.78  68  P           P       06 26 11.9 -0.7
     comp=Z,13nm,0.6s,baz=246,slow=11,SNR=27
TBTG Tabatinga, AM    19.97 352  P           P       06 26 13.3 -1.2
TBTG Tabatinga, AM    19.97 352  eP          P       06 26 16.7 +2.2
SMTB Santa Maria do   24.00  54  eP          P       06 26 53.5 -0.6
VNA3 Neumayer Olymp   57.09 161 ⇑P           P       06 31 23.5 +0.8
     comp=Z,1.3nm,0.7s
VNA1 Neumayer--Stat   57.29 160 ⇑P           P       06 31 26.3 +2.2
     comp=Z,1.1nm,0.4s
VNA2 Neumayer--Watz   57.66 160 ⇑P           P       06 31 28.0 +1.4
     comp=Z,1.1nm,0.4s,baz=290,slow=8.4
SNAA Sanae            59.29 161  P           P       06 31 38.9 +1.0
SNAA                              IAmb        IAmb    06 32 00.5
     comp=Z,4.6nm,1.5s
SNAA Sanae            59.29 161 ⇑P           P       06 31 38.5 +0.5
     comp=Z,23nm,0.8s
SNAA Sanae            59.29 161  P           P       06 31 39.0 +1.0
     comp=Z,1.0nm,0.7s,baz=309,slow=4.4,SNR=8.3
     comp=Z,1.0nm,0.7s
TROLL Troll, Antarti  61.01 161 ⇑P           P       06 31 50.7 +1.0
     comp=Z,56nm,0.7s
TXAR Lajitas Array    63.71 325  P           P       06 32 09.5 +1.4
TXAR Lajitas Array    63.71 325  P           P       06 32 09.7 +1.6
     comp=Z,0.3nm,0.7s,baz=148,slow=7.4,SNR=4.4
     comp=Z,0.3nm,0.7s
ALPN Alpine           64.52 325  P           P       06 32 14.6 +1.1
ALPN                              IAmb        IAmb    06 32 16.5
     comp=Z,1.0nm,0.9s
QSPA South Pole Qui   66.12 180  P           P       06 32 22.9 -0.3
QSPA                              IAmb        IAmb    06 32 27.9
     comp=Z,8.1nm,1.5s
QSPA South Pole Qui   66.12 180  P           P       06 32 24.4 +1.2
     comp=Z,0.5nm,0.5s,baz=135,slow=1.5,SNR=5.6
     comp=Z,0.5nm,0.5s
TORD Torodi Ar. Bea   76.67  69  P           P       06 33 26.4 -0.6
TORD Torodi Ar. Bea   76.67  69  P           P       06 33 27.1 +0.1
     comp=Z,0.5nm,0.6s,baz=244,slow=5.2,SNR=5.1
     comp=Z,0.5nm,0.6s
PDAR Pinedale Array   77.19 329  P           P       06 33 31.0 +1.4
     comp=Z,0.3nm,0.5s,baz=122,slow=7.9,SNR=2.7
     comp=Z,0.3nm,0.5s
NVAR Mina Array Bea   78.56 321  P           P       06 33 39.0 +1.7
     comp=Z,0.3nm,0.7s,baz=144,slow=5.1,SNR=2.3
     comp=Z,0.3nm,0.7s
WRA  Warramunga Arr  131.52 207  PKP         PKiKP   06 40 48.5 +0.1
     comp=Z,0.3nm,0.7s,baz=161,slow=1.7,SNR=1.7
MKAR Makanchi Array  146.63  40  PKPbc       PKPab   06 41 17.2 -0.1
     comp=Z,0.3nm,0.5s,baz=306,slow=2.8,SNR=2.3
PZH  PanZhiHua       169.60  74  PKP         PKPdf   06 41 40.6 -1.3
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*IDC **16** 06:40:05.2±0.6,54°.63N×161°.10W,h0km,mb4.5/28, mbtmp4.4/30,ML3.9/2,MS3.6/6,Error ellipse: s-maj=17.6km s-min=12.6km az=177.0*
*NEIC **16** 06:40:08.7,54°.43N×160°.86W,h31km*
*AEIC **16** 06:40:09.7±1.6,54°.51N±0°.04×160°.86W±0°.04,h8km±4km, Error ellipse: s-maj=5.7km s-min=3.2km az=185.0*
*NEIC **16** 06:40:10.7±2.2,54°.57N±0°.03×160°.89W±0°.04,h32km±5km, mb4.4/29,ML4.2/22,Mwr4.1/17,ML4.1(AEIC),Error ellipse: s-maj=4.5km s-min=3.5km az=171.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.26; $M_{\theta\theta}$-0.93; $M_{\phi\phi}$-0.34; $M_{r\theta}$1.18; $M_{\theta\phi}$-0.79; $M_{r\phi}$0.39; Fault plane solution: $M_0$1.86000×10^{15} NP1:ϕ_s221.08000°, δ25.77000°,λ66.27000°. NP2:ϕ_s67.10000°,δ66.55000°, λ100.99000°. Principal axes: T 1.7824, Plg67.0000°, Azm357.0000°; N 0.1489, Plg10.0000°, Azm243.0000°; P -1.9313, Plg21.0000°, Azm149.0000°;*
ISC 16 06:40:07.6±1.0,54°.51N±0°.04×160°.86W±0°.03,h19km±3km, n303,σ1°42/307,mb4.6/51,MS3.7/5,Alaska Peninsula

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Code Station Name      Δ°   AZ°  Phase ID   ISC        Time      Res
                                Op                    h m s     ISC
CNBA Chernabura Isl    0.80  66              Pn      06 40 23.8 -0.1
CNBA Chernabura Isl    0.80  66              Sn      06 40 36.1 +0.9
CNBA Chernabura Isl    0.80  66  IAML                06 40 38.8
     comp=E,2µm,0.7s
CNBA                              IAML                06 40 39.0
     comp=N,3µm,0.7s
CHNA Chernabura Isl    0.81  66  P           Pn      06 40 24.0 +0.2
     baz=246
CHNA                              S           Sn      06 40 36.1 +0.8
     baz=246
CHNA Chernabura Isl    0.81  66  P           Pn      06 40 24.4 +0.5
HAG  Hague Volcano     1.01 324              Pn      06 40 27.7 +0.9
HAG                                           Sb      06 40 39.4 -0.1
HAG                                           Sn      06 40 41.8 +1.2
PS4A Pavlof South-4    1.02 326              Pn      06 40 27.5 +0.6
PS4A                                          Sn      06 40 41.8 +1.1
PVV  Pavlof Volcano    1.02 329              Pg      06 40 27.5 +0.1
PS1A Pavlof South-1    1.05 331              Pg      06 40 28.0 +0.1
PS1A                                          Sg      06 40 42.4 +0.6
PN7A Pavlof North-7    1.14 325              Pg      06 40 29.6 -0.1
S12K Black Hills       1.39 331  Pn          Pb      06 40 33.3 +0.5
S12K Black Hills       1.39 331              Sb      06 40 51.4 +1.3
S12K Black Hills       1.39 331  IAML                06 40 54.6
     comp=E,5µm,0.4s
S12K                              IAML                06 40 55.9
     comp=N,4µm,0.5s
S12K Black Hills       1.39 331  P           Pb      06 40 33.4 +0.5
     baz=150
FALS False Pass        1.53 284              Pb      06 40 34.9 -0.4
FALS False Pass        1.53 284  P           Pb      06 40 34.9 -0.4
     baz=103
FALS False Pass        1.53 284  P           Pb      06 40 35.3 +0.1
ISLZ Isanotski Laza    1.68 279              Pb      06 40 37.2 -0.6
ISLZ                                          Sb      06 40 58.6 +0.1
ISNN Isanotski Nort    1.73 282              Pb      06 40 38.6 -0.1
ISNN                                          Sg      06 41 01.4 -1.9
VNKR Veniaminof 5      1.75  28              Pb      06 40 39.1  0.0
VNKR                                          Sb      06 41 00.9 +0.2
VNSG Veniaminof 6      1.91  31              Pb      06 40 41.5 -0.4
S14K Fog Glacier       1.93  22  P           Pb      06 40 41.6 -0.7
     baz=203
VNFG Fog Glacier, M    1.93  22              Pb      06 40 41.6 -0.6
VNFG Fog Glacier, M    1.93  22              Pb      06 40 41.6 -0.6
VNFG Fog Glacier, M    1.93  22  P           Pb      06 40 41.6 -0.6
     baz=203
VNHG Veniaminof 1      1.97  29              Pb      06 40 42.1 -0.8
WESE West Dahl East    2.18 271              Pb      06 40 44.4 -2.0
WEBT Westdahl Beart    2.27 274              Pb      06 40 45.9 -2.1
WEBT                                          Sn      06 41 12.9 +1.4
CHGN Chignik           2.28  37  Pn          Pn      06 40 44.9 +0.8
CHGN                              IAML                06 41 18.4
     comp=N,1µm,0.9s
CHGN                              IAML                06 41 23.4
     comp=E,1µm,1.1s
ANPB Aniakchak Plen    2.73  31              Pn      06 40 52.4 +2.0
AKSA Akutan Strait     2.86 265              Pn      06 40 54.0 +1.9
AHB  Akutan Harbor     2.93 264              Pn      06 40 54.9 +1.8
AHB                                           Sn      06 41 29.9 +2.1
AKBBA Akutan Broad B   3.00 264              Pn      06 40 55.9 +1.8
AKGG Akutan Green G    3.02 266              Pn      06 40 56.0 +1.7
LVA  Lava Point        3.05 266              Pn      06 40 56.6 +1.8
LVA  Lava Point        3.05 266              Sn      06 41 33.7 +3.0
CHIR Chirikof Islan    3.28  64  Pn          Pn      06 40 58.4 +0.5
CHIR                              IAML                06 41 58.3
     comp=E,553nm,0.9s
CHIR                              IAML                06 41 58.3
     comp=N,676nm,0.9s
CHIR Chirikof Islan    3.28  64  P           Pn      06 40 59.9 +2.0
     baz=248
UNV  Unalaska Valle    3.38 261              Pn      06 41 00.7 +1.4
UNV  Unalaska Valle    3.38 261  P           Pn      06 41 00.7 +1.4
     baz=77
UNV  Unalaska Valle    3.38 261  P           Pn      06 41 00.6 +1.3
MTBL Makushin Table    3.46 263              Pn      06 41 02.2 +1.8
MSW  Makushin Switc    3.53 263              Pn      06 41 02.5 +1.1
R16K Pilot Point       3.58  30  Pn          Pn      06 41 04.2 +2.2
R16K                              IAML                06 42 10.3
     comp=E,518nm,1.9s
R16K                              IAML                06 42 53.1
     comp=N,513nm,1.4s
R16K Pilot Point       3.58  30  P           Pn      06 41 04.1 +2.1
     baz=212
MGOD Makushin Gods     3.61 261              Pn      06 41 03.7 +1.3
MAPS Pakushin South    3.65 261              Pn      06 41 04.2 +1.3
R17L Mt. Peulik Vol    4.02  37  P           Pn      06 41 10.4 +2.3
     baz=221
PLK4 Peulik 4          4.02  37  Pn          Pn      06 41 08.6 +0.4
PLK4                              IAML                06 42 24.9
     comp=N,426nm,0.8s
OKFG Magazine Ridge    4.31 258              Pn      06 41 13.6 +1.6
OKTU Okmok Mt. Tuli    4.39 258              Pn      06 41 14.9 +1.7
OKNC Okmok New Cone    4.42 259              Pn      06 41 14.9 +1.4
OKCE Okmok Cone E      4.45 259              Pn      06 41 15.7 +1.7
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KJL	Kejulik	4.62	37		Pn	Pn	06 41 18.4 +2.0
O15K	Ungalikthiuk R	4.72	6		Pn	Pn	06 41 19.6 +2.0
O15K	Ungalikthiuk R	4.72	6	P	Pn	Pn	06 41 19.6 +2.0
	baz=187						
ANCK	Angle Creek	4.75	37		Pn	Pn	06 41 20.4 +2.2
O14K	Tigyukauivet M	4.77	357	Pn	Pn	Pn	06 41 20.2 +2.0
O14K				IAML			06 42 55.9
	comp=N,172nm,0.9s						
O14K	Tigyukauivet M	4.77	357	P		Pn	06 41 20.4 +2.1
	baz=177						
Q16K	King Salmon	4.78	27		Pn	Pn	06 41 20.7 +2.2
Q16K	King Salmon	4.78	27	P	Pn	Pn	06 41 20.7 +2.2
	baz=211						
NIKH	Nikolski High	4.99	255		Pn	Pn	06 41 22.5 +1.1
NIKH	Nikolski High	4.99	255	P	Pn	Pn	06 41 22.5 +1.1
	baz=69						
NIKH	Nikolski High	4.99	255	P		Pn	06 41 22.4 +1.1
OHAK	Old Harbor	5.06	54	Pn		Pn	06 41 22.1 -0.2
OHAK				IAML			06 42 52.5
	comp=N,144nm,0.9s						
OHAK				IAML			06 43 02.2
	comp=E,122nm,1.0s						
OHAK	Old Harbor	5.06	54	P		Pn	06 41 23.3 +1.0
	baz=240						
P17K	Kvichak River	5.29	25			Pn	06 41 27.1 +1.7
P17K	Kvichak River	5.29	25	P		Pn	06 41 27.1 +1.7
	baz=209						
O16K	Kokwok River B	5.32	15			Pn	06 41 27.6 +1.7
O16K	Kokwok River B	5.32	15	P		Pn	06 41 28.3 +2.4
	baz=198						
N14K	Kuskokwak Cree	5.45	356			Pn	06 41 29.8 +2.1
N14K	Kuskokwak Cree	5.45	356	P		Pn	06 41 29.8 +2.1
	baz=175						
CLCO	Concord Point,	5.55	256			Pn	06 41 30.6 +1.6
O17K	Koliganek Bris	5.67	20			Pn	06 41 32.7 +2.1
O17K	Koliganek Bris	5.67	20	P		Pn	06 41 32.7 +2.1
	baz=203						
KDAK	Kodiak Island	5.67	51	Pn		Pn	06 41 30.7 0.0
	comp=E,1.3nm,0.3s,baz=45,slow=4.7,SNR=13						
KDAK				Sn		Sn	06 42 34.8 -0.4
	comp=E,1.7nm,0.3s,baz=11,slow=22,SNR=1.7						
KDAK				Lg		Lg	06 42 58.5
	comp=E,4.7nm,0.3s,baz=83,slow=20,SNR=6.8						
	comp=E,4.5nm,0.4s						
N15K	Kwethluk River	5.70	4			Pn	06 41 33.2 +2.2
N15K	Kwethluk River	5.70	4	P		Pn	06 41 33.2 +2.2
	baz=184						
SPIA	Saint Paul Isl	5.93	301			Pn	06 41 35.9 +1.7
SPIA	Saint Paul Isl	5.93	301	P		Pn	06 41 35.9 +1.7
	baz=113						
Q19K	Cape Douglas,	5.95	39			Pn	06 41 35.1 +0.5
Q19K	Cape Douglas,	5.95	39	P		Pn	06 41 36.8 +2.2
	baz=225						
M13K	Dall Lake	6.08	348	Pn		Pn	06 41 38.1 +1.8
M13K	Dall Lake	6.08	348	P		Pn	06 41 38.7 +2.4
	baz=166						
N16K	Nishlik Lake	6.09	10			Pn	06 41 39.0 +2.5
N16K	Nishlik Lake	6.09	10	P		Pn	06 41 39.0 +2.5
	baz=192						
O18K	Koktuh Hills	6.18	27	Pn		Pn	06 41 40.4 +2.7
O18K	Koktuh Hills	6.18	27	P		Pn	06 41 40.2 +2.5
	baz=212						
M15K	Kasigluk River	6.21	1			Pn	06 41 40.1 +2.0
M15K	Kasigluk River	6.21	1	P		Pn	06 41 40.1 +2.0
	baz=181						
Q20K	Shuyak Island	6.23	45	P		Pn	06 41 40.3 +2.0
	baz=232						
SYI	Shuyak Island	6.23	45	Pn		Pn	06 41 37.3 -1.1
M14K	Bethel	6.29	355	Pn		Pn	06 41 40.0 +0.8
M14K	Bethel	6.29	355	P		Pn	06 41 40.8 +1.5
	baz=174						
N17K	Nushagak Hills	6.35	17	Pn		Pn	06 41 41.0 +0.9
N17K	Nushagak Hills	6.35	17	P		Pn	06 41 42.1 +2.0
	baz=200						
M11K	Mekoryuk	6.56	336	Pn		Pn	06 41 44.3 +1.4
M11K	Mekoryuk	6.56	336	P		Pn	06 41 44.7 +1.8
	baz=152						
M16K	Timber Creek	6.61	8			Pn	06 41 45.6 +2.0
M16K	Timber Creek	6.61	8	P		Pn	06 41 45.6 +2.0
	baz=190						
O19K	Port Alsworth	6.71	29			Pn	06 41 46.9 +2.0
N18K	Kilae Creek	6.74	21	Pn		Pn	06 41 48.1 +2.7
N18K	Kilae Creek	6.74	21	P		Pn	06 41 47.4 +1.9
	baz=205						
ILSW	Iliamna Southw	6.90	34			Pn	06 41 50.6 +2.9
L14K	Kuka Creek	6.92	353			Pn	06 41 49.9 +2.0
L14K	Kuka Creek	6.92	353	P		Pn	06 41 49.9 +2.0
	baz=171						
IVE	Iliamna Volcan	6.97	34			Pn	06 41 50.7 +2.1
M17K	Holitna River	7.15	13			Pn	06 41 53.0 +2.0
M17K	Holitna River	7.15	13	P		Pn	06 41 53.0 +2.0
	baz=196						
SVW2	Sparrevohn	7.18	21	Pn		Pn	06 41 51.6 +0.1
N19K	Bonanza Creek	7.19	26	Pn		Pn	06 41 54.7 +3.1
N19K	Bonanza Creek	7.19	26	P		Pn	06 41 53.7 +2.1
	baz=211						
L15K	Ungalak Mounta	7.20	358			Pn	06 41 53.0 +1.3
L15K	Ungalak Mounta	7.20	358	P		Pn	06 41 53.0 +1.3
	baz=177						
L16K	Owhat River	7.26	5	Pn		Pn	06 41 53.7 +1.2
L16K	Owhat River	7.26	5	P		Pn	06 41 54.4 +1.8
	baz=186						
CNPM	China Poot	7.27	42	Pn		Pn	06 41 54.7 +2.1
RDWB	Redoubt West	7.39	32			Pn	06 41 56.3 +1.9
M18K	Stony River	7.50	19			Pn	06 41 57.8 +2.1
M18K	Stony River	7.50	19	P		Pn	06 41 57.8 +2.1
	baz=203						
BRLK	Bradley Lake	7.56	42	Pn		Pn	06 41 57.9 +1.3
RDT	Redoubt	7.59	33			Pn	06 41 58.4 +1.3
K13K	Kusilvak Mount	7.71	346			Pn	06 42 00.2 +1.5
K13K	Kusilvak Mount	7.71	346	P		Pn	06 42 00.2 +1.5
	baz=163						
L17K	Donlin	7.77	9			Pn	06 42 01.3 +1.8
L17K	Donlin	7.77	9	P		Pn	06 42 01.3 +1.8
	baz=191						
K15K	Wolf Creek Mou	7.82	358	Pn		Pn	06 42 01.4 +1.2
K15K	Wolf Creek Mou	7.82	358	P		Pn	06 42 02.1 +1.9
	baz=177						
L18K	Granite Mounta	8.04	14	Pn		Pn	06 42 04.0 +0.8
L18K	Granite Mounta	8.04	14	P		Pn	06 42 04.2 +1.0
	baz=198						
SPNN	North Nagishla	8.13	29			Pn	06 42 06.4 +1.8
SPU	Mount Spurr	8.17	31			Pn	06 42 06.7 +1.6
SLKM	Skilak Lake	8.30	39			Pn	06 42 07.6 +0.8
ATKA	Atka Island	8.31	259			Pn	06 42 08.0 +1.1
ATKA	Atka Island	8.31	259	P		Pn	06 42 08.0 +1.1
L19K	White Mountain	8.32	20	Pn		Pn	06 42 08.2 +1.1
L19K	White Mountain	8.32	20	P		Pn	06 42 07.8 +0.8
	baz=205						
SEW	Seward	8.34	43			Pn	06 42 07.5 +0.3
SEW	Seward	8.34	43	P		Pn	06 42 07.5 +0.3
	baz=233						
K17K	Iditarod	8.34	8			Pn	06 42 07.8 +0.5
K17K	Iditarod	8.34	8	P		Pn	06 42 07.8 +0.5
	baz=190						
J14K	Nanvaranak Lak	8.39	351			Pn	06 42 08.6 +0.7
J14K	Nanvaranak Lak	8.39	351	P		Pn	06 42 08.6 +0.7
	baz=169						
M20K	Styx River	8.44	26			Pn	06 42 09.7 +0.9
M20K	Styx River	8.44	26	P		Pn	06 42 09.7 +0.9
	baz=212						
STLK	Strandline Lak	8.48	31			Pn	06 42 09.9 +0.5
SUA	Susitna One	8.79	33	Pn		Pn	06 42 14.5 +0.8
SUA	Susitna One	8.79	33	P		Pn	06 42 14.3 +0.6
	baz=222						
J16K	Anvik River	8.81	1			Pn	06 42 13.8 +0.1
J16K	Anvik River	8.81	1	P		Pn	06 42 14.7 +1.0
	baz=181						
TTA	Tatalina	8.81	15	Pn		Pn	06 42 15.5 +1.6
TTA	Tatalina	8.81	15	P		Pn	06 42 14.2 +0.3
	baz=199						
TTA	Tatalina	8.81	15	P		Pn	06 42 15.8 +1.9
RC01	Rabbit Creek A	8.87	37	Pn		Pn	06 42 15.4 +0.9
SKT	Skwentna	8.96	29	Pn		Pn	06 42 17.7 +2.0
SKT	Skwentna	8.96	29	P		Pn	06 42 16.6 +0.8
	baz=217						
J17K	VABM Dome	8.97	5			Pn	06 42 16.5 +0.6
J17K	VABM Dome	8.97	5	P		Pn	06 42 17.4 +1.6
	baz=187						
J18K	Innoko River	9.24	12			Pn	06 42 19.7 +0.1
J18K	Innoko River	9.24	12	P		Pn	06 42 20.9 +1.3
	baz=195						
PWL	Port Wells	9.24	41	Pn		Pn	06 42 20.4 +0.7
PWL	Port Wells	9.24	41	P		Pn	06 42 20.4 +0.7
	baz=232						
PMR	Palmer	9.43	36	Pn		Pn	06 42 23.2 +1.1
GSMY	Great Sitkin M	9.44	261			Pn	06 42 23.2 +0.8
KNK	Knik Glacier	9.54	39	Pn		Pn	06 42 24.9 +1.1
GHO	Glory Hole Cre	9.62	36			Pn	06 42 25.5 +0.6
HIN	Hinchinbrook I	9.72	47			Pn	06 42 27.4 +1.2
GLI	Glacier Island	9.74	43	Pn		Pn	06 42 26.8 +0.3
GLI	Glacier Island	9.74	43	P		Pn	06 42 26.4 0.0
	baz=235						
SML	Sawmill	9.85	37	Pn		Pn	06 42 27.4 -0.7
ADK	Adak	9.86	261	Pn		Pn	06 42 28.4 +0.3
ADK	Adak	9.86	261	P		Pn	06 42 28.8 +0.7
J19K	Poorman	9.88	14	Pn		Pn	06 42 29.8 +1.3
J19K	Poorman	9.88	14	P		Pn	06 42 28.6 +0.1
	baz=198						
FID	Port Fidalgo	9.92	45	Pn		Pn	06 42 28.4 -0.5
CAST	Castle Rocks	10.01	23	Pn		Pn	06 42 32.4 +2.2
SCM	Sheep Creek Mo	10.23	39			Pn	06 42 34.1 +0.9
J20K	Nowinta River	10.28	17	Pn		Pn	06 42 35.6 +1.8
KTH	Kantishna Hill	10.40	25			Pn	06 42 37.2 +1.6
KLU	Klutina	10.55	42			Pn	06 42 38.4 +0.7
M24K	Tolsona, Glenn	10.82	39	Pn		Pn	06 42 42.1 +0.7
RND	Reindeer	10.84	30	Pn		Pn	06 42 42.0 +0.3
N25K	Chitina, Valde	11.15	44	Pn		Pn	06 42 47.4 +1.6
GLB	Gilahina Butte	11.38	46	Pn		Pn	06 42 49.5 +0.5
H21K	Melozitna Rive	11.87	16			Pn	06 42 57.6 +2.0
GRNC	Granite Creek	11.96	51			Pn	06 42 57.8 +0.7
IMAR	Indian Mountai	12.03	14			Pn	06 42 58.0 +0.2
TABL	Table Mountain	12.13	53			Pn	06 42 60.0 +0.6
CTGM	Chitina Glacie	12.24	50			Pn	06 43 02.0 +1.1
LOGN	Logan Glacier	12.34	51			Pn	06 43 03.4 +1.2
ILAR	Eielson Array	12.45	29	Pn		Pn	06 43 02.2 -1.2
	comp=E,0.3nm,0.3s,baz=221,slow=13,SNR=15						
ILAR				Sn		Sn	06 45 16.0 -5.5
	baz=225,slow=20						
PNL	Peninsula	12.73	57	P		Pn	06 43 09.6 +2.2
SCRK	Sand Creek	12.79	35	Pn		Pn	06 43 08.2 0.0
F21K	Alatna River	13.24	13	Pn		Pn	06 43 16.9 +2.6
O29M	Mount Kennedy	13.30	55			Pn	06 43 16.7 +1.4
G23K	Bananza Creek	13.32	19			Pn	06 43 16.5 +1.1
PRP	Porcupine Dome	13.39	28	Pn		Pn	06 43 14.8 -1.7
I26K	Coal Creek Min	13.94	32			Pn	06 43 20.7 -3.0
E22K	Anaktuvuk Pass	14.32	14	Pn		Pn	06 43 30.4 +1.3
DAWY	Dawson	14.48	40	Pn		Pn	06 43 32.3 +1.0
E23K	Chandalar	14.59	17			Pn	06 43 33.8 +1.0
O30N	Mendenhall	14.61	55	Pn		Pn	06 43 34.7 +1.7
SKAG	Skagway	14.72	60	P		Pn	06 43 37.1 +2.6
N31M	Braeburn, Yuko	14.95	52			Pn	06 43 40.2 +2.6
I28M	Miner Creek	15.06	35	Pn		Pn	06 43 37.9 -1.4
I28M				IAmb	IAmb		06 43 46.9
	comp=Z,11nm,0.6s						
JIS	Juneau Island	15.09	65	P		P	06 43 42.2 -2.4
TOLK	Toolik Lake Re	15.12	16			Pn	06 43 41.0 +1.1
TOLK				IAmb	IAmb		06 43 51.7
	comp=Z,13nm,0.6s						
D23K	Nanushuk River	15.25	14	Pn		Pn	06 43 42.6 +1.0
D23K				IAmb	IAmb		06 44 06.4
	comp=Z,16nm,1.5s						
D24K	Happy Valley	15.70	16			Pn	06 43 48.1 +0.7
D24K				IAmb	IAmb		06 43 49.2
	comp=Z,12nm,0.8s						
M31M	Drury Creek, Y	15.79	50			P	06 43 51.1 -1.2
C23K	Itkillik River	16.07	13	Pn		Pn	06 43 52.3 +0.2
I30M	Mount Dempster	16.19	39	Pn		Pn	06 43 54.6 +0.8
I30M				IAmb	IAmb		06 44 15.2
	comp=Z,34nm,0.9s						
C24K	Franklin Bluff	16.23	15			Pn	06 43 54.6 +0.4
C24K				IAmb	IAmb		06 43 55.7
	comp=Z,25nm,0.9s						
B22K	Teshekpuk Lake	16.24	9	Pn		Pn	06 43 55.1 +0.9
FARO	Faro, Yukon	16.26	51	P		P	06 43 56.3 -1.3
H31M	Peel River	17.21	38			Pn	06 44 06.9 +0.2
H31M				IAmb	IAmb		06 44 26.0
	comp=Z,16nm,0.8s						
DLBC	Dease Lake	17.39	64	P		P	06 44 14.1 +3.9
	comp=Z,1.0nm,0.4s,baz=268,slow=11,SNR=4.6						
G31M	Satah River	17.80	35			Pn	06 44 13.6 -0.3
F31M	Tsiigehtchic	18.25	34			Pn	06 44 18.6 -0.7
INK	Inuvik	18.79	32	P		P	06 44 25.0 -0.4
INK	Inuvik	18.79	32	P		P	06 44 25.0 -0.4
	comp=Z,0.5nm,0.3s,baz=231,slow=12,SNR=10						
INK				LR		LR	06 52 21.0
	comp=Z,146nm,20.0s,baz=242,slow=39						
	comp=Z,3.6nm,0.6s						
A36M	Sachs Harbour	23.14	27	P		P	06 45 10.5 -1.7
A36M				IAmb	IAmb		06 45 29.0
	comp=Z,6.3nm,0.8s						
PETK	Petropavlovsk-	24.27	284	P		P	06 45 22.5 -0.7
	comp=Z,12nm,0.5s,baz=79,slow=13,SNR=83						
	comp=Z,12nm,0.5s						
YKA	Yellowknife Ar	24.95	53	P		P	06 45 30.6 +1.3
	comp=Z,0.9nm,0.7s,baz=271,slow=17,SNR=6.8						
YKA				PcP		PcP	06 49 04.1 +0.2
	comp=Z,0.6nm,0.6s,baz=276,slow=1.9,SNR=4.0						
	comp=Z,0.9nm,0.7s						
NEW	Newport	27.63	85	LR		LR	06 56 40.7
	comp=Z,81nm,18.1s,baz=271,slow=36						
NVAR	Mina Array Bea	32.83	102	P		P	06 46 43.4 +3.4
	comp=Z,0.9nm,0.7s,baz=306,slow=8.9,SNR=8.9						
NVAR				PcP		PcP	06 49 25.6 +1.1
	comp=Z,0.2nm,0.6s,baz=321,slow=2.5,SNR=3.0						
NVAR				LR		LR	06 57 35.8
	comp=Z,113nm,19.0s,baz=258,slow=32						
	comp=Z,0.9nm,0.7s						
TIXI	Tiksi	33.61	327	LR		LR	07 01 39.2
	comp=Z,140nm,19.7s,baz=116,slow=39						
PDAR	Pinedale Array	35.10	88	P		P	06 47 02.0 +2.4
	comp=Z,0.1nm,0.4s,baz=274,slow=4.3,SNR=2.5						
YAK	Yakutsk	35.63	311	LR		LR	07 02 21.0
	comp=Z,138nm,21.1s,baz=100,slow=38						
SRU	San Rafael Swe	36.87	94	P		P	06 47 15.5 +0.8
SRU				IAmb	IAmb		06 47 30.9
	comp=Z,3.9nm,0.7s						
PFO	Pinyon Flats O	37.31	106	LR		LR	06 59 55.5
	comp=Z,125nm,20.1s,baz=274,slow=32						
HEH	HeiHe	42.25	295	*e*P		P	06 47 56.9 -2.3
HEH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
H11N2	WAKE ISLAND Hy	42.50	228	T		T	07 33 06.9
	baz=27,slow=75,SNR=31						
H11N3	WAKE ISLAND Hy	42.51	228	T		T	07 33 07.2
	baz=27,slow=75,SNR=34						
H11N1	WAKE ISLAND Hy	42.52	228	T		T	07 33 08.2
	baz=27,slow=75,SNR=32						
H11S1	WAKE ISLAND Hy	43.67	228	T		T	07 34 30.0
	baz=27,slow=75,SNR=39						
H11S2	WAKE ISLAND Hy	43.68	227	T		T	07 34 27.6
	baz=27,slow=75,SNR=12						
H11S3	WAKE ISLAND Hy	43.69	228	T		T	07 34 30.4
	baz=27,slow=75,SNR=12						
MAJO	Matsushiro	44.79	272	P		P	06 48 20.0 +0.2
MJAR	Matsushiro Arr	44.79	272	P		P	06 48 20.0 +0.1
	comp=Z,2.1nm,0.5s,baz=30,slow=7.4,SNR=5.8						
	comp=Z,2.1nm,0.5s						
NRIK	Noril'sk	46.90	333	P		P	06 48 35.1 -0.9
	comp=Z,3.1nm,0.6s,baz=64,slow=6.0,SNR=4.2						
	comp=Z,3.1nm,0.6s						
SPITS	Spitsbergen Ar	47.57	1	P		P	06 48 40.5 -0.7
	comp=Z,15nm,0.9s,baz=64,slow=7.7,SNR=2.3						
	comp=Z,15nm,0.9s						
TXAR	Lajitas Array	47.79	98	P		P	06 48 45.4 +1.7
	comp=Z,0.3nm,0.6s,baz=312,slow=6.6,SNR=5.5						
TXAR				PcP		PcP	06 50 13.0 +0.6
	comp=Z,0.2nm,0.5s,baz=230,slow=1.5,SNR=5.4						
KSRS	Korea Array	50.11	281	P		P	06 49 01.5 +0.3
	comp=Z,2.4nm,0.6s,baz=48,slow=6.5,SNR=6.2						
	comp=Z,2.4nm,0.6s						
SONM	Songino Array	54.45	304	P		P	06 49 33.5 +0.1
	comp=Z,2.6nm,0.8s,baz=54,slow=6.7,SNR=13						
SONM				PcP		PcP	06 50 37.0 +0.2
	comp=Z,0.6nm,0.6s,baz=42,slow=2.4,SNR=4.7						
	comp=Z,2.6nm,0.8s						
ARCES	ARCESS Array B	56.18	357	P		P	06 49 44.4 -1.1
	comp=Z,1.1nm,0.5s,baz=6.0,slow=6.8,SNR=11						
	comp=Z,1.1nm,0.5s						
HHC	Hu-ho-hao-te	56.77	295	*e*P		P	06 49 49.3 -0.9
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,4.7s						
ZAA0	Zalesovo Array	59.12	321	P		P	06 50 05.9 -0.5
ZALV	Zalesovo Beam	59.12	321	P		P	06 50 05.3 -1.0
ZALV	Zalesovo Beam	59.12	321	P		P	06 50 06.0 -0.3
	comp=Z,1.4nm,0.6s,baz=42,slow=7.3,SNR=5.9						
	comp=Z,1.4nm,0.6s						
GTA	Gaotai	63.87	302	*e*P		P	06 50 38.9 +0.1
GTA				pP	pP		06 50 42.5 -2.4
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KURK	Kurchatov	63.98	322	P		P	06 50 38.5 -0.7
KURK				IAmb	IAmb		06 50 39.6
	comp=Z,4.3nm,0.7s						
KURBB	Kurchatov Arra	64.09	322	P		P	06 50 39.5 -0.4
	comp=Z,1.8nm,0.2s,baz=20,slow=6.6,SNR=6.2						
	comp=Z,1.8nm,0.2s						
FINES	FINESS Array B	64.27	356	P		P	06 50 40.1 -0.8
FINES	FINESS Array B	64.27	356	P		P	06 50 40.3 -0.5
	comp=Z,4.2nm,0.6s,baz=15,slow=7.8,SNR=26						
	comp=Z,4.2nm,0.6s						
NB2	NORSAR Subarra	64.63	4	P		P	06 50 43.1 -0.2
	comp=Z,2.3nm,0.6s,baz=356,slow=6.9						
NOA	NORSAR Array B	64.63	4	P		P	06 50 43.5 +0.1
	comp=Z,4.0nm,0.8s,baz=355,slow=6.6,SNR=14						
	comp=Z,4.0nm,0.8s						
BVAR	Borovoye Array	64.73	329	P		P	06 50 44.0 0.0
	comp=Z,4.5nm,0.5s,baz=38,slow=7.5,SNR=16						
	comp=Z,4.5nm,0.5s						
ARTI	Arti	64.92	337	P		P	06 50 44.6 -0.6
	comp=Z,13nm,0.5s,baz=26,slow=3.2,SNR=19						
	comp=Z,13nm,0.5s						
HFS	Hagfors	65.63	3	P		P	06 50 49.6 -0.2
	comp=Z,8.1nm,0.5s,baz=1.9,slow=6.1,SNR=27						
	comp=Z,8.1nm,0.5s						
MK31	Makanchi Array	65.84	318	P		P	06 50 50.1 -1.3
MK31				IAmb	IAmb		06 50 51.2
	comp=Z,3.3nm,0.9s						
MKAR	Makanchi Array	65.84	318	P		P	06 50 50.4 -1.0
MKAR	Makanchi Array	65.84	318	P		P	06 50 50.6 -0.8
	comp=Z,2.3nm,0.5s,baz=45,slow=5.2,SNR=28						
	comp=Z,2.3nm,0.5s						
MAKZ	Makanchi	65.95	318	P		P	06 50 51.1 -1.0
EKA	Eskdalemuir Ar	69.00	13	P		P	06 51 11.6 +0.4
	comp=Z,5.6nm,0.8s,baz=336,slow=4.8,SNR=18						
	comp=Z,5.6nm,0.8s						
AKTO	Aktyubinsk	70.48	335	P		P	06 51 20.3 -0.1
	comp=Z,3.9nm,0.6s,baz=12,slow=3.9,SNR=8.5						
	comp=Z,3.9nm,0.6s						
ABKAR	Akbulak array	71.07	333	P		P	06 51 23.5 -0.5
WUS	Wushi	71.73	316	P		P	06 51 28.0 -0.3
AAK	Ala-Archa	72.33	320	P		P	06 51 32.3 +0.4
AAK				IAmb	IAmb		06 51 33.1
	comp=Z,5.9nm,0.7s						
AAK	Ala-Archa	72.33	320	P		P	06 51 32.0 +0.1
	comp=Z,8.2nm,0.9s,baz=58,slow=2.7,SNR=9.5						
	comp=Z,8.2nm,0.9s						
PZH	PanZhiHua	72.95	292	P		P	06 51 35.3 -0.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,130nm,5.5s						
KKAR	Karatay Array	73.36	323	P		P	06 51 37.5 -0.3
KKAR				IAmb	IAmb		06 51 38.3
	comp=Z,4.4nm,0.8s						
KSH	Kashi	74.46	318	P		P	06 51 47.3 +2.9
KSH				sP	PcP		06 52 01.0 +2.0
KSH				pmax	pmax		
	comp=Z,19nm,1.0s						
KSH				pmax	pmax		
	comp=Z,280nm,6.9s						
RNPP5	Staryi Chortor	74.49	356	P		P	06 51 44.4 +0.2
MI28	Mi28,Pidlybu	74.69	354	P		P	06 51 45.3 -0.1
	comp=Z,111nm,0.9s						
AK23	Malin Array Si	74.77	353	P		P	06 51 45.2 -0.7
AK20	Malin Array Si	74.80	354	P		P	06 51 45.3 -0.7
AK03	Malin Array Si	74.80	353	P		P	06 51 45.4 -0.6
AKASG	Malin Array Be	74.83	353	P		P	06 51 45.6 -0.6
AKASG				IAmb	IAmb		06 51 46.5
	comp=Z,5.0nm,1.3s						
AKASG	Malin Array Be	74.83	353	P		P	06 51 45.5 -0.7
	comp=Z,6.7nm,0.5s,baz=11,slow=5.7,SNR=25						
	comp=Z,6.7nm,0.5s						
AKBB	Malin Array Si	74.83	353	P		P	06 51 45.6 -0.6
LUBAR	Lubar, Ukraine	75.69	354	P		P	06 51 50.1 -1.1
KHC	Kasperske Hory	76.63	4	P		P	06 51 57.4 +0.8
	comp=Z,6.8nm,1.2s						
GERES	GERESS Array B	76.92	4	P		P	06 51 58.0 -0.4
	comp=Z,1.9nm,0.7s,baz=352,slow=6.7,SNR=5.9						
	comp=Z,1.9nm,0.7s						
SORM	Soroca	77.44	354	P		P	06 52 00.2 -0.9
	comp=Z,23nm,0.7s						
CONA	Conrad Observa	77.90	2	*i* P		P	06 52 04.7 +0.9
	comp=Z,3.9nm,0.6s						
MOTA	Moosalm	78.30	6	*i* P		P	06 52 06.8 +0.7
	comp=Z,2.6nm,0.6s						
LESA	Schwarzleotal	78.30	4	*i* P		P	06 52 06.7 +0.7
	comp=Z,2.3nm,0.5s						
WTTA	Wattenberg	78.41	5	*e*P		P	06 52 06.5 -0.3
	comp=Z,5.6nm,0.6s						
SQTA	Sankt Quirin	78.43	6	*i* P		P	06 52 07.5 +0.8
	comp

HUMO Hull Mountain 2.69 84 Pn Pn 06 42 21.6 -0.5
YBH Yreka Blue Hor 2.95 101 Pn 06 42 25.9 +0.1
YBH Yreka Blue Hor 2.95 101 Pn **Pn 06 42 26.2 +0.5**
comp=N,0.7nm,0.3s,baz=289,slow=13,SNR=16
YBH Sn **Sb 06 43 05.5 -2.2**
comp=N,0.5nm,0.3s,baz=1.2,slow=22,SNR=2.0
YBH LR LR 06 43 40.5
comp=N,664nm,21.9s,baz=264,slow=40
comp=N,9.8nm,0.9s
L04D Klamath Falls 3.18 91 Pn 06 42 29.1 +0.2
L04D IAML 06 43 20.2
comp=N,43nm,2.2s
L04D IAML 06 43 22.3
comp=E,44nm,2.9s
BUCK Buck Mountain 3.20 54 Pn 06 42 29.1 0.0
BUCK IAML 06 43 13.5
comp=N,57nm,3.7s
BUCK IAML 06 43 17.4
comp=E,51nm,4.8s
COR Corvallis 3.26 46 Pn **Pn 06 42 29.3 -0.5**
COR IAML 06 43 18.5
comp=E,48nm,4.1s
COR IAML 06 43 26.1
comp=E,48nm,3.8s
I04A Tendick Farm, 3.37 64 Pn 06 42 31.4 -0.1
I04A IAML 06 43 20.0
comp=E,32nm,1.1s
J04A Umpqua Nationa 3.41 74 Pn 06 42 32.5 +0.5
K04D Chiloquin, OR 3.58 84 Pn 06 42 33.4 -1.0
O02D Mt. Diablo Mer 3.60 126 Pn **Pn 06 42 34.9 +0.2**
H04A Detroit Lake 3.95 53 Pn 06 42 39.5 +0.2
H04A IAML 06 43 31.3
comp=E,18nm,0.4s
H04A IAML 06 43 39.1
comp=N,19nm,1.8s
J05D Fort Rock, OR 4.04 75 Pn 06 42 41.1 +0.4
J05D IAML 06 43 50.4
comp=E,32nm,3.5s
I05D Terrebonne, OR 4.30 61 Pn 06 42 44.7 +0.5
PINE Pine Mountain 4.37 69 Pn 06 42 45.0 -0.3
PINE IAML 06 45 03.7
comp=N,22nm,5.0s
HOOD Mount Hood Mea 4.63 49 Pn 06 42 49.2 +0.4
HOOD IAML 06 44 20.2
comp=N,19nm,2.6s
F04A Amboy 4.66 39 Pn 06 42 49.9 +0.8
F04A IAML 06 43 40.4
comp=N,19nm,4.7s
F04A IAML 06 44 24.0
comp=E,21nm,4.0s
G05A Wamic 4.77 51 Pn **Pn 06 42 50.4 -0.2**
G06A Carlson Farm, 5.17 54 Pn 06 42 56.2 0.0
G06A IAML 06 44 53.4
comp=E,12nm,5.0s
I07A Izee 5.45 69 Pn 06 43 00.1 +0.1
I07A IAML 06 45 21.3
comp=E,9.6nm,4.8s
I07A IAML 06 45 30.2
comp=N,11nm,4.6s
LON Longmire 5.55 36 Pn 06 43 02.3 +0.9
MPK Martis Peak 5.84 120 Pn 06 43 04.6 -1.0
PAHR Pah Rah Range 6.06 114 Pn 06 43 08.5 +0.1
MXC Moxie City 6.16 45 Pn 06 43 09.2 -0.6
PNTR Pine Nut 6.23 119 Pn 06 43 12.5 +1.5
G08A Pilot Rock 6.24 60 Pn **Pn 06 43 12.1 +1.1**
YERR Yerington 6.52 119 Pn 06 43 16.7 +1.8
E08A Dider Farm, El 6.78 50 Pn 06 43 19.1 +0.9
D08A Wollman Farm, 7.19 47 Pn **Pn 06 43 23.9 +0.1**
LHV Little Huntoon 7.42 121 Pn **Pn 06 43 29.1 +2.2**
NVAR Mina Array Bea 7.44 119 Pn **Pn 06 43 29.4 +1.9**
NVAR Mina Array Bea 7.44 119 Pn **Pn 06 43 29.6 +2.1**
comp=N,0.1nm,0.3s,baz=303,slow=14,SNR=4.0
NVAR LR LR 06 46 49.7
comp=N,239nm,18.9s,baz=294,slow=41
comp=N,0.3nm,0.6s
ELK Elko 8.66 97 Pn **Pn 06 43 47.5 +3.3**
baz=192,slow=8.5,SNR=1.1
ELK LR LR 06 47 28.2
comp=N,378nm,19.6s,baz=290,slow=40
comp=N,0.4nm,0.5s
NEW Newport 8.89 45 Pn **Pn 06 43 50.9 +3.6**
comp=N,0.1nm,0.3s,baz=225,slow=22,SNR=2.3
NEW LR LR 06 47 15.3
comp=N,251nm,20.2s,baz=245,slow=37
comp=N,1.2nm,0.7s
ISA Isabella, Lake 9.20 134 Pn **Pn 06 43 51.8 +0.3**
R11B Troy Canyon, C 9.30 112 Pn **Pn 06 43 53.4 +0.4**
Q12A Willow Creek R 9.52 107 Pn **Pn 06 43 57.8 +1.7**
BGU Big Grassy Mou 10.25 94 Pn **Pn 06 44 07.4 +1.5**
PFO Pinyon Flats O 11.83 134 LR LR 06 48 28.3
comp=N,174nm,21.7s,baz=303,slow=35
PDAR Pinedale Array 12.56 82 Pn P 06 44 44.5 -4.9
baz=274,slow=14,SNR=1.7
PDAR LR LR 06 49 55.8
comp=N,143nm,19.5s,baz=274,slow=39
comp=N,0.6nm,1.0s
X16A Lo Mia Camp, P 14.27 119 Pn **Pn 06 45 02.5 +1.5**
X18A Snowflake 15.19 116 Pn **Pn 06 45 12.8 -0.6**
SDCO Great Sand Dun 16.78 99 P **P 06 45 37.0 +0.8**
SDCO IAmb IAmb 06 45 44.3
comp=Z,12nm,1.3s
Q32M Nakina River 16.99 350 P **P 06 45 39.5 +1.2**
Q32M IAmb IAmb 06 45 50.9
comp=Z,12nm,1.4s
ANMO Albuquerque 17.36 109 LR LR 06 52 02.9
comp=Z,146nm,21.7s,baz=139,slow=36
121A Cookes Peak, D 17.83 117 P **P 06 45 48.4 +0.6**
121A IAmb IAmb 06 46 00.6
comp=Z,5.0nm,1.2s
P33M Teslin, Yukon 18.27 350 P **P 06 45 53.5 +1.2**
M30M Minto, Yukon 21.12 347 P **P 06 46 25.5 +2.1**
M30M IAmb IAmb 06 46 30.1
comp=Z,6.2nm,1.3s
YKA Yellowknife Ar 21.37 15 P **P 06 46 25.2 -0.7**
comp=Z,2.2nm,0.8s,baz=209,slow=10,SNR=5.7
comp=Z,2.2nm,0.8s
KDAK Kodiak Island 22.52 322 LR LR 06 53 01.6
comp=Z,244nm,19.8s,baz=351,slow=31
TXAR Lajitas Array 22.59 118 P **P 06 46 41.2 +1.8**
comp=Z,0.5nm,0.7s,baz=297,slow=7.5,SNR=7.7
TXAR LR LR 06 56 32.5
comp=Z,102nm,19.5s,baz=273,slow=39
comp=Z,0.5nm,0.7s
ILAR Eielson Array 25.24 340 P **P 06 47 04.8 +0.3**
comp=Z,0.4nm,0.8s,baz=141,slow=9.1,SNR=1.8
comp=Z,0.4nm,0.8s
TKL Tuckaleechee C 33.65 87 LR LR 07 01 41.9
comp=Z,91nm,19.1s,baz=21,slow=36
CMIG Matias Romero 36.95 123 LR LR 07 05 42.0
comp=Z,86nm,19.9s,baz=314,slow=39
SJG San Juan 56.27 96 LR LR 07 19 08.7
comp=Z,40nm,18.1s,baz=120,slow=40
H11N3 WAKE ISLAND Hy 59.77 270 T T 07 56 11.0
baz=51,slow=75,SNR=9.1
H11N2 WAKE ISLAND Hy 59.77 270 T T 07 56 02.1
baz=51,slow=75,SNR=11
H11N1 WAKE ISLAND Hy 59.78 270 T T 07 56 10.2
baz=51,slow=75,SNR=8.3
H11S1 WAKE ISLAND Hy 60.67 269 T T 07 57 17.8
baz=50,slow=75,SNR=13
H11S2 WAKE ISLAND Hy 60.68 269 T T 07 57 17.7
baz=50,slow=75,SNR=11
H11S3 WAKE ISLAND Hy 60.69 269 T T 07 57 09.8
baz=50,slow=75,SNR=9.2
PCRV Puerto La Cruz 62.55 102 LR LR 07 23 04.2
comp=Z,24nm,18.1s,slow=40
LPAZ La Paz 79.33 124 P **P 06 53 44.5 -0.8**
comp=Z,1.3nm,0.9s,baz=4.2,slow=10,SNR=5.6
comp=Z,1.3nm,0.9s
ZALV Zalesovo Beam 80.35 342 P **P 06 53 46.8 -2.9**
comp=Z,0.2nm,0.3s,baz=302,slow=8.3,SNR=1.8
comp=Z,0.2nm,0.3s
BVAR Borovoye Array 83.86 350 P **P 06 54 07.4 -0.7**
comp=Z,0.8nm,0.8s,baz=0.0,slow=1.4,SNR=2.1
comp=Z,0.8nm,0.8s
KURBB Kurchatov Arra 84.83 344 P **P 06 54 11.1 -2.0**
comp=Z,0.5nm,0.2s,baz=10,slow=5.0,SNR=5.5
comp=Z,0.5nm,0.2s

IDC 16 06:48:53.1±2.1, 2°.56N×125°.91E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=178.0km s-min=26.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.84**	**160**	P	P	06 54 06.8	-1.4
	0.3nm,0.5s,baz=338,slow=10,SNR=16						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**27.21**	**164**	P	P	06 54 40.7	+1.9
	0.1nm,0.3s,baz=343,slow=11,SNR=4.4						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**58.05**	**326**	P	P	06 58 47.9	-0.3
	0.2nm,0.4s,baz=125,slow=7.2,SNR=4.6						
	0.2nm,0.4s						

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*IDC **16** 07:01:20.3±0.6, 35°.50N×89°.33E, h0km, mb4.1/14, mbtmp4.1/19, ML3.5/5, MS3.9/45, Error ellipse: s-maj=15.7km s-min=12.0km az=46.0*
*NEIC **16** 07:01:22.7±1.6, 35°.65N±0°.08×89°.27E±0°.09, h10km±1km, mb4.2/24, Error ellipse: s-maj=16.2km s-min=8.8km az=216.0*
*BJI **16** 07:01:23.0, 35°.69N×89°.54E, h8km, mb4.3/20, mB4.8/7, ML3.9/5, Ms4.4/24, Ms7 4.2/23*
ISC 16 07:01:24.8±0.4, 35°.58N±0°.05×89°.26E±0°.04, h30km, n103, σ1§86/83, mb4.2/21, MS4.0/43, 1D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMU	**GeErMu**	**4.55**	**81**	Pn	**Pn**	**07 02 30.4**	**-1.6**
GOMU				Sn	**Sn**	**07 03 26.3**	**+2.3**
GOMU				LR	LR		
	comp=N,9μm,10.0s						
GOMU				LR	LR		
	comp=E,3μm,10.2s						
GOMU				LR	LR		
	comp=Z,4μm,10.3s						
LSA	**Lhasa**	**6.07**	**164**	Pn	**Pn**	**07 02 53.6**	**+0.5**
LSA	**Lhasa**	**6.07**	**164**	Pn	Pn	07 02 59.1	+6.1
LSA				LR	LR		
	comp=N,1μm,13.7s						
LSA				LR	LR		
	comp=Z,1μm,9.3s						
GTK	**Tadong**	**8.25**	**184**	*i* x	x	07 05 55.0	
WMQ	**Urumqi**	**8.32**	**352**	P	**Pn**	**07 03 25.0**	**+1.5**
WMQ				S	**Sn**	**07 05 02.3**	**+5.9**
WMQ				smax	smax		
	comp=N,93nm,1.5s						
WMQ				smax	smax		
	comp=E,56nm,1.3s						
GTA	**Gaotai**	**9.21**	**62**	*e*P	**Pn**	**07 03 33.6**	**-2.2**
GTA				sP		07 03 39.0	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GTA				LR	LR		
	comp=N,2μm,13.5s						
GTA				LR	LR		
	comp=E,870nm,14.3s						
GTA				LR	LR		
	comp=Z,920nm,10.4s						
WUS	**Wushi**	**9.68**	**308**	Pn	**Pn**	**07 03 41.5**	**-0.6**
SHL	**Shillong**	**10.23**	**167**	Pn	**Pn**	**07 03 49.8**	**0.0**
TARG	**Taragay, Kyrgy**	**10.86**	**308**		**Pn**	**07 03 59.4**	**+0.8**
KSH	**Kashi**	**11.26**	**294**	P	**Pn**	**07 04 07.8**	**+4.0**
KSH				pmax	pmax		
	comp=Z,12nm,1.8s						
KDJ	**Kajisay**	**11.46**	**308**	Pn	**Pn**	**07 04 05.8**	**-0.8**
LZH	**Lanzhou**	**11.85**	**83**	*e*P	**Pn**	**07 04 08.6**	**-3.3**
LZH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
LZH				LR	LR		
	comp=Z,2μm,11.0s						
LZH				LR	LR		
	comp=Z,730nm,10.3s						
LZH				LR	LR		
	comp=Z,660nm,11.0s						
MKAR	**Makanchi Array**	**12.37**	**337**	Pn	**Pn**	**07 04 16.6**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=140,slow=15,SNR=5.7						
MKAR				Sn	**Sn**	**07 06 30.2**	**-5.3**
	baz=203,slow=18						
MKAR				Lg	Lg	07 07 56.4	
	baz=118,slow=44						
MKAR				LR	LR	07 09 12.4	
	comp=Z,273nm,18.9s,baz=147,slow=38						
	comp=Z,1.3nm,0.8s						
MAKZ	**Makanchi**	**12.48**	**336**	Pn	**Pn**	**07 04 18.9**	**-1.5**
BRDH	**Bariadhala**	**13.02**	**170**	Pn	**Pn**	**07 04 24.1**	**-3.7**
	comp=Z,13nm,0.3s,baz=109,slow=23,SNR=1.2						
NIL	**Nilore**	**13.33**	**266**	Pn	**Pn**	**07 04 31.3**	**-0.7**
AAK	**Ala-Archa**	**13.45**	**306**	Pn	**Pn**	**07 04 32.8**	**-1.0**
AAK	**Ala-Archa**	**13.45**	**306**	Pn	**Pn**	**07 04 32.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=50,slow=21,SNR=1.8						
AAK				Lg	Lg	07 08 30.5	
	comp=Z,0.2nm,0.3s,baz=57,slow=21,SNR=1.3						
AAK				LR	LR	07 10 52.0	
	comp=Z,786nm,19.3s,baz=100,slow=42						
	comp=Z,1.5nm,0.6s						
ARSB	**Arslanbob**	**13.98**	**299**	Pn	**Pn**	**07 04 42.1**	**+1.1**
PZH	**PanZhiHua**	**14.00**	**127**	P	**Pn**	**07 04 39.5**	**-1.8**
PZH				S	**Sn**	**07 07 15.4**	**-0.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,140nm,7.3s						
PZH				LR	LR		
	comp=Z,540nm,12.6s						
PZH				LR	LR		
	comp=Z,700nm,10.8s						
PZH				LR	LR		
	comp=Z,820nm,12.4s						
BTK	**Batken**	**15.24**	**293**	Pn	**Pn**	**07 04 57.2**	**-0.8**
BTK				IAmb	IAmb	07 05 11.2	
	comp=Z,8.0nm,1.0s						
XAN	**Xi'an**	**16.22**	**90**	P	**Pn**	**07 05 10.4**	**-0.2**
XAN				S	**Sn**	**07 08 10.4**	**+0.8**
XAN				pmax	pmax		
	comp=Z,44nm,1.1s						
XAN				LR	LR		
	comp=Z,1μm,14.5s						
XAN				LR	LR		
	comp=Z,650nm,16.5s						
XAN				LR	LR		
	comp=Z,890nm,10.8s						
KKAR	**Karatay Array**	**16.32**	**303**	Pn	**Pn**	**07 05 10.5**	**-1.2**
SIMJ	**Simiganj**	**16.45**	**287**	Pn	**Pn**	**07 05 11.4**	**-2.0**
SIMJ				IAmb	IAmb	07 05 18.6	
	comp=Z,12nm,0.9s						
KBL	**Kabul**	**16.59**	**272**	Pn	**Pn**	**07 05 14.6**	**-0.8**
KURBB	**Kurchatov Arra**	**16.93**	**336**	P	**Pn**	**07 05 17.5**	**-1.9**
	comp=Z,11nm,0.9s,baz=144,slow=12,SNR=5.5						
KURBB				LR	LR	07 11 28.1	
	comp=Z,65nm,20.4s,baz=156,slow=36						
SONM	**Songino Array**	**17.66**	**41**		**Pn**	**07 05 28.5**	**-0.1**
SONM	**Songino Array**	**17.66**	**41**	P	**Pn**	**07 05 28.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=224,slow=12,SNR=22						
SONM				S	**Sn**	**07 08 47.4**	**+3.0**
	comp=Z,0.3nm,0.5s,baz=27,slow=42,SNR=1.7						
SONM				Lg	Lg	07 10 40.1	
	baz=240,slow=24,SNR=3.6						
SONM				LR	LR	07 12 41.1	
	comp=Z,786nm,19.5s,baz=233,slow=38						
	comp=Z,6.3nm,1.1s						
ENH	**Enshi**	**17.77**	**102**		**Pn**	**07 05 29.5**	**-0.6**
ENH				IAmb	IAmb	07 05 36.9	
	comp=Z,14nm,0.9s						
ULN	**Ulaanbaatar**	**18.03**	**42**	P	**Pn**	**07 05 32.9**	**-0.3**
ULN				IAmb	IAmb	07 05 35.2	
	comp=Z,12nm,1.2s						
HHC	**Hu-ho-hao-te**	**18.28**	**67**	*e*P	**P**	**07 05 34.3**	**-1.9**
HHC				pP	Pn	07 05 38.1	+1.8
HHC				sP	pP	07 05 41.4	-4.2
HHC				PP	**sP**	**07 05 51.3**	**+1.1**
HHC				*e*S	**Sn**	**07 08 56.4**	**-3.1**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HHC				LR	LR		
	comp=Z,550nm,11.6s						
HHC				LR	LR		
	comp=Z,670nm,15.9s						
HHC				LR	LR		
	comp=Z,710nm,13.2s						
ZAA0	**Zalesovo Array**	**18.63**	**352**	P	**P**	**07 05 39.4**	**-0.4**
ZALV	**Zalesovo Beam**	**18.63**	**352**		**P**	**07 05 39.4**	**-0.5**
ZALV	**Zalesovo Beam**	**18.63**	**352**	P	**P**	**07 05 38.6**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=166,slow=11,SNR=20						
ZALV				LR	LR	07 13 21.9	
	comp=Z,437nm,19.0s,baz=168,slow=39						
	comp=Z,6.1nm,0.8s						
CHTO	**Chiang Mai**	**18.77**	**150**	P	**P**	**07 05 40.6**	**-1.0**
CM31	**Chiang Mai Arr**	**19.09**	**151**	P	**P**	**07 05 45.9**	**+0.8**
CM31				IAmb	IAmb	07 05 47.7	
	comp=Z,11nm,1.0s						
CMAR	**Chiang Mai Arr**	**19.09**	**151**	P	**P**	**07 05 45.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**19.09**	**151**	P	**P**	**07 05 43.5**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=332,slow=12,SNR=35						
CMAR				LR	LR	07 13 39.4	
	comp=Z,151nm,18.3s,baz=310,slow=39						
	comp=Z,5.1nm,0.8s						
SLVN	**Son La**	**19.13**	**134**	P	**P**	**07 05 46.0**	**+0.4**
SLVN				IAmb	IAmb	07 05 59.8	
	comp=Z,7.9nm,1.0s						
PHRA	**Phrae**	**19.59**	**147**	P	**Pn**	**07 05 52.4**	**+0.4**
HNS	**HongShan**	**20.52**	**77**	⇓P	**P**	**07 06 01.8**	**+1.2**
HNS				S	**S**	**07 09 43.6**	**-5.0**
HNS				pmax	pmax		
	comp=Z,20nm,1.4s						
HNS				LR	LR		
	comp=Z,470nm,10.8s						
HNS				LR	LR		
	comp=Z,500nm,14.3s						
HNS				LR	LR		
	comp=Z,400nm,15.7s						
WHN	**Wuhan**	**21.59**	**96**	P	**P**	**07 06 13.0**	**+0.8**
BJT	**Baijiatuan**	**21.68**	**70**	P	**P**	**07 06 13.8**	**+0.7**
BJT				IAmb	IAmb	07 06 14.9	
	comp=Z,14nm,1.0s						
BJI	**Beijing**	**21.69**	**70**	P	**P**	**07 06 14.1**	**+1.0**
BJI				PP	**PnPn**	**07 06 37.9**	**+3.6**
BJI				S	**S**	**07 10 06.6**	**-5.0**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,97nm,5.2s						
BJI				LR	LR		
	comp=Z,500nm,15.0s						
BJI				LR	LR		
	comp=Z,140nm,11.9s						
BJI				LR	LR		
	comp=Z,320nm,19.4s						
BVAR	**Borovoye Array**	**21.95**	**328**	P	**P**	**07 06 15.9**	**+0.1**
	comp=Z,6.8nm,0.9s,baz=133,slow=11,SNR=9.6						
BVAR				LR	LR	07 15 48.4	
	comp=Z,740nm,20.3s,baz=132,slow=39						
	comp=Z,6.8nm,0.9s						
BRVK	**Borovoye**	**22.02**	**328**	P	**P**	**07 06 16.6**	**0.0**
BRVK				IAmb	IAmb	07 06 19.9	
	comp=Z,17nm,1.1s						
TIA	**Tai'an**	**22.55**	**80**	P	**P**	**07 06 23.9**	**+1.4**
TIA				PP	**PnPn**	**07 06 49.5**	**+3.3**
TIA				S	**S**	**07 10 27.9**	**0.0**
TIA				pmax	pmax		
	comp=Z,14nm,1.0s						
TIA				pmax	pmax		
	comp=Z,220nm,4.5s						
TIA				LR	LR		
	comp=Z,300nm,8.6s						
TIA				LR	LR		
	comp=Z,510nm,9.6s						
TIA				LR	LR		
	comp=Z,450nm,11.7s						
QIZ	**Qiongzhong**	**24.54**	**127**	P	**P**	**07 06 42.6**	**+0.7**
QIZ				S	**S**	**07 11 03.5**	**+2.7**
QIZ				pmax	pmax		
	comp=Z,12nm,1.0s						
QIZ				LR	LR		
	comp=Z,500nm,13.0s						
QIZ				LR	LR		
	comp=Z,500nm,13.0s						
QIZ				LR	LR		
	comp=Z,580nm,12.7s						
UBPT	**Khong Chiam**	**24.89**	**140**	P	**P**	**07 06 44.6**	**-0.4**
ABKAR	**Akbulak array**	**25.41**	**312**	P	**P**	**07 06 50.9**	**+1.4**
ABKAR				IAmb	IAmb	07 06 54.3	
	comp=Z,11nm,0.8s						
ABKAR	**Akbulak array**	**25.41**	**312**	P	**P**	**07 06 49.8**	**+0.3**
AKTO	**Aktyubinsk**	**27.00**	**313**	P	**P**	**07 07 05.1**	**+1.1**
	comp=Z,2.1nm,0.7s,baz=101,slow=8.6,SNR=5.3						
AKTO				LR	LR	07 18 36.7	
	comp=Z,121nm,19.4s,baz=320,slow=38						
	comp=Z,2.1nm,0.7s						
WSAR	**Wadi Sarin**	**29.26**	**254**	LR	LR	07 19 18.8	
	comp=Z,105nm,21.6s,baz=90,slow=37						
ARTI	**Arti**	**29.49**	**325**	LR	LR	07 20 27.1	
	comp=Z,553nm,18.6s,baz=118,slow=39						
KSRS	**Korea Array**	**30.98**	**75**	P	**P**	**07 07 38.7**	**-0.8**
	comp=Z,4.0nm,1.0s,baz=272,slow=8.8,SNR=8.1						
KSRS				LR	LR	07 21 46.1	
	comp=Z,283nm,18.3s,baz=290,slow=40						
	comp=Z,4.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**33.58**	**62**	LR	LR	07 22 29.0	
	comp=Z,222nm,19.2s,baz=262,slow=38						
BELG	**Belogornoye**	**33.79**	**313**	LR	LR	07 22 40.7	
	comp=Z,160nm,18.5s,baz=134,slow=38						
NRIK	**Noril'sk**	**33.83**	**359**	LR	LR	07 22 28.2	
	comp=Z,156nm,20.5s,baz=128,slow=37						
KIRV	**Kirov**	**34.79**	**324**	LR	LR	07 23 52.3	
	comp=Z,379nm,18.6s,baz=110,slow=39						
KBZ	**Khabaz**	**36.22**	**297**	LR	LR	07 26 28.9	
	comp=Z,163nm,18.8s,baz=60,slow=42						
YAK	**Yakutsk**	**36.54**	**31**	LR	LR	07 24 07.4	
	comp=Z,224nm,19.2s,baz=236,slow=37						
MJAR	**Matsushiro Arr**	**39.24**	**74**	P	**P**	**07 08 49.8**	**-0.8**
	comp=Z,3.3nm,0.9s,baz=300,slow=9.7,SNR=1.2						
	comp=Z,3.3nm,0.9s						
MYLDM	**Lahad Datu**	**40.50**	**131**	P	**P**	**07 09 01.9**	**+0.7**
ASAJ	**Asahikawa**	**41.20**	**61**	LR	LR	07 27 02.6	
	comp=Z,218nm,20.1s,baz=338,slow=38						
JHJ	**Hachijo jima 2**	**41.41**	**78**	LR	LR	07 28 15.6	
	comp=Z,133nm,18.7s,baz=274,slow=39						
TIXI	**Tiksi**	**41.55**	**18**	P	**P**	**07 09 09.3**	**+0.2**
TIXI				IAmb	IAmb	07 09 10.1	
	comp=Z,4.9nm,1.1s						
TIXI	**Tiksi**	**41.55**	**18**	LR	LR	07 26 48.8	
	comp=Z,262nm,18.3s,baz=213,slow=37						
MNAI	**Manna**	**41.76**	**159**	P	**P**	**07 09 12.6**	**+1.1**
SNOP	**Sinop**	**42.03**	**296**	P	**P**	**07 09 13.7**	**+0.2**
BRTR	**Keskin Array B**	**43.64**	**293**	P	**P**	**07 09 28.2**	**+1.4**
	comp=Z,1.9nm,0.8s,baz=97,slow=8.8,SNR=7.4						
	comp=Z,1.9nm,0.8s						
MMAI	**Mount Meron Ar**	**44.11**	**283**	LR	LR	07 32 26.2	
	comp=Z,85nm,20.7s,baz=34,slow=42						
ANTO	**Ankara**	**44.24**	**293**	P	**P**	**07 09 30.9**	**-0.7**
EIL	**Elat**	**45.64**	**279**	LR	LR	07 33 01.8	
	comp=Z,179nm,18.1s,baz=70,slow=42						
MA2	**Magadan**	**45.85**	**39**	LR	LR	07 29 56.0	
	comp=Z,212nm,18.5s,baz=258,slow=37						
FINES	**FINESS Array B**	**46.79**	**324**	LR	LR	07 31 25.5	
	comp=Z,370nm,20.2s,baz=64,slow=38						
MLR	**Muntele Rosu**	**48.00**	**302**	LR	LR	07 33 55.9	
	comp=Z,356nm,18.3s,baz=65,slow=41						
ARCES	**ARCESS Array B**	**48.01**	**335**	LR	LR	07 31 27.7	
	comp=Z,168nm,21.2s,baz=102,slow=38						
KAPI	**Kappang**	**49.49**	**138**	LR	LR	07 33 32.2	
	comp=Z,35nm,19.6s,baz=310,slow=39						
PETK	**Petropavlovsk-**	**50.00**	**47**	LR	LR	07 33 17.1	
	comp=Z,196nm,19.3s,baz=263,slow=38						
HFS	**Hagfors**	**52.91**	**323**	LR	LR	07 35 30.3	
	comp=Z,131nm,19.7s,baz=28,slow=39						
VRAC	**Vranov**	**53.36**	**309**	LR	LR	07 37 40.6	
	comp=Z,162nm,18.6s,baz=36,slow=41						
NB2	**NORSAR Subarra**	**53.98**	**324**	P	**P**	**07 10 46.3**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=81,slow=7.4						
NOA	**NORSAR Array B**	**53.98**	**324**	P	**P**	**07 10 46.4**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=81,slow=7.3,SNR=4.6						
NOA				LR	LR	07 35 37.2	
	comp=Z,377nm,18.6s,baz=80,slow=38						
	comp=Z,1.5nm,0.8s						
GUMO	**Guam**	**54.34**	**99**	LR	LR	07 35 30.8	
	comp=Z,31nm,18.8s,baz=87,slow=38						
GERES	**GERESS Array B**	**55.31**	**309**	P	**P**	**07 10 57.3**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=54,slow=10.0,SNR=1.9						
GERES				LR	LR	07 39 36.6	
	comp=Z,142nm,19.3s,baz=90,slow=41						
	comp=Z,0.4nm,0.3s						
BATI	**Baumata**	**55.94**	**138**	LR	LR	07 39 05.9	
	comp=Z,48nm,18.1s,baz=207,slow=41						
DAVOX	**Davos/Dischmat**	**58.40**	**308**	LR	LR	07 40 37.3	
	comp=Z,218nm,21.4s,baz=48,slow=40						
VAE	**Valguarnera**	**58.64**	**296**	LR	LR	07 42 34.2	
	comp=Z,120nm,19.9s,baz=158,slow=42						
WRA	**Warramunga Arr**	**69.81**	**135**	P	**P**	**07 12 32.2**	**-0.4**
	comp=Z,3.6nm,0.9s,baz=331,slow=6.1,SNR=18						
	comp=Z,3.6nm,0.9s						
ESDC	**Sonseca Array**	**70.56**	**305**	P	**P**	**07 12 37.8**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=34,slow=6.6,SNR=6.3						
ESDC				LR	LR	07 47 49.5	
	comp=Z,96nm,20.1s,baz=18,slow=40						
	comp=Z,0.7nm,0.7s						
ILAR	**Eielson Array**	**70.81**	**22**	P	**P**	**07 12 38.6**	**+0.5**

comp=Z,1.4nm,1.0s,baz=301,slow=5.1,SNR=7.8
comp=Z,1.4nm,1.0s
ASAR Alice Springs 72.50 138 P **P 07 12 49.1 +0.3**
comp=Z,2.4nm,0.8s,baz=324,slow=5.6,SNR=27
comp=Z,2.4nm,0.8s
NWAO Narrogin (SRO) 73.01 156 LR LR 07 45 50.1
comp=Z,27nm,21.2s,baz=314,slow=37
SFJD Kangerlussuaq 73.29 345 LR LR 07 48 48.2
comp=Z,165nm,18.5s,baz=68,slow=39
KDAK Kodiak Island 73.56 30 LR LR 07 48 51.3
comp=Z,157nm,18.6s,baz=129,slow=39
FRB Frobisher Bay 79.45 350 LR LR 07 51 22.3
comp=Z,94nm,19.1s,baz=304,slow=38
YKA Yellowknife Ar 80.39 11 P **P 07 13 33.3 +0.3**
comp=Z,1.1nm,0.8s,baz=334,slow=5.1,SNR=3.8
comp=Z,1.1nm,0.8s
TORD Torodi Ar. Bea 80.53 279 P **P 07 13 34.3 -0.2**
comp=Z,1.8nm,0.6s,baz=34,slow=5.6,SNR=14
comp=Z,1.8nm,0.6s
STKA Stephens Creek 83.14 137 P **P 07 13 47.2 -0.6**
comp=Z,0.9nm,0.3s,baz=70,slow=3.8,SNR=3.6
STKA LR LR 07 56 13.2
comp=Z,37nm,19.1s,baz=41,slow=40
comp=Z,0.9nm,0.3s
NEW Newport 93.27 17 LR LR 08 01 32.1
comp=Z,67nm,18.0s,baz=11,slow=39
YBH Yreka Blue Hor 97.67 24 LR LR 08 05 22.3
comp=Z,57nm,19.1s,baz=359,slow=39
SADO Sadowa 99.34 352 LR LR 08 03 19.9
comp=Z,106nm,18.6s,baz=54,slow=37
CPUP Villa Florida 150.02 279 PKPbc **PKiKP 07 21 13.6 +0.1**
comp=Z,1.3nm,0.8s,baz=70,slow=4.0,SNR=3.0

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*NNC **16** 07:11:02.0±2.4, 49°.94N×76°.76E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=24.8km s-min=10.5km az=124.0*
*IDC **16** 07:11:15.1±1.3, 50°.01N×78°.73E, h0km, mbtmp2.4/2, ML1.9/2, Error ellipse: s-maj=11.9km s-min=7.5km az=61.0*
ISC 16 07:11:16.7±1.8, 49°.99N±0°.09×78°.7E±0°.2, h10km, n8, σ2§47/11, 4C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.64**	**352**	⇓P		**Pg**	**07 11 26.6**	**-2.5**
	5.3nm,0.3s							
KURBB				⇑S		**Sn**	**07 11 45.6**	**+3.6**
	78nm,0.7s							
KURBB	**Kurchatov Arra**	**0.64**	**352**	Pg		**Pg**	**07 11 26.7**	**-2.5**
	0.8nm,0.3s,baz=166,slow=17,SNR=31							
KURBB				Lg		Lg	07 11 37.4	
	1.0nm,0.3s,baz=170,slow=30,SNR=31							
KURK	**Kurchatov**	**0.73**	**358**	⇓P		**Pg**	**07 11 28.2**	**-2.5**
	2.5nm,0.4s							
KURK				⇑S		**Sn**	**07 11 47.7**	**+3.5**
	90nm,1.2s							
MAKZ	**Makanchi**	**3.87**	**144**	⇑Pg		**Pb**	**07 12 25.5**	**+0.4**
	0.7nm,0.5s							
MAKZ				⇓Lg		Lg	07 13 27.1	
	11nm,0.7s							
MK31	**Makanchi Array**	**4.01**	**142**	⇓Pn		**Pn**	**07 12 18.5**	**+0.3**
	0.1nm,0.3s,baz=325,slow=10.0,SNR=5.7							
MK31				⇑Pg		**Pg**	**07 12 31.6**	**-1.8**
	1.1nm,0.6s,baz=328,slow=14,SNR=5.0							
MK31				⇓Lg		Lg	07 13 32.7	
	11nm,0.6s,baz=326,slow=27,SNR=10							
MKAR	**Makanchi Array**	**4.01**	**142**	Pn		**Pn**	**07 12 18.5**	**+0.4**
	0.1nm,0.3s,baz=320,slow=10.0,SNR=1.3							
MKAR				Sn		**Sn**	**07 13 06.4**	**+1.3**
	0.3nm,0.3s,baz=322,slow=16,SNR=1.3							
MKAR				Lg		Lg	07 13 19.9	
	1.3nm,0.3s,baz=328,slow=27,SNR=12							
	0.4nm,0.8s							
ZALV	**Zalesovo Beam**	**5.49**	**41**	Pn		**Pn**	**07 12 38.3**	**-0.2**
	0.2nm,0.3s,baz=226,slow=12,SNR=2.6							
ZALV				Lg		Lg	07 14 05.2	
	0.2nm,0.3s,baz=233,slow=14,SNR=2.1							
	0.4nm,0.4s							
I46RU	**ZALESOVO INFRA**	**5.50**	**41**	I		I	07 44 50.0	
	baz=221,slow=311,SNR=3.5							

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*IDC **16** 07:15:03.5±0.6, 1°.68N×125°.95E, h0km, mb4.1/13, mbtmp4.1/14, ML3.9/1, Error ellipse: s-maj=38.0km s-min=13.3km az=73.0*
*DJA **16** 07:15:08.3±0.3, 2°.N±4°.×12°.6E±°, h10km, M4.1/9, MLv4.1/9*
*NEIC **16** 07:15:11.2±2.2, 1°.6N±0°.1×126°.27E±0°.08, h49km±8km, mb4.6/22, Error ellipse: s-maj=17.0km s-min=9.3km az=211.0*
ISC 16 07:15:10.1±0.5, 1°.65N±0°.06×126°.33E±0°.07, h47km, n48, σ1§34/51, mb4.4/25, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.36**	**130**			**Pn**	**07 15 32.3**	**-0.4**
TNTI	**Ternate**	**1.36**	**130**	P		**Pn**	**07 15 32.9**	**+0.2**
TNTI				S		**Sn**	**07 15 50.0**	**+0.5**
KMSI	**Cibinong**	**2.58**	**246**	P		**Pn**	**07 15 50.7**	**+1.3**
SANI	**Sanana**	**3.69**	**185**	P		**Pn**	**07 16 04.8**	**+0.1**
LUWI	**Luwuk**	**4.45**	**233**	P		**Pn**	**07 16 16.7**	**+1.6**
TOLI2	**Tolitoli**	**5.57**	**265**	Pn		**Pn**	**07 16 29.3**	**-1.2**
MYLDM	**Lahad Datu**	**8.56**	**294**			**Pn**	**07 17 13.8**	**+2.3**
KNRA	**Kununurra**	**17.38**	**172**			**Pn**	**07 19 08.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**19.64**	**182**			**P**	**07 19 34.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**19.64**	**182**	P		**P**	**07 19 33.7**	**-1.3**
	0.3nm,0.3s,baz=0.6,slow=8.3,SNR=7.8							
	2.1nm,0.6s							
WB0	**Warramunga Arr**	**22.71**	**160**	P		**P**	**07 20 07.4**	**-0.7**
WB0				IAmb		IAmb	07 20 13.4	
	comp=Z,11nm,0.7s							
COEN	**Coen**	**22.79**	**133**	P		**P**	**07 20 07.7**	**-1.3**
WRA	**Warramunga Arr**	**22.85**	**160**	P		**P**	**07 20 09.4**	**-0.2**
WRA	**Warramunga Arr**	**22.85**	**160**	P		**P**	**07 20 09.6**	**0.0**
	comp=Z,3.6nm,0.3s,baz=339,slow=11,SNR=73							
WRA				PcP		**PcP**	**07 24 02.4**	**+2.9**
	comp=Z,0.5nm,0.4s,baz=359,slow=7.5,SNR=5.8							
	comp=Z,3.6nm,0.3s							
MBWA	**Marble Bar**	**23.57**	**196**	P		**P**	**07 20 15.4**	**-1.2**
MBWA				IAmb		IAmb	07 20 49.5	
	comp=Z,26nm,1.5s							
PSA00	**Pilbara Seismi**	**23.93**	**195**	P		**P**	**07 20 19.2**	**-0.8**
PSA00				IAmb		IAmb	07 20 58.8	
	comp=Z,20nm,1.4s							
AS31	**Alice Springs**	**26.22**	**164**	P		**P**	**07 20 41.0**	**+0.2**
ASAR	**Alice Springs**	**26.22**	**164**	P		**P**	**07 20 40.5**	**-0.4**
ASAR	**Alice Springs**	**26.22**	**164**	P		**P**	**07 20 41.4**	**+0.6**
	comp=Z,2.1nm,0.5s,baz=343,slow=7.4,SNR=82							
ASAR				PcP		**PcP**	**07 24 08.4**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=352,slow=1.8,SNR=5.3							
	comp=Z,2.1nm,0.5s							
CM31	**Chiang Mai Arr**	**31.63**	**304**	P		**P**	**07 21 28.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**31.63**	**304**	P		**P**	**07 21 28.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**31.63**	**304**	P		**P**	**07 21 26.5**	**-2.5**
	comp=Z,2.6nm,0.3s,baz=300,slow=31,SNR=1.8							
	comp=Z,2.6nm,0.3s							
FORT	**Forrest**	**32.29**	**177**	P		**P**	**07 21 34.3**	**-0.3**
FORT				IAmb		IAmb	07 22 03.2	
	comp=Z,13nm,0.9s							
BBOO	**Buckleboo**	**35.49**	**166**	P		**P**	**07 22 02.5**	**+0.1**
STKA	**Stephens Creek**	**36.35**	**158**	P		**P**	**07 22 10.5**	**+0.8**
STKA	**Stephens Creek**	**36.35**	**158**	P		**P**	**07 22 10.2**	**+0.4**
	comp=Z,4.2nm,0.7s,baz=332,slow=10.0,SNR=10							
	comp=Z,4.2nm,0.7s							
MJAR	**Matsushiro Arr**	**36.42**	**16**	P		**P**	**07 22 10.6**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=201,slow=8.6,SNR=1.9							
	comp=Z,1.1nm,0.6s							
USRK	**Ussuriysk Ar.**	**42.67**	**6**	P		**P**	**07 23 01.1**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=93,slow=8.7,SNR=2.4							
	comp=Z,1.7nm,0.7s							
SONM	**Songino Array**	**49.14**	**342**	P		**P**	**07 23 52.1**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=180,slow=4.4,SNR=4.4							
	comp=Z,0.6nm,0.8s							
PETK	**Petropavlovsk-**	**57.50**	**22**	P		**P**	**07 24 55.3**	**+0.8**
	comp=Z,3.2nm,0.9s,baz=199,slow=3.1,SNR=2.0							
	comp=Z,3.2nm,0.9s							
MK31	**Makanchi Array**	**59.03**	**326**	P		**P**	**07 25 05.2**	**-0.1**
MK31				IAmb		IAmb	07 25 21.2	
	comp=Z,5.1nm,1.4s							
MKAR	**Makanchi Array**	**59.03**	**326**	P		**P**	**07 25 05.1**	**-0.2**
MKAR	**Makanchi Array**	**59.03**	**326**	P		**P**	**07 25 03.4**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=121,slow=7.3,SNR=15							
	comp=Z,0.5nm,0.3s							
ZALV	**Zalesovo Beam**	**62.25**	**334**	P		**P**	**07 25 25.1**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=134,slow=4.2,SNR=1.8							
	comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**63.27**	**328**	P		**P**	**07 25 31.7**	**-2.2**
	comp=Z,1.6nm,0.7s,baz=130,slow=6.3,SNR=12							
	comp=Z,1.6nm,0.7s							
KURK	**Kurchatov**	**63.28**	**328**	P		**P**	**07 25 33.3**	**-0.6**
KURK				IAmb		IAmb	07 25 40.3	
	comp=Z,4.2nm,0.8s							
CASY	**Casey**	**68.72**	**187**	P		**P**	**07 26 08.0**	**-0.5**
CASY				IAmb		IAmb	07 26 27.9	
	comp=Z,11nm,1.2s							
BVAR	**Borovoye Array**	**68.84**	**328**	P		**P**	**07 26 07.8**	**-1.9**
	comp=Z,0.6nm,0.5s,baz=15,slow=6.0,SNR=2.5							
	comp=Z,0.6nm,0.5s							
NRIK	**Noril'sk**	**72.34**	**347**	P		**P**	**07 26 31.2**	**+0.6**
	comp=Z,1.8nm,0.4s,baz=107,slow=7.5,SNR=4.1							
	comp=Z,1.8nm,0.4s							
ABKAR	**Akbulak array**	**73.50**	**321**	P		**P**	**07 26 37.5**	**-0.4**
L18K	**Granite Mounta**	**82.49**	**27**	P		**P**	**07 27 30.1**	**+2.6**
L18K				IAmb		IAmb	07 27 31.7	
	comp=Z,9.2nm,1.2s							
P18K	**Big Mountain,**	**82.70**	**30**	P		**P**	**07 27 28.7**	**0.0**
G19K	**Purcell Mounta**	**83.08**	**23**	P		**P**	**07 27 31.9**	**+1.4**
G19K				IAmb		IAmb	07 28 06.2	
	comp=Z,12nm,1.4s							
D19K	**Kuna River**	**83.19**	**21**	P		**P**	**07 27 33.2**	**+2.1**
D19K				IAmb		IAmb	07 27 36.7	
	comp=Z,14nm,1.5s							
H19K	**Roundabout Mou**	**83.22**	**24**	P		**P**	**07 27 33.7**	**+2.5**
H19K				IAmb		IAmb	07 27 41.2	
	comp=Z,12nm,1.4s							
B21K	**Ikpikpuk River**	**84.65**	**20**	P		**P**	**07 27 40.2**	**+1.8**
B21K				IAmb		IAmb	07 27 49.1	
	comp=Z,9.0nm,1.4s							
B22K	**Teshekpuk Lake**	**85.17**	**20**	P		**P**	**07 27 43.6**	**+2.5**
TORD	**Torodi Ar. Bea**	**123.15**	**287**	PKP		**PKiKP**	**07 34 03.1**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=80,slow=1.8,SNR=3.3							

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*IDC **16** 07:19:10.6±0.7, 57°.61S×65°.99W, h0km, mb4.5/13, mbtmp4.4/14, ML3.2/1, MS3.6/9, Error ellipse: s-maj=32.5km s-min=14.4km az=83.0*
*NEIC **16** 07:19:12.4±1.3, 57°.61S±0°.08×66°.1W±0°.2, h10km±1km, mb4.9/50, Error ellipse: s-maj=17.1km s-min=13.6km az=246.0*
*VAO **16** 07:19:15.1±3.6, 57°.59S×65°.50W, h26km±23km, mb4.7*
*GUC **16** 07:19:16.0±2.6, 57°.44S×66°.31W, h19km±999km, ML4.8*
ISC 16 07:19:12.8±3.9, 57°.59S±0°.05×66°.08W±0°.09, h15km±24km, n121, σ0§66/121, mb4.9/34, MS3.6/9, 9C-1D, Drake Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MG01	**Puerto William**	**2.80**	**341**			**Pn**	**07 19 57.3**	**+0.3**
MG01	**Puerto William**	**2.80**	**341**		*e*P	**Pn**	**07 19 56.4**	**-0.6**
MG01					*e*S	**Sn**	**07 20 29.6**	**-0.9**
MG01					IAML		07 20 40.4	
	comp=N,5μm,0.7s							
MG03	**Isla Dawson**	**4.50**	**325**			**Pn**	**07 20 20.1**	**-0.2**
MG03	**Isla Dawson**	**4.50**	**325**		*e*P	**Pn**	**07 20 20.1**	**-0.2**
MG03					*e*S	**Sn**	**07 21 09.9**	**-2.4**
MG02	**Cerro Sombrero**	**5.15**	**338**	Pn		**Pn**	**07 20 29.8**	**+0.6**
MG02	**Cerro Sombrero**	**5.15**	**338**		*e*P	**Pn**	**07 20 29.9**	**+0.6**
MG02					*e*S	**Sn**	**07 21 26.9**	**-1.4**
GO10	**Punta Arenas**	**5.27**	**325**	Pn		**Pn**	**07 20 31.4**	**+0.4**
GO10	**Punta Arenas**	**5.27**	**325**		*e*P	**Pn**	**07 20 31.3**	**+0.3**
GO10					*e*S	**Sn**	**07 21 30.8**	**-0.7**
MG04	**Isla Riesco**	**5.69**	**324**	Pn		**Pn**	**07 20 36.2**	**-0.5**
MG04	**Isla Riesco**	**5.69**	**324**		*e*P	**Pn**	**07 20 36.9**	**+0.2**
MG04					*e*S	**Sn**	**07 21 40.6**	**-1.0**
PMSA	**Palmer Station**	**7.28**	**173**	Pn		**Pn**	**07 20 57.6**	**-0.8**
	comp=N,0.4nm,0.3s,baz=194,slow=8.4,SNR=1.5							
PMSA				LR		LR	07 23 01.6	
	comp=N,340nm,19.7s,baz=326,slow=32							
	comp=N,2.8nm,0.5s							
GO09	**Cerro Castillo**	**7.31**	**327**	Pn		**Pn**	**07 20 58.9**	**0.0**
EFI	**East Falkland**	**7.53**	**41**	Pn		**Pn**	**07 21 01.4**	**-0.6**
GO08	**Villa O'Higgin**	**9.93**	**334**	Pn		**Pn**	**07 21 34.6**	**-0.3**
GO08	**Villa O'Higgin**	**9.93**	**334**		*e*P	**Pn**	**07 21 35.5**	**+0.6**
LL02	**Futaleuf**	**14.87**	**343**	Pn		**Pn**	**07 22 42.6**	**+0.3**
LL01	**San Ignacio de**	**15.75**	**342**			**Pn**	**07 22 54.1**	**+0.1**
LL03	**Petrohue**	**16.96**	**343**	Pn		**Pn**	**07 23 09.8**	**+0.4**
LL03				IAmb		IAmb	07 23 23.0	
	comp=Z,99nm,1.3s							
PLCA	**Paso Flores**	**17.12**	**348**	Pn		**Pn**	**07 23 10.7**	**-0.8**
PLCA	**Paso Flores**	**17.12**	**348**		*e*P	**P**	**07 23 13.2**	**+0.1**
LL04	**Puerto Octay**	**17.19**	**344**			**P**	**07 23 13.5**	**-0.2**
LR05	**Currie**	**17.79**	**345**			**Pn**	**07 23 18.9**	**-0.8**
GO06	**Curarrehue**	**18.36**	**347**	P		**P**	**07 23 27.0**	**+0.2**
LR03	**Panguipulli**	**18.43**	**345**	P		**P**	**07 23 27.1**	**-0.4**
TRQA	**Tornquist**	**19.73**	**10**	P		**Pn**	**07 23 42.7**	**-0.6**
TRQA				IAmb		IAmb	07 23 45.0	
	comp=Z,36nm,1.1s							
ML02	**Panimavida**	**22.13**	**348**	P		**P**	**07 24 08.3**	**+0.7**
ML02				IAmb		IAmb	07 24 17.0	
	comp=Z,78nm,1.0s							
GO05	**Hualane**	**22.93**	**348**	P		**P**	**07 24 16.3**	**+0.1**
GO05				IAmb		IAmb	07 24 18.2	
	comp=Z,43nm,0.8s							
BELA	**Belgrano 2**	**22.97**	**164**	P		**P**	**07 24 16.6**	**+0.3**
BO02	**Sierra Bellavi**	**23.02**	**350**	P		**P**	**07 24 16.8**	**-0.4**
BO02				IAmb		IAmb	07 24 31.9	
	comp=Z,53nm,1.0s							
BO01	**Tunca**	**23.45**	**350**	P		**P**	**07 24 21.0**	**-0.4**
BO01				IAmb		IAmb	07 25 03.5	
	comp=Z,18nm,0.5s							
BO04	**La Punta**	**23.80**	**351**	P		**P**	**07 24 24.9**	**-0.1**
LMEL	**Las Melosas**	**23.91**	**352**	P		**P**	**07 24 26.6**	**+0.6**
LMEL				IAmb		IAmb	07 24 34.9	
	comp=Z,53nm,1.1s							
MT01	**Popeta**	**23.99**	**349**	P		**P**	**07 24 26.1**	**-0.5**
MT09	**Talagante**	**24.05**	**350**	P		**P**	**07 24 26.8**	**-0.5**
MT09				IAmb		IAmb	07 24 44.0	
	comp=Z,43nm,0.9s							
MT16	**CCHEN**	**24.35**	**351**	P		**P**	**07 24 29.9**	**-0.2**
MT05	**Renca**	**24.41**	**351**	P		**P**	**07 24 28.4**	**-2.2**
VNA3	**Neumayer Olymp**	**26.66**	**143**	⇑P		**P**	**07 24 51.5**	**+0.9**
	comp=Z,12nm,0.8s							
VNA3				⇑PcP		**PcP**	**07 28 12.7**	**-1.0**
	comp=Z,2.7nm,0.8s							
CO03	**El Pedregal**	**26.94**	**351**	P		**P**	**07 24 53.7**	**+0.2**
CO03				IAmb		IAmb	07 24 55.2	
	comp=Z,32nm,0.9s							
VNA1	**Neumayer--Stat**	**27.12**	**142**	⇑P		**P**	**07 24 55.4**	**+0.7**
	comp=Z,6.5nm,1.1s							
VNA2	**Neumayer--Watz**	**27.40**	**142**	⇑P		**P**	**07 24 57.8**	**+0.5**
	comp=Z,4.6nm,1.1s,baz=273,slow=11							
VNA2				⇑PcP		**PcP**	**07 28 15.4**	**0.0**
	comp=Z,2.4nm,0.6s,baz=295,slow=3.7							
CO01	**Juntas del Tor**	**27.75**	**353**	P		**P**	**07 25 01.6**	**+0.7**
CO01				IAmb		IAmb	07 25 10.4	
	comp=Z,21nm,0.8s							
SNAA	**Sanae**	**28.83**	**144**	P		**P**	**07 25 10.3**	**+0.2**
SNAA				IAmb		IAmb	07 25 12.1	
	comp=Z,12nm,1.2s							
SNAA	**Sanae**	**28.83**	**144**	⇑P		**P**	**07 25 10.2**	**+0.1**
	comp=Z,78nm,0.6s							
SNAA				⇑PcP		**PcP**	**07 28 19.5**	**+0.4**
	comp=Z,16nm,0.5s							
SNAA	**Sanae**	**28.83**	**144**	P		**P**	**07 25 10.0**	**-0.1**
	comp=Z,4.9nm,0.9s,baz=262,slow=7.5,SNR=21							
SNAA				PcP		**PcP**	**07 28 18.6**	**-0.5**
	comp=Z,1.4nm,0.9s,baz=301,slow=5.9,SNR=6.0							
SNAA				LR		LR	07 33 56.4	
	comp=Z,94nm,21.8s,baz=190,slow=31							
	comp=Z,4.9nm,0.9s							
AC04	**Llanos de Chal**	**29.58**	**351**	P		**P**	**07 25 17.6**	**+0.6**
TROLL	**Troll, Antarti**	**30.47**	**145**	⇑P		**P**	**07 25 22.8**	**-1.8**
	comp=Z,210nm,0.8s							
TROLL				⇑PcP		**PcP**	**07 28 23.5**	**+0.2**
	comp=Z,49nm,0.6s							
CPUP	**Villa Florida**	**31.85**	**15**	P		**P**	**07 25 37.1**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=191,slow=8.4,SNR=4.8							
CPUP				LR		LR	07 39 23.4	
	comp=Z,126nm,18.6s,baz=191,slow=38							
	comp=Z,1.7nm,0.7s							
GO02	**Mina Guanaco**	**32.50**	**354**	P		**P**	**07 25 43.4**	**+0.3**
GO02				IAmb		IAmb	07 26 16.6	
	comp=Z,13nm,0.6s							
QSPA	**South Pole Qui**	**32.65**	**180**	P		**P**	**07 25 43.6**	**-0.3**
QSPA				IAmb		IAmb	07 25 45.3	
	comp=Z,19nm,0.9s							
QSPA	**South Pole Qui**	**32.65**	**180**	P		**P**	**07 25 44.2**	**+0.3**
	comp=Z,16nm,0.9s,baz=153,slow=3.3,SNR=50							
QSPA				LR		LR	07 37 38.8	
	comp=Z,77nm,20.2s,baz=177,slow=34							
	comp=Z,16nm,0.9s							
PB14	**IPOC Station P**	**33.08**	**353**	P		**P**	**07 25 47.9**	**-0.3**
SJPY	**San Joaquin**	**33.34**	**17**	*e*P		**P**	**07 25 49.4**	**-0.8**
PB09	**IPOC Station P**	**35.83**	**355**	P		**P**	**07 26 12.5**	**+0.7**
PB09				IAmb		IAmb	07 26 32.9	
	comp=Z,26nm,1.5s							
ELIB	**Princess Elisa**	**36.65**	**149**	*d*P		**P**	**07 26 19.0**	**+0.6**
BDQN	**Bodoquena, MS**	**37.72**	**14**	*e*P		**P**	**07 26 27.6**	**-0.2**
AQDB	**Aquidauana**	**37.84**	**16**	P		**P**	**07 26 28.8**	**0.0**
AQDB	**Aquidauana**	**37.84**	**16**	*e*P		**P**	**07 26 28.5**	**-0.2**
GO01	**Chusmiza**	**37.94**	**355**	P		**P**	**07 26 29.6**	**-0.5**
GO01				IAmb		IAmb	07 27 00.2	
	comp=Z,15nm,1.3s							
RPRD	**Ribas do Rio P**	**38.16**	**19**	*e*P		**P**	**07 26 31.6**	**+0.2**
PB18	**Visviri**	**40.02**	**355**	P		**P**	**07 26 47.6**	**0.0**
PB18				IAmb		IAmb	07 27 19.2	
	comp=Z,16nm,1.2s							
BBSD	**Serra de San D**	**40.54**	**8**	*e*P		**P**	**07 26 51.1**	**-0.3**
LPAZ	**La Paz**	**41.26**	**357**	P		**P**	**07 26 58.8**	**+0.9**
LPAZ	**La Paz**	**41.26**	**357**	P		**P**	**07 26 58.9**	**+0.9**
	comp=Z,2.5nm,0.5s,baz=182,slow=7.5,SNR=27							
LPAZ				LR		LR	07 46 32.2	
	comp=Z,67nm,20.8s,baz=176,slow=40							
	comp=Z,2.5nm,0.5s							
LPAZ	**La Paz**	**41.26**	**357**	*e*P		**P**	**07 26 58.5**	**+0.5**
SIV	**San Ignacio**	**41.70**	**7**	LR		LR	07 45 10.2	
	comp=Z,87nm,19.6s,baz=56,slow=37							
SALV	**Santo Antonio**	**42.34**	**15**	*e*P		**P**	**07 27 06.4**	**+0.3**
PTLB	**Pontes e Lacer**	**42.39**	**10**	P		**P**	**07 27 06.7**	**+0.2**
PTLB	**Pontes e Lacer**	**42.39**	**10**	*e*P		**P**	**07 27 06.2**	**-0.3**
RPN	**Rapa Nui**	**42.97**	**296**	LR		LR	07 40 17.6	
	comp=Z,42nm,21.8s,baz=136,slow=30							
BDFB	**Brasilia**	**44.03**	**25**	P		**P**	**07 27 19.7**	**-0.1**
	comp=Z,4.8nm,0.9s,baz=204,slow=9.4,SNR=4.9							
BDFB				LR		LR	07 46 29.2	
	comp=Z,82nm,18.6s,baz=140,slow=37							
	comp=Z,4.8nm,0.9s							
VILB	**Vilhena**	**44.77**	**8**	P		**P**	**07 27 26.2**	**+0.4**
VILB	**Vilhena**	**44.77**	**8**	*e*P		**P**	**07 27 26.1**	**+0.3**
PDRB	**Porto dos Gac**	**46.44**	**13**	*e*P		**P**	**07 27 38.8**	**-0.1**
SNDB	**Serra Nova Dou**	**46.91**	**20**	*e*P		**P**	**07 27 43.1**	**+0.5**
ETMB	**Extrema**	**47.66**	**360**	P		**P**	**07 27 48.8**	**+0.4**
ETMB				IAmb		IAmb	07 27 50.1	
	comp=Z,11nm,0.8s							
ETMB	**Extrema**	**47.66**	**360**	*e*P		**P**	**07 27 48.8**	**+0.4**
SDBA	**SAO DESIDERIO**	**47.90**	**28**	*e*P		**P**	**07 27 50.2**	**-0.1**
SAML	**Samuel**	**48.58**	**4**	P		**P**	**07 27 55.8**	**+0.3**
SAML				IAmb		IAmb	07 27 57.0	
	comp=Z,14nm,1.1s							
SAML	**Samuel**	**48.58**	**4**	*e*P		**P**	**07 27 55.5**	**0.0**
MAW	**Mawson**	**49.57**	**157**	P		**P**	**07 28 01.8**	**-0.7**
	comp=Z,4.3nm,1.1s,baz=215,slow=8.8,SNR=5.6							
MAW				PcP		**PcP**	**07 29 23.9**	**0.0**
	comp=Z,1.6nm,0.7s,baz=252,slow=5.9,SNR=2.4							
	comp=Z,4.3nm,1.1s							
CZSB	**Cruzeiro do Su**	**50.00**	**351**	P		**P**	**07 28 07.4**	**+1.0**
CZSB	**Cruzeiro do Su**	**50.00**	**351**	*e*P		**P**	**07 28 07.9**	**+1.5**
SMTB	**Santa Maria do**	**50.68**	**24**	*e*P		**P**	**07 28 11.1**	**-0.4**
NPGB	**Novo Progresso**	**51.11**	**14**	*e*P		**P**	**07 28 14.9**	**+0.1**
MACA	**Manacapuru-AM**	**54.44**	**7**	P		**P**	**07 28 39.1**	**-0.3**
MACA				IAmb		IAmb	07 28 47.5	
	comp=Z,9.9nm,0.7s							
COHC	**Cochancay**	**55.95**	**344**	P		**P**	**07 28 51.1**	**+0.9**
OTAV	**Otavalo**	**58.50**	**345**	P		**P**	**07 29 09.6**	**+0.8**
OTAV				IAmb		IAmb	07 29 27.8	
	comp=Z,12nm,1.0s							
OTAV	**Otavalo**	**58.50**	**345**	*e*P		**P**	**07 29 10.2**	**+1.4**
SHEL	**Horse Pasture**	**60.88**	**73**	P		**P**	**07 29 24.5**	**-0.3**
SUR	**Sutherland**	**61.72**	**106**	P		**P**	**07 29 30.6**	**+0.1**
SUR				IAmb		IAmb	07 29 31.4	
	comp=Z,11nm,1.2s							
ROSC	**El Rosal**	**62.58**	**351**	P		**P**	**07 29 36.6**	**0.0**
ROSC				IAmb		IAmb	07 29 39.3	
	comp=Z,13nm,1.0s							
ROSC	**El Rosal**	**62.58**	**351**	P		**P**	**07 29 36.0**	**-0.5**
	comp=Z,4.9nm,0.5s,baz=81,slow=7.3,SNR=4.0							
	comp=Z,4.9nm,0.5s							
MDP	**Montagnes des**	**63.43**	**15**	LR		LR	07 57 54.0	
	comp=Z,138nm,20.9s,baz=167,slow=37							
H10N3	**ASCENSION HYDR**	**63.53**	**60**	T		T	08 39 18.6	
	baz=206,slow=75,SNR=4.2							
H10N1	**ASCENSION HYDR**	**63.53**

CHIC	Chingaza	3.02	214	P	Pn	07 32 22.8	+1.1
CHIC				S	Sn	07 32 59.6	+1.2
NORC	Norcasia	3.22	241	P	Pn	07 32 25.7	+1.6
GUY2C	Guyana, Caldas	3.81	240	P	Pn	07 32 34.2	+1.5
GUY2C				S	Sn	07 33 19.7	+1.7
TEPV	Terepaima	3.97	45	eP	Pn	07 32 35.8	+1.4
TEPV				eS	Sn	07 33 19.8	-1.5
SJCC	San Jacinto, C	4.11	312	P	Pn	07 32 39.2	+2.8
SJCC				S	Sn	07 33 29.3	+4.4
BAUV	El Baul	4.35	66	eP	Pn	07 32 40.6	+1.0
BAUV				eS	Sn	07 33 29.1	-1.5
MAPV	Macapo	4.44	53	eP	Pn	07 32 42.1	+1.3
MAPV				eS	Sn	07 33 31.1	-1.7
PRAC	Prado	4.44	220	P	Pn	07 32 41.5	+0.6
PRAC				S	Sn	07 33 34.1	+1.2
ORTC	Ortega, Tolima	4.53	225	P	Pn	07 32 43.9	+1.7
BENV	Beln	5.21	57	eP	Pn	07 32 52.5	+0.9
BENV				eS	Sn	07 33 49.4	-2.6
CACV	CAICARA DEL OR	5.49	85	eP	Pn	07 33 03.1	+7.9
CACV				eS	Sn	07 34 08.9	+10
TACV	Tcata	5.78	59	eP	Pn	07 33 00.7	+1.2
TACV				eS	Sn	07 34 02.5	-3.6

IDC 16 07:35:29.3±442.0, 48°43′N×48°48′E, h0km, Error ellipse: s-maj=173.3km s-min=127.0km az=38.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	6.54	69	I	I	08 11 00.0	
	0.1nm,0.5s,baz=256,slow=282,SNR=13						
I43RU	DUBNA INFRASON	10.75	325	I	I	08 39 30.0	
	baz=136,slow=332,SNR=0.6						
I46RU	ZALESOVO INFRA	23.25	63	I	I	09 58 40.0	
	baz=270,slow=335,SNR=1.0						
I34MN	SONGINO INFRAS	37.88	69	I	I	11 30 10.0	
	baz=295,slow=323,SNR=0.5						

SJA 16 07:42:36.9±0.7, 23°97S×66°91W, h209km±5km, ML3.5, MW3.5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.49	121	eP	Pn	07 43 12.3	+0.7
SLA				eS	S	07 43 38.0	-0.2
AF01	San Pedro de A	1.54	311	eP	Pn	07 43 13.5	+1.4
AZAP	Zapla	1.71	99	eP	Pn	07 43 13.9	+0.4
AZAP				eS	S	07 43 44.3	+2.6
YJA	Yavi	2.20	36	eP	Pn	07 43 19.6	+0.9
YJA				eS	S	07 43 51.6	+0.8
FSA	Cafayete	2.30	159	eP	Pn	07 43 19.8	+0.4
FSA				eS	S	07 43 50.6	-1.6
PB15	IPOC Station P	2.46	287	eP	Pn	07 43 22.0	+0.8
PB15				eS	S	07 43 54.9	-0.4
GO02	Mina Guanaco	2.71	243	eP	Pn	07 43 23.9	-0.2
GO02				eS	S	07 44 00.2	-0.2
PB06	IPOC Station P	2.75	297	eP	Pn	07 43 24.9	+0.6
PB06				eS	S	07 44 00.7	-0.1
PB06				IAML		07 44 01.6	
	comp=Z,181nm,0.1s						
PB09	IPOC Station P	3.04	315	eP	Pn	07 43 28.7	+0.9
PB09				eS	S	07 44 05.8	-1.3
PB09				IAML		07 44 11.1	
	comp=Z,56nm,0.1s						
AHML	Horco Molle	3.15	153	eP	Pn	07 43 29.5	+0.7
AHML				eS	S	07 44 08.4	-0.8
PB14	IPOC Station P	3.25	258	eP	Pn	07 43 30.3	0.0
PB14				eS	S	07 44 10.4	-1.2
PB14				IAML		07 44 13.4	
	comp=Z,57nm,0.4s						
PB04	IPOC Station P	3.39	298	eP	Pn	07 43 32.3	+0.4
PB04				eS	S	07 44 13.4	-1.1
PB04				IAML		07 44 15.7	
	comp=Z,123nm,0.1s						
PB01	IPOC Station P	3.76	320	eP	Pn	07 43 36.5	+0.3
PB01				eS	S	07 44 20.7	-1.7
PB01				IAML		07 44 22.8	
	comp=Z,74nm,0.2s						
AC01	Pan de Azucar	3.99	236	eP	Pn	07 43 38.2	-0.7
AC01				eS	S	07 44 24.5	-2.7
AC01				IAML		07 44 26.4	
	comp=Z,41nm,0.2s						
PB08	IPOC Station P	4.34	331	eP	Pn	07 43 44.7	+1.1
PB08				eS	S	07 44 35.6	-0.1
PB08				IAML		07 44 40.4	
	comp=Z,24nm,0.2s						
GO03	Copiapo	4.69	219	eP	Pn	07 43 47.0	-0.6
GO03				eS	S	07 44 41.1	-2.1
PB11	IPOC Station P	4.90	328	eP	Pn	07 43 51.4	+0.9
PB11				eS	S	07 44 45.9	-2.2
PB11				IAML		07 44 47.3	
	comp=Z,29nm,0.2s						

AFAD 16 07:43:58.9±0.0, 37°70N×37°40E, h7km±2km, MW3.6
ISK 16 07:43:58.5, 37°69N×37°42E, h4km, ML3.4/20
ISC 16 07:43:59.4±1.0, 37°66N±0°02×37°45E±0°01, h6km±9km, n61, σ1§06/104, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCA	Adyaman/G¶l	0.23	53	P	Pg	07 44 03.9	-0.1
AKCA				S	Sg	07 44 07.9	+0.7
GZT	Gaziantep	0.31	163	P	Pb	07 44 06.4	-1.1
GZT				S	Sb	07 44 11.7	-1.1
KHMN	Narli-Kahraman	0.35	222	Pg	Pg	07 44 06.5	+0.2
KHMN				Sg	Sb	07 44 12.2	-1.7
KAHM	Kahramanmaras,	0.39	250	P	Pg	07 44 06.8	-0.3
KAHM				S	Sg	07 44 12.6	+0.4
KMRS	Kahramanmaras	0.46	251	Pg	Pg	07 44 08.1	-0.3
KMRS				Sg	Sg	07 44 14.9	+0.5
GAZ	Gaziantep	0.52	202	Pg	Pg	07 44 09.6	+0.2
GAZ				Sg	Sb	07 44 17.9	-0.8
KHMR	Kahramanmara	0.53	234	P	Pg	07 44 10.2	+0.5
KHMR				S	Sg	07 44 17.2	+0.6
NZIP	Nizip/Gaziante	0.64	164	P	Pb	07 44 12.6	-0.3
NZIP				S	Sb	07 44 22.4	+0.4
AZEY	Adyaman-Merk	0.65	76	P	Pg	07 44 12.0	0.0
AZEY				S	Sb	07 44 22.0	-0.6
ATAB	Bozova	0.70	105	P	Pb	07 44 13.3	-0.7
ATAB				S	Sb	07 44 24.0	+0.2
AKCD	Akcadag	0.74	30	P	Pg	07 44 12.6	-1.1
AKCD				S	Sg	07 44 23.0	-0.3
KAMA	Osmaniye	0.78	233	P	Pg	07 44 14.4	0.0
KAMA				S	Sg	07 44 24.6	0.0
ANDN	Andirin	0.88	265	P	Pg	07 44 15.5	-0.8
ANDN				S	Sg	07 44 27.5	-0.3
DARE	Darende-Malaty	0.92	2	Pg	Pg	07 44 15.4	-1.6
DARE				Sg	Sg	07 44 28.9	0.0
KUZU	Kuzuini	0.93	199	P	Pn	07 44 18.0	-1.0
KUZU				S	Sn	07 44 31.4	-1.2
MAYA	Malatya/Merkez	1.02	49	P	Pn	07 44 20.5	+0.2
MAYA				S	Sb	07 44 33.2	0.0
NARI	Adyaman-Kaht	1.06	77	P	Pg	07 44 19.4	-0.4
NARI				S	Sn	07 44 35.9	-0.1
CUGUR	Gurin_SVAS	1.08	353	P	Pn	07 44 21.8	+0.7
CUGUR				S	Sg	07 44 34.3	+0.3
SARI	SarD1z-Kayseri	1.11	313	Pg	Pg	07 44 19.7	-1.0
URFA	Urfa	1.11	101	Pn	Pn	07 44 20.9	-0.6
SAIM	ADANA	1.13	287	P	Pg	07 44 19.6	-1.5
SAIM				S	Sb	07 44 37.0	+0.6
HANM	anlurfa/Hi	1.14	93	P	Pb	07 44 21.0	-0.5
HANM				S	Sn	07 44 37.0	-0.8
HASA	Hatay-Hassa-Ha	1.19	221	P	Pn	07 44 22.6	+0.1
HASA				S	Sn	07 44 39.4	+0.4
HEKM	Malatya_Hekimh	1.29	18	P	Pn	07 44 22.3	-1.8
HEKM				S	Sg	07 44 41.4	+0.6
KOZT	Kozan	1.30	263	Pn	Pn	07 44 23.2	-0.9
SANL	SANLIURFA_Merk	1.32	111	P	Pg	07 44 24.4	-0.2
SANL				S	Sn	07 44 43.2	+1.1
ELZG	Elazig	1.47	55	P	Pn	07 44 26.0	-0.6
ELZG				S	Sg	07 44 47.4	+0.6
CEYT	Ceyhan	1.50	245	Pn	Pn	07 44 27.0	+0.2
RHAN	Hatay/Reyhanl	1.55	206	P	Pg	07 44 30.0	+0.9
RHAN				S	Sg	07 44 50.7	+1.5
AKO	Adana	1.60	264	P	Pn	07 44 27.3	-0.9
AKO				S	Sn	07 44 49.3	0.0
SVRC	Sivrice-ELAZID	1.63	63	Pn	Pn	07 44 28.9	+0.1
CUKAN	kangal_SIVAS	1.66	0	P	Pn	07 44 29.2	0.0
CUKAN				S	Sb	07 44 52.2	+0.5
YURE	YUREGIR	1.67	241	P	Pb	07 44 30.2	-0.4
YURE				S	Sg	07 44 55.4	+2.3
CUAYA	Sivas-Altinyay	1.70	341	P	Pn	07 44 30.4	+0.7
CUAYA				S	Sg	07 44 55.1	+1.0
YAHY	KAYSERI_Yahyal	1.71	286	P	Pn	07 44 30.0	+0.2
YAHY				S	Sn	07 44 52.2	+0.2
BNN	Bunyan	1.74	314	Pn	Pn	07 44 30.1	-0.1
KEMA	Kemaliye	1.81	27	P	Pn	07 44 31.3	+0.2
KEMA				S	Sg	07 44 57.8	+0.3
GUNE	Kayseri	1.90	311	P	Pb	07 44 34.4	-0.1
GUNE				S	Sg	07 45 00.3	-0.2
CMRD	Camardi-Nigde	1.95	271	Pn	Pn	07 44 33.1	-0.1
PTK	Pertek	1.96	50	Pn	Pn	07 44 33.8	+0.4
CUSAR	Sarkisla-SIVAS	2.00	332	P	Pn	07 44 35.0	+1.2
CUSAR				S	Sb	07 45 02.9	+1.5
DIYA	Diyarbakir	2.13	82	P	Pg	07 44 40.2	0.0
DIYA				S	Sg	07 45 08.6	+0.7
KOVA	Elazig, Kovanc	2.14	60	P	Pb	07 44 36.8	-1.8
KOVA				S	Sg	07 45 14.5	+6.4
DYBB	Diyarbakir	2.15	81	Pn	Pb	07 44 37.0	-1.8
GULE	Gulek	2.16	261	P	Pn	07 44 36.2	+0.1
GULE				S	Sb	07 45 05.3	-0.8
TNCL	Tunceli-Merkez	2.20	48	P	Pb	07 44 39.2	-0.3
TNCL				S	Sg	07 45 10.9	+0.9
SVSK	Karacayir	2.29	351	Pn	Pn	07 44 38.3	+0.7
NIG	Nigde	2.29	282	Pn	Pn	07 44 38.2	+0.2
AVNS	Nevsehir-Avano	2.35	300	P	Pn	07 44 33.8	-4.8
AVNS				S	Sb	07 45 11.5	0.0
HACI	Hacifakili, Ak	2.45	327	P	Pn	07 44 40.3	+0.4
HACI				S	Sb	07 45 15.5	+1.2
HANI	Diyarbakir_Han	2.45	71	P	Pn	07 44 40.8	+0.8
HANI				S	Sb	07 45 14.9	+0.6
MERS	Mersin	2.46	252	Pn	Pn	07 44 39.8	-0.3
SIRC	Yozgat	2.47	314	P	Pn	07 44 38.8	-1.4
SIRC				S	Sn	07 45 12.9	+2.2
YOZ	Yozgat	2.59	321	Pn	Pn	07 44 42.4	+0.4
SUSE	Susehri	2.62	13	P	Pn	07 44 42.4	0.0
SUSE				S	Sg	07 45 23.3	-0.2
GULA	Gulagac	2.63	286	Pn	Pn	07 44 43.3	+0.8
MARD	Mardin	2.67	96	P	Pn	07 44 42.3	-0.7
MARD				S	Sg	07 45 24.8	-0.4
KELT	Kelkit	2.86	29	P	Pn	07 44 45.0	-0.7
KELT				S	Sn	07 45 22.4	+1.8
ALUC	Giresun/Alucra	2.88	21	P	Pn	07 44 44.2	-1.7
KIZK	Mersin	2.89	247	Pn	Pn	07 44 46.6	+0.6
YESY	Yesilyurt	2.94	274	Pn	Pn	07 44 47.4	+0.6

IDC 16 07:52:59.3±0.5, 57°72S×66°25W, h0km, mb4.7/17, mbtmp4.6/18, ML3.3/1, MS4.4/32, Error ellipse: s-maj=21.8km s-min=13.0km az=91.0
GCMT 16 07:53:00.8±0.2, 57°59S±0°01×66°41W±0°02, h12km, MW5.1/126, Moment Tensor Solution. s73,c103; s126,c192; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}6.45±.11; $M_{\theta\theta}$-1.45±.09; $M_{\phi\phi}$-5.00±.12; $M_{r\theta}$-2.19±.36; $M_{\theta\phi}$1.98±.09; $M_{\phi r}$0.01±.34; Best double couple: $M_0$6.49500×10¹⁶ NP1:ϕ_s321.00000°, δ51.00000°, λ71.00000°. NP2:ϕ_s170.00000°, δ43.00000°, λ112.00000°. Principal axes: T 7.0370, Plg75.0000°, Azm171.0000°; N -1.0840, Plg15.0000°, Azm333.0000°; P -5.9530, Plg4.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
MOS 16 07:53:00.1±1.1, 57°57S×65°70W, h10km, mb5.4/18 Error ellipse: s-maj=30.2km s-min=8.2km az=90.9
NEIC 16 07:53:01.7, 57°59S×65°88W, h12km, Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10¹⁶Nm; M_{rr}6.59; $M_{\theta\theta}$-0.90; $M_{\phi\phi}$-5.69; $M_{r\theta}$0.16; $M_{\theta\phi}$1.77; $M_{\phi r}$-0.25; Fault plane solution: $M_0$6.44000×10¹⁶ NP1: ϕ_s161.12000°, δ46.28000°, λ89.10000°. NP2: ϕ_s342.42000°, δ43.73000°, λ90.94000°. Principal axes: T 6.5969, Plg89.0000°, Azm45.0000°; N -0.3225, Plg1.0000°, Azm162.0000°; P -6.2744, Plg1.0000°, Azm252.0000°;
NEIC 16 07:53:01.8±1.5, 57°58S±0°06×65°87W±0°08, h10km±1km, mb5.4/75, Mww5.1/19 Error ellipse: s-maj=11.8km s-min=5.7km az=26.0
NEIC 16 07:53:01.7, 57°59S×65°88W, h12km
GUC 16 07:53:04.4±2.2, 57°49S×66°45W, h20km, ML5.0
VAO 16 07:53:04.1±2.1, 57°81S×66°61W, h36km±15km, mb5.1
BJI 16 07:53:04.0, 57°60S×66°00W, h10km, Ms5.2/5, Ms7 5.2/3
ISC 16 07:53:04.4±0.3, 57°63S±0°04×66°14W±0°07, h10km, n283, σ1§37/271, mb5.2/58, MS4.5/36, 6C-2D, Drake Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MG01	Puerto William	2.83	342		Pn	07 53 45.8	-0.7
MG01	Puerto William	2.83	342	eP	Pn	07 53 45.6	-0.9
MG01				eS	Sn	07 54 18.2	-2.4
MG01				IAML		07 54 24.0	
	comp=N,8μm,0.7s						
MG03	Isla Dawson	4.50	325		Pn	07 54 09.3	-0.3
MG03	Isla Dawson	4.50	325	eP	Pn	07 54 08.8	-0.8
MG03				eS	Sn	07 54 58.7	-3.3
MG02	Cerro Sombrero	5.17	339	Pn	Pn	07 54 19.2	+0.5
MG02	Cerro Sombrero	5.17	339	eP	Pn	07 54 18.8	+0.1
MG02				eS	Sn	07 55 15.8	-2.4
GO10	Punta Arenas	5.28	326	Pn	Pn	07 54 21.0	+0.6
GO10	Punta Arenas	5.28	326	eP	Pn	07 54 19.0	-1.4
GO10				eS	Sn	07 55 18.8	-2.4
MG04	Isla Riesco	5.70	325		Pn	07 54 25.5	-0.5
MG04	Isla Riesco	5.70	325	eP	Pn	07 54 25.6	-0.4
PMSA	Palmer Station	7.25	173	Pn	Pn	07 54 45.7	-1.4
	comp=N,0.5nm,0.3s,baz=350,slow=19,SNR=1.3						
PMSA				LR	LR	07 56 52.5	
	comp=N,3μm,20.1s,baz=348,slow=33						
	comp=N,4.2nm,0.7s						
GO09	Cerro Castillo	7.32	328	Pn	Pn	07 54 46.2	-2.0
EFI	East Falkland	7.58	42	Pn	Pn	07 54 49.4	-2.4
EFI	East Falkland	7.58	42	P	Pn	07 54 49.4	-2.4
GO08	Villa O'Higgin	9.95	334	Pn	Pn	07 55 23.4	-0.9
GO08	Villa O'Higgin	9.95	334	eP	Pn	07 55 23.0	-1.3
SMAI	San Martin Ant	10.55	182	Pn	Pn	07 55 33.1	+0.6
AY03	Cochrane	11.10	337		Pn	07 55 43.0	+2.9
AY02	Valle Explorad	11.96	336	Pn	Pn	07 55 53.7	+1.8
COYC	Coyhaique	12.62	341	Pn	Pn	07 56 02.7	+2.0
LL02	Futaleuf	14.89	344		Pn	07 56 33.4	+1.5
GO07	Milladeo Hill,	15.28	339	P	P	07 56 40.4	-1.5
LL01	San Ignacio de	15.78	343	P	P	07 56 46.1	-1.3
LL06	Loncomilla	16.14	340		P	07 56 51.2	-0.3
LL06				IAmb	IAmb	07 56 53.8	
	comp=Z,251nm,1.4s						
LL05	Los Muermos	16.90	341	P	P	07 56 59.8	0.0
LL03	Petrohue	16.98	344	P	P	07 57 00.6	-0.2
PLCA	Paso Flores	17.14	349	P	P	07 57 02.6	-0.1
PLCA	Paso Flores	17.14	349	P	P	07 57 02.6	-0.1
PLCA				pmax	pmax		
	comp=Z,85nm,1.3s						
PLCA	Paso Flores	17.14	349	eP	P	07 57 01.9	-0.7
LL04	Puerto Octay	17.21	344	P	P	07 57 03.2	-0.1
LR05	Currie	17.82	345	P	P	07 57 10.8	+0.8
GO06	Curarrehue	18.39	347	P	P	07 57 18.2	+1.8
LR03	Panguipulli	18.45	345	P	Pn	07 57 18.4	+1.3
LR03				IAmb	IAmb	07 57 27.8	
	comp=Z,340nm,1.9s						
TRQA	Tornquist	19.77	10	P	Pn	07 57 33.3	+0.3
TRQA				IAmb	IAmb	07 57 42.6	
	comp=Z,289nm,1.4s						
TRQA	Tornquist	19.77	10	P	Pn	07 57 33.3	+0.3
TRQA				pmax	pmax		
	comp=Z,289nm,1.4s						
BI02	San Fabin de	21.25	349	P	P	07 57 47.8	+0.3
BI05	Punta Hualpn	21.41	344	P	P	07 57 49.9	+0.8
BI05				IAmb	IAmb	07 58 02.7	
	comp=Z,145nm,1.3s						
ML02	Panimavida	22.15	349	P	P	07 57 57.1	-0.1
BELA	Belgrano 2	22.95	164	P	P	07 58 06.0	+0.6
BELA				IAmb	IAmb	07 58 20.2	
	comp=Z,204nm,1.4s						
GO05	Hualane	22.95	348	P	P	07 58 04.9	-0.8
GO05				IAmb	IAmb	07 58 17.4	
	comp=Z,149nm,1.1s						
BO02	Sierra Bellavi	23.05	350	P	P	07 58 06.0	-0.7
BO02				IAmb	IAmb	07 58 27.6	
	comp=Z,204nm,1.3s						
BO01	Tunca	23.48	350	P	P	07 58 09.7	-1.3
BO01				IAmb	IAmb	07 58 36.1	
	comp=Z,276nm,1.8s						
BO04	La Punta	23.83	351	P	P	07 58 14.3	-0.2
LMEL	Las Melosas	23.94	352	P	P	07 58 15.5	-0.2
MT01	Popeta	24.02	350	P	P	07 58 15.7	-0.5
MT01				IAmb	IAmb	07 58 35.9	
	comp=Z,96nm,1.1s						
MT09	Talagante	24.08	350	P	P	07 58 16.1	-0.8
VA05	Santo Domingo	24.26	349	P	P	07 58 18.2	-0.2
VA05				IAmb	IAmb	07 58 45.3	
	comp=Z,169nm,1.4s						
MT03	Universidad Ad	24.32	351	P	P	07 58 19.1	0.0
MT05	Renca	24.44	351	P	P	07 58 19.9	-0.2
VA01	Torpederas	24.89	349	P	P	07 58 24.1	0.0
VA01				IAmb	IAmb	07 58 37.3	
	comp=Z,132nm,1.2s						
ZON	Zonda	26.14	355	P	P	07 58 35.9	+0.4
ZON				IAmb	IAmb	07 58 55.2	
	comp=Z,168nm,1.5s						
ZON	Zonda	26.14	355	P	P	07 58 35.9	+0.4
ZON				pmax	pmax		
	comp=Z,167nm,1.5s						
VNA3	Neumayer Olymp	26.65	143	⇑P	P	07 58 41.2	+1.4
	comp=Z,27nm,0.8s						
VNA1	Neumayer--Stat	27.12	142	⇑P	P	07 58 45.7	+1.7
	comp=Z,14nm,1.3s						
PSAL	Palomas, Salto	27.18	16	eP	P	07 58 47.5	+2.6
PLTB	Pedras Altas	27.26	24	P	P	07 58 44.6	-1.0
PLTB				IAmb	IAmb	07 58 56.5	
	comp=Z,106nm,1.6s						
PLTB	Pedras Altas	27.26	24	eP	P	07 58 47.4	+1.8
VNA2	Neumayer--Watz	27.40	142	⇑P	P	07 58 46.8	+0.3
	comp=Z,7.5nm,0.8s,baz=276,slow=10						
GO04	Tololo Observa	27.64	351	P	P	07 58 48.4	-0.9
GO04				IAmb	IAmb	07 59 07.8	
	comp=Z,146nm,1.5s						
CO01	Juntas del Tor	27.78	353	P	P	07 58 51.2	+0.7
CO01				IAmb	IAmb	07 59 18.9	
	comp=Z,107nm,1.2s						
CPSB	Cacapava Do Su	28.60	23	eP	P	07 58 58.2	+0.6
ITQB	Itaqui	28.72	17	P	P	07 58 58.0	-0.6
ITQB	Itaqui	28.72	17	eP	P	07 59 00.2	+1.6
LCO	Las Campanas	28.78	352	P	P	07 58 59.6	+0.1
LCO	Las Campanas	28.78	352	P	P	07 58 59.6	+0.1
LCO				pmax	pmax		
	comp=Z,37nm,1.2s						
SNAA	Sanae	28.82	144	P	P	07 58 59.3	0.0
SNAA	Sanae	28.82	144	⇑P	P	07 58 59.6	+0.2
	comp=Z,142nm,0.8s						
SNAA	Sanae	28.82	144	P	P	07 58 59.5	+0.2
	comp=Z,8.5nm,1.0s,baz=264,slow=9.0,SNR=15						
SNAA				PcP	PcP	08 02 09.1	+0.7
	comp=Z,2.8nm,1.0s,baz=232,slow=7.3,SNR=2.0						
SNAA				LR	LR	08 08 31.2	
	comp=Z,390nm,20.9s,baz=286,slow=32						
	comp=Z,8.5nm,1.0s						
AC04	Llanos de Chal	29.61	351	P	P	07 59 06.3	-0.2
AC06	Mina Casimiro	30.40	353	P	P	07 59 12.8	-0.7
TROLL	Troll, Antarti	30.46	145	⇑P	P	07 59 14.0	+0.2
	comp=Z,343nm,1.1s						
TER01	Tubaro-SC	31.43	30	eP	P	07 59 25.1	+2.4
CPUP	Villa Florida	31.89	15	P	P	07 59 25.3	-1.4
CPUP				IAmb	IAmb	07 59 47.8	
	comp=Z,31nm,1.2s						
CPUP	Villa Florida	31.89	15	P	P	07 59 28.0	+1.3
	comp=Z,5.9nm,1.1s,baz=192,slow=10,SNR=3.4						
CPUP				LR	LR	08 13 11.8	
	comp=Z,1μm,18.6s,baz=192,slow=38						
	comp=Z,5.9nm,1.1s						
CPUP	Villa Florida	31.89	15	P	P	07 59 25.3	-1.4
CPUP				pmax	pmax		
	comp=Z,31nm,1.3s						
CPUP	Villa Florida	31.89	15	eP	P	07 59 27.1	+0.4
ITAB	Concordia	31.95	24	P	P	07 59 27.6	+0.4
ITAB	Concordia	31.95	24	eP	P	07 59 27.1	0.0
GO02	Mina Guanaco	32.53	354	P	P	07 59 31.5	-1.1
GO02				IAmb	IAmb	07 59 41.7	
	comp=Z,28nm,0.9s						
MAJ01	Sao Joao Batis	32.54	29	eP	P	07 59 34.1	+1.6
QSPA	South Pole Qui	32.61	180	P	P	07 59 32.2	-0.7
	comp=Z,29nm,1.1s,baz=156,slow=2.4,SNR=64						
QSPA				LR	LR	08 12 01.5	
	comp=Z,356nm,19.8s,baz=157,slow=35						
	comp=Z,29nm,1.1s						
PB14	IPOC Station P	33.11	353	P	P	07 59 36.5	-1.2
SJPY	San Joaquin	33.39	17	eP	P	07 59 40.2	+0.4
NVL	N'lazarevskaya	33.65	144	eP	P	07 59 40.7	-0.9
NVL				eS	S	08 05 03.1	-0.8
NVL				pmax	pmax		
	comp=Z,37nm,1.0s						
NVL				MLR	MLR		
	comp=Z,528nm,20.0s						
PAPY	Pozo Azul	33.99	13	eP	P	07 59 45.6	+0.6
PTGB	Pitanga	34.40	23	eP	P	07 59 49.5	+0.8
PB06	IPOC Station P	34.97	354	P	P	07 59 52.8	-0.9
PB06				IAmb	IAmb	08 00 02.7	
	comp=Z,43nm,1.1s						
AMBA	Amambai (Brazi	35.59	18	eP	P	07 59 59.4	+0.5
FDPY	Filadelfia	35.59	10	eP	P	07 59 59.6	+0.7
PB09	IPOC Station P	35.86	355	P	P	08 00 01.5	+0.2
PB09				IAmb	IAmb	08 00 20.8	
	comp=Z,101nm,1.7s						
LDASE	Londrina, Braz	35.88	24	eP	P	08 00 03.8	+2.3
FRTB	Fartura	36.29	26	eP	P	08 00 06.0	+1.2
MURT	Porto Murtinho	36.46	13	eP	P	08 00 06.2	-0.1
SPB	Sao Paulo	36.59	30	eP	P	08 00 10.3	+2.9
PB01	IPOC Station P	36.62	355	P	P	08 00 07.2	-0.6
PB01				IAmb	IAmb	08 00 28.0	
	comp=Z,48nm,1.3s						
ELIB	Princess Elisa	36.64	149	dP	P	08 00 08.1	+0.5
	comp=Z,8.7nm,1.4s						
ELIB				dS	S	08 05 46.2	-4.0
VAO	Valinhos	37.27	30	eP	P	08 00 15.2	+1.9
TA02	Huaiquique	37.42	354	P	P	08 00 14.9	+0.4
TA02				IAmb	IAmb	08 00 16.7	
	comp=Z,107nm,1.6s						
SLP01

GUA01 **Guaratinga, BA** 45.45 37 *e*P P 08 01 22.0 +1.5
JANB **Januaria** 45.56 30 *e*P P 08 01 22.0 +0.6
NNA **Nana** 46.27 345 P P 08 01 26.7 -0.3
comp=Z,15nm,1.0s,baz=238,slow=9.1,SNR=3.2
NNA LR LR 08 18 12.3
comp=Z,237nm,19.4s,baz=146,slow=33
comp=Z,15nm,1.0s
NNA **Nana** 46.27 345 *i* P P 08 01 25.2 -1.8
NNA pmax pmax
comp=Z,30nm,1.1s
PDRB **Porto dos Gac** 46.48 13 *e*P P 08 01 27.8 -0.8
CMC01 **Camacan, BA** 46.69 36 *e*P P 08 01 32.1 +1.9
SNDB **Serra Nova Dou** 46.95 20 *e*P P 08 01 32.2 0.0
ETMB **Extrema** 47.70 360 *e*P P 08 01 38.4 +0.3
SDBA **SAO DESIDERIO** 47.94 28 *e*P P 08 01 40.4 +0.4
GDU01 **Guandu, BA** 48.22 36 *e*P P 08 01 42.5 +0.4
SAML **Samuel** 48.61 4 P P 08 01 44.6 -0.5
SAML IAmb IAmb 08 01 54.3
comp=Z,39nm,1.2s
SAML **Samuel** 48.61 4 P P 08 01 44.6 -0.5
SAML pmax pmax
comp=Z,39nm,1.2s
SAML **Samuel** 48.61 4 *e*P P 08 01 45.4 +0.3
MAW **Mawson** 49.55 157 P P 08 01 50.5 -1.2
comp=Z,8.0nm,1.1s,baz=209,slow=9.4,SNR=8.6
MAW LR LR 08 23 21.9
comp=Z,407nm,20.2s,baz=228,slow=37
comp=Z,8.0nm,1.1s
CZSB **Cruzeiro do Su** 50.03 351 *e*P P 08 01 56.6 +0.6
SMTB **Santa Maria do** 50.72 24 *e*P P 08 02 01.6 +0.4
NPGB **Novo Progresso** 51.15 14 *e*P P 08 02 04.3 -0.1
ATAH **Atahualpa** 51.26 344 LR LR 08 21 35.1
comp=Z,170nm,18.4s,baz=164,slow=33
NBLA **Lagarto - SE** 51.35 37 *e*P P 08 02 06.6 +0.7
PRPB **Paraiapebas** 52.88 21 *e*P P 08 02 17.6 +0.2
NBAN **Anadia - AL** 53.08 38 *e*P P 08 02 19.6 +0.8
TBTG **Tabatinga, AM** 53.37 355 *e*P P 08 02 21.5 +0.6
ITTB **Itaituba** 53.74 13 *e*P P 08 02 23.6 -0.1
MACA **Manacapuru-AM** 54.48 7 P P 08 02 29.0 0.0
MACA IAmb IAmb 08 03 00.8
comp=Z,17nm,0.8s
MACA **Manacapuru-AM** 54.48 7 *e*P P 08 02 29.3 +0.3
NBCA **Caruaru-PE** 54.52 38 *e*P P 08 02 30.3 +0.9
COHC **Cochancay** 55.98 344 P P 08 02 40.4 +0.6
CASY **Casey** 56.39 178 P P 08 02 43.0 +0.8
CASY IAmb IAmb 08 03 15.6
comp=Z,32nm,1.4s
RCBR **Riachuelo** 56.81 37 LR LR 08 24 58.1
comp=Z,200nm,21.7s,baz=216,slow=34
TMAB **Tom-Au,PA,Br** 56.92 22 *e*P P 08 02 48.0 +1.5
OTAV **Otavalo** 58.52 346 P P 08 02 59.6 +1.3
OTAV IAmb IAmb 08 03 01.2
comp=Z,70nm,1.4s
OTAV **Otavalo** 58.52 346 P P 08 02 59.6 +1.3
OTAV pmax pmax
comp=Z,70nm,1.4s
OTAV **Otavalo** 58.52 346 *e*P P 08 02 59.4 +1.1
BOAV **Boa Vista** 60.00 6 P P 08 03 07.5 -0.5
BOAV **Boa Vista** 60.00 6 *e*P P 08 03 09.1 +1.0
SUR **Sutherland** 61.74 106 LR LR 08 23 54.7
comp=Z,680nm,18.5s,baz=204,slow=30
H10S3 **ASCENSION HYDR** 62.52 61 T T 09 11 46.5
baz=13,slow=74,SNR=6.5
H10S2 **ASCENSION HYDR** 62.52 61 T T 09 11 41.7
baz=207,slow=74,SNR=6.2
ROSC **El Rosal** 62.61 351 P P 08 03 25.2 -0.8
ROSC **El Rosal** 62.61 351 P P 08 03 26.0 -0.1
comp=Z,13nm,1.0s,baz=116,slow=13,SNR=10
ROSC LR LR 08 32 57.0
comp=Z,307nm,18.8s,baz=190,slow=38
comp=Z,13nm,1.0s
ROSC **El Rosal** 62.61 351 P P 08 03 25.3 -0.8
ROSC pmax pmax
comp=Z,54nm,1.3s
MDP **Montagnes des** 63.47 15 P P 08 03 33.5 +2.1
comp=Z,16nm,1.0s,baz=202,slow=5.4,SNR=2.1
MDP LR LR 08 31 53.9
comp=Z,1μm,21.1s,baz=184,slow=37
comp=Z,16nm,1.0s
H10N3 **ASCENSION HYDR** 63.57 60 T T 09 13 07.0
baz=206,slow=75,SNR=11
H10N1 **ASCENSION HYDR** 63.58 60 T T 09 13 03.1
baz=206,slow=75,SNR=14
H10N2 **ASCENSION HYDR** 63.59 60 T T 09 13 08.4
baz=206,slow=75,SNR=11
BAUV **El Baul** 66.35 358 P P 08 03 49.8 -0.3
SDV **Santo Domingo** 66.38 355 LR LR 08 35 28.7
comp=Z,259nm,18.1s,baz=142,slow=38
SDV **Santo Domingo** 66.38 355 *e*P P 08 03 50.3 -0.2
BOSA **Boshof** 67.04 107 P P 08 03 54.0 -0.6
BOSA IAmb IAmb 08 04 16.2
comp=Z,49nm,1.7s
BOSA **Boshof** 67.04 107 P P 08 03 53.0 -1.7
comp=Z,7.4nm,1.1s,baz=192,slow=5.4,SNR=5.4
BOSA LR LR 08 27 20.4
comp=Z,382nm,19.9s,baz=211,slow=31
comp=Z,7.4nm,1.1s
BOSA **Boshof** 67.04 107 P P 08 03 54.1 -0.6
BOSA pmax pmax
comp=Z,49nm,1.7s
TBI **Tubuai** 67.06 262 *e*S S 08 12 50.2 +1.8
comp=Z,494nm,26.5s
TBI *e*LQ LQ 08 21 15.5
comp=Z,784nm,27.5s
TBI *e*LR LR 08 24 04.7
comp=Z,733nm,42.2s
TBI *e*LR LR 08 24 07.7
comp=Z,2μm,24.0s
WHZ **Wether Hill Ro** 67.49 218 P P 08 03 58.6 +1.5
PCRV **Puerto La Cruz** 67.57 2 LR LR 08 36 36.0
comp=Z,524nm,18.6s,slow=39
RPZ **Rata Peaks** 68.34 221 LR LR 08 27 57.7
comp=Z,419nm,18.3s,baz=121,slow=31
LCR2 **La Lucha 2** 68.71 341 P P 08 04 05.9 +0.6
LCR2 IAmb IAmb 08 04 07.5
comp=Z,29nm,1.3s
HDC **Heredia** 68.98 341 P P 08 04 07.0 +0.2
JTS **Las Juntas de** 69.42 340 P P 08 04 09.5 0.0
JTS **Las Juntas de** 69.42 340 LR LR 08 29 11.0
comp=Z,123nm,18.5s,baz=126,slow=31
JTS **Las Juntas de** 69.42 340 *i* P P 08 04 08.9 -0.5
JTS pmax pmax
comp=Z,68nm,1.6s
LBTB **Lobatse** 70.14 105 P P 08 04 13.3 -0.8
LBTB IAmb IAmb 08 04 35.7
comp=Z,51nm,1.5s
LBTB **Lobatse** 70.14 105 LR LR 08 28 33.6
comp=Z,370nm,21.3s,baz=212,slow=30
LBTB **Lobatse** 70.14 105 P P 08 04 13.3 -0.8
LBTB pmax pmax
comp=Z,51nm,1.5s
RTZ **Ruatahuna** 70.53 228 P P 08 04 17.1 +0.9
RTZ IAmb IAmb 08 04 18.8
comp=Z,58nm,1.3s
URZ **Urewera** 70.78 228 P P 08 04 15.9 -1.7
comp=Z,18nm,1.2s,baz=1.5,slow=6.4,SNR=4.1
URZ LR LR 08 28 24.8
comp=Z,641nm,19.9s,baz=273,slow=30
comp=Z,18nm,1.2s
ESPN **Las Esperanzas** 71.16 341 P P 08 04 19.4 -0.6
HIZ **Hauiti** 71.45 226 P P 08 04 22.8 +1.0
PPT2 **Papeete2** 71.83 266 *e*P P 08 04 27.9 +3.6
comp=Z,68nm,26.2s
PPT2 *e*S S 08 13 45.2 +0.3
comp=Z,208nm,27.5s
PPT2 *e*LQ LQ 08 23 06.1
comp=Z,99nm,22.0s
PPT2 *e*LR LR 08 26 19.8
comp=Z,851nm,25.2s
PPT2 *e*LR LR 08 26 20.3
comp=Z,368nm,21.8s
PPT **Papeete** 71.85 266 LR LR 08 27 07.0
comp=Z,388nm,21.5s,baz=198,slow=28
TOZ **Tahuroa Road** 71.88 227 P P 08 04 25.2 +0.9
TOZ IAmb IAmb 08 04 26.6
comp=Z,42nm,1.5s
TAOE **Nuku Hiva Isla** 74.02 279 *e*LR LR 08 27 17.0
comp=Z,706nm,26.0s
SJG **San Juan** 75.45 360 LR LR 08 41 45.7
comp=Z,229nm,18.8s,baz=196,slow=39
PAPH **Port-au-Prince** 76.03 354 P P 08 04 49.6 +1.0
RAO **Raoul Island** 76.39 237 P P 08 04 48.7 -2.0
comp=Z,327nm,0.5s,baz=91,slow=23,SNR=1.6
PETF **Flores** 76.84 337 P P 08 04 52.6 -0.6
PETF IAmb IAmb 08 05 02.4
comp=Z,37nm,0.9s

CMIG **Matias Romero** 78.17 332 LR LR 08 32 25.8
comp=Z,146nm,21.9s,baz=182,slow=30
DBIC **Dimbokro** 80.82 62 P P 08 05 15.3 +0.1
comp=Z,2.5nm,0.5s,baz=219,slow=7.4,SNR=6.2
DBIC LR LR 08 34 09.3
comp=Z,170nm,22.0s,baz=190,slow=30
comp=Z,2.5nm,0.5s
BBTS **Babate** 82.79 48 LR LR 08 42 47.7
comp=Z,180nm,19.1s,baz=108,slow=36
STKA **Stephens Creek** 87.83 203 P P 08 05 50.2 -0.5
comp=Z,1.8nm,0.9s,baz=144,slow=7.5,SNR=4.9
STKA LR LR 08 38 24.6
comp=Z,197nm,20.9s,baz=99,slow=31
comp=Z,1.8nm,0.9s
STKA **Stephens Creek** 87.83 203 *i* P P 08 05 51.1 +0.4
DZM **Mont Dzumac** 89.33 227 *e*S S 08 16 46.1 -1.8
comp=Z,100nm,27.3s
DZM **Mont Dzumac** 89.33 227 *e*LQ LQ 08 30 37.6
comp=Z,322nm,28.9s
DZM *e*LR LR 08 34 27.6
comp=Z,1μm,32.4s
DZM **Mont Dzumac** 89.33 227 P P 08 05 55.8 -2.3
comp=Z,5.4nm,0.9s,baz=311,slow=23,SNR=6.1
comp=Z,5.4nm,0.9s
TORD **Torodi Ar. Bea** 89.58 64 P P 08 05 58.5 -0.6
TORD IAmb IAmb 08 06 17.8
comp=Z,49nm,1.9s
TORD **Torodi Ar. Bea** 89.58 64 P P 08 05 57.8 -1.2
comp=Z,0.9nm,0.7s,baz=226,slow=2.7,SNR=9.2
TORD PP PP 08 09 28.6 -2.3
comp=Z,1.3nm,0.9s,baz=229,slow=4.5,SNR=5.2
TORD LR LR 08 40 58.5
comp=Z,103nm,19.4s,baz=182,slow=32
comp=Z,0.9nm,0.7s
HPIG **90.53 325** P P 08 06 03.7 +0.3
HPIG IAmb IAmb 08 06 13.1
comp=Z,16nm,1.3s
HKT **Hockley** 90.75 335 P P 08 06 04.4 +0.4
HKT IAmb IAmb 08 06 06.8
comp=Z,45nm,1.7s
HKT **Hockley** 90.75 335 *i* P P 08 06 04.5 +0.5
HKT pmax pmax
comp=Z,8.0nm,1.3s
EIDS **Eidsvold** 91.63 213 P P 08 06 08.1 -0.4
EIDS IAmb IAmb 08 06 09.8
comp=Z,32nm,1.6s
TXAR **Lajitas Array** 92.19 328 P P 08 06 11.2 +0.3
comp=Z,3.3nm,1.0s,baz=152,slow=5.7,SNR=18
TXAR LR LR 08 41 11.5
comp=Z,105nm,18.9s,baz=164,slow=31
comp=Z,3.3nm,1.0s
TX31 **Lajitas Ar. Si** 92.19 328 P P 08 06 11.2 +0.3
TX31 IAmb IAmb 08 06 34.2
comp=Z,12nm,1.1s
JCT **Junction City** 92.23 331 P P 08 06 10.7 -0.3
JCT IAmb IAmb 08 06 27.6
comp=Z,16nm,1.1s
JCT **Junction City** 92.23 331 P P 08 06 10.7 -0.3
JCT pmax pmax
comp=Z,16nm,1.1s
BRDY **Brady** 92.79 332 P P 08 06 12.8 -0.7
BRDY IAmb IAmb 08 06 22.9
comp=Z,7.8nm,0.9s
MBAR **Mbarara** 93.19 96 LR LR 08 43 39.0
comp=Z,483nm,18.8s,baz=260,slow=33
KMBO **Kilima Mbogo** 96.21 102 LR LR 08 44 13.9
comp=Z,215nm,21.4s,baz=150,slow=32
ASAR **Alice Springs** 97.30 198 P P 08 06 33.9 -0.8
comp=Z,0.7nm,1.0s,baz=151,slow=2.9,SNR=5.3
ASAR PP PP 08 10 31.0 +0.8
comp=Z,0.8nm,1.1s,baz=175,slow=6.3,SNR=4.3
comp=Z,0.7nm,1.0s
ANMO **Albuquerque** 98.26 328 LR LR 08 44 46.6
comp=Z,190nm,19.5s,baz=340,slow=32
ANMO **Albuquerque** 98.26 328 *i* P Pdif 08 06 40.2 +1.5
WRA **Warramunga Arr** 100.86 200 P Pdif 08 06 49.1 -1.4
comp=Z,2.3nm,1.1s,baz=169,slow=4.0,SNR=6.7
PDAR **Pinedale Array** 106.41 328 PP PP 08 11 39.2 -0.9
comp=Z,0.2nm,0.4s,baz=152,slow=6.6,SNR=4.0
FFC **Flin Flon** 115.70 338 *i* PKIKP PKiKP 08 11 45.3 +2.8
GERES **GERESS Array B** 124.76 52 PKP PKPdf 08 11 59.3 -1.0
comp=Z,0.5nm,0.3s,baz=192,slow=1.8,SNR=1.6
YKA **Yellowknife Ar** 125.52 335 PKP PKPdf 08 11 60.0 -1.2
comp=Z,0.5nm,0.5s,baz=141,slow=3.0,SNR=2.8
YKA **Yellowknife Ar** 125.52 335 PKIKP PKPdf 08 12 00.0 -1.2
BRTR **Keskin Array B** 127.38 73 PKP PKPdf 08 12 05.2 -0.5
comp=Z,0.6nm,0.7s,baz=241,slow=3.0,SNR=2.4
AKASG **Malin Array Be** 133.04 60 PKP PKPdf 08 12 15.1 -0.7
comp=Z,0.4nm,0.5s,baz=250,slow=2.4,SNR=7.0
AKASG **Malin Array Be** 133.04 60 *i* PKIKP PKPdf 08 12 16.1 +0.3
NACGM **Naroch** 134.75 54 *e*PKP PKiKP 08 12 27.0 +6.7
comp=Z,19nm,0.8s,baz=229
KIV **Kislovodsk** 135.11 76 *e*PKIKP PKPdf 08 12 18.5 -1.6
KIV pmax pmax
comp=Z,7.0nm,1.0s
ILAR **Eielson Array** 136.43 322 PKP PKPdf 08 12 22.0 +0.2
comp=Z,3.3nm,1.0s,baz=176,slow=0.7,SNR=18
FINES **FINESS Array B** 138.52 46 PKP PKPdf 08 12 25.7 0.0
comp=Z,4.4nm,1.1s,baz=267,slow=7.4,SNR=1.7
OBN **Obninsk** 139.28 59 *i* PKIKP PKiKP 08 12 29.0 -0.5
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,180nm,17.0s
CMAR **Chiang Mai Arr** 139.35 158 PKP PKPdf 08 12 25.9 -2.8
comp=Z,1.3nm,0.3s,baz=238,slow=2.9,SNR=7.3
CMAR **Chiang Mai Arr** 139.35 158 *i* PKIKP PKPdf 08 12 29.0 +0.4
CMAR pmax pmax
comp=Z,1.0nm,0.3s
MOS **Moscow** 140.13 59 *i* PKIKP PKPdf 08 12 26.2 -2.6
QIZ **Qiongzhong** 141.35 174 PKP PKPdf 08 12 33.3 +1.1
QIZ LR LR
comp=Z,170nm,15.2s
QIZ LR LR
comp=Z,310nm,14.7s
ARCES **ARCESS Array B** 142.61 35 PKP PKPdf 08 12 32.7 -0.2
comp=Z,2.6nm,0.9s,baz=241,slow=2.5,SNR=4.0
BELG **Belogornoye** 143.03 69 *i* PKIKP PKiKP 08 12 35.9 -1.4
KLMR **Klimovskoe** 143.72 53 *e*PKIKP PKPdf 08 12 34.7 -0.3
KLMR pmax pmax
comp=Z,35nm,1.4s
SPITS **Spitsbergen Ar** 144.13 20 PKP PKPbc 08 12 34.2 +0.6
comp=Z,18nm,0.9s,baz=176,slow=3.8,SNR=5.1
LVZ **Lovozero** 144.92 40 *i* PKIKP PKPbc 08 12 36.7 +0.4
TNCH **TengChong** 145.62 155 PKPbc PKPdf 08 12 40.0 +0.2
TNCH sPKP 08 12 46.1
TNCH LR LR
comp=Z,930nm,23.6s
KMI **Kunming** 146.56 161 ⇑PKPbc PKPbc 08 12 43.1 +0.2
KIRV **Kirov** 147.10 60 PKPbc PKPbc 08 12 43.1 0.0
comp=Z,5.5nm,0.3s,baz=188,slow=7.1,SNR=3.9
AKTO **Aktyubinsk** 147.27 78 PKPbc PKPbc 08 12 43.2 -0.6
comp=Z,5.1nm,0.9s,baz=239,slow=2.7,SNR=7.6
PZH **PanZhiHua** 147.73 159 PKPbc PKPbc 08 12 45.6 -0.4
GYA **Guiyang** 148.44 168 PKPbc PKPbc 08 12 47.5 -0.4
KSH **Kashi** 149.62 110 PKPbc PKPbc 08 12 50.3 -0.2
AML **Almayashu** 150.37 104 P PKPbc 08 12 53.1 +0.5
SNR=10
ARTI **Arti** 150.47 68 PKPbc PKPbc 08 12 52.1 +0.3
comp=Z,3.4nm,0.5s,baz=241,slow=1.6,SNR=9.1
ARTI **Arti** 150.47 68 *i* PKIKP PKPbc 08 12 51.4 -0.4
EKS2 **Erkin-Say** 150.78 103 P PKPbc 08 12 52.1 -1.1
SNR=8.6
USP **Ospenovka** 151.59 103 P PKPbc 08 12 54.7 -0.3
SNR=12
CD2 **Chengdu** 152.39 161 PKPbc PKPdf 08 12 50.0 -0.3
WHN **Wuhan** 152.92 181 PKPbc PKiKP 08 12 59.1 +0.7
MJAR **Matsushiro Arr** 153.44 228 PKP PKPdf 08 12 50.8 -0.9
comp=Z,0.8nm,0.3s,baz=89,slow=20,SNR=5.1
NJ2 **Nanjing** 154.20 190 *e*PKPbc PKPdf 08 12 52.8 0.0
BILL **Bilibino** 154.75 316 *i* PKIKP PKPdf 08 12 56.1 +3.7
BILL pmax pmax
comp=Z,26nm,1.7s
BVAR **Borovoye Array** 155.18 82 PKP PKPdf 08 12 52.7 -0.8
comp=Z,1.0nm,0.4s,baz=198,slow=4.2,SNR=2.9
XAN **Xi'an** 156.17 170 PKP PKPdf 08 12 55.8 +0.3
XAN LR LR
comp=Z,190nm,15.8s
XAN LR LR
comp=Z,250nm,16.5s
LZH **Lanzhou** 157.44 158 *e*PKP PKPdf 08 12 56.3 -0.9
LZH sPKP 08 13 07.9
LZH PKPab PKPab 08 13 29.4 +0.6
MKAR **Makanchi Array** 158.03 106 PKPab PKPab 08 13 29.3 -1.7
comp=Z,1.9nm,0.8s,baz=215,slow=5.8,SNR=4.8
KURBB **Kurchatov Arra** 158.34 94 PKP PKPdf 08 12 54.8 -2.8
comp=Z,0.3nm,0.5s,baz=270,slow=0.3,SNR=6.8

KURBB PKPab PKPab 08 13 30.9 -1.3
comp=Z,3.8nm,0.9s,baz=242,slow=5.0,SNR=11
KURBB PP PP 08 17 19.5 +6.5
comp=Z,1.6nm,0.3s,baz=252,slow=6.2,SNR=4.6
KURK **Kurchatov** 158.44 93 PKIKP PKPdf 08 12 54.8 -2.9
KURK 08 13 30.9
WMQ **Urumqi** 158.61 119 *e*PKP PKPdf 08 12 59.5 +1.2
HNS **HongShan** 159.76 182 *e*PKP PKPdf 08 13 00.8 +1.1
HHC **Hu-ho-hao-te** 163.14 174 *e*P PKPdf 08 12 58.6 -4.7
SONM **Songino Array** 169.21 152 PKP PKPdf 08 13 06.0 -1.9
comp=Z,0.7nm,0.8s,baz=142,slow=1.5,SNR=4.9
SONM PKPab PKPab 08 14 20.4 +0.3
comp=Z,0.4nm,0.4s,baz=137,slow=48,SNR=1.6
SONM **Songino Array** 169.21 152 PKIKP PKPdf 08 13 06.0 -1.9

IDC ***16*** *08:02:46.6±0.8, 2°.80S×119°.57E, h0km, mb4.2/7, mbtmp4.2/9, ML4.1/1, MS3.8/10, Error ellipse: s-maj=58.0km s-min=13.8km az=65.0*
NEIC ***16*** *08:02:49.7±1.9, 2°.98S±0°.06×119°.48E±0°.07, h10km±1km, mb4.3/16, Error ellipse: s-maj=13.2km s-min=8.5km az=246.0*
DJA ***16*** *08:02:49.9±0.4, 3°S±3°×12°0E±°, h10km, M4.3/12, MLv4.3/12*

ISC 16 08:02:49.0±0.5, 2°.94S±0°.04×119°.51E±0°.05, h10km, n48, σ1900/43, mb4.2/13, MS4.4/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.33**	**109**	P	**Pg**	**08 02 55.8**	**+0.3**
TTSI				S	**Sb**	**08 03 02.3**	**0.0**
SPSI	**Sidrap Palu**	**1.05**	**166**	P	**Pg**	**08 03 08.3**	**-1.0**
SPSI				S	**Sn**	**08 03 24.2**	**-0.4**
BNSI	**Bone**	**1.57**	**158**	P	**Pb**	**08 03 18.2**	**0.0**
PCI	**Palu**	**2.04**	**9**	P	**Pn**	**08 03 23.6**	**+0.1**
KAPI	**Kappang**	**2.08**	**173**		**Pn**	**08 03 24.1**	**+0.1**
KAPI	**Kappang**	**2.08**	**173**	Pn	**Pn**	**08 03 24.4**	**+0.5**
	50nm,0.3s,baz=334,slow=11,SNR=37						
KAPI				LR	LR	08 03 50.5	
	comp=Z,149nm,18.4s,baz=252,slow=29						
KAPI				Sn	**Sb**	**08 03 52.2**	**-0.5**
	64nm,0.3s,baz=140,slow=11,SNR=9.2						
	308nm,0.4s						
BKSI	**Bulukumba**	**2.45**	**166**	P	**Pn**	**08 03 30.7**	**+1.7**
BKB	**Balikpapan**	**3.10**	**302**	Pn	**Pn**	**08 03 38.5**	**+0.6**
KDI	**Kendari**	**3.27**	**108**	P	**Pn**	**08 03 40.1**	**-0.2**
BSSI	**Bau Bau, Buton**	**3.33**	**163**	P	**Pn**	**08 03 42.9**	**+1.7**
LUWI	**Luwuk**	**3.76**	**60**		**Pn**	**08 03 47.6**	**+0.5**
TOLI2	**Tolitoli**	**4.22**	**18**		**Pn**	**08 03 54.8**	**+1.4**
MYLDM	**Lahad Datu**	**8.12**	**353**	Pn	**Pn**	**08 04 48.0**	**+0.9**
BATI	**Baumata**	**8.32**	**150**	LR	LR	08 08 31.0	
	comp=Z,248nm,18.2s,baz=76,slow=41						
FITZ	**Fitzroy Crossi**	**16.22**	**159**	Pn	**Pn**	**08 06 37.8**	**+0.6**
	2.4nm,0.9s,baz=346,slow=4.2,SNR=2.5						
FITZ				LR	LR	08 13 15.0	
	comp=Z,73nm,18.3s,baz=270,slow=38						
RPSI	**Rantau Prapat**	**21.32**	**285**	P	**P**	**08 07 36.9**	**+0.6**
RPSI				IAmb	IAmb	08 07 41.2	
	comp=Z,11nm,0.8s						
WB0	**Warramunga Arr**	**22.16**	**140**	P	**P**	**08 07 44.4**	**-0.9**
WB0				IAmb	IAmb	08 07 46.9	
	comp=Z,10.0nm,1.0s						
WRA	**Warramunga Arr**	**22.26**	**141**	P	**P**	**08 07 46.1**	**-0.2**
WRA	**Warramunga Arr**	**22.26**	**141**	P	**P**	**08 07 45.1**	**-1.2**
	comp=Z,7.8nm,0.9s,baz=316,slow=12,SNR=33						
WRA				LR	LR	08 17 04.1	
	comp=Z,50nm,18.4s,baz=166,slow=38						
	comp=Z,7.8nm,0.9s						
WRAB	**Tennant Creek**	**22.26**	**140**	P	**P**	**08 07 45.6**	**-0.7**
WRAB				IAmb	IAmb	08 07 47.9	
	comp=Z,8.3nm,0.8s						
AS31	**Alice Springs**	**24.87**	**147**	P	**P**	**08 08 11.7**	**-0.4**
ASAR	**Alice Springs**	**24.87**	**147**	P	**P**	**08 08 12.5**	**+0.4**
ASAR	**Alice Springs**	**24.87**	**147**	P	**P**	**08 08 12.2**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=338,slow=12,SNR=31						
ASAR				PcP	**PcP**	**08 11 46.4**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=345,slow=2.2,SNR=5.0						
ASAR				LR	LR	08 18 58.6	
	comp=Z,69nm,19.1s,baz=260,slow=39						
	comp=Z,4.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.36**	**317**	P	**P**	**08 08 54.1**	**+1.7**
CMAR	**Chiang Mai Arr**	**29.36**	**317**	P	**P**	**08 08 51.7**	**-0.7**
	comp=Z,1.6nm,0.2s,baz=148,slow=7.0,SNR=1.2						
CMAR				LR	LR	08 22 44.8	
	comp=Z,32nm,18.3s,baz=130,slow=41						
	comp=Z,1.6nm,0.2s						
CHTO	**Chiang Mai**	**29.61**	**318**	P	**P**	**08 08 56.5**	**+1.8**
STKA	**Stephens Creek**	**35.51**	**147**	P	**P**	**08 09 47.0**	**+0.9**
STKA	**Stephens Creek**	**35.51**	**147**	P	**P**	**08 09 47.5**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=330,slow=12,SNR=4.5						
	comp=Z,1.8nm,0.8s						
SHL	**Shillong**	**38.98**	**318**	P	**P**	**08 10 15.8**	**-0.1**
SHL				IAmb	IAmb	08 10 17.7	
	comp=Z,7.5nm,1.0s						
ULN	**Ulaanbaatar**	**51.75**	**349**	P	**P**	**08 11 55.6**	**-1.2**
SONM	**Songino Array**	**51.85**	**349**	P	**P**	**08 11 56.8**	**-0.8**
SONM				IAmb	IAmb	08 11 57.3	
	comp=Z,2.4nm,0.8s						
SONM	**Songino Array**	**51.85**	**349**	P	**P**	**08 11 55.7**	**-1.9**
	comp=Z,3.3nm,0.8s,baz=168,slow=7.7,SNR=12						
	comp=Z,3.3nm,0.8s						
NIL	**Nilore**	**56.77**	**314**		**P**	**08 12 33.1**	**-0.4**
MK31	**Makanchi Array**	**59.37**	**331**	P	**P**	**08 12 51.2**	**-0.3**
MK31				IAmb	IAmb	08 12 52.6	
	comp=Z,3.2nm,0.8s						
MKAR	**Makanchi Array**	**59.37**	**331**	P	**P**	**08 12 50.6**	**-1.0**
MKAR	**Makanchi Array**	**59.37**	**331**	P	**P**	**08 12 50.3**	**-1.3**
	comp=Z,3.3nm,0.8s,baz=139,slow=7.0,SNR=22						
	comp=Z,3.3nm,0.8s						
MAKZ	**Makanchi**	**59.53**	**331**	P	**P**	**08 12 52.1**	**-0.6**
BOOM	**Boomskoye usch**	**59.94**	**324**		**P**	**08 12 56.2**	**+0.5**
TKM2	**Tokmak 2**	**60.40**	**324**	P	P	08 12 55.0	-4.0
	SNR=7.4						
KBK	**Karagaybulak**	**60.62**	**324**	P	P	08 12 54.9	-5.5
	SNR=5.6						
AAK	**Ala-Archa**	**60.88**	**323**	P	P	08 12 54.8	-7.3
	SNR=8.0						
KURBB	**Kurchatov Arra**	**63.83**	**332**	P	**P**	**08 13 19.8**	**-1.7**
	comp=Z,1.4nm,0.9s,baz=138,slow=6.1,SNR=5.6						
	comp=Z,1.4nm,0.9s						
FURI	**Furi**	**81.41**	**279**	LR	LR	08 49 39.3	
	comp=Z,230nm,20.8s,baz=208,slow=34						
MMAI	**Mount Meron Ar**	**86.64**	**303**	LR	LR	09 01 49.2	
	comp=Z,244nm,18.0s,baz=168,slow=41						
EIL	**Elat**	**86.71**	**300**	LR	LR	08 59 39.7	
	comp=Z,272nm,18.2s,baz=244,slow=39						
QSPA	**South Pole Qui**	**87.02**	**180**	P	**P**	**08 15 35.4**	**+0.9**
QSPA				IAmb	IAmb	08 16 16.1	
	comp=Z,3.8nm,1.2s						
AKASG	**Malin Array Be**	**92.43**	**320**	LR	LR	09 05 25.0	
	comp=Z,99nm,18.1s,baz=240,slow=41						
MLR	**Muntele Rosu**	**94.58**	**315**	LR	LR	09 06 01.3	
	comp=Z,205nm,20.7s,baz=266,slow=40						

IDC ***16*** *08:14:29.4±1.3, 10°.60S×163°.29E, h0km, mb3.8/7, mbtmp3.9/9, ML4.2/2, MS3.5/3, Error ellipse: s-maj=30.3km s-min=25.9km az=113.0*
NEIC ***16*** *08:14:31.6±0.7, 10°.6S±0°.1×163°.3E±0°.1, h10km±1km, mb4.6/14, Error ellipse: s-maj=24.2km s-min=17.1km az=40.0*

ISC 16 08:14:31.2±0.8, 10°.6S±0°.1×163°.3E±0°.1, h10km, n37, σ0984/29, mb4.4/15, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.45**	**289**		**Pn**	**08 15 25.4**	**+0.3**
HNR	**Honiara**	**3.45**	**289**	Pn	**Pn**	**08 15 26.4**	**+1.4**
HNR				Sn	**Sn**	**08 16 06.6**	**+0.6**
	70nm,0.3s,baz=193,slow=21,SNR=9.2						
	156nm,0.6s						
DZM	**Mont Dzumac**	**11.82**	**165**	Pn	**Pn**	**08 17 20.9**	**+0.8**
DZM	**Mont Dzumac**	**11.82**	**165**	Pn	**Pn**	**08 17 21.1**	**+1.0**
	1.0nm,0.3s,baz=335,slow=10,SNR=11						
DZM				LR	LR	08 21 16.5	
	comp=Z,336nm,21.2s,baz=16,slow=34						
	3.1nm,0.4s						
CTA	**Charters Tower**	**18.90**	**238**	LR	LR	08 25 25.6	
	comp=Z,7.8nm,21.4s,baz=92,slow=35						
CTAO	**Charters Tower**	**18.90**	**238**	P	**P**	**08 18 52.0**	**-0.2**
H11S2	**WAKE ISLAND Hy**	**29.09**	**7**	T	T	08 51 00.3	
	baz=188,slow=76,SNR=17						

H11S3 WAKE ISLAND Hy 29.10 7 T T 08 51 03.5
baz=188,slow=76,SNR=13
H11S1 WAKE ISLAND Hy 29.11 7 T T 08 50 53.8
baz=188,slow=76,SNR=9.4
STKA Stephens Creek 29.15 220 P **P** **08 20 32.6 0.0**
1.0nm,0.8s,baz=41,slow=18,SNR=1.8
1.0nm,0.8s
WR0 Warramunga Arr 29.18 248 P **P** **08 20 30.9 -2.1**
WB2 Warramunga Arr 29.35 248 P **P** **08 20 33.0 -1.6**
WRA Warramunga Arr 29.36 248 P **P** **08 20 33.8 -0.9**
0.6nm,0.8s,baz=80,slow=9.3,SNR=4.0
0.6nm,0.8s
GUMO Guam 30.16 322 LR LR 08 31 46.9
comp=Z,107nm,21.5s,baz=134,slow=34
H11N1 WAKE ISLAND Hy 30.32 7 T T 08 53 11.1
baz=188
H11N3 WAKE ISLAND Hy 30.33 7 T T 08 52 39.9
baz=188
H11N2 WAKE ISLAND Hy 30.34 7 T T 08 52 59.6
baz=188
ASAR Alice Springs 30.83 241 P **P** **08 20 46.9 -0.9**
0.8nm,0.8s,baz=73,slow=10,SNR=8.9
0.8nm,0.8s
BBOO Buckleboo 33.39 224 P **P** **08 21 09.8 -0.3**
BBOO IAmb IAmb 08 21 27.5
comp=Z,10nm,1.1s
JNU Nakatsue 53.30 326 LR LR 08 45 19.5
comp=Z,31nm,18.7s,baz=151,slow=35
USRK Ussuriysk Ar. 61.47 335 P **P** **08 24 47.7 -0.3**
CMAR Chiang Mai Arr 69.69 294 P **P** **08 25 41.7 0.0**
CMAR Chiang Mai Arr 69.69 294 P **P** **08 25 43.0 +1.3**
comp=Z,1.0nm,0.3s,baz=104,slow=3.8,SNR=4.0
comp=Z,1.0nm,0.3s
CHTO Chiang Mai 69.80 295 P **P** **08 25 42.5 +0.1**
CHTO IAmb IAmb 08 26 00.8
comp=Z,3.0nm,0.9s
SONM Songino Array 76.86 325 P **P** **08 26 24.2 +0.6**
comp=Z,0.7nm,0.7s,baz=108,slow=4.7,SNR=2.5
comp=Z,0.7nm,0.7s
M16K Timber Creek 77.36 18 P **P** **08 26 25.9 0.0**
SHL Shillong 78.15 299 P **P** **08 26 30.8 -0.6**
L18K Granite Mounta 78.97 18 P **P** **08 26 34.9 0.0**
L18K IAmb IAmb 08 27 02.1
comp=Z,12nm,1.4s
M19K Big River Lodg 79.45 19 P **P** **08 26 37.8 +0.3**
M19K IAmb IAmb 08 26 40.1
comp=Z,10nm,1.3s
TTA Tatalina 79.72 18 P **P** **08 26 38.4 -0.6**
TTA IAmb IAmb 08 26 41.0
comp=Z,11nm,1.3s
IMAR Indian Mountai 82.66 16 P **P** **08 26 53.7 -0.9**
ILAR Eielson Array 83.88 19 P **P** **08 26 59.8 -1.1**
comp=Z,0.9nm,0.9s,baz=233,slow=4.9,SNR=7.2
comp=Z,0.9nm,0.9s
J25K Salcha River, 84.27 20 P **P** **08 27 02.2 -0.7**
J25K IAmb IAmb 08 27 03.8
comp=Z,5.0nm,1.2s
D22K Ayikyak River 85.07 15 P **P** **08 27 07.2 +0.4**
D22K IAmb IAmb 08 27 32.7
comp=Z,5.7nm,1.5s
B21K Ikpikpuk River 85.16 14 P **P** **08 27 07.1 -0.1**
B21K IAmb IAmb 08 27 18.3
comp=Z,6.8nm,1.4s
G29M Pine Creek 88.08 20 P **P** **08 27 22.0 +0.3**
MKAR Makanchi Array 91.52 317 P **P** **08 27 38.3 +0.1**
comp=Z,0.2nm,0.6s,baz=88,slow=4.9,SNR=2.0
comp=Z,0.2nm,0.6s

*ATH **16** 08:16:27.9, 37.°47N×20.°33E, h11^{km}±4^{km}, ML3.0/5, Error ellipse: s-maj=5.1km s-min=2.2km az=30.0*
*THE **16** 08:16:30.2, 37.°55N×20.°45E, h0^{km}±5^{km}, ML2.9/4, Error ellipse: s-maj=6.0km s-min=1.1km az=237.0*
ISC 16 08:16:28.8±2.4, 37.°50N±0.°07×20.°38E±0.°08, h1^{km}±13^{km}, n18, σ0°64/29, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.38**	**65**	P	**Pg**	**08 16 36.5**	**+0.4**
KRI1				S	**Sg**	**08 16 41.4**	**+0.4**
4μm,0.5s							
LTHK	**Lithakia**	**0.41**	**60**	P	**Pg**	**08 16 36.4**	**-0.4**
LTHK				S	**Sg**	**08 16 41.9**	**-0.3**
LTHK	**Lithakia**	**0.41**	**60**	P	**Pg**	**08 16 36.6**	**-0.1**
LTHK				S	**Sg**	**08 16 42.5**	**+0.4**
LTHK				AML	AML	08 16 42.7	
comp=E,9880μm,0.4s							
LTHK				AML	AML	08 16 43.4	
comp=N,6995μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.63**	**15**	P	**Pg**	**08 16 40.6**	**-0.3**
PSDA				S	**Sg**	**08 16 49.9**	**+0.8**
RTZL	**Ratzakli, Kefa**	**0.65**	**28**	P	**Pg**	**08 16 41.0**	**-0.3**
RTZL				S	**Sg**	**08 16 50.5**	**+0.8**
VLS	**Valsamata**	**0.69**	**14**	P	**Pg**	**08 16 41.6**	**-0.5**
VLS				S	**Sg**	**08 16 51.7**	**+0.6**
comp=N,1μm,0.5s							
VLS	**Valsamata**	**0.69**	**14**	P	**Pg**	**08 16 41.2**	**-0.8**
VLS				S	**Sg**	**08 16 51.6**	**+0.6**
VLS				AML	AML	08 16 55.1	
comp=E,2043μm,0.4s							
VLS				AML	AML	08 16 57.1	
comp=N,2224μm,0.5s							
DMLN	**Damoulianata-K**	**0.73**	**359**	P	**Pg**	**08 16 42.6**	**-0.3**
FSK	**Fiskardo**	**0.96**	**8**	P	**Pg**	**08 16 47.6**	**+0.3**
FSK	**Fiskardo**	**0.96**	**8**	P	**Pg**	**08 16 46.6**	**-0.7**
FSK				AML	AML	08 17 06.3	
comp=E,1963μm,0.5s							
FSK				AML	AML	08 17 16.9	
comp=N,1183μm,0.9s							
RLS	**Riolos of Patr**	**1.02**	**57**	P	**Pg**	**08 16 47.9**	**-0.5**
RLS				S	**Sg**	**08 17 02.0**	**+0.4**
RLS	**Riolos of Patr**	**1.02**	**57**	P	**Pg**	**08 16 47.7**	**-0.7**
RLS				AML	AML	08 17 06.1	
comp=N,745μm,0.4s							
RLS				AML	AML	08 17 07.2	
comp=E,689μm,0.5s							
AMT	**Artemida-Makis**	**1.05**	**88**	P	**Pg**	**08 16 48.3**	**-0.7**
AMT				AML	AML	08 17 12.1	
comp=N,2427μm,0.6s							
AMT				AML	AML	08 17 12.8	
comp=E,2064μm,0.5s							
EVGI	**Lefkada island**	**1.14**	**11**	P	**Pg**	**08 16 49.8**	**-0.8**
EVGI				S	**Sg**	**08 17 05.4**	**+0.1**
comp=E,565nm,0.4s							
DRAG	**Dragano-Lefkad**	**1.19**	**7**	P	**Pn**	**08 16 52.3**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.23**	**12**	P	**Pn**	**08 16 53.1**	**0.0**
NYDR				S	**Sn**	**08 17 09.4**	**-1.0**
comp=E,412nm,0.6s							
PYL	**PYLOS**	**1.24**	**119**	P	**Pg**	**08 16 52.2**	**-0.5**
PYL				S	**Sn**	**08 17 11.9**	**+1.2**
TSLK	**Tsoukalades, L**	**1.34**	**9**	P	**Pg**	**08 16 55.4**	**+1.0**

*IDC **16** 08:25:17.2±1.1, 10.°44S×163.°25E, h0^{km}, mb3.9/9, mbtmp3.9/11, ML3.8/2, MS3.8/3, Error ellipse: s-maj=29.2km s-min=22.3km az=141.0*
*NEIC **16** 08:25:19.5±0.8, 10.°32S±0.°09×163.°2E±0.°1, h10^{km}±1^{km}, mb4.4/13, Error ellipse: s-maj=24.1km s-min=7.7km az=125.0*
ISC 16 08:25:18.9±0.7, 10.°5S±0.°1×163.°26E±0.°09, h10^{km}, n34, σ0°72/28, mb4.0/15, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.42**	**287**	Pn	**Pn**	**08 26 11.6**	**-0.7**
HNR	**Honiara**	**3.42**	**287**	Pn	**Pn**	**08 26 10.5**	**-1.8**
9.8nm,0.3s,baz=344,slow=19,SNR=2.5							
HNR				Sn	**Sn**	**08 26 54.0**	**+1.0**
12nm,0.3s,baz=336,slow=5.5,SNR=1.3							
HNR				LR	LR	08 27 51.3	
comp=Z,521nm,18.6s,baz=132,slow=45							
71nm,0.6s							
DZM	**Mont Dzumac**	**11.95**	**166**	Pn	**Pn**	**08 28 08.8**	**-0.6**
0.5nm,0.3s,baz=314,slow=18,SNR=6.7							
9.2nm,1.1s							
CTAO	**Charters Tower**	**18.98**	**238**	P	**P**	**08 29 41.7**	**+1.0**
COEN	**Coen**	**19.94**	**258**	P	**P**	**08 29 50.9**	**-0.3**
COEN				IAmb	IAmb	08 29 53.5	
comp=Z,20nm,1.5s							
H11S2	**WAKE ISLAND Hy 28.96**	**7**		T	T	09 01 48.4	
baz=188,slow=76,SNR=14							
H11S3	**WAKE ISLAND Hy 28.96**	**7**		T	T	09 01 46.2	
baz=188,slow=76,SNR=8.0							
H11S1	**WAKE ISLAND Hy 28.98**	**7**		T	T	09 01 52.8	
baz=188,slow=76,SNR=7.4							
STKA	**Stephens Creek**	**29.25**	**220**	P	**P**	**08 31 21.5**	**+0.3**
STKA	**Stephens Creek**	**29.25**	**220**	P	**P**	**08 31 22.0**	**+0.8**
comp=Z,0.8nm,0.7s,baz=349,slow=16,SNR=1.5							
comp=Z,0.8nm,0.7s							
WB0	**Warramunga Arr**	**29.33**	**248**	P	**P**	**08 31 21.7**	**-0.4**
WB0				IAmb	IAmb	08 31 36.0	
comp=Z,6.3nm,1.2s							
WB2	**Warramunga Arr**	**29.41**	**248**	P	**P**	**08 31 22.4**	**-0.4**
WB2				IAmb	IAmb	08 31 27.4	
comp=Z,6.4nm,1.2s							
WRA	**Warramunga Arr**	**29.42**	**248**	P	**P**	**08 31 22.5**	**-0.4**
comp=Z,0.7nm,0.7s,baz=79,slow=9.0,SNR=4.4							
comp=Z,0.7nm,0.7s							
H11N1	**WAKE ISLAND Hy 30.19**	**7**		T	T	09 03 18.2	
baz=188							
H11N3	**WAKE ISLAND Hy 30.20**	**7**		T	T	09 03 15.2	
baz=188							
H11N2	**WAKE ISLAND Hy 30.21**	**7**		T	T	09 03 16.7	
baz=188							
AS31	**Alice Springs**	**30.91**	**241**	P	**P**	**08 31 36.6**	**+0.6**
ASAR	**Alice Springs**	**30.91**	**241**	P	**P**	**08 31 36.6**	**+0.5**
ASAR	**Alice Springs**	**30.91**	**241**	P	**P**	**08 31 35.2**	**-0.8**
comp=Z,0.8nm,0.8s,baz=67,slow=9.5,SNR=9.2							
comp=Z,0.8nm,0.8s							
MTN	**Manton Dam**	**31.55**	**262**	P	**P**	**08 31 40.8**	**-0.9**
FITZ	**Fitzroy Crossi**	**37.19**	**254**	P	**P**	**08 32 30.3**	**-0.2**
comp=Z,1.8nm,0.8s,baz=85,slow=12,SNR=2.3							
FITZ				LR	LR	08 48 12.4	
comp=Z,324nm,18.5s,baz=159,slow=37							
comp=Z,1.8nm,0.8s							
JSD	**Sado**	**53.61**	**336**	P	**P**	**08 34 39.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**69.64**	**294**	P	**P**	**08 36 30.0**	**+0.9**
comp=Z,1.4nm,0.3s,baz=76,slow=3.8,SNR=1.6							
comp=Z,1.4nm,0.3s							
SONM	**Songino Array**	**76.76**	**325**	P	**P**	**08 37 11.4**	**+0.6**
comp=Z,0.2nm,0.3s,baz=132,slow=8.0,SNR=1.8							
comp=Z,0.2nm,0.3s							
L18K	**Granite Mounta**	**78.84**	**18**	P	**P**	**08 37 22.2**	**+0.4**
L18K				IAmb	IAmb	08 37 46.7	
comp=Z,10nm,1.4s							
IMAR	**Indian Mountai**	**82.53**	**16**	P	**P**	**08 37 41.1**	**-0.5**
H23K	**Yukon River**	**83.63**	**18**	P	**P**	**08 37 46.9**	**-0.4**
ILAR	**Eielson Array**	**83.75**	**19**	P	**P**	**08 37 46.9**	**-1.0**
comp=Z,0.7nm,0.8s,baz=251,slow=5.9,SNR=6.9							
comp=Z,0.7nm,0.8s							
G24K	**Hadweenzic Riv**	**84.84**	**18**	P	**P**	**08 37 53.3**	**-0.1**
G24K				IAmb	IAmb	08 37 54.0	
comp=Z,2.4nm,0.9s							
D22K	**Ayikyak River**	**84.94**	**15**	P	**P**	**08 37 54.4**	**+0.5**
D22K				IAmb	IAmb	08 37 55.5	
comp=Z,4.9nm,1.1s							
NVAR	**Mina Array Bea**	**87.52**	**50**	P	**P**	**08 38 08.1**	**+0.5**
comp=Z,0.3nm,0.7s,baz=266,slow=8.0,SNR=3.9							
comp=Z,0.3nm,0.7s							
MKAR	**Makanchi Array**	**91.43**	**317**	P	**P**	**08 38 25.1**	**-0.3**
comp=Z,0.4nm,0.6s,baz=99,slow=4.8,SNR=1.9							
comp=Z,0.4nm,0.6s							
A36M	**Sachs Harbour**	**94.26**	**17**	P	**P**	**08 38 37.9**	**+0.1**
A36M				IAmb	IAmb	08 39 04.0	
comp=Z,2.7nm,1.1s							
TXAR	**Lajitas Array**	**97.69**	**62**	LR	LR	09 11 53.9	
comp=Z,39nm,21.5s,baz=343,slow=29							

*IDC **16** 08:28:48.5±1.8, 18.°83S×177.°67W, h624^{km}±21^{km}, mb3.0/8, mbtmp3.9/10, Error ellipse: s-maj=21.9km s-min=16.9km az=139.0*
ISC 16 08:28:50.5±0.7, 18.°8S±0.°2×177.°9W±0.°2, h650^{km}, n13, σ1°49/15, mb3.4/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.02**	**284**	P	**P**	**08 30 18.2**	**-1.7**
3.0nm,0.3s,baz=108,slow=19,SNR=4.3							
URZ	**Urewera**	**19.93**	**192**	P	**P**	**08 32 38.8**	**-2.4**
4.3nm,0.4s,baz=0.4,slow=2.2,SNR=12							
WRA	**Warramunga Arr**	**45.00**	**260**	P	**P**	**08 36 11.8**	**+0.9**
1.3nm,0.3s,baz=97,slow=6.8,SNR=27							
WRA				PcP	**PcP**	**08 37 39.0**	**+1.6**
0.2nm,0.3s,baz=95,slow=3.6,SNR=2.6							
1.3nm,0.3s							
ASAR	**Alice Springs**	**45.07**	**255**	P	**P**	**08 36 12.7**	**+1.2**
2.0nm,0.8s,baz=87,slow=8.2,SNR=33							
ASAR				PcP	**PcP**	**08 37 39.1**	**+1.5**
0.5nm,0.6s,baz=103,slow=3.7,SNR=6.0							
2.0nm,0.8s							
FITZ	**Fitzroy Crossi**	**53.41**	**261**	P	**P**	**08 37 13.8**	**+1.4**
0.5nm,0.3s,baz=137,slow=5.5,SNR=2.1							
0.5nm,0.3s							
QSPA	**South Pole Qui**	**71.31**	**180**	P	**P**	**08 39 07.3**	**+0.9**
0.6nm,0.6s,baz=54,slow=1.3,SNR=6.3							
0.6nm,0.6s							
NVAR	**Mina Array Bea**	**79.67**	**43**	P	**P**	**08 39 53.1**	**+0.1**
0.4nm,0.6s,baz=225,slow=8.9,SNR=4.6							
0.4nm,0.6s							
TXAR	**Lajitas Array**	**86.00**	**57**	P	**P**	**08 40 25.8**	**+1.3**
0.9nm,0.8s,baz=217,slow=5.4,SNR=11							
0.9nm,0.8s							
ILAR	**Eielson Array**	**86.59**	**13**	P	**P**	**08 40 25.3**	**-1.0**
0.4nm,0.4s,baz=230,slow=5.0,SNR=15							
0.4nm,0.4s							
PDAR	**Pinedale Array**	**87.60**	**43**	P	**P**	**08 40 32.4**	**+0.5**
0.3nm,0.6s,baz=213,slow=3.1,SNR=4.2							
0.3nm,0.6s							
ARCES	**ARCESS Array B**	**127.23**	**350**	PKP	**PKiKP**	**08 46 43.1**	**+0.3**
5.1nm,1.0s,baz=72,slow=2.9,SNR=8.1							
EKA	**Eskdalemuir Ar**	**143.26**	**5**	PKP	**PKPdf**	**08 47 10.1**	**-2.1**
1.0nm,0.5s,baz=313,slow=3.1,SNR=5.6							
BRTR	**Keskin Array B**	**145.74**	**314**	PKPbc	**PKPbc**	**08 47 18.0**	**-1.0**
1.0nm,0.7s,baz=108,slow=1.8,SNR=2.9							

*NEIC **16** 08:31:55.5±2.8, 16.°90S±0.°07×172.°23W±0.°09, h10^{km}±1^{km}, mb4.6/20, Error ellipse: s-maj=16.0km s-min=8.4km az=57.0*
*IDC **16** 08:32:04.4±3.5, 17.°04S×172.°97W, h43^{km}±31^{km}, mb3.9/12, mbtmp4.2/12, MS4.2/28, Error ellipse: s-maj=24.8km s-min=14.5km az=147.0*
*GCMT **16** 08:32:04.5±0.3, 17.°16S±0.°04×172.°25W±0.°02, h29^{km}, MW5.0/70, Moment Tensor Solution. s28,c32; s70,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.95±.27; $M_{\theta\theta}$-0.29±.18; $M_{\phi\phi}$-3.66±.16; $M_{r\theta}$1.25±.33; $M_{\theta\phi}$-0.16±.14; $M_{r\phi}$2.05±.19; Best double couple: $M_0$4.48800×10^{16} NP1:ϕ_s16.00000°, δ61.00000°, λ103.00000°. NP2: ϕ_s172.00000°, δ32.00000°, λ69.00000°. Principal axes: T 4.7410, Plg71.0000°, Azm315.0000°; N -0.5090, Plg11.0000°, Azm190.0000°; P -4.2340, Plg15.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 08:31:56.5±0.5, 16.°95S±0.°06×172.°31W±0.°05, h10^{km}, n72, σ2°53/52, mb4.5/23, MS4.2/28, 4C, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.07**	**10**		**Pn**	**08 32 44.8**	**-0.4**
AFI				Sn	**Sn**	**08 33 19.6**	**-2.4**
NIUE	**Niue**	**3.10**	**133**	Pn	**Pn**	**08 32 46.1**	**+0.6**
NIUE				Sn	**Sn**	**08 33 19.5**	**-3.1**
FUTU	**Fugatoga**	**6.18**	**294**	Pn	**Pn**	**08 33 29.4**	**+1.4**
MSVF	**Nonsavu**	**9.24**	**264**	Pn	**Pn**	**08 34 12.8**	**+2.9**
MSVF	**Nonsavu**	**9.24**	**264**	P	**Pn**	**08 34 14.0**	**+4.0**
12nm,0.8s,baz=108,slow=16,SNR=12							
FUNA	**Funafuti**	**11.78**	**314**	Pn	**Pn**	**08 34 45.9**	**+1.2**
RAR	**Rarotonga**	**12.59**	**112**	Pn	**Pn**	**08 34 56.4**	**+0.7**
RAR	**Rarotonga**	**12.59**	**112**	P	**Pn**	**08 34 56.7**	**+0.9**
10nm,0.4s,baz=276,slow=7.5,SNR=7.4							
RAR				S	**Sn**	**08 37 15.2**	**-0.8**
3.1nm,0.5s,baz=227,slow=12,SNR=1.6							
RAR				LR	LR	08 39 34.9	
comp=Z,902nm,18.6s,baz=291,slow=34							
DZM	**Mont Dzumac**	**20.66**	**252**	*e*LR	LR	08 41 39.1	
1μm,24.9s							
DZM	**Mont Dzumac**	**20.66**	**252**	P	**P**	**08 36 33.7**	**-2.9**
2.8nm,0.7s,baz=131,slow=21,SNR=1.3							
DZM				LR	LR	08 43 03.6	
comp=Z,693nm,19.8s,baz=90,slow=33							
2.8nm,0.7s							
PPT2	**Papeete2**	**21.72**	**95**	*e*P	**P**	**08 36 47.8**	**-0.3**
169nm,29.0s							
PPT2				*e*S	**S**	**08 40 44.1**	**-4.6**
694nm,26.5s							
PPT2				*e*LR	LR	08 41 55.1	
623nm,30.2s							
PPT2				*e*LR	LR	08 42 02.8	
528nm,23.8s							
PPT	**Papeete**	**21.72**	**95**	LR	LR	08 43 59.8	
comp=Z,332nm,18.1s,baz=256,slow=32							
TBI	**Tubuai**	**22.36**	**110**	*e*P	**P**	**08 36 55.5**	**+0.6**
596nm,28.0s							
TBI				*e*S	**S**	**08 40 57.8**	**-3.0**
4μm,25.8s							
TBI				*e*LR	LR	08 42 12.1	
4μm,26.2s							
HNR	**Honiara**	**28.00**	**282**	LR	LR	08 47 09.3	
comp=Z,1μm,18.6s,baz=129,slow=33							
TAOE	**Nuku Hiva Isla**	**32.33**	**80**	*e*LR	LR	08 46 45.9	
520nm,27.2s							
CTA	**Charters Tower**	**39.34**	**259**	LR	LR	08 53 01.8	
comp=Z,24nm,21.7s,baz=94,slow=32							
PMG	**Port Moresby**	**40.11**	**276**	LR	LR	08 54 47.1	
comp=Z,252nm,18.5s,baz=142,slow=34							
STKA	**Stephens Creek**	**44.20**	**242**	P	**P**	**08 40 03.9**	**-2.0**
STKA	**Stephens Creek**	**44.20**	**242**	P	**P**	**08 40 04.6**	**-1.4**
1.3nm,0.7s,baz=94,slow=13,SNR=5.2							
STKA				LR	LR	08 57 11.2	
comp=Z,214nm,18.0s,baz=52,slow=35							
1.3nm,0.7s							
BBOO	**Buckleboo**	**48.96**	**241**	P	**P**	**08 40 42.1**	**-1.2**
BBOO				IAmb	IAmb	08 40 44.0	
comp=Z,7.7nm,0.9s							
WB0	**Warramunga Arr**	**50.49**	**258**	P	**P**	**08 40 53.7**	**-1.5**
WB2	**Warramunga Arr**	**50.52**	**258**	P	**P**	**08 40 52.9**	**-2.4**
WB2				IAmb	IAmb	08 41 07.8	
comp=Z,7.2nm,1.1s							
WRA	**Warramunga Arr**	**50.53**	**258**	P	**P**	**08 40 53.0**	**-2.4**
WRA	**Warramunga Arr**	**50.53**	**258**	P	**P**	**08 40 52.8**	**-2.7**
comp=Z,1.6nm,0.6s,baz=96,slow=6.9,SNR=34							
WRA				LR	LR	09 01 29.2	
comp=Z,367nm,18.7s,baz=102,slow=35							
comp=Z,1.6nm,0.6s							
AS31	**Alice Springs**	**50.64**	**253**	P	**P**	**08 40 53.5**	**-2.8**
ASAR	**Alice Springs**	**50.64**	**253**	P	**P**	**08 40 54.5**	**-1.9**
comp=Z,3.4nm,0.6s,baz=88,slow=9.0,SNR=56							
ASAR				S	**S**	**08 48 03.0**	**-8.5**
comp=Z,0.9nm,0.9s,baz=86,slow=16,SNR=7.2							
ASAR				LR	LR	09 02 09.5	
comp=Z,365nm,18.1s,baz=98,slow=36							
comp=Z,3.4nm,0.6s							
GUMO	**Guam**	**52.05**	**303**	LR	LR	09 02 41.4	
comp=Z,79nm,18.0s,baz=140,slow=36							
MTN	**Manton Dam**	**54.66**	**266**	P	**P**	**08 41 24.9**	**-1.2**
MTN				IAmb	IAmb	08 41 38.0	
comp=Z,6.3nm,0.9s							
FORT	**Forrest**	**55.67**	**244**	P	**P**	**08 41 31.6**	**-1.6**
RPN	**Rapa Nui**	**58.73**	**112**	LR	LR	09 03 14.6	
comp=Z,134nm,18.0s,baz=278,slow=32							
FITZ	**Fitzroy Crossi**	**58.92**	**259**	LR	LR	09 06 47.8	
comp=Z,457nm,18.4s,baz=108,slow=36							
BATI	**Baumata**	**62.38**	**267**	LR	LR	09 07 17.6	
comp=Z,205nm,21.2s,baz=144,slow=34							
PSA00	**Pilbara Seismi**	**63.77**	**254**	P	**P**	**08 42 28.2**	**-1.0**
PSA00				IAmb	IAmb	08 42 31.1	
comp=Z,5.6nm,1.2s							
NWAO	**Narrogin (SRO)**	**64.78**	**241**	LR	LR	09 09 07.3	
comp=Z,119nm,18.1s,baz=298,slow=35							
MJAR	**Matsushiro Arr**	**70.79**	**320**	P	**P**	**08 43 15.6**	**+2.2**
comp=Z,0.7nm,0.5s,baz=156,slow=4.8,SNR=2.4							
comp=Z,0.7nm,0.5s							
JOW	**Kunigami**	**72.24**	**306**	LR	LR	09 09 04.1	
comp=Z,122nm,20.3s,baz=306,slow=31							
QSPA	**South Pole Qui**	**73.10**	**180**	P	**P**	**08 43 27.2**	**+0.2**
QSPA	**South Pole Qui**	**73.10**	**180**	P	**P**	**08 43 30.1**	**+3.1**
comp=Z,8.0nm,1.0s,baz=40,slow=3.0,SNR=14							
comp=Z,8.0nm,1.0s							
JNU	**Nakatsue**	**73.62**	**313**	LR	LR	09 10 03.6	
comp=Z,94nm,21.3s,baz=120,slow=31							
PETK	**Petropavlovsk-**	**74.42**	**342**	P	**P**	**08 43 37.8**	**+3.2**
comp=Z,5.4nm,0.8s,baz=146,slow=8.0,SNR=4.9							
PETK				LR	LR	09 10 02.9	
comp=Z,144nm,20.2s,baz=108,slow=31							
comp=Z,5.4nm,0.8s							
NVAR	**Mina Array Bea**	**74.79**	**41**	P	P	08 43 42.9	+5.5
comp=Z,0.7nm,0.7s,baz=235,slow=8.6,SNR=7.6							
NVAR				LR	LR	09 11 27.9	
comp=Z,113nm,20.5s,baz=212,slow=31							
comp=Z,0.7nm,0.7s							
PINE	**Pine Mountain**	**76.53**	**36**	P	**P**	**08 43 46.7**	**-0.5**
PINE				IAmb	IAmb	08 44 29.2	
comp=Z,4.8nm,1.2s							
KSRS	**Korea Array**	**77.99**	**315**	LR	LR	09 13 20.1	
comp=Z,103nm,21.9s,baz=170,slow=32							
M17K	**Holitna River**	**78.99**	**7**	P	**P**	**08 44 01.4**	**+1.2**
M17K				IAmb	IAmb	08 44 11.1	
comp=Z,13nm,1.1s							
L16K	**Owhat River**	**79.06**	**6**	P	**P**	**08 44 01.2**	**+0.7**
USRK	**Ussuriysk Ar.**	**79.25**	**323**	LR	LR	09 12 19.9	
comp=Z,144nm,21.8s,baz=96,slow=31							
L18K	**Granite Mounta**	**79.87**	**7**	P	**P**	**08 44 01.6**	**-3.4**
HLID	**Hailey**	**80.17**	**39**	P	**P**	**08 44 05.3**	**-2.0**
TXAR	**Lajitas Array**	**80.61**	**56**	P	P	08 44 15.7	+5.8
comp=Z,2.3nm,1.1s,baz=210,slow=5.2,SNR=9.0							
comp=Z,2.3nm,1.1s							
GHO	**Glory Hole Cre**	**80.64**	**11**	P	**P**	**08 44 08.9**	**-0.3**
GHO				IAmb	IAmb	08 44 42.3	
comp=Z,8.4nm,1.1s							
BELA	**Belgrano 2**	**82.32**	**172**	P	**P**	**08 44 19.6**	**+1.5**
BELA				IAmb	IAmb	08 44 37.1	
comp=Z,5.6nm,1.2s							
PDAR	**Pinedale Array**	**82.73**	**41**	P	P	08 44 25.8	+4.8
comp=Z,1.0nm,0.9s,baz=212,slow=3.2,SNR=5.6							
PDAR				LR	LR	09 15 04.9	
comp=Z,54nm,20.1s,baz=60,slow=31							
comp=Z,1.0nm,0.9s							
CMIG	**Matias Romero**	**83.42**	**70**	LR	LR	09 13 22.3	
comp=Z,103nm,20.6s,baz=210,slow=30							
ILAR	**Eielson Array**	**83.76**	**11**	P	P	08 44 28.9	+3.5
comp=Z,0.6nm,0.6s,baz=223,slow=5.7,SNR=21							
comp=Z,0.6nm,0.6s							
DAWY	**Dawson**	**84.66**	**14**	P	**P**	**08 44 31.1**	**+1.0**
DAWY				IAmb	IAmb	08 44 41.0	
comp=Z,3.5nm,1.0s

MSZ	Milford Sound	0.39	207	P	Pg	08 36 11.8	-0.1
MSZ				S	Sg	08 36 17.3	+0.3
JCZ	Jackson Bay	0.51	60	P	Pg	08 36 14.6	+0.5
JCZ				S	Sg	08 36 21.2	+0.5
JCZ	Jackson Bay	0.51	60	P	Pg	08 36 14.5	+0.4
WKZ	Wanaka	0.78	130	P	Pg	08 36 19.6	+0.2
WKZ				S	Sg	08 36 29.1	-0.4
MLZ	Mavora Lakes	1.04	182	P	Pg	08 36 23.4	-0.9
MLZ				S	Sg	08 36 38.5	+0.7
EAZ	Earnscleugh	1.21	139	P	Pg	08 36 27.0	-0.6
EAZ				S	Sg	08 36 42.1	-1.2
FOZ	Fox Glacier	1.43	57	P	Pn	08 36 30.1	-0.9
LBZ	Lake Benmore	1.44	93	P	Pg	08 36 32.2	+0.2
LBZ				S	Sg	08 36 50.6	-0.1
WHZ	Wether Hill Ro	1.57	186	P	Pn	08 36 32.7	-0.3
WHZ				S	Sn	08 36 54.1	+0.3
GCSZ	Gaunt Creek Bo	1.86	58	P	Pn	08 36 35.8	-1.1
ODZ	Otahua Downs	1.90	113	P	Pn	08 36 37.3	-0.2
ODZ	Otahua Downs	1.90	113	P	Pn	08 36 37.9	+0.4
TUZ	Tuapeka	1.92	148	P	Pn	08 36 38.2	+0.3
TMZ	Timaru	2.03	93	P	Pn	08 36 39.1	-0.3
PYZ	Puysegur Point	2.12	209	P	Pn	08 36 41.9	+1.4
PYZ	Puysegur Point	2.12	209	P	Pn	08 36 43.0	+2.5
RPZ	Rata Peaks	2.16	75	P	Pn	08 36 41.5	+0.4
RPZ	Rata Peaks	2.16	75	P	Pn	08 36 42.2	+1.0
ARCZ	Arundel	2.19	81	P	Pn	08 36 41.3	-0.3
WVZ	Waitaha Valley	2.24	57	P	Pn	08 36 40.9	-1.3
SYZ	Scrubby Hill	2.31	163	P	Pn	08 36 43.1	-0.1
SYZ	Scrubby Hill	2.31	163	P	Pn	08 36 43.4	+0.3
HHSZ	Highcliff Hill	2.31	133	P	Pn	08 36 44.0	+0.8
APZ	The Paps	2.51	183	P	Pn	08 36 45.6	-0.3
MHCZ	Mount Hutt	2.58	73	P	Pn	08 36 46.9	0.0
WACZ	Wakanui South	2.67	83	P	Pn	08 36 47.2	-0.8
INZ	Inchbonnie	2.87	57	P	Pn	08 36 49.6	-1.2
RACZ	Rakaia	2.92	79	P	Pn	08 36 51.8	+0.2
OXZ	Oxford	2.97	72	P	Pn	08 36 52.0	-0.2
MQZ	McQueen's Vall	3.29	81	P	Pn	08 36 56.1	-0.5
LTZ	Lake Taylor	3.35	64	P	Pn	08 36 56.8	-0.7
AKCZ	Akaroa Harbour	3.44	84	P	Pn	08 36 58.5	-0.2
AMCZ	Amberley	3.44	72	P	Pn	08 36 59.0	+0.3
OKCZ	Okains Bay	3.57	82	P	Pn	08 37 00.5	-0.1
DSZ	Denniston Nort	3.71	47	P	Pn	08 37 00.9	-1.5
GVZ	Greta Valley S	3.78	71	P	Pn	08 37 02.6	-0.7
THZ	Tophouse	4.31	55	P	Pn	08 37 10.3	-0.4
KHZ	Kahutara	4.35	66	P	Pn	08 37 11.1	-0.1
MRNZ	Matariki Terra	4.46	51	P	Pn	08 37 12.3	-0.4
QRZ	Quartz Range	4.75	44	P	Pn	08 37 15.6	-1.1
QRZ	Quartz Range	4.75	44	P	Pn	08 37 15.9	-0.8
TKNZ	Takaka Hill	4.82	49	P	Pn	08 37 17.1	-0.7
BSWZ	Blackbirch Sta	4.93	69	P	Pn	08 37 22.3	+3.1
NNZ	Nelson	4.93	53	P	Pn	08 37 19.0	-0.2
TCW	Tory Channel	5.46	57	P	Pn	08 37 27.6	+1.1
DUWZ	D'Urville Isla	5.51	52	P	Pn	08 37 27.3	+0.1
SNZO	South Karori	5.67	60	P	Pn	08 37 28.7	-0.6
KIW	Kapiti Island	6.06	57	P	Pn	08 37 34.8	+0.1
OGWZ	Otaki Gorge	6.24	58	P	Pn	08 37 38.4	+1.2
NBEZ	Newall Road No	6.61	42	P	Pn	08 37 41.2	-1.0
KHEZ	Kahui Hut	6.66	43	P	Pn	08 37 42.3	-0.6
KHEZ	Kahui Hut	6.66	43	P	Pn	08 37 42.2	-0.8
PREZ	Palmer Road	6.69	44	P	Pn	08 37 43.2	-0.2
NEZ	North Egmont	6.71	43	P	Pn	08 37 43.3	-0.5
PKE	Pukeiti	6.72	42	P	Pn	08 37 43.1	-0.7
WAZ	Wanganui	6.82	50	P	Pn	08 37 45.9	+0.7
VRZ	Vera Road	7.16	46	P	Pn	08 37 49.9	+0.1
PKVZ	Pokaka	7.35	49	P	Pn	08 37 53.1	+0.7
TRVZ	Turoa	7.45	50	P	Pn	08 37 56.2	+2.2
WNVZ	Wahianoa	7.46	50	P	Pn	08 37 56.7	+2.7
FWVZ	Far West T-bar	7.49	50	P	Pn	08 37 55.4	+0.9
WTVZ	West Tongariro	7.61	49	P	Pn	08 37 57.7	+1.7
NNVZ	North Ngauruho	7.61	50	P	Pn	08 37 57.4	+1.3
HIZ	Hauiti	7.68	43	P	Pn	08 37 57.1	+0.2
TLZ	Tolley Road	8.16	45	P	Pn	08 38 01.2	-2.3
WCZ	Waipu Caves	9.62	31	P	Pn	08 38 22.5	-1.0
OUZ	Omahuta	10.01	26	P	Pn	08 38 28.0	-0.7
OUZ	Omahuta	10.01	26	P	Pn	08 38 28.1	-0.7

*IDC **16** 08:54:02.2±1.1, 2°.90S×119°.78E, h0km, mb3.5/5, mbtmp3.5/6, ML3.8/1, Error ellipse: s-maj=61.2km s-min=17.7km az=73.0*
*DJA **16** 08:54:03.1±0.5, 3°S±3°×12°0E±°, h10km, M4.0/7, MLv4.0/7*
ISC 16 08:54:03.5±0.9, **2°.96S**±0°.05×**119°.50E**±0°.08, **h10**km, **n11,** σ1§**07**/15, **mb3.7**/5, **Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.33	105	P	Pg	08 54 09.9	-0.2
TTSI				S	Sb	08 54 16.3	-0.5
SPSI	Sidrap Palu	1.03	165	P	Pg	08 54 21.9	-1.5
SPSI				S	Sb	08 54 38.2	+1.1
BNSI	Bone	1.55	157	P	Pn	08 54 31.7	+0.5
KAPI	Kappang	2.06	173	Pn	Pn	08 54 38.4	+0.3
	28nm,0.3s,baz=332,slow=11,SNR=47						
KAPI				Sn	Sb	08 55 06.0	-0.6
	59nm,0.3s,baz=240,slow=23,SNR=20 144nm,0.6s						
PCI	Palu	2.07	9	P	Pn	08 54 38.5	+0.2
BKSI	Bulukumba	2.43	165	P	Pn	08 54 44.0	+0.8
BKSI				S	Sn	08 55 14.5	+1.5
WRA	Warramunga Arr	22.24	140	P	P	08 58 59.8	-0.9
	0.7nm,0.7s,baz=317,slow=11,SNR=5.6 0.7nm,0.7s						
ASAR	Alice Springs	24.86	147	P	P	08 59 25.7	-0.8
	0.4nm,0.9s,baz=330,slow=11,SNR=3.2 0.4nm,0.9s						
SONM	Songino Array	51.87	349	P	P	09 03 11.0	-1.3
	0.6nm,0.6s,baz=169,slow=8.1,SNR=2.4 0.6nm,0.6s						
MKAR	Makanchi Array	59.39	331	P	P	09 04 07.8	+1.7
	0.7nm,0.7s,baz=137,slow=7.3,SNR=5.1 0.7nm,0.7s						
ZALV	Zalesovo Beam	63.64	338	P	P	09 04 35.6	+0.9
	0.7nm,0.7s,baz=136,slow=5.6,SNR=2.7 0.7nm,0.7s						

*CATAC **16** 08:54:14.4±0.7, 11°.52N×87°.08W, h20km±7km, ML3.7*
*SNET **16** 08:54:33.3±1.1, 12°.25N×88°.54W, h43km±999km, ML3.5*
ISC 16 08:54:13.2±1.9, **11°.49N**±0°.07×**87°.10W**±0°.04, **h14**km±10km, **n43,** σ1§**08**/63, **1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	0.85	36	*i* P	Pn	08 54 30.6	-0.2
COPN				IAML		08 54 44.5	
	comp=Z,1μm,1.0s						
RA5A7	El Crucero	0.92	57	*i* P	Pn	08 54 31.8	0.0
RA5A7				IAML		08 54 51.8	
	comp=Z,5μm,1.0s						
ABCN	Banco Central	1.00	51	*i* P	Pb	08 54 32.6	+0.3
ABCN				IAML		08 54 44.1	
	comp=Z,6μm,1.0s						
ABCN				*i* S	Sg	08 54 45.4	-0.1
UNAN	Cigeo UNAN	1.02	52	*i* P	Pb	08 54 32.9	+0.2
UNAN				*i* S	Sb	08 54 46.9	+0.9
UNAN				IAML		08 54 51.9	
	comp=Z,4μm,1.0s						
USIM	UNAN	1.02	52	*i* P	Pb	08 54 33.0	+0.3
USIM				IAML		08 54 44.2	
	comp=Z,7μm,1.0s						
USIM				*i* S	Sb	08 54 47.0	+1.0
LEVN	Ruinas Leon Vi	1.02	27	*i* P	Pb	08 54 33.0	+0.2
LEVN				*i* S	Sn	08 54 47.2	-0.2
LEVN				IAML		08 54 54.1	
	comp=Z,2μm,1.0s						
SABN	Sabanita	1.03	63	*i* P	Pb	08 54 33.2	+0.4
SABN				IAML		08 54 51.9	
	comp=Z,2μm,1.0s						
APQ2	Apoyeque	1.03	47	*i* P	Pb	08 54 33.0	+0.1
APQ2				IAML		08 54 44.4	
	comp=Z,2μm,1.0s						
TISN	Laguna Tiscapa	1.04	51	*i* P	Pg	08 54 32.1	-1.2
TISN				IAML		08 54 32.8	
	comp=Z,150nm,1.0s						
ALLN	Telcor Managua	1.04	50	*i* P	Pb	08 54 33.2	+0.1
ALLN				*i* S	Sb	08 54 47.3	+0.6
ALLN				IAML		08 55 40.6	
	comp=Z,8μm,1.0s						
MAS3	Al N del Volca	1.05	59	*i* P	Pg	08 54 33.1	-0.4
MAS3				IAML		08 54 33.9	
	comp=Z,3μm,1.0s						
MAS3				*i* S	Sb	08 54 47.2	+0.4
MASN	Masaya	1.05	62	*i* P	Pn	08 54 33.9	+0.3
MASN				IAML		08 54 53.5	
	comp=Z,450nm,1.0s						
R0529	La Mascota	1.05	53	*i* P	Pb	08 54 33.5	+0.2
R0529				IAML		08 54 34.3	
	comp=Z,2μm,1.0s						
NANN	Nandasmo	1.06	65	*i* P	Pn	08 54 34.3	+0.6
NANN				IAML		08 54 51.7	
	comp=Z,18μm,1.0s						
MACN	El Madrono	1.06	23	*i* P	Pg	08 54 33.3	-0.4
MACN				IAML		08 54 57.0	
	comp=Z,1μm,1.0s						
MGAN	Managua	1.06	52	*i* P	Pg	08 54 33.4	-0.3
MGAN				IAML		08 54 33.9	
	comp=Z,2μm,1.0s						
R4DEC	Barrio San Lui	1.06	51	*i* P	Pg	08 54 33.3	-0.4
R4DEC				IAML		08 54 33.9	
	comp=Z,2μm,1.0s						
R4DEC				*i* S	Sb	08 54 47.4	+0.3
MOMN	Momotombo	1.07	31	*i* P	Pb	08 54 33.7	+0.2
MOMN				IAML		08 54 33.8	
	comp=Z,110nm,1.0s						
MOMN				*i* S	Sg	08 54 47.0	-0.8
CNGA	Al SSO del Vol	1.07	21	*i* P	Pg	08 54 33.6	-0.4
CNGA				IAML		08 54 34.1	
	comp=Z,2μm,1.0s						
CNGA				*i* S	Sn	08 54 48.6	-0.1
MOM2	El Cardon	1.12	32	*i* P	Pb	08 54 34.4	0.0
MOM2				IAML		08 54 34.8	
	comp=Z,4μm,1.0s						
MOM2				*i* S	Sg	08 54 49.5	+0.1
PLRN	Geotermica Pol	1.14	16	*i* P	Pb	08 54 33.5	-1.2
PLRN				*i* S	Sb	08 54 47.9	-1.5
PLRN				IAML		08 54 51.8	
	comp=Z,3μm,1.0s						
HERN	Volcan Telica	1.15	13	*i* P	Pb	08 54 33.3	-1.6
HERN				IAML		08 54 49.2	
	comp=Z,1μm,1.0s						
PKGN	Cerro Pekin	1.18	6	*i* P	Pb	08 54 35.3	-0.2
PKGN				*i* S	Sb	08 54 50.7	0.0
PKGN				IAML		08 54 54.2	
	comp=Z,2μm,1.0s						
CRIN	San Cristobal	1.21	2	*i* P	Pb	08 54 35.8	-0.1
CRIN				IAML		08 54 57.0	
	comp=Z,4μm,1.0s						
JAPN	Al SSO del Vol	1.39	88	*i* P	Pn	08 54 38.8	+0.6
JAPN				IAML		08 55 01.3	
	comp=Z,560nm,1.0s						
MORN	Al O del Volca	1.42	87	*i* P	Pn	08 54 38.8	+0.1
MORN				IAML		08 55 03.3	
	comp=Z,100nm,1.0s						
BRAN	Las Pilas	1.43	31	*i* P	Pn	08 54 32.7	-6.1
BRAN				IAML		08 54 33.6	
	comp=Z,2μm,1.0s						
BRAN				*i* S	Sn	08 54 46.0	-11
CONN	Concepcion	1.44	87	*i* P	Pn	08 54 38.8	-0.2
CONN				IAML		08 55 02.3	
	comp=Z,4μm,1.0s						
CSGN	Cosiguina Volc	1.55	343	*i* P	Pn	08 54 40.4	-0.1
CSGN				*i* S	Sn	08 55 00.8	+0.3
CSGN				IAML		08 55 03.8	
	comp=Z,310nm,1.0s						
POTN	Potosi Cosigui	1.56	345	*i* P	Pn	08 54 40.7	+0.2
POTN				*i* S	Sn	08 55 00.3	-0.3
POTN				IAML		08 55 06.3	
	comp=Z,310nm,1.0s						
LIMN	Finca el Limon	1.72	24	*i* P	Pn	08 54 42.9	0.0
LIMN				IAML		08 54 43.2	
	comp=Z,390nm,1.0s						
CNCH	Conchagua	1.92	338	U *e*P	Pg	08 54 54.1	+4.0
	comp=Z,1μm,0.2s						
CNCH				*e*S	Sn	08 55 10.8	+1.0
CNCH				IAML		08 55 18.3	
	comp=Z,1μm,0.2s						
CNCH	Conchagua	1.92	338	*i* P	Pn	08 54 45.9	+0.2
CNCH				*i* S	Sn	08 55 10.2	+0.5
CNCH				IAML		08 55 18.0	
	comp=Z,980nm,1.0s						
ACON	Acoyapa	1.94	76	*i* P	Pn	08 54 45.6	-0.2
ACON				IAML		08 55 01.5	
	comp=Z,150nm,1.0s						
LCND	La Caada	1.97	337	*e*P	Pg	08 54 54.5	+3.4
LCND				*e*S	Sn	08 55 09.6	-1.2
LCND				*e*S	Sb	08 55 11.0	-2.4
LCND				IAML		08 55 13.9	
	comp=Z,651nm,0.4s						
LCND	La Caada	1.97	337	*i* P	Pn	08 54 46.7	+0.4
LCND				*i* S	Sn	08 55 10.8	0.0
LCND				IAML		08 55 13.9	
	comp=Z,620nm,1.0s						
RCPN	Sur Rio San Ju	2.25	26	*i* P	Pn	08 54 51.1	+0.9
RCPN				IAML		08 55 19.6	
	comp=Z,1.6nm,1.0s						
RCVN	Varillal2	2.26	23	*i* P	Pn	08 54 51.0	+0.6
RCVN				IAML		08 55 19.5	
	comp=Z,4μm,1.0s						
TGUH	Tegucigalpa,Un	2.56	356	*i* P	Pn	08 54 55.4	+0.9
TGUH				IAML		08 54 55.7	
	comp=Z,170nm,1.0s						
TGUH				*i* S	Sn	08 55 24.9	-0.7
TECO	Alcaldia de Te	2.62	321	*e*P	Pn	08 54 55.1	-0.1
TECO				*e*P	Pb	08 54 56.6	-3.4
TECO	Alcaldia de Te	2.62	321	*i* P	Pn	08 54 53.6	-1.6
TECO				IAML		08 55 34.5	
	comp=Z,80nm,1.0s						
SCLA	Alcaldia de Sa	2.72	324	*e*P	Pn	08 54 57.7	+1.1
SCLA	Alcaldia de Sa	2.72	324	*i* P	Pn	08 54 57.7	+1.1
SCLA				IAML		08 55 52.0	
	comp=Z,57nm,1.0s						

*IDC **16** 08:56:34.0±2.2, 6°.23S×130°.09E, h0km, mb3.9/1, mbtmp4.1/4, ML4.3/3, Error ellipse: s-maj=91.6km s-min=27.4km az=77.0*
*DJA **16** 08:56:49.5±0.2, 7°S±3°×13°0E±°, h131km±6km, M4.3/12, mb4.0/8, mB5.0/6, MLv4.5/12, Mw(mB)4.3/6*
ISC 16 08:56:48.1±1.0, **6°.68S**±0°.07×**130°.24E**±0°.09, **h150**km, **n17,** σ1§**85**/17, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.67	141	P	Pn	08 57 21.1	+1.6
BNDI	Bandanaira	2.16	351	P	Pn	08 57 25.8	+0.6
MSAI	Masohi	3.56	338	P	Pn	08 57 43.4	+0.8
FAKI	Fak Fak	4.24	28	P	Pn	08 57 50.3	-1.2
KMPI	Kaimana, Papua	4.57	49	P	Pn	08 57 55.7	-0.1
NLAI	Namlea	4.63	317	P	Pn	08 57 56.5	-0.1
DRS	Darwin Rock St	5.76	174	P	Pn	08 58 13.5	+2.0
SWI	Sorong	5.86	10	P	Pn	08 58 11.4	-1.6
MTN	Manton Dam	6.19	172	P	Pn	08 58 19.2	+1.8
SANI	Sanana	6.25	317	P	Pn	08 58 19.9	+1.8
	11nm,0.5s,873nm0.1nm						
RKPI	Ransiki, Papua	6.46	38	P	Pn	08 58 21.5	+0.5
SOEI	Soe	6.65	242	P	Pn	08 58 24.2	+0.6
MMRI	Maumere	8.16	256	P	Pn	08 58 33.0	-11
FITZ	Fitzroy Crossi	12.21	201	Pn	Pn	08 59 35.9	-1.2
	2.4nm,0.3s,baz=19,slow=8.3,SNR=32						
FITZ				Sn	Sn	09 01 42.6	-9.5
	0.6nm,0.3s,baz=6.3,slow=9.2,SNR=1.8 6.5nm,0.3s						
WRA	Warramunga Arr	13.78	164	Pn	Pn	08 59 56.5	-0.8
	1.2nm,0.3s,baz=344,slow=13,SNR=36						
WRA				Sn	Sn	09 02 18.6	-11
	0.4nm,0.3s,baz=351,slow=18,SNR=2.8 1.6nm,0.4s						
ASAR	Alice Springs	17.26	169	P	Pn	09 00 41.9	+1.8
	0.6nm,0.3s,baz=356,slow=12,SNR=20						
ASAR				S	S	09 03 46.8	-4.8
	1.6nm,0.8s,baz=356,slow=28,SNR=5.5 1.6nm,0.6s						
MKAR	Makanchi Array	68.08	327	P	P	09 07 32.9	+1.2
	0.7nm,0.5s,baz=118,slow=7.9,SNR=8.9 0.7nm,0.5s						

*ISK **16** 09:00:59.6, 37°.03N×28°.85E, h5km, ML1.6/5*
AFAD 16 09:01:01.5±0.0, **36°.39N**×**28°.69E, h7**km±1km, **ML1.2, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.40	52	P	Pb	09 01 11.1	+0.1
FETY	Fethiye	0.40	52	Pg	Pg	09 01 08.7	-0.7
FETY				Sg	Sg	09 01 14.9	+0.2
DALY	Dalyan (Mula)	0.43	356	Pg	Pg	09 01 05.7	-4.2
IZZE	Mula-Seydike	0.44	83	P	Pg	09 01 10.1	+0.1
IZZE				S	Sg	09 01 16.8	+1.1
IZZE				*i* AML	AML	09 01 19.0	
	comp=N,58nm,0.2s						
IZZE				*i* AML	AML	09 01 22.0	
	comp=E,35nm,0.4s						
ARG	Arkhangelos	0.48	250	Pg	Pn	09 01 19.3	+4.4
SABU	Mula-Dalaman	0.49	27	P	Pg	09 01 11.1	+0.1
SABU				S	Sg	09 01 18.5	+1.0
SABU				*i* AML	AML	09 01 24.0	
	comp=N,14nm,0.5s						
TURN	Turunc	0.53	318	P	Pb	09 01 13.2	+0.1
TURN				S	Sb	09 01 20.0	-1.0
TURN				*i* AML	AML	09 01 23.0	
	comp=N,12nm,0.5s						
TURN				*i* AML	AML	09 01 25.0	
	comp=E,12nm,0.8s						
TURN	Turunc	0.53	318	Pg	Pg	09 01 10.6	-1.1
TURN				Sg	Sg	09 01 18.5	-0.1
CAME	Cameli-Denizli	0.74	41	Pg	Pg	09 01 07.3	-8.5

*NOU **16** 09:05:52.3, 34°.72S×178°.62W, h147km, ML4.2/7, South of Kermadec Islands*
*WEL **16** 09:06:11.2±1.7, 35°S±16°×18°0E±1°6, h137km±35km, M3.9/14, MLv3.9/14, Error ellipse: s-maj=27.6km s-min=10.7km az=46.4, confirmed*
ISC 16 09:06:09.1±4.0, **35°.4S**±0°.2×**179°.9E**±0°.2, **h150**km, **n34,** σ1§**03**/36, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.53	210	P	Pn	09 06 49.6	-1.0
MXZ	Matakaoa Point	2.53	210	P	Pn	09 06 49.8	-0.8
WMGZ	Waiomatatini S	2.72	206	P	Pn	09 06 54.0	+1.1
WMGZ				S	Sn	09 07 26.7	-0.1
HAZ	Te Kaha	2.93	215	P	Pn	09 06 54.8	-0.7
PUZ	Puketiti	3.00	206	P	Pn	09 06 57.1	+0.7
WIZ	White Island	3.07	225	P	Pn	09 06 57.0	-0.2
WSRZ	White Island S	3.07	225	P	Pn	09 06 57.9	+0.6
RUGZ	Raukumara Rang	3.14	214	P	Pn	09 06 58.9	+0.5
TWGZ	Tauwhareparae	3.19	208	P	Pn	09 06 59.9	+0.9
TWGZ				S	Sn	09 07 36.8	-0.8
TKGZ	Te Karaka	3.47	208	P	Pn	09 07 02.7	+0.2
MWZ	Matawai	3.51	212	P	Pn	09 07 03.5	+0.4
URZ	Urewera	3.65	217	P	Pn	09 07 04.9	+0.2
URZ	Urewera	3.65	217	P	Pn	09 07 04.6	-0.1
OPRZ	Ohinepanea	3.65	227	P	Pn	09 07 05.4	+0.6
KUZ	Kuaotunu	3.66	247	P	Pn	09 07 05.6	+0.8
RAGZ	Rawiri	3.70	212	P	Pn	09 07 06.8	+1.3
RIGZ	Rimuhau	3.74	207	P	Pn	09 07 06.1	+0.1
TGRZ	Tauranga	3.76	230	P	Pn	09 07 07.1	+0.9
SNGZ	Shannon Statio	3.97	210	P	Pn	09 07 09.2	+0.3
MUGZ	Murupara	3.99	218	P	Pn	09 07 09.2	+0.1
RTZ	Ruatahuna	3.99	215	P	Pn	09 07 10.5	+1.2
KNZ	Kokohu	4.05	205	P	Pn	09 07 09.2	-0.8
MHGZ	Mahia Peninsul	4.09	202	P	Pn	09 07 10.7	+0.2
TOZ	Tahuroa Road	4.25	235	P	Pn	09 07 13.5	+0.9
WCZ	Waipu Caves	4.56	261	P	Pn	09 07 16.7	0.0
BKZ	Black Stump Fm	4.66	215	P	Pn	09 07 17.6	-0.4
BKZ	Black Stump Fm	4.66	215	P	Pn	09 07 17.7	-0.4
HIZ	Hauiti	5.11	231	P	Pn	09 07 25.3	+1.3
HIZ	Hauiti	5.11	231	P	Pn	09 07 25.7	+1.7
OUZ	Omahuta	5.16	270	P	Pn	09 07 24.1	-0.6
OUZ	Omahuta	5.16	270	P	Pn	09 07 24.5	-0.1
PXZ	Pawanui	5.24	207	P	Pn	09 07 23.7	-1.9
BFZ	Birch Farm	6.03	208	P	Pn	09 07 34.9	-1.3
CTZ	Chatham Island	8.77	163	P	Pn	09 08 16.1	+3.4

NOU 16 09:25:33.5, 21°.64S×169°.57E, h0km, MLv3.5/10, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINNC	Pines Island,	2.19	243	P	Pn	09 26 10.2	-1.0
LIFNC	LIFOU	2.34	291	P	Pn	09 26 13.2	0.0
YATNC	Mamie plateau,	2.52	260	P	Pn	09 26 15.3	-0.5
OUENC	Ouen Island, N	2.65	252	P	Pn	09 26 17.6	+0.1
DZM	Mont Dzumac	2.94	261	P	Pn	09 26 21.5	0.0
ONTNC	Ouen Toro	2.97	256	P	Pn	09 26 22.4	+0.5
NOUC	Port Laguerre	3.07	261	P	Pn	09 26 23.4	+0.1
KOUNC	Koumac, New Ca	5.05	281	P	Pn	09 26 50.7	+0.2

*DJA **16** 09:28:40.2±0.3, 2°N±4°×12°6E±°, h10km, M4.7/13, mb4.9/7, mB5.3/6, MLv4.5/13, Mw(mB)4.7/6*
*NEIC **16** 09:28:41.9±1.5, 2°.45N±0°.06×126°.16E±0°.07, h71km±4km, mb4.6/94, Error ellipse: s-maj=11.0km s-min=7.8km az=71.0*
*IDC **16** 09:28:44.7±2.1, 2°.37N×126°.10E, h103km±18km, mb4.1/23, mbtmp4.4/24, MS3.1/7, Error ellipse: s-maj=22.2km s-min=8.0km az=76.0*
ISC 16 09:28:42.3±0.9, **2°.40N**±0°.05×**126°.20E**±0°.07, **h85**km±8km, **n166,** σ1§**27**/175, **mb4.6**/75, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.00	144	Pn	Pn	09 29 14.3	0.0
TNTI				Sn	Sn	09 29 41.2	+2.5
TNTI	Ternate	2.00	144	P	Pn	09 29 14.3	0.0
KMSI	Cibinong	2.86	231	P	Pn	09 29 26.4	+0.5
SANI	Sanana	4.42	183	P	Pn	09 29 44.3	-2.8
DAV	Davao City (W)	4.68	352	Pn	Pn	09 29 50.7	+0.1
LUWI	Luwuk	4.84	225	Pn	Pn	09 29 54.5	+1.7
LUWI	Luwuk	4.84	225	P	Pn	09 29 54.5	+1.7
TOLI2	Tolitoli	5.56	257	Pn	Pn	09 30 01.6	-1.0
NLAI	Namlea	5.67	171	P	Pn	09 30 03.1	-1.0
KDI	Kendari	7.26	210	P	Pn	09 30 25.5	-0.2
FAKI	Fak Fak	8.03	131	Pn	Pn	09 30 35.9	-0.5
MYLDM	Lahad Datu	8.16	290	Pn	Pn	09 30 39.6	+1.6
SPSI	Sidrap Palu	9.01	225	P	Pn	09 30 51.7	+

PSA00				IAmb	IAmb	09 33 57.2
	comp=Z,26nm,0.8s					
AS31	**Alice Springs**	**26.97**	**164**	P	**P**	**09 34 16.5 +0.3**
ASAR	**Alice Springs**	**26.97**	**164**	P	**P**	**09 34 17.2 +0.9**
ASAR	**Alice Springs**	**26.97**	**164**	P	**P**	**09 34 16.6 +0.4**
	comp=Z,3.4nm,0.5s,baz=342,slow=7.9,SNR=77					
ASAR				PcP	**PcP**	**09 37 37.2 +1.1**
	comp=Z,1.6nm,0.7s,baz=348,slow=2.7,SNR=9.6					
ASAR				S	**S**	**09 38 47.4 -0.2**
	comp=Z,3.4nm,0.9s,baz=348,slow=19,SNR=17					
ASAR				LR	LR	09 44 46.0
	comp=Z,29nm,20.0s,baz=296,slow=36					
	comp=Z,3.4nm,0.5s					
RPSI	**Rantau Prapat**	**27.25**	**271**	P	**P**	**09 34 19.0 +0.3**
PHRA	**Phrae**	**30.06**	**304**	P	**P**	**09 34 42.2 -1.5**
NJ2	**Nanjing**	**30.30**	**348**	*e*P	**P**	**09 34 47.6 +2.0**
NJ2				pmax	pmax	
	comp=Z,8.0nm,0.5s					
JNU	**Nakatsue**	**30.88**	**8**	P	**P**	**09 34 51.7 +0.9**
JNU				IAmb	IAmb	09 34 52.7
	comp=Z,14nm,1.0s					
JNU	**Nakatsue**	**30.88**	**8**	LR	LR	09 48 59.3
	comp=Z,29nm,18.9s,baz=351,slow=39					
CMAR	**Chiang Mai Arr**	**31.11**	**303**	P	**P**	**09 34 53.9 +0.9**
	comp=Z,2.4nm,0.3s,baz=123,slow=6.6,SNR=4.7					
CMAR				LR	LR	09 49 51.6
	comp=Z,13nm,18.0s,baz=20,slow=41					
	comp=Z,2.4nm,0.3s					
CHTO	**Chiang Mai**	**31.27**	**303**	P	**P**	**09 34 53.8 -0.7**
ENH	**Enshi**	**31.93**	**332**	P	**P**	**09 35 00.2 +0.1**
ENH				IAmb	IAmb	09 35 01.1
	comp=Z,9.3nm,0.7s					
MORW	**Morawa**	**32.77**	**197**	P	**P**	**09 35 08.4 +1.0**
MORW				IAmb	IAmb	09 35 10.0
	comp=Z,8.0nm,0.9s					
FORT	**Forrest**	**33.04**	**177**	P	**P**	**09 35 10.1 +0.4**
PZH	**PanZhiHua**	**33.54**	**318**	P	**P**	**09 35 17.0 +2.7**
PZH				pmax	pmax	
	comp=Z,10.0nm,0.5s					
PZH				pmax	pmax	
	comp=Z,100nm,5.0s					
JGF	**Kuroka**	**34.62**	**16**	P	**P**	**09 35 22.0 -1.4**
JGF				IAmb	IAmb	09 35 25.8
	comp=Z,5.6nm,0.8s					
KSRS	**Korea Array**	**34.92**	**2**	P	**P**	**09 35 27.4 +1.4**
	comp=Z,4.5nm,0.8s,baz=182,slow=9.8,SNR=13					
	comp=Z,4.5nm,0.8s					
KS19	**Wonju Array Si**	**34.97**	**2**	P	**P**	**09 35 26.5 +0.2**
KS19				IAmb	IAmb	09 35 29.7
	comp=Z,11nm,0.9s					
XAN	**Xi'an**	**35.37**	**335**	P	**P**	**09 35 29.8 -0.1**
XAN				sP	pwP	09 35 58.1 +6.0
XAN				pmax	pmax	
	comp=Z,13nm,0.7s					
MJAR	**Matsushiro Arr**	**35.74**	**17**	P	**P**	**09 35 32.6 -0.4**
	comp=Z,4.5nm,0.9s,baz=192,slow=9.0,SNR=11					
	comp=Z,4.5nm,0.9s					
MAJO	**Matsushiro**	**35.74**	**17**	P	**P**	**09 35 33.5 +0.5**
MAJO				IAmb	IAmb	09 35 34.4
	comp=Z,6.4nm,0.9s					
MJB9	**Matsu-Tunnel**	**35.74**	**17**	P	**P**	**09 35 33.9 +0.9**
MJB9				IAmb	IAmb	09 35 35.4
	comp=Z,6.2nm,0.9s					
BBOO	**Buckleboo**	**36.24**	**166**	P	**P**	**09 35 38.0 +0.7**
STKA	**Stephens Creek**	**37.09**	**158**	P	**P**	**09 35 45.2 +0.6**
STKA	**Stephens Creek**	**37.09**	**158**	P	**P**	**09 35 45.8 +1.3**
	comp=Z,4.7nm,0.7s,baz=340,slow=9.0,SNR=15					
	comp=Z,4.7nm,0.7s					
JMM	**Marumori**	**37.75**	**19**	P	**P**	**09 35 49.0 -1.1**
LZH	**Lanzhou**	**39.39**	**331**	*e*P	**P**	**09 36 05.0 +1.0**
LZH				sP	pP	09 36 27.9 +4.5
LZH				pmax	pmax	
	comp=Z,14nm,1.2s					
SHL	**Shillong**	**40.25**	**308**	P	**P**	**09 36 11.1 -0.3**
HHC	**Hu-ho-hao-te**	**40.50**	**343**	*e*P	**P**	**09 36 14.8 +1.8**
HHC				pP	pP	09 36 31.5 -1.1
HHC				pmax	pmax	
	comp=Z,13nm,0.6s					
HHC				pmax	pmax	
	comp=Z,170nm,7.6s					
CN2	**Changchun**	**41.23**	**359**	P	**P**	**09 36 15.3 -3.6**
CN2				pmax	pmax	
	comp=Z,10.0nm,0.7s					
USRK	**Ussuriysk Ar.**	**41.94**	**6**	P	**P**	**09 36 23.0 -1.7**
USRK	**Ussuriysk Ar.**	**41.94**	**6**	P	**P**	**09 36 24.8 +0.2**
	comp=Z,3.6nm,0.6s,baz=193,slow=6.5,SNR=8.5					
	comp=Z,3.6nm,0.6s					
MDJ	**Mudanjiang**	**42.15**	**4**	P	P	09 36 32.3 +6.0
MDJ				pmax	pmax	
	comp=Z,17nm,1.4s					
H11S3	**WAKE ISLAND Hy**	**42.76**	**65**	T	T	10 23 53.8
	baz=252					
H11S2	**WAKE ISLAND Hy**	**42.77**	**65**	T	T	10 23 35.4
	baz=252					
H11S1	**WAKE ISLAND Hy**	**42.78**	**65**	T	T	10 23 56.9
	baz=252					
LSA	**Lhasa**	**42.93**	**313**	P	**P**	**09 36 31.4 -2.1**
GTA	**Gaotai**	**43.97**	**330**	*e*P	**P**	**09 36 41.6 +0.3**
GTA				pmax	pmax	
	comp=Z,4.0nm,0.8s					
JKA	**Kamikawa-asahi**	**44.01**	**17**	P	**P**	**09 36 40.8 -0.6**
HIA	**Hailar**	**47.02**	**354**	P	**P**	**09 37 06.0 +0.9**
HIA				IAmb	IAmb	09 37 08.1
	comp=Z,7.9nm,0.9s					
HEH	**HeiHe**	**47.69**	**1**	*e*P	**P**	**09 37 11.4 +1.2**
HEH				pmax	pmax	
	comp=Z,12nm,1.1s					
SONM	**Songino Array**	**48.39**	**342**	P	**P**	**09 37 14.3 -1.6**
SONM	**Songino Array**	**48.39**	**342**	P	**P**	**09 37 14.9 -0.9**
	comp=Z,1.9nm,0.7s,baz=150,slow=9.5,SNR=6.3					
SONM				PcP	**PcP**	**09 38 42.5 +1.4**
	comp=Z,1.1nm,0.6s,baz=156,slow=4.5,SNR=4.5					
SONM				LR	LR	10 01 27.0
	comp=Z,58nm,19.0s,baz=324,slow=41					
	comp=Z,1.9nm,0.7s					
PEA0B	**Petropavlovsk-**	**56.85**	**22**	P	**P**	**09 38 18.0 -0.1**
PETK	**Petropavlovsk-**	**56.85**	**22**	P	**P**	**09 38 18.1 +0.1**
PETK	**Petropavlovsk-**	**56.85**	**22**	P	**P**	**09 38 20.6 +2.5**
	comp=Z,3.8nm,0.7s,baz=197,slow=4.5,SNR=4.4					
	comp=Z,3.8nm,0.7s					
MK31	**Makanchi Array**	**58.34**	**326**	P	**P**	**09 38 28.6 -0.1**
MK31				IAmb	IAmb	09 38 30.0
	comp=Z,2.9nm,0.5s					
MKAR	**Makanchi Array**	**58.34**	**326**	P	**P**	**09 38 28.6 -0.1**
	comp=Z,3.8nm,0.4s,baz=122,slow=8.2,SNR=56					
MKAR				PcP	**PcP**	**09 39 19.4 +0.6**
	comp=Z,5.0nm,0.8s,baz=126,slow=4.6,SNR=14					
	comp=Z,3.8nm,0.4s					
MAKZ	**Makanchi**	**58.53**	**326**	P	**P**	**09 38 29.7 -0.2**
MAKZ				IAmb	IAmb	09 38 31.5
	comp=Z,3.9nm,0.5s					
LBZ	**Lake Benmore**	**60.89**	**145**	P	**P**	**09 38 45.2 -1.0**
ARSB	**Arslanbob**	**61.45**	**317**	P	**P**	**09 38 50.0 -0.2**
ZAA0	**Zalesovo Array**	**61.53**	**334**	P	**P**	**09 38 50.0 -0.2**
ZALV	**Zalesovo Beam**	**61.53**	**334**	P	**P**	**09 38 49.0 -1.2**
ZALV	**Zalesovo Beam**	**61.53**	**334**	P	**P**	**09 38 48.8 -1.5**
	comp=Z,1.1nm,0.4s,baz=106,slow=4.8,SNR=5.1					
	comp=Z,1.1nm,0.4s					
GAR	**Garm**	**62.44**	**313**	P	**P**	**09 38 56.4 -0.4**
KURBB	**Kurchatov Arra**	**62.57**	**328**	P	**P**	**09 38 57.1 -0.2**
	comp=Z,5.1nm,0.5s,baz=127,slow=6.3,SNR=36					
KURBB				PcP	**PcP**	**09 39 35.7 0.0**
	comp=Z,0.7nm,0.8s,baz=124,slow=4.3,SNR=4.1					
	comp=Z,5.1nm,0.5s					
KURK	**Kurchatov**	**62.58**	**328**	P	**P**	**09 38 57.2 -0.2**
KKAR	**Karatay Array**	**63.84**	**318**		**P**	**09 39 05.7 -0.2**
BVAR	**Borovoye Array**	**68.14**	**327**	P	**P**	**09 39 33.3 0.0**
	comp=Z,3.8nm,0.9s,baz=147,slow=8.1,SNR=8.6					
	comp=Z,3.8nm,0.9s					
BRVK	**Borovoye**	**68.22**	**327**	P	**P**	**09 39 34.0 +0.3**
BRVK				IAmb	IAmb	09 39 34.5
	comp=Z,4.6nm,0.9s					
TIXI	**Tiksi**	**69.17**	**1**	P	**P**	**09 39 39.7 +0.4**
TIXI				IAmb	IAmb	09 39 40.8
	comp=Z,3.6nm,0.8s					
NRIK	**Noril'sk**	**71.59**	**346**	P	**P**	**09 39 55.5 +1.4**
NRIK	**Noril'sk**	**71.59**	**346**	P	**P**	**09 39 55.4 +1.3**
	comp=Z,13nm,0.8s,baz=125,slow=6.9,SNR=25					
	comp=Z,13nm,0.8s					
ABKAR	**Akbulak array**	**72.84**	**321**	P	**P**	**09 40 01.6 -0.3**
AKTO	**Aktyubinsk**	**74.37**	**322**	P	**P**	**09 40 11.0 +0.1**
	comp=Z,5.7nm,0.7s,baz=100,slow=7.0,SNR=20					
	comp=Z,5.7nm,0.7s					
ARTI	**Arti**	**75.85**	**328**	P	**P**	**09 40 18.6 -0.7**
	comp=Z,3.3nm,0.5s,baz=3.4,slow=4.8,SNR=3.9					
	comp=Z,3.3nm,0.5s					

L16K	**Owhat River**	**80.50**	**28**	P	**P**	**09 40 44.4 -0.5**
L16K				IAmb	IAmb	09 40 57.3
	comp=Z,20nm,1.5s					
RAYN	**Ar Rayn**	**80.51**	**293**	P	**P**	**09 40 45.5 -0.3**
VOI	**Vohitsoka**	**81.07**	**248**	P	**P**	**09 40 49.5 +0.6**
VOI				IAmb	IAmb	09 40 50.1
	comp=Z,9.6nm,0.8s					
MAW	**Mawson**	**82.33**	**200**	P	**P**	**09 40 55.8 +1.5**
	comp=Z,2.3nm,0.8s,baz=61,slow=10,SNR=4.9					
	comp=Z,2.3nm,0.8s					
G19K	**Purcell Mounta**	**82.45**	**24**	P	**P**	**09 40 56.7 +1.6**
G19K				IAmb	IAmb	09 40 57.6
	comp=Z,7.9nm,1.2s					
D19K	**Kuna River**	**82.55**	**21**	P	**P**	**09 40 57.9 +2.3**
D19K				IAmb	IAmb	09 40 59.4
	comp=Z,4.8nm,0.7s					
H19K	**Roundabout Mou**	**82.59**	**24**	P	**P**	**09 40 56.5 +0.7**
H19K				IAmb	IAmb	09 41 00.2
	comp=Z,12nm,1.0s					
E19K	**Redstone River**	**82.66**	**22**	P	**P**	**09 40 56.9 +0.8**
E19K				IAmb	IAmb	09 41 00.9
	comp=Z,9.2nm,0.9s					
J19K	**Poorman**	**82.67**	**26**	P	**P**	**09 40 57.5 +1.2**
J19K				IAmb	IAmb	09 41 00.5
	comp=Z,16nm,1.1s					
GEVA	**Gevas**	**83.13**	**308**	P	**P**	**09 40 58.4 -1.0**
GEVA				IAmb	IAmb	09 41 01.8
	comp=Z,8.6nm,0.8s					
M20K	**Styx River**	**83.49**	**28**	P	**P**	**09 41 01.9 +1.3**
IMAR	**Indian Mountai**	**83.77**	**24**	P	**P**	**09 41 04.0 +2.2**
E21K	**Killik River**	**84.04**	**21**	P	**P**	**09 41 03.6 +0.4**
E21K				IAmb	IAmb	09 41 07.5
	comp=Z,6.4nm,0.8s					
H21K	**Melozitna River**	**84.11**	**24**	P	**P**	**09 41 04.4 +0.8**
H21K				IAmb	IAmb	09 41 07.8
	comp=Z,5.2nm,1.1s					
B22K	**Teshekpuk Lake**	**84.51**	**20**	P	**P**	**09 41 08.1 +2.6**
D22K	**Ayikyak River**	**84.57**	**21**	P	**P**	**09 41 07.0 +1.1**
D22K				IAmb	IAmb	09 41 10.1
	comp=Z,4.1nm,0.9s					
SUA	**Susitna One**	**84.58**	**29**	P	**P**	**09 41 06.5 +0.3**
E22K	**Anaktuvuk Pass**	**84.80**	**22**	P	**P**	**09 41 07.6 +0.5**
E22K				IAmb	IAmb	09 41 11.2
	comp=Z,9.2nm,1.0s					
D23K	**Nanushuk River**	**85.30**	**21**	P	**P**	**09 41 12.7 +3.2**
D23K				IAmb	IAmb	09 41 14.5
	comp=Z,5.9nm,0.9s					
E23K	**Chandalar**	**85.61**	**22**	P	**P**	**09 41 13.0 +1.8**
E23K				IAmb	IAmb	09 41 31.3
	comp=Z,11nm,1.5s					
TOLK	**Toolik Lake Re**	**85.67**	**21**	P	**P**	**09 41 14.1 +2.7**
TOLK				IAmb	IAmb	09 41 16.6
	comp=Z,4.0nm,1.1s					
KNK	**Knik Glacier**	**85.67**	**29**	P	**P**	**09 41 13.0 +1.5**
D24K	**Happy Valley**	**85.98**	**21**	P	**P**	**09 41 12.4 -0.5**
D24K				IAmb	IAmb	09 41 17.7
	comp=Z,6.8nm,0.8s					
E24K	**Your Creek**	**86.03**	**22**	P	**P**	**09 41 14.0 +0.7**
E24K				IAmb	IAmb	09 41 19.8
	comp=Z,5.1nm,1.4s					
H24K	**Noodor Dome**	**86.15**	**24**	P	**P**	**09 41 12.9 -1.0**
H24K				IAmb	IAmb	09 41 44.9
	comp=Z,5.0nm,1.4s					
F24K	**Squaw Lake**	**86.23**	**23**	P	**P**	**09 41 17.2 +3.0**
ILAR	**Eielson Array**	**86.53**	**25**	P	**P**	**09 41 16.4 +0.8**
	comp=Z,0.3nm,0.5s,baz=249,slow=5.1,SNR=5.1					
	comp=Z,0.3nm,0.5s					
D25K	**Kavik River**	**86.86**	**21**	P	**P**	**09 41 19.2 +1.9**
D25K				IAmb	IAmb	09 41 20.6
	comp=Z,3.4nm,1.1s					
BMAR	**Burnt Mountain**	**87.50**	**23**	P	**P**	**09 41 22.5 +2.1**
J26L	**Joseph Creek**	**87.96**	**26**	P	**P**	**09 41 23.8 +1.2**
E27K	**Coleen River**	**88.61**	**22**	P	**P**	**09 41 28.0 +2.3**
E27K				IAmb	IAmb	09 41 28.9
	comp=Z,3.5nm,1.0s					
K27K	**Chicken**	**88.62**	**26**	P	**P**	**09 41 26.1 +0.4**
K27K				IAmb	IAmb	09 41 50.8
	comp=Z,7.4nm,1.5s					
BCAR	**Beaver Creek A**	**88.80**	**27**	P	**P**	**09 41 26.6 -0.1**
F28M	**Old Crow**	**89.30**	**22**	P	**P**	**09 41 29.7 +0.8**
F28M				IAmb	IAmb	09 42 11.9
	comp=Z,2.0nm,0.6s					
E28M	**Babbage River**	**89.35**	**21**	P	**P**	**09 41 29.2 +0.2**
E28M				IAmb	IAmb	09 41 31.8
	comp=Z,2.5nm,0.9s					
M29M	**Somme Creek**	**90.37**	**28**	P	**P**	**09 41 34.7 +0.6**
BR131	**Keskin Array S**	**90.45**	**310**	P	**P**	**09 41 35.2 +0.2**
BR131				IAmb	IAmb	09 41 55.9
	comp=Z,6.1nm,1.3s					
BRTR	**Keskin Array B**	**90.45**	**310**	P	**P**	**09 41 34.9 -0.1**
BRTR	**Keskin Array B**	**90.45**	**310**	P	**P**	**09 41 34.3 -0.7**
	comp=Z,1.0nm,0.8s,baz=142,slow=3.1,SNR=5.1					
	comp=Z,1.0nm,0.8s					
K29M	**Barlow Dome**	**90.64**	**26**	P	**P**	**09 41 36.2 +0.9**
K29M				IAmb	IAmb	09 41 56.2
	comp=Z,5.5nm,1.4s					
ARCES	**ARCESS Array B**	**91.50**	**340**	P	**P**	**09 41 38.6 -0.5**
ARCES				IAmb	IAmb	09 41 45.5
	comp=Z,5.0nm,1.1s					
ARCES	**ARCESS Array B**	**91.50**	**340**	P	**P**	**09 41 38.9 -0.2**
	comp=Z,3.9nm,0.7s,baz=73,slow=9.5,SNR=4.6					
	comp=Z,3.9nm,0.7s					
G31M	**Satah River**	**91.55**	**23**	P	**P**	**09 41 40.4 +1.2**
G31M				IAmb	IAmb	09 41 41.2
	comp=Z,2.3nm,0.8s					
F31M	**Tsiigehtchic**	**91.66**	**22**	P	**P**	**09 41 41.1 +1.3**
QSPA	**South Pole Qui**	**92.31**	**180**	P	**P**	**09 41 44.4 +1.4**
QSPA				IAmb	IAmb	09 41 52.9
	comp=Z,5.7nm,1.4s					
AKASG	**Malin Array Be**	**92.58**	**321**	P	**P**	**09 41 44.9 +0.5**
AKASG				IAmb	IAmb	09 41 45.1
	comp=Z,3.4nm,1.1s					
AKASG	**Malin Array Be**	**92.58**	**321**	P	**P**	**09 41 44.2 -0.2**
	comp=Z,3.5nm,0.8s,baz=67,slow=5.1,SNR=13					
	comp=Z,3.5nm,0.8s					
AKBB	**Malin Array Si**	**92.58**	**321**	P	**P**	**09 41 44.7 +0.3**
FIA1	**FINESS Array S**	**92.74**	**332**	P	**P**	**09 41 45.8 +0.9**
FINES	**FINESS Array B**	**92.75**	**332**	P	**P**	**09 41 44.9 0.0**
FINES	**FINESS Array B**	**92.75**	**332**	P	**P**	**09 41 44.4 -0.5**
	comp=Z,4.9nm,0.8s,baz=88,slow=7.1,SNR=6.8					
	comp=Z,4.9nm,0.8s					
FARO	**Faro, Yukon**	**92.76**	**27**	P	**P**	**09 41 45.8 +0.7**
FARO				IAmb	IAmb	09 41 48.3
	comp=Z,3.8nm,0.9s					
MNK	**Minsk**	**92.89**	**325**	*i* P	**P**	**09 41 44.0 -1.7**
	comp=E,25nm,0.8s					
MNK				*i* P	**P**	**09 41 44.0 -1.7**
	comp=N,17nm,0.7s					
MNK				*i* P	**P**	**09 41 44.0 -1.7**
	comp=Z,11nm,0.7s,baz=82					
MNK				*i* pP	pP	09 42 03.4 -4.7
MNK				*i* PP	**PP**	**09 45 27.0 -2.0**
MNK				*i* PPP	PPP	09 47 27.0
MNK				*i* S	**SKSac**	**09 52 11.1 -0.9**
MNK				*i* sS	**ScS**	**09 52 45.9 -0.3**
MNK				*i* PS	**PS**	**09 54 05.6 -1.7**
MNK				*i* SS	**SS**	**09 59 00.1 +0.6**
MNK				*i* SSS	SSS	10 02 40.3
MNK				*i* LQ	LQ	10 17 10.5
MNK				*i* LR	LR	10 22 56.4
MNK				*i* LRM	MLR	10 24 12.0
	comp=N,113nm,17.4s					
MNK				*i* LRM	MLR	10 24 20.7
	comp=E,98nm,16.0s					
MNK				*i* LRM	MLR	10 24 32.8
	comp=Z,83nm,14.3s					
BURAR	**Bucovina Array**	**95.63**	**318**	P	**P**	**09 41 58.6 0.0**
BUR08	**Bucovina Ar. S**	**95.64**	**318**	P	**P**	**09 41 58.4 -0.3**
SCHQ	**Schefferville**	**121.96**	**9**	PKPdf	**PKiKP**	**09 47 27.9 +0.9**
TORD	**Torodi Ar. Bea**	**122.81**	**287**	PKPdf	**PKiKP**	**09 47 29.6 -0.2**
TORD	**Torodi Ar. Bea**	**122.81**	**287**	PKP	**PKiKP**	**09 47 30.4 +0.6**
	comp=Z,1.2nm,0.8s,baz=45,slow=2.6,SNR=6.9					
TXAR	**Lajitas Array**	**122.83**	**53**	PKP	**PKiKP**	**09 47 30.7 +1.1**
	comp=Z,0.3nm,0.9s,baz=276,slow=2.4,SNR=3.4					
MG04	**Isla Riesco**	**127.59**	**166**	PKPdf	**PKiKP**	**09 47 38.6 +0.5**
MT02	**Curacav**	**145.27**	**154**	PKPbc	**PKPdf**	**09 48 11.2 +0.4**
CO03	**El Pedregal**	**147.51**	**152**	PKPab	**PKPab**	**09 48 19.9 +0.3**
CO01	**Juntas del Tor**	**148.52**	**152**	PKPbc	**PKPbc**	**09 48 20.5 +0.2**
AC05	**El Transito**	**149.38**	**151**	PKPab	**PKPab**	**09 48 25.5 -1.7**

*THE **16** 09:29:17.0, 37.°60N×20.°70E, h10^{km}↕3^{km}, ML2.8/4, Error ellipse: s-maj=4.1km s-min=1.1km az=68.0*
*ATH **16** 09:29:17.0, 37.°60N×20.°65E, h12^{km}±1^{km}, ML2.8/14,*

Manual Solution by N.Liadopoulou This location: 2020/07/01 05:04:33 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km

ISC 16 09:29:17.1±1.6, 37.°61N±0.°06×20.°67E±0.°06, h10^{km}±7^{km}, n31, σ0.°56/45, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.13**	**65**	P	**Pg**	**09 29 20.4**	**+0.4**
KRI1				S	**Sg**	**09 29 21.8**	**-0.3**
LTHK	**Lithakia**	**0.17**	**52**	P	**Pg**	**09 29 20.7**	**+0.1**
LTHK				S	**Sg**	**09 29 22.6**	**-0.5**
LTHK	**Lithakia**	**0.17**	**52**	P	**Pg**	**09 29 20.7**	**+0.1**
LTHK				S	**Sg**	**09 29 22.7**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.47**	**10**	P	**Pg**	**09 29 26.4**	**+0.1**
RTZL				S	**Sg**	**09 29 33.7**	**+1.1**
PSDA	**Pessada-Kefalo**	**0.51**	**352**	P	**Pg**	**09 29 27.1**	**+0.1**
PSDA				S	**Sg**	**09 29 34.7**	**+0.9**
	2μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.51**	**352**	P	**Pg**	**09 29 27.3**	**+0.2**
PSDA				S	**Sg**	**09 29 34.6**	**+0.9**
VLS	**Valsamata**	**0.57**	**353**	P	**Pg**	**09 29 28.0**	**-0.2**
VLS				S	**Sg**	**09 29 36.3**	**+0.6**
	1μm,0.2s						
VLS	**Valsamata**	**0.57**	**353**	P	**Pg**	**09 29 28.0**	**-0.2**
VLS				S	**Sg**	**09 29 36.4**	**+0.7**
LXRA	**Lixouri, Kepha**	**0.62**	**343**	P	**Pg**	**09 29 29.6**	**+0.6**
LXRA				S	**Sg**	**09 29 38.2**	**+1.0**
DMLN	**Damoulianata-K**	**0.67**	**340**	P	**Pg**	**09 29 30.5**	**+0.4**
DMLN				S	**Sb**	**09 29 40.2**	**-0.2**
	780nm,0.4s						
DMLN	**Damoulianata-K**	**0.67**	**340**	P	**Pg**	**09 29 30.1**	**+0.1**
DMLN				S	**Sb**	**09 29 39.9**	**-0.5**
RLS	**Riolos of Patr**	**0.77**	**54**	P	**Pb**	**09 29 32.3**	**-0.3**
AMT	**Artemida-Makis**	**0.83**	**95**	P	**Pb**	**09 29 33.9**	**+0.3**
FSK	**Fiskardo**	**0.85**	**354**	P	**Pg**	**09 29 32.7**	**-0.8**
FSK				S	**Sb**	**09 29 46.6**	**+1.0**
FSK	**Fiskardo**	**0.85**	**354**	P	**Pg**	**09 29 32.7**	**-0.8**
DRO	**Drossia**	**0.89**	**67**	P	**Pb**	**09 29 34.9**	**+0.2**
EVGI	**Lefkada island**	**1.01**	**359**	P	**Pg**	**09 29 35.7**	**-0.9**
EVGI				S	**Sn**	**09 29 51.8**	**+0.1**
	360nm,0.2s						
EVGI	**Lefkada island**	**1.01**	**359**	P	**Pg**	**09 29 35.6**	**-0.9**
DRAG	**Dragano-Lefkad**	**1.08**	**356**	P	**Pb**	**09 29 37.1**	**-0.8**
ITM	**Ithomi**	**1.09**	**113**	P	**Pn**	**09 29 38.6**	**+0.1**
ITM				S	**Sn**	**09 29 53.3**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.10**	**1**	P	**Pb**	**09 29 37.5**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.10**	**1**	P	**Pb**	**09 29 37.7**	**-0.6**
UPR	**University Cam**	**1.11**	**52**	P	**Pg**	**09 29 38.5**	**+0.1**
PYL	**PYLOS**	**1.11**	**129**	P	**Pn**	**09 29 38.5**	**-0.3**
LKD2	**Lefkada island**	**1.18**	**359**	P	**Pg**	**09 29 39.9**	**+0.1**
TSLK	**Tsoukalades, L**	**1.22**	**359**	P	**Pn**	**09 29 40.1**	**-0.1**
KLV	**Kalavryta, Ach**	**1.25**	**69**	P	**Pg**	**09 29 41.0**	**-0.1**
EFP	**Efpalio**	**1.27**	**50**	P	**Pb**	**09 29 41.0**	**-0.2**
GUR	**Goura**	**1.36**	**76**	P	**Pb**	**09 29 42.7**	**-0.1**
ANX	**Ano Chora**	**1.39**	**45**	P	**Pn**	**09 29 42.4**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.81**	**39**	P	**Pn**	**09 29 48.9**	**+0.4**

IDC 16 09:35:00.7±4.5, 53.°71N×88.°30E, h0^{km}, mbtmp2.7/3, ML2.1/3, Error ellipse: s-maj=45.3km s-min=30.1km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**2.07**	**278**	Pn	Pn	09 35 36.2	-0.4
	0.8nm,0.3s,baz=92,slow=14,SNR=19						
ZALV				Sn	Sb	09 36 04.7	-0.7
	1.1nm,0.3s,baz=94,slow=21,SNR=20						
	5.2nm,0.6s						
KURBB	**Kurchatov Arra**	**6.76**	**247**	Pn	Pn	09 36 42.1	+1.1
	0.1nm,0.3s,baz=63,slow=14,SNR=2.9						
KURBB				Lg	Lg	09 38 33.7	
	0.1nm,0.3s,baz=50,slow=33,SNR=2.0						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.92**	**211**	Pn	Pn	09 36 57.7	+0.7
	0.1nm,0.3s,baz=25,slow=18,SNR=2.1						
	0.2nm,0.6s						
I34MN	**SONGINO INFRAS**	**12.89**	**110**	I	I	10 53 40.0	
	baz=306,slow=320,SNR=0.4						

*CATAC **16** 09:39:22.7±0.5, 9.°47N×84.°19W, h15^{km}±4^{km}, ML3.6*
*UCR **16** 09:39:23.6±1.0, 9.°52N×84.°16W, h36^{km}±2^{km}, MW4.2*

ISC 16 09:39:24.0±1.0, 9.°49N±0.°04×84.°17W±0.°04, h32^{km}±6^{km}, n61, σ0.°79/76, 3C-43D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLNJ	**Naranjito**	**0.07**	**104**	*e*P	**Pb**	**09 39 29.3**	**-0.2**
LLNJ				*e*S	**Sb**	**09 39 34.1**	**+0.9**
RAZU	**San Marcos de**	**0.22**	**42**	*e*P	**Pb**	**09 39 30.4**	**-0.6**
RAZU				*e*S	**Sb**	**09 39 35.7**	**+0.1**
ABE2	**San Pablo**	**0.24**	**29**

COVE	**Coope Vega, Sa**	1.24	350	*i* P		**Pn**	09 39 45.0 -0.2
COVE				*i* S		**Sn**	09 40 02.6 +1.7
COVE				IAML			09 40 12.1
	comp=Z,2µm,1.0s						
BRIBI	**Bribri**	1.31	84	⇓*e*P		**Pn**	09 39 47.2 +1.0
CUI	**Cuipilapa**	1.52	320	⇓*e*P		**Pn**	09 39 49.8 +0.7
VERA	**Finca Concepci**	1.52	333	⇑*e*P		**Pn**	09 39 49.4 +0.4
CDITO	**Canoas**	1.57	125	*i* P		**Pn**	09 39 49.7 -0.1
CDITO				IAML			09 40 31.0
	comp=Z,540nm,1.0s						
BRU2	**Volcan**	1.62	115	*i* P		**Pn**	09 39 51.4 +0.8
BRU2				IAML			09 40 35.9
	comp=Z,520nm,1.0s						
ACON	**Acoyapa**	2.65	338	*i* P		**Pn**	09 40 04.8 +0.2
ACON				IAML			09 40 06.2
	comp=Z,230nm,1.0s						
ACON	**Acoyapa**	2.65	338	⇓*e*P		**Pn**	09 40 04.9 +0.2
ESPN	**Las Esperanzas**	2.69	357	*i* P		**Pn**	09 40 05.3 +0.1
ESPN				IAML			09 40 56.4
	comp=Z,200nm,1.0s						
MACN	**El Madrono**	3.84	320	*i* P		**Pn**	09 40 21.3 +0.2
MACN				IAML			09 40 32.7
	comp=Z,23nm,1.0s						
MACN				*i* S		**Sn**	09 41 07.0 +1.8
LIMN	**Finca el Limon**	4.15	329	*i* P		**Pn**	09 40 26.8 +1.5
LIMN				IAML			09 41 45.8
	comp=Z,59nm,1.0s						
RCPN	**Sur Rio San Ju**	4.43	335	*i* P		**Pn**	09 40 29.5 +0.3
RCPN				IAML			09 42 58.6
	comp=Z,0.3nm,1.0s						

*IDC **16** 09:43:01.3±1.2,56°.72S×25°.40W,h0km,mb3.8/3, mbtmp3.7/4,ML3.5/1,Error ellipse: s-maj=51.5km s-min=26.0km az=72.0*

ISC 16 09:43:02.7±1.1,56°.8S±0°.2×25°.4W±0°.3,h10km,n9,σ0s48/9, mb3.7/3,4C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	15.77	159	⇑P	**Pn**	09 46 44.5	0.0
	comp=Z,1.0nm,0.3s						
VNA3	**Neumayer Olymp**	16.00	161	⇑P	**Pn**	09 46 47.2	-0.3
	comp=Z,1.4nm,0.5s						
VNA2	**Neumayer--Watz**	16.17	159	⇑P	**Pn**	09 46 49.3	-0.3
	comp=Z,0.7nm,0.3s,baz=325,slow=16						
SNAA	**Sanae**	17.70	156	⇑P	**P**	09 47 09.9	+0.2
	comp=Z,14nm,0.4s						
SNAA	**Sanae**	17.70	156	P	**P**	09 47 09.6	-0.2
	comp=Z,0.2nm,0.3s,baz=330,slow=14,SNR=12						
	comp=Z,0.5nm,0.4s						
QSPA	**South Pole Qui**	33.49	180	P	**P**	09 49 42.3	+0.5
	comp=Z,0.6nm,0.6s,baz=185,slow=3.4,SNR=12						
	comp=Z,0.6nm,0.6s						
LPAZ	**La Paz**	51.59	304	P	**P**	09 52 09.8	+0.1
	comp=Z,2.7nm,0.7s,baz=173,slow=5.7,SNR=13						
	comp=Z,2.7nm,0.7s						
TORD	**Torodi Ar. Bea**	73.20	28	P	**P**	09 54 33.8	+0.3
	comp=Z,0.4nm,0.7s,baz=206,slow=5.6,SNR=2.2						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	151.33	310	PKPbc	**PKiKP**	10 02 54.5	-0.9
	comp=Z,0.4nm,0.8s,baz=126,slow=1.2,SNR=2.8						

*IDC **16** 09:44:04.8±0.5,49°.92N×179°.93W,h0km,mb4.4/28, mbtmp4.4/32,ML4.4/4,MS3.6/28,Error ellipse: s-maj=15.8km s-min=11.8km az=178.0*

*NEIC **16** 09:44:07.0±1.4,50°.01N±0°.06×179°.89W±0°.08,h10km±1km, mb4.6/274,ML4.2(AEIC),Error ellipse: s-maj=10.9km s-min=8.6km az=187.0*

*AEIC **16** 09:44:10.7±2.1,49°.97N±0°.09×179°.86E±0°.10,h12km±4km, Error ellipse: s-maj=13.9km s-min=8.5km az=163.0*

ISC 16 09:44:07.5±0.7,49°.96N±0°.06×179°.89W±0°.04,h16km±3km, n368,σ0s94/311,mb4.6/161,MS3.6/26,4D,South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GASW	**Gareloi Southw**	1.93	19		**Pn**	09 44 39.4	-0.2
GALAA	**Gareloi Lava P**	1.93	21		**Pn**	09 44 39.6	0.0
GALAA					**Sn**	09 45 02.6	-1.0
GAEA	**Gareloi East**	1.96	21		**Pn**	09 44 40.0	0.0
GANE	**Gareloi Northe**	1.99	20		**Pn**	09 44 40.1	-0.3
TASE	**Tanaga Southea**	2.21	31		**Pn**	09 44 43.8	+0.3
TAFP	**Tanaga Falls P**	2.28	31		**Pn**	09 44 44.6	+0.2
TAFP					**Sn**	09 45 11.0	-1.2
KIWB	**Kanaga Island**	2.56	41		**Pn**	09 44 47.7	-0.5
KICM	**Kanaga Island**	2.59	40		**Pn**	09 44 49.4	+0.8
KIRH	**Kanaga Island**	2.62	41		**Pn**	09 44 49.8	+0.7
ADK	**Adak**	2.79	45		**Pn**	09 44 50.8	-0.6
ADK	**Adak**	2.79	45		**Sn**	09 45 23.0	-1.7
ADK	**Adak**	2.79	45	P	**Pn**	09 44 51.3	-0.1
GSCK	**Great Sitkin C**	3.12	48		**Pn**	09 44 56.5	+0.6
GSTD	**Great Sitkin T**	3.16	47		**Pn**	09 44 57.4	+0.9
GSTD					**Sn**	09 45 31.9	-2.0
GSMY	**Great Sitkin M**	3.19	48		**Pn**	09 44 57.4	+0.5
GSTR	**Great Sitkin T**	3.22	47		**Pn**	09 44 56.8	-0.6
ATKA	**Atka Island**	4.23	56	Pn	**Pn**	09 45 10.5	-0.6
ATKA					**Sn**	09 45 56.9	-3.2
ATKA	**Atka Island**	4.23	56	P	**Pn**	09 45 11.1	0.0
KOKL	**Mount Kliuchef**	4.29	54		**Pn**	09 45 13.0	+1.0
KOSE	**Korovin Southe**	4.38	55		**Pn**	09 45 14.5	+1.3
SHEM	**Shemya Is, Ala**	4.68	309	Pn	**Pn**	09 45 16.5	-0.7
	18nm,0.3s,baz=136,slow=2.3,SNR=8.5						
SHEM				Sn	**Sn**	09 46 06.2	-4.9
	26nm,0.3s,baz=298,slow=19,SNR=4.5						
SHEM				LR	LR	09 47 08.4	
	comp=Z,330nm,20.5s,baz=105,slow=39						
	40nm,0.3s						
CLCO	**Concord Point,**	6.96	62		**Pn**	09 45 49.9	+1.2
NIKH	**Nikolski High**	7.52	62		**Pn**	09 45 57.1	+0.8
NIKH	**Nikolski High**	7.52	62	P	**Pn**	09 45 57.1	+0.8
OKCE	**Okmok Cone E**	8.07	60		**Pn**	09 46 04.9	+1.1
OKFG	**Magazine Ridge**	8.20	61		**Pn**	09 46 06.4	+0.8
MREP	**Makushin Rep't**	8.99	60		**Pn**	09 46 17.4	+0.9
MSW	**Makushin Switc**	9.01	59		**Pn**	09 46 17.3	+0.6
MTBL	**Makushin Table**	9.09	59		**Pn**	09 46 18.7	+0.9
UNV	**Unalaska Valle**	9.14	60		**Pn**	09 46 19.2	+0.7
UNV	**Unalaska Valle**	9.14	60	P	**Pn**	09 46 19.1	+0.7
SPIA	**Saint Paul Isl**	9.22	35		**Pn**	09 46 19.4	-0.1
SPIA	**Saint Paul Isl**	9.22	35	P	**Pn**	09 46 21.0	+1.5
AKRB	**Akutan Reef Bi**	9.48	59		**Pn**	09 46 24.3	+1.2
AKMO	**Akutan Morgan**	9.50	59		**Pn**	09 46 24.5	+1.1
LVA	**Lava Point**	9.51	58	Pn	**Pn**	09 46 23.9	+0.4
ZRO	**Akutan Zero**	9.52	59		**Pn**	09 46 24.6	+0.9
AKV	**Akutan Volcano**	9.54	59		**Pn**	09 46 25.1	+1.1
AKGG	**Akutan Green G**	9.54	58		**Pn**	09 46 25.2	+1.2
FALS	**False Pass**	11.18	58	P	**Pn**	09 46 46.3	-0.1
S12K	**Black Hills**	12.20	55	Pn	**Pn**	09 47 00.4	0.0
CNBA	**Chernabura Isl**	13.30	61	Pn	**Pn**	09 47 13.5	-1.8
CHNA	**Chernabura Isl**	13.30	61	P	**Pn**	09 47 13.1	-2.2
PET	**Petropavlovsk**	13.71	291	Pn	**Pn**	09 47 20.6	-0.3
PET	**Petropavlovsk**	13.71	291	P	**Pn**	09 47 23.6	+2.7
	180nm,1.7s						
O14K	**Tigyukauivet M**	14.20	42	Pn	**Pn**	09 47 29.1	+1.5
PEA0B	**Petropavlovsk-**	14.29	291	Pn	**Pn**	09 47 29.0	+0.1
PETK	**Petropavlovsk-**	14.29	291	Pn	**Pn**	09 47 30.1	+1.2
PETK	**Petropavlovsk-**	14.29	291	Pn	**Pn**	09 47 29.4	+0.6
	2.5nm,0.3s,baz=92,slow=20,SNR=66						
PETK				Sn	Sn	09 49 57.8	-9.0
	0.2nm,0.3s,baz=106,slow=21,SNR=1.0						
	3.8nm,0.3s						
M14K	**Bethel**	14.79	36	Pn	**Pn**	09 47 35.7	+0.1
N15K	**Kwethluk River**	15.20	40	Pn	**Pn**	09 47 39.2	-1.9
N15K				IAmb	IAmb	09 47 49.5	
	comp=Z,20nm,0.9s						
PLK4	**Peulik 4**	15.82	52	Pn	**Pn**	09 47 49.6	+0.3
PLK4				IAmb	IAmb	09 48 13.3	
	comp=Z,74nm,1.3s						
K15K	**Wolf Creek Mou**	15.96	32	Pn	**Pn**	09 47 51.7	+0.7
K15K				IAmb	IAmb	09 47 59.8	
	comp=Z,40nm,1.1s						
L16K	**Owhat River**	16.34	36	Pn	**Pn**	09 47 55.5	-0.3
ACHA	**Angle Creek He**	16.53	51	Pn	**Pn**	09 47 57.8	-0.6
N17K	**Nushagak Hills**	16.62	42	Pn	**Pn**	09 47 59.2	-0.2
J16K	**Anvik River**	16.95	31	Pn	**Pn**	09 48 02.3	-1.2
O18K	**Koktuh Hills**	17.20	45	Pn	**Pn**	09 48 04.8	-1.9
N18K	**Kilae Creek**	17.25	42	Pn	**Pn**	09 48 05.0	-2.4
OHAK	**Old Harbor**	17.30	55	Pn	**Pn**	09 48 07.0	-0.9
OHAK				IAmb	IAmb	09 48 34.5	
	comp=Z,108nm,1.4s						
K17K	**Iditarod**	17.38	35	Pn	**Pn**	09 48 08.0	-1.0
J17K	**VABM Dome**	17.54	32		**P**	09 48 11.4	-0.5
L18K	**Granite Mounta**	17.71	37		**Pn**	09 48 12.5	-0.5
KDAK	**Kodiak Island**	17.80	53	P	**Pn**	09 48 11.3	-2.8
	comp=Z,9.4nm,0.9s,baz=295,slow=1.9,SNR=7.3						
KDAK				LR	LR	09 55 08.1	
	comp=Z,257nm,20.7s,baz=93,slow=37						
N19K	**Bonanza Creek**	17.93	43		**Pn**	09 48 15.6	-0.3
TTA	**Tatalina**	18.36	36	P	**P**	09 48 19.8	-1.4
J16K	**Innoko River**	18.41	34		**P**	09 48 19.5	-2.1
L19K	**White Mountain**	18.42	39	P	**P**	09 48 20.8	-0.9
M19K	**Big River Lodg**	18.47	40	P	**P**	09 48 21.9	-0.3
M20K	**Styx River**	18.99	41	P	**P**	09 48 27.7	-0.4
J19K	**Poorman**	19.12	34	P	**Pn**	09 48 29.9	-0.3
MA2	**Magadan**	19.31	311	P	**Pn**	09 48 32.5	0.0
	comp=Z,0.4nm,0.3s,baz=92,slow=13,SNR=4.6						
MA2				LR	LR	09 57 03.9	
	comp=Z,60nm,18.3s,baz=100,slow=40						
	comp=Z,13nm,0.9s						
G18K	**Tagagawik**	19.38	27	P	**Pn**	09 48 32.8	-0.5
BILL	**Bilibino**	19.39	344	P	**P**	09 48 31.6	-0.7
BILL				IAmb	IAmb	09 48 37.3	
	comp=Z,52nm,1.2s						
SKT	**Skwentna**	19.71	42	P	**P**	09 48 36.0	+0.1
SKT				IAmb	IAmb	09 48 40.7	
	comp=Z,31nm,1.1s						
J20K	**Nowinta River**	19.75	34	P	**P**	09 48 36.4	+0.1
SUA	**Susitna One**	19.85	44	P	**P**	09 48 36.9	-0.6
SUA				IAmb	IAmb	09 49 00.2	
	comp=Z,36nm,1.4s						
SEY	**Seymchan**	19.88	321	P	**Pn**	09 48 39.1	-0.1
	comp=Z,0.3nm,0.3s,baz=118,slow=13,SNR=15						
	comp=Z,9.8nm,0.8s						
RDOG	**Red Dog Mine**	20.00	19		**P**	09 48 38.8	-0.2
RDOG				IAmb	IAmb	09 48 47.8	
	comp=Z,36nm,1.1s						
E18K	**Tukpahlearik C**	20.00	22	P	**P**	09 48 38.8	-0.1
CAST	**Castle Rocks**	20.14	38	P	**P**	09 48 39.8	-0.7
F19K	**Shaleruckik Mo**	20.30	25	P	**P**	09 48 41.6	-0.5
F19K				IAmb	IAmb	09 48 49.4	
	comp=Z,33nm,1.1s						
PMR	**Palmer**	20.62	44	P	**P**	09 48 45.8	+0.1
KTH	**Kantishna Hill**	20.66	38	P	**P**	09 48 45.7	-0.5
KTH				IAmb	IAmb	09 48 52.9	
	comp=Z,24nm,1.0s						
PWL	**Port Wells**	20.75	46		**P**	09 48 46.5	-0.5
PWL				IAmb	IAmb	09 48 52.6	
	comp=Z,20nm,1.0s						
GHO	**Glory Hole Cre**	20.77	44	P	**P**	09 48 47.3	-0.2
C18K	**Utukok River**	20.85	19	P	**P**	09 48 47.2	-1.0
C18K				IAmb	IAmb	09 48 52.6	
	comp=Z,24nm,1.0s						
KNK	**Knik Glacier**	20.86	45	P	**P**	09 48 48.3	-0.1
KNK				IAmb	IAmb	09 48 53.2	
	comp=Z,22nm,0.8s						
E19K	**Redstone River**	20.89	25	P	**P**	09 48 48.4	-0.2
E19K				IAmb	IAmb	09 48 53.2	
	comp=Z,19nm,0.9s						
BPAW	**Bear Paw Mtn.**	20.89	37	P	**P**	09 48 48.6	0.0
BPAW				IAmb	IAmb	09 48 55.7	
	comp=Z,26nm,0.8s						
IMAR	**Indian Mountai**	20.95	30	P	**P**	09 48 48.5	-0.7
F20K	**Avaraart Lake**	21.03	27	P	**P**	09 48 49.7	-0.3
SML	**Sawmill**	21.05	44	P	**P**	09 48 49.4	-1.1
SML				IAmb	IAmb	09 48 55.7	
	comp=Z,29nm,1.0s						
H21K	**Melozitna Rive**	21.07	32	P	**P**	09 48 50.5	0.0
G21K	**Allakaket**	21.35	29	P	**P**	09 48 52.6	-1.0
G21K				IAmb	IAmb	09 48 57.1	
	comp=Z,23nm,0.8s						
RND	**Reindeer**	21.43	39	P	**P**	09 48 54.6	+0.1
RND				IAmb	IAmb	09 48 59.9	
	comp=Z,13nm,0.7s						
D19K	**Kuna River**	21.43	22	P	**P**	09 48 54.5	0.0
D19K				IAmb	IAmb	09 48 58.9	
	comp=Z,25nm,0.8s						
SCM	**Sheep Creek Mo**	21.51	44	P	**P**	09 48 54.7	-0.7
SCM				IAmb	IAmb	09 49 00.7	
	comp=Z,38nm,1.0s						
C19K	**Lookout Ridge**	21.57	20	P	**P**	09 48 56.4	+0.5
F21K	**Alatna River**	21.80	28	P	**P**	09 48 58.7	+0.3
NEA2	**Nenana**	21.86	36	P	**P**	09 48 58.8	-0.2
NEA2				IAmb	IAmb	09 49 04.0	
	comp=Z,16nm,0.7s						
DHY	**Denali Highway**	21.92	41	P	**P**	09 48 58.9	-0.9
DHY				IAmb	IAmb	09 49 03.4	
	comp=Z,26nm,0.7s						
DHY					**S**	09 53 00.7	-0.4
KLU	**Klutina**	22.05	46	P	**P**	09 49 00.3	-0.8
M24K	**Tolsona, Glenn**	22.11	44	P	**P**	09 49 01.2	-0.7
RAGM	**Ragged Mountai**	22.37	49	P	**P**	09 49 03.0	-1.6
RAGM				IAmb	IAmb	09 49 35.4	
	comp=Z,39nm,1.2s						
CCB	**Clear Creek Bu**	22.38	37	P	**P**	09 49 03.1	-1.5
G23K	**Bananza Creek**	22.60	31	P	**P**	09 49 06.3	-0.6
G23K				IAmb	IAmb	09 49 11.4	
	comp=Z,17nm,1.1s						
HDA	**Harding Lake**	22.61	38	P	**P**	09 49 06.5	-0.5
N25K	**Chitina, Valde**	22.69	46	P	**P**	09 49 07.9	-0.2
N25K				IAmb	IAmb	09 49 11.5	
	comp=Z,45nm,1.4s						
IL31		22.79	37	P	**P**	09 49 08.1	-0.8
ILAR	**Eielson Array**	22.79	37	P	**P**	09 49 07.8	-1.1
ILAR	**Eielson Array**	22.79	37	P	**P**	09 49 07.5	-1.5
	comp=Z,0.8nm,0.5s,baz=234,slow=8.6,SNR=11						
ILAR				PcP	**PcP**	09 52 59.0	-0.8
	comp=Z,0.9nm,0.6s,baz=262,slow=3.3,SNR=10.0						
ILAR				LR	LR	09 59 27.4	
	comp=Z,105nm,19.1s,baz=240,slow=40						
E22K	**Anaktuvuk Pass**	22.87	27	P	**P**	09 49 09.4	-0.4
E22K				IAmb	IAmb	09 49 13.8	
	comp=Z,14nm,0.8s						
H24K	**Noodor Dome**	22.89	34	P	**P**	09 49 09.5	-0.6
H24K				IAmb	IAmb	09 49 16.0	
	comp=Z,13nm,0.9s						
GLB	**Gilahina Butte**	23.02	46	P	**P**	09 49 11.4	+0.1
GLB				IAmb	IAmb	09 49 14.4	
	comp=Z,35nm,1.1s						
D22K	**Ayikyak River**	23.11	25	P	**P**	09 49 11.8	-0.4
D22K				IAmb	IAmb	09 49 15.9	
	comp=Z,22nm,1.1s						
B21K	**Ikpikpuk River**	23.12	22	P	**P**	09 49 12.4	+0.2
B21K				IAmb	IAmb	09 49 16.6	
	comp=Z,26nm,0.9s						
VRDI	**Verde Repeater**	23.14	47	P	**P**	09 49 13.1	+0.4
VRDI				IAmb	IAmb	09 49 15.6	
	comp=Z,15nm,1.0s						
CRQM	**Cirque**	23.19	48	P	**P**	09 49 14.1	+0.8
CRQM				IAmb	IAmb	09 49 16.2	
	comp=Z,25nm,1.0s						
J25K	**Salcha River,**	23.32	38	P	**P**	09 49 13.3	-1.2
MCARA	**McCarthy VSAT**	23.37	47	P	**P**	09 49 14.4	-0.5
MCARA				IAmb	IAmb	09 49 34.5	
	comp=Z,24nm,1.2s						
MENT	**Mentasta**	23.45	43	P	**P**	09 49 15.3	-0.4
MENT				IAmb	IAmb	09 49 38.6	
	comp=Z,9.6nm,0.8s						
G24K	**Hadweenzic Riv**	23.45	32	P	**P**	09 49 15.9	+0.2
G24K				IAmb	IAmb	09 49 18.7	
	comp=Z,20nm,0.9s						
E23K	**Chandalar**	23.49	28	P	**P**	09 49 15.9	-0.1
PRP	**Porcupine Dome**	23.62	36	P	**P**	09 49 18.3	+0.8
M26K	**Nabesna, AK**	23.62	44	P	**P**	09 49 18.4	+1.0
M26K				IAmb	IAmb	09 49 44.6	
	comp=Z,12nm,1.1s						
L26K	**Log Cabin Wild**	23.64	43	P	**P**	09 49 18.1	+0.6
L26K				IAmb	IAmb	09 49 39.3	
	comp=Z,9.9nm,0.8s						
SCRK	**Sand Creek**	23.66	40	P	**P**	09 49 17.1	-0.7
SCRK				IAmb	IAmb	09 49 21.1	
	comp=Z,6.5nm,0.6s						
D23K	**Nanushuk River**	23.72	26	P	**P**	09 49 18.4	+0.1
D23K				IAmb	IAmb	09 49 23.1	
	comp=Z,28nm,1.1s						
F24K	**Squaw Lake**	23.74	30	P	**P**	09 49 18.8	+0.3
F24K				IAmb	IAmb	09 49 21.5	
	comp=Z,16nm,0.8s						
YAH	**Yahtse**	23.80	50	IAmb	IAmb	09 49 24.8	
	comp=Z,36nm,1.3s						
E24K	**Your Creek**	23.85	29	P	**P**	09 49 20.2	+0.7
GRNC	**Granite Creek**	23.85	49	P	**P**	09 49 20.7	+0.9
J26L	**Joseph Creek**	24.01	39	P	**P**	09 49 20.9	-0.2
J26L				IAmb	IAmb	09 49 24.1	
	comp=Z,7.7nm,0.7s						
CTGM	**Chitina Glacie**	24.10	48	P	**P**	09 49 22.5	+0.4
CTGM				IAmb	IAmb	09 49 24.2	
	comp=Z,22nm,0.8s						
TABL	**Table Mountain**	24.11	49	P	**P**	09 49 21.5	-0.7
LOGN	**Logan Glacier**	24.23	49	P	**P**	09 49 23.8	+0.4
L27K	**Beaver Creek,**	24.31	43	P	**P**	09 49 23.8	-0.1
BCAR	**Beaver Creek A**	24.33	43	P	**P**	09 49 23.9	-0.2
D24K	**Happy Valley**	24.36	27	P	**P**	09 49 24.5	+0.2
D24K				IAmb	IAmb	09 49 27.6	
	comp=Z,13nm,0.8s						
K27K	**Chicken**	24.47	41	IAmb	IAmb	09 49 28.8	
	comp=Z,7.4nm,0.8s						
C24K	**Franklin Bluff**	24.74	26	IAmb	IAmb	09 49 33.0	
	comp=Z,14nm,0.8s						
BCPM	**Bancas Point**	24.80	51	P	**P**	09 49 29.3	+1.1
BMAR	**Burnt Mountain**	24.80	32	P	**P**	09 49 28.2	0.0
EGAK	**Eagle**	25.08	39	P	**P**	09 49 31.5	+0.8
EGAK				IAmb	IAmb	09 49 35.6	
	comp=Z,15nm,0.9s						
D25K	**Kavik River**	25.18	27	IAmb	IAmb	09 49 38.5	
	comp=Z,9.0nm,0.9s						
DAWY	**Dawson**	25.62	41	P	**P**	09 49 36.6	+0.8
M29M	**Somme Creek**	25.70	45	IAmb	IAmb	09 49 38.9	
	comp=Z,8.4nm,0.9s						
P29M	**Windy Craggy**	25.73	52	IAmb	IAmb	09 49 39.8	
	comp=Z,23nm,1.4s						
I28M	**Miner Creek**	25.77	38	IAmb	IAmb	09 49 41.2	
	comp=Z,16nm,0.9s						
HYT	**Haines Junctio**	25.93	49	P	**P**	09 49 40.1	+1.4
HYT				IAmb	IAmb	09 50 04.9	
	comp=Z,8.1nm,1.0s						
L29M	**L29M**	25.96	44	IAmb	IAmb	09 49 42.9	
	comp=Z,15nm,1.2s						
C27K	**Jago River**	26.14	28	IAmb	IAmb	09 49 45.5	
	comp=Z,13nm,1.4s						
K29M	**Barlow Dome**	26.38	42	IAmb	IAmb	09 49 46.6	
	comp=Z,8.9nm,0.8s						
I29M	**Ogilvie Camp,**	26.40	39	IAmb	IAmb	09 49 44.2	
	comp=Z,12nm,1.1s						
F28M	**Old Crow**	26.53	33	IAmb	IAmb	09 49 48.1	
	comp=Z,13nm,0.9s						
I30M	**Mount Dempster**	27.16	39	IAmb	IAmb	09 49 51.1	
	comp=Z,8.3nm,0.7s						
EPYK	**Eagle Plains**	27.30	37	IAmb	IAmb	09 49 53.7	
	comp=Z,11nm,0.9s						
P32M	**Atlin**	27.77	52	IAmb	IAmb	09 49 58.3	
	comp=Z,13nm,1.1s						
FARO	**Faro, Yukon**	28.04	46	IAmb	IAmb	09 50 25.0	
	comp=Z,8.3nm,1.3s						
H31M	**Peel River**	28.11	39	IAmb	IAmb	09 50 05.6	
	comp=Z,7.4nm,0.9s						
P33M	**Teslin, Yukon**	28.22	51	IAmb	IAmb	09 50 02.3	
	comp=Z,14nm,1.1s						
F31M	**Tsiigehtchic**	28.71	35	IAmb	IAmb	09 50 07.1	
	comp=Z,6.6nm,1.0s						
INK	**Inuvik**	29.02	34	LR	LR	10 03 24.5	
	comp=Z,114nm,19.1s,baz=234,slow=40						
R33M	**Jennings River**	29.18	52	IAmb	IAmb	09 50 11.8	
	comp=Z,14nm,1.4s						
DLBC	**Dease Lake**	29.73	54	LR	LR	10 03 58.3	
	comp=Z,101nm,18.2s,baz=256,slow=40						
TIXI	**Tiksi**	31.54	332	P	**P**	09 50 28.7	+0.4
TIXI					**PcP**	09 53 20.5	0.0
TIXI	**Tiksi**	31.54	332	LR	LR	10 04 34.2	
	comp=Z,64nm,18.2s,baz=19,slow=39						
H11N2	**WAKE ISLAND Hy**	31.95	204	T	T	10 24 02.6	
	baz=17						
H11N3	**WAKE ISLAND Hy**	31.96	204	T	T	10 24 04.5	
	baz=17						
H11N1	**WAKE ISLAND Hy**	31.97	204	T	T	10 23 57.5	
	baz=17						
BBB	**Bella Bella**	32.04	66	LR	LR	10 00 45.7	
	comp=Z,82nm,21.9s,baz=319,slow=31						
HOLB	**Holberg**	32.51	68	P	**P**	09 50 38.0	+0.9
WRGLY	**Wrigley**	32.60	44	P	**P**	09 50 38.4	+0.7
A36M	**Sachs Harbour**	32.66	28	P	**P**	09 50 38.8	+0.7
A36M				PcP	**PcP**	09 53 23.9	+0.5
MJAR	**Matsushiro Arr**	32.89	262	P	**P**	09 50 39.7	-0.8
	comp=Z,1.5nm,0.8s,baz=50,slow=7.4,SNR=4.1						
MJAR				PcP	**PcP**

MZP	Montezuma Peak	45.46	81	P	P	09 52 26.4	+0.8
YMR	Madison River	45.52	69	P	P	09 52 27.0	+0.8
YMR				IAmb	IAmb	09 52 35.7	
	comp=Z,4.6nm,0.8s						
YHH	Holmes Hill	45.53	69	P	P	09 52 26.8	+0.5
GMN	Gold Mountain	45.77	81	IAmb	IAmb	09 52 40.1	
	comp=Z,3.9nm,0.8s						
H17A	Grant Village	45.90	69	P	P	09 52 30.4	+1.2
H17A				IAmb	IAmb	09 52 55.6	
	comp=Z,11nm,1.3s						
YNE	Yellowstone No	45.91	68	P	P	09 52 28.7	-0.6
YNE				IAmb	IAmb	09 52 37.9	
	comp=Z,3.4nm,0.7s						
ISA	Isabella, Lake	45.99	84	P	P	09 52 30.3	+0.5
ISA				IAmb	IAmb	09 52 31.4	
	comp=Z,6.8nm,1.0s						
FLWY	Flagg Ranch	46.00	69	P	P	09 52 29.4	-0.5
FLWY				IAmb	IAmb	09 52 40.2	
	comp=Z,5.2nm,0.7s						
HVU	Hansel Valley	46.00	73	P	P	09 52 30.0	+0.1
HVU				IAmb	IAmb	09 53 03.5	
	comp=Z,8.8nm,1.5s						
R11B	Troy Canyon, C	46.22	79	IAmb	IAmb	09 52 33.4	
	comp=Z,7.4nm,1.1s						
ULN	Ulaanbaatar	46.28	297	P	P	09 52 31.8	-0.3
ULN				IAmb	IAmb	09 52 33.3	
	comp=Z,3.4nm,0.8s						
RLMT	Red Lodge	46.30	67	IAmb	IAmb	09 53 04.0	
	comp=Z,5.5nm,0.8s						
WCT	Wildcat Mounta	46.48	81	IAmb	IAmb	09 52 35.6	
	comp=Z,7.9nm,1.5s						
SPR3	Spring Creek 3	46.62	77	P	P	09 52 34.8	-0.3
SPR3				IAmb	IAmb	09 53 01.1	
	comp=Z,9.8nm,1.5s						
TPNV	Topopah Spring	46.63	81	P	P	09 52 35.5	+0.6
TIA	Taiʼan	46.66	278	P	P	09 52 35.3	+0.3
TIA				pmax	pmax		
	comp=Z,24nm,0.8s						
SONM	Songino Array	46.67	297	P	P	09 52 35.3	+0.2
	comp=Z,2.3nm,0.9s,baz=60,slow=8.5,SNR=13						
SONM				PcP	PcP	09 54 08.4	-0.1
	comp=Z,1.8nm,0.7s,baz=56,slow=2.2,SNR=6.0						
	comp=Z,2.3nm,0.9s						
GWY	Greenwater Val	46.83	82	P	P	09 52 36.7	+0.2
GWY				IAmb	IAmb	09 52 48.0	
	comp=Z,5.5nm,0.9s						
HWUT	Hardware Ranch	46.84	73	IAmb	IAmb	09 52 40.8	
	comp=Z,9.6nm,1.4s						
PSUT	Pine Spring	47.20	78	IAmb	IAmb	09 52 50.3	
	comp=Z,6.8nm,1.1s						
HHC	Hu-ho-hao-te	47.42	286	eP	P	09 52 42.1	+1.1
HHC				pP	sP	09 52 46.8	+1.0
HHC				pmax	pmax		
	comp=Z,18nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,4.4s						
PD31	Pinedale Array	47.42	70	IAmb	IAmb	09 52 51.4	
	comp=Z,4.1nm,0.8s						
PDAR	Pinedale Array	47.42	70	P	P	09 52 41.4	+0.2
	comp=Z,2.2nm,0.6s,baz=298,slow=1.9,SNR=25						
	comp=Z,2.2nm,0.6s						
HNS	HongShan	47.48	281	⇓P	P	09 52 42.3	+1.0
HNS				pmax	pmax		
	comp=Z,14nm,0.9s						
JLU	Jordanelle	47.49	74	IAmb	IAmb	09 52 45.5	
	comp=Z,5.7nm,1.1s						
SHPR	Sheep Range	47.59	81	P	P	09 52 41.9	-0.6
NJ2	Nanjing	48.17	272	eP	P	09 52 46.3	-0.4
NJ2				sP	sP	09 52 51.5	-0.1
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
V12A	Nelson	48.27	81	IAmb	IAmb	09 52 49.7	
	comp=Z,8.1nm,1.4s						
LCMT	Little Creek M	48.50	79	IAmb	IAmb	09 52 51.7	
	comp=Z,8.6nm,0.9s						
BTO	Baotou	48.52	287	eP	P	09 52 51.0	+1.5
BTO				pP	sP	09 52 55.6	+1.3
BTO				sP	pwP	09 52 58.1	-2.0
BTO				pmax	pmax		
	comp=Z,46nm,1.4s						
BTO				pmax	pmax		
	comp=Z,320nm,4.9s						
MTPU	Mount Pierson	48.55	77	IAmb	IAmb	09 53 01.6	
	comp=Z,4.3nm,0.9s						
PFO	Pinyon Flats O	48.57	85	LR	LR	10 09 42.9	
	comp=Z,40nm,18.2s,baz=358,slow=32						
P17A	Butcher Ranch,	48.60	75	IAmb	IAmb	09 52 52.1	
	comp=Z,5.0nm,0.8s						
Q16A	Castle Valley	48.66	76	IAmb	IAmb	09 52 52.7	
	comp=Z,6.2nm,0.9s						
KNB	Kanab	48.77	79	IAmb	IAmb	09 53 03.5	
	comp=Z,7.4nm,0.8s						
P18A	Preston Nutter	48.81	74	IAmb	IAmb	09 52 54.1	
	comp=Z,10nm,1.1s						
PKCU	Pink Cliffs	48.83	78	IAmb	IAmb	09 53 09.1	
	comp=Z,9.7nm,1.1s						
SRU	San Rafael Swe	48.95	75	P	P	09 52 53.6	+0.7
SRU				IAmb	IAmb	09 52 55.5	
	comp=Z,6.3nm,0.9s						
W13A	Hualapai Mount	49.28	81	IAmb	IAmb	09 52 57.1	
	comp=Z,4.9nm,0.9s						
ESJX	Sierra Juarez	49.93	86	IAmb	IAmb	09 53 02.7	
	comp=Z,9.5nm,1.3s						
WUAZ	Wupatki	50.61	79	IAmb	IAmb	09 53 07.6	
	comp=Z,10.0nm,0.8s						
ULM	Lac du Bonnet	51.05	55	LR	LR	10 14 49.6	
	comp=Z,63nm,21.6s,baz=351,slow=36						
X16A	Lo Mia Camp, P	51.27	80	IAmb	IAmb	09 53 12.8	
	comp=Z,4.3nm,0.9s						
MVCO	Mesa Verde	51.37	76	P	P	09 53 11.4	+0.1
MVCO				IAmb	IAmb	09 53 24.2	
	comp=Z,7.9nm,1.1s						
SPITS	Spitsbergen Ar	51.74	356	P	P	09 53 13.7	+0.4
	comp=Z,12nm,0.4s,baz=47,slow=6.3,SNR=46						
	comp=Z,12nm,0.4s						
SPB2	Spitsbergen Ar	51.74	356	P	P	09 53 13.7	+0.4
WHN	Wuhan	52.06	274	P	P	09 53 16.9	+0.6
S22A	4UR Ranch, Cre	52.08	74	IAmb	IAmb	09 53 35.8	
	comp=Z,6.1nm,1.0s						
X18A	Snowflake	52.14	79	IAmb	IAmb	09 53 19.2	
	comp=Z,6.5nm,0.9s						
SDCO	Great Sand Dun	52.90	73	IAmb	IAmb	09 53 48.7	
	comp=Z,7.7nm,1.4s						
XAN	Xiʼan	53.25	281	P	P	09 53 25.3	+0.2
XAN				sP	sP	09 53 32.3	+2.3
XAN				pmax	pmax		
	comp=Z,15nm,1.2s						
ZALV	Zalesovo Beam	54.51	314	P	P	09 53 33.1	-0.9
	comp=Z,1.4nm,0.7s,baz=63,slow=7.0,SNR=5.0						
ZALV				PcP	PcP	09 54 37.5	+0.4
	comp=Z,3.5nm,0.7s,baz=41,slow=4.6,SNR=9.3						
	comp=Z,1.4nm,0.7s						
FRB	Frobisher Bay	54.60	31	LR	LR	10 17 06.7	
	comp=Z,85nm,21.9s,baz=36,slow=36						
121A	Cookes Peak, D	54.81	80	P	P	09 53 36.0	-0.7
SUMG	Summit	54.84	13	P	P	09 53 35.9	-0.7
LZH	Lanzhou	55.12	286	eP	P	09 53 39.8	+1.0
LZH				sP	sP	09 53 44.6	+0.9
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
MSTX	Muleshoe	57.02	75	IAmb	IAmb	09 53 54.2	
	comp=Z,7.5nm,0.9s						
SFJD	Kangerlussuaq	57.22	21	LR	LR	10 21 27.9	
	comp=Z,53nm,18.1s,baz=164,slow=39						
VHRN	Van Horn	57.75	79	IAmb	IAmb	09 53 59.4	
	comp=Z,5.8nm,1.0s						
ALPN	Alpine	58.88	79	IAmb	IAmb	09 54 06.6	
	comp=Z,4.4nm,0.9s						
WMOK	Wichita Mounta	58.98	72	IAmb	IAmb	09 54 07.4	
	comp=Z,6.1nm,0.9s						
ARCES	ARCESS Array B	59.37	350	P	P	09 54 08.1	0.0
	comp=Z,4.9nm,0.7s,baz=27,slow=8.1,SNR=14						
ARCES				LR	LR	10 19 07.0	
	comp=Z,45nm,21.8s,baz=302,slow=35						
	comp=Z,4.9nm,0.7s						
KURK	Kurchatov	59.50	314	P	P	09 54 09.5	+0.1
TX31	Lajitas Ar. Si	59.57	80	IAmb	IAmb	09 54 28.6	
	comp=Z,5.7nm,1.0s						
TXAR	Lajitas Array	59.57	80	P	P	09 54 10.5	+0.2
	comp=Z,2.8nm,0.8s,baz=303,slow=5.0,SNR=41						
TXAR				PcP	PcP	09 54 58.3	+0.8
	comp=Z,1.5nm,0.7s,baz=300,slow=2.0,SNR=6.1						
	comp=Z,2.8nm,0.8s						
KURBB	Kurchatov Arra	59.60	314	P	P	09 54 10.3	+0.2
	comp=Z,9.2nm,0.7s,baz=44,slow=6.5,SNR=66						
KURBB				PcP	PcP	09 54 57.1	0.0
	comp=Z,1.2nm,0.6s,baz=39,slow=5.3,SNR=1.5						
	comp=Z,9.2nm,0.7s						
OZNA	Ozona	60.09	77	P	P	09 54 13.8	0.0
OZNA				IAmb	IAmb	09 54 14.2	
	comp=Z,8.8nm,1.1s						
SAND	Sanderson	60.13	78	P	P	09 54 14.2	+0.1
MK31	Makanchi Array	60.37	308	P	P	09 54 14.8	-0.6
MK31				IAmb	IAmb	09 54 15.5	
	comp=Z,3.3nm,0.9s						
MKAR	Makanchi Array	60.37	308	P	P	09 54 15.1	-0.4
	comp=Z,3.3nm,0.8s,baz=54,slow=7.1,SNR=23						
	comp=Z,3.3nm,0.8s						
MAKZ	Makanchi	60.52	309	P	P	09 54 15.8	-0.6
MAKZ				IAmb	IAmb	09 54 17.0	
	comp=Z,4.6nm,0.8s						
PLPT	Palo Pinto	60.56	73	P	P	09 54 17.3	+0.4
ANGG	Ammassalik, Gr	61.14	17	P	P	09 54 20.2	-0.1
BVAR	Borovoye Array	61.52	320	P	P	09 54 23.1	0.0
	comp=Z,6.5nm,0.7s,baz=50,slow=7.9,SNR=21						
BVAR				PcP	PcP	09 55 04.8	-0.1
	comp=Z,3.1nm,0.7s,baz=49,slow=3.6,SNR=5.0						
BVAR				LR	LR	10 21 42.9	
	comp=Z,68nm,18.2s,baz=26,slow=37						
	comp=Z,6.5nm,0.7s						
BRVK	Borovoye	61.54	320	P	P	09 54 23.8	+0.6
SCHQ	Schefferville	61.55	37	P	P	09 54 22.9	-0.4
	comp=Z,5.7nm,1.0s,baz=235,slow=7.1,SNR=2.3						
	comp=Z,5.7nm,1.0s						
VLDQ	Val d'Or	61.74	48	P	P	09 54 23.2	-1.4
PZH	PanZhiHua	62.90	280	P	P	09 54 33.1	+0.2
PZH				pmax	pmax		
	comp=Z,10.0nm,1.4s						
PZH				pmax	pmax		
	comp=Z,180nm,5.7s						
SADO	Sadowa	63.25	52	LR	LR	10 23 41.5	
	comp=Z,74nm,18.1s,baz=61,slow=38						
ARTI	Arti	63.53	328	P	P	09 54 36.3	-0.2
BORG	Borgarnes	64.42	10	LR	LR	10 23 25.5	
	comp=Z,46nm,19.4s,baz=355,slow=37						
KIRV	Kirov	64.54	334	LR	LR	10 26 28.5	
	comp=Z,48nm,18.7s,baz=359,slow=39						
O52A	Adamsville	65.12	57	P	P	09 54 47.1	0.0
FINES	FINESS Array B	67.01	347	P	P	09 54 59.0	+0.1
	comp=Z,7.4nm,0.7s,baz=36,slow=7.4,SNR=16						
	comp=Z,7.4nm,0.7s						
TKL	Tuckaleechee C	67.23	61	LR	LR	10 24 56.5	
	comp=Z,73nm,18.7s,baz=16,slow=36						
ABKAR	Akbulak array	68.64	323	P	P	09 55 10.1	+0.7
KSH	Kashi	68.79	306	P	P	09 55 14.0	+3.3
KSH				pmax	pmax		
	comp=Z,14nm,0.9s						
KKAR	Karatay Array	68.83	312	P	P	09 55 11.2	+0.5
ARSB	Arslanbob	68.96	310	P	P	09 55 12.3	+0.6
NB201	NORSAR Array S	68.97	354	P	P	09 55 12.2	+0.9
NB2	NORSAR Subarra	68.99	354	P	P	09 55 11.9	+0.4
	comp=Z,2.9nm,0.7s,baz=7.2,slow=6.5						
NOA	NORSAR Array B	68.99	354	P	P	09 55 11.8	+0.4
	comp=Z,3.7nm,0.7s,baz=7.1,slow=6.3,SNR=14						
	comp=Z,3.7nm,0.7s						
LMN	Caledonia Moun	69.22	43	P	P	09 55 13.4	+0.3
PHRA	Phrae	69.61	275	P	P	09 55 15.6	-0.3
HFS	Hagfors	69.71	353	P	P	09 55 15.5	-0.3
	comp=Z,5.1nm,0.6s,baz=32,slow=8.5,SNR=6.3						
HFS				LR	LR	10 27 28.1	
	comp=Z,93nm,18.0s,baz=354,slow=37						
	comp=Z,5.1nm,0.6s						
SHL	Shillong	69.77	286	P	P	09 55 16.9	-0.2
BELG	Belogornoye	70.36	331	LR	LR	10 27 42.1	
	comp=Z,50nm,20.8s,baz=20,slow=37						
CMAR	Chiang Mai Arr	70.47	276	P	P	09 55 21.2	+0.1
CMAR	Chiang Mai Arr	70.47	276	P	P	09 55 20.8	-0.3
	comp=Z,1.3nm,0.4s,baz=26,slow=7.3,SNR=5.0						
	comp=Z,1.3nm,0.4s						
BTK	Batken	71.00	310	P	P	09 55 24.9	+0.8
GAR	Garm	72.06	310	P	P	09 55 31.1	+0.4
PPT2	Papeete2	72.39	150	eS	S	10 04 53.3	-2.3
	comp=Z,42nm,25.5s						
PPT2	Papeete2	72.39	150	eLR	LR	10 17 29.6	
	comp=Z,80nm,27.8s						
SIMJ	Simiganj	72.97	310	P	P	09 55 36.1	0.0
NACGM	Naroch	73.14	344	eP	P	09 55 38.2	+1.5
	comp=Z,9.0nm,0.8s,baz=18						
MNK	Minsk	73.33	344	i P	P	09 55 36.8	-0.9
	comp=E,10.0nm,0.6s						
MNK				i P	P	09 55 36.8	-0.9
	comp=N,6.0nm,0.5s						
MNK				i P	P	09 55 36.8	-0.9
	comp=Z,21nm,0.6s,baz=18						
MNK				i PcP	PcP	09 55 52.9	-1.1
MNK				i PP	PP	09 58 19.9	-0.5
MNK				i PPP	PPP	10 00 05.4	
MNK				i S	S	10 05 06.2	+0.8
MNK				i ScS	ScS	10 05 45.3	0.0
MNK				i SS	SS	10 09 49.0	+3.0
MNK				i SSS	SSS	10 13 10.0	
MNK				i LQ	LQ	10 22 59.8	
MNK				i LR	LR	10 28 12.8	
MNK				i LRM	MLR	10 29 47.7	
	comp=E,107nm,14.5s						
MNK				i LRM	MLR	10 29 47.7	
	comp=N,87nm,16.6s						
MNK				i LRM	MLR	10 29 53.5	
	comp=Z,83nm,15.8s						
NIL	Nilore	74.64	304	P	P	09 55 46.3	+0.4
EKA	Eskdalemuir Ar	75.04	2	P	P	09 55 48.1	+0.4
	comp=Z,2.4nm,0.8s,baz=356,slow=6.6,SNR=4.9						
	comp=Z,2.4nm,0.8s						
KBL	Kabul	76.16	308	P	P	09 55 53.7	-1.1
AK21	Malin Array Si	76.64	342	P	P	09 55 57.4	+0.5
AK22	Malin Array Si	76.65	342	P	P	09 55 57.2	+0.2
AKASG	Malin Array Be	76.68	341	P	P	09 55 57.4	+0.2
AKASG	Malin Array Be	76.68	341	P	P	09 55 57.3	+0.2
	comp=Z,5.2nm,0.7s,baz=26,slow=5.9,SNR=16						
AKASG				LR	LR	10 33 34.0	
	comp=Z,39nm,18.4s,baz=28,slow=39						
	comp=Z,5.2nm,0.7s						
AKBB	Malin Array Si	76.68	341	P	P	09 55 57.4	+0.3
AKBB	Malin Array Si	76.68	341	P	P	09 55 57.2	+0.1
AK20	Malin Array Si	76.68	342	P	P	09 55 57.4	+0.2
KIEV	Kiev	76.69	341	P	P	09 55 57.5	+0.4
KIEV				IAmb	IAmb	09 55 58.0	
	comp=Z,6.4nm,0.7s						
RNPP5	Staryi Chortor	76.82	344	P	P	09 55 58.5	+0.6
LUBAR	Lubar, Ukraine	77.71	342	P	P	09 56 02.7	-0.3
TBI	Tubuai	77.82	152	eLR	LR	10 20 03.5	
	comp=Z,1μm,27.2s						
TBI				eLR	LR	10 20 06.8	
	comp=Z,403nm,26.8s						
CLL	Collm	78.51	352	eP	P	09 56 08.0	+0.6
KWP	Kalwaria Pacla	78.91	345	P	P	09 56 09.8	+0.2
KWP	Kalwaria Pacla	78.91	345	P	P	09 56 10.9	+1.3
	comp=Z,32nm,1.3s						
KMPD	K-Podol'skiy	79.27	343	P	P	09 56 11.2	-0.3
SORM	Soroca	79.29	341	P	P	09 56 11.9	+0.2
STHS	Stebnicka Huta	79.35	346	eP	P	09 56 11.1	-1.0
KBZ	Khabaz	79.50	330	P	P	09 56 13.6	+0.8
	comp=Z,4.4nm,1.0s,baz=275,slow=9.6,SNR=5.4						
	comp=Z,4.4nm,1.0s						
HRA	Herat	79.66	312	IAmb	IAmb	09 56 16.2	
	comp=Z,9.1nm,0.9s						
KOLS	Kolonicke sedl	79.66	345	eP	P	09 56 15.8	+2.1
LANS	Liptovska Anna	79.87	347	eP	P	09 56 17.0	+2.1
VRAC	Vranov	80.10	349	LR	LR	10 34 11.1	
	comp=Z,42nm,18.4s,baz=1.0,slow=38						
BUR08	Bucovina Ar. S	80.39	343	IAmb	IAmb	09 56 24.5	
	comp=Z,5.1nm,0.9s						
BURAR	Bucovina Array	80.41	343	P	P	09 56 18.9	+1.0
BURAR				IAmb	IAmb	09 56 19.9	
	comp=Z,6.6nm,0.8s						
WRA	Warramunga Arr	80.51	223	P	P	09 56 17.0	-1.5
	comp=Z,1.2nm,0.7s,baz=33,slow=6.0,SNR=13						
	comp=Z,1.2nm,0.7s						
VYHS	Vyhne	80.61	348	eP	P	09 56 20.3	+1.4
KHC	Kasperske Hory	80.61	351	IAmb	IAmb	09 56 21.1	
	comp=Z,17nm,1.5s						
GERES	GERESS Array B	80.88	351	P	P	09 56 19.3	-1.1
	comp=Z,0.8nm,0.4s,baz=10,slow=5.5,SNR=4.0						
	comp=Z,0.8nm,0.4s						
MODS	Modra-Piesok	80.93	349	eP	P	09 56 22.5	+1.9
MOTA	Moosalm	82.61	352	i pP	P	09 56 30.5	+0.8
	comp=Z,6.2nm,1.1s						
WTTA	Wattenberg	82.64	352	i pP	P	09 56 31.0	+1.1
	comp=Z,8.2nm,0.8s						
KBA	Koelnbreinsper	82.66	351	i pP	P	09 56 31.5	+1.5
	comp=Z,6.5nm,0.6s						
SOKA	Soboth	82.88	350	i pP	P	09 56 32.0	+1.0
	comp=Z,3.6nm,0.7s						
FETA	Feichten	82.96	353	i pP	P	09 56 32.7	+1.2
	comp=Z,4.4nm,1.0s						
FITZ	Fitzroy Crossi	83.04	231	P	P	09 56 31.9	0.0
TUE	Stuetta	83.61	354	P	P	09 56 35.8	+0.9
TUE				IAmb	IAmb	09 56 36.6	
	comp=Z,4.5nm,0.8s						
AS31	Alice Springs	83.97	222	P	P	09 56 36.3	-0.4
ASAR	Alice Springs	83.97	222	P	P	09 56 36.3	-0.3
	comp=Z,1.2nm,0.8s,baz=24,slow=4.9,SNR=10						
	comp=Z,1.2nm,0.8s						
BRTR	Keskin Array B	85.94	335	P	P	09 56 47.5	+0.8
	comp=Z,1.4nm,0.9s,baz=41,slow=4.6,SNR=5.6						
	comp=Z,1.4nm,0.9s						
STKA	Stephens Creek	88.36	212	P	P	09 56 58.2	+0.2
	comp=Z,1.5nm,0.8s,baz=73,slow=2.7,SNR=3.6						
	comp=Z,1.5nm,0.8s						
ESDC	Sonseca Array	90.67	3	P	P	09 57 08.9	-0.2
	comp=Z,0.7nm,0.8s,baz=343,slow=4.0,SNR=4.5						
ESDC				LR	LR	10 39 23.3	
	comp=Z,29nm,18.5s,baz=310,slow=37						
	comp=Z,0.7nm,0.8s						
DBIC	Dimbokro	123.43	6	PKP	PKPdf	10 03 03.3	-0.7
	comp=Z,2.2nm,0.8s,baz=326,slow=7.3,SNR=3.5						
CPUP	Villa Florida	130.44	84	PKP	PKiKP	10 03 17.6	-0.2
	comp=Z,0.9nm,0.4s,baz=106,slow=5.9,SNR=3.4						
MAW	Mawson	144.94	216	PKP	PKPab	10 03 41.3	-0.1
	comp=Z,11nm,0.9s,baz=97,slow=4.0,SNR=21						
BOSA	Boshof	151.37	309	PKPbc	PKiKP	10 04 00.6	-0.1
	comp=Z,5.6nm,0.7s,baz=21,slow=2.3,SNR=15						
ELIB	Princess Elisa	155.57	197	dPdif		10 02 00.2	
ELIB				dPKP	pPKPbc	10 04 09.4	-2.4

IDC 16 09:50:28.7±1.1, 12°22N×144°03E, h0km, mb3.5/5, mbtmp3.5/5, MS3.0/1, Error ellipse: s-maj=57.4km s-min=26.2km az=106.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	WAKE ISLAND Hy	22.71	71	T	T	10 19 27.5	
	baz=253						
H11S1	WAKE ISLAND Hy	22.73	71	T	T	10 19 36.5	
	baz=253						
H11S2	WAKE ISLAND Hy	22.73	71	T	T	10 19 33.5	
	baz=253						
WRA	Warramunga Arr	33.35	197	P	P	09 57 07.3	-1.4
	0.5nm,0.7s,baz=21,slow=9.8,SNR=2.5						
	0.5nm,0.7s						
ASAR	Alice Springs	37.01	196	P	P	09 57 41.1	+0.8
	0.3nm,0.8s,baz=17,slow=14,SNR=1.8						
	0.3nm,0.8s						
KLR	Kul'dur	38.28	347	LR	LR	10 13 32.7	
	comp=Z,21nm,18.7s,baz=41,slow=36						
KURBB	Kurchatov Arra	65.14	320	P	P	10 01 11.9	+0.4
	0.2nm,0.3s,baz=105,slow=6.8,SNR=1.7						
	0.2nm,0.3s						
ILAR	Eielson Array	70.15	25	P	P	10 01 41.3	-1.6
	0.3nm,0.7s,baz=248,slow=5.2,SNR=5.4						
	0.3nm,0.7s						
NVAR	Mina Array Bea	88.42	51	P	P	10 03 25.1	+1.7
	0.4nm,0.6s,baz=270,slow=5.9,SNR=6.2						
	0.4nm,0.6s						

IDC 16 10:02:49.1±3.2, 53°59N×88°09E, h0km, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=26.5km s-min=17.5km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	1.97	282	Pn	Pn	10 03 23.7	-0.1
	1.1nm,0.3s,baz=100,slow=13,SNR=43						
ZALV				Lg	Lg	10 03 52.3	
	1.4nm,0.3s,baz=97,slow=26,SNR=14						
KURBB	Kurchatov Arra	6.59	247	Pn	Pn	10 04 27.7	+0.6
	0.1nm,0.3s,baz=62,slow=14,SNR=6.4						
KURBB				Sn	Sn	10 05 41.8	-1.2
	baz=62,slow=32,SNR=1.2						
KURBB				Lg	Lg	10 06 16.9	
	baz=62,slow=32,SNR=4.5						
	1.5nm,0.7s						
MKAR	Makanchi Array	7.75	211	Pn	Pn	10 04 44.2	+1.1
	0.1nm,0.3s,baz=29,slow=14,SNR=2.4						
MKAR				Sn	Sn	10 06 11.2	-0.3
	baz=22,slow=31,SNR=2.5						
MKAR				Lg	Lg	10 06 56.3	
	baz=29,slow=33,SNR=3.2						
	0.2nm,0.5s						
I34MN	SONGINO INFRAS	12.96	109	I	I	11 20 50.0	
	baz=309,slow=318,SNR=0.6						

*IDC **16** 10:05:01.7±1.0, 56°49S×25°15W, h0km, mb3.9/5, mbtmp3.9/6, ML3.9/1, MS3.2/3, Error ellipse: s-maj=45.5km s-min=20.7km az=60.0*

ISC 16 10:05:03.1±0.9, 56°5S±0°2×25°3W±0°3, h10km, n14, σ1§27/12, mb3.9/5, 7C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	15.97	159	⇑P	Pn	10 08 47.4	0.0
	comp=Z,3.3nm,0.6s						
VNA3	Neumayer Olymp	16.20	162	⇑P	Pn	10 08 49.4	-1.1
	comp=Z,1.2nm,0.2s						
VNA3				⇑S	Sn	10 11 33.0	-17
	comp=Z,0.0nm,0.2s						
VNA2	Neumayer--Watz	16.36	159	⇑P	Pn	10 08 51.7	-0.8
	comp=Z,1.1nm,0.2s,baz=329,slow=14						
VNA2				⇑S	Sn	10 11 41.4	-12
	comp=Z,0.1nm,0.2s,baz=325,slow=12						
SNAA	Sanae	17.88	157	⇑P	P	10 09 11.6	-0.7
	comp=Z,22nm,0.2s						
SNAA	Sanae	17.88	157	P	P	10 09 12.2	-0.1
	comp=Z,0.4nm,0.3s,baz=49,slow=14,SNR=44						
SNAA				LR	LR	10 14 09.8	
	comp=Z,48nm,20.1s,baz=1.5,slow=31						
	comp=Z,0.9nm,0.3s						
TRO

HNR Honiara 3.54 289 Pn Pn 10 17 57.4 -0.7
HNR Honiara 3.54 289 Pn **Pn 10 17 57.9 -0.2**
443nm,0.6s,baz=150,slow=4.5,SNR=28
HNR Sn **Sn 10 18 38.0 -1.7**
199nm,0.3s,baz=187,slow=20,SNR=8.2
KOUNC Koumac, New Ca 9.90 175 Pn **Pn 10 19 25.6 +0.1**
DZM Mont Dzumac 11.75 166 Pn **Pn 10 19 53.6 +2.6**
DZM Mont Dzumac 11.75 166 *e*P **Pn 10 19 49.0 -2.0**
105nm,1.3s
DZM *e*LR LR 10 22 29.6
4μm,25.7s
DZM Mont Dzumac 11.75 166 Pn **Pn 10 19 53.3 +2.3**
15nm,0.4s,baz=322,slow=10,SNR=70
DZM Sn **Sn 10 22 01.2 -0.7**
0.8nm,0.3s,baz=145,slow=23,SNR=2.0
DZM LR LR 10 23 48.1
comp=Z,2μm,20.5s,baz=358,slow=34
ONTNC Ouen Toro 11.98 166 Pn **Pn 10 19 54.9 +0.9**
PINNC Pines Island, 12.54 162 Pn **Pn 10 20 00.7 -0.9**
RABL Rabaul 12.79 299 Pn **Pn 10 20 03.3 -1.8**
FUNA Funafuti 15.78 84 Pn **Pn 10 20 44.2 -1.3**
MSVF Nonsavu 15.91 118 LR LR 10 26 17.9
comp=Z,1μm,19.3s,baz=291,slow=35
PMG Port Moresby 15.97 273 Pn **Pn 10 20 49.2 +1.2**
0.6nm,0.3s,baz=94,slow=13,SNR=2.4
PMG LR LR 10 25 51.0
comp=Z,770nm,20.0s,baz=112,slow=33
13nm,1.0s
EIDS Eidsvold 18.70 217 P **P 10 21 21.3 -0.3**
CTA Charters Tower 18.94 238 LR LR 10 28 35.1
comp=Z,52nm,18.5s,baz=60,slow=37
CTAO Charters Tower 18.94 238 P **Pn 10 21 27.1 +2.1**
CTAO IAmb IAmb 10 21 30.1
comp=Z,71nm,1.1s
COEN Coen 19.97 258 **P 10 21 35.1 -0.5**
ARMA Armidale 22.50 207 P **P 10 22 01.5 -1.3**
JAY Jayapura 23.86 288 LR LR 10 32 45.9
comp=Z,1μm,18.8s,baz=74,slow=40
AFI Afiamalu 24.53 100 P **P 10 22 21.8 -1.2**
AFI IAmb IAmb 10 22 24.2
comp=Z,31nm,1.0s
RAO Raoul Island 25.50 139 LR LR 10 30 44.7
comp=Z,1μm,21.8s,baz=344,slow=32
NIUE Niue 27.14 111 P **P 10 22 45.2 -1.3**
CAN Canberra 27.82 206 P **P 10 22 52.8 +0.4**
CAN IAmb IAmb 10 23 21.4
comp=Z,24nm,1.4s
H11S2 WAKE ISLAND Hy 29.13 7 T T 10 53 28.8
baz=188,slow=76,SNR=100
H11S3 WAKE ISLAND Hy 29.14 7 T T 10 53 29.0
baz=188,slow=76,SNR=37
H11S1 WAKE ISLAND Hy 29.15 7 T T 10 53 23.2
baz=188,slow=76,SNR=24
STKA Stephens Creek 29.16 220 P **P 10 23 04.6 +0.2**
STKA Stephens Creek 29.16 220 P **P 10 23 05.5 +1.2**
comp=Z,2.6nm,0.6s,baz=28,slow=13,SNR=6.6
STKA LR LR 10 33 58.4
comp=Z,919nm,19.9s,baz=36,slow=35
comp=Z,2.6nm,0.6s
WR0 Warramunga Arr 29.23 248 P **P 10 23 04.2 -0.9**
WB0 Warramunga Arr 29.32 249 P **P 10 23 04.8 -1.2**
WRAB Tennant Creek 29.40 248 P **P 10 23 04.8 -1.8**
WB2 Warramunga Arr 29.40 248 P **P 10 23 05.5 -1.2**
WRA Warramunga Arr 29.41 248 P **P 10 23 05.7 -1.1**
WRA Warramunga Arr 29.41 248 P **P 10 23 06.3 -0.5**
comp=Z,1.2nm,0.7s,baz=80,slow=9.0,SNR=7.7
WRA LR LR 10 33 49.0
comp=Z,484nm,19.3s,baz=74,slow=34
comp=Z,1.2nm,0.7s
URZ Urewera 30.15 158 LR LR 10 33 13.4
comp=Z,469nm,20.3s,baz=60,slow=32
GUMO Guam 30.25 322 LR LR 10 34 18.5
comp=Z,736nm,21.6s,baz=133,slow=34
H11N1 WAKE ISLAND Hy 30.36 7 T T 10 55 03.7
baz=188,slow=76,SNR=11
H11N3 WAKE ISLAND Hy 30.37 7 T T 10 55 35.2
baz=188,slow=76,SNR=12
H11N2 WAKE ISLAND Hy 30.38 7 T T 10 55 05.1
baz=188,slow=76,SNR=13
AS31 Alice Springs 30.88 241 P **P 10 23 18.3 -1.5**
ASAR Alice Springs 30.88 241 P **P 10 23 18.9 -0.8**
ASAR Alice Springs 30.88 241 P **P 10 23 19.1 -0.7**
comp=Z,3.8nm,0.8s,baz=64,slow=10.0,SNR=24
ASAR LR LR 10 35 11.7
comp=Z,406nm,19.6s,baz=66,slow=35
comp=Z,3.8nm,0.8s
TOO Toolangi 31.25 208 P **P 10 23 23.1 +0.2**
MTN Manton Dam 31.59 263 P **P 10 23 24.1 -2.0**
MTN IAmb IAmb 10 23 54.9
comp=Z,19nm,1.5s
BBOO Buckleboo 33.41 224 P **P 10 23 42.3 +0.4**
BBOO IAmb IAmb 10 23 50.0
comp=Z,14nm,1.1s
RPZ Rata Peaks 33.63 170 LR LR 10 35 25.8
comp=Z,807nm,21.9s,baz=338,slow=33
KNRA Kununurra 34.01 258 P **P 10 23 46.0 -1.2**
KNRA IAmb IAmb 10 24 01.0
comp=Z,28nm,1.4s
RAR Rarotonga 36.91 111 LR LR 10 36 33.7
comp=Z,294nm,20.3s,baz=281,slow=32
FITZ Fitzroy Crossi 37.20 254 P **P 10 24 14.7 +0.1**
FITZ Fitzroy Crossi 37.20 254 P **P 10 24 14.1 -0.5**
comp=Z,2.8nm,0.7s,baz=76,slow=6.9,SNR=7.7
FITZ LR LR 10 39 08.2
comp=Z,488nm,18.7s,baz=78,slow=36
comp=Z,2.8nm,0.7s
FORT Forrest 38.36 233 P **P 10 24 23.7 -0.6**
FORT IAmb IAmb 10 24 34.1
comp=Z,27nm,0.8s
DAV Davao City (W) 41.50 293 LR LR 10 42 11.1
comp=Z,182nm,19.5s,baz=102,slow=36
PSA00 Pilbara Seismi 43.04 250 P **P 10 25 02.0 -1.1**
KAPI Kappang 43.50 274 LR LR 10 44 53.2
comp=Z,90nm,19.9s,baz=96,slow=38
PPT Papeete 46.09 104 LR LR 10 40 44.1
comp=Z,232nm,18.4s,baz=272,slow=31
PPT2 Papeete2 46.09 104 *e*S **S 10 32 10.8 -2.3**
comp=Z,142nm,25.2s
PPT2 *e*SS **SS 10 35 39.4 +1.0**
comp=Z,78nm,26.2s
PPT2 *e*LQ LQ 10 36 33.9
comp=Z,825nm,27.8s
PPT2 *e*LR LR 10 38 17.5
comp=Z,187nm,31.2s
PPT2 *e*LR LR 10 38 25.1
comp=Z,230nm,22.8s
TBI Tubuai 46.68 112 *e*S **S 10 32 23.8 +2.6**
comp=Z,1μm,39.8s
TBI *e*SS **SS 10 35 47.8 +0.1**
comp=Z,656nm,30.8s
TBI *e*LQ LQ 10 36 42.0
comp=Z,6μm,29.2s
TBI *e*LR LR 10 38 40.0
comp=Z,1μm,31.8s
TBI *e*LR LR 10 38 45.8
comp=Z,6μm,29.5s
NWAO Narrogin (SRO) 47.74 235 LR LR 10 45 13.8
comp=Z,605nm,20.2s,baz=58,slow=35
MORW Morawa 47.75 240 P **P 10 25 40.2 -0.2**
MORW IAmb IAmb 10 25 51.5
comp=Z,18nm,1.2s
JHJ Hachijo jima 2 48.96 334 LR LR 10 44 47.2
comp=Z,153nm,21.7s,baz=117,slow=34
JOW Kunigami 50.45 318 LR LR 10 46 22.9
comp=Z,261nm,19.4s,baz=102,slow=35
JMN Monobe 52.26 329 P **P 10 26 13.4 -1.2**
MJAR Matsushiro Arr 52.55 334 P **P 10 26 15.2 -1.3**
comp=Z,4.3nm,1.1s,baz=168,slow=6.4,SNR=7.3
MJAR LR LR 10 47 02.3
comp=Z,229nm,21.9s,baz=144,slow=34
comp=Z,4.3nm,1.1s
JNU Nakatsue 53.39 326 P **P 10 26 22.6 -0.2**
JNU IAmb IAmb 10 26 39.3
comp=Z,18nm,1.0s
JNU Nakatsue 53.39 326 LR LR 10 46 02.6
comp=Z,173nm,21.1s,baz=150,slow=33
SSLB Suanglung 53.73 310 P **P 10 26 24.4 -1.1**
SSLB IAmb IAmb 10 26 35.5
comp=Z,12nm,0.9s
JTM Tenmabayashi 55.15 339 P **P 10 26 35.5 0.0**
TAOE Nuku Hiva Isla 55.67 93 *e*LR LR 10 42 44.5
comp=Z,202nm,25.8s
JKA Kamikawa-asahi 57.66 342 P **P 10 26 52.5 -0.8**
ASAJ Asahikawa 57.66 342 LR LR 10 48 13.6
comp=Z,226nm,21.8s,baz=164,slow=32
KSRS Korea Array 58.23 327 P **P 10 26 56.6 -0.8**
comp=Z,1.7nm,0.9s,baz=141,slow=7.9,SNR=6.1
comp=Z,1.7nm,0.9s
KSAR Wonju Array Be 58.24 327 P **P 10 26 56.1 -1.4**
NJ2 Nanjing 60.08 317 *e*P **P 10 27 10.6 +0.2**
NJ2 pP **pP 10 27 13.8 -0.6**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
QIZ Qiongzhong 60.41 299 P **P 10 27 10.8 -2.1**
QIZ S **S 10 35 29.3 +1.7**
QIZ pmax pmax
comp=Z,11nm,1.6s
QIZ pmax pmax
comp=Z,200nm,4.7s
QIZ LR LR
comp=N,160nm,11.2s
QIZ LR LR
comp=E,230nm,23.0s
QIZ LR LR
comp=Z,250nm,16.8s
USRK Ussuriysk Ar. 61.55 335 P **P 10 27 18.8 -1.3**
USRK Ussuriysk Ar. 61.55 335 P **P 10 27 20.2 +0.1**
comp=Z,8.7nm,1.0s,baz=159,slow=7.5,SNR=8.7
USRK LR LR 10 50 24.4
comp=Z,119nm,21.4s,baz=141,slow=33
comp=Z,8.7nm,1.0s
PETK Petropavlovsk- 63.67 356 LR LR 10 50 55.2
comp=Z,142nm,21.0s,baz=164,slow=32
KLR Kul'dur 65.77 338 LR LR 10 54 18.4
comp=Z,135nm,20.3s,baz=155,slow=34
HNS HongShan 66.01 319 ⇑P P 10 27 55.9 +6.2
HNS S **S 10 36 45.3 +8.2**
HNS pmax pmax
comp=Z,17nm,1.7s
HNS LR LR
comp=N,280nm,17.1s
HNS LR LR
comp=E,220nm,19.2s
HNS LR LR
comp=Z,380nm,25.0s
SLVN Son La 66.43 299 P **P 10 27 51.7 -1.1**
SLVN IAmb IAmb 10 28 02.6
comp=Z,7.6nm,1.0s
NIKH Nikolski High 67.68 18 P **P 10 27 59.5 -0.5**
baz=210
XAN Xi'an 68.11 313 P **P 10 28 03.3 +0.1**
XAN S **S 10 37 05.8 +3.2**
XAN pmax pmax
comp=Z,10.0nm,1.7s
XAN LR LR
comp=N,280nm,19.9s
XAN LR LR
comp=E,350nm,21.3s
XAN LR LR
comp=Z,480nm,18.5s
HEH HeiHe 68.26 336 *e*P **P 10 28 02.8 -0.9**
HEH pmax pmax
comp=Z,7.0nm,1.1s
PHRA Phrae 68.64 295 P **P 10 28 05.5 -1.3**
KMI Kunming 68.89 302 ⇑P **P 10 28 10.0 +1.5**
KMI S **S 10 37 15.0 +2.3**
KMI pmax pmax
comp=Z,18nm,1.4s
KMI LR LR
comp=N,170nm,19.0s
KMI LR LR
comp=E,230nm,21.8s
KMI LR LR
comp=Z,250nm,24.3s
XLT XiLinHaoTe 69.17 325 *e*P **P 10 28 10.5 +0.8**
XLT sP pwP 10 28 19.0 +0.6
XLT pmax pmax
comp=Z,13nm,1.0s
CMAR Chiang Mai Arr 69.78 294 P **P 10 28 12.7 -1.2**
CMAR Chiang Mai Arr 69.78 294 P **P 10 28 14.6 +0.7**
comp=Z,2.4nm,0.7s,baz=113,slow=4.1,SNR=26
CMAR LR LR 10 58 50.8
comp=Z,80nm,19.3s,baz=115,slow=36
comp=Z,2.4nm,0.7s
CHTO Chiang Mai 69.90 295 P **P 10 28 13.9 -0.6**
CHTO IAmb IAmb 10 28 16.6
comp=Z,14nm,1.3s
HHC Hu-ho-hao-te 70.00 321 *e*P **P 10 28 17.1 +2.2**
HHC *e*S **S 10 37 27.9 +3.0**
HHC sS sS 10 37 34.8 +2.6
HHC ScS **ScS 10 38 16.3 -0.5**
HHC pmax pmax
comp=Z,4.0nm,0.6s
HHC pmax pmax
comp=Z,220nm,5.9s
HHC LR LR
comp=N,270nm,15.9s
HHC LR LR
comp=E,240nm,15.5s
HHC LR LR
comp=Z,460nm,14.4s
PZH PanZhiHua 70.26 303 P **P 10 28 16.0 -0.8**
PZH S **S 10 37 27.4 -1.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,6.7s
PZH LR LR
comp=N,120nm,18.0s
PZH LR LR
comp=E,150nm,18.0s
PZH LR LR
comp=Z,210nm,24.0s
MA2 Magadan 70.70 353 LR LR 10 53 59.8
comp=Z,131nm,21.9s,baz=154,slow=31
HIA Hailar 70.86 331 P **P 10 28 19.0 -0.9**
HIA IAmb IAmb 10 28 20.9
comp=Z,9.1nm,0.9s
FALS False Pass 70.99 20 P **P 10 28 20.6 +0.2**
baz=215
S12K Black Hills 72.13 20 P **P 10 28 28.0 +0.7**
baz=216
CHNA Chernabura Isl 72.29 21 P **P 10 28 28.9 +0.7**
baz=218
LZH Lanzhou 72.74 313 *e*P **P 10 28 34.3 +2.7**
LZH sP pwP 10 28 42.0 +1.6
LZH S **S 10 38 00.8 +3.9**
LZH pmax pmax
comp=Z,23nm,1.2s
LZH LR LR
comp=N,190nm,16.7s
LZH LR LR
comp=E,270nm,16.3s
LZH LR LR
comp=Z,360nm,18.2s
O14K Tigyukauivet M 75.27 18 P **P 10 28 45.2 -0.4**
baz=216
R17L Mt. Peulik Vol 75.60 21 P **P 10 28 47.4 -0.3**
baz=221
N14K Kuskokwak Cree 75.69 17 P **P 10 28 47.7 -0.3**
baz=216
P16K Nushagak River 76.12 19 P **P 10 28 51.0 +0.5**
baz=219
M14K Bethel 76.28 17 P **P 10 28 51.7 +0.3**
baz=215
Q16K King Salmon 76.29 20 P **P 10 28 52.1 +0.6**
baz=221
N15K Kwethluk River 76.36 18 P **P 10 28 52.1 +0.2**
baz=217
OHAK Old Harbor 76.42 23 P **P 10 28 52.1 -0.2**
baz=224
L14K Kuka Creek 76.57 16 P **P 10 28 53.2 +0.2**
baz=214
ULN Ulaanbaatar 76.59 325 P **P 10 28 53.0 -0.7**
ULN IAmb IAmb 10 29 07.1
comp=Z,15nm,1.4s
M15K Kasigluk River 76.60 17 P **P 10 28 53.6 +0.4**
baz=216
GAMB Gambell 76.61 11 P **P 10 28 53.5 +0.3**
baz=205
Q18K Katmai Hardscr 76.84 21 P **P 10 28 55.7 +0.9**
baz=222
SONM Songino Array 76.95 325 P **P 10 28 54.2 -1.5**
SONM Songino Array 76.95 325 P **P 10 28 56.1 +0.4**
comp=Z,2.5nm,0.8s,baz=137,slow=5.8,SNR=14
comp=Z,2.5nm,0.8s
O17K Koliganek Bris 76.99 19 P **P 10 28 56.2 +0.8**
baz=220
N16K Nishlik Lake 77.00 18 P **P 10 28 56.4 +0.9**
baz=218
YAK Yakutsk 77.05 344 LR LR 11 04 48.9
comp=Z,97nm,18.3s,baz=104,slow=37
GTA Gaotai 77.08 315 *e*P **P 10 28 57.8 +1.2**
GTA pP sP 10 29 02.8 +0.6
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA LR LR
comp=N,140nm,15.1s
GTA LR LR
comp=E,230nm,14.7s
GTA LR LR
comp=Z,270nm,17.1s
KDAK Kodiak Island 77.09 22 P **P 10 28 56.3 +0.3**
baz=225
L15K Ungalak Mounta 77.17 16 P **P 10 28 56.5 0.0**
baz=216
P18K Big Mountain, 77.32 20 P **P 10 28 58.0 +0.6**
baz=222
M16K Timber Creek 77.38 18 P **P 10 28 58.4 +0.8**
baz=218
J14K Nanvaranak Lak 77.51 15 P **P 10 28 58.9 +0.6**
baz=213
Q19K Cape Douglas, 77.53 21 P **P 10 28 58.9 +0.3**
Q19K Cape Douglas, 77.53 21 P **P 10 28 58.9 +0.3**
baz=223
N17K Nushagak Hills 77.54 19 P **P 10 28 59.2 +0.7**
baz=220
K15K Wolf Creek Mou 77.67 16 P **P 10 28 59.6 +0.3**
baz=215
O18K Koktuh Hills 77.67 20 P **P 10 28 60.0 +0.7**
baz=222
Q20K Shuyak Island 77.75 22 P **P 10 28 59.6 -0.2**
baz=225
L16K Owhat River 77.77 17 P **P 10 28 59.5 -0.2**
L16K Owhat River 77.77 17 P **P 10 28 59.1 -0.7**
baz=218
N18K Kilae Creek 78.07 19 P **P 10 29 01.2 -0.3**
baz=221
M17K Holitna River 78.13 18 P **P 10 29 01.7 -0.1**
M17K Holitna River 78.13 18 P **P 10 29 02.8 +1.0**
baz=220
P19K Oil Pt 78.20 21 P **P 10 29 02.9 +0.6**
baz=224
O19K Port Alsworth 78.22 20 P **P 10 29 03.1 +0.8**
baz=223
L17K Donlin 78.45 17 P **P 10 29 04.3 +0.8**
baz=219
ILSW Iliamna Southw 78.47 21 P **P 10 29 02.8 -1.1**
BILL Bilibino 78.50 1 P **P 10 29 03.4 -0.4**
N19K Bonanza Creek 78.63 20 P **P 10 29 05.6 +0.9**
baz=222
M18K Stony River 78.70 19 P **P 10 29 06.0 +1.0**
baz=221
J16K Anvik River 78.72 16 P **P 10 29 06.1 +1.0**
baz=216
O20K Slope Mountain 78.72 21 P **P 10 29 06.5 +1.3**
baz=224
K17K Iditarod 78.91 17 P **P 10 29 06.7 +0.7**
baz=218
L18K Granite Mounta 78.99 18 P **P 10 29 08.6 +2.0**
baz=220
I17K Unalakleet 79.19 15 P **P 10 29 08.8 +1.3**
baz=216
F14K Arctic Creek 79.19 12 P **P 10 29 08.6 +1.1**
baz=210
J17K VABM Dome 79.22 16 P **P 10 29 08.3 +0.6**
baz=218
G15K Niukluk 79.29 13 P **P 10 29 08.0 -0.1**
baz=213
QSPA South Pole Qui 79.36 180 P **P 10 29 09.7 +0.9**
QSPA South Pole Qui 79.36 180 P **P 10 29 09.6 +0.7**
comp=Z,2.0nm,1.1s,baz=350,slow=6.1,SNR=3.6
QSPA LR LR 11 00 34.3
comp=Z,112nm,19.5s,baz=20,slow=33
comp=Z,2.0nm,1.1s
M19K Big River Lodg 79.47 19 P **P 10 29 07.5 -1.7**
M19K Big River Lodg 79.47 19 P **P 10 29 09.1 -0.1**
baz=222
L19K White Mountain 79.53 19 P **P 10 29 07.9 -1.6**
L19K IAmb IAmb 10 29 11.7
comp=Z,23nm,1.4s
L19K White Mountain 79.53 19 P **P 10 29 10.1 +0.6**
baz=222
N20K Mount Spurr 79.67 20 P **P 10 29 10.6 +0.3**
baz=224
TTA Tatalina 79.74 18 P **P 10 29 10.4 -0.3**
TTA IAmb IAmb 10 29 12.6
comp=Z,13nm,1.1s
TTA Tatalina 79.74 18 P **P 10 29 11.0 +0.3**
baz=221
M20K Styx River 79.86 19 P **P 10 29 11.3 -0.1**
baz=224
SEW Seward 79.88 22 P **P 10 29 11.0 -0.4**
baz=227
J18K Innoko River 79.94 17 P **P 10 29 11.5 -0.2**
J18K Innoko River 79.94 17 P **P 10 29 12.2 +0.5**
baz=220
G16K Koyuk River 80.01 14 P **P 10 29 12.0 0.0**
baz=214
O22K Cooper Landing 80.04 22 P **P 10 29 12.3 0.0**
baz=227
L20K Farewell, AK 80.05 19 P **P 10 29 11.7 -0.7**
baz=223
H17K Granite Mounta 80.24 15 P **P 10 29 13.4 +0.1**
baz=217
SUA Susitna One 80.36 20 P **P 10 29 14.1 0.0**
SUA IAmb IAmb 10 29 19.8
comp=Z,27nm,1.3s
SUA Susitna One 80.36 20 P **P 10 29 13.5 -0.6**
baz=226
SKT Skwentna 80.45 20 P **P 10 29 14.5 0.0**
baz=225
P23K Montague Islan 80.57 23 P **P 10 29 15.1 0.0**
baz=229
Q23K Middleton Isla 80.61 23 P **P 10 29 15.3 0.0**
baz=230
K20K Telida 80.64 18 P **P 10 29 15.6 +0.1**
K20K IAmb IAmb 10 29 17.5
comp=Z,36nm,1.5s
K20K Telida 80.64 18 P **P 10 29 16.2 +0.7**
baz=222
J19K Poorman 80.66 17 P **P 10 29 15.9 +0.3**
J19K IAmb IAmb 10 29 17.7
comp=Z,19nm,1.3s
J19K Poorman 80.66 17 P **P 10 29 15.9 +0.3**
baz=221
M22K Willow 80.77 20 P **P 10 29 15.9 -0.3**
baz=226
PWL Port Wells 80.80 22 P **P 10 29 16.0 -0.4**
baz=228
H18K Honhosa River 80.81 15 P **P 10 29 17.0 +0.6**
H18K IAmb IAmb 10 29 31.6
comp=Z,17nm,1.4s
H18K Honhosa River 80.81 15 P **P 10 29 16.3 -0.1**
baz=218
GCSA Galena City Sc 80.89 16 P **P 10 29 16.7 0.0**
baz=220
PMR Palmer 81.01 21 P **P 10 29 17.0 -0.4**
baz=227
KNK Knik Glacier 81.12 21 P **P 10 29 17.0 -1.1**
baz=228
F17K Baldwin Pennin 81.14 14 P **P 10 29 18.0 0.0**
baz=215
J20K Nowinta River 81.23 17 P **P 10 29 19.4 +0.8**
J20K IAmb IAmb 10 29 20.7
comp=Z,29nm,1.4s
J20K Nowinta River 81.23 17 P **P 10 29 19.0 +0.4**
baz=222
GLI Glacier Island 81.26 22 P **P 10 29 19.7 +0.8**
baz=229
CAST Castle Rocks 81.30 19 P **P 10 29 19.1 0.0**
CAST IAmb IAmb 10 29 24.9
comp=Z,22nm,1.4s
CAST Castle Rocks 81.30 19 P **P 10 29 19.4 +0.3**
baz=224,SNR=6.3
G18K Tagagawik 81.32 15 P **P 10 29 19.1 0.0**
baz=218
SML Sawmill 81.43 21 P **P 10 29 19.4 -0.4**
baz=228
E17K Hotham Inlet 81.53 13 P **P 10 29 19.7 -0.5**
baz=215,SNR=8.2
EYAK Cordova Ski Ar 81.56 23 P **P 10 29 19.2 -1.2**
baz=230
CHUM Lake Minchumin 81.57 18 P **P 10 29 20.1 -0.3**
baz=224
I20K Naaghedeneel 81.60 17 P **P 10 29 20.6 +0.1**
baz=222
H19K Roundabout Mou 81.61 16 P **P 10 29 20.7 +0.2**
H19K Roundabout Mou 81.61 16 P **P 10 29 20.4 -0.1**
baz=220
F18K Selawik 81.64 14 P **P 10 29 20.5 -0.2**
baz=217

KAIM	Kayak Island	81.68	24	P	P	10 29 20.5	-0.5
KAIM	Kayak Island	81.68	24	P	P	10 29 20.4	-0.6
	baz=232						
D17K	Noatak River	81.78	12	P	P	10 29 20.4	-1.0
	baz=213						
TRF	Thorofare Moun	81.90	19	P	P	10 29 21.3	-1.0
	baz=226						
G19K	Purcell Mounta	81.92	15	P	P	10 29 22.1	-0.1
G19K	Purcell Mounta	81.92	15	P	P	10 29 22.6	+0.4
	baz=219						
H20K	Anotleneega Mo	82.01	16	P	P	10 29 22.6	-0.1
	baz=221						
WAT1	Susitna Watana	82.05	20	P	P	10 29 22.6	-0.4
	baz=228						
E18K	Tukpahlearik C	82.09	13	P	P	10 29 22.8	-0.2
E18K				IAmb	IAmb	10 29 25.4	
	comp=Z,19nm,1.2s						
E18K	Tukpahlearik C	82.09	13	P	P	10 29 23.2	+0.2
	baz=216						
KLU	Klutina	82.10	22	P	P	10 29 22.9	-0.4
	baz=230						
RDOG	Red Dog Mine	82.11	12	P	P	10 29 23.5	+0.3
RDOG				IAmb	IAmb	10 29 24.9	
	comp=Z,16nm,0.9s						
RDOG	Red Dog Mine	82.11	12	P	P	10 29 23.4	+0.2
	baz=214						
BPAW	Bear Paw Mtn.	82.13	18	P	P	10 29 23.3	-0.2
	baz=225						
WAT6	Susitna Watana	82.16	21	P	P	10 29 23.6	-0.1
	baz=228						
BMRM	Bremner River	82.26	23	P	P	10 29 24.5	+0.3
	baz=232						
F19K	Shaleruckik Mo	82.28	15	P	P	10 29 23.6	-0.5
F19K	Shaleruckik Mo	82.28	15	P	P	10 29 24.3	+0.2
	baz=219						
RND	Reindeer	82.34	20	P	P	10 29 23.8	-0.8
RND				IAmb	IAmb	10 29 27.0	
	comp=Z,19nm,1.3s						
M24K	Tolsona, Glenn	82.40	21	P	P	10 29 25.8	+0.9
	baz=230						
C17K	DeLong Mountai	82.41	12	P	P	10 29 25.6	+0.8
	baz=213						
MCK	McKinley	82.53	19	P	P	10 29 25.1	-0.4
	baz=227,SNR=6.9						
DHY	Denali Highway	82.61	20	P	P	10 29 26.7	+0.6
	baz=229						
N25K	Chitina, Valde	82.66	22	P	P	10 29 26.9	+0.6
	baz=232						
BWN	Browne	82.66	19	P	P	10 29 26.4	+0.3
IMAR	Indian Mountai	82.69	16	P	P	10 29 26.4	+0.2
CRQE	Cirque	82.71	23	P	P	10 29 27.2	+0.5
	baz=233						
H21K	Melozitna Rive	82.71	17	P	P	10 29 27.0	+0.7
	baz=223						
MESA	MESA	82.82	24	P	P	10 29 27.6	+0.3
	baz=234						
MLY	Manley	82.87	18	IAmb	IAmb	10 29 29.1	
	comp=Z,20nm,1.4s						
MLY	Manley	82.87	18	P	P	10 29 26.9	-0.3
	baz=225,SNR=6.7						
RPN	Rapa Nui	82.88	116	LR	LR	10 58 16.6	
	comp=Z,100nm,20.6s,baz=290,slow=30						
E19K	Redstone River	82.90	14	P	P	10 29 27.7	+0.4
	baz=219,SNR=11						
C18K	Utukok River	82.96	12	P	P	10 29 27.5	-0.1
	baz=215						
F20K	Avaraart Lake	82.96	15	P	P	10 29 27.9	+0.3
	baz=220,SNR=9.1						
NEA2	Nenana	83.08	19	P	P	10 29 28.9	+0.6
	baz=227						
MCARA	McCarthy VSAT	83.12	23	P	P	10 29 28.8	+0.2
	baz=233						
G21K	Allakaket	83.15	16	P	P	10 29 28.9	+0.3
	baz=223						
PAX	Paxson	83.20	21	P	P	10 29 28.3	-0.8
	baz=230						
H22K	Ishtalitna Cre	83.29	17	P	P	10 29 29.8	+0.4
	baz=225						
WRH	Wood River Hil	83.31	19	IAmb	IAmb	10 29 30.6	
	comp=Z,19nm,1.4s						
B18K	Kokolik River	83.43	12	P	P	10 29 29.7	-0.3
	baz=214						
PINM	Pinnacle	83.47	25	P	P	10 29 30.5	0.0
	baz=236						
D19K	Kuna River	83.51	13	P	P	10 29 30.6	+0.1
	baz=218						
CTG	Chitna Glacier	83.53	24	P	P	10 29 30.3	-0.5
	baz=234						
PNL	Peninsula	83.58	25	P	P	10 29 31.1	0.0
	baz=236						
K24K	Donnelly Dome	83.63	20	P	P	10 29 31.2	0.0
	baz=230						
HDA	Harding Lake	83.64	19	P	P	10 29 31.2	+0.1
	baz=229,SNR=7.0						
COLA	College	83.65	19	P	P	10 29 30.6	-0.6
COLA	College	83.65	19	P	P	10 29 30.5	-0.7
	baz=228						
F21K	Alatna River	83.67	16	P	P	10 29 31.1	-0.3
	baz=223						
C19K	Lookout Ridge	83.67	13	P	P	10 29 31.0	-0.4
	baz=217						
M26K	Nabesna, AK	83.75	22	P	P	10 29 31.0	-0.9
	baz=233						
E20K	Nigu River	83.78	14	P	P	10 29 32.4	+0.5
	baz=220						
H23K	Yukon River	83.78	18	P	P	10 29 32.0	0.0
	baz=226						
MENT	Mentasta	83.81	22	P	P	10 29 31.2	-0.9
MENT				IAmb	IAmb	10 29 50.9	
	comp=Z,8.5nm,1.2s						
O28M	Mount Upton	83.88	24	P	P	10 29 33.5	+0.6
	baz=236						
IL31		83.89	19	IAmb	IAmb	10 29 34.8	
	comp=Z,17nm,1.3s						
ILAR	Eielson Array	83.89	19	P	P	10 29 31.8	-0.7
	comp=Z,8.4nm,1.1s,baz=247,slow=4.5,SNR=28						
	comp=Z,8.4nm,1.1s						
POKR	Poker Plat Res	83.95	19	P	P	10 29 33.3	+0.5
	baz=228						
G22K	Bettles	83.99	16	P	P	10 29 33.4	+0.5
	baz=224						
L26K	Log Cabin Wild	84.00	22	IAmb	IAmb	10 29 35.1	
	comp=Z,7.0nm,1.1s						
L26K	Log Cabin Wild	84.00	22	P	P	10 29 34.0	+0.9
	baz=232,SNR=5.3						
D20K	Etivluk River	84.03	14	P	P	10 29 33.9	+0.8
	baz=220						
SIT	Sitka	84.03	29	P	P	10 29 33.6	+0.3
	baz=240						
S31K	Pelican	84.07	28	P	P	10 29 33.9	+0.4
	baz=239						
M27K	Edge Creek, AK	84.14	23	P	P	10 29 34.7	+0.7
	baz=234						
MAW	Mawson	84.20	202	P	P	10 29 34.5	+0.4
	comp=Z,1.6nm,0.9s,baz=114,slow=10.0,SNR=2.1						
MAW				LR	LR	11 04 04.7	
	comp=Z,84nm,19.3s,baz=89,slow=34						
	comp=Z,1.6nm,0.9s						
F22K	John River	84.23	16	P	P	10 29 34.6	+0.4
	baz=224,SNR=6.8						
G23K	Bananza Creek	84.26	17	IAmb	IAmb	10 29 36.3	
	comp=Z,9.8nm,1.0s						
G23K	Bananza Creek	84.26	17	P	P	10 29 34.7	+0.4
	baz=226,SNR=5.2						
P29M	Windy Craggy	84.27	26	P	P	10 29 34.6	0.0
	baz=238						
O29M	Mount Kennedy	84.28	25	P	P	10 29 34.7	0.0
	baz=237						
J25K	Salcha River,	84.29	20	P	P	10 29 34.4	-0.2
	baz=230						
H24K	Noodor Dome	84.29	18	P	P	10 29 35.3	+0.8
	baz=228						
YUK8	Steele Glacier	84.34	24	P	P	10 29 35.9	+0.8
	baz=236,SNR=7.9						
YUK3	Moose Creek	84.34	23	P	P	10 29 35.1	0.0
	baz=235,SNR=8.1						
SCRK	Sand Creek	84.36	21	IAmb	IAmb	10 29 36.7	
	comp=Z,11nm,1.1s						
SCRK	Sand Creek	84.36	21	P	P	10 29 34.9	-0.2
	baz=232,SNR=6.2						
E21K	Killik River	84.45	15	P	P	10 29 35.7	+0.4
	baz=222						
BVCY	Beaver Creek	84.56	23	P	P	10 29 36.9	+1.0
	baz=235						
COLD	Coldfoot	84.57	16	P	P	10 29 35.9	+0.1
	baz=226						
L27K	Beaver Creek,	84.57	22	P	P	10 29 36.9	+0.8
	baz=234,SNR=8.7						
S32K	Killisnoo	84.59	29	P	P	10 29 36.0	-0.1
	baz=241						
BCAR	Beaver Creek A	84.59	22	P	P	10 29 36.2	+0.1
U33K	Whale Pass	84.64	30	P	P	10 29 37.3	+0.9
	baz=242						
YUK6	Outpost Mounta	84.72	25	P	P	10 29 37.8	+0.8
	baz=237						
PLBC	Pleasant Camp	84.78	26	P	P	10 29 38.3	+1.3
	baz=239						
E22K	Anaktuvuk Pass	84.78	15	P	P	10 29 37.4	+0.5
	baz=224						
C21K	Knifeblade Rid	84.80	14	P	P	10 29 38.2	+1.2
	baz=221						
PRP	Porcupine Dome	84.82	19	P	P	10 29 38.8	+1.4
	baz=230						
YUK4	Talbot Arm	84.82	24	P	P	10 29 38.9	+1.4
	baz=237						
J26L	Joseph Creek	84.83	20	P	P	10 29 37.6	+0.2
	baz=232						
P30M	Million Dollar	84.86	26	P	P	10 29 38.4	+0.9
	baz=238						
B20K	Meade River	84.91	13	P	P	10 29 37.8	+0.3
	baz=219						
G24K	Hadweenzic Riv	84.99	18	P	P	10 29 37.9	-0.1
	baz=228						
HYT	Haines Junctio	85.01	25	P	P	10 29 39.2	+0.8
	baz=238						
R32K	Eagecrest	85.01	28	P	P	10 29 39.4	+1.1
	baz=241						
V35K	Ketchikan	85.04	31	P	P	10 29 39.0	+0.5
	baz=244						
K27K	Chicken	85.06	21	P	P	10 29 39.9	+1.5
	baz=234						
D22K	Ayikyak River	85.10	15	P	P	10 29 39.0	+0.5
	baz=223						
WRAK	Wrangell Islan	85.17	30	P	P	10 29 39.7	+0.7
	baz=243						
B21K	Ikpikpuk River	85.19	14	P	P	10 29 39.3	+0.4
	baz=221						
SKAG	Skagway	85.23	27	P	P	10 29 40.5	+1.2
	baz=240						
TIXI	Tiksi	85.25	350	P	P	10 29 38.9	-0.3
TIXI				IAmb	IAmb	10 29 39.8	
	comp=Z,16nm,1.1s						
E23K	Chandalar	85.31	16	P	P	10 29 40.4	+0.7
	baz=226						
F24K	Squaw Lake	85.42	17	P	P	10 29 40.5	+0.3
	baz=228						
G25K	Bearman Lake	85.45	18	P	P	10 29 41.0	+0.8
	baz=230						
I26K	Coal Creek Min	85.46	20	P	P	10 29 41.2	+0.8
	baz=232						
M29M	Somme Creek	85.50	23	P	P	10 29 41.2	+0.5
	baz=237						
N30M	Aishikik Lake	85.52	25	P	P	10 29 41.8	+1.0
	baz=236						
O30N	Mendenhall	85.57	25	P	P	10 29 41.7	+0.6
	baz=239						
E24K	Your Creek	85.63	16	P	P	10 29 41.7	+0.4
	baz=227						
D23K	Nanushuk River	85.67	15	P	P	10 29 41.7	+0.4
	baz=225						
AFDM	Forest Hills D	85.72	49	IAmb	IAmb	10 29 44.2	
	comp=Z,24nm,1.5s						
TOLK	Toolik Lake Re	85.73	16	IAmb	IAmb	10 29 43.8	
	comp=Z,19nm,1.4s						
TOLK	Toolik Lake Re	85.73	16	P	P	10 29 41.8	+0.1
	baz=226						
EGAK	Eagle	85.82	21	P	P	10 29 42.6	+0.5
	baz=234,SNR=6.0						
CMB	Columbia Colle	85.89	50	IAmb	IAmb	10 29 45.0	
	comp=Z,13nm,1.5s						
L29M	L29M	85.99	23	P	P	10 29 43.8	+0.7
	baz=237						
B22K	Teshekpuk Lake	86.00	13	P	P	10 29 43.7	+0.8
	baz=222						
P32M	Atlin	86.01	27	P	P	10 29 44.8	+1.5
	baz=241						
DAWY	Dawson	86.05	22	P	P	10 29 44.0	+0.6
	baz=236,SNR=15						
N31M	Braeburn, Yuko	86.07	25	P	P	10 29 43.9	+0.4
	baz=240						
F25K	Christian Rive	86.12	17	P	P	10 29 44.7	+1.0
	baz=230						
I27K	Kandik River	86.15	20	P	P	10 29 44.3	+0.4
	baz=234						
M30M	Minto, Yukon	86.22	24	IAmb	IAmb	10 29 46.4	
	comp=Z,8.8nm,1.2s						
M30M	Minto, Yukon	86.22	24	P	P	10 29 44.6	+0.3
	baz=238						
G26K	Porcupine Rive	86.27	18	P	P	10 29 44.8	+0.5
	baz=232						
D24K	Happy Valley	86.28	15	P	P	10 29 45.4	+1.1
	baz=227						
C23K	Itkillik River	86.30	14	P	P	10 29 45.7	+1.2
	baz=225						
BMAR	Burnt Mountain	86.33	18	P	P	10 29 45.1	+0.4
Q32M	Nakina River	86.37	28	P	P	10 29 45.7	+0.4
	baz=243						
EMB	Emerald Bay	86.38	49	IAmb	IAmb	10 29 47.8	
	comp=Z,11nm,1.2s						
S34M	Telegraph Cree	86.43	29	P	P	10 29 46.5	+1.2
	baz=244						
T35M	Bob Quinn	86.45	30	P	P	10 29 46.9	+1.4
	baz=245						
MPK	Martis Peak	86.53	49	IAmb	IAmb	10 29 49.5	
	comp=Z,23nm,1.4s						
H27K	Steamboat Moun	86.56	19	P	P	10 29 46.8	+0.9
	baz=234						
H04A	Detroit Lake	86.61	44	IAmb	IAmb	10 30 02.9	
	comp=Z,12nm,1.4s						
K29M	Barlow Dome	86.61	22	P	P	10 29 47.4	+1.1
	baz=238						
F26K	Sheenjek River	86.63	18	P	P	10 29 47.6	+1.4
	baz=231						
I28M	Miner Creek	86.64	20	P	P	10 29 47.3	+1.0
	baz=236						
J29N	Klondike Camp	86.69	22	IAmb	IAmb	10 29 58.4	
	comp=Z,7.7nm,0.8s						
J29N	Klondike Camp	86.69	22	P	P	10 29 47.8	+1.2
	baz=237,SNR=6.8						
C24K	Franklin Bluff	86.70	15	P	P	10 29 47.4	+1.0
	baz=227						
P33M	Teslin, Yukon	86.71	27	P	P	10 29 47.4	+0.7
	baz=242						
WAKR	Walker	86.75	50	IAmb	IAmb	10 30 06.0	
	comp=Z,12nm,1.4s						
J05D	Fort Rock, OR	86.83	45	IAmb	IAmb	10 30 09.6	
	comp=Z,8.6nm,1.3s						
G27K	Doyon Strip	86.86	19	P	P	10 29 48.5	+1.2
	baz=234						
M31M	Drury Creek, Y	87.00	25	P	P	10 29 48.7	+0.7
	baz=241						
N32M	Quiet Lake	87.04	26	P	P	10 29 49.1	+0.8
	baz=242						
D25K	Kavik River	87.04	16	P	P	10 29 48.3	+0.2
	baz=229,SNR=5.9						
PAHR	Pah Rah Range	87.12	49	IAmb	IAmb	10 29 51.4	
	comp=Z,17nm,1.5s						
WMQ	Urumqi	87.14	315	eP	P	10 29 50.8	+1.6
WMQ				LR	LR		
	comp=N,320nm,12.9s						
WMQ				LR	LR		
	comp=Z,250nm,21.3s						
I29M	Ogilvie Camp,	87.15	21	P	P	10 29 49.5	+0.7
	baz=237,SNR=16						
R33M	Jennings River	87.17	28	P	P	10 29 48.4	-0.6
R33M				IAmb	IAmb	10 30 14.4	
	comp=Z,13nm,1.5s						
R33M	Jennings River	87.17	28	P	P	10 29 50.2	+1.1
	baz=244						
DLBC	Dease Lake	87.19	29	P	P	10 29 50.3	+1.2
	baz=245						
PINE	Pine Mountain	87.19	45	P	P	10 29 50.0	+0.3
FARO	Faro, Yukon	87.44	25	P	P	10 29 51.7	+1.5
	baz=242						
J30M	Hart River	87.44	22	P	P	10 29 51.9	+1.6
	baz=239						
DSP	Deep Springs	87.56	51	IAmb	IAmb	10 30 01.0	
	comp=Z,7.8nm,1.3s						
NVAR	Mina Array Bea	87.58	50	P	P	10 29 50.7	-1.0
NVAR	Mina Array Bea	87.58	50	P	P	10 29 52.5	+0.8
	comp=Z,3.0nm,1.1s,baz=229,slow=6.4,SNR=14						
	comp=Z,3.0nm,1.1s						
H29M	Whitestone	87.60	20	P	P	10 29 52.6	+1.8
	baz=237						
E27K	Coleen River	87.69	18	P	P	10 29 52.5	+1.2
	baz=234						
NV11	Mina Array Sit	87.69	50	P	P	10 29 51.0	-1.2
NV11				IAmb	IAmb	10 30 01.4	
	comp=Z,7.4nm,1.2s						
I30M	Mount Dempster	87.77	21	P	P	10 29 50.9	-0.9
I30M				IAmb	IAmb	10 29 59.6	
	comp=Z,10nm,1.4s						
I30M	Mount Dempster	87.77	21	P	P	10 29 52.4	+0.5
	baz=239						
C26K	Camden Bay	87.82	16	P	P	10 29 52.7	+0.9
	baz=231,SNR=22						
ESJX	Sierra Juarez	87.82	57	IAmb	IAmb	10 29 59.6	
	comp=Z,12nm,1.5s						
F28M	Old Crow	87.89	19	P	P	10 29 52.8	+0.5
F28M				IAmb	IAmb	10 29 54.5	
	comp=Z,15nm,1.4s						
F28M	Old Crow	87.89	19	P	P	10 29 54.0	+1.7
	baz=235						
C27K	Jago River	87.96	16	P	P	10 29 53.6	+1.1
	baz=232						
G29M	Pine Creek	88.10	20	P	P	10 29 54.2	+0.9
	baz=237						
HYB	Hyderabad	88.23	288	eP	P	10 29 55.0	0.0
EPYK	Eagle Plains	88.25	20	P	P	10 29 54.6	+0.7
	baz=238,SNR=8.8						
GWY	Greenwater Val	88.26	53	P	P	10 29 54.3	-0.7
I07A	Izee	88.27	45	IAmb	IAmb	10 29 56.9	
	comp=Z,13nm,1.4s						
WVOR	Wild Horse Val	88.42	46	IAmb	IAmb	10 29 57.8	
	comp=Z,17nm,1.4s						
D27M	Malcolm River	88.50	17	P	P	10 29 56.3	+1.1
	baz=234,SNR=11						
E28M	Babbage River	88.56	18	IAmb	IAmb	10 30 00.3	
	comp=Z,12nm,1.5s						
E28M	Babbage River	88.56	18	P	P	10 29 56.7	+1.3
	baz=236,SNR=13						
G30M	tAoh Zraii Nji	88.73	20	P	P	10 29 56.6	+0.3
	baz=239						
J08A	Circle Bar Ran	88.78	46	IAmb	IAmb	10 30 06.7	
	comp=Z,5.2nm,1.0s						
H31M	Peel River	88.79	21	P	P	10 29 57.3	+0.8
	baz=241						
BMN	Battle Mountai	88.91	49	IAmb	IAmb	10 30 09.2	
	comp=Z,10nm,1.4s						
E29M	Blow River	88.94	18	P	P	10 29 57.9	+0.7
	baz=237						
D28M	Stokes Point	89.20	18	P	P	10 29 59.1	+0.8
	baz=236						
F30M	Barrier River	89.21	20	P	P	10 29 59.1	+0.7
	baz=239						
E08A	Dider Farm, El	89.25	42	P	P	10 29 58.7	-0.4
E08A				IAmb	IAmb	10 30 26.4	
	comp=Z,8.9nm,1.3s						
G31M	Satah River	89.37	20	P	P	10 29 59.6	+0.4
	baz=241						
BLYC	Blythe	89.40	56	IAmb	IAmb	10 30 02.6	
	comp=Z,16nm,1.4s						
R11B	Troy Canyon, C	89.63	51	P	P	10 30 01.8	+0.5
	baz=256						
TOAD	Toad River Com	89.65	30	P	P	10 30 01.8	+1.1
	baz=249						
F31M	Tsiigehtchic	89.80	20	P	P	10 30 01.6	+0.5
F31M	Tsiigehtchic	89.80	20	P	P	10 30 02.4	+1.2
	baz=241						
PRN	Pahroc Range	89.82	52	IAmb	IAmb	10 30 05.5	
	comp=Z,15nm,1.3s						
W13A	Hualapai Mount	90.21	54	IAmb	IAmb	10 30 10.5	
	comp=Z,10nm,1.5s						
INK	Inuvik	90.29	19	IAmb	IAmb	10 30 06.7	
	comp=Z,10nm,1.3s						
INK	Inuvik	90.29	19	P	P	10 30 04.8	+1.3
	baz=241						
F10A	Beach Ranch, E	90.33	43	P	P	10 30 03.9	-0.4
F10A				IAmb	IAmb	10 30 14.5	
	comp=Z,20nm,1.5s						
Q12A	Willow Creek R	90.36	50	IAmb	IAmb	10 30 12.1	
	comp=Z,19nm,1.4s						
ELK	Elko	90.45	49	IAmb	IAmb	10 30 14.8	
	comp=Z,12nm,1.4s						
MFID	Camas Ranch	90.66	46	P	P	10 30 05.8	-0.1
MFID				IAmb	IAmb	10 30 07.2	
	comp=Z,9.3nm,1.4s						
PLID	Pearl Lake	90.95	44	P	P	10 30 07.2	-0.2
PSUT	Pine Spring	90.99	51	IAmb	IAmb	10 30 10.1	
	comp=Z,13nm,1.5s						
LCMT	Little Creek M	91.14	53	IAmb	IAmb	10 30 10.7	
	comp=Z,9.9nm,1.4s						
KNB	Kanab	91.47	53	IAmb	IAmb	10 30 23.6	
	comp=Z,12nm,1.5s						
MK31	Makanchi Array	91.61	317	P	P	10 30 09.7	-0.5
MKAR	Makanchi Array	91.61	317	P	P	10 30 09.9	-0.2
MKAR	Makanchi Array	91.61	317	P	P	10 30 10.4	+0.3
	comp=Z,1.4nm,0.6s,baz=102,slow=5.7,SNR=4.2						
MKAR				LR	LR	11 13 01.5	
	comp=Z,103nm,18.6s,baz=54,slow=37						
	comp=Z,1.4nm,0.6s						
HLID	Hailey	91.70	46	IAmb	IAmb	10 30 20.7	
	comp=Z,5.4nm,1.1s						
U15A	North Rim	91.76	53	P	P	10 30 11.3	-0.1
U15A				IAmb	IAmb	10 30 14.0	
	comp=Z,9.4nm,1.4s						
ZALV	Zalesovo Beam	91.85	325	P	P	10 30 10.2	-0.8
	comp=Z,0.7nm,0.3s,baz=104,slow=9.6,SNR=4.0						
	comp=Z,0.7nm,0.3s						
BGU	Big Grassy Mou	92.13	49	IAmb	IAmb	10 30 15.9	
	comp=Z,7.7nm,1.3s						
MTPU	Mount Pierson	92.17	52	IAmb	IAmb	10 30 16.6	
	comp=Z,13nm,1.5s						
HVU	Hansel Valley	92.49	48	P	P	10 30 13.7	-0.9
MPU	Maple Canyon	92.99	50	IAmb	IAmb	10 30 26.9	
	comp=Z,10nm,1.5s						
HWUT	Hardware Ranch	93.35	48	P	P	10 30 18.4	-0.1
C36M	Paulatuk	93.85	20	P	P	10 30 21.0	+1.1
	baz=250						
A36M	Sachs Harbour	94.41	17	P	P	10 30 21.7	-0.7
A36M	Sachs Harbour	94.41	17	P	P	10 30 23.9	+1.5
	baz=249						
KURBB	Kurchatov Arra	94.86	320	P	P	10 30 24.2	-0.7
	comp=Z,0.7nm,0.4s,baz=102,slow=3.8,SNR=5.5						
KURBB				LR	LR	11 14 41.9	
	comp=Z,143nm,18.8s,baz=170,slow=36						
	comp=Z,0.7nm,0.4s						
NRIK	Noril'sk	94.92	340	P	P	10 30 23.8	-1.1
	comp=Z,0.9nm,0.3s,baz=103,slow=2.5,SNR=3.6						
NRIK				LR	LR	11 11 03.4	
	comp=Z,113nm,21.5s,baz=117,slow=34						
	comp=Z,0.9nm,0.3s						
PDAR	Pinedale Array	95.02	48	P	P	10 30 25.3	-1.0
	comp=Z,0.3nm,0.7s,baz=286,slow=5.5,SNR=3.9						
	comp=Z,0.3nm,0.7s						
EGMT	Eagleton	95.76	42	P	P	10 30 28.3	-1.0
AAK	Ala-Archa	96.26	312	LR	LR	11 13 52.2	
	comp=Z,125nm,21.7s,baz=65,slow=36						
PMSA	Palmer Station	96.87	161	P	P	10 30 35.4	+1.5
SNAA	Sanae	97.36	184	LR	LR	11 12 20.7	
	comp=Z,102nm,19.1s,baz=125,slow=34						
BVAR	Borovoye Array	100.17	322	P	Pdif	10 30 47.2	-1.7
	comp=Z,0.4nm,0.4s,baz=149,slow=3.0,SNR=4.8						
AKASG	Malin Array Be	125.21	326	PKP	PKPdf	10 36 03.2	-0.4
	comp=Z,0.4nm,0.4s,baz=73,slow=1.7,SNR=7.4						
BRTR	Keskin Array B	126.94	312	PKP	PKPdf	10 36 07.6	+0.1
	comp=Z,1.1nm,0.9s,baz=108,slow=4.7,SNR=4.6						
CLL	Collm	132.76	335	AMS	AMS	11 32 00.0	
	comp=Z,200nm,18.9s						
CLL	Collm	132.76	335	ePKPdf	PKiKP	10 36 20.0	+0.9
GERES	GERESS Array B	134.26	332	PKP	PKiKP	10 36 22.6	+0.2
	comp=Z,0.4nm,0.2s,baz=20,slow=4.3,SNR=3.5						
CEST	Esterri de Car	144.52	337	PKPdf	PKPab	10 36 37.8	-0.5
KEST	Kesra	145.63	321		PKPab	10 36 43.1	+0.6
KEST	Kesra	145.63	321	PKPbc	PKPab	10 36 42.4	-0.1
	comp=Z,24nm,1.1s,baz=344,slow=6.2,SNR=11						
PBRG	Braganca	147.75	346	ePKP	PKPbc	10 36 47.0	-1.2
PGAV	Gavieira, Arco	147.94	348	ePKP	PKPab	10 36 51.4	+0.2
POLO	Lamas de Olo	148.40	347	ePKP	PKiKP

comp=Z,1.5nm,1.1s,baz=54,slow=4.7,SNR=4.4

*SOME **16** 10:28:14.6, 44°.67N×82°.10E, h15km*
*NNC **16** 10:28:15.7±1.6, 44°.64N×82°.05E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=16.8km s-min=4.9km az=124.0, Suspected Mining explosion.*

ISC 16 10:28:13.0±1.6, 44°.69N±0°.06×82°.19E±0°.09, h0km, n14, σ0°53/23, 3C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.75**	**259**	P	**Pg**	**10 28 46.7**	**+0.1**
	6.2nm,0.2s						
DJR				S	**Sg**	**10 29 10.3**	**+1.0**
	10nm,0.3s						
DJR	**Jarkent**	**1.75**	**259**	*e*P	**Pb**	**10 28 45.7**	**-0.5**
	0.8nm,0.1s						
DJR				*e*S	**Sn**	**10 29 08.1**	**+0.2**
	8.9nm,0.3s						
KAPS	**Kapalarasan**	**2.10**	**288**	Pg	**Pb**	**10 28 51.5**	**-0.5**
	5.2nm,0.1s						
KAPS				Lg	Lg	10 29 18.1	
	33nm,0.2s						
KAPS	**Kapalarasan**	**2.10**	**288**	*e*P	**Pb**	**10 28 51.5**	**-0.5**
	5.2nm,0.1s						
KAPS				*e*S	**Sb**	**10 29 18.1**	**-0.5**
	33nm,0.2s						
MK31	**Makanchi Array**	**2.11**	**2**	Pn	**Pg**	**10 28 53.5**	**+0.1**
	3.8nm,0.3s,baz=185,slow=14,SNR=170						
MK31				⇑Sn	**Sg**	**10 29 21.3**	**+0.6**
	5.7nm,0.5s,baz=190,slow=26,SNR=16						
MAKZ	**Makanchi**	**2.12**	**356**	⇑Pn	**Pg**	**10 28 53.7**	**-0.1**
	2.6nm,0.3s						
MAKZ				⇑Sn	**Sg**	**10 29 21.7**	**+0.4**
	8.4nm,0.4s						
SHLS	**Shalkode**	**2.50**	**233**	Pg	**Pn**	**10 28 55.4**	**+0.4**
	16nm,0.2s						
SHLS				Lg	Lg	10 29 24.8	
	22nm,0.3s						
SHLS	**Shalkode**	**2.50**	**233**	*e*P	**Pn**	**10 28 55.4**	**+0.4**
	16nm,0.2s						
SHLS				*e*S	**Sn**	**10 29 24.8**	**-1.4**
	22nm,0.3s						
UZB	**Uzynbulak**	**2.76**	**237**	Pg	**Pb**	**10 29 03.0**	**-0.3**
	4.0nm,0.2s						
UZB				Lg	Lg	10 29 37.9	
	4.8nm,0.5s						
UZB	**Uzynbulak**	**2.76**	**237**	*e*P	**Pb**	**10 29 03.0**	**-0.3**
	4.0nm,0.2s						
UZB				*e*S	**Sb**	**10 29 37.9**	**+0.2**
	4.8nm,0.5s						
KPKS	**Kokpek**	**2.81**	**245**	Pg	**Pb**	**10 29 03.6**	**-0.5**
	11nm,0.2s						
KPKS				Lg	Lg	10 29 39.1	
	13nm,0.3s						
KPKS	**Kokpek**	**2.81**	**245**	*e*P	**Pb**	**10 29 03.8**	**-0.3**
	11nm,0.2s						
KPKS				*e*S	**Sb**	**10 29 39.1**	**0.0**
	14nm,0.2s						
SATY	**Saty**	**3.19**	**241**	Pg	**Pb**	**10 29 10.2**	**-0.4**
	2.6nm,0.2s						
SATY				Lg	Lg	10 29 50.3	
	11nm,0.3s						
SATY	**Saty**	**3.19**	**241**	*e*P	**Pb**	**10 29 10.2**	**-0.4**
	2.6nm,0.2s						
SATY				*e*S	**Sb**	**10 29 50.3**	**+0.4**
	11nm,0.3s						

SJA 16 10:29:06.2±0.8, 31°.35S×68°.81W, h106km±2km, ML3.4, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.22**	**149**	*e*P	Pn	10 29 22.1	+0.7
ZON				*e*S	Sn	10 29 33.8	+1.1
ZON				IAML		10 29 33.9	
	comp=Z,1μm,0.3s						
SJA	**San Juan**	**0.28**	**129**	*e*P	Pn	10 29 22.6	+1.1
SJA				*e*S	Sn	10 29 36.0	+3.0
SJA				IAML		10 29 36.0	
	comp=Z,602nm,0.2s						
RTLL	**Cerro Villicun**	**0.29**	**85**	*e*P	Pn	10 29 22.0	+0.4
RTLL				*e*S	Sn	10 29 33.8	+0.7
DOCA	**Reserva Natura**	**0.46**	**330**	*e*P	Pn	10 29 23.2	+0.3
DOCA				*e*S	Sn	10 29 36.1	+0.7
RTCV	**Cerro Valdivia**	**0.56**	**155**	*e*P	Pn	10 29 24.0	+0.8
RTCV				*e*S	Sn	10 29 38.1	+2.2
RTLS	**Leoncito**	**0.61**	**223**	*e*P	Pn	10 29 24.5	+0.7
RTLS				*e*S	Sn	10 29 38.1	+1.1
RTLS				IAML		10 29 38.4	
	comp=Z,2μm,0.2s						
ACCO	**Cerro Coronel**	**0.79**	**344**	*e*P	Pn	10 29 26.6	+1.2
ACCO				*e*S	Sn	10 29 41.8	+2.0
AVFE	**Valle Fertil**	**1.35**	**60**	*e*P	Pn	10 29 32.4	+1.3
AVFE				*e*S	Sn	10 29 52.3	+2.2
AVFE				IAML		10 29 54.5	
	comp=Z,255nm,0.6s						
CO03	**El Pedregal**	**1.69**	**287**	*e*P	Pn	10 29 36.5	+1.3
CO03				*e*S	Sn	10 29 58.5	+1.3
CO03				IAML		10 29 59.8	
	comp=Z,644nm,0.3s						
CO01	**Juntas del Tor**	**1.76**	**321**	*e*P	Pn	10 29 38.4	+2.1
CO01				*e*S	Sn	10 30 05.0	+5.9
CO01				IAML		10 30 05.7	
	comp=Z,117nm,0.5s						
ACHE	**Chepes**	**1.85**	**85**	*e*P	Pn	10 29 38.7	+1.4
ACHE				*e*S	Sn	10 30 02.4	+1.4
VA03	**San Esteban**	**2.04**	**226**	*e*P	Pn	10 29 40.5	+0.9
VA03				*e*S	Sn	10 30 07.5	+2.4
VA03				IAML		10 30 11.1	
	comp=Z,178nm,0.9s						
GO04	**Tololo Observa**	**2.08**	**304**	*e*P	Pn	10 29 41.0	+0.7
GO04				*e*S	Sn	10 30 07.8	+1.5
MT08	**Bocatoma Ro**	**2.32**	**206**	*e*P	Pn	10 29 45.9	+2.5
MT08				*e*S	Sn	10 30 16.1	+4.2
MT08				IAML		10 30 16.7	
	comp=Z,149nm,0.7s						
PEL	**Peldehue**	**2.39**	**221**	*e*P	Pn	10 29 44.5	+0.4
PEL				*e*S	Sn	10 30 14.7	+1.6
ROC1	**El Roble**	**2.47**	**229**	*e*P	Pn	10 29 45.0	-0.4
ROC1				*e*S	Sn	10 30 15.6	+0.2
ACLC	**CERRO LA CRUZ**	**2.50**	**40**	*e*P	Pn	10 29 47.1	+1.3
ACLC				*e*S	Sn	10 30 18.1	+2.0
ACLC				IAML		10 30 20.2	
	comp=Z,117nm,0.2s						
MT03	**Universidad Ad**	**2.57**	**213**	*e*P	Pn	10 29 47.9	+1.4
MT03				*e*S	Sn	10 30 19.6	+2.1
MT03				IAML		10 30 20.5	
	comp=Z,233nm,0.3s						
MT05	**Renca**	**2.60**	**218**	*e*P	Pn	10 29 47.7	+0.8
MT05				*e*S	Sn	10 30 19.7	+1.5
MT05				IAML		10 30 21.3	
	comp=Z,183nm,0.2s						
MT02	**Curacav**	**2.74**	**225**	*e*P	Pn	10 29 48.0	-0.7
MT02				*e*S	Sn	10 30 20.9	-0.3
MT02				IAML		10 30 24.6	
	comp=Z,65nm,0.8s						
LMEL	**Las Melosas**	**2.75**	**205**	*e*P	Pn	10 29 51.1	+2.1
LMEL				*e*S	Sn	10 30 29.0	+7.2
MRA	**San Martin**	**2.84**	**113**	*e*P	Pn	10 29 51.3	+1.2
MRA				*e*S	Sn	10 30 24.2	+0.4
MRA				IAML		10 30 24.9	
	comp=Z,93nm,0.4s						
LCO	**Las Campanas**	**2.85**	**325**	*e*P	Pn	10 29 50.8	+0.4
LCO				*e*S	Sn	10 30 25.2	+0.9
LCO				IAML		10 30 29.0	
	comp=Z,208nm,0.3s						
MT01	**Popeta**	**3.24**	**219**	*e*P	Pn	10 29 54.0	-1.3
MT01				*e*S	Sn	10 30 32.0	-1.2
MT01				IAML		10 30 37.6	
	comp=Z,42nm,0.2s						
RFA	**San Rafael**	**3.42**	**175**	*e*S	Sn	10 30 40.6	+3.0
RFA				IAML		10 31 00.3	
	comp=Z,70nm,0.3s						
BO01	**Tunca**	**3.58**	**212**	*e*P	Pn	10 29 51.3	-8.5
BO01				IAML		10 30 44.4	
	comp=Z,34nm,0.2s						
BO02	**Sierra Bellavi**	**3.81**	**205**	*e*S	Sn	10 30 49.1	+2.2
BO02				IAML		10 30 52.0	
	comp=Z,49nm,0.1s						
CYA	**Choya**	**3.91**	**43**	*e*P	Pn	10 30 04.5	+0.3
CYA				*e*S	Sn	10 30 48.4	-0.9
CYA				IAML		10 30 50.2	
	comp=Z,63nm,0.4s						
GO03	**Copiapo**	**3.95**	**341**	*e*S	Sn	10 30 51.4	+1.1

IDC 16 10:30:02.3±1.9, 3°.97N×126°.55E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=171.0km s-min=24.1km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.97**	**162**	P	P	10 35 27.5	-0.2
	0.7nm,0.8s,baz=342,slow=10,SNR=5.1						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**28.39**	**166**	P	P	10 35 58.9	+0.2
	0.2nm,0.5s,baz=352,slow=7.3,SNR=1.9						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**57.25**	**325**	P	P	10 39 51.8	+0.1
	0.2nm,0.4s,baz=134,slow=8.4,SNR=5.0						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**61.44**	**327**	P	P	10 40 20.3	-0.2
	0.2nm,0.3s,baz=127,slow=5.9,SNR=1.8						
	0.2nm,0.3s						

IDC 16 10:35:25.8±4.5, 11°.20S×164°.16E, h0km, mb3.7/3, mbtmp3.7/3, MS3.4/2, Error ellipse: s-maj=229.1km s-min=36.6km az=138.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.03**	**169**	LR	LR	10 41 39.4	
	comp=Z,236nm,18.6s,baz=186,slow=34						
WRA	**Warramunga Arr**	**29.97**	**249**	P	P	10 41 36.1	-0.1
	0.8nm,0.8s,baz=79,slow=9.6,SNR=1.6						
	0.8nm,0.8s						
GUMO	**Guam**	**31.18**	**322**	LR	LR	10 54 24.9	
	comp=Z,49nm,18.3s,baz=170,slow=36						
ASAR	**Alice Springs**	**31.33**	**243**	P	P	10 41 48.3	+0.1
	0.8nm,0.7s,baz=78,slow=9.8,SNR=8.8						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**84.16**	**19**	P	P	10 47 58.5	0.0
	0.7nm,1.0s,baz=222,slow=3.6,SNR=3.1						
	0.7nm,1.0s						

*IDC **16** 10:44:58.9±0.9, 42°.19N×127°.00W, h0km, mb4.0/12, mbtmp3.9/18, ML3.3/6, MS3.8/41, Error ellipse: s-maj=21.6km s-min=10.0km az=31.0*
*NEIC **16** 10:44:58.9±2.7, 42°.33N±0°.05×126°.89W±0°.08, h10km±2km, mb4.3/66, ML3.5/82, Error ellipse: s-maj=10.3km s-min=7.7km az=305.0*
*GCMT **16** 10:45:01.8±0.3, 42°.41N±0°.04×126°.98W±0°.03, h18km±1km, MW4.8/82, Moment Tensor Solution. s23,c24; s82,c124; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.83±.15; $M_{\theta\theta}$0.29±.10; $M_{\phi\phi}$1.54±.09; $M_{r\theta}$0.35±.31; $M_{\theta\phi}$0.71±.06; $M_{\phi r}$-0.65±.20; Best double couple: $M_0$1.98300×10^{16} NP1:ϕ_s8.00000°, δ54.00000°, λ-109.00000°. NP2: ϕ_s219.00000°, δ40.00000°, λ-65.00000°. Principal axes: T 1.9160, Plg7.0000°, Azm112.0000°; N 0.1400, Plg16.0000°, Azm20.0000°; P -2.0500, Plg73.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 10:45:00.1±0.8, 42°.36N±0°.08×126°.67W±0°.08, h10km, n269, σ1°53/234, mb4.2/23, MS3.8/33, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.82**	**94**	Pn	**Pn**	**10 45 32.7**	**+1.1**
KBO				IAML		10 45 58.6	
	comp=E,493nm,1.7s						
KBO				IAML		10 46 10.7	
	comp=N,360nm,1.7s						
KSXB	**Camp Six Broad**	**2.15**	**103**	Pn	**Pn**	**10 45 37.0**	**+1.0**
KSXB				IAML		10 46 19.4	
	comp=E,212nm,2.1s						
J01E	**Myrtle Point**	**2.17**	**67**		**Pn**	**10 45 37.1**	**+0.8**
J01E				IAML		10 46 10.5	
	comp=E,222nm,1.3s						
KRMB	**Red Mountain**	**2.22**	**111**		**Pn**	**10 45 38.1**	**+0.9**
K02D	**Willamette Mer**	**2.25**	**80**		**Pn**	**10 45 38.5**	**+1.1**
L02F	**Cave Junction**	**2.31**	**95**		**Pn**	**10 45 39.4**	**+1.1**
KRPM	**Rodgers**	**2.32**	**120**	Pn	**Pn**	**10 45 37.9**	**-0.4**
KRPM				IAML		10 46 36.0	
	comp=E,178nm,3.7s						
KRPM				IAML		10 46 54.1	
	comp=N,197nm,1.9s						
JCC	**Jacoby Creek,**	**2.51**	**127**	Pn	**Pn**	**10 45 41.0**	**0.0**
DBO	**Dodson Butte**	**2.64**	**72**		**Pn**	**10 45 44.3**	**+1.5**
DBO				IAML		10 46 20.5	
	comp=E,223nm,1.0s						
DBO				IAML		10 46 20.7	
	comp=N,150nm,1.1s						
KHMM	**Horse Mountain**	**2.66**	**123**		**Pn**	**10 45 43.9**	**+0.7**
KHMM				IAML		10 46 52.7	
	comp=E,122nm,1.9s						
KHMM				IAML		10 47 23.0	
	comp=N,120nm,3.4s						
I02E	**Swisshome, OR**	**2.70**	**49**		**Pn**	**10 45 44.8**	**+1.1**
I02E				IAML		10 46 18.6	
	comp=N,141nm,1.2s						
I02E				IAML		10 46 24.3	
	comp=E,184nm,1.2s						
KMPM	**Mount Pierce**	**2.73**	**134**		**Pn**	**10 45 44.5**	**+0.4**
KMPM				IAML		10 46 21.2	
	comp=E,135nm,2.1s						
HUMO	**Hull Mountain**	**2.76**	**84**		**Pn**	**10 45 45.8**	**+1.3**
YBH	**Yreka Blue Hor**	**3.02**	**101**		**Pn**	**10 45 49.4**	**+1.4**
YBH	**Yreka Blue Hor**	**3.02**	**101**	Pn	**Pn**	**10 45 50.4**	**+2.4**
	comp=E,1.9nm,0.3s,baz=276,slow=12,SNR=102						
YBH				Sn	**Sb**	**10 46 30.0**	**-0.8**
	comp=E,3.0nm,0.3s,baz=25,slow=22,SNR=7.4						
YBH				LR	LR	10 46 54.0	
	comp=E,2μm,20.7s,baz=230,slow=36						
	comp=E,66nm,0.8s						
KMRM	**Mail Ridge**	**3.09**	**133**		**Pn**	**10 45 51.0**	**+2.0**
L04D	**Klamath Falls**	**3.24**	**91**		**Pn**	**10 45 53.9**	**+2.7**
L04D				IAML		10 46 44.0	
	comp=N,120nm,2.0s						
L04D				IAML		10 47 43.1	
	comp=E,98nm,2.2s						
BUCK	**Buck Mountain**	**3.26**	**54**		**Pn**	**10 45 53.1**	**+1.8**
BUCK				IAML		10 46 33.8	
	comp=E,137nm,0.7s						
BUCK				IAML		10 46 39.6	
	comp=N,151nm,1.1s						
COR	**Corvallis**	**3.31**	**47**		**Pn**	**10 45 52.9**	**+1.0**
COR				IAML		10 46 36.7	
	comp=N,125nm,1.0s						
I04A	**Tendick Farm,**	**3.43**	**64**		**Pn**	**10 45 55.5**	**+1.8**
I04A				IAML		10 46 40.2	
	comp=N,73nm,1.9s						
I04A				IAML		10 46 44.2	
	comp=E,115nm,1.0s						
J04A	**Umpqua Nationa**	**3.47**	**74**		**Pn**	**10 45 57.5**	**+3.2**
KCPM	**Cahto Peak**	**3.55**	**138**	Pn	**Pn**	**10 45 56.7**	**+1.3**
KCPM				IAML		10 47 10.8	
	comp=E,70nm,4.8s						
HEBO	**Mount Hebo**	**3.55**	**36**	Pn	**Pn**	**10 45 56.0**	**+0.6**
HEBO				IAML		10 46 43.5	
	comp=E,131nm,2.5s						
HEBO				IAML		10 46 52.5	
	comp=N,98nm,2.9s						
K04D	**Chiloquin, OR**	**3.65**	**84**		**Pn**	**10 45 59.3**	**+2.6**
O02D	**Mt. Diablo Mer**	**3.65**	**125**		**Pn**	**10 45 58.1**	**+1.4**
G03D	**McMinnville, O**	**3.77**	**40**		**Pn**	**10 45 59.6**	**+1.3**
G03D				IAML		10 46 46.2	
	comp=N,84nm,1.7s						
G03D				IAML		10 47 00.5	
	comp=E,67nm,1.6s						
H04A	**Detroit Lake**	**4.00**	**53**	Pn	**Pn**	**10 46 03.5**	**+2.0**
H04A				IAML		10 46 58.4	
	comp=N,57nm,0.7s						
H04A				IAML		10 46 58.9	
	comp=E,62nm,0.5s						
J05D	**Fort Rock, OR**	**4.11**	**75**	Pn	**Pn**	**10 46 05.4**	**+2.4**
J05D				IAML		10 47 57.3	
	comp=N,53nm,3.6s						
J05D				IAML		10 48 50.0	
	comp=E,66nm,3.1s						
HATC	**Hat Creek Radi**	**4.20**	**110**	Pn	**Pn**	**10 46 05.8**	**+1.5**
F03A	**Seaside**	**4.21**	**31**		**Pn**	**10 46 05.4**	**+1.0**
HOPS	**Hopland Field**	**4.33**	**140**	Pn	**Pn**	**10 46 07.6**	**+1.6**
HOPS				IAML		10 48 22.4	
	comp=N,44nm,4.5s						
HOPS				IAML		10 48 23.2	
	comp=E,40nm,4.3s						
I05D	**Terrebonne, OR**	**4.36**	**61**		**Pn**	**10 46 08.4**	**+2.0**
I05D				IAML		10 47 21.4	
	comp=N,66nm,1.8s						
PINE	**Pine Mountain**	**4.43**	**69**	Pn	**Pn**	**10 46 10.3**	**+2.7**
PINE				IAML		10 47 22.0	
	comp=N,42nm,2.1s						
PINE				IAML		10 48 24.3	
	comp=E,48nm,4.5s						
F04D	**Rainier, OR**	**4.56**	**34**	Pn	**Pn**	**10 46 10.2**	**+1.1**
HOOD	**Mount Hood Mea**	**4.68**	**49**		**Pn**	**10 46 12.8**	**+1.8**
HOOD				IAML		10 47 44.6	
	comp=N,52nm,2.0s						
F04A	**Amboy**	**4.70**	**39**		**Pn**	**10 46 12.3**	**+1.2**
F04A				IAML		10 47 24.7	
	comp=N,40nm,1.9s						
G05A	**Wamic**	**4.83**	**52**		**Pn**	**10 46 15.4**	**+2.5**
WISH	**Wishkah**	**5.19**	**22**	Pn	**Pn**	**10 46 18.1**	**+0.4**
G06A	**Carlson Farm,**	**5.23**	**55**		**Pn**	**10 46 20.9**	**+2.5**
G06A				IAML		10 48 18.5	
	comp=N,32nm,4.8s						
G06A				IAML		10 48 39.8	
	comp=E,28nm,4.1s						
NLWA	**Neilton Lookou**	**5.41**	**21**	Pn	**Pn**	**10 46 21.4**	**+0.6**
AFDM	**Forest Hills D**	**5.51**	**126**	Pn	**Pn**	**10 46 23.6**	**+1.4**
I07A	**Izee**	**5.51**	**69**	Pn	**Pn**	**10 46 25.3**	**+3.0**
LON	**Longmire**	**5.60**	**37**		**Pn**	**10 46 26.1**	**+2.7**
C03A	**Quillayute Air**	**5.78**	**14**	Pn	**Pn**	**10 46 27.0**	**+1.1**
D05A	**Enumclaw**	**5.87**	**33**	Pn	**Pn**	**10 46 27.9**	**+0.8**
GNW	**Green Mountain**	**5.88**	**26**		**Pn**	**10 46 28.3**	**+1.1**
MPK	**Martis Peak**	**5.89**	**119**	Pn	**Pn**	**10 46 28.2**	**+0.4**
WVOR	**Wild Horse Val**	**5.95**	**87**		**Pn**	**10 46 29.0**	**+0.6**
F07A	**Phinny Hill Vi**	**6.00**	**52**		**Pn**	**10 46 29.9**	**+0.9**
EMB	**Emerald Bay**	**6.03**	**122**		**Pn**	**10 46 29.8**	**+0.2**
J08A	**Circle Bar Ran**	**6.11**	**78**	Pn	**Pn**	**10 46 30.0**	**-0.5**
PAHR	**Pah Rah Range**	**6.11**	**113**		**Pn**	**10 46 31.9**	**+1.3**
MXC	**Moxie City**	**6.21**	**45**		**Pn**	**10 46 33.2**	**+1.3**
PNTR	**Pine Nut**	**6.29**	**119**	Pn	**Pn**	**10 46 34.3**	**+1.2**
G08A	**Pilot Rock**	**6.30**	**60**	Pn	**Pn**	**10 46 35.6**	**+2.5**
E07A	**Sunnyside**	**6.43**	**47**		**Pn**	**10 46 35.7**	**+0.8**
CMB	**Columbia Colle**	**6.46**	**130**	Pn	**Pn**	**10 46 36.0**	**+0.6**
LTY	**Liberty**	**6.50**	**39**		**Pn**	**10 46 37.4**	**+1.6**
HAWA	**Hanford**	**6.51**	**49**	Pn	**Pn**	**10 46 37.4**	**+1.4**
YERR	**Yerington**	**6.58**	**118**		**Pn**	**10 46 39.5**	**+2.4**
PGC	**Sidney**	**6.69**	**19**	Pn	**Pn**	**10 46 38.4**	**+0.1**
CLRS	**Cowichan Lake**	**6.70**	**15**	Pn	**Pn**	**10 46 37.2**	**-1.3**
WAKR	**Walker**	**6.73**	**123**	Pn	**Pn**	**10 46 39.4**	**+0.2**
E08A	**Dider Farm, El**	**6.84**	**50**		**Pn**	**10 46 43.0**	**+2.6**
BMO	**Blue Mountains**	**7.24**	**67**	Pn	**Pn**	**10 46 47.0**	**+0.9**
D08A	**Wollman Farm,**	**7.25**	**47**	Pn	**Pn**	**10 46 46.4**	**+0.3**
KVN	**Kaiserville**	**7.30**	**114**	Pn	**Pn**	**10 46 46.8**	**-0.2**
BMN	**Battle Mountai**	**7.36**	**102**	Pn	**Pn**	**10 46 48.1**	**+0.3**
E09A	**Wood Farm, Sta**	**7.38**	**53**	Pn	**Pn**	**10 46 48.5**	**+0.7**
LHV	**Little Huntoon**	**7.47**	**121**		**Pn**	**10 46 49.4**	**+0.3**
NVAR	**Mina Array Bea**	**7.50**	**119**		**Pn**	**10 46 49.7**	**0.0**
NVAR	**Mina Array Bea**	**7.50**	**119**	Pn	**Pn**	**10 46 53.2**	**+3.5**
	comp=E,0.2nm,0.3s,baz=295,slow=13,SNR=25						
NVAR				LR	LR	10 50 03.8	
	comp=E,1μm,18.7s,baz=291,slow=39						
	comp=E,2.4nm,0.7s						
OMMB	**Old Mammoth Mi**	**7.56**	**126**	Pn	**Pn**	**10 46 50.6**	**0.0**
NV11	**Mina Array Sit**	**7.59**	**118**	Pn	**Pn**	**10 46 50.8**	**-0.1**
PMPB	**Monarch Peak**	**7.64**	**142**	Pn	**Pn**	**10 46 52.2**	**+0.7**
F10A	**Beach Ranch, E**	**7.69**	**59**		**Pn**	**10 46 52.4**	**+0.2**
CBB	**Campbell River**	**7.73**	**6**	Pn	**Pn**	**10 46 51.7**	**-1.0**
B08A	**Colville Reser**	**7.92**	**38**	Pn	**Pn**	**10 46 55.9**	**+0.7**
MFID	**Camas Ranch**	**8.03**	**79**	Pn	**Pn**	**10 46 59.3**	**+2.3**
C09A	**Chrisman Ranch**	**8.05**	**45**	Pn	**Pn**	**10 46 58.6**	**+1.5**
PLID	**Pearl Lake**	**8.20**	**67**	Pn	**Pn**	**10 47 03.1**	**+3.8**
HOLB	**Holberg**	**8.35**	**354**	Pn	**Pn**	**10 47 02.2**	**+1.1**
MZP	**Montezuma Peak**	**8.51**	**120**	Pn	**Pn**	**10 47 03.3**	**-0.3**
ELK	**Elko**	**8.72**	**97**	Pn	**Pn**	**10 47 06.2**	**-0.3**
ELK	**Elko**	**8.72**	**97**	Pn	Pn	10 47 11.9	+5.4
	comp=E,0.1nm,0.3s,baz=277,slow=11,SNR=8.8						
ELK				LR	LR	10 50 41.9	
	comp=E,2μm,21.0s,baz=271,slow=38						
	comp=E,1.4nm,0.8s						
GMN	**Gold Mountain**	**8.83**	**122**	Pn	**Pn**	**10 47 06.7**	**-1.3**
LLLB	**Lillooet**	**8.89**	**20**	Pn	**Pn**	**10 47 07.4**	**-1.2**
NEW	**Newport**	**8.95**	**45**	Pn	**Pn**	**10 47 09.0**	**-0.4**
NEW	**Newport**	**8.95**	**45**	Pn	Pn	10 47 16.5	+7.1
	comp=E,0.2nm,0.3s,baz=223,slow=11,SNR=9.4						
NEW				LR	LR	10 50 58.2	
	comp=E,566nm,18.3s,baz=235,slow=39						
	comp=E,5.6nm,0.8s						
GRAC	**Grapevine Rang**	**8.95**	**124**		**Pn**	**10 47 09.6**	**+0.1**
HLID	**Hailey**	**9.07**	**78**		**Pn**	**10 47 13.1**	**+1.9**
ISA	**Isabella, Lake**	**9.24**	**134**	Pn	**Pn**	**10 47 14.5**	**+1.1**
R11B	**Troy Canyon, C**	**9.36**	**112**		**Pn**	**10 47 16.5**	**+1.3**
Q12A	**Willow Creek R**	**9.58**	**106**	Pn	**Pn**	**10 47 19.7**	**+1.5**
TPNV	**Topopah Spring**	**9.68**	**120**	Pn	**Pn**	**10 47 20.3**	**+0.7**
BBB	**Bella Bella**	**9.88**	**355**	Pn	**Pn**	**10 47 25.6**	**+3.6**
	comp=E,0.7nm,0.3s,baz=166,slow=6.3,SNR=5.8						
BBB				LR	LR	10 50 25.0	
	comp=E,365nm,20.4s,baz=191,slow=32						
	comp=E,13nm,0.9s						
GWY	**Greenwater Val**	**9.90**	**125**	Pn	**Pn**	**10 47 22.7**	**+0.1**
SPR3	**Spring Creek 3**	**9.96**	**106**	Pn	**Pn**	**10 47 23.2**	**-0.3**
MSO	**Missoula**	**10.12**	**59**	Pn	**Pn**	**10 47 26.1**	**+0.6**
PRN	**Pahroc Range**	**10.21**	**115**	Pn	**Pn**	**10 47 29.8**	**+3.1**
BPMT	**Black Pine Rid**	**10.30**	**62**	Pn	**Pn**	**10 47 28.4**	**+0.2**
BGU	**Big Grassy Mou**	**10.31**	**93**	Pn	**Pn**	**10 47 33.0**	**+4.8**
MCMT	**McKenzie Canyo**	**10.33**	**72**	Pn	**Pn**	**10 47 28.6**	**+0.1**
HVU	**Hansel Valley**	**10.35**	**89**	Pn	**Pn**	**10 47 29.8**	**+1.1**
GSC	**Goldstone, Bar**	**10.43**	**129**	Pn	**Pn**	**10 47 28.9**	**-0.9**
PSUT	**Pine Spring**	**10.49**	**107**	Pn	**Pn**	**10 47 29.2**	**-1.4**
DLMT	**Dillon**	**10.60**	**69**	Pn	**Pn**	**10

PV20	West Nyswonger	14.08 101	Pn	Pn	10 48 20.1	+0.3
PV17	East Wray Mesa	14.11 101	Pn	Pn	10 48 20.6	+0.4
X16A	Lo Mia Camp, P	14.32 119	P	P	10 48 29.9	-0.4
MVCO	Mesa Verde	14.88 104	P	P	10 48 36.5	-0.1
MVCO			IAmb	IAmb	10 49 13.0	
	comp=Z,12nm,1.3s					
X18A	Snowflake	15.24 115	P	P	10 48 41.1	+0.6
S34M	Telegraph Cree	15.82 351	P	P	10 48 46.8	+0.1
ISCO	Idaho Springs	16.08 92	P	P	10 48 49.8	-0.1
DLBC	Dease Lake	16.23 354	P	P	10 48 51.0	-0.3
DLBC	Dease Lake	16.23 354	Pn	P	10 48 53.4	+2.1
	comp=Z,0.1nm,0.3s,baz=190,slow=10,SNR=10					
Q24A	Divide	16.67 95		Pn	10 48 53.0	-1.1
SDCO	Great Sand Dun	16.84 99	P	Pn	10 48 57.4	+1.2
SDCO			IAmb	IAmb	10 49 02.8	
	comp=Z,19nm,1.1s					
BRIGG	Briggsdale	16.84 89	P	P	10 48 59.1	+0.9
BRIGG			IAmb	IAmb	10 49 05.2	
	comp=Z,35nm,1.0s					
DGMT	Dagmar	16.89 61		Pn	10 48 56.1	-0.4
DUN6	Lazy B Ranch	17.02 119		Pn	10 48 55.6	-2.7
DUN6			IAmb	IAmb	10 49 32.0	
	comp=Z,31nm,1.2s					
R33M	Jennings River	17.27 353	Pn	Pn	10 48 58.4	-2.8
ANMO	Albuquerque	17.41 108		Pn	10 49 02.6	-0.8
ANMO	Albuquerque	17.41 108	P	P	10 49 07.1	+2.4
	comp=Z,0.1nm,0.3s,baz=134,slow=11,SNR=5.1					
ANMO			LR	LR	10 56 17.7	
	comp=Z,779nm,21.5s,baz=126,slow=39					
	comp=Z,2.1nm,1.0s					
LENM	Lemitar	17.47 111	Pn	Pn	10 49 02.9	-1.1
T25A	Trinidad	17.88 100		Pn	10 49 08.2	-0.9
P33M	Teslin, Yukon	18.27 350	P	Pn	10 49 11.3	-2.3
HSIG		18.41 131	P	P	10 49 12.8	-2.5
OGNE	Ogallala	18.45 86	P	P	10 49 13.5	-2.4
OGNE			IAmb	IAmb	10 49 27.3	
	comp=Z,48nm,1.4s					
KSCO	Kaye Shedlock'	18.52 92	P	P	10 49 14.9	-1.8
P29M	Windy Craggy	18.60 342	P	P	10 49 13.8	-3.5
E28A	Huff	18.98 68	P	P	10 49 20.7	-0.9
RTBA	Rita Blanca	19.39 100	P	P	10 49 25.3	-0.9
MDND	Maddock	19.82 65	P	P	10 49 30.2	-0.6
N30M	Aishikik Lake	20.13 345	P	P	10 49 32.2	-1.8
FFC	Flin Flon	20.37 44	P	P	10 49 36.3	-0.4
GRNC	Granite Creek	20.56 339	P	P	10 49 36.8	-2.1
GRNC			IAmb	IAmb	10 50 01.3	
	comp=Z,28nm,1.5s					
CBKS	Cedar Bluff	20.73 91	P	P	10 49 39.5	-1.2
VHRN	Van Horn	20.84 117	P	P	10 49 41.9	-0.2
AMTX	Amarillo	20.86 103	P	P	10 49 41.5	-0.7
YKA	Yellowknife Ar	21.39 15	P	P	10 49 45.0	-2.6
YKA	Yellowknife Ar	21.39 15	P	P	10 49 49.1	+1.5
	comp=Z,12nm,1.1s,baz=207,slow=11,SNR=12					
	comp=Z,12nm,1.1s					
AGMN	Agassiz Nation	22.36 64	P	P	10 50 00.5	+2.3
AGMN			IAmb	IAmb	10 50 07.3	
	comp=Z,8.6nm,0.8s					
BCAR	Beaver Creek A	22.55 342	P	P	10 49 60.0	-0.2
L27K	Beaver Creek,	22.56 342	P	P	10 49 58.6	-1.7
ULM	Lac du Bonnet	22.57 59	P	P	10 50 03.5	+3.1
	comp=Z,5.7nm,1.0s,baz=264,slow=9.4,SNR=5.8					
ULM			LR	LR	10 59 31.6	
	comp=Z,236nm,20.9s,baz=267,slow=38					
	comp=Z,5.7nm,1.0s					
TX31	Lajitas Ar. Si	22.64 118		P	10 50 01.9	+0.4
TXAR	Lajitas Array	22.64 118	P	P	10 50 02.0	+0.5
TXAR	Lajitas Array	22.64 118	P	P	10 50 04.6	+3.2
	comp=Z,4.1nm,1.2s,baz=300,slow=5.3,SNR=14					
TXAR			LR	LR	10 59 35.1	
	comp=Z,175nm,18.6s,baz=301,slow=38					
	comp=Z,4.1nm,1.2s					
LPIG	La Paz	22.71 138	LR	LR	10 58 08.9	
	comp=Z,284nm,20.4s,baz=326,slow=35					
MENT	Mentasta	22.92 340	P	P	10 50 03.3	-0.6
MENT			IAmb	IAmb	10 50 15.9	
	comp=Z,18nm,1.4s					
WMOK	Wichita Mounta	23.03 100	P	P	10 50 06.5	+1.1
WMOK			IAmb	IAmb	10 50 22.5	
	comp=Z,18nm,1.4s					
N35A	Tabor	23.19 83	P	P	10 50 07.7	+0.7
SAND	Sanderson	23.28 114	P	P	10 50 09.3	+1.3
I30M	Mount Dempster	23.56 350	P	P	10 50 09.0	-1.5
I30M			IAmb	IAmb	10 50 49.8	
	comp=Z,9.9nm,1.4s					
DHY	Denali Highway	24.03 337	P	P	10 50 13.0	-2.1
DHY			IAmb	IAmb	10 50 29.1	
	comp=Z,9.3nm,1.0s					
DRIO	Del Rio	24.63 113	P	P	10 50 19.8	-1.0
DRIO			IAmb	IAmb	10 50 31.8	
	comp=Z,7.7nm,1.1s					
BRDY	Brady	24.65 108	P	P	10 50 19.7	-1.2
BRDY			IAmb	IAmb	10 50 26.1	
	comp=Z,9.5nm,1.2s					
H29M	Whitestone	24.78 349	P	P	10 50 18.5	-3.2
I26K	Coal Creek Min	24.80 343	P	P	10 50 19.7	-2.3
Z35A	Perchaven, San	24.82 102	P	P	10 50 22.0	-0.4
P38A	Dawn	25.07 85	P	P	10 50 24.2	-0.4
M20K	Styx River	25.10 330	P	P	10 50 22.4	-2.4
M20K			IAmb	IAmb	10 51 07.5	
	comp=Z,11nm,1.4s					
RLO	Rose Lookout	25.18 94	P	P	10 50 23.9	-1.7
IL03	Eielson Array	25.22 340	P	P	10 50 22.6	-3.1
IL31		25.23 340	P	P	10 50 23.0	-2.8
IL31			IAmb	IAmb	10 50 33.5	
	comp=Z,14nm,1.5s					
ILAR	Eielson Array	25.23 340	P	P	10 50 22.4	-3.4
ILAR	Eielson Array	25.23 340	P	P	10 50 26.8	+0.9
	comp=Z,2.0nm,1.1s,baz=159,slow=8.6,SNR=12					
ILAR			PcP	PcP	10 53 59.5	+0.6
	comp=Z,0.5nm,0.6s,baz=171,slow=2.3,SNR=6.2					
	comp=Z,2.0nm,1.1s					
EYMN	Ely	25.28 65	P	P	10 50 25.1	-1.4
G29M	Pine Creek	25.38 350	P	P	10 50 25.7	-1.5
F31M	Tsiigehtchic	25.43 354	P	P	10 50 24.8	-2.7
G27K	Doyon Strip	25.85 346	P	P	10 50 31.1	-0.4
S39A	Bolivar	25.86 89	P	P	10 50 32.3	+0.5
S39A			IAmb	IAmb	10 50 44.2	
	comp=Z,6.4nm,0.9s					
N17K	Nushagak Hills	25.94 325	P	P	10 50 30.4	-1.9
L40A	Anamosa	26.15 79	P	P	10 50 33.0	-1.4
I23K	Minto, Yukon-K	26.18 338	P	P	10 50 33.2	-1.2
INK	Inuvik	26.26 354	LR	LR	11 00 19.1	
	comp=Z,222nm,18.3s,baz=230,slow=35					
F28M	Old Crow	26.30 349	P	P	10 50 32.7	-2.8
H24K	Noodor Dome	26.33 340	P	P	10 50 34.3	-1.6
E27K	Coleen River	27.09 348	P	P	10 50 40.7	-1.9
E27K			IAmb	IAmb	10 50 47.9	
	comp=Z,10nm,1.4s					
E28M	Babbage River	27.18 350	P	P	10 50 42.6	-0.8
TKL	Tuckaleechee C	33.72 87	LR	LR	11 06 17.0	
	comp=Z,296nm,18.9s,baz=298,slow=38					
SADO	Sadowa	34.14 69	LR	LR	11 06 28.4	
	comp=Z,201nm,19.5s,baz=240,slow=38					
CMIG	Matias Romero	37.00 123	LR	LR	11 07 57.1	
	comp=Z,173nm,18.7s,baz=315,slow=37					
SHEM	Shemya Is, Ala	40.23 306	LR	LR	11 05 28.4	
	comp=Z,83nm,20.8s,baz=112,slow=31					
PETK	Petropavlovsk-	49.72 310	LR	LR	11 12 55.9	
	comp=Z,109nm,18.3s,baz=94,slow=34					
SJG	San Juan	56.34 96	LR	LR	11 20 34.8	
	comp=Z,78nm,21.7s,baz=245,slow=38					
BORG	Borgarnes	58.52 29	LR	LR	11 20 44.6	
	comp=Z,92nm,20.7s,baz=335,slow=36					
JMIC	Jan Mayen	58.70 20	LR	LR	11 19 36.1	
	comp=Z,109nm,18.9s,baz=19,slow=35					
SDV	Santo Domingo	59.19 107	LR	LR	11 23 15.8	
	comp=Z,62nm,20.0s,baz=306,slow=39					
ROSC	El Rosal	59.51 114	LR	LR	11 25 06.6	
	comp=Z,36nm,18.2s,baz=8.5,slow=40					
H11N3	WAKE ISLAND Hy 59.70 270		T	T	11 59 42.4	
	baz=51,slow=75,SNR=65					
H11N2	WAKE ISLAND Hy 59.70 270		T	T	11 59 37.3	
	baz=51,slow=75,SNR=66					
H11N1	WAKE ISLAND Hy 59.72 270		T	T	11 59 43.5	
	baz=51,slow=75,SNR=40					
H11S1	WAKE ISLAND Hy 60.61 269		T	T	12 00 39.5	
	baz=50,slow=75,SNR=74					
H11S2	WAKE ISLAND Hy 60.61 269		T	T	12 00 42.9	
	baz=50,slow=75,SNR=41					
H11S3	WAKE ISLAND Hy 60.62 269		T	T	12 00 35.8	
	baz=50,slow=75,SNR=50					
PCRV	Puerto La Cruz	62.61 102	LR	LR	11 24 37.5	
	comp=Z,98nm,20.1s,slow=38					
ASAJ	Asahikawa	62.69 306	LR	LR	11 18 29.5	
	comp=Z,51nm,20.7s,baz=10,slow=32					
KLR	Kul'dur	65.83 315	LR	LR	11 24 00.6	
	comp=Z,63nm,18.3s,baz=31,slow=36					
USRK	Ussuriysk Ar.	68.80 311	LR	LR	11 24 35.4	
	comp=Z,31nm,19.4s,baz=44,slow=35					
MJAR	Matsushiro Arr	69.84 301	LR	LR	11 21 38.6	
	comp=Z,54nm,19.8s,baz=58,slow=32					
JHJ	Hachijo jima 2	70.94 298	LR	LR	11 19 44.5	
	comp=Z,41nm,21.9s,baz=80,slow=30					
MDP	Montagnes des	74.79 97	LR	LR	11 33 42.9	
	comp=Z,56nm,18.0s,baz=314,slow=39					
KSRS	Korea Array	75.53 308	LR	LR	11 26 17.4	
	comp=Z,22nm,21.1s,baz=30,slow=33					
SONM	Songino Array	78.70 327	P	P	10 57 03.4	+0.9
	comp=Z,1.0nm,0.9s,baz=54,slow=3.7,SNR=6.2					
SONM			LR	LR	11 31 06.1	
	comp=Z,209nm,20.2s,baz=41,slow=35					
	comp=Z,1.0nm,0.9s					
LPAZ	La Paz	79.38 124	P	P	10 57 08.4	+1.3
	comp=Z,1.4nm,0.9s,baz=24,slow=6.3,SNR=5.1					
	comp=Z,1.4nm,0.9s					
GUMO	Guam	79.86 279	LR	LR	11 24 56.9	
	comp=Z,44nm,21.0s,baz=80,slow=30					
ZALV	Zalesovo Beam	80.33 342	P	P	10 57 11.6	+0.4
	comp=Z,0.8nm,0.7s,baz=358,slow=4.6,SNR=4.2					
ZALV			LR	LR	11 36 18.7	
	comp=Z,78nm,18.2s,baz=28,slow=38					
	comp=Z,0.8nm,0.7s					
JOW	Kunigami	82.57 300	LR	LR	11 31 19.5	
	comp=Z,36nm,18.2s,baz=268,slow=34					
GERES	GERESS Array B	82.71 25	LR	LR	11 35 40.2	
	comp=Z,124nm,18.6s,baz=63,slow=37					
ESDC	Sonseca Array	83.24 41	P	P	10 57 28.9	+2.1
	comp=Z,1.0nm,0.9s,baz=327,slow=5.2,SNR=4.9					
	comp=Z,1.0nm,0.9s					
BVAR	Borovoye Array	83.86 350	P	P	10 57 30.6	+0.9
	comp=Z,2.1nm,0.7s,baz=40,slow=4.8,SNR=8.4					
	comp=Z,2.1nm,0.7s					
KURBB	Kurchatov Arra	84.82 344	P	P	10 57 35.0	+0.4
	comp=Z,0.8nm,0.4s,baz=20,slow=4.7,SNR=9.5					
	comp=Z,0.8nm,0.4s					
AKASG	Malin Array Be	84.96 15	P	P	10 57 36.0	+0.7
	comp=Z,0.2nm,0.3s,baz=339,slow=4.3,SNR=7.1					
	comp=Z,0.2nm,0.3s					
MKAR	Makanchi Array	87.58 341	P	P	10 57 49.1	+0.7
	comp=Z,0.4nm,0.6s,baz=15,slow=5.0,SNR=3.7					
MKAR			LR	LR	11 39 02.5	
	comp=Z,118nm,18.5s,baz=16,slow=37					
	comp=Z,0.4nm,0.6s					
AAK	Ala-Archa	93.27 345	LR	LR	11 43 12.9	
	comp=Z,87nm,18.2s,baz=13,slow=37					
PMG	Port Moresby	93.45 261	LR	LR	11 31 54.3	
	comp=Z,39nm,21.7s,baz=105,slow=30					
RCBR	Riachuelo	94.45 94	LR	LR	11 39 35.5	
	comp=Z,24nm,21.9s,baz=240,slow=35					
URZ	Urewera	95.14 221	LR	LR	11 31 49.0	
	comp=Z,21nm,20.4s,baz=104,slow=30					
DAV	Davao City (W)	98.17 287	LR	LR	11 35 08.9	
	comp=Z,51nm,21.2s,baz=358,slow=31					

*IDC **16** 11:04:49.4±1.1, 10°.62S×163°.23E, h0km, mb3.8/8, mbtmp3.9/10, ML3.9/2, MS3.3/9, Error ellipse: s-maj=28.1km s-min=23.5km az=138.0*

ISC 16 11:04:52.8±0.9, 10°.6S±0°.1×163°.3E±0°.1, h21km, n17, σ1§22/11, mb3.9/8, MS3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.45	289	Pn	Pn	11 05 45.9	+0.5
	23nm,0.3s,baz=150,slow=8.3,SNR=4.9						
HNR				Sn	Sn	11 06 26.4	+0.7
	9.2nm,0.3s,baz=347,slow=23,SNR=3.7						
HNR				LR	LR	11 07 24.4	
	comp=Z,587nm,18.2s,baz=172,slow=45						
	65nm,0.5s						
DZM	Mont Dzumac	11.81	165	Pn	Pn	11 07 41.0	+0.9
	0.3nm,0.3s,baz=331,slow=13,SNR=9.1						
DZM				LR	LR	11 11 22.1	
	comp=Z,62nm,20.9s,baz=24,slow=33						
	1.9nm,0.4s						
PMG	Port Moresby	15.89	273	LR	LR	11 14 22.8	
	comp=Z,98nm,18.6s,baz=104,slow=36						
MSVF	Nonsavu	16.00	118	LR	LR	11 13 56.3	
	comp=Z,144nm,20.8s,baz=319,slow=34						
H11S2	WAKE ISLAND Hy 29.11	7		T	T	11 41 17.7	
	baz=188,slow=76,SNR=19						
H11S3	WAKE ISLAND Hy 29.11	7		T	T	11 41 15.0	
	baz=188,slow=76,SNR=12						
H11S1	WAKE ISLAND Hy 29.13	7		T	T	11 41 20.4	
	baz=188,slow=76,SNR=13						
STKA	Stephens Creek	29.13	220	P	P	11 10 52.6	+0.2
	2.3nm,1.0s,baz=4.4,slow=10,SNR=3.7						
STKA				LR	LR	11 21 56.6	
	comp=Z,33nm,19.4s,baz=25,slow=35						
	2.3nm,1.0s						
WRA	Warramunga Arr	29.35	248	P	P	11 10 52.6	-1.9
	0.6nm,0.9s,baz=80,slow=9.0,SNR=4.0						
WRA				LR	LR	11 21 25.1	
	comp=Z,65nm,18.4s,baz=46,slow=34						
	0.6nm,0.9s						
ASAR	Alice Springs	30.82	241	P	P	11 11 05.8	-1.8
	0.4nm,0.6s,baz=68,slow=9.6,SNR=9.1						
	0.4nm,0.6s						
RAR	Rarotonga	37.01	111	LR	LR	11 24 30.7	
	comp=Z,31nm,18.4s,baz=277,slow=32						
CMAR	Chiang Mai Arr	69.69	294	P	P	11 16 03.1	+1.5
	0.9nm,0.7s,baz=116,slow=5.5,SNR=7.9						
CMAR				LR	LR	11 48 02.4	
	comp=Z,17nm,19.0s,baz=50,slow=37						
	0.9nm,0.7s						
SONM	Songino Array	76.88	325	P	P	11 16 43.0	-0.6
	0.4nm,0.6s,baz=132,slow=4.8,SNR=2.2						
	0.4nm,0.6s						
ILAR	Eielson Array	83.89	19	P	P	11 17 19.9	-0.8
	1.3nm,1.0s,baz=232,slow=4.4,SNR=6.3						
	1.3nm,1.0s						
YBH	Yreka Blue Hor	85.35	46	LR	LR	11 46 13.3	
	comp=Z,36nm,19.9s,baz=331,slow=29						
NVAR	Mina Array Bea	87.63	50	P	P	11 17 40.6	+0.5
	0.8nm,1.0s,baz=232,slow=6.4,SNR=3.7						
	0.8nm,1.0s						
MKAR	Makanchi Array	91.53	317	P	P	11 17 57.8	-0.2
	0.3nm,0.6s,baz=99,slow=7.5,SNR=3.8						
	0.3nm,0.6s						

*IDC **16** 11:20:08.0±0.9, 56°.43S×25°.24W, h0km, mb4.3/5, mbtmp4.2/6, ML3.6/1, MS3.6/8, Error ellipse: s-maj=40.3km s-min=22.0km az=64.0*

*NEIC **16** 11:20:15.4±2.6, 56°.8S±0°.1×25°.9W±0°.2, h35km±2km, mb4.7/22, Error ellipse: s-maj=25.2km s-min=14.0km az=212.0*

ISC 16 11:20:13.2±0.6, 56°.68S±0°.10×25°.71W±0°.09, h29km, n55, σ1§17/48, mb4.7/13, MS3.6/8, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.58	287	Pn	Pn	11 21 50.9	+3.0
HOPE				Sn	Sn	11 22 59.6	-2.2
VNA1	Neumayer--Stat	15.91	159	⇑P	Pn	11 23 54.2	-0.5
	comp=Z,8.8nm,0.9s						
VNA3	Neumayer Olymp	16.13	161	⇑P	Pn	11 23 56.6	-0.9
	comp=Z,2.6nm,0.4s						
VNA2	Neumayer--Watz	16.30	158	⇑P	Pn	11 23 58.8	-0.9
	comp=Z,1.8nm,0.4s,baz=331,slow=15						
SNAA	Sanae	17.84	156		Pn	11 24 18.3	-0.6
SNAA	Sanae	17.84	156	⇑P	P	11 24 20.0	+0.6
	comp=Z,34nm,0.4s						
SNAA	Sanae	17.84	156	P	Pn	11 24 18.0	-0.9
	comp=Z,0.2nm,0.3s,baz=324,slow=14,SNR=9.6						
	comp=Z,2.6nm,0.8s						
TROLL	Troll, Antarti	19.32	154	⇑P	Pn	11 24 37.9	+0.9
	comp=Z,104nm,0.8s						
PMSA	Palmer Station	20.12	231	P	P	11 24 43.9	-0.5
PMSA				IAmb	IAmb	11 24 49.7	
	comp=Z,46nm,1.2s						
PMSA	Palmer Station	20.12	231	LR	LR	11 31 59.2	
	comp=Z,149nm,18.2s,baz=80,slow=35						
BELA	Belgrano 2	21.52	185	P	P	11 24 58.5	-0.9
TRQA	Tornquist	30.32	292	P	P	11 26 21.4	-0.5
TRQA				IAmb	IAmb	11 26 48.7	
	comp=Z,23nm,1.4s						
QSPA	South Pole Qui	33.57	180	P	P	11 26 51.1	+0.7
QSPA				IAmb	IAmb	11 26 56.4	
	comp=Z,19nm,1.4s						
QSPA	South Pole Qui	33.57	180	P	P	11 26 50.8	+0.4
	comp=Z,5.2nm,0.5s,baz=208,slow=3.0,SNR=106						
	comp=Z,5.2nm,0.5s						
CPUP	Villa Florida	37.84	310	P	P	11 27 25.8	-1.3
	comp=Z,1.6nm,0.6s,baz=156,slow=7.9,SNR=4.4						
	comp=Z,1.6nm,0.6s						
MT02	Curacav	38.76	288	P	P	11 27 33.9	-1.0
MT02				IAmb	IAmb	11 28 13.0	
	comp=Z,22nm,1.4s						
MAW	Mawson	39.15	143	LR	LR	11 42 37.7	
	comp=Z,23nm,19.5s,baz=256,slow=34						
SUR	Sutherland	40.02	73	LR	LR	11 39 55.3	
	comp=Z,139nm,18.9s,baz=190,slow=30						
AC05	El Transito	41.83	293	P	P	11 28 00.0	-0.4
AC05				IAmb	IAmb	11 28 01.7	
	comp=Z,15nm,1.1s						
LCO	Las Campanas	41.91	292	P	P	11 28 00.1	-1.1
AC04	Llanos de Chal	42.75	292	P	P	11 28 07.8	+0.1
AC01	Pan de Azucar	44.20	295	P	P	11 28 19.2	-0.2
GO02	Mina Guanaco	44.51	296	P	P	11 28 20.6	-1.8
GO02				IAmb	IAmb	11 28 34.8	
	comp=Z,13nm,1.2s						
BOSA	Boshof	45.34	74	LR	LR	11 43 12.7	
	comp=Z,118nm,20.9s,baz=206,slow=31						
PB14	IPOC Station P	45.36	296	P	P	11 28 27.9	-1.2
PB06	IPOC Station P	46.57	298	P	P	11 28 38.4	0.0
PB06				IAmb	IAmb	11 29 11.0	
	comp=Z,7.5nm,0.8s						
PB09	IPOC Station P	47.18	299	P	P	11 28 44.3	+1.0
PB09				IAmb	IAmb	11 28 57.5	
	comp=Z,10nm,1.0s						
PTLB	Pontes e Lacer	48.32	315	IAmb	IAmb	11 28 52.7	
	comp=Z,5.1nm,1.0s						
PTLB				P	P	11 28 52.9	+1.0
LBTB	Lobatse	48.42	71	P	P	11 28 55.0	+2.3
LBTB				IAmb	IAmb	11 29 24.5	
	comp=Z,15nm,1.4s						
LBTB	Lobatse	48.42	71	LR	LR	11 46 13.2	
	comp=Z,50nm,18.4s,baz=247,slow=32						
PB08	IPOC Station P	48.55	300	P	P	11 28 54.5	+0.4
PB08				IAmb	IAmb	11 28 55.3	
	comp=Z,7.4nm,0.8s						
GO01	Chusmiza	48.98	301		P	11 28 57.9	+0.4
PB11	IPOC Station P	49.12	300	P	P	11 28 58.6	+0.4
LPAZ	La Paz	51.41	304	P	P	11 29 16.9	+0.8
LPAZ				IAmb	IAmb	11 29 17.3	
	comp=Z,10nm,0.8s						
LPAZ	La Paz	51.41	304	P	P	11 29 16.2	+0.1
	comp=Z,5.2nm,0.4s,baz=158,slow=5.7,SNR=30						
	comp=Z,5.2nm,0.4s						
SAML	Samuel	55.83	313	P	P	11 29 48.0	+0.2
RPN	Rapa Nui	64.35	259	LR	LR	11 56 46.6	
	comp=Z,26nm,18.3s,baz=58,slow=34						
COHC	Cochancay	68.70	300	P	P	11 31 14.2	+0.2
TORD	Torodi Ar. Bea	73.21	28	P	P	11 31 37.9	-3.3
	comp=Z,1.0nm,0.9s,baz=195,slow=5.9,SNR=4.9						
TORD				LR	LR	11 59 06.4	
	comp=Z,93nm,18.3s,baz=324,slow=32						
	comp=Z,1.0nm,0.9s						
ASAR	Alice Springs	98.14	161	P	Pdif	11 33 48.9	+1.7
	comp=Z,0.4nm,0.9s,baz=192,slow=3.9,SNR=4.7						
	comp=Z,0.4nm,0.9s						
EIL	Elat	100.10	50	LR	LR	12 14 22.3	
	comp=Z,31nm,21.6s,baz=246,slow=33						
M30M	Minto, Yukon	146.21	309	PKPdf	PKPab	11 39 49.8	-0.3
H31M	Peel River	146.35	315	PKPbc	PKiKP	11 39 51.5	-1.1
G31M	Satah River	146.68	317	PKPbc	PKiKP	11 39 52.6	-0.6
M29M	Somme Creek	146.88	308	PKPbc	PKPab	11 39 52.6	-0.2
K29M	Barlow Dome	146.97	311	PKPbc	PKiKP	11 39 54.1	0.0
G30M	tAoh Zraii Nji	147.43	317	PKPdf	PKPbc	11 39 52.2	-0.4
EPYK	Eagle Plains	147.45	316	PKPdf	PKPbc	11 39 51.9	-0.9
DAWY	Dawson	147.82	311	PKPdf	PKPbc	11 39 52.9	-1.0
H29M	Whitestone	148.04	315	PKPdf	PKPdf	11 39 52.1	+1.0
G29M	Pine Creek	148.10	316	PKPdf	PKPbc	11 39 53.7	-0.7
M27K	Edge Creek, AK	148.34	307	PKPbc	PKiKP	11 39 57.3	+0.4
SONM	Songino Array	149.94	86	PKPbc	PKPbc	11 39 58.7	-1.1
	comp=Z,1.1nm,0.7s,baz=237,slow=2.9,SNR=5.8						
ILAR	Eielson Array	151.15	311	PKPbc	PKPbc	11 40 01.6	-0.4
	comp=Z,1.5nm,0.8s,baz=110,slow=1.1,SNR=12						
M13K	Dall Lake	157.87	297	PKPab	PKPab	11 40 41.2	+2.6

*JMA **16** 11:22:39.7±0.2, 43°.7N±0°.6×14°.7E±°, h64km±2km, MV3.5/34, NEAR KUNASHIRI ISLAND*

*SKHL **16** 11:22:40.0±0.2, 43°.70N×146°.80E, h65km, mb5.2/3*

ISC 16 11:22:40.1±1.7, 43°.76N±0°.07×146°.76E±0°.07, h61km±11km, n16, σ0§45/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.13	25	*i* P	Pn	11 22 49.5	+0.2
SHO				AMB	AMB	11 22 50.9	
	190nm,0.2s						
SHO				*i* S	Sn	11 22 56.6	+0.7
SHO				A	A	11 22 57.2	
	3μm,0.2s						
SHO				A	A	11 22 57.2	
	4μm,0.2s						
YUK	Yuzh-Kuril'sk	0.70	294	*i* P	Pn	11 22 53.6	-0.8
YUK				AMB	AMB	11 22 53.9	
	4μm,0.2s						
YUK				*i* S	Sn	11 23 04.1	-0.8
YUK				A	A	11 23 04.3	
	2μm,0.2s						
YUK				A	A	11 23 04.3	
	1μm,0.2s						
NEM2	Nemuro 2	0.83	242	*i* P	Pn	11 22 55.8	-0.2
NEM2				S	Sn	11 23 07.6	-0.1
NMR	Nemuro--Hokkai	0.84	243	*i* P	Pn	11 22 55.7	-0.3
NMR				*i* S	Sn	11 23 07.6	-0.2
JRA	Rausu	1.20	279	*i* P	Pn	11 23 00.7	0.0
JRA				S	Sn	11 23 16.5	+0.5
JNSB	Nemuroshibetsu	1.27	272	*i* P	Pn	11 23 01.8	+0.1
JNSB				S	Sn	11 23 18.1

comp=Z,1.7nm,0.9s,baz=255,slow=10,SNR=3.1
comp=Z,1.7nm,0.9s
LPAZ La Paz 51.60 303 P **P 12 04 38.4 +0.4**
comp=Z,2.7nm,0.6s,baz=161,slow=4.7,SNR=6.9
comp=Z,2.7nm,0.6s
ILAR Eielson Array 151.30 311 PKPbc **PKiKP 12 15 23.9 +0.7**
comp=Z,0.6nm,1.0s,baz=134,slow=2.6,SNR=5.0

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*IDC **16** 12:01:14.6±2.1, 10°.78S×162°.98E, h0km, mb3.9/6, mbtmp3.9/7, ML4.3/1, MS3.4/8, Error ellipse: s-maj=44.8km s-min=30.9km az=101.0*
ISC 16 12:01:19.9±1.5, 10°.8S±0°.2×163°.0E±0°.2, h34km, n14, σ0§75/8, mb3.8/6, MS3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.27**	**294**	Pn	**Pn**	**12 02 08.7**	**0.0**
	30nm,0.3s,baz=155,slow=8.9,SNR=14						
HNR				Sn	**Sn**	**12 02 46.8**	**+0.3**
	9.7nm,0.3s,baz=12,slow=15,SNR=1.9 133nm,0.5s						
DZM	**Mont Dzumac**	**11.70**	**164**	LR	LR	12 07 56.8	
	comp=Z,182nm,20.6s,baz=44,slow=34						
PMG	**Port Moresby**	**15.63**	**274**	LR	LR	12 10 36.6	
	comp=Z,56nm,21.9s,baz=88,slow=36						
MSVF	**Nonsavu**	**16.15**	**117**	LR	LR	12 09 47.2	
	comp=Z,144nm,19.9s,baz=317,slow=32						
STKA	**Stephens Creek**	**28.81**	**220**	P	**P**	**12 07 15.8**	**+0.9**
	1.2nm,0.7s,baz=18,slow=13,SNR=3.1						
STKA				LR	LR	12 18 21.2	
	comp=Z,75nm,19.0s,baz=27,slow=36 1.2nm,0.7s						
WRA	**Warramunga Arr**	**29.03**	**248**	P	**P**	**12 07 16.5**	**-0.5**
	0.7nm,0.6s,baz=80,slow=9.1,SNR=10 0.7nm,0.6s						
URZ	**Urewera**	**30.14**	**157**	LR	LR	12 17 08.3	
	comp=Z,37nm,20.0s,baz=77,slow=32						
ASAR	**Alice Springs**	**30.49**	**241**	P	**P**	**12 07 29.2**	**-0.8**
	0.9nm,0.8s,baz=65,slow=10.0,SNR=22 0.9nm,0.8s						
RAR	**Rarotonga**	**37.19**	**111**	LR	LR	12 20 53.7	
	comp=Z,44nm,20.2s,baz=204,slow=32						
DAV	**Davao City (W)**	**41.23**	**294**	LR	LR	12 23 57.7	
	comp=Z,272nm,21.1s,baz=66,slow=33						
JNU	**Nakatsue**	**53.32**	**326**	LR	LR	12 31 19.8	
	comp=Z,30nm,20.3s,baz=142,slow=34						
CMAR	**Chiang Mai Arr**	**69.52**	**294**	P	**P**	**12 12 25.2**	**-0.5**
	0.4nm,0.4s,baz=121,slow=4.6,SNR=7.1 0.4nm,0.4s						
SONM	**Songino Array**	**76.87**	**325**	P	**P**	**12 13 09.5**	**+0.8**
	0.8nm,0.8s,baz=148,slow=6.2,SNR=4.6 0.8nm,0.8s						
MKAR	**Makanchi Array**	**91.48**	**317**	P	**P**	**12 14 22.5**	**-0.5**
	0.6nm,0.7s,baz=83,slow=6.6,SNR=5.8 0.6nm,0.7s						

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*IDC **16** 12:09:45.0±0.5, 26°.24N×143°.87E, h0km, mb4.5/24, mbtmp4.5/28, ML3.9/4, MS3.6/40, Error ellipse: s-maj=17.9km s-min=12.7km az=78.0*
*BJI **16** 12:09:45.8, 26°.06N×144°.00E, h31km, mb4.8/64, mB5.0/18, Ms4.2/7, Ms7 3.9/9*
*NEIC **16** 12:09:47.2±1.7, 26°.29N±0°.09×143°.93E±0°.04, h10km±1km, mb4.9/144, Error ellipse: s-maj=15.4km s-min=5.5km az=171.0*
*JMA **16** 12:09:49.1±0.5, 27°.N±2°.×14°.4E±°, h10km, MD4.3/38, MV5.1/38, NEAR CHICHIJIMA ISLAND*
ISC 16 12:09:49.1±1.0, 26°.39N±0°.06×143°.88E±0°.06, h26km±6km, n282, σ1§42/265, mb4.8/110, MS3.7/37, 5C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.54**	**279**	P	**Pb**	**12 10 16.6**	**-0.5**
JHH2				*e*S	**Sb**	**12 10 38.5**	**+2.3**
JHH2	**Haha-jima-NKT2**	**1.54**	**279**	A	A	12 10 16.6	
	comp=E,9.0nm,1.3s,comp=N,9.0nm,3.0s						
CBIJ	**Chichi jima**	**1.67**	**295**	P	**Pn**	**12 10 17.6**	**+0.9**
CBIJ				*e*S	**Sn**	**12 10 37.7**	**+0.4**
CBIJ	**Chichi jima**	**1.67**	**295**	A	A	12 10 17.6	
	comp=E,9.0nm,1.5s,comp=N,7.0nm,2.2s						
JCJ	**Chichijima**	**1.67**	**295**		**Pn**	**12 10 17.6**	**+0.9**
JCJ	**Chichijima**	**1.67**	**295**	P	**Pb**	**12 10 18.0**	**-1.2**
JHJ2	**Mitsune**	**7.57**	**333**	Pn	**Pn**	**12 11 38.5**	**+0.7**
JHJ2	**Mitsune**	**7.57**	**333**	*e*S	**Sn**	**12 13 01.0**	**-1.7**
JHJ	**Hachijo jima 2**	**7.59**	**333**	Pn	**Pn**	**12 11 38.7**	**+0.6**
	comp=N,8.5nm,0.3s,baz=224,slow=18,SNR=2.2						
JHJ				Sn	**Sn**	**12 12 59.0**	**-4.3**
	comp=N,40nm,0.3s,baz=63,slow=20,SNR=5.9						
JHJ				LR	LR	12 14 53.1	
	comp=N,278nm,19.0s,baz=122,slow=40 comp=N,115nm,0.7s						
JMKN	**Mikurajimanish**	**8.34**	**335**	*e*P	**Pn**	**12 11 49.3**	**+0.9**
JMKN				*e*S	**Sn**	**12 13 18.0**	**-3.8**
JMYK	**Miyake Tsubota**	**8.51**	**335**	S	**Sn**	**12 13 23.4**	**-2.5**
BSO1	**Boso 1**	**8.60**	**344**	*e*S	**Sn**	**12 13 24.6**	**-2.9**
BSO3	**Boso 3**	**8.87**	**342**	*e*S	**Sn**	**12 13 31.6**	**-2.8**
BSO4	**Boso 4**	**9.09**	**341**	*e*P	**Pn**	**12 12 00.4**	**+1.8**
JOD2	**Odawara 2**	**9.75**	**336**	*e*P	**Pn**	**12 12 08.7**	**+1.0**
JOD2				*e*S	**Sn**	**12 13 51.5**	**-5.0**
JYT	**Yasato**	**10.29**	**343**	S	**Sn**	**12 14 06.8**	**-2.9**
JNY	**Yasuok**	**10.32**	**331**	*e*P	**Pn**	**12 12 19.1**	**+3.5**
JRY	**Ryogami san**	**10.49**	**337**	*e*P	**Pn**	**12 12 19.0**	**+1.1**
JRY				*e*S	**Sn**	**12 14 12.8**	**-1.8**
JHO	**Hitachi**	**10.57**	**345**	*e*P	**Pn**	**12 12 18.2**	**-0.7**
JAG	**Ashikaga**	**10.69**	**340**	*e*P	**Pn**	**12 12 21.0**	**+0.5**
INU	**Inuyama**	**10.69**	**328**		**Pn**	**12 12 19.8**	**-0.9**
INU	**Inuyama**	**10.69**	**328**	P	**Pn**	**12 12 22.7**	**+2.1**
JGF	**Kuroka**	**10.74**	**330**		**Pn**	**12 12 22.4**	**+1.0**
JGF	**Kuroka**	**10.74**	**330**	P	**Pn**	**12 12 24.4**	**+3.0**
MJAR	**Matsushiro Arr**	**11.21**	**336**	Pn	**Pn**	**12 12 28.2**	**+0.5**
	comp=N,0.5nm,0.3s,baz=162,slow=11,SNR=24						
MJAR				Sn	**Sn**	**12 14 29.9**	**-2.3**
	comp=N,0.5nm,0.3s,baz=165,slow=20,SNR=6.5						
MJAR				LR	LR	12 17 18.3	
	comp=N,179nm,19.0s,baz=139,slow=40 comp=N,7.7nm,0.6s						
MAJO	**Matsushiro**	**11.21**	**336**	Pn	**Pn**	**12 12 28.8**	**+1.1**
MAJO	**Matsushiro**	**11.21**	**336**	P	**Pn**	**12 12 29.7**	**+1.9**
MJB9	**Matsu-Tunnel**	**11.22**	**336**		**Pn**	**12 12 27.7**	**-0.1**
JFK	**Kawauchi**	**11.23**	**348**	*e*P	**Pn**	**12 12 26.8**	**-1.3**
JFK				*e*S	Sn	12 14 24.9	-7.9
JMN	**Monobe**	**11.33**	**313**	Pn	**Pn**	**12 12 30.4**	**+1.0**
JMM	**Marumori**	**11.73**	**348**		**Pn**	**12 12 33.8**	**-1.0**
JMM	**Marumori**	**11.73**	**348**	P	**Pn**	**12 12 34.9**	**+0.1**
JSD	**Sado**	**12.54**	**339**	Pn	**Pn**	**12 12 46.3**	**+0.4**
JMK	**Ichinoseki**	**12.72**	**351**	P	**Pn**	**12 12 46.9**	**-1.4**
JNU	**Nakatsue**	**13.13**	**304**	Pn	**Pn**	**12 12 57.4**	**+3.4**
	comp=N,0.2nm,0.3s,baz=135,slow=10.0,SNR=2.0						
JNU				LR	LR	12 17 23.8	
	comp=N,288nm,21.5s,baz=126,slow=35						
JOW	**Kunigami**	**13.97**	**275**	Pn	**Pn**	**12 13 03.9**	**-1.5**
JOW	**Kunigami**	**13.97**	**275**	LR	LR	12 18 03.7	
	comp=N,102nm,19.5s,baz=82,slow=36						
ERM	**Erimo**	**15.59**	**358**	Pn	**Pn**	**12 13 27.2**	**+0.1**
KSRS	**Korea Array**	**17.44**	**313**	P	**P**	**12 13 52.0**	**+0.4**
	comp=N,0.4nm,0.3s,baz=122,slow=13,SNR=36						
KSRS				LR	LR	12 19 58.6	
	comp=N,164nm,21.7s,baz=125,slow=35 comp=N,14nm,0.8s						
KSAR	**Wonju Array Be**	**17.46**	**313**	Pn	**Pn**	**12 13 49.9**	**-0.9**
KS19	**Wonju Array Si**	**17.50**	**313**		**Pn**	**12 13 51.7**	**+0.3**
ASAJ	**Asahikawa**	**17.71**	**357**	P	**P**	**12 13 54.8**	**+0.2**
	comp=N,0.9nm,0.3s,baz=222,slow=12,SNR=8.1						
ASAJ				S	Sn	12 17 02.5	-8.0
	comp=N,10nm,0.8s,baz=342,slow=34,SNR=2.1						
ASAJ				LR	LR	12 20 21.3	
	comp=N,177nm,20.4s,baz=162,slow=36 comp=N,8.9nm,0.8s						
JKA	**Kamikawa-asahi**	**17.71**	**357**		**P**	**12 13 54.7**	**+0.1**
INCN	**Inchon**	**18.31**	**311**	P	**P**	**12 14 00.7**	**-0.7**
INCN	**Inchon**	**18.31**	**311**	P	**Pn**	**12 14 04.6**	**+3.2**
YOJ	**Yonaguni jima**	**18.95**	**269**	P	**P**	**12 14 07.3**	**-1.1**
YOJ				IAmb	IAmb	12 14 11.2	
	comp=Z,93nm,0.9s						
YOJ	**Yonaguni jima**	**18.95**	**269**	P	**Pn**	**12 14 11.5**	**+2.4**
USRK	**Ussuriysk Ar.**	**20.20**	**335**	P	**P**	**12 14 22.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**20.20**	**335**	P	Pn	12 14 24.4	+0.4
	comp=Z,36nm,0.8s,baz=157,slow=12,SNR=36						
USRK				LR	LR	12 22 32.9	
	comp=Z,89nm,20.5s,baz=145,slow=38 comp=Z,36nm,0.8s						
USA0B	**Ussuriysk Arra**	**20.20**	**335**		**P**	**12 14 21.8**	**-0.1**
USA0B				IAmb	IAmb	12 14 28.6	
	comp=Z,51nm,1.1s						
YHNB	**Yeheng**	**20.38**	**270**	P	**P**	**12 14 23.0**	**-1.0**
YULB	**Yu-li**	**20.70**	**267**		**P**	**12 14 26.3**	**-1.2**
YULB	**Yu-li**	**20.70**	**267**	P	Pn	12 14 29.4	-0.5
SSLB	**Suanglung**	**20.92**	**268**	P	**P**	**12 14 29.3**	**-0.6**
SSLB				IAmb	IAmb	12 14 36.4	
	comp=Z,34nm,0.8s						
SSLB	**Suanglung**	**20.92**	**268**	P	Pn	12 14 33.0	+0.5
TWG	**Pinlang**	**21.03**	**265**	P	**P**	**12 14 28.4**	**-2.7**
TPUB	**Ta-pu**	**21.32**	**267**	P	**P**	**12 14 35.2**	**+1.0**
MDJ	**Mudanjiang**	**21.52**	**331**	P	**P**	**12 14 35.7**	**-0.5**
MDJ	**Mudanjiang**	**21.52**	**331**	P	**P**	**12 14 38.4**	**+2.2**
MDJ				pmax	pmax		
	comp=Z,26nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,320nm,4.1s						
MDJ	**Mudanjiang**	**21.52**	**331**	P	**P**	**12 14 39.1**	**+2.9**
H11N2	**WAKE ISLAND Hy**	**22.18**	**103**	T	T	12 37 24.2	
	baz=291,slow=75,SNR=28						
H11N1	**WAKE ISLAND Hy**	**22.18**	**103**	T	T	12 37 28.5	
	baz=291,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**22.19**	**103**	T	T	12 37 25.6	
	baz=291,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hy**	**22.48**	**106**	T	T	12 37 47.1	
	baz=294,slow=75,SNR=63						
H11S1	**WAKE ISLAND Hy**	**22.48**	**106**	T	T	12 37 43.6	
	baz=294,slow=75,SNR=31						
H11S2	**WAKE ISLAND Hy**	**22.49**	**106**	T	T	12 37 44.4	
	baz=294,slow=75,SNR=39						
NJ2	**Nanjing**	**22.53**	**290**	*e*P	**P**	**12 14 47.8**	**+0.7**
NJ2				pP	**sP**	**12 14 55.5**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
CN2	**Changchun**	**22.91**	**324**	P	**P**	**12 14 51.4**	**+0.4**
CN2				pmax	pmax		
	comp=Z,20nm,1.2s						
BNX	**BinXian**	**23.37**	**330**	⇑P	**P**	**12 14 58.4**	**+2.8**
BNX				pmax	pmax		
	comp=Z,65nm,0.9s						
KLR	**Kul'dur**	**24.67**	**341**	P	**P**	**12 15 09.2**	**+1.5**
	comp=Z,7.9nm,0.8s,baz=148,slow=10,SNR=16						
KLR				LR	LR	12 24 39.5	
	comp=Z,44nm,21.5s,baz=138,slow=36 comp=Z,7.9nm,0.8s						
TIA	**Tai'an**	**24.80**	**300**	P	**P**	**12 15 08.8**	**-0.3**
TIA				pmax	pmax		
	comp=Z,11nm,0.8s						
WHN	**Wuhan**	**26.25**	**286**	⇑P	**P**	**12 15 24.3**	**+2.0**
WHN				pmax	pmax		
	comp=Z,76nm,0.8s						
HEH	**HeiHe**	**26.98**	**336**	*e*P	**P**	**12 15 29.4**	**+0.8**
HEH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
HNS	**HongShan**	**26.98**	**301**	⇑P	**P**	**12 15 28.4**	**-0.4**
HNS				S	**S**	**12 20 01.8**	**-2.9**
HNS				pmax	pmax		
	comp=Z,13nm,1.3s						
HNS				LR	LR		
	comp=Z,230nm,16.1s						
HNS				LR	LR		
	comp=Z,180nm,18.4s						
HNS				LR	LR		
	comp=Z,210nm,15.9s						
LYN	**LuoYang**	**28.18**	**294**	⇑P	**P**	**12 15 39.4**	**-0.2**
LYN				pP	sP	12 15 48.8	+0.1
LYN				sP	pwP	12 15 52.8	+1.6
LYN				PP	**PnPn**	**12 16 29.5**	**+1.5**
LYN				pmax	pmax		
	comp=Z,20nm,0.8s						
LYN				pmax	pmax		
	comp=Z,230nm,4.3s						
XLT	**XiLinHaoTe**	**28.47**	**315**	*e*P	**P**	**12 15 44.5**	**+2.3**
XLT				pmax	pmax		
	comp=Z,11nm,0.8s						
PETK	**Petropavlovsk-**	**28.61**	**18**	LR	LR	12 25 21.6	
	comp=Z,118nm,20.6s,baz=183,slow=33						
HIA	**Hailar**	**29.51**	**327**	P	**P**	**12 15 50.6**	**-0.6**
HHC	**Hu-ho-hao-te**	**30.33**	**307**	*e*P	**P**	**12 16 02.0**	**+3.3**
HHC				sP	pwP	12 16 18.6	+8.4
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,94nm,3.8s						
ENH	**Enshi**	**30.45**	**285**	P	**P**	**12 15 58.7**	**-1.1**
ENH				IAmb	IAmb	12 15 59.4	
	comp=Z,14nm,0.8s						
XAN	**Xi'an**	**31.04**	**293**	P	**P**	**12 16 04.5**	**-0.5**
XAN				sP	pwP	12 16 17.6	+0.9
XAN				pmax	pmax		
	comp=Z,32nm,0.9s						
GYA	**Guiyang**	**33.25**	**279**	P	**P**	**12 16 24.4**	**-0.2**
GYA				pmax	pmax		
	comp=Z,13nm,0.8s						
MA2	**Magadan**	**33.51**	**6**	LR	LR	12 31 16.6	
	comp=Z,56nm,19.0s,baz=169,slow=38						
SHEM	**Shemya Is, Ala**	**34.68**	**33**	LR	LR	12 28 38.1	
	comp=Z,109nm,21.7s,baz=228,slow=32						
LZH	**Lanzhou**	**35.36**	**296**	*e*P	**P**	**12 16 42.8**	**0.0**
LZH				sP	pwP	12 16 57.3	+2.8
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
LZH				LR	LR		
	comp=Z,180nm,16.0s						
LZH				LR	LR		
	comp=Z,200nm,14.9s						
LZH				LR	LR		
	comp=Z,230nm,17.5s						
ULN	**Ulaanbaatar**	**35.87**	**316**	P	**P**	**12 16 48.4**	**+1.3**
ULN				IAmb	IAmb	12 16 51.0	
	comp=Z,16nm,1.3s						
SONM	**Songino Array**	**36.27**	**316**	P	**P**	**12 16 50.9**	**+0.5**
SONM	**Songino Array**	**36.27**	**316**	P	**P**	**12 16 51.4**	**+1.0**
	comp=Z,3.2nm,0.6s,baz=121,slow=7.3,SNR=17						
SONM				PcP	**PcP**	**12 19 15.5**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=123,slow=5.3,SNR=4.0						
SONM				LR	LR	12 30 50.8	
	comp=Z,94nm,20.9s,baz=70,slow=35 comp=Z,3.2nm,0.6s						
SLVN	**Son La**	**36.80**	**271**	P	**P**	**12 16 55.0**	**-0.1**
YAK	**Yakutsk**	**36.88**	**349**	LR	LR	12 33 51.2	
	comp=Z,38nm,21.3s,baz=146,slow=39						
SEY	**Seymchan**	**36.97**	**6**	P	**P**	**12 16 57.8**	**+1.8**
	comp=Z,2.7nm,0.8s,baz=193,slow=17,SNR=4.5 comp=Z,2.7nm,0.8s						
PZH	**PanZhiHua**	**37.60**	**280**	P	**P**	**12 17 01.3**	**-0.7**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,130nm,7.1s						
GTA	**Gaotai**	**38.84**	**301**	⇑P	**P**	**12 17 12.3**	**0.0**
GTA				pP	sP	12 17 21.6	+0.1
GTA				pmax	pmax		
	comp=Z,16nm,0.9s						
HNR	**Honiara**	**38.88**	**154**	LR	LR	12 31 31.1	
	comp=Z,70nm,20.3s,baz=350,slow=34						
KAPI	**Kappang**	**39.00**	**220**	LR	LR	12 31 48.2	
	comp=Z,51nm,20.9s,baz=29,slow=34						
PHRA	**Phrae**	**40.95**	**268**	P	**P**	**12 17 29.8**	**0.0**
CHTO	**Chiang Mai**	**42.00**	**269**	P	**P**	**12 17 38.4**	**-0.1**
CHTO				IAmb	IAmb	12 17 39.2	
	comp=Z,13nm,0.8s						
CM31	**Chiang Mai Arr**	**42.11**	**269**	P	**P**	**12 17 39.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**42.11**	**269**	P	**P**	**12 17 39.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**42.11**	**269**	P	**P**	**12 17 39.2**	**-0.2**
	comp=Z,7.2nm,0.9s,baz=58,slow=8.2,SNR=48						
CMAR				PcP	**PcP**	**12 19 34.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=354,slow=0.9,SNR=4.3						
CMAR				LR	LR	12 35 49.6	
	comp=Z,42nm,19.1s,baz=75,slow=37 comp=Z,7.2nm,0.9s						
GOMU	**GeErMu**	**42.66**	**296**	P	**P**	**12 17 43.8**	**-0.4**
GOMU				pmax	pmax		
	comp=Z,31nm,0.9s						
KNRA	**Kununurra**	**44.33**	**201**	P	**P**	**12 17 56.6**	**-0.6**
KNRA				IAmb	IAmb	12 19 04.6	
	comp=Z,14nm,1.2s						
TIXI	**Tiksi**	**46.07**	**353**	LR	LR	12 41 37.9	
	comp=Z,28nm,19.5s,baz=218,slow=41						
IPM	**Ipoh**	**46.38**	**249**	P	**P**	**12 18 12.3**	**-1.4**
IPM				IAmb	IAmb	12 18 14.3	
	comp=Z,8.2nm,0.8s						
SHL	**Shillong**	**46.48**	**281**	P	**P**	**12 18 13.9**	**-0.7**
SHL				IAmb	IAmb	12 18 15.3	
	comp=Z,15nm,0.9s						
WB0	**Warramunga Arr**	**46.80**	**192**	P	**P**	**12 18 14.8**	**-2.0**
WB0				IAmb	IAmb	12 18 34.5	
	comp=Z,12nm,1.1s						
WR0	**Warramunga Arr**	**46.96**	**192**	P	**P**	**12 18 16.3**	**-1.7**
WR0				IAmb	IAmb	12 18 35.8	
	comp=Z,8.0nm,1.0s						
WRAB	**Tennant Creek**	**46.97**	**192**	P	**P**	**12 18 16.7**	**-1.4**
WRAB				IAmb	IAmb	12 18 55.6	
	comp=Z,14nm,1.0s						
WB2	**Warramunga Arr**	**46.98**	**192**	P	**P**	**12 18 17.0**	**-1.2**
WRA	**Warramunga Arr**	**46.98**	**192**	P	**P**	**12 18 16.9**	**-1.3**
WRA	**Warramunga Arr**	**46.98**	**192**	P	**P**	**12 18 16.7**	**-1.5**
	comp=Z,6.4nm,1.2s,baz=16,slow=8.9,SNR=22						
WRA				PcP	**PcP**	**12 19 50.1**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=11,slow=8.1,SNR=0.8						
WRA				LR	LR	12 38 48.1	
	comp=Z,36nm,18.2s,baz=356,slow=37 comp=Z,6.4nm,1.2s						
FITZ	**Fitzroy Crossi**	**47.64**	**204**	P	**P**	**12 18 22.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**47.64**	**204**	LR	LR	12 37 03.7	
	comp=Z,34nm,21.9s,baz=8.0,slow=34						
WMQ	**Urumqi**	**48.21**	**306**	*e*P	**P**	**12 18 28.6**	**+0.9**
WMQ				pP	sP	12 18 37.8	+0.8
WMQ				pmax	pmax		
	comp=Z,20nm,0.7s						
RPSI	**Rantau Prapat**	**49.10**	**249**	P	**P**	**12 18 34.4**	**-0.4**
RPSI				IAmb	IAmb	12 18 35.2	
	comp=Z,10nm,0.7s						
AS31	**Alice Springs**	**50.69**	**192**	P	**P**	**12 18 45.3**	**-1.4**
AS31				PcP	**PcP**	**12 20 03.9**	**+0.1**
ASAR	**Alice Springs**	**50.69**	**192**	P	**P**	**12 18 46.1**	**-0.6**
ASAR				PcP	**PcP**	**12 20 03.7**	**0.0**
ASAR	**Alice Springs**	**50.69**	**192**	P	**P**	**12 18 44.1**	**-2.5**
	comp=Z,0.6nm,0.9s,baz=7.8,slow=5.4,SNR=6.9						
ASAR				PcP	**PcP**	**12 20 03.4**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=22,slow=3.9,SNR=12						
ASAR				LR	LR	12 40 30.2	
	comp=Z,20nm,19.9s,baz=10.0,slow=36						
ZAA0	**Zalesovo Array**	**51.01**	**319**	P	**P**	**12 18 49.1**	**+0.4**
ZAA0				IAmb	IAmb	12 18 50.6	
	comp=Z,8.6nm,0.8s						
ZAA0				PcP	**PcP**	**12 20 04.6**	**0.0**
ZALV	**Zalesovo Beam**	**51.01**	**319**	P	**P**	**12 18 49.3**	**+0.6**
	comp=Z,6.8nm,0.7s,baz=96,slow=7.0,SNR=30						
ZALV				PcP	**PcP**	**12 20 04.5**	**0.0**
	comp=Z,4.8nm,0.8s,baz=117,slow=4.8,SNR=7.9 comp=Z,6.8nm,0.7s						
MK31	**Makanchi Array**	**52.09**	**310**	P	**P**	**12 18 58.1**	**+1.1**
MK31				IAmb	IAmb	12 18 58.9	
	comp=Z,10nm,0.8s						
MKAR	**Makanchi Array**	**52.09**	**310**	P	**P**	**12 18 57.8**	**+0.9**
MKAR	**Makanchi Array**	**52.09**	**310**	P	**P**	**12 18 57.6**	**+0.7**
	comp=Z,11nm,0.7s,baz=92,slow=8.7,SNR=80						
MKAR				PcP	**PcP**	**12 20 09.3**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=52,slow=2.6,SNR=2.3						
MKAR				LR	LR	12 41 50.7	
	comp=Z,82nm,18.6s,baz=84,slow=37 comp=Z,11nm,0.7s						
MAKZ	**Makanchi**	**52.30**	**310**	P	**P**	**12 19 00.1**	**+1.6**
MAKZ				IAmb	IAmb	12 19 00.6	
	comp=Z,14nm,0.8s						
DZM	**Mont Dzumac**	**52.91**	**153**	*e*LR	LR	12 34 23.3	
	comp=Z,146nm,25.2s						
DZM	**Mont Dzumac**	**52.91**	**153**	LR	LR	12 41 18.1	
	comp=Z,52nm,19.1s,baz=34,slow=36						
C18K	**Utukok River**	**53.12**	**22**	P	**P**	**12 19 04.7**	**+0.5**
C18K				IAmb	IAmb	12 20 29.9	
	comp=Z,32nm,1.6s						
J19K	**Poorman**	**53.73**	**28**	P	**P**	**12 19 09.5**	**+0.7**
J19K				IAmb	IAmb	12 20 44.9	
	comp=Z,34nm,1.8s						
C19K	**Lookout Ridge**	**53.83**	**22**	P	**P**	**12 19 10.0**	**+0.5**
NRIK	**Noril'sk**	**53.85**	**339**	P	**P**	**12 19 10.1**	**+0.6**
NRIK				IAmb	IAmb	12 19 19.6	
	comp=Z,7.3nm,0.9s						
NRIK	**Noril'sk**	**53.85**	**339**	P	**P**	**12 19 10.2**	**+0.6**
	comp=Z,2.4nm,0.3s,baz=113,slow=7.6,SNR=6.3 comp=Z,2.4nm,0.3s						
J20K	**Nowinta River**	**54.40**	**28**	P	**P**	**12 19 16.1**	**+2.5**
F20K	**Avaraart Lake**	**54.52**	**25**	P	**P**	**12 19 16.7**	**+2.3**
KURK	**Kurchatov**	**54.55**	**315**	P	**P**	**12 19 15.3**	**+0.4**
WUS	**Wushi**	**54.56**	**303**	P	**P**	**12 19 16.2**	**+0.8**
WUS				IAmb	IAmb	12 19 17.6	
	comp=Z,11nm,1.3s						
KURBB	**Kurchatov Arra**	**54.61**	**315**	P	**P**	**12 19 15.7**	**+0.4**
	comp=Z,29nm,0.9s,baz=92,slow=7.5,SNR=30 comp=Z,29nm,0.9s						
IMAR	**Indian Mountai**	**54.99**	**26**	P	**P**	**12 19 19.1**	**+1.1**
MSVF	**Nonsavu**	**55.01**	**139**	LR	LR	12 40 29.3	
	comp=Z,38nm,19.1s,baz=305,slow=34						
H21K	**Melozitna Rive**	**55.30**	**27**	P	**P**	**12 19 22.3**	**+2.2**
H21K				IAmb	IAmb	12 19 36.7	
	comp=Z,19nm,1.5s						
TARG	**Taragay, Kyrgy**	**55.56**	**304**	P	**P**	**12 19 23.0**	**0.0**
TARG				IAmb	IAmb	12 19 25.5	
	comp=Z,17nm,1.5s						
BYL	**Byron's Ledge**	**56.06**	**84**	P	**P**	**12 19 24.9**	**-1.5**
D22K	**Ayikyak River**	**56.12**	**23**	P	**P**	**12 19 26.9**	**+0.9**
D22K				IAmb	IAmb	12 19 41.8	
	comp=Z,7.8nm,0.9s						
E22K	**Anaktuvuk Pass**	**56.25**	**24**	P	**P**	**12 19 26.9**	**-0.1**
E22K				IAmb	IAmb	12 20 27.2	
	comp=Z,22nm,1.8s						
B22K	**

SCRK **Sand Creek** 58.79 29 P **P** **12 19 46.5 +1.5**
SCRK IAmb IAmb 12 19 47.4
comp=Z,9.1nm,1.0s
J26L Joseph Creek 59.01 29 P **P** **12 19 47.2 +0.7**
J26L IAmb IAmb 12 19 49.2
comp=Z,7.3nm,0.8s
F26K Sheenjek River 59.03 25 P **P** **12 19 48.7 +2.2**
F26K IAmb IAmb 12 20 02.3
comp=Z,12nm,1.4s
ARSB Arslanbob 59.21 304 P **P** **12 19 49.2 +0.8**
C27K Jago River 59.40 23 P **P** **12 19 51.6 +2.7**
C27K IAmb IAmb 12 19 52.8
comp=Z,8.2nm,1.0s
BVAR Borovoye Array 59.58 318 P **P** **12 19 51.5 +1.0**
comp=Z,8.5nm,0.6s,baz=91,slow=7.5,SNR=34
BVAR LR LR 12 45 43.4
comp=Z,86nm,18.6s,baz=79,slow=36
comp=Z,8.5nm,0.6s
BRVK Borovoye 59.64 318 P **P** **12 19 51.3 +0.4**
BRVK IAmb IAmb 12 19 58.2
comp=Z,10nm,0.8s
L27K Beaver Creek, 59.72 31 P **P** **12 19 52.8 +1.4**
BCAR Beaver Creek A 59.74 31 P **P** **12 19 52.4 +0.9**
D27M Malcolm River 60.33 23 P **P** **12 19 57.9 +2.4**
NIL Nilore 60.52 295 P **P** **12 19 58.4 +1.0**
I28M Miner Creek 60.58 28 P **P** **12 19 59.3 +2.0**
F28M Old Crow 60.65 25 P **P** **12 19 59.8 +2.2**
F28M IAmb IAmb 12 20 46.7
comp=Z,11nm,1.3s
KKAR Karatay Array 60.72 306 P **P** **12 19 59.3 +0.8**
E28M Babbage River 60.81 24 P **P** **12 20 00.8 +2.1**
E28M IAmb IAmb 12 20 02.7
comp=Z,7.8nm,1.1s
DAWY Dawson 60.81 29 P **P** **12 20 00.9 +2.1**
DAWY IAmb IAmb 12 20 01.9
comp=Z,6.3nm,0.9s
BTK Batken 61.05 303 P **P** **12 20 01.7 +0.8**
BTK IAmb IAmb 12 20 02.4
comp=Z,12nm,1.2s
M29M Somme Creek 61.28 31 P **P** **12 20 04.3 +2.2**
M29M IAmb IAmb 12 20 18.4
comp=Z,21nm,1.6s
G29M Pine Creek 61.36 26 P **P** **12 20 04.1 +1.6**
L29M L29M 61.40 30 P **P** **12 20 05.3 +2.5**
L29M IAmb IAmb 12 20 06.5
comp=Z,12nm,1.0s
E29M Blow River 61.41 24 P **P** **12 20 05.3 +2.5**
E29M IAmb IAmb 12 20 16.1
comp=Z,18nm,1.6s
K29M Barlow Dome 61.65 30 P **P** **12 20 06.8 +2.2**
K29M IAmb IAmb 12 20 07.9
comp=Z,9.4nm,1.0s
GAR Garm 61.65 302 P **P** **12 20 05.7 +0.7**
EPYK Eagle Plains 61.89 27 P **P** **12 20 08.3 +2.3**
M30M Minto, Yukon 62.04 31 P **P** **12 20 08.7 +1.5**
M30M IAmb IAmb 12 20 09.8
comp=Z,22nm,1.9s
G30M tAoh Zraii Nji 62.07 26 P **P** **12 20 08.1 +0.8**
I30M Mount Dempster 62.08 28 P **P** **12 20 08.8 +1.3**
J30M Hart River 62.13 29 P **P** **12 20 09.3 +1.4**
J30M IAmb IAmb 12 22 20.1
comp=Z,13nm,1.6s
SIMJ Simiganj 62.72 302 P **P** **12 20 12.3 +0.1**
G31M Satah River 62.84 26 P **P** **12 20 14.3 +2.0**
G31M IAmb IAmb 12 20 15.1
comp=Z,11nm,0.9s
H31M Peel River 62.89 27 P **P** **12 20 14.9 +2.1**
H31M IAmb IAmb 12 20 28.9
comp=Z,14nm,1.2s
INK Inuvik 63.04 24 P **P** **12 20 14.1 +0.5**
INK IAmb IAmb 12 20 16.1
comp=Z,5.0nm,0.8s
M31M Drury Creek, Y 63.19 31 P **P** **12 20 15.8 +1.0**
M31M IAmb IAmb 12 20 37.1
comp=Z,9.1nm,1.2s
FARO Faro, Yukon 63.67 31 P **P** **12 20 19.0 +0.9**
FARO IAmb IAmb 12 20 32.6
comp=Z,16nm,1.5s
KBL Kabul 63.69 297 P **P** **12 20 19.6 +0.8**
KBL IAmb IAmb 12 20 20.2
comp=Z,12nm,1.1s
N32M Quiet Lake 63.94 32 P **P** **12 20 20.8 +1.0**
N32M IAmb IAmb 12 20 35.6
comp=Z,12nm,1.2s
A36M Sachs Harbour 65.42 20 P **P** **12 20 30.8 +1.6**
A36M IAmb IAmb 12 20 32.4
comp=Z,7.9nm,1.0s
ARTI Arti 66.00 323 P **P** **12 20 34.0 +0.7**
C36M Paulatuk 66.30 23 P **P** **12 20 36.3 +1.4**
ABKAR Akbulak array 66.66 315 P **P** **12 20 37.6 0.0**
HRA Herat 69.11 299 IAmb IAmb 12 20 55.6
comp=Z,12nm,0.9s
YKA Yellowknife Ar 72.03 29 P **P** **12 21 11.2 +0.7**
comp=Z,2.9nm,0.8s,baz=292,slow=6.1,SNR=6.3
comp=Z,2.9nm,0.8s
RAR Rarotonga 72.26 125 LR LR 12 45 43.4
comp=Z,48nm,21.8s,baz=278,slow=30
RES Resolute Bay 72.38 14 LR LR 12 54 56.3
comp=Z,29nm,21.2s,baz=9.5,slow=37
ARCES ARCESS Array B 74.69 341 P **P** **12 21 25.2 -0.9**
comp=Z,3.6nm,0.9s,baz=45,slow=10,SNR=1.7
comp=Z,3.6nm,0.9s
PINE Pine Mountain 75.74 48 P **P** **12 21 31.4 -1.5**
PINE IAmb IAmb 12 21 44.9
comp=Z,7.6nm,1.1s
NEW Newport 76.40 43 P **P** **12 21 36.0 -0.4**
PPT Papeete 78.00 117 LR LR 12 50 22.3
comp=Z,79nm,19.5s,baz=320,slow=31
PPT2 Papeete2 78.01 117 *e*LR LR 12 45 59.9
comp=Z,91nm,22.8s
PPT2 *e*LR LR 12 46 01.4
comp=Z,58nm,21.2s
CMB Columbia Colle 78.43 53 P **P** **12 21 47.5 -0.5**
FINES FINESS Array B 79.24 334 P **P** **12 21 52.0 +0.2**
comp=Z,3.0nm,0.6s,baz=65,slow=5.2,SNR=15
comp=Z,3.0nm,0.6s
KBZ Khabaz 79.59 314 P **P** **12 21 55.2 +1.1**
comp=Z,11nm,0.8s,baz=81,slow=3.4,SNR=16
comp=Z,11nm,0.8s
KVN Kaiserville 79.63 52 P **P** **12 21 55.7 +1.0**
KVN IAmb IAmb 12 21 57.5
comp=Z,21nm,1.9s
NVAR Mina Array Bea 79.75 52 P **P** **12 21 56.5 +1.1**
comp=Z,1.4nm,0.8s,baz=289,slow=5.6,SNR=9.5
comp=Z,1.4nm,0.8s
GNI Garni 79.93 310 LR LR 13 00 15.9
comp=Z,42nm,18.1s,baz=350,slow=38
TBI Tubuai 81.24 121 *e*LR LR 12 47 25.0
comp=Z,297nm,25.8s
TAOE Nuku Hiva Isla 81.53 104 *e*LR LR 12 47 37.5
comp=Z,78nm,23.0s
GWY Greenwater Val 81.91 54 P **P** **12 22 06.9 0.0**
GWY IAmb IAmb 12 22 25.0
comp=Z,20nm,1.9s
MNK Minsk 82.54 328 *i* P **P** **12 22 08.7 -0.9**
comp=E,21nm,0.7s
MNK *i* P **P** **12 22 08.7 -0.9**
comp=N,17nm,0.8s
MNK *i* P **P** **12 22 08.7 -0.9**
comp=Z,24nm,0.9s,baz=54
MNK *i* PP **PP** **12 25 18.4 -0.1**
MNK *i* PPP PPP 12 27 09.8
MNK *i* S **S** **12 32 24.6 -0.1**
MNK *i* SS **SS** **12 37 47.8 +2.4**
MNK *i* SSS SSS 12 41 16.7
MNK *i* LQ LQ 12 52 28.2
MNK *i* LR LR 12 58 37.7
MNK *i* LRM MLR 13 00 33.4
comp=Z,45nm,10.0s
MNK *i* LRM MLR 13 00 40.1
comp=E,386nm,19.5s
MNK *i* LRM MLR 13 00 40.1
comp=N,561nm,23.2s
NACGM Naroch 82.82 329 *e*P **P** **12 22 12.3 +1.3**
comp=N,2μm,1.1s
PFO Pinyon Flats O 83.22 56 LR LR 12 51 05.1
comp=N,90nm,19.7s,baz=345,slow=30
PDAR Pinedale Array 83.64 45 P **P** **12 22 16.1 +0.3**
comp=N,0.7nm,0.9s,baz=236,slow=0.5,SNR=4.6
PDAR LR LR 12 56 03.1
comp=N,76nm,21.0s,baz=342,slow=33
comp=N,0.7nm,0.9s
LCMT Little Creek M 83.97 52 IAmb IAmb 12 22 20.0
comp=Z,10nm,1.6s
AK03 Malin Array Si 84.06 324 P **P** **12 22 17.3 -0.2**
AKASG Malin Array Be 84.07 324 P **P** **12 22 16.7 -0.8**
AKASG IAmb IAmb 12 22 18.5
comp=Z,9.6nm,1.4s
AKASG Malin Array Be 84.07 324 P **P** **12 22 17.2 -0.3**
comp=Z,3.4nm,0.6s,baz=52,slow=5.2,SNR=22
comp=Z,3.4nm,0.6s
AKBB Malin Array Si 84.07 324 P **P** **12 22 17.5 0.0**
AKBB Malin Array Si 84.07 324 P **P** **12 22 17.4 -0.1**
AK01 Malin Array Si 84.08 324 P **P** **12 22 17.4 -0.2**
KIEV Kiev 84.08 324 P **P** **12 22 17.4 -0.2**
KIEV Kiev 84.08 324 P **P** **12 22 17.4 -0.2**
comp=Z,74nm,1.9s
KNB Kanab 84.27 52 P **P** **12 22 20.1 +1.0**
KNB IAmb IAmb 12 22 34.2
comp=Z,13nm,1.4s
Q16A Castle Valley 84.48 49 IAmb IAmb 12 22 24.0
comp=Z,8.6nm,1.3s
NC405 NORSAR Array S 84.60 339 P **P** **12 22 19.9 -0.1**
NC303 NORSAR Array S 84.62 339 P **P** **12 22 20.1 -0.1**
HFS Hagfors 84.66 337 P **P** **12 22 20.2 -0.2**
comp=Z,9.1nm,0.7s,baz=72,slow=1.9,SNR=13
HFS LR LR 13 05 08.9
comp=Z,63nm,18.2s,baz=356,slow=39
comp=Z,9.1nm,0.7s
RDMU Red Mountain 84.73 47 P **P** **12 22 21.6 +0.2**
NB2 NORSAR Subarra 84.81 339 P **P** **12 22 20.8 -0.4**
comp=Z,3.9nm,0.7s,baz=42,slow=5.1
NOA NORSAR Array B 84.81 339 P **P** **12 22 21.1 0.0**
comp=Z,8.7nm,0.8s,baz=43,slow=4.8,SNR=17
NOA LR LR 13 07 16.0
comp=Z,52nm,18.5s,baz=15,slow=41
comp=Z,8.7nm,0.8s
SUW Suwalki 85.03 329 P **P** **12 22 22.6 +0.3**
LUBAR Lubar, Ukraine 85.29 324 P **P** **12 22 22.8 -0.9**
RNPP9 Sopachiv 85.35 326 P **P** **12 22 23.2 -0.8**
SFJD Kangerlussuaq 86.26 6 LR LR 13 01 18.8
comp=Z,63nm,20.9s,baz=168,slow=36
FRB Frobisher Bay 86.60 14 LR LR 13 01 22.2
comp=Z,30nm,21.8s,baz=88,slow=36
RAYN Ar Rayn 86.81 295 P **P** **12 22 31.4 -0.5**
ILGA Ilgaz 86.82 315 P **P** **12 22 31.0 -0.7**
BR131 Keskin Array S 87.58 314 P **P** **12 22 35.3 -0.1**
BRTR Keskin Array B 87.58 314 P **P** **12 22 35.3 -0.1**
BRTR Keskin Array B 87.58 314 P **P** **12 22 35.0 -0.3**
comp=Z,1.4nm,0.8s,baz=117,slow=5.1,SNR=5.7
comp=Z,1.4nm,0.8s
BR104 Keskin Array S 87.59 314 P **P** **12 22 35.5 +0.1**
MORS Morshin 87.77 325 P **P** **12 22 34.4 -1.5**
BUR08 Bucovina Ar. S 88.01 324 P **P** **12 22 37.1 -0.1**
BURAR Bucovina Array 88.02 324 P **P** **12 22 37.5 +0.3**
KWP Kalwaria Pacla 88.05 326 P **P** **12 22 37.4 +0.2**
KOLS Kolonicke sedl 88.72 326 *e*P **P** **12 22 41.6 +1.2**
STHS Stebnicka Huta 88.91 327 *e*P **P** **12 22 43.0 +1.7**
HSIG 89.56 58 P **P** **12 22 45.3 +0.6**
HSIG IAmb IAmb 12 24 28.5
comp=Z,6.3nm,1.2s
ANMO Albuquerque 89.76 51 LR LR 12 55 16.9
comp=Z,80nm,20.5s,baz=182,slow=30
MMAI Mount Meron Ar 89.94 307 LR LR 13 05 39.2
comp=Z,33nm,21.7s,baz=340,slow=37
VYHS Vyhne 90.71 327 *e*P **P** **12 22 50.5 +0.7**
VRAC Vranov 91.22 329 LR LR 13 05 15.6
comp=Z,44nm,20.7s,baz=356,slow=36
LPIG La Paz 92.51 62 LR LR 12 55 56.1
comp=Z,47nm,20.1s,baz=9.0,slow=30
GERES GERESS Array B 92.88 330 LR LR 13 08 01.8
comp=Z,70nm,18.6s,baz=81,slow=38
TX31 Lajitas Ar. Si 94.80 54 P **P** **12 23 08.9 -0.2**
TX31 IAmb IAmb 12 26 25.2
comp=Z,13nm,1.9s
TXAR Lajitas Array 94.80 54 P **P** **12 23 07.6 -1.5**
TXAR Lajitas Array 94.80 54 P **P** **12 23 09.9 +0.8**
comp=Z,0.8nm,0.8s,baz=322,slow=2.5,SNR=10
comp=Z,0.8nm,0.8s
QSPA South Pole Qui 116.17 180 PKP **PKPdf** **12 28 28.5 -0.9**
comp=Z,0.5nm,0.6s,baz=285,slow=1.7,SNR=8.2
TORD Torodi Ar. Bea 126.18 312 PKP **PKPdf** **12 28 49.9 -0.2**
comp=Z,1.2nm,0.6s,baz=20,slow=3.6,SNR=9.2
TORD PP **PP** **12 30 43.0 -0.6**
comp=Z,0.4nm,0.7s,baz=32,slow=4.8,SNR=4.1
DBIC Dimbokro 135.28 313 PKP **PKPdf** **12 29 06.8 -0.6**
comp=Z,2.5nm,0.7s,baz=35,slow=2.0,SNR=4.2
LPAZ La Paz 148.61 78 PKPbc **PKPbc** **12 29 36.3 +0.9**
comp=Z,4.7nm,0.9s,baz=334,slow=3.9,SNR=9.4

IDC 16 12:13:45.9±999.0, 56°.95N×35°.87E, h0km, Error ellipse: s-maj=708.6km s-min=19.8km az=107.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**0.78**	**107**	I	I	12 17 50.0	
0.2nm,0.7s,baz=288,slow=291,SNR=3.4							
I31KZ	**AKTYUBINSK INF**	**14.64**	**107**	I	I	13 40 50.0	
baz=306,slow=322,SNR=1.5							
I46RU	**ZALESOVO INFRA**	**27.45**	**75**	I	I	15 01 30.0	
baz=295,slow=337,SNR=2.0							
I34MN	**SONGINO INFRAS**	**42.19**	**71**	I	I	16 33 40.0	
baz=313,slow=332,SNR=0.7							

*IDC **16** 12:31:49.1±0.5, 28°.67S×178°.20W, h209km±4km, mb3.7/10, mbtmp4.2/10, Error ellipse: s-maj=16.8km s-min=15.5km az=104.0*
*NEIC **16** 12:31:50.8±1.8, 28°.9S±0°.1×178°.1W±0°.2, h220km±5km, mb4.3/21, Error ellipse: s-maj=22.9km s-min=18.8km az=94.0*

ISC 16 12:31:49.2±0.4, 28°.90S±0°.07×178°.34W±0°.09, h200km, n84, σ2.9 12/81, mb4.2/21, 5C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.51**	**134**		**Pn**	**12 32 19.8**	**+3.5**
RAO				Sn	**Sn**	**12 32 42.2**	**+4.7**
RAO	**Raoul Island**	**0.51**	**134**	P	**Pn**	**12 32 19.3**	**+3.0**
7μm,0.2s,baz=90,slow=7.9,SNR=109							
RAO				S	**Sn**	**12 32 40.6**	**+3.1**
4μm,0.2s,baz=95,slow=14,SNR=8.1							
URZ	**Urewera**	**10.08**	**201**	P	Pn	12 34 05.4	-4.0
1.9nm,0.4s,baz=341,slow=3.7,SNR=13							
URZ				S	**Sn**	**12 35 58.4**	**-3.5**
14nm,0.3s,baz=144,slow=23,SNR=12							
MSVF	**Nonsavu**	**11.59**	**343**	P	**Pn**	**12 34 29.1**	**0.0**
5.7nm,1.0s,baz=227,slow=10,SNR=2.2							
DZM	**Mont Dzumac**	**15.32**	**293**	P	**Pn**	**12 35 18.9**	**+3.4**
5.3nm,0.6s,baz=77,slow=16,SNR=8.3							
STKA	**Stephens Creek**	**34.56**	**255**	P	**P**	**12 38 20.8**	**+1.9**
STKA	**Stephens Creek**	**34.56**	**255**	P	**P**	**12 38 20.7**	**+1.8**
1.3nm,0.3s,baz=87,slow=8.4,SNR=5.0							
1.3nm,0.3s							
COEN	**Coen**	**38.59**	**284**	P	**P**	**12 38 54.6**	**+1.4**
COEN				IAmb	IAmb	12 39 35.7	
comp=Z,17nm,1.4s							
BBOO	**Buckleboo**	**39.12**	**253**	P	**P**	**12 38 57.7**	**+0.4**
BBOO				IAmb	IAmb	12 39 17.4	
comp=Z,21nm,1.4s							
AS31	**Alice Springs**	**42.91**	**265**	P	**P**	**12 39 28.6**	**+0.2**
ASAR	**Alice Springs**	**42.91**	**265**	P	**P**	**12 39 27.9**	**-0.5**
ASAR	**Alice Springs**	**42.91**	**265**	P	**P**	**12 39 28.4**	**-0.1**
comp=Z,1.8nm,0.4s,baz=97,slow=6.9,SNR=36							
ASAR				PcP	**PP**	**12 41 14.0**	**+1.7**
comp=Z,0.4nm,0.4s,baz=99,slow=5.7,SNR=1.7							
ASAR				ScP	**ScP**	**12 44 44.1**	**-3.3**
comp=Z,0.2nm,0.4s,baz=116,slow=4.2,SNR=1.9							
comp=Z,1.8nm,0.4s							
WR0	**Warramunga Arr**	**43.58**	**271**	P	**P**	**12 39 34.2**	**+0.4**
WRA	**Warramunga Arr**	**43.76**	**271**	P	**P**	**12 39 35.3**	**0.0**
comp=Z,1.8nm,0.4s,baz=109,slow=7.8,SNR=85							
WRA				ScP	**ScP**	**12 44 49.4**	**-1.6**
comp=Z,0.3nm,0.6s,baz=102,slow=4.0,SNR=2.8							
comp=Z,1.8nm,0.4s							
WB0	**Warramunga Arr**	**43.78**	**271**	P	**P**	**12 39 35.7**	**+0.3**
FORT	**Forrest**	**46.16**	**254**	P	**P**	**12 39 52.6**	**-1.5**
FORT				IAmb	IAmb	12 40 29.4	
comp=Z,16nm,0.9s							
MTN	**Manton Dam**	**49.47**	**278**	P	**P**	**12 40 19.3**	**-0.3**
MTN				IAmb	IAmb	12 40 22.7	
comp=Z,12nm,1.2s							
SBA	**Scott Base**	**49.51**	**184**	P	**P**	**12 40 15.9**	**-3.0**
SBA				IAmb	IAmb	12 40 16.0	
comp=Z,5.6nm,0.3s							
KNRA	**Kununurra**	**50.31**	**273**	P	**P**	**12 40 26.1**	**+0.2**
KNRA				IAmb	IAmb	12 40 28.1	
comp=Z,20nm,1.4s							
FITZ	**Fitzroy Crossi**	**52.08**	**269**	P	**P**	**12 40 39.0**	**0.0**
PSA00	**Pilbara Seismi**	**55.86**	**262**	P	**P**	**12 41 05.9**	**-0.4**
MBWA	**Marble Bar**	**56.11**	**263**	P	**P**	**12 41 07.1**	**-0.9**
CASY	**Casey**	**56.33**	**207**	P	**P**	**12 41 08.9**	**0.0**
MORW	**Morawa**	**56.69**	**253**	P	**P**	**12 41 10.6**	**-1.5**
QSPA	**South Pole Qui**	**61.21**	**180**	P	**P**	**12 41 44.3**	**+1.6**
QSPA				IAmb	IAmb	12 41 45.1	
comp=Z,5.8nm,0.8s							
QSPA	**South Pole Qui**	**61.21**	**180**	P	**P**	**12 41 43.9**	**+1.2**
comp=Z,6.8nm,0.8s,baz=19,slow=0.6,SNR=50							
comp=Z,6.8nm,0.8s							
BELA	**Belgrano 2**	**71.31**	**172**	P	**P**	**12 42 46.5**	**0.0**
BELA				IAmb	IAmb	12 42 47.2	
comp=Z,3.0nm,0.9s							
MAW	**Mawson**	**73.61**	**200**	P	**P**	**12 43 00.9**	**+0.7**
comp=Z,2.8nm,0.7s,baz=132,slow=7.3,SNR=8.7							
comp=Z,2.8nm,0.7s							
JGF	**Kuroka**	**76.54**	**324**	P	**P**	**12 43 16.4**	**-0.9**
JGF				IAmb	IAmb	12 43 38.4	
comp=Z,9.4nm,1.3s							
MJAR	**Matsushiro Arr**	**76.84**	**325**	P	**P**	**12 43 16.8**	**-2.2**
comp=Z,1.4nm,0.6s,baz=170,slow=5.3,SNR=3.2							
comp=Z,1.4nm,0.6s							
YOJ	**Yonaguni jima**	**77.42**	**307**	P	**P**	**12 43 21.5**	**-0.9**
TROLL	**Troll, Antarti**	**79.37**	**180**	⇑P	**P**	**12 43 32.7**	**+0.1**
comp=Z,403nm,0.8s							
SNAA	**Sanae**	**79.66**	**179**	P	**P**	**12 43 33.8**	**-0.3**
SNAA				IAmb	IAmb	12 43 34.9	
comp=Z,3.2nm,0.9s							
SNAA	**Sanae**	**79.66**	**179**	⇑P	**P**	**12 43 33.2**	**-0.9**
comp=Z,96nm,1.1s							
SNAA	**Sanae**	**79.66**	**179**	P	**P**	**12 43 33.2**	**-0.9**
comp=Z,3.5nm,0.9s,baz=211,slow=7.3,SNR=25							
comp=Z,3.5nm,0.9s							
VNA3	**Neumayer Olymp**	**79.82**	**176**	⇑P	**P**	**12 43 34.3**	**-0.6**
comp=Z,7.6nm,0.7s							
VNA2	**Neumayer--Watz**	**80.25**	**177**	⇑P	**P**	**12 43 37.1**	**-0.1**
comp=Z,6.4nm,0.7s,baz=172,slow=4.8							
VNA1	**Neumayer--Stat**	**80.48**	**177**	⇑P	**P**	**12 43 38.5**	**+0.2**
comp=Z,8.2nm,1.0s							
GSTR	**Great Sitkin T**	**80.67**	**1**	P	**P**	**12 43 37.9**	**-1.5**
H03S2	**Juan Fernandez**	**81.54**	**124**	T	T	14 13 53.5	
baz=239,slow=74,SNR=7.7							
H03S1	**Juan Fernandez**	**81.55**	**124**	T	T	14 14 03.6	
baz=239,slow=74,SNR=5.6							
H03S3	**Juan Fernandez**	**81.56**	**124**	T	T	14 14 02.9	
baz=239,slow=74,SNR=6.4							
H03N3	**Juan Fernandez**	**81.73**	**124**	T	T	14 14 12.5	
baz=240							
H03N2	**Juan Fernandez**	**81.73**	**124**	T	T	14 14 03.8	
baz=240							
H03N1	**Juan Fernandez**	**81.74**	**124**	T	T	14 14 05.4	
baz=240							
KSRS	**Korea Array**	**83.01**	**320**	P	**P**	**12 43 50.4**	**-1.6**
comp=Z,1.0nm,0.7s,baz=138,slow=4.8,SNR=3.1							
comp=Z,1.0nm,0.7s							
NVAR	**Mina Array Bea**	**87.34**	**43**	P	**P**	**12 44 11.7**	**-2.1**
NVAR	**Mina Array Bea**	**87.34**	**43**	P	**P**	**12 44 12.5**	**-1.3**
comp=Z,0.9nm,0.8s,baz=221,slow=7.7,SNR=8.0							
comp=Z,0.9nm,0.8s							
KVN	**Kaiserville**	**87.86**	**43**	P	**P**	**12 44 14.8**	**-1.3**
TXAR	**Lajitas Array**	**91.83**	**57**	P	**P**	**12 44 33.9**	**-0.9**
comp=Z,0.3nm,0.8s,baz=229,slow=11,SNR=3.6							
comp=Z,0.3nm,0.8s							
MKAR	**Makanchi Array**	**116.58**	**311**	PKP	**PKPdf**	**12 50 06.6**	**-2.5**
comp=Z,0.5nm,0.5s,baz=143,slow=0.9,SNR=9.1							
ZALV	**Zalesovo Beam**	**116.71**	**319**	PKP	**PKPdf**	**12 50 06.6**	**-2.5**
comp=Z,0.3nm,0.4s,baz=151,slow=4.1,SNR=2.3							
KURBB	**Kurchatov Arra**	**119.83**	**314**	PKP	**PKPdf**	**12 50 12.9**	**-2.3**
comp=Z,0.9nm,0.5s,baz=104,slow=2.0,SNR=12							
BVAR	**Borovoye Array**	**125.12**	**317**	PKP	**PKPdf**	**12 50 23.6**	**-1.8**
comp=Z,1.8nm,0.5s,baz=82,slow=1.2,SNR=7.6							
ARCES	**ARCESS Array B**	**137.06**	**348**	PKP	**PKPdf**	**12 50 47.0**	**-0.5**
comp=Z,1.7nm,0.7s,baz=51,slow=2.3,SNR=9.4							
FIA1	**FINESS Array S**	**143.63**	**340**	PKPdf	PKPab	12 50 55.1	-1.6
FINES	**FINESS Array B**	**143.63**	**340**	PKPdf	PKPab	12 50 55.4	-1.2
FINES	**FINESS Array B**	**143.63**	**340**	PKP	PKPab	12 50 55.2	-1.5
comp=Z,3.7nm,0.6s,baz=53,slow=3.0,SNR=21							
GEVA	**Gevas**	**144.51**	**296**	PKPbc	**PKPab**	**12 51 01.1**	**+0.1**
GURO	**Guroymak-BITLI**	**145.30**	**297**	PKPbc	**PKPdf**	**12 51 03.7**	**+0.4**
MARD	**Mardin**	**146.37**	**295**	PKPbc	**PKPdf**	**12 51 05.9**	**+0.7**
NB2	**NORSAR Subarra**	**147.22**	**351**	PKP	**PKPdf**	**12 51 05.8**	**+0.1**
comp=Z,1.1nm,0.5s,baz=13,slow=2.9							
NOA	**NORSAR Array B**	**147.22**	**351**	PKPbc	**PKPdf**	**12 51 05.8**	**+0.1**
comp=Z,1.6nm,0.5s,baz=15,slow=4.5,SNR=5.5							
HFS	**Hagfors**	**147.72**	**349**	PKPbc	**PKPdf**	**12 51 06.7**	**+0.2**
comp=Z,4.3nm,0.8s,baz=135,slow=1.0,SNR=8.1							
KONO	**Kongsberg**	**148.78**	**352**	PKPbc	**PKPdf**	**12 51 10.8**	**+2.6**
AK03	**Malin Array Si**	**149.91**	**324**	PKP	**PKPdf**	**12 51 13.6**	**+3.3**
AKASG	**Malin Array Be**	**149.92**	**324**	PKPbc	**PKPdf**	**12 51 14.1**	**+3.8**
AKASG	**Malin Array Be**	**149.92**	**324**	PKPbc	**PKPdf**	**12 51 13.0**	**+2.7**
comp=Z,3.5nm,0.4s,baz=47,slow=3.0,SNR=32							
KIEV	**Kiev**	**149.93**	**324**	PKPbc	**PKPdf**	**12 51 13.6**	**+3.3**
AK11	**Malin Array Si**	**149.96**	**324**	PKP	**PKPdf**	**12 51 13.7**	**+3.3**
AK22	**Malin Array Si**	**149.96**	**324**	PKP	**PKPdf**	**12 51 13.8**	**+3.4**
AK21	**Malin Array Si**	**149.97**	**324**	PKP	**PKPdf**	**12 51 13.4**	**+3.0**
AK15	**Malin Array Si**	**149.98**	**324**	PKP	**PKPdf**	**12 51 13.5**	**+3.1**
AK05	**Malin Array Si**	**149.98**	**324**	PKP	**PKPdf**	**12 51 13.8**	**+3.4**
MI28	**Mi28,Pidlybu**	**150.57**	**326**	PKP	**PKPdf**	**12 51 15.3**	**+4.0**
MMAI	**Mount Meron Ar**	**150.85**	**287**	PKPbc	**PKPbc**	**12 51 18.1**	**-0.2**
comp=Z,5.3nm,0.5s,baz=73,slow=5.0,SNR=8.1							
BRTR	**Keskin Array B**	**151.60**	**301**	PKPbc	**PKPbc**	**12 51 18.7**	**-1.2**
BRTR	**Keskin Array B**	**151.60**	**301**	PKPbc	**PKPdf**	**12 51 18.2**	**+4.7**
comp=Z,1.8nm,0.6s,baz=146,slow=4.2,SNR=6.0							
BR104	**Keskin Array S**	**151.60**	**301**	PKP	**PKPdf**	**12 51 18.2**	**+4.7**
CSS	**Mathiatis**	**152.52**	**291**	PKPbc	**PKPbc**	**12 51 20.9**	**-1.1**
EKA	**Eskdalemuir Ar**	**153.35**	**6**	PKPab	**PKPab**	**12 51 33.6**	**-2.3**
comp=Z,0.6nm,0.4s,baz=320,slow=2.8,SNR=4.8							
GERES	**GERESS Array B**	**158.04**	**338**	PP	**PP**	**12 55 34.5**	**-2.0**
comp=Z,1.4nm,0.6s,baz=266,slow=8.4,SNR=4.8							
TORD	**Torodi Ar. Bea**	**164.33**	**180**	PKP	**PKPdf**	**12 51 27.5**	**-2.0**
comp=Z,0.6nm,0.8s,baz=229,slow=3.7,SNR=3.5							
TORD				PKPab	**pPKPdf**	**12 52 23.7**	**+2.6**
comp=Z,1.0nm,0.7s,baz=213,slow=0.7,SNR=6.2							
ESDC	**Sonseca Array**	**168.29**	**22**	PKPab	**PKPab**	**12 52 41.0**	**-0.6**
comp=Z,0.6nm,0.4s,baz=322,slow=1.4,SNR=2.8							

*IDC **16** 12:44:10.9±1.6, 42°.42N×126°.73W, h0km, mb3.7/5, mbtmp3.5/8, ML3.1/3, MS3.5/5, Error ellipse: s-maj=43.4km s-min=12.3km az=29.0*
*NEIC **16** 12:44:15.8±2.6, 42°.46N±0°.05×126°.3W±0°.1, h10km±2km, mb3.9/10, ML2.9/70, Error ellipse: s-maj=16.4km s-min=9.0km az=270.0*

ISC 16 12:44:14.1±0.9, 42°.44N±0°.06×126°.44W±0°.08, h12km, n80, σ1.9 56/71, mb3.7/8, MS3.6/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.66**	**97**		**Pn**	**12 44 43.5**	**+0.4**
KBO				IAML		12 45 15.6	
comp=E,144nm,1.6s							
KBO				IAML		12 45 38.3	
comp=N,104nm,3.7s							
J01E	**Myrtle Point**	**1.98**	**68**		**Pn**	**12 44 48.0**	**+0.5**
J01E				IAML		12 45 24.5	
comp=E,74nm,1.6s							
KSXB	**Camp Six Broad**	**2.00**	**107**	Pn	**Pn**	**12 44 47.9**	**0.0**
K02D

KMRM	**Mail Ridge**	**3.02**	**136**	Pn	**Pn**	**12 45 02.7**	**+0.8**
KMRM				IAML		12 46 12.5	
	comp=E,44nm,4.6s						
KMRM				IAML		12 46 43.5	
	comp=N,41nm,4.2s						
BUCK	**Buck Mountain**	**3.07**	**54**	Pn	**Pn**	**12 45 02.3**	**-0.2**
BUCK				IAML		12 45 56.3	
	comp=E,39nm,3.9s						
BUCK				IAML		12 46 06.9	
	comp=N,61nm,4.9s						
L04D	**Klamath Falls**	**3.08**	**93**		**Pn**	**12 45 02.7**	**+0.1**
L04D				IAML		12 45 56.6	
	comp=E,35nm,3.0s						
L04D				IAML		12 46 13.8	
	comp=N,36nm,1.7s						
COR	**Corvallis**	**3.13**	**46**	Pn	**Pn**	**12 45 03.1**	**-0.1**
COR				IAML		12 45 57.6	
	comp=N,47nm,1.7s						
COR				IAML		12 46 21.7	
	comp=N,37nm,3.4s						
I04A	**Tendick Farm,**	**3.25**	**64**	Pn	**Pn**	**12 45 05.4**	**+0.5**
I04A				IAML		12 45 54.8	
	comp=E,34nm,1.3s						
J04A	**Umpqua Nationa**	**3.28**	**74**	Pn	**Pn**	**12 45 08.7**	**+3.1**
K04D	**Chiloquin, OR**	**3.47**	**85**	Pn	**Pn**	**12 45 07.2**	**-0.8**
O02D	**Mt. Diablo Mer**	**3.56**	**128**	Pn	**Pn**	**12 45 10.0**	**+0.7**
H04A	**Detroit Lake**	**3.82**	**53**	Pn	**Pn**	**12 45 14.7**	**+1.9**
H04A				IAML		12 46 27.2	
	comp=E,17nm,4.0s						
H04A				IAML		12 46 28.9	
	comp=N,16nm,4.9s						
J05D	**Fort Rock, OR**	**3.92**	**76**		**Pn**	**12 45 16.6**	**+2.3**
J05D				IAML		12 46 26.3	
	comp=E,24nm,3.7s						
J05D				IAML		12 47 25.5	
	comp=N,22nm,4.8s						
HATC	**Hat Creek Radi**	**4.07**	**112**	Pn	**Pn**	**12 45 16.2**	**-0.1**
I05D	**Terrebonne, OR**	**4.17**	**61**	Pn	**Pn**	**12 45 20.8**	**+3.1**
I05D				IAML		12 46 19.2	
	comp=E,24nm,4.3s						
PINE	**Pine Mountain**	**4.25**	**70**	Pn	**Pn**	**12 45 20.9**	**+2.0**
PINE				IAML		12 47 40.4	
	comp=E,15nm,4.4s						
PINE				IAML		12 47 44.3	
	comp=N,15nm,4.3s						
HOOD	**Mount Hood Mea**	**4.50**	**49**		**Pn**	**12 45 24.6**	**+2.3**
HOOD				IAML		12 46 13.6	
	comp=N,20nm,1.2s						
F04A	**Amboy**	**4.53**	**38**		**Pn**	**12 45 24.6**	**+2.1**
F04A				IAML		12 46 33.0	
	comp=N,17nm,3.2s						
G05A	**Wamic**	**4.64**	**51**	Pn	**Pn**	**12 45 24.5**	**+0.4**
G06A	**Carlson Farm,**	**5.04**	**54**		**Pn**	**12 45 31.8**	**+2.2**
I07A	**Izee**	**5.32**	**70**	Pn	**Pn**	**12 45 35.7**	**+2.1**
I07A				IAML		12 48 41.4	
	comp=N,9.3nm,4.7s						
I07A				IAML		12 48 51.4	
	comp=E,10nm,4.3s						
AFDM	**Forest Hills D**	**5.43**	**128**	Pn	**Pn**	**12 45 35.2**	**+0.3**
AFDM				IAML		12 47 08.0	
	comp=N,4.6nm,3.7s						
AFDM				IAML		12 48 24.3	
	comp=E,5.2nm,3.7s						
LON	**Longmire**	**5.43**	**36**		**Pn**	**12 45 37.7**	**+2.8**
LON				IAML		12 47 35.4	
	comp=N,10nm,4.9s						
GNW	**Green Mountain**	**5.73**	**25**	Pn	**Pn**	**12 45 40.3**	**+1.4**
WVOR	**Wild Horse Val**	**5.78**	**87**	Pn	**Pn**	**12 45 41.1**	**+1.4**
MPK	**Martis Peak**	**5.79**	**121**	Pn	**Pn**	**12 45 39.0**	**-1.1**
EMB	**Emerald Bay**	**5.93**	**124**	Pn	**Pn**	**12 45 41.8**	**-0.2**
PAHR	**Pah Rah Range**	**5.99**	**115**	Pn	**Pn**	**12 45 41.6**	**-1.1**
MXC	**Moxie City**	**6.03**	**45**		**Pn**	**12 45 43.4**	**+0.2**
G08A	**Pilot Rock**	**6.11**	**60**	Pn	**Pn**	**12 45 44.7**	**+0.4**
PNTR	**Pine Nut**	**6.18**	**121**	Pn	**Pn**	**12 45 45.2**	**-0.2**
E07A	**Sunnyside**	**6.25**	**47**	Pn	**Pn**	**12 45 48.4**	**+2.2**
LTY	**Liberty**	**6.32**	**38**	Pn	**Pn**	**12 45 49.3**	**+2.1**
HAWA	**Hanford**	**6.33**	**49**	Pn	**Pn**	**12 45 48.2**	**+0.9**
YERR	**Yerington**	**6.47**	**120**		**Pn**	**12 45 51.2**	**+1.9**
E08A	**Dider Farm, El**	**6.65**	**50**	Pn	**Pn**	**12 45 54.2**	**+2.6**
SAO	**San Andreas Ge**	**6.86**	**144**	Pn	**Pn**	**12 45 57.2**	**+2.8**
D08A	**Wollman Farm,**	**7.07**	**47**	Pn	**Pn**	**12 45 56.6**	**-0.7**
NVAR	**Mina Array Bea**	**7.39**	**120**	Pn	**Pn**	**12 46 04.2**	**+2.2**
	comp=N,0.1nm,0.3s,baz=295,slow=13,SNR=4.3						
	comp=N,0.4nm,0.7s						
B08A	**Colville Reser**	**7.75**	**38**	Pn	**Pn**	**12 46 06.5**	**-0.1**
NEW	**Newport**	**8.77**	**45**	LR	LR	12 50 00.5	
	comp=N,97nm,18.2s,baz=290,slow=39						
Q12A	**Willow Creek R**	**9.45**	**107**	Pn	**Pn**	**12 46 30.3**	**+0.2**
YHH	**Holmes Hill**	**11.54**	**73**	Pn	**Pn**	**12 46 58.0**	**-1.0**
PDAR	**Pinedale Array**	**12.45**	**83**	Pn	Pn	12 47 17.2	+6.0
	baz=302,slow=5.2,SNR=6.3						
	comp=N,0.4nm,0.7s						
Y14A	**Wickenburg**	**13.54**	**124**	Pn	**Pn**	**12 47 26.9**	**+0.8**
SDCO	**Great Sand Dun**	**16.68**	**99**	Pn	**Pn**	**12 48 08.3**	**+0.3**
SDCO				IAmb	IAmb	12 48 33.9	
	comp=Z,6.0nm,1.4s						
DGMT	**Dagmar**	**16.70**	**61**	Pn	**Pn**	**12 48 07.8**	**-0.1**
DUN6	**Lazy B Ranch**	**16.91**	**120**	Pn	**Pn**	**12 48 10.7**	**0.0**
DUN6				IAmb	IAmb	12 48 31.5	
	comp=Z,15nm,0.9s						
ANMO	**Albuquerque**	**17.28**	**109**	Pn	**Pn**	**12 48 13.7**	**-1.7**
YKA	**Yellowknife Ar**	**21.27**	**15**	P	**P**	**12 48 59.3**	**-0.7**
	comp=Z,3.5nm,1.0s,baz=203,slow=10,SNR=4.0						
	comp=Z,3.5nm,1.0s						
TX31	**Lajitas Ar. Si**	**22.53**	**118**	P	**P**	**12 49 13.1**	**-0.9**
TX31				IAmb	IAmb	12 49 18.9	
	comp=Z,6.1nm,1.5s						
TXAR	**Lajitas Array**	**22.53**	**118**	P	**P**	**12 49 13.6**	**-0.4**
TXAR	**Lajitas Array**	**22.53**	**118**	P	**P**	**12 49 17.6**	**+3.6**
	comp=Z,1.6nm,1.1s,baz=310,slow=7.0,SNR=7.4						
TXAR				LR	LR	12 59 14.5	
	comp=Z,40nm,21.6s,baz=358,slow=40						
O18K	**Koktuh Hills**	**24.78**	**325**	P	**P**	**12 49 37.3**	**+1.8**
ILAR	**Eielson Array**	**25.21**	**339**	P	**P**	**12 49 37.5**	**-1.9**
	comp=Z,0.7nm,1.0s,baz=119,slow=7.4,SNR=4.8						
	comp=Z,0.7nm,1.0s						
G29M	**Pine Creek**	**25.33**	**349**	P	**P**	**12 49 40.6**	**+0.2**
M19K	**Big River Lodg**	**25.60**	**329**	P	**P**	**12 49 46.0**	**+3.0**
CAST	**Castle Rocks**	**25.75**	**333**	P	**P**	**12 49 45.4**	**+1.1**
CAST				IAmb	IAmb	12 49 52.9	
	comp=Z,6.6nm,1.4s						
Q16K	**Kokwok River B**	**25.92**	**322**	P	**P**	**12 49 47.2**	**+1.4**
SADO	**Sadowa**	**33.95**	**70**	LR	LR	13 06 49.1	
	comp=Z,153nm,18.3s,baz=64,slow=40						
MA2	**Magadan**	**51.24**	**320**	LR	LR	13 12 34.9	
	comp=Z,44nm,18.2s,baz=80,slow=33						
H11N3	**WAKE ISLAND Hy**	**59.87**	**270**	T	T	13 58 44.9	
	baz=51,slow=75,SNR=26						
H11N2	**WAKE ISLAND Hy**	**59.88**	**270**	T	T	13 58 44.9	
	baz=51,slow=75,SNR=25						
H11N1	**WAKE ISLAND Hy**	**59.89**	**270**	T	T	13 58 46.8	
	baz=51,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**60.78**	**269**	T	T	13 59 49.1	
	baz=50,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**60.78**	**269**	T	T	13 59 52.8	
	baz=50,slow=75,SNR=13						
H11S3	**WAKE ISLAND Hy**	**60.80**	**269**	T	T	13 59 53.8	
	baz=50,slow=75,SNR=7.4						
SONM	**Songino Array**	**78.72**	**327**	P	**P**	**12 56 15.1**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=26,slow=7.0,SNR=3.8						
SONM				LR	LR	13 30 48.7	
	comp=Z,81nm,18.2s,baz=252,slow=36						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**80.31**	**342**	P	**P**	**12 56 23.2**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=7.8,slow=3.2,SNR=4.6						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**84.78**	**344**	P	**P**	**12 56 46.4**	**-1.7**
	comp=Z,0.9nm,0.9s,baz=12,slow=4.0,SNR=5.0						
	comp=Z,0.9nm,0.9s						

IDC 16 12:55:55.3±2.1, 10°.76S×163°.32E, h0km, mb3.5/3, mbtmp3.6/4, ML4.1/1, MS2.8/3, Error ellipse: s-maj=48.8km s-min=34.7km az=157.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.57**	**291**	Pn	Pn	12 56 52.9	+0.9
	15nm,0.3s,baz=138,slow=7.6,SNR=5.6						
HNR				Sn	Sn	12 57 33.9	-0.9
	30nm,0.3s,baz=201,slow=20,SNR=8.2						
HNR				LR	LR	12 58 31.0	
	comp=Z,106nm,21.0s,baz=182,slow=44						
	34nm,0.3s						
DZM	**Mont Dzumac**	**11.64**	**165**	LR	LR	13 02 30.0	
	comp=Z,67nm,20.3s,baz=37,slow=34						
H11S2	**WAKE ISLAND Hy**	**29.25**	**7**	T	T	13 32 56.1	
	baz=190,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.25**	**7**	T	T	13 32 19.3	
	baz=190,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.27**	**7**	T	T	13 32 24.4	
	baz=190						
WRA	**Warrumunga Arr**	**29.36**	**248**	P	P	13 02 00.2	-0.1
	0.4nm,0.8s,baz=80,slow=9.3,SNR=2.7						
	0.4nm,0.8s						
GUMO	**Guam**	**30.33**	**322**	LR	LR	13 14 44.4	
	comp=Z,18nm,18.1s,baz=66,slow=37						
H11N1	**WAKE ISLAND Hy**	**30.48**	**7**	T	T	13 35 36.5	
	baz=191						
H11N3	**WAKE ISLAND Hy**	**30.49**	**7**	T	T	13 35 37.9	
	baz=191						
H11N2	**WAKE ISLAND Hy**	**30.50**	**7**	T	T	13 35 44.5	
	baz=191						
ASAR	**Alice Springs**	**30.81**	**242**	P	P	13 02 13.2	0.0
	0.2nm,0.3s,baz=65,slow=10,SNR=7.7						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**84.01**	**19**	P	P	13 08 27.2	-0.1
	0.5nm,1.0s,baz=248,slow=3.8,SNR=2.7						
	0.5nm,1.0s						

*JMA **16** 12:57:07.8±0.2, 33°.N±2°.×13°.9E±°, h327km, MV3.5/27, FAR S OFF TOKAI DISTRICT*
*IDC **16** 12:57:09.1±0.6, 33°.14N×138°.35E, h313km±6km, mb3.4/15, mbtmp4.0/19, Error ellipse: s-maj=19.0km s-min=9.8km az=69.0*
ISC 16 12:57:09.4±0.8, 33°.21N±0°.07×138°.41E±0°.07, h314km±6km, n35, σ0°69/45, mb3.6/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.16**	**94**	P	**Pn**	**12 57 51.8**	**-0.1**
	97nm,0.6s,baz=75,slow=18,SNR=8.3						
JHJ				S	**S**	**12 58 26.9**	**+1.0**
	46nm,0.3s,baz=120,slow=23,SNR=1.7						
JHJ2	**Mitsune**	**1.18**	**94**	*e*P	**Pn**	**12 57 52.1**	**0.0**
JMKN	**Mikurajimanish**	**1.20**	**55**	*e*P	**Pn**	**12 57 52.3**	**+0.2**
JIE	**Ise**	**1.85**	**310**	P	**Pn**	**12 57 56.5**	**+0.3**
JOD2	**Odawara 2**	**2.13**	**15**	P	**Pn**	**12 57 58.1**	**-0.2**
JOD2				S	**S**	**12 58 37.2**	**-0.2**
JYN	**Shimob**	**2.29**	**3**	P	**Pn**	**12 57 60.0**	**+0.3**
JTNC	**Tanabenakahech**	**2.42**	**285**	P	**Pn**	**12 58 00.4**	**-0.3**
JWY	**Kouya**	**2.56**	**294**	*i* P	**Pn**	**12 58 02.4**	**+0.4**
BSO1	**Boso 1**	**2.58**	**55**	P	**Pn**	**12 58 00.3**	**-1.2**
BSO1				*e*S	**S**	**12 58 42.0**	**-1.2**
JYTA	**Yamagatataniai**	**2.75**	**330**	P	**Pn**	**12 58 04.1**	**+0.5**
JYTA				*e*S	**S**	**12 58 46.7**	**-0.4**
JRY	**Ryogami san**	**2.83**	**8**	P	**Pn**	**12 58 04.8**	**+0.3**
JRY				S	**S**	**12 58 47.8**	**-0.7**
JWT	**Wachi**	**3.24**	**311**	P	**Pn**	**12 58 08.6**	**+0.2**
JWT				S	**S**	**12 58 54.9**	**-0.7**
JAG	**Ashikaga**	**3.32**	**15**	P	**Pn**	**12 58 08.1**	**-1.1**
MJAR	**Matsushiro Arr**	**3.33**	**357**	P	**Pn**	**12 58 08.5**	**-0.8**
	5.2nm,0.4s,baz=173,slow=11,SNR=22						
MJAR				S	**S**	**12 58 56.6**	**-0.7**
	2.2nm,0.5s,baz=167,slow=28,SNR=2.8						
MAT	**Matsushiro**	**3.33**	**357**	P	**Pn**	**12 58 09.2**	**0.0**
MAT				*e*S	**S**	**12 58 56.7**	**-0.6**
JAI	**Aioi**	**3.36**	**281**	P	**Pn**	**12 58 09.3**	**-0.2**
JHS	**Saijyo**	**4.74**	**294**	*e*P	**Pn**	**12 58 24.7**	**+0.2**
JNU	**Nakatsue**	**6.32**	**271**	P	**Pn**	**12 58 42.4**	**-0.4**
	8.5nm,1.0s,baz=128,slow=2.7,SNR=5.1						
KSRS	**Korea Array**	**9.56**	**299**	P	**Pn**	**12 59 22.7**	**+0.8**
	3.6nm,0.8s,baz=112,slow=12,SNR=9.0						
USRK	**Ussuriysk Ar.**	**12.06**	**337**	P	**P**	**12 59 53.4**	**+0.3**
	1.3nm,0.5s,baz=151,slow=8.7,SNR=4.1						
SONM	**Songino Array**	**28.15**	**311**	P	**P**	**13 02 34.8**	**+1.5**
	0.8nm,0.4s,baz=120,slow=8.8,SNR=4.3						
	0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**38.20**	**257**	P	**P**	**13 03 59.5**	**-0.4**
	0.4nm,0.3s,baz=55,slow=7.9,SNR=1.8						
	0.4nm,0.3s						
ZALV	**Zalesovo Beam**	**42.79**	**316**	P	**P**	**13 04 36.3**	**-0.4**
	0.9nm,0.4s,baz=98,slow=8.8,SNR=6.4						
ZALV				PcP	**PcP**	**13 06 21.1**	**-0.5**
	1.1nm,0.6s,baz=103,slow=4.8,SNR=5.4						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**44.18**	**305**	P	**P**	**13 04 47.6**	**-0.2**
	1.5nm,0.6s,baz=86,slow=9.9,SNR=20						
	1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**46.51**	**311**	P	**P**	**13 05 05.3**	**-0.6**
	0.8nm,0.4s,baz=88,slow=6.8,SNR=12						
	0.8nm,0.4s						
BVAR	**Borovoye Array**	**51.40**	**314**	P	**P**	**13 05 42.6**	**0.0**
	1.0nm,0.4s,baz=92,slow=7.3,SNR=7.1						
BVAR				PcP	**PcP**	**13 06 52.1**	**-0.3**
	0.5nm,0.4s,baz=73,slow=5.0,SNR=3.8						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**52.99**	**185**	P	**P**	**13 05 53.2**	**-1.4**
	1.4nm,0.3s,baz=360,slow=7.6,SNR=60						
	1.4nm,0.3s						
ASAR	**Alice Springs**	**56.72**	**185**	P	**P**	**13 06 20.2**	**-0.9**
	0.5nm,0.5s,baz=1.5,slow=6.1,SNR=20						
	0.5nm,0.5s						
ARCES	**ARCESS Array B**	**66.70**	**339**	P	**P**	**13 07 27.0**	**+0.3**
	4.0nm,0.9s,baz=58,slow=9.0,SNR=3.7						
	4.0nm,0.9s						
FINES	**FINESS Array B**	**71.04**	**332**	P	**P**	**13 07 53.4**	**+0.1**
	2.0nm,0.5s,baz=72,slow=6.4,SNR=9.8						
	2.0nm,0.5s						
KBZ	**Khabaz**	**71.51**	**310**	P	**P**	**13 07 56.7**	**+0.2**
	3.2nm,0.8s,baz=106,slow=4.0,SNR=5.7						
	3.2nm,0.8s						
AKASG	**Malin Array Be**	**75.79**	**322**	P	**P**	**13 08 20.5**	**-0.5**
	0.3nm,0.3s,baz=54,slow=5.6,SNR=4.6						
	0.3nm,0.3s						
HFS	**Hagfors**	**76.53**	**335**	P	**P**	**13 08 24.6**	**-0.4**
	1.3nm,0.5s,baz=66,slow=3.6,SNR=6.6						
	1.3nm,0.5s						
NOA	**NORSAR Array B**	**76.73**	**337**	P	**P**	**13 08 26.3**	**+0.1**
	0.5nm,0.5s,baz=45,slow=5.5,SNR=2.4						
	0.5nm,0.5s						
NVAR	**Mina Array Bea**	**79.28**	**51**	P	**P**	**13 08 42.6**	**+1.9**
	0.3nm,0.7s,baz=318,slow=6.4,SNR=3.6						
	0.3nm,0.7s						

*IDC **16** 12:58:57.2±3.1, 22°.91N×11°.59W, h0km, mb4.0/4, mbtmp3.9/6, ML3.5/2, Error ellipse: s-maj=107.0km s-min=30.3km az=82.0*
ISC 16 12:58:56.4±2.3, 22°.8N±0°.2×12°.0W±0°.5, h10km, n10, σ0°70/8, mb4.0/4, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.15**	**124**	Pn	**Pn**	**13 02 43.4**	**-0.2**
	0.1nm,0.3s,baz=309,slow=13,SNR=4.7						
	0.7nm,0.6s						
DBIC	**Dimbokro**	**17.42**	**156**	P	**Pn**	**13 02 59.8**	**+0.1**
	0.3nm,0.3s,baz=314,slow=12,SNR=1.7						
	2.3nm,0.6s						
I17CI	**DIMBOKRO INFRA**	**17.42**	**156**	I	I	14 48 00.0	
	baz=339,slow=320,SNR=2.3						
I48TN	**KESRA INFRASON**	**22.62**	**50**	I	I	15 13 00.0	
	baz=235,slow=318,SNR=1.0						
HFS	**Hagfors**	**41.46**	**19**	P	**P**	**13 06 43.0**	**-0.1**
	2.6nm,0.8s,baz=179,slow=10,SNR=4.8						
	2.6nm,0.8s						
FINES	**FINESS Array B**	**46.64**	**24**	P	**P**	**13 07 23.7**	**-0.9**
	3.0nm,0.9s,baz=217,slow=6.3,SNR=4.1						
	3.0nm,0.9s						
KURBB	**Kurchatov Arra**	**73.06**	**42**	P	**P**	**13 10 27.3**	**+0.6**
	0.6nm,0.6s,baz=280,slow=5.8,SNR=4.7						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**76.57**	**45**	P	**P**	**13 10 48.1**	**+1.0**
	0.4nm,0.5s,baz=283,slow=6.8,SNR=7.5						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**148.56**	**91**	PKPbc	**PKiKP**	**13 18 45.6**	**-0.3**
	0.3nm,0.7s,baz=292,slow=2.5,SNR=5.0						
ASAR	**Alice Springs**	**148.69**	**98**	PKPbc	**PKiKP**	**13 18 45.8**	**-0.3**
	0.5nm,0.7s,baz=301,slow=2.2,SNR=8.7						

*UPA **16** 13:04:00.6±1.5, 8°.34N×82°.79W, h20km±5km, MD3.8, ML4.1*
*UCR **16** 13:04:00.1±0.8, 8°.32N×82°.77W, h22km±3km, MW3.9*
ISC 16 13:04:00.2±1.0, 8°.31N±0°.04×82°.79W±0°.03, h28km±7km, n23, σ0°81/37, 2C-6D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.14**	**221**	⇑*i*P	**Pb**	**13 04 05.0**	**-0.6**
PTPM				AMP		13 04 05.4	
	comp=Z,47μm,0.2s						
PTPM				*i* S	**Sb**	**13 04 09.9**	**+0.6**
LPPC	**Paso Canoas**	**0.23**	**346**	*e*P	**Pb**	**13 04 05.8**	**-0.7**
LPPC				*e*S	**Sb**	**13 04 10.5**	**-0.3**
DVD	**David**	**0.35**	**70**	*e*P	**Pb**	**13 04 08.2**	**-0.1**
DVD				*e*S	**Sn**	**13 04 14.7**	**-0.9**
PEDE3	**Pedregal, Chir**	**0.37**	**79**	⇓*e*P	**Pb**	**13 04 08.2**	**-0.3**
PEDE3				*e*S	**Sn**	**13 04 14.8**	**-1.1**
NELY	**Ciudad Neily**	**0.37**	**335**	*e*P	**Pb**	**13 04 07.9**	**-0.7**
NELY				*e*S	**Sb**	**13 04 14.2**	**0.0**
PTAR3	**Potrerillos Ar**	**0.47**	**37**	⇓*e*P	**Pb**	**13 04 10.1**	**-0.2**
PTAR3				*e*S	**Sn**	**13 04 18.1**	**-0.7**
BCO2	**Palmira**	**0.48**	**32**	⇓*i*P	**Pb**	**13 04 10.1**	**-0.2**
BCO2				AMP		13 04 10.3	
	comp=Z,11μm,0.2s						
BCO2				*i* S	**Sn**	**13 04 18.2**	**-0.7**
MLIR3	**Monte Lirio, C**	**0.48**	**355**	*e*P	**Pb**	**13 04 10.3**	**0.0**
MLIR3				*e*S	**Sn**	**13 04 19.5**	**+0.7**
BRU2	**Volcan**	**0.49**	**11**	⇓*i*P	**Pb**	**13 04 10.2**	**-0.3**
BRU2				*i* S	**Sb**	**13 04 18.1**	**+0.6**
BRU2	**Volcan**	**0.49**	**11**	*e*P	**Pb**	**13 04 10.0**	**-0.5**
VITO	**San Vito**	**0.54**	**340**	*e*P	**Pb**	**13 04 11.0**	**-0.3**
PIRO	**Carate, Puerto**	**0.55**	**279**	⇓*e*P	**Pb**	**13 04 10.2**	**-1.3**
PIRO				*e*S	**Sb**	**13 04 19.1**	**0.0**
JIME	**Puerto Jimenez**	**0.58**	**293**	*e*P	**Pb**	**13 04 10.9**	**-1.0**
LNBQ3	**Los Naranjos,**	**0.58**	**36**	⇓*e*P	**Pb**	**13 04 11.2**	**-0.9**
LNBQ3				*e*S	**Sb**	**13 04 20.2**	**0.0**
PSOM3	**Paja de Sombre**	**0.59**	**51**	*e*P	**Pb**	**13 04 11.4**	**-0.7**
PSOM3				*e*S	**Sb**	**13 04 20.1**	**0.0**
EDP2	**Potrero Grande**	**0.80**	**331**	*e*P	**Pb**	**13 04 14.5**	**-1.1**
CHGR2	**Aguacate**	**0.89**	**46**	⇑*i*P	**Pb**	**13 04 15.9**	**-1.2**
CHGR2				*e*S	**Sb**	**13 04 27.9**	**-0.6**
CNI2	**El Empalme, Bo**	**1.15**	**16**	*e*P	**Pn**	**13 04 20.8**	**+0.3**
CNI2				*e*S	**Sn**	**13 04 36.0**	**+0.8**
BUS1	**Rivas**	**1.56**	**322**	*e*P	**Pn**	**13 04 26.2**	**-0.2**
LLNJ	**Naranjito**	**1.74**	**312**	*e*P	**Pn**	**13 04 29.6**	**+1.1**
LCR2	**La Lucha 2**	**1.86**	**320**	*e*P	**Pn**	**13 04 32.3**	**+1.8**
ABE2	**San Pablo**	**1.87**	**318**	*e*P	**Pn**	**13 04 32.0**	**+1.5**
CACAO	**El Cacao, Vera**	**2.13**	**117**	*e*P	**Pn**	**13 04 35.2**	**+1.2**

*IDC **16** 13:34:09.5±0.5, 62°.02S×26°.72W, h0km, mb4.8/12, mbtmp4.8/13, ML5.7/1, MS4.0/34, Error ellipse: s-maj=23.5km s-min=15.5km az=66.0*
*MOS **16** 13:34:10.5±1.5, 61°.93S×26°.76W, h10km, mb5.2/17, Error ellipse: s-maj=24.8km s-min=11.4km az=108.1*
*NEIC **16** 13:34:12.0±2.0, 61°.98S±0°.07×26°.52W±0°.07, h10km±1km, mb5.2/76, Error ellipse: s-maj=12.6km s-min=3.3km az=156.0*
*GCMT **16** 13:34:15.0±0.2, 62°.25S±0°.02×26°.28W±0°.03, h24km, MW5.0/93, Moment Tensor Solution. s42,c49; s93,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.78±.19; $M_{\theta\theta}$=1.13±.13; $M_{\phi\phi}$=3.91±.13; $M_{r\theta}$=0.46±.19; $M_{r\phi}$=-1.59±.09; $M_{\theta\phi}$=1.71±.17; Best double couple: M_0=4.09500×10^{16} NP1:ϕ_S=185.00000°, δ61.00000°, λ-62.00000°. NP2: ϕ_S=318.00000°, δ39.00000°, λ-130.00000°. Principal axes: T 4.6830, Plg12.0000°, Azm256.0000°; N -1.1750, Plg24.0000°, Azm351.0000°; P -3.5080, Plg63.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 13:34:10.8±0.2, 61°.97S±0°.06×26°.43W±0°.06, h10km, n361, σ1°15/349, mb5.1/57, MS4.2/33, 11C-7D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**9.36**	**321**	Pn	**Pn**	**13 36 24.8**	**-0.7**
HOPE	**Hope Point**	**9.36**	**321**	P	**Pn**	**13 36 24.8**	**-0.7**
VNA1	**Neumayer--Stat**	**11.30**	**148**	⇓P	**Pn**	**13 36 51.4**	**-0.8**
	comp=Z,275nm,0.2s						
VNA1				⇑S	Sn	13 38 42.9	-15
	comp=Z,6.9nm,0.2s						
VNA3	**Neumayer Olymp**	**11.38**	**152**	⇓P	**Pn**	**13 36 51.3**	**-2.0**
	comp=Z,356nm,0.6s						
VNA3				⇑S	Sn	13 38 44.8	-16
	comp=Z,19nm,0.2s						
VNA2	**Neumayer--Watz**	**11.70**	**148**	⇓P	**Pn**	**13 36 55.5**	**-2.1**
	comp=Z,79nm,0.4s,baz=301,slow=15						
VNA2				⇑S	Sn	13 38 52.9	-15
	comp=Z,18nm,0.3s,baz=307,slow=20						
SNAA	**Sanae**	**13.32**	**147**	Pn	**Pn**	**13 37 18.4**	**-1.4**
SNAA	**Sanae**	**13.32**	**147**	⇓P	**Pn**	**13 37 18.6

GO05 **Hualane** 39.18 292 P **P** 13 41 36.7 -2.0
GO05 IAmb IAmb 13 41 45.4
comp=Z,42nm,0.9s
BO01 **Tunca** 39.33 294 P **P** 13 41 40.1 +0.2
BO01 IAmb IAmb 13 41 45.6
comp=Z,35nm,0.8s
LMEL **Las Melosas** 39.42 295 P **P** 13 41 40.4 -0.4
BO04 **La Punta** 39.47 294 P **P** 13 41 40.9 -0.2
BO04 IAmb IAmb 13 41 47.6
comp=Z,62nm,0.9s
MT13 **San Alfonso** 39.54 295 P **P** 13 41 39.0 -2.8
MT08 **Bocatoma Ro** 39.68 295 P **P** 13 41 40.0 -3.1
MT08 IAmb IAmb 13 41 50.0
comp=Z,34nm,0.9s
MT09 **Talagante** 39.82 294 P **P** 13 41 41.4 -2.7
MT03 **Universidad Ad** 39.85 295 P **P** 13 41 42.3 -2.0
MT01 **Popeta** 39.85 294 P **P** 13 41 43.2 -1.0
MT01 IAmb IAmb 13 41 49.9
comp=Z,42nm,0.9s
MT16 **CCHEN** 39.91 295 P **P** 13 41 42.6 -2.2
SBA **Scott Base** 40.18 184 P **P** 13 41 45.5 -0.9
SBA **Scott Base** 40.18 184 P **P** 13 41 45.5 -0.9
SBA pmax pmax
comp=Z,30nm,1.5s
VA05 **Santo Domingo** 40.19 294 P **P** 13 41 43.9 -3.1
VA05 IAmb IAmb 13 41 53.6
comp=Z,51nm,0.8s
PEL **Peldehue** 40.23 295 P **P** 13 41 46.2 -1.2
PEL **Peldehue** 40.23 295 P **P** 13 41 46.2 -1.2
PEL pmax pmax
comp=Z,114nm,0.9s
VA03 **San Esteban** 40.50 295 P **P** 13 41 48.0 -1.7
VA01 **Torpederas** 40.74 294 P **P** 13 41 50.2 -1.3
VA01 IAmb IAmb 13 41 54.0
comp=Z,57nm,1.0s
ZON **Zonda** 40.76 298 P **P** 13 41 51.0 -0.8
ZON **Zonda** 40.76 298 P **P** 13 41 51.0 -0.8
ZON pmax pmax
comp=Z,27nm,1.0s
SPB **Sao Paulo** 40.95 330 P **P** 13 41 52.9 -0.4
SPB **Sao Paulo** 40.95 330 *e*P **P** 13 41 53.4 +0.1
PTGB **Pitanga** 41.08 323 *e*P **P** 13 41 58.1 +3.6
CPUP **Villa Florida** 41.19 316 P **P** 13 41 54.2 -1.1
CPUP IAmb IAmb 13 42 01.6
comp=Z,32nm,1.1s
CPUP **Villa Florida** 41.19 316 P **P** 13 41 55.3 0.0
comp=Z,12nm,1.1s,baz=162,slow=7.7,SNR=10
CPUP LR LR 13 57 05.6
comp=Z,328nm,21.2s,baz=171,slow=34
comp=Z,12nm,1.1s
CPUP **Villa Florida** 41.19 316 P **P** 13 41 54.2 -1.1
CPUP pmax pmax
comp=Z,32nm,1.2s
VAO **Valinhos** 41.41 331 P **P** 13 41 56.1 -1.1
VAO IAmb IAmb 13 42 05.9
comp=Z,37nm,1.3s
VAO **Valinhos** 41.41 331 *e*P **P** 13 41 57.2 0.0
FRTB **Fartura** 41.71 327 *e*P **P** 13 41 59.6 0.0
SJPY **San Joaquin** 42.03 318 *e*P **P** 13 42 02.2 0.0
LDASE **Londrina, Braz** 42.07 325 *e*P **P** 13 42 02.6 0.0
SUR **Sutherland** 42.18 68 LR LR 13 55 53.5
comp=Z,483nm,18.1s,baz=178,slow=31
CO03 **El Pedregal** 42.22 297 P **P** 13 42 02.5 -1.3
CO03 IAmb IAmb 13 42 10.3
comp=Z,38nm,0.9s
CO01 **Juntas del Tor** 42.72 298 P **P** 13 42 06.9 -1.2
CO01 IAmb IAmb 13 42 15.5
comp=Z,44nm,0.8s
CO06 **Fray Jorge** 42.76 296 P **P** 13 42 07.2 -0.9
CO06 IAmb IAmb 13 42 16.4
comp=Z,62nm,1.3s
GO04 **Tololo Observa** 42.84 297 P **P** 13 42 08.2 -1.0
GO04 IAmb IAmb 13 42 15.2
comp=Z,56nm,0.9s
AMBA **Amambai (Brazi** 43.62 320 *e*P **P** 13 42 14.1 -1.0
AC05 **El Transito** 43.79 299 P **P** 13 42 15.9 -0.8
LCO **Las Campanas** 43.82 298 *e*P **P** 13 42 18.5 +1.5
SOE **Somerset East** 44.01 73 P **P** 13 42 19.4 +1.2
GO03 **Copiapo** 44.87 299 P **P** 13 42 24.2 -1.0
GO03 IAmb IAmb 13 42 31.0
comp=Z,20nm,0.8s
H04S2 **CROZET ISLANDS** 45.04 108 T T 14 31 13.7
baz=221,slow=76,SNR=36
H04S3 **CROZET ISLANDS** 45.05 108 T T 14 31 35.5
baz=221,slow=76,SNR=41
H04S1 **CROZET ISLANDS** 45.05 108 T T 14 31 18.6
baz=221,slow=76,SNR=48
AC06 **Mina Casimiro** 45.13 299 P **P** 13 42 26.4 -0.8
AC06 IAmb IAmb 13 42 33.1
comp=Z,30nm,0.9s
ITRB **Iturama** 45.40 328 *e*P **P** 13 42 28.8 -0.6
H04N3 **CROZET ISLANDS** 45.50 108 T T 14 32 07.1
baz=226,slow=74,SNR=21
H04N1 **CROZET ISLANDS** 45.51 107 T T 14 32 02.1
baz=226,slow=74,SNR=20
H04N2 **CROZET ISLANDS** 45.52 108 T T 14 32 02.8
baz=226,slow=74,SNR=19
RPRD **Ribas do Rio P** 45.55 323 *e*P **P** 13 42 30.8 +0.2
AQDB **Aquidauana** 46.14 321 P **P** 13 42 35.1 -0.1
AQDB IAmb IAmb 13 42 40.1
comp=Z,20nm,1.1s
AQDB **Aquidauana** 46.14 321 *e*P **P** 13 42 35.4 +0.2
AC01 **Pan de Azucar** 46.30 300 P **P** 13 42 34.3 -2.2
AC01 IAmb IAmb 13 42 42.3
comp=Z,30nm,1.2s
BDQN **Bodoquena, MS** 46.49 319 *e*P **P** 13 42 37.8 -0.2
GO02 **Mina Guanaco** 46.77 302 P **P** 13 42 39.5 -1.0
C2SB **Chapadao do Su** 46.94 325 *e*P **P** 13 42 41.6 +0.1
BOSA **Boshof** 47.36 70 P **P** 13 42 45.1 +0.2
BOSA IAmb IAmb 13 42 52.9
comp=Z,22nm,1.2s
BOSA **Boshof** 47.36 70 P **P** 13 42 45.9 +1.1
comp=Z,7.2nm,0.7s,baz=203,slow=8.4,SNR=14
BOSA LR LR 13 58 46.7
comp=Z,196nm,18.2s,baz=202,slow=31
comp=Z,7.2nm,0.7s
BOSA **Boshof** 47.36 70 P **P** 13 42 45.1 +0.2
BOSA pmax pmax
comp=Z,22nm,1.3s
PB14 **IPOC Station P** 47.58 301 P **P** 13 42 46.1 -0.7
PB14 IAmb IAmb 13 42 52.2
comp=Z,16nm,0.9s
CASY **Casey** 48.21 158 P **P** 13 42 52.6 +1.7
CASY IAmb IAmb 13 42 54.3
comp=Z,32nm,1.3s
PB15 **IPOC Station P** 48.47 303 P **P** 13 42 52.2 -1.4
PB15 IAmb IAmb 13 43 01.3
comp=Z,24nm,1.1s
BDFB **Brasilia** 48.75 332 P **P** 13 42 56.8 +1.1
comp=Z,9.3nm,1.1s,baz=203,slow=4.8,SNR=5.3
BDFB LR LR 14 03 20.7
comp=Z,142nm,18.8s,baz=143,slow=36
comp=Z,9.3nm,1.1s
PB04 **IPOC Station P** 49.52 303 P **P** 13 43 00.3 -1.3
ARAG **Araguaiana, MT** 49.60 327 *e*P **P** 13 43 02.1 0.0
SALV **Santo Antonio** 50.47 322 *e*P **P** 13 43 08.7 0.0
LBTB **Lobatse** 50.63 68 P **P** 13 43 10.2 +0.2
LBTB **Lobatse** 50.63 68 LR LR 14 00 54.5
comp=Z,503nm,18.5s,baz=200,slow=32
LBTB **Lobatse** 50.63 68 P **P** 13 43 10.2 +0.2
LBTB pmax pmax
comp=Z,9.0nm,0.9s
BBSD **Serra de San D** 50.77 316 *e*P **P** 13 43 10.8 -0.1
TA02 **Huaiquique** 51.38 304 P **P** 13 43 14.8 -0.7
GO01 **Chusmiza** 51.56 305 P **P** 13 43 16.9 -0.4
GO01 IAmb IAmb 13 43 24.0
comp=Z,24nm,0.9s
PB11 **IPOC Station P** 51.65 305 P **P** 13 43 16.6 -1.1
PB11 IAmb IAmb 13 43 24.0
comp=Z,46nm,1.1s
PTLB **Pontes e Lacer** 51.93 319 P **P** 13 43 19.6 +0.1
PTLB IAmb IAmb 13 43 25.4
comp=Z,27nm,1.1s
PTLB **Pontes e Lacer** 51.93 319 *e*P **P** 13 43 19.7 +0.1
SIV **San Ignacio** 52.04 316 LR LR 14 05 05.2
comp=Z,204nm,19.7s,baz=150,slow=36
TSUM **Tsumeb** 52.47 56 P **P** 13 43 23.4 -0.4
TSUM **Tsumeb** 52.47 56 LR LR 14 01 60.0
comp=Z,135nm,18.2s,baz=313,slow=32
SNDB **Serra Nova Dou** 53.05 329 *e*P **P** 13 43 28.0 0.0
PB18 **Visviri** 53.56 306 P **P** 13 43 30.1 -2.2
PB18 IAmb IAmb 13 43 41.6
comp=Z,40nm,1.2s
LPAZ **La Paz** 54.24 308 P **P** 13 43 36.6 -0.8
LPAZ **La Paz** 54.24 308 P **P** 13 43 36.5 -0.8
comp=Z,1.2nm,0.3s,baz=144,slow=7.5,SNR=7.1
LPAZ LR LR 14 06 18.7
comp=Z,82nm,22.0s,baz=152,slow=36
comp=Z,1.2nm,0.3s
VILB **Vilhena** 54.61 318 P **P** 13 43 38.5 -0.9
VILB **Vilhena** 54.61 318 *e*P **P** 13 43 39.3 0.0
H10N1 **ASCENSION HYDR** 54.73 15 T T 14 43 12.7
baz=179,slow=72,SNR=5.5
H10N3 **ASCENSION HYDR** 54.74 15 T T 14 43 15.9
baz=179,slow=72,SNR=21
H10N2 **ASCENSION HYDR** 54.75 15 T T 14 43 28.3
baz=179,slow=72,SNR=14
PDRB **Porto dos Gac** 54.84 323 *e*P **P** 13 43 41.2 +0.2
SMTB **Santa Maria do** 55.23 334 *e*P **P** 13 43 43.8 -0.1
RCBR **Riachuelo** 56.47 349 LR LR 14 04 00.6
comp=Z,26nm,19.7s,baz=204,slow=32
SAML **Samuel** 59.33 317 P **P** 13 44 12.6 -0.2
SAML IAmb IAmb 13 44 18.5
comp=Z,23nm,1.2s
SAML **Samuel** 59.33 317 P **P** 13 44 12.6 -0.2
SAML pmax pmax
comp=Z,23nm,1.3s
ETMB **Extrema** 59.53 313 P **P** 13 44 13.6 -0.6
ETMB IAmb IAmb 13 44 19.9
comp=Z,19nm,1.0s
LSZ **Lusaka** 60.35 65 P **P** 13 44 19.9 -0.1
LSZ IAmb IAmb 13 44 22.4
comp=Z,17nm,0.8s
LSZ **Lusaka** 60.35 65 P **P** 13 44 19.9 -0.1
LSZ pmax pmax
comp=Z,17nm,0.9s
NNA **Nana** 61.55 301 *i* P **P** 13 44 28.9 +0.9
NNA pmax pmax
comp=Z,37nm,1.2s
RPN **Rapa Nui** 63.14 262 LR LR 14 08 19.3
comp=Z,59nm,18.8s,baz=128,slow=32
CZSB **Cruzeiro do Su** 63.81 307 P **P** 13 44 42.4 -0.6
CZSB IAmb IAmb 13 44 48.2
comp=Z,20nm,0.8s
MACA **Manacapuru-AM** 64.02 321 P **P** 13 44 44.9 +0.5
BOAV **Boa Vista** 69.25 323 P **P** 13 45 17.8 0.0
BOAV IAmb IAmb 13 45 23.2
comp=Z,18nm,1.1s
MDP **Montagnes des** 69.86 332 LR LR 14 16 09.8
comp=Z,135nm,18.6s,baz=114,slow=36
DBIC **Dimbokro** 70.45 23 P **P** 13 45 26.1 +1.0
comp=Z,10.0nm,0.9s,baz=181,slow=7.4,SNR=7.3
DBIC LR LR 14 10 07.0
comp=Z,78nm,18.1s,baz=335,slow=31
comp=Z,10.0nm,0.9s
COHC **Cochancay** 71.17 303 P **P** 13 45 29.8 +0.2
CTZ **Chatham Island** 71.93 202 P **P** 13 45 34.4 +0.5
OTAV **Otavalo** 73.32 305 P **P** 13 45 42.0 -1.0
OTAV IAmb IAmb 13 45 51.3
comp=Z,43nm,1.4s
OTAV **Otavalo** 73.32 305 P **P** 13 45 42.0 -1.0
OTAV pmax pmax
comp=Z,43nm,1.5s
MBAR **Mbarara** 74.62 61 P **P** 13 45 51.5 +1.3
MBAR **Mbarara** 74.62 61 LR LR 14 15 15.7
comp=Z,169nm,19.6s,baz=216,slow=33
MBAR **Mbarara** 74.62 61 *i* P **P** 13 45 51.3 +1.1
MBAR pmax pmax
comp=Z,3.0nm,0.3s
MRNZ **Matariki Terra** 75.81 195 P **P** 13 45 56.9 +0.3
ROSC **El Rosal** 76.01 310 LR LR 14 21 50.0
comp=Z,159nm,19.1s,baz=96,slow=38
KIBK **Kibwezi** 76.17 68 P **P** 13 45 59.7 +0.7
KIBK IAmb IAmb 13 46 05.0
comp=Z,22nm,1.4s
BBTS **Babate** 76.78 10 LR LR 14 15 27.0
comp=Z,106nm,18.9s,baz=156,slow=32
KMBO **Kilima Mbogo** 76.91 67 P **P** 13 46 06.1 +2.7
comp=Z,0.8nm,0.2s,baz=236,slow=7.7,SNR=6.6
KMBO LR LR 14 16 19.1
comp=Z,258nm,20.0s,baz=260,slow=33
comp=Z,0.8nm,0.2s
KMBO **Kilima Mbogo** 76.91 67 *i* P **P** 13 46 05.8 +2.4
BAUV **El Baul** 77.71 318 P **P** 13 46 07.7 +0.2
PCRV **Puerto La Cruz** 77.84 321 LR LR 14 19 39.0
comp=Z,187nm,21.9s,slow=35
TORD **Torodi Ar. Bea** 78.08 28 P **P** 13 46 10.5 +1.0
TORD IAmb IAmb 13 46 15.2
comp=Z,14nm,0.7s
TORD **Torodi Ar. Bea** 78.08 28 P **P** 13 46 10.8 +1.3
comp=Z,12nm,0.9s,baz=200,slow=5.4,SNR=47
comp=Z,12nm,0.9s
SDV **Santo Domingo** 78.50 315 LR LR 14 20 59.6
comp=Z,187nm,21.3s,baz=121,slow=36
LODK **Lodwar** 80.18 63 P **P** 13 46 22.1 +0.8
NWAO **Narrogin (SRO)** 80.98 150 LR LR 14 17 17.9
comp=Z,72nm,21.8s,baz=244,slow=32
MUN **Mundaring** 81.64 149 P **P** 13 46 28.9 +0.1
comp=Z,23nm,1.1s
CAN **Canberra** 82.98 176 P **P** 13 46 35.5 -0.3
comp=Z,15nm,1.1s
TBI **Tubuai** 83.64 231 *e*LR LR 14 12 56.9
comp=Z,326nm,33.5s
YNG **Young** 83.98 176 P **P** 13 46 40.7 -0.3
comp=Z,46nm,1.2s
HTT **Hallett** 84.19 168 P **P** 13 46 42.4 +0.3
comp=Z,16nm,1.2s
JTS **Las Juntas de** 85.05 303 *i* P **P** 13 46 47.2 +0.7
JTS pmax pmax
comp=Z,28nm,1.6s
SJG **San Juan** 85.80 322 LR LR 14 26 07.9
comp=Z,93nm,19.4s,baz=176,slow=36
STKA **Stephens Creek** 85.98 170 P **P** 13 46 51.7 +0.7
STKA **Stephens Creek** 85.98 170 P **P** 13 46 50.8 -0.3
comp=Z,3.0nm,1.0s
STKA **Stephens Creek** 85.98 170 P **P** 13 46 51.5 +0.5
comp=Z,4.7nm,0.8s,baz=173,slow=6.2,SNR=11
STKA LR LR 14 24 15.4
comp=Z,108nm,18.4s,baz=203,slow=35
comp=Z,4.7nm,0.8s
CMSA **Cobar Meteorol** 86.60 173 P **P** 13 46 53.5 -0.6
PPT2 **Papeete2** 88.94 233 *e*LR LR 14 15 21.6
comp=Z,38nm,20.8s
RAR **Rarotonga** 89.17 223 LR LR 14 22 15.5
comp=Z,26nm,20.4s,baz=156,slow=32
ATD **Arta Tunnel** 90.64 66 LR LR 14 25 13.0
comp=Z,8.1nm,18.4s,baz=172,slow=34
WRKA **Warakurna** 90.95 157 P **P** 13 47 15.0 +0.2
comp=Z,9.8nm,1.7s
TAOE **Nuku Hiva Isla** 93.03 245 *e*LR LR 14 17 15.6
comp=Z,50nm,21.8s
ASAR **Alice Springs** 93.21 162 P **P** 13 47 24.9 -0.5
comp=Z,4.4nm,1.0s,baz=185,slow=4.1,SNR=32
ASAR LR LR 14 27 27.4
comp=Z,88nm,18.1s,baz=204,slow=34
comp=Z,4.4nm,1.0s
AS31 **Alice Springs** 93.21 162 P **P** 13 47 25.5 +0.2
DZM **Mont Dzumac** 95.61 192 LR LR 14 28 08.0
comp=Z,63nm,19.5s,baz=109,slow=34
MDT **Midelt** 96.09 18 LR LR 14 25 23.6
comp=Z,76nm,19.9s,baz=250,slow=32
WRA **Warramunga Arr** 96.93 162 P **P** 13 47 41.5 -0.9
comp=Z,1.7nm,0.9s,baz=194,slow=3.9,SNR=10
WRA LR LR 14 30 51.7
comp=Z,188nm,18.0s,baz=207,slow=35
comp=Z,1.7nm,0.9s
WRAB **Tennant Creek** 96.94 162 *i* P **P** 13 47 42.4 0.0
WRAB pmax pmax
comp=Z,2.0nm,1.1s
FITZ **Fitzroy Crossi** 97.17 153 LR LR 14 27 46.5
comp=Z,97nm,21.6s,baz=189,slow=33
CTA **Charters Tower** 98.01 173 LR LR 14 31 24.1
comp=Z,14nm,18.9s,baz=163,slow=35
MSVF **Nonsavu** 98.21 204 LR LR 14 29 25.6
comp=Z,61nm,20.1s,baz=191,slow=34
MTSU **Mount Surprise** 99.83 171 P **Pdif** 13 47 51.3 -4.1
KIV **Kislovodsk** 119.21 51 *e*PKIKP **PKiKP** 13 52 59.7 +0.6
KIV pmax pmax
comp=Z,5.0nm,1.0s
AKASG **Malin Array Be** 120.72 38 PKP **PKPdf** 13 53 01.2 -0.4
comp=Z,0.8nm,0.5s,baz=245,slow=1.2,SNR=6.2
AKBB **Malin Array Si** 120.72 38*c* *i*PKIKP **PKiKP** 13 53 03.3 +1.6
TPNV **Topopah Spring** 121.76 290 **PKiKP** 13 53 05.4 +0.9
TPNV **Topopah Spring** 121.76 290 PKIKP **PKiKP** 13 53 05.4 +0.9
RDMU **Red Mountain** 121.87 297 PKPdf **PKiKP** 13 53 05.0 +0.3
PSUT **Pine Spring** 122.02 292 PKPdf **PKiKP** 13 53 05.6 +0.6
CMAR **Chiang Mai Arr** 122.48 113 PKPdf **PKiKP** 13 53 06.8 +0.6
CMAR **Chiang Mai Arr** 122.48 113 PKP **PKPdf** 13 53 05.3 -0.7
comp=Z,2.9nm,0.9s,baz=236,slow=4.1,SNR=16
RSSD **Black Hills** 122.58 303 PKPdf **PKPdf** 13 53 05.8 +0.1
RSSD **Black Hills** 122.58 303 PKIKP **PKPdf** 13 53 05.8 +0.1
Q12A **Willow Creek R** 122.86 292 **PKiKP** 13 53 07.0 +0.4
MZP **Montezuma Peak** 122.89 289 PKPdf **PKiKP** 13 53 08.0 +1.2
CTU **Camp Tracy** 122.90 296 PKPdf **PKiKP** 13 53 07.7 +1.1
DUG **Dugway, Tooele** 122.94 294 PKPdf **PKiKP** 13 53 07.7 +1.0
DUG **Dugway, Tooele** 122.94 294 PKIKP **PKiKP** 13 53 07.7 +1.0
NIL **Nilore** 123.53 81 PKPdf **PKiKP** 13 53 08.3 +0.4
NIL **Nilore** 123.53 81 PKIKP **PKiKP** 13 53 08.3 +0.4
OMMB **Old Mammoth Mi** 123.54 288 PKPdf **PKiKP** 13 53 09.3 +1.2
PDAR **Pinedale Array** 123.69 299 PKPdf **PKPdf** 13 53 07.9 0.0
PDAR **Pinedale Array** 123.69 299 PKP **PKPdf** 13 53 07.5 -0.4
comp=Z,0.3nm,0.5s,baz=121,slow=5.6,SNR=5.1
MNK **Minsk** 123.73 35 *i* P **Pdif** 13 49 38.6 -1.9
comp=E,22nm,0.7s
MNK *i* P **Pdif** 13 49 38.6 -1.9
comp=N,22nm,0.7s
MNK *i* P **Pdif** 13 49 38.6 -1.9
comp=Z,21nm,0.6s,baz=206
MNK *i* PKP **PKiKP** 13 53 07.8 +0.3
MNK *i* PP **PP** 13 54 46.7 -4.2
MNK *i* PPP PPP 13 57 23.5
MNK *i* SKS **SKSdf** 14 00 19.8 +1.3
MNK *i* PS **PS** 14 04 48.4 +1.1
MNK *i* SS **SS** 14 11 32.2 -6.9
MNK *i* SSS SSS 14 16 04.6
MNK *i* LR LR 14 44 17.3
MNK *i* LRM MLR 14 46 53.2
comp=Z,120nm,18.1s
MNK *i* LRM MLR 14 46 57.0
comp=N,104nm,16.2s
MNK *i* LRM MLR 14 47 39.1
comp=E,107nm,17.5s
MNK **Minsk** 123.73 35 *i* P **Pdif** 13 49 38.5 -1.9
MNK *i* 13 53 07.7
MNK *i* 14 00 19.7
MNK *i* PS **PS** 14 04 48.4 +1.1
MNK pmax pmax
comp=E,22nm,0.7s
MNK pmax pmax
comp=N,22nm,0.7s
MNK pmax pmax
comp=Z,21nm,0.6s
MNK MLR MLR
comp=Z,120nm,18.0s
MNK MLR MLR
comp=N,104nm,16.0s
MNK MLR MLR
comp=E,107nm,17.0s
NACGM **Naroch** 123.79 34 *e*PKP **PKiKP** 13 53 08.3 +0.6
comp=Z,18nm,1.0s,baz=207
NVAR **Mina Array Bea** 123.90 289 PKPdf **PKiKP** 13 53 10.2 +1.5
NVAR **Mina Array Bea** 123.90 289 PKP **PKPdf** 13 53 08.3 -0.2
comp=Z,1.8nm,0.9s,baz=143,slow=3.2,SNR=11
CMB **Columbia Colle** 124.51 287 **PKiKP** 13 53 10.6 +0.9
CMB **Columbia Colle** 124.51 287 PKIKP **PKiKP** 13 53 10.6 +0.9
YERR **Yerington** 124.77 289 PKPdf **PKiKP** 13 53 11.5 +1.1
LOHW **Long Hollow** 124.82 298 PKPdf **PKiKP** 13 53 11.2 +0.8
MOOW **Moose Ponds** 124.99 298 PKPdf **PKiKP** 13 53 11.5 +0.8
BMN **Battle Mountai** 125.06 291 PKPdf **PKiKP** 13 53 11.2 +0.3
BMN **Battle Mountai** 125.06 291 PKIKP **PKiKP** 13 53 11.2 +0.3
EMB **Emerald Bay** 125.15 288 PKPdf **PKiKP** 13 53 12.9 +1.7
MPK **Martis Peak** 125.38 288 **PKiKP** 13 53 13.2 +1.5
AFDM **Forest Hills D** 125.52 287 PKPdf **PKiKP** 13 53 12.1 +0.4
HFS **Hagfors** 125.61 23 PKP **PKPdf** 13 53 10.6 -0.1
comp=Z,0.8nm,0.4s,baz=210,slow=4.6,SNR=5.5
SIMJ **Simiganj** 125.69 74 **PKiKP** 13 53 12.2 0.0
NOA **NORSAR Array B** 126.01 22 PKP **PKiKP** 13 53 11.9 0.0
comp=Z,1.3nm,0.8s,baz=202,slow=2.4,SNR=3.4
OBN **Obninsk** 126.74 40 *i* PKIKP **PKPdf** 13 53 13.1 +0.1
OBN pmax pmax
comp=Z,16nm,1.3s
WVOR **Wild Horse Val** 127.30 292 **PKiKP** 13 53 15.5 +0.3
WVOR **Wild Horse Val** 127.30 292 PKIKP **PKiKP** 13 53 15.5 +0.3
MOS **Moscow** 127.59 40 *i* PKIKP **PKPdf** 13 53 14.2 -0.4
HON **Honolulu** 127.65 242 PKPdf **PKiKP** 13 53 16.8 +0.4
HON **Honolulu** 127.65 242 PKIKP **PKiKP** 13 53 16.8 +0.4
J08A **Circle Bar Ran** 127.97 292 PKPdf **PKiKP** 13 53 18.0 +1.5
HEL **Helsinki** 128.03 30 PKHKP PKPpre 13 53 05.3
TNCH **TengChong** 128.05 109 PKP **PKiKP** 13 53 18.3 +0.9
TNCH sPKP 13 53 21.8
TNCH LR LR
comp=Z,93nm,5.8s
LYMT **Lyon Mountain** 128.24 300 PKPdf **PKiKP** 13 53 17.0 -0.1
BMO **Blue Mountains** 128.66 294 PKPdf **PKPdf** 13 53 17.4 +0.2
BMO **Blue Mountains** 128.66 294 PKIKP **PKPdf** 13 53 17.4 +0.2
MSO **Missoula** 128.81 298 PKPdf **PKiKP** 13 53 18.1 0.0
FINES **FINESS Array B** 129.41 30 PKPdf **PKiKP** 13 53 18.8 +0.2
FINES **FINESS Array B** 129.41 30 PKP **PKPdf** 13 53 18.3 +0.4
comp=Z,6.5nm,0.9s,baz=141,slow=4.6,SNR=6.3
FINES **FINESS Array B** 129.41 30 PKIKP **PKiKP** 13 53 18.8 +0.2
J04A **Umpqua Nationa** 129.48 290 PKPdf **PKiKP** 13 53 20.3 +0.7
KSH **Kashi** 129.58 79 PKIKP **PKiKP** 13 53 21.0 +1.1
KKAR **Karatay Array** 129.94 71 PKPdf **PKiKP** 13 53 20.1 -0.3
KKAR **Karatay Array** 129.94 71 PKIKP **PKiKP** 13 53 20.1 -0.3
ABKAR **Akbulak array** 130.26 59 PKPdf **PKiKP** 13 53 20.5 -0.2
PZH **PanZhiHua** 130.75 112 PKP **PKiKP** 13 53 22.5 -0.2
AAK **Ala-Archa** 131.37 75*c* *i* PKIKP **PKiKP** 13 53 25.2 +1.7
AAK pmax pmax
comp=Z,4.0nm,1.0s
WUS **Wushi** 132.42 80 PKPdf **PKPdf** 13 53 24.5 0.0
ARTI **Arti** 135.14 52 *i* PKIKP **PKiKP** 13 53 31.3 +0.9
CD2 **Chengdu** 135.44 111 PKP **PKiKP** 13 53 32.0 +0.1
ARCES **ARCESS Array B** 136.28 24 PKP **PKiKP** 13 53 31.6 -0.7
comp=Z,2.4nm,0.7s,baz=207,slow=1.6,SNR=12
BRVK **Borovoye** 137.40 62 PKPdf **PKiKP** 13 53 35.7 +0.6
BRVK **Borovoye** 137.40 62*c* *i* PKIKP **PKiKP** 13 53 36.4 +1.3
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BVAR **Borovoye Array** 137.42 62 PKP **PKPdf** 13 53 33.4 +0.1
comp=Z,2.0nm,0.4s,baz=197,slow=1.5,SNR=14
MK31 **Makanchi Array** 138.12 77 PKPdf **PKiKP** 13 53 36.5 -0.3
MK31 **Makanchi Array** 138.12 77*c* *i* PKIKP **PKiKP** 13 53 38.0 +1.2
MKAR **Makanchi Array** 138.12 77 PKPdf **PKiKP** 13 53 37.5 +0.7
MKAR **Makanchi Array** 138.12 77 PKP **PKiKP** 13 53 35.9 -0.9
comp=Z,1.7nm,0.8s,baz=188,slow=2.9,SNR=9.5
MKAR **Makanchi Array** 138.12 77 PKIKP **PKiKP** 13 53 37.5 +0.7
WMQ **Urumqi** 138.41 84 *e*PKP **PKiKP** 13 53 38.0 +0.4
KURBB **Kurchatov Arra** 139.21 70 PKP **PKPdf** 13 53 36.4 -0.2
comp=Z,2.4nm,0.9s,baz=230,slow=2.8,SNR=7.9
KURK **Kurchatov** 139.32 70 *i* PKIKP **PKPdf** 13 53 37.4 +0.6
YKA **Yellowknife Ar** 140.68 313 PKP **PKiKP** 13 53 40.8 -0.7
comp=Z,2.7nm,0.9s,baz=126,slow=3.1,SNR=4.6
NJ2 **Nanjing** 142.68 127 *e*PKP **PKiKP** 13 53 45.3 -1.3
DLBC **Dease Lake** 143.90 300 PKPdf **PKPdf** 13 53 45.2 +0.3
WRGLY **Wrigley** 144.29 310 PKPdf **PKPdf** 13 53 45.4 +0.1
ZALV **Zalesovo Beam** 144.31 71 PKP **PKPab** 13 53 43.2 -0.5
comp=Z,1.6nm,0.4s,baz=252,slow=3.1,SNR=12
R33M **Jennings River** 144.88 301 PKPdf **PKPdf** 13 53 47.2 +0.6
Q32M **Nakina River** 145.15 299 PKPbc **PKPdf** 13 53 48.4 +1.2
TIA **Tai'an** 145.66 122 PKPbc **PKPab** 13 53 49.3 +0.1
HNS **HongShan** 145.69 118 ||PKPbc **PKPab** 13 53 50.1 +0.8
EUNU **Eureka** 145.78 344 PKPdf **PKiKP** 13 53 50.4 -1.2
P33M **Teslin, Yukon** 146.12 301 PKPdf **PKPab** 13 53 50.8 +0.4
P32M **Atlin** 146.12 299 PKPbc **PKPab** 13 53 51.5 +1.1
BTO **Baotou** 146.32 109 *e*PKPbc **PKPbc** 13 53 51.0 +0.1
N32M **Quiet Lake** 146.77 302 PKPbc **PKPab** 13 53 53.2 +0.4
HHC **Hu-ho-hao-te** 147.20 110 *e*PKPbc **PKPdf** 13 53 46.8 -4.4
WHY **Whitehorse** 147.22 300 PKPbc **PKPab** 13 53 54.0 -0.7
FARO **Faro, Yukon** 147.47 304 PKPbc **PKPab** 13 53 55.1 -0.5
O30N **Mendenhall** 147.77 300 **PKiKP** 13 53 55.6 -0.6
M31M **Drury Creek, Y** 147.87 303 PKPbc **PKiKP** 13 53 55.6 -0.8
HYT **Hainss Junctio** 148.38 299 PKPbc **PKiKP** 13 53 57.4 -0.2
N30M **Aishikik Lake** 148.55 301 PKPbc **PKiKP** 13 53 58.2 +0.4
M30M **Minto, Yukon** 149.02 303 **PKiKP** 13 53 58.8 +0.1
MAYO **Mayo, Yukon** 149.18 305 **PKiKP** 13 53 58.6 -0.3
A36M **Sachs Harbour** 149.34 323 **PKiKP** 13 53 58.7 -0.4
M29M **Somme Creek** 149.62 302 **PKiKP** 13 54 00.4 +0.3
H31M **Peel River** 149.65 309 **PKPbc** 13 53 59.5 +0.5
L29M **L29M** 149.82 303 PKPbc **PKiKP** 13 54 00.9 +0.5
J30M **Hart River** 149.82 306 PKPbc **PKiKP** 13 54 00.9 +0.5
K29M **Barlow Dome** 149.93 304 PKPbc **PKiKP** 13 54 00.8 +0.2
I30M **Mount Dempster** 150.14 307 PKPbc **PKPbc** 13 54 00.6 +0.4
F31M **Tsiigehtchic** 150.16 312 **PKiKP** 13 54 00.7 -0.1
SONM **Songino Array** 150.19 96 PKPbc **PKiKP** 13 54 01.9 +0.2
SONM **Songino Array** 150.19 96 PKPbc **PKPbc** 13 54 01.2 +0.3
comp=Z,12nm,0.9s,baz=215,slow=2.7,SNR=53
SONM **Songino Array** 150.19 96 PKIKP **PKiKP** 13 54 01.9 +0.2
MOY **Mondy** 150.27 86 *e*PKIKP **PKPbc** 13 54 01.1 +0.1
MOY pmax pmax
comp=Z,66nm,2.0s
INK **Inuvik** 150.44 314 **PKiKP** 13 54 01.4 0.0
INK **Inuvik** 150.44 314 PKIKP **PKiKP** 13 54 01.4 0.0
J29N **Klondike Camp** 150.49 305 **PKiKP** 13 54 02.0 +0.3
ULN **Ulaanbaatar** 150.52 97 PKPbc **PKiKP** 13 54 02.5 +0.1

ULN	Ulaanbaatar	150.52	97	PKIKP	PKiKP	13 54 02.5	+0.1
CRQM	Cirque	150.70	296		PKPbc	13 54 02.1	+0.3
KSRS	Korea Array	150.76	135	PKPbc	PKPbc	13 54 01.4	-1.0
	comp=Z,6.1nm,1.0s,baz=200,slow=2.8,SNR=10						
DAWY	Dawson	150.77	304		PKiKP	13 54 02.4	+0.1
EPYK	Eagle Plains	150.77	309	PKPbc	PKiKP	13 54 02.3	+0.1
G30M	tAoh Zraii Nji	150.84	311	PKPbc	PKiKP	13 54 02.5	+0.2
MCARA	McCarthy VSAT	150.97	297	PKPbc	PKiKP	13 54 03.7	+1.0
BCAR	Beaver Creek A	151.26	301	PKPbc	PKiKP	13 54 03.9	+0.5
L27K	Beaver Creek,	151.28	301	PKPbc	PKiKP	13 54 03.9	+0.5
H29M	Whitestone	151.31	308	PKPbc	PKiKP	13 54 03.5	+0.2
M26K	Nabesna, AK	151.44	299	PKPbc	PKiKP	13 54 04.4	+0.7
G29M	Pine Creek	151.46	310		PKiKP	13 54 04.0	+0.4
I28M	Miner Creek	151.58	306		PKiKP	13 54 04.1	+0.1
XLT	XiLinHaoTe	151.64	112	*e*PKPbc	PKiKP	13 54 05.6	+0.8
K27K	Chicken	151.81	303	PKPbc	PKiKP	13 54 05.5	+1.1
L26K	Log Cabin Wild	151.88	300		PKiKP	13 54 05.2	+0.6
E29M	Blow River	151.97	313	PKPbc	PKiKP	13 54 04.7	+0.1
MENT	Mentasta	151.99	300	PKPbc	PKiKP	13 54 05.9	+1.1
KLU	Klutina	152.24	296	PKPbc	PKiKP	13 54 06.8	+1.4
F28M	Old Crow	152.39	311	PKPbc	PKiKP	13 54 06.1	+0.6
SCRK	Sand Creek	152.55	302	PKPbc	PKiKP	13 54 07.3	+1.2
J26L	Joseph Creek	152.60	303	PKPbc	PKiKP	13 54 07.1	+1.0
M24K	Tolsona, Glenn	152.63	297	PKPbc	PKiKP	13 54 08.3	+2.1
G27K	Doyon Strip	152.75	308	PKPbc	PKiKP	13 54 07.3	+1.0
I26K	Coal Creek Min	152.76	305	PKPbc	PKiKP	13 54 07.2	+0.9
MAJO	Matsushiro	152.79	152	PKPbc	PKiKP	13 54 07.8	+0.5
MAJO	Matsushiro	152.79	152	PKIKP	PKiKP	13 54 07.8	+0.5
MJAR	Matsushiro Arr	152.79	152	PKPbc	PKiKP	13 54 07.5	+0.2
	comp=Z,5.1nm,0.9s,baz=172,slow=3.3,SNR=11						
MJB9	Matsu-Tunnel	152.79	152	PKPbc	PKiKP	13 54 08.9	+1.6
NRIK	Noril'sk	153.15	46*c*	*i*PKIKP	PKiKP	13 54 08.3	+1.3
D27M	Malcolm River	153.31	314	PKPbc	PKiKP	13 54 08.8	+1.4
PRP	Porcupine Dome	153.76	305	PKPab	PKPab	13 54 22.7	+1.1
F26K	Sheenjek River	153.96	310	PKPbc	PKiKP	13 54 10.0	+1.2
IL03	Eielson Array	154.01	303	PKPbc	PKiKP	13 54 10.1	+1.2
IL31		154.02	302	PKPbc	PKiKP	13 54 09.6	+0.7
ILAR	Eielson Array	154.02	302	PKPbc	PKiKP	13 54 09.6	+0.6
ILAR	Eielson Array	154.02	302	PKPbc	PKiKP	13 54 09.4	+0.5
	comp=Z,8.1nm,1.1s,baz=131,slow=2.3,SNR=26						
ILAR	Eielson Array	154.02	302	PKIKP	PKiKP	13 54 09.6	+0.6
BMAR	Burnt Mountain	154.04	309	PKPbc	PKiKP	13 54 10.3	+1.3
RND	Reindeer	154.30	299	PKPbc	PKiKP	13 54 11.4	+1.8
RND				PKPab	pPKPab	13 54 25.5	-0.3
POKR	Poker Plat Res	154.37	303	PKPbc	PKiKP	13 54 10.2	+0.5
POKR				PKPab	pPKPab	13 54 25.4	-0.5
WRH	Wood River Hil	154.39	301	PKPdf	PKPdf	13 54 02.2	+0.9
WRH				PKPbc	pPKPbc	13 54 11.3	-0.3
WRH				PKPab	pPKPab	13 54 25.5	-0.6
COLA	College	154.44	302	PKPdf	PKPdf	13 54 02.2	+0.9
COLA				PKPbc	pPKPbc	13 54 11.6	0.0
COLA				PKPab	pPKPab	13 54 25.6	-0.7
COLA	College	154.44	302	PKIKP	PKPdf	13 54 02.2	+0.9
NEA2	Nenana	154.83	301	PKPdf	PKPdf	13 54 02.9	+0.9
NEA2				PKPab	pPKPab	13 54 27.7	-0.2
COLD	Coldfoot	156.08	307	PKPab	PKPab	13 54 33.3	+2.0
TOLK	Toolik Lake Re	156.17	311	PKPdf	PKPdf	13 54 03.5	-0.2
TOLK				PKPab	PKPab	13 54 32.6	+0.9
H21K	Melozitna Rive	156.67	303	PKPdf	PKPdf	13 54 05.5	+1.1
H21K				PKPab	PKPab	13 54 34.8	+0.9
C23K	Itkillik River	156.74	313	PKPdf	PKPdf	13 54 03.8	-0.5
C23K				PKPab	PKPab	13 54 34.7	+0.7
E22K	Anaktuvuk Pass	156.88	309	PKPdf	PKPdf	13 54 04.8	+0.1
E22K				PKPab	pPKPab	13 54 36.2	-0.5
D22K	Ayikyak River	157.33	311	PKPdf	PKPdf	13 54 05.5	+0.3
D22K				PKPab	pPKPab	13 54 38.2	-0.4
E21K	Killik River	157.72	309	PKPab	PKPab	13 54 39.6	+1.2
H19K	Roundabout Mou	158.10	301	PKPab	PKPab	13 54 41.1	+1.1
B21K	Ikpikpuk River	158.10	312	PKPab	PKPab	13 54 41.0	+1.1
F19K	Shaleruckik Mo	158.90	304	PKPab	PKPab	13 54 44.1	+0.7
G18K	Tagagawik	159.07	302	PKPab	PKPab	13 54 46.2	+2.0
TIXI	Tiksi	166.40	34	PKPab	PKPab	13 55 18.1	+1.9
TIXI	Tiksi	166.40	34	PKP2	PKPab	13 55 18.1	+1.9
PET	Petropavlovsk	170.62	199	PKPdf	PKPdf	13 54 18.3	+0.7
PET				PKPab	PKPab	13 55 36.2	+0.9
BILL	Bilibino	171.89	324	*i* PKIKP	PKPdf	13 54 17.7	-0.1
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						

LJU ***16*** *14:12:02.9, 46.°02N×15.°10E, h10km, ML2.4*
RHSSO ***16*** *14:12:03.7±0.2, 46.°01N×15.°13E, h5km±2km, ML2.4/8*
VIE ***16*** *14:12:03.0±0.1, 46.°03N×15.°10E, h9km±2km, mb2.3/11, ml2.6/11, Error ellipse: s-maj=1.0km s-min=0.8km az=141.0*
PRU ***16*** *14:12:06.4, 46.°15N×15.°04E, h10km*

ISC 16 14:12:03.4±0.8, 46.°02N±0.°01×15.°10E±0.°01, h9km±6km, n70, σ0.°80/131, 7C-11D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PDKS	**Podkum**	**0.08**	**298**	⇑*i*Pg	**Pg**	**Pg**	**14 12 05.9**	**+0.1**
PDKS				*i* Sg	**Sg**	**Sg**	**14 12 07.5**	**0.0**
PDKS				IAML			14 12 07.6	
	comp=Z,3μm,0.1s							
LEGS	**Legarje**	**0.17**	**116**	⇓*i*Pg	**Pg**	**Pg**	**14 12 07.0**	**-0.1**
LEGS				*i* Sg	**Sg**	**Sg**	**14 12 09.4**	**-0.1**
CESS	**Cesta pri Krsk**	**0.26**	**101**	⇑*i*Pg	**Pg**	**Pg**	**14 12 08.7**	**+0.1**
CESS				*i* Sg	**Sg**	**Sg**	**14 12 12.4**	**+0.3**
CESS				IAML			14 12 13.7	
	comp=Z,685nm,0.2s							
DOBS	**Dobrina**	**0.28**	**64**	⇑*i*Pg	**Pg**	**Pg**	**14 12 09.1**	**-0.1**
DOBS				*i* Sg	**Sg**	**Sg**	**14 12 12.8**	**-0.2**
DOBS				IAML			14 12 14.0	
	comp=Z,302nm,0.2s							
VISS	**Visnje**	**0.29**	**220**	⇓*i*Pg	**Pg**	**Pg**	**14 12 09.2**	**0.0**
VISS				*i* Sg	**Sg**	**Sg**	**14 12 12.9**	**-0.1**
VISS				IAML			14 12 13.5	
	comp=Z,200nm,0.1s							
VNDS	**Vrh nad Dolski**	**0.29**	**286**	⇓*i*Pg	**Pg**	**Pg**	**14 12 09.4**	**+0.2**
VNDS				*i* Sg	**Sg**	**Sg**	**14 12 13.1**	**0.0**
VNDS				IAML			14 12 14.2	
	comp=Z,365nm,0.2s							
CRES	**Cresnjevec Ost**	**0.32**	**128**	⇓*i*Pg	**Pg**	**Pg**	**14 12 09.4**	**-0.4**
CRES				*i* Sg	**Sg**	**Sg**	**14 12 13.6**	**-0.4**
CRES				IAML			14 12 16.1	
	comp=Z,116nm,0.1s							
CRES	**Cresnjevec Ost**	**0.32**	**128**	⇓*i*Pg	**Pg**	**Pg**	**14 12 09.3**	**-0.4**
CRES				*e*Sg	**Sg**	**Sg**	**14 12 13.8**	**-0.1**
GOLS	**Golise**	**0.36**	**92**	⇑*i*Pg	**Pg**	**Pg**	**14 12 10.8**	**+0.1**
GOLS				*i* Sg	**Sg**	**Sg**	**14 12 16.1**	**+0.7**
GOLS				IAML			14 12 17.0	
	comp=Z,208nm,0.1s							
GCIS	**Gornji Cirnik**	**0.40**	**113**	*i* Pg	**Pg**	**Pg**	**14 12 11.2**	**-0.1**
GCIS				*i* Sg	**Sg**	**Sg**	**14 12 16.5**	**0.0**
GCIS				IAML			14 12 19.1	
	comp=Z,175nm,0.1s							
LJU	**Ljubljana**	**0.40**	**273**	*i* Pg	**Pg**	**Pg**	**14 12 11.5**	**+0.2**
LJU				*i* Sg	**Sg**	**Sg**	**14 12 16.8**	**+0.2**
LJU				IAML			14 12 18.1	
	comp=Z,152nm,0.1s							
ZAVS	**Zavodnje**	**0.41**	**353**	⇓*i*Pg	**Pg**	**Pg**	**14 12 11.8**	**+0.2**
ZAVS				*i* Sg	**Sg**	**Sg**	**14 12 17.3**	**+0.2**
ZAVS				IAML			14 12 18.4	
	comp=Z,530nm,0.2s							
GBAS	**Gorenja Brezov**	**0.47**	**259**	⇑*i*Pg	**Pg**	**Pg**	**14 12 12.5**	**-0.1**
GBAS				*i* Sg	**Sg**	**Sg**	**14 12 18.5**	**-0.2**
GBAS				IAML			14 12 19.8	
	comp=Z,44nm,0.1s							
OZLJ	**Ozalj**	**0.48**	**148**	*e*Pg	**Pg**	**Pg**	**14 12 12.3**	**-0.5**
OZLJ				Sg	**Sg**	**Sg**	**14 12 18.5**	**-0.6**
GROS	**Grobnik**	**0.52**	**32**	⇓*i*Pg	**Pg**	**Pg**	**14 12 13.5**	**-0.1**
GROS				*i* Sg	**Sg**	**Sg**	**14 12 20.0**	**-0.4**
GROS				IAML			14 12 21.0	
	comp=Z,91nm,0.1s							
BOJS	**Bojanci**	**0.53**	**169**	*i* Pg	**Pg**	**Pg**	**14 12 12.9**	**-0.8**
BOJS				IAML			14 12 25.4	
	comp=Z,165nm,0.2s							
MOZS	**Mozjanca**	**0.53**	**301**	⇓*i*Pg	**Pg**	**Pg**	**14 12 13.9**	**+0.1**
MOZS				*i* Sg	**Sg**	**Sg**	**14 12 20.7**	**-0.1**
MOZS				IAML			14 12 21.2	
	comp=Z,89nm,0.2s							
GBRS	**Gornja Briga**	**0.53**	**203**	*i* Pg	**Pg**	**Pg**	**14 12 13.5**	**-0.3**
GBRS				IAML			14 12 22.9	
	comp=Z,158nm,0.1s							
CEY	**Cerknica**	**0.55**	**239**	*i* Pg	**Pg**	**Pg**	**14 12 13.9**	**-0.2**
CEY				IAML			14 12 23.1	
	comp=Z,103nm,0.1s							
CEY	**Cerknica**	**0.55**	**239**	⇑*i*Pg	**Pg**	**Pg**	**14 12 13.5**	**-0.6**
CEY				*e*Sg	**Sg**	**Sg**	**14 12 21.9**	**+0.5**
CRNS	**Crni Vrh**	**0.59**	**276**	*i* Pg	**Pg**	**Pg**	**14 12 14.8**	**-0.1**
CRNS				*e*Sg	**Sg**	**Sg**	**14 12 22.9**	**+0.3**
CRNS				IAML			14 12 25.2	
	comp=Z,77nm,0.1s							
PERS	**Pernice**	**0.61**	**1**	⇓*i*Pg	**Pg**	**Pg**	**14 12 15.2**	**-0.1**
PERS				IAML			14 12 25.7	
	comp=Z,74nm,0.2s							
PTJ	**Puntijarka**	**0.61**	**101**	*e*Pg	**Pg**	**Pg**	**14 12 15.2**	**-0.1**
PTJ				Sg	**Sg**	**Sg**	**14 12 23.1**	**-0.4**
OBKA	**Obir**	**0.62**	**322**	*i* Pg	**Pg**	**Pg**	**14 12 15.6**	**+0.1**
	comp=Z,28nm,0.1s,SNR=31							
OBKA				*e*Sg	**Sg**	**Sg**	**14 12 23.8**	**+0.2**
	comp=Z,98nm,0.2s							
OBKA	**Obir**	**0.62**	**322**	⇓*i*Pg	**Pg**	**Pg**	**14 12 15.4**	**-0.1**
OBKA				*e*Sg	**Sg**	**Sg**	**14 12 24.2**	**+0.6**
SOKA	**Soboth**	**0.66**	**356**	*e*Pg	**Pg**	**Pg**	**14 12 16.1**	**-0.1**
	comp=Z,69nm,0.3s,SNR=77							
SOKA				*i* Sg	**Sg**	**Sg**	**14 12 24.1**	**-0.7**
	comp=Z,32nm,0.2s							
LOBO	**Lobor**	**0.69**	**79**	*i* Pg	**Pg**	**Pg**	**14 12 16.3**	**-0.4**
LOBO				Sg	**Sg**	**Sg**	**14 12 25.6**	**-0.1**
KNDS	**Knezji Dol**	**0.71**	**226**	*i* Pg	**Pg**	**Pg**	**14 12 16.8**	**-0.3**
KNDS				*i* Sg	**Sg**	**Sg**	**14 12 26.3**	**-0.1**
KNDS				IAML			14 12 29.3	
	comp=Z,78nm,0.2s							
JAVS	**Javornik**	**0.74**	**260**	*i* Pg	**Pg**	**Pg**	**14 12 17.0**	**-0.6**
JAVS				*i* Sg	**Sg**	**Sg**	**14 12 27.8**	**+0.5**
JAVS				IAML			14 12 30.3	
	comp=Z,25nm,0.1s							
GORS	**Gorjuse**	**0.82**	**291**	*i* Pg	**Pg**	**Pg**	**14 12 18.9**	**-0.4**
GORS				IAML			14 12 35.3	
	comp=Z,115nm,0.3s							
VOJS	**Vojsko**	**0.85**	**271**	*i* Pg	**Pg**	**Pg**	**14 12 19.1**	**-0.7**
VOJS				*i* Sg	**Sb**	**Sb**	**14 12 31.9**	**0.0**
VOJS				IAML			14 12 34.0	
	comp=Z,45nm,0.2s							
SKDS	**Skadanscina**	**0.90**	**238**	*i* Pg	**Pg**	**Pg**	**14 12 20.1**	**-0.7**
SKDS				*i* Sg	**Sb**	**Sb**	**14 12 33.4**	**+0.1**
SKDS				IAML			14 12 36.2	
	comp=Z,40nm,0.1s							
SKDS	**Skadanscina**	**0.90**	**238**	⇑*i*Pg	**Pg**	**Pg**	**14 12 20.0**	**-0.7**
SKDS				*e*Sg	**Sg**	**Sg**	**14 12 32.3**	**-0.1**
KOGS	**Kog**	**0.90**	**61**	*i* Pg	**Pg**	**Pg**	**14 12 20.6**	**-0.2**
KOGS				IAML			14 12 38.0	
	comp=Z,47nm,0.2s							
KALN	**Kalnik**	**0.95**	**83**	*i* Pg	**Pg**	**Pg**	**14 12 20.9**	**-0.8**
KALN				Sg	**Sg**	**Sg**	**14 12 33.3**	**-0.7**
CADS	**Cadrg**	**0.97**	**283**	*i* Pg	**Pg**	**Pg**	**14 12 21.4**	**-0.7**
CADS				*i* Sg	**Sb**	**Sb**	**14 12 35.2**	**-0.1**
CADS				IAML			14 12 39.2	
	comp=Z,73nm,0.2s							
ROBS	**Robic**	**1.13**	**282**	*i* Pg	**Pb**	**Pb**	**14 12 24.0**	**-1.1**
ROBS				*i* Sg	**Sn**	**Sn**	**14 12 41.1**	**+0.1**
ROBS				IAML			14 12 42.2	
	comp=Z,46nm,0.3s							
MYKA	**Terra Mystica**	**1.18**	**301**	*e*Pg	**Pb**	**Pb**	**14 12 25.4**	**-0.6**
	comp=Z,9.9nm,0.2s,SNR=12							
MYKA				*e*Sg	**Sb**	**Sb**	**14 12 41.4**	**-0.1**
	comp=Z,19nm,0.3s							
PLIT	**Plitvice**	**1.20**	**162**	*e*Pg	**Pb**	**Pb**	**14 12 25.6**	**-0.8**
PLIT				Sg	**Sb**	**Sb**	**14 12 41.4**	**-0.6**
MOSL	**Moslavina**	**1.23**	**109**	*e*Pg	**Pn**	**Pn**	**14 12 25.6**	**-1.2**
MOSL				Sg	**Sb**	**Sb**	**14 12 41.5**	**-1.1**
BEHE	**Becsehely**	**1.24**	**68**	*e*Pg	**Pn**	**Pn**	**14 12 26.3**	**-0.7**
BEHE				*e*Sg	**Sb**	**Sb**	**14 12 43.2**	**0.0**
ARSA	**Arzberg**	**1.26**	**13**	*i* Pg	**Pn**	**Pn**	**14 12 26.7**	**-0.6**
	comp=Z,15nm,0.2s,SNR=22							
ARSA				*e*Sg	**Sn**	**Sn**	**14 12 44.4**	**+0.1**
	comp=Z,18nm,0.4s							
ARSA	**Arzberg**	**1.26**	**13**	⇓*i*Pg	**Pn**	**Pn**	**14 12 26.3**	**-1.0**
ARSA				*e*Sg	**Sb**	**Sb**	**14 12 43.5**	**-0.2**
RABC	**Rab**	**1.29**	**190**	*e*Pg	**Pb**	**Pb**	**14 12 28.4**	**+0.5**
RABC				Sg	**Sn**	**Sn**	**14 12 45.1**	**+0.2**
NVLJ	**Novalja**	**1.47**	**186**	*e*Pg	**Pn**	**Pn**	**14 12 30.4**	**+0.4**
NVLJ				Sg	**Sn**	**Sn**	**14 12 49.3**	**0.0**
UDBI	**Udbina**	**1.57**	**162**	*e*Pn	**Pb**	**Pb**	**14 12 32.8**	**+0.2**
UDBI				Sg	**Sb**	**Sb**	**14 12 52.7**	**+0.2**
KBA	**Koelnbreinsper**	**1.61**	**312**	*e*Pg	**Pb**	**Pb**	**14 12 33.1**	**-0.3**
	comp=Z,17nm,0.3s,SNR=15							
KBA				*e*Sn	**Sn**	**Sn**	**14 12 53.3**	**+0.2**
	comp=Z,14nm,0.2s							
A051A	**Mrakovica**	**1.62**	**128**	*e*Pn	**Pn**	**Pn**	**14 12 32.5**	**+0.3**
A051A				*e*Sn	**Sn**	**Sn**	**14 12 53.4**	**+0.1**
VIRC	**Vir**	**1.73**	**181**	*e*Pn	**Pb**	**Pb**	**14 12 34.9**	**-0.5**
VIRC				Sn	**Sb**	**Sb**	**14 12 57.7**	**+0.6**
A050A	**Klekovaca**	**1.84**	**146**	*e*Pn	**Pn**	**Pn**	**14 12 35.6**	**+0.3**
A050A				*e*Sn	**Sn**	**Sn**	**14 12 58.9**	**+0.2**
RONA	**Rosalia, Austr**	**1.87**	**26**	*e*Pn	**Pn**	**Pn**	**14 12 35.7**	**+0.1**
	comp=Z,2.7nm,0.2s,SNR=7.2							
RONA				*e*Sg	**Sg**	**Sg**	**14 13 04.0**	**+0.6**
	comp=Z,11nm,0.4s							
MOA	**Molln**	**1.92**	**343**	*i* Pn	**Pn**	**Pn**	**14 12 37.3**	**+1.1**
	comp=Z,0.6nm,0.2s							
MOA				Sn	**Sn**	**Sn**	**14 13 00.8**	**+0.3**
	comp=Z,6.7nm,0.3s							
BLY	**Banja Luka**	**1.94**	**130**	*e*Pn	**Pn**	**Pn**	**14 12 36.8**	**+0.2**
BLY				*e*Sn	**Sn**	**Sn**	**14 13 01.5**	**+0.4**
BIOA	**Bad Ischl, Aus**	**1.95**	**329**	*e*Pg	**Pb**	**Pb**	**14 12 39.5**	**+0.4**
	comp=Z,4.8nm,0.2s							
CONA	**Conrad Observa**	**1.98**	**15**	*e*Pn	**Pb**	**Pb**	**14 12 39.0**	**-0.6**
	comp=Z,3.7nm,0.2s							
CONA				Sg	**Sg**	**Sg**	**14 13 08.9**	**+1.9**
	comp=Z,7.0nm,0.4s							
DUGI	**Dugi Otok**	**2.03**	**181**	*e*Pn	**Pn**	**Pn**	**14 12 38.9**	**+1.1**
DUGI				Sn	**Sn**	**Sn**	**14 13 04.6**	**+1.3**
LESA	**Schwarzleotal**	**2.18**	**311**	*i* Pn	**Pb**	**Pb**	**14 12 41.6**	**-1.4**
	comp=Z,8.0nm,0.3s							
LESA				*e*Sn	**Sn**	**Sn**	**14 13 08.3**	**+1.3**
	comp=Z,5.0nm,0.2s							
MORI	**Morici**	**2.20**	**169**	*e*Pn	**Pb**	**Pb**	**14 12 42.2**	**-1.1**
MORI				Sn	**Sb**	**Sb**	**14 13 09.6**	**-1.0**
KIJV	**Kijevo**	**2.22**	**155**	*e*Pn	**Pn**	**Pn**	**14 12 41.4**	**+1.0**
KIJV				Sn	**Sb**	**Sb**	**14 13 10.4**	**-0.9**
ZIRJ	**Zirje**	**2.40**	**171**	*e*Pn	**Pn**	**Pn**	**14 12 44.8**	**+2.0**
ZIRJ				Sn	**Sn**	**Sn**	**14 13 14.6**	**+2.3**
MORH	**Mrgy, Hungar**	**2.47**	**84**	*e*Pn	**Pn**	**Pn**	**14 12 44.5**	**+0.7**
MORH				*e*Sn	**Sn**	**Sn**	**14 13 14.8**	**+0.7**
WTTA	**Wattenberg**	**2.69**	**299**	*e*Pn	**Pn**	**Pn**	**14 12 47.7**	**+0.7**
	comp=Z,0.2nm,0.1s							
MODS	**Modra-Piesok**	**2.78**	**31**	*e*PN	**Pg**	**Pg**	**14 12 58.1**	**+1.4**
MODS				*e*SN	**Sn**	**Sn**	**14 13 22.4**	**+0.6**
MODS				*e*SG	**Sg**	**Sg**	**14 13 35.2**	**+2.5**
CKRC	**Cesky Krumlov**	**2.85**	**349**	*e*PG	**Pg**	**Pg**	**14 12 56.5**	**-1.5**
RICI	**Ricice**	**2.91**	**150**	*e*Pn	**Pn**	**Pn**	**14 12 51.5**	**+1.5**
KRUC	**Moravsky**	**3.16**	**16**	*e*PN	**Pb**	**Pb**	**14 13 00.6**	**+0.8**
KHC	**Kasperske Hory**	**3.28**	**342**	*e*PN	**Pn**	**Pn**	**14 12 55.5**	**+0.6**
KHC				*e*SN	**Sn**	**Sn**	**14 13 33.7**	**-0.3**
KHC				*e*SG	**Sg**	**Sg**	**14 13 46.7**	**-1.9**
LSTV	**Lastovo**	**3.50**	**158**	*e*Pn	**Pn**	**Pn**	**14 12 58.9**	**+0.9**
LSTV				Sn	**Sn**	**Sn**	**14 13 39.9**	**+0.5**
STON	**Ston**	**3.66**	**149**	*e*Pn	**Pn**	**Pn**	**14 13 01.0**	**+0.9**
STON				*e*Sn	**Sn**	**Sn**	**14 13 43.0**	**-0.3**
CLL	**Collm**	**5.47**	**346**	*e*Sn	**Sn**	**Sn**	**14 14 24.0**	**-4.0**
CLL				*e*Sg	**Sg**	**Sg**	**14 14 59.0**	**+0.1**

IDC ***16*** *14:17:06.0±1.3, 10.°69S×163.°27E, h0km, mb3.8/6, mbtmp3.9/8, ML3.9/2, MS3.0/1, Error ellipse: s-maj=30.7km s-min=28.4km az=135.0*

ISC 16 14:17:08.7±1.0, 10.°7S±0.°1×163.°3E±0.°1, h16km, n21, σ0.°95/9, mb3.9/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.50**	**290**	Pn	**Pn**	**Pn**	**14 18 03.1**	**+0.6**
	21nm,0.3s,baz=141,slow=5.2,SNR=11							
HNR				Sn		**Sn**	**14 18 43.9**	**+0.2**
	15nm,0.3s,baz=308,slow=23,SNR=6.2							
	102nm,0.5s							
DZM	**Mont Dzumac**	**11.75**	**165**	Pn	**Pn**	**Pn**	**14 19 56.6**	**+0.7**
	0.3nm,0.3s,baz=0.3,slow=12,SNR=9.9							
	2.8nm,0.6s							
H11S2	**WAKE ISLAND Hy 29.16**	**7**		T		T	14 53 37.8	
	baz=188,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy 29.16**	**7**		T		T	14 53 32.2	
	baz=188,slow=76,SNR=6.2							
H11S1	**WAKE ISLAND Hy 29.18**	**7**		T		T	14 53 36.3	
	baz=188,slow=76,SNR=6.6							
WRA	**Warramunga Arr**	**29.36**	**248**	P		**P**	**14 23 10.1**	**-1.2**
	0.6nm,0.9s,baz=80,slow=9.3,SNR=3.5							
	0.6nm,0.9s							
GUMO	**Guam**	**30.23**	**322**	LR		LR	14 34 14.3	
	comp=Z,33nm,21.2s,baz=166,slow=34							
H11N1	**WAKE ISLAND Hy 30.39**	**7**		T		T	14 55 01.4	
	baz=188,slow=76,SNR=5.8							
H11N3	**WAKE ISLAND Hy 30.40**	**7**		T		T	14 55 07.4	
	baz=188,slow=76,SNR=5.0							
H11N2	**WAKE ISLAND Hy 30.41**	**7**		T		T	14 55 07.3	
	baz=188,slow=76,SNR=4.5							
ASAR	**Alice Springs**	**30.82**	**241**	P		**P**	**14 23 22.9**	**-1.4**
	0.6nm,0.7s,baz=64,slow=9.6,SNR=9.4							
	0.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**69.74**	**294**	P		**P**	**14 28 19.4**	**+0.8**
	0.5nm,0.4s,baz=107,slow=3.9,SNR=7.6							
	0.5nm,0.4s							
SONM	**Songino Array**	**76.94**	**325**	P		**P**	**14 29 00.6**	**0.0**
	1.0nm,0.7s,baz=136,slow=4.2,SNR=4.6							
	1.0nm,0.7s							
ILAR	**Eielson Array**	**83.93**	**19**	P		**P**	**14 29 37.0**	**-0.7**
	0.4nm,0.6s,baz=244,slow=4.8,SNR=7.6							
	0.4nm,0.6s							
MKAR	**Makanchi Array**	**91.59**	**317**	P		**P**	**14 30 15.1**	**+0.1**
	0.5nm,0.7s,baz=106,slow=5.3,SNR=6.4							
	0.5nm,0.7s							
H03S2	**Juan Fernandez**	**106.24**	**130**	T		T	16 30 50.7	
	baz=234,slow=73,SNR=28							
H03S1	**Juan Fernandez**	**106.25**	**130**	T		T	16 30 57.4	
	baz=234,slow=73,SNR=17							
H03S3	**Juan Fernandez**	**106.26**	**130**	T		T	16 30 53.7	
	baz=234,slow=73,SNR=20							
H03N2	**Juan Fernandez**	**106.40**	**130**	T		T	16 31 02.9	
	baz=236,slow=71,SNR=51							
H03N3	**Juan Fernandez**	**106.40**	**130**	T		T	16 31 07.1	
	baz=236,slow=71,SNR=70							
H03N1	**Juan Fernandez**	**106.42**	**130**	T		T	16 31 06.5	
	baz=236,slow=71,SNR=49							

ISK 16 14:21:57.1, 40.°33N×30.°81E, h5km, ML1.8/5, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GULT	**Gulveren**	**0.25**	**294**		Pg	Pg	14 22 02.9	+1.0
GULT					Sg	Sg	14 22 07.7	+2.5
SRCK	**Saricakaya, Es**	**0.32**	**206**		Pg	Pb	14 22 04.6	-0.7
SRCK					Sg	Sb	14 22 10.2	-0.6
MDUB	**Mudurnu**	**0.33**	**65**		Pg	Pb	14 22 04.9	-0.6
MDUB					Sg	Sb	14 22 10.4	-0.8
YUVA	**Yuva-Kibriscik**	**0.67**	**85**		Pg	Pb	14 22 11.2	-0.

VLS S **Sb** **14 46 18.8 +1.1**
LXRA Lixouri, Kepha 0.80 345 P **Pb** **14 46 09.0 +0.5**
LXRA S **Sg** **14 46 18.8 -0.5**
AMT Artemida-Makis 0.81 82 P **Pn** **14 46 10.2 +0.4**
AMT S **Sn** **14 46 22.8 +1.3**
SMHA Samh 0.82 357 P **Pg** **14 46 08.8 -0.5**
DMLN Damoulianata-K 0.85 343 P **Pg** **14 46 08.8 -1.0**
DMLN S **Sb** **14 46 22.1 +1.6**
12μm,0.7s
DMLN Damoulianata-K 0.85 343 P **Pg** **14 46 08.9 -0.8**
RLS Riolos of Patr 0.88 44 P **Pb** **14 46 10.4 +0.5**
RLS S **Sn** **14 46 25.0 +2.0**
3μm,0.9s
RLS Riolos of Patr 0.88 44 P **Pb** **14 46 10.4 +0.5**
RLS S **Sn** **14 46 24.8 +1.8**
DRO Drossia 0.96 57 P **Pn** **14 46 12.4 +0.5**
DRO S **Sn** **14 46 28.3 +3.2**
5μm,0.6s
DRO Drossia 0.96 57 P **Pb** **14 46 12.2 +0.9**
VSK1 VASILIKIADES 0.98 354 P **Pb** **14 46 12.1 +0.3**
PYL PYLOS 0.99 122 P **Pb** **14 46 12.0 +0.1**
PYL S **Sn** **14 46 27.8 +2.0**
6μm,0.6s
PYL PYLOS 0.99 122 P **Pn** **14 46 12.2 -0.1**
ITM Ithomi 1.01 104 **Pn** **14 46 13.8 +1.2**
ITM Ithomi 1.01 104 P **Pn** **14 46 13.5 +0.9**
ITM S **Sn** **14 46 29.0 +2.6**
5μm,1.2s
ITM Ithomi 1.01 104 P **Pn** **14 46 13.8 +1.2**
ITM S **Sn** **14 46 28.6 +2.2**
FSK Fiskardo 1.03 354 P **Pg** **14 46 11.8 -1.5**
FSK S **Sb** **14 46 27.7 +1.9**
5μm,0.8s
FSK Fiskardo 1.03 354 P **Pn** **14 46 13.1 +0.3**
FSK S **Sb** **14 46 27.1 +1.3**
EVGI Lefkada island 1.19 359 P **Pb** **14 46 15.2 -0.1**
EVGI Lefkada island 1.19 359 P **Pb** **14 46 15.5 +0.2**
UPR University Cam 1.22 45 P **Pg** **14 46 16.8 +0.1**
DRAG Dragano-Lefkad 1.26 356 P **Pb** **14 46 16.7 +0.3**
DRAG Dragano-Lefkad 1.26 356 P **Pg** **14 46 16.8 -0.7**
NYDR Nydri-Lefkada 1.28 0 P **Pg** **14 46 17.4 -0.6**
NYDR S **Sn** **14 46 36.8 +3.8**
NYDR Nydri-Lefkada 1.28 0 P **Pg** **14 46 17.5 -0.5**
KLV Kalavryta, Ach 1.31 62 P **Pg** **14 46 18.7 +0.2**
KLV Kalavryta, Ach 1.31 62 P **Pg** **14 46 18.5 0.0**
LKD2 Lefkada island 1.36 359 P **Pg** **14 46 20.6 +1.2**
LKD2 Lefkada island 1.36 359 P **Pn** **14 46 18.0 +0.7**
EFP Efpalio 1.38 44 P **Pg** **14 46 20.1 +0.2**
EFP Efpalio 1.38 44 P **Pg** **14 46 19.6 -0.2**
TSLK Tsoukalades, L 1.39 359 P **Pg** **14 46 19.9 -0.2**
TSLK S **Sg** **14 46 40.6 +2.3**
TSLK Tsoukalades, L 1.39 359 P **Pg** **14 46 19.4 -0.7**
GUR Goura 1.40 68 P **Pg** **14 46 20.0 -0.3**
GUR Goura 1.40 68 P **Pg** **14 46 19.9 -0.3**
KALE Kalithea 1.49 50 P **Pg** **14 46 21.9 -0.2**
ANX Ano Chora 1.51 39 P **Pg** **14 46 22.1 -0.3**
ANX Ano Chora 1.51 39 P **Pg** **14 46 22.5 +0.1**
AGG Agios Georgios 2.05 39 **Pb** **14 46 31.1 +1.2**
KEK Kerkira 2.39 343 **Pb** **14 46 34.7 -1.0**
LIT Litokhoron 3.02 27 **Pn** **14 46 42.8 +2.7**
FNA Florina 3.39 9 Pn **Pn** **14 46 47.8 +2.5**
FNA Florina 3.39 9 *e*Pn **Pn** **14 46 47.4 +2.1**
TIP Timpagrande 3.55 301 **Pn** **14 46 50.6 +3.1**
OHR Ohrid 3.68 1 *e*Pn **Pn** **14 46 51.8 +2.5**
OHR Ohrid 3.68 1 *i* P **Pn** **14 46 52.5 +3.2**
CEL Celeste 3.89 284 **Pn** **14 46 53.6 +1.5**
TIR Tirane 3.97 351 Pn **Pn** **14 46 55.6 +2.5**
IDI Anoyia 4.00 121 Pn **Pn** **14 46 54.1 +0.3**
8.2nm,0.9s,baz=104,slow=21,SNR=2.7
IDI Sn **Sn** **14 47 41.1 +0.9**
8.0nm,0.3s,baz=1.9,slow=20,SNR=8.5
IDI LR LR 14 48 42.5
comp=Z,175nm,20.0s,baz=304,slow=44
VAY Valandovo 4.15 20 *e*Pn **Pn** **14 46 58.0 +2.3**
VAY Valandovo 4.15 20 *i* P **Pn** **14 46 58.0 +2.3**
SRS Serrai 4.32 31 *e*Pn **Pn** **14 47 00.3 +2.3**
CUC Castrocucco 4.59 305 **Pn** **14 47 04.7 +2.8**
PUK Puka 4.65 353 **Pn** **14 47 04.6 +2.0**
PEHC Pehcevo 4.67 21 *i* P **Pn** **14 47 05.8 +3.0**
VAE Valguarnera 5.00 272 **Pn** **14 47 10.0 +2.6**
13nm,0.5s,baz=102,slow=16,SNR=2.0
VAE Sn **Sn** **14 48 03.9 -0.9**
4.9nm,0.3s,baz=196,slow=18,SNR=2.2
RAFF Raffo Rosso 5.05 270 Pn **Pn** **14 47 08.3 +0.2**
PDG Podgorica 5.12 348 Pn **Pn** **14 47 11.4 +2.5**
WDD Wied Dalam 5.21 254 Pn **Pn** **14 47 10.4 +0.2**
BOSS Bosilegrad 5.24 15 *e*Pn **Pn** **14 47 13.0 +2.3**
RDO Rodhopi 5.28 44 **Pn** **14 47 13.7 +2.4**
ALN Alexandroupoli 5.41 49 Pn **Pn** **14 47 14.8 +1.8**
BARS Barje 5.45 9 *e*Pn **Pn** **14 47 14.5 +1.0**
BARS *e*Sn **Sn** **14 48 14.1 -1.7**
SELS Selova 5.79 3 *e*Pn **Pn** **14 47 19.6 +1.3**
SJES Sjenica 5.85 355 *e*Pn **Pn** **14 47 20.8 +1.6**
SJES *e*Sn **Sn** **14 48 25.1 -0.7**
PAOL Paolisi 5.96 309 Pn **Pn** **14 47 23.2 +2.6**
ZAPS Zavoj 6.02 14 *e*Pn **Pn** **14 47 23.0 +1.6**
ARG Arkhangelos 6.08 99 Pn **Pn** **14 47 18.8 -3.5**
IVAS Ivanjica 6.16 356 *e*Pn **Pn** **14 47 23.5 +0.2**
IVAS *e*Sn **Sn** **14 48 29.8 -3.4**
GRUS Gruza 6.45 0 *e*Pn **Pn** **14 47 28.1 +0.8**
ZAGS Zajecar 6.48 10 *e*Pn **Pn** **14 47 27.0 -0.7**
TRUS Trudelj 6.79 358 *e*Pn **Pn** **14 47 32.2 +0.2**
NRCA Norcia 7.92 315 Pn **Pn** **14 47 50.2 +2.6**
FDMO Fiordimonte 8.07 316 Pn **Pn** **14 47 51.2 +1.6**
VOIR 8.64 21 Pn **Pn** **14 48 00.1 +2.7**
19nm,0.9s
MORH Mrgy, Hungar 8.91 351 Pn **Pn** **14 48 02.3 +1.3**
4.3nm,0.8s
MLR Muntele Rosu 8.96 24 Pn **Pn** **14 48 03.5 +1.7**
7.0nm,0.8s,baz=180,slow=14,SNR=1.8
MLR LR LR 14 51 51.4
comp=Z,165nm,20.5s,baz=244,slow=40
MLR Muntele Rosu 8.96 24 Pn **Pn** **14 48 04.4 +2.5**
19nm,0.7s
KEST Kesra 9.28 263 **Pn** **14 48 09.0 +2.8**
0.3nm,0.3s,baz=104,slow=4.0,SNR=3.9
3.5nm,0.7s
VRI Vrincioaia 9.56 26 Pn **Pn** **14 48 12.6 +2.7**
16nm,2.1s
MPLH Magyarpolny 10.01 348 Pn **Pn** **14 48 17.5 +1.4**
29nm,1.1s
SOKA Soboth 10.15 337 *i* Pn **Pn** **14 48 19.0 +0.9**
4.8nm,0.6s
OBKA Obir 10.16 335 *i* Pn **Pn** **14 48 21.0 +2.8**
2.7nm,0.5s
BRTR Keskin Array B 10.39 73 Pn **Pn** **14 48 21.2 -0.3**
0.1nm,0.3s,baz=260,slow=12,SNR=1.8
KBA Koelnbreinsper 11.07 333 *e*Pn **Pn** **14 48 32.5 +1.8**
1.4nm,0.4s
VYHS Vyhne 11.14 354 *e*PN **Pn** **14 48 32.8 +1.2**
KOLS Kolonicke sedl 11.56 5 *e*PN Pn 14 48 43.2 +6.0
NE56 Odesa 11.94 36 Pn **Pn** **14 48 43.4 +0.9**
FETA Feichten 12.09 326 *i* Pn **Pn** **14 48 46.7 +2.0**
0.4nm,0.4s
DAVOX Davos/Dischmat 12.31 323 Pn **Pn** **14 48 49.6 +1.9**
0.3nm,0.3s,baz=151,slow=16,SNR=2.9
4.0nm,0.8s
GERES GERESS Array B 12.49 338 Pn **Pn** **14 48 50.6 +0.5**
2.1nm,0.8s,baz=144,slow=12,SNR=4.1
GERES Sn **Sn** **14 51 01.9 -6.9**
0.2nm,0.3s,baz=290,slow=32,SNR=1.2
GERES LR LR 14 55 23.3
comp=Z,96nm,21.2s,baz=37,slow=46
KHC Kasperske Hory 12.79 338 *e*PN **Pn** **14 48 55.0 +0.9**
MMAI Mount Meron Ar 12.81 106 Pn **Pn** **14 48 53.5 -0.9**
0.9nm,0.3s,baz=294,slow=11,SNR=1.3
MMAI Sn **Sn** **14 51 09.6 -6.9**
0.7nm,0.3s,baz=294,slow=25,SNR=2.5
1.9nm,0.7s
EIL Elat 14.18 119 Pn **Pn** **14 49 14.1 +1.0**
0.2nm,0.3s,baz=358,slow=14,SNR=2.6
EIL Sn Sn 14 51 39.5 -10
0.5nm,0.3s,baz=310,slow=15,SNR=4.0
3.3nm,0.8s
AK02 Malin Array Si 14.56 22 Pn **Pn** **14 49 20.5 +2.3**
AKASG Malin Array Be 14.60 22 Pn **Pn** **14 49 18.7 -0.1**
0.9nm,0.3s,baz=207,slow=12,SNR=3.6
AKASG LR LR 14 55 31.3
comp=Z,100nm,19.2s,baz=200,slow=40
0.3nm,0.3s
CLL Collm 14.91 341 *i* PP **P** **14 49 31.4 +2.8**
comp=Z,114nm,2.8s
CLL *i* sPP 14 49 38.5
MNK Minsk 17.77 14 *i* P **Pn** **14 49 55.0 -4.6**
comp=E,26nm,0.8s
MNK *i* P **Pn** **14 49 55.0 -4.6**
comp=N,14nm,0.7s
MNK *i* P **Pn** **14 49 55.0 -4.6**
comp=Z,14nm,0.7s,baz=200
MNK *i* PP **pwP** **14 50 05.3 -2.4**
MNK *i* PPP PPP 14 50 13.1
MNK *i* S **Sn** **14 53 12.3 -4.7**
MNK *i* SS **S** **14 53 27.3 +3.4**
MNK *i* SSS SSS 14 53 40.0
MNK *i* LQ LQ 14 55 09.5
MNK *i* LR LR 14 56 54.1
MNK *i* LRM MLR 14 57 58.0
comp=E,147nm,17.4s
MNK *i* LRM MLR 14 58 06.7
comp=Z,143nm,17.0s
MNK *i* LRM MLR 14 58 27.1
comp=N,110nm,17.4s
KBZ Khabaz 17.98 63 P **Pn** **14 50 00.6 -1.5**
comp=N,0.1nm,0.3s,baz=295,slow=10,SNR=2.0
comp=N,1.9nm,0.8s
PABE Paberze 18.22 6 P **Pn** **14 50 03.8 -1.1**
PABE IAmb IAmb 14 50 05.6
comp=Z,54nm,0.8s
ESDC Sonseca Array 19.40 284 P **Pn** **14 50 20.1 +0.6**
comp=Z,0.1nm,0.3s,baz=80,slow=12,SNR=5.9
comp=Z,1.4nm,1.0s
OBN Obninsk 20.73 26 P **P** **14 50 33.0 +0.5**
comp=Z,19nm,0.5s,baz=27,slow=8.9,SNR=3.7
comp=Z,19nm,0.5s
OBN Obninsk 20.73 26 P Pn 14 50 34.9 0.0
comp=Z,33nm,0.9s
MDT Midelt 21.18 265 P **P** **14 50 39.1 +1.4**
comp=Z,4.6nm,0.8s,baz=94,slow=15,SNR=8.9
comp=Z,4.6nm,0.8s
HFS Hagfors 23.16 351 P **P** **14 50 58.9 +0.5**
comp=Z,8.3nm,0.7s,baz=161,slow=14,SNR=11
comp=Z,8.3nm,0.7s
BELG Belogornoye 24.05 43 P **P** **14 51 08.4 +1.3**
comp=Z,32nm,0.8s,baz=334,slow=3.2,SNR=8.9
comp=Z,32nm,0.8s
EKA Eskdalemuir Ar 24.12 326 P **P** **14 51 08.8 +1.1**
comp=Z,4.6nm,0.8s,baz=125,slow=8.6,SNR=14
comp=Z,4.6nm,0.8s
NAO01 NORSAR Array S 24.24 348 P **P** **14 51 10.4 +1.5**
FINES FINESS Array B 24.27 6 P **P** **14 51 09.0 -0.1**
FINES FINESS Array B 24.27 6 P **P** **14 51 09.7 +0.6**
comp=Z,6.0nm,0.8s,baz=181,slow=8.8,SNR=6.8
comp=Z,6.0nm,0.8s
NB2 NORSAR Subarra 24.38 349 P **P** **14 51 10.6 +0.4**
comp=Z,7.6nm,1.0s,baz=164,slow=10
NOA NORSAR Array B 24.38 349 P **P** **14 51 10.6 +0.4**
comp=Z,2.5nm,0.8s,baz=157,slow=9.0,SNR=14
NOA LR LR 15 01 32.7
comp=Z,51nm,19.3s,baz=5.0,slow=39
comp=Z,2.5nm,0.8s
NC303 NORSAR Array S 24.53 349 P **P** **14 51 11.7 +0.2**
NC303 IAmb IAmb 14 51 13.7
comp=Z,13nm,0.9s
KIRV Kirov 28.21 32 LR LR 15 04 30.7
comp=Z,111nm,21.4s,baz=310,slow=40
AKTO Aktyubinsk 29.53 52 P **P** **14 51 56.6 +0.2**
comp=Z,1.2nm,0.6s,baz=254,slow=6.0,SNR=4.7
comp=Z,1.2nm,0.6s
TORD Torodi Ar. Bea 29.54 220 P **P** **14 51 57.4 +0.6**
comp=Z,0.9nm,0.5s,baz=26,slow=9.8,SNR=7.6
comp=Z,0.9nm,0.5s
ABKAR Akbulak array 30.56 55 **P** **14 52 06.6 +1.0**
ARTI Arti 31.43 41 P **P** **14 52 12.7 -0.4**
comp=Z,6.1nm,1.0s,baz=224,slow=1.9,SNR=5.9
comp=Z,6.1nm,1.0s
LVZ Lovozero 31.51 10 P **P** **14 52 12.2 -1.6**
LVZ IAmb IAmb 14 52 15.4
comp=Z,13nm,0.8s
BVAR Borovoye Array 37.50 49 P **P** **14 53 06.2 +0.5**
comp=Z,1.3nm,0.9s,baz=244,slow=9.0,SNR=4.7
comp=Z,1.3nm,0.9s
KKAR Karatay Array 37.98 65 P **P** **14 53 08.8 -1.1**
DBIC Dimbokro 38.44 224 P **P** **14 53 14.7 +0.7**
comp=Z,5.2nm,0.9s,baz=346,slow=6.2,SNR=5.9
comp=Z,5.2nm,0.9s
MBAR Mbarara 38.97 164 LR LR 15 09 23.9
comp=Z,20nm,19.1s,baz=326,slow=36
KURBB Kurchatov Arra 42.57 53 P **P** **14 53 48.0 +0.1**
comp=Z,1.2nm,0.8s,baz=281,slow=8.9,SNR=10
comp=Z,1.2nm,0.8s
MK31 Makanchi Array 45.58 58 P **P** **14 54 11.8 -0.3**
MKAR Makanchi Array 45.58 58 P **P** **14 54 11.6 -0.5**
MKAR Makanchi Array 45.58 58 P **P** **14 54 12.2 +0.2**
comp=Z,0.9nm,0.6s,baz=280,slow=6.5,SNR=8.3
comp=Z,0.9nm,0.6s
ZALV Zalesovo Beam 46.09 48 P **P** **14 54 14.8 -1.1**
ZALV Zalesovo Beam 46.09 48 P **P** **14 54 16.0 +0.1**
comp=Z,1.8nm,0.7s,baz=289,slow=9.0,SNR=9.0
comp=Z,1.8nm,0.7s
EUNU Eureka 56.27 348 P **P** **14 55 33.0 +0.9**
EUNU IAmb IAmb 14 56 12.9
comp=Z,11nm,1.5s
TSUM Tsumeb 56.40 184 LR LR 15 23 13.6
comp=Z,69nm,18.5s,baz=331,slow=40
SCHQ Schefferville 59.10 318 P **P** **14 55 53.0 +0.7**
SCHQ Schefferville 59.10 318 P **P** **14 55 52.9 +0.6**
comp=Z,2.6nm,0.7s,baz=45,slow=4.3,SNR=1.6
comp=Z,2.6nm,0.7s
KAAM Kaadhehdhoo 60.53 115 P **P** **14 56 00.1 -2.5**
SONM Songino Array 60.83 50 P **P** **14 56 04.2 -0.2**
comp=Z,0.9nm,0.9s,baz=312,slow=7.3,SNR=5.4
comp=Z,0.9nm,0.9s
LBTB Lobatse 62.28 175 LR LR 15 25 02.8
comp=Z,25nm,20.8s,baz=320,slow=38
BOSA Boshof 65.83 176 P **P** **14 56 37.1 -0.5**
comp=Z,1.4nm,0.6s,baz=48,slow=4.7,SNR=3.0
comp=Z,1.4nm,0.6s
HHC Hu-ho-hao-te 67.35 55 *e*P **P** **14 56 46.5 -0.8**
HHC sP pwP 14 56 57.1 +1.7
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,97nm,6.3s
PZH PanZhiHua 67.69 73 P **P** **14 56 49.8 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.2s
RCBR Riachuelo 67.97 244 LR LR 15 26 26.6
comp=Z,13nm,18.7s,baz=92,slow=36
CMAR Chiang Mai Arr 69.86 82 P **P** **14 57 03.4 +0.2**
comp=Z,0.7nm,0.6s,baz=304,slow=7.2,SNR=6.9
comp=Z,0.7nm,0.6s
YKA Yellowknife Ar 74.14 340 P **P** **14 57 28.1 0.0**
comp=Z,0.9nm,0.7s,baz=41,slow=5.2,SNR=2.2
comp=Z,0.9nm,0.7s
KSRS Korea Array 79.70 51 P **P** **14 58 00.1 +0.2**
comp=Z,1.8nm,0.8s,baz=308,slow=5.2,SNR=4.6
comp=Z,1.8nm,0.8s
PFO Pinyon Flats O 98.84 325 LR LR 15 45 41.1
comp=Z,29nm,18.7s,baz=36,slow=36
WRA Warramunga Arr 120.37 93 PKP **PKPdf** **15 04 44.0 +0.2**
comp=Z,0.1nm,0.6s,baz=318,slow=2.1,SNR=1.3
ASAR Alice Springs 121.95 97 PKP **PKiKP** **15 04 47.5 +0.6**
comp=Z,0.2nm,0.8s,baz=313,slow=2.0,SNR=1.9

IDC ***16*** *14:59:52.7±1.5, 37°.83N×20°.90E, h0km, mb3.5/9, mbtmp3.4/15, ML3.8/4, MS3.5/2, Error ellipse: s-maj=26.9km s-min=19.3km az=12.0*
ATH ***16*** *14:59:52.5, 37°.37N×20°.59E, h14km±1km, ML3.5/16, Error ellipse: s-maj=2.7km s-min=1.0km az=36.0*
THE ***16*** *14:59:53.2, 37°.40N×20°.62E, h10km±2km, ML3.4/11, Error ellipse: s-maj=2.2km s-min=0.7km az=41.0*
ISC 16 14:59:54.5±0.9, 37°.49N±0°.04×20.71E±0°.03, h23km±6km, n53, σ1.9±32/72, mb3.4/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.19**	**26**	P	**Pb**	**14 59 59.3**	**-0.6**
KRI1				S	**Sb**	**15 00 03.6**	**+0.1**
21μm,0.5s							
LTHK	**Lithakia**	**0.24**	**24**	P	**Pb**	**15 00 00.3**	**-0.2**
LTHK				S	**Sb**	**15 00 05.3**	**+0.7**
22μm,0.3s							
LTHK	**Lithakia**	**0.24**	**24**	P	**Pb**	**15 00 00.0**	**-0.4**
LTHK				S	**Sb**	**15 00 05.5**	**+0.9**
LTHK				AML	AML	15 00 05.9	
comp=N,65175μm,0.4s							
LTHK				AML	AML	15 00 06.1	
comp=E,20173μm,0.2s							
RTZL	**Ratzakli, Kefa**	**0.59**	**5**	P	**Pb**	**15 00 05.6**	**-0.5**
RTZL				S	**Sn**	**15 00 16.2**	**0.0**
comp=E,3μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.63**	**351**	P	**Pb**	**15 00 06.5**	**-0.3**
PSDA				S	**Sn**	**15 00 17.6**	**+0.3**
comp=E,4μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.63**	**351**	P	**Pb**	**15 00 06.5**	**-0.3**
PSDA				S	**Sn**	**15 00 17.5**	**+0.2**
VLS	**Valsamata**	**0.69**	**352**	P	**Pb**	**15 00 07.4**	**-0.5**
VLS				S	**Sn**	**15 00 19.8**	**+0.9**
comp=E,2μm,0.2s							
VLS	**Valsamata**	**0.69**	**352**	P	**Pb**	**15 00 07.3**	**-0.6**
VLS				S	**Sn**	**15 00 18.9**	**0.0**
VLS				AML	AML	15 00 21.9	
VLS	comp=E,3206μm,0.1s			AML	AML	15 00 27.0	
comp=N,3533μm,0.5s							
LXRA	**Lixouri, Kepha**	**0.74**	**343**	P	**Pb**	**15 00 08.4**	**-0.3**
LXRA				S	**Sb**	**15 00 19.5**	**+1.1**
LXRA				AML	AML	15 00 29.0	
comp=N,11747μm,0.6s							
LXRA				AML	AML	15 00 30.6	
comp=E,12010μm,0.6s							
SMHA	**Samh**	**0.76**	**356**	P	**Pb**	**15 00 08.1**	**-0.9**
AMT	**Artemida-Makis**	**0.79**	**87**	P	**Pb**	**15 00 09.9**	**+0.3**
AMT				S	**Sn**	**15 00 21.4**	**0.0**
AMT				AML	AML	15 00 28.8	
comp=E,18647μm,0.7s							
AMT				AML	AML	15 00 29.6	
comp=N,15221μm,0.4s							
DMLN	**Damoulianata-K**	**0.79**	**340**	P	**Pb**	**15 00 09.4**	**-0.2**
DMLN				S	**Sn**	**15 00 22.8**	**+1.4**
comp=N,4μm,0.7s							
DMLN	**Damoulianata-K**	**0.79**	**340**	P	**Pb**	**15 00 09.4**	**-0.2**
RLS	**Riolos of Patr**	**0.82**	**46**	P	**Pb**	**15 00 10.6**	**+0.5**
RLS				S	**Sn**	**15 00 24.4**	**+2.4**
comp=N,2μm,0.5s							
RLS	**Riolos of Patr**	**0.82**	**46**	P	**Pb**	**15 00 10.2**	**+0.1**
RLS				S	**Sn**	**15 00 24.5**	**+2.4**
RLS				AML	AML	15 00 28.1	
comp=N,3913μm,0.5s							
RLS				AML	AML	15 00 29.5	
comp=E,3124μm,0.5s							
DRO	**Drossia**	**0.92**	**59**	P	**Pb**	**15 00 12.1**	**+0.4**
DRO				S	**Sn**	**15 00 27.2**	**+2.8**
comp=E,3μm,0.7s							
DRO	**Drossia**	**0.92**	**59**	P	**Pb**	**15 00 12.0**	**+0.3**
DRO				AML	AML	15 00 38.3	
comp=E,4768μm,0.7s							
DRO				AML	AML	15 00 42.0	
comp=N,6086μm,0.6s							
FSK	**Fiskardo**	**0.97**	**353**	P	**Pb**	**15 00 12.3**	**-0.4**
FSK				S	**Sn**	**15 00 28.9**	**+3.1**
comp=N,3μm,0.9s							
FSK	**Fiskardo**	**0.97**	**353**	P	**Pb**	**15 00 12.0**	**-0.7**
FSK				AML	AML	15 00 37.4	
comp=N,5217μm,1.0s							
FSK				AML	AML	15 00 38.7	
comp=E,5199μm,0.8s							
PYL	**PYLOS**	**1.01**	**126**	P	**Pb**	**15 00 12.0**	**-1.4**
PYL				S	**Sn**	**15 00 28.2**	**+1.4**
comp=E,2μm,0.5s							
PYL	**PYLOS**	**1.01**	**126**	P	**Pb**	**15 00 11.9**	**-1.4**
PYL				AML	AML	15 00 28.8	
comp=N,3001μm,0.4s							
PYL				AML	AML	15 00 29.4	
comp=E,3725μm,0.7s							
ITM	**Ithomi**	**1.02**	**107**	P	**Pn**	**15 00 13.5**	**+0.2**
ITM				S	**Sn**	**15 00 29.4**	**+2.5**
comp=E,1μm,0.7s							
ITM	**Ithomi**	**1.02**	**107**	P	**Pb**	**15 00 12.9**	**-0.5**
ITM				S	**Sb**	**15 00 26.3**	**0.0**
ITM				AML	AML	15 00 38.3	
comp=N,2685μm,0.9s							
ITM				AML	AML	15 00 38.6	
comp=E,2909μm,0.6s							
EVGI	**Lefkada island**	**1.13**	**358**	P	**Pb**	**15 00 15.6**	**+0.2**
UPR	**University Cam**	**1.16**	**47**	P	**Pn**	**15 00 15.5**	**+0.2**
DRAG	**Dragano-Lefkad**	**1.20**	**355**	P	**Pn**	**15 00 16.1**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.22**	**359**	P	**Pn**	**15 00 16.6**	**+0.5**
KLV	**Kalavryta, Ach**	**1.27**	**64**	P	**Pb**	**15 00 18.1**	**+0.4**
LKD2	**Lefkada island**	**1.30**	**358**	P	**Pb**	**15 00 19.3**	**+1.1**
LKD2				AML	AML	15 00 49.3	
comp=E,2214μm,0.9s							
LKD2				AML	AML	15 00 49.5	
comp=N,1835μm,0.5s							
EFP	**Efpalio**	**1.33**	**45**	P	**Pb**	**15 00 19.2**	**+0.5**
EFP				AML	AML	15 00 46.8	
comp=E,2005μm,0.6s							
EFP				AML	AML	15 00 48.5	
comp=N,1738μm,0.7s							
TSLK	**Tsoukalades, L**	**1.33**	**358**	P	**Pb**	**15 00 18.9**	**+0.1**
TSLK				AML	AML	15 00 50.1	
comp=N,2919μm,0.8s							
TSLK				AML	AML	15 00 50.3	
comp=E,2366μm,0.7s							
GUR	**Goura**	**1.37**	**70**	P	**Pb**	**15 00 19.6**	**+0.2**
GUR				AML	AML	15 00 49.5	
comp=E,2558μm,0.4s							
GUR				AML	AML	15 00 53.2	
comp=N,2810μm,0.5s							
KALE	**Kalithea**	**1.44**	**51**	P	**Pb**	**15 00 21.2**	**+0.5**
KALE				AML	AML	15 00 52.8	
comp=E,2404μm,0.5s							
KALE				AML	AML	15 00 58.5	
comp=N,1754μm,0.6s							
ANX	**Ano Chora**	**1.46**	**41**	P	**Pb**	**15 00 21.7**	**+0.8**
ANX				AML	AML	15 00 49.3	
comp=E,3741μm,0.7s							
ANX				AML	AML	15 00 53.4	
comp=N,3293μm,0.8s							
MAKR	**Makrakomi, Fth**	**1.89**	**36**	P	**Pb**	**15 00 28.9**	**+0.7**
AXAR	**Agios Charalam**	**2.00**	**50**	P	**Pb**	**15 00 30.1**	**+0.1**
AXAR				AML	AML	15 01 07.8	
comp=E,2810μm,0.7s							
AXAR				AML	AML	15 01 14.5	
comp=N,2301μm,1.5s							
IGT	**Igoumenitsa**	**2.06**	**352**	P	**Pb**	**15 00 29.8**	**-1.4**
IDI	**Anoyia**	**4.02**	**122**	Pn	**Pn**	**15 00 57.4**	**+2.7**
comp=N,7.0nm,0.9s,baz=325,slow=13,SNR=1.5							
IDI				Sn	**Sn**	**15 01 42.1**	**+1.0**
comp=N,2.4nm,0.3s,baz=116,slow=19,SNR=6.5							
VAE	**Valguarnera**	**5.01**	**272**	Pn	**Pn**	**15 01 11.8**	**+3.6**
comp=N,7.3nm,0.3s,baz=75,slow=12,SNR=1.2							
VAE				Sn	**Sn**	**15 02 07.8**	**+2.3**
comp=N,12nm,0.3s,baz=70,slow=3.4,SNR=9.8							
MLR	**Muntele Rosu**	**8.90**	**24**	Pn	**Pn**	**15 01 58.4**	**-3.3**
comp=N,0.4nm,0.3s,baz=208,slow=15,SNR=2.2							
MLR				LR	LR	15 06 09.0	
comp=N,93nm,21.2s,baz=277,slow=44							
comp=N,1.6nm,0.5s							
BRTR	**Keskin Array B**	**10.36**	**74**	Pn	**Pn**	**15 02 21.2**	**-0.5**
comp=N,0.1nm,0.3s,baz=254,slow=10,SNR=1.7							
comp=N,0.5nm,0.8s							
AKASG	**Malin Array Be**	**14.54**	**22**	Pn	**Pn**	**15 03 15.5**	**-3.1**
comp=N,0.3nm,0.3s,baz=211,slow=8.8,SNR=2.0							
comp=N,0.3nm,0.5s							
ESDC	**Sonseca Array**	**19.40**	**284**	P	**Pn**	**15 04 21.8**	**+1.7**
comp=N,0.1nm,0.3s,baz=84,slow=12,SNR=2.1							
comp=N,0.2nm,0.4s							
HFS	**Hagfors**	**23.10**	**351**	P	**P**	**15 04 55.9**	**-2.5**
comp=N,2.3nm,0.7s,baz=160,slow=9.2,SNR=2.3							
comp=N,2.3nm,0.7s							
EKA	**Eskdalemuir Ar**	**24.08**	**325**	P	**P**	**15 05 07.5**	**-0.3**
comp=N,1.0nm,0.7s,baz=121,slow=8.3,SNR=2.5							
comp=N,1.0nm,0.7s							
FINES	**FINESS Array B**	**24.21**	**6**	P	**P**	**15 05 07.2**	**-1.9**
comp=N,3.4nm,0.9s,baz=181,slow=11,SNR=4.2							
comp=N,3.4nm,0.9s							
NOA	**NORSAR Array B**	**24.32**	**349**	P	**P**	**15 05 09.1**	**-1.0**
comp=N,1.2nm,1.1s,baz=154,slow=9.3,SNR=1.7							
comp=N,1.2nm,1.1s							
ARCES	**ARCESS Array B**	**32.21**	**3**	LR	LR	15 20 29.3	
comp=N,244nm,20.2s,baz=275,slow=39							
BVAR	**Borovoye Array**	**37.45**	**49**	P	**P**	**15 07 06.4**	**+0.6**
comp=N,0.3nm,0.5s,baz=262,slow=4.4,SNR=1.7							
comp=N,0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**42.52**	**53**	P	**P**	**15 07 47.7**	**-0.2**
comp=N,0.3nm,0.5s,baz=281,slow=8.9,SNR=3.2							
comp=N,0.3nm,0.5s							
MKAR	**Makanchi Array**	**45.53**	**58**	P	**P**	**15 08 11.5**	**-0.7**
comp=N,0.1nm,0.5s,baz=278,slow=7.7,SNR=1.3							
comp=N,0.1nm,0.5s							
ZALV	**Zalesovo Beam**	**46.04**	**48**	P	**P**	**15 08 15.4**	**-0.6**
comp=

comp=N,0.1nm,0.3s,baz=306,slow=6.3,SNR=1.1
comp=N,0.1nm,0.3s

*NEIC **16** 15:05:27.2±0.8,20°.7S±0°.2×177°.6W±0°.1, h360km±10km, mb4.1/26, Error ellipse: s-maj=22.6km s-min=15.5km az=199.0*
*IDC **16** 15:05:31.1±1.7,20°.82S×177°.85W, h390km±16km, mb3.5/11, mbtmp4.3/14, Error ellipse: s-maj=16.5km s-min=13.4km az=138.0*
ISC 16 15:05:27.9±0.5,**20°.87S**±0°.06×**177°.69W**±0°.08,**h365**km±, **n102**,σ1°.**94**/101,**mb4.1**/25,**5C,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.09**	**307**	Pn	**Pn**	**15 06 48.5**	**-0.9**
MSVF	**Nonsavu**	**5.09**	**307**	P	**Pn**	**15 06 51.9**	**+2.5**
	82nm,0.7s,baz=123,slow=18,SNR=113						
NIUE	**Niue**	**7.51**	**78**	Pn	**Pn**	**15 07 14.5**	**-2.2**
GLKZ	**Green Lake**	**8.36**	**181**	S	**S**	**15 09 02.3**	**-1.1**
AFI	**Afiamalu**	**8.93**	**40**	Pn	**Pn**	**15 07 29.9**	**-3.5**
YATNC	**Mamie plateau,**	**14.41**	**262**	P	**Pn**	**15 08 39.6**	**+2.0**
DZM	**Mont Dzumac**	**14.82**	**262**	P	**Pn**	**15 08 42.7**	**+0.2**
DZM	**Mont Dzumac**	**14.82**	**262**	P	**Pn**	**15 08 42.2**	**-0.2**
	6.7nm,0.6s,baz=85,slow=20,SNR=10						
DZM	**Mont Dzumac**	**14.82**	**262**	P	**Pn**	**15 08 43.7**	**+1.2**
OUZ	**Omahuta**	**16.22**	**206**	P	**Pn**	**15 09 02.1**	**+3.7**
OUZ	**Omahuta**	**16.22**	**206**	P	**Pn**	**15 09 03.4**	**+5.0**
WCZ	**Waipu Caves**	**16.56**	**203**	P	**Pn**	**15 09 01.4**	**-0.9**
KUZ	**Kuaotunu**	**16.83**	**199**	P	**Pn**	**15 09 07.5**	**+2.1**
KUZ	**Kuaotunu**	**16.83**	**199**	P	**Pn**	**15 09 08.3**	**+2.9**
MXZ	**Matakaoa Point**	**17.00**	**191**	P	**Pn**	**15 09 05.8**	**-1.5**
MXZ	**Matakaoa Point**	**17.00**	**191**	P	**Pn**	**15 09 06.4**	**-0.9**
WMGZ	**Waiomatatini S**	**17.23**	**190**	P	**Pn**	**15 09 09.3**	**-0.3**
WMGZ				S	**S**	**15 12 03.7**	**-2.5**
HAZ	**Te Kaha**	**17.28**	**192**	S	**S**	**15 12 04.0**	**-3.3**
HAZ	**Te Kaha**	**17.28**	**192**	P	**Pn**	**15 09 09.3**	**-0.9**
MKAZ	**Moumakai**	**17.34**	**200**	P	**Pn**	**15 09 09.1**	**-1.8**
PUZ	**Puketiti**	**17.50**	**191**	P	**Pn**	**15 09 10.8**	**-2.0**
PUZ				S	**S**	**15 12 06.9**	**-4.8**
RUGZ	**Raukumara Rang**	**17.50**	**192**	S	**S**	**15 12 08.4**	**-3.6**
RUGZ	**Raukumara Rang**	**17.50**	**192**	P	**P**	**15 09 10.7**	**+1.9**
TWGZ	**Tauwhareparae**	**17.65**	**191**	P	**Pn**	**15 09 14.0**	**-0.6**
TWGZ				S	**S**	**15 12 12.7**	**-2.0**
TOZ	**Tahuroa Road**	**17.81**	**198**	P	**Pn**	**15 09 15.9**	**-0.5**
MWZ	**Matawai**	**17.89**	**192**	P	**P**	**15 09 14.8**	**+1.9**
MWZ				S	**S**	**15 12 16.6**	**-2.7**
URZ	**Urewera**	**17.91**	**193**	P	**P**	**15 09 13.3**	**+0.3**
	12nm,0.5s,baz=51,slow=2.0,SNR=24						
URZ				S	**S**	**15 12 15.8**	**-3.7**
	2.3nm,0.4s,baz=296,slow=22,SNR=5.8						
URZ	**Urewera**	**17.91**	**193**	S	**S**	**15 12 14.1**	**-5.4**
URZ	**Urewera**	**17.91**	**193**	P	**P**	**15 09 14.4**	**+1.4**
URZ	**Urewera**	**17.91**	**193**	P	**P**	**15 09 13.5**	**+0.5**
MUGZ	**Murupara**	**18.19**	**194**	P	**P**	**15 09 17.7**	**+1.7**
RTZ	**Ruatahuna**	**18.28**	**193**	P	**P**	**15 09 18.1**	**+1.1**
RTZ				IAmb	IAmb	15 09 19.9	
	comp=Z,9.4nm,0.8s						
SNGZ	**Shannon Statio**	**18.36**	**192**	P	**P**	**15 09 20.5**	**+2.6**
SNGZ				S	**S**	**15 12 25.8**	**-2.6**
MTHZ	**Maungataniwha**	**18.53**	**194**	P	**P**	**15 09 22.1**	**+2.4**
MTHZ				S	**S**	**15 12 29.8**	**-1.9**
RAHZ	**Arahi**	**18.54**	**193**	P	**P**	**15 09 21.8**	**+2.0**
HIZ	**Hauiti**	**18.73**	**198**	P	**P**	**15 09 25.3**	**+3.6**
BKZ	**Black Stump Fm**	**18.91**	**194**	P	**P**	**15 09 23.9**	**+0.2**
BKZ				IAmb	IAmb	15 09 24.8	
	comp=Z,6.0nm,0.9s						
BKZ	**Black Stump Fm**	**18.91**	**194**	S	**S**	**15 12 34.1**	**-4.6**
BKZ	**Black Stump Fm**	**18.91**	**194**	P	**P**	**15 09 23.9**	**+0.2**
BKZ	**Black Stump Fm**	**18.91**	**194**	P	**P**	**15 09 23.8**	**+0.1**
QRZ	**Quartz Range**	**21.57**	**201**	P	**P**	**15 09 50.9**	**+2.0**
TKNZ	**Takaka Hill**	**21.62**	**199**	P	**P**	**15 09 49.2**	**-0.2**
GVZ	**Greta Valley S**	**23.37**	**197**	P	**P**	**15 10 06.1**	**+0.8**
EIDS	**Eidsvold**	**29.03**	**255**	P	**P**	**15 10 54.3**	**-1.6**
EIDS				IAmb	IAmb	15 10 57.5	
	comp=Z,6.8nm,0.8s						
CAN	**Canberra**	**32.55**	**237**	P	**P**	**15 11 26.9**	**+0.4**
CAN				IAmb	IAmb	15 11 29.9	
	comp=Z,9.0nm,0.9s						
CTAO	**Charters Tower**	**33.75**	**265**	P	**P**	**15 11 37.6**	**+0.7**
CTAO				IAmb	IAmb	15 11 38.4	
	comp=Z,10nm,0.8s						
TOO	**Toolangi**	**35.92**	**234**	P	**P**	**15 11 55.0**	**0.0**
STKA	**Stephens Creek**	**37.89**	**245**	P	**P**	**15 12 11.9**	**+0.4**
STKA	**Stephens Creek**	**37.89**	**245**	P	**P**	**15 12 12.0**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=88,slow=14,SNR=4.7						
	comp=Z,1.8nm,0.7s						
BBOO	**Buckleboo**	**42.65**	**244**	P	**P**	**15 12 49.7**	**-0.4**
BBOO				IAmb	IAmb	15 12 54.7	
	comp=Z,6.2nm,1.1s						
WR0	**Warramunga Arr**	**44.65**	**262**	P	**P**	**15 13 05.4**	**-0.7**
AS31	**Alice Springs**	**44.72**	**257**	P	**P**	**15 13 06.4**	**-0.3**
ASAR	**Alice Springs**	**44.72**	**257**	P	**P**	**15 13 06.5**	**-0.1**
	comp=Z,16nm,0.7s,baz=97,slow=8.0,SNR=246						
ASAR				PcP	**PcP**	**15 14 42.4**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=108,slow=3.6,SNR=6.2						
ASAR				S	**S**	**15 19 11.6**	**-4.0**
	comp=Z,1.1nm,0.9s,baz=97,slow=16,SNR=8.0						
	comp=Z,16nm,0.7s						
WB0	**Warramunga Arr**	**44.82**	**263**	P	**P**	**15 13 06.9**	**-0.6**
WB0				IAmb	IAmb	15 13 07.5	
	comp=Z,8.9nm,0.7s						
WB2	**Warramunga Arr**	**44.83**	**262**	P	**P**	**15 13 06.7**	**-0.8**
WB2				IAmb	IAmb	15 13 07.7	
	comp=Z,8.3nm,0.9s						
WRAB	**Tennant Creek**	**44.83**	**262**	P	**P**	**15 13 07.0**	**-0.5**
WRAB				IAmb	IAmb	15 13 07.6	
	comp=Z,6.8nm,0.9s						
WRA	**Warramunga Arr**	**44.84**	**262**	P	**P**	**15 13 06.6**	**-1.0**
WRA	**Warramunga Arr**	**44.84**	**262**	P	**P**	**15 13 06.8**	**-0.8**
	comp=Z,5.0nm,0.7s,baz=97,slow=7.8,SNR=77						
WRA				PcP	**PcP**	**15 14 42.8**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=97,slow=5.4,SNR=3.6						
WRA				S	**S**	**15 19 11.8**	**-5.4**
	comp=Z,0.3nm,0.7s,baz=98,slow=15,SNR=2.1						
	comp=Z,5.0nm,0.7s						
MTN	**Manton Dam**	**49.46**	**271**	P	**P**	**15 13 42.1**	**-0.7**
MTN				IAmb	IAmb	15 13 42.6	
	comp=Z,6.6nm,0.8s						
KNRA	**Kununurra**	**50.93**	**266**	P	**P**	**15 13 53.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**53.27**	**263**	P	**P**	**15 14 10.3**	**-0.5**
SOEI	**Soe**	**56.80**	**272**	P	**P**	**15 14 36.5**	**+0.4**
SBA	**Scott Base**	**57.52**	**184**	P	**P**	**15 14 43.6**	**+3.8**
GIRL	**Giralia**	**62.73**	**255**	P	**P**	**15 15 15.2**	**-0.5**
CASY	**Casey**	**63.76**	**205**	P	**P**	**15 15 22.6**	**+1.0**
CASY				IAmb	IAmb	15 15 23.9	
	comp=Z,8.0nm,0.8s						
TOLI2	**Tolitoli**	**63.97**	**282**	P	**P**	**15 15 23.2**	**-0.7**
TOLI2				IAmb	IAmb	15 15 41.1	
	comp=Z,7.5nm,0.9s						
QSPA	**South Pole Qui**	**69.20**	**180**	P	**P**	**15 15 57.3**	**+1.3**
QSPA				IAmb	IAmb	15 15 59.1	
	comp=Z,4.4nm,0.8s						
QSPA	**South Pole Qui**	**69.20**	**180**	P	**P**	**15 15 58.0**	**+2.0**
	comp=Z,4.7nm,0.9s,baz=19,slow=0.6,SNR=35						
	comp=Z,4.7nm,0.9s						
MJAR	**Matsushiro Arr**	**70.68**	**324**	P	**P**	**15 16 04.5**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=123,slow=8.9,SNR=1.5						
	comp=Z,0.5nm,0.5s						
BELA	**Belgrano 2**	**79.16**	**173**	P	**P**	**15 16 53.4**	**+0.9**
BELA				IAmb	IAmb	15 16 54.9	
	comp=Z,4.4nm,1.0s						
NVAR	**Mina Array Bea**	**81.09**	**43**	P	**P**	**15 17 03.5**	**-0.2**
	comp=Z,1.4nm,1.0s,baz=222,slow=8.4,SNR=5.9						
	comp=Z,1.4nm,1.0s						
MAW	**Mawson**	**81.32**	**200**	P	**P**	**15 17 04.3**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=119,slow=8.6,SNR=5.8						
	comp=Z,2.8nm,0.9s						
TROLL	**Troll, Antarti**	**87.36**	**180**	⇑P	**P**	**15 17 35.2**	**+0.9**
	comp=Z,86nm,0.8s						
SNAA	**Sanae**	**87.64**	**178**	⇑P	**P**	**15 17 35.3**	**-0.1**
	comp=Z,0.6nm,0.2s						
SNAA	**Sanae**	**87.64**	**178**	P	**P**	**15 17 35.6**	**+0.2**
	comp=Z,1.2nm,1.0s,baz=212,slow=9.5,SNR=2.2						
	comp=Z,1.2nm,1.0s						
VNA3	**Neumayer Olymp**	**87.76**	**176**	⇑P	**P**	**15 17 36.8**	**+0.9**
	comp=Z,7.6nm,1.0s						
VNA2	**Neumayer--Watz**	**88.20**	**177**	⇑P	**P**	**15 17 39.0**	**+1.0**
	comp=Z,4.2nm,1.0s,baz=184,slow=3.5						
VNA1	**Neumayer--Stat**	**88.43**	**176**	⇑P	**P**	**15 17 40.4**	**+1.3**
	comp=Z,5.1nm,0.9s						
ILAR	**Eielson Array**	**88.61**	**13**	P	**P**	**15 17 39.0**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=224,slow=5.5,SNR=5.3						
	comp=Z,0.7nm,0.9s						
PDAR	**Pinedale Array**	**89.03**	**43**	P	**P**	**15 17 43.4**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=226,slow=3.9,SNR=6.6						
	comp=Z,0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**90.51**	**289**	P	**P**	**15 17 51.2**	**+1.5**
	comp=Z,2.8nm,1.0s,baz=120,slow=2.9,SNR=18						
	comp=Z,2.8nm,1.0s						
GO02	**Mina Guanaco**	**96.52**	**120**		pP	15 19 38.9	-3.4
KURBB	**Kurchatov Arra**	**114.51**	**317**	PKP	PKPdf	15 23 23.4	-1.5
	comp=Z,0.4nm,0.4s,baz=103,slow=1.7,SNR=5.5						
BVAR	**Borovoye Array**	**119.55**	**320**	PKP	**PKPdf**	**15 23 34.2**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=108,slow=1.3,SNR=7.7						
ARTI	**Arti**	**125.78**	**325**	PKP	**PKPdf**	**15 23 46.5**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=17,slow=2.7,SNR=4.3						
AKTO	**Aktyubinsk**	**127.53**	**318**	PKP	**PKiKP**	**15 23 50.5**	**0.0**
	comp=Z,1.1nm,0.8s,baz=357,slow=1.6,SNR=4.2						
HFS	**Hagfors**	**139.95**	**351**	PKhKP	PKPpre	15 24 06.3	
	comp=Z,1.2nm,0.7s,baz=96,slow=5.1,SNR=1.4						
AKASG	**Malin Array Be**	**143.47**	**331**	PKP	PKPab	15 24 16.8	0.0
	comp=Z,6.1nm,0.7s,baz=43,slow=4.3,SNR=28						
AKBB	**Malin Array Si**	**143.47**	**331**		PKPab	15 24 17.1	+0.3
AKBB	**Malin Array Si**	**143.47**	**331**	PKP	PKPab	15 24 16.8	0.0
AK04	**Malin Array Si**	**143.49**	**331**	PKP	PKPab	15 24 17.1	+0.3
AK01	**Malin Array Si**	**143.49**	**331**	PKP	PKPab	15 24 17.0	+0.2
AK22	**Malin Array Si**	**143.50**	**331**	PKP	PKPab	15 24 17.0	+0.1
AK10	**Malin Array Si**	**143.53**	**331**	PKP	PKPab	15 24 17.4	+0.4
MI28	**Mi28,Pidlybu**	**144.00**	**333**	PKP	PKPab	15 24 18.9	+0.1
RNPP9	**Sopachiv**	**144.38**	**335**	PKP	**PKPdf**	**15 24 21.5**	**+0.6**
RNPP5	**Staryi Chortor**	**144.52**	**334**	PKP	**PKPdf**	**15 24 21.0**	**-0.1**
LUBAR	**Lubar, Ukraine**	**144.69**	**331**	PKP	PKPbc	15 24 21.2	-0.1
EKA	**Eskdalemuir Ar**	**145.34**	**5**	PKPbc	**PKPdf**	**15 24 22.6**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=330,slow=2.7,SNR=2.2						
BRTR	**Keskin Array B**	**147.30**	**312**	PKPbc	**PKPbc**	**15 24 29.0**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=68,slow=3.9,SNR=5.4						
MMAI	**Mount Meron Ar**	**148.25**	**299**	PKPbc	**PKiKP**	**15 24 32.8**	**-0.5**
	comp=Z,1.2nm,0.4s,baz=78,slow=7.8,SNR=6.8						
GERES	**GERESS Array B**	**150.63**	**345**	PKPbc	**PKiKP**	**15 24 37.7**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=48,slow=2.0,SNR=5.7						

*SOF **16** 15:07:42.5, 41°.05N±0°.01×23°.46E±0°.01, h10km±2km, MD2.8/4*
*ATH **16** 15:07:42.8, 41°.03N×23°.47E, h13km±1km, ML2.4/9, Error ellipse: s-maj=2.1km s-min=0.8km az=313.0*
*BEO **16** 15:07:44.7±0.4, 41°.15N×23°.50E, h0km, ML2.2/6*
ISC 16 15:07:42.7±0.9,**41°.04N**±0°.02×**23°.47E**±0°.02,**h9**km±6km,
n31,σ0°.**74**/56,**Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.12**	**49**	*e*Pg	**Pg**	**15 07 45.6**	**0.0**
SRS				*e*Sg	**Sg**	**15 07 47.4**	**-0.2**
SRS	**Serrai**	**0.12**	**49**	P	**Pg**	**15 07 45.6**	**0.0**
SRS				S	**Sg**	**15 07 47.6**	**0.0**
SRS				AML	AML	15 07 47.9	
	comp=N,4660μm,0.2s						
SRS				AML	AML	15 07 47.9	
	comp=E,5479μm,0.3s						
SOH	**Sokhos**	**0.23**	**202**	P	**Pg**	**15 07 47.5**	**+0.1**
SOH				S	**Sg**	**15 07 50.9**	**+0.3**
SOH				AML	AML	15 07 51.2	
	comp=E,5626μm,0.3s						
SOH				AML	AML	15 07 52.7	
	comp=N,3140μm,0.4s						
NVR	**Nevrokopi**	**0.43**	**43**	P	**Pb**	**15 07 52.1**	**-0.4**
NVR				S	**Sb**	**15 07 57.9**	**-1.2**
NVR				AML	AML	15 07 58.5	
	comp=N,388μm,0.3s						
NVR				AML	AML	15 08 00.7	
	comp=E,461μm,0.1s						
KOKK	**Kokkinochori,**	**0.46**	**118**	P	**Pg**	**15 07 51.7**	**+0.1**
KOKK				S	**Sg**	**15 07 57.9**	**+0.3**
HORT	**Hortiatis**	**0.52**	**213**	P	**Pg**	**15 07 52.6**	**-0.1**
HORT				S	**Sg**	**15 08 00.2**	**+0.6**
HORT				AML	AML	15 08 01.2	
	comp=E,640μm,0.1s						
HORT				AML	AML	15 08 01.4	
	comp=N,793μm,0.2s						
MMB	**Musomishta**	**0.55**	**22**	Pg	**Pg**	**15 07 53.6**	**+0.2**
MMB				Sg	**Sg**	**15 08 01.3**	**+0.6**
THE	**Thessaloniki**	**0.56**	**224**	P	**Pg**	**15 07 53.2**	**-0.2**
THE				S	**Sg**	**15 08 01.0**	**+0.3**
THE				AML	AML	15 08 01.6	
	comp=E,774μm,0.1s						
THE				AML	AML	15 08 02.4	
	comp=N,822μm,0.2s						
PLG	**Polygyros**	**0.66**	**182**	P	**Pg**	**15 07 54.9**	**-0.6**
PLG				S	**Sg**	**15 08 04.6**	**+0.4**
PLG				AML	AML	15 08 06.7	
	comp=E,385μm,0.2s						
PLG				AML	AML	15 08 09.9	
	comp=N,704μm,0.3s						
KVLA	**Kavala**	**0.70**	**98**	P	**Pg**	**15 07 56.2**	**0.0**
KVLA				S	**Sg**	**15 08 06.2**	**+0.8**
VAY	**Valandovo**	**0.74**	**293**	*e*Pg	**Pb**	**15 07 57.6**	**-0.1**
VAY				*e*Sg	**Sb**	**15 08 07.2**	**-0.6**
VAY	**Valandovo**	**0.74**	**293**	*i* Pg	**Pb**	**15 07 57.8**	**+0.1**
VAY				*i* Sg	**Sb**	**15 08 07.6**	**-0.2**
KAVA	**Kavala**	**0.79**	**92**	P	**Pg**	**15 07 57.6**	**-0.4**
KAVA				S	**Sg**	**15 08 08.6**	**+0.4**
OUR	**Ouranopolis**	**0.80**	**151**	P	**Pg**	**15 07 58.1**	**0.0**
OUR				S	**Sg**	**15 08 08.9**	**+0.3**
OUR				AML	AML	15 08 12.9	
	comp=N,2696μm,0.4s						
OUR				AML	AML	15 08 13.4	
	comp=E,1118μm,0.2s						
KKB	**Krupnik**	**0.84**	**342**	Pg	**Pg**	**15 07 58.7**	**-0.3**
KKB				Sg	**Sg**	**15 08 09.9**	**-0.1**
PEHC	**Pehcevo**	**0.86**	**330**	*i* Pg	**Pg**	**15 07 59.1**	**-0.1**
PEHC				*i* Sg	**Sg**	**15 08 10.1**	**-0.3**
THAS	**Thassos island**	**1.04**	**114**	P	**Pg**	**15 08 02.6**	**-0.1**
THAS				S	**Sg**	**15 08 15.5**	**-0.7**
THAS				AML	AML	15 08 18.8	
	comp=E,419μm,0.3s						
THAS				AML	AML	15 08 19.1	
	comp=N,393μm,0.2s						
RZN	**Rozhen**	**1.16**	**55**	S	**Sb**	**15 08 20.5**	**+0.3**
PLD	**Plovdiv**	**1.47**	**40**	*e*P	**Pb**	**15 08 10.2**	**+0.1**
KDZ	**Kurdzhali**	**1.53**	**67**	P	**Pb**	**15 08 10.8**	**-0.4**
KDZ				S	**Sg**	**15 08 31.6**	**-0.2**
RDO	**Rodhopi**	**1.57**	**85**	P	**Pn**	**15 08 10.3**	**-0.4**
RDO				S	**Sb**	**15 08 31.5**	**-0.3**
RDO				AML	AML	15 08 37.5	
	comp=E,272μm,0.2s						
RDO				AML	AML	15 08 38.2	
	comp=N,275μm,0.2s						
PGB	**Panagyurishte**	**1.57**	**19**	P	**Pg**	**15 08 12.6**	**-0.2**
PGB				S	**Sg**	**15 08 34.0**	**+0.9**
VTS	**Vitosha**	**1.59**	**354**	P	**Pb**	**15 08 12.1**	**-0.2**
VTS				S	**Sg**	**15 08 33.3**	**-0.6**
BOSS	**Bosilegrad**	**1.64**	**333**	*e*Pg	**Pb**	**15 08 12.3**	**-0.7**
BOSS				*e*Sg	**Sb**	**15 08 33.1**	**-0.7**
SMTH	**Samothraki Isl**	**1.67**	**109**	P	**Pb**	**15 08 13.0**	**-0.4**
LIA	**Limnos Island**	**1.73**	**130**	P	**Pn**	**15 08 12.8**	**-0.1**
DIM	**Dimitrovgrad**	**1.88**	**57**	S	**Sg**	**15 08 44.6**	**+1.6**
ALN	**Alexandroupoli**	**1.96**	**93**	P	**Pb**	**15 08 17.5**	**-0.9**
BARS	**Barje**	**2.17**	**326**	*e*Pg	**Pg**	**15 08 23.8**	**-0.4**
BARS				*e*Sg	**Sg**	**15 08 50.6**	**-1.7**
ZAPS	**Zavoj**	**2.32**	**345**	*e*Pn	**Pn**	**15 08 21.9**	**+0.8**
ZAPS				*e*Sn	**Sn**	**15 08 50.9**	**+1.2**
SELS	**Selova**	**2.80**	**322**	*e*Pn	**Pn**	**15 08 30.0**	**+2.4**
SELS				*e*Sn	**Sb**	**15 09 04.7**	**-2.4**

*ATH **16** 15:10:16.9, 41°.03N×23°.46E, h15km±1km, ML2.5/12, Error ellipse: s-maj=1.6km s-min=0.8km az=326.0*
*SOF **16** 15:10:16.9, 41°.06N±0°.01×23°.45E±0°.02, h10km±3km, MD3.0/4*
*THE **16** 15:10:17.2, 41°.03N×23°.45E, h4km±2km, ML2.6/13, Error ellipse: s-maj=2.5km s-min=0.5km az=293.0*
*SKO **16** 15:10:17.3, 41°.04N×23°.49E, h4km, ML2.4*
*BEO **16** 15:10:18.0±0.4, 41°.07N×23°.43E, h1km±2km, ML2.5/12*
ISC 16 15:10:15.9±0.8,**41°.05N**±0°.01×**23°.39E**±0°.02,**h12**km±5km,
n65,σ0°.**77**/112,**5C-1D**,**Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.17**	**66**	P	**Pg**	**15 10 19.9**	**+0.2**
SRS				S	**Sg**	**15 10 21.9**	**-0.6**
	4μm,0.1s						
SRS	**Serrai**	**0.17**	**66**	*e*Pg	**Pg**	**15 10 19.8**	**0.0**
SRS				*e*Sg	**Sg**	**15 10 21.8**	**-0.7**
SRS	**Serrai**	**0.17**	**66**	⇑*e*Pg	**Pg**	**15 10 20.0**	**+0.2**
SRS				*i* Sg	**Sg**	**15 10 22.0**	**-0.4**
SRS	**Serrai**	**0.17**	**66**	P	**Pg**	**15 10 19.9**	**+0.2**
SRS				S	**Sg**	**15 10 22.0**	**-0.4**
SRS				AML	AML	15 10 22.2	
	comp=N,9910μm,0.2s						
SRS				AML	AML	15 10 22.2	
	comp=E,7548μm,0.1s						
SOH	**Sokhos**	**0.23**	**187**	P	**Pb**	**15 10 21.8**	**-0.3**
SOH				S	**Sg**	**15 10 25.2**	**+1.0**
	comp=E,3μm,0.2s						
SOH	**Sokhos**	**0.23**	**187**	⇑*e*Pg	**Pb**	**15 10 21.9**	**-0.2**
SOH				*i* Sg	**Sg**	**15 10 25.4**	**+1.1**
SOH	**Sokhos**	**0.23**	**187**	P	**Pb**	**15 10 21.8**	**-0.3**
SOH				S	**Sg**	**15 10 25.4**	**+1.1**
SOH				AML	AML	15 10 25.6	
	comp=E,10748μm,0.3s						
SOH				AML	AML	15 10 26.0	
	comp=E,5824μm,0.1s						
KNT	**Kendrikon**	**0.39**	**287**	P	**Pn**	**15 10 25.6**	**-1.8**
KNT				S	**Sb**	**15 10 31.4**	**+0.7**
	comp=N,850nm,0.1s						
KNT	**Kendrikon**	**0.39**	**287**	⇓*i*Pg	**Pn**	**15 10 25.6**	**-1.8**
KNT				*i* Sg	**Sb**	**15 10 31.8**	**+1.1**
NVR	**Nevrokopi**	**0.46**	**50**	P	**Pb**	**15 10 26.4**	**+0.4**
NVR				S	**Sb**	**15 10 32.7**	**-0.2**
	comp=N,438nm,0.3s						
NVR	**Nevrokopi**	**0.46**	**50**	P	**Pb**	**15 10 26.4**	**+0.4**
NVR				S	**Sb**	**15 10 32.5**	**-0.4**
NVR				AML	AML	15 10 40.5	
	comp=E,860μm,0.1s						
NVR				AML	AML	15 10 44.1	
	comp=N,750μm,0.1s						
HORT	**Hortiatis**	**0.51**	**206**	P	**Pb**	**15 10 27.0**	**+0.3**
HORT				S	**Sb**	**15 10 35.0**	**+0.9**
	comp=N,518nm,0.2s						
HORT	**Hortiatis**	**0.51**	**206**	P	**Pb**	**15 10 27.1**	**+0.3**
HORT				S	**Sb**	**15 10 34.4**	**+0.4**
HORT				AML	AML	15 10 36.8	
	comp=N,1087μm,0.3s						
HORT				AML	AML	15 10 37.1	
	comp=E,1006μm,0.1s						
KOKK	**Kokkinochori,**	**0.52**	**117**	P	**Pg**	**15 10 26.1**	**+0.1**
KOKK				S	**Sg**	**15 10 33.1**	**+0.2**
	comp=E,300nm,0.2s						
KOKK	**Kokkinochori,**	**0.52**	**117**	P	**Pg**	**15 10 26.0**	**-0.1**
KOKK				S	**Sg**	**15 10 32.5**	**-0.4**
THE	**Thessaloniki**	**0.53**	**218**	P	**Pb**	**15 10 27.7**	**+0.6**
THE				S	**Sb**	**15 10 35.5**	**+0.8**
	comp=E,540nm,0.3s						
THE	**Thessaloniki**	**0.53**	**218**	P	**Pb**	**15 10 27.5**	**+0.4**
THE				S	**Sb**	**15 10 35.5**	**+0.8**
THE				AML	AML	15 10 35.8	
	comp=E,939μm,0.2s						
THE				AML	AML	15 10 37.3	
	comp=N,1309μm,0.3s						
MMB	**Musomishta**	**0.56**	**28**	⇑*i*Pg	**Pb**	**15 10 28.0**	**+0.2**
MMB				*i* Sg	**Sb**	**15 10 35.8**	**+0.1**
VAY	**Valandovo**	**0.68**	**294**	*e*Pg	**Pn**	**15 10 31.5**	**+0.2**
VAY				*e*Sg	**Sn**	**15 10 40.4**	**-1.3**
VAY	**Valandovo**	**0.68**	**294**	*e*Pg	**Pn**	**15 10 31.6**	**+0.4**
VAY				*i* Sg	**Sn**	**15 10 42.0**	**+0.2**
VAY				*e*Lg	Lg	15 10 42.0	
	comp=E,102nm,0.4s						
VAY				*e*Lg	Lg	15 10 42.2	
	comp=N,141nm,0.3s						
PLG	**Polygyros**	**0.68**	**177**	P	**Pb**	**15 10 29.2**	**-0.4**
PLG				S	**Sb**	**15 10 39.6**	**+0.6**
	comp=N,450nm,0.3s						
PLG	**Polygyros**	**0.68**	**177**	P	**Pb**	**15 10 29.3**	**-0.4**
PLG				S	**Sg**	**15 10 38.0**	**0.0**
PLG				AML	AML	15 10 41.0	
	comp=E,592μm,0.2s						
PLG				AML	AML	15 10 44.1	
	comp=N,1198μm,0.5s						
KVLA	**Kavala**	**0.76**	**98**	P	**Pg**	**15 10 30.5**	**-0.2**
KVLA				S	**Sg**	**15 10 40.9**	**+0.3**
KKB	**Krupnik**	**0.81**	**346**	⇑*i*Pg	**Pn**	**15 10 33.1**	**-0.1**
KKB				Sg	**Sn**	**15 10 44.3**	**-0.9**
KKB	**Krupnik**	**0.81**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARS				eSg	Sg	15 11 25.2	+1.1
BARS	**Barje**	**2.12**	**327**	ePn	Pb	15 10 53.3	-1.0
ZAPS	**Zavoj**	**2.29**	**346**	ePn	Pb	15 10 56.4	-0.8
ZAPS				eSn	Sb	15 11 25.6	+0.1
MPEP	**Malo Peshtene**	**2.32**	**6**	P	Pb	15 10 57.4	-0.2
SELS	**Selova**	**2.75**	**323**	ePn	Pb	15 11 04.2	-0.8
SELS				eSn	Sb	15 11 37.6	-1.0
BOVS	**Bovan**	**2.87**	**335**	ePn	Pb	15 11 06.3	-0.7
BOVS				eSn	Sb	15 11 39.8	-2.2
ZAGS	**Zajecar**	**2.89**	**343**	ePn	Pn	15 11 03.6	+1.9
ZAGS				eSn	Sn	15 11 39.0	+2.6

*IDC **16** 15:25:34.3±1.4, 10.°70S×163.°21E, h0km, mb3.7/6, mbtmp3.8/8, ML3.8/2, MS3.1/4, Error ellipse: s-maj=35.4km s-min=29.8km az=117.0*

ISC 16 15:25:37.5±1.0, 10.°7S±0.°1×163.°2E±0.°1, h21km, n14, σ1°30/10, mb3.8/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.40**	**291**	Pn	Pn	15 26 30.5	+1.3
	9.8nm,0.3s,baz=178,slow=3.8,SNR=7.8						
HNR				Sn	Sn	15 27 07.1	-1.8
	6.6nm,0.3s,baz=179,slow=6.9,SNR=2.2						
HNR				LR	LR	15 28 08.7	
	comp=Z,220nm,18.2s,baz=110,slow=45 87nm,0.7s						
DZM	**Mont Dzumac**	**11.76**	**165**	Pn	Pn	15 28 24.0	-0.2
	0.6nm,0.3s,baz=5.1,slow=11,SNR=13						
DZM				LR	LR	15 32 18.9	
	comp=Z,97nm,19.8s,baz=22,slow=34 5.9nm,0.9s						
H11S2	**WAKE ISLAND Hy 29.19**	**7**		T	T	16 02 04.5	
	baz=188,slow=76,SNR=7.1						
H11S3	**WAKE ISLAND Hy 29.19**	**7**		T	T	16 02 03.0	
	baz=188,slow=76,SNR=5.7						
H11S1	**WAKE ISLAND Hy 29.20**	**7**		T	T	16 02 02.6	
	baz=188,slow=76,SNR=4.1						
WRA	**Warramunga Arr**	**29.24**	**248**	P	P	15 31 38.0	-0.3
	0.5nm,1.0s,baz=76,slow=9.9,SNR=3.3 0.5nm,1.0s						
GUMO	**Guam**	**30.17**	**323**	LR	LR	15 42 41.4	
	comp=Z,23nm,20.9s,baz=137,slow=34						
ASAR	**Alice Springs**	**30.72**	**241**	P	P	15 31 51.0	-0.3
	1.0nm,0.9s,baz=75,slow=8.9,SNR=8.9 1.0nm,0.9s						
BATI	**Baumata**	**38.83**	**267**	LR	LR	15 50 08.8	
	comp=Z,44nm,19.7s,baz=186,slow=38						
CMAR	**Chiang Mai Arr**	**69.64**	**294**	P	P	15 36 47.0	+1.2
	0.3nm,0.3s,baz=113,slow=3.2,SNR=5.2 0.3nm,0.3s						
SONM	**Songino Array**	**76.88**	**325**	P	P	15 37 29.1	+0.9
	0.3nm,0.3s,baz=131,slow=4.0,SNR=1.8 0.3nm,0.3s						
ILAR	**Eielson Array**	**83.98**	**19**	P	P	15 38 04.6	-1.2
	0.8nm,1.1s,baz=261,slow=3.5,SNR=2.3 0.8nm,1.1s						
MKAR	**Makanchi Array**	**91.52**	**317**	P	P	15 38 41.3	-1.3
	0.3nm,0.7s,baz=103,slow=5.8,SNR=2.4 0.3nm,0.7s						
ESDC	**Sonseca Array**	**148.93**	**341**	PKPbc	PKiKP	15 45 26.6	+1.0
	0.8nm,0.8s,baz=338,slow=3.5,SNR=4.7						

*IDC **16** 15:33:58.8±1.5, 11.°65N×122.°85E, h0km, mb3.6/5, mbtmp3.7/6, ML4.4/1, MS2.9/1, Error ellipse: s-maj=70.0km s-min=20.3km az=61.0*

ISC 16 15:34:03.8±1.3, 11.°7N±0.°2×122.°9E±0.°4, h35km, n7, σ0°25/7, mb3.6/5, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.05**	**322**	Pn	Pn	15 34 49.6	+0.1
	52nm,0.3s,baz=50,slow=1.4,SNR=4.3						
TGY				Sn	Sn	15 35 24.6	-0.2
	35nm,0.3s,baz=230,slow=18,SNR=1.6 336nm,0.7s						
CMAR	**Chiang Mai Arr**	**24.04**	**289**	P	P	15 39 15.8	0.0
	4.3nm,1.2s,baz=95,slow=7.3,SNR=4.6 4.3nm,1.2s						
WRA	**Warramunga Arr**	**33.40**	**160**	P	P	15 40 39.3	+0.1
	0.4nm,0.5s,baz=337,slow=9.4,SNR=2.5 0.4nm,0.5s						
ASAJ	**Asahikawa**	**36.52**	**24**	LR	LR	15 55 07.0	
	comp=Z,18nm,21.2s,baz=22,slow=35						
ASAR	**Alice Springs**	**36.76**	**163**	P	P	15 41 07.9	-0.3
	0.3nm,0.4s,baz=341,slow=7.8,SNR=5.6 0.3nm,0.4s						
SONM	**Songino Array**	**38.59**	**342**	P	P	15 41 23.4	-0.1
	0.4nm,0.6s,baz=168,slow=8.7,SNR=2.2 0.4nm,0.6s						
MKAR	**Makanchi Array**	**48.89**	**324**	P	P	15 42 46.6	+0.3
	0.4nm,0.7s,baz=115,slow=8.4,SNR=2.7 0.4nm,0.7s						

*IDC **16** 15:43:44.2±2.7, 9.°03S×112.°22E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=143.3km s-min=27.3km az=48.0*

*DJA **16** 15:43:47.7±0.5, 10°S±4°×11°2E±°, h10km, M3.3/12, MLv3.3/12*

ISC 16 15:43:45.2±1.3, 9.°7S±0.°1×111.°62E±0.°07, h10km, n13, σ1°59/15, mb3.5/3, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.51**	**343**	P	Pn	15 44 13.4	+1.1
PCJI				S	Sn	15 44 31.5	-0.5
PWJI	**Pagerwojo**	**1.63**	**7**	P	Pn	15 44 14.7	+0.8
PWJI				S	Sn	15 44 35.2	+0.3
UGM	**Wanagama**	**2.04**	**328**	P	Pn	15 44 21.0	+1.4
GMJI	**Gumukmas**	**2.26**	**53**	P	Pn	15 44 24.4	+1.7
NGJI	**Ngawi**	**2.27**	**356**	P	Pn	15 44 24.4	+1.6
JAGI	**Jajag, Banyuwa**	**2.76**	**65**	P	Pn	15 44 31.0	+1.4
KPJI	**Karang Pucung**	**3.52**	**311**	P	Pn	15 44 42.0	+2.1
CMJI	**Cimerak**	**3.64**	**300**	P	Pn	15 44 43.4	+1.8
DNP	**Denpasar**	**3.68**	**75**	P	Pn	15 44 44.6	+2.5
PLAI	**Plampang**	**6.13**	**83**	P	Pn	15 45 16.2	+0.2
WRA	**Warramunga Arr**	**24.20**	**118**	P	P	15 49 00.8	-1.5
	0.6nm,0.7s,baz=294,slow=11,SNR=21 0.6nm,0.7s						
ASAR	**Alice Springs**	**25.44**	**126**	P	P	15 49 12.9	-0.6
	0.8nm,0.6s,baz=302,slow=9.1,SNR=13 0.8nm,0.6s						
MKAR	**Makanchi Array**	**61.99**	**338**	P	P	15 54 03.9	-1.6
	0.1nm,0.3s,baz=137,slow=7.8,SNR=4.1 0.1nm,0.3s						

*JMA **16** 15:54:25.9±0.1, 23.°8N±0.°6×122.°0E±0.°8, h30km±3km, MV2.2/14, TAIWAN REGION*

*TAP **16** 15:54:26.4, 23.°82N×121.°98E, h38km, ML2.8, C*

ISC 16 15:54:24.9±0.9, 23.°77N±0.°02×122.°04E±0.°02, h20km±7km, n132, σ0°86/252, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.42**	**284**	eP	Pn	15 54 35.9	+0.1
TEYL				eS	Sn	15 54 43.3	+0.4
EOS4	**EOS4**	**0.43**	**36**	i P	Pn	15 54 35.5	-0.1
EOS4				i S	Sn	15 54 42.4	-0.3
SHUL	**Shoufeng**	**0.44**	**273**	i P	Pn	15 54 35.3	-0.7
SHUL				S	Sn	15 54 42.4	-1.0
HWA	**Hwalien**	**0.45**	**297**	i P	Pn	15 54 35.2	-1.0
HWA				eS	Sn	15 54 42.8	-0.9
TEGC	**Jichi Village**	**0.47**	**263**	eP	Pn	15 54 36.0	-0.4
TEGC				i S	Sn	15 54 43.1	-1.0
TWD	**Chiawan**	**0.51**	**307**	P	Pb	15 54 35.6	+0.4
TWD				i S	Sb	15 54 42.9	+0.6
ETM	**Tongmen**	**0.54**	**291**	eP	Pb	15 54 36.0	+0.3
ETM				eS	Sb	15 54 43.9	+0.7
ETL	**Fush Village**	**0.55**	**315**	eP	Pb	15 54 36.2	+0.3
ETL				eS	Sb	15 54 43.5	+0.2
ESL	**Shilin**	**0.56**	**275**	eP	Pb	15 54 36.3	+0.3
ESL				eS	Sb	15 54 43.6	0.0
EOS3	**EOS3**	**0.57**	**26**	eP	Pn	15 54 37.7	0.0
EOS3				eS	Sn	15 54 46.4	-0.1
EGFH	**Guangfu**	**0.57**	**260**	eP	Pn	15 54 37.1	-0.8
EGFH				eS	Sn	15 54 45.7	-1.1
NACB	**Ninganchiao**	**0.58**	**315**	i P	Pb	15 54 36.4	+0.1
NACB				eS	Sb	15 54 44.0	-0.1
WARBT	**Fenglin Townsh**	**0.60**	**265**	P	Pb	15 54 37.1	+0.2
WARBT				S	Sb	15 54 45.8	+0.9
EAHA	**Aohua**	**0.62**	**334**	eP	Pb	15 54 37.5	+0.3
EAHA				S	Sn	15 54 46.5	-1.5
LXIB	**Xiulin Townshi**	**0.63**	**294**	i P	Pb	15 54 37.6	+0.3
LXIB				i S	Sb	15 54 46.5	+0.7
HGSD	**Ruisui**	**0.63**	**244**	i P	Pn	15 54 38.1	-0.6
HGSD				S	Sb	15 54 46.9	+1.2
EOS2	**EOS2**	**0.67**	**15**	eP	Pn	15 54 39.4	+0.3
EOS2				eS	Sn	15 54 48.3	-0.6
ETLH	**Xiulin Townshi**	**0.67**	**310**	eP	Pb	15 54 37.9	-0.1
ETLH				S	Sb	15 54 47.0	0.0
EHYH	**Wanrong**	**0.70**	**247**	eP	Pn	15 54 40.7	+1.1
EHYH				eS	Sn	15 54 49.0	-0.8
ECBN	**Changbin**	**0.71**	**230**	P	Pn	15 54 39.6	-0.1
ECBN				S	Sb	15 54 48.8	+1.0
EHY	**Hungye**	**0.71**	**249**	eP	Pb	15 54 39.1	+0.5
EHY				i S	Sb	15 54 48.8	+0.8
ENA	**Nanau**	**0.71**	**337**	i P	Pb	15 54 38.9	+0.3
ENA				eS	Sb	15 54 48.2	+0.2
EWUT	**Wuta**	**0.72**	**340**	i P	Pb	15 54 39.0	+0.4
EWUT				S	Sb	15 54 48.3	+0.2
YULB	**Yu-li**	**0.78**	**241**	eP	Pn	15 54 40.7	0.0
YULB				i S	Sb	15 54 50.6	+0.6
EYUL	**Yuli**	**0.79**	**238**	eP	Pn	15 54 40.8	0.0
EYUL				S	Sn	15 54 51.9	-0.1
TWF1	**Yuli**	**0.80**	**239**	i P	Pn	15 54 40.8	-0.2
TWF1				i S	Sn	15 54 51.7	-0.7
WHF	**Hehuan Shan**	**0.81**	**298**	P	Pb	15 54 40.2	-0.2
WHF				eS	Sb	15 54 51.0	-0.1
OWD	**Renai**	**0.82**	**283**	P	Pb	15 54 40.5	0.0
OWD				S	Sb	15 54 51.0	-0.1
ESAO	**Su ao**	**0.82**	**347**	i P	Pn	15 54 41.1	-0.2
ESAO				eS	Sn	15 54 51.8	-1.1
CHKH	**Chenggong**	**0.83**	**226**	P	Pb	15 54 40.5	0.0
CHKH				eS	Sb	15 54 51.7	-0.6
VWDT	**VWDT**	**0.83**	**269**	P	Pn	15 54 41.1	-0.2
VWDT				eS	Sb	15 54 51.8	+0.6
TWC	**Suao**	**0.85**	**348**	i P	Pn	15 54 41.6	-0.2
TWC				i S	Sb	15 54 52.4	+0.3
FUSS	**Fushou**	**0.87**	**303**	eP	Pb	15 54 41.5	0.0
FUSS				eS	Sb	15 54 52.8	-0.1
WUSB	**Renai**	**0.88**	**285**	P	Pb	15 54 41.6	+0.1
WUSB				eS	Sb	15 54 52.6	-0.2
FULB	**Fuli**	**0.89**	**231**	P	Pb	15 54 41.8	+0.1
FULB				eS	Sb	15 54 54.0	+0.8
NNSB	**Datong**	**0.89**	**318**	i P	Pb	15 54 41.7	0.0
NNSB				S	Sb	15 54 52.6	-0.7
NNSH	**Datong**	**0.89**	**318**	P	Pb	15 54 41.6	-0.1
NNSH				eS	Sb	15 54 53.0	-0.3
LATG	**Datong**	**0.90**	**328**	P	Pb	15 54 41.8	0.0
LATG				i S	Sb	15 54 52.9	-0.5
NNS	**Nan Shan**	**0.91**	**318**	eP	Pb	15 54 42.1	+0.1
NNS				S	Sb	15 54 53.4	-0.3
NDS	**Dongshan**	**0.91**	**341**	i P	Pn	15 54 42.5	-0.1
NDS				i S	Sb	15 54 53.8	0.0
CHKT	**Chengkung**	**0.91**	**223**	eP	Pb	15 54 41.6	-0.4
CHKT				eS	Sb	15 54 52.1	-1.6
TWT	**Tachien**	**0.93**	**301**	P	Pn	15 54 42.9	-0.1
TWT				eS	Sn	15 54 54.8	-1.0
TDCB	**Techi**	**0.94**	**301**	i P	Pn	15 54 42.8	-0.3
TDCB				eS	Sb	15 54 54.7	0.0
ENTT	**Nioudou**	**0.97**	**333**	P	Pb	15 54 43.0	-0.1
ENTT				S	Sb	15 54 55.1	-0.3
EHD	**Haiduan**	**0.99**	**231**	eP	Pb	15 54 43.3	0.0
SSLB	**Suanglung**	**1.00**	**271**	eP	Pb	15 54 43.5	0.0
SSLB				eS	Sb	15 54 56.4	+0.1
TWE	**Neicheng**	**1.01**	**340**	i P	Pn	15 54 43.8	-0.1
TWE				i S	Sb	15 54 56.5	+0.1
ECS	**Chishang**	**1.01**	**229**	eP	Pb	15 54 43.3	-0.4
ECS				eS	Sn	15 54 57.8	+0.2
ILA	**Ilan**	**1.03**	**345**	eS	Sn	15 54 57.6	-0.3
EDH	**Donghe**	**1.04**	**221**	i P	Pb	15 54 43.9	-0.4
EDH				eS	Sb	15 54 56.3	-1.2
SMLT	**Sun Moon Lake**	**1.05**	**276**	i P	Pb	15 54 43.5	-0.9
SMLT				i S	Sb	15 54 56.6	-1.3
DPDB	**Guoxing**	**1.06**	**285**	‖i P	Pb	15 54 44.3	-0.2
DPDB				eS	Sb	15 54 58.0	0.0
JYNG	**Yonagunijimaku**	**1.07**	**50**	P	Pn	15 54 45.2	+0.5
JYNG				S	Sn	15 54 58.8	-0.1
FUSB	**Fushanzhiwuyua**	**1.07**	**337**	eP	Pn	15 54 44.7	-0.1
WCS	**Beigang Elemen**	**1.07**	**286**	eP	Pn	15 54 44.8	0.0
EGS		**1.08**	**355**	P	Pn	15 54 44.8	0.0
EGS				eS	Sn	15 54 58.6	-0.5
YHNB	**Yeheng**	**1.08**	**326**	eP	Pn	15 54 45.0	0.0
YHNB				eS	Sb	15 54 57.8	-1.0
WHYT	**Xinyi Township**	**1.09**	**266**	eP	Pn	15 54 45.5	+0.4
WHYT				S	Sb	15 54 58.9	-0.1
TYC	**Yuchr**	**1.09**	**277**	P	Pb	15 54 45.1	0.0
TYC				i S	Sb	15 54 58.0	-0.9
NTC	**Toucheng**	**1.10**	**350**	P	Pb	15 54 45.4	+0.2
NTC				eS	Sn	15 54 59.2	-0.5
NSK	**Sanguang**	**1.10**	**325**	P	Pn	15 54 45.1	-0.1
NSK				i S	Sb	15 54 57.8	-1.3
ELDTW	**Lidau**	**1.10**	**239**	eP	Pn	15 54 45.1	-0.2
ELDTW				eS	Sb	15 54 58.7	-0.7
NWLT	**Wulai**	**1.12**	**334**	P	Pb	15 54 45.6	0.0
NWLT				S	Sb	15 54 59.5	-0.2
YOJ	**Yonaguni jima**	**1.12**	**52**	eP	Pb	15 54 46.2	+0.7
YOJ				eS	Sn	15 55 00.3	0.0
YOJ	**Yonaguni jima**	**1.12**	**52**	eP	Pb	15 54 46.5	+0.9
YOJ				S	Sn	15 55 00.6	+0.4
WHP	**Taichung City**	**1.12**	**297**	eP	Pb	15 54 46.2	+0.5
WHP				i S	Sn	15 54 60.0	-0.5
ALS	**Alishan**	**1.17**	**257**	P	Pb	15 54 46.9	+0.4
ALS				i S	Sb	15 55 01.0	-0.3
LONT	**Longtian**	**1.20**	**225**	eP	Pn	15 54 46.3	-0.2
LONT				S	Sb	15 55 02.1	0.0
NFF	**Wufeng Townshi**	**1.21**	**316**	eP	Pb	15 54 48.0	+0.9
WJS	**Zhushan**	**1.21**	**273**	eP	Pb	15 54 48.1	+1.1
LDUT	**Ludao**	**1.21**	**206**	eP	Pb	15 54 47.9	+0.8
LDUT				eS	Sb	15 55 00.2	-2.1
TIPB	**Shuangxi**	**1.21**	**351**	eP	Pb	15 54 47.6	+0.4
TIPB				eS	Sn	15 55 02.4	-0.2
TWB1	**Santiao Chiao**	**1.23**	**358**	eS	Sb	15 55 02.0	-1.0
WNT	**Mingjian**	**1.25**	**275**	eP	Pb	15 54 48.5	+0.8
WNT				eS	Sn	15 55 04.4	+0.9
WWF	**Wufeng**	**1.26**	**283**	eP	Pb	15 54 48.8	+0.8
WWF				eS	Sn	15 55 07.4	+3.7
TWA	**Mucha**	**1.28**	**341**	eS	Sn	15 55 02.4	-1.7
KSHI	**Guanxi Townshi**	**1.28**	**322**	eP	Pb	15 54 49.2	+1.0
KSHI				eS	Sb	15 55 05.2	+1.0
NHDH	**Xindian Distri**	**1.28**	**338**	eS	Sb	15 55 04.0	-0.3
LIOB	**Emei**	**1.28**	**313**	eP	Pb	15 54 48.8	+0.4
LIOB				eS	Sb	15 55 04.5	+0.1
NSTT	**Nanjuang**	**1.28**	**312**	eP	Pb	15 54 48.6	+0.3
NSTT				eS	Sb	15 55 04.0	-0.3
TWGBT	**Beinan**	**1.30**	**223**	i P	Pn	15 54 47.2	-0.7
TWGBT				eS	Sn	15 55 02.5	-2.1
TWQ1	**Liyutan**	**1.30**	**297**	eP	Pb	15 54 49.2	+0.7
TWQ1				eS	Sb	15 55 05.1	+0.3
TWG	**Pinlang**	**1.30**	**224**	eP	Pn	15 54 47.0	-0.9
TWG				eS	Sn	15 55 02.6	-2.1
TATO	**Taipei**	**1.30**	**337**	P	Pb	15 54 48.4	-0.3
TATO				S	Sn	15 55 04.0	-0.8
TCU	**Taichung**	**1.31**	**287**	eP	Pb	15 54 49.6	+0.9
TCU				eS	Sb	15 55 07.4	+2.3
STYH	**Taoyuan**	**1.31**	**243**	eP	Pb	15 54 48.8	0.0
STYH				S	Sn	15 55 04.6	-0.2
NWF	**Wu-fen Shan**	**1.32**	**350**	P	Pb	15 54 49.2	+0.2
NWF				S	Sn	15 55 04.9	-0.4
SXI1	**Grass Mountain**	**1.33**	**353**	eP	Pb	15 54 49.0	-0.2
SXI1				eS	Sn	15 55 05.1	-0.4
WCKO	**Fanlu**	**1.36**	**256**	eP	Pb	15 54 50.9	+1.2
WCKO				eS	Sb	15 55 08.7	+2.1
NMLH	**Miaoli**	**1.38**	**304**	eP	Pb	15 54 50.5	+0.6
NMLH				eS	Sn	15 55 05.6	-1.0
TPUB	**Ta-pu**	**1.38**	**251**	eP	Pb	15 54 51.2	+1.2
TPUB				eS	Sb	15 55 08.4	+1.2
WDLH	**Douliu**	**1.38**	**267**	eP	Pb	15 54 49.8	-0.2
WDLH				eS	Sb	15 55 08.1	+0.9
WCHH	**Zhanghua**	**1.39**	**283**	eP	Pb	15 54 50.7	+0.5
WCHH				eS	Sb	15 55 08.7	+1.2
CHN4	**Tsaushan**	**1.40**	**253**	eP	Pb	15 54 51.0	+0.8
CHN4				eS	Sb	15 55 09.9	+2.3
WCH1	**Changhua City**	**1.40**	**283**	eP	Pb	15 54 51.5	+1.2
WCH1				eS	Sb	15 55 09.6	+1.8
YM01	**YM01**	**1.44**	**343**	eP	Pb	15 54 50.6	-0.4
YM01				eS	Sb	15 55 08.3	-0.6
TWS1	**Kuangyinshan**	**1.44**	**337**	eP	Pn	15 54 50.2	+0.3
TWS1				eS	Sn	15 55 07.4	-0.8
ZUZH	**Zhuzihu**	**1.46**	**342**	i P	Pn	15 54 50.4	+0.2
ZUZH				eS	Sn	15 55 07.9	-0.8
YM08	**YM08**	**1.47**	**344**	P	Pb	15 54 50.8	-0.8
YM08				eS	Sn	15 55 08.8	-0.2
ANP	**Anpu**	**1.49**	**341**	eP	Pb	15 54 51.1	-0.8
ANP				S	Sn	15 55 08.8	-0.7
SGST	**Jiashian**	**1.51**	**243**	P	Pb	15 54 52.0	-0.1
SGST				eS	Sb	15 55 11.7	+0.9
CHN1	**Nanshi**	**1.51**	**248**	eP	Pb	15 54 53.2	+1.0
CHN1				eS	Sb	15 55 12.3	+1.4
CHY	**Chiayi**	**1.51**	**260**	eP	Pb	15 54 51.8	-0.4
CHY				eS	Sn	15 55 10.2	+0.3
TWK	**Hsinying**	**1.51**	**251**	eP	Pb	15 54 52.6	+0.3
TWK				eS	Sb	15 55 12.0	+1.0
WTK	**Tuku**	**1.52**	**267**	eP	Pb	15 54 52.8	+0.4
WTK				eS	Sb	15 55 13.3	+2.1
SNST	**Tainan City**	**1.52**	**249**	eP	Pb	15 54 52.5	+0.1
SNST				eS	Sb	15 55 12.2	+1.0
ECL	**Taimali**	**1.54**	**221**	eP	Pn	15 54 51.6	+0.4
ECL				eS	Sn	15 55 09.7	-0.8
RLNB	**Erlin**	**1.55**	**275**	eP	Pb	15 54 52.7	-0.1
RLNB				eS	Sb	15 55 11.3	-0.7
HATJ	**Hateruma jima**	**1.64**	**80**	eS	Sn	15 55 13.5	+0.6
IRIF	**Iriomote-Funau**	**1.64**	**70**	P	Pb	15 54 54.0	-0.4
IRIF				S	Sn	15 55 13.9	+0.9
SSD	**Sandimen**	**1.65**	**232**	eP	Pb	15 54 54.5	0.0
SSD				eS	Sn	15 55 14.1	+0.8
TSMG	**Majia**	**1.67**	**231**	P	Pb	15 54 54.1	-0.7
TSMG				eS	Sb	15 55 14.8	-0.6
ICHU	**Yijhu**	**1.67**	**256**	eP	Pn	15 54 53.1	+0.1
ICHU				eS	Sn	15 55 14.3	+0.6
CHN8	**Yiju**	**1.73**	**256**	P	Pn	15 54 54.5	+0.7
CHN8				eS	Sb	15 55 17.3	-0.1
MASBT	**Mashibuluo**	**1.73**	**229**	eP	Pn	15 54 54.3	+0.4
MASBT				eS	Sn	15 55 15.0	-0.5
EAST	**Anshuo**	**1.77**	**219**	eP	Pb	15 54 56.2	-0.4
EAST				eS	Sn	15 55 17.0	+0.8
TAWH	**Dawu Township**	**1.78**	**217**	eP	Pb	15 54 56.4	-0.3
TAWH				eS	Sn	15 55 14.3	-2.1
LAY	**Lan-yu**	**1.78**	**195**	eP	Pn	15 54 54.3	-0.2
LAY				eS	Sn	15 55 14.3	-2.3
LYUB	**Lan-yu**	**1.81**	**194**	P	Pn	15 54 54.7	-0.2
LYUB				eS	Sn	15 55 13.1	-4.1
PCYT	**Pengchaiyu**	**1.85**	**1**	P	Pn	15 54 55.5	0.0
PCYT				S	Sn	15 55 17.3	-1.0
JKRS	**Kuro-shima**	**1.86**	**75**	eP	Pn	15 54 57.0	+1.5
JKRS				eS	Sn	15 55 19.6	+1.2
TSCK	**Chigu Township**	**1.90**	**251**	P	Pn	15 54 57.5	+1.4
TSCK				eS	Sb	15 55 21.0	-1.2
SCZT	**Fangliau**	**1.91**	**224**	eP	Pn	15 54 57.8	+1.6
SCZT				eS	Sn	15 55 21.3	+1.6
JIJ	**Ishigaki jima**	**2.01**	**72**	P	Pn	15 54 58.1	+0.5
JIJ				S	Sn	15 55 21.4	-0.7
HEN	**Hengchun**	**2.13**	**215**	eP	Pn	15 55 00.8	+1.5
HEN				S	Sn	15 55 26.0	+0.9
JISG	**Ishigakijimahi**	**2.23**	**68**	P	Pn	15 55 01.0	+0.4
JISG				S	Sn	15 55 26.2	-1.2
PHUB	**P'eng-hu**	**2.28**	**264**	eP	Pn	15 55 02.0	+0.7
PHUB				eS	Sn	15 55 28.3	-0.6
PNG	**Penghu**	**2.29**	**265**	eP	Pn	15 55 02.2	+0.7
PNG				S	Sn	15 55 28.8	-0.4
VCHM	**Qimei**	**2.46**	**257**	P	Pn	15 55 04.7	+0.8
VCHM				S	Sn	15 55 32.8	-0.6
VWUC	**VWUC**	**2.66**	**298**	eP	Pn	15 55 06.5	-0.1
VWUC				eS	Sn	15 55 35.6	-2.6
PTMZ	**Houxiangcun**	**2.95**	**296**	eP	Pn	15 55 10.3	-0.3
KNMB	**Chin-men Tao**	**3.41**	**282**	eP	Pn	15 55 16.8	-0.1

*ATH **16** 15:58:29.4, 37.°50N×20.°70E, h10km±4km, ML2.5/4, Error ellipse: s-maj=5.1km s-min=1.6km az=37.0*

*THE **16** 15:58:30.1, 37.°51N×20.°73E, h8km±3km, ML2.7/6, Error ellipse: s-maj=3.7km s-min=1.0km az=45.0*

ISC 16 15:58:29.0±2.1, 37.°5N±0.°1×20.°73E±0.°07, h12km±11km, n21, σ0°56/28, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.20**	**20**	P	Pg	15 58 33.6	+0.3
KRI1				S	Sg	15 58 36.4	+0.1
	14μm,0.3s						
LTHK	**Lithakia**	**0.25**	**20**	P	Pg	15 58 34.2	0.0
LTHK				S	Sg	15 58 37.5	-0.2
	7μm,0.3s						
LTHK	**Lithakia**	**0.25**	**20**	P	Pg	15 58 34.2	0.0
LTHK				S	Sg	15 58 37.3	-0.4
LTHK				AML	AML	15 58 37.7	
	comp=E,8170μm,0.2s						
LTHK				AML	AML	15 58 37.8	
	comp=N,18853μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.60**	**3**	P	Pg	15 58 40.2	-0.5
RTZL				S	Sg	15 58 49.8	+1.2
	comp=N,392nm,0.2s						
PSDA	**Pessada-Kefalo**	**0.65**	**350**	P	Pb	15 58 41.8	-0.4
PSDA				S	Sg	15 58 50.5	+0

EIDS IAmb IAmb 16 10 38.5
comp=Z,16nm,1.3s
RAR Rarotonga 25.01 94 LR LR 16 18 45.5
comp=Z,76nm,21.8s,baz=270,slow=31
CTA Charters Tower 25.39 268 LR LR 16 21 12.5
comp=Z,8.2nm,18.1s,baz=90,slow=37
CTAO Charters Tower 25.39 268 P **P** **16 11 12.0 -0.6**
CTAO IAmb IAmb 16 11 22.4
comp=Z,8.6nm,0.9s
CAN Canberra 25.44 232 P **P** **16 11 10.6 -2.4**
CAN IAmb IAmb 16 11 28.8
comp=Z,32nm,1.5s
STKA Stephens Creek 30.15 243 P **P** **16 11 55.6 +0.3**
comp=Z,1.5nm,0.8s,baz=41,slow=9.3,SNR=1.8
STKA LR LR 16 22 42.4
comp=Z,94nm,20.4s,baz=43,slow=34
comp=Z,1.5nm,0.8s
PPT Papeete 35.08 90 LR LR 16 26 52.9
comp=Z,38nm,18.2s,baz=278,slow=36
AS31 Alice Springs 36.45 259 P **P** **16 12 49.0 -1.2**
ASAR Alice Springs 36.45 259 P **P** **16 12 51.4 +1.1**
comp=Z,0.9nm,0.8s,baz=89,slow=8.9,SNR=13
comp=Z,0.9nm,0.8s
WB0 Warramunga Arr 36.47 265 P **P** **16 12 50.2 -0.2**
WB2 Warramunga Arr 36.48 265 P **P** **16 12 52.2 +1.7**
WB2 IAmb IAmb 16 13 30.8
comp=Z,5.8nm,1.2s
WRA Warramunga Arr 36.49 265 P **P** **16 12 50.7 +0.1**
comp=Z,0.4nm,0.7s,baz=95,slow=8.4,SNR=4.6
comp=Z,0.4nm,0.7s
H11S2 WAKE ISLAND Hy 40.20 350 T T 16 56 46.1
baz=172
H11S3 WAKE ISLAND Hy 40.21 350 T T 16 56 46.6
baz=172,slow=74
H11S1 WAKE ISLAND Hy 40.22 350 T T 16 56 47.4
baz=172,slow=74
FITZ Fitzroy Crossi 44.92 265 P **P** **16 13 57.4 -2.8**
SOEI Soe 48.52 276 P **P** **16 14 28.0 -0.7**
PSA00 Pilbara Seismi 49.59 259 P **P** **16 14 34.4 -2.3**
PSA00 IAmb IAmb 16 14 46.6
comp=Z,20nm,1.4s
NWAO Narrogin (SRO) 50.73 244 LR LR 16 34 57.9
comp=Z,91nm,19.4s,baz=148,slow=35
KAPI Kappang 54.41 279 LR LR 16 38 27.5
comp=Z,17nm,19.5s,baz=109,slow=36
SBA Scott Base 56.57 182 P **P** **16 15 27.7 +0.5**
SBA IAmb IAmb 16 15 41.4
comp=Z,4.8nm,1.3s
JHJ Hachijo jima 2 63.01 329 LR LR 16 44 57.3
comp=Z,13nm,18.0s,baz=41,slow=37
QSPA South Pole Qui 68.64 180 P **P** **16 16 47.7 -0.5**
QSPA IAmb IAmb 16 16 59.5
comp=Z,5.9nm,1.4s
QSPA South Pole Qui 68.64 180 P **P** **16 16 50.0 +1.8**
comp=Z,1.8nm,1.1s,baz=354,slow=2.4,SNR=3.8
comp=Z,1.8nm,1.1s
MAW Mawson 77.86 202 LR LR 16 47 43.7
comp=Z,33nm,18.3s,baz=76,slow=33
CMAR Chiang Mai Arr 82.93 293 P **P** **16 18 15.1 +4.6**
comp=Z,0.3nm,0.3s,baz=141,slow=4.4,SNR=2.1
comp=Z,0.3nm,0.3s
NVAR Mina Array Bea 87.39 47 P P 16 18 39.0 +6.3
comp=Z,0.3nm,0.6s,baz=230,slow=6.9,SNR=1.7
NVAR LR LR 16 49 49.2
comp=Z,59nm,19.4s,baz=42,slow=30
comp=Z,0.3nm,0.6s
H03S2 Juan Fernandez 91.98 127 T T 18 00 25.7
baz=234,slow=73,SNR=18
H03S1 Juan Fernandez 91.99 128 T T 18 00 24.8
baz=234,slow=73,SNR=16
H03S3 Juan Fernandez 92.00 127 T T 18 00 25.1
baz=234,slow=73,SNR=15
H03N3 Juan Fernandez 92.15 127 T T 18 00 41.8
baz=237,slow=72,SNR=20
H03N2 Juan Fernandez 92.16 127 T T 18 00 39.1
baz=237,slow=72,SNR=17
H03N1 Juan Fernandez 92.17 127 T T 18 00 43.6
baz=237,slow=72,SNR=13
GERES GERESS Array B 148.19 334 PKPbc **PKPab** **16 25 37.7 +3.6**
comp=Z,0.7nm,0.6s,baz=3.9,slow=4.3,SNR=2.8

IDC 16 16:10:18.9±5.7, 16°.70S×168°.91E, h106km±64km, mb3.5/2, mbtmp3.8/4, Error ellipse: s-maj=76.4km s-min=23.2km az=151.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.83**	**203**	P		Pn	16 11 42.4	-0.6
DZM	8.5nm,0.8s,baz=113,slow=16,SNR=9.4			S		Sn	16 12 50.1	+1.6
	4.9nm,0.9s,baz=252,slow=23,SNR=1.5							
MSVF	**Nonsavu**	**8.79**	**98**	P		Pn	16 12 23.1	-0.2
	2.8nm,0.8s,baz=356,slow=14,SNR=0.9							
WRA	**Warramunga Arr**	**32.94**	**259**	P		P	16 16 44.0	+0.3
	0.2nm,0.4s,baz=96,slow=8.3,SNR=11							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**33.52**	**252**	P		P	16 16 47.9	-0.8
	1.8nm,0.4s,baz=80,slow=8.9,SNR=87							
	1.8nm,0.4s							
ARCES	**ARCESS Array B**	**122.55**	**346**	PKP		PKiKP	16 29 01.6	+0.1
	3.5nm,0.9s,baz=48,slow=1.8,SNR=5.8							

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*IDC **16** 16:15:52.8±3.1, 5°.15S×145°.56E, h79km±30km, mb3.2/3, mbtmp3.5/6, Error ellipse: s-maj=34.7km s-min=18.5km az=59.0*

ISC 16 16:15:51.5±1.1, 5°.2S±0°.1×145°.6E±0°.1, h64km, n6, σ1§29/8, mb3.3/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.46**	**160**	P		**Pn**	**16 16 58.6**	**+1.8**
	13nm,0.4s,baz=340,slow=15,SNR=19							
PMG				S		**Sn**	**16 17 45.8**	**-1.7**
	42nm,0.5s,baz=132,slow=20,SNR=12							
JAY	**Jayapura**	**5.59**	**298**	P		**Pn**	**16 17 13.2**	**+1.0**
	12nm,0.9s,baz=166,slow=12,SNR=1.6							
JAY				S		**Sn**	**16 18 14.6**	**-0.6**
	10nm,0.8s,baz=276,slow=19,SNR=1.6							
WRA	**Warramunga Arr**	**18.34**	**216**	P		**Pn**	**16 20 01.1**	**-0.6**
	0.5nm,0.6s,baz=36,slow=11,SNR=8.7							
ASAR	**Alice Springs**	**21.59**	**210**	P		**P**	**16 20 36.0**	**-0.2**
	0.2nm,0.4s,baz=40,slow=7.9,SNR=12							
	0.2nm,0.4s							
NRIK	**Noril'sk**	**84.08**	**342**	P		**P**	**16 28 14.3**	**-0.6**
	0.8nm,0.4s,baz=135,slow=4.3,SNR=1.8							
	0.8nm,0.4s							
ILAR	**Eielson Array**	**85.26**	**23**	P		**P**	**16 28 20.6**	**-0.4**
	0.2nm,0.7s,baz=261,slow=5.4,SNR=1.7							
	0.2nm,0.7s							

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*JMA **16** 16:41:40.3±0.4, 44°.N±1°.×14°.8E±°, h0km, MV4.3/26, SE OFF ETOROFU*
*SKHL **16** 16:41:41.6±0.2, 44°.30N×148°.10E, h33km±2km, mb5.1/3*

ISC 16 16:41:37.9±2.9, 44°.23N±0°.10×148°.2E±0°.2, h9km±14km, n17, σ1§26/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.03**	**347**	*i* P		**Pg**	**16 41 57.7**	**0.0**
KUR					AMB	AMB	16 41 58.1	
	780nm,0.1s							
KUR				*i* S		**Sg**	**16 42 09.7**	**-1.3**
KUR				A		A	16 42 11.8	
	720nm,0.3s							
KUR				A		A	16 42 11.8	
	1μm,0.3s							
SHO	**Shikotan**	**1.05**	**250**	*i* P		**Pn**	**16 41 58.8**	**+0.1**
SHO					AMB	AMB	16 41 59.1	
	200nm,0.2s							
SHO				*i* S		**Sg**	**16 42 11.5**	**-0.1**
SHO				A		A	16 42 11.7	
	530nm,0.3s							
SHO				A		A	16 42 11.7	
	2μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.69**	**264**	*i* P		**Pn**	**16 42 08.0**	**+0.5**
YUK					AMB	AMB	16 42 09.9	
	720nm,0.2s							
YUK				*i* S		**Sn**	**16 42 27.9**	**-1.4**
YUK				A		A	16 42 30.6	
	700nm,0.2s							
YUK				A		A	16 42 30.6	
	990nm,0.2s							
NEM2	**Nemuro 2**	**1.97**	**245**	P		**Pn**	**16 42 11.7**	**+0.3**
NEM2				*e*S		**Sn**	**16 42 34.4**	**-1.9**
NMR	**Nemuro--Hokkai**	**1.98**	**245**	*i* P		**Pn**	**16 42 11.8**	**+0.2**
NMR				*i* S		**Sn**	**16 42 34.6**	**-1.9**
JRA	**Rausu**	**2.23**	**263**	P		**Pn**	**16 42 16.6**	**+1.6**
JRA				*e*S		**Sn**	**16 42 43.1**	**+0.5**
JNSB	**Nemuroshibetsu**	**2.34**	**260**	P		**Pn**	**16 42 18.0**	**+1.5**
JKHN	**Kushirohamanak**	**2.48**	**243**	P		**Pn**	**16 42 19.2**	**+0.8**
JNK	**Nakash**	**2.59**	**257**	P		**Pn**	**16 42 21.3**	**+1.3**
JNK				S		**Sn**	**16 42 50.9**	**-0.7**
AKK	**Akkeshi**	**2.72**	**245**	*e*P		**Pn**	**16 42 22.4**	**+0.7**
JAK	**Akkeshi**	**2.82**	**245**	P		**Pn**	**16 42 23.9**	**+0.8**
JTKR	**Abashiri--Toko**	**3.10**	**267**	*e*P		**Pn**	**16 42 28.4**	**+1.5**
JAR	**Ashorobuto**	**3.34**	**255**	*e*P		**Pn**	**16 42 31.6**	**+1.4**
JOB	**Onbets**	**3.43**	**249**	*e*P		**Pn**	**16 42 33.1**	**+1.5**
JMP	**Maruseppu**	**3.49**	**268**	*e*P		**Pn**	**16 42 34.0**	**+1.7**
JCH	**Churui**	**3.87**	**247**	P		**Pn**	**16 42 38.5**	**+1.0**
JCH				*e*S		**Sn**	**16 43 22.5**	**-0.6**
JNBK	**Urakawa-nobuka**	**4.43**	**246**	*e*P		**Pn**	**16 42 46.8**	**+1.6**

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*DJA **16** 16:56:12.1±0.4, 7°.S±3°.×12°.9E±°, h174km±10km, M4.1/15, mb4.1/13, mB4.8/3, MLv4.1/15, Mw(mB)4.1/3*

ISC 16 16:56:12.5±0.8, 7°.26S±0°.08×129°.04E±0°.07, h131km, n28, σ1§11/29, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.36**	**108**	P		**Pn**	**16 56 52.7**	**+1.8**
SAUI	**Saumlaki**	**2.36**	**108**	P		**Pn**	**16 56 51.9**	**+1.0**
SAUI				S		**Sn**	**16 57 22.5**	**+2.0**
BNDI	**Bandanaira**	**2.85**	**18**	P		**Pn**	**16 56 58.8**	**+1.6**
AAI	**Ambon**	**3.64**	**347**	P		**Pn**	**16 57 09.4**	**+1.8**
MSAI	**Masohi**	**3.89**	**358**	P		**Pn**	**16 57 12.4**	**+1.6**
NLAI	**Namlea**	**4.43**	**334**	P		**Pn**	**16 57 18.9**	**+0.8**
SOEI	**Soe**	**5.33**	**242**	P		**Pn**	**16 57 32.1**	**+1.9**
SOEI	**Soe**	**5.33**	**242**	P		**Pn**	**16 57 31.7**	**+1.5**
	87nm,0.8s,0.3nm							
FAKI	**Fak Fak**	**5.37**	**37**	P		**Pn**	**16 57 29.4**	**-1.2**
	14nm,0.5s,0.1nm							
DRS	**Darwin Rock St**	**5.46**	**160**	P		**Pn**	**16 57 31.3**	**-0.5**
KMPI	**Kaimana, Papua**	**5.86**	**53**	P		**Pn**	**16 57 37.7**	**+0.5**
MTN	**Manton Dam**	**5.92**	**160**	P		**Pn**	**16 57 37.1**	**-0.9**
BATI	**Baumata**	**6.07**	**241**	P		**Pn**	**16 57 40.7**	**+0.8**
	49nm,0.6s,1μm0.2nm							
KDU	**Kakadu**	**6.37**	**148**	P		**Pn**	**16 57 42.7**	**-1.3**
BBSI	**Bau Bau**	**6.66**	**285**	P		**Pn**	**16 57 48.8**	**+0.8**
SWI	**Sorong**	**6.73**	**19**	P		**Pn**	**16 57 48.9**	**0.0**
	8.2nm,1.0s,0.1nm							
MMRI	**Maumere**	**6.87**	**258**	P		**Pn**	**16 57 50.7**	**-0.1**
	25nm,1.0s,0.1nm							
BASI	**Baing, Sumba**	**8.86**	**250**	P		**Pn**	**16 58 17.9**	**+0.3**
	29nm,0.7s							
WSI	**Waingapu**	**8.97**	**254**	P		**Pn**	**16 58 18.8**	**-0.2**
WBSI	**Waikabubak, Su**	**9.83**	**255**	P		**Pn**	**16 58 31.2**	**+0.6**
	28nm,0.6s							
MRSI	**Marisa**	**10.45**	**317**	P		**Pn**	**16 58 39.0**	**+0.1**
	12nm,1.1s							
PLAI	**Plampang**	**11.26**	**261**	P		**Pn**	**16 58 50.0**	**+0.3**
PLAI	**Plampang**	**11.26**	**261**	P		**Pn**	**16 58 49.0**	**-0.7**
COEN	**Coen**	**15.40**	**117**	P		**P**	**16 59 44.8**	**+0.2**
QIS	**Mount Isa**	**16.72**	**143**	P		**Pn**	**16 59 59.1**	**0.0**
WRKA	**Warakurna**	**17.70**	**182**	P		**P**	**17 00 10.1**	**+0.2**
OOD	**Oodnadatta**	**21.38**	**164**	P		**P**	**17 00 50.8**	**+1.2**
INKA	**Innaminka**	**23.20**	**153**	P		**P**	**17 01 08.5**	**+0.7**

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*IDC **16** 17:07:48.5±1.4, 56°.66S×25°.38W, h0km, mb4.1/3, mbtmp3.9/4, ML3.3/1, MS2.9/1, Error ellipse: s-maj=71.0km s-min=24.7km az=59.0*

ISC 16 17:07:49.6±1.4, 56°.7S±0°.3×25°.4W±0°.4, h10km, n10, σ1§38/10, mb4.0/3, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.80**	**159**	⇑P		**Pn**	**17 11 30.9**	**-0.8**
	comp=Z,2.9nm,0.6s							
VNA3	**Neumayer Olymp**	**16.02**	**161**	⇑P		**Pn**	**17 11 34.0**	**-0.7**
	comp=Z,3.4nm,0.9s							
VNA2	**Neumayer--Watz**	**16.19**	**159**	⇑P		**Pn**	**17 11 34.5**	**-2.4**
	comp=Z,1.0nm,0.4s,baz=323,slow=16							
SNAA	**Sanae**	**17.72**	**157**	⇑P		**Pn**	**17 11 56.6**	**+0.5**
	comp=Z,32nm,0.7s							
SNAA	**Sanae**	**17.72**	**157**	P		**Pn**	**17 11 57.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=333,slow=16,SNR=7.6							
SNAA				LR		LR	17 18 08.2	
	comp=Z,34nm,19.0s,baz=284,slow=35							
	comp=Z,0.4nm,0.4s							
QSPA	**South Pole Qui**	**33.52**	**180**	P		**P**	**17 14 29.8**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=224,slow=12,SNR=7.8							
	comp=Z,1.3nm,0.7s							
CPUP	**Villa Florida**	**38.01**	**310**	P		**P**	**17 15 06.1**	**-1.6**
	comp=Z,1.2nm,0.4s,baz=135,slow=10,SNR=2.9							
	comp=Z,1.2nm,0.4s							
LPAZ	**La Paz**	**51.58**	**304**	P		**P**	**17 16 57.6**	**+1.0**
	comp=Z,2.2nm,0.6s,baz=163,slow=6.4,SNR=9.1							
	comp=Z,2.2nm,0.6s							
SONM	**Songino Array**	**149.77**	**86**	PKPbc		**PKPbc**	**17 27 38.6**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=240,slow=2.8,SNR=1.8							
ILAR	**Eielson Array**	**151.31**	**310**	PKPbc		**PKPbc**	**17 27 42.7**	**+0.9**
	comp=Z,1.4nm,1.0s,baz=110,slow=2.1,SNR=5.1							

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*IDC **16** 17:09:23.9±2.4, 10°.92S×162°.87E, h0km, mb3.5/4, mbtmp3.7/6, ML3.9/2, Error ellipse: s-maj=51.7km s-min=32.2km az=72.0*

ISC 16 17:09:29.2±1.7, 11°.0S±0°.2×162°.8E±0°.2, h34km, n6, σ0§54/7, mb3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.19**	**299**	Pn		**Pn**	**17 10 17.2**	**+0.2**
	22nm,0.3s,baz=144,slow=7.3,SNR=14							
HNR				Sn		**Sn**	**17 10 53.3**	**-0.7**
	5.3nm,0.3s,baz=50,slow=18,SNR=1.3							
	89nm,0.5s							
DZM	**Mont Dzumac**	**11.56**	**163**	Pn		**Pn**	**17 12 11.7**	**-0.4**
	0.4nm,0.3s,baz=119,slow=23,SNR=9.6							
	6.4nm,0.7s							
WRA	**Warramunga Arr**	**28.78**	**249**	P		**P**	**17 15 24.6**	**+0.4**
	0.3nm,0.7s,baz=80,slow=9.2,SNR=2.1							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**30.24**	**242**	P		**P**	**17 15 37.6**	**+0.5**
	0.7nm,0.7s,baz=62,slow=10,SNR=12							
	0.7nm,0.7s							
CMAR	**Chiang Mai Arr**	**69.43**	**295**	P		**P**	**17 20 34.2**	**-0.3**
	0.5nm,1.0s,baz=136,slow=4.3,SNR=5.0							
	0.5nm,1.0s							
SONM	**Songino Array**	**76.92**	**325**	P		**P**	**17 21 18.6**	**+0.3**
	0.4nm,0.7s,baz=116,slow=3.4,SNR=2.4							
	0.4nm,0.7s							

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*MOS **16** 17:11:12.9±2.0, 10°.94S×162°.99E, h10km, mb5.1/20, Error ellipse: s-maj=9.7km s-min=8.4km az=31.9*
*IDC **16** 17:11:13.9±0.6, 10°.66S×163°.02E, h0km, mb4.4/16, mbtmp4.3/20, ML4.6/3, MS4.6/43, Error ellipse: s-maj=18.8km s-min=16.8km az=201.0*
*NEIC **16** 17:11:13.4±1.6, 10°.70S±0°.08×163°.07E±0°.08, h10km±1km, mb5.3/123, Mww5.2/31, Error ellipse: s-maj=15.4km s-min=11.4km az=46.0*
*NEIC **16** 17:11:13.4, 10°.59S×162°.96E, h12km, Moment Tensor Solution. Duration: 1§1.0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.53; $M_{\theta\theta}$3.87; $M_{\phi\phi}$-3.34; $M_{r\theta}$1.25; $M_{\theta\phi}$5.64; $M_{\phi r}$-0.64; Fault plane solution: $M_0$6.84000×10^{16} NP1: ϕ_s285.88000°, δ86.65000°, λ-11.94000°. NP2:ϕ_s16.59000°, δ78.08000°, λ-176.57000°. Principal axes: T 7.0361, Plg6.0000°, Azm332.0000°; N -0.3910, Plg78.0000°, Azm90.0000°; P -6.6451, Plg11.0000°, Azm241.0000°;*
*NEIC **16** 17:11:13.4, 10°.69S×163°.06E, h12km*
*BJI **16** 17:11:16.4, 10°.34S×162°.69E, h8km, mb4.7/54, mB5.3/24, Ms5.0/42, Ms7 4.8/41*
*GCMT **16** 17:11:17.4±0.1, 10°.51S±0°.01×163°.08E±0°.01, h14km, MW5.2/133, Moment Tensor Solution. s100,c154; s133,c237; Duration: 1§0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.23±.12; $M_{\theta\theta}$3.64±.12; $M_{\phi\phi}$-3.42±.12; $M_{r\theta}$-0.22±.23; $M_{\theta\phi}$6.71±.12; $M_{\phi r}$-0.67±.23; Best double couple: $M_0$7.61400×10^{16} NP1:ϕ_s194.00000°, δ90.00000°, λ175.00000°. NP2:ϕ_s284.00000°, δ85.00000°, λ0.00000°. Principal axes: T 7.7280, Plg4.0000°, Azm149.0000°; N -0.2330, Plg85.0000°, Azm12.0000°; P -7.5010, Plg4.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 17:11:13.5±0.3, 10°.78S±0°.05×163°.11E±0°.05, h10km, n273, σ1§88/224, mb5.2/108, MS4.7/59, 7C-2D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.39**	**293**	Pn		**Pn**	**17 12 05.0**	**-1.5**
HNR	**Honiara**	**3.39**	**293**	Pn		**Pn**	**17 12 08.4**	**+1.9**
	91nm,0.3s,baz=171,slow=11,SNR=20							
HNR				Sn		**Sn**	**17 12 48.5**	**+1.6**
	109nm,0.3s,baz=252,slow=16,SNR=3.9							
	433nm,0.4s							
KOUNC	**Koumac, New Ca**	**9.78**	**174**	Pn		**Pn**	**17 13 35.0**	**+0.6**
DZM	**Mont Dzumac**	**11.67**	**165**	Pn		**Pn**	**17 14 02.4**	**+2.1**
DZM	**Mont Dzumac**	**11.67**	**165**	*e*P		Pn	17 14 08.1	+7.7
	136nm,1.4s							
DZM				*e*LR		LR	17 16 37.5	
	9μm,25.3s							
DZM	**Mont Dzumac**	**11.67**	**165**	Pn		**Pn**	**17 14 04.8**	**+4.4**
	2.1nm,0.3s,baz=321,slow=9.1,SNR=23							
DZM				Sn		**Sn**	**17 16 10.4**	**-0.5**
	0.3nm,0.3s,baz=321,slow=20,SNR=0.9							
DZM				LR		LR	17 17 58.0	
	comp=Z,5μm,20.3s,baz=3.5,slow=34							
	4.9nm,0.4s							
ONTNC	**Ouen Toro**	**11.90**	**165**	Pn		**Pn**	**17 14 04.0**	**+0.7**
PINNC	**Pines Island,**	**12.48**	**161**	Pn		**Pn**	**17 14 11.6**	**+0.3**
RABL	**Rabaul**	**12.67**	**300**	Pn		**Pn**	**17 14 10.4**	**-3.6**
RABL						**Sn**	**17 16 32.2**	**-3.0**
TARA	**Tarawa**	**15.51**	**40**	Pn		**Pn**	**17 14 51.0**	**-1.5**
PMG	**Port Moresby**	**15.77**	**274**			**Pn**	**17 14 54.6**	**-1.2**
PMG	**Port Moresby**	**15.77**	**274**	Pn		**Pn**	**17 14 55.1**	**-0.7**
	9.3nm,0.9s,baz=77,slow=14,SNR=2.1							
PMG				LR		LR	17 20 43.1	
	comp=Z,4μm,18.8s,baz=109,slow=36							
PMG	**Port Moresby**	**15.77**	**274**	P		**Pn**	**17 14 54.6**	**-1.2**
PMG				pmax		pmax		
	comp=Z,21nm,1.2s							
MSVF	**Nonsavu**	**16.04**	**117**	Pn		Pn	17 14 50.8	-8.6
MSVF	**Nonsavu**	**16.04**	**117**	Pn		**Pn**	**17 15 01.7**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=255,slow=20,SNR=2.0							
MSVF				LR		LR	17 19 59.6	
	comp=Z,4μm,20.7s,baz=295,slow=32							
	comp=Z,5.9nm,1.1s							
MANU	**Manus Island**	**17.88**	**298**	Pn		**Pn**	**17 15 16.3**	**-6.2**
EIDS	**Eidsvold**	**18.45**	**217**	P		**P**	**17 15 29.2**	**-0.3**
CTA	**Charters Tower**	**18.68**	**238**	LR		LR	17 22 36.8	
	comp=Z,165nm,18.1s,baz=66,slow=37							
CTAO	**Charters Tower**	**18.68**	**238**	P		**Pn**	**17 15 32.5**	**+0.1**
CTAO	**Charters Tower**	**18.68**	**238**	P		**Pn**	**17 15 32.5**	**+0.1**
CTAO				pmax		pmax		
	comp=Z,86nm,1.0s							
COEN	**Coen**	**19.73**	**259**	P		**P**	**17 15 42.7**	**-0.8**
LHI	**Lord Howe Isla**	**20.98**	**190**	P		**P**	**17 15 58.1**	**+1.1**
ARMA	**Armidale**	**22.27**	**207**	P		**P**	**17 16 12.1**	**+1.1**
GENI	**Genyem**	**24.18**	**288**	P		**P**	**17 16 32.9**	**+2.6**
	comp=Z,37nm,1.0s,comp=Z,2μm							
RAO	**Raoul Island**	**25.53**	**139**	P		**P**	**17 16 41.2**	**-1.2**
RAO	**Raoul Island**	**25.53**	**139**	LR		LR	17 24 57.6	
	comp=Z,2μm,21.7s,baz=350,slow=32							
RAO	**Raoul Island**	**25.53**	**139**	P		**P**	**17 16 41.2**	**-1.2**
RAO				pmax		pmax		
	comp=Z,602nm,1.2s							
CAN	**Canberra**	**27.60**	**205**	P		**P**	**17 17 00.8**	**-0.4**
CAN				IAmb		IAmb	17 17 33.3	
	comp=Z,67nm,1.9s							
CAN	**Canberra**	**27.60**	**205**	P		**P**	**17 17 00.8**	**-0.4**
CAN				pmax		pmax		
	comp=Z,67nm,1.9s							
STKA	**Stephens Creek**	**28.91**	**220**	P		**P**	**17 17 12.4**	**-0.5**
STKA	**Stephens Creek**	**28.91**	**220**	P		**P**	**17 17 15.7**	**+2.8**
	comp=Z,4.9nm,0.9s,baz=36,slow=13,SNR=10.0							
STKA				LR		LR	17 27 58.1	
	comp=Z,2μm,21.0s,baz=37,slow=35							
	comp=Z,4.9nm,0.9s							
STKA	**Stephens Creek**	**28.91**	**220**	P		**P**	**17 17 12.4**	**-0.5**
STKA				pmax		pmax		
	comp=Z,4.0nm,1.2s							
WR0	**Warramunga Arr**	**28.98**	**248**	P		**P**	**17 17 13.0**	**-0.6**
WB0	**Warramunga Arr**	**29.07**	**249**	P		**P**	**17 17 13.2**	**-1.2**
WRAB	**Tennant Creek**	**29.15**	**248**	P		**P**	**17 17 12.1**	**-3.0**
WRAB	**Tennant Creek**	**29.15**	**248**	P		**P**	**17 17 12.1**	**-3.0**
WRAB				pmax		pmax		
	comp=Z,15nm,1.1s							
WB2	**Warramunga Arr**	**29.15**	**248**	P		**P**	**17 17 14.5**	**-0.6**
WRA	**Warramunga Arr**	**29.16**	**248**	P		**P**	**17 17 13.3**	**-1.9**
WRA	**Warramunga Arr**	**29.16**	**248**	P		**P**	**17 17 16.2**	**+1.0**
	comp=Z,6.3nm,0.9s,baz=78,slow=9.2,SNR=27							
WRA				LR		LR	17 28 58.9	
	comp=Z,3μm,18.4s,baz=78,slow=37							
	comp=Z,6.3nm,0.9s							
WRA	**Warramunga Arr**	**29.16**	**248**	P		**P**	**17 17 13.3**	**-1.9**
WRA				pmax		pmax		
	comp=Z,2.0nm,2.0s							
H11S2	**WAKE ISLAND Hy**	**29.30**	**7**	T		T	17 47 39.8	
	baz=188,slow=76,SNR=26							
H11S3	**WAKE ISLAND Hy**	**29.30**	**7**	T		T	17 47 40.8	
	baz=188,slow=76,SNR=31							
H11S1	**WAKE ISLAND Hy**	**29.32**	**7**	T		T	17 47 39.1	
	baz=188,slow=76,SNR=25							
HIZ	**Hauiti**	**29.55**	**161**	P		P	17 17 14.2	-4.2
URZ	**Urewera**	**30.10**	**158**	LR		LR	17 28 06.7	
	comp=Z,514nm,19.7s,baz=67,slow=34							
GUMO	**Guam**	**30.23**	**323**	LR		LR	17 28 19.2	
	comp=Z,2μm,22.0s,baz=128,slow=34							
H11N1	**WAKE ISLAND Hy**	**30.53**	**7**	T		T	17 49 21.4	
	baz=188,slow=76,SNR=14							
H11N3	**WAKE ISLAND Hy**	**30.53**	**7**	T		T	17 49 11.4	
	baz=188,slow=76,SNR=18							
H11N2	**WAKE ISLAND Hy**	**30.55**	**7**	T		T	17 49 21.2	
	baz=188,slow=76,SNR=13							
AS31	**Alice Springs**	**30.62**	**241**	P		**P**	**17 17 25.8**	**-2.4**
ASAR	**Alice Springs**	**30.62**	**241**	P		**P**	**17 17 27.5**	**-0.6**
ASAR	**Alice Springs**	**30.62**	**241**	P		**P**	**17 17 28.7**	**+0.5**
	comp=Z,7.9nm,0.8s,baz=67,slow=10,SNR=71							
ASAR				LR		LR	17 29 11.6	
	comp=Z,2μ

PPT2 eLR LR 17 32 37.4
comp=Z,1μm,24.0s
PPT2 eLR LR 17 32 39.0
comp=Z,1μm,25.5s
TBI Tubuai 46.83 112 eP **P 17 19 46.4 +2.5**
comp=Z,355nm,38.5s
TBI eS **S 17 26 32.9 -1.8**
comp=Z,521nm,24.5s
TBI eSS **SS 17 29 59.4 -1.9**
comp=Z,579nm,26.2s
TBI eLQ LQ 17 30 58.6
comp=Z,15μm,29.0s
TBI eLR LR 17 32 55.5
comp=Z,5μm,29.0s
TBI eLR LR 17 32 57.1
comp=Z,716nm,35.2s
MYLDM Lahad Datu 47.16 287 P **P 17 19 44.9 -1.7**
MYLDM IAmb IAmb 17 20 19.4
comp=Z,20nm,1.1s
NWAO Narrogin (SRO) 47.48 235 LR LR 17 39 23.2
comp=Z,2μm,19.6s,baz=50,slow=36
MORW Morawa 47.49 240 P **P 17 19 47.8 -1.3**
MORW IAmb IAmb 17 19 58.5
comp=Z,52nm,1.5s
MJAR Matsushiro Arr 52.58 335 P **P 17 20 26.4 -1.1**
comp=Z,1.0nm,0.7s,baz=154,slow=6.6,SNR=1.9
comp=Z,1.0nm,0.7s
YULB Yu-li 53.17 310 P **P 17 20 28.9 -3.1**
YULB IAmb IAmb 17 20 44.0
comp=Z,30nm,1.0s
JNU Nakatsue 53.38 326 LR LR 17 40 15.1
comp=Z,506nm,21.9s,baz=172,slow=33
TPUB Ta-pu 53.62 310 P **P 17 20 32.5 -2.9**
SSLB Suanglung 53.65 310 P **P 17 20 33.6 -2.0**
SSLB IAmb IAmb 17 20 45.5
comp=Z,28nm,1.0s
LEM Lembang 54.92 269 LR LR 17 47 10.1
comp=Z,164nm,18.8s,baz=158,slow=39
TAOE Nuku Hiva Isla 55.88 93 eS **S 17 28 34.8 -5.4**
comp=Z,119nm,23.9s
TAOE eLQ LQ 17 34 44.7
comp=Z,7μm,35.2s
TAOE eLR LR 17 37 01.3
comp=Z,945nm,25.8s
QZH Quanzhou 56.08 310 eP **P 17 20 54.4 +1.3**
QZH LR LR
comp=Z,470nm,13.9s
QZH LR LR
comp=Z,560nm,18.8s
QZH LR LR
comp=Z,610nm,15.8s
KSRS Korea Array 58.23 327 LR LR 17 43 12.7
comp=Z,386nm,20.5s,baz=135,slow=33
NJ2 Nanjing 60.03 317 eP **P 17 21 22.3 +1.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
QIZ Qiongzhong 60.28 299 P **P 17 21 24.3 +1.6**
QIZ PP **PP 17 23 38.6 +2.8**
QIZ ScS **ScS 17 31 13.8 -0.3**
QIZ pmax pmax
comp=Z,15nm,1.5s
QIZ pmax pmax
comp=Z,280nm,6.3s
QIZ LR LR
comp=Z,180nm,14.5s
QIZ LR LR
comp=Z,260nm,18.6s
QIZ LR LR
comp=Z,410nm,20.2s
YSS Yuzh-Sakhalins 60.28 344 eP **P 17 21 25.4 +3.2**
YSS pmax pmax
comp=Z,20nm,1.2s
USA0B Ussuriysk Arra 61.58 335 P **P 17 21 29.1 -2.0**
USA0B IAmb IAmb 17 21 53.7
comp=Z,44nm,1.4s
USA0B Ussuriysk Arra 61.58 335 P **P 17 21 29.1 -2.0**
USA0B pmax pmax
comp=Z,44nm,1.4s
USRK Ussuriysk Ar. 61.58 335 P **P 17 21 28.8 -2.2**
USRK Ussuriysk Ar. 61.58 335 P **P 17 21 32.3 +1.2**
comp=Z,2.0nm,0.8s,baz=99,slow=11,SNR=4.4
comp=Z,2.0nm,0.8s
PETK Petropavlovsk- 63.80 356 P **P 17 21 46.5 +0.8**
comp=Z,1.6nm,0.8s,baz=186,slow=4.3,SNR=1.7
comp=Z,1.6nm,0.8s
CN2 Changchun 64.21 331 P **P 17 21 52.0 +3.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=Z,500nm,19.0s
CN2 LR LR
comp=Z,600nm,19.0s
CN2 LR LR
comp=Z,700nm,20.0s
BNX BinXian 64.78 333 ⇑P P 17 21 59.5 +7.2
BNX pmax pmax
comp=Z,12nm,1.4s
CASY Casey 65.70 201 P **P 17 21 57.5 -0.5**
CASY IAmb IAmb 17 22 07.4
comp=Z,25nm,1.4s
ENH Enshi 65.73 310 P **P 17 21 56.5 -2.4**
ENH IAmb IAmb 17 22 08.5
comp=Z,32nm,1.3s
KLR Kul'dur 65.81 338 *ce*P **P 17 22 01.8 +2.9**
KLR pmax pmax
comp=Z,17nm,1.7s
LYN LuoYang 65.83 316 ⇓P P 17 22 04.5 +5.2
LYN pmax pmax
comp=Z,11nm,0.9s
LYN LR LR
comp=Z,620nm,17.5s
LYN LR LR
comp=Z,550nm,17.3s
LYN LR LR
comp=Z,770nm,19.4s
HNS HongShan 65.97 319 ⇓P **P 17 22 03.4 +3.2**
HNS S **S 17 30 46.3 -1.7**
HNS pmax pmax
comp=Z,13nm,1.4s
HNS LR LR
comp=Z,400nm,18.2s
HNS LR LR
comp=Z,220nm,18.3s
HNS LR LR
comp=Z,500nm,20.7s
GYA Guiyang 66.14 305 P **P 17 22 03.8 +2.1**
GYA sP pwP 17 22 09.8 +2.7
GYA S **S 17 30 51.3 +0.6**
GYA pmax pmax
comp=Z,10.0nm,1.3s
GYA LR LR
comp=Z,320nm,14.6s
SLVN Son La 66.31 299 P **P 17 22 00.6 -2.2**
SLVN IAmb IAmb 17 22 20.3
comp=Z,22nm,1.4s
SBA Scott Base 67.09 179 P **P 17 22 07.5 +0.8**
SBA IAmb IAmb 17 22 19.1
comp=Z,20nm,1.4s
SBA Scott Base 67.09 179 P **P 17 22 07.5 +0.8**
SBA pmax pmax
comp=Z,20nm,1.4s
XAN Xi'an 68.05 313 P **P 17 22 15.4 +1.9**
XAN pmax pmax
comp=Z,16nm,1.0s
XAN LR LR
comp=Z,540nm,16.5s
XAN LR LR
comp=Z,540nm,18.6s
XAN LR LR
comp=Z,840nm,20.6s
HEH HeiHe 68.30 336 eP **P 17 22 15.1 +0.4**
HEH pmax pmax
comp=Z,6.0nm,0.9s
PHRA Phrae 68.50 295 P **P 17 22 15.2 -1.4**
KMI Kunming 68.78 302 ⇑P **P 17 22 21.4 +2.9**
KMI S **S 17 31 22.9 +0.2**
KMI pmax pmax
comp=Z,310nm,7.7s
KMI LR LR
comp=Z,180nm,13.8s
KMI LR LR
comp=Z,240nm,15.0s
KMI LR LR
comp=Z,240nm,17.1s
XLT XiLinHaoTe 69.16 326 eP **P 17 22 23.0 +2.7**
XLT S **S 17 31 28.1 +1.9**
XLT pmax pmax
comp=Z,12nm,0.8s
XLT LR LR
comp=Z,430nm,20.5s
XLT LR LR
comp=Z,520nm,20.6s
CM31 Chiang Mai Arr 69.64 294 P **P 17 22 22.3 -1.4**
CMAR Chiang Mai Arr 69.64 294 P **P 17 22 23.0 -0.7**
CMAR Chiang Mai Arr 69.64 294 P **P 17 22 24.3 +0.6**
comp=Z,2.6nm,0.9s,baz=125,slow=4.7,SNR=18
comp=Z,2.6nm,0.9s
CHTO Chiang Mai 69.76 295 P **P 17 22 23.6 -0.8**
CHTO Chiang Mai 69.76 295 P **P 17 22 23.6 -0.8**
CHTO pmax pmax
comp=Z,19nm,1.4s
HHC Hu-ho-hao-te 69.97 321 eP **P 17 22 26.0 +0.6**
HHC pP pwP 17 22 31.6 +0.7
HHC ScS **ScS 17 32 24.3 -3.7**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,180nm,6.1s
HHC LR LR
comp=Z,330nm,14.5s
HHC LR LR
comp=Z,280nm,16.7s
HHC LR LR
comp=Z,660nm,19.2s
PZH PanZhiHua 70.16 303 P **P 17 22 28.8 +1.9**
PZH S **S 17 31 37.3 -1.4**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,140nm,5.5s
PZH LR LR
comp=Z,210nm,18.8s
PZH LR LR
comp=Z,230nm,19.0s
PZH LR LR
comp=Z,270nm,20.6s
CD2 Chengdu 70.40 308 eP **P 17 22 26.8 -1.4**
BTO Baotou 70.80 320 eP **P 17 22 34.1 +3.6**
BTO pP **pwP 17 22 38.8 +2.8**
BTO sP sP 17 22 41.0 +7.0
BTO sS sS 17 31 58.6 +9.3
BTO pmax pmax
comp=Z,12nm,0.5s
BTO pmax pmax
comp=Z,360nm,6.2s
BTO LR LR
comp=Z,830nm,22.4s
BTO LR LR
comp=Z,620nm,23.2s
BTO LR LR
comp=Z,960nm,21.2s
ZEA Zeya 71.12 338 eP P 17 22 38.0 +6.0
ZEA *e* 17 31 56.9
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ZEA MLR MLR
comp=Z,300nm,14.0s
TNCH TengChong 72.28 301 P **P 17 22 42.1 +2.2**
TNCH S **S 17 32 00.6 -2.9**
TNCH pmax pmax
comp=Z,10.0nm,1.3s
TNCH pmax pmax
comp=Z,87nm,2.9s
TNCH LR LR
comp=Z,160nm,5.6s
TNCH LR LR
comp=Z,140nm,5.6s
TNCH LR LR
comp=Z,260nm,16.7s
LZH Lanzhou 72.68 313 eP **P 17 22 45.1 +3.1**
LZH pP pwP 17 22 48.8 +1.3
LZH sP PcP 17 22 52.8 -6.6
LZH PP **PP 17 25 24.3 +0.4**
LZH pmax pmax
comp=Z,27nm,1.1s
LZH LR LR
comp=Z,190nm,16.8s
LZH LR LR
comp=Z,380nm,16.3s
LZH LR LR
comp=Z,500nm,17.0s
SEY Seymchan 73.95 355 *ce*P P 17 22 54.2 +5.5
SEY pmax pmax
comp=Z,13nm,1.3s
ULN Ulaanbaatar 76.58 325 P **P 17 23 03.2 -1.1**
ULN Ulaanbaatar 76.58 325 *i* P **P 17 23 05.9 +1.5**
ULN pmax pmax
comp=Z,7.0nm,1.2s
SONM Songino Array 76.94 325 P **P 17 23 07.7 +1.3**
comp=Z,2.8nm,0.8s,baz=134,slow=4.8,SNR=13
SONM LR LR 17 55 18.1
comp=Z,537nm,20.9s,baz=128,slow=34
comp=Z,2.8nm,0.8s
GTA Gaotai 77.02 315 eP **P 17 23 09.4 +2.4**
GTA pP pwP 17 23 14.3 +1.8
GTA S **S 17 32 57.6 +1.7**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA LR LR
comp=Z,170nm,16.7s
GTA LR LR
comp=Z,180nm,16.3s
GTA LR LR
comp=Z,320nm,17.1s
YAK Yakutsk 77.13 345 eP **P 17 23 08.0 +1.1**
YAK pmax pmax
comp=Z,16nm,1.3s
YAK pmax pmax
comp=E,14nm,1.8s
YAK pmax pmax
comp=N,17nm,1.3s
SHL Shillong 78.12 299 P **P 17 23 12.7 -0.8**
SHL Shillong 78.12 299 P **P 17 23 12.7 -0.8**
SHL pmax pmax
comp=Z,80nm,1.8s
BILL Bilibino 78.65 1 P **P 17 23 14.9 -0.4**
BILL IAmb IAmb 17 23 23.9
comp=Z,59nm,1.6s
BILL Bilibino 78.65 1 *ce*P **P 17 23 15.9 +0.6**
BILL pmax pmax
comp=Z,39nm,1.7s
QSPA South Pole Qui 79.22 180 P **P 17 23 18.4 -0.4**
QSPA South Pole Qui 79.22 180 P **P 17 23 21.6 +2.8**
comp=Z,5.5nm,1.0s,baz=359,slow=2.4,SNR=12
QSPA LR LR 17 56 25.4
comp=Z,314nm,18.5s,baz=30,slow=34
comp=Z,5.5nm,1.0s
GOMU GeErMu 79.36 310 P **P 17 23 22.3 +1.9**
GOMU pP PcP 17 23 28.3 -0.2
GOMU sP pwP 17 23 32.8 +6.9
GOMU S **S 17 33 16.0 -5.7**
GOMU pmax pmax
comp=Z,4.0nm,1.1s
GOMU LR LR
comp=Z,330nm,17.9s
GOMU LR LR
comp=Z,340nm,16.4s
GOMU LR LR
comp=Z,570nm,17.6s
J19K Poorman 80.86 17 P **P 17 23 28.0 +0.6**
J19K IAmb IAmb 17 23 36.2
comp=Z,33nm,1.5s
G19K Purcell Mounta 82.11 15 P **P 17 23 33.7 -0.3**
G19K IAmb IAmb 17 23 43.3
comp=Z,50nm,1.5s
IMAR Indian Mountai 82.88 16 P **P 17 23 38.0 0.0**
H21K Melozitna Rive 82.91 17 IAmb IAmb 17 23 56.5
comp=Z,36nm,1.6s
RPN Rapa Nui 83.01 116 LR LR 17 52 41.3
comp=Z,324nm,21.4s,baz=218,slow=30
F20K Avaraart Lake 83.16 15 IAmb IAmb 17 23 48.8
comp=Z,38nm,1.6s
G21K Allakaket 83.34 16 P **P 17 23 39.6 -0.8**
G21K IAmb IAmb 17 23 56.9
comp=Z,42nm,1.6s
HDA Harding Lake 83.84 20 IAmb IAmb 17 23 50.5
comp=Z,22nm,1.1s
F21K Alatna River 83.87 16 IAmb IAmb 17 23 52.1
comp=Z,28nm,1.4s
H23K Yukon River 83.98 18 P **P 17 23 43.6 0.0**
MAW Mawson 83.99 202 LR LR 17 58 23.3
comp=Z,132nm,18.8s,baz=94,slow=34
IL31 84.10 19 IAmb IAmb 17 23 56.0
comp=Z,14nm,1.1s
ILAR Eielson Array 84.10 19 P **P 17 23 42.3 -2.0**
ILAR Eielson Array 84.10 19 P **P 17 23 45.3 +1.0**
comp=Z,5.0nm,1.1s,baz=244,slow=5.2,SNR=20
ILAR LR LR 17 55 21.4
comp=Z,182nm,20.8s,baz=230,slow=32
comp=Z,5.0nm,1.1s
ILAR Eielson Array 84.10 19 P **P 17 23 42.3 -2.0**
M27K Edge Creek, AK 84.35 23 IAmb IAmb 17 23 55.5
comp=Z,37nm,1.4s
SCRK Sand Creek 84.57 21 IAmb IAmb 17 23 55.1
comp=Z,51nm,2.0s
BCAR Beaver Creek A 84.80 22 P **P 17 23 47.9 -0.1**
O02D Mt. Diablo Mer 85.02 48 P **P 17 23 48.9 -0.7**
O02D IAmb IAmb 17 23 58.7
comp=Z,22nm,1.3s
G24K Hadweenzic Riv 85.19 18 IAmb IAmb 17 23 59.1
comp=Z,16nm,1.2s
TIXI Tiksi 85.35 350 P **P 17 23 50.1 -0.3**
TIXI IAmb IAmb 17 24 06.1
comp=Z,18nm,1.4s
TIXI Tiksi 85.35 350 LR LR 18 04 48.3
comp=Z,138nm,18.0s,baz=192,slow=38
TIXI Tiksi 85.35 350 *i* P **P 17 23 51.1 +0.7**
TIXI pmax pmax
comp=Z,22nm,2.1s
E23K Chandalar 85.50 16 IAmb IAmb 17 24 09.2
comp=Z,31nm,1.6s
YBH Yreka Blue Hor 85.57 46 LR LR 17 56 00.4
comp=Z,244nm,19.2s,baz=250,slow=31
F24K Squaw Lake 85.62 17 IAmb IAmb 17 24 02.1
comp=Z,32nm,1.8s
M29M Somme Creek 85.71 23 P **P 17 23 51.5 -1.0**
M29M IAmb IAmb 17 24 02.4
comp=Z,34nm,1.8s
BBB Bella Bella 85.84 35 LR LR 18 03 35.8
comp=Z,184nm,18.1s,baz=254,slow=37
AFDM Forest Hills D 85.98 49 IAmb IAmb 17 24 04.6
comp=Z,35nm,1.4s
EGAK Eagle 86.03 21 P **P 17 23 53.5 -0.4**
EGAK IAmb IAmb 17 24 02.8
comp=Z,38nm,1.3s
L29M L29M 86.20 23 IAmb IAmb 17 24 13.5
comp=Z,31nm,1.4s
F25K Christian Rive 86.32 17 IAmb IAmb 17 24 04.6
comp=Z,20nm,1.4s
BMAR Burnt Mountain 86.53 18 P **P 17 23 56.1 -0.4**
F26K Sheenjek River 86.83 18 P **P 17 23 56.8 -1.1**
F26K IAmb IAmb 17 24 07.4
comp=Z,42nm,1.8s
K29M Barlow Dome 86.83 22 IAmb IAmb 17 24 29.6
comp=Z,47nm,1.9s
I28M Miner Creek 86.84 21 P **P 17 23 57.4 -0.7**
J29N Klondike Camp 86.90 22 P **P 17 23 57.5 -0.8**
J29N IAmb IAmb 17 24 08.5
comp=Z,14nm,0.9s
WMQ Urumqi 87.08 315 eP **P 17 23 59.8 +0.1**
WMQ LR LR
comp=Z,410nm,8.7s
WMQ LR LR
comp=Z,430nm,23.7s
OMMB Old Mammoth Mi 87.09 51 P **P 17 23 59.2 -1.0**
OMMB IAmb IAmb 17 24 10.7
comp=Z,21nm,1.5s
D25K Kavik River 87.23 16 P **P 17 23 59.0 -0.9**
D25K IAmb IAmb 17 24 08.3
comp=Z,22nm,1.6s
DLBC Dease Lake 87.42 29 LR LR 17 58 12.7
comp=Z,327nm,18.1s,baz=276,slow=32
PINE Pine Mountain 87.44 45 P **P 17 23 59.9 -1.8**
PINE IAmb IAmb 17 24 21.1
comp=Z,31nm,1.6s
DSP Deep Springs 87.81 51 P **P 17 24 01.7 -1.5**
DSP IAmb IAmb 17 24 13.5
comp=Z,25nm,1.5s
NVAR Mina Array Bea 87.84 50 P **P 17 24 01.7 -1.9**
NVAR Mina Array Bea 87.84 50 P **P 17 24 06.5 +2.8**
comp=Z,3.6nm,1.1s,baz=238,slow=5.2,SNR=2.5
NVAR LR LR 17 57 44.5
comp=Z,521nm,19.1s,baz=258,slow=32
comp=Z,3.6nm,1.1s
E27K Coleen River 87.89 18 P **P 17 24 03.2 +0.2**
E27K IAmb IAmb 17 24 12.4
comp=Z,28nm,1.4s
I30M Mount Dempster 87.97 22 IAmb IAmb 17 24 12.8
comp=Z,14nm,1.4s
PFO Pinyon Flats O 88.05 55 LR LR 17 54 32.2
comp=Z,368nm,21.7s,baz=269,slow=30
KVN Kaiserville 88.16 50 P **P 17 24 03.6 -1.6**
KVN IAmb IAmb 17 24 15.0
comp=Z,19nm,1.6s
KVN Kaiserville 88.16 50 P **P 17 24 03.6 -1.6**
KVN pmax pmax
comp=Z,19nm,1.6s
YUH Yuha Desert 88.26 56 P **P 17 24 05.3 -0.2**
YUH IAmb IAmb 17 24 15.6
comp=Z,29nm,1.4s
GWY Greenwater Val 88.52 53 P **P 17 24 07.1 +0.2**
GWY IAmb IAmb 17 24 16.6
comp=Z,22nm,1.6s
D27M Malcolm River 88.70 17 IAmb IAmb 17 24 17.3
comp=Z,37nm,1.6s
E28M Babbage River 88.76 18 P **P 17 24 08.6 +1.5**
G08A Pilot Rock 89.23 44 P **P 17 24 08.7 -1.2**
G08A IAmb IAmb 17 24 19.8
comp=Z,29nm,1.7s
G31M Satah River 89.58 20 IAmb IAmb 17 24 57.7
comp=Z,38nm,1.8s
SHPR Sheep Range 89.78 53 P **P 17 24 11.4 -1.4**
SHPR IAmb IAmb 17 24 23.1
comp=Z,25nm,1.6s
R11B Troy Canyon, C 89.89 51 IAmb IAmb 17 24 23.0
comp=Z,28nm,1.6s
F31M Tsiigehtchic 90.01 20 IAmb IAmb 17 24 29.6
comp=Z,42nm,1.8s
BMO Blue Mountains 90.24 44 P **P 17 24 13.3 -1.4**
BMO IAmb IAmb 17 24 24.4
comp=Z,38nm,1.9s
BMO Blue Mountains 90.24 44 P **P 17 24 13.3 -1.4**
BMO pmax pmax
comp=Z,38nm,1.9s
INK Inuvik 90.50 19 IAmb IAmb 17 24 24.4
comp=Z,21nm,1.5s
INK Inuvik 90.50 19 LR LR 18 00 06.2
comp=Z,102nm,20.2s,baz=236,slow=32
ELK Elko 90.71 49 P **P 17 24 15.6 -1.6**
ELK IAmb IAmb 17 24 27.1
comp=Z,22nm,1.5s
ELK Elko 90.71 49 P **P 17 24 15.6 -1.6**
ELK pmax pmax
comp=Z,22nm,1.5s
PLID Pearl Lake 91.20 44 P **P 17 24 18.2 -1.1**
NEW Newport 91.24 41 LR LR 17 59 02.5
comp=Z,144nm,19.6s,baz=270,slow=32
LPIG La Paz 91.25 66 LR LR 17 59 28.2
comp=Z,263nm,18.4s,baz=228,slow=32
SLBS Sierra La Lagu 91.50 66 P **P 17 24 20.4 -0.6**
MK31 Makanchi Array 91.56 317 P **P 17 24 20.2 -0.5**
MK31 IAmb IAmb 17 24 29.3
comp=Z,35nm,2.0s
MK31 Makanchi Array 91.56 317 *ce*P **P 17 24 22.2 +1.5**
MKAR Makanchi Array 91.56 317 P **P 17 24 20.2 -0.5**
MKAR Makanchi Array 91.56 317 P **P 17 24 23.0 +2.3**
comp=Z,1.9nm,0.6s,baz=93,slow=6.3,SNR=16
MKAR LR LR 18 05 15.0
comp=Z,243nm,20.9s,baz=74,slow=36
comp=Z,1.9nm,0.6s
MAKZ Makanchi 91.78 317 P **P 17 24 21.1 -0.6**
MAKZ Makanchi 91.78 317 P **P 17 24 21.1 -0.6**
MAKZ pmax pmax
comp=Z,37nm,1.8s
ZALV Zalesovo Beam 91.83 325 P **P 17 24 22.8 +1.0**
comp=Z,1.4nm,0.7s,baz=102,slow=6.8,SNR=5.6
ZALV LR LR 18 03 56.3
comp=Z,370nm,22.0s,baz=108,slow=34
comp=Z,1.4nm,0.7s
HLID Hailey 91.95 46 P **P 17 24 21.7 -1.1**
MSU Marysvale 92.53 51 P **P 17 24 24.0 -1.6**
MSU Marysvale 92.53 51 P **P 17 24 24.0 -1.6**
DLMT Dillon 93.61 45 P **P 17 24 28.0 -2.3**
YHL Hebgen Lake 94.49 45 P **P 17 24 32.1 -2.5**
YHL IAmb IAmb 17 24 44.2
comp=Z,27nm,1.8s
KURK Kurchatov 94.79 321 *i* P **P 17 24 37.6 +2.2**

KURK pmax pmax
comp=Z,17nm,3.0s
KURBB Kurchatov Arra 94.83 320 P P 17 24 36.6 +1.0
comp=Z,0.5nm,0.7s,baz=104,slow=2.8,SNR=5.7
KURBB LR LR 18 06 56.6
comp=Z,360nm,20.6s,baz=148,slow=35
comp=Z,0.5nm,0.7s
NRIK Noril'sk 94.97 340 LR LR 18 11 54.5
comp=Z,132nm,18.0s,baz=117,slow=38
NRIK Noril'sk 94.97 340 *i P* **P 17 24 40.1 +4.3**
NRIK pmax pmax
comp=Z,3.0nm,1.1s
PDAR Pinedale Array 95.28 48 P **P 17 24 41.0 +2.8**
comp=Z,0.1nm,0.4s,baz=262,slow=2.5,SNR=1.7
PDAR LR LR 18 01 21.0
comp=Z,155nm,19.3s,baz=258,slow=32
comp=Z,0.1nm,0.4s
YKA Yellowknife Ar 95.93 28 LR LR 18 00 45.6
comp=Z,195nm,20.3s,baz=258,slow=31
AAK Ala-Archa 96.19 312 LR LR 18 12 13.6
comp=Z,219nm,18.0s,baz=82,slow=38
NVL N'lazarevskaya 96.33 189 *eP* P 17 24 34.1 -8.0
NVL pmax pmax
comp=Z,8.0nm,0.7s
NVL MLR MLR
comp=Z,212nm,16.0s
ANMO Albuquerque 96.43 56 LR LR 18 01 52.4
comp=Z,227nm,19.2s,baz=86,slow=32
ANMO Albuquerque 96.43 56 *ceP* P 17 24 48.8 +5.2
ANMO pmax pmax
comp=Z,1.0nm,1.1s
SNAA Sanae 97.20 184 P Pdif 17 24 47.5 +1.3
comp=Z,1.5nm,1.1s,baz=210,slow=3.1,SNR=2.6
SNAA LR LR 18 06 28.9
comp=Z,216nm,19.5s,baz=186,slow=34
comp=Z,1.5nm,1.1s
SNAA Sanae 97.20 184 *i P* Pdif 17 24 51.7 +5.5
SNAA pmax pmax
comp=Z,2.0nm,1.1s
TX31 Lajitas Ar. Si 97.98 62 IAmb IAmb 17 25 10.6
comp=Z,16nm,1.8s
TXAR Lajitas Array 97.98 62 LR LR 18 03 25.3
comp=Z,198nm,18.5s,baz=256,slow=32
BVAR Borovoye Array 100.15 322 P **Pdif 17 25 00.4 +0.8**
comp=Z,0.8nm,0.7s,baz=99,slow=4.7,SNR=4.5
BRVK Borovoye 100.22 322 *i P* **Pdif 17 25 02.1 +2.2**
BRVK pmax pmax
comp=Z,2.0nm,1.1s
ARCES ARCESS Array B 115.41 345 PKP **PKPdf 17 29 55.8 +0.7**
comp=Z,4.0nm,0.9s,baz=346,slow=1.9,SNR=2.5
KIV Kislovodsk 119.20 314 *e*PKIKP **PKiKP 17 30 06.5 +3.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
FINES FINESS Array B 120.56 338 PKP **PKiKP 17 30 07.0 +1.7**
comp=Z,2.0nm,0.8s,baz=93,slow=2.8,SNR=1.6
FINES FINESS Array B 120.56 338 PKiKP **PKiKP 17 30 07.0 +1.7**
GURO Guroymak-BITLI 120.87 309 PKPdf **PKPdf 17 30 06.0 -0.7**
NACGM Naroch 124.20 331 *e*PKP **PKiKP 17 30 17.9 +5.2**
AKASG Malin Array Be 125.21 326 PKP **PKiKP 17 30 16.3 +1.5**
comp=Z,0.2nm,0.3s,baz=63,slow=1.6,SNR=6.1
NB2 NORSAR Subarra125.74 344 PKPdf **PKiKP 17 30 17.1 +1.5**
comp=Z,2.1nm,0.9s,baz=31,slow=1.9
NOA NORSAR Array B125.74 344 PKP **PKiKP 17 30 17.1 +1.5**
comp=Z,0.9nm,0.7s,baz=36,slow=2.0,SNR=2.9
HFS Hagfors 125.75 342 PKP **PKiKP 17 30 15.3 -0.3**
comp=Z,2.3nm,0.7s,baz=64,slow=3.4,SNR=2.8
BRTR Keskin Array B 126.87 312 PKP **PKiKP 17 30 19.9 +1.2**
comp=Z,0.9nm,1.0s,baz=64,slow=3.4,SNR=2.6
SDV Santo Domingo 127.06 87 PKPdf **PKPdf 17 30 17.7 -1.6**
KOLS Kolonicke sedl 129.95 327 *e*PKIKP PKiKP 17 30 32.7 +8.3
KOLS Kolonicke sedl 129.95 327 *e*PKP PKiKP 17 30 32.7 +8.3
LANS Liptovska Anna 131.28 329 *e*PKIKP PKiKP 17 30 35.4 +8.3
LANS Liptovska Anna 131.28 329 *e*PKP PKiKP 17 30 35.4 +8.3
BRG Berggiesshubel 132.71 334 *eP* **PKiKP 17 30 30.0 +0.2**
BRG Amp 17 30 33.2
comp=Z,2.5nm,0.9s
BRG Berggiesshubel 132.71 334 *e*PKIKP **PKiKP 17 30 30.0 +0.2**
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG MLR MLR
comp=Z,472nm,20.7s
KHC Kasperske Hory 134.14 332 PKPdf **PKPdf 17 30 30.5 -1.0**
KHC Kasperske Hory 134.14 332 *e*PKP **PKPdf 17 30 31.0 -0.5**
KHC Kasperske Hory 134.14 332 *i* PKIKP **PKiKP 17 30 34.7 +1.8**
DAVOX Davos/Dischmat 137.55 333 PKP **PKiKP 17 30 40.2 +0.1**
comp=Z,1.6nm,0.6s,baz=214,slow=13,SNR=2.5
CEST Esterri de Car 144.56 337 PKPdf **PKPab 17 30 48.6 -0.6**
KEST Kesra 145.60 320 PKPbc **PKiKP 17 30 55.0 -1.8**
comp=Z,7.4nm,0.9s,baz=14,slow=8.0,SNR=5.5
POLO Lamas de Olo 148.49 347 *e*PKPbc **PKPab 17 31 03.8 -0.4**
MVO Moncorvo 148.51 346 *e*PKPbc **PKPab 17 31 04.1 -0.2**
PVRL Vila Real 148.57 347 *e*PKPbc **PKPab 17 31 03.8 -0.7**
ESDC Sonseca Array 149.01 340 PKPdf 17 30 54.9 -3.4
ESDC Sonseca Array 149.01 340 PKPbc **PKiKP 17 31 03.8 +0.2**
comp=Z,1.2nm,0.9s,baz=0.1,slow=2.5,SNR=5.9
PVIS Viseu 149.14 347 *e*PKPbc **PKiKP 17 31 04.8 +0.9**
MTE Manteigas 149.36 346 *e*PKPbc **PKiKP 17 31 05.4 +1.0**
PCBR Castelo Branco 149.87 345 *e*PKPbc **PKiKP 17 31 06.3 +1.0**
PMRV Marv??o 150.24 345 *e*PKPbc **PKiKP 17 31 08.0 +1.9**
PMTG Montargil 150.78 346 *e*PKPbc **PKiKP 17 31 08.5 +1.3**
PESTR Estremoz 150.82 345 *e*PKPbc **PKiKP 17 31 07.3 0.0**
EVO Evora 151.24 345 *e*PKPbc **PKiKP 17 31 09.9 +1.7**
PBAR Barrancos 151.32 344 *e*PKPbc **PKiKP 17 31 10.8 +2.4**
MESJ Messejana 151.95 345 *e*PKPbc **PKiKP 17 31 10.6 +0.9**
PVAQ Vaqueiros 152.23 344 *e*PKPbc **PKiKP 17 31 13.0 +2.7**
TORD Torodi Ar. Bea 161.67 279 PKPdf **PKPdf 17 31 12.8 -3.1**
TORD Torodi Ar. Bea 161.67 279 PKP **PKPdf 17 31 18.1 +2.2**
comp=Z,1.8nm,1.0s,baz=344,slow=3.8,SNR=6.7
TORD PKPab **sPKPab 17 32 04.6 +0.2**
comp=Z,2.2nm,1.1s,baz=48,slow=3.7,SNR=5.1

*NEIC **16** 17:25:20.0±1.8, 36°.971N±0°.010×97°.83W±0°.01, h9km±5km, Error ellipse: s-maj=1.8km s-min=1.5km az=89.0*
*NEIC **16** 17:25:20.1±1.5, 36°.961N±0°.009×97°.84W±0°.01, h8km±2km, Error ellipse: s-maj=1.5km s-min=1.2km az=74.0*
NEIC 16 17:25:20.0±1.4, 36°.965N±0°.009×97°.84W±0°.01, h7km±2km, mb_Lg2.5/6, ML2.4/9, ML2.6/45, ML3.0/22, Error ellipse: s-maj=1.5km s-min=1.2km az=119.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN14	**Manchester OK**	**0.10**	**265**		Pg	17 25 22.6	+0.3
KAN14				Sg	Sg	17 25 24.2	+0.3
KAN14				IAML		17 25 24.4	
	comp=E,2μm,0.2s						
KAN14				IAML		17 25 24.5	
	comp=N,3μm,0.3s						
KAN17	**Caldwell West**	**0.10**	**38**	Pg	Pg	17 25 22.6	+0.3
KAN17				Sg	Sg	17 25 24.5	+0.6
KAN17				IAML		17 25 24.8	
	comp=E,3μm,0.2s						
GC02	**Grant County #**	**0.11**	**187**	Pg	Pg	17 25 22.7	+0.2
GC02				Sg	Sg	17 25 24.6	+0.4
KAN01	**Argonia South**	**0.20**	**19**		Pg	17 25 24.4	+0.4
KAN01				Sg	Sg	17 25 27.2	+0.5
KAN01				IAML		17 25 27.6	
	comp=N,2μm,0.3s						
KAN01				IAML		17 25 29.0	
	comp=E,960nm,0.1s						
KAN09	**Caldwell North**	**0.25**	**46**		Pg	17 25 25.3	+0.4
KAN09				Sg	Sg	17 25 28.8	+0.6
KAN09				IAML		17 25 30.0	
	comp=N,1μm,0.2s						
KAN09				IAML		17 25 30.1	
	comp=E,1μm,0.2s						
KAN10	**Anthony SW Sta**	**0.26**	**308**		Pg	17 25 25.6	+0.5
KAN10					Sg	17 25 29.3	+0.7
KAN08	**Anthony NE Sta**	**0.28**	**338**		Pg	17 25 25.9	+0.4
KAN08				Sg	Sg	17 25 29.9	+0.6
KAN08				IAML		17 25 30.3	
	comp=N,718nm,0.1s						
KAN08				IAML		17 25 30.4	
	comp=E,633nm,0.2s						
KAN13	**South Haven SW**	**0.29**	**81**		Pg	17 25 25.9	+0.1
KAN13				Sg	Sg	17 25 28.7	-1.1
KAN13				IAML		17 25 30.7	
	comp=N,849nm,0.3s						
KAN12	**Harper NE Stat**	**0.35**	**339**		Pg	17 25 27.2	+0.3
KAN12				Sg	Sg	17 25 32.4	+0.7
KAN12				IAML		17 25 37.3	
	comp=E,888nm,0.3s						
CROK	**Carrier**	**0.47**	**194**	Pg	Pg	17 25 29.3	+0.1
CROK				Sg	Sg	17 25 35.8	+0.4
CROK				IAML		17 25 36.1	
	comp=N,651nm,0.3s						
CROK				IAML		17 25 39.0	
	comp=E,456nm,0.3s						
BLOK	**Blackwell**	**0.54**	**112**		Pg	17 25 30.6	+0.1
BLOK				Sg	Sg	17 25 37.5	0.0
OK038	**West end E0370**	**0.87**	**236**		Pb	17 25 37.2	-0.2
OK038				IAML		17 26 04.5	
	comp=E,242nm,0.3s						
OK048	**Pawnee Station**	**0.91**	**127**		Pg	17 25 37.1	-0.3
OK048				Sg	Sg	17 25 49.0	-0.1
OK051	**E0350 and S346**	**0.93**	**119**		Pg	17 25 37.3	-0.5
NOKA	**Waynoka**	**0.94**	**250**		Pg	17 25 37.5	-0.4
T35A	**Sooner Cattle**	**1.07**	**92**		Pg	17 25 39.0	-1.4
OK029	**Liberty Lake**	**1.21**	**165**		Pg	17 25 41.1	-2.0
OK029				IAML		17 26 02.6	
	comp=E,103nm,0.2s						
QUOK	**Quay**	**1.21**	**131**	Pg	Pb	17 25 41.0	-2.1
QUOK				IAML		17 25 59.3	
	comp=N,164nm,0.1s						
OK052	**Battle Ridge R**	**1.28**	**139**		Pn	17 25 42.7	-1.5
OK031	**S. Brethren Rd**	**1.29**	**141**		Pn	17 25 42.8	-1.6
OK031				IAML		17 26 02.4	
	comp=N,108nm,0.1s						
ADOK	**Arcadia Dam**	**1.36**	**164**		Pn	17 25 44.1	-1.3
CSTR	**Hydro, Custer**	**1.48**	**208**		Pn	17 25 46.1	-1.0
CSTR				Sg	Sn	17 26 05.0	-1.7
ELIS	**Ellis County**	**1.56**	**235**		Pn	17 25 46.3	-1.8
DEOK	**Depew**	**1.56**	**136**		Pn	17 25 45.4	-2.7
R32A	**Long Quarter,**	**1.61**	**335**		Pn	17 25 48.1	-0.8
FNO	**Franklin**	**1.74**	**168**		Pn	17 25 49.6	-0.9
FNO				IAmb_Lg		17 26 17.9	
	comp=Z,22nm,0.9s						
TUL3	**Leonard**	**1.96**	**122**		Pn	17 25 51.5	-2.0
TUL3				IAmb_Lg		17 26 24.1	
	comp=Z,29nm,0.9s						
W35A	**Tecumseh**	**1.97**	**156**		Pn	17 25 51.2	-2.5
KSU1	**Kansas State U**	**2.34**	**24**	Pn	Pn	17 25 57.2	-1.7
WMOK	**Wichita Mounta**	**2.35**	**199**	Pn	Pn	17 25 58.4	-0.6
RLO	**Rose Lookout**	**2.41**	**109**		Pn	17 25 58.1	-1.6
HHAR	**Hobbs**	**3.21**	**101**		Pn	17 26 10.5	-0.4
S39A	**Bolivar**	**3.67**	**77**		Pn	17 26 16.6	-0.6
AMTX	**Amarillo**	**3.74**	**237**		Pn	17 26 16.8	-1.5
DKNS	**Dickens**	**4.14**	**218**		Pn	17 26 23.1	-0.7
PLPT	**Palo Pinto**	**4.16**	**186**	Pn	Pn	17 26 22.6	-1.3
MIAR	**Mount Ida**	**4.23**	**124**	Pn	Pn	17 26 23.3	-1.4
P38A	**Dawn**	**4.31**	**51**	Pn	Pn	17 26 24.5	-1.3
MGMO	**Mountain Grove**	**4.46**	**86**	Pn	Pn	17 26 24.4	-3.6
R40A	**Maddies Statio**	**4.62**	**72**	Pn	Pn	17 26 26.5	-3.7
X40A	**Basin Creek Fa**	**4.76**	**120**	Pn	Pn	17 26 29.8	-2.3
WHAR	**Wooly Hollow**	**4.79**	**109**	Pn	Pn	17 26 30.0	-2.6
P40A	**Paris**	**5.23**	**59**	Pn	Pn	17 26 35.7	-2.8
CCM	**Cathedral Cave**	**5.36**	**76**	Pn	Pn	17 26 38.0	-2.2

*IDC **16** 17:43:34.4±0.8, 57°.63S×66°.05W, h0km, mb4.3/11, mbtmp4.3/11, MS4.0/12, Error ellipse: s-maj=37.1km s-min=16.8km az=85.0*
*NEIC **16** 17:43:34.7±1.8, 57°.53S±0°.05×66°.1W±0°.1, h10km±1km, mb4.9/76, Error ellipse: s-maj=12.9km s-min=4.7km az=229.0*
*GUC **16** 17:43:41.0±2.3, 57°.32S×66°.35W, h20km, ML4.5*
ISC 16 17:43:35.4±0.3, 57°.53S±0°.05×66°.23W±0°.08, h10km, n177, σ1§73/168, mb4.8/50, MS4.0/11, 5C-1D, Drake Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MG01	**Puerto William**	**2.72**	**343**	Pn	**Pn**	**17 44 19.5**	**+0.5**
MG01				Sn	**Sn**	**17 44 49.5**	**-2.5**
MG01	**Puerto William**	**2.72**	**343**	*e*P	**Pn**	**17 44 19.9**	**+0.8**
MG01				*e*S	**Sn**	**17 44 51.5**	**-0.5**
MG01				IAML		17 45 05.2	
	comp=N,3μm,0.7s						
MG03	**Isla Dawson**	**4.40**	**325**		**Pn**	**17 44 42.6**	**+0.5**
MG03				Sn	**Sn**	**17 45 32.3**	**-1.1**
MG03	**Isla Dawson**	**4.40**	**325**	*e*P	**Pn**	**17 44 43.3**	**+1.1**
MG03				*e*S	**Sn**	**17 45 32.5**	**-0.9**
MG02	**Cerro Sombrero**	**5.06**	**339**	Pn	**Pn**	**17 44 52.9**	**+1.6**
MG02				Sn	**Sn**	**17 45 48.8**	**-0.8**
MG02	**Cerro Sombrero**	**5.06**	**339**	*e*P	**Pn**	**17 44 53.1**	**+1.9**
MG02				*e*S	**Sn**	**17 45 48.4**	**-1.2**
GO10	**Punta Arenas**	**5.18**	**326**	Pn	**Pn**	**17 44 54.6**	**+1.7**
GO10	**Punta Arenas**	**5.18**	**326**	*e*P	**Pn**	**17 44 53.9**	**+1.0**
GO10				*e*S	**Sn**	**17 45 51.8**	**-0.8**
MG04	**Isla Riesco**	**5.59**	**325**	Pn	**Pn**	**17 44 59.7**	**+1.2**
MG04	**Isla Riesco**	**5.59**	**325**	*e*P	**Pn**	**17 45 00.8**	**+2.3**
MG04				*e*S	**Sn**	**17 46 03.5**	**+0.7**
GO09	**Cerro Castillo**	**7.21**	**328**	Pn	**Pn**	**17 45 20.3**	**-0.5**
PMSA	**Palmer Station**	**7.34**	**173**	Pn	**Pn**	**17 45 22.8**	**+0.3**
PMSA	**Palmer Station**	**7.34**	**173**	LR	LR	17 47 27.1	
	comp=N,746nm,19.3s,baz=337,slow=32						
EFI	**East Falkland**	**7.54**	**42**	Pn	**Pn**	**17 45 24.1**	**-1.1**
GO08	**Villa O'Higgin**	**9.84**	**335**	Pn	**Pn**	**17 45 55.7**	**-1.2**
GO08	**Villa O'Higgin**	**9.84**	**335**	*e*P	**Pn**	**17 45 58.7**	**+1.8**
SMAI	**San Martin Ant**	**10.65**	**182**	Pn	**Pn**	**17 46 06.8**	**-0.9**
PLCA	**Paso Flores**	**17.04**	**349**	Pn	**Pn**	**17 47 32.3**	**-1.4**
PLCA	**Paso Flores**	**17.04**	**349**	*e*P	**P**	**17 47 37.4**	**+1.9**
LL04	**Puerto Octay**	**17.11**	**344**	Pn	**Pn**	**17 47 32.1**	**-2.3**
LR05	**Currie**	**17.71**	**345**		**Pn**	**17 47 41.9**	**0.0**
GO06	**Curarrehue**	**18.28**	**347**	Pn	**Pn**	**17 47 45.2**	**-3.8**
LR03	**Panguipulli**	**18.35**	**345**		**Pn**	**17 47 49.1**	**-0.6**
TRQA	**Tornquist**	**19.68**	**10**	P	**P**	**17 48 01.5**	**-3.0**
TRQA	**Tornquist**	**19.68**	**10**	*e*P	**Pn**	**17 48 10.3**	**+4.4**
BI02	**San Fabin de**	**21.14**	**349**	P	**P**	**17 48 17.2**	**-3.2**
GO05	**Hualane**	**22.85**	**348**	P	**P**	**17 48 34.3**	**-4.3**
GO05				IAmb	IAmb	17 48 49.3	
	comp=Z,64nm,1.2s						
BO02	**Sierra Bellavi**	**22.95**	**350**	P	**P**	**17 48 36.2**	**-3.5**
BO02				IAmb	IAmb	17 48 50.6	
	comp=Z,46nm,1.1s						
BO01	**Tunca**	**23.38**	**350**	P	**P**	**17 48 41.3**	**-2.6**
BO01				IAmb	IAmb	17 49 09.3	
	comp=Z,32nm,1.1s						
BO04	**La Punta**	**23.73**	**351**	P	**P**	**17 48 45.1**	**-2.4**
LMEL	**Las Melosas**	**23.84**	**352**	P	**P**	17 48 43.8	-4.9
MT01	**Popeta**	**23.91**	**350**	P	**P**	**17 48 47.6**	**-1.6**
MT01				IAmb	IAmb	17 49 01.5	
	comp=Z,49nm,1.4s						
MT13	**San Alfonso**	**23.95**	**352**	P	**P**	**17 48 48.0**	**-1.7**
MT13				IAmb	IAmb	17 49 08.9	
	comp=Z,76nm,1.2s						
MT09	**Talagante**	**23.98**	**350**	P	**P**	**17 48 48.8**	**-1.2**
MT09				IAmb	IAmb	17 49 11.3	
	comp=Z,67nm,1.1s						
MT03	**Universidad Ad**	**24.21**	**351**	P	**P**	**17 48 50.9**	**-1.3**
MT08	**Bocatoma Ro**	**24.23**	**352**	P	**P**	**17 48 51.4**	**-1.1**
MT08				IAmb	IAmb	17 49 06.4	
	comp=Z,39nm,1.0s						
MT16	**CCHEN**	**24.28**	**351**	P	**P**	**17 48 52.1**	**-0.6**
MT16				IAmb	IAmb	17 49 02.2	
	comp=Z,60nm,1.1s						
MT02	**Curacav**	**24.50**	**350**	P	**P**	**17 48 53.6**	**-1.0**
MT02				IAmb	IAmb	17 49 18.6	
	comp=Z,27nm,1.0s						
VA03	**San Esteban**	**24.94**	**351**	P	**P**	**17 48 56.8**	**-1.9**
ZON	**Zonda**	**26.04**	**355**	P	**P**	**17 49 07.5**	**-1.1**
ZON				IAmb	IAmb	17 49 26.6	
	comp=Z,30nm,1.3s						
VNA3	**Neumayer Olymp**	**26.76**	**143**	⇑P	**P**	**17 49 16.0**	**+1.2**
	comp=Z,18nm,1.0s						
CO03	**El Pedregal**	**26.86**	**351**	P	**P**	**17 49 14.3**	**-1.9**
CO03				IAmb	IAmb	17 49 21.2	
	comp=Z,39nm,1.1s						
PLTB	**Pedras Altas**	**27.19**	**24**	P	**P**	**17 49 16.2**	**-2.8**
PLTB				IAmb	IAmb	17 49 31.6	
	comp=Z,27nm,1.4s						
VNA1	**Neumayer--Stat**	**27.22**	**142**	⇑P	**P**	**17 49 19.6**	**+0.7**
	comp=Z,19nm,1.1s						
VNA2	**Neumayer--Watz**	**27.50**	**142**	⇑P	**P**	**17 49 21.9**	**+0.5**
	comp=Z,5.6nm,1.1s,baz=290,slow=10						
CO01	**Juntas del Tor**	**27.68**	**353**	P	**P**	**17 49 22.3**	**-1.4**
CO01				IAmb	IAmb	17 49 54.6	
	comp=Z,30nm,1.2s						
ITQB	**Itaqui**	**28.65**	**18**	*e*P	P	17 49 36.9	+5.0
LCO	**Las Campanas**	**28.68**	**352**	P	P	17 49 29.8	-2.8
SNAA	**Sanae**	**28.93**	**144**	P	**P**	**17 49 33.1**	**-1.1**
SNAA	**Sanae**	**28.93**	**144**	⇑P	**P**	**17 49 34.6**	**+0.3**
	comp=Z,66nm,0.7s						
SNAA	**Sanae**	**28.93**	**144**	P	**P**	**17 49 34.6**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=260,slow=7.4,SNR=8.0						
	comp=Z,1.2nm,0.5s						
AC04	**Llanos de Chal**	**29.51**	**351**	P	**P**	**17 49 38.9**	**-0.8**
TROLL	**Troll, Antarti**	**30.56**	**145**	⇑P	**P**	**17 49 48.6**	**-0.2**
	comp=Z,257nm,0.9s						
CPUP	**Villa Florida**	**31.82**	**15**	P	**P**	**17 49 59.2**	**-0.8**
CPUP	**Villa Florida**	**31.82**	**15**	P	**P**	**17 50 00.8**	**+0.8**
	comp=Z,2.0nm,1.0s,baz=153,slow=14,SNR=1.4						
CPUP				LR	LR	18 03 46.3	
	comp=Z,210nm,18.6s,baz=202,slow=38						
	comp=Z,2.0nm,1.0s						
ITAB	**Concordia**	**31.88**	**24**	P	**P**	**17 49 59.8**	**-0.8**
ITAB				IAmb	IAmb	17 50 10.1	
	comp=Z,34nm,1.4s						
GO02	**Mina Guanaco**	**32.43**	**354**	P	**P**	**17 50 04.7**	**-1.1**
GO02				IAmb	IAmb	17 50 24.2	
	comp=Z,12nm,0.8s						
QSPA	**South Pole Qui**	**32.71**	**180**	P	**P**	**17 50 07.1**	**-0.6**
QSPA				IAmb	IAmb	17 50 09.0	
	comp=Z,38nm,1.3s						
QSPA	**South Pole Qui**	**32.71**	**180**	P	**P**	**17 50 07.5**	**-0.2**
	comp=Z,9.2nm,0.9s,baz=161,slow=4.2,SNR=20						
	comp=Z,9.2nm,0.9s						
SJPY	**San Joaquin**	**33.31**	**17**	*e*P	**P**	**17 50 14.7**	**+1.6**
PTGB	**Pitanga**	**34.33**	**23**	*e*P	**P**	**17 50 26.6**	**+4.5**
PB15	**IPOC Station P**	**34.37**	**355**	P	**P**	**17 50 21.6**	**-1.0**
PB15				IAmb	IAmb	17 50 53.4	
	comp=Z,22nm,1.4s						
PB06	**IPOC Station P**	**34.87**	**355**	P	**P**	**17 50 25.8**	**-1.0**
PB06				IAmb	IAmb	17 50 29.9	
	comp=Z,19nm,1.1s						
PB09	**IPOC Station P**	**35.76**	**355**	P	**P**	**17 50 34.5**	**-0.1**
PB09				IAmb	IAmb	17 51 12.8	
	comp=Z,16nm,1.3s						
FRTB	**Fartura**	**36.22**	**26**	*e*P	P	17 50 43.3	+5.0
MURT	**Porto Murtinho**	**36.38**	**14**	*e*P	**P**	**17 50 43.1**	**+3.5**
PB01	**IPOC Station P**	**36.52**	**355**	P	**P**	**17 50 39.4**	**-1.5**
PB01				IAmb	IAmb	17 51 22.9	
	comp=Z,22nm,1.5s						
SPB	**Sao Paulo**	**36.53**	**30**	P	**P**	**17 50 39.3**	**-1.5**
SPB				IAmb	IAmb	17 51 11.5	
	comp=Z,17nm,1.2s						
ELIB	**Princess Elisa**	**36.74**	**149**	*d*P	**P**	**17 50 42.5**	**0.0**
	comp=Z,6.5nm,1.0s						
TA02	**Huaiquique**	**37.32**	**354**	P	**P**	**17 50 46.3**	**-1.3**
PB08	**IPOC Station P**	**37.40**	**355**	P	**P**	**17 50 46.8**	**-2.0**
RCLB	**Rio Claro- Sao**	**37.62**	**29**	*e*P	P	17 50 55.7	+5.5
AQDB	**Aquidauana**	**37.81**	**16**	P	**P**	**17 50 50.6**	**-1.1**
AQDB	**Aquidauana**	**37.81**	**16**	*e*P	**P**	**17 50 55.6**	**+3.8**
GO01	**Chusmiza**	**37.87**	**355**	P	**P**	**17 50 51.3**	**-1.6**
GO01				IAmb	IAmb	17 51 03.9	
	comp=Z,26nm,1.5s						
BBSD	**Serra de San D**	**40.49**	**8**	*e*P	**P**	**17 51 15.1**	**+0.8**
SBA	**Scott Base**	**41.05**	**195**	P	**P**	**17 51 18.6**	**+0.4**
LPAZ	**La Paz**	**41.20**	**357**	P	**P**	**17 51 19.1**	**-1.6**
LPAZ	**La Paz**	**41.20**	**357**	P	**P**	**17 51 22.2**	**+1.4**
	comp=Z,1.9nm,0.6s,baz=175,slow=6.9,SNR=5.7						
	comp=Z,1.9nm,0.6s						
LPAZ	**La Paz**	**41.20**	**357**	*e*P	**P**	**17 51 22.5**	**+1.8**
SIV	**San Ignacio**	**41.65**	**7**	LR	LR	18 09 31.4	
	comp=Z,120nm,18.5s,baz=251,slow=37						
SALV	**Santo Antonio**	**42.30**	**15**	*e*P	**P**	**17 51 31.0**	**+1.8**
PTLB	**Pontes e Lacer**	**42.34**	**10**	P	**P**	**17 51 28.8**	**-0.7**
PTLB	**Pontes e Lacer**	**42.34**	**10**	*e*P	**P**	**17 51 32.7**	**+3.2**
RPN	**Rapa Nui**	**42.87**	**296**	LR	LR	18 04 26.7	
	comp=Z,215nm,21.7s,baz=197,slow=29						
ARAG	**Araguaiana, MT**	**43.14**	**21**	*e*P	**P**	**17 51 39.9**	**+4.0**
BDFB	**Brasilia**	**44.01**	**26**	P	**P**	**17 51 41.9**	**-1.1**
BDFB	**Brasilia**	**44.01**	**26**	P	**P**	**17 51 43.0**	**0.0**
	comp=Z,2.0nm,0.5s,baz=174,slow=11,SNR=3.6						
	comp=Z,2.0nm,0.5s						
VILB	**Vilhena**	**44.72**	**8**	P	**P**	**17 51 47.7**	**-1.0**
VILB	**Vilhena**	**44.72**	**8**	*e*P	**P**	**17 51 50.3**	**+1.6**
NNA	**Nana**	**46.17**	**346**	P	**P**	**17 52 00.2**	**+0.1**
PDRB	**Porto dos Gac**	**46.40**	**13**	*e*P	**P**	**17 52 02.6**	**+0.7**
SNDB	**Serra Nova Dou**	**46.88**	**20**	*e*P	**P**	**17 52 09.5**	**+3.8**
ETMB	**Extrema**	**47.60**	**0**	P	**P**	**17 52 11.3**	**0.0**
ETMB				IAmb	IAmb	17 52 20.7	
	comp=Z,15nm,1.3s						
ETMB	**Extrema**	**47.60**	**0**	*e*P	**P**	**17 52 12.6**	**+1.3**
SDBA	**SAO DESIDERIO**	**47.88**	**29**	*e*P	**P**	**17 52 17.8**	**+4.3**
SAML	**Samuel**	**48.52**	**4**	P	**P**	**17 52 18.3**	**-0.1**
SAML				IAmb	IAmb	17 52 27.6	
	comp=Z,18nm,1.4s						
SAML	**Samuel**	**48.52**	**4**	*e*P	**P**	**17 52 19.9**	**+1.5**
MAW	**Mawson**	**49.65**	**157**	P	**P**	**17 52 25.6**	**-0.8**
	comp=Z,3.5nm,1.2s,baz=212,slow=9.0,SNR=4.3						
MAW				LR	LR	18 13 46.2	
	comp=Z,173nm,18.1s,baz=140,slow=37						
	comp=Z,3.5nm,1.2s						
CZSB	**Cruzeiro do Su**	**49.93**	**352**	P	**P**	**17 52 29.8**	**+0.6**
CZSB				IAmb	IAmb	17 52 41.6	
	comp=Z,16nm,0.7s						
CZSB	**Cruzeiro do Su**	**49.93**	**352**	*e*P	**P**	**17 52 29.6**	**+0.4**
SMTB	**Santa Maria do**	**50.66**	**24**	*e*P	**P**	**17 52 37.9**	**+3.2**
COHC	**Cochancay**	**55.87**	**344**	P	**P**	**17 53 12.5**	**-0.5**
CASY	**Casey**	**56.48**	**178**	P	**P**	**17 53 16.8**	**0.0**
OTAV	**Otavalo**	**58.42**	**346**	P	**P**	**17 53 30.4**	**-1.

HKT IAmb IAmb 17 57 10.4
comp=Z,5.9nm,0.4s
DRIO Del Rio 91.33 330 P **P 17 56 40.2 -0.6**
DRIO IAmb IAmb 17 56 44.5
comp=Z,7.2nm,1.3s
TXAR Lajitas Array 92.09 328 P **P 17 56 42.4 -2.0**
TXAR Lajitas Array 92.09 328 P **P 17 56 45.2 +0.8**
comp=Z,1.3nm,0.8s,baz=152,slow=8.1,SNR=4.9
TXAR LR LR 18 32 21.5
comp=Z,87nm,18.7s,baz=22,slow=32
comp=Z,1.3nm,0.8s
JCT Junction City 92.12 331 P **P 17 56 43.3 -1.1**
JCT IAmb IAmb 17 56 53.4
comp=Z,9.0nm,1.2s
SAND Sanderson 92.24 329 P **P 17 56 45.0 0.0**
SAND IAmb IAmb 17 57 05.0
comp=Z,6.0nm,1.4s
JSC Jenkinsville 92.33 348 P **P 17 56 44.6 -0.7**
ALPN Alpine 93.06 328 P **P 17 56 49.4 +0.4**
ALPN IAmb IAmb 17 56 59.8
comp=Z,3.9nm,1.0s
MNHN Monahans 93.72 329 P **P 17 56 51.9 0.0**
MNHN IAmb IAmb 17 57 01.5
comp=Z,5.5nm,1.0s
ASAR Alice Springs 97.37 199 P **P 17 57 07.8 -1.2**
comp=Z,1.3nm,1.1s,baz=168,slow=4.7,SNR=4.7
ASAR LR LR 18 35 35.1
comp=Z,27nm,21.1s,baz=166,slow=32
comp=Z,1.3nm,1.1s
WRA Warramunga Arr 100.93 200 P **Pdif 17 57 24.1 -0.8**
comp=Z,0.9nm,1.0s,baz=174,slow=4.1,SNR=4.7
AKASG Malin Array Be 133.03 60 PKP **PKPdf 18 02 50.4 +0.6**
comp=Z,0.1nm,0.2s,baz=257,slow=1.7,SNR=4.1
BCAR Beaver Creek A 133.50 323 PKPpre 18 02 40.9
BCAR PKPdf **PKPdf 18 02 50.4 0.0**
SCRK Sand Creek 134.85 323 **PKPdf 18 02 52.9 -0.1**
ILAR Eielson Array 136.32 322 PKP **PKPdf 18 02 56.6 +1.1**
comp=Z,1.9nm,0.9s,baz=173,slow=1.5,SNR=15
CMAR Chiang Mai Arr 139.46 158 PKP **PKPdf 18 03 03.4 +0.5**
comp=Z,0.9nm,0.9s,baz=229,slow=2.8,SNR=6.1
ARCES ARCESS Array B 142.56 35 PKP **PKPdf 18 03 08.3 +1.5**
comp=Z,3.1nm,0.9s,baz=325,slow=1.1,SNR=1.7
SHL Shillong 144.44 145 PKPdf **PKPab 18 03 09.1 -0.9**
SIMJ Simiganj 145.46 104 **PKPbc 18 03 11.0 -2.0**
GAR Garm 146.40 104 **PKPdf 18 03 13.2 -1.4**
AKTO Aktyubinsk 147.29 78 PKPbc **PKPdf 18 03 18.3 +2.8**
comp=Z,0.9nm,0.5s,baz=180,slow=5.1,SNR=1.8
BTK Batken 147.44 104 PKPdf **PKPdf 18 03 14.1 -2.2**
BTK **pPKPdf 18 03 18.7 +0.3**
DRK Karamyk 147.52 105 PKPdf **PKPdf 18 03 14.6 -2.1**
DRK **pPKPdf 18 03 19.2 +0.4**
ABKAR Akbulak array 147.64 81 **PKPdf 18 03 15.6 -0.5**
ABKAR Akbulak array 147.64 81 **PKPdf 18 03 15.4 -0.8**
PZH PanZhiHua 147.83 159 PKPbc **PKPdf 18 03 19.8 +2.4**
LSA Lhasa 148.03 141 PKPdf **PKPdf 18 03 15.1 -3.0**
LSA **pPKPdf 18 03 19.6 -0.5**
GYA Guiyang 148.54 168 PKPbc **PKPdf 18 03 22.1 +3.5**
KKAR Karatay Array 149.43 99 PKPdf **PKPdf 18 03 16.7 -2.6**
KKAR **pPKPdf 18 03 22.6 +1.2**
KSH Kashi 149.69 110 PKPbc **PKPbc 18 03 24.9 +0.2**
ARTI Arti 150.48 68 PKPbc **PKPbc 18 03 25.7 -0.1**
comp=Z,1.0nm,0.5s,baz=158,slow=5.5,SNR=3.6
AAK Ala-Archa 151.21 104 **PKPbc 18 03 27.6 -0.6**
AAK Ala-Archa 151.21 104 PKPbc **PKPbc 18 03 28.6 +0.4**
comp=Z,4.9nm,0.8s,baz=215,slow=4.5,SNR=14
WUS Wushi 152.59 112 PKPdf **PKPdf 18 03 23.6 -0.8**
BVAR Borovoye Array 155.21 82 PKP **PKPdf 18 03 27.7 +0.1**
comp=Z,0.6nm,0.9s,baz=264,slow=2.9,SNR=2.2
BVAR PKPab **PKPab 18 03 50.6 -2.0**
comp=Z,2.5nm,1.0s,baz=270,slow=0.9,SNR=5.3
KURBB Kurchatov Arra 158.39 93 PKPab **PKPab 18 04 05.6 -0.8**
comp=Z,1.4nm,0.9s,baz=246,slow=4.7,SNR=7.1
TIA Tai'an 158.56 187 PKP **PKPdf 18 03 38.0 +5.6**
HHC Hu-ho-hao-te 163.24 174 *eP* **PKPdf 18 03 35.3 -2.1**

ATH 16 17:44:05.6, 37.°56N×21.°78E, h17km±3km, ML1.8/6, Manual Solution by F.Xalaris This location: 2020/09/02 10:08:02 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMT	**Artemida-Makis**	**0.06**	**244**	P	Pg	17 44 08.3	-0.6
AMT				S	Sg	17 44 10.0	-1.0
ZARO	**Zacharo**	**0.13**	**235**	P	Pb	17 44 09.6	0.0
ZARO				S	Sb	17 44 12.1	0.0
DRO	**Drossia**	**0.40**	**352**	P	Pg	17 44 13.7	-0.1
DRO				S	Sg	17 44 19.6	+0.3
ITM	**Ithomi**	**0.40**	**163**	P	Pb	17 44 14.7	+0.5
ITM				S	Sb	17 44 20.3	+0.3
RLS	**Riolos of Patr**	**0.56**	**334**	P	Pg	17 44 16.6	-0.1
RLS				S	Sb	17 44 24.4	-0.2
KLV	**Kalavryta, Ach**	**0.57**	**31**	P	Pb	17 44 17.1	0.0
KLV				S	Sb	17 44 24.9	-0.1
GUR	**Goura**	**0.58**	**50**	P	Pb	17 44 17.5	0.0
PYL	**PYLOS**	**0.66**	**183**	P	Pg	17 44 18.6	0.0

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*THE **16** 17:44:13.2, 37.°35N×20.°83E, h21km±2km, ML3.5/5, Error ellipse: s-maj=5.4km s-min=1.1km az=66.0*
*ATH **16** 17:44:15.9, 37.°50N×20.°62E, h9km±3km, ML3.2/6, Error ellipse: s-maj=3.7km s-min=1.2km az=35.0*
ISC 16 17:44:11.4±2.0, 37.°30N±0.°06×20.°58E±0.°07, h5km±11km, n22, σ1s02/34, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.41**	**28**	P	**Pb**	**17 44 20.5**	**-0.6**
KRI1				S	**Sg**	**17 44 25.1**	**+0.5**
16μm,0.5s							
KRI1	**kERI**	**0.41**	**28**	P	**Pb**	**17 44 20.6**	**-0.6**
LTHK	**Lithakia**	**0.46**	**27**	P	**Pb**	**17 44 21.2**	**-0.7**
LTHK				S	**Sg**	**17 44 26.2**	**0.0**
14μm,0.6s							
LTHK	**Lithakia**	**0.46**	**27**	P	**Pb**	**17 44 21.3**	**-0.6**
LTHK				S	**Sg**	**17 44 25.4**	**-0.7**
LTHK				AML	AML	17 44 27.1	
comp=N,36915μm,0.7s							
LTHK				AML	AML	17 44 30.5	
comp=E,15413μm,0.5s							
LTHK	**Lithakia**	**0.46**	**27**	P	**Pg**	**17 44 20.9**	**+0.7**
RTZL	**Ratzakli, Kefa**	**0.79**	**11**	P	**Pg**	**17 44 26.9**	**+0.4**
RTZL				S	**Sb**	**17 44 37.8**	**-0.8**
comp=E,3μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.81**	**0**	P	**Pg**	**17 44 27.4**	**+0.4**
PSDA				S	**Sb**	**17 44 38.8**	**-0.4**
comp=E,3μm,0.3s							
VLS	**Valsamata**	**0.88**	**1**	P	**Pg**	**17 44 28.6**	**+0.4**
VLS				S	**Sb**	**17 44 40.7**	**-0.4**
comp=E,2μm,0.2s							
VLS	**Valsamata**	**0.88**	**1**	P	**Pg**	**17 44 28.6**	**+0.4**
VLS				S	**Sg**	**17 44 37.7**	**-1.9**
VLS				AML	AML	17 44 41.6	
comp=N,5198μm,0.3s							
VLS				AML	AML	17 44 42.0	
comp=E,3358μm,0.2s							
AMT	**Artemida-Makis**	**0.93**	**75**	P	**Pn**	**17 44 32.1**	**+1.0**
AMT				S	**Sn**	**17 44 44.2**	**-0.7**
AMT				AML	AML	17 44 50.2	
comp=N,6822μm,0.4s							
AMT				AML	AML	17 44 54.4	
comp=E,6375μm,0.9s							
DMLN	**Damoulianata-K**	**0.95**	**350**	P	**Pb**	**17 44 30.9**	**+0.5**
DMLN				S	**Sn**	**17 44 44.6**	**-0.8**
PYL	**PYLOS**	**1.01**	**113**	P	**Pg**	**17 44 28.9**	**-1.9**
RLS	**Riolos of Patr**	**1.03**	**43**	P	**Pn**	**17 44 32.2**	**-0.4**
RLS				S	**Sg**	**17 44 43.9**	**-0.7**
RLS				AML	AML	17 44 49.8	
comp=E,1323μm,0.4s							
RLS				AML	AML	17 44 50.2	
comp=N,1969μm,0.5s							
ITM	**Ithomi**	**1.08**	**96**	P	**Pn**	**17 44 36.4**	**+3.2**
DRO	**Drossia**	**1.11**	**54**	P	**Pn**	**17 44 34.6**	**+1.0**
DRO				S	**Sb**	**17 44 47.5**	**-0.4**
DRO				AML	AML	17 44 59.4	
comp=E,3412μm,0.6s							
DRO				AML	AML	17 45 05.2	
comp=N,3012μm,0.4s							
FSK	**Fiskardo**	**1.16**	**359**	P	**Pb**	**17 44 34.0**	**+0.1**
FSK				S	**Sg**	**17 44 47.7**	**-0.9**
FSK				AML	AML	17 44 51.3	
comp=E,3257μm,0.2s							
FSK				AML	AML	17 44 53.0	
comp=N,1601μm,0.3s							
EVGI	**Lefkada island**	**1.32**	**3**	P	**Pb**	**17 44 36.7**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.38**	**360**	P	**Pg**	**17 44 38.2**	**+0.4**
KLV	**Kalavryta, Ach**	**1.45**	**59**	P	**Pg**	**17 44 40.6**	**+1.4**
GUR	**Goura**	**1.54**	**65**	P	**Pg**	**17 44 42.3**	**+1.5**
EFP	**Efpalio**	**1.54**	**43**	P	**Pg**	**17 44 40.9**	**0.0**
ANX	**Ano Chora**	**1.67**	**39**	P	**Pg**	**17 44 43.3**	**-0.1**

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*NEIC **16** 17:58:30.5±2.6, 9.°9S±0.°1×164.°1E±0.°1, h10km±2km, mb4.4/13, Error ellipse: s-maj=24.4km s-min=17.2km az=42.0*
*IDC **16** 17:58:35.8±1.4, 11.°10S×163.°44E, h0km, mb3.8/8, mbtmp3.9/9, ML4.5/1, MS3.4/17, Error ellipse: s-maj=36.6km s-min=26.8km az=113.0*
ISC 16 17:58:39.4±1.0, 10.°66S±0.°10×163.°2E±0.°1, h10km, n43, σ1s56/28, mb4.0/13, MS3.4/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.39**	**291**		**Pn**	**17 59 32.8**	**+0.5**
HNR	**Honiara**	**3.39**	**291**	Pn	**Pn**	**17 59 33.7**	**+1.3**
33nm,0.3s,baz=138,slow=1.9,SNR=12							
HNR				Sn	**Sn**	**18 00 10.6**	**-2.0**
45nm,0.3s,baz=182,slow=22,SNR=2.4							
133nm,0.5s							
KOUNC	**Koumac, New Ca**	**9.89**	**174**	Pn	**Pn**	**18 01 00.9**	**-0.9**
DZM	**Mont Dzumac**	**11.78**	**165**		**Pn**	**18 01 26.6**	**-1.0**
DZM	**Mont Dzumac**	**11.78**	**165**	LR	LR	18 05 32.6	
comp=Z,180nm,18.0s,baz=2.5,slow=37							
PINNC	**Pines Island,**	**12.57**	**161**	Pn	**Pn**	**18 01 36.2**	**-2.3**
RABL	**Rabaul**	**12.65**	**300**	Pn	**Pn**	**18 01 37.8**	**-1.7**
PMG	**Port Moresby**	**15.80**	**273**	LR	LR	18 07 58.4	
comp=Z,229nm,19.5s,baz=109,slow=35							
MSVF	**Nonsavu**	**16.05**	**118**	LR	LR	18 07 25.0	
comp=Z,291nm,19.8s,baz=292,slow=34							
EIDS	**Eidsvold**	**18.58**	**216**	P	**Pn**	**18 03 00.2**	**+3.3**
CTA	**Charters Tower**	**18.79**	**238**	LR	LR	18 09 41.8	
comp=Z,14nm,18.3s,baz=72,slow=35							
CTAO	**Charters Tower**	**18.79**	**238**	P	**Pn**	**18 03 01.0**	**+1.5**
CTAO				IAmb	IAmb	18 03 03.3	
comp=Z,19nm,0.9s							
COEN	**Coen**	**19.79**	**258**	P	**P**	**18 03 09.8**	**-0.3**
COEN				IAmb	IAmb	18 03 34.0	
comp=Z,34nm,1.4s							
ARMA	**Armidale**	**22.39**	**207**	P	**P**	**18 03 39.8**	**+1.5**
ARMA				IAmb	IAmb	18 04 15.7	
comp=Z,14nm,1.2s							
STKA	**Stephens Creek**	**29.03**	**220**	P	**P**	**18 04 36.1**	**-3.7**
comp=Z,1.8nm,1.0s,baz=28,slow=17,SNR=1.8							
STKA				LR	LR	18 15 23.0	
comp=Z,143nm,20.4s,baz=29,slow=35							
comp=Z,1.8nm,1.0s							
WB0	**Warramunga Arr**	**29.15**	**248**	P	**P**	**18 04 39.9**	**-1.2**
WB0				IAmb	IAmb	18 05 06.0	
comp=Z,7.0nm,1.4s							
WB2	**Warramunga Arr**	**29.23**	**248**	P	**P**	**18 04 41.1**	**-0.6**
WB2				IAmb	IAmb	18 05 06.8	
comp=Z,9.4nm,1.4s							
WRA	**Warramunga Arr**	**29.25**	**248**	P	**P**	**18 04 40.5**	**-1.4**
comp=Z,1.1nm,0.7s,baz=78,slow=9.2,SNR=8.6							
WRA				LR	LR	18 15 45.0	
comp=Z,144nm,20.4s,baz=74,slow=35							
comp=Z,1.1nm,0.7s							
GUMO	**Guam**	**30.16**	**323**	LR	LR	18 16 04.8	
comp=Z,61nm,20.9s,baz=132,slow=34							
AS31	**Alice Springs**	**30.72**	**241**	P	**P**	**18 04 53.5**	**-1.3**
ASAR	**Alice Springs**	**30.72**	**241**	P	**P**	**18 04 54.3**	**-0.6**
ASAR	**Alice Springs**	**30.72**	**241**	P	**P**	**18 04 53.8**	**-1.1**
comp=Z,1.7nm,0.7s,baz=66,slow=10.0,SNR=32							
ASAR				LR	LR	18 16 13.8	
comp=Z,127nm,21.8s,baz=70,slow=34							
comp=Z,1.7nm,0.7s							
TOO	**Toolangi**	**31.15**	**208**	P	**P**	**18 04 58.5**	**0.0**
TOO				IAmb	IAmb	18 05 05.6	
comp=Z,4.3nm,1.1s							
BBOO	**Buckleboo**	**33.28**	**224**	P	**P**	**18 05 17.6**	**+0.4**
KNRA	**Kununurra**	**33.83**	**258**	P	**P**	**18 05 21.2**	**-1.0**
KNRA				IAmb	IAmb	18 05 55.9	
comp=Z,15nm,1.4s							
FITZ	**Fitzroy Crossi**	**37.03**	**254**	P	**P**	**18 05 48.5**	**-1.2**
FITZ	**Fitzroy Crossi**	**37.03**	**254**	LR	LR	18 20 42.8	
comp=Z,88nm,19.5s,baz=55,slow=36							
FORT	**Forrest**	**38.21**	**233**	P	**P**	**18 06 00.6**	**+1.0**
BATI	**Baumata**	**38.82**	**267**	LR	LR	18 23 34.7	
comp=Z,63nm,18.4s,baz=137,slow=38							
DAV	**Davao City (W)**	**41.35**	**294**	LR	LR	18 24 21.9	
comp=Z,28nm,19.1s,baz=340,slow=37							
NWAO	**Narrogin (SRO)**	**47.58**	**235**	LR	LR	18 26 57.8	
comp=Z,126nm,19.0s,baz=234,slow=36							
MORW	**Morawa**	**47.59**	**240**	P	**P**	**18 07 16.6**	**+0.9**
JHJ	**Hachijo jima 2**	**48.91**	**334**	LR	LR	18 27 49.9	
comp=Z,18nm,20.5s,baz=140,slow=36							
MJAR	**Matsushiro Arr**	**52.50**	**335**	LR	LR	18 26 35.9	
comp=Z,25nm,21.8s,baz=92,slow=32							
JNU	**Nakatsue**	**53.31**	**326**	LR	LR	18 26 52.7	
comp=Z,41nm,21.8s,baz=68,slow=32							
ASAJ	**Asahikawa**	**57.63**	**343**	LR	LR	18 28 55.9	
comp=Z,29nm,21.6s,baz=119,slow=31							
KSRS	**Korea Array**	**58.15**	**327**	LR	LR	18 30 26.5	
comp=Z,23nm,20.6s,baz=105,slow=33							
CMAR	**Chiang Mai Arr**	**69.63**	**294**	P	P	18 09 40.9	-8.6
CMAR	**Chiang Mai Arr**	**69.63**	**294**	P	**P**	**18 09 51.0**	**+1.4**
comp=Z,0.5nm,0.9s,baz=110,slow=5.2,SNR=4.2							
comp=Z,0.5nm,0.9s							
SONM	**Songino Array**	**76.87**	**325**	P	**P**	**18 10 33.0**	**+1.1**
comp=Z,0.8nm,0.7s,baz=155,slow=6.1,SNR=5.2							
comp=Z,0.8nm,0.7s							
QSPA	**South Pole Qui**	**79.34**	**180**	P	P	18 10 40.4	-4.9
comp=Z,0.7nm,0.9s,baz=27,slow=2.3,SNR=1.8							
comp=Z,0.7nm,0.9s							
ILAR	**Eielson Array**	**83.97**	**19**	P	**P**	**18 11 09.1**	**-0.5**
comp=Z,0.5nm,0.8s,baz=246,slow=4.5,SNR=3.4							
comp=Z,0.5nm,0.8s							
MKAR	**Makanchi Array**	**91.51**	**317**	P	**P**	**18 11 47.0**	**+0.6**
comp=Z,0.4nm,0.6s,baz=96,slow=6.7,SNR=3.8							
comp=Z,0.4nm,0.6s							

IDC 16 18:20:01.8±447.0, 45.°53N×65.°40E, h0km, Error ellipse: s-maj=218.2km s-min=133.1km az=2.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**6.94**	**317**	I	I	19 01 48.2	
0.1nm,11.8s,baz=132,slow=314,SNR=9.0							
I46RU	**ZALESOVO INFRA**	**15.08**	**49**	I	I	19 51 00.0	
0.1nm,1.2s,baz=246,slow=318,SNR=2.7							
I34MN	**SONGINO INFRAS**	**28.00**	**70**	I	I	21 10 40.0	
baz=280,slow=323,SNR=2.1							

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*NEIC **16** 18:25:17.8±1.4, 18.°8S±0.°2×177.°8W±0.°1, h485km±11km, mb4.2/19, Error ellipse: s-maj=20.6km s-min=13.9km az=48.0*
*IDC **16** 18:25:27.7±15.0, 19.°31S×179.°32W, h472km±41km, mb3.4/3, mbtmp4.2/4, Error ellipse: s-maj=307.5km s-min=92.4km az=90.0*
ISC 16 18:25:17.9±0.8, 18.°6S±0.°2×177.°8W±0.°1, h500km, n26, σ1s15/26, mb4.3/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.01**	**281**	P	**P**	**18 26 36.1**	**-0.5**
MSVF	**Nonsavu**	**4.01**	**281**	P	**P**	**18 26 36.2**	**-0.4**
29nm,0.4s,baz=128,slow=12,SNR=34							
NIUE	**Niue**	**7.50**	**95**	P	**P**	**18 27 07.9**	**-1.3**
ARMA	**Armidale**	**30.09**	**241**	P	**P**	**18 30 46.2**	**-0.1**
CTAO	**Charters Tower**	**33.89**	**261**	P	**P**	**18 31 18.8**	**0.0**
CTAO				IAmb	IAmb	18 31 20.1	
comp=Z,17nm,1.3s							
TOO	**Toolangi**	**37.19**	**232**	P	**P**	**18 31 47.0**	**+1.1**
COEN	**Coen**	**37.67**	**271**	P	**P**	**18 31 49.0**	**-1.2**
STKA	**Stephens Creek**	**38.80**	**242**	P	**P**	**18 31 58.5**	**-0.7**
STKA	**Stephens Creek**	**38.80**	**242**	P	**P**	**18 31 57.8**	**-1.4**
comp=Z,2.4nm,0.6s,baz=86,slow=7.8,SNR=8.5							
comp=Z,2.4nm,0.6s							
BBOO	**Buckleboo**	**43.57**	**242**	P	**P**	**18 32 36.8**	**-0.4**
WB0	**Warramunga Arr**	**45.03**	**260**	P	**P**	**18 32 47.8**	**-0.9**
WB0				IAmb	IAmb	18 33 04.9	
comp=Z,6.9nm,1.5s							
WB2	**Warramunga Arr**	**45.05**	**260**	P	**P**	**18 32 47.1**	**-1.7**
WB2				IAmb	IAmb	18 32 49.5	
comp=Z,7.0nm,1.4s							
WRA	**Warramunga Arr**	**45.06**	**260**	P	**P**	**18 32 48.3**	**-0.7**
comp=Z,1.0nm,0.6s,baz=98,slow=6.4,SNR=25							
comp=Z,1.0nm,0.6s							
AS31	**Alice Springs**	**45.15**	**255**	P	**P**	**18 32 49.6**	**0.0**
ASAR	**Alice Springs**	**45.15**	**255**	P	**P**	**18 32 49.0**	**-0.6**
ASAR	**Alice Springs**	**45.15**	**255**	P	**P**	**18 32 49.5**	**-0.1**
comp=Z,5.2nm,0.5s,baz=90,slow=8.8,SNR=217							
comp=Z,5.2nm,0.5s							
MTN	**Manton Dam**	**49.34**	**269**	P	**P**	**18 33 21.6**	**+0.3**
MTN				IAmb	IAmb	18 33 55.4	
comp=Z,15nm,1.3s							
FORT	**Forrest**	**50.23**	**245**	P	**P**	**18 33 27.1**	**-0.5**
KNRA	**Kununurra**	**50.98**	**265**	P	**P**	**18 33 33.6**	**+0.4**
KNRA				IAmb	IAmb	18 33 36.9	
comp=Z,9.1nm,1.1s							
FITZ	**Fitzroy Crossi**	**53.47**	**261**	P	**P**	**18 33 51.9**	**+0.8**
SOEI	**Soe**	**56.63**	**270**	P	**P**	**18 34 15.6**	**+2.0**
SOEI				IAmb	IAmb	18 34 33.2	
comp=Z,25nm,1.4s							
MBWA	**Marble Bar**	**58.45**	**256**	P	**P**	**18 34 25.7**	**-0.1**
MBWA				IAmb	IAmb	18 35 06.8	
comp=Z,24nm,1.5s							
GIRL	**Giralia**	**63.24**	**254**	P	**P**	**18 34 58.2**	**+0.9**
QSPA	**South Pole Qui**	**71.48**	**180**	P	**P**	**18 35 47.6**	**+0.3**
I20K	**Naaghedeneel**	**85.03**	**10**	P	**P**	**18 36 57.9**	**-1.8**
YNE	**Yellowstone No**	**88.23**	**41**	P	**P**	**18 37 18.8**	**+3.0**
YNE				IAmb	IAmb	18 37 21.0	
comp=Z,5.5nm,0.9s							

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*IDC **16** 18:47:17.5±0.9, 13.°30N×120.°15E, h0km, mb4.0/7, mbtmp4.0/7, MS2.6/1, Error ellipse: s-maj=17.6km s-min=11.6km az=121.0*
ISC 16 18:47:19.7±0.9, 13.°4N±0.°1×120.°2E±0.°1, h16km, n10, σ0s78/9, mb3.6/8, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.01**	**43**	Pg	**Pb**	**18 47 39.2**	**+0.2**
1μm,0.3s,baz=242,slow=3.2,SNR=50							
TGY				Lg	Lg	18 47 54.1	
743nm,0.3s,baz=150,slow=20,SNR=6.8							
CMAR	**Chiang Mai Arr**	**21.09**	**287**	P	**P**	**18 52 03.8**	**+0.2**
1.5nm,0.6s,baz=99,slow=8.7,SNR=15							
1.5nm,0.6s							
BATI	**Baumata**	**23.65**	**172**	P	**P**	**18 52 31.1**	**+0.4**
13nm,0.5s,baz=335,slow=1.9,SNR=7.0							
13nm,0.5s							
KSRS	**Korea Array**	**24.97**	**15**	LR	LR	19 04 11.6	
comp=Z,14nm,20.1s,baz=5.0,slow=40							
WRA	**Warramunga Arr**	**35.88**	**157**	P	**P**	**18 54 18.6**	**-0.7**
5.0nm,0.6s,baz=333,slow=9.9,SNR=62							
5.0nm,0.6s							
SONM	**Songino Array**	**36.26**	**344**	P	**P**	**18 54 21.7**	**-0.7**
0.6nm,0.6s,baz=169,slow=8.5,SNR=3.6							
0.6nm,0.6s							
ASAR	**Alice Springs**	**39.15**	**160**	P	**P**	**18 54 47.1**	**+0.2**
3.9nm,0.6s,baz=339,slow=6.9,SNR=99							
3.9nm,0.6s							
MKAR	**Makanchi Array**	**46.04**	**324**	P	**P**	**18 55 44.1**	**+1.4**
0.1nm,0.3s,baz=114,slow=9.7,SNR=1.7							
KURBB	**Kurchatov Arra**	**50.22**	**327**	P	**P**	**18 56 14.2**	**-0.7**
0.3nm,0.5s,baz=129,slow=7.9,SNR=3.6							
0.3nm,0.5s							
BVAR	**Borovoye Array**	**55.80**	**326**	P	**P**	**18 56 56.4**	**+0.3**
0.3nm,0.5s,baz=94,slow=7.8,SNR=2.3							
0.3nm,0.5s							

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*IDC **16** 18:50:54.2±0.8, 26.°23N×143.°94E, h0km, mb3.9/14, mbtmp3.9/15, ML3.3/1, MS3.5/4, Error ellipse: s-maj=31.4km s-min=17.3km az=77.0*
*NEIC **16** 18:50:57.7±2.1, 26.°19N±0.°10×143.°5E±0.°1, h10km±1km, mb4.4/13, Error ellipse: s-maj=22.9km s-min=14.7km az=62.0*
*JMA **16** 18:51:02.1±0.1, 26.°2N±1.°0×143.°1E±0.°8, h128km, MV4.0/17, NEAR CHICHIJIMA ISLAND*
ISC 16 18:50:59.9±0.7, 26.°32N±0.°07×143.°79E±0.°09, h35km, n56, σ1s74/55, mb4.2/18, MS3.8/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.48**	**283**	*eS*	**Sn**	**18 51 41.5**	**-0.6**
JCJ	**Chichijima**	**1.63**	**299**		**Pn**	**18 51 27.2**	**+1.1**
CBIJ	**Chichi jima**	**1.63**	**299**	P	**Pn**	**18 51 27.4**	**+1.4**
CBIJ				*eS*	**Sn**	**18 51 46.8**	**+1.0**
JHJ2	**Mitsune**	**7.60**	**334**	Pn	Pn	18 52 44.2	-3.9
JHJ2				Sn	Sn	18 54 06.0	-6.9
BSO1	**Boso 1**	**8.65**	**344**	*eP*	**Pn**	**18 53 01.8**	**-0.3**
BSO1				*eS*	**Sn**	**18 54 34.7**	**-3.4**
BSO3	**Boso 3**	**8.91**	**342**	*eP*	**Pn**	**18 53 05.9**	**0.0**
BSO3				*eS*	**Sn**	**18 54 43.8**	**-1.1**
JOD2	**Odawara 2**	**9.79**	**337**	*eP*	**Pn**	**18 53 19.3**	**+1.2**
JOD2				*eS*	**Sn**	**18 55 03.6**	**-3.2**
JRY	**Ryogami san**	**10.53**	**338**	*eP*	**Pn**	**18 53 28.6**	**+0.3**
JRY				*eS*	**Sn**	**18 55 23.0**	**-2.1**
JGF	**Kuroka**	**10.77**	**331**	Pn	**Pn**	**18 53 34.0**	**+2.4**
MJAR	**Matsushiro Arr**	**11.24**	**336**	Pn	**Pn**	**18 53 39.2**	**+1.1**
0.2nm,0.3s,baz=180,slow=6.5,SNR=8.6							
MJAR				Sn	**Sn**	**18 55 37.0**	**-5.5**
0.1nm,0.3s,baz=152,slow=26,SNR=2.0							
1.4nm,0.5s							
MAJO	**Matsushiro**	**11.25**	**336**	Pn	**Pn**	**18 53 36.6**	**-1.5**
MJB9	**Matsu-Tunnel**	**11.25**	**336**		**Pn**	**18 53 37.2**	**-1.0**
JMM	**Marumori**	**11.79**	**348**		**Pn**	**18 53 42.7**	**-2.7**
GUMO	**Guam**	**12.71**	**175**	LR	LR	18 58 03.7	
comp=Z,40nm,22.0s,baz=126,slow=34							
USRK	**Ussuriysk Ar.**	**20.24**	**335**	P	**P**	**18 55 33.0**	**+1.1**
1.8nm,0.8s,baz=163,slow=12,SNR=3.3							
1.8nm,0.8s							
SSLB	**Suanglung**	**20.83**	**268**	P	**P**	**18 55 38.4**	**-0.2**
SSLB				IAmb	IAmb	18 56 17.8	
comp=Z,34nm,1.5s							
H11N2	**WAKE ISLAND Hy**	**22.24**	**102**

MAKZ	Makanchi	52.28	310	P	P	19 00 08.5 +0.6
KURK	Kurchatov	54.55	315	P	P	19 00 24.1 -0.3
KURK				IAmb	IAmb	19 00 26.5
	comp=Z,3.6nm,0.8s					
KURBB	Kurchatov Arra	54.60	315	P	P	19 00 25.6 +0.8
	comp=Z,2.7nm,0.6s,baz=92,slow=7.6,SNR=29					
	comp=Z,2.7nm,0.6s					
B20K	Meade River	55.05	21	P	P	19 00 31.1 +3.4
IMAR	Indian Mountai	55.10	26	P	P	19 00 30.9 +2.8
ILAR	Eielson Array	57.71	28	P	P	19 00 46.9 +0.2
	comp=Z,0.4nm,0.8s,baz=258,slow=4.5,SNR=3.6					
	comp=Z,0.4nm,0.8s					
BVAR	Borovoye Array	59.58	318	P	P	19 01 00.1 +0.2
	comp=Z,1.5nm,0.4s,baz=87,slow=6.2,SNR=9.3					
BVAR				LR	LR	19 28 45.1
	comp=Z,80nm,20.6s,baz=336,slow=38					
	comp=Z,1.5nm,0.4s					
KKAR	Karatay Array	60.70	306	P	P	19 01 08.1 +0.3
KKAR				IAmb	IAmb	19 01 09.9
	comp=Z,2.8nm,0.8s					
KKAR	Karatay Array	60.70	306	P	P	19 01 08.5 +0.7
ABKAR	Abkulak array	66.66	315	P	P	19 01 46.2 -0.7
ABKAR	Abkulak array	66.66	315	P	P	19 01 46.5 -0.5
ABKAR				IAmb	IAmb	19 01 53.9
	comp=Z,1.2nm,0.9s					
BELG	Belogornoye	73.17	320	LR	LR	19 35 12.7
	comp=Z,110nm,18.1s,baz=300,slow=36					
FINES	FINESS Array B	79.27	334	P	P	19 03 02.0 +0.7
	comp=Z,3.4nm,0.9s,baz=66,slow=3.4,SNR=7.6					
	comp=Z,3.4nm,0.9s					
AKASG	Malin Array Be	84.08	324	P	P	19 03 26.7 -0.3
	comp=Z,0.3nm,0.4s,baz=51,slow=5.4,SNR=3.0					
	comp=Z,0.3nm,0.4s					
HFS	Hagfors	84.69	337	P	P	19 03 29.8 -0.1
	comp=Z,1.6nm,0.5s,baz=70,slow=4.9,SNR=7.2					
	comp=Z,1.6nm,0.5s					
NOA	NORSAR Array B	84.85	339	P	P	19 03 30.5 -0.2
	comp=Z,1.4nm,0.8s,baz=40,slow=5.0,SNR=3.6					
	comp=Z,1.4nm,0.8s					
MMAI	Mount Meron Ar	89.92	307	LR	LR	19 48 29.5
	comp=Z,25nm,18.6s,baz=204,slow=38					
TORD	Torodi Ar. Bea	126.17	312	PKP	PKPdf	19 09 59.6 +0.2
	comp=Z,0.3nm,0.6s,baz=66,slow=0.0,SNR=2.1					
LPAZ	La Paz	148.71	78	PKPbc	PKPbc	19 10 44.1 -0.8
	comp=Z,1.0nm,0.3s,baz=90,slow=1.0,SNR=2.5					

*GUC **16** 19:09:33.2±0.8, 21°.21S×68°.88W, h113km±3km, ML3.4*
*SJA **16** 19:09:34.0, 21°.22S×68°.95W, h97km, ML3.5*

ISC 16 19:09:33.7±1.7, 21°.22S±0°.04×68°.95W±0°.08, h118km±13km, n22, σ0°48/30, 3C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.54	289	⇑ *i* P	Pn	19 09 51.7	-0.1
PB01				*i* S	Sn	19 10 05.3	0.0
PB01				IAML		19 10 06.4	
	comp=N,2μm,0.1s						
PB01	IPOC Station P	0.54	289	*i* P	Pn	19 09 51.0	-0.8
PB09	IPOC Station P	0.64	206	⇑ *i* P	Pn	19 09 52.6	0.0
PB09				*i* S	Sn	19 10 07.1	+0.3
PB09				IAML		19 10 08.1	
	comp=N,799nm,0.6s						
PB09	IPOC Station P	0.64	206	*i* P	Pn	19 09 51.9	-0.7
PX03	IPOC Station P	1.04	322	*eP*	Pn	19 09 55.3	-0.7
PX03				*eS*	Sn	19 10 13.1	+0.2
PX03				IAML		19 10 15.0	
	comp=N,1μm,0.2s						
PB08	IPOC Station P	1.09	350	⇓ *i* P	Pn	19 09 57.1	+0.2
PB08				*eS*	Sn	19 10 14.8	+0.4
PB08				IAML		19 10 16.2	
	comp=E,645nm,0.3s						
TA01	Diego Aracena	1.33	299	*eP*	Pn	19 09 59.3	+0.3
TA01				*i* S	Sn	19 10 18.8	+0.6
TA01				IAML		19 10 20.1	
	comp=N,970nm,0.4s						
TA01	Diego Aracena	1.33	299	*i* P	Pn	19 09 58.7	-0.3
TA02	Huaiquique	1.46	310	*eP*	Pn	19 10 00.6	+0.1
TA02				*eS*	Sn	19 10 21.1	+0.3
GO01	Chusmiza	1.56	351	⇓ *i* P	Pn	19 10 02.2	-0.1
GO01				*i* S	Sn	19 10 24.1	+0.2
GO01				IAML		19 10 26.9	
	comp=E,2μm,0.1s						
GO01	Chusmiza	1.56	351	*i* P	Pn	19 10 01.7	-0.6
PB04	IPOC Station P	1.57	225	*eP*	Pn	19 10 02.3	+0.2
PB04				IAML		19 10 24.9	
	comp=E,404nm,0.3s						
PB04	IPOC Station P	1.57	225	*i* P	Pn	19 10 02.0	-0.1
PB06	IPOC Station P	1.59	201	⇑ *i* P	Pn	19 10 02.4	+0.1
PB06				IAML		19 10 25.5	
	comp=N,537nm,0.4s						
PB06	IPOC Station P	1.59	201	*i* P	Pn	19 10 01.8	-0.4
PB11	IPOC Station P	1.60	335	*eP*	Pn	19 10 02.3	-0.1
PB11				*i* S	Sn	19 10 24.3	+0.2
PB11				IAML		19 10 25.7	
	comp=E,1μm,0.2s						
PB11	IPOC Station P	1.60	335	*i* P	Pn	19 10 01.6	-0.7
PB15	IPOC Station P	2.04	194	*eP*	Pn	19 10 08.0	+0.2
PB15	IPOC Station P	2.04	194	*i* P	Pn	19 10 08.3	+0.5
YJA	Yavi	3.33	107	*i* P	Pn	19 10 24.9	+0.2
PB14	IPOC Station P	3.65	201	*i* P	Pn	19 10 28.6	-0.2
GO02	Mina Guanaco	3.97	188	*i* P	Pn	19 10 31.8	-1.3

BER 16 19:16:10.3±0.6, 83°.03N×3°.17W, h10km, mb(Pn)3.6, Confirmed Earthquake, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	Nord	2.31	239	*eP*	Pn	19 16 46.8	-1.5
NOR				*eS*	Sn	19 17 13.1	-3.5
KBS	Kingsbay	4.73	142	*eP*	Pn	19 17 19.7	-1.9
KBS				*eS*	Sn	19 18 11.2	-5.2
KBS				IAML		19 18 14.5	
	comp=Z,5.3nm,0.5s						
BRBB	Barentsburg B	5.68	141	*eP*	Pn	19 17 32.5	-2.0
SPA0	Spitsbergen Ar	5.78	137	*eP*	Pn	19 17 33.2	-2.6

DJA 16 19:19:22.4±0.2, 3°S±2°×11°9E±°, h10km, M4.1/18, mb4.1/6, MLv4.1/18, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.37	105	P	Pg	19 19 28.9	-0.9
TTSI				S	Sg	19 19 35.0	+0.3
SPSI	Sidrap Palu	1.05	163	P	Pg	19 19 41.7	-1.0
SPSI				S	Sb	19 19 57.2	+0.6
BNSI	Bone	1.58	156	P	Pn	19 19 50.9	+0.4
PCI	Palu	2.07	11	P	Pn	19 19 57.2	0.0
APSI	Ampana	2.98	47	P	Pn	19 20 10.1	+0.3
BKB	Balikpapan	3.06	303	P	Pn	19 20 11.2	+0.3
BSSI	Bau Bau, Buton	3.33	162	P	Pn	19 20 15.4	+0.8
LUWI	Luwuk	3.81	60	P	Pn	19 20 21.7	+0.5
BBSI	Bau Bau	4.00	129	P	Pn	19 20 24.6	+0.8
MRSI	Marisa	4.21	36	P	Pn	19 20 27.6	+0.9
PLAI	Plampang	6.07	196	P	Pn	19 20 52.2	-0.1
SRBI	Singaraja	6.62	219	P	Pn	19 20 59.1	-0.8
	30nm,1.0s						
WBSI	Waikabubak, Su	6.65	181	P	Pn	19 21 01.0	+0.7
JAGI	Jajag, Banyuwa	7.61	224	P	Pn	19 21 13.1	-0.4
	12nm,1.4s						
GMJI	Gumukmas	7.99	228	P	Pn	19 21 18.1	-0.5
	14nm,1.7s						

IDC 16 19:29:06.1±2.3, 7°.30S×155°.66E, h0km, mb3.4/5, mbtmp3.4/5, MS4.4/1, Error ellipse: s-maj=69.9km s-min=31.2km az=128.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.19	237	P	P	19 34 25.3	+0.8
	0.2nm,0.5s,baz=61,slow=9.9,SNR=2.0						
	0.2nm,0.5s						
ASAR	Alice Springs	26.47	230	P	P	19 34 44.5	-0.7
	0.5nm,1.0s,baz=57,slow=10,SNR=3.2						
	0.5nm,1.0s						
RAO	Raoul Island	33.10	135	LR	LR	19 47 31.5	
	comp=Z,589nm,19.6s,baz=133,slow=33						
CMAR	Chiang Mai Arr	61.51	295	P	P	19 39 26.4	+1.0
	0.8nm,0.7s,baz=118,slow=5.6,SNR=8.6						
	0.8nm,0.7s						
ILAR	Eielson Array	83.41	21	P	P	19 41 34.6	-0.4
	0.3nm,0.6s,baz=248,slow=5.0,SNR=4.3						
	0.3nm,0.6s						
MKAR	Makanchi Array	84.07	319	P	P	19 41 37.6	-1.3
	0.2nm,0.7s,baz=93,slow=5.6,SNR=1.9						
	0.2nm,0.7s						

*GII **16** 19:42:18.2±0.3, 35°.91N±0°.03×31°.988E±0°.008, h40km, Mws2.7, confirmed*
*NIC **16** 19:42:18.8, 35°.99N×32°.12E, h15km±1km, Ml2.3/9*
*ISK **16** 19:42:19.1, 35°.89N×32°.01E, h58km, ML2.6/24*
*AFAD **16** 19:42:21.3±0.0, 36°.08N×31°.76E, h41km±2km, ML2.4*

ISC 16 19:42:19.0±1.1, 35°.91N±0°.02×32°.00E±0°.02, h32km±12km, n119, σ1°36/145, 2C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALAN	Alanya-ANTALYA	0.65	2	Pg	Pn	19 42 33.4	+1.5
ALAN				Sg	Sn	19 42 43.8	+2.7
BOZY	Bozyazi-Mersin	0.82	76	Pg	Pn	19 42 35.3	+1.1
BOZY				Sg	Sn	19 42 46.9	+1.7
ALFC	Alefka	0.90	147	⇑ *i* P	Pn	19 42 36.8	+1.4
ALFC				S	Sn	19 42 49.6	+2.3
ALFC				AML	AML	19 42 51.4	
	0.9nm,0.2s						
ALFC				AML	AML	19 42 51.7	
	0.8nm,0.2s						
AKMS	Akamas	0.93	163	⇑ *i* P	Pn	19 42 37.9	+2.0
AKMS				S	Sn	19 42 51.2	+3.1
AKMS				AML	AML	19 42 54.0	
	0.6nm,0.3s						
AKMS				AML	AML	19 42 55.8	
	0.5nm,0.2s						
TEKE	Tekeli-Mersin	0.93	75	Pg	Pn	19 42 36.7	+0.8
TEKE				Sg	Sn	19 42 49.7	+1.5
AKDN	Akdeniz- Kıbrı	1.00	127	Pg	Pn	19 42 37.4	+0.6
AKDN				Sg	Sn	19 42 50.9	+1.2
MNVG	Manavgat-Antal	1.00	332	Pg	Pn	19 42 37.9	+1.1
MNVG				Sg	Sn	19 42 51.9	+2.1
BERE	Bereket-Mersin	1.08	66	Pn	Pb	19 42 38.8	-0.5
BERE				Sn	Sn	19 42 53.3	+1.2
TROD	Troodos	1.19	143	P	Pb	19 42 40.7	-0.4
TROD				S	Sn	19 42 58.4	+3.5
TROD				AML	AML	19 43 07.8	
	0.2nm,0.3s						
TROD				AML	AML	19 43 09.5	
	0.2nm,0.7s						
OREN	Orenkoy-Mersin	1.22	75	Pn	Pb	19 42 40.6	-0.9
OREN				Sn	Sn	19 42 56.3	+1.1
NATA	Nata	1.22	157	P	Pb	19 42 42.4	+0.8
NATA				S	Sn	19 42 59.7	+4.4
NATA				AML	AML	19 43 08.8	
	0.5nm,0.5s						
NATA				AML	AML	19 43 11.2	
	0.7nm,0.7s						
AKK1	Akkuyu-Mersin	1.27	79	Pn	Pb	19 42 41.4	-0.9
TEVE	Tevekalti-Mers	1.28	65	Pn	Pb	19 42 41.6	-1.0
AKKU	Akkuyu-Mersin	1.28	78	Pn	Pb	19 42 41.6	-0.9
AKKU				Sn	Sn	19 42 57.8	+1.0
TEPK	Tepekoy-MERSIN	1.29	76	Pn	Pb	19 42 41.7	-1.0
YESI	Yesilovacik-Me	1.36	77	Pn	Pb	19 42 42.7	-1.1
ATHAL	Athalassa	1.38	124	P	Pb	19 42 43.0	-1.1
ATHAL				S	Sb	19 43 01.2	-0.1
ATHAL				AML	AML	19 43 09.5	
	0.3nm,0.6s						
ATHAL				AML	AML	19 43 16.4	
	0.5nm,0.7s						
TISA	Tisan-Mersin	1.39	79	Pn	Pn	19 42 42.7	+0.6
AKUM	Antalya-Kumluc	1.40	288	P	Pb	19 42 44.3	-0.2
AKUM				S	Sb	19 43 04.0	+1.9
IKL	Isikli	1.41	76	Pn	Pn	19 42 43.2	+0.8
KARG	Kargicak-Mersi	1.42	78	Pn	Pn	19 42 43.5	+1.0
APOL	The Sanctuary	1.43	150	P	Pb	19 42 46.0	+1.1
APOL				S	Sb	19 43 03.7	+1.1
APOL				AML	AML	19 43 11.7	
	0.2nm,0.3s						
APOL				AML	AML	19 43 13.7	
	0.2nm,0.4s						
CSS	Mathiatis	1.44	131	Pn	Pn	19 42 43.7	+0.8
CSS	Mathiatis	1.44	131	P	Pn	19 42 42.3	-0.5
CSS	Mathiatis	1.44	131	S	Sn	19 43 00.3	-0.4
CSS	Mathiatis	1.44	131	P	Pn	19 42 43.4	+0.5
CSS				S	Sn	19 43 01.0	+0.3
CSS				AML	AML	19 43 08.6	
	0.1nm,0.4s						
CSS				AML	AML	19 43 10.7	
	0.1nm,0.5s						
ANTB	Antalya	1.47	313	Pn	Pb	19 42 44.5	-1.1
KEBE	Keben-Mersin	1.49	68	Pn	Pn	19 42 44.5	+0.9
SEYD	Seydisehir-KON	1.50	355	Pn	Pb	19 42 44.9	-1.3
ASGA	Asgata	1.52	137	P	Pb	19 42 46.2	-0.3
ASGA				S	Sb	19 43 06.2	+0.8
ASGA				AML	AML	19 43 10.3	
	0.2nm,0.3s						
ASGA				AML	AML	19 43 12.9	
	0.1nm,0.3s						
SEDI	Konya, Seydise	1.55	353	P	Pb	19 42 46.3	-0.8
SEDI				S	Sb	19 43 05.7	-0.8
SEDI				*i* AML	AML	19 43 07.0	
	comp=E,130nm,0.4s						
SEDI				*i* AML	AML	19 43 11.0	
	comp=N,73nm,0.7s						
MVOU	Mavrovouni	1.60	123	P	Pn	19 42 45.1	0.0
MVOU				S	Sn	19 43 03.5	-1.2
MVOU				AML	AML	19 43 11.1	
	0.1nm,0.3s						
MVOU				AML	AML	19 43 14.4	
	0.1nm,0.3s						
KRMN	Karaman	1.62	39	Pn	Pn	19 42 46.5	+1.1
KORT	Korkueli	1.72	310	P	Pn	19 42 47.0	+0.3
KORT	Korkueli	1.72	310	Pn	Pn	19 42 47.2	+0.4
EREN	Erenkoy	1.81	101	Pn	Pn	19 42 49.0	+1.1
KIZK	Mersin	1.83	71	Pn	Pn	19 42 49.3	+1.2
ELL	Elmali	1.88	297	Pn	Pn	19 42 50.2	+1.1
ELL	Elmali	1.88	297	P	Pb	19 42 50.7	-2.1
BCK	Bucak	1.92	324	Pn	Pn	19 42 50.9	+1.4
AKAS	Kas	1.96	280	P	Pn	19 42 51.4	+1.2
AKAS				S	Sn	19 43 15.1	+1.3
AKAS				*i* AML	AML	19 43 17.0	
	comp=N,44nm,0.7s						
AKAS				*i* AML	AML	19 43 49.0	
	comp=E,30nm,1.7s						
KONT	Konya--Tatoy	2.05	8	Pn	Pn	19 42 52.6	+1.3
KNIK	Mula-Seydike	2.17	296	P	Pn	19 42 54.5	+1.5
KNIK				S	Sn	19 43 17.5	-1.3
ISP	Isparta	2.25	329	P	Pn	19 42 52.3	-1.7
ISP	Isparta	2.25	329	S	Sn	19 43 18.1	-2.6
IZZE	Mula-Seydike	2.30	284	P	Pn	19 42 55.8	+1.1
IZZE				S	Sn	19 43 22.6	+0.6
IZZE				*i* AML	AML	19 43 25.0	
	comp=N,59nm,0.6s						
IZZE				*i* AML	AML	19 43 25.0	
	comp=E,68nm,0.4s						
LADK	Ladik-KONYA	2.30	7	Pn	Pn	19 42 56.2	+1.4
YESY	Yesilyurt	2.33	36	Pn	Pn	19 42 56.3	+1.0
YVAC	Isparta, Yalva	2.43	346	P	Pn	19 42 56.8	+0.2
YVAC				S	Sn	19 43 25.6	+0.2
CAEL	Denizli, Camel	2.47	300	P	Pn	19 42 58.1	+0.9
CAEL				S	Sn	19 43 27.2	+0.8
CAEL				*i* AML	AML	19 43 31.0	
	comp=N,43nm,1.3s						
CAEL				*i* AML	AML	19 43 37.0	
	comp=E,20nm,0.6s						
SABU	Mula-Dalaman	2.61	291	P	Pn	19 42 59.7	+0.8
SABU				S	Sn	19 43 28.7	-0.9
SABU				*i* AML	AML	19 43 31.0	
	comp=N,18nm,0.2s						
CHBY	Cihanbeyli	2.76	15	Pn	Pn	19 43 02.9	+1.8
KZIL	AFYON_Kizioren	2.77	328	P	Pn	19 43 02.0	+0.7
KZIL				S	Sn	19 43 33.6	-0.1
KZIL				*i* AML	AML	19 43 37.0	
	comp=E,12nm,0.3s						
TAVA	DENIZLI_Tavas	2.92	303	P	Pn	19 43 04.8	+1.5
TAVA				S	Sn	19 43 37.2	-0.2
TAVA				*i* AML	AML	19 43 47.0	
	comp=N,11nm,0.5s						
TAVA				*i* AML	AML	19 43 49.0	
	comp=E,12nm,0.8s						
CMRD	Camardi-Nigde	2.97	53	Pn	Pn	19 43 05.6	+1.6
TURN	Turunc	3.15	287	P	Pn	19 43 07.2	+0.9
TURN				S	Sn	19 43 42.2	-0.6
TURN				*i* AML	AML	19 43 45.0	
	comp=N,16nm,0.2s						
TURN				*i* AML	AML	19 43 45.0	
	comp=E,18nm,0.2s						
PASA	Karahalli, USA	3.15	321	P	Pn	19 43 07.3	+0.8
PASA				S	Sn	19 43 42.0	-1.1
HNTI	Hanita	3.85	136	P	Pn	19 43 15.1	-0.9
HNTI	Hanita	3.85	136	S	Sn	19 43 58.9	-1.3
MMA0	Mount Meron ar	4.03	135	P	Sn	19 44 03.9	-0.8
MMA0B	Mount Meron ar	4.03	135	P	Pn	19 43 18.1	-0.4
MMA0B	Mount Meron ar	4.03	135	S	Sn	19 44 04.4	-0.3
GEM	Giv'at Ha'Em	4.05	131	S	Sn	19 44 04.6	-0.5
GEM	Giv'at Ha'Em	4.05	131	P	Pn	19 43 18.6	-0.1
NATI	Neve Ativ	4.06	130	P	Sn	19 44 02.8	-2.5
NATI	Neve Ativ	4.06	130	S	Sn	19 44 04.4	-0.9
NATI	Neve Ativ	4.06	130	P	Pn	19 43 18.4	-0.5
OFRI	`Ofer	4.11	142	P	Pn	19 43 18.9	-0.7
OFRI	`Ofer	4.11	142	S	Sn	19 44 05.9	-0.6
BLGI	Bet Lehem HaGe	4.13	139	P	Pn	19 43 19.1	-0.7
BLGI	Bet Lehem HaGe	4.13	139	S	Sn	19 44 06.9	0.0
KSHT	Keshet	4.30	132	P	Pn	19 43 21.9	-0.3
KSHT	Keshet	4.30	132	S	Sn	19 44 10.2	-1.1
SLTI	Sal'it	4.45	145	P	Pn	19 43 23.4	-0.8
SLTI	Sal'it	4.45	145	S	Sn	19 44 14.1	-0.8
SHMJ	Saham	4.45	134	P	Sn	19 44 15.2	+0.3
MMLI	Mount Malkishu	4.48	140	S	Sn	19 44 15.2	-0.5
MMLI	Mount Malkishu	4.48	140	P	Pn	19 43 24.1	-0.5
QRNJ	Al-Qirein	4.64	139	P	Pn	19 44 19.5	0.0
SALP	Salfit	4.66	144	P	Pn	19 43 26.9	-0.3
SALP	Salfit	4.66	144	S	Sn	19 44 19.2	-1.0
HMDT	Nahal Hemdat	4.68	140	P	Sn	19 44 21.5	+1.0
HMDT	Nahal Hemdat	4.68	140	P	Pn	19 43 26.6	-0.7
HMDT	Nahal Hemdat	4.68	140	S	Sn	19 44 19.9	-0.6
UJAP	Al Uja	4.89	143	P	Sn	19 44 25.1	-0.6
UJAP	Al Uja	4.89	143	P	Pn	19 43 29.6	-0.6
UJAP	Al Uja	4.89	143	S	Sn	19 44 25.9	+0.3
AMAZ	Amatzia	5.00	150	P	Sn	19 44 28.0	-0.5
AMAZ	Amatzia	5.00	150	P	Pn	19 43 31.6	-0.2
AMAZ	Amatzia	5.00	150	S	Sn	19 44 28.4	0.0
HSUJ	Al Zarqa	5.15	136	P	Sn	19 44 23.1	-9.2
DSI	Dead Sea	5.17	146	P	Sn	19 44 31.8	-0.8
DSI	Dead Sea	5.17	146	P	Pn	19 43 32.9	-1.2
DSI	Dead Sea	5.17	146	S	Sn	19 44 31.4	-1.1
YTIR	Yattir	5.23	149	P	Sn	19 44 31.5	-2.7
YTIR	Yattir	5.23	149	P	Pn	19 43 34.1	-0.9
YTIR	Yattir	5.23	149	S	Sn	19 44 34.0	-0.3
MDBI	Mazsada	5.37	148	P	Sn	19 44 36.6	-1.0
MSBI	Mazada	5.37	148	P	Pn	19 43 36.4	-0.5
MSBI	Mazada	5.37	148	S	Sn	19 44 37.2	-0.5
KZIT	Kziot	5.38	157	P	Pn	19 43 36.6	-0.4
KZIT	Kziot	5.38	157	S	Sn	19 44 37.2	-0.7
GHAJ	Ghor Haditha	5.47	146	P	Pn	19 43 37.6	-0.7
GHAJ	Ghor Haditha	5.47	146	S	Sn	19 44 39.7	-0.5
ASF	Jabal al Asfar	5.52	131	P	Sn	19 44 22.9	-18
ZFRI	Zfri	5.97	153	P	Sn	19 44 44.3	-8.0
ZFRI	Zfri	5.97	153	P	Pn	19 43 43.6	-1.4
ZFRI	Zfri	5.97	153	S	Sn	19 44 51.5	-0.9
PRNI	Paran	6.09	155	P	Pn	19 43 45.6	-1.2
PRNI	Paran	6.09	155	S	Sn	19 44 54.5	-0.9
KRMI	Paran Flat	6.21	158	P	Pn	19 43 47.9	-0.6
KRMI	Paran Flat	6.21	158	S	Sn	19 44 58.0	-0.5
HRFI	Mount Harif	6.39	156	P	Pn	19 43 50.3	-0.6
HRFI	Mount Harif	6.39	156	S	Sn	19 45 02.5	-0.3
MBRI	Mt Berech	6.57	157	P	Sn	19 44 54.3	-13
MBRI	Mt Berech	6.57	157	P	Pn	19 43 53.0	-0.5
MBRI	Mt Berech	6.57	157	S	Sn	19 45 07.5	+0.1
EIL	Elat	6.70	157	P	Pn	19 43 55.2	0.0
EIL	Elat	6.70	157	S	Sn	19 45 09.5	-1.0

*NIED **16** 20:02:02.6, 41°.02N×142°.73E, h27km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}6.60; $M_{\theta\theta}$-3.71; $M_{\phi\phi}$-2.89; $M_{r\theta}$-1.90; $M_{\theta\phi}$-4.81; $M_{\phi r}$-0.44; Fault plane solution: $M_0$7.65000×1014 NP1: ϕ_s237.00000°, δ52.00000°, λ102.00000°. NP2: ϕ_s37.00000°, δ39.00000°, λ74.00000°.*
*JMA **16** 20:02:02.6±0.1, 41°.0N±0°.5×142°.7E±0°.7, h27km, MD4.1/39, MV4.4/39, E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .
*NEIC **16** 20:02:04.9±2.2, 41°.06N±0°.05×142°.73E±0°.08, h41km±7km, mb4.4/36, Error ellipse: s-maj=10.2km s-min=5.0km az=127.0*
*IDC **16** 20:02:05.8±2.1, 41°.00N×142°.74E, h55km±17km, mb3.8/16, mbtmp4.0/19, ML4.1/2, MS3.1/5, Error ellipse: s-maj=17.4km s-min=12.3km az=104.0*

ISC 16 20:02:04.1±0.7, 41°.02N±0°.04×142°.73E±0°.05, h40km±7km, n110, σ1°07/108, mb4.3/32, 7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JARK	Aomorirokkasho	1.03	270	⇓ *i* P	Pn	20 02 21.2	-0.8
ERM	Erimo	1.04	18	P	Pn	20 02 21.5	-0.7
ERM				Sn	Sn	20 02 34.0	-1.5
JEM	Erimo	1.04	18	P	Pn	20 02 21.2	-1.0
JEM				*eS*	Sn	20 02 34.9	-0.7
JAHD	Aomorihigashid	1.08	283	⇓ *i* P	Pn	20 02 22.0	-0.7
JAHD	Aomorihigashid	1.08	283	A	A	20 02 22.0	
	comp=E,9.0nm,1.3s,comp=N,8.0nm,0.5s						
JKEN	Kujiedanarisaw	1.13	224	P	Pn	20 02 22.3	-1.1
JKEN				*eS*	Sn	20 02 36.8	-0.9
JANG	Nango	1.13	235	*i* P	Pn	20 02 22.4	-1.0
JANG	Nango	1.13	235	A	A	20 02 22.4	
	comp=E,2.0nm,0.2s,comp=N,2.0nm,1.5s						
JNBK	Urakawa-nobuka	1.26	1	⇓ P	Pn	20 02 24.9	-0.2
JNBK	Urakawa-nobuka	1.26	1	A	A	20 02 24.9	
	comp=E,8.0nm,0.4s,comp=N,6.0nm,0.4s						
JTM	Tenmabayashi	1.28	260		Pn	20 02 25.4	-0.1
JTM				Sn	Sn	20 02 41.3	-0.2
JTM	Tenmabayashi	1.28	260	P	Pn	20 02 25.5

YAK	Yakutsk	22.47	344	P	P	20 06 56.6	-2.9
	comp=N,7.9nm,0.6s,baz=336,slow=1.9,SNR=3.2						
YAK				LR	LR	20 16 33.5	
	comp=N,36nm,19.7s,baz=108,slow=39						
NACB	Ninganchiao	24.38	233	P	P	20 07 15.7	-2.8
SONM	Songino Array	26.64	297	P	P	20 07 39.9	+0.9
SONM	Songino Array	26.64	297	P	P	20 07 38.9	-0.1
	comp=N,1.0nm,0.6s,baz=82,slow=8.6,SNR=7.2						
	comp=N,1.0nm,0.6s						
H11N2	WAKE ISLAND Hy	29.57	129	T	T	20 39 14.2	
	baz=319,slow=74						
H11N1	WAKE ISLAND Hy	29.58	129	T	T	20 38 54.3	
	baz=319,slow=74						
H11N3	WAKE ISLAND Hy	29.59	129	T	T	20 39 12.2	
	baz=319,slow=74						
H11S1	WAKE ISLAND Hy	30.41	130	T	T	20 40 20.3	
	baz=323,slow=76						
H11S3	WAKE ISLAND Hy	30.42	130	T	T	20 40 16.9	
	baz=323,slow=76						
H11S2	WAKE ISLAND Hy	30.43	130	T	T	20 40 27.4	
	baz=323,slow=76						
C16K	Lisburne Hills	38.69	28	P	P	20 09 23.8	+0.3
ZAA0	Zalesovo Array	40.10	309		P	20 09 34.4	-1.1
ZAA0				IAmb	IAmb	20 09 40.5	
	comp=Z,4.1nm,0.6s						
ZALV	Zalesovo Beam	40.10	309		P	20 09 34.6	-0.9
ZALV	Zalesovo Beam	40.10	309	P	P	20 09 35.9	+0.4
	comp=Z,4.1nm,0.5s,baz=87,slow=8.4,SNR=13						
ZALV				PcP	PcP	20 11 40.0	+0.6
	comp=Z,0.7nm,0.5s,baz=99,slow=3.3,SNR=3.0						
	comp=Z,4.1nm,0.5s						
C18K	Utukok River	40.27	28	P	P	20 09 36.1	-0.7
H18K	Honhosa River	40.74	34	P	P	20 09 41.5	+0.8
H19K	Roundabout Mou	41.58	33	P	P	20 09 48.8	+1.3
H19K				IAmb	IAmb	20 09 50.2	
	comp=Z,9.4nm,0.8s						
B20K	Meade River	41.96	26	P	P	20 09 51.2	+0.7
IMAR	Indian Mountai	42.72	33	P	P	20 09 58.1	+1.2
E21K	Killik River	42.84	29	P	P	20 09 58.3	+0.5
E21K				IAmb	IAmb	20 10 11.5	
	comp=Z,7.7nm,1.2s						
MK31	Makanchi Array	42.99	299		P	20 09 59.5	+0.2
MKAR	Makanchi Array	42.99	299	P	P	20 09 59.9	+0.6
MKAR	Makanchi Array	42.99	299	P	P	20 09 59.3	0.0
	comp=Z,1.3nm,0.6s,baz=85,slow=9.6,SNR=15						
MKAR				PcP	PcP	20 11 49.2	+0.1
	comp=Z,0.2nm,0.5s,baz=75,slow=4.3,SNR=1.7						
	comp=Z,1.3nm,0.6s						
MAKZ	Makanchi	43.19	299		P	20 09 59.5	-1.5
CAST	Castle Rocks	43.38	36	P	P	20 10 03.6	+1.3
KURK	Kurchatov	44.38	305	P	P	20 10 10.2	-0.2
KURK				IAmb	IAmb	20 10 11.5	
	comp=Z,6.5nm,1.1s						
KURBB	Kurchatov Arra	44.46	305	P	P	20 10 11.4	+0.4
	comp=Z,2.4nm,0.5s,baz=78,slow=8.6,SNR=18						
KURBB				PcP	PcP	20 11 54.3	+0.4
	comp=Z,0.5nm,0.6s,baz=88,slow=3.6,SNR=2.8						
	comp=Z,2.4nm,0.5s						
E24K	Your Creek	44.86	30	P	P	20 10 15.2	+1.1
E24K				IAmb	IAmb	20 10 33.2	
	comp=Z,8.5nm,1.4s						
ILAR	Eielson Array	45.60	34	P	P	20 10 20.1	+0.2
	comp=Z,1.0nm,0.8s,baz=258,slow=5.9,SNR=12						
	comp=Z,1.0nm,0.8s						
BMAR	Burnt Mountain	46.36	31	P	P	20 10 27.6	+1.6
F26K	Sheenjek River	46.51	30	P	P	20 10 28.9	+1.7
F26K				IAmb	IAmb	20 10 30.4	
	comp=Z,3.5nm,1.0s						
C27K	Jago River	46.57	28	P	P	20 10 29.0	+1.5
SCRK	Sand Creek	46.94	35	P	P	20 10 31.1	+0.5
SCRK				IAmb	IAmb	20 10 50.6	
	comp=Z,8.2nm,1.5s						
BVAR	Borovoye Array	48.73	310	P	P	20 10 44.6	+0.2
	comp=Z,1.3nm,0.3s,baz=83,slow=9.7,SNR=10						
	comp=Z,1.3nm,0.3s						
E29M	Blow River	48.77	29	P	P	20 10 46.3	+1.7
E29M				IAmb	IAmb	20 10 47.6	
	comp=Z,4.6nm,0.9s						
BRVK	Borovoye	48.78	310	P	P	20 10 46.2	+1.4
BRVK				IAmb	IAmb	20 10 58.8	
	comp=Z,3.6nm,1.2s						
G30M	tAoh Zraii Nji	49.65	31	P	P	20 10 52.0	+0.7
I30M	Mount Dempster	49.95	33	P	P	20 10 54.1	+0.3
I30M				IAmb	IAmb	20 10 56.4	
	comp=Z,4.4nm,0.8s						
INK	Inuvik	50.38	29	P	P	20 10 57.8	+1.0
INK				IAmb	IAmb	20 11 15.8	
	comp=Z,6.3nm,1.3s						
INK	Inuvik	50.38	29	P	P	20 10 58.0	+1.2
	comp=Z,2.1nm,0.5s,baz=297,slow=5.4,SNR=8.0						
	comp=Z,2.1nm,0.5s						
ARSB	Arslanbob	51.15	295	P	P	20 11 03.7	+0.5
ABKAR	Akbulak array	56.21	309	P	P	20 11 39.7	-0.2
ABKAR				IAmb	IAmb	20 11 53.2	
	comp=Z,1.7nm,0.7s						
ABKAR	Akbulak array	56.21	309	P	P	20 11 39.8	-0.1
KNRA	Kununurra	57.88	196	P	P	20 11 52.2	+0.3
RES	Resolute Bay	58.49	15	P	P	20 11 55.5	0.0
RES				IAmb	IAmb	20 12 39.1	
	comp=Z,2.9nm,1.1s						
WB0	Warramunga Arr	60.97	189	P	P	20 12 13.3	+0.1
WB0				IAmb	IAmb	20 12 32.9	
	comp=Z,6.3nm,1.4s						
WB2	Warramunga Arr	61.15	189	P	P	20 12 14.2	-0.3
WB2				IAmb	IAmb	20 12 41.1	
	comp=Z,6.1nm,1.4s						
WRA	Warramunga Arr	61.15	189	P	P	20 12 14.3	-0.2
	comp=Z,0.6nm,0.5s,baz=5.3,slow=6.8,SNR=18						
	comp=Z,0.6nm,0.5s						
ASAR	Alice Springs	64.88	189	P	P	20 12 39.8	+0.6
ASAR	Alice Springs	64.88	189	P	P	20 12 38.8	-0.4
	comp=Z,0.5nm,0.6s,baz=1.8,slow=7.3,SNR=11						
	comp=Z,0.5nm,0.6s						
FIA1	FINESS Array S	65.78	332	P	P	20 12 44.2	-0.4
FINES	FINESS Array B	65.78	332	P	P	20 12 44.5	-0.1
	comp=Z,5.8nm,0.7s,baz=42,slow=6.7,SNR=30						
	comp=Z,5.8nm,0.7s						
SUMG	Summit	66.70	0	P	P	20 12 51.8	+1.0
PINE	Pine Mountain	67.01	51	P	P	20 12 54.3	+1.2
HFS	Hagfors	70.88	336	P	P	20 13 16.4	-0.2
	comp=Z,2.0nm,0.5s,baz=44,slow=6.6,SNR=11						
	comp=Z,2.0nm,0.5s						
NB2	NORSAR Subarra	70.91	337	P	P	20 13 16.8	0.0
	comp=Z,1.0nm,0.6s,baz=37,slow=6.5						
NOA	NORSAR Array B	70.91	337	P	P	20 13 16.6	-0.2
	comp=Z,1.2nm,0.7s,baz=38,slow=6.2,SNR=7.5						
NOA				LR	LR	20 50 22.0	
	comp=Z,25nm,19.2s,baz=15,slow=41						
	comp=Z,1.2nm,0.7s						
BOZ	Bozeman (W)	71.19	46	P	P	20 13 19.9	+1.1
AKASG	Malin Array Be	71.78	322	P	P	20 13 21.8	-0.3
	comp=Z,1.1nm,0.5s,baz=49,slow=6.4,SNR=8.8						
	comp=Z,1.1nm,0.5s						
NVAR	Mina Array Bea	71.81	55	P	P	20 13 22.2	-0.6
	comp=Z,0.5nm,0.6s,baz=286,slow=6.2,SNR=5.0						
	comp=Z,0.5nm,0.6s						
PD31	Pinedale Array	74.17	47	P	P	20 13 37.3	+0.6
PD31				IAmb	IAmb	20 13 56.4	
	comp=Z,3.7nm,1.2s						
PDAR	Pinedale Array	74.17	47	P	P	20 13 37.3	+0.6
PDAR	Pinedale Array	74.17	47	P	P	20 13 36.4	-0.3
	comp=Z,0.4nm,0.6s,baz=29,slow=3.4,SNR=5.0						
	comp=Z,0.4nm,0.6s						
BUR08	Bucovina Ar. S	75.81	322	P	P	20 13 45.5	-0.5
BUR08				IAmb	IAmb	20 13 60.0	
	comp=Z,5.0nm,1.1s						
BURAR	Bucovina Array	75.82	322	P	P	20 13 45.2	-0.8
EKA	Eskdalemuir Ar	79.71	341	P	P	20 14 06.9	-0.5
	comp=Z,0.4nm,0.4s,baz=34,slow=5.5,SNR=4.2						
	comp=Z,0.4nm,0.4s						
H03N2	Juan Fernandez	146.23	91	T	T	23 05 31.6	
	baz=296,slow=76						
H03N3	Juan Fernandez	146.24	91	T	T	23 05 33.8	
	baz=296						
H03N1	Juan Fernandez	146.24	91	T	T	23 05 33.0	
	baz=296,slow=76						

MOS ***16*** *20:16:54.5± 1.4, 28.°10N×58.°24E, h10km, mb4.9/32, Error ellipse: s-maj=5.5km s-min=4.4km az=97.7*
NEIC ***16*** *20:16:57.7± 2.3, 28.°27N± 0.°06×58.°21E± 0.°08, h10km± 1km, mb4.9/116, Error ellipse: s-maj=13.5km s-min=8.9km az=299.0*
DSN ***16*** *20:17:02.0± 0.9, 28.°42N×58.°14E, h10km, mb5.2/3, ML4.9/16, Error ellipse: s-maj=19.8km s-min=8.9km az=123.0*
OMAN ***16*** *20:17:03.3± 0.1, 28.°22N×58.°19E, h10km, mb5.4/22, ml5.1/18, ms3.3/1, Error ellipse: s-maj=1.5km s-min=1.3km az=287.0*
TEH ***16*** *20:17:05.2, 28.°25N×58.°22E, h100km, ML5.1*
IDC ***16*** *20:17:07.2± 0.4, 28.°34N×58.°23E, h102km± 2km, mb4.2/36, mbtmp4.5/42, MS3.6/36, Error ellipse: s-maj=9.1km s-min=7.6km az=173.0*
GCMT ***16*** *20:17:08.7± 0.3, 27.°95N± 0.°02×58.°29E± 0.°02, h94km± 3km, MW5.0/84, Moment Tensor Solution. s26, c30; s84, c118; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~0.11±.12; Mθθ~2.72±.12; Mφφ2.82±.12; Mrθ1.09±.08; Mθφ~1.59±.14; Mφr~0.25±.09; Best double couple: M=3.38400×10^16 NP1:φs=301.00000°, δ85.00000°, λ-162.00000°. NP2: φs=209.00000°, δ72.00000°, λ-6.00000°. Principal axes: T 3.3280, Plg9.0000°, Azm74.0000°; N 0.1040, Plg71.0000°, Azm316.0000°; P -3.4410, Plg17.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
SGS ***16*** *20:17:19.0, 27.°58N×57.°39E, h7km, Ml5.6*
BGR ***16*** *20:17:35.0, 29.°62N×57.°31E, h33km, mb4.6*
ISC 16 20:17:06.5± 0.3, 28.°24N± 0.°03×58.°25E± 0.°03, h96km± 2km, n534, σ1§52/576, mb4.8/143, 36C-19D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
KHNJ	Kahnooj	0.56	239	Pg	Pn	20 17 22.5	+0.1
KBAM	BAM	0.91	11	Pg	Pn	20 17 25.7	-0.1
KBAM				Sg	Sn	20 17 39.2	-1.0
IBND	Bandar-abas	1.71	243	Pg	Pn	20 17 36.5	+1.4
CHMN	Cheshme madani	1.73	339	Pg	Pn	20 17 36.0	+0.1
NGRK	Negar Kerman	1.93	317	Pn	Pn	20 17 39.1	+0.7
GENO	Geno	2.02	246	Pn	Pn	20 17 40.2	+0.8
TVBK	TV Kerman	2.18	324	Pn	Pn	20 17 42.4	+0.8
JASK	Jask - Hormozg	2.39	188	Pn	Pn	20 17 44.6	+0.6
JASK	Jask - Hormozg	2.39	188	P	Pn	20 17 44.7	+0.6
	SNR=496						
JASK				S	Sn	20 18 12.5	-0.2
KRM1	Kerman Provinc	2.41	340	Pn	Pn	20 17 45.3	+0.7
ZHDN	Zahedan	2.53	62	Pn	Pn	20 17 46.9	+0.9
KHGB	Koh Gabri	2.63	324	Pn	Pn	20 17 47.8	+0.3
SHME	Shamm	2.88	221	eP	Pn	20 17 50.9	+0.4
	SNR=481						
SHME				S	Sn	20 18 24.5	+0.1
SHME	Shamm	2.88	221	P	Pn	20 17 51.2	+0.7
	SNR=481						
SHME				S	Sn	20 18 24.3	-0.1
	SNR=15						
BANOM	Banah	2.89	217	eP	Pn	20 17 50.9	+0.2
	SNR=37						
BANOM	Banah	2.89	217	P	Pn	20 17 50.9	+0.2
BANOM				S	Sn	20 18 25.4	+0.6
ZRDN	Zarand Kerman	3.10	332	Pn	Pn	20 17 54.2	+0.4
CHBR	Chabahar	3.30	142	Pn	Pn	20 17 55.9	-0.3
MDH	Madha	3.41	211	iP	Pn	20 17 56.0	-1.6
	SNR=154						
MDH	Madha	3.41	211	P	Pn	20 17 56.3	-1.3
	SNR=86						
MDH				S	Sn	20 18 33.4	-3.8
MASF	Masafi	3.41	214	P	Pn	20 17 57.0	-0.7
	SNR=52						
MASF				S	Sn	20 18 37.2	-0.1
	SNR=9.1						
MSFE	Esma-Masafi	3.42	214	iP	Pn	20 17 56.9	-1.0
	SNR=59						
LAR1	LAR	3.48	262	Pn	Pn	20 17 58.7	+0.1
NHDN	Nehbandan	3.51	26	Pn	Pn	20 17 59.7	+0.5
UMQ	Umm Al-Quwin	3.56	221	iP	Pn	20 18 00.6	+1.0
	SNR=28						
UMQ	Umm Al-Quwin	3.56	221	P	Pn	20 18 01.7	+2.1
	SNR=28						
UMQ				S	Sn	20 18 42.6	+1.9
UOSS	Minazif	3.76	210	Pn	Pn	20 17 58.0	-4.4
UOSS				Sn	Sn	20 18 40.0	-5.6
UOSS	Minazif	3.76	210	iP	Pn	20 18 00.4	-2.0
	SNR=44						
UOSS	Minazif	3.76	210	Pn	Pn	20 18 00.5	-1.8
UOSS	Minazif	3.76	210	P	Pn	20 18 00.8	-1.6
UOSS				S	Sn	20 18 43.4	-2.1
SRVN	Saravan	3.77	102	Pn	Pn	20 18 03.8	+1.2
BSRN	Basiran	3.79	11	Pn	Pn	20 18 02.8	-0.1
NGCH	Negor - Chabah	3.86	137	Pn	Pn	20 18 03.7	0.0
NGCH	Negor - Chabah	3.86	137	P	Pn	20 18 03.7	0.0
	SNR=321						
NGCH				S	Sn	20 18 47.2	-0.8
	SNR=22						
HATD	Hatta, Dubai	3.89	210	iP	Pn	20 18 02.6	-1.6
	SNR=53						
HATD	Hatta, Dubai	3.89	210	P	Pn	20 18 02.6	-1.6
	SNR=53						
HATD				S	Sn	20 18 44.6	-4.3
NAZ	Nazwa, Dubai	3.98	216	iP	Pn	20 18 06.4	+1.0
	SNR=23						
NAZ	Nazwa, Dubai	3.98	216	P	Pn	20 18 06.7	+1.3
	SNR=23						
NAZ				S	Sn	20 18 49.2	-1.8
	SNR=11						
ASHO	Ashiyiah	4.05	210	iP	Pn	20 18 05.7	-0.6
	SNR=408						
ASHO	Ashiyiah	4.05	210	P	Pn	20 18 07.0	+0.7
	SNR=408						
ASHO				S	Sn	20 18 52.3	-0.4
IBAF	Bafgh	4.07	326	Pn	Pn	20 18 07.4	+0.7
JHRM	Jahrom	4.13	275	Pn	Pn	20 18 07.1	-0.3
FAQ	Al Faqa, Dubai	4.21	215	iP	Pn	20 18 09.2	+0.6
	SNR=46						
FAQ	Al Faqa, Dubai	4.21	215	P	Pn	20 18 09.7	+1.1
	SNR=46						
FAQ				S	Sn	20 18 57.5	+0.8
	SNR=14						
IKOO	Kooshah	4.22	9	Pn	Pn	20 18 09.2	+0.3
SOHO	SOHO	4.37	201	iP	Pn	20 18 09.0	-1.6
	SNR=162						
SOHO	SOHO	4.37	201	P	Pn	20 18 09.0	-1.6
SOHO				S	Sn	20 18 56.3	-4.1
ASUD	Al Ashush, Dub	4.45	217	iP	Pn	20 18 12.9	+1.2
	SNR=200						
ASUD	Al Ashush, Dub	4.45	217	P	Pn	20 18 13.2	+1.5
	SNR=200						
ASUD				S	Sn	20 19 03.5	+1.1
	SNR=16						
IMEH	Mehriz	4.46	316	Pn	Pn	20 18 11.7	-0.3
LMD1	Lamerd	4.59	260	Pn	Pn	20 18 13.8	+0.2
QIR1	Qir	4.59	274	Pn	Pn	20 18 13.4	-0.3
ITEG	Tejag	4.66	5	Pn	Pn	20 18 15.5	+0.7
AJN	Ajban	4.69	219	iP	Pn	20 18 15.6	+0.7
	SNR=28						
AJN	Ajban	4.69	219	P	Pn	20 18 15.6	+0.7
	SNR=28						
BIDO	Bidbid	4.70	181	P	Pn	20 18 13.8	-1.3
	SNR=156						
IDAH	Dahanechah	4.70	17	Pn	Pn	20 18 15.7	+0.4
HOQ	Hoqain	4.71	191	Pn	Pn	20 18 13.8	-1.5
HOQ	Hoqain	4.71	191	P	Pn	20 18 13.7	-1.7
	SNR=194						
ALNE	Al Ain	4.73	209	iP	Pn	20 18 16.7	+1.2
	SNR=194						
ALNE	Al Ain	4.73	209	P	Pn	20 18 16.8	+1.2
	SNR=166						
TPRV	Parvadeh(Tabas	4.96	345	Pn	Pn	20 18 19.6	+0.8
WSAR	Wadi Sarin	4.99	176	P	Pn	20 18 19.4	+0.3
	337nm,0.4s,baz=349,slow=12,SNR=1047						
WSAR				S	Sn	20 19 11.2	-4.4
	1μm,0.3s,baz=155,slow=18,SNR=26						
WSAR				LR	LR	20 20 32.7	
	comp=Z,926nm,19.2s,baz=16,slow=40						
ARQ	Araqi	5.12	198	P	Pn	20 18 22.0	+1.1
	SNR=275						
SMDO	Samad	5.16	182	P	Pn	20 18 21.1	-0.4
	SNR=311						
ICHK	Chekchek	5.20	321	Pn	Pn	20 18 23.0	+0.9
AFRZ	Afriz	5.21	7	Pn	Pn	20 18 22.8	+0.6
SHI	Shiraz	5.22	287	Pn	Pn	20 18 22.1	-0.2
TKDS	Koohdasht(Taba	5.45	350	Pn	Pn	20 18 25.8	+0.5
BSY	Bisya	5.55	190	P	Pn	20 18 27.6	+0.9
	SNR=60						
WBK	Wadi Bani Khal	5.64	173	Pn	Pn	20 18 27.5	-0.4
WBK	Wadi Bani Khal	5.64	173	P	Pn	20 18 27.6	-0.3
	SNR=1564						
SHRT	Shahrakht	5.67	17	Pn	Pn	20 18 29.6	+1.3
JMDO	Jabal Madar	5.84	181	P	Pn	20 18 31.0	+0.3
	SNR=490						
TNSJ	Nastanj	5.88	347	Pn	Pn	20 18 31.9	+0.7
KAZ2	Kazeron-Fars-I	5.94	285	Pn	Pn	20 18 31.3	-0.6
AHBU	AHRAM	6.15	277	Pn	Pn	20 18 33.8	-1.0
JLN	Jalan Bani Buh	6.15	170	P	Pn	20 18 33.7	-1.2
	SNR=236						
DSBU	Dashti - Bushe	6.16	273	Pn	Pn	20 18 34.2	-0.9
UMZA	Um Al Zommool	6.17	208	P	Pn	20 18 34.6	-0.5
IRAM	Ramesheh	6.21	306	Pn	Pn	20 18 35.4	-0.4
KLNJ	Kolanjah	6.42	297	Pn	Pn	20 18 38.5	-0.3
GHWR	Ruwais	6.44	230	P	Pn	20 18 38.0	-0.8
TAPT	Tabas- Tapeh t	6.69	352	Pn	Pn	20 18 42.7	+0.5
MZR	Muzera	6.76	221	iP	Pn	20 18 42.2	-1.0
	SNR=31						
MZR	Muzera	6.76	221	P	Pn	20 18 42.7	-0.5
	SNR=11						
IGAR	Gharneh	6.79	309	Pn	Pn	20 18 43.7	0.0
IZEF	Zefreh	6.90	314	Pn	Pn	20 18 45.1	-0.1
SHMA	Al-Shehemyia	6.92	252	P	Pn	20 18 44.7	-0.5
	SNR=1199						
HRA	Herat	7.02	28	Pn	Pn	20 18 44.7	-2.1
HRA				Sn	Sn	20 20 02.5	-2.6
IBRJ	Brojen	7.08	303	Pn	Pn	20 18 47.8	+0.2
TRNA	Turayna	7.21	243	P	Pn	20 18 48.2	-0.9
	SNR=23						
SLWR	Sila	7.21	236	P	Pn	20 18 47.8	-1.4
MHTO	MHTO	7.22	182	P	Pn	20 18 49.6	+0.1
	SNR=17						
TBJM	Torbat-e-JAM	7.23	14	Pn	Pn	20 18 51.1	+1.4
SAKB	Bahrain	7.23	254	P	Pn	20 18 49.2	-0.4
ABEH	Behbahan	7.36	291	Pn	Pn	20 18 50.9	-0.4
ZNGN	Zangian	7.48	303	Pn	Pn	20 18 52.8	-0.4
SHBH2	SHBH2	7.48	238	P	Pn	20 18 51.3	-1.6
SMRA	Abu-Samra	7.51	244	P	Pn	20 18 53.0	-0.3
	SNR=523						
SHBH1	SHBH1	7.63	234	P	Pn	20 18 53.2	-1.8
SHBH1	SHBH1	7.63	234	S	Sn	20 20 12.0	-7.8
IKLH	Kolahrood	7.65	313	Pn	Pn	20 18 55.5	0.0
JHBN	Jahan bin	7.67	303	Pn	Pn	20 18 55.1	-0.8
KRSH	Karshahi	7.75	319	Pn	Pn	20 18 57.2	+0.5
QAMS	Qamsar	8.04	315	Pn	Pn	20 19 00.7	0.0
SBZV	Sabzevar	8.14	356	Pn	Pn	20 19 03.6	+1.4
IPAY	Payeh	8.21	4	Pn	Pn	20 19 05.0	+2.0
IMYA	Miami	8.23	10	Pn	Pn	20 19 05.4	+2.1
BOQSS		8.26	255	P	Pn	20 19 02.5	-1.0
IAKL	Akhelmad	8.35	3	Pn	Pn	20 19 07.2	+2.2
IKRD	Kardeh	8.58	7	Pn	Pn	20 19 09.5	+1.4
IFIR	Firoozkooh	8.73	329	Pn	Pn	20 19 10.9	+0.7
IVRN	Varamin	8.73	322	Pn	Pn	20 19 10.7	+0.7
ISFR	Sfrayin	8.79	359	Pn	Pn	20 19 12.8	+1.7
IQOM	Qom	8.99	319	Pn	Pn	20 19 13.7	0.0
IDMV	Damavand	9.02	326	Pn	Pn	20 19 15.0	+0.8
IGLO	Ghaloghah	9.05	337	Pn	Pn	20 19 15.3	+0.9
IEMG	Emamgholi	9.16	2	Pn	Pn	20 19 17.1	+1.1
IMND	Minoodasht	9.31	346	Pn	Pn	20 19 19.1	+1.4
IDOB	Doab	10.26	305	Pn	Pn	20 19 30.9	0.0
DOK	Doka	10.29	202	P	Pn	20 19 30.4	-0.9
	SNR=42						
IKFM	Kafar-mosalman	10.37	303	Pn	Pn	20 19 32.1	-0.2
QABG	Abgarm-Qazvin	10.47	318	Pn	Pn	20 19 34.5	+0.7
IGZV	Ghazvin	10.59	322	Pn	Pn	20 19 36.5	+1.1
DMTO	DMTO	10.90	197	P	Pn	20 19 38.0	-1.6
	SNR=42						
WHFO	Wadi Hawf	11.06	203	P	Pn	20 19 40.0	-1.8
	SNR=35						
KBL	Kabul	11.15	53	Pn	Pn	20 19 44.2	+1.1
KBL	Kabul	11.15	53	P	Pn	20 19 45.8	+2.7
	SNR=17						
KBL				P	Pn	20 19 45.8	+2.7
	SNR=17						
KBL	Kabul	11.15	53	P	Pn	20 19 44.2	+1.1
RBK	Rabkut	11.31	200	P	Pn	20 19 43.2	-1.9
	SNR=19						
ABTO	Aybut	11.75	204	P	Pn	20 19 48.6	-2.5
	SNR=41						
RAYN	Ar Rayn	12.40	251	Pn	Pn	20 19 54.4	-5.3
RAYN	Ar Rayn	12.40	251	iP	Pn	20 19 54.5	-5.2
	SNR=451						
RAYN	Ar Rayn	12.40	251	P	Pn	20 19 55.1	-4.6
RAYN	Ar Rayn	12.40	251	P	Pn	20 19 54.4	-5.2
NIL	Nilore	13.96	64		Pn	20 20 16.3	-3.7
NIL	Nilore	13.96	64	P	Pn	20 20 16.3	-3.7
GAR	Garm	14.69	40	P	Pn	20 20 28.1	-1.4
BTK	Batken	15.70	38	P	Pn	20 20 41.3	-1.0
BTK				IAmb	IAmb	20 20 46.2	
	comp=Z,74nm,1.1s						
BTK	Batken	15.70	38	P	Pn	20 20 41.3	-1.0
BTK				pmax	pmax		
	comp=Z,74nm,1.1s						
DRK	Karamyk	15.87	42	P	Pn	20 20 44.0	-0.5
DRK				IAmb	IAmb	20 20 47.9	
	comp=Z,142nm,1.0s						
DRK	Karamyk	15.87	42	P	Pn	20 20 44.0	-0.5
DRK				pmax	pmax		
	comp=Z,142nm,1.0s						
GNI	Garni	16.29	320		Pn	20 20 41.8	-7.9
GNI	Garni	16.29	320	P	Pn	20 20 48.4	-1.2
	comp=Z,2.3nm,0.7s,baz=180,slow=9.1,SNR=2.6						
GNI	Garni	16.29	320	P	P	20 20 54.2	+3.3
IUG	Iuzhnay	16.87	32	eP	P	20 20 57.8	+0.6
GURO	Guroymak-BITLI	16.98	311		Pn	20 20 47.7	-10
MAK	Makhachkala	17.07	332	c iP	Pn	20 20 51.3	-7.7
MAK				eS	Sn	20 24 00.1	-8.5
MAK				pmax	pmax		
	comp=Z,467nm,1.6s						
MAK				MLR	MLR		
	comp=Z,56nm,7.0s						
BRLS	Borolday

KBZ pmax pmax
comp=Z,4.0nm,0.6s
GAZ Gaziantep 19.79 302 P **P 20 21 28.4 -0.8**
CHMS Chumysh 19.87 38 P **P 20 21 30.5 +0.5**
SNR=19
SHA1 Shidzhatmaz 19.91 325 *ce*P **P 20 21 31.1 +0.5**
USP Ospenovka 19.92 37 P **P 20 21 30.6 +0.1**
SNR=34
GHAJ Ghor Haditha 19.92 284 P **P 20 21 29.2 -1.4**
GHAJ IAmb IAmb 20 21 40.7
comp=Z,55nm,0.7s
KVAR Kislovodsk Arr 20.05 326 P Pn 20 21 33.0 -1.6
comp=Z,1.7nm,0.9s,baz=77,slow=19,SNR=2.6
KIV Kislovodsk 20.05 326 P **P 20 21 31.9 -0.1**
KIV IAmb IAmb 20 21 42.8
comp=Z,38nm,0.7s
KIV Kislovodsk 20.05 326 *i* P Pn 20 21 35.5 +0.9
SNR=11
KIV Kislovodsk 20.05 326 P Pn 20 21 37.9 +3.2
KIV Kislovodsk 20.05 326 *e*P Pn 20 21 33.0 -1.6
KIV *e*S Sn 20 25 19.5 -0.8
KIV pmax pmax
comp=Z,44nm,1.0s
KIV MLR MLR
comp=Z,34nm,14.0s
MMAI Mount Meron Ar 20.22 289 P **P 20 21 34.8 +0.9**
comp=Z,33nm,0.9s,baz=91,slow=13,SNR=20
MMAI S S 20 24 55.8 -20
comp=Z,2.8nm,0.6s,baz=110,slow=33,SNR=1.8
MMAI LR LR 20 31 18.3
comp=Z,148nm,18.2s,baz=48,slow=42
comp=Z,33nm,0.9s
ULHL Ulahol 20.22 42 P Pn 20 21 35.7 -1.1
SNR=18
TKM2 Tokmak 2 20.28 39 P **P 20 21 35.7 +1.1**
SNR=55
EIL Elat 20.43 280 P Pn 20 21 37.5 -1.7
comp=Z,104nm,0.8s,baz=100,slow=3.7,SNR=45
EIL S S 20 25 02.0 -18
comp=Z,16nm,0.8s,baz=36,slow=8.7,SNR=2.6
EIL LR LR 20 30 57.5
comp=Z,141nm,18.5s,baz=70,slow=41
comp=Z,104nm,0.8s
KDJ Kajisay 20.71 43 P **P 20 21 39.3 +0.1**
KDJ Kajisay 20.71 43 P **P 20 21 39.3 +0.1**
KDJ pmax pmax
comp=Z,105nm,0.9s
BTLS Baital 20.96 33 *e*P **P 20 21 41.8 +0.1**
BTLS pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 21.03 3 P **P 20 21 42.5 +0.1**
ABKAR Akbulak array 21.03 3 P **P 20 21 42.8 +0.4**
ABKAR IAmb IAmb 20 21 46.4
comp=Z,31nm,1.0s
SOC Sochi 21.37 321 *e*P **P 20 21 45.1 -1.0**
SOC *e* 20 22 03.3
SOC *e*PPP PPP 20 22 15.1
SOC *e*S **S 20 25 44.0 +6.1**
SOC *e*SS **SnSn 20 26 10.0 +0.8**
SOC *e*SSS SSS 20 26 20.6
SOC pmax pmax
comp=Z,10.0nm,0.7s
BNN Bunyan 21.41 305 P **P 20 21 45.7 -1.0**
BNN IAmb IAmb 20 22 01.9
comp=Z,29nm,0.8s
WUS Wushi 21.48 48 P **P 20 21 46.7 -0.8**
ATD Arta Tunnel 22.00 224 P **P 20 21 51.0 -2.1**
AKTO Aktyubinsk 22.17 360 P **P 20 21 54.4 -0.1**
comp=Z,13nm,0.5s,baz=171,slow=7.6,SNR=25
AKTO ScP **ScP 20 29 14.7 -1.8**
comp=Z,2.8nm,0.8s,baz=176,slow=5.4,SNR=4.2
AKTO LR LR 20 32 06.0
comp=Z,116nm,20.6s,baz=219,slow=41
comp=Z,13nm,0.5s
CSS Mathiatis 22.23 294 P **P 20 21 53.6 -1.6**
CSS IAmb IAmb 20 22 02.5
comp=Z,59nm,1.0s
ARXS Arharly 22.35 39 *e*P **P 20 21 56.3 -0.3**
KPKS Kokpek 22.39 42 *e*P **P 20 21 57.3 +0.3**
KPKS pmax pmax
comp=Z,6.0nm,0.6s
UZB Uzynbulak 22.41 43 *e*P **P 20 21 57.0 -0.3**
UZB pmax pmax
comp=Z,14nm,0.7s
SHLS Shalkode 22.68 43 *e*P **P 20 22 03.3 +3.3**
SHLS pmax pmax
comp=Z,23nm,0.8s
KIRS Kirsehir-Merke 22.91 305 ⇑P **P 20 22 02.8 +0.4**
BR131 Keskin Array S 23.33 306 P **P 20 22 05.7 -0.7**
BR131 Keskin Array S 23.33 306 P **P 20 22 05.7 -0.7**
BR131 pmax pmax
comp=Z,19nm,0.9s
BRTR Keskin Array B 23.33 306 P **P 20 22 05.2 -1.2**
BRTR Keskin Array B 23.33 306 P **P 20 22 06.4 0.0**
comp=Z,3.1nm,0.7s,baz=118,slow=12,SNR=15
BRTR pP **pP 20 22 27.9 +1.4**
comp=Z,25nm,1.1s,baz=128,slow=13,SNR=11
BRTR ScP **ScP 20 29 18.8 -1.2**
comp=Z,1.8nm,0.7s,baz=161,slow=5.0,SNR=7.1
comp=Z,3.1nm,0.7s
BR106 Keskin Array S 23.35 306 P **P 20 22 07.0 +0.5**
comp=Z,27nm,1.1s,comp=Z,205nm
ANTO Ankara 23.99 306 P **P 20 22 11.4 -0.8**
ANTO IAmb IAmb 20 22 37.7
comp=Z,36nm,1.2s
ANTO Ankara 23.99 306 P **P 20 22 11.4 -0.8**
ANTO pmax pmax
comp=Z,36nm,1.3s
BZK Bozkurt 24.00 311 P **P 20 22 12.7 +0.5**
ISP Isparta 25.06 300 *i* P **P 20 22 24.3 +2.3**
ISP pmax pmax
comp=Z,30nm,0.7s
ELL Elmali 25.30 297 P **P 20 22 25.3 +1.1**
ELL Elmali 25.30 297 P **P 20 22 25.3 +1.1**
ELL pmax pmax
comp=Z,115nm,0.7s
MDUB Mudurnu 25.34 306 P **P 20 22 24.2 -0.3**
BELG Belogornoye 25.40 345 P **P 20 22 23.1 -1.7**
comp=Z,6.6nm,0.8s,baz=120,slow=20,SNR=2.9
BELG pP **pP 20 22 47.0 +0.2**
comp=Z,28nm,0.8s,baz=117,slow=1.8,SNR=7.1
comp=Z,6.6nm,0.8s
BELG Belogornoye 25.40 345 *i* P **P 20 22 27.6 +2.9**
BELG pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 26.25 39 P **P 20 22 32.3 -0.3**
MAKZ IAmb IAmb 20 22 34.1
comp=Z,40nm,1.2s
MAKZ Makanchi 26.25 39 P **P 20 22 32.3 -0.3**
MAKZ pmax pmax
comp=Z,40nm,1.2s
BVAR Borovoye Array 26.34 17 P **P 20 22 33.2 -0.1**
comp=Z,9.7nm,0.8s,baz=199,slow=8.6,SNR=50
BVAR pP **pP 20 22 55.8 +0.7**
comp=Z,18nm,0.8s,baz=197,slow=8.0,SNR=9.8
BVAR PcP **PcP 20 25 56.3 -0.5**
comp=Z,1.1nm,0.4s,baz=184,slow=1.9,SNR=4.6
BVAR ScP **ScP 20 29 25.6 -2.3**
comp=Z,3.8nm,0.7s,baz=228,slow=2.3,SNR=14
BVAR LR LR 20 32 47.9
comp=Z,145nm,20.8s,baz=205,slow=36
comp=Z,9.7nm,0.8s
BRVK Borovoye 26.35 16 P **P 20 22 33.2 -0.1**
BRVK IAmb IAmb 20 22 57.9
comp=Z,12nm,0.7s
BRVK Borovoye 26.35 16 P **P 20 22 33.2 -0.1**
BRVK pmax pmax
comp=Z,12nm,0.7s
MKAR Makanchi Array 26.41 39 P **P 20 22 33.7 -0.3**
MKAR Makanchi Array 26.41 39 P **P 20 22 34.4 +0.3**
comp=Z,16nm,0.7s,baz=226,slow=8.1,SNR=146
MKAR pP **pP 20 22 56.3 +0.6**
comp=Z,14nm,0.7s,baz=227,slow=6.3,SNR=8.2
MKAR ScP **ScP 20 29 26.0 -2.3**
comp=Z,0.7nm,0.7s,baz=264,slow=2.4,SNR=3.8
MKAR LR LR 20 34 34.7
comp=Z,131nm,21.2s,baz=217,slow=40
comp=Z,16nm,0.7s
MK31 Makanchi Array 26.41 39 P **P 20 22 33.9 -0.2**
MK31 IAmb IAmb 20 22 35.4
comp=Z,15nm,0.8s
MK31 Makanchi Array 26.41 39 P **P 20 22 33.9 -0.2**
MK31 pmax pmax
comp=Z,15nm,0.8s
ARG Arkhangelos 26.62 295 P **P 20 22 35.5 -0.5**
ARG IAmb IAmb 20 23 03.0
comp=Z,54nm,1.0s
ARG Arkhangelos 26.62 295 P **P 20 22 35.5 -0.5**
ARG pmax pmax
comp=Z,54nm,1.0s
FURI Furi 26.65 228 LR LR 20 34 21.1
comp=Z,93nm,19.3s,baz=38,slow=39
KURBB Kurchatov Arra 27.13 29 P **P 20 22 40.5 +0.2**
comp=Z,9.1nm,0.8s,baz=227,slow=8.6,SNR=68
KURBB ScP **ScP 20 29 27.3 -3.0**
comp=Z,1.0nm,0.9s,baz=218,slow=3.8,SNR=4.7
comp=Z,9.1nm,0.8s
KURK Kurchatov 27.23 29 P **P 20 22 40.7 -0.6**
KURK Kurchatov 27.23 29 *ce*P **P 20 22 42.1 +0.8**
KURK pmax pmax
comp=Z,14nm,1.3s
KARP Karpathos 27.31 293 P **P 20 22 42.2 0.0**
KARP Karpathos 27.31 293 P **P 20 22 44.0 +1.8**
comp=Z,118nm,1.0s
ARTI Arti 28.13 0 P **P 20 22 48.8 -0.5**
ARTI IAmb IAmb 20 23 31.1
comp=Z,14nm,1.0s
ARTI Arti 28.13 0 P **P 20 22 49.3 +0.1**
comp=Z,1.4nm,0.4s,baz=177,slow=7.0,SNR=4.8
ARTI ScP **ScP 20 29 30.2 -3.0**
comp=Z,2.3nm,0.7s,baz=224,slow=3.2,SNR=3.3
comp=Z,1.4nm,0.4s
ARTI Arti 28.13 0 *c i*P **P 20 22 49.6 +0.3**
ARTI S S 20 27 37.0 +10
ARTI pmax pmax
comp=Z,24nm,4.1s
NE56 Odesa 28.25 318 P **P 20 22 51.1 +0.7**
WMQ Urumqi 28.25 49 ⇑P **P 20 22 51.6 +1.0**
WMQ pmax pmax
comp=Z,38nm,1.1s
LSA Lhasa 28.77 79 P **P 20 22 55.8 0.0**
LSA IAmb IAmb 20 22 58.8
comp=Z,21nm,0.7s
LSA Lhasa 28.77 79 P **P 20 22 55.8 0.0**
LSA pmax pmax
comp=Z,21nm,0.7s
IDI Anoyia 29.13 292 P **P 20 22 58.6 +0.2**
IDI IAmb IAmb 20 23 48.6
comp=Z,22nm,0.9s
IDI Anoyia 29.13 292 P **P 20 22 59.4 +0.9**
comp=Z,5.8nm,0.4s,baz=66,slow=14,SNR=15
IDI pP **pP 20 23 21.3 +1.0**
comp=Z,11nm,0.7s,baz=54,slow=6.6,SNR=2.6
comp=Z,5.8nm,0.4s
ALN Alexandroupoli 29.20 304 P **P 20 22 58.6 -0.3**
ALN IAmb IAmb 20 23 52.2
comp=Z,50nm,1.5s
ALN Alexandroupoli 29.20 304 P **P 20 22 58.6 -0.3**
ALN pmax pmax
comp=Z,50nm,1.5s
RDO Rodhopi 29.64 304 P **P 20 23 03.1 +0.3**
RDO IAmb IAmb 20 23 55.7
comp=Z,14nm,1.0s
SHL Shillong 30.06 87 P **P 20 23 05.3 -1.6**
SHL IAmb IAmb 20 24 01.7
comp=Z,26nm,1.1s
SHL Shillong 30.06 87 P **P 20 23 05.3 -1.6**
SHL pmax pmax
comp=Z,26nm,1.1s
ODBI Odobesti 30.18 314 ⇓P **P 20 23 09.7 +2.2**
VRI Vrincioaia 30.43 314 ⇑P **P 20 23 11.6 +1.8**
PLOR Plostina 30.48 314 ⇑P **P 20 23 11.0 +0.8**
PLOR Plostina 30.48 314 ⇑P **P 20 23 11.0 +0.8**
SORM Soroca 30.48 319 ⇑P **P 20 23 10.6 +0.5**
SORM Soroca 30.48 319 P **P 20 23 09.5 -0.6**
comp=Z,6.7nm,0.6s
NEHR Nehoiu 30.53 313 ⇑P **P 20 23 11.5 +0.8**
TESR Tescani 30.75 315 ⇑P **P 20 23 13.9 +1.3**
COVR Voineasa-Covas 30.76 314 ⇓P **P 20 23 14.0 +1.3**
MLR Muntele Rosu 30.78 313 P **P 20 23 11.4 -1.7**
comp=Z,2.4nm,0.8s,baz=139,slow=20,SNR=2.1
MLR ScP **ScP 20 29 39.7 -2.5**
comp=Z,6.7nm,0.8s,baz=166,slow=5.5,SNR=5.4
comp=Z,2.4nm,0.8s
MLR Muntele Rosu 30.78 313 ⇑P **P 20 23 13.6 +0.6**
KIRV Kirov 30.95 351 *i* P **P 20 23 13.3 -0.8**
OBN Obninsk 31.10 336 *i* P **P 20 23 17.0 +1.5**
OBN pmax pmax
comp=Z,7.0nm,0.9s
MOS Moscow 31.22 337 *e*P **P 20 23 16.9 +0.4**
NDNU Novodnistrovsk 31.28 319 P **P 20 23 17.7 +0.6**
NDNU Novodnistrovsk 31.28 319 P **P 20 23 17.7 +0.6**
AK09 Malin Array Si 31.29 324 P **P 20 23 17.4 +0.2**
AK10 Malin Array Si 31.30 324 P **P 20 23 17.9 +0.6**
AK08 Malin Array Si 31.31 324 P **P 20 23 17.0 -0.4**
DOPR Dopca 31.33 313 ⇓P **P 20 23 19.5 +1.8**
VOIR 31.35 312 ⇓P **P 20 23 18.5 +0.6**
AK02 Malin Array Si 31.35 324 P **P 20 23 19.2 +1.4**
AKASG Malin Array Be 31.37 324 P **P 20 23 16.5 -1.4**
comp=Z,2.1nm,0.5s,baz=130,slow=8.3,SNR=12
AKASG pP **pP 20 23 38.5 -1.4**
comp=Z,3.2nm,0.6s,baz=128,slow=8.2,SNR=5.5
AKASG ScP **ScP 20 29 40.9 -2.9**
comp=Z,0.6nm,0.5s,baz=100,slow=2.9,SNR=11
AKASG LR LR 20 39 11.7
comp=Z,84nm,18.5s,baz=94,slow=42
comp=Z,2.1nm,0.5s
AKBB Malin Array Si 31.37 324 P **P 20 23 17.1 -0.8**
AKBB IAmb IAmb 20 23 42.5
comp=Z,14nm,0.7s
AKBB Malin Array Si 31.37 324 P **P 20 23 17.1 -0.8**
AKBB pmax pmax
comp=Z,14nm,0.7s
AKBB Malin Array Si 31.37 324 P **P 20 23 16.8 -1.1**
KIEV Kiev 31.37 324 P **P 20 23 17.4 -0.6**
KIEV IAmb IAmb 20 23 42.5
comp=Z,12nm,0.7s
KIEV Kiev 31.37 324 P **P 20 23 17.4 -0.6**
KIEV pmax pmax
comp=Z,12nm,0.7s
KIEV Kiev 31.37 324 P **P 20 23 17.0 -0.9**
comp=Z,77nm,1.1s
ARR Arges 31.59 312 ⇑P **P 20 23 21.7 +1.6**
LUBAR Lubar, Ukraine 31.73 321 P **P 20 23 21.1 0.0**
GOMU GeErMu 31.79 66 P **P 20 23 23.8 +1.5**
GOMU pmax pmax
comp=Z,53nm,1.1s
BURAR Bucovina Array 32.11 316 ⇑P **P 20 23 25.5 +0.9**
BUR08 Bucovina Ar. S 32.13 316 P **P 20 23 24.1 -0.8**
LOT Lotru 32.19 312 ⇑P **P 20 23 26.2 +0.8**
ZAA0 Zalesovo Array 32.21 30 P **P 20 23 24.8 -0.5**
ZAA0 IAmb IAmb 20 23 26.2
comp=Z,26nm,0.8s
ZALV Zalesovo Beam 32.21 30 P **P 20 23 24.6 -0.7**
comp=Z,12nm,0.3s,baz=241,slow=9.7,SNR=109
ZALV pP **pP 20 23 48.6 +1.4**
comp=Z,13nm,0.8s,baz=236,slow=9.8,SNR=3.1
ZALV PcP **PcP 20 26 11.9 +0.3**
comp=Z,1.6nm,0.5s,baz=220,slow=4.8,SNR=2.6
ZALV ScP **ScP 20 29 42.9 -3.7**
comp=Z,1.3nm,0.6s,baz=208,slow=3.0,SNR=3.8
ZALV LR LR 20 38 48.5
comp=Z,55nm,18.8s,baz=257,slow=40
comp=Z,12nm,0.3s
MI28 Mi28,Pidlybu 32.32 323 P **P 20 23 26.7 +0.5**
comp=Z,126nm,0.7s
KSV Kosov 32.50 317 P **P 20 23 27.8 -0.1**
KSV Kosov 32.50 317 P **P 20 23 27.8 -0.1**
FNA Florina 32.63 302 P **P 20 23 28.7 -0.5**
FNA Florina 32.63 302 P **P 20 23 28.7 -0.5**
FNA pmax pmax
comp=Z,76nm,1.9s
RAKU Rahkiv 32.92 316 P **P 20 23 32.8 +1.2**
LODK Lodwar 32.93 226 P **P 20 23 33.1 +1.0**
LODK IAmb IAmb 20 23 37.1
comp=Z,17nm,1.0s
LODK Lodwar 32.93 226 P **P 20 23 36.0 +4.0**
SNR=20
BOVS Bovan 33.04 308 ⇑P **P 20 23 33.6 +1.0**
MARR Marisel-Cluj 33.05 313 ⇑P **P 20 23 33.4 +0.5**
MESR Meseseni 33.34 314 ⇑P **P 20 23 36.3 +1.1**
MDVR Moldovita 33.36 310 ⇓P **P 20 23 36.9 +1.5**
SURR Surduc 33.38 311 ⇓P **P 20 23 36.4 +0.8**
KEK Kerkira 33.64 300 P **P 20 23 37.5 -0.5**
BZS Buzias 33.67 311 ⇑P **P 20 23 39.1 +0.9**
BZS Buzias 33.67 311 ⇑P **P 20 23 39.1 +0.9**
SIRR Siria 33.86 312 ⇑P **P 20 23 41.5 +1.7**
HOLU Holmets 34.22 316 P **P 20 23 44.8 +2.0**
MNK Minsk 34.28 328 *i* P **P 20 23 42.6 -0.6**
comp=E,9.0nm,1.0s
MNK *i* P **P 20 23 42.6 -0.6**
comp=N,14nm,0.9s
MNK *i* P **P 20 23 42.6 -0.6**
comp=Z,12nm,0.8s,baz=127
MNK *i* PP **PnPn 20 24 56.9 -3.8**
MNK *i* PPP PPP 20 25 08.6
MNK *i* S **S 20 29 10.6 +7.5**
MNK *i* SS **SnSn 20 31 20.9 -1.3**
MNK *i* SSS SSS 20 31 36.8
MNK *i* LQ LQ 20 34 37.0
MNK *i* LR LR 20 37 42.1
MNK *i* LRM MLR 20 40 19.3
comp=N,67nm,16.0s
MNK *i* LRM MLR 20 41 17.6
comp=E,126nm,18.3s
MNK *i* LRM MLR 20 41 36.8
comp=Z,96nm,18.9s
MNK Minsk 34.28 328 *i* P **P 20 23 42.6 -0.6**
MNK *i* 20 24 56.8
MNK *i* S **S 20 29 10.6 +7.5**
MNK *i* SS **SnSn 20 31 20.9 -1.3**
MNK pmax pmax
comp=E,9.0nm,1.0s
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK MLR MLR
comp=N,67nm,16.0s
MNK MLR MLR
comp=E,126nm,18.0s
MNK MLR MLR
comp=Z,96nm,19.0s
KOLS Kolonicke sedl 34.45 317 *e*P **P 20 23 46.5 +1.7**
KOLS pmax pmax
comp=Z,11nm,0.8s
KOLS Kolonicke sedl 34.45 317 *e*P **P 20 23 46.5 +1.7**
KOLS *e* 20 24 09.0
KWP Kalwaria Pacla 34.47 318 P **P 20 23 45.7 +0.7**
comp=Z,16nm,0.7s
KLMR Klimovskoe 34.97 344 *e*P **P 20 23 48.9 -0.2**
KLMR pmax pmax
comp=Z,35nm,1.9s
NACGM Naroch 35.03 328 *e*P **P 20 23 49.8 +0.1**
STHS Stebnicka Huta 35.26 317 *e*P **P 20 23 53.2 +1.4**
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 35.26 317 *e*P **P 20 23 53.2 +1.4**
KMBO Kilima Mbogo 35.48 218 P **P 20 23 56.5 +2.3**
KMBO IAmb IAmb 20 23 58.1
comp=Z,15nm,0.8s
KMBO Kilima Mbogo 35.48 218 *i* P **P 20 23 57.4 +3.1**
SNR=16
KMBO Kilima Mbogo 35.48 218 P **P 20 23 55.9 +1.7**
comp=Z,11nm,0.6s,baz=34,slow=12,SNR=40
KMBO LR LR 20 41 11.6
comp=Z,47nm,18.2s,baz=96,slow=41
comp=Z,11nm,0.6s
KMBO Kilima Mbogo 35.48 218 P **P 20 23 57.2 +3.0**
KMBO Kilima Mbogo 35.48 218 P **P 20 23 56.5 +2.3**
KMBO pmax pmax
comp=Z,15nm,0.9s
MORH Mrgy, Hungar 35.84 311 ⇓P **P 20 23 58.2 +1.5**
MORH Mrgy, Hungar 35.84 311 P **P 20 23 57.8 +1.1**
comp=Z,4.2nm,0.9s
TIP Timpagrande 35.92 299 P **P 20 23 58.0 +0.3**
GTA Gaotai 36.00 61 ⇑P **P 20 23 59.5 +1.1**
GTA pmax pmax
comp=Z,68nm,0.8s
TNCH TengChong 36.02 86 *e*P **P 20 24 01.3 +2.5**
TNCH pmax pmax
comp=Z,18nm,0.6s
TNCH pmax pmax
comp=Z,99nm,4.2s
TNCH LR LR
comp=Z,140nm,5.8s
TNCH LR LR
comp=Z,70nm,5.2s
TNCH LR LR
comp=Z,80nm,6.6s
KIBK Kibwezi 36.07 216 P **P 20 23 58.6 -0.6**
KIBK IAmb IAmb 20 24 02.9
comp=Z,24nm,1.5s
VYHS Vyhne 36.40 315 *e*P **P 20 24 04.1 +2.5**
VYHS Vyhne 36.40 315 *e*P **P 20 24 04.1 +2.5**
VYHS *e* 20 24 23.3
OJC Ojcow 36.43 318 P **P 20 24 01.5 -0.3**
OJC IAmb IAmb 20 24 24.4
comp=Z,26nm,1.1s
OJC Ojcow 36.43 318 P **P 20 24 01.5 -0.3**
OJC pmax pmax
comp=Z,26nm,1.1s
OJC Ojcow 36.43 318 P **P 20 24 02.2 +0.4**
comp=Z,17nm,1.2s
PABE Paberze 36.70 328 P **P 20 24 03.6 -0.3**
JAVC Velka Javorina 37.25 315 *e*P **P 20 24 10.4 +1.6**
JAVC *e* 20 24 30.9
MAUC Maruska 37.32 316 *e*P **P 20 24 11.3 +1.9**
MORC Moravsky Berou 37.63 316 *e*P **P 20 24 11.5 -0.5**
MORC *e* 20 24 32.8
RONA Rosalia, Austr 37.79 313 *i* P **P 20 24 13.3 -0.1**
comp=Z,2.8nm,0.5s
VRAC Vranov 38.07 315 LR LR 20 42 53.4
comp=Z,104nm,18.1s,baz=124,slow=41
VRAC Vranov 38.07 315 *e*P **P 20 24 15.4 -0.2**
VRAC *e* 20 24 37.1
KRUC Moravsky 38.12 315 *e*P **P 20 24 15.9 -0.1**
KRUC *e* 20 24 37.4
ARSA Arzberg 38.18 312 *i* S **S 20 30 08.0 +5.1**
comp=Z,3.0nm,0.6s
KRLC Kraliky 38.19 316 *e*P **P 20 24 16.2 -0.5**
KRLC Kraliky 38.19 316 *e*P **P 20 24 16.2 -0.5**
SOKA Soboth 38.37 311 *i* S **S 20 30 08.8 +2.9**
comp=Z,5.4nm,0.7s
CMAR Chiang Mai Arr 38.45 96 P **P 20 24 19.4 +0.1**
comp=Z,0.4nm,0.3s,baz=307,slow=6.8,SNR=8.0
CMAR PP **PnPn 20 25 50.9 -1.0**
comp=Z,2.0nm,0.8s,baz=294,slow=9.9,SNR=5.7
CMAR ScP **ScP 20 30 08.8 -1.1**
comp=Z,0.7nm,0.7s,baz=274,slow=5.4,SNR=5.0
CMAR LR LR 20 42 32.2
comp=Z,33nm,20.3s,baz=290,slow=40
comp=Z,0.4nm,0.3s
PZH PanZhiHua 38.51 82 P **P 20 24 20.3 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,150nm,7.6s
DPC Dobruska-Polom 38.56 317 *e*P **P 20 24 21.8 +2.0**
DPC Dobruska-Polom 38.56 317 *e*P **P 20 24 21.8 +2.0**
OBKA Obir 38.66 310 *i* P **P 20 24 20.2 -0.5**
comp=Z,13nm,1.8s
CHVC Chvalec 38.80 317 *e*P **P 20 24 22.3 +0.5**
CHVC *ex* x 20 24 43.3
CHVC Chvalec 38.80 317 *e*P **P 20 24 22.3 +0.5**
JOF Joensuu 38.88 341 *e*P **P 20 24 22.1 -0.1**
MBAR Mbarara 38.96 227 P **P 20 24 23.9 +0.2**
MBAR Mbarara 38.96 227 LR LR 20 41 02.3
comp=Z,91nm,19.2s,baz=39,slow=37
MBAR Mbarara 38.96 227 P **P 20 24 26.2 +2.5**
MBAR Mbarara 38.96 227 *ce*P **P 20 24 26.2 +2.5**
MBAR pmax pmax
comp=Z,15nm,1.0s
LZH Lanzhou 39.09 67 *e*P **P 20 24 26.0 +1.4**
LZH pmax pmax
comp=Z,44nm,1.0s
MOA Molln 39.15 312 *i* P **P 20 24 24.6 -0.2**
comp=Z,2.5nm,0.5s
MEF Metsahovi 39.32 334 *e*P **P 20 24 26.5 +0.6**
CKRC Cesky Krumlov 39.37 314 *e*P **P 20 24 26.9 +0.4**
CKRC Cesky Krumlov 39.37 314 *e*P **P 20 24 26.9 +0.4**
MOY Mondy 39.48 42 *e*P **P 20 24 28.6 +1.0**
MOY pmax pmax
comp=Z,18nm,1.7s
FINES FINESS Array B 39.50 336 P **P 20 24 27.1 -0.3**
FINES FINESS Array B 39.50 336 P **P 20 24 26.9 -0.5**
comp=Z,5.0nm,0.5s,baz=131,slow=9.5,SNR=42
FINES pP **pP 20 24 50.8 +0.5**
comp=Z,8.6nm,0.7s,baz=125,slow=12,SNR=5.7
FINES ScP **ScP 20 30 10.1 -3.0**
comp=Z,1.7nm,0.6s,baz=134,slow=7.9,SNR=4.8
comp=Z,5.0nm,0.5s
BIOA Bad Ischl, Aus 39.52 312 *i* P **P 20 24 26.6 -1.2**
comp=Z,3.3nm,0.4s
PHRA Phrae 39.57 95 P **P 20 24 29.1 +0.5**
PHRA IAmb IAmb 20 24 35.0

comp=Z,51nm,1.2s
KBA Koelnbreinsper 39.59 311 *i* P **P 20 24 28.2 -0.3**
comp=Z,2.1nm,0.5s
ZVC Zvikov 39.61 315 *e*P **P 20 24 28.8 +0.3**
ZVC *ex* x 20 24 50.1
KMI Kunming 39.71 84 ⇑P **P 20 24 31.3 +1.4**
KMI pmax pmax
comp=Z,29nm,0.9s
GEC2 GERESS Array S 39.76 314 P **P 20 24 29.5 -0.3**
GERES GERESS Array B 39.76 314 P **P 20 24 28.8 -1.1**
comp=Z,2.2nm,0.6s,baz=99,slow=7.4,SNR=8.7
GERES pP **pP 20 24 51.6 -0.7**
comp=Z,5.2nm,0.8s,baz=105,slow=9.0,SNR=6.8
GERES ScP **ScP 20 30 12.7 -1.9**
comp=Z,4.2nm,0.8s,baz=108,slow=4.3,SNR=8.4
comp=Z,2.2nm,0.6s
KHC Kasperske Hory 39.91 314 P **P 20 24 30.4 -0.6**
KHC Kasperske Hory 39.91 314 *e*P **P 20 24 30.9 -0.2**
KHC *ex* x 20 24 52.4
KHC Kasperske Hory 39.91 314 *ce*P **P 20 24 31.4 +0.3**
KHC pmax pmax
comp=Z,16nm,1.3s
KHC Kasperske Hory 39.91 314 P **P 20 24 30.9 -0.2**
comp=Z,17nm,1.2s
ABTA Abfaltersbach 40.08 310 *i* P **P 20 24 32.1 -0.4**
comp=Z,2.1nm,0.6s
LESA Schwarzleotal 40.10 311 *i* P **P 20 24 32.0 -0.7**
comp=Z,2.2nm,0.4s
LESA *i* ScP **ScP 20 30 14.2 -1.7**
comp=Z,2.4nm,0.6s
KEF Keuruu 40.41 337 *e*P **P 20 24 35.0 +0.1**
CTI Castel Tesino 40.54 309 P **P 20 24 38.0 +1.6**
CTI IAmb IAmb 20 25 42.4
comp=Z,40nm,1.8s
CTI Castel Tesino 40.54 309 P **P 20 24 38.0 +1.6**
CTI pmax pmax
comp=Z,40nm,1.8s
WTTA Wattenberg 40.76 311 *i* P **P 20 24 37.5 -0.8**
comp=Z,3.4nm,0.6s
WTTA *i* ScP **ScP 20 30 17.3 -1.4**
comp=Z,4.3nm,0.7s
WATA Walderalm 40.82 311 *i* P **P 20 24 37.7 -1.0**
comp=Z,1.0nm,0.2s
CLL Collm 40.86 317 P **P 20 24 38.5 -0.3**
CLL Collm 40.86 317 P **P 20 24 38.5 -0.3**
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 40.86 317 *i* P **P 20 24 38.7 -0.1**
comp=Z,9.0nm,0.9s
CLL *i* x x 20 25 00.4
CLL *e*PP PP 20 26 06.0 -8.7
CLL *ex* x 20 32 20.0
CLL *e*SS SS 20 33 48.0 +0.4
CLL *e*SSS SSS 20 34 17.0
CLL Collm 40.86 317 P **P 20 24 38.7 -0.1**
comp=Z,14nm,1.0s
SQTA Sankt Quirin 41.04 311 *i* P **P 20 24 39.6 -0.9**
comp=Z,2.0nm,0.2s
SQTA *i* ScP **ScP 20 30 19.2 -0.4**
comp=Z,0.7nm,0.3s
BSD Bornholm Skovb 41.07 323 *e*P **P 20 24 39.5 -0.9**
BSD Bornholm Skovb 41.07 323 *i* P **P 20 24 38.0 -2.4**
MOTA Moosalm 41.13 311 *i* P **P 20 24 40.2 -1.1**
comp=Z,1.7nm,0.2s
MOTA *i* ScP **ScP 20 30 19.8 -0.3**
comp=Z,2.8nm,0.7s
FETA Feichten 41.33 310 *i* P **P 20 24 42.2 -0.7**
comp=Z,2.5nm,0.6s
RETA Reutte 41.39 311 *i* P **P 20 24 42.3 -1.0**
comp=Z,2.4nm,0.5s
RETA *i* ScP **ScP 20 30 21.0 0.0**
comp=Z,1.8nm,0.5s
GRF Grafenberg Arr 41.54 314 *e*P P 20 25 06.3 +22
comp=Z,15nm,1.0s,baz=110,slow=8.9
VAF Ylistaro 41.76 337 *e*P **P 20 24 46.0 +0.1**
KEST Kesra 41.80 293 P **P 20 24 47.7 +0.9**
KEST IAmb IAmb 20 25 12.2
comp=Z,24nm,1.2s
KEST Kesra 41.80 293 P **P 20 24 47.5 +0.8**
comp=Z,3.0nm,0.6s,baz=10,slow=3.7,SNR=5.6
KEST pP **pP 20 25 11.4 +1.9**
comp=Z,13nm,1.1s,baz=306,slow=1.4,SNR=5.1
comp=Z,3.0nm,0.6s
SLVN Son La 41.82 89 P **P 20 24 48.4 +1.3**
DAVOX Davos/Dischmat 41.87 310 P **P 20 24 46.5 -0.9**
comp=Z,5.6nm,0.6s,baz=148,slow=5.4,SNR=14
comp=Z,5.6nm,0.6s
SONM Songino Array 41.89 49 P **P 20 24 47.3 -0.1**
SONM Songino Array 41.89 49 P **P 20 24 48.1 +0.7**
comp=Z,11nm,0.9s,baz=257,slow=8.5,SNR=67
SONM pP **pP 20 25 11.5 +1.3**
comp=Z,3.1nm,1.0s,baz=261,slow=9.4,SNR=3.0
SONM PP **PP 20 26 28.0 +2.0**
comp=Z,2.7nm,0.9s,baz=267,slow=10,SNR=4.1
SONM ScP **ScP 20 30 19.9 -3.2**
comp=Z,0.6nm,0.8s,baz=276,slow=5.5,SNR=3.6
SONM LR LR 20 45 26.3
comp=Z,25nm,20.7s,baz=238,slow=41
comp=Z,11nm,0.9s
DAVA Damuels 41.95 310 *i* P **P 20 24 47.0 -0.9**
comp=Z,8.1nm,0.7s
DEL Delary 42.14 325 *i* P **P 20 24 48.0 -1.1**
TUE Stuetta 42.18 309 P **P 20 24 50.2 +0.2**
TUE Stuetta 42.18 309 P **P 20 24 50.4 +0.5**
comp=Z,33nm,1.4s
ULN Ulaanbaatar 42.33 49 P **P 20 24 50.8 -0.2**
ULN IAmb IAmb 20 24 52.6
comp=Z,16nm,0.9s
ULN Ulaanbaatar 42.33 49 *ce*P **P 20 24 51.8 +0.8**
ULN pmax pmax
comp=Z,16nm,0.8s
GYA Guiyang 42.81 81 ⇓P **P 20 24 56.0 +0.8**
GYA pmax pmax
comp=Z,22nm,0.7s
XAN Xi'an 43.40 69 ⇑P **P 20 25 00.0 +0.3**
XAN pmax pmax
comp=Z,34nm,0.7s
SENIN Lac Senin/Sane 43.58 309 P **P 20 25 00.3 -0.9**
HFS Hagfors 43.77 329 P **P 20 25 01.4 -0.8**
comp=Z,5.6nm,0.5s,baz=128,slow=9.6,SNR=31
HFS pP **pP 20 25 25.2 -0.3**
comp=Z,6.8nm,0.7s,baz=116,slow=10,SNR=3.8
comp=Z,5.6nm,0.5s
BTO Baotou 43.88 60 *e*P **P 20 25 03.6 +0.1**
BTO PP **PP 20 26 47.1 -0.2**
BTO pmax pmax
comp=Z,59nm,0.7s
BTO pmax pmax
comp=Z,340nm,6.9s
BNI Bardonecchia 43.89 307 P **P 20 25 02.3 -1.3**
BNI Bardonecchia 43.89 307 P **P 20 25 02.3 -1.3**
BNI pmax pmax
comp=Z,12nm,0.9s
ENH Enshi 44.44 74 P **P 20 25 08.3 +0.3**
ENH IAmb IAmb 20 25 15.9
comp=Z,16nm,1.0s
NRIK Noril'sk 44.51 14 P **P 20 25 08.1 0.0**
NRIK Noril'sk 44.51 14 P **P 20 25 07.4 -0.6**
comp=Z,6.6nm,0.8s,baz=199,slow=5.5,SNR=9.0
NRIK LR LR 20 45 41.0
comp=Z,86nm,18.6s,baz=208,slow=39
comp=Z,6.6nm,0.8s
NRIK Noril'sk 44.51 14 *ce*P **P 20 25 08.0 0.0**
NRIK pmax pmax
comp=Z,8.0nm,0.9s
WLF Walferdange 44.77 313 *d*P **P 20 25 10.6 +0.2**
WLF *dx* x 20 25 32.0
HHC Hu-ho-hao-te 45.05 59 *e*P **P 20 25 11.3 -1.5**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,120nm,5.1s
NB2 NORSAR Subarra 45.27 330 P **P 20 25 13.2 -1.0**
comp=Z,1.2nm,0.6s,baz=116,slow=7.9
NOA NORSAR Array B 45.27 330 P **P 20 25 12.5 -1.7**
comp=Z,1.3nm,0.6s,baz=118,slow=7.6,SNR=7.1
NOA pP **pP 20 25 35.7 -1.9**
comp=Z,4.4nm,0.8s,baz=115,slow=8.0,SNR=7.1
NOA sP **sP 20 25 49.6 +0.8**
comp=Z,3.4nm,0.8s,baz=115,slow=7.9,SNR=3.1
comp=Z,1.3nm,0.6s
SSB Saint Sauveur 45.41 307 IAmb IAmb 20 25 39.7
comp=Z,13nm,1.1s
RCHB Rochefort 45.43 314 *d*P **P 20 25 16.3 +0.7**
RCHB *dx* x 20 25 37.5
ARCES ARCESS Array B 45.45 345 P **P 20 25 13.7 -1.8**
comp=Z,2.0nm,0.6s,baz=134,slow=6.9,SNR=14
ARCES pP **pP 20 25 37.8 -1.3**
comp=Z,9.0nm,0.8s,baz=128,slow=7.9,SNR=6.3
ARCES ScP **ScP 20 30 35.0 -1.9**
comp=Z,5.4nm,0.9s,baz=131,slow=3.7,SNR=8.0
ARCES LR LR 20 46 02.7
comp=Z,107nm,19.1s,baz=244,slow=38
comp=Z,2.0nm,0.6s
BGES Gesves 45.56 314 *d*P **P 20 25 17.0 +0.4**
BMRD Maredsous 45.75 314 *d*P **P 20 25 18.4 +0.4**
DOU Dourbes 45.83 314 *d*P **P 20 25 19.2 +0.5**
DOU *dx* x 20 25 41.4
UCC Uccle 46.08 315 *d*P **P 20 25 21.1 +0.4**
GSI Gunungsitoli 46.13 119 P **P 20 25 22.3 +0.7**
GSI IAmb IAmb 20 25 25.2
comp=Z,11nm,0.7s
GSI Gunungsitoli 46.13 119 P **P 20 25 23.3 +1.7**
comp=Z,23nm,1.3s
LYN LuoYang 46.25 68 ⇓*i*P **P 20 25 23.6 +1.3**
LYN pmax pmax
comp=Z,55nm,0.7s
LYN pmax pmax
comp=Z,190nm,5.4s
PSI Prapat 46.27 116 P **P 20 25 23.3 +0.5**
PSI pmax pmax
comp=Z,14nm,1.2s
RPSI Rantau Prapat 46.34 116 P **P 20 25 23.2 +0.1**
RPSI IAmb IAmb 20 25 24.4
comp=Z,14nm,1.2s
IPM Ipoh 46.98 112 P **P 20 25 28.4 +0.2**
IPM IAmb IAmb 20 25 30.1
comp=Z,13nm,0.8s
TAM Tamanrasset 47.59 276 P **P 20 25 33.3 +0.2**
TAM IAmb IAmb 20 25 58.5
comp=Z,7.0nm,1.0s
TAM Tamanrasset 47.59 276 P **P 20 25 33.3 +0.2**
TAM pmax pmax
comp=Z,7.0nm,1.0s
HNS HongShan 47.71 64 *e*P **P 20 25 33.3 -0.2**
OPO Ambohidratompo 47.75 194 LR LR 20 45 09.1
comp=Z,53nm,20.6s,baz=163,slow=35
CNSH ChangSha 47.82 76 P **P 20 25 35.5 +0.9**
CNSH pmax pmax
comp=Z,22nm,0.5s
XLT XiLinHaoTe 48.33 55 *e*P **P 20 25 39.5 +1.1**
XLT pmax pmax
comp=Z,13nm,1.0s
BOD Bodaibo 48.45 36 *e*P **P 20 25 38.7 -0.2**
BOD pmax pmax
comp=Z,66nm,0.8s
WHN Wuhan 48.51 73 P **P 20 25 40.8 +1.0**
BJI Beijing 48.60 60 P **P 20 25 40.3 -0.1**
BJI pmax pmax
comp=Z,4.0nm,0.7s
TIA Tai'an 49.78 65 P **P 20 25 49.9 +0.4**
TIA pmax pmax
comp=Z,19nm,0.7s
VOI Vohitsoka 51.06 194 P **P 20 26 00.1 +0.9**
EKA Eskdalemuir Ar 51.13 320 P **P 20 25 57.3 -2.1**
comp=Z,0.5nm,0.3s,baz=101,slow=7.8,SNR=9.5
EKA pP **pP 20 26 22.1 -0.7**
comp=Z,0.4nm,0.3s,baz=101,slow=7.8,SNR=2.0
comp=Z,0.5nm,0.3s
ESDC Sonseca Array 51.92 300 P **P 20 26 05.5 -0.1**
ESDC Sonseca Array 51.92 300 P **P 20 26 04.0 -1.5**
comp=Z,1.1nm,0.6s,baz=71,slow=7.5,SNR=17
ESDC pP **pP 20 26 27.6 -1.3**
comp=Z,1.9nm,0.6s,baz=75,slow=7.4,SNR=6.5
comp=Z,1.1nm,0.6s
NJ2 Nanjing 51.95 70 *e*P **P 20 26 05.8 0.0**
NJ2 pmax pmax
comp=Z,12nm,0.6s
LSZ Lusaka 52.14 218 P **P 20 26 07.4 0.0**
LSZ IAmb IAmb 20 26 11.0
comp=Z,32nm,1.8s
LSZ Lusaka 52.14 218 P **P 20 26 07.4 0.0**
LSZ pmax pmax
comp=Z,31nm,1.8s
SPITS Spitsbergen Ar 53.42 350 P **P 20 26 14.6 -1.3**
comp=Z,9.2nm,1.0s,baz=122,slow=12,SNR=6.9
SPITS LR LR 20 56 12.8
comp=Z,188nm,18.1s,baz=202,slow=44
comp=Z,9.2nm,1.0s
MVO Moncorvo 54.04 302 *e*P **P 20 26 22.0 +0.9**
PBAR Barrancos 54.52 298 *e*P **P 20 26 25.0 +0.4**
TORD Torodi Ar. Bea 54.55 266 P **P 20 26 25.4 +0.4**
comp=Z,6.3nm,0.5s,baz=62,slow=7.3,SNR=83
TORD pP **pP 20 26 48.2 -0.4**
comp=Z,4.2nm,0.4s,baz=47,slow=7.6,SNR=4.2
TORD ScP **ScP 20 31 18.7 +1.8**
comp=Z,0.8nm,0.6s,baz=60,slow=4.1,SNR=5.8
TORD LR LR 20 52 18.8
comp=Z,171nm,18.5s,baz=66,slow=39
comp=Z,6.3nm,0.5s
PCBR Castelo Branco 54.58 301 *e*P **P 20 26 26.0 +1.1**
PMRV Marv??o 54.58 300 *e*P **P 20 26 25.7 +0.7**
PESTR Estremoz 54.83 299 *e*P **P 20 26 27.2 +0.4**
CN2 Changchun 55.09 54 P **P 20 26 28.8 +0.2**
CN2 pmax pmax
comp=Z,20nm,0.6s
EVO Évora 55.21 299 *e*P **P 20 26 30.2 +0.7**
ZEA Zeya 55.50 42 *e*P **P 20 26 31.9 +0.6**
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,0.8s
HEH HeiHe 55.78 47 *e*P **P 20 26 33.1 -0.3**
HEH pmax pmax
comp=Z,25nm,0.9s
TPUB Ta-pu 55.86 80 P **P 20 26 37.4 +2.9**
SSLB Suanglung 55.98 79 P **P 20 26 37.4 +2.0**
JMIC Jan Mayen 56.03 339 LR LR 20 54 14.9
comp=Z,45nm,21.8s,baz=3.5,slow=40
BNX BinXian 56.23 52 ⇓P **P 20 26 36.8 +0.1**
BNX pmax pmax
comp=Z,13nm,0.9s
YULB Yu-li 56.41 79 P **P 20 26 39.7 +1.4**
YAK Yakutsk 56.80 32 P **P 20 26 38.6 -1.8**
YAK Yakutsk 56.80 32 LR LR 20 51 04.8
comp=Z,69nm,20.8s,baz=280,slow=36
YAK Yakutsk 56.80 32 *e*P **P 20 26 37.8 -2.6**
YAK *e* 20 27 33.0
YAK *e*SS sS 20 34 54.9 -12
YAK *e*SSS SSS 20 40 30.7
YAK pmax pmax
comp=Z,32nm,1.2s
YAK pmax pmax
comp=N,8.0nm,1.6s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=Z,281nm,3.6s
YAK pmax pmax
comp=N,243nm,3.0s
YAK pmax pmax
comp=E,286nm,3.3s
TIXI Tiksi 57.37 21 P **P 20 26 42.8 -1.5**
TIXI IAmb IAmb 20 26 44.9
comp=Z,8.1nm,0.5s
TIXI Tiksi 57.37 21 LR LR 20 54 34.6
comp=Z,53nm,19.6s,baz=231,slow=39
TIXI Tiksi 57.37 21 *ce*P **P 20 26 44.5 +0.2**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
KS19 Wonju Array Si 58.01 62 P **P 20 26 48.2 -1.2**
KSAR Wonju Array Be 58.04 62 P **P 20 26 49.0 -0.6**
KSAR Wonju Array Be 58.04 62 P **P 20 26 49.0 -0.6**
KSRS Korea Array 58.07 62 P **P 20 26 49.0 -0.8**
comp=Z,7.5nm,0.5s,baz=276,slow=7.1,SNR=20
KSRS LR LR 20 54 48.4
comp=Z,23nm,20.4s,baz=190,slow=39
comp=Z,7.5nm,0.5s
KSRS Korea Array 58.07 62 P **P 20 26 49.0 -0.8**
USA0B Ussuriysk Arra 59.69 53 P **P 20 26 59.8 -1.1**
USA0B Ussuriysk Arra 59.69 53 P **P 20 26 59.8 -1.1**
USA0B pmax pmax
comp=Z,48nm,2.0s
USRK Ussuriysk Ar. 59.69 53 P **P 20 26 59.8 -1.1**
comp=Z,5.8nm,0.7s,baz=274,slow=7.9,SNR=13
comp=Z,5.8nm,0.7s
DAG Danmarks Havn 59.73 345 *i* P **P 20 26 58.0 -2.6**
POGA Pongola 60.85 207 P **P 20 27 09.8 +0.9**
TSUM Tsumeb 61.41 225 LR LR 20 54 38.6
comp=Z,79nm,19.1s,baz=38,slow=37
JNU Nakatsue 61.51 66 P **P 20 27 15.1 +1.6**
LBTB Lobatse 61.57 214 P **P 20 27 15.1 +1.2**
LBTB IAmb IAmb 20 27 16.5
comp=Z,23nm,1.4s
LBTB Lobatse 61.57 214 LR LR 20 53 41.9
comp=Z,53nm,19.5s,baz=14,slow=36
LBTB Lobatse 61.57 214 P **P 20 27 15.1 +1.2**
LBTB pmax pmax
comp=Z,23nm,1.4s
DBIC Dimbokro 63.21 263 P **P 20 27 24.3 -0.7**
comp=Z,6.1nm,0.8s,baz=40,slow=7.4,SNR=7.1
DBIC LR LR 20 58 15.3
comp=Z,88nm,18.9s,baz=45,slow=39
comp=Z,6.1nm,0.8s
JMN Monobe 63.73 64 P **P 20 27 28.0 -0.2**
BOSA Boshof 64.76 212 P **P 20 27 35.5 +0.6**
BOSA IAmb IAmb 20 27 37.1
comp=Z,12nm,0.9s
BOSA Boshof 64.76 212 P **P 20 27 35.2 +0.2**
comp=Z,8.6nm,0.8s,baz=44,slow=7.4,SNR=15
BOSA pP **pP 20 28 02.4 +3.2**
comp=Z,5.5nm,1.0s,baz=31,slow=9.2,SNR=2.7
BOSA LR LR 20 58 42.0
comp=Z,34nm,18.9s,baz=20,slow=38
comp=Z,8.6nm,0.8s
SUMG Summit 65.31 341 P **P 20 27 37.7 -0.6**
SUMG IAmb IAmb 20 28 10.1
comp=Z,7.0nm,0.9s
SUMG Summit 65.31 341 P **P 20 27 37.7 -0.6**
SUMG pmax pmax
comp=Z,7.0nm,0.9s
MJAR Matsushiro Arr 66.24 60 P **P 20 27 44.1 -0.4**
comp=Z,1.9nm,0.8s,baz=283,slow=5.0,SNR=3.8
comp=Z,1.9nm,0.8s
YSS Yuzh-Sakhalins 66.37 48 P **P 20 27 44.6 -0.4**
YSS Yuzh-Sakhalins 66.37 48 *e*P **P 20 27 44.6 -0.4**
YSS pmax pmax
comp=Z,30nm,0.6s
JTM Tenmabayashi 67.04 55 P **P 20 27 48.7 -0.7**
MA2 Magadan 67.33 33 LR LR 20 58 02.8
comp=Z,43nm,18.6s,baz=359,slow=36
KAPI Kappang 67.76 109 LR LR 21 00 11.8
comp=Z,12nm,18.8s,baz=296,slow=38
ERM Erimo 68.15 53 P **P 20 27 55.4 -0.9**
ERM Erimo 68.15 53 P **P 20 27 55.4 -0.9**
ERM pmax pmax
comp=Z,123nm,1.3s
GRHM Grahamstown, E 68.25 208 P **P 20 27 57.1 +0.1**
SUR Sutherland 70.01 213 P **P 20 28 07.9 -0.2**
EUNU Eureka 70.22 354 P **P 20 28 09.3 +0.7**
EUNU IAmb IAmb 20 28 36.3
comp=Z,9.6nm,0.9s
BILL Bilibino 70.52 22 P **P 20 28 10.4 -0.1**
BILL IAmb IAmb 20 28 52.0
comp=Z,26nm,1.8s
BILL Bilibino 70.52 22 *i* P P 20 28 16.5 +6.0
BILL pmax pmax
comp=Z,4.0nm,1.0s
PETK Petropavlovsk- 73.25 38 LR LR 21 03 44.5
comp=Z,95nm,19.1s,baz=26,slow=38
BATI Baumata 73.83 111 LR LR 21 04 00.3
comp=Z,13nm,20.1s,baz=334,slow=38
GIRL Giralia 73.99 127 P **P 20 28 34.0 +2.1**
RES Resolute Bay 75.85 353 LR LR 21 05 53.2
comp=Z,46nm,19.4s,baz=8.5,slow=39
MORW Morawa 79.39 131 P **P 20 29 03.5 +1.4**
MORW IAmb IAmb 20 29 04.4
comp=Z,30nm,1.6s
FITZ Fitzroy Crossi 79.79 117 P **P 20 29 05.8 +1.3**
D23K Nanushuk River 80.79 10 P **P 20 29 11.1 +2.0**
D23K IAmb IAmb 20 30 29.5
comp=Z,20nm,1.6s
KNRA Kununurra 80.96 113 P **P 20 29 12.1 +1.3**
KNRA IAmb IAmb 20 29 13.6
comp=Z,11nm,0.8s
TOLK Toolik Lake Re 81.25 10 IAmb IAmb 20 29 38.7
comp=Z,17nm,1.2s
NWAO Narrogin (SRO) 82.66 133 P **P 20 29 20.1 +0.7**
NWAO Narrogin (SRO) 82.66 133 P **P 20 29 20.1 +0.7**
NWAO pmax pmax
comp=Z,63nm,1.3s
IMAR Indian Mountai 82.92 13 P **P 20 29 19.3 -1.0**
BMAR Burnt Mountain 83.09 9 P **P 20 29 20.9 -0.3**
G24K Hadweenzic Riv 83.36 10 IAmb IAmb 20 29 25.5
comp=Z,8.6nm,0.9s
G27K Doyon Strip 84.05 8 IAmb IAmb 20 30 16.6
comp=Z,9.5nm,1.3s
ILAR Eielson Array 85.24 11 P **P 20 29 30.5 -1.6**
comp=Z,0.9nm,0.8s,baz=320,slow=3.6,SNR=7.5
ILAR pP **pP 20 29 56.6 -1.6**
comp=Z,0.6nm,0.6s,baz=326,slow=4.3,SNR=3.2
ILAR PKKPbc **PKKPbc 20 47 37.9 -0.2**
comp=Z,0.8nm,0.6s,baz=183,slow=1.9,SNR=10
ILAR LR LR 21 11 03.8
comp=Z,28nm,20.7s,baz=36,slow=38
comp=Z,0.9nm,0.8s
CAST Castle Rocks 85.54 13 P **P 20 29 32.7 -1.0**
CAST IAmb IAmb 20 30 00.9
comp=Z,10nm,0.8s
EGAK Eagle 86.06 8 IAmb IAmb 20 30 42.1
comp=Z,14nm,1.0s
I30M Mount Dempster 86.16 6 IAmb IAmb 20 30 13.1
comp=Z,24nm,2.0s
WB0 Warramunga Arr 87.66 114 P **P 20 29 45.3 +0.6**
WB0 IAmb IAmb 20 29 47.2
comp=Z,18nm,1.4s
WRA Warramunga Arr 87.71 114 P **P 20 29 46.0 +1.1**
comp=Z,3.8nm,0.6s,baz=317,slow=4.1,SNR=48
WRA pP **pP 20 30 10.2 -0.3**
comp=Z,5.2nm,1.0s,baz=312,slow=4.2,SNR=4.6
comp=Z,3.8nm,0.6s
WB2 Warramunga Arr 87.72 114 P **P 20 29 45.9 +1.0**
WR0 Warramunga Arr 87.88 114 P **P 20 29 45.0 -0.7**
AS31 Alice Springs 89.28 117 P **P 20 29 51.5 -0.7**
ASAR Alice Springs 89.28 117 P **P 20 29 52.8 +0.6**
comp=Z,2.4nm,0.8s,baz=303,slow=4.9,SNR=21
ASAR pP **pP 20 30 18.9 +1.0**
comp=Z,4.3nm,1.0s,baz=300,slow=4.6,SNR=6.5
comp=Z,2.4nm,0.8s
MAW Mawson 95.61 178 LR LR 21 09 27.6
comp=Z,20nm,18.0s,baz=247,slow=33
RCBR Riachuelo 96.37 267 LR LR 21 15 09.5
comp=Z,20nm,18.7s,baz=70,slow=36
TROLL Troll, Antarti 107.03 196 ⇑PKiKP **PKiKP 20 35 21.6 +1.2**
comp=Z,56nm,0.6s
SNAA Sanae 108.15 197 ⇑PKiKP **PKiKP 20 35 22.9 +0.5**
comp=Z,20nm,0.8s
VNA2 Neumayer--Watz 108.96 198 ⇑PKiKP **PKiKP 20 35 24.8 +1.0**
comp=Z,1.1nm,0.6s,baz=357,slow=2.6
VNA1 Neumayer--Stat 109.06 199 ⇑PKiKP **PKiKP 20 35 25.2 +1.2**
comp=Z,2.6nm,0.9s
VNA3 Neumayer Olymp 109.76 199 ⇑PKiKP **PKiKP 20 35 25.9 +0.6**
comp=Z,2.4nm,0.8s
QSPA South Pole Qui 118.07 180 PKP **PKiKP 20 35 42.3 +0.9**
comp=Z,4.3nm,0.8s,baz=272,slow=1.9,SNR=13

IDC ***16*** *20:33:49.3±1.1, 7.00S×128.0°90E, h0km, mb3.7/7, mbtmp3.9/10, ML4.2/3, Error ellipse: s-maj=47.1km s-min=20.3km az=69.0*
NEIC ***16*** *20:34:02.0±2.0, 7.56S±0.09×128.13E±0.06, h106km±7km, mb4.2/8, Error ellipse: s-maj=13.7km s-min=8.1km az=167.0*
DJA ***16*** *20:34:04.2±1.5, 8.3S±4.3×12.3°8E±.3°, h25km±15km, M4.3/8, mb4.3/7, mB5.2/3, MLv4.3/8, Mw(mB)4.5/3*
ISC 16 20:34:04.2±0.6, 7.78S±0.06×128.21E±0.05, h150km, n40, σ2°33/45, mb3.7/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.06**	**94**		**Pn**	**20 34 52.5**	**+0.1**
SAUI				Sn	**Sn**	**20 35 27.4**	**-2.2**
SAUI	**Saumlaki**	**3.06**	**94**	P	Pn	20 35 04.9	+13
SOEI	**Soe**	**4.37**	**243**	Pn	**Pn**	**20 35 04.9**	**-4.5**
SOEI				Sn	**Sn**	**20 35 56.2**	**-3.9**
SOEI	**Soe**	**4.37**	**243**	P	**Pn**	**20 35 10.5**	**+1.1**
SOEI				S	**Sn**	**20 36 00.7**	**+0.6**
BATI	**Baumata**	**5.10**	**241**	Pn	**Pn**	**20 35 20.5**	**+1.6**
BATI	6.6nm,0.3s,baz=146,slow=1.1,SNR=10			Sn	**Sn**	**20 36 17.5**	**+0.1**
	30nm,0.3s,baz=62,slow=2.7,SNR=38 26nm,0.3s						
BATI	**Baumata**	**5.10**	**241**	P	**Pn**	**20 35 20.6**	**+1.6**
BATI	25nm,0.4s,2μm0.6nm			S	**Sn**	**20 36 16.7**	**-0.7**
	25nm,0.4s,2μm0.6nm						
MTN	**Manton Dam**	**5.80**	**151**	Pn	**Pn**	**20 35 29.6**	**+1.4**

MTN Sn **Sn** **20 36 31.3 -2.6**
MMRI Maumere 5.98 261 Pn **Pn** **20 35 27.0 -3.6**
MMRI Sn **Sn** **20 36 33.7 -4.5**
BBSI Bau Bau 6.05 292 P **Pn** **20 35 31.7 +0.1**
19nm,0.7s,0.1nm
FAKI Fak Fak 6.28 40 Pn **Pn** **20 35 30.4 -4.2**
FAKI Fak Fak 6.28 40 P **Pn** **20 35 34.7 0.0**
KNRA Kununurra 7.87 176 Pn **Pn** **20 35 56.2 +0.3**
WSI Waingapu 8.05 256 P **Pn** **20 35 58.0 -0.3**
FITZ Fitzroy Crossi 10.56 193 Pn **Pn** **20 36 30.1 -1.6**
FITZ Fitzroy Crossi 10.56 193 Pn **Pn** **20 36 30.9 -0.7**
0.4nm,0.3s,baz=13,slow=8.9,SNR=11
FITZ Sn **Sn** **20 38 25.2 -3.3**
1.4nm,0.3s,baz=321,slow=22,SNR=5.9
WB0 Warramunga Arr 13.34 154 **Pn** **20 37 06.4 -1.4**
WB0 Sn 20 39 24.5 -11
WRAB Tennant Creek 13.47 154 **Pn** **20 37 09.0 -0.5**
WRAB Sn 20 39 29.6 -9.0
WRA Warramunga Arr 13.47 154 Pn **Pn** **20 37 07.3 -2.2**
WRA Sn 20 39 28.8 -10
WRA Warramunga Arr 13.47 154 Pn **Pn** **20 37 07.7 -1.8**
1.3nm,0.3s,baz=328,slow=13,SNR=55
WRA Sn Sn 20 39 30.0 -8.7
1.9nm,0.3s,baz=330,slow=22,SNR=10.0
2.6nm,0.4s
WB2 Warramunga Arr 13.48 154 **Pn** **20 37 08.3 -1.3**
WB2 Sn 20 39 29.7 -9.1
WR0 Warramunga Arr 13.57 154 **Pn** **20 37 09.9 -0.9**
MBWA Marble Bar 15.62 211 P **P** **20 37 39.5 +2.1**
MBWA IAmb IAmb 20 38 18.4
comp=Z,16nm,1.4s
PSA00 Pilbara Seismi 15.91 210 **P** **20 37 42.0 +1.5**
PSA00 IAmb IAmb 20 38 12.5
comp=Z,11nm,1.1s
COEN Coen 15.92 114 **P** **20 37 41.1 +0.4**
AS31 Alice Springs 16.71 162 **Pn** **20 37 50.2 +0.4**
ASAR Alice Springs 16.71 162 **Pn** **20 37 50.0 +0.3**
ASAR Alice Springs 16.71 162 P **Pn** **20 37 51.0 +1.2**
comp=Z,0.5nm,0.3s,baz=334,slow=9.4,SNR=37
ASAR S **S** **20 40 52.0 -3.6**
comp=Z,1.5nm,0.7s,baz=320,slow=18,SNR=7.0
comp=Z,2.8nm,0.7s
MORW Morawa 24.08 207 P **P** **20 39 10.2 +4.3**
MORW IAmb IAmb 20 39 24.3
comp=Z,25nm,1.5s
BBOO Buckleboo 25.95 165 P **P** **20 39 27.5 +4.8**
BBOO IAmb IAmb 20 39 55.5
comp=Z,18nm,1.3s
STKA Stephens Creek 27.02 154 P **P** **20 39 37.7 +5.3**
comp=Z,1.2nm,0.5s,baz=327,slow=14,SNR=3.4
comp=Z,1.2nm,0.5s
TPUB Ta-pu 31.77 347 P **P** **20 40 13.8 -0.6**
CMAR Chiang Mai Arr 38.91 312 P P 20 41 17.7 +2.2
comp=Z,0.3nm,0.3s,baz=145,slow=6.5,SNR=1.8
comp=Z,0.3nm,0.3s
SONM Songino Array 58.64 343 P **P** **20 43 45.3 -0.3**
comp=Z,0.2nm,0.5s,baz=145,slow=5.1,SNR=2.4
comp=Z,0.2nm,0.5s
MKAR Makanchi Array 67.92 328 P **P** **20 44 46.8 +0.1**
MKAR Makanchi Array 67.92 328 P **P** **20 44 47.8 +1.1**
comp=Z,0.3nm,0.5s,baz=122,slow=7.3,SNR=6.0
comp=Z,0.3nm,0.5s
ZALV Zalesovo Beam 71.51 335 P **P** **20 45 09.2 +0.8**
comp=Z,0.5nm,0.6s,baz=119,slow=5.4,SNR=2.1
comp=Z,0.5nm,0.6s
KURBB Kurchatov Arra 72.26 329 P P 20 45 14.4 +1.4
comp=Z,0.5nm,0.2s,baz=134,slow=5.0,SNR=8.6
comp=Z,0.5nm,0.2s
KURK Kurchatov 72.27 329 P P 20 45 15.0 +2.0
KURK IAmb IAmb 20 45 15.7
comp=Z,2.7nm,1.1s
BVAR Borovoye Array 77.78 328 P **P** **20 45 45.9 +1.3**
comp=Z,0.3nm,0.5s,baz=132,slow=2.1,SNR=2.4
comp=Z,0.3nm,0.5s
ABKAR Abkulak array 82.02 322 P **P** **20 46 08.4 +0.9**

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*JMA **16** 20:47:26.8±0.3,32°N±1°×14°2E±°, h46km, MV4.1/27, NEAR TORISHIMA IS*
*IDC **16** 20:47:27.1±5.9,31°.35N×141°.45E, h39km±36km, mb3.5/7, mbtmp3.7/9, ML3.0/2, Error ellipse: s-maj=214.6km s-min=19.8km az=69.0*
ISC 16 20:47:26.8±1.0,31°.43N±0°.06×141°.6E±0°.1, h40km, n21, σ1§50/26, mb3.8/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.22**	**318**	P	**Pn**	**20 48 01.5**	**+0.4**
JHJ2	**Mitsune**	**2.24**	**319**	P	**Pn**	**20 48 02.1**	**+0.7**
JHJ2				*e*S	**Sn**	**20 48 27.0**	**-0.8**
JHJ	**Hachijo jima 2**	**2.27**	**319**	Pn	**Pn**	**20 48 01.9**	**+0.2**
JHJ	20nm,0.3s,baz=111,slow=21,SNR=16			Sn	**Sn**	**20 48 26.4**	**-2.0**
	71nm,0.3s,baz=261,slow=23,SNR=9.1						
	58nm,0.3s						
JMKN	**Mikurajimanish**	**2.97**	**326**	*e*S	**Sn**	**20 48 45.4**	**-0.4**
JMYK	**Miyake Tsubota**	**3.13**	**328**	*e*S	**Sn**	**20 48 49.6**	**-0.1**
BSO1	**Boso 1**	**3.26**	**351**	P	**Pn**	**20 48 15.6**	**+0.8**
BSO1				*e*S	**Sn**	**20 48 52.1**	**+0.1**
BSO2	**Boso 2**	**3.38**	**349**	*e*S	**Sn**	**20 48 55.8**	**+0.2**
CBIJ	**Chichi jima**	**4.35**	**173**	*e*P	**Pn**	**20 48 32.2**	**+1.8**
CBIJ				*e*S	**Sn**	**20 49 19.0**	**-0.8**
JIE	**Ise**	**5.05**	**307**	*e*P	**Pn**	**20 48 42.5**	**+2.6**
JRY	**Ryogami san**	**5.09**	**335**	P	**Pn**	**20 48 42.7**	**+2.2**
JHO	**Hitachi**	**5.24**	**351**	P	**Pn**	**20 48 42.7**	**+0.2**
JAG	**Ashikaga**	**5.29**	**341**	P	**Pn**	**20 48 44.1**	**+0.9**
MJAR	**Matsushiro Arr**	**5.81**	**332**	Pn	**Pn**	**20 48 50.3**	**-0.2**
	0.2nm,0.3s,baz=162,slow=11,SNR=12						
MJAR				Sn	**Sn**	**20 49 51.0**	**-5.0**
	baz=162,slow=32,SNR=1.5						
	1.1nm,0.4s						
MAT	**Matsushiro**	**5.82**	**332**	*e*P	**Pn**	**20 48 52.4**	**+1.8**
SONM	**Songino Array**	**31.33**	**312**	P	**P**	**20 53 43.2**	**-0.2**
	0.5nm,0.8s,baz=120,slow=10,SNR=3.6						
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**45.93**	**317**	P	**P**	**20 55 45.7**	**+0.4**
	0.5nm,0.3s,baz=106,slow=8.4,SNR=2.5						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**47.39**	**307**	P	**P**	**20 55 56.8**	**-0.2**
	0.3nm,0.3s,baz=87,slow=8.7,SNR=8.2						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**49.69**	**312**	P	**P**	**20 56 15.6**	**+1.0**
	0.5nm,0.2s,baz=92,slow=9.1,SNR=1.7						
	0.5nm,0.2s						
WRA	**Warramunga Arr**	**51.55**	**189**	P	**P**	**20 56 28.2**	**-0.6**
	0.4nm,0.3s,baz=5.9,slow=7.7,SNR=26						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**54.54**	**315**	P	**P**	**20 56 50.5**	**-0.1**
	0.2nm,0.3s,baz=92,slow=6.8,SNR=2.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**55.27**	**189**	P	**P**	**20 56 55.9**	**-0.2**
	0.5nm,0.5s,baz=19,slow=13,SNR=13						
	0.5nm,0.5s						

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*IDC **16** 20:50:21.2±14.0, 36°.82N×71°.34E, h236km±138km, mb2.8/1, mbtmp3.6/6, Error ellipse: s-maj=89.1km s-min=46.0km az=21.0*
*NNC **16** 20:50:22.1±7.0, 37°.34N×71°.00E, h155km±108km, mb2.5, mpv3.1, Error ellipse: s-maj=59.1km s-min=36.6km az=17.0*
ISC 16 20:50:20.2±2.5,37°.2N±0°.2×71°.1E±0°.1, h150km, n11, σ1§43/15, 7C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.87**	**356**	⇑P	**Pn**	**20 51 46.3**	**+1.2**
	1.8nm,0.3s,baz=180,slow=13,SNR=24						
KK31				⇓S	**Sn**	**20 52 53.5**	**+2.0**
	8.4nm,0.5s,baz=183,slow=22						
CHMS	**Chumysh**	**6.41**	**25**	⇑P	**Pn**	**20 51 54.5**	**+2.2**
	0.6nm,0.3s						
CHMS				⇓S	**Sn**	**20 53 04.3**	**-0.2**
	2.1nm,0.6s						
TKM2	**Tokmak 2**	**6.66**	**30**	⇑P	**Pn**	**20 51 55.5**	**-0.2**
	0.3nm,0.3s						
TKM2				⇓S	**Sn**	**20 53 09.5**	**-1.1**
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**12.67**	**38**	P	**Pn**	**20 53 15.6**	**+0.6**
	0.2nm,0.6s,baz=211,slow=9.9,SNR=4.9						
KURBB	**Kurchatov Arra**	**14.41**	**19**	P	**Pn**	**20 53 38.8**	**+1.8**
	0.7nm,0.2s,baz=207,slow=10,SNR=2.8						
AB31	**Akbulak array**	**14.46**	**330**	⇑P	**P**	**20 53 40.0**	**-0.2**
	0.4nm,0.5s,baz=142,slow=14,SNR=17						
AB31				⇑S	**Sn**	**20 56 15.8**	**-2.1**
	1.0nm,0.7s,baz=150,slow=22,SNR=3.5						
BVAR	**Borovoye Array**	**15.79**	**359**	P	**Pn**	**20 53 55.2**	**+1.0**
	0.4nm,0.6s,baz=171,slow=10,SNR=2.1						
AKTO	**Aktyubinsk**	**16.17**	**329**	⇑P	**Pn**	**20 53 58.7**	**-0.1**
	0.6nm,0.5s						
AKTO				⇑S	**S**	**20 56 57.8**	**-0.5**
	1.2nm,0.9s						
AKTO	**Aktyubinsk**	**16.17**	**329**	P	**Pn**	**20 53 59.5**	**+0.8**
	1.9nm,0.5s,baz=125,slow=7.8,SNR=6.8						
ZALV	**Zalesovo Beam**	**19.23**	**25**	P	**P**	**20 54 30.8**	**-1.7**
	1.3nm,0.3s,baz=213,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**82.34**	**122**	P	P	21 02 14.7	-11
	0.3nm,1.1s,baz=326,slow=5.0,SNR=4.5						
	0.3nm,1.1s						

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*NEIC **16** 20:58:35.4±2.0, 57°.0S±0°.2×26°.1W±0°.2, h31km±5km, mb4.7/14, Error ellipse: s-maj=24.2km s-min=16.4km az=215.0*
*IDC **16** 20:59:06.5±8.7, 57°.19S×27°.00W, h318km±84km, mb3.6/3, mbtmp4.2/3, Error ellipse: s-maj=43.6km s-min=21.3km az=59.0*
ISC 16 20:58:35.7±0.7,56°.9S±0°.1×26°.1W±0°.1, h35km, n37, σ1§47/39, mb4.7/8, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.45**	**290**	Pn	**Pn**	**21 00 06.9**	**-1.2**
VNA1	**Neumayer--Stat**	**15.77**	**158**	⇑P	**Pn**	**21 02 15.5**	**+0.8**
	comp=Z,2.1nm,0.3s						
VNA3	**Neumayer Olymp**	**15.98**	**161**	⇑P	**Pn**	**21 02 17.6**	**+0.1**
	comp=Z,3.8nm,0.6s						
VNA2	**Neumayer--Watz**	**16.16**	**158**	⇑P	**Pn**	**21 02 20.5**	**+0.6**
	comp=Z,2.6nm,0.4s,baz=328,slow=14						
SNAA	**Sanae**	**17.71**	**156**	P	**Pn**	**21 02 37.1**	**-2.1**
SNAA	**Sanae**	**17.71**	**156**	⇑P	**P**	**21 02 40.8**	**+1.0**
	comp=Z,22nm,0.3s						
SNAA	**Sanae**	**17.71**	**156**	S	**Sn**	**21 05 51.7**	**-3.5**
	comp=Z,2.7nm,1.2s,baz=282,slow=20,SNR=3.3						
TROLL	**Troll, Antarti**	**19.20**	**153**	⇑P	**P**	**21 02 55.8**	**-0.5**
	comp=Z,0.3nm,0.1s						
BELA	**Belgrano 2**	**21.27**	**185**	P	**P**	**21 03 20.3**	**+1.8**
TRQA	**Tornquist**	**30.22**	**293**	P	**P**	**21 04 42.7**	**-0.1**
TRQA				IAmb	IAmb	21 05 02.2	
	comp=Z,17nm,1.4s						
PLTB	**Pedras Altas**	**31.52**	**311**	P	**P**	**21 04 54.6**	**+0.3**
PLTB				IAmb	IAmb	21 05 19.3	
	comp=Z,10nm,1.1s						
QSPA	**South Pole Qui**	**33.34**	**180**	P	**P**	**21 05 12.1**	**+2.0**
QSPA				IAmb	IAmb	21 05 19.1	
	comp=Z,4.3nm,0.7s						
QSPA	**South Pole Qui**	**33.34**	**180**	P	**P**	**21 05 12.8**	**+2.7**
	comp=Z,2.5nm,0.5s,baz=182,slow=0.6,SNR=6.8						
	comp=Z,2.5nm,0.5s						
MT09	**Talagante**	**38.15**	**288**	P	**P**	**21 05 51.4**	**-0.2**
MT09				IAmb	IAmb	21 06 31.0	
	comp=Z,19nm,1.4s						
MT02	**Curacav**	**38.63**	**288**	P	**P**	**21 05 55.2**	**-0.3**
MT02				IAmb	IAmb	21 05 58.7	
	comp=Z,29nm,1.4s						
CO01	**Juntas del Tor**	**40.71**	**292**	P	**P**	**21 06 13.3**	**+0.3**
AC04	**Llanos de Chal**	**42.65**	**293**	P	**P**	**21 06 27.2**	**-1.4**
GO01	**Chusmiza**	**48.91**	**301**	P	**P**	**21 07 19.4**	**+0.6**
GO01				IAmb	IAmb	21 07 20.7	
	comp=Z,9.2nm,0.7s						
PB11	**IPOC Station P**	**49.05**	**301**	P	**P**	**21 07 19.8**	**+0.4**
PB12	**IPOC Station P**	**50.36**	**301**	P	**P**	**21 07 29.8**	**+0.5**
LPAZ	**La Paz**	**51.37**	**305**	P	**P**	**21 07 38.0**	**+0.5**
LPAZ				IAmb	IAmb	21 07 41.0	
	comp=Z,5.7nm,0.8s						
LPAZ	**La Paz**	**51.37**	**305**	P	**P**	**21 07 38.1**	**+0.6**
	comp=Z,5.1nm,0.5s,baz=139,slow=2.9,SNR=22						
	comp=Z,5.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**73.52**	**28**	P	**P**	**21 10 05.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**73.52**	**28**	P	**P**	**21 10 07.9**	**+3.2**
	comp=Z,0.4nm,0.5s,baz=200,slow=5.6,SNR=4.1						
	comp=Z,0.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**101.62**	**153**		**Pdif**	**21 12 21.8**	**-2.5**
A36M	**Sachs Harbour**	**145.26**	**327**		**PKPbc**	**21 18 07.2**	**-0.4**
M30M	**Minto, Yukon**	**146.19**	**309**	PKPdf	**PKPdf**	**21 18 09.6**	**-0.1**
G31M	**Satah River**	**146.71**	**317**	PKPdf	**PKPdf**	**21 18 10.6**	**+0.2**
K29M	**Barlow Dome**	**146.96**	**311**	PKPdf	**PKPdf**	**21 18 11.5**	**+0.4**
G30M	**tAoh Zraii Nji**	**147.46**	**317**	PKPdf	**PKPdf**	**21 18 10.9**	**-0.9**
G30M				PKPbc	**PKPbc**	**21 18 14.4**	**0.0**
G29M	**Pine Creek**	**148.12**	**316**	PKPdf	**PKPdf**	**21 18 12.1**	**-0.7**
F28M	**Old Crow**	**148.99**	**317**		**PKPdf**	**21 18 13.3**	**-0.9**
F28M				PKPbc	**PKPbc**	**21 18 17.7**	**-0.6**
D27M	**Malcolm River**	**149.70**	**320**	PKPbc	**PKPbc**	**21 18 20.1**	**+0.1**
SONM	**Songino Array**	**150.17**	**87**	PKPbc	**PKPbc**	**21 18 20.2**	**-1.7**
SONM	**Songino Array**	**150.17**	**87**	PKPbc	**PKPbc**	**21 18 19.6**	**-2.3**
	comp=Z,0.8nm,0.5s,baz=236,slow=3.1,SNR=8.6						
BMAR	**Burnt Mountain**	**150.73**	**316**	PKPbc	**PKPbc**	**21 18 22.4**	**-0.2**
ILAR	**Eielson Array**	**151.14**	**310**	PKPbc	**PKPbc**	**21 18 20.3**	**-3.2**
	comp=Z,1.1nm,0.8s,baz=127,slow=2.4,SNR=9.5						

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*IDC **16** 21:19:41.4±1.0, 10°.68S×163°.24E, h0km, mb4.0/7, mbtmp4.0/9, ML4.2/2, MS3.6/17, Error ellipse: s-maj=29.6km s-min=23.2km az=159.0*
*NEIC **16** 21:19:45.8±1.3, 10°.4S±0°.1×163°.3E±0°.1, h10km±1km, mb4.5/37, Error ellipse: s-maj=22.4km s-min=16.3km az=230.0*
ISC 16 21:19:44.7±0.7,10°.49S±0°.09×163°.25E±0°.09, h10km, n81, σ1§26/57, mb4.5/26, MS3.5/14, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.41**	**288**	Pn	**Pn**	**21 20 39.4**	**+1.3**
HNR	**Honiara**	**3.41**	**288**	Pn	**Pn**	**21 20 37.6**	**-0.5**
	21nm,0.3s,baz=174,slow=3.1,SNR=10						
HNR				Sn	**Sn**	**21 21 20.1**	**+1.4**
	30nm,0.3s,baz=115,slow=5.1,SNR=4.0						
	88nm,0.5s						
KOUNC	**Koumac, New Ca**	**10.06**	**174**	Pn	**Pn**	**21 22 10.0**	**+0.7**
DZM	**Mont Dzumac**	**11.92**	**165**	Pn	**Pn**	**21 22 35.8**	**+0.8**
DZM	**Mont Dzumac**	**11.92**	**165**	*e*P	**Pn**	**21 22 37.7**	**+2.7**
	99nm,27.4s						
DZM				*e*LR	LR	21 25 19.1	
	836nm,24.9s						
DZM	**Mont Dzumac**	**11.92**	**165**	Pn	**Pn**	**21 22 32.3**	**-2.7**
	1.8nm,0.3s,baz=306,slow=22,SNR=17						
DZM				LR	LR	21 26 28.6	
	comp=Z,430nm,21.1s,baz=38,slow=35						
	3.4nm,0.5s						
PINNC	**Pines Island,**	**12.71**	**162**	Pn	**Pn**	**21 22 46.8**	**+1.1**
PMG	**Port Moresby**	**15.88**	**272**	LR	LR	21 28 32.0	
	comp=Z,137nm,20.1s,baz=108,slow=33						
MSVF	**Nonsavu**	**16.06**	**118**	LR	LR	21 28 38.1	
	comp=Z,502nm,19.8s,baz=349,slow=34						
CTA	**Charters Tower**	**18.95**	**238**	LR	LR	21 30 40.8	
	comp=Z,14nm,22.0s,baz=64,slow=35						
CTAO	**Charters Tower**	**18.95**	**238**	P	**Pn**	**21 24 08.1**	**+1.2**
CTAO				IAmb	IAmb	21 24 10.5	
	comp=Z,20nm,0.8s						
COEN	**Coen**	**19.92**	**258**	P	**P**	**21 24 17.4**	**+0.5**
ARMA	**Armidale**	**22.59**	**207**	P	**P**	**21 24 46.5**	**+0.8**
H11S2	**WAKE ISLAND Hy**	**28.99**	**7**	T	T	21 56 08.1	
	baz=188,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.00**	**7**	T	T	21 56 10.9	
	baz=188,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.01**	**7**	T	T	21 56 09.0	
	baz=188,slow=76						
STKA	**Stephens Creek**	**29.22**	**220**	LR	LR	21 36 40.9	
	comp=Z,267nm,21.0s,baz=25,slow=35						
WRA	**Warramunga Arr**	**29.39**	**248**	P	**P**	**21 25 45.7**	**-2.8**
	comp=Z,1.0nm,0.8s,baz=73,slow=8.5,SNR=5.5						
WRA				LR	LR	21 36 32.1	
	comp=Z,132nm,21.4s,baz=64,slow=34						
	comp=Z,1.0nm,0.8s						
GUMO	**Guam**	**30.08**	**322**	LR	LR	21 38 07.0	
	comp=Z,163nm,20.2s,baz=144,slow=37						
H11N1	**WAKE ISLAND Hy**	**30.22**	**7**	T	T	21 57 43.6	
	baz=188,slow=76						
H11N3	**WAKE ISLAND Hy**	**30.23**	**7**	T	T	21 57 46.0	
	baz=188						
H11N2	**WAKE ISLAND Hy**	**30.24**	**7**	T	T	21 57 44.0	
	baz=188,slow=76						
URZ	**Urewera**	**30.32**	**158**	LR	LR	21 35 54.2	
	comp=Z,171nm,21.3s,baz=70,slow=32						
ASAR	**Alice Springs**	**30.88**	**241**	P	**P**	**21 25 58.0**	**-3.6**
	comp=Z,1.4nm,0.9s,baz=73,slow=9.1,SNR=11						
ASAR				LR	LR	21 38 40.7	
	comp=Z,86nm,19.3s,baz=67,slow=37						
	comp=Z,1.4nm,0.9s						
RAR	**Rarotonga**	**37.05**	**111**	LR	LR	21 39 39.6	
	comp=Z,78nm,20.7s,baz=274,slow=32						
FITZ	**Fitzroy Crossi**	**37.16**	**254**	LR	LR	21 41 31.9	
	comp=Z,126nm,21.2s,baz=64,slow=35						
BATI	**Baumata**	**38.92**	**267**	LR	LR	21 44 15.9	
	comp=Z,46nm,18.6s,baz=128,slow=38						
DAV	**Davao City (W)**	**41.36**	**293**	LR	LR	21 44 53.5	
	comp=Z,37nm,19.1s,baz=106,slow=36						
PPT	**Papeete**	**46.21**	**104**	LR	LR	21 42 10.6	
	comp=Z,32nm,20.5s,baz=323,slow=29						
PPT2	**Papeete2**	**46.21**	**104**	*e*LR	LR	21 41 07.7	
	comp=Z,86nm,24.8s						
TBI	**Tubuai**	**46.82**	**112**	*e*LQ	LQ	21 39 23.7	
	comp=Z,1μm,29.0s						
TBI				*e*LR	LR	21 41 27.7	
	comp=Z,795nm,25.8s						
TGY	**Tagaytay City**	**48.55**	**299**	LR	LR	21 46 51.5	
	comp=Z,65nm,21.5s,baz=163,slow=34						
JOW	**Kunigami**	**50.28**	**318**	LR	LR	21 48 07.1	
	comp=Z,76nm,21.4s,baz=38,slow=34						
JNU	**Nakatsue**	**53.22**	**326**	LR	LR	21 50 44.7	
	comp=Z,40nm,19.3s,baz=160,slow=35						
TAOE	**Nuku Hiva Isla**	**55.76**	**94**	*e*LR	LR	21 45 36.0	
	comp=Z,150nm,29.1s						
KSRS	**Korea Array**	**58.05**	**327**	LR	LR	21 51 31.2	
	comp=Z,52nm,21.8s,baz=120,slow=33						
CMAR	**Chiang Mai Arr**	**69.64**	**294**	P	**P**	**21 30 54.9**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=114,slow=4.2,SNR=18						
	comp=Z,1.8nm,0.8s						
LZH	**Lanzhou**	**72.57**	**313**	*e*P	P	21 31 22.5	+10
LZH				pP	PcP	21 31 27.6	-2.6
LZH				pmax	pmax		
	comp=Z,6.0nm,1.2s						
SONM	**Songino Array**	**76.78**	**325**	P	**P**	**21 31 35.6**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=155,slow=4.8,SNR=5.1						
	comp=Z,1.0nm,0.9s						
L18K	**Granite Mounta**	**78.88**	**18**	P	**P**	**21 31 48.8**	**+0.9**
M19K	**Big River Lodg**	**79.35**	**19**	P	**P**	**21 31 51.5**	**+1.0**
M19K				IAmb	IAmb	21 31 53.0	
	comp=Z,7.4nm,0.8s						
L19K	**White Mountain**	**79.41**	**19**	P	**P**	**21 31 51.7**	**+0.8**
CAST	**Castle Rocks**	**81.19**	**19**	P	**P**	**21 31 59.8**	**-0.6**
CAST				IAmb	IAmb	21 32 01.4	
	comp=Z,4.8nm,0.9s						
H19K	**Roundabout Mou**	**81.48**	**16**	P	**P**	**21 32 01.6**	**-0.3**
H19K				IAmb	IAmb	21 32 07.0	
	comp=Z,4.5nm,1.1s						
KTH	**Kantishna Hill**	**81.65**	**19**	P	**P**	**21 32 02.1**	**-0.9**
SCM	**Sheep Creek Mo**	**81.70**	**21**	P	**P**	**21 32 04.2**	**+1.0**
G19K	**Purcell Mounta**	**81.79**	**15**	P	**P**	**21 32 04.6**	**+1.1**
G19K				IAmb	IAmb	21 32 05.7	
	comp=Z,3.5nm,0.9s						
BERG	**Berg Lake**	**82.15**	**24**	P	**P**	**21 32 05.1**	**-0.4**
WAX	**Waxell Ridge**	**82.52**	**24**	P	**P**	**21 32 08.2**	**+0.6**
IMAR	**Indian Mountai**	**82.56**	**16**	P	**P**	**21 32 08.0**	**+0.4**
E19K	**Redstone River**	**82.78**	**14**	P	**P**	**21 32 09.0**	**+0.4**
E19K				IAmb	IAmb	21 32 10.7	
	comp=Z,6.2nm,1.0s						
G21K	**Allakaket**	**83.02**	**16**	P	**P**	**21 32 10.6**	**+0.6**
G21K				IAmb	IAmb	21 32 24.4	
	comp=Z,3.7nm,1.0s						
DIB	**Dawson Inlet,**	**83.55**	**33**	P	**P**	**21 32 12.3**	**-0.6**
F21K	**Alatna River**	**83.55**	**16**	P	**P**	**21 32 12.8**	**+0.1**
H23K	**Yukon River**	**83.66**	**18**	P	**P**	**21 32 13.7**	**+0.4**
ILAR	**Eielson Array**	**83.78**	**19**	P	**P**	**21 32 14.0**	**+0.1**
ILAR	**Eielson Array**	**83.78**	**19**	P	**P**	**21 32 13.1**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=240,slow=5.6,SNR=12						
	comp=Z,1.8nm,0.9s						
J25K	**Salcha River,**	**84.18**	**20**	P	**P**	**21 32 16.2**	**+0.2**
SCRK	**Sand Creek**	**84.25**	**21**	P	**P**	**21 32 16.4**	**-0.1**
SCRK				IAmb	IAmb	21 32 18.0	
	comp=Z,2.5nm,0.8s						
BCAR	**Beaver Creek A**	**84.48**	**22**	P	**P**	**21 32 17.9**	**+0.3**
E22K	**Anaktuvuk Pass**	**84.66**	**15**	P	**P**	**21 32 18.8**	**+0.4**
PRP	**Porcupine Dome**	**84.70**	**19**	P	**P**	**21 32 17.2**	**-1.6**
O02D	**Mt. Diablo Mer**	**84.72**	**48**	P	**P**	**21 32 19.6**	**+0.2**
O02D				IAmb	IAmb	21 32 20.8	
	comp=Z,3.5nm,1.1s						
G24K	**Hadweenzic Riv**	**84.87**	**18**	P	**P**	**21 32 19.6**	**+0.2**
G24K				IAmb	IAmb	21 32 21.4	
	comp=Z,4.4nm,0.9s						
D22K	**Ayikyak River**	**84.97**	**15**	P	**P**	**21 32 21.0**	**+1.1**
B21K	**Ikpikpuk River**	**85.06**	**14**	P	**P**	**21 32 21.5**	**+1.3**
B21K				IAmb	IAmb	21 32 26.8	
	comp=Z,5.2nm,1.1s						
F24K	**Squaw Lake**	**85.30**	**17**	P	**P**	**21 32 23.2**	**+1.6**
FYU	**Fort Yukon**	**85.47**	**18**	P	**P**	**21 32 22.6**	**+0.3**
FYU				IAmb	IAmb	21 32 25.5	
	comp=Z,3.5nm,0.7s						
D23K	**Nanushuk River**	**85.54**	**15**	P	**P**	**21 32 24.0**	**+1.3**
B22K	**Teshekpuk Lake**	**85.87**	**13**	P	**P**	**21 32 26.3**	**+2.0**
I28M	**Miner Creek**	**86.52**	**21**	P	**P**	**21 32 28.6**	**+0.8**
I28M				IAmb	IAmb	21 32 29.2	
	comp=Z,2.8nm,1.0s						
J05D	**Fort Rock, OR**	**86.78**	**45**	P	**P**	**21 32 30.3**	**+0.6**
J05D				IAmb	IAmb	21 32 31.1	
	comp=Z,4.1nm,0.9s						
NVAR	**Mina Array Bea**	**87.55**	**50**	P	**P**	**21 32 32.4**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=234,slow=9.0,SNR=6.0						
	comp=Z,1.0nm,0.8s						
E27K	**

H11S3	WAKE ISLAND Hy	29.13	7	T	T	21 58 10.8
	baz=188					
H11S1	WAKE ISLAND Hy	29.14	7	T	T	21 58 06.6
	baz=188					
H11N1	WAKE ISLAND Hy	30.36	7	T	T	21 59 36.6
	baz=194,slow=76					
H11N3	WAKE ISLAND Hy	30.36	7	T	T	21 59 36.6
	baz=194,slow=76					
H11N2	WAKE ISLAND Hy	30.37	7	T	T	21 59 45.8
	baz=194,slow=76					
ASAR	Alice Springs	30.89	241	P	P	21 28 13.7 -0.5
	0.9nm,0.7s,baz=65,slow=9.2,SNR=4.9					
	0.9nm,0.7s					
CMAR	Chiang Mai Arr	69.79	294	P	P	21 33 08.9 +0.8
	1.1nm,0.8s,baz=119,slow=4.8,SNR=6.4					
	1.1nm,0.8s					
SONM	Songino Array	76.95	325	P	P	21 33 50.3 +0.3
	0.9nm,0.8s,baz=133,slow=6.3,SNR=3.6					
	0.9nm,0.8s					
ILAR	Eielson Array	83.89	19	P	P	21 34 26.2 -0.5
	1.0nm,0.8s,baz=238,slow=4.1,SNR=5.7					
	1.0nm,0.8s					
MKAR	Makanchi Array	91.61	317	P	P	21 35 03.9 -0.5
	0.5nm,0.7s,baz=95,slow=5.9,SNR=3.5					
	0.5nm,0.7s					
ESDC	Sonseca Array	148.95	341	PKPbc	PKiKP	21 41 47.6 +0.6
	0.9nm,0.8s,baz=5.8,slow=4.5,SNR=5.1					

*NEIC **16** 21:34:57.7±1.8, 10°.4S±0°.1×163°.2E±0°.1, h10km±1km, mb4.9/37, Error ellipse: s-maj=19.0km s-min=15.3km az=221.0*
*IDC **16** 21:34:59.7±3.1, 10°.64S×163°.17E, h41km±26km, mb3.9/8, mbtmp4.2/10, ML4.3/2, MS3.6/30, Error ellipse: s-maj=24.2km s-min=16.9km az=52.0*

ISC 16 21:34:58.4±0.5, 10°.57S±0°.07×163°.22E±0°.08, h21km, n98, σ1°49/68, mb4.8/32, MS3.7/28, 2C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.42	289	P		Pn	21 35 50.3	-0.2
	83nm,0.3s,baz=142,slow=1.8,SNR=16							
HNR				S		Sn	21 36 29.8	-0.7
	279nm,0.8s,baz=302,slow=19,SNR=1.5							
HNR				LR		LR	21 37 11.3	
	comp=Z,361nm,19.4s,baz=128,slow=39							
	196nm,0.3s							
KOUNC	Koumac, New Ca	9.98	174	Pn		Pn	21 37 22.9	+2.4
DZM	Mont Dzumac	11.85	165	Pn		Pn	21 37 48.2	+1.9
DZM	Mont Dzumac	11.85	165	eP		Pn	21 37 48.2	+1.9
	56nm,1.6s							
DZM				eLR		LR	21 40 33.9	
	1μm,25.3s							
DZM	Mont Dzumac	11.85	165	P		Pn	21 37 45.7	-0.6
	0.7nm,0.3s,baz=337,slow=18,SNR=6.6							
DZM				S		Sn	21 39 55.5	-2.5
	3.8nm,0.8s,baz=125,slow=19,SNR=1.9							
DZM				LR		LR	21 41 37.6	
	comp=Z,533nm,20.1s,baz=280,slow=34							
	2.0nm,0.4s							
TARA	Tarawa	15.28	40			P	21 38 35.8	-2.0
PMG	Port Moresby	15.87	273	LR		LR	21 43 34.6	
	comp=Z,49nm,21.1s,baz=66,slow=32							
EIDS	Eidsvold	18.69	216	P		Pn	21 39 18.1	+2.2
CTA	Charters Tower	18.89	238	LR		LR	21 45 49.2	
	comp=Z,8.2nm,18.2s,baz=66,slow=34							
CTAO	Charters Tower	18.89	238			Pn	21 39 19.3	+0.9
H11S2	WAKE ISLAND Hy	29.08	7	T		T	22 11 20.4	
	baz=188,slow=76							
H11S3	WAKE ISLAND Hy	29.08	7	T		T	22 11 27.1	
	baz=188,slow=76							
H11S1	WAKE ISLAND Hy	29.10	7	T		T	22 11 28.9	
	baz=188,slow=76							
STKA	Stephens Creek	29.14	220	P		P	21 40 57.1	-1.0
	0.9nm,0.5s,baz=26,slow=18,SNR=3.3							
STKA				LR		LR	21 52 01.2	
	comp=Z,273nm,18.1s,baz=27,slow=35							
	0.9nm,0.5s							
WR0	Warramunga Arr	29.16	248	P		P	21 40 58.0	-0.5
WB0	Warramunga Arr	29.25	248	P		P	21 40 58.0	-1.2
WB2	Warramunga Arr	29.33	248	P		P	21 40 59.9	-0.1
WRA	Warramunga Arr	29.34	248	P		P	21 40 57.5	-2.5
	2.0nm,1.0s,baz=79,slow=9.1,SNR=8.8							
	2.0nm,1.0s							
GUMO	Guam	30.13	322	LR		LR	21 52 01.9	
	comp=Z,151nm,21.8s,baz=146,slow=34							
URZ	Urewera	30.25	158	LR		LR	21 51 14.7	
	comp=Z,118nm,19.7s,baz=57,slow=32							
H11N1	WAKE ISLAND Hy	30.31	7	T		T	22 12 56.7	
	baz=188,slow=76							
H11N3	WAKE ISLAND Hy	30.32	7	T		T	22 12 54.3	
	baz=188,slow=76							
H11N2	WAKE ISLAND Hy	30.33	7	T		T	22 12 54.1	
	baz=188,slow=76							
ASAR	Alice Springs	30.82	241	P		P	21 41 10.6	-2.5
	2.6nm,0.9s,baz=67,slow=9.7,SNR=17							
ASAR				LR		LR	21 52 55.2	
	comp=Z,52nm,18.0s,baz=78,slow=35							
	2.6nm,0.9s							
KNRA	Kununurra	33.92	258	P		P	21 41 39.1	-1.2
FITZ	Fitzroy Crossi	37.12	254	P		P	21 42 11.8	+3.9
DAV	Davao City (W)	41.37	293	LR		LR	22 00 49.7	
	comp=Z,66nm,18.2s,baz=86,slow=38							
PPT2	Papeete2	46.21	104	eLR		LR	21 56 25.5	
	54nm,25.0s							
TBI	Tubuai	46.80	112	eLR		LR	21 56 39.2	
	280nm,29.2s							
NWAO	Narrogin (SRO)	47.69	235	LR		LR	22 02 43.3	
	comp=Z,70nm,19.8s,baz=291,slow=35							
JHJ	Hachijo jima 2	48.86	334	LR		LR	22 02 31.5	
	comp=Z,35nm,21.2s,baz=110,slow=34							
JOW	Kunigami	50.34	318	LR		LR	22 04 25.7	
	comp=Z,73nm,19.5s,baz=316,slow=35							
MJAR	Matsushiro Arr	52.45	335	LR		LR	22 04 45.2	
	comp=Z,34nm,20.9s,baz=121,slow=34							
JNU	Nakatsue	53.27	326	LR		LR	22 04 17.7	
	comp=Z,45nm,21.8s,baz=138,slow=33							
ASAJ	Asahikawa	57.56	343	LR		LR	22 05 24.7	
	comp=Z,78nm,21.6s,baz=160,slow=32							
KSRS	Korea Array	58.11	327	LR		LR	22 06 41.9	
	comp=Z,37nm,21.5s,baz=130,slow=33							
NJ2	Nanjing	59.96	317	eP		P	21 45 04.3	+0.9
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
USRK	Ussuriysk Ar.	61.44	335	LR		LR	22 08 20.0	
	comp=Z,26nm,21.1s,baz=254,slow=32							
PETK	Petropavlovsk-	63.60	356	LR		LR	22 07 56.7	
	comp=Z,58nm,19.2s,baz=138,slow=31							
SHEM	Shemya Is, Ala	63.73	7	LR		LR	22 07 19.0	
	comp=Z,105nm,20.6s,baz=341,slow=30							
LYN	LuoYang	65.76	315	eP		P	21 45 46.5	+4.5
LYN				pmax		pmax		
	comp=Z,9.0nm,0.6s							
GYA	Guiyang	66.11	305	P		P	21 45 45.6	+1.0
GYA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
SLVN	Son La	66.31	299	P		P	21 45 45.0	-0.9
SLVN				IAmb		IAmb	21 45 47.2	
	comp=Z,7.4nm,1.2s							
XAN	Xi'an	67.98	313	P		P	21 45 56.1	-0.2
XAN				pP		pP	21 46 00.8	-1.2
XAN				pmax		pmax		
	comp=Z,11nm,1.1s							
PHRA	Phrae	68.52	295	P		P	21 45 59.4	-0.4
KMI	Kunming	68.77	302	⇑P		P	21 46 02.8	+1.2
KMI				pmax		pmax		
	comp=Z,22nm,1.3s							
XLT	XiLinHaoTe	69.05	325	eP		P	21 46 04.1	+1.3
XLT				pmax		pmax		
	comp=Z,15nm,0.9s							
CM31	Chiang Mai Arr	69.66	294	P		P	21 46 06.1	-0.9
CM31				IAmb		IAmb	21 46 08.2	
	comp=Z,12nm,1.1s							
CMAR	Chiang Mai Arr	69.66	294	P		P	21 46 05.7	-1.2
CMAR	Chiang Mai Arr	69.66	294	P		P	21 46 05.2	-1.8
	comp=Z,3.2nm,0.9s,baz=114,slow=4.1,SNR=23							
	comp=Z,3.2nm,0.9s							
HHC	Hu-ho-hao-te	69.88	321	eP		P	21 46 11.0	+3.0
HHC				sP		pwP	21 46 18.9	+0.6
HHC				pmax		pmax		
	comp=Z,7.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,190nm,5.1s							
PZH	PanZhiHua	70.14	303	P		P	21 46 09.9	0.0
PZH				pmax		pmax		
	comp=Z,10.0nm,1.3s							
PZH				pmax		pmax		
	comp=Z,80nm,6.0s							
MA2	Magadan	70.62	353	LR		LR	22 12 02.8	
	comp=Z,27nm,20.2s,baz=137,slow=31							
TNCH	TengChong	72.28	301	⇑P		P	21 46 23.4	+0.4
TNCH				pP		pP	21 46 27.4	-1.4
TNCH				S		S	21 55 45.3	-0.1
TNCH				sS		pS	21 55 52.5	-0.1
TNCH				pmax		pmax		
	comp=Z,12nm,1.0s							
TNCH				pmax		pmax		
	comp=Z,120nm,5.2s							
TNCH				LR		LR		
	comp=N,130nm,4.2s							
TNCH				LR		LR		
	comp=E,87nm,3.6s							
TNCH				LR		LR		
	comp=Z,74nm,5.6s							
SDPT	Sand Point	72.36	21	P		P	21 46 24.1	+1.5
LZH	Lanzhou	72.62	313	eP		P	21 46 26.1	+1.3
LZH				sP		sP	21 46 32.1	-0.5
LZH				pmax		pmax		
	comp=Z,9.0nm,1.1s							
CHIR	Chirikof Islan	74.49	23	P		P	21 46 36.8	+1.7
ULN	Ulaanbaatar	76.48	325	P		P	21 46 46.7	-0.2
SONM	Songino Array	76.83	325	P		P	21 46 49.0	+0.1
SONM	Songino Array	76.83	325	P		P	21 46 47.3	-1.6
	comp=Z,2.7nm,1.0s,baz=132,slow=6.2,SNR=9.2							
SONM				LR		LR	22 18 49.8	
	comp=Z,45nm,22.0s,baz=126,slow=34							
	comp=Z,2.7nm,1.0s							
GTA	Gaotai	76.96	315	eP		P	21 46 50.3	+0.5
GTA				sP		sP	21 46 56.9	-0.7
GTA				pmax		pmax		
	comp=Z,2.0nm,1.3s							
YAK	Yakutsk	76.96	344	P		P	21 46 49.7	+0.6
YAK				IAmb		IAmb	21 47 04.7	
	comp=Z,22nm,1.4s							
SHL	Shillong	78.12	299	P		P	21 46 56.3	-0.4
P19K	Oil Pt	78.18	21	P		P	21 46 56.8	+0.8
BILL	Bilibino	78.44	1	P		P	21 46 57.0	-0.2
BILL				IAmb		IAmb	21 46 57.8	
	comp=Z,14nm,1.2s							
QSPA	South Pole Qui	79.43	180	LR		LR	22 19 54.4	
	comp=Z,26nm,18.9s,baz=70,slow=34							
LSA	Lhasa	80.01	303	P		P	21 47 06.2	-1.1
LSA				IAmb		IAmb	21 47 09.7	
	comp=Z,15nm,1.5s							
H17K	Granite Mounta	80.20	15	P		P	21 47 07.8	+0.8
H17K				IAmb		IAmb	21 47 25.3	
	comp=Z,16nm,1.4s							
IMAR	Indian Mountai	82.65	16	P		P	21 47 19.2	-0.7
H21K	Melozitna Rive	82.68	17	P		P	21 47 19.6	-0.5
H21K				IAmb		IAmb	21 47 21.2	
	comp=Z,11nm,1.3s							
E19K	Redstone River	82.87	14	P		P	21 47 21.5	+0.5
RPN	Rapa Nui	83.00	116	LR		LR	22 16 42.4	
	comp=Z,29nm,20.6s,baz=22,slow=30							
IL31		83.87	19	P		P	21 47 25.5	-0.7
IL31				IAmb		IAmb	21 47 27.2	
	comp=Z,12nm,1.4s							
ILAR	Eielson Array	83.87	19	P		P	21 47 24.8	-1.5
ILAR	Eielson Array	83.87	19	P		P	21 47 24.2	-2.0
	comp=Z,2.1nm,1.0s,baz=247,slow=5.4,SNR=12							
ILAR				LR		LR	22 22 31.5	
	comp=Z,72nm,21.1s,baz=234,slow=34							
	comp=Z,2.1nm,1.0s							
MAW	Mawson	84.22	202	LR		LR	22 21 09.1	
	comp=Z,29nm,20.3s,baz=76,slow=33							
TIXI	Tiksi	85.17	350	P		P	21 47 31.3	-1.3
TIXI				IAmb		IAmb	21 47 32.7	
	comp=Z,12nm,1.4s							
TIXI	Tiksi	85.17	350	LR		LR	22 28 02.6	
	comp=Z,27nm,18.1s,baz=302,slow=37							
YBH	Yreka Blue Hor	85.34	46	LR		LR	22 17 57.7	
	comp=Z,39nm,20.2s,baz=40,slow=30							
EGAK	Eagle	85.80	21	P		P	21 47 35.4	-0.5
EGAK				IAmb		IAmb	21 47 37.3	
	comp=Z,11nm,1.2s							
BMAR	Burnt Mountain	86.30	18	P		P	21 47 39.2	+0.7
PNTR	Pine Nut	86.83	49	P		P	21 47 41.6	-0.2
G27K	Doyon Strip	86.83	19	P		P	21 47 41.3	+0.3
G27K				IAmb		IAmb	21 47 44.0	
	comp=Z,7.5nm,1.4s							
WMQ	Urumqi	87.01	315	eP		P	21 47 44.3	+1.8
WMQ				LR		LR		
	comp=Z,150nm,23.9s							
DLBC	Dease Lake	87.18	29	LR		LR	22 22 07.3	
	comp=Z,106nm,18.5s,baz=286,slow=32							
NVAR	Mina Array Bea	87.62	50	P		P	21 47 44.9	-0.8
	comp=Z,0.7nm,0.7s,baz=242,slow=6.9,SNR=5.7							
	comp=Z,0.7nm,0.7s							
E27K	Coleen River	87.66	18	P		P	21 47 45.5	+0.5
E27K				IAmb		IAmb	21 47 46.8	
	comp=Z,10nm,1.2s							
ESJX	Sierra Juarez	87.88	57	P		P	21 47 47.6	+0.5
PRN	Pahroc Range	89.86	52	P		P	21 47 57.2	+1.0
PRN				IAmb		IAmb	21 48 00.4	
	comp=Z,7.6nm,1.3s							
INK	Inuvik	90.27	19	LR		LR	22 23 54.2	
	comp=Z,76nm,19.2s,baz=246,slow=32							
MKAR	Makanchi Array	91.49	317	P		P	21 48 02.5	-1.0
	comp=Z,1.0nm,0.7s,baz=99,slow=5.0,SNR=6.2							
	comp=Z,1.0nm,0.7s							
YKA	Yellowknife Ar	95.69	28	LR		LR	22 26 28.7	
	comp=Z,58nm,18.3s,baz=355,slow=32							
SNAA	Sanae	97.41	184	LR		LR	22 32 25.4	
	comp=Z,35nm,18.2s,baz=190,slow=35							
Q52A	Bidwell	115.60	52			PKiKP	21 53 39.1	-0.2
AKASG	Malin Array Be	125.10	326	PKP		PKPdf	21 53 55.1	-2.1
	comp=Z,0.6nm,0.6s,baz=76,slow=1.4,SNR=4.3							
STHS	Stebnicka Huta	130.08	328	ePKP		PKiKP	21 54 12.1	+4.4
ESDC	Sonseca Array	148.85	341	PKPbc		PKPbc	21 54 43.7	-1.2
	comp=Z,0.9nm,0.8s,baz=40,slow=1.7,SNR=5.8							
TORD	Torodi Ar. Bea	161.74	280	PKP		PKPdf	21 54 56.8	-2.2
	comp=Z,0.7nm,1.0s,baz=356,slow=1.9,SNR=3.7							
TORD				PKPab		PKPab	21 55 43.2	-1.2
	comp=Z,0.6nm,1.0s,baz=45,slow=5.1,SNR=2.4							

*IDC **16** 21:36:15.9±1.5, 14°.81N×147°.05E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=54.7km s-min=23.1km az=88.0*

ISC 16 21:36:20.7±1.4, 14°.8N±0°.2×147°.0E±0°.4, h32km, n7, σ0°96/7, mb3.8/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.70	200	P		P	21 43 25.4	+0.4
	1.0nm,0.8s,baz=22,slow=9.0,SNR=5.0							
	1.0nm,0.8s							
ASAR	Alice Springs	40.32	199	P		P	21 43 55.1	-0.3
	0.5nm,0.8s,baz=22,slow=10,SNR=2.8							
	0.5nm,0.8s							
SONM	Songino Array	46.98	323	P		P	21 44 49.4	+0.5
	0.7nm,0.6s,baz=133,slow=6.7,SNR=5.7							
	0.7nm,0.6s							
MKAR	Makanchi Array	62.08	315	P		P	21 46 39.0	+0.6
	0.4nm,0.4s,baz=92,slow=7.7,SNR=11							
	0.4nm,0.4s							
KURBB	Kurchatov Arra	65.06	319	P		P	21 46 58.6	+0.6
	2.0nm,0.8s,baz=99,slow=6.7,SNR=13							
	2.0nm,0.8s							
ILAR	Eielson Array	66.59	25	P		P	21 47 07.8	+0.2
	0.1nm,0.5s,baz=258,slow=5.2,SNR=1.3							
	0.1nm,0.5s							
BVAR	Borovoye Array	70.28	321	P		P	21 47 29.3	-1.6
	0.3nm,0.3s,baz=79,slow=7.9,SNR=2.6							
	0.3nm,0.3s							

*IDC **16** 21:41:29.2±1.0, 56°.64S×25°.29W, h0km, mb4.1/4, mbtmp4.0/5, ML3.7/1, MS3.4/3, Error ellipse: s-maj=44.2km s-min=24.8km az=58.0*

ISC 16 21:41:33.6±0.9, 56°.7S±0°.2×25°.5W±0°.3, h29km, n13, σ0°79/11, mb4.2/4, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	15.86	159	⇑P		Pn	21 45 14.5	+0.1
	comp=Z,2.5nm,0.5s							
VNA3	Neumayer Olymp	16.08	161	⇑P		Pn	21 45 17.0	-0.3
	comp=Z,1.1nm,0.3s							
VNA2	Neumayer--Watz	16.25	159	⇑P		Pn	21 45 19.8	+0.4
	comp=Z,3.1nm,0.8s,baz=324,slow=15							
SNAA	Sanae	17.78	157	⇑P		Pn	21 45 39.2	+0.6
	comp=Z,15nm,0.3s							
SNAA	Sanae	17.78	157	P		P	21 45 39.7	+0.5
	comp=Z,0.2nm,0.3s,baz=315,slow=16,SNR=18							
SNAA				LR		LR	21 52 10.3	
	comp=Z,34nm,18.3s,baz=10.0,slow=36							
	comp=Z,0.9nm,0.4s							
QSPA	South Pole Qui	33.57	180	P		P	21 48 10.3	-0.5
	comp=Z,1.5nm,0.5s,baz=191,slow=3.2,SNR=1.7							
	comp=Z,1.5nm,0.5s							
CPUP	Villa Florida	37.95	310	P		P	21 48 47.7	-0.8
	comp=Z,2.0nm,0.6s,baz=115,slow=5.4,SNR=5.2							
	comp=Z,2.0nm,0.6s							
SUR	Sutherland	39.89	72	LR		LR	22 02 32.3	
	comp=Z,45nm,18.6s,baz=250,slow=32							
LPAZ	La Paz	51.53	304	P		P	21 50 38.5	+1.2
	comp=Z,6.4nm,0.8s,baz=147,slow=4.9,SNR=18							
	comp=Z,6.4nm,0.8s							
TORD	Torodi Ar. Bea	73.15	28	P		P	21 53 01.6	+0.3
	comp=Z,0.3nm,0.6s,baz=202,slow=5.8,SNR=2.4							
	comp=Z,0.3nm,0.6s							
JTS	Las Juntas de	82.66	301	LR		LR	22 29 37.9	
	comp=Z,109nm,21.6s,baz=293,slow=35							
SONM	Songino Array	149.81	86	PKPbc		PKPbc	22 01 18.5	-1.3
	comp=Z,0.7nm,0.6s,baz=221,slow=3.4,SNR=6.0							
ILAR	Eielson Array	151.26	310	PKPbc		PKiKP	22 01 23.1	0.0
	comp=Z,1.4nm,0.8s,baz=95,slow=2.1,SNR=14							

JMA 16 21:53:19.0±0.4, 44°N±2°×14°9E±°, h30km, MV3.7/13, SE OFF ETOROFU, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	2.52	245	eP		Pn	21 53 56.8	-1.0
NEM2				eS		Sn	21 54 24.9	-2.7
JRA	Rausu	2.75	260	P		Pn	21 54 02.6	+1.6
JRA				eS		Sn	21 54 35.0	+1.9
JAK	Akkeshi	3.37	245	eS		Sn	21 54 45.2	-3.3
JTKR	Abashiri--Toko	3.60	263	eP		Pn	21 54 14.5	+1.8
JAR	Ashorobuto	3.87	254	eP		Pn	21 54 17.6	+1.2
JAR				eS		Sn	21 55 00.3	-0.6
JOB	Onbets	3.98	248	eS		Sn	21 55 01.8	-1.7
JCH	Churui	4.42	247	eP		Pn	21 54 24.0	0.0
JCH				eS		Sn	21 55 11.6	-2.8
JNBK	Urakawa-nobuka	4.97	246	eP		Pn	21 54 30.9	-0.7
JNBK				eS		Sn	21 55 23.4	-4.7
JANG	Nango	6.82	235	eS		Sn	21 56 04.2	-9.3

*IDC **16** 22:02:24.3±1.9, 8°.14S×120°.04E, h204km±16km, mb3.2/6, mbtmp3.7/10, Error ellipse: s-maj=48.7km s-min=7.7km az=57.0*

ISC 16 22:02:24.1±1.0, 8°.2S±0°.1×119°.9E±0°.2, h201km, n10, σ0°88/13, mb3.6/5, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	3.19	357	P		Pn	22 03 16.4	+0.3
	11nm,0.3s,baz=150,slow=16,SNR=7.1							
KAPI				S		S	22 03 56.5	+0.3
	5.5nm,0.4s,baz=8.6,slow=20,SNR=4.4							
BATI	Baumata	4.17	119	P		Pn	22 03 28.7	+0.6
	8.9nm,0.2s,baz=235,slow=6.5,SNR=1.6							
BATI				S		S	22 04 16.5	-1.4
	29nm,0.3s,baz=258,slow=22,SNR=4.7							
FITZ	Fitzroy Crossi	11.28	151	P		Pn	22 04 59.9	0.0
	1.2nm,0.4s,baz=339,slow=13,SNR=15							
FITZ				S		S	22 06 56.3	-9.4
	0.8nm,0.3s,baz=122,slow=22,SNR=1.9							
WRA	Warramunga Arr	18.17	131	P		P	22 06 21.8	-0.1
	0.2nm,0.3s,baz=303,slow=12,SNR=9.5							
WRA				S		S	22 09 39.8	+0.3
	0.5nm,0.8s,baz=303,slow=24,SNR=2.8							
ASAR	Alice Springs	20.37	141	P		P	22 06 45.6	+0.1
	0.8nm,0.4s,baz=312,slow=9.2,SNR=22							
	0.8nm,0.4s							
STKA	Stephens Creek	30.98	142	P		P	22 08 23.8	+1.1
	0.9nm,0.4s,baz=333,slow=11,SNR=3.1							
	0.9nm,0.4s							
SONM	Songino Array	57.08	349	P		P	22 11 49.8	+0.4
	0.3nm,0.4s,baz=170,slow=8.8,SNR=5.3							
	0.3nm,0.4s							
MKAR	Makanchi Array	64.20	332	P		P	22 12 37.1	-0.3
	0.6nm,0.5s,baz=150,slow=7.3,SNR=17							
	0.6nm,0.5s							
ZALV	Zelesovo Beam	68.65	339	P		P	22 13 04.2	-1.2
	0.5nm,0.4s,baz=142,slow=5.5,SNR=3.8							
	0.5nm,0.4s							
KURBB	Kurchatov Arra	68.69	333	P		P	22 13 04.2	-1.5
	0.2nm,0.4s,baz=135,slow=6.1,SNR=6.9							
	0.2nm,0.4s							

IDC 16 22:03:58.3±1.6, 24°.16N×91°.98E, h0km, mb3.3/3, mbtmp3.3/4, MS3.7/1, Error ellipse: s-maj=35.1km s-min=15.7km az=101.0, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BRDH	Bariadhala	1.51	192	Pg		Pn	22 04 26.9	+0.3
	51nm,0.3s,baz=14,slow=17,SNR=7.6							
BRDH				Lg		Lg	22 04 45.6	
	113nm,0.3s,baz=143,slow=20,SNR=14							
CMAR	Chiang Mai Arr	8.62	130	Pn		Pn	22 06 06.2	+1.7
	0.5nm,0.3s,baz=307,slow=14,SNR=1.2							
MKAR	Makanchi Array	23.88	343	P		P	22 09 13.5	0.0
	0.3nm,0.6s,baz=159,slow=9.0,SNR=4.0							
	0.3nm,0.6s							
KIRV	Kirov	45.64	330	LR		LR	22 32 22.1	
	comp=Z,89nm,21.1s,baz=18,slow=37							
WRA	Warramunga Arr	60.20	133	P		P	22 14 08.1	-0.3
	0.4nm,0.6s,baz=322,slow=7.1,SNR=5.2							
	0.4nm,0.6s							
ASAR	Alice Springs	62.57	136	P		P	22 14 23.9	-0.5
	0.2nm,0.6s,baz=311,slow=6.1,SNR=4.3							
	0.2nm,0.6s							

*ATH **16** 22:19:29.3, 37°.61N×20°.66E, h10km±4km, ML2.5/4, Error ellipse: s-maj=4.6km s-min=1.3km az=27.0*
*THE **16** 22:19:29.6, 37°.62N×20°.68E, h10km±3km, ML2.5/7, Error ellipse: s-maj=3.2km s-min=0.9km az=82.0*

**ISC 16 22:19:29.0±1.5, 37°.60N±0°.06×20°.66E±0°.06, h12km±7km, n18, σ0°47/31,

	comp=E,1020μm,0.3s					
AMT				AML	AML	22 20 01.5
	comp=N,1002μm,0.2s					
FSK	**Fiskardo**	**0.86**	**355**	P	**Pg**	**22 19 44.9 -0.7**
DRO	**Drossia**	**0.90**	**67**	P	**Pg**	**22 19 46.4 0.0**
DRO				S	**Sb**	**22 19 58.7 +0.1**
DRO				AML	AML	22 20 02.3
	comp=E,411μm,0.4s					
DRO				AML	AML	22 20 08.0
	comp=N,274μm,0.5s					
EVGI	**Lefkada island**	**1.02**	**360**	P	**Pg**	**22 19 47.5 -1.2**
EVGI				S	**Sb**	**22 20 02.7 +0.7**
ITM	**Ithomi**	**1.09**	**112**	P	**Pg**	**22 19 50.2 +0.2**
PYL	**PYLOS**	**1.11**	**129**	P	**Pb**	**22 19 49.6 -0.6**
KLV	**Kalavryta, Ach**	**1.26**	**69**	P	**Pn**	**22 19 52.8 +0.2**

CATAC 16 22:27:13.9±0.7, 11°.52N×87°.06W, h17km±7km, ML3.9, 4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.80**	**35**	⇓*i*P	Pg	22 27 30.0	+0.4
COPN				IAML		22 27 45.1	
	comp=Z,4μm,1.0s						
CRUN	**El Crucero**	**0.88**	**58**	*i* P	Pb	22 27 29.4	-1.4
CRUN				IAML		22 27 38.0	
	comp=Z,38μm,1.0s						
SAPS	**Ciudad Sandino**	**0.91**	**45**	⇓*i*P	Pb	22 27 31.3	0.0
SAPS				IAML		22 27 48.9	
	comp=Z,4μm,1.0s						
UNAN	**Cigeo UNAN**	**0.97**	**53**	*i* P	Pn	22 27 32.8	0.0
UNAN				*i* S	Sn	22 27 46.0	-0.3
UNAN				IAML		22 27 51.4	
	comp=Z,12μm,1.0s						
SABN	**Sabanita**	**0.98**	**64**	*i* P	Pb	22 27 32.5	0.0
SABN				IAML		22 27 51.3	
	comp=Z,6μm,1.0s						
APQ2	**Apoyeque**	**0.99**	**47**	*i* P	Pb	22 27 32.6	0.0
APQ2				IAML		22 27 43.8	
	comp=Z,3μm,1.0s						
APQ2				*i* S	Sn	22 27 46.9	+0.3
TISN	**Laguna Tiscapa**	**0.99**	**51**	*i* P	Pb	22 27 31.6	-1.1
TISN				IAML		22 27 33.1	
	comp=Z,170nm,1.0s						
MAS3	**Al N del Volca**	**1.00**	**60**	*i* P	Pb	22 27 32.7	-0.2
MAS3				IAML		22 27 33.5	
	comp=Z,3μm,1.0s						
MASN	**Masaya**	**1.01**	**62**	*i* P	Pg	22 27 33.5	0.0
MASN				IAML		22 27 58.8	
	comp=Z,710nm,1.0s						
R0529	**La Mascota**	**1.01**	**53**	*i* P	Pn	22 27 33.3	0.0
R0529				IAML		22 27 34.1	
	comp=Z,3μm,1.0s						
NANN	**Nandasmo**	**1.01**	**65**	*i* P	Pg	22 27 33.9	+0.3
NANN				IAML		22 27 56.6	
	comp=Z,39μm,1.0s						
MGAN	**Managua**	**1.01**	**52**	*i* P	Pb	22 27 33.0	0.0
MGAN				IAML		22 27 33.6	
	comp=Z,3μm,1.0s						
R4DEC	**Barrio San Lui**	**1.01**	**52**	*i* P	Pb	22 27 33.0	0.0
R4DEC				IAML		22 27 33.6	
	comp=Z,3μm,1.0s						
R4DEC				*i* S	Sn	22 27 47.2	0.0
MACN	**El Madrono**	**1.01**	**22**	*i* P	Pb	22 27 32.9	-0.2
MACN				IAML		22 27 53.8	
	comp=Z,1μm,1.0s						
MOMN	**Momotombo**	**1.02**	**30**	⇓*i*P	Pb	22 27 33.0	-0.2
MOMN				IAML		22 27 53.5	
	comp=Z,140nm,1.0s						
CNGA	**Al SSO del Vol**	**1.03**	**20**	*i* P	Pb	22 27 33.2	-0.2
CNGA				IAML		22 27 49.7	
	comp=Z,2μm,1.0s						
MOM2	**El Cardon**	**1.07**	**32**	⇓*i*P	Pb	22 27 33.9	-0.2
MOM2				IAML		22 27 34.4	
	comp=Z,3μm,1.0s						
PLRN	**Geotermica Pol**	**1.10**	**15**	*i* P	Pb	22 27 33.8	-0.7
PLRN				IAML		22 27 51.9	
	comp=Z,3μm,1.0s						
ILCN	**San Idelfonso**	**1.11**	**19**	*i* P	Pb	22 27 33.9	-0.8
ILCN				IAML		22 27 49.5	
	comp=Z,1μm,1.0s						
PKGN	**Cerro Pekin**	**1.15**	**4**	*i* P	Pn	22 27 34.7	-0.5
PKGN				IAML		22 27 53.5	
	comp=Z,6μm,1.0s						
MORN	**Al O del Volca**	**1.39**	**89**	*i* P	Pn	22 27 38.0	-0.5
MORN				IAML		22 28 00.7	
	comp=Z,230nm,1.0s						
CSGN	**Cosiguina Volc**	**1.53**	**342**	*i* P	Pn	22 27 40.3	-0.2
CSGN				IAML		22 28 03.2	
	comp=Z,600nm,1.0s						
POTN	**Potosi Cosigui**	**1.54**	**344**	*i* P	Pn	22 27 40.5	0.0
POTN				IAML		22 28 03.1	
	comp=Z,710nm,1.0s						
LIMN	**Finca el Limon**	**1.68**	**24**	*i* P	Pn	22 27 42.3	-0.3
LIMN				IAML		22 28 11.2	
	comp=Z,1μm,1.0s						
ACON	**Acoyapa**	**1.90**	**76**	*i* P	Pn	22 27 45.0	-0.6
ACON				IAML		22 28 14.0	
	comp=Z,320nm,1.0s						
CNCH	**Conchagua**	**1.90**	**337**	*i* P	Pn	22 27 45.7	0.0
CNCH				*i* S	Sn	22 28 09.6	+0.2
CNCH				IAML		22 28 12.8	
	comp=Z,3μm,1.0s						
LCND	**La Caada**	**1.96**	**336**	*i* P	Pn	22 27 46.5	+0.2
LCND				*i* S	Sn	22 28 11.0	+0.5
LCND				IAML		22 28 12.8	
	comp=Z,2μm,1.0s						
RCPN	**Sur Rio San Ju**	**2.21**	**25**	*i* P	Pn	22 27 50.7	+0.8
RCPN				IAML		22 27 51.5	
	comp=Z,2.5nm,1.0s						
RCVN	**Varillal2**	**2.22**	**22**	*i* P	Pn	22 27 50.4	+0.3
RCVN				*i* S	Sn	22 28 17.4	+0.1
RCVN				IAML		22 29 08.2	
	comp=Z,11μm,1.0s						
SCLA	**Alcaldia de Sa**	**2.71**	**323**	*i* P	Pn	22 27 57.3	+0.5
SCLA				IAML		22 28 46.8	
	comp=Z,170nm,1.0s						

*NOU **16** 22:37:26.7, 36°.96S×177°.03E, h273km, MLv3.7/12, Off E. Coast of N. Island, N.Z.*
*WEL **16** 22:37:31.7±1.0, 37°.S±6°.×17°.7E±°, h221km±8km, M3.8/89, MLv3.8/89, Error ellipse: s-maj=8.7km s-min=5.7km az=40.7, confirmed*
ISC 16 22:37:24.7±2.4, 36°.9S±0°.1×177°.07E±0°.09, h280km±12km, n177, σ1§86/166, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSRZ	**White Island S**	**0.60**	**172**	MLv			
WIZ	**White Island**	**0.61**	**171**	MLv			
MYRZ	**Mayor Island**	**0.75**	**241**	MLv			
WHRZ	**Whale Island**	**0.94**	**185**	P	**Pn**	**22 38 04.5**	**+1.9**
HAZ	**Te Kaha**	**1.01**	**146**	P	**Pn**	**22 38 03.9**	**+1.0**
OPRZ	**Ohinepanea**	**1.01**	**204**	P	**Pn**	**22 38 04.2**	**+1.3**
TGRZ	**Tauranga**	**1.03**	**218**	P	**Pn**	**22 38 04.8**	**+1.8**
KUZ	**Kuaotunu**	**1.10**	**279**	P	**Pn**	**22 38 03.9**	**+0.4**
KUZ	**Kuaotunu**	**1.10**	**279**	P	**Pn**	**22 38 03.8**	**+0.4**
RUGZ	**Raukumara Rang**	**1.15**	**155**	P	**Pn**	**22 38 04.5**	**+0.6**
MXZ	**Matakaoa Point**	**1.18**	**123**	P	**Pn**	**22 38 05.5**	**+1.7**
MXZ				S	**S**	**22 38 31.8**	**-3.1**
MXZ	**Matakaoa Point**	**1.18**	**123**	P	**Pn**	**22 38 05.5**	**+1.7**
LIRZ	**Lichensteins R**	**1.21**	**207**	MLv			
EDRZ	**Edgecumbe**	**1.21**	**192**	MLv			
KARZ	**Kaharoa**	**1.28**	**211**	P	**Pn**	**22 38 06.3**	**+1.9**
KMRZ	**Kaimai**	**1.29**	**224**	P	**Pn**	**22 38 06.7**	**+2.2**
MKRZ	**Makatiti**	**1.30**	**201**	P	**Pn**	**22 38 07.2**	**+2.5**
OMRZ	**Omania**	**1.31**	**205**	P	**Pn**	**22 38 06.4**	**+1.8**
URZ	**Urewera**	**1.33**	**179**	P	**Pn**	**22 38 05.7**	**+1.0**
URZ				S	**S**	**22 38 33.5**	**-3.0**
URZ	**Urewera**	**1.33**	**179**	P	**Pn**	**22 38 05.7**	**+1.0**
NGRZ	**Ngongotaha**	**1.37**	**210**	P	**Pn**	**22 38 07.2**	**+2.2**
TARZ	**Mount Tarawera**	**1.39**	**199**	P	**Pn**	**22 38 07.2**	**+2.0**
WMGZ	**Waiomatatini S**	**1.40**	**130**	P	**Pn**	**22 38 07.5**	**+2.3**
WMGZ				S	**S**	**22 38 36.0**	**-1.3**
UTU	**Utuhina**	**1.43**	**209**	P	**Pn**	**22 38 07.9**	**+2.5**
HLRZ	**Highlands Stat**	**1.45**	**203**	P	**Pn**	**22 38 07.7**	**+2.2**
TWGZ	**Tauwhareparae**	**1.45**	**150**	P	**Pn**	**22 38 08.0**	**+2.4**
MWZ	**Matawai**	**1.46**	**166**	P	**Pn**	**22 38 07.2**	**+1.6**
GRZ	**Great Barrier**	**1.46**	**297**	P	**Pn**	**22 38 06.0**	**+0.4**
RRRZ	**Republican Roa**	**1.48**	**197**	P	**Pn**	**22 38 07.6**	**+1.9**
PUZ	**Puketiti**	**1.49**	**141**	P	**Pn**	**22 38 07.9**	**+2.1**
PUZ				S	**S**	**22 38 36.1**	**-2.3**
TOZ	**Tahuroa Road**	**1.49**	**237**	P	**Pn**	**22 38 07.4**	**+1.7**
HSRZ	**Hossack Road**	**1.53**	**205**	P	**Pn**	**22 38 08.7**	**+2.6**
MKAZ	**Moumakai**	**1.54**	**263**	P	**Pn**	**22 38 07.3**	**+1.2**
WIAZ	**Waiheke Island**	**1.56**	**274**	P	**Pn**	**22 38 07.3**	**+1.0**
MUGZ	**Murupara**	**1.57**	**189**	P	**Pn**	**22 38 07.6**	**+1.3**
HRRZ	**Handcock Road**	**1.59**	**203**	P	**Pn**	**22 38 08.7**	**+2.2**
RAGZ	**Rawiri**	**1.59**	**170**	P	**Pn**	**22 38 08.5**	**+1.9**
GRRZ	**Galatos Road**	**1.62**	**208**	P	**Pn**	**22 38 09.1**	**+2.4**
TKGZ	**Te Karaka**	**1.64**	**158**	P	**Pn**	**22 38 08.9**	**+2.1**
PRRZ	**Plateau Road**	**1.66**	**199**	P	**Pn**	**22 38 08.7**	**+1.7**
RTZ	**Ruatahuna**	**1.69**	**182**	P	**Pn**	**22 38 08.7**	**+1.4**
ETAZ	**East Tamaki Re**	**1.72**	**268**	MLv			
ALRZ	**Allen Road**	**1.73**	**199**	P	**Pn**	**22 38 09.5**	**+2.0**
MBAZ	**Motutapu North**	**1.75**	**274**	P	**Pn**	**22 38 09.0**	**+1.3**
WPRZ	**Whakapapatarin**	**1.75**	**204**	MLv			
KBAZ	**Karaka Road Bo**	**1.75**	**264**	MLv			
CNGZ	**Carnagh Statio**	**1.80**	**150**	P	**Pn**	**22 38 10.9**	**+2.8**
ABAZ	**Army Bay**	**1.82**	**279**	P	**Pn**	**22 38 09.3**	**+1.1**
KUTZ	**Kaahu Road**	**1.85**	**212**	MLv			
TLZ	**Tolley Road**	**1.86**	**220**	P	**Pn**	**22 38 10.9**	**+2.4**
EPAZ	**Eden Park BICE**	**1.86**	**271**	MLv			
RIGZ	**Rimuhau**	**1.86**	**163**	P	**Pn**	**22 38 11.0**	**+2.5**
RIGZ				S	**S**	**22 38 42.9**	**-0.6**
SNGZ	**Shannon Statio**	**1.87**	**173**	P	**Pn**	**22 38 10.7**	**+2.1**
HBAZ	**Herne Bay Bore**	**1.88**	**271**	MLv			
MTHZ	**Maungataniwha**	**1.94**	**185**	P	**Pn**	**22 38 10.7**	**+1.5**
AWAZ	**Awhitu Peninsu**	**1.95**	**265**	P	**Pn**	**22 38 10.6**	**+1.3**
WHTZ	**Whakaora**	**1.95**	**206**	MLv			
MRHZ	**Matea Rd**	**1.98**	**195**	P	**Pn**	**22 38 11.3**	**+1.8**
RAHZ	**Arahi**	**1.99**	**180**	P	**Pn**	**22 38 11.8**	**+2.2**
WTAZ	**Waiatarua**	**2.00**	**269**	P	**Pn**	**22 38 11.1**	**+1.4**
RVAZ	**Riverhead Bore**	**2.00**	**271**	MLv			
WATZ	**Wairara**	**2.07**	**210**	P	**Pn**	**22 38 12.8**	**+2.5**
PRGZ	**Paritu Road**	**2.10**	**162**	P	**Pn**	**22 38 13.1**	**+2.6**
HATZ	**Hinemaiaia**	**2.11**	**201**	MLv			
KNZ	**Kokohu**	**2.15**	**167**	P	**Pn**	**22 38 12.8**	**+1.9**
KNZ				S	**S**	**22 38 45.1**	**-2.6**
WHHZ	**Waihua**	**2.15**	**177**	P	**Pn**	**22 38 13.2**	**+2.3**
NMHZ	**Naumai**	**2.18**	**185**	P	**Pn**	**22 38 13.8**	**+2.5**
RATZ	**Rangitukua**	**2.20**	**207**	P	**Pn**	**22 38 13.4**	**+2.0**
RITZ	**Rihia Road**	**2.26**	**205**	P	**Pn**	**22 38 14.2**	**+2.3**
BKZ	**Black Stump Fm**	**2.29**	**191**	P	**Pn**	**22 38 13.5**	**+1.3**
BKZ	**Black Stump Fm**	**2.29**	**191**	P	**Pn**	**22 38 13.5**	**+1.3**
KATZ	**Kakaramea**	**2.32**	**208**	P	**Pn**	**22 38 15.0**	**+2.4**
MHGZ	**Mahia Peninsul**	**2.32**	**164**	P	**Pn**	**22 38 15.3**	**+2.9**
ARHZ	**Aropaoanui**	**2.34**	**181**	P	**Pn**	**22 38 14.8**	**+2.3**
HIZ	**Hauiti**	**2.37**	**227**	P	**Pn**	**22 38 15.5**	**+2.7**
HIZ	**Hauiti**	**2.37**	**227**	P	**Pn**	**22 38 15.4**	**+2.5**
WCZ	**Waipu Caves**	**2.41**	**293**	P	**Pn**	**22 38 14.5**	**+1.3**
NTVZ	**North Tongarir**	**2.44**	**206**	P	**Pn**	**22 38 15.8**	**+2.2**
TMVZ	**Te Maari**	**2.44**	**206**	P	**Pn**	**22 38 15.7**	**+2.0**
KRVZ	**Karewarewa**	**2.44**	**207**	P	**Pn**	**22 38 15.6**	**+1.9**
ETVZ	**East Tongariro**	**2.46**	**205**	P	**Pn**	**22 38 15.8**	**+2.0**
WTVZ	**West Tongariro**	**2.48**	**208**	P	**Pn**	**22 38 16.2**	**+2.2**
NNVZ	**North Ngauruho**	**2.49**	**207**	P	**Pn**	**22 38 16.2**	**+2.1**
OTVZ	**Oturere**	**2.50**	**206**	P	**Pn**	**22 38 16.3**	**+2.0**
TWVZ	**Taurewa**	**2.50**	**210**	P	**Pn**	**22 38 16.2**	**+2.0**
SNVZ	**South Ngauruho**	**2.53**	**206**	P	**Pn**	**22 38 16.5**	**+2.0**
SNVZ				S	**S**	**22 38 53.0**	**-1.2**
NGZ	**Ngauruhoe**	**2.53**	**207**	P	**Pn**	**22 38 16.8**	**+2.2**
MCHZ	**McNeill Hill**	**2.54**	**187**	P	**Pn**	**22 38 16.7**	**+2.3**
KWHZ	**Kaweka Forest**	**2.55**	**191**	P	**Pn**	**22 38 16.4**	**+1.8**
COVZ	**Chateau Observ**	**2.57**	**207**	P	**Pn**	**22 38 16.9**	**+2.0**
TUVZ	**Tukino**	**2.59**	**205**	P	**Pn**	**22 38 17.1**	**+1.9**
FWVZ	**Far West T-bar**	**2.62**	**207**	P	**Pn**	**22 38 17.2**	**+1.7**
MAVZ	**Matarangi**	**2.63**	**206**	P	**Pn**	**22 38 17.8**	**+2.2**
WHVZ	**Whangaehu Hut**	**2.63**	**206**	P	**Pn**	**22 38 17.4**	**+1.8**
TRVZ	**Turoa**	**2.66**	**206**	P	**Pn**	**22 38 17.8**	**+1.9**
WNVZ	**Wahianoa**	**2.67**	**205**	P	**Pn**	**22 38 17.6**	**+1.7**
MOVZ	**Moawhango**	**2.69**	**202**	P	**Pn**	**22 38 17.3**	**+1.4**
PKVZ	**Pokaka**	**2.73**	**209**	P	**Pn**	**22 38 18.3**	**+2.0**
CKHZ	**Cape Kidnapper**	**2.73**	**180**	P	**Pn**	**22 38 18.4**	**+2.1**
MTVZ	**Mangateitei**	**2.76**	**207**	P	**Pn**	**22 38 18.7**	**+2.0**
KRHZ	**Kereru**	**2.77**	**191**	P	**Pn**	**22 38 18.3**	**+1.5**
VRZ	**Vera Road**	**2.86**	**219**	P	**Pn**	**22 38 20.8**	**+3.2**
KAHZ	**Kahuranaki**	**2.87**	**183**	P	**Pn**	**22 38 19.9**	**+2.1**
MHEZ	**Mangahewa**	**3.05**	**224**	MLv			
PXZ	**Pawanui**	**3.11**	**183**	P	**Pn**	**22 38 21.7**	**+1.7**
WPHZ	**Waipukurau**	**3.18**	**189**	P	**Pn**	**22 38 22.4**	**+1.6**
DREZ	**Durham Road**	**3.20**	**224**	MLv			
TSZ	**Takapari Road**	**3.25**	**195**	P	**Pn**	**22 38 23.0**	**+1.3**
WAZ	**Wanganui**	**3.27**	**209**	P	**Pn**	**22 38 23.7**	**+1.9**
OUZ	**Omahuta**	**3.29**	**300**	P	**Pn**	**22 38 23.9**	**+1.9**
OUZ	**Omahuta**	**3.29**	**300**	P	**Pn**	**22 38 23.7**	**+1.6**
LREZ	**Lake Rotokare**	**3.29**	**219**	P	**Pn**	**22 38 25.7**	**+3.6**
NEZ	**North Egmont**	**3.32**	**224**	P	**Pn**	**22 38 26.6**	**+4.2**
PKE	**Pukeiti**	**3.33**	**226**	P	**Pn**	**22 38 26.7**	**+4.2**
PREZ	**Palmer Road**	**3.33**	**223**	P	**Pn**	**22 38 26.9**	**+4.4**
PRHZ	**Porangahau**	**3.36**	**186**	P	**Pn**	**22 38 24.3**	**+1.6**
KHEZ	**Kahui Hut**	**3.38**	**225**	P	**Pn**	**22 38 27.2**	**+4.1**
NBEZ	**Newall Road No**	**3.44**	**226**	P	**Pn**	**22 38 28.0**	**+4.3**
DVHZ	**Dannevirke**	**3.44**	**192**	P	**Pn**	**22 38 24.9**	**+1.2**
OHWZ	**Ohakea**	**3.56**	**202**	P	**Pn**	**22 38 27.0**	**+2.1**
ANWZ	**Angora Road**	**3.56**	**187**	P	**Pn**	**22 38 26.7**	**+1.8**
POWZ	**Post Office Ro**	**3.61**	**196**	P	**Pn**	**22 38 26.8**	**+1.3**
PRWZ	**Pori Road**	**3.73**	**193**	P	**Pn**	**22 38 28.7**	**+2.0**
BFZ	**Birch Farm**	**3.81**	**189**	P	**Pn**	**22 38 28.9**	**+1.3**
BFZ	**Birch Farm**	**3.81**	**189**	P	**Pn**	**22 38 28.7**	**+1.1**
MRZ	**Mangatainoka R**	**3.91**	**197**	P	**Pn**	**22 38 29.7**	**+0.9**
TIWZ	**Tintock**	**3.96**	**193**	P	**Pn**	**22 38 29.4**	**+0.1**
CPWZ	**Castlepoint**	**4.04**	**189**	P	**Pn**	**22 38 32.4**	**+2.2**
HOWZ	**Holdsworth Sta**	**4.15**	**196**	P	**Pn**	**22 38 32.3**	**+0.8**
OGWZ	**Otaki Gorge**	**4.16**	**200**	P	**Pn**	**22 38 32.6**	**+1.0**
TMWZ	**Te Maipa**	**4.28**	**192**	P	**Pn**	**22 38 34.3**	**+1.3**
KIW	**Kapiti Island**	**4.28**	**203**	P	**Pn**	**22 38 33.7**	**+0.7**
MTW	**Mount Morrison**	**4.40**	**196**	P	**Pn**	**22 38 35.3**	**+0.9**
DUWZ	**D'Urville Isla**	**4.59**	**211**	P	**Pn**	**22 38 37.3**	**+0.8**
TRWZ	**Traveller**	**4.60**	**193**	P	**Pn**	**22 38 37.9**	**+1.2**
PAWZ	**Paruwai Farm**	**4.63**	**195**	P	**Pn**	**22 38 37.6**	**+0.5**
MSWZ	**Moikau Station**	**4.71**	**197**	P	**Pn**	**22 38 38.3**	**+0.4**
WEL	**Wellington**	**4.71**	**202**	MLv			
SNZO	**South Karori**	**4.75**	**202**	P	**Pn**	**22 38 38.9**	**+0.5**
BHW	**Baring Head**	**4.79**	**200**	P	**Pn**	**22 38 39.4**	**+0.4**
TCW	**Tory Channel**	**4.80**	**206**	P	**Pn**	**22 38 39.7**	**+0.7**
PLWZ	**Palliser**	**4.85**	**196**	P	**Pn**	**22 38 40.1**	**+0.5**
TUWZ	**Tuamarina**	**5.11**	**207**	P	**Pn**	**22 38 43.9**	**+1.2**
NNZ	**Nelson**	**5.16**	**213**	P	**Pn**	**22 38 43.6**	**+0.4**
TKNZ	**Takaka Hill**	**5.21**	**217**	P	**Pn**	**22 38 44.1**	**+0.3**
QRZ	**Quartz Range**	**5.27**	**221**	P	**Pn**	**22 38 44.7**	**+0.1**
QRZ	**Quartz Range**	**5.27**	**221**	P	**Pn**	**22 38 45.2**	**+0.7**
CMWZ	**Cape Campbell**	**5.30**	**204**	MLv			
BSWZ	**Blackbirch Sta**	**5.39**	**206**	P	**Pn**	**22 38 47.0**	**+1.0**
MRNZ	**Matariki Terra**	**5.59**	**216**	P	**Pn**	**22 38 48.5**	**+0.1**
THZ	**Tophouse**	**5.81**	**212**	P	**Pn**	**22 38 51.7**	**+0.5**
KHZ	**Kahutara**	**6.12**	**205**	P	**Pn**	**22 38 56.2**	**+1.3**
KHZ	**Kahutara**	**6.12**	**205**	P	**Pn**	**22 38 56.0**	**+1.2**
DSZ	**Denniston Nort**	**6.31**	**219**	P	**Pn**	**22 38 56.9**	**-0.4**
GVZ	**Greta Valley S**	**6.79**	**206**	P	**Pn**	**22 39 03.9**	**+0.9**
LTZ	**Lake Taylor**	**6.92**	**211**	P	**Pn**	**22 39 05.1**	**+0.4**
AMCZ	**Amberley**	**7.11**	**207**	P	**Pn**	**22 39 07.7**	**+0.9**
INZ	**Inchbonnie**	**7.23**	**215**	P	**Pn**	**22 39 09.1**	**+0.7**
OKCZ	**Okains Bay**	**7.45**	**203**	P	**Pn**	**22 39 12.4**	**+1.2**
OXZ	**Oxford**	**7.47**	**210**	P	**Pn**	**22 39 11.8**	**+0.4**
MQZ	**McQueen's Vall**	**7.57**	**205**	P	**Pn**	**22 39 12.7**	**+0.1**
AKCZ	**Akaroa Harbour**	**7.63**	**203**	P	**Pn**	**22 39 14.6**	**+1.2**
RACZ	**Rakaia**	**7.77**	**207**	P	**Pn**	**22 39 15.6**	**+0.5**
MHCZ	**Mount Hutt**	**7.83**	**211**	P	**Pn**	**22 39 16.8**	**+0.9**
WVZ	**Waitaha Valley**	**7.83**	**216**	P	**Pn**	**22 39 16.8**	**+0.9**
WACZ	**Wakanui South**	**8.06**	**208**	P	**Pn**	**22 39 20.2**	**+1.4**
RPZ	**Rata Peaks**	**8.19**	**212**	P	**Pn**	**22 39 21.5**	**+1.2**
RPZ	**Rata Peaks**	**8.19**	**212**	P	**Pn**	**22 39 21.5**	**+1.2**
GCSZ	**Gaunt Creek Bo**	**8.21**	**217**	P	**Pn**	**22 39 21.4**	**+0.8**
ARCZ	**Arundel**	**8.33**	**211**	P	**Pn**	**22 39 23.1**	**+1.0**
FOZ	**Fox Glacier**	**8.62**	**218**	P	**Pn**	**22 39 26.2**	**+0.5**
TMZ	**Timaru**	**8.76**	**210**	P	**Pn**	**22 39 28.5**	**+1.1**
LBZ	**Lake Benmore**	**9.10**	**213**	P	**Pn**	**22 39 32.6**	**+0.9**
ODZ	**Otahua Downs**	**9.45**	**209**	P	**Pn**	**22 39 38.1**	**+2.1**
ODZ	**Otahua Downs**	**9.45**	**209**	P	**Pn**	**22 39 38.1**	**+2.1**
JCZ	**Jackson Bay**	**9.53**	**219**	P	**Pn**	**22 39 37.9**	**+0.9**
WKZ	**Wanaka**	**9.97**	**215**	P	**Pn**	**22 39 42.9**	**+0.5**

*SNET **16** 22:45:17.7±1.2, 13°.60N×90°.95W, h15km±8km, ML3.3*
*GCG **16** 22:45:18.8±0.7, 13°.85N×91°.17W, h75km±12km, MD3.7*
*CATAC **16** 22:45:36.8±0.6, 13°.93N×89°.69W, h5km±4km, ML2.4*
ISC 16 22:45:10.1±2.5, 13°.3N±0°.1×91°.18W±0°.08, h17km±12km, n23, σ1§31/34, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**1.08**	**340**	*e*P	**Pg**	**22 45 33.5**	**+2.3**
SULM				*e*S	**Sb**	**22 45 43.9**	**-0.4**
FUG	**Fuego 3**	**1.20**	**16**	*i* P	**Pg**	**22 45 34.0**	**+0.5**
PCG	**Pacaya**	**1.24**	**27**	*i* P	**Pg**	**22 45 34.7**	**+0.6**
STG3	**Santiaguito 3,**	**1.47**	**345**	*e*P	**Pg**	**22 45 37.3**	**-1.2**
STG3				*e*S	**Sn**	**22 45 52.1**	**-2.8**
NUBE	**Las Nubes**	**1.50**	**66**	*e*P	**Pg**	**22 45 39.1**	**+0.1**
NUBE				*e*S	**Sn**	**22 45 55.4**	**-0.1**
NUBE	**Las Nubes**	**1.50**	**66**	*i* P	**Pg**	**22 45 39.0**	**0.0**
NUBE				*i* S	Sn	22 45 41.1	-14
NUBE				IAML		22 46 00.6	
	comp=Z,320nm,1.0s						
NBG	**Las Nubes**	**1.53**	**32**	*i* P	**Pg**	**22 45 39.8**	**+0.1**
NBG				*e*S	**Sn**	**22 45 55.8**	**-0.7**
LOAL	**Lomas de Alarc**	**1.54**	**62**	*e*P	**Pg**	**22 45 39.3**	**-0.5**
LOAL				*e*S	**Sn**	**22 45 55.6**	**-0.8**
LOAL	**Lomas de Alarc**	**1.54**	**62**	*i* P	**Pg**	**22 45 39.6**	**-0.2**
LOAL				*i* S	Sn	22 45 41.9	-15
LOAL				IAML		22 45 50.5	
	comp=Z,2μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.55**	**61**	*e*P	**Pg**	**22 45 39.5**	**-0.4**
SLOZ				*e*S	**Sn**	**22 45 56.2**	**-0.4**
CEVE	**Cerro Verde**	**1.61**	**70**	*i* P	**Pb**	**22 45 39.6**	**+0.1**
CEVE				IAML		22 46 01.5	
	comp=Z,990nm,1.0s						
RTR	**El Retiro**	**1.61**	**68**	*e*P	**Pg**	**22 45 41.1**	**-0.2**
RTR				*e*S	**Sn**	**22 45 58.7**	**+0.2**
SBLS	**San Blas**	**1.61**	**70**	*e*P	**Pg**	**22 45 41.2**	**-0.1**
SNJE	**San Jose**	**1.64**	**69**	*e*P	**Pg**	**22 45 41.6**	**-0.2**
JAYA	**Jayaque - finc**	**1.73**	**77**	*e*P	**Pg**	**22 45 43.3**	**-0.1**
JAYA				*e*S	**Sn**	**22 46 02.7**	**+1.5**
JAYA				IAML		22 46 04.4	
	comp=Z,845nm,0.2s						
PMON	**Piamonte**	**1.87**	**77**	*e*P	**Pg**	**22 45 45.6**	**-0.4**
PMON				*e*S	**Sn**	**22 46 07.4**	**+2.8**
PMON	**Piamonte**	**1.87**	**77**	*i* P	**Pg**	**22 45 45.3**	**-0.8**
PMON				IAML		22 46 18.0	
	comp=Z,1μm,1.0s						
LOMA	**Loma Larga**	**1.99**	**79**	*e*P	**Pg**	**22 45 46.6**	**-1.8**
LOMA				*e*S	**Sn**	**22 46 10.0**	**+2.3**
MTO3	**Montecristo**	**2.09**	**58**	*e*P	**Pb**	**22 45 47.3**	**-0.4**
MTO3	**Montecristo**	**2.09**	**58**	*i* P	**Pb**	**22 45 47.7**	**0.0**
MTO3				IAML		22 46 19.0	
	comp=Z,230nm,1.0s						
PAVA	**Las Pavas**	**2.23**	**79**	*e*P	**Pb**	**22 45 50.8**	**+0.8**
PAVA				*e*S	**Sn**	**22 46 16.6**	**+3.1**
PAVA		

0.2nm,0.4s,baz=142,slow=7.3,SNR=2.8
0.2nm,0.4s
MKAR Makanchi Array 61.42 318 P **P 23 31 03.6 -0.2**
0.5nm,0.7s,baz=102,slow=8.8,SNR=5.9
0.5nm,0.7s
ZALV Zalesovo Beam 62.11 326 P **P 23 31 07.4 -0.8**
0.7nm,0.5s,baz=114,slow=7.4,SNR=4.3
0.7nm,0.5s
KURBB Kurchatov Arra 64.79 321 P **P 23 31 25.8 -0.2**
2.6nm,0.7s,baz=103,slow=6.9,SNR=25
2.6nm,0.7s
NRIK Noril'sk 67.66 342 P **P 23 31 44.4 +0.4**
0.8nm,0.4s,baz=142,slow=2.8,SNR=3.5
0.8nm,0.4s
BVAR Borovoye Array 70.21 322 P **P 23 32 00.2 +0.1**
1.9nm,0.4s,baz=106,slow=7.1,SNR=16
1.9nm,0.4s
ARCES ARCESS Array B 88.64 342 P **P 23 33 39.9 -0.1**
17nm,1.3s,baz=43,slow=6.7,SNR=3.9
17nm,1.3s
FINES FINESS Array B 92.27 334 P **P 23 33 57.1 0.0**
3.2nm,0.8s,baz=66,slow=3.2,SNR=11
3.2nm,0.8s

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*SJA **16** 23:28:56.1±0.6, 30°.20S×71°.81W, h40km±16km, ML3.5, MW3.7*
*GUC **16** 23:28:57.7±0.8, 30°.30S×71°.61W, h36km±3km, ML3.4*
ISC 16 23:28:55.5±2.2, 30°.28S±0°.05×71°.76W±0°.09, h11km±11km, n16, σ1§68/23, 1C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.40**	**165**	⇓*i*P		Pb 23 29 06.1	+1.4
CO06				*i* S		**Sb 23 29 12.1**	**+1.1**
CO06				IAML		23 29 12.9	
comp=N,7μm,0.4s							
CO05	**La Serena**	**0.58**	**51**	⇑*i*P		Pb 23 29 08.0	+0.3
CO05				*i* S		**Sg 23 29 15.0**	**+0.6**
CO05				IAML		23 29 15.6	
comp=N,5μm,0.2s							
GO04	**Tololo Observa**	**0.84**	**83**	⇓*i*P		**Pg 23 29 11.7**	**0.0**
GO04				*i* S		**Sg 23 29 21.5**	**-1.2**
GO04				IAML		23 29 23.2	
comp=N,6μm,0.4s							
CO03	**El Pedregal**	**1.07**	**121**	⇓*i*P		**Pb 23 29 15.2**	**-1.1**
CO03				*i* S		**Sb 23 29 27.8**	**-2.6**
CO03				IAML		23 29 29.1	
comp=E,2μm,0.2s							
CO01	**Juntas del Tor**	**1.47**	**78**	*e*P		Pn 23 29 21.9	-0.4
CO01				*i* S		**Sn 23 29 39.6**	**-2.1**
CO01				IAML		23 29 42.0	
comp=N,733nm,0.5s							
LCO	**Las Campanas**	**1.57**	**36**	*e*P		Pn 23 29 22.9	-0.7
CO04	**Los Peladeros**	**1.88**	**159**	*e*P		**Pn 23 29 28.4**	**+0.5**
CO04				IAML		23 30 00.4	
comp=N,1μm,1.0s							
AC05	**El Transito**	**1.94**	**42**	*e*P		**Pn 23 29 28.9**	**+0.3**
AC05				IAML		23 29 58.1	
comp=N,362nm,0.4s							
ACCO	**Cerro Coronel**	**2.34**	**98**	*e*P		**Pb 23 29 38.2**	**+0.2**
ACCO				⇓*e*S		**Sb 23 30 08.2**	**+1.0**
GO03	**Copiapo**	**2.99**	**27**	*e*P		**Pn 23 29 44.0**	**+0.9**
GO03				*e*S		**Sn 23 30 16.5**	**-2.5**
RTLL	**Cerro Villicun**	**3.01**	**111**	*e*P		**Pn 23 29 43.5**	**+0.2**
RTLL				*e*S		**Sn 23 30 17.5**	**-1.9**
AVFE	**Valle Fertil**	**3.73**	**97**	*e*P		**Pn 23 29 55.1**	**+1.9**
AVFE				⇓*e*S		**Sn 23 30 40.0**	**+2.7**
AVFE				IAML		23 30 52.1	
comp=Z,67nm,0.7s							
ACLC	**CERRO LA CRUZ**	**4.26**	**80**	*e*P		**Pn 23 30 02.7**	**+2.1**
ACLC				*e*S		**Sn 23 30 51.9**	**+1.5**
ACLC				IAML		23 31 01.4	
comp=Z,30nm,0.5s							
CYA	**Choya**	**5.51**	**72**	*e*P		**Pn 23 30 19.1**	**+1.5**
CYA				*e*S		**Sn 23 31 19.8**	**-1.3**
CYA				IAML		23 31 32.0	
comp=Z,19nm,0.8s							
FSA	**Cafayete**	**6.58**	**52**	*e*P		**Pn 23 30 34.6**	**+2.2**
AHML	**Horco Molle**	**6.64**	**60**	*e*P		**Pn 23 30 33.3**	**+0.2**

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*IDC **16** 23:40:46.1±1.2, 6°.44S×148°.57E, h50km±8km, mb3.6/5, mbtmp3.9/7, MS3.3/15, Error ellipse: s-maj=50.2km s-min=12.1km az=109.0*
*NEIC **16** 23:40:46.7±2.7, 6°.61S±0°.08×148°.70E±0°.07, h35km±2km, mb4.1/11, Error ellipse: s-maj=13.1km s-min=11.0km az=353.0*
ISC 16 23:40:46.0±0.8, 6°.44S±0°.10×148°.5E±0°.1, h46km, n45, σ1§90/39, mb4.1/8, MS3.4/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.25**	**205**		**Pn**	**23 41 35.2**	**+0.7**
PMG				Sn	**Sn**	**23 42 14.5**	**+2.5**
PMG	**Port Moresby**	**3.25**	**205**	P	**Pn**	**23 41 34.7**	**+0.2**
153nm,0.8s,baz=16,slow=7.4,SNR=34							
PMG				S	**Sn**	**23 42 12.8**	**+0.9**
398nm,0.6s,baz=152,slow=18,SNR=18							
PMG				LR	LR	23 42 36.6	
comp=Z,137nm,20.7s,baz=354,slow=34							
PMG	**Port Moresby**	**3.25**	**205**	P	**Pn**	**23 41 36.0**	**+1.5**
PMG	**Port Moresby**	**3.25**	**205**	P	**Pn**	**23 41 36.1**	**+1.5**
RABL	**Rabaul**	**4.25**	**58**	Pn	**Pn**	**23 41 49.3**	**+1.1**
JAY	**Jayapura**	**8.72**	**296**	LR	LR	23 45 58.2	
comp=Z,56nm,20.6s,baz=295,slow=36							
COEN	**Coen**	**9.15**	**215**	Pn	**Pn**	**23 42 54.8**	**-0.7**
HNR	**Honiara**	**11.69**	**105**	LR	LR	23 47 02.1	
comp=Z,62nm,19.7s,baz=335,slow=32							
CTA	**Charters Tower**	**13.75**	**189**	LR	LR	23 49 02.7	
comp=Z,8.5nm,18.7s,baz=14,slow=36							
QIS	**Mount Isa**	**16.49**	**211**	P	**Pn**	**23 44 34.5**	**+0.2**
EIDS	**Eidsvold**	**18.98**	**173**	P	**P**	**23 45 03.7**	**-0.1**
EIDS				IAmb	IAmb	23 45 04.1	
comp=Z,7.7nm,0.8s							
EIDS	**Eidsvold**	**18.98**	**173**	P	**Pn**	**23 45 04.8**	**0.0**
WB0	**Warramunga Arr**	**19.09**	**225**	P	**P**	**23 45 06.6**	**+1.6**
WB0				IAmb	IAmb	23 45 20.0	
comp=Z,7.8nm,0.7s							
WR0	**Warramunga Arr**	**19.12**	**224**	P	**P**	**23 45 05.8**	**+0.5**
WR0				IAmb	IAmb	23 45 11.5	
comp=Z,7.1nm,0.8s							
WB2	**Warramunga Arr**	**19.24**	**224**	P	**P**	**23 45 07.4**	**+0.8**
WB2				IAmb	IAmb	23 45 23.2	
comp=Z,6.8nm,0.7s							
WRA	**Warramunga Arr**	**19.24**	**224**	P	**P**	**23 45 07.7**	**+0.9**
WRA	**Warramunga Arr**	**19.24**	**224**	P	**P**	**23 45 06.0**	**-0.7**
comp=Z,3.6nm,0.8s,baz=48,slow=10,SNR=18							
WRA				S	**S**	**23 48 34.5**	**-7.9**
comp=Z,1.2nm,0.8s,baz=47,slow=23,SNR=4.3							
WRA				LR	LR	23 53 21.2	
comp=Z,132nm,18.8s,baz=51,slow=39							
GUMO Guam		**20.23**	**350**	LR	LR	23 53 14.7	
comp=Z,47nm,18.2s,baz=96,slow=37							
QLP	**Quilpie**	**20.45**	**191**	P	**P**	**23 45 19.8**	**+0.1**
KNRA	**Kununurra**	**21.45**	**243**	P	**P**	**23 45 29.8**	**-0.8**
AS31	**Alice Springs**	**22.16**	**218**	P	**P**	**23 45 38.2**	**-0.1**
AS31				IAmb	IAmb	23 45 52.7	
comp=Z,5.1nm,0.7s							
ASAR	**Alice Springs**	**22.17**	**218**	P	**P**	**23 45 38.1**	**-0.2**
comp=Z,3.5nm,0.7s,baz=62,slow=9.4,SNR=42							
ASAR				pP	**pP**	**23 45 50.5**	**+2.0**
comp=Z,14nm,0.7s,baz=52,slow=9.6,SNR=21							
ASAR				S	**S**	**23 49 37.6**	**-2.4**
comp=Z,5.1nm,1.1s,baz=38,slow=20,SNR=12							
ASAR				LR	LR	23 54 27.2	
comp=Z,90nm,18.8s,baz=41,slow=37							
comp=Z,3.5nm,0.7s							
INKA	**Innaminka**	**22.44**	**198**	P	**P**	**23 45 41.2**	**+0.1**
AULRC	**Lightning Ridg**	**22.88**	**181**	P	**P**	**23 45 45.8**	**+0.1**
DZM	**Mont Dzumac**	**23.25**	**134**	P	**P**	**23 45 46.6**	**-3.1**
DZM				IAmb	IAmb	23 46 30.5	
comp=Z,21nm,1.4s							
DZM	**Mont Dzumac**	**23.25**	**134**	LR	LR	23 54 13.3	
comp=Z,86nm,18.1s,baz=275,slow=35							
ARMA	**Armidale**	**24.03**	**173**	P	**P**	**23 45 55.3**	**-1.6**
ARMA				IAmb	IAmb	23 46 11.0	
comp=Z,5.6nm,0.8s							
OOD	**Oodnadatta**	**24.49**	**208**	P	**P**	**23 46 01.7**	**+0.7**
CMSA	**Cobar Meteorol**	**25.11**	**186**	P	**P**	**23 46 06.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**25.16**	**241**	P	**P**	**23 46 08.5**	**+1.3**
FITZ	**Fitzroy Crossi**	**25.16**	**241**	LR	LR	23 56 38.2	
comp=Z,98nm,18.0s,baz=72,slow=38							
STKA	**Stephens Creek**	**26.13**	**193**	P	**P**	**23 46 16.9**	**+1.0**
STKA	**Stephens Creek**	**26.13**	**193**	P	**P**	**23 46 16.4**	**+0.6**
comp=Z,2.6nm,0.7s,baz=0.0,slow=11,SNR=5.9							
STKA				pP	**pP**	**23 46 28.5**	**+1.5**
comp=Z,2.2nm,0.5s,baz=19,slow=9.6,SNR=3.9							
STKA				LR	LR	23 57 15.1	
comp=Z,103nm,18.7s,baz=25,slow=38							
comp=Z,2.6nm,0.7s							
WRKA Warakurna		**26.79**	**224**	P	**P**	**23 46 24.4**	**+2.4**
MEEK Meekatharra		**34.85**	**231**	P	**P**	**23 47 35.9**	**+2.8**
JHJ	**Hachijo jima 2**	**40.21**	**349**	LR	LR	00 04 28.4	
comp=Z,41nm,18.4s,baz=154,slow=35							
URZ	**Urewera**	**40.91**	**145**	LR	LR	00 04 19.9	
comp=Z,87nm,18.6s,baz=33,slow=35							
MJAR	**Matsushiro Arr**	**43.84**	**348**	LR	LR	00 07 01.4	
comp=Z,43nm,18.2s,baz=109,slow=36							
MA2	**Magadan**	**65.83**	**1**	LR	LR	00 19 37.7	
comp=Z,32nm,19.2s,baz=354,slow=35							
MKAR	**Makanchi Array**	**78.81**	**320**	P	**P**	**23 52 43.6**	**-0.5**
comp=Z,0.4nm,0.8s,baz=97,slow=6.0,SNR=2.7							
comp=Z,0.4nm,0.8s							
QSPA South Pole Qui		**83.53**	**180**	P	**P**	**23 53 08.8**	**-0.2**
comp=Z,0.6nm,0.3s,baz=340,slow=6.4,SNR=2.0							
comp=Z,0.6nm,0.3s							
ILAR Eielson Array		**85.28**	**23**	P	**P**	**23 53 15.7**	**-2.0**
comp=Z,0.4nm,0.7s,baz=250,slow=4.7,SNR=3.1							
comp=Z,0.4nm,0.7s							
BVAR Borovoye Array		**88.02**	**324**	LR	LR	00 34 53.3	
comp=Z,29nm,19.4s,baz=326,slow=37							
ARTI Arti		**95.39**	**326**	LR	LR	00 39 20.0	
comp=Z,46nm,18.2s,baz=301,slow=37							
TORD Torodi Ar. Bea		**146.68**	**284**	PKPbc	**PKPdf**	**00 00 23.9**	**+1.8**
comp=Z,7.0nm,0.5s,baz=94,slow=2.9,SNR=72							
TORD				pPKPbc	pPKPbc	00 00 37.8	+1.6
comp=Z,5.6nm,0.5s,baz=91,slow=3.1,SNR=16							

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*IDC **16** 23:45:38.6±1.8, 18°.02S×178°.58W, h606km±19km, mb3.2/9, mbtmp4.1/10, Error ellipse: s-maj=40.1km s-min=16.2km az=147.0*
*NEIC **16** 23:45:39.5±1.0, 17°.8S±0°.1×178°.6W±0°.1, h614km±9km, mb4.2/30, Error ellipse: s-maj=23.4km s-min=15.1km az=132.0*
ISC 16 23:45:37.1±0.5, 17°.9S±0°.1×178°.65W±0°.10, h579km, n59, σ1§11/59, mb4.1/25, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF Nonsavu		**3.15**	**273**	P	P	23 47 00.7	+5.2
MSVF Nonsavu		**3.15**	**273**	P	P	23 47 00.1	+4.6
16nm,0.7s,baz=131,slow=13,SNR=13							
FUTU Fugatoga		**3.61**	**8**	P	**P**	**23 47 01.2**	**+2.7**
NIUE Niue		**8.36**	**99**	P	**P**	**23 47 42.0**	**+2.8**
FUNA Funafuti		**9.56**	**347**	P	**P**	**23 47 53.5**	**+2.3**
PINNC Pines Island,		**13.86**	**248**	P	**P**	**23 48 35.7**	**+1.0**
DZM Mont Dzumac		**14.61**	**251**	P	**P**	**23 48 43.6**	**+1.4**
EIDS Eidsvold		**29.05**	**250**	P	**P**	**23 50 52.1**	**+0.2**
EIDS				IAmb	IAmb	23 50 53.3	
comp=Z,3.6nm,0.8s							
ARMA Armidale		**29.74**	**240**	P	**P**	**23 50 57.6**	**-0.2**
ARMA				IAmb	IAmb	23 51 18.8	
comp=Z,11nm,1.2s							
PYZ Puysegur Point		**30.70**	**200**	P	**P**	**23 51 06.4**	**+0.8**
COEN Coen		**36.88**	**270**	P	**P**	**23 51 59.3**	**+1.4**
COEN				IAmb	IAmb	23 52 40.5	
comp=Z,13nm,1.2s							
TOO Toolangi		**36.99**	**231**	P	**P**	**23 51 58.8**	**+0.3**
TOO				IAmb	IAmb	23 52 34.7	
comp=Z,7.4nm,1.5s							
STKA Stephens Creek		**38.43**	**241**	P	**P**	**23 52 09.9**	**-0.3**
comp=Z,2.1nm,0.7s,baz=177,slow=8.1,SNR=4.3							
comp=Z,2.1nm,0.7s							
BBOO Buckleboo		**43.21**	**241**	P	**P**	**23 52 48.0**	**-0.1**
WR0 Warramunga Arr		**44.22**	**260**	P	**P**	**23 52 56.4**	**+0.3**
WR0				IAmb	IAmb	23 52 57.8	
comp=Z,6.0nm,1.2s							
WB0 Warramunga Arr		**44.37**	**260**	P	**P**	**23 52 57.4**	**+0.1**
WB2 Warramunga Arr		**44.40**	**260**	P	**P**	**23 52 57.6**	**+0.1**
WRA Warramunga Arr		**44.41**	**260**	P	**P**	**23 52 57.2**	**-0.3**
WRA Warramunga Arr		**44.41**	**260**	P	**P**	**23 52 56.8**	**-0.8**
comp=Z,1.1nm,0.5s,baz=96,slow=7.0,SNR=26							
WRA				PcP	**PcP**	**23 54 27.7**	**-0.9**
comp=Z,0.4nm,0.8s,baz=101,slow=4.3,SNR=2.6							
comp=Z,1.1nm,0.5s							
AS31 Alice Springs		**44.57**	**254**	P	**P**	**23 52 59.2**	**+0.4**
AS31				IAmb	IAmb	23 53 00.2	
comp=Z,2.8nm,0.4s							
ASAR Alice Springs		**44.57**	**254**	P	**P**	**23 52 58.6**	**-0.2**
ASAR Alice Springs		**44.57**	**254**	P	**P**	**23 52 59.2**	**+0.4**
comp=Z,6.0nm,0.6s,baz=87,slow=8.8,SNR=55							
ASAR				PcP	**PcP**	**23 54 27.8**	**-1.3**
comp=Z,0.4nm,0.5s,baz=114,slow=4.1,SNR=2.4							
comp=Z,6.0nm,0.6s							
FORT Forrest		**49.80**	**245**	P	**P**	**23 53 37.2**	**-0.6**
KNRA Kununurra		**50.26**	**264**	P	**P**	**23 53 41.0**	**-0.4**
FITZ Fitzroy Crossi		**52.80**	**261**	P	**P**	**23 53 59.1**	**-0.5**
PETK Petropavlovsk-		**73.62**	**345**	P	**P**	**23 56 10.6**	**-1.3**
PETK Petropavlovsk-		**73.62**	**345**	P	**P**	**23 56 11.7**	**-0.2**
comp=Z,2.1nm,0.6s,baz=142,slow=7.3,SNR=3.1							
comp=Z,2.1nm,0.6s							
MCCM Marconi Confer		**76.45**	**42**	P	**P**	**23 56 27.2**	**-0.9**
NVAR Mina Array Bea		**79.58**	**44**	P	**P**	**23 56 44.4**	**-0.8**
comp=Z,0.6nm,0.6s,baz=231,slow=7.8,SNR=6.0							
comp=Z,0.6nm,0.6s							
J05D Fort Rock, OR		**80.46**	**39**	P	**P**	**23 56 48.8**	**-0.8**
RND Reindeer		**84.32**	**13**	P	**P**	**23 57 07.8**	**-0.6**
RND				IAmb	IAmb	23 57 30.0	
comp=Z,7.7nm,1.3s							
HLID Hailey		**84.78**	**41**	P	**P**	**23 57 11.6**	**+0.3**
Q32M Nakina River		**85.47**	**22**	P	**P**	**23 57 12.2**	**-2.0**
Q32M				IAmb	IAmb	23 57 39.3	
comp=Z,14nm,1.4s							
O30N Mendenhall		**85.53**	**19**	P	**P**	**23 57 13.4**	**-0.8**
O30N				IAmb	IAmb	23 57 34.7	
comp=Z,8.2nm,1.2s							
CCB Clear Creek Bu		**85.63**	**13**	P	**P**	**23 57 12.9**	**-1.7**
CCB				IAmb	IAmb	23 57 26.7	
comp=Z,5.5nm,1.4s							
IL31		**85.94**	**13**	P	**P**	**23 57 14.2**	**-1.8**
ILAR Eielson Array		**85.94**	**13**	P	**P**	**23 57 15.1**	**-0.9**
ILAR Eielson Array		**85.94**	**13**	P	**P**	**23 57 13.9**	**-2.2**
comp=Z,0.5nm,0.4s,baz=227,slow=5.7,SNR=5.6							
comp=Z,0.5nm,0.4s							
IL03 Eielson Array		**85.94**	**13**	P	**P**	**23 57 14.9**	**-1.2**
J25K Salcha River,		**86.14**	**14**	P	**P**	**23 57 16.1**	**-1.0**
J25K				IAmb	IAmb	23 57 53.2	
comp=Z,3.8nm,1.2s							
TXAR Lajitas Array		**86.19**	**58**	P	**P**	**23 57 18.4**	**+0.1**
TXAR Lajitas Array		**86.19**	**58**	P	**P**	**23 57 18.1**	**-0.1**
comp=Z,1.1nm,0.8s,baz=222,slow=5.6,SNR=11							
comp=Z,1.1nm,0.8s							
MCMT McKenzie Canyo		**86.39**	**41**	P	**P**	**23 57 18.4**	**-0.6**
J26L Joseph Creek		**86.46**	**14**	P	**P**	**23 57 18.6**	**-0.1**
J26L				IAmb	IAmb	23 57 59.4	
comp=Z,7.1nm,1.4s							
E19K Redstone River		**86.57**	**8**	P	**P**	**23 57 18.1**	**-0.9**
E19K				IAmb	IAmb	23 57 54.6	
comp=Z,9.9nm,1.4s							
M30M Minto, Yukon		**86.70**	**18**	P	**P**	**23 57 18.6**	**-1.2**
M30M				IAmb	IAmb	23 57 49.6	
comp=Z,4.9nm,1.2s							
LOHW Long Hollow		**87.22**	**42**	P	**P**	**23 57 21.9**	**-1.0**
LOHW				IAmb	IAmb	23 57 55.4	
comp=Z,5.6nm,1.5s							
D19K Kuna River		**87.44**	**7**	P	**P**	**23 57 22.3**	**-0.8**
D19K				IAmb	IAmb	23 57 26.8	
comp=Z,9.7nm,1.3s							
PDAR Pinedale Array		**87.51**	**44**	P	**P**	**23 57 23.2**	**-1.1**
comp=Z,0.5nm,0.6s,baz=214,slow=3.9,SNR=4.6							
comp=Z,0.5nm,0.6s							
F24K Squaw Lake		**88.13**	**11**	P	**P**	**23 57 25.8**	**-0.6**
D22K Ayikyak River		**88.54**	**9**	P	**P**	**23 57 27.6**	**-0.6**
SNAA Sanae		**90.61**	**179**	P	**P**	**23 57 35.6**	**-2.4**
comp=Z,0.6nm,0.8s,baz=200,slow=12,SNR=1.8							
comp=Z,0.6nm,0.8s							
BRTR Keskin Array B		**144.62**	**315**	PKP	**PKPdf**	**00 04 08.2**	**-0.5**
comp=Z,0.5nm,0.8s,baz=112,slow=2.8,SNR=5.6							
DPC Dobruska-Polom		**145.48**	**343**	*e*PKP	**PKPbc**	**00 04 10.7**	**-0.5**
KRLC Kraliky		**145.60**	**342**	*e*PKP	**PKPbc**	**00 04 11.0**	**-0.6**
MMAI Mount Meron Ar		**145.95**	**303**	PKPbc	**PKPbc**	**00 04 12.7**	**-0.5**
comp=Z,3.0nm,1.0s,baz=65,slow=6.8,SNR=8.0							
KHC Kasperske Hory		**147.31**	**345**	*e*PKP	**PKPbc**	**00 04 15.4**	**-0.8**
CKRC Cesky Krumlov		**147.42**	**344**	*e*PKP	**PKPbc**	**00 04 15.9**	**-0.6**
GERES GERESS Array B		**147.55**	**345**	PKPbc	**PKPbc**	**00 04 16.1**	**-0.9**
comp=Z,1.2nm,0.5s,baz=50,slow=1.5,SNR=4.8							

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*IDC **16** 23:56:00.6±0.5, 56°.57N×168°.56W, h0km, mb4.2/28, mbtmp4.2/32, ML3.7/4, MS3.5/13, Error ellipse: s-maj=16.5km s-min=9.6km az=174.0*
*AEIC **16** 23:56:01±2.4, 56°.56N±0°.04×168°.59W±0°.08, h28km±5km, Error ellipse: s-maj=7.7km s-min=3.4km az=54.0*
*NEIC **16** 23:56:03.2±1.9, 56°.57N±0°.05×168°.59W±0°.07, h19km±4km, mb4.3/122, mb_Lg4.1/21, ML4.9/16, ML4.7(AEIC), Error ellipse: s-maj=7.3km s-min=4.7km az=212.0*
ISC 16 23:56:02.3±1.3, 56°.57N±0°.05×168°.56W±0°.04, h12km±8km, n392, σ0§78/387, mb4.4/86, MS3.6/12, 1C, Pribilof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
P08K Saint George I		**0.55**	**274**		**Pg**	**23 56 12.5**	**-0.5**
P08K				Sg	**Sg**	**23 56 20.3**	**+0.1**
P08K Saint George I		**0.55**	**274**	P	**Pg**	**23 56 12.7**	**-0.3**
baz=102							
P08K				S	**Sg**	**23 56 20.6**	**+0.3**
baz=102							
P08K				S	**Sg**	**23 56 20.6**	**+0.3**
baz=102							
SPIA Saint Paul Isl		**1.11**	**304**		**Pb**	**23 56 23.6**	**+0.2**
SPIA Saint Paul Isl		**1.11**	**304**		**Sg**	**23 56 38.5**	**+0.4**
SPIA Saint Paul Isl		**1.11**	**304**	P	**Pb**	**23 56 23.3**	**-0.1**
baz=128							
SPIA				S	**Sg**	**23 56 38.1**	**+0.1**
baz=128							
SPIA Saint Paul Isl		**1.11**	**304**	P	**Pb**	**23 56 23.1**	**-0.3**
AKGG Akutan Green G		**2.79**	**147**		**Pn**	**23 56 46.2**	**-0.5**
AKGG					**Sn**	**23 57 21.4**	**+1.1**
LVA Lava Point		**2.81**	**148**	Pn	**Pn**	**23 56 46.8**	**-0.2**
LVA				IAmb_Lg		23 57 37.5	
comp=Z,842nm,0.8s							
LVA				IAML		23 57 49.1	
comp=E,4μm,0.7s							
MTBL Makushin Table		**2.82**	**157**		**Pn**	**23 56 46.9**	**-0.2**
MSW Makushin Switc		**2.85**	**158**		**Pn**	**23 56 46.5**	**-1.0**
MSW					**Sn**	**23 57 21.8**	**+0.2**
AKBBA Akutan Broad B		**2.89**	**148**		**Pn**	**23 56 47.5**	**-0.6**
MAPS Pakushin South		**2.92**	**161**		**Pn**	**23 56 47.2**	**-1.2**
WEBT Westdahl Beart		**2.93**	**131**		**Pn**	**23 56 48.0**	**-0.6**
MGOD Makushin Gods		**2.94**	**160**		**Pn**	**23 56 48.1**	**-0.8**
WECS Westdahl Cape		**2.96**	**132**		**Pn**	**23 56 48.7**	**-0.4**
UNV Unalaska Valle		**2.97**	**156**	Pn	**Pn**	**23 56 49.4**	**+0.2**
WESE West Dahl East		**3.08**	**131**		**Pn**	**23 56 50.4**	**-0.5**
OKNC Okmok New Cone		**3.13**	**175**		**Pn**	**23 56 50.3**	**-1.1**
OKNC					**Sn**	**23 57 27.6**	**-0.9**
OKTU Okmok Mt. Tuli		**3.20**	**174**		**Pn**	**23 56 51.3**	**-1.2**
ISLZ Isanotski Laza		**3.31**	**122**		**Pn**	**23 56 53.6**	**-0.4**
FALS False Pass		**3.38**	**118**	Pn	**Pn**	**23 56 54.3**	**-0.5**
NIKH Nikolski High		**3.60**	**183**	Pn	**Pn**	**23 56 58.4**	**+0.5**
NIKH Nikolski High		**3.60**	**183**	P	**Pn**	**23 56 58.5**	**+0.6**
baz=1.7							
NIKH Nikolski High		**3.60**	**183**	P	**Pn**	**23 56 58.4**	**+0.5**
S12K Black Hills		**3.74**	**101**	Pn	**Pn**	**23 56 58.9**	**-0.9**
S12K				IAmb_Lg		23 58 05.6	
comp=Z,748nm,0.8s							
S12K				IAML		23 58 06.5	
comp=N,1μm,0.6s							
S12K				IAML		23 58 18.9	
comp=E,1μm,0.5s							
S12K Black Hills		**3.74**	**101**	P	**Pn**	**23 56 58.8**	**-0.9**
baz=285							
CLCO Concord Point,		**3.85**	**191**		**Pn**	**23 56 59.7**	**-1.5**
PVV Pavlof Volcano		**3.99**	**105**		**Pn**	**23 57 02.8**	**-0.4**
M11K Mekoryuk		**4.03**	**17**		**Pn**	**23 57 02.4**	**-1.3**
M11K				IAML		23 58 13.3	
comp=E,3μm,0.9s							
M11K				IAML		23 58 17.4	
comp=N,2μm,0.9s							
M13K Dall Lake		**4.73**	**33**		**Pn**	**23 57 13.2**	**-0.2**
M13K Dall Lake		**4.73**	**33**	IAML		23 58 55.4	
comp=N,2μm,1.5s							
O14K Tigyukauivet M		**4.74**	**52**		**Pn**	**23 57 13.1**	**-0.3**
O14K Tigyukauivet M		**4.74**	**52**	IAML		23 58 42.2	
comp=E,1μm,0.8s							
O14K				IAML		23 58 51.4	
comp=N,1μm,1.1s							
N14K Kuskokwak Cree		**4.95**	**44**		**Pn**	**23 57 16.1**	**-0.3**
VNFG Fog Glacier, M		**5.01**	**89**		**Pn**	**23 57 17.0**	**-0.3**
O15K Ungalikthiuk R		**5.35**	**57**		**Pn**	**23 57 20.9**	**-0.9**
CNBA Chernabura Isl		**5.37**	**105**	Pn	**Pn**	**23 57 21.7**	**-0.4**
KOKL Mount Kliuchef		**5.37**	**220**		**Pn**	**23 57 21.1**	**-1.1**
KOFP Korovin Flat P		**5.38**	**219**		**Pn**	**23 57 21.7**	**-0.6**
M14K Bethel		**5.43**	**37**		**Pn**	**23 57 22.3**	**-0.6**
ATKA Atka Island		**5.47**	**219**	Pn	**Pn**	**23 57 24.7**	**+1.1**
ATKA Atka Island		**5.47**	**219**		**Sn**	**23 58 23.7**	**-2.6**
ATKA Atka Island		**5.47**	**219**	P	**Pn**	**23 57 24.3**	**+0.8**
CHGN Chignik		**5.64**	**88**		**Pn**	**23 57 25.3**	**-0.5**
L14K Kuka Creek		**5.67**	**30**		**Pn**	**23 57 24

OHAK Old Harbor 8.39 79 Pn **Pn 23 58 04.7 +1.2**
OHAK Old Harbor 8.39 79 P **Pn 23 58 04.6 +1.0**
N19K Bonanza Creek 8.47 54 Pn **Pn 23 58 05.0 +0.2**
H16K Elim 8.67 18 Pn 23 58 07.2 -0.1
P19K Oil Pt 8.68 63 Pn **Pn 23 58 07.8 +0.1**
G15K Niukluk 8.74 13 Pn 23 58 08.1 -0.2
KDAK Kodiak Island 8.77 75 Pn **Pn 23 58 10.2 +1.5**
KDAK Kodiak Island 8.77 75 Pn **Pn 23 58 09.7 +1.0**
comp=Z,3.3nm,0.3s,baz=346,slow=19,SNR=15
KDAK Sn **Sn 23 59 45.4 -1.9**
baz=101,slow=19
comp=Z,12nm,0.5s
ILSW Iliamna Southw 8.81 61 Pn 23 58 09.2 -0.3
IVE Iliamna Volcan 8.88 61 Pn 23 58 09.8 -0.7
SYI Shuyak Island 8.93 70 Pn **Pn 23 58 11.6 +0.7**
L19K White Mountain 8.97 45 Pn 23 58 10.7 -0.9
TTA Tatalina 8.98 40 Pn **Pn 23 58 11.2 -0.5**
TTA Tatalina 8.98 40 P **Pn 23 58 11.2 -0.5**
M19K Big River Lodg 9.01 48 Pn 23 58 11.3 -0.7
TNA Tin City 9.03 2 Pn 23 58 11.3 -1.0
J18K Innoko River 9.10 36 Pn **Pn 23 58 13.1 -0.2**
RED Redoubt Volcan 9.12 58 Pn 23 58 13.0 -0.7
DFR Drift River 9.22 57 Pn 23 58 14.3 -0.7
G16K Koyuk River 9.35 16 Pn **Pn 23 58 15.9 -0.8**
F15K North Star Dit 9.37 10 Pn **Pn 23 58 16.2 -0.7**
H17K Granite Mounta 9.39 23 Pn **Pn 23 58 17.9 +0.6**
H17K IAmb_Lg 00 01 12.4
comp=Z,115nm,1.2s
M20K Styx River 9.53 50 Pn 23 58 19.0 -0.2
SPCR Spurr Chakacha 9.65 54 Pn 23 58 20.7 -0.1
CNPM China Poot 9.65 65 Pn **Pn 23 58 21.3 +0.5**
G17K Kiwalik Mounta 9.74 20 Pn 23 58 21.9 -0.1
J19K Poorman 9.82 35 Pn **Pn 23 58 22.4 -0.7**
BRLK Bradley Lake 9.87 64 Pn **Pn 23 58 24.4 +0.6**
STLK Strandline Lak 9.93 53 Pn 23 58 24.2 -0.4
H18K Honhosa River 9.93 26 Pn **Pn 23 58 24.9 +0.2**
BRSE Bradley Lake S 9.94 64 Pn 23 58 24.1 -0.6
K20K Telida 9.94 41 Pn **Pn 23 58 24.2 -0.5**
SKT Skwentna 10.25 51 Pn 23 58 29.1 +0.1
SUA Susitna One 10.40 54 Pn **Pn 23 58 30.9 -0.2**
G18K Tagagawik 10.49 23 Pn 23 58 32.6 +0.3
F17K Baldwin Pennin 10.50 16 Pn **Pn 23 58 32.7 +0.4**
CAST Castle Rocks 10.71 43 Pn **Pn 23 58 33.7 -1.6**
H19K Roundabout Mou 10.71 28 Pn 23 58 35.0 -0.3
SHEM Shemya Is, Ala 10.75 256 LR LR 00 01 48.7
comp=Z,66nm,20.2s,baz=110,slow=32
KTH Kantishna Hill 11.23 44 Pn **Pn 23 58 42.0 -0.4**
GHO Glory Hole Cre 11.32 54 Pn **Pn 23 58 44.8 +1.0**
PWL Port Wells 11.34 59 Pn **Pn 23 58 44.5 +0.5**
KNK Knik Glacier 11.43 57 Pn **Pn 23 58 46.3 +1.1**
BPAW Bear Paw Mtn. 11.49 42 Pn 23 58 44.0 -2.0
E18K Tukpahlearik C 11.50 16 Pn **Pn 23 58 45.3 -0.8**
SML Sawmill 11.60 55 Pn **Pn 23 58 47.9 +0.4**
IMAR Indian Mountai 11.79 31 Pn 23 58 49.3 -0.8
H21K Melozitna Rive 11.84 33 Pn 23 58 49.6 -1.2
RND Reindeer 11.98 47 Pn 23 58 53.7 +1.1
SCM Sheep Creek Mo 12.06 55 Pn **Pn 23 58 54.0 +0.1**
MLY Manley 12.11 38 Pn 23 58 53.7 -0.8
FID Port Fidalgo 12.21 61 Pn **Pn 23 58 54.8 -1.0**
G21K Allakaket 12.25 29 Pn 23 58 56.1 -0.2
DHY Denali Highway 12.45 50 Pn **Pn 23 58 59.4 +0.1**
KLU Klutina 12.63 58 Pn 23 59 01.3 -0.3
I23K Minto, Yukon-K 12.65 39 Pn 23 59 00.7 -1.2
M24K Tolsona, Glenn 12.66 55 Pn **Pn 23 59 01.5 -0.6**
WRH Wood River Hil 12.77 43 Pn 23 59 04.1 +0.7
D19K Kuna River 12.88 17 Pn 23 59 05.3 +0.4
CCB Clear Creek Bu 12.96 43 Pn 23 59 05.4 -0.6
H23K Yukon River 12.98 37 Pn 23 59 06.1 -0.3
BMRM Bremner River 13.15 61 Pn **Pn 23 59 07.2 -1.6**
HDA Harding Lake 13.18 45 Pn 23 59 09.7 +0.7
PAX Paxson 13.23 52 Pn 23 59 09.6 -0.2
N25K Chitina, Valde 13.27 58 Pn **Pn 23 59 10.0 -0.3**
POKR Poker Plat Res 13.33 41 Pn **Pn 23 59 09.3 -1.7**
IL31 13.37 43 Pn 23 59 11.1 -0.4
ILAR Eielson Array 13.37 43 Pn **Pn 23 59 10.7 -0.9**
comp=Z,0.1nm,0.3s,baz=242,slow=13,SNR=15
ILAR Lg Lg 00 03 04.7
baz=232,slow=30
comp=Z,2.3nm,0.8s
IL03 Eielson Array 13.38 43 Pn **Pn 23 59 13.2 +1.4**
H24K Noodor Dome 13.55 38 Pn 23 59 13.5 -0.7
GLB Gilahina Butte 13.61 59 Pn **Pn 23 59 14.9 0.0**
COLD Coldfoot 13.68 31 Pn **Pn 23 59 14.7 -1.1**
VRDI Verde Repeater 13.75 60 Pn **Pn 23 59 17.1 +0.2**
CRQM Cirque 13.84 62 Pn **Pn 23 59 18.5 +0.4**
J25K Salcha River, 13.88 45 Pn 23 59 18.1 -0.5
E22K Anaktuvuk Pass 13.90 27 Pn 23 59 19.4 +0.6
WAX Waxell Ridge 13.95 63 Pn **Pn 23 59 19.4 -0.1**
MCARA McCarthy VSAT 13.97 59 Pn 23 59 19.4 -0.5
TGL Tana Glacier 13.99 62 Pn **Pn 23 59 19.6 -0.6**
L26K Log Cabin Wild 14.18 53 Pn 23 59 23.8 +1.2
SCRK Sand Creek 14.20 48 Pn 23 59 23.6 +0.6
D22K Ayikyak River 14.27 24 Pn 23 59 25.0 +1.1
CTGM Chitina Glacie 14.74 61 Pn 23 59 30.2 -0.2
TABL Table Mountain 14.79 63 Pn **Pn 23 59 32.1 +0.9**
TOLK Toolik Lake Re 14.84 28 Pn 23 59 32.0 +0.4
FYU Fort Yukon 14.85 38 Pn 23 59 31.9 +0.1
BCAR Beaver Creek A 14.87 53 Pn **Pn 23 59 31.7 -0.5**
LOGN Logan Glacier 14.89 62 Pn **Pn 23 59 31.8 -0.7**
K27K Chicken 15.01 49 Pn **Pn 23 59 33.1 -0.8**
K27K IAmb IAmb 23 59 47.6
comp=Z,28nm,1.4s
I26K Coal Creek Min 15.03 44 Pn **Pn 23 59 34.2 +0.1**
I26K IAmb IAmb 23 59 48.0
comp=Z,11nm,1.2s
B22K Teshekpuk Lake 15.31 20 Pn 23 59 37.4 -0.5
B22K IAmb IAmb 23 59 43.1
comp=Z,8.7nm,0.8s
C23K Itkillik River 15.48 24 Pn 23 59 39.6 -0.4
C23K IAmb IAmb 23 59 59.2
comp=Z,15nm,0.9s
BMAR Burnt Mountain 15.53 36 Pn 23 59 40.8 0.0
EGAK Eagle 15.62 47 P **P 23 59 45.8 -0.4**
F26K Sheenjek River 15.81 35 Pn 23 59 44.3 -0.2
C24K Franklin Bluff 15.83 26 Pn **Pn 23 59 43.5 -1.2**
C24K IAmb IAmb 23 59 54.0
comp=Z,20nm,0.9s
D25K Kavik River 16.14 29 P **P 23 59 52.4 +0.4**
DAWY Dawson 16.16 50 Pn 23 59 49.2 +0.3
G27K Doyon Strip 16.22 40 Pn 23 59 49.1 -0.6
M29M Somme Creek 16.26 56 Pn 23 59 50.0 -0.3
I28M Miner Creek 16.33 45 P **P 23 59 54.2 0.0**
P29M Windy Craggy 16.50 66 P **P 23 59 55.9 0.0**
P29M IAmb IAmb 00 00 04.8
comp=Z,11nm,0.8s
L29M L29M 16.51 54 P **P 23 59 56.8 +0.7**
L29M IAmb IAmb 23 59 58.2
comp=Z,17nm,1.0s
HYT Haines Junctio 16.60 62 P **P 23 59 57.3 +0.1**
HYT IAmb IAmb 23 59 58.9
comp=Z,35nm,1.5s
N30M Aishikik Lake 16.82 60 Pn **Pn 23 59 54.9 -2.5**
E27K Coleen River 16.89 36 P **P 00 00 00.3 +0.1**
K29M Barlow Dome 16.91 52 P **P 00 00 00.5 -0.1**
K29M IAmb IAmb 00 00 02.9
comp=Z,20nm,0.9s
M30M Minto, Yukon 17.05 56 Pn 00 00 00.5 +0.3
F28M Old Crow 17.20 38 P **Pn 00 00 02.6 +0.6**
F28M IAmb IAmb 00 00 12.2
comp=Z,21nm,1.1s
H29M Whitestone 17.20 44 Pn 00 00 02.8 +0.8
O30N Mendenhall 17.29 62 Pn 00 00 03.0 -0.3
J30M Hart River 17.57 50 P **P 00 00 08.8 +0.9**
J30M IAmb IAmb 00 00 14.6
comp=Z,27nm,1.1s
I30M Mount Dempster 17.70 48 Pn **Pn 00 00 06.9 -1.5**
E28M Babbage River 17.76 36 Pn 00 00 09.6 +0.5
EPYK Eagle Plains 17.88 44 P **P 00 00 11.2 +0.1**
EPYK IAmb IAmb 00 00 18.0
comp=Z,14nm,0.9s
WHY Whitehorse 17.89 63 Pn 00 00 10.8 +0.1
M31M Drury Creek, Y 18.14 58 P **P 00 00 15.0 +1.0**
G30M tAoh Zraii Nji 18.26 42 Pn 00 00 13.2 -2.1
S32K Killisnoo 18.42 73 P **P 00 00 16.9 -0.2**
S32K IAmb IAmb 00 00 22.1
comp=Z,21nm,1.1s
P32M Atlin 18.54 66 P **P 00 00 18.6 +0.1**
FARO Faro, Yukon 18.62 58 P **P 00 00 19.6 +0.2**
FARO IAmb IAmb 00 00 21.5
comp=Z,16nm,0.9s
P33M Teslin, Yukon 18.93 64 P **P 00 00 22.8 -0.1**
P33M IAmb IAmb 00 00 27.0
comp=Z,14nm,0.8s
G31M Satah River 18.98 43 P **P 00 00 22.3 -0.9**
Q32M Nakina River 19.36 68 P **Pn 00 00 28.8 +0.1**
Q32M IAmb IAmb 00 00 35.0
comp=Z,12nm,1.1s
U33K Whale Pass 19.52 76 P **P 00 00 29.4 +0.3**
MMPY Sheldon Lake, 19.60 57 P **P 00 00 30.6 +0.5**
PEA0B Petropavlovsk- 19.61 274 P **P 00 00 30.9 +0.6**
PEA0B IAmb IAmb 00 00 49.8
comp=Z,22nm,1.1s
PETK Petropavlovsk- 19.61 274 P **Pn 00 00 32.1 +0.5**
comp=Z,0.5nm,0.3s,baz=80,slow=11,SNR=11
comp=Z,4.4nm,0.7s
INK Inuvik 19.68 39 P **P 00 00 31.2 +0.5**
INK IAmb IAmb 00 00 32.7
comp=Z,17nm,1.1s
INK Inuvik 19.68 39 P **P 00 00 31.1 +0.3**
comp=Z,0.4nm,0.3s,baz=244,slow=10,SNR=22
INK PcP **PcP 00 04 48.6 -0.5**
comp=Z,1.4nm,0.7s,baz=298,slow=1.0,SNR=3.1
comp=Z,7.8nm,0.9s
CRAG Craig 19.71 78 P **Pn 00 00 32.5 -0.2**
SEY Seymchan 20.41 304 P **P 00 00 39.2 +0.4**
comp=Z,5.9nm,0.6s,baz=99,slow=9.3,SNR=11
comp=Z,5.9nm,0.6s
V35K Ketchikan 20.57 78 P **P 00 00 40.6 0.0**
V35K IAmb IAmb 00 00 46.3
comp=Z,24nm,1.1s
DLBC Dease Lake 20.60 69 P **P 00 00 42.0 +0.9**
comp=Z,2.3nm,0.8s,baz=256,slow=9.6,SNR=3.7
comp=Z,2.3nm,0.8s
T35M Bob Quinn 20.82 73 P **P 00 00 43.4 0.0**
DIB Dawson Inlet, 20.87 84 P **P 00 00 43.1 -0.8**
DIB IAmb IAmb 00 00 55.8
comp=Z,23nm,1.1s
GRNB Grenville Isla 22.00 81 P **P 00 00 59.0 +3.0**
C36M Paulatuk 23.26 39 P **P 00 01 08.7 -0.4**
C36M IAmb IAmb 00 01 10.3
comp=Z,16nm,1.1s
A36M Sachs Harbour 23.54 32 P **P 00 01 11.8 0.0**
A36M IAmb IAmb 00 01 14.3
comp=Z,15nm,0.8s
HOLB Holberg 24.43 87 P **P 00 01 21.2 +0.6**
YKA Yellowknife Ar 27.27 55 P **P 00 01 46.4 +0.4**
comp=Z,2.6nm,0.8s,baz=282,slow=10,SNR=3.9
YKA PcP **PcP 00 05 05.5 +0.3**
comp=Z,1.0nm,0.7s,baz=270,slow=1.9,SNR=4.1
YKA LR LR 00 12 17.6
comp=Z,159nm,18.5s,baz=317,slow=36
comp=Z,2.6nm,0.8s
CLRS Cowichan Lake 27.60 87 P **P 00 01 50.9 +1.8**
CLRS IAmb IAmb 00 02 05.9
comp=Z,4.1nm,0.9s
TIXI Tiksi 29.46 325 LR LR 00 15 11.9
comp=Z,104nm,18.1s,baz=9.5,slow=39
YAK Yakutsk 30.91 306 LR LR 00 15 28.0
comp=Z,48nm,19.6s,baz=62,slow=38
H04A Detroit Lake 31.12 92 P **P 00 02 21.9 +1.5**
H04A IAmb IAmb 00 02 28.9
comp=Z,4.6nm,0.7s
NEW Newport 31.77 83 P **P 00 02 26.3 +0.1**
E09A Wood Farm, Sta 32.23 86 P **P 00 02 30.2 +0.1**
E09A IAmb IAmb 00 02 37.2
comp=Z,6.0nm,1.0s
KRMB Red Mountain 32.26 99 P **P 00 02 31.5 +0.9**
G08A Pilot Rock 32.53 89 P **P 00 02 32.9 0.0**
G08A IAmb IAmb 00 02 39.6
comp=Z,2.8nm,0.9s
J05D Fort Rock, OR 32.55 94 P **P 00 02 33.2 +0.1**
J05D IAmb IAmb 00 02 38.4
comp=Z,7.1nm,1.0s
L04D Klamath Falls 32.66 96 P **P 00 02 35.4 +1.3**
YBH Yreka Blue Hor 32.77 97 LR LR 00 14 07.4
comp=Z,133nm,18.2s,baz=25,slow=33
KMRM Mail Ridge 33.27 100 P **P 00 02 41.0 +1.7**
BPMT Black Pine Rid 34.87 83 P **P 00 02 52.5 -0.9**
ORV Oroville 34.94 99 P **P 00 02 52.7 -1.1**
ORV IAmb IAmb 00 02 59.7
comp=Z,2.8nm,0.8s
LYMT Lyon Mountain 35.18 81 P P 00 02 51.5 -4.6
LRM Limekiln Ridge 35.79 83 P **P 00 03 01.4 0.0**
MPK Martis Peak 35.93 98 P **P 00 03 03.6 +1.0**
MPK IAmb IAmb 00 03 04.0
comp=Z,3.9nm,0.6s
PAHR Pah Rah Range 35.99 97 P **P 00 03 03.9 +0.9**
PAHR IAmb IAmb 00 03 09.9
comp=Z,8.0nm,1.2s
HLID Hailey 36.14 88 P **P 00 03 04.9 +0.6**
HLID IAmb IAmb 00 03 11.2
comp=Z,2.8nm,1.0s
FFC Flin Flon 36.30 64 P **P 00 03 05.2 0.0**
FFC IAmb IAmb 00 03 25.1
comp=Z,2.7nm,0.8s
PNTR Pine Nut 36.31 98 P **P 00 03 07.0 +1.2**
YERR Yerington 36.58 97 P **P 00 03 08.9 +0.9**
YERR IAmb IAmb 00 03 24.4
comp=Z,6.3nm,1.3s
CMB Columbia Colle 36.63 100 P **P 00 03 09.3 +0.9**
CMB IAmb IAmb 00 03 16.7
comp=Z,2.7nm,0.7s
WAKR Walker 36.82 98 P **P 00 03 10.9 +0.9**
WAKR IAmb IAmb 00 03 12.2
comp=Z,3.1nm,0.7s
YHL Hebgen Lake 37.10 83 P **P 00 03 12.4 -0.1**
YHL IAmb IAmb 00 03 20.0
comp=Z,9.0nm,1.0s
KVN Kaiserville 37.16 96 P **P 00 03 13.7 +0.7**
RYN Ryan 37.23 97 P **P 00 03 14.2 +0.6**
YHH Holmes Hill 37.32 83 P **P 00 03 14.7 +0.2**
YMR Madison River 37.33 83 P **P 00 03 14.6 +0.1**
NVAR Mina Array Bea 37.49 97 P **P 00 03 16.6 +0.8**
comp=Z,1.4nm,0.6s,baz=311,slow=8.1,SNR=13
NVAR PcP **PcP 00 05 34.7 +0.7**
comp=Z,1.4nm,0.7s,baz=291,slow=2.5,SNR=6.9
comp=Z,1.4nm,0.6s
ELK Elko 37.56 92 P **P 00 03 16.8 +0.3**
NV11 Mina Array Sit 37.57 97 P **P 00 03 16.9 +0.5**
FLWY Flagg Ranch 37.85 84 P **P 00 03 19.5 +0.6**
HVU Hansel Valley 38.23 88 P **P 00 03 22.5 +0.5**
HVU IAmb IAmb 00 03 23.3
comp=Z,4.3nm,0.8s
DSP Deep Springs 38.44 98 P **P 00 03 24.3 +0.8**
DSP IAmb IAmb 00 03 33.0
comp=Z,3.8nm,1.1s
MZP Montezuma Peak 38.52 97 P **P 00 03 25.2 +0.6**
USRK Ussuriysk Ar. 38.65 277 P **P 00 03 25.5 +0.2**
comp=Z,1.5nm,0.7s,baz=40,slow=10,SNR=2.2
comp=Z,1.5nm,0.7s
GMN Gold Mountain 38.88 97 P **P 00 03 28.2 +0.6**
HWUT Hardware Ranch 39.01 88 P **P 00 03 28.8 +0.2**
HWUT IAmb IAmb 00 03 29.3
comp=Z,3.2nm,0.7s
R11B Troy Canyon, C 39.05 95 P **P 00 03 28.8 -0.1**
DUG Dugway, Tooele 39.28 90 P **P 00 03 31.1 +0.3**
PD31 Pinedale Array 39.34 85 P **P 00 03 31.6 +0.2**
PDAR Pinedale Array 39.34 85 P **P 00 03 31.1 -0.3**
comp=Z,0.6nm,0.5s,baz=326,slow=2.8,SNR=9.3
comp=Z,0.6nm,0.5s
TPNV Topopah Spring 39.69 97 P **P 00 03 34.7 +0.5**
TPNV IAmb IAmb 00 03 44.3
comp=Z,7.9nm,1.4s
GWY Greenwater Val 40.01 98 P **P 00 03 37.6 +0.6**
GWY IAmb IAmb 00 03 43.5
comp=Z,3.1nm,0.6s
BSUT Blindstream Ca 40.19 88 P **P 00 03 39.4 +0.8**
BSUT IAmb IAmb 00 03 45.1
comp=Z,6.5nm,1.2s
MJAR Matsushiro Arr 40.48 264 P **P 00 03 41.1 +0.5**
comp=Z,0.9nm,0.5s,baz=35,slow=8.8,SNR=2.0
comp=Z,0.9nm,0.5s
TMUT Trail Mountain 40.80 90 P **P 00 03 43.8 +0.2**
TMUT IAmb IAmb 00 03 50.5
comp=Z,5.1nm,0.9s
MVU Marysvale 40.80 92 P **P 00 03 44.4 +0.9**
MVU IAmb IAmb 00 03 50.6
comp=Z,11nm,1.0s
MSU Marysvale 40.81 92 P **P 00 03 44.8 +1.2**
P18A Preston Nutter 41.10 89 P **P 00 03 46.4 +0.3**
P18A IAmb IAmb 00 04 01.6
comp=Z,4.0nm,1.0s
SRU San Rafael Swe 41.31 90 P **P 00 03 48.0 +0.3**
SRU IAmb IAmb 00 03 48.9
comp=Z,8.0nm,0.8s
V12A Nelson 41.35 97 P **P 00 03 48.7 +0.8**
V12A IAmb IAmb 00 04 07.3
comp=Z,4.7nm,1.2s
RSSD Black Hills 41.48 79 P **P 00 03 48.1 -0.9**
RSSD IAmb IAmb 00 03 56.0
comp=Z,4.3nm,0.5s
PKCU Pink Cliffs 41.50 93 P **P 00 03 50.3 +0.9**
PKCU IAmb IAmb 00 03 50.8
comp=Z,6.5nm,1.1s
O20A White River Ci 41.85 87 P **P 00 03 51.7 -0.5**
O20A IAmb IAmb 00 03 52.5
comp=Z,6.1nm,0.9s
ULM Lac du Bonnet 41.90 67 P **P 00 03 51.8 -0.3**
ULM IAmb IAmb 00 03 52.5
comp=Z,4.6nm,0.7s
ULM Lac du Bonnet 41.90 67 P **P 00 03 51.4 -0.8**
comp=Z,3.7nm,0.5s,baz=293,slow=9.4,SNR=7.0
comp=Z,3.7nm,0.5s
HMU Henry Mountain 42.02 91 P **P 00 03 53.5 0.0**
U15A North Rim 42.25 94 P **P 00 03 55.7 +0.3**
U15A IAmb IAmb 00 04 02.2
comp=Z,4.2nm,1.0s
W13A Hualapai Mount 42.34 97 P **P 00 03 56.1 -0.1**
CBX Cerro Bola 42.92 102 P **P 00 04 01.6 +0.7**
CBX IAmb IAmb 00 04 08.8
comp=Z,8.1nm,0.9s
NRIK Noril'sk 42.99 330 P **P 00 04 00.9 +0.1**
comp=Z,1.3nm,0.8s,baz=42,slow=14,SNR=2.2
comp=Z,1.3nm,0.8s
BLYC Blythe 43.00 99 P **P 00 04 02.1 +0.9**
BLYC IAmb IAmb 00 04 02.2
comp=Z,2.4nm,0.7s
MVCO Mesa Verde 43.78 90 P **P 00 04 07.7 -0.1**
MVCO IAmb IAmb 00 04 07.9
comp=Z,4.5nm,0.8s
X16A Lo Mia Camp, P 44.19 95 P **P 00 04 10.9 -0.2**
X16A IAmb IAmb 00 04 13.0
comp=Z,4.0nm,0.9s
X18A Snowflake 44.93 94 P **P 00 04 16.8 -0.2**
KSRS Korea Array 45.51 273 P **P 00 04 22.6 +1.3**
comp=Z,2.9nm,0.7s,baz=48,slow=7.9,SNR=6.8
comp=Z,2.9nm,0.7s
XLT XiLinHaoTe 47.42 288 *e*P **P 00 04 36.9 +0.5**
XLT pmax pmax
comp=Z,17nm,0.7s
SONM Songino Array 49.63 298 P **P 00 04 54.3 +0.8**
comp=Z,1.8nm,0.6s,baz=44,slow=7.4,SNR=14
SONM PcP **PcP 00 06 15.4 +0.7**
comp=Z,2.2nm,0.8s,baz=60,slow=2.0,SNR=7.5
comp=Z,1.8nm,0.6s
HHC Hu-ho-hao-te 51.94 288 *e*P **P 00 05 11.9 +1.1**
HHC sP sP 00 05 22.6 +6.4
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,110nm,4.5s
TX31 Lajitas Ar. Si 52.34 93 P **P 00 05 13.5 -0.4**
TXAR Lajitas Array 52.34 93 P **P 00 05 13.5 -0.5**
comp=Z,2.2nm,0.8s,baz=303,slow=4.7,SNR=24
comp=Z,2.2nm,0.8s
VLDQ Val d'Or 52.34 58 P **P 00 05 11.9 -1.7**
JOW Kunigami 53.33 264 LR LR 00 30 29.1
comp=Z,18nm,18.9s,baz=108,slow=39
ARCES ARCESS Array B 53.79 354 LR LR 00 28 09.6
comp=Z,61nm,20.1s,baz=322,slow=36
ZALV Zalesovo Beam 54.68 316 P **P 00 05 30.7 +0.1**
comp=Z,0.7nm,0.5s,baz=48,slow=8.2,SNR=4.3
ZALV PcP **PcP 00 06 32.4 -0.9**
comp=Z,1.0nm,0.6s,baz=31,slow=3.5,SNR=4.4
comp=Z,0.7nm,0.5s
KURBB Kurchatov Arra 59.68 317 P **P 00 06 06.3 +0.3**
comp=Z,3.4nm,0.8s,baz=30,slow=6.8,SNR=20
comp=Z,3.4nm,0.8s
BVAR Borovoye Array 60.58 324 P **P 00 06 12.6 +0.5**
comp=Z,9.5nm,0.8s,baz=44,slow=7.2,SNR=28
comp=Z,9.5nm,0.8s
BRVK Borovoye 60.58 324 P **P 00 06 12.4 +0.2**
T59A Double "B" Far 60.60 67 P **P 00 06 12.2 -0.3**
ARTI Arti 61.19 332 P **P 00 06 15.6 -0.7**
MK31 Makanchi Array 61.29 312 P **P 00 06 16.5 -0.6**
MK31 IAmb IAmb 00 06 17.8
comp=Z,2.5nm,1.1s
MKAR Makanchi Array 61.29 312 P **P 00 06 16.8 -0.3**
comp=Z,1.5nm,0.8s,baz=46,slow=6.9,SNR=11
comp=Z,1.5nm,0.8s
WMQ Urumqi 61.35 307 *e*P P 00 06 23.0 +5.4
WMQ pmax pmax
comp=Z,9.0nm,1.3s
WMQ LR LR
comp=N,370nm,9.3s
MAKZ Makanchi 61.41 312 P **P 00 06 17.7 -0.2**
MAKZ IAmb IAmb 00 06 18.5
comp=Z,2.4nm,0.8s
FIA1 FINESS Array S 61.77 352 P **P 00 06 19.8 -0.3**
FINES FINESS Array B 61.77 352 P **P 00 06 19.9 -0.1**
comp=Z,7.1nm,0.8s,baz=14,slow=7.7,SNR=20
comp=Z,7.1nm,0.8s
NC204 NORSAR Array S 62.50 0 P **P 00 06 24.7 -0.4**
NC303 NORSAR Array S 62.55 0 P **P 00 06 25.0 -0.3**
NC405 NORSAR Array S 62.66 360 P **P 00 06 26.2 +0.1**
NB2 NORSAR Subarra 62.73 0 P **P 00 06 26.2 -0.4**
comp=Z,3.0nm,0.8s,baz=359,slow=6.9
NOA NORSAR Array B 62.73 0 P **P 00 06 26.4 -0.2**
comp=Z,4.7nm,1.0s,baz=359,slow=6.6,SNR=6.7
comp=Z,4.7nm,1.0s
HFS Hagfors 63.63 359 P **P 00 06 31.8 -0.7**
comp=Z,3.6nm,0.5s,baz=45,slow=4.4,SNR=23
comp=Z,3.6nm,0.5s
GOMU GeErMu 64.02 297 P **P 00 06 35.8 -0.1**
GOMU pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 67.12 328 P **P 00 06 55.6 +0.4**
PABE Paberze 67.82 352 P **P 00 06 59.3 -0.3**
EKA Eskdalemuir Ar 67.83 9 P **P 00 06 59.5 -0.2**
comp=Z,2.7nm,0.7s,baz=346,slow=5.4,SNR=7.4
comp=Z,2.7nm,0.7s
AAK Ala-Archa 67.85 315 P **P 00 07 01.1 +0.8**
AAK Ala-Archa 67.85 315 LR LR 00 38 56.7
comp=Z,44nm,19.6s,baz=2.0,slow=38
PZH PanZhiHua 68.14 285 P **P 00 07 03.4 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,160nm,6.5s
KMI Kunming 68.71 283 ⇑P **P 00 07 07.6 +1.7**
KMI pmax pmax
comp=Z,8.0nm,0.9s
ARSB Arslanbob 69.56 315 P **P 00 07 11.8 +0.9**
ARSB IAmb IAmb 00 07 17.5
comp=Z,1.7nm,1.1s
BTK Batken 71.49 316 P **P 00 07 23.2 +0.5**
ESQI Esquipulas 72.05 91 P P 00 07 19.5 -6.7
AKASG Malin Array Be 72.09 348 P **P 00 07 25.0 -0.9**
comp=Z,5.5nm,0.6s,baz=16,slow=6.0,SNR=24
comp=Z,5.5nm,0.6s
AKBB Malin Array Si 72.09 348 P **P 00 07 25.1 -0.8**
KIEV Kiev 72.10 348 P **P 00 07 25.4 -0.5**
CLL Collm 72.48 359 *i* P **P 00 07 28.0 -0.2**
comp=Z,5.0nm,0.8s
GAR Garm 72.60 316 P **P 00 07 29.7 +0.4**
BRG Berggiesshubel 72.91 358 *e*P **P 00 07 31.0 +0.2**
BRG Amp 00 07 31.9
comp=Z,4.4nm,1.0s
BRG Berggiesshubel 72.91 358 P P 00 07 35.6 +4.8
BRG Amp 00 07 36.5
comp=Z,4.5nm,1.0s
DPC Dobruska-Polom 73.37 357 *e*P **P 00 07 34.1 +0.5**
KRLC Kraliky 73.63 356 *e*P **P 00 07 35.0 -0.1**
MORC Moravsky Berou 73.90 356 *e*P **P 00 07 36.3 -0.4**
ZVC Zvikov 74.34 358 *e*P **P 00 07 39.4 +0.2**
VRAC Vranov 74.41 356 *e*P **P 00 07 40.1 +0.5**
VRAC *e* 00 07 45.1
KHC Kasperske Hory 74.66 359 *e*P **P 00 07 41.5 +0.4**
KRUC Moravsky 74.66 357 *e*P **P 00 07 41.0 -0.1**
KRUC *e* 00 07 46.5
JAVC Velka Javorina 74.81 356 *e*P **P 00 07 42.6 +0.5**
GERES GERESS Array B 74.94 358 P **P 00 07 42.8 -0.1**
comp=Z,1.1nm,0.6s,baz=19,slow=5.7,SNR=3.7
comp=Z,1.1nm,0.6s
CKRC Cesky Krumlov 74.95 358 *e*P **P 00 07 43.8 +1.0**
CONA Conrad Observa 75.81 357 *i* pP **P 00 07 48.4 +0.6**
comp=Z,5.9nm,1.0s
RONA Rosalia, Austr 76.02 357 *i* pP **P 00 07 49.9 +0.9**
comp=Z,4.6nm,1.1s
CMAR Chiang Mai Arr 76.16 282 P **P 00 07 50.2 +0.1**
comp=Z,0.8nm,0.3s,baz=16,slow=5.9,SNR=10
comp=Z,0.8nm,0.3s
LESA Schwarzleotal 76.37 359 *i* pP **P 00 07 51.8 +0.7**
comp=Z,8.3nm,1.7s

MOTA	Moosalm	76.46	0	*i* P		P	00 07 51.6	0.0
	comp=Z,5.7nm,1.0s							
WATA	Walderalm	76.47	360	*i* P		P	00 07 51.8	+0.2
	comp=Z,6.7nm,1.2s							
ARSA	Arzberg	76.50	357	*i* pP		P	00 07 52.4	+0.7
	comp=Z,3.6nm,0.8s							
DAVA	Damuels	76.51	1	*i* pP		P	00 07 52.5	+0.6
	comp=Z,5.4nm,1.0s							
WTTA	Wattenberg	76.54	360	*i* pP		P	00 07 53.2	+1.0
	comp=Z,17nm,1.4s							
SQTA	Sankt Quirin	76.58	0	*i* P		P	00 07 52.0	-0.3
	comp=Z,9.8nm,1.1s							
KBZ	Khabaz	76.62	337	P		P	00 07 53.3	+1.0
	comp=Z,4.5nm,0.9s,baz=339,slow=6.9,SNR=5.2							
KBZ				LR		LR	00 44 52.9	
	comp=Z,46nm,21.9s,baz=356,slow=38							
	comp=Z,4.5nm,0.9s							
KBA	Koelnbreinsper	76.71	359	*i* pP		P	00 07 53.9	+0.8
	comp=Z,11nm,1.3s							
FETA	Feichten	76.78	0	*i* P		P	00 07 53.4	0.0
	comp=Z,6.0nm,0.8s							
ABTA	Abfaltersbach	77.05	359	*i* pP		P	00 07 56.9	+2.0
	comp=Z,7.7nm,1.4s							
SOKA	Soboth	77.08	357	*i* pP		P	00 07 56.4	+1.4
	comp=Z,10.0nm,1.1s							
MYKA	Terra Mystica	77.16	358	*i* pP		P	00 07 56.3	+0.8
	comp=Z,12nm,1.6s							
OBKA	Obir	77.26	358	*i* pP		P	00 07 57.0	+0.9
	comp=Z,17nm,0.8s							
SJG	San Juan	81.71	70	LR		LR	00 46 52.9	
	comp=Z,17nm,19.6s,baz=32,slow=37							
BRTR	Keskin Array B	82.25	343	P		P	00 08 23.9	+0.5
	comp=Z,1.9nm,0.8s,baz=31,slow=2.1,SNR=6.8							
	comp=Z,1.9nm,0.8s							
ESDC	Sonseca Array	83.24	12	P		P	00 08 28.5	+0.1
	comp=Z,1.9nm,0.9s,baz=338,slow=5.1,SNR=8.8							
	comp=Z,1.9nm,0.9s							
SDV	Santo Domingo	87.00	79	LR		LR	00 49 02.9	
	comp=Z,40nm,19.3s,baz=62,slow=37							
MMAI	Mount Meron Ar	88.47	340	LR		LR	00 54 40.6	
	comp=Z,21nm,18.6s,baz=292,slow=40							
WRA	Warramunga Arr	89.97	232	P		P	00 09 00.6	-0.7
	comp=Z,1.1nm,1.1s,baz=41,slow=5.2,SNR=3.7							
	comp=Z,1.1nm,1.1s							
EIL	Elat	91.81	340	LR		LR	00 55 04.0	
	comp=Z,16nm,19.3s,baz=26,slow=39							
ASAR	Alice Springs	93.44	231	P		P	00 09 17.2	-0.1
	comp=Z,0.8nm,0.7s,baz=21,slow=4.4,SNR=11							
	comp=Z,0.8nm,0.7s							
QSPA	South Pole Qui	146.34	180	PKPbc		PKPbc	00 15 41.1	-0.3
	comp=Z,2.7nm,0.5s,baz=95,slow=9.2,SNR=10.0							
BOSA	Boshof	150.39	335	PKPbc		PKPbc	00 15 53.3	0.0
	comp=Z,2.7nm,0.5s,baz=18,slow=2.8,SNR=15							
MAW	Mawson	154.35	224	PKPbc		PKPbc	00 16 00.4	-0.3
	comp=Z,1.3nm,0.6s,baz=77,slow=2.0,SNR=8.5							

AEIC 17 00:08:44.7±1.6, 56°.59N±0°.05×168°.57W±0°.09, h24km±7km, Error ellipse: s-maj=8.9km s-min=6.0km az=223.0

NEIC 17 00:08:46.3±1.2, 56°.59N±0°.06×168°.61W±0°.05, h19km±7km, ML3.6/12, ML3.4(AEIC), Error ellipse: s-maj=9.6km s-min=2.6km az=201.0, Pribilof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P08K	Saint George I	0.52	272		Pb	00 08 56.1	-0.6
P08K					Sg	00 09 03.8	0.0
SPIA	Saint Paul Isl	1.08	304		Sg	00 09 21.5	+0.2
SPIA	Saint Paul Isl	1.08	304		Pb	00 09 06.0	-0.2
AKGG	Akutan Green G	2.82	147		Pn	00 09 29.8	-0.5
LVA	Lava Point	2.84	148	Pn	Pn	00 09 30.4	-0.2
LVA					Pg	00 09 40.8	0.0
LVA				IAML		00 10 32.2	
	comp=E,205nm,0.7s						
MSW	Makushin Switc	2.88	158		Pn	00 09 31.1	0.0
MAPS	Pakushin South	2.95	160		Pn	00 09 32.6	+0.6
WEBT	Westdahl Beart	2.96	131		Pn	00 09 32.4	+0.1
MGOD	Makushin Gods	2.97	160		Pn	00 09 31.9	-0.4
UNV	Unalaska Valle	3.00	155		Pn	00 09 32.9	+0.2
WESE	West Dahl East	3.12	131		Pn	00 09 33.3	-1.1
S12K	Black Hills	3.77	101		Pn	00 09 42.9	-0.4
S12K	Black Hills	3.77	101	IAML		00 10 46.4	
	comp=E,63nm,1.4s						
M11K	Mekoryuk	4.01	17		Pn	00 09 47.1	+0.5
M11K	Mekoryuk	4.01	17	IAML		00 10 55.9	
	comp=N,103nm,1.3s						
M13K	Dall Lake	4.72	34	Pn	Pn	00 09 56.5	+0.2
M13K				IAML		00 11 31.1	
	comp=E,47nm,1.5s						
M13K				IAML		00 11 32.2	
	comp=N,48nm,1.4s						
O14K	Tigyukauivet M	4.74	53	Pn	Pn	00 09 56.7	+0.1
O14K				IAML		00 11 25.2	
	comp=E,61nm,0.9s						
N14K	Kuskokwak Cree	4.95	45		Pn	00 09 59.6	+0.1
O15K	Ungalikthiuk R	5.36	57		Pn	00 10 04.6	-0.5
KOFP	Korovin Flat P	5.38	219		Pn	00 10 07.4	+1.9
M14K	Bethel	5.43	37	Pn	Pn	00 10 06.0	0.0
ATKA	Atka Island	5.47	219		Pn	00 10 08.2	+1.5
CHGN	Chignik	5.66	89	Pn	Pn	00 10 09.2	-0.1
L14K	Kuka Creek	5.67	30		Pn	00 10 08.8	-0.5
K13K	Kusilvak Mount	5.73	19	Pn	Pn	00 10 12.8	+2.6
N15K	Kwethluk River	5.74	48		Pn	00 10 10.2	-0.2
M15K	Kasigluk River	5.83	42		Pn	00 10 11.5	-0.2
L15K	Ungalak Mounta	6.28	33		Pn	00 10 18.6	+0.9
O16K	Kokwok River B	6.34	57	Pn	Pn	00 10 18.3	-0.2
ADK	Adak	6.68	228	Pn	Pn	00 10 25.0	+1.8
J14K	Nanvaranak Lak	6.69	20	Pn	Pn	00 10 27.4	+4.1
M16K	Timber Creek	6.70	44	Pn	Pn	00 10 24.8	+1.3
PLK4	Peulik 4	6.76	76	Pn	Pn	00 10 22.8	-1.6
K15K	Wolf Creek Mou	6.76	29	Pn	Pn	00 10 24.7	+0.3
L16K	Owhat River	6.96	39	Pn	Pn	00 10 26.2	-0.8
N17K	Nushagak Hills	7.16	52	Pn	Pn	00 10 30.4	+0.7
ACHA	Angle Creek He	7.36	72	Pn	Pn	00 10 31.7	-0.9
M17K	Holitna River	7.52	45	Pn	Pn	00 10 34.8	+0.1
SII	Sitkinak Islan	7.97	84	Pn	Pn	00 10 40.1	-0.9
K17K	Iditarod	8.05	36	Pn	Pn	00 10 42.9	+0.8
L18K	Granite Mounta	8.29	42	Pn	Pn	00 10 44.9	-0.4
M20K	Styx River	9.53	50	Pn	Pn	00 11 02.0	-0.3
J19K	Poorman	9.81	36	Pn	Pn	00 11 03.2	-2.9
J20K	Nowinta River	10.42	37	Pn	Pn	00 11 14.2	-0.3
CAST	Castle Rocks	10.71	44	Pn	Pn	00 11 16.7	-1.8

NEIC 17 00:19:53.5±2.1, 35°.03N±0°.01×97°.61W±0°.02, h10km±8km, ML2.3/15, ML2.0/33, Error ellipse: s-maj=2.6km s-min=1.6km az=103.0

NEIC 17 00:19:52.1±1.6, 35°.01N±0°.01×97°.60W±0°.01, h5km±5km, Error ellipse: s-maj=1.8km s-min=1.5km az=125.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	Franklin	0.30	33	Pg	Pg	00 19 58.6	+0.6
FNO				IAML		00 20 07.7	
	comp=E,197nm,0.4s						
X34A	Smith Ranch, M	0.45	206		Pg	00 20 01.6	+0.8
X34A					Sb	00 20 09.6	+0.1
X34A				IAML		00 20 13.6	
	comp=N,95nm,0.5s						
W35A	Tecumseh	0.61	76		Pg	00 20 04.4	+0.5
OK029	Liberty Lake	0.80	8	Pg	Pg	00 20 07.8	+0.3
OK029					Sb	00 20 18.8	-0.7
OK029				IAML		00 20 22.5	
	comp=N,59nm,0.4s						
WMOK	Wichita Mounta	1.01	255		Pg	00 20 10.9	-0.6
WMOK	Wichita Mounta	1.01	255		Pg	00 20 11.0	-0.5
WMOK					Sn	00 20 26.8	-0.7
LOOK	Love County	1.07	161	Pg	Pg	00 20 12.1	-0.5
LOOK				IAML		00 20 41.0	
	comp=N,42nm,2.9s						
LOOK				IAML		00 20 42.9	
	comp=E,49nm,2.2s						
OK052	Battle Ridge R	1.18	33	Pg	Pg	00 20 14.2	-0.5
DEOK	Depew	1.23	47		Pg	00 20 15.1	-0.6
QUOK	Quay	1.37	32		Pn	00 20 17.0	-0.9
OK048	Pawnee Station	1.50	20		Pn	00 20 19.8	0.0
CROK	Carrier	1.53	348		Pn	00 20 19.7	-0.4
OK051	E0350 and S346	1.62	22	Pn	Pn	00 20 21.1	-0.2
TUL3	Leonard	1.73	58	Pn	Pn	00 20 21.8	-1.0
OK038	West end E0370	1.74	328	Pn	Pn	00 20 23.1	+0.1
GC02	Grant County #	1.85	353	Pn	Pn	00 20 25.0	+0.4
PLPT	Palo Pinto	2.27	195	Pn	Pn	00 20 31.4	+1.2

IDC 17 00:20:56.5±7.8, 18°.22S×176°.20W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=351.1km s-min=120.7km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.64	260	P	P	00 29 27.2	+0.1
	0.3nm,0.7s,baz=96,slow=6.8,SNR=6.5						
	0.3nm,0.7s						
ASAR	Alice Springs	46.73	254	P	P	00 29 27.3	-0.5
	0.4nm,0.5s,baz=85,slow=8.1,SNR=7.8						
	0.4nm,0.5s						
AKASG	Malin Array Be	141.79	334	PKP	PKPdf	00 40 30.1	0.0
	0.5nm,0.4s,baz=41,slow=3.8,SNR=4.6						

AEIC 17 00:43:09.0±2.1, 56°.56N±0°.05×168°.56W±0°.10, h22km±8km, Error ellipse: s-maj=9.9km s-min=3.7km az=50.0

NEIC 17 00:43:11.3±1.8, 56°.55N±0°.04×168°.6W±0°.1, h21km±7km, mb_Lg3.1/4, ML3.5/12, ML3.1(AEIC), Error ellipse: s-maj=9.6km s-min=2.5km az=55.0, Pribilof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P08K	Saint George I	0.51	277		Pb	00 43 20.3	-1.3
P08K					Sb	00 43 27.9	-0.6
SPIA	Saint Paul Isl	1.09	306		Sn	00 43 46.5	+0.9
SPIA	Saint Paul Isl	1.09	306		Pn	00 43 30.6	-0.6
SPIA					Sn	00 43 45.6	-0.1
LVA	Lava Point	2.81	147	Pn	Pn	00 43 54.6	-0.3
LVA					Pb	00 44 01.8	+1.1
LVA				IAML		00 44 51.2	
	comp=E,168nm,0.8s						
MTBL	Makushin Table	2.81	156		Pn	00 43 55.2	+0.2
MSW	Makushin Switc	2.84	157		Pn	00 43 55.3	0.0
MSW					Sn	00 44 29.9	+1.1
AKMO	Akutan Morgan	2.88	148		Pn	00 43 55.4	-0.4
AKBBA	Akutan Broad B	2.90	147		Pn	00 43 56.3	+0.2
MAPS	Pakushin South	2.91	160		Pn	00 43 56.8	+0.6
UNV	Unalaska Valle	2.97	155		Pn	00 43 55.4	-1.7
UNV					Pb	00 44 03.2	-0.1
S12K	Black Hills	3.77	100	Pn	Pn	00 44 06.3	-1.9
S12K				IAML		00 45 13.2	
	comp=N,79nm,1.5s						
S12K				IAML		00 45 13.3	
	comp=E,64nm,1.2s						
M11K	Mekoryuk	4.06	17		Pn	00 44 16.9	+4.9
M11K				IAML		00 45 24.8	
	comp=N,77nm,0.9s						
M13K	Dall Lake	4.77	33		Pb	00 44 32.4	-1.5
M13K				IAML		00 45 48.9	
	comp=E,31nm,0.8s						
O14K	Tigyukauivet M	4.78	52		Pn	00 44 20.7	-1.1
O14K				IAML		00 45 47.7	
	comp=N,46nm,1.1s						
O14K				IAmb_Lg		00 45 49.4	
	comp=Z,48nm,1.0s						
ATKA	Atka Island	5.43	219		Pn	00 44 33.4	+2.5
L14K	Kuka Creek	5.71	30		Pn	00 44 41.0	+6.4
K13K	Kusilvak Mount	5.78	19	Pn	Pn	00 44 42.0	+6.4
N15K	Kwethluk River	5.78	48	Pn	Pn	00 44 41.9	+6.2
N15K				IAmb_Lg		00 46 24.3	
	comp=Z,20nm,0.8s						
O16K	Kokwok River B	6.37	57	Pn	Pn	00 44 51.0	+7.3
J14K	Nanvaranak Lak	6.73	20	Pn	Pn	00 44 53.9	+5.2
M16K	Timber Creek	6.74	44	Pn	Pn	00 44 54.6	+5.8
K15K	Wolf Creek Mou	6.80	29	Pn	Pn	00 44 55.8	+6.1
L16K	Owhat River	7.00	38	Pn	Pn	00 44 58.2	+5.8
N17K	Nushagak Hills	7.19	52	Pn	Pn	00 45 02.2	+7.2
M17K	Holitna River	7.55	45	Pn	Pn	00 45 06.8	+6.8
N18K	Kilae Creek	7.83	53	Pn	Pn	00 45 11.8	+7.9
J16K	Anvik River	7.87	27	Pn	Pn	00 45 12.3	+8.1

CATAC 17 00:49:20.1±1.0, 14°.34N×92°.32W, h17km±6km, ML3.4
MEX 17 00:49:21.4±0.6, 14°.40N×92°.37W, h59km±11km, MD4.2

ISC 17 00:49:18.0±1.3, 14°.24N±0°.07×92°.46W±0°.04, h44km±31km, n28, σ2°.24/47, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.69	16	*i* P	Pn	00 49 32.1	+0.6
THIG				*e*S	Sn	00 49 39.8	-1.3
SMCA	Catarina	0.72	31	*i* P	Pn	00 49 31.8	-0.1
SMCA				IAML		00 49 43.3	
	comp=Z,1μm,1.0s						
RTAL	Retalhuleu	0.79	69	*e*P	Pn	00 49 33.5	+0.7
RTAL				*e*S	Sn	00 49 42.7	-0.8
RTAL	Retalhuleu	0.79	69	*i* P	Pn	00 49 33.6	+0.7
RTAL				IAML		00 49 45.4	
	comp=Z,930nm,1.0s						
CHUJ	Union Juarez	0.92	22	*e*P	Pn	00 49 34.4	-0.3
CHUJ				*e*S	Sn	00 49 45.1	-1.8
SOKI	Kika Raxquin	1.17	60	*i* P	Pn	00 49 38.8	+0.4
SOKI				*i* S	Sn	00 49 53.0	-0.4
SOKI				IAML		00 49 55.3	
	comp=Z,290nm,1.0s						
HUEH	Huehuetenango	1.42	41	*e*P	Pn	00 49 37.2	-4.4
HUEH				*e*S	Sn	00 49 57.4	-1.8
PCIG		1.63	333	*e*P	Pn	00 49 45.2	+0.8
PCIG				*e*S	Sn	00 50 03.5	-0.6
QUIS	Sacapulas	1.69	51	*i* P	Pn	00 49 46.6	+1.4
QUIS				*i* S	Sn	00 50 06.5	+0.9
QUIS				IAML		00 50 07.3	
	comp=Z,620nm,1.0s						
CCIG	Comitan	2.06	9	*e*P	Pn	00 49 52.7	+2.3
CCIG				*e*S	Sn	00 50 15.3	+0.5
CCIG	Comitan	2.06	9	*i* P	Pn	00 49 52.6	+2.3
CCIG				*i* S	Sn	00 50 16.9	+2.1
CCIG				IAML		00 50 21.7	
	comp=Z,350nm,1.0s						
CARR	Arriaga	2.44	325	*e*P	Pn	00 49 57.6	+2.2
CARR				*e*S	Sn	00 50 24.8	+0.7
TGIG		2.61	346	*e*P	Pn	00 49 58.8	+1.0
TGIG				*e*S	Sn	00 50 25.4	-2.8
NUBE	Las Nubes	2.62	97	*i* P	Pn	00 49 59.9	+1.9
NUBE				IAML		00 51 28.7	
	comp=Z,250nm,1.0s						
UXUV	UXUV	3.47	332	*e*P	Pn	00 50 11.9	+2.4
UXUV				*e*S	Sn	00 50 53.5	+4.2
PETF	Flores	3.65	43	*e*P	Pn	00 50 09.3	-2.7
PETF				*e*S	Sn	00 50 49.8	-4.1
CMIG	Matias Romero	3.68	321	*e*P	Pn	00 50 13.7	+1.2
CMIG				*e*S	Sn	00 50 52.6	-1.9
HUIG	Huatulco	3.84	294	*e*P	Pn	00 50 14.5	-0.2
HUIG				*e*S	Sn	00 50 56.3	-2.3
TUIG	Tuzandepetl	4.22	334	*e*S	Sn	00 51 11.7	+3.7
NEUV	Arroyo Zacate	4.72	317	*e*P	Pn	00 50 29.2	+2.4
NEUV				*e*S	Sn	00 51 19.8	-0.4
PEIG	Puerto Escondi	4.86	292	*e*P	Pn	00 50 31.1	+2.5
PEIG				*e*S	Sn	00 51 18.7	-5.0
YOIG	Yosondua	5.55	299	*e*P	Pn	00 50 42.8	+4.3
YOIG				*e*S	Sn	00 51 51.8	+11
TOIG	Toxpalan	5.86	312	*e*P	Pn	00 50 44.2	+1.8
TOIG				*e*S	Sn	00 51 45.9	-2.6
PNIG	Pinotepa	5.88	292	*e*P	Pn	00 50 44.4	+1.8
PNIG				*e*S	Sn	00 51 43.7	-5.0
TXIG	Tlaxiaco	5.93	301	*e*P	Pn	00 50 48.4	+4.8
TXIG				*e*S	Sn	00 51 51.9	+1.5
HLIG	Huajuapan de L	6.26	306	*e*P	Pn	00 50 55.0	+6.9
HLIG				*e*S	Sn	00 51 56.1	-2.4
FTIG	Fresnillo de T	6.56	305	*e*P	Pn	00 50 54.4	+2.2
FTIG				*e*S	Sn	00 52 04.0	-1.9
JAUV	Jalcomulco	6.58	321	*e*P	Pn	00 50 51.6	-0.7
JAUV				*e*S	Sn	00 52 04.3	-1.9

AEIC 17 01:15:02.0±1.8, 56°.57N±0°.02×168°.51W±0°.06, h16km±6km, Error ellipse: s-maj=4.8km s-min=2.0km az=77.0

NEIC 17 01:15:04.1±1.2, 56°.57N±0°.04×168°.63W±0°.06, h18km±3km, ML3.5/10, ML3.1(AEIC), Error ellipse: s-maj=6.4km s-min=4.0km az=216.0, Pribilof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P08K	Saint George I	0.51	274		Pg	01 15 13.6	-0.7
P08K					Sb	01 15 21.4	-0.1
SPIA	Saint Paul Isl	1.08	305		Pb	01 15 23.6	-0.5
SPIA	Saint Paul Isl	1.08	305		Sg	01 15 39.6	+0.6
LVA	Lava Point	2.83	147		Pn	01 15 48.0	-0.4
LVA				IAML		01 16 56.4	
	comp=E,147nm,1.2s						
MTBL	Makushin Table	2.83	156		Pn	01 15 47.5	-1.0
MTBL					Pb	01 15 49.9	-4.3
MSW	Makushin Switc	2.86	158		Pn	01 15 49.2	+0.3
MSW					Sn	01 16 22.8	-0.1
AKMO	Akutan Morgan	2.90	148		Pn	01 15 48.6	-0.7
MGOD	Makushin Gods	2.96	159		Pn	01 15 50.4	+0.3
WEBT	Westdahl Beart	2.96	130		Pn	01 15 50.4	+0.2
UNV	Unalaska Valle	2.99	155		Pn	01 15 50.8	+0.3
WESE	West Dahl East	3.11	131		Pn	01 15 52.0	-0.3
S12K	Black Hills	3.78	101		Pn	01 16 01.4	0.0
S12K				IAML		01 17 25.1	
	comp=N,65nm,1.3s						
S12K				IAML		01 17 25.4	
	comp=E,45nm,1.4s						
M11K	Mekoryuk	4.03	17	Pn	Pn	01 16 06.3	+1.4
M11K				IAML		01 17 24.1	
	comp=E,71nm,0.9s						
M11K				IAML		01 17 26.1	
	comp=N,70nm,1.3s						
O14K	Tigyukauivet M	4.76	53	Pn	Pn	01 16 14.1	-0.7
O14K				IAML		01 17 43.5	
	comp=E,42nm,0.9s						
M14K	Bethel	5.45	37	Pn	Pn	01 16 24.1	-0.2
L14K	Kuka Creek	5.69	30	Pn	Pn	01 16 27.1	-0.5

ASRS 17 01:20:24.6±0.2, 51°.N±1°.×9°.0E±°, h10km, MLh3.3/13, Error ellipse: s-maj=2.6km s-min=2.1km az=130.7, confirmed
NNC 17 01:20:31.5±2.7, 51°.09N×89°.28E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=20.7km s-min=11.6km az=92.0

ISC 17 01:20:26.4±1.1, 51°.04N±0°.03×89°.89E±0°.03, h7km±10km, n25, σ1°.43/48, 8C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEL	Teeli	0.20	97	⇑Pg	Pg	01 20 30.0	-0.3
TEL				Sg	Sg	01 20 33.3	+0.3
ULGR	Ulagan, Altay	1.29	252	Pg	Pn	01 20 49.2	-1.8
ULGR				Sg	Sb	01 21 06.4	-1.6
CUR	Chagan-Uzun	1.36	227	Pg	Pn	01 20 51.8	-0.2
CUR				Sg	Sb	01 21 09.2	-0.8
YALR	Yailyu, Altay	1.60	298	Pg	Pb	01 20 56.1	-0.2
YALR				Sg	Sn	01 21 15.5	-0.6
AKAR	Aktash	1.62	244	Pg	Pb	01 20 56.3	-0.3
AKAR				Sg	Sg	01 21 19.0	+0.8
CHBI	Chibit, Altay	1.69	245	Pg	Pb	01 20 57.7	-0.1
CHBI				Sg	Sg	01 21 21.7	+1.2
ARTR	Artybash	1.80	296	Pg	Pb	01 20 59.5	-0.2
ARTR				Sg	Sb	01 21 21.9	-0.6
DJO	Djoy, Khakassi	1.93	25	Pg	Pb	01 21 01.3	-0.5
DJO				Sg	Sb	01 21 25.5	-0.6
CERR	Cheremushki	2.04	27	Pg	Pb	01 21 03.5	-0.3
CERR				Sg	Sb	01 21 29.8	+0.3
VEH	Verkhnyaya Baz	2.23	7	Pn	Pn	01 21 05.0	+1.2
VEH				Pg	Pb	01 21 06.7	-0.3
VEH				Sg	Sb	01 21 34.7	-0.2
ARDR	Aradan	2.68	54	Pg	Pb	01 21 14.4	-0.4
ARDR				Sg	Sb	01 21 49.0	+1.1
LUZB	Luzhba, Kemero	2.69	347	Pg	Pb	01 21 14.2	-0.7
LUZB				Sg	Sb	01 21 48.3	+0.2
KIYZ	Kiyzas, Kuzbas	2.84	333	Pg	Pb	01 21 17.5	+0.2
KIYZ				Sg	Sb	01 21 53.7	+1.4
KALT2	Kaltan 2	2.84	327	Pg	Pb	01 21 17.4	0.0
KALT2				Sg	Sb	01 21 53.3	+1.0
MALIN	Malinovka, Kuz	2.87	327	Pg	Pb	01 21 18.1	+0.1
MALIN				Sg	Sb	01 21 55.7	+2.4
KALT3	Kaltan 3	2.90	330	Sg	Sb	01 21 56.1	+2.1
TAIL	Tailep, Kuzbas	2.92	327	Sg	Sb	01 21 57.3	+2.6
ELT	Eltsovka	3.16	316	Pn	Pn	01 21 17.5	+0.9
ELT				Pg	Pb	01 21 22.6	-0.2
ELT				Sg	Sb	01 22 03.3	+1.7
UKR	Ust'-Kan	3.24	270	Pg	Pb	01 21 24.5	+0.3
UKR				Sg	Sg	01 22 10.5	+0.2
VCHU	Verkh-Chumysh,	3.60	325	Pg	Pb	01 21 31.5	+1.2
VCHU				Sg	Sg	01 22 18.6	-3.2
KOTO	Kotino, Kuzbas	3.63	331	Pg	Pb	01 21 32.6	+1.7
KOTO				Sg	Sg	01 22 19.7	-3.2
ZAA0	Zalesovo Array	4.25	315	⇓Pg	Pb	01 21 43.4	+2.0
	1.4nm,0.9s						
ZAA0				⇑Lg	Lg	01 22 36.6	
	2.3nm,0.7s						
MK31	Makanchi Array	6.57	233	⇑Pn	Pn	01 22 05.9	+2.6
	1.9nm,0.5s,baz=60,slow=12,SNR=25						
MK31				⇑Sn	Sn	01 23 18.9	+0.4
	0.7nm,0.4s						
MK31				⇓Lg	Lg	01 23 53.0	
	4.7nm,0.6s,baz=44,slow=29,SNR=4.2						
KURK	Kurchatov	7.14	272	⇑Sn	Sn	01 23 32.1	-0.4
	3.2nm,0.8s						
KURK				⇑Lg	Lg	01 24 07.2	
	6.0nm,0.8s						
KURBB	Kurchatov Arra	7.21	271	⇑Pn	Pn	01 22 13.1	+1.0
	1.3nm,0.5s						
KURBB				⇑Sn	Sn	01 23 30.3	-3.9
	6.8nm,0.7s						
KURBB				⇓Lg	Lg	01 24 10.8	
	16nm,0.8s						

NEIC 17 01:27:52.3±1.2, 13°.0N±0°.1×143°.3E±0°.2, h208km±9km, mb4.1/16, Error ellipse: s-maj=26.9km s-min=15.8km az=122.0
IDC 17 01:28:04.5±1.3, 12°.87N×143°.30E, h347km±14km, mb3.4/13, mbtmp4.1/13, Error ellipse: s-maj=20.3km s-min=12.0km az=94.0

ISC 17 01:28:04.7±0.6, 12°.83N±0°.10×143°.2E±0°.1, h350km, n37, σ1°.57/38, mb4.0/23, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.80	65	Sn	Pn	01 28 53.7	-1.0
GUMO	Guam	1.80	65	P	Pn

C23K IAmb IAmb 01 38 57.4
comp=Z,5.5nm,1.4s
IL31 **69.95 25** P **P** **01 38 37.2 -1.3**
IL31 IAmb IAmb 01 38 38.7
comp=Z,2.4nm,0.7s
ILAR **Eielson Array** **69.95 25** P **P** **01 38 37.4 -1.3**
comp=Z,1.4nm,0.6s,baz=250,slow=5.8,SNR=33
comp=Z,1.4nm,0.6s
BMAR **Burnt Mountain** **71.43 23** P **P** **01 38 48.8 +1.3**
F26K **Sheenjek River** **71.65 23** P **P** **01 38 50.1 +1.4**
F26K IAmb IAmb 01 38 50.6
comp=Z,2.7nm,0.7s
C27K **Jago River** **72.18 21** P **P** **01 38 53.2 +1.3**
C27K IAmb IAmb 01 39 02.1
comp=Z,4.9nm,0.8s
ABKAR **Akbulak array** **76.01 318** P **P** **01 39 15.2 +1.1**
ABKAR **Akbulak array** **76.01 318** P **P** **01 39 14.9 +0.8**
ABKAR IAmb IAmb 01 39 15.5
comp=Z,3.6nm,1.4s
YKA **Yellowknife Ar** **84.28 27** P **P** **01 39 57.8 +0.2**
comp=Z,0.7nm,0.7s,baz=262,slow=22,SNR=1.8
comp=Z,0.7nm,0.7s
ARCES **ARCESS Array B** **87.30 342** P **P** **01 40 12.7 +0.5**
comp=Z,4.3nm,1.0s,baz=76,slow=7.9,SNR=5.4
comp=Z,4.3nm,1.0s
NVAR **Mina Array Bea** **88.67 51** P **P** **01 40 21.8 +2.2**
NVAR **Mina Array Bea** **88.67 51** P **P** **01 40 20.9 +1.4**
comp=Z,0.5nm,0.5s,baz=267,slow=5.4,SNR=7.9
comp=Z,0.5nm,0.5s
FIA1 **FINESS Array S** **91.15 335** P **P** **01 40 30.3 +0.1**
FINES **FINESS Array B** **91.15 335** P **P** **01 40 30.6 +0.3**
FINES **FINESS Array B** **91.15 335** P **P** **01 40 30.2 0.0**
comp=Z,1.3nm,0.4s,baz=71,slow=4.8,SNR=20
comp=Z,1.3nm,0.4s

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*IDC **17** 01:48:09.0±0.7,29.°34S×178.°15W,h80km±13km,mb3.9/4, mbtmp4.2/4,MS3.0/1,Error ellipse: s-maj=42.3km s-min=30.3km az=10.0*

ISC 17 01:48:08.7±1.0,29.°4S±0.°3×178.°0W±0.°2,h88km±10km,n22, σ1♀55/13,mb4.1/6,4C,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.15**	**17**	P	**Pn**	**01 48 20.7**	**-0.7**
	879nm,0.2s,baz=37,slow=20,SNR=4.0						
RAO				S	**Sn**	**01 48 31.5**	**+0.8**
	5μm,0.2s,baz=90,slow=20,SNR=18						
DZM	**Mont Dzumac**	**15.82**	**294**	LR	LR	01 56 45.3	
	comp=Z,51nm,18.6s,baz=122,slow=33						
STKA	**Stephens Creek**	**34.74**	**256**	P	**P**	**01 54 50.8**	**+0.3**
	1.3nm,0.4s,baz=69,slow=8.6,SNR=4.7						
	1.3nm,0.4s						
ASAR	**Alice Springs**	**43.20**	**266**	P	**P**	**01 56 00.9**	**-0.3**
	0.7nm,0.4s,baz=104,slow=7.4,SNR=14						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**44.10**	**271**	P	**P**	**01 56 08.2**	**-0.2**
	1.5nm,0.3s,baz=110,slow=7.8,SNR=41						
	1.5nm,0.3s						
QSPA	**South Pole Qui**	**60.71**	**180**	P	**P**	**01 58 12.3**	**+1.7**
	1.6nm,0.4s,baz=303,slow=2.9,SNR=5.0						
	1.6nm,0.4s						
TROLL	**Troll, Antarti**	**78.87**	**180**	⇑P	**P**	**01 59 59.0**	**-2.9**
	comp=Z,22nm,0.3s						
SNAA	**Sanae**	**79.15**	**178**	⇑P	**P**	**02 00 01.9**	**-1.5**
	comp=Z,9.1nm,0.5s						
VNA3	**Neumayer Olymp**	**79.30**	**176**	⇑P	**P**	**02 00 05.5**	**+1.4**
	comp=Z,0.6nm,0.4s						
VNA2	**Neumayer--Watz**	**79.73**	**177**	⇑P	**P**	**02 00 04.3**	**-2.1**
	comp=Z,1.0nm,0.6s,baz=188,slow=3.7						
H03S2	**Juan Fernandez**	**80.99**	**124**	T	T	03 29 40.7	
	baz=239,slow=74,SNR=16						
H03S1	**Juan Fernandez**	**81.00**	**124**	T	T	03 29 41.8	
	baz=239,slow=74,SNR=13						
H03S3	**Juan Fernandez**	**81.01**	**124**	T	T	03 29 39.5	
	baz=239,slow=74,SNR=18						
H03N3	**Juan Fernandez**	**81.18**	**123**	T	T	03 29 39.1	
	baz=231,slow=78,SNR=3.6						
H03N2	**Juan Fernandez**	**81.18**	**123**	T	T	03 29 42.5	
	baz=231,slow=78,SNR=4.2						
H03N1	**Juan Fernandez**	**81.20**	**123**	T	T	03 29 40.2	
	baz=231,slow=78,SNR=6.1						
H10N3	**ASCENSION HYDR**	**39.70**	**154**	T	T	04 43 14.3	
	baz=202,slow=75,SNR=8.2						
H10N1	**ASCENSION HYDR**	**39.70**	**154**	T	T	04 43 12.8	
	baz=202,slow=75,SNR=12						
H10N2	**ASCENSION HYDR**	**39.72**	**154**	T	T	04 43 12.9	
	baz=202,slow=75,SNR=11						
FINES	**FINESS Array B**	**144.22**	**340**	PKP	**PKPdf**	**02 07 33.7**	**+0.1**
	comp=Z,2.8nm,0.5s,baz=41,slow=2.8,SNR=26						
AKASG	**Malin Array Be**	**150.52**	**324**	PKPbc	**PKiKP**	**02 07 50.5**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=50,slow=3.2,SNR=4.5						
MMAI	**Mount Meron Ar**	**151.30**	**286**	PKPbc	**PKiKP**	**02 07 53.5**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=107,slow=5.0,SNR=5.1						

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*DJA **17** 03:15:05.7±1.0,6.°N±.7°×12.°7E±.°,h105km±20km,M4.4/9, mb4.4/7,mB5.1/2,MLv4.5/9,Mw(mB)4.5/2*
*IDC **17** 03:15:06.7±2.3,5.°02N×125.°25E,h57km±20km,mb4.0/14, mbtmp4.3/15,ML4.4/1,MS3.1/11,Error ellipse: s-maj=37.1km s-min=11.5km az=76.0*
*NEIC **17** 03:15:06.8±1.9,5.°62N±0.°02×126.°5E±0.°1,h56km±10km, mb4.5/21,Error ellipse: s-maj=17.0km s-min=3.2km az=85.0*

ISC 17 03:15:07.1±0.5,5.°50N±0.°06×126.°6E±0.°1,h66km,n60, σ1♀65/60,mb4.4/27,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.87**	**327**		**Pn**	**03 15 35.6**	**-1.3**
DAV	**Davao City (W)**	**1.87**	**327**	P	**Pn**	**03 15 38.1**	**+1.2**
	137nm,0.3s,baz=96,slow=3.0,SNR=10						
DAV				S	**Sn**	**03 16 04.6**	**+5.0**
	556nm,0.4s,baz=243,slow=21,SNR=6.0						
DAV				LR	LR	03 16 31.0	
	comp=Z,577nm,21.2s,baz=150,slow=41						
	539nm,0.4s						
TNTI	**Ternate**	**4.75**	**171**	Pn	**Pn**	**03 16 16.0**	**-0.3**
TNTI	**Ternate**	**4.75**	**171**	P	**Pn**	**03 16 16.7**	**+0.4**
TOLI2	**Tolitoli**	**7.27**	**233**	Pn	**Pn**	**03 16 48.8**	**-1.9**
SANI	**Sanana**	**7.52**	**185**	P	**Pn**	**03 16 50.6**	**-3.6**
	20nm,0.8s,559nm0.1nm						
LUWI	**Luwuk**	**7.54**	**211**	Pn	**Pn**	**03 16 57.8**	**+3.3**
LUWI	**Luwuk**	**7.54**	**211**	P	**Pn**	**03 16 56.3**	**+1.8**
APSI	**Ampana**	**8.07**	**218**	P	**Pn**	**03 17 00.5**	**-1.1**
	59nm,1.0s						
FAKI	**Fak Fak**	**10.08**	**146**	Pn	**Pn**	**03 17 29.3**	**+0.1**
TGY	**Tagaytay City**	**10.21**	**327**	LR	LR	03 22 23.9	
	comp=Z,96nm,18.9s,baz=156,slow=44						
SBUM	**Sibu**	**14.67**	**259**	P	**P**	**03 18 38.7**	**+3.0**
KNRA	**Kununurra**	**21.15**	**174**	P	**P**	**03 19 47.6**	**+0.7**
KNRA				IAmb	IAmb	03 19 57.0	
	comp=Z,13nm,0.7s						
JOW	**Kunigami**	**21.27**	**4**	LR	LR	03 27 54.9	
	comp=Z,32nm,19.9s,baz=336,slow=35						
FITZ	**Fitzroy Crossi**	**23.47**	**182**	P	**P**	**03 20 11.5**	**+0.5**
WRA	**Warramunga Arr**	**26.40**	**163**	P	**P**	**03 20 39.8**	**+2.2**
WRA	**Warramunga Arr**	**26.40**	**163**	P	**P**	**03 20 38.5**	**+0.9**
	comp=Z,3.1nm,0.9s,baz=340,slow=10,SNR=26						
WRA				PcP	**PcP**	**03 24 02.4**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=344,slow=2.4,SNR=2.9						
WRA				ScP	**ScP**	**03 27 37.9**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=333,slow=3.2,SNR=4.5						
WRA				LR	LR	03 31 28.7	
	comp=Z,31nm,21.1s,baz=75,slow=37						
	comp=Z,3.1nm,0.9s						
WR0	**Warramunga Arr**	**26.47**	**163**	P	**P**	**03 20 39.4**	**+1.1**
WR0				IAmb	IAmb	03 20 53.4	
	comp=Z,13nm,1.4s						
NJ2	**Nanjing**	**27.40**	**346**	*e*P	**P**	**03 20 47.0**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
JNU	**Nakatsue**	**27.77**	**8**	LR	LR	03 32 05.9	
	comp=Z,21nm,20.3s,baz=171,slow=36						
AS31	**Alice Springs**	**29.85**	**166**	P	**P**	**03 21 10.4**	**+2.1**
ASAR	**Alice Springs**	**29.85**	**166**	P	**P**	**03 21 07.6**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=348,slow=7.1,SNR=14						
ASAR				PcP	**PcP**	**03 24 10.8**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=348,slow=2.1,SNR=10						
ASAR				ScP	**ScP**	**03 27 48.9**	**+1.9**
	comp=Z,0.5nm,0.6s,baz=353,slow=2.9,SNR=5.7						
	comp=Z,0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**29.91**	**298**	LR	LR	03 33 18.7	
	comp=Z,11nm,19.3s,baz=110,slow=38						
GIRL	**Giralia**	**30.48**	**203**	P	**P**	**03 21 14.1**	**+0.2**
PZH	**PanZhiHua**	**31.62**	**314**	P	**P**	**03 21 25.3**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,50nm,3.8s						
KSRS	**Korea Array**	**31.83**	**2**	LR	LR	03 37 42.5	
	comp=Z,12nm,18.5s,baz=355,slow=42						
BJI	**Beijing**	**35.65**	**346**	P	**P**	**03 21 59.3**	**+0.5**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MORW	**Morawa**	**35.84**	**196**	P	**P**	**03 22 00.8**	**+0.2**
MORW				IAmb	IAmb	03 22 01.0	
	comp=Z,9.7nm,1.1s						
HHC	**Hu-ho-hao-te**	**37.70**	**341**	*e*P	**P**	**03 22 17.5**	**+1.2**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,5.9s						
SHL	**Shillong**	**38.76**	**305**	P	**P**	**03 22 23.5**	**-2.1**
SHL				IAmb	IAmb	03 22 25.9	
	comp=Z,8.0nm,0.8s						
BBOO	**Buckleboo**	**39.14**	**167**	P	**P**	**03 22 31.4**	**+3.0**
BBOO				IAmb	IAmb	03 23 13.8	
	comp=Z,16nm,1.4s						
STKA	**Stephens Creek**	**39.82**	**160**	P	**P**	**03 22 34.6**	**+0.5**
STKA	**Stephens Creek**	**39.82**	**160**	P	**P**	**03 22 34.5**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=338,slow=9.5,SNR=5.7						
STKA				LR	LR	03 39 44.8	
	comp=Z,26nm,19.2s,baz=25,slow=37						
	comp=Z,1.7nm,0.4s						
SONM	**Songino Array**	**45.60**	**341**	P	**P**	**03 23 20.9**	**0.0**
	comp=Z,0.3nm,0.4s,baz=157,slow=7.8,SNR=2.6						
SONM				PcP	**PcP**	**03 24 58.3**	**0.0**
	comp=Z,0.3nm,0.4s,baz=111,slow=3.2,SNR=2.3						
	comp=Z,0.3nm,0.4s						
MK31	**Makanchi Array**	**56.05**	**325**	P	**P**	**03 24 38.3**	**-1.0**
MK31				IAmb	IAmb	03 24 38.8	
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**56.05**	**325**	P	**P**	**03 24 37.8**	**-1.6**
MKAR	**Makanchi Array**	**56.05**	**325**	P	**P**	**03 24 38.5**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=120,slow=7.7,SNR=45						
MKAR				PcP	**PcP**	**03 25 36.8**	**0.0**
	comp=Z,2.2nm,0.7s,baz=113,slow=4.3,SNR=9.5						
	comp=Z,2.5nm,0.5s						
MAKZ	**Makanchi**	**56.24**	**325**	P	**P**	**03 24 39.8**	**-0.9**
MAKZ				IAmb	IAmb	03 24 41.9	
	comp=Z,2.7nm,0.9s						
MA2	**Magadan**	**57.03**	**14**	LR	LR	03 51 54.0	
	comp=Z,22nm,19.1s,baz=345,slow=38						
ZALV	**Zalesovo Beam**	**58.97**	**333**	P	**P**	**03 24 58.0**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=114,slow=7.2,SNR=4.8						
ZALV				PcP	**PcP**	**03 25 46.8**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=132,slow=2.1,SNR=3.5						
	comp=Z,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**60.20**	**327**	P	**P**	**03 25 07.2**	**-1.0**
	comp=Z,2.9nm,0.7s,baz=124,slow=6.5,SNR=27						
	comp=Z,2.9nm,0.7s						
KURK	**Kurchatov**	**60.20**	**327**	P	**P**	**03 25 07.3**	**-0.9**
BTK	**Batken**	**60.62**	**313**	IAmb	IAmb	03 25 11.6	
	comp=Z,5.2nm,0.9s						
GAR	**Garm**	**60.65**	**312**	P	**P**	**03 25 11.1**	**-0.6**
KKAR	**Karatay Array**	**61.87**	**316**	P	**P**	**03 25 18.7**	**-1.0**
KKAR	**Karatay Array**	**61.87**	**316**	P	**P**	**03 25 19.2**	**-0.5**
KKAR				IAmb	IAmb	03 25 20.0	
	comp=Z,1.7nm,0.8s						
BVAR	**Borovoye Array**	**65.78**	**327**	P	**P**	**03 25 44.2**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=133,slow=8.7,SNR=10.0						
	comp=Z,1.4nm,0.5s						
BRVK	**Borovoye**	**65.86**	**327**	P	**P**	**03 25 44.9**	**-0.7**
BRVK				IAmb	IAmb	03 25 46.0	
	comp=Z,2.8nm,0.7s						
NRIK	**Noril'sk**	**68.69**	**346**	P	**P**	**03 26 04.0**	**+0.7**
NRIK				IAmb	IAmb	03 26 04.6	
	comp=Z,4.6nm,0.7s						
NRIK	**Noril'sk**	**68.69**	**346**	P	**P**	**03 26 03.9**	**+0.6**
	comp=Z,4.0nm,0.6s,baz=118,slow=5.9,SNR=7.1						
	comp=Z,4.0nm,0.6s						
ABKAR	**Akbulak array**	**70.72**	**320**	P	**P**	**03 26 14.2**	**-1.9**
ABKAR	**Akbulak array**	**70.72**	**320**	P	**P**	**03 26 14.3**	**-1.8**
ABKAR				IAmb	IAmb	03 26 52.0	
	comp=Z,0.7nm,0.8s						
KDAK	**Kodiak Island**	**80.47**	**32**	LR	LR	03 58 54.9	
	comp=Z,25nm,21.2s,baz=268,slow=32						
SPITS	**Spitsbergen Ar**	**88.73**	**349**	P	**P**	**03 27 53.9**	**+0.9**
	comp=Z,4.1nm,0.7s,baz=112,slow=1.6,SNR=1.5						
	comp=Z,4.1nm,0.7s						
ARCES	**ARCESS Array B**	**88.76**	**340**	P	**P**	**03 27 52.5**	**-0.7**
	comp=Z,4.7nm,0.7s,baz=80,slow=6.5,SNR=11						
	comp=Z,4.7nm,0.7s						
BRTR	**Keskin Array B**	**88.81**	**310**	P	**P**	**03 27 50.1**	**-4.2**
	comp=Z,0.8nm,0.8s,baz=90,slow=1.4,SNR=2.4						
	comp=Z,0.8nm,0.8s						
FINES	**FINESS Array B**	**90.23**	**332**	P	**P**	**03 27 59.7**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=59,slow=5.4,SNR=18						
	comp=Z,1.8nm,0.6s						
NB2	**NORSAR Subarra**	**97.16**	**334**	P	**P**	**03 28 30.3**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=66,slow=4.4						
NOA	**NORSAR Array B**	**97.16**	**334**	P	**P**	**03 28 30.5**	**-1.7**
	comp=Z,0.8nm,0.7s,baz=64,slow=4.6,SNR=4.9						
NOA				LR	LR	04 17 08.5	
	comp=Z,46nm,18.2s,baz=280,slow=38						
	comp=Z,0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**122.25**	**289**	PKP	**PKPdf**	**03 33 55.1**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=35,slow=2.6,SNR=3.2						

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*SJA **17** 03:25:43.5±0.7,32.°06S×71.°95W,h40km±999km,ML3.6, MW3.8*
*GUC **17** 03:25:44.3±0.6,32.°00S×71.°64W,h21km±3km,ML3.6*

ISC 17 03:25:41.6±1.3,31.°97S±0.°02×71.°68W±0.°04,h1km±10km, n39,σ1♀40/64,8C,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO04	**Los Peladeros**	**0.60**	**97**	*i*P	**Pb**	**03 25 56.1**	**+1.1**
CO04				*e*S	**Sb**	**03 26 04.4**	**+0.3**
CO04				IAML		03 26 04.8	
	comp=N,10μm,0.2s						
VA01	**Torpederas**	**1.05**	**179**	*e*P	**Pg**	**03 26 02.5**	**+0.8**
VA01				*e*S	**Sg**	**03 26 16.1**	**+0.8**
ROCH	**El Roble**	**1.14**	**151**	*e*P	**Pg**	**03 26 04.0**	**+0.5**
ROCH				*e*S	**Sb**	**03 26 19.9**	**+0.2**
VA03	**San Esteban**	**1.23**	**130**	*e*P	**Pg**	**03 26 05.5**	**+0.2**
VA03				*e*S	**Sg**	**03 26 21.4**	**+0.1**
VA03				IAML		03 26 25.1	
	comp=N,2μm,0.2s						
VA03	**San Esteban**	**1.23**	**130**	*e*P	**Sg**	**03 26 22.5**	**+1.2**
CO06	**Fray Jorge**	**1.30**	**2**	*e*P	**Pn**	**03 26 07.1**	**+0.3**
CO06				*e*S	**Sn**	**03 26 24.4**	**-0.5**
MT02	**Curacav**	**1.36**	**161**	*e*P	**Pn**	**03 26 07.3**	**-0.5**
CO03	**El Pedregal**	**1.41**	**37**	*e*P	**Pb**	**03 26 08.9**	**+0.1**
CO03				*e*S	**Sn**	**03 26 27.7**	**-0.1**
CO03				IAML		03 26 29.9	
	comp=E,2μm,0.4s						
CO03	**El Pedregal**	**1.41**	**37**	*e*P	**Sg**	**03 26 28.5**	**+1.5**
PEL	**Peldehue**	**1.44**	**145**	⇑*e*P	**Pn**	**03 26 08.5**	**-0.3**
PEL				*e*S	**Sg**	**03 26 27.0**	**-0.8**
PEL				IAML		03 26 29.4	
	comp=E,1μm,0.4s						
MT10	**Hacienda Santa**	**1.61**	**144**	*e*P	**Pn**	**03 26 11.6**	**+0.2**
MT10				IAML		03 26 34.9	
	comp=E,2μm,0.2s						
MT05	**Renca**	**1.62**	**151**	*e*P	**Pn**	**03 26 11.6**	**+0.2**
MT05				IAML		03 26 37.8	
	comp=E,2μm,0.4s						
VA05	**Santo Domingo**	**1.68**	**178**	*e*S	**Sn**	**03 26 33.3**	**-0.9**
VA05				IAML		03 26 38.2	
	comp=E,2μm,0.4s						
MT14	**Cerro Calı̧n**	**1.71**	**146**	⇑*e*P	**Pn**	**03 26 12.8**	**+0.2**
MT14				*e*S	**Sn**	**03 26 34.9**	**-0.4**
MT14				IAML		03 26 37.0	
	comp=E,1μm,0.2s						
MT16	**CCHEN**	**1.75**	**146**	⇑*e*P	**Pn**	**03 26 13.5**	**+0.4**
MT16				IAML		03 26 37.8	
	comp=E,628nm,0.4s						
FCH	**Farellones**	**1.79**	**139**	⇑*e*P	**Pn**	**03 26 14.2**	**+0.3**
FCH				IAML		03 26 39.1	
	comp=E,518nm,0.2s						
MT03	**Universidad Ad**	**1.81**	**147**	⇑*e*P	**Pn**	**03 26 14.3**	**+0.4**
MT03				*e*S	**Sn**	**03 26 37.4**	**-0.2**
MT03	**Universidad Ad**	**1.81**	**147**	*e*P	**Sn**	**03 26 33.0**	**-4.6**
MT03				IAML		03 26 48.1	
	comp=Z,598nm,0.3s						
MT09	**Talagante**	**1.89**	**162**	⇑*e*P	**Pn**	**03 26 15.9**	**+0.8**
MT09				IAML		03 26 45.3	
	comp=N,813nm,0.5s						
MT15	**Las Vizcachas**	**1.90**	**149**	*e*P	**Pn**	**03 26 15.8**	**+0.6**
MT15				*e*S	**Sn**	**03 26 39.6**	**-0.1**
MT15				IAML		03 26 43.5	
	comp=E,856nm,0.3s						
MT04	**Ro Olivares**	**1.93**	**138**	⇑*e*P	**Pn**	**03 26 16.5**	**+0.7**
MT04				*e*S	**Sn**	**03 26 41.0**	**+0.2**
MT04				IAML		03 26 44.9	
	comp=N,379nm,0.3s						
GO04	**Tololo Observa**	**1.95**	**23**	*e*P	**Pn**	**03 26 17.0**	**+1.0**
GO04	**Tololo Observa**	**1.95**	**23**	*e*P	**Pb**	**03 26 18.2**	**+0.2**
GO04				*e*S	**Sg**	**03 26 44.5**	**+0.3**
MT12	**Pirque**	**1.99**	**152**	*e*P	**Pn**	**03 26 17.2**	**+0.7**
MT12				IAML		03 26 49.5	
	comp=N,841nm,0.2s						
MT08	**Bocatoma Ro**	**2.03**	**137**	*e*P	**Pn**	**03 26 18.4**	**+1.3**
RTLS	**Leoncito**	**2.03**	**86**	*e*P	**Pg**	**03 26 20.6**	**+0.1**
RTLS				*e*S	**Sg**	**03 26 49.0**	**+2.1**
RTLS				IAML		03 26 53.0	
	comp=Z,573nm,0.5s						
CO05	**La Serena**	**2.08**	**10**	*e*P	**Pb**	**03 26 19.5**	**-0.7**
CO05				*e*S	**Sb**	**03 26 46.4**	**-0.2**
BO04	**La Punta**	**2.20**	**156**	*e*P	**Pn**	**03 26 20.1**	**+0.8**
BO04				IAML		03 26 52.5	
	comp=N,452nm,0.3s						
LMEL	**Las Melosas**	**2.24**	**147**	⇑*e*P	**Pn**	**03 26 21.1**	**+1.1**
LMEL				IAML		03 26 54.4	
	comp=N,551nm,0.2s						
CO01	**Juntas del Tor**	**2.41**	**35**	*e*P	**Pb**	**03 26 24.8**	**-1.1**
CO01				IAML		03 26 59.6	
	comp=E,319nm,0.3s						
DOCA	**Reserva Natura**	**2.44**	**66**	*e*P	**Pb**	**03 26 26.9**	**+0.4**
DOCA				*e*S	**Sb**	**03 26 57.8**	**+0.6**
BO01	**Tunca**	**2.46**	**169**	*e*P	**Pn**	**03 26 22.9**	**0.0**
BO01				*e*S	**Sb**	**03 26 59.4**	**+1.9**
ZON	**Zonda**	**2.59**	**81**	*e*P	**Pb**	**03 26 29.3**	**+0.4**
ZON				*e*S	**Sb**	**03 27 01.9**	**+0.8**
ZON				IAML		03 27 11.9	
	comp=Z,101nm,0.4s						
ACCO	**Cerro Coronel**	**2.63**	**59**	*e*P	**Pb**	**03 26 30.2**	**+0.5**
ACCO				*e*S	**Sg**	**03 27 05.3**	**-0.8**
RTLL	**Cerro Villicun**	**2.80**	**78**	*e*P	**Pn**	**03 26 28.5**	**+0.9**
RTLL				*e*P	**Pb**	**03 26 32.3**	**-0.2**
RTLL				*e*P	**Pg**	**03 26 32.5**	**-2.9**
RTLL				*e*S	**Sb**	**03 27 07.1**	**-0.3**
BO02	**Sierra Bellavi**	**2.91**	**165**	*e*P	**Pn**	**03 26 29.6**	**+0.4**
BO02				*e*S	**Sn**	**03 27 03.0**	**-1.7**
BO02				IAML		03 27 16.9	
	comp=Z,232nm,0.5s						
AVFE	**Valle Fertil**	**3.84**	**71**	*e*P	**Pb**	**03 26 46.7**	**-3.5**
AVFE				*e*S	**Sn**	**03 27 32.5**	**+4.7**
AVFE				IAML		03 27 39.4	
	comp=Z,85nm,0.5s						
RFA	**San Rafael**	**3.87**	**137**	*e*P	**Pn**	**03 26 44.8**	**+2.5**
RFA				*e*S	**Sg**	**03 27 43.0**	**-3.0**
ACHE	**Chepes**	**4.35**	**81**	*e*P	**Pn**	**03 26 49.1**	**+0.1**
ACHE				*e*S	**Sb**	**03 27 49.8**	**-2.3**

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*MOS **17** 03:29:26.8±0.9,37.°47N×72.°14E,h199km,mb4.0/6,Error ellipse: s-maj=12.9km s-min=5.7km az=81.5*
*BJI **17** 03:29:26.4,37.°58N×72.°17E,h194km,mb4.2/9,mB4.9/4*
*NEIC **17** 03:29:27.6±1.0,37.°47N±0.°07×72.°2E±0.°1,h191km±3km, mb4.4/6,Error ellipse: s-maj=13.1km s-min=9.6km az=92.0*
*IDC **17** 03:29:27.7±3.5,37.°49N×72.°18E,h194km±26km,mb3.4/7, mbtmp4.0/13,Error ellipse: s-maj=34.9km s-min=18.8km az=161.0*
*NNC **17** 03:29:30.1±5.8,37.°97N×72.°23E,h0km,mb4.2,mpv3.8, Error ellipse: s-maj=45.6km s-min=29.4km az=168.0*
*SOME **17** 03:29:34.2,39.°30N×72.°60E,h0km*

ISC 17 03:29:27.3±0.5,37.°41N±0.°05×72.°27E±0.°05,h200km,n84, σ2♀40/101,mb4.0/18,12C-2D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**2.10**	**350**		**Pn**	**03 30 06.5**	**-0.6**
DRK	**Karamyk**	**2.10**	**350**	PN	**Pn**	**03 30 06.5**	**-0.6**
GAR	**Garm**	**2.21**	**317**	Pn	**Pn**	**03 30 06.8**	**-1.3**
BTK	**Batken**	**2.88**	**337**	Pn	**Pn**	**03 30 15.3**	**-0.2**
BTK	**Batken**	**2.88**	**337**	PN	**Pn**	**03 30 15.3**	**-0.2**
KSH	**Kashi**	**3.59**	**53**	P	**Pn**	**03 30 19.4**	**-4.7**
KSH				S	Sn	03 30 57.0	-12
NIL	**Nilore**	**3.83**	**168**		**Pn**	**03 30 28.2**	**+1.1**
NIL	**Nilore**	**3.83**	**168**	PN	**Pn**	**03 30 28.2**	**+1.1**
KBL	**Kabul**	**3.88**	**223**	Pn	**Pn**	**03 30 27.8**	**0.0**
KBL	**Kabul**	**3.88**	**223**	PN	**Pn**	**03 30 27.8**	**0.0**
ARSB	**Arslanbob**	**3.95**	**8**		**Pn**	**03 30 27.4**	**-1.1**
ARSB	**Arslanbob**	**3.95**	**8**	PN	**Pn**	**03 30 27.4**	**-1.1**
IUG	**Iuzhnay**	**5.04**	**341**	*e*P	**Pn**	**03 30 40.4**	**-1.8**
	155nm,0.3s						
IUG				*e*S	**Sn**	**03 31 33.3**	**-8.1**
	184nm,0.8s						
JMU	**Jammu**	**5.15**	**154**	*e*P	**Pn**	**03 30 43.7**	**+0.1**
JMU				*e*S	**Sn**	**03 31 39.8**	**-4.1**
JMU				IAML		03 31 43.6	
	comp=E,252nm,0.5s						
JMU				IAML

KUDL eS Sn 03 33 25.8 -10
KUDL IAML 03 33 30.7
comp=E,27nm,0.4s
KUDL IAML 03 33 31.7
comp=N,18nm,0.1s
MAKZ Makanchi 11.83 34 Pn 03 32 08.8 -1.1
MAKZ Makanchi 11.83 34 P **Pn 03 32 08.8 -1.1**
MK31 Makanchi Array 11.96 35 Pn **Pn 03 32 12.2 +0.6**
MK31 Makanchi Array 11.96 35 *i* P **Pn 03 32 12.6 +1.1**
MKAR Makanchi Array 11.96 35 Pn 03 32 11.4 -0.1
MKAR Makanchi Array 11.96 35 P **Pn 03 32 11.3 -0.2**
comp=N,0.8nm,0.6s,baz=225,slow=11,SNR=6.3
MKAR Makanchi Array 11.96 35 *ce*P **Pn 03 32 12.1 +0.6**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
WMQ Urumqi 13.35 57 *e*P **P 03 32 31.6 -0.2**
KURBB Kurchatov Arra 13.95 17 P **P 03 32 38.0 -0.3**
comp=Z,6.6nm,0.8s,baz=204,slow=11,SNR=33
KURK Kurchatov 14.06 17 P **P 03 32 40.2 +0.7**
KURK Kurchatov 14.06 17 *ce*P **P 03 32 39.8 +0.3**
KURK pmax pmax
comp=Z,12nm,1.0s
AB31 Akbulak array 14.83 327 P **P 03 32 49.9 +1.8**
comp=Z,2.0nm,0.5s,baz=136,slow=12,SNR=95
AB31 ⇑S **Sn 03 35 32.7 -0.3**
comp=Z,0.9nm,0.5s,baz=260,slow=40,SNR=4.6
AB31 Akbulak array 14.83 327 P **P 03 32 49.8 +1.8**
AB31 S **Sn 03 35 32.7 -0.3**
ABKAR Akbulak array 14.83 327 P **Pn 03 32 45.7 -1.5**
ABKAR Akbulak array 14.83 327 Pn **Pn 03 32 45.5 -1.7**
BVAR Borovoye Array 15.67 356 P **Pn 03 32 57.7 +0.3**
comp=Z,1.2nm,0.4s,baz=170,slow=12,SNR=8.2
AKTO Aktyubinsk 16.54 326 ⇓P **Pn 03 33 14.4 +6.5**
comp=Z,2.4nm,0.6s
AKTO ⇑S **Sn 03 36 13.1 -0.8**
comp=Z,2.8nm,0.8s
AKTO Aktyubinsk 16.54 326 P **Pn 03 33 07.9 0.0**
comp=Z,3.5nm,0.4s,baz=131,slow=8.8,SNR=16
AKTO S **S 03 36 04.7 -5.0**
comp=Z,0.9nm,0.6s,baz=316,slow=21,SNR=1.9
ZAA0 Zalesovo Array 18.67 24 P **P 03 33 30.6 +0.5**
ZAA0 IAmb IAmb 03 33 31.6
comp=Z,20nm,0.8s
ZALV Zalesovo Beam 18.67 24 P **P 03 33 30.7 +0.6**
ZALV Zalesovo Beam 18.67 24 P **P 03 33 31.0 +0.9**
comp=Z,22nm,0.7s,baz=219,slow=10,SNR=92
ZALV Zalesovo Beam 18.67 24 P **P 03 33 31.0 +0.9**
MAK Makhachkala 19.68 294 *c i*P **P 03 33 39.3 -1.8**
MAK *e*S **S 03 37 10.3 -1.7**
MAK pmax pmax
comp=Z,331nm,1.4s
ARTI Arti 21.15 338 P **P 03 33 56.2 -0.3**
KIV Kislovodsk 23.29 296 *e*P **P 03 34 17.3 +0.1**
KIV pmax pmax
comp=Z,5.0nm,1.0s
SONM Songino Array 26.98 56 P **P 03 34 52.6 +2.1**
comp=Z,0.8nm,0.4s,baz=276,slow=9.4,SNR=5.0
comp=Z,0.8nm,0.4s
PZH PanZhiHua 27.16 105 P **P 03 34 55.0 +2.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,70nm,4.0s
OBN Obninsk 29.93 318 *e*P **P 03 35 16.5 +0.2**
OBN pmax pmax
comp=Z,62nm,2.4s
BRTR Keskin Array B 30.14 286 P **P 03 35 19.3 +0.8**
comp=Z,0.6nm,0.7s,baz=77,slow=7.2,SNR=2.5
comp=Z,0.6nm,0.7s
HHC Hu-ho-hao-te 30.50 71 *e*P **P 03 35 23.0 +1.3**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,230nm,5.3s
NRIK Noril'sk 33.05 10 *i* P **P 03 35 44.0 +0.6**
NRIK pmax pmax
comp=Z,3.0nm,1.0s
HIA Hailar 35.94 55 *i* P **P 03 36 10.4 +1.9**
HIA pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 40.70 337 P **P 03 36 49.2 +1.4**
comp=Z,1.3nm,0.6s,baz=114,slow=5.6,SNR=6.2
comp=Z,1.3nm,0.6s
YAK Yakutsk 42.64 36 *i* P **P 03 37 05.0 +1.4**
YAK pmax pmax
comp=Z,5.0nm,0.9s
KLR Kul'dur 43.79 55 *ce*P **P 03 37 16.4 +3.4**
KLR pmax pmax
comp=Z,14nm,0.9s
TIXI Tiksi 44.55 22 P **P 03 37 19.4 +0.8**
TIXI IAmb IAmb 03 37 20.5
comp=Z,4.8nm,0.4s
TIXI Tiksi 44.55 22 *ce*P **P 03 37 20.2 +1.5**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
MSHR Mys Shultsa 44.63 64 *ce*P **P 03 37 20.3 +0.6**
MSHR pmax pmax
comp=Z,33nm,1.7s
BILL Bilibino 57.34 26 *i* P **P 03 38 55.0 +1.0**
BILL pmax pmax
comp=Z,3.0nm,1.2s
TORD Torodi Ar. Bea 66.75 269 P **P 03 39 57.1 -0.3**
comp=Z,0.2nm,0.4s,baz=44,slow=5.8,SNR=10
comp=Z,0.2nm,0.4s
TOLK Toolik Lake Re 69.78 15 P **P 03 40 16.8 +1.4**
TOLK IAmb IAmb 03 40 17.4
comp=Z,2.4nm,0.8s
A36M Sachs Harbour 70.20 6 P **P 03 40 18.4 +0.6**
BMAR Burnt Mountain 71.82 14 P **P 03 40 29.5 +1.8**
ILAR Eielson Array 73.62 16 P **P 03 40 37.1 -1.2**
comp=Z,0.8nm,0.9s,baz=323,slow=5.3,SNR=6.8
comp=Z,0.8nm,0.9s
YKA Yellowknife Ar 80.29 3 P **P 03 41 16.5 +1.1**
comp=Z,0.4nm,0.5s,baz=350,slow=5.8,SNR=6.0
comp=Z,0.4nm,0.5s
YKA Yellowknife Ar 80.29 3 *i* P **P 03 41 16.7 +1.3**
ULM Lac du Bonnet 92.09 352 P **P 03 42 14.3 +0.8**
comp=Z,3.7nm,0.8s,baz=315,slow=2.9,SNR=3.9
comp=Z,3.7nm,0.8s

IDC 17 03:46:28.9±4.9, 6°.45S×130°.28E, h197km±47km, mb3.4/1, mbtmp3.8/4, Error ellipse: s-maj=66.2km s-min=21.1km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.43**	**201**	P	Pn	03 49 17.7	-1.8
	1.0nm,0.3s,baz=24,slow=11,SNR=9.6						
FITZ				S	Sn	03 51 26.1	-12
	2.8nm,0.5s,baz=120,slow=21,SNR=8.1						
WRA	**Warramunga Arr**	**13.98**	**164**	P	Pn	03 49 39.4	+0.5
	0.5nm,0.4s,baz=346,slow=11,SNR=29						
WRA				S	S	03 52 04.9	-10
	0.7nm,0.3s,baz=326,slow=24,SNR=10						
ASAR	**Alice Springs**	**17.47**	**169**	P	Pn	03 50 21.3	+0.2
	1.0nm,0.4s,baz=349,slow=9.8,SNR=16						
ASAR				S	S	03 53 30.5	-0.4
	0.2nm,0.5s,baz=350,slow=25,SNR=3.5						
MKAR	**Makanchi Array**	**67.92**	**327**	P	P	03 57 06.4	0.0
	0.7nm,0.6s,baz=124,slow=6.5,SNR=7.4						
	0.7nm,0.6s						

*IDC **17** 04:33:22.5±0.6, 62°.10N×174°.89E, h0km, mb4.1/24, mbtmp4.1/27, ML2.9/2, MS3.3/17, Error ellipse: s-maj=16.6km s-min=13.3km az=173.0*
*NERS **17** 04:33:23.7, 62°.00N×174°.81E, h19km, MPV4.5*
ISC 17 04:33:24.0±0.6, 62°.04N±0°.06×174°.95E±0°.06, h10km, n50, σ0s86/46, mb4.1/23, MS3.4/12, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDR	**Anadyr'**	**2.94**	**22**	*e*P	**Pn**	**04 34 11.5**	**+0.9**
ANDR				*e*Pg	**Pg**	**04 34 20.0**	**-0.2**
ANDR				Pgmax		04 34 20.3	
	410nm,0.5s						
ANDR				*e*Sg	**Sg**	**04 34 58.2**	**0.0**
ANDR				Sgmax		04 35 02.3	
	1μm,0.7s						
PVDR	**Provideniya**	**5.86**	**61**	*e*P	**Pn**	**04 34 51.5**	**+0.8**
BILL	**Bilibino**	**7.04**	**332**	*e*P	**Pn**	**04 35 08.1**	**+1.1**
BILL				*e*S	**Sn**	**04 36 29.3**	**+2.2**
BILL				*e*Sg	**Sg**	**04 37 09.0**	**-0.8**
BILL				Sgmax		04 37 28.0	
	50nm,1.1s						

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EVEN Evensk 7.41 276 *e*P **Pn 04 35 13.9 +1.9**
EVEN Pmax 04 35 15.6
30nm,0.3s
EVEN *e* 04 36 38.5
SEY Seymchan 10.46 285 *e*P **Pn 04 35 54.1 +0.3**
SEY *e*Sg 04 38 53.7
SEY Seymchan 10.46 285 Pn **Pn 04 35 54.1 +0.3**
0.1nm,0.3s,baz=72,slow=16,SNR=1.6
1.7nm,0.6s
MA2 Magadan 12.04 269 LR LR 04 40 45.5
comp=Z,111nm,18.4s,baz=56,slow=37
PETK Petropavlovsk- 12.83 234 LR LR 04 41 12.5
comp=Z,57nm,21.3s,baz=31,slow=37
KDAK Kodiak Island 16.71 90 LR LR 04 43 03.7
comp=Z,116nm,19.4s,baz=140,slow=35
ILAR Eielson Array 17.12 64 P **P 04 37 24.4 -0.4**
0.1nm,0.3s,baz=275,slow=10,SNR=19
ILAR LR LR 04 44 26.0
comp=Z,75nm,20.8s,baz=214,slow=39
2.5nm,1.0s
TIXI Tiksi 19.93 318 *e*P **Pn 04 37 56.4 -0.8**
TIXI Tiksi 19.93 318 P **Pn 04 37 56.4 -0.8**
5.2nm,0.7s,baz=113,slow=10,SNR=10.0
TIXI LR LR 04 45 42.2
comp=Z,72nm,18.4s,baz=188,slow=37
YAK Yakutsk 20.90 290 *e*P Pn 04 38 06.5 -2.1
YAK Yakutsk 20.90 290 P Pn 04 38 06.5 -2.1
17nm,0.4s,baz=26,slow=3.6,SNR=1.8
YAK LR LR 04 45 54.4
comp=Z,82nm,18.8s,baz=90,slow=36
17nm,0.4s
INK Inuvik 21.91 51 P **P 04 38 16.0 -0.8**
6.5nm,1.0s,baz=293,slow=8.9,SNR=13
6.5nm,1.0s
YKA Yellowknife Ar 31.31 57 LR LR 04 52 35.7
comp=Z,101nm,18.2s,baz=20,slow=37
MJAR Matsushiro Arr 34.21 239 P **P 04 40 09.0 -0.4**
1.8nm,0.8s,baz=10,slow=8.9,SNR=2.4
MJAR LR LR 04 53 58.1
comp=Z,16nm,20.5s,baz=44,slow=36
1.8nm,0.8s
KSRS Korea Array 37.84 252 P **P 04 40 40.9 +0.4**
1.0nm,0.7s,baz=45,slow=12,SNR=2.4
KSRS LR LR 04 57 18.3
comp=Z,22nm,18.2s,baz=30,slow=38
1.0nm,0.7s
NEW Newport 39.24 78 LR LR 04 58 35.0
comp=Z,107nm,20.8s,baz=38,slow=38
SPITS Spitsbergen Ar 39.42 353 P **P 04 40 52.9 -0.5**
3.1nm,0.7s,baz=59,slow=6.9,SNR=5.4
3.1nm,0.7s
SONM Songino Array 39.84 282 P **P 04 40 57.1 -0.2**
0.4nm,0.3s,baz=79,slow=7.5,SNR=2.3
SONM PcP **PcP 04 43 03.8 +0.8**
2.4nm,0.6s,baz=50,slow=1.4,SNR=13
SONM LR LR 04 58 23.2
comp=Z,127nm,18.2s,baz=335,slow=38
0.4nm,0.3s
JNU Nakatsue 40.20 245 LR LR 04 58 09.4
comp=Z,33nm,18.7s,baz=15,slow=37
ZALV Zalesovo Beam 44.70 303 P **P 04 41 36.4 -0.2**
0.4nm,0.3s,baz=40,slow=7.6,SNR=1.9
ZALV PcP **PcP 04 43 18.2 -0.6**
1.5nm,0.6s,baz=57,slow=5.5,SNR=6.4
0.4nm,0.3s
ELK Elko 45.81 84 LR LR 05 00 49.5
comp=Z,43nm,21.9s,baz=12,slow=36
NVAR Mina Array Bea 46.21 89 P **P 04 41 50.0 +1.0**
0.4nm,0.6s,baz=314,slow=6.6,SNR=4.6
0.4nm,0.6s
PDAR Pinedale Array 46.87 78 P **P 04 41 54.7 +0.5**
0.5nm,0.7s,baz=316,slow=2.7,SNR=6.0
PDAR LR LR 05 04 06.4
comp=Z,68nm,19.4s,baz=26,slow=39
0.5nm,0.7s
ARCES ARCESS Array B 46.93 346 P **P 04 41 52.9 -1.1**
3.9nm,0.9s,baz=13,slow=6.4,SNR=7.8
3.9nm,0.9s
KURBB Kurchatov Arra 49.73 304 P **P 04 42 15.8 -0.1**
1.4nm,0.7s,baz=42,slow=7.4,SNR=9.9
KURBB PcP **PcP 04 43 36.4 -0.3**
0.7nm,0.7s,baz=41,slow=3.2,SNR=3.3
1.4nm,0.7s
BVAR Borovoye Array 50.85 311 P **P 04 42 24.1 -0.3**
1.7nm,0.6s,baz=42,slow=9.0,SNR=9.8
BVAR PcP **PcP 04 43 40.8 0.0**
1.9nm,0.5s,baz=27,slow=2.3,SNR=7.1
1.7nm,0.6s
PFO Pinyon Flats O 50.99 91 LR LR 05 00 54.9
comp=Z,28nm,18.6s,baz=30,slow=32
MKAR Makanchi Array 51.26 298 P **P 04 42 26.6 -0.9**
0.4nm,0.5s,baz=45,slow=7.2,SNR=5.2
0.4nm,0.5s
SCHQ Schefferville 53.81 39 P **P 04 42 45.9 -0.5**
3.5nm,0.6s,baz=344,slow=8.9,SNR=2.0
3.5nm,0.6s
FINES FINESS Array B 54.58 342 P **P 04 42 50.9 -0.8**
3.4nm,0.8s,baz=23,slow=9.3,SNR=14
3.4nm,0.8s
NB2 NORSAR Subarra 56.61 351 P **P 04 43 06.3 -0.2**
comp=Z,4.5nm,0.8s,baz=7.7,slow=7.4
NOA NORSAR Array B 56.61 351 P **P 04 43 06.1 -0.4**
comp=Z,3.4nm,0.8s,baz=9.6,slow=7.1,SNR=6.2
comp=Z,3.4nm,0.8s
HFS Hagfors 57.30 349 P **P 04 43 10.5 -0.8**
comp=Z,2.9nm,0.7s,baz=355,slow=3.7,SNR=11
comp=Z,2.9nm,0.7s
AAK Ala-Archa 57.85 301 LR LR 05 08 49.5
comp=Z,36nm,21.4s,baz=8.0,slow=37
TXAR Lajitas Array 60.56 82 P **P 04 43 35.0 +0.6**
comp=Z,0.7nm,0.8s,baz=322,slow=4.2,SNR=9.5
comp=Z,0.7nm,0.8s
EKA Eskdalemuir Ar 62.96 359 P **P 04 43 50.0 0.0**
comp=Z,3.8nm,0.7s,baz=5.5,slow=5.2,SNR=9.0
comp=Z,3.8nm,0.7s
AKASG Malin Array Be 64.34 337 P **P 04 43 57.9 -1.4**
comp=Z,2.9nm,0.8s,baz=21,slow=6.4,SNR=7.9
comp=Z,2.9nm,0.8s
KOLS Kolonicke sedl 67.24 341 *e* **P 04 44 18.7 +0.7**
LANS Liptovska Anna 67.44 343 *e* **P 04 44 20.3 +1.0**
VYHS Vyhne 68.17 343 *e* **P 04 44 26.3 +2.4**
GERES GERESS Array B 68.45 347 P **P 04 44 25.8 +0.1**
comp=Z,1.9nm,0.9s,baz=51,slow=10,SNR=4.2
comp=Z,1.9nm,0.9s
HNR Honiara 72.21 196 LR LR 05 12 41.2
comp=Z,22nm,21.1s,baz=260,slow=33
ESDC Sonseca Array 78.63 359 P **P 04 45 25.4 -0.3**
comp=Z,1.3nm,0.9s,baz=355,slow=5.4,SNR=7.9
comp=Z,1.3nm,0.9s
WRA Warramunga Arr 87.85 218 P **P 04 46 13.2 0.0**
comp=Z,1.2nm,1.1s,baz=26,slow=6.1,SNR=7.3
comp=Z,1.2nm,1.1s
ASAR Alice Springs 91.50 217 P **P 04 46 30.7 +0.4**
comp=Z,1.4nm,0.9s,baz=20,slow=3.9,SNR=9.6
comp=Z,1.4nm,0.9s
QSPA South Pole Qui 151.82 180 PKPbc **PKPbc 04 53 16.2 -1.0**
comp=Z,3.2nm,0.5s,baz=35,slow=2.1,SNR=31
MAW Mawson 151.95 229 PKPbc **PKiKP 04 53 17.4 -0.3**
comp=Z,1.4nm,0.7s,baz=95,slow=11,SNR=3.3

*THE **17** 04:47:25.4, 37°.35N×20°.79E, h12km±1km, ML3.7/4, Error ellipse: s-maj=2.0km s-min=0.4km az=48.0*
*ATH **17** 04:47:25.4, 37°.36N×20°.79E, h13km±1km, ML3.5/14, Error ellipse: s-maj=1.5km s-min=0.7km az=16.0*
ISC 17 04:47:25.3±1.3, 37°.36N±0°.04×20.79E±0°.04, h14km±8km, n30, σ0s52/52, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.31**	**4**	P	**Pg**	**04 47 31.7**	**0.0**
KRI1				S	**Sg**	**04 47 36.7**	**+0.7**
	33μm,0.4s						
LTHK	**Lithakia**	**0.35**	**6**	P	**Pg**	**04 47 32.5**	**-0.1**
LTHK				S	**Sg**	**04 47 37.9**	**+0.5**
	20μm,0.3s						
LTHK	**Lithakia**	**0.35**	**6**	P	**Pg**	**04 47 32.4**	**-0.1**
LTHK				S	**Sg**	**04 47 37.6**	**+0.2**
LTHK				AML	AML	04 47 38.1	
	comp=E,35198μm,0.3s						
LTHK				AML	AML	04 47 39.6	
	comp=N,43485μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.72**	**359**	P	**Pg**	**04 47 38.8**	**-0.5**
RTZL				S	**Sb**	**04 47 49.5**	**+0.2**
AMT	**Artemida-Makis**	**0.75**	**76**	P	**Pg**	**04 47 39.8**	**-0.1**
AMT				S	**Sg**	**04 47 50.1**	**+0.2**
AMT				AML	AML	04 47 55.2	
	comp=E,21024μm,0.5s						
AMT				AML	AML	04 47 56.1	
	comp=N,24799μm,0.8s						
PSDA	**Pessada-Kefalo**	**0.77**	**348**	P	**Pg**	**04 47 40.0**	**-0.3**
PSDA				S	**Sb**	**04 47 51.9**	**+1.0**
PSDA	**Pessada-Kefalo**	**0.77**	**348**	P	**Pg**	**04 47 40.0**	**-0.3**
PSDA				S	**Sg**	**04 47 50.5**	**0.0**
VLS	**Valsamata**	**0.83**	**349**	P	**Pg**	**04 47 41.0**	**-0.5**
VLS				S	**Sb**	**04 47 53.7**	**+1.0**
	comp=N,7μm,0.3s						
VLS	**Valsamata**	**0.83**	**349**	P	**Pg**	**04 47 40.7**	**-0.7**
VLS				S	**Sg**	**04 47 51.9**	**-0.6**
VLS				AML	AML	04 47 54.1	
	comp=E,22138μm,0.6s						
VLS				AML	AML	04 47 58.0	
	comp=N,10032μm,0.4s						
RLS	**Riolos of Patr**	**0.88**	**37**	P	**Pg**	**04 47 41.8**	**-0.6**
RLS	**Riolos of Patr**	**0.88**	**37**	P	**Pg**	**04 47 41.6**	**-0.8**
RLS				S	**Sg**	**04 47 53.5**	**-0.5**
RLS				AML	AML	04 47 57.1	
	comp=E,5570μm,0.3s						
RLS				AML	AML	04 47 57.6	
	comp=N,3229μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.89**	**342**	P	**Pg**	**04 47 41.9**	**-0.6**
PYL	**PYLOS**	**0.89**	**121**	P	**Pg**	**04 47 42.1**	**-0.4**
PYL				S	**Sb**	**04 47 55.4**	**+1.1**
	comp=N,2μm,0.5s						
PYL	**PYLOS**	**0.89**	**121**	P	**Pg**	**04 47 42.1**	**-0.4**
PYL				S	**Sb**	**04 47 54.9**	**+0.6**
PYL				AML	AML	04 47 57.2	
	comp=E,5320μm,0.5s						
PYL				AML	AML	04 47 57.6	
	comp=N,3609μm,0.4s						
ITM	**Ithomi**	**0.93**	**101**	P	**Pg**	**04 47 42.7**	**-0.5**
ITM	**Ithomi**	**0.93**	**101**	P	**Pg**	**04 47 42.8**	**-0.4**
ITM				S	**Sg**	**04 47 55.2**	**-0.1**
ITM				AML	AML	04 48 01.3	
	comp=E,4173μm,0.9s						
ITM				AML	AML	04 48 01.8	
	comp=N,4148μm,0.9s						
DMLN	**Damoulianata-K**	**0.94**	**340**	P	**Pg**	**04 47 43.2**	**-0.3**
DMLN	**Damoulianata-K**	**0.94**	**340**	P	**Pg**	**04 47 42.9**	**-0.6**
DMLN				S	**Sg**	**04 47 55.9**	**+0.1**
DRO	**Drossia**	**0.94**	**51**	P	**Pg**	**04 47 43.0**	**-0.6**
DRO	**Drossia**	**0.94**	**51**	P	**Pg**	**04 47 42.8**	**-0.8**
DRO				S	**Sb**	**04 47 56.2**	**+0.3**
DRO				AML	AML	04 47 58.1	
	comp=N,13490μm,0.4s						
DRO				AML	AML	04 48 04.1	
	comp=E,16236μm,0.5s						
FSK	**Fiskardo**	**1.11**	**351**	P	**Pb**	**04 47 45.7**	**-0.6**
FSK				S	**Sb**	**04 48 00.9**	**+0.1**
FSK				AML	AML	04 48 06.9	
	comp=E,3267μm,0.5s						
FSK				AML	AML	04 48 09.3	
	comp=N,4239μm,0.8s						
EVGI	**Lefkada island**	**1.27**	**355**	P	**Pn**	**04 47 48.2**	**-0.4**
KLV	**Kalavryta, Ach**	**1.28**	**57**	P	**Pn**	**04 47 48.6**	**-0.2**
KLV	**Kalavryta, Ach**	**1.28**	**57**	P	**Pn**	**04 47 48.7**	**-0.2**
KLV				S	**Sb**	**04 48 05.6**	**+0.1**
KLV				AML	AML	04 48 14.0	
	comp=E,881μm,0.6s						
KLV				AML	AML	04 48 17.9	
	comp=N,1136μm,0.5s						
GUR	**Goura**	**1.36**	**64**	P	**Pn**	**04 47 49.9**	**-0.1**
GUR				S	**Sb**	**04 48 07.7**	**-0.3**
GUR				AML	AML	04 48 17.6	
	comp=E,2204μm,0.6s						
GUR				AML	AML	04 48 20.6	
	comp=N,3658μm,0.6s						
EFP	**Efpalio**	**1.39**	**39**	P	**Pn**	**04 47 50.1**	**-0.1**
EFP				S	**Sb**	**04 48 08.9**	**+0.3**
EFP				AML	AML	04 48 17.4	
	comp=N,1687μm,0.4s						
EFP				AML	AML	04 48 17.4	
	comp=E,1828μm,0.7s						
LKD2	**Lefkada island**	**1.43**	**356**	P	**Pb**	**04 47 52.4**	**+0.5**
LKD2				S	**Sb**	**04 48 10.3**	**+0.4**
LKD2				AML	AML	04 48 18.9	
	comp=N,2559μm,0.4s						
LKD2				AML	AML	04 48 22.7	
	comp=E,2199μm,0.5s						
KALE	**Kalíthea**	**1.49**	**46**	P	**Pb**	**04 47 52.6**	**-0.1**
KALE				S	**Sg**	**04 48 14.3**	**+1.0**
KALE				AML	AML	04 48 22.9	
	comp=N,2396μm,0.4s						
KALE				AML	AML	04 48 23.2	
	comp=E,3027μm,0.6s						
ANX	**Ano Chora**	**1.52**	**36**	P	**Pb**	**04 47 53.2**	**-0.2**
ANX				S	**Sn**	**04 48 12.6**	**+0.7**
ANX				AML	AML	04 48 21.5	
	comp=N,2817μm,0.5s						
ANX				AML	AML	04 48 21.8	
	comp=E,3456μm,0.7s						
VLI	**Veliai**	**1.83**	**110**	P	**Pb**	**04 47 58.4**	**-0.2**

IDC 17 04:56:52.0±3.2, 6°.26S×147°.21E, h0km, mb3.2/2, mbtmp3.3/4, ML2.5/2, MS2.8/2, Error ellipse: s-maj=69.2km s-min=41.9km az=94.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.12**	**181**	Pn	Pn	04 57 42.7	+0.1
	4.6nm,0.3s,baz=346,slow=12,SNR=3.0						
PMG				Sn	Sn	04 58 13.9	-6.7
	8.3nm,0.3s,baz=29,slow=20,SNR=3.6						
PMG				LR	LR	04 59 04.0	
	comp=Z,70nm,19.9s,baz=210,slow=42						
	15nm,0.4s						
WRA	**Warramunga Arr**	**18.47**	**221**	P	P	05 01 09.3	-0.4
	0.1nm,0.3s,baz=46,slow=11,SNR=5.4						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**21.52**	**215**	P	P	05 01 42.1	-0.8
	0.4nm,0.6s,baz=45,slow=9.2,SNR=7.2						
ASAR				LR	LR	05 11 31.4	
	comp=Z,52nm,19.6s,baz=106,slow=41						
	0.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.11**	**239**	P	P	05 02 09.0	-0.6
	1.1nm,0.7s,baz=70,slow=12,SNR=1.3						
	1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**145.35**	**284**	PKPbc	PKPdf	05 16 33.1	+0.1
	0.8nm,0.9s,baz=70,slow=4.8,SNR=4.2						

*IDC **17** 05:01:39.1±2.6, 15°.12S×167°.37E, h131km±22km, mb4.0/14, mbtmp4.4/15, MS3.1/1, Error ellipse: s-maj=17.2km s-min=15.9km az=15.0*
*NOU **17** 05:01:39.9, 15°.09S×167°.40E, h89km, MLv4.6/14, Vanuatu Islands*
*NEIC **17** 05:01:40.8±2.1, 15°.2S±0°.1×167°.3E±0°.1, h139km±9km, mb4.4/20, Error ellipse: s-maj=18.5km s-min=18.1km az=64.0*
ISC 17 05:01:38.5±0.5, 15°.10S±0°.07×167°.44E±0°.09, h129km, n65, σ1s35/70, mb4.4/25, 5C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLAKA	**Lakatoro**	**1.00**	**181**	P	**Pn**	**05 02 00.2**	**-1.1**
VLAKA	**Lakatoro**	**1.00**	**181**	P	**Pn**	**05 02 00.4**	**-0.9**
LUES	**Luesalemba Tem**	**4.66**	**341**	P	**Pn**	**05 02 47.3**	**+0.3**
LIFNC	**LIFOU**	**5.65**	**182**	P	**Pn**	**05 02 59.7**	**-0.6**
KOUNC	**Koumac, New Ca**	**6.19**	**209**	Pn	**Pn**	**05 03 06.9**	**-0.7**
KOUNC	**Koumac, New Ca**	**6.19**	**209**	P	**Pn**	**05 03 07.6**	**0.0**
	53nm,1.2s						
YATNC	**Mamie plateau,**	**6.94**	**184**	P	**Pn**	**05 03 17.9**	**+0.2**
DZM	**Mont Dzumac**	**7.00**	**188**	Pn	**Pn**	**05 03 19.8**	**+1.3**
DZM	**Mont Dzumac**	**7.00**	**188**	P	**Pn**	**05 03 20.1**	**+1.6**
	20nm,0.4s,baz=32,slow=16,SNR=49						
DZM				S	**Sn**	**05 04 36.8**	**0.0**
	26nm,0.4s,baz=147,slow=23,SNR=8.1						
DZM	**Mont Dzumac**	**7.00**	**188**	P	**Pn**	**05 03 20.6**	**+2.1**
NOUC	**Port Laguerre**	**7.04**	**189**	P	**Pn**	**05 03 21.8**	**+2.7**
ONTNC	**Ouen Toro**	**7.23**	**187**	Pn	**Pn**	**05 03 23.2**	**+1.6**
ONTNC	**Ouen Toro**	**7.23**	**187**	P	**Pn**	**05 03 23.9**	**+2.3**
OUENC	**Ouen Island, N**	**7.30**	**184**	P	**Pn**	**05 03 24.8**	**+2.3**
PINNC	**Pines Island,**	**7.47**	**180**	Pn	**Pn**	**05 03 24.1**	**-0.7**
PINNC	**Pines Island,**	**7.47**	**180**	P	**Pn**	**05 03 25.8**	**+1.0**
TATA	**Tatamba Isabel**	**10.02**	**311**	P	**Pn**	**05 04 00.9**	**+1.7**
EIDS	**Eidsvold**	**18.42**	**234**	P	**P**	**05 05 44.7**	**+0.8**
CTAO	**Charters Tower**	**20.79**	**253**	P	Pn	05 06 11.9	-1.5
TOZ	**Tahuroa Road**	**23.65**	**164**	P	**P**	**05 06 38.5**	**+0.5**
TOZ				IAmb	IAmb	05 06 40.9	
	comp=Z,23nm,0.6s						

HIZ	Hauiti	24.22	166	P		P	05 06 45.8 +2.5
URZ	Urewera	24.60	161	P		P	05 06 47.6 +0.9
	comp=Z,9.3nm,0.6s,baz=36,slow=7.9,SNR=5.4						
	comp=Z,9.3nm,0.6s						
LTZ	Lake Taylor	27.90	172	P		P	05 07 16.2 -0.1
STKA	Stephens Creek	28.88	230	P		P	05 07 25.9 +0.7
STKA	Stephens Creek	28.88	230	P		P	05 07 25.9 +0.7
	comp=Z,8.0nm,0.5s,baz=46,slow=7.9,SNR=17						
	comp=Z,8.0nm,0.5s						
TOO	Toolangi	29.65	217	P		P	05 07 31.8 -0.2
WR0	Warramunga Arr	31.71	256	P		P	05 07 47.9 -2.4
WR0				IAmb		IAmb	05 08 01.3
	comp=Z,7.3nm,1.3s						
WB0	Warramunga Arr	31.83	257	P		P	05 07 50.0 -1.4
WB0				IAmb		IAmb	05 07 57.3
	comp=Z,3.2nm,0.9s						
WB2	Warramunga Arr	31.88	256	P		P	05 07 49.9 -1.9
WB2				IAmb		IAmb	05 08 31.9
	comp=Z,4.2nm,1.3s						
WRA	Warramunga Arr	31.89	256	P		P	05 07 50.4 -1.5
	comp=Z,1.0nm,0.7s,baz=85,slow=8.8,SNR=12						
WRA				PcP		PcP	05 10 39.1 -0.5
	comp=Z,0.7nm,0.7s,baz=90,slow=2.5,SNR=6.0						
WRA				PKiKP		PKiKP	05 18 06.3 -1.8
	comp=Z,0.4nm,0.7s,baz=19,slow=0.4,SNR=6.4						
	comp=Z,1.0nm,0.7s						
AS31	Alice Springs	32.69	250	P		P	05 07 57.2 -1.7
ASAR	Alice Springs	32.69	250	P		P	05 07 57.8 -1.1
ASAR	Alice Springs	32.69	250	P		P	05 07 58.1 -0.8
	comp=Z,5.2nm,0.8s,baz=82,slow=9.0,SNR=55						
ASAR				PcP		PcP	05 10 41.4 -0.4
	comp=Z,0.4nm,0.6s,baz=78,slow=2.3,SNR=4.3						
ASAR				ScP		ScP	05 14 16.1 +2.1
	comp=Z,0.7nm,1.1s,baz=90,slow=4.9,SNR=4.1						
ASAR				PKiKP		PKiKP	05 18 06.8 -1.8
	comp=Z,0.2nm,0.6s,baz=90,slow=3.2,SNR=1.8						
	comp=Z,5.2nm,0.8s						
BBOO	Buckleboo	33.48	233	P		P	05 08 05.7 +0.1
FORT	Forrest	39.25	240	P		P	05 08 54.4 -0.2
FITZ	Fitzroy Crossi	40.11	260	P		P	05 09 01.3 -0.5
FITZ	Fitzroy Crossi	40.11	260	P		P	05 09 01.7 -0.1
	comp=Z,3.5nm,0.6s,baz=85,slow=8.9,SNR=13						
	comp=Z,3.5nm,0.6s						
PPT	Papeete	41.26	100	P		P	05 09 12.8 +1.4
	comp=Z,31nm,0.8s,baz=297,slow=4.5,SNR=4.5						
PPT				LR		LR	05 26 06.0
	comp=Z,24nm,18.2s,baz=32,slow=36						
	comp=Z,31nm,0.8s						
MBWA	Marble Bar	45.60	255	P		P	05 09 45.4 -0.7
MBWA				IAmb		IAmb	05 10 27.5
	comp=Z,13nm,1.4s						
SBA	Scott Base	62.77	180	P		P	05 11 50.2 +0.6
SBA				IAmb		IAmb	05 11 53.0
	comp=Z,3.3nm,0.8s						
USRK	Ussuriysk Ar.	67.29	333	P		P	05 12 20.2 +1.0
USRK	Ussuriysk Ar.	67.29	333	P		P	05 12 21.0 +1.7
	comp=Z,2.1nm,0.7s,baz=116,slow=5.0,SNR=4.0						
	comp=Z,2.1nm,0.7s						
USA0B	Ussuriysk Arra	67.29	333	P		P	05 12 20.1 +0.8
USA0B				IAmb		IAmb	05 12 24.9
	comp=Z,6.8nm,1.1s						
QSPA	South Pole Qui	74.93	180	P		P	05 13 04.5 -0.7
QSPA				IAmb		IAmb	05 13 06.1
	comp=Z,10.0nm,0.8s						
QSPA	South Pole Qui	74.93	180	P		P	05 13 05.2 0.0
	comp=Z,10.0nm,0.8s,baz=354,slow=2.2,SNR=49						
	comp=Z,10.0nm,0.8s						
CMAR	Chiang Mai Arr	75.25	294	P		P	05 13 09.4 +1.7
	comp=Z,1.2nm,0.5s,baz=110,slow=3.7,SNR=7.6						
	comp=Z,1.2nm,0.5s						
MAW	Mawson	81.60	202	P		P	05 13 42.1 +0.4
	comp=Z,2.0nm,0.7s,baz=117,slow=6.7,SNR=4.9						
	comp=Z,2.0nm,0.7s						
SONM	Songino Array	82.89	324	P		P	05 13 49.3 +0.4
	comp=Z,1.3nm,0.6s,baz=137,slow=6.3,SNR=5.3						
	comp=Z,1.3nm,0.6s						
BELA	Belgrano 2	86.34	175	P		P	05 14 04.1 -1.5
BELA				IAmb		IAmb	05 14 05.3
	comp=Z,5.6nm,1.0s						
ILAR	Eielson Array	86.83	18	P		P	05 14 07.9 -0.1
	comp=Z,0.4nm,0.7s,baz=237,slow=4.9,SNR=6.5						
	comp=Z,0.4nm,0.7s						
NVAR	Mina Array Bea	87.39	49	P		P	05 14 12.8 +1.2
	comp=Z,0.3nm,0.7s,baz=236,slow=6.4,SNR=2.7						
	comp=Z,0.3nm,0.7s						
TROLL	Troll, Antarti	92.51	185	⇑P		P	05 14 34.4 -0.5
	comp=Z,351nm,0.5s						
SNAA	Sanae	93.19	183	⇑P		P	05 14 37.3 -0.6
	comp=Z,87nm,0.6s						
VNA3	Neumayer Olymp	93.85	181	⇑P		P	05 14 39.6 -1.3
	comp=Z,5.4nm,0.5s						
VNA2	Neumayer--Watz	94.11	182	⇑P		P	05 14 41.0 -1.1
	comp=Z,6.7nm,0.5s,baz=180,slow=5.7						
VNA1	Neumayer--Stat	94.41	181	⇑P		P	05 14 42.5 -1.0
	comp=Z,2.2nm,0.4s						
ZALV	Zalesovo Beam	97.79	324	P		P	05 14 58.4 -0.6
	comp=Z,1.3nm,0.7s,baz=133,slow=5.0,SNR=6.2						
	comp=Z,1.3nm,0.7s						
ARCES	ARCESS Array B	120.65	345	PKP		PKPdf	05 20 14.0 -0.5
	comp=Z,3.6nm,0.5s,baz=44,slow=2.1,SNR=24						
FINES	FINESS Array B	126.13	338	PKP		PKPdf	05 20 24.8 -0.4
	comp=Z,4.4nm,1.0s,baz=46,slow=4.0,SNR=8.1						
NB2	NORSAR Subarra	131.02	345	PKPdf		PKPdf	05 20 34.7 +0.1
	comp=Z,0.4nm,0.5s,baz=31,slow=1.7						
NOA	NORSAR Array B	131.02	345	PKP		PKPdf	05 20 34.2 -0.5
	comp=Z,0.6nm,0.8s,baz=38,slow=2.0,SNR=4.4						
SOKA	Soboth	141.00	330	*i* PKP		PKPdf	05 20 50.5 -3.1
	comp=Z,0.8nm,0.2s						
FETA	Feichten	142.73	333	*i* PKP		PKPdf	05 20 53.8 -3.0
	comp=Z,3.1nm,0.7s						
DAVA	Damuels	142.88	334	*i* PKP		PKPdf	05 20 54.2 -2.9
	comp=Z,4.0nm,0.6s						
TORD	Torodi Ar. Bea	166.03	264	PKP		PKPdf	05 21 28.6 -0.6
	comp=Z,1.2nm,0.6s,baz=122,slow=2.5,SNR=9.0						

*IDC **17** 05:03:47.7±0.7,28°.51S×178°.73W,h306km±9km,mb3.2/5, mbtmp3.9/6,Error ellipse: s-maj=28.6km s-min=18.5km az=148.0*

ISC 17 05:03:47.6±0.6,28°.73S±0°.07×178°.9W±0°.1,h300km,n48, σ1°81/70,mb3.7/7,4C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	Raoul Island	1.02	120	P	Pn	05 04 28.8	+0.8
RIZ				S	S	05 05 00.5	+0.3
RAO	Raoul Island	1.03	120	P	Pn	05 04 28.9	+0.9
	576nm,0.2s,baz=72,slow=14,SNR=11						
RAO				S	S	05 05 01.8	+1.5
	313nm,0.3s,baz=101,slow=21,SNR=2.2						
GLKZ	Green Lake	1.04	121	P	Pn	05 04 28.8	+0.7
GLKZ				S	S	05 04 59.7	-0.6
MWZ	Matawai	10.02	196	P	P	05 06 09.7	+0.3
MWZ				S	S	05 07 58.4	-0.4
URZ	Urewera	10.06	198	P	P	05 06 09.7	0.0
	2.8nm,0.3s,baz=359,slow=3.2,SNR=8.4						
URZ				S	S	05 08 03.4	+3.9
	15nm,0.3s,baz=151,slow=23,SNR=15						
URZ	Urewera	10.06	198	P	Pn	05 06 07.5	+1.2
URZ				S	S	05 07 59.4	-0.1
TARZ	Mount Tarawera	10.21	201	S	S	05 08 08.0	+4.8
RIGZ	Rimuhau	10.32	195	P	P	05 06 11.6	-1.2
RIGZ				S	S	05 08 05.4	-0.1
SNGZ	Shannon Statio	10.49	196	S	S	05 08 07.8	-1.6
PRGZ	Paritu Road	10.50	194	S	S	05 08 08.5	-1.1
KNZ	Kokohu	10.64	194	P	Pn	05 06 14.6	+1.2
KNZ				S	S	05 08 12.5	-0.3
RAHZ	Arahi	10.68	197	P	P	05 06 15.7	-1.1
RAHZ				S	S	05 08 13.3	-0.5
MTHZ	Maungataniwha	10.69	198	P	P	05 06 16.9	+0.1
MTHZ				S	S	05 08 13.1	-0.7
MRHZ	Matea Rd	10.79	200	P	P	05 06 18.1	+0.1
MRHZ				S	S	05 08 18.3	+2.1
WHHZ	Waihua	10.80	196	S	S	05 08 16.8	+0.5
NMHZ	Naumai	10.93	198	S	S	05 08 20.1	+0.8
ARHZ	Aropaoanui	11.03	197	P	P	05 06 20.0	-0.6
ARHZ				S	S	05 08 20.0	-1.6
BKZ	Black Stump Fm	11.08	199	P	Pn	05 06 19.8	+1.0
BKZ				S	S	05 08 20.5	-2.1
MCHZ	McNeill Hill	11.28	198	P	P	05 06 23.5	+0.2
MCHZ				S	S	05 08 24.9	-2.3
KWHZ	Kaweka Forest	11.34	199	P	P	05 06 23.0	-1.0
KWHZ				S	S	05 08 27.6	-1.0
WNVZ	Wahianoa	11.50	202	P	P	05 06 26.2	+0.2
WNVZ				S	S	05 08 34.0	+1.6
KRHZ	Kereru	11.55	198	P	Pn	05 06 24.5	-0.1
KRHZ				S	S	05 08 31.1	-2.3
KAHZ	Kaharanaki	11.56	196	P	P	05 06 26.0	-0.6
KAHZ				S	S	05 08 33.5	-0.2
PXZ	Pawanui	11.79	196	P	P	05 06 28.7	-0.3
PXZ				S	S	05 08 35.1	-3.6
PRHZ	Porangahau	12.07	196	P	P	05 06 31.5	-0.7
PRHZ				S	S	05 08 41.9	-3.1
DVHZ	Dannevirke	12.22	198	P	Pn	05 06 30.7	-2.0
DVHZ				S	S	05 08 45.7	-2.7
BFZ	Birch Farm	12.56	197	P	Pn	05 06 37.1	+0.4
BFZ				S	S	05 08 51.6	-4.4
MRZ	Mangatainoka R	12.72	199	P	Pn	05 06 37.9	-0.8
MRZ				S	S	05 08 52.9	-6.8
ASAR	Alice Springs	42.40	266	P	P	05 11 15.0	+1.5
	0.6nm,0.6s,baz=92,slow=7.2,SNR=8.0						
	0.6nm,0.6s						
WRA	Warramunga Arr	43.24	271	P	P	05 11 20.7	+0.5
	1.5nm,0.7s,baz=106,slow=7.8,SNR=14						
	1.5nm,0.7s						
FITZ	Fitzroy Crossi	51.56	269	P	P	05 12 25.1	+1.2
	2.2nm,0.7s,baz=106,slow=7.0,SNR=2.9						
	2.2nm,0.7s						
MJAR	Matsushiro Arr	76.41	326	P	P	05 15 03.0	-1.3
	1.1nm,0.8s,baz=119,slow=9.9,SNR=1.4						
	1.1nm,0.8s						
TROLL	Troll, Antarti	79.53	180	⇑P	P	05 15 23.1	+2.0
	comp=Z,115nm,0.6s						
SNAA	Sanae	79.84	179	⇑P	P	05 15 24.3	+1.7
	comp=Z,27nm,0.7s						
VNA3	Neumayer Olymp	80.02	176	⇑P	P	05 15 25.5	+2.0
	comp=Z,5.8nm,0.7s						
VNA2	Neumayer--Watz	80.44	177	⇑P	P	05 15 27.6	+1.8
	comp=Z,2.2nm,0.6s,baz=185,slow=6.3						
NVAR	Mina Array Bea	87.58	43	P	P	05 16 00.6	-1.7
	comp=Z,0.4nm,0.7s,baz=221,slow=6.5,SNR=4.6						
	comp=Z,0.4nm,0.7s						
MKAR	Makanchi Array	116.07	311	PKP	PKPdf	05 21 53.2	-1.6
	comp=Z,0.4nm,0.6s,baz=190,slow=1.3,SNR=4.1						
KURBB	Kurchatov Arra	119.34	314	PKP	PKPdf	05 21 58.9	-2.0
	comp=Z,0.6nm,0.5s,baz=110,slow=1.3,SNR=4.5						
BVAR	Borovoye Array	124.64	317	PKP	PKPdf	05 22 10.2	-0.9
	comp=Z,1.0nm,0.5s,baz=97,slow=3.9,SNR=6.0						
FINES	FINESS Array B	143.30	340	PKP	PKPab	05 22 41.8	-0.5
	comp=Z,1.4nm,0.5s,baz=56,slow=3.8,SNR=12						
NB2	NORSAR Subarra	146.98	351	PKP	PKPdf	05 22 53.1	+1.2
	comp=Z,0.9nm,0.5s,baz=13,slow=2.9						
NOA	NORSAR Array B	146.98	351	PKPbc	PKPdf	05 22 52.7	+0.8
	comp=Z,1.2nm,0.6s,baz=16,slow=4.6,SNR=7.0						
HFS	Hagfors	147.45	348	PKPbc	PKPdf	05 22 54.0	+1.3
	comp=Z,1.8nm,0.6s,baz=42,slow=2.3,SNR=8.8						
AKASG	Malin Array Be	149.48	324	PKPbc	PKPbc	05 23 00.1	-1.0
	comp=Z,1.8nm,0.5s,baz=48,slow=2.6,SNR=12						
MMAI	Mount Meron Ar	150.30	287	PKPbc	PKiKP	05 23 04.7	+0.3
	comp=Z,1.9nm,0.5s,baz=67,slow=7.3,SNR=5.0						
BRTR	Keskin Array B	151.07	301	PKPbc	PKPbc	05 23 04.5	-0.9
	comp=Z,1.0nm,0.5s,baz=143,slow=3.3,SNR=4.4						
TORD	Torodi Ar. Bea	164.48	182	PKPab	PKPab	05 24 13.6	+1.2
	comp=Z,0.5nm,0.7s,baz=202,slow=1.7,SNR=3.5						

*IDC **17** 05:13:38.4±1.7,52°.55N×179°.14W,h242km±20km,mb3.2/7, mbtmp3.8/8,Error ellipse: s-maj=26.7km s-min=15.0km az=152.0*

*NEIC **17** 05:13:38.9±1.5,52°.5N±0°.2×179°.12W±0°.07,h243km±9km, mb4.3/51,ML3.3(AEIC),Error ellipse: s-maj=26.3km s-min=6.5km az=181.0*

*AEIC **17** 05:13:39.1±2.1,52°.1N±0°.1×179°.0W±0°.1,h256km±5km, Error ellipse: s-maj=18.9km s-min=10.7km az=185.0*

ISC 17 05:13:38.4±0.7,52°.4N±0°.1×179°.12W±0°.06,h244km±7km, n114,σ0°75/119,mb4.3/21,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GANE	Gareloi Northe	0.60	159		Pn	05 14 11.4	+0.4
GANE					S	05 14 36.4	-0.1
GASW	Gareloi Southw	0.62	165		Pn	05 14 12.7	+1.6
GASW					S	05 14 36.6	0.0
GAEA	Gareloi East	0.64	159		Pn	05 14 11.9	+0.8
GALAA	Gareloi Lava P	0.66	161		Pn	05 14 11.1	-0.1
GALAA					S	05 14 36.5	-0.4
TANO	Tanaga North	0.77	127		Pn	05 14 12.3	+0.7
TAFP	Tanaga Falls P	0.85	124		Pn	05 14 12.3	+0.3
TAFP					S	05 14 37.9	-0.4
TASE	Tanaga Southea	0.86	129		Pn	05 14 12.6	+0.5
KIKV	Kanaga Island	1.30	112		Pn	05 14 14.8	+0.2
KIKV					S	05 14 43.1	0.0
KIWB	Kanaga Island	1.32	113		Pn	05 14 14.8	0.0
KIRH	Kanaga Island	1.34	110		Pn	05 14 15.4	+0.5
ADK	Adak	1.58	107		S	05 14 45.8	-0.9
ADK	Adak	1.58	107	Pn	Pn	05 14 16.1	-0.6
ADK	Adak	1.58	107	P	Pn	05 14 16.3	-0.4
GSCK	Great Sitkin C	1.86	100		Pn	05 14 19.2	+0.2
GSTD	Great Sitkin T	1.86	99		S	05 14 51.2	+0.1
GSTR	Great Sitkin T	1.90	97		Pn	05 14 19.8	+0.4
GSMY	Great Sitkin M	1.91	99		Pn	05 14 19.4	-0.1
KOWE	Korovin West	2.98	88		Pn	05 14 30.2	0.0
KOWE					S	05 15 10.0	-1.2
ATKA	Atka Island	3.03	91		Pn	05 14 30.2	-0.5
ATKA					S	05 15 10.3	-1.7
ATKA	Atka Island	3.03	91	P	Pn	05 14 30.2	-0.5
KOFP	Korovin Flat P	3.08	90		Pn	05 14 31.6	+0.2
SHEM	Shemya Is, Ala	4.16	278	P	Pn	05 14 43.7	+0.1
	47nm,0.3s,baz=108,slow=4.8,SNR=13						
SHEM				S	S	05 15 35.4	0.0
	33nm,0.3s,baz=271,slow=17,SNR=9.0						
CLCO	Concord Point,	5.74	82		Pn	05 15 04.0	+1.0
NIKH	Nikolski High	6.27	81		Pn	05 15 09.5	-0.1
NIKH	Nikolski High	6.27	81	P	Pn	05 15 10.3	+0.6
OKWR	Okmok West Rim	6.69	77		Pn	05 15 16.9	+2.0
OKTU	Okmok Mt. Tuli	6.78	77		Pn	05 15 17.1	+0.9
MAPS	Pakushin South	7.47	74		Pn	05 15 25.2	+0.4
MGOD	Makushin Gods	7.51	74		Pn	05 15 25.8	+0.4
MSW	Makushin Swtc	7.58	73		Pn	05 15 27.3	+1.1
MREP	Makushin Rep't	7.59	74		Pn	05 15 26.9	+0.6
UNV	Unalaska Valle	7.73	74		Pn	05 15 28.7	+0.6
UNV	Unalaska Valle	7.73	74	P	Pn	05 15 28.7	+0.6
AKRB	Akutan Reef Bi	8.02	72		Pn	05 15 34.0	+2.2
LVA	Lava Point	8.05	72		Pn	05 15 33.2	+1.1
AKMO	Akutan Morgan	8.05	73		Pn	05 15 33.2	+1.0
ZRO	Akutan Zero	8.07	73		Pn	05 15 33.1	+0.7
FALS	False Pass	9.65	69	P	Pn	05 15 53.3	+0.9
	85nm,1.7s						
S12K	Black Hills	10.56	65	Pn	Pn	05 16 04.1	+0.2
O14K	Tigyukauivet M	12.15	48		P	05 16 25.5	-1.1
M14K	Bethel	12.61	42	Pn	Pn	05 16 29.1	-0.2
N15K	Kwethluk River	13.10	46	P	Pn	05 16 36.1	+0.7
J14K	Nanvaranak Lak	13.29	33		Pn	05 16 38.3	+0.7
K15K	Wolf Creek Mou	13.69	37	P	P	05 16 43.4	-0.3
L16K	Ovnat River	14.14	41	P	Pn	05 16 48.0	-0.1
CHIR	Chirikof Islan	14.19	67	P	Pn	05 16 47.1	-1.6
N17K	Nushagak Hills	14.55	47	P	P	05 16 53.7	+0.4
M17K	Holitna River	14.83	44	P	Pn	05 16 57.0	+0.6
SII	Sitkinak Islan	15.05	64	P	P	05 16 58.7	-0.2
K17K	Iditarod	15.15	39	P	Pn	05 17 00.2	-0.1
K17K				IAmb	IAmb	05 17 02.0	
	comp=Z,17nm,1.0s						
J17K	VABM Dome	15.26	36	P	Pn	05 17 02.0	+0.4
J17K				IAmb	IAmb	05 17 10.2	
	comp=Z,22nm,1.5s						
OHAK	Old Harbor	15.61	62	P	P	05 17 04.0	-1.0
N19K	Bonanza Creek	15.89	48	P	Pn	05 17 09.5	+0.3
P19K	Oil Pt	16.12	53	P	Pn	05 17 11.7	-0.2
L19K	White Mountain	16.28	43	P	Pn	05 17 13.2	-0.5
L19K				IAmb	IAmb	05 17 14.4	
	comp=Z,12nm,1.2s						
H18K	Honhosa River	16.61	32	P	P	05 17 16.4	+0.5
H18K				IAmb	IAmb	05 17 34.3	
	comp=Z,12nm,1.3s						
M20K	Styx River	16.89	46	P	Pn	05 17 20.8	-0.2
M20K				IAmb	IAmb	05 17 25.4	
	comp=Z,14nm,1.1s						
SPU	Mount Spurr	17.13	48	P	P	05 17 22.4	+0.7
SPU				IAmb	IAmb	05 17 26.6	
	comp=Z,13nm,0.9s						
J20K	Nowinta River	17.51	38	P	P	05 17 26.2	+0.5
J20K				IAmb	IAmb	05 17 30.2	
	comp=Z,7.7nm,0.8s						
SKT	Skwentna	17.64	46	P	P	05 17 28.2	+1.1
G19K	Purcell Mounta	17.66	30	P	P	05 17 27.7	+0.4
G19K				IAmb	IAmb	05 17 32.6	
	comp=Z,7.9nm,0.8s						
CAST	Castle Rocks	17.96	42	P	P	05 17 31.2	+0.6
CAST				IAmb	IAmb	05 17 32.6	
	comp=Z,5.3nm,0.7s						
RC01	Rabbit Creek A	18.18	50	P	P	05 17 33.3	+0.4
KTH	Kantishna Hill	18.49	42	P	P	05 17 36.9	+0.5
H21K	Melozitna Rive	18.78	35	P	P	05 17 39.9	+0.5
H21K				IAmb	IAmb	05 17 43.8	
	comp=Z,6.9nm,0.7s						
KNK	Knik Glacier	18.86	49	P	P	05 17 40.1	-0.2
F21K	Alatna River	19.45	30	P	P	05 17 46.8	+0.3
SCM	Sheep Creek Mo	19.49	49	P	P	05 17 46.0	-1.0
FID	Port Fidalgo	19.65	52	P	P	05 17 48.4	-0.3
DHY	Denali Highway	19.82	45	P	P	05 17 50.1	-0.5
DHY				IAmb	IAmb	05 17 52.7	
	comp=Z,14nm,1.0s						
KLU	Klutina	20.06	50	P	P	05 17 52.8	-0.4
KLU				IAmb	IAmb	05 17 55.2	
	comp=Z,10nm,0.8s						
G23K	Bananza Creek	20.29	34	P	P	05 17 55.8	+0.2
G23K				IAmb	IAmb	05 17 57.9	
	comp=Z,7.8nm,0.8s						
E22K	Anaktuvuk Pass	20.51	29	P	P	05 17 57.5	-0.4
ILAR	Eielson Array	20.60	41	P	P	05 17 55.8	-3.0
	comp=Z,1.0nm,0.6s,baz=235,slow=8.5,SNR=21						
	comp=Z,1.0nm,0.6s						
H24K	Noodor Dome	20.64	37	P	P	05 17 59.0	-0.3
N25K	Chitina, Valde	20.71	50	P	P	05 17 59.6	-0.5
GLB	Gilahina Butte	21.05	51	P	P	05 18 02.9	-0.7
GLB				IAmb	IAmb	05 18 15.8	
	comp=Z,10.0nm,1.2s						
G24K	Hadweenzic Riv	21.18	35		P	05 18 04.6	-0.1
G24K				IAmb	IAmb	05 18 06.9	
	comp=Z,11nm,0.8s						
D23K	Nanushuk River	21.34	28	P	P	05 18 06.2	-0.1
MCARA	McCarthy VSAT	21.41	51	P	P	05 18 06.6	-0.5
F24K	Squaw Lake	21.42	33		P	05 18 07.3	+0.2
F24K				IAmb	IAmb	05 18 09.5	
	comp=Z,7.0nm,0.7s						
SCRK	Sand Creek	21.53	44	P	P	05 18 06.7	-1.5
SCRK				IAmb	IAmb	05 18 09.3	
	comp=Z,6.3nm,0.6s						
J26L	Joseph Creek	21.86	43	P	P	05 18 10.1	-1.1
J26L				IAmb	IAmb	05 18 11.0	
	comp=Z,12nm,0.8s						
F25K	Christian Rive	22.22	34	P	P	05 18 14.3	-0.2
F25K				IAmb	IAmb	05 18 16.7	
	comp=Z,8.4nm,1.1s						
L27K	Beaver Creek,	22.26	47	P	P	05 18 15.0	+0.1
L27K				IAmb	IAmb	05 18 16.6	
	comp=Z,7.6nm,0.7s						
BCAR	Beaver Creek A	22.28	47	P	P	05 18 15.3	+0.2
K27K	Chicken	22.36	44	P	P	05 18 15.8	+0.1
F26K	Sheenjek River	22.78	34	P	P	05 18 19.7	+0.1
F26K				IAmb	IAmb	05 18 22.9	
	comp=Z,12nm,1.4s						
EGAK	Eagle	22.93	43	P	P	05 18 20.7	-0.2
DAWY	Dawson	23.52	45	P	P	05 18 26.1	-0.3
DAWY				IAmb	IAmb	05 18 31.0	
	comp=Z,6.7nm,0.8s						
E27K	Coleen River	23.86	34	P	P	05 18 29.5	+0.1
HYT	Haines Junctio	24.03	53	P	P	05 18 31.6	+0.5
HYT				IAmb	IAmb	05 18 47.6	
	comp=Z,21nm,1.5s						
F28M	Old Crow	24.26	36	P	P	05 18 33.1	+0.1
F28M				IAmb	IAmb	05 18 36.8	
	comp=Z,13nm,1.3s						
D27M	Malcolm River	24.49	32	P	P	05 18 35.5	+0.4
EPYK	Eagle Plains	25.11	40	P	P	05 18 40.0	-0.6
EPYK				IAmb	IAmb	05 19 03.4	
	comp=Z,13nm,1.5s						
R33M	Jennings River	27.37	56	P	P	05 19 02.1	+1.1
R33M				IAmb	IAmb	05 19 45.2	
	comp=Z,11nm,1.4s						
A36M	Sachs Harbour	30.31	30	P	P	05 19 27.0	+0.4
A36M				IAmb	IAmb	05 19 28.7	
	comp=Z,7.4nm,0.9s						
H11N2	WAKE ISLAND Hy	34.36	204	T	T	05 57 36.2	
	baz=18						
H11N3	WAKE ISLAND Hy	34.37	204	T	T	05 57 50.1	
	baz=18						
H11N1	WAKE ISLAND Hy	34.38	204	T	T	05 57 35.8	
	baz=18						
YKA	Yellowknife Ar	34.69	47	P	P	05 20 04.3	-0.4
	comp=Z,1.4nm,0.7s,baz=283,slow=8.1,SNR=11						
	comp=Z,1.4nm,0.7s						
LON	Longmire	36.74	75	P	P	05 20 23.3	+0.9
L04D	Klamath Falls	38.91	82	P	P	05 20 41.6	+1.1
NVAR	Mina Array Bea	43.63	84	P	P	05 21 20.1	+1.1
	comp=Z,1.2nm,0.8s,baz=294,slow=7.7,SNR=9.2						
	comp=Z,1.2nm,0.8s						
TPNV	Topopah Sp

SGLT	Jiouru	0.96	307	eP	Pn	05 14 19.8	+1.6
EHD	Haiduan	1.01	354	P	Pb	05 14 17.9	-2.1
CHKH	Chenggong	1.05	4	P	Pb	05 14 19.5	-1.1
CHKH				S	Sn	05 14 36.0	+3.0
FULB	Fuli	1.05	359	eP	Pn	05 14 20.0	+0.4
SCST	Cishan	1.07	314	P	Pn	05 14 21.4	+1.7
TWM1	Shoushan	1.07	309	i P	Pn	05 14 22.3	+2.5
ELDTW	Lidau	1.08	345	i P	Pb	05 14 19.6	-1.6
ELDTW				i S	Sb	05 14 33.5	-1.6
WSSB	Gushan	1.10	297	eP	Pb	05 14 20.8	-0.6
WSSB				eS	Sn	05 14 37.7	+3.3
STYH	Taoyuan	1.14	334	P	Pb	05 14 21.6	-0.6
SGST	Jiashian	1.16	324	i P	Pb	05 14 21.7	-0.8
SGST				S	Sn	05 14 39.8	+4.0
ECBN	Changbin	1.18	6	eP	Pb	05 14 22.6	-0.1
ECBN				S	Sn	05 14 39.0	+2.8
EYUL	Yuli	1.20	360	eP	Pn	05 14 21.9	+0.3
TWF1	Yuli	1.21	359	eP	Pn	05 14 20.5	-1.2
YULB	Yu-li	1.25	359	eP	Pn	05 14 21.6	-0.6
CHN1	Nanshi	1.27	325	eP	Pb	05 14 24.6	+0.2
CHN1				S	Sb	05 14 43.3	+2.9
SNST	Tainan City	1.32	325	eP	Pb	05 14 26.2	+1.1
TPUB	Ta-pu	1.32	331	P	Pb	05 14 24.9	-0.2
EHYH	Wanrong	1.35	1	eP	Pn	05 14 23.2	-0.3
HGSD	Ruisui	1.35	4	eP	Pb	05 14 24.4	-1.3
EHY	Hungye	1.36	0	eP	Pn	05 14 23.3	-0.4
TWK	Hsinying	1.36	326	eP	Pb	05 14 26.8	+1.0
CHN4	Tsaushan	1.38	331	eP	Pb	05 14 25.9	-0.2
ALS	Alishan	1.45	341	i P	Pb	05 14 26.6	-0.9
WCKO	Fanlu	1.45	333	eP	Pb	05 14 26.7	-0.7
TSCK	Chigu Township	1.52	312	eP	Pb	05 14 27.1	-1.4
TSCK				S	Sb	05 14 46.2	-1.1
ICHU	Yijhu	1.55	322	eP	Pb	05 14 27.4	-1.6
ICHU				S	Sb	05 14 49.3	+1.0
CHN5	Tsauling	1.57	338	i P	Pb	05 14 28.4	-0.9
WARBT	Fenglin Townsh	1.57	2	eP	Pn	05 14 27.6	+0.9
TEGC	Jichi Village	1.57	7	eS	Sb	05 14 50.1	+1.1
CHN8	Yiju	1.58	320	eS	Sb	05 14 47.3	-1.8
CHY	Chiayi	1.59	329	P	Pb	05 14 29.2	-0.4
CHY				eS	Sb	05 14 49.4	+0.1
WHYT	Xinyi Township	1.61	345	eP	Pb	05 14 29.6	-0.5
WHYT				eS	Sb	05 14 52.2	+2.2
VWDT	VWDT	1.62	354	eP	Pn	05 14 28.2	+0.9
SHUL	Shoufeng	1.66	8	eP	Pb	05 14 30.1	-0.7
SHUL				i S	Sb	05 14 52.0	+0.8
ESL	Shilin	1.67	3	eP	Pb	05 14 29.5	-1.6
SSLB	Suanglung	1.68	348	eP	Pb	05 14 29.8	-1.4
WDLH	Douliu	1.70	335	eP	Pn	05 14 29.4	+0.9
WDLH				S	Sb	05 14 52.9	+0.2
WSL	Shuilin Townsh	1.71	324	eP	Pn	05 14 29.4	+0.9
WSL				S	Sb	05 14 52.2	-0.6
WJS	Zhushan	1.76	342	eP	Pb	05 14 32.3	-0.3
WTK	Tuku	1.77	331	eS	Sb	05 14 54.1	-0.4
SMLT	Sun Moon Lake	1.78	347	i P	Pb	05 14 31.0	-2.0
TYC	Yuchr	1.81	346	eP	Pb	05 14 32.2	-1.2
OWD	Renai	1.81	356	eP	Pn	05 14 30.7	+0.6
WNT	Mingjian	1.83	341	eP	Pb	05 14 32.9	-0.9
WUSB	Renai	1.85	354	eP	Pn	05 14 31.8	+1.2
LXIB	Xiulin Townshi	1.88	3	eP	Pn	05 14 30.7	-0.3
WDGT	Dungji	1.90	306	eP	Pn	05 14 32.1	+1.0
WCS	Beigang Elemen	1.95	349	eP	Pb	05 14 34.3	-1.4
WHF	Hehuan Shan	2.00	359	eP	Pn	05 14 34.0	+1.2
ETL	Fush Village	2.03	8	eP	Pn	05 14 34.5	+1.5
NACB	Ninganchiao	2.04	7	i P	Pn	05 14 34.4	+1.3
NACB				S	Sb	05 15 00.1	-2.2
VCHM	Qimei	2.05	302	eS	Sn	05 14 57.4	-0.2
ETLH	Xiulin Townshi	2.06	4	eP	Pn	05 14 34.4	+0.9
PHUB	P'eng-hu	2.12	311	i P	Pn	05 14 34.0	-0.1
PHUB				eS	Sn	05 14 58.2	-1.1
PNG	Penghu	2.16	311	eP	Pn	05 14 34.6	-0.2
PNG				S	Sn	05 14 59.2	-1.2
EOS4	EOS4	2.17	25	P	Pn	05 14 36.1	+1.5
EOS4				S	Sn	05 15 01.6	+1.3
EOS3	EOS3	2.33	23	eP	Pn	05 14 38.9	+2.1
EOS3				S	Sn	05 15 06.5	+2.2
NWLT	Wulai	2.63	4	eP	Pn	05 14 43.5	+2.2
NWLT				eS	Sb	05 15 15.8	-3.5
JYNG	Yonagunijimaku	2.74	33	eS	Sn	05 15 15.1	+0.2
YOJ	Yonaguni jima	2.79	34	eS	Sn	05 15 15.9	+0.1
HATJ	Hateruma jima	2.98	50	eP	Pn	05 14 46.4	+0.4
HATJ				eS	Sn	05 15 20.0	-0.6
IRIF	Iriomote-Funau	3.11	45	P	Pn	05 14 48.7	+0.9
IRIF				eS	Sn	05 15 24.2	+0.3
JKRS	Kuro-shima	3.24	49	eP	Pn	05 14 50.4	+0.9
JKRS				eS	Sn	05 15 26.0	-1.0
VWUC	VWUC	3.32	329	eP	Pn	05 14 50.6	0.0
JIJ	Ishigaki jima	3.41	49	eP	Pn	05 14 52.8	+0.9
JIJ				S	Sn	05 15 29.6	-1.7
PTMZ	Houxiangcun	3.52	325	eP	Pn	05 14 53.8	+0.3
JISG	Ishigakijimahi	3.67	48	P	Pn	05 14 56.0	+0.5
JISG				eS	Sn	05 15 36.6	-1.1
JTJ	Tarama	3.98	51	eP	Pn	05 15 00.3	+0.6
JTJ				S	Sn	05 15 44.8	-0.5

DNK 17 05:20:33.2±0.4, 67°.19N×20°.65E, h0km, ML2.8(UPP), Suspected explosion
UPP 17 05:20:33.2±0.1, 67°.16N×20°.71E, h0km, ML2.8, Confirmed Induced event
HEL 17 05:20:33.5±0.0, 67°.16N×20°.67E, h0km, ML1.2, Explosion

ISC 17 05:20:32.3±1.0, 67°.20N±0°.03×20°.78E±0°.04, h0km, n22, σ0§37/27, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.12	224	P	Pg	05 20 34.7	+0.3
	baz=26						
DUNU				S	Sg	05 20 35.8	-0.1
DUNU	Dundret	0.12	224	P	Pg	05 20 34.7	+0.3
	baz=26						
DUNU				S	Sg	05 20 35.8	-0.1
MASU	Masugnsbyn	0.54	61	P	Pb	05 20 44.2	-0.3
MASU	Masugnsbyn	0.54	61	P	Pn	05 20 44.2	-0.3
ERTU	Ertsjaerv	0.86	139	P	Pg	05 20 49.0	+0.3
ERTU	Ertsjaerv	0.86	139	P	Pg	05 20 49.0	+0.3
ERTU	Ertsjaerv	0.86	139	eP	Pg	05 20 48.9	+0.2
ERTU				eSB	Sb	05 21 01.1	-1.0
PAJU	Pajala	0.93	100	P	Pb	05 20 51.0	-0.3
PAJU	Pajala	0.93	100	P	Pb	05 20 51.0	-0.3
PAJU	Pajala	0.93	100	ePB	Pb	05 20 51.5	+0.2
LANU	Lannavaara	0.97	28	eP	Pb	05 20 52.0	+0.1
HARU	Harads	1.05	176	P	Pg	05 20 52.0	-0.3
HARU	Harads	1.05	176	P	Pg	05 20 52.0	-0.3
KLF	Kolari	1.24	87	eP	Pg	05 20 56.3	+0.2
KLF				eSB	Sb	05 21 13.5	+0.4
HEF	Hetta	1.63	41	eP	Pg	05 21 03.4	-0.1
HEF				MSG		05 21 21.6	
	comp=Z,1.8nm,0.2s						
KALU	Kalix	1.70	141	ePN	Pb	05 21 04.2	-0.1
SJUU	Sjulsmark	1.74	169	P	Pn	05 21 04.2	+0.5
SJUU	Sjulsmark	1.74	169	P	Pn	05 21 04.2	+0.5
KIF	Kilpisjarvi	1.81	0	eP	Pg	05 21 06.7	-0.2
TOF	Tornio	1.81	127	ePG	Pg	05 21 06.6	-0.3
TOF				eSN	Sb	05 21 29.7	+0.3
TOF				MSG		05 21 29.9	
	comp=Z,1.1nm,0.2s						
RNF	Rovaniemi	2.15	104	eSG	Sg	05 21 41.2	-0.1
BRG	Berggiesshubel	16.73	195	Sg	Sn	05 27 33.7	-0.4
BRG				Amp		05 27 44.4	
	comp=Z,3.2nm,0.6s						

TEH 17 05:21:14.0, 37°.66N×57°.11E, h6km±633km, ML3.8
IDC 17 05:21:16.4±5.1, 37°.88N×56°.79E, h0km, mb3.2/4, mbtmp3.5/6, ML3.5/2, MS2.6/2, Error ellipse: s-maj=94.5km s-min=17.4km az=5.0

ISC 17 05:21:15.5±0.7, 37°.76N±0°.07×57°.10E±0°.04, h10km, n47, σ1§60/46, 1C-2D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	Maraveh tapeh	0.81	263	Pg	Pg	05 21 30.4	-0.7
ISFR	Sfrayin	1.00	134	Pg	Pg	05 21 33.2	-1.6
IEMG	Emamgholi	1.28	105	Pg	Pn	05 21 39.3	-0.4
IMND	Minoodasht	1.44	250	Pg	Pn	05 21 42.0	+0.4
IAKL	Akhelmad	1.76	131	Pg	Pn	05 21 46.4	+0.1
IPAY	Payeh	2.00	130	Pn	Pn	05 21 50.7	+1.1
IKRD	Kardeh	2.16	116	Pn	Pn	05 21 53.5	+1.7
IMOG	Moghan	2.44	132	Pn	Pn	05 21 56.9	+1.3
IMYA	Miami	2.79	120	Pn	Pn	05 22 01.5	+1.2
TAPT	Tabas- Tapeh t	2.87	179	Pn	Pn	05 22 02.0	+0.6
IGLO	Ghaloghah	2.90	245	Pn	Pn	05 22 03.2	+1.3
IKIA	Kiasar	3.15	242	Pn	Pn	05 22 07.1	+1.8
IANJ	Anjilo	3.44	229	Pn	Pn	05 22 10.8	+1.5
TNSJ	Nastanj	3.81	186	Pn	Pn	05 22 14.5	+0.1
IALA	Alasht	3.82	245	Pn	Pn	05 22 16.6	+1.9
IFIR	Firoozkooh	4.08	240	Pn	Pn	05 22 20.4	+2.1
IPRN	Peran	4.10	250	Pn	Pn	05 22 19.8	+1.4
TKDS	Koohdasht(Taba	4.14	180	Pn	Pn	05 22 18.9	0.0
AFRZ	Afriz	4.60	160	Pn	Pn	05 22 26.2	+1.0
MZPU	Pul - Mazandar	4.62	255	Pn	Pn	05 22 26.8	+1.3
IDMV	Damavand	4.62	243	Pn	Pn	05 22 26.9	+1.3
TPRV	Parvadeh(Tabas	4.73	184	Pn	Pn	05 22 27.2	+0.2
KLST	Kelardasht - M	4.98	257	Pn	Pn	05 22 31.6	+1.0
ITEG	Tejag	5.04	164	Pn	Pn	05 22 32.0	+0.7
ISFB	Sefidab	5.20	231	Pn	Pn	05 22 34.9	+1.4
IDAH	Dahanechah	5.50	155	Pn	Pn	05 22 38.5	+0.9
KRSH	Karshahi	5.53	228	Pn	Pn	05 22 39.0	+0.9
IGZV	Ghazvin	5.67	258	Pn	Pn	05 22 42.1	+2.1
QAMS	Qamsar	6.13	231	Pn	Pn	05 22 47.3	+0.9
IZEF	Zefreh	6.23	220	Pn	Pn	05 22 48.9	+1.2
IBAF	Bafgh	6.28	192	Pn	Pn	05 22 48.7	+0.4
IKLH	Kolahrood	6.32	227	Pn	Pn	05 22 49.9	+1.0
IMEH	Mehriz	6.68	199	Pn	Pn	05 22 55.2	+1.4
IRAM	Ramesheh	7.09	215	Pn	Pn	05 23 01.0	+1.4
VSHL	Vashlovani	8.97	296	P	Pn	05 23 26.7	+1.6
GNI	Garni	9.92	288	LR	LR	05 27 41.9	
	comp=Z,18nm,18.3s,baz=46,slow=40						
CHRG	Chargali	10.39	300	P	Pn	05 23 44.9	+0.3
ALIG	Mtskhetisjvari	11.20	297	P	Pn	05 23 55.8	+0.2
KK31	Karatay Array	11.53	58	⇓Pn	Pn	05 24 00.5	+0.4
	1.1nm,0.5s,baz=251,slow=13,SNR=11						
KK31				⇓Sn	Sn	05 26 07.8	-1.0
	1.5nm,0.6s,baz=254,slow=22						
KK31				⇑Lg	Lg	05 27 13.9	
	4.8nm,0.8s,baz=234,slow=28						
KBZ	Khabaz	12.31	303	Pn	Pn	05 24 08.8	-1.8
	0.5nm,0.3s,baz=158,slow=6.5,SNR=10						
KBZ				Sn	Sn	05 26 22.0	-5.8
	0.3nm,0.3s,baz=36,slow=21,SNR=1.4						
	2.1nm,0.5s						
AAK	Ala-Archa	14.15	64	LR	LR	05 30 19.1	
	comp=Z,38nm,20.3s,baz=285,slow=38						
BVAR	Borovoye Array	17.84	27	P	P	05 25 24.4	0.0
	0.1nm,0.3s,baz=219,slow=11,SNR=12						
	1.9nm,0.5s						
KURBB	Kurchatov Arra	19.95	43	P	Pn	05 25 51.3	+2.2
	0.5nm,0.6s,baz=246,slow=12,SNR=4.2						
	0.5nm,0.6s						
MKAR	Makanchi Array	20.64	56	P	Pn	05 25 58.5	+1.2
	0.5nm,0.6s,baz=239,slow=11,SNR=2.7						
	0.5nm,0.6s						
AKASG	Malin Array Be	23.63	312	P	P	05 26 26.6	-0.1
	0.4nm,0.4s,baz=110,slow=8.1,SNR=2.1						
	0.4nm,0.4s						
ZALV	Zalesovo Beam	24.96	41	P	P	05 26 42.5	+3.6
	0.4nm,0.3s,baz=228,slow=8.7,SNR=1.7						
	0.4nm,0.3s						
STHS	Stebnicka Huta	28.20	306	eP	P	05 27 09.4	+1.2

LDG 17 05:25:00.7±0.1, 50°.60N×6°.26E, h6km, Ml3.2/41, Error ellipse: s-maj=2.9km s-min=2.3km az=148.0
BUG 17 05:25:01.6, 50°.65N×6°.42E, h4km±3km, MD2.9/12, ML3.4/9
BGR 17 05:25:01.7±0.2, 50°.67N×6°.36E, h10km, ML2.8/15, Error ellipse: s-maj=3.3km s-min=2.2km az=130.0
UCC 17 05:25:01.5±0.7, 50°.65N×6°.30E, h6km, ML2.6
BNS 17 05:25:01.4±0.8, 50°.67N×6°.30E, h4km±1km, ML2.8
BNS Felt IV EMS.
PRU 17 05:25:01.2, 51°.08N×6°.49E, h1km
STR 17 05:25:03.0±0.7, 51°.N±6°×°±°, h5km, MLv3.2/15, Error ellipse: s-maj=0.0km s-min=0.0km az=12.9, preliminary

ISC 17 05:25:01.2±0.8, 50°.67N±0°.01×6°.33E±0°.01, h8km±4km, n203, σ2§00/322, 35C-52D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLL	Kalltalsperre	0.03	198	⇓iPg	Pg	05 25 02.4	-0.3
KLL				eSg	Sg	05 25 03.2	-0.6
	7μm,0.1s						
DREG	Dreilaegerbach	0.06	260	⇓ePg	Pg	05 25 02.6	-0.4
DREG				eSg	Sg	05 25 03.5	-0.8
	10μm,0.4s						
GSH	Grosshau	0.07	29	⇑iPg	Pg	05 25 03.1	0.0
GSH				Sg	Sg	05 25 04.4	-0.2
	4μm,0.3s						
BA11	Duren	0.15	50	⇑iPg	Pg	05 25 04.7	+0.4
BTNL	Ternell	0.15	235	bP	Pg	05 25 04.2	-0.2
BTNL				dS	Sg	05 25 06.2	-0.4
BA14	Wollersheim	0.15	90	⇑iPg	Pg	05 25 04.9	+0.5
BA03	Weisseweiler	0.17	13	⇑iPg	Pg	05 25 05.0	+0.3
OLFT	Oleftalsperre	0.19	161	⇑iPg	Pg	05 25 05.2	+0.2
OLFT				⇑iPg	Pg	05 25 05.2	+0.2
OLFT				eSg	Sg	05 25 07.9	+0.2
OLFT				Sg	Sg	05 25 08.0	+0.3
BA01	Aachen	0.20	302	⇑iPg	Pg	05 25 05.2	-0.1
MEM	Membach	0.21	252	⇑iPg	Pg	05 25 05.2	-0.3
MEM				eSg	Sg	05 25 08.0	-0.3
MEM	Membach	0.21	252	bP	Pg	05 25 05.2	-0.3
MEM				bP		05 25 05.2	
MEM				dS	Sg	05 25 07.8	-0.5
	comp=N,838nm,0.4s						
MEM				dS		05 25 08.0	
BD08	Hambach Funkst	0.24	28	ePg	Pg	05 25 06.7	+0.7
JUE	Julich	0.24	12	⇑ePg	Pg	05 25 06.5	+0.4
JUE				eSg	Sg	05 25 10.6	+1.3
	comp=N,3μm,0.5s						
HGN	Heimansgroeve	0.27	290	Pg	Pg	05 25 06.3	-0.2
HGN				Sg	Sg	05 25 09.6	-0.4
BD05	Hambach	0.28	21	ePg	Pg	05 25 07.2	+0.4
BD15	Terra Nova	0.29	35	eSg	Sg	05 25 12.1	+1.2
	comp=N,2μm,0.4s						
BA04	Fiesheim UWZ	0.31	73	⇑iPg	Pg	05 25 08.1	+0.8
BA05	Sindorf	0.33	41	ePg	Pg	05 25 08.5	+0.9
BA05				eSg	Sb	05 25 14.2	-0.5
	comp=N,2μm,0.4s						
STB	Steinbach	0.34	103	⇑iPg	Pg	05 25 08.2	+0.4
STB				eSg	Sg	05 25 12.5	+0.2
	comp=N,449nm,0.2s						
BA06	Horem	0.34	44	ePg	Pg	05 25 08.9	+1.0
BD01	Bergheim Laure	0.35	34	⇑iPg	Pg	05 25 08.9	+0.9
BD01				eSg	Sb	05 25 14.3	-1.0
BD07	Roetschberg	0.35	39	ePg	Pg	05 25 09.0	+1.0
BD07				eSg	Sb	05 25 14.4	-1.0
	comp=N,1μm,0.3s						
BHOU	Houvegnez	0.38	213	bP	Pg	05 25 08.5	-0.1
BHOU				dS	Sg	05 25 13.3	-0.3
	comp=N,304nm,0.2s						
BA15	Heimerzheim	0.39	84	ePg	Pg	05 25 09.2	+0.5
TDN	Todenfeld	0.41	104	Pg	Pg	05 25 09.4	+0.3
TDN				Sg	Sg	05 25 14.8	+0.4
	comp=N,586nm,0.2s						
BD14	Kuckum	0.41	6	⇑ePg	Pg	05 25 09.5	+0.3
BD14				eSg	Sg	05 25 15.5	+0.9
BEBN	Eben Emael	0.43	287	bP	Pg	05 25 09.5	-0.1
BEBN				dS	Sg	05 25 15.1	-0.1
BA10	Klein Altendor	0.43	98	⇓ePg	Pg	05 25 10.1	+0.5
RWB	Wassenberg	0.44	346	eSg	Sg	05 25 15.5	-0.1
HILG	Hillesheim	0.44	149	⇑iPg	Pg	05 25 10.2	+0.4
PLH	Pulheim	0.46	43	⇑Pg	Pg	05 25 10.3	+0.3
PLH				eSg	Sg	05 25 16.2	+0.1
BLCH	La Chartreuse	0.46	266	bP	Pg	05 25 10.1	-0.1
BLCH				dS	Sg	05 25 16.4	+0.1
	comp=N,217nm,0.4s						
RODG	Roetgen-Dahlhe	0.48	349	⇑iPg	Pg	05 25 10.8	+0.3
RODG				eSg	Sg	05 25 17.5	+0.6
	comp=N,403nm,0.4s						
BSTI	Sart Tilman	0.49	260	bP	Pg	05 25 10.6	-0.1
LOH	Wallersheim-Lo	0.51	165	Pg	Pg	05 25 11.2	+0.2
LOH				eSg	Sg	05 25 17.7	0.0
	comp=N,161nm,0.4s						
BA08	Dellbruck	0.56	58	ePg	Pg	05 25 12.4	+0.4
LAGB	Langenfeld Gru	0.59	122	Pg	Pg	05 25 12.5	0.0
LAGB				Sg	Sb	05 25 21.7	-0.5
LKLB	Kalborn	0.59	194	bP	Pg	05 25 12.4	-0.2
LKLB				dS	Sg	05 25 19.9	-0.3
	comp=N,105nm,0.3s						
BA09	Bensberg	0.61	61	ePg	Pg	05 25 13.2	+0.2
BNS	Bensberg	0.61	61	⇑iPg	Pg	05 25 13.3	+0.2
BNS				eSg	Sb	05 25 21.9	-1.1
	comp=N,412nm,0.2s						
BOPT	Opiter	0.62	315	κP	Pg	05 25 13.3	+0.2
BOPT				dS	Sg	05 25 21.2	0.0
WBS	Wahnbachtalspe	0.62	77	Pg	Pg	05 25 13.4	+0.2
WBS				Sg	Sg	05 25 21.3	0.0
	comp=N,712nm,0.3s						
BHE	Schloss Buerre	0.63	120	Pg	Pg	05 25 13.5	+0.1
NICK	Nickenich	0.67	111	Pg	Pg	05 25 14.2	+0.2
NICK				Sg	Sg	05 25 22.5	-0.2
BCLA	Clavier	0.70	249	bP	Pg	05 25 14.3	-0.3
HOBG	Hohbusch	0.71	64	⇑iPg	Pg	05 25 15.0	+0.1
HOBG				eSg	Sb	05 25 25.4	-0.4
	comp=N,965nm,0.2s						
WILW	Wilwerwiltz	0.71	197	P*	Pg	05 25 14.8	-0.1
OCHT	Ochtendung	0.74	117	P*	Pg	05 25 15.5	+0.1
LVIA	Vianden	0.74	186	bP	Pg	05 25 15.3	-0.2
LVIA				dS	Sg	05 25 24.2	-0.9
LAUG	Laupendahl	0.78	30	ePg	Pg	05 25 16.4	+0.2
LAUG				eSg	Sb	05 25 27.4	-0.5
	comp=N,152nm,0.5s						
BGG	Burgeitz	0.80	125	ePg	Pg	05 25 16.8	+0.3
BGG				eSg	Sb	05 25 28.0	-0.3
	comp=N,465nm,0.2s						
HES	Velbert-Hesper	0.83	33	Pg	Pg	05 25 16.7	-0.4
HES				P*	Pb	05 25 17.0	-0.9
HES				Sg	Sg	05 25 28.2	+0.3
	comp=N,234nm,0.2s						
BGES	Gesves	0.84	250	bP	Pg	05 25 17.0	-0.3
BGES				dS	Sg	05 25 27.6	-0.7
RCHB	Rochefort	0.87	234	ePg	Pg	05 25 17.2	-0.7
RCHB				eSg	Sg	05 25 29.3	+0.1
RCHB	Rochefort	0.87	234	bP	Pg	05 25 17.2	-0.7
RCHB				dS	Sg	05 25 29.3	+0.1
ENTS	Ennepetalsperr	0.89	50	ePg	Pg	05 25 17.7	-0.7
ENTS				eSg	Sg	05 25 29.8	-0.1
KOE	Koeppel	0.93	105	⇓ePg	Pb	05 25 19.5	-0.1
BMOL	Mol	0.95	305	κP	Pg	05 25 19.8	+0.3
BMOL				dS	Sg	05 25 32.2	+0.4
BIW	Bindweide	0.96	86	⇓P*	Pg	05 25 19.4	-0.3
BDSL	Dessel	0.96	305	κP	Pg	05 25 20.0	+0.3
BDSL				dS	Sg	05 25 32.6	+0.4
	comp=E,52nm,0.2s						
BKLB	Ruhr-Universit	0.97	37	Pg	Pg	05 25 20.2	+0.4
OPLO	Oploo	0.97	341	ePg	Pg	05 25 20.6	+0.8
OPLO				eSg	Sn	05 25 34.6	-0.5
BUG	Bochum--Univer	0.97	37	ePg	Pg	05 25 20.1	+0.3
BUG				eSg	Sb	05 25 32.9	-0.4
	comp=E,265nm,0.3s						
BULI	Ruhr-Universit	0.98	37	Pg	Pg	05 25 20.3	+0.2
BULI				Sg	Sb	05 25 33.5	0.0
BTEZ	Ruhr-Universit	0.98	37	Pg	Pg	05 25 19.9	-0.1
RIVT	Riveris	1.01	164	ePg	Pg	05 25 20.6	0.0
RIVT				eSg	Sg	05 25 34.1	+0.5
BZER	Hinxe	1.01	20	Pg	Pg	05 25 20.5	0.0
BZER				Sg	Sb	05 25 34.4	+0.1
WLF	Walferdange	1.02	186	Sg	Sg	05 25 33.0	-0.9
WLF	Walferdange	1.02	186	Pg	Pg	05 25 20.4	-0.2
WLF	Walferdange	1.02	186	ePg	Pg	05 25 20.7	0.0
WLF				eSg	Sb	05 25 35.2	+0.7
WLF	Walferdange	1.02	186	κP	Pg	05 25 20.5	-0.2
WLF				dS	Sg	05 25 32.2	-1.6
	comp=N,97nm,0.3s						
BMRD	Maredsous	1.06	250	bP	Pg	05 25 21.0	-0.6
BMRD				dS	Sg	05 25 35.4	0.0
WMG	Wormeldange-Ha	1.06	178	⇑P*	Pg	05 25 21.6	0.0
NAST	IGS Nastaetten	1.09	115	eSg	Sb	05 25 36.6	-0.1
	comp=N,237nm,0.2s						
FACH	Fachingen	1.11	106	P*	Pb	05 25 22.5	-0.2
ABH	Alteburg	1.12	135	Pg	Pb	05 25 22.7	0.0
ABH	Alteburg	1.12	135	ePg	Pb	05 25 22.8	0.0
ABH				eSg	Sb	05 25 37.8	+0.3
GIVF	Givet	1.12	240	ePg	Pb	05 25 22.0	-0.8
GIVF				eSg	Sb	05 25 36.9	-0.6
	comp=N,250nm,0.3s						
GWBD	Espenschied/He	1.15	118	Pn	Pb	05 25 23.2	-0.2
GWBD				Sn	Sb	05 25 38.2	-0.4
BAVN	Auguste-Victor	1.18	25	Pg	Pb	05 25 23.7	-0.1
BAVN				Sg	Sn	05 25 39.9	-0.3
SORT	Sorpetalsperre	1.24	56	ePg	Pn	05 25 24.3	-0.5
SORT				eSg	Sb	05 25 40.5	-0.5
	comp=N,331nm,0.5s						
SORT				Sg	Sn	05 25 41.3	-0.5
	comp=N,331nm,0.5s						
DOU	Dourbes	1.25	243	Pg	Pn	05 25 24.1	-0.8
DOU				Sg	Sb	05 25 40.7	-0.5
DOU	Dourbes	1.25	243	bP	Pn	05 25 24.2	-0.8
DOU				dS	Sb	05 25

baz=16
SFTF eSg Sb 05 26 20.4 0.0
comp=N,21nm,0.3s
HAU Haudompre 2.67 180 eP Pn 05 25 43.7 -0.8
HAU Haudompre 2.67 180 ePg Pn 05 25 46.5 +2.0
HAU eSg Sb 05 26 21.8 -0.4
comp=N,22nm,0.3s
BFO Black Forest 2.69 150 ePn Pn 05 25 45.1 +0.3
BFO eSn Sn 05 26 14.9 -2.5
CLZ Clausthal 2.80 64 ePn Pn 05 25 47.2 +0.9
CLZ Pg Pb 05 25 51.1 -0.4
CLZ eSg Sg 05 26 28.8 -2.3
HINF Hinteralfeld 2.88 173 eP Pn 05 25 47.5 +0.1
HINF Hinteralfeld 2.88 173 ePg Pb 05 25 52.3 -0.5
HINF eSn Sn 05 26 12.3 -10
HINF eSg Sb 05 26 28.4 +0.2
comp=N,12nm,0.3s
RONF Ronchamp 2.97 176 Pn Pn 05 25 48.1 -0.5
BERGE Lenzkirch (DE) 3.06 156 ePn Pn 05 25 50.4 +0.5
BERGE eSn Sn 05 26 24.2 -2.4
BERGE eSg Sg 05 26 36.5 -2.8
EMING Emmingen-Lipti 3.23 148 eSg Sg 05 26 43.2 -1.8
SLE Schleitheim 3.24 153 Pn Pn 05 25 52.5 +0.1
SLE Schleitheim 3.24 153 Sn Sn 05 26 29.2 -1.9
SLE Schleitheim 3.24 153 Pn Pn 05 25 52.5 +0.1
BOURR Bourrignon 3.34 169 Pn Pn 05 25 53.8 0.0
MOX Moxa 3.37 88 ePn Pn 05 25 54.0 -0.1
MOX eSg Sb 05 26 45.4 +3.2
WIMM Wimmelburg 3.37 73 eSg Sg 05 26 46.2 -3.3
CHMF Charmoille 3.44 176 Pn Pn 05 25 54.1 -1.0
CHMF Sn Sn 05 26 31.8 -4.2
LOR Lormes 3.77 206 ePn Pn 05 25 58.3 -1.4
LOR Lormes 3.77 206 eP Pn 05 25 58.5 -1.2
baz=27
LOR Lormes 3.77 206 ePg Pb 05 26 10.6 +2.5
baz=32
LOR eSn Sn 05 26 34.0 -10
LOR eSg Sb 05 26 57.3 +3.3
comp=N,10nm,0.2s,baz=24
LOR Lormes 3.77 206 Sn Sn 05 26 40.9 -3.4
LOR Lormes 3.77 206 Pn Pn 05 25 58.4 -1.4
RIVEL MONT RIVEL 3.93 184 Pn Pn 05 26 00.8 -1.1
RIVEL Sn Sn 05 26 45.9 -2.2
NKC Novy Kostel 3.94 94 eSG Sg 05 27 04.2 -3.4
comp=N,9.0nm,0.4s
SSF Saint Saulge 4.07 208 eP Pn 05 26 02.2 -1.5
SSF Saint Saulge 4.07 208 ePg Pb 05 26 13.7 +0.7
SSF eSn Sn 05 26 41.0 -10
SSF eSg Sb 05 27 05.8 +3.5
comp=N,12nm,0.4s
CABF La Chapelle 4.07 182 eP Pn 05 26 03.4 -0.4
CABF La Chapelle 4.07 182 ePg Pg 05 26 16.6 -2.5
CABF eSg Sb 05 27 06.0 +3.5
comp=N,23nm,0.6s
DAVA Damuels 4.12 144 *i* Pn Pn 05 26 05.7 +1.1
comp=N,1.7nm,0.3s
DAVA *i* Sn Sn 05 26 52.5 -0.5
comp=N,3.2nm,0.3s
DAVA eSg Sg 05 27 15.2 +1.7
comp=N,0.9nm,0.2s
HYF Humbligny 4.18 217 eP Pn 05 26 05.0 -0.3
HYF Humbligny 4.18 217 ePg Pb 05 26 15.2 +0.2
HYF eSn Sn 05 26 42.0 -12
HYF eSg Sb 05 27 10.6 +4.9
CLL Collm 4.27 79 ex x 05 27 09.0
CLL eSg Sg 05 27 16.0 -2.1
comp=Z,17nm,1.0s
SMF Signal de Mont 4.35 203 eP Pn 05 26 05.8 -1.9
SMF Signal de Mont 4.35 203 ePg Pb 05 26 19.8 +1.9
SMF eSn Sn 05 26 48.6 -10
SMF eSg Sb 05 27 15.5 +4.9
comp=Z,9.6nm,0.3s
AVF Avril sur Loir 4.36 208 eP Pn 05 26 06.2 -1.4
AVF Avril sur Loir 4.36 208 ePg Pb 05 26 19.1 +1.2
AVF eSn Sn 05 26 50.7 -7.9
AVF eSg Sb 05 27 15.1 +4.5
comp=Z,3.5nm,0.2s
HSKC Hora Svate Kat 4.52 88 eSG Sg 05 27 21.6 -4.8
MOTA Moosalm 4.58 135 *i* Pn Pn 05 26 12.3 +1.3
comp=Z,0.6nm,0.2s
MOTA *i* Sn Sn 05 27 05.5 +1.1
comp=Z,0.5nm,0.2s
FETA Feichten 4.67 140 ePn Pn 05 26 13.2 +1.1
comp=Z,0.4nm,0.2s
LDF La Druitiere 4.68 246 eP Pn 05 26 11.5 -0.6
LDF La Druitiere 4.68 246 ePg Pb 05 26 27.0 +3.6
LDF eSn Sn 05 26 56.5 -10
LDF eSg Sb 05 27 26.3 +6.4
comp=Z,13nm,0.4s
BGF Bois d'Agland 4.72 211 eP Pn 05 26 11.3 -1.4
BGF Bois d'Agland 4.72 211 ePg Pb 05 26 26.6 +2.4
BGF eSn Sn 05 26 56.5 -11
BGF eSg Sb 05 27 26.2 +5.1
comp=Z,26nm,0.4s
SQTA Sankt Quirin 4.72 135 *i* Pn Pn 05 26 14.4 +1.6
comp=Z,1.2nm,0.2s
SQTA *i* Sn Sn 05 27 08.2 +0.4
comp=Z,2.1nm,0.4s
FLN La Foliniere 4.81 249 eP Pn 05 26 13.1 -0.8
baz=61
FLN La Foliniere 4.81 249 ePg Pb 05 26 28.6 +2.9
baz=62
FLN eSg Sb 05 27 29.6 +5.9
comp=Z,15nm,0.3s
BRG Berggiesshubel 4.84 85 Pn Pn 05 26 16.7 +2.4
BRG Amp 05 26 18.1
comp=Z,1.5nm,0.5s
BRG Berggiesshubel 4.84 85 Pg Pg 05 26 35.0 +1.1
BRG Amp 05 26 36.2
comp=Z,1.4nm,0.7s
KHC Kasperske Hory 4.94 105 ePN Pn 05 26 16.0 +0.3
KHC eSG Sg 05 27 38.6 -1.0
LPL La Plagne 5.17 177 ePn Pn 05 26 11.8 -7.2
LPL La Plagne 5.17 177 eP Pn 05 26 16.7 -2.3
LPL eSn Sn 05 27 07.2 -12
LPL eSg Sb 05 27 40.3 +6.1
comp=Z,1.2nm,0.4s
TCF Toulx Ste Croi 5.17 214 eP Pn 05 26 17.8 -1.1
TCF Toulx Ste Croi 5.17 214 ePg Pb 05 26 34.9 +3.0
TCF eSn Sn 05 27 07.4 -11
TCF eSg Sb 05 27 40.6 +6.5
comp=Z,8.5nm,0.4s
GRR Gorron 5.21 247 eP Pn 05 26 18.6 -0.7
GRR Gorron 5.21 247 ePg Pb 05 26 35.4 +3.0
GRR eSn Sn 05 27 08.9 -11
GRR eSg Sg 05 27 42.7 -5.6
comp=Z,8.4nm,0.3s
LESA Schwarzleotal 5.29 125 *i* Pn Pn 05 26 23.1 +2.5
comp=Z,0.4nm,0.1s
LOUF Saint-Loup 5.33 251 Pn Pn 05 26 20.6 -0.5
LOUF Sn Sn 05 27 17.4 -5.1
COLF Collangettes 5.45 200 Pn Pn 05 26 21.7 -1.1
VERF Verneugheol 5.55 209 Pn Pn 05 26 22.3 -1.9
ORIF Oris-en-Rattie 5.77 183 eP Pn 05 26 25.8 -1.3
ORIF eSn Sn 05 27 21.5 -12
ORIF eSg Sb 05 27 58.2 +6.9
comp=Z,2.4nm,0.3s
LBL Lubilhac 5.82 202 Pn Pn 05 26 26.7 -1.2
FRNF Fournols 5.86 207 Pn Pn 05 26 27.4 -1.0
KBA Koelnbreinsper 5.86 125 *i* Pn Pn 05 26 31.1 +2.6
comp=Z,1.0nm,0.2s
KBA *i* Sn Sn 05 27 37.0 +1.0
comp=Z,2.1nm,0.3s
MFF Saint Martin d 5.91 229 eP Pn 05 26 27.7 -1.4
MFF eSn Sn 05 27 25.2 -12
MFF eSg Sg 05 28 04.3 -6.6
comp=Z,3.5nm,0.4s
MOA Molln 5.92 115 *i* Pn Pn 05 26 31.1 +2.0
comp=Z,1.1nm,0.2s
MOA *i* Sn Sn 05 27 35.1 -2.0
comp=Z,0.4nm,0.2s
VIVF Saint-Julien-l 5.93 191 eP Pn 05 26 28.0 -1.3
VIVF eSn Sn 05 27 25.3 -12
VIVF eSg Sb 05 28 04.0 +8.2
comp=Z,2.6nm,0.3s
MBDF Montbardon 5.96 177 eP Pn 05 26 27.3 -2.5
MBDF Montbardon 5.96 177 ePg Pb 05 26 48.6 +3.3
MBDF eSn Sn 05 27 25.5 -13
MBDF eSg Sb 05 28 04.9 +8.0
comp=Z,3.3nm,0.6s
PLEF Pleven - 22200 6.04 252 Pn Pn 05 26 29.8 -1.0
RJF Les Rejaudoux 6.26 213 eP Pn 05 26 31.7 -2.2
RJF Les Rejaudoux 6.26 213 ePg Pb 05 26 54.9 +4.4
RJF eSn Sn 05 27 34.1 -12
RJF eSg Sg 05 28 15.0 -7.2
comp=Z,4.8nm,0.5s
SGMF Saint Gilles 6.28 251 eP Pn 05 26 33.3 -0.7
SGMF eSn Sn 05 27 35.0 -11
SGMF eSg Sg 05 28 16.5 -6.0
comp=Z,9.4nm,0.4s
CAF Calviac 6.43 208 eP Pn 05 26 34.2 -1.9
CAF eSn Sn 05 27 37.1 -13
CAF eSg Sb 05 28 19.3 +9.1
comp=Z,1.4nm,0.3s
ROSF Rostrenen 6.67 253 eP Pn 05 26 38.4 -1.1
ROSF eSn Sn 05 27 45.2 -10
ROSF eSg Sg 05 28 28.9 -6.4
comp=Z,9.4nm,0.5s
QUIF Quistinic 6.79 250 eP Pn 05 26 39.6 -1.5
QUIF eSn Sn 05 27 46.9 -12
QUIF eSg Sg 05 28 32.7 -6.4
comp=Z,5.5nm,0.5s
LASF Ste Croix 6.81 195 eP Pn 05 26 39.6 -1.8
LASF Ste Croix 6.81 195 ePg Pb 05 27 04.0 +4.2
LASF eSn Sn 05 27 46.1 -13
LASF eSg Sg 05 28 31.1 -8.6
comp=Z,2.8nm,0.5s
LFF La Frestale 6.86 215 eP Pn 05 26 40.0 -2.0
LFF eSn Sn 05 27 47.3 -13
LFF eSg Sg 05 28 33.9 -7.3
comp=Z,6.0nm,0.5s
MTLF Montolieu 7.85 202 eP Pn 05 26 55.0 -0.7
MTLF Montolieu 7.85 202 ePg Pb 05 27 23.5 +6.0
MTLF eSn Sn 05 28 11.5 -13
MTLF eSg Sg 05 29 03.9 -9.2
comp=Z,0.4nm,0.2s
EPF Esparros 8.67 210 eP Pn 05 27 05.8 -1.2
EPF Esparros 8.67 210 ePg Pg 05 27 39.1 -8.0
EPF eSn Sn 05 28 31.5 -13
EPF eSg Sg 05 29 30.5 -8.9
comp=Z,1.1nm,0.3s
SJPF Ste Jean 9.15 217 eP Pn 05 27 12.7 -0.8
SJPF Ste Jean 9.15 217 ePg Pn 05 27 47.5 +34
SJPF eSn Sn 05 28 43.4 -13
SJPF eSg 05 29 44.8
comp=Z,4.4nm,0.8s

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*NEIC **17** 05:41:13.1±0.8, 8°.57S±0°.09×116°.27E±0°.04, h10km±2km, mb3.7/3, Error ellipse: s-maj=15.7km s-min=6.0km az=162.0*
*DJA **17** 05:41:17.0±0.4, 8°.5S±7°×11°.6E±°, h11km±4km, M3.9/15, mb4.2/1, MLv3.8/15*
ISC 17 05:41:13.3±0.7, **8°.54S**±0°.08×**116°.15E**±0°.05, **h10**km, **n24**, σ1**§64**/23, **Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC
DNP	**Denpasar**	**0.94**	**262**	P	**Pn**	**05 41 34.2**	**+1.6**
SRBI	**Singaraja**	**1.03**	**296**	P	**Pn**	**05 41 34.4**	**+0.5**
PLAI	**Plampang**	**1.63**	**100**	P	**Pg**	**05 41 46.7**	**+2.0**
JAGI	**Jajag, Banyuwa**	**1.98**	**272**		**Pn**	**05 41 47.9**	**+1.0**
JAGI	**Jajag, Banyuwa**	**1.98**	**272**	P	**Pn**	**05 41 47.9**	**+1.0**
ABJI	**Asem Bagus**	**2.04**	**291**	P	**Pb**	**05 41 50.0**	**-0.4**
KMMI	**Kalianget**	**2.62**	**304**	P	**Pb**	**05 41 58.7**	**-1.7**
BLJI	**Banyuglugur**	**2.65**	**287**	P	**Pn**	**05 41 57.5**	**+1.4**
GMJI	**Gumukmas**	**2.69**	**276**	P	**Pn**	**05 41 57.7**	**+1.0**
WBSI	**Waikabubak, Su**	**3.38**	**109**	P	**Pb**	**05 42 12.4**	**-1.0**
PWJI	**Pagerwojo**	**4.33**	**277**	P	Pb	05 42 25.1	-4.5
BSSI	**Bau Bau, Buton**	**4.92**	**61**	P	**Pn**	**05 42 30.5**	**+3.1**
PCJI	**Pacitan**	**4.93**	**274**	P	**Pn**	**05 42 28.4**	**+0.9**
KAPI	**Kappang**	**5.01**	**46**	Pn	**Pn**	**05 42 29.8**	**+1.2**
UGM	**Wanagama**	**5.60**	**276**	Pn	**Pn**	**05 42 37.9**	**+1.1**
UGM	**Wanagama**	**5.60**	**276**	P	**Pn**	**05 42 40.1**	**+3.3**
TOLI2	**Tolitoli**	**10.64**	**26**	Pn	**Pn**	**05 43 45.0**	**-1.0**
MBWA	**Marble Bar**	**13.01**	**165**	Pn	**Pn**	**05 44 16.5**	**-1.8**
FITZ	**Fitzroy Crossi**	**13.24**	**137**	Pn	**Pn**	**05 44 19.6**	**-2.0**
GIRL	**Giralia**	**14.14**	**187**	Pn	**Pn**	**05 44 32.7**	**-1.1**
WRA	**Warramunga Arr**	**20.93**	**125**	Pn	**P**	**05 45 55.9**	**-0.5**
WRA				IAmb	IAmb	05 46 10.6	
comp=Z,0.4nm,1.4s							
WR0	**Warramunga Arr**	**21.10**	**124**	P	**P**	**05 45 57.2**	**-1.1**
WR0				IAmb	IAmb	05 46 12.6	
comp=Z,3.1nm,0.8s							
MKAR	**Makanchi Array**	**62.80**	**335**	P	**P**	**05 51 38.4**	**-0.7**
SNAA	**Sanae**	**90.67**	**196**	P	**P**	**05 54 17.6**	**+1.6**
SNAA				IAmb	IAmb	05 54 48.0	

IDC 17 06:03:46.7±59.0, **20°.41S**×**179°.74W**, **h0**km, **mb4.2**/3, **mbtmp4.2**/3, **Error ellipse: s-maj=1056.0km s-min=148.3km az=82.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.36**	**244**	P	P	06 10 52.3	-0.5
2.3nm,0.5s,baz=63,slow=9.0,SNR=5.9							
2.3nm,0.5s							
ASAR	**Alice Springs**	**42.95**	**257**	P	P	06 11 47.5	-0.3
3.3nm,0.8s,baz=93,slow=8.1,SNR=29							
3.3nm,0.8s							
WRA	**Warramunga Arr**	**43.00**	**262**	P	P	06 11 48.5	+0.3
0.9nm,0.4s,baz=96,slow=7.8,SNR=55							
0.9nm,0.4s							

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*AEIC **17** 06:03:57.5±1.4, 69°.53N±0°.02×144°.42W±0°.06, h12km±3km, ML3.5, ML3.6/120(NEIC), Error ellipse: s-maj=3.4km s-min=2.4km az=220.0*
*NEIC **17** 06:03:58.9±1.1, 69°.59N±0°.03×144°.29W±0°.08, h10km±1km, Error ellipse: s-maj=5.0km s-min=3.6km az=128.0*
ISC 17 06:03:58.7±1.0, **69°.55N**±0°.05×**144°.37W**±0°.02, **h6**km±10km, **n187**, σ0§**89**/182, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.24**	**72**		**Pg**	**06 04 03.2**	**-0.2**
C27K	**Jago River**	**0.24**	**72**	P	**Pg**	**06 04 03.2**	**-0.2**
baz=248							
C27K				S	**Sg**	**06 04 07.1**	**+0.5**
baz=248							
C26K	**Camden Bay**	**0.41**	**333**		**Pb**	**06 04 07.3**	**-1.0**
C26K					**Sn**	**06 04 13.1**	**+1.1**
C26K	**Camden Bay**	**0.41**	**333**	IAML		06 04 15.8	
comp=E,2μm,0.5s							
C26K				IAML		06 04 15.8	
comp=N,2μm,0.5s							
C26K	**Camden Bay**	**0.41**	**333**	P	**Pb**	**06 04 07.1**	**-1.2**
baz=156							
C26K				S	**Sn**	**06 04 14.7**	**+2.7**
baz=156							
D25K	**Kavik River**	**0.75**	**253**		**Pg**	**06 04 11.3**	**-1.7**
D25K					**Sg**	**06 04 21.9**	**-0.7**
D27M	**Malcolm River**	**1.24**	**103**		**Pn**	**06 04 20.6**	**-2.0**
D27M					**Sb**	**06 04 38.6**	**-0.2**
D27M	**Malcolm River**	**1.24**	**103**	IAML		06 04 43.6	
comp=N,796nm,0.5s							
D27M				IAML		06 04 44.1	
comp=E,1μm,0.6s							
D27M	**Malcolm River**	**1.24**	**103**	P	**Pn**	**06 04 21.3**	**-1.3**
baz=285							
D27M				S	**Sb**	**06 04 38.6**	**-0.2**
baz=285							
C24K	**Franklin Bluff**	**1.53**	**278**		**Pb**	**06 04 26.6**	**-0.6**
C24K					**Sg**	**06 04 47.8**	**+0.2**
C24K	**Franklin Bluff**	**1.53**	**278**	IAML		06 04 48.9	
comp=N,921nm,0.5s							
C24K				IAML		06 04 51.4	
comp=E,864nm,0.6s							
C24K	**Franklin Bluff**	**1.53**	**278**	P	**Pb**	**06 04 26.6**	**-0.6**
baz=95							
C24K				S	**Sg**	**06 04 47.8**	**+0.2**
baz=95							
D24K	**Happy Valley**	**1.63**	**258**		**Pn**	**06 04 27.7**	**-0.1**
D24K					**Sb**	**06 04 51.3**	**+1.5**
D24K	**Happy Valley**	**1.63**	**258**	P	**Pn**	**06 04 28.6**	**+0.8**
baz=74							
D24K				S	**Sb**	**06 04 51.5**	**+1.7**
baz=74							
E27K	**Coleen River**	**1.70**	**143**	Pn	**Pn**	**06 04 28.8**	**-0.1**
E27K	**Coleen River**	**1.70**	**143**		**Sn**	**06 04 52.0**	**+1.1**
E27K	**Coleen River**	**1.70**	**143**	IAML		06 04 53.3	
comp=N,392nm,1.1s							
E27K				IAML		06 04 54.3	
comp=E,528nm,0.5s							
E27K	**Coleen River**	**1.70**	**143**	P	**Pn**	**06 04 29.8**	**+0.9**
baz=324							
E27K				S	**Sn**	**06 04 52.3**	**+1.4**
baz=324							
F26K	**Sheenjek River**	**1.87**	**177**		**Pn**	**06 04 31.7**	**+0.6**
F26K	**Sheenjek River**	**1.87**	**177**		**Sn**	**06 04 56.1**	**+1.1**
F26K	**Sheenjek River**	**1.87**	**177**	IAML		06 04 58.0	
comp=E,785nm,0.7s							
F26K				IAML		06 04 59.4	
comp=N,536nm,0.4s							
F26K	**Sheenjek River**	**1.87**	**177**	P	**Pn**	**06 04 32.0**	**+0.8**
baz=357							
F26K				S	**Sn**	**06 04 56.2**	**+1.2**
baz=357							
E28M	**Babbage River**	**1.98**	**117**		**Pn**	**06 04 33.2**	**+0.6**
E28M	**Babbage River**	**1.98**	**117**	IAML		06 05 05.8	
comp=N,339nm,0.5s							
E28M	**Babbage River**	**1.98**	**117**	P	**Pn**	**06 04 33.5**	**+0.8**
baz=300							
D28M	**Stokes Point**	**2.00**	**94**		**Pb**	**06 04 33.9**	**-1.5**
F25K	**Christian Rive**	**2.02**	**194**		**Pn**	**06 04 34.0**	**+0.7**
F25K	**Christian Rive**	**2.02**	**194**	IAML		06 05 04.4	
comp=N,568nm,0.8s							
F25K				IAML		06 05 05.7	
comp=E,520nm,1.1s							
TOLK	**Toolik Lake Re**	**2.08**	**246**	Pn	**Pn**	**06 04 33.7**	**-0.3**
TOLK				IAML		06 05 08.5	
comp=E,392nm,0.9s							
TOLK				IAML		06 05 15.0	
comp=N,318nm,0.8s							
TOLK	**Toolik Lake Re**	**2.08**	**246**	P	**Pn**	**06 04 34.0**	**-0.1**
baz=62							
E24K	**Your Creek**	**2.11**	**227**	Pn	**Pn**	**06 04 34.5**	**0.0**
E24K				IAML		06 05 09.8	
comp=N,308nm,1.1s							
BMAR	**Burnt Mountain**	**2.14**	**182**	Pn	**Pn**	**06 04 35.1**	**+0.3**
C23K	**Itkillik River**	**2.20**	**280**		**Pn**	**06 04 35.4**	**-0.1**
C23K				IAML		06 05 11.3	
comp=E,448nm,0.7s							
C23K	**Itkillik River**	**2.20**	**280**	P	**Pn**	**06 04 35.5**	**-0.1**
baz=95							
D23K	**Nanushuk River**	**2.32**	**258**	Pn	**Pn**	**06 04 37.5**	**+0.1**
F24K	**Squaw Lake**	**2.42**	**214**	Pn	**Pn**	**06 04 38.6**	**-0.1**
F24K				IAML		06 05 18.0	
comp=E,223nm,0.7s							
F24K	**Squaw Lake**	**2.42**	**214**	P	**Pn**	**06 04 39.0**	**+0.3**
baz=31							
E23K	**Chandalar**	**2.43**	**234**		**Pn**	**06 04 38.8**	**0.0**
E23K	**Chandalar**	**2.43**	**234**	P	**Pn**	**06 04 39.3**	**+0.5**
baz=50							
F28M	**Old Crow**	**2.55**	**138**	Pn	**Pn**	**06 04 40.3**	**-0.2**
F28M				IAML		06 05 20.5	
comp=N,208nm,0.5s							
F28M				IAML		06 05 26.1	
comp=E,283nm,0.5s							
F28M	**Old Crow**	**2.55**	**138**	P	**Pn**	**06 04 40.7**	**+0.1**
baz=321							
G26K	**Porcupine Rive**	**2.63**	**175**		**Pn**	**06 04 41.9**	**+0.4**
G26K	**Porcupine Rive**	**2.63**	**175**	P	**Pn**	**06 04 41.9**	**+0.4**
baz=355							
G25K	**Bearman Lake**	**2.88**	**194**		**Pn**	**06 04 45.3**	**+0.4**
G27K	**Doyon Strip**	**2.94**	**159**		**Pn**	**06 04 45.7**	**-0.1**
FYU	**Fort Yukon**	**3.02**	**187**	Pn	**Pn**	**06 04 47.5**	**+0.6**
FYU				IAML		06 05 41.2	
comp=N,219nm,1.4s							
D22K	**Ayikyak River**	**3.04**	**261**		**Pn**	**06 04 47.2**	**0.0**
D22K	**Ayikyak River**	**3.04**	**261**	P	**Pn**	**06 04 47.5**	**+0.3**
baz=74							
E22K	**Anaktuvuk Pass**	**3.05**	**246**		**Pn**	**06 04 47.1**	**-0.3**
G24K	**Hadweenzic Riv**	**3.09**	**204**	Pn	**Pn**	**06 04 47.5**	**-0.5**
G24K				IAML		06 05 39.0	
comp=N,192nm,1.0s							
G24K				IAML		06 05 39.6	
comp=E,198nm,0.8s							
COLD	**Coldfoot**	**3.18**	**225**	P	**Pn**	**06 04 49.6**	**+0.5**
baz=40							
B22K	**Teshekpuk Lake**	**3.22**	**288**		**Pn**	**06 04 49.1**	**-0.4**
H25L	**Birch Creek**	**3.35**	**190**		**Pn**	**06 04 51.8**	**+0.4**
H27K	**Steamboat Moun**	**3.51**	**161**		**Pn**	**06 04 54.3**	**+0.7**
F22K	**John River**	**3.53**	**238**		**Pn**	**06 04 54.1**	**+0.1**
F22K	**John River**	**3.53**	**238**	P	**Pn**	**06 04 54.5**	**+0.6**
baz=51							
G29M	**Pine Creek**	**3.55**	**135**		**Pn**	**06 04 53.9**	**-0.4**
G23K	**Bananza Creek**	**3.55**	**219**	Pn	**Pn**	**06 04 54.1**	**-0.1**
G23K				IAML		06 05 58.4	
comp=N,89nm,0.8s							
G23K				IAML		06 05 58.0	
comp=E,97nm,0.7s							
B21K	**Ikpikpuk River**	**3.59**	**276**	Pn	**Pn**	**06 04 54.8**	**+0.1**
B21K				IAML		06 06 04.3	
comp=E,103nm,0.8s							
E21K	**Killik River**	**3.63**	**257**		**Pn**	**06 04 55.8**	**+0.4**
E21K	**Killik River**	**3.63**	**257**	IAML		06 06 06.0	
comp=N,121nm,0.7s							
E21K				IAML		06 06 06.3	
comp=E,115nm,0.7s							
F30M	**Barrier River**	**3.70**	**118**		**Pn**	**06 04 57.6**	**+1.3**
C21K	**Knifeblade Rid**	**3.71**	**269**		**Pn**	**06 04 56.6**	**+0.2**
A22K	**Sinclair Lake**	**3.88**	**297**		**Pn**	**06 04 58.9**	**+0.2**
H24K	**Noodor Dome**	**3.97**	**201**		**Pn**	**06 04 59.6**	**-0.3**
H24K	**Noodor Dome**	**3.97**	**201**	IAML		06 06 11.9	
comp=E,81nm,1.1s							
G30M	**tAoh Zraii Nji**	**3.98**	**127**		**Pn**	**06 05 00.6**	**+0.4**
G30M				IAML		06 06 12.8	
comp=N,62nm,1.1s							
G30M				IAML		06 06 20.1	
comp=E,64nm,0.9s							
G30M	**tAoh Zraii Nji**	**3.98**	**127**	P	**Pn**	**06 05 01.2**	**+1.1**
baz=314							
H29M	**Whitestone**	**4.04**	**143**		**Pn**	**06 05 01.4**	**+0.4**
H29M				IAML		06 06 19.1	
comp=E,100nm,1.0s							
PRP	**Porcupine Dome**	**4.08**	**187**	Pn	**Pn**	**06 05 01.2**	**-0.3**
PRP				IAML		06 06 08.3	
comp=N,71nm,0.9s							
PRP				IAML		06 06 10.8	
comp=E,59nm,0.7s							
PRP	**Porcupine Dome**	**4.08**	**187**	P	**Pn**	**06 05 02.6**	**+1.0**
baz=5.6							
F21K	**Alatna River**	**4.10**	**240**		**Pn**	**06 05 01.9**	**+0.1**
F21K	**Alatna River**	**4.10**	**240**	IAML		06 06 14.7	
comp=N,65nm,0.9s							
F21K				IAML		06 06 17.6	
comp=E,72nm,0.8s							
I27K	**Kandik River**	**4.11**	**164**		**Pn**	**06 05 02.2**	**+0.3**
INK	**Inuvik**	**4.11**	**103**	Pn	**Pn**	**06 05 01.5**	**-0.3**
INK	**Inuvik**	**4.11**	**103**	P	**Pn**	**06 05 01.9**	**+0.1**
baz=292							
H23K	**Yukon River**	**4.23**	**210**		**Pn**	**06 05 03.3**	**-0.3**
H23K	**Yukon River**	**4.23**	**210**	IAML		06 06 21.2	
comp=N,76nm,1.1s							
H23K				IAML		06 06 24.1	
comp=E,63nm,1.3s							
I26K	**Coal Creek Min**	**4.29**	**173**		**Pn**	**06 05 04.7**	**+0.3**
EPYK	**Eagle Plains**	**4.30**	**134**		**Pn**	**06 05 04.7**	**+0.2**
EPYK	**Eagle Plains**	**4.30**	**134**	P	**Pn**	**06 05 05.8**	**+1.2**
baz=321							
F31M	**Tsiigehtchic**	**4.45**	**113**		**Pn**	**06 05 06.8**	**+0.3**
F31M				IAML		06 06 23.4	
comp=E,53nm,1.3s							
F31M				IAML		06 06 29.1	
comp=N,47nm,1.0s							
F31M	**Tsiigehtchic**	**4.45**	**113**	P	**Pn**	**06 05 07.6**	**+1.1**
baz=303							
D20K	**Etivluk River**	**4.46**	**265**		**Pn**	**06 05 07.4**	**+0.7**
I28M	**Miner Creek**	**4.46**	**155**		**Pn**	**06 05 07.7**	**+0.9**
I28M	**Miner Creek**	**4.46**	**155**	IAML		06 06 01.4	
comp=N,60nm,0.6s							
I28M				IAML		06 06 01.8	
comp=E,71nm,0.4s							
B20K	**Meade River**	**4.46**	**282**		**Pn**	**06 05 07.0**	**+0.4**
E20K	**Nigu River**	**4.46**	**259**		**Pn**	**06 05 07.4**	**+0.6**
A21K	**Barrow**	**4.48**	**299**		**Pn**	**06 05 07.7**	**+0.8**
G21K	**Allakaket**	**4.59**	**233**		**Pn**	**06 05 08.0**	**-0.4**
G21K	**Allakaket**	**4.59**	**233**	IAML		06 06 35.8	
comp=N,68nm,1.5s							
G21K				IAML		06 06 38.4	
comp=E,57nm,1.0s							
G31M	**Satah River**	**4.59**	**120**		**Pn**	**06 05 08.1**	**-0.3**
G31M	**Satah River**	**4.59**	**120**	P	**Pn**	**06 05 09.4**	**+1.0**
baz=309							
POKR	**Poker Plat Res**	**4.61**	**196**		**Pn**	**06 05 08.4**	**-0.4**
POKR				IAML		06 06 27.9	
comp=N,41nm,0.8s							
POKR				IAML		06 06 31.5	
comp=E,52nm,0.9s							
POKR	**Poker Plat Res**	**4.61**	**196**	P	**Pn**	**06 05 09.7**	**+0.9**
baz=13							

I23K	Minto, Yukon-K	4.83 206		Pn	06 05 11.4	-0.3
I23K			IAML		06 06 37.9	
	comp=N,44nm,1.2s					
I23K			IAML		06 06 42.5	
	comp=E,40nm,1.4s					
I23K	Minto, Yukon-K	4.83 206	P	Pn	06 05 12.2	+0.5
	baz=21					
COLA	College	4.89 198		Pn	06 05 12.6	0.0
IL31		4.90 193		Pn	06 05 12.7	0.0
ILAR	Eielson Array	4.90 193		Pn	06 05 13.5	+0.7
F20K	Avaraart Lake	4.91 245		Pn	06 05 13.1	+0.3
F20K	Avaraart Lake	4.91 245	IAML		06 06 43.8	
	comp=N,33nm,0.8s					
EGAK	Eagle	4.96 164		Pn	06 05 13.6	+0.1
EGAK			IAML		06 06 14.2	
	comp=N,34nm,0.9s					
J25K	Salcha River,	4.98 185		Pn	06 05 14.3	+0.4
J25K			IAML		06 06 41.0	
	comp=E,30nm,0.9s					
IMAR	Indian Mountai	5.05 229		Pn	06 05 14.6	-0.2
D19K	Kuna River	5.05 264		Pn	06 05 15.3	+0.4
D19K	Kuna River	5.05 264	IAML		06 07 01.2	
	comp=N,41nm,1.1s					
H21K	Melozitna Rive	5.07 224		Pn	06 05 15.3	+0.2
H21K	Melozitna Rive	5.07 224	IAML		06 06 45.3	
	comp=E,29nm,1.1s					
H21K			IAML		06 06 50.1	
	comp=N,33nm,1.3s					
J26L	Joseph Creek	5.09 176		Pn	06 05 15.5	+0.1
J26L			IAML		06 06 39.1	
	comp=E,29nm,0.7s					
J26L			IAML		06 06 50.8	
	comp=N,24nm,0.8s					
CCB	Clear Creek Bu	5.11 197		Pn	06 05 15.3	-0.3
MLY	Manley	5.17 212		Pn	06 05 16.2	-0.3
MLY	Manley	5.17 212	P	Pn	06 05 17.5	+1.0
	baz=26					
E19K	Redstone River	5.18 252		Pn	06 05 16.0	-0.5
E19K	Redstone River	5.18 252	IAML		06 06 16.8	
	comp=N,42nm,0.8s					
E19K			IAML		06 07 05.1	
	comp=E,39nm,0.9s					
HDA	Harding Lake	5.27 192		Pn	06 05 18.6	+0.9
HDA			IAML		06 06 52.5	
	comp=N,32nm,0.9s					
HDA	Harding Lake	5.27 192	P	Pn	06 05 20.2	+2.4
	baz=9.8					
WRH	Wood River Hil	5.31 198		Pn	06 05 18.3	-0.1
WRH			IAML		06 06 49.4	
	comp=N,26nm,1.3s					
WRH			IAML		06 06 54.8	
	comp=E,28nm,1.3s					
NEA2	Nenana	5.31 202		Pn	06 05 18.6	+0.2
I30M	Mount Dempster	5.33 141		Pn	06 05 18.4	-0.3
I30M			IAML		06 06 24.6	
	comp=N,28nm,0.5s					
H31M	Peel River	5.36 130		Pn	06 05 19.0	-0.1
C19K	Lookout Ridge	5.41 272		Pn	06 05 19.6	-0.1
C19K			IAML		06 06 26.8	
	comp=E,25nm,0.6s					
C19K			IAML		06 07 21.9	
	comp=N,29nm,1.1s					
C19K	Lookout Ridge	5.41 272	P	Pn	06 05 20.2	+0.5
	baz=78					
SCRK	Sand Creek	5.61 178		Pn	06 05 23.0	+0.5
SCRK	Sand Creek	5.61 178	P	Pn	06 05 23.7	+1.2
	baz=358					
K27K	Chicken	5.62 170		Pn	06 05 23.3	+0.6
F19K	Shaleruckik Mo	5.69 248		Pn	06 05 23.4	-0.1
H20K	Anotleneega Mo	5.73 230		Pn	06 05 23.5	-0.6
A19K	Wainwright	5.80 284		Pn	06 05 25.4	+0.4
K24K	Donnelly Dome	5.80 186		Pn	06 05 26.3	+1.2
K24K	Donnelly Dome	5.80 186	P	Pn	06 05 27.2	+2.1
	baz=4.8					
DAWY	Dawson	5.85 158	Pn	Pn	06 05 26.1	+0.3
DAWY	Dawson	5.85 158	P	Pn	06 05 26.8	+1.0
	baz=342					
G19K	Purcell Mounta	5.90 241		Pn	06 05 25.4	-1.0
G19K	Purcell Mounta	5.90 241	P	Pn	06 05 25.8	-0.6
	baz=49					
J30M	Hart River	5.90 144		Pn	06 05 27.1	+0.6
J30M	Hart River	5.90 144	P	Pn	06 05 27.3	+0.7
	baz=331					
DOT	Dot Lake	5.93 179		Pn	06 05 27.9	+1.0
BPAW	Bear Paw Mtn.	6.07 209	Pn	Pn	06 05 28.2	-0.5
C18K	Utukok River	6.09 269		Pn	06 05 28.7	-0.3
MCK	McKinley	6.12 199	P	Pn	06 05 29.9	+0.4
	baz=15					
H19K	Roundabout Mou	6.14 235		Pn	06 05 29.4	-0.2
E18K	Tukpahlearik C	6.34 258		Pn	06 05 32.6	+0.2
K29M	Barlow Dome	6.34 151		Pn	06 05 33.8	+1.2
F18K	Selawik	6.44 250		Pn	06 05 34.0	+0.2
F18K	Selawik	6.44 250	P	Pn	06 05 34.7	+0.9
	baz=56					
G18K	Tagagawik	6.55 243		Pn	06 05 35.0	-0.3
KTH	Kantishna Hill	6.57 207		Pn	06 05 35.5	-0.1
TRF	Thorofare Moun	6.57 204		Pn	06 05 35.9	+0.2
L26K	Log Cabin Wild	6.57 176		Pn	06 05 36.1	+0.5
BCAR	Beaver Creek A	6.60 170		Pn	06 05 35.9	-0.2
L27K	Beaver Creek,	6.60 170		Pn	06 05 36.8	+0.7
DHY	Denali Highway	6.62 192		Pn	06 05 36.6	+0.1
J20K	Nowinta River	6.62 220		Pn	06 05 36.6	+0.2
PAX	Paxson	6.63 184		Pn	06 05 37.7	+1.2
MENT	Mentasta	6.65 177		Pn	06 05 37.5	+0.8
A36M	Sachs Harbour	6.75 60		Pn	06 05 36.6	-1.4
C17K	DeLong Mountai	6.83 270		Pn	06 05 38.0	-1.2
RDOG	Red Dog Mine	6.88 266		Pn	06 05 38.3	-1.5
CAST	Castle Rocks	6.88 210		Pn	06 05 39.9	-0.1
L29M	L29M	6.94 156		Pn	06 05 41.3	+0.6
H18K	Honhosa River	6.97 237		Pn	06 05 41.1	+0.1
D17K	Noatak River	7.08 264		Pn	06 05 41.4	-1.2
C36M	Paulatuk	7.14 82		Pn	06 05 41.5	-1.8
M26K	Nabesna, AK	7.21 175		Pn	06 05 45.7	+1.3
M27K	Edge Creek, AK	7.30 171		Pn	06 05 46.9	+1.1
PPLA	Purkeypile	7.39 209		Pn	06 05 47.3	+0.3
G17K	Kiwalik Mounta	7.43 245		Pn	06 05 47.0	-0.4
M29M	Somme Creek	7.53 159		Pn	06 05 49.9	+1.0
H17K	Granite Mounta	7.59 240		Pn	06 05 49.0	-0.5
M30M	Minto, Yukon	7.65 153	Pn	Pn	06 05 50.5	0.0
SCM	Sheep Creek Mo	7.85 190	Pn	Pn	06 05 55.2	+2.0
GHO	Glory Hole Cre	8.04 196	Pn	Pn	06 05 55.3	-0.5
G16K	Koyuk River	8.05 247	Pn	Pn	06 05 54.5	-1.4
SKT	Skwentna	8.15 205	Pn	Pn	06 05 57.5	+0.2
MCARA	McCarthy VSAT	8.22 175	Pn	Pn	06 06 00.5	+2.2
KNK	Knik Glacier	8.35 194	Pn	Pn	06 06 01.9	+1.9
M31M	Drury Creek, Y	8.42 146	Pn	Pn	06 05 59.2	-1.9
J17K	VABM Dome	8.51 231	Pn	Pn	06 06 01.6	-0.6
L19K	White Mountain	8.54 215		Pn	06 06 02.3	-0.4
FARO	Faro, Yukon	8.61 143	Pn	Pn	06 06 03.5	-0.1
CTGM	Chitina Glacie	8.72 170	Pn	Pn	06 06 07.1	+1.9
N31M	Braeburn, Yuko	8.84 152	Pn	Pn	06 06 07.1	+0.3
TGL	Tana Glacier	8.86 175	Pn	Pn	06 06 09.8	+2.6
LOGN	Logan Glacier	8.88 169	Pn	Pn	06 06 10.5	+3.1
GRNC	Granite Creek	8.93 172	Pn	Pn	06 06 10.4	+2.2
O30N	Mendenhall	9.47 155	Pn	Pn	06 06 15.6	+0.2

IDC 17 06:28:37.1±2.3, 1°.92N×126°.55E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=177.5km s-min=28.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.03 161		P	P	06 33 43.5	-0.6
	0.4nm,0.4s,baz=340,slow=11,SNR=8.7 0.4nm,0.4s						
ASAR	Alice Springs	26.42 165		P	P	06 34 16.5	+0.7
	0.1nm,0.4s,baz=342,slow=11,SNR=1.6 0.1nm,0.4s						
MKAR	Makanchi Array	58.94 326		P	P	06 38 38.2	-0.1
	0.1nm,0.3s,baz=124,slow=8.6,SNR=1.5 0.1nm,0.3s						

IDC 17 06:53:11.1±53.0, 18°.47S×172°.61W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=1016.0km s-min=183.9km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	43.24 243		P	P	07 01 14.4	0.0
	1.0nm,0.4s,baz=61,slow=10,SNR=3.3 1.0nm,0.4s						
ASAR	Alice Springs	49.95 254		P	P	07 02 07.0	-0.2
	0.8nm,0.6s,baz=92,slow=7.6,SNR=17 0.8nm,0.6s						
WRA	Warramunga Arr	49.95 259		P	P	07 02 07.1	-0.1
	0.3nm,0.3s,baz=98,slow=7.0,SNR=30 0.3nm,0.3s						

IDC 17 07:01:23.9±1.2, 10°.80S×162°.75E, h0km, mb3.7/5, mbtmp3.8/7, ML3.7/2, MS3.6/19, Error ellipse: s-maj=29.5km s-min=26.0km az=9.0

ISC 17 07:01:29.0±1.0, 10°.9S±0°.1×162°.8E±0°.1, h34km, n29, σ1°.62/8, mb3.6/5, MS3.6/16, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.11 297		Pn	Pn	07 02 14.1	-1.5
	16nm,0.3s,baz=172,slow=14,SNR=1.6						
HNR				Sn	Sn	07 02 53.6	+1.9
	17nm,0.3s,baz=76,slow=11,SNR=1.2						
HNR				LR	LR	07 03 45.2	
	comp=Z,686nm,18.2s,baz=145,slow=46 75nm,0.4s						
DZM	Mont Dzumac	11.69 163		Pn	Pn	07 04 13.4	-0.2
	0.3nm,0.3s,baz=329,slow=22,SNR=19						
DZM				LR	LR	07 08 05.4	
	comp=Z,328nm,20.5s,baz=34,slow=34 7.7nm,0.9s						
PMG	Port Moresby	15.42 274		LR	LR	07 10 51.7	
	comp=Z,329nm,19.2s,baz=94,slow=37						
CTA	Charters Tower	18.34 238		LR	LR	07 12 36.1	
	comp=Z,10nm,19.1s,baz=70,slow=37						
JAY	Jayapura	23.40 289		LR	LR	07 15 34.4	
	comp=Z,121nm,22.0s,baz=144,slow=36						
STKA	Stephens Creek	28.62 220		LR	LR	07 18 05.4	
	comp=Z,91nm,19.5s,baz=28,slow=35						
WRA	Warramunga Arr	28.80 248		P	P	07 07 24.0	-0.2
	0.7nm,0.8s,baz=78,slow=9.0,SNR=5.2						
WRA				LR	LR	07 19 06.9	
	comp=Z,246nm,18.4s,baz=85,slow=37 0.7nm,0.8s						
H11S2	WAKE ISLAND Hy	29.43	8	T	T	07 37 49.1	
	baz=188,slow=76,SNR=26						
H11S3	WAKE ISLAND Hy	29.43	8	T	T	07 37 58.8	
	baz=188,slow=76,SNR=22						
H11S1	WAKE ISLAND Hy	29.44	8	T	T	07 38 20.6	
	baz=188,slow=76,SNR=16						
GUMO	Guam	30.08 323		LR	LR	07 18 40.0	
	comp=Z,75nm,21.6s,baz=154,slow=34						
URZ	Urewera	30.16 157		LR	LR	07 17 00.3	
	comp=Z,52nm,20.7s,baz=71,slow=31						
ASAR	Alice Springs	30.28 241		P	P	07 07 37.4	+0.2
	1.0nm,0.8s,baz=70,slow=9.9,SNR=12						
ASAR				LR	LR	07 19 30.4	
	comp=Z,143nm,20.7s,baz=70,slow=36 1.0nm,0.8s						
H11N1	WAKE ISLAND Hy	30.65	8	T	T	07 39 52.7	
	baz=188,slow=76,SNR=9.5						
H11N3	WAKE ISLAND Hy	30.66	8	T	T	07 39 56.8	
	baz=188,slow=76,SNR=12						
H11N2	WAKE ISLAND Hy	30.67	8	T	T	07 39 54.7	
	baz=188,slow=76,SNR=11						
RPZ	Rata Peaks	33.51 169		LR	LR	07 20 22.4	
	comp=Z,122nm,21.9s,baz=326,slow=34						
FITZ	Fitzroy Crossi	36.60 254		LR	LR	07 22 42.5	
	comp=Z,135nm,20.7s,baz=56,slow=35						
BATI	Baumata	38.42 267		LR	LR	07 26 08.8	
	comp=Z,102nm,18.2s,baz=171,slow=39						
PETK	Petropavlovsk-	63.86 357		LR	LR	07 35 07.3	
	comp=Z,41nm,21.6s,baz=98,slow=32						
CMAR	Chiang Mai Arr	69.36 294		LR	LR	07 44 14.1	
	comp=Z,11nm,18.3s,baz=85,slow=37						
QSPA	South Pole Qui	79.14 180		P	P	07 13 30.6	+0.5
	0.4nm,0.6s,baz=11,slow=0.8,SNR=3.1 0.4nm,0.6s						
ILAR	Eielson Array	84.29 19		P	P	07 13 55.4	-1.7
	0.5nm,1.0s,baz=237,slow=6.4,SNR=2.6 0.5nm,1.0s						
NVAR	Mina Array Bea	88.16 50		P	P	07 14 18.9	+2.0
	0.3nm,0.8s,baz=242,slow=5.0,SNR=2.6 0.3nm,0.8s						
PFO	Pinyon Flats O	88.39 55		LR	LR	07 45 14.4	
	comp=Z,32nm,19.1s,baz=24,slow=30						
LPIG	La Paz	91.61 66		LR	LR	07 47 56.2	
	comp=Z,47nm,18.9s,baz=34,slow=30						
KURBB	Kurchatov Arra	94.67 321		LR	LR	07 59 08.2	
	comp=Z,30nm,18.7s,baz=168,slow=37						
SNAA	Sanae	97.09 185		LR	LR	07 56 26.9	
	comp=Z,27nm,19.1s,baz=178,slow=34						
BVAR	Borovoye Array	100.00 322		LR	LR	07 59 09.4	
	comp=Z,48nm,21.9s,baz=322,slow=35						

NOU 17 07:03:21.5, 40°.18S×176°.91E, h75km, MLv3.8/11, North Island, New Zealand
WEL 17 07:03:24.2±0.3, 40°.S±2°.×17°.7E±°, h26km±3km, M4.0/18, ML4.3/18, MLv4.0/18, Error ellipse: s-maj=3.7km s-min=2.5km az=119.7, confirmed

ISC 17 07:03:24.5±1.3, 40°.03S±0°.03×176°.60E±0°.03, h35km±4km, n137, σ1°.39/153, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPWS	Waipawa Distri	0.08 352		P	Pn	07 03 29.5	-1.0
WPWS				S	Sn	07 03 33.9	-0.7
WPHZ	Waipukurau	0.13 252		P	Pn	07 03 30.3	-1.1
WPHZ				S	Sn	07 03 35.2	-1.3
PXZ	Pawanui	0.20 92		P	Pn	07 03 31.8	+0.2
PXZ				S	Sn	07 03 39.1	+2.4
PRHZ	Porangahau	0.24 174		P	Pn	07 03 32.6	+0.7
PRHZ				S	Sn	07 03 39.5	+2.3
KAHZ	Kahuranaki	0.31 43		P	Pn	07 03 32.8	+0.1
KAHZ				S	Sn	07 03 40.1	+1.7
KRHZ	Kereru	0.42 335		P	Pn	07 03 32.5	-1.5
KRHZ				S	Sn	07 03 39.0	-1.6
DVHZ	Dannevirke	0.43 230		P	Pn	07 03 34.0	-0.2
DVHZ				S	Sn	07 03 41.8	+0.9
ANWZ	Angora Road	0.45 192		P	Pn	07 03 35.2	+0.9
ANWZ				S	Sn	07 03 44.4	+3.2
TSZ	Takapari Road	0.49 266		P	Pn	07 03 34.1	-1.0
TSZ				S	Sn	07 03 41.5	-0.9
CKHZ	Cape Kidnapper	0.52 45		P	Pn	07 03 35.5	+0.1
CKHZ				S	Sn	07 03 45.7	+2.7
MCHZ	McNeill Hill	0.58 7		P	Pn	07 03 36.0	-0.3
KWHZ	Kaweka Forest	0.61 347		P	Pn	07 03 35.7	-1.1
KWHZ				S	Sn	07 03 44.7	-0.8
BFZ	Birch Farm	0.71 202		P	Pn	07 03 38.2	+0.2
BFZ	Birch Farm	0.71 202		P	Pn	07 03 38.6	+0.5
PRWZ	Pori Road	0.71 222		P	Pn	07 03 38.6	+0.5
POWZ	Post Office Ro	0.73 240		P	Pn	07 03 38.3	-0.1
POWZ				S	Sn	07 03 50.8	+2.4
ARHZ	Aropaoanui	0.82 22		P	Pn	07 03 39.5	-0.1
BKZ	Black Stump Fm	0.86 354		P	Pn	07 03 39.4	-0.7
BKZ				S	Sn	07 03 51.0	-0.6
BKZ	Black Stump Fm	0.86 354		P	Pn	07 03 39.5	-0.7
MOVZ	Moawhango	0.90 313		P	Pn	07 03 40.0	-0.7
MOVZ				S	Sn	07 03 51.9	-0.6
TIWZ	Tintock	0.93 216		P	Pn	07 03 41.3	+0.2
CPWZ	Castlepoint	0.94 199		P	Pn	07 03 41.8	+0.6
NMHZ	Naumai	0.94 10		P	Pn	07 03 41.2	-0.1
NMHZ				S	Sn	07 03 54.6	+1.0
OHWZ	Ohakea	1.00 259		P	Pn	07 03 42.8	+0.7
MRZ	Mangatainoka R	1.01 231		P	Pn	07 03 41.8	-0.3
WNVZ	Wahianoa	1.04 312		P	Pn	07 03 42.8	0.0
TUVZ	Tukino	1.05 316		P	Pn	07 03 43.0	+0.1
TUVZ				S	Sn	07 03 57.1	+0.7
WHHZ	Waihua	1.07 28		P	Pn	07 03 42.7	-0.3
WHVZ	Whangaehu Hut	1.08 313		P	Pn	07 03 43.3	0.0
MTVZ	Mangateitei	1.08 306		P	Pn	07 03 43.4	+0.2
MTVZ				S	Sn	07 03 58.0	+1.0
TRVZ	Turoa	1.09 311		P	Pn	07 03 43.5	0.0
TRVZ				S	Sn	07 03 57.4	0.0
MAVZ	Matarangi	1.10 313		P	Pn	07 03 43.8	0.0
FWVZ	Far West T-bar	1.12 313		P	Pn	07 03 43.7	-0.2
SNVZ	South Ngauruho	1.12 318		P	Pn	07 03 43.8	-0.1
ETVZ	East Tongariro	1.12 322		P	Pn	07 03 43.7	-0.1
OTVZ	Oturere	1.12 320		P	Pn	07 03 43.8	-0.1
TMVZ	Te Maari	1.14 322		P	Pn	07 03 43.9	-0.2
NGZ	Ngauruhoe	1.15 317		P	Pn	07 03 44.1	-0.1
COVZ	Chateau Observ	1.16 315		P	Pn	07 03 44.4	+0.1
NTVZ	North Tongarir	1.17 322		P	Pn	07 03 44.3	-0.2
RAHZ	Arahi	1.17 19		P	Pn	07 03 43.9	-0.5
NNVZ	North Ngauruho	1.17 319		P	Pn	07 03 44.5	-0.1
MTHZ	Maungataniwha	1.19 9		P	Pn	07 03 44.1	-0.6
KRVZ	Karewarewa	1.19 321		P	Pn	07 03 44.9	+0.1
RITZ	Rihia Road	1.19 331		P	Pn	07 03 45.3	+0.5
MRHZ	Matea Rd	1.20 353		P	Pn	07 03 44.7	-0.1
WTVZ	West Tongariro	1.20 319		P	Pn	07 03 44.7	-0.2
HATZ	Hinemaiaia	1.20 341		P	Pn	07 03 45.4	+0.6
HOWZ	Holdsworth Sta	1.20 223		P	Pn	07 03 44.3	-0.6
TMWZ	Te Maipa	1.21 206		P	Pn	07 03 44.5	-0.5
PKVZ	Pokaka	1.22 307		P	Pn	07 03 45.1	+0.1
KATZ	Kakaramea	1.26 326		P	Pn	07 03 46.3	+0.5
WAZ	Wanganui	1.27 282		P	Pn	07 03 46.4	+0.7
KNZ	Kokohu	1.30 40		P	Pn	07 03 45.3	-0.8
TWVZ	Taurewa	1.31 316		P	Pn	07 03 46.1	-0.3
RATZ	Rangitukua	1.32 331		P	Pn	07 03 47.6	+1.1
MHGZ	Mahia Peninsul	1.33 50		P	Pn	07 03 46.1	-0.5
OGWZ	Otaki Gorge	1.35 234		P	Pn	07 03 46.2	-0.7
SNGZ	Shannon Statio	1.37 25		P	Pn	07 03 46.5	-0.6
MTW	Mount Morrison	1.41 216		P	Pn	07 03 46.7	-1.0
RTZ	Ruatahuna	1.44 12		P	Pn	07 03 47.6	-0.5
ALRZ	Allen Road	1.47 352		P	Pn	07 03 48.0	-0.6
WATZ	Wairara	1.48 333		P	Pn	07 03 49.8	+1.2
PRGZ	Paritu Road	1.48 42		P	Pn	07 03 48.0	-0.7
PRRZ	Plateau Road	1.53 354		P	Pn	07 03 49.0	-0.4
KIW	Kapiti Island	1.54 237		P	Pn	07 03 48.8	-0.6
TRWZ	Traveller	1.54 207		P	Pn	07 03 48.5	-1.0
WPRZ	Whakapapatarin	1.54 347		P	Pn	07 03 48.9	-0.6
MUGZ	Murupara	1.55 5		P	Pn	07 03 48.9	-0.7
RIGZ	Rimuhau	1.60 35		P	Pn	07 03 49.3	-1.0
PAWZ	Paruwai Farm	1.62 213		P	Pn	07 03 49.5	-1.2
KUTZ	Kaahu Road	1.65 338		P	Pn	07 03 51.2	+0.2
HRRZ	Handcock Road	1.65 351		P	Pn	07 03 50.9	-0.1
RAGZ	Rawiri	1.65 23		P	Pn	07 03 50.1	-1.0
VRZ	Vera Road	1.68 302		P	Pn	07 03 51.3	-0.2
RRRZ	Republican Roa	1.69 358		P	Pn	07 03 50.7	-0.8
GRRZ	Galatos Road	1.72 347		P	Pn	07 03 52.1	+0.2
MSWZ	Moikau Station	1.73 216		P	Pn	07 03 50.5	-1.6
HSRZ	Hossack Road	1.73 351		P	Pn	07 03 51.6	-0.5
HLRZ	Highlands Stat	1.78 354		P	Pn	07 03 57.1	+4.3
LREZ	Lake Rotokare	1.79 288		P	Pn	07 03 55.3	+2.4
TARZ	Mount Tarawera	1.79 358		P	Pn	07 03 52.4	-0.5
URZ	Urewera	1.81 13		P	Pn	07 03 51.8	-1.3
URZ	Urewera	1.81 13		P	Pn	07 03 52.0	-1.1
MWZ	Matawai	1.84 23		P	Pn	07 03 52.2	-1.4
PLWZ	Palliser	1.85 213		P	Pn	07 03 52.1	-1.7
TKGZ	Te Karaka	1.86 32		P	Pn	07 03 52.6	-1.2
WEL	Wellington	1.88 227		P	Pn	07 03 52.5	-1.6
TLZ	Tolley Road	1.88 334		P	Pn	07 03 53.9	-0.3
BHW	Baring Head	1.91 223		P	Pn	07 03 52.8	-1.7
EDRZ	Edgecumbe	1.92 3		P	Pn	07 03 53.9	-0.9
OMRZ	Omania	1.92 355		P	Pn	07 04 01.0	+6.2
SNZO	South Karori	1.93 228		P	Pn	07 03 53.5	-1.3
PREZ	Palmer Road	2.00 289		P	Pn	07 03 57.0	+1.1
HIZ	Hauiti	2.03 318		P	Pn	07 03 56.3	+0.1
HIZ	Hauiti	2.03 318		P	Pn	07 03 58.3	+2.1
DREZ	Durham Road	2.03 293		P	Pn	07 03 58.2	+2.0
NEZ	North Egmont	2.08 290		P	Pn	07 03 58.1	+1.1
KHEZ	Kahui Hut	2.12 289		P	Pn	07 03 59.2	+1.6
KHEZ	Kahui Hut	2.12 289		P	Pn	07 04 00.1	+2.5
TCW	Tory Channel	2.13 235		P	Pn	07 03 56.1	-1.4
TWGZ	Tauwhareparae	2.13 31		P	Pn	07 03 56.6	-1.1
PKE	Pukeiti	2.18 292		P	Pn	07 03 59.3	+1.0
DUWZ	D'Urville Isla	2.19 248		P	Pn	07 03 57.0	-1.4
RUGZ	Raukumara Rang	2.22 23		P	Pn	07 03 57.6	-1.4
NBEZ	Newall Road No	2.24 289		P	Pn	07 04 02.5	+3.4
PUZ	Puketiti	2.34 34		P	Pn	07 03 58.6	-1.9
HAZ	Te Kaha	2.45 23		P	Pn	07 03 59.9	-2.1
TOZ	Tahuroa Road	2.45 339		P	Pn	07 04 02.1	+0.2
TUWZ	Tuamarina	2.46 234		P	Pn	07 04 00.6	-1.5
WMGZ	Waiomatatini S	2.62 33		P	Pn	07 04 02.5	-1.7
BSWZ	Blackbirch Sta	2.67 230		P	Pn	07 04 03.0	-2.0
NNZ	Nelson	2.73 243		P	Pn	07 04 04.4	-1.3
MXZ	Matakaoa Point	2.80 29		P	Pn	07 04 05.3	-1.5
MXZ	Matakaoa Point	2.80 29		P	Pn	07 04 05.2	-1.5
TKNZ	Takaka Hill	2.95 249		P	Pn	07 04 07.8	-1.1
MKAZ	Moumakai	3.13 338		P	Pn	07 04 11.1	-0.2
QRZ	Quartz Range	3.21 254		P	Pn	07 04 10.7	-1.7
QRZ	Quartz Range	3.21 254		P	Pn	07 04 11.0	-1.4
MRNZ	Matariki Terra	3.23 244		P	Pn	07 04 11.2	-1.4
THZ	Tophouse	3.29 237		P	Pn	07 04 11.4	-2.2
KHZ	Kahutara	3.32 223		P	Pn	07 04 11.7	-2.2
KUZ	Kuaotunu	3.35 348		P	Pn	07 04 14.0	-0.3
GVZ	Greta Valley S	3.98 221		P	Pn	07 04 21.0	-2.0
DSZ	Denniston Nort	4.02 243		P	Pn	07 04 23.3	-0.3
LTZ	Lake Taylor	4.26 228		P	Pn	07 04 23.8	-3.1
OKCZ	Okains Bay	4.54 214		P	Pn	07 04 27.8	-2.9
MQZ	McQueen's Vall	4.71 217		P	Pn	07 04 30.3	-2.7
INZ	Inchbonnie	4.72 234		P	Pn	07 04 30.4	-2.8
AKCZ	Akaroa Harbour	4.73 214		P	Pn	07 04 31.3	-1.9
WACZ	Wakanui South	5.28 221		P	Pn	07 04 37.8	-3.1
RPZ	Rata Peaks	5.54 227		P	Pn	07 04 42.4	-2.1
ARCZ	Arundel	5.63 224		P	Pn	07 04 43.7	-2.0
TMZ	Timaru	6.02 222		P	Pn	07 04 47.9	-3.1
CTZ	Chatham Island	6.27 128		P	Pn	07 04 55.0	+0.6
ODZ	Otahua Downs	6.67 219		P	Pn	07 04 56.7	-3.2
ODZ	Otahua Downs	6.67 219		P	Pn	07 04 56.9	-3.0

IDC 17 07:16:45.2±1.6, 8°.22S×116°.21E, h0km, mb3.5/4, mbtmp3.6/6, ML3.3/2, Error ellipse: s-maj=56.3km s-min=21.3km az=51.0
DJA 17 07:16:48.0±0.3, 8°.S±6°.×11°.7E±°, h10km, M3.8/11, MLv3.8/11

**ISC 17 07:16:46.9±0.8, 8°.18S±0°.07

EAHA S Sb 07 21 25.9 -0.1
TWD Chiawan 0.16 201 P Pg 07 21 23.7 +0.1
TWD eS Sg 07 21 26.3 -0.1
ETLH Xiulin Townshi 0.16 262 *i* P Pb 07 21 24.2 +0.1
ETLH S Sb 07 21 27.2 -0.1
ENA Nanau 0.21 21 P Pg 07 21 24.7 +0.2
ENA S Sg 07 21 28.0 +0.2
EWUT Wuta 0.24 27 *i* P Pg 07 21 25.0 +0.1
EWUT S Sg 07 21 28.6 0.0
ETM Tongmen 0.30 210 *eP* Pg 07 21 26.1 +0.2
LXIB Xiulin Townshi 0.30 227 P Pg 07 21 26.2 +0.2
LXIB S Sg 07 21 30.6 0.0
NNSB Datong 0.32 308 P Pb 07 21 26.7 -0.2
NNSB S Sb 07 21 31.6 -0.3
LATG Datong 0.33 338 *eP* Pg 07 21 26.6 +0.2
LATG eS Sg 07 21 31.5 +0.3
ENTT Nioudou 0.42 348 *eP* Pg 07 21 28.1 +0.2
ENTT eS Sb 07 21 34.2 -0.4
ESL Shilin 0.46 207 P Pg 07 21 28.5 -0.2
ESL eS Sg 07 21 34.9 -0.1
YHNB Yeheng 0.51 330 *eP* Pb 07 21 30.3 +0.2
YHNB eS Sb 07 21 36.9 -0.3
OWD Renai 0.52 238 *eS* Sg 07 21 37.1 +0.2
NSK Sanguang 0.52 328 *eP* Pb 07 21 30.1 -0.2
NSK S Sb 07 21 37.5 -0.2
FUSB Fushanzhiwuyua 0.53 353 P Pg 07 21 30.1 0.0
FUSB eS Sg 07 21 37.5 +0.2
NWLT Wulai 0.56 345 *eP* Pg 07 21 30.1 -0.5
NWLT eS Sg 07 21 38.4 +0.2
WARBT Fenglin Townsh 0.57 206 *eP* Pg 07 21 30.1 -0.6
WARBT eS Sb 07 21 38.7 -0.1
VWDT VWDT 0.67 225 P Pg 07 21 32.1 -0.5
VWDT eS Sb 07 21 41.9 +0.2

NEIC ***17*** *07:29:28.8±0.9, 25°.04S±0°.05×178°.7E±0°.2, h577km±9km, mb4.2/17, Error ellipse: s-maj=22.4km s-min=4.0km az=73.0*
IDC ***17*** *07:29:31.1±3.2, 25°.01S×178°.52E, h603km±37km, mb3.2/3, mbtmp4.2/3, Error ellipse: s-maj=31.7km s-min=17.5km az=10.0*
ISC 17 07:29:28.8±0.7, 25°.0S±0°.1×178°.6E±0°.1, h579km, n30, σ0$90/32, mb4.1/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.23**	**144**	P		**P**		**07 31 01.2**	**-0.9**
PINNC	**Pines Island,**	**10.50**	**281**	P		**P**		**07 31 52.6**	**+0.4**
TOZ	**Tahuroa Road**	**12.95**	**191**	P		**P**		**07 32 16.6**	**-0.3**
TCW	**Tory Channel**	**16.55**	**192**	P		**P**		**07 32 51.4**	**-0.4**
CTAO	**Charters Tower**	**30.24**	**273**	P		**P**		**07 34 54.1**	**+0.3**
CTAO				IAmb		IAmb		07 34 55.8	
TOO	**Toolangi**	**30.78**	**238**	P		**P**		**07 34 58.7**	**+0.4**
COEN	**Coen**	**35.07**	**282**	P		**P**		**07 35 35.5**	**+0.8**
COEN				IAmb		IAmb		07 36 14.9	
comp=Z,4.3nm,0.9s									
AS31	**Alice Springs**	**40.61**	**262**	P		**P**		**07 36 19.5**	**-0.1**
ASAR	**Alice Springs**	**40.62**	**262**	P		**P**		**07 36 19.2**	**-0.4**
ASAR	**Alice Springs**	**40.62**	**262**	P		**P**		**07 36 19.6**	**0.0**
comp=Z,0.8nm,0.3s,baz=90,slow=6.5,SNR=25									
ASAR				S		**S**		**07 41 48.2**	**-0.4**
comp=Z,0.8nm,1.0s,baz=106,slow=17,SNR=6.4									
comp=Z,0.8nm,0.3s									
WB2	**Warramunga Arr**	**41.07**	**268**	P		**P**		**07 36 22.7**	**-0.6**
WB2				IAmb		IAmb		07 36 23.9	
comp=Z,3.4nm,0.7s									
WB0	**Warramunga Arr**	**41.08**	**268**	P		**P**		**07 36 22.6**	**-0.7**
WB0				IAmb		IAmb		07 36 23.9	
comp=Z,4.8nm,0.6s									
WRA	**Warramunga Arr**	**41.08**	**268**	P		**P**		**07 36 22.9**	**-0.4**
WRA	**Warramunga Arr**	**41.08**	**268**	P		**P**		**07 36 23.5**	**+0.1**
comp=Z,3.3nm,0.5s,baz=99,slow=6.8,SNR=92									
WRA				S		**S**		**07 41 52.8**	**-2.6**
comp=Z,0.3nm,0.7s,baz=115,slow=15,SNR=2.6									
comp=Z,3.3nm,0.5s									
KNRA	**Kununurra**	**47.43**	**271**	P		**P**		**07 37 12.3**	**+0.2**
KNRA				IAmb		IAmb		07 37 32.7	
comp=Z,15nm,1.2s									
FITZ	**Fitzroy Crossi**	**49.49**	**267**	P		**P**		**07 37 27.7**	**+0.3**
SBA	**Scott Base**	**53.19**	**183**	P		**P**		**07 37 55.0**	**+1.9**
SOEI	**Soe**	**53.69**	**276**	P		**P**		**07 37 58.0**	**+0.2**
QSPA	**South Pole Qui**	**65.07**	**180**	P		**P**		**07 39 13.6**	**+0.9**
QSPA				IAmb		IAmb		07 39 18.1	
comp=Z,7.1nm,1.4s									
QSPA	**South Pole Qui**	**65.07**	**180**	P		**P**		**07 39 13.1**	**+0.4**
comp=Z,2.2nm,0.9s,baz=332,slow=0.6,SNR=12									
comp=Z,2.2nm,0.9s									
JMN	**Monobe**	**72.26**	**322**	P		**P**		**07 39 55.5**	**-0.8**
NACB	**Ninganchiao**	**73.75**	**307**	P		**P**		**07 40 05.0**	**0.0**
NACB				IAmb		IAmb		07 40 29.6	
comp=Z,32nm,1.2s									
USRK	**Ussuriysk Ar.**	**81.03**	**328**	P		**P**		**07 40 45.2**	**+1.4**
CNBA	**Chernabura Isl**	**81.69**	**13**	P		**P**		**07 40 47.2**	**+0.3**
GO08	**Villa O'Higgin**	**83.17**	**141**	P		**P**		**07 40 54.4**	**-0.4**
GO08				IAmb		IAmb		07 41 12.0	
comp=Z,26nm,1.4s									
SNAA	**Sanae**	**83.57**	**180**	P		**P**		**07 40 55.6**	**-0.8**
SNAA				IAmb		IAmb		07 41 20.8	
comp=Z,7.4nm,1.5s									
NB2	**NORSAR Subarra**	**142.97**	**350**	PKP		**PKPdf**		**07 47 55.4**	**-1.3**
comp=Z,1.5nm,0.8s,baz=16,slow=3.8									
NOA	**NORSAR Array B**	**142.97**	**350**	PKP		**PKPdf**		**07 47 54.9**	**-1.8**
comp=Z,1.6nm,0.8s,baz=22,slow=3.8,SNR=7.1									
HFS	**Hagfors**	**143.37**	**347**	PKP		**PKPdf**		**07 47 56.8**	**-0.5**
comp=Z,2.7nm,0.5s,baz=40,slow=4.7,SNR=15									
AKASG	**Malin Array Be**	**145.20**	**325**	PKPbc		**PKPbc**		**07 48 01.9**	**+0.1**
comp=Z,0.5nm,0.5s,baz=49,slow=3.7,SNR=4.7									

IDC ***17*** *07:40:02.4±1.3, 25°.44N×141°.20E, h91km±12km, mb3.9/21, mbtmp4.3/26, MS3.3/6, Error ellipse: s-maj=15.2km s-min=10.5km az=93.0*
MOS ***17*** *07:40:04.0±0.9, 25°.38N×141°.07E, h123km, mb4.4/9, Error ellipse: s-maj=17.6km s-min=6.8km az=106.1*
JMA ***17*** *07:40:05.9±0.2, 25°N±1°.1×14°.1E±°., h94km, MD4.6/28, MVS.0/28, IOTO ISLANDS REGION*
BJI ***17*** *07:40:05.3, 25°.34N×141°.08E, h126km, mb4.5/14, mB5.0/8*
NEIC ***17*** *07:40:06.6±2.0, 25°.41N±0°.08×141°.0E±0°.1, h121km±7km, mb4.8/39, Error ellipse: s-maj=18.6km s-min=11.8km az=103.0*
ISC 17 07:40:03.7±0.4, 25°.36N±0°.05×141°.12E±0°.07, h100km, n140, σ1$30/141, mb4.6/50, 4C-1D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.58**	**37**	*eP*		**Pn**		**07 40 32.7**	**+1.8**
JHH2				*eS*		**Sn**		**07 40 53.2**	**+1.6**
JHH2	**Haha-jima-NKT2**	**1.58**	**37**	A		A		07 40 32.7	
comp=E,23nm,0.4s,comp=N,20nm,0.4s									
CBIJ	**Chichi jima**	**1.97**	**29**	P		**Pn**		**07 40 37.8**	**+1.8**
CBIJ				*eS*		**Sn**		**07 41 01.9**	**+1.4**
CBIJ	**Chichi jima**	**1.97**	**29**	A		A		07 40 37.8	
comp=E,17nm,0.4s,comp=N,15nm,0.4s									
JCJ	**Chichijima**	**1.97**	**29**	Pn		**Pn**		**07 40 37.7**	**+1.8**
JCJ	**Chichijima**	**1.97**	**29**	P		Pn		07 40 32.6	-3.3
JCJ				S		**Sn**		**07 40 56.2**	**-4.3**
baz=0.0,slow=0.0									
JHJ2	**Mitsune**	**7.80**	**352**	Pn		**Pn**		**07 41 57.5**	**+3.0**
JHJ2	**Mitsune**	**7.80**	**352**	*eP*		**Pn**		**07 41 57.7**	**+3.2**
JHJ	**Hachijo jima 2**	**7.82**	**352**	P		**Pn**		**07 41 57.0**	**+2.3**
comp=N,26nm,0.3s,baz=92,slow=23,SNR=9.9									
JHJ				S		**Sn**		**07 43 21.4**	**-0.1**
comp=N,65nm,0.3s,baz=310,slow=22,SNR=6.9									
JMKN	**Mikurajimanish**	**8.60**	**351**	*eP*		**Pn**		**07 42 08.2**	**+2.8**
BSO1	**Boso 1**	**9.26**	**359**	*eP*		**Pn**		**07 42 14.5**	**+0.7**
BSO3	**Boso 3**	**9.42**	**357**	P		**Pn**		**07 42 16.4**	**+0.2**
BSO4	**Boso 4**	**9.62**	**356**	P		**Pn**		**07 42 20.2**	**+1.1**
JOD2	**Odawara 2**	**10.02**	**350**	P		**Pn**		**07 42 26.3**	**+1.7**
JOD2				*eS*		**Sn**		**07 44 14.2**	**-1.0**
JAO	**Obara**	**10.42**	**342**	*eP*		**Pn**		**07 42 33.9**	**+3.8**
INU	**Inuyama**	**10.56**	**341**			**Pn**		**07 42 34.2**	**+2.2**
JGF	**Kuroka**	**10.71**	**343**			**Pn**		**07 42 36.5**	**+2.4**
JRY	**Ryogami san**	**10.79**	**350**	P		**Pn**		**07 42 35.4**	**+0.3**
JRY				*eS*		**Sn**		**07 44 31.1**	**-2.8**
JAG	**Ashikaga**	**11.12**	**353**	P		**Pn**		**07 42 38.1**	**-1.4**
JHO	**Hitachi**	**11.22**	**358**	P		**Pn**		**07 42 39.5**	**-1.5**
MJAR	**Matsushiro Arr**	**11.42**	**348**	P		**Pn**		**07 42 43.0**	**-0.7**
comp=N,5.4nm,0.6s,baz=163,slow=11,SNR=11									
MJAR				S		**Sn**		**07 44 47.1**	**-2.1**
comp=N,2.1nm,0.4s,baz=295,slow=23,SNR=2.1									
MJAR				LR		LR		07 46 27.1	
comp=N,56nm,21.7s,baz=164,slow=34									
MAJO	**Matsushiro**	**11.42**	**348**			**Pn**		**07 42 45.1**	**+1.5**
MAJO	**Matsushiro**	**11.42**	**348**	*i* P		**Pn**		**07 42 45.1**	**+1.5**
MJB9	**Matsu-Tunnel**	**11.42**	**348**			**Pn**		**07 42 46.1**	**+2.4**
JOW	**Kunigami**	**11.64**	**280**	P		**Pn**		**07 42 47.3**	**+0.6**
comp=N,9.0nm,0.8s,baz=90,slow=20,SNR=1.4									
JOW				LR		LR		07 46 49.1	
comp=N,47nm,20.3s,baz=121,slow=35									
JNU	**Nakatsue**	**11.82**	**313**	P		**Pn**		**07 42 49.2**	**+0.2**
comp=N,6.8nm,1.1s,baz=323,slow=14,SNR=1.7									
JMM	**Marumori**	**12.47**	**359**			**Pn**		**07 42 55.8**	**-1.7**
JSD	**Sado**	**12.87**	**350**	Pn		**Pn**		**07 43 01.9**	**-0.9**
JTM	**Tenmabayashi**	**15.38**	**360**	Pn		**Pn**		**07 43 34.8**	**-0.4**
KSRS	**Korea Array**	**16.48**	**320**	P		**Pn**		**07 43 48.5**	**-0.3**
comp=N,0.4nm,0.4s,baz=118,slow=22,SNR=1.4									
KSAR	**Wonju Array Be**	**16.49**	**320**	P		**Pn**		**07 43 48.9**	**-0.1**
KSAR	**Wonju Array Be**	**16.49**	**320**	P		**Pn**		**07 43 48.9**	**-0.1**
ERM	**Erimo**	**16.69**	**5**			**Pn**		**07 43 51.2**	**-0.2**
ERM	**Erimo**	**16.69**	**5**	P		**Pn**		**07 43 51.2**	**-0.2**
ASAJ	**Asahikawa**	**18.75**	**3**	P		**P**		**07 44 14.5**	**-0.2**
comp=N,26nm,0.6s,baz=223,slow=12,SNR=3.0									
JKA	**Kamikawa-asahi**	**18.75**	**3**	P		**Pn**		**07 44 16.4**	**+0.2**
USRK	**Ussuriysk Ar.**	**20.21**	**341**	P		**P**		**07 44 29.9**	**-0.6**
comp=N,1.0nm,0.4s,baz=147,slow=11,SNR=3.4									
comp=N,1.0nm,0.4s									
NJ2	**Nanjing**	**20.62**	**294**	*eP*		**P**		**07 44 35.3**	**+0.2**
NJ2				pmax		pmax			
comp=N,9.0nm,0.6s									
YSS	**Yuzh-Sakhalins**	**21.59**	**3**	P		**P**		**07 44 46.1**	**+0.9**
YSS	**Yuzh-Sakhalins**	**21.59**	**3**	*eP*		**P**		**07 44 43.7**	**-1.5**
YSS				pmax		pmax			
comp=Z,20nm,0.7s									
HNS	**HongShan**	**25.45**	**304**	||P		**P**		**07 45 26.0**	**+3.7**
HNS				pmax		pmax			
comp=Z,19nm,0.7s									
HHC	**Hu-ho-hao-te**	**29.01**	**309**	*eP*		**P**		**07 45 55.5**	**+1.3**
HHC				pmax		pmax			
comp=Z,12nm,0.6s									
HHC				pmax		pmax			
comp=Z,280nm,4.9s									
XAN	**Xi'an**	**29.18**	**295**	*eP*		**P**		**07 45 57.8**	**+2.0**
SONM	**Songino Array**	**35.34**	**318**	P		**P**		**07 46 48.6**	**-0.9**
comp=Z,0.6nm,0.4s,baz=108,slow=4.7,SNR=3.5									
comp=Z,0.6nm,0.4s									
PZH	**PanZhiHua**	**35.34**	**281**	P		**P**		**07 46 50.5**	**+0.7**
PZH				pmax		pmax			
comp=Z,10.0nm,0.5s									
PZH				pmax		pmax			
comp=Z,80nm,6.0s									
SOEI	**Soe**	**38.58**	**207**	P		**P**		**07 47 16.6**	**-0.6**
COEN	**Coen**	**39.13**	**177**	P		**P**		**07 47 21.8**	**+0.1**
COEN				IAmb		IAmb		07 47 24.1	
comp=Z,11nm,0.7s									
CMAR	**Chiang Mai Arr**	**39.61**	**269**	P		**P**		**07 47 25.5**	**-0.2**
comp=Z,2.1nm,0.3s,baz=88,slow=39,SNR=1.1									
CMAR				LR		LR		08 03 50.3	
comp=Z,8.1nm,20.5s,baz=115,slow=36									
comp=Z,2.1nm,0.3s									
WB0	**Warramunga Arr**	**45.34**	**189**	P		**P**		**07 48 12.1**	**+0.1**
CTAO	**Charters Tower**	**45.45**	**173**	P		**P**		**07 48 12.7**	**-0.2**
CTAO				IAmb		IAmb		07 49 27.5	
comp=Z,35nm,1.6s									
CTAO	**Charters Tower**	**45.45**	**173**	P		**P**		**07 48 12.7**	**-0.2**
CTAO				pmax		pmax			
comp=Z,35nm,1.6s									
CTAO	**Charters Tower**	**45.45**	**173**	P		**P**		**07 48 12.9**	**+0.1**
WR0	**Warramunga Arr**	**45.50**	**189**	P		**P**		**07 48 13.4**	**+0.1**
WRA	**Warramunga Arr**	**45.52**	**189**	P		**P**		**07 48 13.1**	**-0.3**
WRA				IAmb		IAmb		07 48 14.5	
comp=Z,9.7nm,0.5s									
WRA	**Warramunga Arr**	**45.52**	**189**	P		**P**		**07 48 13.8**	**+0.4**
comp=Z,7.1nm,0.4s,baz=9.4,slow=8.7,SNR=254									
WRA	**Warramunga Arr**	**45.52**	**189**	P		**P**		**07 48 13.1**	**-0.3**
WRA				pmax		pmax			
comp=Z,10.0nm,0.5s									
FITZ	**Fitzroy Crossi**	**45.75**	**201**	P		**P**		**07 48 16.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**45.75**	**201**	P		**P**		**07 48 15.6**	**+0.4**
comp=Z,3.4nm,0.5s,baz=20,slow=11,SNR=9.3									
comp=Z,3.4nm,0.5s									
WMQ	**Urumqi**	**46.83**	**307**	*eP*		**P**		**07 48 24.9**	**+1.3**
TIXI	**Tiksi**	**46.83**	**355**	*ceP*		**P**		**07 48 25.0**	**+1.9**
TIXI				pmax		pmax			
comp=Z,25nm,2.5s									
TIXI	**Tiksi**	**46.83**	**355**	P		**P**		**07 48 22.2**	**-0.9**
AS31	**Alice Springs**	**49.24**	**189**	P		**P**		**07 48 42.0**	**-0.2**
ASAR	**Alice Springs**	**49.24**	**189**	P		**P**		**07 48 42.0**	**-0.2**
ASAR	**Alice Springs**	**49.24**	**189**	P		**P**		**07 48 42.0**	**-0.2**
comp=Z,2.1nm,0.5s,baz=0.9,slow=4.9,SNR=29									
comp=Z,2.1nm,0.5s									
ZALV	**Zalesovo Beam**	**50.19**	**320**	P		**P**		**07 48 48.4**	**-0.6**
comp=Z,0.7nm,0.4s,baz=93,slow=8.2,SNR=3.0									
ZALV				LR		LR		08 09 11.5	
comp=Z,30nm,20.3s,baz=296,slow=35									
comp=Z,0.7nm,0.4s									
MBWA	**Marble Bar**	**50.70**	**206**	P		**P**		**07 48 53.8**	**+0.6**
MBWA				IAmb		IAmb		07 49 04.2	
comp=Z,21nm,1.4s									
MK31	**Makanchi Array**	**50.86**	**311**	P		**P**		**07 48 54.0**	**-0.2**
MK31	**Makanchi Array**	**50.86**	**311**	P		**P**		**07 48 54.1**	**-0.2**
MK31				pmax		pmax			
comp=Z,2.0nm,1.0s									
MKAR	**Makanchi Array**	**50.86**	**311**	P		**P**		**07 48 54.9**	**+0.6**
MKAR	**Makanchi Array**	**50.86**	**311**	P		**P**		**07 48 54.5**	**+0.1**
comp=Z,0.8nm,0.7s,baz=91,slow=9.8,SNR=8.1									
comp=Z,0.8nm,0.7s									
MKAR	**Makanchi Array**	**50.86**	**311**	*ceP*		**P**		**07 48 54.7**	**+0.4**
MKAR				pmax		pmax			
comp=Z,1.0nm,0.6s									
EIDS	**Eidsvold**	**51.35**	**168**	P		**P**		**07 48 57.8**	**-0.2**
EIDS				IAmb		IAmb		07 50 14.5	
comp=Z,21nm,1.9s									
KURK	**Kurchatov**	**53.53**	**315**	P		**P**		**07 49 13.5**	**-0.4**
KURK	**Kurchatov**	**53.53**	**315**	*ceP*		**P**		**07 49 14.8**	**+0.8**
KURK				pmax		pmax			
comp=Z,8.0nm,2.5s									
KURK	**Kurchatov**	**53.53**	**315**	P		**P**		**07 49 13.7**	**-0.3**
KURBB	**Kurchatov Arra**	**53.58**	**315**	P		**P**		**07 49 13.6**	**-0.7**
comp=Z,2.6nm,0.5s,baz=91,slow=8.3,SNR=19									
comp=Z,2.6nm,0.5s									
NRIK	**Noril'sk**	**53.92**	**339**	P		**P**		**07 49 15.4**	**-1.1**
NRIK	**Noril'sk**	**53.92**	**339**	P		**P**		**07 49 15.4**	**-1.1**
comp=Z,2.6nm,0.4s,baz=104,slow=9.1,SNR=6.3									
comp=Z,2.6nm,0.4s									
NRIK	**Noril'sk**	**53.92**	**339**	*ceP*		**P**		**07 49 15.6**	**-0.9**
NRIK				pmax		pmax			
comp=Z,7.0nm,1.0s									
STKA	**Stephens Creek**	**56.92**	**180**	P		**P**		**07 49 37.9**	**-0.5**
STKA	**Stephens Creek**	**56.92**	**180**	P		**P**		**07 49 38.4**	**-0.1**
comp=Z,5.8nm,0.5s,baz=352,slow=7.6,SNR=17									
comp=Z,5.8nm,0.5s									
STKA	**Stephens Creek**	**56.92**	**180**	P		**P**		**07 49 37.9**	**-0.5**
STKA				pmax		pmax			
comp=Z,2.0nm,0.5s									
IMAR	**Indian Mountai**	**57.01**	**26**	P		**P**		**07 49 40.1**	**+1.4**
FORT	**Forrest**	**57.21**	**193**	P		**P**		**07 49 40.5**	**0.0**
CAST	**Castle Rocks**	**57.26**	**29**	P		**P**		**07 49 41.2**	**+0.7**
CAST				IAmb		IAmb		07 50 52.8	
comp=Z,41nm,2.0s									
BVAR	**Borovoye Array**	**58.68**	**318**	P		**P**		**07 49 50.1**	**-0.5**
comp=Z,3.1nm,0.4s,baz=86,slow=7.1,SNR=24									
comp=Z,3.1nm,0.4s									
D23K	**Nanushuk River**	**58.76**	**23**	P		**P**		**07 49 52.0**	**+1.1**
D23K				IAmb		IAmb		07 49 54.3	
comp=Z,6.9nm,0.8s									
C23K	**Itkillik River**	**58.95**	**22**	P		**P**		**07 49 53.0**	**+0.8**
E23K	**Chandalar**	**58.99**	**24**	P		**P**		**07 49 53.7**	**+1.1**
E23K				IAmb		IAmb		07 49 55.9	
comp=Z,5.4nm,0.9s									
KKAR	**Karatay Array**	**59.33**	**307**	P		**P**		**07 49 55.7**	**+0.4**
KKAR	**Karatay Array**	**59.33**	**307**	P		**P**		**07 49 55.7**	**+0.4**
D24K	**Happy Valley**	**59.45**	**23**	P		**P**		**07 49 56.5**	**+0.9**
D24K				IAmb		IAmb		07 49 58.7	
comp=Z,6.7nm,0.8s									
IL31		**59.68**	**28**	P		**P**		**07 49 57.2**	**-0.1**
IL31				IAmb		IAmb		07 50 29.3	
comp=Z,10nm,1.1s									
ILAR	**Eielson Array**	**59.68**	**28**	P		**P**		**07 49 56.8**	**-0.5**
ILAR	**Eielson Array**	**59.68**	**28**	P		**P**		**07 49 58.0**	**+0.7**
comp=Z,1.3nm,0.8s,baz=265,slow=6.0,SNR=17									
comp=Z,1.3nm,0.8s									
KLU	**Klutina**	**59.93**	**32**	P		**P**		**07 50 00.2**	**+1.0**
BMAR	**Burnt Mountain**	**60.82**	**25**	P		**P**		**07 50 06.6**	**+1.5**
SCRK	**Sand Creek**	**60.90**	**29**	P		**P**		**07 50 05.7**	**-0.1**
SCRK				IAmb		IAmb		07 50 38.4	
comp=Z,7.5nm,0.8s									
L26K	**Log Cabin Wild**	**61.17**	**30**	P		**P**		**07 50 07.9**	**+0.4**
L26K				IAmb		IAmb		07 50 40.9	
comp=Z,30nm,1.8s									
BCAR	**Beaver Creek A**	**61.88**	**30**	P		**P**		**07 50 12.9**	**+0.5**
F28M	**Old Crow**	**62.64**	**25**	P		**P**		**07 50 18.3**	**+1.0**
TOO	**Toolangi**	**62.73**	**176**	P		**P**		**07 50 18.4**	**+0.2**
TOO				IAmb		IAmb		07 52 22.2	
comp=Z,11nm,1.6s									
TOO	**Toolangi**	**62.73**	**176**	P		**P**		**07 50 18.4**	**+0.2**
TOO				pmax		pmax			
comp=Z,11nm,1.6s									
E28M	**Babbage River**	**62.76**	**24**	P		**P**		**07 50 18.8**	**+0.7**
DAWY	**Dawson**	**62.92**	**29**	P		**P**		**07 50 19.9**	**+0.7**
DAWY				IAmb		IAmb		07 51 05.8	
comp=Z,26nm,1.9s									
EPYK	**Eagle Plains**	**63.92**	**26**	P		**P**		**07 50 26.4**	**+0.7**
EPYK				IAmb		IAmb		07 52 39.6	
comp=Z,32nm,1.8s									
G31M	**Satah River**	**64.85**	**26**	P		**P**		**07 50 30.8**	**-0.8**
G31M				IAmb		IAmb		07 50 53.7	
comp=Z,22nm,1.8s									
F31M	**Tsiigehtchic**	**65.00**	**25**	P		**P**		**07 50 32.8**	**+0.1**
F31M				IAmb		IAmb		07 52 24.4	
comp=Z,35nm,2.0s									
ARTI	**Arti**	**65.31**	**323**	P		**P**		**07 50 34.4**	**-0.5**
comp=Z,1.3nm,0.4s,baz=0.0,slow=5.1,SNR=2.5									
comp=Z,1.3nm,0.4s									
ARTI	**Arti**	**65.31**	**323**	P		**P**		**07 50 34.6**	**-0.3**
A36M	**Sachs Harbour**	**67.23**	**20**	P		**P**		**07 50 47.7**	**+0.8**
A36M				IAmb		IAmb		07 51 21.0	
comp=Z,8.4nm,1.1s									
SPITS	**Spitsbergen Ar**	**71.91**	**350**	P		**P**		**07 51 15.7**	**+0.1**
comp=Z,20nm,1.1s,baz=95,slow=7.6,SNR=8.8									
comp=Z,20nm,1.1s									
TUWZ	**Tuamarina**	**73.09**	**155**	P		**P**		**07 51 23.8**	**+0.9**
RES	**Resolute Bay**	**73.96**	**13**	P		**P**		**07 51 29.0**	**+1.3**
RES	**Resolute Bay**	**73.96**	**13**	P		**P**		**07 51 29.0**	**+1.3**
RES				pmax		pmax			
comp=Z,15nm,1.8s									
YKA	**Yellowknife Ar**	**74.11**	**28**	P		**P**		**07 51 28.1**	**-0.7**
comp=Z,0.6nm,0.7s,baz=302,slow=6.5,SNR=2.2									
comp=Z,0.6nm,0.7s									
ARCES	**ARCESS Array B**	**74.86**	**341**	P		**P**		**07 51 32.5**	**-0.5**
comp=Z,3.1nm,0.9s,baz=80,slow=3.0,SNR=4.4									
comp=Z,3.1nm,0.9s									
AKT	**Akhty**	**76.06**	**309**	*eP*		P		07 51 34.6	-6.0
AKT				pmax		pmax			
comp=Z,8.0nm,1.4s									
OBN	**Obninsk**	**77.40**	**325**	LR		LR		08 27 24.5	
comp=Z,154nm,18.5s,baz=192,slow=37									
PINE	**Pine Mountain**	**78.27**	**47**	P		**P**		**07 51 54.2**	**+1.2**
FIA1	**FINESS Array S**	**79.07**	**334**	P		**P**		**07 51 55.5**	**-1.2**
FINES	**FINESS Array B**	**79.07**	**334**	P		**P**		**07 51 55.5**	**-1.2**
FINES	**FINESS Array B**	**79.07**	**334**	P		**P**		**07 51 55.7**	**-1.0**
comp=Z,3.8nm,0.3s,baz=69,slow=4.9,SNR=70									
comp=Z,3.8nm,0.3s									
NVAR	**Mina Array Bea**	**82.34**	**51**	P		**P**		**07 52 14.6**	**-0.3**
comp=Z,0.3nm,0.9s,baz=296,slow=6.5,SNR=2.4									
comp=Z,0.3nm,0.9s									
AKASG	**Malin Array Be**	**83.44**	**324**	P		**P**		**07 52 19.1**	**-1.0**
comp=Z,1.5nm,0.5s,baz=54,slow=5.3,SNR=9.6									
comp=Z,1.5nm,0.5s									
AKBB	**Malin Array Si**	**83.44**	**324**	P		**P**		**07 52 18.4**	**-1.7**
AKBB				IAmb		IAmb		07 52 19.5	
comp=Z,5.2nm,0.6s									
AKBB	**Malin Array Si**	**83.44**	**324**	P		**P**		**07 52 18.4**	**-1.7**
AKBB				pmax		pmax			
comp=Z,5.0nm

	comp=Z,2.4nm,0.8s							
KURBB	**Kurchatov Arra**	**79.55**	**324**	P	**P**	**07 53 15.4**	**+0.4**	
	comp=Z,0.5nm,0.5s,baz=114,slow=4.6,SNR=4.6							
	comp=Z,0.5nm,0.5s							
M16K	**Timber Creek**	**80.63**	**25**	P	**P**	**07 53 21.3**	**+0.6**	
M16K				IAmb	IAmb	07 53 47.0		
	comp=Z,12nm,1.3s							
L16K	**Owhat River**	**80.79**	**24**	P	**P**	**07 53 21.5**	**0.0**	
L16K				IAmb	IAmb	07 53 38.7		
	comp=Z,15nm,1.5s							
J17K	**VABM Dome**	**81.85**	**23**	P	**P**	**07 53 27.2**	**+0.1**	
J17K				IAmb	IAmb	07 53 29.1		
	comp=Z,9.5nm,1.4s							
KKAR	**Karatay Array**	**82.17**	**315**	P	**P**	**07 53 27.0**	**-2.3**	
H17K	**Granite Mounta**	**82.38**	**21**	P	**P**	**07 53 30.4**	**+0.6**	
H17K				IAmb	IAmb	07 53 36.6		
	comp=Z,12nm,1.5s							
G18K	**Tagagawik**	**83.34**	**20**	P	**P**	**07 53 34.1**	**-0.8**	
QSPA	**South Pole Qui**	**83.53**	**180**	P	**P**	**07 53 36.0**	**0.0**	
	comp=Z,2.1nm,0.9s,baz=326,slow=1.5,SNR=6.9							
	comp=Z,2.1nm,0.9s							
NRIK	**Noril'sk**	**84.66**	**343**	P	**P**	**07 53 42.2**	**+0.7**	
NRIK				IAmb	IAmb	07 53 42.7		
	comp=Z,4.0nm,0.7s							
NRIK	**Noril'sk**	**84.66**	**343**	P	**P**	**07 53 41.6**	**+0.1**	
	comp=Z,3.8nm,0.7s,baz=134,slow=3.7,SNR=7.7							
	comp=Z,3.8nm,0.7s							
BVAR	**Borovoye Array**	**85.13**	**325**	P	**P**	**07 53 44.0**	**-0.2**	
	comp=Z,2.0nm,0.7s,baz=99,slow=9.2,SNR=8.1							
	comp=Z,2.0nm,0.7s							
I21K	**Tanana**	**85.42**	**22**	P	**P**	**07 53 45.8**	**+0.4**	
D22K	**Ayikyak River**	**86.82**	**19**	P	**P**	**07 53 52.9**	**+0.6**	
ILAR	**Eielson Array**	**87.24**	**24**	P	**P**	**07 53 53.2**	**-1.2**	
	comp=Z,0.8nm,0.8s,baz=248,slow=5.3,SNR=5.3							
	comp=Z,0.8nm,0.8s							
D23K	**Nanushuk River**	**87.51**	**19**	P	**P**	**07 53 57.0**	**+1.4**	
D23K				IAmb	IAmb	07 53 58.4		
	comp=Z,5.8nm,1.1s							
TOLK	**Toolik Lake Re**	**87.75**	**20**	P	**P**	**07 53 57.8**	**+0.9**	
TOLK				IAmb	IAmb	07 54 26.6		
	comp=Z,2.8nm,1.1s							
C23K	**Itkillik River**	**87.90**	**18**	P	**P**	**07 53 57.8**	**+0.4**	
M27K	**Edge Creek, AK**	**88.58**	**27**	P	**P**	**07 54 01.3**	**+0.3**	
BMAR	**Burnt Mountain**	**89.05**	**22**	P	**P**	**07 54 03.7**	**+0.7**	
M29M	**Somme Creek**	**90.14**	**27**	P	**P**	**07 54 08.8**	**+0.5**	
M29M				IAmb	IAmb	07 54 31.9		
	comp=Z,8.3nm,1.5s							
DBIC	**Dimbokro**	**148.63**	**272**	PKPbc	**PKPbc**	**08 00 56.0**	**-0.5**	
	comp=Z,7.3nm,1.1s,baz=104,slow=4.3,SNR=3.5							

IDC 17 07:59:55.2±3.1, 6°.88S×149°.68E, h0km, mb3.2/1, mbtmp3.4/3, ML2.9/2, MS2.1/1, Error ellipse: s-maj=120.2km s-min=36.0km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.54**	**225**	Pn	Pn	08 00 53.8	+2.3
	16nm,0.3s,baz=343,slow=4.7,SNR=23						
PMG				Sn	Sn	08 01 33.4	-0.7
	26nm,0.3s,baz=154,slow=18,SNR=13						
PMG				LR	LR	08 01 41.2	
	comp=Z,26nm,18.6s,baz=154,slow=30						
	37nm,0.3s						
WRA	**Warramunga Arr**	**19.76**	**227**	P	P	08 04 25.8	-1.1
	0.1nm,0.3s,baz=52,slow=11,SNR=6.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**22.55**	**221**	P	P	08 04 56.6	-0.5
	0.6nm,0.6s,baz=58,slow=9.0,SNR=10						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**147.89**	**284**	PKPbc	PKPbc	08 19 43.0	-0.5
	0.9nm,0.4s,baz=65,slow=2.9,SNR=8.1						

IDC 17 08:12:53.8±3.9, 6°.71S×149°.38E, h0km, mb2.9/1, mbtmp3.2/3, ML2.6/2, Error ellipse: s-maj=146.7km s-min=39.2km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.47**	**219**	Pn	Pn	08 13 51.0	+2.0
	7.1nm,0.3s,baz=27,slow=10,SNR=13						
PMG				Sn	Sn	08 14 31.4	+0.5
	11nm,0.3s,baz=348,slow=20,SNR=9.2						
	15nm,0.3s						
WRA	**Warramunga Arr**	**19.66**	**227**	P	P	08 17 23.5	-0.9
	0.1nm,0.3s,baz=52,slow=11,SNR=4.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**22.49**	**220**	P	P	08 17 54.6	-0.4
	0.5nm,0.8s,baz=59,slow=11,SNR=5.2						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**147.56**	**284**	PKPbc	PKPbc	08 32 40.4	-0.7
	0.6nm,0.5s,baz=94,slow=3.4,SNR=2.7						

NAO 17 08:21:41.4, 36°.01N×23°.21E, h10km, mb4.0
ATH 17 08:21:57.5, 37°.36N×20°.60E, h12km±1km, ML3.5/13, Error ellipse: s-maj=1.7km s-min=0.9km az=281.0
THE 17 08:21:57.5, 37°.36N×20°.56E, h3km±23km, ML3.7/3, Error ellipse: s-maj=23.6km s-min=0.7km az=40.0
IDC 17 08:22:00.1±2.9, 37°.99N×21°.34E, h0km, mb3.6/8, mbtmp3.6/10, ML3.4/1, Error ellipse: s-maj=55.1km s-min=22.0km az=55.0
ISC 17 08:21:57.6±1.4, 37°.37N±0°.05×20°.60E±0°.05, h17km±7km, n44, σ0s87/62, mb3.7/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.34**	**31**	P	**Pg**	**08 22 04.6**	**-0.1**
KRI1				S	**Sg**	**08 22 09.6**	**+0.1**
LTHK	**Lithakia**	**0.38**	**29**	P	**Pg**	**08 22 05.3**	**-0.3**
LTHK				S	**Sg**	**08 22 11.4**	**+0.5**
	31μm,0.4s						
LTHK	**Lithakia**	**0.38**	**29**	P	**Pg**	**08 22 05.2**	**-0.4**
LTHK				S	**Sg**	**08 22 10.8**	**-0.1**
LTHK				AML	AML	08 22 11.4	
	comp=E,37475μm,0.3s						
LTHK				AML	AML	08 22 11.6	
	comp=N,83086μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.71**	**11**	P	**Pb**	**08 22 11.2**	**-0.4**
RTZL				S	**Sg**	**08 22 22.5**	**+1.4**
PSDA	**Pessada-Kefalo**	**0.74**	**359**	P	**Pb**	**08 22 11.8**	**-0.3**
PSDA				S	**Sg**	**08 22 23.4**	**+1.5**
	comp=N,5μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.74**	**359**	P	**Pb**	**08 22 11.7**	**-0.3**
VLS	**Valsamata**	**0.80**	**359**	P	**Pb**	**08 22 12.7**	**-0.4**
VLS	**Valsamata**	**0.80**	**359**	P	**Pb**	**08 22 12.7**	**-0.4**
VLS				S	**Sb**	**08 22 24.5**	**+0.8**
VLS				AML	AML	08 22 29.9	
	comp=N,5141μm,0.4s						
VLS				AML	AML	08 22 30.3	
	comp=E,3954μm,0.4s						
DMLN	**Damoulianata-K**	**0.88**	**348**	P	**Pb**	**08 22 14.4**	**-0.1**
DMLN	**Damoulianata-K**	**0.88**	**348**	P	**Pb**	**08 22 14.3**	**-0.1**
AMT	**Artemida-Makis**	**0.90**	**79**	P	**Pb**	**08 22 14.5**	**-0.2**
AMT				S	**Sg**	**08 22 26.6**	**-0.2**
AMT				AML	AML	08 22 33.1	
	comp=N,21400μm,0.3s						
AMT				AML	AML	08 22 34.8	
	comp=E,17355μm,0.7s						
RLS	**Riolos of Patr**	**0.97**	**45**	P	**Pb**	**08 22 15.7**	**-0.2**
RLS	**Riolos of Patr**	**0.97**	**45**	P	**Pb**	**08 22 15.5**	**-0.4**
RLS				S	**Sg**	**08 22 29.1**	**0.0**
RLS				AML	AML	08 22 35.2	
	comp=E,3448μm,0.7s						
RLS				AML	AML	08 22 37.4	
	comp=N,3457μm,0.4s						
PYL	**PYLOS**	**1.03**	**117**	P	**Pg**	**08 22 17.0**	**-0.6**
PYL	**PYLOS**	**1.03**	**117**	P	**Pn**	**08 22 16.7**	**-0.6**
PYL				S	**Sn**	**08 22 30.0**	**-1.2**
PYL				AML	AML	08 22 37.7	
	comp=N,2450μm,0.6s						
PYL				AML	AML	08 22 38.7	
	comp=E,4407μm,0.5s						
DRO	**Drossia**	**1.05**	**56**	P	**Pg**	**08 22 17.8**	**-0.2**
DRO	**Drossia**	**1.05**	**56**	P	**Pb**	**08 22 17.1**	**-0.3**
DRO				S	**Sn**	**08 22 31.7**	**-0.1**
DRO				AML	AML	08 22 41.8	
	comp=N,8517μm,0.4s						
DRO				AML	AML	08 22 45.7	
	comp=E,10446μm,0.5s						
ITM	**Ithomi**	**1.07**	**100**	P	**Pg**	**08 22 18.4**	**0.0**
ITM				S	**Sg**	**08 22 34.6**	**+2.1**
	comp=E,2μm,0.8s						

ITM	**Ithomi**	**1.07**	**100**	P	**Pn**	**08 22 17.7**	**-0.2**	
ITM				S	**Sn**	**08 22 31.7**	**-0.7**	
ITM				AML	AML	08 22 41.1		
	comp=N,4618μm,0.8s							
ITM				AML	AML	08 22 46.9		
	comp=E,2654μm,1.0s							
FSK	**Fiskardo**	**1.08**	**358**	P	**Pn**	**08 22 17.9**	**-0.1**	
FSK	**Fiskardo**	**1.08**	**358**	P	**Pn**	**08 22 17.6**	**-0.4**	
FSK				S	**Sb**	**08 22 32.6**	**+0.8**	
FSK				AML	AML	08 22 38.6		
	comp=E,4280μm,0.4s							
FSK				AML	AML	08 22 43.0		
	comp=N,6848μm,0.7s							
EVGI	**Lefkada island**	**1.25**	**2**	P	**Pn**	**08 22 20.7**	**+0.4**	
DRAG	**Dragano-Lefkad**	**1.31**	**359**	P	**Pn**	**08 22 21.6**	**+0.5**	
KLV	**Kalavryta, Ach**	**1.40**	**61**	P	**Pb**	**08 22 23.0**	**-0.3**	
KLV				S	**Sg**	**08 22 41.8**	**-1.0**	
KLV				AML	AML	08 22 54.2		
	comp=N,1645μm,0.9s							
KLV				AML	AML	08 22 59.8		
	comp=E,1225μm,0.6s							
LKD2	**Lefkada island**	**1.41**	**2**	P	**Pb**	**08 22 24.5**	**+0.9**	
TSLK	**Tsoukalades, L**	**1.45**	**2**	P	**Pb**	**08 22 24.3**	**+0.2**	
EFP	**Efpalio**	**1.47**	**44**	P	**Pb**	**08 22 24.5**	**-0.1**	
EFP				S	**Sb**	**08 22 43.7**	**+0.8**	
EFP				AML	AML	08 22 55.9		
	comp=E,2267μm,1.0s							
EFP				AML	AML	08 22 57.0		
	comp=N,2661μm,0.9s							
GUR	**Goura**	**1.49**	**67**	P	**Pb**	**08 22 24.4**	**-0.5**	
GUR				S	**Sb**	**08 22 44.3**	**+0.7**	
GUR				AML	AML	08 22 55.1		
	comp=E,2381μm,0.4s							
GUR				AML	AML	08 22 58.4		
	comp=N,2711μm,0.4s							
KALE	**Kalíthea**	**1.58**	**50**	P	**Pb**	**08 22 26.9**	**+0.4**	
KALE				S	**Sb**	**08 22 47.3**	**+1.0**	
KALE				AML	AML	08 23 00.1		
	comp=N,1885μm,0.4s							
KALE				AML	AML	08 23 03.6		
	comp=E,2724μm,0.6s							
ANX	**Ano Chora**	**1.60**	**40**	P	**Pb**	**08 22 26.8**	**0.0**	
ANX				S	**Sb**	**08 22 48.0**	**+1.2**	
ANX				AML	AML	08 22 59.6		
	comp=N,4551μm,0.6s							
ANX				AML	AML	08 23 02.1		
	comp=E,3372μm,0.4s							
MAKR	**Makrakomi, Fth**	**2.03**	**36**	P	**Pb**	**08 22 34.7**	**+0.6**	
IGT	**Igoumenitsa**	**2.17**	**354**	P	**Pb**	**08 22 35.4**	**-1.0**	
IDI	**Anoyia**	**4.04**	**120**	Pn	**Pn**	**08 23 01.0**	**+2.3**	
	comp=E,15nm,0.9s,baz=156,slow=7.6,SNR=2.2							
IDI				Sn	**Sn**	**08 23 47.7**	**+2.1**	
	comp=E,1.1nm,0.3s,baz=333,slow=11,SNR=2.0							
MLR	**Muntele Rosu**	**9.04**	**25**	Pn	Pn	08 24 00.6	-6.8	
	comp=E,0.2nm,0.3s,baz=187,slow=8.1,SNR=1.3							
	comp=E,1.3nm,0.7s							
NACGM	**Naroch**	**18.04**	**12**	*e*P	**P**	**08 26 09.2**	**+1.6**	
	comp=Z,8.0nm,0.6s,baz=197							
HFS	**Hagfors**	**23.20**	**351**	P	**P**	**08 27 02.7**	**-0.7**	
	comp=Z,3.5nm,0.7s,baz=153,slow=10.0,SNR=5.1							
	comp=Z,3.5nm,0.7s							
FINES	**FINESS Array B**	**24.34**	**6**	P	**P**	**08 27 13.3**	**-0.9**	
	comp=Z,5.1nm,1.0s,baz=187,slow=9.6,SNR=4.7							
	comp=Z,5.1nm,1.0s							
NB2	**NORSAR Subarra**	**24.42**	**349**	P	**P**	**08 27 15.3**	**+0.3**	
	comp=Z,1.6nm,0.6s,baz=158,slow=9.3							
NOA	**NORSAR Array B**	**24.42**	**349**	P	**P**	**08 27 15.2**	**+0.2**	
	comp=Z,0.6nm,0.7s,baz=157,slow=9.0,SNR=7.1							
	comp=Z,0.6nm,0.7s							
BVAR	**Borovoye Array**	**37.59**	**49**	P	**P**	**08 29 09.6**	**-1.4**	
	comp=Z,0.4nm,0.6s,baz=243,slow=12,SNR=2.2							
	comp=Z,0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**42.66**	**53**	P	**P**	**08 29 51.6**	**-1.4**	
	comp=Z,0.8nm,0.7s,baz=279,slow=8.8,SNR=7.4							
	comp=Z,0.8nm,0.7s							
MKAR	**Makanchi Array**	**45.67**	**58**	P	**P**	**08 30 15.9**	**-1.4**	
	comp=Z,0.3nm,0.5s,baz=281,slow=6.1,SNR=4.9							
	comp=Z,0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**46.18**	**48**	P	**P**	**08 30 19.7**	**-1.4**	
	comp=Z,0.4nm,0.3s,baz=284,slow=7.3,SNR=1.9							
	comp=Z,0.4nm,0.3s							
SONM	**Songino Array**	**60.92**	**50**	P	**P**	**08 32 09.9**	**+0.3**	
	comp=Z,0.5nm,0.6s,baz=297,slow=9.4,SNR=2.1							
	comp=Z,0.5nm,0.6s							

ISK 17 08:24:34.3, 36°.47N×28°.70E, h5km, ML2.7/10
AFAD 17 08:24:35.4±0.0, 36°.43N×28°.68E, h7km±5km, ML2.3
ISC 17 08:24:35.5±1.1, 36°.43N±0°.04×28°.69E±0°.02, h8km±9km, n25, σ1s60/41, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.38**	**57**	P	**Pb**	**08 24 42.9**	**-1.5**
FETY				S	**Sb**	**08 24 48.9**	**-1.5**
FETY	**Fethiye**	**0.38**	**57**	Pg	**Pg**	**08 24 42.2**	**-0.7**
FETY				Sg	**Sg**	**08 24 48.2**	**+0.3**
DALY	**Dalyan (Mula)**	**0.39**	**356**	Pg	**Pg**	**08 24 42.0**	**-1.0**
DALY				Sg	**Sg**	**08 24 48.2**	**+0.1**
IZZE	**Mula-Seydike**	**0.43**	**89**	P	**Pg**	**08 24 42.9**	**-1.0**
IZZE				S	**Sg**	**08 24 50.2**	**+0.6**
IZZE				*i* AML	AML	08 24 52.0	
	comp=E,935nm,0.4s						
IZZE				*i* AML	AML	08 24 55.0	
	comp=N,938nm,0.4s						
SABU	**Mula-Dalaman**	**0.45**	**30**	P	**Pb**	**08 24 44.4**	**-1.2**
SABU				S	**Sb**	**08 24 51.4**	**-1.2**
SABU				*i* AML	AML	08 24 57.0	
	comp=E,194nm,0.7s						
SABU				*i* AML	AML	08 24 58.0	
	comp=N,208nm,0.7s						
TURN	**Turunc**	**0.49**	**314**	P	**Pg**	**08 24 44.8**	**-0.3**
TURN				S	**Sb**	**08 24 52.6**	**-1.2**
TURN				*i* AML	AML	08 24 53.0	
	comp=N,169nm,0.3s						
TURN				*i* AML	AML	08 24 57.0	
	comp=E,130nm,0.3s						
TURN	**Turunc**	**0.49**	**314**	Pg	**Pg**	**08 24 44.8**	**-0.3**
ARG	**Arkhangelos**	**0.50**	**245**	Pg	**Pg**	**08 24 44.8**	**-0.4**
ARG				Sg	**Sb**	**08 24 54.3**	**+0.3**
CAME	**Cameli-Denizli**	**0.71**	**44**	Pg	**Pg**	**08 24 48.6**	**-0.6**
AKAS	**Kas**	**0.77**	**105**	P	**Pg**	**08 24 49.8**	**-0.4**
AKAS				S	**Sn**	**08 25 03.0**	**-1.4**
AKAS				*i* AML	AML	08 25 09.0	
	comp=N,418nm,0.7s						
AKAS				*i* AML	AML	08 25 09.0	
	comp=E,225nm,0.9s						
KNIK	**Mula-Seydike**	**0.82**	**60**	P	**Pn**	**08 24 52.3**	**-1.1**
KNIK				S	**Sb**	**08 25 03.6**	**+0.3**
KNIK				*i* AML	AML	08 25 05.0	
	comp=N,96nm,0.4s						
KNIK				*i* AML	AML	08 25 12.0	
	comp=E,82nm,0.4s						
DNZT	**Denizli-Tavas-**	**0.89**	**18**	P	**Pg**	**08 24 50.5**	**-2.1**
DNZT				*i* AML	AML	08 25 16.0	
	comp=N,37nm,0.6s						
DNZT				*i* AML	AML	08 25 17.0	
	comp=E,45nm,0.8s						
DAT	**Datca**	**0.94**	**289**	P	**Pb**	**08 24 54.1**	**0.0**
DAT				S	**Sn**	**08 25 09.5**	**+0.8**
DAT				*i* AML	AML	08 25 14.0	
	comp=E,160nm,0.8s						
DAT				*i* AML	AML	08 25 23.0	
	comp=N,170nm,0.2s						
DAT	**Datca**	**0.94**	**289**	Pg	**Pb**	**08 24 53.5**	**-0.6**
YAZI	**Mula-Dat§a-**	**1.02**	**284**	P	**Pg**	**08 24 54.4**	**-0.7**
YAZI				S	**Sn**	**08 25 11.1**	**+0.4**
YAZI				*i* AML	AML	08 25 12.0	
	comp=N,90nm,0.3s						
YAZI				*i* AML	AML	08 25 12.0	
	comp=E,86nm,0.7s						
TAVA	**DENIZLI_Tavas**	**1.05**	**10**	P	**Pb**	**08 24 55.5**	**-0.4**
TAVA				*i* AML	AML	08 25 15.0	
	comp=N,52nm,0.4s						
TAVA				S	**Sn**	**08 25 15.5**	**+4.2**
TAVA				*i* AML	AML	08 25 19.0	
	comp=E,55nm,0.6s						
APMY	**Acipayam-Deniz**	**1.15**	**25**	Pn	**Pb**	**08 24 56.7**	**-0.9**
BODT	**Bodrum**	**1.27**	**300**	Pn	**Pg**	**08 24 59.5**	**-0.4**
AKUM	**Antalya-Kumluc**	**1.34**	**94**	P	**Pg**	**08 25 01.7**	**+0.5**
AKUM				*i* AML	AML	08 25 28.0	
	comp=N,56nm,0.7s						
AKUM				*i* AML	AML	08 25 29.0	
	comp=E,61nm,0.9s						
ESEN	**Aydn-Nazilli**	**1.39**	**349**	P	**Pb**	**08 25 01.0**	**-0.6**
ESEN				S	**Sn**	**08 25 20.2**	**+0.6**

ESEN				*i* AML	AML	08 25 24.0		
	comp=N,42nm,0.4s							
ESEN				*i* AML	AML	08 25 25.0		
	comp=E,42nm,0.4s							
KORT	**Korkueli**	**1.45**	**66**	P	**Pg**	**08 25 03.5**	**+0.1**	
KORT				S	**Sg**	**08 25 27.4**	**+5.2**	
KORT				*i* AML	AML	08 25 31.0		
	comp=E,127nm,0.5s							
KORT				*i* AML	AML	08 25 37.0		
	comp=N,96nm,0.7s							
INCE	**Denizli-Bozkur**	**1.46**	**29**	P	**Pg**	**08 25 03.3**	**-0.2**	
INCE				S	**Sg**	**08 25 25.8**	**+3.4**	
INCE				*i* AML	AML	08 25 28.0		
	comp=E,67nm,0.6s							
INCE				*i* AML	AML	08 25 39.0		
	comp=N,38nm,1.2s							
NAZL	**Nazilli-Aydin**	**1.56**	**348**	Pn	**Pb**	**08 25 03.7**	**-0.9**	
GCAM	**G?zelcaml?**	**1.72**	**318**	Pn	**Pb**	**08 25 06.3**	**-1.0**	
BUCA	**Burdur, Bucak-**	**1.75**	**59**	P	**Pg**	**08 25 08.4**	**-0.6**	
BUCA				S	**Sg**	**08 25 35.2**	**+3.6**	
BUCA				*i* AML	AML	08 25 42.0		
	comp=E,35nm,0.7s							
BUCA				*i* AML	AML	08 25 53.0		
	comp=N,30nm,0.7s							

FUNV 17 08:24:34.8, 9°.83N×62°.08W, h25km, MW3.5
TRN 17 08:24:35.1, 9°.56N×62°.01W, h75km, MD3.5, Venezuela.
ISC 17 08:24:35.1±1.4, 9°.66N±0°.05×62°.19W±0°.04, h83km±27km, n18, σ1s72/31, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**1.25**	**38**	*e*P	**Pn**	**08 24 57.0**	**-0.4**
TRN				*e*S	**Sn**	**08 25 12.8**	**-1.4**
TOSP	**Speyside**	**2.30**	**45**	*e*P	**Pn**	**08 25 11.9**	**+0.7**
TOSP				*e*S	**Sn**	**08 25 36.3**	**-2.4**
PCRV	**Puerto La Cruz**	**2.46**	**282**	*e*P	**Pn**	**08 25 13.1**	**-0.2**
PCRV				*e*S	**Sn**	**08 25 41.3**	**-1.2**
PCRV	**Puerto La Cruz**	**2.46**	**282**	*e*P	**Pn**	**08 25 16.7**	**+3.4**
PCRV				*e*S	**Sn**	**08 25 46.9**	**+4.3**
GRGR	**Grenville**	**2.51**	**12**	*e*P	**Pn**	**08 25 14.3**	**+0.4**
GRGR				*e*S	**Sn**	**08 25 43.7**	**0.0**
GCMP	**Grenada, Carri**	**2.91**	**15**	*e*P	**Pn**	**08 25 20.4**	**+1.1**
GCMP				*e*S	**Sn**	**08 25 52.9**	**-0.4**
SVOC	**Richmond Hill,**	**3.60**	**15**	*e*P	**Pn**	**08 25 29.9**	**+1.2**
SVT	**Saint Vincent**	**3.61**	**15**	*e*P	**Pn**	**08 25 30.1**	**+1.2**
SVT	**Saint Vincent**	**3.61**	**15**	*e*P	**Pn**	**08 25 29.0**	**+0.2**
SVB	**Belmont**	**3.71**	**14**	*e*P	**Pn**	**08 25 31.8**	**+1.6**
SVB				*e*S	**Sn**	**08 26 13.3**	**+0.6**
LUEV	**Luepa**	**3.86**	**169**	*e*P	**Pn**	**08 25 33.5**	**+1.1**
LUEV				*e*S	**Sn**	**08 26 16.9**	**+0.2**
SLBI	**Saint Lucia, B**	**4.50**	**15**	*e*P	**Pn**	**08 25 42.1**	**+1.2**
SLBI				*e*S	**Sn**	**08 26 30.9**	**-1.1**
CACV	**CAICARA DEL OR**	**4.78**	**244**	*e*P	Pn	08 25 39.5	-5.2
CACV				*e*S	Sn	08 26 28.8	-10
TACV	**Tcata**	**4.79**	**276**	*e*P	**Pn**	**08 25 45.2**	**+0.4**
TACV				*e*S	**Sn**	**08 26 37.5**	**-1.6**
BENV	**Beln**	**5.33**	**274**	*e*P	**Pn**	**08 25 52.9**	**+0.5**
BENV				*e*S	**Sn**	**08 26 50.5**	**-2.1**
BAUV	**El Baul**	**5.82**	**263**	*e*P	**Pn**	**08 25 58.8**	**-0.1**
BAUV				*e*S	**Sn**	**08 27 02.1**	**-2.2**
BAUV	**El Baul**	**5.82**	**263**	*e*P	**Pn**	**08 26 00.2**	**+1.3**
BAUV				*e*S	**Sn**	**08 27 01.8**	**-2.4**
MAPV	**Macapo**	**6.18**	**272**	*e*P	**Pn**	**08 26 04.3**	**+0.5**
MAPV				*e*S	**Sn**	**08 27 10.2**	**-2.9**

TIF 17 08:34:26.4, 43°.18N×46°.18E, h14km±3km
DRS 17 08:34:26.3, 43°.22N×46°.21E, h18km
NORS 17 08:34:26.2, 43°.16N×46°.21E, h11km, MPVA3.7
MOS 17 08:34:26.1, 43°.18N×46°.21E, h12km, MPVA3.7
ISC 17 08:34:26.8±1.1, 43°.19N±0°.03×46°.23E±0°.02, h8km±9km, n76, σ0s98/141, 3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.32**	**112**	*e*Pg	**Pb**	**08 34 34.2**	**-0.6**
	143nm,0.9s						
DLMR				*e*Sg	**Sb**	**08 34 39.9**	**-0.2**
	1μm,0.4s						
DLMR	**Dylym**	**0.32**	**112**	*e*PG	**Pb**	**08 34 34.1**	**-0.6**
DLMR				*e*S	**Sb**	**08 34 39.8**	**-0.2**
DLMR				pmax	pmax		
	comp=Z,143nm,0.9s						
DBC	**Dubki**	**0.47**	**111**	*i* Pg	**Pb**	**08 34 37.4**	**-0.1**
	comp=Z,62nm,0.5s						
DBC				*e*Sg	**Sb**	**08 34 45.3**	**+0.7**
	comp=Z,256nm,0.3s						
DBC	**Dubki**	**0.47**	**111**	⇓*i*PG	**Pb**	**08 34 37.3**	**-0.1**
DBC				*e*S	**Sb**	**08 34 45.2**	**+0.7**
DBC				pmax	pmax		
	comp=Z,62nm,0.5s						
BTLR	**Botlikh**	**0.52**	**181**	*e*Pg	**Pb**	**08 34 37.7**	**-0.6**
	comp=Z,60nm,0.5s						
BTLR				*e*Sg	**Sb**	**08 34 46.0**	**-0.1**
	comp=Z,542nm,0.7s						
BTLR	**Botlikh**	**0.52**	**181**	*e*PG	**Pb**	**08 34 37.8**	**-0.6**
BTLR				pmax	pmax		
	comp=Z,48nm,0.3s						
KRNR	**Karanay**	**0.61**	**126**	*e*Pg	**Pb**	**08 34 39.8**	**-0.2**
	comp=Z,33nm,0.3s						
KRNR				*e*Sg	**Sb**	**08 34 49.6**	**+0.8**
	comp=Z,180nm,0.3s						
KRNR	**Karanay**	**0.61**	**126**	*e*PG	**Pb**	**08 34 39.7**	**-0.2**
KRNR				*e*S	**Sb**	**08 34 49.5**	**+0.8**
KRNR				pmax	pmax		
	comp=Z,33nm,0.3s						
UNCR	**Uncukul**

SGKR			S	Sn	08 35 09.7	+1.3
CHRG	**Chargali**	**1.29 229**	P	Pn	08 34 50.6	-0.7
CHRG			S	Sb	08 35 07.5	-0.7
MTEO	**Meteo**	**1.35 248**	P	Pn	08 34 51.2	-1.2
MTEO			S	Sb	08 35 09.5	-0.6
ARNR	**Ardon**	**1.42 270**	*e*Pg	Pg	08 34 54.8	+0.7
ARNR			*i* Sg	Sg	08 35 13.5	+0.9
ARNR	**Ardon**	**1.42 270**	*e*PG	Pb	08 34 54.1	+0.4
ARNR			*e*S	Sg	08 35 12.9	+0.3
URKR	**Urkarakh**	**1.45 134**	*e*Pg	Pg	08 34 54.4	-0.4
	comp=Z,34nm,0.4s					
URKR			*e*Sg	Sg	08 35 15.1	+1.5
	comp=Z,173nm,0.6s					
URKR	**Urkarakh**	**1.45 134**	*e*PG	Pg	08 34 54.3	-0.4
URKR			*e*S	Sg	08 35 15.0	+1.5
URKR			pmax	pmax		
	comp=Z,34nm,0.4s					
LACR	**Lac**	**1.46 256**	*e*Pg	Pn	08 34 52.8	-0.9
LACR			*e*Sg	Sn	08 35 12.1	-1.1
LACR	**Lac**	**1.46 256**	*e*PG	Pn	08 34 52.8	-0.9
LACR			*e*S	Sn	08 35 12.1	-1.1
GUDG	**Gudauri**	**1.48 241**	*e*Pg	Pb	08 34 54.5	-0.2
GUDG			*e*Sg	Sb	08 35 14.0	+0.2
GUDG	**Gudauri**	**1.48 241**	*e*PG	Pb	08 34 54.5	-0.2
GUDG			*e*S	Sb	08 35 14.0	+0.2
PRTR	**Priterechnaya**	**1.53 292**	*e*Pg	Pb	08 34 55.4	0.0
PRTR			*i* Sg	Sg	08 35 16.4	+0.5
PRTR	**Priterechnaya**	**1.53 292**	*e*PG	Pb	08 34 55.4	0.0
PRTR			*i* S	Sg	08 35 16.4	+0.5
KORR	**Kora**	**1.59 267**	*e*Pg	Pg	08 34 57.5	+0.3
KORR			*e*Sg	Sb	08 35 17.2	+0.5
KORR	**Kora**	**1.59 267**	*e*PG	Pg	08 34 57.5	+0.3
KORR			*e*S	Sb	08 35 17.2	+0.5
STDR	**Stavd-Durt**	**1.59 277**	*e*Pg	Pb	08 34 56.8	+0.2
STDR			*i* Sg	Sg	08 35 18.6	+0.6
STDR	**Stavd-Durt**	**1.59 277**	*e*PG	Pb	08 34 56.8	+0.2
STDR			*i* S	Sg	08 35 18.6	+0.6
DRN	**Derbent**	**1.93 126**	*e*Pg	Pg	08 35 03.1	-0.8
DRN			*e*Sg	Sg	08 35 27.9	-1.0
DRN	**Derbent**	**1.93 126**	*e*PN	Pg	08 35 03.1	-0.8
NCK	**Nalchik**	**1.95 280**	*i* PN	Pn	08 35 01.1	+0.8
NCK			pmax	pmax		
	comp=Z,10.0nm,0.7s					
VSHL	**Vashlovani**	**1.96 176**	P	Pg	08 35 03.6	-0.7
DIGR	**Digorskoe uzhe**	**1.96 262**	*e*Pg	Pn	08 35 01.3	+0.6
DIGR			*e*Sg	Sn	08 35 26.6	+1.0
DIGR	**Digorskoe uzhe**	**1.96 262**	*e*PN	Pn	08 35 01.3	+0.6
AKT	**Akhty**	**2.04 146**	*e*Pg	Pn	08 35 01.5	-0.1
	comp=Z,28nm,0.3s					
AKT			*e*Sg	Sb	08 35 29.0	-0.7
	comp=Z,81nm,0.3s					
AKT	**Akhty**	**2.04 146**	*e*PN	Pn	08 35 01.5	-0.1
AKT			*e*S	Sb	08 35 29.0	-0.7
AKT			pmax	pmax		
	comp=Z,28nm,0.3s					
KSMR	**Kasumkent**	**2.12 138**	*e*Pg	Pg	08 35 07.0	-0.4
KSMR			*e*Sg	Sb	08 35 32.2	+0.2
KSMR	**Kasumkent**	**2.12 138**	*e*PN	Pg	08 35 07.0	-0.4
KSMR			*e*S	Sb	08 35 32.2	+0.2
KBTC	**Kuba-Taba**	**2.15 288**	*e*Pg	Pb	08 35 05.0	-1.0
KBTC			*e*Sg	Sb	08 35 32.2	-0.7
KBTC	**Kuba-Taba**	**2.15 288**	*e*PN	Pn	08 35 04.2	+1.1
KBTC			*e*S	Sb	08 35 32.2	-0.7
TRLG	**Trialeti**	**2.28 225**	P	Pn	08 35 05.8	+0.9
TRLG			S	Sb	08 35 38.4	+1.6
PYA1	**Pyatigorsk**	**2.44 292**	*e*Pn	Pn	08 35 08.6	+1.5
PYA1			*e*Sn	Sn	08 35 38.7	+1.6
PYA1	**Pyatigorsk**	**2.44 292**	*e*PN	Pn	08 35 08.6	+1.5
PYA1			*e*S	Sn	08 35 38.7	+1.6
KBZ	**Khabaz**	**2.49 284**	*e*Pn	Pn	08 35 09.1	+1.5
KBZ			*e*Sn	Sb	08 35 42.0	-0.5
KBZ	**Khabaz**	**2.49 284**	*e*PN	Pn	08 35 09.1	+1.5
KBZ			*e*S	Sb	08 35 42.0	-0.5
SHA1	**Shidzhatmaz**	**2.66 283**	*e*Pn	Pn	08 35 09.7	-0.6
SHA1			*e*Sn	Sn	08 35 44.1	+1.3
SHA1	**Shidzhatmaz**	**2.66 283**	*e*PN	Pn	08 35 09.7	-0.6
SHA1			*e*S	Sn	08 35 44.1	+1.3
KIV	**Kislovodsk**	**2.69 288**	*e*Pn	Pn	08 35 11.6	+1.1
KIV			*e*Sn	Sb	08 35 46.3	-2.2
KIV	**Kislovodsk**	**2.69 288**	*e*PN	Pn	08 35 11.6	+1.1
KIV			*e*S	Sb	08 35 46.3	-2.2
AKH	**Akhalkalaki**	**2.70 230**	*e*Pn	Pb	08 35 13.4	-2.1
AKH			*e*Sn	Sn	08 35 45.3	+1.6
AKH	**Akhalkalaki**	**2.70 230**	*e*PN	Pb	08 35 13.4	-2.1
AKH			*e*S	Sn	08 35 45.3	+1.6
GOF	**Gofitskoye**	**2.96 310**	*e*Pn	Pb	08 35 19.4	-0.5
GOF			*e*Sn	Sn	08 35 51.6	+1.7
GOF	**Gofitskoye**	**2.96 310**	*e*PN	Pb	08 35 19.4	-0.5
GOF			*e*S	Sn	08 35 51.6	+1.7
GNI	**Garni**	**3.23 201**	*e*Pn	Pn	08 35 20.3	+2.2
GNI			*e*Sn	Sn	08 35 58.0	+1.1
GNI	**Garni**	**3.23 201**	*e*PN	Pn	08 35 20.3	+2.2
GNI			*e*S	Sn	08 35 58.0	+1.1
ARXR	**Arkhyz**	**3.63 278**	*e*Pn	Pn	08 35 22.9	-0.7
ARXR			*e*Sn	Sn	08 36 07.4	+0.7
ARXR	**Arkhyz**	**3.63 278**	*e*PN	Pn	08 35 22.9	-0.7
ARXR			*e*S	Sn	08 36 07.4	+0.7
RPOR	**Krasnaya Polya**	**4.37 279**	*i* PN	Pn	08 35 31.3	-2.3
SOC	**Sochi**	**4.76 277**	*e*PN	Pn	08 35 35.4	-3.6
SOC			*e*PPP	PPP	08 35 51.5	
SOC			*e*		08 36 30.3	
SOC					08 36 55.8	
SOC			MLR	MLR		
	comp=Z,18nm,6.0s					
AKBB	**Malin Array Si**	**13.82 309**	*i* P	Pn	08 37 42.1	-0.8
FINES	**FINESS Array B**	**21.88 334**	*i* P	P	08 39 19.6	-0.3
FINES			pmax	pmax		
	comp=Z,2.0nm,0.9s					

MOS ***17*** *08:35:36.3,43.°21N×46.°21E,h13km,MPVA3.7*
NORS ***17*** *08:35:36.6,43.°17N×46.°21E,h12km,MPVA3.8*
DRS ***17*** *08:35:37.3,43.°17N×46.°21E,h18km*
TIF ***17*** *08:35:38.6,43.°14N×46.°12E,h20km±3km*
ISC 17 08:35:38.8±1.0,43.°18N±0.°03×46.°21E±0.°02,h11km±8km,
n62,σ0°93/120,1D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.33**	**110**	*e*Pg	**Pg**	**08 35 45.5**	**+0.1**
	124nm,0.2s						
DLMR				*e*Sg	**Sb**	**08 35 51.2**	**-0.7**
	2μm,0.4s						
DLMR	**Dylym**	**0.33**	**110**	*e*PG	**Pg**	**08 35 45.4**	**+0.1**
DLMR				*e*S	**Sb**	**08 35 51.2**	**-0.7**
DLMR				pmax	pmax		
	comp=Z,124nm,0.2s						
DBC	**Dubki**	**0.48**	**109**	*e*Pg	**Pg**	**08 35 47.8**	**-0.4**
	comp=Z,64nm,0.2s						
DBC				*e*Sg	**Sb**	**08 35 55.6**	**-0.9**
	comp=Z,243nm,0.4s						
DBC	**Dubki**	**0.48**	**109**	*e*PG	**Pg**	**08 35 47.8**	**-0.4**
DBC				*e*S	**Sb**	**08 35 55.6**	**-0.9**
DBC				pmax	pmax		
	comp=Z,64nm,0.2s						
BTLR	**Botlikh**	**0.52**	**179**	*e*Pg	**Pg**	**08 35 48.3**	**-0.7**
	comp=Z,63nm,0.7s						
BTLR				*e*Sg	**Sg**	**08 35 56.4**	**+0.6**
	comp=Z,707nm,0.5s						
BTLR	**Botlikh**	**0.52**	**179**	*e*PG	**Pg**	**08 35 48.2**	**-0.7**
BTLR				*e*S	**Sg**	**08 35 56.3**	**+0.6**
BTLR				pmax	pmax		
	comp=Z,63nm,0.7s						
KRNR	**Karanay**	**0.62**	**125**	*e*Pg	**Pg**	**08 35 50.5**	**-0.4**
	comp=Z,41nm,0.3s						
KRNR				*e*Sg	**Sg**	**08 35 59.9**	**+0.8**
	comp=Z,231nm,0.3s						
KRNR	**Karanay**	**0.62**	**125**	*e*PG	**Pg**	**08 35 50.5**	**-0.4**
KRNR				*e*S	**Sg**	**08 35 59.9**	**+0.8**
KRNR				pmax	pmax		
	comp=Z,41nm,0.3s						
UNCR	**Uncukul**	**0.64**	**137**	*e*Pg	**Pg**	**08 35 50.6**	**-0.6**
	comp=Z,66nm,0.3s						
UNCR				*e*Sg	**Sg**	**08 36 00.4**	**+0.9**
	comp=Z,429nm,0.3s						
UNCR	**Uncukul**	**0.64**	**137**	*e*PG	**Pg**	**08 35 50.5**	**-0.6**
UNCR				*e*S	**Sg**	**08 36 00.4**	**+0.9**
UNCR				pmax	pmax		
	comp=Z,66nm,0.3s						
BUJR	**Buynaksk**	**0.75**	**118**	*e*Pg	**Pb**	**08 35 54.1**	**+0.3**
	comp=Z,78nm,0.3s						
BUJR				*e*Sg	**Sn**	**08 36 06.0**	**-0.7**
	comp=Z,534nm,0.4s						
BUJR	**Buynaksk**	**0.75**	**118**	*e*PG	**Pb**	**08 35 54.1**	**+0.3**
BUJR				*e*S	**Sn**	**08 36 06.0**	**-0.7**
BUJR				pmax	pmax		
	comp=Z,78nm,0.3s						
ARKR	**Arakani**	**0.82**	**135**	*e*Pg	**Pg**	**08 35 54.3**	**-0.3**
	comp=Z,21nm,0.2s						
ARKR				*e*Sg	**Sb**	**08 36 06.1**	**0.0**
	comp=Z,147nm,0.6s						
ARKR	**Arakani**	**0.82**	**135**	*e*PG	**Pg**	**08 35 54.3**	**-0.3**
ARKR				*e*S	**Sb**	**08 36 06.1**	**0.0**
GNBR	**Gunib**	**0.97**	**145**	*e*Pg	**Pg**	**08 35 57.7**	**+0.3**
	comp=Z,63nm,0.4s						
GNBR				*e*Sg	**Sb**	**08 36 11.8**	**+1.3**
	comp=Z,512nm,0.3s						
GNBR	**Gunib**	**0.97**	**145**	*e*PG	**Pg**	**08 35 57.7**	**+0.3**
GNBR				*e*S	**Sb**	**08 36 11.7**	**+1.3**
GNBR				pmax	pmax		
	comp=Z,63nm,0.4s						
MAK	**Makhachkala**	**0.97**	**103**	⇓*i*PG	**Pg**	**08 35 57.2**	**-0.3**
MAK				*e*		08 36 13.1	
MAK				pmax	pmax		
	comp=Z,148nm,1.6s						
MAK				smax	smax		
	comp=E,334nm,0.3s						
MAK				smax	smax		
	comp=E,449nm,0.8s						
VLKR	**Vladikavkaz**	**1.13**	**264**	*e*Pg	**Pb**	**08 35 59.9**	**-0.5**
VLKR				*e*Sg	**Sn**	**08 36 16.9**	**+0.8**
VLKR	**Vladikavkaz**	**1.13**	**264**	*e*PG	**Pb**	**08 35 59.3**	**-1.0**
VLKR				*e*S	**Sn**	**08 36 16.7**	**+0.6**
TRKR	**Terskaya**	**1.20**	**297**	*e*Pg	**Pb**	**08 36 00.2**	**-1.4**
TRKR				*i* Sg	**Sb**	**08 36 16.8**	**-0.3**
TRKR	**Terskaya**	**1.20**	**297**	*e*PG	**Pb**	**08 36 00.2**	**-1.4**
TRKR				*i* S	**Sb**	**08 36 16.8**	**-0.3**
BTKR	**Batakoyurt**	**1.23**	**279**	*e*Pg	**Pg**	**08 36 03.2**	**+0.8**
BTKR				*i* Sg	**Sn**	**08 36 20.1**	**+1.5**
BTKR	**Batakoyurt**	**1.23**	**279**	*e*PG	**Pg**	**08 36 03.2**	**+0.8**
BTKR				*i* S	**Sn**	**08 36 20.1**	**+1.5**
CHRG	**Chargali**	**1.27**	**228**	P	**Pn**	**08 36 01.3**	**-1.3**
CHRG				S	**Sb**	**08 36 18.0**	**-1.2**
SGKR	**Sergokala**	**1.29**	**124**	*e*Pg	**Pn**	**08 36 02.3**	**-0.4**
	comp=E,68nm,0.8s						
SGKR				*e*Sg	**Sn**	**08 36 20.7**	**+0.7**
	comp=E,134nm,0.5s						
SGKR	**Sergokala**	**1.29**	**124**	*e*PG	**Pn**	**08 36 02.3**	**-0.4**
SGKR				*e*S	**Sn**	**08 36 20.7**	**+0.7**
SGKR				pmax	pmax		
	comp=Z,68nm,0.8s						
MTEO	**Meteo**	**1.33**	**248**	P	**Pn**	**08 36 01.9**	**-1.8**
MTEO				S	**Sb**	**08 36 19.6**	**-1.6**
ARNR	**Ardon**	**1.41**	**271**	*e*Pg	**Pn**	**08 36 04.1**	**-0.3**
ARNR				*i* Sg	**Sb**	**08 36 23.6**	**+0.6**
ARNR	**Ardon**	**1.41**	**271**	*e*PG	**Pn**	**08 36 04.1**	**-0.3**
ARNR				*e*S	**Sg**	**08 36 24.0**	**-0.1**
LACR	**Lac**	**1.45**	**256**	*e*Pg	**Pn**	**08 36 03.5**	**-1.5**
LACR				*e*Sg	**Sn**	**08 36 22.2**	**-1.9**
LACR	**Lac**	**1.45**	**256**	*e*PG	**Pn**	**08 36 03.5**	**-1.5**
LACR				*e*S	**Sn**	**08 36 22.4**	**-1.7**
GUDG	**Gudauri**	**1.46**	**241**	*e*Pg	**Pn**	**08 36 04.2**	**-1.1**
GUDG				*e*Sg	**Sn**	**08 36 24.4**	**-0.2**
GUDG	**Gudauri**	**1.46**	**241**	*e*PG	**Pn**	**08 36 04.2**	**-1.1**
GUDG				*e*S	**Sn**	**08 36 24.4**	**-0.2**
URKR	**Urkarakh**	**1.46**	**134**	*e*Pg	**Pn**	**08 36 03.4**	**-1.8**
URKR				*i* Sg	**Sn**	**08 36 23.2**	**-1.3**
URKR	**Urkarakh**	**1.46**	**134**	*e*PG	**Pn**	**08 36 03.4**	**-1.8**
URKR				*i* S	**Sn**	**08 36 23.2**	**-1.3**
PRTR	**Priterechnaya**	**1.51**	**293**	*e*Pg	**Pn**	**08 36 05.8**	**0.0**
PRTR				*e*Sg	**Sb**	**08 36 25.9**	**-0.1**
PRTR	**Priterechnaya**	**1.51**	**293**	*e*PG	**Pn**	**08 36 05.8**	**0.0**
PRTR				*e*S	**Sb**	**08 36 26.1**	**0.0**
KORR	**Kora**	**1.57**	**267**	*e*Pg	**Pn**	**08 36 07.1**	**+0.5**
KORR				*i* Sg	**Sn**	**08 36 27.6**	**+0.7**
KORR	**Kora**	**1.57**	**267**	*e*PG	**Pn**	**08 36 05.6**	**-1.0**
KORR				*e*S	**Sn**	**08 36 26.4**	**-0.6**
STDR	**Stavd-Durt**	**1.58**	**278**	*e*Pg	**Pb**	**08 36 07.6**	**-0.4**
STDR				*i* Sg	**Sb**	**08 36 28.8**	**+0.9**
STDR	**Stavd-Durt**	**1.58**	**278**	*e*PG	**Pn**	**08 36 06.9**	**+0.2**
STDR				*e*S	**Sg**	**08 36 29.1**	**-0.4**
DRN	**Derbent**	**1.94**	**126**	*e*Pg	**Pn**	**08 36 12.3**	**+0.6**
DRN				*e*Sg	**Sb**	**08 36 38.8**	**+0.4**
DRN	**Derbent**	**1.94**	**126**	PN	**Pn**	**08 36 12.3**	**+0.6**
DRN				S	**Sb**	**08 36 38.8**	**+0.4**
DIGR	**Digorskoe uzhe**	**1.95**	**263**	*e*Pg	**Pn**	**08 36 11.3**	**-0.7**
DIGR				*i* Sg	**Sn**	**08 36 36.2**	**-0.4**
DIGR	**Digorskoe uzhe**	**1.95**	**263**	*e*PN	**Pn**	**08 36 11.3**	**-0.7**
AKT	**Akhty**	**2.04**	**146**	*e*Pg	**Pb**	**08 36 15.3**	**-0.7**
AKT				*i* Sg	**Sb**	**08 36 42.3**	**+0.9**
AKT	**Akhty**	**2.04**	**146**	PN	**Pn**	**08 36 13.2**	**0.0**
KSMR	**Kasumkent**	**2.12**	**137**	*e*Pg	**Pb**	**08 36 17.4**	**+0.1**
KSMR				*i* Sg	**Sg**	**08 36 46.3**	**-0.7**
KSMR	**Kasumkent**	**2.12**	**137**	*e*PN	**Pb**	**08 36 17.4**	**+0.1**
KSMR				*i* S	**Sg**	**08 36 46.3**	**-0.7**
KBTC	**Kuba-Taba**	**2.13**	**288**	*e*Pg	**Pn**	**08 36 14.8**	**+0.4**
KBTC				*i* Sg	**Sn**	**08 36 42.3**	**+1.4**
KBTC	**Kuba-Taba**	**2.13**	**288**	*e*PN	**Pn**	**08 36 14.8**	**+0.4**
KBTC				*i* S	**Sn**	**08 36 42.3**	**+1.4**
ALIG	**Mtskhetisjvari**	**2.17**	**241**	P	**Pn**	**08 36 15.3**	**+0.3**
PYA1	**Pyatigorsk**	**2.43**	**292**	*e*Pn	**Pn**	**08 36 18.1**	**-0.3**
PYA1				*i* Sn	**Sn**	**08 36 48.8**	**+0.7**
PYA1	**Pyatigorsk**	**2.43**	**292**	*e*PN	**Pn**	**08 36 18.1**	**-0.3**
PYA1				*i* S	**Sn**	**08 36 48.8**	**+0.7**
KBZ	**Khabaz**	**2.47**	**284**	*e*Pn	**Pn**	**08 36 18.6**	**-0.4**
KBZ				*e*Sn	**Sn**	**08 36 50.4**	**+1.3**
KBZ	**Khabaz**	**2.47**	**284**	*e*PN	**Pn**	**08 36 18.6**	**-0.4**
KBZ				*e*S	**Sn**	**08 36 50.4**	**+1.3**
SHA1	**Shidzhatmaz**	**2.65**	**283**	*e*Pn	**Pn**	**08 36 20.1**	**-1.5**
SHA1				*e*Sn	**Sn**	**08 36 53.8**	**0.0**
SHA1	**Shidzhatmaz**	**2.65**	**283**	*e*PN	**Pn**	**08 36 20.1**	**-1.5**
SHA1				*e*S	**Sn**	**08 36 53.8**	**0.0**
KIV	**Kislovodsk**	**2.67**	**288**	*e*Pn	**Pn**	**08 36 23.0**	**+1.1**
KIV				*i* Sn	**Sn**	**08 36 55.3**	**+1.0**
KIV	**Kislovodsk**	**2.67**	**288**	*e*PN	**Pn**	**08 36 23.0**	**+1.1**
KIV				*i* S	**Sn**	**08 36 55.3**	**+1.0**
GNI	**Garni**	**3.22**	**200**	*e*Pn	**Pn**	**08 36 31.5**	**+2.0**
GNI				*e*Sn	**Sn**	**08 37 10.0**	**+2.0**
GNI	**Garni**	**3.22**	**200**	*e*PN	**Pn**	**08 36 31.5**	**+2.0**
GNI				*e*S	**Sn**	**08 37 10.0**	**+2.0**

IDC 17 08:50:35.4±3.6,6.°45S×148.°84E,h0km,mb3.3/1,
mbtmp3.5/3,ML2.8/2,MS2.8/3,Error ellipse:
s-maj=128.0km s-min=35.1km az=111.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.38**	**209**	Pn	Pn	08 51 31.3	+1.8
	14nm,0.3s,baz=12,slow=4.2,SNR=24						
PMG				Sn	Sn	08 52 10.3	+0.1
	31nm,0.3s,baz=155,slow=19,SNR=12						
PMG				LR	LR	08 52 32.5	
	comp=Z,31nm,18.6s,baz=240,slow=35						
	31nm,0.3s						
WRA	**Warramunga Arr**	**19.45**	**225**	P	P	08 55 03.2	-0.5
	0.1nm,0.3s,baz=49,slow=10,SNR=3.3						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**22.34**	**218**	P	P	08 55 34.2	-1.0
	1.2nm,0.8s,baz=60,slow=9.7,SNR=13						
	1.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.41**	**241**	LR	LR	09 07 54.4	
	comp=Z,32nm,18.2s,baz=350,slow=41						
PPT	**Papeete**	**61.02**	**106**	LR	LR	09 22 20.1	
	comp=Z,27nm,21.8s,baz=132,slow=31						
TORD	**Torodi Ar. Bea**	**146.97**	**284**	PKPbc	PKPbc	09 10 20.7	-0.4
	1.2nm,0.5s,baz=78,slow=2.9,SNR=6.7						

IDC ***17*** *08:56:37.2±0.7,7.°08N×76.°97W,h0km,mb3.9/15,*
mbtmp4.0/18,ML3.7/3,MS3.3/4,Error ellipse:
s-maj=22.4km s-min=13.2km az=44.0
UPA ***17*** *08:56:39.6±2.4,6.°90N×76.°78W,h11km±13km,MW4.5*
NEIC ***17*** *08:56:39.3±2.4,7.°14N±0.°02×76.°71W±0.°06,h10km±1km,*
mb4.5/20,Error ellipse: s-maj=10.9km s-min=3.0km
az=281.0
RSNC ***17*** *08:56:40.6±0.0,7.°N±1.°×7.°7W±.°,h5km±2km,M4.0,mb5.2,*
mB5.0,ML3.7,Mw(mB)4.3
VAO ***17*** *08:56:48.5±0.7,6.°76N×76.°29W,h54km±6km,mb4.5*
ISC 17 08:56:38.0±1.1,6.°97N±0.°02×76.°73W±0.°02,h9km±7km,
n156,σ2°04/201,mb4.2/23,MS3.4/3,3C-3D,Northern

Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.52**	**85**	P	**Pb**	**08 56 49.0**	**-0.4**
DBBC				S	**Sb**	**08 56 56.5**	**-0.5**
APAC	**Apartado, Choc**	**0.93**	**9**	P	**Pn**	**08 56 57.0**	**-0.4**
APAC				S	**Sn**	**08 57 11.1**	**+0.1**
SOLC	**Bahia Solano**	**1.00**	**223**	P	**Pg**	**08 56 57.6**	**+0.2**
SOLC				S	**Sn**	**08 57 12.5**	**-0.2**
PTAC	**Punta Ardita,**	**1.09**	**279**	P	**Pb**	**08 56 58.7**	**-0.4**
PTAC				S	**Sn**	**08 57 14.9**	**+0.1**
PTAC	**Punta Ardita,**	**1.09**	**279**	*e*P	**Pb**	**08 56 58.9**	**-0.2**
PTAC				*e*S	**Sn**	**08 57 15.1**	**+0.3**
CBOC	**Ciudad Bolivar**	**1.31**	**147**	P	**Pn**	**08 57 02.0**	**-0.7**
CBOC				S	**Sg**	**08 57 20.5**	**+0.3**
MEDEC	**Medelln, Ant**	**1.32**	**121**	P	**Pn**	**08 57 03.0**	**0.0**
MEDEC				S	**Sg**	**08 57 22.9**	**+2.2**
UREC	**San Jos de Ur**	**1.42**	**57**	P	**Pg**	**08 57 05.0**	**-0.2**
UREC				S	**Sg**	**08 57 24.9**	**+1.3**
UREC	**San Jos de Ur**	**1.42**	**57**	*e*P	**Pg**	**08 57 05.3**	**+0.1**
UREC				*e*S	**Sg**	**08 57 25.4**	**+1.8**
HELC	**Santa Helena**	**1.42**	**123**	P	**Pn**	**08 57 04.2**	**-0.2**
HELC				S	**Sg**	**08 57 26.0**	**+2.2**
CAPC	**Capurgana**	**1.77**	**339**	P	**Pn**	**08 57 07.7**	**-1.2**
CAPC				S	**Sb**	**08 57 32.8**	**-0.2**
ZARC	**Zaragoza, Cauc**	**1.92**	**74**	P	**Pb**	**08 57 12.9**	**-0.5**
ZARC				S	**Sb**	**08 57 38.3**	**+0.8**
UPD2	**Meteti**	**2.02**	**321**	*e*P	**Pn**	**08 57 12.8**	**+0.4**
UPD2				*e*S	**Sb**	**08 57 40.3**	**0.0**
GUY2C	**Guyana, Caldas**	**2.20**	**142**	P	**Pb**	**08 57 17.2**	**-1.2**
GUY2C				S	**Sg**	**08 57 47.6**	**-1.3**
CMAN1	**Manizales, Cal**	**2.23**	**148**	P	**Pg**	**08 57 20.9**	**0.0**
NIZA	**Niza - Manizal**	**2.27**	**147**	P	**Pb**	**08 57 19.5**	**0.0**
NIZA				S	**Sb**	**08 57 47.2**	**-0.7**
PTBC	**PUERTO BERRIO,**	**2.29**	**101**	P	**Pb**	**08 57 18.9**	**-0.8**
PTBC				S	**Sb**	**08 57 48.4**	**+0.2**
NORC	**Norcasia**	**2.32**	**127**	P	**Pb**	**08 57 19.2**	**-0.9**
NORC				S	**Sb**	**08 57 50.2**	**+1.3**
RECRC	**Villamaria, Ca**	**2.42**	**146**	P	**Pb**	**08 57 22.0**	**-0.2**
RECRC				S	**Sg**	**08 57 56.2**	**+0.2**
TOTI	**Torti**	**2.50**	**321**	⇓*e*P	**Pn**	**08 57 20.3**	**+1.3**
TOTI				*e*S	**Sn**	**08 57 51.4**	**+1.7**
SPBC	**San Pablo de B**	**2.95**	**116**	P	**Pb**	**08 57 29.4**	**-1.5**
BRJC	**Barrancabermej**	**2.96**	**90**	P	**Pb**	**08 57 29.7**	**-1.3**
BRJC				S	**Sb**	**08 58 06.2**	**-1.2**
YOTC	**Yotoco, Valle**	**2.99**	**173**	P	**Pn**	**08 57 24.1**	**-1.8**
YOTC				S	**Sn**	**08 57 56.4**	**-5.6**
MALC	**Bahia Malaga**	**3.00**	**192**	P	**Pb**	**08 57 30.3**	**-1.4**
CNTA3	**Canitas, Panam**	**3.10**	**316**	*e*P	**Pn**	**08 57 28.0**	**+0.8**
ROSC	**El Rosal**	**3.20**	**131**	Pn	**Pb**	**08 57 33.3**	**-2.0**
ROSC	**El Rosal**	**3.20**	**131**	Pn	**Pb**	**08 57 33.6**	**-1.7**
	74nm,0.3s,baz=345,slow=2.1,SNR=52						
ROSC				Sn	**Sb**	**08 58 15.7**	**+1.1**
	29nm,0.3s,baz=215,slow=21,SNR=5.5						
	266nm,0.3s						
ROSC	**El Rosal**	**3.20**	**131**	P	**Pb**	**08 57 34.0**	**-1.3**
CHPO	**Chepo, Panama**	**3.22**	**313**	*e*S	**Sn**	**08 58 07.5**	**+0.1**
SJCC	**San Jacinto, C**	**3.28**	**28**	P	**Pn**	**08 57 30.2**	**+0.4**
SJCC				S	**Sn**	**08 58 07.7**	**-1.4**
ORTC	**Ortega, Tolima**	**3.38**	**154**	P	**Pn**	**08 57 34.0**	**+2.9**
FLAM	**Flamenco Islan**	**3.39**	**305**	*e*S	**Sn**	**08 58 10.7**	**-0.9**
UPA	**Univ. de Panam**	**3.42**	**306**	*i* P	**Pn**	**08 57 31.2**	**-0.5**
UPA				*e*S	**Sn**	**08 58 11.9**	**-0.5**
PCRI3	**Pocri, Los San**	**3.43**	**282**	⇓*i*P	**Pn**	**08 57 32.5**	**+0.7**
PCRI3				*e*S	**Sn**	**08 58 10.8**	**-1.9**
BARC	**Barichara**	**3.54**	**96**	P	**Pb**	**08 57 37.6**	**-3.5**
BARC				S	**Sn**	**08 58 19.6**	**+3.9**
CVER	**Cruz Verde, Cu**	**3.59**	**133**	P	**Pb**	**08 57 40.0**	**-2.1**
OCAC	**Ocana**	**3.60**	**69**	P	**Pn**	**08 57 36.1**	**+1.8**
OCAC				S	**Sn**	**08 58 20.4**	**+3.3**
AZU	**Azuero**	**3.61**	**283**	P	**Pn**	**08 57 34.5**	**+0.2**
AZU	**Azuero**	**3.61**	**283**	*e*

CRPR	**Cabo Rojo, PR**	**14.43**	**40**	Pn	Pn	08 59 57.6	-5.1
MTO3	**Montecristo**	**14.44**	**302**	Pn	**Pn**	**09 00 01.3**	**-1.7**
MLPR	**Magueyes Islan**	**14.44**	**40**	Pn	**Pn**	**08 59 59.4**	**-3.4**
PRSN	**Puerto Rico Se**	**14.56**	**39**	Pn	**Pn**	**09 00 02.4**	**-2.1**
OBIP	**Obispado Ponce**	**14.78**	**41**		**Pn**	**09 00 06.1**	**-1.4**
CELP	**Cerrillos**	**14.82**	**41**	Pn	**Pn**	**09 00 05.4**	**-2.6**
UUPR	**Utuado, UPR, P**	**14.86**	**40**		**Pn**	**09 00 06.0**	**-2.5**
AOPR	**Arecibo Observ**	**14.91**	**40**		**Pn**	**09 00 07.0**	**-2.2**
IGPR	**InterUniversit**	**15.05**	**42**	Pn	**Pn**	**09 00 07.9**	**-3.3**
SJG	**San Juan**	**15.13**	**42**	Pn	**Pn**	**09 00 09.3**	**-2.9**
5.3nm,0.3s,baz=230,slow=15,SNR=8.4							
PDPR	**Patillas Dam,**	**15.15**	**43**	Pn	**Pn**	**09 00 08.8**	**-3.6**
PDPR				IAmb	IAmb	09 00 20.4	
comp=Z,17nm,1.2s							
GCPR	**Guaynabo City**	**15.31**	**42**		**Pn**	**09 00 12.2**	**-2.4**
HUMP	**Col San Antoni**	**15.35**	**43**		**Pn**	**09 00 11.9**	**-3.2**
BOAV	**Boa Vista**	**16.77**	**105**		**Pn**	**09 00 32.3**	**-1.2**
BOAV	**Boa Vista**	**16.77**	**105**	*e*P	**P**	**09 00 35.0**	**-0.7**
BOAV				*e*S	**Sn**	**09 03 35.1**	**-5.0**
SMRT	**St. Maarten**	**17.27**	**49**	Pn	**Pn**	**09 00 37.3**	**-2.4**
SMRT				IAmb	IAmb	09 00 44.9	
comp=Z,47nm,0.7s							
MACA	**Manacapuru-AM**	**18.91**	**122**	P	**P**	**09 00 58.9**	**-0.5**
MACA				IAmb	IAmb	09 01 02.4	
comp=Z,21nm,0.7s							
MACA	**Manacapuru-AM**	**18.91**	**122**	*e*P	**Pn**	**09 00 59.7**	**-0.2**
MACA				*e*S	**Sn**	**09 04 26.1**	**-5.9**
ETMB	**Extrema**	**19.69**	**148**	P	**Pn**	**09 01 08.8**	**-0.5**
ETMB	**Extrema**	**19.69**	**148**	*e*P	**Pn**	**09 01 09.1**	**-0.2**
CMIG	**Matias Romero**	**20.39**	**301**	LR	LR	09 10 16.4	
comp=Z,70nm,18.3s,baz=142,slow=41							
SAML	**Samuel**	**20.79**	**139**	P	**P**	**09 01 19.2**	**-0.6**
SAML				IAmb	IAmb	09 01 26.4	
comp=Z,13nm,0.9s							
SAML	**Samuel**	**20.79**	**139**	*e*P	**P**	**09 01 19.9**	**0.0**
ITTB	**Itaituba**	**23.79**	**118**	*e*P	**P**	**09 01 51.5**	**+0.1**
LPAZ	**La Paz**	**24.63**	**160**	P	**P**	**09 02 00.6**	**+0.8**
LPAZ	**La Paz**	**24.63**	**160**	P	**P**	**09 02 02.2**	**+2.4**
comp=Z,4.6nm,1.1s,baz=300,slow=1.8,SNR=6.7							
comp=Z,4.6nm,1.1s							
LPAZ	**La Paz**	**24.63**	**160**	*e*P	**P**	**09 02 01.3**	**+1.5**
NPGB	**Novo Progresso**	**25.46**	**123**	*e*P	**P**	**09 02 07.8**	**+1.1**
VILB	**Vilhena**	**25.72**	**140**	P	**P**	**09 02 10.9**	**+1.8**
VILB				IAmb	IAmb	09 02 34.4	
comp=Z,10.0nm,0.8s							
PDRB	**Porto dos Gac**	**27.14**	**133**	*e*P	**P**	**09 02 22.7**	**+0.7**
SIV	**San Ignacio**	**27.58**	**146**	P	**P**	**09 02 28.6**	**+2.7**
comp=Z,2.0nm,1.0s,baz=328,slow=12,SNR=4.5							
comp=Z,2.0nm,1.0s							
Z47A	**Carrollton**	**28.14**	**340**	P	**P**	**09 02 29.9**	**-0.8**
PRPB	**Parauapebas**	**29.86**	**115**	*e*P	**P**	**09 02 46.8**	**+0.6**
WVT	**Waverly**	**30.75**	**342**	P	**P**	**09 02 53.5**	**-0.3**
WVT				IAmb	IAmb	09 02 57.8	
comp=Z,4.5nm,1.1s							
X40A	**Basin Creek Fa**	**31.16**	**334**	P	**P**	**09 02 57.1**	**-0.3**
WHAR	**Wooly Hollow**	**31.61**	**335**	P	**P**	**09 03 00.8**	**-0.6**
WHAR				IAmb	IAmb	09 03 40.6	
comp=Z,17nm,1.4s							
FCAR	**Ozark Folk Cen**	**32.06**	**336**	P	**P**	**09 03 04.9**	**-0.5**
CGM3	**Cape Girardeau**	**32.40**	**341**	P	**P**	**09 03 07.7**	**-0.6**
CGM3				IAmb	IAmb	09 03 11.7	
comp=Z,5.3nm,0.8s							
SMTB	**Santa Maria do**	**33.03**	**118**	*e*P	**P**	**09 03 14.1**	**0.0**
CCM	**Cathedral Cave**	**33.63**	**339**	P	**P**	**09 03 18.5**	**-0.6**
CCM				IAmb	IAmb	09 03 19.9	
comp=Z,5.1nm,0.8s							
TXAR	**Lajitas Array**	**33.75**	**315**	P	**P**	**09 03 19.5**	**-0.9**
comp=Z,0.4nm,0.9s,baz=105,slow=10,SNR=2.5							
comp=Z,0.4nm,0.9s							
P46A	**Rosedale**	**33.84**	**345**	P	**P**	**09 03 20.6**	**-0.3**
R40A	**Maddies Statio**	**34.21**	**338**	P	**P**	**09 03 23.3**	**-0.8**
R40A				IAmb	IAmb	09 03 24.5	
comp=Z,3.8nm,0.6s							
BDFB	**Brasilia**	**36.24**	**128**	P	**P**	**09 03 45.1**	**+3.0**
comp=Z,1.7nm,0.5s,baz=287,slow=14,SNR=4.0							
BDFB				LR	LR	09 20 06.7	
comp=Z,58nm,19.8s,baz=326,slow=39							
comp=Z,1.7nm,0.5s							
SDBA	**SAO DESIDERIO**	**37.03**	**121**	*e*P	**P**	**09 03 49.4**	**+0.6**
CPUP	**Villa Florida**	**38.08**	**151**	LR	LR	09 21 11.5	
comp=Z,52nm,18.8s,baz=28,slow=38							
PDAR	**Pinedale Array**	**45.91**	**326**	P	**P**	**09 05 00.9**	**-0.6**
comp=Z,0.9nm,1.1s,baz=124,slow=8.8,SNR=3.0							
comp=Z,0.9nm,1.1s							
ULM	**Lac du Bonnet**	**46.01**	**343**	P	**P**	**09 04 59.4**	**-2.5**
comp=Z,2.1nm,0.7s,baz=115,slow=9.9,SNR=3.8							
comp=Z,2.1nm,0.7s							
SCHQ	**Schefferville**	**48.38**	**8**	P	**P**	**09 05 20.0**	**-0.3**
comp=Z,3.6nm,0.9s,baz=177,slow=2.7,SNR=3.6							
comp=Z,3.6nm,0.9s							
NVAR	**Mina Array Bea**	**48.86**	**316**	P	**P**	**09 05 23.5**	**-1.0**
comp=Z,1.1nm,0.8s,baz=123,slow=6.5,SNR=9.6							
comp=Z,1.1nm,0.8s							
YKA	**Yellowknife Ar**	**61.93**	**341**	P	**P**	**09 06 57.2**	**-0.7**
comp=Z,1.2nm,0.7s,baz=135,slow=6.4,SNR=9.3							
comp=Z,1.2nm,0.7s							
DBIC	**Dimbokro**	**71.29**	**85**	P	**P**	**09 08 00.6**	**+1.8**
comp=Z,4.2nm,0.8s,baz=278,slow=3.5,SNR=3.8							
comp=Z,4.2nm,0.8s							
ESDC	**Sonseca Array**	**72.32**	**51**	P	**P**	**09 08 06.8**	**+2.2**
comp=Z,1.0nm,0.8s,baz=260,slow=8.2,SNR=4.5							
comp=Z,1.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**74.96**	**35**	P	**P**	**09 08 20.3**	**+0.6**
comp=Z,1.1nm,0.7s,baz=206,slow=24,SNR=2.1							
comp=Z,1.1nm,0.7s							
ILAR	**Eielson Array**	**75.33**	**335**	P	**P**	**09 08 20.6**	**-1.0**
comp=Z,0.6nm,0.8s,baz=106,slow=3.5,SNR=6.9							
comp=Z,0.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**77.21**	**78**	P	**P**	**09 08 34.2**	**+0.9**
comp=Z,0.5nm,0.5s,baz=303,slow=5.5,SNR=3.8							
comp=Z,0.5nm,0.5s							
NOA	**NORSAR Array B**	**82.95**	**29**	P	**P**	**09 09 05.1**	**+1.7**
comp=Z,0.9nm,0.9s,baz=274,slow=5.0,SNR=3.1							
comp=Z,0.9nm,0.9s							
VNA3	**Neumayer Olymp**	**89.36**	**163**	⇑P	P	09 09 23.7	-11
comp=Z,0.5nm,0.2s							
VNA2	**Neumayer--Watz**	**89.92**	**162**	⇑P	P	09 09 26.1	-11
comp=Z,0.3nm,0.3s,baz=320,slow=14							
SNAA	**Sanae**	**91.56**	**162**	⇑P	**P**	**09 09 48.9**	**+3.9**
comp=Z,13nm,0.4s							
ASAR	**Alice Springs**	**146.24**	**237**	PKPbc	**PKPdf**	**09 16 18.9**	**-0.1**
comp=Z,1.4nm,0.7s,baz=116,slow=3.8,SNR=24							
PZH	**PanZhiHua**	**146.69**	**2**	PKPbc	**PKPdf**	**09 16 18.5**	**-1.3**
WRA	**Warramunga Arr**	**147.23**	**244**	PKPbc	**PKPdf**	**09 16 20.8**	**+0.1**
comp=Z,1.8nm,0.7s,baz=101,slow=3.2,SNR=13							

*IDC **17** 09:15:39.9±27.0, 37°.28N×20°.44E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=519.8km s-min=43.0km az=36.0*
*THE **17** 09:15:46.7, 37°.52N×20°.69E, h14km±1km, ML4.0/2, Error ellipse: s-maj=2.0km s-min=0.6km az=46.0*
*ATH **17** 09:15:46.2, 37°.50N×20°.65E, h12km±1km, ML3.4/13, Error ellipse: s-maj=1.6km s-min=0.8km az=29.0*

ISC 17 09:15:45.8±1.3, 37°.50N±0°.04×20°.65E±0°.05, h16km±6km, n38, σ0°81/55, mb3.8/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.21**	**39**	P	**Pg**	**09 15 50.9**	**+0.1**
KRI1				S	**Sg**	**09 15 53.9**	**-0.3**
122μm,0.2s							
LTHK	**Lithakia**	**0.26**	**35**	P	**Pg**	**09 15 51.6**	**0.0**
LTHK				S	**Sg**	**09 15 55.1**	**-0.3**
39μm,0.2s							
LTHK	**Lithakia**	**0.26**	**35**	P	**Pg**	**09 15 51.6**	**0.0**
LTHK				S	**Sg**	**09 15 55.2**	**-0.3**
LTHK				AML	AML	09 15 55.6	
LTHK				AML	AML	09 15 55.8	
comp=E,48649μm,0.2s							
RTZL	**Ratzakli, Kefa**	**0.59**	**9**	P	**Pg**	**09 15 57.2**	**-0.3**
RTZL				S	**Sg**	**09 16 06.0**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.62**	**355**	P	**Pg**	**09 15 58.0**	**-0.1**
PSDA				S	**Sb**	**09 16 07.5**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.62**	**355**	P	**Pg**	**09 15 58.2**	**+0.1**
VLS	**Valsamata**	**0.68**	**356**	P	**Pg**	**09 15 59.0**	**-0.3**
VLS	**Valsamata**	**0.68**	**356**	P	**Pg**	**09 15 58.9**	**-0.3**
VLS				S	**Sg**	**09 16 09.0**	**+0.7**
VLS				AML	AML	09 16 10.5	
comp=E,18889μm,0.2s							
VLS				AML	AML	09 16 11.9	
comp=N,9182μm,0.2s							
DMLN	**Damoulianata-K**	**0.77**	**344**	P	**Pg**	**09 16 01.1**	**+0.2**
DMLN	**Damoulianata-K**	**0.77**	**344**	P	**Pg**	**09 16 01.1**	**+0.2**
AMT	**Artemida-Makis**	**0.84**	**87**	P	**Pg**	**09 16 02.0**	**-0.2**
AMT				S	**Sb**	**09 16 13.8**	**+0.5**
AMT				AML	AML	09 16 18.1	
comp=E,11435μm,0.4s							
AMT				AML	AML	09 16 19.8	
comp=N,15563μm,0.5s							
RLS	**Riolos of Patr**	**0.86**	**49**	P	**Pg**	**09 16 01.7**	**-0.8**
RLS	**Riolos of Patr**	**0.86**	**49**	P	**Pg**	**09 16 02.0**	**-0.6**
RLS				S	**Sg**	**09 16 13.4**	**-0.4**
RLS				AML	AML	09 16 18.8	
comp=N,3700μm,0.4s							
RLS				AML	AML	09 16 22.9	
comp=E,2739μm,0.5s							
DRO	**Drossia**	**0.96**	**61**	P	**Pg**	**09 16 03.6**	**-0.8**
DRO	**Drossia**	**0.96**	**61**	P	**Pg**	**09 16 03.9**	**-0.5**
DRO				S	**Sb**	**09 16 17.5**	**+0.9**
DRO				AML	AML	09 16 21.7	
comp=E,6848μm,0.4s							
DRO				AML	AML	09 16 23.9	
comp=N,7544μm,0.5s							
FSK	**Fiskardo**	**0.96**	**356**	P	**Pg**	**09 16 04.2**	**-0.4**
FSK	**Fiskardo**	**0.96**	**356**	P	**Pg**	**09 16 04.2**	**-0.4**
FSK				S	**Sb**	**09 16 17.9**	**+1.2**
FSK				AML	AML	09 16 20.0	
comp=E,6423μm,0.2s							
FSK				AML	AML	09 16 22.3	
comp=N,5416μm,0.4s							
PYL	**PYLOS**	**1.06**	**124**	P	**Pb**	**09 16 06.1**	**+0.3**
PYL	**PYLOS**	**1.06**	**124**	P	**Pb**	**09 16 06.1**	**+0.3**
PYL				S	**Sg**	**09 16 20.4**	**+0.2**
PYL				AML	AML	09 16 23.6	
comp=N,1651μm,0.5s							
PYL				AML	AML	09 16 23.8	
comp=E,1842μm,0.4s							
ITM	**Ithomi**	**1.07**	**107**	P	**Pb**	**09 16 06.3**	**+0.4**
ITM	**Ithomi**	**1.07**	**107**	P	**Pb**	**09 16 06.3**	**+0.4**
ITM				S	**Sg**	**09 16 20.7**	**+0.2**
ITM				AML	AML	09 16 26.2	
comp=E,1468μm,0.4s							
ITM				AML	AML	09 16 26.4	
comp=N,1574μm,0.4s							
EVGI	**Lefkada island**	**1.12**	**0**	P	**Pb**	**09 16 06.9**	**0.0**
EVGI	**Lefkada island**	**1.12**	**0**	P	**Pb**	**09 16 06.9**	**0.0**
DRAG	**Dragano-Lefkad**	**1.19**	**357**	P	**Pb**	**09 16 07.8**	**-0.2**
LKD2	**Lefkada island**	**1.29**	**0**	P	**Pn**	**09 16 10.2**	**+0.9**
KLV	**Kalavryta, Ach**	**1.31**	**65**	P	**Pn**	**09 16 09.8**	**+0.2**
KLV				S	**Sn**	**09 16 27.9**	**+1.1**
KLV				AML	AML	09 16 37.5	
comp=E,980μm,0.7s							
KLV				AML	AML	09 16 38.6	
comp=N,1040μm,0.8s							
TSLK	**Tsoukalades, L**	**1.33**	**0**	P	**Pn**	**09 16 10.9**	**+1.1**
EFP	**Efpalio**	**1.36**	**47**	P	**Pn**	**09 16 10.6**	**+0.5**
EFP				S	**Sn**	**09 16 29.3**	**+1.5**
EFP				AML	AML	09 16 34.4	
comp=E,2261μm,0.6s							
EFP				AML	AML	09 16 37.7	
comp=N,1282μm,0.3s							
GUR	**Goura**	**1.41**	**71**	P	**Pn**	**09 16 11.3**	**+0.3**
GUR				S	**Sn**	**09 16 30.5**	**+1.2**
GUR				AML	AML	09 16 39.7	
comp=N,3460μm,0.5s							
GUR				AML	AML	09 16 39.9	
comp=E,2462μm,0.4s							
KALE	**Kalithea**	**1.48**	**52**	P	**Pn**	**09 16 12.5**	**+0.6**
KALE				S	**Sb**	**09 16 32.5**	**+0.9**
KALE				AML	AML	09 16 41.0	
comp=E,2579μm,0.4s							
KALE				AML	AML	09 16 42.0	
comp=N,1920μm,0.7s							
ANX	**Ano Chora**	**1.49**	**42**	P	**Pn**	**09 16 12.9**	**+0.9**
ANX				S	**Sb**	**09 16 32.7**	**+0.9**
ANX				AML	AML	09 16 40.2	
comp=N,3520μm,0.5s							
ANX				AML	AML	09 16 41.3	
comp=E,3850μm,0.6s							
EVR	**Evrytania**	**1.69**	**32**	P	**Pb**	**09 16 16.6**	**0.0**
IDI	**Anoyia**	**4.07**	**122**	Sn	**Sn**	**09 17 36.8**	**+2.0**
comp=E,2.5nm,0.3s,baz=323,slow=20,SNR=6.5							
HFS	**Hagfors**	**23.09**	**351**	P	**P**	**09 20 48.5**	**-2.1**
comp=E,3.4nm,0.9s,baz=162,slow=9.8,SNR=5.9							
comp=E,3.4nm,0.9s							
FINES	**FINESS Array B**	**24.21**	**6**	P	**P**	**09 21 00.6**	**-0.9**
comp=E,2.3nm,0.8s,baz=174,slow=9.5,SNR=8.8							
comp=E,2.3nm,0.8s							
KURBB	**Kurchatov Arra**	**42.56**	**53**	P	**P**	**09 23 39.0**	**-1.6**
comp=E,0.3nm,0.3s,baz=276,slow=8.4,SNR=3.5							
comp=E,0.3nm,0.3s							
MKAR	**Makanchi Array**	**45.58**	**58**	P	**P**	**09 24 03.5**	**-1.5**
comp=E,0.3nm,0.5s,baz=276,slow=7.4,SNR=5.3							
comp=E,0.3nm,0.5s							
ZALV	**Zalesovo Beam**	**46.07**	**48**	P	**P**	**09 24 07.5**	**-1.2**
comp=E,0.8nm,0.4s,baz=267,slow=9.8,SNR=3.9							
comp=E,0.8nm,0.4s							

*IDC **17** 09:16:45.3±4.1, 13°.01N×143°.81E, h161km±95km, mb3.3/4, mbtmp3.8/4, Error ellipse: s-maj=205.6km s-min=21.4km az=82.0*
*NEIC **17** 09:16:46.0±1.4, 13°.0N±0°.1×144°.0E±0°.2, h177km±14km, mb4.2/11, Error ellipse: s-maj=35.0km s-min=7.2km az=66.0*

ISC 17 09:16:44.1±0.8, 12°.9N±0°.1×143°.7E±0°.1, h150km, n17, σ1°26/18, mb3.9/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.35**	**59**		**Pn**	**09 17 13.6**	**+1.5**
GUMO	**Guam**	**1.35**	**59**	P	**Pn**	**09 17 13.4**	**+1.3**
266nm,0.2s,baz=180,slow=9.0,SNR=134							
GUMO				S	**Sn**	**09 17 33.4**	**-0.1**
60nm,0.3s,baz=187,slow=23,SNR=5.7							
JOW	**Kunigami**	**20.03**	**316**	P	**P**	**09 21 06.6**	**+1.2**
JNU	**Nakatsue**	**23.29**	**332**	P	**P**	**09 21 38.3**	**-0.3**
JNU				IAmb	IAmb	09 22 04.2	
comp=Z,12nm,1.1s							
JNU	**Nakatsue**	**23.29**	**332**	P	**P**	**09 21 38.8**	**+0.3**
comp=Z,28nm,1.3s,baz=170,slow=11,SNR=3.4							
comp=Z,28nm,1.3s							
YULB	**Yu-li**	**23.66**	**299**	P	**P**	**09 21 43.1**	**+1.1**
YULB				IAmb	IAmb	09 21 51.9	
comp=Z,8.0nm,0.9s							
MJB9	**Matsu-Tunnel**	**24.07**	**349**	P	**P**	**09 21 42.8**	**-2.8**
MJB9				IAmb	IAmb	09 21 45.7	
comp=Z,6.3nm,1.2s							
SSLB	**Suanglung**	**24.11**	**300**	P	**P**	**09 21 46.2**	**+0.2**
SSLB				IAmb	IAmb	09 22 11.4	
comp=Z,16nm,0.9s							
WB0	**Warramunga Arr**	**33.71**	**196**	P	**P**	**09 23 11.6**	**+0.4**
WR0	**Warramunga Arr**	**33.86**	**196**	P	**P**	**09 23 12.7**	**+0.2**
WR0				IAmb	IAmb	09 23 16.4	
comp=Z,2.0nm,1.1s							
WB2	**Warramunga Arr**	**33.89**	**196**	P	**P**	**09 23 14.4**	**+1.6**
WB2				IAmb	IAmb	09 23 30.1	
comp=Z,2.9nm,1.1s							
WRA	**Warramunga Arr**	**33.89**	**196**	P	**P**	**09 23 14.0**	**+1.2**
comp=Z,0.5nm,0.7s,baz=19,slow=9.4,SNR=5.0							
comp=Z,0.5nm,0.7s							
AS31	**Alice Springs**	**37.56**	**195**	P	**P**	**09 23 43.8**	**-0.3**
ASAR	**Alice Springs**	**37.56**	**195**	P	**P**	**09 23 44.4**	**+0.3**
ASAR	**Alice Springs**	**37.56**	**195**	P	**P**	**09 23 45.4**	**+1.4**
comp=Z,0.3nm,0.7s,baz=17,slow=12,SNR=5.8							
comp=Z,0.3nm,0.7s							
KOUNC	**Koumac, New Ca**	**38.92**	**148**	P	**P**	**09 23 53.7**	**-1.6**
MKAR	**Makanchi Array**	**61.20**	**317**	P	**P**	**09 26 42.5**	**-0.5**
comp=Z,0.5nm,0.8s,baz=91,slow=7.2,SNR=2.5							
comp=Z,0.5nm,0.8s							

*IDC **17** 09:21:51.9±1.1, 1°.78S×12°.95W, h0km, mb4.1/7, mbtmp4.1/8, ML3.5/1, MS3.4/12, Error ellipse: s-maj=65.7km s-min=21.5km az=126.0*

ISC 17 09:21:54.0±0.9, 1°.8S±0°.3×13°.0W±0°.3, h14km, n22, σ1°33/10, mb4.2/6, MS3.4/11, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.16**	**194**	T	T	09 29 55.0	
baz=16,slow=75,SNR=111							
H10N1	**ASCENSION HYDR**	**6.17**	**194**	T	T	09 29 50.7	
baz=16,slow=75,SNR=148							
H10N3	**ASCENSION HYDR**	**6.17**	**194**	T	T	09 29 48.9	
baz=16,slow=75,SNR=93							
DBIC	**Dimbokro**	**11.71**	**44**	Pn	**Pn**	**09 24 41.5**	**+0.7**
0.3nm,0.3s,baz=229,slow=13,SNR=3.7							
DBIC				Sn	**Sn**	**09 26 52.5**	**+1.1**
0.3nm,0.3s,baz=117,slow=21,SNR=5.6							
DBIC				LR	LR	09 28 21.9	
comp=Z,229nm,19.5s,baz=228,slow=34							
6.2nm,1.0s							
TORD	**Torodi Ar. Bea**	**20.82**	**44**	P	**P**	**09 26 32.7**	**-2.6**
6.0nm,0.6s,baz=235,slow=10.0,SNR=42							
TORD				LR	LR	09 33 46.7	
comp=Z,106nm,19.9s,baz=180,slow=34							
6.0nm,0.6s							
RCBR	**Riachuelo**	**23.19**	**259**	LR	LR	09 33 34.3	
comp=Z,29nm,20.8s,baz=74,slow=30							
BDFB	**Brasilia**	**37.15**	**246**	LR	LR	09 42 16.8	
comp=Z,43nm,20.4s,baz=6.8,slow=33							
MDP	**Montagnes des**	**40.19**	**280**	LR	LR	09 43 54.2	
comp=Z,57nm,18.8s,baz=72,slow=33							
LBTB	**Lobatse**	**43.78**	**125**	LR	LR	09 45 38.5	
comp=Z,31nm,18.8s,baz=334,slow=33							
BOSA	**Boshof**	**45.17**	**130**	LR	LR	09 45 35.9	
comp=Z,40nm,18.4s,baz=20,slow=32							
CPUP	**Villa Florida**	**49.04**	**236**	P	**P**	**09 30 41.6**	**+0.7**
0.8nm,0.6s,baz=66,slow=12,SNR=1.6							
CPUP				LR	LR	09 48 06.6	
comp=Z,38nm,21.6s,baz=36,slow=32							
0.8nm,0.6s							
KMBO	**Kilima Mbogo**	**50.24**	**90**	LR	LR	09 50 40.1	
comp=Z,104nm,18.8s,baz=282,slow=34							
PCRV	**Puerto La Cruz**	**52.76**	**284**	LR	LR	09 52 00.5	
comp=Z,49nm,19.0s,slow=34							
EIL	**Elat**	**55.45**	**52**	LR	LR	09 55 08.8	
comp=Z,61nm,19.6s,baz=248,slow=36							
GERES	**GERESS Array B**	**55.51**	**21**	P	**P**	**09 31 28.3**	**-0.4**
0.4nm,0.4s,baz=186,slow=8.9,SNR=3.8							
0.4nm,0.4s							
LPAZ	**La Paz**	**56.12**	**252**	LR	LR	09 54 07.6	
comp=Z,40nm,20.4s,baz=54,slow=34							
BRTR	**Keskin Array B**	**59.38**	**41**	P	**P**	**09 31 57.2**	**+0.9**
2.5nm,0.9s,baz=224,slow=6.9,SNR=7.2							
2.5nm,0.9s							
HFS	**Hagfors**	**65.18**	**14**	P	**P**	**09 32 35.0**	**+0.5**
1.0nm,0.7s,baz=168,slow=7.4,SNR=2.5							
1.0nm,0.7s							
FINES	**FINESS Array B**	**69.80**	**19**	P	**P**	**09 33 02.4**	**-1.3**
2.9nm,0.9s,baz=216,slow=8.6,SNR=4.0							
2.9nm,0.9s							
QSPA	**South Pole Qui**	**88.27**	**180**	P	**P**	**09 34 45.1**	**+0.2**
4.1nm,1.0s,baz=210,slow=3.1,SNR=6.6							
4.1nm,1.0s							
ASAR	**Alice Springs**	**139.04**	**130**	PKhKP	PKPpre	09 41 12.6	
0.2nm,0.5s,baz=229,slow=3.0,SNR=4.7							
WRA	**Warramunga Arr**	**141.35**	**126**	PKhKP	PKPpre	09 41 18.2	
0.2nm,0.5s,baz=226,slow=2.2,SNR=2.4							
WRA				PKP	**PKPdf**	**09 41 25.0**	**-0.5**
0.2nm,0.6s,baz=237,slow=2.7,SNR=5.7							

*IDC **17** 09:23:30.0±1.3, 37°.61N×20°.34E, h0km, mb3.7/7, mbtmp3.6/12, ML3.8/3, Error ellipse: s-maj=23.4km s-min=20.4km az=122.0*
*ATH **17** 09:23:31.9, 37°.56N×20°.42E, h9km±1km, ML3.7/16, Error ellipse: s-maj=1.4km s-min=0.7km az=16.0*
*THE **17** 09:23:31.9, 37°.53N×20°.43E, h8km±2km, ML3.6/2, Error ellipse: s-maj=2.5km s-min=0.6km az=48.0*
*BEO **17** 09:23:37.0±1.0, 38°.00N×20°.62E, h0km, ML3.5/8*

ISC 17 09:23:32.1±1.1, 37°.59N±0°.04×20°.42E±0°.03, h17km±7km, n66, σ1°33/94, mb3.7/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.32**	**77**	P	**Pg**	**09 23 38.6**	**-0.4**
KRI1				S	**Sg**	**09 23 43.2**	**-0.4**
LTHK	**Lithakia**	**0.35**	**70**	P	**Pg**	**09 23 38.9**	**-0.5**
LTHK				S	**Sg**	**09 23 44.5**	**+0.1**
22μm,0.2s							
LTHK	**Lithakia**	**0.35**	**70**	P	**Pg**	**09 23 39.1**	**-0.3**
LTHK				S	**Sg**	**09 23 43.9**	**-0.5**
LTHK				AML	AML	09 23 45.7	
comp=E,52996μm,0.2s							
LTHK				AML	AML	09 23 48.9	
comp=N,31838μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.54**	**14**	P	**Pg**	**09 23 43.1**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.54**	**14**	P	**Pg**	**09 23 43.1**	**+0.2**
PSDA				S	**Sg**	**09 23 50.1**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.56**	**30**	P	**Pg**	**09 23 43.3**	**+0.1**
RTZL				S	**Sb**	**09 23 52.4**	**+1.4**
comp=N,5μm,0.5s							
VLS	**Valsamata**	**0.60**	**13**	P	**Pg**	**09 23 44.2**	**+0.2**
VLS	**Valsamata**	**0.60**	**13**	P	**Pg**	**09 23 43.8**	**-0.2**
VLS				S	**Sg**	**09 23 52.1**	**+0.1**
VLS				AML	AML	09 23 58.4	
comp=N,21984μm,0.8s							
VLS				AML	AML	09 24 00.5	
comp=E,9747μm,0.

ANX				AML	AML	09 24 28.4	
	comp=E,7437μm,0.5s						
GUR	**Goura**	**1.56**	**77**	P	**Pb**	**09 24 00.4**	**-0.1**
GUR				S	**Sb**	**09 24 20.8**	**+0.8**
GUR				AML	AML	09 24 30.8	
	comp=N,2853μm,0.4s						
GUR				AML	AML	09 24 31.4	
	comp=E,2441μm,0.7s						
KALE	**Kalithea**	**1.57**	**59**	P	**Pb**	**09 24 00.6**	**-0.2**
KALE				S	**Sb**	**09 24 22.0**	**+1.6**
KALE				AML	AML	09 24 29.8	
	comp=N,4638μm,0.5s						
KALE				AML	AML	09 24 30.5	
	comp=E,2736μm,0.7s						
EVR	**Evrytania**	**1.71**	**39**	P	**Pb**	**09 24 03.9**	**+0.7**
EVR				S	**Sb**	**09 24 26.2**	**+1.7**
EVR				AML	AML	09 24 37.6	
	comp=E,2125μm,0.7s						
EVR				AML	AML	09 24 39.8	
	comp=N,2193μm,0.8s						
IGT	**Igoumenitsa**	**1.94**	**358**	P	**Pb**	**09 24 07.6**	**+0.6**
MAKR	**Makrakomi, Fth**	**1.95**	**43**	P	**Pb**	**09 24 07.3**	**0.0**
MAKR				S	**Sb**	**09 24 33.7**	**+2.4**
MAKR				AML	AML	09 24 44.0	
	comp=N,3574μm,0.8s						
MAKR				AML	AML	09 24 46.4	
	comp=E,3641μm,0.8s						
JAN	**Janina**	**2.09**	**9**	P	**Pb**	**09 24 09.4**	**-0.1**
AXAR	**Agios Charalam**	**2.12**	**56**	P	**Pb**	**09 24 09.6**	**-0.4**
KEK	**Kerkira**	**2.17**	**347**	P	**Pb**	**09 24 10.6**	**-0.3**
THL	**Klokotos Trika**	**2.33**	**32**	P	**Pb**	**09 24 12.4**	**-1.2**
FNA	**Florina**	**3.27**	**13**	*e*Pn	**Pn**	**09 24 24.6**	**+2.0**
OHR	**Ohrid**	**3.53**	**5**	*e*Pn	**Pn**	**09 24 27.9**	**+1.8**
IDI	**Anoyia**	**4.27**	**121**	Pn	**Pn**	**09 24 36.7**	**+0.3**
	comp=E,10nm,0.9s,baz=294,slow=20,SNR=0.9						
IDI				Sn	**Sn**	**09 25 25.5**	**-0.4**
	comp=E,4.6nm,0.3s,baz=331,slow=22,SNR=8.6						
SRS	**Serrai**	**4.29**	**34**	*e*Pn	**Pn**	**09 24 37.9**	**+1.3**
VAE	**Valguarnera**	**4.78**	**270**	Pn	**Pn**	**09 24 46.4**	**+3.0**
	comp=E,1.4nm,0.3s,baz=115,slow=21,SNR=1.8						
VAE				Sn	**Sn**	**09 25 35.7**	**-2.7**
	comp=E,2.1nm,0.3s,baz=185,slow=16,SNR=2.1						
BOSS	**Bosilegrad**	**5.14**	**17**	*e*Pn	**Pn**	**09 24 49.6**	**+1.3**
BARS	**Barje**	**5.33**	**11**	*e*Pn	**Pn**	**09 24 49.8**	**-1.0**
SELS	**Selova**	**5.64**	**5**	*e*Pn	**Pn**	**09 24 55.8**	**+0.6**
SELS				*e*Sn	**Sn**	**09 25 54.4**	**-5.2**
SJES	**Sjenica**	**5.67**	**357**	*e*Pn	**Pn**	**09 24 56.2**	**+0.5**
SJES				*e*Sn	**Sn**	**09 25 56.5**	**-3.9**
ZAPS	**Zavoj**	**5.92**	**16**	*e*Pn	**Pn**	**09 24 58.0**	**-1.0**
IVAS	**Ivanjica**	**5.98**	**358**	*e*Pn	**Pn**	**09 25 00.2**	**+0.3**
IVAS				*e*Sn	**Sn**	**09 26 04.7**	**-3.2**
BOVS	**Bovan**	**6.11**	**9**	*e*Pn	**Pn**	**09 25 03.3**	**+1.7**
GRUS	**Gruza**	**6.29**	**2**	*e*Pn	**Pn**	**09 25 05.9**	**+1.8**
BBLS	**Lazi&#263i**	**6.31**	**353**	*e*Pn	**Pn**	**09 25 04.6**	**+0.2**
BBLS				*e*Sn	**Sn**	**09 26 11.9**	**-4.3**
DIVS	**Divibare**	**6.51**	**357**	*e*Pn	**Pn**	**09 25 08.8**	**+1.7**
MLR	**Muntele Rosu**	**8.91**	**26**	Pn	**Pn**	**09 25 43.0**	**+3.0**
	comp=E,0.5nm,0.3s,baz=288,slow=12,SNR=8.1						
	comp=E,2.9nm,0.5s						
GERES	**GERESS Array B**	**12.26**	**339**	Pn	**Pn**	**09 26 26.8**	**+0.8**
	comp=E,0.1nm,0.3s,baz=149,slow=16,SNR=2.2						
	comp=E,0.6nm,0.5s						
AKASG	**Malin Array Be**	**14.53**	**23**	Pn	**Pn**	**09 26 56.8**	**0.0**
	comp=E,0.6nm,0.6s,baz=214,slow=12,SNR=2.4						
ESDC	**Sonseca Array**	**19.15**	**284**	P	**Pn**	**09 27 55.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=90,slow=12,SNR=4.5						
	comp=E,1.0nm,1.0s						
HFS	**Hagfors**	**22.96**	**351**	P	**P**	**09 28 34.1**	**-1.3**
	comp=E,2.4nm,0.7s,baz=162,slow=14,SNR=2.9						
	comp=E,2.4nm,0.7s						
EKA	**Eskdalemuir Ar**	**23.86**	**326**	P	**P**	**09 28 43.8**	**-0.5**
	comp=E,0.4nm,0.4s,baz=128,slow=8.1,SNR=2.5						
	comp=E,0.4nm,0.4s						
FINES	**FINESS Array B**	**24.14**	**7**	P	**P**	**09 28 46.1**	**-0.8**
	comp=E,5.0nm,0.9s,baz=189,slow=8.0,SNR=6.3						
	comp=E,5.0nm,0.9s						
NOA	**NORSAR Array B**	**24.18**	**349**	P	**P**	**09 28 47.0**	**-0.3**
	comp=E,1.6nm,1.1s,baz=164,slow=12,SNR=3.6						
	comp=E,1.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**29.53**	**219**	P	**P**	**09 29 36.2**	**+0.5**
	comp=E,0.7nm,0.5s,baz=22,slow=10.0,SNR=3.7						
	comp=E,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**42.64**	**53**	P	**P**	**09 31 26.6**	**-0.8**
	comp=E,0.2nm,0.5s,baz=279,slow=8.9,SNR=2.3						
	comp=E,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**46.14**	**48**	P	**P**	**09 31 57.6**	**+2.3**
	comp=E,1.0nm,0.4s,baz=276,slow=8.7,SNR=4.2						
	comp=E,1.0nm,0.4s						

*JMA **17** 09:39:04.3±0.2, 43°.2N±0°.5×145°.4E±0°.8, h77km±1km, MV2.9/38, NEMURO REGION*
*SKHL **17** 09:39:05.2±0.2, 43°.20N×145°.50E, h73km±2km, mb4.4/2*
ISC 17 09:39:04.6±1.7, 43°.23N±0°.06×145°.42E±0°.05, h74km±10km, n15, σ0§46/28, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.24**	**231**	*i* P	**Pn**	**09 39 16.1**	**+0.2**
JKHN				S	**Sn**	**09 39 24.6**	**+0.5**
NMR	**Nemuro--Hokkai**	**0.26**	**59**	*i* P	**Pn**	**09 39 16.0**	**0.0**
NMR				*e*S	**Sn**	**09 39 24.4**	**+0.1**
NEM2	**Nemuro 2**	**0.27**	**61**	P	**Pn**	**09 39 15.9**	**-0.1**
NEM2				S	**Sn**	**09 39 24.6**	**+0.2**
AKK	**Akkeshi**	**0.47**	**243**	*e*P	**Pn**	**09 39 17.4**	**-0.1**
AKK				*e*S	**Sn**	**09 39 26.7**	**-0.4**
JAK	**Akkeshi**	**0.58**	**246**	P	**Pn**	**09 39 18.4**	**-0.1**
JAK				S	**Sn**	**09 39 29.2**	**+0.4**
JNK	**Nakash**	**0.62**	**305**	P	**Pn**	**09 39 18.7**	**-0.3**
JNK				S	**Sn**	**09 39 28.8**	**-0.7**
JNSB	**Nemuroshibetsu**	**0.62**	**331**	*i* P	**Pn**	**09 39 18.8**	**-0.2**
JNSB				*e*S	**Sn**	**09 39 29.4**	**-0.2**
JRA	**Rausu**	**0.74**	**343**	P	**Pn**	**09 39 20.2**	**0.0**
JRA				S	**Sn**	**09 39 32.0**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**0.86**	**22**	*i* P	**Pn**	**09 39 21.7**	**+0.1**
YUK				AMB	AMB	09 39 22.2	
	350nm,0.2s						
YUK				*e*S	**Sn**	**09 39 34.1**	**-0.2**
YUK				A	A	09 39 35.4	
	950nm,0.5s						
YUK				A	A	09 39 35.4	
	2μm,0.5s						
JAR	**Ashorobuto**	**1.21**	**274**	P	**Pn**	**09 39 25.9**	**+0.1**
JAR				S	**Sn**	**09 39 41.9**	**+0.1**
JOB	**Onbets**	**1.21**	**255**	P	**Pn**	**09 39 26.1**	**+0.3**
JOB				S	**Sn**	**09 39 42.2**	**+0.4**
SHO	**Shikotan**	**1.21**	**58**	*e*P	**Pn**	**09 39 25.4**	**-0.4**
SHO				AMB	AMB	09 39 25.8	
	30nm,0.2s						
SHO				*e*S	**Sn**	**09 39 40.9**	**-0.9**
SHO				A	A	09 39 41.9	
	530nm,0.2s						
SHO				A	A	09 39 41.9	
	490nm,0.2s						
JTKR	**Abashiri--Toko**	**1.32**	**304**	P	**Pn**	**09 39 27.4**	**+0.1**
JCH	**Churui**	**1.63**	**248**	P	**Pn**	**09 39 31.2**	**-0.2**
JCH				S	**Sn**	**09 39 51.0**	**-0.7**
KUR	**Kuril'sk**	**2.66**	**41**	*e*S	**Sn**	**09 40 17.8**	**+1.4**

*IDC **17** 09:49:08.1±1.1, 20°.13N×121°.61E, h0km, mb3.7/5, mbtmp3.8/6, ML4.1/1, MS2.6/1, Error ellipse: s-maj=47.8km s-min=19.9km az=68.0*
*JMA **17** 09:49:14.9±0.4, 20°.N±2°.×121°.7E±0°.8, h38km, MV4.1/11, PHILIPPINE ISL REGION*
ISC 17 09:49:13.2±1.2, 20°.20N±0°.09×121°.72E±0°.09, h35km, n22, σ1§36/27, mb3.7/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**2.67**	**347**	P	**Pn**	**09 49 51.7**	**-2.1**
TWGBT	**Beinan**	**2.67**	**347**	P	**Pn**	**09 49 54.0**	**+0.2**
YULB	**Yu-li**	**3.20**	**353**	P	**Pn**	**09 50 02.3**	**+1.2**
YULB	**Yu-li**	**3.20**	**353**	P	**Pn**	**09 50 01.4**	**+0.3**
TPUB	**Ta-pu**	**3.25**	**342**	P	**Pn**	**09 50 03.6**	**+1.9**
SSLB	**Suanglung**	**3.64**	**349**	P	**Pn**	**09 50 08.8**	**+1.7**
SSLB	**Suanglung**	**3.64**	**349**	P	**Pn**	**09 50 09.8**	**+2.7**
NACB	**Ninganchiao**	**3.96**	**358**	P	**Pn**	**09 50 11.7**	**+0.2**
HATJ	**Hateruma jima**	**4.30**	**26**	P	**Pn**	**09 50 17.6**	**+1.5**
HATJ				S	**Sn**	**09 51 04.6**	**-0.5**
YHNB	**Yeheng**	**4.46**	**356**	P	**Pn**	**09 50 20.4**	**+1.9**
IRIF	**Iriomote-Funau**	**4.52**	**24**	P	**Pn**	**09 50 20.8**	**+1.7**
IRIF				S	**Sn**	**09 51 10.1**	**-0.3**
JKRS	**Kuro-shima**	**4.55**	**27**	P	**Pn**	**09 50 21.1**	**+1.6**
JKRS				S	**Sn**	**09 51 11.0**	**-0.2**
JIJ	**Ishigaki jima**	**4.71**	**28**	P	**Pn**	**09 50 22.8**	**+0.9**
JIJ				S	**Sn**	**09 51 14.0**	**-1.3**
JISG	**Ishigakijimahi**	**4.98**	**28**	P	**Pn**	**09 50 26.6**	**+1.1**
JISG				S	**Sn**	**09 51 20.6**	**-1.4**
JTJ	**Tarama**	**5.21**	**31**	P	**Pn**	**09 50 30.1**	**+1.5**
JTJ				S	**Sn**	**09 51 26.0**	**-1.6**
JOW	**Kunigami**	**8.93**	**41**	Pn	**Pn**	**09 51 20.5**	**+0.7**
	4.4nm,0.3s,baz=225,slow=14,SNR=18						
	11nm,0.3s						
CMAR	**Chiang Mai Arr**	**21.56**	**269**	LR	LR	10 01 14.3	
	comp=Z,16nm,19.6s,baz=55,slow=34						
MKAR	**Makanchi Array**	**41.60**	**319**	P	**P**	**09 56 57.3**	**-0.4**
	0.3nm,0.7s,baz=105,slow=8.0,SNR=2.0						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**41.76**	**162**	P	**P**	**09 56 58.1**	**-1.2**
	0.8nm,0.8s,baz=343,slow=9.2,SNR=9.2						
	0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**43.88**	**329**	P	**P**	**09 57 15.8**	**-0.3**
	0.5nm,0.4s,baz=112,slow=9.8,SNR=3.2						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**45.19**	**164**	P	**P**	**09 57 27.5**	**+0.6**
	0.6nm,0.4s,baz=349,slow=7.7,SNR=14						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**45.51**	**322**	P	**P**	**09 57 29.3**	**+0.1**
	0.4nm,0.3s,baz=126,slow=7.6,SNR=4.2						
	0.4nm,0.3s						

TRN 17 09:49:17.6, 18°.93N×62°.97W, h27km, MD3.7, North of Anguilla., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**1.60**	**172**	*e*P	Pb	09 49 45.9	-0.8
SKI				*e*S	Sb	09 50 06.7	+0.2
SKOC	**St. Kitts, UWI**	**1.65**	**172**	*e*P	Pb	09 49 46.7	-0.6
SKOC				*e*S	Sb	09 50 07.7	0.0
ANWB	**Willy Bob**	**1.69**	**138**	*e*P	Pb	09 49 48.0	0.0
ANWB				*e*S	Sb	09 50 08.4	-0.5
ANBD	**Bethesda, Anti**	**2.20**	**148**	*e*P	Pn	09 49 53.8	+1.3
ANBD				*e*S	Sn	09 50 21.0	+2.2
MBFL	**Flemmings, Mon**	**2.29**	**161**	*e*P	Pb	09 49 58.6	+0.3
AOPR	**Arecibo Observ**	**3.63**	**261**	*e*P	Pn	09 50 13.7	+1.4
AOPR				*e*S	Sn	09 50 56.0	+1.7

IDC 17 09:51:58.2±4.2, 6°.30S×148°.27E, h0km, mb2.8/1, mbtmp2.9/3, ML2.2/2, Error ellipse: s-maj=130.5km s-min=37.4km az=103.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.28**	**199**	Pn	Pn	09 52 52.5	+1.5
	3.2nm,0.3s,baz=31,slow=10,SNR=8.7						
PMG				Sn	Sn	09 53 31.1	+0.4
	4.3nm,0.3s,baz=140,slow=20,SNR=9.2						
	7.2nm,0.3s						
WRA	**Warramunga Arr**	**19.16**	**224**	P	P	09 56 22.8	-0.6
	baz=51,slow=11,SNR=1.6						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**22.11**	**217**	P	P	09 56 55.4	-0.1
	0.3nm,0.6s,baz=54,slow=9.4,SNR=4.6						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**146.38**	**284**	PKPbc	PKPdf	10 11 41.2	+0.2
	0.3nm,0.5s,baz=74,slow=2.6,SNR=2.0						

*IDC **17** 09:56:59.7±0.9, 56°.59N×168°.57W, h0km, mb3.8/10, mbtmp3.8/13, ML3.3/3, Error ellipse: s-maj=29.3km s-min=16.9km az=9.0*
*AEIC **17** 09:57:00.6±1.2, 56°.56N±0°.06×168°.67W±0°.07, h32km±6km, Error ellipse: s-maj=8.8km s-min=5.1km az=203.0*
*NEIC **17** 09:57:01.6±1.2, 56°.58N±0°.05×168°.62W±0°.09, h20km±7km, mb3.7/10, mb_Lg3.5/16, ML4.2/12, ML4.0(AEIC), Error ellipse: s-maj=8.7km s-min=5.4km az=219.0*
ISC 17 09:57:03.9±0.5, 56°.58N±0°.05×168°.67W±0°.05, h35km, n134, σ1§45/133, mb4.1/11, Pribilof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P08K	**Saint George I**	**0.49**	**273**		**Pn**	**09 57 11.2**	**-3.2**
P08K					**Sn**	**09 57 19.5**	**-2.1**
SPIA	**Saint Paul Isl**	**1.05**	**305**		**Pn**	**09 57 21.1**	**-1.0**
SPIA	**Saint Paul Isl**	**1.05**	**305**		**Sn**	**09 57 37.1**	**+1.5**
AKGG	**Akutan Green G**	**2.83**	**146**		**Pn**	**09 57 45.6**	**-0.9**
LVA	**Lava Point**	**2.85**	**147**		**Pn**	**09 57 45.9**	**-0.9**
LVA				IAmb_Lg		09 58 30.6	
	comp=Z,174nm,0.7s						
LVA				IAML		09 58 44.8	
	comp=E,746nm,0.6s						
MTBL	**Makushin Table**	**2.85**	**156**		**Pn**	**09 57 46.1**	**-0.8**
AKRB	**Akutan Reef Bi**	**2.87**	**148**		**Pn**	**09 57 46.5**	**-0.6**
MSW	**Makushin Switc**	**2.88**	**157**		**Pn**	**09 57 45.7**	**-1.5**
MSW					**Sn**	**09 58 20.5**	**-0.1**
AKV	**Akutan Volcano**	**2.90**	**147**		**Pn**	**09 57 46.5**	**-1.1**
AKMO	**Akutan Morgan**	**2.92**	**148**		**Pn**	**09 57 47.5**	**-0.3**
ZRO	**Akutan Zero**	**2.93**	**147**		**Pn**	**09 57 46.7**	**-1.2**
AKBBA	**Akutan Broad B**	**2.94**	**147**		**Pn**	**09 57 46.9**	**-1.1**
MAPS	**Pakushin South**	**2.95**	**160**		**Pn**	**09 57 47.1**	**-1.1**
AHB	**Akutan Harbor**	**2.96**	**145**		**Pn**	**09 57 47.8**	**-0.5**
AKSA	**Akutan Strait**	**2.98**	**144**		**Pn**	**09 57 48.0**	**-0.5**
WEBT	**Westdahl Beart**	**2.98**	**130**		**Pn**	**09 57 47.3**	**-1.3**
MREP	**Makushin Rep't**	**2.98**	**158**		**Pn**	**09 57 46.9**	**-1.8**
UNV	**Unalaska Valle**	**3.01**	**155**		**Pn**	**09 57 47.6**	**-1.3**
UNV	**Unalaska Valle**	**3.01**	**155**		**Sn**	**09 58 23.9**	**+0.2**
UNV	**Unalaska Valle**	**3.01**	**155**	P	**Pn**	**09 57 47.8**	**-1.1**
WECS	**Westdahl Cape**	**3.02**	**131**		**Pn**	**09 57 48.0**	**-1.1**
WESE	**West Dahl East**	**3.14**	**131**		**Pn**	**09 57 49.4**	**-1.4**
ISNN	**Isanotski Nort**	**3.27**	**120**		**Pn**	**09 57 51.4**	**-1.2**
ISLZ	**Isanotski Laza**	**3.37**	**121**		**Pn**	**09 57 52.6**	**-1.3**
FALS	**False Pass**	**3.43**	**118**		**Pn**	**09 57 53.3**	**-1.5**
FALS	**False Pass**	**3.43**	**118**	P	**Pn**	**09 57 54.2**	**-0.6**
NIKH	**Nikolski High**	**3.62**	**182**		**Pn**	**09 57 56.2**	**-1.2**
NIKH	**Nikolski High**	**3.62**	**182**	P	**Pn**	**09 57 57.4**	**+0.1**
S12K	**Black Hills**	**3.80**	**101**		**Pn**	**09 57 57.8**	**-2.0**
S12K				IAmb_Lg		09 59 01.9	
	comp=Z,120nm,0.8s						
S12K				IAML		09 59 29.7	
	comp=E,257nm,0.7s						
PN7A	**Pavlof North-7**	**3.92**	**104**		**Pn**	**09 58 00.9**	**-0.6**
M11K	**Mekoryuk**	**4.03**	**18**		**Pn**	**09 58 01.0**	**-1.9**
PS1A	**Pavlof South-1**	**4.06**	**104**		**Pn**	**09 58 02.9**	**-0.4**
M13K	**Dall Lake**	**4.75**	**34**	Pn	**Pn**	**09 58 11.4**	**-1.4**
M13K				IAML		09 59 42.5	
	comp=E,272nm,0.8s						
M13K				IAML		09 59 54.5	
	comp=N,255nm,1.2s						
O14K	**Tigyukauivet M**	**4.77**	**53**		**Pn**	**09 58 11.1**	**-2.0**
O14K				IAML		09 59 38.8	
	comp=E,207nm,1.1s						
O14K				IAML		09 59 50.0	
	comp=N,254nm,0.9s						
N14K	**Kuskokwak Cree**	**4.98**	**45**		**Pn**	**09 58 15.4**	**-0.6**
O15K	**Ungalikthiuk R**	**5.39**	**57**		**Pn**	**09 58 20.5**	**-1.2**
CHNA	**Chernabura Isl**	**5.42**	**105**	P	**Pn**	**09 58 22.7**	**+0.6**
CNBA	**Chernabura Isl**	**5.43**	**105**	Pn	**Pn**	**09 58 20.0**	**-2.2**
ATKA	**Atka Island**	**5.45**	**219**	P	**Pn**	**09 58 24.7**	**+2.3**
M14K	**Bethel**	**5.45**	**37**		**Pn**	**09 58 21.0**	**-1.4**
M14K				IAmb_Lg		10 00 03.8	
	comp=Z,126nm,0.9s						
L14K	**Kuka Creek**	**5.69**	**30**		**Pn**	**09 58 23.4**	**-2.3**
L14K				IAmb_Lg		10 00 17.4	
	comp=Z,100nm,1.2s						
CHGN	**Chignik**	**5.69**	**89**	Pn	**Pn**	**09 58 24.5**	**-1.4**
K13K	**Kusilvak Mount**	**5.75**	**19**	IAmb_Lg		10 00 15.1	
	comp=Z,82nm,1.0s						
N15K	**Kwethluk River**	**5.77**	**48**		**Pn**	**09 58 25.8**	**-1.1**
N15K				IAmb_Lg		10 00 17.2	
	comp=Z,84nm,0.8s						
M15K	**Kasigluk River**	**5.86**	**42**		**Pn**	**09 58 26.7**	**-1.4**
P16K	**Nushagak River**	**6.21**	**62**		**Pn**	**09 58 32.2**	**-0.7**
L15K	**Ungalak Mounta**	**6.30**	**33**		**Pn**	**09 58 33.0**	**-1.2**
O16K	**Kokwok River B**	**6.37**	**57**		**Pn**	**09 58 33.9**	**-1.1**
N16K	**Nishlik Lake**	**6.49**	**49**		**Pn**	**09 58 35.4**	**-1.3**
ADK	**Adak**	**6.65**	**228**	Pn	**Pn**	**09 58 38.7**	**-0.2**
ADK	**Adak**	**6.65**	**228**	P	**Pn**	**09 58 39.1**	**+0.2**
J14K	**Nanvaranak Lak**	**6.71**	**21**	Pn	**Pn**	**09 58 39.1**	**-0.6**
J14K				IAmb_Lg		10 00 52.5	
	comp=Z,39nm,1.0s						
M16K	**Timber Creek**	**6.72**	**45**		**Pn**	**09 58 39.0**	**-1.0**
M16K				IAmb_Lg		10 00 44.5	
	comp=Z,36nm,0.8s						
K15K	**Wolf Creek Mou**	**6.79**	**29**	Pn	**Pn**	**09 58 39.3**	**-1.5**
PLK4	**Peulik 4**	**6.79**	**76**	Pn	**Pn**	**09 58 39.7**	**-1.2**
KIWB	**Kanaga Island**	**6.87**	**230**	Pn	**Pn**	**09 58 39.6**	**-2.4**
L16K	**Owhat River**	**6.98**	**39**		**Pn**	**09 58 42.3**	**-1.2**
CNTC	**Contact Creek**	**7.11**	**71**		**Pn**	**09 58 42.6**	**-2.7**
N17K	**Nushagak Hills**	**7.19**	**52**	Pn	**Pn**	**09 58 45.5**	**-0.8**
ANCK	**Angle Creek**	**7.30**	**72**		**Pn**	**09 58 46.7**	**-1.2**
CHIR	**Chirikof Islan**	**7.32**	**91**	Pn	**Pn**	**09 58 45.5**	**-2.6**
GAMB	**Gambell**	**7.38**	**349**		**Pn**	**09 58 48.0**	**-0.8**
ACHA	**Angle Creek He**	**7.39**	**72**		**Pn**	**09 58 47.6**	**-1.6**
KAKN	**Katmai Knife C**	**7.54**	**71**		**Pn**	**09 58 50.2**	**-1.1**
M17K	**Holitna River**	**7.54**	**46**		**Pn**	**09 58 50.0**	**-1.2**
L17K	**Donlin**	**7.68**	**39**		**Pn**	**09 58 51.9**	**-1.1**
O18K	**Koktuh Hills**	**7.82**	**60**	Pn	**Pn**	**09 58 54.4**	**-0.7**
N18K	**Kilae Creek**	**7.83**	**53**	Pn	**Pn**	**09 58 53.5**	**-1.6**
KAHG	**Katmai Hook Gl**	**7.84**	**70**		**Pn**	**09 58 54.8**	**-0.5**
J16K	**Anvik River**	**7.84**	**28**	Pn	**Pn**	**09 58 54.6**	**-0.7**
SII	**Sitkinak Islan**	**8.00**	**84**	P	**Pn**	**09 59 00.6**	**+3.1**
K17K	**Iditarod**	**8.08**	**36**		**Pn**	**09 58 57.8**	**-0.8**
M18K	**Stony River**	**8.24**	**48**		**Pn**	**09 58 59.5**	**-1.2**
L18K	**Granite Mounta**	**8.32**	**42**		**Pn**	**09 59 00.6**	**-1.2**
J17K	**VABM Dome**	**8.35**	**31**	Pn	**Pn**	**09 59 00.7**	**-1.5**
Q19K	**Cape Douglas,**	**8.37**	**67**	Pn	**Pn**	**09 59 00.8**	**-1.8**
OHAK	**Old Harbor**	**8.44**	**79**	Pn	**Pn**	**09 59 02.5**	**-1.0**
OHAK	**Old Harbor**	**8.44**	**79**	P	**Pn**	**09 59 04.6**	**+1.1**
N19K	**Bonanza Creek**	**8.51**	**54**		**Pn**	**09 59 03.4**	**-1.1**
KDAK	**Kodiak Island**	**8.82**	**75**	Pn	**Pn**	**09 59 09.8**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=331,slow=13,SNR=2.4						
	comp=Z,12nm,0.9s						
L19K	**White Mountain**	**9.00**	**46**	Pn	**Pn**	**09 59 09.8**	**-1.4**
M19K	**Big River Lodg**	**9.04**	**48**		**Pn**	**09 59 10.4**	**-1.4**
J18K	**Innoko River**	**9.12**	**36**	Pn	**Pn**	**09 59 12.3**	**-0.5**
M20K	**Styx River**	**9.56**	**50**	Pn	**Pn**	**09 59 17.8**	**-1.1**
SPU	**Mount Spurr**	**9.75**	**55**	Pn	**Pn**	**09 59 19.9**	**-1.5**
J19K	**Poorman**	**9.84**	**36**		**Pn**	**09 59 21.9**	**-0.7**
SUA	**Susitna One**	**10.44**	**55**	Pn	**Pn**	**09 59 27.6**	**-3.3**
J20K	**Nowinta River**	**10.45**	**37**	Pn	**Pn**	**09 59 29.7**	**-1.3**
CAST	**Castle Rocks**	**10.74**	**44**	Pn	**Pn**	**09 59 33.9**	**-1.1**
H21K	**Melozitna Rive**	**11.86**	**33**	Pn	**Pn**	**09 59 49.7**	**-0.5**
D19K	**Kuna River**	**12.88**	**18**	Pn	**Pn**	**10 00 02.4**	**-1.7**
N25K	**Chitina, Valde**	**13.31**	**58**	Pn	**Pn**	**10 00 07.5**	**-2.6**
ILAR	**Eielson Array**	**13.39**	**43**	Pn	**Pn**	**10 00 13.1**	**+1.9**
	baz=243,slow=11,SNR=7.6						
H24K	**Noodor Dome**	**13.58**	**38**	Pn	**Pn**	**10 00 12.1**	**-1.6**
J25K	**Salcha River,**	**13.91**	**45**	Pn	**Pn**	**10 00 16.4**	**-1.8**
G24K	**Hadweenzic Riv**	**14.20**	**36**	Pn	**Pn**	**10 00 20.7**	**-1.5**
SCRK	**Sand Creek**	**14.23**	**49**	Pn	**Pn**	**10 00 21.4**	**-1.2**
D22K	**Ayikyak River**	**14.28**	**24**	Pn	Pn	10 00 18.4	-4.8
E23K	**Chandalar**	**14.43**	**29**	Pn	**Pn**	**10 00 25.3**	**0.0**
GRNC	**Granite Creek**	**14.55**	**62**	Pn	**Pn**	**10 00 25.4**	**-1.8**
F24K	**Squaw Lake**	**14.57**	**33**	Pn	**Pn**	**10 00 26.8**	**-0.4**
J26L	**Joseph Creek**	**14.59**	**47**	Pn	**Pn**	**10 00 26.1**	**-1.4**
M27K	**Edge Creek, AK**	**14.72**	**56**	Pn	**Pn**	**10 00 25.8**	**-3.5**
E24K	**Your Creek**	**14.75**	**31**	Pn	**Pn**	**10 00 29.0**	**-0.7**
CTGM	**Chitina Glacie**	**14.78**	**61**	Pn	**Pn**	**10 00 29.2**	**-0.9**
L27K	**Beaver Creek,**	**14.89**	**53**	Pn	**Pn**	**10 00 31.4**	**-0.2**
BCAR	**Beaver Creek A**	**14.91**	**53**	Pn	**Pn**	**10 00 29.6**	**-2.2**
F25K	**Christian Rive**	**15.30**	**35**	Pn	**Pn**	**10 00 35.8**	**-1.2**
F25K				IAmb	IAmb	10 00 49.3	
	comp=Z,4.8nm,1.0s						
BMAR	**Burnt Mountain**	**15.55**

KNRA	**Kununurra**	**29.57**	**117**	P	**P**	**10 06 43.2**	**-2.1**
KNRA				IAmb	IAmb	10 06 49.2	
	comp=Z,10nm,1.1s						
WB0	**Warramunga Arr**	**36.10**	**120**	P	**P**	**10 07 41.7**	**-0.7**
WB0				IAmb	IAmb	10 07 43.9	
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**36.12**	**120**	P	**P**	**10 07 40.9**	**-1.6**
WRA	**Warramunga Arr**	**36.12**	**120**	P	**P**	**10 07 41.6**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=302,slow=9.0,SNR=5.1						
	comp=Z,1.3nm,0.5s						
WRAB	**Tennant Creek**	**36.12**	**120**	P	**P**	**10 07 42.5**	**-0.1**
WRAB				IAmb	IAmb	10 07 46.4	
	comp=Z,4.0nm,1.1s						
WB2	**Warramunga Arr**	**36.13**	**120**	P	**P**	**10 07 41.9**	**-0.7**
WB2				IAmb	IAmb	10 07 55.3	
	comp=Z,1.9nm,0.8s						
WR0	**Warramunga Arr**	**36.30**	**120**	P	**P**	**10 07 43.4**	**-0.7**
WR0				IAmb	IAmb	10 07 44.6	
	comp=Z,2.3nm,0.8s						
AS31	**Alice Springs**	**37.39**	**126**	P	**P**	**10 07 52.8**	**-0.6**
ASAR	**Alice Springs**	**37.39**	**126**	P	**P**	**10 07 52.5**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=300,slow=7.9,SNR=41						
ASAR				PcP	**PcP**	**10 10 11.1**	**-0.8**
	comp=Z,0.2nm,0.8s,baz=318,slow=2.5,SNR=2.1						
	comp=Z,1.1nm,0.3s						
CTAO	**Charters Tower**	**46.73**	**115**	P	**P**	**10 09 09.4**	**-0.3**
CTAO				IAmb	IAmb	10 09 10.4	
	comp=Z,4.4nm,1.1s						
SONM	**Songino Array**	**50.77**	**4**	P	**P**	**10 09 41.4**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=187,slow=5.8,SNR=2.4						
	comp=Z,0.5nm,0.4s						
MK31	**Makanchi Array**	**52.40**	**343**	P	**P**	**10 09 52.7**	**+0.3**
MK31				IAmb	IAmb	10 10 09.0	
	comp=Z,2.6nm,1.1s						
MKAR	**Makanchi Array**	**52.40**	**343**	P	**P**	**10 09 52.1**	**-0.3**
MKAR	**Makanchi Array**	**52.40**	**343**	P	**P**	**10 09 52.8**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=155,slow=9.0,SNR=11						
	comp=Z,1.1nm,0.6s						
USRK	**Ussuriysk Ar.**	**54.27**	**27**	P	**P**	**10 10 07.2**	**+1.1**
	comp=Z,2.6nm,0.8s,baz=199,slow=7.6,SNR=4.1						
	comp=Z,2.6nm,0.8s						
KURBB	**Kurchatov Arra**	**56.94**	**343**	P	**P**	**10 10 25.3**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=152,slow=7.6,SNR=4.1						
	comp=Z,0.3nm,0.3s						
ZAA0	**Zalesovo Array**	**58.42**	**348**	P	**P**	**10 10 35.7**	**+0.1**
ZALV	**Zalesovo Beam**	**58.42**	**348**	P	**P**	**10 10 35.5**	**0.0**
	comp=Z,1.6nm,0.4s,baz=164,slow=5.5,SNR=11						
	comp=Z,1.6nm,0.4s						
H04N2	**CROZET ISLANDS**	**60.99**	**217**	T	T	11 15 55.7	
	baz=60,slow=75,SNR=40						
H04N1	**CROZET ISLANDS**	**61.00**	**217**	T	T	11 15 56.1	
	baz=60,slow=75,SNR=38						
H04N3	**CROZET ISLANDS**	**61.01**	**217**	T	T	11 15 54.7	
	baz=60,slow=75,SNR=34						
H04S1	**CROZET ISLANDS**	**61.26**	**217**	T	T	11 16 13.1	
	baz=59,slow=75,SNR=4.8						
H04S3	**CROZET ISLANDS**	**61.27**	**217**	T	T	11 16 11.8	
	baz=59,slow=75,SNR=8.3						
H04S2	**CROZET ISLANDS**	**61.27**	**217**	T	T	11 16 16.6	
	baz=59,slow=75,SNR=4.8						
ABKAR	**Akbulak array**	**63.26**	**331**	P	**P**	**10 11 07.8**	**-0.8**
TXAR	**Lajitas Array**	**144.45**	**40**	PKP	PKPbc	10 20 15.8	+0.3
	comp=Z,0.6nm,0.7s,baz=300,slow=1.3,SNR=9.2						

*TEH **17** 10:05:10.6, 30.88N×51.53E, h8km±25km, ML3.4*
*IDC **17** 10:05:11.8±2.5, 31.00N×51.18E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=60.8km s-min=27.5km az=157.0*
*OMAN **17** 10:05:14.6±1.4, 30.58N×51.57E, h10km, mb4.3/20, ms2.2/1, Error ellipse: s-maj=12.3km s-min=8.9km az=1.0*
*DSN **17** 10:05:17.2±1.8, 30.34N×51.49E, h15km, ML3.3/9, Error ellipse: s-maj=23.7km s-min=8.8km az=10.0*

ISC 17 10:05:10.6±1.4, 30.84N±0.04×51.53E±0.05, h5km±10km, n66, σ1.9°69/86, mb3.7/6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNJ	**Kolanjah**	**0.18**	**19**	Pg	**Pb**	**10 05 13.9**	**-0.3**
IBRJ	**Brojen**	**1.09**	**348**	Pg	**Pb**	**10 05 30.7**	**-1.4**
ABEH	**Behbahan**	**1.12**	**258**	Pg	**Pn**	**10 05 32.9**	**-0.1**
IRAM	**Ramesheh**	**1.21**	**37**	Pg	**Pn**	**10 05 33.5**	**-0.9**
KAZ2	**Kazeron-Fars-I**	**1.23**	**174**	Pg	**Pn**	**10 05 34.2**	**-0.3**
ZNGN	**Zangian**	**1.40**	**336**	Pg	**Pn**	**10 05 36.6**	**-0.5**
SHI	**Shiraz**	**1.47**	**144**	Pg	**Pn**	**10 05 38.2**	**+0.4**
JHBN	**Jahan bin**	**1.57**	**332**	Pg	**Pn**	**10 05 39.3**	**-0.1**
IGAR	**Gharneh**	**1.62**	**16**	Pg	**Pb**	**10 05 40.8**	**-0.4**
IPIR	**Pirpir**	**1.92**	**344**	Pn	**Pb**	**10 05 45.7**	**-0.5**
AHBU	**AHRAM**	**1.98**	**186**	Pn	**Pb**	**10 05 47.5**	**+0.4**
ISAD	**Sadrabad**	**2.14**	**59**	Pn	**Pg**	**10 05 51.3**	**-0.3**
IZEF	**Zefreh**	**2.16**	**18**	Pn	**Pg**	**10 05 51.5**	**-0.6**
DSBU	**Dashti - Bushe**	**2.48**	**185**	Pn	**Pn**	**10 05 55.1**	**+3.4**
KRSH	**Karshahi**	**3.16**	**9**	Pn	**Pn**	**10 06 03.2**	**+2.0**
ISFB	**Sefidab**	**3.56**	**10**	Pn	**Pn**	**10 06 08.3**	**+1.7**
IVRN	**Varamin**	**4.15**	**2**	Pn	**Pn**	**10 06 16.7**	**+2.1**
HSAM	**Samen**	**4.17**	**324**	Pn	**Pn**	**10 06 16.5**	**+1.4**
HAGD	**Aghdareh**	**4.45**	**334**	Pn	**Pn**	**10 06 20.3**	**+1.4**
NGRK	**Negar Kerman**	**4.66**	**103**	Pn	**Pn**	**10 06 24.1**	**+2.1**
SAKB	**Bahrain**	**4.92**	**190**	P	**Pn**	**10 06 26.5**	**+1.3**
SAKB				S	**Sn**	**10 07 22.7**	**+0.2**
SHMA	**Al-Shehemyia**	**4.99**	**186**	P	**Pn**	**10 06 28.9**	**+2.8**
	SNR=10.0						
SHMA				S	**Sn**	**10 07 25.0**	**+0.9**
ILBA	**Ilam Banvizeh**	**5.29**	**303**	Pn	**Pn**	**10 06 31.9**	**+1.5**
JRN	**Qarnain Island**	**5.99**	**168**	P	**Pn**	**10 06 39.8**	**-0.1**
TRNA	**Turayna**	**6.09**	**183**	P	**Pn**	**10 06 43.7**	**+2.5**
TRNA				S	**Sn**	**10 07 51.7**	**+0.4**
SHME	**Shamm**	**6.27**	**138**	P	**Pn**	**10 06 44.4**	**+0.7**
SHME	**Shamm**	**6.27**	**138**	P	**Pn**	**10 06 45.4**	**+1.7**
SLWR	**Sila**	**6.75**	**179**	P	**Pn**	**10 06 51.9**	**+1.6**
SLWR				S	**Sn**	**10 08 07.0**	**-0.5**
MASF	**Masafi**	**6.81**	**142**	P	**Pn**	**10 06 51.8**	**+0.6**
	SNR=6.1						
MASF				S	**Sn**	**10 08 09.3**	**0.0**
MSFE	**Esma-Masafi**	**6.82**	**142**	P	**Pn**	**10 06 51.6**	**+0.2**
MSFE				S	**Sn**	**10 08 05.8**	**-3.7**
NAZ	**Nazwa, Dubai**	**6.88**	**147**	P	**Pn**	**10 06 54.1**	**+1.9**
NAZ				S	**Sn**	**10 08 10.9**	**0.0**
MDH	**Madha**	**6.95**	**141**	P	**Pn**	**10 06 52.8**	**-0.2**
MDH	**Madha**	**6.95**	**141**	P	**Pn**	**10 06 53.2**	**+0.2**
	SNR=6.5						
MDH				S	**Sn**	**10 08 11.4**	**-1.0**
ASUD	**Al Ashush, Dub**	**7.05**	**151**	P	**Pn**	**10 06 56.1**	**+1.6**
ASUD	**Al Ashush, Dub**	**7.05**	**151**	P	**Pn**	**10 06 56.4**	**+2.0**
ASUD				S	**Sn**	**10 08 16.2**	**+1.3**
FAQ	**Al Faqa, Dubai**	**7.06**	**148**	P	**Pn**	**10 06 56.2**	**+1.6**
FAQ				S	**Sn**	**10 08 13.9**	**-1.3**
UOSS	**Minazif**	**7.18**	**144**	P	**Pn**	**10 06 56.2**	**-0.1**
UOSS	**Minazif**	**7.18**	**144**	P	**Pn**	**10 06 57.5**	**+1.2**
UOSS				S	**Sn**	**10 08 18.4**	**+0.1**
HATD	**Hatta, Dubai**	**7.25**	**145**	P	**Pn**	**10 06 58.8**	**+1.6**
HATD	**Hatta, Dubai**	**7.25**	**145**	P	**Pn**	**10 06 59.6**	**+2.4**
HATD				S	**Sn**	**10 08 18.7**	**-1.2**
ASHO	**Ashiyiah**	**7.33**	**146**	P	**Pn**	**10 06 58.5**	**+0.1**
ASHO	**Ashiyiah**	**7.33**	**146**	P	**Pn**	**10 06 59.0**	**+0.7**
	SNR=10						
ASHO				S	**Sn**	**10 08 20.8**	**-1.2**
MZR	**Muzera**	**8.00**	**167**	P	**Pn**	**10 07 06.9**	**-0.6**
MZR	**Muzera**	**8.00**	**167**	P	**Pn**	**10 07 08.2**	**+0.7**
MZR				P	**Pn**	**10 07 08.2**	**+0.7**
SOHO	**SOHO**	**8.02**	**145**	P	**Pn**	**10 07 06.9**	**-0.9**
SOHO	**SOHO**	**8.02**	**145**	P	**Pn**	**10 07 07.4**	**-0.5**
SOHO				S	**Sn**	**10 08 36.0**	**-3.0**
UMZA	**Um Al Zommool**	**8.72**	**157**	P	**Pn**	**10 07 18.3**	**+0.9**
UMZA				S	**Sn**	**10 08 53.7**	**-2.4**
RAYN	**Ar Rayn**	**9.04**	**218**	P	**Pn**	**10 07 21.5**	**-0.4**
RAYN	**Ar Rayn**	**9.04**	**218**	P	**Pn**	**10 07 21.9**	**0.0**
RAYN				S	**Sn**	**10 09 01.8**	**-2.5**
BSY	**Bisya**	**9.52**	**147**	P	**Pn**	**10 07 29.2**	**+0.7**
SMDO	**Samad**	**9.69**	**142**	P	**Pn**	**10 07 32.1**	**+1.3**
SMDO				S	**Sn**	**10 09 17.8**	**-2.3**
NGCH	**Negor - Chabah**	**10.09**	**120**	P	**Pn**	**10 07 36.0**	**-0.2**
JMDO	**Jabal Madar**	**10.28**	**144**	P	**Pn**	**10 07 39.1**	**+0.3**
WBK	**Wadi Bani Khal**	**10.55**	**139**	P	**Pn**	**10 07 42.3**	**-0.2**
JLN	**Jalan Bani Buh**	**11.16**	**139**	P	**Pn**	**10 07 53.2**	**+2.3**
MHTO	**MHTO**	**11.39**	**148**	P	**Pn**	**10 07 53.1**	**-0.9**
MHTO				S	**Sn**	**10 09 55.8**	**-6.0**
DOK	**Doka**	**12.39**	**168**	P	**Pn**	**10 08 06.0**	**-1.7**
WHFO	**Wadi Hawf**	**13.02**	**170**	P	**Pn**	**10 08 14.1**	**-2.3**
WHFO				S	**Sn**	**10 10 37.3**	**-4.5**
DMTO	**DMTO**	**13.43**	**166**	P	**Pn**	**10 08 19.4**	**-2.5**
ABTO	**Aybut**	**13.52**	**173**	P	**Pn**	**10 08 21.9**	**-1.3**
AKASG	**Malin Array Be**	**25.88**	**326**	P	**P**	**10 10 41.8**	**-1.3**
	0.5nm,0.4s,baz=137,slow=9.2,SNR=4.4						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**26.08**	**26**	P	**P**	**10 10 46.8**	**+1.8**
	1.0nm,0.5s,baz=232,slow=7.1,SNR=4.6						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**28.55**	**47**	P	**P**	**10 11 09.8**	**+2.6**
	0.2nm,0.4s,baz=241,slow=9.0,SNR=1.7						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**33.24**	**36**	P	**P**	**10 11 51.2**	**+2.8**
	0.5nm,0.5s,baz=251,slow=9.0,SNR=2.0						
	0.5nm,0.5s						
HFS	**Hagfors**	**38.59**	**331**	P	**P**	**10 12 34.4**	**+0.1**
	0.9nm,0.5s,baz=139,slow=9.4,SNR=2.1						
	0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**49.02**	**260**	P	**P**	**10 13 58.6**	**-0.1**
	0.6nm,0.8s,baz=51,slow=9.4,SNR=3.9						
	0.6nm,0.8s						

TAP 17 10:06:45.8, 24.40N×121.77E, h9km, ML1.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.04**	**315**	P	Pg	10 06 47.7	+0.2
ENA				*i* S	Sg	10 06 48.8	+0.2
EWUT	**Wuta**	**0.04**	**11**	*i* P	Pg	10 06 47.7	+0.2
EWUT				*i* S	Sg	10 06 48.8	+0.1
EAHA	**Aohua**	**0.08**	**201**	*e* P	Pg	10 06 48.1	+0.2
EAHA				*e* S	Sg	10 06 49.5	+0.1
LATG	**Datong**	**0.26**	**301**	P	Pg	10 06 51.6	+0.6
LATG				S	Sg	10 06 55.9	+1.3
NACB	**Ninganchiao**	**0.28**	**215**	*i* P	Pg	10 06 51.2	-0.1
NACB				*i* S	Sg	10 06 55.7	+0.7
ENTT	**Nioudou**	**0.30**	**322**	P	Pg	10 06 52.3	+0.5
ENTT				*e* S	Sg	10 06 56.5	+0.7
ETLH	**Xiulin Townshi**	**0.33**	**233**	P	Pg	10 06 52.3	0.0
ETLH				S	Sg	10 06 57.4	+0.8
TWE	**Neicheng**	**0.33**	**344**	*e* P	Pb	10 06 53.6	-0.3
TWE				*e* S	Sg	10 06 57.7	+1.0
NNSB	**Datong**	**0.35**	**274**	*e* P	Pg	10 06 53.1	+0.3
NNSB				*e* S	Sg	10 06 57.7	+0.2
FUSB	**Fushanzhiwuyua**	**0.39**	**335**	*e* P	Pb	10 06 54.5	-0.5
FUSB				*e* S	Sg	10 06 59.4	+0.7
YHNB	**Yeheng**	**0.45**	**307**	P	Pb	10 06 55.5	-0.4
YHNB				S	Sb	10 07 02.1	-0.6

JMA 17 10:07:43.1±0.4, 25.°N±2.°×123.4E±0.6, h28km, MV1.2/7, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.63**	**151**	*e* P	Pb	10 07 55.2	-0.4
IRIF				S	Sb	10 08 04.4	+0.3
JKRS	**Kuro-shima**	**0.86**	**139**	*e* P	Pb	10 07 59.4	0.0
JKRS				*e* S	Sb	10 08 10.3	-0.2
JIJ	**Ishigaki jima**	**0.86**	**128**	*e* P	Pn	10 07 58.4	-1.0
JIJ				S	Sb	10 08 08.9	-1.7
JISG	**Ishigakijimahi**	**0.89**	**110**	*e* S	Sb	10 08 10.3	-1.0
HATJ	**Hateruma jima**	**0.91**	**156**	*e* S	Sb	10 08 11.6	-0.5

IDC 17 10:27:46.2±21.0, 37.62S×94.31W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=730.1km s-min=354.2km az=119.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**13.05**	**78**	T	T	10 46 01.3	
	baz=251,slow=74,SNR=8.4						
H03S1	**Juan Fernandez**	**13.07**	**78**	T	T	10 46 06.7	
	baz=251,slow=74,SNR=7.5						
H03S3	**Juan Fernandez**	**13.07**	**78**	T	T	10 46 00.1	
	baz=251,slow=74,SNR=9.1						
H03N2	**Juan Fernandez**	**13.20**	**76**	T	T	10 46 01.3	
	baz=249,slow=72,SNR=3.4						
H03N3	**Juan Fernandez**	**13.20**	**76**	T	T	10 46 11.2	
	baz=249,slow=72,SNR=4.2						
H03N1	**Juan Fernandez**	**13.21**	**76**	T	T	10 46 06.4	
	baz=249,slow=72,SNR=5.4						
TXAR	**Lajitas Array**	**67.18**	**351**	P	P	10 38 42.0	0.0
	0.4nm,0.8s,baz=174,slow=9.1,SNR=4.1						
	0.4nm,0.8s						
NVAR	**Mina Array Bea**	**78.84**	**341**	P	P	10 39 51.3	+0.2
	0.2nm,0.7s,baz=170,slow=6.9,SNR=2.6						
	0.2nm,0.7s						
PDAR	**Pinedale Array**	**81.21**	**349**	P	P	10 40 03.7	-0.1
	0.5nm,0.8s,baz=164,slow=6.7,SNR=4.1						
	0.5nm,0.8s						

*IDC **17** 10:35:42.6±1.7, 37.22N×20.89E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=73.9km s-min=30.6km az=127.0*
*THE **17** 10:35:45.7, 37.23N×20.69E, h2km, ML3.3/9, Error ellipse: s-maj=1.4km s-min=0.5km az=47.0*
*ATH **17** 10:35:45.7, 37.23N×20.71E, h12km±1km, ML3.3/18, Error ellipse: s-maj=1.9km s-min=0.9km az=46.0*

ISC 17 10:35:45.5±1.5, 37.23N±0.05×20.70E±0.05, h15km±9km, n51, σ0.9°92/71, mb3.5/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.45**	**13**	P	**Pg**	**10 35 54.4**	**-0.1**
KRI1				S	**Sg**	**10 36 01.1**	**+0.6**
	12μm,0.3s						
LTHK	**Lithakia**	**0.49**	**13**	P	**Pg**	**10 35 55.3**	**-0.1**
LTHK				S	**Sg**	**10 36 02.8**	**+0.8**
	16μm,0.3s						
LTHK	**Lithakia**	**0.49**	**13**	P	**Pg**	**10 35 54.9**	**-0.5**
LTHK				S	**Sg**	**10 36 02.1**	**+0.1**
LTHK				AML	AML	10 36 04.0	
	comp=N,42798μm,0.3s						
LTHK				AML	AML	10 36 04.3	
	comp=E,19800μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.85**	**4**	P	**Pg**	**10 36 01.3**	**-0.8**
RTZL				S	**Sg**	**10 36 13.9**	**+0.7**
	comp=E,1μm,0.3s						
AMT	**Artemida-Makis**	**0.86**	**69**	P	**Pg**	**10 36 02.5**	**+0.2**
AMT				S	**Sg**	**10 36 13.4**	**-0.3**
AMT				AML	AML	10 36 19.6	
	comp=E,26401μm,0.3s						
AMT				AML	AML	10 36 21.9	
	comp=N,28504μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.89**	**354**	P	**Pg**	**10 36 02.4**	**-0.4**
PSDA				S	**Sb**	**10 36 15.4**	**+1.1**
	comp=N,3μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.89**	**354**	P	**Pg**	**10 36 02.4**	**-0.4**
PSDA				S	**Sg**	**10 36 14.5**	**0.0**
PYL	**PYLOS**	**0.90**	**111**	P	**Pg**	**10 36 02.8**	**-0.2**
PYL				S	**Sb**	**10 36 16.2**	**+1.6**
	comp=N,2μm,0.4s						
PYL	**PYLOS**	**0.90**	**111**	P	**Pg**	**10 36 02.4**	**-0.6**
PYL				S	**Sb**	**10 36 15.4**	**+0.8**
PYL				AML	AML	10 36 19.5	
	comp=E,3855μm,0.5s						
PYL				AML	AML	10 36 19.9	
	comp=N,3038μm,0.4s						
VLS	**Valsamata**	**0.95**	**355**	P	**Pg**	**10 36 03.5**	**-0.5**
VLS				S	**Sb**	**10 36 17.4**	**+1.2**
	comp=N,2μm,0.4s						
VLS	**Valsamata**	**0.95**	**355**	P	**Pg**	**10 36 03.4**	**-0.6**
VLS				S	**Sg**	**10 36 17.0**	**+0.5**
VLS				AML	AML	10 36 21.2	
	comp=N,3954μm,0.4s						
VLS				AML	AML	10 36 22.4	
	comp=E,3375μm,0.5s						
ITM	**Ithomi**	**0.98**	**92**	P	**Pg**	**10 36 04.3**	**-0.3**
ITM				S	**Sb**	**10 36 18.5**	**+1.4**
	comp=E,2μm,0.4s						
ITM	**Ithomi**	**0.98**	**92**	P	**Pg**	**10 36 04.0**	**-0.6**
ITM				S	**Sg**	**10 36 17.6**	**+0.1**
ITM				AML	AML	10 36 21.5	
	comp=N,5522μm,0.5s						
ITM				AML	AML	10 36 23.1	
	comp=E,3276μm,0.4s						
RLS	**Riolos of Patr**	**1.03**	**36**	P	**Pg**	**10 36 04.8**	**-0.7**
RLS				S	**Sg**	**10 36 19.3**	**+0.3**
	comp=E,870nm,0.3s						
RLS	**Riolos of Patr**	**1.03**	**36**	P	**Pg**	**10 36 04.6**	**-0.8**
RLS				S	**Sg**	**10 36 18.7**	**-0.2**
RLS				AML	AML	10 36 26.2	
	comp=E,1645μm,0.3s						
RLS				AML	AML	10 36 28.6	
	comp=N,1819μm,0.3s						
DMLN	**Damoulianata-K**	**1.04**	**346**	P	**Pg**	**10 36 04.9**	**-0.8**
DMLN				S	**Sb**	**10 36 20.4**	**+1.7**
	comp=N,3μm,0.6s						
DMLN	**Damoulianata-K**	**1.04**	**346**	P	**Pg**	**10 36 04.6**	**-1.1**
DMLN				S	**Sg**	**10 36 19.9**	**+0.6**
DRO	**Drossia**	**1.08**	**48**	P	**Pg**	**10 36 05.8**	**-0.7**
DRO	**Drossia**	**1.08**	**48**	P	**Pg**	**10 36 05.2**	**-1.3**
DRO				S	**Sg**	**10 36 20.2**	**-0.5**
DRO				AML	AML	10 36 25.3	
	comp=N,4798μm,0.5s						
DRO				AML	AML	10 36 29.5	
	comp=E,6276μm,0.4s						
VSK1	**VASILIKIADES**	**1.19**	**355**	P	**Pg**	**10 36 07.6**	**-0.8**
FSK	**Fiskardo**	**1.23**	**355**	P	**Pg**	**10 36 08.3**	**-1.1**
FSK	**Fiskardo**	**1.23**	**355**	P	**Pg**	**10 36 08.3**	**-1.1**
FSK				S	**Sg**	**10 36 24.8**	**-0.7**
FSK				AML	AML	10 36 29.1	
	comp=N,2277μm,0.4s						
FSK				AML	AML	10 36 30.5	
	comp=E,4512μm,0.5s						
UPR	**University Cam**	**1.36**	**39**	P	**Pn**	**10 36 11.1**	**+1.1**
EVGI	**Lefkada island**	**1.39**	**359**	P	**Pn**	**10 36 11.3**	**+0.9**
EVGI	**Lefkada island**	**1.39**	**359**	P	**Pn**	**10 36 10.7**	**+0.2**
KLV	**Kalavryta, Ach**	**1.42**	**54**	P	**Pn**	**10 36 11.4**	**+0.6**
KLV	**Kalavryta, Ach**	**1.42**	**54**	P	**Pn**	**10 36 11.1**	**+0.3**
KLV				S	**Sg**	**10 36 29.0**	**-2.2**
KLV				AML	AML	10 36 42.0	
	comp=N,640μm,0.4s						
KLV				AML	AML	10 36 48.3	
	comp=E,648μm,0.9s						
DRAG	**Dragano-Lefkad**	**1.46**	**356**	P	**Pn**	**10 36 12.3**	**+1.0**
DRAG	**Dragano-Lefkad**	**1.46**	**356**	P	**Pn**	**10 36 11.7**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.48**	**0**	P	**Pn**	**10 36 12.0**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.48**	**0**	P	**Pn**	**10 36 12.1**	**+0.4**
GUR	**Goura**	**1.49**	**61**	P	**Pn**	**10 36 12.3**	**+0.5**
GUR	**Goura**	**1.49**	**61**	P	**Pn**	**10 36 12.3**	**+0.5**
GUR				AML	AML	10 36 41.8	
	comp=N,2874μm,0.5s						
GUR				AML	AML	10 36 43.0	
	comp=E,2395μm,0.4s						
ALIK	**Aliki, Aigiali**	**1.52**	**47**	P	**Pn**	**10 36 13.3**	**+1.1**
EFP	**Efpalio**	**1.54**	**38**	P	**Pn**	**10 36 13.1**	**+0.8**
EFP	**Efpalio**	**1.54**	**38**	P	**Pn**	**10 36 12.7**	**+0.3**
EFP				AML	AML	10 36 42.9	
	comp=N,1009μm,0.5s						
EFP				AML	AML	10 36 47.0	
	comp=E,848μm,0.6s						
LKD2	**Lefkada island**	**1.56**	**359**	P	**Pn**	**10 36 13.8**	**+1.1**
LKD2	**Lefkada island**	**1.56**	**359**	P	**Pn**	**10 36 14.1**	**+1.4**
LKD2				AML	AML	10 36 46.4	
	comp=E,2135μm,0.4s						
LKD2				AML	AML	10 36 51.5	
	comp=N,1439μm,0.6s						
TSLK	**Tsoukalades, L**	**1.60**	**359**	P	**Pn**	**10 36 14.2**	**+1.0**
TSLK	**Tsoukalades, L**	**1.60**	**359**	P	**Pn**	**10 36 13.9**	**+0.7**
TSLK				AML	AML	10 36 40.9	
	comp=E,1230μm,0.6s						
TSLK				AML	AML	10 36 45.3	
	comp=N,1842μm,0.7s						
KALE	**Kalithea**	**1.63**	**44**	P	**Pn**	**10 36 14.8**	**+1.1**
KALE	**Kalithea**	**1.63**	**44**	P	**Pn**	**10 36 15.4**	**+1.7**
KALE				AML	AML	10 36 52.6	
	comp=E,1056μm,0.7s						
KALE				AML	AML	10 36 54.1	
	comp=N,1447μm,0.5s						
ANX	**Ano Chora**	**1.67**	**35**	P	**Pn**	**10 36 15.2**	**+0.8**
ANX	**Ano Chora**	**1.67**	**35**	P	**Pn**	**10 36 15.4**	**+1.0**
ANX				AML	AML	10 36 46.0	
	comp=E,1492μm,0.6s						
ANX				AML	AML	10 36 57.6	
	comp=N,1845μm,0.5s						
EVR	**Evrytania**	**1.90**	**27**	P	**Pn**	**10 36 19.6**	**+2.1**
EVR				AML	AML	10 36 54.7	
	comp=E,669μm,0.9s						
EVR				AML	AML	10 36 57.3	
	comp=N,646μm,0.8s						
LOUT	**Loutraki**	**1.96**	**67**	P	**Pn**	**10 36 20.0**	**+1.8**
MAKR	**Makrakomi, Fth**	**2.11**	**32**	P	**Pn**	**10 36 21.3**	**+1.0**
IGT	**Igoumenitsa**	**2.32**	**353**	P	**Pb**	**10 36 26.9**	**-0.2**
IGT				AML	AML	10 37 08.0	
	comp=E,307μm,0.5s						
IGT				AML	AML	10 37 10.2	
	comp=N,248μm,0.8s						
FINES	**FINESS Array B**	**24.48**	**6**	P	**P**	**10 41 03.0**	**-0.7**
	comp=N,0.9nm,0.6s,baz=186,slow=11,SNR=4.0						
	comp=N,0.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.39**	**220**	P	**P**	**10 41 48.4**	**+0.2**
	comp=N,0.2nm,0.4s,baz=19,slow=9.7,SNR=2.1						
	comp=N,0.2nm,0.4s						
MKAR	**Makanchi Array**	**45.69**	**58**	P	**P**	**10 44 03.9**	**-1.7**
	comp=N,0.4nm,0.6s,baz=280,slow

FUTU	Fugatoga	6.38	358	P	P	10 41 34.5	-2.9
AFI	Afiamalu	8.97	42	P	P	10 41 60.0	-2.9
PINNC	Pines Island,	13.72	259	P	P	10 42 52.1	+0.6
DZM	Mont Dzumac	14.61	262	P	P	10 43 00.3	-0.5
DZM	Mont Dzumac	14.61	262	P	P	10 42 57.2	-3.6
	5.3nm,0.8s,baz=88,slow=12,SNR=2.4						
URZ	Urewera	18.00	193	P	P	10 43 32.2	-0.7
	7.6nm,0.5s,baz=353,slow=2.7,SNR=11						
URZ				S	S	10 46 25.9	-4.2
	5.6nm,0.8s,baz=298,slow=16,SNR=2.5						
EIDS	Eidsvold	28.84	255	P	P	10 45 10.3	+0.6
EIDS				IAmb	IAmb	10 45 10.8	
	comp=Z,3.3nm,0.6s						
ARMA	Armidale	29.02	244	P	P	10 45 12.7	+1.2
CTAO	Charters Tower	33.52	265	P	P	10 45 50.3	+0.4
TOO	Toolangi	35.81	234	P	P	10 46 08.2	-0.5
COEN	Coen	37.65	274	P	P	10 46 24.4	+0.3
COEN				IAmb	IAmb	10 46 25.2	
	comp=Z,6.9nm,0.8s						
STKA	Stephens Creek	37.74	244	P	P	10 46 25.7	+1.0
STKA	Stephens Creek	37.74	244	P	P	10 46 25.5	+0.8
	comp=Z,2.4nm,0.5s,baz=91,slow=11,SNR=6.4						
	comp=Z,2.4nm,0.5s						
BBOO	Buckleboo	42.50	244	P	P	10 47 03.1	+0.4
BBOO				IAmb	IAmb	10 47 24.1	
	comp=Z,6.0nm,0.9s						
JAY	Jayapura	44.16	289	P	P	10 47 15.7	-0.2
	comp=Z,11nm,0.5s,baz=144,slow=5.2,SNR=11						
	comp=Z,11nm,0.5s						
WR0	Warramunga Arr	44.44	262	P	P	10 47 17.6	-0.3
WR0				IAmb	IAmb	10 47 20.6	
	comp=Z,3.3nm,0.6s						
AS31	Alice Springs	44.52	257	P	P	10 47 18.3	-0.3
ASAR	Alice Springs	44.52	257	P	P	10 47 19.0	+0.4
ASAR	Alice Springs	44.52	257	P	P	10 47 18.7	+0.1
	comp=Z,13nm,0.8s,baz=90,slow=8.3,SNR=89						
ASAR				PcP	PcP	10 48 50.6	+0.7
	comp=Z,1.0nm,0.5s,baz=108,slow=4.0,SNR=5.3						
ASAR				S	S	10 53 12.6	-1.9
	comp=Z,0.7nm,0.8s,baz=84,slow=17,SNR=5.0						
	comp=Z,13nm,0.8s						
WB0	Warramunga Arr	44.61	262	P	P	10 47 18.7	-0.5
WB2	Warramunga Arr	44.62	262	P	P	10 47 18.9	-0.4
WB2				IAmb	IAmb	10 47 19.5	
	comp=Z,10nm,0.9s						
WRAB	Tennant Creek	44.62	262	P	P	10 47 19.0	-0.3
WRAB				IAmb	IAmb	10 47 19.5	
	comp=Z,8.6nm,0.9s						
WRA	Warramunga Arr	44.63	262	P	P	10 47 19.1	-0.2
WRA	Warramunga Arr	44.63	262	P	P	10 47 18.8	-0.5
	comp=Z,5.5nm,0.6s,baz=96,slow=8.4,SNR=30						
WRA				PcP	PcP	10 48 50.6	+0.3
	comp=Z,0.3nm,0.5s,baz=91,slow=4.2,SNR=1.9						
	comp=Z,5.5nm,0.6s						
MTN	Manton Dam	49.22	271	P	P	10 47 53.4	-0.6
MTN				IAmb	IAmb	10 47 54.7	
	comp=Z,9.5nm,0.6s						
FORT	Forrest	49.26	247	P	P	10 47 54.4	+0.3
KNRA	Kununurra	50.70	266	P	P	10 48 05.0	+0.2
KNRA				IAmb	IAmb	10 48 11.1	
	comp=Z,8.2nm,1.1s						
FITZ	Fitzroy Crossi	53.05	263	P	P	10 48 21.9	+0.1
	comp=Z,3.2nm,0.6s,baz=110,slow=4.0,SNR=12						
	comp=Z,3.2nm,0.6s						
PSA00	Pilbara Seismi	57.67	257	P	P	10 48 53.9	+0.1
PSA00				IAmb	IAmb	10 48 54.4	
	comp=Z,8.4nm,0.8s						
MBWA	Marble Bar	57.86	257	P	P	10 48 54.9	-0.2
MBWA				IAmb	IAmb	10 48 55.6	
	comp=Z,8.7nm,0.7s						
MORW	Morawa	59.80	248	P	P	10 49 08.2	+0.2
MORW				IAmb	IAmb	10 49 25.8	
	comp=Z,9.5nm,1.1s						
GIRL	Giralia	62.55	255	P	P	10 49 26.6	+0.6
QSPA	South Pole Qui	69.35	180	P	P	10 50 06.8	-1.0
QSPA	South Pole Qui	69.35	180	P	P	10 50 10.7	+3.0
	comp=Z,1.0nm,0.9s,baz=25,slow=3.3,SNR=2.9						
	comp=Z,1.0nm,0.9s						
JGF	Kuroka	70.22	322	P	P	10 50 13.2	-0.1
JGF				IAmb	IAmb	10 50 13.8	
	comp=Z,12nm,1.1s						
MJAR	Matsushiro Arr	70.42	324	P	P	10 50 13.9	-0.5
	comp=Z,2.3nm,0.6s,baz=158,slow=5.9,SNR=11						
	comp=Z,2.3nm,0.6s						
ADK	Adak	72.30	1	P	P	10 50 24.5	-0.5
PETK	Petropavlovsk-	76.49	345	P	P	10 50 48.7	+0.1
	comp=Z,2.3nm,0.8s,baz=119,slow=5.1,SNR=1.9						
	comp=Z,2.3nm,0.8s						
KSRS	Korea Array	77.09	319	P	P	10 50 52.1	0.0
	comp=Z,1.0nm,0.6s,baz=131,slow=6.3,SNR=5.9						
	comp=Z,1.0nm,0.6s						
NVAR	Mina Array Bea	81.14	43	P	P	10 51 15.6	+1.7
	comp=Z,0.9nm,0.8s,baz=226,slow=9.0,SNR=7.3						
	comp=Z,0.9nm,0.8s						
TXAR	Lajitas Array	87.12	57	P	P	10 51 45.1	+1.8
	comp=Z,0.5nm,0.8s,baz=219,slow=6.7,SNR=5.8						
	comp=Z,0.5nm,0.8s						
LL02	Futaleuf	87.13	135	P	P	10 51 41.2	-1.9
TROLL	Troll, Antarti	87.52	180	⇑P	P	10 51 45.6	+1.1
	comp=Z,29nm,0.5s						
SNAA	Sanae	87.79	178	⇑P	P	10 51 46.6	+0.8
	comp=Z,11nm,0.6s						
SNAA	Sanae	87.79	178	P	P	10 51 47.2	+1.5
	comp=Z,1.0nm,0.9s,baz=210,slow=14,SNR=2.8						
	comp=Z,1.0nm,0.9s						
VNA3	Neumayer Olymp	87.92	176	⇑P	P	10 51 47.7	+1.4
	comp=Z,2.8nm,0.7s						
VNA2	Neumayer--Watz	88.36	177	⇑P	P	10 51 50.0	+1.6
	comp=Z,1.9nm,0.6s,baz=207,slow=2.1						
ILAR	Eielson Array	88.51	13	P	P	10 51 48.6	-0.3
	comp=Z,0.7nm,0.4s,baz=215,slow=5.3,SNR=15						
	comp=Z,0.7nm,0.4s						
PDAR	Pinedale Array	89.08	43	P	P	10 51 53.2	+0.8
	comp=Z,0.4nm,0.5s,baz=200,slow=4.6,SNR=5.7						
	comp=Z,0.4nm,0.5s						
CMAR	Chiang Mai Arr	90.24	290		P	10 51 60.0	+2.0
CMAR	Chiang Mai Arr	90.24	290	P	P	10 51 59.9	+1.9
	comp=Z,1.8nm,0.8s,baz=136,slow=2.8,SNR=11						
	comp=Z,1.8nm,0.8s						
ZALV	Zalesovo Beam	110.70	321	PKiKP	PKiKP	10 57 25.1	-0.3
	comp=Z,0.4nm,0.4s,baz=90,slow=1.4,SNR=2.1						
MKAR	Makanchi Array	111.39	313	PKiKP	PKiKP	10 57 26.3	-0.7
	comp=Z,0.4nm,0.5s,baz=132,slow=2.4,SNR=5.0						
KURBB	Kurchatov Arra	114.24	317	PKiKP	PKPdf	10 57 31.8	-0.4
	comp=Z,3.8nm,0.2s,baz=91,slow=1.6,SNR=4.3						
BVAR	Borovoye Array	119.28	320	PKP	PKPdf	10 57 41.7	-0.3
	comp=Z,1.6nm,0.4s,baz=108,slow=2.2,SNR=9.3						
HFS	Hagfors	139.76	351	PKhKP	PKPpre	10 58 12.7	
	comp=Z,2.3nm,0.9s,baz=75,slow=1.6,SNR=9.0						
AKASG	Malin Array Be	143.23	331	PKhKP	PKPpre	10 58 24.4	
	comp=Z,4.4nm,0.5s,baz=44,slow=4.2,SNR=36						
EKA	Eskdalemuir Ar	145.21	5	PKPbc	PKPab	10 58 32.2	0.0
	comp=Z,0.5nm,0.4s,baz=326,slow=2.8,SNR=3.6						
BRTR	Keskin Array B	147.03	312	PKPbc	PKPbc	10 58 37.0	+0.2
	comp=Z,2.0nm,0.7s,baz=145,slow=4.9,SNR=7.1						
MMAI	Mount Meron Ar	147.97	299	PKPbc	PKiKP	10 58 40.5	-0.3
	comp=Z,2.3nm,0.4s,baz=70,slow=5.7,SNR=6.8						
CLL	Collm	148.29	347	*i* PKPbc	PKPbc	10 58 40.1	+0.6
	comp=Z,9.0nm,1.0s						
CLL				*i* PKPab	PKPab	10 58 44.8	+0.1
	comp=Z,5.0nm,0.8s						
GERES	GERESS Array B	150.42	344	PKPbc	PKPbc	10 58 45.4	+0.5
	comp=Z,1.0nm,0.6s,baz=35,slow=3.6,SNR=4.6						

IDC ***17*** *10:41:45.9±2.7,0.°87N×98.°76E,h51km±22km,mb4.1/21, mbtmp4.4/22,ML4.5/1,MS3.3/13,Error ellipse: s-maj=23.9km s-min=11.5km az=59.0*

BJI ***17*** *10:41:46.2,0.°55N×98.°60E,h94km,mb4.7/38,mB5.1/13*

NEIC ***17*** *10:41:48.3±1.5,0.°86N±0.°05×98.°61E±0.°07,h71km±7km, mb4.7/48,Error ellipse: s-maj=11.3km s-min=3.3km az=56.0*

DJA ***17*** *10:41:48.5±0.2,1.°N±2.°×9.°9E±.°,h72km±3km,M4.8/19, mB5.1/6,mb4.7/18,MLv5.0/19,Mw(mB)4.5/6*

ISC 17 10:41:47.5±0.4,0.°89N±0.°05×98.°62E±0.°04,h65km,n153, σ1§18/148,mb4.7/64,1C-1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	Mandailing Nat	0.96	95	P	Pn	10 42 06.4	+1.1
MNSI				S	Sn	10 42 19.6	+1.2
PBSI	Pulau Batu	1.00	200	P	Pn	10 42 07.4	+1.6
GSI	Gunungsitoli	1.13	292		Pn	10 42 08.9	+1.5
GSI	Gunungsitoli	1.13	292	P	Pn	10 42 09.0	+1.5
GSI	Gunungsitoli	1.13	292	P	Pn	10 42 08.9	+1.5
GSI				S	Sn	10 42 23.7	+1.4
RPSI	Rantau Prapat	1.82	9	Pn	Pn	10 42 18.3	+1.6
PSI	Prapat	1.92	9	P	Pn	10 42 18.1	-0.1
PPI	Padang Panjang	2.22	127	P	Pn	10 42 24.2	+2.1
SISI	Saibi	2.25	168	P	Pn	10 42 23.4	+0.9
BKNI	Bangkinang	2.48	103		Pn	10 42 27.2	+1.5
BKNI	Bangkinang	2.48	103	P	Pn	10 42 27.7	+2.1
PDSI	Padang	2.56	134	P	Pn	10 42 28.4	+1.6
SNSI	Sinabang, Aceh	2.75	303	P	Pn	10 42 30.7	+1.4
KCSI	Kotacane, Aceh	2.75	342	P	Pn	10 42 29.7	+0.3
PPSI	Pulau Pagai	3.88	159	P	Pn	10 42 46.5	+1.7
MLSI	Meulaboh, Aceh	4.02	327	P	Pn	10 42 47.6	+0.9
IPM	Ipoh	4.30	34	Pn	Pn	10 42 53.3	+2.8
IPM	Ipoh	4.30	34	P	Pn	10 42 53.5	+3.0
LHMI	Lhok Sumawe	4.63	339	Pn	Pn	10 42 56.1	+1.1
LHMI	Lhok Sumawe	4.63	339	P	Pn	10 42 55.9	+0.9
LHMI	Lhok Sumawe	4.63	339	P	Pn	10 42 56.1	+1.1
BTDF	Bukit Timah Da	5.17	85	P	Pn	10 43 03.8	+1.4
BSI	Banda Aceh	5.66	324	P	Pn	10 43 08.8	-0.3
MNAI	Manna	6.78	140	P	Pn	10 43 25.1	+0.7
	260nm,1.2s						
SRIT	Nakonsritamara	7.72	7	Pn	Pn	10 43 37.5	+0.1
KASI	Kota Agung	8.66	137	P	Pn	10 43 50.9	+0.7
	32nm,0.5s,535nm						
TPI	Tanjungpandan	9.73	112	P	Pn	10 44 06.0	+1.2
	26nm,1.3s						
BBJI	Bungbulang	12.24	133	P	Pn	10 44 39.2	0.0
CMJI	Cimerak	13.05	131	P	Pn	10 44 48.7	-1.4
	33nm,1.5s						
KPJI	Karang Pucung	13.13	129	P	Pn	10 44 51.1	-0.2
	23nm,0.6s						
SBUM	Sibu	13.68	83		Pn	10 45 00.1	+1.5
UGM	Wanagama	14.74	127	Pn	Pn	10 45 10.5	-2.1
CM31	Chiang Mai Arr	17.46	1		Pn	10 45 46.9	0.0
CMAR	Chiang Mai Arr	17.46	1		Pn	10 45 46.5	-0.4
CMAR	Chiang Mai Arr	17.46	1	P	Pn	10 45 46.1	-0.8
	0.7nm,0.3s,baz=193,slow=11,SNR=38						
CMAR				PcP	PcP	10 50 25.9	+1.1
	0.6nm,0.8s,baz=224,slow=2.5,SNR=4.5						
CMAR				LR	LR	10 52 17.9	
	comp=Z,38nm,21.1s,baz=185,slow=36						
CMAR				ScP	ScP	10 53 54.5	0.0
	1.0nm,0.8s,baz=221,slow=3.4,SNR=6.4						
	4.7nm,0.7s						
PHRA	Phrae	17.57	5		Pn	10 45 47.9	-0.3
PHRA				IAmb	IAmb	10 45 49.3	
	comp=Z,69nm,0.8s						
CHTO	Chiang Mai	17.82	1	P	P	10 45 50.1	-1.0
KKM	Kota Kinabalu	18.29	73	P	Pn	10 45 58.1	+1.1
KKM				IAmb	IAmb	10 46 00.7	
	comp=Z,52nm,0.8s						
BKB	Balikpapan	18.40	97	P	Pn	10 46 00.5	+2.3
MYLDM	Lahad Datu	20.30	77	P	Pn	10 46 20.9	+0.1
MYLDM				IAmb	IAmb	10 46 41.7	
	comp=Z,38nm,0.9s						
SLVN	Son La	20.96	14	P	P	10 46 25.1	-0.4
KAPI	Kappang	21.90	106	LR	LR	10 56 04.5	
	comp=Z,64nm,19.4s,baz=284,slow=39						
TOLI2	Tolitoli	22.16	89	P	P	10 46 38.4	+0.1
BSSI	Bau Bau, Buton	22.92	108	P	P	10 46 45.4	-1.0
	comp=Z,36nm,0.8s						
KOD	Kodaikanal	22.99	295	*e*P	P	10 46 50.6	+3.2
APSI	Ampana	23.09	94	P	P	10 46 47.9	-0.2
MRSI	Marisa	23.32	91	P	P	10 46 49.9	-0.4
	comp=Z,76nm,0.8s						
AZL	Aizawl	23.43	346	*e*P	P	10 46 51.0	-0.3
AZL				IAmb	IAmb	10 46 55.8	
	comp=Z,19nm,0.7s						
IMP	Imphal	24.23	350	*e*P	P	10 46 57.7	-0.8
IMP				IAmb	IAmb	10 47 04.7	
	comp=Z,16nm,0.9s						
KOHI	KOHIMA	25.07	350	*e*P	P	10 47 05.7	-0.6
KOHI				IAmb	IAmb	10 47 16.8	
	comp=Z,27nm,0.8s						
SHL	Shillong	25.38	346	P	P	10 47 08.8	-0.3
SHL	Shillong	25.38	346	*e*P	P	10 47 08.4	-0.8
SHL				IAmb	IAmb	10 47 12.4	
	comp=Z,24nm,0.7s						
PZH	PanZhiHua	25.64	6	P	P	10 47 14.0	+2.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
BOK	Bokaro	25.91	332	*e*P	P	10 47 15.4	+1.7
BOK				IAmb	IAmb	10 47 17.2	
	comp=Z,18nm,0.8s						
ZIRO	ZIRO	26.88	351	*e*P	P	10 47 22.4	-0.2
ZIRO				IAmb	IAmb	10 47 25.2	
	comp=Z,34nm,0.8s						
H08S2	Diego Garcia H	27.40	252	T	T	11 15 03.5	
	baz=72,slow=75,SNR=597						
H08S3	Diego Garcia H	27.41	252	T	T	11 15 03.9	
	baz=72,slow=75,SNR=467						
H08S1	Diego Carcia H	27.42	252	T	T	11 15 05.0	
	baz=72,slow=75,SNR=610						
DAV	Davao City (W)	27.57	76	LR	LR	10 58 56.7	
	comp=Z,63nm,18.0s,baz=308,slow=38						
NRDN	NARMADA NAGAR	30.10	318	*e*P	P	10 47 54.3	+3.2
YULB	Yu-li	31.38	43	P	P	10 48 02.1	-0.3
YULB				IAmb	IAmb	10 48 09.8	
	comp=Z,7.4nm,0.8s						
FITZ	Fitzroy Crossi	32.59	127	P	P	10 48 10.3	-2.8
	comp=Z,2.0nm,0.9s,baz=323,slow=10,SNR=2.3						
FITZ				LR	LR	11 01 03.9	
	comp=Z,48nm,21.5s,baz=328,slow=36						
	comp=Z,2.0nm,0.9s						
LGTI	Lohaghat	33.37	330	*e*P	P	10 48 20.8	+1.1
PTH	Pithoragarh	33.47	330	*e*P	P	10 48 21.7	+0.8
XAN	Xi'an	34.36	15	P	P	10 48 27.4	-1.0
XAN				pP	pP	10 48 46.3	+2.0
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
MTN	Manton Dam	35.02	114	P	P	10 48 31.9	-2.3
MTN				IAmb	IAmb	10 48 48.1	
	comp=Z,5.7nm,0.9s						
LYN	LuoYang	35.90	20	*e*P	P	10 48 42.5	+0.9
LYN				pmax	pmax		
	comp=Z,28nm,0.8s						
SMLA	Simla	36.30	328	*e*P	P	10 48 45.4	+0.4
SMLA				IAmb	IAmb	10 48 51.2	
	comp=Z,6.2nm,0.9s						
SMLA				*ex*	x	10 59 26.1	
NJ2	Nanjing	36.41	30	*e*P	P	10 48 48.3	+2.4
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
DHRM	DHARAMSHALA	37.63	328	*e*P	P	10 48 57.1	+0.5
DHRM				IAmb	IAmb	10 49 02.8	
	comp=Z,18nm,0.9s						
DHRM				*i* x	x	10 50 57.4	
NWAO	Narrogin (SRO)	37.94	154	LR	LR	11 02 56.6	
	comp=Z,35nm,21.2s,baz=302,slow=34						
HNS	HongShan	39.25	20	⇑P	P	10 49 11.8	+2.0
HNS				pmax	pmax		
	comp=Z,12nm,0.7s						
NIL	Nilore	40.35	326	P	P	10 49 18.8	-0.2
WB0	Warramunga Arr	40.63	122	P	P	10 49 19.2	-2.4
WB0				IAmb	IAmb	10 49 20.0	
	comp=Z,7.1nm,0.8s						
WRA	Warramunga Arr	40.67	123	P	P	10 49 19.4	-2.4
	comp=Z,4.9nm,0.8s,baz=301,slow=9.2,SNR=18						
WRA				PcP	PcP	10 51 22.2	-0.5
	comp=Z,1.3nm,0.6s,baz=316,slow=2.6,SNR=7.1						
WRA				LR	LR	11 05 55.4	
	comp=Z,20nm,21.3s,baz=304,slow=36						
	comp=Z,4.9nm,0.8s						
WRAB	Tennant Creek	40.67	123	P	P	10 49 20.4	-1.5
WRAB				IAmb	IAmb	10 49 20.5	
	comp=Z,6.0nm,0.8s						
WB2	Warramunga Arr	40.68	123	P	P	10 49 20.3	-1.7
WB2				IAmb	IAmb	10 49 20.5	
	comp=Z,5.0nm,0.7s						
WR0	Warramunga Arr	40.84	122	P	P	10 49 21.6	-1.7
WR0				IAmb	IAmb	10 49 27.7	
	comp=Z,7.8nm,0.6s						
HHC	Hu-ho-hao-te	41.47	15	*e*P	P	10 49 29.8	+1.5
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,75nm,5.0s						
AS31	Alice Springs	42.08	128	P	P	10 49 31.7	-1.7
ASAR	Alice Springs	42.08	128	P	P	10 49 31.4	-2.0
	comp=Z,3.0nm,0.8s,baz=303,slow=7.8,SNR=17						
ASAR				PcP	PcP	10 51 27.4	+0.1
	comp=Z,1.6nm,0.7s,baz=291,slow=2.2,SNR=8.1						
ASAR				LR	LR	11 07 30.6	
	comp=Z,30nm,21.0s,baz=306,slow=37						
	comp=Z,3.0nm,0.8s						
BJI	Beijing	42.12	20	P	P	10 49 34.8	+1.4
BJI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
FORT	Forrest	42.13	141	P	P	10 49 34.3	+0.6
KSH	Kashi	43.65	334	P	P	10 49 44.3	-1.7
KSH				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WUS	Wushi	43.80	339	IAmb	IAmb	10 49 49.6	
	comp=Z,7.2nm,0.8s						
TARG	Taragay, Kyrgy	44.78	338	P	P	10 49 53.9	-1.4
TARG				IAmb	IAmb	10 49 57.5	
	comp=Z,6.2nm,0.7s						
KSRS	Korea Array	45.31	33	P	P	10 49 58.4	-0.7
	comp=Z,5.5nm,0.7s,baz=222,slow=8.0,SNR=21						
KSRS				LR	LR	11 11 58.2	
	comp=Z,11nm,18.5s,baz=350,slow=40						
	comp=Z,5.5nm,0.7s						
KS19	Wonju Array Si	45.32	33	P	P	10 49 58.4	-0.7
KS19				IAmb	IAmb	10 49 59.7	
	comp=Z,11nm,0.8s						
KDJ	Kajisay	45.37	338	P	P	10 49 59.1	-0.6
KDJ				IAmb	IAmb	10 50 01.9	
	comp=Z,14nm,1.0s						
SHLS	Shalkode	45.44	340	*e*P	P	10 49 58.7	-1.5
UZB	Uzynbulak	45.58	340	*e*P	P	10 50 01.0	-0.4
	comp=Z,8.2nm,0.9s						
SATY	Saty	45.72	339	*e*P	P	10 50 01.9	-0.6
	comp=Z,8.7nm,1.0s						
GAR	Garm	45.93	329	P	P	10 50 03.5	-0.6
GAR				IAmb	IAmb	10 50 06.7	
	comp=Z,15nm,1.2s						
KPKS	Kokpek	45.98	340	*e*P	P	10 50 04.2	-0.2
BOOM	Boomskoye usch	46.16	337	P	P	10 50 05.9	0.0
BOOM				IAmb	IAmb	10 50 07.6	
	comp=Z,5.2nm,0.7s						
MDOK	Medeo	46.30	338	*e*P	P	10 50 06.6	-0.4
AAK	Ala-Archa	46.86	336	P	P	10 50 10.9	-0.5
AAK				IAmb	IAmb	10 50 18.2	
	comp=Z,5.9nm,1.1s						
AAK	Ala-Archa	46.86	336	LR	LR	11 11 49.7	
	comp=Z,43nm,19.8s,baz=308,slow=38						
SONM	Songino Array	47.25	7	P	P	10 50 14.2	-0.1
SONM				IAmb	IAmb	10 50 16.1	
	comp=Z,5.2nm,0.8s						
SONM	Songino Array	47.25	7	P	P	10 50 15.1	+0.8
	comp=Z,5.3nm,0.7s,baz=189,slow=8.9,SNR=22						
SONM				PcP	PcP	10 51 44.9	+0.3
	comp=Z,2.0nm,0.5s,baz=188,slow=3.8,SNR=4.6						
SONM				ScP	ScP	10 55 32.6	-0.6
	comp=Z,0.5nm,0.5s,baz=199,slow=4.0,SNR=2.6						
	comp=Z,5.3nm,0.7s						
ULN	Ulaanbaatar	47.36	8	P	P	10 50 13.7	-1.5
TDK	Taldyqorghan	47.43	341	*e*P	P	10 50 15.4	-0.2
	comp=Z,6.6nm,0.6s						
SGDS	Sogindy	47.48	336	*e*P	P	10 50 15.8	-0.4
ZSN	Zaisan	47.90	347	*e*P	P	10 50 18.9	-0.3
	comp=Z,14nm,1.2s						
MK31	Makanchi Array	47.90	345	P	P	10 50 19.7	+0.4
MK31				IAmb	IAmb	10 50 20.4	
	comp=Z,7.6nm,0.7s						
MKAR	Makanchi Array	47.90	345	P	P	10 50 19.8	+0.6
MKAR	Makanchi Array	47.90	345	P	P	10 50 19.6	+0.4
	comp=Z,11nm,0.7s,baz=154,slow=7.6,SNR=40						
	comp=Z,11nm,0.7s						
MAKZ	Makanchi	47.99	345	P	P	10 50 20.8	+0.8
MAKZ				IAmb	IAmb	10 50 21.1	
	comp=Z,9.1nm,0.7s						
DZA	Taraz	48.44	333	*e*P	P	10 50 23.2	-0.3
IUG	Iuzhnay	48.46	332	*e*P	P	10 50 23.6	-0.1
	comp=Z,11nm,0.9s						
BBOO	Buckleboo	48.68	137	P	P	10 50 24.6	-0.9
BBOO				IAmb	IAmb	10 50 24.6	
	comp=Z,9.3nm,1.0s						
CN2	Changchun	48.95	26	P	P	10 50 26.8	-0.5
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
KKAR	Karatay Array	48.97	333	P	P	10 50 27.2	-0.4
BTLS	Baital	49.04	337	*e*P	P	10 50 27.9	-0.1
BRLS	Borolday	49.23	332	*e*P	P	10 50 28.4	-1.1
MJAR	Matsushiro Arr	50.97	41	P	P	10 50 41.6	-1.2
	comp=Z,1.1nm,0.8s,baz=250,slow=9.0,SNR=2.5						
MJAR				LR	LR	11 11 22.2	
	comp=Z,23nm,21.5s,baz=330,slow=35						
	comp=Z,1.1nm,0.8s						
BNX	BinXian	51.34	26	⇓P	P	10 50 45.3	-0.1
BNX				pmax	pmax		
	comp=Z,26nm,0.9s						
STKA	Stephens Creek	52.10	133	P	P	10 50 50.4	-0.9
STKA	Stephens Creek	52.10	133	P	P	10 50 50.1	-1.2
	comp=Z,3.8nm,0.6s,baz=326,slow=7.8,SNR=9.4						
	comp=Z,3.8nm,0.6s						
USA0B	Ussuriysk Arra	52.31	30	P	P	10 50 53.0	+0.4
USRK	Ussuriysk Ar.	52.31	30	P	P	10 50 52.4	-0.2
USRK	Ussuriysk Ar.	52.31	30	P	P	10 50 52.8	+0.1
	comp=Z,14nm,0.9s,baz=222,slow=5.2,SNR=24						
	comp=Z,14nm,0.9s						
KURBB	Kurchatov Arra

CPUP Villa Florida 145.71 220 PKPbc **PKPab 11 01 20.5 +0.2**
comp=Z,4.4nm,0.8s,baz=150,slow=3.4,SNR=8.3

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*STR **17** 10:50:32.4±2.7, 47°N±10°×1°3E±2°2, h10km, MLv3.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=81.4, preliminary*
*VIE **17** 10:50:35.9±0.1, 46°.55N×12°.53E, h14km±2km, mb2.6/20, ml3.3/21, Error ellipse: s-maj=0.9km s-min=0.6km az=12.0*
*ROM **17** 10:50:35.4±0.1, 46°.530N±0°.004×12°.531E±0°.004, h5km, ML3.1/106, Error ellipse: s-maj=0.4km s-min=0.3km az=161.0*
*BGR **17** 10:50:38.5±0.3, 46°.56N×12°.54E, h10km, ML3.4/29, Error ellipse: s-maj=4.4km s-min=2.2km az=177.0*
*PRU **17** 10:50:39.3, 46°.64N×12°.53E, h10km*
*LDG **17** 10:50:39.8±0.3, 46°.58N×12°.54E, h7km, Ml3.3/34, Error ellipse: s-maj=5.2km s-min=3.1km az=72.0*
ISC 17 10:50:36.4±0.8, 46°.54N±0°.01×12°.53E±0°.01, h8km±6km, n190, σ1.9°61/302, 8C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CSMI	**Casera Mimoias**	**0.09**	**106**	↑*e*P	**Pg**	**Pg**	**10 50 38.3**	**-0.5**
CSMI				*e*S	**Sg**	**Sg**	**10 50 39.9**	**-0.6**
ABTA	**Abfaltersbach**	**0.21**	**358**	*i* P	**Pg**	**Pg**	**10 50 40.8**	**+0.1**
ABTA	119nm,0.1s,SNR=341			*i* S	**Sg**	**Sg**	**10 50 43.9**	**+0.3**
	451nm,0.2s							
CIMO	**Cimolais**	**0.23**	**195**	↓*e*P	**Pg**	**Pg**	**10 50 40.6**	**-0.5**
CIMO				*e*S	**Sg**	**Sg**	**10 50 43.8**	**-0.5**
CIMO	**Cimolais**	**0.23**	**195**	P	**Pg**	**Pg**	**10 50 40.7**	**-0.5**
CIMO				S	**Sg**	**Sg**	**10 50 44.4**	**+0.1**
CIMO				AML	AML			
	comp=N,1885μm,0.8s							
CIMO				AML	AML			
	comp=E,2510μm,0.4s							
CIMO				AML	AML			
	comp=N,1895μm,0.8s							
CIMO				AML	AML			
	comp=E,2520μm,0.4s							
CIMO				AML	AML			
	comp=N,1895μm,1.2s							
CIMO				AML	AML			
	comp=N,1885μm,1.2s							
CIMO				AML	AML			
	comp=E,2510μm,0.4s							
CIMO				AML	AML			
	comp=N,1449μm,0.6s							
CIMO				AML	AML			
	comp=N,1442μm,0.5s							
CIMO				AML	AML			
	comp=E,2520μm,0.4s							
AFL	**Alpe Faloria**	**0.24**	**268**	↑*e*P	**Pg**	**Pg**	**10 50 41.3**	**0.0**
CLUD	**Cludinico**	**0.26**	**108**	↑*e*P	**Pg**	**Pg**	**10 50 41.4**	**-0.2**
CLUD				*e*S	**Sg**	**Sg**	**10 50 45.2**	**+0.2**
CLUD	**Cludinico**	**0.26**	**108**	P	**Pg**	**Pg**	**10 50 41.4**	**-0.2**
CLUD				S	**Sg**	**Sg**	**10 50 45.7**	**+0.6**
CLUD				AML	AML			
	comp=N,2685μm,0.6s							
CLUD				AML	AML			
	comp=E,1900μm,0.5s							
CLUD				AML	AML			
	comp=N,2495μm,0.6s							
CLUD				AML	AML			
	comp=E,1940μm,0.4s							
CLUD				AML	AML			
	comp=E,1900μm,1.5s							
CLUD				AML	AML			
	comp=E,1940μm,1.6s							
CLUD				AML	AML			
	comp=N,2495μm,1.4s							
CLUD				AML	AML			
	comp=N,2685μm,1.4s							
CLUD				AML	AML			
	comp=E,1902μm,0.5s							
CLUD				AML	AML			
	comp=E,1940μm,0.4s							
CLUD				AML	AML			
	comp=N,2681μm,0.6s							
CLUD				AML	AML			
	comp=N,2497μm,0.6s							
CSO	**Casso**	**0.30**	**208**	↑*e*P	**Pg**	**Pg**	**10 50 41.9**	**-0.5**
CSO				*e*S	**Sg**	**Sg**	**10 50 46.4**	**+0.1**
ZOU	**Zoufplan**	**0.31**	**86**	↓*e*P	**Pg**	**Pg**	**10 50 42.1**	**-0.5**
ZOU				*e*S	**Sg**	**Sg**	**10 50 47.0**	**+0.3**
ZOU	**Zoufplan**	**0.31**	**86**	P	**Pg**	**Pg**	**10 50 42.4**	**-0.2**
ZOU				S	**Sg**	**Sg**	**10 50 47.6**	**+0.9**
ZOU				AML	AML			
	comp=E,4930μm,0.8s							
ZOU				AML	AML			
	comp=N,3520μm,0.7s							
ZOU				AML	AML			
	comp=N,3545μm,0.7s							
ZOU				AML	AML			
	comp=E,4825μm,0.8s							
ZOU				AML	AML			
	comp=E,4825μm,1.2s							
ZOU				AML	AML			
	comp=E,4930μm,1.2s							
ZOU				AML	AML			
	comp=N,3182μm,0.7s							
ZOU				AML	AML			
	comp=E,4930μm,0.8s							
ZOU				AML	AML			
	comp=N,3150μm,0.7s							
ZOU				AML	AML			
	comp=E,4824μm,0.8s							
FUSE	**Fusea**	**0.35**	**110**	↑*e*P	**Pg**	**Pg**	**10 50 43.0**	**-0.3**
FUSE				*e*S	**Sg**	**Sg**	**10 50 48.4**	**+0.4**
FUSE	**Fusea**	**0.35**	**110**	P	**Pg**	**Pg**	**10 50 43.0**	**-0.3**
FUSE				S	**Sg**	**Sg**	**10 50 48.5**	**+0.5**
MLNI	**Malnisio**	**0.39**	**171**	↓*e*P	**Pg**	**Pg**	**10 50 43.4**	**-0.7**
MLNI				*e*S	**Sg**	**Sg**	**10 50 49.6**	**+0.4**
APGO	**Alpago**	**0.40**	**196**	↑*e*P	**Pg**	**Pg**	**10 50 43.9**	**-0.4**
APGO				*e*S	**Sg**	**Sg**	**10 50 49.7**	**+0.2**
DST2	**Trieste**	**0.40**	**137**	P	**Pg**	**Pg**	**10 50 44.0**	**-0.2**
DST2				S	**Sg**	**Sg**	**10 50 51.0**	**+1.5**
DST2				AML	AML			
	comp=E,4210μm,0.6s							
DST2				AML	AML			
	comp=N,4175μm,0.4s							
DST2				AML	AML			
	comp=E,4210μm,0.5s							
DST2				AML	AML			
	comp=N,4175μm,0.5s							
DST2				AML	AML			
	comp=N,4171μm,0.5s							
DST2				AML	AML			
	comp=E,4212μm,0.6s							
AGOR	**Agordo**	**0.42**	**233**	*e*P	**Pg**	**Pg**	**10 50 44.3**	**-0.3**
AGOR				*e*S	**Sg**	**Sg**	**10 50 50.6**	**+0.6**
AGOR	**Agordo**	**0.42**	**233**	P	**Pg**	**Pg**	**10 50 45.0**	**+0.4**
AGOR				S	**Sb**	**Sb**	**10 50 52.7**	**+0.1**
PLRO	**Paularo**	**0.43**	**88**	↑*e*P	**Pg**	**Pg**	**10 50 44.5**	**-0.4**
PLRO	**Paularo**	**0.43**	**88**	P	**Pg**	**Pg**	**10 50 44.5**	**-0.4**
MPRI	**Monte Prat**	**0.44**	**133**	*e*P	**Pg**	**Pg**	**10 50 44.6**	**-0.4**
MPRI				*e*S	**Sg**	**Sg**	**10 50 51.1**	**+0.4**
MPRI	**Monte Prat**	**0.44**	**133**	P	**Pg**	**Pg**	**10 50 44.5**	**-0.4**
BOO	**Bordano**	**0.45**	**119**	↑*e*P	**Pg**	**Pg**	**10 50 44.7**	**-0.5**
BOO				*e*S	**Sg**	**Sg**	**10 50 51.6**	**+0.4**
BOO	**Bordano**	**0.45**	**119**	P	**Pg**	**Pg**	**10 50 44.8**	**-0.4**
FAU	**Forcella Aurin**	**0.49**	**231**	*e*P	**Pg**	**Pg**	**10 50 45.7**	**-0.2**
FAU				*e*S	**Sg**	**Sg**	**10 50 52.9**	**+0.6**
GEPF	**Gemona**	**0.50**	**122**	P	**Pg**	**Pg**	**10 50 45.8**	**-0.3**
GEPF				S	**Sb**	**Sb**	**10 50 54.0**	**-0.9**
GEPF				AML	AML			
	comp=E,1082μm,0.2s							
GEPF				AML	AML			
	comp=N,1155μm,1.1s							
GEPF				AML	AML			
	comp=N,1155μm,0.9s							
GEPF				AML	AML			
	comp=E,1082μm,0.2s							
GEPF				AML	AML			
	comp=N,1132μm,0.4s							
POLC	**Polcenigo**	**0.51**	**182**	P	**Pg**	**Pg**	**10 50 46.5**	**+0.2**
BUA	**Buia**	**0.52**	**127**	*e*Pg	**Pg**	**Pg**	**10 50 46.5**	**0.0**
CAE	**Caneva**	**0.54**	**187**	*e*Pg	**Pg**	**Pg**	**10 50 46.5**	**-0.3**
CAE	**Caneva**	**0.54**	**187**	P	**Pg**	**Pg**	**10 50 46.8**	**0.0**
FRE8	**Fregona**	**0.54**	**193**	P	**Pg**	**Pg**	**10 50 45.9**	**-0.9**
BRES	**Bressanone**	**0.57**	**287**	P	**Pg**	**Pg**	**10 50 47.3**	**-0.1**
BRES				S	**Sg**	**Sg**	**10 50 56.1**	**+1.1**
BRES				AML	AML			
	comp=E,1775μm,0.8s							
BRES				AML	AML			
	comp=E,1770μm,0.8s							
BRES				AML	AML			
	comp=N,1555μm,1.4s							
BRES				AML	AML			
	comp=E,1770μm,1.2s							
BRES				AML	AML			
	comp=N,1555μm,0.6s							
BRES				AML	AML			
	comp=E,1711μm,0.5s							
BRES				AML	AML			
	comp=N,1421μm,0.3s							
BAD	**Bernadia**	**0.58**	**121**	*e*Pg	**Pg**	**10 50 47.1**	**-0.5**
BAD	**Bernadia**	**0.58**	**121**	P	**Pg**	**10 50 46.8**	**-0.9**
PTCC	**Patocco-Chiusa**	**0.59**	**103**	P	**Pg**	**10 50 47.1**	**-0.6**
PTCC				S	**Sg**	**10 50 56.5**	**+1.0**
PTCC				AML	AML			
	comp=N,1740μm,0.5s							
PTCC				AML	AML			
	comp=E,1435μm,1.2s							
PTCC				AML	AML			
	comp=N,1740μm,1.5s							
PTCC				AML	AML			
	comp=E,1435μm,0.8s							
PTCC				AML	AML			
	comp=N,1740μm,0.5s							
PTCC				AML	AML			
	comp=E,1267μm,0.6s							
VINO	**Villanova**	**0.59**	**118**	*e*Pg	**Pg**	**10 50 47.3**	**-0.6**
VINO	**Villanova**	**0.59**	**118**	P	**Pg**	**10 50 47.0**	**-0.9**
VINO				S	**Sg**	**10 50 56.5**	**+0.8**
VINO				AML	AML			
	comp=E,893μm,1.1s							
VINO				AML	AML			
	comp=N,1190μm,0.5s							
VINO				AML	AML			
	comp=E,893μm,0.9s							
VINO				AML	AML			
	comp=N,1190μm,1.5s							
VINO				AML	AML			
	comp=E,835μm,0.4s							
VINO				AML	AML			
	comp=N,1189μm,0.5s							
VARN	**Col Varnada, M**	**0.62**	**208**	*e*Pg	**Pg**	**10 50 48.2**	**-0.2**
VARN	**Col Varnada, M**	**0.62**	**208**	P	**Pg**	**10 50 48.1**	**-0.2**
VARN				S	**Sb**	**10 50 58.6**	**+0.2**
VARN				AML	AML			
	comp=E,2850μm,0.7s							
VARN				AML	AML			
	comp=E,2845μm,0.7s							
VARN				AML	AML			
	comp=N,2140μm,0.5s							
VARN				AML	AML			
	comp=N,2105μm,0.6s							
VARN				AML	AML			
	comp=E,2850μm,1.3s							
VARN				AML	AML			
	comp=E,2845μm,1.3s							
VARN				AML	AML			
	comp=N,2106μm,0.6s							
VARN				AML	AML			
	comp=N,2138μm,0.5s							
VARN				AML	AML			
	comp=E,2844μm,0.7s							
VARN				AML	AML			
	comp=E,2854μm,0.7s							
ACOM	**Acomizza, Ital**	**0.68**	**89**	*e*Pg	**Pg**	**10 50 49.3**	**-0.3**
ACOM	**Acomizza, Ital**	**0.68**	**89**	P	**Pg**	**10 50 49.0**	**-0.6**
ACOM				S	**Sb**	**10 50 59.6**	**-0.8**
ACOM				AML	AML			
	comp=E,4045μm,0.3s							
ACOM				AML	AML			
	comp=N,3960μm,0.4s							
ACOM				AML	AML			
	comp=E,3825μm,0.3s							
ACOM				AML	AML			
	comp=N,3745μm,0.4s							
ACOM				AML	AML			
	comp=E,3825μm,1.7s							
ACOM				AML	AML			
	comp=E,4045μm,1.7s							
ACOM				AML	AML			
	comp=N,3958μm,0.4s							
ACOM				AML	AML			
	comp=N,3740μm,0.4s							
ACOM				AML	AML			
	comp=E,3826μm,0.3s							
ACOM				AML	AML			
	comp=E,4047μm,0.3s							
LSR	**Lussari**	**0.69**	**95**	*e*Pg	**Pg**	**10 50 49.8**	**0.0**
ZIAN	**Ziano**	**0.71**	**249**	*e*Pg	**Pg**	**10 50 50.1**	**-0.1**
ZIAN	**Ziano**	**0.71**	**249**	P	**Pg**	**10 50 49.8**	**-0.4**
ZIAN				S	**Sg**	**10 51 00.2**	**+0.7**
ZIAN				AML	AML			
	comp=E,815μm,0.6s							
ZIAN				AML	AML			
	comp=N,564μm,0.7s							
ZIAN				AML	AML			
	comp=E,576μm,0.6s							
ZIAN				AML	AML			
	comp=N,786μm,0.5s							
ZIAN				AML	AML			
	comp=E,814μm,0.6s							
ZIAN				AML	AML			
	comp=N,786μm,0.5s							
ZIAN				AML	AML			
	comp=E,575μm,0.6s							
ZIAN				AML	AML			
	comp=N,786μm,1.5s							
ZIAN				AML	AML			
	comp=E,814μm,1.4s							
ZIAN				AML	AML			
	comp=N,564μm,0.7s							
ZIAN				AML	AML			
	comp=E,575μm,0.6s							
ZIAN				AML	AML			
	comp=E,815μm,0.6s							
ZIAN				AML	AML			
	comp=N,786μm,0.5s							
ZIAN				AML	AML			
	comp=N,564μm,0.7s							
ZIAN				AML	AML			
	comp=N,562μm,0.6s							
COLI	**Coloredo**	**0.72**	**124**	*e*Pg	**Pg**	**10 50 49.9**	**-0.3**
PRED	**Cave del Predi**	**0.72**	**97**	*e*Pg	**Pg**	**10 50 50.1**	**-0.3**
PRED	**Cave del Predi**	**0.72**	**97**	P	**Pg**	**10 50 50.2**	**-0.3**
ROBS	**Robic**	**0.74**	**113**	*i* Pg	**Pg**	**10 50 50.1**	**-0.6**
ROBS				IAML		10 51 05.7		
	comp=Z,152nm,0.6s							
MYKA	**Terra Mystica**	**0.78**	**83**	*e*Pg	**Pg**	**10 50 51.2**	**-0.2**
	comp=Z,16nm,0.2s,SNR=7.1							
MYKA				*e*Sg	**Sg**	**10 51 01.5**	**0.0**
	comp=Z,155nm,0.6s							
CTI	**Castel Tesino**	**0.78**	**231**	P	**Pg**	**10 50 51.7**	**+0.3**
CTI				S	**Sb**	**10 51 03.2**	**+0.1**
CTI	**Castel Tesino**	**0.78**	**231**	P	**Pg**	**10 50 51.6**	**+0.2**
CTI				AML	AML			
	comp=E,1020μm,0.8s							
CTI				AML	AML			
	comp=N,1060μm,0.3s							
CTI				AML	AML			
	comp=E,1020μm,1.2s							
CTI				AML	AML			
	comp=E,962μm,0.3s							
CTI				AML	AML			
	comp=N,1061μm,0.3s							
KBA	**Koelnbreinsper**	**0.78**	**46**	*e*Pg	**Pg**	**10 50 51.2**	**-0.2**
	comp=N,43nm,0.2s,SNR=25							
KBA				*e*Sg	**Sg**	**10 51 01.8**	**+0.2**
	comp=N,183nm,0.3s							
KBA	**Koelnbreinsper**	**0.78**	**46**	*e*Pg	**Pg**	**10 50 51.4**	**-0.1**
KBA				*e*Sg	**Sg**	**10 51 02.0**	**+0.3**
KOSI	**Kohlern**	**0.80**	**265**	P	**Pg**	**10 50 51.6**	**-0.2**
KOSI				AML	AML			
	comp=N,1014μm,0.6s							
KOSI				AML	AML			
	comp=N,1014μm,1.4s							
KOSI				AML	AML			
	comp=E,1024μm,0.5s							
KOSI				AML	AML			
	comp=N,1014μm,0.6s							
KOSI				AML	AML			
	comp=E,1026μm,0.5s							
CGRP	**Cima Grappa**	**0.83**	**218**	*e*Pg	**Pg**	**10 50 52.2**	**-0.1**
CGRP	**Cima Grappa**	**0.83**	**218**	P	**Pb**	**10 50 53.1**	**-0.1**
CGRP				AML	AML			
	comp=E,1555μm,0.8s							
CGRP				AML	AML			
	comp=N,1695μm,1.0s							
CGRP				AML	AML			
	comp=N,1645μm,1.0s							
CGRP				AML	AML			
	comp=E,1550μm,0.8s							
CGRP				AML	AML			
	comp=E,1495μm,0.8s							
CGRP				AML	AML			
	comp=N,1696μm,1.0s							
CGRP				AML	AML			
	comp=N,1647μm,1.0s							
CGRP				AML	AML			
	comp=E,1551μm,0.8s							
CGRP				AML	AML			
	comp=E,1494μm,0.8s							
BOSI	**Bolzano**	**0.83**	**268**	P	**Pg**	**10 50 51.1**	**-1.4**
ASOL	**Asolo**	**0.85**	**211**	P	**Pg**	**10 50 53.2**	**+0.3**
DRE	**Drenchia**	**0.86**	**115**	*e*Pg	**Pg**	**10 50 52.2**	**-0.6**
DRE	**Drenchia**	**0.86**	**115**	P	**Pg**	**10 50 52.0**	**-0.9**
ROSI	**Rosskopf**	**0.86**	**297**	P	**Pg**	**10 50 52.7**	**-0.3**
ROSI				AML	AML			
	comp=N,1730μm,0.7s							
ROSI				AML	AML			
	comp=E,1430μm,0.7s							
ROSI				AML	AML			
	comp=N,1730μm,1.3s							
ROSI				AML	AML			
	comp=E,1432μm,0.7s							
ROSI				AML	AML			
	comp=N,1734μm,0.7s							
LESA	**Schwarzleotal**	**0.89**	**7**	*e*Pg	**Pg**	**10 50 53.5**	**-0.2**
	comp=N,30nm,0.2s							
LESA				*e*Sg	**Sg**	**10 51 05.1**	**-0.1**
	comp=N,46nm,0.2s							
CADS	**Cadrg**	**0.89**	**110**	*e*Pg	**Pg**	**10 50 53.0**	**-0.6**
CADS				IAML		10 51 11.0		
	comp=Z,224nm,0.5s							
WTTA	**Wattenberg**	**0.95**	**320**	*e*Pg	**Pg**	**10 50 54.6**	**-0.1**
	comp=Z,80nm,0.2s,SNR=31							
WTTA				*e*Sg	**Sg**	**10 51 07.0**	**0.0**
	comp=Z,320nm,0.4s							
WTTA	**Wattenberg**	**0.95**	**320**	*e*Pg	**Pg**	**10 50 54.6**	**-0.1**
WTTA				*e*Sg	**Sg**	**10 51 07.1**	**+0.1**
WATA	**Walderalm**	**1.03**	**321**	*e*Pg	**Pg**	**10 50 56.1**	**-0.1**
	comp=Z,47nm,0.3s,SNR=23							
WATA				*e*Sg	**Sg**	**10 51 09.6**	**0.0**
	comp=Z,78nm,0.3s							
VOJS	**Vojsko**	**1.07**	**118**	*i* Pg	**Pg**	**10 50 56.3**	**-0.7**
VOJS				IAML		10 51 17.9		
	comp=Z,184nm,0.4s							
SQTA	**Sankt Quirin**	**1.13**	**308**	*e*Pg	**Pg**	**10 50 57.8**	**-0.4**
	comp=Z,19nm,0.2s,SNR=17							
SQTA				*e*Sg	**Sg**	**10 51 12.9**	**+0.1**
	comp=Z,100nm,0.4s							
DOSS	**Dosso del Somm**	**1.14**	**235**	P	**Pb**	**10 50 58.8**	**+0.3**
DOSS				S	**Sn**	**10 51 16.0**	**+1.2**
GAGG	**Gaggia**	**1.18**	**248**	P	**Pg**	**10 50 58.7**	**-0.4**
GAGG				S	**Sn**	**10 51 18.6**	**+2.9**
RJOB	**Jochberg**	**1.21**	**9**	*e*Pg	**Pg**	**10 50 59.1**	**-0.6**
RJOB				*e*Sg	**Sn**	**10 51 17.2**	**+0.7**
JAVS	**Javornik**	**1.25**	**121**	*i* Pg	**Pg**	**10 51 01.2**	**+0.8**
JAVS				IAML		10 51 24.5		
	comp=Z,139nm,0.3s							
MOTA	**Moosalm**	**1.27**	**310**	*e*Pg	**Pn**	**10 50 59.9**	**-0.7**
	comp=Z,6.3nm,0.3s							
MOTA				*e*Sg	**Sg**	**10 51 17.1**	**0.0**
	comp=Z,64nm,0.5s							
TEOL	**Teolo**	**1.32**	**207**	AML	AML			
	comp=E,4656μm,0.9s							
TEOL				AML	AML			
	comp=E,4655μm,0.9s							
TEOL				AML	AML			
	comp=N,5580μm,0.8s							
TEOL				AML	AML			
	comp=N,5581μm,0.8s							
FETA	**Feichten**	**1.33**	**292**	*e*Pg	**Pn**	**10 51 01.1**	**-0.3**
	comp=N,30nm,0.3s,SNR=12							
FETA				*i* Sg	**Sb**	**10 51 19.0**	**+0.1**
	comp=N,81nm,0.5s							
VARA	**Varagna**	**1.34**	**238**	AML	AML			
	comp=N,1735μm,1.3s							
VARA				AML	AML			
	comp=N,1735μm,0.7s							
VARA				AML	AML			
	comp=E,2125μm,0.5s							
VARA				AML	AML			
	comp=N,2069μm,0.5s							
VARA				AML	AML			
	comp=E,2121μm,0.5s							
VARA				AML	AML			
	comp=N,1585μm,0.5s							
VARA				AML	AML			
	comp=E,1649μm,0.5s							
BIOA	**Bad Ischl, Aus**	**1.38**	**33**	*e*Pg	**Pn**	**10 51 02.3**	**+0.2**
	comp=E,91nm,0.7s,SNR=39							
BIOA				*e*Sg	**Sg**	**10 51 21.9**	**+1.1**
	comp=E,147nm,0.3s							
OBKA	**Obir**	**1.40**	**90**	*e*Pg	**Pn**	**10 51 02.4**	**0.0**
	comp=E,37nm,0.3s,SNR=12							
OBKA				*e*Sg	**Sg**	**10 51 21.9**	**+0.6**
	comp=E,247nm,0.5s							
OBKA	**Obir**	**1.40**	**90**	*e*Pg	**Pb**	**10 51 03.2**	**+0.3**
OBKA				*e*Sg	**Sg**	**10 51 22.4**	**+1.0**
BALD	**Monte Baldo**	**1.46**	**235**	P	**Pg**	**10 51 05.3**	**+0.8**
BALD				S	**Sg**	**10 51 26.4**	**+2.9**
LJU	**Ljubljana**	**1.47**	**109**	AML	AML			
	comp=E,3215μm,0.5s							
LJU				AML	AML			
	comp=E,3215μm,1.5s							
LJU				AML	AML			
	comp=N,3470μm,0.8s							
LJU				AML	AML			
	comp=N,3470μm,1.2s							
LJU				AML	AML			
	comp=E,2642μm,0.6s							
LJU				AML	AML			
	comp=N,3469μm,0.8s							
BRMO	**Bormio**	**1.49**	**268**	P	**Pn**	**10 51 04.1**	**+0.5**
BRMO				S	**Sb**	**10 51 23.9**	**+0.3**
RETA	**Reutte**	**1.54**	**309**	*e*Pg	**Pb**	**10 51 05.7**	**+0.5**
	comp=N,3.9nm,0.3s,SNR=15							
RETA				*e*Sg	**Sg**	**10 51 27.5**	**+1.8**
	comp=N,57nm,0.5s							
KW1	**Garching a.d.**	**1.59**	**2**	*e*Pg	**Pg**	**10 51 08.3**	**+1.5**
KW1				*e*Sg	**Sg**	**10 51 30.7**	**+3.3**
BE1	**Monatshausen**	**1.64**	**328**	*e*Pg	**Pg**	**10 51 08.4**	**+0.6**
BE1				*e*Sg	**Sg**	**10 51 32.6**	**+3.6**
BERNI	**Berninapass**	**1.73**	**267**	P	**Pb**	**10 51 08.4**	**-0.3**
SOKA	**Soboth**	**1.73**	**84**	*e*Pg	**Pb**	**10 51 08.6**	**0.0**
	comp=N,11nm,0.3s							
SOKA				*e*Sg	**Sg**	**10 51 32.4**	**+0.3**
	comp=N,51nm,0.4s							
OBER	**Oberstdorf**	**1.76**	**300**	*e*Pg	**Pg**	**10 51 10.7**	**+0.5**
OBER				*e*Sg	**Sg**	**10 51 35.6**	**+2.7**
VISS	**Visnje**	**1.77**	**114**	*i* Pn	**Pb**	**10 51 08.9**	**-0.2**
MOA	**Molln**	**1.77**	**41**	*e*Pg	**Pg**	**10 51 10.1**	**-0.2**
	comp=N,98nm,0.6s,SNR=30							
MOA				*e*Sg	**Sg**	**10 51 33.9**	**+0.6**
	comp=N,44nm,0.5s							
MOA	**Molln**	**1.77**	**41**	*e*Pg	**Pg**	**10 51 10.2**	**-0.1**
MOA				*e*Sg	**Sg**	**10 51 34.2**	**+0.9**
FUR	**Furstenfeldbru**	**1.84**	**333**	*e*Pg	**Pg**	**10 51 12.1**	**+0.5**
FUR				*e*Sg	**Sg**	**10 51 36.3**	**+0.8**
BRJN	**Brijuni**	**1.84**	**152**	*e*Pn	**Pb**	**10 51 10.2**	**-0.1**
BRJN				Sn	**Sb**	**10 51 33.5**	**-0.1**
GBRS	**Gornja Briga**	**1.88**	**121**	*e*Pn	**Pb**	**10 51 10.7**	**-0.4**
GBRS				IAML		10 51 44.1		
	comp=Z,246nm,0.7s							
DAVA	**Damuels**	**1.96**	**293**	*e*Pg	**Pg**	**10 51 13.9**	**-0.1**
	comp=Z,4.1nm,0.2s,SNR=32							
DAVA				*e*Sg	**Sg**	**10 51 41.9**	**+2.4**
	comp=Z,171nm,0.5s							
DAVA	**Damuels**	**1.96**	**293**	*e*Pg	**Pg**	**10 51 15.2**	**+1.2**
DAVA				*e*Sg	**Sg**	**10 51 41.6**	**+2.2**
UBR	**Ueberruh**	**2.01**	**306**	*e*Pg	**Pg**	**10 51 15.0**	**+0.1**
UBR				*e*Sg	**Sg**	**10 51 42.7**	**+1.7**
CAPR	**Capriolo**	**2.02**	**244**	AML	AML			
	comp=N,307μm,0.7s							
CAPR				AML	AML			
	comp=E,398μm,1.0s							
CAPR				AML	AML			
	comp=N,307μm,1.3s							
ARSA	**Arzberg**	**2.18**	**70**	*e*Pn	**Pb**	**10 51 15.0**	**-1.1**
	comp=N,14nm,0.3s,SNR=7.2							

ARSA				*e*Sn	**Sn**	**10 51 41.6**	**+1.4**
	comp=N,33nm,0.7s						
ARSA	**Arzberg**	**2.18**	**70**	*e*Sg	**Sg**	**10 51 46.3**	**0.0**
OZLJ	**Ozalj**	**2.25**	**113**	*e*Pn	**Pn**	**10 51 15.6**	**+1.7**
GEC2	**GERESS Array S**	**2.44**	**19**	*e*Pn	**Pn**	**10 51 18.2**	**+1.4**
GEC2				*e*Sg	**Sg**	**10 51 53.9**	**-1.0**
CKRC	**Cesky Krumlov**	**2.58**	**27**	*e*PN	**Pn**	**10 51 19.9**	**+1.3**
CKRC				*e*PG	**Pb**	**10 51 24.3**	**+1.3**
CKRC				*e*SG	**Sb**	**10 51 57.1**	**+2.2**
	comp=N,47nm,0.7s						
WET	**Wettzell**	**2.62**	**5**	*e*Pn	**Pn**	**10 51 20.7**	**+1.6**
WET				*e*Sg	**Sg**	**10 52 00.9**	**+0.3**
WALHA	**Wallhausen, DE**	**2.62**	**299**	*e*Sg	**Sg**	**10 52 01.4**	**+0.8**
WILA	**Wila**	**2.63**	**291**	*e*Sg	**Sg**	**10 52 01.6**	**+0.8**
CONA	**Conrad Observa**	**2.67**	**57**	*e*Pn	**Pn**	**10 51 21.8**	**+2.0**
	comp=N,2.2nm,0.2s						
CONA				*e*Sn	**Sn**	**10 51 52.3**	**0.0**
	comp=N,42nm,0.7s						
KHC	**Kasperske Hory**	**2.69**	**15**	*e*PN	**Pn**	**10 51 21.7**	**+1.6**
KHC				*e*PG	**Pg**	**10 51 27.5**	**-0.5**
KHC				*e*SG	**Sb**	**10 52 00.4**	**+2.4**
	comp=N,64nm,0.6s						
EUCT	**Pavia**	**2.72**	**242**	AML	AML		
	comp=E,548μm,0.5s						
EUCT				AML	AML		
	comp=E,548μm,1.5s						
EUCT				AML	AML		
	comp=N,630μm,1.3s						
EUCT				AML	AML		
	comp=N,630μm,0.7s						
EUCT				AML	AML		
	comp=N,444μm,0.1s						
EUCT				AML	AML		
	comp=E,489μm,0.6s						
GUT	**Gutenstein**	**2.78**	**305**	P	**Pb**	**10 51 24.1**	**-2.3**
RONA	**Rosalia, Austr**	**2.83**	**64**	*e*Pn	**Pn**	**10 51 23.7**	**+1.8**
	comp=E,2.6nm,0.2s						
RONA				*e*Sn	**Sn**	**10 51 59.1**	**+2.9**
	comp=E,16nm,0.5s						
EMING	**Emmingen-Lipti**	**2.85**	**300**	*e*Pn	**Pn**	**10 51 25.1**	**+2.8**
EMING				*e*Sg	**Sg**	**10 52 07.8**	**-0.3**
APEC	**Apecchio**	**2.98**	**181**	AML	AML		
	comp=N,882μm,0.8s						
APEC				AML	AML		
	comp=N,221μm,0.8s						
APEC				AML	AML		
	comp=E,312μm,0.7s						
APEC				AML	AML		
	comp=E,880μm,1.2s						
APEC				AML	AML		
	comp=N,221μm,0.8s						
APEC				AML	AML		
	comp=E,313μm,0.7s						
SLE	**Schleitheim**	**3.01**	**295**	S	**Sg**	**10 52 12.2**	**-1.0**
SLE	**Schleitheim**	**3.01**	**295**	P	**Pn**	**10 51 27.1**	**+2.6**
SLE	**Schleitheim**	**3.01**	**295**	*e*Pn	**Pn**	**10 51 27.1**	**+2.6**
SLE				*e*Sg	**Sg**	**10 52 12.5**	**-0.7**
ZVC	**Zvikov**	**3.11**	**20**	*e*PN	**Pn**	**10 51 27.9**	**+2.1**
ZVC				*e*PG	**Pb**	**10 51 34.1**	**+2.1**
ZVC				*e*SG	**Sg**	**10 52 14.9**	**-1.4**
	comp=E,78nm,0.9s						
METMA	**Mettma DE**	**3.15**	**293**	*e*Pn	**Pn**	**10 51 28.7**	**+2.4**
METMA				*e*Sg	**Sg**	**10 52 16.9**	**-0.5**
SULZ	**Cheisacher**	**3.18**	**290**	*e*Sg	**Sg**	**10 52 18.2**	**-0.3**
EL6	**Elcito**	**3.23**	**173**	AML	AML		
	comp=N,266μm,0.6s						
EL6				AML	AML		
	comp=E,225μm,0.8s						
ROTZ	**Rotzenmuhle**	**3.24**	**356**	*e*Pn	**Pn**	**10 51 28.6**	**+1.0**
ROTZ				*e*Sg	**Sg**	**10 52 21.3**	**+0.9**
BERGE	**Lenzkirch (DE)**	**3.25**	**296**	*e*Pn	**Pn**	**10 51 30.0**	**+2.2**
BERGE				*e*Sg	**Sg**	**10 52 21.7**	**+0.9**
MURB	**Monte Urbino**	**3.27**	**180**	AML	AML		
	comp=E,318μm,0.4s						
MURB				AML	AML		
	comp=E,318μm,1.6s						
MURB				AML	AML		
	comp=N,312μm,0.4s						
BFO	**Black Forest**	**3.37**	**304**	*e*Pn	**Pn**	**10 51 31.4**	**+2.1**
BFO				*e*Sg	**Sg**	**10 52 24.1**	**-0.4**
TREC	**Trest**	**3.40**	**35**	*e*PN	**Pn**	**10 51 30.6**	**+0.7**
TREC				*e*PG	**Pg**	**10 51 40.1**	**-1.5**
BALST	**Balsthal**	**3.40**	**285**	*e*Pn	**Pn**	**10 51 32.6**	**+2.6**
BALST				*e*Sg	**Sg**	**10 52 26.5**	**+0.8**
KIZ	**Kirchzarten**	**3.44**	**296**	S	**Sn**	**10 52 14.0**	**+2.5**
KIZ	**Kirchzarten**	**3.44**	**296**	P	**Pn**	**10 51 32.7**	**+2.2**
MANZ	**Manzenberg**	**3.46**	**356**	*e*Pn	**Pn**	**10 51 31.9**	**+1.2**
MANZ				*e*Sg	**Sg**	**10 52 27.8**	**+0.3**
CSP1	**Cessapalombo**	**3.48**	**172**	AML	AML		
	comp=E,186μm,0.8s						
CSP1				AML	AML		
	comp=E,186μm,1.2s						
CSP1				AML	AML		
	comp=N,188μm,0.9s						
CSP1				AML	AML		
	comp=N,188μm,0.9s						
CSP1				AML	AML		
	comp=E,187μm,1.2s						
KRUC	**Moravsky**	**3.63**	**45**	*e*PN	**Pn**	**10 51 34.1**	**+1.1**
KRUC				*e*PG	**Pb**	**10 51 43.3**	**+2.4**
KRUC				*e*SG	**Sg**	**10 52 30.8**	**-2.2**
ZIRJ	**Zirje**	**3.63**	**141**	*e*Pn	**Pn**	**10 51 34.8**	**+1.8**
BABA	**Baden-Baden-Ne**	**3.65**	**308**	P	**Pn**	**10 51 35.3**	**+2.1**
PRU	**Pruhonice**	**3.71**	**21**	*e*SG	**Sg**	**10 52 33.8**	**-1.6**
	comp=E,47nm,0.6s						
MODS	**Modra-Piesok**	**3.71**	**59**	*e*PN	**Pn**	**10 51 35.7**	**+1.6**
MODS				*e*SG	**Sg**	**10 52 33.5**	**-2.0**
RIBO	**Ribolla Roccas**	**3.74**	**197**	AML	AML		
	comp=E,252μm,0.1s						
REMY	**Saint-Rhmy-en**	**3.79**	**261**	P	**Pb**	**10 51 40.1**	**-3.7**
VRAC	**Vranov**	**3.89**	**43**	*e*PN	**Pn**	**10 51 37.9**	**+1.3**
VRAC				*e*PG	**Pb**	**10 51 47.9**	**+2.5**
VRAC				*e*SG	**Sg**	**10 52 38.9**	**-2.5**
LSD	**Lago del Serru**	**3.91**	**256**	P	**Pn**	**10 51 39.3**	**+2.2**
MILB	**Miltenberg**	**3.94**	**328**	*e*Pn	**Pn**	**10 51 39.5**	**+2.3**
MILB				*e*Sg	**Sg**	**10 52 42.4**	**-0.5**
ECH	**Echery**	**4.01**	**297**	P	**Pn**	**10 51 40.6**	**+2.3**
ECH				S	**Sn**	**10 52 29.2**	**+3.7**
ECH	**Echery**	**4.01**	**297**	*e*Pn	**Pn**	**10 51 40.2**	**+1.9**
ECH				*e*Sg	**Sg**	**10 52 43.9**	**-1.4**
CDF	**Champ du Feu**	**4.02**	**300**	*e*Pn	**Pn**	**10 51 40.1**	**+1.6**
CDF				*e*Sg	**Sg**	**10 52 45.1**	**-0.5**
	comp=E,60nm,0.7s						
HINF	**Hinteralfeld**	**4.08**	**290**	*e*Pn	**Pn**	**10 51 40.6**	**+1.5**
HINF	**Hinteralfeld**	**4.08**	**290**	*e*Pg	**Pg**	**10 51 54.3**	**-0.2**
HINF				*e*Sn	**Sn**	**10 52 25.6**	**-1.4**
	comp=E,14nm,0.3s						
MOX	**Moxa**	**4.15**	**352**	*e*Pn	**Pn**	**10 51 41.4**	**+1.2**
MOX				*e*Sg	**Sg**	**10 52 48.8**	**-1.0**
LPG	**La Plagne**	**4.16**	**258**	*e*Pn	**Pn**	**10 51 44.6**	**+4.2**
LPG				*e*Sn	**Sn**	**10 52 28.9**	**-0.5**
	comp=E,22nm,0.6s						
LPL	**La Plagne**	**4.16**	**258**	*e*Pn	**Pn**	**10 51 44.3**	**+3.8**
LPL				*e*Sn	**Sn**	**10 52 29.9**	**+0.5**
	comp=E,29nm,0.7s						
MBDF	**Montbardon**	**4.42**	**248**	*e*Pn	**Pn**	**10 51 45.0**	**+1.0**
MBDF				*e*Sn	**Sn**	**10 52 35.5**	**-0.3**
	comp=E,23nm,0.6s						
BRG	**Berggiesshubel**	**4.44**	**12**	Pn	**Pn**	**10 51 46.1**	**+2.0**
BRG				Amp		10 51 46.9	
	comp=Z,3.4nm,0.6s						
BRG	**Berggiesshubel**	**4.44**	**12**	Pg	**Pg**	**10 52 00.7**	**-0.7**
BRG				Amp		10 52 03.4	
	comp=Z,7.6nm,0.6s						
BRG	**Berggiesshubel**	**4.44**	**12**	Sn	**Sn**	**10 52 39.0**	**+3.0**
BRG				Amp		10 52 40.8	
	comp=Z,7.1nm,0.7s						
BRG	**Berggiesshubel**	**4.44**	**12**	Sg	**Sg**	**10 52 58.1**	**-0.8**
BRG				Amp		10 53 05.8	
	comp=Z,32nm,0.8s						
CABF	**La Chapelle**	**4.44**	**273**	*e*Pn	**Pn**	**10 51 47.0**	**+2.8**
CABF				*e*Sn	**Sn**	**10 52 34.3**	**-1.8**
HAU	**Haudompre**	**4.45**	**291**	*e*Pn	**Pn**	**10 51 45.7**	**+1.4**
HAU	**Haudompre**	**4.45**	**291**	*e*Pg	**Pg**	**10 52 01.3**	**-0.4**
HAU				*e*Sn	**Sn**	**10 52 32.3**	**-4.1**
	comp=Z,35nm,0.6s						
SBF	**Sospel**	**4.48**	**235**	*e*Pn	**Pn**	**10 51 47.1**	**+2.4**
SBF				*e*Sn	**Sn**	**10 52 36.7**	**-0.4**
	comp=Z,10nm,0.4s						
JAUF	**Jausiers**	**4.58**	**245**	P	**Pn**	**10 51 49.6**	**+3.5**
TNS	**Taunus Mts**	**4.58**	**325**	*e*Pn	**Pn**	**10 51 48.7**	**+2.7**
TNS				*e*Sg	**Sg**	**10 53 04.8**	**+1.4**
VYHS	**Vyhne**	**4.70**	**63**	*e*PN	**Pn**	**10 51 44.7**	**-3.0**
VYHS				*e*SG	**Sg**	**10 53 05.2**	**-2.2**
PGF	**Pioggiola**	**4.72**	**214**	*e*Pn	**Pn**	**10 51 48.5**	**+0.5**
PGF				*e*Sn	**Sn**	**10 52 41.4**	**-1.6**
	comp=Z,9.5nm,0.3s						
CLL	**Collm**	**4.79**	**4**	*e*Pn	**Pn**	**10 51 50.0**	**+1.2**
CLL				*e*Pg	**Pg**	**10 52 07.0**	**-1.0**
CLL				*i* x	x	10 52 13.7	
CLL				*e*Sn	**Sn**	**10 52 37.0**	**-7.4**
CLL				*e*x	x	10 52 54.0	
CLL				*e*Sg	**Sg**	**10 53 08.0**	**-2.0**
	comp=Z,31nm,0.9s						
OGSM	**Saint Maurice**	**4.84**	**261**	P	**Pn**	**10 51 53.0**	**+3.4**
GRN	**Grenoble**	**4.91**	**257**	P	**Pn**	**10 51 54.0**	**+3.4**
ORIF	**Oris-en-Rattie**	**4.93**	**253**	*e*Pn	**Pn**	**10 51 54.4**	**+3.5**
ORIF				*e*Sn	**Sn**	**10 52 47.0**	**-1.1**
	comp=Z,32nm,0.8s						
PAGF	**Fort de Pagny**	**5.03**	**296**	*e*Pn	**Pn**	**10 51 55.2**	**+3.0**
	baz=113						
PAGF				*e*Sn	**Sn**	**10 52 47.7**	**-2.7**
PAGF				*e*Sg	**Sg**	**10 53 16.1**	**-1.7**
	comp=Z,33nm,0.7s						
LMR	**La Mourre**	**5.34**	**235**	*e*Pn	**Pn**	**10 51 57.4**	**+1.0**
LMR				*e*Sn	**Sn**	**10 52 56.6**	**-1.5**
	comp=Z,1.5nm,0.2s						
SFTF	**Sexfontaines**	**5.35**	**291**	*e*Pn	**Pn**	**10 51 57.4**	**+0.8**
SFTF				*e*Sn	**Sn**	**10 52 56.2**	**-2.3**
SFTF				*e*Sg	**Sg**	**10 53 26.9**	**-1.3**
	comp=Z,12nm,0.5s						
LANS	**Liptovska Anna**	**5.36**	**58**	*e*PN	**Pn**	**10 51 56.5**	**-0.2**
SAVF	**Savonnieres en**	**5.42**	**295**	*e*Pn	**Pn**	**10 51 58.7**	**+1.1**
SAVF				*e*Sn	**Sn**	**10 52 57.3**	**-2.8**
	comp=Z,2.6nm,0.3s						
SAVF				*e*Sn	**Sn**	**10 52 57.6**	**-2.5**
	comp=Z,3.8nm,0.2s						
MEZF	**Maizieres J'vi**	**5.43**	**294**	*e*Pn	**Pn**	**10 51 58.8**	**+1.1**
	baz=111						
MEZF	**Maizieres J'vi**	**5.43**	**294**	*e*Pg	**Pg**	**10 52 19.2**	**-1.2**
MEZF				*e*Sn	**Sn**	**10 52 58.3**	**-2.0**
MEZF				*e*Sg	**Sg**	**10 53 28.7**	**-2.0**
	comp=Z,14nm,0.6s						
SMRF	**Simiane la Rot**	**5.54**	**245**	*e*Pn	**Pn**	**10 52 02.0**	**+2.8**
SMRF	**Simiane la Rot**	**5.54**	**245**	*e*Pg	**Pg**	**10 52 21.7**	**-0.7**
SMRF				*e*Sn	**Sn**	**10 53 00.7**	**-2.3**
SMRF				*e*Sg	**Sg**	**10 53 34.1**	**0.0**
	comp=Z,16nm,1.0s						
SSB	**Saint Sauveur**	**5.71**	**260**	P	**Pn**	**10 52 03.7**	**+2.1**
VIVF	**Saint-Julien-I**	**5.75**	**256**	*e*Pn	**Pn**	**10 52 03.8**	**+1.6**
VIVF				*e*Sn	**Sn**	**10 53 07.7**	**-0.6**
	comp=Z,16nm,0.8s						
LOR	**Lormes**	**5.98**	**280**	*e*Pn	**Pn**	**10 52 07.2**	**+1.9**
	baz=91						
LOR	**Lormes**	**5.98**	**280**	*e*Pg	**Pg**	**10 52 31.3**	**+0.3**
	baz=92						
LOR				*e*Sn	**Sn**	**10 53 10.4**	**-3.6**
	comp=Z,9.8nm,0.5s,baz=96						
SMF	**Signal de Mont**	**5.99**	**274**	*e*Pn	**Pn**	**10 52 07.7**	**+2.3**
SMF				*e*Sn	**Sn**	**10 53 11.5**	**-2.6**
	comp=Z,30nm,0.6s						
SSF	**Saint Saulge**	**6.21**	**278**	*e*Pn	**Pn**	**10 52 09.6**	**+1.1**
SSF	**Saint Saulge**	**6.21**	**278**	*e*Pg	**Pg**	**10 52 34.3**	**-1.1**
SSF				*e*Sn	**Sn**	**10 53 17.3**	**-2.4**
	comp=Z,1.7nm,0.3s						
GIVF	**Givet**	**6.25**	**308**	*e*Sn	**Sn**	**10 53 16.8**	**-3.8**
AVF	**Avril sur Loir**	**6.32**	**276**	*e*Pn	**Pn**	**10 52 12.0**	**+2.1**
AVF				*e*Sn	**Sn**	**10 53 19.9**	**-2.3**
	comp=Z,13nm,0.6s						
BAIF	**Baives**	**6.57**	**305**	*e*Pn	**Pn**	**10 52 13.7**	**+0.4**
BAIF	**Baives**	**6.57**	**305**	*e*Pg	**Pg**	**10 52 40.2**	**-2.0**
BAIF				*e*Sn	**Sn**	**10 53 24.7**	**-3.7**
BAIF				*e*Sg	**Sg**	**10 54 04.4**	**-2.9**
	comp=Z,14nm,0.7s						
LASF	**Ste Croix**	**6.59**	**251**	*e*Pn	**Pn**	**10 52 15.2**	**+1.6**
LASF				*e*Sn	**Sn**	**10 53 25.9**	**-3.1**
	comp=Z,24nm,0.7s						
BGF	**Bois d'Agland**	**6.68**	**274**	*e*Pn	**Pn**	**10 52 17.1**	**+2.3**
BGF				*e*Sn	**Sn**	**10 53 28.5**	**-2.6**
	comp=Z,21nm,0.4s						
HYF	**Humbligny**	**6.81**	**280**	*e*Pn	**Pn**	**10 52 17.4**	**+0.7**
HYF	**Humbligny**	**6.81**	**280**	*e*P	Pn	10 52 21.7	+5.0
HYF				*e*Sn	**Sn**	**10 53 30.6**	**-3.8**
TCF	**Toulx Ste Croi**	**7.14**	**272**	*e*Pn	**Pn**	**10 52 23.5**	**+2.4**
TCF				*e*Sn	**Sn**	**10 53 39.5**	**-2.9**
	comp=Z,4.9nm,0.4s						
CAF	**Calviac**	**7.50**	**261**	*e*Pn	**Pn**	**10 52 27.2**	**+1.1**

*IDC **17** 10:52:45.8±15.0, 56.°14S×27.°24W, h145km±140km, mb3.3/2, mbtmp3.9/3, ML4.2/1, Error ellipse: s-maj=84.0km s-min=39.9km az=115.0*

ISC 17 10:52:40.4±1.1, 56.°1S±0.°2×27.°6W±0.°4, h100km, n11, σ0°69/11, 4C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.88**	**158**	⇑P	**P**	**10 56 31.6**	**+1.1**
	comp=Z,2.9nm,0.8s						
VNA3	**Neumayer Olymp**	**17.07**	**160**	⇑P	**Pn**	**10 56 31.7**	**-0.7**
	comp=Z,2.7nm,0.9s						
VNA2	**Neumayer--Watz**	**17.28**	**158**	⇑P	**P**	**10 56 35.2**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=318,slow=11						
SNAA	**Sanae**	**18.84**	**156**	⇑P	**P**	**10 56 51.8**	**-0.2**
	comp=Z,86nm,0.5s						
SNAA	**Sanae**	**18.84**	**156**	P	**P**	**10 56 51.9**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=303,slow=11,SNR=32						
	comp=Z,2.5nm,0.5s						
TROLL	**Troll, Antarti**	**20.35**	**153**	⇓P	**P**	**10 57 08.2**	**-0.3**
	comp=Z,156nm,0.5s						
QSPA	**South Pole Qui**	**34.20**	**180**	P	**P**	**10 59 16.6**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=207,slow=2.1,SNR=13						
	comp=Z,0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**73.16**	**30**	P	**P**	**11 04 00.6**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=192,slow=6.3,SNR=1.5						
	comp=Z,0.3nm,0.4s						
INK	**Inuvik**	**145.66**	**321**	PKPbc	**PKPab**	**11 12 06.0**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=84,slow=1.5,SNR=2.8						
ILAR	**Eielson Array**	**149.95**	**312**	PKPbc	**PKPbc**	**11 12 16.9**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=118,slow=1.8,SNR=8.1						
SONM	**Songino Array**	**150.95**	**87**	PKPbc	**PKPbc**	**11 12 19.6**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=243,slow=3.6,SNR=2.8						

*DRS **17** 11:15:28.3, 43.°16N×46.°19E, h18km*
*NORS **17** 11:15:28.1, 43.°16N×46.°20E, h13km, MPVA3.7*

MOS 17 11:15:26.9, 43.°20N×46.°18E, h12km, MPVA3.5, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.35**	**111**	*e*Pg	Pb	11 15 35.5	+0.4
DLMR				*e*Sg	Sb	11 15 41.0	+0.4
DBC	**Dubki**	**0.51**	**110**	*i* Pg	Pb	11 15 38.8	+1.0
	33nm,0.2s						
DBC				*e*Sg	Sb	11 15 46.6	+1.5
	88nm,0.2s						
BTLR	**Botlikh**	**0.53**	**177**	*e*Pg	Pb	11 15 39.1	+0.9
	37nm,0.5s						
BTLR				*e*Sg	Sb	11 15 47.1	+1.3
	399nm,0.2s						
KRNR	**Karanay**	**0.65**	**124**	*e*Pg	Pn	11 15 41.5	-0.5
	9.0nm,0.2s						
KRNR				*e*Sg	Sn	11 15 50.8	-1.3
	50nm,0.2s						
UNCR	**Uncukul**	**0.66**	**137**	*i* Pg	Pn	11 15 41.7	-0.4
	25nm,0.3s						
UNCR				*e*Sg	Sn	11 15 51.3	-1.0
	138nm,0.3s						
BUJR	**Buynaksk**	**0.78**	**118**	*e*Pg	Pn	11 15 45.1	+1.4
BUJR				*e*Sg	Sn	11 15 56.8	+1.6
ARKR	**Arakani**	**0.84**	**134**	*e*Pg	Pn	11 15 45.2	+0.7
	11nm,0.4s						
ARKR				*e*Sg	Sn	11 15 57.4	+0.6
	51nm,0.5s						
GNBR	**Gunib**	**0.99**	**144**	*e*Pg	Pn	11 15 47.9	+1.3
	21nm,0.1s						
GNBR				*e*Sg	Sn	11 16 01.8	+1.3
	38nm,0.3s						
VLKR	**Vladikavkaz**	**1.11**	**263**	*e*Pg	Pg	11 15 48.5	+0.2
VLKR				*e*Sg	Sn	11 16 06.4	+2.9
TRKR	**Terskaya**	**1.18**	**297**	*e*Pg	Pg	11 15 50.2	+0.6
TRKR				*e*Sg	Sn	11 16 07.4	+2.3
BTKR	**Batakoyurt**	**1.21**	**279**	*e*Pg	Pg	11 15 53.2	+3.0
BTKR				*e*Sg	Sn	11 16 09.0	+3.1
ARNR	**Ardon**	**1.39**	**270**	*e*Pg	Pg	11 15 53.9	+0.4
ARNR				*e*Sg	Sn	11 16 14.1	+2.5
LACR	**Lac**	**1.43**	**256**	*e*Pg	Pg	11 15 54.5	+0.1
LACR				*e*Sg	Sg	11 16 13.1	+0.2
GUDG	**Gudauri**	**1.45**	**240**	*e*Pg	Pb	11 15 54.3	+0.4
GUDG				*e*Sg	Sg	11 16 13.6	0.0
URKR	**Urkarakh**	**1.49**	**133**	*e*Pg	Pg	11 15 56.4	+1.0
URKR				*e*Sg	Sg	11 16 16.7	+2.0
PRTR	**Priterechnaya**	**1.49**	**293**	*e*Pg	Pg	11 15 56.1	+0.6
PRTR				*i* Sg	Sg	11 16 16.4	+1.6
KORR	**Kora**	**1.55**	**267**	*e*Pg	Pg	11 15 57.5	+0.9
KORR				*i* Sg	Sg	11 16 18.9	+2.1
STDR	**Stavd-Durt**	**1.56**	**277**	*e*Pg	Pn	11 15 54.8	+0.4
STDR				*e*Sg	Sg	11 16 19.0	+2.1
DIGR	**Digorskoe uzhe**	**1.93**	**262**	*e*Pg	Pb	11 16 02.7	+0.6
DIGR				*e*Sg	Sg	11 16 28.5	-0.4
AKT	**Akhty**	**2.06**	**146**	*e*Pg	Pg	11 16 06.6	+0.2
AKT				*e*Sg	Sg	11 16 34.3	+1.1
KBTC	**Kuba-Taba**	**2.11**	**288**	*e*Pg	Pg	11 16 06.4	-1.0
KBTC				*e*Sg	Sg	11 16 33.4	-1.3
KSMR	**Kasumkent**	**2.15**	**137**	*e*Pg	Pb	11 16 06.8	+1.1
KSMR				*i* Sg	Sb	11 16 33.4	+1.1
PYA1	**Pyatigorsk**	**2.40**	**292**	*e*Pn	Pn	11 16 06.3	+0.3
PYA1				*e*Sn	Sb	11 16 38.4	-1.2
KBZ	**Khabaz**	**2.45**	**284**	*e*Pn	Pb	11 16 09.4	-1.3
KBZ				*e*Sn	Sb	11 16 39.3	-1.6
SHA1	**Shidzhatmaz**	**2.62**	**283**	*e*Pn	Pn	11 16 09.9	+0.7
SHA1				*e*Sn	Sn	11 16 41.9	+0.9
KIV	**Kislovodsk**	**2.65**	**288**	*i* Pn	Pn	11 16 10.5	+1.0
KIV				*i* Sn	Sn	11 16 42.8	+1.3
AKH	**Akhalkalaki**	**2.67**	**229**	*e*Pn	Pn	11 16 10.4	+0.5
AKH				*e*Sn	Sn	11 16 44.4	+2.1

*IDC **17** 11:58:15.0±4.7, 8.°43N×126.°08E, h50km±46km, mb3.7/8, mbtmp4.0/8, ML5.3/1, MS3.4/2, Error ellipse: s-maj=52.3km s-min=17.4km az=67.0*
*NEIC **17** 11:58:17.6±1.7, 8.°2N±0.°1×126.°0E±0.°1, h46km±15km, mb4.4/13, Error ellipse: s-maj=18.1km s-min=16.3km az=67.0*
*DJA **17** 11:58:24.8±1.3, 8.°N±11.°×12.°6E±.°, h46km±15km, M4.6/12, mB5.2/7, mb4.7/12, MLv4.6/6, Mw(mB)4.5/7*

ISC 17 11:58:15.4±0.8, 8.°44N±0.°08×126.°0E±0.°1, h50km, n38, σ1°31/37, mb4.2/15, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.42**	**197**	Pn	**Pn**	**11 58 38.4**	**-0.4**
DAV	**Davao City (W)**	**1.42**	**197**	P	**Pn**	**11 58 38.6**	**-0.2**
	1μm,0.3s,baz=258,slow=5.6,SNR=24						
DAV				S	**Sn**	**11 58 56.6**	**+0.2**
	1μm,0.4s,baz=299,slow=22,SNR=29						
TNTI	**Ternate**	**7.74**	**170**		**Pn**	**12 00 06.4**	**+0.8**
TNTI	**Ternate**	**7.74**	**170**	P	**Pn**	**12 00 05.7**	**+0.2**
	85nm,0.9s,0.3nm						
MYLDM	**Lahad Datu**	**8.11**	**247**	Pn	**Pn**	**12 00 12.8**	**+2.2**
MRSI	**Marisa**	**8.87**	**207**	P	**Pn**	**12 00 19.2**	**-1.9**
	31nm,0.9s						
LUWI	**Luwuk**	**9.95**	**199**	Pn	**Pn**	**12 00 37.4**	**+1.7**
LUWI	**Luwuk**	**9.95**	**199**	P	**Pn**	**12 00 36.9**	**+1.1**
	55nm,0.7s,1μm						
APSI	**Ampana**	**10.24**	**205**	P	**Pn**	**12 00 39.6**	**-0.2**
	29nm,0.9s						
SANI	**Sanana**	**10.42**	**180**	P	**Pn**	**12 00 38.7**	**-3.5**
	27nm,0.8s,661nm						
SWI	**Sorong**	**10.63**	**150**	P	**Pn**	**12 00 47.1**	**+2.0**
	35nm,0.7s						
NLAI	**Namlea**	**11.65**	**174**	P	**Pn**	**12 00 56.7**	**-2.4**
FAKI	**Fak Fak**	**12.89**	**151**	Pn	**Pn**	**12 01 18.1**	**+1.9**
BATI	**Baumata**	**18.66**	**187**	P	**P**	**12 02 29.1**	**-0.4**
	8.4nm,0.3s,baz=331,slow=2.7,SNR=11						
MTN	**Manton Dam**	**21.75**	**166**	P	**P**	**12 03 02.5**	**-0.4**
MTN				IAmb	IAmb	12 03 05.0	
	comp=Z,35nm,1.2s						
KNRA	**Kununurra**	**24.11**	**173**	P	**P**	**12 03 26.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**26.37**	**181**	P	**P**	**12 03 45.2**	**-1.9**
COEN	**Coen**	**28.04**	**142**	P	**P**	**12 04 01.5**	**-0.6**
COEN				IAmb	IAmb	12 04 09.8	
	comp=Z,4.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**28.08**	**294**	LR	LR	12 14 34.6	
	comp=Z,21nm,20.1s,baz=310,slow=35						
WB0	**Warramunga Arr**	**29.22**	**164**	P	**P**	**12 04 10.9**	**-1.7**
WB0				IAmb	IAmb	12 04 12.1	
	comp=Z,7.8nm,1.3s						
WRA	**Warramunga Arr**	**29.38**	**164**	P	**P**	**12 04 13.2**	**-0.9**
WRA	**Warramunga Arr**	**29.38**	**164**	P	**P**	**12 04 12.7

comp=Z,75nm,20.5s,baz=90,slow=33
BOSA Boshof 44.46 238 LR LR 12 32 10.5
comp=Z,52nm,19.8s,baz=16,slow=32
EIL Elat 49.61 322 LR LR 12 35 15.0
comp=Z,74nm,20.6s,baz=70,slow=32
H01W3 Cape Leeuwin H 49.67 129 T T 13 10 32.0
baz=291,slow=75,SNR=19
H01W2 Cape Leeuwin H 49.67 129 T T 13 10 33.2
baz=291,slow=75,SNR=21
H01W1 Cape Leeuwin H 49.69 129 T T 13 10 34.1
baz=291,slow=75,SNR=22
NWAO Narrogin (SRO) 51.51 125 LR LR 12 35 28.0
comp=Z,55nm,19.7s,baz=44,slow=31
KAPI Kappang 51.76 89 LR LR 12 38 10.6
comp=Z,47nm,20.1s,baz=242,slow=34
FITZ Fitzroy Crossi 56.88 106 P **P** **12 18 19.2 +1.7**
FITZ Fitzroy Crossi 56.88 106 LR LR 12 38 34.6
comp=Z,52nm,21.7s,baz=260,slow=32
MK31 Makanchi Array 56.90 12 P **P** **12 18 16.0 -1.1**
MKAR Makanchi Array 56.90 12 P **P** **12 18 16.3 -0.8**
0.5nm,0.6s,baz=200,slow=7.9,SNR=4.8
0.5nm,0.6s
ABKAR Akbulak array 58.26 354 P **P** **12 18 25.3 -1.2**
ABKAR IAmb IAmb 12 18 38.1
comp=Z,5.9nm,1.2s
ABKAR Akbulak array 58.26 354 P **P** **12 18 26.4 -0.1**
MAW Mawson 58.77 182 P **P** **12 18 27.9 -2.0**
comp=Z,2.2nm,0.9s,baz=354,slow=10,SNR=3.6
MAW LR LR 12 37 27.5
comp=Z,31nm,19.5s,baz=344,slow=30
comp=Z,2.2nm,0.9s
KNRA Kununurra 59.87 103 P **P** **12 18 39.8 +1.4**
KURBB Kurchatov Arra 59.97 8 P **P** **12 18 37.4 -1.0**
comp=Z,0.8nm,0.8s,baz=208,slow=7.3,SNR=4.9
comp=Z,0.8nm,0.8s
BVAR Borovoye Array 61.67 2 P **P** **12 18 49.5 -0.5**
comp=Z,0.7nm,0.6s,baz=157,slow=7.8,SNR=4.8
comp=Z,0.7nm,0.6s
ZALV Zalesovo Beam 64.21 11 P **P** **12 19 05.6 -1.2**
comp=Z,0.3nm,0.3s,baz=216,slow=7.1,SNR=2.2
ZALV LR LR 12 45 31.5
comp=Z,70nm,19.2s,baz=346,slow=34
comp=Z,0.3nm,0.3s
ASAR Alice Springs 64.73 112 P **P** **12 19 11.8 +0.8**
comp=Z,1.8nm,0.9s,baz=275,slow=6.0,SNR=15
comp=Z,1.8nm,0.9s
WRA Warramunga Arr 65.11 108 P **P** **12 19 14.8 +1.2**
comp=Z,1.4nm,0.8s,baz=278,slow=6.5,SNR=12
WRA LR LR 12 46 02.2
comp=Z,56nm,19.2s,baz=280,slow=34
comp=Z,1.4nm,0.8s
WB2 Warramunga Arr 65.12 108 P **P** **12 19 14.5 +0.9**
WB2 IAmb IAmb 12 19 34.6
comp=Z,6.6nm,1.1s
WB0 Warramunga Arr 65.17 108 P **P** **12 19 15.0 +1.2**
WR0 Warramunga Arr 65.30 108 P **P** **12 19 16.1 +1.4**
WR0 IAmb IAmb 12 19 31.2
comp=Z,3.9nm,1.0s
SONM Songino Array 65.99 27 P **P** **12 19 20.1 +1.4**
comp=Z,0.7nm,0.7s,baz=227,slow=6.9,SNR=2.3
comp=Z,0.7nm,0.7s
AKASG Malin Array Be 68.04 335 P **P** **12 19 30.0 -1.5**
comp=Z,0.2nm,0.2s,baz=134,slow=5.3,SNR=2.5
comp=Z,0.2nm,0.2s
TORD Torodi Ar. Bea 69.11 288 LR LR 12 48 52.3
comp=Z,66nm,19.4s,baz=12,slow=35
KSRS Korea Array 72.64 46 LR LR 12 52 58.5
comp=Z,24nm,19.0s,baz=15,slow=37
DBIC Dimbokro 73.96 280 LR LR 12 52 25.2
comp=Z,80nm,18.1s,baz=358,slow=36
SNAA Sanae 75.58 198 P **P** **12 20 17.4 +0.7**
SNAA IAmb IAmb 12 20 18.4
comp=Z,4.4nm,1.4s
CTA Charters Tower 76.30 109 LR LR 12 50 09.8
comp=Z,5.8nm,21.9s,baz=278,slow=33
PMG Port Moresby 78.25 98 LR LR 12 55 35.1
comp=Z,20nm,18.5s,baz=52,slow=36
MJAR Matsushiro Arr 79.91 50 P **P** **12 20 42.2 +0.9**
comp=Z,1.0nm,0.8s,baz=256,slow=4.9,SNR=2.0
comp=Z,1.0nm,0.8s
QSPA South Pole Qui 81.19 180 P **P** **12 20 48.6 +0.8**
QSPA IAmb IAmb 12 21 03.0
comp=Z,3.7nm,1.2s
QSPA South Pole Qui 81.19 180 P **P** **12 20 46.6 -1.3**
comp=Z,0.7nm,1.1s,baz=264,slow=9.7,SNR=1.3
QSPA LR LR 12 52 57.7
comp=Z,43nm,18.0s,baz=238,slow=33
comp=Z,0.7nm,1.1s
YAK Yakutsk 85.17 25 LR LR 12 59 19.2
comp=Z,66nm,18.3s,baz=298,slow=36
TIXI Tiksi 89.65 16 LR LR 13 02 40.8
comp=Z,58nm,18.6s,baz=313,slow=36
DZM Mont Dzumac 94.70 113 LR LR 13 03 42.9
comp=Z,35nm,19.5s,baz=220,slow=35
PDAR Pinedale Array 146.13 356 PKPbc **PKPab** **12 28 14.1 +0.5**
comp=Z,0.2nm,0.5s,baz=64,slow=2.1,SNR=3.7
NVAR Mina Array Bea 150.05 10 PKPbc **PKiKP** **12 28 24.9 +0.4**
comp=Z,0.6nm,0.7s,baz=42,slow=1.5,SNR=6.2

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*ISK **17** 12:09:26.7, 41.°02N×23.°47E, h3km, ML3.5/10*
*IDC **17** 12:09:26.9±1.0, 41.°04N×23.°53E, h0km, mb3.5/7, mbtmp3.6/10, ML3.4/2, Error ellipse: s-maj=19.2km s-min=12.6km az=113.0*
*THE **17** 12:09:27.9, 41.°03N×23.°45E, h4km±7km, ML3.5/2, Error ellipse: s-maj=7.6km s-min=0.5km az=38.0*
*ATH **17** 12:09:27.1, 41.°03N×23.°47E, h15km±1km, ML3.3/17, Error ellipse: s-maj=1.8km s-min=0.9km az=318.0*
*SOF **17** 12:09:27.3, 41.°05N±0.°01×23.°44E±0.°01, h11km±2km, MD4.0/5*
*SKO **17** 12:09:27.8, 41.°04N×23.°50E, h4km, ML3.3*
*BEO **17** 12:09:28.5±0.3, 41.°08N×23.°46E, h9km±1km, ML3.6/5*
*NAO **17** 12:09:31.6, 41.°48N×24.°73E, h10km, mb3.9*

ISC 17 12:09:27.7±0.8, 41.°03N±0.°01×23.°45E±0.°01, h7km±6km, n129, σ1°25/197, mb3.6/5, 34C-25D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.14**	**51**	P	**Pg**	**12 09 30.4**	**-0.2**
SRS				S	**Sg**	**12 09 32.5**	**-0.2**
28μm,0.2s							
SRS	**Serrai**	**0.14**	**51**	*e*Pg	**Pg**	**12 09 30.4**	**-0.2**
SRS				*e*Sg	**Sg**	**12 09 32.5**	**-0.2**
SRS	**Serrai**	**0.14**	**51**	⇑*i*Pg	**Pg**	**12 09 30.4**	**-0.2**
SRS				*i* Sg	**Sg**	**12 09 32.5**	**-0.2**
SRS	**Serrai**	**0.14**	**51**	P	**Pg**	**12 09 30.4**	**-0.2**
SRS				S	**Sg**	**12 09 32.3**	**-0.3**
SRS				AML	AML	12 09 32.8	
comp=E,47852μm,0.2s							
SRS				AML	AML	12 09 32.8	
comp=N,63873μm,0.4s							
SOH	**Sokhos**	**0.22**	**199**	P	**Pg**	**12 09 32.4**	**+0.3**
SOH				S	**Sg**	**12 09 35.7**	**+0.6**
comp=N,28μm,0.4s							
SOH	**Sokhos**	**0.22**	**199**	⇑*i*Pg	**Pg**	**12 09 32.4**	**+0.3**
SOH				*i* Sg	**Sg**	**12 09 35.9**	**+0.8**
SOH	**Sokhos**	**0.22**	**199**	P	**Pg**	**12 09 32.4**	**+0.3**
SOH				S	**Sg**	**12 09 35.2**	**+0.1**
SOH				AML	AML	12 09 36.1	
comp=E,81154μm,0.4s							
SOH				AML	AML	12 09 37.0	
comp=N,59051μm,0.4s							
KNT	**Kendrikon**	**0.44**	**288**	P	**Pg**	**12 09 36.2**	**-0.1**
KNT				S	**Sg**	**12 09 42.2**	**+0.2**
KNT	**Kendrikon**	**0.44**	**288**	⇑*i*Pg	**Pg**	**12 09 36.2**	**-0.1**
KNT				*i* Sg	**Sg**	**12 09 42.3**	**+0.3**
NVR	**Nevrokopi**	**0.45**	**44**	P	**Pb**	**12 09 37.0**	**-0.9**
NVR				S	**Sb**	**12 09 42.9**	**-1.9**
NVR	**Nevrokopi**	**0.45**	**44**	P	**Pg**	**12 09 36.6**	**+0.2**
NVR				S	**Sg**	**12 09 42.2**	**-0.1**
NVR				AML	AML	12 09 43.9	
comp=E,7363μm,0.3s							
NVR				AML	AML	12 09 45.2	
comp=N,5032μm,0.2s							
KOKK	**Kokkinochori,**	**0.47**	**117**	P	**Pg**	**12 09 36.6**	**-0.2**
KOKK	**Kokkinochori,**	**0.47**	**117**	P	**Pg**	**12 09 36.6**	**-0.2**
KOKK				S	**Sg**	**12 09 42.4**	**-0.4**
KOKK				AML	AML	12 09 43.4	
comp=E,7890μm,0.4s							
KOKK				AML	AML	12 09 43.6	
comp=N,12265μm,0.4s							
HORT	**Hortiatis**	**0.51**	**212**	Pg	**Pg**	**12 09 37.3**	**-0.3**
HORT				Sg	**Sg**	**12 09 45.2**	**+1.0**
HORT	**Hortiatis**	**0.51**	**212**	P	**Pg**	**12 09 37.5**	**-0.1**
HORT	**Hortiatis**	**0.51**	**212**	P	**Pg**	**12 09 37.5**	**-0.1**
HORT				S	**Sg**	**12 09 43.8**	**-0.4**
HORT				AML	AML	12 09 45.6	
comp=E,5671μm,0.6s							
HORT				AML	AML	12 09 47.4	
comp=N,6738μm,0.3s							
THE	**Thessaloniki**	**0.54**	**223**	P	**Pg**	**12 09 38.2**	**0.0**
THE	**Thessaloniki**	**0.54**	**223**	P	**Pg**	**12 09 38.0**	**-0.1**
THE				S	**Sg**	**12 09 45.4**	**+0.1**
MMB	**Musomishta**	**0.56**	**23**	*i* P	**Pg**	**12 09 38.0**	**-0.6**
MMB				*i* S	**Sg**	**12 09 46.2**	**+0.2**
MMB	**Musomishta**	**0.56**	**23**	⇑*i*Pg	**Pg**	**12 09 38.5**	**-0.1**
MMB				*i* Sg	**Sg**	**12 09 46.3**	**+0.2**
PLG	**Polygyros**	**0.66**	**180**	P	**Pg**	**12 09 39.9**	**-0.5**
PLG	**Polygyros**	**0.66**	**180**	P	**Pg**	**12 09 39.6**	**-0.8**
PLG				S	**Sg**	**12 09 48.8**	**-0.1**
PLG				AML	AML	12 09 53.2	
comp=E,3423μm,0.4s							
PLG				AML	AML	12 09 54.7	
comp=N,9493μm,0.5s							
VAY	**Valandovo**	**0.73**	**294**	*e*Pg	**Pg**	**12 09 41.4**	**-0.3**
VAY				*e*Sg	**Sb**	**12 09 52.1**	**-0.7**
VAY	**Valandovo**	**0.73**	**294**	*e*Pg	**Pg**	**12 09 41.6**	**0.0**
VAY				*i* Sg	**Sb**	**12 09 52.2**	**-0.7**
VAY				*e*Lg	Lg	12 09 52.5	
comp=E,1μm,0.4s							
VAY				*e*Lg	Lg	12 09 52.7	
comp=N,2μm,0.3s							
OUR	**Ouranopolis**	**0.80**	**150**	Pg	**Pg**	**12 09 42.8**	**-0.4**
OUR	**Ouranopolis**	**0.80**	**150**	P	**Pg**	**12 09 42.9**	**-0.3**
OUR	**Ouranopolis**	**0.80**	**150**	P	**Pg**	**12 09 42.7**	**-0.5**
OUR				S	**Sg**	**12 09 53.8**	**+0.2**
OUR				AML	AML	12 09 57.7	
comp=N,36121μm,0.5s							
OUR				AML	AML	12 09 58.2	
comp=E,12507μm,0.5s							
KAVA	**Kavala**	**0.81**	**92**	P	**Pg**	**12 09 42.6**	**-0.6**
KAVA	**Kavala**	**0.81**	**92**	P	**Pg**	**12 09 42.4**	**-0.8**
KKB	**Krupnik**	**0.85**	**343**	*i* P	**Pg**	**12 09 43.6**	**-0.4**
KKB				*i* S	**Sg**	**12 09 54.9**	**-0.1**
KKB	**Krupnik**	**0.85**	**343**	⇑*i*Pg	**Pg**	**12 09 43.6**	**-0.4**
KKB				*i* Sg	**Sg**	**12 09 55.0**	**0.0**
PEHC	**Pehcevo**	**0.85**	**331**	⇑*i*Pg	**Pg**	**12 09 43.8**	**-0.4**
PEHC				*i* Sg	**Sb**	**12 09 55.8**	**-0.8**
PEHC				*e*Lg	Lg	12 09 58.5	
comp=E,3μm,0.4s							
PEHC				*e*Lg	Lg	12 09 59.1	
comp=N,4μm,0.4s							
THAS	**Thassos island**	**1.05**	**113**	P	**Pg**	**12 09 46.8**	**-1.1**
THAS				S	**Sg**	**12 10 00.2**	**-1.4**
THAS				AML	AML	12 10 02.7	
comp=N,2790μm,0.4s							
THAS				AML	AML	12 10 04.0	
comp=E,3699μm,0.3s							
PAIG	**Paliouri**	**1.12**	**171**	Pn	**Pg**	**12 09 48.5**	**-0.6**
PAIG				Sn	**Sb**	**12 10 04.2**	**+0.2**
RZN	**Rozhen**	**1.17**	**55**	*i* P	**Pn**	**12 09 50.5**	**-0.2**
LIT	**Litokhoron**	**1.18**	**219**	*e*Pn	**Pg**	**12 09 49.6**	**-0.8**
LIT				*i* Sg	**Sn**	**12 10 07.8**	**+0.7**
KZN	**Kozani**	**1.47**	**241**	P	**Pn**	**12 09 54.0**	**-0.7**
KZN				AML	AML	12 10 17.7	
comp=E,2725μm,0.4s							
KZN				AML	AML	12 10 19.9	
comp=N,2079μm,0.6s							
PLD	**Plovdiv**	**1.48**	**41**	Pn	**Pn**	**12 09 54.4**	**-0.3**
PLD				Sn	**Sg**	**12 10 14.6**	**-0.7**
PLD	**Plovdiv**	**1.48**	**41**	*i* P	**Pn**	**12 09 54.7**	**0.0**
PLD	**Plovdiv**	**1.48**	**41**	*e*Pg	**Pb**	**12 09 54.9**	**-0.6**
PLD				*e*Sg	**Sg**	**12 10 14.4**	**-0.9**
KDZ	**Kurdzhali**	**1.54**	**67**	Pn	**Pn**	**12 09 55.8**	**+0.2**
KDZ	**Kurdzhali**	**1.54**	**67**	*i* P	**Pb**	**12 09 56.1**	**-0.5**
RDO	**Rodhopi**	**1.58**	**85**	Pn	**Pn**	**12 09 55.3**	**-0.8**
RDO				Sn	**Sg**	**12 10 17.8**	**-0.7**
RDO	**Rodhopi**	**1.58**	**85**	P	**Pn**	**12 09 54.6**	**-1.6**
RDO				S	**Sn**	**12 10 15.5**	**-1.3**
RDO				AML	AML	12 10 23.0	
comp=N,2774μm,0.3s							
RDO				AML	AML	12 10 25.5	
comp=E,2181μm,0.4s							
FNA	**Florina**	**1.59**	**262**	Pn	**Pn**	**12 09 55.9**	**-0.4**
FNA				Sn	**Sg**	**12 10 18.5**	**-0.4**
FNA	**Florina**	**1.59**	**262**	*e*Pn	**Pn**	**12 09 56.2**	**-0.1**
FNA	**Florina**	**1.59**	**262**	⇓*e*Pn	**Pn**	**12 09 56.2**	**-0.1**
FNA				*e*Sg	**Sg**	**12 10 20.1**	**+1.2**
FNA	**Florina**	**1.59**	**262**	P	**Pn**	**12 09 55.7**	**-0.6**
FNA				AML	AML	12 10 21.8	
comp=N,751μm,0.6s							
FNA				AML	AML	12 10 22.4	
comp=E,686μm,0.7s							
VTS	**Vitosha**	**1.59**	**354**	*i* P	**Pn**	**12 09 56.1**	**-0.4**
VTS	**Vitosha**	**1.59**	**354**	*e*Pg	**Pn**	**12 09 56.5**	**0.0**
VTS				*e*Sg	**Sg**	**12 10 18.3**	**-0.7**
BOSS	**Bosilegrad**	**1.64**	**334**	*e*Pg	**Pn**	**12 09 57.1**	**+0.2**
BOSS				*e*Sg	**Sb**	**12 10 18.9**	**-0.1**
SMTH	**Samothraki Isl**	**1.68**	**109**	P	**Pn**	**12 09 56.0**	**-1.5**
SMTH				AML	AML	12 10 24.4	
comp=E,386μm,0.5s							
SMTH				AML	AML	12 10 24.7	
comp=N,550μm,0.3s							
NEO	**Neokhori**	**1.73**	**186**	P	**Pn**	**12 09 57.1**	**-1.2**
NEO				AML	AML	12 10 20.4	
comp=E,1122μm,0.6s							
NEO				AML	AML	12 10 28.6	
comp=N,1588μm,0.5s							
LIA	**Limnos Island**	**1.74**	**130**	P	**Pn**	**12 09 56.9**	**-1.4**
LIA				AML	AML	12 10 25.0	
comp=E,4098μm,0.5s							
LIA				AML	AML	12 10 25.4	
comp=N,2710μm,0.5s							
THL	**Klokotos Trika**	**1.83**	**217**	P	**Pn**	**12 09 59.2**	**-0.3**
THL				AML	AML	12 10 24.6	
comp=N,670μm,0.8s							
THL				AML	AML	12 10 27.5	
comp=E,746μm,0.6s							
ALN	**Alexandroupoli**	**1.97**	**93**	P	**Pn**	**12 10 00.6**	**-0.8**
ALN				AML	AML	12 10 34.9	
comp=N,609μm,0.5s							
ALN				AML	AML	12 10 36.0	
comp=E,676μm,0.7s							
OHR	**Ohrid**	**2.01**	**273**	*e*Pn	**Pb**	**12 10 04.1**	**-0.4**
OHR				*e*Sg	**Sg**	**12 10 32.9**	**+0.7**
OHR	**Ohrid**	**2.01**	**273**	*e*Pn	**Pb**	**12 10 04.2**	**-0.4**
OHR				*e*Sg	**Sg**	**12 10 33.2**	**+1.0**
OHR				*e*Lg	Lg	12 10 40.0	
comp=N,200nm,0.8s							
OHR				*e*Lg	Lg	12 10 40.2	
comp=E,138nm,0.5s							
GADA	**Gvkgeada**	**2.04**	**113**	Pn	**Pn**	**12 10 02.7**	**+0.2**
CAVK	**Edirne/Enez-Ca**	**2.09**	**98**	⇑P	**Pb**	**12 10 05.0**	**-0.9**
CAVK				⇑S	**Sg**	**12 10 36.4**	**+1.6**
BARS	**Barje**	**2.16**	**326**	*e*Pn	**Pn**	**12 10 04.0**	**-0.2**
BARS	**Barje**	**2.16**	**326**	*e*Pg	**Pb**	**12 10 07.0**	**-0.2**
BARS				*e*Sg	**Sg**	**12 10 36.0**	**-1.2**
BARS	**Barje**	**2.16**	**326**	⇑*i*Pn	**Pn**	**12 10 04.0**	**-0.2**
AGG	**Agios Georgios**	**2.18**	**204**	Pn	**Pn**	**12 10 04.9**	**+0.5**
ZAPS	**Zavoj**	**2.32**	**345**	*e*Pn	**Pn**	**12 10 06.8**	**+0.4**
ZAPS				*e*Sn	**Sn**	**12 10 36.0**	**+0.8**
MPEP	**Malo Peshtene**	**2.33**	**5**	*i* P	**Pn**	**12 10 06.9**	**+0.4**
SIGR	**SIGRI**	**2.59**	**134**	Pn	**Pn**	**12 10 10.6**	**+0.6**
VALD	**Valchedram**	**2.66**	**360**	*e*P	**Pn**	**12 10 13.0**	**+2.1**
ANX	**Ano Chora**	**2.71**	**206**	P	**Pn**	**12 10 12.8**	**+1.1**
ANX				AML	AML	12 10 53.2	
comp=E,617μm,0.4s							
ANX				AML	AML	12 10 59.0	
comp=N,466μm,0.5s							
SELS	**Selova**	**2.79**	**322**	*e*Pn	**Pn**	**12 10 12.6**	**-0.2**
SELS	**Selova**	**2.79**	**322**	*e*Pg	**Pg**	**12 10 19.4**	**-1.8**
SELS				*e*Sn	**Sn**	**12 10 48.4**	**+1.7**
SELS				*e*Sg	**Sg**	**12 10 56.2**	**-1.2**
IGT	**Igoumenitsa**	**2.82**	**239**	*e*Pn	**Pb**	**12 10 15.9**	**-2.4**
BOVS	**Bovan**	**2.91**	**334**	*e*Pn	**Pn**	**12 10 14.4**	**0.0**
BOVS				*e*Sg	**Sg**	**12 10 59.0**	**-2.1**
BOVS	**Bovan**	**2.91**	**334**	⇑P	**Pn**	**12 10 10.7**	**-3.7**
BOVS				⇓S	**Sg**	**12 11 01.0**	**-0.1**
ZAGS	**Zajecar**	**2.92**	**342**	*e*Pn	**Pn**	**12 10 14.0**	**-0.6**
ZAGS				*e*Sn	**Sn**	**12 10 49.1**	**-0.8**
VLAD	**Vladila**	**3.05**	**13**	⇓P	**Pg**	**12 10 26.6**	**+0.4**
VLAD				⇑S	**Sg**	**12 11 06.6**	**+1.0**
PUNG	**Punghina**	**3.27**	**353**	⇓P	**Pn**	**12 10 18.3**	**-1.0**
PUNG				⇑S	**Sg**	**12 11 15.2**	**+2.5**
SJES	**Sjenica**	**3.41**	**312**	*e*Pn	**Pn**	**12 10 21.9**	**+0.5**
PDG	**Podgorica**	**3.44**	**295**	⇓P	**Pn**	**12 10 19.2**	**-2.4**
GRUS	**Gruza**	**3.50**	**326**	*e*Pn	**Pn**	**12 10 21.8**	**-0.7**
IVAS	**Ivanjica**	**3.53**	**317**	*e*Pn	**Pn**	**12 10 22.7**	**-0.3**
IVAS	**Ivanjica**	**3.53**	**317**	*e*Pg	**Pb**	**12 10 30.7**	**+0.2**
IVAS				*e*Sn	**Sn**	**12 11 02.9**	**-2.1**
BAND	**Balkesir-Ban**	**3.60**	**99**	⇑P	**Pn**	**12 10 23.3**	**-0.6**
BAND				⇑S	**Sg**	**12 11 28.8**	**+5.5**
KUBS	**Kucevo**	**3.62**	**339**	*e*Pn	**Pn**	**12 10 22.3**	**-1.9**
KUBS				*e*Sn	**Sn**	**12 11 05.2**	**-2.0**
SRE	**Strehaia**	**3.63**	**357**	⇓P	**Pn**	**12 10 24.2**	**-0.1**
SRE				⇓S	**Sg**	**12 11 26.3**	**+1.9**
HERR	**Herculane**	**3.92**	**349**	⇓P	**Pn**	**12 10 27.4**	**-0.9**
HERR				⇑S	**Sn**	**12 11 12.2**	**-2.3**
MDVR	**Moldovita**	**3.96**	**342**	*e*Pn	**Pn**	**12 10 28.1**	**-0.8**
MDVR	**Moldovita**	**3.96**	**342**	⇓P	**Pn**	**12 10 25.9**	**-3.0**
MDVR				⇑S	**Sb**	**12 11 30.0**	**+4.1**
DIVS	**Divibare**	**3.99**	**321**	*e*Pn	**Pn**	**12 10 28.9**	**-0.4**
DIVS				*e*Sn	**Sn**	**12 11 14.0**	**-2.4**
BBLS	**Lazi&#263i**	**4.12**	**315**	*e*Pn	**Pn**	**12 10 32.1**	**+1.0**
VRSS	**Vrsac**	**4.38**	**340**	*e*Pn	**Pn**	**12 10 33.4**	**-1.2**
GZR	**Gura Zlata**	**4.39**	**354**	*e*Pn	**Pn**	**12 10 33.7**	**-1.1**
GZR	**Gura Zlata**	**4.39**	**354**	⇑P	**Pn**	**12 10 34.0**	**-0.8**
GZR				⇑S	**Sn**	**12 11 24.6**	**-1.6**
ARR	**Arges**	**4.42**	**11**	⇓P	**Pn**	**12 10 35.5**	**+0.3**
ARR				⇑S	**Sg**	**12 11 50.4**	**+0.8**
LOT	**Lotru**	**4.42**	**3**	⇓P	**Pn**	**12 10 35.8**	**+0.5**
LOT				⇑S	**Sn**	**12 11 26.3**	**-0.7**
ICOR	**Ion Corvin**	**4.45**	**45**	⇓P	**Pb**	**12 10 47.0**	**+0.9**
ICOR				⇓S	**Sg**	**12 11 50.6**	**-0.1**
TEKS	**Tekeris**	**4.55**	**322**	*e*Pn	**Pn**	**12 10 36.5**	**-0.5**
VOIR		**4.56**	**14**	⇓P	**Pn**	**12 10 37.8**	**+0.7**
VOIR				⇓S	**Sg**	**12 11 53.8**	**-0.2**
ISR	**Istrita**	**4.67**	**28**	⇑P	**Pn**	**12 10 40.6**	**+1.9**
ISR				⇑S	**Sg**	**12 12 01.8**	**+4.1**
BZS	**Buzias**	**4.78**	**344**	*e*Pn	**Pn**	**12 10 39.1**	**-0.9**
BZS	**Buzias**	**4.78**	**344**	⇑P	**Pn**	**12 10 37.5**	**-2.6**
BZS				⇓S	**Sg**	**12 12 01.0**	**-0.1**
MLR	**Muntele Rosu**	**4.82**	**21**	*e*Pn	**Pn**	**12 10 42.1**	**+1.4**
MLR	**Muntele Rosu**	**4.82**	**21**	Pn	**Pn**	**12 10 41.3**	**+0.6**
comp=N,2.3nm,0.3s,baz=199,slow=5.2,SNR=24							
MLR				Sn	**Sn**	**12 11 38.1**	**+1.3**
comp=N,3.3nm,0.3s,baz=271,slow=11,SNR=3.1							
MLR				Lg	Lg	12 11 59.9	
comp=N,1.5nm,0.3s,baz=300,slow=20,SNR=4.0							
comp=N,4.6nm,0.3s							
MLR	**Muntele Rosu**	**4.82**	**21**	⇓P	**Pn**	**12 10 42.5**	**+1.8**
MLR				⇑S	**Sg**	**12 12 00.8**	**-1.5**
SURR	**Surduc**	**4.82**	**349**	⇑P	**Pn**	**12 10 38.7**	**-1.9**
SURR				⇑S	**Sg**	**12 11 59.9**	**-2.5**
NEHR	**Nehoiu**	**4.86**	**24**	⇑P	**Pn**	**12 10 43.9**	**+2.7**
NEHR				⇑S	**Sg**	**12 12 05.5**	**+1.8**
DOPR	**Dopca**	**5.13**	**15**	⇓P	**Pn**	**12 10 47.1**	**+2.1**
COVR	**Voineasa-Covas**	**5.21**	**22**	⇓P	**Pn**	**12 10 47.9**	**+1.8**
COVR				⇑S	**Sg**	**12 12 14.1**	**-1.0**
PLOR	**Plostina**	**5.35**	**25**	⇑P	**Pn**	**12 10 49.8**	**+1.9**
CFR	**Carcaliu**	**5.38**	**38**	⇓P	**Pn**	**12 10 48.6**	**+0.3**
CFR				⇓S	**Sg**	**12 12 20.9**	**+0.5**
VRI	**Vrincioaia**	**5.39**	**25**	⇑P	**Pn**	**12 10 50.6**	**+2.1**
SIRR	**Siria**	**5.39**	**347**	*e*Pn	**Pn**	**12 10 47.8**	**-0.8**
SIRR	**Siria**	**5.39**	**347**	⇓P	**Pn**	**12 10 46.8**	**-1.8**
SIRR				⇓S	**Sg**	**12 12 19.8**	**-1.0**
MARR	**Marisel-Cluj**	**5.65**	**358**	⇑P	**Pn**	**12 10 51.4**	**-0.8**
DRGR		**5.78**	**355**	⇓P	**Pn**	**12 10 53.4**	**-0.5**
DRGR				⇑S	**Sg**	**12 12 29.5**	**-3.9**
IDI	**Anoyia**	**5.84**	**168**	Pn	**Pn**	**12 10 55.7**	**+0.9**
comp=N,7.7nm,0.5s,baz=344,slow=11,SNR=7.4							
MORH	**Mrgy, Hungar**	**6.25**	**328**	⇓P	**Pn**	**12 10 59.7**	**-0.6**
BURAR	**Bucovina Array**	**6.70**	**10**	⇑P	**Pn**	**12 11 07.6**	**+0.9**
BRTR	**Keskin Array B**	**7.89**	**96**	Pn	**Pn**	**12 11 23.1**	**+0.1**
comp=N,0.2nm,0.3s,baz=271,slow=12,SNR=2.2							
comp=N,0.4nm,0.4s							
KOLS	**Kolonicke sedl**	**7.95**	**354**	*e*PN	**Pn**	**12 11 26.2**	**+2.6**
KOLS	**Kolonicke sedl**	**7.95**	**354**	*e*SG	**Sg**	**12 13 43.3**	**+0.7**
HFS	**Hagfors**	**20.06**	**346**	P	**P**	**12 14 01.2**	**0.0**
comp=N,0.7nm,0.4s,baz=160,slow=14,SNR=1.7							
comp=N,0.7nm,0.4s							
ESDC	**Sonseca Array**	**20.91**	**275**	P	Pn	12 14 13.1	-0.2
comp=N,0.9nm,0.8s,baz=74,slow=9.5,SNR=3.5							
comp=N,0.9nm,0.8s							
NB2	**NORSAR Subarra**	**21.39**	**344**	P	**P**	**12 14 17.3**	**+1.6**
comp=Z,4.7nm,0.7s,baz=151,slow=11							
NOA	**NORSAR Array B**	**21.39**	**344**	P	**P**	**12 14 17.1**	**+1.4**
comp=Z,0.8nm,0.7s,baz=156,slow=11,SNR=5.8							
comp=Z,0.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**33.67**	**221**	P	**P**	**12 16 09.1**	**-0.2**
comp=Z,2.0nm,0.5s,baz=30,slow=9.8,SNR=15							
comp=Z,2.0nm,0.5s							
MKAR	**Makanchi Array**	**41.92**	**62**	P	**P**	**12 17 19.4**	**+0.7**
comp=Z,0.3nm,0.6s,baz=269,slow=7.2,SNR=1.9							
comp=Z,0.3nm,0.6s							
SONM	**Songino Array**	**56.92**	**53**	P	**P**	**12 19 14.3**	**+0.9**
comp=Z,0.3nm,0.4s,baz=298,slow=9.2,SNR=1.2							
comp=Z,0.3nm,0.4s							
TXAR	**Lajitas Array**	**94.58**	**316**	P	**P**	**12 22 49.2**	**-0.3**
comp=Z,0.2nm,0.8s,baz=

TKM2	Tokmak 2	5.00	40	P	Pn	12 18 28.9	+4.3
	SNR=8.4						
TKM2	Tokmak 2	5.00	40	⇑P	Pn	12 18 25.2	+0.7
	5.3nm,0.5s						
TKM2				⇑S	Sn	12 19 27.9	+5.2
	11nm,0.8s						
MKAR	Makanchi Array	11.12	43	Pn	Pn	12 19 49.0	+0.8
	baz=231,slow=15,SNR=2.4						
	0.6nm,0.8s						
KURBB	Kurchatov Arra	12.57	22	Pn	Pn	12 20 07.8	-0.2
	baz=204,slow=11,SNR=2.2						
KURBB				Lg	Lg	12 23 45.0	
	baz=202,slow=28,SNR=1.7						
	0.3nm,0.4s						
AB31	Akbulak array	12.94	325	⇓P	Pn	12 20 13.4	+0.5
	1.1nm,0.5s,baz=159,slow=6.1,SNR=42						
AB31				S	Sn	12 22 50.1	+13
	4.6nm,0.6s,baz=131,slow=25,SNR=12						
BVAR	Borovoye Array	13.89	358	Pn	Pn	12 20 27.1	+1.2
	baz=161,slow=11,SNR=1.5						
BVAR				Sn	Sn	12 22 58.0	-2.3
	baz=166,slow=24,SNR=4.0						
	0.3nm,0.5s						
AKTO	Aktyubinsk	14.65	325	⇑P	Pn	12 20 37.7	+1.3
	3.7nm,1.1s						
AKTO				⇑S	S	12 23 32.6	-5.4
	6.1nm,1.2s						
ZALV	Zalesovo Beam	17.45	28	P	Pn	12 21 11.9	-0.6
	0.1nm,0.3s,baz=210,slow=12,SNR=3.2						
	0.6nm,0.5s						
TORD	Torodi Ar. Bea	65.99	268	P	P	12 27 57.5	+1.4
	0.6nm,0.5s,baz=45,slow=6.1,SNR=7.1						
	0.6nm,0.5s						
WRA	Warramunga Arr	83.24	122	P	P	12 29 33.4	-2.6
	0.5nm,0.8s,baz=316,slow=6.0,SNR=5.1						
	0.5nm,0.8s						

*OSPL **17** 12:20:06.3±1.4, 19.°18N×71.°14W, h10km±4km, ML2.6*
*SDD **17** 12:20:06.0±4.1, 19.°19N×71.°08W, h12km±43km, MD3.3, ML2.9, MW3.1*
*SSNC **17** 12:20:08.0±4.1, 19.°05N×71.°11W, h5km±15km, MD3.2, ML2.7*

ISC 17 12:20:04.7±1.0, 19.°18N±0.°02×71.°07W±0.°02, h9km±8km, n28, σ1§22/51, 6C-9D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	Presa de Saban	0.28	226	eP	Pg	12 20 10.5	+0.2
SDDR				eS	Sg	12 20 14.2	+0.1
SDDR				IAML		12 20 16.2	
	730nm,0.1s						
SDDR				IAML		12 20 16.3	
	comp=Z,638nm,0.1s						
SDDR	Presa de Saban	0.28	226	⇓ePg	Pg	12 20 10.6	+0.2
SDDR				⇑eSg	Sg	12 20 14.1	-0.1
SDDR				IAML		12 20 18.3	
	comp=N,1μm,0.8s						
SDDR	Presa de Saban	0.28	226	i P	Pg	12 20 10.6	+0.2
SDDR				eS	Sg	12 20 14.2	+0.1
SDDR				IAML		12 20 14.6	
	comp=Z,926nm,0.6s						
SC01	Santiago de lo	0.41	53	⇓ePg	Pb	12 20 14.7	+0.6
SC01				⇑eSg	Sb	12 20 21.6	+1.2
SC01				IAML		12 20 27.2	
	comp=N,880nm,0.5s						
SC01	Santiago de lo	0.41	53	i P	Pb	12 20 14.8	+0.6
SC01				eS	Sb	12 20 21.6	+1.2
SC01				IAML		12 20 29.8	
	comp=Z,1μm,0.5s						
ABDR	Alto Bandera	0.56	131	ePg	Pg	12 20 15.4	-0.3
ABDR				⇑eSg	Sg	12 20 22.0	-1.1
ABDR				IAML		12 20 24.2	
	comp=N,710nm,0.2s						
LONE3	El Aguacate, B	0.68	212	i P	Pg	12 20 18.0	+0.2
LONE3				eS	Sg	12 20 27.2	+0.5
LONE3				IAML		12 20 32.5	
	comp=Z,317nm,0.4s						
LOPP1	Punta Rusia, P	0.68	350	eS	Sg	12 20 27.3	+0.6
LOPP1				IAML		12 20 31.3	
	comp=Z,920nm,0.6s						
LODA1	ITESIL, Dajabo	0.70	301	⇓ePg	Pg	12 20 17.3	-0.8
LODA1				eSg	Sg	12 20 26.0	-1.2
LODA1				IAML		12 20 30.3	
	comp=N,1μm,0.2s						
LODA1	ITESIL, Dajabo	0.70	301	i P	Pg	12 20 17.3	-0.8
LODA1				eS	Sg	12 20 26.3	-0.9
LODA1				IAML		12 20 27.5	
	comp=Z,1μm,1.0s						
LODU1	El Espartillar	0.91	205	i P	Pb	12 20 22.6	0.0
LODU1				IAML		12 20 43.3	
	comp=Z,206nm,0.4s						
JIDR	Jimani	1.01	227	⇓ePg	Pb	12 20 24.7	+0.4
JIDR				eSg	Sb	12 20 38.7	+1.1
JIDR				IAML		12 20 42.4	
	comp=N,298nm,0.3s						
PODR	Polo	1.03	191	⇑ePg	Pg	12 20 23.8	-0.6
PODR				⇓eSg	Sn	12 20 39.7	-0.3
PODR				IAML		12 20 47.6	
	comp=N,125nm,0.2s						
PODR	Polo	1.03	191	i P	Pg	12 20 24.0	-0.5
PODR				IAML		12 20 41.7	
	comp=Z,111nm,0.7s						
BANI	BANI	1.04	139	ePg	Pg	12 20 24.1	-0.5
BANI				⇑eSg	Sn	12 20 39.9	-0.2
BANI				IAML		12 20 40.2	
	comp=N,519nm,0.3s						
SDD	Santo Domingo	1.31	123	i P	Pg	12 20 29.6	-0.2
SDD				eS	Sb	12 20 45.9	-0.6
PAPH	Port-au-Prince	1.33	241	eP	Pg	12 20 30.5	+0.3
PAPH				eS	Sb	12 20 46.5	-0.6
PAPH				IAML		12 20 52.9	
	comp=N,92nm,0.2s						
PAPH				IAML		12 20 53.9	
	comp=E,73nm,0.2s						
PAPH	Port-au-Prince	1.33	241	i P	Pn	12 20 29.1	-0.3
PAPH				IAML		12 20 52.1	
	comp=Z,95nm,0.6s						
LOVI	El Cajuil, Ovi	1.40	192	i P	Pn	12 20 30.5	+0.1
LOVI				IAML		12 20 54.0	
	comp=Z,63nm,1.1s						
LOBH	Bahia de las A	1.42	202	i P	Pn	12 20 31.0	+0.4
LOBH				IAML		12 21 05.7	
	comp=Z,61nm,0.6s						
HATOM	Hato Mayor del	1.65	103	⇓ePg	Pn	12 20 33.8	0.0
HATOM				⇓eSg	Sn	12 20 53.9	-1.3
HATOM				IAML		12 20 54.3	
	comp=N,211nm,0.5s						
GRTK	Grand Turk	2.32	359	eP	Pb	12 20 45.4	-1.2
GRTK				eS	Sb	12 21 15.6	+0.2
GRTK				IAML		12 21 20.3	
	comp=N,164nm,0.2s						
GRTK				IAML		12 21 20.7	
	comp=N,121nm,0.2s						
MASC	Masc	3.13	289	eP	Pn	12 20 55.0	+0.8
MASC				eS	Sb	12 21 36.1	-2.8
MASC				IAML		12 21 42.0	
	comp=N,25nm,0.4s						
MASC				IAML		12 21 42.6	
	comp=E,21nm,0.2s						
QMBU	Quimbuelo	3.67	287	⇓eP	Pn	12 21 03.3	+1.7
QMBU				eS	Sn	12 21 41.3	-3.7
QMBU				IAML		12 21 55.0	
	comp=E,22nm,0.2s						
QMBU				IAML		12 21 55.8	
	comp=N,23nm,0.3s						
GTBY	Guantanamo Bay	3.88	282	eP	Pn	12 21 06.0	+1.5
GTBY				eS	Sn	12 21 50.6	+0.5
GTBY				IAML		12 21 55.1	
	comp=N,4.7nm,0.2s						
GTBY				IAML		12 22 01.0	
	comp=N,7.0nm,0.4s						
NMDO	Nuevo Mundo	3.93	291	eP	Pn	12 21 08.0	+2.9
NMDO				eS	Sn	12 21 52.8	+1.4
NMDO				⇓eS	Sn	12 21 53.4	+2.1
NMDO				IAML		12 22 00.2	
	comp=N,3.0nm,0.1s						
NMDO				IAML		12 22 02.4	
	comp=E,4.4nm,0.1s						
RCC	Rio Carpintero	4.43	281	eP	Pn	12 21 12.6	+0.5
RCC				eS	Sn	12 22 01.3	-2.6
RCC				IAML		12 22 07.3	
	comp=E,3.3nm,0.2s						
RCC				IAML		12 22 08.7	
	comp=N,3.4nm,0.2s						
PINC	Pinares de May	4.63	287	eP	Pn	12 21 17.1	+2.4
PINC				eS	Sn	12 22 08.8	+0.2
PINC				IAML		12 22 16.4	
	comp=N,4.3nm,0.1s						
PINC				IAML		12 22 18.9	
	comp=E,3.3nm,0.1s						

*IDC **17** 12:32:15.7±3.1, 10.°83S×163.°09E, h45km±27km, mb3.5/7, mbtmp3.9/9, ML4.0/2, MS3.2/4, Error ellipse: s-maj=28.0km s-min=20.3km az=53.0*

ISC 17 12:32:14.4±0.8, 10.°8S±0.°1×163.°1E±0.°1, h34km, n15, σ0§90/11, mb3.8/7, MS3.3/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.43	293	P	Pn	12 33 05.0	-0.4
	30nm,0.3s,baz=156,slow=10.0,SNR=5.2						
HNR				S	Sn	12 33 45.8	+0.9
	131nm,0.4s,baz=148,slow=19,SNR=1.6						
	128nm,0.5s						
DZM	Mont Dzumac	11.63	165	P	Pn	12 34 59.6	+1.5
	0.4nm,0.3s,baz=17,slow=10,SNR=10						
DZM				S	Sn	12 37 05.6	-1.2
	2.2nm,0.7s,baz=147,slow=18,SNR=1.3						
DZM				LR	LR	12 38 18.7	
	comp=Z,52nm,18.6s,baz=18,slow=31						
	2.3nm,0.5s						
STKA	Stephens Creek	28.89	220	LR	LR	12 49 35.7	
	comp=Z,79nm,19.0s,baz=26,slow=36						
WRA	Warramunga Arr	29.17	248	P	P	12 38 12.8	0.0
	0.6nm,0.6s,baz=82,slow=9.0,SNR=7.4						
	0.6nm,0.6s						
H11S2	WAKE ISLAND Hy	29.34	7	T	T	13 09 13.6	
	baz=188,slow=76,SNR=22						
H11S3	WAKE ISLAND Hy	29.34	7	T	T	13 09 12.8	
	baz=188,slow=76,SNR=22						
H11S1	WAKE ISLAND Hy	29.36	7	T	T	13 08 47.8	
	baz=188,slow=76,SNR=16						
GUMO	Guam	30.28	323	LR	LR	12 49 45.2	
	comp=Z,31nm,21.5s,baz=130,slow=35						
ASAR	Alice Springs	30.62	242	P	P	12 38 25.3	-0.4
	1.1nm,0.6s,baz=70,slow=9.8,SNR=26						
	1.1nm,0.6s						
NWAO	Narrogin (SRO)	47.47	235	LR	LR	13 00 17.0	
	comp=Z,64nm,19.5s,baz=26,slow=36						
SONM	Songino Array	76.99	325	P	P	12 44 04.4	+0.5
	0.3nm,0.4s,baz=106,slow=5.2,SNR=2.3						
	0.3nm,0.4s						
QSPA	South Pole Qui	79.18	180	P	P	12 44 15.3	-0.4
	1.0nm,1.0s,baz=73,slow=3.2,SNR=1.7						
	1.0nm,1.0s						
ILAR	Eielson Array	84.13	19	P	P	12 44 41.5	-0.2
	0.5nm,0.9s,baz=236,slow=5.2,SNR=3.0						
	0.5nm,0.9s						
NVAR	Mina Array Bea	87.85	50	P	P	12 45 01.2	+0.4
	0.4nm,0.8s,baz=233,slow=6.5,SNR=3.8						
	0.4nm,0.8s						
MKAR	Makanchi Array	91.61	317	P	P	12 45 17.0	-1.1
	0.4nm,0.7s,baz=97,slow=6.1,SNR=2.2						
	0.4nm,0.7s						

*AEIC **17** 12:39:15.9±1.9, 56.°57N±0.°05×168.°42W±0.°06, h9km±5km, Error ellipse: s-maj=7.5km s-min=3.3km az=207.0*
*NEIC **17** 12:39:16.8±1.2, 56.°03N±0.°04×169.°83W±0.°08, h10km±1km, mb_Lg3.4/11, ML3.7/6, ML3.5(AEIC), Error ellipse: s-maj=9.3km s-min=4.0km az=234.0*

ISC 17 12:39:14.3±0.9, 55.°97N±0.°04×169.°59W±0.°05, h10km, n29, σ1§18/24, Bering Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P08K	Saint George I	0.63	2		Pn	12 39 28.4	-0.8
P08K				IAML		12 39 36.7	
	comp=E,3μm,0.4s						
P08K					Sb	12 39 36.0	-0.2
SPIA	Saint Paul Isl	1.26	344		Pg	12 39 39.0	+0.6
SPIA	Saint Paul Isl	1.26	344		Sn	12 39 54.3	-0.6
SPIA	Saint Paul Isl	1.26	344	P	Pg	12 39 38.4	0.0
MTBL	Makushin Table	2.62	139		Pg	12 40 03.1	-1.3
MSW	Makushin Switc	2.62	141		Pg	12 40 03.5	-1.0
OKNC	Okmok New Cone	2.66	161		Pg	12 40 06.6	+1.3
MREP	Makushin Rep't	2.72	142		Pg	12 40 05.2	-1.2
LVA	Lava Point	2.74	130		Pb	12 40 02.4	-0.9
LVA				IAmb_Lg		12 40 50.6	
	comp=Z,102nm,0.9s						
LVA				IAML		12 41 01.7	
	comp=E,241nm,0.6s						
AKRB	Akutan Reef Bi	2.74	131		Pb	12 40 02.9	-0.4
UNV	Unalaska Valle	2.78	139		Pb	12 40 04.1	+0.2
UNV	Unalaska Valle	2.78	139		Sg	12 40 44.2	+0.8
AKV	Akutan Volcano	2.79	130		Pg	12 40 06.4	-1.3
ZRO	Akutan Zero	2.81	131		Pb	12 40 03.7	-0.8
AHB	Akutan Harbor	2.86	129		Pb	12 40 04.2	-1.2
NIKH	Nikolski High	3.04	172		Pb	12 40 07.2	-1.2
NIKH	Nikolski High	3.04	172	P	Pb	12 40 10.1	+1.7
WEBT	Westdahl Beart	3.10	115		Pn	12 40 04.2	+1.0
WECS	Westdahl Cape	3.11	116		Pn	12 40 03.5	+0.1
WESE	West Dahl East	3.24	116		Pn	12 40 06.3	+1.2
S12K	Black Hills	4.25	91	Pn	Pn	12 40 21.7	+2.6
S12K				IAML		12 41 27.9	
	comp=E,92nm,0.5s						
S12K				IAML		12 41 47.4	
	comp=N,96nm,1.1s						
ATKA	Atka Island	4.65	218	P	Pg	12 40 41.6	-1.7
M13K	Dall Lake	5.54	34	IAmb_Lg		12 42 08.6	
	comp=Z,64nm,0.8s						
O14K	Tigyukauivet M	5.55	50	IAmb_Lg		12 42 13.8	
	comp=Z,54nm,0.9s						
ADK	Adak	5.86	229	P	Pb	12 40 56.8	+0.4
L14K	Kuka Creek	6.48	31	IAmb_Lg		12 42 44.3	
	comp=Z,61nm,1.2s						
K13K	Kusilvak Mount	6.50	21	IAmb_Lg		12 42 41.1	
	comp=Z,47nm,1.2s						
N15K	Kwethluk River	6.56	46	IAmb_Lg		12 42 49.1	
	comp=Z,50nm,1.0s						
K15K	Wolf Creek Mou	7.57	30	IAmb_Lg		12 43 25.5	
	comp=Z,48nm,1.3s						

IDC 17 12:46:06.3±3.7, 33.°46N×106.°92E, h0km, mb3.2/4, mbtmp3.2/4, Error ellipse: s-maj=463.0km s-min=24.2km az=52.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	22.95	313	P	P	12 51 11.5	-0.6
	0.4nm,0.8s,baz=115,slow=9.9,SNR=1.7						
	0.4nm,0.8s						
KURBB	Kurchatov Arra	26.94	318	P	P	12 51 49.7	+0.5
	0.1nm,0.3s,baz=128,slow=10.0,SNR=1.1						
	0.1nm,0.3s						
WRA	Warramunga Arr	59.20	150	P	P	12 56 09.3	0.0
	0.2nm,0.6s,baz=340,slow=7.4,SNR=4.8						
	0.2nm,0.6s						
ASAR	Alice Springs	62.35	152	P	P	12 56 30.7	-0.1
	0.2nm,0.8s,baz=333,slow=6.4,SNR=4.0						
	0.2nm,0.8s						

*NEIC **17** 12:55:33.7±2.0, 2.°54S±0.°07×80.°68W±0.°07, h10km±1km, mb5.0/174, Mww4.9/10, Error ellipse: s-maj=12.4km s-min=10.1km az=217.0*
*IGQ **17** 12:55:34.8±0.7, 3.°S±3.°×8.°1W±.°, h21km, M5.5/44*
*RSNC **17** 12:55:35.0±0.9, 3.°S±2.°×8.°1W±.°, h10km±9km, M5.0, mB5.6, mb5.4, ML4.4, Mw(mB)5.2, MwMwp4.7, Mwp5.0*
*IDC **17** 12:55:39.0±2.2, 2.°46S×80.°72W, h52km±19km, mb4.2/16, mbtmp4.6/22, ML4.5/5, MS4.2/17, Error ellipse: s-maj=20.8km s-min=11.8km az=61.0*
*GCMT **17** 12:55:39.7±0.3, 2.°52S±0.°02×80.°84W±0.°02, h15km, MW5.1/78, Moment Tensor Solution. s26,c28; s78,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.30±.16; $M_{\theta\theta}$2.11±.09; $M_{\phi\phi}$-3.41±.14; $M_{r\theta}$4.38±.36; $M_{\theta\phi}$0.04±.11; $M_{r\phi}$1.00±.46; Best double couple: $M_0$5.01900×10^{16} NP1:ϕ_s48.00000°, δ79.00000°, λ128.00000°. NP2: ϕ_s151.00000°, δ39.00000°, λ17.00000°. Principal axes: T 6.1560, Plg43.0000°, Azm354.0000°; N -2.2740, Plg37.0000°, Azm220.0000°; P -3.8820, Plg25.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **17** 12:55:41.0, 2.°40S×80.°50W, h60km, mB5.3/3, Ms5.6/10, Ms7 5.3/10*
*VAO **17** 12:55:42.7±1.7, 2.°65S×79.°85W, h24km±10km, mb5.1*

ISC 17 12:55:34.5±0.6, 2.°55S±0.°03×80.°79W±0.°04, h19km±2km, h19km:pP-P, n663, σ1§48/677, mb5.0/99, MS4.2/18, 10C-2D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	Salinas	0.42	331	P	Pb	12 55 44.3	+0.9
SALI				S	Sb	12 55 50.6	+1.2
ISPG	Isla Puna-Puer	0.74	124	P	Pn	12 55 52.5	+2.5
ISPG				S	Sn	12 56 05.1	+4.3
AC07	Ecuador-Guayaq	0.89	64	P	Pb	12 55 52.4	+0.9
AGUAY	Guayaquil	0.97	59	P	Pn	12 55 52.8	-0.2
MILO	Milagro-Astudi	1.26	78	S	Sn	12 56 14.6	+1.1
MILO				P	Pn	12 55 57.7	+0.6
ISPT	Isla de la Pla	1.31	347	P	Pn	12 55 56.2	-1.7
ISPT				S	Sn	12 56 11.0	-3.9
PCRA	Pucara 2	1.44	117	P	Pn	12 56 01.6	+1.6
ABAB	Ecuador-Univer	1.48	60	S	Sn	12 56 16.5	-2.3
ABAB				P	Pn	12 55 59.1	-1.0
COHC	Cochancay	1.53	87	Pn	Pn	12 56 01.4	+0.6
COHC				Sn	Sn	12 56 17.6	-2.6
COHC	Cochancay	1.53	87	P	Pn	12 56 01.2	+0.4
COHC				S	Sn	12 56 21.2	+1.0
COHC	Cochancay	1.53	87	P	Pn	12 56 01.4	+0.6
MCNB	Balzapamba Mon	1.77	64	P	Pn	12 56 04.0	-0.2
ACUE	Ecuador-Cuenca	1.86	101	P	Pb	12 56 09.1	+1.1
BIBL	Biblin	1.91	96	P	Pn	12 56 09.1	+2.8
PECV	Mancha de Ca P	1.91	23	P	Pn	12 56 04.9	-1.2
JSCH	Cashca Tororas	1.99	65	P	Pn	12 56 07.5	0.0
MCRA	Macar, Loja	1.99	155	P	Pn	12 56 08.2	+1.0
MCRA				S	Sn	12 56 30.9	-0.7
MCRA	Macar, Loja	1.99	155	S	Sn	12 56 31.9	+0.3
MCRA				P	Pn	12 56 08.3	+1.2
ALJ1	Ecuador-Loja-U	2.13	132	S	Sn	12 56 37.8	+2.3
GONZ	Gonzanam	2.17	140	S	Sb	12 56 39.2	-1.0
GONZ				P	Pb	12 56 13.3	-0.2
CAB1	Cabo Pasado-Ma	2.18	9	P	Pn	12 56 10.1	+0.4
CHSH	Refugio Sur-Vo	2.18	61	P	Pn	12 56 11.4	+1.0
TAMH	Tambohuasha Ch	2.24	63	P	Pn	12 56 12.0	+0.9
PORT	Chimborazo Vol	2.28	62	P	Pn	12 56 13.1	+1.3
JAMA	Jama	2.35	14	P	Pn	12 56 12.4	+0.3
BOSC	San Juan Bosco	2.36	105	P	Pb	12 56 16.6	0.0
FLF1	Flavio Alfaro-	2.38	23	P	Pn	12 56 13.6	+0.1
IGUA	Igualata	2.39	64	P	Pn	12 56 14.9	+1.7
SANGA	Volcan Sangay	2.46	78	P	Pn	12 56 15.3	+1.2
BMAS	Trigal station	2.53	66	P	Pn	12 56 15.6	+0.6
TUYU	Q. Yuibug Volc	2.54	65	P	Pn	12 56 17.3	+2.2
BBIL	Ulba Tungurahu	2.54	65	P	Pn	12 56 17.0	+1.9
ARRY	Arrayan	2.55	66	P	Pn	12 56 17.0	+1.8
BPAT	Tungurahua Vol	2.57	66	P	Pn	12 56 17.1	+1.5
JUI6	Juive	2.57	64	P	Pn	12 56 17.8	+2.3
POND	Pondoa	2.59	64	P	Pn	12 56 17.5	+1.8
BULB	Ulba Tungurahu	2.62	65	P	Pn	12 56 18.1	+1.9
ILLI	Illinizas Sur	2.75	48	P	Pn	12 56 19.5	+1.4
ZUMB	Zumba	2.82	145	P	Pb	12 56 22.7	-1.7
PAST	Pastocalle	2.83	49	P	Pn	12 56 21.9	+2.8
SRAM	San Ramn-Vol	2.85	51	P	Pn	12 56 22.1	+2.7
BRRN	Barrancas-Volc	2.90	53	P	Pn	12 56 22.9	+2.7
SLOR	San Lorenzo -	2.92	52	P	Pn	12 56 23.1	+2.8
CAMI	Rancho Maria	2.94	51	P	Pn	12 56 23.9	+3.2
BMCR	Cotopaxi Volca	2.95	52	P	Pn	12 56 23.5	+2.7
PUYO	Puyo, Santa Ro	2.95	69	P	Pn	12 56 24.2	+3.6
VCES	Cotopaxi	2.96	54	P	Pn	12 56 23.9	+3.0
PIAT	Ana Tenorio	2.96	59	P	Pn	12 56 23.7	+2.9
PIAT				S	Sn	12 56 58.8	+2.8
BNAS	Cotopaxi Volca	2.97	51	P	Pn	12 56 25.0	+3.9
APUY	Puyo	2.99	69	P	Pn	12 56 25.5	+4.4
BREF	Cotopaxi Volca	3.00	51	P	Pn	12 56 24.9	+3.3
BVC2	Cotopaxi Volca	3.03	52	P	Pn	12 56 25.2	+3.2
BTAM	Cotopaxi Volca	3.03	52	P	Pn	12 56 25.2	+3.3
TAMB	Tambo	3.04	53	P	Pn	12 56 25.4	+3.3
VC1	Cotopaxi 1	3.04	51	P	Pn	12 56 25.7	+3.6
PITA	Cotopaxi Volc	3.07	50	P	Pn	12 56 26.0	+3.5
GGPT	Toaza - Volcan	3.17	43	P	Pn	12 56 25.3	+1.6
JUA2	San Juan 2	3.19	43	P	Pn	12 56 26.0	+1.9
TERV	Terraza Guagua	3.21	43	P	Pn	12 56 26.3	+1.8
PINO	Pino	3.22	43	P	Pn	12 56 25.9	+1.2
ANTG	Antisana-Guama	3.25	51	P	Pn	12 56 27.8	+2.9
ANTM	Antisana-La Mi	3.25	52	P	Pn	12 56 28.0	+2.9
YANA	Yana	3.28	43	P	Pn	12 56 26.8	+1.5
ANTS	Antisana-Sarah	3.32	52	P	Pn	12 56 28.9	+3.0
ANTI	Antisana	3.35	52	P	Pn	12 56 29.3	+2.8
PUEM	Granja Avicola	3.40	45	P	Pn	12 56 30.5	+3.6
PULU	Pululahua	3.43	42	P	Pn	12 56 29.1	+1.8
PAC1	Pacto, Paraso	3.44	35	P	Pn	12 56 27.4	+0.2
PAC1				S	Sn	12 57 08.2	+0.7
PAC1	Pacto, Paraso	3.44	35	P	Pn	12 56 27.6	+0.3
OTAV	Otavalo	3.62	40	Pn	Pn	12 56 31.4	+1.3
OTAV	Otavalo	3.62	40	P	Pn	12 56 31.2	+1.1
OTAV				S	Sn	12 57 14.5	+1.9
OTAV	Otavalo	3.62	40	P	Pn	12 56 31.3	+1.3
OTAV	Otavalo	3.62	40	eP	Pn	12 56 31.1	+1.1
OTAV				eS	Sn	12 57 09.8	-2.8
CUSE	Cuicocha Este	3.71	40	P	Pn	12 56 32.9	+1.7
CUSE				S	Sn	12 57 17.0	+2.4
CUSE	Cuicocha Este	3.71	40	P	Pn	12 56 33.0	+1.7
CUSW	Cuicocha Oeste	3.72	41	P	Pb	12 56 38.0	-2.0
CUIC	Cuicocha-Domo	3.73	41	P	Pn	12 56 33.2	+1.7
COTA	Cotacachi	3.77	41	P	Pn	12 56 34.8	+2.6
CAYR	Refugio Cayamb	3.77	47	P	Pn	12 56 35.9	+3.6
ANGU	Angureal	3.79	47	P	Pn	12 56 35.5	+3.0
IMBA	Imbabura, San	3.82	43	P	Pn	12 56 35.9	+3.2
RVRD	Rio Verde	3.86	21	P	Pn	12 56 33.5	+0.6
URCU	Urcuqui	3.90	40	P	Pn	12 56 36.5	+2.6
YAHU	Yahuarcocha	3.97	43	P	Pn	12 56 37.5	+2.7
REVN	San Rafael	4.00	52	P	Pn	12 56 38.0	+2.8
SNLR	San Lorenzo-Es	4.28	27	P	Pn	12 56 40.0	+1.3
LNGL	El Angel-Carch	4.29	40	P	Pn	12 56 41.8	+2.4
CHMA	Chilma	4.35	39	P	Pn	12 56 42.0	+2.0
CASC	Dorado de Casc	4.36	52	P	Pn	12 56 42.6	+2.7
CHL1	Volc¡n Chiles	4.37	41	P	Pn	12 56 42.9	+2.5
ECEN	Cerro Negro	4.38	40	P	Pn	12 56 44.2	+3.7
CHL2	Volc¡n Chiles	4.39	41	P	Pn	12

291nm,1.1s,4µm
PTAC Punta Ardita, 10.08 17 *e*P **Pn 12 58 01.6 +3.2**
PTAC *e*S 13 01 11.9
NNA Nana 10.16 158 Pn **Pn 12 57 59.4 -0.1**
NNA Nana 10.16 158 P **Pn 12 58 01.6 +2.1**
25nm,0.3s,baz=320,slow=11,SNR=20
NNA S **Sn 12 59 46.4 -6.6**
15nm,0.3s,baz=350,slow=22,SNR=1.8
60nm,0.4s
GMAL Guarumal, Vera 10.26 358 P **Pn 12 58 04.7 +3.9**
128nm,1.2s,11µm
AZU Azuero 10.29 3 P **Pn 12 58 04.1 +2.9**
290nm,1.0s,3µm
AZU Azuero 10.29 3 *e*P **Pn 12 58 04.2 +3.0**
AZU *e*S Sn 13 00 40.1 +44
DBBC Dabeiba 10.55 26 P **Pn 12 58 07.7 +2.9**
PNME Penonome 10.97 2 *e*P Pn 12 58 16.4 +5.8
PNME *e*S Sn 13 00 56.0 +43
TBTG Tabatinga, AM 10.98 99 Pn **Pn 12 58 08.6 -2.0**
UPD2 Meteti 11.37 14 *e*P Pn 12 58 23.1 +7.1
UPD2 *e*S 13 01 22.5
RUSC La Rusia 11.38 43 Pn **Pn 12 58 15.3 -1.3**
BRU2 Volcan 11.43 350 Pn **Pn 12 58 15.9 -1.1**
UREC San Jos de Ur 11.50 27 *e*P **Pn 12 58 19.8 +1.9**
UREC *e*S Sn 13 01 10.6 +45
UPA Univ. de Panam 11.53 6 *e*P **Pn 12 58 22.1 +3.9**
UPA *e*S 13 01 26.5
TOTI Torti 11.67 12 *e*P **Pn 12 58 23.9 +3.7**
TOTI *e*S 13 02 01.5
BCIP Isla Barro Col 11.68 5 *e*P **Pn 12 58 24.5 +4.2**
BCIP *e*S Sn 13 01 14.3 +44
RGM0 Gandoca 12.20 351 Pn **Pn 12 58 27.6 +0.2**
LCR2 La Lucha 2 12.63 345 Pn **Pn 12 58 35.8 +2.3**
PAMC Pamplona, Colo 12.71 39 P Pn 12 58 40.3 +5.4
HDC Heredia 12.90 345 Pn **Pn 12 58 38.0 +0.8**
SOCE Pocosol 13.40 344 **Pn 12 58 45.1 +1.2**
JTS Las Juntas de 13.42 342 **Pn 12 58 44.9 +0.9**
JTS Las Juntas de 13.42 342 P **Pn 12 58 46.2 +2.1**
0.8nm,0.3s,baz=142,slow=7.8,SNR=14
JTS LR LR 13 02 58.2
comp=Z,1µm,21.0s,baz=157,slow=33
58nm,1.1s
JTS Las Juntas de 13.42 342 *e*P **Pn 12 58 48.0 +3.9**
JTS *e*S **S 13 01 45.4 +8.9**
ESPN Las Esperanzas 15.06 347 **Pn 12 59 06.9 +0.5**
ACON Acoyapa 15.07 343 **Pn 12 59 08.3 +1.7**
SDV Santo Domingo 15.22 42 **Pn 12 59 08.4 -0.3**
SDV IAmb IAmb 12 59 14.8
comp=Z,63nm,0.9s
SDV Santo Domingo 15.22 42 P **Pn 12 59 10.5 +1.8**
comp=Z,18nm,0.3s,baz=225,slow=10.0,SNR=20
SDV LR LR 13 05 05.6
comp=Z,1µm,21.1s,baz=226,slow=38
comp=Z,41nm,0.4s
SDV Santo Domingo 15.22 42 P **Pn 12 59 11.0 +2.3**
comp=Z,69nm,0.9s,comp=Z,952nm
SDV Santo Domingo 15.22 42 *e*P **Pn 12 59 09.2 +0.5**
CRJC Cerrejon, Guaj 15.61 30 P **P 12 59 18.7 +0.9**
ETMB Extrema 16.18 117 **Pn 12 59 17.9 -3.1**
ETMB Extrema 16.18 117 *e*P **Pn 12 59 17.1 -3.9**
CRIN San Cristobal 16.38 338 P **P 12 59 26.3 -0.1**
BAUV El Baul 17.08 48 P **Pn 12 59 30.3 -2.2**
BAUV El Baul 17.08 48 *e* **Pn 12 59 33.3 +0.9**
TGUH Tegucigalpa,Un 17.71 339 P **Pn 12 59 40.4 0.0**
SNET Serv Nac Est T 18.18 333 P **Pn 12 59 45.8 -0.3**
SNET IAmb IAmb 12 59 50.4
comp=Z,115nm,0.7s
LPAZ La Paz 18.48 138 P **P 12 59 50.4 +0.3**
LPAZ La Paz 18.48 138 P **Pn 12 59 51.0 +0.7**
comp=Z,0.9nm,0.3s,baz=337,slow=12,SNR=19
LPAZ LR LR 13 08 20.0
comp=Z,2µm,20.7s,baz=302,slow=41
comp=Z,14nm,0.8s
LPAZ La Paz 18.48 138 *e*P **P 12 59 49.4 -0.8**
SAML Samuel 18.62 111 P **P 12 59 49.0 -2.2**
SAML Samuel 18.62 111 *e*P **P 12 59 47.9 -3.2**
MTO3 Montecristo 18.86 333 P **P 12 59 53.2 -0.8**
MTO3 IAmb IAmb 12 59 57.3
comp=Z,54nm,0.8s
ESQI Esquipulas 19.00 334 P **P 12 59 55.6 +0.2**
MACA Manacapuru-AM 20.09 92 P **P 13 00 06.6 -0.6**
MACA Manacapuru-AM 20.09 92 *e*P **P 13 00 04.2 -3.0**
PCRV Puerto La Cruz 20.46 52 P **P 13 00 11.9 +0.7**
comp=Z,87nm,0.6s,baz=208,slow=4.8,SNR=52
PCRV LR LR 13 09 05.9
comp=Z,1µm,20.9s,slow=40
comp=Z,87nm,0.6s
PCRV Puerto La Cruz 20.46 52 *e* **P 13 00 10.8 -0.4**
HUEH Huehuetenango 20.68 329 P Pn 13 00 16.5 +0.3
BOAV Boa Vista 20.84 77 P **P 13 00 14.1 -1.3**
BOAV Boa Vista 20.84 77 *e*P **P 13 00 13.2 -2.2**
PETF Flores 21.32 335 P **P 13 00 22.5 +2.0**
PETF IAmb IAmb 13 00 23.6
comp=Z,87nm,1.2s
VILB Vilhena 22.84 118 P **P 13 00 35.7 -1.2**
VILB IAmb IAmb 13 00 57.5
comp=Z,64nm,0.9s
VILB Vilhena 22.84 118 *e*P **P 13 00 35.6 -1.2**
TPP Pointe-a-Pierr 23.11 56 *e* **P 13 00 40.8 +1.2**
TRN Trinidad (W) 23.33 55 *e* **P 13 00 38.3 -3.5**
SIV San Ignacio 23.56 126 LR LR 13 11 15.6
comp=Z,570nm,18.7s,baz=322,slow=40
TEIG Tepich 23.80 342 P **P 13 00 46.8 +0.5**
TEIG IAmb IAmb 13 00 47.2
comp=Z,38nm,0.8s
CMIG Matias Romero 23.97 325 LR LR 13 08 17.2
comp=Z,440nm,20.7s,baz=156,slow=32
TOSP Speyside 24.39 55 *e* **P 13 00 50.5 -1.4**
BBSD Serra de San D 24.58 128 *e*P **P 13 00 54.5 +0.8**
PTLB Pontes e Lacer 24.89 122 P **P 13 00 55.1 -1.3**
PTLB IAmb IAmb 13 01 09.2
comp=Z,38nm,1.0s
PTLB Pontes e Lacer 24.89 122 *e*P **P 13 00 56.8 +0.4**
GO02 Mina Guanaco 24.93 155 P **P 13 00 57.3 +0.2**
GO02 IAmb IAmb 13 01 09.6
comp=Z,42nm,1.1s
ITTB Itaituba 25.07 95 *e*P **P 13 00 57.5 -0.6**
PDPR Patillas Dam, 25.09 35 P **P 13 00 57.1 -1.0**
SJG San Juan 25.09 35 P **P 13 00 58.5 +0.3**
SJG IAmb IAmb 13 01 03.9
comp=Z,36nm,0.8s
SJG San Juan 25.09 35 LR LR 13 13 41.2
comp=Z,239nm,18.2s,baz=202,slow=43
HUMP Col San Antoni 25.29 35 P **P 13 00 59.7 -0.2**
HUMP IAmb IAmb 13 01 02.1
comp=Z,40nm,0.9s
PDRB Porto dos Gac 25.49 112 *e*P **P 13 01 01.6 -0.3**
NPGB Novo Progresso 25.72 101 *e*P **P 13 01 03.7 -0.4**
CLDB Colider 26.14 110 *e*P **P 13 01 07.5 -0.3**
TLIG Tlapa 26.59 319 P **P 13 01 13.1 +1.2**
SALV Santo Antonio 28.04 120 *e*P **P 13 01 25.4 +0.5**
AQDB Aquidauana 30.27 128 P **P 13 01 45.5 +0.9**
AQDB IAmb IAmb 13 01 46.3
comp=Z,26nm,0.8s
AQDB Aquidauana 30.27 128 *e*P **P 13 01 44.7 +0.2**
SNDB Serra Nova Dou 30.68 109 *e*P **P 13 01 47.8 -0.5**
PRPB Paraupebas 31.08 98 *e*P **P 13 01 51.3 -0.7**
ARAG Araguaiana, MT 31.39 116 *e*P **P 13 01 52.5 -2.0**
RPRD Ribas do Rio P 31.86 126 *e*P **P 13 01 59.5 +0.8**
SJPY San Joaquin 32.62 135 *e*P **P 13 02 05.9 +0.6**
CPUP Villa Florida 32.65 139 P **P 13 02 06.4 +0.9**
comp=Z,1.6nm,0.8s,baz=299,slow=13,SNR=1.9
CPUP LR LR 13 18 32.0
comp=Z,367nm,18.1s,baz=334,slow=42
comp=Z,1.6nm,0.8s
TMAB Tom-Au,PA,Br 32.66 90 *e*P **P 13 02 05.7 -0.1**
SMTB Santa Maria do 33.60 102 *e*P **P 13 02 13.5 -0.5**
HBVL Hebbronville 34.13 331 P **P 13 02 20.0 +1.6**
HBVL IAmb IAmb 13 02 20.8
comp=Z,22nm,1.1s
250A Grady 34.73 352 P **P 13 02 22.8 -0.8**
250A IAmb IAmb 13 02 23.9
comp=Z,24nm,1.2s
BDFB Brasilia 34.80 114 P **P 13 02 24.6 +0.1**
BDFB Brasilia 34.80 114 P **P 13 02 24.5 +0.1**
comp=Z,6.8nm,0.8s,baz=286,slow=11,SNR=9.4
BDFB LR LR 13 18 11.2
comp=Z,1µm,18.3s,baz=301,slow=39
comp=Z,6.8nm,0.8s
154A Montrose 35.04 357 P **P 13 02 26.1 -0.1**
152A Waverly Hall 35.23 354 P **P 13 02 26.4 -1.4**
152A IAmb IAmb 13 02 28.3
comp=Z,29nm,1.2s
ITQB Itaqui 35.41 142 P **P 13 02 28.7 -0.7**
ITQB Itaqui 35.41 142 *e*P **P 13 02 32.0 +2.6**
IPMB Ipameri, GO 35.43 118 *e*P **P 13 02 29.3 -0.6**
833A Chaparral WMA, 35.53 331 P **P 13 02 30.9 +0.5**
833A Chaparral WMA, 35.53 331 P **P 13 02 29.6 -0.8**
baz=146
GOGA Godfrey 35.86 356 P **P 13 02 31.8 -1.4**
GOGA IAmb IAmb 13 02 33.0
comp=Z,19nm,1.1s
LRAL Lakeview Retre 35.88 351 P **P 13 02 32.2 -1.2**
LRAL IAmb IAmb 13 02 33.5
comp=Z,14nm,0.6s
Z47A Carrollton 36.22 350 P **P 13 02 35.3 -1.0**
Z47A IAmb IAmb 13 02 36.8
comp=Z,44nm,1.3s
BB19B Bebedouro 36.40 123 *e*P **P 13 02 38.7 +0.5**
HNDO Hondo 36.48 332 P **P 13 02 39.8 +1.1**
HNDO IAmb IAmb 13 02 40.3
comp=Z,17nm,0.7s
FRTB Fartura 36.62 127 *e*P **P 13 02 39.6 -0.3**
JSC Jenkinsville 36.64 359 P **P 13 02 39.0 -0.9**
SDBA SAO DESIDERIO 36.85 107 *e*P **P 13 02 41.6 -0.5**
DRIO Del Rio 37.04 331 P **P 13 02 43.8 +0.5**
DRIO IAmb IAmb 13 02 45.2
comp=Z,36nm,1.0s
Y45A Yeager Farm, C 37.15 348 P **P 13 02 44.4 +0.2**
FPAL Fort Paine 37.17 353 P **P 13 02 43.1 -1.4**
237A Washetta, Mont 37.21 339 P **P 13 02 45.6 +0.9**
237A IAmb IAmb 13 02 46.8
comp=Z,18nm,0.7s
X48A Hartselle 37.28 351 P **P 13 02 44.4 -0.8**
JCT Junction City 37.53 332 P **P 13 02 48.6 +1.0**
JCT IAmb IAmb 13 02 49.8
comp=Z,36nm,1.0s
W50A Signal Mountai 37.79 354 P **P 13 02 49.2 -0.5**
WHTX Lake Whitney, 37.83 337 P **P 13 02 50.2 +0.2**
WHTX IAmb IAmb 13 02 51.3
comp=Z,26nm,0.8s
SWET Sewanee 37.88 353 P **P 13 02 48.7 -1.7**
JANB Januaria 38.05 111 *e*P **P 13 02 51.7 -0.5**
TKL Tuckaleechee C 38.11 356 LR LR 13 19 25.3
comp=Z,346nm,18.0s,baz=188,slow=38
FW13 Cleburne 38.13 337 P **P 13 02 53.1 +0.5**
FW13 IAmb IAmb 13 02 54.3
comp=Z,52nm,1.2s
SAND Sanderson 38.22 329 P **P 13 02 54.7 +1.2**
V48A Smith Brothers 38.51 352 P **P 13 02 54.7 -1.0**
V48A IAmb IAmb 13 02 55.9
comp=Z,37nm,1.4s
SLBS Sierra La Lagu 38.55 314 P **P 13 02 57.9 +1.6**
SLBS IAmb IAmb 13 03 09.3
comp=Z,27nm,1.1s
TXAR Lajitas Array 38.55 327 P **P 13 02 56.8 +0.6**
TXAR Lajitas Array 38.55 327 P **P 13 02 57.0 +0.8**
comp=Z,2.4nm,1.0s,baz=150,slow=9.4,SNR=18
TXAR PcP **PcP 13 05 09.3 +0.5**
comp=Z,1.5nm,0.7s,baz=156,slow=6.7,SNR=7.2
TXAR LR LR 13 17 37.5
comp=Z,99nm,18.9s,baz=104,slow=34
comp=Z,2.4nm,1.0s
FW07 Weatherford 38.58 337 P **P 13 02 56.8 +0.4**
UALR University of 38.69 345 P **P 13 02 57.0 -0.2**
FW06 Azle 38.73 337 P **P 13 02 57.7 +0.1**
FW06 IAmb IAmb 13 02 59.7
comp=Z,47nm,1.1s
MIAR Mount Ida 38.81 343 P **P 13 02 58.3 +0.1**
PLPT Palo Pinto 38.89 336 P **P 13 03 00.0 +1.0**
Z35A Perchaven, San 38.93 338 P **P 13 03 00.2 +0.9**
Z35A IAmb IAmb 13 03 01.4
comp=Z,44nm,1.0s
TZTN Tazewell 38.98 356 P **P 13 02 58.9 -0.8**
FW03 Perrin-Whitt E 38.99 337 P **P 13 03 00.7 +0.9**
WVT Waverly 39.04 351 P **P 13 02 58.8 -1.4**
LPIG La Paz 39.06 314 LR LR 13 14 55.8
comp=Z,137nm,21.7s,baz=121,slow=30
PLCA Paso Flores 39.12 168 *e*P P 13 03 06.3 +5.4
WHAR Wooly Hollow 39.16 345 P **P 13 03 00.3 -0.8**
ABTX Abilene, Hawle 39.28 334 P **P 13 03 03.1 +0.9**
ABTX IAmb IAmb 13 03 04.3
comp=Z,29nm,0.9s
TRQA Tornquist 39.31 156 P **P 13 03 03.3 +0.8**
T57A Hurt 39.37 2 P **P 13 03 01.8 -1.1**
PEBM Pemiscott Bayo 39.39 348 P **P 13 03 01.7 -1.4**
BSCB Bom Sucesso 39.57 120 *e*P **P 13 03 04.8 -0.2**
DIAM Diamantina, MG 39.58 116 *e*P **P 13 03 05.2 0.0**
SN05 Snyder 5 40.04 333 P **P 13 03 09.9 +1.2**
SN05 IAmb IAmb 13 03 10.6
comp=Z,31nm,1.0s
APMT Aspermont 40.09 334 P **P 13 03 08.7 -0.2**
APMT IAmb IAmb 13 03 10.5
comp=Z,22nm,0.7s
OK031 S. Brethren Rd 41.14 340 P **P 13 03 17.5 -0.1**
OK031 IAmb IAmb 13 03 18.1
comp=Z,25nm,0.8s
OK052 Battle Ridge R 41.16 340 P **P 13 03 17.2 -0.6**
OK052 IAmb IAmb 13 03 18.9
comp=Z,33nm,1.0s
NBPB Pedra_Branca-C 41.20 95 *e*P **P 13 03 18.0 -0.4**
SJMB Sao Joao De Ma 41.95 115 *e*P **P 13 03 24.0 -0.6**
BLOK Blackwell 42.00 340 P **P 13 03 24.3 -0.4**
BLOK IAmb IAmb 13 03 25.5
comp=Z,19nm,0.8s
R40A Maddies Statio 42.00 346 P **P 13 03 23.5 -1.1**
CROK Carrier 42.03 339 **P 13 03 24.6 -0.4**
CROK IAmb IAmb 13 03 26.1
comp=Z,40nm,1.0s
P49A Miami Univ. Ec 42.04 355 P **P 13 03 23.1 -1.7**
baz=174
AMTX Amarillo 42.09 334 P **P 13 03 25.9 +0.4**
AMTX IAmb IAmb 13 03 27.2
comp=Z,31nm,1.1s
ELIS Ellis County 42.18 337 P **P 13 03 26.8 +0.7**
ELIS IAmb IAmb 13 03 29.2
comp=Z,30nm,0.8s
OK038 West end E0370 42.29 338 P **P 13 03 27.3 +0.3**
OK038 IAmb IAmb 13 03 28.5
comp=Z,27nm,1.0s
O48B Farmland 42.79 355 P **P 13 03 29.5 -1.5**
baz=173
RIB01 Linhares ES 42.85 116 *e*P **P 13 03 31.6 -0.2**
121A Cookes Peak, D 43.26 326 P **P 13 03 36.1 +0.9**
121A Cookes Peak, D 43.26 326 P **P 13 03 37.2 +2.1**
baz=138,SNR=15
NBLA Lagarto - SE 43.46 103 *e*P **P 13 03 36.2 -0.6**
RTBA Rita Blanca 43.86 334 P **P 13 03 40.6 +0.7**
RTBA IAmb IAmb 13 03 42.6
comp=Z,23nm,1.0s
R32A Long Quarter, 44.01 340 P **P 13 03 41.3 +0.4**
R32A IAmb IAmb 13 03 42.9
comp=Z,38nm,1.1s
DUN6 Lazy B Ranch 44.02 325 P **P 13 03 41.9 +0.7**
ANMO Albuquerque 44.40 329 P **P 13 03 45.3 +1.0**
N38A Joes South For 44.61 347 P **P 13 03 45.4 -0.3**
N38A IAmb IAmb 13 03 45.5
comp=Z,19nm,0.8s
NBAN Anadia - AL 44.78 101 *e*P **P 13 03 47.0 -0.5**
M65A Busby, Falmout 44.87 11 P **P 13 03 47.8 +0.2**
baz=194
L44A Lake County Fo 44.99 353 P **P 13 03 50.1 +1.5**
baz=170
K50A Casco 45.15 358 P **P 13 03 48.4 -1.5**
T25A Trinidad 45.18 333 P **P 13 03 52.2 +1.6**
baz=145,SNR=18
L61B Northampton 45.39 8 P **P 13 03 52.1 +0.3**
baz=191
X18A Snowflake 45.95 326 P **P 13 03 57.9 +1.3**
X18A IAmb IAmb 13 03 59.1
comp=Z,20nm,1.0s
KSCO Kaye Shedlock' 45.99 336 P **P 13 03 57.3 +0.4**
KSCO IAmb IAmb 13 03 58.9
comp=Z,21nm,0.9s
JFWS Jewell Farm 46.06 350 P **P 13 03 55.4 -1.8**
S22A 4UR Ranch, Cre 46.80 331 P **P 13 04 04.5 +1.1**
baz=143,SNR=13
Q24A Divide 47.02 334 P **P 13 04 05.5 +0.4**
Q24A IAmb IAmb 13 04 08.0
comp=Z,17nm,1.3s
Q24A Divide 47.02 334 P **P 13 04 06.4 +1.3**
baz=146,SNR=6.2
MVCO Mesa Verde 47.20 330 P **P 13 04 06.8 +0.3**
MVCO IAmb IAmb 13 04 07.9
comp=Z,8.7nm,0.8s
H43A Windswept, Lux 47.23 353 P **P 13 04 04.6 -1.7**
ESJX Sierra Juarez 47.89 319 P **P 13 04 12.3 +0.5**
BRIGG Briggsdale 48.01 336 P **P 13 04 12.8 +0.2**
BLYC Blythe 48.11 322 P **P 13 04 13.7 +0.4**
BLYC IAmb IAmb 13 04 15.8
comp=Z,12nm,1.1s
K30B Basset 48.13 341 P **P 13 04 14.2 +0.8**
PKME Peaks-Kenny Pk 48.70 11 P **P 13 04 18.1 +0.5**
N23A Red Feather La 48.95 335 P **P 13 04 20.5 +0.5**
baz=146
PFO Pinyon Flats O 49.24 320 P **P 13 04 22.8 +0.6**
PFO Pinyon Flats O 49.24 320 LR LR 13 22 56.0
comp=Z,175nm,20.4s,baz=120,slow=33
KNB Kanab 49.36 326 P **P 13 04 24.3 +1.2**
KNB IAmb IAmb 13 04 25.8
comp=Z,15nm,1.2s
O20A White River Ci 49.37 332 P **P 13 04 24.1 +1.0**
O20A IAmb IAmb 13 04 26.7
comp=Z,20nm,1.1s
MSU Marysvale 50.09 328 P **P 13 04 29.6 +0.9**
MVU Marysvale 50.10 328 P **P 13 04 30.0 +1.2**
F33A 5 Mile Ranch, 50.11 346 P **P 13 04 27.4 -1.0**
RDMU Red Mountain 50.33 332 P **P 13 04 30.6 +0.1**
RDMU IAmb IAmb 13 04 32.1
comp=Z,24nm,0.9s
RSSD Black Hills 50.92 339 P **P 13 04 34.9 0.0**
RSSD IAmb IAmb 13 04 36.7
comp=Z,20nm,1.1s
PSUT Pine Spring 51.01 327 P **P 13 04 36.3 +0.7**
R11B Troy Canyon, C 51.85 325 P **P 13 04 43.4 +1.5**
baz=133,SNR=14
PD31 Pinedale Array 52.05 333 P **P 13 04 43.4 0.0**
PDAR Pinedale Array 52.05 333 P **P 13 04 43.3 -0.1**
comp=Z,6.2nm,0.9s,baz=132,slow=8.5,SNR=44
PDAR PcP **PcP 13 05 54.6 -0.8**
comp=Z,0.9nm,0.6s,baz=126,slow=4.6,SNR=1.7
PDAR LR LR 13 27 56.6
comp=Z,162nm,18.1s,baz=100,slow=37
comp=Z,6.2nm,0.9s
HWUT Hardware Ranch 52.09 331 P **P 13 04 43.6 -0.1**
HWUT IAmb IAmb 13 04 45.2
comp=Z,26nm,1.1s
GMN Gold Mountain 52.13 323 P **P 13 04 44.7 +0.7**
LOHW Long Hollow 53.19 333 P **P 13 04 51.3 -0.4**
ELK Elko 53.34 328 P **P 13 04 53.1 +0.1**
ELK IAmb IAmb 13 04 55.1
comp=Z,17nm,1.2s
NVAR Mina Array Bea 53.49 323 P **P 13 04 55.3 +1.2**
comp=Z,7.5nm,0.8s,baz=139,slow=7.0,SNR=53
NVAR PcP **PcP 13 05 59.7 -1.3**
comp=Z,1.3nm,0.6s,baz=126,slow=4.6,SNR=3.6
NVAR LR LR 13 25 05.9
comp=Z,144nm,19.7s,baz=100,slow=33
comp=Z,7.5nm,0.8s
YNE Yellowstone No 54.03 335 P **P 13 04 58.0 0.0**
YNE IAmb IAmb 13 04 59.3
comp=Z,17nm,1.0s
ULM Lac du Bonnet 54.17 348 P **P 13 04 57.8 -0.7**
ULM Lac du Bonnet 54.17 348 P **P 13 04 57.9 -0.7**
comp=Z,40nm,0.7s,baz=158,slow=7.8,SNR=46
comp=Z,40nm,0.7s
YMR Madison River 54.18 334 P **P 13 04 59.7 +0.7**
YMR IAmb IAmb 13 05 01.4
comp=Z,26nm,1.4s
YHH Holmes Hill 54.22 334 P **P 13 05 00.1 +0.6**
EMB Emerald Bay 54.92 323 P **P 13 05 05.4 +0.9**
HLID Hailey 54.95 331 P **P 13 05 04.7 +0.2**
HLID IAmb IAmb 13 05 06.5
comp=Z,12nm,0.9s
MPK Martis Peak 55.08 323 P **P 13 05 06.7 +1.0**
MPK IAmb IAmb 13 05 08.2
comp=Z,30nm,1.3s
ORV Oroville 56.13 323 P **P 13 05 13.8 +0.9**
ORV IAmb IAmb 13 05 15.4
comp=Z,34nm,1.4s
WVOR Wild Horse Val 56.34 327 P **P 13 05 14.8 +0.3**
WVOR IAmb IAmb 13 05 16.2
comp=Z,18nm,1.0s
EGMT Eagleton 56.36 337 P **P 13 05 14.9 +0.4**
LYMT Lyon Mountain 56.56 335 P **P 13 05 16.4 +0.2**
MSO Missoula 57.17 333 P **P 13 05 20.1 -0.3**
MSO IAmb IAmb 13 05 22.0
comp=Z,31nm,1.3s
BMO Blue Mountains 57.32 330 P **P 13 05 20.6 -0.8**
BMO IAmb IAmb 13 05 22.2
comp=Z,12nm,1.2s
F10A Beach Ranch, E 58.08 331 P **P 13 05 27.3 +0.6**
F10A IAmb IAmb 13 05 28.6
comp=Z,17nm,0.9s
YBH Yreka Blue Hor 58.20 324 P **P 13 05 27.0 -0.6**
YBH IAmb IAmb 13 05 28.0
comp=Z,9.9nm,0.8s
SCHQ Schefferville 58.34 9 P **P 13 05 26.6 -1.7**
comp=Z,7.2nm,1.0s,baz=192,slow=9.3,SNR=3.4
comp=Z,7.2nm,1.0s
KSXB Camp Six Broad 58.95 323 P **P 13 05 33.1 +0.3**
I05D Terrebonne, OR 59.08 327 P **P 13 05 34.0 +0.3**
G06A Carlson Farm, 59.30 328 P **P 13 05 36.2 +1.0**
G06A IAmb IAmb 13 05 37.2
comp=Z,13nm,1.0s
MXC Moxie City 60.02 330 P **P 13 05 40.9 +0.8**
LTY Liberty 60.67 330 P **P 13 05 44.9 +0.3**
LTY IAmb IAmb 13 05 45.9
comp=Z,9.1nm,0.9s
LON Longmire 60.91 329 P **P 13 05 46.3 +0.1**
LON IAmb IAmb 13 05 47.6
comp=Z,9.6nm,0.9s
D05A Enumclaw 61.30 329 P **P 13 05 49.1 +0.4**
GNW Green Mountain 61.97 329 P **P 13 05 52.9 -0.4**
GNW IAmb IAmb 13 05 54.7
comp=Z,16nm,1.1s
LLLB Lillooet 63.54 332 P **P 13 06 03.5 -0.2**
CBB Campbell River 64.84 330 P **P 13 06 12.7 +0.4**
CBB IAmb IAmb 13 06 14.3
comp=Z,11nm,0.9s
PPT2 Papeete2 69.02 252 *e*LR LR 13 27 41.8
comp=Z,175nm,25.2s
PPT2 *e*LR LR 13 27 42.0
comp=Z,70nm,21.0s
TBI Tubuai 69.43 246 *e*LR LR 13 27 52.1
comp=Z,526nm,25.8s
YKA Yellowknife Ar 69.75 344 P **P 13 06 42.0 -1.1**
comp=Z,3.3nm,0.9s,baz=137,slow=6.6,SNR=12
comp=Z,3.3nm,0.9s
TOAD Toad River Com 70.55 337 P **P 13 06 48.1 -0.1**
baz=132
KOTAN Kotaneelee Air 70.98 339 P **P 13 06 51.4 +0.8**
baz=133
V35K Ketchikan 71.08 332 P **P 13 06 51.4 +0.1**
baz=125
LIRD Liard River Hi 71.26 337 P **P 13 06 52.5 +0.2**
baz=131
T35M Bob Quinn 71.43 334 P **P 13 06 54.4 +0.9**
baz=127
CRAG Craig 71.87 332 P **P 13 06 56.3 +0.2**
baz=124
WRAK Wrangell Islan 72.04 333 P **P 13 06 58.2 +1.1**
baz=124
DLBC Dease Lake 72.22 335 P **P 13 06 58.3 +0.1**
DLBC IAmb IAmb 13 07 00.6
comp=Z,23nm,1.2s
DLBC Dease Lake 72.22 335 P **P 13 06 59.4 +1.1**
baz=127,SNR=5.4
U33K Whale Pass 72.22 332 P **P 13 06 59.0 +0.8**
baz=124
S34M Telegraph Cree 72.37 334 P **P 13 07 00.2 +1.2**
baz=126
WTLY Watson Lake, Y 72.76 337 P **P 13 07 01.6 +0.2**
baz=129
WRGLY Wrigley 72.95 341 P **P 13 07 03.1 +0.7**
baz=135
R33M Jennings River 73.18 336 P **P 13 07 04.9 +0.8**
baz=126
Q32M Nakina River 73.47 335 P **P 13 07 06.1 +0.3**
baz=125
S32K Killisnoo 73.64 333 P **P 13 07 07.8 +1.3**
baz=123
R32K Eaglecrest 74.06 334 P **P 13 07 09.9 +0.9**
baz=123
P33M Teslin, Yukon 74.42 336 P **P 13 07 10.9 -0.3**
P33M IAmb IAmb 13 07 25.0
comp=Z,25nm,1.5s
P33M Teslin, Yukon 74.42 336 P **P 13 07 11.9 +0.6**
baz=125
P32M Atlin 74.44 335 P **P 13 07 12.4 +1.1**
baz=124
S31K Pelican 74.66 333 P **P 13 07 14.1 +1.6**
baz=121
R31K City Hall, Gus 74.67 333 P **P 13 07 13.8 +1.2**

baz=122
SKAG Skagway 75.05 334 P P 13 07 16.1 +1.3
baz=122
WHY Whitehorse 75.52 336 P P 13 07 19.1 +1.5
baz=123
FARO Faro, Yukon 75.80 337 P P 13 07 19.7 +0.6
baz=125
O30N Mendenhall 76.08 335 P P 13 07 22.0 +1.3
baz=122
P30M Million Dollar 76.11 335 P P 13 07 21.1 +0.3
baz=121
M31M Drury Creek, Y 76.18 337 P P 13 07 22.0 +0.7
baz=124
P29M Windy Craggy 76.19 334 P P 13 07 22.4 +1.1
baz=120
N31M Braeburn, Yuko 76.34 336 P P 13 07 23.5 +1.3
baz=122
DBIC Dimbokro 76.34 83 P P 13 07 23.4 +0.3
comp=Z,12nm,0.6s,baz=253,slow=5.3,SNR=18
comp=Z,12nm,0.6s
HYT Haines Junctio 76.70 335 P P 13 07 25.5 +1.2
baz=121
ICESG Greenland Ices 76.77 14 eP P 13 07 24.1 -0.7
N30M Aishikik Lake 76.86 336 P P 13 07 26.4 +1.2
baz=121
O29M Mount Kennedy 76.89 334 P P 13 07 26.6 +1.2
baz=120
YUK6 Outpost Mounta 77.12 335 P P 13 07 27.9 +1.0
baz=120
M30M Minto, Yukon 77.33 337 P P 13 07 29.2 +1.5
baz=122
YUK4 Talbot Arm 77.44 335 P P 13 07 29.4 +0.8
baz=120
PINM Pinnacle 77.52 334 P P 13 07 29.4 +0.5
baz=118
MAYO Mayo, Yukon 77.53 338 P P 13 07 30.2 +1.4
baz=123
RES Resolute Bay 77.59 356 P P 13 07 27.6 -1.3
O28M Mount Upton 77.82 334 P P 13 07 31.1 +0.2
baz=118
YUK8 Steele Glacier 77.88 335 P P 13 07 32.2 +1.1
baz=119
M29M Somme Creek 77.92 336 P P 13 07 31.4 +0.3
M29M IAmb IAmb 13 07 32.7
comp=Z,17nm,1.1s
M29M Somme Creek 77.92 336 P P 13 07 32.1 +0.9
baz=120
L29M L29M 78.13 337 P P 13 07 32.4 +0.2
L29M IAmb IAmb 13 07 33.4
comp=Z,26nm,1.3s
L29M L29M 78.13 337 P P 13 07 32.8 +0.6
baz=120
H31M Peel River 78.21 340 P P 13 07 33.1 +0.5
baz=125
J30M Hart River 78.22 339 P P 13 07 33.3 +0.5
J30M Hart River 78.22 339 P P 13 07 33.8 +1.0
baz=122
K29M Barlow Dome 78.27 338 P P 13 07 33.3 +0.3
K29M Barlow Dome 78.27 338 P P 13 07 33.4 +0.3
baz=121
MESA MESA 78.32 333 P P 13 07 34.1 +0.7
baz=116
KULLO Kullorsuaq 78.32 6 eP P 13 07 28.3 -4.6
KULLO IAmb IAmb 13 07 31.3
comp=Z,17nm,0.8s
CTG Chitna Glacier 78.41 334 P P 13 07 35.0 +1.1
baz=117
YUK3 Moose Creek 78.41 335 P P 13 07 34.4 +0.4
baz=118
I30M Mount Dempster 78.59 339 P P 13 07 34.3 -0.5
I30M IAmb IAmb 13 07 36.1
comp=Z,12nm,1.1s
I30M Mount Dempster 78.59 339 P P 13 07 35.4 +0.6
baz=123
G31M Satah River 78.83 341 P P 13 07 35.9 0.0
G31M IAmb IAmb 13 07 36.8
comp=Z,16nm,1.3s
G31M Satah River 78.83 341 P P 13 07 36.3 +0.4
baz=125
BVCY Beaver Creek 78.88 336 P P 13 07 37.1 +0.7
baz=118
F31M Tsiigehtchic 78.97 342 P P 13 07 36.2 -0.4
F31M Tsiigehtchic 78.97 342 P P 13 07 37.0 +0.4
baz=126
CRQE Cirque 79.08 334 P P 13 07 38.2 +0.6
baz=116
DAWY Dawson 79.10 338 P P 13 07 37.6 0.0
DAWY Dawson 79.10 338 P P 13 07 37.8 +0.3
baz=120
M27K Edge Creek, AK 79.27 335 P P 13 07 38.8 +0.1
baz=117
MCARA McCarthy VSAT 79.32 334 P P 13 07 39.6 +0.9
baz=116
KAIM Kayak Island 79.33 333 P P 13 07 40.2 +1.4
baz=114
EPYK Eagle Plains 79.33 340 P P 13 07 39.2 +0.5
baz=122
INK Inuvik 79.41 342 P P 13 07 39.0 0.0
INK IAmb IAmb 13 07 40.1
comp=Z,18nm,1.2s
INK Inuvik 79.41 342 P P 13 07 39.0 0.0
baz=126,SNR=10
BCAR Beaver Creek A 79.56 336 P P 13 07 40.4 +0.3
L27K Beaver Creek, 79.58 336 P P 13 07 40.2 +0.1
baz=117
SUMG Summit 79.61 12 P P 13 07 39.5 -1.1
SUMG Summit 79.61 12 i P P 13 07 39.0 -1.6
A36M Sachs Harbour 79.64 347 P P 13 07 39.5 -0.7
A36M Sachs Harbour 79.64 347 P P 13 07 39.6 -0.7
baz=134,SNR=25
GLB Gilahina Butte 79.69 334 P P 13 07 40.7 -0.1
GLB IAmb IAmb 13 07 42.6
comp=Z,25nm,1.4s
F30M Barrier River 79.71 341 P P 13 07 41.1 +0.4
baz=124
M26K Nabesna, AK 79.76 335 P P 13 07 42.0 +0.8
baz=116
H29M Whitestone 79.82 340 P P 13 07 41.9 +0.5
baz=121
BMRM Bremner River 79.84 334 P P 13 07 42.1 +0.4
baz=114
I28M Miner Creek 79.99 339 P P 13 07 42.5 +0.1
baz=119
Q23K Middleton Isla 80.03 332 P P 13 07 43.3 +0.7
baz=112
G29M Pine Creek 80.06 340 P P 13 07 42.8 +0.1
G29M Pine Creek 80.06 340 P P 13 07 42.9 +0.2
baz=121
N25K Chitina, Valde 80.10 334 P P 13 07 43.9 +0.8
baz=114
EGAK Eagle 80.12 338 P P 13 07 43.6 +0.7
baz=118,SNR=5.2
K27K Chicken 80.12 337 P P 13 07 43.8 +0.8
baz=117
L26K Log Cabin Wild 80.18 336 P P 13 07 43.4 0.0
baz=116
EYAK Cordova Ski Ar 80.19 333 P P 13 07 43.8 +0.4
baz=113
KLU Klutina 80.64 334 P P 13 07 46.6 +0.6
baz=113
HARP HAARP 80.67 335 P P 13 07 45.9 -0.1
baz=114
I27K Kandik River 80.68 338 P P 13 07 46.6 +0.5
baz=118
P23K Montague Islan 80.73 332 P P 13 07 47.2 +0.8
baz=112
E29M Blow River 80.80 342 P P 13 07 46.4 -0.2
E29M Blow River 80.80 342 P P 13 07 46.3 -0.2
baz=122
SCRK Sand Creek 80.85 336 P P 13 07 46.8 -0.3
baz=115
J26L Joseph Creek 80.91 337 P P 13 07 47.6 +0.2
J26L Joseph Creek 80.91 337 P P 13 07 47.4 0.0
baz=116
GLI Glacier Island 80.92 333 P P 13 07 48.0 +0.6
baz=112
H27K Steamboat Moun 80.94 339 P P 13 07 48.4 +1.0
baz=118
M24K Tolsona, Glenn 80.99 334 P P 13 07 47.8 0.0
baz=113
PAX Paxson 81.03 335 P P 13 07 48.7 +0.7
baz=114
F28M Old Crow 81.04 341 P P 13 07 48.2 +0.3
baz=120
I26K Coal Creek Min 81.11 338 P P 13 07 47.9 -0.5
baz=116
G27K Doyon Strip 81.26 340 P P 13 07 48.4 -0.7
baz=118
SCM Sheep Creek Mo 81.39 334 P P 13 07 49.9 0.0
baz=112
E28M Babbage River 81.43 342 P P 13 07 49.9 0.0
baz=120
PWL Port Wells 81.48 333 P P 13 07 50.3 -0.1
baz=111
K24K Donnelly Dome 81.50 336 P P 13 07 51.4 +0.9
baz=114
ESDC Sonseca Array 81.51 49 P P 13 07 50.6 -0.4
comp=Z,1.3nm,1.0s,baz=268,slow=4.5,SNR=4.8
comp=Z,1.3nm,1.0s
M23K Glacier View 81.55 334 P P 13 07 51.1 +0.4
baz=112
D28M Stokes Point 81.55 342 P P 13 07 50.7 +0.1
baz=121
NEEM North Greenlan 81.57 6 eP P 13 07 50.6 -0.3
NEEM IAmb IAmb 13 07 51.8
comp=Z,36nm,1.2s
VNA3 Neumayer Olymp 81.58 162 ⇑P P 13 07 51.4 +0.7
comp=Z,2.4nm,0.7s
VNA3 ⇑PcP sP 13 08 00.4 +1.1
comp=Z,13nm,0.8s
J25K Salcha River, 81.67 337 P P 13 07 51.5 +0.1
baz=114
SEW Seward 81.73 332 P P 13 07 52.7 +1.0
baz=112
KNK Knik Glacier 81.73 333 P P 13 07 52.1 +0.4
baz=111
SML Sawmill 81.82 334 P P 13 07 52.4 +0.2
SML Sawmill 81.82 334 P P 13 07 52.9 +0.7
baz=111
WAT6 Susitna Watana 81.85 335 P P 13 07 52.1 -0.3
baz=112
VNA1 Neumayer--Stat 81.85 161 ⇑P P 13 07 52.7 +0.6
comp=Z,4.9nm,0.9s
VNA1 ⇑PcP sP 13 08 02.1 +1.4
comp=Z,7.7nm,1.0s
DHY Denali Highway 81.88 335 P P 13 07 53.1 +0.5
baz=112
E27K Coleen River 81.89 341 P P 13 07 52.7 +0.2
baz=118
G26K Porcupine Rive 82.07 339 P P 13 07 54.0 +0.7
baz=116
PMR Palmer 82.10 333 P P 13 07 53.8 +0.2
baz=110
PRP Porcupine Dome 82.10 338 P P 13 07 53.8 +0.1
baz=114
D27M Malcolm River 82.20 342 P P 13 07 54.8 +0.8
baz=119
RC01 Rabbit Creek A 82.20 333 P P 13 07 55.3 +1.2
baz=110
VNA2 Neumayer--Watz 82.20 161 ⇑P P 13 07 53.9 -0.1
comp=Z,2.5nm,0.7s,baz=307,slow=4.9
VNA2 ⇑PcP sP 13 08 02.1 -0.5
comp=Z,5.2nm,0.7s,baz=301,slow=4.2
BRSE Bradley Lake S 82.23 331 P P 13 07 54.2 -0.1
baz=108
WAT1 Susitna Watana 82.28 335 P P 13 07 55.0 +0.4
baz=111
ILAR Eielson Array 82.33 337 P P 13 07 53.6 -1.2
comp=Z,2.3nm,1.1s,baz=150,slow=3.3,SNR=12
ILAR PP PP 13 11 04.8 +1.3
comp=Z,1.3nm,0.9s,baz=98,slow=7.1,SNR=8.3
comp=Z,2.3nm,1.1s
H25L Birch Creek 82.52 338 P P 13 07 55.7 +0.1
baz=114
F26K Sheenjek River 82.52 340 P P 13 07 55.7 0.0
F26K Sheenjek River 82.52 340 P P 13 07 55.7 0.0
baz=116
KDAK Kodiak Island 82.54 329 P P 13 07 55.3 -0.6
baz=107
BMAR Burt Mountain 82.56 340 P P 13 07 55.8 -0.1
M22K Willow 82.60 333 P P 13 07 56.1 0.0
baz=109
HOM Homer 82.63 331 P P 13 07 58.4 +2.0
baz=108
POKR Poker Plat Res 82.68 337 P P 13 07 57.9 +1.4
baz=112
Q20K Shuyak Island 82.69 330 P P 13 07 58.2 +1.5
baz=107
COLA College 82.75 337 P P 13 07 57.2 +0.3
baz=112
MCK McKinley 82.77 335 P P 13 07 57.3 +0.2
baz=111
SUA Susitna One 82.79 333 P P 13 07 58.3 +1.0
baz=109
G25K Bearman Lake 82.82 339 P P 13 07 57.9 +0.6
baz=114
F25K Christian Rive 83.00 340 P P 13 07 58.8 +0.5
baz=114
H24K Noodor Dome 83.12 338 P P 13 07 57.8 -1.1
H24K IAmb IAmb 13 07 59.8
comp=Z,17nm,1.4s
H24K Noodor Dome 83.12 338 P P 13 07 58.8 -0.1
baz=112
NEA2 Nenana 83.13 336 P P 13 07 59.0 +0.1
baz=111
O20K Slope Mountain 83.23 331 P P 13 08 00.7 +1.0
baz=107
TRF Thorofare Moun 83.24 335 P P 13 07 59.5 -0.3
baz=109
TORD Torodi Ar. Bea 83.26 77 P P 13 07 57.9 -2.7
TORD Torodi Ar. Bea 83.26 77 P P 13 08 00.1 -0.5
comp=Z,1.8nm,0.8s,baz=287,slow=4.5,SNR=9.2
TORD PP PP 13 11 13.9 +1.5
comp=Z,1.9nm,1.1s,baz=303,slow=9.0,SNR=5.1
comp=Z,1.8nm,0.8s
G24K Hadweenzic Riv 83.30 338 P P 13 07 59.5 -0.3
G24K IAmb IAmb 13 08 21.7
comp=Z,12nm,1.5s
G24K Hadweenzic Riv 83.30 338 P P 13 08 00.8 +1.0
baz=112
SKT Skwentna 83.31 333 P P 13 07 58.9 -1.0
SKT IAmb IAmb 13 08 01.1
comp=Z,18nm,1.2s
SKT Skwentna 83.31 333 P P 13 08 00.1 +0.2
baz=108
N20K Mount Spurr 83.37 332 P P 13 08 00.4 +0.1
baz=107
SPCR Spurr Chakacha 83.37 332 P P 13 07 59.9 -0.5
baz=107
Q19K Cape Douglas, 83.40 330 P P 13 08 00.6 +0.2
baz=106
I23K Minto, Yukon-K 83.45 337 P P 13 08 00.5 0.0
baz=110,SNR=5.1
R18K Karluk 83.45 329 P P 13 08 00.2 -0.4
baz=105
CHIR Chirikof Islan 83.63 327 P P 13 08 00.8 -0.8
baz=104
BPAW Bear Paw Mtn. 83.75 335 P P 13 08 01.3 -0.9
baz=109
H23K Yukon River 83.76 337 P P 13 08 02.3 +0.2
baz=110
F24K Squaw Lake 83.76 339 P P 13 08 03.0 +0.8
baz=112
SNAA Sanae 83.80 162 P P 13 08 02.7 +0.3
SNAA IAmb IAmb 13 08 13.2
comp=Z,8.5nm,1.1s
SNAA Sanae 83.80 162 ⇑P P 13 08 01.8 -0.6
comp=Z,24nm,0.5s
SNAA ⇑PcP sP 13 08 11.7 +0.8
comp=Z,107nm,1.0s
SNAA Sanae 83.80 162 P P 13 08 02.3 0.0
comp=Z,1.4nm,0.8s,baz=265,slow=8.0,SNR=12
comp=Z,1.4nm,0.8s
PPLA Purkeypile 83.88 334 P P 13 08 02.5 -0.5
baz=108
MLY Manley 83.95 336 P P 13 08 03.6 +0.4
baz=109
D25K Kavik River 83.96 341 P P 13 08 03.3 +0.2
CAST Castle Rocks 84.00 335 P P 13 08 02.8 -0.6
baz=108
M20K Styx River 84.00 333 P P 13 08 03.6 +0.1
baz=107
Q18K Katmai Hardscr 84.01 330 P P 13 08 03.9 +0.2
baz=105
O19K Port Alsworth 84.08 331 P P 13 08 03.8 0.0
baz=105
E24K Your Creek 84.18 340 P P 13 08 04.2 -0.1
baz=112
CHUM Lake Minchumin 84.24 335 P P 13 08 04.7 +0.1
baz=108
G23K Bananza Creek 84.25 338 P P 13 08 05.6 +0.9
baz=110
P18K Big Mountain, 84.31 330 P P 13 08 06.1 +1.0
baz=104
N19K Bonanza Creek 84.32 332 P P 13 08 06.1 +0.8
baz=105
Q17K Contact Creek 84.36 329 P P 13 08 06.2 +0.7
baz=104
O18K Koktuh Hills 84.42 331 P P 13 08 06.0 +0.4
baz=105
R17L Mt. Peulik Vol 84.46 328 P P 13 08 06.0 +0.1
baz=103
H22K Ishtalitna Cre 84.49 337 P P 13 08 07.4 +1.5
baz=109
COLD Coldfoot 84.49 339 P P 13 08 06.9 +1.1
baz=110
E23K Chandalar 84.57 339 P P 13 08 07.4 +1.1
baz=110
M19K Big River Lodg 84.58 333 P P 13 08 06.4 +0.1
baz=106
D24K Happy Valley 84.70 341 P P 13 08 07.9 +1.1
baz=111
TOLK Toolik Lake Re 84.76 340 P P 13 08 08.6 +1.3
baz=110
K20K Telida 84.83 334 P P 13 08 09.3 +1.7
baz=106
Q16K King Salmon 84.85 329 P P 13 08 08.7 +1.0
baz=103
C24K Franklin Bluff 84.86 341 P P 13 08 08.9 +1.3
baz=111
P17K Kvichak River 84.87 330 P P 13 08 08.2 +0.4
baz=104
G22K Bettles 84.87 338 P P 13 08 08.0 +0.2
baz=109
N18K Kilae Creek 84.96 331 P P 13 08 09.3 +1.0
baz=104
EKA Eskdalemuir Ar 85.06 34 P P 13 08 08.9 0.0
comp=Z,1.8nm,0.9s,baz=263,slow=3.5,SNR=2.1
comp=Z,1.8nm,0.9s
M18K Stony River 85.13 332 P P 13 08 10.1 +0.9
baz=104
D23K Nanushuk River 85.25 340 P P 13 08 09.6 -0.1
D23K IAmb IAmb 13 08 11.2
comp=Z,13nm,1.1s
D23K Nanushuk River 85.25 340 P P 13 08 10.5 +0.9
baz=110,SNR=5.6
F22K John River 85.31 339 P P 13 08 10.3 +0.3
baz=108
O17K Koliganek Bris 85.33 330 P P 13 08 10.6 +0.5
baz=103
E22K Anaktuvuk Pass 85.37 339 P P 13 08 10.7 +0.4
baz=108
I20K Naaghedeneel 85.40 336 P P 13 08 11.0 +0.6
baz=106
IMAR Indian Mountai 85.44 337 P P 13 08 09.5 -1.2
G21K Allakaket 85.50 337 P P 13 08 10.3 -0.6
G21K IAmb IAmb 13 08 11.9
comp=Z,16nm,1.3s
G21K Allakaket 85.50 337 P P 13 08 11.4 +0.4
baz=107
TROLL Troll, Antarti 85.52 162 ⇑PcP PcP 13 08 19.4 +5.4
comp=Z,180nm,0.6s
C23K Itkillik River 85.53 341 P P 13 08 10.9 0.0
C23K IAmb IAmb 13 08 12.1
comp=Z,13nm,1.1s
C23K Itkillik River 85.53 341 P P 13 08 11.4 +0.5
baz=110
N17K Nushagak Hills 85.54 331 P P 13 08 11.7 +0.4
baz=103
TTA Tatalina 85.57 334 P P 13 08 11.8 +0.3
baz=104
CHNA Chernabura Isl 85.63 325 P P 13 08 12.3 +0.6
baz=100
F21K Alatna River 85.70 338 P P 13 08 11.5 -0.4
F21K IAmb IAmb 13 08 13.1
comp=Z,7.5nm,1.1s
F21K Alatna River 85.70 338 P P 13 08 12.6 +0.6
baz=107
L18K Granite Mounta 85.70 333 P P 13 08 12.5 +0.6
baz=104
H20K Anotleneega Mo 85.76 336 P P 13 08 12.6 +0.4
baz=105
O16K Kokwok River B 85.78 330 P P 13 08 13.4 +1.0
baz=102
D22K Ayikyak River 85.91 340 P P 13 08 13.4 +0.5
baz=108
J18K Innoko River 86.01 334 P P 13 08 13.5 -0.1
baz=104
E21K Killik River 86.23 339 P P 13 08 14.6 0.0
baz=106
N16K Nishlik Lake 86.30 331 P P 13 08 15.5 +0.5
baz=102
DAG Danmarks Havn 86.30 12 i P P 13 08 13.0 -1.7
GCSA Galena City Sc 86.39 335 P P 13 08 16.1 +0.8
baz=104
H19K Roundabout Mou 86.40 336 P P 13 08 16.1 +0.8
baz=104
L17K Donlin 86.42 333 P P 13 08 16.3 +0.7
baz=102
F20K Avaraart Lake 86.50 338 P P 13 08 16.8 +1.0
baz=105
O15K Ungalikthiuk R 86.57 330 P P 13 08 17.7 +1.4
baz=100
B22K Teshekpuk Lake 86.60 341 P P 13 08 16.5 +0.3
baz=107
C21K Knifeblade Rid 86.72 340 P P 13 08 16.9 0.0
baz=106
B21K Ikpikpuk River 86.79 340 P P 13 08 17.2 +0.1
baz=106
G19K Purcell Mounta 86.80 337 P P 13 08 18.2 +0.8
baz=103
L16K Owhat River 86.88 332 P P 13 08 18.6 +0.8
baz=101
N15K Kwethluk River 86.88 331 P P 13 08 18.0 +0.1
baz=100
E20K Ngu River 86.98 339 P P 13 08 18.4 +0.2
baz=104
J17K VABM Dome 87.03 334 P P 13 08 18.5 0.0
baz=101
H18K Honhosa River 87.09 336 P P 13 08 18.8 0.0
baz=102
E19K Redstone River 87.17 338 P P 13 08 19.2 +0.1
baz=103
F19K Shaleruckik Mo 87.23 337 P P 13 08 19.2 -0.2
baz=103
D20K Etivluk River 87.24 339 P P 13 08 19.9 +0.4
baz=104
M15K Kasigluk River 87.27 331 P P 13 08 20.1 +0.4
baz=100
A22K Sinclair Lake 87.29 342 P P 13 08 20.2 +0.6
baz=106
O14K Tigyukauivet M 87.31 330 P P 13 08 20.8 +0.9
baz=99
G18K Tagagawik 87.37 336 P P 13 08 20.6 +0.5
baz=102
QSPA South Pole Qui 87.52 180 P P 13 08 22.4 +1.4
QSPA South Pole Qui 87.52 180 P P 13 08 21.9 +0.9
comp=Z,2.5nm,0.9s,baz=149,slow=2.0,SNR=8.9
comp=Z,2.5nm,0.9s
N14K Kuskokwak Cree 87.63 330 P P 13 08 22.4 +1.0
baz=99
J16K Anvik River 87.69 334 P P 13 08 22.6 +0.9
baz=100
H17K Granite Mounta 87.69 335 P P 13 08 21.8 +0.1
baz=101
D19K Kuna River 87.73 339 P P 13 08 21.8 0.0
D19K Kuna River 87.73 339 P P 13 08 21.8 0.0
baz=102
B20K Meade River 87.74 340 P P 13 08 22.1 +0.4
baz=104
L15K Ungalak Mounta 87.82 332 P P 13 08 22.5 +0.2
baz=99
FALS False Pass 87.82 325 P P 13 08 22.9 +0.4
baz=97
I17K Unalakleet 87.83 334 P P 13 08 22.6 +0.3
baz=100
M14K Bethel 87.89 331 P P 13 08 22.9 +0.2
M14K Bethel 87.89 331 P P 13 08 23.7 +1.0
baz=99
F18K Selawik 87.91 337 P P 13 08 23.7 +1.0
baz=101
K15K Wolf Creek Mou 87.94 333 P P 13 08 23.8 +0.9
baz=99
G17K Kiwalik Mounta 88.10 336 P P 13 08 24.1 +0.5
baz=100
L14K Kuka Creek 88.33 331 P P 13 08 25.3 +0.5
baz=98
C19K Lookout Ridge 88.38 339 P P 13 08 25.5 +0.6
baz=101
E18K Tukpahlearik C 88.43 338 P P 13 08 25.7 +0.6
baz=100
F17K Baldwin Pennin 88.51 337 P P 13 08 26.1 +0.7
baz=100

M13K	**Dall Lake**	**88.52**	**331**	P	**P**	**13 08 26.9**	**+1.2**
	baz=98						
H16K	**Elim**	**88.62**	**335**	P	**P**	**13 08 27.7**	**+1.7**
	baz=99						
G16K	**Koyuk River**	**88.79**	**336**	P	**P**	**13 08 28.5**	**+1.7**
	baz=98						
E17K	**Hotham Inlet**	**88.84**	**337**	P	**P**	**13 08 27.5**	**+0.5**
	baz=99,SNR=7.1						
C18K	**Utukok River**	**88.87**	**339**	P	**P**	**13 08 27.8**	**+0.5**
	baz=100						
J14K	**Nanvaranak Lak**	**88.93**	**333**	P	**P**	**13 08 27.8**	**+0.3**
	baz=97						
A19K	**Wainwright**	**89.09**	**340**	P	**P**	**13 08 27.2**	**-0.9**
	baz=100						
B18K	**Kokolik River**	**89.20**	**340**	P	**P**	**13 08 27.8**	**-0.9**
	baz=99						
K13K	**Kusilvak Mount**	**89.34**	**332**	P	**P**	**13 08 29.5**	**0.0**
	baz=96						
RDOG	**Red Dog Mine**	**89.40**	**338**	P	**P**	**13 08 30.3**	**+0.6**
	baz=98						
D17K	**Noatak River**	**89.41**	**338**	P	**P**	**13 08 30.4**	**+0.7**
	baz=98						
G15K	**Niukluk**	**89.44**	**335**	P	**P**	**13 08 30.7**	**+0.8**
	baz=97						
UNV	**Unalaska Valle**	**89.51**	**324**	P	**P**	**13 08 31.5**	**+1.0**
	baz=95						
C17K	**DeLong Mountai**	**89.56**	**339**	P	**P**	**13 08 31.2**	**+0.8**
	baz=98						
F15K	**North Star Dit**	**89.78**	**336**	P	**P**	**13 08 32.8**	**+1.4**
	baz=96						
ANM	**Nome**	**89.95**	**335**	P	**P**	**13 08 32.2**	**-0.1**
	baz=96						
C16K	**Lisburne Hills**	**90.33**	**338**	P	**P**	**13 08 34.0**	**0.0**
	baz=96						
F14K	**Arctic Creek**	**90.45**	**335**	P	**P**	**13 08 34.1**	**-0.5**
	baz=95						
NIKH	**Nikolski High**	**90.85**	**323**	P	**P**	**13 08 36.8**	**0.0**
	baz=93						
TNA	**Tin City**	**91.12**	**335**	P	**P**	**13 08 37.7**	**0.0**
	baz=93						
P08K	**Saint George I**	**91.43**	**326**	P	**P**	**13 08 38.9**	**-0.4**
	baz=92						
SPIA	**Saint Paul Isl**	**91.83**	**327**	P	**P**	**13 08 41.2**	**0.0**
	baz=92						
ELIB	**Princess Elisa**	**91.95**	**162**	*d*P	**P**	**13 08 41.9**	**+0.2**
	comp=Z,4.2nm,1.1s						
ELIB				*d*x	x	13 08 51.0	
GAMB	**Gambell**	**92.68**	**334**	P	**P**	**13 08 45.8**	**+0.8**
	baz=90						
VAE	**Valguarnera**	**95.67**	**53**	LR	LR	13 52 59.7	
	comp=Z,431nm,18.3s,baz=339,slow=36						
H11S2	**WAKE ISLAND Hyl**	**12.14**	**289**	T	T	15 15 30.2	
	baz=83,slow=72,SNR=3.1						
H11S1	**WAKE ISLAND Hyl**	**12.14**	**289**	T	T	15 15 29.5	
	baz=83,slow=72,SNR=6.5						
H11S3	**WAKE ISLAND Hyl**	**12.16**	**289**	T	T	15 15 30.7	
	baz=83,slow=72,SNR=3.7						
BVAR	**Borovoye Array**	**124.33**	**21**	PKP	**PKPdf**	**13 14 32.3**	**0.0**
	comp=Z,0.5nm,0.8s,baz=275,slow=3.6,SNR=2.0						
ZALV	**Zalesovo Beam**	**127.42**	**11**	PKPdf	**PKPdf**	**13 14 37.5**	**-0.6**
ZALV	**Zalesovo Beam**	**127.42**	**11**	PKPdf	**PKPdf**	**13 14 37.9**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=259,slow=1.5,SNR=9.6						
KURBB	**Kurchatov Arra**	**129.01**	**17**	PKP	**PKPdf**	**13 14 41.2**	**0.0**
	comp=Z,1.7nm,1.0s,baz=329,slow=2.4,SNR=9.8						
MKAR	**Makanchi Array**	**133.54**	**16**	PKP	**PKPdf**	**13 14 49.8**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=32,slow=1.7,SNR=1.6						
SONM	**Songino Array**	**134.47**	**353**	PKP	**PKPdf**	**13 14 50.5**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=113,slow=3.4,SNR=3.6						
KSRS	**Korea Array**	**136.39**	**326**	PKP	**PKPdf**	**13 14 53.9**	**-1.7**
	comp=Z,2.1nm,0.8s,baz=52,slow=1.4,SNR=6.9						
ASAR	**Alice Springs**	**137.35**	**230**	PKP	**PKPdf**	**13 14 56.1**	**-1.7**
	comp=Z,0.8nm,0.9s,baz=172,slow=2.7,SNR=5.1						
WMQ	**Urumqi**	**137.65**	**12**	*e*PKP	**PKPdf**	**13 14 56.9**	**-0.9**
WMQ				LR	LR		
	comp=Z,620nm,17.3s						
WMQ				LR	LR		
	comp=Z,650nm,20.1s						
WMQ				LR	LR		
	comp=Z,410nm,24.2s						
WRA	**Warramunga Arr**	**138.91**	**235**	PKhKP	PKPpre	13 14 51.0	
	comp=Z,0.6nm,0.8s,baz=126,slow=2.1,SNR=3.6						
WRA				PKP	**PKPdf**	**13 15 00.2**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=110,slow=2.2,SNR=6.7						
HHC	**Hu-ho-hao-te**	**140.28**	**345**	*e*PKP	**PKiKP**	**13 15 04.6**	**-0.7**
NJ2	**Nanjing**	**145.32**	**330**	PKPbc	**PKPbc**	**13 15 10.6**	**-0.9**
LYN	**LuoYang**	**145.85**	**340**	⇑PKPbc	**PKPdf**	**13 15 12.4**	**-0.2**
LYN				PKPab	**pPKPdf**	**13 15 18.4**	**-0.7**
LYN				pPKP	sPKPab	13 15 30.8	+8.6
LYN				sPKP		13 15 39.0	
LYN				LR	LR		
	comp=Z,410nm,16.8s						
LYN				LR	LR		
	comp=Z,390nm,19.6s						
LYN				LR	LR		
	comp=Z,710nm,26.5s						
GOMU	**GeErMu**	**146.27**	**6**	PKPbc	**PKPdf**	**13 15 13.6**	**-0.2**
GOMU				pPKP	sPKPab	13 15 29.8	+5.6
GOMU				sPKP		13 15 36.9	
GOMU				PP	**PP**	**13 18 35.3**	**-0.4**
GOMU				SS	SS	13 37 27.6	-3.2
GOMU				LR	LR		
	comp=Z,610nm,22.0s						
GOMU				LR	LR		
	comp=Z,780nm,22.4s						
GOMU				LR	LR		
	comp=Z,710nm,22.0s						
LZH	**Lanzhou**	**146.36**	**353**	*e*PKPbc	**PKPbc**	**13 15 15.0**	**+0.1**
LZH				PKS	**PKSdf**	**13 18 48.3**	**-0.9**
LZH				LR	LR		
	comp=Z,330nm,16.0s						
LZH				LR	LR		
	comp=Z,260nm,16.0s						
LZH				LR	LR		
	comp=Z,440nm,17.9s						
FITZ	**Fitzroy Crossi**	**146.85**	**231**	PKPbc	**PKPbc**	**13 15 16.6**	**0.0**
	comp=Z,4.6nm,0.9s,baz=137,slow=4.9,SNR=7.5						
XAN	**Xi'an**	**147.39**	**345**	PKPbc	**PKPbc**	**13 15 17.3**	**-0.4**
XAN				pPKP	sPKPab	13 15 32.3	+4.1
XAN				LR	LR		
	comp=Z,310nm,16.5s						
XAN				LR	LR		
	comp=Z,330nm,17.9s						
XAN				LR	LR		
	comp=Z,510nm,22.7s						
CD2	**Chengdu**	**151.47**	**352**	PKPbc	**PKPdf**	**13 15 19.6**	**-2.3**
PZH	**PanZhiHua**	**156.06**	**354**	PKP	**PKPdf**	**13 15 26.5**	**-2.2**
CMAR	**Chiang Mai Arr**	**164.19**	**1**	PKP	**PKPdf**	**13 15 38.0**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=343,slow=2.8,SNR=1.7						
CMAR				PKPab	**PKPab**	**13 16 29.8**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=342,slow=5.4,SNR=8.0						

*JMA **17** 12:56:14.1±0.1,24°.3N±0°.7×122°.0E±0°.4,h49km±2km, MV2.8/14,TAIWAN REGION*
*ASIES **17** 12:56:14.8,24°.39N×121°.98E,h32km,ML3.5,Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}=2.92; $M_{\theta\theta}$=3.89; $M_{\phi\phi}$6.81; $M_{r\theta}$-3.66; $M_{\theta\phi}$8.85; $M_{\phi r}$6.11; Fault plane solution: $M_0$12.81300×10^{20} NP1: ϕ_s168.50000°,δ77.81000°,λ-145.10000°. NP2: ϕ_s70.12000°,δ56.00000°,λ-14.76000°. Principal axes: T Plg14.2440°, Azm295.2530°; N Plg53.2910°, Azm185.3480°; P Plg33.0080°, Azm34.7450°;*
*TAP **17** 12:56:14.8,24°.39N×121°.98E,h32km,ML3.5,B*
ISC 17 12:56:14.7±0.9,**24°.36N**±0°.02×**122°.04E**±0°.02,**h32**km±6km, **n130**,σ1**9.04**/212,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.19**	**70**	P	**Pb**	**12 56 21.0**	**+0.1**
EOS2				*e*S	**Sn**	**12 56 26.5**	**+1.2**
EWUT	**Wuta**	**0.26**	**291**	P	**Pb**	**12 56 21.1**	**-0.7**
EWUT				*e*S	**Sn**	**12 56 25.8**	**-1.4**
EOS3	**EOS3**	**0.26**	**105**	*e*P	**Pb**	**12 56 21.9**	**+0.2**
EOS3				*e*S	**Sn**	**12 56 28.6**	**+1.5**
EAHA	**Aohua**	**0.28**	**265**	*e*P	**Pb**	**12 56 21.8**	**-0.2**
EAHA				*e*S	**Sn**	**12 56 27.4**	**-0.2**
ENA	**Nanau**	**0.28**	**285**	P	**Pb**	**12 56 21.5**	**-0.6**
ESAO	**Su ao**	**0.28**	**321**	*e*P	**Pn**	**12 56 21.8**	**-0.9**
ESAO				*e*S	**Sb**	**12 56 26.2**	**-1.0**
TWC	**Suao**	**0.31**	**325**	P	**Pb**	**12 56 21.8**	**-0.7**
TWC				*e*S	**Sb**	**12 56 26.5**	**-1.1**
EOS4	**EOS4**	**0.34**	**133**	P	**Pb**	**12 56 22.8**	**+0.2**
NDS	**Dongshan**	**0.41**	**313**	P	**Pn**	**12 56 23.4**	**-1.0**
NDS				*e*S	**Sn**	**12 56 29.9**	**-1.0**
ETL	**Fush Village**	**0.43**	**243**	P	**Pb**	**12 56 24.1**	**-0.1**
NACB	**Ninganchiao**	**0.45**	**246**	P	**Pb**	**12 56 24.0**	**-0.4**
NACB	**Ninganchiao**	**0.45**	**246**	*i* P	**Pb**	**12 56 24.1**	**-0.3**
NACB				*e*S	**Sn**	**12 56 32.1**	**+0.2**
ILA	**Ilan**	**0.49**	**327**	*e*P	**Pn**	**12 56 25.0**	**-0.5**
ILA				*e*S	**Sn**	**12 56 32.1**	**-0.8**
TWD	**Chiawan**	**0.49**	**236**	*e*P	**Pb**	**12 56 25.0**	**-0.1**
TWD				*e*S	**Sn**	**12 56 33.8**	**+0.8**
EGS		**0.50**	**349**	P	**Pn**	**12 56 25.2**	**-0.5**
EGS				S	**Sn**	**12 56 32.5**	**-0.7**
TWE	**Neicheng**	**0.50**	**317**	*i* P	**Pn**	**12 56 24.9**	**-0.8**
TWE				*e*S	**Sn**	**12 56 31.9**	**-1.3**
LATG	**Datong**	**0.50**	**291**	P	**Pn**	**12 56 25.2**	**-0.6**
LATG				S	**Sn**	**12 56 33.3**	**-0.1**
ENTT	**Nioudou**	**0.52**	**303**	P	**Pn**	**12 56 25.1**	**-0.8**
ENTT				*e*S	**Sn**	**12 56 33.5**	**-0.2**
ETLH	**Xiulin Townshi**	**0.53**	**254**	P	**Pb**	**12 56 25.5**	**-0.3**
ETLH				*e*S	**Sn**	**12 56 34.8**	**+0.7**
NTC	**Toucheng**	**0.53**	**339**	*e*P	**Pn**	**12 56 25.6**	**-0.5**
NTC				*e*S	**Sn**	**12 56 34.5**	**+0.4**
HWA	**Hwalien**	**0.55**	**227**	P	**Pn**	**12 56 26.4**	**+0.1**
FUSB	**Fushanzhiwuyua**	**0.58**	**314**	P	**Pn**	**12 56 26.1**	**-0.7**
FUSB				*e*S	**Sn**	**12 56 34.3**	**-0.9**
NNSB	**Datong**	**0.60**	**277**	P	**Pn**	**12 56 26.9**	**-0.3**
NNSB				*e*S	**Sn**	**12 56 35.8**	**-0.2**
NNS	**Nan Shan**	**0.61**	**278**	*e*P	**Pn**	**12 56 26.8**	**-0.6**
NNS				*e*S	**Sn**	**12 56 35.9**	**-0.3**
TEYL	**Yanliau Villag**	**0.63**	**220**	*e*P	**Pn**	**12 56 27.8**	**+0.3**
TEYL				*e*S	**Sn**	**12 56 39.5**	**+3.1**
ETM	**Tongmen**	**0.63**	**232**	P	**Pb**	**12 56 27.2**	**-0.2**
TIPB	**Shuangxi**	**0.64**	**342**	P	**Pn**	**12 56 27.3**	**-0.4**
TIPB				S	**Sn**	**12 56 35.8**	**-1.0**
NWLT	**Wulai**	**0.65**	**311**	*e*P	**Pn**	**12 56 27.3**	**-0.4**
TWB1	**Santiao Chiao**	**0.65**	**356**	*e*P	**Pn**	**12 56 27.4**	**-0.4**
TWB1				*e*S	**Sn**	**12 56 36.6**	**-0.4**
LXIB	**Xiulin Townshi**	**0.66**	**240**	*e*P	**Pb**	**12 56 27.4**	**-0.6**
LXIB				*e*S	**Sn**	**12 56 39.1**	**+1.7**
YHNB	**Yeheng**	**0.68**	**297**	P	**Pn**	**12 56 27.9**	**-0.3**
YHNB	**Yeheng**	**0.68**	**297**	P	**Pn**	**12 56 27.9**	**-0.3**
YHNB				*e*S	**Sn**	**12 56 37.9**	**+0.1**
NSK	**Sanguang**	**0.70**	**297**	*i* P	**Pn**	**12 56 28.1**	**-0.4**
NSK				S	**Sn**	**12 56 38.5**	**+0.2**
SHUL	**Shoufeng**	**0.71**	**218**	*e*P	**Pn**	**12 56 28.6**	**-0.1**
FUSS	**Fushou**	**0.73**	**262**	P	**Pn**	**12 56 29.2**	**0.0**
FUSS				*e*S	**Sn**	**12 56 40.2**	**+0.9**
WHF	**Hehuan Shan**	**0.74**	**254**	*e*P	**Pn**	**12 56 29.2**	**-0.2**
WHF				*e*S	**Sn**	**12 56 39.9**	**+0.2**
TWA	**Mucha**	**0.75**	**326**	*e*P	**Pn**	**12 56 26.4**	**-2.7**
TWA				*e*S	**Sb**	**12 56 37.1**	**-2.1**
NWF	**Wu-fen Shan**	**0.75**	**342**	P	**Pn**	**12 56 29.4**	**-0.1**
NWF				*e*S	**Sn**	**12 56 40.3**	**+0.8**
WFSB	**Wu-fen Shan**	**0.75**	**342**	P	**Pn**	**12 56 29.2**	**-0.2**
WFSB				*e*S	**Sn**	**12 56 39.5**	**+0.1**
SXI1	**Grass Mountain**	**0.75**	**349**	P	**Pn**	**12 56 28.7**	**-0.5**
SXI1				*e*S	**Sn**	**12 56 39.6**	**+0.1**
ESL	**Shilin**	**0.77**	**226**	*e*P	**Pn**	**12 56 28.9**	**-0.5**
TWT	**Tachien**	**0.80**	**263**	*e*P	**Pb**	**12 56 31.1**	**+0.9**
TWT				*e*S	**Sn**	**12 56 42.0**	**+1.2**
TATO	**Taipei**	**0.80**	**321**	P	**Pb**	**12 56 30.3**	**+0.2**
NHY	**Taipei**	**0.80**	**328**	*e*P	**Pb**	**12 56 30.9**	**+0.7**
TDCB	**Techi**	**0.81**	**263**	*e*P	**Pb**	**12 56 30.4**	**-0.1**
TDCB				*e*S	**Sn**	**12 56 41.8**	**+0.7**
JYNG	**Yonagunijimaku**	**0.83**	**83**	P	**Pn**	**12 56 30.0**	**-0.2**
JYNG				*e*S	**Sn**	**12 56 41.5**	**+0.1**
TAP	**Taipei**	**0.84**	**325**	*e*P	**Pb**	**12 56 30.3**	**-0.5**
TAP				*e*S	**Sn**	**12 56 42.5**	**+1.0**
WARBT	**Fenglin Townsh**	**0.87**	**223**	P	**Pn**	**12 56 29.8**	**-1.0**
EGFH	**Guangfu**	**0.88**	**219**	*e*P	**Pn**	**12 56 30.4**	**-0.6**
NFF	**Wufeng Townshi**	**0.88**	**288**	*e*P	**Pn**	**12 56 31.5**	**-0.1**
NFF				*e*S	**Sb**	**12 56 44.5**	**+1.3**
OWD	**Renai**	**0.89**	**243**	*e*P	**Pn**	**12 56 31.1**	**0.0**
OWD				*e*S	**Sb**	**12 56 44.0**	**+0.7**
YOJ	**Yonaguni jima**	**0.89**	**83**	P	**Pn**	**12 56 30.9**	**-0.1**
YOJ	**Yonaguni jima**	**0.89**	**83**	P	**Pn**	**12 56 30.9**	**-0.1**
YOJ				*e*S	**Sn**	**12 56 43.1**	**+0.2**
YOJ	**Yonaguni jima**	**0.89**	**83**	P	**Pn**	**12 56 30.8**	**-0.3**
YOJ				*e*S	**Sn**	**12 56 43.0**	**+0.2**
KSHI	**Guanxi Townshi**	**0.89**	**298**	P	**Pb**	**12 56 32.1**	**+0.4**
KSHI				*e*S	**Sb**	**12 56 45.4**	**+2.0**
YM01	**YM01**	**0.90**	**332**	*e*P	**Pb**	**12 56 31.6**	**-0.3**
YM01				*e*S	**Sb**	**12 56 44.0**	**+0.5**
WUSB	**Renai**	**0.92**	**247**	*e*P	**Pn**	**12 56 31.4**	**-0.2**
WUSB				*e*S	**Sb**	**12 56 44.9**	**+0.7**
ZUZH	**Zhuzihu**	**0.92**	**331**	*e*P	**Pb**	**12 56 31.8**	**-0.5**
ZUZH				*e*S	**Sb**	**12 56 44.0**	**-0.2**
YM08	**YM08**	**0.92**	**334**	*e*P	**Pb**	**12 56 31.6**	**-0.8**
TWS1	**Kuangyinshan**	**0.93**	**323**	*e*P	**Pb**	**12 56 31.3**	**-1.1**
TWS1				*e*S	**Sb**	**12 56 44.9**	**+0.4**
ANP	**Anpu**	**0.95**	**330**	*e*P	**Pb**	**12 56 32.4**	**-0.4**
NTST	**Danshui**	**0.97**	**326**	*e*P	**Pb**	**12 56 32.9**	**-0.1**
NTST				*e*S	**Sb**	**12 56 46.4**	**+0.9**
LIOB	**Emei**	**0.98**	**287**	*e*P	**Pb**	**12 56 33.2**	**+0.1**
NSTT	**Nanjuang**	**0.99**	**286**	*e*P	**Pb**	**12 56 33.5**	**+0.2**
NSTT				*e*S	**Sb**	**12 56 46.6**	**+0.6**
NCUH	**Zhongli**	**0.99**	**308**	*e*P	**Pb**	**12 56 33.5**	**+0.1**
NCUH				*e*S	**Sb**	**12 56 48.7**	**+2.6**
TWY	**Chenhua**	**1.00**	**336**	*e*P	**Pb**	**12 56 32.8**	**-0.7**
TWY				*e*S	**Sb**	**12 56 46.3**	**-0.1**
WHP	**Taichung City**	**1.00**	**266**	*e*P	**Pb**	**12 56 33.5**	**-0.1**
WHP				*e*S	**Sb**	**12 56 47.0**	**+0.4**
VWDT	**VWDT**	**1.02**	**234**	*e*P	**Pn**	**12 56 33.1**	**+0.3**
HGSD	**Ruisui**	**1.03**	**213**	*e*P	**Pn**	**12 56 32.4**	**-0.5**
SBCB	**Hsinchu**	**1.05**	**295**	P	**Pb**	**12 56 34.3**	**-0.2**
SBCB				*e*S	**Sb**	**12 56 51.1**	**+3.2**
EHY	**Hungye**	**1.07**	**218**	*e*P	**Pn**	**12 56 32.2**	**-1.3**
HSN	**Hsinchu**	**1.07**	**295**	*e*P	**Pb**	**12 56 34.5**	**-0.2**
HSN				*e*S	**Sb**	**12 56 50.0**	**+1.5**
WCS	**Beigang Elemen**	**1.07**	**254**	*e*P	**Pb**	**12 56 34.3**	**-0.5**
SSLB	**Suanglung**	**1.14**	**241**	P	**Pn**	**12 56 34.8**	**+0.3**
SSLB	**Suanglung**	**1.14**	**241**	P	**Pn**	**12 56 34.9**	**+0.3**
SMLT	**Sun Moon Lake**	**1.14**	**246**	P	**Pn**	**12 56 34.3**	**-0.3**
NMLH	**Miaoli**	**1.15**	**279**	*e*P	**Pb**	**12 56 36.3**	**+0.2**
NMLH				*e*S	**Sb**	**12 56 53.1**	**+2.3**
TWQ1	**Liyutan**	**1.16**	**270**	*e*P	**Pb**	**12 56 36.9**	**+0.7**
TWQ1				*e*S	**Sb**	**12 56 53.1**	**+2.3**
ECBN	**Changbin**	**1.17**	**208**	*e*P	**Pn**	**12 56 33.7**	**-1.1**
ECBN				S	**Sn**	**12 56 48.5**	**-1.2**
NSY	**Sanyi**	**1.17**	**273**	*e*P	**Pn**	**12 56 36.7**	**+0.3**
NSY				*e*S	**Sb**	**12 56 53.5**	**+2.3**
TYC	**Yuchr**	**1.17**	**248**	*e*P	**Pb**	**12 56 35.3**	**-1.1**
YULB	**Yu-li**	**1.18**	**215**	P	**Pn**	**12 56 33.8**	**-1.2**
YULB	**Yu-li**	**1.18**	**215**	P	**Pn**	**12 56 33.8**	**-1.2**
YULB				*e*S	**Sn**	**12 56 50.6**	**+0.7**
EYUL	**Yuli**	**1.20**	**213**	*e*P	**Pn**	**12 56 34.6**	**-0.7**
TWF1	**Yuli**	**1.21**	**214**	*e*P	**Pn**	**12 56 34.6**	**-0.9**
WHYT	**Xinyi Township**	**1.27**	**239**	*e*P	**Pb**	**12 56 37.3**	**-0.8**
WHYT				*e*S	**Sb**	**12 56 56.4**	**+2.3**
WJS	**Zhushan**	**1.31**	**246**	*e*P	**Pb**	**12 56 38.9**	**+0.1**
WJS				*e*S	**Sb**	**12 56 58.1**	**+2.9**
WNT	**Mingjian**	**1.33**	**249**	*e*P	**Pb**	**12 56 39.0**	**-0.1**
WNT				*e*S	**Sb**	**12 56 58.0**	**+2.3**
FULB	**Fuli**	**1.34**	**211**	*e*P	**Pn**	**12 56 36.4**	**-0.9**
CHKT	**Chengkung**	**1.40**	**206**	*e*P	**Pn**	**12 56 36.6**	**-1.4**
ALS	**Alishan**	**1.41**	**234**	*e*P	**Pn**	**12 56 39.4**	**+0.9**
EHD	**Haiduan**	**1.42**	**213**	*e*P	**Pn**	**12 56 37.8**	**-0.6**
CHN5	**Tsauling**	**1.46**	**239**	*e*P	**Pb**	**12 56 40.8**	**-0.5**
CHN5				*e*S	**Sb**	**12 57 02.2**	**+2.7**
ECS	**Chishang**	**1.46**	**211**	*e*P	**Pn**	**12 56 39.0**	**0.0**
ELDTW	**Lidau**	**1.49**	**219**	*e*P	**Pn**	**12 56 38.7**	**-0.8**
WDLH	**Douliu**	**1.52**	**245**	*e*P	**Pn**	**12 56 40.5**	**+0.8**
EDH	**Donghe**	**1.53**	**206**	*e*P	**Pn**	**12 56 38.6**	**-1.3**
EDH				*e*S	**Sn**	**12 56 57.0**	**-1.7**
IRIF	**Iriomote-Funau**	**1.54**	**90**	*e*P	**Pn**	**12 56 40.0**	**0.0**
IRIF				*e*S	**Sn**	**12 56 59.0**	**+0.1**
WCKO	**Fanlu**	**1.60**	**235**	*e*P	**Pb**	**12 56 42.8**	**-0.8**
WCKO				*e*S	**Sb**	**12 57 04.9**	**+1.4**
WTK	**Tuku**	**1.65**	**247**	*e*P	**Pb**	**12 56 43.0**	**-1.5**
WTK				*e*S	**Sb**	**12 57 06.2**	**+1.3**
STYH	**Taoyuan**	**1.65**	**225**	*e*P	**Pn**	**12 56 42.5**	**+0.9**
STYH				*e*S	**Sb**	**12 57 04.4**	**-0.6**
CHN4	**Tsaushan**	**1.66**	**233**	*e*P	**Pb**	**12 56 43.7**	**-1.0**
CHN4				*e*S	**Sb**	**12 57 06.6**	**+1.3**
TPUB	**Ta-pu**	**1.67**	**231**	P	**Pb**	**12 56 43.3**	**-1.5**
TPUB	**Ta-pu**	**1.67**	**231**	P	**Pb**	**12 56 43.4**	**-1.4**
TPUB				*e*S	**Sb**	**12 57 06.2**	**+0.8**
CHY	**Chiayi**	**1.71**	**240**	*e*P	**Pb**	**12 56 44.7**	**-0.8**
CHY				*e*S	**Sb**	**12 57 08.1**	**+1.5**
LDUT	**Ludao**	**1.75**	**197**	*e*P	**Pn**	**12 56 41.1**	**-1.9**
LDUT				*e*S	**Sn**	**12 57 01.8**	**-2.4**
TWGBT	**Beinan**	**1.77**	**210**	P	**Pn**	**12 56 42.5**	**-0.6**
TWGBT	**Beinan**	**1.77**	**210**	*e*P	**Pn**	**12 56 41.6**	**-1.6**
TWG	**Pinlang**	**1.77**	**210**	*e*P	**Pn**	**12 56 42.0**	**-1.1**
TWG				*e*S	**Sn**	**12 57 03.8**	**-0.7**
TWK	**Hsinying**	**1.79**	**233**	*e*P	**Pb**	**12 56 45.1**	**-1.8**
TWK				*e*S	**Sb**	**12 57 08.9**	**0.0**
JKRS	**Kuro-shima**	**1.80**	**93**	*e*P	**Pn**	**12 56 44.1**	**+0.6**
JKRS				*e*S	**Sn**	**12 57 06.2**	**+0.9**
CHN1	**Nanshi**	**1.81**	**230**	*e*P	**Pb**	**12 56 45.5**	**-1.8**
SGST	**Jiashian**	**1.84**	**227**	*e*P	**Pn**	**12 56 45.0**	**+0.8**
SGST				*e*S	**Sb**	**12 57 10.4**	**0.0**
ICHU	**Yijhu**	**1.89**	**239**	*e*P	**Pn**	**12 56 46.4**	**+1.6**
ICHU				*e*S	**Sb**	**12 57 11.9**	**+0.1**
JIJ	**Ishigaki jima**	**1.92**	**89**	*e*P	**Pn**	**12 56 45.5**	**+0.3**
JIJ				*e*S	**Sn**	**12 57 08.7**	**+0.5**
CHN8	**Yiju**	**1.95**	**239**	*e*S	**Sb**	**12 57 13.4**	**-0.2**
SCST	**Cishan**	**2.04**	**224**	*e*P	**Pb**	**12 56 49.0**	**-2.1**
SCST				*e*S	**Sb**	**12 57 15.2**	**-0.9**
JISG	**Ishigakijimahi**	**2.08**	**83**	*e*P	**Pn**	**12 56 47.4**	**-0.1**
TSCK	**Chigu Township**	**2.16**	**236**	*e*P	**Pn**	**12 56 49.8**	**+1.3**
TSCK				*e*S	**Sb**	**12 57 17.5**	**-2.0**
SCZT	**Fangliau**	**2.37**	**214**	*e*P	**Pn**	**12 56 53.4**	**+2.0**
SCZT				*e*S	**Sb**	**12 57 23.5**	**-2.0**
LYUB	**Lan-yu**	**2.38**	**190**	*e*P	**Pn**	**12 56 49.2**	**-2.4**
PHUB	**P'eng-hu**	**2.41**	**250**	*e*P	**Pn**	**12 56 52.1**	**+0.2**
PHUB				*e*S	**Sn**	**12 57 21.1**	**+0.8**
SLIU	**Shizi**	**2.42**	**208**	*e*P	**Pn**	**12 56 52.0**	**-0.1**
WDGT	**Dungji**	**2.44**	**244**	*e*P	**Pn**	**12 56 53.3**	**+1.0**
VWUC	**VWUC**	**2.44**	**286**	*e*P	**Pn**	**12 56 52.1**	**-0.3**
VWUC				S	**Sn**	**12 57 20.5**	**-0.6**
JTJ	**Tarama**	**2.44**	**83**	*e*S	**Sn**	**12 57 22.7**	**+1.5**
MATB	**Ma-tsu**	**2.61**	**314**	*e*P	**Pn**	**12 56 54.7**	**+0.1**
MATB				*e*S	**Sn**	**12 57 25.3**	**0.0**
VCHM	**Qimei**	**2.65**	**245**	*e*P	**Pn**	**12 56 55.9**	**+0.6**
PTMZ	**Houxiangcun**	**2.74**	**285**	*e*P	**Pn**	**12 56 56.8**	**+0.3**
PTMZ				*e*S	**Sn**	**12 57 28.0**	**-0.6**
XPSS	**Dashiqiu**	**3.06**	**327**	*e*P	**Pn**	**12 57 00.8**	**-0.1**

*IDC **17** 13:00:37.9±1.1,37°.44N×20°.90E,h0km,mb3.7/10, mbtmp3.6/14,ML3.4/4,MS3.9/2,Error ellipse: s-maj=22.6km s-min=18.1km az=162.0*
*NAO **17** 13:00:40.0,37°.34N×20°.73E,h10km,mb3.5*
*ATH **17** 13:00:40.8,37°.31N×20°.65E,h8km±2km,ML3.5/18,Error ellipse: s-maj=2.5km s-min=0.9km az=55.0*
*TIR **17** 13:00:40.8,37°.61N×22°.10E,h10km±31km,Md4.1,Ml4.0*
*THE **17** 13:00:41.3,37°.32N×20°.67E,h2km±1km,ML3.6/3,Error ellipse: s-maj=1.6km s-min=0.5km az=40.0*
*BEO **17** 13:00:42.3±3.8,37°.17N×20°.56E,h52km±7km,ML3.7/2*
ISC 17 13:00:42.1±1.0,**37°.38N**±0°.04×**20.74E**±0°.03,**h24**km±7km, **n78**,σ1**9.32**/89,**mb3.7**/10,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.29**	**12**

comp=N,3502μm,1.1s
ANX AML AML 13 01 46.1
comp=E,3274μm,0.7s
EVR Evrytania 1.75 28 P **Pb** **13 01 14.6 +0.9**
EVR AML AML 13 01 44.1
comp=N,2266μm,1.1s
EVR AML AML 13 01 49.8
comp=E,1562μm,0.7s
IGT Igoumenitsa 2.18 352 P **Pn** **13 01 19.1 +2.3**
IGT AMP
comp=N,1.3nm,0.6s,baz=325
IGT Igoumenitsa 2.18 352 *e*Pn **Pn** **13 01 18.9 +2.0**
IGT Igoumenitsa 2.18 352 P **Pb** **13 01 21.2 +0.4**
IGT AML AML 13 02 03.1
comp=N,687μm,0.6s
IGT AML AML 13 02 15.7
comp=E,1275μm,0.8s
SRN Sarande 2.57 347 AMP
comp=N,1.0nm,1.2s,baz=325
LSK Leskovik 2.77 358 P **Pn** **13 01 27.5 +2.4**
LSK AMP
comp=N,2.2nm,0.7s,baz=336
KBN Korca 3.24 1 S **Sb** **13 02 15.7 -2.4**
FNA Florina 3.44 8 *e*Pn **Pn** **13 01 36.3 +2.0**
OHR Ohrid 3.73 1 *e*Pn **Pn** **13 01 41.0 +2.7**
OHR Ohrid 3.73 1 *i* P Pb 13 01 55.1 +7.7
IDI Anoyia 3.95 121 Pn **Pn** **13 01 43.8 +2.5**
comp=N,0.9nm,0.3s,baz=318,slow=5.5,SNR=5.8
IDI Sn **Sn** **13 02 26.4 -0.4**
comp=N,4.5nm,0.3s,baz=322,slow=22,SNR=12
VAY Valandovo 4.19 19 *e*Pn **Pn** **13 01 46.5 +2.0**
VAY Valandovo 4.19 19 *i* P **Pb** **13 01 54.0 -1.1**
SRS Serrai 4.34 30 *e*Pn **Pn** **13 01 48.4 +1.7**
VAE Valguarnera 5.04 273 Pn Pn 13 02 01.9 +5.7
comp=N,1.2nm,0.3s,baz=217,slow=23,SNR=2.3
VAE Sn **Sn** **13 02 55.2 +1.5**
comp=N,9.6nm,0.3s,baz=1.8,slow=10,SNR=6.6
BOSS Bosilegrad 5.29 14 *e*Pn **Pn** **13 02 00.9 +1.3**
BARS Barje 5.50 8 *e*Pn **Pn** **13 02 03.1 +0.6**
VTS Vitosha 5.58 19 *e*Pn **Pn** **13 02 05.1 +1.4**
SELS Selova 5.84 3 *e*Pn **Pn** **13 02 07.3 0.0**
SELS *e*Sn **Sn** **13 03 12.8 -0.7**
STON Ston 5.96 338 *e*Pn **Pn** **13 02 08.2 -0.6**
ZAPS Zavoj 6.07 13 *e*Pn **Pn** **13 02 12.2 +1.8**
BOVS Bovan 6.30 6 *e*Pn **Pn** **13 02 12.9 -0.6**
BBLS Lazi&#263i 6.56 352 *e*Pn **Pn** **13 02 18.3 +1.1**
DIVS Divibare 6.74 355 *e*Pn **Pn** **13 02 19.5 -0.1**
DIVS *e*Sn **Sn** **13 03 31.8 -3.9**
HAPS Han Pijesak,BI 6.84 349 *e*Pn **Pn** **13 02 23.2 +2.2**
MLR Muntele Rosu 9.00 24 Pn **Pn** **13 02 48.5 -2.2**
comp=N,0.1nm,0.3s,baz=128,slow=15,SNR=2.5
comp=N,1.1nm,0.5s
KEST Kesra 9.31 263 Pn **Pn** **13 02 57.3 +2.4**
comp=N,0.4nm,0.3s,baz=70,slow=12,SNR=2.3
comp=N,2.8nm,0.7s
GERES GERESS Array B 12.56 338 Pn **Pn** **13 03 37.5 -1.8**
comp=N,0.1nm,0.3s,baz=131,slow=12,SNR=1.2
comp=N,0.3nm,0.4s
MMAI Mount Meron Ar 12.76 106 Pn **Pn** **13 03 44.3 +2.2**
comp=N,0.4nm,0.3s,baz=334,slow=13,SNR=1.8
EIL Elat 14.12 119 Sn Sn 13 06 26.3 -10
comp=N,0.2nm,0.3s,baz=3.9,slow=22,SNR=1.2
ESDC Sonseca Array 19.45 284 P **P** **13 05 07.4 +0.4**
comp=N,0.1nm,0.3s,baz=88,slow=12,SNR=1.9
comp=N,0.3nm,0.6s
HFS Hagfors 23.22 351 P **P** **13 05 46.2 -1.0**
comp=N,0.8nm,0.3s,baz=153,slow=9.7,SNR=7.0
comp=N,0.8nm,0.3s
BELG Belogornoye 24.07 43 LR LR 13 15 40.9
comp=N,80nm,18.4s,baz=293,slow=38
EKA Eskdalemuir Ar 24.18 326 P **P** **13 05 56.3 -0.1**
comp=N,2.1nm,0.8s,baz=136,slow=6.6,SNR=4.8
comp=N,2.1nm,0.8s
FINES FINESS Array B 24.32 6 P **P** **13 05 56.4 -1.3**
comp=N,1.2nm,0.6s,baz=197,slow=4.4,SNR=5.1
comp=N,1.2nm,0.6s
NB2 NORSAR Subarra 24.44 349 P **P** **13 05 58.3 -0.5**
comp=Z,0.6nm,0.6s,baz=162,slow=9.3
NOA NORSAR Array B 24.44 349 P **P** **13 05 58.0 -0.8**
comp=Z,0.6nm,0.7s,baz=158,slow=8.9,SNR=6.0
comp=Z,0.6nm,0.7s
TORD Torodi Ar. Bea 29.52 220 P **P** **13 06 44.2 -0.6**
comp=Z,0.7nm,0.7s,baz=25,slow=10,SNR=4.3
comp=Z,0.7nm,0.7s
BVAR Borovoye Array 37.51 49 P **P** **13 07 51.6 -2.2**
comp=Z,0.6nm,0.6s,baz=259,slow=6.9,SNR=5.1
comp=Z,0.6nm,0.6s
KURBB Kurchatov Arra 42.57 53 P **P** **13 08 33.8 -2.1**
comp=Z,0.8nm,0.5s,baz=282,slow=8.7,SNR=9.9
comp=Z,0.8nm,0.5s
MKAR Makanchi Array 45.58 58 P **P** **13 08 58.5 -1.6**
comp=Z,0.7nm,0.5s,baz=278,slow=6.4,SNR=10
comp=Z,0.7nm,0.5s
ZALV Zalesovo Beam 46.10 48 P **P** **13 09 02.4 -1.7**
comp=Z,1.1nm,0.6s,baz=270,slow=9.2,SNR=7.0
comp=Z,1.1nm,0.6s
CMAR Chiang Mai Arr 69.83 82 P **P** **13 11 50.3 -0.7**
comp=Z,0.4nm,0.6s,baz=308,slow=4.4,SNR=2.0
comp=Z,0.4nm,0.6s
SEY Seymchan 72.82 21 LR LR 13 48 27.4
comp=Z,263nm,19.5s,baz=324,slow=40

*IDC **17** 13:01:29.8±1.9,5°.45S×147°.36E,h183km±17km,mb3.6/8, mbtmp4.2/12,Error ellipse: s-maj=21.5km s-min=16.3km az=61.0*
*NEIC **17** 13:01:32.4±1.7,5°.58S±0°.08×147°.30E±0°.04,h187km±11km, mb4.2/15,Error ellipse: s-maj=11.9km s-min=5.4km az=162.0*
ISC 17 13:01:32.1±0.6,5°.52S±0°.07×147°.30E±0°.08,h200km,n45, σ1§36/46,mb4.0/11,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.45**	**1**	P	**Pn**	**13 02 28.0**	**+0.8**
PMG	**Port Moresby**	**3.86**	**182**		**Pn**	**13 02 31.6**	**-0.7**
PMG	**Port Moresby**	**3.86**	**182**	P	**Pn**	**13 02 31.3**	**-0.9**
	48nm,0.3s,baz=328,slow=6.7,SNR=101						
PMG				S	**Sn**	**13 03 16.9**	**-2.7**
	79nm,0.3s,baz=185,slow=20,SNR=14						
PMG	**Port Moresby**	**3.86**	**182**	P	**Pn**	**13 02 31.5**	**-0.7**
PMG	**Port Moresby**	**3.86**	**182**	P	**Pn**	**13 02 31.6**	**-0.7**
RABL	**Rabaul**	**5.02**	**75**	Pn	**Pn**	**13 02 47.4**	**+0.5**
JAY	**Jayapura**	**7.22**	**294**	P	**Pn**	**13 03 14.3**	**-1.0**
	28nm,0.8s,baz=162,slow=3.7,SNR=9.1						
COEN	**Coen**	**9.32**	**206**	Pn	**Pn**	**13 03 43.0**	**+0.4**
MTSU	**Mount Surprise**	**12.87**	**193**	P	**P**	**13 04 34.2**	**+2.7**
HNR	**Honiara**	**13.13**	**108**	Pn	**Pn**	**13 04 30.5**	**-0.9**
HNR	**Honiara**	**13.13**	**108**	P	**Pn**	**13 04 29.9**	**-1.4**
	40nm,0.9s,baz=73,slow=6.2,SNR=1.7						
TV1H	**Townsville Har**	**13.67**	**182**	P	**P**	**13 04 42.1**	**+1.8**
CTA	**Charters Tower**	**14.52**	**184**	P	**P**	**13 04 52.6**	**+2.9**
CTAO	**Charters Tower**	**14.52**	**184**		**Pn**	**13 04 46.4**	**-2.1**
CTAO	**Charters Tower**	**14.52**	**184**	P	**P**	**13 04 52.7**	**+3.0**
KDU	**Kakadu**	**16.27**	**243**	P	**P**	**13 05 09.0**	**-0.1**
MTN	**Manton Dam**	**17.53**	**244**	P	**P**	**13 05 23.0**	**0.0**
MTN				IAmb	IAmb	13 05 24.1	
	comp=Z,10nm,0.9s						
WB0	**Warramunga Arr**	**18.93**	**220**		**P**	**13 05 37.4**	**-0.8**
WB0				IAmb	IAmb	13 05 42.8	
	comp=Z,10nm,0.8s						
WR0	**Warramunga Arr**	**18.97**	**220**	P	**P**	**13 05 38.3**	**-0.3**
WRAB	**Tennant Creek**	**19.08**	**220**	P	**P**	**13 05 39.8**	**+0.1**
WRAB				IAmb	IAmb	13 05 41.4	
	comp=Z,11nm,0.8s						
WB2	**Warramunga Arr**	**19.08**	**220**	P	**P**	**13 05 39.7**	**-0.1**
WB2				IAmb	IAmb	13 05 40.7	
	comp=Z,8.9nm,0.6s						
WRA	**Warramunga Arr**	**19.09**	**220**		**P**	**13 05 39.1**	**-0.8**
WRA	**Warramunga Arr**	**19.09**	**220**	P	**P**	**13 05 39.8**	**-0.1**
	comp=Z,5.6nm,0.5s,baz=46,slow=12,SNR=176						
EIDS	**Eidsvold**	**20.07**	**170**		**P**	**13 05 49.8**	**-0.5**
KNRA	**Kununurra**	**20.81**	**240**	P	**P**	**13 05 58.8**	**+0.6**
KNRA				IAmb	IAmb	13 06 01.1	
	comp=Z,6.0nm,0.6s						
QLP	**Quilpie**	**21.15**	**188**	P	**P**	**13 06 02.8**	**+1.1**
AS31	**Alice Springs**	**22.18**	**214**		**P**	**13 06 12.3**	**+0.2**
ASAR	**Alice Springs**	**22.18**	**214**		**P**	**13 06 11.9**	**-0.3**
ASAR	**Alice Springs**	**22.18**	**214**	P	**P**	**13 06 12.4**	**+0.3**
	comp=Z,8.4nm,0.8s,baz=49,slow=8.4,SNR=90						
	comp=Z,8.4nm,0.8s						
INKA	**Innaminka**	**22.96**	**195**	P	**P**	**13 06 20.2**	**+1.1**
FITZ	**Fitzroy Crossi**	**24.57**	**238**	P	**P**	**13 06 34.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.57**	**238**	P	**P**	**13 06 34.4**	**+0.5**
	comp=Z,8.8nm,0.5s,baz=50,slow=9.1,SNR=52						
	comp=Z,8.8nm,0.5s						
OOD	**Oodnadatta**	**24.75**	**205**	P	**P**	**13 06 36.3**	**+0.9**
DZM	**Mont Dzumac**	**24.77**	**133**	P	**P**	**13 06 35.9**	**+0.1**
	comp=Z,5.6nm,1.0s,baz=55,slow=19,SNR=2.6						
	comp=Z,5.6nm,1.0s						
ARMA	**Armidale**	**25.10**	**171**	P	**P**	**13 06 42.4**	**+3.7**
ARMA				IAmb	IAmb	13 06 50.5	
	comp=Z,3.6nm,0.9s						
STKA	**Stephens Creek**	**26.76**	**191**	P	**P**	**13 06 53.2**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=347,slow=14,SNR=2.3						
	comp=Z,1.1nm,0.6s						
BBOO	**Buckleboo**	**29.11**	**200**	P	**P**	**13 07 13.1**	**-1.2**
BBOO				IAmb	IAmb	13 07 14.5	
	comp=Z,4.1nm,0.8s						
CAN	**Canberra**	**29.70**	**177**	P	**P**	**13 07 19.9**	**+0.4**
CAN				IAmb	IAmb	13 07 23.2	
	comp=Z,4.3nm,0.9s						
MKAR	**Makanchi Array**	**77.32**	**320**	P	**P**	**13 13 04.1**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=97,slow=7.4,SNR=1.4						
	comp=Z,0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**78.77**	**328**	P	**P**	**13 13 11.1**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=116,slow=5.7,SNR=4.0						
	comp=Z,0.8nm,0.5s						
QSPA	**South Pole Qui**	**84.44**	**180**	P	**P**	**13 13 41.5**	**-0.6**
QSPA				IAmb	IAmb	13 13 44.5	
	comp=Z,4.2nm,1.1s						
QSPA	**South Pole Qui**	**84.44**	**180**	P	**P**	**13 13 42.0**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=268,slow=2.8,SNR=5.4						
	comp=Z,1.6nm,0.9s						
MCARA	**McCarthy VSAT**	**85.26**	**27**	P	**P**	**13 13 48.4**	**+2.3**
BVAR	**Borovoye Array**	**86.56**	**324**	P	**P**	**13 13 50.8**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=121,slow=2.5,SNR=2.1						
	comp=Z,0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**145.26**	**285**	PKPbc	**PKPdf**	**13 20 46.0**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=55,slow=4.0,SNR=2.9						

*IDC **17** 13:12:04.9±0.5,26°.52S×67°.75E,h0km,mb4.3/20, mbtmp4.3/20,MS4.4/1,Error ellipse: s-maj=16.1km s-min=14.8km az=81.0*
*NEIC **17** 13:12:06.2±1.9,26°.54S±0°.05×67°.7E±0°.1,h10km±1km, mb4.7/24,Error ellipse: s-maj=22.7km s-min=5.9km az=284.0*
ISC 17 13:12:06.2±0.5,26°.50S±0°.09×67°.78E±0°.10,h10km,n53, σ1§18/42,mb4.5/31,4C,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**19.28**	**14**	T	T	13 36 44.7	
	baz=194,slow=76,SNR=87						
H08S2	**Diego Garcia H**	**19.28**	**14**	T	T	13 36 44.8	
	baz=194,slow=76,SNR=128						
H08S3	**Diego Garcia H**	**19.30**	**14**	T	T	13 36 46.1	
	baz=194,slow=76,SNR=159						
OPO	**Ambohidratompo**	**20.57**	**288**	P	**P**	**13 16 46.8**	**+1.3**
	6.0nm,0.9s,baz=98,slow=14,SNR=4.4						
	6.0nm,0.9s						
H04N2	**CROZET ISLANDS**	**23.38**	**209**	T	T	13 41 10.9	
	baz=39,slow=74,SNR=800						
H04N1	**CROZET ISLANDS**	**23.39**	**209**	T	T	13 41 11.8	
	baz=39,slow=74,SNR=900						
H04N3	**CROZET ISLANDS**	**23.40**	**209**	T	T	13 41 10.5	
	baz=39,slow=74,SNR=892						
BOSA	**Boshof**	**37.62**	**257**	P	**P**	**13 19 20.3**	**-1.2**
	7.3nm,0.8s,baz=114,slow=7.3,SNR=9.6						
	7.3nm,0.8s						
KMBO	**Kilima Mbogo**	**38.70**	**306**	P	**P**	**13 19 30.4**	**-0.4**
	0.8nm,0.3s,baz=144,slow=9.2,SNR=1.2						
	0.8nm,0.3s						
GSI	**Gununguitoli**	**39.88**	**51**	P	**P**	**13 19 38.6**	**-1.8**
H01W2	**Cape Leeuwin H**	**40.43**	**113**	T	T	14 02 39.1	
	baz=268,slow=75,SNR=155						
H01W3	**Cape Leeuwin H**	**40.44**	**113**	T	T	14 02 39.4	
	baz=268,slow=75,SNR=137						
H01W1	**Cape Leeuwin H**	**40.45**	**113**	T	T	14 02 40.4	
	baz=268,slow=75,SNR=156						
SUR	**Sutherland**	**41.06**	**250**	P	**P**	**13 19 47.2**	**-3.1**
SUR				IAmb	IAmb	13 19 49.3	
	comp=Z,12nm,1.1s						
MAW	**Mawson**	**41.23**	**183**	P	**P**	**13 19 51.7**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=14,slow=10,SNR=17						
	comp=Z,3.0nm,0.7s						
IPM	**Ipoh**	**44.54**	**51**	P	**P**	**13 20 21.7**	**+3.2**
IPM				IAmb	IAmb	13 20 23.7	
	comp=Z,8.2nm,0.9s						
CM31	**Chiang Mai Arr**	**53.97**	**37**	P	**P**	**13 21 30.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**53.97**	**37**	P	**P**	**13 21 29.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**53.97**	**37**	P	**P**	**13 21 31.6**	**+1.1**
	comp=Z,6.4nm,0.8s,baz=232,slow=7.2,SNR=53						
CMAR				LR	LR	13 40 41.2	
	comp=Z,24nm,20.6s,baz=200,slow=32						
	comp=Z,6.4nm,0.8s						
CHTO	**Chiang Mai**	**54.27**	**37**	P	**P**	**13 21 32.7**	**+0.1**
PHRA	**Phrae**	**54.72**	**39**	P	**P**	**13 21 36.5**	**+0.6**
SHL	**Shillong**	**56.75**	**26**	P	**P**	**13 21 50.9**	**+0.3**
SHL				IAmb	IAmb	13 21 52.9	
	comp=Z,12nm,1.2s						
MYLDM	**Lahad Datu**	**58.32**	**65**	P	**P**	**13 21 59.4**	**-2.3**
MYLDM				IAmb	IAmb	13 22 23.7	
	comp=Z,9.5nm,1.1s						
SNAA	**Sanae**	**58.99**	**200**	⇑P	**P**	**13 22 06.0**	**+0.4**
	comp=Z,43nm,0.8s						
SNAA	**Sanae**	**58.99**	**200**	P	**P**	**13 22 06.1**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=96,slow=9.8,SNR=11						
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**59.36**	**103**	P	**P**	**13 22 09.3**	**+0.3**
	comp=Z,5.7nm,0.7s,baz=249,slow=6.3,SNR=94						
	comp=Z,5.7nm,0.7s						
AS31	**Alice Springs**	**59.36**	**103**	P	**P**	**13 22 07.8**	**-1.2**
VNA2	**Neumayer--Watz**	**60.36**	**201**	⇑P	**P**	**13 22 14.2**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=88,slow=5.2						
VNA1	**Neumayer--Stat**	**60.62**	**202**	⇑P	P	13 22 12.4	-4.4
	comp=Z,2.8nm,0.7s						
WRA	**Warramunga Arr**	**60.93**	**99**	P	**P**	**13 22 20.1**	**+0.3**
	comp=Z,5.5nm,0.8s,baz=252,slow=6.5,SNR=24						
	comp=Z,5.5nm,0.8s						
WB2	**Warramunga Arr**	**60.94**	**99**	P	**P**	**13 22 18.6**	**-1.2**
WB2				IAmb	IAmb	13 22 21.4	
	comp=Z,8.2nm,0.9s						
WRAB	**Tennant Creek**	**60.95**	**99**	P	**P**	**13 22 18.2**	**-1.7**
WRAB				IAmb	IAmb	13 22 21.4	
	comp=Z,6.4nm,0.8s						
WR0	**Warramunga Arr**	**61.11**	**99**	P	**P**	**13 22 21.1**	**+0.1**
WR0				IAmb	IAmb	13 22 22.3	
	comp=Z,5.0nm,0.8s						
VNA3	**Neumayer Olymp**	**61.12**	**201**	⇑P	**P**	**13 22 19.1**	**-1.1**
	comp=Z,2.6nm,1.0s						
STKA	**Stephens Creek**	**63.53**	**114**	P	**P**	**13 22 36.7**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=301,slow=7.7,SNR=4.2						
	comp=Z,2.3nm,0.8s						
QSPA	**South Pole Qui**	**63.63**	**180**	P	**P**	**13 22 37.9**	**+0.6**
QSPA				IAmb	IAmb	13 22 46.2	
	comp=Z,5.2nm,0.9s						
QSPA	**South Pole Qui**	**63.63**	**180**	P	**P**	**13 22 37.2**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=273,slow=1.6,SNR=22						
	comp=Z,3.1nm,0.7s						
GAR	**Garm**	**65.20**	**2**	P	**P**	**13 22 47.3**	**-0.5**
GAR				IAmb	IAmb	13 22 49.0	
	comp=Z,5.4nm,0.9s						
SBA	**Scott Base**	**66.16**	**167**	P	**P**	**13 22 55.1**	**+1.8**
KKAR	**Karatay Array**	**69.31**	**2**	P	**P**	**13 23 13.1**	**-0.5**
BRTR	**Keskin Array B**	**73.17**	**333**	P	**P**	**13 23 37.6**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=156,slow=7.0,SNR=7.9						
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**74.12**	**10**	P	**P**	**13 23 42.9**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=187,slow=6.1,SNR=10						
	comp=Z,2.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**75.31**	**293**	P	**P**	**13 23 50.1**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=106,slow=6.6,SNR=4.2						
	comp=Z,1.0nm,0.8s						
ABKAR	**Akbulak array**	**75.74**	**355**	P	**P**	**13 23 51.3**	**-0.4**
KURBB	**Kurchatov Arra**	**77.37**	**7**	P	**P**	**13 24 01.8**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=202,slow=6.2,SNR=9.3						
	comp=Z,0.8nm,0.7s						
DBIC	**Dimbokro**	**77.62**	**284**	P	**P**	**13 24 04.2**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=100,slow=6.1,SNR=2.2						
	comp=Z,2.6nm,0.8s						
BVAR	**Borovoye Array**	**79.22**	**2**	P	**P**	**13 24 10.8**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=184,slow=6.6,SNR=4.1						
	comp=Z,0.5nm,0.5s						
ZAA0	**Zalesovo Array**	**81.46**	**10**	P	**P**	**13 24 22.1**	**-1.0**
ZAA0				IAmb	IAmb	13 24 24.9	
	comp=Z,6.8nm,0.8s						
ZALV	**Zalesovo Beam**	**81.46**	**10**	P	**P**	**13 24 23.7**	**+0.6**
	comp=Z,6.2nm,0.7s,baz=198,slow=4.4,SNR=30						
	comp=Z,6.2nm,0.7s						
SONM	**Songino Array**	**81.73**	**25**	P	**P**	**13 24 26.2**	**+1.2**
	comp=Z,4.0nm,0.9s,baz=209,slow=4.5,SNR=14						
	comp=Z,4.0nm,0.9s						
AKASG	**Malin Array Be**	**84.08**	**337**	P	**P**	**13 24 36.8**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=146,slow=4.3,SNR=8.6						
	comp=Z,1.4nm,0.6s						
KSRS	**Korea Array**	**85.05**	**44**	P	**P**	**13 24 42.3**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=245,slow=4.1,SNR=3.0						
	comp=Z,0.9nm,0.8s						
NRIK	**Noril'sk**	**96.64**	**7**	LR	LR	14 08 21.4	
	comp=Z,170nm,20.0s,baz=324,slow=35						

*NOU **17** 13:14:35.2,41°.30S×173°.38E,h117km,MLv4.0/12,South Island, New Zealand*
*WEL **17** 13:14:37.1±0.8,41°S±4°×17°3E±°,h90km±10km,M3.8/95, ML3.9/8,MLv3.8/95,Error ellipse: s-maj=5.1km s-min=3.3km az=145.3,confirmed*
ISC 17 13:14:34.6±1.4,41°.31S±0°.04×173°.38E±0°.04,h121km±8km, n162,σ0§95/140,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.09**	**360**	P	**Pn**	**13 14 50.9**	**-0.2**
TKNZ	**Takaka Hill**	**0.42**	**310**	P	**Pn**	**13 14 51.7**	**-0.5**
TUWZ	**Tuamarina**	**0.44**	**107**	P	**Pn**	**13 14 53.5**	**+1.3**
MRNZ	**Matariki Terra**	**0.48**	**258**	P	**Pn**	**13 14 52.4**	**-0.1**
BSWZ	**Blackbirch Sta**	**0.55**	**138**	P	**Pn**	**13 14 53.9**	**+0.9**
THZ	**Tophouse**	**0.58**	**218**	P	**Pn**	**13 14 53.8**	**+0.5**
DUWZ	**D'Urville Isla**	**0.65**	**39**	P	**Pn**	**13 14 54.1**	**+0.5**
TCW	**Tory Channel**	**0.68**	**82**	P	**Pn**	**13 14 54.7**	**+0.9**
CMWZ	**Cape Campbell**	**0.77**	**126**	P	**Pn**	**13 14 56.0**	**+1.5**
QRZ	**Quartz Range**	**0.80**	**306**	P	**Pn**	**13 14 54.5**	**-0.3**
QRZ	**Quartz Range**	**0.80**	**306**	P	**Pn**	**13 14 54.4**	**-0.5**
SNZO	**South Karori**	**1.00**	**91**	P	**Pn**	**13 14 57.3**	**+0.7**
WEL	**Wellington**	**1.05**	**89**	P	**Pn**	**13 14 57.9**	**+0.9**
WEL				S	**Sn**	**13 15 13.5**	**-0.7**
KHZ	**Kahutara**	**1.12**	**174**	P	**Pn**	**13 14 59.1**	**+1.3**
KHZ				S	**Sn**	**13 15 16.2**	**+0.7**
KHZ	**Kahutara**	**1.12**	**174**	P	**Pn**	**13 14 59.1**	**+1.3**
BHW	**Baring Head**	**1.13**	**96**	P	**Pn**	**13 14 58.7**	**+0.8**
BHW				S	**Sn**	**13 15 14.6**	**-1.0**
KIW	**Kapiti Island**	**1.24**	**70**	P	**Pn**	**13 14 59.9**	**+0.8**
DSZ	**Denniston Nort**	**1.26**	**249**	P	**Pn**	**13 14 59.6**	**+0.2**
DSZ				S	**Sn**	**13 15 16.9**	**-1.4**
MSWZ	**Moikau Station**	**1.41**	**95**	P	**Pn**	**13 15 01.8**	**+0.7**
MSWZ				S	**Sn**	**13 15 20.1**	**-1.1**
PLWZ	**Palliser**	**1.43**	**101**	P	**Pn**	**13 15 02.2**	**+0.9**
PLWZ				S	**Sn**	**13 15 20.5**	**-1.2**
OGWZ	**Otaki Gorge**	**1.44**	**71**	P	**Pn**	**13 15 02.1**	**+0.8**
PAWZ	**Paruwai Farm**	**1.54**	**94**	MLv			
MTW	**Mount Morrison**	**1.61**	**85**	P	Pn	13 15 12.8	+9.5
MTW				S	**Sn**	**13 15 25.4**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.66**	**77**	MLv			
GVZ	**Greta Valley S**	**1.68**	**189**	P	**Pn**	**13 15 05.4**	**+1.3**
GVZ				S	**Sn**	**13 15 26.2**	**-0.6**
LTZ	**Lake Taylor**	**1.69**	**209**	P	**Pn**	**13 15 05.4**	**+1.1**
LTZ				S	**Sn**	**13 15 26.1**	**-1.0**
TRWZ	**Traveller**	**1.74**	**94**	MLv			
MRZ	**Mangatainoka R**	**1.78**	**70**	P	**Pn**	**13 15 05.7**	**+0.3**
MRZ				S	**Sn**	**13 15 28.8**	**-0.2**
OHWZ	**Ohakea**	**1.83**	**54**	P	**Pn**	**13 15 07.0**	**+1.0**
TMWZ	**Te Maipa**	**1.90**	**85**	P	**Pn**	**13 15 07.7**	**+0.8**
AMCZ	**Amberley**	**1.95**	**196**	P	**Pn**	**13 15 08.5**	**+1.2**
AMCZ				S	**Sn**	**13 15 32.1**	**-0.4**
TIWZ	**Tintock**	**1.97**	**75**	P	**Pn**	**13 15 08.1**	**+0.4**
WAZ	**Wanganui**	**1.97**	**39**	P	**Pn**	**13 15 09.3**	**+1.5**
LREZ	**Lake Rotokare**	**2.00**	**23**	P	**Pn**	**13 15 10.3**	**+2.2**
INZ	**Inchbonnie**	**2.02**	**225**	P	**Pn**	**13 15 09.1**	**+0.8**
POWZ	**Post Office Ro**	**2.03**	**64**	P	**Pn**	**13 15 08.5**	**+0.1**
PREZ	**Palmer Road**	**2.05**	**17**	P	**Pn**	**13 15 10.3**	**+1.6**
KHEZ	**Kahui Hut**	**2.07**	**14**	P	**Pn**	**13 15 10.3**	**+1.4**
KHEZ	**Kahui Hut**	**2.07**	**14**	P	**Pn**	**13 15 10.4**	**+1.4**
NBEZ	**Newall Road No**	**2.07**	**11**	P	**Pn**	**13 15 10.3**	**+1.3**
PRWZ	**Pori Road**	**2.10**	**70**	P	**Pn**	**13 15 09.7**	**+0.4**
NEZ	**North Egmont**	**2.10**	**15**	P	**Pn**	**13 15 10.6**	**+1.1**
PKE	**Pukeiti**	**2.16**	**13**	P	**Pn**	**13 15 11.3**	**+1.2**
CPWZ	**Castlepoint**	**2.17**	**80**	MLv			
DREZ	**Durham Road**	**2.21**	**17**	P	**Pn**	**13 15 12.0**	**+1.3**
OXZ	**Oxford**	**2.25**	**206**	P	**Pn**	**13 15 11.6**	**+0.4**
BFZ	**Birch Farm**	**2.26**	**75**	P	**Pn**	**13 15 11.5**	**+0.2**
BFZ	**Birch Farm**	**2.26**	**75**	P	**Pn**	**13 15 11.3**	**0.0**
TSZ	**Takapari Road**	**2.32**	**58**	P	**Pn**	**13 15 12.1**	**-0.1**
MHEZ	**Mangahewa**	**2.34**	**18**	P	**Pn**	**13 15 14.0**	**+1.6**
DVHZ	**Dannevirke**	**2.34**	**66**	P	**Pn**	**13 15 12.1**	**-0.3**
VRZ	**Vera Road**	**2.42**	**26**	P	**Pn**	**13 15 14.9**	**+1.6**
OKCZ	**Okains Bay**	**2.43**	**185**	P	**Pn**	**13 15 14.3**	**+0.9**
MQZ	**Mc

LIRZ	Lichensteins R	4.03	36	MLv			
MHGZ	Mahia Peninsul	4.08	60	P	Pn	13 15 34.1	-1.0
RAGZ	Rawiri	4.18	49	P	Pn	13 15 37.6	+1.0
URZ	Urewera	4.18	45	P	Pn	13 15 34.8	-1.8
URZ	Urewera	4.18	45	P	Pn	13 15 36.1	-0.4
PRGZ	Paritu Road	4.19	57	P	Pn	13 15 35.3	-1.4
ODZ	Otahua Downs	4.24	207	P	Pn	13 15 38.0	+0.7
ODZ	Otahua Downs	4.24	207	P	Pn	13 15 37.9	+0.7
RIGZ	Rimuhau	4.25	54	P	Pn	13 15 36.3	-1.2
AWAZ	Awhitu Peninsu	4.35	13	P	Pn	13 15 40.3	+1.6
MWZ	Matawai	4.36	48	P	Pn	13 15 37.7	-1.2
JCZ	Jackson Bay	4.37	229	P	Pn	13 15 39.1	0.0
JCZ	Jackson Bay	4.37	229	P	Pn	13 15 39.2	+0.1
MKAZ	Moumakai	4.42	19	P	Pn	13 15 40.9	+1.3
TKGZ	Te Karaka	4.47	52	P	Pn	13 15 40.3	-0.1
ETAZ	East Tamaki Re	4.51	16	P	Pn	13 15 42.3	+1.4
RVAZ	Riverhead Bore	4.62	12	MLv			
CNGZ	Carnagh Station	4.66	54	P	Pn	13 15 41.3	-1.6
MBAZ	Motutapu North	4.68	15	MLv			
RUGZ	Raukumara Rang	4.70	46	P	Pn	13 15 42.6	-1.0
WIAZ	Waiheke Island	4.71	17	P	Pn	13 15 45.1	+1.5
TWGZ	Tauwhareparae	4.72	50	P	Pn	13 15 43.3	-0.6
WKZ	Wanaka	4.75	221	P	Pn	13 15 44.8	+0.7
ABAZ	Army Bay	4.83	14	P	Pn	13 15 46.9	+1.7
HAZ	Te Kaha	4.91	45	P	Pn	13 15 46.0	-0.3
EAZ	Earnscleugh	4.92	216	P	Pn	13 15 46.3	-0.1
PUZ	Puketiti	4.96	51	P	Pn	13 15 45.7	-1.2
HHSZ	Highcliff Hill	5.00	203	P	Pn	13 15 49.6	+2.1
WMGZ	Waiomatatini S	5.22	50	MLv			
WCZ	Waipu Caves	5.41	8	P	Pn	13 15 54.6	+1.6
MLZ	Mavora Lakes	5.58	222	P	Pn	13 15 56.5	+1.2
OUZ	Omahuta	6.08	2	P	Pn	13 16 03.1	+1.1
CTZ	Chatham Island	7.78	112	P	Pn	13 16 27.3	+2.4

MOS ***17*** *13:17:56.5±1.0, 15°.62N×49°.87W, h10km, mb5.4/54, Error ellipse: s-maj=8.2km s-min=6.0km az=48.0*

IDC ***17*** *13:17:56.4±0.4, 15°.58N×49°.79W, h0km, mb4.6/31, mbtmp4.7/34, ML5.2/3, MS4.6/64, Error ellipse: s-maj=12.8km s-min=9.4km az=148.0*

NEIC ***17*** *13:17:59.6, 15°.55N×49°.92W, h10km*

NEIC ***17*** *13:17:59.5±1.5, 15°.54N±0°.08×49°.91W±0°.08, h10km±1km, mb5.3/649, Ms_20 5.0/283, Mwb5.4/43, Mww5.5/41, Error ellipse: s-maj=14.0km s-min=13.4km az=199.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.87; Mθθ=1.69; Mφφ=-0.82; Mrθ=0.00; Mθφ=-0.20; Mφr=0.67; Fault plane solution: M0=1.62000×10^17^ NP1: φs=309.45000°, δ=60.79000°, λ=-36.77000°. NP2: φs=59.49000°, δ=58.50000°, λ=-145.08000°. Principal axes: T 1.7046, Plg1.0000°, Azm5.0000°; N -0.1853, Plg44.0000°, Azm96.0000°; P -1.5192, Plg46.0000°, Azm274.0000°;*

NEIC ***17*** *13:17:59.6, 15°.55N×49°.92W, h26km*

NEIC ***17*** *13:17:59.6, 15°.65N×49°.92W, h26km, Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10^17^Nm; Mrr=1.64; Mθθ=1.96; Mφφ=-0.32; Mrθ=0.47; Mθφ=0.37; Mφr=0.95; Fault plane solution: M0=2.14000×10^17^ NP1: φs=57.08000°, δ=59.53000°, λ=-119.14000°. NP2: φs=284.79000°, δ=41.16000°, λ=-50.39000°. Principal axes: T 2.1284, Plg10.0000°, Azm168.0000°; N 0.0254, Plg25.0000°, Azm73.0000°; P -2.1539, Plg63.0000°, Azm278.0000°;*

GCMT ***17*** *13:18:01.5±0.1, 15°.61N±0°.01×49°.77W±0°.01, h12km, MW5.5/136, Moment Tensor Solution. s108, c184; s136, c264; Duration: 1s3 Moment tensor: Scale 10^17^ Nm; Mrr=1.30±.02; Mθθ=1.95±.02; Mφφ=-0.64±.02; Mrθ=0.39±.05; Mθφ=0.49±.02; Mφr=0.64±.06; Best double couple: M0=1.90300×10^17^ NP1: φs=54.00000°, δ=60.00000°, λ=-125.00000°. NP2: φs=288.00000°, δ=45.00000°, λ=-46.00000°. Principal axes: T 2.1140, Plg9.0000°, Azm168.0000°; N -0.4210, Plg29.0000°, Azm73.0000°; P -1.6920, Plg59.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***17*** *13:18:06.3, 14°.28N×47°.44W, h10km, mb4.8*

ISC 17 13:17:59.3±0.8, 15°.58N±0°.05×49°.91W±0°.04, h15km±4km, h16km:pP-P,n1113,σ1§30/727, mb5.3/402, MS5.0/211, 21C-12D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BBGH	**Gun Hill**	**9.66 257**			**Pn**	**13 20 19.8**	**+2.0**
BBGH	**Gun Hill**	**9.66 257**		*e*P	**Pn**	**13 20 20.9**	**+3.1**
ILAM	**Ilet Lapin Mar**	**10.62 267**		*e*	Pn	13 20 36.6	+5.7
H05S1	**Guadeloupe/Mar**	**10.62 265**		T	T	13 31 44.2	
	SNR=28						
MPOM	**Morne Pois Mar**	**10.64 265**			**Pn**	**13 20 32.0**	**+0.8**
H05N1	**Guadeloupe/Mar**	**10.75 275**		T	T	13 31 50.4	
	SNR=13						
MDP	**Montagnes des**	**10.75 195**		Pn	**Pn**	**13 20 30.6**	**-2.2**
	37nm,0.3s,baz=6.7,slow=17,SNR=149						
MDP				Sn	Sn	13 22 19.4	-13
	58nm,0.3s,baz=328,slow=22,SNR=9.2						
MDP				LR	LR	13 24 05.0	
	comp=Z,3μm,20.3s,baz=16,slow=34						
	100nm,0.3s						
GDSD	**La Dsirade Is**	**10.76 275**		Pn	**Pn**	**13 20 33.9**	**+1.1**
SLAC	**Saint Lucia, A**	**10.76 262**		*e*	**Pn**	**13 20 33.3**	**+0.4**
SLBI	**Saint Lucia, B**	**10.81 263**		*e*	**Pn**	**13 20 34.2**	**+0.7**
BIM	**Bigot**	**10.83 266**		*e*P	**Pn**	**13 20 33.6**	**-0.3**
FDF	**Fort de France**	**10.89 267**		Pn	**Pn**	**13 20 36.0**	**+1.3**
FDF	**Fort de France**	**10.89 267**		P	**Pn**	**13 20 36.0**	**+1.3**
SSV	**Crater Summit**	**11.16 260**		*e*	**Pn**	**13 20 38.6**	**+0.2**
ABD	**La Joyeuse, An**	**11.17 276**			**Pn**	**13 20 37.2**	**-1.3**
TOSP	**Speyside**	**11.18 249**		*e*P	**Pn**	**13 20 39.9**	**+1.3**
SVOC	**Richmond Hill,**	**11.22 259**		*e*	**Pn**	**13 20 40.2**	**+1.0**
SVB	**Belmont**	**11.22 260**		*e*P	**Pn**	**13 20 40.2**	**+1.0**
SVT	**Saint Vincent**	**11.24 259**		*e*	**Pn**	**13 20 40.0**	**+0.6**
CBE	**Ff, Capester**	**11.27 274**		Pn	**Pn**	**13 20 39.7**	**-0.2**
TDBA	**Terre de Bas,**	**11.30 273**		Pn	**Pn**	**13 20 39.0**	**-1.2**
TBG	**Guadaloupe-3**	**11.30 273**		*e*P	**Pn**	**13 20 38.4**	**-1.9**
GDHS	**Morne Mazeau,**	**11.43 275**			**Pn**	**13 20 40.9**	**-1.1**
ANBD	**Bethesda, Anti**	**11.48 279**		*e*	**Pn**	**13 20 40.5**	**-2.1**
ANWB	**Willy Bob**	**11.57 282**			**Pn**	**13 20 42.7**	**-1.3**
ANWB	**Willy Bob**	**11.57 282**		*e*	**Pn**	**13 20 42.9**	**-1.1**
GCMP	**Grenada, Carri**	**11.59 256**		*e*P	**Pn**	**13 20 42.4**	**-1.9**
GRSS	**Sisters**	**11.82 255**		*e*P	**Pn**	**13 20 49.2**	**+1.8**
GRHS	**Sauteurs**	**11.87 255**		*e*P	**Pn**	**13 20 48.3**	**+0.3**
GRW	**Mount Saint Ca**	**11.90 255**		*e*P	**Pn**	**13 20 49.4**	**+0.8**
GRGR	**Grenville**	**11.91 255**		Pn	**Pn**	**13 20 49.5**	**+0.8**
GRGR	**Grenville**	**11.91 255**		*e*P	**Pn**	**13 20 48.9**	**+0.3**
GRFF	**Grenada Fort F**	**12.01 254**		*e*	**Pn**	**13 20 50.2**	**+0.1**
TRN	**Trinidad (W)**	**12.22 248**		*e*P	**Pn**	**13 20 54.3**	**+1.5**
SEUS	**St. Eustatius**	**12.68 280**		Pn	**Pn**	**13 20 58.5**	**-0.7**
SABA	**Saba**	**12.94 281**		Pn	**Pn**	**13 21 02.0**	**-0.7**
PCRV	**Puerto La Cruz**	**15.32 251**		Pn	**Pn**	**13 21 35.6**	**+0.4**
	9.7nm,0.3s,baz=48,slow=15,SNR=34						
	72nm,0.6s						
PCRV	**Puerto La Cruz**	**15.32 251**		*e*	**Pn**	**13 21 36.2**	**+1.0**
HUMP	**Col San Antoni**	**15.47 282**			**Pn**	**13 21 36.4**	**-0.7**
HUMP				IAmb	IAmb	13 21 45.5	
	comp=Z,181nm,1.3s						
PDPR	**Patillas Dam,**	**15.62 281**			**Pn**	**13 21 38.3**	**-0.7**
IGPR	**InterUniversit**	**15.69 281**			**Pn**	**13 21 39.2**	**-0.7**
IGPR				IAmb	IAmb	13 21 48.6	
	comp=Z,502nm,1.6s						
GCPR	**Guaynabo City**	**15.71 282**			**Pn**	**13 21 40.8**	**+0.6**
SJG	**San Juan**	**15.75 281**		Pn	**Pn**	**13 21 39.8**	**-0.9**
SJG	**San Juan**	**15.75 281**		P	**Pn**	**13 21 40.3**	**-0.4**
SJG				IAmb	IAmb	13 21 49.4	
	comp=Z,592nm,1.6s						
SJG	**San Juan**	**15.75 281**		Pn	**Pn**	**13 21 39.6**	**-1.0**
	comp=Z,3.8nm,0.3s,baz=98,slow=9.8,SNR=9.9						
SJG				Sn	**Sn**	**13 24 27.2**	**-7.9**
	comp=Z,2.9nm,0.3s,baz=346,slow=22,SNR=3.4						
SJG				LR	LR	13 27 03.3	
	comp=Z,3μm,19.8s,baz=86,slow=34						
	comp=Z,36nm,0.7s						
SJG	**San Juan**	**15.75 281**		P	**Pn**	**13 21 39.8**	**-0.9**
SJG				pmax	pmax		
	comp=Z,153nm,0.9s						
SJG				pmax	pmax		
	comp=Z,593nm,1.7s						
CELP	**Cerrillos**	**16.15 281**			**Pn**	**13 21 44.9**	**-1.0**
CELP				IAmb	IAmb	13 21 52.8	
	comp=Z,368nm,1.4s						
EMPR	**Esperanza - Ma**	**16.15 283**			**Pn**	**13 21 46.4**	**+0.6**
EMPR				IAmb	IAmb	13 21 52.5	
	comp=Z,253nm,1.1s						
OBIP	**Obispado Ponce**	**16.17 281**			**Pn**	**13 21 46.2**	**+0.1**
UUPR	**Utuado, UPR, P**	**16.30 282**			**Pn**	**13 21 48.5**	**+0.7**
UUPR				IAmb	IAmb	13 21 57.0	
	comp=Z,235nm,0.9s						
AOPR	**Arecibo Observ**	**16.35 282**			**Pn**	**13 21 49.8**	**+1.4**
AOPR				IAmb	IAmb	13 21 55.3	
	comp=Z,561nm,1.3s						
MLPR	**Magueyes Islan**	**16.58 281**			**Pn**	**13 21 51.5**	**+0.2**
CRPR	**Cabo Rojo, PR**	**16.65 281**			**Pn**	**13 21 51.7**	**-0.4**
CRPR				IAmb	IAmb	13 21 59.1	
	comp=Z,295nm,1.4s						
AGPR	**Aguadilla, PR**	**16.70 282**		IAmb	IAmb	13 21 59.0	
	comp=Z,533nm,1.2s						
BOAV	**Boa Vista**	**16.76 220**			**Pn**	**13 21 53.5**	**-0.2**
BOAV				IAmb	IAmb	13 21 56.7	
	comp=Z,227nm,0.6s						
BOAV	**Boa Vista**	**16.76 220**		*e*P	**Pn**	**13 21 53.3**	**-0.4**
BAUV	**El Baul**	**18.90 252**		P	**Pn**	**13 22 20.0**	**-0.1**
BAUV	**El Baul**	**18.90 252**		*e*	**P**	**13 22 18.1**	**-1.4**
ITTB	**Itaituba**	**20.64 197**		*e*P	**P**	**13 22 39.1**	**+0.7**
SDDR	**Presa de Saban**	**20.69 282**		IAmb	IAmb	13 22 57.0	
	comp=Z,91nm,0.8s						
SDV	**Santo Domingo**	**21.31 254**		P	**P**	**13 22 47.2**	**+1.4**
SDV				IAmb	IAmb	13 22 53.3	
	comp=Z,261nm,1.1s						
SDV	**Santo Domingo**	**21.31 254**		P	**P**	**13 22 47.8**	**+1.9**
	comp=Z,139nm,1.0s,baz=74,slow=9.8,SNR=76						
SDV				S	**S**	**13 26 43.2**	**+0.8**
	comp=Z,8.4nm,0.5s,baz=32,slow=19,SNR=2.4						
SDV				LR	LR	13 30 54.5	
	comp=Z,594nm,20.6s,baz=72,slow=36						
	comp=Z,139nm,1.0s						
SDV	**Santo Domingo**	**21.31 254**		*e*P	**P**	**13 22 48.0**	**+2.2**
MACA	**Manacapuru-AM**	**21.45 211**		P	**P**	**13 22 47.5**	**+0.3**
MACA				IAmb	IAmb	13 22 56.4	
	comp=Z,156nm,0.8s						
MACA	**Manacapuru-AM**	**21.45 211**		*e*P	**P**	**13 22 48.8**	**+1.5**
PAPH	**Port-au-Prince**	**21.60 281**		P	**P**	**13 22 48.4**	**-0.4**
PAPH				IAmb	IAmb	13 22 55.2	
	comp=Z,163nm,0.9s						
PRPB	**Parauapebas**	**21.61 180**		*e*P	**P**	**13 22 48.6**	**-0.2**
NBCL	**Cascavel-CE**	**22.79 149**		*e*P	**P**	**13 23 02.5**	**+1.0**
NPGB	**Novo Progresso**	**23.12 194**		*e*P	**P**	**13 23 06.4**	**+1.5**
NBPB	**Pedra_Branca-C**	**23.34 153**		*e*P	**P**	**13 23 05.7**	**-1.5**
NMDO	**Nuevo Mundo**	**24.33 285**		P	**P**	**13 23 16.9**	**+0.3**
NMDO				IAmb	IAmb	13 23 37.6	
	comp=Z,153nm,1.4s						
GTBY	**Guantanamo Bay**	**24.38 284**		P	**P**	**13 23 17.5**	**+0.4**
GTBY				IAmb	IAmb	13 23 21.6	
	comp=Z,94nm,1.1s						
SMTB	**Santa Maria do**	**24.39 174**		*e*P	**P**	**13 23 18.3**	**+1.2**
SACV	**Santiago Islan**	**25.38 88**		P	**P**	**13 23 28.2**	**+2.0**
SACV				IAmb	IAmb	13 23 39.2	
	comp=Z,79nm,1.2s						
RCBR	**Riachuelo**	**25.39 146**		P	**P**	**13 23 26.6**	**+0.3**
RCBR				IAmb	IAmb	13 23 39.4	
	comp=Z,77nm,1.1s						
RCBR	**Riachuelo**	**25.39 146**		LR	LR	13 30 48.6	
	comp=Z,558nm,20.9s,baz=332,slow=30						
RCBR	**Riachuelo**	**25.39 146**		P	**P**	**13 23 26.6**	**+0.3**
RCBR				pmax	pmax		
	comp=Z,77nm,1.1s						
RCBR	**Riachuelo**	**25.39 146**		*e*P	**P**	**13 23 27.4**	**+1.2**
CHIV	**Chivirico**	**25.60 284**		P	**P**	**13 23 28.7**	**+0.5**
CHIV				IAmb	IAmb	13 24 00.5	
	comp=Z,62nm,1.1s						
ROSC	**El Rosal**	**26.25 249**		P	**P**	**13 23 35.1**	**+0.6**
ROSC				IAmb	IAmb	13 24 02.2	
	comp=Z,96nm,0.9s						
ROSC	**El Rosal**	**26.25 249**		P	**P**	**13 23 36.5**	**+2.0**
	comp=Z,23nm,0.6s,baz=89,slow=4.2,SNR=16						
ROSC				LR	LR	13 35 48.4	
	comp=Z,1μm,18.3s,baz=80,slow=41						
	comp=Z,23nm,0.6s						
MTDJ	**Mount Denham**	**26.55 280**		P	**P**	**13 23 37.0**	**+0.1**
CLDB	**Colider**	**26.92 193**		*e*P	**P**	**13 23 41.6**	**+1.6**
SNDB	**Serra Nova Dou**	**27.41 183**		*e*P	**P**	**13 23 45.5**	**+1.1**
SAML	**Samuel**	**27.69 209**		P	**P**	**13 23 47.3**	**+0.3**
SAML	**Samuel**	**27.69 209**		P	**P**	**13 23 47.3**	**+0.3**
SAML				pmax	pmax		
	comp=Z,33nm,1.2s						
SAML				MLR	MLR		
	comp=Z,1μm,22.0s						
SAML	**Samuel**	**27.69 209**		*e*P	**P**	**13 23 48.2**	**+1.2**
PDRB	**Porto dos Gac**	**27.85 194**		*e*P	**P**	**13 23 49.9**	**+1.5**
SDBA	**SAO DESIDERIO**	**28.24 170**		*e*P	**P**	**13 23 50.0**	**-2.0**
NBAN	**Anadia - AL**	**28.49 151**		*e*P	**P**	**13 23 56.3**	**+2.2**
ETMB	**Extrema**	**29.96 214**		P	**P**	**13 24 07.6**	**+0.4**
ETMB				IAmb	IAmb	13 24 20.5	
	comp=Z,92nm,1.2s						
ETMB	**Extrema**	**29.96 214**		*e*P	**P**	**13 24 07.1**	**-0.1**
VILB	**Vilhena**	**30.12 200**		P	**P**	**13 24 08.6**	**0.0**
VILB				IAmb	IAmb	13 24 15.4	
	comp=Z,58nm,0.9s						
VILB	**Vilhena**	**30.12 200**		*e*P	**P**	**13 24 09.5**	**+0.9**
GDU01	**Guandu, BA**	**30.85 160**		*e*P	**P**	**13 24 15.3**	**+0.3**
JANB	**Januaria**	**30.94 169**		*e*P	**P**	**13 24 15.1**	**-0.8**
BDFB	**Brasilia**	**31.08 176**		P	**P**	**13 24 18.0**	**+0.9**
BDFB				IAmb	IAmb	13 24 30.3	
	comp=Z,37nm,1.0s						
BDFB	**Brasilia**	**31.08 176**		P	**P**	**13 24 17.3**	**+0.2**
	comp=Z,17nm,0.7s,baz=353,slow=9.9,SNR=23						
BDFB				LR	LR	13 37 09.2	
	comp=Z,2μm,19.1s,baz=341,slow=37						
	comp=Z,17nm,0.7s						
BDFB	**Brasilia**	**31.08 176**		P	**P**	**13 24 18.0**	**+0.9**
BDFB				pmax	pmax		
	comp=Z,37nm,1.0s						
ARAG	**Araguaiana, MT**	**31.14 184**		*e*P	**P**	**13 24 19.1**	**+1.5**
M65A	**Busby, Falmout**	**31.49 329**		P	**P**	**13 24 22.2**	**+1.8**
	baz=140						
SALV	**Santo Antonio**	**31.80 191**		*e*P	**P**	**13 24 25.3**	**+2.0**
OTAV	**Otavalo**	**32.04 244**		P	**P**	**13 24 26.8**	**+0.7**
OTAV				IAmb	IAmb	13 24 29.9	
	comp=Z,102nm,1.8s						
OTAV	**Otavalo**	**32.04 244**		P	**P**	**13 24 26.8**	**+0.7**
OTAV				pmax	pmax		
	comp=Z,102nm,1.8s						
OTAV	**Otavalo**	**32.04 244**		*e*P	**P**	**13 24 27.5**	**+1.4**
W59A	**Clinton**	**32.15 313**		P	**P**	**13 24 27.7**	**+1.4**
W59A				IAmb	IAmb	13 24 39.6	
	comp=Z,44nm,1.1s						
BBTS	**Babate**	**32.22 87**		LR	LR	13 33 44.7	
	comp=Z,1μm,21.7s,baz=146,slow=30						
Y58A	**Scranton**	**32.43 310**		IAms_20	IAms_20	13 34 04.9	
	comp=Z,2μm,19.0s						
X58A	**Rowland**	**32.49 311**		IAms_20	IAms_20	13 35 21.5	
	comp=Z,2μm,18.0s						
HRV	**Adam Dziewonsk**	**32.65 330**		IAms_20	IAms_20	13 34 16.6	
	comp=Z,3μm,21.0s						
PAL	**Palisades**	**32.78 325**		IAmb	IAmb	13 24 45.0	
	comp=Z,48nm,1.1s						
Y57A	**Sumter**	**33.02 309**		IAms_20	IAms_20	13 35 38.5	
	comp=Z,2μm,18.0s						
K62A	**Royalston**	**33.10 329**		IAms_20	IAms_20	13 34 41.5	
	comp=Z,2μm,19.0s						
L61B	**Northampton**	**33.16 328**		P	**P**	**13 24 36.3**	**+1.2**
	baz=137						
SIV	**San Ignacio**	**33.25 200**		LR	LR	13 37 22.3	
	comp=Z,2μm,21.6s,baz=40,slow=35						
LUPA	**Lehigh Univers**	**33.33 323**		IAmb	IAmb	13 24 50.1	
	comp=Z,82nm,1.2s						
BIRD	**Birdtown, Kers**	**33.36 310**		IAmb	IAmb	13 24 50.4	
	comp=Z,53nm,1.3s						
I63A	**Otisfield**	**33.38 332**		IAms_20	IAms_20	13 34 40.0	
	comp=Z,3μm,20.0s						
WVL	**Waterville**	**33.38 334**		IAms_20	IAms_20	13 34 48.2	
	comp=Z,3μm,20.0s						
GUA01	**Guaratinga, BA**	**33.48 162**		*e*P	**P**	**13 24 37.4**	**-0.7**
MVL	**Millersville**	**33.52 322**		IAmb	IAmb	13 24 51.6	
	comp=Z,29nm,0.9s						
LCR2	**La Lucha 2**	**33.74 264**		IAmb	IAmb	13 24 47.6	
	comp=Z,28nm,1.0s						
JSC	**Jenkinsville**	**33.79 309**		IAmb	IAmb	13 24 55.2	
	comp=Z,35nm,1.2s						
S57A	**Dark Hollow, R**	**33.85 316**		IAmb	IAmb	13 24 46.2	
	comp=Z,39nm,1.1s						
H62A	**Milan**	**34.04 332**		IAms_20	IAms_20	13 35 32.6	
	comp=Z,3μm,19.0s						
DIAM	**Diamantina, MG**	**34.22 169**		*e*P	**P**	**13 24 44.7**	**0.0**
KMSC	**Kings Mountain**	**34.22 311**		IAms_20	IAms_20	13 35 09.2	
	comp=Z,2μm,19.0s						
BBSD	**Serra de San D**	**34.23 198**		*e*P	**P**	**13 24 45.5**	**+0.9**
N58A	**Sunbury**	**34.26 323**		IAmb	IAmb	13 25 01.4	
	comp=Z,60nm,1.5s						
N58A				IAms_20	IAms_20	13 35 20.4	
	comp=Z,2μm,19.0s						
ACON	**Acoyapa**	**34.41 269**		IAmb	IAmb	13 24 51.0	
	comp=Z,78nm,1.4s						
TIGA	**Tifton**	**34.51 303**		IAms_20	IAms_20	13 36 57.0	
	comp=Z,2μm,19.0s						
JTS	**Las Juntas de**	**34.53 266**		LR	LR	13 38 56.7	
	comp=Z,428nm,21.5s,baz=82,slow=36						
JTS	**Las Juntas de**	**34.53 266**		*i* P	**P**	**13 24 47.5**	**+0.1**
JTS				pmax	pmax		
	comp=Z,23nm,1.2s						
BLA	**Blacksburg**	**34.56 314**		IAmb	IAmb	13 24 54.7	
	comp=Z,41nm,1.0s						
BLA				IAms_20	IAms_20	13 34 42.1	
	comp=Z,3μm,22.0s						
Q56A	**Snyder Ridge,**	**34.71 318**		IAms_20	IAms_20	13 35 24.5	
	comp=Z,2μm,19.0s						
553A	**Crawfordville**	**34.81 301**		IAms_20	IAms_20	13 40 46.9	
	comp=Z,2μm,19.0s						
M57A	**Sunshine Farm,**	**34.82 323**		P	**P**	**13 24 50.4**	**+0.8**
M57A				IAmb	IAmb	13 25 03.5	
	comp=Z,56nm,0.9s						
SSPA	**Standing Stone**	**34.83 321**		P	**P**	**13 24 50.9**	**+1.3**
ITRB	**Iturama**	**35.06 181**		*e*P	**P**	**13 24 53.4**	**+1.6**
SJMB	**Sao Joao De Ma**	**35.13 166**		*e*P	**P**	**13 24 51.9**	**-0.5**
U54A	**Nelsons Funny**	**35.20 312**		IAmb	IAmb	13 25 06.7	
	comp=Z,52nm,1.0s						
S54A	**Dingess, Beckl**	**35.46 315**		IAms_20	IAms_20	13 35 46.2	
	comp=Z,2μm,18.0s						
V53A	**Saluda**	**35.53 310**		IAmb	IAmb	13 25 00.1	
	comp=Z,114nm,1.8s						
V53A				IAms_20	IAms_20	13 36 34.0	
	comp=Z,2μm,19.0s						
L56A	**Greenwood**	**35.58 324**		IAmb	IAmb	13 25 00.8	
	comp=Z,106nm,1.7s						
L56A				IAms_20	IAms_20	13 36 20.2	
	comp=Z,2μm,22.0s						
352A	**Blakely**	**35.61 303**		IAms_20	IAms_20	13 37 60.0	
	comp=Z,2μm,21.0s						
Q54A	**Coxs Mills**	**35.75 317**		IAmb	IAmb	13 25 11.6	
	comp=Z,73nm,1.7s						
Q54A				IAms_20	IAms_20	13 35 55.8	
	comp=Z,2μm,18.0s						
152A	**Waverly Hall**	**35.83 305**		IAmb	IAmb	13 25 02.9	
	comp=Z,101nm,1.6s						
RPRD	**Ribas do Rio P**	**36.03 186**		*e*P	**P**	**13 25 02.0**	**+1.9**
W52A	**Murphy**	**36.12 309**		IAms_20	IAms_20	13 36 19.6	
	comp=Z,3μm,20.0s						
ATAH	**Atahualpa**	**36.13 233**		LR	LR	13 40 13.9	
	comp=Z,2μm,20.4s,baz=47,slow=37						
MMNY	**Mt. Morris Dam**	**36.16 324**		P	**P**	**13 25 02.5**	**+1.5**
TKL	**Tuckaleechee C**	**36.24 310**		P	**P**	**13 25 02.8**	**+1.0**
TKL	**Tuckaleechee C**	**36.24 310**		LR	LR	13 37 07.8	
	comp=Z,2μm,19.9s,baz=115,slow=32						
TKL	**Tuckaleechee C**	**36.24 310**		P	**P**	**13 25 02.8**	**+1.0**
TKL				pmax	pmax		
	comp=Z,152nm,1.8s						
AQDB	**Aquidauana**	**36.28 189**		P	**P**	**13 25 03.6**	**+1.4**
AQDB				IAmb	IAmb	13 25 08.6	
	comp=Z,75nm,1.1s						
AQDB	**Aquidauana**	**36.28 189**		*e*P	**P**	**13 25 04.3**	**+2.1**
P53A	**Whipple**	**36.38 317**		P	**P**	**13 25 03.9**	**+0.9**
P53A				IAmb	IAmb	13 25 09.5	
	comp=Z,137nm,1.6s						
P53A				IAms_20	IAms_20	13 36 50.5	
	comp=Z,2μm,19.0s						
LPAZ	**La Paz**	**36.41 210**		P	**P**	**13 25 03.2**	**-0.9**
LPAZ				IAmb	IAmb	13 25 17.4	
	comp=Z,69nm,0.9s						
LPAZ	**La Paz**	**36.41 210**		P	**P**	**13 25 05.0**	**+0.9**
	comp=Z,47nm,0.9s,baz=15,slow=6.2,SNR=44						
LPAZ				LR	LR	13 40 24.9	
	comp=Z,510nm,19.9s,baz=29,slow=37						
	comp=Z,47nm,0.9s						
LPAZ	**La Paz**	**36.41 210**		P	**P**	**13 25 03.2**	**-0.9**
LPAZ				pmax	pmax		
	comp=Z,69nm,1.0s						
LPAZ	**La Paz**	**36.41 210**		*e*P	**P**	**13 25 05.5**	**+1.3**
BB19B	**Bebedouro**	**36.44 178**		*e*P	**P**	**13 25 04.3**	**+0.7**
TZTN	**Tazewell**	**36.45 311**		P	**P**	**13 25 04.4**	**+0.7**
TZTN				IAmb	IAmb	13 25 17.4	
	comp=Z,48nm,1.1s						
TZTN				IAms_20	IAms_20	13 37 13.3	
	comp=Z,2μm,20.0s						
X51A	**Calhoun**	**36.62 308**		IAmb

WCI pmax pmax
comp=Z,29nm,0.8s
T47A Sharon Grove 39.24 310 IAMs_20 IAMs_20 13 38 08.0
comp=Z,2μm,21.0s
PLAL Pickwick Lake 39.24 307 IAmb IAmb 13 25 31.7
comp=Z,193nm,1.8s
O48B Farmland 39.28 316 P **P** **13 25 28.3 +0.9**
baz=119
146A Union 39.30 303 IAmb IAmb 13 25 41.8
comp=Z,99nm,1.3s
146A IAMs_20 IAMs_20 13 39 52.7
comp=Z,2μm,20.0s
346A Big Creek Wild 39.31 301 IAmb IAmb 13 25 35.5
comp=Z,76nm,1.1s
346A IAMs_20 IAMs_20 13 41 49.9
comp=Z,2μm,19.0s
AAM Ann Arbor 39.34 319 IAmb IAmb 13 25 41.3
comp=Z,98nm,1.1s
WVT Waverly 39.45 308 P **P** **13 25 29.8 +0.8**
WVT IAmb IAmb 13 25 32.9
comp=Z,149nm,1.9s
WVT Waverly 39.45 308 IAMs_20 IAMs_20 13 38 13.8
comp=Z,2μm,20.0s
WVT Waverly 39.45 308 P **P** **13 25 29.8 +0.8**
WVT pmax pmax
comp=Z,149nm,1.9s
VLDQ Val d'Or 39.58 331 IAmb IAmb 13 25 44.1
comp=Z,89nm,1.5s
I49A Point Hope 39.74 322 IAMs_20 IAMs_20 13 37 55.3
comp=Z,3μm,21.0s
545A Edgard 39.86 298 IAMs_20 IAMs_20 13 44 42.6
comp=Z,2μm,19.0s
Y45A Yeager Farm, C 40.04 304 IAmb IAmb 13 25 48.5
comp=Z,44nm,0.8s
Y45A IAMs_20 IAMs_20 13 37 52.3
comp=Z,2μm,21.0s
PTGB Pitanga 40.10 183 *eP* **P** **13 25 36.0 +1.5**
PB11 IPOC Station P 40.13 210 IAmb IAmb 13 25 45.6
comp=Z,66nm,0.9s
UTMT University of 40.31 308 IAmb IAmb 13 25 40.9
comp=Z,94nm,1.1s
VBMS Vicksburg 40.38 302 IAmb IAmb 13 25 41.8
comp=Z,193nm,1.6s
VBMS IAMs_20 IAMs_20 13 42 32.3
comp=Z,3μm,20.0s
P46A Rosedale 40.39 314 IAmb IAmb 13 25 43.8
comp=Z,42nm,0.8s
P46A IAMs_20 IAMs_20 13 38 40.5
comp=Z,2μm,21.0s
T45A Paducah 40.39 309 IAMs_20 IAMs_20 13 38 51.5
comp=Z,2μm,20.0s
CCIG Comitan 40.56 277 P **P** **13 25 38.5 -0.1**
CCIG IAmb IAmb 13 25 48.6
comp=Z,76nm,1.0s
J47A Sunmer 40.56 320 P **P** **13 25 39.1 +1.0**
J47A IAmb IAmb 13 25 51.1
comp=Z,71nm,1.1s
GLAT Glass 40.61 308 P **P** **13 25 39.4 +0.9**
GLAT IAmb IAmb 13 25 51.6
comp=Z,71nm,0.9s
SFIN Lafayette 40.65 315 P **P** **13 25 39.5 +0.6**
SFIN IAMs_20 IAMs_20 13 38 50.4
comp=Z,2μm,19.0s
TA02 Huaiquique 40.79 210 IAmb IAmb 13 25 51.2
comp=Z,51nm,0.9s
L46A Eue Claire 40.88 318 IAmb IAmb 13 25 44.2
comp=Z,111nm,1.6s
L46A IAMs_20 IAMs_20 13 39 04.4
comp=Z,2μm,20.0s
SIUC Southern Illin 41.07 310 IAmb IAmb 13 25 56.0
comp=Z,53nm,1.0s
TA01 Diego Aracena 41.07 210 IAmb IAmb 13 25 46.4
comp=Z,61nm,1.0s
S44A Carbondale 41.09 310 IAmb IAmb 13 25 56.1
comp=Z,63nm,1.1s
S44A IAMs_20 IAMs_20 13 39 15.0
comp=Z,2μm,19.0s
PARMO Parma 41.09 308 IAmb IAmb 13 25 49.2
comp=Z,86nm,1.1s
143A Socs Landing, 41.23 302 IAmb IAmb 13 25 49.2
comp=Z,70nm,0.9s
143A IAMs_20 IAMs_20 13 41 45.7
comp=Z,2μm,19.0s
GLMI Grayling 41.30 322 IAMs_20 IAMs_20 13 39 25.9
comp=Z,2μm,21.0s
SCHQ Schefferville 41.31 345 P **P** **13 25 44.7 +0.6**
comp=Z,6.3nm,1.1s,baz=153,slow=14,SNR=7.4
SCHQ LR LR 13 40 21.3
comp=Z,3μm,21.4s,baz=164,slow=32
comp=Z,6.3nm,1.1s
Q44A Meyer Farm, Va 41.37 312 IAmb IAmb 13 25 58.4
comp=Z,68nm,0.8s
Q44A IAMs_20 IAMs_20 13 40 38.6
comp=Z,2μm,18.0s
PBMO Poplar Bluff 41.65 308 IAmb IAmb 13 25 50.3
comp=Z,131nm,2.0s
PB09 IPOC Station P 41.70 208 IAmb IAmb 13 26 05.4
comp=Z,82nm,1.2s
M44A Midewin, Midew 41.74 316 IAmb IAmb 13 25 54.7
comp=Z,110nm,1.6s
HQIL Hanson Quary C 41.80 316 IAMs_20 IAMs_20 13 41 57.9
comp=Z,2μm,21.0s
I45A Fountain 41.85 320 IAMs_20 IAMs_20 13 39 12.3
comp=Z,2μm,21.0s
L44A Lake County Fo 42.01 317 IAmb IAmb 13 26 03.1
comp=Z,84nm,1.1s
L44A IAMs_20 IAMs_20 13 39 40.5
comp=Z,2μm,19.0s
L44A Lake County Fo 42.01 317 P **P** **13 25 51.1 +1.1**
baz=118
P43A Skaggs, Pawnee 42.02 313 IAmb IAmb 13 26 03.4
comp=Z,46nm,1.0s
P43A IAMs_20 IAMs_20 13 39 17.8
comp=Z,2μm,22.0s
FVM French Village 42.06 310 IAmb IAmb 13 25 57.1
comp=Z,36nm,0.8s
H10N3 ASCENSION HYDR 42.09 121 T T 14 10 27.5
baz=304,slow=75,SNR=110
H10N2 ASCENSION HYDR 42.10 121 T T 14 10 27.7
baz=304,slow=75,SNR=210
H10N1 ASCENSION HYDR 42.11 121 T T 14 10 28.9
baz=304,slow=75,SNR=242
HDIL Hopedale 42.24 314 IAmb IAmb 13 26 04.9
comp=Z,48nm,0.8s
HDIL IAMs_20 IAMs_20 13 40 24.4
comp=Z,2μm,19.0s
CPUP Villa Florida 42.28 190 P **P** **13 25 52.8 +0.6**
CPUP Villa Florida 42.28 190 P **P** **13 25 52.5 +0.3**
comp=Z,20nm,1.0s,baz=15,slow=8.3,SNR=16
CPUP LR LR 13 43 02.5
comp=Z,774nm,21.1s,baz=12,slow=36
comp=Z,20nm,1.0s
CPUP Villa Florida 42.28 190 P **P** **13 25 52.8 +0.6**
CPUP pmax pmax
comp=Z,45nm,1.0s
PTEO Sao Teotonio 42.40 51 *eP* **P** **13 25 58.0 +4.7**
UALR University of 42.52 305 IAmb IAmb 13 25 58.1
comp=Z,157nm,1.9s
PB04 IPOC Station P 42.58 208 P **P** **13 25 54.6 -0.4**
PB04 IAmb IAmb 13 26 09.4
comp=Z,64nm,1.0s
H10S3 ASCENSION HYDR 42.58 123 T T 14 11 06.8
baz=300,slow=74,SNR=82
H10S2 ASCENSION HYDR 42.60 123 T T 14 11 08.2
baz=280,slow=74,SNR=80
ITAB Concordia 42.61 183 *eP* **P** **13 25 56.3 +1.3**
PB06 IPOC Station P 42.64 207 P **P** **13 25 55.3 -0.2**
CCM Cathedral Cave 42.69 310 P **P** **13 25 55.7 +0.1**
CCM Cathedral Cave 42.69 310 IAMs_20 IAMs_20 13 40 03.4
comp=Z,2μm,21.0s
CCM Cathedral Cave 42.69 310 P **P** **13 25 55.7 +0.1**
CCM pmax pmax
comp=Z,43nm,1.2s
X40A Basin Creek Fa 42.83 304 IAmb IAmb 13 25 59.7
comp=Z,84nm,1.6s
WLAR White Oak Lake 42.86 303 IAmb IAmb 13 26 04.6
comp=Z,84nm,0.9s
PBDV Barranco-do-Ve 42.90 52 *eP* P 13 26 02.8 +5.4
PBDV A A 13 26 19.4
comp=Z,121nm,1.6s
PCVE Castro Verde 42.94 51 *eP* P 13 26 03.3 +5.6
H43A Windswept, Lux 43.02 320 IAMs_20 IAMs_20 13 40 08.2
comp=Z,2μm,22.0s
PB15 IPOC Station P 43.04 207 IAmb IAmb 13 26 10.4
comp=Z,45nm,0.8s
L42A Oliver, Polo 43.10 316 IAmb IAmb 13 26 12.0
comp=Z,68nm,0.9s
CMIG Matias Romero 43.12 278 LR LR 13 43 42.4
comp=Z,139nm,21.0s,baz=80,slow=36
EVO Evora 43.27 50 P P 13 26 06.8 +6.5
PMTG Montargil 43.30 49 *eP* **P** **13 26 05.2 +4.7**
PCAS Casmilo, Conde 43.46 48 *eP* P 13 26 06.8 +5.0
I42A Draeger Farm, 43.46 319 IAMs_20 IAMs_20 13 40 33.9
comp=Z,2μm,22.0s
R40A Maddies Statio 43.53 310 IAmb IAmb 13 26 14.9
comp=Z,41nm,1.0s
R40A IAMs_20 IAMs_20 13 41 12.6
comp=Z,2μm,20.0s
PESTR Estremoz 43.69 50 *eP* **P** **13 26 07.3 +3.6**
P40A Paris 43.79 311 IAmb IAmb 13 26 10.7
comp=Z,43nm,0.8s
P40A IAMs_20 IAMs_20 13 41 22.6
comp=Z,2μm,18.0s
PBAR Barrancos 43.87 51 *eP* **P** **13 26 08.9 +3.8**
PBAR A A 13 26 15.0
comp=Z,38nm,1.9s
JFWS Jewell Farm 43.89 317 IAMs_20 IAMs_20 13 40 37.1
comp=Z,2μm,22.0s
JFWS Jewell Farm 43.89 317 IAmb IAmb 13 26 18.1
comp=Z,37nm,0.8s
F42A Maple Grove Fa 43.90 321 IAMs_20 IAMs_20 13 40 33.3
comp=Z,2μm,22.0s
PMRV Marv??o 44.03 49 *eP* **P** **13 26 10.8 +4.3**
PCBR Castelo Branco 44.11 48 *eP* **P** **13 26 11.6 +4.5**
S39A Bolivar 44.12 308 IAmb IAmb 13 26 19.7
comp=Z,54nm,1.0s
S39A IAMs_20 IAMs_20 13 41 08.4
comp=Z,2μm,21.0s
PVIS Viseu 44.14 47 *eP* P 13 26 12.4 +5.1
L40A Anamosa 44.18 315 IAmb IAmb 13 26 20.1
comp=Z,66nm,1.0s
L40A IAMs_20 IAMs_20 13 40 57.9
comp=Z,2μm,19.0s
MTE Manteigas 44.27 47 *eP* **P** **13 26 12.8 +4.4**
MTE A A 13 26 13.7
comp=Z,58nm,1.2s
Z38A Mt. Pleasant 44.28 302 IAMs_20 IAMs_20 13 43 05.7
comp=Z,2μm,19.0s
PGAV Gavieira, Arco 44.36 45 *eP* **P** **13 26 13.9 +4.7**
HKT Hockley 44.41 297 P **P** **13 26 10.2 +0.7**
HKT IAmb IAmb 13 26 16.5
comp=Z,33nm,1.0s
HKT Hockley 44.41 297 *i* P **P** **13 26 09.3 -0.2**
HKT pmax pmax
comp=Z,38nm,1.0s
POLO Lamas de Olo 44.46 46 *eP* **P** **13 26 14.6 +4.7**
I40A Norwalk 44.56 318 IAmb IAmb 13 26 23.1
comp=Z,26nm,0.8s
I40A IAMs_20 IAMs_20 13 41 18.8
comp=Z,2μm,18.0s
U38A Gravette 44.57 306 **P** **13 26 11.3 +0.4**
U38A IAmb IAmb 13 26 13.8
comp=Z,70nm,1.9s
U38A IAMs_20 IAMs_20 13 41 32.3
comp=Z,2μm,20.0s
COWI Conover 44.67 321 IAMs_20 IAMs_20 13 41 07.9
comp=Z,2μm,21.0s
PB14 IPOC Station P 44.68 207 P **P** **13 26 11.9 -0.2**
PB14 IAmb IAmb 13 26 23.4
comp=Z,70nm,1.0s
GO02 Mina Guanaco 44.81 206 IAmb IAmb 13 26 24.4
comp=Z,45nm,0.8s
P38A Dawn 44.90 311 IAmb IAmb 13 26 26.1
comp=Z,63nm,0.9s
MVO Moncorvo 44.91 47 *eP* **P** **13 26 18.0 +4.4**
G40A Rib Lake 44.92 320 IAmb IAmb 13 26 21.2
comp=Z,108nm,1.8s
G40A IAMs_20 IAMs_20 13 41 18.5
comp=Z,2μm,22.0s
DBIC Dimbokro 45.00 96 P **P** **13 26 12.8 -1.8**
comp=Z,6.7nm,0.8s,baz=271,slow=9.5,SNR=5.8
DBIC LR LR 13 41 07.4
comp=Z,920nm,21.3s,baz=270,slow=31
comp=Z,6.7nm,0.8s
N38A Joes South For 45.09 313 IAMs_20 IAMs_20 13 42 45.0
comp=Z,2μm,19.0s
PBRG Braganca 45.35 46 *eP* **P** **13 26 21.6 +4.6**
PBRG A A 13 26 27.9
comp=Z,39nm,1.4s
ITQB Itaqui 45.45 188 P **P** **13 26 17.9 +0.2**
ITQB Itaqui 45.45 188 *eP* **P** **13 26 18.6 +0.8**
SCIA State Center 45.49 314 P **P** **13 26 19.0 +1.0**
SCIA IAmb IAmb 13 26 29.6
comp=Z,73nm,1.4s
TUL3 Leonard 45.54 305 **P** **13 26 18.1 -0.4**
TUL3 IAmb IAmb 13 26 31.3
comp=Z,55nm,1.0s
CPSB Cacapava Do Su 45.84 184 *eP* **P** **13 26 21.9 +1.0**
435B Jarrell 46.02 298 IAmb IAmb 13 26 28.9
comp=Z,39nm,0.8s
435B IAMs_20 IAMs_20 13 47 11.8
comp=Z,1μm,20.0s
435B Jarrell 46.02 298 P **P** **13 26 23.4 +1.0**
baz=98
WHTX Lake Whitney, 46.10 300 IAMs_20 IAMs_20 13 46 37.7
comp=Z,2μm,18.0s
Z35A Perchaven, San 46.16 301 IAMs_20 IAMs_20 13 45 03.3
comp=Z,2μm,18.0s
T35A Sooner Cattle 46.35 306 IAmb IAmb 13 26 28.2
comp=Z,42nm,1.2s
OK031 S. Brethren Rd 46.37 305 IAMs_20 IAMs_20 13 41 26.9
comp=Z,2μm,20.0s
OK051 E0350 and S346 46.50 306 IAMs_20 IAMs_20 13 43 57.3
comp=Z,1μm,18.0s
SPMN Marine on St. 46.55 318 IAMs_20 IAMs_20 13 42 32.4
comp=Z,2μm,20.0s
ESDC Sonseca Array 46.62 50 P **P** **13 26 27.4 +0.4**
ESDC Sonseca Array 46.62 50 P **P** **13 26 25.2 -1.8**
comp=Z,3.2nm,1.1s,baz=266,slow=8.7,SNR=8.1
ESDC PcP **PcP** **13 28 00.5 -0.4**
comp=Z,1.8nm,1.1s,baz=280,slow=3.4,SNR=2.3
ESDC LR LR 13 41 27.8
comp=Z,711nm,19.8s,baz=252,slow=30
comp=Z,3.2nm,1.1s
FNO Franklin 46.66 304 IAmb IAmb 13 26 33.8
comp=Z,34nm,0.9s
FW03 Perrin-Whitt E 46.78 301 IAmb IAmb 13 26 43.1
comp=Z,36nm,0.7s
EYMN Ely 46.99 322 IAMs_20 IAMs_20 13 43 12.1
comp=Z,1μm,20.0s
GO03 Copiapo 47.23 205 IAmb IAmb 13 26 42.1
comp=Z,23nm,0.9s
WTFS Witchita Falls 47.23 302 IAmb IAmb 13 26 38.4
comp=Z,46nm,1.0s
833A Chaparral WMA, 47.32 294 P **P** **13 26 33.3 +0.7**
baz=95,SNR=16
KAN17 Caldwell West 47.35 306 IAmb IAmb 13 26 39.1
comp=Z,44nm,0.9s
WMOK Wichita Mounta 47.67 303 IAMs_20 IAMs_20 13 44 00.3
comp=Z,2μm,20.0s
WMOK Wichita Mounta 47.67 303 IAmb IAmb 13 26 41.2
comp=Z,30nm,1.1s
L34A Svendsen Farm, 47.72 313 IAMs_20 IAMs_20 13 43 45.4
comp=Z,2μm,20.0s
JCT Junction City 47.88 297 IAmb IAmb 13 26 43.1
comp=Z,40nm,0.8s
ABTX Abilene, Hawle 48.02 300 IAmb IAmb 13 26 43.8
comp=Z,46nm,1.1s
ABTX IAMs_20 IAMs_20 13 48 50.7
comp=Z,1μm,18.0s
AC04 Llanos de Chal 48.11 205 P **P** **13 26 38.7 +0.1**
R32A Long Quarter, 48.41 308 P **P** **13 26 42.0 +1.0**
R32A IAMs_20 IAMs_20 13 44 36.9
comp=Z,2μm,20.0s
ECSD EROS Data Cent 48.48 315 IAmb IAmb 13 26 46.9
comp=Z,18nm,0.8s
DRIO Del Rio 48.48 296 IAmb IAmb 13 26 45.0
comp=Z,49nm,1.3s
BGNE Belgrade 48.80 312 IAMs_20 IAMs_20 13 44 20.2
comp=Z,2μm,20.0s
SMWD Samnorwood 48.92 303 IAmb IAmb 13 26 51.0
comp=Z,27nm,0.8s
F33A 5 Mile Ranch, 49.04 318 IAmb IAmb 13 28 30.5
comp=Z,50nm,1.6s
F33A IAMs_20 IAMs_20 13 43 59.4
comp=Z,2μm,19.0s
OZNA Ozona 49.06 298 IAmb IAmb 13 26 52.2
comp=Z,35nm,0.9s
SN05 Snyder 5 49.09 300 IAmb IAmb 13 26 59.3
comp=Z,52nm,1.6s
SN07 Snyder 07 49.13 300 IAmb IAmb 13 26 53.8
comp=Z,19nm,0.8s
DKNS Dickens 49.24 301 IAmb IAmb 13 26 53.5
comp=Z,30nm,0.9s
POST Post 49.63 300 IAmb IAmb 13 26 56.6
comp=Z,42nm,0.8s
ACRG Accra 49.73 96 P **P** **13 26 50.3 -1.1**
ACRG IAmb IAmb 13 27 07.5
comp=Z,58nm,1.1s
AGMN Agassiz Nation 49.75 321 P **P** **13 26 51.5 +0.4**
FRB Frobisher Bay 49.82 349 LR LR 13 47 03.5
comp=Z,597nm,18.6s,baz=146,slow=35
SAND Sanderson 49.83 296 IAmb IAmb 13 27 06.1
comp=Z,24nm,0.8s
TORD Torodi Ar. Bea 49.95 86 P **P** **13 26 49.9 -3.2**
comp=Z,4.9nm,0.8s,baz=293,slow=7.5,SNR=15
TORD LR LR 13 44 43.5
comp=Z,780nm,21.3s,baz=276,slow=32
comp=Z,4.9nm,0.8s
AMTX Amarillo 50.04 303 P **P** **13 26 54.5 +0.9**
AMTX IAmb IAmb 13 27 01.4
comp=Z,38nm,0.8s
AMTX IAMs_20 IAMs_20 13 45 35.2
comp=Z,2μm,21.0s
ZON Zonda 50.20 201 IAmb IAmb 13 26 56.8
comp=Z,80nm,1.8s
K30B Basset 50.22 313 IAmb IAmb 13 27 07.2
comp=Z,33nm,0.7s
SUSD Miller 50.31 315 IAMs_20 IAMs_20 13 44 37.0
comp=Z,1μm,20.0s
CO06 Fray Jorge 50.51 204 IAmb IAmb 13 27 09.6
comp=Z,65nm,1.2s
ULM Lac du Bonnet 50.60 323 IAmb IAmb 13 27 11.4
comp=Z,50nm,1.4s
ULM Lac du Bonnet 50.60 323 P **P** **13 26 57.3 -0.1**
comp=Z,14nm,0.7s,baz=123,slow=7.8,SNR=12
ULM LR LR 13 45 22.5
comp=Z,1μm,21.5s,baz=113,slow=32
comp=Z,14nm,0.7s
ULM Lac du Bonnet 50.60 323 *i* P **P** **13 26 55.2 -2.3**
MSTX Muleshoe 50.80 301 IAmb IAmb 13 27 05.6
comp=Z,60nm,0.9s
MSTX IAMs_20 IAMs_20 13 48 29.4
comp=Z,1μm,19.0s
DY2G Dye2 50.91 2 *eP* P 13 27 06.5 +6.7
TXAR Lajitas Array 51.13 295 P **P** **13 27 02.8 +0.9**
TXAR Lajitas Array 51.13 295 P **P** **13 27 02.6 +0.8**
comp=Z,4.2nm,0.6s,baz=99,slow=6.6,SNR=63
TXAR PcP **PcP** **13 28 18.0 +0.5**
comp=Z,2.7nm,0.8s,baz=126,slow=6.1,SNR=1.5
TXAR LR LR 13 51 03.1
comp=Z,269nm,18.5s,baz=70,slow=39
comp=Z,4.2nm,0.6s
RTBA Rita Blanca 51.14 304 IAmb IAmb 13 27 08.0
comp=Z,38nm,1.0s
ALPN Alpine 51.17 297 IAmb IAmb 13 27 08.0
comp=Z,32nm,0.9s
SFJD Kangerlussuaq 51.38 360 LR LR 13 46 16.1
comp=Z,405nm,19.3s,baz=178,slow=33
OGNE Ogallala 51.51 310 IAmb IAmb 13 27 16.7
comp=Z,64nm,1.1s
OGNE IAMs_20 IAMs_20 13 46 13.8
comp=Z,2μm,20.0s
KSCO Kaye Shedlock' 51.53 308 IAMs_20 IAMs_20 13 45 38.5
comp=Z,1μm,21.0s
MDND Maddock 51.89 319 IAmb IAmb 13 27 11.0
comp=Z,96nm,1.5s
MDND IAMs_20 IAMs_20 13 45 20.8
comp=Z,2μm,22.0s
VA03 San Esteban 51.97 202 IAmb IAmb 13 27 19.1
comp=Z,32nm,0.8s
E28A Huff 52.16 317 IAmb IAmb 13 27 22.2
comp=Z,40nm,0.8s
E28A IAMs_20 IAMs_20 13 45 54.9
comp=Z,1μm,18.0s
VHRN Van Horn 52.36 297 IAmb IAmb 13 27 18.4
comp=Z,42nm,1.0s
MT16 CCHEN 52.55 202 IAmb IAmb 13 27 23.4
comp=Z,71nm,1.1s
T25A Trinidad 52.58 305 P **P** **13 27 13.8 +1.0**
baz=99,SNR=14
TAM Tamanrasset 52.60 73 P **P** **13 27 13.6 +0.6**
TAM Tamanrasset 52.60 73 P **P** **13 27 13.6 +0.6**
TAM pmax pmax
comp=Z,47nm,2.0s
MT02 Curacav 52.62 202 IAmb IAmb 13 27 14.7
comp=Z,72nm,1.6s
HPIG 52.82 292 IAmb IAmb 13 27 28.8
comp=Z,28nm,0.9s
BORG Borgarnes 52.84 15 LR LR 13 44 14.8
comp=Z,228nm,18.5s,baz=205,slow=30
MT09 Talagante 53.03 202 IAmb IAmb 13 27 26.7
comp=Z,36nm,0.8s
BO04 La Punta 53.09 202 IAmb IAmb 13 27 27.2
comp=Z,32nm,1.0s
BRIGG Briggsdale 53.12 309 IAmb IAmb 13 27 23.3
comp=Z,25nm,0.8s
BRIGG IAMs_20 IAMs_20 13 47 43.9
comp=Z,1μm,19.0s
EKA Eskdalemuir Ar 53.39 31 P **P** **13 27 18.0 -0.1**
comp=Z,3.1nm,1.0s,baz=248,slow=11,SNR=2.7
EKA PcP **PcP** **13 28 23.7 -1.6**
comp=Z,0.8nm,0.6s,baz=236,slow=7.6,SNR=1.6
comp=Z,3.1nm,1.0s
Q24A Divide 53.45 307 P **P** **13 27 20.7 +1.4**
baz=100,SNR=9.6
CLF Chambon-Foret 53.52 41 IAmb IAmb 13 27 33.8
comp=Z,71nm,1.4s
BO01 Tunca 53.62 202 IAmb IAmb 13 27 31.4
comp=Z,42nm,0.9s
RSSD Black Hills 53.71 314 P **P** **13 27 21.8 +0.8**
RSSD Black Hills 53.71 314 IAMs_20 IAMs_20 13 48 05.1
comp=Z,1μm,19.0s
RSSD Black Hills 53.71 314 P **P** **13 27 21.8 +0.8**
RSSD pmax pmax
comp=Z,17nm,1.0s
EPT El Paso 53.72 298 IAMs_20 IAMs_20 13 51 30.6
comp=Z,1μm,19.0s
BO02 Sierra Bellavi 53.88 201 IAmb IAmb 13 27 33.3
comp=Z,36nm,0.9s
ANMO Albuquerque 53.94 302 P **P** **13 27 24.1 +1.3**
ANMO Albuquerque 53.94 302 LR LR 13 49 23.2
comp=Z,1μm,19.8s,baz=258,slow=35
ANMO Albuquerque 53.94 302 *ceP* **P** **13 27 21.7 -1.1**
ANMO pmax pmax
comp=Z,18nm,1.7s
ISCO Idaho Springs 53.95 308 IAMs_20 IAMs_20 13 47 08.5
comp=Z,2μm,22.0s
Y22D IRIS PASSCAL I 54.24 301 IAMs_20 IAMs_20 13 50 12.3
comp=Z,1μm,19.0s
Y22D IRIS PASSCAL I 54.24 301 P **P** **13 27 26.2 +1.3**
baz=95
N23A Red Feather La 54.39 309 IAmb IAmb 13 27 39.1
comp=Z,44nm,1.1s
N23A Red Feather La 54.39 309 P **P** **13 27 27.1 +1.0**
baz=101,SNR=18
TRQA Tornquist 54.54 192 IAMs_20 IAMs_20 13 50 52.8
comp=Z,1μm,19.0s
S22A 4UR Ranch, Cre 54.57 305 P **P** **13 27 28.8 +1.4**
baz=98,SNR=24
121A Cookes Peak, D 54.85 299 P **P** **13 27 30.5 +1.1**
baz=94,SNR=18
K22A Casper 55.15 311 IAMs_20 IAMs_20 13 48 12.3
comp=Z,1μm,21.0s
DOU Dourbes 55.63 39 *dP* **P** **13 27 35.1 +0.6**
UCC Uccle 55.71 39 *dP* **P** **13 27 37.1 +2.1**
BI02 San Fabin de 55.74 201 IAmb IAmb 13 27 46.9
comp=Z,44nm,0.9s
BMRD Maredsous 55.80 39 *dP* **P** **13 27 37.5 +1.8**
MVCO Mesa Verde 55.83 305 IAmb IAmb 13 27 55.4
comp=Z,38nm,1.3s
MVCO IAMs_20 IAMs_20 13 47 27.1
comp=Z,1μm,21.0s
LAO LASA Array 55.84 316 P **P** **13 27 36.7 +0.5**
LAO IAmb IAmb 13 27 50.2
comp=Z,29nm,0.8s
O20A White River Ci 56.00 308 P **P** **13 27 38.0 +0.4**
O20A IAmb IAmb 13 27 44.2
comp=Z,30nm,1.2s
BGES Gesves 56.02 39 *dP* **P** **13 27 36.2 -1.1**
comp=Z,12nm,1.0s
RCHB Rochefort 56.04 40 *dP* **P** **13 27 38.5 +1.1**
BCLA Clavier 56.16 39 *dP* **P** **13 27 36.9 -1.4**
comp=Z,7.7nm,1.3s
VA04 Juan Fernndez 56.18 209 P **P** **13 27 39.0 +0.4**
KEST Kesra 56.22 57 IAmb IAmb 13 27 44.6
comp=Z,20nm,0.8s
KEST Kesra 56.22 57 P **P** **13 27 38.2 -0.9**
comp=Z,5.4nm,0.7s,baz=243,slow=2.3,SNR=5.0
comp=Z,5.4nm,0.7s
WLF Walferdange 56.46 40 *dP* **P** **13 27 41.8 +1.3**
BHOU Houvegnez 56.57 39 *dx* x 13 27 46.0
MEM Membach 56.65 39 *dP* **P** **13 27 43.2 +1.4**

BTNL Ternell 56.72 39 *d*P **P 13 27 44.3 +2.0**
BTNL *dx* x 13 28 21.1
X18A Snowflake 56.78 301 IAmb IAmb 13 27 50.5
comp=Z,28nm,0.9s
SLBS Sierra La Lagu 56.78 288 P **P 13 27 43.5 +0.2**
SLBS IAmb IAmb 13 27 50.7
comp=Z,58nm,1.6s
RDMU Red Mountain 57.06 308 IAmb IAmb 13 27 49.1
comp=Z,92nm,1.7s
PD31 Pinedale Array 57.37 311 IAmb IAmb 13 27 59.9
comp=Z,28nm,1.1s
PDAR Pinedale Array 57.37 311 P **P 13 27 47.5 +0.1**
PDAR Pinedale Array 57.37 311 P **P 13 27 47.7 +0.3**
comp=Z,2.6nm,0.6s,baz=107,slow=8.2,SNR=24
comp=Z,2.6nm,0.6s
SUMG Summit 57.38 4 P **P 13 27 47.8 +0.7**
SUMG IAmb IAmb 13 27 56.0
comp=Z,90nm,1.8s
SUMG Summit 57.38 4 P **P 13 27 47.8 +0.7**
SUMG pmax pmax
comp=Z,90nm,1.8s
SUMG Summit 57.38 4 *i* P **P 13 27 48.0 +0.9**
P18A Preston Nutter 57.46 307 IAmb IAmb 13 28 00.6
comp=Z,24nm,1.0s
BFO Black Forest 57.50 42 P **P 13 27 48.6 +0.7**
BFO Black Forest 57.50 42 P **P 13 27 48.6 +0.7**
BFO pmax pmax
comp=Z,13nm,1.0s
BFO Black Forest 57.50 42 *e*P **P 13 27 47.7 -0.3**
comp=Z,7.5nm,0.9s,baz=255,slow=7.0
RLMT Red Lodge 57.57 314 IAmb IAmb 13 28 01.9
comp=Z,32nm,1.2s
SRU San Rafael Swe 57.62 307 IAmb IAmb 13 28 04.7
comp=Z,24nm,0.9s
TUE Stuetta 57.77 45 P **P 13 27 49.0 -1.0**
TUE Stuetta 57.77 45 P **P 13 27 47.6 -2.4**
comp=Z,64nm,1.7s
BSUT Blindstream Ca 57.96 308 IAmb IAmb 13 28 07.2
comp=Z,22nm,1.0s
WUAZ Wupatki 58.00 302 IAmb IAmb 13 27 59.3
comp=Z,34nm,1.0s
WUAZ IAMs_20 IAMs_20 13 48 44.8
comp=Z,1µm,20.0s
TNS Taunus Mts 58.04 40 *e*P **P 13 27 52.4 +0.7**
comp=Z,5.7nm,0.7s,baz=255,slow=7.0
Q16A Castle Valley 58.10 306 IAmb IAmb 13 28 14.8
comp=Z,20nm,0.9s
YMP Mirror Lake Pl 58.13 313 IAmb IAmb 13 28 14.6
comp=Z,39nm,1.1s
STU Stuttgart 58.16 42 *e*P **P 13 27 52.6 0.0**
comp=Z,40nm,1.0s,baz=255,slow=7.0
TMUT Trail Mountain 58.17 307 IAmb IAmb 13 28 07.7
comp=Z,20nm,0.9s
DAVOX Davos/Dischmat 58.19 44 LR LR 13 51 17.9
comp=Z,488nm,18.0s,baz=253,slow=34
IBBN Ibbenburen 58.19 38 *e*P **P 13 27 54.2 +1.6**
comp=Z,12nm,0.8s,baz=255,slow=7.0
LOHW Long Hollow 58.26 312 IAmb IAmb 13 28 06.3
comp=Z,33nm,1.4s
KASTN Kahler Asten 58.28 39 *e*P **P 13 27 54.5 +1.2**
comp=Z,8.7nm,1.2s,baz=255,slow=7.0
DAVA Damuels 58.29 44 *e*P **P 13 27 53.2 -0.4**
comp=Z,36nm,1.3s
FLWY Flagg Ranch 58.40 312 IAmb IAmb 13 28 07.7
comp=Z,46nm,1.1s
FUORN Ofenpass-Fuorn 58.42 45 P **P 13 27 54.6 -0.1**
EGMT Eagleton 58.48 317 IAmb IAmb 13 28 08.1
comp=Z,39nm,0.9s
TPAW Teton Pass 58.49 312 IAmb IAmb 13 28 08.2
comp=Z,38nm,1.1s
TPAW IAMs_20 IAMs_20 13 50 30.8
comp=Z,1µm,19.0s
AHID Auburn Hatcher 58.50 311 IAmb IAmb 13 27 58.4
comp=Z,48nm,1.6s
AHID IAMs_20 IAMs_20 13 50 44.8
comp=Z,1µm,19.0s
TCUT Toone Canyon 58.52 309 IAmb IAmb 13 28 07.7
comp=Z,36nm,0.9s
UBR Ueberruh 58.52 43 *e*P **P 13 27 54.9 -0.2**
comp=Z,11nm,0.9s,baz=255,slow=7.0
MPU Maple Canyon 58.56 308 IAmb IAmb 13 28 10.0
comp=Z,30nm,1.2s
FXWY Fox Creek 58.57 312 IAmb IAmb 13 28 08.5
comp=Z,26nm,1.3s
YMR Madison River 58.68 313 IAmb IAmb 13 28 10.9
comp=Z,50nm,1.2s
CTU Camp Tracy 58.73 308 IAmb IAmb 13 28 10.0
comp=Z,43nm,1.5s
U15A North Rim 58.80 303 IAmb IAmb 13 28 05.2
comp=Z,29nm,0.9s
FETA Feichten 58.81 44 *e*P **P 13 27 56.8 -0.5**
comp=Z,48nm,1.0s
MTPU Mount Pierson 58.82 305 IAmb IAmb 13 28 05.2
comp=Z,29nm,0.9s
RETA Reutte 58.92 44 *e*P **P 13 27 57.3 -0.6**
comp=Z,14nm,1.1s
MOTA Moosalm 59.12 44 *e*P **P 13 27 58.6 -0.8**
comp=Z,29nm,0.9s
UBBA Unterbreizbach 59.15 40 *e*P **P 13 28 00.0 +0.8**
comp=Z,18nm,1.5s,baz=255,slow=7.0
SQTA Sankt Quirin 59.17 44 *i* P **P 13 27 59.1 -0.6**
comp=Z,47nm,1.0s
PLCA Paso Flores 59.21 198 P **P 13 28 00.3 +0.4**
PLCA Paso Flores 59.21 198 P **P 13 28 00.3 +0.4**
PLCA pmax pmax
comp=Z,55nm,1.0s
PLCA Paso Flores 59.21 198 *e*P **P 13 28 00.6 +0.7**
Y14A Wickenburg 59.28 300 IAmb IAmb 13 28 05.1
comp=Z,75nm,1.9s
BOZ Bozeman (W) 59.30 314 IAMs_20 IAMs_20 13 48 38.9
comp=Z,1µm,20.0s
CESX Cesi 59.43 50 IAmb IAmb 13 28 07.4
comp=Z,24nm,1.0s
WATA Walderalm 59.43 44 *e*P **P 13 28 01.1 -0.5**
comp=Z,30nm,1.2s
WTTA Wattenberg 59.46 44 *e*P **P 13 28 00.9 -0.9**
comp=Z,22nm,1.1s
DUG Dugway, Tooele 59.48 308 IAMs_20 IAMs_20 13 50 43.0
comp=Z,1µm,21.0s
HVU Hansel Valley 59.61 309 IAmb IAmb 13 28 23.4
comp=Z,18nm,1.0s
CLZ Clausthal 59.62 39 *e*P **P 13 28 04.1 +1.5**
comp=Z,8.5nm,1.0s,baz=255,slow=7.0
NRDL Niedersach Rie 59.63 38 *e*P **P 13 28 04.7 +2.2**
comp=Z,23nm,1.2s,baz=255,slow=7.0
ABTA Abfaltersbach 59.96 45 *e*P **P 13 28 04.2 -1.0**
comp=Z,24nm,1.1s
MOX Moxa 60.11 40 *e*P **P 13 28 06.9 +0.9**
comp=Z,5.0nm,1.1s,baz=255,slow=7.0
BSEG Bad Segeberg 60.12 36 *e*P **P 13 28 07.5 +1.6**
comp=Z,8.9nm,0.8s,baz=255,slow=7.0
LESA Schwarzleotal 60.19 44 *e*P **P 13 28 05.5 -1.2**
comp=Z,15nm,1.2s
FLTG Flechtingen 60.26 38 *e*P **P 13 28 08.2 +1.3**
comp=Z,9.1nm,1.0s,baz=255,slow=7.0
MANZ Manzenberg 60.28 41 *e*P **P 13 28 07.6 +0.4**
baz=255,slow=7.0
ROTZ Rotzenmuhle 60.30 41 *e*P **P 13 28 07.6 +0.3**
comp=Z,4.1nm,1.4s,baz=255,slow=7.0
RJOB Jochberg 60.32 44 *e*P **P 13 28 07.2 -0.3**
comp=Z,14nm,1.1s,baz=255,slow=7.0
BLYC Blythe 60.54 300 IAmb IAmb 13 28 13.7
comp=Z,40nm,1.4s
KBA Koelnbreinsper 60.58 44 *e*P **P 13 28 08.2 -1.3**
comp=Z,13nm,1.1s
TANN Tannenbergstha 60.59 41 *e*P **P 13 28 10.5 +1.1**
baz=255,slow=7.0
WET Wettzell 60.62 42 *e*P **P 13 28 08.8 -0.7**
comp=Z,5.6nm,1.0s,baz=255,slow=7.0
MYKA Terra Mystica 60.71 45 *e*P **P 13 28 10.0 -0.3**
comp=Z,14nm,1.2s
JMIC Jan Mayen 60.72 14 LR LR 13 48 13.0
comp=Z,276nm,20.3s,baz=226,slow=30
PAOL Paolisi 60.75 51 IAmb IAmb 13 28 17.2
comp=Z,51nm,1.2s
GLA Glamis 60.79 299 IAmb IAmb 13 28 15.4
comp=Z,74nm,1.8s
SFX San Felipe 60.84 297 IAmb IAmb 13 28 18.8
comp=Z,38nm,1.0s
BIOA Bad Ischl, Aus 60.87 44 *e*P **P 13 28 11.1 -0.1**
comp=Z,16nm,1.1s
Q12A Willow Creek R 60.95 306 IAmb IAmb 13 28 27.7
comp=Z,26nm,0.9s
KHC Kasperske Hory 61.07 42 *e*P **P 13 28 11.3 -1.3**
KHC Kasperske Hory 61.07 42 *ce*P **P 13 28 12.4 -0.2**
KHC pmax pmax
comp=Z,36nm,1.7s
KHC Kasperske Hory 61.07 42 P **P 13 28 10.2 -2.4**
comp=Z,10nm,0.8s
KHC pP **pP 13 28 15.0 -1.1**
comp=Z,10nm,0.8s
GEC2 GERESS Array S 61.10 43 *e*P **P 13 28 12.6 -0.3**
comp=Z,14nm,1.1s,baz=255,slow=7.0
GERES GERESS Array B 61.10 43 P **P 13 28 11.9 -1.0**
comp=Z,2.1nm,0.8s,baz=291,slow=3.7,SNR=11
comp=Z,2.1nm,0.8s
CLL Collm 61.10 40 P **P 13 28 12.4 -0.3**
CLL Collm 61.10 40 P **P 13 28 12.4 -0.3**
CLL pmax pmax
comp=Z,12nm,0.8s
CLL Collm 61.10 40 *e*P **P 13 28 14.0 +1.3**
comp=Z,21nm,1.2s,baz=255,slow=7.0
CLL Collm 61.10 40 *i* P **P 13 28 11.6 -1.1**
comp=Z,45nm,1.9s
CLL *i* x x 13 28 16.8
comp=Z,22nm,1.1s
CLL *e*(PPP) 13 31 42.0
CLL *e*S **S 13 36 33.0 +1.7**
CLL Collm 61.10 40 P **P 13 28 11.7 -1.0**
comp=Z,20nm,1.2s
SHPR Sheep Range 61.11 303 P **P 13 28 13.4 +0.1**
LL01 San Ignacio de 61.28 199 IAmb IAmb 13 28 25.7
comp=Z,34nm,0.9s
MOA Molln 61.31 44 *i* P **P 13 28 13.9 -0.3**
comp=Z,13nm,1.2s
OBKA Obir 61.31 45 *e*P **P 13 28 12.7 -1.7**
comp=Z,21nm,0.9s
ELK Elko 61.37 308 IAmb IAmb 13 28 29.2
comp=Z,34nm,1.2s
ELK IAMs_20 IAMs_20 13 51 51.9
comp=Z,1µm,19.0s
R11B Troy Canyon, C 61.51 305 P **P 13 28 17.8 +1.8**
baz=92,SNR=29
BRG Berggiesshubel 61.60 40 *e*P **P 13 28 17.0 +0.9**
BRG Amp 13 28 18.9
comp=Z,10nm,1.2s
BRG Berggiesshubel 61.60 40 P P 13 28 22.1 +6.0
BRG Amp 13 28 23.2
comp=Z,14nm,1.1s
BRG Berggiesshubel 61.60 40 *e*P **P 13 28 16.9 +0.9**
BRG 13 28 22.0
BRG pmax pmax
comp=Z,10.0nm,1.3s
BRG pmax pmax
comp=Z,14nm,1.1s
BRG Berggiesshubel 61.60 40 *e*P **P 13 28 17.1 +0.9**
comp=Z,11nm,1.1s,baz=255,slow=7.0
S11A Rachel 61.61 305 IAmb IAmb 13 28 32.6
comp=Z,45nm,1.2s
VTX Valle De La Tr 61.63 297 IAmb IAmb 13 28 24.7
comp=Z,40nm,1.0s
ESJX Sierra Juarez 61.75 298 IAmb IAmb 13 28 22.4
comp=Z,57nm,1.7s
LL02 Futaleuf 61.85 198 P **P 13 28 18.1 +0.4**
LL02 IAmb IAmb 13 28 29.9
comp=Z,25nm,0.9s
NEEM North Greenlan 61.89 360 *e*P P 13 28 23.3 +5.3
TPNV Topopah Spring 61.99 304 IAmb IAmb 13 28 34.4
comp=Z,26nm,0.9s
ARSA Arzberg 62.07 45 *e*P **P 13 28 18.1 -1.3**
comp=Z,12nm,0.9s
PFO Pinyon Flats O 62.16 300 P **P 13 28 20.7 +0.4**
PFO IAmb IAmb 13 28 24.8
comp=Z,43nm,1.6s
PFO Pinyon Flats O 62.16 300 LR LR 13 56 27.1
comp=Z,763nm,18.3s,baz=92,slow=37
PFO Pinyon Flats O 62.16 300 *i* P **P 13 28 18.9 -1.4**
PFO pmax pmax
comp=Z,42nm,1.5s
PLID Pearl Lake 62.29 313 P **P 13 28 21.1 -0.1**
PLID IAmb IAmb 13 28 34.1
comp=Z,31nm,1.1s
PLID IAMs_20 IAMs_20 13 51 06.0
comp=Z,1µm,20.0s
WCT Wildcat Mounta 62.29 304 IAmb IAmb 13 28 28.9
comp=Z,34nm,0.9s
TKX Tecate 62.30 299 IAmb IAmb 13 28 28.3
comp=Z,19nm,1.1s
GWY Greenwater Val 62.32 303 IAmb IAmb 13 28 37.2
comp=Z,32nm,1.0s
CBX Cerro Bola 62.35 299 IAmb IAmb 13 28 29.0
comp=Z,21nm,0.9s
CONA Conrad Observa 62.39 44 *e*P **P 13 28 19.6 -1.9**
comp=Z,26nm,1.7s
NB2 NORSAR Subarra 62.64 29 P **P 13 28 22.6 -0.3**
comp=Z,36nm,1.7s,baz=253,slow=6.9
NB2 NORSAR Subarra 62.64 29 P **P 13 28 22.6 -0.3**
baz=253,slow=6.9
NOA NORSAR Array B 62.64 29 P **P 13 28 22.3 -0.6**
comp=Z,1.0nm,0.7s,baz=251,slow=6.9,SNR=7.4
NOA LR LR 13 49 18.3
comp=Z,440nm,21.8s,baz=255,slow=30
comp=Z,1.0nm,0.7s
RONA Rosalia, Austr 62.65 44 *e*P **P 13 28 22.3 -0.9**
comp=Z,24nm,1.1s
BMN Battle Mountai 62.86 308 IAmb IAmb 13 28 39.9
comp=Z,20nm,1.0s
CHVC Chvalec 62.88 41 *e*P **P 13 28 23.8 -0.9**
CHVC Chvalec 62.88 41 *e*P **P 13 28 23.8 -0.9**
KRUC Moravsky 62.89 43 *e*P **P 13 28 23.8 -1.0**
GRAC Grapevine Rang 62.89 304 IAmb IAmb 13 28 38.2
comp=Z,40nm,1.1s
OSTC Ostas 62.98 41 *e*P **P 13 28 24.8 -0.6**
OSTC Ostas 62.98 41 *e*P **P 13 28 24.8 -0.6**
DPC Dobruska-Polom 63.02 41 *e*P **P 13 28 25.1 -0.6**
DPC Dobruska-Polom 63.02 41 *e*P **P 13 28 25.1 -0.6**
DPC Dobruska-Polom 63.02 41 P **P 13 28 26.8 +1.1**
comp=Z,17nm,1.3s
VRAC Vranov 63.05 42 LR LR 13 51 37.8
comp=Z,294nm,20.7s,baz=250,slow=32
VRAC Vranov 63.05 42 *e*P **P 13 28 25.3 -0.6**
KSP Ksiaz 63.07 41 P P 13 28 30.8 +4.9
comp=Z,17nm,2.7s
BMO Blue Mountains 63.19 313 IAMs_20 IAMs_20 13 53 32.9
comp=Z,1µm,18.0s
KRLC Kraliky 63.27 41 *e*P **P 13 28 27.3 -0.1**
KRLC Kraliky 63.27 41 *e*P **P 13 28 27.3 -0.1**
DAG Danmarks Havn 63.29 8 *i* P **P 13 28 26.0 -1.0**
DAG *i* Amb IAmb 13 28 35.6
comp=Z,24nm,1.3s
DSP Deep Springs 63.38 304 IAmb IAmb 13 28 35.6
comp=Z,23nm,0.9s
MODS Modra-Piesok 63.38 43 *e*P **P 13 28 28.7 +0.6**
MODS Modra-Piesok 63.38 43 *e*P **P 13 28 28.7 +0.6**
NEW Newport 63.39 316 IAmb IAmb 13 28 40.9
comp=Z,19nm,0.8s
NEW Newport 63.39 316 LR LR 13 53 47.4
comp=Z,766nm,21.5s,baz=92,slow=34
CCAC Calif City Air 63.42 302 IAmb IAmb 13 28 35.6
comp=Z,18nm,0.8s
MPLH Magyarpolny 63.43 45 P **P 13 28 27.5 -0.9**
comp=Z,86nm,0.9s
KVN Kaiserville 63.50 306 IAmb IAmb 13 28 41.9
comp=Z,41nm,1.6s
SMOL Smolenice 63.50 43 *e*P **P 13 28 30.4 +1.6**
SMOL pmax pmax
comp=Z,4.0nm,0.5s
NV11 Mina Array Sit 63.53 305 IAmb IAmb 13 28 42.8
comp=Z,58nm,1.8s
HFS Hagfors 63.55 30 P **P 13 28 27.6 -1.3**
comp=Z,4.5nm,0.8s,baz=246,slow=10,SNR=12
HFS LR LR 13 51 55.4
comp=Z,217nm,18.4s,baz=250,slow=32
comp=Z,4.5nm,0.8s
PASC Pasadena Art C 63.58 301 IAmb IAmb 13 28 33.7
comp=Z,32nm,1.4s
NVAR Mina Array Bea 63.65 305 P **P 13 28 30.3 0.0**
NVAR Mina Array Bea 63.65 305 P **P 13 28 31.6 +1.3**
comp=Z,4.3nm,0.7s,baz=82,slow=6.3,SNR=30
comp=Z,4.3nm,0.7s
MORC Moravsky Berou 63.72 42 IAmb IAmb 13 28 36.7
comp=Z,38nm,1.4s
MORC Moravsky Berou 63.72 42 *e*P **P 13 28 29.5 -0.8**
LHV Little Huntoon 63.80 305 IAmb IAmb 13 28 48.3
comp=Z,26nm,0.9s
E09A Wood Farm, Sta 63.91 314 IAmb IAmb 13 28 43.8
comp=Z,24nm,1.2s
RES Resolute Bay 64.00 348 P **P 13 28 32.1 +0.5**
RES IAmb IAmb 13 28 44.0
comp=Z,65nm,2.0s
RES Resolute Bay 64.00 348 LR LR 13 53 59.8
comp=Z,2µm,21.0s,baz=142,slow=34
RES Resolute Bay 64.00 348 P **P 13 28 32.1 +0.5**
RES pmax pmax
comp=Z,65nm,2.0s
WVOR Wild Horse Val 64.01 310 IAMs_20 IAMs_20 13 52 52.7
comp=Z,1µm,19.0s
SRO Srobarova 64.02 44 *e*P **P 13 28 34.0 +1.8**
SRO pmax pmax
comp=Z,11nm,0.9s
SRO Srobarova 64.02 44 *e*P **P 13 28 34.0 +1.8**
COYC Coyhaique 64.09 197 P **P 13 28 33.2 +0.6**
MORH Mrgy, Hungar 64.11 46 ||P **P 13 28 31.6 -1.2**
MORH Mrgy, Hungar 64.11 46 P **P 13 28 31.8 -1.0**
comp=Z,11nm,2.6s
C09A Chrisman Ranch 64.11 316 P **P 13 28 32.8 -0.1**
C09A IAmb IAmb 13 28 35.5
comp=Z,24nm,1.5s
OMMB Old Mammoth Mi 64.19 305 IAmb IAmb 13 28 41.0
comp=Z,34nm,1.0s
G08A Pilot Rock 64.39 313 IAmb IAmb 13 28 47.0
comp=Z,45nm,1.4s
VYHS Vyhne 64.43 43 *e*P **P 13 28 35.3 +0.3**
VYHS pmax pmax
comp=Z,40nm,1.9s
VYHS Vyhne 64.43 43 *e*P **P 13 28 35.3 +0.3**
D08A Wollman Farm, 64.48 315 IAmb IAmb 13 28 47.7
comp=Z,22nm,1.3s
PNTR Pine Nut 64.67 306 IAmb IAmb 13 28 51.0
comp=Z,23nm,0.8s
YKA Yellowknife Ar 64.68 332 P **P 13 28 35.2 -1.1**
comp=Z,3.6nm,0.9s,baz=216,slow=3.0,SNR=12
YKA LR LR 13 54 25.5
comp=Z,1µm,20.3s,baz=94,slow=34
comp=Z,3.6nm,0.9s
YKA Yellowknife Ar 64.68 332 *i* P **P 13 28 35.2 -1.1**
YKA pmax pmax
comp=Z,1.0nm,0.5s
HAWA Hanford 64.86 314 IAMs_20 IAMs_20 13 55 08.0
comp=Z,961nm,20.0s
LANS Liptovska Anna 64.90 43 *e*P **P 13 28 38.6 +0.5**
LANS pmax pmax
comp=Z,5.0nm,1.2s
LANS Liptovska Anna 64.90 43 *e*P **P 13 28 38.6 +0.5**
EMB Emerald Bay 65.06 306 IAmb IAmb 13 28 53.3
comp=Z,19nm,0.9s
E07A Sunnyside 65.09 314 IAmb IAmb 13 28 42.7
comp=Z,19nm,1.1s
OJC Ojcow 65.21 42 IAmb IAmb 13 28 46.0
comp=Z,26nm,1.3s
OJC Ojcow 65.21 42 P P 13 28 45.2 +5.1
comp=Z,13nm,1.1s
CMB Columbia Colle 65.29 305 IAmb IAmb 13 28 45.0
comp=Z,30nm,1.5s
CMB IAMs_20 IAMs_20 13 53 48.7
comp=Z,967nm,21.0s
MXC Moxie City 65.39 314 IAmb IAmb 13 28 54.8
comp=Z,17nm,0.9s
NIE Niedzica 65.47 42 P **P 13 28 42.9 +1.1**
comp=Z,11nm,1.6s
KECS Kecovo 65.52 44 *e*P **P** 13 28 47.4 +5.3
KECS pmax pmax
comp=Z,12nm,0.6s
KECS Kecovo 65.52 44 *e*P P 13 28 47.4 +5.3
AFDM Forest Hills D 65.73 306 IAmb IAmb 13 28 57.7
comp=Z,15nm,0.8s
AY03 Cochrane 65.77 197 P **P 13 28 44.3 +0.8**
J05D Fort Rock, OR 65.94 311 IAmb IAmb 13 28 58.7
comp=Z,47nm,1.3s
STHS Stebnicka Huta 66.08 43 *e*P **P 13 28 50.3 +4.6**
STHS pmax pmax
comp=Z,16nm,1.6s
STHS Stebnicka Huta 66.08 43 *e*P **P 13 28 50.3 +4.6**
ORV Oroville 66.14 307 IAMs_20 IAMs_20 13 56 29.1
comp=Z,805nm,20.0s
SAO San Andreas Ge 66.17 304 IAmb IAmb 13 29 06.7
comp=Z,22nm,1.1s
H04A Detroit Lake 66.65 312 IAmb IAmb 13 29 06.5
comp=Z,15nm,1.0s
LLLB Lillooet 66.69 319 P **P 13 28 49.1 -0.5**
LLLB IAmb IAmb 13 29 02.5
comp=Z,33nm,0.9s
KOLS Kolonicke sedl 66.73 43 *e*P P 13 28 55.6 +5.8
KOLS pmax pmax
comp=Z,7.0nm,0.8s
KOLS Kolonicke sedl 66.73 43 *e*P P 13 28 55.6 +5.8
HOLU Holmets 66.78 44 P **P 13 28 49.6 -0.5**
I04A Tendick Farm, 66.80 311 IAmb IAmb 13 29 04.1
comp=Z,17nm,1.0s
YBH Yreka Blue Hor 67.03 309 IAMs_20 IAMs_20 13 57 01.6
comp=Z,873nm,20.0s
YBH Yreka Blue Hor 67.03 309 LR LR 13 57 21.6
comp=Z,574nm,19.7s,baz=93,slow=35
KWP Kalwaria Pacla 67.05 42 P P 13 28 58.2 +6.3
comp=Z,85nm,0.6s
O02D Mt. Diablo Mer 67.12 307 IAmb IAmb 13 29 10.4
comp=Z,41nm,2.0s
O02D IAMs_20 IAMs_20 13 54 17.0
comp=Z,1µm,19.0s
HUMO Hull Mountain 67.20 310 IAMs_20 IAMs_20 13 54 59.2
comp=Z,1µm,22.0s
MCCM Marconi Confer 67.25 305 IAmb IAmb 13 28 56.8
comp=Z,30nm,0.9s
HOPS Hopland Field 67.37 306 IAmb IAmb 13 29 08.3
comp=Z,42nm,1.4s
DBO Dodson Butte 67.41 311 IAmb IAmb 13 29 07.0
comp=Z,52nm,1.9s
COR Corvallis 67.45 312 IAMs_20 IAMs_20 13 56 59.7
comp=Z,1µm,19.0s
NOR Nord 67.51 5 *e*P **P 13 28 53.2 -1.0**
NOR IAmb IAmb 13 28 59.7
comp=Z,15nm,1.0s
L02F Cave Junction 67.67 309 IAmb IAmb 13 29 08.2
comp=Z,49nm,1.7s
K02D Willamette Mer 67.72 310 IAmb IAmb 13 29 09.2
comp=Z,35nm,1.3s
BUR08 Bucovina Ar. S 68.65 45 P **P 13 29 02.9 +0.7**
BUR08 IAmb IAmb 13 29 05.7
comp=Z,45nm,1.7s
KOTAN Kotaneelee Air 68.73 329 P **P 13 29 03.5 +1.3**
baz=96,SNR=8.8
WRGLY Wrigley 68.81 332 IAmb IAmb 13 29 07.5
comp=Z,25nm,0.9s
WRGLY Wrigley 68.81 332 P **P 13 29 04.3 +1.7**
baz=98
CBB Campbell River 68.90 318 P **P 13 29 04.0 +0.5**
CBB IAmb IAmb 13 29 16.6
comp=Z,31nm,1.0s
RNPP5 Staryi Chortor 69.13 41 P **P 13 29 03.9 -1.0**
MLR Muntele Rosu 69.19 47 IAmb IAmb 13 29 30.6
comp=Z,48nm,1.4s
TOAD Toad River Com 69.21 327 P **P 13 29 06.6 +1.3**
baz=94,SNR=11
HORU Horodok 69.47 43 P **P 13 29 03.1 -3.9**
KMPD K-Podol'skiy 69.49 44 P **P 13 29 03.9 -3.2**
comp=Z,3µm,1.1s
PLOR3 Plostina Array 69.67 46 P **P 13 29 07.5 -0.9**
comp=Z,15nm,1.1s
LIRD Liard River Hi 69.70 328 P **P 13 29 09.5 +1.3**
baz=94,SNR=12
FINES FINESS Array B 69.75 30 P **P 13 29 07.6 -0.9**
comp=Z,2.9nm,0.6s,baz=282,slow=3.7,SNR=12
FINES LR LR 13 53 27.0
comp=Z,763nm,21.8s,baz=264,slow=31
comp=Z,2.9nm,0.6s
NACGM Naroch 69.76 37 *e*P **P 13 29 12.6 +3.9**
comp=Z,36nm,1.2s,baz=269
SPITS Spitsbergen Ar 70.06 12 LR LR 13 53 53.3
comp=Z,266nm,19.4s,baz=224,slow=31
MI28 Mi28,Pidlybu 70.26 41 P **P 13 29 10.8 -1.0**
comp=Z,251nm,0.9s
LUBAR Lubar, Ukraine 70.33 42 P **P 13 29 10.4 -1.9**
MNK Minsk 70.39 37 *i* P **P 13 29 10.0 -2.6**
comp=E,11nm,0.8s
MNK *i* P **P 13 29 10.0 -2.6**
comp=N,7.0nm,0.9s,baz=270
MNK *i* P **P 13 29 10.0 -2.6**
comp=Z,13nm,0.9s
MNK *i* PcP **PcP 13 29 34.5 +0.5**
MNK *i* PP PP 13 31 38.0 -10
MNK *i* PPP PPP 13 33 27.6
MNK *i* S **S 13 38 23.1 -1.5**
MNK *i* SS **SS 13 43 03.4 +8.4**
MNK *i* SSS SSS 13 45 46.4
MNK *i* LQ LQ 13 50 03.6
MNK *i* LR LR 13 54 34.4
MNK *i* LRM MLR 13 59 11.7
comp=Z,649nm,16.3s
MNK *i* LRM MLR 13 59 20.5
comp=N,507nm,16.2s
MNK *i* LRM MLR 13 59 25.3
comp=E,202nm,16.4s

MNK	Minsk	70.39	37	*i* P	P	13 29 09.9	-2.6
MNK				*i*		13 29 34.5	
MNK				*i* PPP	PPP	13 33 27.6	
MNK				*i* S	S	13 38 23.0	-1.5
MNK				pmax	pmax		
	comp=E,11nm,0.8s						
MNK				pmax	pmax		
	comp=Z,13nm,0.9s						
MNK				pmax	pmax		
	comp=N,7.0nm,0.9s						
ARCES	ARCESS Array B	70.42	21	P	P	13 29 11.8	-0.7
	comp=N,5.4nm,0.8s,baz=264,slow=4.9,SNR=9.9						
ARCES				LR	LR	13 53 14.7	
	comp=N,449nm,19.5s,baz=272,slow=30						
	comp=N,5.4nm,0.8s						
BBB	Bella Bella	70.64	320	LR	LR	13 57 35.7	
	comp=N,937nm,21.9s,baz=82,slow=34						
A36M	Sachs Harbour	70.76	341	P	P	13 29 14.7	+0.2
	baz=99,SNR=30						
SORM	Soroca	70.76	44	P	P	13 29 12.9	-2.0
	comp=N,14nm,1.0s						
WTLY	Watson Lake, Y	71.09	329	P	P	13 29 18.1	+1.3
	baz=92						
AK20	Malin Array Si	71.11	41	P	P	13 29 14.4	-2.6
AK19	Malin Array Si	71.11	41	P	P	13 29 15.0	-2.0
AK21	Malin Array Si	71.13	41	P	P	13 29 15.6	-1.5
AK17	Malin Array Si	71.14	41	P	P	13 29 15.8	-1.4
KIEV	Kiev	71.24	41	P	P	13 29 16.4	-1.4
KIEV				IAmb	IAmb	13 29 19.0	
	comp=Z,62nm,2.0s						
KIEV	Kiev	71.24	41	P	P	13 29 16.4	-1.4
KIEV				pmax	pmax		
	comp=Z,62nm,2.0s						
AKASG	Malin Array Be	71.25	41	P	P	13 29 16.3	-1.5
	comp=Z,2.2nm,0.7s,baz=276,slow=5.2,SNR=11						
AKASG				LR	LR	13 55 16.5	
	comp=Z,194nm,20.6s,baz=266,slow=32						
	comp=Z,2.2nm,0.7s						
AKBB	Malin Array Si	71.25	41	IAmb	IAmb	13 29 19.1	
	comp=Z,69nm,2.0s						
AKBB	Malin Array Si	71.25	41	*ce*P	P	13 29 16.0	-1.8
AKBB				pmax	pmax		
	comp=Z,18nm,1.5s						
AKBB	Malin Array Si	71.25	41	P	P	13 29 16.1	-1.8
RPN	Rapa Nui	71.59	234	LR	LR	13 57 32.4	
	comp=Z,240nm,21.1s,baz=66,slow=33						
DLBC	Dease Lake	71.70	327	IAmb	IAmb	13 29 40.4	
	comp=Z,21nm,1.1s						
DLBC	Dease Lake	71.70	327	LR	LR	14 00 28.4	
	comp=Z,437nm,18.6s,baz=84,slow=36						
DLBC	Dease Lake	71.70	327	P	P	13 29 21.9	+1.3
	baz=90						
T35M	Bob Quinn	71.83	325	IAmb	IAmb	13 29 26.3	
	comp=Z,29nm,1.1s						
T35M	Bob Quinn	71.83	325	P	P	13 29 23.1	+1.8
	baz=89						
R33M	Jennings River	72.19	328	P	P	13 29 24.6	+1.1
	baz=90,SNR=5.8						
S34M	Telegraph Cree	72.29	326	IAmb	IAmb	13 29 41.5	
	comp=Z,26nm,1.2s						
S34M	Telegraph Cree	72.29	326	P	P	13 29 25.8	+1.8
	baz=89						
V35K	Ketchikan	72.64	324	P	P	13 29 27.1	+1.0
	baz=88						
Q32M	Nakina River	72.86	327	P	P	13 29 28.6	+0.9
	baz=88						
WRAK	Wrangell Islan	73.00	325	P	P	13 29 28.9	+0.7
	baz=88						
P33M	Teslin, Yukon	73.11	329	P	P	13 29 29.9	+1.0
	baz=88						
N32M	Quiet Lake	73.20	330	P	P	13 29 29.9	+0.5
	baz=88						
INK	Inuvik	73.29	337	LR	LR	14 00 01.6	
	comp=Z,1µm,19.8s,baz=78,slow=34						
INK	Inuvik	73.29	337	P	P	13 29 30.0	+0.3
	baz=90,SNR=49						
FARO	Faro, Yukon	73.30	331	P	P	13 29 30.8	+0.8
	baz=88						
F31M	Tsiigehtchic	73.37	336	P	P	13 29 30.2	0.0
	baz=90,SNR=32						
U33K	Whale Pass	73.45	325	P	P	13 29 31.2	+0.3
	baz=87						
CRAG	Craig	73.49	324	P	P	13 29 31.3	+0.2
	baz=87						
P32M	Atlin	73.58	328	P	P	13 29 31.8	+0.1
	baz=87						
G31M	Satah River	73.59	336	IAmb	IAmb	13 29 37.2	
	comp=Z,22nm,0.8s						
G31M	Satah River	73.59	336	P	P	13 29 31.7	+0.2
	baz=89,SNR=15						
H31M	Peel River	73.64	335	IAmb	IAmb	13 29 42.5	
	comp=Z,26nm,1.1s						
H31M	Peel River	73.64	335	P	P	13 29 32.3	+0.4
	baz=89,SNR=13						
M31M	Drury Creek, Y	73.79	331	P	P	13 29 33.0	+0.2
	baz=88						
R32K	Eaglecrest	74.07	327	P	P	13 29 34.2	-0.4
	baz=86						
WHY	Whitehorse	74.11	329	P	P	13 29 34.7	-0.1
	baz=87						
F30M	Barrier River	74.15	337	P	P	13 29 34.7	-0.1
	baz=88						
S32K	Killisnoo	74.16	326	P	P	13 29 34.4	-0.6
	baz=86						
G30M	tAoh Zraii Nji	74.35	336	P	P	13 29 36.7	+0.6
	baz=87						
MAYO	Mayo, Yukon	74.40	332	IAmb	IAmb	13 29 48.2	
	comp=Z,29nm,0.9s						
MAYO	Mayo, Yukon	74.40	332	P	P	13 29 37.1	+0.8
	baz=87						
SKAG	Skagway	74.41	328	IAmb	IAmb	13 29 40.7	
	comp=Z,99nm,1.8s						
SKAG	Skagway	74.41	328	P	P	13 29 36.9	+0.5
	baz=86						
N31M	Braeburn, Yuko	74.49	330	IAmb	IAmb	13 29 48.6	
	comp=Z,31nm,1.1s						
N31M	Braeburn, Yuko	74.49	330	P	P	13 29 37.3	+0.3
	baz=86,SNR=5.9						
I30M	Mount Dempster	74.51	334	IAmb	IAmb	13 29 49.9	
	comp=Z,22nm,0.8s						
I30M	Mount Dempster	74.51	334	P	P	13 29 37.3	+0.2
	baz=87						
J30M	Hart River	74.53	333	P	P	13 29 38.0	+0.8
	baz=86,SNR=10						
EPYK	Eagle Plains	74.58	335	P	P	13 29 38.1	+0.7
	baz=87,SNR=6.5						
SIT	Sitka	74.60	326	P	P	13 29 37.7	+0.1
	baz=85						
O30N	Mendenhall	74.69	329	P	P	13 29 38.5	+0.3
	baz=86						
R31K	City Hall, Gus	74.70	327	P	P	13 29 37.8	-0.3
	baz=85						
TSUM	Tsumeb	74.85	115	P	P	13 29 39.8	-0.1
TSUM	Tsumeb	74.85	115	LR	LR	13 55 22.2	
	comp=Z,1µm,19.9s,baz=329,slow=30						
M30M	Minto, Yukon	74.88	331	P	P	13 29 39.2	0.0
	baz=86,SNR=6.9						
E29M	Blow River	74.91	337	P	P	13 29 39.8	+0.6
	baz=86						
PLBC	Pleasant Camp	74.94	328	P	P	13 29 39.8	+0.2
	baz=85						
S31K	Pelican	75.00	327	P	P	13 29 39.8	-0.1
	baz=85						
G29M	Pine Creek	75.06	336	IAmb	IAmb	13 30 03.2	
	comp=Z,21nm,0.8s						
G29M	Pine Creek	75.06	336	P	P	13 29 39.7	-0.4
	baz=86,SNR=9.7						
K29M	Barlow Dome	75.11	333	IAmb	IAmb	13 29 54.0	
	comp=Z,24nm,0.9s						
K29M	Barlow Dome	75.11	333	P	P	13 29 41.4	+0.8
	baz=85,SNR=14						
N30M	Aishikik Lake	75.12	330	P	P	13 29 41.3	+0.6
	baz=85						
D28M	Stokes Point	75.14	338	P	P	13 29 41.0	+0.5
	baz=86						
P30M	Million Dollar	75.18	329	P	P	13 29 41.8	+0.8
	baz=85						
H29M	Whitestone	75.26	335	P	P	13 29 42.2	+0.9
	baz=85						
BR106	Keskin Array S	75.30	52	P	P	13 29 41.3	-0.9
	comp=Z,21nm,0.9s,comp=Z,157nm						
BR105	Keskin Array S	75.31	52	P	P	13 29 41.5	-0.8
	comp=Z,21nm,0.9s,comp=Z,151nm						
I29M	Ogilvie Camp,	75.31	334	P	P	13 29 41.7	+0.1
	baz=85						
BR131	Keskin Array S	75.32	52	IAmb	IAmb	13 29 47.9	
	comp=Z,20nm,0.8s						
BR131	Keskin Array S	75.32	52	*i* P	P	13 29 41.2	-1.1
BRTR	Keskin Array B	75.32	52	P	P	13 29 41.7	-0.7
BRTR	Keskin Array B	75.32	52	P	P	13 29 41.4	-0.9
	comp=Z,4.7nm,0.7s,baz=254,slow=5.5,SNR=27						
	comp=Z,4.7nm,0.7s						
BRTR	Keskin Array B	75.32	52	*ce*P	P	13 29 41.7	-0.7
BRTR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BR104	Keskin Array S	75.33	52	P	P	13 29 40.9	-1.5
	comp=Z,18nm,0.8s,comp=Z,130nm						
HYT	Haines Junctio	75.38	330	IAmb	IAmb	13 29 55.0	
	comp=Z,26nm,1.1s						
HYT	Haines Junctio	75.38	330	P	P	13 29 42.2	0.0
	baz=84						
OBN	Obninsk	75.38	36	*ce*P	P	13 29 42.6	+0.5
OBN				*i*		13 29 47.9	
OBN				*e*		13 32 28.5	
OBN				pmax	pmax		
	comp=Z,67nm,1.7s						
L29M	L29M	75.45	332	IAmb	IAmb	13 29 57.4	
	comp=Z,25nm,1.1s						
L29M	L29M	75.45	332	P	P	13 29 42.7	+0.2
	baz=84,SNR=9.0						
E28M	Babbage River	75.49	338	IAMs_20	IAMs_20	14 01 23.4	
	comp=Z,822nm,20.0s						
E28M	Babbage River	75.49	338	P	P	13 29 42.9	+0.3
	baz=85						
P29M	Windy Craggy	75.62	328	P	P	13 29 43.9	+0.4
	baz=84						
M29M	Somme Creek	75.67	331	P	P	13 29 44.6	+0.8
	baz=84,SNR=6.6						
F28M	Old Crow	75.72	337	P	P	13 29 44.2	+0.3
	baz=84,SNR=15						
YUK6	Outpost Mounta	75.78	330	P	P	13 29 45.2	+0.5
	baz=84						
YUK4	Talbot Arm	75.87	330	P	P	13 29 45.4	+0.2
	baz=84						
MOS	Moscow	75.91	36	*e*P	P	13 29 43.1	-2.0
MOS				pmax	pmax		
	comp=Z,60nm,1.2s						
DAWY	Dawson	75.91	333	P	P	13 29 45.1	+0.1
DAWY	Dawson	75.91	333	P	P	13 29 45.7	+0.6
	baz=84,SNR=11						
D27M	Malcolm River	75.94	338	IAMs_20	IAMs_20	14 02 14.2	
	comp=Z,928nm,20.0s						
D27M	Malcolm River	75.94	338	P	P	13 29 45.7	+0.5
	baz=84						
O29M	Mount Kennedy	75.96	329	P	P	13 29 45.9	+0.3
	baz=83						
I28M	Miner Creek	75.98	334	P	P	13 29 45.9	+0.3
	baz=84						
KLMR	Klimovskoe	76.27	30	*e*P	P	13 29 42.5	-4.6
KLMR				pmax	pmax		
	comp=Z,72nm,1.4s						
E27K	Coleen River	76.30	337	P	P	13 29 47.0	-0.2
	baz=83						
YUK8	Steele Glacier	76.42	330	P	P	13 29 48.3	0.0
	baz=83						
PNL	Peninsula	76.45	329	P	P	13 29 48.5	+0.3
	baz=82						
G27K	Doyon Strip	76.50	336	P	P	13 29 49.0	+0.6
	baz=82						
H27K	Steamboat Moun	76.53	335	P	P	13 29 48.4	-0.2
	baz=82						
EGAK	Eagle	76.58	334	P	P	13 29 49.2	+0.3
	baz=82						
I27K	Kandik River	76.65	335	P	P	13 29 49.6	+0.3
	baz=82						
YUK3	Moose Creek	76.68	331	P	P	13 29 49.7	0.0
	baz=82						
O28M	Mount Upton	76.69	330	P	P	13 29 49.8	-0.1
	baz=82						
BVCY	Beaver Creek	76.78	331	P	P	13 29 50.6	+0.6
	baz=82,SNR=7.1						
PINM	Pinnacle	76.82	329	P	P	13 29 50.1	-0.2
	baz=82						
C27K	Jago River	76.84	339	P	P	13 29 50.7	+0.4
	baz=81						
LOGN	Logan Glacier	77.08	330	IAmb	IAmb	13 30 04.2	
	comp=Z,41nm,1.1s						
K27K	Chicken	77.08	333	P	P	13 29 51.6	0.0
	baz=81						
LPSR	Galich'ya Gora	77.09	39	*e*P	P	13 29 49.9	-2.0
LPSR				pmax	pmax		
	comp=Z,40nm,0.9s						
BCAR	Beaver Creek A	77.10	332	P	P	13 29 52.5	+0.6
L27K	Beaver Creek,	77.12	332	P	P	13 29 52.5	+0.6
	baz=81						
C26K	Camden Bay	77.21	339	P	P	13 29 53.1	+0.8
	baz=80						
CTG	Chitna Glacier	77.22	330	P	P	13 29 53.2	+0.5
	baz=81						
M27K	Edge Creek, AK	77.25	331	IAmb	IAmb	13 30 06.9	
	comp=Z,27nm,1.0s						
M27K	Edge Creek, AK	77.25	331	P	P	13 29 52.9	+0.1
	baz=81						
G26K	Porcupine Rive	77.31	336	P	P	13 29 54.1	+1.2
	baz=80						
F26K	Sheenjek River	77.32	337	P	P	13 29 54.1	+1.1
	baz=80						
I26K	Coal Creek Min	77.33	335	P	P	13 29 53.6	+0.6
	baz=80						
VORR	Voronezh	77.41	40	*e*P	P	13 29 53.3	-0.4
VORR				pmax	pmax		
	comp=Z,39nm,1.5s						
VSR	Storozhevoye	77.45	40	*e*P	P	13 29 51.5	-2.5
VSR				pmax	pmax		
	comp=Z,40nm,1.0s						
BMAR	Burnt Mountain	77.53	337	P	P	13 29 54.3	+0.1
VORD	Divnogorie	77.57	40	*e*P	P	13 29 52.7	-1.9
VORD				pmax	pmax		
	comp=Z,20nm,0.9s						
J26L	Joseph Creek	77.64	334	P	P	13 29 54.3	-0.6
J26L	Joseph Creek	77.64	334	P	P	13 29 55.4	+0.4
	baz=80						
MESA	MESA	77.64	329	P	P	13 29 55.8	+0.6
	baz=80						
M26K	Nabesna, AK	77.76	332	P	P	13 29 56.6	+1.0
	baz=80						
L26K	Log Cabin Wild	77.81	332	P	P	13 29 56.7	+0.9
	baz=80,SNR=6.9						
D25K	Kavik River	77.82	339	P	P	13 29 56.2	+0.3
	baz=78,SNR=69						
MMAI	Mount Meron Ar	77.83	59	P	P	13 29 56.4	-0.2
	comp=Z,14nm,0.9s,baz=253,slow=1.5,SNR=7.6						
MMAI				LR	LR	14 03 51.6	
	comp=Z,138nm,20.8s,baz=234,slow=36						
	comp=Z,14nm,0.9s						
F25K	Christian Rive	77.90	337	P	P	13 29 56.7	+0.4
	baz=79						
SCRK	Sand Creek	77.92	333	P	P	13 29 57.3	+0.8
	baz=80,SNR=5.7						
FYU	Fort Yukon	77.95	336	IAmb	IAmb	13 30 00.1	
	comp=Z,74nm,1.8s						
MCARA	McCarthy VSAT	77.95	331	P	P	13 29 56.5	-0.1
	baz=80						
MENT	Mentasta	77.99	332	IAmb	IAmb	13 30 10.5	
	comp=Z,23nm,0.8s						
EIL	Elat	78.08	62	LR	LR	14 02 50.1	
	comp=Z,568nm,21.5s,baz=256,slow=34						
CRQE	Cirque	78.10	330	P	P	13 29 57.6	0.0
	baz=80						
H25L	Birch Creek	78.24	336	P	P	13 29 58.8	+0.7
	baz=78,SNR=8.3						
G25K	Bearman Lake	78.25	336	P	P	13 29 58.9	+0.8
	baz=78						
PRP	Porcupine Dome	78.27	335	IAmb	IAmb	13 30 04.8	
	comp=Z,17nm,0.8s						
PRP	Porcupine Dome	78.27	335	P	P	13 29 58.8	+0.4
	baz=78,SNR=20						
RIDG	Independent Ri	78.34	333	P	P	13 29 59.5	+0.8
	baz=79						
J25K	Salcha River,	78.39	334	P	P	13 29 59.3	+0.2
	baz=78,SNR=9.0						
C24K	Franklin Bluff	78.54	339	P	P	13 30 00.1	+0.4
	baz=76						
N25K	Chitina, Valde	78.65	331	IAmb	IAmb	13 32 46.0	
	comp=Z,93nm,1.9s						
N25K	Chitina, Valde	78.65	331	P	P	13 30 00.2	-0.4
	baz=78						
D24K	Happy Valley	78.71	339	IAmb	IAmb	13 30 03.9	
	comp=Z,54nm,1.7s						
D24K	Happy Valley	78.71	339	P	P	13 30 01.3	+0.6
	baz=76,SNR=7.2						
K24K	Donnelly Dome	78.73	333	P	P	13 30 01.2	+0.3
	baz=78						
HARP	HAARP	78.75	332	P	P	13 30 00.9	-0.1
	baz=78						
F24K	Squaw Lake	78.76	337	P	P	13 30 01.4	+0.4
	baz=77						
PAX	Paxson	78.77	332	P	P	13 30 01.6	+0.4
	baz=78,SNR=7.4						
BMRM	Bremner River	78.79	330	P	P	13 30 01.7	+0.5
	baz=78						
G24K	Hadweenzic Riv	78.79	336	IAMs_20	IAMs_20	14 02 28.7	
	comp=Z,982nm,21.0s						
G24K	Hadweenzic Riv	78.79	336	P	P	13 30 01.9	+0.8
	baz=77						
E24K	Your Creek	78.85	338	IAmb	IAmb	13 30 16.0	
	comp=Z,33nm,0.8s						
E24K	Your Creek	78.85	338	P	P	13 30 01.6	+0.1
	baz=76,SNR=38						
KAIM	Kayak Island	78.91	329	P	P	13 30 02.1	+0.2
	baz=78						
IL31		78.99	334	IAmb	IAmb	13 30 15.8	
	comp=Z,28nm,0.8s						
ILAR	Eielson Array	78.99	334	P	P	13 30 02.0	-0.2
	comp=Z,15nm,0.7s,baz=79,slow=5.6,SNR=173						
ILAR				LR	LR	14 04 32.6	
	comp=Z,442nm,19.5s,baz=65,slow=35						
	comp=Z,15nm,0.7s						
ARPR	Arapgir-MALATY	79.01	52	IAmb	IAmb	13 30 15.6	
	comp=Z,24nm,0.9s						
VRH	Novokhopyorsk	79.04	40	*e*P	P	13 30 02.7	0.0
VRH				pmax	pmax		
	comp=Z,49nm,1.7s						
HDA	Harding Lake	79.10	334	P	P	13 30 03.4	+0.5
	baz=77						
TOLK	Toolik Lake Re	79.10	338	IAmb	IAmb	13 30 06.9	
	comp=Z,40nm,1.5s						
TOLK	Toolik Lake Re	79.10	338	P	P	13 30 03.0	+0.1
	baz=75						
POKR	Poker Plat Res	79.14	335	P	P	13 30 02.6	-0.5
	baz=77						
C23K	Itkillik River	79.15	340	IAmb	IAmb	13 30 10.8	
	comp=Z,28nm,0.9s						
C23K	Itkillik River	79.15	340	P	P	13 30 03.4	+0.4
	baz=75,SNR=13						
H24K	Noodor Dome	79.15	335	P	P	13 30 03.5	+0.3
	baz=76						
SOC	Sochi	79.17	48	*e*P	P	13 30 01.6	-2.1
SOC				*e*		13 33 00.4	
SOC				*e*PPP	PPP	13 34 51.1	
SOC				*e*S	S	13 40 02.4	-0.6
SOC				*e*SS	SS	13 45 08.0	-0.9
SOC				*e*SSS	SSS	13 48 35.2	
SOC				MLR	MLR		
	comp=Z,129nm,15.0s						
E23K	Chandalar	79.27	338	P	P	13 30 03.3	-0.6
	baz=75						
M24K	Tolsona, Glenn	79.28	332	P	P	13 30 03.6	-0.3
	baz=77						
KLU	Klutina	79.30	331	IAmb	IAmb	13 33 03.3	
	comp=Z,99nm,1.9s						
KLU	Klutina	79.30	331	P	P	13 30 03.1	-1.1
	baz=77						
COLA	College	79.37	335	P	P	13 30 04.8	+0.5
COLA				IAmb	IAmb	13 30 10.5	
	comp=Z,40nm,0.8s						
COLA	College	79.37	335	P	P	13 30 04.6	+0.3
	baz=76						
COLA	College	79.37	335	P	P	13 30 04.8	+0.5
COLA				pmax	pmax		
	comp=Z,40nm,0.8s						
D23K	Nanushuk River	79.41	339	P	P	13 30 04.6	+0.1
	baz=74						
EYAK	Cordova Ski Ar	79.42	330	P	P	13 30 04.7	0.0
	baz=77						
WRH	Wood River Hil	79.57	334	IAmb	IAmb	13 30 16.9	
	comp=Z,29nm,0.9s						
DHY	Denali Highway	79.60	333	P	P	13 30 05.9	+0.1
	baz=76						
COLD	Coldfoot	79.70	337	P	P	13 30 06.5	+0.4
	baz=75,SNR=13						
FID	Port Fidalgo	79.73	330	IAmb	IAmb	13 30 18.3	
	comp=Z,51nm,0.9s						
G23K	Bananza Creek	79.77	337	IAmb	IAmb	13 30 13.6	
	comp=Z,23nm,0.8s						
G23K				IAMs_20	IAMs_20	14 03 30.6	
	comp=Z,935nm,20.0s						
G23K	Bananza Creek	79.77	337	P	P	13 30 06.2	-0.3
	baz=75						
H23K	Yukon River	79.82	336	IAMs_20	IAMs_20	14 02 04.9	
	comp=Z,848nm,19.0s						
H23K	Yukon River	79.82	336	P	P	13 30 07.0	+0.2
	baz=75						
SCM	Sheep Creek Mo	79.87	331	P	P	13 30 06.9	-0.4
	baz=76						
WAT6	Susitna Watana	79.88	332	P	P	13 30 07.5	+0.1
	baz=76						
I23K	Minto, Yukon-K	79.92	335	IAmb	IAmb	13 30 13.8	
	comp=Z,28nm,0.8s						
I23K	Minto, Yukon-K	79.92	335	P	P	13 30 07.3	0.0
	baz=75,SNR=8.7						
B22K	Teshekpuk Lake	79.93	340	IAMs_20	IAMs_20	14 01 57.5	
	comp=Z,926nm,22.0s						
B22K	Teshekpuk Lake	79.93	340	P	P	13 30 07.5	+0.3
	baz=72						
NEA2	Nenana	79.95	334	IAmb	IAmb	13 30 20.9	
	comp=Z,19nm,0.7s						
NEA2	Nenana	79.95	334	P	P	13 30 08.2	+0.7
	baz=75,SNR=11						
Q23K	Middleton Isla	79.97	329	P	P	13 30 07.8	+0.2
	baz=77						
GLI	Glacier Island	79.99	330	P	P	13 30 07.7	-0.1
	baz=76						
E22K	Anaktuvuk Pass	80.04	338	P	P	13 30 08.1	+0.2
	baz=73,SNR=13						
M23K	Glacier View	80.06	331	P	P	13 30 08.2	0.0
	baz=76						
MCK	McKinley	80.11	334	P	P	13 30 08.5	+0.1
	baz=75						
D22K	Ayikyak River	80.12	339	P	P	13 30 08.9	+0.5
	baz=73						
WAT1	Susitna Watana	80.18	333	P	P	13 30 09.1	+0.3
	baz=75						
A22K	Sinclair Lake	80.20	341	P	P	13 30 08.9	+0.2
	baz=71						
G22K	Bettles	80.28	337	P	P	13 30 09.1	-0.1
	baz=73						
SML	Sawmill	80.34	332	P	P	13 30 09.5	-0.2
	baz=75						
P23K	Montague Islan	80.36	330	P	P	13 30 10.2	+0.5
	baz=76						
F22K	John River	80.36	338	P	P	13 30 09.9	+0.3
	baz=73,SNR=9.4						
KNK	Knik Glacier	80.50	331	P	P	13 30 11.3	+0.7
	baz=75						
MLY	Manley	80.52	335	P	P	13 30 10.7	+0.1
	baz=74,SNR=12						
H22K	Ishtalitna Cre	80.53	336	P	P	13 30 11.2	+0.6
	baz=73						
B21K	Ikpikpuk River	80.55	340	P	P	13 30 11.1	+0.5
	baz=71						
PWL	Port Wells	80.58	331	P	P	13 30 11.0	0.0
	baz=75						
A21K	Barrow	80.60	342	P	P	13 30 11.6	+0.8
	baz=69						
GHO	Glory Hole Cre	80.62	332	IAmb	IAmb	13 30 25.1	
	comp=Z,29nm,0.8s						
E21K	Killik River	80.71	339	IAMs_20	IAMs_20	14 04 46.3	
	comp=Z,643nm,19.0s						
E21K	Killik River	80.71	339	P	P	13 30 12.2	+0.6
	baz=71						
C21K	Knifeblade Rid	80.76	339	P	P	13 30 12.2	+0.4
	baz=71						
PMR	Palmer	80.76	331	IAmb	IAmb	13 30 25.6	
	comp=Z,25nm,1.0s						
PMR	Palmer	80.76	331	P	P	13 30 12.2	+0.3
	baz=75						
TRF	Thorofare Moun	80.77	333	P	P	13 30 12.1	0.0
	baz=74,SNR=19						
PMSA	Palmer Station	80.83	186	LR	LR	14 05 43.5	
	comp=Z,302nm,21.9s,baz=332,slow=36						
BPAW	Bear Paw Mtn.	80.89	334	IAmb	IAmb	13 30 18.5	
	comp=Z,28nm,0.8s						
BPAW	Bear Paw Mtn.	80.89	334	P	P	13 30 12.1	-0.5
	baz=73						
F21K	Alatna River	80.92	337	P	P	13 30 13.3	+0.6
	baz=72						
KTH	Kantishna Hill	81.02	334	IAmb	IAmb	13 30 16.7	
	comp=Z,37nm,0.8s						
MBAR	Mbarara	81.15	93	P	P	13 30 15.3	+0.2
MBAR

comp=Z,17nm,1.2s
H21K Melozitna Rive 81.16 336 P **P 13 30 14.7 +0.7**
baz=72,SNR=13
G21K Allakaket 81.16 337 IAMs_20 IAMs_20 14 04 56.2
comp=Z,847nm,20.0s
G21K Allakaket 81.16 337 P **P 13 30 15.0 +1.1**
baz=72
M22K Willow 81.17 332 P **P 13 30 15.0 +0.9**
baz=74
RC01 Rabbit Creek A 81.18 331 P **P 13 30 15.0 +0.8**
baz=74
KIV Kislovodsk 81.19 47 *e*P **P 13 30 15.8 +1.1**
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,34nm,19.0s
KIV Kislovodsk 81.19 47 P P 13 30 21.2 +6.5
comp=Z,25nm,1.2s
B20K Meade River 81.24 341 P **P 13 30 15.1 +0.8**
baz=69
MARD Mardin 81.27 54 P **P 13 30 15.2 -0.1**
SEW Seward 81.32 330 P **P 13 30 15.7 +0.9**
baz=74
O22K Cooper Landing 81.34 330 P **P 13 30 15.2 +0.2**
baz=74
KBZ Khabaz 81.40 47 P **P 13 30 16.2 +0.6**
comp=Z,4.9nm,0.9s,baz=239,slow=5.0,SNR=5.3
comp=Z,4.9nm,0.9s
KBZ Khabaz 81.40 47 *ce*P **P 13 30 15.5 -0.1**
KBZ pmax pmax
comp=Z,17nm,1.0s
IMAR Indian Mountai 81.42 336 P **P 13 30 15.9 +0.6**
CHUM Lake Minchumin 81.51 334 P **P 13 30 16.3 +0.5**
baz=72,SNR=16
D20K Etivluk River 81.53 339 P **P 13 30 16.6 +0.7**
baz=69
SUA Susitna One 81.54 332 IAmb IAmb 13 30 30.1
comp=Z,24nm,0.9s
SUA Susitna One 81.54 332 P **P 13 30 16.5 +0.2**
baz=73
E20K Nigu River 81.55 339 P **P 13 30 17.0 +0.9**
baz=69,SNR=14
CAST Castle Rocks 81.55 334 IAmb IAmb 13 30 18.4
comp=Z,55nm,2.0s
CAST Castle Rocks 81.55 334 P **P 13 30 16.2 0.0**
baz=72
KIRV Kirov 81.63 31 *ce*P **P 13 30 16.3 -0.2**
SKT Skwentna 81.75 332 IAmb IAmb 13 30 23.4
comp=Z,23nm,0.8s
SKT Skwentna 81.75 332 P **P 13 30 17.9 +0.7**
baz=73,SNR=7.3
PPLA Purkeypile 81.76 333 P **P 13 30 17.6 +0.2**
baz=72
F20K Avaraart Lake 81.81 338 P **P 13 30 17.5 +0.2**
baz=70
CAPN Captain Cook N 81.94 331 P **P 13 30 18.5 +0.4**
baz=73
H20K Anotleneega Mo 82.03 336 P **P 13 30 19.6 +1.0**
baz=70,SNR=12
BRSE Bradley Lake S 82.05 330 P **P 13 30 19.5 +0.8**
baz=73
I20K Naaghedeneel 82.11 335 P **P 13 30 18.3 -0.6**
baz=70
D19K Kuna River 82.12 339 IAmb IAmb 13 30 22.9
comp=Z,32nm,1.2s
D19K Kuna River 82.12 339 P **P 13 30 19.0 -0.1**
baz=68
J20K Nowinta River 82.18 335 P **P 13 30 19.8 +0.4**
baz=71,SNR=9.2
E19K Redstone River 82.21 338 P **P 13 30 19.8 +0.4**
baz=68
SPU Mount Spurr 82.23 331 IAmb IAmb 13 30 35.4
comp=Z,21nm,0.8s
N20K Mount Spurr 82.30 331 P **P 13 30 20.5 +0.4**
baz=72,SNR=10
SPCR Spurr Chakacha 82.30 331 P **P 13 30 20.6 +0.5**
baz=72,SNR=8.2
BELG Belogornoye 82.33 38 LR LR 14 03 14.3
comp=Z,350nm,19.2s,baz=303,slow=33
BELG Belogornoye 82.33 38 *i* P **P 13 30 20.2 -0.1**
BELG pmax pmax
comp=Z,11nm,1.0s
C19K Lookout Ridge 82.38 340 P **P 13 30 21.1 +0.7**
baz=66
A19K Wainwright 82.39 341 P **P 13 30 20.8 +0.5**
baz=65
K20K Telida 82.42 334 IAmb IAmb 13 30 26.7
comp=Z,24nm,0.8s
K20K Telida 82.42 334 P **P 13 30 21.4 +0.7**
baz=71
M20K Styx River 82.50 332 IAmb IAmb 13 30 45.8
comp=Z,20nm,1.0s
M20K Styx River 82.50 332 P **P 13 30 21.8 +0.6**
baz=71
HOM Homer 82.51 330 P **P 13 30 20.9 -0.2**
baz=72
H19K Roundabout Mou 82.63 336 IAmb IAmb 13 30 47.9
comp=Z,56nm,2.0s
H19K Roundabout Mou 82.63 336 P **P 13 30 22.4 +0.7**
baz=69
L20K Farewell, AK 82.63 333 P **P 13 30 21.8 0.0**
baz=71,SNR=11
F19K Shaleruckik Mo 82.64 338 IAMs_20 IAMs_20 14 05 40.3
comp=Z,654nm,20.0s
F19K Shaleruckik Mo 82.64 338 P **P 13 30 22.0 +0.3**
baz=68,SNR=6.9
G19K Purcell Mounta 82.64 337 IAMs_20 IAMs_20 14 07 39.5
comp=Z,777nm,21.0s
G19K Purcell Mounta 82.64 337 P **P 13 30 22.0 +0.2**
baz=68
SUR Sutherland 82.70 126 LR LR 13 59 00.9
comp=Z,423nm,21.8s,baz=296,slow=30
O20K Slope Mountain 82.84 330 P **P 13 30 23.5 +0.5**
baz=71
J19K Poorman 82.85 335 P **P 13 30 23.3 +0.4**
baz=69
B18K Kokolik River 82.98 341 P **P 13 30 23.5 +0.1**
baz=64
LSZ Lusaka 83.00 108 P **P 13 30 24.6 0.0**
LSZ IAmb IAmb 13 30 37.5
comp=Z,34nm,1.1s
LSZ Lusaka 83.00 108 P **P 13 30 24.6 0.0**
LSZ pmax pmax
comp=Z,34nm,1.2s
M19K Big River Lodg 83.05 332 P **P 13 30 24.6 +0.6**
baz=70
GCSA Galena City Sc 83.08 336 P **P 13 30 25.0 +1.0**
baz=68,SNR=8.6
C18K Utukok River 83.10 340 P **P 13 30 25.3 +1.1**
baz=65
ILSW Iliamna Southw 83.12 330 IAmb IAmb 13 30 36.9
comp=Z,32nm,1.0s
L19K White Mountain 83.16 333 IAmb IAmb 13 30 38.1
comp=Z,25nm,1.1s
L19K White Mountain 83.16 333 P **P 13 30 25.5 +0.9**
baz=70
Q20K Shuyak Island 83.20 329 P **P 13 30 25.8 +1.0**
baz=71
P19K Oil Pt 83.27 330 P **P 13 30 25.8 +0.6**
baz=71
G18K Tagagawik 83.33 337 IAMs_20 IAMs_20 14 00 35.7
comp=Z,738nm,21.0s
G18K Tagagawik 83.33 337 P **P 13 30 26.0 +0.6**
baz=67
TTA Tatalina 83.40 334 P **P 13 30 26.3 +0.5**
baz=69
E18K Tukpahlearik C 83.42 339 P **P 13 30 27.0 +1.3**
baz=65
F18K Selawik 83.42 338 P **P 13 30 26.4 +0.7**
baz=66
N19K Bonanza Creek 83.47 331 P **P 13 30 26.2 0.0**
baz=70
J18K Innoko River 83.50 334 P **P 13 30 27.4 +1.2**
baz=68
H18K Honhosa River 83.51 336 IAMs_20 IAMs_20 14 06 29.5
comp=Z,806nm,20.0s
H18K Honhosa River 83.51 336 P **P 13 30 27.3 +1.0**
baz=67
KDAK Kodiak Island 83.56 328 LR LR 14 05 47.2
comp=Z,414nm,20.9s,baz=256,slow=34
KDAK Kodiak Island 83.56 328 P **P 13 30 27.2 +0.5**
baz=71
GNI Garni 83.60 50 LR LR 14 06 55.5
comp=Z,137nm,19.9s,baz=295,slow=35
GNI Garni 83.60 50 *i* P **P 13 30 27.2 -0.3**
GNI pmax pmax
comp=Z,49nm,1.0s
GNI Garni 83.60 50 P P 13 30 34.0 +6.5
comp=Z,48nm,1.6s
O19K Port Alsworth 83.61 331 IAmb IAmb 13 30 27.7
comp=Z,31nm,1.1s
O19K Port Alsworth 83.61 331 P **P 13 30 27.4 +0.6**
baz=70
Q19K Cape Douglas, 83.71 330 P **P 13 30 27.7 +0.2**
baz=70
C17K DeLong Mountai 83.83 340 P **P 13 30 29.0 +1.1**
baz=63
M18K Stony River 83.84 332 P **P 13 30 28.2 +0.2**
baz=69
LBTB Lobatse 83.88 118 LR LR 14 00 09.5
comp=Z,712nm,21.4s,baz=284,slow=30
RDOG Red Dog Mine 83.93 340 P **P 13 30 29.4 +1.0**
baz=63
L18K Granite Mounta 83.95 333 IAmb IAmb 13 30 35.5
comp=Z,17nm,0.8s
L18K Granite Mounta 83.95 333 P **P 13 30 29.4 +0.8**
baz=68
E17K Hotham Inlet 83.99 339 P **P 13 30 29.8 +1.1**
baz=64
F17K Baldwin Pennin 84.07 338 P **P 13 30 30.0 +0.9**
baz=64
OHAK Old Harbor 84.11 328 P **P 13 30 30.1 +0.6**
baz=70
O18K Koktuh Hills 84.14 331 P **P 13 30 30.0 +0.4**
baz=69,SNR=8.0
D17K Noatak River 84.15 339 P **P 13 30 29.8 +0.4**
baz=63
N18K Kilae Creek 84.16 332 P **P 13 30 30.5 +0.7**
baz=69
H17K Granite Mounta 84.20 336 P **P 13 30 30.8 +1.0**
baz=66
G17K Kiwalik Mounta 84.25 337 P **P 13 30 30.9 +0.9**
baz=65
P18K Big Mountain, 84.32 330 P **P 13 30 31.5 +0.9**
baz=69
SMAI San Martin Ant 84.41 186 IAmb IAmb 13 30 44.1
comp=Z,62nm,1.8s
K17K Iditarod 84.45 334 P **P 13 30 32.6 +1.5**
baz=67
Q18K Katmai Hardscr 84.48 330 P **P 13 30 32.2 +0.7**
baz=69
J17K VABM Dome 84.50 335 IAmb IAmb 13 30 45.7
comp=Z,15nm,0.9s
J17K VABM Dome 84.50 335 P **P 13 30 32.9 +1.5**
baz=66
LODK Lodwar 84.54 88 IAMs_20 IAMs_20 14 07 10.3
comp=Z,576nm,19.0s
R18K Karluk 84.58 328 P **P 13 30 32.4 +0.5**
baz=70
M17K Holitna River 84.59 333 P **P 13 30 33.5 +1.7**
baz=67
C16K Lisburne Hills 84.63 340 P **P 13 30 33.4 +1.5**
baz=61
L17K Donlin 84.68 333 P **P 13 30 33.7 +1.5**
baz=67
SII Sitkinak Islan 84.80 327 P **P 13 30 34.3 +1.3**
baz=70
N17K Nushagak Hills 84.81 332 P **P 13 30 34.5 +1.5**
baz=68
MAK Makhachkala 84.84 47 *c i*P P 13 30 26.4 -7.1
MAK *e* 13 33 46.4
MAK *e*PPP PPP 13 35 42.0
MAK *e* 13 40 47.2
MAK *e*SS SS 13 46 28.3 -4.9
MAK pmax pmax
comp=Z,457nm,1.9s
MAK MLR MLR
comp=Z,243nm,15.0s
BOSA Boshof 84.85 121 P **P 13 30 32.8 -1.1**
BOSA IAmb IAmb 13 30 44.5
comp=Z,33nm,1.1s
BOSA Boshof 84.85 121 P **P 13 30 32.0 -1.8**
comp=Z,12nm,1.0s,baz=45,slow=2.8,SNR=3.8
BOSA LR LR 14 01 10.7
comp=Z,228nm,18.8s,baz=284,slow=31
comp=Z,12nm,1.0s
BOSA Boshof 84.85 121 P **P 13 30 32.8 -1.1**
BOSA pmax pmax
comp=Z,33nm,1.2s
MATP Matopo 84.89 113 LR LR 14 03 22.1
comp=Z,229nm,18.3s,baz=249,slow=32
G16K Koyuk River 84.94 337 IAMs_20 IAMs_20 14 06 24.0
comp=Z,720nm,20.0s
G16K Koyuk River 84.94 337 P **P 13 30 35.1 +1.7**
baz=64
I17K Unalakleet 84.95 335 P **P 13 30 34.4 +0.9**
baz=65
P17K Kvichak River 84.97 330 P **P 13 30 35.0 +1.2**
baz=68
Q17K Contact Creek 85.05 329 P **P 13 30 35.2 +0.9**
baz=68
O17K Koliganek Bris 85.06 331 P **P 13 30 35.6 +1.4**
baz=68
J16K Anvik River 85.17 335 P **P 13 30 36.3 +1.6**
baz=65
H16K Elim 85.23 336 P **P 13 30 35.9 +1.0**
baz=64
Q16K King Salmon 85.27 330 P **P 13 30 36.2 +1.0**
baz=68
L16K Owhat River 85.36 333 P **P 13 30 36.6 +0.9**
baz=65
M16K Timber Creek 85.42 332 P **P 13 30 37.2 +1.2**
baz=66
R17L Mt. Peulik Vol 85.52 329 P **P 13 30 37.5 +0.9**
baz=68
N16K Nishlik Lake 85.55 332 P **P 13 30 37.7 +0.9**
baz=66
O16K Kokwok River B 85.60 331 IAmb IAmb 13 31 55.4
comp=Z,22nm,1.3s
O16K Kokwok River B 85.60 331 P **P 13 30 38.0 +1.1**
baz=67
F15K North Star Dit 85.64 338 IAMs_20 IAMs_20 14 05 29.5
comp=Z,569nm,22.0s
F15K North Star Dit 85.64 338 P **P 13 30 38.5 +1.5**
baz=61
G15K Niukluk 85.75 337 P **P 13 30 38.4 +0.8**
baz=62
P16K Nushagak River 85.77 330 P **P 13 30 38.8 +1.1**
baz=67
CHIR Chirikof Islan 85.81 327 P **P 13 30 39.4 +1.3**
baz=68
K15K Wolf Creek Mou 85.99 334 P **P 13 30 40.1 +1.3**
baz=64
R16K Pilot Point 86.15 329 P **P 13 30 40.6 +0.9**
baz=67
L15K Ungalak Mounta 86.24 334 P **P 13 30 41.3 +1.2**
baz=64
N15K Kwethluk River 86.28 332 P **P 13 30 42.0 +1.7**
baz=65
FURI Furi 86.30 82 LR LR 14 07 45.5
comp=Z,842nm,20.0s,baz=294,slow=35
M15K Kasigluk River 86.32 333 P **P 13 30 42.1 +1.7**
baz=65
F14K Arctic Creek 86.36 338 P **P 13 30 41.9 +1.3**
baz=60
ANM Nome 86.46 337 IAMs_20 IAMs_20 14 07 31.3
comp=Z,775nm,20.0s
ANM Nome 86.46 337 P **P 13 30 42.2 +1.1**
baz=61
O15K Ungalikthiuk R 86.58 331 P **P 13 30 43.0 +1.3**
baz=65
J14K Nanvaranak Lak 86.62 335 IAmb IAmb 13 30 49.9
comp=Z,31nm,1.2s
J14K Nanvaranak Lak 86.62 335 P **P 13 30 43.1 +1.3**
baz=62
M14K Bethel 86.86 333 IAmb IAmb 13 30 50.9
comp=Z,32nm,0.9s
M14K Bethel 86.86 333 P **P 13 30 44.5 +1.5**
baz=64
TNA Tin City 86.89 338 P **P 13 30 44.7 +1.5**
baz=58
L14K Kuka Creek 86.91 334 IAmb IAmb 13 30 50.4
comp=Z,18nm,0.8s
L14K Kuka Creek 86.91 334 P **P 13 30 45.1 +1.8**
baz=63,SNR=8.8
ARTI Arti 86.93 32 P **P 13 30 43.9 +0.3**
ARTI IAmb IAmb 13 30 49.5
comp=Z,22nm,1.0s
ARTI Arti 86.93 32 LR LR 14 04 57.7
comp=Z,501nm,20.7s,baz=289,slow=32
ARTI Arti 86.93 32 *c i*P **P 13 30 43.8 +0.2**
ARTI 13 34 03.3
ARTI S **SKSac 13 41 09.9 -0.2**
ARTI pmax pmax
comp=Z,21nm,1.5s
CHGN Chignik 87.07 328 P **P 13 30 45.0 +0.8**
baz=66
N14K Kuskokwak Cree 87.11 332 P **P 13 30 45.5 +1.2**
baz=64
O14K Tigyukauivet M 87.21 331 IAMs_20 IAMs_20 14 08 38.5
comp=Z,768nm,20.0s
O14K Tigyukauivet M 87.21 331 P **P 13 30 46.5 +1.6**
baz=64
K13K Kusilvak Mount 87.46 335 P **P 13 30 47.7 +1.7**
baz=61
KMBO Kilima Mbogo 87.56 92 P **P 13 30 47.8 0.0**
KMBO IAmb IAmb 13 31 02.6
comp=Z,29nm,1.9s
KMBO Kilima Mbogo 87.56 92 IAMs_20 IAMs_20 14 06 46.4
comp=Z,653nm,20.0s
KMBO Kilima Mbogo 87.56 92 P **P 13 30 48.6 +0.8**
comp=Z,0.8nm,0.3s,baz=236,slow=3.6,SNR=6.6
KMBO LR LR 14 07 08.6
comp=Z,452nm,20.9s,baz=274,slow=34
comp=Z,0.8nm,0.3s
KMBO Kilima Mbogo 87.56 92 P **P 13 30 47.8 0.0**
KMBO pmax pmax
comp=Z,29nm,2.0s
M13K Dall Lake 87.62 333 P **P 13 30 48.8 +2.0**
baz=62,SNR=10
SVE Sverdlovsk 87.88 31 *e*P **P 13 30 49.1 +1.0**
AKTO Aktyubinsk 89.11 37 LR LR 14 08 53.4
comp=Z,381nm,18.4s,baz=254,slow=34
ATD Arta Tunnel 89.57 78 LR LR 14 09 22.0
comp=Z,15nm,20.2s,baz=286,slow=34
NRIK Noril'sk 90.14 14 P **P 13 30 58.6 +0.1**
comp=Z,0.9nm,0.3s,baz=270,slow=5.1,SNR=2.5
comp=Z,0.9nm,0.3s
NRIK Noril'sk 90.14 14 *ce*P **P 13 30 58.3 -0.2**
NRIK pmax pmax
comp=Z,10.0nm,1.0s
VNA1 Neumayer--Stat 90.66 167 ⇑P **P 13 30 59.9 -0.8**
comp=Z,7.0nm,1.4s
VNA1 ⇑pP **pwP 13 31 11.1 +1.1**
comp=Z,18nm,1.0s
ABKAR Akbulak array 90.73 38 P **P 13 31 01.7 0.0**
VNA3 Neumayer Olymp 90.83 168 ⇑P **P 13 31 01.1 -0.5**
comp=Z,4.9nm,0.8s
VNA3 ⇑pP **pwP 13 31 10.9 0.0**
comp=Z,19nm,0.9s
VNA2 Neumayer--Watz 91.06 167 ⇑P **P 13 31 01.7 -0.8**
comp=Z,1.6nm,0.6s,baz=304,slow=6.7
VNA2 ⇑pP **pwP 13 31 12.4 +0.4**
comp=Z,6.4nm,0.9s,baz=325,slow=4.4
TAOE Nuku Hiva Isla 92.57 262 *e*LR LR 14 00 47.6
comp=Z,345nm,26.3s
BILL Bilibino 92.60 347 *ce*P **P 13 31 10.2 +0.3**
BILL pmax pmax
comp=Z,12nm,0.9s
SNAA Sanae 92.61 167 P **P 13 31 09.4 -0.4**
SNAA IAmb IAmb 13 31 21.9
comp=Z,18nm,1.1s
SNAA IAMs_20 IAMs_20 14 09 11.7
comp=Z,466nm,19.0s
SNAA Sanae 92.61 167 ⇑P **P 13 31 09.0 -0.8**
comp=Z,88nm,1.1s
SNAA ⇑pP **pwP 13 31 19.6 +0.4**
comp=Z,281nm,1.1s
SNAA Sanae 92.61 167 P **P 13 31 08.8 -1.0**
comp=Z,3.7nm,0.9s,baz=312,slow=7.4,SNR=13
SNAA LR LR 14 08 44.1
comp=Z,240nm,20.4s,baz=354,slow=33
comp=Z,3.7nm,0.9s
SNAA Sanae 92.61 167 *i* P **P 13 31 08.1 -1.7**
SNAA pmax pmax
comp=Z,16nm,1.0s
TIXI Tiksi 92.98 0 P **P 13 31 11.0 -0.6**
TIXI IAmb IAmb 13 31 25.2
comp=Z,9.7nm,0.9s
TIXI Tiksi 92.98 0 IAMs_20 IAMs_20 14 13 10.7
comp=Z,410nm,18.0s
TIXI Tiksi 92.98 0 LR LR 14 06 32.9
comp=Z,224nm,20.9s,baz=14,slow=31
TIXI Tiksi 92.98 0 *ce*P **P 13 31 11.7 +0.1**
TIXI pmax pmax
comp=Z,11nm,0.9s
BELA Belgrano 2 93.69 177 P **P 13 31 14.4 -0.2**
BRVK Borovoye 94.58 32 P **P 13 31 19.5 +0.2**
BRVK Borovoye 94.58 32 *ce*P **P 13 31 18.8 -0.5**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
BVAR Borovoye Array 94.65 32 P **P 13 31 17.6 -2.1**
comp=Z,2.7nm,0.7s,baz=277,slow=2.5,SNR=13
BVAR LR LR 14 08 48.9
comp=Z,355nm,21.1s,baz=298,slow=32
comp=Z,2.7nm,0.7s
BRLS Borolday 99.74 40 *e*P **Pdif 13 31 42.0 -1.0**
BRLS Borolday 99.74 40 *e*P **Pdif 13 31 41.9 -1.0**
KURK Kurchatov 100.12 30 P **Pdif 13 31 42.9 -1.5**
KURBB Kurchatov Arra 100.13 30 P **Pdif 13 31 42.9 -1.6**
comp=Z,0.2nm,0.3s,baz=308,slow=4.1,SNR=1.9
IUG Iuzhnay 100.33 41 *e*P **Pdif 13 31 44.4 -1.3**
IUG Iuzhnay 100.33 41 *e*P **Pdif 13 31 44.4 -1.3**
ZALV Zalesovo Beam 100.70 25 P **Pdif 13 31 46.2 -0.8**
comp=Z,0.2nm,0.3s,baz=343,slow=4.5,SNR=1.4
DZA Taraz 100.74 40 *e*P **Pdif 13 31 46.2 -1.2**
DZA Taraz 100.74 40 *e*P **Pdif 13 31 46.2 -1.2**
BTLS Baital 101.15 37 *e*P **Pdif 13 31 47.8 -1.3**
BTLS Baital 101.15 37 *e*P **Pdif 13 31 47.8 -1.3**
SGDS Sogindy 102.42 38 *e*P **Pdif 13 31 53.6 -1.3**
SGDS Sogindy 102.42 38 *e*P **Pdif 13 31 53.6 -1.3**
KUU Kurty 103.16 37 *e*PKiKP **PKiKP 13 36 15.7 -2.0**
PPT2 Papeete2 103.56 255 *e*LR LR 14 05 53.1
comp=Z,285nm,35.2s
PPT2 *e*LR LR 14 05 53.3
comp=Z,239nm,24.8s
TDK Taldyqorghan 103.64 35 *e*PKiKP **PKiKP 13 36 16.3 -2.3**
AAA Alma-Ata 103.90 37 *e*PKiKP **PKiKP 13 36 17.1 -2.1**
MDOK Medeo 104.01 37 *e*PKiKP **PKiKP 13 36 17.2 -2.3**
TNSS Tian-Shan 104.03 37 *e*PKiKP **PKiKP 13 36 17.4 -2.4**
MAKZ Makanchi 104.36 32 IAMs_20 IAMs_20 14 17 23.5
comp=Z,383nm,20.0s
TBI Tubuai 104.61 249 *e*LR LR 14 06 22.2
comp=Z,631nm,26.2s
KPKS Kokpek 104.76 36 *e*PKiKP **PKiKP 13 36 18.8 -2.0**
SATY Saty 104.86 37 *e*PKiKP **PKiKP 13 36 18.8 -2.2**
UZB Uzynbulak 105.15 36 *e*PKiKP **PKiKP 13 36 19.4 -2.2**
ZSN Zaisan 105.35 30 *e*PKiKP **PKiKP 13 36 19.5 -2.1**
QSPA South Pole Qui 105.55 180 PKiKP **PKiKP 13 36 24.3 +2.9**
comp=Z,2.3nm,1.1s,baz=166,slow=4.8,SNR=3.3
WMQ Urumqi 109.33 31 Pdif **Pdif 13 32 28.4 +2.7**
WMQ LR LR
comp=Z,630nm,18.3s
WMQ LR LR
comp=Z,760nm,20.9s
WMQ LR LR
comp=Z,410nm,23.5s
HIA Hailar 114.80 7 IAMs_20 IAMs_20 14 27 16.0
comp=Z,365nm,21.0s
MDJ Mudanjiang 120.10 0 IAMs_20 IAMs_20 14 25 52.1
comp=Z,436nm,22.0s
HHC Hu-ho-hao-te 121.29 16 *e*PKP **PKPdf 13 36 50.3 -2.0**
HHC LR LR
comp=Z,280nm,18.3s
HHC LR LR
comp=Z,290nm,19.9s
HHC LR LR
comp=Z,400nm,19.9s
BJT Baijiatuau 123.19 13 IAMs_20 IAMs_20 14 27 14.4
comp=Z,409nm,22.0s
HNS HongShan 125.35 15 *e*PKP **PKiKP 13 37 04.8 +4.4**
HNS LR LR
comp=Z,280nm,19.9s
HNS LR LR
comp=Z,220nm,19.9s
HNS LR LR
comp=Z,460nm,23.0s
XAN Xi'an 126.70 22 PKP **PKiKP 13 37 03.6 +0.4**
XAN LR LR
comp=Z,280nm,16.0s
XAN LR LR
comp=Z,300nm,17.2s
XAN LR LR
comp=Z,450nm,19.2s
CD2 Chengdu 127.30 29 PKP **PKiKP 13 37 04.3 -0.2**
PZH PanZhiHua 129.91 34 PKP **PKPdf 13 37 08.3 -0.9**
NJ2 Nanjing 131.43 13 *e*PKP **PKPdf 13 37 12.0 +0.3**
CMAR Chiang Mai Arr 134.34 43 PKPdf **PKPdf 13 37 17.0 -0.6**
CMAR Chiang Mai Arr 134.34 43 PKP **PKPdf 13 37 16.6 -1.0**
comp=Z,1.9nm,0.8s,baz=299,slow=3.2,SNR=15
QIZ Qiongzhong 140.25 31 PKP **PKiKP 13 37 29.8 -1.2**
QIZ PP **PP 13 40 24.9 +0.1**

QIZ				SS	SS		13 58 48.0	+0.7
QIZ				LR	LR			
	comp=Z,170nm,16.7s							
QIZ				LR	LR			
	comp=Z,180nm,18.0s							
QIZ				LR	LR			
	comp=Z,250nm,21.9s							
PSI	**Prapat**	**144.16**	**62**	PKIKP	**PKPab**		**13 37 31.7**	**-1.7**
RPSI	**Rantau Prapat**	**144.22**	**62**	PKPdf	**PKPab**		**13 37 31.7**	**-1.7**
DZM	**Mont Dzumac**	**145.05**	**254**	*e*SS	SS		13 59 44.6	-1.4
	comp=Z,96nm,21.4s							
DZM	**Mont Dzumac**	**145.05**	**254**	*e*LR	LR		14 25 04.2	
	comp=Z,189nm,24.1s							
STKA	**Stephens Creek**	**160.68**	**211**	PKP	**PKPdf**		**13 37 57.6**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=164,slow=4.3,SNR=3.4							
ASAR	**Alice Springs**	**171.19**	**203**	PKP	**PKPdf**		**13 38 06.7**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=151,slow=1.4,SNR=7.6							
ASAR				PKPab	**PKPab**		**13 39 26.2**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=155,slow=3.7,SNR=5.2							
WRA	**Warramunga Arr**	**174.06**	**222**	PKP	**PKPdf**		**13 38 06.7**	**-2.5**
	comp=Z,3.1nm,1.0s,baz=302,slow=0.4,SNR=12							
WRA				PKPab	**PKPab**		**13 39 38.9**	**-1.3**
	comp=Z,1.0nm,1.1s,baz=130,slow=3.5,SNR=2.6							

*THE **17** 13:29:57.6, 37.°43N×20.°47E, h8km±12km, ML3.0/2, Error ellipse: s-maj=12.9km s-min=0.6km az=56.0*
*ATH **17** 13:29:58.3, 37.°45N×20.°48E, h10km±3km, ML2.7/6, Error ellipse: s-maj=3.6km s-min=1.4km az=5.0*
ISC 17 13:29:57.7±2.1, 37.°43N±0.°08×20.°48E±0.°07, h8km±12km, n17, σ0.8 46/29, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.36**	**49**	P	**Pg**	**13 30 04.5**	**-0.2**
KRI1				S	**Sg**	**13 30 10.1**	**+0.6**
	4μm,0.2s						
LTHK	**Lithakia**	**0.40**	**46**	P	**Pg**	**13 30 05.3**	**-0.2**
LTHK				S	**Sg**	**13 30 11.6**	**+0.8**
	4μm,0.1s						
LTHK	**Lithakia**	**0.40**	**46**	P	**Pg**	**13 30 05.4**	**-0.2**
LTHK				S	**Sg**	**13 30 10.8**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.69**	**20**	P	**Pg**	**13 30 10.5**	**-0.4**
RTZL				S	**Sg**	**13 30 20.4**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.69**	**7**	P	**Pg**	**13 30 10.4**	**-0.6**
PSDA				S	**Sg**	**13 30 20.7**	**+0.7**
VLS	**Valsamata**	**0.75**	**7**	P	**Pg**	**13 30 11.7**	**-0.5**
DMLN	**Damoulianata-K**	**0.81**	**354**	P	**Pg**	**13 30 13.2**	**-0.1**
DMLN				S	**Sb**	**13 30 25.2**	**0.0**
DMLN	**Damoulianata-K**	**0.81**	**354**	P	**Pg**	**13 30 13.7**	**+0.3**
DMLN				S	**Sg**	**13 30 24.3**	**+0.3**
AMT	**Artemida-Makis**	**0.99**	**84**	P	**Pg**	**13 30 17.0**	**+0.4**
AMT				S	**Sb**	**13 30 30.2**	**0.0**
AMT				AML	AML	13 30 36.3	
	comp=E,1766μm,0.5s						
AMT				AML	AML	13 30 39.9	
	comp=N,2074μm,0.6s						
RLS	**Riolos of Patr**	**1.01**	**51**	P	**Pg**	**13 30 16.6**	**-0.4**
RLS	**Riolos of Patr**	**1.01**	**51**	P	**Pg**	**13 30 16.2**	**-0.8**
RLS				S	**Sb**	**13 30 30.6**	**-0.1**
RLS				AML	AML	13 30 36.8	
	comp=E,413μm,0.4s						
RLS				AML	AML	13 30 36.9	
	comp=N,339μm,0.7s						
DRO	**Drossia**	**1.11**	**62**	P	**Pg**	**13 30 19.1**	**+0.1**
DRO				S	**Sg**	**13 30 33.2**	**-0.2**
DRO				AML	AML	13 30 40.1	
	comp=N,876μm,0.6s						
DRO				AML	AML	13 30 45.9	
	comp=E,1025μm,0.4s						
PYL	**PYLOS**	**1.14**	**117**	P	**Pb**	**13 30 19.0**	**-0.7**
PYL				S	**Sn**	**13 30 36.2**	**+0.4**
PYL	**PYLOS**	**1.14**	**117**	P	**Pb**	**13 30 19.1**	**-0.5**
PYL				AML	AML	13 30 38.8	
	comp=N,594μm,0.2s						
PYL				AML	AML	13 30 39.3	
	comp=E,572μm,0.2s						
ITM	**Ithomi**	**1.18**	**102**	P	**Pb**	**13 30 20.2**	**-0.2**
ITM				S	**Sn**	**13 30 36.8**	**0.0**
ITM				AML	AML	13 30 41.8	
	comp=E,387μm,0.6s						
ITM				AML	AML	13 30 44.9	
	comp=N,244μm,0.4s						
KLV	**Kalavryta, Ach**	**1.46**	**65**	P	**Pn**	**13 30 24.4**	**-0.1**
GUR	**Goura**	**1.56**	**71**	P	**Pn**	**13 30 26.5**	**+0.6**

*MOS **17** 13:40:56.1±2.1, 51.°76N×105.°85E, h12km, mb4.0/1, Error ellipse: s-maj=11.0km s-min=10.3km az=94.7*
MOS Felt (II) at Irkutsk.
*BYKL **17** 13:40:56.5±0.1, 51.°76N×105.°67E, h21km±2km, FELT I=IV MSK at Babushkin,III-IV at Maloye Goloustnoye, Zelenyy mys, Novaya Razvodnaya, II-III at Irkutsk, Shelekhov.*
ISC 17 13:40:57.6±1.0, 51.°77N±0.°02×105.°66E±0.°02, h16km±7km, n45, σ2.2 28/91, 10C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGT	**Bolshoye Golou**	**0.32**	**331**	⇑*i*Pg	**Pg**	**13 41 04.0**	**-0.2**
BGT				Pmax		13 41 04.1	
	1μm,0.2s						
BGT				*e*Sg	**Sg**	**13 41 09.0**	**+0.2**
BGT				Smax		13 41 09.5	
	11μm,0.3s						
BGT				*e*		13 41 11.4	
BGT	**Bolshoye Golou**	**0.32**	**331**	⇑*i*PG	**Pg**	**13 41 04.0**	**-0.2**
BGT				*e*		13 41 09.1	
BGT				pmax	pmax		
	comp=Z,1μm,0.2s						
BGT				smax	smax		
	comp=N,11μm,0.3s						
LSTR	**Listvyanka**	**0.52**	**281**	⇑*i*Pg	**Pb**	**13 41 07.3**	**-1.1**
LSTR				Pmax		13 41 07.5	
	comp=N,1μm,0.3s						
LSTR				*e*Sg	**Sg**	**13 41 14.8**	**-0.1**
LSTR				*e*		13 41 16.5	
LSTR				max		13 41 16.7	
	comp=N,3μm,0.2s						
LSTR	**Listvyanka**	**0.52**	**281**	⇑*i*PG	**Pb**	**13 41 07.3**	**-1.1**
LSTR				*e*		13 41 14.8	
LSTR				pmax	pmax		
	comp=Z,856nm,0.1s						
LSTR				smax	smax		
	comp=N,3μm,0.2s						
KAB	**Kabansk**	**0.68**	**65**	*e*Pg	**Pb**	**13 41 09.4**	**-1.6**
KAB				Pmax		13 41 11.9	
	comp=N,338nm,0.2s						
KAB				*e*Sg	**Sb**	**13 41 18.6**	**-1.6**
KAB				Smax		13 41 20.1	
	comp=N,16μm,0.8s						
KAB	**Kabansk**	**0.68**	**65**	*e*PG	**Pb**	**13 41 09.9**	**-1.1**
KAB				*e*		13 41 18.7	
KAB				pmax	pmax		
	comp=Z,265nm,0.1s						
KAB				smax	smax		
	comp=N,16μm,0.8s						
FFNB	**Fofonovo**	**0.74**	**68**	⇑*i*Pg	**Pb**	**13 41 10.3**	**-1.8**
FFNB				*e*Sg	**Sb**	**13 41 20.3**	**-1.7**
IVK	**Ivanovka**	**0.77**	**273**	⇑*i*Pg	**Pb**	**13 41 11.4**	**-1.3**
IVK				Pmax		13 41 11.8	
	comp=N,358nm,0.1s						
IVK				*e*Sg	**Sb**	**13 41 21.8**	**-1.1**
IVK				Smax		13 41 23.5	
	comp=N,4μm,0.2s						
IVK	**Ivanovka**	**0.77**	**273**	⇑*i*PG	**Pb**	**13 41 11.4**	**-1.3**
IVK				*e*		13 41 21.8	
IVK				pmax	pmax		
	comp=Z,355nm,0.1s						
IVK				smax	smax		
	comp=N,4μm,0.2s						
HRMR	**Khuramsha**	**0.82**	**100**	⇓*i*Pg	**Pb**	**13 41 11.7**	**-1.8**
	comp=N,901nm,0.3s						
HRMR				⇑*i*Pg	**Pb**	**13 41 11.7**	**-1.8**
	comp=N,1μm,0.3s						
HRMR				⇑*i*Pg	**Pb**	**13 41 11.7**	**-1.8**
	comp=N,1μm,0.3s						
HRMR				*e*Sg	**Sb**	**13 41 22.9**	**-1.4**
HRMR				*e*Sb	**Sg**	**13 41 25.3**	**+1.0**
IRK	**Irkutsk**	**0.98**	**299**	*e*Pg	**Pb**	**13 41 15.0**	**-1.1**
IRK				Pmax		13 41 15.5	
	comp=N,2μm,0.4s						
IRK				*e*Pb	**Pn**	**13 41 16.3**	**-0.4**
IRK				*e*Sg	**Sb**	**13 41 28.3**	**-0.6**
IRK				Smax		13 41 29.5	
	comp=N,9μm,0.3s						
IRK	**Irkutsk**	**0.98**	**299**	*e*PG	**Pb**	**13 41 15.1**	**-1.1**
IRK				*e*		13 41 28.4	
IRK				pmax	pmax		
	comp=Z,2μm,0.3s						
IRK				smax	smax		
	comp=N,9μm,0.3s						
TRG	**Tyrgan**	**1.08**	**23**	⇓*i*Pg	**Pb**	**13 41 16.1**	**-1.8**
TRG				Pmax		13 41 21.7	
	comp=N,184nm,0.1s						
TRG				*e*Sg	**Sb**	**13 41 30.7**	**-1.1**
TRG				Smax		13 41 31.7	
	comp=N,3μm,0.2s						
TRG	**Tyrgan**	**1.08**	**23**	*e*PG	**Pb**	**13 41 16.1**	**-1.8**
TRG				*e*		13 41 31.0	
TRG				pmax	pmax		
	comp=Z,128nm,0.1s						
TRG				smax	smax		
	comp=E,3μm,0.2s						
UUDB	**Ulan-Yde**	**1.25**	**85**	⇑*i*Pg	**Pn**	**13 41 18.9**	**-1.5**
UUDB				Pmax		13 41 19.6	
	comp=E,320nm,0.2s						
UUDB				*e*Sg	**Sb**	**13 41 35.3**	**-1.3**
UUDB				Smax		13 41 37.8	
	comp=E,2μm,0.4s						
TLY	**Talaya**	**1.26**	**267**	*e*Pg	**Pn**	**13 41 19.2**	**-1.3**
TLY				*e*Pb	**Pb**	**13 41 20.2**	**-0.7**
TLY				max		13 41 20.6	
	comp=E,131nm,0.2s						
TLY				*e*Sg	**Sb**	**13 41 35.8**	**-1.0**
TLY				Smax		13 41 38.4	
	comp=E,2μm,0.3s						
KELR	**Kotokel**	**1.79**	**55**	*e*Pn	**Pn**	**13 41 26.9**	**-0.9**
KELR				*e*Pg	**Pb**	**13 41 28.4**	**-1.6**
KELR				*e*Sg	**Sb**	**13 41 51.5**	**-0.6**
ARS	**Arshan**	**2.01**	**276**	*e*Pn	**Pn**	**13 41 30.7**	**-0.2**
ARS				*e*Pg	**Pb**	**13 41 32.3**	**-1.5**
ARS				Pmax		13 41 41.4	
	comp=E,231nm,0.5s						
ARS				*e*Sg	**Sb**	**13 41 57.9**	**-0.7**
ARS				Smax		13 42 00.5	
	comp=E,2μm,0.6s						
ARS	**Arshan**	**2.01**	**276**	*e*PN	**Pb**	**13 41 32.5**	**-1.3**
ARS				*e*		13 41 57.9	
ARS				pmax	pmax		
	comp=Z,124nm,0.2s						
ARS				smax	smax		
	comp=E,2μm,0.7s						
ZAK	**Zakamensk**	**2.04**	**228**	*e*Pn	**Pn**	**13 41 31.0**	**-0.4**
ZAK				*e*Pg	**Pb**	**13 41 33.6**	**-0.8**
ZAK				Pmax		13 41 33.9	
	comp=E,179nm,0.3s						
ZAK				*e*Sg	**Sb**	**13 42 00.4**	**+0.8**
ZAK				Smax		13 42 03.8	
	comp=E,1μm,0.5s						
ZAK	**Zakamensk**	**2.04**	**228**	*e*PN	**Pb**	**13 41 33.3**	**-1.1**
ZAK				*e*		13 42 00.2	
ZAK				pmax	pmax		
	comp=Z,179nm,0.3s						
ZAK				smax	smax		
	comp=N,1μm,0.3s						
OGRR	**Ongureny**	**2.21**	**31**	*e*Pn	**Pn**	**13 41 32.7**	**-1.0**
OGRR				*e*		13 41 34.5	
OGRR				*e*Pg	**Pb**	**13 41 36.9**	**-0.3**
OGRR				Pmax		13 41 47.6	
	comp=N,70nm,0.4s						
OGRR				*e*Sn	**Sn**	**13 42 00.6**	**-0.1**
OGRR				*e*Sg	**Sb**	**13 42 04.6**	**+0.2**
OGRR				*e*SgSg	**SnSn**	**13 42 16.1**	**+4.3**
OGRR				max		13 42 20.9	
	comp=N,391nm,0.6s						
OGRR	**Ongureny**	**2.21**	**31**	*e*PN	**Pn**	**13 41 32.5**	**-1.2**
OGRR				*e*		13 41 35.3	
OGRR				*e*		13 42 04.4	
OGRR				pmax	pmax		
	comp=Z,60nm,0.3s						
OGRR				smax	smax		
	comp=E,347nm,0.6s						
MXMB	**Maximikha**	**2.41**	**50**	*e*Pn	**Pn**	**13 41 36.0**	**-0.3**
MXMB				*e*Pg	**Pb**	**13 41 40.0**	**-0.5**
MXMB				*e*Sg	**Sb**	**13 42 11.3**	**+1.4**
MOY	**Mondy**	**2.90**	**270**	*e*Pn	**Pn**	**13 41 42.9**	**-0.3**
MOY				*e*Pg	**Pb**	**13 41 48.0**	**-1.1**
MOY				Pmax		13 41 57.5	
	comp=E,132nm,0.8s						
MOY				*e*Sg	**Sb**	**13 42 25.9**	**+1.6**
MOY				Smax		13 42 27.7	
	comp=E,699nm,0.8s						
MOY				*e*		13 42 37.3	
MOY	**Mondy**	**2.90**	**270**	*e*PN	**Pb**	**13 41 47.9**	**-1.1**
MOY				*e*		13 42 25.1	
MOY				pmax	pmax		
	comp=Z,56nm,0.4s						
MOY				smax	smax		
	comp=E,702nm,0.7s						
SYVR	**Suvo**	**3.25**	**53**	*e*Pn	**Pn**	**13 41 47.6**	**-0.3**
SYVR				*e*Pg	**Pb**	**13 41 54.3**	**-0.5**
SYVR				Pmax		13 42 06.6	
	comp=E,48nm,0.7s						
SYVR				*e*Sg	**Sb**	**13 42 36.7**	**+2.6**
SYVR				*e*SgSg	**SnSn**	**13 42 38.2**	**+1.1**
SYVR				max		13 42 44.4	
	comp=E,175nm,0.5s						
SYVR	**Suvo**	**3.25**	**53**	*e*PN	**Pn**	**13 41 46.6**	**-1.3**
SYVR				*e*		13 41 54.3	
SYVR				*e*		13 42 36.9	
SYVR				pmax	pmax		
	comp=Z,34nm,0.3s						
SYVR				smax	smax		
	comp=E,177nm,0.3s						
ORL	**Orlik**	**3.68**	**284**	*e*	**Pn**	**13 41 55.6**	**+1.7**
ORL				*e*Pg	**Pb**	**13 42 01.8**	**-0.6**
ORL				*e*PgPg	**PnPn**	**13 42 03.1**	**+2.0**
ORL				max		13 42 05.1	
	comp=E,69nm,0.5s						
ORL				*e*		13 42 46.4	
ORL				*e*Sg	**Sb**	**13 42 50.7**	**+4.0**
ORL				Smax		13 42 56.1	
	comp=E,259nm,0.5s						
ORL	**Orlik**	**3.68**	**284**	*e*PN	**Pb**	**13 42 01.7**	**-0.6**
ORL				pmax	pmax		
	comp=Z,74nm,0.5s						
ULN	**Ulaanbaatar**	**4.01**	**166**	*e*Pn	**Pn**	**13 41 58.0**	**-0.5**
ULN				*e*Pg	**Pb**	**13 42 08.6**	**+0.6**
ULN				Pmax		13 42 13.2	
	comp=Z,58nm,0.5s						
ULN				*e*Sn	**Sn**	**13 42 44.2**	**-1.1**
ULN				*e*Sg	**Sb**	**13 43 00.8**	**+4.5**
ULN				Smax		13 43 07.1	
	comp=Z,410nm,0.7s						
ULN	**Ulaanbaatar**	**4.01**	**166**	*i* PN	**Pn**	**13 41 57.8**	**-0.7**
YLYR	**Ulyunkhan**	**4.53**	**45**	*e*Pn	**Pn**	**13 42 05.0**	**-0.5**
YLYR				*e*Pg	**Pb**	**13 42 18.1**	**+1.4**
YLYR				*e*		13 42 23.2	
YLYR				max		13 42 35.2	
	comp=Z,21nm,0.7s						
YLYR				*e*Sn	**Sn**	**13 42 55.0**	**-2.9**
YLYR				*e*Sg	**Sb**	**13 43 16.4**	**+5.3**
YLYR				Smax		13 43 40.1	
	comp=Z,101nm,1.2s						
NIZB	**Nizh Angarsk**	**4.62**	**28**	*e*Pn	**Pn**	**13 42 06.7**	**0.0**
NIZB				*e*		13 42 13.3	
NIZB				*e*		13 42 24.0	
NIZB				*e*		13 42 35.3	
	comp=Z,26nm,0.3s						
NIZB				*e*Sn	**Sn**	**13 42 57.2**	**-2.9**
NIZB				*e*Sg	**Sb**	**13 43 19.5**	**+5.9**
NIZB				Smax		13 43 31.6	
	comp=Z,154nm,1.0s						
KPC	**Khapcheranga**	**4.74**	**113**	*e*Pn	**Pn**	**13 42 06.2**	**-2.3**
KPC				*e*Pg	**Pb**	**13 42 21.0**	**+0.6**
KPC				*e*		13 42 25.2	
KPC				max		13 42 25.7	
	comp=Z,73nm,0.4s						
KPC				*e*Sg	**Sb**	**13 43 22.7**	**+5.5**
KPC				Smax		13 43 31.2	
	comp=Z,306nm,1.2s						
KPC				*e*		13 43 38.6	
KPC	**Khapcheranga**	**4.74**	**113**	*e*PN	**Pn**	**13 42 06.2**	**-2.3**
KPC				*e*		13 42 19.2	
KPC				*e*		13 43 22.5	
KPC				pmax	pmax		
	comp=Z,73nm,0.2s						
KPC				smax	smax		
	comp=N,274nm,1.2s						
CIT	**Chita**	**4.90**	**84**	*e*Sg	**Sb**	**13 43 27.7**	**+6.1**
CIT				Smax		13 43 37.2	
	comp=N,319nm,0.5s						
CIT	**Chita**	**4.90**	**84**	*e*PN	**Pn**	**13 42 11.1**	**+0.6**
CIT				*e*		13 42 25.3	
CIT				*e*		13 43 27.4	
CIT				pmax	pmax		
	comp=Z,72nm,0.3s						
CIT				smax	smax		
	comp=N,371nm,0.9s						
KMO	**Kumora**	**5.27**	**36**	*e*Pn	**Pn**	**13 42 15.8**	**+0.2**
KMO				*e*Pg	**Pb**	**13 42 31.6**	**+2.3**
KMO				Pmax		13 42 52.7	
	comp=N,44nm,0.8s						
KMO				*e*		13 43 15.9	
KMO				*e*Sg	**Sb**	**13 43 39.5**	**+7.3**
KMO				Smax		13 43 47.5	
	comp=N,146nm,1.9s						
UKT	**Uakit**	**6.03**	**49**	*e*Pn	**Pn**	**13 42 24.9**	**-1.2**
UKT				*e*Pg	**Pb**	**13 42 45.6**	**+3.4**
UKT				Pmax		13 42 49.0	
	comp=N,12nm,0.9s						
UKT				*e*Sg	**Sg**	**13 44 03.7**	**-7.2**
UKT				Smax		13 44 34.3	
	comp=N,74nm,2.2s						
NLYR	**Nelyaty**	**7.56**	**47**	*e*Pg	Pb	13 43 12.9	+4.7
NLYR				*e*		13 43 24.0	
NLYR				max		13 43 32.8	
	comp=N,6.0nm,0.8s						
NLYR				*e*		13 44 16.2	
NLYR				*e*Sg	Sb	13 44 50.5	+12
NLYR				Smax		13 45 19.4	
	comp=N,127nm,1.9s						
BOD	**Bodaibo**	**7.74**	**35**	*e*Sg	Sb	13 44 55.2	+12
BOD				Smax		13 45 15.6	
	comp=N,59nm,1.1s						
CRS	**Chara**	**8.98**	**50**	*e*Pg	Pn	13 43 38.3	+32
CRS				Pmax		13 43 51.7	
	comp=N,6.0nm,0.6s						
CRS				*e*Sg	Sn	13 45 34.5	+47
CRS				Smax		13 45 54.9	
	comp=N,31nm,1.1s						
TUP	**Tupik**	**9.00**	**67**	*e*Sn	**Sn**	**13 44 43.0**	**-4.8**
TUP				*e*Sg		13 45 34.3	
TUP				Smax		13 45 43.6	
	comp=N,162nm,1.0s						
BRVK	**Borovoye**	**21.49**	**287**	*i* P	**P**	**13 45 47.2**	**+1.9**
BRVK				pmax	pmax		
	comp=Z,18nm,4.0s						

*NEIC **17** 13:42:49.6±2.5, 48.°8S±0.°1×123.°1E±0.°4, h10km±1km, mb4.4/13, Error ellipse: s-maj=47.0km s-min=11.0km az=294.0*
*IDC **17** 13:42:52.1±0.9, 49.°07S×123.°69E, h0km, mb4.0/6, mbtmp4.0/6, MS3.8/3, Error ellipse: s-maj=56.8km s-min=18.9km az=104.0*
ISC 17 13:42:51.1±0.6, 48.°87S±0.°09×123.°9E±0.°2, h10km, n42, σ1.9 92/27, mb4.3/12, MS4.0/3, 10C, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.70**	**329**	T	T	14 02 02.8	
	baz=155						
H01W2	**Cape Leeuwin H**	**15.71**	**329**	T	T	14 02 00.9	
	baz=155						
H01W3	**Cape Leeuwin H**	**15.72**	**329**	T	T	14 01 56.6	
	baz=155						
FORT	**Forrest**	**18.35**	**12**	P	**P**	**13 47 06.0**	**+0.4**
FORT				IAmb	IAmb	13 47 34.0	
	comp=Z,28nm,0.9s						
BBOO	**Buckleboo**	**18.47**	**34**	P	**Pn**	**13 47 05.2**	**-1.9**
BBOO				IAmb	IAmb	13 47 29.8	
	comp=Z,23nm,1.2s						
CASY	**Casey**	**18.78**	**197**	P	**P**	**13 47 05.4**	**-4.7**
CASY				IAmb	IAmb	13 47 13.0	
	comp=Z,20nm,1.3s						
STKA	**Stephens Creek**	**21.61**	**45**	P	**P**	**13 47 39.9**	**-1.2**
STKA	**Stephens Creek**	**21.61**	**45**	LR	LR	13 55 13.4	
	comp=Z,117nm,20.2s,baz=215,slow=34						
ASAR	**Alice Springs**	**26.38**	**21**	P	**P**	**13 48 25.8**	**-1.7**
ASAR	**Alice Springs**	**26.38**	**21**	P	**P**	**13 48 31.3**	**+3.8**
	comp=Z,1.5nm,0.9s,baz=185,slow=9.9,SNR=6.5						
	comp=Z,1.5nm,0.9s						
AS31	**Alice Springs**	**26.38**	**21**	P	**P**	**13 48 27.1**	**-0.5**
WHZ	**Wether Hill Ro**	**29.69**	**101**	P	**P**	**13 48 58.9**	**+1.9**
WRA	**Warramunga Arr**	**30.07**	**20**	P	**P**	**13 48 59.8**	**-0.7**
WRA	**Warramunga Arr**	**30.07**	**20**	P	P	13 49 05.9	+5.4
	comp=Z,0.9nm,1.2s,baz=187,slow=32,SNR=2.8						
	comp=Z,0.9nm,1.2s						
WRAB	**Tennant Creek**	**30.08**	**20**	P	**P**	**13 49 01.4**	**+0.9**
WRAB				IAmb	IAmb	13 49 42.1	
	comp=Z,7.2nm,1.4s						
FITZ	**Fitzroy Crossi**	**30.73**	**3**	P	**P**	**13 49 03.0**	**-3.2**
SBA	**Scott Base**	**33.23**	**165**	P	**P**	**13 49 28.1**	**+0.4**
SBA				IAmb	IAmb	13 50 01.9	
	comp=Z,3.9nm,1.1s						
MAW	**Mawson**	**35.27**	**215**	P	**P**	**13 49 45.7**	**+0.2**
	comp=Z,2.6nm,0.9s,baz=90,slow=8.6,SNR=3.7						
	comp=Z,2.6nm,0.9s						
QSPA	**South Pole Qui**	**41.25**	**180**	P	**P**	**13 50 36.3**	**+0.2**
QSPA				IAmb	IAmb	13 50 45.5	
	comp=Z,9.1nm,1.1s						
QSPA	**South Pole Qui**	**41.25**	**180**	P	**P**	**13 50 37.3**	**+1.2**
	comp=Z,2.1nm,0.9s,baz=132,slow=1.2,SNR=4.2						
	comp=Z,2.1nm,0.9s						
TROLL	**Troll, Antarti**	**52.62**	**200**	⇑P	**P**	**13 52 05.6**	**+0.9**
	comp=Z,133nm,0.7s						
TROLL	**Troll, Antarti**	**52.62**	**200**	⇑pP	pP	13 52 12.3	+5.7
	comp=Z,247nm,0.9s						
BELA	**Belgrano 2**	**52.83**	**186**	P	**P**	**13 52 05.0**	**-1.0**
BELA				IAmb	IAmb	13 52 14.8	
	comp=Z,12nm,1.0s						
SNAA	**Sanae**	**54.01**	**198**	P	**P**	**13 52 14.0**	**-0.9**
SNAA	**Sanae**	**54.01**	**198**	⇑P	**P**	**13 52 16.0**	**+1.1**
	comp=Z,138nm,1.1s						
SNAA	**Sanae**	**54.01**	**198**	⇑pP	pP	13 52 22.8	+6.0
SNAA	**Sanae**	**54.01**	**198**	P	**P**	**13 52 15.6**	**+0.8**
	comp=Z,4.9nm,0.8s,baz=154,slow=12,SNR=16						
	comp=Z,4.9nm,0.8s						
VNA2	**Neumayer--Watz**	**55.52**	**197**	⇑P	**P**	**13 52 27.5**	**+1.8**
	comp=Z,4.2nm,0.6s,baz=150,slow=6.4						
VNA2	**Neumayer--Watz**	**55.52**	**197**	⇑pP	pP	13 52 33.6	+6.0
	baz=138,slow=5.9						
VNA3	**Neumayer Olymp**	**55.70**	**196**	⇑P	**P**	**13 52 27.9**	**+0.9**
	comp=Z,3.4nm,0.8s						
VNA3	**Neumayer Olymp**	**55.70**	**196**	⇑pP	pP	13 52 34.7	+5.7
DAV	**Davao City (W)**	**55.72**	**2**	LR	LR	14 17 29.7	
	comp=Z,134nm,20.4s,baz=316,slow=37						
VNA1	**Neumayer--Stat**	**55.91**	**197**	⇑P	**P**	**13 52 30.1**	**+1.6**
	comp=Z,8.7nm,1.3s						
VNA1	**Neumayer--Stat**	**55.91**	**197**	⇑pP	pP	13 52 34.6	+4.2
H08S2	**Diego Garcia H**	**59.48**	**296**	T	T	14 57 21.2	
	baz=144,slow=76,SNR=4.1						
H08S1	**Diego Carcia H**	**59.49**	**296**	T	T	14 57 08.6	
	baz=144,slow=76,SNR=2.9						
H08S3	**Diego Garcia H**	**59.49**	**296**	T	T	14 57 13.9	
	baz=144,slow=76,SNR=5.1						
RAR	**Rarotonga**	**65.46**	**95**	LR	LR	14 18 40.9	
	comp=Z,88nm,19.6s,baz=303,slow=33						
CMAR	**Chiang Mai Arr**	**70.61**	**335**	P	**P**	**13 54 10.1**	**+3.6**
	comp=Z,1.5nm,0.9s,baz=191,slow=6.2,SNR=9.8						
	comp=Z,1.5nm,0.9s						
NVAR	**Mina Array Bea**	**135.00**	**79**	PKP	**PKiKP**	**14 02

H01W1	Cape Leeuwin H	15.80	330	T	T	14 04 27.0	
	baz=156,slow=75,SNR=23						
H01W2	Cape Leeuwin H	15.80	330	T	T	14 04 27.7	
	baz=156,slow=75,SNR=33						
H01W3	Cape Leeuwin H	15.81	330	T	T	14 04 34.0	
	baz=156,slow=75,SNR=23						
NWAO	Narrogin (SRO)	16.83	341	LR	LR	13 53 17.8	
	comp=Z,2μm,21.6s,baz=104,slow=31						
CASY	Casey	18.52	197		P	13 48 47.0	-3.4
CASY				IAmb	IAmb	13 48 57.6	
	comp=Z,14nm,0.8s						
FORT	Forrest	18.60	12	P	Pn	13 48 52.6	+0.7
FORT				IAmb	IAmb	13 49 20.9	
	comp=Z,28nm,0.9s						
BBOO	Buckleboo	18.76	35	P	P	13 48 51.2	-2.1
BBOO				IAmb	IAmb	13 49 23.4	
	comp=Z,31nm,1.4s						
TOO	Toolangi	19.59	62	P	P	13 49 01.6	-0.8
MORW	Morawa	20.81	341	P	P	13 49 14.8	-0.9
MORW				IAmb	IAmb	13 49 18.1	
	comp=Z,24nm,1.2s						
STKA	Stephens Creek	21.90	45	P	P	13 49 27.7	+0.3
STKA	Stephens Creek	21.90	45	P	P	13 49 27.9	+0.5
	comp=Z,1.9nm,0.8s,baz=171,slow=8.1,SNR=3.4						
	comp=Z,1.9nm,0.8s						
ASAR	Alice Springs	26.65	22	P	P	13 50 11.8	-1.3
ASAR	Alice Springs	26.65	22	P	P	13 50 13.2	+0.1
	comp=Z,1.1nm,0.7s,baz=197,slow=8.9,SNR=7.4						
ASAR				LR	LR	14 00 00.8	
	comp=Z,542nm,18.2s,baz=200,slow=35						
	comp=Z,1.1nm,0.7s						
AS31	Alice Springs	26.65	22	P	P	13 50 12.1	-1.0
WRA	Warramunga Arr	30.34	20	P	P	13 50 46.1	+0.1
WRA	Warramunga Arr	30.34	20	P	P	13 50 45.6	-0.4
	comp=Z,1.0nm,1.1s,baz=191,slow=5.6,SNR=2.3						
WRA				LR	LR	14 02 06.7	
	comp=Z,487nm,19.6s,baz=188,slow=35						
	comp=Z,1.0nm,1.1s						
WB2	Warramunga Arr	30.34	20	P	P	13 50 43.9	-2.1
WB2				IAmb	IAmb	13 50 55.5	
	comp=Z,5.3nm,1.3s						
WRAB	Tennant Creek	30.35	20	P	P	13 50 46.7	+0.6
WRAB				IAmb	IAmb	13 51 23.4	
	comp=Z,8.3nm,1.4s						
FITZ	Fitzroy Crossi	30.96	4	P	P	13 50 50.3	-1.1
FITZ	Fitzroy Crossi	30.96	4	LR	LR	14 02 32.8	
	comp=Z,516nm,19.2s,baz=150,slow=35						
EIDS	Eidsvold	31.95	52	P	P	13 51 00.3	+0.2
CTAO	Charters Tower	34.17	40	P	P	13 51 20.4	+0.9
CTAO				IAmb	IAmb	13 51 21.6	
	comp=Z,6.4nm,1.1s						
MAW	Mawson	34.98	216	P	P	13 51 26.3	+0.2
	comp=Z,4.8nm,1.0s,baz=66,slow=11,SNR=5.1						
	comp=Z,4.8nm,1.0s						
BATI	Baumata	38.76	0	LR	LR	14 06 36.3	
	comp=Z,757nm,21.4s,baz=193,slow=34						
QSPA	South Pole Qui	41.03	180	P	P	13 52 16.3	-1.1
QSPA				IAmb	IAmb	13 52 42.0	
	comp=Z,12nm,1.1s						
QSPA	South Pole Qui	41.03	180	P	P	13 52 18.7	+1.4
	comp=Z,5.9nm,1.1s,baz=333,slow=4.9,SNR=5.4						
	comp=Z,5.9nm,1.1s						
LEM	Lembang	44.22	337	LR	LR	14 10 02.1	
	comp=Z,172nm,20.2s,baz=301,slow=35						
JAY	Jayapura	48.67	23	LR	LR	14 12 54.2	
	comp=Z,216nm,21.3s,baz=278,slow=35						
TROLL	Troll, Antarti	52.34	200	⇑PP	P	13 53 46.6	+0.8
	comp=Z,247nm,0.9s						
SNAA	Sanae	53.74	198	P	P	13 53 55.6	-0.4
SNAA	Sanae	53.74	198	⇑PP	P	13 53 56.8	+0.8
SNAA	Sanae	53.74	198	P	P	13 53 56.7	+0.8
	comp=Z,8.7nm,0.9s,baz=141,slow=8.9,SNR=9.6						
	comp=Z,8.7nm,0.9s						
MYLDM	Lahad Datu	54.23	354	P	P	13 54 00.3	+0.3
VNA2	Neumayer--Watz	55.25	198	⇑PP	P	13 54 08.8	+1.9
	baz=141,slow=4.0						
VNA3	Neumayer Olymp	55.43	197	⇑PP	P	13 54 09.3	+1.1
VNA1	Neumayer--Stat	55.65	198	⇑PP	P	13 54 11.0	+1.3
H08S2	Diego Garcia H	59.40	296	T	T	14 58 48.2	
	baz=144,slow=76,SNR=17						
H08S1	Diego Garcia H	59.41	296	T	T	14 58 48.9	
	baz=144,slow=76,SNR=12						
H08S3	Diego Garcia H	59.42	296	T	T	14 58 49.7	
	baz=144,slow=76,SNR=10.0						
CMAR	Chiang Mai Arr	70.72	335	P	P	13 55 48.9	-1.3
CMAR	Chiang Mai Arr	70.72	335	P	P	13 55 50.5	+0.2
	comp=Z,2.5nm,1.0s,baz=183,slow=5.3,SNR=9.4						
	comp=Z,2.5nm,1.0s						
BOSA	Boshof	74.01	245	P	P	13 56 10.6	+0.4
	comp=Z,3.6nm,0.8s,baz=124,slow=11,SNR=6.7						
BOSA				LR	LR	14 22 38.6	
	comp=Z,81nm,20.2s,baz=7.0,slow=31						
	comp=Z,3.6nm,0.8s						
MJAR	Matsushiro Arr	86.24	12	P	P	13 57 16.9	+1.4
	comp=Z,2.8nm,1.0s,baz=201,slow=7.2,SNR=4.5						
	comp=Z,2.8nm,1.0s						
KSRS	Korea Array	86.25	3	P	P	13 57 17.9	+2.5
	comp=Z,0.7nm,0.7s,baz=191,slow=2.5,SNR=4.2						
	comp=Z,0.7nm,0.7s						
WSAR	Wadi Sarin	92.26	304	LR	LR	14 31 01.0	
	comp=Z,185nm,19.8s,baz=221,slow=30						
LPAZ	La Paz	114.09	168	PKP	PKPdf	14 03 18.3	+3.7
	comp=Z,0.7nm,0.3s,baz=91,slow=1.7,SNR=3.6						
NVAR	Mina Array Bea	135.22	80	PKP	PKiKP	14 03 55.5	+0.3
	comp=Z,0.4nm,0.9s,baz=242,slow=1.9,SNR=2.6						
YKA	Yellowknife Ar	145.93	45	PKPbc	PKPab	14 04 13.6	+0.4
	comp=Z,1.1nm,0.9s,baz=265,slow=3.7,SNR=4.3						

SSNC 17 13:48:08.5±0.7, 18°.10N×71°.89W, h3km±9km, MD2.3, ML2.8
SDD 17 13:48:11.7±5.1, 18°.31N×71°.93W, h6km±103km, MD3.3, ML2.8, MW3.2
OSPL 17 13:48:11.6±2.5, 18°.36N×71°.90W, h28km±11km, ML2.5
ISC 17 13:48:09.1±1.1, 18°.32N±0°.05×71.94W±0°.03, h14km±7km, n18, σ0°78/33, 5C-7D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIDR	Jimani	0.19	25	⇓ePg	Pg	13 48 13.5	0.0
JIDR				⇓eSg	Sg	13 48 15.8	-0.7
JIDR				IAML		13 48 16.3	
	comp=N,5μm,0.5s						
PAPH	Port-au-Prince	0.40	301	eP	Pb	13 48 18.8	+0.9
PAPH				eS	Sn	13 48 26.8	-1.0
PAPH				IAML		13 48 28.4	
	comp=N,596nm,0.2s						
PAPH				IAML		13 48 28.4	
	comp=E,598nm,0.1s						
PAPH	Port-au-Prince	0.40	301	⇑ePg	Pb	13 48 18.9	+0.9
PAPH				eSg	Sn	13 48 27.1	-0.8
PAPH				IAML		13 48 30.7	
	comp=N,2μm,0.2s						
PAPH	Port-au-Prince	0.40	301	i P	Pb	13 48 18.9	+0.9
PAPH				eS	Sn	13 48 27.1	-0.8
PAPH				IAML		13 48 28.3	
	comp=Z,434nm,0.3s						
LODU1	El Espartillar	0.44	85	i P	Pb	13 48 18.6	0.0
LODU1				eS	Sb	13 48 25.6	+0.5
LODU1				IAML		13 48 27.2	
	comp=Z,1μm,0.7s						
NEDR	Neiba UASD	0.52	71	⇑ePg	Pb	13 48 20.4	+0.4
NEDR				⇓eSg	Sn	13 48 29.4	-1.3
NEDR				IAML		13 48 31.1	
	comp=N,927nm,0.6s						
LOBH	Bahia de las A	0.53	148	i P	Pn	13 48 21.5	-0.8
LOBH				eS	Sn	13 48 30.4	-0.6
LOBH				IAML		13 48 39.6	
	comp=Z,430nm,0.6s						
LONE3	El Aguacate, B	0.54	58	i P	Pg	13 48 20.0	+0.3
LONE3				eS	Sb	13 48 28.6	+0.6
LONE3				IAML		13 48 30.4	
	comp=Z,427nm,0.3s						
PODR	Polo	0.64	103	⇓ePg	Pn	13 48 23.2	-0.7
PODR				⇑eSg	Sn	13 48 34.0	0.0
PODR				IAML		13 48 40.7	
	comp=N,447nm,0.5s						
PODR	Polo	0.64	103	i P	Pn	13 48 23.4	-0.6
PODR				eS	Sn	13 48 34.0	0.0
PODR				IAML		13 48 39.6	
	comp=Z,164nm,0.3s						
LOVI	El Cajuil, Ovi	0.75	134	i P	Pn	13 48 25.2	0.0
LOVI				IAML		13 48 46.9	
	comp=Z,134nm,1.0s						
LOBA2	Hotel Casa Bon	0.83	106	⇑ePg	Pg	13 48 26.0	+0.7
LOBA2				⇓eSg	Sg	13 48 36.7	+0.5
SDDR	Presa de Saban	0.90	43	⇓eP	Pb	13 48 26.4	-0.2
SDDR				eS	Sn	13 48 40.2	-0.1
SDDR	Presa de Saban	0.90	43	⇑ePg	Pb	13 48 26.5	0.0
SDDR				⇓eSg	Sn	13 48 42.0	+1.7
SDDR				IAML		13 48 48.0	
	comp=N,74nm,0.5s						
SDDR	Presa de Saban	0.90	43	i P	Pb	13 48 26.6	0.0
SDDR				IAML		13 48 48.7	
	comp=Z,54nm,0.6s						
BANI	BANI	1.50	87	ePg	Pn	13 48 35.2	-0.5
BANI				IAML		13 49 07.6	
	comp=N,68nm,0.7s						
QMBU	Quimbuelo	3.30	305	eP	Pn	13 49 00.3	-0.1
QMBU				eS	Sn	13 49 39.6	+0.2
GTBY	Guantanamo Bay	3.40	299	eP	Pn	13 49 02.6	+0.8
GTBY				eS	Sb	13 49 48.5	-1.9

IDC 17 13:53:38.5±2.7, 6°.83S×132°.19E, h0km, mb3.6/1, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=102.4km s-min=30.4km az=81.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.90	209	Pn	Pn	13 56 43.4	+0.2
	0.2nm,0.3s,baz=30,slow=11,SNR=6.5						
FITZ				Sn	Sn	13 58 57.5	-10
	0.4nm,0.3s,baz=213,slow=16,SNR=7.9						
	0.5nm,0.3s						
WRA	Warramunga Arr	13.21	171	Pn	Pn	13 56 47.3	-0.2
	0.3nm,0.3s,baz=352,slow=14,SNR=19						
WRA				Sn	Sn	13 59 13.1	-2.2
	0.3nm,0.3s,baz=0.4,slow=22,SNR=5.9						
	0.5nm,0.5s						
ASAR	Alice Springs	16.83	175	Pn	Pn	13 57 35.8	+0.1
	0.2nm,0.3s,baz=358,slow=8.7,SNR=18						
ASAR				Sn	Sn	14 00 35.1	-8.4
	0.1nm,0.3s,baz=356,slow=26,SNR=4.7						
	0.3nm,0.5s						
MKAR	Makanchi Array	69.29	326	P	P	14 04 47.7	0.0
	0.3nm,0.4s,baz=118,slow=7.5,SNR=4.3						
	0.3nm,0.4s						

ATH 17 13:55:40.5, 37°.68N×20°.52E, h17km±1km, ML2.5/13, Error ellipse: s-maj=2.2km s-min=0.8km az=42.0
THE 17 13:55:40.5, 37°.67N×20°.55E, h19km±5km, ML2.6/2, Error ellipse: s-maj=6.7km s-min=0.5km az=92.0
ISC 17 13:55:40.3±1.5, 37°.68N±0°.06×20°.53E±0°.06, h17km±7km, n27, σ0°39/40, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.23	95	P	Pg	13 55 45.7	0.0
KRI1				S	Sb	13 55 49.9	-0.1
LTHK	Lithakia	0.25	83	P	Pg	13 55 45.8	-0.1
LTHK				S	Sg	13 55 49.8	+0.1
LTHK	Lithakia	0.25	83	P	Pg	13 55 45.7	-0.2
LTHK				S	Sg	13 55 49.8	+0.1
LTHK				AML	AML	13 55 50.1	
	comp=E,5754μm,0.4s						
LTHK				AML	AML	13 55 50.5	
	comp=N,3140μm,0.2s						
PSDA	Pessada-Kefalo	0.43	6	P	Pg	13 55 49.3	+0.1
PSDA				S	Sb	13 55 56.5	+0.7
	comp=N,1μm,0.2s						
PSDA	Pessada-Kefalo	0.43	6	P	Pg	13 55 49.2	+0.1
PSDA				S	Sb	13 55 56.3	+0.5
RTZL	Ratzakli, Kefa	0.44	26	P	Pg	13 55 49.4	+0.1
VLS	Valsamata	0.50	6	P	Pg	13 55 50.3	0.0
VLS				S	Sb	13 55 58.4	+0.7
	comp=N,788nm,0.3s						
VLS	Valsamata	0.50	6	P	Pg	13 55 50.3	0.0
VLS				S	Sg	13 55 57.4	+0.3
VLS				AML	AML	13 55 58.9	
	comp=N,1590μm,0.4s						
VLS				AML	AML	13 55 59.2	
	comp=E,1537μm,0.2s						
DMLN	Damoulianata-K	0.57	348	P	Pg	13 55 51.9	+0.2
DMLN	Damoulianata-K	0.57	348	P	Pg	13 55 51.7	+0.1
DMLN				S	Sg	13 55 60.0	+0.7
FSK	Fiskardo	0.78	2	P	Pb	13 55 54.8	-0.6
FSK				S	Sb	13 56 05.9	+0.2
FSK				AML	AML	13 56 15.0	
	comp=E,739μm,0.4s						
FSK				AML	AML	13 56 16.1	
	comp=N,574μm,0.7s						
RLS	Riolos of Patr	0.83	63	P	Pb	13 55 55.8	-0.6
RLS				S	Sg	13 56 08.0	+0.4
RLS				AML	AML	13 56 10.2	
	comp=N,504μm,0.5s						
RLS				AML	AML	13 56 11.1	
	comp=E,560μm,0.4s						
EVGI	Lefkada island	0.94	6	P	Pb	13 55 58.2	-0.1
EVGI	Lefkada island	0.94	6	P	Pb	13 55 57.5	-0.8
AMT	Artemida-Makis	0.95	99	P	Pb	13 55 58.4	0.0
AMT				S	Sg	13 56 11.3	0.0
AMT				AML	AML	13 56 19.4	
	comp=N,1115μm,0.6s						
AMT				AML	AML	13 56 21.5	
	comp=E,1154μm,0.4s						
DRO	Drossia	0.98	74	P	Pb	13 55 58.7	-0.2
DRO				S	Sg	13 56 11.8	-0.3
DRO				AML	AML	13 56 19.2	
	comp=N,570μm,0.4s						
DRO				AML	AML	13 56 23.6	
	comp=E,629μm,0.5s						
DRAG	Dragano-Lefkad	1.00	2	P	Pb	13 55 58.4	-0.8
NYDR	Nydri-Lefkada	1.04	7	P	Pb	13 55 59.5	-0.4
LKD2	Lefkada island	1.11	5	P	Pn	13 56 01.3	+0.1
LKD2				AML	AML	13 56 28.8	
	comp=N,282μm,0.5s						
LKD2				AML	AML	13 56 29.3	
	comp=E,313μm,0.6s						
TSLK	Tsoukalades, L	1.15	5	P	Pn	13 56 01.4	-0.3
TSLK				AML	AML	13 56 26.8	
	comp=E,432μm,0.6s						
TSLK				AML	AML	13 56 32.8	
	comp=N,335μm,0.5s						
ITM	Ithomi	1.22	114	P	Pb	13 56 02.9	-0.2
ITM				S	Sn	13 56 18.7	-0.1
ITM				AML	AML	13 56 29.3	
	comp=N,279μm,0.5s						
ITM				AML	AML	13 56 31.1	
	comp=E,170μm,0.4s						
PYL	PYLOS	1.25	129	P	Pb	13 56 03.4	-0.1
PYL				AML	AML	13 56 24.2	
	comp=E,195μm,0.4s						
PYL				AML	AML	13 56 26.5	
	comp=N,157μm,0.3s						
EFP	Efpalio	1.32	55	P	Pn	13 56 03.6	-0.4
EFP				AML	AML	13 56 30.6	
	comp=N,299μm,0.4s						
EFP				AML	AML	13 56 31.7	
	comp=E,208μm,0.6s						
KLV	Kalavryta, Ach	1.34	74	P	Pn	13 56 04.5	+0.3
ANX	Ano Chora	1.43	50	P	Pb	13 56 06.4	-0.2
ANX				AML	AML	13 56 33.5	
	comp=N,621μm,0.5s						
ANX				AML	AML	13 56 35.9	
	comp=E,425μm,0.5s						
GUR	Goura	1.46	79	P	Pb	13 56 07.3	+0.2
GUR				AML	AML	13 56 37.8	
	comp=E,142μm,0.4s						
GUR				AML	AML	13 56 38.0	
	comp=N,293μm,0.5s						
IGT	Igoumenitsa	1.85	355	P	Pb	13 56 13.0	-0.8

IDC 17 14:08:08.4±3.0, 0°.48N×127°.00E, h0km, mb3.5/3, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=160.7km s-min=30.7km az=90.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.51	184	P	P	14 12 26.0	-0.4
	0.1nm,0.3s,baz=349,slow=16,SNR=1.8						
	1.6nm,0.8s						
WRA	Warramunga Arr	21.53	161	P	P	14 12 57.5	-1.8
	0.5nm,0.7s,baz=334,slow=13,SNR=14						
	0.5nm,0.7s						
ASAR	Alice Springs	24.92	165	P	P	14 13 34.8	+1.3
	0.8nm,0.3s,baz=344,slow=10,SNR=58						
	0.8nm,0.3s						
ILAR	Eielson Array	87.91	25	P	P	14 20 59.6	-0.2
	0.3nm,0.9s,baz=252,slow=5.2,SNR=5.0						
	0.3nm,0.9s						

IDC 17 14:12:51.5±0.7, 10°.31N×83°.79W, h0km, mb4.2/16, mbtmp4.2/18, ML3.4/2, MS3.5/6, Error ellipse: s-maj=19.5km s-min=10.6km az=3.0
UCR 17 14:12:53.5±1.0, 10°.19N×83°.90W, h8km±2km, MW5.1, Fault plane solution: NP1:φs=289.30000°, δ45.86000°, λ76.00000°.
CATAC 17 14:12:53.9±0.2, 10°.19N×83°.89W, h4km±1km, ML4.9
UPA 17 14:12:54.3±2.9, 10°.26N×83°.88W, h4km±9km, MW4.8
NEIC 17 14:12:55.0±2.1, 10°.15N±0°.04×83°.98W±0°.02, h19km±4km, mb4.7/90, Error ellipse: s-maj=5.4km s-min=3.0km az=171.0
RSNC 17 14:12:58.3±0.0, 9°.N±37°×8°.4W±3°.7, h200km±30km, ML4.0
ISC 17 14:12:53.8±0.8, 10°.19N±0°.02×83°.88W±0°.02, h16km±5km, n234, σ1°25/239, mb4.7/62, MS3.6/3, 8C-38D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVIMO	Finca Echandi	0.18	200	⇓eP	Pg	14 12 58.0	-0.4
CVTR	Volcan Turrial	0.21	145	eP	Pg	14 12 58.8	-0.2
VICA	Volcano Irazu	0.21	170	⇓eP	Pg	14 12 58.5	-0.5
VTLA	Turrialba Volc	0.22	151	⇓eP	Pg	14 12 58.8	-0.2
CVTQ	Turrialba Volc	0.22	149	⇓eP	Pg	14 12 58.9	-0.2
CVTV	Tajo	0.23	145	⇓eP	Pg	14 12 59.0	-0.2
CORON	Coronado	0.25	209	⇓eP	Pg	14 12 59.3	-0.1
VTCV	VTCV, Calle Va	0.26	144	⇓eP	Pg	14 12 59.4	-0.2
PCAYA	Pacayas	0.28	166	⇓eP	Pg	14 12 59.7	-0.3
SARA	Sarapiqu	0.29	332	⇓eP	Pb	14 13 01.1	+0.5
DOMI	Santo Domingo	0.29	224	⇓eP	Pg	14 13 00.0	-0.1
TIBA	Tibas	0.30	219	eP	Pg	14 12 59.9	-0.2
LUPE	Guadalupe	0.30	215	⇓eP	Pg	14 12 59.8	-0.4
HDC	Heredia	0.30	230		Pg	14 12 59.7	-0.5
HDC	Heredia	0.30	230	i P	Pg	14 12 59.9	-0.3
HDC				IAML		14 13 00.7	
	comp=Z,140μm,1.0s						
HDC				i S	Sg	14 13 04.7	+0.1
RVLA	Villa Bonita	0.30	106	⇓eP	Pb	14 13 00.8	0.0
SJS	Escuela Geolog	0.30	214	eP	Pg	14 13 00.0	-0.3
SJS3	Mercedes San J	0.30	214	⇓eP	Pg	14 13 00.1	-0.2
TRIO	Tres Rios	0.31	201	⇓eP	Pg	14 13 00.0	-0.3
RVSTA	Santa Teresita	0.32	133	eP	Pb	14 13 00.7	-0.5
MEXI	Barrio Mexico	0.32	219	⇓eP	Pg	14 13 00.3	-0.3
VINA	Juan Vinas	0.33	156	⇓eP	Pg	14 13 00.5	-0.1
CENT	San Jose	0.33	217	⇓eP	Pb	14 13 01.2	-0.1
LUJA	Lujan	0.33	215	⇓eP	Pb	14 13 01.3	-0.1
TAGO	Cartago	0.33	187	⇓eP	Pb	14 13 01.2	-0.2
TURIB	Turrialba	0.34	146	eP	Pg	14 13 00.7	-0.2
TURIB				eS	Sg	14 13 05.5	-0.3
AMPA	Desamparados	0.34	211	⇓eP	Pg	14 13 00.4	-0.6
VPS6	Volcano Poas	0.34	269	eP	Pg	14 13 01.1	0.0
REPA	Paraso	0.36	178	⇓eP	Pg	14 13 01.2	-0.2
BELE	Belen	0.37	234	⇓eP	Pg	14 13 01.1	-0.4
IRES	Siquirres	0.38	105	⇓eP	Pb	14 13 02.1	-0.1
TRT2	Tortugero	0.39	22	i P	Pb	14 13 01.8	-0.5
TRT2				i S	Sb	14 13 08.2	+0.1
TRT2				IAML		14 13 12.6	
	comp=Z,150μm,1.0s						
SANTA	Santa Ana	0.40	229	⇓eP	Pg	14 13 01.4	-0.5
GREC	Grecia	0.44	254	eP	Pb	14 13 02.9	-0.3
TCS1	Tacares	0.44	250	i P	Pb	14 13 02.8	-0.5
TCS1				IAML		14 13 16.2	
	comp=Z,230μm,1.0s						
TCS1	Tacares	0.44	250	⇓eP	Pb	14 13 02.7	-0.5
ITAL	Pital	0.46	304	⇑eP	Pb	14 13 03.0	-0.5
LCR2	La Lucha 2	0.47	195		Pg	14 13 02.6	-0.6
LCR2					Sg	14 13 09.0	-0.5
LCR2	La Lucha 2	0.47	195	i P	Pg	14 13 02.5	-0.7
LCR2				IAML		14 13 03.2	
	comp=Z,210μm,1.0s						
LCR2				i S	Sg	14 13 09.0	-0.5
LCR2	La Lucha 2	0.47	195	⇓eP	Pg	14 13 02.6	-0.6
LCR2				eS	Sg	14 13 08.9	-0.7
SARCI	Sarchi	0.47	257	eP	Pb	14 13 03.4	-0.3
ACOS	Acosta	0.48	215	⇓eP	Pg	14 13 02.8	-0.7
NARAN	Naranjo de Ala	0.50	259	⇓eP	Pb	14 13 03.9	-0.4
ZARE	Zarcero	0.50	269	eP	Pb	14 13 04.8	+0.4
ABE2	San Pablo	0.52	199	⇓eP	Pg	14 13 03.3	-0.8
TAAN	Batan	0.54	102	eP	Pb	14 13 04.8	0.0
RAZU	San Marcos de	0.55	195	⇓eP	Pg	14 13 03.9	-0.8
RAMO	San Ramon	0.59	260	⇓eP	Pg	14 13 05.0	-0.4
SRA1	San Ramn	0.60	260	⇓eP	Pg	14 13 05.2	-0.5
BUS1	Rivas	0.65	168	eP	Pg	14 13 06.0	-0.6
BUS1				eS	Sg	14 13 15.4	0.0
COVE	Coope Vega, Sa	0.73	316	i P	Pg	14 13 07.7	-0.4
COVE				i S	Sb	14 13 17.7	-0.3
COVE				IAML		14 13 18.7	
	comp=Z,33μm,1.0s						
LLNJ	Naranjito	0.75	197	⇓eP	Pg	14 13 08.1	-0.2
SOCE	Pocosol	0.75	285		Pg	14 13 08.3	-0.2
SOCE	Pocosol	0.75	285	i P	Pb	14 13 08.5	0.0
SOCE				i S	Sb	14 13 19.0	+0.5
SOCE				IAML		14 13 20.6	
	comp=Z,24μm,1.0s						
SOCE	Pocosol	0.75	285	eP	Pg	14 13 08.2	-0.2
ARZA	Esparza	0.80	255	eP	Pb	14 13 09.3	-0.1
FORC	Fortuna	0.82	289	eP	Pb	14 13 09.8	+0.1
VACR	Volcan Arenal	0.83	290	⇓eP	Pb	14 13 09.7	-0.2
ARE1	Arenal 1	0.87	288	eP	Pg	14 13 10.1	-0.5
JTS	Las Juntas de	1.06	275	Pg	Pb	14 13 13.2	-0.6
	comp=Z,529nm,0.3s,baz=73,slow=17,SNR=845						
JTS				Lg	Lg	14 13 29.3	
	comp=Z,851nm,0.3s,baz=291,slow=21,SNR=9.2						
JTS				LR	LR	14 13 37.1	
	comp=Z,2μm,18.8s,baz=284,slow=40						
JTS	Las Juntas de	1.06	275	eP	Pb	14 13 13.4	-0.4
JTS				eS	Sn	14 13 29.3	+0.8
JTS	Las Juntas de	1.06	275	⇓eP	Pb	14 13 13.0	-0.8
OCHAL	Ojochal	1.11	168	i P	Pb	14 13 14.6	-0.1
OCHAL				i S	Sn	14 13 30.2	+0.4
OCHAL				IAML		14 13 34.5	
	comp=Z,19μm,1.0s						
BURE	Buenos Aires	1.15	152	eP	Pb	14 13 14.4	-0.8
BRIBI	Bribri	1.16	119	eP	Pg	14 13 15.9	-0.4
LCHIL	Los Chiles	1.17	316	⇑eP	Pn	14 13 14.9	-0.6
TENO	El Achiote

comp=Z,15μm,1.0s
LCRUZ La Cruz 1.93 297 eP Pn 14 13 26.2 +0.2
BCO2 Palmira 1.98 138 eP Pb 14 13 28.6 -1.1
BCO2 eS Sb 14 13 55.3 +1.1
LNBQ3 Los Naranjos, 1.99 134 eP Pn 14 13 28.1 +1.2
LNBQ3 eS Sb 14 13 53.7 -0.7
ESPN Las Esperanzas 2.03 348 i P Pg 14 13 31.6 -1.2
ESPN i S Sb 14 13 56.0 +0.6
ESPN IAML 14 14 02.4
comp=Z,6μm,1.0s
ESPN Las Esperanzas 2.03 348 eP Pb 14 13 28.9 -1.5
CHGR2 Aguacate 2.12 126 eP Pn 14 13 29.1 +0.5
CHGR2 eS Sb 14 13 56.5 -1.5
ACON Acoyapa 2.17 324 Pn 14 13 29.1 -0.3
ACON Acoyapa 2.17 324 i P Pb 14 13 33.6 +0.8
ACON i S Sb 14 14 00.0 +0.5
ACON IAML 14 14 10.8
comp=Z,3μm,1.0s
ACON Acoyapa 2.17 324⇑ eP Pn 14 13 28.9 -0.4
CONN Concepcion 2.19 309 i P Pn 14 13 30.1 +0.5
CONN i S Sb 14 13 59.3 -0.7
CONN IAML 14 14 16.8
comp=Z,28μm,1.0s
PTPM Petroterminale 2.21 153 eP Pb 14 13 32.8 -0.6
PTPM eS Sb 14 14 01.2 +0.6
DVD David 2.25 141 eP Pb 14 13 32.8 -1.3
DVD eS Sb 14 14 01.7 +0.1
LOCO3 Loma Colorada, 2.29 141 eP Pb 14 13 33.4 -1.3
LOCO3 eS Sb 14 14 03.3 +0.5
PEDE3 Pedregal, Chir 2.30 141 eP Pb 14 13 34.2 -0.8
PEDE3 eS Sg 14 14 05.9 -2.0
SAPS Ciudad Sandino 3.16 309 i P Pn 14 13 44.6 +1.7
SAPS IAML 14 14 57.3
comp=Z,800nm,1.0s
COPN Copaltepe 3.31 307 i P Pn 14 13 46.1 +1.1
COPN IAML 14 15 02.2
comp=Z,380nm,1.0s
STIA3 Santiago, Vera 3.55 126 eP Pn 14 13 50.1 +1.9
STIA3 eS Sn 14 14 32.1 +2.2
GMAL Guarumal, Vera 3.56 133 P Pn 14 13 50.6 +2.2
GMAL S Sn 14 14 32.4 +2.2
GMAL Guarumal, Vera 3.56 133 eP Pn 14 13 50.9 +2.4
GMAL eS Sn 14 14 32.6 +2.3
LIMN Finca el Limon 3.75 320 i P Pn 14 13 51.1 0.0
LIMN IAML 14 14 58.9
comp=Z,1μm,1.0s
MARI3 Mariato, Verag 3.81 131 eP Pb 14 13 56.9 -3.9
MARI3 eS Sb 14 14 42.5 -4.3
PNME Penonome 3.90 116 eP Pg 14 14 11.1 +2.6
RCPN Sur Rio San Ju 3.96 327 i P Pn 14 13 54.7 +0.7
RCPN IAML 14 14 54.7
comp=Z,7.1nm,1.0s
PRVC Isla de Provid 4.01 38 eP Pn 14 13 55.8 +1.2
PRVC eS Sn 14 14 43.0 +1.7
CACAO El Cacao, Vera 4.11 133 P Pn 14 13 59.1 +3.1
CACAO S Sn 14 14 47.3 +3.4
BCIP Isla Barro Col 4.12 104 Pn Pn 14 13 55.9 -0.2
BCIP Isla Barro Col 4.12 104 i P Pn 14 13 55.9 -0.2
BCIP IAML 14 14 44.9
comp=Z,420nm,1.0s
BCIP Isla Barro Col 4.12 104 eP Pn 14 13 55.8 -0.3
BCIP eS Sn 14 14 40.8 -3.2
AZU Azuero 4.29 124 P Pn 14 13 59.0 +0.6
AZU S Sn 14 14 51.6 +3.4
AZU Azuero 4.29 124 eP Pn 14 13 59.5 +1.0
AZU eS Sn 14 14 49.0 +0.8
UPA Univ. de Panam 4.45 105 eP Pn 14 14 02.8 +2.1
UPA eS Sn 14 14 47.8 -4.5
TOTI Torti 5.64 102 eP Pn 14 14 19.1 +2.1
TOTI eS Sn 14 15 20.0 -1.5
UPD2 Meteti 6.02 105 eP Pn 14 14 26.8 +4.6
UPD2 eS Sn 14 15 32.8 +2.0
OTAV Otavalo 11.27 151 eP Pn 14 15 34.3 -0.5
PILA PATRICIA PILAR 11.70 158⇑ eP 14 13 18.0
CMIG Matias Romero 12.70 304 Pn Pn 14 15 55.2 +1.3
comp=Z,0.6nm,0.3s,baz=135,slow=11,SNR=4.8
CMIG LR LR 14 20 48.9
comp=Z,114nm,18.7s,baz=84,slow=38
comp=Z,1.5nm,0.3s
SDV Santo Domingo 13.13 95 Pn Pn 14 15 57.7 -2.3
comp=Z,0.6nm,0.3s,baz=3.3,slow=16,SNR=1.9
SDV LR LR 14 22 20.8
comp=Z,147nm,18.2s,baz=267,slow=44
comp=Z,3.8nm,0.5s
SDV Santo Domingo 13.13 95 eP Pn 14 16 00.6 +0.6
NMDO Nuevo Mundo 13.40 39 Pn Pn 14 16 04.9 +1.4
BAUV El Baul 15.67 93 Pn 14 16 34.9 +0.8
ATAH Atahualpa 18.06 162 P P 14 17 08.6 +3.5
comp=Z,4.0nm,0.7s,baz=340,slow=12,SNR=2.0
ATAH LR LR 14 23 27.6
comp=Z,163nm,20.6s,baz=336,slow=35
CELP Cerrillos 18.51 63 P P 14 17 08.0 -1.6
PCRV Puerto La Cruz 18.94 88 LR LR 14 25 31.3
comp=Z,105nm,20.8s,slow=40
CZSB Cruzeiro do Su 21.00 148 eP P 14 17 36.4 -0.4
152A Waverly Hall 22.38 358 P P 14 17 55.9 +4.4
VBMS Vicksburg 22.76 345 P P 14 17 55.9 +0.4
LRAL Lakeview Retre 22.91 353 P P 14 17 59.5 +2.4
LRAL IAmb IAmb 14 18 03.3
comp=Z,20nm,0.9s
GOGA Godfrey 23.11 1 P P 14 18 02.1 +2.9
833A Chaparral WMA, 23.18 323 P P 14 18 00.3 +0.3
833A IAmb IAmb 14 18 04.8
comp=Z,21nm,1.1s
Z47A Carrollton 23.22 351 P P 14 18 01.5 +1.3
Z47A IAmb IAmb 14 18 04.3
comp=Z,19nm,0.9s
HNDO Hondo 24.03 325 P P 14 18 08.0 -0.2
Y45A Yeager Farm, C 24.13 348 P P 14 18 08.5 -0.5
X51A Calhoun 24.28 358 IAmb IAmb 14 18 25.1
comp=Z,18nm,1.1s
BG3 Lake Jocassee 24.70 2 P P 14 18 17.8 +3.5
W52A Murphy 24.79 360 IAmb IAmb 14 18 30.1
comp=Z,16nm,1.2s
SWET Sewanee 24.98 356 IAmb IAmb 14 18 19.7
comp=Z,15nm,1.0s
CPCT Cooper Cave 25.15 359 IAmb IAmb 14 18 22.1
comp=Z,18nm,1.2s
BRDY Brady 25.25 328 P P 14 18 18.8 -0.5
BRDY IAmb IAmb 14 18 23.1
comp=Z,24nm,1.1s
X40A Basin Creek Fa 25.53 343 IAmb IAmb 14 18 26.1
comp=Z,19nm,1.4s
V48A Smith Brothers 25.57 354 IAmb IAmb 14 18 25.2
comp=Z,10nm,0.8s
UALR University of 25.66 344 IAmb IAmb 14 18 25.7
comp=Z,28nm,1.1s
MIAR Mount Ida 25.81 341 IAmb IAmb 14 18 27.1
comp=Z,22nm,0.9s
WVT Waverly 26.07 353 P P 14 18 27.8 +1.2
WHAR Wooly Hollow 26.13 344 IAmb IAmb 14 18 29.3
comp=Z,29nm,1.0s
PLPT Palo Pinto 26.15 332 IAmb IAmb 14 18 32.6
comp=Z,30nm,1.0s
ETMB Extrema 26.54 138 P P 14 18 32.2 +1.2
ETMB Extrema 26.54 138 eP P 14 18 30.1 -1.0
TXAR Lajitas Array 26.55 319 P P 14 18 35.4 +4.1
comp=Z,1.0nm,0.9s,baz=130,slow=8.4,SNR=6.9
LOOK Love County 26.64 335 IAmb IAmb 14 18 40.8
comp=Z,22nm,1.1s
FCAR Ozark Folk Cen 26.66 345 IAmb IAmb 14 18 33.8
comp=Z,17nm,1.0s
PBMO Poplar Bluff 27.12 348 IAmb IAmb 14 18 38.4
comp=Z,15nm,1.0s
CGM3 Cape Girardeau 27.48 350 IAmb IAmb 14 18 41.9
comp=Z,18nm,0.9s
S44A Carbondale 27.80 351 IAmb IAmb 14 18 45.5
comp=Z,12nm,0.9s
U38A Gravette 27.81 342 IAmb IAmb 14 18 44.8
comp=Z,17nm,1.4s
WMOK Wichita Mounta 27.97 333 IAmb IAmb 14 18 50.3
comp=Z,12nm,1.1s
R50A Paris 27.97 359 IAmb IAmb 14 18 46.7
comp=Z,14nm,1.1s
WCI Wyandotte Cave 28.00 356 P P 14 18 45.5 +1.5
WCI IAmb IAmb 14 18 46.6
comp=Z,17nm,1.1s
R49A Shelbyville 28.00 358 IAmb IAmb 14 18 46.6
comp=Z,15nm,0.8s
SAML Samuel 28.04 132 P P 14 18 44.8 +0.2
SAML IAmb IAmb 14 18 46.0
comp=Z,9.7nm,0.9s
SAML Samuel 28.04 132 eP P 14 18 44.4 -0.2
OK052 Battle Ridge R 28.24 337 IAmb IAmb 14 18 48.6
comp=Z,14nm,0.8s
QUOK Quay 28.36 338 IAmb IAmb 14 18 49.2
comp=Z,14nm,0.9s
CCM Cathedral Cave 28.52 348 P P 14 18 49.0 +0.4
S39A Bolivar 28.67 344 IAmb IAmb 14 18 52.4
comp=Z,15nm,1.1s
P53A Whipple 29.26 4 P P 14 18 56.7 +1.5
P53A IAmb IAmb 14 18 58.5
comp=Z,19nm,0.9s
ACSO Alum Creek Sta 29.93 1 IAmb IAmb 14 19 04.0
comp=Z,20nm,1.1s
O48B Farmland 29.96 358 IAmb IAmb 14 19 03.1
comp=Z,20nm,0.9s
P40A Paris 30.11 347 IAmb IAmb 14 19 04.4
comp=Z,16nm,0.9s
P38A Dawn 30.55 345 IAmb IAmb 14 19 08.2
comp=Z,10nm,1.0s
LPAZ La Paz 30.58 149 P P 14 19 09.7 +1.9
comp=Z,2.0nm,0.8s,baz=350,slow=8.2,SNR=5.1
comp=Z,2.0nm,0.8s
ITTB Itaituba 31.55 116 eP P 14 19 15.7 0.0
VILB Vilhena 32.89 134 IAmb IAmb 14 19 29.7
comp=Z,15nm,0.9s
VILB Vilhena 32.89 134 eP P 14 19 27.1 -0.4
NPGB Novo Progresso 33.17 120 eP P 14 19 30.2 +0.2
PDRB Porto dos Gac 34.61 128 eP P 14 19 40.5 -1.9
SADO Sadowa 34.69 6 LR LR 14 33 06.0
comp=Z,123nm,20.3s,baz=48,slow=35
PTLB Pontes e Lacer 35.35 136 P P 14 19 49.2 +0.4
PTLB IAmb IAmb 14 19 50.7
comp=Z,9.3nm,1.1s
PTLB Pontes e Lacer 35.35 136 eP P 14 19 48.6 -0.3
BBSD Serra de San D 35.63 140 eP P 14 19 50.7 -0.5
F33A 5 Mile Ranch, 37.08 346 IAmb IAmb 14 20 03.7
comp=Z,11nm,1.1s
RSSD Black Hills 38.04 336 P P 14 20 12.0 +0.2
PDAR Pinedale Array 39.44 330 P P 14 20 21.2 -2.3
comp=Z,0.5nm,0.8s,baz=68,slow=12,SNR=4.0
comp=Z,0.5nm,0.8s
ULM Lac du Bonnet 41.15 348 P P 14 20 36.5 -0.7
ULM IAmb IAmb 14 20 38.1
comp=Z,22nm,1.1s
ULM Lac du Bonnet 41.15 348 P P 14 20 36.5 -0.7
comp=Z,11nm,0.9s,baz=154,slow=6.5,SNR=9.6
comp=Z,11nm,0.9s
NVAR Mina Array Bea 41.70 318 P P 14 20 43.2 +1.0
comp=Z,0.4nm,0.7s,baz=126,slow=9.1,SNR=4.0
comp=Z,0.4nm,0.7s
DGMT Dagmar 41.79 340 IAmb IAmb 14 20 44.9
comp=Z,23nm,0.8s
BDFB Brasilia 43.82 125 P P 14 20 59.6 0.0
comp=Z,6.4nm,0.9s,baz=247,slow=7.5,SNR=5.7
comp=Z,6.4nm,0.9s
RPN Rapa Nui 44.56 213 LR LR 14 35 10.3
comp=Z,77nm,19.7s,baz=6.0,slow=30
F10A Beach Ranch, E 45.61 328 P P 14 21 13.7 +0.2
BO02 Sierra Bellavi 46.43 165 P P 14 21 18.8 -1.2
BO02 IAmb IAmb 14 21 22.5
comp=Z,11nm,1.1s
SCHQ Schefferville 46.53 14 P P 14 21 20.1 -0.4
comp=Z,7.9nm,0.9s,baz=244,slow=5.7,SNR=5.0
comp=Z,7.9nm,0.9s
FFC Flin Flon 46.68 346 P P 14 21 20.1 -1.6
FFC IAmb IAmb 14 21 23.2
comp=Z,8.9nm,0.8s
ITQB Itaqui 47.55 147 P P 14 21 29.5 +0.8
PLCA Paso Flores 52.15 167 P P 14 22 04.0 +0.4
LL02 Tutaleuf 54.25 169 P P 14 22 20.4 +1.4
YKA Yellowknife Ar 56.73 344 P P 14 22 36.2 -0.4
comp=Z,4.3nm,0.8s,baz=137,slow=7.3,SNR=17
comp=Z,4.3nm,0.8s
DLBC Dease Lake 59.45 334 P P 14 22 56.6 +0.8
comp=Z,6.9nm,1.0s,baz=119,slow=5.6,SNR=6.1
comp=Z,6.9nm,1.0s
RES Resolute Bay 64.77 357 P P 14 23 31.3 +0.2
comp=Z,3.9nm,1.0s,baz=172,slow=11,SNR=5.7
comp=Z,3.9nm,1.0s
I30M Mount Dempster 65.67 338 P P 14 23 37.7 +0.4
I30M IAmb IAmb 14 23 39.0
comp=Z,6.3nm,0.9s
INK Inuvik 66.41 342 P P 14 23 42.4 +0.6
INK Inuvik 66.41 342 P P 14 23 42.0 +0.2
comp=Z,8.1nm,1.0s,baz=109,slow=7.6,SNR=16
comp=Z,8.1nm,1.0s
F28M Old Crow 68.08 340 P P 14 23 53.0 +0.5
F28M IAmb IAmb 14 23 54.7
comp=Z,12nm,1.4s
I26K Coal Creek Min 68.23 337 IAmb IAmb 14 23 55.0
comp=Z,4.9nm,0.9s
E28M Babbage River 68.45 341 IAmb IAmb 14 23 55.8
comp=Z,5.7nm,0.9s
HLP Hilina Pali 69.27 287 P P 14 23 58.0 -2.9
ILAR Eielson Array 69.49 336 P P 14 24 01.1 -0.2
comp=Z,1.6nm,0.7s,baz=121,slow=4.2,SNR=26
comp=Z,1.6nm,0.7s
KDAK Kodiak Island 70.12 328 LR LR 14 57 01.1
comp=Z,3μm,18.2s,baz=102,slow=38
D25K Kavik River 70.98 341 IAmb IAmb 14 24 12.0
comp=Z,7.5nm,0.9s
G21K Allakaket 72.64 337 IAmb IAmb 14 24 22.0
comp=Z,7.8nm,0.8s
ESDC Sonseca Array 75.83 52 P P 14 24 39.8 +0.2
ESDC Sonseca Array 75.83 52 P P 14 24 39.8 +0.2
comp=Z,2.8nm,0.9s,baz=282,slow=5.8,SNR=12
comp=Z,2.8nm,0.9s
EKA Eskdalemuir Ar 76.41 35 P P 14 24 41.6 -0.8
comp=Z,0.8nm,0.6s,baz=260,slow=4.0,SNR=4.6
comp=Z,0.8nm,0.6s
TORD Torodi Ar. Bea 83.47 78 P P 14 25 20.5 -1.0
comp=Z,0.3nm,0.7s,baz=302,slow=3.2,SNR=2.1
comp=Z,0.3nm,0.7s
NOA NORSAR Array B 83.62 29 P P 14 25 20.6 -0.8
comp=Z,0.7nm,0.7s,baz=327,slow=4.8,SNR=3.2
comp=Z,0.7nm,0.7s
HFS Hagfors 84.99 30 P P 14 25 27.5 -0.8
comp=Z,2.2nm,0.9s,baz=207,slow=6.0,SNR=2.6
comp=Z,2.2nm,0.9s
KURBB Kurchatov Arra 117.53 13 PKP PKPdf 14 31 37.9 -1.1
comp=Z,0.1nm,0.4s,baz=341,slow=3.2,SNR=4.8
KSRS Korea Array 124.01 330 PKP PKPdf 14 31 50.0 -1.9
comp=Z,0.7nm,0.7s,baz=20,slow=3.9,SNR=2.6
ASAR Alice Springs 141.58 245 PKhKP PKPpre 14 32 19.9
comp=Z,1.2nm,0.7s,baz=122,slow=4.0,SNR=8.7
ASAR PKP PKPdf 14 32 25.1 -0.2
comp=Z,1.5nm,0.8s,baz=112,slow=3.0,SNR=11
WRA Warramunga Arr 141.93 251 PKhKP PKPpre 14 32 21.4
comp=Z,1.4nm,0.9s,baz=99,slow=3.3,SNR=8.9
PZH PanZhiHua 143.12 352 PKP PKPdf 14 32 27.3 -0.8
CMAR Chiang Mai Arr 151.40 354 PKP PKPdf 14 32 42.1 +0.3
comp=Z,1.0nm,0.3s,baz=34,slow=3.4,SNR=4.9
CMAR PKPbc PKPbc 14 32 47.5 -0.4
comp=Z,1.1nm,0.3s,baz=298,slow=3.8,SNR=7.8

DJA 17 14:36:19.1±3.4, 9°S±9°, 12°6E±°, h19km±34km, M4.0/7, mb4.7/2, mB4.7/1, MLv3.6/7, Mw(mB)4.0/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	1.67	253	P	Pn	14 36 48.0	+0.5
SOEI				S	Sg	14 37 11.9	-1.3
BATI	Baumata	2.38	247	P	Pn	14 36 57.1	-0.1
MMRI	Maumere	3.66	280	P	Pn	14 37 15.3	+0.5
WBSI	Waikabubak, Su	6.42	266	P	Pn	14 37 51.8	-1.0

*BJI **17** 14:39:48.3, 54°.70N×169°.17E, h20km, mb4.8/75, mB5.3/43, Ms5.3/74, Ms7 4.9/73*
*KRSC **17** 14:39:49.9±2.3, 54°.33N×168°.65E, h40km±44km, Ml5.4*
*IDC **17** 14:39:50.7±0.4, 54°.61N×168°.64E, h0km, mb4.8/35, mbtmp4.8/37, ML4.1/2, MS4.6/74, Error ellipse: s-maj=12.9km s-min=8.6km az=159.0*
*NEIC **17** 14:39:52.3±1.9, 54°.46N±0°.09×168°.6E±0°.1, h10km±1km, mb5.4/341, Ms_20 4.6/189, Mww5.4/58, Error ellipse: s-maj=15.8km s-min=9.9km az=169.0*
*NEIC **17** 14:39:52.8, 54°.56N×168°.58E, h22km*
*NEIC **17** 14:39:52.8, 54°.06N×168°.75E, h22km, Moment Tensor Solution. Duration: 28s Moment tensor: Scale 10^{17}Nm; M_{rr}=0.16; $M_{\theta\theta}$=1.17; $M_{\phi\phi}$=1.32; $M_{r\theta}$=0.01; $M_{\theta\phi}$=0.39; $M_{\phi r}$=0.44; Fault plane solution: M_0=1.37000×10^{17} NP1: ϕ_s=216.98000°, δ=82.96000°, λ=13.87000°. NP2: ϕ_s=125.25000°, δ=76.24000°, λ=172.75000°. Principal axes: T 1.4987, Plg15.0000°, Azm82.0000°; N -0.2673, Plg74.0000°, Azm243.0000°; P -1.2314, Plg5.0000°, Azm351.0000°;*
*MOS **17** 14:39:53.8±1.1, 54°.46N×168°.50E, h36km, mb5.2/63, MS4.6/14 Error ellipse: s-maj=5.1km s-min=3.9km az=125.7*
*GCMT **17** 14:39:55.3±0.1, 54°.62N±0°.01×168°.57E±0°.01, h21km, MW5.4/148, Moment Tensor Solution. s114,c186; s148,c261; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.04±.02; $M_{\theta\theta}$=1.33±.02; $M_{\phi\phi}$=1.37±.02; $M_{r\theta}$=0.21±.04; $M_{\theta\phi}$=0.20±.02; $M_{\phi r}$=0.06±.03; Best double couple: M_0=1.38200×10^{17} NP1:ϕ_s=40.00000°, δ=85.00000°, λ=8.00000°. NP2:ϕ_s=131.00000°, δ=82.00000°, λ=175.00000°. Principal axes: T 1.3860, Plg2.0000°, Azm86.0000°; N -0.0090, Plg81.0000°, Azm187.0000°; P -1.3790, Plg9.0000°, Azm356.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **17** 14:39:59.6, 56°.03N×176°.35E, h10km, mb4.7*
ISC 17 14:39:53.5±0.5, 54°.46N±0°.04×168°.63E±0°.03, h17km±2km, h335km:pP-P, n1135, σ1s57/975, mb5.2/278, MS4.6/195, 47C-20D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.71	297	eP	Pn	14 40 19.6	-2.9
BKI				eS	Sn	14 40 40.8	-3.1
BKI	Bering	1.71	297	PN	Pn	14 40 19.5	-2.9
BKI				S	Sn	14 40 40.7	-3.1
SHEM	Shemya Is, Ala	3.69	116	Pn	Pn	14 40 47.9	-1.8
	965nm,0.3s,baz=352,slow=6.6,SNR=192						
SHEM				Sn	Sn	14 41 31.3	-1.4
	446nm,0.3s,baz=287,slow=18,SNR=10						
KBTR	Krutoberegovo	3.75	300	eP	Pn	14 40 49.2	-1.3
KBTR				eS	Sn	14 41 33.2	-1.1
KBTR	Krutoberegovo	3.75	300	PN	Pn	14 40 49.2	-1.3
KBTR				S	Sn	14 41 33.1	-1.1
KBG	Krutoberegovo	3.83	300	eP	Pn	14 40 49.8	-1.8
KBG				eS	Sn	14 41 35.0	-1.1
KBG	Krutoberegovo	3.83	300	PN	Pn	14 40 49.8	-1.8
KBG				S	Sn	14 41 35.0	-1.1
SMKR	Semkarok	4.59	301	eP	Pn	14 41 01.6	-0.6
SMKR				eS	Sn	14 41 56.0	+1.0
SMKR	Semkarok	4.59	301	PN	Pn	14 41 01.5	-0.6
SMKR				S	Sn	14 41 56.0	+1.0
BDR	Baidarnaya	4.72	300	eS	Sn	14 42 00.3	+2.1
ZLN	Zelenaya	4.74	292	eP	Pn	14 41 05.5	+1.3
ZLN				eS	Sn	14 42 02.2	+3.4
ZLN	Zelenaya	4.74	292	PN	Pn	14 41 05.5	+1.3
ZLN				S	Sn	14 42 02.2	+3.4
SRKR	Sorokina	4.77	300	eP	Pn	14 41 05.9	+1.2
SRKR	Sorokina	4.77	300	PN	Pn	14 41 05.8	+1.2
BZGR	Bezymyannyi-Gr	4.78	291	eP	Pn	14 41 04.2	-0.6
BZGR				eS	Sn	14 42 01.0	+1.2
BZGR	Bezymyannyi-Gr	4.78	291	PN	Pn	14 41 04.1	-0.6
BZGR				S	Sn	14 42 00.9	+1.2
CIRR	Tsirk	4.80	293	eP	Pn	14 41 05.5	+0.5
CIRR	Tsirk	4.80	293	PN	Pn	14 41 05.5	+0.5
TUMD	Tumrok D	4.82	282	eP	Pn	14 41 04.7	-0.5
TUMD				eS	Sn	14 42 00.6	+0.1
BZP	Bezymyannyi-Pe	4.86	291	eP	Pn	14 41 05.4	-0.5
BZMR	Bezymyannaya	4.89	291	eP	Pn	14 41 06.2	-0.1
BZMR	Bezymyannaya	4.89	291	PN	Pn	14 41 06.2	-0.1
BZWR	Bezymyannyi-We	4.90	291	eP	Pn	14 41 08.8	+2.3
BZWR				eS	Sn	14 42 04.5	+1.8
BZWR	Bezymyannyi-We	4.90	291	PN	Pn	14 41 08.7	+2.3
BZWR				S	Sn	14 42 04.5	+1.8
KLY	Klyuchi	4.91	295	eP	Pn	14 41 04.7	-1.7
KLY				eS	Sn	14 42 01.1	-1.7
KLY	Klyuchi	4.91	295	PN	Pn	14 41 04.7	-1.7
KLY				S	Sn	14 42 01.1	-1.7
KRSR	Krestovskiy	4.93	294	eP	Pn	14 41 07.0	+0.2
KRSR				eS	Sn	14 42 03.4	0.0
KRSR	Krestovskiy	4.93	294	PN	Pn	14 41 07.0	+0.2
KRSR				S	Sn	14 42 03.3	0.0
TUMR	Tumrok	4.97	283	eP	Pn	14 41 07.4	0.0
TUMR	Tumrok	4.97	283	PN	Pn	14 41 07.3	0.0
KIRR	Kirishev	4.98	291	eP	Pn	14 41 07.6	+0.1
KIRR				eS	Sn	14 42 03.4	-1.3
KIRR	Kirishev	4.98	291	PN	Pn	14 41 07.6	+0.1
KIRR				S	Sn	14 42 03.3	-1.3
KMNR	Kamenistaya	4.99	289	eP	Pn	14 41 07.9	+0.3
KMNR	Kamenistaya	4.99	289	PN	Pn	14 41 07.9	+0.3
KPT	Kopyto	5.05	291	eP	Pn	14 41 08.8	+0.4
KPT	Kopyto	5.05	291	PN	Pn	14 41 08.8	+0.4
KOZ	Kozyrevsk	5.26	291	eP	Pn	14 41 11.6	+0.4
KOZ	Kozyrevsk	5.26	291	PN	Pn	14 41 11.6	+0.4
SPN	Mys Shipunski	5.28	259	eP	Pn	14 41 10.0	-1.6
SPN				eS	Sn	14 42 08.8	-3.1
SPN	Mys Shipunski	5.28	259	PN	Pn	14 41 09.9	-1.6
KII	Karymskiy	5.40	269	eP	Pn	14 41 14.2	+1.0
KII	Karymskiy	5.40	269	PN	Pn	14 41 14.2	+1.0
NLC	Nalytchevo	5.65	261	eP	Pn	14 41 15.8	-0.8
NLC				eS	Sn	14 42 16.7	-4.2
NLC	Nalytchevo	5.65	261	PN	Pn	14 41 15.7	-0.8
OSSR	Ossora	5.69	330	eP	Pn	14 41 16.6	-0.6
OSSR	Ossora	5.69	330	PN	Pn	14 41 16.5	-0.6
ESO	Esso	5.87	289	eP	Pn	14 41 19.3	-0.4
ESO	Esso	5.87	289	PN	Pn	14 41 19.3	-0.4
SMAR	Somma	5.94	262	eP	Pn	14 41 19.8	-1.0
SMAR				eS	Sn	14 42 29.1	+0.6
SMAR	Somma	5.94	262	PN	Pn	14 41 19.7	-1.0
SMAR				S	Sn	14 42 29.0	+0.6
UGLR	Uglovaya	5.94	262	eP	Pn	14 41 20.2	-0.5
UGLR	Uglovaya	5.94	262	PN	Pn	14 41 20.1	-0.5
KRER	Koryakskii	5.96	263	eP	Pn	14 41 20.6	-0.4
KRER	Koryakskii	5.96	263	PN	Pn	14 41 20.6	-0.4
AVH	Avacha	5.97	262	eP	Pn	14 41 20.7	-0.4
AVH	Avacha	5.97	262	PN	Pn	14 41 20.7	-0.4
KRX	Arik	6.00	263	eP	Pn	14 41 20.8	-0.8
KRX	Arik	6.00	263	PN	Pn	14 41 20.7	-0.8
KOK	Koryaka	6.03	263	eP	Pn	14 41 21.1	-0.8
KOK	Koryaka	6.03	263	PN	Pn	14 41 21.0	-0.8
DALK	Dalny	6.03	260	eP	Pn	14 41 20.8	-1.0
DALK				eS	Sn	14 42 27.6	-2.7
DALK	Dalny	6.03	260	PN	Pn	14 41 20.8	-1.0
PET	Petropavlovsk	6.09	260		Pn	14 41 21.6	-1.0
PET				Sn	Sn	14 42 31.3	-0.5
PET	Petropavlovsk	6.09	260	eP	Pn	14 41 22.3	-0.4
PET				eS	Sn	14 42 30.7	-1.1
PET	Petropavlovsk	6.09	260	P	Pn	14 41 23.2	+0.6
PET	Petropavlovsk	6.09	260⇑	i/PN	Pn	14 41 21.5	-1.1
PET				pmax	pmax		
	comp=Z,477nm,0.8s						
PET				MLR	MLR		
	comp=Z,4μm,16.0s						
PET				MLR	MLR		
	comp=Z,4μm,14.0s						
INSR	Institute	6.11	261	eP	Pn	14 41 21.0	-1.8
INSR	Institute	6.11	261	PN	Pn	14 41 21.0	-1.8
TILK	Tilichiki	6.15	348	eP	Pn	14 41 23.2	-0.2
TILK	Tilichiki	6.15	348	PN	Pn	14 41 23.2	-0.2
RUS	Russkaya	6.38	256	eP	Pn	14 41 27.5	+0.9
RUS				eS	Sn	14 42 34.5	-4.3
RUS	Russkaya	6.38	256	PN	Pn	14 41 27.4	+0.9
KRMR	Karymshinskiy	6.45	260	eP	Pn	14 41 27.0	-0.6
KRMR				eS	Sn	14 42 38.6	-2.1
KRMR	Karymshinskiy	6.45	260	PN	Pn	14 41 27.0	-0.6
TIGL	Tigil	6.48	305	eP	Pn	14 41 30.8	+2.9
MTVR	Mutnovka	6.54	257	eP	Pn	14 41 28.6	-0.4
MTVR				eS	Sn	14 42 40.7	-2.5
MTVR	Mutnovka	6.54	257	PN	Pn	14 41 28.6	-0.4
GRL	Gorelyy	6.58	257	eP	Pn	14 41 29.5	0.0
GRL	Gorelyy	6.58	257	PN	Pn	14 41 29.5	0.0
PEA0B	Petropavlovsk-	6.62	263	Pn	Pn	14 41 30.1	+0.2
PEA0B	Petropavlovsk-	6.62	263	eP	Pn	14 41 29.9	0.0
PETK	Petropavlovsk-	6.62	263	Pn	Pn	14 41 29.1	-0.8
PETK	Petropavlovsk-	6.62	263	Pn	Pn	14 41 29.4	-0.5
	comp=Z,9.0nm,0.3s,baz=77,slow=23,SNR=41						
PETK				Sn	Sn	14 42 45.9	+1.1
	comp=Z,15nm,0.3s,baz=90,slow=39,SNR=4.2						
PETK				LR	LR	14 44 10.6	
	comp=Z,5μm,20.1s,baz=79,slow=39						
	comp=Z,61nm,0.5s						
PALN	Palana	6.65	318	eP	Pn	14 41 34.1	+3.8
PALN				eS	Sn	14 42 48.4	+2.9
PALN	Palana	6.65	318	PN	Pn	14 41 34.0	+3.8
PALN				S	Sn	14 42 48.3	+2.9
ASAK	Asacha	6.74	256	eP	Pn	14 41 31.7	0.0
ASAK				eS	Sn	14 42 45.3	-2.7
ASAK	Asacha	6.74	256	PN	Pn	14 41 31.6	0.0

KDTR	Khodutka, Kamc	6.88	252	eP		Pn	14 41 31.7 -1.8
KDTR				eS		Sn	14 42 45.8 -5.5
KDTR	Khodutka, Kamc	6.88	252	PN		Pn	14 41 31.6 -1.8
APC	Apacha	6.98	262	eP		Pn	14 41 35.4 +0.5
APC	Apacha	6.98	262	PN		Pn	14 41 35.3 +0.5
PAU	Pauzhetka	7.74	252	eP		Pn	14 41 44.9 -0.3
PAU	Pauzhetka	7.74	252	PN		Pn	14 41 44.9 -0.3
KMSK	Kamenskaya	8.13	352	eP		Pn	14 41 50.0 -0.5
KMSK	Kamenskaya	8.13	352	PN		Pn	14 41 50.0 -0.5
SKR	Severo-Kuril's	8.51	249	eP		Pn	14 41 54.2 -1.6
SKR	Severo-Kuril's	8.51	249	ceP	N	Pn	14 41 54.9 -0.8
KIWB	Kanaga Island	8.94	101			Pn	14 42 00.3 -1.3
ADK	Adak	9.19	100	Pn		Pn	14 42 04.4 -0.7
ADK	Adak	9.19	100	P		Pn	14 42 04.5 -0.6
ADK	Adak	9.19	100	PN		Pn	14 42 04.4 -0.7
GSTR	Great Sitkin T	9.47	98			Pn	14 42 08.4 -0.7
ATKA	Atka Island	10.52	95	Pn		Pn	14 42 22.7 -0.6
ATKA	Atka Island	10.52	95	P		Pn	14 42 22.1 -1.2
MA2	Magadan	10.99	305	LR		LR	14 46 29.2
	comp=Z,2μm,20.1s,baz=103,slow=36						
SEY	Seymchan	11.95	322	Pn		Pn	14 42 44.3 +1.6
	comp=Z,0.2nm,0.3s,baz=121,slow=13,SNR=13						
SEY				LR		LR	14 46 55.2
	comp=Z,2μm,19.2s,baz=121,slow=36						
SEY	Seymchan	11.95	322	i PN		Pn	14 42 44.1 +1.4
SEY				pmax		pmax	
	comp=Z,60nm,1.4s						
SPIA	Saint Paul Isl	12.18	69	P		Pn	14 42 45.0 -0.9
	baz=266						
SPIA	Saint Paul Isl	12.18	69	P		Pn	14 42 47.0 +1.1
P08K	Saint George I	12.54	71	P		Pn	14 42 49.6 -1.3
	baz=269						
NIKH	Nikolski High	13.41	87	P		Pn	14 43 01.9 -0.8
	baz=285,SNR=18						
NIKH	Nikolski High	13.41	87	P		Pn	14 43 03.1 +0.3
BILL	Bilibino	13.67	356			Pn	14 43 06.3 0.0
BILL	Bilibino	13.67	356	i P		Pn	14 43 06.8 +0.5
BILL				pmax		pmax	
	comp=Z,184nm,1.5s						
GAMB	Gambell	13.69	39	P		Pn	14 43 04.6 -1.9
	baz=236						
UNV	Unalaska Valle	14.56	82	P		Pn	14 43 17.9 -0.7
	baz=283,SNR=14						
UNV	Unalaska Valle	14.56	82	P		Pn	14 43 19.6 +1.1
M11K	Mekoryuk	14.74	56	Pn		Pn	14 43 19.2 -1.7
M11K	Mekoryuk	14.74	56	P		Pn	14 43 18.5 -2.3
	baz=258,SNR=13						
LVA	Lava Point	14.77	81	Pn		Pn	14 43 20.9 -0.5
K13K	Kusilvak Mount	15.85	51	P		Pn	14 43 33.7 -1.9
	baz=254						
TNA	Tin City	16.03	37	P		Pn	14 43 37.3 -0.5
	baz=237						
TYV	Tymovskoe	16.13	268	eP		Pn	14 43 40.2 +1.1
TYV				eS		Sn	14 46 42.5 +5.1
TYV				pmax		pmax	
	comp=Z,111nm,1.3s						
TYV				pmax		pmax	
	comp=Z,1μm,4.8s						
TYV				smax		smax	
	comp=N,1μm,5.0s						
TYV				smax		smax	
	comp=E,1μm,5.0s						
TYV				MLR		MLR	
	comp=Z,2μm,18.0s						
M13K	Dall Lake	16.14	57	P		Pn	14 43 38.6 -0.6
	baz=261,SNR=43						
FALS	False Pass	16.14	77	P		Pn	14 43 38.7 -0.5
	baz=280						
FALS	False Pass	16.14	77	P		Pn	14 43 39.5 +0.3
KUR	Kuril'sk	16.21	244	d iP		Pn	14 43 39.5 -0.7
KUR				eS		Sn	14 46 42.3 +2.9
KUR				pmax		pmax	
	comp=Z,2μm,4.5s						
KUR				pmax		pmax	
	comp=Z,654nm,1.3s						
KUR				MLR		MLR	
	comp=Z,2μm,15.0s						
ANM	Nome	16.49	42	P		Pn	14 43 39.3 -4.4
ANM	Nome	16.49	42	P		Pn	14 43 39.3 -4.4
ANM				pmax		pmax	
	comp=Z,131nm,1.4s						
F14K	Arctic Creek	16.56	38	P		Pn	14 43 43.5 -1.1
	baz=240						
J14K	Nanvaranak Lak	16.58	49	P		Pn	14 43 44.2 -0.6
	baz=253,SNR=8.8						
L14K	Kuka Creek	16.62	54	P		P	14 43 47.5 -0.2
L14K				IAmb		IAmb	14 43 50.2
	comp=Z,424nm,1.3s						
L14K	Kuka Creek	16.62	54	P		Pn	14 43 44.6 -0.8
	baz=256						
S12K	Black Hills	16.77	74	P		Pn	14 43 48.1 +0.8
S12K				IAmb		IAmb	14 43 53.9
	comp=Z,187nm,0.9s						
S12K	Black Hills	16.77	74	P		Pn	14 43 46.3 -1.1
	baz=278						
M14K	Bethel	16.87	56	P		P	14 43 50.4 0.0
M14K	Bethel	16.87	56	P		Pn	14 43 48.1 -0.4
	baz=261,SNR=82						
N14K	Kuskokwak Cree	16.90	59	P		Pn	14 43 48.5 -0.4
	baz=264,SNR=24						
O14K	Tigyukauivet M	17.06	61	P		P	14 43 52.1 -0.4
O14K				IAmb		IAmb	14 43 53.9
	comp=Z,352nm,1.5s						
O14K	Tigyukauivet M	17.06	61	P		Pn	14 43 50.7 -0.1
	baz=267,SNR=14						
G15K	Niukluk	17.19	41	P		Pn	14 43 51.8 -0.7
	baz=245,SNR=6.4						
UGL	Uglegorsk	17.24	263	eP		P	14 43 56.3 +1.6
UGL				pmax		pmax	
	comp=Z,2μm,2.5s						
UGL				pmax		pmax	
	comp=Z,575nm,1.0s						
UGL				MLR		MLR	
	comp=Z,3μm,17.0s						
UGL				MLR		MLR	
	comp=E,4μm,12.0s						
UGL				MLR		MLR	
	comp=N,5μm,13.0s						
L15K	Ungalak Mounta	17.25	53	P		Pn	14 43 52.7 -0.6
	baz=259						
F15K	North Star Dit	17.28	39	P		P	14 43 57.4 +2.4
F15K	North Star Dit	17.28	39	P		Pn	14 43 50.5 -3.1
	baz=242						
K15K	Wolf Creek Mou	17.36	51	P		P	14 43 57.1 +1.1
K15K	Wolf Creek Mou	17.36	51	P		Pn	14 43 53.6 -1.1
	baz=257,SNR=48						
M15K	Kasigluk River	17.48	57	P		Pn	14 43 54.7 -1.4
	baz=263,SNR=19						
N15K	Kwethluk River	17.72	59	P		P	14 44 00.2 +0.4
N15K				IAmb		IAmb	14 44 04.6
	comp=Z,441nm,1.4s						
N15K	Kwethluk River	17.72	59	P		Pn	14 43 57.9 -1.2
	baz=265,SNR=46						
H16K	Elim	17.76	43	P		Pn	14 43 58.4 -1.1
	baz=249,SNR=9.6						
O15K	Ungalikthiuk R	17.79	62	P		Pn	14 43 59.4 -0.6
	baz=268,SNR=17						
YSS	Yuzh-Sakhalins	17.95	256	P		P	14 44 05.3 +2.8
YSS				IAmb		IAmb	14 44 07.0
	comp=Z,254nm,1.2s						
YSS	Yuzh-Sakhalins	17.95	256	P		P	14 44 05.8 +3.3
YSS	Yuzh-Sakhalins	17.95	256	eP		Pn	14 43 59.1 -2.9
YSS				eS		Sn	14 47 13.6 -8.0
YSS				pmax		pmax	
	comp=Z,1μm,6.1s						
YSS				pmax		pmax	
	comp=Z,160nm,1.2s						
YSS				MLR		MLR	
	comp=Z,3μm,12.0s						
G16K	Koyuk River	18.00	41	P		P	14 44 04.5 +1.6
J16K	Anvik River	18.02	48	P		P	14 44 04.7 +1.5
J16K	Anvik River	18.02	48	P		Pn	14 44 00.9 -1.9
	baz=255						
YUK	Yuzh-Kuril'sk	18.07	244	i P		Pn	14 44 01.5 -2.0
S14K	Fog Glacier	18.09	71	P		Pn	14 44 01.0 -2.8
	baz=278						
I17K	Unalakleet	18.15	46	P		P	14 44 06.7 +2.2
I17K	Unalakleet	18.15	46	P		Pn	14 44 02.4 -1.9
	baz=253						
L16K	Owhat River	18.20	54	P		P	14 44 06.7 +1.5
L16K	Owhat River	18.20	54	P		Pn	14 44 04.4 -0.6
	baz=261,SNR=44						
CHNA	Chernabura Isl	18.32	76	P		Pn	14 44 04.3 -2.1
	baz=282						
CHNA	Chernabura Isl	18.32	76	P		P	14 44 08.4 +1.9
CNBA	Chernabura Isl	18.32	76	P		Pn	14 44 05.0 -1.5
CNBA				IAmb		IAmb	14 44 12.8
	comp=Z,249nm,1.6s						
M16K	Timber Creek	18.36	56	P		Pn	14 44 08.4 +1.5
M16K	Timber Creek	18.36	56	P		P	14 44 06.5 -0.4
	baz=264,SNR=21						
N16K	Nishlik Lake	18.40	58	P		P	14 44 07.0 -0.3
	baz=266,SNR=21						
C16K	Lisburne Hills	18.41	31	P		P	14 44 06.6 -0.8
	baz=234						
O16K	Kokwok River B	18.69	61	P		P	14 44 09.8 -0.7
O16K	Kokwok River B	18.69	61	P		P	14 44 09.8 -0.7
	baz=269,SNR=29						
G17K	Kiwalik Mounta	18.70	42	P		P	14 44 09.7 -1.0
	baz=248,SNR=11						
J17K	VABM Dome	18.72	49	P		Pn	14 44 12.9 +1.7
J17K				IAmb		IAmb	14 44 15.6
	comp=Z,368nm,1.4s						
J17K	VABM Dome	18.72	49	P		P	14 44 08.8 -2.1
	baz=256,SNR=69						
CHGN	Chignik	18.72	71	P		P	14 44 10.6 -0.3
CHGN				IAmb		IAmb	14 44 13.9
	comp=Z,336nm,1.0s						
CHGN	Chignik	18.72	71	P		P	14 44 09.9 -1.0
	baz=278						
P16K	Nushagak River	18.74	62	P		P	14 44 09.3 -1.8
	baz=270,SNR=9.8						
H17K	Granite Mounta	18.80	44	P		P	14 44 10.6 -1.1
H17K	Granite Mounta	18.80	44	P		P	14 44 10.7 -1.1
	baz=251,SNR=15						
D17K	Noatak River	18.81	34	P		P	14 44 10.5 -1.2
	baz=239						
L17K	Donlin	18.82	53	P		P	14 44 11.8 -0.2
	baz=261,SNR=46						
F17K	Baldwin Pennin	18.85	39			Pn	14 44 13.1 +0.2
F17K	Baldwin Pennin	18.85	39	P		Pn	14 44 12.8 0.0
	baz=245						
K17K	Iditarod	18.92	51	P		P	14 44 13.1 +0.1
K17K				IAmb		IAmb	14 44 17.7
	comp=Z,250nm,1.1s						
K17K	Iditarod	18.92	51	P		P	14 44 13.1 +0.1
	baz=259,SNR=49						
E17K	Hotham Inlet	18.93	37	P		P	14 44 12.1 -1.0
	baz=243						
R16K	Pilot Point	19.03	67	P		P	14 44 12.8 -1.5
	baz=275,SNR=7.0						
RDOG	Red Dog Mine	19.05	33			P	14 44 14.0 -0.4
RDOG	Red Dog Mine	19.05	33	P		P	14 44 13.4 -1.0
	baz=238,SNR=8.6						
M17K	Holitna River	19.13	55	P		P	14 44 14.7 -0.7
M17K				IAmb		IAmb	14 44 20.1
	comp=Z,273nm,1.0s						
M17K	Holitna River	19.13	55	P		P	14 44 15.4 0.0
	baz=264,SNR=58						
N17K	Nushagak Hills	19.18	58	P		P	14 44 16.2 +0.3
	baz=267,SNR=50						
C17K	DeLong Mountai	19.19	32	P		P	14 44 14.7 -1.3
	baz=237						
O17K	Koliganek Bris	19.20	60	P		P	14 44 15.7 -0.5
	baz=269,SNR=21						
Q16K	King Salmon	19.44	63	P		P	14 44 17.5 -1.3
	baz=273,SNR=25						
H18K	Honhosa River	19.49	44	P		P	14 44 18.5 -0.8
	baz=252,SNR=29						
F18K	Selawik	19.50	39	P		P	14 44 19.1 -0.2
	baz=247,SNR=13						
E18K	Tukpahlearik C	19.51	36	P		P	14 44 18.4 -1.0
	baz=244,SNR=6.5						
P17K	Kvichak River	19.54	62	P		P	14 44 19.9 0.0
	baz=271,SNR=27						
L18K	Granite Mounta	19.58	53	P		P	14 44 19.8 -0.5
	baz=262,SNR=50						
G18K	Tagagawik	19.62	41	P		P	14 44 20.1 -0.5
	baz=250,SNR=34						
R17L	Mt. Peulik Vol	19.68	66	P		P	14 44 21.4 0.0
	baz=276,SNR=47						
PLK4	Peulik 4	19.68	66			P	14 44 21.0 -0.5
JKA	Kamikawa-asahi	19.77	249	P		P	14 44 22.3 -0.1
JKA				IAmb		IAmb	14 44 28.0
	comp=Z,354nm,1.4s						
J18K	Innoko River	19.77	49	P		P	14 44 21.9 -0.5
J18K				IAmb		IAmb	14 44 25.1
	comp=Z,206nm,1.0s						
J18K	Innoko River	19.77	49	P		P	14 44 22.1 -0.3
	baz=259,SNR=103						
ASAJ	Asahikawa	19.77	249	P		P	14 44 22.9 +0.4
	comp=Z,1.4nm,0.3s,baz=74,slow=13,SNR=14						
ASAJ				LR		LR	14 50 49.1
	comp=Z,1μm,21.4s,baz=62,slow=33						
	comp=Z,78nm,1.0s						
ASAJ	Asahikawa	19.77	249	P		P	14 44 22.3 -0.2
ASAJ				pmax		pmax	
	comp=Z,355nm,1.4s						
GRNR	Gornyy	19.80	273⇑	i P		Pn	14 44 24.2 -0.2
GRNR				pmax		pmax	
	comp=E,30nm,1.2s						
GRNR				pmax		pmax	
	comp=N,20nm,1.1s						
GRNR				pmax		pmax	
	comp=Z,50nm,1.2s						
GRNR				MLR		MLR	
	comp=E,1μm,16.0s						
GRNR				MLR		MLR	
	comp=N,1μm,12.0s						
GRNR				MLR		MLR	
	comp=Z,1μm,12.0s						
N18K	Kilae Creek	19.83	57	P		P	14 44 22.5 -0.6
	baz=268,SNR=21						
Q17K	Contact Creek	19.87	65	P		P	14 44 23.0 -0.6
	baz=274,SNR=56						
C18K	Utukok River	19.90	33			P	14 44 23.9 +0.1
M18K	Stony River	19.91	55	P		P	14 44 23.4 -0.5
	baz=265,SNR=22						
GCSA	Galena City Sc	19.98	45	P		P	14 44 24.1 -0.5
	baz=255,SNR=83						
TTA	Tatalina	19.99	51			P	14 44 23.5 -1.4
TTA				IAmb		IAmb	14 44 27.6
	comp=Z,164nm,1.2s						
TTA	Tatalina	19.99	51	P		P	14 44 23.4 -1.4
	baz=261,SNR=55						
TTA	Tatalina	19.99	51	P		Pn	14 44 26.8 +0.2
TTA	Tatalina	19.99	51	P		P	14 44 23.5 -1.4
TTA				pmax		pmax	
	comp=Z,164nm,1.2s						
SVW2	Sparrevohn	20.00	56			P	14 44 24.4 -0.5
SVW2	Sparrevohn	20.00	56	P		Pn	14 44 26.2 -0.5
B18K	Kokolik River	20.09	31	P		P	14 44 26.4 +0.6
	baz=237,SNR=12						
P18K	Big Mountain,	20.15	61	P		P	14 44 26.3 -0.3
	baz=272,SNR=21						
O18K	Koktuh Hills	20.16	60	IAmb		IAmb	14 44 29.0
	comp=Z,297nm,1.2s						
O18K	Koktuh Hills	20.16	60	P		P	14 44 25.8 -0.8
	baz=270,SNR=25						
ACHA	Angle Creek He	20.17	65	IAmb		IAmb	14 44 31.5
	comp=Z,115nm,1.0s						
F19K	Shaleruckik Mo	20.28	39	P		P	14 44 28.5 +0.6
F19K				IAMs_20		IAMs_20	14 53 19.4
	comp=Z,2μm,18.0s						
F19K	Shaleruckik Mo	20.28	39	P		P	14 44 27.6 -0.2
	baz=249,SNR=21						
G19K	Purcell Mounta	20.30	41	P		P	14 44 27.3 -0.8
	baz=252,SNR=24						
Q18K	Katmai Hardscr	20.30	63	P		P	14 44 29.0 +0.7
	baz=274,SNR=51						
CHIR	Chirikof Islan	20.34	72	P		P	14 44 28.0 -0.6
CHIR				IAMs_20		IAMs_20	14 51 58.2
	comp=Z,4μm,19.0s						
CHIR	Chirikof Islan	20.34	72	P		Pn	14 44 29.8 -0.9
	baz=281						
J19K	Poorman	20.35	48	IAmb		IAmb	14 44 43.3
	comp=Z,280nm,1.4s						
J19K	Poorman	20.35	48	P		P	14 44 27.8 -0.8
	baz=259,SNR=67						
H19K	Roundabout Mou	20.37	43	P		P	14 44 28.2 -0.6
H19K				IAmb		IAmb	14 44 43.4
	comp=Z,117nm,0.9s						
H19K	Roundabout Mou	20.37	43	P		P	14 44 29.6 +0.8
	baz=254,SNR=38						
L19K	White Mountain	20.43	53	IAmb		IAmb	14 44 32.1
	comp=Z,263nm,1.1s						
L19K	White Mountain	20.43	53	P		Pn	14 44 30.9 -0.8
	baz=264,SNR=110						
N19K	Bonanza Creek	20.52	57	P		P	14 44 30.6 0.0
N19K				IAmb		IAmb	14 44 46.2
	comp=Z,153nm,0.9s						
N19K				IAMs_20		IAMs_20	14 51 57.9
	comp=Z,2μm,20.0s						
N19K	Bonanza Creek	20.52	57	P		P	14 44 31.5 +0.8
	baz=269						
O19K	Port Alsworth	20.60	59	IAmb		IAmb	14 44 33.7
	comp=Z,263nm,1.1s						
O19K	Port Alsworth	20.60	59	P		Pn	14 44 32.5 -1.1
	baz=270,SNR=32						
M19K	Big River Lodg	20.62	54	P		P	14 44 32.1 +0.5
	baz=266,SNR=42						
C19K	Lookout Ridge	20.63	32	IAMs_20		IAMs_20	14 52 49.8
	comp=Z,3μm,20.0s						
C19K	Lookout Ridge	20.63	32	P		P	14 44 31.9 +0.2
	baz=241,SNR=18						
R18K	Karluk	20.70	66	P		P	14 44 31.4 -1.1
	baz=277,SNR=22						
E19K	Redstone River	20.71	38	IAMs_20		IAMs_20	14 53 25.7
	comp=Z,3μm,18.0s						
E19K	Redstone River	20.71	38	P		P	14 44 33.3 +0.8
	baz=248,SNR=16						
A19K	Wainwright	20.77	29	P		P	14 44 33.2 +0.1
	baz=236						
D19K	Kuna River	20.83	35	IAMs_20		IAMs_20	14 53 52.8
	comp=Z,3μm,19.0s						
D19K	Kuna River	20.83	35	P		P	14 44 34.0 +0.2
	baz=244,SNR=27						
ERM	Erimo	20.90	244	P		P	14 44 33.6 -1.1
ERM				IAmb		IAmb	14 44 37.0
	comp=Z,261nm,1.4s						
ERM	Erimo	20.90	244	P		Pn	14 44 37.0 -0.3
ERM	Erimo	20.90	244	ceP		P	14 44 33.4 -1.4
ERM				pmax		pmax	
	comp=Z,199nm,1.3s						
L20K	Farewell, AK	20.91	52	P		P	14 44 35.9 +1.1
	baz=265,SNR=21						
K20K	Telida	20.93	50	P		P	14 44 35.7 +0.8
	baz=262,SNR=34						
H20K	Anotlenegga Mo	20.99	44	P		P	14 44 36.4 +0.8
	baz=256,SNR=46						
Q19K	Cape Douglas,	20.99	62	P		P	14 44 36.1 +0.5
	baz=274,SNR=13						
I20K	Naaghedeneel	21.00	46	IAMs_20		IAMs_20	14 52 23.4
	comp=Z,2μm,20.0s						
I20K	Naaghedeneel	21.00	46	P		P	14 44 35.4 -0.3
	baz=258,SNR=13						
SII	Sitkinak Islan	21.00	69	P		P	14 44 34.8 -0.9
	baz=280,SNR=14						
SII	Sitkinak Islan	21.00	69	P		P	14 44 35.9 +0.2
J20K	Nowinta River	21.02	48	P		P	14 44 35.3 -0.6
	baz=260,SNR=56						
F20K	Avaraart Lake	21.11	39	P		P	14 44 36.6 -0.3
	baz=251,SNR=9.9						
P19K	Oil Pt	21.16	60	P		P	14 44 36.3 -1.1
	baz=273,SNR=9.0						
ILSW	Iliamna Southw	21.19	59	IAmb		IAmb	14 44 40.8
	comp=Z,314nm,1.4s						
M20K	Styx River	21.22	54	IAMs_20		IAMs_20	14 52 23.2
	comp=Z,2μm,21.0s						
M20K	Styx River	21.22	54	P		P	14 44 36.9 -1.2
	baz=267,SNR=14						
OHAK	Old Harbor	21.38	67	P		P	14 44 37.6 -2.1
OHAK	Old Harbor	21.38	67	P		P	14 44 38.8 -0.9
	baz=279,SNR=46						
OHAK	Old Harbor	21.38	67	P		P	14 44 39.6 -0.1
E20K	Nigu River	21.38	36	P		P	14 44 39.4 -0.4
	baz=247,SNR=22						
D20K	Etivluk River	21.42	35	P		P	14 44 39.3 -0.8
	baz=246,SNR=23						
O20K	Slope Mountain	21.45	59	P		P	14 44 41.0 +0.4
	baz=272						
YAK	Yakutsk	21.56	306	P		P	14 44 38.4 -3.3
YAK	Yakutsk	21.56	306	LR		LR	14 53 08.0
	comp=Z,1μm,18.1s,baz=95,slow=37						
YAK	Yakutsk	21.56	306	eP		P	14 44 39.9 -1.8
YAK				ePPP		PPP	14 45 08.2
YAK				eS		S	14 48 39.9 +0.2
YAK				e			14 48 43.0
YAK				eSS		SnSn	14 49 10.8 +7.6
YAK				pmax		pmax	
	comp=Z,56nm,1.1s						
YAK				pmax		pmax	
	comp=N,6.0nm,1.1s						
YAK				pmax		pmax	
	comp=E,46nm,1.3s						
YAK				pmax		pmax	
	comp=Z,226nm,1.6s						
YAK				pmax		pmax	
	comp=N,247nm,2.2s						
YAK				pmax		pmax	
	comp=E,295nm,2.1s						
YAK				smax		smax	
	comp=N,2μm,4.9s						
YAK				smax		smax	
	comp=E,1μm,5.2s						
YAK				MLR		MLR	
	comp=Z,2μm,14.0s						
YAK				MLR		MLR	
	comp=N,1μm,18.0s						
YAK				MLR		MLR	
	comp=E,1μm,18.0s						
IMAR	Indian Mountai	21.56	43	P		P	14 44 41.4 -0.4
N20K	Mount Spurr	21.64	56	P		P	14 44 42.2 -0.4
	baz=270,SNR=17						
SPCR	Spurr Chakacha	21.64	56	P		P	14 44 42.8 +0.1
	baz=270,SNR=14						
KDAK	Kodiak Island	21.67	65	P		P	14 44 40.9 -2.0
	comp=E,59nm,0.8s,baz=131,slow=5.1,SNR=24						
KDAK				S		S	14 48 40.0 -1.9
	comp=E,17nm,1.1s,baz=215,slow=8.5,SNR=2.1						
	comp=E,59nm,0.8s						
KDAK	Kodiak Island	21.67	65	P		P	14 44 43.1 +0.2
	baz=278						
KDAK	Kodiak Island	21.67	65	eP		P	14 44 40.1 -2.8
KDAK				pmax		pmax	
	comp=Z,157nm,1.3s						
Q20K	Shuyak Island	21.67	63	P		P	14 44 42.3 -0.5
	baz=276,SNR=20						
SPU	Mount Spurr	21.71	56	IAmb		IAmb	14 44 55.5
	comp=Z,152nm,1.1s						
PPLA	Purkeypile	21.73	51	P		P	14 44 44.2 +0.6
	baz=265,SNR=22						
CHUM	Lake Minchumin	21.77	49	P		P	14 44 45.0 +1.0
	baz=263,SNR=29						
G21K	Allakaket	21.80	41	IAMs_20		IAMs_20	14 53 15.5
	comp=Z,2μm,19.0s						
G21K	Allakaket	21.80	41	P		P	14 44 44.7 +0.5
	baz=255						
B20K	Meade River	21.82	31	P		P	14 44 43.8 -0.5
	baz=242,SNR=10.0						
CAST	Castle Rocks	21.82	50	P		P	14 44 44.4 -0.1
	baz=264,SNR=18						
H21K	Melozitna Rive	21.87	44	IAMs_20		IAMs_20	14 53 17.4
	comp=Z,2μm,20.0s						
H21K	Melozitna Rive	21.87	44	P		P	14 44 45.8 +0.8
	baz=258,SNR=32						
HOM	Homer	21.96	60	P		P	14 44 45.8 -0.3
	baz=274						
SKT	Skwentna	21.98	54	IAmb		IAmb	14 44 58.6
	comp=Z,235nm,1.4s						
SKT	Skwentna	21.98	54	P		P	14 44 47.3 +1.1
	baz=268,SNR=8.0						
F21K	Alatna River	22.00	40	IAMs_20		IAMs_20	14 54 23.8
	comp=Z,2μm,18.0s						
F21K	Alatna River	22.00	40	P		P	14 44 47.5 +1.1
	baz=253,SNR=11						
CAPN	Captain Cook N	22.16	57	P		P	14 44 48.5 +0.4
	baz=272						
CNPM	China Poot	22.18	60	IAmb		IAmb	14 44 59.2
	comp=Z,235nm,1.3s						
C21K	Knifeblade Rid	22.20	34	P		P	14 44 49.0 +0.4
	baz=247,SNR=25						
E21K	Killik River	22.21	36	P		P	14 44 47.5 -1.2
	baz=250						
BRLK	Bradley Lake	22.34	60	IAmb		IAmb	14 45 09.0
	comp=Z,102nm,1.0s						
SUA	Susitna One	22.34	55	P		P	14 44 49.2 -1.0
	baz=270,SNR=17						
KTH	Kantishna Hill	22.35	50	IAmb		IAmb	14 45 02.3
	comp=Z

B21K	Ikpikpuk River	22.44	33	IAmb	IAmb	14 45 12.6	
	comp=Z,97nm,1.1s						
B21K	Ikpikpuk River	22.44	33	P	P	14 44 51.2	+0.1
	baz=246						
H22K	Ishtalitna Cre	22.49	44	P	P	14 44 52.0	+0.3
	baz=259,SNR=11						
TEY	Ternei	22.56	259⇑	eP	P	14 44 55.8	+3.3
TEY				pmax	pmax		
	comp=Z,30nm,1.0s						
TEY				pmax	pmax		
	comp=N,30nm,1.0s						
TEY				pmax	pmax		
	comp=E,30nm,1.0s						
F22K	John River	22.56	39	P	P	14 44 52.3	-0.1
	baz=254						
MLY	Manley	22.61	46	IAmb	IAmb	14 45 06.4	
	comp=Z,107nm,1.2s						
MLY	Manley	22.61	46	P	P	14 44 53.3	+0.3
	baz=262,SNR=21						
A21K	Barrow	22.61	29	P	P	14 44 52.5	-0.4
	baz=240						
TRF	Thorofare Moun	22.63	50	P	P	14 44 52.0	-1.4
	baz=266,SNR=17						
M22K	Willow	22.64	55	P	P	14 44 53.3	0.0
	baz=270,SNR=6.0						
G22K	Bettles	22.67	41	P	P	14 44 53.6	+0.1
	baz=256,SNR=10						
D22K	Ayikyak River	22.81	36	P	P	14 44 55.0	0.0
	baz=250,SNR=11						
RC01	Rabbit Creek A	22.84	56	IAMs_20	IAMs_20	14 53 17.1	
	comp=Z,2μm,21.0s						
RC01	Rabbit Creek A	22.84	56	P	P	14 44 55.0	-0.3
	baz=272						
O22K	Cooper Landing	22.87	58	IAMs_20	IAMs_20	14 53 24.0	
	comp=Z,3μm,20.0s						
O22K	Cooper Landing	22.87	58	P	P	14 44 53.8	-1.9
	baz=273						
E22K	Anaktuvuk Pass	22.88	38	IAmb	IAmb	14 45 07.6	
	comp=Z,106nm,1.2s						
E22K				IAMs_20	IAMs_20	14 55 20.0	
	comp=Z,2μm,18.0s						
E22K	Anaktuvuk Pass	22.88	38	P	P	14 44 56.5	+0.7
	baz=253,SNR=17						
JTM	Tenmabayashi	22.88	245	P	P	14 44 56.0	+0.1
JTM	Tenmabayashi	22.88	245	P	P	14 44 59.1	+3.2
A22K	Sinclair Lake	22.93	30	P	P	14 44 56.0	-0.2
	baz=243						
SEW	Seward	23.03	59	P	P	14 44 56.0	-1.4
	baz=275						
B22K	Teshekpuk Lake	23.11	32	IAmb	IAmb	14 45 18.0	
	comp=Z,92nm,1.0s						
B22K				IAMs_20	IAMs_20	14 54 52.2	
	comp=Z,2μm,20.0s						
B22K	Teshekpuk Lake	23.11	32	P	P	14 44 56.7	-1.3
	baz=246,SNR=14						
PMR	Palmer	23.12	55	P	P	14 44 57.7	-0.5
	baz=271,SNR=7.1						
PMR	Palmer	23.12	55	P	P	14 44 59.2	+1.0
KLR	Kul'dur	23.18	272	LR	LR	14 54 19.0	
	comp=Z,1μm,19.9s,baz=52,slow=37						
KLR	Kul'dur	23.18	272	ceP	P	14 44 59.5	+0.5
KLR				pmax	pmax		
	comp=Z,47nm,1.3s						
G23K	Bananza Creek	23.19	42	P	P	14 44 59.0	-0.1
	baz=258						
I23K	Minto, Yukon-K	23.20	46	P	P	14 44 57.1	-1.9
I23K				IAMs_20	IAMs_20	14 52 57.7	
	comp=Z,2μm,22.0s						
I23K	Minto, Yukon-K	23.20	46	P	P	14 44 57.2	-1.9
	baz=263						
GHO	Glory Hole Cre	23.21	55	IAmb	IAmb	14 45 19.2	
	comp=Z,65nm,0.9s						
GHO				IAMs_20	IAMs_20	14 53 03.9	
	comp=Z,2μm,22.0s						
H23K	Yukon River	23.22	44	P	P	14 44 57.7	-1.6
	baz=261,SNR=22						
COLD	Coldfoot	23.23	41	P	P	14 44 57.5	-1.9
	baz=257,SNR=8.0						
MCK	McKinley	23.25	50	P	P	14 44 56.9	-2.7
	baz=266,SNR=16						
NEA2	Nenana	23.26	47	IAMs_20	IAMs_20	14 52 59.3	
	comp=Z,2μm,21.0s						
NEA2	Nenana	23.26	47	P	P	14 44 58.9	-0.8
	baz=264						
RND	Reindeer	23.27	50	IAmb	IAmb	14 45 19.3	
	comp=Z,204nm,1.5s						
WAT1	Susitna Watana	23.39	52	P	P	14 44 58.9	-2.1
	baz=269						
KNK	Knik Glacier	23.45	55	IAMs_20	IAMs_20	14 54 47.1	
	comp=Z,2μm,19.0s						
KNK	Knik Glacier	23.45	55	P	P	14 45 00.6	-0.9
	baz=272,SNR=10						
SML	Sawmill	23.49	54	IAMs_20	IAMs_20	14 53 24.4	
	comp=Z,2μm,20.0s						
SML	Sawmill	23.49	54	P	P	14 45 00.5	-1.5
	baz=272,SNR=25						
D23K	Nanushuk River	23.52	36	IAMs_20	IAMs_20	14 53 35.0	
	comp=Z,2μm,20.0s						
D23K	Nanushuk River	23.52	36	P	P	14 45 01.0	-1.2
	baz=253,SNR=28						
PWL	Port Wells	23.53	57	IAMs_20	IAMs_20	14 53 14.5	
	comp=Z,2μm,22.0s						
PWL	Port Wells	23.53	57	P	P	14 45 01.0	-1.5
	baz=274,SNR=11						
E23K	Chandalar	23.65	39	IAMs_20	IAMs_20	14 55 36.4	
	comp=Z,2μm,18.0s						
E23K	Chandalar	23.65	39	P	P	14 45 03.6	0.0
	baz=256						
WRH	Wood River Hil	23.67	48	IAmb	IAmb	14 45 20.5	
	comp=Z,95nm,1.1s						
WRH				IAMs_20	IAMs_20	14 55 01.1	
	comp=Z,2μm,18.0s						
WAT6	Susitna Watana	23.76	52	P	P	14 45 03.4	-1.4
	baz=270,SNR=7.6						
M23K	Glacier View	23.78	54	P	P	14 45 03.4	-1.5
	baz=272,SNR=9.0						
CCB	Clear Creek Bu	23.81	47	IAMs_20	IAMs_20	14 55 22.7	
	comp=Z,2μm,18.0s						
COLA	College	23.81	47	P	P	14 45 04.4	-0.6
COLA				IAmb	IAmb	14 45 20.0	
	comp=Z,61nm,0.8s						
COLA	College	23.81	47	P	P	14 45 03.3	-1.7
	baz=265						
COLA	College	23.81	47	P	P	14 45 05.1	+0.1
COLA	College	23.81	47	iP	P	14 45 03.6	-1.4
COLA				pmax	pmax		
	comp=Z,73nm,1.0s						
TOLK	Toolik Lake Re	23.81	37	P	P	14 45 05.0	-0.2
TOLK	Toolik Lake Re	23.81	37	P	P	14 45 05.2	+0.1
	baz=255,SNR=43						
C23K	Itkillik River	23.82	34	P	P	14 45 04.5	-0.6
	baz=251,SNR=15						
H24K	Noodor Dome	23.90	44	P	P	14 45 05.2	-0.8
	baz=263,SNR=15						
DHY	Denali Highway	23.93	51	IAmb	IAmb	14 45 32.4	
	comp=Z,70nm,1.0s						
DHY	Denali Highway	23.93	51	P	P	14 45 05.2	-1.2
	baz=269,SNR=16						
SCM	Sheep Creek Mo	23.97	54	IAMs_20	IAMs_20	14 53 27.9	
	comp=Z,2μm,21.0s						
SCM	Sheep Creek Mo	23.97	54	P	P	14 45 04.8	-1.9
	baz=272,SNR=13						
POKR	Poker Plat Res	24.01	46	IAmb	IAmb	14 45 27.5	
	comp=Z,153nm,1.4s						
POKR				IAMs_20	IAMs_20	14 53 55.0	
	comp=Z,2μm,20.0s						
POKR	Poker Plat Res	24.01	46	P	P	14 45 07.0	+0.1
	baz=265,SNR=16						
ZEA	Zeya	24.03	285	eP	P	14 45 06.4	-0.8
ZEA				eS	S	14 49 17.3	-6.0
ZEA				pmax	pmax		
	comp=Z,30nm,1.0s						
ZEA				pmax	pmax		
	comp=E,400nm,4.7s						
ZEA				pmax	pmax		
	comp=N,300nm,5.5s						
ZEA				pmax	pmax		
	comp=Z,800nm,4.1s						
ZEA				smax	smax		
	comp=E,900nm,8.6s						
ZEA				MLR	MLR		
	comp=E,1μm,15.0s						
ZEA				MLR	MLR		
	comp=N,1μm,13.0s						
ZEA				MLR	MLR		
	comp=Z,1μm,18.0s						
E24K	Your Creek	24.07	39	P	P	14 45 05.4	-2.1
	baz=257,SNR=34						
P23K	Montague Islan	24.07	59	P	P	14 45 06.0	-1.5
	baz=278						
GLI	Glacier Island	24.14	57	IAmb	IAmb	14 45 26.4	
	comp=Z,89nm,0.9s						
GLI				IAMs_20	IAMs_20	14 54 18.4	
	comp=Z,2μm,22.0s						
GLI	Glacier Island	24.14	57	P	P	14 45 07.6	-0.5
	baz=275						
HDA	Harding Lake	24.16	48	IAMs_20	IAMs_20	14 55 17.1	
	comp=Z,2μm,19.0s						
HDA	Harding Lake	24.16	48	P	P	14 45 08.2	-0.2
	baz=267,SNR=15						
F24K	Squaw Lake	24.17	40	P	P	14 45 08.0	-0.5
	baz=259						
G24K	Hadweenzic Riv	24.19	42	P	P	14 45 09.0	+0.4
	baz=261,SNR=29						
TIXI	Tiksi	24.19	330	P	P	14 45 07.7	-0.8
TIXI	Tiksi	24.19	330	IAMs_20	IAMs_20	14 55 59.6	
	comp=Z,2μm,19.0s						
TIXI	Tiksi	24.19	330	LR	LR	14 56 09.9	
	comp=Z,1μm,18.2s,baz=148,slow=41						
TIXI	Tiksi	24.19	330	ceP	P	14 45 07.4	-1.1
TIXI				pmax	pmax		
	comp=Z,164nm,1.7s						
TIXI				MLR	MLR		
	comp=Z,1μm,17.0s						
IL31		24.21	47	IAmb	IAmb	14 45 24.6	
	comp=Z,66nm,0.9s						
ILAR	Eielson Array	24.21	47	P	P	14 45 07.2	-1.7
ILAR	Eielson Array	24.21	47	P	P	14 45 07.5	-1.4
	comp=Z,36nm,1.1s,baz=252,slow=7.9,SNR=96						
ILAR				PcP	PcP	14 48 48.8	+0.2
	comp=Z,1.0nm,0.6s,baz=293,slow=4.3,SNR=1.5						
ILAR				LR	LR	14 54 24.1	
	comp=Z,2μm,21.1s,baz=260,slow=36						
	comp=Z,36nm,1.1s						
D24K	Happy Valley	24.21	36	IAMs_20	IAMs_20	14 55 43.4	
	comp=Z,2μm,18.0s						
D24K	Happy Valley	24.21	36	P	P	14 45 07.3	-1.5
	baz=254						
C24K	Franklin Bluff	24.41	35	P	P	14 45 08.8	-1.8
	baz=253						
FID	Port Fidalgo	24.45	57	IAmb	IAmb	14 45 22.2	
	comp=Z,171nm,1.3s						
M24K	Tolsona, Glenn	24.50	54	P	P	14 45 12.6	+1.0
	baz=273,SNR=25						
K24K	Donnelly Dome	24.66	49	P	P	14 45 12.0	-0.9
	baz=269,SNR=15						
KLU	Klutina	24.66	55	IAMs_20	IAMs_20	14 53 52.1	
	comp=Z,3μm,21.0s						
KLU	Klutina	24.66	55	P	P	14 45 14.0	+1.0
	baz=274,SNR=16						
Q23K	Middleton Isla	24.67	60	P	P	14 45 12.5	-0.4
	baz=278						
G25K	Bearman Lake	24.74	42	P	P	14 45 13.3	-0.2
	baz=262,SNR=7.3						
H25L	Birch Creek	24.79	44	P	P	14 45 15.3	+1.3
	baz=264,SNR=18						
PAX	Paxson	24.80	51	P	P	14 45 13.9	-0.4
	baz=271,SNR=17						
EYAK	Cordova Ski Ar	24.83	57	P	P	14 45 14.2	-0.1
	baz=276						
EYAK	Cordova Ski Ar	24.83	57	P	P	14 45 16.2	+1.8
PRP	Porcupine Dome	24.84	45	IAmb	IAmb	14 45 17.4	
	comp=Z,130nm,1.1s						
PRP	Porcupine Dome	24.84	45	P	P	14 45 14.6	-0.1
	baz=266,SNR=83						
J25K	Salcha River,	24.86	48	P	P	14 45 12.8	-1.9
	baz=268,SNR=25						
HARP	HAARP	24.96	53	P	P	14 45 15.2	-0.4
	baz=273						
F25K	Christian Rive	25.03	40	IAMs_20	IAMs_20	14 56 40.0	
	comp=Z,2μm,19.0s						
F25K	Christian Rive	25.03	40	P	P	14 45 15.3	-1.0
	baz=261,SNR=73						
RIDG	Independent Ri	25.07	50	IAmb	IAmb	14 45 26.1	
	comp=Z,73nm,1.0s						
RIDG				IAMs_20	IAMs_20	14 54 31.0	
	comp=Z,2μm,22.0s						
RIDG	Independent Ri	25.07	50	P	P	14 45 16.5	-0.1
	baz=270						
D25K	Kavik River	25.10	36	P	P	14 45 16.4	-0.5
	baz=257,SNR=37						
JMM	Marumori	25.19	240	IAmb	IAmb	14 45 46.9	
	comp=Z,83nm,1.0s						
JMM	Marumori	25.19	240	P	P	14 45 20.5	+2.6
HEH	HeiHe	25.25	277	eP	P	14 45 16.8	-1.5
HEH				pP	pP	14 45 19.6	-3.8
HEH				S	S	14 49 44.8	+1.8
HEH				sS	sS	14 49 50.5	-0.8
HEH				pmax	pmax		
	comp=Z,72nm,1.2s						
HEH				pmax	pmax		
	comp=Z,630nm,4.8s						
HEH				LR	LR		
	comp=Z,6μm,16.0s						
HEH				LR	LR		
	comp=Z,3μm,15.4s						
HEH				LR	LR		
	comp=Z,2μm,16.2s						
N25K	Chitina, Valde	25.28	55	IAmb	IAmb	14 45 45.2	
	comp=Z,134nm,1.4s						
N25K				IAMs_20	IAMs_20	14 54 32.6	
	comp=Z,2μm,22.0s						
N25K	Chitina, Valde	25.28	55	P	P	14 45 17.8	-0.8
	baz=275						
BMRM	Bremner River	25.34	56	P	P	14 45 19.1	0.0
	baz=276						
BMAR	Burnt Mountain	25.41	41	P	P	14 45 19.5	-0.2
SCRK	Sand Creek	25.45	49	IAmb	IAmb	14 45 30.2	
	comp=Z,50nm,0.9s						
SCRK				IAMs_20	IAMs_20	14 56 08.0	
	comp=Z,1μm,18.0s						
SCRK	Sand Creek	25.45	49	P	P	14 45 18.6	-1.5
	baz=270,SNR=19						
KAIM	Kayak Island	25.57	59	P	P	14 45 19.8	-1.3
	baz=279						
MENT	Mentasta	25.60	51	P	P	14 45 23.6	+2.2
F26K	Sheenjek River	25.61	40	IAMs_20	IAMs_20	14 56 30.4	
	comp=Z,1μm,18.0s						
F26K	Sheenjek River	25.61	40	P	P	14 45 19.4	-2.1
	baz=262,SNR=15						
J26L	Joseph Creek	25.63	48	IAMs_20	IAMs_20	14 55 05.9	
	comp=Z,2μm,20.0s						
J26L	Joseph Creek	25.63	48	P	P	14 45 21.5	-0.3
	baz=270,SNR=26						
G26K	Porcupine Rive	25.67	42	P	P	14 45 22.4	+0.5
	baz=264,SNR=31						
GLB	Gilahina Butte	25.67	55	IAmb	IAmb	14 45 34.2	
	comp=Z,89nm,1.0s						
GLB				IAMs_20	IAMs_20	14 54 33.9	
	comp=Z,2μm,22.0s						
USA0B	Ussuriysk Arra	25.71	262	iP	P	14 45 20.5	-2.0
USRK	Ussuriysk Ar.	25.71	262	P	P	14 45 22.3	-0.2
USRK	Ussuriysk Ar.	25.71	262	P	P	14 45 22.0	-0.5
	comp=Z,3.3nm,0.8s,baz=52,slow=7.5,SNR=11						
USRK				LR	LR	14 55 54.9	
	comp=Z,2μm,19.0s,baz=64,slow=38						
	comp=Z,3.3nm,0.8s						
USRK	Ussuriysk Ar.	25.71	262	P	P	14 45 22.3	-0.2
C26K	Camden Bay	25.74	35	P	P	14 45 22.6	+0.1
	baz=257,SNR=19						
L26K	Log Cabin Wild	25.76	51	P	P	14 45 21.3	-1.6
	baz=273,SNR=8.9						
I26K	Coal Creek Min	25.82	46	IAMs_20	IAMs_20	14 54 03.9	
	comp=Z,2μm,21.0s						
I26K	Coal Creek Min	25.82	46	P	P	14 45 22.4	-1.0
	baz=268						
VRDI	Verde Repeater	25.87	55	IAmb	IAmb	14 45 44.1	
	comp=Z,95nm,1.0s						
VRDI				IAMs_20	IAMs_20	14 54 41.1	
	comp=Z,2μm,22.0s						
M26K	Nabesna, AK	25.97	53	P	P	14 45 24.4	-0.4
	baz=275						
MCARA	McCarthy VSAT	26.05	55	IAMs_20	IAMs_20	14 54 58.1	
	comp=Z,2μm,21.0s						
MCARA	McCarthy VSAT	26.05	55	P	P	14 45 25.2	-0.3
	baz=277						
CRQM	Cirque	26.08	56	IAMs_20	IAMs_20	14 55 31.3	
	comp=Z,3μm,21.0s						
C27K	Jago River	26.08	36	P	P	14 45 24.2	-1.6
	baz=259,SNR=46						
BGLC	Bering Glacier	26.10	58	P	P	14 45 25.9	0.0
	baz=279						
CRQE	Cirque	26.10	56	P	P	14 45 25.5	-0.6
	baz=278						
WAX	Waxell Ridge	26.26	57	IAMs_20	IAMs_20	14 57 35.6	
	comp=Z,3μm,20.0s						
K27K	Chicken	26.29	49	P	P	14 45 27.3	-0.3
	baz=272						
JSD	Sado	26.37	244	P	P	14 45 29.6	+1.0
L27K	Beaver Creek,	26.45	51	P	P	14 45 29.5	+0.3
L27K				IAmb	IAmb	14 45 41.0	
	comp=Z,87nm,0.9s						
L27K				IAMs_20	IAMs_20	14 54 51.6	
	comp=Z,2μm,21.0s						
L27K	Beaver Creek,	26.45	51	P	P	14 45 29.4	+0.2
	baz=274,SNR=28						
I27K	Kandik River	26.47	45	P	P	14 45 29.8	+0.5
	baz=269						
BCAR	Beaver Creek A	26.47	51	P	P	14 45 29.1	-0.3
ISLE	Juniper Island	26.49	57	IAMs_20	IAMs_20	14 55 52.6	
	comp=Z,3μm,20.0s						
M27K	Edge Creek, AK	26.49	53	P	P	14 45 29.6	-0.1
	baz=276,SNR=9.2						
G27K	Doyon Strip	26.50	43	P	P	14 45 29.4	-0.2
	baz=267,SNR=25						
H27K	Steamboat Moun	26.52	44	P	P	14 45 30.5	+0.7
	baz=268,SNR=25						
E27K	Coleen River	26.63	40	P	P	14 45 30.8	+0.1
	baz=264,SNR=8.7						
EGAK	Eagle	26.67	47	IAmb	IAmb	14 45 45.2	
	comp=Z,79nm,0.9s						
EGAK				IAMs_20	IAMs_20	14 55 04.2	
	comp=Z,2μm,21.0s						
EGAK	Eagle	26.67	47	P	P	14 45 29.7	-1.3
	baz=271,SNR=36						
MESA	MESA	26.75	58	P	P	14 45 30.7	-1.3
	baz=280						
GRNC	Granite Creek	26.75	56	IAmb	IAmb	14 45 47.9	
	comp=Z,84nm,0.9s						
GRNC				IAMs_20	IAMs_20	14 55 41.6	
	comp=Z,2μm,21.0s						
YAH	Yahtse	26.82	57	IAMs_20	IAMs_20	14 56 14.2	
	comp=Z,2μm,20.0s						
MDJ	Mudanjiang	26.86	265	IAMs_20	IAMs_20	14 55 56.7	
	comp=Z,1μm,18.0s						
MDJ	Mudanjiang	26.86	265	P	P	14 45 31.9	-1.0
MDJ				PP	PnPn	14 46 22.5	+7.9
MDJ				sS	sS	14 50 26.6	+10
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,300nm,4.3s						
MDJ				LR	LR		
	comp=Z,4μm,17.2s						
MDJ				LR	LR		
	comp=Z,1μm,17.6s						
MDJ				LR	LR		
	comp=Z,2μm,17.1s						
CTG	Chitna Glacier	26.92	56	P	P	14 45 33.4	-0.1
	baz=279						
CTGM	Chitina Glacie	26.92	56	IAMs_20	IAMs_20	14 55 58.9	
	comp=Z,2μm,22.0s						
BVCY	Beaver Creek	26.96	52	P	P	14 45 33.9	+0.2
	baz=276						
D27M	Malcolm River	26.98	37	IAMs_20	IAMs_20	14 55 59.5	
	comp=Z,2μm,21.0s						
D27M	Malcolm River	26.98	37	P	P	14 45 33.8	-0.1
	baz=263						
TABL	Table Mountain	27.10	57	IAMs_20	IAMs_20	14 56 12.7	
	comp=Z,2μm,20.0s						
LOGN	Logan Glacier	27.10	56	IAMs_20	IAMs_20	14 55 19.8	
	comp=Z,2μm,22.0s						
I28M	Miner Creek	27.17	46	IAMs_20	IAMs_20	14 56 16.5	
	comp=Z,2μm,21.0s						
I28M	Miner Creek	27.17	46	P	P	14 45 33.7	-2.0
	baz=271,SNR=14						
MSHR	Mys Shultsa	27.18	260	ceP	P	14 45 35.5	-0.3
MSHR				pmax	pmax		
	comp=Z,28nm,1.3s						
YUK3	Moose Creek	27.22	54	P	P	14 45 35.0	-1.4
	baz=278						
F28M	Old Crow	27.23	41	IAMs_20	IAMs_20	14 55 56.2	
	comp=Z,2μm,20.0s						
F28M	Old Crow	27.23	41	P	P	14 45 36.4	+0.3
	baz=267,SNR=19						
E28M	Babbage River	27.43	39	IAMs_20	IAMs_20	14 57 07.3	
	comp=Z,2μm,20.0s						
E28M	Babbage River	27.43	39	P	P	14 45 37.0	-0.8
	baz=265						
DAWY	Dawson	27.47	49	IAmb	IAmb	14 45 43.2	
	comp=Z,81nm,1.1s						
DAWY	Dawson	27.47	49	P	P	14 45 38.1	-0.2
	baz=274,SNR=52						
BNX	BinXian	27.49	269	⇓P	P	14 45 38.3	-0.3
BNX				pmax	pmax		
	comp=Z,48nm,1.0s						
O28M	Mount Upton	27.50	56	P	P	14 45 37.2	-1.7
	baz=280						
MAJO	Matsushiro	27.53	242	P	P	14 45 38.1	-1.0
MAJO				IAmb	IAmb	14 46 18.7	
	comp=Z,95nm,1.2s						
MAJO	Matsushiro	27.53	242	P	P	14 45 40.7	+1.6
MAJO	Matsushiro	27.53	242	iP	P	14 45 39.6	+0.5
MAJO				pmax	pmax		
	comp=Z,98nm,1.4s						
MJAR	Matsushiro Arr	27.53	242	P	P	14 45 39.2	+0.1
	comp=Z,29nm,1.1s,baz=22,slow=8.3,SNR=32						
MJAR				LR	LR	14 57 42.8	
	comp=Z,422nm,18.7s,baz=52,slow=39						
	comp=Z,29nm,1.1s						
MJB9	Matsu-Tunnel	27.53	242	IAmb	IAmb	14 46 19.6	
	comp=Z,92nm,1.2s						
PINM	Pinnacle	27.60	57	P	P	14 45 37.8	-1.7
	baz=281						
YUK8	Steele Glacier	27.62	55	P	P	14 45 39.7	-0.2
	baz=279						
D28M	Stokes Point	27.78	37	P	P	14 45 40.6	-0.3
	baz=265						
H29M	Whitestone	27.80	44	IAMs_20	IAMs_20	14 56 46.2	
	comp=Z,2μm,21.0s						
H29M	Whitestone	27.80	44	P	P	14 45 39.3	-1.9
	baz=271,SNR=7.7						
I29M	Ogilvie Camp,	27.85	46	IAMs_20	IAMs_20	14 56 24.6	
	comp=Z,2μm,20.0s						
I29M	Ogilvie Camp,	27.85	46	P	P	14 45 40.6	-1.1
	baz=273						
G29M	Pine Creek	27.93	42	P	P	14 45 43.5	+1.0
	baz=270,SNR=15						
E29M	Blow River	28.02	39	IAMs_20	IAMs_20	14 57 24.9	
	comp=Z,1μm,20.0s						
E29M	Blow River	28.02	39	P	P	14 45 43.3	+0.2
	baz=267						
M29M	Somme Creek	28.06	52	P	P	14 45 43.4	-0.3
	baz=278						
PNL	Peninsula	28.11	58	P	P	14 45 43.7	-0.3
	baz=283						
L29M	L29M	28.12	51	IAMs_20	IAMs_20	14 56 16.8	
	comp=Z,2μm,21.0s						
L29M	L29M	28.12	51	P	P	14 45 42.7	-1.5
	baz=277,SNR=13						
YUK4	Talbot Arm	28.15	54	P	P	14 45 44.7	+0.1
	baz=280						
K29M	Barlow Dome	28.31	49	IAMs_20	IAMs_20	14 56 40.7	
	comp=Z,2μm,20.0s						
K29M	Barlow Dome	28.31	49	P	P	14 45 44.9	-1.0
	baz=276,SNR=15						
YUK6	Outpost Mounta	28.35	55	P	P	14 45 45.3	-1.1
	baz=281						
O29M	Mount Kennedy	28.38	57	IAMs_20	IAMs_20	14 55 59.5	
	comp=Z,2μm,21.0s						
O29M	Mount Kennedy	28.38	57	P	P	14 45 46.1	-0.4
	baz=282						
EPYK	Eagle Plains	28.46	44	IAMs_20	IAMs_20	14 57 03.7	
	comp=Z,2μm,20.0s						
EPYK	Eagle Plains	28.46	44	P	P	14 45 47.2	0.0
	baz=272,SNR=18						
G30M	tAoh Zrail Nji	28.64	42	P	P	14 45 48.3	-0.5
	baz=272						
I30M	Mount Dempster	28.67	46	IAMs_20	IAMs_20	14 57 22.2	
	comp=Z,2μm,19.0s						
I30M	Mount Dempster	28.67	46	P	P	14 45 48.6	-0.6
	baz=275						
JGF	Kuroka	28.69	242	P	P	14 45 52.7	+3.2
J30M	Hart River	28.75	47	IAMs_20	IA

baz=279
N30M Aishikik Lake 28.86 54 IAMs_20 IAMs_20 14 56 38.3
comp=Z,1μm,21.0s
N30M Aishikik Lake 28.86 54 P **P** **14 45 48.5 -2.3**
baz=281
P29M Windy Craggy 28.94 58 IAMs_20 IAMs_20 14 57 48.4
comp=Z,2μm,20.0s
P29M Windy Craggy 28.94 58 P **P** **14 45 50.2 -1.2**
baz=284
MAYO Mayo, Yukon 29.06 49 P **P** **14 45 51.8 -0.7**
baz=278
INU Inuyama 29.06 242 P **P** **14 45 56.1 +3.4**
P30M Million Dollar 29.20 57 P **P** **14 45 50.5 -3.3**
baz=283
G31M Satah River 29.41 42 P **P** **14 45 53.8 -1.6**
baz=273,SNR=9.8
H31M Peel River 29.47 45 P **P** **14 45 56.1 +0.1**
H31M IAMs_20 IAMs_20 14 57 58.2
comp=Z,2μm,20.0s
H31M Peel River 29.47 45 P **P** **14 45 53.0 -3.1**
baz=275
N31M Braeburn, Yuko 29.47 54 P **P** **14 45 55.7 -0.5**
baz=282
O30N Mendenhall 29.48 55 IAMs_20 IAMs_20 14 57 41.6
comp=Z,2μm,20.0s
O30N Mendenhall 29.48 55 P **P** **14 45 52.9 -3.3**
baz=283
F31M Tsiigehtchic 29.59 41 IAMs_20 IAMs_20 14 59 22.5
comp=Z,1μm,18.0s
F31M Tsiigehtchic 29.59 41 P **P** **14 45 56.2 -0.8**
baz=273,SNR=6.0
INK Inuvik 29.64 40 P **P** **14 45 57.6 +0.2**
INK PcP **PcP** **14 49 06.3 +5.0**
INK Inuvik 29.64 40 LR LR 14 58 26.2
comp=Z,843nm,19.8s,baz=251,slow=38
INK Inuvik 29.64 40 P **P** **14 45 56.7 -0.7**
baz=272
INK Inuvik 29.64 40 P **P** **14 45 57.6 +0.2**
INK 14 49 06.3
INK pmax pmax
comp=Z,45nm,1.4s
PLBC Pleasant Camp 29.66 58 P **P** **14 45 56.8 -1.0**
baz=285
CN2 Changchun 29.75 267 P **P** **14 45 57.8 -0.9**
CN2 S **S** **14 50 51.1 -2.8**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,3μm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
CN2 LR LR
comp=Z,1μm,17.0s
BOD Bodaibo 29.92 299 *e*P **P** **14 45 58.6 -1.5**
BOD pmax pmax
comp=Z,46nm,1.6s
M31M Drury Creek, Y 29.97 52 IAmb IAmb 14 46 12.8
comp=Z,49nm,0.8s
M31M Drury Creek, Y 29.97 52 P **P** **14 46 00.4 -0.2**
baz=282,SNR=8.6
WHY Whitehorse 30.08 55 P **P** **14 46 00.6 -1.1**
baz=284
HIA Hailar 30.13 281 IAMs_20 IAMs_20 14 59 13.2
comp=Z,2μm,19.0s
S31K Pelican 30.14 61 P **P** **14 45 59.3 -2.7**
baz=288
SKAG Skagway 30.17 57 P **P** **14 46 01.3 -1.0**
baz=286
FARO Faro, Yukon 30.45 52 P **P** **14 46 03.9 -0.9**
baz=282
N32M Quiet Lake 30.82 54 IAMs_20 IAMs_20 14 59 13.0
comp=Z,2μm,20.0s
N32M Quiet Lake 30.82 54 P **P** **14 46 06.9 -1.1**
baz=284
SIT Sitka 30.89 62 P **P** **14 46 07.7 -1.0**
baz=290
R32K Eaglecrest 30.91 59 IAMs_20 IAMs_20 15 00 18.6
comp=Z,2μm,22.0s
R32K Eaglecrest 30.91 59 P **P** **14 46 07.8 -1.0**
baz=288
P32M Atlin 30.92 57 P **P** **14 46 07.5 -1.5**
baz=286
JIS Juneau Island 30.98 59 P **P** **14 46 10.6 +1.2**
S32K Killisnoo 31.14 61 P **P** **14 46 10.3 -0.5**
baz=289
P33M Teslin, Yukon 31.19 55 P **P** **14 46 11.0 -0.3**
P33M IAmb IAmb 14 46 37.2
comp=Z,35nm,0.9s
P33M Teslin, Yukon 31.19 55 P **P** **14 46 10.5 -0.8**
baz=286,SNR=9.5
Q32M Nakina River 31.82 57 P **P** **14 46 16.3 -0.8**
baz=288
SNY Shenyang 32.04 266 ⇓P **P** **14 46 19.0 +0.1**
SNY S **S** **14 51 27.4 -2.4**
SNY pmax pmax
comp=Z,14nm,1.2s
SNY pmax pmax
comp=Z,76nm,3.9s
SNY LR LR
comp=Z,2μm,21.3s
SNY LR LR
comp=Z,1μm,19.4s
SNY LR LR
comp=Z,2μm,13.7s
T33K Petersburg 32.20 62 P **P** **14 46 19.8 -0.4**
baz=291
A36M Sachs Harbour 32.32 32 IAMs_20 IAMs_20 15 01 43.6
comp=Z,1μm,21.0s
A36M Sachs Harbour 32.32 32 P **P** **14 46 21.0 0.0**
baz=273,SNR=8.6
R33M Jennings River 32.32 56 IAMs_20 IAMs_20 14 59 45.8
comp=Z,2μm,20.0s
R33M Jennings River 32.32 56 P **P** **14 46 20.7 -0.7**
baz=288,SNR=5.9
CIT Chita 32.34 289 *e*P **P** **14 46 21.8 +0.2**
CIT *e* 14 46 31.8
CIT *e* 14 47 31.2
CIT pmax pmax
comp=Z,156nm,3.4s
U33K Whale Pass 32.37 63 P **P** **14 46 21.1 -0.5**
baz=292
KSRS Korea Array 32.45 255 P **P** **14 46 23.7 +1.2**
comp=Z,4.7nm,0.8s,baz=46,slow=9.0,SNR=15
comp=Z,4.7nm,0.8s
CRAG Craig 32.61 64 P **P** **14 46 24.0 +0.2**
baz=293
WRAK Wrangell Islan 32.65 62 P **P** **14 46 24.2 +0.1**
baz=292
S34M Telegraph Cree 32.73 59 IAmb IAmb 14 46 38.2
comp=Z,37nm,0.8s
S34M Telegraph Cree 32.73 59 P **P** **14 46 24.4 -0.4**
baz=290
DLBC Dease Lake 33.10 58 IAmb IAmb 14 46 41.8
comp=Z,46nm,0.8s
DLBC Dease Lake 33.10 58 P **P** **14 46 27.9 -0.2**
baz=290,SNR=6.2
WTLY Watson Lake, Y 33.14 54 P **P** **14 46 27.5 -0.9**
baz=289
V35K Ketchikan 33.46 64 P **P** **14 46 30.4 -0.8**
baz=294
T35M Bob Quinn 33.52 60 IAmb IAmb 14 46 45.8
comp=Z,47nm,0.8s
T35M Bob Quinn 33.52 60 P **P** **14 46 31.0 -0.7**
baz=292,SNR=6.3
JNU Nakatsue 34.01 247 LR LR 14 59 07.4
comp=Z,593nm,20.7s,baz=43,slow=34
U35K Hyder 34.05 62 P **P** **14 46 35.5 -0.8**
baz=294
WRGLY Wrigley 34.59 48 P **P** **14 46 39.8 -1.1**
baz=288
LIRD Liard River Hi 34.66 55 P **P** **14 46 41.6 0.0**
baz=291
H11N2 WAKE ISLAND Hy 34.69 183 T T 15 23 19.6
baz=1.6,slow=76,SNR=4412
H11N3 WAKE ISLAND Hy 34.70 183 T T 15 23 21.8
baz=1.6,slow=76,SNR=8628
H11N1 WAKE ISLAND Hy 34.71 183 T T 15 23 22.2
baz=1.6,slow=76,SNR=6734
GRNB Grenville Isla 34.96 65 IAmb IAmb 14 46 57.5
comp=Z,69nm,1.0s
DL2 Dalian 35.07 263 P **P** **14 46 45.9 +0.6**
DL2 S **S** **14 52 23.0 +6.3**
DL2 pmax pmax
comp=Z,52nm,1.5s
DL2 pmax pmax
comp=Z,400nm,4.8s
DL2 LR LR
comp=Z,1μm,14.1s
DL2 LR LR
comp=Z,2μm,14.5s
DL2 LR LR
comp=Z,2μm,17.8s
XLT XiLinHaoTe 35.15 275 *e*P **P** **14 46 46.8 +0.7**
XLT sP sP 14 46 56.3 +3.3
XLT PcP **PcP** **14 49 17.9 +0.8**
XLT pmax pmax
comp=Z,11nm,1.0s
XLT pmax pmax
comp=Z,170nm,5.2s
XLT LR LR
comp=Z,240nm,14.3s
XLT LR LR
comp=Z,2μm,14.7s
XLT LR LR
comp=Z,2μm,13.4s
TOAD Toad River Com 35.28 55 P **P** **14 46 48.2 +1.2**
baz=292,SNR=12
KOTAN Kotaneelee Air 35.36 53 P **P** **14 46 48.1 +0.4**
baz=292
H11S1 WAKE ISLAND Hy 35.91 183 T T 15 24 50.6
baz=1.6,slow=76,SNR=9438
H11S3 WAKE ISLAND Hy 35.93 183 T T 15 24 53.6
baz=1.6,slow=76,SNR=4008
H11S2 WAKE ISLAND Hy 35.93 183 T T 15 24 54.7
baz=1.6,slow=76,SNR=8694
BBB Bella Bella 36.73 67 IAmb IAmb 14 47 12.1
comp=Z,81nm,1.1s
BBB Bella Bella 36.73 67 LR LR 15 00 58.7
comp=Z,1μm,19.1s,baz=297,slow=35
HOLB Holberg 37.50 69 IAmb IAmb 14 47 18.1
comp=Z,76nm,1.1s
BJT Baijiatuau 37.52 269 IAMs_20 IAMs_20 15 02 37.8
comp=Z,1μm,20.0s
NRIK Noril'sk 37.71 325 P **P** **14 47 06.6 -0.9**
NRIK Noril'sk 37.71 325 P **P** **14 47 06.1 -1.4**
comp=Z,8.0nm,1.0s,baz=87,slow=6.1,SNR=14
NRIK LR LR 15 03 44.6
comp=Z,1μm,18.2s,baz=84,slow=38
comp=Z,8.0nm,1.0s
NRIK Noril'sk 37.71 325 *ce*P **P** **14 47 05.9 -1.6**
NRIK pmax pmax
comp=Z,32nm,1.5s
ULN Ulaanbaatar 38.06 286 *ce*P **P** **14 47 11.1 +0.2**
ULN pmax pmax
comp=Z,23nm,1.0s
SONM Songino Array 38.45 287 P **P** **14 47 14.0 -0.1**
SONM PcP **PcP** **14 49 23.8 -3.2**
SONM Songino Array 38.45 287 P **P** **14 47 13.8 -0.4**
comp=Z,11nm,0.7s,baz=60,slow=8.3,SNR=55
SONM PcP **PcP** **14 49 27.3 +0.3**
comp=Z,2.5nm,0.9s,baz=46,slow=6.8,SNR=2.3
SONM LR LR 15 04 24.3
comp=Z,2μm,18.5s,baz=59,slow=38
comp=Z,11nm,0.7s
SONM Songino Array 38.45 287 P **P** **14 47 14.0 -0.1**
SONM 14 49 23.8
SONM pmax pmax
comp=Z,13nm,0.9s
YKA Yellowknife Ar 38.64 46 P **P** **14 47 15.1 -0.3**
YKA Yellowknife Ar 38.64 46 P **P** **14 47 14.0 -1.4**
comp=Z,1.8nm,0.6s,baz=296,slow=8.5,SNR=11
YKA ScP **ScP** **14 53 13.3 -0.9**
comp=Z,0.9nm,1.0s,baz=306,slow=4.5,SNR=2.3
comp=Z,1.8nm,0.6s
CBB Campbell River 39.32 68 IAmb IAmb 14 47 34.4
comp=Z,156nm,1.6s
MOY Mondy 39.33 295 *e*P **P** **14 47 21.4 -0.1**
MOY pmax pmax
comp=Z,50nm,2.8s
TIA Tai'an 39.52 264 P **P** **14 47 21.4 -1.7**
TIA S S 14 53 36.5 +12
TIA pmax pmax
comp=Z,12nm,1.2s
TIA LR LR
comp=Z,1μm,22.2s
TIA LR LR
comp=Z,910nm,24.3s
TIA LR LR
comp=Z,1μm,23.9s
HHC Hu-ho-hao-te 39.67 274 *e*P **P** **14 47 24.3 -0.1**
HHC pP pP 14 47 28.9 -0.3
HHC S **S** **14 53 25.5 -1.4**
HHC SS **SS** **14 56 12.3 -10**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,240nm,4.4s
HHC LR LR
comp=Z,4μm,16.8s
HHC LR LR
comp=Z,3μm,17.6s
HHC LR LR
comp=Z,1μm,17.6s
RES Resolute Bay 40.08 24 P **P** **14 47 27.4 +0.1**
RES Resolute Bay 40.08 24 P **P** **14 47 27.4 +0.1**
RES pmax pmax
comp=Z,16nm,1.0s
HNS HongShan 40.11 268 ⇑P **P** **14 47 28.3 +0.4**
HNS S **S** **14 53 32.4 -0.9**
HNS SS **SS** **14 56 23.0 -7.7**
HNS pmax pmax
comp=Z,22nm,1.2s
HNS LR LR
comp=Z,560nm,17.5s
HNS LR LR
comp=Z,3μm,15.1s
HNS LR LR
comp=Z,3μm,15.7s
JOW Kunigami 40.35 243 P **P** **14 47 31.7 +1.6**
comp=Z,35nm,1.0s,baz=113,slow=4.8,SNR=4.0
JOW LR LR 15 03 53.1
comp=Z,344nm,21.5s,baz=51,slow=36
comp=Z,35nm,1.0s
CLRS Cowichan Lake 40.66 69 IAmb IAmb 14 47 45.1
comp=Z,89nm,0.9s
BTO Baotou 40.72 275 *e*P **P** **14 47 33.8 +0.7**
BTO pP **pP** **14 47 38.3 +0.4**
BTO sP **pwP** **14 47 40.6 +0.4**
BTO PP **PnPn** **14 49 11.0 +0.1**
BTO S **S** **14 53 45.4 +2.8**
BTO SS **SS** **14 56 38.5 -4.5**
BTO pmax pmax
comp=Z,43nm,1.1s
BTO pmax pmax
comp=Z,450nm,6.4s
BTO LR LR
comp=Z,5μm,19.9s
BTO LR LR
comp=Z,5μm,17.8s
BTO LR LR
comp=Z,3μm,23.1s
LLLB Lillooet 40.88 66 IAmb IAmb 14 47 49.4
comp=Z,43nm,0.7s
SSE Sheshan 40.89 255 P **P** **14 47 32.3 -2.1**
SSE S **S** **14 53 44.3 -0.7**
SSE pmax pmax
comp=Z,10.0nm,0.8s
SSE pmax pmax
comp=Z,150nm,4.4s
SSE LR LR
comp=Z,290nm,22.2s
SSE LR LR
comp=Z,260nm,22.5s
PGC Sidney 41.13 69 IAmb IAmb 14 47 48.6
comp=Z,35nm,0.8s
NJ2 Nanjing 41.50 258 *e*P **P** **14 47 38.3 -1.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
NJ2 pmax pmax
comp=Z,340nm,4.4s
NJ2 LR LR
comp=Z,930nm,15.2s
NJ2 LR LR
comp=Z,1μm,18.0s
NJ2 LR LR
comp=Z,980nm,15.2s
NLWA Neilton Lookou 41.63 71 P **P** **14 47 41.5 +1.0**
NLWA IAMs_20 IAMs_20 15 02 01.1
comp=Z,1μm,18.0s
D05A Enumclaw 42.78 70 P **P** **14 47 50.6 +0.8**
F04A Amboy 43.30 72 IAmb IAmb 14 48 06.1
comp=Z,84nm,0.8s
LYN LuoYang 43.39 266 ⇑P **P** **14 47 56.8 +2.0**
LYN sP pwP 14 48 04.3 +2.2
LYN S **S** **14 54 26.4 +4.5**
LYN pmax pmax
comp=Z,26nm,0.9s
LYN LR LR
comp=Z,3μm,19.8s
LYN LR LR
comp=Z,1μm,19.2s
LYN LR LR
comp=Z,2μm,21.4s
B08A Colville Reser 43.53 67 IAmb IAmb 14 48 07.9
comp=Z,65nm,0.8s
BUCK Buck Mountain 44.05 74 IAmb IAmb 14 48 13.1
comp=Z,45nm,0.9s
MXC Moxie City 44.08 70 IAmb IAmb 14 48 12.6
comp=Z,40nm,0.9s
HOOD Mount Hood Mea 44.10 72 P **P** **14 48 00.9 +0.3**
G05A Wamic 44.34 72 P **P** **14 48 02.8 +0.4**
C09A Chrisman Ranch 44.44 67 IAmb IAmb 14 48 14.9
comp=Z,67nm,0.9s
D08A Wollman Farm, 44.54 68 IAmb IAmb 14 48 15.7
comp=Z,47nm,1.2s
K02D Willamette Mer 44.62 76 P **P** **14 48 04.6 -0.1**
I04A Tendick Farm, 44.63 74 IAmb IAmb 14 48 17.0
comp=Z,76nm,1.1s
NEW Newport 44.77 66 IAmb IAmb 14 48 17.6
comp=Z,42nm,0.9s
NEW Newport 44.77 66 LR LR 15 04 40.0
comp=Z,1μm,22.0s,baz=300,slow=33
HUMO Hull Mountain 45.08 76 IAmb IAmb 14 48 21.1
comp=Z,31nm,1.1s
WHN Wuhan 45.20 261 P **P** **14 48 10.8 +1.5**
WHN pP **pwP** **14 48 19.6 +2.9**
WHN sP sP 14 48 24.8 +8.6
WHN S **S** **14 54 53.0 +4.7**
WHN LR LR
comp=Z,2μm,14.5s
PINE Pine Mountain 45.45 73 IAmb IAmb 14 48 24.0
comp=Z,48nm,1.0s
G08A Pilot Rock 45.61 70 IAmb IAmb 14 48 24.3
comp=Z,30nm,1.0s
YHNB Yeheng 45.77 249 IAMs_20 IAMs_20 15 08 13.7
comp=Z,576nm,19.0s
YBH Yreka Blue Hor 45.78 77 IAmb IAmb 14 48 26.4
comp=Z,36nm,0.9s
YBH IAMs_20 IAMs_20 15 04 29.1
comp=Z,974nm,21.0s
YBH Yreka Blue Hor 45.78 77 LR LR 15 04 49.4
comp=Z,689nm,20.4s,baz=312,slow=33
XAN Xi'an 45.82 269 P **P** **14 48 14.5 +0.2**
XAN S **S** **14 55 00.8 +3.5**
XAN pmax pmax
comp=Z,18nm,1.7s
XAN LR LR
comp=Z,2μm,18.8s
XAN LR LR
comp=Z,2μm,18.2s
XAN LR LR
comp=Z,2μm,17.1s
NACB Ninganchiao 46.05 248 IAMs_20 IAMs_20 15 05 29.1
comp=Z,614nm,19.0s
NEEM North Greenlan 46.06 11 *e*P **P** **14 48 14.3 -1.6**
NEEM IAmb IAmb 14 48 27.0
comp=Z,39nm,0.9s
I07A Izee 46.07 72 IAmb IAmb 14 48 27.8
comp=Z,27nm,1.1s
F10A Beach Ranch, E 46.12 69 IAmb IAmb 14 48 28.3
comp=Z,29nm,0.9s
KMRM Mail Ridge 46.20 79 IAmb IAmb 14 48 30.0
comp=Z,46nm,1.0s
ZALV Zalesovo Beam 46.21 306 P **P** **14 48 17.3 +0.3**
ZALV Zalesovo Beam 46.21 306 P **P** **14 48 15.1 -1.9**
comp=Z,6.9nm,0.9s,baz=64,slow=6.8,SNR=18
ZALV LR LR 15 08 08.5
comp=Z,931nm,18.5s,baz=53,slow=37
comp=Z,6.9nm,0.9s
ZALV Zalesovo Beam 46.21 306 *i* P **P** **14 48 15.6 -1.4**
ZALV pmax pmax
comp=Z,7.0nm,0.9s
SPITS Spitsbergen Ar 46.54 352 P **P** **14 48 18.5 -0.9**
comp=Z,38nm,0.9s,baz=59,slow=5.6,SNR=12
SPITS LR LR 15 08 08.1
comp=Z,440nm,18.8s,baz=337,slow=37
comp=Z,38nm,0.9s
SSLB Suanglung 46.70 249 IAMs_20 IAMs_20 15 05 36.5
comp=Z,730nm,22.0s
O02D Mt. Diablo Mer 46.76 78 IAmb IAmb 14 48 34.7
comp=Z,44nm,1.2s
BMO Blue Mountains 46.79 70 IAmb IAmb 14 48 33.9
comp=Z,53nm,1.3s
BMO IAMs_20 IAMs_20 15 05 30.7
comp=Z,851nm,19.0s
J08A Circle Bar Ran 47.11 72 IAmb IAmb 14 48 36.0
comp=Z,30nm,1.2s
TPUB Ta-pu 47.27 248 IAMs_20 IAMs_20 15 04 00.5
comp=Z,687nm,22.0s
LZH Lanzhou 47.35 275 ⇑P **P** **14 48 27.0 +0.6**
LZH sP pwP 14 48 35.4 +2.0
LZH PP **PP** **14 50 15.6 -1.8**
LZH S **S** **14 55 28.3 +8.9**
LZH pmax pmax
comp=Z,36nm,1.1s
LZH LR LR
comp=Z,4μm,15.3s
LZH LR LR
comp=Z,3μm,15.5s
LZH LR LR
comp=Z,2μm,18.6s
GTA Gaotai 47.41 281 P **P** **14 48 26.8 0.0**
GTA sP sP 14 48 35.5 +1.7
GTA S **S** **14 55 16.9 -3.2**
GTA pmax pmax
comp=Z,12nm,0.8s
GTA LR LR
comp=Z,2μm,15.5s
GTA LR LR
comp=Z,2μm,14.7s
GTA LR LR
comp=Z,2μm,21.5s
TWG Pinlang 47.42 248 IAMs_20 IAMs_20 15 06 27.4
comp=Z,623nm,21.0s
WVOR Wild Horse Val 47.62 73 IAmb IAmb 14 48 40.1
comp=Z,28nm,0.9s
KULLO Kullorsuaq 47.67 15 *e*P **P** **14 48 27.4 -0.8**
KULLO IAmb IAmb 14 48 40.1
comp=Z,114nm,1.4s
ENH Enshi 48.22 265 IAMs_20 IAMs_20 15 08 58.1
comp=Z,925nm,19.0s
EGMT Eagleton 48.79 62 IAmb IAmb 14 48 48.1
comp=Z,80nm,1.6s
DAG Danmarks Havn 48.96 2 *i* P **P** **14 48 36.9 -1.2**
DAG IAmb IAmb 14 48 49.0
comp=Z,61nm,1.8s
PAHR Pah Rah Range 49.02 76 IAmb IAmb 14 48 51.5
comp=Z,61nm,1.2s
HLID Hailey 49.21 69 IAmb IAmb 14 48 52.7
comp=Z,34nm,1.2s
CMB Columbia Colle 49.58 79 IAMs_20 IAMs_20 15 05 00.8
comp=Z,1μm,22.0s
BMN Battle Mountai 49.74 74 IAmb IAmb 14 48 56.7
comp=Z,35nm,0.8s
WAKR Walker 49.80 78 IAmb IAmb 14 48 57.5
comp=Z,34nm,0.8s
SAO San Andreas Ge 49.85 81 P **P** **14 48 43.4 -2.1**
SAO San Andreas Ge 49.85 81 P **P** **14 48 43.4 -2.1**
SAO pmax pmax
comp=Z,14nm,0.9s
KVN Kaiserville 50.19 76 IAmb IAmb 14 49 00.7
comp=Z,45nm,1.0s
ZSN Zaisan 50.26 299 *e*P **P** **14 48 47.8 -0.7**
ZSN Zaisan 50.26 299 *e*P **P** **14 48 47.7 -0.7**
NVAR Mina Array Bea 50.50 77 P **P** **14 48 50.8 +0.1**
comp=Z,9.8nm,0.8s,baz=294,slow=7.9,SNR=72
NVAR ScP **ScP** **14 54 03.2 -0.2**
comp=Z,0.2nm,0.6s,baz=309,slow=1.7,SNR=1.7
NVAR LR LR 15 06 52.6
comp=Z,441nm,21.2s,baz=308,slow=32
comp=Z,9.8nm,0.8s
PMPB Monarch Peak 50.61 81 IAmb IAmb 14 48 58.5
comp=Z,55nm,1.4s
ELK Elko 50.64 73 IAMs_20 IAMs_20 15 07 31.7
comp=Z,968nm,21.0s
CD2 Chengdu 51.09 270 P **P** **14 48 54.8 -0.1**
CD2 S **S** **14 56 16.0 +4.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,2μm,18.4s
CD2 LR LR

comp=Z,2μm,16.1s
CD2 LR LR
comp=Z,1μm,14.5s
WMQ Urumqi 51.19 293 *e*P **P 14 48 55.6 0.0**
WMQ pP pP 14 49 00.0 -0.7
WMQ pmax pmax
comp=Z,25nm,1.1s
WMQ pmax pmax
comp=Z,370nm,5.9s
WMQ LR LR
comp=Z,2μm,17.5s
KURK Kurchatov 51.20 305 P **P 14 48 53.6 -1.8**
KURK IAmb IAmb 14 48 55.4
comp=Z,62nm,1.0s
KURK Kurchatov 51.20 305 P **P 14 48 53.6 -1.8**
KURK pmax pmax
comp=Z,63nm,1.0s
LOHW Long Hollow 51.24 67 IAmb IAmb 14 49 08.5
comp=Z,36nm,1.1s
HVU Hansel Valley 51.30 70 P **P 14 48 56.6 +0.1**
HVU IAmb IAmb 14 49 08.8
comp=Z,30nm,0.8s
HVU Hansel Valley 51.30 70 P **P 14 48 56.6 +0.1**
HVU pmax pmax
comp=Z,30nm,0.8s
KURBB Kurchatov Arra 51.30 305 P **P 14 48 54.2 -2.0**
comp=Z,31nm,0.9s,baz=51,slow=7.6,SNR=158
KURBB LR LR 15 11 00.0
comp=Z,689nm,18.4s,baz=249,slow=36
comp=Z,31nm,0.9s
KURBB Kurchatov Arra 51.30 305 P **P 14 48 53.8 -2.4**
DGMT Dagmar 51.31 58 IAmb IAmb 14 49 08.1
comp=Z,61nm,1.2s
TPH Tonopah 51.36 76 P **P 14 48 57.8 +0.7**
TPH Tonopah 51.36 76 P **P 14 48 57.8 +0.7**
TPH pmax pmax
comp=Z,150nm,0.8s
DSP Deep Springs 51.42 78 IAmb IAmb 14 49 09.8
comp=Z,30nm,1.1s
SUMG Summit 51.87 10 P **P 14 49 00.3 -0.2**
SUMG IAmb IAmb 14 49 12.5
comp=Z,58nm,1.2s
SUMG Summit 51.87 10 P **P 14 49 00.4 -0.2**
SUMG pmax pmax
comp=Z,58nm,1.2s
SUMG Summit 51.87 10 *i* P **P 14 49 00.8 +0.2**
SUMG IAmb IAmb 14 49 12.6
comp=Z,32nm,0.9s
MK31 Makanchi Array 52.01 300 *i* P **P 14 49 00.0 -1.6**
MK31 pmax pmax
comp=Z,13nm,0.8s
MKAR Makanchi Array 52.01 300 P **P 14 48 59.9 -1.7**
MKAR Makanchi Array 52.01 300 P **P 14 48 59.6 -2.0**
comp=Z,10nm,0.8s,baz=56,slow=7.3,SNR=41
MKAR LR LR 15 11 55.5
comp=Z,1μm,18.2s,baz=28,slow=37
MKAR PKP2bc 15 19 51.0
comp=Z,1.2nm,1.0s,baz=191,slow=6.6,SNR=3.8
comp=Z,10nm,0.8s
MKAR Makanchi Array 52.01 300 *i* P **P 14 48 59.7 -1.9**
MKAR pmax pmax
comp=Z,11nm,0.9s
HWUT Hardware Ranch 52.08 69 IAmb IAmb 14 49 14.8
comp=Z,42nm,1.1s
HWUT IAMs_20 IAMs_20 15 11 17.7
comp=Z,708nm,20.0s
R11B Troy Canyon, C 52.09 75 IAMs_20 IAMs_20 15 12 43.2
comp=Z,852nm,19.0s
R11B Troy Canyon, C 52.09 75 P **P 14 49 02.5 0.0**
baz=314,SNR=23
MAKZ Makanchi 52.16 300 P **P 14 49 01.7 -1.0**
SPR3 Spring Creek 3 52.35 74 IAmb IAmb 14 49 17.8
comp=Z,84nm,1.4s
DUG Dugway, Tooele 52.37 71 IAmb IAmb 14 49 16.9
comp=Z,30nm,1.0s
DUG IAMs_20 IAMs_20 15 11 17.3
comp=Z,832nm,21.0s
PDAR Pinedale Array 52.38 67 P **P 14 49 04.5 -0.2**
comp=Z,13nm,1.0s,baz=308,slow=3.8,SNR=47
PDAR LR LR 15 11 11.9
comp=Z,461nm,20.7s,baz=320,slow=36
comp=Z,13nm,1.0s
GOMU GeErMu 52.48 282 P **P 14 49 04.8 -0.9**
GOMU PP **PP 14 51 04.1 -0.2**
GOMU SS **SS 15 00 09.3 +0.3**
GOMU pmax pmax
comp=Z,18nm,0.9s
GOMU LR LR
comp=Z,3μm,15.9s
GOMU LR LR
comp=Z,3μm,14.7s
GOMU LR LR
comp=Z,4μm,15.8s
TPNV Topopah Spring 52.70 77 IAmb IAmb 14 49 19.6
comp=Z,50nm,1.0s
GYA Guiyang 52.72 264 P **P 14 49 04.8 -2.4**
GYA S **S 14 56 27.4 -6.9**
GYA LR LR
comp=Z,820nm,15.6s
GYA LR LR
comp=Z,1μm,18.3s
GYA LR LR
comp=Z,900nm,25.4s
PSUT Pine Spring 52.94 74 IAmb IAmb 14 49 21.3
comp=Z,34nm,1.1s
GWY Greenwater Val 53.00 78 IAmb IAmb 14 49 21.6
comp=Z,41nm,1.1s
BVA0 Borovoye Array 53.38 312 P **P 14 49 09.8 -1.8**
BVAR Borovoye Array 53.38 312 P **P 14 49 10.5 -1.2**
comp=Z,41nm,0.9s,baz=50,slow=7.9,SNR=126
BVAR LR LR 15 13 05.7
comp=Z,935nm,19.8s,baz=50,slow=37
comp=Z,41nm,0.9s
BRVK Borovoye 53.41 312 P **P 14 49 11.0 -0.8**
BRVK IAmb IAmb 14 49 12.0
comp=Z,46nm,0.8s
BRVK Borovoye 53.41 312 *ce*P **P 14 49 10.8 -1.0**
BRVK pmax pmax
comp=Z,109nm,1.7s
BRVK MLR MLR
comp=Z,678nm,14.0s
ARCES ARCESS Array B 53.44 345 P **P 14 49 10.7 -1.1**
ARCES ARCESS Array B 53.44 345 P **P 14 49 11.2 -0.6**
comp=Z,11nm,0.8s,baz=22,slow=9.3,SNR=10
ARCES LR LR 15 15 38.1
comp=Z,353nm,18.0s,baz=9.5,slow=40
comp=Z,11nm,0.8s
ARCES ARCESS Array B 53.44 345 P **P 14 49 10.7 -1.1**
ARCES pmax pmax
comp=Z,159nm,1.8s
GSC Goldstone, Bar 53.55 79 IAmb IAmb 14 49 25.7
comp=Z,33nm,0.9s
K22A Casper 54.08 65 IAmb IAmb 14 49 29.1
comp=Z,36nm,1.1s
ULM Lac du Bonnet 54.09 52 IAmb IAmb 14 49 30.9
comp=Z,33nm,1.2s
ULM Lac du Bonnet 54.09 52 P **P 14 49 16.8 0.0**
comp=Z,7.2nm,0.7s,baz=309,slow=8.1,SNR=6.2
comp=Z,7.2nm,0.7s
FRB Frobisher Bay 54.10 27 LR LR 15 16 03.7
comp=Z,488nm,18.2s,baz=308,slow=40
KTK1 Kautokeino 54.26 345 *e*P **P 14 49 17.1 -0.7**
RSSD Black Hills 54.35 62 P **P 14 49 18.9 -0.2**
RSSD IAmb IAmb 14 49 31.1
comp=Z,38nm,0.8s
RSSD Black Hills 54.35 62 P **P 14 49 18.9 -0.2**
RSSD pmax pmax
comp=Z,38nm,0.8s
RSSD MLR MLR
comp=Z,800nm,18.0s
ELS Elsinore Mount 54.38 80 IAmb IAmb 14 49 20.7
comp=Z,32nm,1.4s
PKCU Pink Cliffs 54.57 74 IAmb IAmb 14 49 34.2
comp=Z,36nm,1.0s
SVE Sverdlovsk 54.62 320⇓ *e*P **P 14 49 20.5 -0.1**
SVE pmax pmax
comp=Z,36nm,1.7s
JMIC Jan Mayen 54.84 359 LR LR 15 13 20.9
comp=Z,192nm,18.5s,baz=16,slow=37
PFO Pinyon Flats O 54.96 80 LR LR 15 11 03.4
comp=Z,765nm,19.2s,baz=296,slow=34
TDK Taldyqorghan 55.21 300 *e*P **P 14 49 24.4 -0.8**
comp=Z,17nm,1.0s
TDK Taldyqorghan 55.21 300 *e*P **P 14 49 24.3 -0.8**
TDK pmax pmax
comp=Z,17nm,1.0s
SFJD Kangerlussuaq 55.33 18 LR LR 15 17 02.9
comp=Z,317nm,18.0s,baz=330,slow=40
W13A Hualapai Mount 55.36 77 IAmb IAmb 14 49 38.5
comp=Z,20nm,0.9s
PZH PanZhiHua 55.55 268 P **P 14 49 27.4 -0.4**
PZH S **S 14 57 13.1 +0.5**
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,70nm,4.1s
PZH LR LR
comp=Z,990nm,15.2s
PZH LR LR
comp=Z,1μm,15.7s
PZH LR LR
comp=Z,650nm,17.2s
N23A Red Feather La 55.62 66 IAmb IAmb 14 49 41.1
comp=Z,47nm,0.9s
N23A Red Feather La 55.62 66 P **P 14 49 27.3 -1.1**
baz=315,SNR=11
ARTI Arti 55.78 321 P **P 14 49 27.9 -1.0**
ARTI IAmb IAmb 14 49 29.1
comp=Z,31nm,1.0s
ARTI Arti 55.78 321 LR LR 15 14 36.9
comp=Z,644nm,20.6s,baz=49,slow=38
ARTI Arti 55.78 321 *c i* P **P 14 49 27.6 -1.4**
ARTI 14 50 25.4
ARTI S **S 14 57 15.3 +0.6**
ARTI SS **SS 15 01 00.2 +0.8**
ARTI pmax pmax
comp=Z,41nm,1.1s
CBX Cerro Bola 55.79 81 IAmb IAmb 14 49 31.2
comp=Z,51nm,1.0s
BLYC Blythe 55.97 78 IAmb IAmb 14 49 42.7
comp=Z,25nm,0.9s
YUH Yuha Desert 55.97 80 P **P 14 49 30.9 +0.3**
SHLS Shalkode 55.98 298 *e*P **P 14 49 28.4 -2.4**
comp=Z,19nm,1.1s
SHLS Shalkode 55.98 298 *e*P **P 14 49 28.3 -2.4**
SHLS pmax pmax
comp=Z,19nm,1.1s
KMI Kunming 56.01 266 ⇑P **P 14 49 32.9 +1.6**
KMI S **S 14 57 18.9 -0.1**
KMI pmax pmax
comp=Z,14nm,1.2s
KMI LR LR
comp=Z,510nm,21.5s
KMI LR LR
comp=Z,930nm,21.9s
KMI LR LR
comp=Z,910nm,25.7s
ARXS Arharly 56.06 300 *e*P **P 14 49 29.4 -1.9**
KPKS Kokpek 56.16 299 *e*P **P 14 49 31.1 -0.9**
KPKS Kokpek 56.16 299 *e*P **P 14 49 31.1 -0.9**
UZB Uzynbulak 56.21 298 *e*P **P 14 49 31.4 -1.0**
UZB Uzynbulak 56.21 298 *e*P **P 14 49 31.4 -1.0**
ZHN Zhinishke 56.50 299 *e*P **P 14 49 33.7 -0.8**
ZHN Zhinishke 56.50 299 *e*P **P 14 49 33.6 -0.8**
SATY Saty 56.59 299 *e*P **P 14 49 34.3 -0.8**
SATY Saty 56.59 299 *e*P **P 14 49 34.3 -0.8**
QIZ Qiongzhong 56.68 256 P **P 14 49 34.4 -1.4**
QIZ S **S 14 57 28.3 +0.9**
QIZ SS **SS 15 01 17.3 +2.3**
QIZ LR LR
comp=Z,310nm,15.9s
QIZ LR LR
comp=Z,750nm,16.5s
QIZ LR LR
comp=Z,410nm,16.8s
Y14A Wickenburg 56.70 77 IAmb IAmb 14 49 48.6
comp=Z,27nm,1.1s
FAUS Fauske 56.85 348 *e*P **P 14 49 35.8 -0.6**
MVCO Mesa Verde 56.86 71 IAmb IAmb 14 49 49.8
comp=Z,33nm,1.1s
KIRV Kirov 57.16 327 LR LR 15 15 35.4
comp=Z,762nm,21.1s,baz=41,slow=38
KIRV Kirov 57.16 327 *ce*P **P 14 49 38.7 0.0**
MDOK Medeo 57.21 300 *e*P **P 14 49 38.5 -1.0**
MDOK Medeo 57.21 300 *e*P **P 14 49 38.5 -1.0**
X16A Lo Mia Camp, P 57.24 75 IAmb IAmb 14 49 53.1
comp=Z,38nm,1.1s
AAA Alma-Ata 57.24 300 *e*P **P 14 49 38.7 -1.0**
comp=Z,23nm,1.1s
AAA Alma-Ata 57.24 300 *e*P **P 14 49 38.6 -1.0**
AAA pmax pmax
comp=Z,23nm,1.1s
TNSS Tian-Shan 57.35 299 *e*P **P 14 49 39.4 -1.4**
TNSS Tian-Shan 57.35 299 *e*P **P 14 49 39.4 -1.4**
BTLS Baital 57.35 303 *e*P **P 14 49 39.4 -1.0**
BTLS Baital 57.35 303 *e*P **P 14 49 39.3 -1.0**
S22A 4UR Ranch, Cre 57.39 70 P **P 14 49 39.8 -1.3**
baz=316,SNR=34
Q24A Divide 57.42 67 P **P 14 49 41.6 +0.3**
baz=316
EYMN Ely 57.75 52 IAmb IAmb 14 49 57.4
comp=Z,42nm,1.1s
MOR8 Moi Rana 58.11 348 *e*P **P 14 49 43.5 -1.9**
TKM2 Tokmak 2 58.12 300 P **P 14 49 44.8 -1.2**
SNR=13
TKM2 Tokmak 2 58.12 300 *i* P **P 14 49 43.5 -2.5**
TKM2 pmax pmax
comp=Z,13nm,1.0s
STOK Stokkvaagen 58.12 349 *e*P **P 14 49 44.3 -1.1**
KLMR Klimovskoe 58.16 333 *e*P **P 14 49 43.5 -2.2**
KLMR pmax pmax
comp=Z,97nm,1.1s
SGDS Sogindy 58.22 301 *e*P **P 14 49 45.8 -0.7**
SGDS Sogindy 58.22 301 *e*P **P 14 49 45.8 -0.7**
SLVN Son La 58.26 262 P **P 14 49 48.1 +1.0**
SLVN Son La 58.26 262 P **P 14 49 47.7 +0.6**
JOF Joesuu 58.31 339 *e*P **P 14 49 46.5 -0.2**
ECSD EROS Data Cent 58.39 58 IAmb IAmb 14 49 59.7
comp=Z,83nm,1.8s
USP Ospenovka 58.42 301 P **P 14 49 47.4 -0.5**
SNR=22
CHMS Chumysh 58.49 301 P **P 14 49 47.4 -1.0**
SNR=5.1
TNCH TengChong 58.55 270 *e*P **P 14 49 48.8 -0.4**
TNCH pP pP 14 49 51.8 -2.4
TNCH S **S 14 57 49.8 -2.5**
TNCH pmax pmax
comp=Z,19nm,0.5s
TNCH pmax pmax
comp=Z,110nm,3.6s
TNCH LR LR
comp=Z,540nm,18.8s
TNCH LR LR
comp=Z,510nm,18.9s
TNCH LR LR
comp=Z,870nm,19.9s
KBK Karagaybulak 58.64 300 P **P 14 49 48.6 -1.0**
SNR=6.2
AAK Ala-Archa 58.88 301 P **P 14 49 50.7 -0.5**
SNR=7.4
AAK Ala-Archa 58.88 301 P **P 14 49 51.0 -0.3**
AAK IAmb IAmb 14 49 51.5
comp=Z,20nm,1.0s
AAK Ala-Archa 58.88 301 LR LR 15 14 44.2
comp=Z,1μm,20.5s,baz=40,slow=36
AAK Ala-Archa 58.88 301 *ce*P **P 14 49 50.7 -0.5**
AAK pmax pmax
comp=Z,30nm,1.3s
T25A Trinidad 59.15 68 IAmb IAmb 14 50 06.1
comp=Z,42nm,1.0s
T25A Trinidad 59.15 68 P **P 14 49 53.2 -0.1**
baz=317,SNR=5.4
EKS2 Erkin-Say 59.22 301 P **P 14 49 52.7 -0.8**
SNR=20
ANMO Albuquerque 59.64 71 P **P 14 49 57.4 +0.7**
ANMO IAmb IAmb 14 50 09.3
comp=Z,18nm,1.0s
ANMO Albuquerque 59.64 71 LR LR 15 13 16.7
comp=Z,435nm,21.7s,baz=128,slow=34
ANMO Albuquerque 59.64 71 *i* P **P 14 49 55.6 -1.1**
ANMO pmax pmax
comp=Z,12nm,1.3s
AML Almayashu 59.65 301 P **P 14 49 56.3 -0.6**
SNR=12
VAF Ylistaro 59.86 343 *e*P **P 14 49 57.3 -0.2**
NSS Namsos 59.99 349 *e*P **P 14 49 58.2 -0.1**
Y22D IRIS PASSCAL I 60.02 73 P **P 14 49 59.6 +0.3**
baz=318
DZA Taraz 60.26 303 *e*P **P 14 49 59.7 -0.9**
DZA Taraz 60.26 303 *e*P **P 14 49 59.7 -0.9**
KSH Kashi 60.42 297 P **P 14 50 04.3 +2.4**
KSH pmax pmax
comp=Z,27nm,1.4s
KSH LR LR
comp=Z,3μm,18.5s
KSH LR LR
comp=Z,3μm,18.2s
KSH LR LR
comp=Z,1μm,15.1s
AKTO Aktyubinsk 60.48 317 LR LR 15 18 45.2
comp=Z,795nm,18.4s,baz=29,slow=39
AKTO Aktyubinsk 60.48 317 P **P 14 50 00.0 -2.0**
KK31 Karatay Array 60.50 304 *i* P **P 14 50 00.6 -1.7**
KKAR Karatay Array 60.50 304 P **P 14 50 01.3 -0.9**
KKAR Karatay Array 60.50 304 IAmb IAmb 14 50 02.0
comp=Z,12nm,1.1s
KKAR Karatay Array 60.50 304 P **P 14 50 01.3 -0.9**
AB31 Akbulak array 60.61 315 P **P 14 50 01.3 -1.5**
ABKAR Akbulak array 60.61 315 P **P 14 50 01.7 -1.2**
ABKAR Akbulak array 60.61 315 IAmb IAmb 14 50 02.9
comp=Z,21nm,1.1s
121A Cookes Peak, D 60.69 74 P **P 14 50 05.5 +1.7**
baz=318,SNR=7.3
FINES FINESS Array B 60.71 340 P **P 14 50 02.5 -0.8**
comp=Z,14nm,0.9s,baz=36,slow=8.0,SNR=15
FINES LR LR 15 22 42.3
comp=Z,355nm,18.2s,baz=38,slow=42
comp=Z,14nm,0.9s
FINES FINESS Array B 60.71 340 *i* P **P 14 50 03.0 -0.3**
FINES pmax pmax
comp=Z,15nm,0.9s
BORG Borgarnes 60.88 5 LR LR 15 18 05.8
comp=Z,335nm,18.1s,baz=339,slow=38
BRLS Borolday 60.89 304 *e*P **P 14 50 05.6 +0.7**
BRLS Borolday 60.89 304 *e*P **P 14 50 05.6 +0.7**
IUG Iuzhnay 61.45 303 *e*P **P 14 50 08.2 -0.6**
comp=Z,26nm,1.2s
IUG Iuzhnay 61.45 303 *e*P **P 14 50 08.2 -0.6**
IUG pmax pmax
comp=Z,26nm,1.2s
HSIG 61.52 79 IAmb IAmb 14 50 25.8
comp=Z,20nm,1.1s
SCHQ Schefferville 61.92 33 P **P 14 50 11.7 0.0**
SCHQ Schefferville 61.92 33 P **P 14 50 12.4 +0.8**
comp=Z,8.2nm,0.9s,baz=296,slow=6.8,SNR=6.3
comp=Z,8.2nm,0.9s
SHL Shillong 62.01 275 IAmb IAmb 14 50 54.0
comp=Z,29nm,1.3s
MEF Metsahovi 62.17 341 *e*P **P 14 50 12.8 -0.4**
BTK Batken 62.65 301 IAmb IAmb 14 50 46.9
comp=Z,38nm,1.3s
DOMB Dombas 62.73 349 *e*P **P 14 50 16.4 -0.6**
BELG Belogornoye 62.79 324 LR LR 15 21 14.6
comp=Z,932nm,18.1s,baz=43,slow=40
BELG Belogornoye 62.79 324 *i* P **P 14 50 16.9 -0.5**
BELG pmax pmax
comp=Z,10.0nm,1.0s
AKN Aaknes 62.81 350 *e*P **P 14 50 17.5 +0.1**
MOS Moscow 63.07 331 *e*P **P 14 50 16.9 -2.4**
MOS *e* 14 50 33.8
MOS pmax pmax
comp=Z,36nm,0.8s
CHTO Chiang Mai 63.11 265 P **P 14 50 19.6 -0.5**
CHTO IAmb IAmb 14 50 25.6
comp=Z,14nm,0.8s
CHTO IAMs_20 IAMs_20 15 18 41.8
comp=Z,567nm,18.0s
CHTO Chiang Mai 63.11 265 P **P 14 50 19.6 -0.5**
CHTO pmax pmax
comp=Z,14nm,0.8s
CHTO MLR MLR
comp=Z,600nm,18.0s
NC303 NORSAR Array S 63.26 348 P **P 14 50 19.0 -1.5**
NC303 IAmb IAmb 14 50 21.0
comp=Z,30nm,0.9s
NC204 NORSAR Array S 63.28 348 P **P 14 50 20.0 -0.7**
ALEG Aligegeo Malai 63.33 189 P **P 14 50 23.1 +1.7**
CMAR Chiang Mai Arr 63.39 265 P **P 14 50 22.6 +0.7**
CMAR Chiang Mai Arr 63.39 265 P **P 14 50 22.1 +0.1**
comp=Z,7.6nm,0.7s,baz=22,slow=7.3,SNR=56
CMAR LR LR 15 19 52.6
comp=Z,425nm,18.4s,baz=60,slow=38
comp=Z,7.6nm,0.7s
CMAR Chiang Mai Arr 63.39 265 P **P 14 50 22.6 +0.7**
NB2 NORSAR Subarra 63.46 348 P **P 14 50 20.8 -1.1**
comp=Z,64nm,1.2s,baz=15,slow=6.9
NB2 NORSAR Subarra 63.46 348 P **P 14 50 20.8 -1.1**
baz=15,slow=6.9
NOA NORSAR Array B 63.46 348 P **P 14 50 20.4 -1.4**
comp=Z,24nm,0.9s,baz=16,slow=6.7,SNR=78
NOA LR LR 15 18 49.1
comp=Z,184nm,20.8s,baz=5.0,slow=37
comp=Z,24nm,0.9s
VHRN Van Horn 63.57 74 IAmb IAmb 14 50 35.8
comp=Z,46nm,1.4s
NAO01 NORSAR Array S 63.69 348 IAmb IAmb 14 50 23.6
comp=Z,22nm,1.0s
NC602 NORSAR Array S 63.72 348 *e*P **P 14 50 22.7 -0.8**
L44A Lake County Fo 63.76 54 P **P 14 50 24.0 -0.1**
baz=321
P40A Paris 63.80 58 IAmb IAmb 14 50 42.8
comp=Z,33nm,0.9s
HYA Hoyanger 63.88 351 *e*P **P 14 50 24.4 -0.1**
OBN Obninsk 63.91 332 LR LR 15 20 05.9
comp=Z,621nm,20.7s,baz=20,slow=38
OBN Obninsk 63.91 332⇑ *e*P **P 14 50 24.1 -0.7**
OBN *e* 14 52 44.7
OBN *e*S **S 14 58 59.5 +0.3**
OBN pmax pmax
comp=Z,60nm,1.7s
OBN MLR MLR
comp=Z,601nm,20.0s
HFS Hagfors 64.02 346 P **P 14 50 24.0 -1.5**
comp=Z,12nm,0.8s,baz=39,slow=5.7,SNR=15
HFS LR LR 15 20 19.8
comp=Z,217nm,19.2s,baz=12,slow=38
comp=Z,12nm,0.8s
HFS Hagfors 64.02 346 P **P 14 50 24.0 -1.5**
HNR Honiara 64.07 190 LR LR 15 14 27.0
comp=Z,182nm,21.6s,baz=6.5,slow=32
SKAR Skarslia 64.14 349 *e*P **P 14 50 26.7 +0.4**
R40A Maddies Statio 64.64 59 P **P 14 50 29.1 -0.8**
R40A IAmb IAmb 14 50 47.5
comp=Z,24nm,0.9s
KONO Kongsberg 65.01 348 P **P 14 50 31.6 -0.3**
KONO IAmb IAmb 14 50 32.7
comp=Z,26nm,0.9s
KONO Kongsberg 65.01 348 *e*P **P 14 50 31.9 0.0**
KONO Kongsberg 65.01 348 *ce*P **P 14 50 32.4 +0.5**
KONO pmax pmax
comp=Z,50nm,1.7s
ODD1 Odda 65.07 350 *e*P **P 14 50 32.9 +0.5**
TX31 Lajitas Ar. Si 65.41 74 P **P 14 50 35.2 +0.1**
TX31 IAmb IAmb 14 50 51.6
comp=Z,34nm,1.1s
TXAR Lajitas Array 65.41 74 P **P 14 50 34.9 -0.2**
TXAR Lajitas Array 65.41 74 P **P 14 50 35.2 0.0**
comp=Z,7.9nm,0.6s,baz=304,slow=4.6,SNR=79
comp=Z,7.9nm,0.6s
LPSR Galich'ya Gora 65.43 329 *e*P **P 14 50 32.8 -2.0**
LPSR pmax pmax
comp=Z,20nm,0.9s
OZNA Ozona 65.61 71 IAmb IAmb 14 50 48.6
comp=Z,32nm,1.2s
LPIG La Paz 65.63 82 LR LR 15 13 10.6
comp=Z,334nm,21.7s,baz=312,slow=30
SADO Sadowa 65.64 46 LR LR 15 20 39.7
comp=Z,943nm,19.3s,baz=317,slow=37
VRH Novokhopyorsk 65.77 327 *e*P **P 14 50 34.0 -3.0**
VRH pmax pmax
comp=Z,10.0nm,0.9s
Q44A Meyer Farm, Va 65.78 57 IAmb IAmb 14 50 49.5
comp=Z,44nm,1.3s
PMG Port Moresby 66.15 203 P **P 14 50 41.4 +1.6**
comp=Z,7.3nm,0.8s,baz=5.6,slow=7.0,SNR=2.7
PMG LR LR 15 14 46.8
comp=Z,316nm,20.7s,baz=9.5,slow=32
comp=Z,7.3nm,0.8s
VORR Voronezh 66.15 328 *e*P **P 14 50 36.7 -2.7**
VORR pmax pmax
comp=Z,10.0nm,0.8s
SANI Sanana 66.40 228 P **P 14 50 44.1 +2.7**
BRDY Brady 66.49 69 IAmb IAmb 14 50 54.0
comp=Z,32nm,1.3s
SRDT SRDT 66.54 262 P **P 14 50 46.0 +3.6**
O48B Farmland 66.56 53 P **P 14 50 42.2 -0.1**
baz=322
VSR Storozhevoye 66.56 328 *e*P **P 14 50 39.1 -3.0**

VSR pmax pmax
comp=Z,20nm,1.0s
FCAR Ozark Folk Cen 66.57 61 P **P 14 50 41.0 -1.4**
FCAR IAmb IAmb 14 50 59.8
comp=Z,24nm,0.8s
NACGM Naroch 66.57 337 *e*P **P 14 50 42.2 +0.1**
comp=Z,43nm,0.8s,baz=23
PABE Paberze 66.63 339 *e*P **P 14 50 42.1 -0.3**
MNK Minsk 66.69 336 *i* P **P 14 50 43.1 +0.2**
comp=E,29nm,0.9s
MNK *i* P **P 14 50 43.1 +0.2**
comp=N,7.0nm,0.9s
MNK *i* P **P 14 50 43.1 +0.2**
comp=Z,43nm,0.8s,baz=24
MNK *i* PcP **PcP 14 51 11.8 0.0**
MNK *i* PP **PP 14 53 09.7 +0.6**
MNK *i* PPP PPP 14 54 45.0
MNK *i* S **S 14 59 35.4 +2.1**
MNK *i* SS SS 15 04 14.8 +25
MNK *i* SSS SSS 15 07 26.5
MNK *i* LQ LQ 15 18 01.1
MNK *i* LR LR 15 20 47.5
MNK *i* LRM MLR 15 22 29.7
comp=N,381nm,15.9s
MNK *i* LRM MLR 15 23 21.4
MNK comp=E,326nm,15.9s *i* LRM MLR 15 23 35.4
comp=Z,537nm,16.4s
MNK Minsk 66.69 336*c i*P **P 14 50 43.0 +0.2**
VORD Divnogorie 66.74 328 *e*P **P 14 50 41.1 -2.1**
VORD pmax pmax
comp=Z,10.0nm,1.0s
MIAR Mount Ida 66.86 63 IAmb IAmb 14 51 02.6
comp=Z,25nm,0.9s
DRIO Del Rio 67.04 71 IAmb IAmb 14 51 18.2
comp=Z,38nm,1.2s
P49A Miami Univ. Ec 67.34 53 P **P 14 50 47.3 0.0**
baz=323
435B Jarrell 67.65 68 P **P 14 50 49.3 0.0**
baz=321
KHAM Kharkiv 68.52 329 P **P 14 50 54.2 -0.3**
WVT Waverly 68.54 58 P **P 14 50 54.3 -0.5**
WVT IAmb IAmb 14 51 09.6
comp=Z,16nm,0.8s
WVT Waverly 68.54 58 P **P 14 50 54.3 -0.5**
WVT pmax pmax
comp=Z,16nm,0.9s
833A Chaparral WMA, 68.57 71 IAmb IAmb 14 51 11.2
comp=Z,33nm,1.0s
833A Chaparral WMA, 68.57 71 P **P 14 50 55.7 +0.5**
baz=321
SSFO Shawnee State 68.72 53 IAmb IAmb 14 51 08.4
comp=Z,42nm,1.1s
P53A Whipple 68.91 51 IAmb IAmb 14 51 09.2
comp=Z,44nm,1.4s
SBUM Sibu 69.07 243 P **P 14 51 01.4 +3.1**
T50A Nancy 69.28 55 IAmb IAmb 14 51 12.1
comp=Z,35nm,1.2s
PLAL Pickwick Lake 69.32 59 IAmb IAmb 14 51 19.1
comp=Z,16nm,0.8s
PLTM Poltava 69.37 330 P **P 14 50 58.1 -1.7**
AK03 Malin Array Si 69.82 334 P **P 14 51 01.4 -1.1**
AK21 Malin Array Si 69.82 334 P **P 14 51 01.6 -0.9**
AK22 Malin Array Si 69.83 334 P **P 14 51 01.6 -0.9**
AK04 Malin Array Si 69.84 334 P **P 14 51 01.6 -1.0**
AKASG Malin Array Be 69.84 334 P **P 14 51 01.5 -1.1**
comp=Z,12nm,0.8s,baz=28,slow=6.0,SNR=36
AKASG LR LR 15 25 12.7
comp=Z,548nm,18.3s,baz=31,slow=39
comp=Z,12nm,0.8s
AKASG Malin Array Be 69.84 334 *i* P **P 14 51 02.0 -0.6**
AKASG pmax pmax
comp=Z,13nm,0.8s
AKBB Malin Array Si 69.84 334*ce*P **P 14 51 01.5 -1.1**
AKBB pmax pmax
comp=Z,50nm,1.9s
AKBB Malin Array Si 69.84 334 P **P 14 51 01.6 -1.1**
KIEV Kiev 69.85 334 ⇓P **P 14 51 02.4 -0.3**
KIEV Kiev 69.85 334 P **P 14 51 02.4 -0.3**
AK01 Malin Array Si 69.85 334 P **P 14 51 01.7 -1.0**
AK20 Malin Array Si 69.86 334 P **P 14 51 01.5 -1.2**
HBVL Hebbronville 69.95 71 IAmb IAmb 14 51 17.3
comp=Z,50nm,1.2s
RNPP9 Sopachiv 70.01 336 P **P 14 51 03.0 -0.7**
MI28 Mi28,Pidlybu 70.02 335 P **P 14 51 03.0 -0.8**
comp=Z,228nm,0.9s
L61B Northampton 70.22 44 P **P 14 51 04.4 -0.7**
baz=327
EKA Eskdalemuir Ar 70.36 355 P **P 14 51 05.3 -0.4**
comp=Z,14nm,0.9s,baz=0.3,slow=4.9,SNR=18
comp=Z,14nm,0.9s
BSEG Bad Segeberg 70.49 347 *e*P **P 14 51 05.4 -1.1**
comp=Z,11nm,0.9s,baz=8.6,slow=5.9
CPCT Cooper Cave 70.70 56 IAmb IAmb 14 51 21.1
comp=Z,59nm,1.5s
MAK Makhachkala 70.75 318*d i*P P 14 51 02.6 -5.7
MAK *e* 14 53 39.9
MAK *e*S **S 15 00 15.9 -5.9**
MAK MLR MLR
comp=Z,1μm,15.0s
TKL Tuckaleechee C 70.89 55 LR LR 15 25 29.2
comp=Z,653nm,18.2s,baz=330,slow=39
KSM Kuching 70.90 244 P **P 14 51 12.8 +3.2**
LUBAR Lubar, Ukraine 70.93 334 P **P 14 51 08.1 -1.2**
Y49A Blount Mountai 71.05 58 IAmb IAmb 14 51 21.6
comp=Z,49nm,1.6s
BLA Blacksburg 71.20 52 IAmb IAmb 14 51 21.0
comp=Z,50nm,1.4s
HRA Herat 71.33 303 IAmb IAmb 14 51 12.8
comp=Z,26nm,1.1s
COEN Coen 71.50 206 P **P 14 51 16.2 +3.1**
KIV Kislovodsk 71.70 322 *e*P **P 14 51 13.7 -0.5**
KIV pmax pmax
comp=Z,12nm,1.1s
KBZ Khabaz 71.82 322 P **P 14 51 14.4 -0.4**
comp=Z,9.6nm,1.0s,baz=330,slow=1.2,SNR=9.6
KBZ LR LR 15 27 00.3
comp=Z,550nm,18.4s,baz=35,slow=40
comp=Z,9.6nm,1.0s
KBZ Khabaz 71.82 322*ce*P **P 14 51 13.6 -1.2**
KBZ pmax pmax
comp=Z,12nm,1.0s
BG3 Lake Jocassee 71.83 55 IAmb IAmb 14 51 27.7
comp=Z,35nm,1.2s
SHA1 Shidzhatmaz 71.90 322*ce*P **P 14 51 14.6 -1.0**
AKT Akhty 71.92 317 *e*P **P 14 51 15.1 -0.5**
AKT *e*PPP PPP 14 55 40.1
AKT *e*S **S 15 00 34.3 -1.4**
AKT pmax pmax
comp=Z,27nm,1.1s
AKT MLR MLR
comp=Z,93nm,5.0s
FLTG Flechtingen 71.93 346 *e*P **P 14 51 14.0 -1.3**
comp=Z,4.6nm,0.9s,baz=8.6,slow=5.9
Y52A Lilburn 72.20 57 IAmb IAmb 14 51 31.9
comp=Z,22nm,0.8s
BAL3X Bal3x, Balta 72.28 332 P **P 14 51 17.4 -0.1**
KWP Kalwaria Pacla 72.40 338 *e*P **P 14 51 18.9 +0.7**
KWP Kalwaria Pacla 72.40 338 P **P 14 51 18.3 +0.1**
comp=Z,106nm,1.1s
SORM Soroca 72.42 333 ⇑P **P 14 51 17.8 -0.6**
SORM Soroca 72.42 333 P **P 14 51 17.7 -0.6**
SORM Soroca 72.42 333 P **P 14 51 17.3 -1.0**
comp=Z,23nm,1.4s
OJC Ojcow 72.47 340 *e*P **P 14 51 19.2 +0.6**
OJC Ojcow 72.47 340 IAmb IAmb 14 51 20.0
comp=Z,28nm,1.0s
OJC Ojcow 72.47 340 P **P 14 51 18.7 +0.1**
comp=Z,26nm,1.3s
KMPD K-Podol'skiy 72.51 335 P **P 14 51 17.2 -1.6**
comp=Z,11μm,1.1s
KSP Ksiaz 72.55 342 *e*P **P 14 51 19.1 +0.1**
MORS Morshin 72.60 337 P **P 14 51 16.6 -2.8**
CLL Collm 72.65 344 *i* P **P 14 51 18.4 -1.3**
CLL *i* 14 51 28.9
CLL pmax pmax
comp=Z,21nm,1.3s
CLL Collm 72.65 344 *e*P **P 14 51 18.9 -0.7**
comp=Z,8.1nm,1.0s,baz=8.6,slow=5.9
CLL Collm 72.65 344 *i* P **P 14 51 18.4 -1.3**
comp=Z,21nm,1.3s
CLL *i* x x 14 51 28.9
BRG Berggiesshubel 72.92 344 *e*P **P 14 51 21.1 -0.1**
BRG Amp 14 51 22.1
comp=Z,14nm,1.2s
BRG Berggiesshubel 72.92 344 P **P 14 51 25.2 +3.9**
BRG Amp 14 51 26.3
comp=Z,9.8nm,1.2s
BRG Berggiesshubel 72.92 344 P P 14 51 35.9 +15
BRG Amp 14 51 39.6
comp=Z,8.0nm,1.1s
BRG Berggiesshubel 72.92 344 *e*P **P 14 51 21.1 -0.1**
BRG 14 51 35.8
BRG pmax pmax
comp=Z,14nm,1.2s
BRG Berggiesshubel 72.92 344 *e*P **P 14 51 20.9 -0.4**
comp=Z,5.8nm,1.0s,baz=8.6,slow=5.9
STHS Stebnicka Huta 72.93 338 *e*P **P 14 51 21.7 +0.3**
STHS pmax pmax
comp=Z,14nm,1.0s
STHS Stebnicka Huta 72.93 338 *e*P **P 14 51 21.7 +0.3**
DPC Dobruska-Polom 73.01 342 *e*P **P 14 51 22.0 +0.1**
DPC Dobruska-Polom 73.01 342 *e*P **P 14 51 22.0 +0.1**
DPC Dobruska-Polom 73.01 342 P **P 14 51 22.0 +0.1**
SOC Sochi 73.07 324 *e*P **P 14 51 21.6 -0.7**
SOC *e* 14 54 01.3
SOC *e*PPP PPP 14 55 46.3
SOC *e*S **S 15 00 50.5 +2.0**
SOC *e*SS **SS 15 05 29.1 +0.7**
NIE Niedzica 73.12 339 *e*P **P 14 51 24.3 +1.7**
KOLS Kolonicke sedl 73.16 338 *e*P **P 14 51 23.5 +0.8**
KOLS pmax pmax
comp=Z,16nm,0.9s
KOLS Kolonicke sedl 73.16 338 *e*P **P 14 51 23.5 +0.8**
KRLC Kraliky 73.19 341 *e*P **P 14 51 23.2 +0.3**
KRLC Kraliky 73.19 341 *e*P **P 14 51 23.2 +0.3**
HSKC Hora Svate Kat 73.26 344 *e*P **P 14 51 23.3 0.0**
HSKC *e*pP **sP 14 51 30.1 -0.1**
MORC Moravsky Berou 73.33 341 *e*P **P 14 51 24.2 +0.4**
MORC Moravsky Berou 73.33 341 ⇑P **P 14 51 24.1 +0.4**
MORC Moravsky Berou 73.33 341 P **P 14 51 24.1 +0.3**
MOX Moxa 73.51 345 *e*P **P 14 51 23.6 -1.2**
comp=Z,6.1nm,0.9s,baz=8.6,slow=5.9
LANS Liptovska Anna 73.55 339 *e*P **P 14 51 26.5 +1.4**
LANS pmax pmax
comp=Z,20nm,1.0s
LANS Liptovska Anna 73.55 339 *e*P **P 14 51 26.5 +1.4**
KDU Kakadu 73.57 217 P **P 14 51 27.3 +1.9**
TANN Tannenbergstha 73.61 344 *e*P **P 14 51 24.8 -0.6**
comp=Z,4.5nm,1.0s,baz=8.6,slow=5.9
SIM Simferopol' 73.68 328 *e*P **P 14 51 25.3 -0.6**
SIM 14 51 37.0
SIM pmax pmax
comp=Z,22nm,1.1s
SIM MLR MLR
comp=Z,430nm,16.6s
BURAR Bucovina Array 73.70 335 P **P 14 51 26.7 +0.6**
BURAR Bucovina Array 73.70 335 ⇑P **P 14 51 25.9 -0.1**
BURAR Bucovina Array 73.70 335 P **P 14 51 25.9 -0.1**
VRAC Vranov 73.96 341 LR LR 15 27 34.3
comp=Z,391nm,20.0s,baz=37,slow=39
VRAC Vranov 73.96 341 *e*P **P 14 51 27.9 +0.5**
VRAC Vranov 73.96 341 ⇑P **P 14 51 28.2 +0.8**
VRAC Vranov 73.96 341 P **P 14 51 28.2 +0.8**
KECS Kecovo 73.97 339 *e*P **P 14 51 28.7 +1.2**
KECS pmax pmax
comp=Z,22nm,1.3s
KECS Kecovo 73.97 339 *e*P **P 14 51 28.7 +1.2**
MANZ Manzenberg 74.08 344 *e*P **P 14 51 27.6 -0.5**
comp=Z,1.5nm,1.0s,baz=8.6,slow=5.9
MTN Manton Dam 74.19 218 IAmb IAmb 14 51 34.6
comp=Z,43nm,1.3s
MTN Manton Dam 74.19 218 P **P 14 51 32.0 +3.0**
JAVC Velka Javorina 74.19 341 *e*P **P 14 51 30.5 +1.7**
GNI Garni 74.22 319 LR LR 15 28 44.7
comp=Z,710nm,18.3s,baz=24,slow=40
GNI Garni 74.22 319 *e*P **P 14 51 27.8 -1.5**
GNI pmax pmax
comp=Z,15nm,1.1s
KRUC Moravsky 74.24 341 *e*P **P 14 51 29.5 +0.5**
ZVC Zvikov 74.27 343 *e*P **P 14 51 29.4 +0.2**
ROTZ Rotzenmuhle 74.27 344 *e*P **P 14 51 28.9 -0.4**
comp=Z,1.6nm,1.0s,baz=8.6,slow=5.9
MEM Membach 74.30 349 *d*P **P 14 51 29.1 -0.2**
comp=Z,11nm,1.3s
BTNL Ternell 74.30 349 *d*P **P 14 51 29.8 +0.3**
VYHS Vyhne 74.31 340 *e*P **P 14 51 30.4 +0.9**
VYHS pmax pmax
comp=Z,20nm,1.3s
VYHS Vyhne 74.31 340 *e*P **P 14 51 30.4 +0.9**
TESR Tescani 74.37 334 ⇑P **P 14 51 29.6 -0.3**
GRF Grafenberg Arr 74.50 345 *e*P **P 14 51 29.7 -0.8**
comp=Z,12nm,0.9s,baz=8.6,slow=5.9
BCLA Clavier 74.56 349 *d*P **P 14 51 30.0 -0.9**
comp=Z,6.4nm,1.2s
SMOL Smolenice 74.56 341 *e*P **P 14 51 32.5 +1.5**
PSZ Piszkesteto 74.63 339 ⇓P **P 14 51 31.5 0.0**
PSZ Piszkesteto 74.63 339 P **P 14 51 31.4 0.0**
KHC Kasperske Hory 74.67 343 *e*P **P 14 51 32.4 +0.8**
KHC Kasperske Hory 74.67 343*ce*P **P 14 51 32.3 +0.7**
KHC pmax pmax
comp=Z,54nm,1.3s
KHC Kasperske Hory 74.67 343 P **P 14 51 31.5 -0.1**
MODS Modra-Piesok 74.73 341 *e*P **P 14 51 33.1 +1.2**
MODS pmax pmax
comp=Z,47nm,1.2s
MODS Modra-Piesok 74.73 341 *e*P **P 14 51 33.1 +1.2**
BMRD Maredsous 74.74 349 *d*P **P 14 51 31.8 -0.1**
comp=Z,5.4nm,0.9s
WET Wettzell 74.77 344 *e*P **P 14 51 32.3 +0.1**
comp=Z,10nm,0.9s,baz=8.6,slow=5.9
CKRC Cesky Krumlov 74.84 343 *e*P **P 14 51 32.5 -0.1**
CKRC Cesky Krumlov 74.84 343 *e*P **P 14 51 32.5 -0.1**
GEC2 GERESS Array S 74.92 343 *e*P **P 14 51 33.0 -0.1**
comp=Z,9.1nm,0.9s,baz=8.6,slow=5.9
GERES GERESS Array B 74.92 343 P **P 14 51 32.8 -0.3**
comp=Z,6.3nm,0.8s,baz=19,slow=5.8,SNR=12
GERES LR LR 15 27 25.4
comp=Z,517nm,20.4s,baz=356,slow=38
comp=Z,6.3nm,0.8s
CJR Cluj-Napoca 74.94 336 ⇑P **P 14 51 33.4 +0.2**
CJR Cluj-Napoca 74.94 336 P **P 14 51 33.4 +0.2**
DOU Dourbes 74.96 349 *d*P **P 14 51 31.1 -2.0**
MARR Marisel-Cluj 75.09 336 ⇑P **P 14 51 34.4 +0.3**
COVR Voineasa-Covas 75.10 334 ⇑P **P 14 51 34.4 +0.3**
DOPR Dopca 75.20 334 ⇑P **P 14 51 34.7 0.0**
MTSU Mount Surprise 75.23 204 P **P 14 51 38.7 +3.6**
CONA Conrad Observa 75.42 341 *i* pP **P 14 51 37.1 +1.0**
comp=Z,22nm,1.1s,SNR=7.5
MLR Muntele Rosu 75.50 334 LR LR 15 28 10.1
comp=Z,557nm,19.2s,baz=42,slow=38
MLR Muntele Rosu 75.50 334 ⇓P **P 14 51 37.2 +0.6**
MLR Muntele Rosu 75.50 334 P **P 14 51 37.1 +0.6**
RONA Rosalia, Austr 75.56 341 *i* pP **P 14 51 37.9 +1.1**
comp=Z,22nm,1.4s,SNR=6.0
VOIR 75.78 334 ⇑P **P 14 51 38.9 +0.8**
VOIR 75.78 334 P **P 14 51 38.9 +0.8**
MOA Molln 75.79 343 *i* pP **P 14 51 38.2 +0.2**
comp=Z,16nm,1.5s
SIRR Siria 75.81 337 ⇓P **P 14 51 38.9 +0.7**
ARR Arges 75.95 335 ⇓P **P 14 51 39.1 +0.1**
PSI Prapat 76.01 255 P **P 14 51 42.7 +2.8**
BIOA Bad Ischl, Aus 76.05 343 *i* pP **P 14 51 40.0 +0.4**
comp=Z,17nm,1.4s
PLAI Plampang 76.08 232 P **P 14 51 43.2 +3.2**
ARSA Arzberg 76.14 341 *i* pP **P 14 51 41.2 +1.2**
comp=Z,18nm,1.1s
RJOB Jochberg 76.15 343 *e*P **P 14 51 40.6 +0.4**
comp=Z,8.1nm,0.8s,baz=8.6,slow=5.9
SURR Surduc 76.19 337 ⇑P **P 14 51 40.8 +0.5**
DZM Mont Dzumac 76.24 182 *e*S **S 15 01 19.7 -4.5**
comp=Z,768nm,37.0s
DZM Mont Dzumac 76.24 182 *e*LR LR 15 15 10.3
comp=Z,713nm,24.8s
DZM Mont Dzumac 76.24 182 LR LR 15 18 05.3
comp=Z,321nm,21.2s,baz=22,slow=30
NOUC Port Laguerre 76.27 182 P **P 14 51 43.3 +2.5**
TAOE Nuku Hiva Isla 76.28 128 *e*LR LR 15 15 13.2
comp=Z,874nm,22.8s
GZR Gura Zlata 76.37 336 ⇓P **P 14 51 41.6 +0.1**
GZR Gura Zlata 76.37 336 P **P 14 51 41.5 +0.1**
BZS Buzias 76.43 337 ⇑P **P 14 51 41.9 +0.2**
BZS Buzias 76.43 337 P **P 14 51 41.9 +0.2**
LESA Schwarzleotal 76.47 343 *i* pP **P 14 51 42.6 +0.6**
comp=Z,7.7nm,1.1s
MORH Mrgy, Hungar 76.52 339 ⇓P **P 14 51 42.1 -0.1**
CTA Charters Tower 76.69 202 P **P 14 51 46.2 +2.9**
CTAO Charters Tower 76.69 202 P **P 14 51 44.0 +0.7**
CTAO Charters Tower 76.69 202 P **P 14 51 46.2 +2.9**
CTAO Charters Tower 76.69 202 P **P 14 51 44.0 +0.7**
CTAO pmax pmax
comp=Z,15nm,0.9s
KBA Koelnbreinsper 76.69 343 *i* pP **P 14 51 44.6 +1.2**
comp=Z,43nm,1.0s,SNR=12
RETA Reutte 76.72 345 *i* pP **P 14 51 44.6 +1.2**
comp=Z,6.6nm,1.3s
WATA Walderalm 76.74 344 *i* pP **P 14 51 44.2 +0.6**
comp=Z,20nm,1.1s
SOKA Soboth 76.78 342 *i* pP **P 14 51 44.6 +0.8**
comp=Z,30nm,1.3s,SNR=5.8
WTTA Wattenberg 76.80 344 *i* pP **P 14 51 44.7 +0.7**
comp=Z,15nm,0.9s
MOTA Moosalm 76.80 345 *i* pP **P 14 51 44.2 +0.2**
comp=Z,14nm,1.0s
SQTA Sankt Quirin 76.91 344 *i* pP **P 14 51 45.2 +0.6**
comp=Z,14nm,0.7s
HERR Herculane 76.94 336 ⇓P **P 14 51 44.3 -0.2**
OBKA Obir 77.03 342 *i* pP **P 14 51 46.2 +1.0**
comp=Z,38nm,1.0s
DAVA Damuels 77.05 345 *i* pP **P 14 51 45.2 -0.1**
comp=Z,5.6nm,1.0s
MYKA Terra Mystica 77.08 343 *i* pP **P 14 51 45.2 -0.2**
comp=Z,16nm,1.4s
ABTA Abfaltersbach 77.16 343 *i* pP **P 14 51 46.4 +0.5**
comp=Z,24nm,1.1s
FETA Feichten 77.18 345 *i* pP **P 14 51 46.2 +0.1**
comp=Z,13nm,1.2s
MDVR Moldovita 77.20 337 ⇑P **P 14 51 46.0 -0.1**
ARPR Arapgir-MALATY 77.53 323 IAMs_20 IAMs_20 15 30 48.1
comp=Z,429nm,19.0s
DAVOX Davos/Dischmat 77.54 345 LR LR 15 26 50.9
comp=Z,158nm,21.8s,baz=24,slow=36
FUORN Ofenpass-Fuorn 77.64 345 IAmb IAmb 14 52 02.4
comp=Z,37nm,1.8s
BOVS Bovan 78.29 336 ⇓P **P 14 51 51.5 -0.6**
BRTR Keskin Array B 78.56 326 P **P 14 51 53.3 -0.5**
BRTR Keskin Array B 78.56 326 P **P 14 51 53.5 -0.3**
comp=Z,4.1nm,0.7s,baz=56,slow=2.9,SNR=21
BRTR LR LR 15 29 03.6
comp=Z,263nm,19.7s,baz=50,slow=38
comp=Z,4.1nm,0.7s
QIS Mount Isa 78.75 208 P **P 14 51 57.5 +2.7**
KIRS Kirsehir-Merke 79.00 326 ⇑P **P 14 51 56.5 +0.3**
WRA Warramunga Arr 79.71 213 P **P 14 51 60.0 -0.1**
comp=Z,3.4nm,0.6s,baz=24,slow=6.0,SNR=37
comp=Z,3.4nm,0.6s
WRA Warramunga Arr 79.71 213 P **P 14 52 00.0 -0.1**
CMIG Matias Romero 79.98 75 LR LR 15 25 32.6
comp=Z,354nm,20.6s,baz=342,slow=34
PDG Podgorica 79.99 337 ⇑P **P 14 52 02.3 +0.9**
PPT Papeete 80.11 140 LR LR 15 21 32.3
comp=Z,397nm,20.2s,baz=336,slow=31
PPT2 Papeete2 80.13 140 *e*P P 14 51 55.5 -6.9
comp=Z,46nm,24.2s
PPT2 Papeete2 80.13 140 *e*S **S 15 02 03.2 -3.1**
comp=Z,59nm,22.2s
PPT2 *e*SS **SS 15 07 19.9 +2.5**
comp=Z,76nm,25.5s
PPT2 *e*LQ LQ 15 13 12.0
comp=Z,1μm,32.5s
PPT2 *e*LR LR 15 16 56.2
comp=Z,764nm,24.0s
PPT2 *e*LR LR 15 17 02.4
comp=Z,897nm,22.8s
FDMO Fiordimonte 80.66 342 IAmb IAmb 14 52 18.8
comp=Z,69nm,1.3s
FITZ Fitzroy Crossi 81.05 221 P **P 14 52 09.5 +2.3**
UOSS Minazif 82.05 302 P **P 14 52 08.9 -3.8**
WSAR Wadi Sarin 82.25 299 LR LR 15 30 24.3
comp=Z,818nm,19.7s,baz=75,slow=37
ASAR Alice Springs 83.34 212 P **P 14 52 20.8 +1.6**
ASAR Alice Springs 83.34 212 P **P 14 52 20.1 +0.8**
comp=Z,3.5nm,0.7s,baz=22,slow=5.2,SNR=24
ASAR PKKPbc **PKKPbc 15 10 39.1 +1.4**
comp=Z,0.2nm,0.7s,baz=194,slow=2.1,SNR=1.6
ASAR LR LR 15 26 56.9
comp=Z,135nm,20.4s,baz=23,slow=34
comp=Z,3.5nm,0.7s
ASAR Alice Springs 83.34 212 P **P 14 52 20.8 +1.6**
QLP Quilpie 83.41 202 P **P 14 52 22.7 +3.3**
TIP Timpagrande 83.65 338 ⇑P **P 14 52 21.8 +0.9**
MMAI Mount Meron Ar 84.02 322 P **P 14 52 22.0 -0.9**
comp=Z,2.7nm,0.6s,baz=26,slow=3.7,SNR=5.9
MMAI LR LR 15 34 21.4
comp=Z,303nm,18.3s,baz=352,slow=39
comp=Z,2.7nm,0.6s
PBRG Braganca 84.03 357 *i* LQ LQ 14 52 33.4
RAO Raoul Island 84.17 168 LR LR 15 23 15.3
comp=Z,334nm,20.4s,baz=94,slow=31
POLO Lamas de Olo 84.49 357 *e*P **P 14 52 25.6 +0.4**
POLO *i* LQ LQ 14 52 34.7
PVRL Vila Real 84.59 357 *e*P **P 14 52 26.0 +0.4**
PVRL *i* LQ LQ 14 52 36.0
MVO Moncorvo 84.68 357 *i* LQ LQ 14 52 34.6
PVIS Viseu 85.15 357 *e*P **P 14 52 29.0 +0.5**
PVIS *i* LQ LQ 14 52 36.7
IDI Anoyia 85.31 331 LR LR 15 34 59.2
comp=Z,234nm,18.3s,baz=44,slow=39
INKA Innaminka 85.32 205 P **P 14 52 31.4 +2.3**
TBI Tubuai 85.44 142 *e*S **S 15 03 02.5 +2.5**
comp=Z,913nm,25.0s
TBI *e*SS **SS 15 08 39.1 +3.0**
comp=Z,1μm,30.0s
TBI *e*LQ LQ 15 15 23.7
comp=Z,3μm,30.0s
TBI *e*LR LR 15 19 17.2
comp=Z,2μm,24.8s
VAE Valguarnera 85.78 340 LR LR 15 36 43.3
comp=Z,285nm,18.1s,baz=1.0,slow=40
ESDC Sonseca Array 86.02 354 P **P 14 52 32.4 -0.4**
comp=Z,5.8nm,1.1s,baz=3.5,slow=5.1,SNR=16
comp=Z,5.8nm,1.1s
OOD Oodnadatta 86.70 209 P **P 14 52 38.7 +2.8**
EIL Elat 87.20 321 LR LR 15 37 50.4
comp=Z,322nm,18.0s,baz=56,slow=40
PBAR Barrancos 87.66 357 *i* LQ LQ 14 52 50.0
PBEJ Beja 87.83 357 *e*P **P 14 52 40.2 -1.4**
RAYN Ar Rayn 88.32 310 P **P 14 52 43.4 -0.8**
KEST Kesra 88.41 343 LR LR 15 34 44.3
comp=Z,165nm,21.3s,baz=11,slow=37
STKA Stephens Creek 89.09 203 P **P 14 52 47.6 +0.3**
comp=Z,5.2nm,0.6s,baz=351,slow=5.4,SNR=7.4
STKA LR LR 15 27 55.3
comp=Z,128nm,19.5s,baz=18,slow=32
comp=Z,5.2nm,0.6s
STKA Stephens Creek 89.09 203 P **P 14 52 49.9 +2.6**
JTS Las Juntas de 91.05 71 LR LR 15 36 28.6
comp=Z,198nm,21.1s,baz=323,slow=37
URZ Urewera 92.64 173 LR LR 15 28 01.2
comp=Z,163nm,20.8s,baz=90,slow=31
MDT Midelt 92.89 354 LR LR 15 37 20.1
comp=Z,89nm,18.3s,baz=2.0,slow=37
SJG San Juan 93.98 51 LR LR 15 36 45.8
comp=Z,336nm,20.0s,baz=4.0,slow=36
NWAO Narrogin (SRO) 97.63 222 LR LR 15 38 41.5
comp=Z,109nm,18.1s,baz=334,slow=36
RPZ Rata Peaks 97.82 178 LR LR 15 33 31.6
comp=Z,131nm,18.6s,baz=342,slow=33
SDV Santo Domingo 99.81 60 LR LR 15 41 02.1
comp=Z,276nm,18.7s,baz=342,slow=37
ATD Arta Tunnel 99.98 306 LR LR 15 43 46.5
comp=Z,17nm,19.1s,baz=26,slow=38
TORD Torodi Ar. Bea 111.75 346 PP **PP 14 59 05.4 -3.2**
comp=Z,1.1nm,0.9s,baz=352,slow=8.7,SNR=4.5
DBIC Dimbokro 118.85 353 PKP **PKiKP 14 58 41.6 +0.6**
comp=Z,0.9nm,0.4s,baz=350,slow=6.4,SNR=1.7
LPAZ La Paz 122.25 72 PKP **PKiKP 14 58 49.9 +1.7**
comp=Z,1.3nm,0.6s,baz=4.5,slow=7.4,SNR=2.7
BOSA Boshof 143.01 299 PKhKP PKPpre 14 59 21.3
comp=Z,2.4nm,0.7s,baz=106,slow=4.3,SNR=3.8
BOSA PKP **PKPdf 14 59 27.4 +1.4**
comp=Z,3.4nm,0.8s,baz=45,slow=5.0,SNR=3.8
MAW Mawson 144.16 219 PKP **PKPdf 14 59 25.9 -0.6**
comp=Z,3.8nm,0.6s,baz=81,slow=3.9,SNR=14
QSPA South Pole Qui 144.21 180 PKPdf **PKPab 14 59 23.9 -0.8**
QSPA South Pole Qui 144.21 180 PKP PKPbc 14 59 25.2 +0.1
comp=Z,20nm,1.0s,baz=352,slow=2.2,SNR=30
ELIB Princess Elisa 157.07 207 *d*PKP **PKPab 15 00 18.7 +1.4**
TROLL Troll, Antarti 161.40 194 ⇑Pdiff **PKPab 15 00 35.0 -1.1**
comp=Z,69nm,0.7s
SNAA Sanae 162.33 189 ⇑Pdiff **PKPab 15 00 37.5 -2.5**
comp=Z,59nm,1.0s
SNAA Sanae 162.33 189 PKPab **PKPab 15 00 40.6 +0.6**
comp=Z,2.1nm,0.9s,baz=153,slow=4.5,SNR=3.6
VNA3 Neumayer Olymp 163.13 182 ⇑Pdiff **PKPab 15 00 41.4 -2.1**
comp=Z,3.9nm,0.8s
VNA2 Neumayer--Watz 163.38 185 ⇑Pdiff **PKPab 15 00 41.6 -3.0**

comp=Z,2.6nm,0.6s,baz=176,slow=3.5
VNA1 Neumayer--Stat 163.69 184 ⇑Pdiff **PKPab 15 00 43.3 -2.6**
comp=Z,7.8nm,1.1s

SJA 17 14:47:23.8±0.6, 22°.77S×69°.01W, h123km±3km, ML3.9, MW4.1
GUC 17 14:47:24.9±0.8, 22°.75S×68°.98W, h123km±3km, ML4.1
IDC 17 14:47:25.8±3.3, 22°.73S×68°.72W, h108km±29km, mb3.7/4, mbtmp4.1/7, MS3.3/1, Error ellipse: s-maj=37.1km s-min=24.5km az=105.0
NEIC 17 14:47:25.2±2.3, 22°.72S±0°.06×69°.06W±0°.10, h122km±5km, mb4.3/8, Error ellipse: s-maj=12.8km s-min=8.1km az=95.0.
VAO 17 14:47:30.0±1.9, 22°.54S×68°.34W, h103km±10km, mb4.2
ISC 17 14:47:25.0±0.6, 22°.77S±0°.03×68°.99W±0°.04, h120km±5km, n88, σ1=44/104, mb4.0/4, 3C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.54**	**277**				**Pn**	**14 47 42.8**	**-0.7**
PB06	**IPOC Station P**	**0.54**	**277**	⇑*iP*			**Pn**	**14 47 43.3**	**-0.1**
PB06				*e*S			**Sn**	**14 47 56.6**	**-0.7**
PB06				IAML				14 47 58.6	
comp=E,5μm,0.2s									
PB06	**IPOC Station P**	**0.54**	**277**	*e*P			**Pn**	**14 47 43.3**	**-0.1**
PB06				*e*S			**Sn**	**14 47 57.3**	**0.0**
PB06				IAML				14 48 00.5	
comp=Z,2μm,0.2s									
PB15	**IPOC Station P**	**0.62**	**225**				**Pn**	**14 47 43.6**	**-0.5**
PB15	**IPOC Station P**	**0.62**	**225**	⇑*iP*			**Pn**	**14 47 44.3**	**+0.2**
PB15				*e*S			**Sn**	**14 47 58.3**	**-0.1**
PB15	**IPOC Station P**	**0.62**	**225**	*e*P			**Pn**	**14 47 43.6**	**-0.5**
PB15				*e*S			**Sn**	**14 47 58.2**	**-0.2**
AF01	**San Pedro de A**	**0.77**	**104**				**Pn**	**14 47 45.1**	**-0.2**
AF01	**San Pedro de A**	**0.77**	**104**	⇓*iP*			**Pn**	**14 47 45.4**	**0.0**
AF01				*e*S			**Sn**	**14 48 00.2**	**-0.4**
AF01	**San Pedro de A**	**0.77**	**104**	*e*P			**Pn**	**14 47 45.2**	**0.0**
AF01				*e*S			**Sn**	**14 48 06.9**	**+6.3**
PB09	**IPOC Station P**	**0.99**	**346**	Pn			**Pn**	**14 47 47.4**	**+0.2**
PB09	**IPOC Station P**	**0.99**	**346**	⇓*iP*			**Pn**	**14 47 47.6**	**+0.4**
PB09				*e*S			**Sn**	**14 48 03.6**	**-0.4**
PB09				IAML				14 48 05.3	
comp=N,4μm,0.3s									
PB09	**IPOC Station P**	**0.99**	**346**	*e*P			**Pn**	**14 47 47.4**	**+0.2**
PB09				*e*S			**Sn**	**14 48 03.8**	**-0.2**
PB09				IAML				14 48 07.0	
comp=Z,2μm,0.9s									
PB04	**IPOC Station P**	**1.16**	**292**	Pn			**Pn**	**14 47 48.5**	**-0.3**
PB04	**IPOC Station P**	**1.16**	**292**	⇑*iP*			**Pn**	**14 47 49.0**	**+0.1**
PB04				*e*S			**Sn**	**14 48 06.6**	**-0.3**
PB04	**IPOC Station P**	**1.16**	**292**	*e*P			**Pn**	**14 47 48.4**	**-0.5**
PB04				*e*S			**Sn**	**14 48 06.9**	**0.0**
PB04				IAML				14 48 10.7	
comp=Z,2μm,0.4s									
PB01	**IPOC Station P**	**1.78**	**345**				**Pn**	**14 47 55.7**	**-0.2**
PB01	**IPOC Station P**	**1.78**	**345**	⇓*iP*			**Pn**	**14 47 55.9**	**0.0**
PB01				*e*S			**Sn**	**14 48 18.6**	**-0.8**
PB01	**IPOC Station P**	**1.78**	**345**	*e*P			**Pn**	**14 47 55.9**	**0.0**
PB01				*e*S			**Sn**	**14 48 19.0**	**-0.4**
PB01				IAML				14 48 19.9	
comp=Z,2μm,0.2s									
PATCX	**Punta Patache**	**2.22**	**331**	Pn			**Pn**	**14 48 00.8**	**-0.5**
PB14	**IPOC Station P**	**2.26**	**215**	Pn			**Pn**	**14 48 02.2**	**+0.2**
PB14	**IPOC Station P**	**2.26**	**215**	*e*P			**Pn**	**14 48 02.4**	**+0.4**
PB14	**IPOC Station P**	**2.26**	**215**	*e*P			**Pn**	**14 48 01.8**	**-0.3**
PB14				*e*S			**Sn**	**14 48 30.1**	**-0.3**
PB14				IAML				14 48 32.7	
comp=Z,623nm,0.3s									
GO02	**Mina Guanaco**	**2.45**	**193**	Pn			**Pn**	**14 48 05.0**	**+0.5**
GO02	**Mina Guanaco**	**2.45**	**193**	⇓*iP*			**Pn**	**14 48 05.0**	**+0.5**
GO02				IAML				14 48 39.6	
comp=E,1μm,0.2s									
GO02	**Mina Guanaco**	**2.45**	**193**	*e*P			**Pn**	**14 48 04.8**	**+0.3**
TA01	**Diego Aracena**	**2.46**	**333**	Pn			**Pn**	**14 48 03.4**	**-0.9**
TA01	**Diego Aracena**	**2.46**	**333**	*e*P			**Pn**	**14 48 03.5**	**-0.8**
TA01				IAML				14 48 35.8	
comp=E,794nm,0.3s									
TA01	**Diego Aracena**	**2.46**	**333**	*e*P			**Pn**	**14 48 03.5**	**-0.8**
TA01				*e*S			Sn	14 48 23.9	-10
TA01				IAML				14 48 36.2	
comp=Z,339nm,0.5s									
HMBC	**Humberstone**	**2.62**	**341**				**Pn**	**14 48 05.8**	**-0.7**
HMBC	**Humberstone**	**2.62**	**341**	*e*P			**Pn**	**14 48 05.6**	**-0.9**
HMBC				IAML				14 48 41.4	
comp=N,953nm,0.3s									
HMBC	**Humberstone**	**2.62**	**341**	*e*P			**Pn**	**14 48 05.5**	**-0.9**
HMBC				*e*S			**Sn**	**14 48 40.8**	**+2.5**
HMBC				IAML				14 48 46.2	
comp=Z,618nm,0.3s									
PB08	**IPOC Station P**	**2.62**	**357**				**Pn**	**14 48 07.0**	**+0.2**
PB08	**IPOC Station P**	**2.62**	**357**	⇓*iP*			**Pn**	**14 48 07.0**	**+0.2**
PB08				IAML				14 48 42.8	
comp=E,455nm,0.1s									
PB08	**IPOC Station P**	**2.62**	**357**	*e*P			**Pn**	**14 48 06.9**	**+0.1**
PB08				*e*S			Sn	14 48 26.6	-12
PB08				IAML				14 48 38.3	
comp=Z,234nm,1.2s									
TA02	**Huaiquique**	**2.70**	**337**	*e*P			Pn	14 47 52.8	-15
TA02				*e*S			**Sn**	**14 48 39.7**	**-0.4**
TA02				IAML				14 48 44.3	
comp=Z,457nm,0.2s									
PB11	**IPOC Station P**	**3.06**	**348**	Pn			**Pn**	**14 48 11.6**	**-0.7**
PB11	**IPOC Station P**	**3.06**	**348**	*e*P			**Pn**	**14 48 11.4**	**-0.8**
PB11				IAML				14 48 49.1	
comp=E,816nm,0.2s									
PB11	**IPOC Station P**	**3.06**	**348**	*e*P			**Pn**	**14 48 11.2**	**-1.0**
PB11				IAML				14 48 56.6	
comp=Z,396nm,0.4s									
GO01	**Chusmiza**	**3.09**	**356**	Pn			**Pn**	**14 48 13.1**	**+0.1**
GO01	**Chusmiza**	**3.09**	**356**	*e*P			**Pn**	**14 48 12.9**	**-0.1**
GO01				IAML				14 48 51.0	
comp=E,545nm,0.2s									
GO01	**Chusmiza**	**3.09**	**356**	*e*P			**Pn**	**14 48 13.1**	**+0.1**
YJA	**Yavi**	**3.27**	**80**	*e*P			**Pn**	**14 48 12.4**	**-2.9**
YJA				*e*S			**Sn**	**14 48 52.4**	**-1.6**
AC01	**Pan de Azucar**	**3.67**	**203**	Pn			**Pn**	**14 48 19.4**	**-0.8**
AC01	**Pan de Azucar**	**3.67**	**203**	*e*P			**Pn**	**14 48 19.0**	**-1.2**
AC01				*e*S			**Sn**	**14 49 01.5**	**-1.4**
AC01				IAML				14 49 02.4	
comp=Z,209nm,0.3s									
SLA	**San Lorenzo**	**3.74**	**122**	*e*P			**Pn**	**14 48 24.6**	**+3.4**
PB12	**IPOC Station P**	**4.32**	**343**	Pn			**Pn**	**14 48 27.4**	**-1.6**
PB12	**IPOC Station P**	**4.32**	**343**	*e*P			**Pn**	**14 48 27.1**	**-1.9**
PB12				*e*S			**Sn**	**14 49 19.4**	**+0.8**
PB12				IAML				14 49 42.6	
comp=Z,85nm,0.3s									
AC06	**Mina Casimiro**	**4.73**	**195**	Pn			**Pn**	**14 48 33.0**	**-1.4**
GO03	**Copiapo**	**4.94**	**193**	*e*P			**Pn**	**14 48 36.2**	**-0.9**
GO03				*e*S			**Sn**	**14 49 32.0**	**-1.2**
AHML	**Horco Molle**	**5.20**	**141**	*e*P			**Pn**	**14 48 39.1**	**-1.6**
LCO	**Las Campanas**	**6.41**	**194**	Pn			**Pn**	**14 48 54.6**	**-2.6**
LPAZ	**La Paz**	**6.50**	**7**	Pn			**Pn**	**14 49 00.0**	**+1.2**
LPAZ	**La Paz**	**6.50**	**7**	P			**Pn**	**14 48 59.5**	**+0.7**
comp=Z,2.5nm,0.3s,baz=198,slow=9.6,SNR=13									
LPAZ	**La Paz**	**6.50**	**7**	*e*P			**Pn**	**14 48 59.5**	**+0.7**
CO01	**Juntas del Tor**	**7.25**	**188**	Pn			**Pn**	**14 49 07.0**	**-1.5**
GO04	**Tololo Observa**	**7.55**	**192**	Pn			**Pn**	**14 49 10.3**	**-2.3**
CO03	**El Pedregal**	**8.18**	**190**	Pn			**Pn**	**14 49 17.9**	**-3.1**
BBSD	**Serra de San D**	**9.64**	**56**	*e*P			**Pn**	**14 49 37.4**	**-3.3**
SIV	**San Ignacio**	**10.06**	**49**	P			**Pn**	**14 49 42.9**	**-3.5**
comp=Z,6.2nm,0.5s,baz=248,slow=10,SNR=14									
SIV				S			Sn	14 51 26.8	-11
comp=Z,4.6nm,0.7s,baz=142,slow=23,SNR=3.3									
SIV				LR			LR	14 53 51.4	
comp=Z,143nm,18.2s,baz=106,slow=39									
CPUP	**Villa Florida**	**11.19**	**111**	P			**Pn**	**14 49 59.4**	**-2.1**
comp=Z,3.7nm,0.9s,baz=298,slow=14,SNR=4.7									
AQDB	**Aquidauana**	**12.57**	**82**	Pn			**Pn**	**14 50 21.2**	**+1.5**
VILB	**Vilhena**	**12.85**	**42**	*e*P			**Pn**	**14 50 21.9**	**-1.5**
SALV	**Santo Antonio**	**14.28**	**64**	*e*P			**Pn**	**14 50 40.0**	**-1.9**
PTGB	**Pitanga**	**15.62**	**100**	*e*P			**Pn**	**14 50 58.3**	**-0.4**
ITAB	**Concordia**	**15.91**	**110**	Pn			**P**	**14 51 02.2**	**-1.3**
ITAB				IAmb			IAmb	14 51 23.8	
comp=Z,37nm,1.5s									
PDRB	**Porto dos Gac**	**16.12**	**49**	*e*P			**Pn**	**14 51 03.5**	**-1.4**
TRQA	**Tornquist**	**16.38**	**160**	P			**P**	**14 51 12.2**	**+3.5**
TRQA				IAmb			IAmb	14 51 48.4	
comp=Z,17nm,1.3s									
LDASE	**Londrina, Braz**	**16.46**	**96**	*e*P			**Pn**	**14 51 07.8**	**-1.3**
ITRB	**Iturama**	**17.63**	**84**	*e*P			**P**	**14 51 21.7**	**-0.8**
ARAG	**Araguaiana, MT**	**17.67**	**70**	*e*P			**Pn**	**14 51 23.0**	**-0.7**
PLCA	**Paso Flores**	**17.96**	**184**	Pn			**Pn**	**14 51 27.9**	**+0.8**
LL04	**Puerto Octay**	**18.32**	**188**	Pn			**Pn**	**14 51 32.5**	**+1.3**
SNDB	**Serra Nova Dou**	**19.99**	**60**	*e*P			**P**	**14 51 46.2**	**-2.0**
IPMB	**Ipameri, GO**	**20.05**	**80**	*e*P			**P**	**14 51 49.3**	**+0.4**
VAO	**Valinhos**	**20.29**	**95**	P			**P**	**14 51 51.5**	**-0.1**
VAO	**Valinhos**	**20.29**	**95**	*e*P			**P**	**14 51 51.0**	**-0.5**
LL07	**Hotel Espejo d**	**20.36**	**190**	P			**P**	**14 51 50.9**	**-1.0**
NPGB	**Novo Progresso**	**20.41**	**42**	*e*P			Pn	14 51 53.4	-2.6
BDFB	**Brasilia**	**21.02**	**74**	P			**P**	**14 51 59.9**	**+0.4**
BDFB				IAmb			IAmb	14 52 02.5	
comp=Z,9.9nm,1.1s									
BDFB	**Brasilia**	**21.02**	**74**	P			**P**	**14 51 59.9**	**+0.4**
comp=Z,4.1nm,0.4s,baz=254,slow=11,SNR=8.3									
comp=Z,4.1nm,0.4s									
ITTB	**Itaituba**	**22.34**	**37**	*e*P			**P**	**14 52 12.5**	**-0.7**
MTO3	**Montecristo**	**41.98**	**330**				pP	14 55 35.5	+3.1
SNAA	**Sanae**	**61.11**	**161**	P			**P**	**14 57 28.0**	**+1.9**
comp=Z,0.5nm,0.6s,baz=297,slow=7.9,SNR=5.5									
comp=Z,0.5nm,0.6s									
QSPA	**South Pole Qui**	**67.43**	**180**	P			**P**	**14 58 10.7**	**+3.1**
QSPA				IAmb			IAmb	14 58 13.0	
comp=Z,8.1nm,1.2s									
QSPA	**South Pole Qui**	**67.43**	**180**	P			**P**	**14 58 09.9**	**+2.3**
comp=Z,2.1nm,0.5s,baz=316,slow=0.8,SNR=46									
comp=Z,2.1nm,0.5s									
TORD	**Torodi Ar. Bea**	**77.85**	**70**	P			**P**	**14 59 10.2**	**+0.3**
comp=Z,1.5nm,0.7s,baz=254,slow=5.2,SNR=8.1									
comp=Z,1.5nm,0.7s									
MKAR	**Makanchi Array**	**146.69**	**37**	PKPbc			**PKiKP**	**15 06 54.2**	**-1.2**
comp=Z,0.3nm,0.8s,baz=312,slow=2.4,SNR=1.4									
PZH	**PanZhiHua**	**170.79**	**64**	PKP			**PKPdf**	**15 07 19.6**	**0.0**

IDC 17 14:49:27.5±3.3, 12°.42N×125°.27E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=292.3km s-min=22.0km az=65.0, Samar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.38**	**164**	P			P	14 56 07.3	-0.5
0.3nm,0.7s,baz=344,slow=8.8,SNR=1.1									
0.3nm,0.7s									
ASAR	**Alice Springs**	**36.85**	**167**	P			P	14 56 37.9	+0.2
0.3nm,0.4s,baz=352,slow=7.1,SNR=9.0									
0.3nm,0.4s									
MKAR	**Makanchi Array**	**49.73**	**322**	P			P	14 58 21.6	0.0
0.5nm,0.6s,baz=119,slow=7.9,SNR=6.2									
0.5nm,0.6s									
KURBB	**Kurchatov Arra**	**53.75**	**325**	P			P	14 58 51.4	-0.2
0.7nm,0.5s,baz=125,slow=7.7,SNR=12									
0.7nm,0.5s									

IDC 17 14:58:09.1±1.6, 11°.50S×166°.93E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=49.9km s-min=36.9km az=135.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.42**	**251**	P			P	15 04 41.5	+0.3
0.4nm,0.9s,baz=84,slow=8.3,SNR=3.7									
0.4nm,0.9s									
ASAR	**Alice Springs**	**33.63**	**244**	P			P	15 04 51.1	-0.7
0.4nm,0.7s,baz=77,slow=9.8,SNR=5.7									
0.4nm,0.7s									
CMAR	**Chiang Mai Arr**	**73.35**	**293**	P			P	15 09 43.6	+0.2
0.5nm,0.7s,baz=132,slow=4.3,SNR=4.7									
0.5nm,0.7s									
QSPA	**South Pole Qui**	**78.51**	**180**	P			P	15 10 12.6	+0.4
0.9nm,0.9s,baz=252,slow=3.2,SNR=1.5									
0.9nm,0.9s									
ILAR	**Eielson Array**	**83.58**	**18**	P			P	15 10 38.6	-0.3
0.4nm,0.8s,baz=236,slow=6.1,SNR=2.2									
0.4nm,0.8s									

DRS 17 15:07:11.9, 43°.15N×46°.18E, h15km
NORS 17 15:07:11.6, 43°.18N×46°.21E, h14km, MPVA4.1
MOS 17 15:07:11.5, 43°.22N×46°.20E, h16km, MPVA4.1
TIF 17 15:07:12.1, 43°.22N×46°.12E, h17km±2km
ISC 17 15:07:12.3±1.0, 43°.24N±0°.02×46°.20E±0°.02, h17km±8km, n88, σ1=41/162, 2C-7D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.36**	**118**	*e*Pg			**Pb**	**15 07 20.2**	**0.0**
228nm,0.8s									
DLMR				*e*Sg			**Sb**	**15 07 26.2**	**+0.7**
4μm,0.4s									
DLMR	**Dylym**	**0.36**	**118**	*e*PG			**Pb**	**15 07 20.2**	**0.0**
DLMR				*e*S			**Sb**	**15 07 26.2**	**+0.7**
DLMR				pmax			pmax		
comp=Z,228nm,0.8s									
DBC	**Dubki**	**0.51**	**115**	*i* Pg			**Pb**	**15 07 22.6**	**-0.3**
comp=Z,146nm,0.1s									
DBC				*e*Sg			**Sb**	**15 07 30.6**	**+0.5**
comp=Z,713nm,0.4s									
DBC	**Dubki**	**0.51**	**115**	⇓*i*PG			**Pb**	**15 07 22.5**	**-0.3**
DBC				*e*S			**Sb**	**15 07 30.5**	**+0.5**
DBC				pmax			pmax		
comp=Z,146nm,0.2s									
BTLR	**Botlikh**	**0.58**	**178**	*i* Pg			**Pg**	**15 07 23.0**	**-0.8**
comp=Z,153nm,0.1s									
BTLR				*e*Sg			**Sb**	**15 07 31.2**	**-0.6**
comp=Z,1μm,0.2s									
BTLR	**Botlikh**	**0.58**	**178**	⇓*i*PG			**Pg**	**15 07 22.9**	**-0.8**
BTLR				*e*S			**Sb**	**15 07 31.2**	**-0.6**
BTLR				pmax			pmax		
comp=Z,153nm,0.1s									
KRNR	**Karanay**	**0.66**	**128**	*e*Pg			**Pb**	**15 07 25.0**	**-0.5**
comp=Z,79nm,0.6s									
KRNR				*e*Sg			**Sb**	**15 07 34.8**	**+0.4**
comp=Z,484nm,0.4s									
KRNR	**Karanay**	**0.66**	**128**	*e*PG			**Pb**	**15 07 24.9**	**-0.5**
KRNR				*e*S			**Sb**	**15 07 34.8**	**+0.4**
KRNR				pmax			pmax		
comp=Z,79nm,0.6s									
UNCR	**Uncukul**	**0.68**	**140**	*i* Pg			**Pb**	**15 07 25.2**	**-0.6**
comp=Z,103nm,0.4s									
UNCR				*e*Sg			**Sb**	**15 07 35.4**	**+0.4**
comp=Z,862nm,0.4s									
UNCR	**Uncukul**	**0.68**	**140**	⇓*i*PG			**Pb**	**15 07 25.1**	**-0.6**
UNCR				*e*S			**Sb**	**15 07 35.3**	**+0.4**
UNCR				pmax			pmax		
comp=Z,103nm,0.4s									
BUJR	**Buynaksk**	**0.79**	**122**	*e*Pg			**Pn**	**15 07 28.9**	**+0.2**
comp=Z,170nm,0.6s									
BUJR				*e*Sg			**Sn**	**15 07 41.0**	**+1.1**
comp=Z,2μm,0.5s									
BUJR	**Buynaksk**	**0.79**	**122**	*e*PG			**Pn**	**15 07 28.8**	**+0.2**
BUJR				*e*S			**Sn**	**15 07 41.0**	**+1.1**
BUJR				pmax			pmax		
comp=Z,170nm,0.6s									
ARKR	**Arakani**	**0.86**	**137**	*i* Pg			**Pn**	**15 07 29.0**	**-0.8**
comp=Z,43nm,0.2s									
ARKR				*e*Sg			**Sn**	**15 07 41.4**	**-0.6**
comp=Z,387nm,0.5s									
ARKR	**Arakani**	**0.86**	**137**	⇓*i*PG			**Pn**	**15 07 28.9**	**-0.8**
ARKR				*e*S			**Sn**	**15 07 41.3**	**-0.6**
ARKR				pmax			pmax		
comp=Z,43nm,0.2s									
KANR	**Karaman**	**0.94**	**92**	*e*Pg			**Pn**	**15 07 33.3**	**+2.6**
KANR				*i* Sg			**Sn**	**15 07 46.5**	**+2.8**
KANR	**Karaman**	**0.94**	**92**	*e*PG			**Pn**	**15 07 33.3**	**+2.6**
KANR				*i* S			**Sn**	**15 07 46.5**	**+2.8**
KMGR	**Komgaron**	**0.99**	**260**	*e*Pg			**Pb**	**15 07 30.8**	**-0.2**
KMGR				*e*Sg			**Sn**	**15 07 46.5**	**+1.4**
KMGR	**Komgaron**	**0.99**	**260**	*e*PG			**Pb**	**15 07 30.8**	**-0.2**
KMGR				*e*S			**Sn**	**15 07 46.5**	**+1.4**
MAK	**Makhachkala**	**1.00**	**106**	⇓*i*PG			**Pn**	**15 07 32.8**	**+1.4**
MAK				*e*				15 07 47.4	
MAK				pmax			pmax		
comp=Z,113nm,0.2s									
MAK				smax			smax		
comp=N,915nm,0.5s									
MAK				smax			smax		
comp=N,1μm,0.4s									
GNBR	**Gunib**	**1.02**	**146**	*e*Pg			**Pn**	**15 07 32.2**	**+0.4**
comp=N,108nm,0.6s									
GNBR				*e*Sg			**Sn**	**15 07 47.0**	**+1.2**
comp=N,1μm,0.6s									
GNBR	**Gunib**	**1.02**	**146**	*e*PG			**Pn**	**15 07 32.2**	**+0.4**
GNBR				*e*S			**Sn**	**15 07 47.0**	**+1.2**
GNBR				pmax			pmax		
comp=Z,108nm,0.6s									
VLKR	**Vladikavkaz**	**1.13**	**261**	*e*Pg			**Pg**	**15 07 34.2**	**0.0**
VLKR				*e*Sg			**Sg**	**15 07 51.5**	**+2.6**
VLKR	**Vladikavkaz**	**1.13**	**261**	*e*PG			**Pg**	**15 07 34.1**	**0.0**
VLKR				*e*S			**Sg**	**15 07 51.4**	**+2.4**
TRKR	**Terskaya**	**1.17**	**295**	*e*Pg			**Pb**	**15 07 34.2**	**+0.2**
TRKR				*e*Sg			**Sg**	**15 07 51.0**	**+0.7**
TRKR	**Terskaya**	**1.17**	**295**	*e*PG			**Pb**	**15 07 34.2**	**+0.2**
TRKR				*e*S			**Sg**	**15 07 51.0**	**+0.7**
BTKR	**Batakoyurt**	**1.22**	**277**	*e*Pg			**Pg**	**15 07 36.7**	**+0.9**
BTKR				*e*Sg			**Sg**	**15 07 53.2**	**+1.5**
BTKR	**Batakoyurt**	**1.22**	**277**	*e*PG			**Pg**	**15 07 36.7**	**+0.9**
BTKR				*e*S			**Sg**	**15 07 53.2**	**+1.5**
CHRG	**Chargali**	**1.31**	**226**	P			**Pb**	**15 07 35.8**	**-0.6**
CHRG				S			**Sn**	**15 07 52.9**	**-0.1**
SGKR	**Sergokala**	**1.33**	**126**	*e*Pg			**Pg**	**15 07 37.7**	**-0.2**
SGKR				*e*Sg			**Sg**	**15 07 56.5**	**+1.3**
SGKR	**Sergokala**	**1.33**	**126**	*e*PG			**Pg**	**15 07 37.7**	**-0.2**
SGKR				*e*S			**Sg**	**15 07 56.5**	**+1.3**
MTEO	**Meteo**	**1.34**	**246**	P			**Pn**	**15 07 36.4**	**-0.3**
MTEO				S			**Sn**	**15 07 54.4**	**+0.1**
ARNR	**Ardon**	**1.40**	**268**	*e*Pg			**Pb**	**15 07 37.6**	**-0.4**
ARNR				*e*Sg			**Sg**	**15 07 58.2**	**+0.6**
ARNR	**Ardon**	**1.40**	**268**	*e*PG			**Pb**	**15 07 37.6**	**-0.4**
ARNR				pmax			pmax		
comp=Z,13nm,0.1s									
LGD	**Lagodekhi**	**1.41**	**179**	P			**Pg**	**15 07 38.3**	**-1.0**
LGD				S			**Sg**	**15 07 57.1**	**-0.6**
LACR	**Lac**	**1.45**	**254**	*e*Pg			**Pb**	**15 07 38.2**	**-0.7**
LACR				*e*Sg			**Sg**	**15 07 58.1**	**-1.2**
LACR	**Lac**	**1.45**	**254**	*e*PG			**Pb**	**15 07 38.2**	**-0.7**
LACR				*e*S			**Sg**	**15 07 58.1**	**-1.2**
GUDG	**Gudauri**	**1.48**	**239**	*e*Pg			**Pb**	**15 07 39.0**	**-0.5**
GUDG				*e*Sg			**Sg**	**15 07 58.8**	**-1.5**
GUDG	**Gudauri**	**1.48**	**239**	*e*PG			**Pb**	**15 07 39.0**	**-0.5**
GUDG				*e*S			**Sg**	**15 07 58.8**	**-1.5**
PRTR	**Priterechnaya**	**1.49**	**291**	*e*Pg			**Pg**	**15 07 40.1**	**-0.9**
PRTR				*e*Sg			**Sg**	**15 08 00.6**	**+0.3**
PRTR	**Priterechnaya**	**1.49**	**291**	*e*PG			**Pg**	**15 07 40.0**	**-0.9**
PRTR				pmax			pmax		
comp=Z,578nm,1.8s									
URKR	**Urkarakh**	**1.51**	**135**	*e*Pg			**Pb**	**15 07 39.7**	**-0.2**
URKR				*e*Sg			**Sg**	**15 08 00.9**	**-0.1**
URKR	**Urkarakh**	**1.51**	**135**	*e*PG			**Pb**	**15 07 39.7**	**-0.2**
URKR				*e*S			**Sg**	**15 08 00.9**	**-0.1**
STDR	**Stavd-Durt**	**1.56**	**275**	*e*Pg			**Pg**	**15 07 41.4**	**-1.0**
STDR				*e*Sg			**Sg**	**15 08 04.8**	**+2.0**
STDR	**Stavd-Durt**	**1.56**	**275**	*e*PG			**Pg**	**15 07 41.4**	**-1.0**
STDR				*e*S			**Sg**	**15 08 04.8**	**+2.0**
KORR	**Kora**	**1.57**	**265**	*e*Pg			**Pg**	**15 07 41.6**	**-0.8**
KORR				*e*Sg			**Sg**	**15 08 02.0**	**-0.9**
KORR	**Kora**	**1.57**	**265**	*e*PG			**Pg**	**15 07 41.7**	**-0.8**
KORR				*e*S			**Sg**	**15 08 02.0**	**-0.9**
LSNR	**Lesken**	**1.73**	**272**	*e*Pg			**Pb**	**15 07 42.7**	**-1.0**
LSNR				*e*Sg			**Sb**	**15 08 06.2**	**+1.0**
LSNR	**Lesken**	**1.73**	**272**	*e*PN			**Pb**	**15 07 42.7**	**-1.0**
LSNR				*e*S			**Sb**	**15 08 06.2**	**+1.0**
TBLG	**Delisi**	**1.85**	**216**	P			**Pb**	**15 07 45.7**	**-0.1**
NCK	**Nalchik**	**1.92**	**279**	*e*Pg			**Pb**	**15 07 46.6**	**-0.2**
NCK				*e*Sg			**Sb**	**15 08 11.5**	**+1.1**
NCK	**Nalchik**	**1.92**	**279**	*e*PN			**Pb**	**15 07 46.6**	**-0.2**
NCK				*e*S			**Sb**	**15 08 11.5**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPN	**Las Esperanzas**	**1.04**	**154**	*i* P	Pg	15 12 43.8	-0.4
ESPN				*i* S	Sg	15 12 57.8	0.0
ESPN				IAML		15 13 00.2	
	comp=Z,900nm,1.0s						
ACON	**Acoyapa**	**1.23**	**199**	*i* P	Pg	15 12 46.3	-1.4
ACON				*i* S	Sg	15 13 02.2	-1.4
ACON				IAML		15 13 05.3	
	comp=Z,670nm,1.0s						
RCPN	**Sur Rio San Ju**	**1.34**	**287**	*i* P	Pn	15 12 48.0	-1.7
RCPN				IAML		15 12 49.1	
	comp=Z,11nm,1.0s						
RCPN				*i* S	Sg	15 13 05.9	-1.5
RCVN	**Varillal2**	**1.45**	**288**	*i* P	Pn	15 12 49.9	-1.4
RCVN				*i* S	Sb	15 13 08.9	-1.8
RCVN				IAML		15 13 10.3	
	comp=Z,15μm,1.0s						
SBEN	**San Benito**	**1.50**	**237**	*i* P	Pn	15 12 50.8	-1.0
SBEN				*i* S	Sn	15 13 10.8	-0.9
SBEN				IAML		15 14 14.7	
	comp=Z,4μm,1.0s						
LIMN	**Finca el Limon**	**1.55**	**267**	*i* P	Pn	15 12 51.6	-1.0
LIMN				*i* S	Sn	15 13 12.0	-1.2
LIMN				IAML		15 13 14.0	
	comp=Z,640nm,1.0s						
MGA1	**Managua**	**1.74**	**236**	*i* S	Sn	15 13 18.1	+0.4
MGAN	**Managua**	**1.74**	**236**	*i* P	Pn	15 12 55.0	-0.1
MGAN				*i* S	Sn	15 13 18.2	+0.5
MGAN				IAML		15 13 19.1	
	comp=Z,610nm,1.0s						
MAS3	**Al N del Volca**	**1.76**	**231**	*i* P	Pn	15 12 55.6	+0.2
MAS3				*i* S	Sn	15 13 18.6	+0.4
MAS3				IAML		15 13 24.8	
	comp=Z,760nm,1.0s						
NANN	**Nandasmo**	**1.77**	**228**	*i* P	Pb	15 12 56.6	-0.6
NANN				*i* S	Sb	15 13 19.9	+0.1
NANN				IAML		15 13 25.0	
	comp=Z,7μm,1.0s						
APQ2	**Apoyeque**	**1.78**	**239**	*i* S	Sb	15 13 19.7	-0.2
UNAN	**Cigeo UNAN**	**1.78**	**235**	*i* P	Pn	15 12 56.0	+0.3
UNAN				*i* S	Sb	15 13 19.4	-0.6
UNAN				IAML		15 13 23.3	
	comp=Z,4μm,1.0s						
MOM2	**El Cardon**	**1.81**	**248**	*i* P	Pn	15 12 56.6	+0.6
MOM2				*i* S	Sn	15 13 19.8	+0.5
MOM2				IAML		15 13 24.7	
	comp=Z,320nm,1.0s						
MOMN	**Momotombo**	**1.87**	**247**	*i* P	Pn	15 12 57.0	+0.1
MOMN				*i* S	Sn	15 13 20.8	-0.1
MOMN				IAML		15 13 24.8	
	comp=Z,15nm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.94**	**248**	*i* S	Sb	15 13 23.8	-0.8
YUSH	**Yuscaran**	**2.17**	**292**	*i* P	Pn	15 13 02.1	+1.0
YUSH				*i* S	Sn	15 13 29.2	+0.7
PKGN	**Cerro Pekin**	**2.20**	**258**	*i* P	Pb	15 13 03.1	-1.4
PKGN				*i* S	Sb	15 13 31.2	-0.8
PKGN				IAML		15 13 35.5	
	comp=Z,460nm,1.0s						

*NEIC **17** 15:13:37.3±0.4, 36°.79N±0°.01×98°.33W±0°.02, h3km±2km, mb_Lg2.8/4, ML2.3/28, ML2.7/20, Error ellipse: s-maj=2.2km s-min=1.3km az=119.0*

NEIC 17 15:13:37.4±0.5, 36°.785N±0°.010×98°.33W±0°.02, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.7km az=304.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN14	**Manchester OK**	**0.34**	**59**	Pg	Pg	15 13 44.2	+0.3
KAN14				Sg	Sg	15 13 49.5	+1.1
GC02	**Grant County #**	**0.38**	**80**		Pg	15 13 45.1	+0.4
GC02				Sg	Sg	15 13 50.9	+1.2
KAN10	**Anthony SW Sta**	**0.38**	**29**		Pg	15 13 45.1	+0.3
KAN10					Sg	15 13 50.9	+1.0
CROK	**Carrier**	**0.39**	**135**	Sg	Sg	15 13 51.4	+1.2
NOKA	**Waynoka**	**0.51**	**253**	Pg	Pg	15 13 47.0	-0.2
NOKA					Sg	15 13 54.9	+1.0
NOKA				IAML		15 13 57.1	
	comp=N,209nm,0.2s						
NOKA				IAML		15 13 57.1	
	comp=E,144nm,0.4s						
KAN17	**Caldwell West**	**0.52**	**60**		Pg	15 13 47.8	+0.4
KAN17					Sg	15 13 55.1	+1.0
KAN17				IAML		15 14 04.3	
	comp=N,234nm,0.3s						
KAN17				IAML		15 14 04.9	
	comp=E,209nm,0.3s						
KAN01	**Argonia South**	**0.58**	**51**		Pg	15 13 49.0	+0.3
KAN01				IAML		15 14 00.3	
	comp=E,165nm,3.0s						
KAN09	**Caldwell North**	**0.67**	**58**		Pg	15 13 50.3	+0.1
KAN13	**South Haven SW**	**0.72**	**71**		Pg	15 13 51.4	+0.2
KAN13				IAML		15 14 03.5	
	comp=N,134nm,0.2s						
BLOK	**Blackwell**	**0.89**	**91**		Pg	15 13 54.2	-0.3
BLOK				IAML		15 14 14.8	
	comp=E,98nm,0.2s						
OK048	**Pawnee Station**	**1.17**	**108**		Pg	15 13 59.4	-0.5
OK048					Sb	15 14 15.3	-0.3
OK048				IAML		15 14 19.4	
	comp=E,56nm,0.2s						
OK048				IAML		15 14 19.4	
	comp=E,61nm,0.3s						
OK029	**Liberty Lake**	**1.21**	**144**		Pg	15 14 00.4	-0.2
OK029					Sb	15 14 16.7	0.0
OK029				IAML		15 14 20.0	
	comp=E,53nm,0.3s						
OK029				IAML		15 14 21.1	
	comp=E,61nm,0.4s						
OK051	**E0350 and S346**	**1.23**	**103**		Pg	15 14 00.4	-0.6
QUOK	**Quay**	**1.44**	**115**		Pn	15 14 04.1	0.0
OK031	**S. Brethren Rd**	**1.46**	**124**		Pn	15 14 04.6	+0.2
OK052	**Battle Ridge R**	**1.46**	**122**		Pn	15 14 04.2	-0.2
T35A	**Sooner Cattle**	**1.46**	**84**		Pn	15 14 04.2	-0.2
R32A	**Long Quarter,**	**1.66**	**349**		Pb	15 14 08.2	-0.3
WMOK	**Wichita Mounta**	**2.08**	**190**	Pn	Pn	15 14 13.5	+0.6

*ATH **17** 15:16:16.9, 37°.54N×20°.73E, h16km±1km, ML3.3/16, Error ellipse: s-maj=1.7km s-min=0.7km az=32.0*
*THE **17** 15:16:16.8, 37°.53N×20°.73E, h15km, ML3.8/2, Error ellipse: s-maj=1.5km s-min=0.4km az=47.0*

ISC 17 15:16:16.6±1.2, 37°.53N±0°.05×20°.73E±0°.04, h17km±6km, n31, σ0°.44/48, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.15**	**27**	P	**Pg**	**15 16 20.8**	**0.0**
KRI1				S	**Sg**	**15 16 23.6**	**0.0**
	80μm,0.4s						
LTHK	**Lithakia**	**0.20**	**25**	P	**Pg**	**15 16 21.4**	**0.0**
LTHK				S	**Sg**	**15 16 24.8**	**0.0**
	27μm,0.2s						
LTHK	**Lithakia**	**0.20**	**25**	P	**Pg**	**15 16 21.4**	**0.0**
LTHK				S	**Sg**	**15 16 24.5**	**-0.3**
LTHK				AML	AML	15 16 24.9	
	comp=N,57876μm,0.3s						
LTHK				AML	AML	15 16 25.6	
	comp=E,44158μm,0.1s						
RTZL	**Ratzakli, Kefa**	**0.55**	**3**	P	**Pg**	**15 16 27.2**	**-0.3**
RTZL				S	**Sb**	**15 16 35.7**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.60**	**349**	P	**Pg**	**15 16 28.3**	**-0.2**
PSDA				S	**Sb**	**15 16 37.4**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.60**	**349**	P	**Pg**	**15 16 28.3**	**-0.2**
PSDA				S	**Sb**	**15 16 37.0**	**+0.3**
VLS	**Valsamata**	**0.66**	**350**	P	**Pg**	**15 16 29.1**	**-0.5**
VLS				S	**Sb**	**15 16 39.2**	**+0.7**
VLS	**Valsamata**	**0.66**	**350**	P	**Pg**	**15 16 29.0**	**-0.6**
VLS				S	**Sg**	**15 16 38.4**	**0.0**
VLS				AML	AML	15 16 40.3	
	comp=E,9863μm,0.2s						
VLS				AML	AML	15 16 40.6	
	comp=N,10321μm,0.1s						
DMLN	**Damoulianata-K**	**0.76**	**338**	P	**Pg**	**15 16 31.3**	**-0.3**
DMLN				S	**Sb**	**15 16 42.9**	**+1.4**
DMLN	**Damoulianata-K**	**0.76**	**338**	P	**Pg**	**15 16 31.1**	**-0.5**
DMLN				S	**Sb**	**15 16 42.2**	**+0.7**
AMT	**Artemida-Makis**	**0.78**	**89**	P	**Pg**	**15 16 31.4**	**-0.4**
AMT				S	**Sb**	**15 16 42.7**	**+0.8**
AMT				AML	AML	15 16 46.7	
	comp=N,19501μm,0.2s						
AMT				AML	AML	15 16 47.4	
	comp=E,16058μm,0.5s						
RLS	**Riolos of Patr**	**0.79**	**48**	P	**Pg**	**15 16 31.3**	**-0.7**
RLS	**Riolos of Patr**	**0.79**	**48**	P	**Pg**	**15 16 31.2**	**-0.7**
RLS				S	**Sg**	**15 16 42.4**	**0.0**
RLS				AML	AML	15 16 45.7	
	comp=N,1962μm,0.3s						
RLS				AML	AML	15 16 46.3	
	comp=E,2414μm,0.3s						
DRO	**Drossia**	**0.88**	**61**	P	**Pb**	**15 16 33.7**	**+0.2**
DRO	**Drossia**	**0.88**	**61**	P	**Pb**	**15 16 33.2**	**-0.3**
DRO				S	**Sb**	**15 16 45.1**	**+0.1**
DRO				AML	AML	15 16 50.1	
	comp=N,5104μm,0.3s						
DRO				AML	AML	15 16 51.0	
	comp=E,5868μm,0.3s						
FSK	**Fiskardo**	**0.94**	**352**	P	**Pb**	**15 16 34.0**	**-0.4**
FSK				AML	AML	15 16 52.1	
	comp=N,6596μm,0.6s						
FSK				AML	AML	15 16 53.2	
	comp=E,4047μm,0.5s						
ITM	**Ithomi**	**1.01**	**110**	P	**Pb**	**15 16 35.6**	**-0.1**
ITM	**Ithomi**	**1.01**	**110**	P	**Pb**	**15 16 35.4**	**-0.3**
ITM				S	**Sg**	**15 16 49.6**	**0.0**
ITM				AML	AML	15 16 55.8	
	comp=E,1534μm,0.4s						
ITM				AML	AML	15 16 56.7	
	comp=N,1080μm,0.4s						
PYL	**PYLOS**	**1.02**	**128**	P	**Pb**	**15 16 35.7**	**-0.2**
PYL	**PYLOS**	**1.02**	**128**	P	**Pb**	**15 16 35.6**	**-0.3**
PYL				S	**Sg**	**15 16 50.0**	**0.0**
PYL				AML	AML	15 16 53.6	
	comp=N,2015μm,0.5s						
PYL				AML	AML	15 16 55.1	
	comp=E,1878μm,0.6s						
EVGI	**Lefkada island**	**1.09**	**357**	P	**Pb**	**15 16 36.8**	**-0.2**
EVGI	**Lefkada island**	**1.09**	**357**	P	**Pb**	**15 16 36.4**	**-0.6**
DRAG	**Dragano-Lefkad**	**1.16**	**354**	P	**Pn**	**15 16 37.3**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.18**	**359**	P	**Pn**	**15 16 38.4**	**0.0**
KLV	**Kalavryta, Ach**	**1.24**	**65**	P	**Pn**	**15 16 39.3**	**+0.2**
KLV				S	**Sb**	**15 16 55.3**	**+0.1**
KLV				AML	AML	15 17 04.8	
	comp=E,499μm,0.4s						
KLV				AML	AML	15 17 05.1	
	comp=N,856μm,0.6s						
LKD2	**Lefkada island**	**1.26**	**357**	P	**Pb**	**15 16 40.1**	**+0.2**
LKD2				AML	AML	15 17 05.8	
	comp=E,2870μm,0.6s						
LKD2				AML	AML	15 17 05.9	
	comp=N,1856μm,0.7s						
EFP	**Efpalio**	**1.29**	**46**	P	**Pn**	**15 16 40.2**	**+0.3**
EFP				AML	AML	15 17 05.8	
	comp=E,1240μm,0.7s						
EFP				AML	AML	15 17 11.7	
	comp=N,752μm,0.7s						
TSLK	**Tsoukalades, L**	**1.30**	**357**	P	**Pn**	**15 16 39.9**	**0.0**
TSLK				AML	AML	15 17 04.4	
	comp=E,2232μm,0.6s						
TSLK				AML	AML	15 17 05.8	
	comp=N,2692μm,0.5s						
GUR	**Goura**	**1.34**	**72**	P	**Pn**	**15 16 40.9**	**+0.2**
GUR				S	**Sn**	**15 16 58.2**	**+0.1**
GUR				AML	AML	15 17 07.5	
	comp=E,2616μm,0.5s						
GUR				AML	AML	15 17 07.8	
	comp=N,1870μm,0.4s						
ANX	**Ano Chora**	**1.42**	**41**	P	**Pn**	**15 16 42.0**	**+0.3**
ANX				AML	AML	15 17 09.4	
	comp=E,1494μm,0.5s						
ANX				AML	AML	15 17 09.8	
	comp=N,2760μm,0.5s						
EVR	**Evrytania**	**1.62**	**31**	P	**Pb**	**15 16 45.9**	**-0.2**
EVR				AML	AML	15 17 24.6	
	comp=N,496μm,0.5s						
EVR				AML	AML	15 17 25.5	
	comp=E,782μm,0.6s						

*IDC **17** 15:23:12.3±4.7, 20°.63S×177°.94W, h434km±50km, mb3.1/9, mbtmp3.9/10, Error ellipse: s-maj=23.3km s-min=20.6km az=6.0*

ISC 17 15:23:17.9±0.7, 20°.8S±0°.2×178°.0W±0°.2, h500km, n14, σ1°.12/14, mb3.4/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.92**	**193**	P	**P**	**15 26 55.8**	**-1.5**
	2.8nm,0.3s,baz=343,slow=14,SNR=11						
ASAR	**Alice Springs**	**44.47**	**257**	P	**P**	**15 30 44.0**	**-0.3**
	1.4nm,0.7s,baz=95,slow=7.3,SNR=24						
ASAR				PcP	**PcP**	**15 32 17.9**	**+0.6**
	0.7nm,0.7s,baz=95,slow=4.3,SNR=7.1						
	1.4nm,0.7s						
WRA	**Warramunga Arr**	**44.58**	**262**	P	**P**	**15 30 44.1**	**-1.0**
	0.4nm,0.3s,baz=97,slow=7.5,SNR=21						
	0.4nm,0.3s						
QSPA	**South Pole Qui**	**69.28**	**180**	P	**P**	**15 33 35.4**	**+1.2**
	1.5nm,0.7s,baz=333,slow=0.9,SNR=15						
	1.5nm,0.7s						
PETK	**Petropavlovsk-**	**76.55**	**345**	P	**P**	**15 34 15.9**	**0.0**
	1.3nm,0.7s,baz=179,slow=8.6,SNR=1.1						
	1.3nm,0.7s						
NVAR	**Mina Array Bea**	**81.22**	**43**	P	**P**	**15 34 41.7**	**+0.3**
	0.2nm,0.5s,baz=223,slow=9.2,SNR=3.7						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**87.20**	**57**	P	**P**	**15 35 11.5**	**+0.5**
	0.3nm,0.7s,baz=226,slow=6.7,SNR=4.8						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**88.59**	**13**	P	**P**	**15 35 15.2**	**-1.3**
	0.3nm,0.5s,baz=217,slow=5.5,SNR=7.5						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**89.16**	**43**	P	**P**	**15 35 19.6**	**-0.4**
	0.3nm,0.7s,baz=262,slow=6.1,SNR=3.9						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**90.23**	**290**	P	**P**	**15 35 27.5**	**+2.3**
	0.7nm,0.7s,baz=101,slow=2.9,SNR=6.3						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**119.31**	**320**	PKP	**PKPdf**	**15 41 09.1**	**-0.6**
	0.4nm,0.3s,baz=95,slow=1.8,SNR=6.3						
AKASG	**Malin Array Be**	**143.28**	**331**	PKhKP	PKPpre	15 41 51.8	
	2.1nm,0.5s,baz=42,slow=4.2,SNR=17						
BRTR	**Keskin Array B**	**147.05**	**312**	PKPbc	**PKPbc**	**15 42 04.2**	**-0.4**
	1.0nm,0.7s,baz=136,slow=3.9,SNR=5.4						
MMAI	**Mount Meron Ar**	**147.97**	**299**	PKPbc	**PKiKP**	**15 42 07.8**	**-0.6**
	1.4nm,0.5s,baz=75,slow=6.1,SNR=5.5						

MEX 17 15:33:33.7±0.6, 16°.20N×98°.16W, h8km±11km, MD3.3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.20**	**9**	*i* P	Pg	15 33 35.5	-2.3
PNIG				*i* S	Sg	15 33 38.0	-2.6
PNIG	**Pinotepa**	**0.20**	**9**	*i* P	Pg	15 33 37.3	-0.5
PNIG				*i* S	Sg	15 33 40.5	0.0
YOIG	**Yosondua**	**0.88**	**42**	*e* P	Pg	15 33 46.2	-4.5
YOIG				*e* S	Sg	15 33 56.6	-5.7
YOIG	**Yosondua**	**0.88**	**42**	*e* P	Pg	15 33 49.1	-1.6
YOIG				*e* S	Sg	15 33 59.4	-2.9
TXIG	**Tlaxiaco**	**1.12**	**20**	*e* P	Pg	15 33 50.1	-5.1
TXIG				*e* S	Sg	15 34 03.3	-6.5
TXIG	**Tlaxiaco**	**1.12**	**20**	*e* P	Pg	15 33 52.4	-2.8
TXIG				*e* S	Sg	15 34 05.7	-4.1

*NOU **17** 15:36:58.5, 37°.51S×177°.91E, h163km, MLv4.0/11, Off E. Coast of N. Island, N.Z.*
*IDC **17** 15:37:00.1±3.2, 37°.07S×177°.60E, h90km±21km, mb3.7/6, mbtmp4.0/6, Error ellipse: s-maj=44.4km s-min=20.3km az=55.0*
*WEL **17** 15:37:04.9±0.7, 37°.5S±5°.×17°.8E±°, h93km±6km, M3.8/96, ML3.9/43, MLv3.8/96, Error ellipse: s-maj=7.1km s-min=4.4km az=43.0, confirmed*

ISC 17 15:37:03.9±0.7, 37°.54S±0°.05×177°.52E±0°.04, h123km±5km, n187, σ1°.76/171, mb3.9/7, 3C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.26**	**273**	P	**Pn**	**15 37 19.3**	**-1.7**
WIZ				S	**Sn**	**15 37 31.2**	**-2.7**
WSRZ	**White Island S**	**0.27**	**275**	P	**Pn**	**15 37 19.8**	**-1.3**
HAZ	**Te Kaha**	**0.30**	**136**	P	**Pn**	**15 37 19.9**	**-1.3**
HAZ				S	**Sn**	**15 37 32.1**	**-2.1**
RUGZ	**Raukumara Rang**	**0.44**	**163**	P	**Pn**	**15 37 20.7**	**-1.3**
RUGZ				S	**Sn**	**15 37 33.3**	**-2.4**
WHRZ	**Whale Island**	**0.53**	**234**	P	**Pn**	**15 37 21.9**	**-0.5**
MXZ	**Matakaoa Point**	**0.63**	**92**	P	**Pn**	**15 37 21.9**	**-1.1**
MXZ				S	**Sn**	**15 37 36.3**	**-1.1**
MXZ	**Matakaoa Point**	**0.63**	**92**	P	**Pn**	**15 37 21.7**	**-1.3**
TWGZ	**Tauwhareparae**	**0.73**	**150**	P	**Pn**	**15 37 24.1**	**+0.2**
WMGZ	**Waiomatatini S**	**0.76**	**112**	P	**Pn**	**15 37 23.5**	**-0.5**
WMGZ				S	**Sn**	**15 37 38.9**	**-0.4**
URZ	**Urewera**	**0.79**	**204**	P	**Pn**	**15 37 23.9**	**-0.4**
	342nm,0.3s,baz=344,slow=5.9,SNR=2679						
URZ				S	**Sn**	**15 37 39.5**	**-0.1**
	886nm,0.3s,baz=195,slow=21,SNR=22						
URZ	**Urewera**	**0.79**	**204**	P	**Pn**	**15 37 24.2**	**-0.1**
URZ				S	**Sn**	**15 37 39.6**	**-0.1**
URZ	**Urewera**	**0.79**	**204**	P	**Pn**	**15 37 24.0**	**-0.2**
PUZ	**Puketiti**	**0.79**	**132**	P	**Pn**	**15 37 23.9**	**-0.4**
MWZ	**Matawai**	**0.79**	**179**	P	**Pn**	**15 37 24.3**	**0.0**
MWZ				S	**Sn**	**15 37 39.7**	**-0.1**
OPRZ	**Ohinepanea**	**0.82**	**248**	P	**Pn**	**15 37 24.2**	**-0.4**
OPRZ				S	**Sn**	**15 37 39.3**	**-0.9**
EDRZ	**Edgecumbe**	**0.83**	**227**	P	**Pn**	**15 37 24.8**	**+0.1**
TKGZ	**Te Karaka**	**0.93**	**164**	P	**Pn**	**15 37 25.7**	**+0.2**
TKGZ				S	**Sn**	**15 37 42.2**	**+0.3**
RAGZ	**Rawiri**	**0.96**	**185**	P	**Pn**	**15 37 26.5**	**+0.6**
LIRZ	**Lichensteins R**	**1.01**	**242**	P	**Pn**	**15 37 26.5**	**+0.2**
TGRZ	**Tauranga**	**1.01**	**259**	P	**Pn**	**15 37 25.9**	**-0.4**
MKRZ	**Makatiti**	**1.02**	**234**	P	**Pn**	**15 37 27.4**	**+0.9**
MYRZ	**Mayor Island**	**1.05**	**284**	P	**Pn**	**15 37 25.9**	**-0.8**
TARZ	**Mount Tarawera**	**1.06**	**229**	P	**Pn**	**15 37 27.5**	**+0.6**
OMRZ	**Omania**	**1.07**	**238**	P	**Pn**	**15 37 27.1**	**+0.2**
CNGZ	**Carnagh Statio**	**1.09**	**150**	P	**Pn**	**15 37 27.5**	**+0.5**
MUGZ	**Murupara**	**1.10**	**212**	P	**Pn**	**15 37 27.5**	**+0.3**
KARZ	**Kaharoa**	**1.12**	**244**	P	**Pn**	**15 37 27.5**	**+0.1**
RRRZ	**Republican Roa**	**1.12**	**225**	P	**Pn**	**15 37 28.0**	**+0.6**
RTZ	**Ruatahuna**	**1.15**	**201**	P	**Pn**	**15 37 27.9**	**+0.1**
HLRZ	**Highlands Stat**	**1.16**	**232**	P	**Pn**	**15 37 28.3**	**+0.4**
RIGZ	**Rimuhau**	**1.18**	**171**	P	**Pn**	**15 37 28.3**	**+0.3**
NGRZ	**Ngongotaha**	**1.19**	**242**	P	**Pn**	**15 37 28.8**	**+0.6**
UTU	**Utuhina**	**1.22**	**238**	P	**Pn**	**15 37 29.7**	**+1.2**
SNGZ	**Shannon Statio**	**1.25**	**186**	P	**Pn**	**15 37 29.1**	**+0.4**
HSRZ	**Hossack Road**	**1.27**	**232**	P	**Pn**	**15 37 30.0**	**+1.0**
KMRZ	**Kaimai**	**1.29**	**256**	P	**Pn**	**15 37 29.2**	**0.0**
HRRZ	**Handcock Road**	**1.29**	**229**	P	**Pn**	**15 37 30.1**	**+0.8**
PRRZ	**Plateau Road**	**1.30**	**223**	P	**Pn**	**15 37 30.0**	**+0.6**
GRRZ	**Galatos Road**	**1.37**	**234**	P	**Pn**	**15 37 31.1**	**+0.9**
ALRZ	**Allen Road**	**1.38**	**222**	P	**Pn**	**15 37 30.8**	**+0.7**
PRGZ	**Paritu Road**	**1.41**	**168**	P	**Pn**	**15 37 30.5**	**0.0**
MTHZ	**Maungataniwha**	**1.41**	**202**	P	**Pn**	**15 37 30.8**	**+0.2**
RAHZ	**Arahi**	**1.41**	**194**	P	**Pn**	**15 37 31.2**	**+0.6**
WPRZ	**Whakapapatarin**	**1.45**	**227**	P	**Pn**	**15 37 31.9**	**+1.0**
KNZ	**Kokohu**	**1.48**	**175**	P	**Pn**	**15 37 31.4**	**+0.1**
WHHZ	**Waihua**	**1.55**	**188**	P	**Pn**	**15 37 32.7**	**+0.6**
MRHZ	**Matea Rd**	**1.55**	**214**	P	**Pn**	**15 37 32.5**	**+0.3**
TOZ	**Tahuroa Road**	**1.61**	**263**	P	**Pn**	**15 37 33.1**	**+0.3**
MHGZ	**Mahia Peninsul**	**1.64**	**169**	P	**Pn**	**15 37 33.5**	**+0.4**
KUTZ	**Kaahu Road**	**1.64**	**234**	P	**Pn**	**15 37 34.3**	**+1.1**
KUZ	**Kuaotunu**	**1.64**	**298**	P	**Pn**	**15 37 31.7**	**-1.4**
KUZ	**Kuaotunu**	**1.64**	**298**	P	**Pn**	**15 37 31.4**	**-1.8**
NMHZ	**Naumai**	**1.65**	**200**	P	**Pn**	**15 37 34.3**	**+0.9**
WHTZ	**Whakaora**	**1.67**	**227**	P	**Pn**	**15 37 35.0**	**+1.5**
TLZ	**Tolley Road**	**1.75**	**243**	P	**Pn**	**15 37 35.3**	**+0.8**
HATZ	**Hinemaiaia**	**1.75**	**219**	P	**Pn**	**15 37 35.1**	**+0.6**
ARHZ	**Aropaoanui**	**1.77**	**193**	P	**Pn**	**15 37 35.2**	**+0.5**
BKZ	**Black Stump Fm**	**1.81**	**206**	P	**Pn**	**15 37 35.3**	**+0.1**
BKZ	**Black Stump Fm**	**1.81**	**206**	P	**Pn**	**15 37 35.0**	**-0.3**
WATZ	**Wairara**	**1.83**	**230**	P	**Pn**	**15 37 36.5**	**+1.1**
RATZ	**Rangitukua**	**1.91**	**226**	P	**Pn**	**15 37 37.7**	**+1.2**
MKAZ	**Moumakai**	**1.93**	**282**	P	**Pn**	**15 37 36.4**	**-0.2**
RITZ	**Rihia Road**	**1.94**	**222**	P	**Pn**	**15 37 37.9**	**+1.1**
MCHZ	**McNeill Hill**	**2.01**	**198**	P	**Pn**	**15 37 37.9**	**+0.3**
KATZ	**Kakaramea**	**2.03**	**225**	MLv			
WIAZ	**Waiheke Island**	**2.04**	**291**	P	**Pn**	**15 37 37.6**	**-0.5**
KWHZ	**Kaweka Forest**	**2.07**	**204**	P	**Pn**	**15 37 38.4**	**0.0**
GRZ	**Great Barrier**	**2.10**	**307**	P	**Pn**	**15 37 37.4**	**-1.3**
TMVZ	**Te Maari**	**2.12**	**222**	P	**Pn**	**15 37 39.8**	**+0.7**
NTVZ	**North Tongarir**	**2.12**	**222**	P	**Pn**	**15 37 40.6**	**+1.4**
ETVZ	**East Tongariro**	**2.13**	**221**	P	**Pn**	**15 37 39.8**	**+0.5**
KRVZ	**Karewarewa**	**2.14**	**223**	P	**Pn**	**15 37 40.5**	**+1.1**
CKHZ	**Cape Kidnapper**	**2.14**	**189**	P	**Pn**	**15 37 39.2**	**-0.1**
KBAZ	**Karaka Road Bo**	**2.14**	**281**	MLv			
ETAZ	**East Tamaki Re**	**2.15**	**285**	P	**Pn**	**15 37 39.5**	**+0.1**
OTVZ	**Oturere**	**2.18**	**221**	P	**Pn**	**15 37 40.7**	**+0.8**
NNVZ	**North Ngauruho**	**2.18**	**223**	P	**Pn**	**15 37 40.8**	**+0.9**
WTVZ	**West Tongariro**	**2.18**	**223**	P	**Pn**	**15 37 40.6**	**+0.7**
SNVZ	**South Ngauruho**	**2.21**	**221**	P	**Pn**	**15 37 41.2**	**+0.9**
NGZ	**Ngauruhoe**	**2.22**	**222**	P	**Pn**	**15 37 41.4**	**+1.0**
MBAZ	**Motutapu North**	**2.23**	**289**	P	**Pn**	**15 37 40.2**	**-0.1**
TWVZ	**Taurewa**	**2.24**	**226**	P	**Pn**	**15 37 41.4**	**+0.8**
TUVZ	**Tukino**	**2.26**	**220**	P	**Pn**	**15 37 41.2**	**+0.3**
COVZ	**Chateau Observ**	**2.27**	**223**	P	**Pn**	**15 37 42.0**	**+1.0**
KRHZ	**Kereru**	**2.28**	**203**	MLv			
FWVZ	**Far West T-bar**

THZ	Tophouse	5.52 219	P	Pn	15 38 20.8	-3.1
THZ	Tophouse	5.52 219	MLv			
KHZ	Kahutara	5.75 211	P	Pn	15 38 23.3	-3.6
KHZ	Kahutara	5.75 211	P	Pn	15 38 23.9	-3.0
DSZ	Denniston Nort	6.09 225	P	Pn	15 38 28.1	-3.4
GVZ	Greta Valley S	6.41 211	P	Pn	15 38 31.7	-4.2
LTZ	Lake Taylor	6.60 216	P	Pn	15 38 34.3	-4.1
AMCZ	Amberley	6.74 212	P	Pn	15 38 37.8	-2.5
INZ	Inchbonnie	6.96 220	P	Pn	15 38 39.7	-3.6
OKCZ	Okains Bay	7.04 207	P	Pn	15 38 39.9	-4.5
OXZ	Oxford	7.13 214	P	Pn	15 38 41.8	-3.8
MQZ	McQueen's Vall	7.18 209	P	Pn	15 38 40.5	-5.7
AKCZ	Akaroa Harbour	7.23 208	P	Pn	15 38 42.6	-4.3
MHCZ	Mount Hutt	7.50 215	P	Pn	15 38 44.5	-6.1
CTZ	Chatham Island	7.62 146	P	Pn	15 38 52.8	+0.6
WACZ	Wakanui South	7.71 212	P	Pn	15 38 49.5	-3.8
RPZ	Rata Peaks	7.88 217	P	Pn	15 38 52.5	-3.2
	2.0nm,0.4s,baz=220,slow=7.9,SNR=1.2					
RPZ			S	Sn	15 40 16.0	-7.3
	11nm,0.4s,baz=307,slow=24,SNR=14					
ARCZ	Arundel	8.00 215	P	Pn	15 38 53.9	-3.5
ASAR	Alice Springs	39.66 278	P	P	15 44 23.9	-0.1
	1.1nm,0.6s,baz=118,slow=6.1,SNR=59					
ASAR			PcP	PcP	15 46 26.8	-1.7
	0.6nm,0.4s,baz=120,slow=3.9,SNR=11					
	1.1nm,0.6s					
WRA	Warramunga Arr	41.32 283	P	P	15 44 37.3	-0.4
	1.1nm,0.5s,baz=121,slow=8.2,SNR=28					
WRA			PcP	PcP	15 46 33.4	-0.5
	0.4nm,0.9s,baz=129,slow=2.5,SNR=2.6					
	1.1nm,0.5s					
QSPA	South Pole Qui	52.58 180	P	P	15 46 07.8	+3.1
	1.8nm,1.0s,baz=188,slow=0.7,SNR=10.0					
	1.8nm,1.0s					
MAW	Mawson	64.31 203	P	P	15 47 26.9	+1.1
	1.2nm,0.6s,baz=214,slow=1.9,SNR=2.6					
	1.2nm,0.6s					
TROLL	Troll, Antarti	70.69 182	⇑P	P	15 48 09.9	+3.9
	comp=Z,19nm,0.2s					
SNAA	Sanae	71.09 180	⇑P	P	15 48 11.7	+3.4
	comp=Z,14nm,0.3s					
SNAA	Sanae	71.09 180	P	P	15 48 12.5	+4.2
	comp=Z,0.6nm,0.3s,baz=214,slow=8.9,SNR=16					
	comp=Z,0.6nm,0.3s					
VNA3	Neumayer Olymp	71.40 178	⇑P	P	15 48 14.4	+4.2
	comp=Z,3.5nm,0.6s					
H03N3	Juan Fernandez	79.80 124	T	T	17 15 49.9	
	baz=234,slow=72,SNR=3.2					
H03N2	Juan Fernandez	79.80 124	T	T	17 15 48.7	
	baz=234,slow=72,SNR=3.2					
H03N1	Juan Fernandez	79.81 124	T	T	17 15 49.1	
	baz=234,slow=72,SNR=3.4					
CMAR	Chiang Mai Arr	92.38 291	P	P	15 50 00.6	-0.2
	comp=Z,0.5nm,0.6s,baz=133,slow=3.8,SNR=5.2					
	comp=Z,0.5nm,0.6s					
BVAR	Borovoye Array	128.68 312	PKP	PKPdf	15 55 55.2	-0.7
	comp=Z,0.2nm,0.4s,baz=85,slow=3.0,SNR=1.6					
ARCES	ARCESS Array B	144.57 343	PKP	PKPab	15 56 22.7	-0.9
	comp=Z,5.0nm,1.0s,baz=318,slow=1.2,SNR=13					
MMAI	Mount Meron Ar	148.89 273	PKPbc	PKPbc	15 56 37.0	-0.3
	comp=Z,1.4nm,0.5s,baz=71,slow=6.4,SNR=7.2					
FINES	FINESS Array B	150.18 332	PKPbc	PKPbc	15 56 37.8	-1.6
	comp=Z,7.4nm,1.1s,baz=101,slow=3.9,SNR=15					
BRTR	Keskin Array B	151.81 286	PKPbc	PKPbc	15 56 42.8	-1.4
	comp=Z,0.3nm,0.3s,baz=152,slow=5.2,SNR=4.4					

*TEH **17** 15:41:20.8, 34.°54N×45.°36E, h18km±19km, ML2.9*
*ISN **17** 15:41:22.0±0.4, 34.°53N×45.°38E, h18km±39km, ML2.8*
ISC 17 15:41:21.4±1.3, 34.°57N±0.°05×45.°38E±0.°07, h10km, n17, σ0°77/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.18	111	Pg	Pg	15 41 25.7	+0.4
GLG1	Gilan-e-Gharb	0.63	136	Pg	Pg	15 41 33.2	-0.4
IDHR	Dehrash	0.84	81	Pg	Pg	15 41 37.3	-0.3
IGHG	Ghaleghazi	1.01	104	Pg	Pg	15 41 40.9	0.0
ILBA	Ilam Banvizeh	1.17	144	Pg	Pb	15 41 42.3	-1.4
ILIN	Lien	1.35	75	Pg	Pn	15 41 47.0	+0.5
KCHF	Cheshme Sefid,	1.40	102	Pg	Pn	15 41 47.6	+0.4
IBDR	Badra	1.53	162	*e*Pn	Pn	15 41 49.5	+0.8
IBDR				*e*Sn	Sb	15 42 10.0	+0.8
IBDR				AML	AML	15 42 12.6	
	comp=E,192nm,1.0s						
IBDR				AML	AML	15 42 21.9	
	comp=N,154nm,0.4s						
BHD	Baghdad	1.54	213	*e*Pg	Pn	15 41 49.0	+0.1
BHD				*e*Sg	Sn	15 42 08.5	-0.5
SNQR	Sonqor, Kerman	1.87	81	Pn	Pn	15 41 53.8	+0.1
IBZA	Bozab	2.05	92	Pn	Pn	15 41 56.9	+0.7
MAHB	Mahabad	2.21	7	Pn	Pn	15 41 59.1	+0.9
IKFM	Kafar-mosalman	2.30	116	Pn	Pn	15 42 00.6	+1.3
HSAM	Samen	2.69	97	Pn	Pn	15 42 05.3	+0.3
RAFI	Al-Rafai	2.91	168	*e*Pn	Pn	15 42 09.0	+1.3
RAFI				*e*Sn	Sn	15 42 43.0	+0.3
BDRS	Dareh Seyedi	2.96	101	Pn	Pn	15 42 08.6	-0.1
HAGD	Aghdareh	3.11	84	Pn	Pn	15 42 11.4	+0.7

*NEIC **17** 15:43:35.8±2.1, 17.°9S±0.°1×178.°0W±0.°1, h582km±7km, mb4.1/36, Error ellipse: s-maj=21.2km s-min=17.9km az=123.0*
*IDC **17** 15:43:36.0±2.4, 17.°96S×178.°06W, h585km±27km, mb3.4/14, mbtmp4.3/15, Error ellipse: s-maj=16.2km s-min=12.1km az=140.0*
ISC 17 15:43:36.0±0.5, 17.°93S±0.°09×178.°02W±0.°10, h590km, n85, σ0°93/86, mb4.1/30, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	Fugatoga	3.60	358	P	P	15 44 55.6	-2.5
MSVF	Nonsavu	3.75	272	P	P	15 44 59.5	+0.4
DZM	Mont Dzumac	15.17	252	P	P	15 46 46.9	+0.7
	3.1nm,0.8s,baz=99,slow=19,SNR=1.8						
URZ	Urewera	20.70	191	P	P	15 47 32.6	-3.6
	6.0nm,0.3s,baz=359,slow=3.0,SNR=16						
RPZ	Rata Peaks	27.31	197	P	P	15 48 34.0	-0.8
	9.4nm,0.9s,baz=9.5,slow=12,SNR=1.2						
	9.4nm,0.9s						
PMG	Port Moresby	34.83	279		P	15 49 39.6	+0.4
TOO	Toolangi	37.44	231	P	P	15 50 00.3	-0.2
COEN	Coen	37.48	270	P	P	15 50 01.4	+0.4
STKA	Stephens Creek	38.95	241	P	P	15 50 12.9	+0.2
	1.1nm,0.4s,baz=271,slow=12,SNR=2.4						
	1.1nm,0.4s						
BBOO	Buckleboo	43.72	241	P	P	15 50 48.9	-1.4
BBOO				IAmb	IAmb	15 50 58.0	
	comp=Z,8.1nm,1.0s						
WB0	Warramunga Arr	44.96	260	P	P	15 50 59.9	-0.1
WB0				IAmb	IAmb	15 51 00.4	
	comp=Z,3.5nm,0.6s						
WB2	Warramunga Arr	44.98	260	P	P	15 50 59.7	-0.5
WRA	Warramunga Arr	44.99	260	P	P	15 50 58.9	-1.4
WRA	Warramunga Arr	44.99	260	P	P	15 50 59.8	-0.5
	comp=Z,1.7nm,0.5s,baz=95,slow=7.3,SNR=67						
WRA				PcP	PcP	15 52 28.6	+0.1
	comp=Z,0.4nm,0.4s,baz=91,slow=3.6,SNR=6.5						
	comp=Z,1.7nm,0.5s						
AS31	Alice Springs	45.14	254		P	15 51 01.4	+0.1
ASAR	Alice Springs	45.14	254	P	P	15 51 00.2	-1.2
ASAR	Alice Springs	45.14	254	P	P	15 51 01.4	0.0
	comp=Z,6.0nm,0.8s,baz=88,slow=8.4,SNR=128						
ASAR				PcP	PcP	15 52 29.4	+0.4
	comp=Z,0.8nm,0.4s,baz=99,slow=3.9,SNR=11						
ASAR				S	S	15 56 58.9	-0.1
	comp=Z,1.4nm,0.9s,baz=91,slow=16,SNR=9.2						
	comp=Z,6.0nm,0.8s						
MTN	Manton Dam	49.17	268	P	P	15 51 31.2	-0.3
MTN				IAmb	IAmb	15 51 32.3	
	comp=Z,5.2nm,0.8s						
KNRA	Kununurra	50.86	264	P	P	15 51 42.9	-0.9
KNRA				IAmb	IAmb	15 51 51.7	
	comp=Z,4.2nm,0.9s						
FITZ	Fitzroy Crossi	53.39	260	P	P	15 52 01.4	-0.5
SBA	Scott Base	60.42	184	P	P	15 52 50.6	+1.8
MJAR	Matsushiro Arr	68.15	323	P	P	15 53 38.2	-0.1
	comp=Z,2.6nm,0.6s,baz=160,slow=5.8,SNR=15						
	comp=Z,2.6nm,0.6s						
MAJO	Matsushiro	68.15	323	P	P	15 53 38.1	-0.2
MAJO				IAmb	IAmb	15 53 40.1	
	comp=Z,6.3nm,0.9s						
UGM	Wanagama	70.02	268	P	P	15 53 49.5	-0.5
QSPA	South Pole Qui	72.12	180	P	P	15 54 02.2	+0.7
QSPA				IAmb	IAmb	15 54 02.6	
	comp=Z,4.9nm,0.7s						
QSPA	South Pole Qui	72.12	180	P	P	15 54 02.0	+0.6
	comp=Z,4.0nm,0.6s,baz=320,slow=0.5,SNR=42						
	comp=Z,4.0nm,0.6s						
SSLB	Suanglung	72.56	303	P	P	15 54 03.4	-1.2
PET	Petropavlovsk	73.49	346	P	P	15 54 08.9	-0.2
PETK	Petropavlovsk-	73.80	345	P	P	15 54 10.2	-0.8
PETK	Petropavlovsk-	73.80	345	P	P	15 54 11.6	+0.6
	comp=Z,4.5nm,0.7s,baz=107,slow=6.8,SNR=11						
	comp=Z,4.5nm,0.7s						
S12K	Black Hills	74.58	9	P	P	15 54 14.4	-0.9
KSRS	Korea Array	74.97	318	P	P	15 54 18.4	+0.6
	comp=Z,0.7nm,0.7s,baz=133,slow=6.4,SNR=5.5						
	comp=Z,0.7nm,0.7s						
WAKR	Walker	78.48	43	P	P	15 54 38.3	+1.0
WAKR				IAmb	IAmb	15 54 39.6	
	comp=Z,3.9nm,0.9s						
PNTR	Pine Nut	78.70	43	P	P	15 54 39.8	+1.3
PNTR				IAmb	IAmb	15 54 40.7	
	comp=Z,8.0nm,0.9s						
YERR	Yerington	78.88	43	P	P	15 54 40.0	+0.6
YERR				IAmb	IAmb	15 54 41.2	
	comp=Z,3.4nm,0.7s						
NVAR	Mina Array Bea	79.18	44	P	P	15 54 41.9	+0.8
	comp=Z,1.8nm,0.7s,baz=226,slow=8.4,SNR=14						
	comp=Z,1.8nm,0.7s						
J05D	Fort Rock, OR	80.11	38	P	P	15 54 45.6	0.0
J05D				IAmb	IAmb	15 54 47.9	
	comp=Z,7.5nm,0.7s						
M16K	Timber Creek	80.16	9	P	P	15 54 46.2	+1.0
M16K				IAmb	IAmb	15 54 47.2	
	comp=Z,6.2nm,0.8s						
PINE	Pine Mountain	80.58	38	P	P	15 54 48.2	+0.1
PINE				IAmb	IAmb	15 54 50.5	
	comp=Z,8.4nm,1.0s						
I07A	Izee	81.59	38	P	P	15 54 53.3	+0.1
I07A				IAmb	IAmb	15 54 55.4	
	comp=Z,4.8nm,0.8s						
BELA	Belgrano 2	82.10	173	P	P	15 54 54.2	-0.9
BELA				IAmb	IAmb	15 54 56.0	
	comp=Z,3.8nm,0.9s						
U15A	North Rim	82.26	48	P	P	15 54 57.5	+0.5
U15A				IAmb	IAmb	15 54 59.6	
	comp=Z,4.7nm,0.8s						
ELK	Elko	82.42	43	P	P	15 54 56.7	-1.0
G08A	Pilot Rock	82.60	38	P	P	15 54 59.6	+1.3
LTY	Liberty	82.77	35	IAmb	IAmb	15 55 02.0	
	comp=Z,5.6nm,0.5s						
J18K	Innoko River	82.82	9	P	P	15 54 59.4	+0.6
CAST	Castle Rocks	83.58	11	IAmb	IAmb	15 55 02.7	
	comp=Z,4.9nm,0.7s						
IMAR	Indian Mountai	85.64	10	P	P	15 55 12.5	-0.1
TXAR	Lajitas Array	85.69	57	P	P	15 55 15.7	+1.9
	comp=Z,1.9nm,0.8s,baz=217,slow=5.9,SNR=17						
	comp=Z,1.9nm,0.8s						
ILAR	Eielson Array	85.83	13	P	P	15 55 12.9	-0.6
	comp=Z,0.8nm,0.4s,baz=221,slow=5.2,SNR=42						
	comp=Z,0.8nm,0.4s						
PDAR	Pinedale Array	87.11	43	P	P	15 55 20.8	+0.4
	comp=Z,0.9nm,0.7s,baz=236,slow=3.6,SNR=8.9						
	comp=Z,0.9nm,0.7s						
CMAR	Chiang Mai Arr	89.24	290	P	P	15 55 32.3	+1.8
	comp=Z,1.0nm,0.8s,baz=116,slow=2.4,SNR=9.8						
	comp=Z,1.0nm,0.8s						
SNAA	Sanae	90.57	178	P	P	15 55 35.4	-0.4
SNAA	Sanae	90.57	178	P	P	15 55 35.2	-0.5
	comp=Z,0.5nm,0.6s,baz=223,slow=10,SNR=5.7						
	comp=Z,0.5nm,0.6s						
G31M	Satah River	90.58	16	P	P	15 55 35.1	-0.5
F31M	Tsiigehtchic	91.11	16	P	P	15 55 38.3	+0.4
MKAR	Makanchi Array	109.42	314	PKiKP	PKiKP	16 00 59.0	-1.1
	comp=Z,0.4nm,0.5s,baz=243,slow=0.5,SNR=5.4						
BVAR	Borovoye Array	117.10	321	PKP	PKPdf	16 01 14.1	-0.4
	comp=Z,0.9nm,0.4s,baz=76,slow=1.6,SNR=6.2						
ARCES	ARCESS Array B	126.40	350	PKP	PKPdf	16 01 31.8	-0.2
	comp=Z,6.5nm,0.9s,baz=50,slow=2.8,SNR=4.6						
NOA	NORSAR Array B	136.44	353	PKP	PKPdf	16 01 50.3	-0.8
	comp=Z,0.2nm,0.4s,baz=18,slow=3.5,SNR=2.2						
AKASG	Malin Array Be	140.75	333	PKhKP	PKPpre	16 01 53.6	
	comp=Z,0.3nm,0.4s,baz=87,slow=0.9,SNR=4.4						
AKASG				PKP	PKiKP	16 02 01.3	-0.8
	comp=Z,0.9nm,0.7s,baz=45,slow=2.8,SNR=4.2						
BR131	Keskin Array S	145.06	315	PKPdf	PKPbc	16 02 09.2	+0.9
BRTR	Keskin Array B	145.06	315	PKPbc	PKPdf	16 02 08.2	+0.9
	comp=Z,2.9nm,0.7s,baz=137,slow=4.0,SNR=15						
OSTC	Ostas	145.51	344	*e*PKP	PKPab	16 02 10.8	+0.1
CLL	Collm	145.56	348		PKPbc	16 02 10.1	+0.9
CLL	Collm	145.56	348	*i* PKPbc	PKPbc	16 02 09.6	+0.4
	comp=Z,12nm,0.8s						
DPC	Dobruska-Polom	145.68	344	*e*PKP	PKPbc	16 02 10.8	+1.2
MORC	Moravsky Berou	145.85	342	*e*PKP	PKPbc	16 02 10.9	+0.8
MAUC	Maruska	146.13	341	*e*PKP	PKPbc	16 02 12.0	+1.1
PRU	Pruhonice	146.46	345	*e*PKP	PKPbc	16 02 12.9	+1.2
MMAI	Mount Meron Ar	146.47	303	PKPbc	PKPbc	16 02 13.3	+0.9
	comp=Z,4.0nm,0.5s,baz=68,slow=6.6,SNR=15						
KRUC	Moravsky	146.82	343	*e*PKP	PKPbc	16 02 13.7	+1.0
KHC	Kasperske Hory	147.49	346		PKPbc	16 02 15.8	+1.3
KHC	Kasperske Hory	147.49	346	*e*PKP	PKPbc	16 02 15.6	+1.1
CKRC	Cesky Krumlov	147.60	345	*e*PKP	PKPbc	16 02 15.8	+1.0
GERES	GERESS Array B	147.73	345	PKPbc	PKPbc	16 02 15.7	+0.5
	comp=Z,3.6nm,0.6s,baz=35,slow=3.9,SNR=12						
CONA	Conrad Observa	148.00	342	*i* PKP	PKPbc	16 02 16.8	+0.9
	comp=Z,1.8nm,0.4s						
RONA	Rosalia, Austr	148.08	342	*i* PKP	PKPbc	16 02 16.7	+0.6
	comp=Z,2.8nm,0.7s						
LESA	Schwarzleotal	149.30	346	*i* PKP	PKPbc	16 02 20.0	+0.8
	comp=Z,1.0nm,0.3s						
WTTA	Wattenberg	149.69	347	*i* PKP	PKPbc	16 02 20.8	+0.6
	comp=Z,5.8nm,0.5s						
MOTA	Moosalm	149.72	348	*i* PKP	PKPbc	16 02 20.6	+0.4
	comp=Z,1.8nm,0.5s						
ABTA	Abfaltersbach	149.97	345	*i* PKP	PKPbc	16 02 20.8	+0.1
	comp=Z,6.4nm,0.6s						
DAVA	Damuels	150.01	349	*i* PKP	PKiKP	16 02 22.1	+0.6
	comp=Z,3.3nm,0.6s						
FETA	Feichten	150.10	348	*i* PKP	PKPbc	16 02 21.8	+0.7
	comp=Z,2.8nm,0.8s						
DBIC	Dimbokro	166.97	148	PKP	PKPdf	16 02 34.9	-0.8
	comp=Z,0.9nm,0.5s,baz=191,slow=5.2,SNR=1.4						

*TEH **17** 15:45:07.7, 34.°50N×45.°38E, h16km±15km, ML3.3*
*ISN **17** 15:45:08.2±0.9, 34.°52N×45.°36E, h16km±5km, ML3.3*
ISC 17 15:45:08.0±1.2, 34.°50N±0.°03×45.°39E±0.°05, h13km±10km, n29, σ1°27/32, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.17	87	Pg	Pg	15 45 12.3	+0.3
GLG1	Gilan-e-Gharb	0.58	131	Pg	Pg	15 45 19.2	-0.2
IDHR	Dehrash	0.85	76	Pg	Pb	15 45 23.6	-1.2
IGHG	Ghaleghazi	0.99	99	Pg	Pb	15 45 27.0	-0.2
ILBA	Ilam Banvizeh	1.10	142	Pg	Pb	15 45 28.8	-0.2
ILIN	Lien	1.36	72	Pg	Pb	15 45 33.7	+0.2
KCHF	Cheshme Sefid,	1.38	99	Pg	Pb	15 45 34.2	+0.3
IBDR	Badra	1.46	162	*e*Pg	Pb	15 45 35.0	+0.1
IBDR				*e*Sg	Sg	15 45 55.0	+0.1
IBDR				AML	AML	15 45 59.4	
	comp=E,549nm,0.9s						
IBDR				AML	AML	15 46 08.6	
	comp=N,362nm,0.5s						
BHD	Baghdad	1.48	215	*e*Pg	Pb	15 45 35.5	+0.1
BHD				*e*Sg	Sg	15 45 55.0	-0.8
BHD				AML	AML	15 46 07.2	
	comp=E,571nm,0.5s						
SDS1	Sardasht. Az.	1.65	3	Pg	Pb	15 45 38.0	-0.4
SNQR	Sonqor, Kerman	1.88	78	Pn	Pb	15 45 41.6	-0.8
IBZA	Bozab	2.04	90	Pn	Pb	15 45 43.6	-1.5
IKFM	Kafar-mosalman	2.26	115	Pn	Pn	15 45 46.2	+1.1
MAHB	Mahabad	2.28	6	Pn	Pn	15 45 46.1	+0.6
IDOB	Doab	2.42	106	Pn	Pn	15 45 48.3	+0.8
HSAM	Samen	2.67	95	Pn	Pn	15 45 52.3	+1.3
RAFI	Al-Rafai	2.83	167	*e*Pn	Pn	15 45 55.0	+2.1
RAFI				*e*Sn	Sb	15 46 30.0	-3.0
RAFI				AML	AML	15 46 51.6	
	comp=E,218nm,0.3s						
RAFI				AML	AML	15 46 57.4	
	comp=N,210nm,0.4s						
BDRS	Dareh Seyedi	2.94	100	Pn	Pn	15 45 55.6	+0.9
HAGD	Aghdareh	3.11	83	Pn	Pn	15 45 59.1	+2.1
IAZR	Azarshahr	3.21	8	Pn	Pn	15 45 59.9	+1.5
ISHB	Shabestar	3.78	3	Pn	Pn	15 46 06.7	+0.5
ISRB	Sarab	3.80	28	Pn	Pn	15 46 07.5	+1.1
IRAZ	Razeghan	3.84	75	Pn	Pn	15 46 08.4	+1.4
IHRS	Heris	4.04	19	Pn	Pn	15 46 10.9	+1.2
QAMS	Qamsar	5.04	97	Pn	Pn	15 46 25.1	+1.5
IKLH	Kolahrood	5.28	101	Pn	Pn	15 46 28.1	+1.3
MZPU	Pul - Mazandar	5.40	67	Pn	Pn	15 46 30.4	+1.9
IZEF	Zefreh	6.00	103	Pn	Pn	15 46 38.1	+1.3
KLNJ	Kolanjah	6.28	122	Pn	Pn	15 46 41.6	+0.9

*IDC **17** 16:07:05.1±1.9, 27.°90N×139.°72E, h432km±21km, mb3.1/9, mbtmp3.9/11, Error ellipse: s-maj=50.1km s-min=14.4km az=84.0*
ISC 17 16:07:06.5±0.9, 28.°0N±0.°1×139.°8E±0.°3, h450km, n12, σ0°98/12, mb3.4/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	5.14	0	P	P	16 08 30.6	-1.4
	56nm,0.3s,baz=105,slow=16,SNR=9.1						
MJAR	Matsushiro Arr	8.65	352	P	P	16 09 07.2	-1.6
	0.9nm,0.4s,baz=167,slow=11,SNR=7.7						
WRA	Warramunga Arr	47.91	187	P	P	16 15 01.9	-0.8
	0.2nm,0.4s,baz=3.8,slow=7.7,SNR=6.6						
	0.2nm,0.4s						
NRIK	Noril'sk	51.06	339	P	P	16 15 26.2	+0.9
	1.6nm,0.4s,baz=102,slow=10.0,SNR=5.0						
	1.6nm,0.4s						
ASAR	Alice Springs	51.64	187	P	P	16 15 29.9	-0.4
	0.4nm,1.0s,baz=356,slow=4.7,SNR=6.8						
	0.4nm,1.0s						
ARCES	ARCESS Array B	72.00	340	P	P	16 17 44.1	+1.1
	2.8nm,0.8s,baz=67,slow=6.9,SNR=4.3						
	2.8nm,0.8s						
FINES	FINESS Array B	76.20	333	P	P	16 18 07.8	+0.7
	1.9nm,0.3s,baz=68,slow=5.0,SNR=31						
	1.9nm,0.3s						
AKASG	Malin Array Be	80.63	323	P	P	16 18 31.5	+0.3
	0.3nm,0.3s,baz=66,slow=5.8,SNR=1.3						
	0.3nm,0.3s						
NVAR	Mina Array Bea	81.67	51	P	P	16 18 37.8	+0.8
	0.1nm,0.3s,baz=294,slow=4.5,SNR=2.1						
	0.1nm,0.3s						
HFS	Hagfors	81.76	336	P	P	16 18 36.9	0.0
	0.7nm,0.3s,baz=51,slow=5.5,SNR=10						
	0.7nm,0.3s						
NOA	NORSAR Array B	81.99	337	P	P	16 18 37.8	-0.2
	0.4nm,0.5s,baz=54,slow=6.5,SNR=2.9						
	0.4nm,0.5s						
QSPA	South Pole Qui	117.73	180	PKP	PKPdf	16 24 59.8	-0.2
	1.2nm,1.1s,baz=327,slow=2.9,SNR=1.8						

*JMA **17** 16:14:00.8±0.2, 24.°N±1.°×122.°6E±0.°5, h20km±3km, MV2.4/15, NW OFF ISHIGAKIJIMA IS*
*TAP **17** 16:14:01.7, 24.°10N×122.°64E, h31km, ML3.1, C*
ISC 17 16:14:01.1±1.1, 24.°01N±0.°03×122.°63E±0.°02, h23km±13km, n64, σ0°82/87, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.30	291	*i* P	Pn	16 14 09.1	-0.6
EOS4				*e*S	Sn	16 14 14.9	-0.5
EOS3	EOS3	0.39	314	P	Pn	16 14 10.5	-0.7
EOS3				*e*S	Sn	16 14 16.9	-0.9
JYNG	Yonagunijimaku	0.52	33	P	Pb	16 14 11.3	-0.4
JYNG				*e*S	Sb	16 14 18.4	-0.4
EOS2	EOS2	0.54	318	*e*P	Pn	16 14 13.0	-0.3
YOJ	Yonaguni jima	0.57	38	P	Pb	16 14 12.0	-0.4
YOJ				S	Sb	16 14 19.8	-0.2
YOJ	Yonaguni jima	0.57	38	*i* P	Pb	16 14 12.3	-0.1
YOJ				*e*S	Sb	16 14 20.0	0.0
EAHA	Aohua	0.87	291	*e*P	Pn	16 14 18.7	+0.8
EWUT	Wuta	0.89	299	*e*P	Pb	16 14 17.8	0.0
EWUT				*e*S	Sn	16 14 31.9	+1.6
ENA	Nanau	0.91	297	*e*P	Pb	16 14 18.2	0.0
ESAO	Su ao	0.91	308	P	Pn	16 14 18.2	-0.2
ESAO				S	Sn	16 14 32.3	+1.5
TWC	Suao	0.93	310	*e*P	Pb	16 14 18.0	-0.5
NACB	Ninganchiao	0.96	280	*e*P	Pn	16 14 18.6	-0.5
SHUL	Shoufeng	1.00	257	*e*P	Pn	16 14 19.5	-0.2
SHUL				*e*S	Sn	16 14 33.5	+0.4
NDS	Dongshan	1.04	307	*e*P	Pb	16 14 21.0	+0.6
ETM	Tongmen	1.04	268	*e*P	Pn	16 14 19.5	-0.8
IRIF	Iriomote-Funau	1.05	72	P	Pn	16 14 20.2	-0.2
IRIF				*e*S	Sn	16 14 34.7	+0.3
ETLH	Xiulin Townshi	1.07	281	*e*P	Pn	16 14 20.1	-0.5
HATJ	Hateruma jima	1.07	87	*e*P	Pb	16 14 21.2	+0.2
HATJ			

MSVF	Nonsavu	8.57	302	Pn	Pn	16 32 58.5	+3.2
AFI	Afiamalu	8.87	16		Pn	16 32 55.2	-4.2
RAR	Rarotonga	13.59	87		Pn	16 34 00.8	-3.1
RAR	Rarotonga	13.59	87	Pn	Pn	16 34 00.3	-3.6
	12nm,0.3s,baz=266,slow=8.8,SNR=29						
RAR				Sn	Sn	16 36 19.5	-15
	1.7nm,0.3s,baz=333,slow=15,SNR=1.3						
URZ	Urewera	17.35	203	P	P	16 34 56.0	+1.4
	1.5nm,0.3s,baz=102,slow=2.7,SNR=7.3						
URZ				S	Sn	16 37 54.1	-12
	16nm,0.8s,baz=1.4,slow=22,SNR=7.8						
	6.3nm,0.5s						
DZM	Mont Dzumac	17.79	268	Pn	Pn	16 34 55.6	-3.3
DZM	Mont Dzumac	17.79	268	*e*P	Pn	16 34 57.2	-1.8
	56nm,1.4s						
DZM				*e*S	Sn	16 38 10.6	-6.8
	157nm,22.7s						
DZM				*e*LR	LR	16 38 59.9	
	264nm,22.6s						
DZM	Mont Dzumac	17.79	268	P	Pn	16 34 57.1	-1.8
	0.5nm,0.3s,baz=75,slow=18,SNR=8.1						
	6.0nm,1.0s						
BKZ	Black Stump Fm	18.38	203	P	P	16 35 04.9	-1.1
BFZ	Birch Farm	19.81	202		Pn	16 35 26.0	+2.8
BFZ				IAmb	IAmb	16 35 28.8	
	comp=Z,36nm,0.9s						
KOUNC	Koumac, New Ca	19.98	272	P	P	16 35 20.8	-2.8
TCW	Tory Channel	20.99	205	P	P	16 35 33.1	-1.3
KHZ	Kahutara	22.31	204	P	P	16 35 49.1	+0.5
KHZ				IAmb	IAmb	16 36 01.9	
	comp=Z,23nm,1.1s						
TBI	Tubuai	22.93	97	*e*S	S	16 39 58.6	-7.0
	comp=Z,3μm,25.5s						
TBI				*e*LR	LR	16 41 24.1	
	comp=Z,759nm,25.2s						
TBI				*e*LR	LR	16 41 25.7	
	comp=Z,873nm,26.2s						
GVZ	Greta Valley S	22.97	204	P	P	16 35 54.4	-1.2
GVZ				IAmb	IAmb	16 36 19.7	
	comp=Z,69nm,1.4s						
PPT2	Papeete2	23.76	83	*e*P	P	16 36 00.7	-3.1
	comp=Z,36nm,22.2s						
PPT2				*e*S	S	16 40 11.5	-7.9
	comp=Z,588nm,26.5s						
PPT2				*e*LR	LR	16 41 35.2	
	comp=Z,104nm,25.0s						
PPT2				*e*LR	LR	16 41 40.3	
	comp=Z,121nm,27.0s						
EIDS	Eidsvold	31.68	258	P	P	16 37 13.5	-1.3
EIDS				IAmb	IAmb	16 37 26.5	
	comp=Z,8.3nm,1.0s						
CTAO	Charters Tower	36.72	266	P	P	16 37 57.7	-1.0
CTAO				IAmb	IAmb	16 37 59.8	
	comp=Z,13nm,0.6s						
TOO	Toolangi	37.59	237	P	P	16 38 06.3	+0.4
STKA	Stephens Creek	40.07	247	P	P	16 38 26.1	-0.7
STKA	Stephens Creek	40.07	247	P	P	16 38 25.1	-1.6
	comp=Z,2.1nm,0.5s,baz=96,slow=11,SNR=9.9						
	comp=Z,2.1nm,0.5s						
COEN	Coen	41.12	274	P	P	16 38 32.7	-2.8
COEN				IAmb	IAmb	16 38 36.2	
	comp=Z,15nm,0.9s						
BBOO	Buckleboo	44.77	246	P	P	16 39 03.5	-1.5
BBOO				IAmb	IAmb	16 39 18.9	
	comp=Z,13nm,1.1s						
AS31	Alice Springs	47.41	258	P	P	16 39 24.7	-1.2
ASAR	Alice Springs	47.41	258	P	P	16 39 23.7	-2.2
ASAR	Alice Springs	47.41	258	P	P	16 39 24.6	-1.4
	comp=Z,7.7nm,0.8s,baz=100,slow=7,2,SNR=89						
ASAR				PcP	PcP	16 40 58.1	+1.6
	comp=Z,0.8nm,0.5s,baz=115,slow=2.5,SNR=1.1						
ASAR				S	S	16 46 12.7	-7.7
	comp=Z,0.1nm,0.6s,baz=93,slow=16,SNR=4.1						
	comp=Z,7.7nm,0.8s						
WR0	Warramunga Arr	47.53	263	P	P	16 39 25.1	-1.8
WR0				IAmb	IAmb	16 39 41.8	
	comp=Z,5.1nm,0.9s						
WB0	Warramunga Arr	47.71	263	P	P	16 39 26.3	-2.0
WB0				IAmb	IAmb	16 39 27.0	
	comp=Z,9.2nm,0.7s						
WB2	Warramunga Arr	47.71	263	P	P	16 39 26.5	-1.8
WB2				IAmb	IAmb	16 39 27.1	
	comp=Z,9.3nm,0.8s						
WRA	Warramunga Arr	47.72	263	P	P	16 39 26.2	-2.1
WRA	Warramunga Arr	47.72	263	P	P	16 39 26.6	-1.7
	comp=Z,5.3nm,0.6s,baz=91,slow=8.4,SNR=61						
WRA				PcP	PcP	16 40 59.7	+2.0
	comp=Z,2.0nm,0.8s,baz=99,slow=3.0,SNR=2.3						
WRA				S	S	16 46 13.8	-11
	comp=Z,0.6nm,0.9s,baz=100,slow=19,SNR=3.6						
	comp=Z,5.3nm,0.6s						
MTN	Manton Dam	52.59	271	P	P	16 40 03.4	-1.9
MTN				IAmb	IAmb	16 40 16.2	
	comp=Z,6.9nm,0.8s						
KNRA	Kununurra	53.93	267	P	P	16 40 13.5	-1.7
KNRA				IAmb	IAmb	16 40 14.8	
	comp=Z,29nm,1.4s						
FITZ	Fitzroy Crossi	56.15	263	P	P	16 40 30.5	-0.8
SOEI	Soe	59.96	272	P	P	16 40 57.9	-0.3
MORW	Morawa	62.24	248	P	P	16 41 12.8	-0.5
QSPA	South Pole Qui	67.60	180	P	P	16 41 47.9	+0.1
QSPA				IAmb	IAmb	16 41 53.7	
	comp=Z,8.4nm,0.8s						
QSPA	South Pole Qui	67.60	180	P	P	16 41 51.0	+3.2
	comp=Z,12nm,1.0s,baz=42,slow=1.7,SNR=26						
	comp=Z,12nm,1.0s						
JGF	Kuroka	73.68	321	P	P	16 42 24.3	-0.7
MJAR	Matsushiro Arr	73.84	322	P	P	16 42 26.0	+0.1
	comp=Z,2.2nm,0.6s,baz=150,slow=6.7,SNR=19						
	comp=Z,2.2nm,0.6s						
BELA	Belgrano 2	77.14	172	P	P	16 42 44.4	0.0
PETK	Petropavlovsk-	79.10	343	P	P	16 42 56.1	+0.7
	comp=Z,7.3nm,0.8s,baz=152,slow=5.7,SNR=12						
	comp=Z,7.3nm,0.8s						
NVAR	Mina Array Bea	80.19	41	P	P	16 43 04.2	+2.3
	comp=Z,1.0nm,0.8s,baz=220,slow=8.9,SNR=8.6						
	comp=Z,1.0nm,0.8s						
KSRS	Korea Array	80.64	317	P	P	16 43 05.1	+1.1
	comp=Z,2.1nm,1.0s,baz=130,slow=6.0,SNR=5.3						
	comp=Z,2.1nm,1.0s						
MAW	Mawson	80.83	199	P	P	16 43 07.3	+2.6
	comp=Z,5.3nm,0.7s,baz=140,slow=4.3,SNR=19						
	comp=Z,5.3nm,0.7s						
H03S2	Juan Fernandez	82.06	123	T	T	18 15 22.4	
	baz=247,slow=74,SNR=7.0						
H03S1	Juan Fernandez	82.08	123	T	T	18 15 32.0	
	baz=247,slow=74,SNR=5.2						
H03S3	Juan Fernandez	82.08	123	T	T	18 15 25.9	
	baz=247,slow=74,SNR=5.4						
H03N2	Juan Fernandez	82.20	123	T	T	18 15 28.1	
	baz=258,slow=70						
H03N3	Juan Fernandez	82.20	123	T	T	18 15 27.7	
	baz=258,slow=70						
H03N1	Juan Fernandez	82.22	123	T	T	18 15 29.9	
	baz=258,slow=70						
USRK	Ussuriysk Ar.	82.53	324	P	P	16 43 16.0	+2.1
	comp=Z,9.7nm,1.1s,baz=132,slow=5.5,SNR=10						
	comp=Z,9.7nm,1.1s						
NJ2	Nanjing	83.77	308	*e*P	P	16 43 20.1	-0.5
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MDJ	Mudanjiang	84.11	323	P	P	16 43 25.1	+3.0
MDJ				pmax	pmax		
	comp=Z,15nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,240nm,6.7s						
ELIB	Princess Elisa	85.03	185	*d*P	P	16 43 29.3	+2.6
	comp=Z,17nm,0.7s						
K15K	Wolf Creek Mou	85.10	6	P	P	16 43 27.5	+0.8
TXAR	Lajitas Array	85.30	56	P	P	16 43 30.4	+1.9
	comp=Z,1.3nm,1.0s,baz=212,slow=4.4,SNR=7.8						
	comp=Z,1.3nm,1.0s						
TROLL	Troll, Antarti	85.73	179	⇑P	P	16 43 32.7	+2.6
	comp=Z,268nm,0.6s						
SNAA	Sanae	85.91	177	P	P	16 43 32.2	+1.3
SNAA				IAmb	IAmb	16 43 56.8	
	comp=Z,11nm,1.3s						
SNAA	Sanae	85.91	177	⇑P	P	16 43 33.1	+2.2
	comp=Z,81nm,1.0s						
SNAA	Sanae	85.91	177	P	P	16 43 32.5	+1.6
	comp=Z,5.7nm,1.1s,baz=194,slow=9.1,SNR=11						
	comp=Z,5.7nm,1.1s						
VNA3	Neumayer Olymp	85.92	175	⇑P	P	16 43 33.0	+2.1
	comp=Z,10nm,0.6s						
CN2	Changchun	85.96	321	P	P	16 43 33.4	+2.0
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BNX	BinXian	86.02	323	⇑P	P	16 43 34.0	+2.4
BNX				pmax	pmax		
	comp=Z,11nm,1.1s						
VNA2	Neumayer--Watz	86.39	176	⇑P	P	16 43 32.6	-0.7
	comp=Z,5.4nm,0.6s,baz=192,slow=5.0						
MT01	Popeta	87.90	126	P	P	16 43 42.6	+1.3
PDAR	Pinedale Array	88.11	42	P	P	16 43 43.6	+1.4
	comp=Z,0.3nm,0.7s,baz=221,slow=3.8,SNR=2.7						
	comp=Z,0.3nm,0.7s						
HNS	HongShan	89.40	311	⇓P	P	16 43 50.8	+2.8
HNS				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ILAR	Eielson Array	89.53	11	P	P	16 43 49.9	+1.9
	comp=Z,1.8nm,1.0s,baz=216,slow=6.1,SNR=9.9						
	comp=Z,1.8nm,1.0s						
LYN	LuoYang	89.65	308	*e*P	P	16 43 49.5	+0.2
LYN	LuoYang	89.65	308	S	S	16 54 39.8	-1.0
J26L	Joseph Creek	89.93	13	IAmb	IAmb	16 43 54.8	
	comp=Z,6.6nm,0.8s						
ENH	Enshi	89.97	303	P	P	16 43 52.5	+1.6
E19K	Redstone River	90.57	7	P	P	16 43 54.8	+2.0
E19K				IAmb	IAmb	16 43 57.0	
	comp=Z,7.9nm,1.0s						
XAN	Xi'an	92.04	306	P	P	16 44 03.3	+2.8
XAN				pmax	pmax		
	comp=Z,21nm,1.2s						
HHC	Hu-ho-hao-te	93.18	313	*e*P	P	16 44 05.1	-0.6
HHC				pmax	pmax		
	comp=Z,32nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,5.7s						
CMAR	Chiang Mai Arr	93.98	288	P	P	16 44 11.5	+1.8
	comp=Z,3.5nm,0.8s,baz=128,slow=2.8,SNR=35						
	comp=Z,3.5nm,0.8s						
G31M	Satah River	94.04	15	P	P	16 44 08.7	-0.1
CHTO	Chiang Mai	94.11	289	P	P	16 44 11.4	+1.1
CHTO				IAmb	IAmb	16 44 13.6	
	comp=Z,4.8nm,0.7s						
PZH	PanZhiHua	94.64	297	P	P	16 44 14.5	+1.7
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,70nm,3.5s						
WMQ	Urumqi	110.80	310	*e*PKP	PKiKP	16 49 24.0	-0.4
WMQ				LR	LR		
	comp=Z,260nm,24.1s						
MKAR	Makanchi Array	115.04	312	PKP	PKiKP	16 49 33.4	+1.1
	comp=Z,0.3nm,0.5s,baz=93,slow=8.7,SNR=2.2						
KURBB	Kurchatov Arra	117.81	317	PKP	PKiKP	16 49 38.3	+0.8
	comp=Z,0.2nm,0.5s,baz=94,slow=2.1,SNR=2.5						
ARCES	ARCESS Array B	131.44	351	PKP	PKiKP	16 50 04.7	+0.7
	comp=Z,5.8nm,0.9s,baz=29,slow=1.8,SNR=4.4						
MATP	Matopo	131.87	209	PKP	PKiKP	16 50 09.3	+2.7
	comp=Z,0.5nm,0.6s,baz=231,slow=8.2,SNR=4.0						
AKASG	Malin Array Be	146.36	333	PKPbc	PKPab	16 50 32.6	-0.1
	comp=Z,2.8nm,0.6s,baz=41,slow=4.1,SNR=29						
KIEV	Kiev	146.37	333	⇑P	PKPab	16 50 33.0	+0.2
EKA	Eskdalemuir Ar	146.54	9	PKPbc	PKPab	16 50 32.9	-0.4
	comp=Z,0.6nm,0.4s,baz=344,slow=3.1,SNR=4.0						
BSEG	Bad Segeberg	148.40	355	*e*PKPbc	PKPab	16 50 39.8	-0.8
	baz=8.4,slow=2.2						
NRDL	Niedersach Rie	149.84	355	*e*PKPbc	PKiKP	16 50 43.1	+1.1
	baz=8.4,slow=2.2						
FLTG	Flechtingen	149.90	353	*e*PKPbc	PKiKP	16 50 43.4	+1.2
	baz=8.4,slow=2.2						
BURAR	Bucovina Array	150.42	333	⇑P	PKPab	16 50 46.6	-2.6
STHS	Stebnicka Huta	150.43	339	*e*PKP	PKiKP	16 50 45.0	+1.5
CLZ	Clausthal	150.47	354	*e*PKPbc	PKiKP	16 50 44.8	+1.4
	baz=8.4,slow=2.2						
KOLS	Kolonicke sedl	150.49	337	*e*PKP	PKPab	16 50 46.2	-3.2
CLL	Collm	150.67	351	*e*PKPbc	PKiKP	16 50 45.1	+1.3
	baz=8.4,slow=2.2						
CLL	Collm	150.67	351	*i* PKPbc	PKiKP	16 50 44.8	+1.0
	comp=Z,13nm,1.0s						
CLL				*ex*	x	16 50 48.0	
CLL				*i* PKPab	sPKPab	16 50 51.3	+0.2
BRTR	Keskin Array B	150.69	312	PKPbc	PKiKP	16 50 44.5	0.0
	comp=Z,1.4nm,0.7s,baz=59,slow=2.4,SNR=7.9						
KIRS	Kirsehir-Merke	150.76	311	⇑P	PKiKP	16 50 45.7	+1.1
OSTC	Ostas	150.79	346	⇑*e*PKP	PKiKP	16 50 45.4	+1.2
GTTG	Gottingen	150.80	354	*e*PKPbc	PKiKP	16 50 45.5	+1.4
	baz=8.4,slow=2.2						
BRG	Berggiesshubel	150.93	349	*e*PKP	PKiKP	16 50 46.1	+1.7
BRG				Amp		16 50 47.3	
	comp=Z,5.9nm,0.8s						
BRG	Berggiesshubel	150.93	349	P	PKPab	16 50 57.5	+6.5
BRG				Amp		16 50 57.9	
	comp=Z,6.2nm,1.0s						
BRG	Berggiesshubel	150.93	349	P	PKPab	16 51 06.7	+16
BRG				Amp		16 51 07.4	
	comp=Z,4.9nm,0.8s						
BRG	Berggiesshubel	150.93	349	*e*PKPbc	PKiKP	16 50 45.9	+1.5
	baz=8.4,slow=2.2						
NEUB	Neuenburg	150.94	352	*e*PKPbc	PKiKP	16 50 45.3	+0.9
	baz=8.4,slow=2.2						
DPC	Dobruska-Polom	150.96	346	⇑*e*PKP	PKiKP	16 50 46.1	+1.6
BUG	Bochum--Univer	151.07	358	*e*PKPbc	PKiKP	16 50 46.1	+1.5
	baz=8.4,slow=2.2						
KRLC	Kraliky	151.11	345	⇑*e*PKP	PKiKP	16 50 46.2	+1.3
PVCC	Panska Ves	151.15	348	⇑*e*PKP	PKiKP	16 50 46.8	+1.9
MORC	Moravsky Berou	151.19	344	*e*	PKPab	16 50 57.6	+5.3
MORC	Moravsky Berou	151.19	344	⇓P	PKiKP	16 50 46.1	+1.0
MORC	Moravsky Berou	151.19	344	*e*PKP	PKiKP	16 50 46.7	+1.6
LANS	Liptovska Anna	151.22	341	*e*PKP	PKiKP	16 50 47.4	+2.3
KASTN	Kahler Asten	151.25	356	*e*PKPbc	PKiKP	16 50 46.1	+0.9
	baz=8.4,slow=2.2						
HSKC	Hora Svate Kat	151.28	350	⇑*e*PKP	PKiKP	16 50 46.7	+1.5
MAUC	Maruska	151.50	343	⇑*e*PKP	PKiKP	16 50 47.5	+1.8
MOX	Moxa	151.51	352	*e*PKPbc	PKiKP	16 50 47.0	+1.4
	baz=8.4,slow=2.2						
UBBA	Unterbreizbach	151.51	354	*e*PKPbc	PKiKP	16 50 46.8	+1.3
	baz=8.4,slow=2.2						
DOPR	Dopca	151.60	330	⇑P	PKiKP	16 50 48.1	+2.1
TANN	Tannenbergstha	151.62	351	*e*PKPbc	PKiKP	16 50 47.4	+1.5
	baz=8.4,slow=2.2						
PRU	Pruhonice	151.67	348	⇑*e*PKP	PKiKP	16 50 47.6	+1.6
MMAI	Mount Meron Ar	151.75	298	PKPbc	PKiKP	16 50 48.1	+1.3
	comp=Z,3.0nm,0.6s,baz=78,slow=2.9,SNR=5.9						
VRAC	Vranov	151.86	345	*e*	PKPab	16 50 58.9	+3.9
VRAC	Vranov	151.86	345	*e*PKP	PKiKP	16 50 49.1	+2.7
BTNL	Ternell	151.95	359	*d*PKP	PKiKP	16 50 48.0	+1.5
VYHS	Vyhne	152.00	341	*e*PKP	PKiKP	16 50 48.5	+1.8
MANZ	Manzenberg	152.09	351	*e*PKPbc	PKiKP	16 50 48.4	+1.5
	baz=8.4,slow=2.2						
KRUC	Moravsky	152.14	345	*e*	PKPab	16 50 58.9	+2.7
KRUC	Moravsky	152.14	345	*e*PKP	PKiKP	16 50 48.6	+1.6
VOIR		152.16	330	⇓P	PKiKP	16 50 50.8	+3.5
BMRD	Maredsous	152.23	1	*d*PKP	PKiKP	16 50 48.3	+1.2
TNS	Taunus Mts	152.23	356	*e*PKPbc	PKiKP	16 50 48.7	+1.5
	baz=8.4,slow=2.2						
ZVC	Zvikov	152.26	348	⇑*e*PKP	PKiKP	16 50 49.2	+2.0
ROTZ	Rotzenmuhle	152.28	351	*e*PKPbc	PKiKP	16 50 48.9	+1.7
	baz=8.4,slow=2.2						
ARR	Arges	152.41	330	⇑P	PKiKP	16 50 49.3	+1.6
DOU	Dourbes	152.43	1	*d*PKP	PKPbc	16 50 46.0	-1.3
KHC	Kasperske Hory	152.68	349	⇑*e*PKP	PKiKP	16 50 49.6	+1.5
WET	Wettzell	152.78	350	*e*PKPbc	PKiKP	16 50 50.1	+1.7
	baz=8.4,slow=2.2						
CKRC	Cesky Krumlov	152.83	347	⇑*e*PKP	PKiKP	16 50 50.0	+1.6
GEC2	GERESS Array S	152.93	348	*e*PKPbc	PKiKP	16 50 50.0	+1.3
	baz=8.4,slow=2.2						
GERES	GERESS Array B	152.93	348	PKPbc	PKiKP	16 50 50.0	+1.3
	comp=Z,1.1nm,0.7s,baz=24,slow=2,3,SNR=3.3						
SIRR	Siria	152.95	335	⇑P	PKiKP	16 50 50.7	+1.9
SURR	Surduc	153.19	334	⇑P	PKiKP	16 50 50.8	+1.5
BZS	Buzias	153.50	334	⇑P	PKiKP	16 50 51.4	+1.5
BFO	Black Forest	154.12	356	*e*PKPbc	PKiKP	16 50 52.2	+1.1
	baz=8.4,slow=2.2						

DJA 17 16:31:25.6±0.7, 9°S±3°×11°4E±°, h13km±5km, M3.5/19, mb3.8/4, MLv3.4/19, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	0.86	8	P	Pg	16 31 42.0	-0.3
JAGI				S	Sb	16 31 53.9	0.0
GMJI	Gumukmas	1.20	331	P	Pn	16 31 46.5	-1.6
GMJI				S	Sb	16 32 01.8	-1.8
DNP	Denpasar	1.33	61	P	Pb	16 31 50.6	+0.1
DNP				S	Sn	16 32 08.0	+0.4
ABJI	Asem Bagus	1.54	8	P	Pb	16 31 54.1	+0.1
ABJI				S	Sg	16 32 14.6	-0.6
BLJI	Banyuglugur	1.63	345	P	Pn	16 31 54.7	+0.6
BLJI				S	Sb	16 32 15.7	-0.4
SRBI	Singaraja	1.70	43	P	Pn	16 31 54.8	-0.2
SRBI				S	Sn	16 32 16.4	-0.3
KMMI	Kalianget	2.27	358	P	Pn	16 32 04.2	+1.4
PWJI	Pagerwojo	2.56	300	P	Pn	16 32 06.3	-0.5
GRJI	Gresik	2.85	327	P	Pn	16 32 09.9	-0.9
PCJI	Pacitan	3.04	292	P	Pn	16 32 13.0	-0.4
PLAI	Plampang	3.73	83	P	Pn	16 32 22.9	-0.1
UGM	Wanagama	3.74	292	P	Pn	16 32 23.0	-0.1
WBSI	Waikabubak, Su	5.30	94	P	Pn	16 32 45.1	+0.6
	16nm,1.1s,0.1nm						
BSSI	Bau Bau, Buton	7.14	64	P	Pn	16 33 09.7	-0.2
	9.6nm,0.8s						
BKSI	Bulukumba	7.24	57	P	Pn	16 33 11.8	+0.7

*IDC **17** 16:36:03.5±0.8, 12°.80S×45°.38E, h0km, mb3.8/7, mbtmp3.7/9, ML3.3/2, Error ellipse: s-maj=24.1km s-min=15.5km az=144.0*

ISC 17 16:36:04.6±0.8, 12°.89S±0°.08×45°.5E±0°.1, h10km, n11, σ1°90/13, mb3.7/7, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	5.90	164	Pn	Pn	16 37 33.8	+1.6
	4.2nm,0.3s,baz=337,slow=13,SNR=354						
OPO				Sn	Sn	16 38 35.5	-4.5
	14nm,0.3s,baz=282,slow=17,SNR=15						
KMBO	Kilima Mbogo	14.22	325	Pn	Pn	16 39 24.4	-2.1
	0.2nm,0.3s,baz=229,slow=22,SNR=1.7						
KMBO				Sn	Sn	16 41 51.6	-13
	0.4nm,0.3s,baz=219,slow=21,SNR=2.7						
	0.5nm,0.3s						
MATP	Matopo	17.87	243	P	P	16 40 14.0	-0.3
	0.1nm,0.3s,baz=113,slow=9.3,SNR=2.2						
MATP				S	Sn	16 43 35.0	+1.8
	0.6nm,0.5s,baz=344,slow=18,SNR=1.6						
	0.6nm,0.7s						
BOSA	Boshof	24.46	227	P	P	16 41 24.5	+0.5
	1.1nm,0.6s,baz=62,slow=10,SNR=1.1						
	1.1nm,0.6s						
BRTR	Keskin Array B	53.48	349	P	P	16 45 25.7	+0.4
	0.4nm,0.6s,baz=166,slow=8.1,SNR=2.5						
	0.4nm,0.6s						
MKAR	Makanchi Array	67.97	26	P	P	16 47 04.3	+0.5
	0.4nm,0.7s,baz=216,slow=6.5,SNR=1.9						
	0.4nm,0.7s						
ZALV	Zalesovo Beam	74.52	23	P	P	16 47 42.8	-0.5
	0.3nm,0.4s,baz=216,slow=5.8,SNR=2.3						
	0.3nm,0.4s						
QSPA	South Pole Qui	77.21	180	P	P	16 47 59.4	+0.6
	1.8nm,1.1s,baz=220,slow=4.0,SNR=3.4						
	1.8nm,1.1s						
ASAR	Alice Springs	83.54	113	P	P	16 48 35.0	+1.4
	1.3nm,1.1s,baz=261,slow=4.9,SNR=7.6						
	1.3nm,1.1s						
WRA	Warramunga Arr	84.67	109	P	P	16 48 40.5	+1.1
	1.1nm,1.0s,baz=257,slow=3.9,SNR=5.5						
	1.1nm,1.0s						
TXAR	Lajitas Array	147.00	305	PKPbc	PKPbc	16 55 47.4	-1.0
	0.1nm,0.4s,baz=115,slow=4.1,SNR=3.1						

RSNC 17 16:37:17.1±1.3, 1°S±4°×8°1W±1°5, h19km±21km, M3.2, mb4.0, ML2.8, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	Pacto, Paraso	2.11	60	P	Pn	16 37 49.1	-2.4
COHC	Cochancay	2.15	141	P	Pn	16 37 50.7	-1.3
COHC				S	Sn	16 38 19.4	+1.2
PIAT	Ana Tenorio	2.37	95	P	Pn	16 37 56.9	+1.6
PIAT				S	Sn	16 38 24.6	+0.6
OTAV	Otavalo	2.40	65	P	Pn	16 37 54.0	-1.8
OTAV				S	Sn	16 38 23.8	-1.1
CUSE	Cuicocha Este	2.47	64	P	Pn	16 37 57.3	+0.5
CUSE				S	Sn	16 38 26.0	-0.7
BBAC	Balboa, Cauca	4.38	50	P	Pn	16 38 22.7	-0.1
BBAC				S	Sn	16 39 15.7	+2.2
JAMC	Jamundi, Valle	5.60	45	P	Pn	16 38 38.2	-1.5

*IDC **17** 16:43:13.0±0.5, 15°.88S×179°.98W, h0km, mb4.6/18, mbtmp4.6/19, ML2.9/1, MS4.3/49, Error ellipse: s-maj=19.1km s-min=14.8km az=120.0*
*MOS **17** 16:43:14.7±1.0, 15°.75S×179°.87E, h16km, mb5.1/16, Error ellipse: s-maj=12.3km s-min=11.5km az=108.5*
*NEIC **17** 16:43:14.7±2.8, 15°.7S±0°.1×179°.9W±0°.1, h10km±1km, mb5.1/176, Error ellipse: s-maj=21.7km s-min=9.4km az=137.0*
*BGR **17** 16:43:16.5, 16°.81S×179°.46W, h33km*
*GCMT **17** 16:43:18.4±0.2, 15°.63S±0°.01×179°.92W±0°.01, h12km, MW5.1/114, Moment Tensor Solution. s62,c82; s114,c178; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.18±.12; $M_{\theta\theta}$-0.54±.13; $M_{\phi\phi}$-2.64±.11; $M_{r\theta}$0.80±.32; $M_{\theta\phi}$5.17±.09; $M_{\phi r}$-0.57±.30; Best double couple: $M_0$5.38200×10^{16} NP1:ϕ_s100.00000°, δ76.00000°, $\lambda

comp=Z,769nm,23.8s
PPT Papeete 29.25 97 LR LR 16 57 28.7
comp=Z,371nm,22.0s,baz=272,slow=29
TBI Tubuai 29.71 109 *e*LQ LQ 16 55 44.6
comp=Z,8µm,27.8s
TBI *e*LR LR 16 56 48.5
comp=Z,822nm,31.2s
TBI *e*LR LR 16 56 52.2
comp=Z,4µm,30.5s
WHZ Wether Hill Ro 31.40 196 P P 16 49 38.2 +3.1
CTA Charters Tower 32.20 258 LR LR 17 00 26.6
comp=Z,35nm,21.0s,baz=88,slow=32
CTAO Charters Tower 32.20 258 PcP **PcP 16 52 32.6 +1.3**
PMG Port Moresby 32.58 278 P **P 16 49 44.2 -1.6**
PMG IAmb IAmb 16 49 48.7
comp=Z,30nm,1.1s
PMG Port Moresby 32.58 278 LR LR 17 00 07.4
comp=Z,405nm,20.4s,baz=104,slow=31
PMG Port Moresby 32.58 278 *ce*P **P 16 49 47.6 +1.8**
PMG pmax pmax
comp=Z,21nm,1.3s
COEN Coen 35.50 268 P **P 16 50 11.3 0.0**
H11S2 WAKE ISLAND Hy 36.69 339 T T 17 29 00.2
baz=154,slow=76,SNR=15
H11S3 WAKE ISLAND Hy 36.70 339 T T 17 29 02.9
baz=154,slow=76,SNR=20
H11S1 WAKE ISLAND Hy 36.71 339 T T 17 29 00.9
baz=154,slow=76,SNR=15
H11N3 WAKE ISLAND Hy 37.76 340 T T 17 30 17.2
baz=156
H11N1 WAKE ISLAND Hy 37.76 340 T T 17 30 19.2
baz=156
H11N2 WAKE ISLAND Hy 37.78 340 T T 17 30 16.6
baz=156
STKA Stephens Creek 38.16 239 P P 16 50 37.6 +3.9
STKA Stephens Creek 38.16 239 P P 16 50 37.1 +3.4
comp=Z,12nm,0.9s,baz=68,slow=8.7,SNR=16
STKA PcP **PcP 16 52 49.4 +0.9**
comp=Z,3.5nm,0.9s,baz=38,slow=10,SNR=2.6
STKA LR LR 17 05 24.4
comp=Z,561nm,18.1s,baz=73,slow=35
comp=Z,12nm,0.9s
STKA Stephens Creek 38.16 239 P P 16 50 37.6 +3.9
STKA pmax pmax
comp=Z,5.0nm,1.1s
TAOE Nuku Hiva Isla 39.61 85 *e*LR LR 17 01 29.3
comp=Z,1µm,26.5s
JAY Jayapura 40.84 285 LR LR 17 06 08.5
comp=Z,179nm,21.7s,baz=19,slow=34
WB0 Warramunga Arr 43.36 258 P **P 16 51 17.5 +0.7**
WB2 Warramunga Arr 43.40 258 P **P 16 51 17.2 +0.1**
WRA Warramunga Arr 43.41 258 P **P 16 51 17.8 +0.5**
comp=Z,2.3nm,0.8s,baz=90,slow=6.4,SNR=23
WRA PcP **PcP 16 53 07.0 +1.2**
comp=Z,4.4nm,0.9s,baz=84,slow=3.5,SNR=12
WRA LR LR 17 08 32.7
comp=Z,325nm,18.2s,baz=90,slow=35
comp=Z,2.3nm,0.8s
AS31 Alice Springs 43.77 252 P **P 16 51 21.2 +1.1**
ASAR Alice Springs 43.77 252 P **P 16 51 21.9 +1.7**
comp=Z,23nm,0.9s,baz=81,slow=9.0,SNR=254
ASAR PcP **PcP 16 53 08.8 +1.9**
comp=Z,4.2nm,0.8s,baz=103,slow=3.3,SNR=7.6
ASAR LR LR 17 09 09.8
comp=Z,612nm,18.6s,baz=95,slow=35
comp=Z,23nm,0.9s
MTN Manton Dam 47.25 267 P **P 16 51 48.4 +0.7**
MTN IAmb IAmb 16 51 49.8
comp=Z,23nm,0.8s
FORT Forrest 49.37 243 P **P 16 52 04.9 +1.0**
FITZ Fitzroy Crossi 51.76 259 P **P 16 52 23.2 +1.1**
FITZ Fitzroy Crossi 51.76 259 LR LR 17 12 33.0
comp=Z,650nm,20.5s,baz=94,slow=34
SOEI Soe 54.46 269 P **P 16 52 44.0 +1.7**
MMRI Maumere 56.66 270 P **P 16 52 58.6 +0.7**
MMRI IAmb IAmb 16 53 00.3
comp=Z,26nm,0.9s
PSA00 Pilbara Seismi 56.83 254 P **P 16 53 00.3 +1.3**
PSA00 IAmb IAmb 16 53 01.4
comp=Z,21nm,0.8s
MBWA Marble Bar 56.97 255 P **P 16 53 00.9 +0.8**
MBWA IAmb IAmb 16 53 02.4
comp=Z,21nm,1.1s
LUWI Luwuk 58.21 279 P **P 16 53 08.4 -0.5**
DAV Davao City (W) 58.46 289 LR LR 17 15 06.1
comp=Z,101nm,22.0s,baz=30,slow=33
NWAO Narrogin (SRO) 58.67 241 LR LR 17 16 30.1
comp=Z,796nm,22.0s,baz=48,slow=34
JHJ Hachijo jima 2 62.11 322 LR LR 17 21 26.7
comp=Z,138nm,18.1s,baz=88,slow=37
SBA Scott Base 62.18 183 P P 16 53 38.4 +3.4
SBA IAmb IAmb 16 53 44.3
comp=Z,27nm,1.2s
SBA Scott Base 62.18 183 P P 16 53 38.4 +3.4
SBA pmax pmax
comp=Z,27nm,1.3s
MJAR Matsushiro Arr 65.45 324 P **P 16 53 56.5 -0.7**
comp=Z,7.5nm,0.9s,baz=152,slow=6.8,SNR=15
comp=Z,7.5nm,0.9s
JOW Kunigami 65.79 310 LR LR 17 20 16.4
comp=Z,154nm,19.8s,baz=125,slow=34
RPN Rapa Nui 65.99 113 LR LR 17 16 18.7
comp=Z,106nm,18.8s,baz=272,slow=30
PCJI Pacitan 67.40 268 P **P 16 54 11.8 +1.6**
JNU Nakatsue 67.68 317 LR LR 17 18 49.0
comp=Z,139nm,22.0s,baz=114,slow=32
SHEM Shemya Is, Ala 68.67 356 LR LR 17 19 13.3
comp=Z,176nm,19.2s,baz=208,slow=32
ASAJ Asahikawa 68.87 332 LR LR 17 24 25.8
comp=Z,168nm,18.1s,baz=102,slow=36
SBUM Sibu 69.31 279 P **P 16 54 24.0 +1.8**
NIKH Nikolski High 69.41 7 P **P 16 54 20.1 -1.7**
baz=191
NACB Ninganchiao 69.54 304 P **P 16 54 22.0 -1.3**
KPJI Karang Pucung 69.77 268 P **P 16 54 26.8 +1.8**
comp=Z,19nm,1.0s
UNV Unalaska Valle 70.57 8 P **P 16 54 27.0 -1.9**
baz=194
KSM Kuching 70.84 277 IAmb IAmb 16 54 34.6
comp=Z,22nm,1.0s
LEM Lembang 71.15 268 LR LR 17 26 16.1
comp=Z,117nm,18.7s,baz=120,slow=36
PEA0B Petropavlovsk- 71.48 346 *ce*P **P 16 54 34.0 -0.6**
PETK Petropavlovsk- 71.48 346 P **P 16 54 33.9 -0.7**
comp=Z,14nm,0.9s,baz=132,slow=8.2,SNR=9.8
PETK LR LR 17 20 56.5
comp=Z,212nm,20.5s,baz=163,slow=32
comp=Z,14nm,0.9s
FALS False Pass 72.03 10 P **P 16 54 36.4 -1.4**
baz=197
KSRS Korea Array 72.24 319 P **P 16 54 40.1 +0.7**
comp=Z,5.2nm,0.9s,baz=134,slow=7.7,SNR=16
KSRS LR LR 17 20 40.9
comp=Z,183nm,21.8s,baz=120,slow=31
comp=Z,5.2nm,0.9s
CHNA Chernabura Isl 72.72 12 P **P 16 54 39.9 -2.0**
baz=201
S12K Black Hills 73.07 11 P **P 16 54 42.3 -1.8**
baz=198
MSHR Mys Shultsa 73.55 325 *ce*P **P 16 54 47.3 +0.2**
MSHR pmax pmax
comp=Z,8.0nm,0.8s
QSPA South Pole Qui 74.00 180 P P 16 54 52.4 +2.8
QSPA IAmb IAmb 16 54 56.9
comp=Z,18nm,1.1s
QSPA South Pole Qui 74.00 180 P **P 16 54 50.8 +1.1**
comp=Z,6.9nm,0.9s,baz=11,slow=1.4,SNR=17
QSPA LR LR 17 21 46.9
comp=Z,183nm,21.6s,baz=43,slow=31
comp=Z,6.9nm,0.9s
USA0B Ussuriysk Arra 74.17 326 *i*P **P 16 54 50.3 -0.4**
USRK Ussuriysk Ar. 74.17 326 P **P 16 54 51.7 +1.0**
comp=Z,6.3nm,1.0s,baz=129,slow=5.2,SNR=10
USRK LR LR 17 23 35.3
comp=Z,169nm,18.7s,baz=128,slow=33
comp=Z,6.3nm,1.0s
CHGN Chignik 74.33 12 P **P 16 54 50.0 -1.4**
baz=202
KASI Kota Agung 74.48 269 P **P 16 54 53.6 +0.3**
comp=Z,23nm,0.9s
CHIR Chirikof Islan 74.50 14 P **P 16 54 51.2 -1.2**
baz=204
NJ2 Nanjing 75.51 310 *e*P **P 16 54 58.6 -0.1**
NJ2 pmax pmax
comp=Z,17nm,0.9s
R16K Pilot Point 75.68 12 P **P 16 54 57.5 -1.6**
baz=202

MDJ Mudanjiang 75.74 325 P **P 16 55 00.6 +0.8**
MDJ pmax pmax
comp=Z,17nm,1.2s
R17L Mt. Peulik Vol 76.00 13 P **P 16 54 60.0 -1.0**
baz=203
OHAK Old Harbor 76.33 15 P **P 16 55 02.5 -0.3**
baz=206
R18K Karluk 76.36 14 P **P 16 55 02.9 -0.1**
baz=205
O14K Tigyukauivet M 76.59 10 P **P 16 55 03.0 -1.2**
baz=198
KMRM Mail Ridge 76.65 41 IAmb IAmb 16 55 07.0
comp=Z,22nm,1.0s
Q17K Contact Creek 76.68 13 P **P 16 55 04.1 -0.9**
baz=204
O15K Ungalikthiuk R 76.76 11 P **P 16 55 04.5 -0.8**
baz=200
Q16K King Salmon 76.90 12 P **P 16 55 04.9 -1.1**
baz=203
P16K Nushagak River 76.96 12 P **P 16 55 05.2 -1.1**
baz=202
M11K Mekoryuk 76.98 7 P **P 16 55 06.8 +0.3**
baz=194
KDAK Kodiak Island 77.00 15 P **P 16 55 05.9 -0.7**
baz=207
N14K Kuskokwak Cree 77.16 9 P **P 16 55 06.8 -0.6**
baz=198
O02D Mt. Diablo Mer 77.21 41 IAmb IAmb 16 55 10.4
comp=Z,35nm,1.8s
QIZ Qiongzhong 77.22 294 P **P 16 55 09.8 +1.1**
QIZ S **S 17 04 55.1 -3.7**
QIZ pmax pmax
comp=Z,18nm,1.7s
QIZ LR LR
comp=Z,160nm,11.8s
QIZ LR LR
comp=Z,110nm,16.0s
QIZ LR LR
comp=Z,200nm,21.9s
Q18K Katmai Hardscr 77.22 13 P **P 16 55 06.8 -1.2**
baz=205
M13K Dall Lake 77.38 8 P **P 16 55 07.6 -1.0**
baz=196
P17K Kvichak River 77.42 12 P **P 16 55 07.9 -1.0**
baz=203
O16K Kokwok River B 77.47 11 IAmb IAmb 16 55 08.7
comp=Z,22nm,1.1s
O16K Kokwok River B 77.47 11 P **P 16 55 08.0 -1.2**
baz=202
CN2 Changchun 77.56 323 P **P 16 55 11.1 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
BNX BinXian 77.64 325 ⇑P **P 16 55 10.8 +0.3**
BNX pmax pmax
comp=Z,9.0nm,1.1s
N15K Kwethluk River 77.65 10 P **P 16 55 09.3 -0.9**
baz=200
KLR Kul'dur 77.69 330 *i*P **P 16 55 09.8 -0.9**
KLR pmax pmax
comp=Z,7.0nm,1.2s
Q19K Cape Douglas, 77.78 14 P **P 16 55 09.6 -1.5**
baz=206
Q20K Shuyak Island 77.78 14 P **P 16 55 10.0 -1.0**
baz=207
O17K Koliganek Bris 77.82 12 P **P 16 55 09.6 -1.6**
baz=202
P18K Big Mountain, 77.85 13 P **P 16 55 10.2 -1.2**
baz=204
M14K Bethel 77.91 9 IAmb IAmb 16 55 12.8
comp=Z,35nm,1.1s
M14K Bethel 77.91 9 P **P 16 55 11.5 -0.1**
baz=198
M15K Kasigluk River 78.05 10 P **P 16 55 12.5 0.0**
baz=199
YBH Yreka Blue Hor 78.13 40 LR LR 17 21 49.9
comp=Z,368nm,20.4s,baz=244,slow=30
N16K Nishlik Lake 78.17 11 P **P 16 55 12.4 -0.7**
baz=201
PFO Pinyon Flats O 78.17 50 LR LR 17 20 39.6
comp=Z,226nm,20.6s,baz=260,slow=29
WHN Wuhan 78.20 307 ⇓P **P 16 55 15.8 +1.8**
O18K Koktuh Hills 78.28 13 P **P 16 55 12.7 -1.1**
baz=204
L14K Kuka Creek 78.36 8 P **P 16 55 14.5 +0.4**
L14K IAmb IAmb 16 55 15.3
comp=Z,17nm,1.1s
L14K Kuka Creek 78.36 8 P **P 16 55 13.3 -0.8**
baz=197
WAKR Walker 78.50 44 IAmb IAmb 16 55 37.3
comp=Z,20nm,1.6s
N17K Nushagak Hills 78.50 11 P **P 16 55 14.5 -0.5**
baz=202
P19K Oil Pt 78.52 14 P **P 16 55 15.6 +0.5**
baz=206
M16K Timber Creek 78.65 10 P **P 16 55 16.3 +0.6**
baz=201,SNR=10
K13K Kusilvak Mount 78.67 7 P **P 16 55 15.8 0.0**
baz=195
O19K Port Alsworth 78.78 13 P **P 16 55 15.8 -0.7**
baz=205
TIA Tai'an 78.80 313 *e*P **P 16 55 17.8 +0.6**
TIA pmax pmax
comp=Z,19nm,1.1s
L15K Ungalak Mounta 78.86 9 P **P 16 55 16.7 -0.2**
baz=198,SNR=5.3
N18K Kilae Creek 78.90 12 P **P 16 55 16.7 -0.5**
baz=204
LPIG La Paz 78.93 61 LR LR 17 21 14.9
comp=Z,484nm,21.4s,baz=222,slow=29
MA2 Magadan 78.98 345 LR LR 17 25 00.4
comp=Z,127nm,20.2s,baz=138,slow=32
O20K Slope Mountain 79.05 14 P **P 16 55 18.0 0.0**
baz=207
BRSE Bradley Lake S 79.19 15 P **P 16 55 18.3 -0.4**
baz=209
L16K Owhat River 79.21 10 IAmb IAmb 16 55 20.1
comp=Z,24nm,1.4s
L16K Owhat River 79.21 10 P **P 16 55 18.7 -0.1**
baz=200
NVAR Mina Array Bea 79.23 45 P **P 16 55 19.7 -0.1**
comp=Z,4.0nm,1.0s,baz=240,slow=5.4,SNR=24
NVAR LR LR 17 22 19.3
comp=Z,482nm,21.9s,baz=249,slow=30
comp=Z,4.0nm,1.0s
M17K Holitna River 79.27 11 P **P 16 55 19.3 +0.1**
baz=202
N19K Bonanza Creek 79.30 12 P **P 16 55 18.5 -1.0**
baz=205
K15K Wolf Creek Mou 79.44 9 IAmb IAmb 16 55 21.6
comp=Z,26nm,1.0s
K15K Wolf Creek Mou 79.44 9 P **P 16 55 20.1 0.0**
baz=198,SNR=8.2
J14K Nanvaranak Lak 79.60 8 P **P 16 55 21.2 +0.3**
baz=196
M18K Stony River 79.65 12 P **P 16 55 21.4 +0.1**
baz=204
TPH Tonopah 79.79 46 IAmb IAmb 16 55 23.4
comp=Z,30nm,1.2s
L17K Donlin 79.80 10 P **P 16 55 22.3 +0.2**
baz=201
SEW Seward 79.82 15 P **P 16 55 22.6 +0.4**
baz=210
J05D Fort Rock, OR 79.90 39 IAmb IAmb 16 55 24.7
comp=Z,24nm,1.3s
O22K Cooper Landing 80.08 15 P **P 16 55 22.9 -0.7**
baz=210
N20K Mount Spurr 80.14 13 P **P 16 55 23.1 -0.9**
baz=207
SPCR Spurr Chakacha 80.14 13 P **P 16 55 23.7 -0.3**
baz=207
L18K Granite Mounta 80.16 11 IAmb IAmb 16 55 25.8
comp=Z,31nm,1.0s
L18K Granite Mounta 80.16 11 P **P 16 55 23.8 -0.2**
baz=203
H02S1 DAWSON INLET T 80.18 27 T T 18 23 12.0
SNR=82
M19K Big River Lodg 80.31 12 IAmb IAmb 16 57 51.1
comp=Z,44nm,1.8s
M19K Big River Lodg 80.31 12 P **P 16 55 23.9 -1.0**
baz=205
V12A Nelson 80.33 49 P **P 16 55 26.3 +0.6**
K17K Iditarod 80.34 10 IAmb IAmb 16 55 26.7
comp=Z,30nm,1.2s
K17K Iditarod 80.34 10 P **P 16 55 25.1 +0.1**
baz=201
L19K White Mountain 80.47 12 IAmb IAmb 16 55 27.1
comp=Z,37nm,1.1s
L19K White Mountain 80.47 12 P **P 16 55 25.4 -0.3**
baz=204

HEH HeiHe 80.48 329 *e*P **P 16 55 26.3 +0.3**
HEH pmax pmax
comp=Z,9.0nm,1.2s
J16K Anvik River 80.52 9 IAmb IAmb 16 55 27.0
comp=Z,16nm,0.9s
J16K Anvik River 80.52 9 P **P 16 55 26.3 +0.4**
baz=199
M20K Styx River 80.55 13 P **P 16 55 26.1 -0.2**
baz=206
IPM Ipoh 80.58 277 P **P 16 55 28.0 +0.6**
IPM IAmb IAmb 16 55 30.1
comp=Z,23nm,0.9s
RC01 Rabbit Creek A 80.61 14 P **P 16 55 26.2 -0.2**
baz=209
SUA Susitna One 80.70 14 IAmb IAmb 16 55 28.0
comp=Z,24nm,0.8s
SUA Susitna One 80.70 14 P **P 16 55 26.1 -1.0**
baz=208
PWL Port Wells 80.75 15 P **P 16 55 26.7 -0.6**
baz=211
J17K VABM Dome 80.86 9 IAmb IAmb 16 55 29.5
comp=Z,16nm,1.0s
J17K VABM Dome 80.86 9 P **P 16 55 26.9 -0.8**
baz=200,SNR=5.4
L20K Farewell, AK 80.94 12 P **P 16 55 27.3 -0.9**
baz=205
TTA Tatalina 80.94 11 IAmb IAmb 16 55 29.7
comp=Z,35nm,1.0s
TTA Tatalina 80.94 11 P **P 16 55 28.6 +0.3**
baz=203,SNR=14
SKT Skwentna 80.98 13 P **P 16 55 27.8 -0.7**
baz=208
R11B Troy Canyon, C 81.05 46 P **P 16 55 28.5 -1.1**
baz=242
HNS HongShan 81.07 313 ⇓P **P 16 55 31.3 +1.9**
HNS pmax pmax
comp=Z,17nm,1.1s
HNS LR LR
comp=Z,250nm,19.1s
HNS LR LR
comp=Z,340nm,23.1s
I17K Unalakleet 81.08 9 P **P 16 55 27.8 -1.1**
baz=199
GLI Glacier Island 81.09 16 P **P 16 55 28.4 -0.6**
baz=212
M22K Willow 81.10 14 P **P 16 55 28.0 -1.0**
baz=209
ANM Nome 81.15 6 P **P 16 55 29.0 -0.3**
baz=194
EYAK Cordova Ski Ar 81.17 16 P **P 16 55 28.6 -0.8**
baz=213
PMR Palmer 81.19 14 IAmb IAmb 16 55 29.4
comp=Z,24nm,1.2s
PMR Palmer 81.19 14 P **P 16 55 29.2 -0.3**
baz=210
KNK Knik Glacier 81.20 15 P **P 16 55 29.6 0.0**
baz=211
J18K Innoko River 81.31 10 IAmb IAmb 16 55 31.5
comp=Z,29nm,0.9s
J18K Innoko River 81.31 10 P **P 16 55 30.1 0.0**
baz=203
BJI Beijing 81.32 316 P **P 16 55 31.6 +0.9**
BJI pmax pmax
comp=Z,5.0nm,0.8s
BJI pmax pmax
comp=Z,120nm,5.9s
I07A Izee 81.38 39 IAmb IAmb 16 56 02.1
comp=Z,30nm,2.0s
LYN LuoYang 81.40 310 P **P 16 55 33.1 +1.8**
LYN pP PcP 16 55 37.3 0.0
LYN S **SKSac 17 05 48.5 -2.5**
LYN pmax pmax
comp=Z,42nm,0.9s
LYN LR LR
comp=Z,260nm,17.5s
LYN LR LR
comp=Z,200nm,19.4s
LYN LR LR
comp=Z,350nm,21.0s
BBB Bella Bella 81.48 29 LR LR 17 24 17.7
comp=Z,295nm,19.3s,baz=226,slow=30
CRAG Craig 81.50 25 P **P 16 55 30.8 -0.5**
baz=225
SML Sawmill 81.57 15 P **P 16 55 30.6 -1.1**
baz=211
H16K Elim 81.59 8 P **P 16 55 30.7 -0.8**
baz=197
SEY Seymchan 81.61 348 *ce*P **P 16 55 31.8 +0.1**
SEY pmax pmax
comp=Z,29nm,1.0s
PPLA Purkeypile 81.66 13 P **P 16 55 31.9 -0.2**
baz=207
K20K Telida 81.70 12 IAmb IAmb 16 55 33.4
comp=Z,30nm,1.0s
K20K Telida 81.70 12 P **P 16 55 32.6 +0.4**
baz=205
M23K Glacier View 81.71 15 P **P 16 55 32.8 +0.5**
baz=211
G15K Niukluk 81.71 7 P **P 16 55 32.3 +0.1**
baz=196
SIT Sitka 81.78 23 P **P 16 55 31.8 -0.9**
baz=223
BMRM Bremner River 81.83 17 P **P 16 55 32.1 -0.9**
baz=214
SCM Sheep Creek Mo 81.84 15 P **P 16 55 32.9 -0.2**
baz=212
TNA Tin City 81.88 5 P **P 16 55 32.5 -0.6**
baz=192
KLU Klutina 81.91 16 P **P 16 55 32.5 -1.0**
baz=213
F14K Arctic Creek 81.94 6 P **P 16 55 33.0 -0.4**
baz=193
MESA MESA 81.95 18 P **P 16 55 32.7 -1.1**
baz=217
U33K Whale Pass 81.95 24 P **P 16 55 32.3 -1.4**
baz=225
J19K Poorman 81.99 11 IAmb IAmb 16 55 31.6
comp=Z,52nm,2.0s
J19K Poorman 81.99 11 P **P 16 55 33.4 -0.3**
baz=204
V35K Ketchikan 82.02 26 P **P 16 55 33.0 -1.0**
baz=227
CRQE Cirque 82.08 17 P **P 16 55 34.0 -0.4**
baz=216
RPSI Rantau Prapat 82.08 275 P **P 16 55 34.2 -1.1**
RPSI IAmb IAmb 16 55 37.5
comp=Z,24nm,1.1s
PSI Prapat 82.11 275 P **P 16 55 34.2 -1.4**
PSI pmax pmax
comp=Z,24nm,1.1s
S31K Pelican 82.12 22 P **P 16 55 33.2 -1.2**
baz=222
CAST Castle Rocks 82.15 12 IAmb IAmb 16 55 34.4
comp=Z,17nm,0.8s
CAST Castle Rocks 82.15 12 P **P 16 55 33.3 -1.3**
baz=207,SNR=13
H17K Granite Mounta 82.19 9 P **P 16 55 34.3 -0.4**
baz=200
G16K Koyuk River 82.30 7 IAmb IAmb 16 55 36.8
comp=Z,19nm,1.0s
G16K Koyuk River 82.30 7 P **P 16 55 34.9 -0.4**
baz=197
F15K North Star Dit 82.33 6 P **P 16 55 35.0 -0.5**
baz=195
PNL Peninsula 82.34 20 P **P 16 55 34.7 -0.9**
baz=219
N25K Chitina, Valde 82.36 16 P **P 16 55 35.5 -0.3**
baz=214
S32K Kilisnoo 82.36 23 P **P 16 55 34.5 -1.2**
baz=224
M24K Tolsona, Glenn 82.36 15 P **P 16 55 34.7 -1.1**
baz=213
KNB Kanab 82.38 48 IAmb IAmb 16 55 40.6
comp=Z,19nm,1.8s
WAT6 Susitna Watana 82.38 14 P **P 16 55 35.0 -1.0**
baz=211
PINM Pinnacle 82.40 19 P **P 16 55 35.2 -0.8**
baz=218
WAT1 Susitna Watana 82.40 14 P **P 16 55 35.1 -0.8**
baz=210
ELK Elko 82.43 44 IAmb IAmb 16 55 57.1
comp=Z,22nm,2.0s
J20K Nowinta River 82.43 11 P **P 16 55 35.0 -1.0**
baz=205
GCSA Galena City Sc 82.47 10 P **P 16 55 36.2 +0.1**
baz=202
WRAK Wrangell Islan 82.48 25 P **P 16 55 35.7 -0.7**

baz=226
U15A North Rim 82.50 49 IAmb IAmb 16 55 41.4
comp=Z,15nm,1.5s
KTH Kantishna Hill 82.51 13 IAmb IAmb 16 55 37.3
comp=Z,16nm,1.0s
CHUM Lake Minchumin 82.52 12 P P 16 55 35.8 -0.6
baz=207,SNR=6.3
TRF Thorofare Moun 82.55 13 P P 16 55 35.4 -1.5
baz=209,SNR=6.2
HAWA Hanford 82.60 37 IAmb IAmb 16 55 38.5
comp=Z,28nm,1.8s
MCARA McCarthy VSAT 82.61 17 P P 16 55 36.1 -0.9
baz=216
H18K Honhosa River 82.62 9 P P 16 55 36.5 -0.5
baz=201
G17K Kiwalik Mounta 82.62 8 P P 16 55 36.6 -0.4
baz=199
CTG Chitna Glacier 82.76 18 P P 16 55 37.8 -0.2
baz=217
ZEA Zeya 82.78 332 eP P 16 55 39.2 +1.1
P29M Windy Craggy 82.85 20 P P 16 55 38.2 -0.1
baz=221
HARP HAARP 82.87 16 P P 16 55 38.2 -0.1
baz=214
DHY Denali Highway 82.89 14 P P 16 55 38.4 -0.3
baz=212
I20K Naaghedeneel 82.93 11 P P 16 55 37.9 -0.6
baz=205
O28M Mount Upton 82.95 18 P P 16 55 38.4 -0.8
baz=218
O29M Mount Kennedy 83.09 19 P P 16 55 38.8 -0.9
baz=220
MCK McKinley 83.10 13 P P 16 55 38.5 -1.0
baz=210,SNR=8.1
PLBC Pleasant Camp 83.18 21 P P 16 55 40.1 +0.1
baz=222
H19K Roundabout Mou 83.27 10 P P 16 55 40.3 +0.1
baz=203
PAX Paxson 83.27 15 P P 16 55 39.7 -0.8
baz=213
G18K Tagagawik 83.27 9 P P 16 55 39.9 -0.4
baz=201
XLT XiLinHaoTe 83.28 319 eP P 16 55 42.0 +1.0
XLT pmax pmax
comp=Z,14nm,1.2s
XLT pmax pmax
comp=Z,280nm,5.4s
MTPU Mount Pierson 83.29 47 IAmb IAmb 16 56 07.7
comp=Z,20nm,1.7s
F17K Baldwin Pennin 83.44 8 P P 16 55 41.0 -0.1
baz=198
M26K Nabesna, AK 83.45 16 P P 16 55 40.7 -0.7
baz=216
MVU Marysvale 83.47 47 IAmb IAmb 16 55 43.6
comp=Z,20nm,1.0s
P30M Million Dollar 83.48 20 P P 16 55 41.1 -0.5
baz=221
YUK8 Steele Glacier 83.48 18 P P 16 55 41.0 -0.8
baz=219
H20K Anotleneega Mo 83.50 10 P P 16 55 41.5 0.0
baz=204
SKAG Skagway 83.54 21 P P 16 55 41.7 -0.2
baz=223
YUK3 Moose Creek 83.66 18 P P 16 55 42.4 -0.3
baz=218
T35M Bob Quinn 83.71 25 P P 16 55 42.6 -0.2
baz=228
M27K Edge Creek, AK 83.72 17 P P 16 55 42.7 -0.2
baz=217
G19K Purcell Mounta 83.74 9 P P 16 55 42.3 -0.4
baz=202
F10A Beach Ranch, E 83.75 39 IAmb IAmb 16 55 55.9
comp=Z,15nm,1.8s
F18K Selawik 83.80 8 P P 16 55 42.7 -0.3
baz=200
NEA2 Nenana 83.82 13 P P 16 55 42.4 -0.7
baz=210
HYT Haines Junctio 83.83 19 P P 16 55 42.6 -0.9
baz=221
XAN Xi'an 83.84 308 P P 16 55 45.8 +1.7
XAN pP sP 16 55 50.1 +1.9
XAN pmax pmax
comp=Z,25nm,1.1s
XAN LR LR
comp=Z,310nm,18.5s
XAN LR LR
comp=Z,230nm,19.9s
XAN LR LR
comp=Z,370nm,20.6s
MLY Manley 83.85 12 IAmb IAmb 16 55 43.4
comp=Z,18nm,1.0s
MLY Manley 83.85 12 P P 16 55 42.8 -0.6
baz=208,SNR=6.9
YUK4 Talbot Arm 83.87 19 P P 16 55 43.5 -0.3
baz=220
K24K Donnelly Dome 83.89 15 P P 16 55 43.9 +0.2
baz=213,SNR=7.0
E17K Hotham Inlet 83.98 7 P P 16 55 43.4 -0.5
baz=198
S34M Telegraph Cree 83.99 24 IAmb IAmb 16 55 45.8
comp=Z,13nm,0.8s
H21K Melozitna Rive 84.02 11 P P 16 55 44.2 0.0
baz=206
BVCY Beaver Creek 84.05 17 P P 16 55 43.6 -0.9
baz=218,SNR=5.7
RIDG Independent Ri 84.07 15 P P 16 55 43.8 -0.7
baz=214
HDA Harding Lake 84.13 14 P P 16 55 43.7 -1.1
baz=212,SNR=11
P32M Atlin 84.20 22 P P 16 55 44.5 -0.9
baz=224
BELA Belgrano 2 84.21 173 P P 16 55 46.6 +1.4
BELA IAmb IAmb 16 55 48.0
comp=Z,21nm,1.2s
I23K Minto, Yukon-K 84.24 13 P P 16 55 44.8 -0.5
baz=210
O30N Mendenhall 84.25 20 IAmb IAmb 16 55 46.6
comp=Z,17nm,1.1s
O30N Mendenhall 84.25 20 P P 16 55 45.3 -0.3
baz=222
F19K Shaleruckik Mo 84.28 9 P P 16 55 45.4 -0.1
baz=201
Q32M Nakina River 84.28 23 P P 16 55 45.6 -0.3
baz=226
L27K Beaver Creek, 84.30 16 P P 16 55 45.5 -0.2
baz=217
HLID Hailey 84.31 42 IAmb IAmb 16 55 49.4
comp=Z,15nm,1.8s
BCAR Beaver Creek A 84.31 16 P P 16 55 45.2 -0.6
COLA College 84.33 13 P P 16 55 44.3 -1.4
COLA College 84.33 13 P P 16 55 44.7 -1.0
baz=211
COLA College 84.33 13 P P 16 55 43.6 -2.1
COLA pmax pmax
comp=Z,49nm,0.9s
D17K Noatak River 84.43 6 P P 16 55 46.5 +0.3
baz=196
BILL Bilibino 84.43 355ceP P 16 55 46.3 +0.1
BILL pmax pmax
comp=Z,21nm,2.5s
N30M Aishikik Lake 84.44 19 P P 16 55 45.9 -0.6
baz=221
E18K Tukpahlearik C 84.45 7 P P 16 55 46.4 +0.1
baz=199
ILAR Eielson Array 84.45 14 P P 16 55 45.2 -1.2
comp=Z,17nm,0.9s,baz=234,slow=6.1,SNR=104
ILAR LR LR 17 28 15.7
comp=Z,113nm,21.0s,baz=236,slow=32
comp=Z,17nm,0.9s
SCRK Sand Creek 84.48 15 IAmb IAmb 16 55 46.9
comp=Z,15nm,1.0s
SCRK Sand Creek 84.48 15 P P 16 55 46.2 -0.5
baz=215,SNR=7.8
H22K Ishtalitna Cre 84.49 11 P P 16 55 46.3 -0.3
baz=208
TMUT Trail Mountain 84.52 47 IAmb IAmb 16 55 53.2
comp=Z,7.9nm,0.9s
HVU Hansel Valley 84.55 44 IAmb IAmb 16 55 51.3
comp=Z,8.8nm,1.2s
WHY Whitehorse 84.57 21 P P 16 55 46.4 -0.8
baz=223
POKR Poker Plat Res 84.63 13 P P 16 55 46.4 -0.9
baz=211,SNR=8.9
G21K Allakaket 84.67 10 IAmb IAmb 16 55 48.5
comp=Z,21nm,0.9s
G21K Allakaket 84.67 10 P P 16 55 47.1 -0.4
baz=206
J25K Salcha River, 84.67 14 P P 16 55 46.9 -0.7
baz=213
C16K Lisburne Hills 84.76 5 P P 16 55 47.5 -0.3
baz=194
M29M Somme Creek 84.77 18 P P 16 55 47.7 -0.5
baz=220
DLBC Dease Lake 84.78 24 IAmb IAmb 16 55 49.7
comp=Z,23nm,1.2s
DLBC Dease Lake 84.78 24 LR LR 17 34 45.0
comp=Z,132nm,18.1s,baz=298,slow=37
DLBC Dease Lake 84.78 24 P P 16 55 47.9 -0.4
baz=228
F20K Avaraart Lake 84.79 9 IAmb IAmb 16 55 49.2
comp=Z,16nm,1.1s
F20K Avaraart Lake 84.79 9 P P 16 55 48.3 +0.3
baz=203
RDOG Red Dog Mine 84.79 6 P P 16 55 48.0 -0.1
baz=196
H23K Yukon River 84.79 12 IAmb IAmb 16 55 47.8
comp=Z,12nm,1.1s
H23K Yukon River 84.79 12 P P 16 55 47.3 -0.9
baz=209
HHC Hu-ho-hao-te 84.81 315 eP P 16 55 47.9 -1.0
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,270nm,5.3s
HHC LR LR
comp=Z,180nm,15.3s
HHC LR LR
comp=Z,230nm,16.8s
HHC LR LR
comp=Z,310nm,16.8s
N31M Braeburn, Yuko 84.89 20 P P 16 55 48.1 -0.6
baz=222
E19K Redstone River 84.94 9 IAmb IAmb 16 55 50.0
comp=Z,21nm,1.1s
E19K Redstone River 84.94 9 P P 16 55 49.2 +0.3
baz=202
P33M Teslin, Yukon 84.97 22 P P 16 55 49.2 0.0
baz=225
NEW Newport 84.98 37 LR LR 17 30 22.0
comp=Z,130nm,18.6s,baz=233,slow=33
K27K Chicken 85.01 16 IAmb IAmb 16 55 50.7
comp=Z,22nm,1.1s
K27K Chicken 85.01 16 P P 16 55 49.3 0.0
baz=216,SNR=10
J26L Joseph Creek 85.02 15 P P 16 55 49.4 0.0
baz=215,SNR=18
MAW Mawson 85.05 200 P P 16 55 52.3 +2.8
comp=Z,6.6nm,0.8s,baz=120,slow=6.6,SNR=12
MAW LR LR 17 30 19.0
comp=Z,187nm,19.7s,baz=98,slow=33
comp=Z,6.6nm,0.8s
R33M Jennings River 85.07 23 IAmb IAmb 16 55 51.2
comp=Z,14nm,1.1s
R33M Jennings River 85.07 23 P P 16 55 48.5 -1.3
baz=227
H24K Noodor Dome 85.15 13 P P 16 55 49.6 -0.4
baz=211
C17K DeLong Mountai 85.17 6 P P 16 55 50.4 +0.5
baz=196
TCUT Toone Canyon 85.18 45 IAmb IAmb 16 55 52.3
comp=Z,15nm,1.1s
F21K Alatna River 85.31 10 IAmb IAmb 16 55 51.6
comp=Z,13nm,1.0s
F21K Alatna River 85.31 10 P P 16 55 50.9 +0.2
baz=206
M30M Minto, Yukon 85.38 19 IAmb IAmb 16 55 51.9
comp=Z,15nm,0.8s
M30M Minto, Yukon 85.38 19 P P 16 55 50.5 -0.7
baz=221,SNR=7.4
L29M L29M 85.38 18 P P 16 55 50.9 -0.3
baz=220
G22K Bettles 85.39 11 P P 16 55 51.1 +0.1
baz=207
PRP Porcupine Dome 85.39 14 IAmb IAmb 16 55 51.8
comp=Z,24nm,1.3s
PRP Porcupine Dome 85.39 14 P P 16 55 50.6 -0.7
baz=213,SNR=7.6
G23K Bananza Creek 85.48 12 P P 16 55 51.9 +0.4
baz=209
KMI Kunming 85.54 298 ⇑P P 16 55 55.4 +2.3
KMI pmax pmax
comp=Z,12nm,1.2s
KMI LR LR
comp=Z,140nm,16.6s
KMI LR LR
comp=Z,240nm,19.7s
KMI LR LR
comp=Z,240nm,21.9s
N32M Quiet Lake 85.54 21 P P 16 55 52.0 -0.1
baz=225
C18K Utukok River 85.55 7 P P 16 55 51.0 -0.9
baz=198
DAWY Dawson 85.76 17 IAmb IAmb 16 55 53.9
comp=Z,15nm,0.9s
DAWY Dawson 85.76 17 P P 16 55 52.1 -1.0
baz=219,SNR=10
BTO Baotou 85.77 314 eP P 16 55 55.4 +1.7
BTO pP sP 16 56 00.3 +2.5
BTO sP pP 16 56 02.6 +5.8
BTO pmax pmax
comp=Z,17nm,0.5s
BTO pmax pmax
comp=Z,680nm,5.8s
I26K Coal Creek Min 85.78 15 P P 16 55 52.0 -1.0
baz=215
D19K Kuna River 85.78 8 IAmb IAmb 16 55 54.0
comp=Z,14nm,1.0s
D19K Kuna River 85.78 8 P P 16 55 52.1 -0.9
baz=201
F22K John River 85.79 10 P P 16 55 52.5 -0.6
baz=207
E20K Nigu River 85.83 9 P P 16 55 52.8 -0.5
baz=203
EGAK Eagle 85.85 16 IAmb IAmb 16 55 54.2
comp=Z,20nm,1.0s
EGAK Eagle 85.85 16 P P 16 55 52.7 -0.7
baz=217,SNR=7.7
M31M Dry Creek, Y 85.86 20 P P 16 55 53.0 -0.6
baz=224
COLD Coldfoot 85.90 11 P P 16 55 54.1 +0.5
baz=209
G24K Hadweenzic Riv 85.97 12 P P 16 55 54.2 +0.2
baz=211
K29M Barlow Dome 86.12 17 IAmb IAmb 16 55 56.0
comp=Z,18nm,1.1s
K29M Barlow Dome 86.12 17 P P 16 55 55.1 +0.1
baz=221
PMSA Palmer Station 86.15 157 LR LR 17 24 55.0
comp=Z,127nm,21.8s,baz=247,slow=29
B18K Kokolik River 86.17 6 P P 16 55 54.5 -0.4
baz=198
C19K Lookout Ridge 86.17 7 P P 16 55 55.0 0.0
baz=200
D20K Etivluk River 86.19 8 P P 16 55 54.8 -0.2
baz=202
FARO Faro, Yukon 86.22 20 P P 16 55 54.9 -0.5
baz=225
ANMO Albuquerque 86.22 52 P P 16 55 55.8 -0.5
ANMO Albuquerque 86.22 52 LR LR 17 26 50.8
comp=Z,308nm,20.1s,baz=38,slow=30
ANMO Albuquerque 86.22 52ceP P 16 55 56.6 +0.4
ANMO pmax pmax
comp=Z,4.0nm,1.7s
G25K Bearman Lake 86.32 13 P P 16 55 55.4 -0.3
baz=212
E21K Kilik River 86.34 9 P P 16 55 55.7 -0.1
baz=205
TX31 Lajitas Ar. Si 86.38 58 IAmb IAmb 16 56 01.6
comp=Z,9.9nm,1.1s
TXAR Lajitas Array 86.38 58 P P 16 55 58.1 +1.1
comp=Z,3.4nm,0.8s,baz=224,slow=5.6,SNR=26
TXAR LR LR 17 27 11.5
comp=Z,314nm,18.9s,baz=202,slow=31
comp=Z,3.4nm,0.8s
I27K Kandik River 86.40 15 P P 16 55 55.9 -0.3
baz=217
E22K Anaktuvuk Pass 86.41 10 IAmb IAmb 16 55 57.3
comp=Z,14nm,1.1s
E22K Anaktuvuk Pass 86.41 10 P P 16 55 55.9 -0.3
baz=207
F24K Squaw Lake 86.60 12 P P 16 55 57.0 -0.1
baz=211
CD2 Chengdu 86.70 303 P P 16 56 00.3 +1.8
CD2 S S 17 06 36.0 -0.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
I28M Miner Creek 86.70 16 IAmb IAmb 16 56 15.3
comp=Z,41nm,2.0s
I28M Miner Creek 86.70 16 P P 16 55 57.3 -0.5
baz=218
CMAR Chiang Mai Arr 86.73 290 P P 16 56 00.1 +1.3
comp=Z,3.3nm,1.0s,baz=107,slow=2.9,SNR=27
CMAR LR LR 17 30 21.2
comp=Z,58nm,21.9s,baz=100,slow=33
comp=Z,3.3nm,1.0s
CMAR Chiang Mai Arr 86.73 290ceP P 16 56 01.2 +2.4
CMAR pmax pmax
comp=Z,3.0nm,0.9s
E23K Chandalar 86.74 11 P P 16 55 57.5 -0.4
baz=209
CHTO Chiang Mai 86.84 290 P P 16 56 00.5 +1.2
CHTO IAmb IAmb 16 56 02.6
comp=Z,17nm,1.6s
CHTO Chiang Mai 86.84 290 P P 16 56 00.5 +1.2
CHTO pmax pmax
comp=Z,17nm,1.6s
PZH PanZhiHua 86.85 299 P P 16 56 00.8 +1.4
PZH S S 17 06 37.5 -0.5
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,120nm,4.2s
PZH LR LR
comp=Z,120nm,19.6s
PZH LR LR
comp=Z,120nm,18.0s
PZH LR LR
comp=Z,200nm,19.6s
C21K Knifeblade Rid 86.87 9 P P 16 55 58.8 +0.4
baz=204
H27K Steamboat Moun 86.92 15 P P 16 55 58.7 -0.1
baz=217
D22K Ayikyak River 86.94 10 IAmb IAmb 16 56 00.2
comp=Z,12nm,1.1s
D22K Ayikyak River 86.94 10 P P 16 55 58.5 -0.3
baz=206
TOAD Toad River Com 86.96 25 P P 16 55 59.3 +0.3
baz=232,SNR=6.2
E24K Your Creek 86.96 11 P P 16 55 57.8 -1.1
baz=210
YHL Hebgen Lake 86.96 42 IAmb IAmb 16 56 01.7
comp=Z,13nm,1.2s
G26K Porcupine Rive 86.98 14 P P 16 55 58.5 -0.4
baz=215
J30M Hart River 87.02 17 P P 16 55 58.6 -0.8
baz=222
S22A 4UR Ranch, Cre 87.02 49 P P 16 55 58.5 -1.7
baz=247
A19K Wainwright 87.05 6 P P 16 55 59.6 +0.4
baz=198
I29M Ogilvie Camp, 87.06 16 P P 16 55 58.7 -0.7
baz=220
F25K Christian Rive 87.12 13 P P 16 55 59.2 -0.5
baz=213
PD31 Pinedale Array 87.13 44 IAmb IAmb 16 57 28.6
comp=Z,5.1nm,0.6s
PDAR Pinedale Array 87.13 44 P P 16 56 00.2 -0.3
comp=Z,2.0nm,0.9s,baz=204,slow=3.3,SNR=9.9
PDAR LR LR 17 27 29.1
comp=Z,190nm,20.9s,baz=241,slow=31
comp=Z,2.0nm,0.9s
YAK Yakutsk 87.25 339 LR LR 17 31 06.1
comp=Z,76nm,20.6s,baz=108,slow=33
YAK Yakutsk 87.25 339ceP P 16 56 00.2 -0.1
YAK pmax pmax
comp=Z,32nm,2.5s
TOLK Toolik Lake Re 87.25 11 P P 16 55 59.9 -0.4
baz=209
B21K Ikpikpuk River 87.32 9 P P 16 56 00.3 -0.2
baz=204
B20K Meade River 87.32 8 P P 16 56 00.1 -0.4
baz=202
D23K Nanushuk River 87.35 10 IAmb IAmb 16 58 21.0
comp=Z,38nm,2.0s
D23K Nanushuk River 87.35 10 P P 16 56 01.0 +0.3
baz=208
G27K Doyon Strip 87.36 14 P P 16 56 01.0 +0.2
baz=217
I30M Mount Dempster 87.49 17 P P 16 56 01.4 -0.2
baz=222
F26K Sheenjek River 87.52 13 P P 16 56 01.9 +0.3
baz=214
H29M Whitestone 87.71 16 P P 16 56 01.7 -0.8
baz=220
D24K Happy Valley 87.84 11 P P 16 56 03.3 +0.3
baz=210
C23K Itkillik River 88.13 10 IAmb IAmb 16 56 05.5
comp=Z,12nm,1.0s
C23K Itkillik River 88.13 10 P P 16 56 04.7 +0.3
baz=208
B22K Teshekpuk Lake 88.14 9 P P 16 56 04.1 -0.3
baz=206
KOTAN Kotaneelee Air 88.22 25 P P 16 56 05.1 0.0
baz=233
EPYK Eagle Plains 88.26 16 P P 16 56 03.6 -1.6
baz=221
G29M Pine Creek 88.33 15 P P 16 56 05.1 -0.4
baz=220
C24K Franklin Bluff 88.35 10 IAmb IAmb 16 56 07.8
comp=Z,15nm,1.2s
C24K Franklin Bluff 88.35 10 P P 16 56 04.8 -0.6
baz=210
F28M Old Crow 88.42 14 P P 16 56 04.6 -1.3
baz=218
D25K Kavik River 88.43 11 IAmb IAmb 16 56 05.7
comp=Z,11nm,1.6s
D25K Kavik River 88.43 11 P P 16 56 04.8 -1.1
baz=212
LZH Lanzhou 88.47 308 eP P 16 56 09.5 +2.5
LZH sP sP 16 56 19.1 +8.0
LZH pmax pmax
comp=Z,43nm,1.0s
LZH pmax pmax
comp=Z,230nm,4.3s
E27K Coleen River 88.48 13 P P 16 56 06.2 +0.1
baz=217
H31M Peel River 88.49 17 P P 16 56 05.5 -0.8
baz=224
A22K Sinclair Lake 88.53 8 P P 16 56 06.1 -0.2
baz=204
Q24A Divide 88.70 49 P P 16 56 07.3 -0.9
baz=248
G30M tAoh Zraii Nji 88.85 16 IAmb IAmb 16 56 10.8
comp=Z,25nm,1.7s
G30M tAoh Zraii Nji 88.85 16 P P 16 56 07.5 -0.4
baz=222
N23A Red Feather La 88.86 47 P P 16 56 08.0 -0.8
baz=248
TNCH TengChong 89.13 296 eP P 16 56 12.3 +1.9
TNCH pP sP 16 56 14.9 +0.4
TNCH pmax pmax
comp=Z,12nm,1.4s
C27K Jago River 89.21 12 P P 16 56 08.7 -0.8
baz=215
C26K Camden Bay 89.21 11 P P 16 56 08.4 -1.1
baz=214
E28M Babbage River 89.28 14 IAmb IAmb 16 56 10.3
comp=Z,8.4nm,0.9s
E28M Babbage River 89.28 14 P P 16 56 08.6 -1.3
baz=219
G31M Satah River 89.33 16 IAmb IAmb 16 56 11.9
comp=Z,9.7nm,1.1s
G31M Satah River 89.33 16 P P 16 56 08.6 -1.5
baz=224
D27M Malcolm River 89.47 13 P P 16 56 10.6 -0.2
baz=217
833A Chaparral WMA, 89.58 60 P P 16 56 10.8 -1.4
baz=252
F31M Tsiigehtchic 89.85 16 P P 16 56 11.5 -1.0
baz=224
CMIG Matias Romero 90.20 72 LR LR 17 27 37.9
comp=Z,264nm,20.5s,baz=198,slow=30
INK Inuvik 90.53 16 P P 16 56 15.1 -0.6
baz=224
ULN Ulaanbaatar 90.69 320 P P 16 56 16.9 -0.2
ULN IAmb IAmb 16 56 19.1
comp=Z,13nm,1.0s
ULN Ulaanbaatar 90.69 320ceP P 16 56 18.3 +1.2
ULN pmax pmax
comp=Z,15nm,1.0s
ELIB Princess Elisa 90.81 187 dP P 16 56 16.9 -0.5
comp=Z,7.1nm,0.9s
SONM Songino Array 91.09 320 P P 16 56 19.4 +0.4
comp=Z,3.8nm,0.9s,baz=108,slow=3.3,SNR=18

SONM				LR	LR	17 31 54.7	
	comp=Z,94nm,20.9s,baz=281,slow=32						
	comp=Z,3.8nm,0.9s						
TROLL	**Troll, Antarti**	**92.15**	**181**	⇑P	**P**	**16 56 25.3**	**+1.7**
	comp=Z,529nm,0.8s						
SNAA	**Sanae**	**92.49**	**179**	⇑P	**P**	**16 56 25.6**	**+0.6**
	comp=Z,71nm,1.2s						
SNAA	**Sanae**	**92.49**	**179**	P	**P**	**16 56 25.6**	**+0.6**
	comp=Z,3.0nm,1.0s,baz=172,slow=15,SNR=6.6						
SNAA				LR	LR	17 36 56.8	
	comp=Z,182nm,18.2s,baz=193,slow=35						
	comp=Z,3.0nm,1.0s						
SNAA	**Sanae**	**92.49**	**179**	*ce*P	**P**	**16 56 26.3**	**+1.3**
SNAA				pmax	pmax		
	comp=Z,10.0nm,1.5s						
VNA3	**Neumayer Olymp**	**92.69**	**177**	⇑P	**P**	**16 56 27.3**	**+1.4**
	comp=Z,14nm,0.9s						
VNA2	**Neumayer--Watz**	**93.11**	**178**	⇑P	**P**	**16 56 28.9**	**+1.1**
	comp=Z,7.2nm,0.8s,baz=170,slow=1.7						
YKA	**Yellowknife Ar**	**93.33**	**25**	LR	LR	17 36 55.1	
	comp=Z,149nm,18.8s,baz=288,slow=35						
VNA1	**Neumayer--Stat**	**93.34**	**177**	⇑P	**P**	**16 56 30.7**	**+1.8**
	comp=Z,16nm,1.2s						
TIXI	**Tiksi**	**93.95**	**346**	*ce*P	**P**	**16 56 30.3**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
A36M	**Sachs Harbour**	**95.09**	**15**	IAmb	IAmb	16 56 37.0	
	comp=Z,9.5nm,0.8s						
A36M	**Sachs Harbour**	**95.09**	**15**	P	**P**	**16 56 36.0**	**-0.7**
	baz=232						
GOMU	**GeErMu**	**95.44**	**306**	P	**P**	**16 56 38.6**	**-1.0**
GOMU				pmax	pmax		
	comp=Z,6.0nm,1.4s						
JTS	**Las Juntas de**	**97.68**	**82**	LR	LR	17 32 09.2	
	comp=Z,171nm,18.4s,baz=302,slow=30						
ULM	**Lac du Bonnet**	**98.54**	**40**	LR	LR	17 37 20.3	
	comp=Z,224nm,18.9s,baz=304,slow=33						
NNA	**Nana**	**99.16**	**105**	LR	LR	17 31 48.9	
	comp=Z,54nm,20.4s,baz=286,slow=29						
ATAH	**Atahualpa**	**99.19**	**100**	LR	LR	17 31 31.6	
	comp=Z,240nm,21.8s,baz=275,slow=29						
WMQ	**Urumqi**	**102.49**	**312**	*e*P	**Pdif**	**16 57 10.4**	**-0.2**
WMQ				LR	LR		
	comp=Z,250nm,22.3s						
BDFB	**Brasilia**	**123.19**	**121**	PKP	**PKiKP**	**17 02 12.3**	**0.0**
	comp=Z,2.3nm,0.7s,baz=274,slow=1.8,SNR=3.4						
KIRV	**Kirov**	**124.12**	**331**	*i* PKIKP	**PKiKP**	**17 02 11.6**	**-1.1**
KIV	**Kislovodsk**	**134.39**	**317**	*i* PKIKP	**PKiKP**	**17 02 32.1**	**-1.8**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,114nm,24.0s						
AKASG	**Malin Array Be**	**138.16**	**332**	PKP	**PKiKP**	**17 02 39.7**	**-1.6**
	comp=Z,1.6nm,0.8s,baz=48,slow=2.0,SNR=10						
AKASG	**Malin Array Be**	**138.16**	**332**	*ce*PKIKP	**PKiKP**	**17 02 40.7**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
RGN	**Rugen**	**140.18**	**348**	*e*PKPbc	**PKPdf**	**17 02 36.4**	**-6.3**
	baz=18,slow=3.1						
BRTR	**Keskin Array B**	**142.32**	**316**	PKhKP	PKPpre	17 02 44.0	
	comp=Z,1.2nm,0.9s,baz=68,slow=2.2,SNR=4.9						
STHS	**Stebnicka Huta**	**142.45**	**337**	*e*PKIKP	**PKPdf**	**17 02 46.5**	**-0.6**
STHS	**Stebnicka Huta**	**142.45**	**337**	*e*PKP	**PKPdf**	**17 02 46.5**	**-0.6**
CLL	**Collm**	**143.28**	**346**	*e*PKHKP	PKPpre	17 02 44.0	
CLL				*e*		17 02 48.0	
CLL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
CLL	**Collm**	**143.28**	**346**	*e*PKPpre	**PKPpre**	17 02 44.0	
CLL				*e*PKPdf	**PKPdf**	**17 02 48.0**	**-0.4**
	comp=Z,9.0nm,1.3s						
MORC	**Moravsky Berou**	**143.43**	**341**	*e*PKP	**PKiKP**	**17 02 53.1**	**+0.9**
MMAI	**Mount Meron Ar**	**143.76**	**304**	PKP	**PKPdf**	**17 02 49.0**	**-1.0**
	comp=Z,16nm,0.9s,baz=46,slow=2.4,SNR=16						
VYHS	**Vyhne**	**144.10**	**338**	*e*PKIKP	**PKPdf**	**17 02 49.3**	**-0.7**
VYHS	**Vyhne**	**144.10**	**338**	*e*PKP	**PKPdf**	**17 02 49.3**	**-0.7**
VRAC	**Vranov**	**144.14**	**341**	*e*PKP	**PKPdf**	**17 02 48.3**	**-1.7**
JAVC	**Velka Javorina**	**144.19**	**340**	*e*PKP	**PKPdf**	**17 02 49.8**	**-0.4**
TANN	**Tannenbergstha**	**144.24**	**346**	*e*PKPbc	**PKPdf**	**17 02 49.3**	**-0.9**
	baz=18,slow=3.1						
KRUC	**Moravsky**	**144.42**	**341**	*e*PKP	**PKPdf**	**17 02 49.3**	**-1.2**
CSS	**Mathiatis**	**144.66**	**309**	PKPdf	**PKPdf**	**17 02 51.6**	**+0.2**
ZVC	**Zvikov**	**144.71**	**344**	*e*PKP	**PKPdf**	**17 02 50.7**	**-0.3**
MANZ	**Manzenberg**	**144.72**	**346**	*e*PKPbc	**PKPdf**	**17 02 50.8**	**-0.3**
	baz=18,slow=3.1						
MODS	**Modra-Piesok**	**144.74**	**340**	*e*PKIKP	**PKPdf**	**17 02 51.7**	**+0.6**
MODS	**Modra-Piesok**	**144.74**	**340**	*e*PKP	**PKPdf**	**17 02 51.7**	**+0.6**
ROTZ	**Rotzenmuhle**	**144.91**	**346**	*e*PKPbc	**PKPab**	**17 02 51.2**	**-0.2**
	baz=18,slow=3.1						
KHC	**Kasperske Hory**	**145.16**	**344**	*e*PKP	**PKPdf**	**17 02 52.3**	**+0.4**
KHC	**Kasperske Hory**	**145.16**	**344**	*e*PKIKP	**PKPdf**	**17 02 52.3**	**+0.4**
MEM	**Membach**	**145.17**	**353**	*d*PKP	**PKPdf**	**17 02 51.5**	**-0.3**
BTNL	**Ternell**	**145.18**	**353**	*d*PKP	**PKPdf**	**17 02 51.5**	**-0.3**
GRF	**Grafenberg Arr**	**145.20**	**347**	*e*PKPbc	**PKPdf**	**17 02 52.3**	**+0.5**
	baz=18,slow=3.1						
TNS	**Taunus Mts**	**145.21**	**350**	*e*PKPbc	**PKPdf**	**17 02 52.3**	**+0.3**
	baz=18,slow=3.1						
BSTI	**Sart Tilman**	**145.24**	**354**	*d*PKP	**PKPab**	**17 02 51.7**	**+0.1**
CKRC	**Cesky Krumlov**	**145.25**	**343**	*e*PKP	**PKPdf**	**17 02 52.3**	**+0.3**
CKRC	**Cesky Krumlov**	**145.25**	**343**	*e*PKIKP	**PKPdf**	**17 02 52.3**	**+0.3**
WET	**Wettzell**	**145.32**	**345**	*e*PKPbc	**PKPab**	**17 02 52.6**	**+0.6**
	baz=18,slow=3.1						
GEC2	**GERESS Array S**	**145.39**	**344**	*e*PKPbc	**PKPab**	**17 02 52.9**	**+0.5**
	baz=18,slow=3.1						
GERES	**GERESS Array B**	**145.39**	**344**	PKPbc	**PKPab**	**17 02 52.5**	**+0.1**
	comp=Z,8.2nm,0.9s,baz=0.0,slow=2.0,SNR=21						
BHOU	**Houvegnez**	**145.42**	**353**	*d*PKP	**PKPab**	**17 02 52.5**	**+0.2**
BCLA	**Clavier**	**145.43**	**354**	*d*PKPdf	**PKPbc**	**17 02 51.4**	**-0.7**
CONA	**Conrad Observa**	**145.59**	**341**	*i* pPKP	**PKPab**	**17 02 53.8**	**+0.7**
	comp=Z,20nm,0.9s						
BMRD	**Maredsous**	**145.60**	**354**	*d*PKP	**PKPab**	**17 02 52.8**	**-0.1**
RONA	**Rosalia, Austr**	**145.65**	**340**	*i* pPKP	**PKPab**	**17 02 53.7**	**+0.4**
	comp=Z,18nm,1.1s,SNR=7.2						
RCHB	**Rochefort**	**145.70**	**354**	*d*PKP	**PKPdf**	**17 02 51.8**	**-0.8**
DOU	**Dourbes**	**145.82**	**355**	*d*PKP	**PKPab**	**17 02 53.2**	**-0.5**
WLF	**Walferdange**	**146.08**	**353**	*e*PKPbc	**PKPab**	**17 02 55.3**	**+0.6**
	baz=18,slow=3.1						
WLF	**Walferdange**	**146.08**	**353**	*d*PKP	**PKPab**	**17 02 55.0**	**+0.3**
MOA	**Molln**	**146.14**	**343**	*e*pPKP	**PKPab**	**17 02 55.1**	**+0.1**
	comp=Z,20nm,1.4s,SNR=7.6						
ARSA	**Arzberg**	**146.29**	**341**	*i* pPKP	**PKPab**	**17 02 55.5**	**-0.2**
	comp=Z,6.4nm,1.1s						
BIOA	**Bad Ischl, Aus**	**146.46**	**343**	*i* pPKP	**PKiKP**	**17 02 56.6**	**-1.9**
	comp=Z,19nm,1.3s						
STU	**Stuttgart**	**146.48**	**349**	*e*PKPbc	**PKPab**	**17 02 55.8**	**-0.5**
	baz=18,slow=3.1						
FUR	**Furstenfeldbru**	**146.62**	**346**	*e*PKPbc	**PKPab**	**17 02 56.6**	**-0.3**
	baz=18,slow=3.1						
RJOB	**Jochberg**	**146.65**	**344**	*e*PKPbc	**PKPab**	**17 02 56.9**	**-0.2**
	baz=18,slow=3.1						
SOKA	**Soboth**	**146.96**	**341**	*i* pPKP	**PKPab**	**17 02 57.1**	**-1.2**
	comp=Z,8.4nm,1.0s						
LESA	**Schwarzleotal**	**146.97**	**344**	*i* pPKP	**PKPab**	**17 02 57.3**	**-1.0**
	comp=Z,13nm,1.2s						
BFO	**Black Forest**	**147.06**	**350**	*e*PKPbc	**PKPab**	**17 02 57.7**	**-0.9**
	baz=18,slow=3.1						
KBA	**Koelnbreinsper**	**147.10**	**343**	*i* PKP	**PKPbc**	**17 02 57.0**	**-0.5**
	comp=Z,11nm,1.1s						
OBKA	**Obir**	**147.26**	**341**	*i* PKP	**PKPbc**	**17 02 57.8**	**-0.1**
	comp=Z,17nm,1.6s						
WATA	**Walderalm**	**147.33**	**345**	*i* pPKP	**PKPbc**	**17 02 58.2**	**+0.1**
	comp=Z,12nm,1.0s,SNR=4.3						
UBR	**Ueberruh**	**147.34**	**347**	*e*PKPbc	**PKPab**	**17 02 58.5**	**-1.3**
	baz=18,slow=3.1						
RETA	**Reutte**	**147.38**	**346**	*i* PKP	**PKPab**	**17 02 58.5**	**-1.5**
	comp=Z,15nm,1.0s,SNR=6.9						
WTTA	**Wattenberg**	**147.38**	**345**	*e*PKP	**PKPab**	**17 02 58.7**	**-1.5**
	comp=Z,19nm,0.9s,SNR=8.1						
MYKA	**Terra Mystica**	**147.42**	**342**	*i* PKP	**PKPbc**	**17 02 57.2**	**-1.1**
	comp=Z,12nm,0.8s						
MOTA	**Moosalm**	**147.43**	**346**	*i* PKP	**PKPbc**	**17 02 58.4**	**0.0**
	comp=Z,29nm,1.2s						
SQTA	**Sankt Quirin**	**147.53**	**346**	*i* PKP	**PKiKP**	**17 02 59.0**	**-1.7**
	comp=Z,17nm,1.1s,SNR=5.0						
ABTA	**Abfaltersbach**	**147.63**	**344**	*i* pPKP	**PKPbc**	**17 02 58.4**	**-0.4**
	comp=Z,16nm,1.0s,SNR=6.3						
DAVA	**Damuels**	**147.76**	**347**	*i* PKP	**PKiKP**	**17 02 59.9**	**-1.4**
	comp=Z,13nm,1.1s						
FETA	**Feichten**	**147.83**	**346**	*i* PKP	**PKiKP**	**17 02 59.9**	**-1.5**
	comp=Z,12nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**148.31**	**346**	PKPab	**PKiKP**	**17 03 01.9**	**-0.7**
ESDC	**Sonseca Array**	**156.21**	**7**	PKPab	**PKPab**	**17 03 36.8**	**0.0**
	comp=Z,4.6nm,1.1s,baz=336,slow=4.6,SNR=11						
TORD	**Torodi Ar. Bea**	**176.64**	**211**	PKP	**PKPdf**	**17 03 23.8**	**-1.7**
	comp=Z,2.8nm,0.9s,baz=198,slow=0.6,SNR=10.0						

*SJA **17** 16:51:08.3±0.6, 29°.06S×71°.37W, h42km±2km, ML3.6, MW3.8*

*GUC **17** 16:51:09.2±0.7, 29°.05S×71°.27W, h56km±3km, ML3.8*

ISC 17 16:51:08.8±1.4, **29°.02S**±0°.02×**71°.46W**±0°.06, **h28**km±13km, **n32**, σ1°**46**/53, **3C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.66**	**90**	*e*P	**Pb**	**16 51 21.0**	**-1.0**
LCO				*i* S	**Sb**	**16 51 30.0**	**-0.9**
LCO	**Las Campanas**	**0.66**	**90**	*e*P	**Pb**	**16 51 21.3**	**-0.6**
LCO				*e*S	**Sb**	**16 51 31.0**	**+0.1**
AC04	**Llanos de Chal**	**0.88**	**23**	*e*P	**Pn**	**16 51 25.9**	**+0.6**
AC04				*i* S	**Sn**	**16 51 37.2**	**+0.1**
AC04				IAML		16 51 40.6	
	comp=E,5μm,0.1s						
AC04	**Llanos de Chal**	**0.88**	**23**	*e*P	Pn	16 51 20.2	-5.0
AC04				*e*S	**Sb**	**16 51 38.3**	**+1.6**
AC04				IAML		16 51 39.2	
	comp=Z,4μm,0.3s						
CO05	**La Serena**	**0.92**	**168**	*e*P	**Pn**	**16 51 25.4**	**-0.5**
CO05				*i* S	**Sn**	**16 51 37.5**	**-0.7**
CO05				IAML		16 51 41.2	
	comp=N,4μm,0.4s						
GO04	**Tololo Observa**	**1.29**	**154**	⇑*i*P	**Pn**	**16 51 30.3**	**-0.8**
GO04				*i* S	**Sn**	**16 51 46.3**	**-1.3**
GO04				IAML		16 51 47.5	
	comp=E,5μm,0.3s						
GO04	**Tololo Observa**	**1.29**	**154**	*e*P	**Pn**	**16 51 30.4**	**-0.8**
GO04				*e*S	**Sn**	**16 51 46.7**	**-0.9**
CO01	**Juntas del Tor**	**1.53**	**129**	⇓*i*P	**Pn**	**16 51 33.9**	**-0.6**
CO01				*i* S	**Sn**	**16 51 52.0**	**-1.6**
CO01				IAML		16 51 52.8	
	comp=E,2μm,0.2s						
CO01	**Juntas del Tor**	**1.53**	**129**	*e*P	**Pn**	**16 51 33.9**	**-0.6**
CO01				*e*S	**Sn**	**16 51 52.3**	**-1.2**
CO01				IAML		16 51 52.9	
	comp=Z,1μm,0.5s						
CO06	**Fray Jorge**	**1.66**	**185**	⇑*e*P	**Pn**	**16 51 35.5**	**-0.6**
GO03	**Copiapo**	**1.78**	**38**	*e*P	**Pn**	**16 51 37.1**	**-0.7**
GO03	**Copiapo**	**1.78**	**38**	*e*P	Pn	16 51 26.8	-11
GO03				*e*S	Sn	16 51 46.3	-13
AC06	**Mina Casimiro**	**1.92**	**31**	*e*P	**Pn**	**16 51 39.8**	**+0.2**
AC06				*i* S	**Sn**	**16 52 02.3**	**-0.5**
AC06				IAML		16 52 04.3	
	comp=N,717nm,0.3s						
CO03	**El Pedregal**	**1.94**	**160**	*e*P	**Pn**	**16 51 39.7**	**-0.3**
CO03				IAML		16 52 04.0	
	comp=E,825nm,0.3s						
CO03	**El Pedregal**	**1.94**	**160**	*e*P	**Pn**	**16 51 39.7**	**-0.3**
CO03				*e*S	**Sn**	**16 52 02.3**	**-1.1**
CO03				IAML		16 52 22.8	
	comp=Z,306nm,0.3s						
ACCO	**Cerro Coronel**	**2.60**	**128**	*e*P	**Pn**	**16 51 51.0**	**+1.7**
ACCO				*e*S	**Sn**	**16 52 20.1**	**-0.1**
DOCA	**Reserva Natura**	**2.82**	**134**	*e*P	**Pn**	**16 51 54.2**	**+1.8**
DOCA				*e*S	**Sn**	**16 52 25.9**	**+0.3**
AC01	**Pan de Azucar**	**2.96**	**15**	*e*P	**Pn**	**16 51 52.4**	**-1.5**
AC01	**Pan de Azucar**	**2.96**	**15**	*e*P	**Pn**	**16 51 52.8**	**-1.1**
AC01				*e*S	**Sn**	**16 52 30.0**	**+1.5**
AC01				IAML		16 52 46.5	
	comp=Z,192nm,1.2s						
CO04	**Los Peladeros**	**3.05**	**172**	⇑*e*P	**Pn**	**16 51 55.3**	**-0.1**
CO04				IAML		16 52 47.9	
	comp=N,447nm,0.4s						
RTLS	**Leoncito**	**3.34**	**147**	*e*P	**Pn**	**16 51 57.4**	**-2.1**
RTLS				*e*S	**Sb**	**16 52 50.9**	**+3.0**
RTLS				IAML		16 52 58.4	
	comp=Z,528nm,1.1s						
RTLL	**Cerro Villicun**	**3.46**	**133**	*e*P	**Pn**	**16 51 59.9**	**-1.0**
RTLL				*e*S	**Sb**	**16 52 54.4**	**+3.4**
VA03	**San Esteban**	**3.82**	**168**	*e*P	**Pn**	**16 52 06.8**	**+1.0**
VA03				*e*S	**Sb**	**16 53 01.0**	**-0.3**
VA03				IAML		16 53 20.1	
	comp=Z,127nm,0.8s						
AVFE	**Valle Fertil**	**3.84**	**116**	*e*P	**Pn**	**16 52 06.5**	**+0.4**
AVFE				*e*S	**Sn**	**16 52 50.2**	**-0.3**
AVFE				IAML		16 53 11.7	
	comp=Z,103nm,0.4s						
ACLC	**CERRO LA CRUZ**	**3.96**	**97**	*e*P	**Pn**	**16 52 08.3**	**+0.5**
ACLC				*e*S	**Sn**	**16 52 55.0**	**+1.5**
ACLC				IAML		16 52 56.8	
	comp=Z,55nm,0.3s						
GO02	**Mina Guanaco**	**4.18**	**24**	*e*P	**Pn**	**16 52 10.1**	**-1.0**
GO02				*e*S	**Sb**	**16 53 10.8**	**-1.3**
MT02	**Curacav**	**4.24**	**176**	*e*P	**Pn**	**16 52 11.1**	**-0.4**
MT02				*e*S	**Sb**	**16 53 18.5**	**+5.1**
MT02				IAML		16 53 26.6	
	comp=Z,64nm,0.9s						
PB14	**IPOC Station P**	**4.47**	**12**	*e*P	**Pn**	**16 52 13.0**	**-2.1**
PB14				*e*S	**Sb**	**16 53 23.8**	**+3.4**
PB14				IAML		16 53 28.7	
	comp=Z,62nm,0.5s						
MT04	**Ro Olivares**	**4.52**	**166**	*e*P	**Pn**	**16 52 15.3**	**-0.3**
MT04				*e*S	**Sb**	**16 53 20.7**	**-1.0**
MT04				IAML		16 53 28.4	
	comp=Z,39nm,0.6s						
ACHE	**Chepes**	**4.67**	**118**	*e*S	**Sb**	**16 53 26.4**	**+0.4**
MT01	**Popeta**	**4.84**	**178**	*e*P	**Pn**	**16 52 20.0**	**+0.3**
MT01				IAML		16 53 46.2	
	comp=Z,40nm,0.5s						
CYA	**Choya**	**5.00**	**85**	*e*P	**Pn**	**16 52 21.9**	**-0.1**
CYA				IAML		16 53 58.6	
	comp=Z,32nm,0.7s						

*ATH **17** 17:07:42.6, 37°.65N×20°.50E, h12km±1km, ML2.8/13, Error ellipse: s-maj=2.3km s-min=0.8km az=35.0*

*THE **17** 17:07:43.3, 37°.67N×20°.51E, h0km±2km, ML3.1/4, Error ellipse: s-maj=3.1km s-min=0.5km az=225.0*

ISC 17 17:07:42.4±1.5, **37°.65N**±0°.05×**20°.49E**±0°.06, **h14**km±8km, **n30**, σ0°**51**/49, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.26**	**86**	P	**Pg**	**17 07 48.1**	**+0.2**
KRI1				S	**Sg**	**17 07 51.7**	**+0.1**
	8μm,0.5s						
LTHK	**Lithakia**	**0.28**	**77**	P	**Pg**	**17 07 48.4**	**+0.1**
LTHK				S	**Sg**	**17 07 52.0**	**-0.2**
LTHK	**Lithakia**	**0.28**	**77**	P	**Pg**	**17 07 48.1**	**-0.1**
LTHK				S	**Sg**	**17 07 51.7**	**-0.5**
LTHK				AML	AML	17 07 51.8	
	comp=E,8000μm,0.3s						
LTHK				AML	AML	17 07 52.1	
	comp=N,14751μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.47**	**9**	P	**Pg**	**17 07 52.0**	**+0.2**
PSDA				S	**Sg**	**17 07 58.8**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.47**	**9**	P	**Pg**	**17 07 52.0**	**+0.2**
PSDA				S	**Sg**	**17 07 58.0**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.48**	**27**	P	**Pg**	**17 07 52.1**	**+0.1**
RTZL				S	**Sg**	**17 07 58.8**	**+0.4**
VLS	**Valsamata**	**0.54**	**8**	P	**Pg**	**17 07 52.9**	**-0.1**
VLS				S	**Sg**	**17 08 00.6**	**+0.4**
	comp=N,4μm,0.3s						
VLS	**Valsamata**	**0.54**	**8**	P	**Pg**	**17 07 52.8**	**-0.1**
VLS				S	**Sg**	**17 08 00.4**	**+0.2**
VLS				AML	AML	17 08 01.1	
	comp=E,11308μm,0.3s						
VLS				AML	AML	17 08 02.2	
	comp=N,4394μm,0.3s						
DMLN	**Damoulianata-K**	**0.60**	**351**	P	**Pg**	**17 07 54.5**	**+0.3**
DMLN				S	**Sb**	**17 08 03.3**	**+0.2**
	comp=N,3μm,0.5s						
DMLN	**Damoulianata-K**	**0.60**	**351**	P	**Pg**	**17 07 54.1**	**-0.1**
DMLN				S	**Sg**	**17 08 02.7**	**+0.6**
FSK	**Fiskardo**	**0.81**	**4**	P	**Pb**	**17 07 57.9**	**-0.5**
FSK				S	**Sg**	**17 08 09.9**	**+1.0**
	comp=N,1μm,0.2s						
FSK	**Fiskardo**	**0.81**	**4**	P	**Pb**	**17 07 57.8**	**-0.6**
FSK				S	**Sb**	**17 08 08.5**	**-0.8**
FSK				AML	AML	17 08 10.5	
	comp=E,2389μm,0.2s						
FSK				AML	AML	17 08 11.3	
	comp=N,2305μm,0.2s						
RLS	**Riolos of Patr**	**0.87**	**62**	P	**Pb**	**17 07 58.4**	**-1.0**
RLS				S	**Sb**	**17 08 10.3**	**-0.7**
RLS				AML	AML	17 08 18.2	
	comp=N,442μm,0.4s						
RLS				AML	AML	17 08 18.5	
	comp=E,445μm,0.4s						
AMT	**Artemida-Makis**	**0.97**	**96**	P	**Pb**	**17 08 00.7**	**-0.4**
AMT				S	**Sb**	**17 08 14.1**	**+0.3**
AMT				AML	AML	17 08 20.1	
	comp=N,3047μm,0.2s						
AMT				AML	AML	17 08 20.5	
	comp=E,3982μm,0.3s						
EVGI	**Lefkada island**	**0.98**	**7**	P	**Pb**	**17 08 00.3**	**-1.0**
DRO	**Drossia**	**1.01**	**72**	P	**Pb**	**17 08 00.8**	**-0.9**
DRO				S	**Sb**	**17 08 15.3**	**+0.4**
DRO				AML	AML	17 08 21.9	
	comp=E,733μm,0.5s						
DRO				AML	AML	17 08 26.1	
	comp=N,930μm,0.6s						
DRAG	**Dragano-Lefkad**	**1.04**	**3**	P	**Pb**	**17 08 02.5**	**+0.3**
DRAG	**Dragano-Lefkad**	**1.04**	**3**	P	**Pb**	**17 08 01.4**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.08**	**9**	P	**Pb**	**17 08 02.9**	**0.0**
NYDR	**Nydri-Lefkada**	**1.08**	**9**	P	**Pb**	**17 08 02.2**	**-0.7**
LKD2	**Lefkada island**	**1.15**	**6**	P	**Pn**	**17 08 04.3**	**+0.1**
LKD2				AML	AML	17 08 27.6	
	comp=N,859μm,0.3s						
LKD2				AML	AML	17 08 27.7	
	comp=E,910μm,0.5s						
TSLK	**Tsoukalades, L**	**1.19**	**6**	P	**Pn**	**17 08 04.0**	**-0.6**
TSLK				AML	AML	17 08 25.7	
	comp=N,1011μm,0.6s						
TSLK				AML	AML	17 08 27.4	
	comp=E,899μm,0.9s						
ITM	**Ithomi**	**1.23**	**112**	P	**Pn**	**17 08 05.5**	**+0.2**
ITM				AML	AML	17 08 28.8	
	comp=N,458μm,0.6s						
ITM				AML	AML	17 08 31.0	
	comp=E,416μm,0.6s						
PYL	**PYLOS**	**1.25**	**127**	P	**Pn**	**17 08 05.4**	**0.0**
PYL				S	**Sb**	**17 08 22.0**	**+0.4**
EFP	**Efpalio**	**1.36**	**55**	P	**Pn**	**17 08 06.8**	**-0.2**
KLV	**Kalavryta, Ach**	**1.37**	**73**	P	**Pn**	**17 08 07.2**	**-0.1**
KLV				S	**Sb**	**17 08 25.9**	**+0.6**
KLV				AML	AML	17 08 32.7	
	comp=E,171μm,0.8s						
KLV				AML	AML	17 08 36.7	
	comp=N,249μm,0.8s						
ANX	**Ano Chora**	**1.47**	**49**	P	**Pb**	**17 08 10.1**	**+0.5**
ANX				S	**Sg**	**17 08 31.0**	**+1.2**
ANX	**Ano Chora**	**1.47**	**49**	P	**Pn**	**17 08 08.6**	**-0.1**
ANX				AML	AML	17 08 37.1	
	comp=E,648μm,0.6s						
ANX				AML	AML	17 08 40.0	
	comp=N,664μm,0.6s						
GUR	**Goura**	**1.49**	**78**	P	**Pn**	**17 08 09.2**	**+0.2**
GUR				S	**Sb**	**17 08 29.1**	**+0.2**
GUR				AML	AML	17 08 40.3	
	comp=N,494μm,0.5s						
GUR				AML	AML	17 08 44.0	
	comp=E,463μm,0.6s						
IGT	**Igoumenitsa**	**1.89**	**356**	P	**Pb**	**17 08 16.7**	**0.0**

*IDC **17** 17:22:42.9±0.9, 56°.67N×169°.47W, h0km, mb3.7/9, mbtmp3.7/11, ML3.0/2, Error ellipse: s-maj=26.3km s-min=19.5km az=169.0*

*NEIC **17** 17:22:43.7±2.2, 56°.66N±0°.04×168°.63W±0°.07, h18km±4km, mb3.8/3, mb_Lg3.5/16, ML4.2/14, ML4.0(AEIC), Error ellipse: s-maj=6.4km s-min=3.9km az=47.0*

*AEIC **17** 17:22:43.1±2.4, 56°.62N±0°.04×168°.66W±0°.09, h30km±6km, Error ellipse: s-maj=8.2km s-min=4.0km az=50.0*

ISC 17 17:22:45.9±0.6, **56°.66N**±0°.06×**168°.74W**±0°.05, **h35**km, **n112**, σ1°**90**/109, **mb3.8**/9, **Pribilof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P08K	**Saint George I**	**0.45**	**263**		**Pn**	**17 22 53.7**	**-2.1**
P08K					**Sn**	**17 23 00.8**	**-1.9**
P08K				IAML		17 23 04.4	
	comp=E,7μm,0.5s						
SPIA	**Saint Paul Isl**	**0.98**	**303**		**Pn**	**17 23 03.4**	**+0.3**
SPIA					**Sn**	**17 23 17.9**	**+2.2**
AKGG	**Akutan Green G**	**2.92**	**146**		**Pn**	**17 23 29.4**	**-0.4**
AKGG					**Sn**	**17 24 01.8**	**-1.8**
AKGG						17 24 09.5	
LVA	**Lava Point**	**2.94**	**147**		**Pn**	**17 23 29.1**	**-1.0**
LVA				IAmb_Lg		17 24 22.0	
	comp=Z,177nm,0.7s						
LVA				IAML		17 24 35.9	
	comp=E,617nm,0.7s						
AKRB	**Akut

K17K Iditarod 8.04 37 Pn **Pn 17 24 39.7 -0.4**
ANM Nome 8.11 10 Pn **Pn 17 24 39.3 -1.6**
I17K Unalakleet 8.28 25 Pn **Pn 17 24 40.9 -2.4**
L18K Granite Mounta 8.29 43 Pn 17 24 42.9 -0.5
J17K VABM Dome 8.31 32 Pn **Pn 17 24 43.3 -0.4**
Q19K Cape Douglas, 8.38 68 Pn **Pn 17 24 43.7 -1.1**
OHAK Old Harbor 8.47 80 Pn 17 24 45.6 -0.3
N19K Bonanza Creek 8.50 55 Pn **Pn 17 24 45.5 -1.0**
KDAK Kodiak Island 8.84 76 Pn **Pn 17 24 51.4 +0.4**
KDAK Kodiak Island 8.84 76 Pn **Pn 17 24 53.8 +2.8**
comp=Z,0.4nm,0.3s,baz=97,slow=6.0,SNR=5.1
ILSW Iliamna Southw 8.86 61 Pn **Pn 17 24 50.6 -0.8**
TTA Tatalina 8.97 40 Pn Pn 17 24 52.1 -0.8
L19K White Mountain 8.98 46 Pn **Pn 17 24 50.8 -2.2**
M19K Big River Lodg 9.02 48 Pn **Pn 17 24 52.3 -1.3**
J18K Innoko River 9.09 36 Pn **Pn 17 24 52.9 -1.4**
G16K Koyuk River 9.29 17 Pn **Pn 17 24 55.2 -2.0**
F15K North Star Dit 9.29 11 Pn **Pn 17 24 55.5 -1.6**
H17K Granite Mounta 9.35 24 Pn **Pn 17 24 56.0 -2.0**
HOM Homer 9.52 64 Pn **Pn 17 24 57.5 -2.8**
M20K Styx River 9.54 50 Pn **Pn 17 24 58.5 -2.2**
CNPM China Poot 9.70 65 Pn **Pn 17 25 00.8 -2.1**
SPU Mount Spurr 9.74 55 Pn **Pn 17 25 01.3 -2.0**
J19K Poorman 9.80 36 Pn **Pn 17 25 02.0 -2.2**
H18K Honhosa River 9.89 26 Pn **Pn 17 25 04.2 -1.2**
SKT Skwentna 10.27 52 Pn **Pn 17 25 10.0 -0.6**
J20K Nowinta River 10.41 38 Pn 17 25 11.4 -1.1
SUA Susitna One 10.43 55 Pn **Pn 17 25 10.7 -2.2**
F17K Baldwin Pennin 10.44 17 Pn **Pn 17 25 10.3 -2.6**
G18K Tagagawik 10.45 23 Pn **Pn 17 25 10.3 -2.7**
O22K Cooper Landing 10.63 61 Pn **Pn 17 25 13.5 -2.0**
CAST Castle Rocks 10.71 44 Pn **Pn 17 25 14.3 -2.4**
PMR Palmer 11.20 56 Pn **Pn 17 25 21.1 -2.1**
KTH Kantishna Hill 11.23 45 Pn **Pn 17 25 21.2 -2.6**
GHO Glory Hole Cre 11.35 55 Pn **Pn 17 25 21.4 -4.0**
IMAR Indian Mountai 11.77 31 Pn **Pn 17 25 27.0 -4.0**
H21K Melozitna Rive 11.82 34 Pn **Pn 17 25 28.0 -3.8**
SCM Sheep Creek Mo 12.10 56 Pn **Pn 17 25 31.7 -3.9**
KLU Klutina 12.66 58 Pn **Pn 17 25 40.2 -3.1**
ILAR Eielson Array 13.37 44 Pn P 17 25 55.9 -6.1
baz=236,slow=11,SNR=6.1
ILAR Lg Lg 17 30 03.5
baz=244,slow=30,SNR=2.9
comp=Z,0.6nm,1.0s
F25K Christian Rive 15.26 35 P **P 17 26 20.3 -2.7**
F25K IAmb IAmb 17 26 28.5
comp=Z,3.2nm,0.8s
PEA0B Petropavlovsk- 19.51 274 P **Pn 17 27 10.4 -0.9**
PEA0B IAmb IAmb 17 27 36.5
comp=Z,31nm,1.1s
PETK Petropavlovsk- 19.51 274 P **Pn 17 27 13.5 +2.2**
comp=Z,3.6nm,0.9s,baz=64,slow=10,SNR=1.8
INK Inuvik 19.67 40 P **Pn 17 27 11.6 -1.4**
INK IAmb IAmb 17 27 20.3
comp=Z,3.5nm,1.1s
INK Inuvik 19.67 40 P **Pn 17 27 15.8 +2.8**
comp=Z,0.1nm,0.3s,baz=252,slow=8.7,SNR=6.4
comp=Z,2.1nm,0.9s
SEY Seymchan 20.28 304 P Pn 17 27 20.9 +0.7
comp=Z,2.0nm,0.6s,baz=20,slow=24,SNR=1.9
NVAR Mina Array Bea 37.60 97 P P 17 30 02.6 +5.5
comp=Z,0.5nm,0.6s,baz=304,slow=8.2,SNR=5.4
comp=Z,0.5nm,0.6s
PDAR Pinedale Array 39.43 85 P P 17 30 17.1 +4.6
comp=Z,0.1nm,0.2s,baz=296,slow=2.7,SNR=2.3
comp=Z,0.1nm,0.2s
TXAR Lajitas Array 52.44 93 P P 17 32 00.5 +5.6
comp=Z,0.8nm,0.7s,baz=298,slow=5.8,SNR=5.5
comp=Z,0.8nm,0.7s
ZALV Zalesovo Beam 54.55 316 P **P 17 32 09.8 -0.1**
comp=Z,0.3nm,0.3s,baz=56,slow=5.4,SNR=2.1
comp=Z,0.3nm,0.3s
FINES FINESS Array B 61.67 352 P **P 17 33 01.5 +1.9**
comp=Z,1.4nm,0.8s,baz=35,slow=5.1,SNR=0.8
comp=Z,1.4nm,0.8s
EKA Eskdalemuir Ar 67.75 9 P **P 17 33 40.2 +0.8**
comp=Z,1.5nm,0.8s,baz=15,slow=6.7,SNR=2.5
comp=Z,1.5nm,0.8s
AKASG Malin Array Be 71.98 348 P **P 17 34 06.3 +0.9**
comp=Z,0.5nm,0.5s,baz=16,slow=5.8,SNR=2.7
comp=Z,0.5nm,0.5s
CMAR Chiang Mai Arr 76.04 282 P **P 17 34 31.8 +2.2**
comp=Z,0.4nm,0.7s,baz=35,slow=5.9,SNR=4.8
comp=Z,0.4nm,0.7s
ASAR Alice Springs 93.42 231 P **P 17 35 58.1 +0.9**
comp=Z,0.3nm,0.8s,baz=26,slow=3.6,SNR=4.8
comp=Z,0.3nm,0.8s
QSPA South Pole Qui 146.43 180 PKPbc **PKiKP 17 42 22.6 -1.9**
comp=Z,0.6nm,0.4s,baz=0.0,slow=3.0,SNR=5.1

*IDC **17** 17:36:06.3±0.7, 12°.87S×45°.49E, h0km, mb3.8/14, mbtmp3.8/15, ML3.0/1, Error ellipse: s-maj=22.4km s-min=19.0km az=88.0*
*NEIC **17** 17:36:06.8±1.7, 12°.83S±0°.08×45°.3E±0°.1, h10km±1km, mb4.4/29, Error ellipse: s-maj=16.8km s-min=13.9km az=255.0*
ISC 17 17:36:06.2±0.5, **12°.88S**±0°.06×**45°.40E**±0°.07, **h10**km, **n59**, σ1°**67**/61, **mb4.2**/24, **Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.91**	**163**	Pn	**Pn**	**17 37 35.0**	**+0.9**
	6.1nm,0.3s,baz=336,slow=12,SNR=528						
OPO				Sn	**Sn**	**17 38 36.9**	**-5.2**
	5.2nm,0.3s,baz=255,slow=20,SNR=11						
ABPO	**Ambohimpanom**	**6.35**	**164**	Pn	**Pn**	**17 37 40.2**	**+0.2**
VOI	**Vohitsoka**	**9.07**	**172**	Pn	**Pn**	**17 38 18.0**	**+0.5**
FOMA	**Nahampoana Res**	**12.12**	**173**	Pn	**Pn**	**17 38 58.9**	**-0.1**
KIBK	**Kibwezi**	**12.75**	**325**	Pn	**Pn**	**17 39 06.3**	**-1.5**
KIBK				Sn		17 41 18.3	-12
RER	**Riviere de l'E**	**12.87**	**131**	Pn	**Pn**	**17 39 09.7**	**+0.3**
MSEY	**Mahe Island**	**12.87**	**52**	Pn	**Pn**	**17 39 06.0**	**-3.4**
KMBO	**Kilima Mbogo**	**14.20**	**325**	Pn	**Pn**	**17 39 27.3**	**-0.4**
KMBO	**Kilima Mbogo**	**14.20**	**325**	Pn	**Pn**	**17 39 25.8**	**-1.9**
	0.2nm,0.3s,baz=128,slow=13,SNR=4.4						
KMBO				Sn	**Sn**	**17 42 05.5**	**0.0**
	0.1nm,0.3s,baz=108,slow=11,SNR=5.6						
LSZ	**Lusaka**	**16.86**	**260**	Pn	**Pn**	**17 40 02.2**	**-0.5**
LSZ				IAmb	IAmb	17 40 07.8	
	comp=Z,17nm,0.9s						
MATP	**Matopo**	**17.84**	**243**	P	**P**	**17 40 16.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=54,slow=12,SNR=7.4						
MATP				S	**Sn**	**17 43 30.9**	**-2.9**
	comp=Z,1.8nm,0.8s,baz=148,slow=11,SNR=3.4						
	comp=Z,2.8nm,0.8s						
MBAR	**Mbarara**	**18.97**	**309**	P	**P**	**17 40 23.6**	**-4.5**
LODK	**Lodwar**	**19.02**	**328**	P	**P**	**17 40 25.1**	**-3.4**
LBTB	**Lobatse**	**22.25**	**234**	P	**P**	**17 41 03.5**	**+0.1**
LBTB				IAmb	IAmb	17 41 20.6	
	comp=Z,8.6nm,0.8s						
FURI	**Furi**	**22.64**	**343**	P	**P**	**17 41 06.1**	**-1.9**
ATD	**Arta Tunnel**	**24.38**	**354**	P	**P**	**17 41 23.1**	**-1.8**
ATD				IAmb	IAmb	17 41 43.7	
	comp=Z,17nm,1.1s						
BOSA	**Boshof**	**24.43**	**227**	P	**P**	**17 41 25.5**	**+0.1**
BOSA	**Boshof**	**24.43**	**227**	P	**P**	**17 41 25.8**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=136,slow=11,SNR=1.7						
	comp=Z,1.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**50.46**	**299**	P	**P**	**17 45 07.9**	**+3.3**
	comp=Z,0.4nm,0.8s,baz=115,slow=7.8,SNR=2.5						
	comp=Z,0.4nm,0.8s						
BRTR	**Keskin Array B**	**53.47**	**349**	P	**P**	**17 45 27.9**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=212,slow=20,SNR=2.1						
	comp=Z,0.5nm,0.7s						
GAR	**Garm**	**56.61**	**23**	P	**P**	**17 45 50.1**	**+0.6**
KIV	**Kislovodsk**	**56.62**	**358**	P	**P**	**17 45 49.3**	**-0.1**
DRK	**Karamyk**	**57.61**	**24**	P	**P**	**17 45 56.9**	**+0.1**
DRK				IAmb	IAmb	17 46 15.4	
	comp=Z,3.6nm,1.1s						
BTK	**Batken**	**57.72**	**23**	P	**P**	**17 45 57.3**	**0.0**
BTK				IAmb	IAmb	17 46 11.1	
	comp=Z,9.3nm,1.5s						
SCTE	**Santa Cesarea**	**58.33**	**336**	P	**P**	**17 46 00.6**	**-0.8**
KKAR	**Karatay Array**	**60.27**	**21**	P	**P**	**17 46 13.4**	**-1.5**
KKAR	**Karatay Array**	**60.27**	**21**	P	**P**	**17 46 13.7**	**-1.1**
KKAR				IAmb	IAmb	17 46 26.2	
	comp=Z,1.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**61.29**	**61**	P	**P**	**17 46 22.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**61.29**	**61**	P	**P**	**17 46 21.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=240,slow=6.0,SNR=4.4						
	comp=Z,0.2nm,0.3s						
CHTO	**Chiang Mai**	**61.45**	**60**	P	**P**	**17 46 23.5**	**+0.1**
CHTO				IAmb	IAmb	17 46 32.4	
	comp=Z,3.3nm,1.2s						

ABKAR	**Akbulak array**	**63.19**	**11**	P	**P**	**17 46 34.4**	**0.0**
ABKAR				IAmb	IAmb	17 46 46.2	
	comp=Z,3.5nm,0.8s						
ZCCA	**Zocca**	**64.99**	**333**	P	**P**	**17 46 45.8**	**-0.6**
SABO	**M.te Sabotino**	**65.22**	**336**	P	**P**	**17 46 47.1**	**-0.7**
MORC	**Moravsky Berou**	**67.03**	**341**	P	**P**	**17 46 59.9**	**+0.4**
MORC				IAmb	IAmb	17 47 12.8	
	comp=Z,4.1nm,1.0s						
GEC2	**GERESS Array S**	**67.56**	**338**	P	**P**	**17 47 02.2**	**-0.7**
GEC2				IAmb	IAmb	17 47 11.4	
	comp=Z,4.8nm,1.3s						
GERES	**GERESS Array B**	**67.56**	**338**	P	P	17 47 09.6	+6.8
	comp=Z,0.5nm,0.5s,baz=123,slow=7.2,SNR=2.8						
MAKZ	**Makanchi**	**67.86**	**26**	P	**P**	**17 47 04.7**	**0.0**
MAKZ				IAmb	IAmb	17 47 47.6	
	comp=Z,6.2nm,1.2s						
MKAR	**Makanchi Array**	**67.98**	**26**	P	**P**	**17 47 05.4**	**-0.1**
MKAR	**Makanchi Array**	**67.98**	**26**	P	**P**	**17 47 07.1**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=217,slow=6.4,SNR=2.1						
	comp=Z,0.5nm,0.8s						
BVAR	**Borovoye Array**	**69.06**	**16**	P	**P**	**17 47 13.3**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=202,slow=5.9,SNR=2.6						
	comp=Z,0.5nm,0.8s						
BRVK	**Borovoye**	**69.06**	**16**	P	**P**	**17 47 12.7**	**+0.7**
BRVK				IAmb	IAmb	17 47 19.4	
	comp=Z,2.7nm,1.2s						
KURBB	**Kurchatov Arra**	**69.55**	**22**	P	**P**	**17 47 16.9**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=207,slow=6.2,SNR=2.1						
	comp=Z,0.1nm,0.3s						
ESDC	**Sonseca Array**	**69.56**	**321**	P	**P**	**17 47 17.9**	**+2.4**
	comp=Z,0.6nm,0.7s,baz=130,slow=6.1,SNR=4.5						
	comp=Z,0.6nm,0.7s						
ARTI	**Arti**	**69.86**	**8**	P	**P**	**17 47 17.7**	**+0.8**
BKB	**Balikpapan**	**71.68**	**87**	P	**P**	**17 47 29.6**	**+0.7**
ZAA0	**Zalesovo Array**	**74.54**	**23**	P	**P**	**17 47 44.1**	**-0.9**
ZALV	**Zalesovo Beam**	**74.54**	**23**	P	**P**	**17 47 46.9**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=215,slow=5.7,SNR=2.2						
	comp=Z,0.3nm,0.4s						
FINES	**FINESS Array B**	**75.65**	**351**	P	**P**	**17 47 52.4**	**+1.3**
	comp=Z,5.2nm,1.1s,baz=166,slow=6.5,SNR=2.0						
	comp=Z,5.2nm,1.1s						
HFS	**Hagfors**	**77.09**	**344**	P	**P**	**17 48 02.3**	**+2.9**
	comp=Z,2.7nm,1.1s,baz=124,slow=11,SNR=1.6						
	comp=Z,2.7nm,1.1s						
QSPA	**South Pole Qui**	**77.22**	**180**	P	**P**	**17 48 03.3**	**+3.0**
	comp=Z,1.9nm,0.9s,baz=251,slow=2.6,SNR=3.7						
	comp=Z,1.9nm,0.9s						
ASAR	**Alice Springs**	**83.58**	**113**	P	**P**	**17 48 36.8**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=263,slow=4.7,SNR=26						
	comp=Z,1.5nm,0.6s						
AS31	**Alice Springs**	**83.58**	**113**	P	**P**	**17 48 34.7**	**-0.7**
WRA	**Warramunga Arr**	**84.72**	**109**	P	**P**	**17 48 43.4**	**+2.2**
	comp=Z,1.3nm,0.8s,baz=261,slow=3.4,SNR=12						
	comp=Z,1.3nm,0.8s						
WB0	**Warramunga Arr**	**84.80**	**109**	P	**P**	**17 48 42.3**	**+0.7**
HWUT	**Hardware Ranch**	**145.04**	**329**	PKPdf	**PKPdf**	**17 55 44.4**	**0.0**
TCUT	**Toone Canyon**	**145.32**	**328**		**PKPbc**	**17 55 44.9**	**+0.2**
HVU	**Hansel Valley**	**145.50**	**331**		**PKPbc**	**17 55 43.5**	**-1.7**
P18A	**Preston Nutter**	**145.77**	**326**	PKPdf	**PKPdf**	**17 55 45.1**	**-0.7**
TXAR	**Lajitas Array**	**146.97**	**305**	PKPbc	**PKPbc**	**17 55 50.2**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=65,slow=2.6,SNR=2.6						

*IDC **17** 17:42:03.2±22.0, 20°.62N×145°.86E, h188km±159km, mb3.1/8, mbtmp3.6/8, Error ellipse: s-maj=325.0km s-min=17.7km az=78.0*
ISC 17 17:42:04.6±8.5, **20°.6N**±0°.5×**14°.6E**±°, **h200**km, **n8**, σ0°**11**/8, **mb3.5**/8, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.87**	**321**	P	**P**	**17 46 50.8**	**+0.1**
	1.6nm,0.7s,baz=154,slow=8.7,SNR=9.5						
	1.6nm,0.7s						
SONM	**Songino Array**	**41.74**	**320**	P	**P**	**17 49 34.1**	**-0.1**
	0.3nm,0.4s,baz=136,slow=6.8,SNR=3.0						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**41.82**	**196**	P	**P**	**17 49 34.9**	**0.0**
	0.4nm,0.5s,baz=14,slow=8.8,SNR=3.1						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**45.49**	**195**	P	**P**	**17 50 04.1**	**0.0**
	0.3nm,0.9s,baz=12,slow=7.6,SNR=5.7						
	0.3nm,0.9s						
ZALV	**Zalesovo Beam**	**56.58**	**322**	P	**P**	**17 51 26.2**	**-0.1**
	0.7nm,0.6s,baz=100,slow=7.4,SNR=2.8						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**57.23**	**313**	P	**P**	**17 51 31.1**	**+0.1**
	0.7nm,0.6s,baz=88,slow=8.1,SNR=8.1						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**59.98**	**317**	P	**P**	**17 51 49.8**	**-0.1**
	0.4nm,0.4s,baz=90,slow=7.7,SNR=6.7						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**65.08**	**320**	P	**P**	**17 52 23.8**	**+0.2**
	0.6nm,0.3s,baz=100,slow=7.3,SNR=12						
	0.6nm,0.3s						

*IDC **17** 17:44:47.7±4.1, 29°.11S×69°.53W, h77km±34km, mb3.4/5, mbtmp3.7/8, Error ellipse: s-maj=36.7km s-min=20.9km az=83.0*
*SJA **17** 17:44:49.2±0.6, 29°.02S×69°.52W, h108km±4km, ML3.6, MW3.8*
*GUC **17** 17:44:50.7±0.7, 29°.07S×69°.71W, h123km±5km, ML3.7*
ISC 17 17:44:50.7±0.7, **29°.07S**±0°.03×**69°.62W**±0°.04, **h107**km±6km, **n50**, σ1°**74**/75, **mb3.7**/5, **Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.95**	**273**	*e*P	**Pn**	**17 45 10.9**	**-0.5**
LCO				*i* S	**Sn**	**17 45 27.3**	**+0.2**
LCO	**Las Campanas**	**0.95**	**273**	*e*P	**Pn**	**17 45 11.7**	**+0.2**
LCO				*e*S	**Sn**	**17 45 28.1**	**+1.0**
LCO				IAML		17 45 29.2	
	comp=Z,4μm,0.2s						
CO01	**Juntas del Tor**	**1.00**	**205**	*e*P	**Pn**	**17 45 12.4**	**+0.5**
CO01				*i* S	**Sn**	**17 45 29.2**	**+1.3**
CO01				IAML		17 45 30.9	
	comp=N,979nm,0.7s						
CO01	**Juntas del Tor**	**1.00**	**205**	*e*P	**Pn**	**17 45 12.4**	**+0.5**
CO01				*e*S	**Sn**	**17 45 29.8**	**+1.8**
CO01				IAML		17 45 34.1	
	comp=Z,519nm,0.8s						
GO04	**Tololo Observa**	**1.51**	**223**	*e*P	**Pn**	**17 45 17.6**	**-0.1**
GO04				*i* S	**Sn**	**17 45 38.1**	**-0.1**
GO04	**Tololo Observa**	**1.51**	**223**	*e*P	**Pn**	**17 45 17.6**	**-0.1**
GO04				*e*S	**Sn**	**17 45 40.3**	**+2.2**
AC04	**Llanos de Chal**	**1.54**	**303**	*e*P	**Pn**	**17 45 17.9**	**+0.1**
AC04				*i* S	**Sn**	**17 45 38.2**	**-0.3**
AC04				IAML		17 45 39.2	
AC04	**Llanos de Chal**	**1.54**	**303**	*e*P	**Pn**	**17 45 18.1**	**+0.2**
AC04				*e*S	**Sn**	**17 45 39.2**	**+0.7**
AC04				IAML		17 45 46.1	
	comp=Z,313nm,0.4s						
GO03	**Copiapo**	**1.56**	**339**	*e*P	**Pn**	**17 45 18.3**	**+0.1**
GO03				*i* S	**Sn**	**17 45 39.1**	**0.0**
GO03				IAML		17 45 41.1	
	comp=N,1μm,0.4s						
GO03	**Copiapo**	**1.56**	**339**	*e*P	**Pn**	**17 45 18.3**	**+0.1**
GO03				*e*S	**Sn**	**17 45 39.6**	**+0.5**
ACCO	**Cerro Coronel**	**1.59**	**163**	*e*P	**Pn**	**17 45 19.0**	**+0.2**
ACCO				*e*S	**Sn**	**17 45 40.0**	**-0.1**
CO05	**La Serena**	**1.65**	**239**	*e*P	**Pn**	**17 45 18.7**	**-0.5**
CO05				*i* S	**Sn**	**17 45 39.8**	**-1.0**
CO05				IAML		17 45 43.5	
	comp=N,1μm,0.2s						
AC06	**Mina Casimiro**	**1.82**	**339**	*e*P	**Pn**	**17 45 21.3**	**0.0**
AC06				*i* S	**Sn**	**17 45 44.4**	**-0.3**
AC06				IAML		17 45 48.3	
	comp=N,419nm,0.4s						
DOCA	**Reserva Natura**	**1.93**	**166**	*e*P	**Pn**	**17 45 26.2**	**+3.1**
DOCA				*e*S	**Sn**	**17 45 47.5**	**-0.2**
CO03	**El Pedregal**	**2.00**	**208**	*e*P	**Pn**	**17 45 23.8**	**+0.2**
CO03				*i* S	**Sn**	**17 45 47.8**	**-1.0**
CO03				IAML		17 45 53.7	
	comp=E,697nm,0.3s						
CO03	**El Pedregal**	**2.00**	**208**	*e*P	**Pn**	**17 45 24.1**	**+0.4**
CO03				*e*S	**Sn**	**17 45 50.5**	**+1.8**
CO03				IAML		17 45 53.9	
	comp=Z,303nm,0.3s						
ACLC	**CERRO LA CRUZ**	**2.35**	**99**	*e*P	**Pn**	**17 45 27.2**	**-1.1**
ACLC				IAML		17 45 57.9	
	comp=Z,226nm,0.6s						
AANI	**Anillaco**	**2.36**	**84**	*e*P	Pn	17 45 34.3	+6.0
AANI				*e*S	**Sn**	**17 46 03.5**	**+6.3**
AVFE	**Valle Fertil**	**2.46**	**131**	*e*P	**Pn**	**17 45 28.9**	**-0.7**
AVFE				IAML		17 46 03.0	
	comp=Z,126nm,0.5s						
RTLL	**Cerro Villicun**	**2.46**	**157**	*e*P	**Pn**	**17 45 29.6**	**0.0**
RTLL				*e*S	**Sn**	**17 45 59.7**	**+0.3**
ZON	**Zonda**	**2.60**	**162**	*e*P	**Pn**	**17 45 32.1**	**+0.7**
ZON				*e*S	**Sn**	**17 45 57.7**	**-5.0**
ZON				IAML		17 46 10.3	
	comp=Z,97nm,0.6s						
RTLS	**Leoncito**	**2.74**	**174**	*e*P	**Pn**	**17 45 34.2**	**+0.8**
RTLS				*e*S	**Sn**	**17 46 09.6**	**+3.3**
RTLS				IAML		17 46 10.8	
	comp=Z,692nm,0.7s						
RTCV	**Cerro Valdivia**	**2.94**	**162**	*e*P	**Pn**	**17 45 37.9**	**+2.1**
AC01	**Pan de Azucar**	**3.04**	**343**	*e*P	**Pn**	**17 45 37.1**	**-0.1**
AC01				IAML		17 46 27.2	
	comp=E,242nm,0.2s						
AC01	**Pan de Azucar**	**3.04**	**343**	*e*P	**Pn**	**17 45 37.0**	**-0.1**
AC01				*e*S	Sn	17 46 00.9	-12
AC01				IAML		17 46 22.7	
	comp=Z,178nm,0.3s						
ACHE	**Chepes**	**3.30**	**130**	*e*P	**Pn**	**17 45 40.3**	**-0.4**
CYA	**Choya**	**3.41**	**80**	*e*P	**Pn**	**17 45 40.8**	**-1.3**
CYA				IAML		17 46 21.0	
	comp=Z,138nm,0.6s						
GO02	**Mina Guanaco**	**3.89**	**0**	*e*P	**Pn**	**17 45 48.0**	**-0.8**
MT04	**Ro Olivares**	**4.35**	**186**	*e*P	**Pn**	**17 45 56.7**	**+1.8**
MT04				*e*S	**Sn**	**17 46 44.9**	**+0.2**
MT04				IAML		17 47 01.5	
	comp=Z,57nm,0.5s						
FSA	**Cafayete**	**4.37**	**48**	*e*P	**Pn**	**17 45 55.1**	**0.0**
MT08	**Bocatoma Ro**	**4.38**	**184**	*e*P	**Pn**	**17 45 56.0**	**+0.8**
MT08				*e*S	**Sn**	**17 46 47.9**	**+2.5**
MT08				IAML		17 46 56.6	
	comp=Z,60nm,0.8s						
AHML	**Horco Molle**	**4.42**	**60**	*e*P	**Pn**	**17 45 54.0**	**-1.6**
AHML				IAML		17 47 10.2	
	comp=Z,24nm,0.5s						
MT05	**Renca**	**4.42**	**192**	*e*P	**Pn**	**17 45 55.3**	**-0.4**
MT05				*e*S	**Sn**	**17 46 46.1**	**0.0**
MT05				IAML		17 46 46.5	
	comp=Z,77nm,0.6s						
PB14	**IPOC Station P**	**4.48**	**351**	*e*P	**Pn**	**17 45 55.2**	**-1.6**
PB14				*e*S	**Sn**	**17 46 55.3**	**+7.3**
PB14				IAML		17 47 02.2	
	comp=Z,84nm,0.9s						
MT03	**Universidad Ad**	**4.48**	**190**	*e*P	Pn	17 45 44.9	-12
MT03				*e*P		17 45 57.2	
MT03				*e*S	**Sn**	**17 46 47.4**	**-0.2**
MT03				IAML		17 46 52.5	
	comp=Z,119nm,0.4s						
MRA	**San Martin**	**4.74**	**136**	*e*P	**Pn**	**17 45 59.4**	**-0.6**
LMEL	**Las Melosas**	**4.79**	**186**	*e*P	**Pn**	**17 46 01.7**	**+0.9**
LMEL				*e*S	**Sn**	**17 46 52.9**	**-2.4**
CPUP	**Villa Florida**	**11.22**	**79**	P	**Pn**	**17 47 24.2**	**-3.7**
	comp=Z,0.7nm,0.3s,baz=95,slow=14,SNR=1.3						
LPAZ	**La Paz**	**12.79**	**6**	P	**Pn**	**17 47 47.2**	**-2.0**
	comp=Z,2.5nm,0.7s,baz=174,slow=6.1,SNR=7.9						
SIV	**San Ignacio**	**15.21**	**33**	P	**Pn**	**17 48 18.2**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=223,slow=7.9,SNR=2.0						
SNAA	**Sanae**	**55.41**	**159**	P	**P**	**17 54 13.3**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=291,slow=8.3,SNR=9.0						
	comp=Z,1.3nm,0.7s						
QSPA	**South Pole Qui**	**61.16**	**180**	P	**P**	**17 54 54.1**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=208,slow=0.8,SNR=5.3						
	comp=Z,1.2nm,0.8s						
TXAR	**Lajitas Array**	**66.56**	**328**	P	**P**	**17 55 30.6**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=142,slow=9.2,SNR=2.9						
	comp=Z,0.2nm,0.7s						
PDAR	**Pinedale Array**	**80.37**	**331**	P	**P**	**17 56 51.1**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=135,slow=9.0,SNR=2.3						
	comp=Z,0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**80.56**	**69**	P	**P**	**17 56 51.4**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=274,slow=4.8,SNR=6.2						
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**122.89**	**206**	PKP	**PKPdf**	**18 03 34.6**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=136,slow=1.9,SNR=7.0						
WRA	**Warramunga Arr**	**126.07**	**208**	PKP	**PKPdf**	**18 03 41.0**	**0.0**
	comp=Z,0.7nm,0.6s,baz=161,slow=1.8,SNR=16						
KURBB	**Kurchatov Arra**	**147.81**	**39**	PKPbc	**PKPbc**	**18 04 23.2**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=301,slow=3.3,SNR=6.3						
ZALV	**Zalesovo Beam**	**148.94**	**30**	PKPbc	**PKiKP**	**18 04 26.2**	**-0.6**
	comp=Z,2.8nm,0.5s,baz=311,slow=2.7,SNR=16						
MKAR	**Makanchi Array**	**151.86**	**43**	PKPbc	**PKiKP**	**18 04 32.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=302,slow=2.0,SNR=7.1						
MKAR				PKPab	**PKPab**	**18 04 42.9**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=304,slow=3.7,SNR=2.9						

*IDC **17** 17:49:06.8±1.4, 7°.26N×93°.98E, h0km, mb3.8/9, mbtmp3.7/10, ML3.9/1, MS3.4/4, Error

*IDC **17** 18:01:18.3±2.9, 10°.19S×120°.95E, h74km×33km, mb3.3/1, mbtmp3.5/6, MS3.6/1, Error ellipse: s-maj=27.7km s-min=19.4km az=61.0*
*DJA **17** 18:01:18.6±0.4, 10°.S±4°.×12°.1E±°., h24km±5km, M3.5/10, MLv3.5/10*

ISC 17 18:01:17.2±0.9, **10°.06S**±0°.06×**121°.04E**±0°.04, **h65**km±11km, **n18**, σ3°.20/28, **Savu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.48**	**251**	P	**Pn**	**18 01 30.3**	**+1.0**
BASI				S	**Sn**	**18 01 38.1**	**-0.2**
WSI	**Waingapu**	**0.83**	**298**	P	**Pn**	**18 01 32.6**	**-0.7**
WSI				S	**Sn**	**18 01 42.8**	**-2.3**
WBSI	**Waikabubak, Su**	**1.68**	**284**	P	**Pn**	**18 01 46.0**	**+1.6**
WBSI				S	**Sn**	**18 02 05.2**	**+0.2**
WBSI	**Waikabubak, Su**	**1.68**	**284**	P	**Pn**	**18 01 44.9**	**+0.5**
MMRI	**Maumere**	**1.84**	**40**	P	**Pn**	**18 01 46.2**	**-0.4**
MMRI				S	**Sn**	**18 02 06.6**	**-2.4**
MMRI	**Maumere**	**1.84**	**40**	P	**Pn**	**18 01 46.1**	**-0.5**
BATI	**Baumata**	**2.59**	**93**	P	**Pn**	**18 01 60.0**	**+3.2**
	24nm,0.3s,baz=278,slow=7.1,SNR=23						
BATI				S	**Sn**	**18 02 31.3**	**+4.2**
	18nm,0.3s,baz=342,slow=19,SNR=22						
BATI	**Baumata**	**2.59**	**93**	P	**Pn**	**18 02 00.1**	**+3.4**
BATI				S	**Sn**	**18 02 31.5**	**+4.4**
SOEI	**Soe**	**3.19**	**85**	P	**Pn**	**18 02 08.8**	**+3.7**
SOEI				S	**Sn**	**18 02 46.8**	**+4.7**
PLAI	**Plampang**	**3.44**	**291**	P	**Pn**	**18 02 09.3**	**+0.9**
PLAI				S	**Sn**	**18 02 48.7**	**+0.6**
BSSI	**Bau Bau, Buton**	**3.93**	**352**	P	**Pn**	**18 02 15.4**	**+0.3**
BBSI	**Bau Bau**	**4.79**	**19**	P	**Pn**	**18 02 28.2**	**+1.4**
KAPI	**Kappang**	**5.17**	**346**	P	**Pn**	**18 02 33.5**	**+1.4**
	5.2nm,0.2s,baz=162,slow=20,SNR=0.5						
FITZ	**Fitzroy Crossi**	**9.15**	**151**	P	**Pn**	**18 03 28.2**	**+1.7**
	1.6nm,0.3s,baz=330,slow=14,SNR=53						
FITZ				S	**Sn**	**18 05 06.5**	**-1.5**
	1.6nm,0.2s,baz=22,slow=23,SNR=6.5						
WRA	**Warramunga Arr**	**16.16**	**129**	P	**Pn**	**18 05 00.1**	**-0.2**
	0.5nm,0.8s,baz=308,slow=14,SNR=11						
WRA				S	**Sn**	**18 07 49.2**	**-10**
	0.4nm,0.7s,baz=297,slow=24,SNR=3.2						
ASAR	**Alice Springs**	**18.27**	**139**	P	**P**	**18 05 25.2**	**-0.5**
	0.2nm,0.8s,baz=316,slow=10,SNR=2.7						
ASAR				S	**Sn**	**18 08 44.4**	**-5.5**
	0.2nm,0.8s,baz=316,slow=21,SNR=1.7						
RPZ	**Rata Peaks**	**54.66**	**137**	LR	LR	18 34 03.1	
	comp=Z,56nm,20.1s,baz=148,slow=36						
MKAR	**Makanchi Array**	**66.32**	**332**	P	**P**	**18 11 59.6**	**+0.7**
	0.3nm,0.4s,baz=150,slow=7.8,SNR=7.6						
	0.3nm,0.4s						

DJA 17 18:09:27.2±1.3, **6°.S**±7°.×**10°.1E**±°., **h25**km±14km, **M3.9**/7, **mb4.1**/2, **MLv3.9**/7, **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.06**	**49**	P	Pn	18 10 00.8	+0.6
MNAI				S	Sn	18 10 25.7	+0.6
LWLI	**Liwa**	**2.75**	**76**	P	Pn	18 10 09.9	+0.1
LWLI				S	Sn	18 10 41.9	-0.3
KASI	**Kota Agung**	**3.10**	**87**	P	Pn	18 10 15.2	+0.7
KASI				S	Sn	18 10 48.6	-2.2
PPSI	**Pulau Pagai**	**3.23**	**335**	P	Pn	18 10 15.9	-0.5

*TIR **17** 18:13:18.8, 42°.70N×17°.65E, h7km±1km, Md3.6, Ml3.2*
*RHSSO **17** 18:13:20.6±0.4, 42°.73N×17°.64E, h6km±1km, ML2.9/14*
*BEO **17** 18:13:20.3±0.5, 42°.70N×17°.60E, h6km±1km, ML2.8/20*
*PDG **17** 18:13:20.3±0.1, 42°.68N×17°.67E, h4km, MD3.2/1, ML3.1/13, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
*PRU **17** 18:13:23.4, 42°.64N×17°.63E, h10km*
*VIE **17** 18:13:25.3±0.8, 42°.89N×17°.57E, h10km, mb2.9/11, ml2.5/6, ms3.9/2, Error ellipse: s-maj=9.5km s-min=6.2km az=60.0*

ISC 17 18:13:20.4±1.0, **42°.71N**±0°.02×**17°.65E**±0°.02, **h8**km±7km, **n86**, σ1s**06**/162, **15C-6D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.17**	**12**	*e*Pg	**Pg**	**18 13 24.0**	**0.0**
STON				*e*Sg	**Sg**	**18 13 26.9**	**+0.6**
STON	**Ston**	**0.17**	**12**	*i* Pg	**Pg**	**18 13 23.9**	**0.0**
STON				Sg	**Sg**	**18 13 26.8**	**+0.5**
STON	**Ston**	**0.17**	**12**	⇓*i*Pg	**Pg**	**18 13 23.9**	**0.0**
STON				*e*Sg	**Sg**	**18 13 26.8**	**+0.5**
DBRK	**Dubrovnik**	**0.37**	**95**	*e*Pg	**Pg**	**18 13 27.1**	**-0.5**
DBRK				Sg	**Sg**	**18 13 31.8**	**-0.6**
TREB	**Trebinje**	**0.51**	**88**	*e*Pg	**Pg**	**18 13 29.5**	**-0.9**
TREB				*e*Sg	**Sg**	**18 13 38.1**	**+1.0**
TREB	**Trebinje**	**0.51**	**88**	⇓*i*Pg	**Pg**	**18 13 29.4**	**-0.9**
TREB				*e*Sg	**Sg**	**18 13 37.7**	**+0.6**
LSTV	**Lastovo**	**0.56**	**277**	*e*Pg	**Pg**	**18 13 30.3**	**-1.0**
LSTV				Sg	**Sg**	**18 13 37.5**	**-1.2**
HCY	**Herceg Novi**	**0.67**	**112**	⇑*i*Pg	**Pg**	**18 13 33.4**	**0.0**
HCY				*e*Sg	**Sb**	**18 13 43.4**	**-0.5**
HCY	**Herceg Novi**	**0.67**	**112**	⇑*i*Pg	**Pg**	**18 13 32.1**	**-1.3**
HCY				*i* Sg	**Sg**	**18 13 42.5**	**+0.4**
BRY	**Bratogost**	**0.68**	**73**	*e*Pg	**Pg**	**18 13 32.2**	**-1.3**
BRY				*e*Sg	**Sb**	**18 13 43.5**	**-0.8**
BRY	**Bratogost**	**0.68**	**73**	⇑*i*Pg	**Pg**	**18 13 32.3**	**-1.3**
BRY				*i* Sg	**Sb**	**18 13 43.6**	**-0.8**
MAKA	**Makarska**	**0.74**	**322**	*e*Pg	**Pg**	**18 13 34.3**	**-0.4**
MAKA				Sg	**Sg**	**18 13 44.9**	**+0.4**
KLINJ	**Klinje**	**0.83**	**56**	*e*Pg	**Pg**	**18 13 34.7**	**-1.6**
KLINJ				*e*Sg	**Sg**	**18 13 47.1**	**0.0**
RICI	**Ricice**	**0.88**	**334**	*e*Pg	**Pg**	**18 13 36.4**	**-0.9**
RICI				Sg	**Sg**	**18 13 48.4**	**-0.2**
CEME	**Cevo**	**0.95**	**99**	⇑*i*Pg	**Pg**	**18 13 36.7**	**-1.9**
CEME				*i* Sg	**Sb**	**18 13 52.0**	**+0.1**
NKME	**Niksic**	**0.96**	**86**	⇑*i*Pg	**Pg**	**18 13 37.9**	**-0.9**
NKME				*i* Sg	**Sb**	**18 13 52.8**	**+0.6**
KALIN	**Kalinovik**	**0.99**	**36**	⇓*i*Pg	**Pg**	**18 13 38.0**	**-1.4**
KALIN				*e*Sg	**Sb**	**18 13 51.6**	**-0.6**
BUM	**Brajici-Budva**	**1.00**	**113**	⇓*i*Pg	**Pg**	**18 13 38.4**	**-1.3**
BUM				*i* Sg	**Sn**	**18 13 55.5**	**+0.2**
HVAR	**Hvar**	**1.00**	**299**	*e*Pg	**Pg**	**18 13 38.5**	**-1.2**
HVAR				Sg	**Sg**	**18 13 52.9**	**+0.2**
UPM	**Unac-Piva**	**1.04**	**61**	*e*Pg	**Pg**	**18 13 39.4**	**-1.1**
UPM				*e*Sg	**Sg**	**18 13 54.1**	**0.0**
UPM	**Unac-Piva**	**1.04**	**61**	⇑*i*Pg	**Pg**	**18 13 39.7**	**-0.8**
UPM				*i* Sg	**Sn**	**18 13 55.9**	**-0.6**
PDG	**Podgorica**	**1.22**	**103**	*e*Pg	**Pb**	**18 13 42.9**	**-0.8**
PDG				*e*Sg	**Sn**	**18 14 01.6**	**+1.2**
PDG	**Podgorica**	**1.22**	**103**	⇑*i*Pg	**Pb**	**18 13 42.6**	**-1.1**
PDG				*e*Sg	**Sn**	**18 14 00.1**	**-0.3**
PDG	**Podgorica**	**1.22**	**103**	⇑*i*Pg	**Pb**	**18 13 42.7**	**-1.0**
PDG				*i* Sg	**Sn**	**18 14 01.1**	**+0.7**
DRME	**Dracevica, Mon**	**1.25**	**114**	⇑*i*Pg	**Pn**	**18 13 42.9**	**-1.3**
DRME				*i* Sg	**Sn**	**18 14 02.6**	**+1.4**
KOME	**Kolasin**	**1.38**	**83**	⇑*i*Pg	**Pn**	**18 13 45.6**	**-0.5**
KOME				*i* Sg	**Sg**	**18 14 07.1**	**+2.4**
ULC	**Ulcinj**	**1.39**	**122**	⇑*i*Pg	**Pn**	**18 13 45.6**	**-0.6**
ULC				*i* Sg	**Sg**	**18 14 07.5**	**+2.3**
PLE	**Pljevlja**	**1.42**	**63**	⇑*i*Pg	**Pn**	**18 13 46.5**	**-0.2**
PLE				*i* Sg	**Sg**	**18 14 08.9**	**+2.9**
RUDO	**Rudo**	**1.55**	**53**	*e*Pn	**Pn**	**18 13 48.5**	**+0.1**
RUDO				*e*Sn	**Sb**	**18 14 09.4**	**+0.1**
KIJV	**Kijevo**	**1.59**	**325**	*e*Pn	**Pb**	**18 13 49.5**	**-0.5**
KIJV				Sn	**Sg**	**18 14 11.0**	**-0.4**
IVA	**Berane**	**1.66**	**83**	⇓*i*Pn	**Pb**	**18 13 50.8**	**-0.5**
IVA				*i* Sn	**Sg**	**18 14 15.6**	**+1.9**
HAPS	**Han Pijesak,BI**	**1.67**	**34**	*e*Pg	**Pb**	**18 13 51.0**	**-0.6**
HAPS				*e*Sg	**Sg**	**18 14 15.7**	**+1.5**
HAPS	**Han Pijesak,BI**	**1.67**	**34**	⇑*i*Pn	**Pn**	**18 13 50.8**	**+0.6**
HAPS				*e*Sn	**Sb**	**18 14 12.3**	**-0.6**
PVY	**Plav**	**1.70**	**93**	⇓*i*Pn	**Pb**	**18 13 51.7**	**-0.4**
PVY				*i* Sn	**Sg**	**18 14 16.6**	**+1.4**
BBLS	**Lazi&#263i**	**1.73**	**47**	*e*Pg	**Pb**	**18 13 52.2**	**-0.3**
BBLS				*e*Sg	**Sg**	**18 14 16.4**	**+0.5**
BBLS	**Lazi&#263i**	**1.73**	**47**	⇑*i*Pn	**Pb**	**18 13 51.8**	**-0.7**
BBLS				*e*Sn	**Sb**	**18 14 13.9**	**-0.5**
ZIRJ	**Zirje**	**1.75**	**304**	*e*Pn	**Pn**	**18 13 51.3**	**+0.2**
ZIRJ				Sn	**Sb**	**18 14 14.6**	**-0.4**
PUK	**Puka**	**1.79**	**111**	AMP			
	comp=E,0.6nm,0.3s,baz=110						
SJES	**Sjenica**	**1.79**	**71**	*e*Pg	**Pb**	**18 13 53.6**	**0.0**
SJES				*e*Sg	**Sg**	**18 14 18.4**	**+0.4**
SJES	**Sjenica**	**1.79**	**71**	⇓*i*Pn	**Pn**	**18 13 52.5**	**+0.7**
SJES				*e*Sn	**Sn**	**18 14 15.2**	**+0.4**
BCI	**Bajram Curri**	**1.82**	**100**	AMP			
	comp=N,0.8nm,0.4s,baz=99						
MORI	**Morici**	**1.83**	**310**	*e*Pn	**Pn**	**18 13 52.8**	**+0.5**
MORI				Sn	**Sn**	**18 14 16.3**	**+0.6**
A050A	**Klekovaca**	**1.95**	**336**	*e*Pn	**Pn**	**18 13 54.1**	**+0.1**
A050A				*e*Sn	**Sn**	**18 14 18.9**	**+0.1**
IVAS	**Ivanjica**	**2.03**	**64**	*e*Pn	**Pn**	**18 13 55.5**	**+0.5**
IVAS				*e*Sn	**Sb**	**18 14 22.4**	**-0.6**
DOB	**Doboj**	**2.05**	**9**	*e*Sn	**Sn**	**18 14 21.1**	**0.0**
BLY	**Banja Luka**	**2.07**	**351**	*e*Pn	**Pb**	**18 13 57.8**	**-0.5**
BLY				*e*Sn	**Sb**	**18 14 23.9**	**-0.3**
BLY	**Banja Luka**	**2.07**	**351**	*e*Pn	**Pn**	**18 13 56.1**	**+0.6**
BLY				*e*Sn	**Sn**	**18 14 21.2**	**-0.4**
DIVS	**Divibare**	**2.20**	**50**	*e*Pn	**Pn**	**18 13 57.7**	**+0.3**
DIVS				*e*Sn	**Sn**	**18 14 26.0**	**+1.1**
DUGI	**Dugi Otok**	**2.29**	**305**	*e*Pn	**Pn**	**18 13 59.1**	**+0.5**
DUGI				Sn	**Sn**	**18 14 28.4**	**+1.5**
TEKS	**Tekeris**	**2.29**	**36**	*e*Pn	**Pn**	**18 13 58.0**	**-0.6**
TEKS				*e*Sn	**Sn**	**18 14 27.8**	**+0.8**
TEKS	**Tekeris**	**2.29**	**36**	*e*Pn	**Pn**	**18 13 58.3**	**-0.3**
TEKS				*e*Sn	**Sn**	**18 14 27.1**	**+0.1**
A051A	**Mrakovica**	**2.37**	**347**	*e*Pn	**Pn**	**18 14 00.3**	**+0.6**
A051A				*e*Sn	**Sn**	**18 14 29.2**	**+0.2**
VIRC	**Vir**	**2.47**	**311**	*e*Pn	**Pn**	**18 14 01.6**	**+0.6**
VIRC				Sn	**Sn**	**18 14 32.4**	**+1.1**
TRUS	**Trudelj**	**2.51**	**52**	*e*Pn	**Pn**	**18 14 02.2**	**+0.6**
TRUS				*e*Sn	**Sn**	**18 14 32.5**	**0.0**
GRUS	**Gruza**	**2.53**	**61**	*e*Pn	**Pn**	**18 14 02.6**	**+0.8**
GRUS				*e*Sn	**Sn**	**18 14 34.3**	**+1.4**
SELS	**Selova**	**2.59**	**77**	*e*Pn	**Pn**	**18 14 03.2**	**+0.4**
SELS				*e*Sn	**Sn**	**18 14 35.9**	**+1.4**
NVLJ	**Novalja**	**2.74**	**314**	*e*Pn	**Pn**	**18 14 05.2**	**+0.5**
NVLJ				Sn	**Sn**	**18 14 39.3**	**+1.2**
AVAS	**Avala Beograd**	**2.88**	**45**	*e*Pn	**Pn**	**18 14 05.9**	**-0.7**
AVAS				*e*Sn	**Sn**	**18 14 41.4**	**0.0**
FRGS	**Fruska Gora**	**2.91**	**32**	*e*Pn	**Pn**	**18 14 05.6**	**-1.4**
FRGS				*e*Sn	**Sn**	**18 14 42.3**	**+0.1**
FRGS	**Fruska Gora**	**2.91**	**32**	*e*Pn	**Pn**	**18 14 07.6**	**+0.6**
FRGS				*e*Sn	**Sn**	**18 14 41.9**	**-0.3**
BARS	**Barje**	**3.07**	**87**	*e*Pn	**Pn**	**18 14 09.7**	**+0.5**
BARS				*e*Sn	**Sn**	**18 14 46.2**	**+0.1**
BOVS	**Bovan**	**3.11**	**71**	*e*Pn	**Pn**	**18 14 11.2**	**+1.4**
BOVS				*e*Sn	**Sn**	**18 14 47.7**	**+0.6**
CRES	**Cresnjevec Ost**	**3.50**	**334**	*e*Pn	**Pn**	**18 14 15.0**	**-0.1**
CRES				*e*Sn	**Sn**	**18 14 55.9**	**-0.8**
ZAGS	**Zajecar**	**3.52**	**70**	*e*Pn	**Pn**	**18 14 16.0**	**+0.5**
MORH	**Mrgy, Hungar**	**3.58**	**11**	*e*Pn	**Pn**	**18 14 16.1**	**-0.2**
MORH				*e*Sn	**Sn**	**18 14 58.0**	**-0.7**
VRSS	**Vrsac**	**3.59**	**46**	*e*Pn	**Pn**	**18 14 16.1**	**-0.3**
VRSS				*e*Sn	**Sn**	**18 14 57.8**	**-1.2**
ZAPS	**Zavoj**	**3.70**	**79**	*e*Pn	**Pn**	**18 14 18.6**	**+0.7**
ZAPS				*e*Sn	**Sn**	**18 15 01.9**	**+0.2**
BEHE	**Becsehely**	**3.82**	**351**	*e*Pn	**Pn**	**18 14 18.9**	**-0.6**
BEHE				*e*Sn	**Sn**	**18 15 02.9**	**-1.7**
CEY	**Cerknica**	**3.82**	**324**	*e*Pn	**Pn**	**18 14 19.8**	**+0.2**
CEY				*e*Sn	**Sn**	**18 15 03.5**	**-1.2**
SOKA	**Soboth**	**4.39**	**336**	*i* Pn	**Pn**	**18 14 29.0**	**+1.5**
	comp=N,3.5nm,0.3s						
SOKA				*i* Sn	**Sn**	**18 15 19.6**	**+0.8**
	comp=N,0.6nm,0.3s						
OBKA	**Obir**	**4.40**	**331**	*i* Pn	**Pn**	**18 14 30.2**	**+2.5**
	comp=N,0.7nm,0.2s						
OBKA				*i* Sn	**Sn**	**18 15 18.6**	**-0.6**
	comp=N,7.5nm,0.7s						
OBKA	**Obir**	**4.40**	**331**	*e*Pn	**Pn**	**18 14 27.3**	**-0.4**
OBKA				*e*Sn	**Sn**	**18 15 16.8**	**-2.4**
ARSA	**Arzberg**	**4.79**	**342**	*i* Pn	**Pn**	**18 14 35.6**	**+2.7**
	comp=N,1.3nm,0.3s						
ARSA				*i* Sn	**Sn**	**18 15 29.7**	**+1.1**
	comp=N,1.7nm,0.4s						
ARSA	**Arzberg**	**4.79**	**342**	*e*Pn	**Pn**	**18 14 32.4**	**-0.5**
ARSA				*e*Sn	**Sn**	**18 15 26.1**	**-2.5**
RONA	**Rosalia, Austr**	**5.09**	**350**	*i* Pn	**Pn**	**18 14 38.9**	**+1.9**
	comp=N,0.4nm,0.1s						
RONA				*i* Sn	**Sn**	**18 15 35.2**	**-0.7**
	comp=N,0.9nm,0.3s						
CONA	**Conrad Observa**	**5.37**	**347**	*i* Pn	**Pn**	**18 14 42.8**	**+1.8**
	comp=N,0.6nm,0.2s						
CONA				*i* Sn	**Sn**	**18 15 43.5**	**+0.4**
	comp=N,1.0nm,0.3s						
MOA	**Molln**	**5.67**	**336**	*i* Pn	**Pn**	**18 14 47.9**	**+2.9**
	comp=N,2.0nm,0.3s						
MOA				*e*Sn	**Sn**	**18 15 51.8**	**+1.5**
	comp=N,3.6nm,0.5s						
BIOA	**Bad Ischl, Aus**	**5.74**	**332**	*i* Pn	**Pn**	**18 14 48.2**	**+2.3**
	comp=N,1.4nm,0.3s						
BIOA				*e*Sn	**Sn**	**18 15 53.7**	**+1.7**
	comp=N,2.7nm,0.4s						
LESA	**Schwarzleotal**	**5.89**	**325**	*i* Pn	**Pn**	**18 14 50.6**	**+2.6**
	comp=N,1.2nm,0.3s						
LESA				*i* Sn	**Sn**	**18 15 56.4**	**+0.6**
	comp=N,4.4nm,0.6s						
WTTA	**Wattenberg**	**6.24**	**319**	*i* Pn	**Pn**	**18 14 54.3**	**+1.3**
	comp=N,1.0nm,0.3s						
WTTA				*e*Sn	**Sn**	**18 16 06.2**	**+1.5**
	comp=N,6.2nm,0.8s						
WATA	**Walderalm**	**6.32**	**319**	*i* Pn	**Pn**	**18 14 56.0**	**+2.0**
	comp=N,1.2nm,0.3s						
WATA				*i* Sn	**Sn**	**18 16 08.2**	**+1.6**
	comp=N,6.1nm,0.8s						
SQTA	**Sankt Quirin**	**6.42**	**317**	*i* Pn	**Pn**	**18 14 56.7**	**+1.2**
	comp=N,0.8nm,0.3s						
CKRC	**Cesky Krumlov**	**6.55**	**340**	*e*SN	**Sn**	**18 16 11.8**	**-0.1**
MOTA	**Moosalm**	**6.56**	**317**	*i* Pn	**Pn**	**18 14 59.0**	**+1.7**
	comp=N,1.3nm,0.4s						
MOTA				*i* Sn	**Sn**	**18 16 13.1**	**+0.7**
	comp=N,3.5nm,0.6s						
MAUC	**Maruska**	**6.66**	**1**	*e*SN	**Sn**	**18 16 15.1**	**+0.3**
KHC	**Kasperske Hory**	**7.03**	**338**	*e*SN	**Sn**	**18 16 23.2**	**-0.5**

*NEIC **17** 18:16:31.0±0.7, 15°.2S±0°.1×167°.5E±0°.1, h116km±8km, mb4.3/11, Error ellipse: s-maj=21.2km s-min=15.9km az=77.0*
*NOU **17** 18:16:34.4, 15°.17S×167°.45E, h106km, mb3.9/11, Vanuatu Islands*
*IDC **17** 18:16:36.0±6.7, 15°.32S×167°.42E, h152km±47km, mb3.5/5, mbtmp4.0/6, Error ellipse: s-maj=56.8km s-min=26.9km az=39.0*

ISC 17 18:16:32.3±0.8, **15°.14S**±0°.08×**167°.5E**±0°.1, **h129**km, **n35**, σ1s**34**/35, **mb4.1**/10, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.97**	**183**	P	**Pn**	**18 16 54.8**	**0.0**
LUES	**Luesalemba Tem**	**4.70**	**341**	P	**Pn**	**18 17 43.5**	**+2.1**
KOUNC	**Koumac, New Ca**	**6.18**	**209**	Pn	**Pn**	**18 17 59.5**	**-1.8**
KOUNC	**Koumac, New Ca**	**6.18**	**209**	P	**Pn**	**18 18 02.7**	**+1.5**
YATNC	**Mamie plateau,**	**6.91**	**184**	P	**Pn**	**18 18 11.5**	**+0.4**
DZM	**Mont Dzumac**	**6.97**	**188**		**Pn**	**18 18 10.1**	**-1.9**
DZM	**Mont Dzumac**	**6.97**	**188**	P	**Pn**	**18 18 13.4**	**+1.4**
	4.0nm,0.4s,baz=5.1,slow=14,SNR=44						
DZM				S	**Sn**	**18 19 29.8**	**-0.1**
	7.2nm,0.5s,baz=345,slow=20,SNR=7.0						
DZM	**Mont Dzumac**	**6.97**	**188**	P	**Pn**	**18 18 13.7**	**+1.7**
NOUC	**Port Laguerre**	**7.02**	**189**	P	**Pn**	**18 18 14.0**	**+1.5**
ONTNC	**Ouen Toro**	**7.20**	**188**	Pn	Pn	18 18 10.5	-4.5
ONTNC	**Ouen Toro**	**7.20**	**188**	P	**Pn**	**18 18 16.8**	**+1.8**
OUENC	**Ouen Island, N**	**7.27**	**185**	P	**Pn**	**18 18 18.1**	**+2.2**
PINNC	**Pines Island,**	**7.44**	**180**	Pn	**Pn**	**18 18 16.8**	**-1.4**
PINNC	**Pines Island,**	**7.44**	**180**	P	**Pn**	**18 18 19.6**	**+1.4**
HNR	**Honiara**	**9.28**	**307**	Pn	**Pn**	**18 18 42.3**	**-0.8**
BKZ	**Black Stump Fm**	**25.22**	**163**	P	**P**	**18 21 45.0**	**-1.2**
BKZ				IAmb	IAmb	18 22 03.3	
	comp=Z,26nm,1.4s						
LTZ	**Lake Taylor**	**27.86**	**172**	P	**P**	**18 22 08.8**	**-1.0**
STKA	**Stephens Creek**	**28.88**	**230**	P	**P**	**18 22 17.9**	**-1.0**
STKA	**Stephens Creek**	**28.88**	**230**	P	**P**	**18 22 20.6**	**+1.6**
	comp=Z,1.3nm,0.3s,baz=61,slow=9.3,SNR=12						
	comp=Z,1.3nm,0.3s						
WR0	**Warramunga Arr**	**31.73**	**256**	P	**P**	**18 22 43.4**	**-0.8**
WR0				IAmb	IAmb	18 22 49.5	
	comp=Z,6.9nm,1.4s						
WB0	**Warramunga Arr**	**31.85**	**257**	P	**P**	**18 22 45.0**	**-0.3**
WB0				IAmb	IAmb	18 23 11.2	
	comp=Z,7.4nm,1.4s						
WRA	**Warramunga Arr**	**31.91**	**257**	P	**P**	**18 22 45.6**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=87,slow=8.9,SNR=7.9						
	comp=Z,0.4nm,0.5s						
AS31	**Alice Springs**	**32.71**	**250**	P	**P**	**18 22 52.1**	**-0.7**
ASAR	**Alice Springs**	**32.71**	**250**	P	**P**	**18 22 52.2**	**-0.7**
ASAR	**Alice Springs**	**32.71**	**250**	P	**P**	**18 22 52.8**	**-0.1**
	comp=Z,1.5nm,0.4s,baz=75,slow=9.2,SNR=49						
	comp=Z,1.5nm,0.4s						
BBOO	**Buckleboo**	**33.48**	**233**		**P**	**18 22 58.5**	**-0.9**
GIRL	**Giralia**	**50.70**	**253**	P	**P**	**18 25 19.7**	**+0.6**
SBA	**Scott Base**	**62.73**	**180**	P	**P**	**18 26 44.3**	**+1.1**
SBA				IAmb	IAmb	18 27 20.3	
	comp=Z,4.2nm,1.5s						
QSPA	**South Pole Qui**	**74.89**	**180**	P	**P**	**18 27 58.5**	**-0.3**
QSPA				IAmb	IAmb	18 28 20.5	
	comp=Z,6.8nm,1.5s						
QSPA	**South Pole Qui**	**74.89**	**180**	P	**P**	**18 27 58.6**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=27,slow=2.3,SNR=13						
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**75.29**	**294**	P	**P**	**18 28 04.2**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=140,slow=4.4,SNR=2.5						
	comp=Z,0.3nm,0.7s						
SUA	**Susitna One**	**83.21**	**19**	P	**P**	**18 28 43.0**	**-1.0**
SUA				IAmb	IAmb	18 28 54.9	
	comp=Z,4.5nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**143.29**	**333**	PKPdf	**PKPdf**	**18 35 50.6**	**-1.2**
TUE	**Stuetta**	**143.79**	**334**	PKPdf	**PKPdf**	**18 35 50.6**	**-2.0**
SENIN	**Lac Senin/Sane**	**144.72**	**336**	PKPdf	**PKPdf**	**18 35 52.9**	**-1.3**

*IDC **17** 18:24:02.0±1.1, 42°.84N×48°.26E, h0km, mb3.7/7, mbtmp3.7/14, ML3.4/7, Error ellipse: s-maj=19.5km s-min=8.5km az=164.0*
*DRS **17** 18:24:03.3, 42°.68N×48°.35E, h15km*
*MOS **17** 18:24:03.9, 42°.63N×48°.32E, h21km, MPVA4.3*
*NORS **17** 18:24:03.4, 42°.64N×48°.25E, h6km, MPVA4.1*
*NNC **17** 18:24:12.0±4.9, 42°.91N×49°.76E, h0km, mb3.8, Error ellipse: s-maj=45.5km s-min=36.7km az=91.0*

ISC 17 18:24:01.6±1.4, **42°.68N**±0°.03×**48°.57E**±0°.04, **h8**km±9km, **n86**, σ1s**74**/147, **mb3.7**/7, **2C-13D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.67**	**195**	*i* Pg	**Pn**	**18 24 17.7**	**+0.4**
	642nm,0.2s						
DRN				*e*Sg	**Sn**	**18 24 27.4**	**-0.7**
	16μm,0.2s						
DRN	**Derbent**	**0.67**	**195**	⇑*i*PG	**Pn**	**18 24 17.7**	**+0.4**
DRN				*e*S	**Sn**	**18 24 27.3**	**-0.7**
DRN				pmax	pmax		
	comp=Z,642nm,0.2s						
SGKR	**Sergokala**	**0.70**	**252**	*i* Pg	**Pb**	**18 24 15.8**	**-0.4**
	comp=Z,420nm,0.3s						
SGKR				*e*Sg	**Sg**	**18 24 24.3**	**0.0**
	comp=Z,2μm,0.6s						
SGKR	**Sergokala**	**0.70**	**252**	⇓*i*PG	**Pb**	**18 24 15.7**	**-0.4**
SGKR				*e*S	**Sg**	**18 24 24.3**	**0.0**
SGKR				pmax	pmax		
	comp=Z,420nm,0.3s						
MAK	**Makhachkala**	**0.83**	**290**	⇓*i*PG	**Pb**	**18 24 19.1**	**+0.9**
MAK				*e*		18 24 30.2	
MAK				pmax	pmax		
	comp=Z,215nm,0.3s						
MAK				smax	smax		
	comp=E,824nm,0.5s						
MAK				smax	smax		
	comp=E,1μm,0.5s						
URKR	**Urkarakh**	**0.86**	**234**	*i* Pg	**Pb**

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PRTR                                    eS      Sn      18 25 34.1 +1.0
KORR  Kora              3.33 279  i Pn      Pn      18 24 57.5 +3.5
KORR                                    eSn     Sn      18 25 35.8 +2.1
KORR  Kora              3.33 279  i PN      Pn      18 24 57.5 +3.5
KORR                                    eS      Sn      18 25 35.8 +2.1
STDR  Stavd-Durt        3.37 283  ePn     Pn      18 24 55.7 +1.2
STDR                                    eSn     Sn      18 25 34.7  0.0
STDR  Stavd-Durt        3.37 283  ePN     Pn      18 24 55.7 +1.2
STDR                                    eS      Sn      18 25 34.7  0.0
DIGR  Digorskoe uzhe    3.67 275  ePn     Pn      18 25 01.3 +2.4
DIGR                                    eSn     Sn      18 25 43.9 +1.4
DIGR  Digorskoe uzhe    3.67 275  ePN     Pn      18 25 01.3 +2.4
DIGR                                    eS      Sn      18 25 43.9 +1.4
NCK   Nalchik           3.73 284  i PN    Pn      18 24 58.5 -1.0
GNI   Garni             3.83 230  Pn      Pn      18 25 04.3 +3.4
      comp=Z,0.9nm,0.3s,baz=74,slow=22,SNR=2.7
GNI                                     Sn      Sn      18 25 43.8 -2.4
      comp=Z,2.0nm,0.3s,baz=77,slow=18,SNR=2.2
      comp=Z,5.0nm,0.4s
GNI   Garni             3.83 230  ePn     Pn      18 25 02.0 +1.0
GNI                                     eSn     Sn      18 25 46.0 -0.2
GNI   Garni             3.83 230  ePN     Pn      18 25 02.0 +1.0
KBTC  Kuba-Taba         3.94 289  ePn     Pn      18 25 04.2 +1.9
KBTC                                    eSn     Sn      18 25 49.2 +0.5
KBTC  Kuba-Taba         3.94 289  ePN     Pn      18 25 04.2 +1.9
KBTC                                    eS      Sn      18 25 49.2 +0.5
PYA1  Pyatigorsk        4.22 291  ePn     Pn      18 25 07.1 +0.9
PYA1                                    eSn     Sn      18 25 53.6 -2.1
PYA1  Pyatigorsk        4.22 291  ePN     Pn      18 25 07.1 +0.9
PYA1                                    eS      Sn      18 25 53.6 -2.1
KBZ   Khabaz            4.27 286  Pn      Pn      18 25 06.0 -0.8
      comp=Z,1.2nm,0.3s,baz=159,slow=3.1,SNR=28
KBZ                                     Sn      Sn      18 25 53.5 -3.5
      comp=Z,1.9nm,0.3s,baz=191,slow=7.8,SNR=5.7
      comp=Z,5.0nm,0.5s
KBZ   Khabaz            4.27 286  ePn     Pn      18 25 08.0 +1.1
KBZ                                     eSn     Sn      18 25 54.3 -2.6
KBZ   Khabaz            4.27 286  ePN     Pn      18 25 08.0 +1.1
KBZ                                     eS      Sn      18 25 54.3 -2.6
SHA1  Shidzhatmaz       4.45 286  ePn     Pn      18 25 10.8 +1.3
SHA1                                    eSn     Sn      18 25 59.6 -2.0
SHA1  Shidzhatmaz       4.45 286  ePN     Pn      18 25 08.7 -0.8
SHA1                                    pmax    pmax
      comp=Z,9.0nm,0.5s
KVAR  Kislovodsk Arr    4.47 289  Pn      Pn      18 25 09.9 +0.2
      baz=110,slow=21
KVAR                                    Sn      Sn      18 25 59.6 -2.3
      baz=192,slow=12
      comp=Z,3.0nm,0.4s
KIV   Kislovodsk        4.47 289  ePn     Pn      18 25 09.9 +0.1
KIV                                     eSn     Sn      18 25 59.4 -2.7
KIV   Kislovodsk        4.47 289  ePN     Pn      18 25 09.9 +0.1
KIV                                     eS      Sn      18 25 59.3 -2.7
ANN   Anapa             8.34 289  eP      Pn      18 26 01.8 -0.8
ANN                                     pmax    pmax
      comp=Z,57nm,1.1s
BELG  Belogornoye       9.74 357  Pn      Pn      18 26 21.9 +0.1
      comp=Z,2.1nm,0.3s,baz=223,slow=1.3,SNR=7.9
BELG                                    Sn      Sn      18 28 07.3 -4.0
      comp=Z,1.1nm,0.3s,baz=127,slow=20,SNR=5.1
      comp=Z,6.9nm,0.4s
BELG  Belogornoye       9.74 357  P       Pn      18 26 22.0 +0.1
AKTO  Aktyubinsk        10.12  37 ⇓P      Pn      18 26 28.0 +0.9
      comp=Z,2.8nm,0.8s
AKTO                                    ⇓S      Sn      18 28 16.0 -4.7
      comp=Z,2.8nm,0.9s
AKTO  Aktyubinsk        10.12  37 Pn      Pn      18 26 28.3 +1.2
      comp=Z,0.6nm,0.3s,baz=216,slow=11,SNR=7.8
AKTO                                    Sn      Sn      18 28 16.6 -4.1
      comp=Z,0.4nm,0.3s,baz=286,slow=7.4,SNR=2.1
      comp=Z,2.3nm,0.5s
AB31  Akbulak array     10.29  46 P       Pn      18 26 30.6 +1.2
      comp=Z,0.8nm,0.5s,baz=228,slow=11,SNR=29
AB31                                    ⇓S      Sn      18 28 20.4 -4.4
      comp=Z,1.1nm,0.5s,baz=229,slow=22,SNR=6.3
AB31  Akbulak array     10.29  46 P       Pn      18 26 30.6 +1.2
AB31                                    S       Sn      18 28 20.4 -4.4
ARTI  Arti              15.11  21 Pn      Pn      18 27 35.9 +0.8
      comp=Z,0.5nm,0.3s,baz=243,slow=3.1,SNR=5.4
      comp=Z,1.6nm,0.4s
AKASG Malin Array Be    15.47 308 Pn       Pn      18 27 36.9 -3.2
      baz=114,slow=14
KK31  Karatay Array     16.09  81 P       Pn      18 27 50.3 +2.3
      comp=Z,0.2nm,0.3s,baz=269,slow=16,SNR=5.3
KK31                                    ⇓S      Sn      18 30 36.9  -10
      comp=Z,0.4nm,0.5s
KK31  Karatay Array     16.09  81 P       Pn      18 27 50.3 +2.3
KK31                                    S       Sn      18 30 36.9  -10
BRVK  Borovoye          17.82  47 ⇓P      Pn      18 28 09.6 -0.1
      comp=Z,3.7nm,1.1s
BRVK  Borovoye          17.82  47 P       Pn      18 28 09.6 -0.1
BVA0  Borovoye Array    17.86  47 P       P       18 28 12.4 +1.5
      comp=Z,4.2nm,1.3s,baz=248,slow=11,SNR=8.7
BVA0  Borovoye Array    17.86  47 P       P       18 28 12.4 +1.5
BVAR  Borovoye Array    17.86  47 Pn      Pn      18 28 08.8 -1.5
      comp=Z,0.1nm,0.3s,baz=241,slow=12,SNR=11
      comp=Z,0.5nm,0.5s
KURBB Kurchatov Arra    21.93  58 P       P       18 28 57.9 +2.6
      comp=Z,0.7nm,0.5s,baz=263,slow=11,SNR=9.4
      comp=Z,0.7nm,0.5s
KURK  Kurchatov         22.01  58 P       P       18 28 57.9 +1.8
FINES FINESS Array B    23.11 332 P       P       18 29 07.2 -0.5
      comp=Z,1.9nm,0.7s,baz=137,slow=10,SNR=8.2
      comp=Z,1.9nm,0.7s
FINES FINESS Array B    23.11 332 i P     P       18 29 08.0 +0.4
FINES                                   pmax    pmax
      comp=Z,2.0nm,0.7s
MKAR  Makanchi Array    24.19  69 P       P       18 29 20.9 +2.4
      comp=Z,1.1nm,0.8s,baz=263,slow=8.5,SNR=5.6
      comp=Z,1.1nm,0.8s
HFS   Hagfors           27.43 322 P       P       18 29 46.6 -0.9
      comp=Z,1.2nm,0.6s,baz=114,slow=9.3,SNR=1.8
      comp=Z,1.2nm,0.6s
NOA   NORSAR Array B    28.91 322 P       P       18 29 59.1 -1.7
      comp=Z,0.1nm,0.3s,baz=109,slow=9.5,SNR=1.6
      comp=Z,0.1nm,0.3s
ARCES ARCESS Array B    29.43 344 P       P       18 30 04.8 -0.5
      comp=Z,3.6nm,0.9s,baz=143,slow=9.2,SNR=4.0
      comp=Z,3.6nm,0.9s
NRIK  Noril'sk          33.40  24 P       P       18 30 41.8 +1.7
      comp=Z,0.8nm,0.4s,baz=206,slow=16,SNR=1.5
      comp=Z,0.8nm,0.4s
```

NEIC ***17*** *18:51:06.6±1.6, 7°.47N±0°.05×94°.29E±0°.05, h10km±1km, mb4.3/34, Error ellipse: s-maj=13.1km s-min=6.1km az=24.0*
IDC ***17*** *18:51:15.6±5.4, 7°.63N×94°.48E, h77km±50km, mb3.7/12, mbtmp4.0/13, ML4.1/1, Error ellipse: s-maj=30.6km s-min=17.9km az=65.0*
BKK ***17*** *18:51:26.9±0.9, 8°N±16°×9°6E±°, h0km, M4.2/7, Mjma3.9/7, ML4.4/7, MLv4.3/7*
ISC 17 18:51:08.6±0.5, 7°.47N±0°.05×94°.36E±0°.06, h24km, n75, σ1§29/70, mb4.2/28, Nicobar Islands region

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Code  Station Name      Δ°   AZ°  Phase ID                Time    Res
                                 Op    ISC               h m s   ISC
CMBY  CAMPBELL BAY      0.62 224  ePg   Pb              18 51 21.1 +0.2
CMBY                              i Sg    Sn              18 51 32.0 +0.7
CMBY                              IAML                    18 51 34.6
      comp=E,8μm,0.3s
CMBY                              IAML                    18 51 36.2
      comp=E,9μm,0.4s
LHMI  Lhok Sumawe       3.40 131  Pn      Pn              18 52 02.4 +2.2
LHMI                              Sn      Sn              18 52 41.6 +1.8
PKDT  Phuket            3.96  84  P       Pn              18 52 09.9 +2.0
PBA   Port Blair        4.46 339  Pn      Pn              18 52 13.2 -1.6
SRIT  Nakonsritamara    5.31  77  Pn      Pn              18 52 27.3 +0.8
SRIT  Nakonsritamara    5.31  77  P       Pn              18 52 29.0 +2.5
RPSI  Rantau Prapat     6.57 136  Pn      Pn              18 52 42.5 -1.3
GSI   Gunungsitoli      6.91 152  Pn      Pn              18 52 47.8 -0.7
IPM   Ipoh              7.26 114  Pn      Pn              18 52 52.6 -0.8
CM31  Chiang Mai Arr    11.80  22 Pn      Pn              18 53 56.4 +0.8
CMAR  Chiang Mai Arr    11.80  22 Pn      Pn              18 53 56.4 +0.8
CMAR  Chiang Mai Arr    11.80  22 P       Pn              18 53 58.3 +2.7
      comp=E,0.4nm,0.3s,baz=216,slow=14,SNR=12
      comp=E,0.4nm,0.3s
CHTO  Chiang Mai        12.13  21 Pn      Pn              18 54 00.5 +0.4
PHRA  Phrae             12.36  27 Pn      Pn              18 54 02.9 -0.4
AZL   Aizawl            16.26 355 eP      P               18 54 60.0 +1.4
AZL                               IAmb    IAmb            18 55 02.5
      comp=Z,12nm,1.6s
SLVN  Son La            16.59  33 P       Pn              18 54 59.5 -0.3
KSM   Kuching           16.97 110          Pn              18 55 03.1 -1.6
IMP   Imphal            17.27 359 eP      P               18 55 09.8  0.0
SHL   Shillong          18.16 353 P       Pn              18 55 16.3 -3.1
LKP   Lekhapani         19.81   4 eP      Pn              18 55 41.5 +2.3
LKP                               IAmb    IAmb            18 55 41.7
      comp=Z,11nm,0.3s
PZH   PanZhiHua         20.19  19 P       Pn              18 55 44.9 +1.1
LSA   Lhasa             22.32 353 P       P               18 56 04.0 -1.1
LSA                               IAmb    IAmb            18 56 08.6
      comp=Z,5.8nm,0.7s
NRDN  NARMADA NAGAR     22.44 314 eP      P               18 56 09.9 +3.8
LGTI  Lohaghat          25.59 330 eP      P               18 56 36.0  0.0
LGTI                              IAmb    IAmb            18 56 37.0
      comp=Z,2.1nm,0.5s
H08S3 Diego Garcia H    26.47 236 T       T               19 23 20.9
      baz=55,slow=76,SNR=171
H08S2 Diego Garcia H    26.47 236 T       T               19 23 20.7
      baz=55,slow=76,SNR=189
H08S1 Diego Carcia H    26.49 236 T       T               19 23 22.3
      baz=55,slow=76,SNR=167
HHC   Hu-ho-hao-te      36.61  22 eP      P               18 58 13.6 +0.4
HHC                               pmax    pmax
      comp=Z,19nm,0.6s
HHC                               pmax    pmax
      comp=Z,80nm,4.7s
WMQ   Urumqi            36.68 352 eP      P               18 58 15.6 +1.9
JOW   Kunigami          37.51  55 P       P               18 58 21.1 +0.2
DRK   Karamyk           37.77 331 P       P               18 58 22.6 -0.7
DRK                               IAmb    IAmb            18 58 24.6
      comp=Z,5.9nm,0.6s
GAR   Garm              38.14 329 P       P               18 58 24.9 -1.3
GAR                               IAmb    IAmb            18 58 36.5
      comp=Z,4.3nm,1.0s
BTK   Batken            38.69 331 P       P               18 58 30.0 -0.8
BTK                               IAmb    IAmb            18 58 41.3
      comp=Z,6.3nm,1.3s
ARSB  Arslanbob         38.70 334 P       P               18 58 29.8 -1.1
AAK   Ala-Archa         39.17 337 P       P               18 58 34.4 -0.4
AAK                               IAmb    IAmb            18 58 43.6
      comp=Z,4.9nm,1.2s
MK31  Makanchi Array    40.53 347 P       P               18 58 45.2 -0.7
MKAR  Makanchi Array    40.53 347 P       P               18 58 45.1 -0.8
MKAR  Makanchi Array    40.53 347 P       P               18 58 45.2 -0.7
      comp=Z,2.2nm,0.7s,baz=160,slow=7.8,SNR=17
      comp=Z,2.2nm,0.7s
MAKZ  Makanchi          40.61 347 P       P               18 58 45.9 -0.7
MAKZ                              IAmb    IAmb            18 59 14.4
      comp=Z,4.1nm,1.1s
KNRA  Kununurra         41.11 124 P       P               18 58 49.7 -1.3
KNRA                              IAmb    IAmb            18 59 21.0
      comp=Z,14nm,1.4s
KKAR  Karatay Array     41.22 333 P       P               18 58 50.9 -0.8
KKAR  Karatay Array     41.22 333 P       P               18 58 50.6 -1.0
KKAR                              IAmb    IAmb            18 59 02.9
      comp=Z,1.6nm,1.3s
SONM  Songino Array     41.51  12 P       P               18 58 53.5 -0.6
SONM  Songino Array     41.51  12 P       P               18 58 55.0 +0.9
      comp=Z,0.8nm,0.8s,baz=198,slow=9.3,SNR=4.4
      comp=Z,0.8nm,0.8s
KURBB Kurchatov Arra    44.99 346 P       P               18 59 22.1 +0.1
      comp=Z,2.6nm,0.8s,baz=166,slow=7.0,SNR=31
      comp=Z,2.6nm,0.8s
KURK  Kurchatov         45.06 346 P       P               18 59 21.9 -0.6
ZAA0  Zalesovo Array    46.99 352 P       P               18 59 37.6 -0.1
ZAA0                              IAmb    IAmb            18 59 39.2
      comp=Z,2.6nm,0.8s
ZALV  Zalesovo Beam     46.99 352 P       P               18 59 37.3 -0.3
ZALV  Zalesovo Beam     46.99 352 P       P               18 59 38.1 +0.4
      comp=Z,2.4nm,0.7s,baz=179,slow=8.4,SNR=12
      comp=Z,2.4nm,0.7s
WB0   Warramunga Arr    47.80 125 P       P               18 59 43.2 -1.3
WB0                               IAmb    IAmb            18 59 53.8
      comp=Z,4.0nm,1.1s
WRA   Warramunga Arr    47.85 125 P       P               18 59 45.8 +0.9
      comp=Z,0.7nm,1.1s,baz=304,slow=8.6,SNR=2.5
      comp=Z,0.7nm,1.1s
WRAB  Tennant Creek     47.85 125 P       P               18 59 43.0 -1.9
WB2   Warramunga Arr    47.86 125 P       P               18 59 44.3 -0.7
WB2                               IAmb    IAmb            19 00 16.3
      comp=Z,6.6nm,1.2s
WR0   Warramunga Arr    48.02 125 P       P               18 59 44.8 -1.5
WR0                               IAmb    IAmb            19 00 04.3
      comp=Z,6.6nm,1.4s
BVAR  Borovoye Array    49.44 341 P       P               18 59 56.1 -0.5
      comp=Z,1.2nm,0.7s,baz=142,slow=7.3,SNR=4.8
      comp=Z,1.2nm,0.7s
RAYN  Ar Rayn           49.45 295 P       P               18 59 56.4 -0.9
ASAR  Alice Springs     49.49 130 P       P               18 59 58.2 +0.7
      comp=Z,0.4nm,0.7s,baz=302,slow=7.8,SNR=6.6
      comp=Z,0.4nm,0.7s
ABKAR Akbulak array     50.69 331 P       P               19 00 05.7 -0.5
ABKAR                             IAmb    IAmb            19 00 17.6
      comp=Z,2.0nm,1.1s
ABKAO Akbulak array     50.69 331 P       P               19 00 05.8 -0.4
KMBO  Kilima Mbogo      57.60 264 P       P               19 00 56.5 -1.0
KMBO                              IAmb    IAmb            19 01 01.6
      comp=Z,2.1nm,0.9s
KMBO  Kilima Mbogo      57.60 264 P       P               19 00 59.8 +2.3
      comp=Z,1.0nm,0.5s,baz=66,slow=12,SNR=5.7
      comp=Z,1.0nm,0.5s
BRTR  Keskin Array B    62.86 311 P       P               19 01 31.1 -1.9
      comp=Z,0.4nm,0.6s,baz=103,slow=7.1,SNR=2.6
H04N2 CROZET ISLANDS    65.49 211 T       T               20 12 18.8
      baz=47,slow=74
H04N1 CROZET ISLANDS    65.50 211 T       T               20 12 16.0
      baz=47,slow=74
H04N3 CROZET ISLANDS    65.51 211 T       T               20 12 15.6
      baz=47,slow=74
FINES FINESS Array B    73.17 332 P       P               19 02 37.0 -0.2
      comp=Z,6.5nm,1.1s,baz=103,slow=6.1,SNR=7.3
      comp=Z,6.5nm,1.1s
LBTB  Lobatse           74.24 241 P       P               19 02 44.4 +0.1
BOSA  Boshof            75.56 238 P       P               19 02 51.9  0.0
BOSA  Boshof            75.56 238 P       P               19 02 53.7 +1.8
      comp=Z,4.4nm,1.0s,baz=188,slow=11,SNR=2.6
      comp=Z,4.4nm,1.0s
HFS   Hagfors           78.92 330 P       P               19 03 10.0  0.0
      comp=Z,1.3nm,0.6s,baz=108,slow=4.8,SNR=8.2
      comp=Z,1.3nm,0.6s
NC405 NORSAR Array S    79.95 331 P       P               19 03 14.3 -1.3
NC602 NORSAR Array S    80.02 330 P       P               19 03 15.2 -0.8
NC602                             IAmb    IAmb            19 03 47.4
      comp=Z,6.0nm,1.2s
NB2   NORSAR Subarra    80.19 331 P       P               19 03 16.4 -0.5
      comp=Z,0.6nm,0.7s,baz=92,slow=5.9
NOA   NORSAR Array B    80.19 331 P       P               19 03 16.8 -0.1
      comp=Z,0.5nm,0.6s,baz=94,slow=5.6,SNR=4.3
      comp=Z,0.5nm,0.6s
ITQB  Itaqui            144.91 227 PKPdf  PKPdf           19 10 45.1 +0.6
```

NEIC ***17*** *18:51:53.7±1.8, 7°.64N±0°.04×94°.43E±0°.07, h10km±1km, mb4.6/52, Error ellipse: s-maj=12.2km s-min=5.9km az=85.0*
NDI ***17*** *18:51:53.4, 7°.26N×94°.68E, h10km, mb4.3, ML4.1, mb4.6(NEIC)*
IDC ***17*** *18:51:59.9±5.0, 7°.65N×94°.43E, h60km±45km, mb3.9/15, mbtmp4.2/16, ML4.3/1, MS3.7/1, Error ellipse: s-maj=25.5km s-min=14.8km az=67.0*
ISC 17 18:51:55.3±0.4, 7°.57N±0°.04×94°.38E±0°.05, h24km, n107, σ1§28/108, mb4.5/38, MS3.9/4, 1D, Nicobar Islands region

```
Code  Station Name      Δ°   AZ°  Phase ID                Time    Res
                                 Op    ISC               h m s   ISC
CMBY  CAMPBELL BAY      0.72 219  i Pg    Pb              18 52 07.8 -1.4
CMBY                              eS      Sb              18 52 17.6 -1.0
CMBY                              i Sg    Sn              18 52 19.9 -0.3
CMBY                              IAML                    18 52 20.6
      comp=E,6μm,0.3s
CMBY                              IAML                    18 52 22.3
      comp=E,9μm,0.2s
LHMI  Lhok Sumawe       3.45 132          Pn              18 52 49.0 +1.4
LHMI                              Sn      Sn              18 53 28.6 +0.9
PBA   Port Blair        4.37 338          Pn              18 53 02.0 +1.9
SRIT  Nakonsritamara    5.27  79          Pn              18 53 13.8 +1.2
SRIT                              Sn      Sn              18 54 10.5 -2.1
RPSI  Rantau Prapat     6.63 137          Pn              18 53 32.4 +1.2
RPSI                              Sn      Sn              18 54 46.4 +0.3
GSI   Gunungsitoli      6.99 153          Pn              18 53 38.0 +1.7
GSI                               Sn      Sn              18 54 55.8 +0.7
IPM   Ipoh              7.29 115          Pn              18 53 39.7 -0.6
IPM                               Sn      Sn              18 55 00.3 -2.1
CM31  Chiang Mai Arr    11.69  22          Pn              18 54 41.2 +0.5
CMAR  Chiang Mai Arr    11.69  22          Pn              18 54 42.0 +1.2
CMAR  Chiang Mai Arr    11.69  22          P               18 54 43.4 +2.6
      comp=E,0.6nm,0.3s,baz=211,slow=15,SNR=8.0
CHTO  Chiang Mai        12.02  21          Pn              18 54 45.1 -0.1
PHRA  Phrae             12.26  27          Pn              18 54 48.4 -0.1
AZL   Aizawl            16.16 354 eP      P               18 55 44.5 +0.4
AZL                               IAmb    IAmb            18 55 47.4
      comp=Z,16nm,0.9s
AZL                               IAmb    IAmb            18 55 47.5
      comp=Z,15nm,0.7s
SLVN  Son La            16.49  33 P       P               18 55 46.6 -1.1
IMP   Imphal            17.17 359 IAmb    IAmb            18 55 56.5
      comp=Z,16nm,0.9s
IMP                               eP      P               18 55 57.0 +1.8
SHL   Shillong          18.05 353          Pn              18 56 03.9 -0.9
SBUM  Sibu              18.48 105          P               18 56 09.8 +0.1
QIZ   Qiongzhong        18.85  51 P       Pn              18 56 15.5 +1.1
QIZ                               S       Sn              18 59 44.5 -0.3
QIZ                               LR      LR
      comp=N,560nm,10.7s
QIZ                               LR      LR
      comp=E,360nm,12.9s
QIZ                               LR      LR
      comp=Z,190nm,12.9s
KMI   Kunming           19.19  24 ⇓P      Pn              18 56 22.6 +3.9
KMI                               pmax    pmax
      comp=Z,14nm,1.0s
KMI                               LR      LR
      comp=N,210nm,9.9s
KMI                               LR      LR
      comp=E,160nm,8.8s
KMI                               LR      LR
      comp=Z,200nm,19.5s
ZIRO  ZIRO              19.85 359 IAmb    IAmb            18 56 26.6
      comp=Z,13nm,0.4s
ZIRO                              eP      Pn              18 56 28.1 +1.6
PZH   PanZhiHua         20.09  20 P       Pn              18 56 30.8 +1.6
PZH                               S       Sn              19 00 13.5 -1.3
PZH                               pmax    pmax
      comp=Z,10.0nm,1.0s
PZH                               pmax    pmax
      comp=Z,130nm,6.0s
PZH                               pmax    pmax
      comp=Z,20nm,1.0s
PZH                               pmax    pmax
      comp=Z,90nm,5.0s
PZH                               LR      LR
      comp=N,220nm,16.2s
PZH                               LR      LR
      comp=E,170nm,15.0s
PZH                               LR      LR
      comp=Z,200nm,15.2s
GTK   Tadong            20.39 345 eP      Pn              18 56 35.0 +2.2
LSA   Lhasa             22.22 353 P       P               18 56 49.3 -1.4
LSA                               IAmb    IAmb            18 56 54.6
      comp=Z,14nm,0.6s
NRDN  NARMADA NAGAR     22.39 314 eP      P               18 56 57.1 +5.1
NRDN                              IAmb    IAmb            18 57 00.9
      comp=Z,21nm,1.4s
LGTI  Lohaghat          25.51 330 ex      x               18 57 21.6
H08S3 Diego Garcia H    26.55 236 T       T               19 24 06.4
      baz=56
H08S2 Diego Garcia H    26.55 236 T       T               19 24 04.2
      baz=56
H08S1 Diego Carcia H    26.57 236 T       T               19 24 05.5
      baz=56
XAN   Xi'an             29.56  25 P       P               18 58 00.3 +2.0
XAN                               pP      sP              18 58 07.4 +0.1
XAN                               pmax    pmax
      comp=Z,7.0nm,0.9s
XAN                               LR      LR
      comp=N,320nm,16.5s
XAN                               LR      LR
      comp=E,400nm,17.2s
XAN                               LR      LR
      comp=Z,430nm,17.9s
NIL   Nilore            32.48 326 P       P               18 58 23.0 -1.1
NIL                               IAmb    IAmb            18 58 29.6
      comp=Z,10nm,0.8s
NJ2   Nanjing           33.35  40 eP      P               18 58 32.3 +0.7
NJ2                               pmax    pmax
      comp=Z,8.0nm,0.6s
HNS   HongShan          34.96  29 eP      P               18 58 48.6 +3.1
HNS                               LR      LR
      comp=N,200nm,14.3s
HNS                               LR      LR
      comp=E,200nm,18.3s
HNS                               LR      LR
      comp=Z,210nm,16.7s
WMQ   Urumqi            36.58 352 eP      P               18 59 01.1 +1.7
PRZ   Przheval'sk       37.52 340 P       P               18 59 06.6 -1.1
PRZ                               IAmb    IAmb            18 59 16.4
      comp=Z,7.2nm,1.0s
KDJ   Kajisay           37.63 339 P       P               18 59 07.1 -1.5
DRK   Karamyk           37.69 331 P       P               18 59 08.7 -0.5
DRK                               IAmb    IAmb            18 59 10.7
      comp=Z,12nm,0.8s
GAR   Garm              38.06 329          P               18 59 10.9 -1.2
GAR                               IAmb    IAmb            18 59 20.9
      comp=Z,15nm,1.2s
BTK   Batken            38.61 331 P       P               18 59 16.0 -0.8
BTK                               IAmb    IAmb            18 59 26.8
      comp=Z,7.4nm,1.0s
ARSB  Arslanbob         38.62 334          P               18 59 15.8 -1.1
AAK   Ala-Archa         39.08 337 P       P               18 59 20.1 -0.6
MK31  Makanchi Array    40.43 347 P       P               18 59 31.3 -0.4
MKAR  Makanchi Array    40.43 347          P               18 59 30.8 -0.9
MKAR  Makanchi Array    40.43 347 P       P               18 59 31.6 -0.1
      comp=Z,4.2nm,0.7s,baz=164,slow=8.1,SNR=20
      comp=Z,4.2nm,0.7s
MAKZ  Makanchi          40.52 347 P       P               18 59 31.2 -1.2
MAKZ                              IAmb    IAmb            18 59 33.3
      comp=Z,5.3nm,0.8s
KKAR  Karatay Array     41.14 333 P       P               18 59 36.5 -1.2
KKAR  Karatay Array     41.14 333 P       P               18 59 36.0 -1.6
SONM  Songino Array     41.40  12 P       P               18 59 39.5 -0.3
SONM  Songino Array     41.40  12 P       P               18 59 40.1 +0.3
      comp=Z,1.7nm,0.9s,baz=204,slow=7.6,SNR=6.7
SONM                              PcP     PcP             19 01 38.5 +0.8
      comp=Z,0.6nm,0.6s,baz=198,slow=3.2,SNR=2.4
      comp=Z,1.7nm,0.9s
JNU   Nakatsue          42.27  48 LR      LR              19 18 48.1
      comp=Z,95nm,18.0s,baz=292,slow=38
KURBB Kurchatov Arra    44.90 346 P       P               19 00 08.2 +0.3
      comp=Z,5.7nm,0.7s,baz=167,slow=7.2,SNR=26
      comp=Z,5.7nm,0.7s
KURK  Kurchatov         44.96 346          P               19 00 07.8 -0.6
KURK                              IAmb    IAmb            19 00 09.6
      comp=Z,5.5nm,0.8s
ZAA0  Zalesovo Array    46.88 352          P               19 00 23.6 +0.1
ZAA0                              IAmb    IAmb            19 00 26.4
      comp=Z,6.4nm,0.8s
ZALV  Zalesovo Beam     46.88 352 P       P               19 00 23.7 +0.2
ZALV  Zalesovo Beam     46.88 352 P       P               19 00 24.2 +0.7
      comp=Z,6.0nm,0.7s,baz=166,slow=8.2,SNR=16
      comp=Z,6.0nm,0.7s
WB0   Warramunga Arr    47.85 125 P       P               19 00 30.2 -1.4
WRA   Warramunga Arr    47.89 125 P       P               19 00 31.8 -0.1
      comp=Z,1.1nm,1.0s,baz=305,slow=8.8,SNR=5.7
      comp=Z,1.1nm,1.0s
WRAB  Tennant Creek     47.90 125 P       P               19 00 30.2 -1.7
WRAB                              IAmb    IAmb            19 00 32.1
      comp=Z,3.9nm,0.9s
WB2   Warramunga Arr    47.90 125 P       P               19 00 30.5 -1.5
WB2                               IAmb    IAmb            19 00 40.2
      comp=Z,9.7nm,1.2s
BVAR  Borovoye Array    49.35 341 P       P               19 00 42.3 -0.3
      comp=Z,3.1nm,0.8s,baz=138,slow=9.4,SNR=8.5
BVAR                              PcP     PcP             19 02 05.5 +0.6
      comp=Z,1.1nm,0.6s,baz=146,slow=3.7,SNR=3.8
      comp=Z,3.1nm,0.8s
RAYN  Ar Rayn           49.43 294 P       P               19 00 44.1 +0.3
RAYN                              IAmb    IAmb            19 00 45.6
      comp=Z,6.4nm,0.6s
ASAR  Alice Springs     49.54 130 P       P               19 00 44.2 -0.3
      comp=Z,1.1nm,0.7s,baz=315,slow=7.2,SNR=7.3
ASAR                              PcP     PcP             19 02 06.5 +0.3
      comp=Z,0.8nm,0.8s,baz=315,slow=3.6,SNR=5.3
      comp=Z,1.1nm,0.7s
FORT  Forrest           49.95 141 P       P               19 00 49.0 +1.4
ABKAR Akbulak array     50.61 331 P       P               19 00 51.5 -0.7
ABKAR Akbulak array     50.61 331 P       P               19 00 50.6 -1.7
ABKAR                             IAmb    IAmb            19 01 20.4
      comp=Z,8.9nm,1.5s
ARTI  Arti              56.30 337 P       P               19 01 33.3 -0.6
ARTI                              IAmb    IAmb            19 01 37.1
      comp=Z,5.6nm,0.9s
KIBK  Kibwezi           57.06 262 P       P               19 01 40.4 +0.3
```

KMBO Kilima Mbogo 57.63 264 P P 19 01 45.5 +1.1
KMBO IAmb IAmb 19 01 47.1
comp=Z,2.7nm,0.7s
KMBO Kilima Mbogo 57.63 264 P P 19 01 45.8 +1.5
comp=Z,1.9nm,0.5s,baz=74,slow=12,SNR=8.3
comp=Z,1.9nm,0.5s
BR131 Keskin Array S 62.81 311 P P 19 02 16.6 -2.7
BR131 IAmb IAmb 19 02 25.8
comp=Z,6.3nm,1.4s
BRTR Keskin Array B 62.81 311 P P 19 02 17.1 -2.2
BRTR Keskin Array B 62.81 311 P P 19 02 17.2 -2.0
comp=Z,0.9nm,0.6s,baz=104,slow=7.3,SNR=6.5
ELL Elmali 65.09 307 P P 19 02 33.6 -0.8
TOO Toolangi 65.48 137 P P 19 02 36.2 -0.4
TOO IAmb IAmb 19 02 57.3
comp=Z,4.7nm,1.2s
H04N2 CROZET ISLANDS 65.59 211 T T 20 13 02.5
baz=46
H04N1 CROZET ISLANDS 65.60 211 T T 20 13 00.5
baz=46
H04N3 CROZET ISLANDS 65.61 211 T T 20 13 00.9
baz=46
CAN Canberra 66.79 133 P P 19 02 45.1 -0.1
AKASG Malin Array Be 68.54 322 P P 19 02 54.0 -1.9
comp=Z,0.2nm,0.4s,baz=95,slow=4.8,SNR=4.6
comp=Z,0.2nm,0.4s
FINES FINESS Array B 73.09 332 P P 19 03 22.4 -0.9
FINES FINESS Array B 73.09 332 P P 19 03 22.9 -0.4
comp=Z,2.9nm,0.7s,baz=99,slow=4.2,SNR=6.4
comp=Z,2.9nm,0.7s
LBTB Lobatse 74.31 241 P P 19 03 31.4 0.0
LBTB IAmb IAmb 19 03 46.4
comp=Z,11nm,1.2s
BOSA Boshof 75.63 238 P P 19 03 39.1 +0.2
BOSA Boshof 75.63 238 P P 19 03 39.3 +0.4
comp=Z,2.8nm,0.7s,baz=130,slow=4.2,SNR=6.0
comp=Z,2.8nm,0.7s
GERES GERESS Array B 78.21 318 P P 19 03 52.9 -0.2
comp=Z,1.4nm,0.7s,baz=65,slow=9.4,SNR=4.1
comp=Z,1.4nm,0.7s
MAW Mawson 78.29 192 P P 19 03 54.4 +1.6
comp=Z,2.3nm,0.7s,baz=46,slow=4.4,SNR=7.4
comp=Z,2.3nm,0.7s
HFS Hagfors 78.83 330 P P 19 03 55.8 -0.3
comp=Z,2.4nm,0.5s,baz=105,slow=5.1,SNR=7.9
comp=Z,2.4nm,0.5s
CIMO Cimolais 79.01 316 P P 19 03 56.8 -0.6
CIMO IAmb IAmb 19 04 10.3
comp=Z,5.5nm,1.0s
NC405 NORSAR Array S 79.87 331 P P 19 04 00.6 -1.2
NC602 NORSAR Array S 79.94 330 P P 19 04 01.4 -0.7
NC602 IAmb IAmb 19 04 04.4
comp=Z,9.7nm,1.4s
NC303 NORSAR Array S 80.04 331 P P 19 04 02.2 -0.5
NB2 NORSAR Subarra 80.11 331 P P 19 04 02.4 -0.7
comp=Z,0.9nm,0.6s,baz=96,slow=5.1
NOA NORSAR Array B 80.11 331 P P 19 04 02.7 -0.5
comp=Z,1.3nm,0.7s,baz=93,slow=5.5,SNR=7.7
comp=Z,1.3nm,0.7s
SPB2 Spitsbergen Ar 80.18 348 P P 19 04 01.6 -1.5
ANM Nome 87.60 25 P P 19 04 41.7 +0.4
D22K Ayikyak River 91.03 20 P P 19 04 57.6 +0.3
G21K Allakaket 91.70 22 P P 19 05 00.7 +0.2
G21K IAmb IAmb 19 05 02.5
comp=Z,5.0nm,0.9s
IMAR Indian Mountai 91.82 22 P P 19 05 01.5 +0.5
E23K Chandalar 92.41 20 P P 19 05 04.9 +1.0
CAST Castle Rocks 93.51 24 P P 19 05 10.1 +1.1
SKT Skwentna 94.34 26 P P 19 05 13.2 +0.5
BMAR Burnt Mountain 94.39 19 P P 19 05 14.1 +1.2
A36M Sachs Harbour 96.50 12 P P 19 05 22.5 +0.2
PLCA Paso Flores 144.35 200 PKPdf PKPdf 19 11 29.6 -0.4
LL04 Puerto Octay 144.78 197 PKPdf PKPab 19 11 28.9 -0.5
ITQB Itaqui 145.00 227 PKPdf PKPab 19 11 30.3 -0.3
060A Indiantown 145.22 352 PKPbc 19 11 29.8 -1.5
LR05 Currie 145.28 198 PKPbc 19 11 30.5 -0.6

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*BER **17** 18:58:17.3±3.4, 81°.63N×3°.72W, h10km, mb(Pn)3.5, ML2.0(DNK), Confirmed Earthquake*
*DNK **17** 18:58:17.9±3.3, 81°.68N×2°.84W, h34km±42km, ML2.0*
*KOLA **17** 18:58:19.7, 81°.93N×0°.27W, h0km, ML2.8, Error ellipse: s-maj=126.0km s-min=30.9km az=60.0, Arctic Ocean*
*FCIAR **17** 18:58:20.0, 81°.52N×1°.34W, h10km, station ZFI2 has station magnitude of 4.00 station OMEGA has station magnitude of 3.90*
ISC 17 18:58:04.6±1.1, 82°.02N±0°.06×1°.03E±0°.05, h10km, n24, σ1§92/37, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**2.56**	**269**	*i* P	**Pb**	**18 58 48.6**	**-2.0**
NOR				IAML		18 59 14.4	
comp=Z,14nm,0.3s							
NOR	**Nord**	**2.56**	**269**	*i* P	**Pb**	**18 58 48.6**	**-2.0**
NOR				IAML		18 59 14.4	
comp=Z,14nm,0.3s							
KBS	**Kingsbay**	**3.59**	**144**	P	**Pg**	**18 59 13.6**	**+0.3**
KBS				S	**Sb**	**18 59 53.5**	**+1.9**
KBS	**Kingsbay**	**3.59**	**144**	*e*P	**Pg**	**18 59 13.9**	**+0.6**
KBS				*e*S	**Sb**	**18 59 53.6**	**+2.0**
KBS				IAML		19 00 00.3	
comp=Z,16nm,0.2s							
KBS	**Kingsbay**	**3.59**	**144**	*e*P	**Pg**	**18 59 13.6**	**+0.3**
KBS				*e*S	**Sb**	**18 59 53.2**	**+1.6**
KBS	**Kingsbay**	**3.59**	**144**	*i* P	**Pg**	**18 59 12.2**	**-1.1**
KBS				*i* S	**Sb**	**18 59 52.7**	**+1.1**
BRBB	**Barentsburg B**	**4.54**	**143**	P	**Pb**	**18 59 27.4**	**+3.2**
BRBB				S	**Sb**	**19 00 18.3**	**-0.6**
BRBB	**Barentsburg B**	**4.54**	**143**	*e*P	**Pb**	**18 59 27.8**	**+3.5**
BRBA	**Barentsburg A**	**4.57**	**143**	*e*P	**Pg**	**18 59 28.7**	**-3.4**
BRBA				*e*S	**Sb**	**19 00 18.3**	**-1.5**
BRBA				IAML		19 00 23.1	
comp=Z,7.8nm,0.3s							
SPA0	**Spitsbergen Ar**	**4.66**	**138**	*e*P	**Pb**	**18 59 29.7**	**+3.5**
SPA0				*e*S	**Sb**	**19 00 21.2**	**-1.0**
SPA0				IAML		19 00 28.0	
comp=Z,4.6nm,0.5s							
SPA0	**Spitsbergen Ar**	**4.66**	**138**	*e*P	**Pb**	**18 59 29.0**	**+2.8**
SPA0				*e*S	**Sb**	**19 00 20.8**	**-1.4**
SPITS	**Spitsbergen Ar**	**4.66**	**138**	P	**Pb**	**18 59 29.3**	**+3.1**
HSPB	**Hornsund (broa**	**5.67**	**145**	P	**Pb**	**18 59 42.7**	**-0.7**
HSPB	**Hornsund (broa**	**5.67**	**145**	*e*P	**Pb**	**18 59 42.7**	**-0.7**
DAG	**Danmarks Havn**	**6.34**	**225**	*e*	**Pn**	**18 59 37.4**	**-0.6**
baz=34,slow=16							
DAG				*i* P	**Pn**	**18 59 39.0**	**+1.1**
DAG				*i* S	Sn	19 00 38.1	-12
DAG				IAML		19 00 44.8	
comp=Z,11nm,0.4s							
DAG	**Danmarks Havn**	**6.34**	**225**	*e*	**Pn**	**18 59 37.4**	**-0.6**
baz=34,slow=16							
DAG				*i* P	**Pn**	**18 59 39.0**	**+1.1**
DAG				*i* P	**Pn**	**18 59 39.5**	**+1.5**
DAG				*i* S	Sn	19 00 38.1	-12
DAG				IAML		19 00 44.8	
comp=Z,11nm,0.4s							
ZFI2	**Zemlya Franca-**	**6.91**	**76**	*e*P	**Pb**	**19 00 05.6**	**+1.1**
ZFI2				*e*S	**Sb**	**19 01 25.1**	**-1.8**
comp=Z,41nm,1.6s							
OMEGA	**Omega**	**6.93**	**76**	*e*P	**Pb**	**19 00 05.8**	**+0.9**
OMEGA				*e*S	**Sb**	**19 01 25.5**	**-2.1**
comp=Z,31nm,2.9s							
HOPEN	**Hopen**	**7.03**	**129**	*e*P	**Pb**	**19 00 02.4**	**-4.0**
HOPEN				*e*S	Sn	19 01 18.3	+11
DBG	**Daneborg**	**8.79**	**220**	*i* P	**Pn**	**19 00 12.0**	**+0.6**
DBG				*i*		19 01 37.0	
DBG	**Daneborg**	**8.79**	**220**	*i* P	**Pn**	**19 00 12.0**	**+0.6**
DBG				*i*		19 01 37.0	
NEEM	**North Greenlan**	**9.94**	**271**	*i* P	**Pn**	**19 00 26.6**	**-0.9**
NEEM				IAML		19 02 09.3	
comp=Z,2.5nm,0.3s							
NEEM	**North Greenlan**	**9.94**	**271**	*i* P	**Pn**	**19 00 26.6**	**-0.9**
NEEM				IAML		19 02 09.3	
comp=Z,2.5nm,0.3s							
SUMG	**Summit**	**12.40**	**243**	*i* P	**Pn**	**19 01 01.2**	**0.0**
SUMG				*e*S	Sn	19 02 58.8	-21

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*IDC **17** 19:05:02.2±0.9, 2°.61N×126°.82E, h0km, mb3.8/10, mbtmp3.9/10, Error ellipse: s-maj=55.6km s-min=15.1km az=70.0*
*NEIC **17** 19:05:07.6±1.7, 2°.85N±0°.09×127°.1E±0°.1, h35km±1km, mb4.2/11, Error ellipse: s-maj=24.1km s-min=7.2km az=52.0*
*DJA **17** 19:05:07.1±0.4, 3°N±4°×12°7E±°, h10km, M3.6/10, mb3.8/3, MLv3.6/10*
ISC 17 19:05:07.7±0.7, 2°.90N±0°.06×127°.24E±0°.09, h44km, n31, σ1§82/32, mb4.0/13, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.12**	**176**		**Pn**	**19 05 40.1**	**-0.6**
TNTI				Sn	**Sn**	**19 06 05.9**	**+0.1**
TNTI	**Ternate**	**2.12**	**176**	P	**Pn**	**19 05 41.5**	**+0.8**
KMSI	**Cibinong**	**3.99**	**235**	P	**Pn**	**19 06 06.5**	**+0.1**
SANI	**Sanana**	**5.07**	**194**	P	**Pn**	**19 06 21.0**	**-0.3**
SWI	**Sorong**	**5.49**	**133**	P	Pn	19 06 33.7	+6.7
SWI				S	Sn	19 07 38.1	+9.2
LUWI	**Luwuk**	**5.94**	**229**	P	**Pn**	**19 06 34.2**	**+1.0**
LUWI				S	**Sn**	**19 07 45.4**	**+5.5**
TOLI2	**Tolitoli**	**6.69**	**255**	Pn	**Pn**	**19 06 40.8**	**-2.7**
FAKI	**Fak Fak**	**7.65**	**139**	Pn	**Pn**	**19 06 58.5**	**+1.8**
MYLDM	**Lahad Datu**	**9.00**	**285**	Pn	**Pn**	**19 07 12.3**	**-2.9**
MTN	**Manton Dam**	**16.11**	**166**	Pn	**Pn**	**19 08 51.1**	**-0.2**
MTN				IAmb	IAmb	19 09 10.4	
comp=Z,14nm,1.3s							
TWG	**Pinlang**	**20.68**	**344**	P	**P**	**19 09 43.4**	**-0.7**
TWG				IAmb	IAmb	19 09 47.5	
comp=Z,31nm,1.3s							
FITZ	**Fitzroy Crossi**	**20.93**	**184**	P	**P**	**19 09 45.0**	**-1.7**
comp=Z,1.3nm,0.6s,baz=8.2,slow=6.7,SNR=7.2							
comp=Z,1.3nm,0.6s							
TPUB	**Ta-pu**	**21.27**	**343**	P	**P**	**19 09 50.5**	**+0.1**
WB0	**Warramunga Arr**	**23.60**	**163**	P	**P**	**19 10 13.1**	**-1.7**
WB0				IAmb	IAmb	19 10 29.8	
comp=Z,5.8nm,1.0s							
WRA	**Warramunga Arr**	**23.75**	**163**	P	**P**	**19 10 14.1**	**-2.0**
WRA	**Warramunga Arr**	**23.75**	**163**	P	**P**	**19 10 14.8**	**-1.3**
comp=Z,3.4nm,0.7s,baz=341,slow=11,SNR=31							
comp=Z,3.4nm,0.7s							
AS31	**Alice Springs**	**27.19**	**167**	P	**P**	**19 10 46.2**	**-1.2**
ASAR	**Alice Springs**	**27.19**	**167**	P	**P**	**19 10 46.3**	**-1.1**
comp=Z,0.6nm,0.7s,baz=350,slow=7.4,SNR=14							
comp=Z,0.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**31.73**	**301**	P	**P**	**19 11 26.5**	**-1.3**
comp=Z,0.5nm,0.7s,baz=117,slow=7.4,SNR=4.2							
comp=Z,0.5nm,0.7s							
BBOO	**Buckleboo**	**36.49**	**167**	P	**P**	**19 12 08.1**	**-0.7**
STKA	**Stephens Creek**	**37.18**	**160**	P	**P**	**19 12 12.7**	**-2.0**
comp=Z,1.9nm,0.7s,baz=1.0,slow=10.0,SNR=3.2							
comp=Z,1.9nm,0.7s							
USRK	**Ussuriysk Ar.**	**41.34**	**5**	P	**P**	**19 12 53.7**	**+4.5**
comp=Z,2.2nm,0.8s,baz=119,slow=8.7,SNR=3.3							
comp=Z,2.2nm,0.8s							
MK31	**Makanchi Array**	**58.52**	**325**	P	**P**	**19 15 00.2**	**+0.6**
MK31				IAmb	IAmb	19 15 20.3	
comp=Z,1.7nm,1.0s							
MKAR	**Makanchi Array**	**58.52**	**325**	P	**P**	**19 15 00.0**	**+0.3**
MKAR	**Makanchi Array**	**58.52**	**325**	P	**P**	**19 15 00.6**	**+0.9**
comp=Z,0.6nm,0.5s,baz=118,slow=7.8,SNR=12							
comp=Z,0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**61.55**	**333**	P	**P**	**19 15 20.8**	**+0.6**
comp=Z,0.4nm,0.5s,baz=138,slow=7.0,SNR=1.5							
comp=Z,0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**62.70**	**327**	P	**P**	**19 15 28.9**	**+0.8**
comp=Z,1.3nm,0.2s,baz=128,slow=6.0,SNR=1.5							
comp=Z,1.3nm,0.2s							
KKAR	**Karatay Array**	**64.18**	**317**	P	**P**	**19 15 37.7**	**-0.3**
BVAR	**Borovoye Array**	**68.29**	**327**	P	**P**	**19 16 04.5**	**+0.4**
comp=Z,0.5nm,0.4s,baz=120,slow=5.3,SNR=5.3							
comp=Z,0.5nm,0.4s							
BRVK	**Borovoye**	**68.36**	**327**	P	**P**	**19 16 03.3**	**-1.3**
BRVK				IAmb	IAmb	19 16 06.8	
comp=Z,3.8nm,1.4s							
ABKAR	**Akbulak array**	**73.11**	**321**	P	**P**	**19 16 33.5**	**0.0**
ABKAR				IAmb	IAmb	19 16 58.3	
comp=Z,3.0nm,1.1s							

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*IDC **17** 19:07:02.4±5.7, 23°.35S×179°.70W, h503km±62km, mb3.2/9, mbtmp4.0/10, Error ellipse: s-maj=31.7km s-min=20.5km az=50.0*
ISC 17 19:07:05.0±0.9, 23°.5S±0°.1×179°.7W±0°.2, h536km, n13, σ0§98/13, mb3.6/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.92**	**190**	P	**P**	**19 10 12.8**	**-0.9**
4.0nm,0.8s,baz=12,slow=17,SNR=1.6							
URZ				S	**S**	**19 12 47.8**	**-1.5**
4.3nm,0.6s,baz=288,slow=19,SNR=1.8							
STKA	**Stephens Creek**	**35.08**	**248**	P	**P**	**19 13 14.4**	**+1.0**
1.1nm,0.2s,baz=140,slow=17,SNR=1.9							
1.1nm,0.2s							
ASAR	**Alice Springs**	**42.33**	**260**	P	**P**	**19 14 12.6**	**+0.3**
0.9nm,0.7s,baz=95,slow=6.8,SNR=16							
0.9nm,0.7s							
WRA	**Warramunga Arr**	**42.67**	**266**	P	**P**	**19 14 14.4**	**-0.5**
0.8nm,0.6s,baz=93,slow=8.4,SNR=7.1							
0.8nm,0.6s							
FITZ	**Fitzroy Crossi**	**51.10**	**265**	P	**P**	**19 15 18.2**	**-0.3**
2.9nm,1.2s,baz=92,slow=1.6,SNR=1.7							
2.9nm,1.2s							
QSPA	**South Pole Qui**	**66.55**	**180**	P	**P**	**19 17 03.0**	**+1.3**
3.2nm,0.9s,baz=28,slow=0.8,SNR=20							
3.2nm,0.9s							
MJAR	**Matsushiro Arr**	**71.73**	**325**	P	**P**	**19 17 32.3**	**-0.7**
1.4nm,0.8s,baz=157,slow=4.9,SNR=4.1							
1.4nm,0.8s							
PETK	**Petropavlovsk-**	**78.80**	**346**	P	**P**	**19 18 11.2**	**-0.8**
2.0nm,0.7s,baz=143,slow=4.9,SNR=1.7							
2.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**89.62**	**290**	P	**P**	**19 19 07.0**	**+0.9**
0.6nm,0.8s,baz=153,slow=4.4,SNR=4.3							
0.6nm,0.8s							
TXAR	**Lajitas Array**	**90.03**	**58**	P	**P**	**19 19 08.5**	**+0.6**
0.2nm,0.7s,baz=198,slow=7.9,SNR=4.3							
0.2nm,0.7s							
HFS	**Hagfors**	**142.23**	**349**	PKhKP	PKPpre	19 25 31.1	
0.8nm,0.4s,baz=29,slow=3.3,SNR=9.0							
AKASG	**Malin Array Be**	**144.79**	**328**	PKP	**PKPdf**	**19 25 39.6**	**-1.1**
0.4nm,0.4s,baz=51,slow=4.4,SNR=3.2							
BRTR	**Keskin Array B**	**147.55**	**308**	PKPbc	**PKPbc**	**19 25 49.0**	**-0.3**
1.0nm,1.0s,baz=33,slow=3.8,SNR=2.6							

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*ISK **17** 19:11:03.5, 41°.19N×43°.96E, h8km, ML2.3/11*
*AFAD **17** 19:11:04.4±0.0, 41°.18N×43°.88E, h7km±2km, ML2.0*
*AZER **17** 19:11:07.8, 41°.19N×44°.30E, h2km, ml2.6*
*DRS **17** 19:11:08.1, 41°.30N×43°.69E, h15km*
ISC 17 19:11:03.7±0.9, 41°.19N±0°.02×43°.97E±0°.02, h17km±8km, n43, σ1§15/70, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.42**	**302**	Pg	**Pg**	**19 11 12.3**	**0.0**
AKH				Sg	**Sg**	**19 11 18.0**	**-0.1**
EAK	**Akyaka**	**0.57**	**208**	P	**Pg**	**19 11 14.6**	**-0.6**
EAK				S	**Sg**	**19 11 21.8**	**-1.0**
EAK				*i* AML	AML	19 11 23.0	
comp=Z,112nm,0.3s							
TBLG	**Delisi**	**0.79**	**47**	Pg	**Pg**	**19 11 19.5**	**+0.3**
TBLG				Sg	**Sn**	**19 11 30.9**	**-0.7**
KARS	**Kars**	**0.88**	**230**	Pg	**Pg**	**19 11 20.8**	**0.0**
KARS				Sg	**Sn**	**19 11 33.3**	**-0.6**
DIGO	**Kars**	**0.90**	**210**	P	**Pb**	**19 11 20.7**	**-0.3**
DIGO				S	**Sb**	**19 11 32.3**	**-0.4**
DIGO				*i* AML	AML	19 11 35.0	
comp=Z,96nm,0.4s							
BOZK	**Kars-Merkez-Bo**	**0.96**	**232**	P	**Pb**	**19 11 22.1**	**+0.1**
BOZK				S	**Sg**	**19 11 35.0**	**0.0**
BOZK				*i* AML	AML	19 11 38.0	
comp=Z,53nm,0.5s							
EPOS	**Posof**	**0.98**	**289**	P	**Pb**	**19 11 22.5**	**+0.2**
EPOS				S	**Sg**	**19 11 35.9**	**+0.1**
EPOS				*i* AML	AML	19 11 44.0	
comp=Z,33nm,0.6s							
AHAN	**Ardahan-Merkez**	**1.01**	**269**	P	**Pb**	**19 11 21.7**	**-1.3**
AHAN				S	**Sg**	**19 11 37.0**	**+0.3**
AHAN				*i* AML	AML	19 11 40.0	
comp=Z,80nm,0.4s							
QZX	**Qazax, Azerbai**	**1.07**	**97**	P	**Pg**	**19 11 25.3**	**+0.9**
QZX				S	**Sn**	**19 11 39.9**	**+1.5**
GOLE	**Ardahan-G¶le**	**1.09**	**251**	P	**Pb**	**19 11 24.3**	**-0.1**
GOLE				S	**Sg**	**19 11 39.2**	**-0.1**
GNI	**Garni**	**1.20**	**150**	Pn	**Pg**	**19 11 26.6**	**-0.2**
GNI				Sn	**Sg**	**19 11 43.7**	**+1.2**
TASB	**TASBURUN-IGDIR**	**1.23**	**170**	Pn	**Pg**	**19 11 27.2**	**-0.2**
TASB				Sn	**Sg**	**19 11 44.5**	**+1.1**
SENK	**Senkaya-Erzuru**	**1.38**	**243**	Pn	**Pb**	**19 11 29.7**	**+0.6**
SENK				Sn	**Sg**	**19 11 48.5**	**+0.2**
GDB	**GEDABAY**	**1.43**	**109**	P	**Pg**	**19 11 31.0**	**-0.3**
GDB				S	**Sg**	**19 11 49.9**	**-0.1**
KOTA	**Agri, Merkez-K**	**1.50**	**203**	P	**Pg**	**19 11 33.1**	**+0.5**
KOTA				S	Sn	19 11 34.5	-15
DAGI	**Agillar**	**1.55**	**266**	P	**Pn**	**19 11 30.6**	**-0.1**
DAGI				S	**Sg**	**19 11 53.3**	**-0.6**
DAGI				*i* AML	AML	19 11 58.0	
comp=Z,24nm,1.1s							
HYR	**Heyderabad**	**1.62**	**155**	P	**Pg**	**19 11 34.7**	**-0.2**
HYR				S	**Sg**	**19 11 57.8**	**+1.9**
DDEM	**Demirkent**	**1.70**	**261**	P	**Pb**	**19 11 34.9**	**+0.3**
DDEM				S	**Sb**	**19 11 56.0**	**+0.2**
DDEM				*i* AML	AML	19 12 01.0	
comp=Z,13nm,0.2s							
DBAD	**Bademkaya**	**1.73**	**265**	P	**Pb**	**19 11 34.5**	**-0.5**
DBAD				S	**Sb**	**19 11 57.3**	**+0.9**
DBAD				*i* AML	AML	19 12 03.0	
comp=Z,20nm,0.6s							
DBOC	**Borcka**	**1.74**	**276**	P	**Pb**	**19 11 35.3**	**0.0**
DBOC				S	**Sb**	**19 11 57.3**	**+0.5**
DBOC				*i* AML	AML	19 12 17.0	
comp=Z,20nm,1.9s							
BATM	**Batumi**	**1.76**	**284**	Pn	**Pb**	**19 11 35.1**	**-0.4**
AGRB	**Hanur-Agry**	**1.78**	**205**	Pn	**Pb**	**19 11 35.3**	**-0.7**
BCA	**Borcka**	**1.78**	**279**	Pn	**Pb**	**19 11 35.4**	**-0.5**
KOPR	**Koprukoy-ERZUR**	**2.01**	**234**	Pn	**Pn**	**19 11 38.5**	**+1.5**
CLDR	**Caldiran**	**2.05**	**181**	Pn	**Pn**	**19 11 37.7**	**+0.1**
SBZ	**Shahbuz**	**2.17**	**145**	P	**Pg**	**19 11 45.5**	**+0.2**
SBZ				S	**Sg**	**19 12 14.8**	**+1.4**
BTLR	**Botlikh**	**2.23**	**48**	*e*Pn	**Pg**	**19 11 47.9**	**+1.3**
7.0nm,0.4s							
NAX	**Nakhchivan**	**2.33**	**149**	S	**Sg**	**19 12 22.4**	**+3.7**
MNGR	**Mingechevir, A**	**2.40**	**99**	S	**Sg**	**19 12 19.6**	**-1.1**
SEKA	**Sheki**	**2.44**	**89**	P	**Pb**	**19 11 48.5**	**+1.4**
SEKA				S	**Sg**	**19 12 20.6**	**-1.6**
GNBR	**Gunib**	**2.54**	**61**	*e*Pn	**Pg**	**19 11 52.9**	**+0.5**
4.0nm,1.1s							
UNCR	**Uncukul**	**2.60**	**53**	*e*Pn	**Pg**	**19 11 53.5**	**0.0**
4.0nm,0.4s							
AGDM	**Agdam**	**2.62**	**113**	P	**Pb**	**19 11 51.5**	**+1.2**
ARKR	**Arakani**	**2.66**	**57**	*e*Pn	**Pg**	**19 11 54.7**	**-0.1**
2.0nm,0.7s							
KRNR	**Karanay**	**2.73**	**52**	*e*Pn	**Pg**	**19 11 55.8**	**-0.3**
2.0nm,1.1s							
ORD	**Ordubad**	**2.75**	**145**	P	**Pg**	**19 11 55.0**	**-1.3**
ORD				S	**Sg**	**19 12 31.1**	**-0.8**
DBC	**Dubki**	**2.81**	**48**	*e*Pn	**Pg**	**19 11 56.9**	**-0.6**
4.0nm,0.8s							
AKT	**Akhty**	**2.85**	**83**	*e*Pn	**Pg**	**19 11 58.4**	**+0.1**
3.0nm,0.5s							
QBL	**Gabala**	**2.94**	**94**	P	**Pb**	**19 11 56.4**	**+0.8**
QBL				S	**Sb**	**19 12 34.0**	**+2.8**
QRD	**Qoradiz**	**3.09**	**123**	P	**Pb**	**19 11 58.0**	**-0.2**
QRD				S	**Sb**	**19 12 36.5**	**+0.8**
IML	**Ismayilli**	**3.22**	**96**	P	**Pb**	**19 11 59.4**	**-1.0**
IML				S	**Sb**	**19 12 37.8**	**-1.5**
PQL	**Pirkuli**	**3.52**	**95**	P	**Pb**	**19 12 03.9**	**-1.8**
PQL				S	**Sb**	**19 12 46.4**	**-1.9**
YRD	**Yardimli**	**3.99**	**123**	P	**Pb**	**19 12 11.9**	**-1.8**
YRD				S	**Sb**	**19 12 57.5**	**-4.3**

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*IDC **17** 19:11:06.4±10.0, 6°.75N×94°.25E, h0km, mb3.8/5, mbtmp3.7/6, ML3.5/1, MS3.8/3, Error ellipse: s-maj=197.6km s-min=75.9km az=157.0*
ISC 17 19:11:10.9±4.1, 6°.7N±0°.4×94°.8E±0°.1, h35km, n15, σ1§75/8, mb3.7/5, MS3.8/3, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBY	**CAMPBELL BAY**	**0.95**	**290**	*i* P	**Pn**	**19 11 29.8**	**+2.0**
CMBY				*e*S	**Sn**	**19 11 39.1**	**-1.1**
CMBY				IAML		19 11 42.5	
comp=N,3μm,0.2s							
CMAR	**Chiang Mai Arr**	**12.37**	**19**	Pn	**Pn**	**19 14 05.5**	**+0.8**
comp=N,0.1nm,0.3s,baz=214,slow=14,SNR=4.9							
comp=N,0.4nm,0.6s							
H08S3	**Diego Garcia H**	**26.44**	**238**	T	T	19 43 38.2	
baz=55,slow=76,SNR=34							
H08S2	**Diego Garcia H**	**26.44**	**238**	T	T	19 43 39.6	
baz=55,slow=76,SNR=36							
H08S1	**Diego Carcia H**	**26.45**	**238**	T	T	19 43 39.5	
baz=55,slow=76,SNR=23							
AAK	**Ala-Archa**	**40.06**	**337**	LR	LR	19 39 20.4	
comp=N,99nm,18.4s,baz=298,slow=43							
MKAR	**Makanchi Array**	**41.39**	**347**	P	**P**	**19 18 53.7**	**-0.1**
comp=N,1.1nm,0.7s,baz=168,slow=8.6,SNR=7.9							
comp=N,1.1nm,0.7s							
SONM	**Songino Array**	**42.17**	**12**	P	**P**	**19 19 00.9**	**+0.6**
comp=N,0.2nm,0.4s,baz=186,slow=8.7,SNR=1.7							
comp=N,0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**45.86**	**346**	P	**P**	**19 19 29.7**	**+0.1**
comp=N,0.9nm,0.2s,baz=166,slow=7.3,SNR=9.5							
comp=N,0.9nm,0.2s							
ZALV	**Zalesovo Beam**	**47.82**	**352**	P	**P**	**19 19 43.8**	**-1.1**
comp=N,0.9nm,0.5s,baz=170,slow=9.0,SNR=7.3							
ZALV				LR	LR	19 42 04.4	
comp=N,134nm,19.8s,baz=287,slow=39							
comp=N,0.9nm,0.5s							
BVAR	**Borovoye Array**	**50.33**	**341**	P	**P**	**19 20 01.3**	**-2.8**
comp=N,0.7nm,0.9s,baz=190,slow=5.3,SNR=1.9							
comp=N,0.7nm,0.9s							
H04N2	**CROZET ISLANDS**	**65.07**	**212**	T	T	20 32 30.5	
baz=47,slow=75,SNR=4.2							
H04N1	**CROZET ISLANDS**	**65.08**	**212**	T	T	20 32 34.7	
baz=47,sl

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.21**	**18**	Pg	**Pg**	**19 19 07.2**	**-2.4**
IGHG	**Ghaleghazi**	**0.27**	**128**	Pg	**Pg**	**19 19 11.8**	**+1.1**
GLG1	**Gilan-e-Gharb**	**0.51**	**221**	Pg	**Pg**	**19 19 15.5**	**+0.5**
KGS1	**Ghasr-e-Shirin**	**0.60**	**271**	Pg	**Pg**	**19 19 15.8**	**-0.9**
KCHF	**Cheshme Sefid,**	**0.64**	**110**	Pg	**Pg**	**19 19 17.6**	**-0.1**
KCHF				Sg	**Sb**	**19 19 29.6**	**+1.8**
ILIN	**Lien**	**0.68**	**52**	Pg	**Pg**	**19 19 16.3**	**-2.1**
ILBA	**Ilam Banvizeh**	**0.88**	**186**	Pg	**Pg**	**19 19 22.9**	**+0.9**
SNQR	**Sonqor, Kerman**	**1.14**	**71**	Pg	**Pg**	**19 19 26.1**	**-1.0**
IBDR	**Badra**	**1.42**	**193**	*e*Pg	**Pn**	**19 19 32.0**	**+0.9**
IBDR				*e*Sg	**Sb**	**19 19 51.5**	**+1.5**
IBDR				AML	AML	19 20 03.6	
	comp=E,4μm,0.5s						
IBDR				AML	AML	19 20 07.7	
	comp=N,2μm,0.5s						
IKFM	**Kafar-mosalman**	**1.60**	**127**	Pg	**Pg**	**19 19 37.4**	**+1.4**
IDOB	**Doab**	**1.70**	**114**	Pg	**Pb**	**19 19 37.1**	**+0.3**
SDS1	**Sardasht. Az.**	**1.78**	**338**	Pg	**Pn**	**19 19 35.3**	**-0.9**
HSAM	**Samen**	**1.92**	**98**	Pn	**Pb**	**19 19 39.9**	**-0.5**
BHD	**Baghdad**	**2.02**	**233**	*e*Pn	**Pn**	**19 19 39.0**	**-0.3**
BHD				*e*Sn	**Sn**	**19 20 06.0**	**+1.3**
BHD				AML	AML	19 20 33.0	
	comp=E,2μm,1.0s						
BDRS	**Dareh Seyedi**	**2.20**	**104**	Pn	**Pb**	**19 19 45.0**	**-0.3**
MAHB	**Mahabad**	**2.31**	**348**	Pn	**Pn**	**19 19 44.0**	**+0.4**
HAGD	**Aghdareh**	**2.35**	**81**	Pn	**Pb**	**19 19 46.1**	**-1.8**
RAFI	**Al-Rafai**	**2.77**	**183**	*e*Pn	**Pn**	**19 19 51.0**	**+1.3**
RAFI				*e*Sn	**Sn**	**19 20 26.0**	**+2.7**
IHSH	**Hashtrud**	**2.91**	**15**	Pn	**Pn**	**19 19 52.7**	**+0.8**
QABG	**Abgarm-Qazvin**	**2.94**	**65**	Pn	**Pn**	**19 19 53.7**	**+1.5**
IAZR	**Azarshahr**	**3.18**	**355**	Pn	**Pn**	**19 19 56.4**	**+0.8**
YOVA	**Hakkari_Yksek**	**3.49**	**333**	P	**Pn**	**19 20 00.3**	**+0.5**
YOVA				S	**Sn**	**19 20 41.1**	**-0.2**
YOVA				*i* AML	AML	19 21 02.0	
	comp=E,334nm,1.0s						
ISRB	**Sarab**	**3.50**	**18**	Pn	**Pn**	**19 20 01.2**	**+1.3**
HAKT	**HAKKARI**	**3.71**	**326**	P	**Pn**	**19 20 01.9**	**-0.9**
ITBZ	**Tabriz**	**3.73**	**358**	Pn	**Pn**	**19 20 03.3**	**+0.3**
ISHB	**Shabestar**	**3.82**	**352**	Pn	**Pn**	**19 20 04.3**	**0.0**
IHRS	**Heris**	**3.86**	**9**	Pn	**Pn**	**19 20 04.9**	**+0.1**
IPIR	**Pirpir**	**4.23**	**114**	Pn	**Pn**	**19 20 12.3**	**+2.2**
IMRD	**Marand**	**4.23**	**354**	Pn	**Pn**	**19 20 11.3**	**+1.3**
QAMS	**Qamsar**	**4.29**	**99**	Pn	**Pn**	**19 20 13.5**	**+2.7**
JHBN	**Jahan bin**	**4.29**	**121**	Pn	**Pn**	**19 20 13.3**	**+2.4**
SIRN	**Sırnak**	**4.35**	**315**	P	**Pn**	**19 20 11.2**	**-0.2**
GAS1	**Astara - Iran**	**4.38**	**27**	Pn	**Pn**	**19 20 12.8**	**+1.0**
GRMI	**Germi**	**4.49**	**16**	Pn	**Pn**	**19 20 14.5**	**+1.1**
ZNGN	**Zangian**	**4.49**	**121**	Pn	**Pn**	**19 20 16.2**	**+2.7**
IKLH	**Kolahrood**	**4.54**	**104**	Pn	**Pn**	**19 20 16.6**	**+2.3**
OZAP	**Van, Ozalp-Mer**	**4.55**	**336**	P	**Pn**	**19 20 16.6**	**+2.2**
PERV	**Siirt/Pervari-**	**4.59**	**320**	P	**Pn**	**19 20 15.4**	**+0.5**
GEVA	**Gevas**	**4.62**	**326**	P	**Pn**	**19 20 14.4**	**-0.9**
GEVA				S	**Sn**	**19 21 05.3**	**-3.8**
GEVA				*i* AML	AML	19 21 46.0	
	comp=E,70nm,1.7s						
TVAN	**Van**	**4.65**	**331**	P	**Pn**	**19 20 16.1**	**+0.3**
AKDM	**Akdamar-Van**	**4.67**	**326**	P	**Pn**	**19 20 16.1**	**+0.1**
MZPU	**Pul - Mazandar**	**4.71**	**64**	Pn	**Pn**	**19 20 18.5**	**+2.0**
VANB	**Van**	**4.71**	**331**	P	**Pn**	**19 20 17.2**	**+0.6**
IDMV	**Damavand**	**4.82**	**75**	Pn	**Pn**	**19 20 20.0**	**+1.9**
KRSH	**Karshahi**	**4.86**	**95**	Pn	**Pn**	**19 20 21.1**	**+2.6**
IBRJ	**Brojen**	**4.89**	**121**	Pn	**Pn**	**19 20 21.9**	**+2.8**
ISFB	**Sefidab**	**4.90**	**90**	Pn	**Pn**	**19 20 21.2**	**+2.1**
MIDY	**Mardin/Midyat-**	**4.93**	**307**	P	**Pn**	**19 20 19.4**	**-0.1**
MIDY				S	**Sn**	**19 21 13.2**	**-3.4**
SRTM	**Siirt_Merkez**	**4.97**	**316**	P	**Pn**	**19 20 19.6**	**-0.4**
MAKU	**Maku**	**5.02**	**345**	Pn	**Pn**	**19 20 22.2**	**+1.4**
BLIS	**Bitlis-Merkez**	**5.17**	**320**	P	**Pn**	**19 20 22.5**	**-0.3**
ADCV	**BITLIS_Adilcev**	**5.18**	**327**	P	**Pn**	**19 20 22.6**	**-0.3**
IGAR	**Gharneh**	**5.23**	**112**	Pn	**Pn**	**19 20 26.3**	**+2.6**
IZEF	**Zefreh**	**5.27**	**106**	Pn	**Pn**	**19 20 27.8**	**+3.5**
GURO	**Guroymak-BITLI**	**5.31**	**321**	P	**Pn**	**19 20 25.1**	**+0.4**
GURO	**Guroymak-BITLI**	**5.31**	**321**	Pn	**Pn**	**19 20 24.2**	**-0.5**
IFIR	**Firoozkooh**	**5.41**	**76**	Pn	**Pn**	**19 20 28.3**	**+2.2**
ILAS	**Lasjerd**	**5.53**	**79**	Pn	**Pn**	**19 20 30.1**	**+2.2**
MAZI	**Mazidag**	**5.60**	**304**	P	**Pn**	**19 20 27.0**	**-1.7**
KLNJ	**Kolanjah**	**5.65**	**127**	Pn	**Pn**	**19 20 32.2**	**+2.6**
MUSM	**Mu-Merkez**	**5.71**	**319**	P	**Pn**	**19 20 29.7**	**-0.6**
IRAM	**Ramesheh**	**5.75**	**116**	Pn	**Pn**	**19 20 33.4**	**+2.5**
GNI	**Garni**	**5.78**	**348**		**Pn**	**19 20 32.7**	**+1.6**
GNI	**Garni**	**5.78**	**348**	Pn	Pn	19 20 35.9	+4.8
GNI	**Garni**	**5.78**	**348**	Pn	**Pn**	**19 20 33.5**	**+2.4**
	comp=E,0.3nm,0.3s,baz=232,slow=18,SNR=5.0						
GNI				Sn	**Sn**	**19 21 38.8**	**+1.2**
	baz=230,slow=19						
GNI				Lg	Lg	19 22 03.1	
	baz=238,slow=23						
	comp=E,16nm,1.0s						
GNI	**Garni**	**5.78**	**348**	P	**Pb**	**19 20 49.2**	**+3.0**
GNI	**Garni**	**5.78**	**348**	*i* P	**Pn**	**19 20 32.5**	**+1.3**
KOTA	**Agri, Merkez-K**	**5.84**	**336**	P	**Pn**	**19 20 34.0**	**+1.9**
HANI	**Diyarbakir_Han**	**6.16**	**311**	P	**Pn**	**19 20 34.0**	**-2.3**
BNGB	**Bingl**	**6.37**	**316**	P	**Pn**	**19 20 39.0**	**-0.3**
KARO	**Karliova-Bingo**	**6.39**	**320**	P	**Pn**	**19 20 39.5**	**-0.1**
ISAD	**Sadrabad**	**6.70**	**111**	Pn	**Pn**	**19 20 46.9**	**+3.0**
KOVA	**Elazig, Kovanc**	**6.70**	**311**	P	**Pn**	**19 20 42.2**	**-1.6**
AHBU	**AHRAM**	**7.04**	**142**	Pn	**Pn**	**19 20 51.0**	**+2.6**
AKT	**Akhty**	**7.06**	**9**	*e*P	**Pn**	**19 20 47.5**	**-1.2**
AKT				pmax	pmax		
	comp=Z,7.0nm,1.2s						
ICHK	**Chekchek**	**7.14**	**106**	Pn	**Pn**	**19 20 52.3**	**+2.4**
DSBU	**Dashti - Bushe**	**7.44**	**144**	Pn	**Pn**	**19 20 56.9**	**+3.1**
GAZ	**Gaziantep**	**7.86**	**292**	Pn	**Pn**	**19 20 58.6**	**-1.0**
ARPR	**Arapgir-MALATY**	**7.87**	**308**		**Pn**	**19 20 58.6**	**-1.3**
ASF	**Jabal al Asfar**	**8.21**	**256**	Pn	**Pn**	**19 21 05.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=105,slow=0.4,SNR=8.3						
ASF				Lg	Lg	19 23 24.8	
	comp=Z,1.3nm,0.3s,baz=32,slow=0.1,SNR=2.0						
	comp=Z,3.3nm,0.3s						
ASF	**Jabal al Asfar**	**8.21**	**256**	P	**Pn**	**19 21 01.9**	**-2.6**
MAK	**Makhachkala**	**8.50**	**6**	*e*P	**Pn**	**19 21 10.2**	**+1.8**
MAK				*e*S	**Sn**	**19 22 48.5**	**+4.2**
MAK				pmax	pmax		
	comp=Z,240nm,1.4s						
MAK				MLR	MLR		
	comp=Z,296nm,9.0s						
TNSJ	**Nastanj**	**8.55**	**91**	Pn	**Pn**	**19 21 12.0**	**+2.8**
TPRV	**Parvadeh(Tabas**	**8.76**	**97**	Pn	**Pn**	**19 21 14.9**	**+2.8**
NATI	**Neve Ativ**	**8.88**	**265**	P	**Pn**	**19 21 14.3**	**+0.7**
TAPT	**Tabas- Tapeh t**	**8.94**	**84**	Pn	**Pn**	**19 21 16.6**	**+2.0**
GEM	**Giv'at Ha'Em**	**8.95**	**265**	P	**Pn**	**19 21 16.3**	**+1.7**
SHMJ	**Saham**	**8.97**	**262**	P	Pn	19 21 19.8	+4.9
TKDS	**Kookhdasht(Taba**	**9.02**	**93**	Pn	**Pn**	**19 21 18.0**	**+2.4**
MMA0	**Mount Meron ar**	**9.20**	**264**	P	**Pn**	**19 21 18.0**	**-0.1**
MMAI	**Mount Meron Ar**	**9.20**	**264**	Pn	**Pn**	**19 21 18.5**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=82,slow=17,SNR=10						
MMAI				Sn	**Sn**	**19 23 02.9**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=57,slow=14,SNR=2.4						
MMAI				Lg	Lg	19 23 52.1	
	comp=Z,1.2nm,0.3s,baz=81,slow=30,SNR=4.1						
MMAI				LR	LR	19 25 37.4	
	comp=Z,361nm,18.6s,baz=10,slow=43						
	comp=Z,1.1nm,0.3s						
BALJ	**Balqa**	**9.25**	**258**	Pn	**Pn**	**19 21 18.7**	**0.0**
HMDT	**Nahal Hemdat**	**9.29**	**259**	P	**Pn**	**19 21 19.6**	**+0.3**
HNTI	**Hanita**	**9.38**	**264**	P	**Pn**	**19 21 17.7**	**-2.7**
BNN	**Bunyan**	**9.46**	**300**	Pn	**Pn**	**19 21 21.3**	**-0.4**
GHAJ	**Ghor Haditha**	**9.58**	**254**	Pn	**Pn**	**19 21 23.6**	**+0.4**
KBZ	**Khabaz**	**9.59**	**345**	Pn	**Pn**	**19 21 25.6**	**+2.3**
	baz=249,slow=8.6,SNR=2.0						
KBZ				LR	LR	19 24 57.1	
	comp=Z,126nm,21.6s,baz=295,slow=37						
	comp=Z,2.2nm,1.0s						
KBZ	**Khabaz**	**9.59**	**345**	*i* P	**Pn**	**19 21 23.0**	**-0.3**
KBZ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
DSI	**Dead Sea**	**9.63**	**255**	P	**Pn**	**19 21 24.6**	**+0.7**
OFRI	**`Ofer**	**9.63**	**262**	P	**Pn**	**19 21 24.6**	**+0.6**
SLTI	**Sal'it**	**9.69**	**260**	P	**Pn**	**19 21 23.7**	**-1.0**
MSBI	**Mazada**	**9.74**	**254**	P	**Pn**	**19 21 28.7**	**+3.3**
KVAR	**Kislovodsk Arr**	**9.85**	**345**	Pn	**Pn**	**19 21 29.5**	**+2.6**
	baz=88,slow=22						
	comp=Z,4.4nm,0.9s						
KIV	**Kislovodsk**	**9.85**	**345**	Pn	**Pn**	**19 21 27.2**	**+0.2**
KIV	**Kislovodsk**	**9.85**	**345**	*e*P	**Pn**	**19 21 29.7**	**+2.7**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
KIV				MLR	MLR		
	comp=Z,91nm,12.0s						
ZFRI	**Zfri**	**10.19**	**250**	P	**Pn**	**19 21 31.1**	**-0.4**
PRNI	**Paran**	**10.41**	**250**	P	**Pn**	**19 21 35.3**	**+0.7**
SOC	**Sochi**	**10.41**	**333**	*e*P	**Pn**	**19 21 30.6**	**-4.0**
SOC				*e*		19 23 30.5	
SOC				MLR	MLR		
	comp=Z,151nm,14.0s						
SMRA	**Abu-Samra**	**10.48**	**157**	P	**Pn**	**19 21 35.4**	**-0.2**
SMRA				S	**Sn**	**19 23 27.0**	**-6.1**
HRFI	**Mount Harif**	**10.53**	**248**	P	**Pn**	**19 21 38.5**	**+2.3**
TRNA	**Turayna**	**10.62**	**155**	P	**Pn**	**19 21 37.9**	**+0.4**
	SNR=27						
TRNA				S	**Sn**	**19 23 35.9**	**-0.6**
KZIT	**Kziot**	**10.65**	**254**	P	**Pn**	**19 21 40.2**	**+2.2**
AQBJ	**Aqaba**	**10.66**	**247**	P	**Pn**	**19 21 39.4**	**+1.3**
KRMI	**Paran Flat**	**10.73**	**249**	P	**Pn**	**19 21 40.2**	**+1.2**
MBRI	**Mt Berech**	**10.74**	**247**	P	**Pn**	**19 21 41.0**	**+1.9**
EIL	**Elat**	**10.77**	**247**	Pn	**Pn**	**19 21 40.7**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=126,slow=8.4,SNR=4.1						
EIL				Sn	**Sn**	**19 23 42.7**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=93,slow=16,SNR=0.9						
EIL				Lg	Lg	19 24 35.1	
	comp=Z,0.9nm,0.3s,baz=330,slow=16,SNR=2.4						
	comp=Z,1.5nm,0.4s						
RAYN	**Ar Rayn**	**10.96**	**184**	Pn	**Pn**	**19 21 42.0**	**-0.2**
RAYN	**Ar Rayn**	**10.96**	**184**	*i* Pn	**Pn**	**19 21 41.6**	**-0.6**
	SNR=13						
RAYN	**Ar Rayn**	**10.96**	**184**	P	**Pn**	**19 21 42.0**	**-0.2**
RAYN				S	**Sn**	**19 23 42.8**	**-2.3**
RAYN	**Ar Rayn**	**10.96**	**184**	P	**Pn**	**19 21 42.0**	**-0.2**
BR131	**Keskin Array S**	**11.38**	**301**	Pn	**Pn**	**19 21 47.5**	**-0.4**
BR131	**Keskin Array S**	**11.38**	**301**	P	**Pn**	**19 21 47.5**	**-0.4**
BRTR	**Keskin Array B**	**11.38**	**301**	Pn	**Pn**	**19 21 49.6**	**+1.6**
BRTR	**Keskin Array B**	**11.38**	**301**	Pn	**Pn**	**19 21 50.5**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=117,slow=12,SNR=35						
BRTR				LR	LR	19 26 52.0	
	comp=Z,288nm,21.3s,baz=113,slow=42						
	comp=Z,7.5nm,0.8s						
BRTR	**Keskin Array B**	**11.38**	**301**	P	**Pn**	**19 21 49.6**	**+1.6**
SLWR	**Sila**	**11.40**	**154**	P	**Pn**	**19 21 49.0**	**+0.9**
SLWR				S	**Sn**	**19 23 52.0**	**-3.7**
SHME	**Shamm**	**11.96**	**132**	Pn	**Pn**	**19 21 55.3**	**-0.5**
SHME	**Shamm**	**11.96**	**132**	P	**Pn**	**19 21 56.8**	**+1.0**
SHME				P	**Pn**	**19 21 56.8**	**+1.0**
GHWR	**Ruwais**	**11.96**	**150**	P	**Pn**	**19 21 57.5**	**+1.7**
ANTO	**Ankara**	**12.03**	**300**	Pn	**Pn**	**19 21 56.1**	**-0.8**
ANTO	**Ankara**	**12.03**	**300**	P	**Pn**	**19 21 56.1**	**-0.8**
BR231	**Keskin MP Arra**	**12.04**	**300**	Pn	**Pn**	**19 21 55.9**	**-1.0**
BANOM	**Banah**	**12.14**	**132**	P	**Pn**	**19 21 59.2**	**+0.8**
AJN	**Ajban**	**12.45**	**140**	P	**Pn**	**19 22 04.6**	**+2.1**
MASF	**Masafi**	**12.47**	**134**	P	**Pn**	**19 22 03.8**	**+0.9**
	SNR=10						
MASF				S	**Sn**	**19 24 18.3**	**-3.7**
NAZ	**Nazwa, Dubai**	**12.48**	**137**	*i* Pn	**Pn**	**19 22 04.1**	**+1.2**
	SNR=36						
NAZ	**Nazwa, Dubai**	**12.48**	**137**	P	**Pn**	**19 22 04.7**	**+1.8**
	SNR=36						
NAZ				S	**Sn**	**19 24 18.8**	**-3.3**
MSFE	**Esma-Masafi**	**12.48**	**134**	*i* Pn	**Pn**	**19 22 03.1**	**+0.1**
	SNR=10						
ASUD	**Al Ashush, Dub**	**12.58**	**139**	*i* Pn	**Pn**	**19 22 05.2**	**+0.9**
	SNR=43						
ASUD	**Al Ashush, Dub**	**12.58**	**139**	P	**Pn**	**19 22 06.5**	**+2.2**
	SNR=43						
ASUD				S	**Sn**	**19 24 18.6**	**-6.0**
MDH	**Madha**	**12.61**	**134**	Pn	**Pn**	**19 22 05.2**	**+0.5**
FAQ	**Al Faqa, Dubai**	**12.63**	**138**	*i* Pn	**Pn**	**19 22 06.1**	**+1.1**
	SNR=18						
FAQ	**Al Faqa, Dubai**	**12.63**	**138**	P	**Pn**	**19 22 07.0**	**+2.0**
	SNR=18						
FAQ				S	**Sn**	**19 24 20.5**	**-5.3**
UOSS	**Minazif**	**12.82**	**135**	Pn	**Pn**	**19 22 08.1**	**+0.5**
UOSS	**Minazif**	**12.82**	**135**	*i* Pn	**Pn**	**19 22 08.0**	**+0.5**
	SNR=8.0						
UOSS	**Minazif**	**12.82**	**135**	P	**Pn**	**19 22 08.7**	**+1.1**
UOSS				S	Sn	19 24 23.1	-7.3
HATD	**Hatta, Dubai**	**12.87**	**136**	*i* Pn	**Pn**	**19 22 08.0**	**-0.3**
	SNR=24						
HATD	**Hatta, Dubai**	**12.87**	**136**	P	**Pn**	**19 22 09.3**	**+1.0**
	SNR=24						
HATD				S	Sn	19 24 23.6	-8.1
ASHO	**Ashiyiah**	**12.94**	**137**	*i* Pn	**Pn**	**19 22 09.3**	**0.0**
	SNR=68						
ASHO				Sn	**Sn**	**19 24 26.8**	**-6.6**
ASHO	**Ashiyiah**	**12.94**	**137**	P	**Pn**	**19 22 10.0**	**+0.8**
	SNR=101						
ASHO				S	**Sn**	**19 24 27.5**	**-5.9**
MZR	**Muzera**	**13.06**	**149**	*i* Pn	**Pn**	**19 22 10.8**	**-0.1**
	SNR=30						
MZR	**Muzera**	**13.06**	**149**	P	**Pn**	**19 22 11.5**	**+0.6**
	SNR=30						
MZR				S	**Sn**	**19 24 31.1**	**-5.3**
HRA	**Herat**	**13.16**	**86**	Pn	**Pn**	**19 22 15.5**	**+3.1**
JASK	**Jask - Hormozg**	**13.18**	**128**	P	**Pn**	**19 22 12.2**	**-0.3**
ALNE	**Al Ain**	**13.26**	**139**	*i* Pn	**Pn**	**19 22 13.9**	**+0.2**
	SNR=35						
ALNE	**Al Ain**	**13.26**	**139**	P	**Pn**	**19 22 15.0**	**+1.3**
	SNR=19						
ALNE				S	**Sn**	**19 24 36.3**	**-5.1**
SOHO	**SOHO**	**13.64**	**137**	*i* Pn	**Pn**	**19 22 17.8**	**-0.9**
	SNR=12						
SOHO	**SOHO**	**13.64**	**137**	P	**Pn**	**19 22 19.1**	**+0.4**
SOHO				S	**Sn**	**19 24 43.2**	**-7.1**
ARQ	**Araqi**	**14.26**	**139**	P	**Pn**	**19 22 27.5**	**+0.2**
	SNR=24						
ARQ				S	**Sn**	**19 25 03.5**	**-2.2**
HOQ	**Hoqain**	**14.51**	**136**	P	**Pn**	**19 22 30.4**	**-0.3**
	SNR=8.9						
HOQ				P	**Pn**	**19 22 30.4**	**-0.3**
	SNR=8.9						
BIDO	**Bidbid**	**15.04**	**134**	P	**Pn**	**19 22 37.3**	**-0.5**
BSY	**Bisya**	**15.11**	**138**	P	**Pn**	**19 22 39.0**	**+0.2**
	SNR=12						
BSY				S	**Sn**	**19 25 20.1**	**-6.2**
SMDO	**Samad**	**15.34**	**135**	P	**Pn**	**19 22 41.5**	**-0.5**
	SNR=23						
WSAR	**Wadi Sarin**	**15.55**	**133**	Pn	**Pn**	**19 22 43.2**	**-1.5**
	comp=Z,4.0nm,0.3s,baz=333,slow=12,SNR=48						
WSAR				Sn	Sn	19 25 25.6	-11
	baz=324,slow=20						
KARP	**Karpathos**	**15.73**	**279**	Pn	**Pn**	**19 22 46.9**	**0.0**
JMDO	**Jabal Madar**	**15.91**	**136**	P	**Pn**	**19 22 48.9**	**-0.4**
	SNR=8.6						
WBK	**Wadi Bani Khal**	**16.23**	**134**	P	**Pn**	**19 22 52.5**	**-0.9**
	SNR=9.7						
JLN	**Jalan Bani Buh**	**16.84**	**134**	P	**Pn**	**19 23 01.1**	**-0.1**
	SNR=19						
JLN				P	**Pn**	**19 23 01.1**	**-0.1**
	SNR=19						
MHTO	**MHTO**	**16.94**	**140**	P	**Pn**	**19 23 01.7**	**-0.7**
	SNR=16						
MHTO				S	**Sn**	**19 26 02.5**	**-8.3**
	SNR=6.8						
VRH	**Novokhopyorsk**	**17.02**	**350**	*e*P	**Pn**	**19 23 01.1**	**-2.2**
VRH				pmax	pmax		
	comp=Z,32nm,1.3s						
VORD	**Divnogorie**	**17.23**	**345**	*e*P	**Pn**	**19 23 02.6**	**-3.3**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ALN	**Alexandroupoli**	**17.25**	**298**		**Pn**	**19 23 06.2**	**+0.1**
ALN				IAmb	IAmb	19 23 10.5	
	comp=Z,22nm,0.9s						
ALN	**Alexandroupoli**	**17.25**	**298**	P	**Pn**	**19 23 06.2**	**+0.1**
ALN				pmax	pmax		
	comp=Z,23nm,0.9s						
DOK	**Doka**	**17.28**	**154**	P	**Pn**	**19 23 05.0**	**-1.8**
	SNR=23						
DOK				S	**Sn**	**19 26 11.1**	**-8.0**
VSR	**Storozhevoye**	**17.49**	**345**	*e*P	**Pn**	**19 23 08.3**	**-0.9**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CFR	**Carcaliu**	**17.52**	**313**	⇑P	**Pn**	**19 23 09.8**	**+0.2**
CFR	**Carcaliu**	**17.52**	**313**	P	**Pn**	**19 23 09.8**	**+0.2**
IDI	**Anoyia**	**17.59**	**279**		**Pn**	**19 23 10.8**	**+0.3**
IDI				IAmb	IAmb	19 23 30.4	
	comp=Z,57nm,1.2s						
IDI	**Anoyia**	**17.59**	**279**	P	**Pn**	**19 23 09.9**	**-0.7**
	comp=Z,16nm,1.1s,baz=359,slow=5.3,SNR=2.0						
IDI				S	**Sn**	**19 26 23.0**	**-3.6**
	comp=Z,14nm,1.0s,baz=22,slow=4.8,SNR=1.5						
RDO	**Rodhopi**	**17.68**	**298**	P	**Pn**	**19 23 11.3**	**-0.2**
RDO				IAmb	IAmb	19 23 15.1	
	comp=Z,28nm,0.9s						
WHFO	**Wadi Hawf**	**17.81**	**156**	P	**Pn**	**19 23 11.3**	**-2.0**
	SNR=23						
ABKAR	**Akbulak array**	**17.86**	**30**	P	**Pn**	**19 23 14.0**	**+0.3**
ABKAR	**Akbulak array**	**17.86**	**30**		**P**	**19 23 14.2**	**-0.2**
BELG	**Belogornoye**	**17.91**	**3**	*i* P	**Pn**	**19 23 11.2**	**-3.1**
BELG				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VORR	**Voronezh**	**17.91**	**346**	P	**Pn**	**19 23 11.4**	**-3.0**
VORR				pmax	pmax		
	comp=Z,29nm,1.4s						
ELND	**Elena**	**18.00**	**304**	⇓P	**P**	**19 23 17.0**	**+1.0**
AKTO	**Aktyubinsk**	**18.08**	**25**	P	**Pn**	**19 23 16.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=228,slow=8.6,SNR=8.6						
AKTO				LR	LR	19 32 13.0	
	comp=Z,151nm,18.4s,baz=263,slow=44						
	comp=Z,4.8nm,0.8s						
MILM	**Milestii Mici**	**18.11**	**318**	⇓P	**Pn**	**19 23 17.5**	**+0.6**
MILM	**Milestii Mici**	**18.11**	**318**	P	**Pn**	**19 23 17.4**	**+0.6**
ABTO	**Aybut**	**18.18**	**158**	P	**Pn**	**19 23 17.1**	**-0.9**
	SNR=50						
ABTO				P	**Pn**	**19 23 17.1**	**-0.9**
	SNR=50						
ABTO				S	Sn	19 26 30.8	-10
ABTO				S	Sn	19 26 30.8	-10
RBK	**Rabkut**	**18.34**	**155**	P	**Pn**	**19 23 18.0**	**-1.9**
	SNR=15						
RBK				S	**Sn**	**19 26 37.1**	**-7.7**
DMTO	**DMTO**	**18.41**	**153**	P	**Pn**	**19 23 18.9**	**-1.7**
	SNR=28						
DMTO				S	**Sn**	**19 26 41.5**	**-4.9**
VRI	**Vrincioaia**	**18.73**	**313**	⇓P	**Pn**	**19 23 25.0**	**+0.6**
VRI	**Vrincioaia**	**18.73**	**313**	P	**Pn**	**19 23 25.0**	**+0.6**
KBL	**Kabul**	**18.73**	**83**	P	**Pn**	**19 23 25.5**	**+0.8**
KBL	**Kabul**	**18.73**	**83**	P	**Pn**	**19 23 25.5**	**+0.8**
KBL				pmax	pmax		
	comp=Z,12nm,1.5s						
PLOR5	**Plostina Array**	**18.76**	**313**	P	**P**	**19 23 24.9**	**+0.5**
	comp=Z,16nm,1.9s						
PLOR	**Plostina**	**18.77**	**313**	⇓P	**P**	**19 23 24.7**	**+0.2**
PLOR	**Plostina**	**18.77**	**313**	P	**P**	**19 23 24.7**	**+0.2**
PLOR3	**Plostina Array**	**18.77**	**313**	P	**P**	**19 23 24.9**	**+0.4**
	comp=Z,19nm,1.0s						
LPSR	**Galich'ya Gora**	**18.85**	**346**	*e*P	**P**	**19 23 22.8**	**-2.4**
LPSR				pmax	pmax		
	comp=Z,60nm,0.9s						
MLR	**Muntele Rosu**	**19.02**	**311**	P	**P**	**19 23 28.1**	**+0.7**
MLR	**Muntele Rosu**	**19.02**	**311**	P	**Pn**	**19 23 29.1**	**+1.0**
	comp=Z,7.1nm,0.9s,baz=31,slow=5.9,SNR=7.8						
MLR	**Muntele Rosu**	**19.02**	**311**	⇓P	**P**	**19 23 27.7**	**+0.3**
MLR	**Muntele Rosu**	**19.02**	**311**	P	**P**	**19 23 27.7**	**+0.3**
MLR	**Muntele Rosu**	**19.02**	**311**	P	**Pn**	**19 23 28.7**	**+0.6**
	comp=Z,14nm,0.8s						
COVR	**Voineasa-Covas**	**19.04**	**313**	⇑P	**P**	**19 23 27.0**	**-0.4**
SORM	**Soroca**	**19.11**	**321**	⇓P	**P**	**19 23 26.9**	**-1.2**
SORM	**Soroca**	**19.11**	**321**	P	**P**	**19 23 26.9**	**-1.2**
SORM	**Soroca**	**19.11**	**321**	P	**P**	**19 23 27.2

comp=Z,27nm,0.9s
KECS Kecovo 23.72 314 *e*P **P 19 24 19.0 +1.7**
MNK Minsk 23.80 333 *i* P **P 19 24 18.1 +0.1**
comp=E,2.0nm,0.7s
MNK *i* P **P 19 24 18.1 +0.1**
comp=N,9.0nm,0.6s
MNK *i* P **P 19 24 18.1 +0.1**
comp=Z,13nm,0.7s,baz=140
MNK *i* PP **PnPn 19 24 45.9 +0.3**
MNK *i* PPP PPP 19 24 53.8
MNK *i* S **S 19 28 35.0 +1.5**
MNK *i* SS **SnSn 19 29 23.0 +11**
MNK *i* LR LR 19 31 35.3
MNK *i* LRM MLR 19 32 17.0
comp=Z,99nm,8.8s
MNK *i* LRM MLR 19 33 57.9
comp=N,211nm,15.3s
MNK *i* LRM MLR 19 33 59.4
comp=E,135nm,13.9s
MNK Minsk 23.80 333*c i*P **P 19 24 18.0 +0.1**
PSZ Piszkesteto 23.83 312 P **P 19 24 17.2 -1.3**
PSZ IAmb IAmb 19 24 24.7
comp=Z,13nm,1.2s
PSZ Piszkesteto 23.83 312 ⇑P **P 19 24 17.9 -0.6**
PSZ Piszkesteto 23.83 312 P **P 19 24 17.2 -1.3**
PSZ pmax pmax
comp=Z,13nm,1.2s
MORH Mrgy, Hungar 23.99 308 ⇑P **P 19 24 19.8 0.0**
MORH Mrgy, Hungar 23.99 308 P **P 19 24 20.2 +0.3**
comp=Z,12nm,1.5s
KSH Kashi 24.15 69 P **P 19 24 22.5 +0.8**
KSH pmax pmax
comp=Z,4.0nm,1.2s
KIRV Kirov 24.18 4 *e*P **P 19 24 20.1 -1.4**
NIE Niedzica 24.26 316 P **P 19 24 23.7 +1.3**
comp=Z,12nm,1.8s
SVE Sverdlovsk 24.37 19 *e*P **P 19 24 24.3 +1.0**
SVE pmax pmax
comp=Z,19nm,1.4s
LANS Liptovska Anna 24.62 315 *e*P **P 19 24 26.5 +0.8**
LANS pmax pmax
comp=Z,9.0nm,1.0s
LANS Liptovska Anna 24.62 315 *e*P **P 19 24 26.5 +0.8**
VYHS Vyhne 24.71 313 *e*P **P 19 24 26.9 +0.3**
VYHS pmax pmax
comp=Z,8.0nm,0.9s
VYHS Vyhne 24.71 313 *e*P **P 19 24 26.8 +0.2**
SRO Srobarova 24.77 311 *e*P **P 19 24 27.9 +0.9**
SRO pmax pmax
comp=Z,97nm,2.7s
SRO Srobarova 24.77 311 *e*P **P 19 24 27.9 +0.9**
OJC Ojcow 24.93 317 P **P 19 24 27.6 -0.8**
OJC Ojcow 24.93 317 P **P 19 24 27.6 -0.8**
OJC pmax pmax
comp=Z,45nm,0.8s
OJC Ojcow 24.93 317 P **P 19 24 28.0 -0.4**
comp=Z,74nm,0.8s
MPLH Magyarpolny 25.02 309 P **P 19 24 30.0 +0.7**
comp=Z,74nm,1.1s
BRVK Borovoye 25.17 35 P **P 19 24 31.2 +0.5**
BRVK IAmb IAmb 19 24 33.8
comp=Z,7.8nm,1.0s
BRVK Borovoye 25.17 35*ce*P **P 19 24 30.8 +0.2**
BRVK pmax pmax
comp=Z,15nm,1.7s
BVAR Borovoye Array 25.20 35 P **P 19 24 32.2 +1.3**
comp=Z,1.8nm,0.6s,baz=232,slow=7.3,SNR=16
comp=Z,1.8nm,0.6s
SUW Suwalki 25.39 327 P **P 19 24 32.1 -0.5**
SUW Suwalki 25.39 327 P **P 19 24 32.1 -0.5**
SUW pmax pmax
comp=Z,37nm,1.0s
JAVC Velka Javorina 25.57 313 *e*P **P 19 24 35.5 +1.2**
SMOL Smolenice 25.58 312 *e*P **P 19 24 35.5 +1.1**
SMOL pmax pmax
comp=Z,5.0nm,1.4s
MODS Modra-Piesok 25.62 312 *e*P **P 19 24 36.6 +1.8**
MODS pmax pmax
comp=Z,54nm,1.2s
MODS Modra-Piesok 25.62 312 *e*P **P 19 24 36.6 +1.8**
MAUC Maruska 25.68 314 *e*P **P 19 24 35.2 -0.1**
MAUC *ex* x 19 24 41.4
VAE Valguarnera 25.92 286 LR LR 19 35 15.8
comp=Z,328nm,18.8s,baz=331,slow=38
RONA Rosalia, Austr 26.00 310 *e*P **P 19 24 38.7 +0.4**
comp=Z,27nm,1.0s,SNR=9.9
MORC Moravsky Berou 26.02 315 P **P 19 24 37.2 -1.2**
MORC IAmb IAmb 19 24 40.0
comp=Z,19nm,1.1s
MORC Moravsky Berou 26.02 315 *e*P **P 19 24 37.8 -0.6**
MORC Moravsky Berou 26.02 315 ⇑P **P 19 24 38.5 0.0**
MORC Moravsky Berou 26.02 315 P **P 19 24 37.2 -1.2**
MORC pmax pmax
comp=Z,19nm,1.1s
CONA Conrad Observa 26.35 310 *e*P **P 19 24 40.6 -0.8**
comp=Z,22nm,1.5s
ARSA Arzberg 26.35 308 *i* P **P 19 24 42.0 +0.6**
comp=Z,8.0nm,1.0s
VRAC Vranov 26.40 313 *e*P **P 19 24 41.1 -0.7**
VRAC Vranov 26.40 313 ⇑P **P 19 24 41.2 -0.6**
VRAC Vranov 26.40 313 P **P 19 24 41.2 -0.6**
KRUC Moravsky 26.42 313 *e*P **P 19 24 41.6 -0.4**
FURI Furi 26.43 197 LR LR 19 35 47.7
comp=Z,116nm,21.7s,baz=28,slow=38
KRLC Kraliky 26.59 315 *e*P **P 19 24 42.9 -0.7**
KRLC Kraliky 26.59 315 *e*P **P 19 24 42.9 -0.7**
KLMR Klimovskoe 26.73 353 *e*P **P 19 24 43.0 -1.6**
KLMR pmax pmax
comp=Z,51nm,1.6s
DPC Dobruska-Polom 26.98 315 *e*P **P 19 24 46.1 -1.0**
DPC Dobruska-Polom 26.98 315 *e*P **P 19 24 46.1 -1.0**
DPC Dobruska-Polom 26.98 315 P **P 19 24 46.4 -0.7**
comp=Z,16nm,2.3s
NRCA Norcia 27.09 298 P **P 19 24 47.8 -0.3**
NRCA IAmb IAmb 19 25 06.6
comp=Z,27nm,1.2s
OSTC Ostas 27.12 315 *e*P **P 19 24 47.9 -0.5**
OSTC Ostas 27.12 315 *e*P **P 19 24 47.9 -0.5**
FDMO Fiordimonte 27.13 298 P **P 19 24 48.1 -0.4**
KSP Ksiaz 27.20 316 P **P 19 24 49.0 0.0**
comp=Z,19nm,1.2s
CHVC Chvalec 27.23 315 *e*P **P 19 24 48.9 -0.4**
CHVC Chvalec 27.23 315 *e*P **P 19 24 48.9 -0.4**
MOA Molln 27.34 309 *i* P **P 19 24 49.4 -1.0**
comp=Z,9.9nm,1.0s
CKRC Cesky Krumlov 27.62 311 *e*P **P 19 24 52.1 -0.7**
CKRC Cesky Krumlov 27.62 311 *e*P **P 19 24 52.1 -0.7**
BIOA Bad Ischl, Aus 27.70 308 *i* P **P 19 24 53.8 +0.2**
comp=Z,7.6nm,0.8s
KBA Koelnbreinsper 27.73 307 *e*P **P 19 24 53.4 -0.6**
comp=Z,7.0nm,0.8s,SNR=7.2
GEC2 GERESS Array S 28.01 311 P **P 19 24 55.0 -1.4**
GERES GERESS Array B 28.01 311 P **P 19 24 55.4 -1.0**
comp=Z,1.2nm,0.7s,baz=101,slow=10,SNR=1.9
comp=Z,1.2nm,0.7s
KHC Kasperske Hory 28.18 311 P **P 19 24 56.9 -0.9**
KHC Kasperske Hory 28.18 311 *e*P **P 19 24 56.9 -0.9**
KHC Kasperske Hory 28.18 311*ce*P **P 19 24 55.7 -2.1**
KHC pmax pmax
comp=Z,42nm,1.7s
KHC Kasperske Hory 28.18 311 P **P 19 24 58.1 +0.3**
ABTA Abfaltersbach 28.20 306 *i* P **P 19 24 57.6 -0.5**
comp=Z,8.4nm,1.4s
LESA Schwarzleotal 28.26 307 *e*P **P 19 24 57.7 -0.9**
comp=Z,5.8nm,1.1s
KURBB Kurchatov Arra 28.39 46 P **P 19 25 00.3 +0.6**
comp=Z,1.9nm,0.7s,baz=252,slow=9.0,SNR=7.9
comp=Z,1.9nm,0.7s
KURK Kurchatov 28.48 45 P **P 19 25 01.9 +1.5**
KURK Kurchatov 28.48 45 *i* P **P 19 25 00.4 0.0**
KURK pmax pmax
comp=Z,10.0nm,1.8s
BRG Berggiesshubel 28.57 315 *e*P **P 19 25 01.6 +0.2**
BRG Amp 19 25 02.4
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 28.57 315 *e*P **P 19 25 01.5 +0.2**
BRG 19 25 54.5
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,1.1s
WTTA Wattenberg 28.90 307 *i* P **P 19 25 03.5 -1.0**
comp=Z,13nm,0.8s
WATA Walderalm 28.96 307 *e*P **P 19 25 03.5 -1.4**
comp=Z,10nm,1.0s
SQTA Sankt Quirin 29.18 306 *e*P **P 19 25 06.3 -0.5**
comp=Z,7.5nm,0.5s,SNR=12
MOTA Moosalm 29.27 307 *i* P **P 19 25 07.0 -0.8**
comp=Z,5.3nm,0.4s
CLL Collm 29.29 315 P **P 19 25 06.9 -0.7**
CLL IAmb IAmb 19 25 09.4
comp=Z,8.4nm,0.9s
CLL Collm 29.29 315 P **P 19 25 06.9 -0.7**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 29.29 315 *i* P **P 19 25 08.2 +0.6**
comp=Z,16nm,1.2s
FETA Feichten 29.45 306 *e*P **P 19 25 08.6 -0.7**
comp=Z,9.8nm,0.9s
MAKZ Makanchi 29.47 55 P **P 19 25 11.3 +2.0**
MAKZ IAmb IAmb 19 25 17.7
comp=Z,5.6nm,1.1s
MAKZ Makanchi 29.47 55 P **P 19 25 11.3 +2.0**
MAKZ pmax pmax
comp=Z,6.0nm,1.2s
RETA Reutte 29.53 307 *i* P **P 19 25 08.9 -1.0**
comp=Z,1.5nm,0.4s,SNR=4.7
MK31 Makanchi Array 29.67 55 P **P 19 25 12.5 +1.4**
MK31 Makanchi Array 29.67 55 P **P 19 25 12.5 +1.4**
MK31 pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 29.67 55 P **P 19 25 12.1 +1.0**
MKAR Makanchi Array 29.67 55 P **P 19 25 12.3 +1.2**
comp=Z,1.7nm,0.9s,baz=250,slow=8.5,SNR=6.8
comp=Z,1.7nm,0.9s
FUORN Ofenpass-Fuorn 29.68 305 P **P 19 25 11.2 -0.3**
FUORN IAmb IAmb 19 25 45.1
comp=Z,5.7nm,1.2s
GRA1 Grafenberg Arr 29.82 311 P **P 19 25 12.5 +0.1**
GRF Grafenberg Arr 29.82 311 P **P 19 25 12.5 +0.1**
GRF pmax pmax
comp=Z,27nm,1.2s
GRFO Grafenberg 29.82 311 P **P 19 25 12.4 +0.1**
GRFO Grafenberg 29.82 311 P **P 19 25 12.4 +0.1**
GRFO pmax pmax
comp=Z,26nm,1.2s
FINES FINESS Array B 29.91 341 P **P 19 25 11.4 -1.6**
FINES FINESS Array B 29.91 341 P **P 19 25 11.2 -1.7**
comp=Z,3.5nm,0.7s,baz=138,slow=6.2,SNR=11
comp=Z,3.5nm,0.7s
FINES FINESS Array B 29.91 341*ce*P **P 19 25 12.8 -0.2**
FINES pmax pmax
comp=Z,3.0nm,0.7s
DAVA Damuels 30.07 306 *e*P **P 19 25 13.9 -0.9**
comp=Z,18nm,0.9s
KEST Kesra 30.15 283 P **P 19 25 15.8 +0.3**
comp=Z,3.7nm,0.9s,baz=19,slow=3.4,SNR=4.1
comp=Z,3.7nm,0.9s
TUE Stuetta 30.28 304 P **P 19 25 15.4 -1.3**
TUE IAmb IAmb 19 25 48.7
comp=Z,9.6nm,1.3s
SENIN Lac Senin/Sane 31.66 304 P **P 19 25 27.7 -1.2**
BNI Bardonecchia 31.94 301 P **P 19 25 30.8 -0.5**
BNI Bardonecchia 31.94 301 P **P 19 25 30.8 -0.5**
BNI pmax pmax
comp=Z,20nm,0.8s
WMQ Urumqi 33.12 61 *e*P **P 19 25 45.1 +3.6**
ZALV Zalesovo Beam 33.20 42 P **P 19 25 43.0 +1.0**
ZALV Zalesovo Beam 33.20 42 P **P 19 25 42.5 +0.6**
comp=Z,1.3nm,0.6s,baz=247,slow=6.1,SNR=7.0
comp=Z,1.3nm,0.6s
ZALV Zalesovo Beam 33.20 42 P **P 19 25 43.0 +1.0**
HFS Hagfors 33.25 331 P **P 19 25 40.8 -1.6**
comp=Z,4.9nm,0.5s,baz=130,slow=6.8,SNR=16
comp=Z,4.9nm,0.5s
SSB Saint Sauveur 33.47 301 P **P 19 25 42.9 -1.6**
SSB Saint Sauveur 33.47 301 P **P 19 25 42.9 -1.6**
SSB pmax pmax
comp=Z,17nm,1.3s
NB2 NORSAR Subarra 34.77 331 P **P 19 25 53.5 -2.1**
comp=Z,2.4nm,0.9s,baz=123,slow=8.6
NOA NORSAR Array B 34.77 331 P **P 19 25 53.6 -2.1**
comp=Z,1.5nm,0.8s,baz=125,slow=8.7,SNR=7.1
comp=Z,1.5nm,0.8s
ARCES ARCESS Array B 36.93 348 P **P 19 26 12.2 -1.9**
comp=Z,6.6nm,1.0s,baz=160,slow=8.3,SNR=2.1
comp=Z,6.6nm,1.0s
TAM Tamanrasset 37.42 263 P **P 19 26 19.4 +0.5**
TAM IAmb IAmb 19 26 23.5
comp=Z,7.8nm,1.3s
TAM Tamanrasset 37.42 263 P **P 19 26 19.4 +0.5**
TAM pmax pmax
comp=Z,8.0nm,1.3s
LSA Lhasa 38.05 84 P **P 19 26 26.5 +1.9**
LSA Lhasa 38.05 84 P **P 19 26 26.5 +1.9**
LSA pmax pmax
comp=Z,5.0nm,1.1s
EKA Eskdalemuir Ar 39.70 317 P **P 19 26 36.0 -1.5**
comp=Z,2.5nm,0.5s,baz=104,slow=9.1,SNR=10.0
comp=Z,2.5nm,0.5s
ESBB Sonseca Array 40.01 293 P **P 19 26 39.7 -0.6**
ESBB IAmb IAmb 19 26 42.1
comp=Z,8.7nm,0.8s
ESDC Sonseca Array 40.01 293 P **P 19 26 39.9 -0.5**
ESDC IAmb IAmb 19 26 42.5
comp=Z,7.5nm,1.2s
ESDC Sonseca Array 40.01 293 P **P 19 26 39.5 -0.8**
comp=Z,7.4nm,0.8s,baz=69,slow=7.9,SNR=35
comp=Z,7.4nm,0.8s
NRIK Noril'sk 41.62 21 P **P 19 26 53.4 +0.2**
comp=Z,0.9nm,0.3s,baz=209,slow=6.6,SNR=1.8
comp=Z,0.9nm,0.3s
NRIK Noril'sk 41.62 21 *i* P **P 19 26 53.6 +0.4**
NRIK pmax pmax
comp=Z,8.0nm,1.4s
MVO Moncorvo 42.10 295 *e*P **P 19 26 57.5 0.0**
PBAR Barrancos 42.64 291 *e*P **P 19 27 01.6 -0.3**
PCBR Castelo Branco 42.65 294 *e*P **P 19 27 01.4 -0.6**
PMRV Marv??o 42.66 293 *e*P **P 19 27 01.3 -0.8**
PESTR Estremoz 42.92 292 *e*P **P 19 27 03.7 -0.5**
PBEJ Beja 43.31 291 *e*P **P 19 27 07.8 +0.4**
TORD Torodi Ar. Bea 45.56 253 P **P 19 27 25.6 0.0**
TORD IAmb IAmb 19 27 57.8
comp=Z,5.0nm,1.5s
TORD Torodi Ar. Bea 45.56 253 P **P 19 27 25.6 0.0**
comp=Z,1.0nm,0.7s,baz=42,slow=9.5,SNR=10
comp=Z,1.0nm,0.7s
SONM Songino Array 46.04 54 P **P 19 27 30.0 +0.9**
comp=Z,0.3nm,0.6s,baz=282,slow=8.7,SNR=2.4
comp=Z,0.3nm,0.6s
LZH Lanzhou 46.39 71 *e*P **P 19 27 35.8 +3.7**
LZH sP sP 19 27 43.3 +6.4
LZH pmax pmax
comp=Z,14nm,1.0s
PZH PanZhiHua 47.92 84 P **P 19 27 46.6 +2.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
CD2 Chengdu 47.92 77 P **P 19 27 46.3 +2.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CHTO Chiang Mai 49.04 95 P **P 19 27 52.9 +0.2**
CHTO IAmb IAmb 19 27 54.1
comp=Z,4.3nm,0.8s
CHTO Chiang Mai 49.04 95 P **P 19 27 52.9 +0.2**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CM31 Chiang Mai Arr 49.22 95 P **P 19 27 54.5 +0.5**
CM31 IAmb IAmb 19 27 55.8
comp=Z,4.9nm,0.7s
CMAR Chiang Mai Arr 49.22 95 P **P 19 27 54.2 +0.2**
CMAR Chiang Mai Arr 49.22 95 P **P 19 27 54.6 +0.6**
comp=Z,3.5nm,0.7s,baz=294,slow=8.4,SNR=45
CMAR PP **PP 19 29 42.8 -5.0**
comp=Z,0.2nm,0.3s,baz=298,slow=9.8,SNR=1.6
CMAR LR LR 19 52 21.4
comp=Z,40nm,21.5s,baz=300,slow=40
comp=Z,3.5nm,0.7s
BORG Borgarnes 49.90 329*ce*P **P 19 27 55.4 -3.2**
PHRA Phrae 50.25 94 P **P 19 28 02.5 +0.6**
XAN Xi'an 50.98 72 P **P 19 28 09.3 +2.0**
XAN pP sP 19 28 14.1 +2.0
XAN pmax pmax
comp=Z,11nm,1.2s
XAN LR LR
comp=N,310nm,15.1s
XAN LR LR
comp=E,260nm,17.2s
DBIC Dimbokro 54.59 252 P **P 19 28 33.3 -0.8**
comp=E,1.7nm,0.8s,baz=40,slow=7.9,SNR=1.8
comp=E,1.7nm,0.8s
SUMG Summit 55.92 339 P **P 19 28 43.3 -0.1**
SUMG Summit 55.92 339 P **P 19 28 43.3 -0.1**
SUMG pmax pmax
comp=Z,18nm,1.3s
SUMG Summit 55.92 339 *e* **P 19 28 41.7 -1.8**
YAK Yakutsk 57.17 34 LR LR 19 57 25.2
comp=Z,83nm,18.1s,baz=310,slow=40
KSRS Korea Array 64.07 61 P **P 19 29 38.9 -0.5**
comp=Z,1.0nm,0.6s,baz=280,slow=6.5,SNR=3.3
comp=Z,1.0nm,0.6s
BOSA Boshof 65.86 200 P **P 19 29 52.3 +1.2**
BOSA Boshof 65.86 200 P **P 19 29 52.5 +1.4**
comp=Z,1.6nm,0.6s,baz=49,slow=6.8,SNR=5.4
comp=Z,1.6nm,0.6s
BOSA Boshof 65.86 200 P **P 19 29 52.3 +1.2**
BOSA pmax pmax
comp=Z,16nm,1.3s
MA2 Magadan 67.64 32 LR LR 20 05 33.5
comp=Z,45nm,18.8s,baz=244,slow=41
A36M Sachs Harbour 73.64 357 P **P 19 30 38.1 -0.3**
SCHQ Schefferville 74.21 326 P **P 19 30 41.6 -0.5**
comp=Z,6.2nm,1.0s,baz=42,slow=9.2,SNR=3.5
comp=Z,6.2nm,1.0s
PETK Petropavlovsk- 74.44 36 LR LR 20 06 08.6
comp=Z,60nm,18.1s,baz=331,slow=38
B21K Ikpikpuk River 75.06 7 P **P 19 30 47.1 +0.4**
B21K IAmb IAmb 19 31 25.5
comp=Z,12nm,1.2s
D25K Kavik River 76.06 5 P **P 19 30 53.2 +0.6**
D25K IAmb IAmb 19 30 54.6
comp=Z,3.8nm,1.1s
INK Inuvik 77.51 360 P **P 19 31 01.3 +0.7**
INK IAmb IAmb 19 31 01.3
comp=Z,3.4nm,1.1s
INK Inuvik 77.51 360 P **P 19 31 01.3 +0.7**
INK pmax pmax
comp=Z,3.0nm,1.1s
BMAR Burnt Mountain 78.05 4 P **P 19 31 04.3 +0.5**
IMAR Indian Mountai 78.64 8 P **P 19 31 06.9 -0.1**
G31M Satah River 78.89 0 P **P 19 31 07.4 -0.9**
H21K Melozitna Rive 79.07 8 P **P 19 31 09.7 +0.3**
H21K IAmb IAmb 19 31 13.7
comp=Z,4.8nm,0.9s
KAPI Kappang 79.31 104 LR LR 20 11 11.1
comp=Z,25nm,18.2s,baz=289,slow=39
I28M Miner Creek 80.26 3 P **P 19 31 15.7 -0.3**
I28M IAmb IAmb 19 31 17.3
comp=Z,4.4nm,0.9s
ILAR Eielson Array 80.52 6 P **P 19 31 17.2 0.0**
ILAR Eielson Array 80.52 6 P **P 19 31 15.8 -1.4**
comp=Z,0.8nm,0.8s,baz=331,slow=4.1,SNR=7.7
comp=Z,0.8nm,0.8s
ILAR Eielson Array 80.52 6 P **P 19 31 17.2 0.0**
I30M Mount Dempster 80.58 1 P **P 19 31 17.7 -0.1**
I30M IAmb IAmb 19 31 19.2
comp=Z,6.6nm,1.1s
CAST Castle Rocks 81.32 8 P **P 19 31 21.7 +0.2**
CAST IAmb IAmb 19 31 23.4
comp=Z,5.5nm,1.0s
SCRK Sand Creek 81.52 5 P **P 19 31 22.8 +0.1**
SCRK IAmb IAmb 19 31 30.6
comp=Z,9.6nm,1.4s
YKA Yellowknife Ar 82.13 351 P **P 19 31 25.5 -0.3**
comp=Z,1.5nm,0.9s,baz=12,slow=6.3,SNR=3.8
comp=Z,1.5nm,0.9s
BCAR Beaver Creek A 82.55 4 P **P 19 31 28.4 +0.3**
SUA Susitna One 83.37 8 P **P 19 31 33.0 +0.5**
QSPA South Pole Qui 124.33 180 PKP **PKPdf 19 38 03.8 +0.3**
comp=Z,1.0nm,0.9s,baz=207,slow=2.3,SNR=2.5

ROM 17 19:25:28.8±0.4, 39°.06N±0°.03×15°.23E±0°.05, h304km±3km, ML3.0/39, 1D, Error ellipse: s-maj=4.7km s-min=1.5km az=119.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLI	**Lipari**	**0.65**	**200**	P	Pn	19 26 08.5	+0.1
JOPP	**Joppolo**	**0.68**	**131**	P	Pn	19 26 09.1	+0.6
JOPP				S	S	19 26 38.7	-1.4
JOPP				AML	AML		
	comp=E,74μm,1.3s						
JOPP				AML	AML		
	comp=E,74μm,1.3s						
JOPP				AML	AML		
	comp=N,73μm,1.5s						
JOPP				AML	AML		
	comp=E,52μm,0.2s						
JOPP				AML	AML		
	comp=N,73μm,0.1s						
IVGP	**Vulcano Grotta**	**0.69**	**198**	P	Pn	19 26 09.4	+0.9
VPL	**Vulcano Piano**	**0.70**	**196**	P	Pn	19 26 09.6	+1.0
VPL				AML	AML		
	comp=E,108μm,1.1s						
VPL				AML	AML		
	comp=N,127μm,0.9s						
CAR1	**CAROLEI**	**0.79**	**75**	P	Pn	19 26 09.2	+0.4
CAR1				S	S	19 26 39.5	-1.2
CAR1				AML	AML		
	comp=E,112μm,1.5s						
CAR1				AML	AML		
	comp=N,112μm,1.4s						
CAR1				AML	AML		
	comp=N,53μm,0.2s						
CAR1				AML	AML		
	comp=E,95μm,0.5s						
CAR1				AML	AML		
	comp=N,53μm,0.4s						
CAR1				AML	AML		
	comp=N,156μm,0.7s						
CAR1				AML	AML		
	comp=E,138μm,0.6s						
MSRU	**Castanea**	**0.82**	**165**	P	Pn	19 26 09.3	+0.3
MSRU				S	S	19 26 40.3	-0.7
MSRU				AML	AML		
	comp=E,127μm,1.6s						
MSRU				AML	AML		
	comp=N,112μm,1.4s						
MSRU				AML	AML		
	comp=E,126μm,1.6s						
MSRU				AML	AML		
	comp=E,97μm,0.4s						
MSRU				AML	AML		
	comp=N,69μm,0.3s						
MSRU				AML	AML		
	comp=N,59μm,0.5s						
IACL	**Alicudi**	**0.86**	**233**	P	Pn	19 26 09.9	+0.8
SPS2	**Spezzano della**	**0.89**	**74**	P	Pn	19 26 10.1	+0.9
SPS2				S	S	19 26 40.6	-0.8
SPS2				AML	AML		
	comp=N,32μm,1.1s						
SPS2				AML	AML		
	comp=E,34μm,0.9s						
SPS2				AML	AML		
	comp=N,32μm,1.1s						
SPS2				AML	AML		
	comp=E,33μm,0.4s						
SPS2				AML	AML		
	comp=N,28μm,0.2s						
MPNC	**Port Mandanici**	**0.91**	**174**	P	Pn	19 26 09.7	+0.3
MPNC				AML	AML		
	comp=N,137μm,0.6s						
MPNC				AML	AML		
	comp=E,143μm,0.3s						
CEL	**Celeste**	**0.95**	**147**	P	Pn	19 26 10.0	+0.4
CEL				S	S	19 26 41.7	-0.3
CEL				AML	AML		
	comp=E,62μm,2.1s						
CEL				AML	AML		
	comp=N,69μm,1.7s						
CEL				AML	AML		
	comp=E,66μm,1.3s						
CEL				AML	AML		
	comp=N,96μm,1.3s						
GMB	**Gambarie**	**1.00**	**152**	P	Pn	19 26 10.7	+0.8
GMB				S	S	19 26 42.0	-0.6
GMB				AML	AML		
	comp=E,220μm,0.2s						
GMB				AML	AML		
	comp=N,204μm,0.2s						
GMB				AML	AML		
	comp=E,186μm,0.1s						
NOV	**Novara**	**1.03**	**184**	P	Pn	19 26 11.2	+1.3
TDS	**Terranova Siba**	**1.05**	**55**	P	Pn	19 26 11.4	+1.6
CELI	**Celico**	**1.05**	**70**	P	Pn	19 26 11.9	+1.9

MUCR	**Ucria**	**1.05 196**	P	Pn	19 26 10.9 +0.8
AIO	**Antillo**	**1.08 180**	P	Pn	19 26 11.6 +1.3
MGR	**Morigerati**	**1.11 13**	P	Pn	19 26 11.3 +1.2
MTTG	**Motta San Giov**	**1.11 161**	P	Pn	19 26 11.4 +1.0
MTTG			AML	AML	
	comp=N,86μm,1.0s				
MTTG			AML	AML	
	comp=E,97μm,1.5s				
PLAC	**Placanica**	**1.12 122**	P	Pn	19 26 11.4 +1.1
PLAC			AML	AML	
	comp=E,140μm,2.6s				
PLAC			AML	AML	
	comp=N,96μm,0.8s				
PLAC			AML	AML	
	comp=E,96μm,0.8s				
PLAC			AML	AML	
	comp=N,143μm,2.5s				
SOI	**Samo**	**1.18 146**	P	Pn	19 26 11.4 +0.8
SOI			AML	AML	
	comp=N,76μm,0.9s				
SOI			AML	AML	
	comp=E,114μm,2.0s				
SALB	**San Lorenzo Be**	**1.19 46**	P	Pn	19 26 12.0 +1.4
SALB			AML	AML	
	comp=N,55μm,1.5s				
TIP	**Timpagrande**	**1.19 84**	⇓P	Pn	19 26 12.1 +1.4
TIP			AML	AML	
	comp=E,69μm,1.6s				
TIP			AML	AML	
	comp=N,66μm,1.5s				
TIP			AML	AML	
	comp=E,87μm,1.5s				
TIP			AML	AML	
	comp=N,71μm,3.1s				
TIP			AML	AML	
	comp=E,67μm,1.8s				
MNO	**Monte Soro**	**1.20 201**	P	Pn	19 26 13.0 +2.0
SIRI	**Monte Sirino -**	**1.23 23**	P	Pn	19 26 12.0 +1.2
CMPR	**Campora**	**1.26 2**	P	Pn	19 26 12.2 +1.2
EPZF	**Pizzo Felice**	**1.27 194**	P	Pn	19 26 13.5 +2.3
MTSN	**Montesano sull**	**1.27 18**	P	Pn	19 26 13.4 +2.3
MCEL	**Monticello**	**1.34 19**	P	Pn	19 26 13.2 +1.7
PLLN	**Pollina**	**1.36 219**	P	Pn	19 26 12.5 +0.8
LADO	**San Nicola del**	**1.38 80**	P	Pn	19 26 12.7 +1.1
GALF	**Gagliano Caste**	**1.44 201**	P	Pn	19 26 14.6 +2.4
GALF			AML	AML	
	comp=E,83μm,0.5s				
GALF			AML	AML	
	comp=N,89μm,0.6s				
GALF			AML	AML	
	comp=E,103μm,0.8s				
GALF			AML	AML	
	comp=N,140μm,0.7s				
GALF			AML	AML	
	comp=N,89μm,0.6s				
GALF			AML	AML	
	comp=E,83μm,0.5s				
CSLB	**Castelbuono**	**1.45 220**	P	Pn	19 26 12.8 +0.6
PETRA	**Petralia Sopra**	**1.50 216**	P	Pn	19 26 14.1 +1.4
RAFF	**Raffo Rosso**	**1.96 201**	P	Pn	19 26 17.7 +2.0
RAFF			AML	AML	
	comp=E,694μm,0.3s				
RAFF			AML	AML	
	comp=N,209μm,1.6s				
RAFF			AML	AML	
	comp=N,209μm,0.4s				
RAFF			AML	AML	
	comp=N,128μm,0.2s				
RAFF			AML	AML	
	comp=E,694μm,0.3s				
LTRZ	**Laterza**	**1.97 38**	P	Pn	19 26 15.8 +0.1
LTRZ			AML	AML	
	comp=N,171μm,0.6s				
LTRZ			AML	AML	
	comp=E,75μm,1.9s				
LTRZ			AML	AML	
	comp=E,144μm,1.2s				
MMGO	**Monte Magaggia**	**2.25 233**	P	Pn	19 26 18.1 +0.1
PTRJ	**Pietraroja**	**2.37 347**	AML	AML	
	comp=N,1430μm,0.4s				
PTRJ			AML	AML	
	comp=E,766μm,0.1s				
PTRJ			AML	AML	
	comp=N,1325μm,0.4s				
PTRJ			AML	AML	
	comp=E,14μm,0.7s				
LRP	**Arpino**	**2.88 335**	AML	AML	
	comp=E,109μm,0.1s				
LRP			AML	AML	
	comp=N,108μm,0.1s				

ROM 17 19:26:03.0±0.2, 37°.230N±0°.008×15°.49E±0°.01, h19km±1km, ML2.2/12, Error ellipse: s-maj=0.9km s-min=0.8km az=275.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGST	**Augusta-Monte**	**0.21**	**277**	P	Pg	19 26 08.4	+0.2
AGST				S	Sg	19 26 12.2	+0.5
AGST				AML	AML		
	comp=E,877μm,0.2s						
AGST				AML	AML		
	comp=N,596μm,0.1s						
HAGA	**Augusta**	**0.27**	**282**	P	Pg	19 26 09.4	+0.2
HAGA				S	Sg	19 26 13.9	+0.6
HAGA				AML	AML		
	comp=E,406μm,0.4s						
HAGA				AML	AML		
	comp=N,586μm,1.5s						
HAGA				AML	AML		
	comp=N,586μm,0.5s						
HAGA				AML	AML		
	comp=N,324μm,0.2s						
HAGA				AML	AML		
	comp=E,230μm,0.1s						
SSY	**Sortino**	**0.34**	**257**	P	Pg	19 26 10.3	0.0
SSY				S	Sb	19 26 15.9	+0.3
SSY				AML	AML		
	comp=E,860μm,1.1s						
SSY				AML	AML		
	comp=N,1545μm,1.5s						
SSY				AML	AML		
	comp=E,860μm,0.9s						
SSY				AML	AML		
	comp=N,1545μm,0.5s						
SSY				AML	AML		
	comp=E,827μm,0.1s						
SSY				AML	AML		
	comp=N,1307μm,0.1s						
HPAC	**Pachino**	**0.61**	**209**	P	Pg	19 26 15.4	+0.2
HPAC				S	Sn	19 26 24.7	-1.2
HVZN	**Vizzini**	**0.62**	**265**	P	Pb	19 26 15.2	0.0
HMDC	**Modica**	**0.62**	**244**	P	Pb	19 26 15.0	-0.3
HMDC				S	Sg	19 26 24.1	+0.2
HMDC				AML	AML		
	comp=E,258μm,1.6s						
HMDC				AML	AML		
	comp=N,265μm,1.0s						
HMDC				AML	AML		
	comp=N,265μm,1.0s						
HMDC				AML	AML		
	comp=N,172μm,0.3s						
HMDC				AML	AML		
	comp=E,191μm,0.1s						
CROCE	**Santa Croce Ca**	**0.86**	**243**	P	Pb	19 26 18.8	-0.5
CROCE				S	Sg	19 26 30.9	-0.3
CROCE				AML	AML		
	comp=E,205μm,1.1s						
CROCE				AML	AML		
	comp=N,228μm,1.5s						
CROCE				AML	AML		
	comp=E,206μm,1.1s						
CROCE				AML	AML		
	comp=N,228μm,0.5s						
CROCE				AML	AML		
	comp=E,206μm,0.9s						
CROCE				AML	AML		
	comp=E,137μm,0.3s						
CROCE				AML	AML		
	comp=N,184μm,0.2s						
RAFF	**Raffo Rosso**	**0.90**	**270**	P	Pb	19 26 20.2	+0.2
RAFF				AML	AML		
	comp=N,209μm,1.6s						
RAFF				AML	AML		
	comp=E,694μm,0.3s						
RAFF				AML	AML		
	comp=N,209μm,0.4s						
RAFF				AML	AML		
	comp=E,694μm,0.3s						
RAFF				AML	AML		
	comp=N,149μm,0.3s						

IDC 17 19:32:12.7±1.7, 0°.87N×121°.28E, h0km, mb3.5/3, mbtmp3.5/4, ML3.7/1, MS3.3/1, Error ellipse: s-maj=164.8km s-min=27.0km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.33**	**167**	P	P	19 36 39.9	+0.2
	0.2nm,0.3s,baz=358,slow=11,SNR=7.3						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**24.32**	**149**	P	P	19 37 32.4	0.0
	1.0nm,0.7s,baz=324,slow=11,SNR=7.4						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**27.30**	**154**	P	P	19 37 59.3	0.0
	0.4nm,0.4s,baz=343,slow=14,SNR=13						
	0.4nm,0.4s						
ASAJ	**Asahikawa**	**47.06**	**21**	LR	LR	20 00 09.6	
	comp=Z,34nm,20.2s,baz=90,slow=36						
MKAR	**Makanchi Array**	**56.98**	**329**	P	P	19 42 00.0	-0.2
	0.2nm,0.5s,baz=131,slow=8.1,SNR=1.5						
	0.2nm,0.5s						

*IDC **17** 19:33:13.9±5.0, 56°.27N×161°.05E, h0km, mb3.7/4, mbtmp3.6/5, ML2.2/1, MS3.1/1, Error ellipse: s-maj=112.0km s-min=30.1km az=107.0*
*KRSC **17** 19:33:13.8±0.6, 55°.55N×162°.45E, h68km±16km, Ml3.8*
ISC 17 19:33:15.5±1.0, 55°.58N±0°.04×162°.43E±0°.04, h68km±9km, n45, σ0°.98/57, mb3.6/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.67**	**19**	*eP*	**Pn**	**19 33 29.8**	**-0.1**
KBTR				*eS*	**Sn**	**19 33 41.0**	**+0.5**
KBG	**Krutoberegovo**	**0.70**	**13**	*eP*	**Pn**	**19 33 30.0**	**-0.1**
KBG				*eS*	**Sn**	**19 33 41.6**	**+0.6**
ZLN	**Zelenaya**	**1.02**	**296**	*eP*	**Pn**	**19 33 33.8**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**1.05**	**291**	*eP*	**Pn**	**19 33 34.2**	**-0.3**
BZGR				*eS*	**Sn**	**19 33 48.5**	**-0.2**
CIRR	**Tsirk**	**1.09**	**300**	*eP*	**Pn**	**19 33 34.8**	**-0.4**
BZP	**Bezymyannyi-Pe**	**1.12**	**288**	*eP*	**Pn**	**19 33 35.0**	**-0.6**
BZP				*eS*	**Sn**	**19 33 50.7**	**+0.2**
SMKR	**Semkarok**	**1.15**	**332**	*eP*	**Pn**	**19 33 35.9**	**+0.1**
SMKR				*eS*	**Sn**	**19 33 52.3**	**+1.4**
BZMR	**Bezymyannaya**	**1.15**	**289**	*eP*	**Pn**	**19 33 35.5**	**-0.5**
BZMR				*eS*	**Sn**	**19 33 51.3**	**+0.1**
BZWR	**Bezymyannyi-We**	**1.16**	**290**	*eP*	**Pn**	**19 33 36.0**	**-0.1**
BZWR				*eS*	**Sn**	**19 33 51.9**	**+0.5**
BDR	**Baidarnaya**	**1.21**	**326**	*eS*	**Sn**	**19 33 54.4**	**+2.1**
TUMD	**Tumrok D**	**1.22**	**253**	*eP*	**Pn**	**19 33 36.4**	**-0.3**
TUMD				*eS*	**Sn**	**19 33 52.6**	**+0.1**
KRSR	**Krestovskiy**	**1.23**	**302**	*eP*	**Pn**	**19 33 36.4**	**-0.5**
KRSR				*eS*	**Sn**	**19 33 52.2**	**-0.7**
KIRR	**Kirishev**	**1.24**	**289**	*eP*	**Pn**	**19 33 37.0**	**-0.1**
KIRR				*eS*	**Sn**	**19 33 54.1**	**+1.0**
KLY	**Klyuchi**	**1.24**	**307**	*eP*	**Pn**	**19 33 35.3**	**-1.6**
KLY				*eS*	**Sn**	**19 33 51.5**	**-1.5**
KMNR	**Kamenistaya**	**1.25**	**279**	*eP*	**Pn**	**19 33 37.3**	**+0.1**
KMNR				*eS*	**Sn**	**19 33 54.3**	**+0.8**
SRKR	**Sorokina**	**1.29**	**327**	*eP*	**Pn**	**19 33 38.0**	**+0.3**
KPT	**Kopyto**	**1.31**	**288**	*eP*	**Pn**	**19 33 38.2**	**+0.4**
KPT				*eS*	**Sn**	**19 33 55.7**	**+1.0**
TUMR	**Tumrok**	**1.33**	**258**	*eP*	**Pn**	**19 33 39.0**	**+0.7**
KOZ	**Kozyrevsk**	**1.52**	**290**	*eP*	**Pn**	**19 33 41.1**	**+0.4**
BKI	**Bering**	**2.06**	**99**	*eP*	**Pn**	**19 33 48.2**	**+0.4**
BKI				*eS*	**Sn**	**19 34 11.9**	**-0.4**
ESO	**Esso**	**2.14**	**281**	*eP*	**Pn**	**19 33 48.5**	**-0.4**
KII	**Karymskiy**	**2.31**	**229**	*eP*	**Pn**	**19 33 52.1**	**+0.7**
SPN	**Mys Shipunski**	**2.85**	**211**	*eP*	**Pn**	**19 33 57.8**	**-0.8**
SPN				*eS*	**Sn**	**19 34 29.8**	**-2.0**
NLC	**Nalytchevo**	**3.01**	**218**	*eP*	**Pn**	**19 34 01.1**	**+0.4**
NLC				*eS*	**Sn**	**19 34 35.0**	**-0.6**
TIGL	**Tigil**	**3.02**	**318**	*eP*	**Pn**	**19 34 01.6**	**+0.8**
SDLR	**Sedlovina**	**3.10**	**223**	*eP*	**Pn**	**19 34 03.1**	**+1.0**
KRER	**Koryakskii**	**3.13**	**225**	*eP*	**Pn**	**19 34 04.0**	**+1.4**
KRX	**Arik**	**3.13**	**226**	*eP*	**Pn**	**19 34 04.1**	**+1.5**
SMAR	**Somma**	**3.14**	**224**	*eP*	**Pn**	**19 34 03.8**	**+1.1**
AVH	**Avacha**	**3.16**	**224**	*eP*	**Pn**	**19 34 04.8**	**+1.9**
GNL	**Ganaly**	**3.22**	**236**	*eP*	**Pn**	**19 34 05.1**	**+1.4**
DALK	**Dalny**	**3.34**	**222**	*eP*	**Pn**	**19 34 05.9**	**+0.7**
PET	**Petropavlovsk**	**3.38**	**222**	*eP*	**Pn**	**19 34 06.6**	**+0.8**
OSSR	**Ossora**	**3.70**	**5**	*eP*	**Pn**	**19 34 10.9**	**+0.8**
PETK	**Petropavlovsk-**	**3.71**	**230**	Pn	**Pn**	**19 34 11.9**	**+1.6**
	0.8nm,0.3s,baz=82,slow=21,SNR=2.3						
PETK				Sn	Sn	19 34 59.9	+7.1
	1.0nm,0.3s,baz=80,slow=33,SNR=1.3						
	1.3nm,0.5s						
GRL	**Gorelyy**	**3.97**	**222**	*eP*	**Pn**	**19 34 16.2**	**+2.2**
MTVR	**Mutnovka**	**3.98**	**221**	*eP*	**Pn**	**19 34 15.5**	**+1.4**
MJAR	**Matsushiro Arr**	**25.17**	**231**	LR	LR	19 50 00.2	
	comp=Z,37nm,18.6s,baz=346,slow=40						
H11N2	**WAKE ISLAND Hy**	**35.95**	**173**	T	T	20 17 42.0	
	baz=355,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**35.96**	**173**	T	T	20 17 40.9	
	baz=355,slow=76,SNR=8.6						
H11N1	**WAKE ISLAND Hy**	**35.96**	**173**	T	T	20 17 42.5	
	baz=355,slow=76,SNR=6.8						
KURBB	**Kurchatov Arra**	**47.70**	**301**	P	**P**	**19 41 43.5**	**-1.3**
	0.2nm,0.5s,baz=56,slow=8.0,SNR=2.6						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**48.33**	**295**	P	**P**	**19 41 49.0**	**-0.8**
	0.2nm,0.5s,baz=46,slow=8.2,SNR=1.2						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**49.93**	**308**	P	**P**	**19 42 01.0**	**-0.9**
	0.6nm,0.4s,baz=64,slow=8.1,SNR=7.1						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**58.37**	**337**	P	**P**	**19 43 03.8**	**+0.7**
	5.9nm,1.0s,baz=29,slow=8.1,SNR=13						
	5.9nm,1.0s						

*IDC **17** 19:37:53.3±2.2, 14°.09N×92°.65W, h0km, mb3.9/6, mbtmp3.9/10, ML3.4/3, MS3.7/1, Error ellipse: s-maj=89.5km s-min=18.2km az=36.0*
*NEIC **17** 19:37:58.5±2.2, 14°.30N±0°.10×92°.99W±0°.06, h10km±2km, mb4.3/22, Error ellipse: s-maj=16.4km s-min=10.1km az=182.0*
ISC 17 19:37:59.0±1.1, 14°.1N±0°.1×92°.94W±0°.09, h37km, n42, σ1.44/41, mb4.2/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**1.28**	**69**	Pn	**Pn**	**19 38 18.9**	**-1.5**
HUEH	**Huehuetenango**	**1.86**	**48**	Pn	**Pn**	**19 38 28.8**	**+0.2**
CCIG	**Comitan**	**2.33**	**19**	Pn	**Pn**	**19 38 35.2**	**+0.1**
MTO3	**Montecristo**	**3.48**	**84**	Pn	**Pn**	**19 38 52.7**	**+1.8**
ESQI	**Esquipulas**	**3.52**	**82**	Pn	**Pn**	**19 38 54.8**	**+3.5**
CMIG	**Matias Romero**	**3.54**	**328**	Pn	**Pn**	**19 38 50.4**	**-1.2**
	1.5nm,0.3s,baz=142,slow=9.9,SNR=14						
CMIG				Sn	**Sn**	**19 39 33.1**	**+0.9**
	4.9nm,0.3s,baz=225,slow=10,SNR=4.6						
	8.9nm,0.7s						
PETF	**Flores**	**4.09**	**46**	Pn	**Pn**	**19 39 00.2**	**+1.1**
TEIG	**Tepich**	**7.57**	**35**	Pn	**Pn**	**19 39 45.9**	**-1.0**
JTS	**Las Juntas de**	**8.66**	**115**	Pn	Pn	19 39 57.2	-4.6
	0.7nm,0.3s,baz=295,slow=19,SNR=1.9						
	1.6nm,0.3s						
SAND	**Sanderson**	**17.94**	**333**	P	**Pn**	**19 42 06.2**	**+0.5**
TX31	**Lajitas Ar. Si**	**18.15**	**329**	P	**P**	**19 42 09.7**	**+1.3**
TXAR	**Lajitas Array**	**18.15**	**329**		**P**	**19 42 09.2**	**+0.8**
TXAR	**Lajitas Array**	**18.15**	**329**	P	**P**	**19 42 10.2**	**+1.8**
	baz=147,slow=10,SNR=5.3						
	0.8nm,0.9s						
ALPN	**Alpine**	**18.99**	**330**	P	**P**	**19 42 18.3**	**+0.7**
LPIG	**La Paz**	**19.19**	**304**	P	**P**	**19 42 20.9**	**+1.1**
	17nm,0.4s,baz=104,slow=4.2,SNR=1.1						
MNHN	**Monahans**	**19.41**	**334**	P	**P**	**19 42 22.6**	**+0.4**
APMT	**Aspermont**	**20.26**	**342**	P	**P**	**19 42 31.8**	**+0.5**
APMT				IAmb	IAmb	19 42 32.6	
	comp=Z,6.0nm,0.8s						
MIAR	**Mount Ida**	**20.40**	**358**	P	**P**	**19 42 31.9**	**-0.9**
MIAR				IAmb	IAmb	19 42 46.6	
	comp=Z,19nm,1.4s						
POST	**Post**	**20.46**	**339**	P	**P**	**19 42 33.6**	**0.0**
POST				IAmb	IAmb	19 42 44.0	
	comp=Z,6.7nm,1.0s						
ROSC	**El Rosal**	**20.51**	**115**	P	**P**	**19 42 30.3**	**-4.3**
	comp=Z,3.5nm,0.3s,baz=253,slow=19,SNR=2.0						
	comp=Z,3.5nm,0.3s						
WMOK	**Wichita Mounta**	**21.25**	**347**	P	**P**	**19 42 42.1**	**+0.1**
QUOK	**Quay**	**22.27**	**352**	P	**P**	**19 42 52.4**	**-0.5**
QUOK				IAmb	IAmb	19 42 53.6	
	comp=Z,12nm,0.8s						
SDV	**Santo Domingo**	**22.45**	**101**	P	**P**	**19 42 51.6**	**-3.6**
	comp=Z,3.1nm,0.2s,baz=1.6,slow=20,SNR=1.4						
	comp=Z,3.1nm,0.2s						
OK051	**E0350 and S346**	**22.62**	**352**	P	**P**	**19 42 55.8**	**-0.8**
OK051				IAmb	IAmb	19 42 57.5	
	comp=Z,19nm,0.9s						
121A	**Cookes Peak, D**	**22.84**	**326**	P	**P**	**19 42 59.6**	**+0.4**
121A				IAmb	IAmb	19 43 03.4	
	comp=Z,5.8nm,1.0s						
TKL	**Tuckaleechee C**	**23.02**	**19**	LR	LR	19 53 10.0	
	comp=Z,166nm,18.6s,baz=78,slow=40						
RTBA	**Rita Blanca**	**23.95**	**340**	P	**P**	**19 43 09.4**	**-0.5**
RTBA				IAmb	IAmb	19 43 11.5	
	comp=Z,17nm,0.9s						
R32A	**Long Quarter,**	**24.79**	**349**	P	**P**	**19 43 17.0**	**-0.5**
MVCO	**Mesa Verde**	**26.90**	**332**	P	**P**	**19 43 37.0**	**+0.1**
MVCO				IAmb	IAmb	19 43 48.9	
	comp=Z,8.7nm,1.3s						
PDAR	**Pinedale Array**	**31.99**	**337**	P	**P**	**19 44 21.0**	**-1.0**
	comp=Z,0.5nm,0.9s,baz=132,slow=4.0,SNR=2.3						
	comp=Z,0.5nm,0.9s						
NVAR	**Mina Array Bea**	**33.05**	**322**	P	**P**	**19 44 33.0**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=142,slow=8.8,SNR=10.0						
	comp=Z,1.2nm,0.8s						
YKA	**Yellowknife Ar**	**50.76**	**347**	P	**P**	**19 46 55.4**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=153,slow=7.5,SNR=7.6						
	comp=Z,2.8nm,0.9s						
INK	**Inuvik**	**60.12**	**344**	P	**P**	**19 48 02.6**	**+0.2**
F28M	**Old Crow**	**61.52**	**341**	P	**P**	**19 48 12.7**	**+0.8**
F28M				IAmb	IAmb	19 48 15.4	
	comp=Z,4.3nm,0.9s						
ILAR	**Eielson Array**	**62.42**	**337**	P	**P**	**19 48 18.3**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=153,slow=5.0,SNR=4.6						
	comp=Z,0.5nm,0.9s						
BMAR	**Burnt Mountain**	**62.92**	**340**	P	**P**	**19 48 22.2**	**+0.8**
J19K	**Poorman**	**65.60**	**335**	P	**P**	**19 48 40.8**	**+1.9**
E22K	**Anaktuvuk Pass**	**65.68**	**339**	P	**P**	**19 48 41.3**	**+1.9**
F21K	**Alatna River**	**65.91**	**338**	P	**P**	**19 48 41.6**	**+0.8**
F21K				IAmb	IAmb	19 48 45.4	
	comp=Z,4.0nm,1.0s						
C23K	**Itkillik River**	**66.02**	**341**	P	**P**	**19 48 42.5**	**+1.0**
C23K				IAmb	IAmb	19 48 48.2	
	comp=Z,1.7nm,0.9s						
D22K	**Ayikyak River**	**66.28**	**340**	P	**P**	**19 48 43.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**145.62**	**340**	PKPbc	**PKPdf**	**19 57 34.0**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=338,slow=4.2,SNR=9.7						

*IDC **17** 19:42:38.2±0.9, 56°.71S×24°.98W, h0km, mb4.1/6, mbtmp4.1/7, ML3.7/1, MS3.8/4, Error ellipse: s-maj=40.5km s-min=20.2km az=60.0*
*NEIC **17** 19:42:39.6±1.4, 56°.8S±0°.1×24°.9W±0°.2, h10km±2km, mb4.4/10, Error ellipse: s-maj=26.3km s-min=19.2km az=40.0*
ISC 17 19:42:39.7±0.7, 56°.8S±0°.1×25°.0W±0°.1, h10km, n29, σ0.93/25, mb4.2/11, MS3.8/4, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.95**	**286**	Pn	**Pn**	**19 44 22.8**	**+1.3**
VNA1	**Neumayer--Stat**	**15.71**	**159**	⇑P	**Pn**	**19 46 20.0**	**-0.6**
	comp=Z,16nm,0.9s						
VNA3	**Neumayer Olymp**	**15.94**	**162**	⇑P	**Pn**	**19 46 22.8**	**-1.0**
	comp=Z,9.4nm,0.7s						
VNA2	**Neumayer--Watz**	**16.10**	**159**	⇑P	**Pn**	**19 46 25.2**	**-0.6**
	comp=Z,6.7nm,0.6s,baz=323,slow=11						
SNAA	**Sanae**	**17.62**	**157**	P	**Pn**	**19 46 44.2**	**-0.8**
SNAA	**Sanae**	**17.62**	**157**	⇑P	**Pn**	**19 46 44.5**	**-0.5**
	comp=Z,112nm,0.7s						
SNAA	**Sanae**	**17.62**	**157**	P	**Pn**	**19 46 44.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=336,slow=14,SNR=9.4						
	comp=Z,2.0nm,0.6s						
TROLL	**Troll, Antarti**	**19.09**	**154**	⇑P	**Pn**	**19 47 04.8**	**+1.9**
	comp=Z,147nm,0.8s						
PMSA	**Palmer Station**	**20.36**	**231**	LR	LR	19 54 24.5	
	comp=Z,150nm,18.5s,baz=68,slow=35						
BELA	**Belgrano 2**	**21.48**	**186**	P	**P**	**19 47 26.9**	**-1.0**
BELA				IAmb	IAmb	19 47 33.1	
	comp=Z,12nm,1.2s						
SMAI	**San Martin Ant**	**22.03**	**222**	P	**P**	**19 47 34.5**	**+0.7**
SMAI				IAmb	IAmb	19 48 13.6	
	comp=Z,13nm,1.3s						
TRQA	**Tornquist**	**30.69**	**292**	P	**P**	**19 48 53.1**	**-1.3**
QSPA	**South Pole Qui**	**33.50**	**180**	P	**P**	**19 49 18.9**	**0.0**
QSPA				IAmb	IAmb	19 49 22.2	
	comp=Z,3.0nm,0.8s						
QSPA	**South Pole Qui**	**33.50**	**180**	P	**P**	**19 49 18.7**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=229,slow=3.0,SNR=13						
	comp=Z,2.2nm,0.7s						
CPUP	**Villa Florida**	**38.17**	**309**	P	**P**	**19 49 59.1**	**0.0**
	comp=Z,1.0nm,0.5s,baz=90,slow=9.5,SNR=1.9						
	comp=Z,1.0nm,0.5s						
MAW	**Mawson**	**38.87**	**142**	P	**P**	**19 50 06.4**	**+1.9**
	comp=Z,2.5nm,1.0s,baz=232,slow=14,SNR=3.7						
	comp=Z,2.5nm,1.0s						
MT02	**Curacav**	**39.14**	**287**	P	**P**	**19 50 05.5**	**-1.7**
MT02				IAmb	IAmb	19 50 35.9	
	comp=Z,24nm,1.4s						
SUR	**Sutherland**	**39.69**	**72**	LR	LR	20 03 32.0	
	comp=Z,122nm,18.8s,baz=291,slow=32						
BOSA	**Boshof**	**45.01**	**73**	LR	LR	20 06 20.0	
	comp=Z,125nm,18.2s,baz=334,slow=32						
PTLB	**Pontes e Lacer**	**48.63**	**314**	P	**P**	**19 51 23.8**	**+0.2**
PTLB				IAmb	IAmb	19 51 27.3	
	comp=Z,5.1nm,1.2s						
GO01	**Chusmiza**	**49.33**	**300**	P	**P**	**19 51 29.5**	**+0.1**
GO01				IAmb	IAmb	19 51 30.4	
	comp=Z,7.0nm,0.8s						
LPAZ	**La Paz**	**51.76**	**303**	P	**P**	**19 51 48.5**	**+0.5**
LPAZ	**La Paz**	**51.76**	**303**	P	**P**	**19 51 48.7**	**+0.7**
	comp=Z,3.5nm,0.5s,baz=160,slow=6.9,SNR=17						
	comp=Z,3.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**73.10**	**27**	P	**P**	**19 54 09.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**73.10**	**27**	P	**P**	**19 54 09.4**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=198,slow=3.9,SNR=4.7						
	comp=Z,1.0nm,0.9s						
FURI	**Furi**	**83.52**	**63**	LR	LR	20 29 30.9	
	comp=Z,64nm,19.7s,baz=12,slow=34						
ASAR	**Alice Springs**	**97.95**	**161**	P	**P**	**19 56 15.6**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=193,slow=7.6,SNR=1.9						
	comp=Z,0.4nm,0.9s						
SONM	**Songino Array**	**149.58**	**86**	PKPbc	**PKPbc**	**20 02 28.1**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=276,slow=1.3,SNR=3.0						
ILAR	**Eielson Array**	**151.47**	**310**	PKPbc	**PKPbc**	**20 02 31.9**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=128,slow=1.9,SNR=19						

IDC 17 19:52:22.7±1.2, 0°.29S×124°.41E, h0km, mb3.1/4, mbtmp3.1/4, Error ellipse: s-maj=68.2km s-min=23.7km az=68.0, Southern Molucca Sea

| Code | Station Name | Δ

MDD 17 19:55:29.1±0.2,42.°10N×8.°21W,h20km,mb_Lg3.7/20, Error ellipse: s-maj=2.1km s-min=1.6km az=101.0
IGIL 17 19:55:29.9,42.°08N×8.°23W,h27km,ML3.0
ISC 17 19:55:27.1±0.8,42.°13N±0.°02×8.°20W±0.°03,h29km±6km, n106,σ3°10/196,1C-8D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGAV	**Gavieira, Arco**	**0.18**	**199**	*i*Pg	**Pb**	**19 55 33.9**	**+0.8**
PGAV				*e*Sg	**Sb**	**19 55 37.2**	**+0.1**
PGAV				A	A	19 55 37.9	
	9μm,0.3s						
ELOB	**Lobios**	**0.28**	**159**	⇓Pg	**Pb**	**19 55 35.2**	**+0.9**
ELOB				Sg	**Sb**	**19 55 39.4**	**+0.2**
ELOB				*i* Vmb_Lg		19 55 40.0	
EZAM	**Zamans**	**0.37**	**273**	⇑Pg	**Pb**	**19 55 36.8**	**+1.3**
EZAM				Sg	**Sb**	**19 55 42.0**	**+0.7**
EZAM				*i* Vmb_Lg		19 55 43.3	
PCAB	**Cabril**	**0.44**	**163**	⇓*i*Pg	**Pb**	**19 55 37.5**	**+0.9**
PCAB				*e*Sg	**Sb**	**19 55 43.5**	**+0.5**
PCAB				A	A	19 55 44.6	
	6μm,0.1s						
EAGO	**Agolada(Pontev**	**0.68**	**7**	⇓Pg	**Pn**	**19 55 42.2**	**+1.5**
EAGO				Sg	**Sn**	**19 55 51.5**	**+1.1**
POLO	**Lamas de Olo**	**0.81**	**158**	⇓*e*P	**Pn**	**19 55 43.3**	**+0.6**
POLO				*e*S	**Sb**	**19 55 54.2**	**+0.7**
POLO				A	A	19 55 54.8	
	723nm,0.1s						
PVRL	**Vila Real**	**0.93**	**157**	⇓*e*P	**Pn**	**19 55 44.8**	**+0.6**
PVRL				*e*S	**Sn**	**19 55 56.5**	**-0.1**
PVRL				A	A	19 55 58.4	
	2μm,0.1s						
EMAZ	**Mazaricos**	**1.00**	**325**	Pn	**Pn**	**19 55 46.5**	**+1.2**
EMAZ				Pg	**Pb**	**19 55 47.5**	**+1.7**
EMAZ				Sn	**Sb**	**19 56 00.1**	**+1.4**
EMAZ				Sg	**Sn**	**19 56 01.5**	**+3.1**
EMAZ				*i* Vmb_Lg		19 56 03.0	
PTO	**Porto**	**1.04**	**197**	*e*P	**Pn**	**19 55 46.3**	**+0.6**
PTO				*e*S	**Sn**	**19 55 59.6**	**+0.4**
PTO				A	A	19 56 02.2	
	2μm,0.1s						
ECAL	**Calabor**	**1.10**	**99**	P	**Pn**	**19 55 48.0**	**+1.3**
ECAL				S	**Sb**	**19 56 04.0**	**+2.4**
ECAL	**Calabor**	**1.10**	**99**	Pn	**Pn**	**19 55 48.0**	**+1.3**
ECAL				Pg	**Pb**	**19 55 49.0**	**+1.4**
ECAL				Sn	**Sb**	**19 56 02.8**	**+1.1**
ECAL				Sg	**Sn**	**19 56 03.8**	**+2.8**
ECAL				*i* Vmb_Lg		19 56 05.2	
PBRG	**Braganca**	**1.13**	**106**	*e*P	**Pn**	**19 55 48.2**	**+1.1**
PBRG				*e*S	**Sb**	**19 56 04.4**	**+2.0**
PBRG				A	A	19 56 07.9	
	977nm,0.7s						
MVO	**Moncorvo**	**1.30**	**138**	⇓*e*Pn	**Pn**	**19 55 50.3**	**+0.9**
MVO				*i* LQ	LQ	19 55 56.0	
MVO				*e*Sg	**Sb**	**19 56 08.5**	**+1.2**
MVO				A	A	19 56 15.2	
	398nm,0.4s						
EPON	**Pontenova**	**1.42**	**32**	Pn	**Pn**	**19 55 52.3**	**+1.3**
EPON				Pg	**Pb**	**19 55 54.3**	**+1.4**
EPON				Sg	**Sb**	**19 56 13.3**	**+2.6**
EPON				*i* Vmb_Lg		19 56 17.2	
PVIS	**Viseu**	**1.43**	**171**	*e*Pn	**Pn**	**19 55 52.0**	**+0.8**
PVIS	**Viseu**	**1.43**	**171**	*e*Pg	**Pb**	**19 55 53.8**	**+0.6**
PVIS				*e*Sg	**Sb**	**19 56 11.9**	**+0.9**
MTE	**Manteigas**	**1.80**	**164**	*e*Pn	**Pn**	**19 55 57.1**	**+0.9**
MTE	**Manteigas**	**1.80**	**164**	*e*Pg	**Pb**	**19 56 00.5**	**+1.1**
MTE				*e*Sg	**Sb**	**19 56 23.3**	**+1.7**
MTE				A	A	19 56 29.0	
	447nm,0.3s						
COI	**Coimbra**	**1.93**	**185**	*e*Sg	**Sb**	**19 56 28.4**	**+3.2**
COI				A	A	19 56 35.6	
	416nm,0.6s						
EJUZ	**Juzbado, Salam**	**2.02**	**120**	Pn	**Pn**	**19 56 01.0**	**+1.7**
EJUZ				Pg	**Pb**	**19 56 04.8**	**+1.6**
EJUZ				Sn	**Sn**	**19 56 24.8**	**+1.2**
EJUZ				Sg	**Sb**	**19 56 29.7**	**+1.8**
PCAS	**Casmilo, Conde**	**2.09**	**186**	*e*Pn	**Pn**	**19 56 01.0**	**+0.8**
PCAS	**Casmilo, Conde**	**2.09**	**186**	*e*Pg	**Pb**	**19 56 07.1**	**+2.8**
PCAS				*e*Sg	**Sb**	**19 56 32.3**	**+2.4**
PCAS				A	A	19 56 37.5	
	387nm,0.6s						
PCBR	**Castelo Branco**	**2.35**	**166**	*e*Pn	**Pn**	**19 56 04.6**	**+0.8**
PCBR	**Castelo Branco**	**2.35**	**166**	*e*Pg	**Pb**	**19 56 09.9**	**+1.1**
PCBR				*e*Sg	**Sb**	**19 56 39.5**	**+2.1**
PCBR				A	A	19 56 44.9	
	170nm,0.4s						
EARI	**Arriondas**	**2.49**	**61**	Pn	**Pn**	**19 56 08.0**	**+2.3**
EARI				Pg	**Pb**	**19 56 13.5**	**+2.3**
EARI				Sn	**Sn**	**19 56 37.6**	**+2.4**
EARI				Sg	**Sb**	**19 56 47.9**	**+6.4**
EARI				*i* Vmb_Lg		19 56 55.5	
EPLA	**Plasencia**	**2.61**	**142**	Pn	**Pn**	**19 56 08.7**	**+1.3**
EPLA				Pg	**Pb**	**19 56 14.6**	**+1.4**
EPLA				Sn	**Sn**	**19 56 38.1**	**-0.1**
EPLA				Sg	**Sb**	**19 56 50.1**	**+5.2**
EPLA				*i* Vmb_Lg		19 56 52.8	
PSBE	**So Bento**	**2.65**	**190**	⇓*e*Pn	**Pn**	**19 56 09.0**	**+1.0**
PSBE				*e*Sg	**Sb**	**19 56 50.2**	**+4.1**
PSBE				A	A	19 56 58.1	
	149nm,0.7s						
PMRV	**Marv??o**	**2.77**	**167**	*e*Pn	**Pn**	**19 56 10.3**	**+0.8**
PMRV				*e*Sg	**Sb**	**19 56 53.2**	**+3.8**
PMRV				A	A	19 56 57.7	
	105nm,0.4s						
PMTG	**Montargil**	**3.06**	**180**	*e*Pn	**Pn**	**19 56 14.1**	**+0.6**
PMTG				*e*Sg	**Sb**	**19 57 01.2**	**+3.5**
PMTG				A	A	19 57 07.0	
	76nm,0.2s						
PMAFR	**Mafra**	**3.28**	**195**	*e*Pn	**Pn**	**19 56 17.5**	**+1.0**
PMAFR				*e*Sn	**Sn**	**19 56 52.8**	**-1.8**
PMAFR				*e*Sg	**Sb**	**19 57 10.6**	**+6.5**
PMAFR				A	A	19 57 22.7	
	137nm,0.4s						
PMAFR	**Mafra**	**3.28**	**195**	S	**Sn**	**19 56 52.0**	**-2.6**
PMAFR				P	**Pn**	**19 56 17.3**	**+0.7**
PESTR	**Estremoz**	**3.29**	**172**	*e*Pn	**Pn**	**19 56 17.5**	**+0.8**
PESTR				*e*Sn	**Sn**	**19 56 53.2**	**-1.7**
PESTR				*e*Sg	**Sb**	**19 57 08.8**	**+4.3**
PESTR				A	A	19 57 16.6	
	133nm,0.6s						
PESTR	**Estremoz**	**3.29**	**172**	P	**Pn**	**19 56 17.6**	**+0.9**
PESTR				S	**Sn**	**19 56 53.2**	**-1.7**
PESTR	**Estremoz**	**3.29**	**172**	P	**Pn**	**19 56 17.8**	**+1.0**
PESTR	**Estremoz**	**3.29**	**172**	S	**Sb**	**19 57 09.0**	**+4.5**
GUD	**Guadarrama**	**3.38**	**115**	Pn	**Pn**	**19 56 20.2**	**+2.1**
GUD				Sn	**Sn**	**19 56 58.4**	**+1.1**
GUD				Sg	**Sb**	**19 57 11.6**	**+4.4**
GUD				*i* Vmb_Lg		19 57 21.5	
EBAD	**Badajoz**	**3.49**	**165**	P	**Pn**	**19 56 20.4**	**+1.0**
EBAD				S	**Sn**	**19 56 58.9**	**-0.9**
EBAD	**Badajoz**	**3.49**	**165**	Pn	**Pn**	**19 56 20.1**	**+0.7**
EBAD				Pb	**Pb**	**19 56 26.1**	**-2.1**
EBAD				Pg		19 56 28.9	
EBAD				Sn	**Sn**	**19 56 58.5**	**-1.3**
EBAD				Sg	**Sb**	**19 57 15.1**	**+5.0**
EBAD				*i* Vmb_Lg		19 57 23.0	
EVO	**Evora**	**3.60**	**178**	*e*Pn	**Pn**	**19 56 21.7**	**+0.8**
EVO				*e*Sg	**Sb**	**19 57 17.7**	**+4.5**
EVO				A	A	19 57 28.3	
	86nm,0.8s						
EVO	**Evora**	**3.60**	**178**	P	**Pn**	**19 56 21.3**	**+0.4**
EVO				S	**Sn**	**19 56 59.9**	**-2.6**
ELAN	**Lanestosa**	**3.68**	**71**	Pn	**Pn**	**19 56 24.5**	**+2.4**
ELAN				Pb	**Pb**	**19 56 30.6**	**-0.8**
ELAN				Sn	**Sn**	**19 57 06.9**	**+2.5**
ELAN				Sg	**Sb**	**19 57 23.1**	**+7.5**
ELAN				*i* Vmb_Lg		19 57 37.7	
PAB	**San Pablo**	**3.90**	**130**	Pn	**Pn**	**19 56 26.8**	**+1.7**
PAB				Pb	**Pb**	**19 56 33.1**	**-2.1**
PAB				Pg		19 56 36.2	
PAB				Sn	**Sn**	**19 57 10.2**	**+0.3**
PAB				Sb	**Sb**	**19 57 20.4**	**-1.5**
PAB				Sg		19 57 28.8	
PAB				*i* Vmb_Lg		19 57 36.9	
PBAR	**Barrancos**	**4.05**	**167**	*e*Pn	**Pn**	**19 56 28.1**	**+1.0**
PBAR				*e*Sn	**Sn**	**19 57 12.0**	**-1.6**
PBAR				*e*Sg	**Sb**	**19 57 33.7**	**+7.5**
PBAR				A	A	19 57 48.7	
	50nm,0.5s						
PBAR	**Barrancos**	**4.05**	**167**	P	**Pn**	**19 56 27.8**	**+0.7**
PBAR				S	**Sn**	**19 57 10.8**	**-2.8**
PBEJ	**Beja**	**4.11**	**176**	*e*Pn	**Pn**	**19 56 28.9**	**+1.0**
PBEJ				*e*Sn	**Sn**	**19 57 12.7**	**-2.3**
PBEJ				*e*Sg	**Sb**	**19 57 36.5**	**+8.6**
PBEJ				A	A	19 57 39.2	
	33nm,0.4s						
UCM	**Universidad Co**	**4.16**	**114**	P	**Pn**	**19 56 30.8**	**+2.2**
UCM				S	**Sn**	**19 57 17.6**	**+1.4**
MESJ	**Messejana**	**4.29**	**180**	*e*Pn	**Pn**	**19 56 31.4**	**+1.0**
MESJ				*e*Sg	**Sb**	**19 57 41.3**	**+8.3**
MESJ				A	A	19 57 52.3	
	35nm,0.5s						
MESJ	**Messejana**	**4.29**	**180**	*e*P	**Pn**	**19 56 31.2**	**+0.8**
MESJ				*e*S	**Sn**	**19 57 15.8**	**-3.7**
MESJ				IAML		19 57 50.3	
	comp=E,28nm,0.6s						
EMIN	**Mina Concepcio**	**4.51**	**164**	P	**Pn**	**19 56 34.3**	**+0.8**
EMIN				S	**Sn**	**19 57 21.7**	**-3.3**
EMIN	**Mina Concepcio**	**4.51**	**164**	Pn	**Pn**	**19 56 34.5**	**+1.0**
EMIN				Sg	**Sb**	**19 57 47.4**	**+7.9**
EMIN				*i* Vmb_Lg		19 57 54.1	
ECAB	**El Cabril**	**4.58**	**151**	P	**Pn**	**19 56 35.2**	**+0.8**
ECAB				S	**Sn**	**19 57 24.4**	**-2.2**
ECAB	**El Cabril**	**4.58**	**151**	Pn	**Pn**	**19 56 35.5**	**+1.1**
ECAB				Sn	**Sn**	**19 57 25.1**	**-1.5**
ECAB				Sg	**Sb**	**19 57 48.6**	**+7.2**
ECAB				*i* Vmb_Lg		19 58 00.1	
PTEO	**Sao Teotonio**	**4.60**	**185**	*e*Pg	**Pn**	**19 56 36.7**	**+2.0**
EGRO	**El Granado**	**4.62**	**173**	P	**Pn**	**19 56 35.8**	**+0.8**
EGRO				S	**Sn**	**19 57 24.0**	**-3.8**
PVAQ	**Vaqueiros**	**4.74**	**175**	*e*Pn	**Pn**	**19 56 37.6**	**+1.0**
PVAQ				A	A	19 58 03.4	
	comp=E,47nm,0.9s						
PVAQ	**Vaqueiros**	**4.74**	**175**	P	**Pn**	**19 56 37.3**	**+0.7**
PVAQ				S	**Sn**	**19 57 26.4**	**-4.1**
PVAQ	**Vaqueiros**	**4.74**	**175**	P	**Pn**	**19 56 37.6**	**+1.0**
PVAQ	**Vaqueiros**	**4.74**	**175**	S	**Sb**	**19 57 39.5**	**-6.4**
EADA	**Adamuz**	**4.83**	**144**	P	**Pn**	**19 56 38.7**	**+0.8**
EADA				S	**Sn**	**19 57 30.5**	**-2.5**
EADA	**Adamuz**	**4.83**	**144**	Pn	**Pn**	**19 56 38.7**	**+0.8**
EADA				Pb	**Pb**	**19 56 48.1**	**-3.0**
EADA				Pg		19 56 53.0	
EADA				Sn	**Sn**	**19 57 31.5**	**-1.5**
EADA				Sg	**Sb**	**19 57 55.9**	**+7.2**
EADA				*i* Vmb_Lg		19 58 08.1	
PBDV	**Barranco-do-Ve**	**4.89**	**178**	*e*Pn	**Pn**	**19 56 39.8**	**+1.1**
PBDV				*e*Sn	**Sn**	**19 57 32.2**	**-2.1**
PBDV				A	A	19 58 13.3	
	comp=E,52nm,0.5s						
PFVI	**Vila Bisbo**	**5.02**	**186**	*e*Pn	**Pn**	**19 56 42.1**	**+1.7**
PFVI	**Vila Bisbo**	**5.02**	**186**	S	**Sn**	**19 57 34.1**	**-3.3**
PFVI	**Vila Bisbo**	**5.02**	**186**	P	**Pn**	**19 56 38.4**	**-2.0**
PFVI	**Vila Bisbo**	**5.02**	**186**	S	**Sn**	**19 57 36.7**	**-0.7**
SJPF	**Ste Jean**	**5.24**	**77**	*e*Pn	**Pn**	**19 56 44.9**	**+1.5**
SJPF				*e*Sn	**Sn**	**19 57 39.4**	**-3.4**
	comp=E,8.5nm,0.4s						
ESPR	**Espera**	**5.56**	**160**	S	**Sn**	**19 57 48.7**	**-2.1**
ESPR				P	**Pn**	**19 56 49.4**	**+1.6**
ETSF	**Etsaut**	**5.70**	**80**	*e*Pn	**Pn**	**19 56 51.8**	**+2.0**
ETSF				*e*Sn	**Sn**	**19 57 50.9**	**-3.3**
	comp=E,0.7nm,0.2s						
EPF	**Esparros**	**6.36**	**79**	*e*Pn	**Pn**	**19 57 00.0**	**+1.0**
EPF				*e*Sn	**Sn**	**19 58 07.6**	**-3.1**
	comp=E,5.1nm,0.3s						
EPF				*e*Sg	Sb	19 58 44.2	+11
	comp=E,8.4nm,0.4s						
QUIF	**Quistinic**	**6.79**	**30**	*e*Pn	**Pn**	**19 57 05.5**	**+0.8**
QUIF				*e*Sn	**Sn**	**19 58 16.3**	**-4.7**
	comp=E,7.5nm,0.3s						
LFF	**La Frestale**	**7.07**	**64**	*e*Pn	**Pn**	**19 57 09.2**	**+0.6**
LFF				*e*Sn	**Sn**	**19 58 23.3**	**-4.7**
	comp=E,2.4nm,0.3s						
ROSF	**Rostrenen**	**7.11**	**28**	*e*Pn	**Pn**	**19 57 10.0**	**+0.9**
ROSF				*e*Sn	**Sn**	**19 58 23.0**	**-5.9**
	comp=E,5.3nm,0.2s						
MFF	**Saint Martin d**	**7.29**	**49**	*e*Pn	**Pn**	**19 57 12.1**	**+0.5**
MFF				*e*Sn	**Sn**	**19 58 27.9**	**-5.5**
	comp=E,3.0nm,0.2s						
SGMF	**Saint Gilles**	**7.30**	**31**	*e*Pn	**Pn**	**19 57 12.4**	**+0.7**
SGMF				*e*Sn	**Sn**	**19 58 29.3**	**-4.3**
	comp=E,3.4nm,0.3s						
PALE	**Palemas**	**7.66**	**153**	P	**Pn**	**19 57 20.9**	**+4.1**
PALE	**Palemas**	**7.66**	**153**	S	Sn	19 58 54.3	+12
RJF	**Les Rejaudoux**	**7.72**	**62**	*e*Pn	**Pn**	**19 57 17.9**	**+0.5**
RJF	**Les Rejaudoux**	**7.72**	**62**	*e*P	**Pn**	**19 57 21.7**	**+4.2**
RJF				*e*Sn	**Sn**	**19 58 39.2**	**-4.6**
	comp=E,2.9nm,0.3s						
MTLF	**Montolieu**	**7.76**	**78**	*e*Pn	**Pn**	**19 57 18.6**	**+0.5**
MTLF				*e*Sn	**Sn**	**19 58 38.6**	**-6.3**
	comp=E,5.1nm,0.5s						
CAF	**Calviac**	**7.96**	**66**	*e*Pn	**Pn**	**19 57 20.2**	**-0.6**
CAF				*e*Sn	**Sn**	**19 58 45.0**	**-4.9**
	comp=E,2.0nm,0.3s						
GOG	**Mont Gurugu**	**8.01**	**148**	P	**Pn**	**19 57 26.3**	**+4.8**
GOG	**Mont Gurugu**	**8.01**	**148**	S	Sn	19 59 03.7	+13
GRR	**Gorron**	**8.12**	**37**	*e*Pn	**Pn**	**19 57 22.4**	**-0.5**
GRR				*e*Sn	**Sn**	**19 58 48.3**	**-5.3**
	comp=E,5.5nm,0.3s						
AKLM	**AKL**	**8.34**	**155**	P	**Pn**	**19 57 27.1**	**+1.1**
AKLM	**AKL**	**8.34**	**155**	S	**Sn**	**19 59 04.7**	**+5.5**
TCF	**Toulx Ste Croi**	**8.55**	**57**	*e*Pn	**Pn**	**19 57 28.1**	**-0.8**
TCF	**Toulx Ste Croi**	**8.55**	**57**	*e*P	Pn	19 57 33.9	+5.0
TCF				*e*Sn	**Sn**	**19 58 57.5**	**-6.8**
	comp=E,5.6nm,0.3s						
FLN	**La Foliniere**	**8.56**	**37**	*e*Pn	**Pn**	**19 57 29.1**	**+0.1**
FLN				*e*Sn	**Sn**	**19 58 59.2**	**-5.3**
	comp=E,2.8nm,0.3s						
TAF	**Taforalt**	**8.60**	**146**	P	**Pn**	**19 57 34.1**	**+4.5**
TAF	**Taforalt**	**8.60**	**146**	S	Sn	19 59 18.0	+12
LDF	**La Druitiere**	**8.60**	**39**	*e*Pn	**Pn**	**19 57 29.2**	**-0.4**
LDF	**La Druitiere**	**8.60**	**39**	*e*P	Pn	19 57 34.9	+5.3
LDF				*e*Sn	**Sn**	**19 58 59.1**	**-6.4**
	comp=E,3.1nm,0.2s						
LASF	**Ste Croix**	**9.03**	**74**	*e*Pn	**Pn**	**19 57 35.3**	**-0.2**
LASF				*e*Sn	**Sn**	**19 59 10.2**	**-5.9**
	comp=E,0.7nm,0.3s						
BGF	**Bois d'Agland**	**9.06**	**57**	*e*Pn	**Pn**	**19 57 35.7**	**-0.2**
BGF				*e*Sn	**Sn**	**19 59 11.7**	**-5.2**
	comp=E,4.1nm,0.3s						
HYF	**Humbligny**	**9.27**	**53**	*e*P	Pn	19 57 44.4	+5.7
HYF				*e*Sn	**Sn**	**19 59 16.4**	**-5.5**
	comp=E,15nm,0.2s						
AVF	**Avril sur Loir**	**9.48**	**57**	*e*Pn	**Pn**	**19 57 41.2**	**-0.4**
AVF				*e*Sn	**Sn**	**19 59 21.1**	**-5.9**
	comp=E,1.0nm,0.3s						
MD31	**MD31**	**9.64**	**162**	P	**Pn**	**19 57 43.4**	**-0.6**
SSF	**Saint Saulge**	**9.69**	**55**	*e*Pn	**Pn**	**19 57 44.0**	**-0.5**
SSF	**Saint Saulge**	**9.69**	**55**	*e*P	Pn	19 57 49.9	+5.4
SSF				*e*Sn	**Sn**	**19 59 25.6**	**-6.7**
	comp=E,1.3nm,0.3s						
SMF	**Signal de Mont**	**9.72**	**58**	*e*Pn	**Pn**	**19 57 44.5**	**-0.5**
SMF				*e*Sn	**Sn**	**19 59 27.7**	**-5.4**
	comp=E,0.5nm,0.2s						
VIVF	**Saint-Julien-l**	**9.74**	**69**	*e*Pn	**Pn**	**19 57 44.5**	**-0.7**
VIVF				*e*Sn	**Sn**	**19 59 27.6**	**-6.0**
	comp=E,0.7nm,0.3s						
LOR	**Lormes**	**10.00**	**55**	*e*Pn	**Pn**	**19 57 48.6**	**-0.1**
LOR	**Lormes**	**10.00**	**55**	*e*P	Pn	19 57 54.6	+5.9
LOR				*e*Sn	**Sn**	**19 59 34.2**	**-5.7**
	comp=E,1.2nm,0.3s						
ORIF	**Oris-en-Rattie**	**10.59**	**70**	*e*Pn	**Pn**	**19 57 55.7**	**-1.3**
SAVF	**Savonnieres en**	**11.38**	**51**	*e*P	Pn	19 58 13.2	+5.5
SAVF				*e*Sn	Sn	20 00 05.3	-8.5
	comp=E,1.0nm,0.2s						
BAIF	**Baives**	**11.69**	**43**	*e*Pn	**Pn**	**19 58 11.7**	**-0.1**
BAIF				*e*Sn	Sn	20 00 12.8	-8.5
	comp=E,1.1nm,0.3s						

ATH 17 20:00:18.4,37.°37N×20.°76E,h14km±1km,ML2.8/4,Error ellipse: s-maj=2.8km s-min=1.2km az=47.0,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.34**	**11**	P	Pg	20 00 25.0	-0.4
LTHK				S	Sg	20 00 29.8	-0.4
LTHK				AML	AML	20 00 30.3	
	comp=E,3616μm,0.6s						
LTHK				AML	AML	20 00 31.5	
	comp=N,3892μm,0.2s						
LTHK	**Lithakia**	**0.34**	**11**	P	Pg	20 00 24.9	-0.5
LTHK				S	Sg	20 00 29.7	-0.5
LTHK				AML	AML	20 00 30.3	
	comp=E,3616μm,0.6s						
LTHK				AML	AML	20 00 31.5	
	comp=N,3892μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.75**	**350**	P	Pg	20 00 32.1	-0.9
PSDA				S	Sb	20 00 43.8	+0.5
PSDA	**Pessada-Kefalo**	**0.75**	**350**	P	Pg	20 00 32.5	-0.5
PSDA				S	Sb	20 00 43.4	0.0
AMT	**Artemida-Makis**	**0.78**	**78**	P	Pg	20 00 32.7	-0.8
AMT				S	Sb	20 00 44.2	+0.2
AMT				AML	AML	20 00 50.1	
	comp=E,3202μm,0.3s						
AMT				AML	AML	20 00 52.4	
	comp=N,2827μm,0.5s						
AMT	**Artemida-Makis**	**0.78**	**78**	P	Pg	20 00 33.0	-0.4
AMT				AML	AML	20 00 50.1	
	comp=E,3202μm,0.3s						
AMT				AML	AML	20 00 52.4	
	comp=N,2827μm,0.5s						
VLS	**Valsamata**	**0.81**	**351**	P	Pg	20 00 33.1	-1.1
VLS				S	Sb	20 00 45.1	0.0
VLS				AML	AML	20 00 46.7	
	comp=E,1015μm,0.2s						
VLS				AML	AML	20 00 46.8	
	comp=N,1006μm,0.2s						
VLS	**Valsamata**	**0.81**	**351**	P	Pg	20 00 33.5	-0.7
VLS				S	Sb	20 00 45.3	+0.2
VLS				AML	AML	20 00 46.7	
	comp=E,1015μm,0.2s						
VLS				AML	AML	20 00 46.8	
	comp=N,1006μm,0.2s						
RLS	**Riolos of Patr**	**0.89**	**39**	P	Pb	20 00 34.6	-0.9
RLS	**Riolos of Patr**	**0.89**	**39**	P	Pb	20 00 34.6	-0.9
RLS				S	Sb	20 00 47.0	-0.2
DMLN	**Damoulianata-K**	**0.92**	**341**	P	Pb	20 00 35.0	-1.0
DMLN				S	Sg	20 00 48.5	+0.4
DMLN	**Damoulianata-K**	**0.92**	**341**	P	Pb	20 00 35.4	-0.6
PYL	**PYLOS**	**0.92**	**121**	P	Pb	20 00 35.3	-0.8
PYL				S	Sb	20 00 47.3	-0.9
PYL				AML	AML	20 00 53.3	
	comp=N,322μm,0.5s						
PYL				AML	AML	20 00 54.9	
	comp=E,465μm,0.7s						
PYL	**PYLOS**	**0.92**	**121**	P	Pb	20 00 35.7	-0.4
DRO	**Drossia**	**0.95**	**52**	P	Pb	20 00 35.7	-1.0
DRO				S	Sg	20 00 49.5	+0.2
DRO				AML	AML	20 00 59.5	
	comp=N,982μm,0.6s						
DRO				AML	AML	20 01 03.4	
	comp=E,1062μm,0.7s						
DRO	**Drossia**	**0.95**	**52**	P	Pb	20 00 35.7	-1.0
DRO				AML	AML	20 00 56.0	
	comp=N,723μm,0.6s						
DRO				AML	AML	20 00 58.6	
	comp=E,889μm,0.4s						
ITM	**Ithomi**	**0.95**	**101**	P	Pb	20 00 36.3	-0.4
ITM				S	Sb	20 00 48.0	-1.1
ITM				AML	AML	20 00 53.3	
	comp=E,353μm,0.7s						
ITM				AML	AML	20 00 55.7	
	comp=N,302μm,0.4s						
ITM	**Ithomi**	**0.95**	**101**	P	Pg	20 00 36.8	0.0
FSK	**Fiskardo**	**1.09**	**352**	P	Pb	20 00 38.3	-0.8
FSK				S	Sb	20 00 53.3	+0.1
FSK	**Fiskardo**	**1.09**	**352**	P	Pb	20 00 38.1	-1.0
EVGI	**Lefkada island**	**1.25**	**356**	P	Pn	20 00 40.9	-0.5
EVGI	**Lefkada island**	**1.25**	**356**	P	Pn	20 00 40.9	-0.5
KLV	**Kalavryta, Ach**	**1.29**	**58**	P	Pn	20 00 41.5	-0.6
KLV				S	Sb	20 00 58.5	-0.4
KLV				AML	AML	20 01 10.0	
	comp=E,124μm,0.7s						
KLV				AML	AML	20 01 14.6	
	comp=N,148μm,0.7s						
KLV	**Kalavryta, Ach**	**1.29**	**58**	P	Pn	20 00 41.7	-0.3
NYDR	**Nydri-Lefkada**	**1.34**	**358**	P	Pn	20 00 42.4	-0.2
GUR	**Goura**	**1.38**	**65**	P	Pn	20 00 43.0	-0.2
GUR				S	Sn	20 01 00.6	-0.8
GUR				AML	AML	20 01 10.1	
	comp=E,317μm,0.4s						
GUR				AML	AML	20 01 12.9	
	comp=N,403μm,0.5s						
GUR	**Goura**	**1.38**	**65**	P	Pn	20 00 42.9	-0.3
EFP	**Efpalio**	**1.39**	**41**	P	Pn	20 00 43.6	+0.3
LKD2	**Lefkada island**	**1.42**	**357**	P	Pn	20 00 44.0	+0.3
LKD2	**Lefkada island**	**1.42**	**357**	P	Pg	20 00 45.4	-0.2
ANX	**Ano Chora**	**1.53**	**37**	P	Pb	20 00 46.5	0.0
ANX				AML	AML	20 01 16.4	
	comp=N,414μm,0.7s						
ANX				AML	AML	20 01 18.2	
	comp=E,354μm,0.4s						
EVR	**Evrytania**	**1.75**	**28**	P	Pn	20 00 49.2	+0.8

SJA 17 20:07:56.5±0.7,23.°87S×67.°06W,h214km±5km,ML3.4, MW3.4
GUC 17 20:07:57.6±0.8,23.°86S×67.°05W,h199km±13km,ML3.9
ISC 17 20:07:56.0±1.8,23.°84S±0.°04×67.°11W±0.°04, h224km±14km,n28,σ1°53/48,1C-3D,Chile-Argentina border region

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC

PATCX IAML 20 09 57.7
comp=Z,24nm,0.4s
TA01 Diego Aracena 4.32 318 *eP* **Pn 20 09 05.3 +2.7**
TA01 *eS* **S 20 09 54.0 -1.1**
TA01 IAML 20 09 57.4
comp=Z,15nm,0.2s
HMBC Humberstone 4.38 323 *eP* **Pn 20 09 04.7 +1.1**
HMBC *eS* **S 20 09 55.2 -1.5**
HMBC IAML 20 10 00.3
comp=Z,52nm,0.4s
GO01 Chusmiza 4.58 335 *eP* **Pn 20 09 08.7 +2.4**
GO01 *eS* **S 20 09 59.5 -2.2**
GO03 Copiapo 4.68 216 *eP* **Pn 20 09 07.8 +0.7**
GO03 *eS* **S 20 10 00.9 -2.3**
PB11 IPOC Station P 4.70 329 *eS* **S 20 10 01.9 -1.9**
PB11 IAML 20 10 03.9
comp=Z,22nm,0.2s

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*IDC **17** 20:13:43.0±0.6, 8°.38N×71°.99W, h0km, mb4.0/14, mbtmp4.1/18, ML4.1/4, Error ellipse: s-maj=16.6km s-min=11.2km az=172.0*
*NEIC **17** 20:13:45.8±2.0, 8°.52N±0°.07×71°.94W±0°.06, h10km±1km, mb4.1/8, Error ellipse: s-maj=13.2km s-min=8.9km az=155.0*
*FUNV **17** 20:13:47.1, 8°.31N×71°.89W, h5km, MW4.1*
*RSNC **17** 20:13:48.0±0.0, 8°N±1°×7°.2W±°, h108km±4km, M4.0, ML4.4*
ISC 17 20:13:44.9±0.7, **8°.47N**±0°.02×**71°.94W**±0°.03, **h12**km±4km, **n88**, σ1§**71**/130, **mb4.0**/16, **1C-1D, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.71**	**212⇑**	*eP*	**Pg**	**20 13 58.5**	**-0.3**
CAPV				*eS*	**Sg**	**20 14 07.2**	**-0.9**
SOCV	**Socops**	**1.09**	**100⇓**	*eP*	**Pb**	**20 14 05.9**	**+0.3**
SOCV				*eS*	**Sb**	**20 14 19.7**	**-0.1**
SDV	**Santo Domingo**	**1.35**	**72**	Pg	**Pn**	**20 14 10.9**	**+1.1**
SDV	358nm,0.3s,baz=260,slow=4.0,SNR=264			Lg	Lg	20 14 28.6	
SDV	1μm,0.3s,baz=312,slow=16,SNR=28 **Santo Domingo**	**1.35**	**72**	P	**Pn**	**20 14 11.0**	**+1.2**
SDV				S	**Sn**	**20 14 28.7**	**+1.0**
PAMC	**Pamplona, Colo**	**1.36**	**214**	P	**Pn**	**20 14 10.2**	**+0.1**
PAMC				S	**Sb**	**20 14 27.7**	**-0.3**
OCAC	**Ocana**	**1.39**	**260**	P	**Pg**	**20 14 11.5**	**-0.1**
OCAC				S	**Sg**	**20 14 29.7**	**0.0**
MCQV	**Machiques**	**1.67**	**339**	*eS*	**Sg**	**20 14 42.1**	**+3.3**
TAMC	**Tame, Arauca**	**2.03**	**176**	P	**Pn**	**20 14 20.1**	**+1.2**
TAMC				S	**Sn**	**20 14 45.6**	**+1.3**
BARC	**Barichara**	**2.24**	**214**	P	**Pb**	**20 14 26.5**	**+1.1**
BARC				S	**Sb**	**20 14 54.4**	**+1.2**
BRJC	**Barrancabermej**	**2.33**	**230**	P	**Pb**	**20 14 27.4**	**+0.6**
BRJC				S	**Sg**	**20 14 58.4**	**-1.4**
ARGC	**Ariguani, Magd**	**2.66**	**301**	P	**Pb**	**20 14 31.0**	**-1.5**
ARGC				S	**Sg**	**20 15 07.2**	**-3.3**
CRJC	**Cerrejon, Guaj**	**2.70**	**340**	P	**Pn**	**20 14 30.4**	**+2.2**
CRJC				S	**Sb**	**20 15 05.8**	**-0.5**
RUSC	**La Rusia**	**2.81**	**204**	P	**Pn**	**20 14 31.8**	**+1.8**
RUSC				S	**Sn**	**20 15 06.1**	**+2.1**
ZARC	**Zaragoza, Cauc**	**3.05**	**252**	P	**Pn**	**20 14 34.8**	**+1.8**
ZARC				S	**Sb**	**20 15 18.1**	**+1.7**
TEPV	**Terepaima**	**3.09**	**61**	*eP*	**Pn**	**20 14 36.5**	**+3.0**
TEPV				*eS*	**Sn**	**20 15 12.6**	**+2.2**
PTBC	**PUERTO BERRIO,**	**3.15**	**233**	P	**Pn**	**20 14 34.8**	**+0.4**
PTBC				S	**Sb**	**20 15 22.4**	**+3.1**
URIC	**Uribia, Colomb**	**3.21**	**359**	P	**Pn**	**20 14 36.2**	**+1.1**
URIC				S	**Sn**	**20 15 14.6**	**+1.3**
SJCC	**San Jacinto, C**	**3.50**	**294**	P	**Pb**	**20 14 43.0**	**-3.8**
SJCC				S	**Sb**	**20 15 27.6**	**-1.8**
SPBC	**San Pablo de B**	**3.51**	**217**	P	**Pn**	**20 14 41.2**	**+1.8**
UREC	**San Jos de Ur**	**3.63**	**259**	P	**Pn**	**20 14 43.6**	**+2.6**
MAPV	**Macapo**	**3.69**	**68**	*eP*	**Pn**	**20 14 44.3**	**+2.5**
MAPV				*eS*	**Sn**	**20 15 26.2**	**+0.9**
BAUV	**El Baul**	**3.88**	**83**		**Pn**	**20 14 46.0**	**+1.6**
BAUV				Sn	**Sn**	**20 15 31.1**	**+1.2**
BAUV	**El Baul**	**3.88**	**83**	*eP*	**Pn**	**20 14 45.6**	**+1.2**
BAUV				*eS*	**Sn**	**20 15 29.8**	**-0.1**
JACV	**Jacura**	**4.02**	**49**	*eP*	**Pn**	**20 14 49.5**	**+3.3**
JACV				*eS*	**Sn**	**20 15 34.4**	**+1.1**
NORC	**Norcasia**	**4.10**	**225**	P	**Pn**	**20 14 49.0**	**+1.5**
NORC				S	**Sn**	**20 15 38.4**	**+2.9**
CHIC	**Chingaza**	**4.21**	**205**	P	**Pn**	**20 14 50.7**	**+1.4**
CHIC				S	**Sn**	**20 15 39.4**	**+0.7**
HELC	**Santa Helena**	**4.22**	**238**	P	**Pn**	**20 14 52.0**	**+2.6**
HELC				S	**Sn**	**20 15 40.8**	**+1.9**
PTGC	**Puerto Gaitan,**	**4.25**	**183**	P	**Pn**	**20 14 49.2**	**-0.3**
PTGC				S	**Sn**	**20 15 39.1**	**0.0**
ROSC	**El Rosal**	**4.32**	**213**		**Pn**	**20 14 52.7**	**+1.9**
ROSC	**El Rosal**	**4.32**	**213**	Pn	**Pn**	**20 14 48.2**	**-2.5**
ROSC	1.8nm,0.3s,baz=165,slow=21,SNR=1.6			Sn	**Sn**	**20 15 42.5**	**+1.3**
ROSC	24nm,0.3s,baz=109,slow=22,SNR=2.9			Lg	Lg	20 16 04.7	
ROSC	21nm,0.3s,baz=78,slow=19,SNR=2.3 **El Rosal**	**4.32**	**213**	P	**Pn**	**20 14 54.2**	**+3.5**
ROSC				S	**Sb**	**20 15 51.2**	**-2.0**
CVER	**Cruz Verde, Cu**	**4.46**	**209**	P	**Pn**	**20 14 55.2**	**+2.4**
CVER				S	**Sn**	**20 15 47.9**	**+2.9**
TURV	**Turiamo**	**4.49**	**64**	*eP*	**Pn**	**20 14 55.0**	**+2.2**
TURV				*eS*	**Sn**	**20 15 45.2**	**+0.2**
BENV	**Beln**	**4.53**	**71**	*eP*	**Pn**	**20 14 55.8**	**+2.4**
BENV				*eS*	**Sn**	**20 15 45.6**	**-0.5**
VILC	**Villavicencio,**	**4.67**	**202**	P	**Pn**	**20 14 56.1**	**+0.7**
VILC				S	**Sn**	**20 15 50.7**	**+1.1**
GUY2C	**Guyana, Caldas**	**4.69**	**227**	P	**Pn**	**20 14 57.6**	**+1.6**
HATO	**Hato, Curacao**	**4.71**	**38**	Pn	**Pn**	**20 14 56.8**	**+1.0**
CBOC	**Ciudad Bolivar**	**4.80**	**238**	P	**Pn**	**20 15 00.3**	**+3.1**
TACV	**Tcata**	**5.12**	**71**	*eP*	**Pn**	**20 15 03.3**	**+1.8**
TACV				*eS*	**Sn**	**20 15 59.7**	**-0.9**
CACV	**CAICARA DEL OR**	**5.42**	**99**	*eP*	Pn	20 15 13.3	+7.8
CACV				*eS*	Sn	20 16 17.4	+10
FUNV	**FUNVISIS**	**5.43**	**68**	*eP*	**Pn**	**20 15 06.9**	**+1.1**
FUNV				*eS*	**Sn**	**20 16 06.9**	**-1.5**
PRAC	**Prado**	**5.56**	**212**	P	**Pn**	**20 15 09.7**	**+2.1**
PRAC				S	**Sn**	**20 16 14.0**	**+2.5**
ORTC	**Ortega, Tolima**	**5.60**	**216**	P	**Pn**	**20 15 09.7**	**+1.6**
ORTC				S	**Sn**	**20 16 14.4**	**+1.9**
MERV	**Las Mercedes**	**5.63**	**82**	*eP*	**Pn**	**20 15 09.4**	**+1.0**
MERV				*eS*	**Sn**	**20 16 10.1**	**-2.9**
URMC	**La Uribe, Meta**	**5.73**	**205**	P	**Pn**	**20 15 11.9**	**+2.0**
URMC				S	**Sn**	**20 16 15.0**	**-0.7**
PTAC	**Punta Ardita,**	**5.96**	**258**	P	Pn	20 15 18.9	+5.8
YOTC	**Yotoco, Valle**	**6.25**	**225**	P	**Pn**	**20 15 20.1**	**+3.0**
MACC	**Macarena, Meta**	**6.57**	**197**	P	**Pn**	**20 15 22.7**	**+1.3**
MACC				S	**Sn**	**20 16 30.9**	**-5.4**
PCRV	**Puerto La Cruz**	**7.40**	**76**	*eP*	**Pn**	**20 15 34.3**	**+1.5**
PCRV				*eS*	**Sn**	**20 16 53.4**	**-3.4**
PCRV	**Puerto La Cruz**	**7.40**	**76**	Pn	**Pn**	**20 15 35.3**	**+2.5**
PCRV	4.3nm,0.3s,baz=236,slow=8.7,SNR=19			Sn	**Sn**	**20 16 56.1**	**-0.7**
PCRV	6.9nm,0.3s,baz=318,slow=20,SNR=2.7			Lg	Lg	20 17 41.7	
OTAV	2.8nm,0.3s,baz=180,slow=20,SNR=3.8 12nm,0.4s **Otavalo**	**10.44**	**219**	Pn	**Pn**	**20 16 16.1**	**+1.2**
SDDR	**Presa de Saban**	**10.47**	**3**		**Pn**	**20 16 16.1**	**+1.2**
CELP	**Cerrillos**	**10.87**	**28**	Pn	**Pn**	**20 16 19.6**	**-0.8**
IGPR	**InterUniversit**	**11.01**	**30**	Pn	**Pn**	**20 16 21.2**	**-1.0**
AOPR	**Arecibo Observ**	**11.03**	**27**	Pn	**Pn**	**20 16 22.0**	**-0.6**
SJG	**San Juan**	**11.11**	**30**	Pn	**Pn**	**20 16 22.7**	**-0.9**
SJG	**San Juan**	**11.11**	**30**	Pn	**Pn**	**20 16 22.5**	**-1.1**
SJG	1.9nm,0.3s,baz=238,slow=10.0,SNR=4.5 1.0nm,0.3s,baz=233,slow=20,SNR=1.0 7.3nm,0.4s			Sn	**Sn**	**20 18 25.8**	**-2.1**
MTDJ	**Mount Denham**	**11.12**	**331**	Pn	**Pn**	**20 16 25.1**	**+1.2**
GCPR	**Guaynabo City**	**11.31**	**30**	Pn	**Pn**	**20 16 25.7**	**-0.7**
BOAV	**Boa Vista**	**12.86**	**117**		**Pn**	**20 16 46.8**	**-0.9**
JTS	**Las Juntas de**	**12.97**	**279**	Pn	**Pn**	**20 16 47.4**	**-1.7**
ETMB	0.8nm,0.3s,baz=123,slow=4.8,SNR=2.2 2.6nm,0.3s **Extrema**	**19.04**	**162**	P	**Pn**	**20 18 08.8**	**+1.0**
SAML	**Samuel**	**19.38**	**153**	P	**P**	**20 18 11.7**	**+1.0**
SAML	comp=Z,7.5nm,1.1s			IAmb	IAmb	20 18 16.5	
MDP	**Montagnes des** comp=Z,0.4nm,0.3s,baz=221,slow=20,SNR=1.6 comp=Z,6.0nm,0.8s	**19.45**	**99**	P	**P**	**20 18 11.8**	**+0.2**
LPAZ	**La Paz**	**24.89**	**171**	P	**P**	**20 19 09.6**	**+1.1**
LPAZ	comp=Z,7.5nm,1.4s			IAmb	IAmb	20 19 21.6	
LPAZ	**La Paz** comp=Z,1.0nm,0.5s,baz=319,slow=2.7,SNR=2.7 comp=Z,1.0nm,0.5s	**24.89**	**171**	P	**P**	**20 19 09.0**	**+0.6**
HODGE	**Hodges**	**27.34**	**341**	P	**P**	**20 19 30.9**	**+1.1**
HODGE	comp=Z,3.5nm,0.8s			IAmb	IAmb	20 19 32.5	
GO01	**Chusmiza**	**28.09**	**175**	P	**P**	**20 19 34.8**	**-2.4**
TKL	**Tuckaleechee C** comp=Z,1.0nm,0.5s,baz=212,slow=12,SNR=1.9 comp=Z,1.0nm,0.5s	**29.14**	**340**	P	**P**	**20 19 47.4**	**+1.5**
BDFB	**Brasilia** comp=Z,1.2nm,0.5s,baz=338,slow=19,SNR=1.6 comp=Z,1.2nm,0.5s	**33.70**	**135**	P	**P**	**20 20 26.2**	**-0.1**
TX31	**Lajitas Ar. Si**	**36.29**	**309**	P	**P**	**20 20 48.5**	**-0.1**
TXAR	**Lajitas Array** comp=Z,1.0nm,0.7s,baz=130,slow=8.9,SNR=14	**36.29**	**309**	P	**P**	**20 20 49.2**	**+0.6**
TXAR	comp=Z,0.6nm,0.6s,baz=135,slow=6.4,SNR=6.4 comp=Z,1.0nm,0.7s			PcP	**PcP**	**20 23 14.2**	**+0.6**
SADO	**Sadowa** comp=Z,4.2nm,0.5s,baz=197,slow=7.1,SNR=5.0 comp=Z,4.2nm,0.5s	**36.70**	**351**	P	**P**	**20 20 52.8**	**+1.1**
SCHQ	**Schefferville** comp=Z,4.6nm,0.7s,baz=191,slow=5.9,SNR=3.7 comp=Z,4.6nm,0.7s	**46.41**	**4**	P	**P**	**20 22 11.9**	**+0.7**
PDAR	**Pinedale Array** comp=Z,1.0nm,0.6s,baz=125,slow=10,SNR=11 comp=Z,1.0nm,0.6s	**47.47**	**322**	P	**P**	**20 22 20.6**	**+0.6**
V12A	**Nelson**	**47.58**	**311**	P	**P**	**20 22 20.9**	**+0.1**
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.6s,baz=117,slow=6.7,SNR=5.4 comp=Z,0.5nm,0.6s	**51.19**	**313**	P	**P**	**20 22 49.4**	**+0.9**
YKA	**Yellowknife Ar** comp=Z,0.8nm,0.8s,baz=138,slow=1.8,SNR=4.7 comp=Z,0.8nm,0.8s	**62.14**	**339**	P	**P**	**20 24 05.6**	**0.0**
ESDC	**Sonseca Array** comp=Z,0.8nm,0.7s,baz=303,slow=5.8,SNR=2.9 comp=Z,0.8nm,0.7s	**67.70**	**51**	P	**P**	**20 24 42.0**	**-0.4**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,1.0s,baz=301,slow=7.8,SNR=2.2	**72.26**	**79**	P	**P**	**20 25 08.5**	**-2.3**
ILAR	**Eielson Array** comp=Z,0.6nm,0.6s,baz=103,slow=4.0,SNR=8.7 comp=Z,0.6nm,0.6s	**75.97**	**335**	P	**P**	**20 25 31.4**	**-0.1**
NB2	**NORSAR Subarra** comp=Z,15nm,1.7s,baz=270,slow=5.6	**79.32**	**29**	P	**P**	**20 25 51.2**	**+0.9**
NOA	**NORSAR Array B** comp=Z,1.3nm,0.8s,baz=269,slow=5.6,SNR=4.5 comp=Z,1.3nm,0.8s	**79.32**	**29**	P	**P**	**20 25 51.2**	**+0.9**
ARCES	**ARCESS Array B** comp=Z,4.0nm,1.0s,baz=312,slow=4.2,SNR=3.8 comp=Z,4.0nm,1.0s	**84.72**	**21**	P	**P**	**20 26 18.7**	**+0.2**
FINES	**FINESS Array B** comp=Z,3.2nm,1.0s,baz=263,slow=5.6,SNR=3.7 comp=Z,3.2nm,1.0s	**86.44**	**28**	P	**P**	**20 26 27.4**	**+0.2**
ASAR	**Alice Springs** comp=Z,1.1nm,0.5s,baz=92,slow=2.1,SNR=6.9	**151.01**	**236**	PKP	**PKPdf**	**20 33 32.7**	**-0.2**
ASAR	comp=Z,1.3nm,0.5s,baz=115,slow=3.1,SNR=9.2			PKPbc	**pPKPdf**	**20 33 37.5**	**+0.4**
CMAR	**Chiang Mai Arr** comp=Z,0.4nm,0.3s,baz=339,slow=2.3,SNR=1.9	**151.77**	**19**	PKP	**PKPdf**	**20 33 34.2**	**0.0**
CMAR	comp=Z,1.1nm,0.6s,baz=312,slow=3.3,SNR=10			PKPbc	**sPKPdf**	**20 33 40.0**	**+0.2**
WRA	**Warramunga Arr** comp=Z,0.7nm,0.7s,baz=93,slow=1.6,SNR=5.6	**152.14**	**243**	PKP	**PKPdf**	**20 33 34.3**	**-0.4**
WRA	comp=Z,4.5nm,0.7s,baz=111,slow=2.3,SNR=28			PKPbc	**sPKPdf**	**20 33 40.3**	**-0.1**

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*IDC **17** 20:26:19.2±1.1, 10°.74S×163°.01E, h0km, mb3.8/9, mbtmp3.8/11, ML3.7/2, MS3.1/3, Error ellipse: s-maj=28.8km s-min=24.1km az=116.0*
*NEIC **17** 20:26:20.8±2.3, 10°.52S±0°.10×163°.1E±0°.1, h10km±1km, mb4.4/12, Error ellipse: s-maj=26.2km s-min=10.6km az=56.0*
ISC 17 20:26:23.0±0.8, **10°.68S**±0°.09×**162°.92E**±0°.09, **h21**km, **n35**, σ1§**34**/29, **mb4.0**/14, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.18**	**293**	Pn	**Pn**	**20 27 11.7**	**-0.1**
HNR	**Honiara**	**3.18**	**293**	Pn	**Pn**	**20 27 13.1**	**+1.4**
HNR	27nm,0.3s,baz=159,slow=8.2,SNR=2.3 49nm,0.3s,baz=90,slow=20,SNR=1.7			Sn	**Sb**	**20 27 54.4**	**-2.7**
HNR	comp=Z,89nm,21.2s,baz=148,slow=39 89nm,0.4s			LR	LR	20 28 26.6	
DZM	**Mont Dzumac**	**11.82**	**164**	Pn	**Pn**	**20 29 10.1**	**-0.4**
DZM	0.2nm,0.3s,baz=319,slow=19,SNR=1.6 0.1nm,0.3s,baz=285,slow=23,SNR=1.3 3.0nm,0.8s			Sn	**Sn**	**20 31 18.8**	**-3.1**
PINNC	**Pines Island,**	**12.63**	**161**	Pn	**Pn**	**20 29 22.9**	**+1.3**
CTAO	**Charters Tower**	**18.58**	**238**	P	**Pn**	**20 30 41.5**	**+2.4**
CTAO	comp=Z,13nm,0.8s			IAmb	IAmb	20 30 43.5	
ARMA	**Armidale**	**22.27**	**206**	P	**P**	**20 31 20.9**	**+2.0**
ARMA	comp=Z,32nm,1.4s			IAmb	IAmb	20 31 39.6	
CAN	**Canberra**	**27.61**	**205**	P	**P**	**20 32 09.9**	**+0.8**
CAN	comp=Z,18nm,1.3s			IAmb	IAmb	20 32 36.7	
WR0	**Warramunga Arr**	**28.84**	**248**	P	**P**	**20 32 19.4**	**-0.8**
WR0	comp=Z,5.0nm,1.2s			IAmb	IAmb	20 32 21.8	
STKA	**Stephens Creek**	**28.87**	**220**	P	**P**	**20 32 21.6**	**+1.3**
STKA	**Stephens Creek**	**28.87**	**220**	P	**P**	**20 32 19.9**	**-0.4**
WRA	comp=Z,0.9nm,0.6s,baz=16,slow=18,SNR=1.6 comp=Z,0.9nm,0.6s **Warramunga Arr**	**29.02**	**248**	P	**P**	**20 32 21.4**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=78,slow=9.1,SNR=7.4 comp=Z,1.1nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**29.22**	**7**	T	T	21 02 51.5	
H11S3	baz=188,slow=76,SNR=10 **WAKE ISLAND Hy**	**29.23**	**7**	T	T	21 02 51.0	
H11S1	baz=188,slow=76,SNR=12 **WAKE ISLAND Hy**	**29.24**	**7**	T	T	21 02 45.4	
GUMO	baz=188,slow=76,SNR=7.3 **Guam**	**30.04**	**323**	LR	LR	20 42 47.7	
	comp=Z,42nm,21.9s,baz=81,slow=33						
H11N1	**WAKE ISLAND Hy** baz=188,slow=74	**30.45**	**7**	T	T	21 04 18.0	
H11N3	**WAKE ISLAND Hy** baz=188	**30.46**	**7**	T	T	21 04 23.8	
H11N2	**WAKE ISLAND Hy** baz=188,slow=74	**30.47**	**7**	T	T	21 04 30.4	
AS31	**Alice Springs**	**30.50**	**241**	P	**P**	**20 32 34.0**	**-0.9**
ASAR	**Alice Springs**	**30.50**	**241**	P	**P**	**20 32 34.9**	**0.0**
ASAR	**Alice Springs**	**30.50**	**241**	P	**P**	**20 32 34.2**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=70,slow=10.0,SNR=35 comp=Z,1.6nm,0.6s						
TOO	**Toolangi**	**31.03**	**207**	P	**P**	**20 32 38.9**	**-0.5**
TOO	comp=Z,5.8nm,1.3s			IAmb	IAmb	20 33 03.6	
BSWZ	**Blackbirch Sta**	**32.38**	**165**	P	**P**	**20 32 52.1**	**+1.0**
KNRA	**Kununurra**	**33.60**	**258**	P	**P**	**20 33 01.6**	**-0.6**
FORT	**Forrest**	**38.01**	**233**	P	**P**	**20 33 40.3**	**+0.5**
MORW	**Morawa**	**47.38**	**240**	P	**P**	**20 34 55.1**	**-0.9**
NWAO	**Narrogin (SRO)**	**47.38**	**235**	LR	LR	20 54 30.8	
	comp=Z,73nm,18.8s,baz=108,slow=36						
CMAR	**Chiang Mai Arr**	**69.43**	**294**	P	**P**	**20 37 30.7**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=58,slow=5.9,SNR=4.1 comp=Z,0.5nm,0.3s						
SONM	**Songino Array**	**76.75**	**325**	P	**P**	**20 38 15.2**	**+2.2**
	comp=Z,0.2nm,0.4s,baz=54,slow=7.3,SNR=2.3 comp=Z,0.2nm,0.4s						
QSPA	**South Pole Qui**	**79.32**	**180**	P	**P**	**20 38 26.7**	**-0.3**
QSPA	**South Pole Qui**	**79.32**	**180**	P	**P**	**20 38 26.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=89,slow=1.9,SNR=1.4 comp=Z,0.3nm,0.4s						
ILAR	**Eielson Array**	**84.07**	**19**	P	**P**	**20 38 51.2**	**-0.6**
	comp=Z,0.2nm,0.9s,baz=243,slow=6.0,SNR=2.7 comp=Z,0.2nm,0.9s						
NVAR	**Mina Array Bea**	**87.92**	**50**	P	**P**	**20 39 10.6**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=253,slow=6.2,SNR=2.0 comp=Z,0.2nm,0.5s						
MK31	**Makanchi Array**	**91.36**	**317**		**P**	**20 39 26.6**	**-0.8**
MK31	comp=Z,2.1nm,1.1s			IAmb	IAmb	20 39 34.0	
MKAR	**Makanchi Array**	**91.36**	**317**	P	**P**	**20 39 26.4**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=75,slow=1.4,SNR=4.8 comp=Z,0.4nm,0.6s						

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*NAO **17** 20:33:10.1, 36°.51N×20°.99E, h10km, mb4.8*
*TIR **17** 20:33:10.9, 37°.32N×21°.77E, h10km±31km, Md4.2, Ml4.7*
*IDC **17** 20:33:15.1±0.6, 37°.53N×21°.81E, h0km, mb4.0/24, mbtmp3.9/38, ML3.6/11, MS3.7/17, Error ellipse: s-maj=11.8km s-min=11.0km az=9.0*
*MOS **17** 20:33:15.3±1.4, 37°.44N×21°.73E, h14km, mb4.7/11, Error ellipse: s-maj=7.3km s-min=3.8km az=86.5*
*NEIC **17** 20:33:17.6±2.6, 37°.49N±0°.05×21°.67E±0°.07, h10km±1km, mb4.5/32, Error ellipse: s-maj=10.3km s-min=6.5km az=232.0*
*MCSM **17** 20:33:17.3±0.6, 37°N±4°×2°2E±°, h15km±4km, mB5.0, mb4.4, MLv4.6, Mw(mB)4.4*
*PDG **17** 20:33:17.2±0.3, 37°.53N×21°.60E, h16km±3km, ML4.4/12, Error ellipse: s-maj=4.4km s-min=1.2km az=90.0*
*BEO **17** 20:33:18.7±0.8, 37°.60N×21°.44E, h0km, ML4.1/15*
*ATH **17** 20:33:18.0, 37°.53N×21°.74E, h32km±2km, ML4.1/26, Error ellipse: s-maj=2.8km s-min=0.7km az=210.0*
*THE **17** 20:33:18.8, 37°.54N×21°.71E, h10km±1km, ML4.2/3, Error ellipse: s-maj=1.3km s-min=0.6km az=251.0*
*MED_RC **17** 20:33:18.0±0.5, 37°.54N×21°.71E, h33km±3km, MW4.5/15, Moment Tensor Solution. Mantle waves: s15, c20; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}0.08±1.35; $M_{\theta\theta}$4.78±.76; $M_{\phi\phi}$-4.86±.87; $M_{r\theta}$-3.34±.60; $M_{\theta\phi}$3.10±.52; $M_{\phi r}$0.32±.64; Best double couple: $M_0$6.58000×10^{15} NP1:ϕ_0=300.00000°, δ83.00000°, λ27.00000°. NP2:ϕ_0=206.00000°, δ63.00000°, λ172.00000°. Principal axes: T 7.1000, Plg24.0000°, Azm166.0000°; N -1.0400, Plg62.0000°, Azm314.0000°; P -6.0600, Plg13.0000°, Azm70.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*AFAD **17** 20:33:22.0±0.0, 37°.67N×22°.21E, h4km, MW4.3*
ISC 17 20:33:18.7±0.8, **37°.52N**±0°.02×**21°.71E**±0°.02, **h25**km±6km, **n388**, σ1§**80**/435, **mb4.2**/41, **MS3.8**/13, **24C-18D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.38**	**153**		**Pb**	**20 33 26.8**	**-0.3**
ITM				Sg	**Sb**	**20 33 33.0**	**+0.3**
ITM	**Ithomi**	**0.38**	**153**	P	**Pb**	**20 33 26.4**	**-0.7**
ITM				S	**Sb**	**20 33 32.6**	**-0.1**
ITM	22μm,0.2s **Ithomi**	**0.38**	**153**	P	**Pb**	**20 33 26.8**	**-0.3**
ITM				S	**Sb**	**20 33 32.9**	**+0.2**
ITM				AML	AML	20 33 35.0	
ITM	comp=E,40558μm,0.2s			AML	AML	20 33 36.0	
DRO	comp=N,48491μm,0.3s **Drossia**	**0.43**	**360**	P	**Pb**	**20 33 27.0**	**-0.8**
DRO				S	**Sb**	**20 33 33.2**	**-0.9**
DRO	**Drossia**	**0.43**	**360**	P	**Pb**	**20 33 27.1**	**-0.8**
DRO				S	**Sb**	**20 33 33.9**	**-0.2**
RLS	**Riolos of Patr**	**0.57**	**340**	P	**Pb**	**20 33 29.4**	**-0.8**
RLS				S	**Sb**	**20 33 37.4**	**-0.4**
RLS	**Riolos of Patr**	**0.57**	**340**	P	**Pb**	**20 33 29.4**	**-0.8**
RLS				S	**Sb**	**20 33 37.5**	**-0.4**
RLS				AML	AML	20 33 41.8	
RLS				AML	AML	20 33 46.1	
PYL	comp=E,45554μm,0.5s **PYLOS**	**0.62**	**178**	P	**Pb**	**20 33 30.5**	**-0.6**
PYL	**PYLOS**	**0.62**	**178**	P	**Pb**	**20 33 30.5**	**-0.6**
PYL				S	**Sb**	**20 33 39.2**	**-0.2**
KLV	**Kalavryta, Ach**	**0.63**	**34**	P	**Pb**	**20 33 29.8**	**-1.4**
KLV				S	**Sb**	**20 33 39.4**	**-0.2**
KLV	comp=E,14μm,0.9s **Kalavryta, Ach**	**0.63**	**34**	P	**Pb**	**20 33 29.8**	**-1.4**
KLV				S	**Sb**	**20 33 38.9**	**-0.7**
KLV				AML	AML	20 33 42.4	
KLV	comp=N,20839μm,0.4s comp=E,30464μm,0.7s			AML	AML	20 33 45.4	
GUR	**Goura**	**0.65**	**50**	P	**Pb**	**20 33 30.3**	**-1.3**
GUR	**Goura**	**0.65**	**50**	P	**Pb**	**20 33 30.2**	**-1.4**
GUR				S	**Sb**	**20 33 38.5**	**-1.8**
GUR				AML	AML	20 33 43.7	
GUR	comp=N,49536μm,0.3s comp=E,50839μm,0.4s			AML	AML	20 33 46.1	
LTHK	**Lithakia**	**0.72**	**285**	P	**Pb**	**20 33 31.8**	**-0.8**
LTHK				S	**Sn**	**20 33 43.4**	**0.0**
LTHK	**Lithakia**	**0.72**	**285**	P	**Pb**	**20 33 31.5**	**-1.1**
LTHK				S	**Sb**	**20 33 42.5**	**+0.4**
LTHK				AML	AML	20 33 50.1	
LTHK				AML	AML	20 33 50.7	
KRI1	**kERI**	**0.72**	**281**	P	**Pb**	**20 33 31.9**	**-0.8**
KRI1				S	**Sn**	**20 33 43.4**	**-0.2**
UPR	comp=E,90μm,0.6s **University Cam**	**0.76**	**4**	P	**Pb**	**20 33 33.0**	**-0.4**
ALIK	**Aliki, Aigiali**	**0.80**	**23**	P	**Pn**	**20 33 34.4**	**0.0**
EFP	**Efpalio**	**0.92**	**10**	P	**Pb**	**20 33 35.3**	**-0.7**
EFP	**Efpalio**	**0.92**	**10**	P	**Pb**	**20 33 35.0**	**-1.0**
EFP				S	**Sn**	**20 33 48.0**	**-0.3**
EFP				AML	AML	20 33 53.4	
EFP	comp=E,18001μm,0.8s			AML	AML	20 33 55.9	
RTZL	comp=N,15292μm,0.5s **Ratzakli, Kefa**	**0.93**	**307**	P	**Pb**	**20 33 35.7**	**-0.5**
RTZL				S	**Sn**	**20 33 49.5**	**+0.9**
KALE	**Kalithea**	**0.93**	**21**	P	**Pb**	**20 33 35.6**	**-0.7**
KALE	**Kalithea**	**0.93**	**21**	P	**Pb**	**20 33 35.5**	**-0.8**
KALE				S	**Sb**	**20 33 47.4**	**-0.9**
KALE				AML	AML	20 33 51.7	
KALE	comp=N,17789μm,0.7s			AML	AML	20 33 57.0	
PSDA	comp=E,21990μm,0.5s **Pessada-Kefalo**	**1.07**	**304**

MAKR Makrakomi, Fth 1.53 12 P Pn 20 33 44.5 +0.1
MAKR AML AML 20 34 15.2
comp=E,17609µm,0.6s
MAKR AML AML 20 34 15.2
comp=N,16826µm,0.7s
TSLK Tsoukalades, L 1.54 328 P Pn 20 33 45.3 +0.7
TSLK AML AML 20 34 19.0
comp=N,24224µm,0.8s
TSLK AML AML 20 34 19.0
comp=E,17812µm,1.0s
AGG Agios Georgios 1.58 18 P Pb 20 33 48.0 +0.7
AGG S Sb 20 34 07.1 +0.3
AGG *i* AML AML 20 34 15.0
comp=E,872nm,0.7s
AGG Agios Georgios 1.58 18 Pb 20 33 47.2 0.0
AGG Agios Georgios 1.58 18 P Pb 20 33 47.2 0.0
ATH Athens Observa 1.65 74 P Pb 20 33 47.7 -0.8
VLY Voula,Athens 1.69 78 P Pb 20 33 48.0 -1.1
VLY Voula,Athens 1.69 78 P Pb 20 33 47.9 -1.1
VLY S Sb 20 34 08.5 -1.4
VLY AML AML 20 34 20.1
comp=E,3312µm,0.5s
VLY AML AML 20 34 28.7
comp=N,3746µm,0.5s
PTL Penteli 1.79 72 P Pb 20 33 49.9 -0.9
PTL S Sb 20 34 11.7 -1.1
PTL AML AML 20 34 20.7
comp=N,3144µm,0.7s
PTL AML AML 20 34 22.5
comp=E,2886µm,0.9s
THL Klokotos Trika 2.05 7 P Pb 20 33 53.6 -1.7
THL AML AML 20 34 33.8
comp=N,1848µm,0.8s
THL AML AML 20 34 34.9
comp=E,2845µm,0.6s
NEO Neokhori 2.14 33 P Pb 20 33 54.8 -2.1
NEO AML AML 20 34 26.8
comp=N,3251µm,0.5s
NEO AML AML 20 34 27.4
comp=E,4418µm,0.6s
IGT Igoumenitsa 2.28 332 AMP
comp=E,5.8nm,1.6s,baz=334
IGT Igoumenitsa 2.28 332 P Pb 20 33 58.1 -1.1
IGT AML AML 20 34 44.8
comp=N,3368µm,1.0s
IGT AML AML 20 34 52.2
comp=E,4324µm,0.8s
KPRO Kipourio 2.44 354 P Pb 20 34 01.0 -1.0
KPRO AML AML 20 34 51.2
comp=N,5984µm,1.4s
KPRO AML AML 20 34 59.4
comp=E,4974µm,1.1s
LIT Litokhoron 2.65 13 P Pb 20 34 02.6 -2.8
LIT Litokhoron 2.65 13 Pb 20 34 02.9 -2.5
LIT Litokhoron 2.65 13 P Pb 20 34 02.9 -2.5
KEK Kerkira 2.65 326 Pn 20 34 01.5 +1.7
SRN Sarande 2.71 331 AMP
comp=E,2.8nm,0.9s,baz=333
IMMV Iera Moni Meta 2.75 138 P Pb 20 34 04.3 -2.9
IMMV AML AML 20 35 04.5
comp=N,2114µm,1.3s
IMMV AML AML 20 35 10.2
comp=E,2259µm,1.0s
LSK Leskovik 2.76 342 AMP
comp=E,11nm,1.7s,baz=343
APE Apeiranthos 3.08 97 P Pn 20 34 07.0 +1.2
APE Apeiranthos 3.08 97 *e*P Pn 20 34 07.5 +1.7
KBN Korca 3.18 347 AMP
comp=E,4.9nm,0.9s,baz=348
THE Thessaloniki 3.26 17 P Pn 20 34 09.8 +1.6
THE S Sb 20 34 52.2 -2.8
FNA Florina 3.27 356 P Pn 20 34 10.2 +1.9
FNA Florina 3.27 356 Pn 20 34 10.6 +2.3
FNA Florina 3.27 356 *e*Pn Pn 20 34 10.7 +2.3
FNA Florina 3.27 356 P Pn 20 34 10.6 +2.3
FNA Florina 3.27 356 P Pb 20 34 13.8 -2.2
FNA AML AML 20 35 14.0
comp=E,1355µm,0.8s
FNA AML AML 20 35 17.9
comp=N,1194µm,0.8s
IDI Anoyia 3.40 130 Pn Pn 20 34 10.8 +0.7
IDI Anoyia 3.40 130 Pn Pn 20 34 10.3 +0.2
comp=N,8.9nm,0.5s,baz=238,slow=9.9,SNR=32
IDI Sn Sn 20 34 49.6 -0.1
comp=N,11nm,0.3s,baz=7.0,slow=17,SNR=7.3
IDI LR LR 20 35 46.8
comp=N,853nm,18.5s,baz=298,slow=45
OHR Ohrid 3.65 349 *i* Pn Pn 20 34 17.1 +3.4
VAY Valandovo 3.85 10 *i* Pn Pn 20 34 19.0 +2.7
ZEYE Izmir, Urla-Ze 3.86 78 P Pn 20 34 16.2 -0.2
SRS Serrai 3.88 22 *e*Pn Pn 20 34 19.1 +2.4
KOCA Canakkale, Ayv 4.00 59 P Pn 20 34 17.8 -0.5
TIR Tirane 4.08 340 Pn 20 34 20.9 +1.4
TIR Tirane 4.08 340 ⇑P Pn 20 34 20.6 +1.1
TIR Tirane 4.08 340 P Pn 20 34 20.5 +1.1
TIP Timpagrande 4.23 295 Pn 20 34 21.5 -0.1
TIP Timpagrande 4.23 295 ⇑P Pn 20 34 19.7 -1.9
AYVA Ayvalik 4.30 64 P Pn 20 34 22.2 -0.3
BLCB Balcova 4.30 77 P Pn 20 34 23.8 +1.3
MMB Musomishta 4.32 21 *e*P Pn 20 34 26.3 +3.5
BAYC CANAKKALE_Bayr 4.39 58 P Pn 20 34 23.8 +0.1
KKB Krupnik 4.45 14 *e*P Pn 20 34 27.7 +3.1
BUHA Balikesir, Bur 4.65 63 P Pn 20 34 27.6 +0.3
CEL Celeste 4.66 281 Pn 20 34 27.8 +0.3
CEL Celeste 4.66 281 P Pb 20 34 35.1 -4.7
comp=N,67nm,1.1s,comp=N,2µmcomp=N,0.5nm
RDO Rodhopi 4.68 38 Pn 20 34 30.1 +2.4
PUK Puka 4.73 343 AMP
comp=E,1.2nm,0.9s,baz=344
PUK Puka 4.73 343 Pn 20 34 29.5 +1.0
ALN Alexandroupoli 4.76 44 P Pn 20 34 28.7 -0.2
ALN Alexandroupoli 4.76 44 Pn Pn 20 34 29.7 +0.8
ALN Alexandroupoli 4.76 44 P Pn 20 34 29.7 +0.8
RZN Rozhen 4.78 28 *e*P Pn 20 34 32.9 +3.6
KARP Karpathos 4.81 113 Pn 20 34 30.3 +0.7
KARP Karpathos 4.81 113 *e*P Pn 20 34 32.1 +2.5
KDZ Kurdzhali 4.97 33 *e*P Pn 20 34 34.8 +3.1
MATE Matera 4.99 310 *e*P Pn 20 34 33.2 +1.3
MATE Matera 4.99 310 ⇑P Pn 20 34 30.3 -1.6
BOSS Bosilegrad 5.00 7 *e*Pn Pn 20 34 34.9 +2.7
DRME Dracevica, Mon 5.05 338 ⇑*i*Pn Pn 20 34 33.5 +0.7
DRME *i* Sn Sn 20 35 30.7 +0.4
VTS Vitosha 5.22 12 *e*P Pn 20 34 37.7 +2.4
VTS Vitosha 5.22 12 *e*Pn Pn 20 34 37.5 +2.2
BUM Brajici-Budva 5.24 336 ⇓*i*Pn Pn 20 34 36.1 +0.6
BUM *i* Sn Sn 20 35 35.1 0.0
PVY Plav 5.24 346 P Pn 20 34 37.8 +2.2
PVY Plav 5.24 346 ⇑*i*Pn Pn 20 34 36.2 +0.6
PVY *i* Sn Sn 20 35 35.4 +0.2
PDG Podgorica 5.25 340 Pn 20 34 36.4 +0.8
PDG Podgorica 5.25 340 *e*Pn Pn 20 34 36.0 +0.4
PDG Podgorica 5.25 340 ⇓P Pn 20 34 36.7 +1.1
PDG ⇑S Sn 20 35 37.7 +2.5
PDG Podgorica 5.25 340 ⇓*i*Pn Pn 20 34 35.8 +0.2
PDG *i* Sn Sn 20 35 35.8 +0.5
BARS Barje 5.29 1 *e*Pn Pn 20 34 38.0 +1.9
BARS *e*Sn Sn 20 35 35.3 -0.9
ARG Arkhangelos 5.31 102 Pn Pn 20 34 38.3 +2.0
ARG Arkhangelos 5.31 102 P Pn 20 34 38.3 +2.0
DIM Dimitrovgrad 5.41 32 *e*P Pn 20 34 40.4 +2.6
CEME Cevo 5.46 338 ⇓*i*Pn Pn 20 34 38.8 +0.3
CEME *i* Sn Sn 20 35 40.5 +0.1
HCY Herceg Novi 5.50 334 P Pn 20 34 39.6 +0.5
HCY Herceg Novi 5.50 334 *e*Pn Pn 20 34 39.2 +0.1
HCY Herceg Novi 5.50 334 ⇓*i*Pn Pn 20 34 39.0 -0.1
HCY *i* Sn Sn 20 35 41.2 -0.3
BEY Berane 5.52 346 P Pn 20 34 41.5 +2.1
IVA Berane 5.52 346 ⇑*i*Pn Pn 20 34 40.5 +1.1
IVA *i* Sn Sn 20 35 42.2 +0.1
KOME Kolasin 5.58 343 ⇓*i*Pn Pn 20 34 41.9 +1.7
KOME *i* Sn Sn 20 35 43.9 +0.4
NKME Niksic 5.65 339 ⇓*i*Pn Pn 20 34 41.5 +0.4
NKME *i* Sn Sn 20 35 45.1 0.0
SELS Selova 5.71 356 *e*Pn Pn 20 34 43.0 +1.1
SELS *e*Sn Sn 20 35 45.3 -1.3
ZAPS Zavoj 5.79 7 *e*Pn Pn 20 34 45.7 +2.7
TREB Trebinje 5.79 335 *e*Pn Pn 20 34 43.1 +0.1
VAE Valguarnera 5.80 272 Pn Pn 20 34 44.4 +1.2
comp=E,27nm,0.9s,baz=165,slow=8.1,SNR=7.0
VAE Sn Sn 20 35 53.6 +4.7
comp=E,5.7nm,0.3s,baz=181,slow=20,SNR=1.8
RAFF Raffo Rosso 5.86 269 Pn 20 34 42.9 -1.0
SJES Sjenica 5.88 348 *e*Pn Pn 20 34 45.8 +1.4
SJES *e*Sn Sn 20 35 48.8 -2.2
SJES Sjenica 5.88 348 *e*Pn Pn 20 34 45.5 +1.1
BRY Bratogost 5.90 337 P Pn 20 34 45.1 +0.5
BRY Bratogost 5.90 337 *e*Pn Pn 20 34 44.7 +0.1
BRY Bratogost 5.90 337 ⇓*i*Pn Pn 20 34 44.7 +0.1
BRY *i* Sn Sn 20 35 50.9 -0.5
WDD Wied Dalam 6.01 256 Pn Pn 20 34 46.0 0.0
MPEP Malo Peshtene 6.03 14 *e*P Pn 20 34 50.7 +4.4
PLE Pljevlja 6.07 344 P Pn 20 34 48.4 +1.6
PLE Pljevlja 6.07 344 ⇑*i*Pn Pn 20 34 47.1 +0.2
PLE *i* Sn Sn 20 35 55.3 -0.2
UPM Unac-Piva 6.07 340 *e*Pn Pn 20 34 47.3 +0.4
UPM Unac-Piva 6.07 340 ⇑*i*Pn Pn 20 34 47.7 +0.8
UPM *i* Sn Sn 20 35 54.7 -0.9
BOVS Bovan 6.11 360 *e*Pn Pn 20 34 48.8 +1.5
BOVS Bovan 6.11 360 ⇑P Pn 20 34 48.2 +0.9
BLKB Belogradchik 6.14 7 ⇑S Sn 20 36 04.7 +7.5
STON Ston 6.16 331 *e*Pn Pn 20 34 47.9 -0.1
IVAS Ivanjica 6.16 349 *e*Pn Pn 20 34 48.7 +0.5
IVAS *e*Sn Sn 20 35 57.9 +0.1
ELND Elena 6.27 29 ⇓P Pn 20 34 52.6 +3.0
ZAGS Zajecar 6.30 3 *e*Pn Pn 20 34 50.9 +1.0
RUDO Rudo 6.34 344 *e*Pn Pn 20 34 50.4 -0.2
GRUS Gruza 6.41 354 *e*Pn Pn 20 34 52.3 +0.9
GRUS *e*Sn Sn 20 36 03.4 -0.3
AKAS Kas 6.46 99 Pn Pn 20 34 53.6 +1.3
PAOL Paolisi 6.56 305 Pn 20 34 54.2 +0.7
BBLS Lazi&#263i 6.58 345 *e*Pn Pn 20 34 53.9 +0.1
BBLS *e*Sn Sn 20 36 06.9 -1.1
BBLS Lazi&#263i 6.58 345 *e*Pn Pn 20 34 54.3 +0.5
DIVS Divibare 6.70 349 *e*Pn Pn 20 34 55.7 +0.2
DIVS *e*Sn Sn 20 36 08.9 -2.1
TRUS Trudelj 6.77 352 *e*Pn Pn 20 34 55.5 -0.9
HAPS Han Pijesak,Bl 6.88 343 *e*Pn Pn 20 34 57.8 -0.3
TEKS Tekeris 7.21 347 *e*Pn Pn 20 35 02.1 -0.4
TEKS Tekeris 7.21 347 *e*Pn Pn 20 35 01.8 -0.7
INTR Introdacqua 7.50 309 Pn 20 35 07.8 +1.3
FRGS Fruska Gora 7.76 350 *e*Pn Pn 20 35 09.2 -0.8
FRGS Fruska Gora 7.76 350 *e*Pn Pn 20 35 09.1 -0.9
GZR Gura Zlata 7.91 5 ⇓P Pn 20 35 15.3 +3.2
GZR Gura Zlata 7.91 5 P Pn 20 35 15.3 +3.2
MDUB Mudurnu 7.95 65 Pn Pn 20 35 15.3 +2.6
A050A Klekovaca 7.98 332 *e*Pn Pn 20 35 13.4 +0.3
BLY Banja Luka 7.99 336 *e*Pn Pn 20 35 10.5 -2.6
LOT Lotru 8.07 10 ⇓P Pn 20 35 17.2 +2.9
BZS Buzias 8.09 360 ⇑P Pn 20 35 16.3 +1.7
BZS Buzias 8.09 360 P Pn 20 35 16.2 +1.7
SURR Surduc 8.23 2 ⇓P Pn 20 35 18.6 +2.1
VOIR 8.30 17 ⇑P Pn 20 35 20.5 +3.0
VOIR 8.30 17 P Pn 20 35 20.4 +3.0
VOIR 8.30 17 P Pn 20 35 21.7 +4.3
comp=E,10nm,1.9s
A051A Mrakovica 8.31 336 *e*Pn Pn 20 35 16.5 -1.1
NRCA Norcia 8.45 312 *e*Pn 20 35 21.2 +1.7
MLR Muntele Rosu 8.57 20 Pn 20 35 24.0 +2.7
MLR Muntele Rosu 8.57 20 Pn Pn 20 35 22.7 +1.5
comp=E,0.1nm,0.3s,baz=154,slow=23,SNR=3.9
MLR LR LR 20 39 11.2
comp=E,286nm,18.2s,baz=204,slow=42
comp=E,3.5nm,0.8s
MLR Muntele Rosu 8.57 20 ⇓P Pn 20 35 25.1 +3.8
MLR Muntele Rosu 8.57 20 P Pn 20 35 27.5 +6.3
comp=E,45nm,1.4s
FDMO Fiordimonte 8.59 313 Pn Pn 20 35 22.7 +1.3
NEHR Nehoiu 8.61 22 ⇑P Pn 20 35 25.2 +3.5
SIRR Siria 8.74 360 ⇑P Pn 20 35 25.8 +2.3
DOPR Dopca 8.87 17 ⇑P Pn 20 35 28.1 +2.8
COVR Voineasa-Covas 8.97 21 ⇑P Pn 20 35 29.8 +3.2
MORH Mrgy, Hungar 8.98 346 ⇓P Pn 20 35 26.2 -0.5
PLOR Plostina 9.10 22 ⇑P Pn 20 35 32.1 +3.6
PLOR Plostina 9.10 22 P Pn 20 35 32.0 +3.6
VRI Vrincioaia 9.14 23 ⇑P Pn 20 35 32.2 +3.2
VRI Vrincioaia 9.14 23 P Pn 20 35 32.1 +3.2
VRI Vrincioaia 9.14 23 P Pn 20 35 35.1 +6.2
comp=E,27nm,1.1s
DRGR 9.29 4 ⇑P Pn 20 35 32.9 +1.8
DRGR 9.29 4 P Pn 20 35 32.9 +1.8
CRES Cresnjevec Ost 9.52 333 *e*Pn Pn 20 35 33.9 -0.3
BR105 Keskin Array S 9.57 73 P Pn 20 35 30.9 -4.1
comp=E,5.1nm,0.6s
BR106 Keskin Array S 9.58 73 P Pn 20 35 33.2 -1.9
comp=E,4.6nm,0.9s
BR104 Keskin Array S 9.59 73 P Pn 20 35 32.8 -2.4
comp=E,3.8nm,0.7s
BR131 Keskin Array S 9.59 73 Pn Pn 20 35 37.8 +2.5
BR131 Keskin Array S 9.59 73 *i* P Pn 20 35 35.7 +0.5
BRTR Keskin Array B 9.59 73 Pn Pn 20 35 37.8 +2.5
BRTR Keskin Array B 9.59 73 Pn Pn 20 35 35.7 +0.4
comp=E,0.7nm,0.6s,baz=290,slow=8.8,SNR=2.8
BRTR LR LR 20 39 36.1
comp=E,250nm,19.6s,baz=264,slow=40
TESR Tescani 9.70 21 ⇓P Pn 20 35 39.5 +2.9
KIRS Kirsehir-Merke 9.73 77 ⇓P Pn 20 35 42.1 +5.0
CEY Cerknica 9.85 329 *e*Pn Pn 20 35 38.7 0.0
KEST Kesra 10.10 264 Pn Pn 20 35 42.8 +0.7
KEST Kesra 10.10 264 Pn Pn 20 35 42.6 +0.5
comp=E,0.5nm,0.3s,baz=64,slow=3.9,SNR=7.9
KEST Sn Sn 20 37 32.2 -2.4
comp=E,0.2nm,0.3s,baz=357,slow=18,SNR=1.6
KEST LR LR 20 40 21.6
comp=E,91nm,19.5s,baz=0.2,slow=42
comp=E,4.3nm,0.6s
SABO M.te Sabotino 10.39 327 Pn Pn 20 35 46.2 +0.1
SOKA Soboth 10.40 334 *i* Pn Pn 20 35 46.3 0.0
comp=E,2.9nm,0.4s
SOKA *i* Sn Sn 20 37 37.4 -4.7
comp=E,4.8nm,0.6s
BURAR Bucovina Array 10.41 13 ⇑P Pn 20 35 49.5 +3.1
BURAR Bucovina Array 10.41 13 P Pn 20 35 49.5 +3.1
OBKA Obir 10.44 332 *e*Pn Pn 20 35 47.9 +1.1
comp=E,4.3nm,0.4s
OBKA *i* Sn Sn 20 37 40.9 -2.0
comp=E,21nm,0.7s
OBKA Obir 10.44 332 *e*Pn Pn 20 35 46.5 -0.3
PSZ Piszkesteto 10.48 353 Pn 20 35 47.6 +0.3
PSZ Piszkesteto 10.48 353 *e*P Pn 20 35 47.8 +0.6
PSZ Piszkesteto 10.48 353 ⇓P Pn 20 35 47.9 +0.6
PSZ Piszkesteto 10.48 353 P Pn 20 35 47.6 +0.3
ARSA Arzberg 10.74 337 *i* Pn Pn 20 35 50.0 -0.8
comp=E,1.8nm,0.3s
ARSA *e*Sn Sn 20 37 49.6 -0.7
comp=E,2.9nm,0.5s
BRIU Brid 10.85 5 P Pn 20 35 58.3 +6.0
MYKA Terra Mystica 10.89 329 *e*Pn Pn 20 35 54.4 +1.4
comp=E,1.8nm,0.5s
MYKA *i* Sn Sn 20 37 51.1 -2.9
comp=E,3.8nm,0.5s
RONA Rosalia, Austr 10.92 340 *i* Pn Pn 20 35 54.2 +0.9
comp=E,0.8nm,0.3s
RONA *i* Sn Sn 20 37 55.2 +0.5
comp=E,3.7nm,0.6s
VYHS Vyhne 11.17 350 *e*P Pn 20 35 56.8 +0.1
VYHS *e* 20 38 02.1
VYHS Vyhne 11.17 350 *e*PN Pn 20 35 56.8 +0.1
VYHS Vyhne 11.17 350 *e*SN Sn 20 38 02.1 +1.5
CONA Conrad Observa 11.25 339 *e*Pn Pn 20 35 57.1 -0.8
comp=E,1.1nm,0.3s
CONA *i* Sn Sn 20 38 03.1 +0.3
comp=E,1.4nm,0.5s
CTI Castel Tesino 11.35 322 Pn Pn 20 35 59.4 +0.1
CTI Castel Tesino 11.35 322 P Pn 20 35 59.4 +0.1
KBA Koelnbreinsper 11.38 330 *e*Pn Pn 20 35 58.5 -1.2
comp=E,3.1nm,0.7s
KBA *e*Sn Sn 20 38 03.3 -2.6
comp=E,5.0nm,0.6s
KOLS Kolonicke sedl 11.41 2 *e*P Pn 20 35 59.2 -0.9
KOLS Kolonicke sedl 11.41 2 *e*PN Pn 20 35 59.2 -0.9
ABTA Abfaltersbach 11.46 326 *e*Pn Pn 20 36 03.0 +2.2
comp=E,3.1nm,0.6s
ABTA *i* Sn Sn 20 38 06.6 -1.4
comp=E,12nm,0.6s
MOA Molln 11.68 334 *i* Pn Pn 20 36 05.3 +1.6
comp=E,7.5nm,0.8s
MOA *e*Sn Sn 20 38 13.5 +0.4
comp=E,3.4nm,0.5s
BIOA Bad Ischl, Aus 11.77 332 *e*Pn Pn 20 36 06.3 +1.4
comp=E,4.4nm,0.7s
BIOA *e*Sn Sn 20 38 13.4 -2.0
comp=E,6.6nm,0.5s
LESA Schwarzleotal 11.92 329 *i* Pn Pn 20 36 08.7 +1.6
comp=E,3.9nm,0.6s
LESA *e*Sn Sn 20 38 15.8 -3.5
comp=E,5.4nm,0.5s
NIE Niedzica 11.94 356 P Pn 20 36 14.9 +7.7
comp=E,4.4nm,1.4s
MMAI Mount Meron Ar 12.06 108 Pn Pn 20 36 07.1 -1.9
comp=E,0.4nm,0.3s,baz=281,slow=8.4,SNR=1.8
MMAI Sn Sn 20 38 16.0 -6.7
comp=E,0.8nm,0.3s,baz=321,slow=6.4,SNR=1.6
comp=E,0.5nm,0.4s
HORU Horodok 12.18 15 P P 20 36 17.0 -5.8
WTTA Wattenberg 12.25 326 *e*Pn Pn 20 36 13.0 +1.4
comp=E,1.5nm,0.3s
WTTA *e*Sn Sn 20 38 25.1 -2.1
comp=E,21nm,0.7s
WATA Walderalm 12.33 326 *i* Pn Pn 20 36 14.1 +1.4
comp=E,2.6nm,0.5s
WATA *i* Sn Sn 20 38 26.7 -2.6
comp=E,9.6nm,0.6s
VRAC Vranov 12.35 344 Pn Pn 20 36 12.3 -0.6
comp=E,0.1nm,0.3s,baz=131,slow=12,SNR=4.1
comp=E,2.5nm,1.0s
KZIT Kziot 12.39 118 P Pn 20 36 12.8 -0.7
SQTA Sankt Quirin 12.41 325 *i* Pn Pn 20 36 16.0 +2.3
comp=E,2.4nm,0.4s
SQTA *i* Sn Sn 20 38 28.8 -2.3
comp=E,8.6nm,0.5s
SHMJ Saham 12.46 108 P Pn 20 36 13.3 -1.1
FETA Feichten 12.49 323 *e*Pn Pn 20 36 16.9 +2.0
comp=E,7.4nm,0.8s
FETA *i* Sn Sn 20 38 32.8 -0.3
comp=E,4.3nm,0.6s
QRNJ Al-Qirein 12.49 110 P Pn 20 36 14.0 -0.8
CKRC Cesky Krumlov 12.51 337 *e*PN Pn 20 36 16.5 +1.5
CKRC Cesky Krumlov 12.51 337 *e*P Pn 20 36 16.5 +1.5
MOTA Moosalm 12.55 325 *i* Pn Pn 20 36 16.1 +0.4
comp=E,5.9nm,0.7s
MOTA *e*Sn Sn 20 38 32.7 -1.9
comp=E,11nm,0.8s
GERES GERESS Array B 12.73 335 Pn Pn 20 36 18.2 +0.2
comp=E,0.3nm,0.3s,baz=144,slow=12,SNR=4.8
GERES Sn Sn 20 38 35.6 -3.3
comp=E,0.3nm,0.3s,baz=151,slow=22,SNR=1.6
GERES LR LR 20 42 19.7
comp=E,260nm,21.4s,baz=308,slow=43
comp=E,1.1nm,0.5s
DAVOX Davos/Dischmat 12.74 320 Pn Pn 20 36 18.2 -0.2
comp=E,0.1nm,0.3s,baz=172,slow=19,SNR=2.2
DAVOX Sn Sn 20 38 36.1 -3.3
comp=E,0.4nm,0.3s,baz=162,slow=20,SNR=3.2
comp=E,1.1nm,0.5s
RETA Reutte 12.81 324 *e*Pn Pn 20 36 20.1 +0.9
comp=E,0.2nm,0.1s
RETA *i* Sn Sn 20 38 36.8 -4.1
comp=E,4.8nm,0.6s
TUE Stuetta 12.81 318 Pn Pn 20 36 20.5 +1.2
LISJ El Lisan 12.98 115 P Pn 20 36 19.9 -1.6
GHAJ Ghor Haditha 13.01 114 Pn Pn 20 36 20.8 -1.1
GHAJ Ghor Haditha 13.01 114 P Pn 20 36 17.4 -4.5
KHC Kasperske Hory 13.02 336 *e*PN Pn 20 36 22.3 +0.3
KHC *e*SN Sn 20 38 44.2 -1.7
KHC Kasperske Hory 13.02 336 *c e*P Pn 20 36 21.1 -0.9
KHC pmax pmax
comp=Z,34nm,2.5s
HSUJ Al Zarqa 13.06 110 P Pn 20 36 20.0 -2.7
DAVA Damuels 13.09 322 *i* Pn Pn 20 36 27.9 +4.8
comp=Z,7.4nm,0.7s
DAVA *i* Sn Sn 20 38 43.7 -4.1
comp=Z,3.2nm,0.5s
LUBAR Lubar, Ukraine 13.14 17 P P 20 36 28.8 -4.6
PRNI Paran 13.14 119 P Pn 20 36 21.5 -2.3
ZFRI Zfri 13.15 118 P Pn 20 36 27.4 +3.6
SWQJ Swaqa 13.40 114 P Pn 20 36 24.2 -3.1
EIL Elat 13.52 122 Pn Pn 20 36 27.3 -1.7
comp=Z,0.3nm,0.3s,baz=339,slow=10,SNR=2.5
EIL Sn Sn 20 38 47.6 -11
comp=Z,0.6nm,0.3s,baz=345,slow=20,SNR=3.2
comp=Z,3.2nm,0.8s
ASF Jabal al Asfar 13.56 109 Pn Pn 20 36 29.6 +0.1
comp=Z,0.4nm,0.3s,baz=225,slow=0.5,SNR=2.3
comp=Z,1.6nm,0.4s
RNPP5 Staryi Chortor 14.02 11 P P 20 36 42.8 -0.4
MI28 Mi28,Pidlybu 14.06 16 P P 20 36 43.6 -0.1
comp=Z,135nm,1.4s
AK07 Malin Array Si 14.09 20 P P 20 36 42.1 -1.8
AK14 Malin Array Si 14.13 20 P Pn 20 36 40.4 +3.3
AK10 Malin Array Si 14.14 20 P Pn 20 36 40.6 +3.3
AK05 Malin Array Si 14.15 20 P P 20 36 41.8 -2.8
AK12 Malin Array Si 14.16 20 P P 20 36 42.2 -2.5
AK18 Malin Array Si 14.20 19 P Pn 20 36 41.6 +3.5
AK01 Malin Array Si 14.21 20 P Pn 20 36 41.6 +3.3
KIEV Kiev 14.22 20 Pn Pn 20 36 41.0 +2.7
KIEV Kiev 14.22 20 P Pn 20 36 41.0 +2.7
AKASG Malin Array Be 14.23 20 Pn Pn 20 36 35.8 -2.6
comp=Z,0.5nm,0.3s,baz=134,slow=6.5,SNR=3.2
comp=Z,0.3nm,0.4s
AKBB Malin Array Si 14.23 20 Pn Pn 20 36 39.0 +0.6
AKBB Malin Array Si 14.23 20 P Pn 20 36 39.0 +0.6
BRG Berggiesshubel 14.45 340 *e*P P 20 36 54.6 +6.6
BRG Amp 20 36 55.9
comp=Z,3.1nm,0.9s
BRG Berggiesshubel 14.45 340 P P 20 36 57.3 +9.2
BRG Amp 20 36 58.3
comp=Z,6.9nm,1.1s
BFO Black Forest 14.56 322 Pn 20 36 43.7 +0.6
BFO Black Forest 14.56 322 P Pn 20 36 43.7 +0.6
ECH Echery 15.07 320 Pn Pn 20 36 51.0 +1.1
ECH IAmb IAmb 20 37 06.0
comp=Z,33nm,1.5s
ECH Echery 15.07 320 P Pn 20 36 51.0 +1.1
ECH pmax pmax
comp=Z,33nm,1.5s
CLL Collm 15.11 339 Pn Pn 20 36 52.1 +1.8
CLL IAmb IAmb 20 37 05.0
comp=Z,37nm,1.5s
CLL Collm 15.11 339 *e*P P 20 36 57.0 +1.7
CLL Collm 15.11 339 *e*PP P 20 36 57.0 +1.7
CLL *i* sPP 20 37 03.4
comp=Z,28nm,1.4s
CLL *i* x x 20 37 13.2
CLL *e*SS S 20 39 53.0 -0.5
GURO Guroymak-BITLI 16.05 80 P 20 37 04.4 -1.6
SUW Suwalki 16.52 3 P P 20 37 11.6 +0.6
SUW Suwalki 16.52 3 P P 20 37 11.6 +0.6
SUW pmax pmax
comp=Z,53nm,0.7s
KIV Kislovodsk 17.13 61 *e*P Pn 20 37 14.5 -1.8
KIV pmax pmax
comp=Z,9.0nm,1.1s
KVAR Kislovodsk Arr 17.13 61 P Pn 20 37 15.3 -1.2
baz=278,slow=18
comp=Z,2.9nm,0.9s
KBZ Khabaz 17.22 62 P P 20 37 20.9 +2.2
comp=Z,2.5nm,1.1s,baz=202,slow=19,SNR=2.1
NACGM Naroch 17.73 10 *e*P P 20 37 31.2 +6.9
comp=Z,28nm,1.0s,baz=193
PABE Paberze 18.05 4 P Pn 20 37 27.4 -0.2
PABE IAmb IAmb 20 37 34.1
comp=Z,49nm,0.9s
GNI Garni 18.13 75 P Pn 20 37 28.3 -0.5
comp=Z,0.2nm,0.3s,baz=208,slow=15,SNR=2.1
comp=Z,8.5nm,0.9s
VORD Divnogorie 18.36 37 *e*P Pn 20 37 37.3 +6.0
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 18.46 37 *e*P Pn 20 37 37.4 +4.8
VSR pmax pmax
comp=Z,8.0nm,1.0s
LPSR Galich'ya Gora 19.30 33 *e*P Pn 20 37 50.0 +7.3
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 19.71 40 *e*P Pn 20 37 53.5 +5.9
VRH pmax pmax
comp=Z,10.0nm,0.8s
ESBB Sonseca Array 20.16 284 P P 20 37 51.4 +0.2
ESDC Sonseca Array 20.16 284 P P 20 37 51.1 -0.1
ESDC Sonseca Array 20.16 284 P P 20 37 51.9 +0.7
comp=Z,4.5nm,0.9s,baz=80,slow=11,SNR=20
comp=Z,4.5nm,0.9s
OBN Obninsk 20.29 25 P Pn 20 37 55.4 +1.0
comp=Z,9.7nm,0.4s,baz=188,slow=19,SNR=1.5
MAK Makhachkala 20.39 66 *e*P P 20 37 51.0 -2.5
MAK *e*S S 20 41 37.6 -3.0
MAK pmax pmax
comp=Z,232nm,1.6s
MAK MLR MLR
comp=Z,140nm,16.0s
AKT Akhty 20.43 71 *e*P P 20 37 52.3 -1.9
AKT *e* 20 38 09.5

AKT pmax pmax
comp=Z,31nm,1.7s
MOS Moscow 21.16 25 *eP* **P 20 37 59.8 -1.9**
VSU Vasula 21.21 7 *ceP* **P 20 38 02.5 +0.3**
VSU pmax pmax
comp=Z,42nm,0.6s
MDT Midelt 21.99 266 P **P 20 38 10.9 -0.1**
comp=Z,1.9nm,0.8s,baz=51,slow=5.7,SNR=2.7
comp=Z,1.9nm,0.8s
HFS Hagfors 23.20 350 P **P 20 38 23.7 +0.3**
comp=Z,4.0nm,0.8s,baz=153,slow=10.0,SNR=16
comp=Z,4.0nm,0.8s
BELG Belogornoye 23.43 42 *i* P **P 20 38 26.2 +0.5**
BELG pmax pmax
comp=Z,4.0nm,0.9s
KONO Kongsberg 23.47 344 P **P 20 38 28.2 +2.1**
KONO IAmb IAmb 20 38 34.5
comp=Z,21nm,0.9s
KONO Kongsberg 23.47 344 P **P 20 38 28.2 +2.1**
KONO pmax pmax
comp=Z,21nm,1.0s
FINES FINESS Array B 24.10 5 P **P 20 38 32.5 +0.5**
FINES FINESS Array B 24.10 5 P **P 20 38 32.4 +0.4**
comp=Z,2.9nm,0.9s,baz=160,slow=7.4,SNR=6.3
comp=Z,2.9nm,0.9s
FINES FINESS Array B 24.10 5 *i* P **P 20 38 33.7 +1.7**
FINES pmax pmax
comp=Z,5.0nm,0.9s
NC602 NORSAR Array S 24.11 348 P **P 20 38 32.7 +0.6**
NAO01 NORSAR Array S 24.33 347 P **P 20 38 35.3 +1.2**
NB2 NORSAR Subarra 24.45 348 P **P 20 38 36.1 +0.8**
comp=Z,21nm,1.0s,baz=161,slow=9.3
NOA NORSAR Array B 24.45 348 P **P 20 38 37.0 +1.7**
comp=Z,0.8nm,0.6s,baz=148,slow=9.8,SNR=6.4
NOA LR LR 20 49 48.8
comp=Z,51nm,19.8s,baz=180,slow=41
comp=Z,0.8nm,0.6s
EKA Eskdalemuir Ar 24.51 325 P **P 20 38 37.0 +1.2**
comp=Z,2.9nm,0.6s,baz=126,slow=9.3,SNR=11
comp=Z,2.9nm,0.6s
EKA Eskdalemuir Ar 24.51 325 P **P 20 38 37.0 +1.2**
EKB Eskdalemuir 24.52 325 P **P 20 38 36.6 +0.6**
RAYN Ar Rayn 24.71 118 P **P 20 38 38.6 +0.7**
RAYN Ar Rayn 24.71 118 P **P 20 38 38.6 +0.7**
RAYN pmax pmax
comp=Z,2.0nm,0.9s
KLMR Klimovskoe 25.92 20 *eP* **P 20 38 50.5 +2.0**
KLMR pmax pmax
comp=Z,33nm,1.3s
ABKAR Akbulak array 29.84 55 P **P 20 39 24.6 +0.9**
TORD Torodi Ar. Bea 30.14 222 P **P 20 39 25.7 -0.9**
TORD Torodi Ar. Bea 30.14 222 P **P 20 39 27.1 +0.5**
comp=Z,0.9nm,0.6s,baz=34,slow=9.3,SNR=11
comp=Z,0.9nm,0.6s
ARTI Arti 30.83 40 P **P 20 39 31.7 -0.7**
ARTI IAmb IAmb 20 39 51.2
comp=Z,16nm,1.5s
ARTI Arti 30.83 40 *d i* P **P 20 39 31.6 -0.8**
ARTI S **S 20 44 33.5 -0.8**
ARTI pmax pmax
comp=Z,7.0nm,1.5s
ARCES ARCESS Array B 32.14 3 P **P 20 39 43.4 -0.4**
comp=Z,4.4nm,0.9s,baz=175,slow=10,SNR=3.8
ARCES LR LR 20 54 56.0
comp=Z,142nm,18.3s,baz=218,slow=40
comp=Z,4.4nm,0.9s
ARCES ARCESS Array B 32.14 3 P **P 20 39 43.9 +0.1**
ARCES pmax pmax
comp=Z,15nm,1.1s
SVE Sverdlovsk 32.15 40 *eP* **P 20 39 43.6 -0.4**
BRVK Borovoye 36.77 49 P **P 20 40 23.7 -0.3**
BRVK IAmb IAmb 20 40 40.1
comp=Z,4.9nm,1.1s
BRVK Borovoye 36.77 49 *i* P **P 20 40 23.4 -0.6**
BRVK pmax pmax
comp=Z,12nm,3.0s
BVAR Borovoye Array 36.83 49 P **P 20 40 24.8 +0.3**
comp=Z,2.1nm,0.5s,baz=265,slow=6.6,SNR=24
comp=Z,2.1nm,0.5s
KKAR Karatay Array 37.20 66 P **P 20 40 28.8 +1.0**
KKAR Karatay Array 37.20 66 P **P 20 40 27.3 -0.5**
KKAR Karatay Array 37.20 66 P **P 20 40 27.3 -0.5**
KKAR 20 40 28.8
KKAR pmax pmax
comp=Z,1.0nm,0.7s
MBAR Mbarara 38.84 166 LR LR 20 58 49.8
comp=Z,76nm,19.3s,baz=332,slow=40
DBIC Dimbokro 39.07 225 P **P 20 40 44.6 +0.8**
comp=Z,3.1nm,0.8s,baz=134,slow=4.2,SNR=2.5
comp=Z,3.1nm,0.8s
AAK Ala-Archa 40.17 66 LR LR 20 58 55.0
comp=Z,90nm,20.0s,baz=322,slow=38
AAK Ala-Archa 40.17 66 *i* P **P 20 40 53.6 +0.7**
AAK pmax pmax
comp=Z,10.0nm,2.6s
SPITS Spitsbergen Ar 40.83 358 P **P 20 40 58.2 +0.5**
comp=Z,8.7nm,0.8s,baz=176,slow=22,SNR=1.7
comp=Z,8.7nm,0.8s
KMBO Kilima Mbogo 41.06 156 P **P 20 40 60.0 -0.5**
comp=Z,0.5nm,0.3s,baz=60,slow=21,SNR=1.5
comp=Z,0.5nm,0.3s
KMBO Kilima Mbogo 41.06 156 P **P 20 41 00.0 -0.5**
KURBB Kurchatov Arra 41.87 53 P **P 20 41 05.8 -0.7**
comp=Z,2.2nm,0.7s,baz=280,slow=8.6,SNR=13
comp=Z,2.2nm,0.7s
KURK Kurchatov 41.92 53 P **P 20 41 06.3 -0.7**
KURK Kurchatov 41.92 53 P **P 20 41 06.3 -0.7**
KURK pmax pmax
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 44.85 58 P **P 20 41 29.8 -0.9**
MK31 IAmb IAmb 20 41 54.8
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 44.85 58 *i* P **P 20 41 28.4 -2.3**
MKAR Makanchi Array 44.85 58 P **P 20 41 29.8 -0.9**
comp=Z,1.0nm,0.5s,baz=274,slow=7.3,SNR=20
comp=Z,1.0nm,0.5s
ZAA0 Zalesovo Array 45.43 48 P **P 20 41 34.2 -1.0**
ZAA0 IAmb IAmb 20 41 52.7
comp=Z,4.2nm,0.7s
ZALV Zalesovo Beam 45.43 48 P **P 20 41 34.3 -0.8**
comp=Z,3.7nm,0.5s,baz=274,slow=8.6,SNR=27
comp=Z,3.7nm,0.5s
ZALV Zalesovo Beam 45.43 48 *i* P **P 20 41 34.5 -0.7**
ZALV pmax pmax
comp=Z,4.0nm,0.4s
NRIK Noril'sk 46.96 26 P **P 20 41 46.6 -0.4**
comp=Z,1.9nm,0.6s,baz=167,slow=10.0,SNR=1.8
comp=Z,1.9nm,0.6s
NRIK Noril'sk 46.96 26 *ceP* **P 20 41 48.1 +1.1**
NRIK pmax pmax
comp=Z,23nm,3.3s
SCHQ Schefferville 59.58 318 P **P 20 43 20.0 0.0**
SCHQ Schefferville 59.58 318 P **P 20 43 19.9 -0.1**
comp=Z,4.3nm,1.1s,baz=146,slow=0.2,SNR=1.8
comp=Z,4.3nm,1.1s
SONM Songino Array 60.15 51 P **P 20 43 22.8 -1.4**
comp=Z,0.5nm,0.6s,baz=301,slow=9.6,SNR=3.0
SONM LR LR 21 12 50.5
comp=Z,70nm,18.4s,baz=340,slow=40
comp=Z,0.5nm,0.6s
LBTB Lobatse 62.31 176 LR LR 21 12 35.1
comp=Z,89nm,19.4s,baz=345,slow=38
BOSA Boshof 65.87 177 P **P 20 44 02.4 +0.2**
comp=Z,2.1nm,1.0s,baz=94,slow=20,SNR=1.2
BOSA LR LR 21 14 23.3
comp=Z,103nm,20.0s,baz=356,slow=38
comp=Z,2.1nm,1.0s
PZH PanZhiHua 66.89 74 P **P 20 44 10.4 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
CMAR Chiang Mai Arr 69.05 82 P **P 20 44 22.6 +0.1**
CMAR Chiang Mai Arr 69.05 82 P **P 20 44 20.7 -1.9**
comp=Z,0.6nm,0.5s,baz=296,slow=6.6,SNR=2.1
comp=Z,0.6nm,0.5s
CMAR Chiang Mai Arr 69.05 82 P **P 20 44 22.6 +0.1**
SUR Sutherland 69.55 181 LR LR 21 16 17.3
comp=Z,75nm,18.0s,baz=348,slow=37
C27K Jago River 72.63 355 P **P 20 44 45.5 +2.0**
C27K IAmb IAmb 20 44 54.5
comp=Z,4.0nm,0.9s
B20K Meade River 72.78 360 P **P 20 44 45.7 +1.4**
D23K Nanushuk River 73.68 357 P **P 20 44 51.1 +1.4**
D23K IAmb IAmb 20 45 00.5
comp=Z,3.7nm,0.9s
D22K Ayikyak River 73.83 358 P **P 20 44 51.5 +0.9**
D22K IAmb IAmb 20 45 04.7
comp=Z,10nm,1.4s
E24K Your Creek 74.46 356 P **P 20 44 55.3 +1.0**
MA2 Magadan 74.51 24 P **P 20 44 55.6 +0.9**
MA2 Magadan 74.51 24 LR LR 21 23 43.8
comp=Z,55nm,18.7s,baz=39,slow=41
MA2 Magadan 74.51 24 P **P 20 44 55.6 +0.9**
MA2 pmax pmax
comp=Z,93nm,1.4s
I30M Mount Dempster 76.17 351 P **P 20 45 05.7 +1.5**
I30M IAmb IAmb 20 45 15.0
comp=Z,3.9nm,0.8s
USRK Ussuriysk Ar. 77.11 44 P **P 20 45 11.6 +1.8**
comp=Z,1.4nm,0.8s,baz=234,slow=20,SNR=3.3
comp=Z,1.4nm,0.8s
ILAR Eielson Array 77.65 355 P **P 20 45 13.1 +0.6**
comp=Z,0.2nm,0.8s,baz=349,slow=2.7,SNR=1.1
comp=Z,0.2nm,0.8s
KSRS Korea Array 79.01 51 P **P 20 45 20.1 -0.4**
comp=Z,0.6nm,0.5s,baz=318,slow=4.2,SNR=5.2
comp=Z,0.6nm,0.5s
TKL Tuckaleechee C 79.68 307 LR LR 21 19 16.9
comp=Z,115nm,19.3s,baz=66,slow=35
PETK Petropavlovsk- 82.00 25 LR LR 21 25 01.2
comp=Z,37nm,18.3s,baz=323,slow=38
ASAJ Asahikawa 82.72 39 LR LR 21 26 13.7
comp=Z,67nm,18.2s,baz=6.5,slow=38
PDAR Pinedale Array 88.62 326 P **P 20 46 11.6 +1.8**
comp=Z,0.1nm,0.3s,baz=79,slow=4.7,SNR=2.6
comp=Z,0.1nm,0.3s

*IDC **17** 20:41:05.2±5.9, 36°.86N×20°.30E, h0km, mb3.4/4, mbtmp3.3/6, ML3.6/2, Error ellipse: s-maj=104.7km s-min=35.0km az=38.0*
*ATH **17** 20:41:15.9, 37°.89N×20°.93E, h20km±3km, ML3.0/5, Error ellipse: s-maj=4.0km s-min=0.9km az=207.0*
*THE **17** 20:41:16.3, 37°.89N×20°.94E, h14km±2km, ML2.9/2, Error ellipse: s-maj=2.9km s-min=0.6km az=233.0*
ISC 17 20:41:15.9±0.9, 37°.89N±0°.03×20°.95E±0°.03, h15km±7km, n30, σ0°.89/39, mb3.3/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.20**	**206**	P	**Pg**		**20 41 20.4**	**-0.1**
LTHK				S	**Sg**		**20 41 23.8**	**+0.2**
5μm,0.3s								
LTHK	**Lithakia**	**0.20**	**206**	P	**Pg**		**20 41 19.5**	**-1.0**
LTHK				AML	AML		20 41 29.0	
comp=E,10992μm,0.2s								
LTHK				AML	AML		20 41 29.6	
comp=N,10773μm,0.6s								
RTZL	**Ratzakli, Kefa**	**0.23**	**323**	P	**Pg**		**20 41 21.2**	**+0.2**
RTZL				S	**Sb**		**20 41 25.1**	**-0.7**
comp=N,3μm,0.3s								
KRI1	**kERI**	**0.25**	**205**	P	**Pg**		**20 41 21.6**	**+0.3**
KRI1				S	**Sb**		**20 41 26.1**	**-0.2**
PSDA	**Pessada-Kefalo**	**0.36**	**308**	P	**Pg**		**20 41 23.4**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.36**	**308**	P	**Pg**		**20 41 23.3**	**0.0**
PSDA				S	**Sb**		**20 41 29.0**	**-0.6**
VLS	**Valsamata**	**0.40**	**315**	P	**Pg**		**20 41 23.9**	**-0.1**
VLS	**Valsamata**	**0.40**	**315**	P	**Pg**		**20 41 24.0**	**-0.1**
VLS				AML	AML		20 41 31.3	
comp=E,3455μm,0.3s								
VLS				AML	AML		20 41 31.7	
comp=N,4334μm,0.2s								
SMHA	**Samh**	**0.43**	**326**	P	**Pg**		**20 41 23.7**	**-0.8**
SMHA				S	**Sg**		**20 41 30.1**	**-0.3**
RLS	**Riolos of Patr**	**0.44**	**68**	P	**Pg**		**20 41 24.8**	**+0.1**
RLS	**Riolos of Patr**	**0.44**	**68**	P	**Pg**		**20 41 24.5**	**-0.1**
RLS				S	**Sb**		**20 41 31.9**	**+0.1**
RLS				AML	AML		20 41 33.6	
comp=E,4331μm,0.2s								
RLS				AML	AML		20 41 34.1	
comp=N,6274μm,0.4s								
DMLN	**Damoulianata-K**	**0.57**	**307**	P	**Pg**		**20 41 27.1**	**-0.1**
DMLN	**Damoulianata-K**	**0.57**	**307**	P	**Pg**		**20 41 26.8**	**-0.4**
DMLN				S	**Sb**		**20 41 36.0**	**+0.4**
DRO	**Drossia**	**0.60**	**84**	P	**Pg**		**20 41 28.0**	**+0.2**
DRO	**Drossia**	**0.60**	**84**	P	**Pg**		**20 41 27.8**	**+0.1**
DRO				S	**Sb**		**20 41 36.8**	**+0.2**
DRO				AML	AML		20 41 38.9	
comp=E,7915μm,0.3s								
DRO				AML	AML		20 41 40.1	
comp=N,6938μm,0.4s								
FSK	**Fiskardo**	**0.64**	**332**	P	**Pb**		**20 41 29.1**	**+0.2**
FSK	**Fiskardo**	**0.64**	**332**	P	**Pg**		**20 41 27.7**	**-0.8**
EVGI	**Lefkada island**	**0.76**	**342**	P	**Pg**		**20 41 30.5**	**-0.3**
EVGI	**Lefkada island**	**0.76**	**342**	P	**Pg**		**20 41 30.0**	**-0.8**
UPR	**University Cam**	**0.77**	**59**	P	**Pg**		**20 41 31.2**	**+0.4**
EFP	**Efpalio**	**0.92**	**54**	P	**Pb**		**20 41 33.3**	**-0.3**
KLV	**Kalavryta, Ach**	**0.96**	**81**	P	**Pb**		**20 41 33.5**	**-0.8**
ITM	**Ithomi**	**1.05**	**132**	P	**Pb**		**20 41 35.5**	**-0.3**
KALE	**Kalithea**	**1.06**	**62**	P	**Pb**		**20 41 35.6**	**-0.4**
KALE				S	**Sb**		**20 41 49.4**	**-0.4**
KALE				AML	AML		20 41 55.5	
comp=N,1686μm,0.2s								
KALE				AML	AML		20 41 56.0	
comp=E,1180μm,0.3s								
GERES	**GERESS Array B**	**12.14**	**337**	Pn	**Pn**		**20 44 12.3**	**+3.9**
comp=E,0.1nm,0.3s,baz=116,slow=2.3,SNR=1.3								
comp=E,0.2nm,0.3s								
AKASG	**Malin Array Be**	**14.10**	**22**	Pn	**P**		**20 44 40.4**	**-2.2**
comp=E,0.4nm,0.3s,baz=213,slow=9.3,SNR=4.7								
comp=E,0.1nm,0.3s								
HFS	**Hagfors**	**22.74**	**351**	P	**P**		**20 46 16.5**	**-0.7**
comp=E,0.5nm,0.6s,baz=156,slow=11,SNR=1.1								
comp=E,0.5nm,0.6s								
KURBB	**Kurchatov Arra**	**42.13**	**53**	P	**P**		**20 49 07.4**	**0.0**
comp=E,0.4nm,0.7s,baz=284,slow=8.2,SNR=4.3								
comp=E,0.4nm,0.7s								
MKAR	**Makanchi Array**	**45.16**	**58**	P	**P**		**20 49 32.1**	**+0.2**
comp=E,0.2nm,0.4s,baz=282,slow=7.3,SNR=4.8								
comp=E,0.2nm,0.4s								
ZALV	**Zalesovo Beam**	**45.63**	**48**	P	**P**		**20 49 34.8**	**-0.7**
comp=E,0.5nm,0.6s,baz=285,slow=8.4,SNR=3.5								
comp=E,0.5nm,0.6s								

*IDC **17** 20:46:13.3±0.8, 0°.17S×120°.02E, h0km, mb3.9/11, mbtmp3.8/13, ML3.6/2, MS2.8/1, Error ellipse: s-maj=37.7km s-min=14.4km az=70.0*
*DJA **17** 20:46:15.4±0.3, 0°.S±2°.×12°.0E±°, h10km, M4.1/12, mb4.3/4, mB5.2/1, MLv4.0/12, Mw(mB)4.6/1*
ISC 17 20:46:14.7±0.7, 0°.11S±0°.04×119°.90E±0°.06, h10km, n23, σ1°.53/28, mb3.9/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.79**	**185**	P	**Pg**		**20 46 28.8**	**-1.2**
PCI				S	**Sg**		**20 46 40.0**	**-0.4**
APSI	**Ampana**	**1.92**	**114**	P	**Pn**		**20 46 47.7**	**+0.2**
MRSI	**Marisa**	**2.12**	**74**	P	**Pn**		**20 46 49.0**	**-1.2**
SMKI	**Samarinda**	**2.71**	**263**	P	**Pn**		**20 46 56.9**	**-1.5**
TTSI	**Tana Toraja**	**2.92**	**182**	P	**Pn**		**20 47 03.0**	**+1.8**
TTSI				S	**Sb**		**20 47 41.2**	**-1.4**
LUWI	**Luwuk**	**3.01**	**108**	P	**Pn**		**20 47 04.5**	**+2.0**
SPSI	**Sidrap Palu**	**3.83**	**182**	P	**Pn**		**20 47 14.8**	**+1.0**
BNSI	**Bone**	**4.27**	**177**	P	**Pn**		**20 47 21.8**	**+2.0**
BNSI				S	**Sn**		**20 48 13.3**	**+3.7**
KDI	**Kendari**	**4.69**	**145**	P	**Pn**		**20 47 25.5**	**-0.1**
KDI				S	**Sn**		**20 48 20.6**	**+0.5**
KAPI	**Kappang**	**4.87**	**182**	Pn	**Pn**		**20 47 28.8**	**+0.7**
3.5nm,0.3s,baz=318,slow=11,SNR=4.9								
KAPI				Sn	**Sn**		**20 48 21.5**	**-3.2**
1.7nm,0.3s,baz=71,slow=21,SNR=1.4								
KAPI				LR	LR		20 49 34.8	
comp=Z,89nm,18.6s,baz=305,slow=42								
8.9nm,0.4s								
SANI	**Sanana**	**6.38**	**108**	P	**Pn**		**20 47 47.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**18.74**	**163**	P	**Pn**		**20 50 34.3**	**0.0**
0.1nm,0.3s,baz=321,slow=6.5,SNR=1.8								
0.9nm,0.6s								
WRA	**Warramunga Arr**	**24.26**	**145**	P	**P**		**20 51 30.6**	**-1.6**
1.0nm,0.7s,baz=328,slow=10,SNR=12								
1.0nm,0.7s								
ASAR	**Alice Springs**	**27.07**	**151**	P	**P**		**20 51 56.1**	**-1.6**
0.4nm,0.7s,baz=345,slow=15,SNR=3.7								
0.4nm,0.7s								
CMAR	**Chiang Mai Arr**	**27.65**	**313**	P	**P**		**20 52 04.2**	**+1.3**
0.5nm,0.3s,baz=134,slow=5.2,SNR=1.7								
0.5nm,0.3s								
STKA	**Stephens Creek**	**37.67**	**149**	P	**P**		**20 53 29.3**	**-1.0**
1.6nm,0.8s,baz=335,slow=6.4,SNR=3.8								
1.6nm,0.8s								
MJAR	**Matsushiro Arr**	**40.23**	**23**	P	**P**		**20 53 51.6**	**-0.1**
1.3nm,0.8s,baz=200,slow=8.7,SNR=5.5								
1.3nm,0.8s								
USRK	**Ussuriysk Ar.**	**45.41**	**12**	P	**P**		**20 54 34.7**	**+1.1**
1.0nm,0.6s,baz=202,slow=7.3,SNR=2.2								
1.0nm,0.6s								
ASAJ	**Asahikawa**	**48.46**	**22**	P	**P**		**20 54 58.3**	**+0.9**
11nm,1.0s,baz=218,slow=17,SNR=2.1								
11nm,1.0s								
SONM	**Songino Array**	**49.18**	**348**	P	**P**		**20 55 04.4**	**+1.3**
1.0nm,0.7s,baz=160,slow=8.7,SNR=7.8								
1.0nm,0.7s								
MKAR	**Makanchi Array**	**57.12**	**330**	P	**P**		**20 56 01.8**	**+0.2**
1.0nm,0.6s,baz=129,slow=8.6,SNR=8.6								
1.0nm,0.6s								
ZALV	**Zalesovo Beam**	**61.17**	**337**	P	**P**		**20 56 30.1**	**+0.7**
0.9nm,0.6s,baz=114,slow=10,SNR=5.8								
0.9nm,0.6s								
KURBB	**Kurchatov Arra**	**61.54**	**331**	P	**P**		**20 56 32.7**	**+0.7**
0.3nm,0.3s,baz=123,slow=6.8,SNR=3.1								
0.3nm,0.3s								

IDC 17 20:57:11.3±4.7, 18°.52N×145°.52E, h176km±38km, mb3.1/5, mbtmp3.7/6, Error ellipse: s-maj=99.6km s-min=21.0km az=119.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.94**	**187**	P		Pn	20 58 24.1	-0.5
39nm,0.6s,baz=11,slow=16,SNR=5.9								
GUMO				S		Sn	20 59 23.0	+1.0
43nm,0.8s,baz=0.0,slow=20,SNR=1.3								
WRA	**Warramunga Arr**	**39.77**	**197**	P		P	21 04 26.7	-0.5
0.3nm,0.3s,baz=20,slow=8.9,SNR=16								
0.3nm,0.3s								
FITZ	**Fitzroy Crossi**	**41.30**	**209**	P		P	21 04 40.2	+0.4
0.6nm,0.5s,baz=30,slow=8.8,SNR=7.8								
0.6nm,0.5s								
ASAR	**Alice Springs**	**43.44**	**196**	P		P	21 04 56.5	-0.5
0.2nm,0.4s,baz=15,slow=6.7,SNR=1.5								
0.2nm,0.4s								
ILAR	**Eielson Array**	**63.88**	**26**	P		P	21 07 24.4	-0.6
0.2nm,0.7s,baz=248,slow=6.4,SNR=2.0								
0.2nm,0.7s								
NVAR	**Mina Array Bea**	**83.38**	**52**	P		P	21 09 20.1	+0.8
0.7nm,0.7s,baz=267,slow=6.0,SNR=4.8								
0.7nm,0.7s								

UPA 17 21:05:27.5±1.4, 6°.27N×82°.63W, h27km±26km, MW4.6, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**1.94**	**353**	*eP*		Pn	21 05 58.7	0.0
PTPM				*eS*		Sn	21 06 21.6	-0.6
GMAL	**Guarumal, Vera**	**2.03**	**43**	*i P*		Pn	21 06 00.4	+0.4
GMAL				*eS*		Sn	21 06 25.3	+0.9
CACAO	**El Cacao, Vera**	**2.06**	**59**	*eP*		Pn	21 06 00.0	-0.3
CACAO				*eS*		Sn	21 06 23.9	-1.2
PIRO	**Carate, Puerto**	**2.23**	**342**	*eP*		Pn	21 06 02.3	-0.5
PIRO				*eS*		Sn	21 06 29.2	-0.3
BRU2	**Volcan**	**2.51**	**359**	*eP*		Pn	21 06 06.6	-0.1
BRU2				*eS*		Sn	21 06 37.2	+0.6
AZU	**Azuero**	**2.78**	**57**	*eP*		Pn	21 06 10.8	+0.5
AZU				*eS*		Sn	21 06 43.2	+0.1
BCIP	**Isla Barro Col**	**3.99**	**44**	*eP*		Pn	21 06 26.0	-0.9
BCIP				*eS*		Sn	21 07 10.9	-2.0

IDC 17 21:15:55.1±1.7, 1°.93N×126°.73E, h0km, mb3.3/4, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=119.3km s-min=20.6km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.93**	**183**	P		Pn	21 20 30.7	+0.4
0.1nm,0.3s,baz=354,slow=9.2,SNR=2.5								
1.9nm,1.0s								
WRA	**Warramunga Arr**	**22.99**	**161**	P		P	21 21 01.2	-0.4
0.7nm,0.5s,baz=338,slow=10,SNR=23								
0.7nm,0.5s								
ASAR	**Alice Springs**	**26.39**	**165**	P		P	21 21 32.5	-1.0
0.1nm,0.4s,baz=342,slow=11,SNR=4.0								
0.1nm,0.4s								
MKAR	**Makanchi Array**	**59.03**	**326**	P		P	21 25 56.8	-0.2
0.2nm,0.3s,baz=121,slow=6.1,SNR=4.6								
0.2nm,0.3s								
KURBB	**Kurchatov Arra**	**63.25**	**328**	P		P	21 26 25.7	+0.3
0.3nm,0.5s,baz=132,slow=5.7,SNR=6.0								
0.3nm,0.5s								

NEIC 17 21:34:25.1±2.1, 38°.82N±0°.05×97°.57W±0°.03, h5km±2km, mb_Lg2.8/43, Error ellipse: s-maj=9.8km s-min=3.0km az=336.0, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSU1	**Kansas State U**	**0.80**	**69**			Pb	21 34 41.8	+0.3
KSU1					Sg	Sb	21 34 52.5	-0.2
R32A	**Long Quarter,**	**0.97**	**247**			Pb	21 34 44.2	-0.2
R32A					Sg	Sb	21 34 58.0	+0.3
KAN12	**Harper NE Stat**	**1.55**	**193**			Pn	21 34 53.8	+0.4
KAN09	**Caldwell North**	**1.68**	**181**			Pb	21 34 56.1	-0.3
KAN09					IAmb_Lg		21 35 21.0	
comp=Z,89nm,0.8s								
CBKS	**Cedar Bluff**	**1.69**	**271**			Pg	21 34 57.2	-0.2
KAN13	**South Haven SW**	**1.80**	**178**	Pn		Pb	21 34 58.3	-0.2
BLOK	**Blackwell**	**2.07**	**172**	Pn		Pb	21 35 02.1	-1.1
T35A	**Sooner Cattle**	**2.07**	**156**	Pn		Pn	21 35 01.7	+1.2
T35A					IAmb_Lg		21 35 32.3	
comp=Z,55nm,0.7s								
CROK	**Carrier**	**2.33**	**188**			Pn	21 35 04.6	+0.5
OK051	**E0350 and S346**	**2.38**	**166**	Pn		Pn	21 35 05.7	+1.0
OK048	**Pawnee Station**	**2.45**	**168**	Pn		Pb	21 35 07.7	-1.8
OK038	**West end E0370**	**2.51**	**202**			Pn	21 35 08.3	+1.7
N35A	**Tabor**	**2.53**	**35**	Pn		Pn	21 35 05.5	-1.3
QUOK	**Quay**	**2.73**	**165**			Pn	21 35 10.4	+0.9
DEOK	**Depew**	**3.09**	**164**	Pn		Pn	21 35 15.5	+1.0
TUL3	**Leonard**	**3.23**	**153**		IAmb_Lg		21 36 11.4	
comp=Z,41nm,0.8s								
P38A	**Dawn**	**3.24**	**74**			Pn	21 35 18.9	+2.3
L34A	**Svendsen Farm,**	**3.28**	**16**		IAmb_Lg		21 36 16.3	
comp=Z,46nm,0.8s								
RLO	**Rose Lookout**	**3.33**	**142**		IAmb_Lg		21 36 10.8	
comp=Z,29nm,0.8s								
U38A	**Gravette**	**3.47**	**132**	Pn		Pn	21 35 20.3	+0.6
U38A					IAmb_Lg		21 36 23.0	
comp=Z,28nm,1.1s								
S39A	**Bolivar**	**3.53**	**107**	Pn		Pn	21 35 21.8	+1.2
HHAR	**Hobbs**	**3.84**	**130**			Pn	21 35 25.6	+0.8
HHAR					IAmb_Lg		21 36 29.1	
comp=Z,22nm,0.8s								
N38A	**Joes South For**	**3.88**	**58**			Pn	21 35 28.0	+2.6
N38A					IAmb_Lg		21 36 36.1	
comp=Z,30nm,0.8s								
OGNE	**Ogallala**	**4.04**	**303**		IAmb_Lg		21 36 43.4	
comp=Z,25nm,0.8s								
K30B	**Basset**	**4.15**	**339**		IAmb_Lg		21 36 41.3	
comp=Z,31nm,1.2s								
R40A	**Maddies Statio**	**4.19**	**96**			Pn	21 35 31.5	+1.9
P40A	**Paris**	**4.35**	**79**			Pn	21 35 34.0	+2.2
MGMO	**Mountain Grove**	**4.51**	**110**			Pn	21 35 34.3	+0.3
MGMO					IAmb_Lg		21 36 48.5	
comp=Z,32nm,1.0s								
SCIA	**State Center**	**4.54**	**46**		IAmb_Lg		21 36 53.9	
comp=Z,27nm,0.7s								
ECSD	**EROS Data Cent**	**4.97**	**8**			Pn	21 35 42.2	+1.9
CCM	**Cathedral Cave**	**5.03**	**97**			P

SN07	Snyder 07	6.31	206	IAmb_Lg	21 37 53.8
	comp=Z,8.7nm,0.8s				
SDCO	Great Sand Dun	6.33	263	IAmb_Lg	21 37 46.2
	comp=Z,9.2nm,0.9s				
SN05	Snyder 5	6.51	205	IAmb_Lg	21 37 55.2
	comp=Z,12nm,1.0s				
N23A	Red Feather La	6.77	291	IAmb_Lg	21 38 15.8
	comp=Z,9.0nm,0.8s				

IDC 17 22:04:51.5±999.0, 48°.62N×168°.04W, h0km, Error ellipse: s-maj=1564.0km s-min=295.8km az=34.0, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I53US	FAIRBANKS INFR	19.54	26	I	I	00 01 30.0	
	0.2nm,1.1s,baz=227,slow=326,SNR=7.4						
I18DK	QAANAAQ INFRAS	14.92	18	I	I	02 42 05.0	
	0.1nm,1.2s,baz=288,slow=333,SNR=2.1						
I10CA	LAC DU BONNET	45.18	60	I	I	02 38 50.0	
	baz=299,slow=321,SNR=3.6						

IDC 17 22:24:50.8±0.6, 37°.54N×20°.69E, h0km, mb4.0/19, mbtmp3.9/30, ML3.5/9, MS3.1/2, Error ellipse: s-maj=14.2km s-min=11.7km az=164.0
NEIC 17 22:24:52.9±2.7, 37°.41N±0°.05×20°.52E±0°.04, h10km±1km, mb4.5/28, Error ellipse: s-maj=10.2km s-min=2.9km az=152.0
MCSM 17 22:24:52.7±1.4, 37°N±15°×2°1Ea°, h10km, mb4.3, MLv4.1
ATH 17 22:24:54.4, 37°.49N×20°.52E, h9km±2km, ML3.8/16, Error ellipse: s-maj=2.9km s-min=0.9km az=18.0
THE 17 22:24:54.5, 37°.48N×20°.53E, h7km±2km, ML3.8/4, Error ellipse: s-maj=2.0km s-min=0.5km az=51.0
NAO 17 22:25:18.8, 37°.48N×20°.49E, h10km, mb4.1
ISC 17 22:24:54.2±1.0, 37°.49N±0°.03×20°.52E±0°.03, h24km±7km, n186, σ1§31/205, mb4.2/28, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.29	54	P	Pb	22 25 00.2	-0.8
KRI1				S	Sb	22 25 04.5	-1.2
	32μm,0.5s						
LTHK	Lithakia	0.34	49	P	Pb	22 25 01.0	-0.7
LTHK				S	Sb	22 25 05.6	-1.1
	33μm,0.2s						
LTHK	Lithakia	0.34	49	P	Pb	22 25 00.9	-0.7
LTHK				S	Sb	22 25 05.7	-1.0
LTHK				AML	AML	22 25 06.2	
	comp=E,71232μm,0.1s						
LTHK				AML	AML	22 25 06.7	
	comp=N,52246μm,0.2s						
RTZL	Ratzakli, Kefa	0.62	19	P	Pb	22 25 06.0	-0.4
RTZL				S	Sb	22 25 15.4	+0.7
	comp=N,9μm,0.5s						
PSDA	Pessada-Kefalo	0.63	5	P	Pb	22 25 06.5	0.0
PSDA				S	Sb	22 25 15.7	+0.8
	comp=N,12μm,0.4s						
PSDA	Pessada-Kefalo	0.63	5	P	Pb	22 25 06.3	-0.2
PSDA				S	Sb	22 25 14.9	+0.1
VLS	Valsamata	0.69	5	P	Pb	22 25 07.1	-0.5
VLS				S	Sb	22 25 16.7	0.0
VLS				AML	AML	22 25 21.6	
	comp=E,18448μm,0.6s						
VLS				AML	AML	22 25 21.6	
	comp=N,20578μm,0.6s						
LXRA	Lixouri, Kepha	0.71	355	P	Pb	22 25 08.2	+0.2
LXRA				S	Sb	22 25 17.9	+0.6
LXRA				AML	AML	22 25 22.6	
	comp=E,62889μm,0.7s						
LXRA				AML	AML	22 25 23.2	
	comp=N,66070μm,0.5s						
LXR1	Lixouri, Cepha	0.71	355	P	Pb	22 25 08.0	+0.1
DMLN	Damoulianata-K	0.76	351	P	Pb	22 25 08.5	-0.2
DMLN				S	Sn	22 25 20.1	0.0
DMLN	Damoulianata-K	0.76	351	P	Pb	22 25 08.8	+0.1
DMLN				S	Sn	22 25 19.8	-0.3
SMHA	Samh	0.77	8	P	Pb	22 25 08.1	-0.8
SMHA				S	Sb	22 25 19.2	+0.3
SMHA				AML	AML	22 25 23.4	
	comp=N,51667μm,0.6s						
SMHA				AML	AML	22 25 25.5	
	comp=E,59458μm,0.8s						
RLS	Riolos of Patr	0.94	53	P	Pn	22 25 11.9	0.0
RLS				S	Sn	22 25 24.3	-0.4
RLS				AML	AML	22 25 31.2	
	comp=E,5882μm,0.4s						
RLS				AML	AML	22 25 31.4	
	comp=N,7076μm,0.8s						
FSK	Fiskardo	0.97	2	P	Pn	22 25 12.7	+0.4
FSK	Fiskardo	0.97	2	P	Pn	22 25 12.5	+0.2
FSK				S	Sn	22 25 25.8	+0.5
FSK				AML	AML	22 25 31.2	
	comp=N,11695μm,1.3s						
FSK				AML	AML	22 25 33.0	
	comp=E,11581μm,0.6s						
DRO	Drossia	1.05	64	P	Pb	22 25 14.1	+0.4
DRO	Drossia	1.05	64	P	Pb	22 25 14.4	+0.6
DRO				S	Sn	22 25 28.3	+0.9
DRO				AML	AML	22 25 38.0	
	comp=E,10537μm,0.4s						
DRO				AML	AML	22 25 39.0	
	comp=N,9831μm,0.7s						
EVGI	Lefkada island	1.14	6	P	Pb	22 25 15.3	+0.1
AST1	Astakos	1.14	23	P	Pb	22 25 15.9	+0.6
PYL	PYLOS	1.14	121	P	Pb	22 25 15.2	0.0
PYL				AML	AML	22 25 37.5	
	comp=N,2257μm,0.8s						
PYL				AML	AML	22 25 40.5	
	comp=E,3460μm,0.6s						
ITM	Ithomi	1.17	105	Pn	Pb	22 25 16.1	+0.5
ITM	Ithomi	1.17	105	P	Pb	22 25 16.1	+0.5
ITM	Ithomi	1.17	105	P	Pb	22 25 16.1	+0.5
ITM				S	Sn	22 25 31.6	+1.5
ITM				AML	AML	22 25 43.7	
	comp=N,4332μm,0.6s						
ITM				AML	AML	22 25 45.9	
	comp=E,4109μm,0.8s						
DRAG	Dragano-Lefkad	1.19	2	P	Pb	22 25 16.0	-0.1
NYDR	Nydri-Lefkada	1.23	7	P	Pb	22 25 17.2	+0.5
LKD2	Lefkada island	1.30	5	P	Pb	22 25 19.8	+1.8
TSLK	Tsoukalades, L	1.34	5	P	Pb	22 25 19.8	+1.2
KLV	Kalavryta, Ach	1.41	66	P	Pb	22 25 20.6	+0.8
KLV				S	Sb	22 25 38.8	+1.5
KLV				AML	AML	22 25 50.1	
	comp=N,3760μm,0.8s						
KLV				AML	AML	22 25 51.8	
	comp=E,2875μm,0.6s						
EFP	Efpalio	1.44	49	P	Pb	22 25 21.1	+0.8
GUR	Goura	1.52	72	P	Pb	22 25 22.0	+0.3
GUR				AML	AML	22 25 54.0	
	comp=E,3984μm,1.0s						
GUR				AML	AML	22 25 54.5	
	comp=N,4314μm,0.5s						
ANX	Ano Chora	1.56	45	P	Pb	22 25 23.5	+1.1
ANX				AML	AML	22 25 55.2	
	comp=E,8419μm,0.7s						
ANX				AML	AML	22 25 56.0	
	comp=N,8946μm,0.9s						
KALE	Kalithea	1.57	54	P	Pb	22 25 23.7	+1.2
KALE				AML	AML	22 25 53.4	
	comp=N,3703μm,0.6s						
KALE				AML	AML	22 25 54.8	
	comp=E,4512μm,0.7s						
EVR	Evrytania	1.75	35	P	Pb	22 25 27.7	+2.0
EVR				AML	AML	22 26 01.9	
	comp=E,2780μm,0.7s						
EVR				AML	AML	22 26 08.2	
	comp=N,1349μm,0.6s						
DLFA	Delphi	1.85	57	P	Pb	22 25 27.3	0.0
MAKR	Makrakomi, Fth	1.98	39	P	Pb	22 25 30.0	+0.4
MAKR				AML	AML	22 26 07.5	
	comp=N,3765μm,0.6s						
MAKR				AML	AML	22 26 08.2	
	comp=E,8805μm,0.7s						
IGT	Igoumenitsa	2.05	356	P	Pb	22 25 30.1	-0.5
AGG	Agios Georgios	2.09	42	Pn	Pb	22 25 30.8	-0.6
AXAR	Agios Charalam	2.12	52	P	Pb	22 25 30.8	-1.0
AXAR				AML	AML	22 26 10.4	
	comp=E,3992μm,0.4s						
AXAR				AML	AML	22 26 17.8	
	comp=N,7414μm,0.7s						
KEK	Kerkira	2.29	346	Pn	Pn	22 25 31.8	+1.3
VIL2	Platees	2.29	71	P	Pn	22 25 32.1	+1.6
ATHU	Athens Univers	2.63	79	P	Pn	22 25 36.6	+1.4
LIT	Litokhoron	3.03	30		Pn	22 25 42.7	+2.0
FNA	Florina	3.36	11	Pn	Pn	22 25 47.3	+2.1
TIP	Timpagrande	3.40	301	Pn	Pn	22 25 46.3	+0.5
OHR	Ohrid	3.62	3	*i* Pn	Pn	22 25 52.7	+3.8
CEL	Celeste	3.74	283		Pn	22 25 51.1	+0.7
TIR	Tirane	3.89	353		Pn	22 25 55.0	+2.6
VAY	Valandovo	4.14	22	*i* Pn	Pn	22 25 58.0	+2.1
IDI	Anoyia	4.16	121	Pn	Pn	22 25 56.9	+0.7
IDI	Anoyia	4.16	121	Pn	Pn	22 25 54.8	-1.4
	comp=N,11nm,1.0s,baz=285,slow=19,SNR=1.8						
IDI				Sn	Sn	22 26 42.5	-1.6
	comp=N,2.7nm,0.3s,baz=116,slow=2.3,SNR=3.5						
PUK	Puka	4.57	354		Pn	22 26 03.1	+1.2
MMB	Musomishta	4.76	31	*e*P	Pn	22 26 05.4	+0.9
KKB	Krupnik	4.79	24	*e*P	Pn	22 26 06.6	+1.7
VAE	Valguarnera	4.86	272	Pn	Pn	22 26 07.8	+2.0
	comp=N,40nm,0.8s,baz=138,slow=15,SNR=9.0						
VAE				Sn	Sn	22 26 59.8	-1.5
	comp=N,3.6nm,0.3s,baz=212,slow=18,SNR=1.3						
RAFF	Raffo Rosso	4.91	269		Pn	22 26 06.5	0.0
PDG	Podgorica	5.03	349	Pn	Pn	22 26 08.8	+0.8
PDG	Podgorica	5.03	349	*e*Pn	Pn	22 26 06.9	-1.2
WDD	Wied Dalam	5.09	253		Pn	22 26 09.3	+0.4
RZN	Rozhen	5.32	37	*e*P	Pn	22 26 14.0	+1.8
RDO	Rodhopi	5.34	45	Pn	Pn	22 26 13.1	+0.8
TREB	Trebinje	5.48	343	*e*Pn	Pn	22 26 13.6	-0.7
VTS	Vitosha	5.53	21	*e*P	Pn	22 26 16.8	+1.7
KDZ	Kurdzhali	5.57	41	*e*P	Pn	22 26 16.8	+1.3
KARP	Karpathos	5.69	108	Pn	Pn	22 26 18.3	+1.1
SJES	Sjenica	5.78	356	*e*Pn	Pn	22 26 19.8	+1.3
STON	Ston	5.79	339	*e*Pn	Pn	22 26 18.1	-0.5
PAOL	Paolisi	5.81	309	Pn	Pn	22 26 20.9	+2.0
DIM	Dimitrovgrad	5.99	39	*e*P	Pn	22 26 22.6	+1.3
RUDO	Rudo	6.18	352	*e*Pn	Pn	22 26 26.6	+2.6
MPEP	Malo Peshtene	6.36	22	*e*P	Pn	22 26 27.6	+1.3
BBLS	Lazi&#263i	6.43	353	*e*Pn	Pn	22 26 27.3	-0.1
HAPS	Han Pijesak,Bl	6.70	350	*e*Pn	Pn	22 26 30.6	-0.5
INTR	Introdacqua	6.81	314	Pn	Pn	22 26 34.7	+2.1
TEKS	Tekeris	7.09	354	*e*Pn	Pn	22 26 35.8	-0.7
ELL	Elmali	7.54	93	Pn	Pn	22 26 44.6	+1.9
A050A	Klekovaca	7.61	338	*e*Pn	Pn	22 26 44.7	+1.1
BLY	Banja Luka	7.68	342	*e*Pn	Pn	22 26 45.9	+1.5
FRGS	Fruska Gora	7.68	356	*e*Pn	Pn	22 26 43.0	-1.5
NRCA	Norcia	7.78	316	Pn	Pn	22 26 47.8	+1.8
CESX	Cesi	7.95	313	Pn	Pn	22 26 50.3	+2.1
A051A	Mrakovica	7.99	341	*e*Pn	Pn	22 26 47.4	-1.4
VOIR		8.64	22	P	Pn	22 26 59.9	+2.2
	comp=N,10nm,0.8s						
MLR	Muntele Rosu	8.97	25	Pn	Pn	22 27 04.2	+1.9
	comp=N,0.3nm,0.3s,baz=230,slow=4.2,SNR=6.1						
MLR	Muntele Rosu	8.97	25	P	Pn	22 27 04.9	+2.6
	comp=N,25nm,0.7s						
CRES	Cresnjevec Ost	9.15	337	*e*Pn	Pn	22 27 04.1	-0.5
KEST	Kesra	9.15	262	Pn	Pn	22 27 05.3	+0.5
KEST	Kesra	9.15	262	Pn	Pn	22 27 06.2	+1.4
	comp=N,0.3nm,0.3s,baz=11,slow=2.4,SNR=7.1						
KEST				Sn	Sn	22 28 43.9	-3.2
	comp=N,0.1nm,0.3s,baz=53,slow=20,SNR=2.1						
	comp=N,8.7nm,0.9s						
CEY	Cerknica	9.42	333	*e*Pn	Pn	22 27 09.0	+0.7
VRI	Vrincioaia	9.57	27	P	Pn	22 27 13.4	+3.0
	comp=N,17nm,1.0s						
SABO	M.te Sabotino	9.93	331	Pn	Pn	22 27 15.6	+0.3
SOKA	Soboth	10.04	338	*e*Pn	Pn	22 27 17.7	+0.7
	comp=N,3.9nm,0.7s						
OBKA	Obir	10.04	336	*i* Pn	Pn	22 27 18.3	+1.3
	comp=N,2.9nm,0.4s						
OBKA	Obir	10.04	336	*e*Pn	Pn	22 27 16.2	-0.8
ARSA	Arzberg	10.43	341	*i* Pn	Pn	22 27 22.8	+0.6
	comp=N,1.0nm,0.4s						
PSZ	Piszkesteto	10.43	358	Pn	Pn	22 27 24.6	+2.3
BR131	Keskin Array S	10.51	74	Pn	Pn	22 27 25.1	+1.6
BRTR	Keskin Array B	10.51	74	Pn	Pn	22 27 23.5	+0.1
	baz=249,slow=12,SNR=1.6						
BRTR				LR	LR	22 31 16.8	
	comp=N,33nm,21.3s,baz=272,slow=37						
BURAR	Bucovina Array	10.69	17	Pn	Pn	22 27 28.5	+2.6
BUR08	Bucovina Ar. S	10.72	17	Pn	Pn	22 27 26.7	+0.5
CTI	Castel Tesino	10.81	325	Pn	Pn	22 27 30.5	+3.1
KORU	Korolevo	10.83	9	P	Pn	22 27 29.5	+1.8
BRIU	Brid	11.00	9	P	Pn	22 27 31.9	+2.0
NSLU	Nyzhne Selyshc	11.09	14	P	Pn	22 27 31.3	+0.2
UZHM	Uzhgorod	11.21	6	P	Pn	22 27 37.9	+5.1
	comp=N,6μm,0.5s						
MOA	Molln	11.32	338	*e*Pn	Pn	22 27 36.4	+2.0
	comp=N,2.2nm,0.4s						
BIOA	Bad Ischl, Aus	11.38	336	*e*Pn	Pn	22 27 36.4	+1.2
	comp=N,2.3nm,0.4s						
LESA	Schwarzleotal	11.49	332	*e*Pn	Pn	22 27 37.5	+0.8
	comp=N,1.8nm,0.6s						
FUORN	Ofenpass-Fuorn	11.88	323	Pn	Pn	22 27 44.4	+2.1
DAVOX	Davos/Dischmat	12.18	323	Pn	Pn	22 27 47.6	+1.3
	comp=N,0.1nm,0.3s,baz=130,slow=21,SNR=1.8						
DAVOX				Sn	Sn	22 29 56.9	-4.4
	comp=N,0.2nm,0.3s,baz=141,slow=12,SNR=2.2						
	comp=N,1.5nm,0.7s						
TUE	Stuetta	12.22	321	Pn	Pn	22 27 48.0	+1.1
GEC2	GERESS Array S	12.39	339	Pn	Pn	22 27 50.3	+1.3
GERES	GERESS Array B	12.39	339	Pn	Pn	22 27 48.8	-0.2
	comp=N,0.1nm,0.3s,baz=156,slow=10,SNR=2.2						
	comp=N,0.4nm,0.4s						
KHC	Kasperske Hory	12.68	339	*e*PN	Pn	22 27 52.8	-0.1
MMAI	Mount Meron Ar	12.96	106	Pn	Pn	22 27 55.2	-1.7
	comp=N,0.5nm,0.3s,baz=276,slow=13,SNR=1.3						
	comp=N,0.2nm,0.3s						
SENIN	Lac Senin/Sane	13.23	316	Pn	Pn	22 28 03.8	+3.1
LUBAR	Lubar, Ukraine	13.48	20	P	Pn	22 28 05.3	+1.5
	comp=N,62μm,0.9s						
GHAJ	Ghor Haditha	13.87	112	Pn	Pn	22 28 09.8	+0.6
ARPR	Arapgir-MALATY	14.09	78	P	P	22 28 19.4	-0.5
EIL	Elat	14.33	119	Pn	Pn	22 28 14.2	-1.4
	comp=N,0.4nm,0.3s,baz=29,slow=24,SNR=1.5						
EIL				Sn	Sn	22 30 41.6	-12
	comp=N,0.3nm,0.3s,baz=245,slow=17,SNR=2.1						
	comp=N,1.4nm,0.4s						
AK07	Malin Array Si	14.46	23	P	P	22 28 24.7	+0.9
AK13	Malin Array Si	14.47	22	P	P	22 28 24.4	+0.5
AK06	Malin Array Si	14.49	23	P	P	22 28 23.8	-0.3
AK14	Malin Array Si	14.50	22	P	P	22 28 23.5	-0.7
AK10	Malin Array Si	14.52	23	P	P	22 28 24.2	-0.2
AK12	Malin Array Si	14.53	22	P	P	22 28 25.1	+0.6
AK15	Malin Array Si	14.56	22	P	P	22 28 25.4	+0.5
AK18	Malin Array Si	14.57	22	P	P	22 28 25.5	+0.5
KIEV	Kiev	14.59	22		P	22 28 23.9	-1.2
AKASG	Malin Array Be	14.60	22	Pn	P	22 28 22.4	-2.9
AKASG	Malin Array Be	14.60	22	Pn	Pn	22 28 15.9	-3.2
	comp=N,0.3nm,0.3s,baz=213,slow=12,SNR=6.5						
	comp=N,0.6nm,0.5s						
AKBB	Malin Array Si	14.60	22	Pn	Pn	22 28 21.8	+2.7
AKBB	Malin Array Si	14.60	22	P	P	22 28 24.8	-0.5
CLL	Collm	14.81	341	*e*P	Pn	22 28 23.0	+1.0
CLL				*e*PP	PnPn	22 28 31.0	+1.0
CLL				*es*PP		22 28 36.0	
SUW	Suwalki	16.63	6		Pn	22 28 45.4	-0.1
SUW				IAmb	IAmb	22 28 50.2	
	comp=Z,43nm,1.0s						
NACGM	Naroch	17.94	12	*e*P	P	22 29 03.8	+1.5
	comp=Z,19nm,0.8s,baz=196						
KBZ	Khabaz	18.07	63	P	Pn	22 29 01.4	-2.2
	baz=249,slow=18,SNR=2.3						
	comp=Z,2.1nm,0.9s						
PABE	Paberze	18.17	6	P	Pn	22 29 03.7	-0.9
PABE				IAmb	IAmb	22 29 05.3	
	comp=Z,49nm,0.9s						
GNI	Garni	19.05	74	P	Pn	22 29 15.6	-0.1
GNI				IAmb	IAmb	22 29 41.1	
	comp=Z,15nm,1.1s						
GNI	Garni	19.05	74	P	P	22 29 13.0	-1.8
	comp=Z,0.1nm,0.3s,baz=40,slow=17,SNR=2.1						
	comp=Z,5.7nm,1.0s						
ESDC	Sonseca Array	19.25	284	P	Pn	22 29 17.7	-0.2
	comp=Z,0.1nm,0.3s,baz=78,slow=11,SNR=10						
	comp=Z,5.5nm,1.1s						
MDT	Midelt	21.04	265	P	P	22 29 37.7	+1.3
	comp=Z,8.1nm,0.8s,baz=84,slow=11,SNR=11						
	comp=Z,8.1nm,0.8s						
HFS	Hagfors	23.08	351	P	P	22 29 57.1	-0.7
	comp=Z,5.6nm,0.7s,baz=165,slow=12,SNR=6.5						
	comp=Z,5.6nm,0.7s						
NC602	NORSAR Array S	23.95	349	P	P	22 30 06.9	+0.6
NC602				IAmb	IAmb	22 30 18.6	
	comp=Z,19nm,1.5s						
EKA	Eskdalemuir Ar	23.99	326	P	P	22 30 08.1	+1.4
	comp=Z,1.4nm,0.6s,baz=129,slow=9.2,SNR=3.9						
	comp=Z,1.4nm,0.6s						
BELG	Belogornoye	24.10	43	P	P	22 30 06.8	-1.0
	comp=Z,20nm,0.9s,baz=180,slow=3.0,SNR=6.9						
	comp=Z,20nm,0.9s						
FINES	FINESS Array B	24.23	7	P	P	22 30 08.0	-0.8
FINES	FINESS Array B	24.23	7	P	P	22 30 08.5	-0.4
	comp=Z,1.9nm,0.6s,baz=170,slow=12,SNR=15						
	comp=Z,1.9nm,0.6s						
FIA1	FINESS Array S	24.23	7	P	P	22 30 07.8	-1.0
NC405	NORSAR Array S	24.29	350	P	P	22 30 09.6	+0.2
NC405				IAmb	IAmb	22 30 14.1	
	comp=Z,10nm,1.1s						
NB2	NORSAR Subarra	24.29	349	P	P	22 30 10.2	+0.7
	comp=Z,3.1nm,0.9s,baz=162,slow=9.3						
NOA	NORSAR Array B	24.29	349	P	P	22 30 09.8	+0.3
	comp=Z,1.0nm,0.7s,baz=163,slow=9.6,SNR=4.8						
	comp=Z,1.0nm,0.7s						
TORD	Torodi Ar. Bea	29.50	220	P	P	22 30 57.6	+1.0
TORD	Torodi Ar. Bea	29.50	220	P	P	22 30 57.5	+1.0
	comp=Z,2.9nm,0.8s,baz=28,slow=10,SNR=22						
	comp=Z,2.9nm,0.8s						
ABKAR	Akbulak array	30.64	55	P	P	22 31 06.2	-0.2
ABKAR	Akbulak array	30.64	55	P	P	22 31 06.2	-0.2
ABKAR				IAmb	IAmb	22 31 35.2	
	comp=Z,6.3nm,1.5s						
ARTI	Arti	31.47	41	P	P	22 31 12.8	-0.9
ARTI				IAmb	IAmb	22 31 15.2	
	comp=Z,5.4nm,1.1s						
ARTI	Arti	31.47	41	LR	LR	22 45 10.9	
	comp=Z,126nm,21.2s,baz=288,slow=39						
ARCES	ARCESS Array B	32.22	3	P	P	22 31 19.3	-0.8
	comp=Z,3.5nm,1.1s,baz=189,slow=11,SNR=1.1						
	comp=Z,3.5nm,1.1s						
BRVK	Borovoye	37.51	49	P	P	22 32 07.3	+1.4
BVAR	Borovoye Array	37.57	49	P	P	22 32 05.1	-1.3
	comp=Z,0.4nm,0.5s,baz=258,slow=7.4,SNR=3.7						
	comp=Z,0.4nm,0.5s						
KKAR	Karatay Array	38.08	65	P	P	22 32 11.4	+0.5
KKAR	Karatay Array	38.08	65	P	P	22 32 10.8	-0.1
KKAR				IAmb	IAmb	22 32 21.8	
	comp=Z,0.8nm,0.7s						
DBIC	Dimbokro	38.39	223	P	P	22 32 15.0	+1.3
	comp=Z,5.1nm,0.7s,baz=22,slow=6.5,SNR=7.8						
	comp=Z,5.1nm,0.7s						
GAR	Garm	38.75	72	P	P	22 32 16.6	-0.1
GAR				IAmb	IAmb	22 32 27.2	
	comp=Z,4.4nm,0.6s						
SPITS	Spitsbergen Ar	40.84	359	P	P	22 32 33.8	+0.3
	comp=Z,13nm,1.1s,baz=156,slow=11,SNR=1.8						
	comp=Z,13nm,1.1s						
KURBB	Kurchatov Arra	42.64	53	P	P	22 32 47.8	-0.7
	comp=Z,0.6nm,0.5s,baz=287,slow=8.6,SNR=5.4						
	comp=Z,0.6nm,0.5s						
MK31	Makanchi Array	45.67	58	P	P	22 33 12.3	-0.5
MKAR	Makanchi Array	45.67	58	P	P	22 33 12.2	-0.7
	comp=Z,0.5nm,0.4s,baz=274,slow=7.3,SNR=10						
	comp=Z,0.5nm,0.4s						
ZAA0	Zalesovo Array	46.16	48	P	P	22 33 15.7	-0.8
ZAA0				IAmb	IAmb	22 33 16.9	
	comp=Z,3.8nm,1.2s						
ZALV	Zalesovo Beam	46.16	48	P	P	22 33 16.0	-0.6
ZALV	Zalesovo Beam	46.16	48	P	P	22 33 15.8	-0.8
	comp=Z,1.6nm,0.5s,baz=279,slow=8.2,SNR=7.2						
	comp=Z,1.6nm,0.5s						
SONM	Songino Array	60.90	50	P	P	22 35 05.0	0.0
	comp=Z,0.7nm,0.7s,baz=283,slow=8.4,SNR=4.0						
	comp=Z,0.7nm,0.7s						
DGAR	Diego Garcia	65.88	121	P	P	22 35 36.4	-1.7
CMAR	Chiang Mai Arr	69.99	82	P	P	22 36 04.0	0.0
CMAR	Chiang Mai Arr	69.99	82	P	P	22 36 03.5	-0.5
	comp=Z,0.7nm,0.3s,baz=300,slow=8.8,SNR=5.1						
	comp=Z,0.7nm,0.3s						
C23K	Itkillik River	72.79	357	P	P	22 36 21.5	+1.4
C23K				IAmb	IAmb	22 36 44.1	
	comp=Z,8.3nm,1.4s						
F31M	Tsiigehtchic	73.58	350	P	P	22 36 26.3	+1.5
F31M				IAmb	IAmb	22 36 49.8	
	comp=Z,8.7nm,1.4s						
D23K	Nanushuk River	73.66	357	P	P	22 36 26.9	+1.6
YKA	Yellowknife Ar	74.03	340	P	P	22 36 27.8	+0.3
	comp=Z,0.8nm,0.9s,baz=32,slow=7.3,SNR=2.1						
	comp=Z,0.8nm,0.9s						
G29M	Pine Creek	74.64	351	P	P	22 36 32.4	+1.4
G29M				IAmb	IAmb	22 36 40.3	
	comp=Z,4.1nm,1.1s						
H29M	Whitestone	75.34	351	P	P	22 36 36.5	+1.4
ILAR	Eielson Array	77.59	355	P	P	22 36 49.5	+1.6
	comp=Z,0.3nm,0.9s,baz=354,slow=3.6,SNR=2.2						
	comp=Z,0.3nm,0.9s						
KSRS	Korea Array	79.77	51	P	P	22 36 58.3	-2.0
	comp=Z,0.5nm,0.4s,baz=316,slow=5.1,SNR=2.9						
	comp=Z,0.5nm,0.4s						
WRA	Warramunga Arr	120.51	93	PKP	PKiKP	22 43 44.7	+0.5
	comp=Z,0.4nm,1.1s,baz=314,slow=2.4,SNR=2.0						
ASAR	Alice Springs	122.10	97	PKP	PKiKP	22 43 47.5	+0.2
	comp=Z,0.4nm,0.9s,baz=321,slow=1.1,SNR=2.6						
QSPA	South Pole Qui	127.34	180	PKP	PKPdf	22 43 56.1	+0.3
	comp=Z,0.9n

KLINJ *e*Sn **Sn** **22 30 58.0 -0.2**
PTJ Puntijarka 1.78 346 *e*Pn **Pn** **22 30 35.1 -0.2**
PTJ Sn **Sn** **22 30 58.4 -0.3**
CRES Cresnjevec Ost 1.83 334 *i* Pn **Pn** **22 30 36.1 +0.1**
CRES IAML 22 31 13.1
comp=Z,204nm,0.6s
CRES Cresnjevec Ost 1.83 334⇑ *i*Pn **Pn** **22 30 36.3 +0.3**
CRES *e*Sn **Sn** **22 30 59.6 -0.2**
RIY Rijeka 1.89 308 *e*Pg **Pb** **22 30 38.7 0.0**
BRY Bratogost 1.91 132 *e*Pn **Pb** **22 30 38.1 -1.0**
BRY *e*Sn **Sn** **22 31 02.4 +0.5**
BRY Bratogost 1.91 132⇑ *i*Pn **Pb** **22 30 38.3 -0.8**
BRY *i* Sn **Sg** **22 31 06.4 +1.8**
UPM Unac-Piva 1.94 120 *e*Pn **Pn** **22 30 38.2 +0.5**
UPM *e*Sn **Sn** **22 31 03.2 +0.5**
UPM Unac-Piva 1.94 120⇑ *i*Pn **Pn** **22 30 38.6 +0.9**
UPM *i* Sn **Sg** **22 31 07.5 +1.8**
TREB Trebinje 1.94 138 *e*Pg **Pb** **22 30 38.9 -0.7**
TREB *e*Sg **Sg** **22 31 06.0 +0.2**
TREB Trebinje 1.94 138⇓ *i*Pn **Pb** **22 30 38.8 -0.8**
TREB *e*Sn **Sb** **22 31 03.5 -0.8**
KALN Kalnik 1.95 357 *e*Pn **Pn** **22 30 37.3 -0.4**
GOLS Golise 1.95 340 *i* Pn **Pn** **22 30 38.2 +0.5**
GOLS IAML 22 31 29.0
comp=Z,158nm,0.7s
CESS Cesta pri Krsk 1.96 336 *i* Pn **Pn** **22 30 38.1 +0.3**
CESS IAML 22 31 13.7
comp=Z,119nm,0.5s
LOBO Lobor 2.00 349 *i* Pn **Pn** **22 30 38.5 +0.1**
LOBO Sn **Sn** **22 31 03.5 -0.6**
BBLS Lazi&#263i 2.05 98 *e*Pn **Pn** **22 30 39.4 +0.4**
BBLS Lazi&#263i 2.05 98⇑ *i*Pn **Pn** **22 30 39.5 +0.4**
BBLS *e*Sn **Sn** **22 31 05.7 +0.5**
RUDO Rudo 2.08 105 *e*Pn **Pn** **22 30 39.2 -0.2**
RUDO *e*Sn **Sn** **22 31 05.6 -0.4**
TEKS Tekeris 2.13 79 *e*Pn **Pn** **22 30 39.7 -0.4**
TEKS Tekeris 2.13 79 *e*Pn **Pn** **22 30 39.8 -0.4**
TEKS *e*Sn **Sn** **22 31 07.0 -0.2**
BRJN Brijuni 2.16 290 *e*Pn **Pn** **22 30 40.9 +0.4**
BRJN Sn **Sn** **22 31 08.1 +0.1**
CEY Cerknica 2.19 316⇑ *i*Pn **Pn** **22 30 41.9 +0.9**
CEY *e*Sn **Sn** **22 31 08.8 +0.1**
PLE Pljevlja 2.19 112⇑ *i*Pn **Pb** **22 30 42.8 -1.1**
PLE *i* Sn **Sg** **22 31 13.3 -0.6**
HCY Herceg Novi 2.22 141⇑ *i*Pn **Pn** **22 30 42.6 +1.2**
HCY *e*Sn **Sn** **22 31 10.2 +0.8**
HCY Herceg Novi 2.22 141⇓ *i*Pn **Pn** **22 30 42.6 +1.2**
HCY *i* Sn **Sb** **22 31 13.1 +0.8**
NKME Niksic 2.22 129⇑ *i*Pn **Pn** **22 30 42.6 +1.2**
NKME *i* Sn **Sg** **22 31 14.3 -0.5**
BEHE Becsehely 2.29 3⇑ *i*Pn **Pn** **22 30 42.8 +0.5**
BEHE *e*Sn **Sn** **22 31 11.2 +0.1**
CEME Cevo 2.35 133⇓ *i*Pn **Pn** **22 30 44.3 +1.1**
CEME *i* Sn **Sb** **22 31 16.9 +0.7**
DIVS Divibare 2.44 91 *e*Pn **Pn** **22 30 44.2 -0.3**
DIVS *e*Sn **Sb** **22 31 17.6 -1.2**
FRGS Fruska Gora 2.49 66 *e*Pn **Pn** **22 30 43.8 -1.2**
FRGS *e*Sn **Sb** **22 31 18.8 -1.2**
FRGS Fruska Gora 2.49 66 *e*Pn **Pn** **22 30 45.6 +0.6**
FRGS *e*Sn **Sn** **22 31 16.3 +0.3**
MORH Mrgy, Hungar 2.49 35 *e*Pn **Pn** **22 30 45.6 +0.6**
MORH *e*Sn **Sn** **22 31 16.7 +0.7**
KOME Kolasin 2.50 121⇑ *i*Pn **Pn** **22 30 46.6 +1.2**
KOME *i* Sn **Sb** **22 31 21.9 +1.3**
BUM Brajici-Budva 2.52 138⇓ *i*Pn **Pn** **22 30 46.4 +0.8**
BUM *i* Sn **Sb** **22 31 20.6 -0.4**
SJES Sjenica 2.61 110 *e*Pn **Pn** **22 30 47.5 +0.6**
SJES *e*Sn **Sn** **22 31 21.0 +1.7**
SJES Sjenica 2.61 110⇑ *i*Pn **Pn** **22 30 47.4 +0.6**
SJES *e*Sn **Sn** **22 31 19.4 +0.1**
PDG Podgorica 2.61 131 *e*Pn **Pn** **22 30 47.9 +1.2**
PDG *e*Sn **Sn** **22 31 19.9 +0.8**
PDG Podgorica 2.61 131⇓ *i*Pn **Pn** **22 30 47.8 +1.1**
PDG *i* Sn **Sb** **22 31 23.4 -0.2**
IVAS Ivanjica 2.64 102 *e*Pn **Pn** **22 30 46.9 -0.3**
IVAS *e*Sn **Sb** **22 31 22.6 -1.8**
SOKA Soboth 2.73 337 *e*Pn **Pn** **22 30 48.4 0.0**
comp=Z,5.5nm,0.4s,SNR=8.8
IVA Berane 2.73 118⇓ *i*Pn **Pn** **22 30 50.0 +1.6**
IVA *i* Sn **Sb** **22 31 26.8 -0.3**
TRUS Trudelj 2.74 88 *e*Pn **Pn** **22 30 48.3 -0.1**
OBKA Obir 2.74 329 Pn **Pn** **22 30 49.0 +0.5**
comp=Z,18nm,0.5s
OBKA Obir 2.74 329⇑ *i*Pn **Pn** **22 30 49.4 +0.9**
OBKA *e*Sn **Sn** **22 31 22.5 +0.2**
DRME Dracevica, Mon 2.75 136⇑ *i*Pn **Pn** **22 30 49.5 +0.9**
DRME *i* Sn **Sb** **22 31 25.9 -1.6**
AVAS Avala Beograd 2.85 78 *e*Pn **Pn** **22 30 50.0 0.0**
PVY Plav 2.92 122⇓ *i*Pn **Pn** **22 30 52.5 +1.4**
PVY *i* Sn **Sb** **22 31 31.3 -1.2**
GRUS Gruza 2.98 94 *e*Pn **Pn** **22 30 51.8 0.0**
ARSA Arzberg 3.16 347 *i* Pn **Pn** **22 30 54.5 +0.3**
comp=Z,8.3nm,0.3s,SNR=25
ARSA Arzberg 3.16 347⇑ *i*Pn **Pn** **22 30 54.6 +0.3**
ARSA *e*Sn **Sn** **22 31 32.7 +0.2**
MYKA Terra Mystica 3.21 321 *e*Pn **Pn** **22 30 56.2 +1.2**
comp=Z,2.4nm,0.2s
SELS Selova 3.42 105 *e*Pn **Pn** **22 30 58.3 +0.5**
VRSS Vrsac 3.50 73 *e*Pn **Pn** **22 30 58.5 -0.4**
RONA Rosalia, Austr 3.52 357 *i* Pn **Pn** **22 30 59.8 +0.5**
comp=Z,29nm,0.3s,SNR=49
RONA *e*Sn **Sn** **22 31 40.9 -0.6**
comp=Z,11nm,0.4s
KBA Koelnbreinsper 3.69 323 *e*Pn **Pn** **22 31 03.0 +1.3**
comp=Z,1.2nm,0.3s
BOVS Bovan 3.73 97 *e*Pn **Pn** **22 31 01.6 -0.5**
CONA Conrad Observa 3.78 352 *e*Pn **Pn** **22 31 03.3 +0.5**
comp=Z,7.8nm,0.4s,SNR=15
CONA *e*Sn **Sn** **22 31 47.6 -0.3**
comp=Z,4.6nm,0.3s
SRO Srobarova 3.82 18 *e*PN **Pn** **22 31 04.2 +0.9**
SRO *e*SN **Sn** **22 31 48.8 0.0**
ABTA Abfaltersbach 3.85 313 *e*Pn **Pn** **22 31 05.3 +1.4**
comp=Z,1.0nm,0.2s
MOA Molln 4.01 337 *i* Pn **Pn** **22 31 07.1 +1.2**
comp=Z,1.8nm,0.2s,SNR=17
MOA *e*Sn **Sn** **22 31 52.6 -0.9**
comp=Z,7.4nm,0.4s
BARS Barje 4.03 108 *e*Pn **Pn** **22 31 06.5 +0.2**
BIOA Bad Ischl, Aus 4.07 331 *e*Pn **Pn** **22 31 07.7 +0.9**
comp=Z,0.8nm,0.2s
ZAGS Zajecar 4.08 93 *e*Pn **Pn** **22 31 06.9 0.0**
MODS Modra-Piesok 4.21 6 *e*PN **Pn** **22 31 08.8 0.0**
MODS *e*SN **Sn** **22 31 56.2 -2.4**
LESA Schwarzleotal 4.24 321 *e*Pn **Pn** **22 31 11.1 +1.8**
comp=Z,3.6nm,0.4s
ZAPS Zavoj 4.47 100 *e*Pn **Pn** **22 31 12.5 +0.2**
VYHS Vyhne 4.58 19 *e*PN **Pn** **22 31 14.0 +0.2**
VYHS *e*SN **Sn** **22 32 06.0 -1.6**
BOSS Bosilegrad 4.61 109 *e*Pn **Pn** **22 31 14.1 -0.1**
WTTA Wattenberg 4.64 313 *e*Pn **Pn** **22 31 17.2 +2.3**
comp=Z,1.3nm,0.2s
WATA Walderalm 4.72 314 *e*Pn **Pn** **22 31 18.1 +2.3**
comp=Z,3.5nm,0.2s,SNR=11
WATA *e*Sn **Sn** **22 32 14.5 +3.2**
comp=Z,10nm,0.7s
JAVC Velka Javorina 4.73 9 *e*PN **Pn** **22 31 16.7 +0.8**
JAVC *e*SN **Sn** **22 32 10.1 -1.3**
SQTA Sankt Quirin 4.84 311 *e*Pn **Pn** **22 31 19.9 +2.3**
comp=Z,2.3nm,0.2s,SNR=8.4
KRUC Moravsky 4.88 358 *e*PN **Pn** **22 31 17.8 -0.1**
KRUC *e*SN **Sn** **22 32 11.3 -3.7**
CKRC Cesky Krumlov 4.90 342 *e*PN **Pn** **22 31 18.8 +0.6**
CKRC *e*SN **Sn** **22 32 13.7 -1.7**
MOTA Moosalm 4.98 311 *e*Pn **Pn** **22 31 21.3 +2.0**
comp=Z,1.3nm,0.2s
FETA Feichten 5.00 307 *i* Pn **Pn** **22 31 21.6 +1.9**
comp=Z,0.6nm,0.4s
KECS Kecovo 5.07 31 *e*SN **Sn** **22 32 16.7 -2.9**
GERES GERESS Array B 5.07 338 Pn **Pn** **22 31 20.8 +0.2**
comp=Z,1.0nm,0.3s,baz=150,slow=14,SNR=10
GERES Sn **Sn** **22 32 17.4 -2.4**
comp=Z,1.8nm,0.3s,baz=153,slow=26,SNR=9.8
GERES Lg Lg 22 32 38.8
comp=Z,0.5nm,0.3s,baz=153,slow=32,SNR=1.9
comp=Z,2.1nm,0.4s
VRAC Vranov 5.12 360 Pn **Pn** **22 31 20.3 -0.9**
comp=Z,1.7nm,0.3s,baz=183,slow=14,SNR=11
VRAC Sn **Sn** **22 32 16.4 -4.6**
comp=Z,1.2nm,0.3s,baz=280,slow=17,SNR=5.1
comp=Z,4.3nm,0.4s
VRAC Vranov 5.12 360 *e*PN **Pn** **22 31 21.3 0.0**

VRAC *e*SN **Sn** **22 32 17.3 -3.7**
MAUC Maruska 5.25 9 *e*PN **Pn** **22 31 23.8 +0.8**
LANS Liptovska Anna 5.34 21 *e*PN **Pn** **22 31 26.2 +1.9**
KHC Kasperske Hory 5.37 338 *e*PN **Pn** **22 31 25.3 +0.7**
KHC *e*SN **Sn** **22 32 24.4 -2.6**
DAVOX Davos/Dischmat 5.39 301 Pn **Pn** **22 31 26.2 +1.1**
comp=Z,2.2nm,0.3s,baz=119,slow=10,SNR=22
DAVOX Sn **Sn** **22 32 28.1 +0.3**
comp=Z,0.7nm,0.3s,baz=344,slow=13,SNR=6.0
DAVOX Lg Lg 22 32 56.0
comp=Z,0.5nm,0.3s,baz=329,slow=20,SNR=1.9
comp=Z,4.8nm,0.3s
ZVC Zvikov 5.51 343 *e*PN **Pn** **22 31 27.0 +0.5**
ZVC *e*SN **Sn** **22 32 28.1 -2.4**
MORC Moravsky Berou 5.63 6 *e*PN **Pn** **22 31 29.0 +0.8**
MORC *e*SN **Sn** **22 32 30.4 -3.1**
DAVA Damuels 5.63 306 *e*Pn **Pn** **22 31 30.6 +2.2**
comp=Z,0.9nm,0.3s
OKC Ostrava-Krasne 5.75 10 *e*SN **Sn** **22 32 34.8 -1.6**
PRU Pruhonice 5.97 347 *e*PN **Pn** **22 31 34.3 +1.4**
STHS Stebnicka Huta 6.12 30 *e*SN **Sn** **22 32 42.9 -2.8**
DPC Dobruska-Polom 6.17 358 *e*PN **Pn** **22 31 36.7 +1.1**
OSTC Ostas 6.38 358 *e*PN **Pn** **22 31 38.6 +0.1**
BRG Berggiesshubel 6.93 346 Pn **Pn** **22 31 46.6 +0.6**
BRG Amp 22 31 48.0
comp=Z,1.1nm,0.4s
BRG S **Sb** **22 33 24.3 -3.4**
BRG Amp 22 33 45.1
comp=Z,2.7nm,0.6s
CLL Collm 7.53 342 *e*Pn **Pn** **22 31 50.0 -4.2**
CLL *e*Sn **Sn** **22 33 13.0 -7.1**
CLL *ex* x 22 33 19.0
CLL *ex* x 22 33 45.0
CLL *ex* x 22 33 56.0
CLL *e*Sg **Sg** **22 34 00.0 -4.9**
comp=Z,40nm,1.8s
KEST Kesra 10.11 216 Pn **Pn** **22 32 33.9 +4.1**
comp=Z,0.2nm,0.3s,baz=24,slow=10.0,SNR=1.7
comp=Z,4.7nm,1.1s
MKAR Makanchi Array 44.91 62 P **P** **22 38 19.6 +0.1**
comp=Z,0.9nm,0.9s,baz=290,slow=9.1,SNR=3.0
comp=Z,0.9nm,0.9s

NEIC ***17*** *22:42:45.6±1.9, 20°.5S±0°.1×177°.6W±0°.1, h486km±7km, mb4.4/37, Error ellipse: s-maj=17.9km s-min=16.3km az=124.0*
IDC ***17*** *22:42:50.1±2.4, 20°.61S×177°.70W, h549km±26km, mb3.5/13, mbtmp4.4/14, Error ellipse: s-maj=15.8km s-min=11.0km az=140.0*
ISC 17 22:42:45.8±0.4**, 20°.55S**±0°.06×**177°.64W**±0°.07**, h500**km**, n122**, σ1§**40**/117**, mb4.3**/32**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.95**	**304**	P	**P**	**22 44 15.2**	**+2.8**
FUTU	**Fugatoga**	**6.22**	**356**	P	**P**	**22 44 24.2**	**-0.2**
NIUE	**Niue**	**7.40**	**80**	P	**P**	**22 44 35.5**	**-0.6**
GLKZ	**Green Lake**	**8.68**	**182**	P	**P**	**22 44 46.8**	**-2.3**
GLKZ				S	**S**	**22 46 28.6**	**-1.8**
FUNA	**Funafuti**	**12.34**	**345**	P	**P**	**22 45 27.7**	**-0.3**
PINNC	**Pines Island,**	**14.03**	**259**	P	**P**	**22 45 47.9**	**+2.1**
DZM	**Mont Dzumac**	**14.92**	**261**	P	**P**	**22 45 54.1**	**-1.2**
KOUNC	**Koumac, New Ca**	**16.93**	**267**	P	**P**	**22 46 18.6**	**+2.4**
MXZ	**Matakaoa Point**	**17.32**	**191**	P	**P**	**22 46 20.7**	**+1.0**
HAZ	**Te Kaha**	**17.60**	**192**	P	**P**	**22 46 22.0**	**-0.3**
PUZ	**Puketiti**	**17.82**	**191**	P	**P**	**22 46 26.4**	**+2.1**
PUZ				S	**S**	**22 49 28.1**	**+5.2**
RUGZ	**Raukumara Rang**	**17.82**	**192**	P	**P**	**22 46 26.5**	**+1.9**
TOZ	**Tahuroa Road**	**18.13**	**198**	P	**P**	**22 46 29.1**	**+1.9**
MWZ	**Matawai**	**18.21**	**192**	P	**P**	**22 46 28.0**	**+0.1**
URZ	**Urewera**	**18.23**	**193**	P	**P**	**22 46 28.3**	**+0.3**
	12nm,0.6s,baz=98,slow=1.9,SNR=12						
URZ				S	**S**	**22 49 25.5**	**-3.8**
	2.7nm,0.7s,baz=304,slow=22,SNR=1.5						
URZ	**Urewera**	**18.23**	**193**	P	**P**	**22 46 26.9**	**-1.1**
URZ				S	**S**	**22 49 30.7**	**+1.4**
CNGZ	**Carnagh Statio**	**18.23**	**190**	P	**P**	**22 46 30.2**	**+2.1**
RTZ	**Ruatahuna**	**18.60**	**193**	P	**P**	**22 46 30.2**	**-1.4**
PRRZ	**Plateau Road**	**18.62**	**195**	P	**P**	**22 46 27.8**	**-3.9**
BKZ	**Black Stump Fm**	**19.23**	**194**	P	**P**	**22 46 37.0**	**-0.3**
KRVZ	**Karewarewa**	**19.37**	**196**	P	**P**	**22 46 36.3**	**-2.3**
TMVZ	**Te Maari**	**19.37**	**196**	P	**P**	**22 46 39.7**	**+1.0**
ETVZ	**East Tongariro**	**19.39**	**196**	P	**P**	**22 46 39.2**	**+0.4**
KWHZ	**Kaweka Forest**	**19.49**	**194**	P	**P**	**22 46 39.4**	**-0.3**
WNVZ	**Wahianoa**	**19.60**	**196**	P	**P**	**22 46 41.2**	**+0.4**
BFZ	**Birch Farm**	**20.74**	**193**	P	**P**	**22 46 51.0**	**+0.1**
EIDS	**Eidsvold**	**29.16**	**255**	P	**P**	**22 48 06.8**	**+0.8**
EIDS				IAmb	IAmb	22 48 07.5	
comp=Z,8.0nm,0.7s							
ARMA	**Armidale**	**29.35**	**244**	P	**P**	**22 48 08.4**	**+0.7**
ARMA				IAmb	IAmb	22 48 27.3	
comp=Z,13nm,1.2s							
CTAO	**Charters Tower**	**33.83**	**264**	P	**P**	**22 48 46.7**	**+0.7**
TOO	**Toulangi**	**36.14**	**234**	P	**P**	**22 49 05.0**	**-0.2**
TAU	**Tasmania Unive**	**36.83**	**225**	P	**P**	**22 49 11.0**	**+0.3**
TAU				IAmb	IAmb	22 49 27.1	
comp=Z,18nm,1.3s							
COEN	**Coen**	**37.93**	**274**	P	**P**	**22 49 20.9**	**+0.7**
COEN				IAmb	IAmb	22 49 22.2	
comp=Z,18nm,1.1s							
STKA	**Stephens Creek**	**38.08**	**244**	P	**P**	**22 49 21.5**	**+0.3**
STKA	**Stephens Creek**	**38.08**	**244**	P	**P**	**22 49 21.9**	**+0.7**
comp=Z,2.0nm,0.5s,baz=111,slow=15,SNR=3.8							
comp=Z,2.0nm,0.5s							
BBOO	**Buckleboo**	**42.83**	**244**	P	**P**	**22 49 59.1**	**-0.1**
BBOO				IAmb	IAmb	22 50 22.1	
comp=Z,19nm,1.3s							
WR0	**Warramunga Arr**	**44.74**	**262**	P	**P**	**22 50 14.0**	**-0.3**
WR0				IAmb	IAmb	22 50 15.6	
comp=Z,6.8nm,0.7s							
AS31	**Alice Springs**	**44.84**	**257**	P	**P**	**22 50 15.3**	**+0.2**
ASAR	**Alice Springs**	**44.84**	**257**	P	**P**	**22 50 15.4**	**+0.4**
comp=Z,20nm,0.9s,baz=99,slow=7.8,SNR=144							
ASAR				PcP	**PcP**	**22 51 46.0**	**-0.4**
comp=Z,1.7nm,0.7s,baz=106,slow=3.7,SNR=6.1							
ASAR				S	**S**	**22 56 13.2**	**-2.6**
comp=Z,1.7nm,1.0s,baz=92,slow=16,SNR=8.2							
comp=Z,20nm,0.9s							
WB0	**Warramunga Arr**	**44.91**	**262**	P	**P**	**22 50 15.5**	**-0.1**
WRA	**Warramunga Arr**	**44.93**	**262**	P	**P**	**22 50 15.2**	**-0.5**
WRA	**Warramunga Arr**	**44.93**	**262**	P	**P**	**22 50 15.5**	**-0.2**
comp=Z,11nm,0.6s,baz=98,slow=8.0,SNR=246							
WRA				PcP	**PcP**	**22 51 46.6**	**-0.1**
comp=Z,0.9nm,0.6s,baz=88,slow=3.2,SNR=3.8							
WRA				S	**S**	**22 56 14.4**	**-2.7**
comp=Z,0.3nm,0.8s,baz=98,slow=13,SNR=2.4							
comp=Z,11nm,0.6s							
MTN	**Manton Dam**	**49.51**	**270**	P	**P**	**22 50 50.2**	**-0.1**
FORT	**Forrest**	**49.59**	**247**	P	**P**	**22 50 49.7**	**-1.0**
FORT				IAmb	IAmb	22 51 02.3	
comp=Z,24nm,0.9s							
KNRA	**Kununurra**	**51.00**	**266**	P	**P**	**22 51 01.1**	**-0.1**
KNRA				IAmb	IAmb	22 51 01.8	
comp=Z,7.3nm,0.7s							
FAKI	**Fak Fak**	**51.84**	**283**	P	**P**	**22 51 07.4**	**0.0**
FAKI				IAmb	IAmb	22 51 16.0	
comp=Z,35nm,1.5s							
BATI	**Baumata**	**57.27**	**271**	P	**P**	**22 51 47.2**	**+1.6**
comp=Z,11nm,0.5s,baz=233,slow=1.4,SNR=2.4							
comp=Z,11nm,0.5s							
SBA	**Scott Base**	**57.84**	**184**	P	**P**	**22 51 50.8**	**+2.3**
PSA00	**Pilbara Seismi**	**57.99**	**257**	P	**P**	**22 51 50.4**	**0.0**
MBWA	**Marble Bar**	**58.18**	**257**	P	**P**	**22 51 51.3**	**-0.4**
MBWA				IAmb	IAmb	22 51 52.3	
comp=Z,6.5nm,0.7s							
TOLI2	**Tolitoli**	**63.95**	**282**	P	**P**	**22 52 29.9**	**+0.1**
TOLI2				IAmb	IAmb	22 52 49.7	
comp=Z,10nm,1.1s							
QSPA	**South Pole Qui**	**69.52**	**180**	P	**P**	**22 53 04.7**	**+1.2**
QSPA	**South Pole Qui**	**69.52**	**180**	P	**P**	**22 53 05.3**	**+1.8**
comp=Z,0.6nm,0.7s,baz=264,slow=1.7,SNR=6.0							
comp=Z,0.6nm,0.7s							
KKM	**Kota Kinabalu**	**70.10**	**285**	P	**P**	**22 53 07.9**	**0.0**
JGF	**Kuroka**	**70.26**	**322**	P	**P**	**22 53 07.8**	**-0.5**
JGF				IAmb	IAmb	22 53 30.4	
comp=Z,7.7nm,1.0s							
UGM	**Wanagama**	**70.30**	**269**	P	**P**	**22 53 08.6**	**-0.5**
MJAR	**Matsushiro Arr**	**70.45**	**323**	P	**P**	**22 53 08.9**	**-0.4**
comp=Z,4.9nm,0.6s,baz=159,slow=5.8,SNR=26							
comp=Z,4.9nm,0.6s							
MAJO	**Matsushiro**	**70.45**	**323**	P	**P**	**22 53 09.1**	**-0.3**
MAJO				IAmb	IAmb	22 53 09.6	
comp=Z,7.7nm,0.6s							

MJB9 Matsu-Tunnel 70.46 323 P **P** **22 53 10.1 +0.6**
MJB9 IAmb IAmb 22 53 10.6
comp=Z,7.2nm,0.6s
NACB Ninganchiao 73.99 304 P **P** **22 53 29.2 -0.9**
SSLB Suanglung 74.29 303 P **P** **22 53 30.7 -1.2**
SSLB IAmb IAmb 22 53 31.3
comp=Z,19nm,1.1s
KSRS Korea Array 77.15 318 P **P** **22 53 47.8 +0.3**
comp=Z,1.0nm,0.6s,baz=133,slow=4.8,SNR=4.7
comp=Z,1.0nm,0.6s
O02D Mt. Diablo Mer 79.09 40 P **P** **22 53 59.3 +1.3**
USRK Ussuriysk Ar. 79.20 326 P **P** **22 53 58.1 -0.2**
USRK Ussuriysk Ar. 79.20 326 P **P** **22 53 57.4 -1.0**
comp=Z,5.7nm,0.8s,baz=81,slow=5.0,SNR=8.1
comp=Z,5.7nm,0.8s
YBH Yreka Blue Hor 80.11 38 P **P** **22 54 03.7 +0.4**
L04D Klamath Falls 80.66 38 P **P** **22 54 06.5 +0.3**
L04D IAmb IAmb 22 54 24.5
comp=Z,13nm,1.5s
NVAR Mina Array Bea 80.83 43 P **P** **22 54 07.7 +0.4**
comp=Z,1.1nm,0.8s,baz=226,slow=8.6,SNR=8.2
comp=Z,1.1nm,0.8s
J05D Fort Rock, OR 81.93 38 P **P** **22 54 13.4 +0.6**
J05D IAmb IAmb 22 54 14.5
comp=Z,4.7nm,0.7s
PINE Pine Mountain 82.41 38 P **P** **22 54 16.1 +0.7**
PINE IAmb IAmb 22 54 17.1
comp=Z,11nm,1.2s
TXAR Lajitas Array 86.80 57 P **P** **22 54 38.0 +1.1**
comp=Z,0.7nm,0.7s,baz=218,slow=5.7,SNR=8.2
comp=Z,0.7nm,0.7s
ILAR Eielson Array 88.29 13 P **P** **22 54 41.8 -1.2**
comp=Z,0.7nm,0.7s,baz=223,slow=5.8,SNR=11
comp=Z,0.7nm,0.7s
PDAR Pinedale Array 88.76 43 P **P** **22 54 45.6 -0.5**
comp=Z,0.6nm,0.7s,baz=218,slow=4.2,SNR=6.7
comp=Z,0.6nm,0.7s
CMAR Chiang Mai Arr 90.45 289 P **P** **22 54 54.7 +0.6**
comp=Z,1.7nm,0.3s,baz=96,slow=3.1,SNR=9.3
comp=Z,1.7nm,0.3s
CHTO Chiang Mai 90.58 290 P **P** **22 54 55.6 +0.9**
CHTO IAmb IAmb 22 54 56.6
comp=Z,3.1nm,0.6s
ZALV Zalesovo Beam 110.75 321 PKiKP **PKiKP** **23 00 19.9 -1.2**
comp=Z,0.8nm,0.5s,baz=122,slow=2.1,SNR=4.6
MKAR Makanchi Array 111.48 313 PKiKP **PKiKP** **23 00 21.4 -1.3**
comp=Z,0.7nm,0.6s,baz=201,slow=0.9,SNR=7.2
KURBB Kurchatov Arra 114.31 317 PKP PKPdf 23 00 26.8 -1.3
comp=Z,0.5nm,0.3s,baz=96,slow=1.9,SNR=5.9
BVAR Borovoye Array 119.34 320 PKP **PKPdf** **23 00 36.4 -1.2**
comp=Z,2.1nm,0.4s,baz=114,slow=1.4,SNR=19
ARCES ARCESS Array B 129.03 350 PKP **PKPdf** **23 00 55.1 -0.6**
comp=Z,8.9nm,1.1s,baz=342,slow=6.4,SNR=3.7
FINES FINESS Array B 135.91 344 PKP **PKPdf** **23 01 07.0 -1.9**
comp=Z,1.9nm,0.8s,baz=25,slow=5.0,SNR=4.0
HFS Hagfors 139.64 351 PKiKP PKPpre 23 01 07.6
comp=Z,1.3nm,0.5s,baz=80,slow=1.8,SNR=9.2
AK03 Malin Array Si 143.21 331 PKP PKPab 23 01 18.2 -1.9
AKASG Malin Array Be 143.22 331 PKP PKPab 23 01 19.2 -1.0
comp=Z,3.2nm,0.5s,baz=44,slow=4.4,SNR=36
AKBB Malin Array Si 143.22 331 PKP PKPab 23 01 18.8 -1.4
AK04 Malin Array Si 143.23 331 PKP PKPab 23 01 18.7 -1.5
AK01 Malin Array Si 143.23 331 PKP PKPab 23 01 19.0 -1.2
AK22 Malin Array Si 143.25 332 PKP PKPab 23 01 19.0 -1.2
AK21 Malin Array Si 143.25 332 PKP PKPab 23 01 18.9 -1.4
AK18 Malin Array Si 143.28 331 PKP PKPab 23 01 19.1 -1.3
AK05 Malin Array Si 143.29 331 PKP PKPab 23 01 19.1 -1.3
AK20 Malin Array Si 143.29 332 PKP PKPab 23 01 19.1 -1.3
LODK Lodwar 143.64 246 PKPdf PKPbc 23 01 23.7 +0.6
MI28 Mi28,Pidlybu 143.74 333 PKP PKPab 23 01 21.2 -0.9
ARPR Arapgir-MALATY 144.03 309 PKPbc **PKPdf** **23 01 24.2 -0.3**
RNPP9 Sopachiv 144.11 335 PKP PKPbc 23 01 22.4 -0.9
LUBAR Lubar, Ukraine 144.44 332 PKP PKPbc 23 01 23.1 -1.3
EKA Eskdalemuir Ar 145.02 6 PKPbc **PKPdf** **23 01 25.1 -0.3**
comp=Z,0.7nm,0.6s,baz=346,slow=3.0,SNR=4.3
KMPD K-Podol'skiy 146.01 331 PKP **PKPbc** **23 01 28.2 -0.9**
MORS Morshin 146.69 334 PKP **PKPdf** **23 01 28.1 -0.3**
KWP Kalwaria Pacla 146.77 336 PKPbc **PKPbc** **23 01 31.1 -0.1**
BR131 Keskin Array S 147.12 312 PKPbc **PKPbc** **23 01 32.0 -0.6**
BRTR Keskin Array B 147.12 312 PKPbc **PKPbc** **23 01 31.8 -0.9**
BRTR Keskin Array B 147.12 312 PKPbc **PKPbc** **23 01 32.1 -0.6**
comp=Z,2.0nm,0.6s,baz=145,slow=4.7,SNR=14
BR106 Keskin Array S 147.14 313 PKP **PKPbc** **23 01 32.0 -0.7**
BUR08 Bucovina Ar. S 147.26 331 **PKPbc** **23 01 32.7 0.0**
BURAR Bucovina Array 147.27 331 PKPbc **PKPbc** **23 01 32.7 0.0**
STHS Stebnicka Huta 147.50 337 *e*PKP **PKPbc** **23 01 33.8 +0.6**
MUKU Mukachevo 147.72 334 PKP **PKPbc** **23 01 33.8 +0.1**
KSP Ksiaz 147.84 343 PKP **PKPbc** **23 01 33.8 -0.2**
MMAI Mount Meron Ar 148.14 300 PKPbc **PKPbc** **23 01 35.2 -0.2**
comp=Z,3.3nm,0.5s,baz=80,slow=6.3,SNR=17
CLL Collm 148.19 347 **PKPbc** **23 01 34.3 -0.4**
CLL Collm 148.19 347 *i* PKPbc **PKPbc** **23 01 34.5 -0.3**
comp=Z,11nm,0.7s
CLL *i* PKiKP **PKPab** **23 01 38.1 -1.5**
CLL *e*PKPab **PKiKP** **23 01 42.0 +5.9**
CLL *e*SKPbc **SKiKP** **23 04 28.0 +3.4**
CLL Collm 148.19 347 **PKPbc** **23 01 34.4 -0.4**
LANS Liptovska Anna 148.35 338 *e*PKP **PKiKP** **23 01 36.2 -0.4**
BRG Berggiesshubel 148.39 346 *i* P **PKPbc** **23 01 35.1 -0.2**
BRG Amp 23 01 36.1
comp=Z,5.1nm,0.8s
BRG Berggiesshubel 148.39 346 P **PKPab** **23 01 39.4 -1.1**
BRG Amp 23 01 40.2
comp=Z,2.8nm,0.8s
VYHS Vyhne 149.13 338 *e*PKP **PKPbc** **23 01 37.2 -0.1**
CSS Mathiatis 149.21 304 PKPbc **PKPbc** **23 01 37.2 -0.7**
KHC Kasperske Hory 150.10 345 PKPbc **PKPbc** **23 01 39.4 -0.2**
GERES GERESS Array B 150.34 345 PKPbc **PKPbc** **23 01 39.9 -0.4**
comp=Z,1.6nm,0.7s,baz=26,slow=3.4,SNR=6.7
ELL Elmali 151.08 310 PKPbc **PKPbc** **23 01 41.1 -1.2**
RDO Rodhopi 151.57 321 PKPbc **PKPbc** **23 01 42.1 -1.0**

ISN ***17*** *22:46:19.6±3.1, 34°.56N×45°.40E, h19km±28km, ML2.7*
TEH ***17*** *22:46:19.9, 34°.64N×45°.34E, h9km±24km, ML2.8*
ISC 17 22:46:19.7±1.3**, 34°.58N**±0°.05×**45°.25E**±0°.07**, h10**km**, n15,**
σ1§07/17, Iran-Iraq border region

| Code | Station Name | Δ° | AZ° | Ph

3.0nm,0.8s,baz=331,slow=22,SNR=12
ASAR Alice Springs 16.93 167 P **Pn 22 58 28.3 +4.1**
1.5nm,0.9s,baz=350,slow=10,SNR=11
ASAR S **Sn 23 01 35.0 0.0**
0.8nm,0.7s,baz=358,slow=28,SNR=5.2
MKAR Makanchi Array 68.25 327 P **P 23 05 16.4 -1.3**
1.1nm,0.6s,baz=140,slow=7.0,SNR=13
1.1nm,0.6s
KURBB Kurchatov Arra 72.54 329 P **P 23 05 42.4 -1.2**
0.9nm,0.2s,baz=138,slow=4.7,SNR=4.6
0.9nm,0.2s
TORD Torodi Ar. Bea 128.77 281 PKP **PKPdf 23 13 23.7 +0.6**
0.3nm,0.7s,baz=101,slow=4.6,SNR=2.1

*DNK **17** 23:06:30.0±2.0, 51°.24N×15°.35E, h15km±93km, ML2.1*
*IDC **17** 23:06:33.0±0.9, 51°.50N×16°.03E, h0km, mbtmp3.3/7, ML2.6/6, Error ellipse: s-maj=15.3km s-min=8.1km az=113.0*
*IPEC **17** 23:06:32.7±0.2, 51°.48N×16°.20E, h1km, ML2.2/4, Error ellipse: s-maj=1.6km s-min=1.0km az=32.0*
*VIE **17** 23:06:33.5±0.7, 51°.40N×16°.62E, h0km, mb2.6/4, ml2.7/8, Error ellipse: s-maj=6.9km s-min=4.1km az=108.0, Suspected Mining induced.*
*PRU **17** 23:06:35.1, 51°.42N×16°.10E, h0km*
ISC 17 23:06:30.8±0.7, 51°.58N±0°.03×16°.13E±0°.02, h0km, n47, σ1§01/83, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**172**	*e*Pg	**Pg**	**23 06 45.6**	**+0.5**
KSP				*e*Sg	**Sg**	**23 06 54.4**	**-0.4**
CHVC	**Chvalec**	**1.00**	**183**	*e*PG	**Pg**	**23 06 50.4**	**+0.6**
CHVC				*e*SG	**Sg**	**23 07 02.6**	**-0.1**
OSTC	**Ostas**	**1.03**	**177**	*e*PG	**Pg**	**23 06 51.3**	**+0.8**
OSTC				*e*SG	**Sg**	**23 07 03.4**	**-0.4**
	comp=Z,53nm,0.4s						
UPC	**Upice**	**1.08**	**184**	*e*PG	**Pg**	**23 06 51.8**	**+0.4**
UPC				*e*SG	**Sg**	**23 07 04.4**	**-1.0**
	comp=Z,94nm,0.4s						
DPC	**Dobruska-Polom**	**1.24**	**174**	*e*PG	**Pg**	**23 06 54.5**	**0.0**
DPC				*e*SG	**Sg**	**23 07 09.6**	**-0.9**
	comp=Z,25nm,0.3s						
PVCC	**Panska Ves**	**1.44**	**224**	*e*PG	**Pb**	**23 06 59.1**	**+0.6**
PVCC				*e*SG	**Sb**	**23 07 17.7**	**+0.3**
BRG	**Berggiesshubel**	**1.55**	**244**	Pg	**Pg**	**23 07 01.2**	**+0.8**
BRG				Sg	**Sg**	**23 07 21.5**	**+1.0**
BRG				Amp		23 07 22.8	
	comp=Z,77nm,0.3s						
KRLC	**Kraliky**	**1.56**	**164**	*e*PG	**Pn**	**23 07 00.3**	**+0.4**
KRLC				*e*SG	**Sn**	**23 07 19.9**	**-0.9**
RICC	**Richard**	**1.65**	**232**	*e*PG	**Pg**	**23 07 02.8**	**+0.4**
RICC				*e*SG	**Sg**	**23 07 24.0**	**+0.2**
	comp=Z,46nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.88**	**208**	*e*PG	**Pb**	**23 07 06.0**	**+0.1**
PRU	**Pruhonice**	**1.89**	**213**	*e*PG	**Pb**	**23 07 06.2**	**+0.1**
PRU				*e*SG	**Sn**	**23 07 28.6**	**-0.1**
	comp=Z,31nm,0.3s						
HSKC	**Hora Svate Kat**	**1.96**	**241**	*e*PG	**Pb**	**23 07 08.0**	**+0.6**
HSKC				*e*SG	**Sb**	**23 07 33.0**	**+0.6**
	comp=Z,39nm,0.3s						
CLL	**Collm**	**1.98**	**263**	*e*Pn	**Pn**	**23 07 06.0**	**+0.5**
CLL				*e*Pg	**Pg**	**23 07 09.0**	**+0.4**
CLL				*ex*	x	23 07 12.0	
CLL				*ex*	x	23 07 24.0	
CLL				*e*Sg	**Sg**	**23 07 35.0**	**+0.8**
	comp=Z,25nm,0.4s						
MORC	**Moravsky Berou**	**2.02**	**153**	*e*Pn	**Pn**	**23 07 06.3**	**+0.2**
	baz=334						
MORC				*e*Sg	**Sn**	**23 07 32.4**	**+0.4**
	comp=Z,13nm,0.3s,baz=334						
OKC	**Ostrava-Krasne**	**2.17**	**143**	*e*PG	**Pb**	**23 07 12.0**	**+1.2**
VRAC	**Vranov**	**2.30**	**172**	Pn	**Pn**	**23 07 11.0**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=350,slow=17,SNR=16						
VRAC				Lg	Lg	23 07 43.1	
	comp=Z,4.4nm,0.3s,baz=263,slow=20,SNR=10						
	comp=Z,4.6nm,0.4s						
VRAC	**Vranov**	**2.30**	**172**	*e*Pn	**Pn**	**23 07 10.1**	**+0.2**
	baz=354						
VRAC				*e*Sg	**Sb**	**23 07 41.3**	**-0.7**
	comp=Z,14nm,0.4s,baz=354						
VRAC	**Vranov**	**2.30**	**172**	*e*PN	**Pn**	**23 07 10.2**	**+0.3**
VRAC				*e*SG	**Sb**	**23 07 41.4**	**-0.6**
KRUC	**Moravsky**	**2.53**	**176**	*e*Pn	**Pn**	**23 07 13.5**	**+0.4**
	baz=357						
KRUC	**Moravsky**	**2.53**	**176**	*e*Pg	**Pb**	**23 07 16.9**	**-0.1**
	baz=357						
KRUC				*e*Sg	**Sb**	**23 07 48.8**	**+0.2**
	comp=Z,19nm,0.5s,baz=357						
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**23 07 23.3**	**+0.9**
OJC				*e*Sg	**Sg**	**23 07 58.5**	**+1.2**
NKC	**Novy Kostel**	**2.69**	**241**	*e*SG	**Sg**	**23 07 58.4**	**+1.1**
	comp=Z,49nm,0.3s						
JAVC	**Velka Javorina**	**2.90**	**159**	*e*Pn	**Pn**	**23 07 18.4**	**+0.2**
	baz=341						
JAVC	**Velka Javorina**	**2.90**	**159**	*e*PN	**Pn**	**23 07 18.5**	**+0.2**
KHC	**Kasperske Hory**	**2.95**	**215**	*e*PN	**Pn**	**23 07 19.4**	**+0.5**
KHC				*e*PG	**Pb**	**23 07 25.5**	**+1.3**
KHC				*e*SN	**Sn**	**23 07 54.1**	**-0.9**
KHC				*e*SG	**Sg**	**23 08 03.7**	**-1.7**
	comp=Z,19nm,0.6s						
CKRC	**Cesky Krumlov**	**3.00**	**204**	*e*PN	**Pn**	**23 07 20.6**	**+1.0**
CKRC				*e*PG	**Pb**	**23 07 26.5**	**+1.4**
CKRC				*e*SG	**Sb**	**23 08 04.5**	**+2.2**
GERES	**GERESS Array B**	**3.15**	**211**	Pn	**Pn**	**23 07 22.6**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=25,slow=13,SNR=9.3						
GERES				Pg	**Pb**	**23 07 28.1**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=28,slow=15,SNR=13						
GERES				Sn	**Sn**	**23 08 00.7**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=32,slow=31,SNR=6.5						
GERES				Lg	Lg	23 08 08.4	
	comp=Z,3.8nm,0.3s,baz=43,slow=26,SNR=9.6						
	comp=Z,1.2nm,0.4s						
MODS	**Modra-Piesok**	**3.30**	**167**	*e*SG	**Sg**	**23 08 15.9**	**-0.7**
VYHS	**Vyhne**	**3.55**	**150**	*e*PN	**Pn**	**23 07 26.4**	**-0.7**
VYHS				*e*PG	**Pg**	**23 07 39.2**	**+0.4**
VYHS				*e*SG	**Sg**	**23 08 25.1**	**+0.4**
BSD	**Bornholm Skovb**	**3.61**	**349**	*e*	Pn	23 07 23.6	-4.3
	baz=183,slow=14						
BSD				*i* P	Pb	23 07 29.4	-6.1
BSD				*i* S	**Sn**	**23 08 12.1**	**+0.9**
BSD				IAML		23 08 37.0	
	comp=Z,1.6nm,0.3s						
CONA	**Conrad Observa**	**3.66**	**183**	*i* Pn	**Pn**	**23 07 30.1**	**+1.4**
	comp=Z,0.6nm,0.2s						
CONA				*e*Sn	**Sn**	**23 08 12.3**	**-0.3**
	comp=Z,7.5nm,0.4s						
CONA				*e*Sg	**Sg**	**23 08 27.2**	**-1.1**
	comp=Z,10nm,0.4s						
RONA	**Rosalia, Austr**	**3.89**	**178**	Sn	**Sn**	**23 08 18.5**	**+0.3**
	comp=Z,2.2nm,0.3s						
STHS	**Stebnicka Huta**	**3.92**	**122**	*e*PG	**Pg**	**23 07 46.5**	**+0.7**
STHS				*e*SG	**Sg**	**23 08 38.2**	**+1.6**
MOA	**Molln**	**3.93**	**199**	*i* Pn	**Pn**	**23 07 33.2**	**+0.9**
	comp=Z,0.8nm,0.2s						
MOA				*e*Sg	**Sg**	**23 08 37.7**	**+0.8**
	comp=Z,6.8nm,0.4s						
BIOA	**Bad Ischl, Aus**	**4.22**	**204**	*e*Pn	**Pn**	**23 07 37.9**	**+1.6**
	comp=Z,0.6nm,0.2s						
ARSA	**Arzberg**	**4.35**	**185**	Sg	**Sg**	**23 08 51.4**	**+0.9**
	comp=Z,4.2nm,0.4s						
LUNU	**Lund**	**4.36**	**340**	*e*P	**Pn**	**23 07 38.5**	**+0.3**
LUNU				*i* S	**Sn**	**23 08 30.2**	**+0.5**
LESA	**Schwarzleotal**	**4.73**	**210**	*i* Pn	**Pn**	**23 07 45.0**	**+1.6**
	comp=Z,0.3nm,0.2s						
LESA				*i* Sn	**Sn**	**23 08 40.1**	**+1.2**
	comp=Z,0.6nm,0.2s						
KOLS	**Kolonicke sedl**	**4.75**	**122**	*e*PN	**Pn**	**23 07 44.8**	**+1.2**
KOLS				*e*PG	**Pg**	**23 08 03.9**	**+2.2**
DEL	**Delary**	**5.08**	**346**	*i* P	**Pn**	**23 07 49.5**	**+1.4**
DEL				*i* S	**Sn**	**23 08 46.7**	**-0.6**
DEL				IAML		23 08 49.3	
	comp=Z,1.1nm,0.3s						
SQTA	**Sankt Quirin**	**5.42**	**218**	*e*Pn	**Pn**	**23 07 55.1**	**+2.2**
	comp=Z,0.5nm,0.2s						
DAVOX	**Davos/Dischmat**	**6.31**	**223**	Pn	**Pn**	**23 08 05.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=56,slow=7.3,SNR=1.1						
DAVOX				Sn	**Sn**	**23 09 18.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=174,slow=23,SNR=1.8						
	comp=Z,0.5nm,0.4s						
AKASG	**Malin Array Be**	**8.28**	**91**	Pn	**Pn**	**23 08 31.8**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=282,slow=12,SNR=3.7						
AKASG				Lg	Lg	23 10 53.0	
	comp=Z,0.1nm,0.3s,baz=300,slow=27,SNR=1.3						
	comp=Z,0.2nm,0.4s						
HFS	**Hagfors**	**8.68**	**352**	Pn	**Pn**	**23 08 38.7**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=163,slow=12,SNR=1.7						
FINES	**FINESS Array B**	**11.29**	**25**	Pn	**Pn**	**23 09 11.9**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=215,slow=12,SNR=1.9						
	comp=Z,5.5nm,1.1s						
EKA	**Eskdalemuir Ar**	**12.09**	**296**	Pn	**Pn**	**23 09 22.5**	**-1.5**
	baz=95,slow=14						
ARCES	**ARCESS Array B**	**18.55**	**10**	Pn	**P**	**23 10 45.1**	**-3.6**
	baz=198,slow=14,SNR=1.6						
	comp=Z,4.1nm,1.1s						

*IDC **17** 23:37:35.2±0.6, 54°.91N×159°.12E, h0km, mb3.9/17, mbtmp3.9/19, ML3.9/2, MS3.3/6, Error ellipse: s-maj=15.4km s-min=11.3km az=118.0*
*KRSC **17** 23:37:37.0±0.5, 54°.97N×159°.31E, h19km±22km, Ml4.2*
*MOS **17** 23:37:36.5±0.9, 55°.04N×159°.07E, h18km, mb4.5/13, Error ellipse: s-maj=10.4km s-min=3.4km az=79.8*
*NEIC **17** 23:37:37.0±1.1, 54°.97N±0°.07×159°.1E±0°.2, h10km±1km, mb4.4/21, Error ellipse: s-maj=17.3km s-min=11.8km az=86.0*
ISC 17 23:37:35.9±2.8, 54°.98N±0°.02×159°.24E±0°.04, h4km±18km, n153, σ0§91/159, mb4.3/32, MS3.8/4, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.60**	**59**	*e*P	**Pb**	**23 37 48.9**	**-0.2**
TUMR	**Tumrok**	**0.60**	**59**	PN	**Pb**	**23 37 48.9**	**-0.2**
TUMD	**Tumrok D**	**0.70**	**71**	*e*P	**Pb**	**23 37 49.8**	**-0.9**
KII	**Karymskiy**	**0.95**	**173**	*e*P	**Pb**	**23 37 54.1**	**-1.0**
KII	**Karymskiy**	**0.95**	**173**	PN	**Pb**	**23 37 54.0**	**-1.0**
KMNR	**Kamenistaya**	**0.96**	**36**	*e*P	**Pb**	**23 37 55.1**	**-0.1**
KMNR	**Kamenistaya**	**0.96**	**36**	PN	**Pb**	**23 37 55.1**	**-0.1**
ESO	**Esso**	**0.99**	**342**	*e*P	**Pb**	**23 37 55.3**	**-0.4**
ESO				*e*S	**Sb**	**23 38 09.7**	**+0.5**
ESO	**Esso**	**0.99**	**342**	PN	**Pb**	**23 37 55.3**	**-0.4**
ESO				S	**Sb**	**23 38 09.7**	**+0.5**
KPT	**Kopyto**	**1.14**	**29**	*e*P	**Pn**	**23 37 57.4**	**-1.3**
KPT	**Kopyto**	**1.14**	**29**	PN	**Pn**	**23 37 57.4**	**-1.3**
KOZ	**Kozyrevsk**	**1.14**	**18**	*e*P	**Pn**	**23 37 57.6**	**-1.0**
KOZ				*e*S	**Sn**	**23 38 14.7**	**-0.1**
KOZ	**Kozyrevsk**	**1.14**	**18**	PN	**Pn**	**23 37 57.6**	**-1.0**
KOZ				S	**Sn**	**23 38 14.6**	**-0.1**
KIRR	**Kirishev**	**1.16**	**32**	*e*P	**Pn**	**23 37 57.3**	**-1.7**
KIRR	**Kirishev**	**1.16**	**32**	PN	**Pn**	**23 37 57.3**	**-1.7**
BZP	**Bezymyannyi-Pe**	**1.19**	**38**	*e*P	**Pn**	**23 37 58.4**	**-1.1**
BZMR	**Bezymyannaya**	**1.19**	**36**	*e*P	**Pn**	**23 37 58.2**	**-1.4**
BZMR	**Bezymyannaya**	**1.19**	**36**	PN	**Pn**	**23 37 58.1**	**-1.4**
BZGR	**Bezymyannyi-Gr**	**1.27**	**40**	*e*P	**Pn**	**23 38 00.5**	**0.0**
BZGR	**Bezymyannyi-Gr**	**1.27**	**40**	PN	**Pn**	**23 38 00.5**	**0.0**
ZLN	**Zelenaya**	**1.37**	**40**	*e*P	**Pn**	**23 38 02.7**	**+0.8**
ZLN	**Zelenaya**	**1.37**	**40**	PN	**Pn**	**23 38 02.6**	**+0.8**
LGNR	**Loginova**	**1.38**	**36**	*e*P	**Pn**	**23 38 02.2**	**-0.1**
LGNR	**Loginova**	**1.38**	**36**	PN	**Pn**	**23 38 02.1**	**-0.1**
CIRR	**Tsirk**	**1.42**	**36**	*e*P	**Pn**	**23 38 02.5**	**-0.2**
CIRR	**Tsirk**	**1.42**	**36**	PN	**Pn**	**23 38 02.5**	**-0.2**
KRSR	**Krestovskiy**	**1.45**	**31**	*e*P	**Pn**	**23 38 01.7**	**-1.3**
KRSR	**Krestovskiy**	**1.45**	**31**	PN	**Pn**	**23 38 01.7**	**-1.3**
GNL	**Ganaly**	**1.50**	**211**	*e*P	**Pn**	**23 38 03.5**	**-0.1**
GNL				*e*S	**Sn**	**23 38 22.9**	**-0.8**
GNL	**Ganaly**	**1.50**	**211**	PN	**Pn**	**23 38 03.5**	**-0.1**
GNL				S	**Sn**	**23 38 22.8**	**-0.8**
KLY	**Klyuchi**	**1.56**	**30**	*e*P	**Pn**	**23 38 04.8**	**+0.4**
KLY	**Klyuchi**	**1.56**	**30**	PN	**Pn**	**23 38 04.8**	**+0.4**
KRX	**Arik**	**1.66**	**192**	*e*P	**Pn**	**23 38 06.2**	**+0.2**
KRX				*e*S	**Sn**	**23 38 28.0**	**+0.2**
KRX	**Arik**	**1.66**	**192**	PN	**Pn**	**23 38 06.1**	**+0.2**
KRX				S	**Sn**	**23 38 28.0**	**+0.2**
KRER	**Koryakskii**	**1.71**	**190**	*e*P	**Pn**	**23 38 07.2**	**+0.5**
KRER	**Koryakskii**	**1.71**	**190**	PN	**Pn**	**23 38 07.1**	**+0.5**
SDLR	**Sedlovina**	**1.72**	**187**	*e*P	**Pn**	**23 38 06.9**	**+0.1**
SDLR	**Sedlovina**	**1.72**	**187**	PN	**Pn**	**23 38 06.8**	**+0.1**
KOK	**Koryaka**	**1.73**	**192**	*e*P	**Pn**	**23 38 07.5**	**+0.6**
KOK	**Koryaka**	**1.73**	**192**	PN	**Pn**	**23 38 07.4**	**+0.6**
SMAR	**Somma**	**1.74**	**189**	*e*P	**Pn**	**23 38 07.8**	**+0.7**
SMAR	**Somma**	**1.74**	**189**	PN	**Pn**	**23 38 07.7**	**+0.7**
AVH	**Avacha**	**1.75**	**190**	*e*P	**Pn**	**23 38 08.0**	**+1.0**
AVH	**Avacha**	**1.75**	**190**	PN	**Pn**	**23 38 08.0**	**+1.0**
UGLR	**Uglovaya**	**1.79**	**188**	*e*P	**Pn**	**23 38 08.4**	**+0.7**
UGLR	**Uglovaya**	**1.79**	**188**	PN	**Pn**	**23 38 08.4**	**+0.7**
NLC	**Nalytchevo**	**1.81**	**178**	*e*P	**Pn**	**23 38 08.0**	**+0.1**
NLC				*e*S	**Sb**	**23 38 32.5**	**-0.2**
NLC	**Nalytchevo**	**1.81**	**178**	PN	**Pn**	**23 38 07.9**	**+0.1**
NLC				S	**Sb**	**23 38 32.5**	**-0.2**
SPN	**Mys Shipunski**	**1.94**	**166**	*e*P	**Pn**	**23 38 09.7**	**0.0**
SPN				*e*S	**Sn**	**23 38 34.3**	**-0.2**
SPN	**Mys Shipunski**	**1.94**	**166**	PN	**Pn**	**23 38 09.6**	**0.0**
SPN				S	**Sn**	**23 38 34.3**	**-0.2**
INSR	**Institute**	**1.96**	**191**	*e*P	**Pn**	**23 38 11.3**	**+1.4**
INSR	**Institute**	**1.96**	**191**	PN	**Pn**	**23 38 11.2**	**+1.4**
DALK	**Dalny**	**1.98**	**189**	*e*P	**Pn**	**23 38 10.9**	**+0.8**
DALK	**Dalny**	**1.98**	**189**	PN	**Pn**	**23 38 10.8**	**+0.8**
PET	**Petropavlovsk**	**1.99**	**190**		**Pn**	**23 38 10.7**	**+0.4**
PET	**Petropavlovsk**	**1.99**	**190**	*e*P	**Pn**	**23 38 11.9**	**+1.6**
PET	**Petropavlovsk**	**1.99**	**190**	*e*PN	**Pn**	**23 38 11.4**	**+1.1**
PET				*e*S	**Sn**	**23 38 34.6**	**-1.1**
PET				smax	smax		
	comp=E,371nm,0.7s						
PET				smax	smax		
	comp=N,382nm,0.7s						
PET				MLR	MLR		
	comp=Z,500nm,17.0s						
SMKR	**Semkarok**	**2.04**	**37**	*e*P	**Pn**	**23 38 11.8**	**+0.7**
SMKR	**Semkarok**	**2.04**	**37**	PN	**Pn**	**23 38 11.7**	**+0.7**
PEA0B	**Petropavlovsk-**	**2.08**	**206**	Pn	**Pn**	**23 38 11.8**	**+0.2**
PEA0B	**Petropavlovsk-**	**2.08**	**206**	PN	**Pn**	**23 38 12.5**	**+0.9**
PETK	**Petropavlovsk-**	**2.08**	**206**	Pg	**Pn**	**23 38 11.4**	**-0.3**
	comp=Z,16nm,0.3s,baz=36,slow=20,SNR=35						
PETK				Lg	Lg	23 38 37.5	
	comp=Z,12nm,0.3s,baz=43,slow=35,SNR=2.9						
KRMR	**Karymshinskiy**	**2.25**	**197**	*e*P	**Pn**	**23 38 14.2**	**+0.3**
KRMR	**Karymshinskiy**	**2.25**	**197**	PN	**Pn**	**23 38 14.2**	**+0.3**
KBG	**Krutoberegovo**	**2.34**	**56**	*e*P	**Pn**	**23 38 15.5**	**+0.4**
KBG	**Krutoberegovo**	**2.34**	**56**	PN	**Pn**	**23 38 15.5**	**+0.4**
KBTR	**Krutoberegovo**	**2.38**	**57**	*e*P	**Pn**	**23 38 15.8**	**+0.2**
KBTR	**Krutoberegovo**	**2.38**	**57**	PN	**Pn**	**23 38 15.8**	**+0.2**
APC	**Apacha**	**2.40**	**212**	*e*P	**Pn**	**23 38 17.1**	**+1.1**
APC	**Apacha**	**2.40**	**212**	PN	**Pn**	**23 38 17.0**	**+1.1**
GRL	**Gorelyy**	**2.53**	**196**	*e*P	**Pn**	**23 38 19.1**	**+1.2**
GRL	**Gorelyy**	**2.53**	**196**	PN	**Pn**	**23 38 19.1**	**+1.2**
MTVR	**Mutnovka**	**2.58**	**195**	*e*P	**Pn**	**23 38 21.3**	**+2.7**
MTVR	**Mutnovka**	**2.58**	**195**	PN	**Pn**	**23 38 21.2**	**+2.7**
RUS	**Russkaya**	**2.59**	**190**	*e*P	**Pn**	**23 38 19.4**	**+0.8**
RUS	**Russkaya**	**2.59**	**190**	PN	**Pn**	**23 38 19.3**	**+0.8**
ASAK	**Asacha**	**2.72**	**198**	*e*P	**Pn**	**23 38 21.5**	**+1.1**
ASAK	**Asacha**	**2.72**	**198**	PN	**Pn**	**23 38 21.5**	**+1.1**
MA2	**Magadan**	**6.50**	**319**	Pn	**Pn**	**23 39 12.1**	**-0.2**
MA2	**Magadan**	**6.50**	**319**	Pn	**Pn**	**23 39 14.3**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=126,slow=16,SNR=1.4						
MA2				LR	LR	23 41 58.4	
	comp=Z,177nm,18.8s,baz=114,slow=40						
	comp=Z,8.9nm,0.7s						
SHEM	**Shemya Is, Ala**	**9.07**	**98**	LR	LR	23 43 14.7	
	comp=Z,54nm,21.1s,baz=308,slow=37						
YAK	**Yakutsk**	**16.86**	**307**	LR	LR	23 48 40.2	
	comp=Z,90nm,20.8s,baz=298,slow=40						
KLR	**Kul'dur**	**17.77**	**262**	P	**Pn**	**23 41 43.1**	**-0.8**
	baz=150,slow=12,SNR=1.4						
	comp=Z,0.4nm,0.4s						
HEH	**HeiHe**	**19.79**	**269**	*e*P	**Pn**	**23 42 08.4**	**0.0**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
K13K	**Kusilvak Mount**	**19.91**	**55**	P	**P**	**23 42 09.2**	**+1.1**
J14K	**Nanvaranak Lak**	**20.49**	**53**	P	**P**	**23 42 15.6**	**+1.2**
J14K				IAmb	IAmb	23 42 19.9	
	comp=Z,20nm,1.5s						
USA0B	**Ussuriysk Arra**	**20.56**	**250**	*i* P	**P**	**23 42 13.9**	**-1.5**
USRK	**Ussuriysk Ar.**	**20.56**	**250**	P	**P**	**23 42 14.1**	**-1.2**
USRK	**Ussuriysk Ar.**	**20.56**	**250**	P	**P**	**23 42 14.5**	**-0.9**
	comp=Z,6.7nm,0.7s,baz=58,slow=13,SNR=10						
	comp=Z,6.7nm,0.7s						
L14K	**Kuka Creek**	**20.83**	**57**	P	Pn	23 42 19.8	-0.7
L14K				IAmb	IAmb	23 42 22.9	
	comp=Z,12nm,1.1s						
TIXI	**Tiksi**	**21.16**	**334**	P	**P**	**23 42 22.6**	**+1.0**
TIXI	**Tiksi**	**21.16**	**334**	*i* P	**P**	**23 42 20.8**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,42nm,3.7s						
BNX	**BinXian**	**22.14**	**259**	||P	**P**	**23 42 35.4**	**+3.0**
BNX				pmax	pmax		
	comp=Z,14nm,1.1s						
MAJO	**Matsushiro**	**23.41**	**227**	*i* P	**P**	**23 42 44.8**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,11nm,1.0s						
MJAR	**Matsushiro Arr**	**23.41**	**227**	P	**P**	**23 42 45.1**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=16,slow=10,SNR=7.9						
	comp=Z,1.7nm,0.7s						
H19K	**Roundabout Mou**	**23.84**	**46**	P	**P**	**23 42 50.2**	**+0.5**
H19K				IAmb	IAmb	23 42 56.2	
	comp=Z,12nm,1.4s						
IMAR	**Indian Mountai**	**24.98**	**45**	P	**P**	**23 42 59.7**	**-0.5**
SUA	**Susitna One**	**26.54**	**55**	P	**P**	**23 43 13.7**	**-0.8**
KSRS	**Korea Array**	**27.54**	**243**	LR	LR	23 55 54.2	
	comp=Z,27nm,18.7s,baz=340,slow=40						
ILAR	**Eielson Array**	**27.88**	**48**	P	**P**	**23 43 26.1**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=257,slow=7.1,SNR=10						
	comp=Z,0.3nm,0.5s						
SCM	**Sheep Creek Mo**	**28.09**	**54**	P	**P**	**23 43 28.7**	**+0.4**
SCM	**Sheep Creek Mo**	**28.09**	**54**	P	**P**	**23 43 28.7**	**+0.4**
SCM				pmax	pmax		
	comp=Z,40nm,1.5s						
BMAR	**Burnt Mountain**	**28.64**	**42**	P	**P**	**23 43 33.4**	**+0.2**
BCAR	**Beaver Creek A**	**30.37**	**51**	P	**P**	**23 43 48.9**	**+0.4**
SONM	**Songino Array**	**33.03**	**280**	P	**P**	**23 44 12.1**	**0.0**
	comp=Z,0.4nm,0.6s,baz=56,slow=7.7,SNR=2.9						
	comp=Z,0.4nm,0.6s						
NRIK	**Noril'sk**	**34.08**	**323**	LR	LR	23 59 14.2	
	comp=Z,134nm,19.5s,baz=316,slow=38						
A36M	**Sachs Harbour**	**34.77**	**32**	P	**P**	**23 44 27.7**	**+0.9**
A36M				IAmb	IAmb	23 44 30.5	
	comp=Z,5.7nm,1.0s						
KURK	**Kurchatov**	**46.33**	**300**	P	**P**	**23 46 02.0**	**-0.6**
KURK				IAmb	IAmb	23 46 04.3	
	comp=Z,3.1nm,0.7s						
KURK	**Kurchatov**	**46.33**	**300**	*e*P	**P**	**23 46 00.3**	**-2.2**
KURK				pmax	pmax		
	comp=Z,27nm,5.2s						
KURBB	**Kurchatov Arra**	**46.43**	**300**	P	**P**	**23 46 03.1**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=55,slow=7.7,SNR=9.0						
	comp=Z,1.9nm,0.6s						
MK31	**Makanchi Array**	**46.91**	**294**	P	**P**	**23 46 07.0**	**-0.2**
MK31				IAmb	IAmb	23 46 08.6	
	comp=Z,1.9nm,0.8s						
MK31	**Makanchi Array**	**46.91**	**294**	P	**P**	**23 46 07.0**	**-0.2**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**46.91**	**294**	P	**P**	**23 46 06.9**	**-0.3**
MKAR	**Makanchi Array**	**46.91**	**294**	P	**P**	**23 46 06.6**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=60,slow=7.6,SNR=18						
	comp=Z,1.8nm,0.6s						
MKAR	**Makanchi Array**	**46.91**	**294**	P	**P**	**23 46 06.9**	**-0.3**
BVAR	**Borovoye Array**	**48.84**	**307**	P	**P**	**23 46 21.8**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=229,slow=33,SNR=9.2						
	comp=Z,1.6nm,0.6s						
BRVK	**Borovoye**	**48.86**	**307**	*i* P	**P**	**23 46 21.5**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PZH	**PanZhiHua**	**50.19**	**260**	P	**P**	**23 46 33.8**	**+1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
AAK	**Ala-Archa**	**53.81**	**294**	P	**P**	**23 46 59.7**	**0.0**
AAK				IAmb	IAmb	23 47 01.1	
	comp=Z,3.5nm,1.1s						
AAK	**Ala-Archa**	**53.81**	**294**	*i* P	**P**	**23 46 59.3**	**-0.3**
AAK				pmax	pmax		

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W35A                                  Sg    Sg     23 44 33.3 +0.9
W35A                                  IAML         23 44 33.6
      comp=E,460nm,0.4s
OK052 Battle Ridge R      0.61  49    Pg    Pg     23 44 25.0 +0.2
OK052                                 Sg    Sb     23 44 33.9 -0.7
OK052                                 IAML         23 44 34.1
      comp=E,522nm,0.4s
OK052                                 IAML         23 44 34.5
      comp=E,808nm,0.2s
DEOK  Depew               0.75  70    Pg    Pg     23 44 27.4 -0.1
DEOK                                  IAML         23 44 38.4
      comp=E,599nm,0.2s
DEOK                                  IAML         23 44 41.3
      comp=N,461nm,0.3s
QUOK  Quay                0.79  43    Pg    Pg     23 44 28.0 -0.2
QUOK                                  IAML         23 44 39.6
      comp=N,529nm,0.3s
OK048 Pawnee Station      0.89  23    Pg    Pg     23 44 30.0 -0.2
OK048                                 IAML         23 44 42.6
      comp=N,212nm,0.2s
OK048                                 IAML         23 44 42.7
      comp=N,316nm,0.2s
OK051 E0350 and S346      1.01  25                 Pg     23 44 32.0 -0.4
CROK  Carrier             1.04 332                 Pg     23 44 32.5 -0.4
X34A  Smith Ranch, M      1.06 201    Pg    Pg     23 44 33.2 -0.1
X34A                                  IAML         23 44 48.9
      comp=N,227nm,0.2s
CSTR  Hydro, Custer       1.07 273    Pg    Pg     23 44 33.3 -0.4
BLOK  Blackwell           1.17   6                 Pb     23 44 34.9 -0.5
GC02  Grant County #      1.32 343                 Pn     23 44 37.4 -0.2
TUL3  Leonard             1.32  76                 Pn     23 44 37.0 -0.6
TUL3                                  IAML         23 44 58.4
      comp=N,234nm,0.4s
TUL3                                  IAML         23 45 02.1
      comp=E,144nm,0.4s
WMOK  Wichita Mounta      1.44 234    Pn    Pn     23 44 38.7 -0.5
KAN17 Caldwell West       1.48 348                 Pn     23 44 40.2 +0.3
T35A  Sooner Cattle       1.49  28    Pn    Pn     23 44 40.1 +0.1
KAN09 Caldwell North      1.55 353                 Pb     23 44 41.7 -0.2
LOOK  Love County         1.60 174                 Pb     23 44 42.2 -0.6
NOKA  Waynoka             1.64 310                 Pn     23 44 42.2 +0.3
ELIS  Ellis County        1.73 286                 Pn     23 44 43.9 +0.7
RLO   Rose Lookout        1.99  73                 Pn     23 44 47.6 +0.8
WTFS  Witchita Falls      2.03 207                 Pn     23 44 48.7 +1.3
SMWD  Samnorwood          2.40 259                 Pn     23 44 53.5 +1.0
U38A  Gravette            2.56  70                 Pn     23 44 55.9 +1.2
FW03  Perrin-Whitt E      2.61 193                 Pn     23 44 55.1 -0.3
FW06  Azle                2.62 183                 Pn     23 44 56.1 +0.7
HHAR  Hobbs               2.87  75                 Pn     23 44 59.5 +0.6
PLPT  Palo Pinto          2.88 196                 Pn     23 44 59.8 +0.7
TREL  Terrell             3.05 159    IAmb_Lg      23 45 52.9
      comp=Z,14nm,0.7s
FW13  Cleburne            3.23 181    IAmb_Lg      23 46 04.1
      comp=Z,16nm,1.2s
MIAR  Mount Ida           3.28 107                 Pn     23 45 06.1 +1.5
WHTX  Lake Whitney,       3.59 181    Pn    Pn     23 45 09.4 +0.5
CBKS  Cedar Bluff         3.73 330    IAmb_Lg      23 46 11.0
      comp=Z,12nm,0.8s
SN07  Snyder 07           3.83 230    IAmb_Lg      23 46 21.1
      comp=Z,12nm,0.8s
S39A  Bolivar             3.87  56    IAmb_Lg      23 46 21.1
      comp=Z,14nm,1.0s
X40A  Basin Creek Fa      3.88 105                 Pn     23 45 14.9 +2.1
WHAR  Wooly Hollow        4.16  93                 Pn     23 45 17.4 +0.7
POST  Post                4.25 235    IAmb_Lg      23 46 32.3
      comp=Z,18nm,1.0s
FCAR  Ozark Folk Cen      4.28  85                 Pn     23 45 19.2 +1.0
MGMO  Mountain Grove      4.40  68    IAmb_Lg      23 46 41.4
      comp=Z,15nm,1.1s
BRDY  Brady               4.50 198                 Pn     23 45 22.1 +0.7
R40A  Maddies Statio      4.89  55    Pn    Pn     23 45 27.2 +0.4
R40A                                  IAmb_Lg      23 46 54.4
      comp=Z,10nm,0.8s
P38A  Dawn                5.05  36    Pn    Pn     23 45 29.0 +0.2
LCAR  Lake Charles        5.07  83    Pn    Pn     23 45 29.9 +0.7
T42A  Van Buren           5.27  72    IAmb_Lg      23 47 04.3
      comp=Z,12nm,0.9s
CCM   Cathedral Cave      5.50  62    IAmb_Lg      23 47 13.4
      comp=Z,12nm,0.7s
MNHN  Monahans            6.18 228    IAmb_Lg      23 47 30.0
      comp=Z,8.5nm,0.7s
SAND  Sanderson           6.90 217    IAmb_Lg      23 47 54.4
      comp=Z,8.9nm,1.1s
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*MDD **17** 23:45:22.3±0.7, 36°.54N×11°.92W, h0km, Mb4.9/29, M_mb4.4/29, Error ellipse: s-maj=5.1km s-min=4.1km az=55.0*
*IGIL **17** 23:45:23.2, 36°.40N×12°.11W, h30km, ML3.6*
*INMG **17** 23:45:24.1±1.2, 36°.40N×12°.11W, h31km, ML3.6, Error ellipse: s-maj=4.8km s-min=3.6km az=86.0*
ISC 17 23:45:19.2±2.7, 36°.34N±0°.08×12°.1W±0°.1, h35km, n77, σ2s76/140, 22C, Azores-Cape St. Vincent Ridge

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
PFVI  Vila Bisbo          2.76  72 ⇑iP                Pn     23 46 03.6 +2.6
PFVI                                 eS                Sn     23 46 33.0 -0.1
PFVI                                 A                 A      23 46 35.0
      121nm,0.2s
PFVI  Vila Bisbo          2.76  72   P                 Pn     23 46 03.5 +2.6
PFVI                                 S                 Sn     23 46 33.1  0.0
MORF  Marmelete           2.94  70 ⇑iP                Pn     23 46 06.3 +2.8
MORF                                 eS                Sn     23 46 38.7 +1.0
MORF                                 A                 A      23 46 40.1
      93nm,0.5s
MORF  Marmelete           2.94  70  eP                Pn     23 46 06.3 +2.8
MORF                                 eS                Sn     23 46 37.6  0.0
MORF                                 IAML              ___    23 46 40.3
      comp=E,186nm,0.2s
LIS   Lisbon              3.35  44  eS                Sn     23 46 48.0 +0.4
LIS                                  A                 A      23 46 51.0
      comp=E,213nm,0.2s
LIS   Lisbon              3.35  44  eS                Sn     23 46 46.7 -0.8
LIS                                  IAML              ___    23 46 50.4
      comp=E,496nm,0.2s
PMAFR Mafra               3.45  40  eP                Pn     23 46 13.3 +2.9
PMAFR                                eS                Sn     23 46 49.9 -0.2
PMAFR                                A                 A      23 46 52.4
      comp=E,493nm,0.2s
PMAFR Mafra               3.45  40   P                Pn     23 46 13.4 +3.0
PMAFR                                S                 Sn     23 46 50.3 +0.2
MESJ  Messejana           3.46  63  eP                Pn     23 46 13.7 +3.1
MESJ                                 eS                Sn     23 46 51.0 +0.7
MESJ                                 A                 A      23 46 59.7
      comp=E,38nm,0.5s
MESJ  Messejana           3.46  63  eP                Pn     23 46 13.6 +3.0
MESJ                                 eS                Sn     23 46 50.3 -0.1
MESJ                                 IAML              ___    23 46 56.4
      comp=N,59nm,0.2s
PBDV  Barranco-do-Ve      3.48  74 ⇑iP                Pn     23 46 13.8 +2.9
PBDV                                 eS                Sn     23 46 51.6 +0.7
PBDV                                 A                 A      23 46 58.8
      comp=N,46nm,0.3s
PVAQ  Vaqueiros           3.69  72  eP                Pn     23 46 16.6 +2.9
PVAQ                                 eS                Sn     23 46 55.7 -0.2
PVAQ                                 A                 A      23 47 01.3
      comp=N,36nm,0.3s
PVAQ  Vaqueiros           3.69  72   P                Pn     23 46 16.5 +2.9
PVAQ                                 S                 Sn     23 46 56.1 +0.2
PBEJ  Beja                3.79  62  eP                Pn     23 46 18.2 +3.1
PBEJ                                 eS                Sn     23 46 59.3 +0.8
PBEJ                                 A                 A      23 47 01.8
      comp=N,44nm,0.5s
EGRO  El Granado          3.90  71   P                Pn     23 46 19.4 +2.8
EGRO                                 S                 Sn     23 47 00.6 -0.6
EGRO  El Granado          3.90  71   P                Pn     23 46 19.5 +2.8
EGRO                                 ⇑iVmb_V           ___    23 46 20.4
      comp=N,2μm,SNR=3.9
EGRO                                 S                 Sn     23 47 00.1 -1.1
EVO   Evora               3.94  55 ⇑eP                Pn     23 46 19.8 +2.7
EVO                                  eS                Sn     23 47 01.5 -0.5
EVO                                  A                 A      23 47 04.4
      comp=N,81nm,0.1s
EVO   Evora               3.94  55   P                Pn     23 46 19.7 +2.7
EVO                                  S                 Sn     23 47 01.2 -0.9
PSBE  So Bento            4.12  39  eP                Pn     23 46 22.8 +3.1
PSBE                                 eS                Sn     23 47 06.9 +0.3
PSBE                                 A                 A      23 47 08.5
      comp=N,186nm,0.4s
PMTG  Montargil           4.12  47  eP                Pn     23 46 22.1 +2.5
PMTG                                 eS                Sn     23 47 05.8 -0.8
PMTG                                 A                 A      23 47 12.5
      comp=N,40nm,0.5s
PESTR Estremoz            4.39  54  eP                Pn     23 46 26.8 +3.4
PESTR                                eS                Sn     23 47 12.6 -0.8
PESTR                                A                 A      23 47 19.4
      comp=N,24nm,0.7s
PESTR Estremoz            4.39  54   P                Pn     23 46 26.2 +2.7
PESTR                                S                 Sn     23 47 12.5 -0.9
PBAR  Barrancos           4.45  64  eP                Pn     23 46 27.1 +2.9
PBAR                                 eS                Sn     23 47 14.1 -0.6
PBAR                                 A                 A      23 47 18.9
      comp=N,18nm,0.3s
PBAR  Barrancos           4.45  64   P                Pn     23 46 27.1 +2.9
PBAR                                 S                 Sn     23 47 14.0 -0.8
EMIN  Mina Concepcio      4.58  70   P                Pn     23 46 28.5 +2.4
EMIN                                 S                 Sn     23 47 16.8 -1.3
EMIN  Mina Concepcio      4.58  70   P                Pn     23 46 28.5 +2.4
EMIN                                 ⇑iVmb_V           ___    23 46 29.3
      comp=N,2μm,SNR=6.9
EMIN                                 S                 Sn     23 47 16.1 -2.0
PCAS  Casmilo, Conde      4.68  36  eP                Pn     23 46 30.1 +2.8
PCAS                                 eS                Sn     23 47 19.4 -1.0
PCAS                                 A                 A      23 47 24.2
      comp=N,63nm,0.4s
EBAD  Badajoz             4.72  58   P                Pn     23 46 30.9 +3.0
EBAD                                 S                 Sn     23 47 20.1 -1.4
EBAD  Badajoz             4.72  58   P                Pn     23 46 30.8 +3.0
EBAD                                 ⇑iVmb_V           ___    23 46 32.4
      comp=N,600nm,SNR=3.0
EBAD                                 S                 Sn     23 47 20.2 -1.2
PMPST Porto Santo, M      4.75 228  eP                Pn     23 46 28.3 -0.1
PMPST                                eS                Sn     23 47 13.8 -8.5
PMPS  Porto Santo         4.77 228  eS                Sn     23 47 13.7 -8.9
PMPS                                 A                 A      23 47 18.1
      comp=N,131nm,0.2s
COI   Coimbra             4.84  36  eP                Pn     23 46 33.3 +3.8
COI                                  eS                Sn     23 47 23.7 -0.6
COI                                  A                 A      23 47 25.6
      comp=N,122nm,0.2s
PMRV  Marv??o             4.85  49  eP                Pn     23 46 32.0 +2.3
PMRV                                 eS                Sn     23 47 22.9 -1.7
PMRV                                 A                 A      23 47 25.4
      comp=N,69nm,0.3s
AVE   Averroes            4.92 127   P                Pn     23 46 31.7 +1.0
AVE                                  S                 Sn     23 47 22.4 -3.9
PCBR  Castelo Branco      5.06  45  eP                Pn     23 46 35.4 +2.8
PCBR                                 eS                Sn     23 47 27.7 -2.1
PCBR                                 A                 A      23 47 32.5
      comp=N,33nm,0.3s
ESPR  Espera              5.07  82   P                Pn     23 46 35.1 +2.5
ESPR                                 S                 Sn     23 47 28.1 -1.8
ESPR  Espera              5.07  82   P                Pn     23 46 35.2 +2.5
ESPR                                 ⇑iVmb_V           ___    23 46 35.9
      comp=N,2μm,SNR=15
ESPR                                 S                 Sn     23 47 28.2 -1.8
PMAR  Madeira             5.35 229  eP                Pn     23 46 37.1 +0.3
PMAR                                 eS                Sn     23 47 29.3 -8.0
PMAR                                 A                 A      23 47 34.6
      comp=N,104nm,0.3s
EJIF  Jimena Fronter      5.37  87   P                Pn     23 46 40.0 +3.2
EJIF                                 S                 Sn     23 47 32.3 -5.1
MTE   Manteigas           5.42  40  eP                Pn     23 46 40.3 +2.7
MTE                                  eS                Sn     23 47 36.9 -1.8
MTE                                  A                 A      23 47 41.0
      comp=N,76nm,0.3s
PMOZ  Porto Moniz, M      5.46 232  eS                Sn     23 47 32.3 -7.5
ECEU  Ceuta               5.48  93   P                Pn     23 46 40.7 +2.4
ECEU                                 S                 Sn     23 47 33.5 -6.5
ECEU  Ceuta               5.48  93   P                Pn     23 46 41.1 +2.8
ECEU                                 ⇑iVmb_V           ___    23 46 48.5
      comp=N,464nm,SNR=1.0
ECEU                                 S                 Sn     23 47 32.6 -7.4
CEU   Ceuta               5.48  93   P                Pn     23 46 41.5 +3.2
CEU                                  S                 Sn     23 47 40.0 -0.1
PVIS  Viseu               5.48  36  eP                Pn     23 46 41.0 +2.6
PVIS                                 eS                Sn     23 47 38.2 -2.1
PTO   Porto               5.53  29  eS                Sn     23 47 38.7 -2.5
PTO                                  A                 A      23 47 40.9
      comp=N,121nm,0.3s
ECAB  El Cabril           5.62  70   P                Pn     23 46 42.9 +2.5
ECAB                                 S                 Sn     23 47 41.2 -2.5
ECAB  El Cabril           5.62  70   P                Pn     23 46 42.8 +2.5
ECAB                                 ⇑iVmb_V           ___    23 46 43.4
      comp=N,2μm,SNR=19
ECAB                                 S                 Sn     23 47 41.4 -2.3
PVRL  Vila Real           6.01  34  eP                Pn     23 46 47.9 +2.2
PVRL                                 eS                Sn     23 47 50.2 -3.0
PVRL                                 A                 A      23 47 51.7
      comp=N,79nm,0.3s
EPLA  Plasencia           6.04  50   P                Pn     23 46 48.7 +2.7
EPLA                                 ⇑iVmb_V           ___    23 46 56.8
      comp=N,303nm,SNR=0.9
EPLA                                 S                 Sn     23 47 51.5 -2.4
POLO  Lamas de Olo        6.06  33  eP                Pn     23 46 48.6 +2.3
POLO                                 eS                Sn     23 47 51.0 -3.4
POLO                                 A                 A      23 47 54.8
      comp=N,27nm,0.4s
EMAL  Malaga-Limoner      6.21  84   P                Pn     23 46 50.7 +2.4
EMAL                                 S                 Sn     23 47 56.6 -1.4
PCAB  Cabril              6.24  29  eP                Pn     23 46 51.1 +2.3
PCAB                                 eS                Sn     23 47 56.5 -2.3
PCAB                                 A                 A      23 47 59.0
      comp=N,40nm,0.1s
MVO   Moncorvo            6.25  38  eP                Pn     23 46 51.4 +2.5
MVO                                  eS                Sn     23 47 56.8 -2.3
MVO                                  A                 A      23 47 58.7
      comp=N,78nm,0.5s
EADA  Adamuz              6.29  71   P                Pn     23 46 51.8 +2.4
EADA                                 S                 Sn     23 47 57.8 -2.3
EADA  Adamuz              6.29  71   P                Pn     23 46 51.8 +2.4
EADA                                 ⇑iVmb_V           ___    23 46 52.5
      comp=N,2μm,SNR=16
EADA                                 S                 Sn     23 47 58.6 -1.5
ELOB  Lobios              6.36  29   P                Pn     23 46 52.7 +2.3
ELOB                                 ⇑iVmb_V           ___    23 46 55.8
      comp=N,436nm,SNR=1.7
ELOB                                 S                 Sn     23 47 58.0 -3.8
PGAV  Gavieira, Arco      6.37  27  eP                Pn     23 46 54.2 +3.6
PGAV                                 eS                Sn     23 47 58.6 -3.5
PGAV                                 A                 A      23 48 03.2
      comp=N,53nm,0.5s
EZAM  Zamans              6.38  24   P                Pn     23 46 52.8 +2.1
EZAM                                 ⇑iVmb_V           ___    23 46 58.9
      comp=N,637nm,SNR=1.4
EZAM                                 S                 Sn     23 47 56.9 -5.5
IFR   Ifrane              6.40 114   P                Pn     23 46 52.0 +0.9
IFR                                  S                 Sn     23 47 55.2 -7.8
TIO   Tiouine             6.75 142   P                Pn     23 46 56.8 +0.9
TIO                                  S                 Sn     23 48 04.6 -7.0
EJUZ  Juzbado, Salam      6.80  44   P                Pn     23 46 58.3 +1.8
EJUZ                                 S                 Sn     23 48 07.8 -4.8
ELGU  Los Guajares,       6.85  83   P                Pn     23 47 00.1 +2.8
ELGU                                 S                 Sn     23 48 13.1 -1.0
ELGU  Los Guajares,       6.85  83   P                Pn     23 47 00.1 +2.8
ELGU                                 ⇑iVmb_V           ___    23 47 01.9
      comp=N,269nm,SNR=1.5
ELGU                                 S                 Sn     23 48 10.3 -3.8
PBRG  Braganca            6.88  36  eP                Pn     23 47 00.4 +2.9
PBRG                                 eS                Sn     23 48 11.3 -3.3
PBRG                                 A                 A      23 48 14.8
      comp=N,32nm,0.2s
PAB   San Pablo           6.93  60   P                Pn     23 47 00.6 +2.4
PAB                                  ⇑iVmb_V           ___    23 47 02.5
      comp=N,278nm,SNR=2.9
PAB                                  S                 Sn     23 48 12.9 -2.9
ECAL  Calabor             6.99  35   P                Pn     23 47 01.4 +2.4
ECAL                                 S                 Sn     23 48 13.1 -4.1
ECAL  Calabor             6.99  35   P                Pn     23 47 01.1 +2.1
ECAL                                 ⇑iVmb_V           ___    23 47 06.1
      comp=N,391nm,SNR=2.2
ECAL                                 S                 Sn     23 48 13.8 -3.4
EMAZ  Mazaricos           7.03  19   P                Pn     23 47 01.3 +1.7
EMAZ                                 ⇑iVmb_V           ___    23 47 05.1
      comp=N,760nm,SNR=2.0
EMAZ                                 S                 Sn     23 48 12.6 -5.7
EAGO  Agolada(Pontev      7.17  25   P                Pn     23 47 03.4 +1.9
EAGO                                 ⇑iVmb_V           ___    23 47 08.6
      comp=N,789nm,SNR=2.8
EAGO                                 S                 Sn     23 48 16.7 -4.9
ESDC  Sonseca Array       7.25  60   P                Pn     23 47 05.1 +2.5
ESDC                                 ⇑iVmb_V           ___    23 47 06.8
      comp=N,396nm,SNR=4.2
ESDC                                 S                 Sn     23 48 20.7 -3.1
GUD   Guadarrama          7.58  53   P                Pn     23 47 09.7 +2.4
GUD                                  S                 Sn     23 48 27.4 -4.6
EPON  Pontenova           7.96  27   P                Pn     23 47 14.4 +2.1
EPON                                 ⇑iVmb_V           ___    23 47 16.1
      comp=N,481nm,SNR=1.4
EPON                                 S                 Sn     23 48 36.0 -5.0
UCM   Universidad Co      8.02  58   P                Pn     23 47 16.3 +3.1
UCM                                  S                 Sn     23 48 39.9 -2.9
EZAR  Zarzadilla de       8.47  76   P                Pn     23 47 21.5 +2.1
EZAR                                 ⇑iVmb_V           ___    23 47 24.9
      comp=N,231nm,SNR=1.7
EZAR                                 S                 Sn     23 48 51.1 -2.7
EMUR  La Murta            8.82  77   P                Pn     23 47 25.7 +1.5
EMUR                                 S                 Sn     23 48 58.1 -4.3
CART  Cartagena           8.99  79   P                Pn     23 47 27.1 +0.6
CART                                 S                 Sn     23 49 00.6 -5.8
```

*SSNC **17** 23:47:18.9±1.2, 18°.85N×71°.03W, h7km±19km, MD2.4, ML2.7*
*SDD **17** 23:47:20.5±3.4, 19°.16N×71°.07W, h15km±445km, MD3.2, ML3.0, MW3.2*
*OSPL **17** 23:47:20.8±1.9, 19°.19N×71°.16W, h0km±19km, ML2.4*
ISC 17 23:47:18.6±0.9, 19°.18N±0°.03×71°.08W±0°.03, h14km±7km, n21, σ1s05/39, 9C-6D, Dominican Republic region

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
SDDR  Presa de Saban      0.28 225  eP                Pg     23 47 24.7 +0.3
SDDR                                 eS                Sg     23 47 28.2 -0.4
SDDR                                 IAML              ___    23 47 30.9
      653nm,0.1s
SDDR                                 IAML              ___    23 47 32.3
      comp=Z,961nm,0.3s
SDDR  Presa de Saban      0.28 225⇓ePg                Pg     23 47 24.8 +0.3
SDDR                                 ⇑eSg              Sg     23 47 28.0 -0.5
SDDR                                 IAML              ___    23 47 32.5
      comp=N,1μm,0.9s
SDDR  Presa de Saban      0.28 225  iP                Pg     23 47 24.9 +0.3
SDDR                                 eS                Sg     23 47 28.0 -0.5
SDDR                                 IAML              ___    23 47 30.9
      comp=Z,727nm,0.9s
SC01  Santiago de lo      0.41  53⇓ePg                Pb     23 47 28.9 +1.3
SC01                                 ⇓eSg              Sb     23 47 35.5 +1.7
SC01                                 IAML              ___    23 47 41.4
      comp=N,769nm,0.6s
SC01  Santiago de lo      0.41  53  iP                Pb     23 47 28.9 +1.3
SC01                                 eS                Sn     23 47 35.9 -1.6
SC01                                 IAML              ___    23 47 44.0
      comp=Z,656nm,0.4s
ABDR  Alto Bandera        0.56 131⇑ePg                Pg     23 47 29.5 -0.2
ABDR                                 IAML              ___    23 47 38.4
      comp=N,428nm,0.2s
LONE3 El Aguacate, B      0.68 212  iP                Pb     23 47 32.2  0.0
LONE3                                eS                Sb     23 47 41.7 +0.2
LONE3                                IAML              ___    23 47 46.7
      comp=Z,237nm,0.4s
SFDR  San Fco. de Ma      0.80  82⇓ePg                Pb     23 47 34.6 +0.5
SFDR                                 ⇓eSg              Sn     23 47 46.4 -0.6
SFDR                                 IAML              ___    23 47 47.3
      comp=N,3μm,0.3s
LODU1 El Espartillar      0.91 205  iP                Pn     23 47 37.6 +0.7
JIDR  Jimani              1.00 227⇑ePg                Pn     23 47 39.0 +0.8
JIDR                                 ⇑eSg              Sg     23 47 51.6 +0.5
JIDR                                 IAML              ___    23 47 56.6
      comp=N,187nm,0.3s
DR08  Loma La Naviza      1.02 102  ePg                Pb     23 47 37.6 -0.4
DR08                                 eSg               Sb     23 47 49.6 -1.7
DR08                                 IAML              ___    23 47 54.1
      comp=N,3μm,0.1s
PODR  Polo                1.03 191⇑ePg                Pg     23 47 38.5 +0.1
PODR                                 ⇑eSg              Sn     23 47 52.9 -0.1
PODR                                 IAML              ___    23 47 59.8
      comp=N,108nm,0.4s
PODR  Polo                1.03 191  iP                Pb     23 47 38.3  0.0
PODR                                 eS                Sn     23 47 53.4 +0.4
PODR                                 IAML              ___    23 48 04.4
      comp=Z,76nm,0.3s
BANI  BANI                1.04 139⇑ePg                Pn     23 47 39.0 +0.2
BANI                                 ⇑eSg              Sn     23 47 53.7 +0.5
BANI                                 IAML              ___    23 47 54.4
      comp=N,569nm,0.3s
PAPH  Port-au-Prince      1.33 241  eP                Pg     23 47 44.6 +0.4
PAPH                                 eS                Sg     23 48 02.1 +0.6
PAPH                                 IAML              ___    23 48 06.5
      comp=N,72nm,0.2s
PAPH                                 IAML              ___    23 48 06.6
      comp=E,66nm,0.1s
LOBH  Bahia de las A      1.42 202  iP                Pg     23 47 46.2 +0.4
LOBH                                 IAML              ___    23 48 19.6
      comp=Z,81nm,1.0s
HATOM Hato Mayor del      1.65 103⇓ePg                Pb     23 47 48.0 -0.8
HATOM                                ⇓eSg              Sn     23 48 08.1 -0.1
HATOM                                IAML              ___    23 48 09.1
      comp=N,211nm,0.2s
GRTK  Grand Turk          2.32 359  eP                Pb     23 47 59.6 -0.6
GRTK                                 eS                Sg     23 48 32.5 -0.7
GRTK                                 IAML              ___    23 48 34.6
      comp=N,101nm,0.2s
GRTK                                 IAML              ___    23 48 35.0
      comp=N,53nm,0.2s
MASC  Masc                3.13 289  eP                Pn     23 48 09.2 +1.6
MASC                                 eS                Sn     23 48 45.7 +1.0
MASC                                 IAML              ___    23 48 56.8
      comp=E,11nm,0.2s
MASC                                 IAML              ___    23 48 59.0
      comp=N,8.3nm,0.2s
QMBU  Quimbuelo           3.66 287  eP                Pn     23 48 16.1 +1.3
QMBU                                 eS                Sb     23 49 03.8 -3.7
QMBU                                 IAML              ___    23 49 09.0
      comp=E,14nm,0.3s
QMBU                                 IAML              ___    23 49 33.2
      comp=N,5.7nm,0.1s
PINC  Pinares de May      4.62 287  eP                Pn     23 48 28.3 +0.2
PINC                                 eS                Sn     23 49 20.1 -1.4
```

*ATH **17** 23:55:54.1, 37°.57N×20°.31E, h13km±3km, ML3.3/7, Error ellipse: s-maj=4.1km s-min=1.5km az=40.0*
*THE **17** 23:55:55.4, 37°.59N×20°.38E, h5km±12km, ML3.5/4, Error ellipse: s-maj=12.7km s-min=0.4km az=69.0*
ISC 17 23:55:54.4±2.9, 37°.57N±0°.09×20°.4E±0°.1, h13km±14km, n19, σ0s46/28, Ionian Sea

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Code  Station Name        Δ°   AZ°   Phase ID          Time      Res
                                     Op    ISC         h m s     ISC
KRI1  kERI                0.39  75   P                Pg     23 56 02.2 +0.1
KRI1                                 S                Sg     23 56 07.4 +0.1
      18μm,0.4s
LTHK  Lithakia            0.41  70   P                Pg     23 56 02.6 -0.1
LTHK                                 S                Sg     23 56 08.3 +0.1
      19μm,0.3s
LTHK  Lithakia            0.41  70   P                Pg     23 56 02.4 -0.2
LTHK                                 S                Sg     23 56 08.3 +0.1
LTHK                                 AML              AML    23 56 08.6
      comp=E,49532μm,0.3s
LTHK                                 AML              AML    23 56 09.2
      comp=N,22849μm,0.3s
PSDA  Pessada-Kefalo      0.58  19   P                Pg     23 56 05.7  0.0
PSDA                                 S                Sg     23 56 13.8 +0.4
      comp=N,4μm,0.2s
PSDA  Pessada-Kefalo      0.58  19   P                Pg     23 56 05.5 -0.2
PSDA                                 S                Sg     23 56 13.9 +0.4
RTZL  Ratzakli, Kefa      0.61  33   P                Pg     23 56 06.5 +0.2
RTZL                                 S                Sg     23 56 14.8 +0.4
      comp=N,3μm,0.1s
VLS   Valsamata           0.64  17   P                Pg     23 56 06.7 -0.2
VLS                                  S                Sg     23 56 15.7 +0.3
VLS   Valsamata           0.64  17   P                Pg     23 56 06.4 -0.5
VLS                                  S                Sg     23 56 15.1 -0.2
VLS                                  AML              AML    23 56 20.8
      comp=E,2932μm,0.4s
VLS                                  AML              AML    23 56 21.1
      comp=N,4023μm,0.3s
DMLN  Damoulianata-K      0.67   2   P                Pg     23 56 07.6 +0.1
DMLN                                 S                Sb     23 56 17.2 -0.1
DMLN  Damoulianata-K      0.67   2   P                Pg     23 56 07.3 -0.2
SMHA  Samh                0.72  19   P                Pg     23 56 07.6 -0.8
SMHA                                 AML              AML    23 56 23.6
      comp=N,12527μm,0.4s
SMHA                                 AML              AML    23 56 24.2
      comp=E,9393μm,0.5s
FSK   Fiskardo            0.91  11   P                Pg     23 56 11.2 -0.7
FSK                                  AML              AML    23 56 29.8
```

comp=N,1724μm,0.5s
FSK AML AML 23 56 30.9
comp=E,2266μm,0.4s
RLS Riolos of Patr 1.01 61 P **Pg 23 56 13.2 -0.8**
RLS AML AML 23 56 29.1
comp=N,1605μm,0.3s
RLS AML AML 23 56 37.4
comp=E,1620μm,0.4s
EVGI Lefkada island 1.08 13 P **Pg 23 56 14.3 -1.0**
AMT Artemida-Makis 1.08 91 P **Pg 23 56 14.9 -0.4**
AMT AML AML 23 56 35.6
comp=N,3719μm,0.5s
AMT AML AML 23 56 40.1
comp=E,3560μm,0.4s
DRO Drossia 1.15 70 P **Pg 23 56 15.8 -0.7**
DRO AML AML 23 56 37.5
comp=E,2769μm,0.5s
DRO AML AML 23 56 40.9
comp=N,2272μm,0.6s
ITM Ithomi 1.32 107 P **Pn 23 56 18.7 +0.2**
EFP Efpalio 1.50 55 P **Pn 23 56 21.5 +0.4**
KLV Kalavryta, Ach 1.51 71 P **Pn 23 56 21.6 +0.4**

*IDC **18** 00:20:56.4±1.4, 37°.67N×20°.92E, h0km, mb3.4/6, mbtmp3.4/9, ML3.2/2, MS3.5/2, Error ellipse: s-maj=28.3km s-min=21.8km az=94.0*
*ATH **18** 00:20:59.2, 37°.87N×20°.98E, h15km±1km, ML3.2/14, Error ellipse: s-maj=1.5km s-min=0.7km az=212.0*
*THE **18** 00:20:59.1, 37°.85N×20°.96E, h20km±1km, ML3.5/4, Error ellipse: s-maj=1.9km s-min=0.6km az=238.0*

ISC 18 00:20:59.2±0.9, 37°.85N±0°.02×20°.96E±0°.02, h16km±6km, n59, σ1s00/70, mb3.5/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.17**	**215**	P	**Pg**	**00 21 03.5**	**-0.1**
LTHK				S	**Sb**	**00 21 07.2**	**-0.1**
21μm,0.4s							
LTHK	**Lithakia**	**0.17**	**215**	P	**Pg**	**00 21 03.4**	**-0.1**
LTHK				S	**Sb**	**00 21 07.0**	**-0.3**
LTHK				AML	AML	00 21 07.8	
comp=E,45525μm,0.5s							
LTHK				AML	AML	00 21 08.1	
comp=N,34240μm,0.3s							
KRI1	**kERI**	**0.22**	**211**	P	**Pg**	**00 21 04.3**	**0.0**
KRI1				S	**Sb**	**00 21 08.5**	**-0.2**
comp=N,17μm,0.4s							
RTZL	**Ratzakli, Kefa**	**0.27**	**326**	P	**Pg**	**00 21 04.9**	**-0.1**
RTZL				S	**Sb**	**00 21 10.5**	**+0.4**
comp=N,9μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.40**	**311**	P	**Pg**	**00 21 07.2**	**-0.1**
PSDA				S	**Sb**	**00 21 14.1**	**+0.3**
comp=N,15μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.40**	**311**	P	**Pg**	**00 21 06.9**	**-0.3**
PSDA				S	**Sb**	**00 21 13.3**	**-0.5**
VLS	**Valsamata**	**0.44**	**318**	P	**Pg**	**00 21 07.8**	**-0.2**
VLS				S	**Sb**	**00 21 15.1**	**+0.1**
VLS	**Valsamata**	**0.44**	**318**	P	**Pg**	**00 21 07.7**	**-0.3**
VLS				S	**Sb**	**00 21 14.6**	**-0.4**
VLS				AML	AML	00 21 15.9	
comp=N,10938μm,0.4s							
VLS				AML	AML	00 21 16.0	
comp=E,16522μm,0.4s							
RLS	**Riolos of Patr**	**0.45**	**63**	P	**Pg**	**00 21 07.9**	**-0.3**
RLS	**Riolos of Patr**	**0.45**	**63**	P	**Pg**	**00 21 07.6**	**-0.6**
RLS				S	**Sg**	**00 21 13.8**	**-0.5**
RLS				AML	AML	00 21 17.5	
comp=N,7411μm,0.6s							
RLS				AML	AML	00 21 20.6	
comp=E,3215μm,0.3s							
SMHA	**Samh**	**0.47**	**328**	P	**Pg**	**00 21 07.7**	**-0.9**
SMHA				S	**Sb**	**00 21 15.5**	**-0.3**
SMHA				AML	AML	00 21 18.9	
comp=N,34578μm,0.3s							
SMHA				AML	AML	00 21 20.2	
comp=E,21394μm,0.3s							
LXR1	**Lixouri, Cepha**	**0.54**	**310**	P	**Pg**	**00 21 09.7**	**-0.2**
LXRA	**Lixouri, Kepha**	**0.54**	**310**	P	**Pg**	**00 21 09.6**	**-0.3**
LXRA				S	**Sg**	**00 21 17.2**	**+0.1**
LXRA				AML	AML	00 21 20.3	
comp=E,13581μm,0.3s							
LXRA				AML	AML	00 21 20.7	
comp=N,21926μm,0.7s							
DRO	**Drossia**	**0.60**	**80**	P	**Pg**	**00 21 11.1**	**+0.1**
DRO	**Drossia**	**0.60**	**80**	P	**Pg**	**00 21 10.8**	**-0.2**
DRO				S	**Sg**	**00 21 18.7**	**-0.3**
DRO				AML	AML	00 21 22.0	
comp=E,5413μm,0.4s							
DRO				AML	AML	00 21 25.9	
comp=N,3576μm,0.6s							
DMLN	**Damoulianata-K**	**0.60**	**310**	P	**Pg**	**00 21 10.8**	**-0.3**
DMLN	**Damoulianata-K**	**0.60**	**310**	P	**Pg**	**00 21 10.5**	**-0.6**
VSK1	**VASILIKIADES**	**0.64**	**331**	P	**Pg**	**00 21 10.8**	**-1.0**
AMT	**Artemida-Makis**	**0.67**	**118**	P	**Pg**	**00 21 12.3**	**-0.1**
AMT				AML	AML	00 21 26.7	
comp=N,6223μm,0.6s							
AMT				AML	AML	00 21 27.7	
comp=E,7375μm,0.3s							
FSK	**Fiskardo**	**0.68**	**333**	P	**Pg**	**00 21 11.8**	**-0.8**
FSK	**Fiskardo**	**0.68**	**333**	P	**Pg**	**00 21 11.6**	**-1.0**
FSK				AML	AML	00 21 24.5	
comp=N,2286μm,0.4s							
FSK				AML	AML	00 21 27.4	
comp=E,3010μm,0.6s							
AST1	**Astakos**	**0.69**	**8**	P	**Pg**	**00 21 12.2**	**-0.6**
EVGI	**Lefkada island**	**0.80**	**343**	P	**Pg**	**00 21 14.0**	**-0.9**
EVGI	**Lefkada island**	**0.80**	**343**	P	**Pg**	**00 21 13.7**	**-1.2**
DRAG	**Dragano-Lefkad**	**0.88**	**340**	P	**Pb**	**00 21 15.0**	**-1.2**
NYDR	**Nydri-Lefkada**	**0.88**	**346**	P	**Pb**	**00 21 15.2**	**-1.0**
NYDR	**Nydri-Lefkada**	**0.88**	**346**	P	**Pb**	**00 21 15.1**	**-1.1**
EFP	**Efpalio**	**0.94**	**52**	P	**Pb**	**00 21 16.5**	**-0.7**
KLV	**Kalavryta, Ach**	**0.96**	**78**	P	**Pb**	**00 21 17.0**	**-0.6**
KLV	**Kalavryta, Ach**	**0.96**	**78**	P	**Pb**	**00 21 16.9**	**-0.6**
KLV				AML	AML	00 21 39.2	
comp=N,1119μm,1.3s							
KLV				AML	AML	00 21 40.4	
comp=E,1164μm,1.0s							
LKD2	**Lefkada island**	**0.96**	**346**	P	**Pb**	**00 21 17.7**	**+0.1**
LKD2				AML	AML	00 21 39.1	
comp=E,4805μm,0.7s							
LKD2				AML	AML	00 21 40.3	
comp=N,3103μm,0.7s							
TSLK	**Tsoukalades, L**	**1.00**	**346**	P	**Pb**	**00 21 17.0**	**-1.2**
ITM	**Ithomi**	**1.02**	**131**	P	**Pb**	**00 21 17.8**	**-0.7**
ITM	**Ithomi**	**1.02**	**131**	P	**Pb**	**00 21 18.3**	**-0.2**
ITM				AML	AML	00 21 40.9	
comp=E,1234μm,1.0s							
ITM				AML	AML	00 21 41.3	
comp=N,1400μm,0.6s							
ANX	**Ano Chora**	**1.06**	**45**	P	**Pb**	**00 21 18.1**	**-1.1**
ANX	**Ano Chora**	**1.06**	**45**	P	**Pb**	**00 21 18.5**	**-0.7**
ANX				AML	AML	00 21 37.4	
comp=E,1417μm,0.5s							
ANX				AML	AML	00 21 40.3	
comp=N,2853μm,0.6s							
GUR	**Goura**	**1.09**	**85**	P	**Pb**	**00 21 18.5**	**-1.4**
GUR				AML	AML	00 21 44.3	
comp=N,2367μm,0.6s							
GUR				AML	AML	00 21 50.0	
comp=E,1278μm,0.5s							
PYL	**PYLOS**	**1.14**	**147**	P	**Pb**	**00 21 19.8**	**-0.8**
PYL				AML	AML	00 21 48.5	
comp=E,727μm,1.1s							
PYL				AML	AML	00 21 49.2	
comp=N,518μm,0.6s							
EVR	**Evrytania**	**1.25**	**32**	P	**Pg**	**00 21 23.2**	**-0.2**
THL	**Klokotos Trika**	**1.90**	**25**	P	**Pb**	**00 21 33.0**	**-0.5**
VLI	**Veliai**	**1.94**	**125**	P	**Pb**	**00 21 33.4**	**-0.8**
DION	**Dionisos Attik**	**2.36**	**84**	P	**Pb**	**00 21 40.7**	**-0.7**
IDI	**Anoyia**	**4.07**	**128**	Pn	**Pn**	**00 21 59.4**	**-1.5**
comp=N,7.6nm,0.9s,baz=117,slow=23,SNR=1.6							
IDI				Sn	**Sn**	**00 22 46.8**	**-1.4**
comp=N,0.4nm,0.3s,baz=261,slow=21,SNR=1.2							
MLR	**Muntele Rosu**	**8.49**	**24**	Pn	**Pn**	**00 23 06.3**	**+4.6**
comp=N,0.1nm,0.3s,baz=210,slow=14,SNR=1.5							
comp=N,1.3nm,0.7s							
SOKA	**Soboth**	**9.85**	**335**	*i* Pn	**Pn**	**00 23 19.9**	**-0.3**
comp=N,1.6nm,0.5s							
OBKA	**Obir**	**9.87**	**333**	*e*Pn	**Pn**	**00 23 21.5**	**+1.0**
comp=N,3.4nm,0.7s							
ARSA	**Arzberg**	**10.21**	**339**	*i* Pn	**Pn**	**00 23 24.9**	**-0.2**
comp=N,0.5nm,0.3s							
KBA	**Koelnbreinsper**	**10.79**	**331**	*e*Pn	**Pn**	**00 23 34.3**	**+1.0**
comp=N,0.2nm,0.2s							
MOA	**Molln**	**11.13**	**336**	*i* Pn	**Pn**	**00 23 38.5**	**+0.8**
comp=N,0.9nm,0.4s							
LESA	**Schwarzleotal**	**11.34**	**330**	*i* Pn	**Pn**	**00 23 42.3**	**+1.7**
comp=N,2.2nm,0.4s							
VRAC	**Vranov**	**11.88**	**346**	LR	LR	00 29 44.9	
comp=N,167nm,21.6s,baz=284,slow=44							
AKASG	**Malin Array Be**	**14.13**	**22**	Pn	**Pn**	**00 24 21.6**	**+3.0**
comp=N,0.2nm,0.3s,baz=212,slow=8.9,SNR=1.7							
comp=N,0.1nm,0.2s							
HFS	**Hagfors**	**22.78**	**351**	P	**P**	**00 26 01.3**	**+0.6**
comp=N,1.2nm,0.7s,baz=172,slow=12,SNR=2.2							
comp=N,1.2nm,0.7s							
NOA	**NORSAR Array B**	**24.00**	**348**	P	**P**	**00 26 13.5**	**+0.4**
comp=N,0.2nm,0.6s,baz=162,slow=10,SNR=2.1							
comp=N,0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**30.00**	**220**	P	**P**	**00 27 06.3**	**-1.0**
comp=N,0.7nm,1.1s,baz=26,slow=9.4,SNR=2.6							
comp=N,0.7nm,1.1s							
MBAR	**Mbarara**	**39.32**	**164**	LR	LR	00 46 02.5	
comp=N,78nm,19.1s,baz=318,slow=38							
KURBB	**Kurchatov Arra**	**42.14**	**53**	P	**P**	**00 28 52.2**	**+1.5**
comp=N,0.4nm,0.4s,baz=278,slow=8.9,SNR=2.6							
comp=N,0.4nm,0.4s							
MKAR	**Makanchi Array**	**45.17**	**58**	P	**P**	**00 29 15.1**	**-0.1**
comp=N,0.2nm,0.6s,baz=280,slow=6.6,SNR=1.3							
comp=N,0.2nm,0.6s							
ZALV	**Zalesovo Beam**	**45.65**	**48**	P	**P**	**00 29 17.8**	**-1.0**
comp=N,0.3nm,0.4s,baz=280,slow=8.6,SNR=5.6							
comp=N,0.3nm,0.4s							

*NEIC **18** 01:08:41.4±0.7, 19°.6N±0°.1×64°.4W±0°.2, h35km±2km, ML2.6/20, Md3.6/10(RSPR), Error ellipse: s-maj=31.2km s-min=15.7km az=134.0*
*RSPR **18** 01:08:42.7±2.2, 19°.3N±0°.3×64°.6W±0°.2, h137km±9km, Error ellipse: s-maj=46.5km s-min=20.4km az=150.0*

ISC 18 01:08:41.7±3.0, 19°.5N±0°.2×64°.46W±0°.07, h27km, n18, σ0s69/20, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.85**	**226**	Pn	**Pn**	**01 09 11.9**	**+0.2**
HUMP					**Sb**	**01 09 37.4**	**-0.2**
HUMP				IAML		01 09 45.4	
comp=E,29nm,0.2s							
GCPR	**Guaynabo City**	**1.91**	**234**	Pn	**Pn**	**01 09 10.6**	**-2.0**
GCPR				IAML		01 09 56.3	
comp=E,29nm,2.5s							
GCPR				IAML		01 09 58.7	
comp=N,29nm,3.0s							
PDPR	**Patillas Dam,**	**2.06**	**226**	Pn	**Pn**	**01 09 14.8**	**+0.3**
SJG	**San Juan**	**2.08**	**230**		**Pn**	**01 09 14.6**	**-0.3**
CELP	**Cerrillos**	**2.43**	**236**		**Pn**	**01 09 19.8**	**+0.1**
CELP					**Sn**	**01 09 49.3**	**+0.8**
CELP	**Cerrillos**	**2.43**	**236**	IAML		01 10 16.4	
comp=E,19nm,2.7s							
CELP				IAML		01 10 49.9	
comp=N,22nm,2.4s							
AOPR	**Arecibo Observ**	**2.43**	**244**		**Sn**	**01 09 49.9**	**+1.2**
AOPR	**Arecibo Observ**	**2.43**	**244**		**Pn**	**01 09 19.1**	**-0.6**
AOPR	**Arecibo Observ**	**2.43**	**244**	IAML		01 09 54.5	
comp=E,49nm,0.3s							
AOPR				IAML		01 10 15.3	
comp=N,40nm,2.0s							
AOPR	**Arecibo Observ**	**2.43**	**244**	*e*P	**Pn**	**01 09 19.5**	**-0.3**
UUPR	**Utuado, UPR, P**	**2.45**	**241**		**Pn**	**01 09 19.7**	**-0.2**
UUPR					**Sn**	**01 09 49.2**	**+0.2**
OBIP	**Obispado Ponce**	**2.47**	**236**		**Sn**	**01 09 49.0**	**-0.5**
OBIP	**Obispado Ponce**	**2.47**	**236**		**Pn**	**01 09 20.5**	**+0.3**
OBIP	**Obispado Ponce**	**2.47**	**236**	IAML		01 10 05.6	
comp=N,31nm,3.1s							
OBIP				IAML		01 11 02.8	
comp=E,23nm,4.0s							
LSP	**Las Mesas**	**2.79**	**243**		**Pn**	**01 09 25.3**	**+0.6**
LSP					**Sn**	**01 09 57.7**	**+0.2**
MLPR	**Magueyes Islan**	**2.86**	**239**		**Pn**	**01 09 25.7**	**+0.2**
MLPR				IAML		01 10 07.4	
comp=E,29nm,3.3s							
CRPR	**Cabo Rojo, PR**	**2.89**	**241**		**Pn**	**01 09 26.3**	**+0.3**
CRPR					**Sn**	**01 09 59.3**	**-0.6**
ANBD	**Bethesda, Anti**	**3.50**	**133**	*e*P	**Pn**	**01 09 34.4**	**-0.1**

*IDC **18** 01:20:14.8±1.2, 32°.25N×141°.54E, h0km, mb3.6/8, mbtmp3.6/9, ML2.7/1, MS2.8/1, Error ellipse: s-maj=35.5km s-min=16.9km az=63.0*
*JMA **18** 01:20:15.6±0.4, 32°.6N±0°.9×14°2E±°, h4km, MV3.7/21, E OFF HACHIJOJIMA ISLAND*

ISC 18 01:20:19.1±1.1, 32°.44N±0°.08×141°.75E±0°.10, h31km, n20, σ1s19/23, mb3.6/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.68**	**271**	*e*P	**Pn**	**01 20 46.6**	**+0.3**
JHJ2	**Mitsune**	**1.76**	**293**	*e*P	**Pn**	**01 20 47.1**	**-0.2**
JHCJ	**Hachijojimakas**	**1.76**	**291**	*e*P	**Pn**	**01 20 46.9**	**-0.5**
JHJ	**Hachijo jima 2**	**1.79**	**293**	Pn	**Pn**	**01 20 46.9**	**-0.9**
21nm,0.3s,baz=90,slow=19,SNR=7.4							
JHJ				Sn	**Sn**	**01 21 07.9**	**-1.5**
31nm,0.3s,baz=101,slow=23,SNR=2.0							
BSO1	**Boso 1**	**2.30**	**344**	P	**Pn**	**01 20 53.6**	**-0.7**
BSO3	**Boso 3**	**2.57**	**337**	*e*P	**Pn**	**01 20 57.9**	**-0.4**
JHO	**Hitachi**	**4.27**	**347**	P	**Pn**	**01 21 20.4**	**-1.5**
JRY	**Ryogami san**	**4.27**	**327**	*e*P	**Pn**	**01 21 22.1**	**+0.1**
JRY				*e*S	**Sn**	**01 22 11.5**	**+0.7**
JAG	**Ashikaga**	**4.40**	**335**	P	**Pn**	**01 21 23.3**	**-0.4**
JAG				*e*S	**Sn**	**01 22 13.1**	**-0.8**
MJAR	**Matsushiro Arr**	**5.02**	**325**	Pn	**Pn**	**01 21 32.5**	**+0.1**
0.3nm,0.3s,baz=155,slow=12,SNR=15							
MJAR				Sn	**Sn**	**01 22 29.8**	**+0.5**
0.1nm,0.3s,baz=153,slow=14,SNR=1.7							
1.6nm,0.3s							
ASAJ	**Asahikawa**	**11.67**	**3**	Pn	**Pn**	**01 23 00.7**	**-2.7**
0.6nm,0.3s,baz=239,slow=5.9,SNR=5.6							
ASAJ				Sn	Sn	01 25 01.4	-11
0.2nm,0.3s,baz=230,slow=17,SNR=1.5							
KSRS	**Korea Array**	**12.39**	**298**	LR	LR	01 28 18.2	
comp=Z,41nm,18.4s,baz=350,slow=39							
SONM	**Songino Array**	**30.77**	**310**	P	**P**	**01 26 33.3**	**+1.5**
0.8nm,0.7s,baz=108,slow=9.3,SNR=5.4							
0.8nm,0.7s							
ZALV	**Zalesovo Beam**	**45.30**	**316**	P	**P**	**01 28 33.7**	**-0.1**
0.3nm,0.4s,baz=97,slow=4.8,SNR=2.2							
0.3nm,0.4s							
MKAR	**Makanchi Array**	**46.91**	**306**	P	**P**	**01 28 46.7**	**+0.1**
0.8nm,0.7s,baz=90,slow=9.3,SNR=5.3							
0.8nm,0.7s							
KURBB	**Kurchatov Arra**	**49.13**	**311**	P	**P**	**01 29 03.1**	**-0.6**
0.3nm,0.4s,baz=88,slow=7.6,SNR=8.7							
0.3nm,0.4s							
WRA	**Warramunga Arr**	**52.57**	**189**	P	**P**	**01 29 28.8**	**-1.0**
0.9nm,0.5s,baz=5.8,slow=7.7,SNR=24							
0.9nm,0.5s							
ILAR	**Eielson Array**	**53.26**	**30**	P	**P**	**01 29 37.0**	**+2.6**
0.2nm,0.6s,baz=278,slow=6.3,SNR=2.4							
0.2nm,0.6s							
BVAR	**Borovoye Array**	**53.93**	**315**	P	**P**	**01 29 39.4**	**-0.1**
0.8nm,0.7s,baz=99,slow=8.9,SNR=3.7							
0.8nm,0.7s							
ASAR	**Alice Springs**	**56.30**	**189**	P	**P**	**01 29 55.3**	**-1.6**
0.2nm,0.6s,baz=7.9,slow=8.5,SNR=6.8							
0.2nm,0.6s							

OSPL 18 01:40:05.4±1.5, 19°.23N×71°.21W, h0km±631km, ML1.3, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.26**	**196**	*i* P	Pg	01 40 10.0	-0.4
SDDR				*e*S	Sg	01 40 13.1	-0.7
SDDR				IAML		01 40 15.6	
comp=Z,49nm,0.3s							
LONE3	**El Aguacate, B**	**0.67**	**201**	*i* P	Pg	01 40 16.6	-1.6
LONE3				*e*S	Sg	01 40 26.7	-0.1
LODU1	**El Espartillar**	**0.91**	**196**	*i* P	Pg	01 40 22.6	-0.2

*IDC **18** 01:40:18.2±2.6, 20°.70S×178°.52W, h610km±30km, mb2.9/8, mbtmp3.9/9, Error ellipse: s-maj=22.2km s-min=13.1km az=160.0*

ISC 18 01:40:15.8±0.7, 20°.7S±0°.2×178°.5W±0°.1, h587km, n23, σ1s25/25, mb3.5/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.11**	**262**	P	**P**	**01 43 16.7**	**+0.6**
3.7nm,0.5s,baz=90,slow=19,SNR=7.6							
ASAR	**Alice Springs**	**44.03**	**257**	P	**P**	**01 47 33.9**	**+0.9**
1.2nm,0.6s,baz=94,slow=7.4,SNR=27							
ASAR				PcP	**PcP**	**01 49 05.0**	**-0.3**
0.5nm,0.5s,baz=101,slow=4.1,SNR=7.2							
ASAR				S	**S**	**01 53 23.2**	**-0.4**
1.1nm,0.9s,baz=93,slow=15,SNR=8.4							
1.2nm,0.6s							
WRA	**Warramunga Arr**	**44.13**	**262**	P	**P**	**01 47 34.2**	**+0.6**
0.9nm,0.3s,baz=97,slow=7.4,SNR=64							
WRA				S	**S**	**01 53 23.5**	**-1.4**
0.6nm,0.9s,baz=101,slow=12,SNR=3.2							
0.9nm,0.3s							
QSPA	**South Pole Qui**	**69.39**	**180**	P	**P**	**01 50 26.4**	**+0.9**
1.2nm,0.6s,baz=189,slow=1.0,SNR=11							
1.2nm,0.6s							
MJAR	**Matsushiro Arr**	**70.08**	**324**	P	**P**	**01 50 30.3**	**+0.4**
0.9nm,0.5s,baz=152,slow=6.0,SNR=4.4							
0.9nm,0.5s							
NVAR	**Mina Array Bea**	**81.47**	**44**	P	**P**	**01 51 33.2**	**+0.3**
0.2nm,0.6s,baz=224,slow=7.6,SNR=2.9							
0.2nm,0.6s							
TXAR	**Lajitas Array**	**87.53**	**58**	P	**P**	**01 52 02.6**	**+0.1**
0.5nm,1.1s,baz=203,slow=5.9,SNR=2.7							
0.5nm,1.1s							
ILAR	**Eielson Array**	**88.59**	**13**	P	**P**	**01 52 06.2**	**-0.2**
0.4nm,0.5s,baz=224,slow=4.7,SNR=7.7							
0.4nm,0.5s							
PDAR	**Pinedale Array**	**89.40**	**43**	P	**P**	**01 52 11.8**	**+0.7**
0.4nm,0.7s,baz=204,slow=4.0,SNR=4.3							
0.4nm,0.7s							
BVAR	**Borovoye Array**	**118.92**	**320**	PKP	**PKiKP**	**01 57 58.1**	**-0.1**
1.1nm,0.4s,baz=120,slow=2.5,SNR=6.5							
ARCES	**ARCESS Array B**	**129.01**	**349**	PKP	**PKiKP**	**01 58 17.3**	**-0.4**
2.1nm,0.8s,baz=20,slow=3.0,SNR=4.6							
HFS	**Hagfors**	**139.64**	**351**	PKhKP	PKPpre	01 58 30.5	
0.6nm,0.3s,baz=50,slow=3.0,SNR=11							
AKASG	**Malin Array Be**	**142.95**	**331**	PKP	**PKPdf**	**01 58 41.2**	**-2.0**
2.5nm,0.4s,baz=43,slow=4.4,SNR=30							
BRTR	**Keskin Array B**	**146.62**	**312**	PKPbc	**PKPbc**	**01 58 53.0**	**+0.3**
0.7nm,0.6s,baz=135,slow=0.6,SNR=6.2							
MMAI	**Mount Meron Ar**	**147.50**	**299**	PKPbc	**PKiKP**	**01 58 56.3**	**-0.5**
1.4nm,0.4s,baz=64,slow=6.6,SNR=7.6							
GERES	**GERESS Array B**	**150.25**	**344**	PKPbc	**PKiKP**	**01 59 02.2**	**+0.3**
0.6nm,0.6s,baz=25,slow=3.2,SNR=2.6							
CONA	**Conrad Observa**	**150.45**	**340**	*i* PKP	**PKPbc**	**01 59 01.0**	**-0.9**
0.5nm,0.4s							
RONA	**Rosalia, Austr**	**150.51**	**340**	*i* PKP	**PKiKP**	**01 59 02.7**	**+0.2**
1.3nm,0.4s							
KBA	**Koelnbreinsper**	**151.96**	**343**	*e*PKiKP	**PKiKP**	**01 59 08.3**	**+2.7**
1.7nm,0.7s							
OBKA	**Obir**	**152.12**	**341**	*i* PKiKP	**PKiKP**	**01 59 09.2**	**+3.4**
1.1nm,0.6s							
WTTA	**Wattenberg**	**152.23**	**345**	*i* PKP	**PKiKP**	**01 59 06.4**	**+0.2**
1.1nm,0.4s							
FETA	**Feichten**	**152.67**	**346**	*e*PKP	**PKPdf**	**01 58 57.7**	**-1.6**
0.7nm,0.4s							
TORD	**Torodi Ar. Bea**	**172.51**	**181**	PKPab	**PKPab**	**02 00 46.5**	**-1.5**
0.3nm,0.9s,baz=188,slow=8.6,SNR=1.9							

SSNC 18 01:40:29.1±2.1, 19°.61N×72°.87W, h5km±16km, MD2.9, ML1.7, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**1.20**	**153**	*e*P	Pg	01 40 50.2	-2.0
PAPH				*e*S	Sg	01 41 06.3	-1.5
PAPH				IAML		01 41 10.5	
comp=E,50nm,0.1s							
PAPH				IAML		01 41 11.2	
comp=N,55nm,0.2s							
MASC	**Masc**	**1.40**	**294**	*e*P	Pn	01 40 52.8	-2.5
MASC				*e*S	Sb	01 41 11.6	-2.4
MASC				IAML		01 41 14.6	
comp=N,9.1nm,0.1s							
MASC				IAML		01 41 14.8	
comp=E,5.3nm,0.1s							
QMBU	**Quimbuelo**	**1.92**	**288**	*e*P	Pn	01 40 59.5	-3.0
QMBU				*e*S	Sn	01 41 22.7	-4.5
QMBU				IAML		01 41 27.4	
comp=E,7.3nm,0.2s							
QMBU				IAML		01 41 31.4	
comp=N,6.5nm,0.1s							
GTBY	**Guantanamo Bay**	**2.14**	**279**	*e*P	Pn	01 41 03.3	-2.2
GTBY				*e*S	Sn	01 41 29.4	-3.0
GTBY				IAML		01 41 31.4	
comp=N,2.0nm,0.1s							
GTBY				IAML		01 41 36.0	
comp=N,3.2nm,0.1s							
NMDO	**Nuevo Mundo**	**2.20**	**296**	*e*P	Pn	01 41 04.8	-1.6
NMDO				*e*S	Sn	01 41 32.5	-1.5
NMDO				IAML		01 41 35.6	
comp=N,3.4nm,0.1s							
NMDO				IAML		01 41 36.9	
comp=E,1.7nm,0.1s							
RCC	**Rio Carpintero**	**2.69**	**279**	*e*P	Pn	01 41 10.7	-2.4
RCC				*e*S	Sn	01 41 42.2	-3.9
RCC				IAML		01 41 45.4	
comp=N,2.5nm,0.1s							
RCC				IAML		01 41 46.2	
comp=E,2.2nm,0.2s							
PINC	**Pinares de May**	**2.88**	**288**	*e*P	Pn	01 41 13.6	-2.2
PINC				*e*S	Sn	01 41 48.0	-2.9
PINC				IAML		01 41 52.9	
comp=E,1.4nm,0.0s							
PINC				IAML		01 41 54.5	
comp=N,2.1nm,0.1s							

*NOU **18** 01:44:07.5, 38°.01S×175°.92E, h302km, MLv4.0/15, North Island, New Zealand*
*WEL **18** 01:44:12.5±0.7, 38°.3S±4°.×17°6E±°, h252km±5km, M3.3/44, MLv3.3/44, Error ellipse: s-maj=7.1km s-min=5.2km az=64.8, confirmed*

ISC 18 01:44:07.2±2.0, 38°.05S±0°.08×175°.88E±0°.07, h290km±12km, n162, σ1s82/176, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRZ	**Kaimai**	**0.21**	**14**	P

MTHZ	Maungataniwha	1.10 137	P	Pn	01 44 48.7	+1.7
MTHZ			S	S	01 45 16.5	-2.2
MKAZ	Moumakai	1.10 329	P	Pn	01 44 48.6	+1.5
MKAZ			S	S	01 45 18.3	-0.5
OTVZ	Oturere	1.12 189	P	Pn	01 44 49.3	+2.1
NGZ	Ngauruhoe	1.14 191	P	Pn	01 44 49.3	+1.9
SNVZ	South Ngauruho	1.15 189	P	Pn	01 44 49.5	+2.1
COVZ	Chateau Observ	1.18 193	P	Pn	01 44 49.3	+1.8
BKZ	Black Stump Fm	1.21 157	P	Pn	01 44 49.4	+1.8
BKZ	Black Stump Fm	1.21 157	P	Pn	01 44 49.4	+1.8
TUVZ	Tukino	1.23 188	P	Pn	01 44 49.8	+2.0
FWVZ	Far West T-bar	1.23 192	P	Pn	01 44 49.7	+1.8
MAVZ	Matarangi	1.24 191	P	Pn	01 44 50.1	+1.9
WHVZ	Whangaehu Hut	1.25 190	P	Pn	01 44 49.9	+1.9
TRVZ	Turoa	1.27 192	P	Pn	01 44 50.2	+2.0
NMHZ	Naumai	1.27 145	P	Pn	01 44 50.8	+2.8
RAHZ	Arahi	1.28 133	P	Pn	01 44 50.4	+2.4
RAHZ			S	S	01 45 19.3	-1.1
RAGZ	Rawiri	1.29 111	P	Pn	01 44 50.1	+1.9
WNVZ	Wahianoa	1.29 190	P	Pn	01 44 50.1	+1.9
PKVZ	Pokaka	1.30 198	P	Pn	01 44 50.2	+2.0
KUZ	Kuaotunu	1.31 354	P	Pn	01 44 49.2	+0.9
KUZ	Kuaotunu	1.31 354	P	Pn	01 44 48.9	+0.6
MWZ	Matawai	1.33 103	P	Pn	01 44 49.8	+1.4
MWZ			S	S	01 45 19.1	-1.9
ETAZ	East Tamaki Re	1.33 325	P	Pn	01 44 49.8	+1.4
MOVZ	Moawhango	1.36 184	P	Pn	01 44 50.1	+1.6
SNGZ	Shannon Statio	1.36 123	P	Pn	01 44 50.7	+2.2
VRZ	Vera Road	1.38 219	P	Pn	01 44 50.8	+2.2
WIAZ	Waiheke Island	1.39 335	P	Pn	01 44 50.2	+1.4
AWAZ	Awhitu Peninsu	1.39 315	P	Pn	01 44 50.4	+1.6
RUGZ	Raukumara Rang	1.42 87	P	Pn	01 44 49.2	+0.2
KWHZ	Kaweka Forest	1.43 163	P	Pn	01 44 51.5	+2.5
WHHZ	Waihua	1.48 134	P	Pn	01 44 51.6	+2.4
EPAZ	Eden Park BICE	1.48 322	P	Pn	01 44 50.8	+1.5
ARHZ	Aropaoanui	1.49 144	P	Pn	01 44 51.9	+2.6
MBAZ	Motutapu North	1.50 328	P	Pn	01 44 50.9	+1.4
HBAZ	Herne Bay Bore	1.51 322	P	Pn	01 44 51.0	+1.5
WTAZ	Waiatarua	1.52 317	P	Pn	01 44 51.6	+1.9
MCHZ	McNeill Hill	1.53 156	P	Pn	01 44 52.3	+2.8
HAZ	Te Kaha	1.54 79	P	Pn	01 44 50.0	+0.3
HAZ			S	S	01 45 19.6	-3.7
TKGZ	Te Karaka	1.60 105	P	Pn	01 44 52.1	+2.1
RIGZ	Rimuhau	1.62 114	P	Pn	01 44 52.5	+2.3
KRHZ	Kereru	1.63 167	P	Pn	01 44 52.5	+2.2
RVAZ	Riverhead Bore	1.65 321	P	Pn	01 44 52.1	+1.7
TWGZ	Tauwhareparae	1.66 95	P	Pn	01 44 52.6	+2.0
ABAZ	Army Bay	1.67 330	P	Pn	01 44 52.4	+1.7
KNZ	Kokohu	1.71 125	P	Pn	01 44 52.9	+2.1
PRGZ	Paritu Road	1.80 120	P	Pn	01 44 53.7	+2.2
GRZ	Great Barrier	1.83 349	P	Pn	01 44 53.0	+1.2
WAZ	Wanganui	1.84 202	P	Pn	01 44 53.9	+2.2
NEZ	North Egmont	1.85 228	P	Pn	01 44 55.0	+3.0
CKHZ	Cape Kidnapper	1.86 150	P	Pn	01 44 54.5	+2.6
PREZ	Palmer Road	1.86 226	P	Pn	01 44 54.7	+2.7
PKE	Pukeiti	1.87 232	P	Pn	01 44 55.0	+3.0
PUZ	Puketiti	1.88 91	P	Pn	01 44 54.0	+1.9
CNGZ	Carnagh Statio	1.88 104	P	Pn	01 44 54.6	+2.4
KAHZ	Kahuranaki	1.91 156	P	Pn	01 44 55.0	+2.7
KHEZ	Kahui Hut	1.92 229	P	Pn	01 44 55.2	+2.7
KHEZ	Kahui Hut	1.92 229	P	Pn	01 44 55.1	+2.7
MHGZ	Mahia Peninsul	1.93 125	P	Pn	01 44 54.9	+2.4
MXZ	Matakaoa Point	1.98 76	P	Pn	01 44 54.4	+1.4
MXZ	Matakaoa Point	1.98 76	P	Pn	01 44 54.2	+1.2
NBEZ	Newall Road No	1.99 232	P	Pn	01 44 56.0	+3.1
TSZ	Takapari Road	2.00 178	P	Pn	01 44 55.2	+2.1
WMGZ	Waiomatatini S	2.02 84	P	Pn	01 44 54.8	+1.5
WPHZ	Waipukurau	2.06 168	P	Pn	01 44 55.7	+2.2
PXZ	Pawanui	2.12 159	P	Pn	01 44 56.4	+2.4
OHWZ	Ohakea	2.19 191	P	Pn	01 44 57.3	+2.7
DVHZ	Dannevirke	2.25 174	P	Pn	01 44 57.1	+1.9
PRHZ	Porangahau	2.29 165	P	Pn	01 44 57.8	+2.3
POWZ	Post Office Ro	2.34 182	P	Pn	01 44 57.8	+1.9
WCZ	Waipu Caves	2.44 329	P	Pn	01 44 58.6	+1.6
ANWZ	Angora Road	2.45 169	P	Pn	01 44 59.4	+2.5
PRWZ	Pori Road	2.50 178	P	Pn	01 44 59.7	+2.3
MRZ	Mangatainoka R	2.62 185	P	Pn	01 45 00.2	+1.8
BFZ	Birch Farm	2.64 174	P	Pn	01 45 00.8	+2.1
BFZ	Birch Farm	2.64 174	P	Pn	01 45 00.6	+1.9
TIWZ	Tintock	2.72 180	P	Pn	01 45 01.5	+2.0
OGWZ	Otaki Gorge	2.81 191	P	Pn	01 45 02.3	+2.0
HOWZ	Holdsworth Sta	2.85 186	P	Pn	01 45 02.6	+1.8
CPWZ	Castlepoint	2.87 175	P	Pn	01 45 03.5	+2.7
KIW	Kapiti Island	2.90 195	P	Pn	01 45 03.0	+1.7
TMWZ	Te Maipa	3.05 180	P	Pn	01 45 04.5	+1.8
MTW	Mount Morrison	3.12 185	P	Pn	01 45 04.8	+1.4
DUWZ	D'Urville Isla	3.14 208	P	Pn	01 45 05.1	+1.5
WEL	Wellington	3.34 195	P	Pn	01 45 07.5	+1.9
PAWZ	Paruwai Farm	3.34 186	P	Pn	01 45 07.4	+1.6
TRWZ	Traveller	3.34 182	P	Pn	01 45 07.5	+1.7
OUZ	Omahuta	3.37 326	P	Pn	01 45 07.9	+1.8
OUZ	Omahuta	3.37 326	P	Pn	01 45 07.6	+1.4
SNZO	South Karori	3.38 195	P	Pn	01 45 07.4	+1.4
TCW	Tory Channel	3.39 201	P	Pn	01 45 07.9	+1.8
MSWZ	Moikau Station	3.39 188	P	Pn	01 45 07.7	+1.4
BHW	Baring Head	3.44 193	P	Pn	01 45 08.2	+1.5
PLWZ	Palliser	3.54 188	P	Pn	01 45 09.3	+1.4
TUWZ	Tuamarina	3.69 203	P	Pn	01 45 11.7	+2.4
NNZ	Nelson	3.70 211	P	Pn	01 45 10.6	+1.1
TKNZ	Takaka Hill	3.73 216	P	Pn	01 45 10.4	+0.5
QRZ	Quartz Range	3.79 222	P	Pn	01 45 11.2	+0.6
QRZ	Quartz Range	3.79 222	P	Pn	01 45 11.1	+0.6
BSWZ	Blackbirch Sta	3.97 202	P	Pn	01 45 14.4	+1.9
MRNZ	Matariki Terra	4.12 215	P	Pn	01 45 14.8	+0.7
THZ	Tophouse	4.35 211	P	Pn	01 45 17.7	+0.9
KHZ	Kahutara	4.71 202	P	Pn	01 45 22.7	+1.9
KHZ	Kahutara	4.71 202	P	Pn	01 45 22.4	+1.5
DSZ	Denniston Nort	4.84 219	P	Pn	01 45 22.9	+0.4
GVZ	Greta Valley S	5.37 203	P	Pn	01 45 29.9	+1.4
LTZ	Lake Taylor	5.47 209	P	Pn	01 45 30.9	+1.1
AMCZ	Amberley	5.68 205	P	Pn	01 45 33.4	+1.2
INZ	Inchbonnie	5.76 215	P	Pn	01 45 34.0	+0.7
OXZ	Oxford	6.02 208	P	Pn	01 45 37.2	+0.8
MQZ	McQueen's Vall	6.15 202	P	Pn	01 45 38.4	+0.4
AKCZ	Akaroa Harbour	6.23 200	P	Pn	01 45 40.3	+1.4
RACZ	Rakaia	6.34 205	P	Pn	01 45 41.0	+0.8
WVZ	Waitaha Valley	6.36 216	P	Pn	01 45 41.4	+0.9
MHCZ	Mount Hutt	6.38 209	P	Pn	01 45 41.3	+0.6
WACZ	Wakanui South	6.63 206	P	Pn	01 45 44.8	+1.1
RPZ	Rata Peaks	6.73 211	P	Pn	01 45 46.2	+1.1
RPZ	Rata Peaks	6.73 211	P	Pn	01 45 46.1	+1.1
GCSZ	Gaunt Creek Bo	6.74 217	P	Pn	01 45 46.4	+1.3
ARCZ	Arundel	6.88 210	P	Pn	01 45 47.3	+0.5
FOZ	Fox Glacier	7.15 218	P	Pn	01 45 50.0	-0.1
TMZ	Timaru	7.31 209	P	Pn	01 45 53.4	+1.3
LBZ	Lake Benmore	7.64 212	P	Pn	01 45 57.1	+0.9
ODZ	Otahua Downs	8.01 208	P	Pn	01 46 02.6	+1.9
ODZ	Otahua Downs	8.01 208	P	Pn	01 46 02.4	+1.7
JCZ	Jackson Bay	8.05 219	P	Pn	01 46 01.1	-0.3
JCZ	Jackson Bay	8.05 219	P	Pn	01 46 01.0	-0.3
WKZ	Wanaka	8.50 215	P	Pn	01 46 06.2	-0.6
EAZ	Earnscleugh	8.69 212	P	Pn	01 46 12.1	+3.0
TUZ	Tuapeka	9.16 208	P	Pn	01 46 17.0	+2.1
SYZ	Scrubby Hill	9.84 208	P	Pn	01 46 23.9	+0.7

BJI ***18*** *01:51:15.5, 30˚.59N×142˚.47E, h10km, mb4.5/49, mB5.0/14, Ms4.2/11, MS7 3.9/11*
IDC ***18*** *01:51:19.5±0.5, 30˚.73N×142˚.07E, h0km, mb4.3/24, mbtmp4.3/29, ML3.8/5, MS3.6/13, Error ellipse: s-maj=18.3km s-min=12.5km az=73.0*
JMA ***18*** *01:51:20.9±0.2, 30˚.8N±0˚.6×14˚.2E±˚, h42km, MV4.6/22, NEAR TORISHIMA IS*
NIED ***18*** *01:51:20.9, 30˚.84N×142˚.27E, h42km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; M_{rr}3.36; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-3.02; $M_{r\theta}$-2.89; $M_{\theta\phi}$0.52; $M_{\phi r}$3.05; Fault plane solution: $M_0$5.26000×10^15^ NP1: ϕ_s325.00000°, δ72.00000°, λ77.00000°. NP2: ϕ_s183.00000°, δ22.00000°, λ125.00000°.*
NEIC ***18*** *01:51:22.3±1.8, 30˚.81N±0˚.03×142˚.0E±0˚.1, h10km±1km, mb4.8/39 Error ellipse: s-maj=18.2km s-min=6.2km az=266.0*
ISC 18 01:51:23.4±0.5,**30˚.81N**±0˚.05×**142˚.17E**±0˚.07,**h24**km,**n162**, σ1§**54**/154,**mb4.7**/56,**MS3.9**/13,**1C-1D, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**			**3.04 319**	Pn	**Pn**	**01 52 08.2 -1.8**
JHJ2	**Mitsune**			**3.04 319**	P	**Pn**	**01 52 11.5 +1.5**
JHJ2	**Mitsune**			**3.04 319**	*e*P	**Pn**	**01 52 08.3 -1.7**
JHJ	**Hachijo jima 2**			**3.07 319**	Pn	**Pn**	**01 52 07.9 -2.5**
	28nm,0.3s,baz=83,slow=14,SNR=8.2						
JHJ					Sn	**Sn**	**01 52 41.1 -5.2**
	31nm,0.3s,baz=107,slow=19,SNR=1.8						
JHJ					LR	LR	01 53 15.5
	comp=Z,500nm,21.1s,baz=132,slow=38						
	117nm,0.6s						
CBIJ	**Chichi jima**			**3.71 180**	*e*P	**Pn**	**01 52 17.9 -1.2**
CBIJ					*e*S	**Sn**	**01 52 59.8 -2.3**
JCJ	**Chichijima**			**3.71 180**	Pn	**Pn**	**01 52 18.4 -0.8**
BSO1	**Boso 1**			**3.96 346**	P	**Pn**	**01 52 21.1 -1.1**
BSO3	**Boso 3**			**4.22 341**	*e*P	**Pn**	**01 52 25.0 -0.9**
JIE	**Ise**			**5.83 309**	*e*P	**Pn**	**01 52 48.7 +0.4**
JRY	**Ryogami san**			**5.87 333**	*e*P	**Pn**	**01 52 48.6 -0.2**
JRY					*e*S	**Sn**	**01 53 54.5 -0.8**
JHO	**Hitachi**			**5.93 347**	*e*P	**Pn**	**01 52 47.7 -2.0**
JHO					*e*S	**Sn**	**01 53 53.2 -3.7**
JAG	**Ashikaga**			**6.04 339**	P	**Pn**	**01 52 50.3 -0.9**
JGF	**Kuroka**			**6.25 321**		**Pn**	**01 52 51.9 -2.3**
JGF	**Kuroka**			**6.25 321**	P	**Pn**	**01 52 56.5 +2.4**
INU	**Inuyama**			**6.26 318**	P	**Pn**	**01 52 54.7 +0.5**
MJAR	**Matsushiro Arr**			**6.60 331**	Pn	**Pn**	**01 52 58.5 -0.4**
	1.9nm,0.3s,baz=158,slow=11,SNR=213						
MJAR					Sn	**Sn**	**01 54 13.5 +0.1**
	0.4nm,0.3s,baz=294,slow=18,SNR=4.2						
MJAR					LR	LR	01 55 25.6
	comp=Z,268nm,18.8s,baz=150,slow=37						
	30nm,0.7s						
MAJO	**Matsushiro**			**6.60 331**		**Pn**	**01 52 59.3 +0.4**
MAJO	**Matsushiro**			**6.60 331**	P	**Pn**	**01 52 59.5 +0.6**
MJB9	**Matsu-Tunnel**			**6.60 331**		**Pn**	**01 53 00.1 +1.1**
JMM	**Marumori**			**7.13 351**		**Pn**	**01 53 04.4 -1.7**
JMM	**Marumori**			**7.13 351**	P	**Pn**	**01 53 04.6 -1.5**
JMN	**Monobe**			**7.60 295**	P	Pn	01 53 20.0 +7.3
JSD	**Sado**			**7.90 337**	Pn	**Pn**	**01 53 14.6 -2.1**
JSD	**Sado**			**7.90 337**	P	**Pn**	**01 53 16.1 -0.6**
JNU	**Nakatsue**			**9.87 286**	LR	LR	01 57 21.0
	comp=Z,184nm,18.6s,baz=114,slow=37						
JTM	**Tenmabayashi**			**9.99 355**	Pn	**Pn**	**01 53 43.4 -2.0**
JOW	**Kunigami**			**12.81 255**	LR	LR	01 58 53.8
	comp=Z,161nm,19.0s,baz=114,slow=36						
ASAJ	**Asahikawa**			**13.28 1**	Pn	**Pn**	**01 54 28.6 -1.8**
	1.2nm,0.3s,baz=194,slow=2.9,SNR=7.5						
	4.4nm,0.4s						
KSRS	**Korea Array**			**13.53 303**	Pn	**Pn**	**01 54 34.4 +0.6**
	0.4nm,0.3s,baz=112,slow=13,SNR=16						
KSRS					LR	LR	01 59 57.5
	comp=Z,154nm,18.7s,baz=125,slow=38						
	4.4nm,0.7s						
USRK	**Ussuriysk Ar.**			**15.60 332**	Pn	**Pn**	**01 54 59.5 -2.1**
	0.1nm,0.3s,baz=138,slow=13,SNR=4.2						
	3.0nm,0.8s						
MDJ	**Mudanjiang**			**16.97 328**	P	**Pn**	**01 55 18.3 -0.8**
MDJ					pmax	pmax	
	comp=Z,10.0nm,1.0s						
CN2	**Changchun**			**18.53 319**	P	**P**	**01 55 36.6 -1.5**
CN2					pmax	pmax	
	comp=Z,10.0nm,1.1s						
CN2					LR	LR	
	comp=N,300nm,10.0s						
CN2					LR	LR	
	comp=E,300nm,10.0s						
CN2					LR	LR	
	comp=Z,300nm,11.0s						
BNX	**BinXian**			**18.83 326**	⇓P	**P**	**01 55 41.3 -0.1**
BNX					pmax	pmax	
	comp=Z,9.0nm,1.2s						
YHNB	**Yeheng**			**19.39 257**	P	**P**	**01 55 46.5 -1.3**
YHNB					IAmb	IAmb	01 55 59.4
	comp=Z,32nm,0.8s						
NACB	**Ninganchiao**			**19.40 255**	P	**P**	**01 55 45.7 -2.1**
NJ2	**Nanjing**			**19.93 280**	*e*P	**P**	**01 55 53.4 -0.1**
NJ2					pmax	pmax	
	comp=Z,12nm,0.7s						
YULB	**Yu-li**			**19.98 253**	P	**P**	**01 55 52.9 -1.3**
YULB					IAmb	IAmb	01 56 05.4
	comp=Z,36nm,0.9s						
KLR	**Kul'dur**			**20.02 340**	P	**P**	**01 55 54.3 0.0**
	comp=Z,3.4nm,0.5s,baz=280,slow=5.6,SNR=17						
	comp=Z,3.4nm,0.5s						
SSLB	**Suanglung**			**20.10 255**	P	**P**	**01 55 55.0 -0.4**
SSLB					IAmb	IAmb	01 55 56.1
	comp=Z,67nm,1.1s						
HEH	**HeiHe**			**22.35 335**	*e*P	**P**	**01 56 19.3 -0.1**
HEH					pmax	pmax	
	comp=Z,22nm,0.6s						
BJI	**Beijing**			**23.03 301**	P	**P**	**01 56 24.5 -2.2**
BJI					pmax	pmax	
	comp=Z,8.0nm,0.7s						
HNS	**HongShan**			**23.62 294**	⇑P	**P**	**01 56 33.6 +1.0**
HNS					pmax	pmax	
	comp=Z,7.0nm,0.6s						
HNS					LR	LR	
	comp=Z,120nm,12.0s						
HNS					LR	LR	
	comp=Z,230nm,14.3s						
HNS					LR	LR	
	comp=Z,250nm,15.7s						
XLT	**XiLinHaoTe**			**24.39 310**	*e*P	**P**	**01 56 35.6 -4.3**
XLT					pmax	pmax	
	comp=Z,8.0nm,1.3s						
H11N2	**WAKE ISLAND Hy**			**24.88 111**	T	T	02 22 53.1
	baz=306						
H11N1	**WAKE ISLAND Hy**			**24.88 111**	T	T	02 22 58.6
	baz=306						
H11N3	**WAKE ISLAND Hy**			**24.89 111**	T	T	02 23 01.2
	baz=306						
PETK	**Petropavlovsk-**			**24.98 22**	LR	LR	02 07 17.5
	comp=Z,72nm,20.5s,baz=227,slow=38						
LYN	**LuoYang**			**25.23 286**	*e*P	**P**	**01 56 52.8 +5.3**
LYN					pmax	pmax	
	comp=Z,8.0nm,0.7s						
LYN					pmax	pmax	
	comp=Z,97nm,4.7s						
H11S3	**WAKE ISLAND Hy**			**25.37 113**	T	T	02 24 29.3
	baz=303						
H11S1	**WAKE ISLAND Hy**			**25.37 113**	T	T	02 23 37.8
	baz=303						
H11S2	**WAKE ISLAND Hy**			**25.39 113**	T	T	02 23 42.7
	baz=303						
HHC	**Hu-ho-hao-te**			**26.64 301**	*e*P	**P**	**01 56 59.0 -1.3**
HHC					pmax	pmax	
	comp=Z,22nm,0.6s						
HHC					pmax	pmax	
	comp=Z,170nm,5.0s						
HHC					LR	LR	
	comp=Z,220nm,13.0s						
HHC					LR	LR	
	comp=Z,180nm,13.0s						
HHC					LR	LR	
	comp=Z,220nm,14.5s						
BTO	**Baotou**			**27.74 299**	*e*P	**P**	**01 57 10.4 +0.2**
BTO					pP	**pP**	**01 57 14.6 -0.6**
BTO					sP	**sP**	**01 57 17.3 0.0**
BTO					PP	**PnPn**	**01 57 59.5 +3.1**
BTO					S	**S**	**02 01 52.8 +1.4**
BTO					sS	**pS**	**02 01 59.8 +2.2**
BTO					SS	**SnSn**	**02 03 11.6 +7.2**
BTO					pmax	pmax	
	comp=Z,27nm,1.3s						
BTO					pmax	pmax	
	comp=Z,220nm,4.4s						
BTO					LR	LR	
	comp=Z,540nm,13.3s						
BTO					LR	LR	
	comp=Z,710nm,18.1s						
BTO					LR	LR	
	comp=Z,640nm,14.6s						
XAN	**Xi'an**			**28.18 285**	P	**P**	**01 57 12.3 -1.8**
XAN					pP	pP	01 57 16.3 -2.8
XAN					pmax	pmax	
	comp=Z,8.0nm,1.5s						
XAN					LR	LR	
	comp=Z,300nm,14.4s						
XAN					LR	LR	
	comp=Z,190nm,11.7s						
QIZ	**Qiongzhong**			**31.47 256**	P	**P**	**01 57 42.4 -0.9**
QIZ					S	**S**	**02 02 52.3 +2.2**
QIZ					pmax	pmax	
	comp=Z,10.0nm,2.2s						
QIZ					LR	LR	
	comp=Z,110nm,14.7s						
QIZ					LR	LR	
	comp=Z,170nm,4.9s						
QIZ					LR	LR	
	comp=Z,190nm,16.8s						
ULN	**Ulaanbaatar**			**31.71 313**	P	**P**	**01 57 42.5 -2.9**
ULN					IAmb	IAmb	01 57 47.1
	comp=Z,9.3nm,0.8s						
SHEM	**Shemya Is, Ala**			**31.93 37**	LR	LR	02 09 11.5
	comp=Z,54nm,20.1s,baz=309,slow=33						
SONM	**Songino Array**			**32.12 312**	P	**P**	**01 57 48.2 -0.7**
SONM					IAmb	IAmb	01 57 50.5
	comp=Z,8.9nm,1.1s						
SONM	**Songino Array**			**32.12 312**	P	**P**	**01 57 49.4 +0.5**
	comp=Z,4.1nm,0.8s,baz=120,slow=8.2,SNR=23						
SONM					LR	LR	02 11 43.4
	comp=Z,147nm,18.2s,baz=347,slow=38						
	comp=Z,4.1nm,0.8s						
LZH	**Lanzhou**			**32.27 290**	*e*P	P	01 57 46.6 -3.8
LZH					pmax	pmax	
	comp=Z,10.0nm,1.1s						
GTA	**Gaotai**			**35.43 296**	*e*P	**P**	**01 58 16.6 -1.2**
GTA					sP	sP	01 58 27.6 +2.6
GTA					pmax	pmax	
	comp=Z,6.0nm,0.7s						
PZH	**PanZhiHua**			**35.60 273**	P	**P**	**01 58 21.3 +1.9**
PZH					pmax	pmax	
	comp=Z,10.0nm,0.5s						
PZH					pmax	pmax	
	comp=Z,100nm,6.0s						
GOMU	**GeErMu**			**39.55 291**	P	**P**	**01 58 51.8 -1.2**
GOMU					pP	pP	01 58 54.6 -3.4
GOMU					pmax	pmax	
	comp=Z,17nm,0.8s						
CHTO	**Chiang Mai**			**40.78 263**	P	**P**	**01 59 00.7 -2.3**
CMAR	**Chiang Mai Arr**			**40.94 263**	P	**P**	**01 59 02.4 -1.9**
	comp=Z,1.4nm,0.3s,baz=42,slow=11,SNR=5.7						
	comp=Z,1.4nm,0.3s						
MTN	**Manton Dam**			**44.69 195**	P	**P**	**01 59 33.0 -1.5**
ZSN	**Zaisan**			**46.39 308**	*e*P	**P**	**01 59 46.8 -1.0**
	comp=Z,12nm,0.9s						
ZAA0	**Zalesovo Array**			**46.73 317**	P	**P**	**01 59 49.3 -1.0**
ZALV	**Zalesovo Beam**			**46.73 317**	P	**P**	**01 59 49.8 -0.5**
ZALV	**Zalesovo Beam**			**46.73 317**	P	**P**	**01 59 50.0 -0.3**
	comp=Z,2.1nm,0.7s,baz=93,slow=7.8,SNR=12						
ZALV					PcP	**PcP**	**02 01 22.9 -0.6**
	comp=Z,2.1nm,0.8s,baz=104,slow=4.8,SNR=4.2						
	comp=Z,2.1nm,0.7s						
MK31	**Makanchi Array**			**48.17 307**	P	**P**	**02 00 01.5 -0.2**
MK31					IAmb	IAmb	02 00 02.4
	comp=Z,6.9nm,0.7s						
MKAR	**Makanchi Array**			**48.17 307**	P	**P**	**02 00 01.3 -0.4**
MKAR	**Makanchi Array**			**48.17 307**	P	**P**	**02 00 01.4 -0.2**
	comp=Z,7.4nm,0.7s,baz=90,slow=9.6,SNR=48						
	comp=Z,7.4nm,0.7s						
MAKZ	**Makanchi**			**48.38 307**	P	**P**	**02 00 03.2 -0.2**
MAKZ					IAmb	IAmb	02 00 04.1
	comp=Z,6.2nm,0.6s						
NRIK	**Noril'sk**			**49.21 338**	P	**P**	**02 00 09.4 +0.1**
NRIK					IAmb	IAmb	02 00 25.1
	comp=Z,20nm,1.6s						
NRIK	**Noril'sk**			**49.21 338**	P	**P**	**02 00 09.3 +0.1**
	comp=Z,0.9nm,0.3s,baz=90,slow=8.1,SNR=5.0						
	comp=Z,0.9nm,0.3s						
SEM	**Semipalatinsk**			**49.40 312**	*e*P	**P**	**02 00 10.0 -1.3**
KURK	**Kurchatov**			**50.43 312**	P	**P**	**02 00 18.4 -0.5**
KURK					IAmb	IAmb	02 00 32.9
	comp=Z,12nm,0.8s						
KURBB	**Kurchatov Arra**			**50.49 312**	P	**P**	**02 00 18.7 -0.6**
	comp=Z,6.6nm,0.7s,baz=87,slow=7.7,SNR=78						
	comp=Z,6.6nm,0.7s						
SHLS	**Shalkode**			**50.50 303**	*e*P	P	02 00 16.1 -3.6
UZB	**Uzynbulak**			**50.82 303**	*e*P	**P**	**02 00 21.1 -1.0**
WB0	**Warramunga Arr**			**50.84 189**	IAmb	IAmb	02 00 35.0
	comp=Z,19nm,1.1s						
WR0	**Warramunga Arr**			**51.01 189**	P	**P**	**02 00 22.5 -1.0**
WR0					IAmb	IAmb	02 00 36.3
	comp=Z,14nm,1.1s						
TDK	**Taldyqorghan**			**51.02 305**	*e*P	**P**	**02 00 22.4 -1.1**
KPKS	**Kokpek**			**51.02 303**	*e*P	**P**	**02 00 22.7 -0.9**
WRA	**Warramunga Arr**			**51.02 189**	P	**P**	**02 00 21.8 -1.7**
WRA	**Warramunga Arr**			**51.02 189**	P	**P**	**02 00 22.3 -1.3**
	comp=Z,3.2nm,0.4s,baz=6.1,slow=7.6,SNR=96						
	comp=Z,3.2nm,0.4s						
FITZ	**Fitzroy Crossi**			**51.16 200**	P	**P**	**02 00 24.3 -0.3**
FITZ	**Fitzroy Crossi**			**51.16 200**	P	**P**	**02 00 23.3 -1.4**
	comp=Z,3.8nm,0.8s,baz=22,slow=9.5,SNR=6.0						
	comp=Z,3.8nm,0.8s						
SATY	**Saty**			**51.28 303**	*e*P	**P**	**02 00 24.6 -1.0**
GSI	**Gunungsitoli**			**51.39 244**	P	**P**	**02 00 27.7 +1.1**
	comp=Z,19nm,0.7s						
KDAK	**Kodiak Island**			**51.44 38**	LR	LR	02 20 31.2
	comp=Z,97nm,21.2s,baz=140,slow=34						
IMAR	**Indian Mountai**			**51.76 28**	P	**P**	**02 00 30.1 +1.4**
CAST	**Castle Rocks**			**52.10 31**	P	**P**	**02 00 33.0 +1.7**
CHKK	**Chushkaly**			**52.18 304**	*e*P	**P**	**02 00 31.0 -1.1**
MDOK	**Medeo**			**52.25 303**	*e*P	**P**	**02 00 31.9 -0.9**
AAA	**Alma-Ata**		

AKBB Malin Array Si 79.63 323 IAmb IAmb 02 03 33.3
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 79.63 323 P **P** **02 03 28.0 -0.6**
AK01 Malin Array Si 79.64 323 P **P** **02 03 28.3 -0.3**
KIEV Kiev 79.64 323 P **P** **02 03 28.3 -0.3**
AK02 Malin Array Si 79.66 323 P **P** **02 03 28.5 -0.3**
AK11 Malin Array Si 79.67 323 P **P** **02 03 28.5 -0.3**
AK22 Malin Array Si 79.67 324 P **P** **02 03 28.7 -0.1**
AK17 Malin Array Si 79.72 324 P **P** **02 03 28.9 -0.2**
HFS Hagfors 80.02 337 P **P** **02 03 30.8 +0.3**
comp=Z,1.8nm,0.7s,baz=78,slow=7.5,SNR=2.5
comp=Z,1.8nm,0.7s
NB2 NORSAR Subarra 80.17 338 P **P** **02 03 31.2 -0.2**
comp=Z,3.6nm,0.9s,baz=40,slow=5.3
NOA NORSAR Array B 80.17 338 P **P** **02 03 31.2 -0.2**
comp=Z,1.5nm,0.7s,baz=40,slow=5.2,SNR=9.7
comp=Z,1.5nm,0.7s
LUBAR Lubar, Ukraine 80.85 323 P **P** **02 03 35.0 -0.2**
RNPP9 Sopachiv 80.86 325 P **P** **02 03 35.5 +0.3**
RNPP1 Kostyukhnivka 80.96 325 P **P** **02 03 32.8 -3.0**
BAL3X Bal3x, Balta 81.07 321 P **P** **02 03 36.2 -0.2**
PDAR Pinedale Array 81.59 45 P **P** **02 03 40.0 +0.3**
comp=Z,0.5nm,0.5s,baz=288,slow=0.9,SNR=6.4
comp=Z,0.5nm,0.5s
KMPD K-Podol'skiy 82.36 323 P **P** **02 03 42.5 -0.7**
comp=Z,2μm,1.1s
BRTR Keskin Array B 83.48 313 P **P** **02 03 49.7 +0.3**
BRTR Keskin Array B 83.48 313 P **P** **02 03 49.6 +0.2**
comp=Z,1.2nm,0.8s,baz=108,slow=4.7,SNR=7.2
comp=Z,1.2nm,0.8s
KWP Kalwaria Pacla 83.56 325 P **P** **02 03 50.1 +0.6**
BUR08 Bucovina Ar. S 83.59 323 P **P** **02 03 49.9 +0.1**
RAYN Ar Rayn 83.65 293 P **P** **02 03 50.9 +0.5**
KOLS Kolonicke sedl 84.24 325 *eP* **P** **02 03 54.2 +1.3**
MMAI Mount Meron Ar 86.11 306 P **P** **02 04 02.8 +0.1**
comp=Z,1.1nm,0.5s,baz=49,slow=3.7,SNR=4.8
comp=Z,1.1nm,0.5s
VYHS Vyhne 86.21 326 *eP* **P** **02 04 03.8 +1.0**
ANMO Albuquerque 88.10 50 LR LR 02 38 15.8
comp=Z,98nm,20.7s,baz=201,slow=32
KHC Kasperske Hory 88.18 329 P **P** **02 04 12.9 +0.6**
KAN09 Caldwell North 92.27 44 P **P** **02 04 33.6 +2.0**
TX31 Lajitas Ar. Si 93.38 53 P **P** **02 04 38.3 +1.2**
TXAR Lajitas Array 93.39 53 P **P** **02 04 38.7 +1.7**
TXAR Lajitas Array 93.39 53 P **P** **02 04 37.9 +0.9**
comp=Z,0.8nm,0.7s,baz=328,slow=3.2,SNR=12
comp=Z,0.8nm,0.7s
TORD Torodi Ar. Bea 122.09 313 PKP **PKPdf** **02 10 15.8 -0.8**
comp=Z,0.3nm,0.6s,baz=76,slow=1.8,SNR=2.3
LPAZ La Paz 148.81 69 PKPbc **PKPbc** **02 11 10.8 +0.6**
comp=Z,2.7nm,1.1s,baz=3.7,slow=4.8,SNR=6.4

*IDC **18** 01:57:58.5±0.7, 6°.19S×103°.57E, h0km, mb4.5/22, mbtmp4.4/23, ML3.3/1, MS3.8/17, Error ellipse: s-maj=25.4km s-min=10.5km az=45.0*
*BJI **18** 01:58:00.0, 6°.30S×103°.50E, h15km, mb4.7/43, mB5.1/11, Ms4.5/10, Ms7 4.1/7*
*DJA **18** 01:58:02.5±0.3, 7°.S±4°×10°.3E±°, h49km±6km, M4.8/25, mb4.9/25, mB5.4/12, MLv4.8/15, Mw(mB)4.8/12, MwMwp5.7/1, Mwp5.8/1*
*NEIC **18** 01:58:03.6±2.0, 6°.36S±0°.07×103°.57E±0°.07, h34km±6km, mb4.8/29, Error ellipse: s-maj=11.7km s-min=8.6km az=46.0*
ISC 18 01:58:03.6±0.5, 6°.36S±0°.06×103°.57E±0°.06, h35km, n171, σ1§52/157, mb4.7/51, MS3.9/20, 1D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.25**	**48**	P	**Pn**	**01 58 24.2**	**-0.3**
LWLI	**Liwa**	**1.42**	**20**	P	**Pn**	**01 58 26.7**	**-0.4**
BLSI	**Bandar Lampung**	**1.94**	**59**	P	**Pn**	**01 58 34.3**	**+0.2**
MNAI	**Manna**	**2.08**	**343**		**Pn**	**01 58 36.9**	**+0.9**
MNAI	**Manna**	**2.08**	**343**	P	**Pn**	**01 58 36.5**	**+0.5**
KSI	**Kapahiang**	**2.87**	**340**	P	**Pn**	**01 58 49.0**	**+2.1**
SKJI	**Sukabumi**	**3.04**	**102**	P	**Pn**	**01 58 48.5**	**-0.6**
CNJI	**Cibinong**	**3.66**	**105**	P	**Pn**	**01 58 57.1**	**-0.6**
LEM	**Lembang**	**4.05**	**97**	Pn	**Pn**	**01 59 02.0**	**-1.3**
	2.1nm,0.3s,baz=300,slow=20,SNR=1.8						
LEM				Sn	**Sn**	**01 59 50.3**	**+0.7**
	5.0nm,0.3s,baz=333,slow=19,SNR=3.6						
LEM				LR	LR	02 00 48.7	
	comp=Z,833nm,20.8s,baz=338,slow=42						
	14nm,0.6s						
BBJI	**Bungbulang**	**4.20**	**105**	P	**Pn**	**01 59 05.0**	**-0.2**
XMI	**Christmas Isla**	**4.57**	**153**	P	**Pn**	**01 59 06.3**	**-4.0**
XMIS	**Christmas Isla**	**4.58**	**153**		Pn	01 59 06.2	-4.3
XMIS	**Christmas Isla**	**4.58**	**153**	P	Pn	01 59 06.3	-4.1
PPSI	**Pulau Pagai**	**5.04**	**315**	P	**Pn**	**01 59 16.2**	**-0.5**
	138nm,0.6s						
CMJI	**Cimerak**	**5.04**	**107**	P	**Pn**	**01 59 16.4**	**-0.4**
	94nm,0.7s,2μm0.6nm						
KPJI	**Karang Pucung**	**5.41**	**101**	P	**Pn**	**01 59 22.9**	**+1.1**
	35nm,0.6s,0.3nm						
TPI	**Tanjungpandan**	**5.42**	**49**	P	**Pn**	**01 59 21.4**	**-0.6**
SISI	**Saibi**	**6.71**	**318**	P	**Pn**	**01 59 39.8**	**+0.1**
	51nm,0.6s,0.4nm						
UGM	**Wanagama**	**7.07**	**103**	Pn	**Pn**	**01 59 46.6**	**+2.0**
UGM	**Wanagama**	**7.07**	**103**	P	**Pn**	**01 59 45.3**	**+0.6**
UGM	**Wanagama**	**7.07**	**103**	P	**Pn**	**01 59 45.8**	**+1.1**
	98nm,0.7s,0.5nm						
PCJI	**Pacitan**	**7.76**	**104**	P	**Pn**	**01 59 54.3**	**+0.1**
	89nm,0.8s,0.3nm						
PWJI	**Pagerwojo**	**8.34**	**102**	P	**Pn**	**02 00 02.2**	**+0.2**
	55nm,0.7s						
COCO	**West Island**	**8.81**	**228**	Pn	**Pn**	**02 00 08.4**	**-0.1**
COCO	**West Island**	**8.81**	**228**	P	**Pn**	**02 00 09.2**	**+0.7**
GRJI	**Gresik**	**8.87**	**94**	P	**Pn**	**02 00 07.7**	**-1.6**
GMJI	**Gumukmas**	**9.98**	**102**	P	**Pn**	**02 00 25.4**	**+0.9**
BLJI	**Banyuglugur**	**10.04**	**98**	P	**Pn**	**02 00 26.3**	**+0.8**
	35nm,0.7s						
ABJI	**Asem Bagus**	**10.68**	**98**	P	**Pn**	**02 00 35.6**	**+1.4**
JAGI	**Jajag, Banyuwa**	**10.70**	**102**	Pn	**Pn**	**02 00 34.9**	**+0.4**
JAGI	**Jajag, Banyuwa**	**10.70**	**102**	P	**Pn**	**02 00 34.5**	**0.0**
JAGI	**Jajag, Banyuwa**	**10.70**	**102**	P	**Pn**	**02 00 33.8**	**-0.7**
	78nm,0.9s,1μm						
SNSI	**Sinabang, Aceh**	**11.32**	**320**	P	**Pn**	**02 00 43.4**	**+0.4**
	117nm,1.1s						
SRBI	**Singaraja**	**11.68**	**99**	P	**Pn**	**02 00 49.1**	**+1.3**
	43nm,0.7s						
PLAI	**Plampang**	**14.29**	**101**	P	**Pn**	**02 01 22.6**	**-1.0**
PLAI	**Plampang**	**14.29**	**101**	P	**Pn**	**02 01 20.0**	**-3.6**
	41nm,0.9s						
WBSI	**Waikabubak, Su**	**16.00**	**103**	P	**Pn**	**02 01 44.9**	**-1.3**
	39nm,0.8s						
KAPI	**Kappang**	**16.16**	**86**	LR	LR	02 08 40.9	
	comp=Z,189nm,18.9s,baz=244,slow=40						
BKSI	**Bulukumba**	**16.50**	**87**	P	**Pn**	**02 01 50.3**	**-2.2**
	41nm,1.0s						
TTSI	**Tana Toraja**	**16.53**	**79**	P	Pn	02 01 41.0	-12
BNSI	**Bone**	**16.58**	**84**	P	**Pn**	**02 01 54.2**	**+0.7**
BSSI	**Bau Bau, Buton**	**16.82**	**90**	P	**P**	**02 01 57.8**	**-0.6**
	30nm,0.9s						
BASI	**Baing, Sumba**	**17.26**	**104**	P	**Pn**	**02 01 59.6**	**-2.4**
	79nm,0.8s,2μm						
TOLI2	**Tolitoli**	**18.72**	**67**	P	**Pn**	**02 02 19.5**	**-0.4**
TOLI2				IAmb	IAmb	02 02 20.6	
	comp=Z,29nm,0.7s						
TOLI2	**Tolitoli**	**18.72**	**67**	P	**Pn**	**02 02 20.4**	**+0.4**
GIRL	**Giralia**	**19.18**	**149**	P	**P**	**02 02 20.9**	**-3.4**
LUWI	**Luwuk**	**19.87**	**75**	P	**P**	**02 02 32.4**	**+0.4**
LUWI				IAmb	IAmb	02 02 42.3	
	comp=Z,40nm,1.0s						
LUWI	**Luwuk**	**19.87**	**75**	P	**Pn**	**02 02 33.5**	**-0.3**
	comp=Z,42nm,0.9s,comp=Z,1μm						
BATI	**Baumata**	**20.25**	**102**	P	**P**	**02 02 35.2**	**-0.8**
	comp=Z,168nm,0.8s,baz=244,slow=1.8,SNR=29						
BATI	**Baumata**	**20.25**	**102**	P	**P**	**02 02 34.9**	**-1.2**
SOEI	**Soe**	**20.77**	**101**	P	**P**	**02 02 40.9**	**-0.9**
SOEI	**Soe**	**20.77**	**101**	P	**P**	**02 02 41.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**24.48**	**120**	P	**P**	**02 03 20.1**	**+0.4**
	comp=Z,5.3nm,0.8s,baz=282,slow=6.2,SNR=9.3						
FITZ				S	**S**	**02 07 46.0**	**+8.1**
	comp=Z,7.9nm,1.4s,baz=158,slow=14,SNR=2.1						
FITZ				LR	LR	02 13 37.3	
	comp=Z,150nm,19.8s,baz=328,slow=38						
	comp=Z,5.3nm,0.8s						
PHRA	**Phrae**	**24.92**	**352**	P	**P**	**02 03 21.4**	**-2.2**
CM31	**Chiang Mai Arr**	**25.08**	**350**	P	**P**	**02 03 23.4**	**-1.7**
CM31				IAmb	IAmb	02 03 25.5	
	comp=Z,23nm,0.9s						
CMAR	**Chiang Mai Arr**	**25.08**	**350**	P	**P**	**02 03 23.2**	**-1.9**
CMAR	**Chiang Mai Arr**	**25.08**	**350**	P	**P**	**02 03 23.4**	**-1.6**
	comp=Z,11nm,0.7s,baz=183,slow=9.2,SNR=63						
CMAR				PcP	**PcP**	**02 06 58.6**	**-0.6**
	comp=Z,1.8nm,0.3s,baz=190,slow=2.5,SNR=4.0						
	comp=Z,11nm,0.7s						
QIZ	**Qiongzhong 25.98 14**			P	**P**	**02 03 33.8**	**+0.6**
QIZ				S	**S**	**02 08 05.6**	**+4.0**
QIZ				LR	LR		
	comp=Z,160nm,15.1s						
QIZ				LR	LR		
	comp=Z,140nm,10.9s						
QIZ				LR	LR		
	comp=Z,300nm,18.5s						
FAKI	**Fak Fak 28.79 84**			P	**P**	**02 03 57.1**	**-1.4**
NWAO	**Narrogin (SRO) 29.33 156**			LR	LR	02 14 20.3	
	comp=Z,208nm,21.3s,baz=270,slow=33						
H01W3	**Cape Leeuwin H 30.01 162**			T	T	02 35 30.2	
	baz=340,slow=76,SNR=18						
H01W2	**Cape Leeuwin H 30.02 162**			T	T	02 35 32.9	
	baz=340,slow=76,SNR=18						
H01W1	**Cape Leeuwin H 30.02 162**			T	T	02 35 38.6	
	baz=340,slow=76,SNR=15						
H08S2	**Diego Garcia H 30.87 266**			T	T	02 36 39.5	
	baz=90,slow=76,SNR=68						
H08S3	**Diego Garcia H 30.88 266**			T	T	02 36 39.1	
	baz=90,slow=76,SNR=43						
H08S1	**Diego Carcia H 30.89 266**			T	T	02 36 45.4	
	baz=90,slow=76,SNR=51						
PZH	**PanZhiHua 32.72 357**			P	**P**	**02 04 35.1**	**+1.9**
PZH				S	**S**	**02 09 46.4**	**-1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,120nm,4.9s						
PZH				LR	LR		
	comp=Z,180nm,12.0s						
PZH				LR	LR		
	comp=Z,160nm,15.0s						
PZH				LR	LR		
	comp=Z,180nm,12.0s						
WRA	**Warramunga Arr 32.78 117**			P	**P**	**02 04 34.1**	**+0.3**
WRA	**Warramunga Arr 32.78 117**			P	**P**	**02 04 33.0**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=286,slow=12,SNR=11						
WRA				LR	LR	02 18 51.0	
	comp=Z,100nm,20.4s,baz=240,slow=38						
	comp=Z,2.3nm,0.9s						
WR0	**Warramunga Arr 32.96 117**			P	**P**	**02 04 35.6**	**+0.3**
ASAR	**Alice Springs 33.85 124**			P	**P**	**02 04 43.2**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=301,slow=8.1,SNR=14						
ASAR				LR	LR	02 19 10.9	
	comp=Z,142nm,20.4s,baz=294,slow=38						
	comp=Z,1.6nm,0.9s						
XAN	**Xi'an 40.50 7**			P	**P**	**02 05 39.4**	**+0.1**
XAN				pP	pwP	02 05 51.5	+0.1
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XAN				LR	LR		
	comp=Z,370nm,17.9s						
XAN				LR	LR		
	comp=Z,260nm,16.5s						
NJ2	**Nanjing 40.89 20**			*eP*	**P**	**02 05 44.3**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LYN	**LuoYang 41.55 11**			*eP*	**P**	**02 05 48.0**	**+0.1**
LYN				pmax	pmax		
	comp=Z,20nm,0.7s						
LZH	**Lanzhou 42.23 0**			*eP*	**P**	**02 05 53.4**	**-0.2**
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
GOMU	**GeErMu 43.13 350**			P	**P**	**02 06 00.1**	**-1.0**
GOMU				pP	pwP	02 06 13.3	-0.2
GOMU				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PMG	**Port Moresby 43.26 97**			P	**P**	**02 06 01.2**	**-1.0**
PMG				IAmb	IAmb	02 06 02.4	
	comp=Z,29nm,0.9s						
PMG	**Port Moresby 43.26 97**			P	**P**	**02 06 01.4**	**-0.7**
PMG				pP	**pwP**	**02 06 14.2**	**+0.2**
CTA	**Charters Tower 43.59 112**			LR	LR	02 25 07.8	
	comp=Z,4.8nm,20.1s,baz=273,slow=37						
STKA	**Stephens Creek 43.62 131**			P	**P**	**02 06 05.8**	**+1.1**
	comp=Z,1.9nm,0.5s,baz=306,slow=12,SNR=4.5						
STKA				LR	LR	02 25 53.0	
	comp=Z,88nm,21.3s,baz=7.2,slow=38						
	comp=Z,1.9nm,0.5s						
GTA	**Gaotai 45.68 356**			*eP*	**P**	**02 06 20.9**	**-0.3**
GTA				pP	sP	02 06 34.4	-0.4
GTA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GTA				LR	LR		
	comp=Z,160nm,12.3s						
GTA				LR	LR		
	comp=Z,130nm,13.1s						
GTA				LR	LR		
	comp=Z,210nm,12.7s						
JNU	**Nakatsue 47.06 32**			P	**P**	**02 06 30.9**	**-1.2**
	comp=Z,12nm,0.9s,baz=158,slow=5.0,SNR=6.0						
JNU				LR	LR	02 26 54.2	
	comp=Z,49nm,19.1s,baz=322,slow=37						
	comp=Z,12nm,0.9s						
HHC	**Hu-ho-hao-te 47.55 8**			*eP*	**P**	**02 06 38.3**	**+2.5**
HHC				pmax	pmax		
	comp=Z,20nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.2s						
BJT	**Baijiatuan 47.59 13**			P	**P**	**02 06 35.6**	**-0.4**
BJI	**Beijing 47.62 13**			P	**P**	**02 06 35.6**	**-0.5**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSAR	**Wonju Array Be 49.14 26**			P	**P**	**02 06 47.9**	**0.0**
KSRS	**Korea Array 49.16 26**			P	**P**	**02 06 47.1**	**-1.0**
	comp=Z,5.7nm,0.8s,baz=223,slow=7.5,SNR=23						
	comp=Z,5.7nm,0.8s						
XLT	**XiLinHaoTe 51.29 12**			*eP*	**P**	**02 07 03.6**	**-0.7**
XLT				pmax	pmax		
	comp=Z,13nm,0.9s						
WMQ	**Urumqi 51.98 345**			*eP*	**P**	**02 07 10.8**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,22nm,0.9s						
KSH	**Kashi 52.30 333**			P	**P**	**02 07 11.0**	**-0.9**
KSH				pP	pwP	02 07 23.3	-1.2
KSH				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WUS	**Wushi 52.34 337**			IAmb	IAmb	02 07 26.6	
	comp=Z,13nm,1.1s						
WUS	**Wushi 52.34 337**			P	**P**	**02 07 12.2**	**0.0**
WUS				pP	**sP**	**02 07 25.7**	**-0.2**
JGF	**Kuroka 52.46 35**			P	**P**	**02 07 11.0**	**-2.1**
TARG	**Taragay, Kyrgy 53.34 336**			IAmb	IAmb	02 07 34.9	
	comp=Z,9.5nm,1.2s						
CN2	**Changchun 53.71 20**			P	**P**	**02 07 20.9**	**-1.2**
CN2				pP	pwP	02 07 33.6	-1.0
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SHLS	**Shalkode 53.92 338**			*eP*	**P**	**02 07 21.3**	**-2.6**
	comp=Z,8.1nm,1.0s						
SONM	**Songino Array 54.02 2**			P	**P**	**02 07 24.3**	**-0.2**
SONM				IAmb	IAmb	02 07 25.4	
	comp=Z,15nm,0.9s						
SONM	**Songino Array 54.02 2**			P	**P**	**02 07 24.4**	**0.0**
	comp=Z,12nm,0.8s,baz=180,slow=8.8,SNR=63						
SONM				LR	LR	02 31 12.3	
	comp=Z,87nm,18.2s,baz=328,slow=37						
	comp=Z,12nm,0.8s						
UZB	**Uzynbulak 54.08 338**			*eP*	**P**	**02 07 23.9**	**-1.1**
ULN	**Ulaanbaatar 54.08 3**			P	**P**	**02 07 25.1**	**+0.1**
ULN				IAmb	IAmb	02 07 25.7	
	comp=Z,8.1nm,1.0s						
ULN	**Ulaanbaatar 54.08 3**			P	**P**	**02 07 24.7**	**-0.2**
ULN				pP	**sP**	**02 07 38.2**	**-0.5**
SATY	**Saty 54.24 337**			*eP*	**P**	**02 07 25.1**	**-1.0**
KPKS	**Kokpek 54.48 338**			*eP*	**P**	**02 07 26.9**	**-1.0**
MDOK	**Medeo 54.85 336**			*eP*	**P**	**02 07 29.8**	**-0.9**
TKM2	**Tokmak 2 55.24 335**			P	**P**	**02 07 33.3**	**-0.2**
	SNR=14						
KBK	**Karagaybulak 55.30 335**			P	**P**	**02 07 34.3**	**+0.4**
	SNR=5.3						
AML	**Almayashu 55.42 333**			P	**P**	**02 07 35.2**	**+0.2**
	SNR=6.0						
AAK	**Ala-Archa 55.48 334**			P	**P**	**02 07 35.3**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=153,slow=4.5,SNR=5.7						
	comp=Z,2.5nm,0.7s						
AAK	**Ala-Archa 55.48 334**			P	**P**	**02 07 35.5**	**+0.3**
AAK				pP	**sP**	**02 07 49.2**	**+0.2**
AAK				sP	**pwP**	**02 07 54.5**	**+6.7**
EKS2	**Erkin-Say 55.81 334**			P	**P**	**02 07 37.2**	**-0.4**
SNR=14							
TDK	**Taldyqorghan 55.90 339**			*eP*	**P**	**02 07 36.9**	**-1.1**
	comp=Z,4.1nm,0.6s						
USP	**Ospenovka 55.99 335**			P	**P**	**02 07 38.3**	**-0.4**
	SNR=5.5						
BNX	**BinXian 56.08 20**			⇓P	**P**	**02 07 38.4**	**-0.8**
BNX				pmax	pmax		
	comp=Z,20nm,1.3s						
ZSN	**Zaisan 56.08 345**			*eP*	**P**	**02 07 38.2**	**-1.0**
	comp=Z,10nm,1.1s						
SGDS	**Sogindy 56.08 335**			*eP*	**P**	**02 07 38.2**	**-1.2**
MK31	**Makanchi Array 56.20 343**			P	**P**	**02 07 39.2**	**-0.9**
MK31				IAmb	IAmb	02 07 41.4	
	comp=Z,6.1nm,0.8s						
MKAR	**Makanchi Array 56.20 343**			P	**P**	**02 07 39.2**	**-0.8**
	comp=Z,7.4nm,0.7s,baz=148,slow=6.8,SNR=43						
	comp=Z,7.4nm,0.7s						
MAKZ	**Makanchi 56.30 342**			P	**P**	**02 07 40.6**	**-0.2**
MAKZ				pP	**sP**	**02 07 54.0**	**-0.6**
MAKZ				sP	**pwP**	**02 07 59.4**	**+5.9**
USA0B	**Ussuriysk Arra 56.48 24**			IAmb	IAmb	02 07 42.4	
	comp=Z,13nm,0.8s						
USRK	**Ussuriysk Ar. 56.48 24**			P	**P**	**02 07 40.7**	**-1.4**
	comp=Z,13nm,0.7s,baz=220,slow=5.9,SNR=26						
	comp=Z,13nm,0.7s						
DZA	**Taraz 57.10 332**			*eP*	**P**	**02 07 45.8**	**-0.7**
IUG	**Iuzhnay 57.15 331**			*eP*	**P**	**02 07 46.1**	**-0.9**
	comp=Z,8.0nm,0.9s						
BTLS	**Baital 57.62 336**			*eP*	**P**	**02 07 49.1**	**-1.1**
H04N2	**CROZET ISLANDS 59.56 219**			T	T	03 12 37.7	
	baz=64,slow=75,SNR=270						
H04N1	**CROZET ISLANDS 59.57 219**			T	T	03 12 38.2	
	baz=64,slow=75,SNR=262						
H04N3	**CROZET ISLANDS 59.58 219**			T	T	03 12 36.6	
	baz=64,slow=75,SNR=283						
H04S1	**CROZET ISLANDS 59.78 219**			T	T	03 12 52.9	
	baz=62,slow=75,SNR=44						
H04S3	**CROZET ISLANDS 59.79 219**			T	T	03 12 51.2	
	baz=62,slow=75,SNR=118						
H04S2	**CROZET ISLANDS 59.80 219**			T	T	03 12 52.5	
	baz=62,slow=75,SNR=104						
HEH	**HeiHe 60.06 17**			*eP*	**P**	**02 08 06.0**	**-0.9**
HEH				pmax	pmax		
	comp=Z,14nm,0.8s						
KLR	**Kul'dur 60.58 21**			P	**P**	**02 08 09.2**	**-1.3**
	comp=Z,6.7nm,0.8s,baz=243,slow=5.3,SNR=16						
	comp=Z,6.7nm,0.8s						
KURBB	**Kurchatov Arra 60.74 342**			P	**P**	**02 08 10.9**	**-0.7**
	comp=Z,5.0nm,0.8s,baz=159,slow=6.0,SNR=28						
	comp=Z,5.0nm,0.8s						
KURK	**Kurchatov 60.80 342**			P	**P**	**02 08 11.1**	**-0.9**
KURK				IAmb	IAmb	02 08 13.8	
	comp=Z,6.9nm,0.8s						
KURK	**Kurchatov 60.80 342**			P	**P**	**02 08 11.4**	**-0.6**
KURK				pP	**sP**	**02 08 25.3**	**-0.6**
ASAJ	**Asahikawa 61.33 31**			LR	LR	02 33 15.1	
	comp=Z,40nm,21.8s,baz=340,slow=35						
ZAA0	**Zalesovo Array 62.13 348**			P	**P**	**02 08 20.1**	**-0.9**
ZALV	**Zalesovo Beam 62.13 348**			P	**P**	**02 08 20.0**	**-0.9**
ZALV	**Zalesovo Beam 62.13 348**			P	**P**	**02 08 19.9**	**-1.0**
	comp=Z,7.9nm,0.7s,baz=156,slow=5.5,SNR=38						
ZALV				LR	LR	02 38 24.4	
	comp=Z,105nm,18.2s,baz=318,slow=39						
	comp=Z,7.9nm,0.7s						
BVAR	**Borovoye Array 65.50 339**			P	**P**	**02 08 42.4**	**-0.7**
	comp=Z,4.7nm,0.6s,baz=141,slow=8.4,SNR=29						
	comp=Z,4.7nm,0.6s						
BRVK	**Borovoye 65.56 339**			P	**P**	**02 08 42.9**	**-0.6**
BRVK	**Borovoye 65.56 339**			P	**P**	**02 08 43.0**	**-0.6**
MAW	**Mawson 67.02 196**			LR	LR	02 34 11.7	
	comp=Z,123nm,19.0s,baz=29,slow=32						
ABKAR	**Akbulak array 67.16 331**			P	**P**	**02 08 53.3**	**-0.6**
ABKAR	**Akbulak array 67.16 331**			P	**P**	**02 08 53.0**	**-0.8**
ABKAR				IAmb	IAmb	02 09 09.9	
	comp=Z,10.0nm,0.9s						
AKTO	**Aktyubinsk 68.87 331**			P	**P**	**02 09 03.7**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=121,slow=5.9,SNR=4.2						
	comp=Z,0.8nm,0.3s						
GURO	**Guroymak-BITLI 72.36 314**			P	**P**	**02 09 27.6**	**+1.3**
ARTI	**Arti 72.66 336**			P	**P**	**02 09 27.3**	**-0.2**
ARTI				IAmb	IAmb	02 09 28.2	
	comp=Z,8.7nm,0.8s						
ARTI	**Arti 72.66 336**			P	**P**	**02 09 26.9**	**-0.6**
	comp=Z,7.9nm,0.7s,baz=140,slow=6.7,SNR=15						
	comp=Z,7.9nm,0.7s						
URZ	**Urewera 73.17 128**			LR	LR	02 44 19.0	
	comp=Z,94nm,18.6s,baz=27,slow=38						
NRIK	**Noril'sk 76.34 354**			P	**P**	**02 09 47.6**	**-1.1**
NRIK				IAmb	IAmb	02 10 03.1	
	comp=Z,9.4nm,1.2s						
NRIK	**Noril'sk 76.34 354**			P	**P**	**02 09 47.1**	**-1.5**
	comp=Z,1.7nm,0.3s,baz=191,slow=2.6,SNR=4.9						
	comp=Z,1.7nm,0.3s						
LBTB	**Lobatse 76.45 246**			LR	LR	02 37 25.2	
	comp=Z,108nm,18.0s,baz=341,slow=31						
BR104	**Keskin Array S 78.87 312**			P	**P**	**02 10 02.2**	**-1.4**
	comp=Z,3.0nm,1.0s						
BRTR	**Keskin Array B 78.88 312**			P	**P**	**02 10 03.6**	**0.0**
	comp=Z,1.5nm,0.8s,baz=139,slow=8.1,SNR=9.3						
	comp=Z,1.5nm,0.8s						
TIXI	**Tiksi 79.62 8**			LR	LR	02 47 38.6	
	comp=Z,76nm,20.1s,baz=1.0,slow=38						
SUR	**Sutherland 80.52 238**			LR	LR	02 43 20.1	
	comp=Z,90nm,18.0s,baz=330,slow=34						
QSPA	**South Pole Qui 83.62 180**			P	**P**	**02 10 30.1**	**+1.8**
	comp=Z,1.1nm,1.0s,baz=273,slow=2.0,SNR=2.1						
QS

MJAR				Sn	Sn	02 07 34.9	-0.5
	0.7nm,0.3s,baz=47,slow=55,SNR=2.5						
MJAR				LR	LR	02 08 07.1	
	comp=Z,99nm,18.8s,baz=190,slow=39 15nm,0.4s						
MAJO	**Matsushiro**	**3.08**	**278**	P	**Pn**	02 07 00.3	+1.0
JSD	**Sado**	**3.52**	**303**	P	**Pn**	02 07 06.6	+1.3
JHJ2	**Mitsune**	**3.54**	**211**	P	**Pn**	02 07 07.6	+2.0
JHJ	**Hachijo jima 2**	**3.55**	**212**	Pn	**Pn**	02 07 03.9	-1.8
	37nm,0.3s,baz=69,slow=17,SNR=7.4						
JHJ				Sn	**Sn**	02 07 43.2	-3.7
	43nm,0.3s,baz=104,slow=24,SNR=5.8 103nm,0.5s						
INU	**Inuyama**	**4.13**	**260**	P	**Pn**	02 07 15.9	+2.2
JTM	**Tenmabayashi**	**4.67**	**351**	P	**Pn**	02 07 22.5	+1.5
ERM	**Erimo**	**5.91**	**8**	P	**Pn**	02 07 36.5	-1.6
JMN	**Monobe**	**7.10**	**252**	P	Pn	02 07 58.4	+3.9
ASAJ	**Asahikawa**	**7.95**	**3**	Pn	**Pn**	02 08 04.3	-1.8
	1.4nm,0.3s,baz=215,slow=10,SNR=11						
ASAJ				Sn	**Sn**	02 09 31.1	-4.2
	0.4nm,0.3s,baz=194,slow=33,SNR=1.7						
USRK	**Ussuriysk Ar.**	**11.08**	**319**	Pn	**Pn**	02 08 50.8	+1.8
	0.1nm,0.3s,baz=93,slow=15,SNR=1.4 1.6nm,0.7s						
KSRS	**Korea Array**	**11.36**	**281**	Pn	**Pn**	02 08 53.6	+0.8
	0.1nm,0.3s,baz=110,slow=10,SNR=1.7						
KSRS				LR	LR	02 13 09.2	
	comp=Z,74nm,18.2s,baz=325,slow=37 1.3nm,0.7s						
PETK	**Petropavlovsk-**	**20.21**	**28**	P	**P**	02 10 46.6	+1.4
	2.6nm,0.9s,baz=223,slow=19,SNR=1.5 2.6nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**27.31**	**120**	T	T	02 40 32.5	
	baz=313,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**27.31**	**120**	T	T	02 40 31.7	
	baz=313,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**27.32**	**120**	T	T	02 40 35.8	
	baz=313,slow=75,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**28.00**	**122**	T	T	02 41 22.0	
	baz=314,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**28.00**	**122**	T	T	02 41 22.3	
	baz=314,slow=75,SNR=8.7						
H11S2	**WAKE ISLAND Hy**	**28.02**	**122**	T	T	02 41 23.2	
	baz=314,slow=75,SNR=7.6						
SONM	**Songino Array**	**28.66**	**305**	P	**P**	02 12 07.6	+0.6
	2.5nm,0.8s,baz=97,slow=10,SNR=11 2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**42.84**	**313**	P	**P**	02 14 08.3	+0.2
	1.1nm,0.7s,baz=79,slow=7.5,SNR=4.6						
ZALV				PcP	**PcP**	02 15 58.8	-0.1
	0.5nm,0.6s,baz=70,slow=4.7,SNR=1.8 1.1nm,0.7s						
MKAR	**Makanchi Array**	**44.98**	**303**	P	**P**	02 14 25.8	+0.4
	2.0nm,0.7s,baz=81,slow=6.3,SNR=11 2.0nm,0.7s						
KURBB	**Kurchatov Arra**	**46.90**	**309**	P	**P**	02 14 40.6	+0.2
	1.7nm,0.4s,baz=84,slow=7.9,SNR=10 1.7nm,0.4s						
ILAR	**Eielson Array**	**49.97**	**32**	P	**P**	02 15 04.2	+0.3
	0.7nm,0.8s,baz=264,slow=7.4,SNR=7.2 0.7nm,0.8s						
BVAR	**Borovoye Array**	**51.50**	**313**	P	**P**	02 15 15.2	-0.4
	1.2nm,0.9s,baz=62,slow=6.7,SNR=4.4 1.2nm,0.9s						
WRA	**Warramunga Arr**	**56.28**	**189**	P	**P**	02 15 49.2	-1.6
	0.4nm,0.4s,baz=4.0,slow=6.9,SNR=15 0.4nm,0.4s						
ARTI	**Arti**	**57.42**	**319**	P	**P**	02 15 58.8	+0.2
	2.3nm,0.4s,baz=101,slow=3.7,SNR=5.7 2.3nm,0.4s						
AKTO	**Aktyubinsk**	**59.60**	**312**	P	**P**	02 16 14.7	+0.8
	1.3nm,0.8s,baz=56,slow=3.6,SNR=3.7 1.3nm,0.8s						
ASAR	**Alice Springs**	**60.00**	**189**	P	**P**	02 16 16.0	-0.8
	0.2nm,0.5s,baz=7.8,slow=7.5,SNR=5.1 0.2nm,0.5s						
FINES	**FINESS Array B**	**69.80**	**333**	P	**P**	02 17 20.4	+0.3
	2.8nm,0.9s,baz=76,slow=5.9,SNR=3.6 2.8nm,0.9s						
NVAR	**Mina Array Bea**	**75.13**	**53**	P	**P**	02 17 54.8	+2.2
	0.1nm,0.4s,baz=302,slow=5.2,SNR=1.2 0.1nm,0.4s						
NB2	**NORSAR Subarra**	**75.16**	**338**	P	**P**	02 17 52.5	+0.3
	comp=Z,0.3nm,0.5s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**75.16**	**338**	P	**P**	02 17 52.9	+0.7
	comp=Z,1.0nm,0.8s,baz=39,slow=5.7,SNR=4.5 comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**75.27**	**323**	P	**P**	02 17 53.1	+0.2
	comp=Z,0.7nm,0.5s,baz=47,slow=6.4,SNR=8.4 comp=Z,0.7nm,0.5s						
PDAR	**Pinedale Array**	**77.94**	**46**	P	**P**	02 18 09.4	+1.0
	comp=Z,0.1nm,0.4s,baz=314,slow=9.8,SNR=1.7 comp=Z,0.1nm,0.4s						
TXAR	**Lajitas Array**	**90.27**	**53**	LR	LR	02 51 59.6	
	comp=Z,40nm,21.1s,baz=26,slow=30						
LPAZ	**La Paz**	**146.71**	**61**	PKPbc	**PKPbc**	02 25 53.5	+0.3
	comp=Z,1.0nm,0.7s,baz=342,slow=3.4,SNR=4.5						

*ATH **18** 02:11:04.8, 37.°60N×20.°80E, h14$^{km}_{\pm}$1^{km}, ML2.7/5, Error ellipse: s-maj=2.4km s-min=0.9km az=29.0*
*THE **18** 02:11:05.7, 37.°64N×20.°86E, h5$^{km}_{\pm}$1^{km}, ML3.1/2, Error ellipse: s-maj=1.6km s-min=0.6km az=235.0*
ISC 18 02:11:04.3±1.1, 37.°62N±0.°05×20.°83E±0.°05, h11$^{km}_{\pm}$5^{km}, n18, σ0$^{s}_{\pm}$44/31, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.04**	**347**	P	**Pg**	02 11 06.6	+0.1
KRI1				S	**Sg**	02 11 08.0	-0.1
	24μm,0.5s						
LTHK	**Lithakia**	**0.09**	**3**	P	**Pg**	02 11 07.1	+0.2
LTHK				S	**Sg**	02 11 08.5	-0.4
	36μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.46**	**354**	P	**Pg**	02 11 13.8	+0.5
RTZL				S	**Sb**	02 11 20.8	-0.4
PSDA	**Pessada-Kefalo**	**0.53**	**339**	P	**Pb**	02 11 15.4	-0.2
PSDA				S	**Sb**	02 11 23.4	+0.1
PSDA	**Pessada-Kefalo**	**0.53**	**339**	P	**Pb**	02 11 15.3	-0.2
PSDA				S	**Sb**	02 11 23.1	-0.1
VLS	**Valsamata**	**0.59**	**341**	P	**Pg**	02 11 16.3	+0.5
VLS				S	**Sb**	02 11 24.9	-0.1
VLS	**Valsamata**	**0.59**	**341**	P	**Pg**	02 11 16.0	+0.3
VLS				S	**Sb**	02 11 24.7	-0.3
VLS				AML	AML	02 11 25.2	
	comp=E,1904μm,0.2s						
VLS				AML	AML	02 11 26.6	
	comp=N,1972μm,0.4s						
RLS	**Riolos of Patr**	**0.67**	**49**	P	**Pg**	02 11 17.5	+0.3
RLS	**Riolos of Patr**	**0.67**	**49**	P	**Pb**	02 11 17.8	-0.1
RLS				S	**Sb**	02 11 27.4	+0.2
RLS				AML	AML	02 11 31.1	
	comp=E,695μm,0.2s						
RLS				AML	AML	02 11 31.5	
	comp=N,673μm,0.2s						
AMT	**Artemida-Makis**	**0.70**	**97**	P	**Pb**	02 11 19.0	+0.5
AMT				S	**Sb**	02 11 28.9	+0.7
AMT				AML	AML	02 11 34.0	
	comp=E,5348μm,0.4s						
AMT				AML	AML	02 11 34.4	
	comp=N,5571μm,0.3s						
DMLN	**Damoulianata-K**	**0.72**	**330**	P	**Pb**	02 11 19.0	+0.2
DMLN				S	**Sb**	02 11 29.5	+0.9
DMLN	**Damoulianata-K**	**0.72**	**330**	P	**Pb**	02 11 19.2	+0.4
DRO	**Drossia**	**0.77**	**64**	P	**Pb**	02 11 20.1	+0.4
DRO				S	**Sn**	02 11 31.6	-1.1
DRO				AML	AML	02 11 37.9	
	comp=E,1153μm,0.3s						
DRO				AML	AML	02 11 39.9	
	comp=N,1124μm,0.3s						
FSK	**Fiskardo**	**0.87**	**346**	P	**Pb**	02 11 20.9	-0.4
FSK				S	**Sb**	02 11 33.5	+0.6
ITM	**Ithomi**	**0.98**	**116**	P	**Pn**	02 11 24.0	+0.1
ITM	**Ithomi**	**0.98**	**116**	P	**Pb**	02 11 23.0	-0.1
ITM				S	**Sn**	02 11 37.1	-0.6
ITM				AML	AML	02 11 44.0	
	comp=N,397μm,0.5s						
ITM				AML	AML	02 11 44.3	
	comp=E,392μm,0.4s						
PYL	**PYLOS**	**1.02**	**134**	P	**Pb**	02 11 23.7	-0.3
KLV	**Kalavryta, Ach**	**1.13**	**67**	P	**Pg**	02 11 26.2	+0.2

KRSC 18 02:18:44.1±0.6, 55.°54N×162.°41E, h70$^{km}_{\pm}$14^{km}, Ml3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.71**	**19**	*eP*	Pn	02 19 00.6	+1.5
KBTR				*eS*	Sn	02 19 12.0	+1.8
KBG	**Krutoberegovo**	**0.74**	**13**	*eP*	Pn	02 19 00.8	+1.4
KBG				*eS*	Sn	02 19 13.0	+2.3
ZLN	**Zelenaya**	**1.03**	**298**	*eP*	Pn	02 19 04.3	+1.3
ZLN				*eS*	Sn	02 19 18.8	+1.7
BZGR	**Bezymyannyi-Gr**	**1.05**	**293**	*eP*	Pn	02 19 04.5	+1.1
BZGR				*eS*	Sn	02 19 19.1	+1.5
CIRR	**Tsirk**	**1.10**	**302**	*eP*	Pn	02 19 05.2	+1.2
CIRR				*eS*	Sn	02 19 20.0	+1.1
LGNR	**Loginova**	**1.11**	**300**	*eP*	Pn	02 19 05.8	+1.4
LGNR				*eS*	Sn	02 19 21.2	+1.8
BZP	**Bezymyannyi-Pe**	**1.12**	**290**	*eP*	Pn	02 19 05.2	+0.8
BZP				*eS*	Sn	02 19 20.6	+1.2
BZMR	**Bezymyannaya**	**1.16**	**291**	*eP*	Pn	02 19 05.9	+1.1
BZWR	**Bezymyannyi-We**	**1.16**	**292**	*eP*	Pn	02 19 06.1	+1.3
BZWR				*eS*	Sn	02 19 22.5	+2.2
SMKR	**Semkarok**	**1.17**	**334**	*eP*	Pn	02 19 06.5	+1.6
SMKR				*eS*	Sn	02 19 22.4	+2.0
TUMD	**Tumrok D**	**1.20**	**255**	*eP*	Pn	02 19 06.2	+1.0
TUMD				*eS*	Sn	02 19 21.5	+0.6
BDR	**Baidarnaya**	**1.23**	**327**	*eS*	Sn	02 19 24.6	+2.8
KIRR	**Kirishev**	**1.24**	**290**	*eP*	Pn	02 19 07.5	+1.6
KIRR				*eS*	Sn	02 19 24.2	+2.1
KRSR	**Krestovskiy**	**1.24**	**304**	*eP*	Pn	02 19 06.8	+0.9
KRSR				*eS*	Sn	02 19 22.6	+0.6
KMNR	**Kamenistaya**	**1.25**	**281**	*eP*	Pn	02 19 07.4	+1.4
KLY	**Klyuchi**	**1.26**	**309**	*eP*	Pn	02 19 06.0	+0.1
KLY				*eS*	Sn	02 19 21.4	-0.8
KPT	**Kopyto**	**1.31**	**290**	*eP*	Pn	02 19 08.3	+1.7
TUMR	**Tumrok**	**1.32**	**260**	*eP*	Pn	02 19 08.4	+1.7
TUMR				*eS*	Sn	02 19 25.7	+1.9
SRKR	**Sorokina**	**1.32**	**329**	*eP*	Pn	02 19 09.4	+2.7
SRKR				*eS*	Sn	02 19 26.0	+2.3
KOZ	**Kozyrevsk**	**1.52**	**291**	*eP*	Pn	02 19 11.1	+1.7
KOZ				*eS*	Sn	02 19 31.1	+2.6
BKI	**Bering**	**2.06**	**98**	*eP*	Pn	02 19 18.8	+2.3
BKI				*eS*	Sn	02 19 43.0	+1.8
ESO	**Esso**	**2.13**	**282**	*eP*	Pn	02 19 18.7	+1.2
KII	**Karymskiy**	**2.28**	**230**	*eP*	Pn	02 19 21.9	+2.3
SPN	**Mys Shipunski**	**2.82**	**211**	*eP*	Pn	02 19 27.8	+1.0
SPN				*eS*	Sn	02 19 59.1	-0.6
NLC	**Nalytchevo**	**2.98**	**218**	*eP*	Pn	02 19 31.2	+2.3
NLC				*eS*	Sn	02 20 05.7	+2.2
SDLR	**Sedlovina**	**3.06**	**224**	*eP*	Pn	02 19 32.7	+2.4
KRER	**Koryakskii**	**3.10**	**225**	*eP*	Pn	02 19 34.0	+3.2
KRX	**Arik**	**3.10**	**227**	*eP*	Pn	02 19 34.3	+3.5
SMAR	**Somma**	**3.11**	**224**	*eP*	Pn	02 19 33.5	+2.6
AVH	**Avacha**	**3.13**	**225**	*eP*	Pn	02 19 34.3	+3.1
UGLR	**Uglovaya**	**3.14**	**223**	*eP*	Pn	02 19 34.2	+3.0
KOK	**Koryaka**	**3.15**	**226**	*eP*	Pn	02 19 34.6	+3.1
GNL	**Ganaly**	**3.19**	**236**	*eP*	Pn	02 19 35.0	+3.1
DALK	**Dalny**	**3.30**	**222**	*eP*	Pn	02 19 36.0	+2.6
DALK				*eS*	Sn	02 20 14.2	+2.8
PET	**Petropavlovsk**	**3.35**	**223**	*eP*	Pn	02 19 37.1	+3.1
PET				*eS*	Sn	02 20 15.9	+3.4
KRMR	**Karymshinskiy**	**3.70**	**225**	*eP*	Pn	02 19 42.1	+3.3
OSSR	**Ossora**	**3.74**	**5**	*eP*	Pn	02 19 41.4	+2.1
OSSR				*eS*	Sn	02 20 23.9	+1.9
GRL	**Gorelyy**	**3.94**	**222**	*eP*	Pn	02 19 46.3	+4.1
MTVR	**Mutnovka**	**3.95**	**221**	*eP*	Pn	02 19 46.0	+3.7

*IDC **18** 02:19:05.6±1.0, 56.°68S×25.°21W, h0^{km}, mb4.4/4, mbtmp4.3/5, ML3.7/1, Error ellipse: s-maj=41.6km s-min=22.9km az=64.0*
*NEIC **18** 02:19:08.3±1.4, 56.°8S±0.°1×25.°6W±0.°3, h10$^{km}_{\pm}$1^{km}, mb4.5/12, Error ellipse: s-maj=28.2km s-min=17.9km az=44.0*
ISC 18 02:19:10.0±0.7, 56.°7S±0.°1×25.°5W±0.°1, h29^{km}, n29, σ1$^{s}_{\pm}$02/29, mb4.5/8, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.72**	**287**	Pn	**Pn**	02 20 46.9	+0.2
VNA1	**Neumayer--Stat**	**15.82**	**159**	⇑P	**Pn**	02 22 50.0	-0.3
	comp=Z,11nm,0.8s						
VNA3	**Neumayer Olymp**	**16.04**	**161**	⇑P	**P**	02 22 56.4	0.0
	comp=Z,7.1nm,0.6s						
VNA2	**Neumayer--Watz**	**16.21**	**159**	⇑P	**P**	02 23 02.4	+4.2
	comp=Z,7.8nm,0.4s,baz=314,slow=13						
SNAA	**Sanae**	**17.74**	**156**	P	**P**	02 23 15.6	+0.5
SNAA	**Sanae**	**17.74**	**156**	⇑P	**P**	02 23 15.7	+0.5
	comp=Z,44nm,0.5s						
SNAA	**Sanae**	**17.74**	**156**	P	**Pn**	02 23 14.4	-0.1
	comp=Z,0.3nm,0.3s,baz=321,slow=13,SNR=8.4 comp=Z,1.6nm,0.5s						
TROLL	**Troll, Antarti**	**19.22**	**154**	⇑P	**Pn**	02 23 32.2	-0.3
	comp=Z,49nm,0.5s						
BELA	**Belgrano 2**	**21.49**	**185**	P	**P**	02 23 54.6	-1.3
PLTB	**Pedras Altas**	**31.66**	**310**	P	**P**	02 25 31.4	+0.7
PLCA	**Paso Flores**	**33.06**	**279**	P	**P**	02 25 41.7	-1.2
PLCA				IAmb	IAmb	02 26 07.0	
	comp=Z,5.3nm,1.2s						
QSPA	**South Pole Qui**	**33.53**	**180**	P	**P**	02 25 46.9	+0.1
QSPA				IAmb	IAmb	02 25 51.2	
	comp=Z,5.1nm,0.6s						
QSPA	**South Pole Qui**	**33.53**	**180**	P	**P**	02 25 46.7	-0.1
	comp=Z,3.8nm,0.5s,baz=196,slow=3.3,SNR=28 comp=Z,3.8nm,0.5s						
CPUP	**Villa Florida**	**37.98**	**310**	P	**P**	02 26 25.7	+0.6
CPUP				IAmb	IAmb	02 26 27.9	
	comp=Z,8.8nm,1.2s						
CPUP	**Villa Florida**	**37.98**	**310**	P	**P**	02 26 25.4	+0.4
	comp=Z,2.9nm,0.7s,baz=150,slow=10.0,SNR=6.3 comp=Z,2.9nm,0.7s						
PTLB	**Pontes e Lacer**	**48.45**	**314**	P	**P**	02 27 50.6	+0.9
PTLB				IAmb	IAmb	02 27 52.2	
	comp=Z,10nm,1.4s						
GO01	**Chusmiza**	**49.12**	**300**	P	**P**	02 27 56.1	+0.7
GO01				IAmb	IAmb	02 27 56.9	
	comp=Z,5.7nm,0.8s						
LPAZ	**La Paz**	**51.55**	**304**	P	**P**	02 28 15.0	+1.0
LPAZ	**La Paz**	**51.55**	**304**	P	**P**	02 28 14.6	+0.6
	comp=Z,19nm,0.7s,baz=162,slow=4.7,SNR=80 comp=Z,19nm,0.7s						
SAML	**Samuel**	**55.96**	**313**	P	**P**	02 28 46.3	+0.8
ETMB	**Extrema**	**56.43**	**309**	P	**P**	02 28 49.2	+0.3
ETMB				IAmb	IAmb	02 28 52.6	
	comp=Z,5.8nm,1.4s						
BOAV	**Boa Vista**	**65.40**	**321**	P	**P**	02 29 49.2	-0.6
TORD	**Torodi Ar. Bea**	**73.18**	**28**	P	**P**	02 30 37.6	-0.3
TORD	**Torodi Ar. Bea**	**73.18**	**28**	P	**P**	02 30 37.4	-0.5
	comp=Z,0.4nm,0.7s,baz=202,slow=5.8,SNR=4.2 comp=Z,0.4nm,0.7s						
H31M	**Peel River**	**146.48**	**315**	PKPdf	**PKPab**	02 38 47.4	-0.4
INK	**Inuvik**	**146.94**	**320**	PKPdf	**PKPbc**	02 38 47.8	-0.2
SONM	**Songino Array**	**149.81**	**86**	PKPbc	**PKPbc**	02 38 55.8	-0.5
	comp=Z,0.5nm,0.4s,baz=240,slow=2.8,SNR=2.5						
ILAR	**Eielson Array**	**151.28**	**310**		**PKPbc**	02 38 58.7	-0.3
ILAR	**Eielson Array**	**151.28**	**310**	PKPbc	**PKiKP**	02 38 59.5	-0.1
	comp=Z,1.8nm,0.9s,baz=92,slow=1.1,SNR=13						

*NEIC **18** 02:25:03.9±0.7, 19.°497N±0.°010×155.°664W±0.°008, h8$^{km}_{\pm}$2^{km}, Error ellipse: s-maj=1.6km s-min=0.6km az=147.0*
HVO 18 02:25:03.8±1.0, 19.°498N±0.°008×155.°659W±0.°007, h3$^{km}_{\pm}$5^{km}, ML2.9/37, ML2.7/26(NEIC), Error ellipse: s-maj=1.4km s-min=0.6km az=148.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALEP	**Alea Permanent**	**0.04**	**18**		Pg	02 25 07.3	+2.3
MWH	**Mokuaweoweo**	**0.06**	**103**	Pg	Pg	02 25 06.2	+0.8
MWH				Sg	Sg	02 25 08.0	+1.6
MLOA	**Mauna Loa Obse**	**0.09**	**64**		Pg	02 25 08.4	+2.7
HMH	**Humu'ula Sheep**	**0.20**	**58**		Pg	02 25 08.4	+0.7
HMH				Sg	Sg	02 25 11.9	+1.6
HMH				IAML		02 25 12.0	
	comp=E,2μm,0.5s						
CPH	**Captain Cook**	**0.24**	**268**		Pg	02 25 08.7	+0.2
HUH	**Hualalai**	**0.25**	**318**		Pg	02 25 09.7	+1.0
KHU	**Kahuku**	**0.25**	**171**	Pg	Pg	02 25 08.9	+0.2
KHU				IAML		02 25 15.5	
	comp=E,627nm,0.2s						
KHU				IAML		02 25 16.8	
	comp=N,656nm,0.3s						
MLH	**Mauna Loa**	**0.26**	**91**		Pg	02 25 09.2	+0.4
MLH				Sg	Sg	02 25 13.3	+1.1
MLH				IAML		02 25 13.8	
	comp=N,3μm,0.8s						
MLH				IAML		02 25 13.8	
	comp=E,1μm,0.5s						
POHA	**Pohakuloa**	**0.28**	**25**		Pg	02 25 09.6	+0.3
POHA					Sg	02 25 13.5	+0.4
POHA	**Pohakuloa**	**0.28**	**25**	IAML		02 25 18.6	
	comp=E,782nm,0.4s						
POHA				IAML		02 25 19.1	
	comp=E,592nm,0.5s						
UWE	**Uwekahuna**	**0.35**	**102**		Pg	02 25 10.9	+0.3
RSD	**Rainshed**	**0.36**	**95**	IAML		02 25 17.8	
	comp=E,2μm,0.3s						
HATHI	**Halema'uma'u T**	**0.38**	**101**		Pg	02 25 11.2	0.0
BYL	**Byron's Ledge**	**0.39**	**103**		Pg	02 25 11.4	+0.1
PUH	**Pauahi**	**0.44**	**106**		Pg	02 25 12.0	-0.2
STCH	**Steam Cracks**	**0.52**	**102**	IAML		02 25 24.8	
	comp=N,477nm,0.4s						
STCH				IAML		02 25 26.6	
	comp=E,407nm,0.4s						
HPAH	**Hawaii Prepara**	**0.53**	**356**	Pg	Pg	02 25 13.5	-0.5
JOKA	**Jonika Flow**	**0.62**	**96**		Pg	02 25 14.5	-1.2
JOKA				IAML		02 25 29.1	
	comp=N,419nm,0.8s						
JOKA				IAML		02 25 32.1	
	comp=E,327nm,2.3s						

IDC 18 02:31:56.8±4.1, 5.°85S×150.°21E, h0^{km}, mb2.8/2, mbtmp2.9/2, Error ellipse: s-maj=152.3km s-min=53.2km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.84**	**226**	P	P	02 36 40.4	+0.1
	0.3nm,0.5s,baz=52,slow=11,SNR=4.6 0.3nm,0.5s						
ASAR	**Alice Springs**	**23.66**	**220**	P	P	02 37 09.8	-0.5
	0.2nm,0.5s,baz=54,slow=8.9,SNR=2.2 0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**148.14**	**285**	PKPbc	PKPbc	02 51 45.4	-0.4
	0.2nm,0.4s,baz=98,slow=2.8,SNR=2.2						

*IDC **18** 02:35:00.1±2.1, 18.°91N×39.°25E, h0^{km}, mb3.6/8, mbtmp3.7/8, Error ellipse: s-maj=57.9km s-min=24.8km az=158.0*
*SGS **18** 02:35:01.2, 19.°16N×39.°36E, h19^{km}, Ml2.7*
ISC 18 02:35:00.4±1.1, 18.°9N±0.°1×39.°56E±0.°08, h10^{km}, n22, σ2$^{s}_{\pm}$13/22, mb3.8/8, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHS	**Al Lith**	**1.56**	**31**	P	**Pn**	02 35 25.6	-2.7
QNFDS	**Al Qunfudhah**	**1.57**	**56**	P	**Pn**	02 35 27.2	-1.2
SADE1	**SADE1**	**1.69**	**15**	P	**Pn**	02 35 26.5	-3.6
SADE2	**SADE2**	**1.73**	**12**	P	**Pn**	02 35 26.6	-3.9
QNF02	**Al Qunfudhah**	**1.83**	**86**	P	**Pb**	02 35 32.9	-1.1
QNF02	**Al Qunfudhah**	**1.83**	**86**	S	**Sb**	02 35 56.8	-0.2
BRK01	**Al Birk**	**2.01**	**109**	S	**Sb**	02 36 02.2	-0.1
BRK01	**Al Birk**	**2.01**	**109**	P	**Pb**	02 35 36.1	-1.0
BRK04	**Al Birk**	**2.16**	**98**	S	**Sb**	02 36 06.0	-0.5
BRK04	**Al Birk**	**2.16**	**98**	P	**Pb**	02 35 38.4	-1.2
BRK03	**Al Birk**	**2.34**	**108**	P	**Pb**	02 35 41.3	-1.4
BRK03	**Al Birk**	**2.34**	**108**	S	**Sb**	02 36 10.8	-0.9
BRK02	**Al Birk**	**2.36**	**114**	P	**Pb**	02 35 41.5	-1.5
BRK02	**Al Birk**	**2.36**	**114**	S	**Sb**	02 36 11.5	-0.7
BRTR	**Keskin Array B**	**21.35**	**347**	P	**P**	02 39 49.5	+1.6
	1.4nm,0.8s,baz=165,slow=15,SNR=5.0 1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**36.79**	**267**	P	**P**	02 42 07.5	-1.2
	1.2nm,0.9s,baz=68,slow=8.6,SNR=8.3 1.2nm,0.9s						
BVAR	**Borovoye Array**	**41.59**	**28**	P	**P**	02 42 51.3	+3.0
	0.4nm,0.6s,baz=231,slow=9.1,SNR=3.3 0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**44.17**	**35**	P	**P**	02 43 11.8	+2.5
	1.0nm,0.7s,baz=239,slow=8.0,SNR=8.4 1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.60**	**42**	P	**P**	02 43 16.0	+3.1
	1.5nm,0.7s,baz=240,slow=6.8,SNR=8.8 1.5nm,0.7s						
NOA	**NORSAR Array B**	**46.60**	**341**	P	**P**	02 43 27.7	-0.7
	0.6nm,0.9s,baz=141,slow=8.5,SNR=2.1 0.6nm,0.9s						
ZALV	**Zalesovo Beam**	**49.16**	**34**	P	**P**	02 43 50.0	+1.6
	0.8nm,0.8s,baz=270,slow=4.2,SNR=4.5 0.8nm,0.8s						
SONM	**Songino Array**	**60.72**	**45**	P	**P**	02 45 15.2	+2.9
	0.5nm,0.6s,baz=240,slow=8.1,SNR=3.5 0.5nm,0.6s						

*IDC **18** 02:39:29.4±5.1, 37.°82N×20.°45E, h0^{km}, mb3.5/4, mbtmp3.4/5, ML3.6/1, Error ellipse: s-maj=86.8km s-min=42.3km az=36.0*
*THE **18** 02:39:30.4, 37.°62N×20.°65E, h3$^{km}_{\pm}$1^{km}, ML3.9/4, Error ellipse: s-maj=1.5km s-min=0.4km az=39.0*
*ATH **18** 02:39:30.2, 37.°63N×20.°64E, h9$^{km}_{\pm}$1^{km}, ML3.5/12, Error ellipse: s-maj=1.9km s-min=0.

EVGI	Lefkada island	1.01	3	P	Pg	02 39 48.3	-0.3
DRAG	Dragano-Lefkad	1.07	359	P	Pg	02 39 49.5	-0.4
ITM	Ithomi	1.14	112	P	Pb	02 39 51.0	-0.1
ITM	Ithomi	1.14	112	P	Pb	02 39 50.9	-0.1
ITM				S	Sn	02 40 06.6	-0.5
ITM				AML	AML	02 40 13.8	
	comp=E,1647µm,0.4s						
ITM				AML	AML	02 40 14.2	
	comp=N,3276µm,0.5s						
UPR	University Cam	1.16	54	P	Pb	02 39 51.2	-0.1
PYL	PYLOS	1.16	128	P	Pg	02 39 51.7	+0.3
PYL	PYLOS	1.16	128	P	Pb	02 39 51.3	-0.1
PYL				S	Sn	02 40 07.3	-0.3
PYL				AML	AML	02 40 10.8	
	comp=N,2226µm,0.6s						
PYL				AML	AML	02 40 10.9	
	comp=E,3791µm,0.6s						
LKD2	Lefkada island	1.18	2	P	Pb	02 39 51.7	0.0
LKD2				S	Sb	02 40 07.1	-0.1
LKD2				AML	AML	02 40 16.7	
	comp=E,3160µm,0.5s						
LKD2				AML	AML	02 40 17.8	
	comp=N,5268µm,0.8s						
KLV	Kalavryta, Ach	1.30	70	P	Pg	02 39 54.3	+0.1
KLV	Kalavryta, Ach	1.30	70	P	Pn	02 39 53.5	-0.2
KLV				S	Sb	02 40 10.5	-0.3
KLV				AML	AML	02 40 22.5	
	comp=N,1546µm,0.9s						
KLV				AML	AML	02 40 25.1	
	comp=E,1798µm,0.8s						
EFP	Efpalio	1.32	51	P	Pb	02 39 54.1	0.0
EFP	Efpalio	1.32	51	P	Pn	02 39 53.6	-0.1
EFP				S	Sn	02 40 11.2	-0.2
EFP				AML	AML	02 40 22.9	
	comp=N,2924µm,0.9s						
EFP				AML	AML	02 40 24.8	
	comp=E,1562µm,0.8s						
ALIK	Aliki, Aigiali	1.36	61	P	Pb	02 39 54.9	+0.1
GUR	Goura	1.42	76	P	Pb	02 39 55.9	0.0
GUR	Goura	1.42	76	P	Pn	02 39 55.6	+0.3
GUR				S	Sg	02 40 14.6	-0.2
GUR				AML	AML	02 40 26.5	
	comp=E,3122µm,0.6s						
GUR				AML	AML	02 40 28.2	
	comp=N,3646µm,0.5s						
ANX	Ano Chora	1.43	46	P	Pn	02 39 55.5	0.0
ANX	Ano Chora	1.43	46	P	Pn	02 39 55.7	+0.3
KALE	Kalithea	1.45	57	P	Pn	02 39 55.4	-0.2
EVR	Evrytania	1.62	36	P	Pb	02 39 59.7	+0.4
MAKR	Makrakomi, Fth	1.85	40	P	Pb	02 40 03.1	-0.1
IGT	Igoumenitsa	1.93	354	P	Pb	02 40 04.2	-0.4
OHR	Óhrid	3.50	2	*e*Pn	Pn	02 40 27.4	+3.6
VAY	Valandovo	4.01	22	*e*Pn	Pb	02 40 36.5	-3.5
PDG	Podgorica	4.92	348	*e*Pn	Pn	02 40 43.3	0.0
TREB	Trebinje	5.38	342	*e*Pn	Pn	02 40 48.4	-1.3
SJES	Sjenica	5.67	355	*e*Pn	Pn	02 40 56.3	+2.6
STON	Ston	5.71	338	*e*Pn	Pn	02 40 53.8	-0.3
RUDO	Rudo	6.08	352	*e*Pn	Pn	02 41 00.5	+1.3
BBLS	Lazi&#263i	6.32	352	*e*Pn	Pb	02 41 15.4	-3.9
HAPS	Han Pijesak,BI	6.59	350	*e*Pn	Pn	02 41 06.9	+0.6
A050A	Klekovaca	7.52	337	*e*Pn	Pn	02 41 19.6	+0.5
BLY	Banja Luka	7.58	341	*e*Pn	Pn	02 41 20.5	+0.6
A051A	Mrakovica	7.90	341	*e*Pn	Pn	02 41 22.5	-1.8
CRES	Cresnjevec Ost	9.06	337	*e*Pn	Pn	02 41 40.1	-0.1
CEY	Cerknica	9.34	332	*e*Pn	Pn	02 41 40.8	-3.2
SOKA	Soboth	9.96	337	*i* Pn	Pn	02 41 52.9	+0.4
	comp=N,3.6nm,0.8s						
OBKA	Obir	9.96	335	*i* Pn	Pn	02 41 56.0	+3.5
	comp=N,2.2nm,0.6s						
ARSA	Arzberg	10.34	340	*i* Pn	Pn	02 42 02.3	+4.7
	comp=N,1.2nm,0.5s						
KBA	Koelnbreinsper	10.87	333	*i* Pn	Pn	02 42 11.9	+6.8
	comp=N,1.6nm,0.7s						
MOA	Molln	11.24	338	*i* Pn	Pn	02 42 12.1	+2.1
	comp=N,0.5nm,0.3s						
LESA	Schwarzleotal	11.41	332	*i* Pn	Pn	02 42 13.0	+0.6
	comp=N,1.2nm,0.4s						
AKASG	Malin Array Be	14.46	22	Pn	Pn	02 42 53.3	-0.7
	comp=N,0.3nm,0.3s,baz=208,slow=14,SNR=1.7						
	comp=N,0.3nm,0.5s						
HFS	Hagfors	22.97	351	P	P	02 44 33.9	+0.2
	comp=N,1.0nm,0.5s,baz=163,slow=12,SNR=7.8						
	comp=N,1.0nm,0.5s						
NOA	NORSAR Array B	24.19	349	P	P	02 44 44.0	-1.7
	comp=N,0.3nm,0.6s,baz=159,slow=11,SNR=1.2						
	comp=N,0.3nm,0.6s						
MKAR	Makanchi Array	45.55	58	P	P	02 47 51.2	+2.0
	comp=N,0.4nm,0.6s,baz=276,slow=5.9,SNR=1.8						
	comp=N,0.4nm,0.6s						
ZALV	Zalesovo Beam	46.03	48	P	P	02 47 52.9	+0.1
	comp=N,1.0nm,0.6s,baz=272,slow=8.5,SNR=4.6						
	comp=N,1.0nm,0.6s						

*JMA **18** 02:52:40.4±0.5,33°N±1°×14°2E±°, h80km, MV3.1/21, E OFF HACHIJOJIMA ISLAND*
*IDC **18** 02:52:46.0±5.2,33°.35N×141°.33E, h49km±37km, mb3.2/5, mbtmp3.4/6, ML2.3/1, MS2.7/1, Error ellipse: s-maj=72.4km s-min=17.4km az=77.0*

ISC 18 02:52:44.1±1.3,33°.33N±0°.07×141°.5E±0°.1, h41km, n17, σ1°82/22, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.39	343	*e*P	Pn	02 53 05.8	-0.7
BSO1				*e*S	Sn	02 53 25.2	+1.9
JHJ	Hachijo jima 2	1.42	262	P	Pn	02 53 07.9	+0.4
	114nm,0.3s,baz=88,slow=15,SNR=7.2						
JHJ				S	Sn	02 53 20.4	-4.6
	161nm,0.6s,baz=76,slow=22,SNR=4.7						
JMKN	Mikurajimanish	1.66	290	*e*P	Pn	02 53 11.2	+0.5
BSO3	Boso 3	1.67	332	*e*P	Pn	02 53 10.1	-0.5
BSO4	Boso 4	1.90	331	*e*S	Sn	02 53 39.1	+2.4
JOD2	Odawara 2	2.76	315	*e*P	Pn	02 53 24.7	-1.1
JHO	Hitachi	3.36	348	*e*P	Pn	02 53 32.2	-1.9
JHO				*e*S	Sn	02 54 10.2	-2.5
JRY	Ryogami san	3.41	323	*e*P	Pn	02 53 34.7	-0.1
JRY				*e*S	Sn	02 54 16.1	+1.9
JAG	Ashikaga	3.50	332	*e*P	Pn	02 53 35.8	-0.3
JAG				*e*S	Sn	02 54 17.7	+1.3
MJAR	Matsushiro Arr	4.17	321	P	Pn	02 53 43.8	-1.5
	0.2nm,0.3s,baz=146,slow=11,SNR=3.4						
MJAR				S	Sn	02 54 32.6	-0.2
	1.7nm,0.4s,baz=144,slow=18,SNR=5.8						
	0.9nm,0.3s						
JOTO	OTAMA OYAMA	4.32	348	*e*S	Sn	02 54 33.4	-3.1
KSRS	Korea Array	11.79	294	LR	LR	03 00 25.8	
	comp=Z,36nm,20.2s,baz=330,slow=39						
SONM	Songino Array	30.03	309	P	P	02 58 49.4	+0.3
	0.7nm,1.0s,baz=117,slow=8.6,SNR=1.9						
	0.7nm,1.0s						
MKAR	Makanchi Array	46.20	305	P	P	03 01 05.1	+0.2
	0.4nm,0.7s,baz=93,slow=8.9,SNR=1.9						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	48.38	311	P	P	03 01 21.8	0.0
	0.3nm,0.3s,baz=88,slow=7.3,SNR=3.1						
	0.3nm,0.3s						
WRA	Warramunga Arr	53.40	188	P	P	03 02 00.2	+0.3
	0.4nm,0.5s,baz=4.4,slow=7.7,SNR=6.8						
	0.4nm,0.5s						
ASAR	Alice Springs	57.13	188	P	P	03 02 28.2	+1.6
	0.2nm,0.4s,baz=359,slow=7.4,SNR=4.7						
	0.2nm,0.4s						

IDC 18 02:54:29.4±2.4, 6°.81S×129°.36E, h0km, mb3.5/1, mbtmp3.4/3, ML3.6/2, Error ellipse: s-maj=143.1km s-min=33.1km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.93	160	Pn	Pn	02 57 46.6	-1.6
	0.3nm,0.3s,baz=343,slow=13,SNR=21						
WRA				Sn	Sn	03 00 08.8	-15
	0.2nm,0.3s,baz=337,slow=22,SNR=5.1						
	0.4nm,0.4s						
ASAR	Alice Springs	17.32	166	P	P	02 58 34.1	-0.3
	0.2nm,0.3s,baz=331,slow=9.4,SNR=13						
	0.3nm,0.4s						
MKAR	Makanchi Array	67.72	327	P	P	03 05 28.8	0.0
	0.4nm,0.8s,baz=111,slow=7.9,SNR=2.1						
	0.4nm,0.8s						

*NEIC **18** 03:00:15.3±0.6, 19°.500N±0°.007×155°.660W±0°.008, h8km±1km, Error ellipse: s-maj=1.1km s-min=0.9km az=47.0*

HVO 18 03:00:15.3±1.1, 19°.501N±0°.008×155°.661W±0°.009, h3km±4km, ML2.7/39, ML2.6/38(NEIC), Error ellipse: s-maj=1.4km s-min=0.9km az=125.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	Mokuaweoweo	0.06	105		Pg	03 00 17.7	+0.8
MWH				Sg	Sg	03 00 19.5	+1.5
MLOA	Mauna Loa Obse	0.09	66		Pg	03 00 19.8	+2.6
HMH	Humu'ula Sheep	0.20	59		Pg	03 00 19.9	+0.7
HMH				Sg	Sg	03 00 23.4	+1.6
HMH				IAML		03 00 23.6	
	comp=E,2µm,0.5s						
CPH	Captain Cook	0.24	267		Pg	03 00 20.2	+0.2
HUH	Hualalai	0.25	318		Pg	03 00 21.0	+0.9
HUH	Hualalai	0.25	318		Sg	03 00 24.9	+1.6
KHU	Kahuku	0.26	170	Pg	Pg	03 00 20.4	+0.2
KHU				Sg	Sg	03 00 24.6	+0.9
KHU				IAML		03 00 24.9	
	comp=E,804nm,0.3s						
MLH	Mauna Loa	0.26	91		Pg	03 00 20.7	+0.4
MLH				Sg	Sg	03 00 24.9	+1.1
MLH				IAML		03 00 25.4	
	comp=E,928nm,0.5s						
POHA	Pohakuloa	0.28	25		Sg	03 00 25.5	+1.0
POHA	Pohakuloa	0.28	25	Pg	Pg	03 00 21.3	+0.5
POHA	Pohakuloa	0.28	25	IAML		03 00 30.1	
	comp=E,749nm,0.5s						
POHA				IAML		03 00 30.6	
	comp=E,520nm,0.5s						
WRMHI	West Rim	0.35	105		Pg	03 00 22.2	+0.1
WRMHI					Sg	03 00 27.4	+0.7
UWE	Uwekahuna	0.36	103	Pg	Pg	03 00 22.5	+0.3
HTC	Hot Caves	0.36	136		Pg	03 00 22.2	0.0
RSD	Rainshed	0.36	96	Pg	Pg	03 00 22.5	+0.2
RSD	Rainshed	0.36	96		Sg	03 00 27.7	+0.7
SDHHI	Sand Hill	0.36	108		Pg	03 00 22.3	0.0
SDHHI					Sg	03 00 27.6	+0.6
OBL	Observatory Le	0.36	103		Pg	03 00 22.4	0.0
OBL					Sg	03 00 27.7	+0.6
UWB	Uwekahuna Bluf	0.37	102		Pg	03 00 22.2	-0.2
UWB					Sg	03 00 27.9	+0.6
KKH	Kailua Kona	0.37	295		Pg	03 00 22.4	-0.1
KKH					Sg	03 00 28.0	+0.8
HATHI	Halema'uma'u T	0.39	102	Pg	Pg	03 00 22.7	0.0
HATHI				IAML		03 00 31.8	
	comp=N,932nm,0.6s						
HATHI				IAML		03 00 32.3	
	comp=E,1µm,0.4s						
BYL	Byron's Ledge	0.39	103	Pg	Pg	03 00 22.9	+0.1
BYL				IAML		03 00 30.9	
	comp=N,716nm,0.7s						
BYL				IAML		03 00 35.2	
	comp=E,920nm,0.5s						
PUH	Pauahi	0.44	107	Pg	Pg	03 00 23.6	-0.2
PUH				IAML		03 00 30.3	
	comp=E,454nm,0.6s						
PUH				IAML		03 00 36.3	
	comp=N,466nm,0.7s						
KNHH	Kane Nui o Ham	0.48	105	Pg	Pg	03 00 24.2	-0.3
STCH	Steam Cracks	0.52	103	Pg	Pg	03 00 24.8	-0.5
STCH				IAML		03 00 38.3	
	comp=E,319nm,1.1s						
STCH				IAML		03 00 40.3	
	comp=N,388nm,2.6s						
HPAH	Hawaii Prepara	0.53	356	Pg	Pg	03 00 25.0	-0.4
HPAH				IAML		03 00 32.9	
	comp=E,468nm,0.5s						
HPAH				IAML		03 00 38.4	
	comp=N,395nm,0.4s						
JOKA	Jonika Flow	0.62	96	IAML		03 00 48.3	
	comp=N,297nm,1.1s						

OMAN 18 03:18:03.3±0.2, 24°.68N×62°.44E, h36km±24km, mb3.8/1, ml3.0/3, Error ellipse: s-maj=3.4km s-min=2.1km az=253.0, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGCH	Negor - Chabah	1.36	300	P	Pn	03 18 23.7	-2.0
NGCH				S	Sn	03 18 42.7	+0.2
JLN	Jalan Bani Buh	3.75	228	P	Pn	03 18 58.0	-0.7
	SNR=8.8						
JLN				S	Sn	03 19 42.4	+0.8
WBK	Wadi Bani Khal	3.79	238	P	Pn	03 18 58.6	-0.6
	SNR=11						
WBK				S	Sn	03 19 42.8	+0.2
SMDO	Samad	4.33	249	P	Pn	03 19 07.5	+0.8
SMDO				S	Sn	03 19 56.5	+0.5
JMDO	Jabal Madar	4.60	241	P	Pn	03 19 11.2	+0.9
	SNR=8.9						
JMDO				S	Sn	03 20 04.2	+1.7
BSY	Bisya	5.18	249	P	Pn	03 19 19.5	+1.2
BSY				S	Sn	03 20 19.3	+2.5
SOHO	SOHO	5.41	265	P	Pn	03 19 20.1	-1.3
SOHO				S	Sn	03 20 19.0	-3.5
MHTO	MHTO	5.53	229	P	Pn	03 19 23.1	0.0
MHTO				S	Sn	03 20 26.3	+1.0
ASHO	Ashiyiah	5.80	271	P	Pn	03 19 26.7	-0.2
SHME	Shamm	5.86	285	P	Pn	03 19 27.8	+0.3

*NEIC **18** 03:20:00.1±1.1, 35°.03N±0°.01×97°.62W±0°.01, h9km±8km, mb_Lg2.4/15, ML2.4/32, ML2.8/15, Error ellipse: s-maj=2.1km s-min=1.6km az=162.0*

NEIC 18 03:20:00.0±1.3, 35°.03N±0°.01×97°.61W±0°.02, h13km±6km, Error ellipse: s-maj=2.3km s-min=1.5km az=145.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	Franklin	0.29	37		Pg	03 20 06.4	+0.3
FNO				Sg	Sg	03 20 10.8	+0.7
FNO				IAML		03 20 14.4	
	comp=E,446nm,0.8s						
X34A	Smith Ranch, M	0.46	203		Pg	03 20 09.4	+0.3
X34A				Sg	Sb	03 20 16.6	-0.1
X34A				IAML		03 20 20.5	
	comp=E,216nm,0.6s						
X34A				IAML		03 20 20.5	
	comp=N,223nm,0.5s						
W35A	Tecumseh	0.62	78		Pg	03 20 11.9	-0.2
W35A					Sg	03 20 20.6	+0.3
WMOK	Wichita Mounta	1.00	254		Pb	03 20 17.9	-1.4
LOOK	Love County	1.09	161		Pb	03 20 20.8	0.0
LOOK				IAML		03 20 41.7	
	comp=E,70nm,0.2s						
LOOK				IAML		03 20 47.8	
	comp=N,60nm,0.3s						
OK031	S. Brethren Rd	1.12	34		Pb	03 20 20.6	-0.7
OK052	Battle Ridge R	1.17	34		Pb	03 20 21.5	-0.7
QUOK	Quay	1.36	33		Pn	03 20 24.9	+0.1
OK048	Pawnee Station	1.49	21		Pn	03 20 26.9	+0.3
CROK	Carrier	1.51	349		Pn	03 20 27.3	+0.5
Z35A	Perchaven, San	1.72	170		Pn	03 20 30.2	+0.6
TUL3	Leonard	1.73	59		Pb	03 20 31.0	-0.6
FW03	Perrin-Whitt E	2.02	191	IAmb_Lg		03 21 06.7	
	comp=Z,11nm,0.7s						
FW06	Azle	2.05	179		Pb	03 20 36.6	-0.5
KAN09	Caldwell North	2.11	360	IAmb_Lg		03 21 09.2	
	comp=Z,39nm,1.0s						
SMWD	Samnorwood	2.16	273		Pb	03 20 37.5	-1.6
SMWD				IAmb_Lg		03 21 07.9	
	comp=Z,13nm,0.9s						
PLPT	Palo Pinto	2.28	195		Pb	03 20 39.5	-1.6
FW07	Weatherford	2.32	184		Pb	03 20 40.4	-1.3
RLO	Rose Lookout	2.40	61		Pn	03 20 39.3	+0.3
TREL	Terrell	2.62	151	IAmb_Lg		03 21 26.0	
	comp=Z,18nm,0.8s						
Z38A	Mt. Pleasant	2.80	128	IAmb_Lg		03 21 31.1	
	comp=Z,9.1nm,0.8s						
DKNS	Dickens	3.06	245	IAmb_Lg		03 21 39.6	
	comp=Z,9.8nm,1.0s						
HHAR	Hobbs	3.24	66	IAmb_Lg		03 21 51.7	
	comp=Z,8.0nm,1.1s						
MIAR	Mount Ida	3.36	97		Pn	03 20 54.5	+2.3
POST	Post	3.77	240	IAmb_Lg		03 22 08.0	
	comp=Z,4.7nm,0.7s						
CCAR	Cane Creek	4.95	101	IAmb_Lg		03 22 36.8	
	comp=Z,17nm,0.8s						

*GUC **18** 03:22:26.9±0.5, 30°.63S×70°.31W, h4km±1km, ML2.9*
*SJA **18** 03:22:26.8±1.0, 30°.81S×69°.97W, h10km±8km, ML2.6, MW2.5*

ISC 18 03:22:23.4±1.2, 30°.65S±0°.03×70°.19W±0°.03, h5km±11km, n16, σ1°00/29, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	El Pedregal	0.47	247	⇓*i*P	Pn	03 22 35.3	-1.6
CO03				*i* S	Sb	03 22 41.8	+0.3
CO03				IAML		03 22 42.4	
	comp=N,1µm,0.1s						
GO04	Tololo Observa	0.71	312	⇑*i*P	Pn	03 22 40.1	-0.3
GO04				*i* S	Sn	03 22 49.9	-1.9
ACCO	Cerro Coronel	0.97	86	*e*P	Pn	03 22 44.4	+0.4
ACCO				*e*S	Sb	03 22 57.1	+1.0
CO05	La Serena	1.17	309	*e*P	Pn	03 22 47.5	+1.1
CO05				*i* S	Sn	03 23 03.3	+0.6
CO05				IAML		03 23 04.7	
	comp=E,272nm,0.1s						
CO06	Fray Jorge	1.25	269	⇑*i*P	Pn	03 22 48.6	+1.1
CO06				*i* S	Sn	03 23 05.3	+0.5
CO06				IAML		03 23 05.8	
	comp=N,346nm,0.1s						
ZON	Zonda	1.57	125	*e*P	Pb	03 22 52.7	-0.3
ZON				*e*S	Sn	03 23 12.6	-0.2
RTLL	Cerro Villicun	1.62	115	*e*P	Pg	03 22 54.3	-0.1
RTLL				*e*S	Sb	03 23 14.8	+0.2
SJA	San Juan	1.65	122	*e*P	Pg	03 22 54.4	-0.6
SJA				*e*S	Sn	03 23 14.4	-0.3
SJA				IAML		03 23 20.4	
	comp=Z,37nm,0.8s						
LCO	Las Campanas	1.70	345	⇑*i*P	Pg	03 22 56.9	+0.9
LCO				*i* S	Sg	03 23 20.0	+2.1
LCO				IAML		03 23 20.6	
	comp=Z,2µm,0.2s						
AUSP	Uspallata	1.71	157	*e*P	Pg	03 22 56.4	+0.1
AUSP				*e*S	Sg	03 23 18.5	+0.1
VA03	San Esteban	2.13	188	*e*P	Pg	03 23 05.1	+0.8
VA03				*i* S	Sg	03 23 33.0	+1.2
VA03				IAML		03 23 35.5	
	comp=E,258nm,0.2s						
AVFE	Valle Fertil	2.35	91	*e*P	Pg	03 23 07.5	-1.1
AVFE				*e*S	Sb	03 23 36.3	+0.6
AVFE				IAML		03 23 38.1	
	comp=Z,62nm,0.7s						
AVFE				IAML		03 23 38.1	
	comp=Z,62nm,0.7s						
ROCH	El Roble	2.42	197	*i* S	Sg	03 23 40.7	-0.4
ROCH				IAML		03 23 43.5	
	comp=E,45nm,0.7s						
PEL	Peldehue	2.52	190	*e*P	Pg	03 23 11.0	-0.7
PEL				*i* S	Sg	03 23 44.5	0.0
PEL				IAML		03 23 48.0	
	comp=E,53nm,0.3s						
AC04	Llanos de Chal	2.56	342	*e*P	Pg	03 23 10.6	-1.9
AC04				*e*S	Sg	03 23 44.9	-0.8
AC04				IAML		03 23 46.9	
	comp=N,155nm,0.1s						
MT10	Hacienda Santa	2.63	186	IAML		03 23 50.4	
	comp=E,104nm,0.4s						

*IDC **18** 03:37:23.1±1.1, 36°.72N×141°.34E, h0km, mb3.6/8, mbtmp3.6/9, ML2.6/1, MS2.8/2, Error ellipse: s-maj=32.5km s-min=19.9km az=170.0*
*JMA **18** 03:37:25.1±0.1, 36°.8N±0°.3×141°.4E±0°.7, h42km±1km, MV3.4/36, E OFF IBARAKI PREF*

ISC 18 03:37:24.4±2.1, 36°.78N±0°.06×141°.38E±0°.07, h8km±12km, n24, σ0°73/22, mb3.7/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.57	305	P	Pb	03 37 36.5	-0.1
ONAJ				S	Sb	03 37 44.7	-0.1
JHO	Hitachi	0.67	256	P	Pb	03 37 37.9	-0.5
JHO				S	Sb	03 37 47.5	-0.4
JFK	Kawauchi	0.71	325	P	Pg	03 37 38.6	+0.5
JFK				S	Sg	03 37 48.1	+0.8
JFFD	Fukushimafurud	0.73	295	*i* P	Pg	03 37 38.6	+0.3
JHYU	Hitachinakayam	0.78	236	P	Pb	03 37 39.6	-0.5
JHYU				S	Sb	03 37 50.5	-0.3
JOTO	OTAMA OYAMA	1.14	313	P	Pg	03 37 45.9	-0.4
JMM	Marumori	1.18	337	P	Pb	03 37 45.5	-1.5
JFY	Yanaizu	1.48	295	*i* P	Pn	03 37 51.0	-0.3
MJAR	Matsushiro Arr	2.56	266	Pn	Pn	03 38 06.3	+0.1
	1.3nm,0.3s,baz=88,slow=14,SNR=63						
MJAR				Sn	Sn	03 38 38.5	+1.0
	1.9nm,0.3s,baz=77,slow=17,SNR=3.1						
MJAR				LR	LR	03 39 24.7	
	comp=Z,78nm,18.1s,baz=20,slow=48						
	12nm,0.4s						
SHEM	Shemya Is, Ala	27.87	45	LR	LR	03 52 35.7	
	comp=Z,38nm,21.8s,baz=286,slow=33						
H11N2	WAKE ISLAND Hy	28.04	120	T	T	04 12 39.4	
	baz=313,slow=75,SNR=165						
H11N1	WAKE ISLAND Hy	28.05	120	T	T	04 12 31.6	
	baz=313,slow=75,SNR=146						
H11N3	WAKE ISLAND Hy	28.06	120	T	T	04 12 40.5	
	baz=313,slow=75,SNR=146						
H11S1	WAKE ISLAND Hy	28.75	122	T	T	04 13 25.5	
	baz=314,slow=76,SNR=68						
H11S3	WAKE ISLAND Hy	28.75	122	T	T	04 13 24.4	
	baz=314,slow=76,SNR=63						
H11S2	WAKE ISLAND Hy	28.76	122	T	T	04 13 29.3	
	baz=314,slow=76,SNR=43						
ZALV	Zalesovo Beam	42.06	313	P	P	03 45 15.1	-1.3
	0.5nm,0.3s,baz=92,slow=9.1,SNR=2.1						
	0.5nm,0.3s						
MKAR	Makanchi Array	44.23	302	P	P	03 45 33.9	-0.1
	0.7nm,0.9s,baz=92,slow=10,SNR=2.0						
	0.7nm,0.9s						
KURBB	Kurchatov Arra	46.14	308	P	P	03 45 48.9	-0.2
	0.6nm,0.5s,baz=83,slow=8.1,SNR=6.9						
	0.6nm,0.5s						
ILAR	Eielson Array	49.72	32	P	P	03 46 17.2	+0.6
	0.6nm,0.8s,baz=272,slow=6.5,SNR=7.7						
	0.6nm,0.8s						
WRA	Warramunga Arr	56.81	188	P	P	03 47 08.1	-1.1
	0.6nm,0.7s,baz=6.2,slow=7.3,SNR=3.5						
	0.6nm,0.7s						
NVAR	Mina Array Bea	75.16	53	P	P	03 49 08.4	+0.8
	0.7nm,0.8s,baz=308,slow=4.4,SNR=5.9						
	0.7nm,0.8s						
PDAR	Pinedale Array	77.86	45	P	P	03 49 23.5	+0.7
	0.2nm,0.6s,baz=328,slow=3.2,SNR=2.6						
	0.2nm,0.6s						
TXAR	Lajitas Array	90.30	52	P	P	03 50 26.8	+0.6
	0.1nm,0.6s,baz=282,slow=4.5,SNR=2.1						
	0.1nm,0.6s						

*NEIC **18** 03:39:24.8±0.7, 19°.491N±0°.009×155°.661W±0°.009, h6km±8km, Error ellipse: s-maj=1.7

HTC	**Hot Caves**	**0.36 136**		Pg		03 39 31.5	+0.1
SDHHI	**Sand Hill**	**0.36 107**		Pg		03 39 31.5	+0.1
SDHHI				Sg		03 39 37.0	+0.9
RSD	**Rainshed**	**0.36 95**		Pg		03 39 31.9	+0.5
RSD				Sg		03 39 37.3	+1.2
RSD	**Rainshed**	**0.36 95**	IAML			03 39 38.5	
	comp=E,591nm,0.3s						
RSD			IAML			03 39 38.9	
	comp=N,1μm,0.7s						
OBL	**Observatory Le**	**0.36 102**		Pg		03 39 31.8	+0.3
OBL				Sg		03 39 37.3	+1.1
UWB	**Uwekahuna Bluf**	**0.37 101**		Pg		03 39 31.6	+0.1
UWB				Sg		03 39 37.3	+1.0
KKH	**Kailua Kona**	**0.37 295**		Pg		03 39 31.6	-0.1
KKH				Sg		03 39 37.3	+0.8
HATHI	**Halema'uma'u T**	**0.38 101**	Pg	Pg		03 39 31.9	0.0
HATHI			IAML			03 39 43.2	
	comp=E,677nm,0.6s						
BYL	**Byron's Ledge**	**0.39 102**	Pg	Pg		03 39 32.1	+0.2
BYL			IAML			03 39 44.2	
	comp=E,622nm,0.6s						
BYL			IAML			03 39 44.2	
	comp=N,519nm,0.6s						
PUH	**Pauahi**	**0.44 106**	IAML			03 39 40.0	
	comp=E,369nm,1.1s						
PUH			IAML			03 39 44.2	
	comp=N,401nm,1.2s						
JOKA	**Jonika Flow**	**0.62 96**	IAML			03 39 51.1	
	comp=E,216nm,3.1s						
JOKA			IAML			03 39 55.6	
	comp=N,351nm,2.2s						

*NEIC **18** 03:43:34.9±0.6, 19°.84N±0°.04×155°.14W±0°.03, h50km±4km, Error ellipse: s-maj=6.9km s-min=1.0km az=215.0*

HVO 18 03:43:36.8±0.8, 19°.83N±0°.03×155°.13W±0°.03, h39km±3km, ML2.6/30, ML2.8/38(NEIC), Error ellipse: s-maj=5.8km s-min=2.7km az=47.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAH	**Pahoa**	**0.38 153**		Pn	Pn	03 43 44.9	-0.9
PAH				Sn	Sn	03 43 51.3	-1.1
POHA	**Pohakuloa**	**0.39 259**			Pn	03 43 45.0	-1.2
POHA				Sn	Sn	03 43 51.1	-1.9
POHA	**Pohakuloa**	**0.39 259**	IAML			03 43 51.5	
	225nm,0.1s						
POHA			IAML			03 43 51.9	
	244nm,0.4s						
RSD	**Rainshed**	**0.39 201**		Pn		03 43 45.1	-1.1
RSD				Sn		03 43 51.2	-1.7
RSD	**Rainshed**	**0.39 201**	IAML			03 43 52.0	
	comp=E,1μm,2.3s						
RSD			IAML			03 43 53.5	
	comp=N,935nm,0.2s						
HMH	**Humu'ula Sheep**	**0.41 236**	Sn	Sn		03 43 52.5	-1.0
JOKA	**Jonika Flow**	**0.41 164**		Pn		03 43 45.1	-1.2
JOKA			Sn	Sn		03 43 50.1	-3.0
MLH	**Mauna Loa**	**0.42 216**		Sn		03 43 52.1	-1.5
MLH	**Mauna Loa**	**0.42 216**		Pn		03 43 45.6	-1.0
MLH			IAML			03 43 52.5	
	comp=E,574nm,0.2s						
MLH			IAML			03 43 59.4	
	comp=N,1μm,0.3s						
SBLHI	**Steaming Bluff**	**0.42 199**		Pn		03 43 45.3	-1.3
SBLHI				Sn		03 43 51.6	-1.9
HATHI	**Halema'uma'u T**	**0.43 198**		Pn		03 43 51.8	+5.2
HATHI	**Halema'uma'u T**	**0.43 198**	IAML			03 43 52.2	
	comp=N,498nm,0.3s						
HATHI			IAML			03 43 52.4	
	comp=E,434nm,0.1s						
UWB	**Uwekahuna Bluf**	**0.43 200**		Sn		03 43 51.8	-1.8
BYL	**Byron's Ledge**	**0.44 197**		Sn		03 43 52.1	-1.7
BYL	**Byron's Ledge**	**0.44 197**		Pn		03 43 45.5	-1.3
BYL			IAML			03 44 01.9	
	comp=N,364nm,3.9s						
BYL	**Byron's Ledge**	**0.44 197**	IAML			03 43 51.6	
	comp=E,436nm,3.0s						
NPOC	**North of Pu'u**	**0.44 178**		Pn		03 43 45.5	-1.3
NPOC				Sn		03 43 51.8	-1.9
UWE	**Uwekahuna**	**0.44 201**		Sn		03 43 52.2	-1.7
UWE	**Uwekahuna**	**0.44 201**		Pn		03 43 45.6	-1.2
UWE			IAML			03 43 52.7	
	comp=N,2μm,0.2s						
UWE			IAML			03 43 52.7	
	comp=E,2μm,0.2s						
OBL	**Observatory Le**	**0.44 200**		Pn		03 43 45.4	-1.4
OBL				Sn		03 43 52.1	-1.7
STCH	**Steam Cracks**	**0.44 180**		Sn		03 43 52.2	-1.7
STCH	**Steam Cracks**	**0.44 180**		Pn		03 43 45.5	-1.3
STCH			IAML			03 43 52.1	
	comp=E,521nm,0.2s						
JCUZ	**Jacuzzi**	**0.45 177**		Pn		03 43 45.6	-1.3
JCUZ				Sn		03 43 51.9	-2.0
KKO	**Keanakako'i**	**0.45 197**		Pn		03 43 45.7	-1.3
KKO				Sn		03 43 52.3	-1.8
KNHH	**Kane Nui o Ham**	**0.45 185**		Pn		03 43 45.7	-1.3
WRMHI	**West Rim**	**0.45 201**		Pn		03 43 45.6	-1.4
WRMHI				Sn		03 43 52.2	-2.0
PUH	**Pauahi**	**0.46 191**		Pn		03 43 45.9	-1.3
ALEP	**Alea Permanent**	**0.57 239**		Pn		03 43 47.5	-1.3
HPAH	**Hawaii Prepara**	**0.57 290**		Pn		03 43 47.0	-1.7
HPAH	**Hawaii Prepara**	**0.57 290**	IAML			03 43 54.9	
	comp=N,485nm,0.4s						
HPAH			IAML			03 43 55.0	
	comp=E,236nm,0.1s						
KHU	**Kahuku**	**0.74 218**	IAML			03 43 55.5	
	comp=N,294nm,2.5s						
KHU			IAML			03 44 10.3	
	comp=E,496nm,3.7s						

*NEIC **18** 03:48:51.7±0.7, 36°.46N±0°.01×96°.87W±0°.01, h5km±1km, ML2.1/45, ML2.6/20, Error ellipse: s-maj=2.4km s-min=1.1km az=217.0*

NEIC 18 03:48:51.9±1.1, 36°.46N±0°.01×96°.86W±0°.02, h7km±1km, Error ellipse: s-maj=2.5km s-min=1.4km az=220.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK051	**E0350 and S346**	**0.05**	**23**	Pg	Pg	03 48 53.5	0.0
OK051				Sg	Sg	03 48 54.6	-0.1
OK048	**Pawnee Station**	**0.08**	**237**	Pg	Pg	03 48 53.7	-0.3
OK048				Sg	Sg	03 48 54.9	-0.5
QUOK	**Quay**	**0.31**	**157**		Pg	03 48 58.3	+0.2
QUOK				Sg	Sg	03 49 02.6	+0.4
QUOK			IAML			03 49 04.4	
	comp=N,222nm,0.3s						
BLOK	**Blackwell**	**0.41**	**316**		Pg	03 48 59.9	0.0
BLOK				Sg	Sg	03 49 05.5	0.0
BLOK			IAML			03 49 07.3	
	comp=E,203nm,0.2s						
OK052	**Battle Ridge R**	**0.47**	**174**		Pg	03 49 01.1	+0.1
OK052				Sg	Sg	03 49 07.6	+0.5
OK052			IAML			03 49 10.7	
	comp=E,108nm,0.4s						
OK031	**S. Brethren Rd**	**0.51**	**178**		Pg	03 49 01.8	+0.1
T35A	**Sooner Cattle**	**0.53**	**31**		Pg	03 49 02.4	+0.2
T35A					Sg	03 49 09.6	+0.4
DEOK	**Depew**	**0.68**	**155**		Pg	03 49 05.1	+0.1
DEOK				Sg	Sg	03 49 14.3	+0.4
DEOK			IAML			03 49 17.7	
	comp=E,72nm,0.5s						
KAN13	**South Haven SW**	**0.74**	**318**		Pb	03 49 06.8	-0.4
KAN13					Sg	03 49 15.8	-0.1
OK029	**Liberty Lake**	**0.82**	**216**		Pg	03 49 07.1	-0.6
OK029					Sg	03 49 18.3	0.0
OK029			IAML			03 49 22.4	
	comp=E,43nm,0.2s						
GC02	**Grant County #**	**0.89**	**296**		Pg	03 49 08.8	-0.3
GC02					Sg	03 49 20.6	-0.2
CROK	**Carrier**	**0.91**	**273**		Pg	03 49 08.9	-0.5
CROK					Sg	03 49 21.4	+0.3
CROK			IAML			03 49 28.3	
	comp=E,61nm,0.3s						
CROK			IAML			03 49 28.6	
	comp=N,74nm,0.2s						
KAN17	**Caldwell West**	**0.93**	**309**		Sg	03 49 21.8	-0.2
BCOK	**Bluff Creek, N**	**1.01**	**217**		Pg	03 49 10.9	-0.4
TUL3	**Leonard**	**1.02**	**122**		Pg	03 49 11.4	-0.2
TUL3					Sg	03 49 24.8	0.0
KAN12	**Harper NE Stat**	**1.24**	**313**		Pb	03 49 15.2	-0.4
FNO	**Franklin**	**1.28**	**200**		Pn	03 49 15.2	-1.0
W35A	**Tecumseh**	**1.31**	**181**		Pn	03 49 15.6	-0.9
W35A					Sb	03 49 33.7	0.0
W35A			IAML			03 49 37.1	
	comp=N,33nm,0.4s						
W35A			IAML			03 49 40.8	
	comp=E,35nm,1.8s						
RLO	**Rose Lookout**	**1.51**	**101**		Pn	03 49 19.7	+0.3
U38A	**Gravette**	**1.99**	**90**		Pb	03 49 27.9	-0.6

*IDC **18** 03:48:55.7±2.5, 22°.22S×170°.44E, h0km, mb3.9/6, mbtmp3.9/7, ML4.3/1, MS3.4/7, Error ellipse: s-maj=75.6km s-min=30.3km az=143.0*

*NOU **18** 03:49:00.5, 22°.24S×170°.11E, h0km, MLv3.7/11, Southeast of Loyalty Islands*

ISC 18 03:49:00.9±1.1, 22°.3S±0°.2×170°.4E±0°.1, h35km, n30, σ1°79/26, mb3.9/6, MS3.3/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.31**	**289**	P	**Pn**	**03 49 36.0**	**-0.5**
PINNC	**Pines Island,**	**2.73**	**262**	P	**Pn**	**03 49 41.6**	**-0.7**
YATNC	**Mamie plateau,**	**3.24**	**273**	P	**Pn**	**03 49 48.1**	**-1.1**
LIFNC	**LIFOU**	**3.27**	**296**	P	**Pn**	**03 49 49.3**	**-0.4**
OUENC	**Ouen Island, N**	**3.27**	**267**	P	**Pn**	**03 49 49.4**	**-0.3**
ONTNC	**Ouen Toro**	**3.63**	**269**	P	**Pn**	**03 49 55.1**	**+0.4**
DZM	**Mont Dzumac**	**3.65**	**272**	Pn	**Pn**	**03 49 54.8**	**-0.2**
	25nm,0.3s,baz=87,slow=18,SNR=371						
DZM				Sn	**Sn**	**03 50 36.5**	**-0.4**
	9.1nm,0.3s,baz=127,slow=20,SNR=2.8						
DZM				LR	LR	03 51 19.4	
	comp=Z,243nm,18.9s,baz=130,slow=39 63nm,0.3s						
DZM	**Mont Dzumac**	**3.65**	**272**	P	**Pn**	**03 49 55.1**	**+0.1**
NOUC	**Port Laguerre**	**3.78**	**272**	P	**Pn**	**03 49 56.6**	**-0.1**
KOUNC	**Koumac, New Ca**	**5.92**	**286**	P	**Pn**	**03 50 27.1**	**+0.9**
HNR	**Honiara**	**16.21**	**320**	LR	LR	03 58 11.3	
	comp=Z,67nm,18.3s,baz=114,slow=34						
URZ	**Urewera**	**16.96**	**162**	LR	LR	03 58 00.3	
	comp=Z,180nm,20.2s,baz=74,slow=32						
PMG	**Port Moresby**	**25.68**	**296**	LR	LR	04 02 58.8	
	comp=Z,65nm,19.3s,baz=180,slow=33						
STKA	**Stephens Creek**	**27.29**	**243**	P	**P**	**03 54 43.0**	**+0.8**
	2.3nm,0.9s,baz=103,slow=14,SNR=4.5						
STKA				LR	LR	04 04 22.6	
	comp=Z,84nm,20.1s,baz=202,slow=34 2.3nm,0.9s						
ASAR	**Alice Springs**	**33.55**	**260**	P	**P**	**03 55 37.7**	**-0.1**
	0.5nm,0.7s,baz=83,slow=9.5,SNR=7.2 0.5nm,0.7s						
WRA	**Warramunga Arr**	**33.65**	**267**	P	**P**	**03 55 37.7**	**-0.9**
	0.3nm,0.6s,baz=98,slow=8.3,SNR=4.6 0.3nm,0.6s						
KAPI	**Kappang**	**51.82**	**282**	LR	LR	04 20 30.3	
	comp=Z,26nm,20.1s,baz=64,slow=36						
MJAR	**Matsushiro Arr**	**65.91**	**332**	P	**P**	**03 59 42.8**	**-0.4**
	1.6nm,0.9s,baz=163,slow=7.9,SNR=4.0 1.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**80.71**	**294**	P	**P**	**04 01 13.2**	**+2.3**
	0.7nm,0.3s,baz=134,slow=3.9,SNR=4.7 0.7nm,0.3s						
SONM	**Songino Array**	**90.26**	**323**	P	**P**	**04 01 58.2**	**+0.1**
	0.5nm,0.5s,baz=106,slow=3.2,SNR=3.6 0.5nm,0.5s						
ANMO	**Albuquerque**	**97.14**	**55**	LR	LR	04 40 54.7	
	comp=Z,59nm,19.4s,baz=224,slow=32						
EKA	**Eskdalemuir Ar**	**146.62**	**353**	PKPbc	**PKPbc**	**04 08 37.4**	**-1.0**
	0.3nm,0.4s,baz=14,slow=1.5,SNR=4.8						
GERES	**GERESS Array B**	**147.64**	**331**	PKPbc	**PKPbc**	**04 08 41.5**	**-0.2**
	0.6nm,0.7s,baz=56,slow=2.5,SNR=3.5						
SOKA	**Soboth**	**148.52**	**327**	*i* PKP	**PKiKP**	**04 08 44.4**	**-1.2**
	1.0nm,0.4s						
KBA	**Koelnbreinsper**	**149.08**	**329**	*i* PKP	**PKPbc**	**04 08 45.3**	**-0.3**
	0.8nm,0.4s						
LESA	**Schwarzleotal**	**149.14**	**330**	*i* PKP	**PKPbc**	**04 08 45.3**	**-0.3**
	1.0nm,0.4s						
ABTA	**Abfaltersbach**	**149.71**	**329**	*e*PKP	**PKiKP**	**04 08 48.3**	**+0.2**
	0.8nm,0.5s						
WTTA	**Wattenberg**	**149.74**	**331**	*i* PKP	**PKiKP**	**04 08 47.4**	**-0.8**
	0.3nm,0.3s						
SQTA	**Sankt Quirin**	**149.97**	**331**	*i* PKP	**PKiKP**	**04 08 48.1**	**-0.6**
	0.7nm,0.3s						
FETA	**Feichten**	**150.33**	**331**	*e*PKP	**PKiKP**	**04 08 50.0**	**+0.6**
	3.9nm,1.1s						

*THE **18** 03:59:42.7, 37°.46N×20°.68E, h15km±10km, ML3.2/2, Error ellipse: s-maj=11.8km s-min=1.7km az=73.0*

*ATH **18** 03:59:46.7, 37°.58N×20°.66E, h8km±2km, ML2.9/3, Error ellipse: s-maj=3.2km s-min=1.2km az=64.0*

ISC 18 03:59:46.4±1.5, 37°.61N±0°.06×20°.75E±0°.07, h10km±6km, n17, σ0°94/31, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.07**	**43**	P	**Pg**	**03 59 47.7**	**-1.0**
LTHK	**Lithakia**	**0.12**	**33**	P	**Pg**	**03 59 47.9**	**-1.4**
LTHK				S	**Sg**	**03 59 53.4**	**+2.1**
	12μm,0.4s						
LTHK	**Lithakia**	**0.12**	**33**	P	**Pb**	**03 59 50.2**	**-0.6**
LTHK				S	**Sg**	**03 59 52.5**	**+1.1**
RTZL	**Ratzakli, Kefa**	**0.47**	**2**	P	**Pg**	**03 59 54.5**	**-1.0**
RTZL				S	**Sg**	**04 00 03.6**	**+1.9**
	2μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.52**	**345**	P	**Pg**	**03 59 55.6**	**-1.0**
PSDA				S	**Sb**	**04 00 04.9**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.52**	**345**	P	**Pb**	**03 59 57.3**	**-0.3**
PSDA				S	**Sg**	**04 00 04.3**	**+0.8**
VLS	**Valsamata**	**0.58**	**347**	P	**Pg**	**03 59 56.8**	**-0.9**
VLS				S	**Sb**	**04 00 07.1**	**+0.1**
VLS	**Valsamata**	**0.58**	**347**	P	**Pb**	**03 59 58.2**	**-0.5**
VLS				S	**Sg**	**04 00 06.4**	**+1.0**
VLS			AML	AML		04 00 07.5	
	comp=N,2677μm,0.2s						
VLS			AML	AML		04 00 08.1	
	comp=E,2146μm,0.2s						
SMHA	**Samh**	**0.65**	**353**	P	**Pg**	**03 59 59.0**	**+0.1**
SMHA				S	**Sg**	**04 00 08.1**	**+0.7**
DMLN	**Damoulianata-K**	**0.70**	**335**	P	**Pb**	**04 00 00.3**	**-0.3**
RLS	**Riolos of Patr**	**0.72**	**51**	P	**Pb**	**04 00 02.1**	**-0.5**
RLS				S	**Sn**	**04 00 13.5**	**-0.2**
AMT	**Artemida-Makis**	**0.76**	**95**	P	**Pn**	**04 00 02.1**	**-1.1**
AMT				S	**Sb**	**04 00 13.0**	**+0.8**
AMT			AML	AML		04 00 20.1	
	comp=N,3435μm,0.4s						
AMT			AML	AML		04 00 23.6	
	comp=E,3120μm,0.4s						
FSK	**Fiskardo**	**0.86**	**350**	P	**Pb**	**04 00 03.1**	**-0.3**
FSK				S	**Sg**	**04 00 15.2**	**+0.9**
FSK			AML	AML		04 00 18.6	
	comp=N,1051μm,0.5s						
FSK			AML	AML		04 00 19.1	
	comp=E,1707μm,0.3s						
EVGI	**Lefkada island**	**1.01**	**356**	P	**Pb**	**04 00 05.6**	**-0.4**
EVGI				S	**Sb**	**04 00 19.9**	**+0.5**
PYL	**PYLOS**	**1.06**	**132**	P	**Pn**	**04 00 07.6**	**+0.3**
PYL				S	**Sn**	**04 00 23.0**	**+0.9**
NYDR	**Nydri-Lefkada**	**1.10**	**358**	P	**Pb**	**04 00 07.2**	**-0.3**
NYDR				S	**Sn**	**04 00 24.3**	**+1.1**
TSLK	**Tsoukalades, L**	**1.22**	**356**	P	**Pb**	**04 00 09.0**	**-0.4**

*PRE **18** 04:25:16.1±0.8, 26°.96S×26°.53E, h2km, ML2.3*

*BGSI **18** 04:25:18.1±1.2, 27°.01S×26°.65E, h0km±60km, ML2.7*

ISC 18 04:25:15.9±1.6, 26°.99S±0°.03×26°.54E±0°.04, h4km±12km, n30, σ1°62/58, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRAO	**HartRAO**	**1.50**	**43**	*e*P	**Pg**	**04 25 44.8**	**+0.1**
HRAO				*e*S	**Sn**	**04 26 05.1**	**+1.2**
HRAO			IAML			04 26 13.0	
	comp=Z,41nm,0.2s						
BOSA	**Boshof**	**1.98**	**215**	*e*P	**Pn**	**04 25 51.7**	**+1.3**
BOSA				*e*S	**Sn**	**04 26 17.3**	**+1.6**
BOSA			IAML			04 26 18.9	
	comp=Z,34nm,0.2s						
BOSA	**Boshof**	**1.98**	**215**	*i* P	**Pn**	**04 25 51.8**	**+1.4**
BOSA				*i* S	**Sn**	**04 26 12.7**	**-3.1**
BOSA	**Boshof**	**1.98**	**215**	*i* P	**Pn**	**04 25 51.8**	**+1.4**
BOSA				*i* S	**Sn**	**04 26 12.7**	**-3.1**
LBTB	**Lobatse**	**2.14**	**336**	*e*P	**Pn**	**04 25 53.7**	**+1.2**
LBTB				*e*S	**Sn**	**04 26 20.2**	**+0.5**
LBTB			IAML			04 26 25.0	
	comp=Z,56nm,0.5s						
LBTB	**Lobatse**	**2.14**	**336**	*i* P	**Pb**	**04 25 54.9**	**-0.4**
LBTB				*i* S	**Sg**	**04 26 23.5**	**-1.2**
LBTB	**Lobatse**	**2.14**	**336**	*i* P	**Pb**	**04 25 54.9**	**-0.4**
LBTB				*i* S	**Sg**	**04 26 23.5**	**-1.2**
CRLN	**Carolina, Mapu**	**3.27**	**73**	*e*P	**Pn**	**04 26 09.8**	**+1.6**
CRLN				*e*S	**Sn**	**04 26 48.1**	**+0.4**
CRLN			IAML			04 26 48.3	
	comp=Z,5.8nm,0.2s						
LEPH	**Lephalale, Lim**	**3.32**	**20**	*e*P	**Pn**	**04 26 09.8**	**+1.0**
LEPH				*e*S	**Sn**	**04 26 49.1**	**+0.5**
LEPH			IAML			04 27 02.4	
	comp=Z,25nm,0.4s						
SKOMA	**Sekoma**	**3.41**	**316**	*i* P	**Pn**	**04 26 11.6**	**+1.7**
SKOMA				*i* S	**Sn**	**04 26 52.0**	**+1.1**
SKOMA			IAML			04 27 09.1	
	comp=E,20nm,0.5s						
LPHEP	**Lephephe**	**3.66**	**350**	*i* P	**Pn**	**04 26 14.8**	**+1.3**
LPHEP				*i* S	**Sn**	**04 26 56.4**	**-0.8**
LPHEP			IAML			04 27 13.8	
	comp=N,12nm,0.3s						
HVD	**Gariep Dam**	**3.72**	**194**	*e*P	**Pn**	**04 26 15.7**	**+1.4**
HVD				*e*S	**Sn**	**04 26 59.9**	**+1.2**
KDWAN	**Kaudwane**	**3.98**	**334**	*i* P	**Pn**	**04 26 18.9**	**+1.1**
KDWAN			IAML			04 27 24.4	
	comp=N,82nm,0.6s						
KSTD	**Kokstad**	**4.36**	**147**	*e*P	**Pn**	**04 26 25.4**	**+2.3**
KSTD				*e*S	**Sn**	**04 27 15.2**	**+0.8**
KSTD			IAML			04 27 39.5	
	comp=Z,7.8nm,0.3s						
MREMI	**Moremi**	**4.47**	**11**	*i* P	**Pn**	**04 26 26.2**	**+1.6**
MREMI			IAML			04 27 38.0	
	comp=N,76nm,0.3s						
MUSN	**Musina, Limpop**	**5.57**	**34**	*e*P	**Pn**	**04 26 41.0**	**+1.4**
MUSN				*e*S	**Sn**	**04 27 42.0**	**-2.1**
MUSN			IAML			04 28 12.2	
	comp=Z,6.2nm,0.4s						
MUSN	**Musina, Limpop**	**5.57**	**34**	*i* P	**Pn**	**04 26 40.7**	**+1.0**
MUSN				*i* S	**Sn**	**04 27 42.8**	**-1.4**
MUSN	**Musina, Limpop**	**5.57**	**34**	*i* P	**Pn**	**04 26 40.7**	**+1.0**
MUSN				*i* S	**Sn**	**04 27 42.8**	**-1.4**
GRAF	**Camdeboo Natio**	**5.57**	**198**	*e*P	**Pn**	**04 26 41.2**	**+1.5**
GRAF				*e*S	**Sn**	**04 27 43.6**	**-0.6**
GRAF			IAML			04 28 11.8	
	comp=Z,8.4nm,0.7s						
MOPA	**Mopani**	**5.59**	**53**	*i* P	**Pn**	**04 26 39.8**	**-0.2**
MOPA				*i* S	**Sn**	**04 27 41.0**	**-3.7**
MOPA	**Mopani**	**5.59**	**53**	*i* P	**Pn**	**04 26 39.8**	**-0.2**
MOPA				*i* S	**Sn**	**04 27 41.0**	**-3.7**
KGCAE	**Kacgae**	**5.69**	**315**	*i* P	**Pn**	**04 26 42.8**	**+1.3**
KGCAE				*i* S	**Sn**	**04 27 46.2**	**-1.2**
BRAK	**Brakfontein**	**5.74**	**213**	*e*P	**Pn**	**04 26 43.4**	**+1.4**
BRAK				*e*S	**Sn**	**04 27 48.4**	**-0.1**
BRAK			IAML			04 27 52.0	
	comp=Z,6.8nm,0.2s						
GRHM	**Grahamstown, E**	**6.27**	**181**	*e*P	**Pn**	**04 26 50.4**	**+1.1**
GRHM				*e*S	**Sn**	**04 28 00.6**	**-0.8**
GRHM			IAML			04 28 15.9	
	comp=Z,2.7nm,1.0s						
GRAN	**Grantham**	**6.52**	**215**	*e*P	**Pn**	**04 26 54.0**	**+1.3**
GRAN				*e*S	**Sn**	**04 28 06.9**	**-0.8**
GRAN			IAML			04 28 44.0	
	comp=Z,8.6nm,1.0s						
FRAZ	**Fraserburg**	**6.65**	**221**	*e*P	**Pn**	**04 26 55.9**	**+1.3**
FRAZ				*e*S	**Sn**	**04 28 09.1**	**-1.9**
FRAZ			IAML			04 28 29.1	
	comp=Z,2.6nm,0.9s						
MATP	**Matopo**	**6.77**	**16**	*i* P	**Pn**	**04 26 57.6**	**+1.3**
MATP				*i* S	**Sn**	**04 28 11.9**	**-2.1**
MATP	**Matopo**	**6.77**	**16**	*i* P	**Pn**	**04 26 57.6**	**+1.3**
MATP				*i* S	**Sn**	**04 28 11.9**	**-2.1**
BLWY	**Bulawayo**	**7.07**	**16**	*i* P	**Pn**	**04 27 01.5**	**+1.1**
BLWY				*i* S	**Sn**	**04 28 18.9**	**-2.6**
BLWY	**Bulawayo**	**7.07**	**16**	*i* P	**Pn**	**04 27 01.5**	**+1.1**
BLWY				*i* S	**Sn**	**04 28 18.9**	**-2.6**

*IDC **18** 04:34:56.3±1.7, 5°.57S×147°.52E, h193km±19km, mb3.5/6, mbtmp4.1/8, Error ellipse: s-maj=40.5km s-min=12.7km az=114.0*

*NEIC **18** 04:34:59.7±1.8, 5°.54S±0°.07×147°.1E±0°.1, h190km±23km, mb4.5/10, Error ellipse: s-maj=22.6km s-min=7.2km az=69.0*

ISC 18 04:34:54.7±0.8, 5°.34S±0°.08×147°.29E±0°.10, h170km, n31, σ1°35/33, mb3.7/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.27**	**1**	Pn	Pn	04 35 53.9	+7.6
PMG	**Port Moresby**	**4.05**	**182**	P	**Pn**	**04 35 57.0**	**+0.9**
	49nm,0.3s,baz=19,slow=10,SNR=48						
PMG				S	**Sn**	**04 36 41.5**	**-2.6**
	111nm,0.5s,baz=4.1,slow=14,SNR=7.9						
PMG	**Port Moresby**	**4.05**	**182**	P	**Pn**	**04 35 56.9**	**+0.8**
COEN	**Coen**	**9.48**	**205**	Pn	**Pn**	**04 37 10.4**	**+2.7**
TATA	**Tatamba Isabel**	**12.79**	**104**	P	**P**	**04 37 55.0**	**-0.1**
MTSU	**Mount Surprise**	**13.05**	**193**	P	**Pn**	**04 37 56.0**	**+2.1**
ALEG	**Aligegeo Malai**	**13.73**	**105**	P	**P**	**04 38 05.1**	**-0.4**
TV1H	**Townsville Har**	**13.85**	**182**	P	**P**	**04 38 08.3**	**+1.5**
CTAO	**Charters Tower**	**14.70**	**184**	P	**P**	**04 38 17.1**	**+0.8**
FAKI	**Fak Fak**	**15.20**	**278**	Pn	**Pn**	**04 38 20.1**	**-0.7**
FAKI				IAmb	IAmb	04 38 32.2	
	comp=Z,13nm,1.0s						
QIS	**Mount Isa**	**16.88**	**206**	P	**P**	**04 38 41.5**	**+1.1**
MTN	**Manton Dam**	**17.61**	**244**	Pn	**Pn**	**04 38 50.9**	**+1.0**
MTN				IAmb	IAmb	04 39 21.4	
	comp=Z,26nm,1.3s						
WR0	**Warramunga Arr**	**19.11**	**219**	P	**P**	**04 39 05.5**	**+0.7**
WRA	**Warramunga Arr**	**19.23**	**220**	P	**P**	**04 39 05.8**	**-0.2**
WRA	**Warramunga Arr**	**19.23**	**220**	P	**P**	**04 39 07.0**	**+0.9**
	comp=Z,6.4nm,0.4s,baz=48,slow=11,SNR=155						
WRA				S	**S**	**04 42 31.7**	**-3.1**
	comp=Z,0.8nm,0.9s,baz

mb4.3,MLv4.2,Mw(mB)5.1
*THE **18** 04:47:04.8, 37.°89N×20.°94E, h17km, ML3.7/5, Error ellipse: s-maj=0.7km s-min=0.3km az=239.0*
*ATH **18** 04:47:04.6, 37.°91N×20.°96E, h13km±1km, ML3.6/14, Error ellipse: s-maj=1.5km s-min=0.6km az=231.0*
ISC 18 04:47:04.6±0.8, 37.°91N±0.°02×20.95E±0.°02, h13km±6km, n168, σ1§20/195, mb3.9/14, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTZL	**Ratzakli, Kefa**	**0.22**	**318**	P	**Pb**	**04 47 09.9**	**-0.6**
RTZL				S	**Sb**	**04 47 14.0**	**-0.4**
	20μm,0.3s						
LTHK	**Lithakia**	**0.22**	**205**	P	**Pg**	**04 47 09.1**	**-0.4**
LTHK				S	**Sg**	**04 47 12.9**	**+0.2**
	22μm,0.2s						
LTHK	**Lithakia**	**0.22**	**205**	P	**Pg**	**04 47 09.1**	**-0.4**
LTHK				S	**Sg**	**04 47 12.7**	**0.0**
LTHK				AML	AML	04 47 17.3	
	comp=N,45301μm,0.3s						
LTHK				AML	AML	04 47 23.4	
	comp=E,44629μm,0.4s						
KRI1	**kERI**	**0.27**	**203**	P	**Pg**	**04 47 10.0**	**-0.3**
KRI1				S	**Sg**	**04 47 14.3**	**+0.2**
	comp=E,20μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.35**	**304**	P	**Pg**	**04 47 12.1**	**+0.3**
PSDA				S	**Sb**	**04 47 17.8**	**-0.5**
	comp=E,18μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.35**	**304**	P	**Pg**	**04 47 12.0**	**+0.2**
PSDA				S	**Sg**	**04 47 16.9**	**+0.3**
VLS	**Valsamata**	**0.39**	**313**	P	**Pg**	**04 47 12.7**	**+0.2**
VLS	**Valsamata**	**0.39**	**313**	P	**Pg**	**04 47 12.3**	**-0.2**
VLS				S	**Sg**	**04 47 18.2**	**+0.5**
VLS				AML	AML	04 47 20.2	
	comp=E,18393μm,0.3s						
VLS				AML	AML	04 47 20.7	
	comp=N,19459μm,0.3s						
SMHA	**Samh**	**0.41**	**324**	P	**Pg**	**04 47 12.4**	**-0.5**
RLS	**Riolos of Patr**	**0.43**	**70**	P	**Pg**	**04 47 13.2**	**0.0**
RLS				S	**Sb**	**04 47 20.7**	**+0.2**
	comp=N,16μm,0.5s						
RLS	**Riolos of Patr**	**0.43**	**70**	P	**Pg**	**04 47 13.1**	**0.0**
RLS				S	**Sg**	**04 47 19.1**	**+0.2**
RLS				AML	AML	04 47 22.7	
	comp=E,22148μm,0.6s						
RLS				AML	AML	04 47 22.9	
	comp=N,41536μm,0.4s						
LXR1	**Lixouri, Cepha**	**0.50**	**305**	P	**Pb**	**04 47 14.8**	**-0.5**
LXR1				S	**Sb**	**04 47 22.7**	**+0.3**
LXRA	**Lixouri, Kepha**	**0.50**	**305**	P	**Pg**	**04 47 14.6**	**+0.2**
LXRA				S	**Sb**	**04 47 21.6**	**-0.8**
DMLN	**Damoulianata-K**	**0.56**	**305**	P	**Pg**	**04 47 15.8**	**+0.2**
DMLN	**Damoulianata-K**	**0.56**	**305**	P	**Pg**	**04 47 15.6**	**0.0**
DRO	**Drossia**	**0.60**	**86**	P	**Pg**	**04 47 16.7**	**+0.4**
DRO				S	**Sb**	**04 47 26.0**	**+0.6**
DRO	**Drossia**	**0.60**	**86**	P	**Pg**	**04 47 15.8**	**-0.5**
DRO				S	**Sg**	**04 47 24.8**	**+0.6**
DRO				AML	AML	04 47 27.7	
	comp=E,31902μm,0.4s						
DRO				AML	AML	04 47 32.0	
	comp=N,23662μm,0.3s						
FSK	**Fiskardo**	**0.63**	**331**	P	**Pg**	**04 47 16.9**	**0.0**
FSK	**Fiskardo**	**0.63**	**331**	P	**Pg**	**04 47 16.3**	**-0.5**
FSK				S	**Sg**	**04 47 25.6**	**+0.5**
FSK				AML	AML	04 47 35.8	
	comp=N,3996μm,0.5s						
FSK				AML	AML	04 47 37.4	
	comp=E,8337μm,0.8s						
AST1	**Astakos**	**0.64**	**10**	P	**Pg**	**04 47 17.3**	**+0.3**
AMT	**Artemida-Makis**	**0.71**	**122**	P	**Pg**	**04 47 18.1**	**-0.3**
AMT				S	**Sg**	**04 47 27.9**	**+0.1**
AMT				AML	AML	04 47 34.7	
	comp=N,18792μm,0.5s						
AMT				AML	AML	04 47 41.3	
	comp=E,19248μm,0.6s						
EVGI	**Lefkada island**	**0.74**	**342**	P	**Pg**	**04 47 18.7**	**-0.4**
EVGI	**Lefkada island**	**0.74**	**342**	P	**Pg**	**04 47 18.6**	**-0.5**
UPR	**University Cam**	**0.75**	**60**	P	**Pg**	**04 47 19.5**	**+0.3**
NYDR	**Nydri-Lefkada**	**0.82**	**346**	P	**Pg**	**04 47 20.3**	**-0.3**
NYDR	**Nydri-Lefkada**	**0.82**	**346**	P	**Pg**	**04 47 19.9**	**-0.7**
DRAG	**Dragano-Lefkad**	**0.82**	**339**	P	**Pg**	**04 47 20.2**	**-0.5**
LKD2	**Lefkada island**	**0.90**	**345**	P	**Pb**	**04 47 22.5**	**+0.3**
LKD2				S	**Sg**	**04 47 33.6**	**-0.3**
LKD2				AML	AML	04 47 45.4	
	comp=N,6803μm,0.7s						
LKD2				AML	AML	04 47 53.8	
	comp=E,10881μm,0.6s						
EFP	**Efpalio**	**0.91**	**55**	P	**Pg**	**04 47 22.2**	**0.0**
EFP	**Efpalio**	**0.91**	**55**	P	**Pg**	**04 47 22.1**	**0.0**
EFP				S	**Sg**	**04 47 34.6**	**+0.6**
EFP				AML	AML	04 47 38.3	
	comp=N,12473μm,0.8s						
EFP				AML	AML	04 47 41.6	
	comp=E,9088μm,0.4s						
TSLK	**Tsoukalades, L**	**0.94**	**346**	P	**Pg**	**04 47 22.1**	**-0.6**
KLV	**Kalavryta, Ach**	**0.95**	**82**	P	**Pg**	**04 47 22.2**	**-0.8**
KLV				S	**Sg**	**04 47 35.4**	**-0.2**
KLV				AML	AML	04 47 43.9	
	comp=E,4664μm,0.8s						
KLV				AML	AML	04 47 49.1	
	comp=N,4388μm,0.7s						
ANX	**Ano Chora**	**1.02**	**48**	P	**Pb**	**04 47 24.1**	**-0.2**
ANX	**Ano Chora**	**1.02**	**48**	P	**Pb**	**04 47 24.0**	**-0.2**
ANX				S	**Sb**	**04 47 37.9**	**+0.3**
ANX				AML	AML	04 47 45.6	
	comp=N,11057μm,0.5s						
ANX				AML	AML	04 47 49.1	
	comp=E,10708μm,0.5s						
KALE	**Kalithea**	**1.05**	**63**	P	**Pb**	**04 47 24.5**	**-0.2**
KALE				S	**Sb**	**04 47 37.8**	**-0.6**
KALE				AML	AML	04 47 44.8	
	comp=E,6761μm,0.3s						
KALE				AML	AML	04 47 51.9	
	comp=N,9066μm,0.6s						
ITM	**Ithomi**	**1.06**	**133**	Pn	**Pb**	**04 47 24.1**	**-0.8**
ITM				Sn	**Sn**	**04 47 41.8**	**+1.8**
ITM	**Ithomi**	**1.06**	**133**	P	**Pb**	**04 47 24.1**	**-0.8**
ITM				S	**Sg**	**04 47 39.1**	**+0.1**
ITM	**Ithomi**	**1.06**	**133**	P	**Pb**	**04 47 24.0**	**-1.0**
ITM				S	**Sb**	**04 47 38.3**	**-0.5**
ITM				AML	AML	04 47 47.4	
	comp=E,5141μm,0.4s						
ITM				AML	AML	04 47 48.7	
	comp=N,4115μm,0.7s						
GUR	**Goura**	**1.10**	**88**	P	**Pb**	**04 47 25.1**	**-0.5**
GUR	**Goura**	**1.10**	**88**	P	**Pb**	**04 47 24.5**	**-1.0**
GUR				S	**Sb**	**04 47 39.4**	**-0.4**
GUR				AML	AML	04 47 46.2	
	comp=E,8121μm,0.5s						
GUR				AML	AML	04 47 46.5	
	comp=N,10595μm,0.4s						
PYL	**PYLOS**	**1.19**	**148**	P	**Pn**	**04 47 26.0**	**-1.1**
PYL				S	**Sb**	**04 47 42.4**	**-0.1**
PYL				AML	AML	04 47 52.0	
	comp=E,1845μm,0.5s						
PYL				AML	AML	04 47 52.6	
	comp=N,2479μm,0.7s						
MAKR	**Makrakomi, Fth**	**1.44**	**40**	P	**Pb**	**04 47 31.6**	**+0.4**
AGG	**Agios Georgios**	**1.55**	**44**		**Pb**	**04 47 33.5**	**+0.3**
IGT	**Igoumenitsa**	**1.69**	**343**	P	**Pb**	**04 47 35.3**	**-0.3**
VLI	**Veliai**	**1.98**	**126**	P	**Pb**	**04 47 39.7**	**-0.8**
KEK	**Kerkira**	**2.01**	**334**		**Pb**	**04 47 40.4**	**-0.7**
LIT	**Litokhoron**	**2.49**	**28**	Pn	**Pb**	**04 47 47.8**	**-1.5**
FNA	**Florina**	**2.88**	**6**		**Pn**	**04 47 52.7**	**+2.3**
FNA	**Florina**	**2.88**	**6**	*e*Pn	**Pn**	**04 47 52.6**	**+2.2**
OHR	**Ohrid**	**3.20**	**358**	*e*Pn	**Pn**	**04 47 57.6**	**+3.0**
OHR	**Ohrid**	**3.20**	**358**	*i* Pn	**Pn**	**04 47 57.9**	**+3.3**
TIP	**Timpagrande**	**3.52**	**292**	Pn	**Pn**	**04 47 59.8**	**+0.6**
TIR	**Tirane**	**3.53**	**347**		**Pn**	**04 48 01.1**	**+1.9**
TIR	**Tirane**	**3.53**	**347**	P	**Pn**	**04 47 59.5**	**+0.3**
VAY	**Valandovo**	**3.62**	**20**	*i* Pn	**Pn**	**04 48 03.1**	**+2.6**
SRS	**Serrai**	**3.79**	**32**	*e*Pn	**Pn**	**04 48 05.0**	**+2.2**
CEL	**Celeste**	**4.01**	**276**	Pn	**Pn**	**04 48 05.0**	**-0.8**
IDI	**Anoyia**	**4.11**	**128**	Pn	**Pn**	**04 48 07.5**	**+0.3**
IDI	**Anoyia**	**4.11**	**128**	Pn	**Pn**	**04 48 09.1**	**+1.9**
	comp=N,3.4nm,0.4s,baz=320,slow=16,SNR=10						
IDI				Sn	**Sn**	**04 48 55.9**	**+0.6**
	comp=N,4.3nm,0.3s,baz=293,slow=13,SNR=6.5						
PUK	**Puka**	**4.20**	**349**		**Pn**	**04 48 09.8**	**+1.3**
EZN	**Ezine**	**4.61**	**64**	P	**Pn**	**04 48 15.9**	**+2.0**
PDG	**Podgorica**	**4.70**	**344**		**Pn**	**04 48 16.1**	**+1.0**
PDG	**Podgorica**	**4.70**	**344**	*e*Pn	**Pn**	**04 48 15.2**	**0.0**
BOSS	**Bosilegrad**	**4.72**	**14**	*e*Pn	**Pn**	**04 48 15.9**	**+0.3**
HCY	**Herceg Novi**	**4.90**	**338**	*e*Pn	**Pn**	**04 48 17.6**	**-0.5**
BARS	**Barje**	**4.94**	**7**	*e*Pn	**Pn**	**04 48 19.8**	**+1.2**
ALN	**Alexandroupoli**	**4.94**	**51**	Pn	**Pn**	**04 48 21.3**	**+2.7**
VTS	**Vitosha**	**5.01**	**20**	*e*Pn	**Pn**	**04 48 21.5**	**+1.8**
TREB	**Trebinje**	**5.19**	**338**	*e*Pn	**Pn**	**04 48 21.7**	**-0.3**
VAE	**Valguarnera**	**5.21**	**267**	Pn	**Pn**	**04 48 23.2**	**+0.9**
	comp=N,13nm,1.1s,baz=108,slow=9.6,SNR=1.8						
VAE				Sn	**Sn**	**04 49 24.8**	**+2.6**
	comp=N,3.1nm,0.3s,baz=352,slow=22,SNR=3.0						
RAFF	**Raffo Rosso**	**5.28**	**265**	Pn	**Pn**	**04 48 21.9**	**-1.4**
SELS	**Selova**	**5.30**	**1**	*e*Pn	**Pn**	**04 48 24.6**	**+1.1**
BRY	**Bratogost**	**5.31**	**340**	*e*Pn	**Pn**	**04 48 23.8**	**0.0**
SJES	**Sjenica**	**5.39**	**352**	*e*Pn	**Pn**	**04 48 25.6**	**+0.7**
SJES				*e*Sn	**Sn**	**04 49 24.1**	**-2.8**
SJES	**Sjenica**	**5.39**	**352**	*e*Pn	**Pn**	**04 48 26.1**	**+1.2**
ZAPS	**Zavoj**	**5.50**	**13**	*e*Pn	**Pn**	**04 48 28.3**	**+2.0**
STON	**Ston**	**5.54**	**334**	*e*Pn	**Pn**	**04 48 25.9**	**-0.9**
IVAS	**Ivanjica**	**5.69**	**354**	*e*Pn	**Pn**	**04 48 28.9**	**0.0**
RUDO	**Rudo**	**5.82**	**349**	*e*Pn	**Pn**	**04 48 29.0**	**-1.7**
PAOL	**Paolisi**	**5.84**	**304**	Pn	**Pn**	**04 48 32.6**	**+1.6**
GRUS	**Gruza**	**5.97**	**358**	*e*Pn	**Pn**	**04 48 33.0**	**+0.3**
BBLS	**Lazi&#263i**	**6.06**	**349**	*e*Pn	Pn	04 48 41.9	+7.9
DIVS	**Divibare**	**6.22**	**354**	*e*Pn	**Pn**	**04 48 36.3**	**+0.1**
DIVS				*e*Sn	**Sn**	**04 49 42.6**	**-4.6**
TRUS	**Trudelj**	**6.32**	**356**	*e*Pn	**Pn**	**04 48 37.7**	**+0.2**
HAPS	**Han Pijesak,BI**	**6.35**	**347**	*e*Pn	**Pn**	**04 48 36.8**	**-1.2**
TEKS	**Tekeris**	**6.72**	**351**	*e*Pn	**Pn**	**04 48 42.2**	**-0.8**
TEKS	**Tekeris**	**6.72**	**351**	*e*Pn	**Pn**	**04 48 42.1**	**-0.9**
INTR	**Introdacqua**	**6.79**	**309**		**Pn**	**04 48 46.3**	**+2.3**
FRGS	**Fruska Gora**	**7.29**	**354**	*e*Pn	**Pn**	**04 48 49.4**	**-1.4**
A050A	**Klekovaca**	**7.36**	**334**	*e*Pn	**Pn**	**04 48 51.7**	**-0.1**
CAMP	**Campotosto**	**7.39**	**311**	Pn	**Pn**	**04 48 53.3**	**+1.0**
BLY	**Banja Luka**	**7.39**	**339**	*e*Pn	**Pn**	**04 48 52.6**	**+0.4**
A051A	**Mrakovica**	**7.71**	**338**	*e*Pn	**Pn**	**04 48 54.3**	**-2.4**
NRCA	**Norcia**	**7.74**	**312**	Pn	**Pn**	**04 48 59.4**	**+2.3**
FDMO	**Fiordimonte**	**7.88**	**313**	Pn	**Pn**	**04 49 00.5**	**+1.5**
VOIR		**8.12**	**21**	P	**Pn**	**04 49 03.8**	**+1.6**
	comp=N,5.4nm,0.8s						
MLR	**Muntele Rosu**	**8.44**	**25**	Pn	**Pn**	**04 49 09.0**	**+2.3**
MLR	**Muntele Rosu**	**8.44**	**25**	Pn	**Pn**	**04 49 08.6**	**+1.9**
	comp=N,0.3nm,0.3s,baz=241,slow=5.9,SNR=12						
MLR				LR	LR	04 53 34.5	
	comp=N,213nm,21.5s,baz=252,slow=47						
	comp=N,2.6nm,0.8s						
CRES	**Cresnjevec Ost**	**8.90**	**334**	*e*Pn	**Pn**	**04 49 12.8**	**-0.2**
PLOR5	**Plostina Array**	**8.99**	**26**	P	**Pn**	**04 49 15.2**	**+1.0**
	comp=N,12nm,3.0s						
CEY	**Cerknica**	**9.21**	**330**	*e*Pn	**Pn**	**04 49 17.5**	**+0.3**
SABO	**M.te Sabotino**	**9.74**	**328**	Pn	**Pn**	**04 49 24.2**	**-0.2**
SOKA	**Soboth**	**9.79**	**335**	*i* Pn	**Pn**	**04 49 24.6**	**-0.6**
	comp=N,5.4nm,0.6s						
OBKA	**Obir**	**9.81**	**333**	*i* Pn	**Pn**	**04 49 26.3**	**+0.8**
	comp=N,1.7nm,0.4s						
OBKA	**Obir**	**9.81**	**333**	*e*Pn	**Pn**	**04 49 25.8**	**+0.3**
BRTR	**Keskin Array B**	**10.06**	**76**	Pn	**Pn**	**04 49 33.0**	**+3.9**
	comp=N,0.1nm,0.3s,baz=260,slow=12,SNR=1.8						
	comp=N,0.4nm,0.5s						
ARSA	**Arzberg**	**10.15**	**339**	*i* Pn	**Pn**	**04 49 29.8**	**-0.2**
	comp=N,1.1nm,0.4s						
MYKA	**Terra Mystica**	**10.25**	**330**	*e*Pn	**Pn**	**04 49 33.2**	**+1.7**
	comp=N,0.8nm,0.4s						
CTI	**Castel Tesino**	**10.67**	**323**	Pn	**Pn**	**04 49 37.2**	**-0.1**
CONA	**Conrad Observa**	**10.68**	**341**	*e*Pn	**Pn**	**04 49 38.4**	**+1.1**
	comp=N,0.7nm,0.5s						
KBA	**Koelnbreinsper**	**10.74**	**331**	*i* Pn	**Pn**	**04 49 40.6**	**+2.4**
	comp=N,0.7nm,0.3s						
MEZ	**Mezhgor'ye**	**10.76**	**9**	P	**Pn**	**04 49 36.9**	**-1.4**
ABTA	**Abfaltersbach**	**10.81**	**327**	*i* Pn	**Pn**	**04 49 41.3**	**+2.1**
	comp=N,1.7nm,0.6s						
MOA	**Molln**	**11.07**	**336**	*i* Pn	**Pn**	**04 49 43.1**	**+0.4**
	comp=N,2.4nm,0.7s						
BIOA	**Bad Ischl, Aus**	**11.14**	**334**	*i* Pn	**Pn**	**04 49 43.5**	**-0.2**
	comp=N,1.1nm,0.4s						
LESA	**Schwarzleotal**	**11.28**	**330**	*i* Pn	**Pn**	**04 49 47.0**	**+1.4**
	comp=N,4.0nm,0.5s						
SORM	**Soroca**	**11.55**	**26**	P	**Pn**	**04 49 48.6**	**-0.6**
	comp=N,8.1nm,1.6s						
WTTA	**Wattenberg**	**11.59**	**327**	*i* Pn	**Pn**	**04 49 51.1**	**+1.2**
	comp=N,1.1nm,0.3s						
WATA	**Walderalm**	**11.67**	**327**	*i* Pn	**Pn**	**04 49 52.8**	**+1.9**
	comp=N,1.3nm,0.3s						
SQTA	**Sankt Quirin**	**11.74**	**325**	*i* Pn	**Pn**	**04 49 54.0**	**+2.1**
	comp=N,0.7nm,0.3s						
FUORN	**Ofenpass-Fuorn**	**11.76**	**321**	Pn	**Pn**	**04 49 52.8**	**+0.6**
KWP	**Kalwaria Pacla**	**11.78**	**6**	P	**Pn**	**04 49 53.7**	**+1.4**
FETA	**Feichten**	**11.81**	**324**	*i* Pn	**Pn**	**04 49 53.7**	**+0.8**
	comp=N,0.3nm,0.3s						
MOTA	**Moosalm**	**11.88**	**326**	*i* Pn	**Pn**	**04 49 54.5**	**+0.6**
	comp=N,2.0nm,0.7s						
HORU	**Horodok**	**11.97**	**18**	P	**Pn**	**04 49 55.9**	**+1.0**
DAVOX	**Davos/Dischmat**	**12.06**	**321**	Pn	**Pn**	**04 49 57.8**	**+1.5**
	comp=N,0.1nm,0.3s,baz=153,slow=18,SNR=1.7						
DAVOX				Sn	**Sn**	**04 52 10.3**	**-0.3**
	comp=N,0.2nm,0.3s,baz=348,slow=22,SNR=2.1						
TUE	**Stuetta**	**12.12**	**319**	Pn	**Pn**	**04 49 57.3**	**+0.1**
TUE	**Stuetta**	**12.12**	**319**	P	**Pn**	**04 49 57.2**	**+0.1**
	comp=N,34nm,0.9s						
GERES	**GERESS Array B**	**12.13**	**337**	Pn	**Pn**	**04 49 56.3**	**-0.8**
	comp=N,0.2nm,0.3s,baz=146,slow=16,SNR=3.9						
	comp=N,0.8nm,0.6s						
KHC	**Kasperske Hory**	**12.42**	**337**	*e*PN	**Pn**	**04 49 59.5**	**-1.5**
KHC				*e*SN	**Sn**	**04 52 23.8**	**+4.6**
KHC	**Kasperske Hory**	**12.42**	**337**	P	**Pn**	**04 50 00.3**	**-0.7**
	comp=N,5.7nm,1.5s						
LUBAR	**Lubar, Ukraine**	**12.96**	**20**	P	**Pn**	**04 50 08.2**	**-0.2**
KSP	**Ksiaz**	**13.35**	**347**	P	**Pn**	**04 50 14.4**	**+0.7**
AK14	**Malin Array Si**	**13.98**	**22**	P	**Pn**	**04 50 23.6**	**+1.3**
AK10	**Malin Array Si**	**13.99**	**22**	P	**Pn**	**04 50 23.2**	**+0.7**
AK17	**Malin Array Si**	**14.01**	**22**	P	**Pn**	**04 50 24.2**	**+1.5**
AK16	**Malin Array Si**	**14.01**	**22**	P	**Pn**	**04 50 22.5**	**-0.3**
AK08	**Malin Array Si**	**14.03**	**22**	P	**Pn**	**04 50 23.0**	**+0.1**
AK02	**Malin Array Si**	**14.03**	**22**	P	**Pn**	**04 50 22.2**	**-0.8**
AK19	**Malin Array Si**	**14.03**	**22**	P	**Pn**	**04 50 23.9**	**+0.9**
AKASG	**Malin Array Be**	**14.07**	**22**	Pn	**Pn**	**04 50 22.1**	**-1.5**
	comp=N,0.4nm,0.3s,baz=211,slow=10.0,SNR=1.9						
	comp=N,0.1nm,0.3s						
SUW	**Suwalki**	**16.18**	**5**	P	**Pn**	**04 50 51.2**	**-0.3**
SUW				IAmb	IAmb	04 50 56.0	
	comp=Z,29nm,1.0s						
ESDC	**Sonseca Array**	**19.49**	**283**	P	**P**	**04 51 31.7**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=88,slow=12,SNR=2.8						
HFS	**Hagfors**	**22.71**	**351**	P	**P**	**04 52 05.3**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=148,slow=12,SNR=15						
	comp=Z,3.5nm,0.7s						
BELG	**Belgornoye**	**23.56**	**43**	P	**P**	**04 52 14.6**	**0.0**
	comp=Z,7.4nm,0.7s,baz=252,slow=16,SNR=4.1						
	comp=Z,7.4nm,0.7s						
FINES	**FINESS Array B**	**23.77**	**6**	P	**P**	**04 52 16.6**	**0.0**
	comp=Z,1.5nm,0.7s,baz=172,slow=11,SNR=5.5						
	comp=Z,1.5nm,0.7s						
EKA	**Eskdalemuir Ar**	**23.84**	**325**	P	**P**	**04 52 17.1**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=134,slow=9.4,SNR=6.0						
	comp=Z,2.9nm,0.8s						
NB2	**NORSAR Subarra**	**23.95**	**348**	P	**P**	**04 52 18.2**	**-0.1**
	comp=Z,10nm,1.2s,baz=161,slow=9.3						
NOA	**NORSAR Array B**	**23.95**	**348**	P	**P**	**04 52 17.5**	**-0.8**
	comp=Z,3.7nm,1.1s,baz=157,slow=8.9,SNR=8.3						
	comp=Z,3.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**30.04**	**220**	P	P	04 53 08.0	-5.5
TORD				IAmb	IAmb	04 53 16.1	
	comp=Z,3.4nm,1.5s						
TORD	**Torodi Ar. Bea**	**30.04**	**220**	P	**P**	**04 53 13.3**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=32,slow=9.2,SNR=5.1						
	comp=Z,0.7nm,0.7s						
ABKAR	**Abkulak array**	**30.11**	**55**	P	**P**	**04 53 13.3**	**-0.5**
ABKAR				IAmb	IAmb	04 53 48.9	
	comp=Z,3.0nm,1.2s						
ABKAR	**Abkulak array**	**30.11**	**55**	P	**P**	**04 53 13.4**	**-0.4**
ARCES	**ARCESS Array B**	**31.78**	**3**	P	**P**	**04 53 27.0**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=191,slow=9.2,SNR=5.3						
	comp=Z,1.1nm,0.6s						
BVAR	**Borovoye Array**	**37.03**	**50**	P	**P**	**04 54 12.6**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=263,slow=2.3,SNR=2.2						
	comp=Z,0.4nm,0.5s						
KKAR	**Karatay Array**	**37.59**	**66**	P	**P**	**04 54 19.2**	**+0.3**
KKAR	**Karatay Array**	**37.59**	**66**	P	**P**	**04 54 18.6**	**-0.2**
KKAR				IAmb	IAmb	04 54 20.8	
	comp=Z,1.0nm,0.9s						
KURBB	**Kurchatov Arra**	**42.11**	**53**	P	**P**	**04 54 55.7**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=285,slow=8.6,SNR=5.7						
	comp=Z,1.2nm,0.6s						
MK31	**Makanchi Array**	**45.15**	**58**	P	**P**	**04 55 20.1**	**-0.7**
MKAR	**Makanchi Array**	**45.15**	**58**	P	**P**	**04 55 18.9**	**-2.0**
MKAR	**Makanchi Array**	**45.15**	**58**	P	**P**	**04 55 20.2**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=276,slow=7.7,SNR=12						
	comp=Z,0.5nm,0.4s						
ZAA0	**Zalesovo Array**	**45.61**	**48**	P	**P**	**04 55 23.5**	**-0.9**
ZAA0				IAmb	IAmb	04 55 24.5	
	comp=Z,1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**45.61**	**48**	P	**P**	**04 55 24.4**	**0.0**
ZALV	**Zalesovo Beam**	**45.61**	**48**	P	**P**	**04 55 23.7**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=270,slow=8.8,SNR=11						
	comp=Z,2.1nm,0.6s						
ILAR	**Eielson Array**	**77.20**	**355**	P	**P**	**04 58 57.7**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=347,slow=3.1,SNR=2.6						
	comp=Z,0.2nm,0.6s						
PCRV	**Puerto La Cruz**	**80.37**	**275**	LR	LR	05 31 60.0	
	comp=Z,51nm,18.3s,slow=34						
PFO	**Pinyon Flats O**	**98.56**	**325**	LR	LR	05 47 59.8	
	comp=Z,75nm,18.8s,baz=40,slow=37						
WRA	**Warramunga Arr**	**120.19**	**93**	PKP	**PKPdf**	**05 05 55.0**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=314,slow=2.1,SNR=1.3						

*NEIC **18** 04:57:58.2±0.5, 35.°853N±0.°009×97.°818W±0.°007, h7km±5km, mb_Lg2.4/12, ML2.5/47, MS3.0/25, Error ellipse: s-maj=1.5km s-min=0.6km az=154.0*
NEIC 18 04:57:58.1±0.4, 35.°852N±0.°008×97.°81W±0.°01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.7km az=92.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCOK	**Bluff Creek, N**	**0.25**	**140**		Pg	04 58 03.6	+0.6
OK029	**Liberty Lake**	**0.29**	**101**		Pg	04 58 04.4	+0.6
CROK	**Carrier**	**0.67**	**348**		Pg	04 58 11.0	+0.1
CROK					Sg	04 58 20.4	+0.8
CROK				IAML		04 58 23.0	
	comp=E,269nm,0.4s						
CROK				IAML		04 58 27.7	
	comp=N,244nm,0.3s						
FNO	**Franklin**	**0.68**	**150**		Pg	04 58 11.2	0.0
FNO					Sg	04 58 20.8	+0.8
FNO				IAML		04 58 28.9	
	comp=N,170nm,0.5s						
FNO				IAML		04 58 31.1	
	comp=E,202nm,0.8s						
OK031	**S. Brethren Rd**	**0.80**	**82**		Pg	04 58 13.5	+0.1
OK031					Sg	04 58 24.5	+0.8
OK052	**Battle Ridge R**	**0.83**	**80**		Pg	04 58 14.1	+0.1
OK052					Sg	04 58 25.5	+0.7
OK052				IAML		04 58 35.6	
	comp=E,112nm,0.2s						
OK052				IAML		04 58 38.0	
	comp=E,117nm,0.3s						
OK048	**Pawnee Station**	**0.90**	**51**		Pg	04 58 15.4	+0.1
OK048				IAML		04 58 30.2	
	comp=E,123nm,0.3s						
OK048				IAML		04 58 34.6	
	comp=E,138nm,0.6s						
QUOK	**Quay**	**0.95**	**70**		Pg	04 58 16.2	-0.1
QUOK					Sg	04 58 29.1	+0.5
QUOK				IAML		04 58 31.8	
	comp=N,142nm,0.4s						
QUOK				IAML		04 58 36.1	
	comp=E,144nm,0.2s						
GC02	**Grant County #**	**1.00**	**358**		Pg	04 58 16.9	-0.4
W35A	**Tecumseh**	**1.03**	**132**		Pg	04 58 17.6	-0.3
W35A				IAML		04 58 33.4	
	comp=E,157nm,0.3s						
W35A				IAML		04 58 33.4	
	comp=N,140nm,0.3s						
DEOK	**Depew**	**1.07**	**90**		Pg	04 58 18.0	-0.5

σ0977/17, mb3.8/4, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.08	288	P	Pn	05 17 38.0	-0.8
PINNC	Pines Island,	1.75	243	P	Pn	05 17 47.3	-0.7
LIFNC	LIFOU	2.05	300	P	Pn	05 17 51.3	-0.9
YATNC	Mamie plateau,	2.10	263	P	Pn	05 17 52.3	-0.5
OUENC	Ouen Island, N	2.21	254	P	Pn	05 17 54.2	-0.1
DZM	Mont Dzumac	2.51	264	Pn	Pn	05 17 58.5	-0.1
	14nm,0.3s,baz=75,slow=18,SNR=158						
DZM				Sn	Sn	05 18 28.8	+0.6
	50nm,0.3s,baz=19,slow=21,SNR=5.7						
	25nm,0.3s						
DZM	Mont Dzumac	2.51	264	P	Pn	05 17 58.9	+0.3
ONTNC	Ouen Toro	2.54	259	P	Pn	05 17 59.5	+0.7
NOUC	Port Laguerre	2.65	264	P	Pn	05 18 00.1	-0.2
KOUNC	Koumac, New Ca	4.70	285	P	Pn	05 18 29.6	+1.0
ASAR	Alice Springs	32.50	260	P	P	05 23 48.0	+0.1
	0.9nm,0.8s,baz=84,slow=9.6,SNR=6.3						
	0.9nm,0.8s						
WRA	Warramunga Arr	32.53	267	P	P	05 23 47.6	-0.5
	0.4nm,0.5s,baz=96,slow=8.2,SNR=5.3						
	0.4nm,0.5s						
QSPA	South Pole Qui	68.24	180	P	P	05 28 16.7	-0.6
	2.6nm,0.9s,baz=56,slow=1.9,SNR=7.5						
	2.6nm,0.9s						
NVAR	Mina Array Bea	90.58	49	P	P	05 30 20.9	+1.6
	0.2nm,0.4s,baz=220,slow=7.9,SNR=2.7						
	0.2nm,0.4s						
AKASG	Malin Array Be	137.50	323	PKP	PKiKP	05 36 41.6	-0.6
	0.2nm,0.3s,baz=326,slow=0.2,SNR=1.8						
GERES	GERESS Array B	146.69	330	PKPbc	PKPab	05 36 59.0	-0.7
	0.5nm,0.5s,baz=30,slow=2.4,SNR=2.4						

BEO ***18*** *05:17:55.6±4.8, 36°.58N×20°.02E, h117km±3km, ML3.8/16*
IDC ***18*** *05:18:00.8±0.5, 37°.51N×20°.66E, h0km, mb4.2/20, mbtmp4.1/32, ML3.7/10, MS3.5/10, Error ellipse: s-maj=12.3km s-min=11.2km az=140.0*
NAO ***18*** *05:18:01.3, 37°.40N×20°.49E, h10km, mb4.4*
MOS ***18*** *05:18:01.8±1.3, 37°.52N×20°.58E, h17km, mb4.6/18, Error ellipse: s-maj=6.6km s-min=3.4km az=75.5*
ATH ***18*** *05:18:02.8, 37°.42N×20°.49E, h14km±1km, ML4.1/16, Error ellipse: s-maj=1.5km s-min=0.7km az=247.0*
THE ***18*** *05:18:02.5, 37°.39N×20°.52E, h0km±1km, ML4.3/4, Error ellipse: s-maj=2.0km s-min=0.4km az=235.0*
AFAD ***18*** *05:18:02.0±0.0, 37°.64N×20°.55E, h5km, MW4.4*
NEIC ***18*** *05:18:02.7±2.0, 37°.44N±0°.07×20°.52E±0°.07, h10km±1km, mb4.6/41, Error ellipse: s-maj=11.5km s-min=9.2km az=187.0*
MED_RC ***18*** *05:18:02.0±0.5, 37°.40N×20°.49E, h15km±4km, MW4.3/11, Moment Tensor Solution.Mantle waves: s11,c12; Duration: 1*10^9 *Moment tensor: Scale* 10^{15}*Nm; Mrr2.61±1.12; Mθθ-1.15±.58; Mφφ-1.46±.62; Mrθ1.27±.56; Mθφ2.13±.22; Mφr-1.04±.62; Best double couple: Mo3.45000×*10^{15} *NP1:φs132.00000°, δ59.00000°, λ84.00000°. NP2:φs324.00000°, δ31.00000°, λ100.00000°. Principal axes: T 3.0400, Plg75.0000°, Azm25.0000°; N 0.8100, Plg5.0000°, Azm135.0000°; P -3.8500, Plg14.0000°, Azm226.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
PDG ***18*** *05:18:02.7±0.3, 37°.42N×20°.44E, h10km±4km, MD4.5/1, ML4.4/8 Error ellipse: s-maj=4.6km s-min=1.7km az=90.0*

ISC 18 05:18:02.4±0.7, 37°.44N±0°.03×20°.55E±0°.02, h14km±4km, n381, σ**1967/436, mb4.5/60, MS3.7/8, 23C-24D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.30	44	P	Pb	05 18 09.7	0.0
KRI1				S	Sb	05 18 14.8	+0.1
	160μm,0.5s						
LTHK	Lithakia	0.35	41	P	Pb	05 18 10.3	-0.2
LTHK				S	Sb	05 18 16.2	+0.3
	95μm,0.4s						
LTHK	Lithakia	0.35	41	P	Pb	05 18 10.3	-0.2
LTHK				S	Sb	05 18 15.6	-0.3
LTHK				AML	AML	05 18 16.3	
LTHK				AML	AML	05 18 16.5	
RTZL	Ratzakli, Kefa	0.66	16	P	Pb	05 18 15.8	+0.1
RTZL				S	Sn	05 18 26.7	-0.8
	10μm,0.7s						
PSDA	Pessada-Kefalo	0.67	2	P	Pb	05 18 15.9	0.0
PSDA				S	Sn	05 18 26.6	-1.3
PSDA	Pessada-Kefalo	0.67	2	P	Pb	05 18 16.1	+0.1
VLS	Valsamata	0.73	3	P	Pb	05 18 16.9	-0.2
VLS				S	Sn	05 18 29.3	-0.2
	12μm,0.6s						
VLS	Valsamata	0.73	3	P	Pb	05 18 16.9	-0.2
VLS				S	Sb	05 18 27.3	+0.3
VLS				AML	AML	05 18 34.7	
	comp=N,21431μm,0.7s						
VLS				AML	AML	05 18 35.5	
	comp=E,19855μm,0.8s						
LXRA	Lixouri, Kepha	0.76	353	P	Pb	05 18 18.0	+0.5
DMLN	Damoulianata-K	0.81	350	P	Pn	05 18 19.0	-0.5
DMLN	Damoulianata-K	0.81	350	P	Pg	05 18 18.1	0.0
DMLN				S	Sb	05 18 29.8	+0.7
SMHA	Samh	0.81	6	P	Pg	05 18 18.2	0.0
SMHA				S	Sb	05 18 30.0	+0.8
AMT	Artemida-Makis	0.93	84	P	Pn	05 18 20.9	-0.2
AMT				S	Sn	05 18 34.1	-0.2
AMT				AML	AML	05 18 39.9	
	comp=E,77364μm,0.6s						
AMT				AML	AML	05 18 42.0	
	comp=N,82329μm,0.4s						
RLS	Riolos of Patr	0.95	50	P	Pg	05 18 21.0	+0.2
RLS				S	Sn	05 18 36.1	+1.3
RLS	Riolos of Patr	0.95	50	P	Pg	05 18 21.0	+0.2
RLS				S	Sn	05 18 35.1	+0.3
RLS				AML	AML	05 18 40.1	
	comp=E,23007μm,0.7s						
RLS				AML	AML	05 18 41.6	
	comp=N,18710μm,0.6s						
FSK	Fiskardo	1.01	1	P	Pn	05 18 22.6	+0.3
FSK				S	Sn	05 18 38.5	+2.1
FSK	Fiskardo	1.01	1	P	Pb	05 18 21.8	-0.1
FSK				S	Sg	05 18 35.6	+0.3
FSK				AML	AML	05 18 41.5	
	comp=N,26606μm,0.9s						
FSK				AML	AML	05 18 43.8	
	comp=E,23280μm,0.8s						
DRO	Drossia	1.05	61	P	Pn	05 18 23.4	+0.5
DRO	Drossia	1.05	61	P	Pn	05 18 23.1	+0.2
DRO				S	Sn	05 18 38.0	+0.6
DRO				AML	AML	05 18 46.1	
	comp=N,28335μm,0.5s						
DRO				AML	AML	05 18 48.2	
	comp=E,29505μm,0.6s						
PYL	PYLOS	1.10	119	P	Pb	05 18 23.1	-0.2
PYL				S	Sn	05 18 39.2	+0.7
PYL	PYLOS	1.10	119	P	Pn	05 18 23.5	+0.1
PYL				S	Sn	05 18 39.1	+0.6
PYL				AML	AML	05 18 42.8	
	comp=E,12302μm,0.3s						
PYL				AML	AML	05 18 43.3	
	comp=N,10512μm,0.3s						
ITM	Ithomi	1.13	103		Pg	05 18 24.3	0.0
ITM	Ithomi	1.13	103	P	Pn	05 18 24.0	+0.1
ITM				S	Sn	05 18 40.8	+1.5
ITM	Ithomi	1.13	103	P	Pb	05 18 23.9	0.0
ITM				S	Sn	05 18 39.3	0.0
ITM				AML	AML	05 18 44.8	
	comp=N,14404μm,0.5s						
ITM				AML	AML	05 18 45.2	
	comp=E,18117μm,0.4s						
AST1	Astakos	1.18	21	P	Pg	05 18 25.9	+0.8
EVGI	Lefkada island	1.18	4	P	Pg	05 18 25.1	-0.1
EVGI	Lefkada island	1.18	4	P	Pb	05 18 24.8	+0.2
EVGI				S	Sg	05 18 40.6	+0.1
DRAG	Dragano-Lefkad	1.24	1	P	Pg	05 18 26.8	+0.5
DRAG	Dragano-Lefkad	1.24	1	P	Pb	05 18 26.0	+0.3
NYDR	Nydri-Lefkada	1.27	5	P	Pg	05 18 27.8	+0.8
NYDR	Nydri-Lefkada	1.27	5	P	Pb	05 18 26.3	+0.1
UPR	University Cam	1.29	49	P	Pg	05 18 27.8	+0.5
LKD2	Lefkada island	1.34	4	P	Pg	05 18 28.8	+0.5
LKD2				S	Sg	05 18 45.5	-0.4
LKD2				AML	AML	05 18 53.1	
	comp=E,10285μm,0.6s						
LKD2				AML	AML	05 18 59.7	
	comp=N,11083μm,0.8s						
TSLK	Tsoukalades, L	1.38	3	P	Pg	05 18 29.1	+0.1
TSLK	Tsoukalades, L	1.38	3	P	Pg	05 18 28.6	-0.4
KLV	Kalavryta, Ach	1.41	64	P	Pg	05 18 29.3	-0.2
KLV	Kalavryta, Ach	1.41	64	P	Pb	05 18 29.0	+0.4
EFP	Efpalio	1.46	47	P	Pg	05 18 30.0	-0.4
EFP	Efpalio	1.46	47	P	Pb	05 18 29.8	+0.5
EFP				S	Sg	05 18 49.5	+0.1
EFP				AML	AML	05 18 59.6	
	comp=N,10353μm,0.6s						
EFP				AML	AML	05 19 00.7	
	comp=E,10642μm,0.6s						
GUR	Goura	1.51	70	P	Pg	05 18 31.1	-0.3
GUR	Goura	1.51	70	P	Pb	05 18 30.5	+0.2
GUR				S	Sg	05 18 51.7	+0.7
GUR				AML	AML	05 19 02.9	
	comp=N,17333μm,0.6s						
GUR				AML	AML	05 19 07.0	
	comp=E,9541μm,0.6s						
KALE	Kalithea	1.57	53	P	Pb	05 18 31.7	+0.3
KALE	Kalithea	1.57	53	P	Pb	05 18 31.8	+0.3
KALE				S	Sg	05 18 53.2	0.0
KALE				AML	AML	05 19 02.7	
	comp=N,10282μm,0.5s						
KALE				AML	AML	05 19 04.9	
	comp=E,13038μm,0.6s						
ANX	Ano Chora	1.58	43	P	Pb	05 18 31.6	+0.1
ANX	Ano Chora	1.58	43	P	Pb	05 18 31.8	+0.3
ANX				S	Sg	05 18 52.6	-0.7
ANX				AML	AML	05 19 00.4	
	comp=E,16081μm,1.0s						
ANX				AML	AML	05 19 01.3	
	comp=N,19417μm,0.8s						
EVR	Evrytania	1.77	34	P	Pb	05 18 34.5	-0.4
EVR	Evrytania	1.77	34	P	Pg	05 18 36.5	0.0
EVR				S	Sg	05 18 58.9	-0.7
EVR				AML	AML	05 19 10.2	
	comp=E,4758μm,0.6s						
EVR				AML	AML	05 19 14.2	
	comp=N,6364μm,0.7s						
DLFA	Delphi	1.85	56	P	Pb	05 18 36.8	+0.6
LOUT	Loutraki	2.00	74	P	Pb	05 18 37.4	-1.2
MAKR	Makrakomi, Fth	2.00	38	P	Pb	05 18 39.3	+0.6
VLI	Veliai	2.04	110	P	Pb	05 18 39.6	+0.2
VLI				S	Sg	05 19 07.0	-1.2
VLI				AML	AML	05 19 21.6	
	comp=E,2962μm,0.9s						
VLI				AML	AML	05 19 24.2	
	comp=N,3768μm,0.8s						
IGT	Igoumenitsa	2.09	355	P	Pb	05 18 39.0	-1.2
IGT	Igoumenitsa	2.09	355	P	Pb	05 18 40.2	0.0
IGT				S	Sb	05 19 06.9	+0.8
IGT				AML	AML	05 19 18.8	
	comp=E,3164μm,0.6s						
IGT				AML	AML	05 19 25.7	
	comp=N,1923μm,0.7s						
AGG	Agios Georgios	2.11	41	P	Pb	05 18 39.1	-1.4
AGG				S	Sb	05 19 07.8	+1.2
AGG				*i* AML	AML	05 19 21.0	
	comp=N,431nm,0.7s						
AGG				*i* AML	AML	05 19 23.0	
	comp=N,552nm,0.8s						
AGG	Agios Georgios	2.11	41		Pb	05 18 40.4	-0.2
AGG	Agios Georgios	2.11	41	P	Pb	05 18 40.4	-0.2
JAN	Janina	2.22	6	P	Pb	05 18 42.1	-0.3
KEK	Kerkira	2.34	346		Pn	05 18 41.2	+0.6
KEK	Kerkira	2.34	346	P	Pb	05 18 44.9	+0.4
THL	Klokotos Trika	2.41	28	P	Pb	05 18 44.7	-0.9
LIT	Litokhoron	3.06	29	P	Pn	05 18 51.6	+1.2
LIT	Litokhoron	3.06	29		Pn	05 18 52.0	+1.6
LIT	Litokhoron	3.06	29	P	Pn	05 18 52.0	+1.6
FNA	Florina	3.40	11	P	Pn	05 18 56.2	+1.1
FNA	Florina	3.40	11		Pn	05 18 57.2	+2.1
FNA	Florina	3.40	11	*e*Pn	Pn	05 18 57.5	+2.4
FNA	Florina	3.40	11	P	Pn	05 18 57.2	+2.1
TIP	Timpagrande	3.45	301	Pn	Pn	05 18 56.3	+0.5
OHR	Ohrid	3.67	3	*e*Pn	Pn	05 19 01.4	+2.5
OHR	Ohrid	3.67	3	*e*Pn	Pn	05 19 01.7	+2.9
CEL	Celeste	3.77	284		Pn	05 19 00.7	+0.4
TIR	Tirane	3.93	352		Pn	05 19 04.2	+1.7
TIR	Tirane	3.93	352	⇑P	Pn	05 19 02.0	-0.5
TIR	Tirane	3.93	352	P	Pn	05 19 01.9	-0.5
APE	Apeiranthos	3.99	94	⇓P	Pb	05 19 08.6	-4.1
APE	Apeiranthos	3.99	94	P	Pb	05 19 08.5	-4.1
IDI	Anoyia	4.11	120	Pn	Pn	05 19 06.5	+1.5
IDI	Anoyia	4.11	120	Pn	Pn	05 19 05.1	+0.1
	comp=N,6.7nm,0.5s,baz=311,slow=11,SNR=2.3						
IDI				Sn	Sn	05 19 52.4	-0.6
	comp=N,23nm,0.3s,baz=334,slow=19,SNR=11						
VAY	Valandovo	4.18	21	*e*Pn	Pn	05 19 07.8	+2.0
VAY	Valandovo	4.18	21	⇓*i*Pn	Pn	05 19 07.7	+1.9
SRS	Serrai	4.36	32	*e*Pn	Pn	05 19 10.0	+1.6
PUK	Puka	4.62	354		Pn	05 19 12.6	+0.6
MMB	Musomishta	4.79	30	*e*P	Pn	05 19 16.1	+1.9
KKB	Krupnik	4.82	24	*e*P	Pn	05 19 16.4	+1.7
KOCA	Canakkale, Ayv	4.84	63	P	Pn	05 19 18.4	+3.5
DRME	Dracevica, Mon	4.85	348	⇑*i*Pn	Pn	05 19 15.8	+0.7
DRME				*i* Sn	Sn	05 20 11.1	0.0
VAE	Valguarnera	4.88	272	Pn	Pn	05 19 17.6	+2.1
	comp=N,21nm,0.6s,baz=326,slow=23,SNR=2.0						
VAE				Sn	Sn	05 20 10.3	-1.6
	comp=N,5.7nm,0.3s,baz=122,slow=17,SNR=2.2						
RAFF	Raffo Rosso	4.93	269		Pn	05 19 16.2	0.0
BUM	Brajici-Budva	5.01	346	*e*Pn	Pn	05 19 18.7	+1.3
BUM				*i* Sn	Sn	05 20 14.4	-0.8
PDG	Podgorica	5.08	349	Pn	Pn	05 19 18.4	+0.2
PDG	Podgorica	5.08	349	*e*Pn	Pn	05 19 18.8	+0.6
PDG	Podgorica	5.08	349	⇑*i*Pn	Pn	05 19 19.5	+1.3
PDG				*i* Sn	Sn	05 20 15.9	-0.7
WDD	Wied Dalam	5.10	253	Pn	Pn	05 19 19.4	+0.9
PVY	Plav	5.16	355	⇓*i*Pn	Pn	05 19 20.9	+1.4
PVY				*i* Sn	Sn	05 20 17.9	-1.0
HCY	Herceg Novi	5.24	343	*e*Pn	Pn	05 19 21.8	+1.4
HCY	Herceg Novi	5.24	343	⇓*i*Pn	Pn	05 19 20.3	-0.1
HCY				*i* Sn	Sn	05 20 19.2	-1.4
CEME	Cevo	5.25	347	⇓*i*Pn	Pn	05 19 21.2	+0.6
CEME				*i* Sn	Sn	05 20 19.6	-1.3
BOSS	Bosilegrad	5.26	16	*e*Pn	Pn	05 19 22.1	+1.4
RZN	Rozhen	5.34	36	*e*P	Pn	05 19 23.8	+1.9
RDO	Rodhopi	5.35	45		Pn	05 19 22.7	+0.8
IVA	Berane	5.45	355	⇓*i*Pn	Pn	05 19 24.4	+1.1
BARS	Barje	5.45	10	*e*Pn	Pn	05 19 24.2	+0.9
KOME	Kolasin	5.46	352	⇓*i*Pn	Pn	05 19 24.4	+0.9
KOME				*i* Sn	Sn	05 20 24.9	-1.2
ALN	Alexandroupoli	5.49	49	Pn	Pn	05 19 25.6	+1.8
ALN	Alexandroupoli	5.49	49	P	Pn	05 19 25.6	+1.8
TREB	Trebinje	5.53	343	*e*Pn	Pn	05 19 23.1	-1.3
VTS	Vitosha	5.56	21	*e*P	Pn	05 19 26.7	+1.7
VTS	Vitosha	5.56	21	*e*Pn	Pn	05 19 26.6	+1.6
KDZ	Kurdzhali	5.58	40	*e*P	Pn	05 19 26.5	+1.4
KARP	Karpathos	5.65	108	Pn	Pn	05 19 27.6	+1.4
KARP	Karpathos	5.65	108	P	Pn	05 19 26.3	+0.2
BRY	Bratogost	5.66	345	*e*Pn	Pn	05 19 25.3	-1.1
BRY	Bratogost	5.66	345	*e*Pn	Pn	05 19 26.6	+0.2
BRY				*i* Sn	Sn	05 20 29.6	-1.7
SELS	Selova	5.79	4	*e*Pn	Pn	05 19 28.8	+0.9
SJES	Sjenica	5.83	356	*e*Pn	Pn	05 19 29.5	+0.9
SJES				*e*Sn	Sn	05 20 30.7	-4.6
SJES	Sjenica	5.83	356	*e*Pn	Pn	05 19 28.9	+0.3
STON	Ston	5.84	339	*e*Pn	Pn	05 19 26.1	-2.5
PAOL	Paolisi	5.86	310	Pn	Pn	05 19 30.5	+1.5
PLE	Pljevlja	5.95	352	*e*Pn	Pn	05 19 31.7	+1.5
PLE				*i* Sn	Sn	05 20 36.9	-1.3
ZAPS	Zavoj	6.04	15	*e*Pn	Pn	05 19 33.1	+1.7
IVAS	Ivanjica	6.13	357	*e*Pn	Pn	05 19 33.2	+0.5
IVAS				*e*Sn	Sn	05 20 38.2	-4.5
ARG	Arkhangelos	6.20	99	Pn	Pn	05 19 35.1	+1.5
ARG	Arkhangelos	6.20	99	P	Pn	05 19 35.1	+1.5
RUDO	Rudo	6.23	352	*e*Pn	Pn	05 19 31.1	-2.9
BOVS	Bovan	6.25	8	*e*Pn	Pn	05 19 34.2	0.0
BOVS	Bovan	6.25	8	⇓P	Pn	05 19 34.2	0.0
MPEP	Malo Peshtene	6.39	21	*e*P	Pn	05 19 37.5	+1.3
GRUS	Gruza	6.44	1	*e*Pn	Pn	05 19 37.2	+0.3
BBLS	Lazi&#263i	6.47	353	*e*Pn	Pn	05 19 37.8	+0.4
BBLS	Lazi&#263i	6.47	353	*e*Pn	Pn	05 19 37.9	+0.5
ZAGS	Zajecar	6.49	11	*e*Pn	Pn	05 19 37.5	0.0
DURS	Dursunbey	6.58	68	P	Pn	05 19 38.4	-0.5
TAVA	DENIZLI_Tavas	6.66	87	P	Pn	05 19 43.8	+3.9
DIVS	Divibare	6.66	357	*e*Pn	Pn	05 19 39.9	-0.1
DIVS				*e*Sn	Sn	05 20 49.4	-6.3
HAPS	Han Pijesak,BI	6.75	350	*e*Pn	Pn	05 19 40.2	-1.0
TRUS	Trudelj	6.77	359	*e*Pn	Pn	05 19 41.7	+0.2
ELND	Elena	6.83	35	⇓P	Pn	05 19 43.6	+1.4
INTR	Introdacqua	6.86	314	Pn	Pn	05 19 44.9	+2.2
TEKS	Tekeris	7.14	354	*e*Pn	Pn	05 19 45.1	-1.4
TEKS	Tekeris	7.14	354	*e*Pn	Pn	05 19 44.8	-1.7
VLAD	Vladila	7.17	23	⇑P	Pn	05 19 48.6	+1.7
CAMP	Campotosto	7.47	315	Pn	Pn	05 19 52.8	+1.6
ELL	Elmali	7.51	92	Pn	Pn	05 19 55.2	+3.5
ELL	Elmali	7.51	92	P	Pn	05 19 55.2	+3.5
HERR	Herculane	7.56	10	⇑P	Pn	05 19 53.3	+1.0
A050A	Klekovaca	7.66	338	*e*Pn	Pn	05 19 54.5	+0.8
BLY	Banja Luka	7.73	342	*e*Pn	Pn	05 19 55.8	+1.3
FRGS	Fruska Gora	7.73	356	*e*Pn	Pn	05 19 52.8	-1.8
FRGS	Fruska Gora	7.73	356	*e*Pn	Pn	05 19 53.1	-1.5
HUMR	Humele	7.83	24	⇓P	Pn	05 19 58.4	+2.4
NRCA	Norcia	7.83	316		Pn	05 19 58.0	+1.9
A051A	Mrakovica	8.04	341	*e*Pn	Pn	05 19 57.2	-1.7
GZR	Gura Zlata	8.12	11	⇓P	Pn	05 20 01.1	+1.2
GZR	Gura Zlata	8.12	11	P	Pn	05 20 01.1	+1.2
BZS	Buzias	8.21	5	⇑P	Pn	05 20 00.7	-0.4
BZS	Buzias	8.21	5	P	Pn	05 20 00.7	-0.4
SURR	Surduc	8.39	8	⇓P	Pn	05 20 05.5	+1.9
ARR	Arges	8.49	20	⇓P	Pn	05 20 06.4	+1.3
VOIR		8.67	22	⇓P	Pn	05 20 09.5	+1.9
VOIR		8.67	22	P	Pn	05 20 09.4	+1.9
SIRR	Siria	8.86	5	⇓P	Pn	05 20 10.4	+0.3
MORH	Mrgy, Hungar	8.88	351	⇑P	Pn	05 20 09.5	-0.8
ISR	Istrita	8.89	29	⇑P	Pn	05 20 13.6	+3.0
ISR	Istrita	8.89	29	P	Pn	05 20 13.6	+3.0
MLR	Muntele Rosu	9.00	25	Pn	Pn	05 20 12.2	+0.1
MLR	Muntele Rosu	9.00	25	Pn	Pn	05 20 11.9	-0.2
	comp=N,0.1nm,0.3s,baz=136,slow=14,SNR=7.8						
	comp=N,8.5nm,1.0s						
MLR	Muntele Rosu	9.00	25	⇓P	Pn	05 20 14.5	+2.4
HARR	Harsova	9.13	35	⇓P	Pn	05 20 14.5	+0.7
HARR	Harsova	9.13	35	P	Pn	05 20 14.5	+0.7
KEST	Kesra	9.17	263	Pn	Pn	05 20 15.3	+0.8
KEST	Kesra	9.17	263	Pn	Pn	05 20 16.6	+2.2
	comp=N,0.5nm,0.3s,baz=78,slow=7.8,SNR=9.5						
KEST				Sn	Sn	05 21 51.7	-5.8
	comp=N,0.2nm,0.3s,baz=47,slow=22,SNR=2.2						
KEST				LR	LR	05 23 51.3	
	comp=N,276nm,19.4s,baz=298,slow=38						
	comp=N,5.8nm,0.9s						
CRES	Cresnjevec Ost	9.20	337	*e*Pn	Pn	05 20 13.7	-1.0
DOPR	Dopca	9.25	21	⇓P	Pn	05 20 17.4	+2.0
COVR	Voineasa-Covas	9.40	25	⇓P	Pn	05 20 19.1	+1.6
BEHE	Becsehely	9.45	344	Pn	Pn	05 20 17.8	-0.3
CEY	Cerknica	9.47	333	*e*Pn	Pn	05 20 19.9	+1.5
DRGR		9.48	9	⇓P	Pn	05 20 19.6	+1.0
DRGR		9.48	9	P	Pn	05 20 19.6	+1.0
OZUR		9.49	23	⇑P	Pn	05 20 20.9	+2.2
TURR	Turia	9.52	24	⇑P	Pn	05 20 20.7	+1.5
PLOR	Plostina	9.56	27	⇑P	Pn	05 20 22.7	+3.0
PLOR	Plostina	9.56	27	P	Pn	05 20 22.7	+3.0
VRI	Vrincioaia	9.60	27	⇑P	Pn	05 20 22.3	+2.1
VRI	Vrincioaia	9.60	27	P	Pn	05 20 22.3	+2.1
ARCR	ARCALIA	10.04	15	⇑P	Pn	05 20 27.6	+1.4
SOKA	Soboth	10.09	338	*i* Pn	Pn	05 20 26.4	-0.7
	comp=N,2.5nm,0.6s						
OBKA	Obir	10.10	336	*i* Pn	Pn	05 20 27.0	0.0
	comp=N,2.8nm,0.7s						
OBKA	Obir	10.10	336	*e*Pn	Pn	05 20 26.6	-0.5
ARSA	Arzberg	10.48	341	*i* Pn	Pn	05 20 32.4	+0.1
	comp=N,1.1nm,0.4s						
PSZ	Piszkesteto	10.48	358	Pn	Pn	05 20 32.3	0.0
PSZ	Piszkesteto	10.48	358	⇑P	Pn	05 20 31.6	-0.7
PSZ	Piszkesteto	10.48	358	P	Pn	05 20 31.6	-0.7
BR131	Keskin Array S	10.50	73	*i* P	Pn	05 20 34.6	+1.9
BRTR	Keskin Array B	10.50	73	Pn	Pn	05 20 33.3	+0.6
BRTR	Keskin Array B	10.50	73	Pn	Pn	05 20 36.4	+3.7
	comp=N,0.1nm,0.3s,baz=269,slow=13,SNR=2.3						
BRTR				LR	LR	05 24 49.2	
	comp=N,211nm,21.0s,baz=269,slow=39						
BRTR	Keskin Array B	10.50	73	P	Pn	05 20 33.3	+0.6
MYKA	Terra Mystica	10.51	333	*i* Pn	Pn	05 20 33.4	+0.6
	comp=N,1.4nm,0.5s						
CSS	Mathiatis	10.62	100	Pn	Pn	05 20 33.4	-0.9
KIRS	Kirsehir-Merke	10.64	77	⇓P	Pn	05 20 38.7	+4.0
RONA	Rosalia, Austr	10.71	344	*i* Pn	Pn	05 20 36.2	+0.6
	comp=N,1.1nm,0.5s						
BURAR	Bucovina Array	10.73	17	Pn	Pn	05 20 35.4	-0.3
BURAR	Bucovina Array	10.73	17	⇑P	Pn	05 20 37.6	+1.8
BURAR	Bucovina Array	10.73	17	P	Pn	05 20 37.5	+1

EIL LR LR 05 27 37.3
comp=Z,68nm,18.6s,baz=254,slow=40
comp=Z,3.2nm,0.4s
EIL Elat 14.28 119 P **Pn 05 21 21.6 -2.7**
AQBJ Aqaba 14.32 118 P **Pn 05 21 21.0 -3.8**
KIEV Kiev 14.62 22 Pn **Pn 05 21 28.2 -0.6**
KIEV Kiev 14.62 22 P **Pn 05 21 28.2 -0.6**
AKSG Malin Array Be 14.63 22 Pn 05 21 30.9 +2.0
AKSG Malin Array Be 14.63 22 Pn **Pn 05 21 27.6 -1.4**
comp=Z,0.5nm,0.3s,baz=208,slow=11,SNR=5.6
comp=Z,0.9nm,0.5s
AKSG Malin Array Be 14.63 22 *i* P **Pn 05 21 28.1 -0.9**
AKSG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 14.63 22 Pn 05 21 28.5 -0.5
AKBB Malin Array Si 14.63 22 *i* P **Pn 05 21 27.2 -1.8**
CLL Collm 14.86 341 Pn **Pn 05 21 34.5 +2.4**
CLL Collm 14.86 341 P **Pn 05 21 34.5 +2.4**
CLL Collm 14.86 341 *e*P **Pn 05 21 34.0 +1.9**
comp=Z,31nm,1.3s
CLL *i* PP **PnPn 05 21 40.2 +0.2**
SOC Sochi 15.80 61 *e*P **Pn 05 21 43.6 -0.9**
SOC *e* 05 24 41.3
SOC MLR MLR
comp=Z,76nm,12.0s
WLF Walferdange 16.03 324 P **P 05 21 49.6 -1.2**
WLF Walferdange 16.03 324 P **P 05 21 49.6 -1.2**
WLF pmax pmax
comp=Z,14nm,0.9s
WLF Walferdange 16.03 324 *d*P **P 05 21 54.4 +3.6**
SUW Suwalki 16.67 5 Pn 05 21 54.6 -0.9
SUW IAmb IAmb 05 21 56.9
comp=Z,56nm,0.9s
SUW Suwalki 16.67 5 *e*P **Pn 05 21 56.3 +0.8**
SUW Suwalki 16.67 5 P **Pn 05 21 54.6 -0.9**
SUW pmax pmax
comp=Z,56nm,0.9s
GURO Guroymak-BITLI 16.97 80 Pn **Pn 05 21 59.8 +0.2**
MNK Minsk 17.79 14 *i* P **Pn 05 22 06.6 -2.9**
comp=E,16nm,0.9s
MNK *i* P **Pn 05 22 06.6 -2.9**
comp=N,19nm,0.9s
MNK *i* P **Pn 05 22 06.6 -2.9**
comp=Z,17nm,0.7s,baz=199
MNK *i* PP **pwP 05 22 17.0 -0.4**
MNK *i* S **Sn 05 25 22.4 -5.1**
MNK *i* SS **SnSn 05 25 38.7 -2.2**
MNK *i* LQ LQ 05 27 20.8
MNK *i* LR LR 05 28 41.3
MNK *i* LRM MLR 05 29 14.4
comp=Z,126nm,11.6s
MNK *i* LRM MLR 05 29 47.4
comp=E,432nm,24.6s
MNK *i* LRM MLR 05 29 49.5
comp=N,342nm,21.8s
MNK Minsk 17.79 14 *e*P **Pn 05 22 06.6 -2.9**
SHA1 Shidzhatmaz 17.91 63 *i* P **P 05 22 12.3 +0.4**
KIV Kislovodsk 17.98 62 *e*P **Pn 05 22 11.7 -0.3**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,62nm,14.0s
NACGM Naroch 17.98 12 *e*P **Pn 05 22 10.7 -1.1**
comp=Z,35nm,1.1s,baz=197
KBZ Khabaz 18.07 63 P **Pn 05 22 12.1 -1.0**
comp=Z,0.1nm,0.3s,baz=229,slow=8.9,SNR=4.7
KBZ LR LR 05 31 01.2
comp=Z,163nm,19.6s,baz=309,slow=43
comp=Z,1.6nm,0.7s
KBZ Khabaz 18.07 63 *i* P **P 05 22 13.4 0.0**
PABE Paberze 18.21 6 P **Pn 05 22 13.7 -1.0**
PABE Paberze 18.21 6 *e*P **Pn 05 22 13.7 -1.0**
NCK Nalchik 18.52 64 *i* P **P 05 22 17.8 -0.6**
VORD Divnogorie 18.99 39 *e*P **P 05 22 22.3 -1.1**
VORD pmax pmax
comp=Z,10.0nm,1.1s
GNI Garni 19.04 74 P **Pn 05 22 24.9 -0.2**
comp=Z,0.4nm,0.3s,baz=119,slow=20,SNR=1.5
GNI LR LR 05 29 44.7
comp=Z,82nm,21.5s,baz=292,slow=37
comp=Z,6.7nm,0.7s
VSR Storozhevoye 19.08 38 *e*P **P 05 22 23.3 -1.2**
VSR pmax pmax
comp=Z,6.0nm,1.0s
ESDC Sonseca Array 19.29 284 P **P 05 22 27.1 +0.2**
baz=80,slow=13,SNR=6.5
comp=Z,1.6nm,0.9s
LPSR Galich'ya Gora 19.87 34 *e*P **P 05 22 31.1 -2.0**
LPSR pmax pmax
comp=Z,20nm,0.8s
VRH Novokhopyorsk 20.36 41 *e*P **P 05 22 38.1 -0.3**
VRH pmax pmax
comp=Z,14nm,0.6s
MUD Monsted U'grnd 20.49 342 *i* P **P 05 22 40.0 +0.2**
OBN Obninsk 20.77 27 P **P 05 22 43.8 +1.0**
OBN IAmb IAmb 05 22 48.3
comp=Z,17nm,0.5s
OBN Obninsk 20.77 27 P **P 05 22 42.7 0.0**
comp=Z,15nm,0.4s,baz=216,slow=23,SNR=3.8
comp=Z,15nm,0.4s
OBN Obninsk 20.77 27⇓*e*P **P 05 22 42.1 -0.7**
OBN *e**SP **sP 05 22 47.2 +0.4**
OBN *e* 05 23 00.3
OBN *e*PPP PPP 05 23 11.6
OBN S **S 05 26 35.0 +1.0**
OBN SS **SnSn 05 26 59.0 +5.1**
OBN SSS SSS 05 27 19.0
OBN pmax pmax
comp=Z,38nm,1.6s
OBN MLR MLR
comp=Z,149nm,14.0s
MDT Midelt 21.06 265 P **P 05 22 47.3 +1.0**
comp=Z,3.4nm,0.8s,baz=95,slow=15,SNR=4.2
comp=Z,3.4nm,0.8s
MAK Makhachkala 21.27 67 *e*P **P 05 22 44.5 -3.8**
MAK *e*S **S 05 26 40.9 -3.3**
MAK pmax pmax
comp=Z,77nm,0.8s
MAK MLR MLR
comp=Z,159nm,14.0s
AKT Akhty 21.33 71 *e*P **P 05 22 50.6 +1.4**
AKT *e* 05 23 10.7
AKT *e*S **S 05 26 48.8 +3.0**
AKT pmax pmax
comp=Z,27nm,1.2s
MTSE Matsula 21.39 5 *e*P **P 05 22 50.2 +0.8**
VSU Vasula 21.42 9*ce*P **P 05 22 47.8 -1.9**
VSU pmax pmax
comp=Z,45nm,1.0s
HFS Hagfors 23.13 351 P **P 05 23 07.6 -0.3**
comp=Z,17nm,0.7s,baz=156,slow=11,SNR=26
comp=Z,17nm,0.7s
NC602 NORSAR Array S 24.00 349 P **P 05 23 15.7 -0.8**
NC602 IAmb IAmb 05 23 20.8
comp=Z,7.5nm,0.7s
EKA Eskdalemuir Ar 24.04 326 P **P 05 23 17.5 +0.6**
comp=Z,6.6nm,0.8s,baz=124,slow=9.2,SNR=12
comp=Z,6.6nm,0.8s
ESK Eskdalemuir 24.05 326 P **P 05 23 17.5 +0.5**
ESK IAmb IAmb 05 23 29.5
comp=Z,8.0nm,0.8s
ESK Eskdalemuir 24.05 326 P **P 05 23 17.5 +0.5**
ESK pmax pmax
comp=Z,8.0nm,0.9s
BELG Belogornoye 24.12 43 *i* P **P 05 23 17.2 -0.4**
BELG pmax pmax
comp=Z,8.0nm,0.9s
FINES FINESS Array B 24.27 6 P **P 05 23 18.2 -0.7**
comp=Z,8.1nm,0.7s,baz=173,slow=8.0,SNR=20
comp=Z,8.1nm,0.7s
FIA1 FINESS Array S 24.27 6 P **P 05 23 18.4 -0.5**
FIA1 IAmb IAmb 05 23 34.3
comp=Z,16nm,0.9s
NB2 NORSAR Subarra 24.34 349 P **P 05 23 19.3 -0.4**
comp=Z,6.7nm,0.9s,baz=162,slow=9.3
NOA NORSAR Array B 24.34 349 P **P 05 23 19.8 +0.1**
comp=Z,5.1nm,0.9s,baz=160,slow=8.9,SNR=22
NOA LR LR 05 33 07.1
comp=Z,66nm,20.5s,baz=335,slow=37
comp=Z,5.1nm,0.9s
KEF Keuruu 24.89 5 *e*P **P 05 23 25.3 +0.6**
RAYN Ar Rayn 25.50 116 P **P 05 23 30.8 +0.3**
RAYN Ar Rayn 25.50 116 P **P 05 23 30.8 +0.3**
RAYN pmax pmax
comp=Z,3.0nm,1.0s
KLMR Klimovskoe 26.32 21 *e*P **P 05 23 36.7 -0.8**
KLMR pmax pmax
comp=Z,36nm,1.8s
KIRV Kirov 28.26 32 LR LR 05 36 04.4
comp=Z,158nm,19.1s,baz=273,slow=38
TORD Torodi Ar. Bea 29.48 220 P **P 05 24 07.4 +1.2**
TORD Torodi Ar. Bea 29.48 220 P **P 05 24 07.2 +1.1**
comp=Z,1.6nm,0.7s,baz=25,slow=10,SNR=11
TORD PcP **PcP 05 27 12.8 +1.2**
comp=Z,0.4nm,0.9s,baz=46,slow=4.2,SNR=2.2
comp=Z,1.6nm,0.7s
ABKAR Abkulak array 30.64 55 P **P 05 24 16.1 -0.2**
ARTI Arti 31.49 41 P **P 05 24 22.7 -0.9**
ARTI IAmb IAmb 05 24 23.2
comp=Z,7.0nm,0.8s
ARTI Arti 31.49 41 LR LR 05 38 21.0
comp=Z,169nm,18.8s,baz=293,slow=39
ARTI Arti 31.49 41*c i*P **P 05 24 22.4 -1.2**
ARTI 05 25 24.4
ARTI S **S 05 29 33.1 +1.9**
ARTI SS **SnSn 05 31 18.0 +2.2**
ARTI pmax pmax
comp=Z,9.0nm,0.9s
ARCES ARCESS Array B 32.26 3 P **P 05 24 30.0 -0.2**
comp=Z,2.9nm,0.7s,baz=0.0,slow=5.0,SNR=5.1
comp=Z,2.9nm,0.7s
ARCES ARCESS Array B 32.26 3 P **P 05 24 28.3 -2.0**
SVE Sverdlovsk 32.81 41 *e*P **P 05 24 34.8 -0.4**
SVE pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 37.52 49*ce*P **P 05 25 13.6 -2.2**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 37.58 49 P **P 05 25 16.1 -0.2**
comp=Z,1.3nm,0.5s,baz=256,slow=4.4,SNR=5.9
BVAR PP **PP 05 26 41.1 -0.9**
comp=Z,1.8nm,0.7s,baz=271,slow=9.4,SNR=4.1
BVAR PcP **PcP 05 27 34.4 +0.5**
comp=Z,0.7nm,0.6s,baz=280,slow=4.2,SNR=1.5
comp=Z,1.3nm,0.5s
KKAR Karatay Array 38.08 65 P **P 05 25 20.4 -0.3**
KKAR Karatay Array 38.08 65 P **P 05 25 21.1 +0.4**
KKAR Karatay Array 38.08 65 P **P 05 25 20.4 -0.3**
KKAR 05 25 21.1
KKAR pmax pmax
comp=Z,2.0nm,1.0s
DBIC Dimbokro 38.37 223 P **P 05 25 23.9 +0.6**
comp=Z,3.5nm,0.6s,baz=33,slow=8.3,SNR=9.6
comp=Z,3.5nm,0.6s
GAR Garm 38.74 72 P **P 05 25 26.7 +0.3**
GAR IAmb IAmb 05 25 35.2
comp=Z,7.9nm,0.8s
AAK Ala-Archa 41.04 65*ce*P **P 05 25 45.3 -0.3**
AAK pmax pmax
comp=Z,3.0nm,1.0s
KURBB Kurchatov Arra 42.65 53 P **P 05 25 57.4 -1.0**
comp=Z,2.4nm,0.8s,baz=281,slow=8.7,SNR=21
KURBB PcP **PcP 05 27 49.9 -0.3**
comp=Z,0.4nm,0.6s,baz=291,slow=4.7,SNR=4.1
comp=Z,2.4nm,0.8s
KURK Kurchatov 42.70 53 P **P 05 25 57.4 -1.4**
KURK 05 27 49.9
MK31 Makanchi Array 45.67 58 P **P 05 26 22.1 -0.6**
MK31 Makanchi Array 45.67 58 P **P 05 26 22.1 -0.6**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 45.67 58 P **P 05 26 21.9 -0.8**
MKAR Makanchi Array 45.67 58 P **P 05 26 21.8 -1.0**
comp=Z,2.1nm,0.6s,baz=272,slow=7.4,SNR=22
MKAR PcP **PcP 05 28 01.5 +0.9**
comp=Z,1.3nm,0.7s,baz=278,slow=4.0,SNR=2.6
comp=Z,2.1nm,0.6s
ZAA0 Zalesovo Array 46.17 48 P **P 05 26 25.6 -0.9**
ZAA0 IAmb IAmb 05 26 26.3
comp=Z,3.9nm,0.6s
ZALV Zalesovo Beam 46.17 48 P **P 05 26 25.5 -1.0**
comp=Z,3.3nm,0.5s,baz=277,slow=8.6,SNR=16
comp=Z,3.3nm,0.5s
NRIK Noril'sk 47.44 26 P **P 05 26 37.6 +1.4**
NRIK IAmb IAmb 05 26 44.2
comp=Z,2.3nm,0.8s
NRIK Noril'sk 47.44 26*ce*P **P 05 26 36.3 +0.1**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
WMQ Urumqi 50.10 60 *e*P **P 05 26 55.6 -1.5**
WMQ PP **PP 05 28 57.5 +5.5**
WMQ pmax pmax
comp=Z,23nm,0.9s
SCHQ Schefferville 59.01 318 P **P 05 28 02.1 +0.5**
SCHQ Schefferville 59.01 318 P **P 05 28 01.4 -0.2**
comp=Z,4.3nm,1.0s,baz=70,slow=4.1,SNR=4.2
comp=Z,4.3nm,1.0s
TIXI Tiksi 60.33 20 P **P 05 28 11.2 +0.9**
TIXI Tiksi 60.33 20*ce*P **P 05 28 10.2 -0.1**
TIXI pmax pmax
comp=Z,21nm,2.5s
SHL Shillong 60.67 79 P **P 05 28 12.5 -1.1**
SHL Shillong 60.67 79 P **P 05 28 12.5 -1.1**
SHL pmax pmax
comp=Z,8.0nm,0.9s
SONM Songino Array 60.91 50 P **P 05 28 15.1 +0.2**
SONM Songino Array 60.91 50 P **P 05 28 14.0 -0.9**
comp=Z,2.1nm,0.9s,baz=295,slow=9.0,SNR=6.6
comp=Z,2.1nm,0.9s
SONM Songino Array 60.91 50 P **P 05 28 15.1 +0.2**
SONM pmax pmax
comp=Z,1.0nm,1.0s
ULN Ulaanbaatar 61.30 50 P **P 05 28 17.6 +0.1**
ULN IAmb IAmb 05 28 18.4
comp=Z,2.1nm,0.6s
ULN Ulaanbaatar 61.30 50 P **P 05 28 17.7 +0.1**
ULN pmax pmax
comp=Z,2.0nm,0.6s
LZH Lanzhou 64.51 63 *e*P **P 05 28 40.0 +0.8**
LZH sP pwP 05 28 48.8 +1.9
LZH pmax pmax
comp=Z,16nm,1.1s
YAK Yakutsk 65.74 29 LR LR 06 00 10.3
comp=Z,76nm,18.4s,baz=326,slow=38
YAK Yakutsk 65.74 29*ce*P **P 05 28 46.5 +0.1**
YAK pmax pmax
comp=Z,58nm,2.5s
BOSA Boshof 65.86 175 P **P 05 28 50.0 +2.3**
comp=Z,1.4nm,0.7s,baz=346,slow=7.5,SNR=4.4
BOSA LR LR 05 59 35.9
comp=Z,112nm,19.1s,baz=8.5,slow=38
comp=Z,1.4nm,0.7s
HHC Hu-ho-hao-te 67.43 55 *e*P **P 05 28 55.1 -2.7**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,140nm,4.8s
HHC LR LR
comp=N,200nm,12.2s
HHC LR LR
comp=E,180nm,13.0s
HHC LR LR
comp=Z,140nm,13.0s
PZH PanZhiHua 67.80 73 P **P 05 29 01.4 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,4.9s
XAN Xi'an 69.14 63 *e*P **P 05 29 08.9 +0.4**
CMAR Chiang Mai Arr 69.97 82 P **P 05 29 13.3 -0.6**
comp=Z,1.8nm,0.7s,baz=309,slow=8.3,SNR=11
comp=Z,1.8nm,0.7s
CMAR Chiang Mai Arr 69.97 82 *i* P **P 05 29 13.8 0.0**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
C36M Paulatuk 70.38 347 P **P 05 29 16.4 +0.9**
C36M IAmb IAmb 05 29 17.2
comp=Z,3.4nm,0.8s
HEH HeiHe 71.58 40 *e*P **P 05 29 23.8 +0.7**
HEH pmax pmax
comp=Z,19nm,0.8s
HEH pmax pmax
comp=Z,400nm,4.5s
F31M Tsiigehtchic 73.63 350 P **P 05 29 35.9 +0.9**
G31M Satah River 74.19 350 P **P 05 29 38.8 +0.5**
G31M IAmb IAmb 05 29 40.0
comp=Z,4.0nm,0.8s
F28M Old Crow 74.22 352 P **P 05 29 39.2 +0.7**
F28M IAmb IAmb 05 29 40.7
comp=Z,5.0nm,0.9s
BNX BinXian 74.31 44 ⇓P **P 05 29 38.8 -0.5**
BNX pmax pmax
comp=Z,5.0nm,0.8s
KLR Kul'dur 74.43 39*ce*P **P 05 29 38.3 -1.7**
KLR pmax pmax
comp=Z,19nm,2.5s
E22K Anaktuvuk Pass 74.58 357 P **P 05 29 41.9 +1.3**
F24K Squaw Lake 74.99 355 IAmb IAmb 05 29 46.0
comp=Z,3.6nm,0.8s
EPYK Eagle Plains 75.04 351 IAmb IAmb 05 29 44.8
comp=Z,5.7nm,0.8s
H29M Whitestone 75.39 351 P **P 05 29 46.1 +0.9**
H29M IAmb IAmb 05 29 47.6
comp=Z,6.2nm,0.9s
H21K Melozitna Rive 77.10 357 IAmb IAmb 05 29 58.0
comp=Z,4.5nm,0.8s
NJ2 Nanjing 77.17 60 *e*P **P 05 29 56.3 +0.4**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
ILAR Eielson Array 77.64 355 P **P 05 29 58.2 +0.1**
comp=Z,0.9nm,0.8s,baz=347,slow=2.9,SNR=9.9
comp=Z,0.9nm,0.8s
USRK Ussuriysk Ar. 77.80 43 P **P 05 29 59.3 0.0**
comp=Z,1.3nm,0.4s,baz=320,slow=6.4,SNR=6.6
comp=Z,1.3nm,0.4s
HDA Harding Lake 78.00 354 IAmb IAmb 05 30 01.6
comp=Z,5.2nm,0.8s
M29M Somme Creek 79.03 350 IAmb IAmb 05 30 08.8
comp=Z,6.6nm,0.9s
M26K Nabesna, AK 79.61 352 IAmb IAmb 05 30 10.1
comp=Z,8.3nm,1.0s
KSRS Korea Array 79.78 51 P **P 05 30 10.4 +0.2**
comp=Z,3.3nm,0.7s,baz=310,slow=5.1,SNR=14
comp=Z,3.3nm,0.7s
SML Sawmill 80.68 355 P **P 05 30 16.1 +1.4**
SML IAmb IAmb 05 30 17.5
comp=Z,6.6nm,0.9s
WRA Warramunga Arr 120.49 93 PKP **PKiKP 05 36 54.1 0.0**
comp=Z,0.6nm,0.8s,baz=327,slow=1.9,SNR=4.8
ASAR Alice Springs 122.07 97 PKP **PKiKP 05 36 57.2 +0.1**
comp=Z,0.5nm,0.6s,baz=303,slow=1.3,SNR=12

LJU 18 05:18:08.2, 45°.85N×15°.48E, h4km, ML0.1, 1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRES	**Cresnjevec Ost**	**0.03**	**210**	⇓*i* Pg	Pg	05 18 09.2	0.0
CRES				*i* Sg	Sg	05 18 10.1	+0.1
CRES				IAML		05 18 10.1	
comp=Z,25nm,0.1s							
GCIS	**Gornji Cirnik**	**0.10**	**82**	*i* Pg	Pg	05 18 10.5	+0.1
GCIS				*i* Sg	Sg	05 18 12.1	+0.3
GCIS				IAML		05 18 12.6	
comp=Z,1.0nm,0.1s							
LEGS	**Legarje**	**0.15**	**310**	*i* Pg	Pg	05 18 11.3	+0.1
LEGS				*i* Sg	Sg	05 18 13.7	+0.6

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*IDC **18** 05:18:19.1±9.3, 15°.60S×177°.92W, h448km±102km, mb3.0/7, mbtmp3.8/7, Error ellipse: s-maj=39.6km s-min=24.3km az=131.0*

ISC 18 05:18:19.3±0.9, 15°.65±0°.3×178°.0W±0°.2, h450km, n9, σ0=56/9, mb3.3/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.51**	**257**	P	**P**	**05 25 57.1**	**-0.3**
0.4nm,0.9s,baz=93,slow=8.0,SNR=1.8							
0.4nm,0.9s							
ASAR	**Alice Springs**	**45.86**	**252**	P	**P**	**05 26 00.4**	**+0.3**
1.2nm,0.5s,baz=86,slow=8.0,SNR=14							
ASAR				PcP	**PcP**	**05 27 29.0**	**+0.5**
0.2nm,0.5s,baz=89,slow=4.3,SNR=1.4							
1.2nm,0.5s							
QSPA	**South Pole Qui**	**74.45**	**180**	P	**P**	**05 29 10.1**	**-0.1**
0.9nm,0.6s,baz=268,slow=0.8,SNR=7.9							
0.9nm,0.6s							
NVAR	**Mina Array Bea**	**77.47**	**44**	P	**P**	**05 29 26.9**	**-0.8**
0.5nm,0.7s,baz=221,slow=6.6,SNR=4.5							
0.5nm,0.7s							
TXAR	**Lajitas Array**	**84.41**	**58**	P	**P**	**05 30 04.4**	**+0.7**
0.6nm,0.9s,baz=218,slow=5.5,SNR=4.5							
0.6nm,0.9s							
PDAR	**Pinedale Array**	**85.39**	**43**	P	**P**	**05 30 08.4**	**+0.1**
0.3nm,0.6s,baz=223,slow=5.1,SNR=3.6							
0.3nm,0.6s							
MAW	**Mawson**	**86.17**	**200**	P	**P**	**05 30 11.2**	**-0.2**
1.2nm,0.6s,baz=14,slow=7.8,SNR=2.3							
1.2nm,0.6s							
EKA	**Eskdalemuir Ar**	**140.14**	**5**	PKP	**PKPdf**	**05 36 55.1**	**-0.5**
1.4nm,0.8s,baz=1.3,slow=2.9,SNR=3.8							
BRTR	**Keskin Array B**	**143.41**	**317**	PKP	PKPbc	05 37 00.8	+0.5
1.1nm,0.8s,baz=120,slow=1.7,SNR=6.3							

SSNC 18 05:41:08.1±2.1, 18°.83N×81°.39W, h5km±21km, MD3.9, ML3.2, 2C, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTDJ	**Mount Denham**	**3.70**	**99**	*e*P	Pn	05 42 03.5	-2.7
MTDJ				*e*S	Sn	05 42 47.2	-3.0
MTDJ				IAML		05 42 49.0	
49nm,0.2s							
MTDJ				IAML		05 42 50.6	
comp=Z,30nm,0.2s							
SOR	**Soroa**	**4.22**	**339**	*e*P	Pn	05 42 11.6	-1.5
LMGC	**Las Mercedes**	**4.31**	**73**	*e*P	Pn	05 42 12.3	-2.1
LMGC				⇑*e*S	Sn	05 43 01.6	-3.5
LMGC				IAML		05 43 05.8	
comp=E,7.0nm,0.2s							
LMGC				IAML		05 43 06.6	
comp=N,11nm,0.1s							
STH	**Stony Hill**	**4.41**	**99**	*e*P	Pn	05 42 14.2	-1.5
CHIV	**Chivirico**	**4.83**	**76**	*e*P	Pn	05 42 19.5	-2.0
MARVS	**Santiago de Cu**	**5.31**	**76**⇑	*e*P	Pn	05 42 27.3	-0.8
RCC	**Rio Carpintero**	**5.49**	**77**	*e*P	Pn	05 42 30.2	-0.4
RCC				*e*S	Sn	05 43 27.9	-6.3
RCC				IAML		05 43 31.1	
comp=N,1.5nm,0.1s							
RCC				IAML		05 43 31.2	
comp=E,1.3nm,0.1s							
PINC	**Pinares de May**	**5.52**	**72**	*e*P	Pn	05 42 30.8	-0.2
QMBU	**Quimbuelo**	**6.35**	**77**	*e*P	Pn	05 42 41.0	-1.4

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*NEIC **18** 05:50:52.8±0.8, 20°.8S±0°.1×177°.7W±0°.2, h483km±11km, mb4.0/22, Error ellipse: s-maj=22.3km s-min=13.0km az=68.0*

*IDC **18** 05:50:55.3±7.5, 20°.67S×177°.95W, h511km±75km, mb3.5/5, mbtmp4.4/6, Error ellipse: s-maj=46.0km s-min=23.1km az=68.0*

ISC 18 05:50:54.9±1.0, 20°.8S±0°.1×178°.0W±0°.1, h500km, n38, σ0=90/36, mb4.0/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.80**	**308**	P	**P**	**05 52 18.7**	**-1.5**
NIUE	**Niue**	**7.76**	**79**	P	P	05 52 43.1	-5.8
PINNC	**Pines Island,**	**13.67**	**260**	P	**P**	**05 53 51.4**	**+0.3**
DZM	**Mont Dzumac**	**14.56**	**262**	P	**P**	**05 54 00.6**	**-0.1**
DZM	**Mont Dzumac**	**14.56**	**262**	P	**P**	**05 54 00.3**	**-0.3**
7.2nm,1.0s,baz=66,slow=17,SNR=2.7							
HIZ	**Hauiti**	**18.75**	**198**	P	**P**	**05 54 40.5**	**-1.5**
EIDS	**Eidsvold**	**28.79**	**255**	P	**P**	**05 56 11.6**	**-0.2**
EIDS				IAmb	IAmb	05 56 12.5	
comp=Z,3.5nm,0.9s							
ARMA	**Armidale**	**28.97**	**244**	P	**P**	**05 56 13.6**	**+0.2**
ARMA				IAmb	IAmb	05 56 19.8	
comp=Z,7.9nm,1.1s							
CAN	**Canberra**	**32.38**	**236**	P	**P**	**05 56 42.5**	**-0.2**
CAN				IAmb	IAmb	05 57 02.0	
comp=Z,5.8nm,1.1s							
CTAO	**Charters Tower**	**33.48**	**265**	P	**P**	**05 56 52.9**	**+0.7**
CTAO				IAmb	IAmb	05 56 53.6	
comp=Z,7.2nm,0.6s							
TOO	**Toolangi**	**35.76**	**234**	P	**P**	**05 57 11.8**	**+0.7**
STKA	**Stephens Creek**	**37.69**	**244**	P	**P**	**05 57 27.4**	**+0.3**
STKA	**Stephens Creek**	**37.69**	**244**	P	**P**	**05 57 27.4**	**+0.3**
comp=Z,1.9nm,0.5s,baz=76,slow=9.9,SNR=4.8							
comp=Z,1.9nm,0.5s							
BBOO	**Buckleboo**	**42.45**	**244**	P	**P**	**05 58 04.8**	**-0.5**
BBOO				IAmb	IAmb	05 58 06.1	
comp=Z,3.7nm,0.8s							
WR0	**Warramunga Arr**	**44.39**	**262**	P	**P**	**05 58 20.5**	**-0.1**
AS31	**Alice Springs**	**44.47**	**257**	P	**P**	**05 58 21.5**	**+0.2**

AS31 IAmb IAmb 05 58 22.0
comp=Z,1.9nm,0.6s
ASAR Alice Springs 44.47 257 P P 05 58 21.4 +0.1
ASAR Alice Springs 44.47 257 P P 05 58 21.4 0.0
comp=Z,6.3nm,0.5s,baz=95,slow=7.9,SNR=88
ASAR PcP pP 05 59 54.0 +1.2
comp=Z,0.4nm,0.6s,baz=103,slow=3.8,SNR=4.4
comp=Z,6.3nm,0.5s
WB0 Warramunga Arr 44.56 263 P P 05 58 22.0 0.0
WB2 Warramunga Arr 44.57 262 P P 05 58 21.8 -0.3
WB2 IAmb IAmb 05 58 22.4
comp=Z,5.7nm,0.9s
WRA Warramunga Arr 44.58 262 P P 05 58 21.7 -0.4
WRA Warramunga Arr 44.58 262 P P 05 58 21.8 -0.4
comp=Z,4.1nm,0.7s,baz=96,slow=7.3,SNR=30
comp=Z,4.1nm,0.7s
MTN Manton Dam 49.18 271 P P 05 58 57.1 +0.1
MTN IAmb IAmb 05 58 58.0
comp=Z,10nm,0.8s
FORT Forrest 49.21 247 P P 05 58 57.5 +0.5
KNRA Kununurra 50.66 266 P P 05 59 08.2 +0.4
KNRA IAmb IAmb 05 59 09.0
comp=Z,7.1nm,0.7s
PSA00 Pilbara Seismi 57.62 257 P P 05 59 57.6 +0.5
PSA00 IAmb IAmb 06 00 06.3
comp=Z,7.6nm,1.1s
MBWA Marble Bar 57.81 258 P P 05 59 58.4 +0.1
MBWA IAmb IAmb 06 00 26.2
comp=Z,10nm,1.1s
NWAO Narrogin (SRO) 58.27 243 P P 06 00 00.8 -0.4
QSPA South Pole Qui 69.32 180 P P 06 01 11.5 +0.1
QSPA IAmb IAmb 06 01 12.4
comp=Z,3.9nm,0.9s
QSPA South Pole Qui 69.32 180 P P 06 01 11.5 +0.1
comp=Z,2.0nm,0.7s,baz=117,slow=2.3,SNR=16
comp=Z,2.0nm,0.7s
MJAR Matsushiro Arr 70.42 324 P P 06 01 17.8 -0.5
comp=Z,1.7nm,0.6s,baz=143,slow=5.7,SNR=6.7
comp=Z,1.7nm,0.6s
TPUB Ta-pu 74.12 303 P P 06 01 40.1 0.0
BELA Belgrano 2 79.31 173 P P 06 02 06.8 -0.8
KURBB Kurchatov Arra 114.24 317 PKP PKPdf 06 08 35.2 -1.7
comp=Z,0.2nm,0.3s,baz=96,slow=2.0,SNR=2.4
BVAR Borovoye Array 119.28 320 PKP **PKPdf 06 08 45.5 -1.2**
comp=Z,0.6nm,0.4s,baz=72,slow=3.2,SNR=4.2
AKASG Malin Array Be 143.24 331 PKP PKPab 06 09 28.2 -1.1
comp=Z,1.0nm,0.5s,baz=45,slow=4.1,SNR=11
EKA Eskdalemuir Ar 145.25 5 PKPbc **PKPdf 06 09 34.9 0.0**
comp=Z,2.1nm,1.0s,baz=332,slow=4.0,SNR=1.5
CLL Collm 148.31 347 *e*PKPbc **PKPdf 06 09 44.0 +3.9**

IDC 18 05:57:34.1±6.2, 20.°71S×175.°68W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=385.4km s-min=82.8km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.59**	**257**	P	P	06 06 04.5	+0.3
	1.1nm,0.9s,baz=96,slow=8.6,SNR=9.9						
	1.1nm,0.9s						
WRA	**Warramunga Arr**	**46.72**	**262**	P	P	06 06 04.8	-0.6
	1.0nm,0.9s,baz=99,slow=7.3,SNR=6.5						
	1.0nm,0.9s						
AKASG	**Malin Array Be**	**144.22**	**333**	PKP	PKPdf	06 17 11.3	-0.6
	0.5nm,0.5s,baz=38,slow=4.9,SNR=4.9						

NEIC 18 05:57:38±0.4, 37.°25N±0.°01×104.°38W±0.°02, h4km±2km, ML2.1/10, Error ellipse: s-maj=2.4km s-min=2.1km az=104.0, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.11**	**194**	Pg	Pg	05 57 40.8	+0.4
T25A				Sg	Sg	05 57 42.5	+0.5
SDCO	**Great Sand Dun**	**1.02**	**299**	Pg	Pg	05 57 57.5	-0.1
SDCO				Sg	Sg	05 58 11.1	+0.1
SDCO				IAML		05 58 11.5	
	55nm,0.3s						
RTBA	**Rita Blanca**	**1.54**	**121**		Pn	05 58 06.5	+0.1
Q24A	**Divide**	**1.82**	**341**	Pn	Pb	05 58 11.6	-0.5
S22A	**4UR Ranch, Cre**	**2.01**	**285**		Pb	05 58 15.8	+0.4
KSCO	**Kaye Shedlock'**	**2.24**	**38**	Pn	Pb	05 58 18.3	-0.7
ANMO	**Albuquerque**	**2.85**	**217**	Pn	Pn	05 58 26.0	+1.6
N23A	**Red Feather La**	**3.84**	**342**	Pn	Pn	05 58 40.0	+1.8
OGNE	**Ogallala**	**4.12**	**26**	Pn	Pn	05 58 43.9	+2.2

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*IDC **18** 05:58:46.9±0.9, 26.°59N×58.°87E, h0km, mb3.7/12, mbtmp3.7/13, ML3.8/1, MS4.0/1, Error ellipse: s-maj=23.9km s-min=19.3km az=82.0*
*TEH **18** 05:58:50.6, 26.°68N×58.°94E, h14km±46km, ML3.3*
*OMAN **18** 05:58:51.8±0.1, 26.°39N×58.°93E, h10km, mb4.2/3, ml3.2/18, Error ellipse: s-maj=1.5km s-min=0.8km az=236.0*
ISC 18 05:58:48.8±0.6, 26.°59N±0.°05×58.°99E±0.°05, h10km, n50, σ1§54/58, mb3.6/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASK	**Jask - Hormozg**	**1.24**	**235**	Pg	**Pg**	**05 59 14.4**	**+1.8**
JASK	**Jask - Hormozg**	**1.24**	**235**	P	**Pg**	**05 59 14.2**	**+1.7**
	SNR=19						
CHBR	**Chabahar**	**1.67**	**126**	Pg	**Pb**	**05 59 22.1**	**+2.5**
KHNJ	**Kahnooj**	**1.77**	**320**	Pg	**Pn**	**05 59 20.9**	**+1.4**
NGCH	**Negor - Chabah**	**2.29**	**122**	Pn	**Pn**	**05 59 31.0**	**+4.4**
NGCH	**Negor - Chabah**	**2.29**	**122**	P	**Pn**	**05 59 27.8**	**+1.2**
BANOM	**Banah**	**2.50**	**255**	P	**Pn**	**05 59 31.2**	**+1.6**
KBAM	**BAM**	**2.58**	**349**	Pn	**Pn**	**05 59 32.2**	**+1.4**
SHME	**Shamm**	**2.61**	**259**	P	**Pn**	**05 59 33.6**	**+2.5**
GENO	**Geno**	**2.64**	**288**	Pn	**Pn**	**05 59 33.5**	**+1.8**
MDH	**Madha**	**2.74**	**243**	P	**Pn**	**05 59 33.0**	**+0.2**
MDH				S	**Sn**	**06 00 05.8**	**-0.3**
	SNR=7.8						
MASF	**Masafi**	**2.82**	**245**	P	**Pn**	**05 59 36.5**	**+2.5**
MASF				S	**Sn**	**06 00 08.1**	**0.0**
UOSS	**Minazif**	**3.00**	**238**	P	**Pn**	**05 59 36.1**	**-0.2**
UOSS				S	**Sn**	**06 00 11.8**	**-0.6**
HATD	**Hatta, Dubai**	**3.12**	**236**	P	**Pn**	**05 59 38.8**	**+0.7**
BIDO	**Bidbid**	**3.15**	**195**	P	**Pn**	**05 59 38.2**	**-0.3**
ZHDN	**Zahedan**	**3.23**	**29**	Pn	**Pn**	**05 59 42.2**	**+2.5**
ASHO	**Ashiyiah**	**3.25**	**235**	P	**Pn**	**05 59 40.7**	**+0.7**
SOHO	**SOHO**	**3.30**	**223**	P	**Pn**	**05 59 40.2**	**-0.4**
SOHO				S	**Sn**	**06 00 20.2**	**+0.3**
WSAR	**Wadi Sarin**	**3.35**	**186**	Pn	**Pn**	**05 59 41.7**	**+0.5**
	9.1nm,0.3s,baz=42,slow=6.2,SNR=107						
WSAR				Sn	**Sn**	**06 00 20.2**	**-0.9**
	7.8nm,0.3s,baz=160,slow=20,SNR=6.7						
	25nm,0.3s						
HOQ	**Hoqain**	**3.36**	**207**	P	**Pn**	**05 59 41.0**	**-0.4**
	SNR=34						
HOQ				S	**Sn**	**06 00 20.4**	**-0.9**
NAZ	**Nazwa, Dubai**	**3.40**	**243**	P	**Pn**	**05 59 41.4**	**-0.5**
FAQ	**Al Faqa, Dubai**	**3.57**	**240**	P	**Pn**	**05 59 47.3**	**+3.0**
SMDO	**Samad**	**3.62**	**194**	P	**Pn**	**05 59 45.3**	**+0.3**
SMDO				S	**Sn**	**06 00 27.9**	**+0.1**
NGRK	**Negar Kerman**	**3.64**	**327**	Pn	**Pn**	**05 59 47.6**	**+2.1**
ASUD	**Al Ashush, Dub**	**3.84**	**240**	P	**Pn**	**05 59 51.0**	**+3.0**
ALNE	**Al Ain**	**3.87**	**230**	P	**Pn**	**05 59 50.4**	**+2.0**
ARQ	**Araqi**	**3.94**	**215**	P	**Pn**	**05 59 48.4**	**-0.9**
	SNR=42						
WBK	**Wadi Bani Khal**	**3.96**	**180**	P	**Pn**	**05 59 50.0**	**+0.3**
	SNR=39						
BSY	**Bisya**	**4.16**	**203**	P	**Pn**	**05 59 54.7**	**+2.3**
	SNR=20						
JMDO	**Jabal Madar**	**4.28**	**191**	P	**Pn**	**05 59 56.2**	**+2.2**
	SNR=39						
KHGB	**Koh Gabri**	**4.38**	**330**	Pn	**Pn**	**05 59 57.3**	**+1.7**
JLN	**Jalan Bani Buh**	**4.43**	**175**	P	**Pn**	**05 59 55.8**	**-0.3**
	SNR=48						
JLN				S	**Sn**	**06 00 46.2**	**-1.6**
MHTO	**MHTO**	**5.65**	**190**	P	**Pn**	**06 00 14.7**	**+1.8**
IKOO	**Kooshah**	**5.82**	**0**	Pn	**Pn**	**06 00 17.0**	**+1.6**
KLNJ	**Kolanjah**	**7.84**	**306**	Pn	**Pn**	**06 00 45.6**	**+2.3**
DOK	**Doka**	**9.11**	**210**	P	**Pn**	**06 01 01.0**	**+0.6**
DMTO	**DMTO**	**9.59**	**204**	P	**Pn**	**06 01 05.8**	**-1.1**
ABTO	**Aybut**	**10.60**	**211**	P	**Pn**	**06 01 21.2**	**+0.4**
BRTR	**Keskin Array B**	**24.84**	**308**	P	**P**	**06 04 10.9**	**-0.6**
	0.9nm,0.8s,baz=117,slow=12,SNR=3.8						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**27.31**	**36**	P	**P**	**06 04 33.6**	**0.0**
	0.4nm,0.6s,baz=224,slow=8.7,SNR=1.4						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**28.27**	**27**	P	**P**	**06 04 42.4**	**+0.3**
	0.3nm,0.3s,baz=229,slow=7.9,SNR=1.2						
	0.3nm,0.3s						
AKASG	**Malin Array Be**	**33.09**	**325**	P	**P**	**06 05 24.1**	**-0.5**
	0.2nm,0.4s,baz=135,slow=8.2,SNR=2.6						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**33.33**	**28**	P	**P**	**06 05 27.0**	**+0.3**
	0.9nm,0.4s,baz=233,slow=10,SNR=7.5						
	0.9nm,0.4s						
HFS	**Hagfors**	**45.52**	**330**	P	**P**	**06 07 07.9**	**-0.4**
	2.3nm,0.9s,baz=116,slow=9.8,SNR=2.1						
	2.3nm,0.9s						
ARCES	**ARCESS Array B**	**47.20**	**345**	P	**P**	**06 07 20.7**	**-0.7**
	4.7nm,1.0s,baz=126,slow=9.1,SNR=2.1						
ARCES				LR	LR	06 28 33.6	
	comp=Z,157nm,18.0s,baz=220,slow=38						
	4.7nm,1.0s						
EKA	**Eskdalemuir Ar**	**52.82**	**321**	P	**P**	**06 08 03.0**	**-1.2**
	1.0nm,0.8s,baz=99,slow=8.9,SNR=1.4						
	1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**55.12**	**268**	P	**P**	**06 08 19.7**	**-1.9**
	0.2nm,0.3s,baz=69,slow=7.7,SNR=4.3						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**86.44**	**114**	P	**P**	**06 11 31.7**	**-0.3**
	0.2nm,0.6s,baz=318,slow=4.0,SNR=1.6						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**86.74**	**11**	P	**P**	**06 11 31.3**	**-1.5**
	0.2nm,0.6s,baz=316,slow=3.8,SNR=2.1						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**87.94**	**118**	P	**P**	**06 11 40.0**	**+0.7**
	0.2nm,0.5s,baz=312,slow=5.3,SNR=6.9						
	0.2nm,0.5s						

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*BEO **18** 06:06:42.0±3.4, 37.°01N×19.°84E, h107km±3km, ML4.3/16*
*IDC **18** 06:06:43.8±0.5, 37.°57N×20.°37E, h0km, mb4.2/27, mbtmp4.1/40, ML3.9/11, MS3.8/26, Error ellipse: s-maj=11.6km s-min=11.0km az=129.0*
*MOS **18** 06:06:43.8±1.1, 37.°55N×20.°26E, h13km, mb4.7/16, Error ellipse: s-maj=7.1km s-min=3.4km az=77.6*
*ATH **18** 06:06:44.9, 37.°56N×20.°31E, h8km±1km, ML4.3/16, Error ellipse: s-maj=1.6km s-min=0.7km az=354.0*
*THE **18** 06:06:44.4, 37.°56N×20.°27E, h0km±2km, ML4.3/4, Error ellipse: s-maj=2.5km s-min=0.6km az=234.0*
*PDG **18** 06:06:45.0±0.7, 37.°55N×20.°31E, h1km±11km, ML4.3/11, Error ellipse: s-maj=1.3km s-min=1.4km az=0.0*
*MED_RC **18** 06:06:45.0±0.3, 37.°48N×20.°40E, h21km±1km, MW4.6/27, Moment Tensor Solution. Mantle waves: s27, c37; Duration: 1§0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.09±.07; $M_{\theta\theta}$0.24±.05; $M_{\phi\phi}$-0.33±.04; $M_{r\theta}$-0.27±.05; $M_{\theta\phi}$0.86±.04; $M_{\phi r}$-0.19±.05; Best double couple: $M_0$0.97000×10^{16} NP1:ϕ_s281.00000°, δ76.00000°, λ15.00000°. NP2:ϕ_s187.00000°, δ76.00000°, λ166.00000°. Principal axes: T 0.9800, Plg20.0000°, Azm144.0000°; N -0.0300, Plg70.0000°, Azm324.0000°; P -0.9500, Plg0.0000°, Azm54.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*NEIC **18** 06:06:45.4±1.5, 37.°52N±0.°06×20.°28E±0.°06, h10km±1km, mb4.8/33 Error ellipse: s-maj=11.0km s-min=8.0km az=194.0*
*TIR **18** 06:06:46.1, 37.°96N×19.°61E, h3km±2km, Ml4.7*
*AFAD **18** 06:06:46.0±0.0, 37.°54N×20.°59E, h15km, MW4.5*
*NAO **18** 06:07:03.5, 39.°23N×19.°97E, h10km, mb4.9*
ISC 18 06:06:45.4±0.9, 37.°58N±0.°03×20.°32E±0.°03, h12km±5km, n573, σ1§94/483, mb4.5/52, MS3.9/18, 22C-23D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.41**	**79**	P	**Pg**	**06 06 53.1**	**-0.3**
KRI1				S	**Sg**	**06 06 59.6**	**+0.8**
LTHK	**Lithakia**	**0.43**	**73**	P	**Pg**	**06 06 53.5**	**-0.4**
LTHK				S	**Sb**	**06 07 00.7**	**-0.7**
	73μm,0.5s						
LTHK	**Lithakia**	**0.43**	**73**	P	**Pg**	**06 06 53.3**	**-0.6**
LTHK				S	**Sg**	**06 06 59.6**	**-0.1**
LTHK				AML	AML	06 07 00.1	
LTHK				AML	AML	06 07 00.2	
PSDA	**Pessada-Kefalo**	**0.57**	**22**	P	**Pg**	**06 06 55.9**	**-0.6**
PSDA				S	**Sg**	**06 07 04.6**	**+0.5**
	45μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.57**	**22**	P	**Pg**	**06 06 56.2**	**-0.4**
PSDA				S	**Sg**	**06 07 04.3**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.61**	**36**	P	**Pg**	**06 06 56.6**	**-0.7**
RTZL				S	**Sb**	**06 07 06.3**	**-0.3**
	19μm,0.4s						
LXR1	**Lixouri, Cepha**	**0.62**	**9**	P	**Pg**	**06 06 56.9**	**-0.6**
LXR1				S	**Sb**	**06 07 06.9**	**-0.1**
LXRA	**Lixouri, Kepha**	**0.62**	**9**	P	**Pg**	**06 06 57.3**	**-0.2**
LXRA				S	**Sb**	**06 07 06.4**	**-0.5**
VLS	**Valsamata**	**0.63**	**20**	P	**Pg**	**06 06 56.9**	**-0.8**
VLS				S	**Sg**	**06 07 06.6**	**+0.6**
	30μm,0.5s						
VLS	**Valsamata**	**0.63**	**20**	P	**Pg**	**06 06 57.3**	**-0.3**
VLS				S	**Sg**	**06 07 05.9**	**-0.2**
VLS				AML	AML	06 07 07.6	
	comp=E,48900μm,0.3s						
VLS				AML	AML	06 07 15.4	
	comp=N,65266μm,0.6s						
DMLN	**Damoulianata-K**	**0.66**	**4**	P	**Pg**	**06 06 57.6**	**-0.5**
DMLN				S	**Sb**	**06 07 07.8**	**-0.1**
DMLN	**Damoulianata-K**	**0.66**	**4**	P	**Pg**	**06 06 57.6**	**-0.5**
DMLN				S	**Sb**	**06 07 07.5**	**-0.4**
SMHA	**Samh**	**0.72**	**21**	P	**Pg**	**06 06 58.3**	**-1.0**
SMHA				S	**Sg**	**06 07 08.5**	**-0.1**
FSK	**Fiskardo**	**0.90**	**12**	P	**Pg**	**06 07 02.0**	**-0.7**
FSK	**Fiskardo**	**0.90**	**12**	P	**Pg**	**06 07 01.8**	**-0.9**
FSK				S	**Sb**	**06 07 14.8**	**0.0**
FSK				AML	AML	06 07 23.1	
	comp=N,37505μm,0.8s						
FSK				AML	AML	06 07 25.0	
	comp=E,43452μm,0.6s						
RLS	**Riolos of Patr**	**1.03**	**62**	P	**Pb**	**06 07 04.3**	**-0.8**
RLS	**Riolos of Patr**	**1.03**	**62**	P	**Pb**	**06 07 04.1**	**-1.0**
RLS				S	**Sb**	**06 07 18.6**	**0.0**
RLS				AML	AML	06 07 23.9	
	comp=N,24988μm,0.5s						
RLS				AML	AML	06 07 24.1	
	comp=E,18225μm,0.5s						
EVGI	**Lefkada island**	**1.07**	**14**	P	**Pb**	**06 07 04.9**	**-1.0**
EVGI	**Lefkada island**	**1.07**	**14**	P	**Pb**	**06 07 05.0**	**-0.8**
EVGI				S	**Sg**	**06 07 20.4**	**+0.5**
AMT	**Artemida-Makis**	**1.11**	**92**	P	**Pb**	**06 07 06.3**	**-0.2**
AMT				S	**Sb**	**06 07 20.7**	**-0.2**
AMT				AML	AML	06 07 28.2	
	comp=E,63710μm,0.4s						
AMT				AML	AML	06 07 28.7	
	comp=N,69415μm,0.4s						
DRAG	**Dragano-Lefkad**	**1.12**	**10**	P	**Pb**	**06 07 05.8**	**-0.9**
DRAG	**Dragano-Lefkad**	**1.12**	**10**	P	**Pb**	**06 07 06.0**	**-0.7**
AST1	**Astakos**	**1.14**	**32**	P	**Pb**	**06 07 06.3**	**-0.6**
DRO	**Drossia**	**1.16**	**71**	P	**Pb**	**06 07 07.0**	**-0.5**
DRO	**Drossia**	**1.16**	**71**	P	**Pb**	**06 07 06.8**	**-0.6**
DRO				S	**Sg**	**06 07 22.8**	**-0.1**
DRO				AML	AML	06 07 36.8	
	comp=E,27810μm,0.4s						
DRO				AML	AML	06 07 39.9	
	comp=N,28365μm,1.1s						
NYDR	**Nydri-Lefkada**	**1.17**	**15**	P	**Pb**	**06 07 06.8**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.17**	**15**	P	**Pb**	**06 07 07.1**	**-0.5**
LKD2	**Lefkada island**	**1.23**	**12**	P	**Pg**	**06 07 09.8**	**+0.7**
LKD2				S	**Sg**	**06 07 26.3**	**+1.2**
LKD2				AMP			
	comp=N,66nm,0.8s,baz=44						
LKD2	**Lefkada island**	**1.23**	**12**	P	**Pb**	**06 07 08.7**	**+0.1**
LKD2				S	**Sg**	**06 07 25.6**	**+0.4**
LKD2				AML	AML	06 07 34.5	
	comp=N,39040μm,0.9s						
LKD2				AML	AML	06 07 35.1	
	comp=E,37178μm,0.9s						
TSLK	**Tsoukalades, L**	**1.27**	**12**	P	**Pn**	**06 07 09.0**	**0.0**
TSLK	**Tsoukalades, L**	**1.27**	**12**	P	**Pn**	**06 07 08.8**	**-0.2**
PYL	**PYLOS**	**1.33**	**121**	P	**Pn**	**06 07 09.3**	**-0.5**
PYL	**PYLOS**	**1.33**	**121**	P	**Pn**	**06 07 09.0**	**-0.7**
PYL				S	**Sb**	**06 07 26.6**	**-0.7**
PYL				AML	AML	06 07 40.8	
	comp=E,7309μm,0.6s						
PYL				AML	AML	06 07 43.0	
	comp=N,5745μm,0.5s						
ITM	**Ithomi**	**1.34**	**107**		**Pn**	**06 07 09.7**	**-0.3**
ITM	**Ithomi**	**1.34**	**107**	P	**Pb**	**06 07 10.3**	**-0.2**
ITM	**Ithomi**	**1.34**	**107**	P	**Pn**	**06 07 09.6**	**-0.3**
ITM				S	**Sn**	**06 07 27.9**	**+0.1**
ITM				AML	AML	06 07 39.2	
	comp=E,8242μm,0.6s						
ITM				AML	AML	06 07 42.5	
	comp=N,7235μm,0.7s						
EFP	**Efpalio**	**1.51**	**56**	P	**Pn**	**06 07 12.4**	**+0.1**
EFP	**Efpalio**	**1.51**	**56**	P	**Pb**	**06 07 12.9**	**-0.5**
EFP				S	**Sb**	**06 07 33.1**	**+0.6**
EFP				AML	AML	06 07 41.1	
	comp=E,13900μm,0.3s						
EFP				AML	AML	06 07 42.8	
	comp=N,13270μm,0.4s						
KLV	**Kalavryta, Ach**	**1.52**	**72**	P	**Pn**	**06 07 13.0**	**+0.5**
KLV	**Kalavryta, Ach**	**1.52**	**72**	P	**Pn**	**06 07 12.9**	**+0.4**
KLV				S	**Sb**	**06 07 33.1**	**+0.2**
KLV				AML	AML	06 07 45.0	
	comp=E,9158μm,1.0s						
KLV				AML	AML	06 07 47.4	
	comp=N,7310μm,0.7s						
ANX	**Ano Chora**	**1.62**	**51**	P	**Pn**	**06 07 14.1**	**+0.2**
ANX	**Ano Chora**	**1.62**	**51**	P	**Pb**	**06 07 14.8**	**-0.5**
ANX				S	**Sb**	**06 07 36.0**	**+0.3**
ANX				AML	AML	06 07 43.2	
	comp=E,28286μm,0.8s						
ANX				AML	AML	06 07 45.1	
	comp=N,25094μm,0.7s						
GUR	**Goura**	**1.64**	**77**	P	**Pn**	**06 07 14.6**	**+0.4**
GUR	**Goura**	**1.64**	**77**	P	**Pb**	**06 07 15.1**	**-0.6**
GUR				S	**Sb**	**06 07 36.5**	**+0.1**
GUR				AML	AML	06 07 49.0	
	comp=E,12819μm,0.6s						
GUR				AML	AML	06 07 49.1	
	comp=N,12402μm,0.7s						
KALE	**Kalithea**	**1.65**	**60**	P	**Pn**	**06 07 15.0**	**+0.7**
KALE				S	**Sb**	**06 07 37.5**	**+0.9**
KALE				AML	AML	06 07 45.9	
	comp=E,9454μm,0.6s						
KALE				AML	AML	06 07 51.5	
	comp=N,7566μm,0.4s						
DLFA	**Delphi**	**1.94**	**62**	P	**Pb**	**06 07 20.2**	**-0.5**
IGT	**Igoumenitsa**	**1.95**	**0**	P	**Pn**	**06 07 18.2**	**-0.1**
IGT				S	**Sn**	**06 07 41.2**	**-1.5**
IGT				AMP			
	comp=E,18nm,1.3s,baz=19						
IGT	**Igoumenitsa**	**1.95**	**0**	P	**Pb**	**06 07 20.7**	**-0.1**
IGT				S	**Sb**	**06 07 46.3**	**+1.2**
IGT				AML	AML	06 07 58.5	
	comp=E,10763μm,1.3s						
IGT				AML	AML	06 08 05.8	
	comp=N,8109μm,1.2s						
MAKR	**Makrakomi, Fth**	**2.02**	**44**	P	**Pb**	**06 07 21.7**	**-0.4**
MAKR				S	**Sb**	**06 07 48.3**	**+1.1**
MAKR				AML	AML	06 07 56.6	
	comp=E,15199μm,0.7s						
MAKR				AML	AML	06 07 59.6	
	comp=N,10504μm,0.5s						
JAN	**Janina**	**2.11**	**11**	P	**Pb**	**06 07 23.1**	**-0.6**
AGG	**Agios Georgios**	**2.14**	**47**	P	**Pb**	**06 07 22.7**	**-1.4**
AGG	**Agios Georgios**	**2.14**	**47**		**Pb**	**06 07 23.0**	**-1.1**
AGG	**Agios Georgios**	**2.14**	**47**	P	**Pb**	**06 07 23.0**	**-1.1**
KEK	**Kerkira**	**2.17**	**349**		**Pb**	**06 07 23.4**	**-1.2**
KEK	**Kerkira**	**2.17**	**349**	P	**Pb**	**06 07 24.4**	**-0.2**
AXAR	**Agios Charalam**	**2.19**	**57**	P	**Pb**	**06 07 23.5**	**-1.5**
VLI	**Veliai**	**2.26**	**112**	P	**Pb**	**06 07 24.7**	**-1.5**
SRN	**Sarande**	**2.31**	**354**	P	**Pn**	**06 07 23.6**	**+0.4**
SRN				AMP			
	comp=E,17nm,1.0s,baz=9.0						
LSK	**Leskovik**	**2.57**	**5**	P	**Pn**	**06 07 29.1**	**+2.2**
LSK				AMP			
	comp=N,42nm,0.9s,baz=19						
NEST	**Nestorio**	**2.88**	**11**	P	**Pn**	**06 07 34.0**	**+2.7**
NEST				S	**Sb**	**06 08 10.7**	**-1.4**
VLO	**Vlora**	**2.95**	**348**	P	**Pn**	**06 07 30.9**	**-1.1**
VLO				AMP			
	comp=N,17nm,0.7s,baz=359						
LIT	**Litokhoron**	**3.03**	**33**	P	**Pn**	**06 07 36.1**	**+2.8**
LIT	**Litokhoron**	**3.03**	**33**		**Pn**	**06 07 34.6**	**+1.3**
LIT	**Litokhoron**	**3.03**	**33**	P	**Pn**	**06 07 34.6**	**+1.3**
KBN	**Korca**	**3.06**	**7**	P	**Pn**	**06 07 36.3**	**+2.6**
KBN				AMP			
	comp=E,6.5nm,1.3s,baz=18						
TIP	**Timpagrande**	**3.22**	**301**		**Pn**	**06 07 36.1**	**+0.3**
TIP	**Timpagrande**	**3.22**	**301**	⇑P	**Pn**	**06 07 36.2**	**+0.3**
FNA	**Florina**	**3.30**	**14**	P	**Pb**	**06 07 40.6**	**-3.3**
FNA				AMP			
	comp=E,2.0nm,1.1s,baz=25						
FNA	**Florina**	**3.30**	**14**	Pn	**Pn**	**06 07 39.1**	**+2.1**
FNA	**Florina**	**3.30**	**14**	*e*Pn	**Pn**	**06 07 38.5**	**+1.5**
FNA	**Florina**	**3.30**	**14**	P	**Pn**	**06 07 39.1**	**+2.1**
OHR	**Ohrid**	**3.54**	**6**	*e*Pn	**Pn**	**06 07 42.7**	**+2.4**
OHR	**Ohrid**	**3.54**	**6**	*e*Pn	**Pn**	**06 07 42.8**	**+2.4**
CEL	**Celeste**	**3.56**	**282**		**Pn**	**06 07 40.8**	**+0.3**
THE	**Thessaloniki**	**3.68**	**33**	P	**Pn**	**06 07 44.0**	**+2.0**
THE				AMP			
	comp=E,1.9nm,3.0s,baz=43						
TIR	**Tirane**	**3.78**	**355**	S	**Sn**	**06 08 28.3**	**+0.5**
TIR				AMP			
	comp=N,4.3nm,0.9s,baz=3.0						
TIR	**Tirane**	**3.78**	**355**		**Pn**	**06 07 45.5**	**+2.0**
TIR	**Tirane**	**3.78**	**355**	⇑P	**Pn**	**06 07 46.4**	**+3.0**
TIR	**Tirane**	**3.78**	**355**	P	**Pn**	**06 07 46.4**	**+3.0**
NOCI	**Noci**	**4.08**	**323**	P	**Pn**	**06 07 45.8**	**-1.8**
VAY	**Valandovo**	**4.12**	**24**	*e*Pn	**Pn**	**06 07 49.7**	**+1.6**
VAY	**Valandovo**	**4.12**	**24**	*e*Pn	**Pn**	**06 07 50.4**	**+2.3**
MATE	**Matera**	**4.16**	**319**	*e*P	Pg	06 08 21.1	+16
MATE	**Matera**	**4.16**	**319**	⇑P	**Pn**	**06 07 50.2**	**+1.6**
APE	**Apeiranthos**	**4.19**	**95**	P	**Pn**	**06 07 49.5**	**+0.3**
APE	**Apeiranthos**	**4.19**	**95**	⇑P	**Pn**

BRY *i* Sn **Sn** **06 09 07.9 -2.2**
VTS Vitosha 5.50 23 *e*P **Pn** **06 08 07.9 +0.6**
VTS Vitosha 5.50 23 *e*Pn **Pn** **06 08 08.3 +1.0**
ALN Alexandroupoli 5.54 52 **Pn** **06 08 08.0 +0.3**
ALN Alexandroupoli 5.54 52 P **Pn** **06 08 08.0 +0.3**
KDZ Kurdzhali 5.60 42 *e*P **Pn** **06 08 09.2 +0.7**
PAOL Paolisi 5.63 309 Pn **Pn** **06 08 11.1 +2.1**
STON Ston 5.65 340 *e*Pn **Pn** **06 08 07.5 -1.6**
SELS Selova 5.66 6 *e*Pn **Pn** **06 08 10.0 +0.6**
SELS *e*Sn **Sn** **06 09 09.3 -5.1**
SJES Sjenica 5.68 357 *e*Pn **Pn** **06 08 10.8 +1.1**
SJES *e*Sn **Sn** **06 09 08.3 -6.5**
SJES Sjenica 5.68 357 *e*Pn **Pn** **06 08 10.9 +1.2**
PLD Plovdiv 5.69 35 *e*Pn **Pn** **06 08 11.0 +1.3**
UPM Unac-Piva 5.72 350 *e*Pn **Pn** **06 08 12.1 +1.8**
ERIK Erikli-Kesan 5.72 55 P **Pn** **06 08 08.8 -1.3**
PLE Pljevlja 5.78 353⇑*i*Pn **Pn** **06 08 12.9 +1.8**
PLE *i* Sn **Sn** **06 09 17.8 +0.3**
KARP Karpathos 5.87 108 Pn **Pn** **06 08 13.1 +0.8**
ZAPS Zavoj 5.95 17 *e*Pn **Pn** **06 08 14.4 +1.0**
IVAS Ivanjica 5.99 359 *e*Pn **Pn** **06 08 13.3 -0.6**
IVAS *e*Sn **Sn** **06 09 15.9 -6.5**
RUDO Rudo 6.07 353 *e*Pn **Pn** **06 08 15.5 +0.5**
BOVS Bovan 6.14 9 *e*Pn **Pn** **06 08 16.3 +0.4**
BOVS Bovan 6.14 9 ⇑P **Pn** **06 08 18.0 +2.2**
GRUS Gruza 6.31 3 *e*Pn **Pn** **06 08 18.5 +0.3**
BBLS Lazi&#263i 6.32 354 *e*Pn **Pn** **06 08 18.8 +0.4**
BBLS *e*Sn **Sn** **06 09 22.4 -8.1**
BBLS Lazi&#263i 6.32 354 *e*Pn **Pn** **06 08 18.7 +0.4**
MPEP Malo Peshtene 6.33 23 *e*P **Pn** **06 08 20.3 +1.8**
BKES Balkesir-Mer 6.33 68 P Pn 06 08 25.4 +6.8
YER Yerkesik 6.36 92 P Pn 06 08 24.3 +5.3
ZAGS Zajecar 6.39 13 *e*Pn **Pn** **06 08 19.8 +0.5**
DIVS Divibare 6.51 358 *e*Pn **Pn** **06 08 20.6 -0.5**
DIVS *e*Sn **Sn** **06 09 26.9 -8.5**
EDRB Edirne 6.53 47 P **Pn** **06 08 20.6 -0.7**
HAPS Han Pijesak,BI 6.58 351 *e*Pn **Pn** **06 08 21.2 -0.8**
INTR Introdacqua 6.63 314 Pn **Pn** **06 08 24.6 +2.0**
TRUS Trudelj 6.63 1 *e*Pn **Pn** **06 08 22.1 -0.6**
KULA Kula-Manisa 6.65 79 P **Pn** **06 08 26.5 +3.5**
ELND Elena 6.82 37 ⇓P **Pn** **06 08 28.7 +3.4**
KUBS Kucevo 6.90 8 *e*Pn **Pn** **06 08 24.6 -1.7**
TEKS Tekeris 6.99 355 *e*Pn **Pn** **06 08 26.3 -1.2**
TEKS Tekeris 6.99 355 *e*Pn **Pn** **06 08 24.6 -2.9**
AVAS Avala Beograd 7.11 1 *e*Pn **Pn** **06 08 27.0 -2.2**
SRE Strehaia 7.40 16 ⇓P **Pn** **06 08 36.4 +3.1**
SRE Strehaia 7.40 16 P **Pn** **06 08 36.3 +3.1**
HERR Herculane 7.46 12 ⇓P **Pn** **06 08 36.8 +2.8**
A050A Klekovaca 7.46 339 *e*Pn **Pn** **06 08 34.5 +0.4**
BLY Banja Luka 7.54 343 *e*Pn **Pn** **06 08 35.8 +0.7**
VRSS Vrsac 7.57 5 *e*Pn **Pn** **06 08 35.1 -0.4**
FRGS Fruska Gora 7.58 357 *e*Pn **Pn** **06 08 34.7 -1.0**
FRGS Fruska Gora 7.58 357 *e*Pn **Pn** **06 08 31.7 -4.0**
NRCA Norcia 7.61 316 **Pn** **06 08 37.8 +1.7**
FDMO Fiordimonte 7.76 317 Pn **Pn** **06 08 39.9 +1.8**
CESX Cesi 7.77 313 Pn **Pn** **06 08 38.7 +0.4**
BANR Banloc 7.82 4 ⇓P **Pn** **06 08 41.4 +2.6**
A051A Mrakovica 7.85 342 *e*Pn **Pn** **06 08 37.2 -2.3**
GZR Gura Zlata 8.02 13 ⇓P **Pn** **06 08 43.2 +1.4**
GZR Gura Zlata 8.02 13 P **Pn** **06 08 43.1 +1.4**
BZS Buzias 8.09 6 ⇓P **Pn** **06 08 45.1 +2.5**
BZS Buzias 8.09 6 P **Pn** **06 08 45.1 +2.5**
LOT Lotru 8.27 17 ⇑P **Pn** **06 08 47.3 +2.0**
SURR Surduc 8.28 9 ⇓P **Pn** **06 08 47.5 +2.4**
VOIR 8.61 23 ⇑P **Pn** **06 08 52.0 +2.1**
VOIR 8.61 23 P **Pn** **06 08 51.9 +2.1**
MORH Mrgy, Hungar 8.71 352 ⇓P **Pn** **06 08 52.1 +0.9**
SIRR Siria 8.74 6 ⇓P **Pn** **06 08 54.0 +2.5**
ISR Istrita 8.86 30 ⇓P **Pn** **06 08 54.9 +1.5**
ISR Istrita 8.86 30 P **Pn** **06 08 54.8 +1.5**
MLR Muntele Rosu 8.96 26 Pn **Pn** **06 08 57.1 +2.5**
comp=E,1.1nm,0.3s,baz=193,slow=13,SNR=14
MLR LR LR 06 12 43.6
comp=E,540nm,18.2s,baz=210,slow=40
comp=E,16nm,0.8s
MLR Muntele Rosu 8.96 26 ⇑P **Pn** **06 08 57.7 +3.0**
MLR Muntele Rosu 8.96 26 P **Pn** **06 08 57.6 +3.0**
CRES Cresnjevec Ost 9.00 338 *e*Pn **Pn** **06 08 53.6 -1.5**
KEST Kesra 9.01 261 Pn **Pn** **06 08 55.6 +0.3**
comp=E,0.6nm,0.3s,baz=229,slow=2.2,SNR=12
KEST Sn **Sn** **06 10 30.5 -6.3**
comp=E,0.2nm,0.3s,baz=96,slow=21,SNR=1.1
KEST LR LR 06 12 18.3
comp=E,335nm,20.5s,baz=115,slow=37
comp=E,7.8nm,0.6s
DOPR Dopca 9.19 23 ⇑P **Pn** **06 08 59.6 +1.8**
BEHE Becsehely 9.26 345 **Pn** **06 08 58.9 +0.1**
CEY Cerknica 9.26 333 *e*Pn **Pn** **06 08 57.8 -0.9**
COVR Voineasa-Covas 9.35 26 ⇑P **Pn** **06 09 02.4 +2.4**
DRGR 9.37 10 ⇑P **Pn** **06 09 02.5 +2.1**
DRGR 9.37 10 P **Pn** **06 09 02.4 +2.1**
TURR Turia 9.47 25 ⇑P **Pn** **06 09 04.4 +2.8**
PLOR Plostina 9.52 28 ⇓P **Pn** **06 09 04.6 +2.3**
PLOR Plostina 9.52 28 P **Pn** **06 09 04.5 +2.3**
VRI Vrincioaia 9.56 28 ⇑P **Pn** **06 09 05.1 +2.3**
VRI Vrincioaia 9.56 28 P **Pn** **06 09 05.1 +2.3**
SABO M.te Sabotino 9.77 331 Pn **Pn** **06 09 04.8 -0.9**
OBKA Obir 9.89 336 *i* Pn **Pn** **06 09 08.8 +1.3**
comp=E,1.3nm,0.2s
OBKA *i* Sn **Sn** **06 10 58.4 -0.1**
comp=E,31nm,0.7s
OBKA Obir 9.89 336 *e*Pn **Pn** **06 09 05.7 -1.8**
SOKA Soboth 9.90 338 *i* Pn **Pn** **06 09 08.0 +0.5**
comp=E,6.5nm,0.5s
SOKA *i* Sn **Sn** **06 10 55.6 -2.9**
comp=E,13nm,0.7s
TESR Tescani 10.08 26 ⇑P **Pn** **06 09 12.7 +2.7**
TEOL Teolo 10.12 323 **Pn** **06 09 10.9 +0.5**
PRED Cave del Predi 10.18 333 Pn **Pn** **06 09 11.3 +0.1**
ARSA Arzberg 10.29 341 *i* Pn **Pn** **06 09 13.1 +0.3**
comp=E,2.5nm,0.3s
ARSA *i* Sn **Sn** **06 11 10.8 +2.8**
comp=E,5.2nm,0.8s
MYKA Terra Mystica 10.31 333 *i* Pn **Pn** **06 09 14.5 +1.4**
comp=E,3.5nm,0.5s
MYKA *i* Sn **Sn** **06 11 10.2 +1.7**
comp=E,5.2nm,0.5s
PSZ Piszkesteto 10.34 358 **Pn** **06 09 14.1 +0.6**
PSZ Piszkesteto 10.34 358 *e*P **Pn** **06 09 17.1 +3.6**
PSZ Piszkesteto 10.34 358 ⇑P **Pn** **06 09 14.6 +1.2**
PSZ Piszkesteto 10.34 358 P **Pn** **06 09 14.1 +0.6**
RONA Rosalia, Austr 10.53 345 *i* Pn **Pn** **06 09 18.1 +2.0**
comp=E,1.2nm,0.4s
RONA *e*Sn **Sn** **06 11 17.8 +3.7**
comp=E,2.5nm,0.5s
BR131 Keskin Array S 10.64 74 *i* P **Pn** **06 09 16.8 -0.9**
BRTR Keskin Array B 10.64 74 Pn **Pn** **06 09 21.2 +3.5**
comp=E,0.1nm,0.3s,baz=252,slow=15,SNR=1.8
BRTR LR LR 06 13 33.4
comp=E,615nm,18.8s,baz=264,slow=39
comp=E,0.4nm,0.4s
CTI Castel Tesino 10.64 325 Pn **Pn** **06 09 17.6 -0.1**
CTI Castel Tesino 10.64 325 P **Pn** **06 09 17.6 -0.1**
BUR08 Bucovina Ar. S 10.68 18 **Pn** **06 09 18.4 +0.3**
KBA Koelnbreinsper 10.80 334 *i* Pn **Pn** **06 09 21.5 +1.6**
comp=E,0.9nm,0.3s
KBA *e*Sn **Sn** **06 11 21.4 +0.7**
comp=E,18nm,0.7s
ABTA Abfaltersbach 10.83 330 *i* Pn **Pn** **06 09 21.1 +0.8**
comp=E,1.3nm,0.3s
ABTA *i* Sn **Sn** **06 11 24.2 +2.8**
comp=E,44nm,1.0s
CONA Conrad Observa 10.84 344 *i* Pn **Pn** **06 09 22.7 +2.2**
comp=E,0.7nm,0.3s
CONA *i* Sn **Sn** **06 11 23.3 +1.5**
comp=E,5.7nm,0.7s
VYHS Vyhne 10.96 355 *e*P **Pn** **06 09 22.9 +0.9**
VYHS Vyhne 10.96 355 *e*PN **Pn** **06 09 22.9 +0.9**
VYHS *e*SN **Sn** **06 11 16.9 -7.6**
MODS Modra-Piesok 11.01 349 *e*P **Pn** **06 09 25.1 +2.4**
MODS Modra-Piesok 11.01 349 *e*PN **Pn** **06 09 25.1 +2.4**
MOA Molln 11.18 339 *i* Pn **Pn** **06 09 24.9 -0.1**
comp=E,4.9nm,0.3s
MOA *i* Sn **Sn** **06 11 32.4 +2.5**
comp=E,10nm,0.6s
BIOA Bad Ischl, Aus 11.23 336 *i* Pn **Pn** **06 09 27.4 +1.7**
comp=E,5.4nm,0.3s
BIOA *e*Sn **Sn** **06 11 32.4 +1.2**
comp=E,16nm,0.6s
LESA Schwarzleotal 11.33 333 *i* Pn **Pn** **06 09 29.2 +2.1**
comp=E,4.0nm,0.5s
LESA *i* Sn **Sn** **06 11 31.0 -2.7**
comp=E,15nm,0.6s

JAVC Velka Javorina 11.43 351 *e*PN **Pn** **06 09 30.7 +2.2**
KOLS Kolonicke sedl 11.43 7 *e*P **Pn** **06 09 31.7 +3.2**
KOLS Kolonicke sedl 11.43 7 *e*PN **Pn** **06 09 31.7 +3.2**
WTTA Wattenberg 11.60 329 *e*Pn **Pn** **06 09 33.2 +2.3**
comp=E,1.1nm,0.3s
WTTA *i* Sn **Sn** **06 11 39.6 -0.8**
comp=E,21nm,0.8s
WATA Walderalm 11.68 329 *i* Pn **Pn** **06 09 34.0 +2.1**
comp=E,0.7nm,0.2s
WATA *e*Sn **Sn** **06 11 44.4 +2.1**
comp=E,34nm,1.1s
FUORN Ofenpass-Fuorn 11.71 324 **Pn** **06 09 33.2 +0.8**
SQTA Sankt Quirin 11.74 328 *i* Pn **Pn** **06 09 34.8 +2.0**
comp=E,2.0nm,0.3s
SQTA *i* Sn **Sn** **06 11 45.0 +1.2**
comp=E,11nm,0.6s
FETA Feichten 11.79 326 *i* Pn **Pn** **06 09 35.6 +2.1**
comp=E,0.8nm,0.4s
FETA *i* Sn **Sn** **06 11 43.6 -1.5**
comp=E,7.6nm,1.0s
KRUC Moravsky 11.82 347 *e*PN **Pn** **06 09 35.8 +2.1**
MOTA Moosalm 11.88 328 *i* Pn **Pn** **06 09 37.8 +3.0**
comp=E,8.6nm,0.8s
MOTA *e*Sn **Sn** **06 11 50.1 +2.8**
comp=E,8.2nm,0.5s
MAUC Maruska 11.91 352 *e*PN **Pn** **06 09 39.3 +4.2**
DAVOX Davos/Dischmat 12.01 323 Pn **Pn** **06 09 36.7 +0.3**
comp=E,0.5nm,0.3s,baz=154,slow=19,SNR=8.3
DAVOX Sn **Sn** **06 11 41.7 -8.7**
comp=E,0.2nm,0.3s,baz=134,slow=20,SNR=2.0
DAVOX LR LR 06 15 13.5
comp=E,403nm,19.4s,baz=166,slow=42
comp=E,3.1nm,0.6s
VRAC Vranov 12.03 348 Pn **Pn** **06 09 36.9 +0.4**
comp=E,0.1nm,0.3s,baz=192,slow=14,SNR=3.8
comp=E,1.7nm,0.6s
VRAC Vranov 12.03 348 *e*PN **Pn** **06 09 38.7 +2.1**
TUE Stuetta 12.05 321 **Pn** **06 09 37.9 +0.8**
CKRC Cesky Krumlov 12.05 341 *e*PN **Pn** **06 09 36.5 -0.4**
CKRC Cesky Krumlov 12.05 341 *e*P **Pn** **06 09 36.5 -0.4**
RETA Reutte 12.14 328 *i* Pn **Pn** **06 09 40.3 +2.1**
comp=E,1.2nm,0.2s
RETA *e*Sn **Sn** **06 11 56.9 +3.4**
comp=E,1.2nm,0.2s
KWP Kalwaria Pacla 12.17 7 **Pn** **06 09 39.7 +1.2**
KWP Kalwaria Pacla 12.17 7 P **Pn** **06 09 39.7 +1.2**
GEC2 GERESS Array S 12.24 339 **Pn** **06 09 39.5 -0.1**
GERES GERESS Array B 12.24 339 Pn **Pn** **06 09 39.7 +0.2**
comp=E,0.9nm,0.3s,baz=156,slow=14,SNR=14
GERES Sn **Sn** **06 11 50.8 -5.1**
comp=E,0.4nm,0.3s,baz=147,slow=22,SNR=2.3
GERES LR LR 06 15 13.1
comp=E,445nm,18.6s,baz=212,slow=42
comp=E,3.2nm,0.5s
MORC Moravsky Berou 12.35 352 *e*PN **Pn** **06 09 43.2 +2.2**
DAVA Damuels 12.38 325 *i* Pn **Pn** **06 09 45.3 +3.8**
comp=E,4.2nm,0.6s
DAVA *i* Sn **Sn** **06 11 55.6 -3.8**
comp=E,12nm,0.7s
KHC Kasperske Hory 12.53 339 **Pn** **06 09 43.7 +0.2**
KHC Kasperske Hory 12.53 339 *e*PN **Pn** **06 09 43.9 +0.4**
KHC *e*SN **Sn** **06 11 55.6 -7.4**
KHC Kasperske Hory 12.53 339 *c e*P **Pn** **06 09 44.5 +1.0**
KHC pmax pmax
comp=Z,21nm,1.3s
BNI Bardonecchia 12.67 310 Pn **Pn** **06 09 46.1 +0.6**
BNI Bardonecchia 12.67 310 P **Pn** **06 09 46.1 +0.6**
SENIN Lac Senin/Sane 13.05 316 Pn **Pn** **06 09 51.3 +0.5**
MMAI Mount Meron Ar 13.14 106 Pn **Pn** **06 09 48.9 -2.9**
comp=Z,1.0nm,0.3s,baz=281,slow=12,SNR=1.8
MMAI Sn Sn 06 12 06.1 -12
comp=Z,1.2nm,0.3s,baz=278,slow=22,SNR=1.4
comp=Z,0.6nm,0.2s
SHMJ Saham 13.53 106 P **Pn** **06 09 56.4 -0.8**
DSI Dead Sea 13.78 111 P **Pn** **06 09 59.1 -1.4**
BRG Berggiesshubel 14.04 343 *e*P **P** **06 10 08.4 -3.5**
BRG Amp 06 10 16.5
comp=Z,4.8nm,1.0s
BRG Berggiesshubel 14.04 343 *e*P **P** **06 10 08.4 -3.5**
BRG pmax pmax
comp=Z,5.0nm,1.0s
PRNI Paran 14.15 116 P **Pn** **06 10 04.3 -1.4**
ECH Echery 14.33 322 **Pn** **06 10 07.8 -0.2**
ECH Echery 14.33 322 P **Pn** **06 10 07.8 -0.2**
HRFI Mount Harif 14.36 117 P **Pn** **06 10 06.3 -2.2**
MBRI Mt Berech 14.41 118 P **Pn** **06 10 07.6 -1.7**
EIL Elat 14.51 119 Pn **Pn** **06 10 09.3 -1.3**
comp=Z,1.2nm,0.3s,baz=3.0,slow=2.9,SNR=11
EIL Sn Sn 06 12 36.4 -15
comp=Z,0.6nm,0.3s,baz=230,slow=14,SNR=1.1
comp=Z,11nm,0.7s
EIL Elat 14.51 119 P **Pn** **06 10 07.0 -3.6**
KIEV Kiev 14.56 23 **Pn** **06 10 12.2 +1.0**
KIEV Kiev 14.56 23 ⇑P **Pn** **06 10 13.7 +2.6**
KIEV Kiev 14.56 23 P **Pn** **06 10 13.7 +2.6**
AKASG Malin Array Be 14.57 23 **Pn** **06 10 13.0 +1.7**
AKASG Malin Array Be 14.57 23 Pn **Pn** **06 10 10.9 -0.4**
comp=Z,0.3nm,0.3s,baz=214,slow=11,SNR=4.9
AKASG LR LR 06 16 27.7
comp=Z,230nm,20.2s,baz=210,slow=40
comp=Z,1.5nm,0.8s
AKASG Malin Array Be 14.57 23 P **Pn** **06 10 13.0 +1.7**
AKBB Malin Array Si 14.57 23 **Pn** **06 10 12.2 +0.9**
AKBB Malin Array Si 14.57 23 P **Pn** **06 10 12.2 +0.9**
ASF Jabal al Asfar 14.63 107 Pn **P** **06 10 19.1 +0.3**
comp=Z,0.8nm,0.3s,baz=210,slow=0.2,SNR=4.6
CLL Collm 14.67 342 **Pn** **06 10 14.2 +1.5**
CLL Collm 14.67 342 *i* P **P** **06 10 20.4 +1.5**
CLL Collm 14.67 342 *i* PP **P** **06 10 20.4 +1.5**
comp=Z,13nm,1.3s
CLL *e x* x 06 10 23.0
CLL *i* sPP 06 10 25.7
comp=Z,28nm,1.3s
CLL *i* sPPP 06 10 35.5
RUE Ruedersdorf 15.59 345 *e*P **P** **06 10 34.5 +5.5**
WLF Walferdange 15.81 324 **Pn** **06 10 27.7 0.0**
WLF IAmb IAmb 06 10 37.1
comp=Z,42nm,1.0s
WLF Walferdange 15.81 324 P **Pn** **06 10 27.7 0.0**
WLF pmax pmax
comp=Z,42nm,1.0s
WLF Walferdange 15.81 324 *d*P **Pn** **06 10 27.3 -0.5**
comp=Z,32nm,1.2s
SOC Sochi 15.90 62 *e*P **Pn** **06 10 26.3 -2.6**
SOC *e* 06 13 21.3
SOC MLR MLR
comp=Z,100nm,16.0s
BTNL Ternell 16.48 327 *d*P **Pn** **06 10 36.1 -0.2**
SUW Suwalki 16.55 6 **Pn** **06 10 37.1 0.0**
SUW IAmb IAmb 06 11 00.5
comp=Z,76nm,0.9s
SUW Suwalki 16.55 6 *e*P **P** **06 10 38.9 -0.8**
SUW Suwalki 16.55 6 P **Pn** **06 10 37.1 0.0**
SUW pmax pmax
comp=Z,77nm,0.9s
DOU Dourbes 16.84 323 *d*P **P** **06 10 44.7 +1.8**
GURO Guroymak-BITLI 17.13 80 P **Pn** **06 10 44.6 -0.1**
UCC Uccle 17.43 324 *d*P **P** **06 10 49.7 +0.3**
MNK Minsk 17.70 15 *i* P **P** **06 10 54.2 +1.7**
comp=E,65nm,1.0s
MNK *i* P **P** **06 10 54.2 +1.7**
comp=N,11nm,0.8s
MNK *i* P **P** **06 10 54.2 +1.7**
comp=Z,61nm,0.9s,baz=199
MNK *i* PP **PnPn** **06 11 04.3 +2.3**
MNK *i* S **Sn** **06 14 11.7 +3.2**
MNK *i* SS **SnSn** **06 14 24.3 +2.3**
MNK *i* LQ LQ 06 16 05.2
MNK *i* LR LR 06 17 25.0
MNK Minsk 17.70 15 *i* P **P** **06 10 54.1 +1.7**
MNK *i* S **Sn** **06 14 11.7 +3.2**
MNK pmax pmax
comp=Z,61nm,0.9s
MNK pmax pmax
comp=E,65nm,1.0s
MNK pmax pmax
comp=N,11nm,0.8s
NACGM Naroch 17.88 12 *e*P **P** **06 10 57.2 +2.8**
comp=N,2μm,1.1s
SHA1 Shidzhatmaz 18.00 63 *e*P **Pn** **06 10 55.8 +0.1**
KIV Kislovodsk 18.07 62 *e*P **P** **06 10 56.6 -0.2**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,66nm,14.0s

PABE Paberze 18.10 7 P **Pn** **06 10 55.9 -0.6**
PABE Paberze 18.10 7 *e*P **Pn** **06 10 56.5 0.0**
KBZ Khabaz 18.17 63 P **P** **06 10 58.4 +0.7**
comp=Z,0.1nm,0.3s,baz=276,slow=3.8,SNR=3.3
KBZ LR LR 06 19 55.2
comp=Z,245nm,18.9s,baz=290,slow=44
comp=Z,3.5nm,1.1s
KBZ Khabaz 18.17 63 *c e*P **Pn** **06 10 57.4 -0.1**
NCK Nalchik 18.62 64 *i* P **P** **06 11 02.5 -0.3**
VORD Divnogorie 18.99 39 *e*P **Pn** **06 11 07.1 -0.3**
VORD pmax pmax
comp=Z,20nm,1.0s
ESDC Sonseca Array 19.07 284 P **Pn** **06 11 08.5 -0.1**
comp=Z,0.1nm,0.3s,baz=81,slow=12,SNR=9.0
comp=Z,4.1nm,1.1s
VSR Storozhevoye 19.09 38 *e*P **Pn** **06 11 08.6 +0.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
GNI Garni 19.18 75 P **P** **06 11 08.1 -0.9**
GNI Garni 19.18 75 LR LR 06 18 39.3
comp=Z,384nm,18.9s,baz=278,slow=37
GNI Garni 19.18 75 P **P** **06 11 08.1 -0.9**
GNI pmax pmax
comp=Z,16nm,1.1s
DEL Delary 19.38 349 *e*P Pn 06 11 19.6 +7.6
VORR Voronezh 19.39 37 *e*P **P** **06 11 09.6 -1.4**
VORR pmax pmax
comp=Z,45nm,0.4s
LPSR Galich'ya Gora 19.86 35 *e*P **P** **06 11 16.9 +0.7**
LPSR pmax pmax
comp=Z,40nm,0.9s
FABU Falkenberg 20.07 348 *e*P Pn 06 11 25.9 +5.7
MUD Monsted U'grnd 20.30 342 *i* P **P** **06 11 20.0 -0.9**
VRH Novokhopyorsk 20.38 41 *e*P **P** **06 11 21.4 -0.4**
VRH pmax pmax
comp=Z,30nm,0.8s
ONAU Onsala 20.59 347 *i* P Pn 06 11 30.9 +4.6
OBN Obninsk 20.73 27 P **P** **06 11 25.7 +0.2**
comp=Z,9.4nm,0.4s,baz=96,slow=23,SNR=1.8
OBN LR LR 06 20 08.3
comp=Z,143nm,19.8s,baz=191,slow=39
comp=Z,9.4nm,0.4s
OBN Obninsk 20.73 27⇓*e*P Pn 06 11 27.1 -0.8
OBN *i* 06 11 34.0
OBN *e* 06 11 46.1
OBN PPP PPP 06 11 53.0
OBN S **S** **06 15 09.0 -7.6**
OBN SS **SnSn** **06 15 32.0 -4.2**
OBN SSS SSS 06 15 46.0
OBN pmax pmax
comp=Z,5.0nm,0.6s
OBN MLR MLR
comp=Z,229nm,21.0s
MDT Midelt 20.89 264 P **P** **06 11 28.5 +0.8**
comp=Z,4.4nm,0.8s,baz=94,slow=9.7,SNR=4.6
comp=Z,4.4nm,0.8s
TJOU Tjoern 21.24 347 *i* P **P** **06 11 37.1 +6.1**
MTSE Matsula 21.27 5 *e*P **P** **06 11 33.4 +2.1**
VSU Vasula 21.31 9 *i* P **P** **06 11 33.7 +1.9**
VSU pmax pmax
comp=Z,130nm,0.8s
MAK Makhachkala 21.38 67 *e*P **P** **06 11 27.4 -5.3**
MAK *e*S **S** **06 15 21.7 -8.1**
MAK pmax pmax
comp=Z,215nm,1.6s
AKT Akhty 21.46 71 *e*P **P** **06 11 34.2 +0.5**
AKT *e* 06 11 55.3
AKT *e*PPP PPP 06 12 03.5
AKT pmax pmax
comp=Z,47nm,1.8s
MOS Moscow 21.59 27 *e*P **P** **06 11 34.9 +0.1**
MOS *e* 06 12 17.7
MOS *e*S **S** **06 15 34.2 +0.5**
MOS pmax pmax
comp=Z,62nm,1.0s
STRU Stroemstad 22.27 347 *e* **P** **06 11 36.6 -5.5**
STRU *i* P **pwP** **06 11 47.5 -1.3**
HFS Hagfors 22.96 351 P **P** **06 11 50.3 +0.9**
comp=Z,17nm,0.6s,baz=160,slow=11,SNR=33
comp=Z,17nm,0.6s
KONO Kongsberg 23.13 346 P **P** **06 11 50.4 -0.8**
KONO IAmb IAmb 06 11 56.9
comp=Z,26nm,0.9s
KONO Kongsberg 23.13 346 *i* P **P** **06 11 54.2 +3.0**
KONO pmax pmax
comp=Z,30nm,1.0s
EKA Eskdalemuir Ar 23.82 326 P **P** **06 11 58.8 +0.7**
comp=Z,13nm,0.9s,baz=125,slow=10,SNR=16
comp=Z,13nm,0.9s
NC602 NORSAR Array S 23.83 349 P **P** **06 11 58.6 +0.5**
NC602 IAmb IAmb 06 12 09.9
comp=Z,26nm,0.9s
NAO01 NORSAR Array S 24.03 349 P **P** **06 12 00.8 +0.8**
NAO01 IAmb IAmb 06 12 10.4
comp=Z,37nm,1.1s
BELG Belogornoye 24.14 43 LR LR 06 22 44.6
comp=Z,154nm,19.0s,baz=262,slow=40
BELG Belogornoye 24.14 43 *i* P **P** **06 12 00.9 -0.2**
BELG pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 24.16 7 P **P** **06 12 01.1 0.0**
FINES FINESS Array B 24.16 7 P **P** **06 12 00.8 -0.3**
comp=Z,7.3nm,0.8s,baz=176,slow=9.9,SNR=30
FINES LR LR 06 24 17.4
comp=Z,72nm,21.4s,baz=226,slow=44
comp=Z,7.3nm,0.8s
FINES FINESS Array B 24.16 7 P **P** **06 12 01.1 0.0**
FIA1 FINESS Array S 24.16 7 P **P** **06 12 01.3 +0.2**
NB201 NORSAR Array S 24.17 349 P **P** **06 12 01.8 +0.5**
NB2 NORSAR Subarra 24.17 349 P **P** **06 12 02.3 +1.0**
comp=Z,52nm,1.1s,baz=162,slow=10
NOA NORSAR Array B 24.17 349 P **P** **06 12 01.1 -0.3**
comp=Z,2.1nm,0.8s,baz=150,slow=10.0,SNR=7.7
NOA LR LR 06 22 25.4
comp=Z,195nm,18.3s,baz=170,slow=39
comp=Z,2.1nm,0.8s
NC303 NORSAR Array S 24.32 349 P **P** **06 12 03.6 +0.9**
RAYN Ar Rayn 25.72 116 P **P** **06 12 15.8 0.0**
RAYN Ar Rayn 25.72 116 P **P** **06 12 15.8 0.0**
RAYN pmax pmax
comp=Z,5.0nm,1.0s
KLMR Klimovskoe 26.25 21 *e*P **P** **06 12 19.3 -0.8**
KLMR pmax pmax
comp=Z,59nm,1.6s
KIRV Kirov 28.24 33 LR LR 06 24 19.9
comp=Z,127nm,21.5s,baz=247,slow=37
KIRV Kirov 28.24 33 *i* P **P** **06 12 37.5 -0.5**
TORD Torodi Ar. Bea 29.47 219 P **P** **06 12 48.4 -0.9**
TORD Torodi Ar. Bea 29.47 219 P **P** **06 12 49.8 +0.5**
comp=Z,1.9nm,0.6s,baz=32,slow=9.3,SNR=16
comp=Z,1.9nm,0.6s
AKTO Aktyubinsk 29.67 52 LR LR 06 27 40.7
comp=Z,228nm,18.8s,baz=276,slow=42
ABKAR Akbulak array 30.71 55 P **P** **06 12 60.0 -0.1**
ARTI Arti 31.51 41 P **P** **06 13 05.9 -1.0**
ARTI IAmb IAmb 06 13 32.3
comp=Z,6.9nm,0.8s
ARTI Arti 31.51 41 *d i*P **P** **06 13 05.7 -1.2**
ARTI S **S** **06 18 13.5 -1.3**
ARTI pmax pmax
comp=Z,12nm,1.7s
ARCES ARCESS Array B 32.13 3 P **P** **06 13 11.9 -0.4**
comp=Z,3.3nm,0.8s,baz=191,slow=10,SNR=16
comp=Z,3.3nm,0.8s
KEV Kevo 32.44 4 P **P** **06 13 15.5 +0.6**
KEV IAmb IAmb 06 13 20.7
comp=Z,10nm,0.8s
KEV Kevo 32.44 4 P **P** **06 13 15.5 +0.6**
KEV pmax pmax
comp=Z,10.0nm,0.8s
UOSS Minazif 32.96 102 P **P** **06 13 19.7 -0.4**
UOSS IAmb IAmb 06 13 33.1
comp=Z,16nm,1.1s
WSAR Wadi Sarin 35.74 103 LR LR 06 31 23.1
comp=Z,80nm,18.5s,baz=329,slow=41
BRVK Borovoye 37.56 49 *e*P **P** **06 13 59.0 -0.4**
BRVK pmax pmax
comp=Z,17nm,3.4s
BVAR Borovoye Array 37.63 49 P **P** **06 13 59.9 0.0**
comp=Z,0.9nm,0.6s,baz=264,slow=5.9,SNR=3.8
BVAR LR LR 06 31 19.0
comp=Z,157nm,18.5s,baz=283,slow=39
comp=Z,0.9nm,0.6s
KKAR Karatay Array 38.19 66 P **P** **06 14 04.8 0.0**
KKAR Karatay Array 38.19 66 P **P** **06 14 04.8 0.0**
DBIC Dimbokro 38.35 223 P **P** **06 14 04.9 -1.4**

comp=Z,3.8nm,0.8s,baz=355,slow=14,SNR=3.1
comp=Z,3.8nm,0.8s
SPB3 Spitsbergen Ar 40.73 359 P P 06 14 26.9 +1.3
SPITS Spitsbergen Ar 40.74 359 P P 06 14 25.9 +0.2
comp=Z,20nm,1.0s,baz=120,slow=8.5,SNR=2.3
SPITS LR LR 06 33 53.0
comp=Z,239nm,18.8s,baz=150,slow=40
comp=Z,20nm,1.0s
KMBO Kilima Mbogo 41.58 154 P P 06 14 32.4 -1.1
KMBO Kilima Mbogo 41.58 154 P P 06 14 34.3 +0.8
comp=Z,0.8nm,0.2s,baz=327,slow=8.8,SNR=4.3
comp=Z,0.8nm,0.2s
KMBO Kilima Mbogo 41.58 154 P P 06 14 32.4 -1.1
KMBO pmax pmax
comp=Z,4.0nm,1.2s
KURBB Kurchatov Arra 42.71 53 P P 06 14 41.5 -0.6
comp=Z,1.1nm,0.2s,baz=274,slow=8.8,SNR=3.9
KURBB LR LR 06 35 45.8
comp=Z,170nm,18.5s,baz=162,slow=41
comp=Z,1.1nm,0.2s
NIL Nilore 42.74 79 P P 06 14 43.1 +0.4
NIL Nilore 42.74 79 P P 06 14 43.1 +0.4
NIL pmax pmax
comp=Z,7.0nm,1.1s
KURK Kurchatov 42.76 53 *ce*P **P 06 14 44.1 +1.6**
KURK pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 45.75 58 P P 06 15 06.9 +0.3
MK31 Makanchi Array 45.75 58 P P 06 15 06.9 +0.3
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 45.75 58 P P 06 15 06.5 -0.1
comp=Z,1.1nm,0.5s,baz=270,slow=7.6,SNR=16
MKAR LR LR 06 38 18.8
comp=Z,129nm,18.9s,baz=285,slow=41
comp=Z,1.1nm,0.5s
ZAA0 Zalesovo Array 46.21 48 P P 06 15 09.4 -0.6
ZAA0 IAmb IAmb 06 15 20.4
comp=Z,6.5nm,0.7s
ZALV Zalesovo Beam 46.21 48 P P 06 15 09.4 -0.6
ZALV Zalesovo Beam 46.21 48 P P 06 15 09.3 -0.7
comp=Z,1.8nm,0.4s,baz=276,slow=8.6,SNR=12
comp=Z,1.8nm,0.4s
ZALV Zalesovo Beam 46.21 48 P P 06 15 09.4 -0.6
NRIK Noril'sk 47.40 26 *i* P **P 06 15 20.9 +1.8**
comp=Z,1.0nm,0.4s,baz=231,slow=3.1,SNR=1.8
comp=Z,1.0nm,0.4s
NRIK Noril'sk 47.40 26 *i* P **P 06 15 20.7 +1.6**
NRIK pmax pmax
comp=Z,9.0nm,1.0s
SFJD Kangerlussuaq 48.67 330 LR LR 06 36 18.5
comp=Z,163nm,18.1s,baz=112,slow=36
WMQ Urumqi 50.19 60 *e*P **P 06 15 43.8 +2.8**
FRB Frobisher Bay 56.57 328 LR LR 06 40 49.3
comp=Z,129nm,19.1s,baz=96,slow=36
GOMU GeErMu 58.07 67 P **P 06 16 39.3 +0.3**
GOMU pP pP 06 16 41.8 +0.1
GOMU pmax pmax
comp=Z,5.0nm,0.6s
SCHQ Schefferville 58.79 317 P **P 06 16 43.7 +0.5**
comp=Z,3.4nm,0.7s,baz=233,slow=10,SNR=2.3
comp=Z,3.4nm,0.7s
TIXI Tiksi 60.26 20 *i* P **P 06 16 55.4 +2.3**
TIXI pmax pmax
comp=Z,6.0nm,1.1s
SONM Songino Array 60.96 50 P **P 06 16 57.5 -1.0**
comp=Z,0.5nm,0.7s,baz=267,slow=7.2,SNR=2.5
SONM LR LR 06 44 14.6
comp=Z,115nm,21.4s,baz=325,slow=37
comp=Z,0.5nm,0.7s
YAK Yakutsk 65.71 29 *i* P **P 06 17 31.9 +2.5**
YAK pmax pmax
comp=Z,10.0nm,0.8s
BOSA Boshof 66.01 175 P **P 06 17 32.7 +0.9**
comp=Z,3.5nm,1.1s,baz=353,slow=8.1,SNR=2.2
comp=Z,3.5nm,1.1s
HHC Hu-ho-hao-te 67.50 55 *e*P **P 06 17 40.8 -0.7**
HHC pmax pmax
comp=Z,24nm,0.5s
HHC pmax pmax
comp=Z,150nm,4.1s
PZH PanZhiHua 67.93 73 P **P 06 17 45.9 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,70nm,4.7s
A36M Sachs Harbour 68.08 349 pP pP 06 17 50.5 +3.2
baz=29
XAN Xi'an 69.24 63 *e*P P 06 18 02.9 +11
CMAR Chiang Mai Arr 70.13 82 P **P 06 17 57.7 -0.3**
comp=Z,1.1nm,0.3s,baz=296,slow=6.9,SNR=5.5
comp=Z,1.1nm,0.3s
CMAR Chiang Mai Arr 70.13 82 *i* P **P 06 17 59.2 +1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
C36M Paulatuk 70.20 347 pP pP 06 18 03.1 +2.6
baz=30
HNS HongShan 71.41 57 *e*P P 06 18 11.3 +5.8
HEH HeiHe 71.59 40 *e*P P 06 18 12.8 +6.4
HEH pmax pmax
comp=Z,10.0nm,0.7s
A22K Sinclair Lake 71.67 358 pP pP 06 18 13.2 +3.9
baz=4.0
B22K Teshekpuk Lake 72.29 358 pP pP 06 18 16.8 +3.7
baz=5.2
D27M Malcolm River 72.59 353 pP pP 06 18 18.7 +3.7
baz=16
INK Inuvik 72.62 350 pP pP 06 18 18.4 +3.3
baz=22
C23K Itkillik River 72.69 357 pP pP 06 18 18.8 +3.3
baz=7.6
B20K Meade River 72.70 359 pP pP 06 18 18.7 +3.1
baz=2.1
C24K Franklin Bluff 72.70 356 pP pP 06 18 18.6 +3.0
baz=9.2
D25K Kavik River 72.95 355 pP pP 06 18 20.8 +3.6
baz=11
B21K Ikpikpuk River 73.04 358 pP pP 06 18 21.3 +3.7
baz=4.2
E28M Babbage River 73.06 352 pP pP 06 18 21.5 +3.7
baz=17
E29M Blow River 73.09 352 pP pP 06 18 21.8 +3.9
baz=18
D24K Happy Valley 73.27 356 pP pP 06 18 22.8 +3.8
baz=9.0
B18K Kokolik River 73.36 1 pP pP 06 18 22.8 +3.3
baz=358
F31M Tsiigehtchic 73.46 350 P **P 06 18 18.0 +0.8**
F31M IAmb IAmb 06 18 24.3
comp=Z,14nm,0.9s
F31M Tsiigehtchic 73.46 350 pP pP 06 18 23.6 +3.5
baz=21
C21K Knifeblade Rid 73.51 358 pP pP 06 18 23.8 +3.4
baz=4.1
D23K Nanushuk River 73.56 357 pP pP 06 18 24.0 +3.3
baz=7.5
F30M Barrier River 73.58 351 pP pP 06 18 24.4 +3.6
baz=20
C19K Lookout Ridge 73.63 360 pP pP 06 18 25.0 +3.8
baz=0.1
E27K Coleen River 73.68 353 pP pP 06 18 25.5 +4.1
baz=15
D22K Ayikyak River 73.72 357 pP pP 06 18 25.0 +3.3
baz=5.8
TOLK Toolik Lake Re 73.82 356 pP pP 06 18 25.8 +3.5
baz=8.4
YKA Yellowknife Ar 73.89 340 P **P 06 18 21.0 +1.2**
comp=Z,1.4nm,0.9s,baz=36,slow=6.4,SNR=2.4
comp=Z,1.4nm,0.9s
YKA Yellowknife Ar 73.89 340 P **P 06 18 21.0 +1.2**
D20K Etivluk River 74.00 359 pP pP 06 18 26.7 +3.4
baz=2.6
G31M Satah River 74.02 350 pP pP 06 18 26.4 +3.0
baz=21
F28M Old Crow 74.06 352 pP pP 06 18 26.9 +3.2
baz=16
C18K Utukok River 74.08 1 pP pP 06 18 26.7 +2.9
baz=359
E21K Killik River 74.21 358 pP pP 06 18 27.9 +3.3
baz=4.7
C17K DeLong Mountai 74.23 1 pP pP 06 18 28.3 +3.6
baz=357
G30M tAoh Zraii Nji 74.23 351 pP pP 06 18 27.8 +3.1
baz=19
D19K Kuna River 74.23 359 pP pP 06 18 28.7 +4.0
baz=1.3
E24K Your Creek 74.32 356 pP pP 06 18 28.9 +3.6
baz=9.2
F26K Sheenjek River 74.39 354 pP pP 06 18 29.8 +4.2
baz=13
E23K Chandalar 74.41 356 pP pP 06 18 30.2 +4.4
baz=8.3
CN2 Changchun 74.41 47 P P 06 18 29.4 +6.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
KLR Kul'dur 74.44 39 LR LR 06 53 00.5
comp=Z,88nm,18.6s,baz=339,slow=37
E22K Anaktuvuk Pass 74.44 357 pP pP 06 18 30.1 +4.2
baz=6.5
E20K Nigu River 74.45 359 pP pP 06 18 29.5 +3.5
baz=2.9
G29M Pine Creek 74.52 351 pP pP 06 18 30.3 +3.9
baz=18
F25K Christian Rive 74.61 354 pP pP 06 18 30.5 +3.6
baz=12
F24K Squaw Lake 74.84 355 pP pP 06 18 32.5 +4.2
baz=9.7
EPYK Eagle Plains 74.87 351 pP pP 06 18 31.8 +3.3
baz=19
MA2 Magadan 74.90 24 LR LR 06 56 35.3
comp=Z,48nm,18.5s,baz=294,slow=40
D17K Noatak River 75.01 1 pP pP 06 18 32.8 +3.6
baz=357
G27K Doyon Strip 75.02 353 pP pP 06 18 32.7 +3.4
baz=15
F22K John River 75.08 357 pP pP 06 18 32.5 +2.9
baz=6.2
H31M Peel River 75.08 349 pP pP 06 18 32.6 +2.9
baz=21
G26K Porcupine Rive 75.08 354 pP pP 06 18 32.7 +3.2
baz=13
H29M Whitestone 75.22 351 pP pP 06 18 34.0 +3.5
baz=17
COLD Coldfoot 75.26 356 pP pP 06 18 34.2 +3.5
baz=7.8
E19K Redstone River 75.27 359 pP pP 06 18 34.3 +3.6
baz=2.0
E18K Tukpahlearik C 75.32 0 pP pP 06 18 34.9 +4.0
baz=359
F21K Alatna River 75.41 358 pP pP 06 18 35.2 +3.7
baz=5.1
WRGLY Wrigley 75.45 344 pP pP 06 18 36.0 +4.3
baz=29
G25K Bearman Lake 75.46 354 pP pP 06 18 35.5 +3.7
baz=11
H27K Steamboat Moun 75.57 353 pP pP 06 18 36.3 +3.8
baz=15
G24K Hadweenzic Riv 75.62 355 pP pP 06 18 36.8 +4.1
baz=10.0
G22K Bettles 75.63 357 pP pP 06 18 36.9 +4.2
baz=6.7
E17K Hotham Inlet 75.65 1 pP pP 06 18 37.1 +4.3
baz=358
F20K Avaraart Lake 75.65 358 pP pP 06 18 36.9 +4.1
baz=3.3
G23K Bananza Creek 75.77 356 pP pP 06 18 37.1 +3.5
baz=7.9
F19K Shaleruckik Mo 75.90 359 pP pP 06 18 37.8 +3.6
baz=1.6
I30M Mount Dempster 75.92 350 pP pP 06 18 37.9 +3.3
baz=19
H25L Birch Creek 75.93 354 pP pP 06 18 38.3 +3.8
baz=11
I29M Ogilvie Camp, 76.04 351 pP pP 06 18 38.8 +3.6
baz=17
ULM Lac du Bonnet 76.08 324 P **P 06 18 33.0 +0.4**
comp=Z,2.2nm,0.6s,baz=160,slow=10,SNR=2.0
comp=Z,2.2nm,0.6s
G21K Allakaket 76.12 357 pP pP 06 18 39.2 +3.7
baz=5.1
F18K Selawik 76.14 360 pP pP 06 18 38.9 +3.3
baz=0.1
I28M Miner Creek 76.15 352 pP pP 06 18 39.1 +3.2
baz=16
I27K Kandik River 76.19 352 pP pP 06 18 39.5 +3.4
baz=15
F17K Baldwin Pennin 76.30 1 pP pP 06 18 39.7 +3.2
baz=359
H24K Noodor Dome 76.50 355 pP pP 06 18 41.4 +3.6
baz=9.7
J30M Hart River 76.53 350 pP pP 06 18 42.0 +3.9
baz=19
G19K Purcell Mounta 76.58 359 pP pP 06 18 42.1 +3.9
baz=2.1
H23K Yukon River 76.62 356 pP pP 06 18 42.0 +3.5
baz=8.3
I26K Coal Creek Min 76.63 353 pP pP 06 18 42.4 +3.9
baz=14
PRP Porcupine Dome 76.64 354 pP pP 06 18 42.6 +3.9
baz=12
H22K Ishtalitna Cre 76.65 357 pP pP 06 18 42.8 +4.2
baz=6.8
G18K Tagagawik 76.85 360 pP pP 06 18 43.5 +3.8
baz=0.9
H21K Melozitna Rive 76.95 357 pP pP 06 18 44.3 +4.0
baz=5.6
F14K Arctic Creek 77.14 3 pP pP 06 18 45.6 +4.3
baz=355
POKR Poker Flat Res 77.18 355 pP pP 06 18 45.1 +3.5
baz=10.0
H20K Anotleneega Mo 77.19 358 pP pP 06 18 44.6 +3.0
baz=3.9
H19K Roundabout Mou 77.19 359 pP pP 06 18 44.6 +3.0
baz=2.7
G17K Kiwalik Mounta 77.25 0 pP pP 06 18 44.9 +3.0
baz=359
NJ2 Nanjing 77.26 59 *e*P **P 06 18 39.8 +0.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
I23K Minto, Yukon-K 77.28 356 pP pP 06 18 45.2 +3.1
baz=8.4
G16K Koyuk River 77.33 1 pP pP 06 18 46.1 +3.7
baz=358
K29M Barlow Dome 77.39 350 pP pP 06 18 46.1 +3.1
baz=18
I21K Tanana 77.39 357 pP pP 06 18 45.9 +3.1
baz=6.3
MAYO Mayo, Yukon 77.39 349 pP pP 06 18 45.9 +3.0
baz=19
DAWY Dawson 77.42 351 P **P 06 18 40.7 +0.7**
DAWY IAmb IAmb 06 18 48.2
comp=Z,10nm,1.0s
DAWY Dawson 77.42 351 pP pP 06 18 46.2 +3.2
baz=16
COLA College 77.45 355 pP pP 06 18 45.6 +2.6
baz=9.8
J26L Joseph Creek 77.46 353 pP pP 06 18 46.0 +2.7
baz=13
MLY Manley 77.48 356 pP pP 06 18 46.2 +2.9
baz=7.3
ILAR Eielson Array 77.48 354 P **P 06 18 41.5 +1.1**
comp=Z,0.4nm,0.8s,baz=356,slow=5.2,SNR=3.0
comp=Z,0.4nm,0.8s
J25K Salcha River, 77.52 354 pP pP 06 18 46.7 +3.1
baz=12
H18K Honhosa River 77.59 359 pP pP 06 18 46.8 +2.8
baz=1.1
G15K Niukluk 77.70 2 pP pP 06 18 47.6 +3.1
baz=356
K27K Chicken 77.77 352 pP pP 06 18 48.7 +3.9
baz=14
USRK Ussuriysk Ar. 77.82 43 P **P 06 18 43.2 +0.6**
comp=Z,1.5nm,0.9s,baz=292,slow=7.6,SNR=2.0
USRK LR LR 06 55 28.3
comp=Z,74nm,18.9s,baz=333,slow=38
comp=Z,1.5nm,0.9s
HDA Harding Lake 77.85 354 pP pP 06 18 48.2 +2.9
baz=10
SCRK Sand Creek 78.01 353 pP pP 06 18 49.7 +3.2
baz=13
ANM Nome 78.09 3 pP pP 06 18 49.3 +2.6
baz=355
H16K Elim 78.09 1 pP pP 06 18 49.1 +2.4
baz=358
L29M L29M 78.17 350 pP pP 06 18 50.1 +2.8
baz=17
FARO Faro, Yukon 78.28 348 pP pP 06 18 50.9 +3.1
baz=21
KOTAN Kotaneelee Air 78.31 343 pP pP 06 18 51.0 +3.0
baz=28
K24K Donnelly Dome 78.35 354 pP pP 06 18 51.1 +2.9
baz=11
BPAW Bear Paw Mtn. 78.42 356 pP pP 06 18 51.6 +3.0
baz=7.1
M31M Drury Creek, Y 78.48 348 pP pP 06 18 51.6 +2.7
baz=20
J20K Nowinta River 78.48 358 pP pP 06 18 51.8 +2.9
baz=4.5
MCK McKinley 78.66 355 pP pP 06 18 52.6 +2.7
baz=8.7
L27K Beaver Creek, 78.68 352 pP pP 06 18 52.8 +2.8
baz=14
CHUM Lake Minchumin 78.70 357 pP pP 06 18 52.9 +2.9
baz=6.0
J19K Poorman 78.71 358 pP pP 06 18 53.2 +3.1
baz=3.3
M29M Somme Creek 78.86 350 pP pP 06 18 54.2 +3.1
baz=17
I17K Unalakleet 78.87 0 pP pP 06 18 53.3 +2.4
baz=359
L26K Log Cabin Wild 78.88 352 pP pP 06 18 54.0 +2.9
baz=13
TRF Thorofare Moun 79.03 356 pP pP 06 18 54.8 +2.7
baz=7.6
PAX Paxson 79.14 353 pP pP 06 18 55.3 +2.7
baz=12
CAST Castle Rocks 79.16 357 pP pP 06 18 55.7 +3.1
baz=6.2
BVCY Beaver Creek 79.20 351 pP pP 06 18 55.8 +3.0
baz=15
DHY Denali Highway 79.20 354 pP pP 06 18 56.2 +3.2
baz=9.9
N32M Quiet Lake 79.25 347 pP pP 06 18 56.4 +3.3
baz=21
J18K Innoko River 79.26 359 pP pP 06 18 56.7 +3.5
baz=2.4
K20K Telida 79.30 357 pP pP 06 18 56.8 +3.4
baz=4.6
J17K VABM Dome 79.36 360 pP pP 06 18 57.2 +3.5
baz=0.5
M27K Edge Creek, AK 79.37 352 pP pP 06 18 57.8 +3.9
baz=14
N31M Braeburn, Yuko 79.38 349 pP pP 06 18 57.9 +4.0
baz=19
WTLY Watson Lake, Y 79.38 345 pP pP 06 18 58.3 +4.4
baz=24
M26K Nabesna, AK 79.45 352 pP pP 06 18 57.8 +3.5
baz=13
WAT1 Susitna Watana 79.53 355 pP pP 06 18 58.3 +3.7
baz=9.0
N30M Aishikik Lake 79.60 349 pP pP 06 18 57.7 +2.6
baz=18
PPLA Purkeypile 79.68 357 pP pP 06 18 58.7 +3.1
baz=6.1
WAT6 Susitna Watana 79.72 354 pP pP 06 18 58.0 +2.1
baz=9.6
TOAD Toad River Com 79.73 343 pP pP 06 18 58.4 +2.6
baz=27
YUK3 Moose Creek 79.76 351 pP pP 06 18 58.6 +2.4
baz=15
KSRS Korea Array 79.83 50 P **P 06 18 53.4 -0.4**
comp=Z,0.4nm,0.4s,baz=309,slow=4.4,SNR=2.0
KSRS LR LR 06 59 55.6
comp=Z,86nm,18.1s,baz=90,slow=40
comp=Z,0.4nm,0.4s
YUK4 Talbot Arm 79.94 350 pP pP 06 18 59.1 +2.0
baz=17
K17K Iditarod 80.04 359 pP pP 06 18 59.6 +2.2
baz=1.1
M24K Tolsona, Glenn 80.06 354 pP pP 06 18 59.9 +2.4
baz=11
P33M Teslin, Yukon 80.08 347 pP pP 06 19 00.0 +2.3
baz=21
O30N Mendenhall 80.11 348 pP pP 06 19 00.5 +2.7
baz=19
HYT Haines Junctio 80.27 349 pP pP 06 19 01.6 +2.7
baz=18
K15K Wolf Creek Mou 80.46 1 P **P 06 18 56.4 -0.3**
baz=358
R33M Jennings River 80.48 346 pP pP 06 19 03.2 +3.1
baz=23
M23K Glacier View 80.50 354 pP pP 06 19 02.9 +3.0
baz=9.6
L19K White Mountain 80.50 358 pP pP 06 19 03.3 +3.4
baz=3.9
L18K Granite Mounta 80.51 359 pP pP 06 19 02.4 +2.5
baz=2.4
SML Sawmill 80.53 355 P **P 06 18 56.8 -0.4**
baz=9.1
SKT Skwentna 80.56 356 P **P 06 18 57.5 +0.2**
baz=6.6
L17K Donlin 80.62 359 pP pP 06 19 03.4 +2.9
baz=1.1
CTG Chitna Glacier 80.66 351 pP pP 06 19 03.8 +2.8
baz=15
O28M Mount Upton 80.70 350 pP pP 06 19 04.0 +2.6
baz=16
M22K Willow 80.71 355 pP pP 06 19 03.8 +2.8
baz=7.7
M20K Styx River 80.74 357 pP pP 06 19 03.9 +2.7
baz=5.3
K13K Kusilvak Mount 80.75 2 pP pP 06 19 04.1 +2.9
baz=356
M19K Big River Lodg 80.77 357 pP pP 06 19 04.0 +2.6
baz=4.3
P30M Million Dollar 80.86 349 pP pP 06 19 04.4 +2.4
baz=18
KNK Knik Glacier 80.93 355 pP pP 06 19 05.1 +2.8
baz=9.0
O29M Mount Kennedy 80.93 350 pP pP 06 19 05.8 +3.4
baz=17
CRQE Cirque 81.07 352 pP pP 06 19 06.4 +3.3
baz=13
L15K Ungalak Mounta 81.08 1 pP pP 06 19 06.2 +3.3
baz=359
Q32M Nakina River 81.14 346 pP pP 06 19 06.7 +3.0
baz=22
M17K Holitna River 81.35 359 pP pP 06 19 07.5 +3.1
baz=1.8
BDFB Brasilia 83.11 244 P **P 06 19 13.0 +1.5**
comp=Z,2.4nm,0.8s,baz=38,slow=6.0,SNR=3.6
comp=Z,2.4nm,0.8s
PDAR Pinedale Array 87.95 326 P **P 06 19 36.1 +0.6**
comp=Z,0.3nm,0.9s,baz=7.1,slow=3.6,SNR=3.1
comp=Z,0.3nm,0.9s
WRA Warramunga Arr 120.67 92 PKP **PKiKP 06 25 37.9 +0.2**
comp=Z,0.1nm,0.5s,baz=306,slow=1.8,SNR=1.3
ASAR Alice Springs 122.27 96 PKP **PKPdf 06 25 40.2 -0.4**
comp=Z,0.2nm,0.7s,baz=312,slow=1.4,SNR=1.5

NEIC ***18*** *06:11:40.8±1.4, 41°.75S±0°.03×92°.5W±0°.2, h10km±1km, mb4.5/23, Error ellipse: s-maj=26.6km s-min=6.0km az=270.0*
IDC ***18*** *06:11:42.7±0.9, 41°.13S×92°.59W, h0km, mb4.0/7, mbtmp4.0/7, MS4.2/34, Error ellipse: s-maj=55.1km s-min=21.7km az=84.0*
GCMT ***18*** *06:11:44.8±0.2, 40°.97S±0°.02×91°.77W±0°.01, h14km, MW5.0/101, Moment Tensor Solution. s47,c58; s101,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.23±.20; $M_{\theta\theta}$0.25±.11; $M_{\phi\phi}$3.97±.13; $M_{r\theta}$0.35±.31; $M_{\theta\phi}$-0.35±.07; $M_{\phi r}$0.99±.23; Best double couple: $M_0$4.24700×10^{16} NP1:ϕ_s180.00000°, δ52.00000°, λ-83.00000°. NP2:ϕ_s349.00000°, δ39.00000°, λ-98.00000°. Principal axes: T 4.1130, Plg7.0000°, Azm265.0000°; N 0.2600, Plg5.0000°, Azm356.0000°; P -4.3810, Plg82.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 06:11:44.5±0.7, 41°.15±0°.1×92°.22W±0°.09, h10km, n71, σ1§00/31, mb4.4/15, MS4.2/34, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez** baz=230,slow=73,SNR=671	**12.82**	**60**	T	T	06 27 42.8	
H03S1	**Juan Fernandez** baz=230,slow=73,SNR=561	**12.83**	**60**	T	T	06 27 51.9	
H03S3	**Juan Fernandez** baz=230,slow=73,SNR=545	**12.84**	**60**	T	T	06 27 43.0	
H03N3	**Juan Fernandez** baz=231,slow=71,SNR=1583	**13.06**	**58**	T	T	06 27 57.1	
H03N2	**Juan Fernandez** baz=231,slow=71,SNR=2056	**13.07**	**58**	T	T	06 27 48.2	
H03N1	**Juan Fernandez** baz=231,slow=71,SNR=1709	**13.08**	**58**	T	T	06 27 48.7	
LR03	**Panguipulli** comp=Z,21nm,1.1s	**15.22**	**91**	Pn	**Pn**	**06 15 19.1**	**-0.4**
LR03				IAmb	IAmb	06 15 24.6	
LR05	**Currie**	**15.37**	**93**	Pn	**Pn**	**06 15 20.3**	**-1.1**

LR05 IAmb IAmb 06 15 35.0
comp=Z,45nm,1.4s
GO06 Curarrehue 15.89 91 Pn Pn 06 15 27.7 -0.6
PLCA Paso Flores 16.38 96 Pn **Pn 06 15 33.1 -1.4**
BI02 San Fabin de 16.90 81 P **Pn 06 15 41.9 +0.7**
RPN Rapa Nui 19.85 309 LR LR 06 21 50.7
comp=Z,1μm,19.4s,baz=132,slow=31
AC04 Llanos de Chal 21.59 60 P **P 06 16 35.0 +0.6**
AC04 IAmb IAmb 06 16 58.4
comp=Z,29nm,1.1s
TRQA Tornquist 23.45 92 P **P 06 16 51.6 -2.4**
TRQA IAmb IAmb 06 17 09.2
comp=Z,32nm,1.4s
PMSA Palmer Station 28.66 155 LR LR 06 25 42.5
comp=Z,497nm,22.0s,baz=280,slow=29
NNA Nana 32.02 29 LR LR 06 27 28.1
comp=Z,405nm,20.4s,baz=196,slow=29
CPUP Villa Florida 32.32 74 LR LR 06 29 35.0
comp=Z,708nm,20.6s,baz=237,slow=33
LPAZ La Paz 32.34 47 P **P 06 18 14.5 -0.3**
LPAZ IAmb IAmb 06 18 36.9
comp=Z,5.9nm,1.4s
LPAZ La Paz 32.34 47 P **P 06 18 16.0 +1.3**
comp=Z,0.8nm,0.9s,baz=216,slow=8.7,SNR=2.1
LPAZ LR LR 06 28 17.8
comp=Z,367nm,19.1s,baz=196,slow=31
comp=Z,0.8nm,0.9s
ATAH Atahualpa 36.03 24 LR LR 06 29 46.8
comp=Z,461nm,21.6s,baz=208,slow=30
SIV San Ignacio 36.76 56 LR LR 06 31 57.1
comp=Z,582nm,21.8s,baz=273,slow=33
CZSB Cruzeiro do Su 37.52 33 P **P 06 18 59.4 +0.7**
CZSB IAmb IAmb 06 19 01.5
comp=Z,7.1nm,1.0s
OTAV Otavalo 43.04 20 P **P 06 19 45.7 +0.7**
OTAV IAmb IAmb 06 19 54.2
comp=Z,8.0nm,1.2s
BELA Belgrano 2 43.44 165 P P 06 19 38.8 -8.3
BELA IAmb IAmb 06 19 57.3
comp=Z,9.7nm,1.3s
BDFB Brasilia 45.80 70 LR LR 06 38 26.2
comp=Z,924nm,18.1s,baz=244,slow=35
MACA Manacapuru-AM 47.26 45 P **P 06 20 18.5 +0.5**
MACA IAmb IAmb 06 20 21.5
comp=Z,6.1nm,1.0s
ROSC El Rosal 48.60 24 P **P 06 20 28.6 -0.2**
ROSC El Rosal 48.60 24 LR LR 06 38 43.8
comp=Z,158nm,18.1s,baz=165,slow=33
QSPA South Pole Qui 49.09 180 P **P 06 20 32.0 +0.2**
comp=Z,1.0nm,0.7s,baz=136,slow=3.5,SNR=7.6
QSPA LR LR 06 38 37.0
comp=Z,162nm,20.1s,baz=160,slow=33
comp=Z,1.0nm,0.7s
TBI Tubuai 50.66 272 *e*S **S 06 27 57.2 -1.9**
TBI *e*LR LR 06 35 19.7
comp=Z,1μm,38.8s
TBI *e*LR LR 06 35 24.5
comp=Z,2μm,25.2s
TBI *e*LR LR 06 35 24.5
comp=Z,5μm,25.5s
SNAA Sanae 51.37 156 P P 06 20 41.3 -7.6
SNAA IAmb IAmb 06 20 57.5
comp=Z,13nm,1.5s
SNAA Sanae 51.37 156 P **P 06 20 50.6 +1.7**
comp=Z,1.7nm,0.9s,baz=260,slow=18,SNR=1.5
SNAA LR LR 06 39 24.2
comp=Z,146nm,19.4s,baz=194,slow=32
comp=Z,1.7nm,0.9s
JTS Las Juntas de 51.61 9 LR LR 06 37 14.8
comp=Z,183nm,19.1s,baz=158,slow=30
TAOE Nuku Hiva Isla 53.10 293 *e*S **S 06 28 33.0 0.0**
comp=Z,194nm,24.5s
TAOE *e*LR LR 06 36 32.7
comp=Z,710nm,24.6s
SDV Santo Domingo 53.60 27 LR LR 06 42 13.6
comp=Z,269nm,18.4s,baz=116,slow=34
PPT2 Papeete2 54.16 278 *e*S **S 06 28 48.3 +1.0**
comp=Z,340nm,25.8s
PPT2 *e*LR LR 06 36 55.0
comp=Z,1μm,28.0s
PPT2 *e*LR LR 06 36 56.0
comp=Z,645nm,31.8s
PCRV Puerto La Cruz 57.04 33 LR LR 06 43 28.6
comp=Z,150nm,19.9s,slow=33
CMIG Matias Romero 57.98 357 LR LR 06 40 17.0
comp=Z,104nm,21.2s,baz=121,slow=30
RAR Rarotonga 59.68 267 LR LR 06 41 01.9
comp=Z,202nm,19.5s,baz=128,slow=30
URZ Urewera 66.60 239 LR LR 06 44 32.1
comp=Z,347nm,20.1s,baz=254,slow=30
LPIG La Paz 67.05 342 LR LR 06 44 03.8
comp=Z,114nm,18.2s,baz=52,slow=29
MAW Mawson 69.95 170 P P 06 22 54.0 -1.5
comp=Z,3.8nm,0.8s,baz=183,slow=5.6,SNR=2.1
MAW LR LR 06 50 53.8
comp=Z,54nm,20.8s,baz=225,slow=34
comp=Z,3.8nm,0.8s
TX31 Lajitas Ar. Si 70.91 349 P **P 06 23 01.1 -0.8**
TXAR Lajitas Array 70.91 349 P **P 06 23 01.5 -0.4**
comp=Z,0.6nm,0.8s,baz=172,slow=7.3,SNR=5.2
TXAR LR LR 06 48 37.8
comp=Z,108nm,19.7s,baz=68,slow=31
comp=Z,0.6nm,0.8s
ANMO Albuquerque 76.84 348 P **P 06 23 35.2 -1.3**
CROK Carrier 77.45 355 P **P 06 23 39.7 -0.1**
PFO Pinyon Flats O 77.66 339 LR LR 06 49 24.0
comp=Z,105nm,21.2s,baz=70,slow=29
TMUT Trail Mountain 81.91 345 P **P 06 24 03.7 -0.5**
TMUT IAmb IAmb 06 24 07.3
comp=Z,3.6nm,1.0s
NVAR Mina Array Bea 82.69 340 P **P 06 24 08.1 -0.2**
comp=Z,0.7nm,0.8s,baz=167,slow=4.5,SNR=5.9
comp=Z,0.7nm,0.8s
BSUT Blindstream Ca 83.02 346 P **P 06 24 09.7 -0.4**
DZM Mont Dzumac 83.85 246 *e*LR LR 06 50 38.1
comp=Z,467nm,26.6s
DZM Mont Dzumac 83.85 246 LR LR 06 56 31.1
comp=Z,156nm,18.3s,baz=200,slow=32
SUR Sutherland 84.31 129 LR LR 06 54 47.9
comp=Z,133nm,19.9s,baz=303,slow=31
PD31 Pinedale Array 84.98 347 P **P 06 24 18.8 -1.1**
PD31 IAmb IAmb 06 24 22.1
comp=Z,2.9nm,0.9s
PDAR Pinedale Array 84.98 347 P **P 06 24 18.8 -1.1**
PDAR Pinedale Array 84.98 347 P **P 06 24 19.1 -0.8**
comp=Z,2.3nm,0.8s,baz=159,slow=6.0,SNR=18
comp=Z,2.3nm,0.8s
TPAW Teton Pass 85.92 346 P **P 06 24 24.0 -0.6**
LOHW Long Hollow 85.98 347 P **P 06 24 24.0 -0.8**
LOHW IAmb IAmb 06 24 27.2
comp=Z,3.8nm,1.2s
SADO Sadowa 86.33 9 LR LR 06 58 29.1
comp=Z,104nm,21.6s,baz=66,slow=32
FLWY Flagg Ranch 86.45 347 P **P 06 24 26.8 -0.4**
YBH Yreka Blue Hor 86.99 338 LR LR 06 55 08.7
comp=Z,58nm,19.1s,baz=56,slow=30
BOSA Boshof 89.67 129 LR LR 06 58 57.5
comp=Z,100nm,18.3s,baz=318,slow=32
TSUM Tsumeb 91.58 117 LR LR 06 59 35.1
comp=Z,155nm,19.3s,baz=328,slow=31
NEW Newport 91.71 344 LR LR 06 59 56.7
comp=Z,102nm,19.1s,baz=54,slow=32
STKA Stephens Creek 92.00 223 LR LR 06 57 47.4
comp=Z,78nm,20.1s,baz=196,slow=30
DBIC Dimbokro 92.36 83 LR LR 06 59 05.8
comp=Z,107nm,22.0s,baz=332,slow=31
LBTB Lobatse 92.53 127 LR LR 07 02 34.2
comp=Z,123nm,21.5s,baz=308,slow=33
HNR Honiara 96.98 251 LR LR 07 00 28.9
comp=Z,116nm,22.0s,baz=138,slow=30
BBB Bella Bella 98.03 339 LR LR 07 01 16.4
comp=Z,74nm,19.3s,baz=56,slow=30
SCHQ Schefferville 98.03 15 LR LR 07 09 07.8
comp=Z,81nm,18.1s,baz=300,slow=35
CTA Charters Tower 98.48 234 LR LR 07 03 58.4
comp=Z,5.7nm,18.2s,baz=92,slow=32

IDC 18 06:15:29.9±3.2, 41°.07S×93°.57W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=578.3km s-min=34.6km az=85.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**13.69**	**63**	T	T	06 32 06.5	
baz=232,slow=74							
H03S1	**Juan Fernandez**	**13.70**	**63**	T	T	06 32 07.3	
baz=232							
H03S3	**Juan Fernandez**	**13.70**	**63**	T	T	06 32 06.3	
baz=232,slow=74							
H03N3	**Juan Fernandez**	**13.91**	**62**	T	T	06 32 23.9	
baz=231,slow=71,SNR=65							
H03N2	**Juan Fernandez**	**13.92**	**61**	T	T	06 32 18.0	
baz=231,slow=71,SNR=73							
H03N1	**Juan Fernandez**	**13.93**	**62**	T	T	06 32 13.4	
baz=231,slow=71,SNR=58							
QSPA	**South Pole Qui**	**49.15**	**180**	P	P	06 24 19.1	-0.1
0.6nm,0.9s,baz=121,slow=7.7,SNR=1.3							
0.6nm,0.9s							
TXAR	**Lajitas Array**	**70.67**	**351**	P	P	06 26 47.3	-0.1
0.3nm,0.9s,baz=163,slow=6.5,SNR=2.5							
0.3nm,0.9s							
NVAR	**Mina Array Bea**	**82.29**	**341**	P	P	06 27 53.2	0.0
0.2nm,0.6s,baz=161,slow=5.7,SNR=2.5							
0.2nm,0.6s							
PDAR	**Pinedale Array**	**84.70**	**348**	P	P	06 28 05.6	+0.1
0.6nm,0.7s,baz=158,slow=7.5,SNR=5.8							
0.6nm,0.7s							

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*NOU **18** 06:19:06.8, 29°.90S×178°.20W, h317km, mb4.5/29, Kermadec Islands, New Zealand*
*IDC **18** 06:19:10.2±0.5, 29°.44S×179°.16W, h293km±5km, mb3.6/10, mbtmp4.2/10, Error ellipse: s-maj=19.2km s-min=14.5km az=153.0*
ISC 18 06:19:09.2±0.6, 29°.96S±0°.06×178°.75W±0°.08, h300km, n156, σ1°82/162, mb3.8/10, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.00**	**46**	P	**Pn**	**06 19 51.7**	**+2.1**
GLKZ				S	**S**	**06 20 23.5**	**+1.7**
RIZ	**Raoul Island**	**1.01**	**45**	P	**Pn**	**06 19 51.8**	**+2.1**
RIZ				S	**S**	**06 20 23.3**	**+1.4**
RAO	**Raoul Island**	**1.01**	**46**	P	**Pn**	**06 19 51.6**	**+2.0**
693nm,0.3s,baz=86,slow=6.9,SNR=10.0							
RAO				S	**S**	**06 20 22.1**	**+0.2**
3μm,0.5s,baz=80,slow=23,SNR=7.0							
RAO	**Raoul Island**	**1.01**	**46**	P	**Pn**	**06 19 49.7**	**0.0**
GRZ	**Great Barrier**	**7.93**	**216**	P	**Pn**	**06 21 06.5**	**+4.7**
MXZ	**Matakaoa Point**	**7.97**	**197**	P	**Pn**	**06 21 01.6**	**-0.7**
MXZ				S	**S**	**06 22 31.7**	**-2.3**
MXZ	**Matakaoa Point**	**7.97**	**197**	P	**Pn**	**06 21 02.0**	**-0.3**
WMGZ	**Waiomatatini S**	**8.19**	**196**	P	**Pn**	**06 21 04.7**	**-0.2**
KUZ	**Kuaotunu**	**8.19**	**213**	P	**Pn**	**06 21 09.3**	**+4.3**
KUZ	**Kuaotunu**	**8.19**	**213**	P	**Pn**	**06 21 07.0**	**+2.0**
WIZ	**White Island**	**8.27**	**203**	P	**Pn**	**06 21 09.6**	**+3.6**
HAZ	**Te Kaha**	**8.29**	**199**	P	**Pn**	**06 21 06.4**	**+0.2**
HAZ				S	**S**	**06 22 42.0**	**+0.8**
OUZ	**Omahuta**	**8.32**	**229**	P	Pn	06 21 11.2	+4.7
OUZ	**Omahuta**	**8.32**	**229**	P	**Pn**	**06 21 11.0**	**+4.4**
WCZ	**Waipu Caves**	**8.32**	**222**	P	Pn	06 21 11.5	+5.0
PUZ	**Puketiti**	**8.46**	**196**	P	**Pn**	**06 21 07.9**	**-0.5**
PUZ				S	**S**	**06 22 45.2**	**0.0**
RUGZ	**Raukumara Rang**	**8.52**	**199**	P	**Pn**	**06 21 09.7**	**+0.6**
TGRZ	**Tauranga**	**8.79**	**207**	P	**P**	**06 21 17.4**	**+0.1**
CNGZ	**Carnagh Statio**	**8.87**	**196**	P	**Pn**	**06 21 13.3**	**+0.1**
MWZ	**Matawai**	**8.90**	**199**	P	**Pn**	**06 21 12.9**	**-0.9**
TKGZ	**Te Karaka**	**8.91**	**198**	P	**Pn**	**06 21 12.8**	**-1.1**
EDRZ	**Edgecumbe**	**8.94**	**204**	P	**Pn**	**06 21 16.2**	**+1.9**
URZ	**Urewera**	**8.96**	**201**	P	**Pn**	**06 21 13.4**	**-1.1**
28nm,0.3s,baz=328,slow=4.1,SNR=18							
URZ				S	**S**	**06 22 51.4**	**-4.9**
27nm,0.5s,baz=179,slow=14,SNR=2.3							
URZ	**Urewera**	**8.96**	**201**	P	**Pn**	**06 21 13.3**	**-1.1**
URZ	**Urewera**	**8.96**	**201**	P	**Pn**	**06 21 13.3**	**-1.1**
KARZ	**Kaharoa**	**9.05**	**206**	P	**Pn**	**06 21 18.9**	**+3.4**
RIGZ	**Rimuhau**	**9.19**	**197**	P	**Pn**	**06 21 16.0**	**-1.3**
RRRZ	**Republican Roa**	**9.23**	**204**	P	**P**	**06 21 22.0**	**-0.2**
MUGZ	**Murupara**	**9.27**	**202**	P	**Pn**	**06 21 20.9**	**+2.6**
HSRZ	**Hossack Road**	**9.30**	**205**	P	**P**	**06 21 22.7**	**-0.4**
RTZ	**Ruatahuna**	**9.33**	**201**	P	**Pn**	**06 21 21.0**	**+2.0**
HRRZ	**Hardcock Road**	**9.36**	**205**	P	**P**	**06 21 24.3**	**+0.6**
PRGZ	**Paritu Road**	**9.36**	**196**	P	**Pn**	**06 21 18.2**	**-1.2**
SNGZ	**Shannon Statio**	**9.37**	**199**	P	**Pn**	**06 21 20.0**	**+0.5**
GRRZ	**Galatos Road**	**9.39**	**206**	P	**P**	**06 21 24.6**	**+0.6**
PRRZ	**Plateau Road**	**9.42**	**204**	P	**Pn**	**06 21 20.9**	**+0.8**
ALRZ	**Allen Road**	**9.49**	**204**	P	**Pn**	**06 21 21.1**	**+0.2**
KNZ	**Kokohu**	**9.51**	**197**	P	**Pn**	**06 21 19.6**	**-1.5**
WPRZ	**Whakapapatarin**	**9.52**	**205**	P	**P**	**06 21 25.1**	**-0.4**
RAHZ	**Arahi**	**9.57**	**200**	P	**Pn**	**06 21 20.7**	**-1.3**
MHGZ	**Mahia Peninsul**	**9.57**	**196**	P	**Pn**	**06 21 21.2**	**-0.8**
MTHZ	**Maungataniwha**	**9.59**	**201**	P	**P**	**06 21 26.2**	**-0.1**
MTHZ				S	**S**	**06 23 09.9**	**-0.7**
TLZ	**Tolley Road**	**9.59**	**208**	P	**P**	**06 21 26.7**	**+0.4**
KUTZ	**Kaahu Road**	**9.62**	**206**	P	**P**	**06 21 26.5**	**-0.1**
WHHZ	**Waihua**	**9.68**	**199**	P	**Pn**	**06 21 21.9**	**-1.4**
WHHZ				S	**S**	**06 23 12.5**	**0.0**
MRHZ	**Matea Rd**	**9.71**	**203**	P	**Pn**	**06 21 25.8**	**+2.1**
NMHZ	**Naumai**	**9.82**	**201**	P	**Pn**	**06 21 24.1**	**-1.0**
NMHZ				S	**S**	**06 23 17.0**	**+1.1**
WATZ	**Wairara**	**9.84**	**206**	P	**P**	**06 21 29.8**	**+0.7**
HATZ	**Hinemaiaia**	**9.87**	**204**	P	**P**	**06 21 29.4**	**0.0**
ARHZ	**Aropaoanui**	**9.92**	**200**	P	**Pn**	**06 21 24.5**	**-1.7**
ARHZ				S	**S**	**06 23 17.5**	**-0.5**
RATZ	**Rangitukua**	**9.97**	**206**	P	**Pn**	**06 21 29.8**	**+2.9**
BKZ	**Black Stump Fm**	**9.98**	**202**	P	**Pn**	**06 21 25.3**	**-1.7**
BKZ				S	**S**	**06 23 18.5**	**-1.1**
BKZ	**Black Stump Fm**	**9.98**	**202**	P	**Pn**	**06 21 25.4**	**-1.7**
RITZ	**Rihia Road**	**10.03**	**205**	P	**Pn**	**06 21 30.2**	**+2.5**
HIZ	**Hauiti**	**10.04**	**210**	P	**Pn**	**06 21 30.0**	**+2.3**
KATZ	**Kakaramea**	**10.09**	**206**	P	**P**	**06 21 32.3**	**+0.4**
MCHZ	**McNeill Hill**	**10.17**	**200**	P	**Pn**	**06 21 31.3**	**+2.0**
NTVZ	**North Tongarir**	**10.21**	**205**	P	**P**	**06 21 33.4**	**+0.2**
TMVZ	**Te Maari**	**10.21**	**205**	P	**Pn**	**06 21 29.2**	**-0.7**
KRVZ	**Karewarewa**	**10.22**	**205**	P	**P**	**06 21 33.4**	**+0.1**
ETVZ	**East Tongariro**	**10.23**	**205**	P	**Pn**	**06 21 29.4**	**-0.7**
KWHZ	**Kaweka Forest**	**10.24**	**202**	P	**Pn**	**06 21 28.2**	**-2.0**
WTVZ	**West Tongariro**	**10.25**	**206**	P	**Pn**	**06 21 31.2**	**+0.8**
NNVZ	**North Ngauruho**	**10.26**	**205**	P	**Pn**	**06 21 33.2**	**+2.6**
CKHZ	**Cape Kidnapper**	**10.26**	**198**	P	**Pn**	**06 21 28.5**	**-1.9**
OTVZ	**Oturere**	**10.27**	**205**	P	**Pn**	**06 21 33.4**	**+2.7**
TWVZ	**Taurewa**	**10.27**	**206**	P	**Pn**	**06 21 31.2**	**+0.5**
SNVZ	**South Ngauruho**	**10.30**	**205**	P	**Pn**	**06 21 33.5**	**+2.4**
NGZ	**Ngauruhoe**	**10.30**	**205**	P	**P**	**06 21 34.6**	**+0.2**
COVZ	**Chateau Observ**	**10.35**	**205**	P	**Pn**	**06 21 34.4**	**+2.9**
TUVZ	**Tukino**	**10.36**	**205**	P	**Pn**	**06 21 33.2**	**+1.4**
FWVZ	**Far West T-bar**	**10.39**	**205**	P	**Pn**	**06 21 32.9**	**+0.7**
MAVZ	**Matarangi**	**10.40**	**205**	P	**Pn**	**06 21 33.0**	**+0.6**
WHVZ	**Whangaehu Hut**	**10.40**	**205**	P	**Pn**	**06 21 34.0**	**+1.6**
TRVZ	**Turoa**	**10.43**	**205**	P	**Pn**	**06 21 34.3**	**+1.6**
KAHZ	**Kahuranaki**	**10.45**	**199**	P	**Pn**	**06 21 30.7**	**-2.0**
KRHZ	**Kereru**	**10.46**	**201**	P	**Pn**	**06 21 30.5**	**-2.3**
PKVZ	**Pokaka**	**10.50**	**206**	P	**Pn**	**06 21 34.0**	**+0.7**
VRZ	**Vera Road**	**10.59**	**209**	P	**P**	**06 21 37.3**	**-0.1**
PXZ	**Pawanui**	**10.67**	**198**	P	**Pn**	**06 21 33.0**	**-2.4**
WPHZ	**Waipukurau**	**10.82**	**200**	P	**Pn**	**06 21 39.2**	**+1.9**
PRHZ	**Porangahau**	**10.95**	**199**	P	**Pn**	**06 21 37.2**	**-1.6**
TSZ	**Takapari Road**	**10.96**	**202**	P	**Pn**	**06 21 37.9**	**-1.2**
PKE	**Pukeiti**	**10.98**	**211**	P	**P**	**06 21 44.4**	**+2.7**
NEZ	**North Egmont**	**10.99**	**210**	P	**P**	**06 21 44.9**	**+2.9**
LREZ	**Lake Rotokare**	**11.02**	**209**	P	**P**	**06 21 43.8**	**+1.7**
WAZ	**Wanganui**	**11.04**	**206**	P	**Pn**	**06 21 41.0**	**+1.1**
KHEZ	**Kahui Hut**	**11.05**	**211**	P	**P**	**06 21 43.7**	**+1.2**
KHEZ	**Kahui Hut**	**11.05**	**211**	P	**Pn**	**06 21 41.4**	**+1.3**
DVHZ	**Dannevirke**	**11.12**	**201**	P	**Pn**	**06 21 41.4**	**+0.5**
ANWZ	**Angora Road**	**11.18**	**199**	P	**Pn**	**06 21 44.1**	**+2.6**
POWZ	**Post Office Ro**	**11.33**	**202**	P	**Pn**	**06 21 44.8**	**+1.3**
PRWZ	**Pori Road**	**11.41**	**201**	P	**Pn**	**06 21 46.0**	**+1.6**
BFZ	**Birch Farm**	**11.45**	**200**	P	**Pn**	**06 21 42.8**	**-2.1**
BFZ	**Birch Farm**	**11.45**	**200**	P	**Pn**	**06 21 42.9**	**-2.0**
MRZ	**Mangatainoka R**	**11.63**	**202**	P	**Pn**	**06 21 45.5**	**-1.7**
CPWZ	**Castlepoint**	**11.67**	**199**	P	**Pn**	**06 21 50.1**	**+2.5**
HOWZ	**Holdsworth Sta**	**11.87**	**202**	P	**Pn**	**06 21 50.0**	**0.0**
TMWZ	**Te Maipa**	**11.94**	**200**	P	**Pn**	**06 21 50.6**	**-0.3**
KIW	**Kapiti Island**	**12.04**	**204**	P	**Pn**	**06 21 50.4**	**-1.7**
MTW	**Mount Morrison**	**12.11**	**201**	P	**Pn**	**06 21 53.2**	**+0.2**
PAWZ	**Paruwai Farm**	**12.34**	**201**	P	**Pn**	**06 21 54.1**	**-1.6**
MSWZ	**Moikau Station**	**12.42**	**201**	P	**Pn**	**06 21 54.1**	**-2.7**
SNZO	**South Karori**	**12.51**	**203**	P	**Pn**	**06 21 56.9**	**-0.8**
PLWZ	**Palliser**	**12.56**	**201**	P	**Pn**	**06 21 57.0**	**-1.5**
QRZ	**Quartz Range**	**12.96**	**211**	P	**Pn**	**06 22 04.0**	**+0.8**
KHZ	**Kahutara**	**13.89**	**204**	P	**P**	**06 22 12.7**	**-1.2**
OUENC	**Ouen Island, N**	**14.95**	**297**	P	**Pn**	**06 22 26.1**	**-1.0**
YATNC	**Mamie plateau,**	**15.11**	**298**	P	**Pn**	**06 22 28.8**	**-0.2**
DZM	**Mont Dzumac**	**15.45**	**297**	P	**Pn**	**06 22 31.3**	**-1.7**
47nm,0.6s,baz=126,slow=12,SNR=88							
DZM	**Mont Dzumac**	**15.45**	**297**	P	**Pn**	**06 22 31.7**	**-1.3**
NOUC	**Port Laguerre**	**15.54**	**297**	P	**Pn**	**06 22 32.4**	**-1.6**
LIFNC	**LIFOU**	**15.61**	**303**	P	**Pn**	**06 22 34.2**	**-0.6**
RPZ	**Rata Peaks**	**15.95**	**208**	P	**P**	**06 22 37.0**	**+0.5**
6.2nm,0.3s,baz=221,slow=10,SNR=3.0							
RPZ				S	**S**	**06 25 24.4**	**-4.3**
28nm,0.6s,baz=108,slow=22,SNR=12							
RPZ	**Rata Peaks**	**15.95**	**208**	P	**P**	**06 22 37.9**	**+1.3**
ODZ	**Otahua Downs**	**17.22**	**206**	P	**P**	**06 22 51.1**	**+0.8**
STKA	**Stephens Creek**	**33.95**	**256**	P	**P**	**06 25 24.7**	**-0.2**
1.5nm,0.4s,baz=34,slow=11,SNR=8.0							
1.5nm,0.4s							
STKA	**Stephens Creek**	**33.95**	**256**	P	**P**	**06 25 25.4**	**+0.5**
HTT	**Hallett**	**36.00**	**253**	P	**P**	**06 25 43.1**	**+0.7**
LCRK	**Leigh Creek**	**37.03**	**258**	P	**P**	**06 25 51.3**	**+0.3**
BBOO	**Buckleboo**	**38.46**	**254**	P	**P**	**06 26 03.2**	**+0.3**
OOD	**Oodnadatta**	**39.76**	**262**	P	**P**	**06 26 14.4**	**+0.8**
MULG	**Mulgathing**	**40.59**	**257**	P	**P**	**06 26 20.2**	**-0.2**
ASAR	**Alice Springs**	**42.48**	**267**	P	**P**	**06 26 34.6**	**-1.2**
2.5nm,0.8s,baz=101,slow=7.7,SNR=26							
ASAR				ScP	**ScP**	**06 31 44.9**	**+0.7**
0.4nm,0.5s,baz=118,slow=3.9,SNR=4.1							
ASAR				S	**S**	**06 32 27.3**	**-7.7**
1.0nm,0.9s,baz=103,slow=16,SNR=5.9							
2.5nm,0.8s							
WRA	**Warramunga Arr**	**43.43**	**272**	P	**P**	**06 26 41.7**	**-1.6**
4.1nm,0.4s,baz=110,slow=7.9,SNR=44							
WRA				ScP	**ScP**	**06 31 48.7**	**+0.7**
0.4nm,0.7s,baz=113,slow=3.6,SNR=6.4							
WRA				S	**S**	**06 32 41.4**	**-7.4**
0.7nm,0.8s,baz=108,slow=13,SNR=4.5							
4.1nm,0.4s							
FORT	**Forrest**	**45.53**	**255**	P	**P**	**06 26 59.8**	**+0.1**
WRKA	**Warakurna**	**46.89**	**263**	P	**P**	**06 27 10.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**51.71**	**270**	P	**P**	**06 27 45.8**	**-0.8**
2.5nm,0.7s,baz=153,slow=3.7,SNR=3.7							
2.5nm,0.7s							
QSPA	**South Pole Qui**	**60.15**	**180**	P	P	06 28 50.8	+5.4
1.4nm,0.6s,baz=224,slow=2.1,SNR=14							
1.4nm,0.6s							
MJAR	**Matsushiro Arr**	**77.51**	**326**	P	**P**	**06 30 30.5**	**-1.5**
1.5nm,0.8s,baz=154,slow=5.1,SNR=5.5							
1.5nm,0.8s							
H03S2	**Juan Fernandez**	**81.25**	**124**	T	T	08 01 15.9	
baz=239,slow=74							
H03S1	**Juan Fernandez**	**81.26**	**124**	T	T	08 01 15.4	
baz=239							
H03S3	**Juan Fernandez**	**81.27**	**124**	T	T	08 01 31.2	
baz=239,slow=74							
H03N3	**Juan Fernandez**	**81.44**	**124**	T	T	08 00 42.5	
baz=240,slow=72,SNR=5.8							
H03N2	**Juan Fernandez**	**81.44**	**124**	T	T	08 00 42.4	
baz=240,slow=72,SNR=4.0							
H03N1	**Juan Fernandez**	**81.46**	**124**	T	T	08 00 40.9	
baz=240,slow=72,SNR=6.0							
KSRS	**Korea Array**	**83.59**	**320**	P	**P**	**06 31 02.1**	**-1.9**
0.8nm,0.7s,baz=145,slow=4.5,SNR=3.2							
0.8nm,0.7s							
PETK	**Petropavlovsk-**	**85.23**	**346**	P	**P**	**06 31 11.0**	**-0.9**
6.0nm,0.6s,baz=114,slow=7.0,SNR=14							
6.0nm,0.6s							
NVAR	**Mina Array Bea**	**88.36**	**43**	P	**P**	**06 31 29.0**	**+1.5**
1.4nm,0.8s,baz=221,slow=9.5,SNR=11							
1.4nm,0.8s							
PDAR	**Pinedale Array**	**96.27**	**44**	P	**P**	**06 32 05.5**	**+1.6**
0.3nm,0.8s,baz=214,slow=2.9,SNR=2.2							
0.3nm,0.8s							
MKAR	**Makanchi Array**	**116.99**	**310**	PKP	**PKPdf**	**06 37 16.4**	**-1.8**
0.4nm,0.6s,baz=133,slow=1.0,SNR=4.1							
KURBB	**Kurchatov Arra**	**120.31**	**314**	PKP	**PKPdf**	**06 37 23.9**	**-0.5**
0.7nm,0.3s,baz=104,slow=2.0,SNR=9.8							
BVAR	**Borovoye Array**	**125.64**	**316**	PKP	**PKPdf**	**06 37 34.5**	**-0.1**
1.9nm,0.6s,baz=114,slow=2.5,SNR=6.0							
SPITS	**Spitsbergen Ar**	**131.22**	**356**	PKP	**PKPdf**	**06 37 44.3**	**-0.2**
10nm,0.8s,baz=46,slow=4.2,SNR=1.8							
ARCES	**ARCESS Array B**	**138.02**	**348**	PKhKP	PKPpre	06 37 49.5	
3.3nm,0.9s,baz=100,slow=2.0,SNR=9.8							
KBZ	**Khabaz**	**144.33**	**304**	PKP	PKPbc	06 38 08.7	0.0
1.2nm,0.8s,baz=127,slow=12,SNR=2.0							
FINES	**FINESS Array B**	**144.51**	**340**	PKP	**PKPab**	**06 38 08.1**	**-0.5**
12nm,0.3s,baz=50,slow=4.0,SNR=173							
NB2	**NORSAR Subarra**	**148.22**	**351**	PKP	**PKPbc**	**06 38 19.4**	**+0.1**
comp=Z,3.5nm,0.6s,baz=13,slow=2.7							
NOA	**NORSAR Array B**	**148.22**	**351**	PKPbc	**PKPbc**	**06 38 19.1**	**-0.1**
comp=Z,5.1nm,0.6s,baz=16,slow=4.3,SNR=23							
HFS	**Hagfors**	**148.68**	**348**	PKPbc	**PKPbc**	**06 38 20.0**	**-0.4**
comp=Z,8.3nm,0.6s,baz=66,slow=2.9,SNR=40							
AKASG	**Malin Array Be**	**150.56**	**323**	PKPbc	**PKPbc**	**06 38 25.2**	**0.0**
comp=Z,4.4nm,0.6s,baz=50,slow=2.9,SNR=28							
MMAI	**Mount Meron Ar**	**150.79**	**285**	PKPbc	**PkiKP**	**06 38 28.1**	**+1.1**
comp=Z,2.1nm,0.4s,baz=73,slow=4.0,SNR=5.0							
BRTR	**Keskin Array B**	**151.82**	**299**	PKPbc	**PKPbc**	**06 38 28.9**	**+0.2**
comp=Z,0.5nm,0.5s,baz=75,slow=2.3,SNR=2.2							
EKA	**Eskdalemuir Ar**	**154.45**	**6**	PKPab	**PKPab**	**06 38 48.9**	**-0.5**
comp=Z,0.8nm,0.6s,baz

DAT	**Datca**	**0.49 319**	P	**Pn**	**06 24 58.0**	**+0.4**
DAT			S	**Sn**	**06 25 06.0**	**-0.9**
YAZI	**Mula-Dat§a-**	**0.53 307**	P	**Pn**	**06 24 58.1**	**+0.3**
YAZI			S	**Sn**	**06 25 05.3**	**-2.1**
YAZI			*i* AML	AML	06 25 06.0	
	comp=N,1μm,0.2s					
DALY	**Dalyan (Mula)**	**0.71 50**	Pg	**Pn**	**06 25 01.8**	**+2.1**
DALY			Sg	**Sn**	**06 25 12.7**	**+2.0**
NISR	**Nisiros**	**0.73 291**	P	**Pn**	**06 25 00.5**	**+0.6**
NISR	**Nisiros**	**0.73 291**	P	**Pn**	**06 24 59.7**	**-0.2**
NISR			S	**Sn**	**06 25 10.2**	**-1.0**
NISR			AML	AML	06 25 17.5	
	comp=N,1238μm,0.3s					
NISR			AML	AML	06 25 19.0	
	comp=E,1660μm,0.3s					
YER	**Yerkesik**	**0.81 17**	Pg	**Pn**	**06 25 01.9**	**+0.9**
YER			Sg	**Sn**	**06 25 13.6**	**+0.6**
YER	**Yerkesik**	**0.81 17**	P	**Pn**	**06 25 02.0**	**+0.9**
BDRM	**Kayabasi**	**0.83 329**	P	**Pn**	**06 25 00.9**	**-0.3**
BDRM			S	**Sn**	**06 25 11.8**	**-1.4**
BDRM			*i* AML	AML	06 25 12.0	
	comp=E,1μm,0.6s					
BODT	**Bodrum**	**0.89 323**	Pg	**Pn**	**06 25 02.0**	**+0.2**
BODT			Sg	**Sn**	**06 25 13.4**	**-1.0**
BODT	**Bodrum**	**0.89 323**	P	**Pn**	**06 25 02.1**	**+0.2**
BODT			S	**Sn**	**06 25 13.4**	**-1.0**
SABU	**Mula-Dalaman**	**0.92 59**	P	**Pn**	**06 25 04.5**	**+2.3**
SABU			S	**Sn**	**06 25 17.0**	**+1.8**
SABU			*i* AML	AML	06 25 20.0	
	comp=E,889nm,0.3s					
FETY	**Fethiye**	**0.93 72**	P	**Pn**	**06 25 05.8**	**+3.3**
FETY	**Fethiye**	**0.93 72**	Pg	**Pn**	**06 25 04.6**	**+2.2**
MULA	**Mugla, Merkez-**	**0.94 17**	P	**Pn**	**06 25 03.9**	**+1.3**
MULA			S	**Sn**	**06 25 15.7**	**0.0**
YKAV	**Yalikavak-Bodr**	**0.95 324**	Pg	**Pn**	**06 25 02.5**	**-0.1**
YKAV			Sg	**Sn**	**06 25 14.6**	**-1.2**
KLNA	**Kalymnos**	**1.01 307**	P	**Pn**	**06 25 03.3**	**0.0**
KLNA			S	**Sn**	**06 25 15.8**	**-1.2**
KLNA			AML	AML	06 25 17.0	
	comp=N,1462μm,0.2s					
KLNA			AML	AML	06 25 17.1	
	comp=E,3024μm,0.2s					
KARP	**Karpathos**	**1.05 220**	Pg	**Pn**	**06 25 06.0**	**+2.1**
KARP	**Karpathos**	**1.05 220**	P	**Pn**	**06 25 06.0**	**+2.1**
KARP			S	**Sn**	**06 25 19.9**	**+1.9**
	comp=E,6μm,0.3s					
KARP	**Karpathos**	**1.05 220**	P	**Pn**	**06 25 05.5**	**+1.6**
KARP	**Karpathos**	**1.05 220**	P	**Pn**	**06 25 05.6**	**+1.7**
KARP			S	**Sn**	**06 25 19.7**	**+1.7**
KARP			AML	AML	06 25 20.6	
	comp=N,11146μm,0.4s					
KARP			AML	AML	06 25 21.0	
	comp=E,11353μm,0.2s					
CAME	**Cameli-Denizli**	**1.21 61**	Pn	**Pn**	**06 25 08.3**	**+2.2**
CAME			Sn	**Sn**	**06 25 24.7**	**+2.7**
DNZT	**Denizli-Tavas-**	**1.24 42**	P	**Pn**	**06 25 08.5**	**+2.0**
DNZT			P		06 25 08.7	
DNZT			S	**Sn**	**06 25 24.5**	**+1.9**
DNZT			S		06 25 24.7	
DNZT			*i* AML	AML	06 25 28.0	
	comp=E,277nm,0.5s					
DDIM	**Aydin, Didim**	**1.25 332**	P	**Pn**	**06 25 06.9**	**+0.5**
DDIM			S	**Sn**	**06 25 22.2**	**-0.3**
DDIM			*i* AML	AML	06 25 23.0	
	comp=E,1μm,0.6s					
AKAS	**Kas**	**1.32 95**	Pn	**Pn**	**06 25 10.1**	**+2.6**
CAEL	**Denizli, Camel**	**1.32 54**	P	**Pn**	**06 25 10.0**	**+2.5**
TAVA	**DENIZLI_Tavas**	**1.33 34**	P	**Pn**	**06 25 11.2**	**+3.5**
TAVA			S	**Sn**	**06 25 28.1**	**+3.3**
KNIK	**Mula-Seydike**	**1.37 69**	P	**Pn**	**06 25 10.5**	**+2.3**
KNIK			S	**Sn**	**06 25 28.1**	**+2.5**
ESEN	**Aydn-Nazilli**	**1.47 11**	P	**Pn**	**06 25 10.3**	**+1.0**
ESEN			S	**Sn**	**06 25 27.1**	**-0.6**
ESEN			*i* AML	AML	06 25 30.0	
	comp=E,235nm,0.2s					
GCAM	**G?zelcaml?**	**1.47 336**	P	**Pn**	**06 25 09.8**	**+0.5**
GCAM			S	**Sn**	**06 25 26.2**	**-1.5**
GCAM			*i* AML	AML	06 25 27.0	
	comp=E,729nm,0.3s					
GCAM	**G?zelcaml?**	**1.47 336**	Pn	**Pn**	**06 25 09.8**	**+0.5**
GCAM			Sn	**Sn**	**06 25 26.7**	**-1.0**
DNIZ	**Denizli-Tavas-**	**1.52 34**	P	**Pn**	**06 25 12.6**	**+2.4**
APMY	**Acipayam-Deniz**	**1.54 43**	Pn	**Pn**	**06 25 11.9**	**+1.6**
AYDB	**Zeytinkoy-Aydi**	**1.59 357**	Pn	**Pn**	**06 25 11.5**	**+0.5**
AYDB			Sn	**Sn**	**06 25 30.2**	**-0.6**
ELL	**Elmali**	**1.60 75**	Pn	**Pn**	**06 25 14.0**	**+2.8**
ELL			Sn	**Sn**	**06 25 34.7**	**+3.6**
NAZL	**Nazilli-Aydin**	**1.62 9**	Pn	**Pn**	**06 25 12.2**	**+0.8**
SMG	**Samos**	**1.63 326**	P	**Pn**	**06 25 11.6**	**+0.1**
SMG	**Samos**	**1.63 326**	P	**Pn**	**06 25 11.6**	**+0.1**
IZMR	**zmir-demi**	**1.78 359**	P	**Pn**	**06 25 14.0**	**+0.6**
IZMR			P		06 25 14.1	
IZMR			S	**Sn**	**06 25 33.2**	**-1.9**
IZMR			*i* AML	AML	06 25 34.0	
	comp=E,171nm,0.5s					
INCE	**Denizli-Bozkur**	**1.86 43**	P	**Pn**	**06 25 16.0**	**+1.4**
KIRA	**zmir-Kiraz**	**1.87 10**	P	**Pn**	**06 25 15.7**	**+1.0**
KIRA			S	**Sn**	**06 25 36.3**	**-1.2**
KIRA			*i* AML	AML	06 25 38.0	
	comp=E,162nm,0.7s					
ZKR	**Zakros**	**1.90 230**	Pn	**Pn**	**06 25 17.3**	**+2.3**
ZKR	**Zakros**	**1.90 230**	P	**Pn**	**06 25 17.4**	**+2.4**
ZKR	**Zakros**	**1.90 230**	P	**Pn**	**06 25 17.4**	**+2.4**
ZKR			S	**Sn**	**06 25 41.3**	**+3.3**
ZKR			AML	AML	06 25 45.3	
	comp=E,614μm,0.4s					
ZKR			AML	AML	06 25 49.7	
	comp=N,313μm,0.6s					
DGB	**zmir**	**1.90 333**	P	**Pn**	**06 25 15.2**	**0.0**
DGB			S	**Sn**	**06 25 35.8**	**-2.3**
DGB			*i* AML	AML	06 25 37.0	
	comp=N,144nm,0.4s					
GMLD	**Gumuldur**	**1.91 334**	Pn	**Pn**	**06 25 15.5**	**+0.2**
KORT	**Korkueli**	**2.01 71**	Pn	**Pn**	**06 25 19.7**	**+3.0**
SNT5	**Nea Kammeni, S**	**2.09 272**	P	**Pn**	**06 25 19.3**	**+1.7**
APE	**Apeiranthos**	**2.09 291**	Pn	**Pn**	**06 25 18.8**	**+1.1**
APE	**Apeiranthos**	**2.09 291**	P	**Pn**	**06 25 18.3**	**+0.6**
APE	**Apeiranthos**	**2.09 291**	P	**Pn**	**06 25 18.8**	**+1.1**
BLCB	**Balcova**	**2.16 340**	Pn	**Pn**	**06 25 18.7**	**+0.2**
BLCB	**Balcova**	**2.16 340**	P	**Pn**	**06 25 18.7**	**+0.2**
MANT	**Manisa**	**2.18 12**	P	**Pn**	**06 25 19.7**	**+0.6**
MANT			S	**Sn**	**06 25 42.3**	**-2.9**
ZEYE	**Izmir, Urla-Ze**	**2.22 328**	P	**Pn**	**06 25 19.3**	**0.0**
ANTB	**Antalya**	**2.22 75**	Pn	**Pn**	**06 25 22.8**	**+3.5**
KULA	**Kula-Manisa**	**2.22 14**	Pn	**Pn**	**06 25 20.4**	**+1.0**
KULA	**Kula-Manisa**	**2.22 14**	P	**Pn**	**06 25 20.5**	**+1.0**
BASM	**Basmaki-Afyon**	**2.27 46**	Pn	**Pn**	**06 25 21.5**	**+1.3**
PASA	**Karahalli, USA**	**2.32 31**	P	**Pn**	**06 25 21.9**	**+1.0**
GOMA	**Golmarmara-Man**	**2.35 359**	Pn	**Pn**	**06 25 21.9**	**+0.8**
ISP	**Isparta**	**2.50 54**	Pn	**Pn**	**06 25 24.9**	**+1.6**
ISP	**Isparta**	**2.50 54**	P	**Pn**	**06 25 25.0**	**+1.6**
AKHS	**Akhisar**	**2.52 357**	P	**Pn**	**06 25 23.4**	**-0.1**
AKS	**Akhisar**	**2.52 357**	Pn	**Pn**	**06 25 23.3**	**-0.2**
GORD	**Gordes-Manisa**	**2.55 3**	Pn	**Pn**	**06 25 24.5**	**+0.5**
FOCM	**Foa**	**2.55 337**	Pn	**Pn**	**06 25 24.1**	**+0.2**
KARB	**zmir-Karabur**	**2.62 332**	P	**Pn**	**06 25 24.8**	**0.0**
KARB			S	**Sn**	**06 25 52.8**	**-2.7**
KARB			*i* AML	AML	06 25 55.0	
	comp=N,156nm,0.9s					
KARB			*i* AML	AML	06 25 56.0	
	comp=N,122nm,0.4s					
ZEDA	**zmir-Bergama**	**2.70 345**	P	**Pn**	**06 25 25.1**	**-0.8**
IDI	**Anoyia**	**2.73 248**	Pn	**Pn**	**06 25 27.7**	**+1.3**
SIMA	**Simav-Kutahya**	**2.83 16**	Pn	**Pn**	**06 25 28.6**	**+0.8**
DKL	**Dikili**	**2.84 343**	Pn	**Pn**	**06 25 28.3**	**+0.5**
DKL			Sn	**Sn**	**06 25 59.7**	**-1.1**
GEDZ	**Gediz**	**2.91 23**	Pn	**Pn**	**06 25 30.5**	**+1.6**
CSS	**Mathiatis**	**4.57 106**	P	**Pn**	**06 25 52.7**	**+1.2**
CSS	**Mathiatis**	**4.57 106**	P	**Pn**	**06 25 47.8**	**-3.7**
CSS	**Mathiatis**	**4.57 106**	S	**Sn**	**06 26 41.3**	**-2.1**
MMC7	**Mount Meron ar**	**6.95 116**	P	**Pn**	**06 26 21.2**	**-2.9**
MMA0	**Mount Meron ar**	**6.96 116**	P	**Pn**	**06 26 25.9**	**+1.6**
MMA0B	**Mount Meron ar**	**6.96 116**	P	**Pn**	**06 26 21.1**	**-3.1**
MMA0B	**Mount Meron ar**	**6.96 116**	S	**Sn**	**06 27 40.1**	**-2.0**
MMA1	**Mount Meron ar**	**6.96 116**	P	**Pn**	**06 26 22.8**	**-1.5**
GEM	**Giv'at Ha'Em**	**7.06 114**	P	**Pn**	**06 26 26.8**	**+1.3**
GEM	**Giv'at Ha'Em**	**7.06 114**	S	**Sn**	**06 27 42.6**	**-1.6**
GEM	**Giv'at Ha'Em**	**7.06 114**	P	**Pn**	**06 26 21.6**	**-3.9**
NATI	**Neve Ativ**	**7.09 114**	P	**Pn**	**06 26 27.4**	**+1.6**
NATI	**Neve Ativ**	**7.09 114**	S	**Sn**	**06 27 44.3**	**-0.7**
NATI	**Neve Ativ**	**7.09 114**	P	**Pn**	**06 26 22.2**	**-3.7**
SALP	**Salfit**	**7.35 124**	P	**Pn**	**06 26 26.7**	**-2.8**
SALP	**Salfit**	**7.35 124**	S	**Sn**	**06 27 50.2**	**-1.1**
SHMJ	**Saham**	**7.37 117**	P	**Pn**	**06 26 30.5**	**+0.7**
HMDT	**Nahal Hemdat**	**7.46 121**	P	**Pn**	**06 26 27.5**	**-3.5**
HMDT	**Nahal Hemdat**	**7.46 121**	S	**Sn**	**06 27 52.8**	**-1.4**
AMAZ	**Amatzia**	**7.51 128**	P	**Pn**	**06 26 28.1**	**-3.6**
YTIR	**Yattir**	**7.75 128**	S	**Sn**	**06 27 59.4**	**-1.9**
YTIR	**Yattir**	**7.75 128**	P	**Pn**	**06 26 31.8**	**-3.2**
DSI	**Dead Sea**	**7.78 126**	S	**Sn**	**06 28 00.3**	**-1.7**
DSI	**Dead Sea**	**7.78 126**	P	**Pn**	**06 26 32.2**	**-3.2**
MDBI	**Mazsada**	**7.94 127**	P	**Pn**	**06 26 35.8**	**-1.6**
MDBI	**Mazsada**	**7.94 127**	P	**Pn**	**06 26 34.7**	**-2.7**
MDBI	**Mazsada**	**7.94 127**	S	**Sn**	**06 28 03.5**	**-2.2**
MSBI	**Mazada**	**7.94 127**	P	**Pn**	**06 26 34.4**	**-3.0**
MSBI	**Mazada**	**7.94 127**	S	**Sn**	**06 28 03.9**	**-1.8**
ZFRI	**Zfri**	**8.35 132**	S	**Sn**	**06 28 13.7**	**-2.0**
ZFRI	**Zfri**	**8.35 132**	P	**Pn**	**06 26 39.5**	**-3.6**
PRNI	**Paran**	**8.39 134**	P	**Pn**	**06 26 44.1**	**+0.4**
PRNI	**Paran**	**8.39 134**	S	**Sn**	**06 28 14.9**	**-2.0**
PRNI	**Paran**	**8.39 134**	P	**Pn**	**06 26 40.8**	**-2.9**
KRMI	**Paran Flat**	**8.40 136**	P	**Pn**	**06 26 43.9**	**0.0**
KRMI	**Paran Flat**	**8.40 136**	S	**Sn**	**06 28 15.3**	**-2.0**
KRMI	**Paran Flat**	**8.40 136**	P	**Pn**	**06 26 41.2**	**-2.7**
ASF	**Jabal al Asfar**	**8.48 117**	P	**Pn**	**06 26 45.6**	**+0.6**
HRFI	**Mount Harif**	**8.64 135**	P	**Pn**	**06 26 47.6**	**+0.4**
MBRI	**Mt Berech**	**8.76 136**	P	**Pn**	**06 26 48.7**	**-0.1**
MBRI	**Mt Berech**	**8.76 136**	P	**Pn**	**06 26 46.5**	**-2.3**
MBRI	**Mt Berech**	**8.76 136**	S	**Sn**	**06 28 24.5**	**-1.5**
EIL	**Elat**	**8.87 137**	P	**Pn**	**06 26 51.4**	**+1.1**
EIL	**Elat**	**8.87 137**	S	**Sn**	**06 28 26.6**	**-2.1**
EIL	**Elat**	**8.87 137**	P	**Pn**	**06 26 47.1**	**-3.2**
AQBJ	**Aqaba**	**8.88 136**	P	**Pn**	**06 26 53.1**	**+2.7**

*IDC **18** 06:39:49.2±2.8, 6°.65S×11°.23W, h0km, mb4.2/9, mbtmp4.2/9, MS3.8/6, Error ellipse: s-maj=114.4km s-min=23.8km az=146.0*
*NEIC **18** 06:39:53.7±0.6, 6°.4S±0°.1×11°.1W±0°.1, h10km±1km, mb4.5/12, Error ellipse: s-maj=24.3km s-min=17.6km az=112.0*
ISC 18 06:39:52.7±0.6, **6°.4S**±0°.1×**11°.2W**±0°.1, **h10**km, **n41, σ1§27/31, mb4.6/22, MS3.8/6, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**3.57**	**246**	T	T	06 44 24.5	
	baz=67,slow=74,SNR=628						
H10N1	**ASCENSION HYDR**	**3.57**	**245**	T	T	06 44 11.3	
	baz=67,slow=74,SNR=755						
H10N3	**ASCENSION HYDR**	**3.59**	**246**	T	T	06 44 25.8	
	baz=67,slow=74,SNR=561						
H10S2	**ASCENSION HYDR**	**4.28**	**233**	T	T	06 45 15.9	
	baz=166,slow=74,SNR=135						
H10S3	**ASCENSION HYDR**	**4.29**	**233**	T	T	06 45 22.3	
	baz=54,slow=74,SNR=81						
SHEL	**Horse Pasture**	**10.93**	**151**	Pn	**Pn**	**06 42 29.4**	**0.0**
ACRG	**Accra**	**16.21**	**43**	Pn	**Pn**	**06 43 41.0**	**+0.3**
ACRG				IAmb	IAmb	06 44 08.8	
	comp=Z,40nm,1.5s						
TORD	**Torodi Ar. Bea**	**23.24**	**33**	P	**P**	**06 44 59.4**	**-0.9**
TORD				IAmb	IAmb	06 45 03.2	
	comp=Z,8.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**23.24**	**33**	P	**P**	**06 45 00.6**	**+0.3**
	comp=Z,6.9nm,0.9s,baz=224,slow=8.9,SNR=25						
	comp=Z,6.9nm,0.9s						
BDFB	**Brasilia**	**37.24**	**253**	LR	LR	06 59 20.5	
	comp=Z,100nm,18.0s,baz=323,slow=32						
SIV	**San Ignacio**	**49.74**	**255**	LR	LR	07 09 36.9	
	comp=Z,64nm,18.1s,baz=109,slow=36						
BOAV	**Boa Vista**	**50.01**	**278**	P	**P**	**06 48 48.4**	**+0.6**
BOAV				IAmb	IAmb	06 48 54.5	
	comp=Z,13nm,1.4s						
SAML	**Samuel**	**51.55**	**264**	P	**P**	**06 49 00.7**	**+1.2**
ETMB	**Extrema**	**54.53**	**263**	P	**P**	**06 49 22.0**	**+0.5**
ETMB				IAmb	IAmb	06 49 22.5	
	comp=Z,4.6nm,0.9s						
LPAZ	**La Paz**	**56.53**	**255**	P	**P**	**06 49 36.0**	**-0.5**
LPAZ	**La Paz**	**56.53**	**255**	P	**P**	**06 49 33.9**	**-2.7**
	comp=Z,0.7nm,0.8s,baz=351,slow=8.0,SNR=1.9						
LPAZ				LR	LR	07 11 15.3	
	comp=Z,75nm,20.4s,baz=50,slow=33						
	comp=Z,0.7nm,0.8s						
DAVA	**Damuels**	**56.59**	**17**	*i* P	**P**	**06 49 37.5**	**+1.7**
	comp=Z,9.9nm,1.0s						
FETA	**Feichten**	**56.60**	**18**	*i* P	**P**	**06 49 37.7**	**+1.8**
	comp=Z,8.3nm,1.0s						
ABTA	**Abfaltersbach**	**56.92**	**19**	*e*P	**P**	**06 49 39.6**	**+1.5**
	comp=Z,16nm,2.0s						
SQTA	**Sankt Quirin**	**56.92**	**18**	*i* P	**P**	**06 49 40.0**	**+1.8**
	comp=Z,7.3nm,0.8s						
MOTA	**Moosalm**	**57.00**	**18**	*i* P	**P**	**06 49 40.4**	**+1.6**
	comp=Z,6.8nm,1.1s						
WTTA	**Wattenberg**	**57.10**	**18**	*i* P	**P**	**06 49 41.6**	**+2.1**
	comp=Z,12nm,1.1s						
MYKA	**Terra Mystica**	**57.20**	**20**	*e*P	**P**	**06 49 41.5**	**+1.5**
	comp=Z,18nm,1.6s						
RONA	**Rosalia, Austr**	**59.05**	**21**	*e*P	**P**	**06 49 53.9**	**+0.9**
	comp=Z,3.9nm,0.9s						
CONA	**Conrad Observa**	**59.09**	**21**	*e*P	**P**	**06 49 55.5**	**+2.2**
	comp=Z,7.3nm,1.4s						
GEC2	**GERESS Array S**	**59.15**	**19**	P	**P**	**06 49 54.1**	**+0.4**
GERES	**GERESS Array B**	**59.15**	**19**	P	**P**	**06 49 54.1**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=191,slow=6.4,SNR=11						
	comp=Z,2.8nm,0.8s						
MORC	**Moravsky Berou**	**61.24**	**21**	P	**P**	**06 50 08.2**	**+0.2**
MORC				IAmb	IAmb	06 50 11.3	
	comp=Z,7.6nm,1.2s						
BO01	**Tunca**	**61.69**	**234**	P	**P**	**06 50 11.6**	**+0.3**
BO01				IAmb	IAmb	06 50 23.1	
	comp=Z,6.8nm,1.1s						
BRTR	**Keskin Array B**	**61.74**	**38**	P	**P**	**06 50 11.0**	**-0.7**
	comp=Z,1.4nm,1.0s,baz=201,slow=6.6,SNR=4.7						
	comp=Z,1.4nm,1.0s						
BUR08	**Bucovina Ar. S**	**62.62**	**27**	P	**P**	**06 50 17.8**	**+0.4**
ROSC	**El Rosal**	**63.99**	**279**	P	**P**	**06 50 27.6**	**+0.2**
ROSC	**El Rosal**	**63.99**	**279**	P	**P**	**06 50 25.6**	**-1.8**
	comp=Z,5.7nm,0.7s,baz=237,slow=19,SNR=4.5						
	comp=Z,5.7nm,0.7s						
SNAA	**Sanae**	**65.44**	**177**	P	**P**	**06 50 36.3**	**+0.7**
AKASG	**Malin Array Be**	**66.66**	**27**	P	**P**	**06 50 44.1**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=228,slow=7.0,SNR=11						
	comp=Z,2.1nm,0.7s						
ATAH	**Atahualpa**	**66.68**	**265**	LR	LR	07 18 13.1	
	comp=Z,57nm,21.6s,baz=62,slow=35						
HFS	**Hagfors**	**69.15**	**13**	P	**P**	**06 50 57.8**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=209,slow=8.3,SNR=5.8						
	comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**69.45**	**11**	LR	LR	07 22 40.1	
	comp=Z,111nm,18.4s,baz=290,slow=37						
FINES	**FINESS Array B**	**73.53**	**18**	P	**P**	**06 51 25.9**	**+0.3**
	comp=Z,5.2nm,0.8s,baz=198,slow=4.1,SNR=9.8						
	comp=Z,5.2nm,0.8s						
MAW	**Mawson**	**78.10**	**158**	LR	LR	07 19 21.1	
	comp=Z,55nm,18.2s,baz=262,slow=30						
KURBB	**Kurchatov Arra**	**94.70**	**40**	P	**P**	**06 53 13.2**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=261,slow=5.4,SNR=2.9						
	comp=Z,0.5nm,0.8s						

*THE **18** 07:06:55.0, 37°.38N×20°.83E, h6km±11km, ML2.9/2, Error ellipse: s-maj=11.8km s-min=1.4km az=59.0*
*ATH **18** 07:06:55.8, 37°.43N×20°.81E, h17km±1km, ML2.7/5, Error ellipse: s-maj=2.3km s-min=1.0km az=27.0*
ISC 18 07:06:55.5±1.6, **37°.42N**±0°.06×**20°.83E**±0°.06, **h16**km±8km, **n15, σ0§46/24, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.24**	**358**	P	**Pg**	**07 07 00.8**	**-0.1**
KRI1				S	**Sg**	**07 07 04.6**	**+0.1**
LTHK	**Lithakia**	**0.29**	**1**	P	**Pg**	**07 07 01.6**	**-0.1**
LTHK				S	**Sg**	**07 07 06.2**	**+0.3**
	3μm,0.4s						
LTHK	**Lithakia**	**0.29**	**1**	P	**Pg**	**07 07 01.5**	**-0.2**
LTHK				S	**Sg**	**07 07 05.9**	**+0.1**
LTHK				AML	AML	07 07 06.4	
	comp=N,6570μm,0.4s						
LTHK				AML	AML	07 07 09.4	
	comp=E,3577μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.66**	**356**	P	**Pg**	**07 07 08.0**	**-0.4**
RTZL				S	**Sb**	**07 07 18.6**	**+1.0**
AMT	**Artemida-Makis**	**0.71**	**81**	P	**Pb**	**07 07 09.7**	**+0.2**
AMT				S	**Sb**	**07 07 19.4**	**+0.3**
AMT				AML	AML	07 07 28.1	
	comp=N,2553μm,0.3s						
AMT				AML	AML	07 07 29.9	
	comp=E,2855μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.72 345**	P	**Pg**	**07 07 09.1**	**-0.5**
VLS	**Valsamata**	**0.78 346**	P	**Pg**	**07 07 10.0**	**-0.7**
VLS	**Valsamata**	**0.78 346**	P	**Pg**	**07 07 10.0**	**-0.7**
VLS			S	**Sg**	**07 07 20.7**	**-0.3**
VLS			AML	AML	07 07 22.3	
	comp=E,1036μm,0.5s					
VLS			AML	AML	07 07 27.1	
	comp=N,1629μm,0.4s					
RLS	**Riolos of Patr**	**0.81 38**	P	**Pg**	**07 07 10.7**	**-0.6**
DRO	**Drossia**	**0.88 53**	P	**Pg**	**07 07 12.1**	**-0.5**
DRO			S	**Sg**	**07 07 24.0**	**-0.1**
DRO			AML	AML	07 07 31.1	
	comp=N,1090μm,0.5s					
DRO			AML	AML	07 07 32.0	
	comp=E,771μm,0.3s					
DMLN	**Damoulianata-K**	**0.89 336**	P	**Pg**	**07 07 12.5**	**-0.3**
DMLN			S	**Sn**	**07 07 26.2**	**+0.1**
	comp=E,880nm,0.3s					
DMLN	**Damoulianata-K**	**0.89 336**	P	**Pg**	**07 07 12.3**	**-0.5**
PYL	**PYLOS**	**0.90 125**	P	**Pg**	**07 07 12.7**	**-0.2**
ITM	**Ithomi**	**0.91 105**	P	**Pg**	**07 07 12.8**	**-0.3**
ITM			S	**Sb**	**07 07 25.3**	**+0.4**
ITM			AML	AML	07 07 30.3	
	comp=E,542μm,0.4s					
ITM			AML	AML	07 07 33.0	
	comp=N,458μm,0.3s					
KLV	**Kalavryta, Ach**	**1.22 59**	P	**Pn**	**07 07 17.9**	**-0.1**

*SJA **18** 07:28:40.7±0.7, 19°.98S×69°.19W, h100km±2km, ML3.4, MW3.6*
*GUC **18** 07:28:41.9±0.8, 20°.00S×69°.20W, h92km±2km, ML3.1*
ISC 18 07:28:43.3±1.3, **19°.98S**±0°.03×**69°.22W**±0°.04, **h87**km±6km, **n33, σ1§35/60, 6C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.17 160**		⇓*e*P	**Pn**	**07 28 55.8**	**-0.6**
PB08				*e*S	**Sn**	**07 29 06.7**	**+0.6**
PB08				IAML		07 29 07.9	
	comp=N,3μm,0.2s						
PB08	**IPOC Station P**	**0.17 160**		*e*P	**Pn**	**07 28 55.8**	**-0.6**
PB08				*e*S	**Sn**	**07 29 07.1**	**+1.1**
PB08				IAML		07 29 08.2	
	comp=Z,1μm,0.2s						
GO01	**Chusmiza**	**0.31 4**		⇑*e*P	**Pn**	**07 28 56.7**	**-0.4**
GO01				*e*S	**Sn**	**07 29 08.0**	**+0.7**
GO01	**Chusmiza**	**0.31 4**		*e*P	**Pn**	**07 28 56.6**	**-0.6**
GO01				*e*S	**Sn**	**07 29 08.4**	**+1.1**
PB11	**IPOC Station P**	**0.47 298**		⇑*e*P	**Pn**	**07 28 57.2**	**-0.6**
PB11				*e*S	**Sn**	**07 29 09.2**	**+0.8**
PB11				IAML		07 29 10.4	
	comp=E,933nm,0.5s						
PB11	**IPOC Station P**	**0.47 298**		*e*P	**Pn**	**07 28 57.1**	**-0.6**
PB11				*e*S	**Sn**	**07 29 10.1**	**+1.7**
PB11				IAML		07 29 10.4	
	comp=Z,478nm,0.4s						
PX03	**IPOC Station P**	**0.57 223**		*e*P	**Pn**	**07 28 57.1**	**-1.5**
PX03				*e*S	**Sn**	**07 29 09.7**	**-0.2**
PX03				IAML		07 29 15.8	
	comp=N,1μm,0.2s						
HMBC	**Humberstone**	**0.70 245**		⇑*e*P	**Pn**	**07 28 58.9**	**-0.8**
HMBC				*e*S	**Sn**	**07 29 12.3**	**+0.4**
HMBC				IAML		07 29 13.5	
	comp=E,1μm,0.4s						
HMBC	**Humberstone**	**0.70 245**		*e*P	**Pn**	**07 28 58.8**	**-1.0**
HMBC				*e*S	**Sn**	**07 29 12.7**	**+0.8**
HMBC				IAML		07 29 15.3	
	comp=Z,1μm,0.1s						
TA02	**Huaiquique**	**0.91 251**		*e*P	**Pn**	**07 29 01.5**	**-0.3**
TA02				*e*S	**Sn**	**07 29 16.4**	**+0.8**
TA02	**Huaiquique**	**0.91 251**		*e*P	**Pn**	**07 29 01.2**	**-0.5**
TA02				*e*S	**Sn**	**07 29 16.4**	**+0.8**
TA02				IAML		07 29 24.2	
	comp=Z,1μm,0.1s						
TA01	**Diego Aracena**	**1.08 237**		⇑*e*P	**Pn**	**07 29 02.8**	**-1.0**
TA01				*e*S	**Sn**	**07 29 18.9**	**-0.2**
TA01				IAML		07 29 20.1	
	comp=E,561nm,0.4s						
TA01

KURBB ⇓S **Sb** **07 37 14.0 -2.1**
148nm,0.8s
KURBB Kurchatov Arra 0.65 350 Pg **Pg** **07 37 04.2 -0.5**
0.8nm,0.3s,baz=168,slow=19,SNR=45
KURBB Lg Lg 07 37 13.2
1.6nm,0.3s,baz=170,slow=34,SNR=19
KUR16 Kurchatov Arra 0.66 348 ⇑P **Pg** **07 37 04.0 -0.9**
KUR16 ⇑S **Sg** **07 37 13.4 0.0**
KUR17 Kurchatov Arra 0.67 346 ⇑P **Pg** **07 37 04.1 -0.9**
KUR17 ⇑S **Sg** **07 37 13.5 -0.2**
KUR05 Kurchatov Arra 0.67 350 ⇑P **Pg** **07 37 04.1 -1.0**
KUR05 ⇓S **Sg** **07 37 13.0 -0.8**
KUR04 Kurchatov Arra 0.69 351 ⇑P **Pg** **07 37 04.7 -0.7**
KUR04 ⇑S **Sg** **07 37 14.1 -0.3**
KURK Kurchatov 0.73 355 ⇑P **Pg** **07 37 05.1 -1.2**
8.4nm,0.6s
KURK ⇓S **Sg** **07 37 15.2 -0.7**
86nm,1.0s
SEM Semipalatinsk 1.07 66 P **Pg** **07 37 10.4 -2.5**
3.0nm,0.1s
SEM S **Sg** **07 37 26.4 -0.4**
20nm,0.2s
MAKZ Makanchi 3.85 144 ⇓Lg Lg 07 38 53.7
8.5nm,0.7s
MK31 Makanchi Array 3.99 142 ⇑Pn **Pn** **07 37 54.9 +0.2**
0.1nm,0.2s,baz=323,slow=9.8,SNR=21
MK31 ⇑Pg **Pb** **07 38 04.8 +1.4**
0.1nm,0.2s,baz=323,slow=15,SNR=7.7
MK31 Lg Lg 07 38 57.3
7.1nm,0.5s,baz=333,slow=26,SNR=19
MKAR Makanchi Array 3.99 142 Pn **Pn** **07 37 56.5 +1.8**
0.1nm,0.3s,baz=322,slow=10,SNR=30
MKAR Pg **Pb** **07 38 04.2 +0.7**
0.3nm,0.3s,baz=326,slow=15,SNR=11
MKAR Lg Lg 07 38 57.5
1.2nm,0.3s,baz=318,slow=29,SNR=16
1.8nm,1.0s
ZSN Zaisan 4.80 120 Pg **Pb** **07 38 19.0 +1.7**
1.6nm,0.2s
ZSN Lg Lg 07 39 23.9
7.6nm,0.8s
I46RU ZALESOVO INFRA 5.47 41 I I 08 10 50.0
baz=222,slow=329,SNR=0.2
ZALV Zalesovo Beam 5.47 41 Pn **Pn** **07 38 16.4 +1.3**
0.2nm,0.3s,baz=227,slow=14,SNR=6.0
ZALV Sn **Sn** **07 39 19.7 +1.0**
0.2nm,0.3s,baz=229,slow=13,SNR=1.9
ZALV Lg Lg 07 39 43.9
0.2nm,0.3s,baz=229,slow=26,SNR=2.4
0.7nm,0.4s
ARXS Arharly 5.81 186 Pg **Pg** **07 38 41.8 -1.8**
1.2nm,0.6s
ARXS Lg Lg 07 40 02.4
10nm,0.6s
BVA0 Borovoye Array 6.02 304 Sn **Sn** **07 39 32.5 +0.3**
3.0nm,1.1s,baz=108,slow=33,SNR=5.3
BVA0 ⇑Lg Lg 07 40 02.3
5.2nm,1.1s,baz=119,slow=26,SNR=5.6
BRVK Borovoye 6.09 304 ⇑Sn **Sn** **07 39 32.9 -1.1**
2.8nm,1.0s
BRVK ⇑Lg Lg 07 40 05.6
AAK Ala-Archa 7.91 203 Lg Lg 07 40 59.4
0.1nm,0.3s,baz=187,slow=19,SNR=1.5

IDC 18 07:48:42.8±2.6, 5°.64S×147°.56E, h189km±26km, mb3.3/2, mbtmp4.0/4, MS3.7/1, Error ellipse: s-maj=71.3km s-min=17.4km az=118.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.76**	**186**	P	Pn	07 49 42.9	+1.7
	23nm,0.3s,baz=321,slow=6.7,SNR=20						
PMG				S	Sn	07 50 26.7	-0.3
	57nm,0.4s,baz=192,slow=21,SNR=13						
WRA	**Warramunga Arr**	**19.17**	**221**	P	P	07 52 51.8	-0.3
	5.8nm,0.7s,baz=46,slow=12,SNR=89						
WRA				PcP	PcP	07 57 07.8	+0.1
	0.2nm,0.7s,baz=26,slow=1.6,SNR=1.5						
ASAR	**Alice Springs**	**22.23**	**215**	P	P	07 53 24.8	+0.5
	5.7nm,0.9s,baz=49,slow=8.6,SNR=68						
ASAR				S	S	07 57 15.9	+1.0
	0.5nm,0.7s,baz=33,slow=25,SNR=3.5						
	5.7nm,0.9s						
RAR	**Rarotonga**	**53.25**	**112**	LR	LR	08 16 47.3	
	comp=Z,64nm,19.6s,baz=244,slow=32						
ILAR	**Eielson Array**	**84.94**	**23**	P	P	08 00 55.9	-0.3
	0.3nm,0.6s,baz=242,slow=4.9,SNR=5.8						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**145.54**	**285**	PKPbc	PKPdf	08 07 58.6	-0.9
	0.6nm,0.6s,baz=55,slow=3.1,SNR=5.0						

*IDC **18** 08:05:20.5±1.4, 19°.34S×172°.77W, h0km, mb4.0/2, mbtmp4.2/4, ML3.6/2, MS3.4/1, Error ellipse: s-maj=91.3km s-min=29.0km az=171.0*
*NEIC **18** 08:05:22.7±0.8, 19°.54S±0°.07×172°.72W±0°.10, h10km±1km, mb4.3/15, Error ellipse: s-maj=18.5km s-min=5.1km az=124.0*
ISC 18 08:05:25.1±0.7, 19°.5S±0°.1×172°.2W±0°.08, h35km, n23, σ0°71/23, mb4.3/10, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.68**	**81**		**Pn**	**08 06 05.8**	**0.0**
AFI	**Afiamalu**	**5.66**	**9**	Pn	**Pn**	**08 06 46.8**	**-0.1**
RAR	**Rarotonga**	**12.26**	**100**	Pn	**Pn**	**08 08 17.1**	**-0.2**
	1.9nm,0.3s,baz=259,slow=12,SNR=9.3						
	18nm,0.8s						
DZM	**Mont Dzumac**	**19.64**	**259**	P	**Pn**	**08 09 52.2**	**-0.5**
DZM				IAmb	IAmb	08 09 56.0	
	comp=Z,4.8nm,0.7s						
DZM	**Mont Dzumac**	**19.64**	**259**	P	**P**	**08 09 51.3**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=82,slow=18,SNR=5.4						
	comp=Z,5.0nm,0.8s						
LHI	**Lord Howe Isla**	**28.04**	**239**	P	**P**	**08 11 13.6**	**+0.4**
ARMA	**Armidale**	**33.96**	**244**	P	**P**	**08 12 05.8**	**+0.3**
CAN	**Canberra**	**37.18**	**237**	P	**P**	**08 12 34.0**	**+0.9**
CAN				IAmb	IAmb	08 12 34.2	
	comp=Z,6.9nm,1.0s						
CTAO	**Charters Tower**	**38.53**	**262**	P	**P**	**08 12 44.8**	**+0.2**
CTAO				IAmb	IAmb	08 12 46.2	
	comp=Z,3.2nm,0.7s						
STKA	**Stephens Creek**	**42.67**	**244**	P	**P**	**08 13 16.2**	**-2.5**
BBOO	**Buckleboo**	**47.42**	**243**	P	**P**	**08 13 56.6**	**+0.2**
BBOO				IAmb	IAmb	08 14 09.0	
	comp=Z,6.9nm,1.1s						
WR0	**Warramunga Arr**	**49.47**	**260**	P	**P**	**08 14 12.7**	**+0.4**
WR0				IAmb	IAmb	08 14 23.9	
	comp=Z,2.4nm,1.1s						
ASAR	**Alice Springs**	**49.57**	**255**	P	**P**	**08 14 13.4**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=86,slow=8.3,SNR=22						
ASAR				LR	LR	08 33 45.0	
	comp=Z,36nm,19.0s,baz=194,slow=34						
	comp=Z,2.4nm,0.8s						
WB0	**Warramunga Arr**	**49.63**	**260**	P	**P**	**08 14 13.2**	**-0.4**
WB0				IAmb	IAmb	08 14 16.6	
	comp=Z,1.8nm,0.9s						
WB2	**Warramunga Arr**	**49.64**	**260**	P	**P**	**08 14 13.3**	**-0.4**
WB2				IAmb	IAmb	08 14 14.0	
	comp=Z,2.7nm,1.1s						
WRAB	**Tennant Creek**	**49.65**	**260**	P	**P**	**08 14 13.6**	**-0.1**
WRA	**Warramunga Arr**	**49.66**	**260**	P	**P**	**08 14 13.0**	**-0.8**
WRA	**Warramunga Arr**	**49.66**	**260**	P	**P**	**08 14 14.1**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=98,slow=8.3,SNR=17						
	comp=Z,0.5nm,0.4s						
MTN	**Manton Dam**	**54.14**	**268**	P	**P**	**08 14 48.0**	**+0.7**
MTN				IAmb	IAmb	08 15 07.8	
	comp=Z,4.5nm,1.0s						
KNRA	**Kununurra**	**55.69**	**264**	P	**P**	**08 14 58.3**	**-0.1**
KNRA				IAmb	IAmb	08 15 17.7	
	comp=Z,7.2nm,1.1s						
CASY	**Casey**	**66.96**	**205**	P	**P**	**08 16 13.4**	**-0.4**
SPITS	**Spitsbergen Ar**	**121.15**	**358**	PKP	**PKPdf**	**08 24 13.9**	**+0.5**
	comp=Z,19nm,1.0s,baz=354,slow=4.3,SNR=7.3						
BRTR	**Keskin Array B**	**149.69**	**317**	PKPbc	**PKPbc**	**08 25 12.1**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=47,slow=3.5,SNR=2.0						

*IDC **18** 08:06:29.8±1.1, 29°.35S×176°.08W, h0km, mb3.9/5, mbtmp3.9/5, MS3.4/2, Error ellipse: s-maj=37.1km s-min=21.0km az=179.0*
ISC 18 08:06:34.3±1.0, 29°.9S±0°.1×176°.1W±0°.1, h35km, n10, σ1°44/10, mb4.0/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.69**	**291**	**Pn**	**Pn**	**08 07 00.9**	**-0.4**
	202nm,0.3s,baz=158,slow=7.6,SNR=5.1						
RAO				Sn	**Sn**	**08 07 21.9**	**+0.1**
	360nm,0.3s,baz=287,slow=24,SNR=6.3						
RAO				LR	LR	08 07 51.8	
	comp=Z,436nm,21.6s,baz=116,slow=51						
URZ	**Urewera**	**10.08**	**212**	Pn	**Pn**	**08 08 54.9**	**-1.6**
	0.5nm,0.3s,baz=358,slow=4.9,SNR=9.2						
URZ				Sn	**Sn**	**08 10 48.5**	**+0.3**
	0.7nm,0.3s,baz=175,slow=22,SNR=17						
PPT	**Papeete**	**27.13**	**69**	LR	LR	08 19 36.5	
	comp=Z,53nm,20.5s,baz=258,slow=29						
STKA	**Stephens Creek**	**36.19**	**256**	P	**P**	**08 13 35.4**	**+1.7**
	1.7nm,0.9s,baz=90,slow=7.1,SNR=2.9						
STKA				LR	LR	08 27 46.1	
	comp=Z,68nm,18.4s,baz=225,slow=35						
	1.7nm,0.9s						
WRA	**Warramunga Arr**	**45.72**	**271**	P	**P**	**08 14 51.9**	**-0.4**
	0.5nm,0.5s,baz=109,slow=8.0,SNR=5.8						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**60.24**	**180**	P	P	08 16 43.6	+4.7
	3.3nm,1.0s,baz=11,slow=4.2,SNR=6.6						
	3.3nm,1.0s						
NVAR	**Mina Array Bea**	**86.75**	**42**	P	**P**	**08 19 14.7**	**-0.3**
	0.5nm,0.8s,baz=206,slow=8.0,SNR=3.8						
	0.5nm,0.8s						
TXAR	**Lajitas Array**	**90.73**	**56**	P	**P**	**08 19 33.2**	**-0.7**
	0.8nm,1.0s,baz=197,slow=2.8,SNR=4.5						
	0.8nm,1.0s						
FINES	**FINESS Array B**	**145.19**	**341**	PKP	**PKPdf**	**08 26 06.9**	**-0.5**
	2.2nm,0.9s,baz=35,slow=5.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**163.24**	**173**	PKPab	**PKPab**	**08 27 26.8**	**+2.8**
	1.1nm,1.0s,baz=186,slow=4.5,SNR=4.5						

*AEIC **18** 08:11:57.2±1.7, 56°.60N±0°.05×168°.48W±0°.06, h16km±6km, Error ellipse: s-maj=7.7km s-min=4.3km az=202.0*
NEIC 18 08:11:57.9±1.6, 56°.64N±0°.05×168°.53W±0°.06, h10km±2km, ML3.0/2, ML3.2(AEIC), Error ellipse: s-maj=9.2km s-min=4.0km az=206.0, Pribilof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P08K	**Saint George I**	**0.56**	**267**		Pg	08 12 08.7	-0.1
P08K					Sg	08 12 16.2	0.0
P08K				IAML		08 12 17.1	
	comp=N,948nm,0.3s						
P08K				IAML		08 12 19.2	
	comp=E,1μm,0.3s						
SPIA	**Saint Paul Isl**	**1.09**	**301**		Sn	08 12 34.0	-0.2
SPIA	**Saint Paul Isl**	**1.09**	**301**		Pg	08 12 18.8	0.0
AKGG	**Akutan Green G**	**2.84**	**148**		Pn	08 12 42.7	-0.6
MSW	**Makushin Switc**	**2.91**	**159**		Pn	08 12 43.7	-0.4
AKBBA	**Akutan Broad B**	**2.94**	**149**		Pn	08 12 45.2	+0.5
WEBT	**Westdahl Beart**	**2.96**	**132**		Pn	08 12 44.7	-0.3
MAPS	**Pakushin South**	**2.98**	**162**		Pn	08 12 44.4	-0.8
MREP	**Makushin Rep't**	**3.01**	**159**		Pn	08 12 45.2	-0.5
UNV	**Unalaska Valle**	**3.03**	**157**		Sn	08 13 22.5	+0.4
UNV	**Unalaska Valle**	**3.03**	**157**		Pn	08 12 45.5	-0.3
NIKH	**Nikolski High**	**3.68**	**183**		Pn	08 12 53.5	-1.3
M11K	**Mekoryuk**	**3.95**	**17**		Pn	08 12 57.1	-1.4
M13K	**Dall Lake**	**4.66**	**33**	Pn	Pn	08 13 07.3	-0.9
O14K	**Tigyukauivet M**	**4.68**	**53**		Pn	08 13 08.4	-0.1
N14K	**Kuskokwak Cree**	**4.89**	**45**		Pn	08 13 12.3	+0.9
O15K	**Ungalikthiuk R**	**5.29**	**58**		Pn	08 13 17.1	+0.2
M14K	**Bethel**	**5.36**	**37**		Pn	08 13 17.1	-0.7
ATKA	**Atka Island**	**5.54**	**219**		Pn	08 13 20.4	+0.1
L14K	**Kuka Creek**	**5.60**	**30**	Pn	Pn	08 13 21.6	+0.5
N15K	**Kwethluk River**	**5.68**	**48**		Pn	08 13 22.2	0.0
M15K	**Kasigluk River**	**5.77**	**42**		Pn	08 13 24.3	+0.9
P16K	**Nushagak River**	**6.12**	**63**		Pn	08 13 28.7	+0.4
L15K	**Ungalak Mounta**	**6.22**	**33**		Pn	08 13 30.7	+1.1
O16K	**Kokwok River B**	**6.28**	**57**	Pn	Pn	08 13 29.3	-1.1
J14K	**Nanvaranak Lak**	**6.63**	**20**	Pn	Pn	08 13 35.3	+0.1
M16K	**Timber Creek**	**6.63**	**45**	Pn	Pn	08 13 35.5	+0.2
L16K	**Owhat River**	**6.89**	**39**		Pn	08 13 37.2	-1.7
M17K	**Holitna River**	**7.45**	**46**	Pn	Pn	08 13 46.6	+0.1
N18K	**Kilae Creek**	**7.73**	**53**	Pn	Pn	08 13 49.7	-0.7
L18K	**Granite Mounta**	**8.22**	**42**	Pn	Pn	08 13 57.2	+0.1

DJA 18 08:44:18.4±0.5, 8°.5S±16°.1×118°.8E±°, h236km±7km, M4.1/12, mb4.1/3, mB5.0/1, MLv4.1/12, Mw(mB)4.4/1, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.94**	**190**	Pg	Pn	08 44 51.1	-0.6
PLAI				S	S	08 45 18.3	+0.5
WBSI	**Waikabubak, Su**	**2.25**	**141**	P	Pn	08 45 02.0	-0.2
SRBI	**Singaraja**	**2.71**	**266**	P	Pn	08 45 07.4	+0.5
WSI	**Waingapu**	**2.92**	**127**	P	Pn	08 45 09.2	0.0
BASI	**Baing, Sumba**	**3.48**	**132**	P	Pn	08 45 16.5	+1.0
JAGI	**Jajag, Banyuwa**	**3.79**	**261**	P	Pn	08 45 18.8	-0.4
MMRI	**Maumere**	**4.32**	**100**	P	Pn	08 45 26.3	+0.9
GMJI	**Gumukmas**	**4.47**	**265**	P	Pn	08 45 26.6	-0.6
SOEI	**Soe**	**6.52**	**107**	P	Pn	08 45 52.3	-0.7
	17nm,0.7s,0.2nm						
PCJI	**Pacitan**	**6.70**	**267**	P	Pn	08 45 55.5	+0.3
	27nm,1.1s,0.1nm						

*IDC **18** 09:15:06.0±0.8, 15°.01N×44°.95W, h0km, mb3.9/10, mbtmp4.0/11, ML3.9/1, MS3.6/17, Error ellipse: s-maj=22.0km s-min=21.2km az=157.0*
*NEIC **18** 09:15:08.5±2.4, 15°.0N±0°.1×44°.8W±0°.1, h10km±1km, mb4.5/25, Error ellipse: s-maj=19.7km s-min=16.3km az=14.0*
ISC 18 09:15:08.6±0.6, 15°.00N±0°.10×44°.87W±0°.10, h14km, n51, σ1°14/35, mb4.4/22, MS3.6/16, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.46**	**219**	Pn	**Pn**	**09 18 03.7**	**-1.9**
	0.6nm,0.3s,baz=26,slow=14,SNR=28						
MDP				Sn	Sn	09 20 10.7	-14
	0.2nm,0.3s,baz=172,slow=18,SNR=2.1						
MDP				LR	LR	09 21 57.6	
	comp=Z,191nm,19.6s,baz=69,slow=33						
	11nm,0.8s						
BOAV	**Boa Vista**	**19.88**	**232**	P	**Pn**	**09 19 43.1**	**+1.8**
SJG	**San Juan**	**20.63**	**282**	LR	LR	09 26 17.4	
	comp=Z,208nm,22.0s,baz=96,slow=33						
RCBR	**Riachuelo**	**22.52**	**156**	LR	LR	09 26 40.3	
	comp=Z,35nm,18.1s,baz=45,slow=31						
BAUV	**El Baul**	**23.44**	**258**	P	**P**	**09 20 21.7**	**+4.0**
SAML	**Samuel**	**29.93**	**218**	P	**P**	**09 21 17.3**	**+0.9**
BDFB	**Brasilia**	**30.60**	**186**	P	**P**	**09 21 22.4**	**0.0**
	0.8nm,0.5s,baz=36,slow=25,SNR=1.1						
BDFB				LR	LR	09 33 09.3	
	comp=Z,92nm,18.2s,baz=0.3,slow=35						
	0.8nm,0.5s						
ROSC	**El Rosal**	**30.68**	**254**	LR	LR	09 35 23.8	
	comp=Z,88nm,19.0s,baz=36,slow=40						
ETMB	**Extrema**	**32.49**	**222**	P	**P**	**09 21 39.0**	**0.0**
ETMB				IAmb	IAmb	09 21 41.2	
	comp=Z,3.8nm,0.9s						
HAL	**Halifax**	**33.55**	**335**	P	**P**	**09 21 49.1**	**+1.2**
H10N3	**ASCENSION HYDR**	**37.70**	**125**	T	T	10 02 32.3	
	baz=307,slow=75,SNR=14						
H10N2	**ASCENSION HYDR**	**37.70**	**125**	T	T	10 02 29.4	
	baz=307,slow=75,SNR=18						
H10N1	**ASCENSION HYDR**	**37.72**	**125**	T	T	10 02 25.1	
	baz=307,slow=75,SNR=20						
H10S3	**ASCENSION HYDR**	**38.24**	**127**	T	T	10 03 15.1	
	baz=276,slow=74,SNR=16						
H10S2	**ASCENSION HYDR**	**38.26**	**127**	T	T	10 03 13.8	
	baz=304,slow=74,SNR=13						
LPAZ	**La Paz**	**38.65**	**217**	P	**P**	**09 22 33.5**	**+0.8**
LPAZ	**La Paz**	**38.65**	**217**	P	**P**	**09 22 31.7**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=16,slow=7.9,SNR=5.4						
LPAZ				LR	LR	09 38 27.6	
	comp=Z,129nm,18.7s,baz=38,slow=36						
	comp=Z,1.7nm,0.8s						
ACON	**Acoyapa**	**39.27**	**271**	P	**P**	**09 22 36.2**	**-1.1**
ATAH	**Atahualpa**	**39.85**	**239**	LR	LR	09 39 31.4	
	comp=Z,77nm,19.6s,baz=62,slow=37						
DBIC	**Dimbokro**	**40.10**	**98**	LR	LR	09 39 36.5	
	comp=Z,149nm,18.2s,baz=316,slow=37						
TKL	**Tuckaleechee C**	**40.39**	**308**	LR	LR	09 37 38.7	
	comp=Z,161nm,20.7s,baz=79,slow=34						
SADO	**Sadowa**	**41.47**	**323**	LR	LR	09 36 20.9	
	comp=Z,165nm,21.7s,baz=62,slow=31						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**41.49**	**231**	LR	LR	09 39 42.3	
	comp=Z,128nm,21.2s,baz=28,slow=36						
WVT	**Waverly**	**43.66**	**307**	P	**P**	**09 23 12.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**45.14**	**86**	P	**P**	**09 23 24.8**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=294,slow=7.1,SNR=7.0						
TORD				LR	LR	09 42 23.9	
	comp=Z,196nm,18.8s,baz=316,slow=36						
	comp=Z,1.5nm,0.8s						
CMIG	**Matias Romero**	**48.01**	**280**	LR	LR	09 44 27.8	
	comp=Z,44nm,19.1s,baz=58,slow=37						
BRDY	**Brady**	**51.86**	**298**	P	**P**	**09 24 16.2**	**-0.5**
BRDY				IAmb	IAmb	09 24 17.4	
	comp=Z,6.8nm,1.1s						
ULM	**Lac du Bonnet**	**54.02**	**322**	P	**P**	**09 24 30.7**	**-1.7**
	comp=Z,2.8nm,0.7s,baz=137,slow=7.7,SNR=4.7						
	comp=Z,2.8nm,0.7s						
TXAR	**Lajitas Array**	**55.77**	**295**	P	**P**	**09 24 44.4**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=120,slow=7.5,SNR=6.5						
TXAR				LR	LR	09 49 19.9	
	comp=Z,42nm,19.0s,baz=42,slow=37						
	comp=Z,0.6nm,0.8s						
VHRN	**Van Horn**	**56.95**	**297**	P	**P**	**09 24 54.7**	**+0.7**
VHRN				IAmb	IAmb	09 25 07.2	
	comp=Z,5.4nm,1.1s						
GEC2	**GERESS Array S**	**58.27**	**42**	P	**P**	**09 25 02.9**	**0.0**
ANMO	**Albuquerque**	**58.38**	**302**	LR	LR	09 47 11.0	
	comp=Z,66nm,21.7s,baz=229,slow=33						
PDAR	**Pinedale Array**	**61.43**	**311**	P	**P**	**09 25 24.6**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=110,slow=7.6,SNR=6.4						
PDAR				LR	LR	09 52 39.5	
	comp=Z,40nm,18.1s,baz=84,slow=37						
	comp=Z,0.5nm,0.6s						
LPIG	**La Paz**	**61.87**	**290**	LR	LR	09 52 11.0	
	comp=Z,50nm,20.4s,baz=53,slow=36						
TPAW	**Teton Pass**	**62.52**	**311**	P	**P**	**09 25 31.5**	**-0.8**
TPAW				IAmb	IAmb	09 25 44.6	
	comp=Z,2.3nm,0.8s						
YHL	**Hebgen Lake**	**62.82**	**313**	P	**P**	**09 25 34.1**	**-0.1**
HWUT	**Hardware Ranch**	**62.82**	**309**	P	**P**	**09 25 33.8**	**-0.5**
HWUT				IAmb	IAmb	09 25 35.4	
	comp=Z,6.3nm,1.0s						
SPR3	**Spring Creek 3**	**64.83**	**306**	P	**P**	**09 25 47.9**	**+0.2**
SPR3				IAmb	IAmb	09 25 50.1	
	comp=Z,2.6nm,1.0s						
HLID	**Hailey**	**65.04**	**311**	P	**P**	**09 25 48.1**	**-0.7**
AKASG	**Malin Array Be**	**68.48**	**41**	P	**P**	**09 26 10.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=278,slow=4.5,SNR=4.9						
	comp=Z,0.3nm,0.3s						
BRTR	**Keskin Array B**	**71.81**	**53**	P	**P**	**09 26 32.0**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=272,slow=7.4,SNR=2.2						
	comp=Z,0.7nm,0.8s						
A36M	**Sachs Harbour**	**72.87**	**341**	P	**P**	**09 26 34.8**	**-1.9**
INK	**Inuvik**	**75.69**	**337**	P	**P**	**09 26 52.4**	**-0.8**
INK				IAmb	IAmb	09 26 54.4	
	comp=Z,5.4nm,1.1s						
F31M	**Tsiigehtchic**	**75.85**	**337**	P	**P**	**09 26 53.7**	**-0.4**
F31M				IAmb	IAmb	09 27 00.5	
	comp=Z,3.5nm,1.0s						
G31M	**Satah River**	**76.10**	**336**	P	**P**	**09 26 54.5**	**-1.1**
G31M				IAmb	IAmb	09 27 08.0	
	comp=Z,3.2nm,1.0s						
WHY	**Whitehorse**	**77.08**	**330**	P	**P**	**09 27 01.8**	**+0.5**
WHY				IAmb	IAmb	09 27 05.1	
	comp=Z,8.6nm,1.3s						
E27K	**Coleen River**	**78.69**	**338**	P	**P**	**09 27 09.9**	**-0.2**
E27K				IAmb	IAmb	09 27 12.2	
	comp=Z,7.0nm,1.1s						
BOSA	**Boshof**	**80.42**	**123**	P	**P**	**09 27 20.3**	**0.0**
	comp=Z,2.5nm,0.8s,baz=344,slow=5.5,SNR=3.2						
	comp=Z,2.5nm,0.8s						
ILAR	**Eielson Array**	**81.60**	**335**	P	**P**	**09 27 25.9**	**+0.1**
ILAR	**Eielson Array**	**81.60**	**335**	P	**P**	**09 27 25.7**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=67,slow=4.2,SNR=20						
	comp=Z,3.0nm,0.9s						
ABKAR	**Akbulak array**	**88.14**	**39**	P	**P**	**09 28 00.1**	**+1.0**
ABKAR				IAmb	IAmb	09 28 08.3	
	comp=Z,1.9nm,0.8s						

*IDC **18** 09:29:38.5±0.5, 8°.52N×143°.83E, h0km, mb4.5/24, mbtmp4.5/26, ML2.7/1, MS4.4/60, Error ellipse: s-maj=22.1km s-min=11.8km az=79.0*
*NEIC **18** 09:29:41.4±1.4, 8°.49N±0°.05×143°.64E±0°.09, h10km±1km, mb4.9/93, Error ellipse: s-maj=15.8km s-min=6.6km az=113.0*
*GCMT **18** 09:29:42.4±0.1, 8°.56N±0°.01×143°.66E±0°.01, h12km, MW5.2/126, Moment Tensor Solution. s79,c106; s126,c219; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}-1.21±.12; $M_{\theta\theta}$5.73±.10; $M_{\phi\phi}$-4.51±.12; $M_{r\theta}$3.57±.29; $M_{\phi\phi}$4.00±.10; $M_{\theta r}$-2.61±.32; Best double couple: $M_0$7.92900×10^{16} NP1:ϕ_s293.00000°, δ82.00000°, λ-34.00000°. NP2:ϕ_s29.00000°, δ56.00000°, λ-170.00000°. Principal axes: T 7.8910, Plg17.0000°, Azm346.0000°; N 0.0870, Plg55.0000°, Azm102.0000°; P -7.9680, Plg30.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **18** 09:29:45.2±0.8, 8°.N±4°.×14°.4E±°, h59km±8km, M5.2/21, mb5.0/21, mB5.5/15, MLv5.6/1, Mw(mB)5.0/15, MwMwp4.9/4, Mwp5.2/4*
ISC 18 09:29:40.9±0.3, 8°.46N±0°.04×143°.73E±0°.05, h10km, n245, σ1°83/234, mb4.8/96, MS4.5/81, 2C-2D, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.22**	**12**	Pn	**Pn**	**09 30 56.1**	**-3.0**
GUMO	**Guam**	**5.22**	**12**	Pn	**Pn**	**09 30 56.5**	**-2.5**
	87nm,0.4s,baz=174,slow=9.4,SNR=14						
GUMO				Sn	Sn	09 31 49.9	-9.5
	29nm,0.3s,baz=16,slow=22,SNR=3.9						
GUMO				LR	LR	09 33 36.8	
	comp=Z,3μm,18.1s,baz=204,slow=46						
GUMO	**Guam**	**5.22**	**12**	P	**Pn**	**09 31 01.5**	**+2.4**
JAY	**Jayapura**	**11.31**	**196**	LR	LR	09 35 27.5	

comp=Z,679nm,21.8s,baz=308,slow=34
36nm,0.3s
ALEG Aligegeo Malai 24.05 135 P **P** **09 34 58.3 +1.8**
H11S3 WAKE ISLAND Hy 24.42 64 T T 10 00 30.9
baz=248,slow=75,SNR=37
H11S2 WAKE ISLAND Hy 24.44 64 T T 10 00 28.6
baz=248,slow=75,SNR=37
H11S1 WAKE ISLAND Hy 24.44 64 T T 10 00 28.7
baz=248,slow=75,SNR=38
MTN Manton Dam 24.59 211 P **P** **09 35 01.1 -0.3**
H11N1 WAKE ISLAND Hy 25.06 61 T T 10 01 15.7
baz=247,slow=74,SNR=105
H11N2 WAKE ISLAND Hy 25.07 61 T T 10 00 48.3
baz=247,slow=74,SNR=79
H11N3 WAKE ISLAND Hy 25.08 61 T T 10 01 11.6
baz=247,slow=74,SNR=106
MYLDM Lahad Datu 25.26 264 P **P** **09 35 11.8 +4.2**
TWGBT Beinan 26.01 306 P **P** **09 35 18.0 +3.7**
YULB Yu-li 26.12 307 P **P** **09 35 14.3 -1.1**
YULB IAmb IAmb 09 35 21.2
comp=Z,20nm,1.0s
NACB Ninganchiao 26.30 309 P **P** **09 35 19.8 +2.8**
TTSI Tana Toraja 26.44 245 P P 09 35 38.8 +21
SOEI Soe 26.51 227 P **P** **09 35 18.1 -1.0**
SOEI IAmb IAmb 09 35 29.1
comp=Z,37nm,0.9s
SOEI Soe 26.51 227 P **P** **09 35 20.8 +1.7**
SOEI Soe 26.51 227 P P 09 35 31.2 +12
SSLB Suanglung 26.60 308 P **P** **09 35 17.6 -2.1**
SSLB Suanglung 26.60 308 P **P** **09 35 21.6 +1.9**
TPUB Ta-pu 26.61 306 P **P** **09 35 18.1 -1.7**
TPUB Ta-pu 26.61 306 P **P** **09 35 22.9 +3.2**
JMN Monobe 26.74 342 P **P** **09 35 18.7 -2.1**
JMN IAmb IAmb 09 35 38.1
comp=Z,30nm,1.1s
YHNB Yeheng 26.74 310 P **P** **09 35 20.6 -0.4**
YHNB IAmb IAmb 09 35 36.3
comp=Z,35nm,1.0s
YHNB Yeheng 26.74 310 P **P** **09 35 24.3 +3.3**
BNSI Bone 26.80 242 P P 09 35 36.7 +15
BATI Baumata 27.26 228 LR LR 09 45 26.0
comp=Z,464nm,19.7s,baz=47,slow=35
JNU Nakatsue 27.27 336 P **P** **09 35 24.8 -0.8**
JNU Nakatsue 27.27 336 LR LR 09 45 31.7
comp=Z,501nm,20.4s,baz=162,slow=35
JNU Nakatsue 27.27 336 P **P** **09 35 28.2 +2.6**
KAPI Kappang 27.40 242 LR LR 09 44 52.1
comp=Z,569nm,21.6s,baz=70,slow=33
JGF Kuroka 27.64 349 P **P** **09 35 28.1 -0.8**
KNRA Kununurra 28.20 212 P **P** **09 35 33.5 -0.5**
MJAR Matsushiro Arr 28.40 351 P **P** **09 35 33.4 -2.3**
comp=Z,3.5nm,0.9s,baz=183,slow=9.1,SNR=11
MJAR LR LR 09 47 00.8
comp=Z,505nm,19.3s,baz=146,slow=37
comp=Z,3.5nm,0.9s
MAJO Matsushiro 28.40 351 P **P** **09 35 33.3 -2.4**
MAJO IAmb IAmb 09 35 46.4
comp=Z,19nm,0.9s
MJB9 Matsu-Tunnel 28.41 351 P **P** **09 35 34.1 -1.6**
MJB9 IAmb IAmb 09 35 47.3
comp=Z,19nm,0.9s
CTA Charters Tower 28.48 175 LR LR 09 45 49.1
comp=Z,73nm,21.5s,baz=350,slow=34
CTAO Charters Tower 28.48 175 P **P** **09 35 36.4 -0.1**
QZH Quanzhou 29.04 307 P **P** **09 35 44.3 +2.9**
QZH S **S** **09 40 35.4 +2.5**
QZH LR LR
comp=Z,1μm,13.1s
QZH LR LR
comp=Z,1μm,13.7s
QZH LR LR
comp=Z,2μm,14.1s
JMM Marumori 29.39 355 P **P** **09 35 48.1 +3.7**
WB0 Warramunga Arr 29.52 198 P **P** **09 35 44.6 -1.2**
WRAB Tennant Creek 29.69 198 P **P** **09 35 46.3 -0.9**
WB2 Warramunga Arr 29.70 198 P **P** **09 35 46.3 -1.0**
WRA Warramunga Arr 29.70 198 P **P** **09 35 47.0 -0.4**
WRA Warramunga Arr 29.70 198 P **P** **09 35 46.5 -0.8**
comp=Z,1.9nm,0.6s,baz=23,slow=9.6,SNR=17
WRA PcP **PcP** **09 38 50.6 -1.0**
comp=Z,1.0nm,0.9s,baz=11,slow=2.9,SNR=2.1
WRA LR LR 09 47 23.9
comp=Z,1μm,18.7s,baz=12,slow=36
comp=Z,1.9nm,0.6s
SSE Sheshan 30.80 320 P **P** **09 35 58.9 +1.9**
SSE S **S** **09 41 00.6 0.0**
SSE pmax pmax
comp=Z,16nm,0.8s
SSE pmax pmax
comp=Z,100nm,3.5s
SSE LR LR
comp=Z,480nm,17.0s
SSE LR LR
comp=Z,160nm,17.2s
TJN Taejon 31.53 334 P **P** **09 36 05.7 +2.3**
SBUM Sibu 31.91 261 P **P** **09 36 04.8 -2.2**
KSRS Korea Array 32.22 336 P **P** **09 36 08.1 -1.3**
comp=Z,2.2nm,0.7s,baz=158,slow=9.0,SNR=9.7
KSRS LR LR 09 49 44.5
comp=Z,502nm,18.1s,baz=150,slow=37
comp=Z,2.2nm,0.7s
NJ2 Nanjing 32.93 319 *e*P **P** **09 36 16.8 +1.1**
NJ2 S **S** **09 41 34.9 +1.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
NJ2 pmax pmax
comp=Z,200nm,10.1s
NJ2 LR LR
comp=Z,1μm,17.1s
NJ2 LR LR
comp=Z,1μm,16.1s
NJ2 LR LR
comp=Z,1μm,21.8s
AS31 Alice Springs 33.34 197 P **P** **09 36 19.0 -0.4**
ASAR Alice Springs 33.34 197 P **P** **09 36 18.9 -0.5**
comp=Z,0.5nm,0.6s,baz=32,slow=10,SNR=11
ASAR PP **PP** **09 37 34.0 -1.0**
comp=Z,2.5nm,1.0s,baz=17,slow=9.7,SNR=4.4
ASAR PcP **PcP** **09 39 01.0 -0.4**
comp=Z,1.5nm,0.7s,baz=30,slow=2.3,SNR=8.1
ASAR LR LR 09 49 28.7
comp=Z,1μm,19.6s,baz=17,slow=36
comp=Z,0.5nm,0.6s
KSM Kuching 33.99 260 P **P** **09 36 23.9 -1.2**
KSM IAmb IAmb 09 36 24.9
comp=Z,14nm,1.1s
QIZ Qiongzhong 34.48 291 P **P** **09 36 28.6 -0.8**
QIZ S **S** **09 41 55.6 -2.6**
QIZ pmax pmax
comp=Z,19nm,1.9s
QIZ LR LR
comp=Z,1μm,18.1s
QIZ LR LR
comp=Z,330nm,17.7s
QIZ LR LR
comp=Z,360nm,13.5s
QLP Quilpie 34.84 179 P **P** **09 36 32.0 -0.3**
CNSH ChangSha 35.03 308 P **P** **09 36 35.3 +1.3**
CNSH S **S** **09 42 10.0 +3.6**
CNSH pmax pmax
comp=Z,14nm,1.2s
CNSH LR LR
comp=Z,840nm,18.7s
CNSH LR LR
comp=Z,690nm,16.2s
CNSH LR LR
comp=Z,830nm,16.6s
WHN Wuhan 35.15 313 P **P** **09 36 35.6 +0.6**
WHN pP **sP** **09 36 38.4 +0.3**
WHN S **S** **09 42 09.1 +0.9**
WHN pmax pmax
comp=Z,100nm,0.9s
WHN pmax pmax
comp=Z,1μm,3.9s
WHN LR LR
comp=Z,2μm,9.6s
WHN LR LR
comp=Z,2μm,12.4s
WHN LR LR
comp=Z,3μm,13.9s
KOUNC Koumac, New Ca 35.21 145 P **P** **09 36 35.9 +0.3**
KOUNC IAmb IAmb 09 36 41.9
comp=Z,17nm,1.1s
ASAJ Asahikawa 35.53 359 LR LR 09 49 36.5
comp=Z,398nm,21.9s,baz=176,slow=34
TIA Tai'an 36.74 323 P **P** **09 36 48.3 -0.3**
TIA S **S** **09 42 28.0 -4.5**
TIA pmax pmax
comp=Z,25nm,1.6s
TIA LR LR
comp=Z,570nm,13.3s
TIA LR LR
comp=Z,1μm,16.3s
TIA LR LR
comp=Z,900nm,16.7s
AUWSH Wavell State H 36.77 166 P **P** **09 36 50.3 +1.4**
OOD Oodnadatta 36.87 192 P **P** **09 36 50.7 +1.0**
USA0BUssuriysk Arra 37.04 346 P **P** **09 36 50.6 -0.4**
USA0B IAmb IAmb 09 37 04.9
comp=Z,27nm,1.1s
USRK Ussuriysk Ar. 37.04 346 P **P** **09 36 50.6 -0.4**
comp=Z,7.3nm,0.7s,baz=173,slow=9.3,SNR=10
USRK LR LR 09 50 44.4
comp=Z,244nm,21.2s,baz=148,slow=34
comp=Z,7.3nm,0.7s
NOUC Port Laguerre 37.58 144 P **P** **09 36 56.8 +0.9**
DZM Mont Dzumac 37.64 144 P **P** **09 36 56.3 -0.2**
DZM Mont Dzumac 37.64 144 *e*P **P** **09 36 56.0 -0.5**
comp=Z,93nm,1.1s
DZM *e*S **S** **09 42 50.6 +4.0**
comp=Z,248nm,25.9s
DZM *e*SS **SS** **09 45 31.3 -0.6**
comp=Z,446nm,24.8s
DZM *e*LR LR 09 47 08.5
comp=Z,2μm,23.9s
DZM Mont Dzumac 37.64 144 LR LR 09 49 54.8
comp=Z,1μm,21.7s,baz=330,slow=32
DZM Mont Dzumac 37.64 144 P **P** **09 36 57.7 +1.2**
ONTNC Ouen Toro 37.83 144 P **P** **09 36 58.3 +0.3**
ONTNC IAmb IAmb 09 37 19.8
comp=Z,27nm,1.1s
YATNC Mamie plateau, 37.89 144 P **P** **09 36 59.4 +0.9**
MDJ Mudanjiang 38.05 344 P **P** **09 36 59.5 -0.1**
MDJ IAmb IAmb 09 37 04.1
comp=Z,24nm,1.2s
MDJ Mudanjiang 38.05 344 P **P** **09 37 01.9 +2.3**
MDJ S **S** **09 42 55.5 +3.3**
MDJ sS ScP 09 42 59.8 -3.0
MDJ pmax pmax
comp=Z,23nm,1.8s
MDJ pmax pmax
comp=Z,400nm,5.3s
MDJ LR LR
comp=Z,460nm,15.8s
MDJ LR LR
comp=Z,430nm,15.8s
MDJ LR LR
comp=Z,750nm,21.3s
PINNC Pines Island, 38.65 143 P **P** **09 37 04.8 0.0**
CN2 Changchun 38.65 339 P **P** **09 37 06.8 +2.2**
CN2 S **S** **09 43 03.8 +2.6**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,600nm,12.0s
CN2 LR LR
comp=Z,600nm,12.0s
CN2 LR LR
comp=Z,800nm,14.0s
ENH Enshi 38.67 309 P **P** **09 37 04.0 -1.0**
ENH IAmb IAmb 09 37 08.9
comp=Z,25nm,0.8s
LYN LuoYang 38.69 317 ⇑P **P** **09 37 05.3 +0.2**
LYN S **S** **09 42 59.1 -3.0**
LYN SS **SnSn** **09 45 48.5 -2.1**
LYN pmax pmax
comp=Z,52nm,1.8s
LYN pmax pmax
comp=Z,440nm,4.1s
LYN LR LR
comp=Z,1μm,15.8s
LYN LR LR
comp=Z,2μm,14.1s
LYN LR LR
comp=Z,2μm,18.2s
HNS HongShan 38.98 322 ⇓P **P** **09 37 06.9 -0.6**
HNS PP **PnPn** **09 38 46.1 +6.8**
HNS S **S** **09 43 03.8 -2.6**
HNS pmax pmax
comp=Z,32nm,1.7s
HNS pmax pmax
comp=Z,350nm,4.2s
HNS LR LR
comp=Z,280nm,15.1s
HNS LR LR
comp=Z,1μm,14.9s
HNS LR LR
comp=Z,750nm,16.7s
LEM Lembang 39.07 248 LR LR 09 53 20.0
comp=Z,260nm,21.6s,baz=142,slow=36
GYA Guiyang 39.43 302 P **P** **09 37 12.9 +1.3**
GYA S **S** **09 43 09.9 -3.8**
GYA pmax pmax
comp=Z,22nm,1.2s
GYA LR LR
comp=Z,250nm,10.2s
GYA LR LR
comp=Z,530nm,13.2s
GYA LR LR
comp=Z,550nm,19.4s
MULG Mulgathing 39.62 193 P **P** **09 37 12.6 -0.3**
BNX BinXian 39.72 342 ⇓P **P** **09 37 13.8 +0.3**
BNX pmax pmax
comp=Z,38nm,1.1s
CMSA Cobar Meteorol 39.82 177 P **P** **09 37 14.7 +0.2**
BJT Baijiatuau 39.90 326 P **P** **09 37 14.9 -0.3**
BJT IAmb IAmb 09 37 29.2
comp=Z,43nm,1.4s
BJI Beijing 39.91 326 P **P** **09 37 14.4 -0.8**
BJI S **S** **09 43 22.3 +2.0**
BJI pmax pmax
comp=Z,8.0nm,1.2s
BJI pmax pmax
comp=Z,110nm,3.8s
BJI LR LR
comp=Z,340nm,15.3s
BJI LR LR
comp=Z,190nm,14.9s
BJI LR LR
comp=Z,210nm,13.9s
STKA Stephens Creek 40.16 183 P **P** **09 37 15.7 -1.6**
comp=Z,1.8nm,0.6s,baz=3.8,slow=15,SNR=2.2
STKA LR LR 09 53 50.0
comp=Z,550nm,18.1s,baz=6.7,slow=36
comp=Z,1.8nm,0.6s
SLVN Son La 40.43 293 P **P** **09 37 20.2 +0.3**
NONG Nongkai 40.55 288 P **P** **09 37 24.7 +3.8**
comp=Z,17nm,1.3s
XAN Xi'an 40.89 314 P **P** **09 37 23.5 0.0**
XAN sP pwP 09 37 30.3 +0.7
XAN PP **PP** **09 38 57.9 +0.1**
XAN S **S** **09 43 36.8 +1.6**
XAN pmax pmax
comp=Z,18nm,2.1s
XAN LR LR
comp=Z,950nm,14.5s
XAN LR LR
comp=Z,930nm,17.3s
XAN LR LR
comp=Z,1μm,21.6s
BBOO Buckleboo 41.69 190 P **P** **09 37 29.0 -0.9**
BBOO Buckleboo 41.69 190 P **P** **09 37 29.9 0.0**
FORT Forrest 41.81 200 P **P** **09 37 30.5 -0.5**
FORT IAmb IAmb 09 37 30.6
comp=Z,24nm,1.0s
KLR Kul'dur 41.86 348 LR LR 09 53 58.7
comp=Z,252nm,21.9s,baz=164,slow=35
KMI Kunming 42.38 298 ⇑P **P** **09 37 37.4 +1.3**
KMI S **S** **09 43 59.6 +1.6**
KMI pmax pmax
comp=Z,25nm,1.7s
KMI LR LR
comp=Z,1μm,18.5s
KMI LR LR
comp=Z,630nm,17.5s
KMI LR LR
comp=Z,680nm,18.1s
IPM Ipoh 42.60 267 P **P** **09 37 36.6 -1.1**
XLT XiLinHaoTe 42.74 330 *e*P **P** **09 37 38.4 -0.1**
XLT S **S** **09 44 04.6 +2.2**
XLT SS **SS** **09 47 12.8 -0.3**
XLT pmax pmax
comp=Z,22nm,1.0s
XLT LR LR
comp=Z,560nm,14.4s
XLT LR LR
comp=Z,760nm,16.6s
MSVF Nonsavu 42.74 128 P **P** **09 37 39.2 +0.4**
MSVF IAmb IAmb 09 37 40.1
comp=Z,15nm,0.9s
HHC Hu-ho-hao-te 43.07 324 *e*P **P** **09 37 41.5 +0.2**
HHC PP **PP** **09 39 20.6 -0.7**
HHC S **S** **09 44 07.6 +0.2**
HHC sS sS 09 44 15.6 +4.5
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.0s
HHC LR LR
comp=Z,580nm,15.3s
HHC LR LR
comp=Z,670nm,13.4s
HHC LR LR
comp=Z,760nm,14.6s
PHRA Phrae 43.36 288 P **P** **09 37 42.9 -0.9**
CD2 Chengdu 43.42 307 P **P** **09 37 44.3 +0.1**
CD2 S **S** **09 44 10.6 -2.1**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,210nm,2.7s
CD2 LR LR
comp=Z,920nm,15.2s
CD2 LR LR
comp=Z,580nm,12.7s
CD2 LR LR
comp=Z,640nm,17.8s
PZH PanZhiHua 43.63 300 P **P** **09 37 46.3 +0.2**
PZH S **S** **09 44 15.6 -0.4**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,230nm,3.5s
PZH LR LR
comp=Z,950nm,21.0s
PZH LR LR
comp=Z,490nm,19.0s
PZH LR LR
comp=Z,500nm,20.6s
HEH HeiHe 43.82 345 *e*P **P** **09 37 46.4 -0.6**
HEH pmax pmax
comp=Z,35nm,0.9s
CAN Canberra 43.83 174 P **P** **09 37 46.9 -0.5**
BTO Baotou 43.84 322 *e*P **P** **09 37 49.1 +1.6**
BTO pP **pwP** **09 37 53.8 +0.3**
BTO sP **sP** **09 37 56.3 +5.7**
BTO PP **PcP** **09 39 33.3 -0.6**
BTO S **S** **09 44 23.5 +4.9**
BTO sS **sS** **09 44 29.4 +7.1**
BTO SS **SS** **09 47 27.3 -7.4**
BTO pmax pmax
comp=Z,53nm,1.0s
BTO pmax pmax
comp=Z,530nm,5.1s
BTO LR LR
comp=Z,2μm,15.9s
BTO LR LR
comp=Z,2μm,16.3s
BTO LR LR
comp=Z,1μm,23.7s
CM31 Chiang Mai Arr 44.56 288 P **P** **09 37 53.9 +0.4**
CMAR Chiang Mai Arr 44.56 288 P **P** **09 37 53.6 0.0**
CMAR Chiang Mai Arr 44.56 288 P **P** **09 37 54.4 +0.9**
comp=Z,12nm,0.8s,baz=88,slow=6.1,SNR=53
CMAR LR LR 09 54 13.7
comp=Z,172nm,21.7s,baz=95,slow=33
comp=Z,12nm,0.8s
CHTO Chiang Mai 44.61 288 P **P** **09 37 53.5 -0.4**
CHTO IAmb IAmb 09 37 58.3
comp=Z,11nm,1.1s
LZH Lanzhou 45.52 313 *e*P **P** **09 37 57.3 -3.8**
LZH pP sP 09 38 04.5 +0.3
LZH SS SS 09 47 50.6 -17
LZH pmax pmax
comp=Z,13nm,1.1s
LZH LR LR
comp=N,520nm,20.3s
LZH LR LR
comp=E,610nm,20.3s
LZH LR LR
comp=Z,890nm,16.1s
BRAT Ballarat 45.77 180 P **P** **09 38 04.1 +1.4**
TOO Toolangi 45.82 178 P **P** **09 38 03.1 -0.1**
PEA0B Petropavlovsk- 45.94 12 P **P** **09 38 05.2 +1.3**
PETK Petropavlovsk- 45.94 12 P **P** **09 38 05.3 +1.4**
PETK Petropavlovsk- 45.94 12 P **P** **09 38 02.2 -1.7**
comp=Z,7.2nm,0.9s,baz=226,slow=12,SNR=3.2
PETK LR LR 10 01 34.3
comp=Z,268nm,18.4s,baz=190,slow=42
comp=Z,7.2nm,0.9s
NWAO Narrogin (SRO) 48.28 210 LR LR 09 59 18.8
comp=Z,427nm,19.2s,baz=30,slow=37
GTA Gaotai 49.87 315 *e*P **P** **09 38 34.6 -0.2**
GTA pP sP 09 38 38.6 +0.7
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA LR LR
comp=Z,400nm,15.1s
GTA LR LR
comp=Z,320nm,17.5s
GTA LR LR
comp=Z,560nm,21.9s
ULN Ulaanbaatar 50.03 328 P **P** **09 38 35.6 -0.3**
ULN IAmb IAmb 09 38 51.3
comp=Z,14nm,1.1s
SONM Songino Array 50.36 328 P **P** **09 38 37.6 -0.8**
SONM Songino Array 50.36 328 P **P** **09 38 38.3 0.0**
comp=Z,2.9nm,0.8s,baz=142,slow=8.6,SNR=14
SONM LR LR 10 01 24.4
comp=Z,360nm,18.0s,baz=132,slow=38
comp=Z,2.9nm,0.8s
SHEM Shemya Is, Ala 50.57 23 LR LR 09 58 08.7
comp=Z,300nm,20.8s,baz=208,slow=34
MA2 Magadan 51.28 5 LR LR 09 57 45.4
comp=Z,303nm,21.6s,baz=168,slow=33
SHL Shillong 52.07 296 P **P** **09 38 50.1 -1.4**
SHL IAmb IAmb 09 38 54.8
comp=Z,17nm,0.9s
GOMU GeErMu 52.28 310 P **P** **09 38 52.5 -0.7**
GOMU PP **PP** **09 40 50.6 -1.2**
GOMU S **S** **09 46 18.9 0.0**
GOMU SS **SS** **09 49 55.1 -1.5**
GOMU pmax pmax
comp=Z,13nm,0.9s
GOMU pmax pmax
comp=Z,320nm,5.1s
GOMU LR LR
comp=Z,1μm,15.2s
GOMU LR LR
comp=Z,500nm,16.8s
GOMU LR LR
comp=Z,990nm,16.1s
YAK Yakutsk 54.45 352 P **P** **09 39 08.3 +0.1**
YAK Yakutsk 54.45 352 LR LR 10 01 29.4
comp=Z,254nm,21.2s,baz=145,slow=35
URZ Urewera 55.93 148 LR LR 10 02 47.7
comp=Z,425nm,18.4s,baz=50,slow=36
BKZ Black Stump Fm 56.31 150 P **P** **09 39 22.0 0.0**
BKZ IAmb IAmb 09 39 33.1
comp=Z,18nm,1.1s
RPZ Rata Peaks 57.55 157 LR LR 10 00 58.1
comp=Z,541nm,20.2s,baz=325,slow=33
WMQ Urumqi 59.94 316 *e*P **P** **09 39 50.4 +2.8**
WMQ sP pwP 09 39 59.0 +5.3
WMQ pmax pmax
comp=Z,19nm,1.1s
WMQ LR LR
comp=Z,500nm,15.7s
WMQ LR LR
comp=Z,350nm,23.7s
BILL Bilibino 61.37 9 P **P** **09 39 57.7 +0.9**
BILL IAmb IAmb 09 40 18.6
comp=Z,9.5nm,0.9s
RAR Rarotonga 62.81 119 LR LR 10 04 51.1
comp=Z,125nm,18.4s,baz=286,slow=34
TIXI Tiksi 63.80 355 P **P** **09 40 12.4 -0.5**

TIXI				IAmb	IAmb	09 40 19.1	
	comp=Z,5.8nm,0.9s						
MK31	**Makanchi Array**	**64.46**	**318**	P	**P**	**09 40 16.8**	**-1.0**
MK31				IAmb	IAmb	09 40 30.5	
	comp=Z,7.1nm,1.1s						
MKAR	**Makanchi Array**	**64.46**	**318**	P	**P**	**09 40 16.7**	**-1.1**
MKAR	**Makanchi Array**	**64.46**	**318**	P	**P**	**09 40 17.1**	**-0.6**
	comp=Z,4.8nm,0.8s,baz=96,slow=8.4,SNR=24						
MKAR				LR	LR	10 08 03.8	
	comp=Z,310nm,20.8s,baz=98,slow=36						
	comp=Z,4.8nm,0.8s						
ZAA0	**Zalesovo Array**	**65.17**	**326**	P	**P**	**09 40 20.9**	**-1.3**
ZAA0				IAmb	IAmb	09 40 33.5	
	comp=Z,6.1nm,1.1s						
ZALV	**Zalesovo Beam**	**65.17**	**326**	P	**P**	**09 40 20.1**	**-2.1**
ZALV	**Zalesovo Beam**	**65.17**	**326**	P	**P**	**09 40 20.9**	**-1.3**
	comp=Z,3.9nm,0.8s,baz=101,slow=7.0,SNR=15						
	comp=Z,3.9nm,0.8s						
KSH	**Kashi**	**67.52**	**309**	P	**P**	**09 40 39.9**	**+2.1**
KSH				pmax	pmax		
	comp=Z,13nm,0.9s						
KURK	**Kurchatov**	**67.82**	**321**	P	**P**	**09 40 38.4**	**-0.9**
KURBB	**Kurchatov Arra**	**67.85**	**321**	P	**P**	**09 40 38.4**	**-1.0**
	comp=Z,6.7nm,0.8s,baz=108,slow=5.9,SNR=40						
	comp=Z,6.7nm,0.8s						
KDAK	**Kodiak Island**	**69.00**	**31**	LR	LR	10 08 53.2	
	comp=Z,246nm,19.1s,baz=93,slow=34						
AAK	**Ala-Archa**	**69.06**	**312**	LR	LR	10 12 54.7	
	comp=Z,182nm,18.9s,baz=98,slow=38						
NIL	**Nilore**	**69.12**	**303**	P	**P**	**09 40 46.9**	**-0.9**
ARSB	**Arslanbob**	**70.01**	**311**	P	**P**	**09 40 52.4**	**-0.8**
NRIK	**Noril'sk**	**70.60**	**342**	P	**P**	**09 40 55.2**	**-0.9**
NRIK	**Noril'sk**	**70.60**	**342**	P	**P**	**09 40 55.4**	**-0.8**
	comp=Z,7.2nm,0.8s,baz=113,slow=7.0,SNR=10						
NRIK				LR	LR	10 12 28.5	
	comp=Z,283nm,20.6s,baz=124,slow=36						
	comp=Z,7.2nm,0.8s						
DRK	**Karamyk**	**70.73**	**309**	P	**P**	**09 40 57.4**	**-0.5**
DRK				IAmb	IAmb	09 41 24.4	
	comp=Z,7.7nm,0.6s						
PPT	**Papeete**	**70.76**	**112**	LR	LR	10 07 15.9	
	comp=Z,238nm,18.7s,baz=283,slow=32						
PPT2	**Papeete2**	**70.77**	**112**	*e*S	**S**	**09 50 13.6**	**+0.1**
PPT2	comp=Z,79nm,24.2s						
				*e*SS	**SS**	**09 54 44.4**	**-1.5**
	comp=Z,60nm,28.5s						
PPT2				*e*LQ	LQ	09 59 25.4	
	comp=Z,795nm,25.8s						
PPT2				*e*LR	LR	10 02 25.4	
	comp=Z,290nm,25.8s						
PPT2				*e*LR	LR	10 02 26.5	
	comp=Z,357nm,24.5s						
CAST	**Castle Rocks**	**71.08**	**25**	P	**P**	**09 40 59.2**	**+0.1**
CAST				IAmb	IAmb	09 41 13.2	
	comp=Z,12nm,1.1s						
IMAR	**Indian Mountai**	**71.33**	**23**	P	**P**	**09 41 01.4**	**+0.8**
GAR	**Garm**	**71.84**	**308**	P	**P**	**09 41 03.7**	**-0.7**
GAR				IAmb	IAmb	09 41 15.7	
	comp=Z,13nm,0.9s						
KKAR	**Karatay Array**	**72.02**	**313**	P	**P**	**09 41 04.8**	**-0.5**
KKAR	**Karatay Array**	**72.02**	**313**	P	**P**	**09 41 04.0**	**-1.2**
MLY	**Manley**	**72.17**	**24**	P	**P**	**09 41 07.1**	**+1.4**
MLY				IAmb	IAmb	09 41 33.5	
	comp=Z,5.7nm,0.8s						
TBI	**Tubuai**	**72.52**	**118**	*e*S	**S**	**09 50 32.4**	**-0.9**
	comp=Z,1μm,28.5s						
TBI				*e*LQ	LQ	10 00 08.5	
	comp=Z,2μm,27.5s						
TBI				*e*LR	LR	10 03 10.6	
	comp=Z,900nm,26.0s						
I23K	**Minto, Yukon-K**	**72.76**	**24**	P	**P**	**09 41 09.3**	**+0.1**
I23K				IAmb	IAmb	09 41 36.1	
	comp=Z,12nm,1.1s						
BVAR	**Borovoye Array**	**73.27**	**323**	P	**P**	**09 41 11.7**	**-0.8**
	comp=Z,17nm,0.8s,baz=103,slow=6.7,SNR=52						
BVAR				LR	LR	10 15 54.5	
	comp=Z,496nm,18.1s,baz=89,slow=38						
	comp=Z,17nm,0.8s						
BRVK	**Borovoye**	**73.34**	**323**	P	**P**	**09 41 11.5**	**-1.4**
H24K	**Noodor Dome**	**73.55**	**24**	P	**P**	**09 41 14.7**	**+0.7**
H24K				IAmb	IAmb	09 41 25.2	
	comp=Z,16nm,1.2s						
IL31		**73.66**	**25**	P	**P**	**09 41 14.7**	**+0.2**
ILAR	**Eielson Array**	**73.66**	**25**	P	**P**	**09 41 13.8**	**-0.8**
ILAR	**Eielson Array**	**73.66**	**25**	P	**P**	**09 41 12.9**	**-1.6**
	comp=Z,1.9nm,0.8s,baz=249,slow=5.6,SNR=17						
ILAR				LR	LR	10 09 37.4	
	comp=Z,341nm,21.1s,baz=252,slow=33						
	comp=Z,1.9nm,0.8s						
GLB	**Gilahina Butte**	**74.25**	**28**	P	**P**	**09 41 18.1**	**0.0**
GLB				IAmb	IAmb	09 41 22.3	
	comp=Z,11nm,1.1s						
FYU	**Fort Yukon**	**74.78**	**23**	P	**P**	**09 41 22.3**	**+1.3**
FYU				IAmb	IAmb	09 41 31.1	
	comp=Z,18nm,1.1s						
BMAR	**Burnt Mountain**	**75.24**	**22**	P	**P**	**09 41 24.7**	**+0.9**
L29M	**L29M**	**77.14**	**27**	P	**P**	**09 41 35.7**	**+1.1**
L29M				IAmb	IAmb	09 41 56.0	
	comp=Z,7.8nm,0.9s						
K29M	**Barlow Dome**	**77.49**	**26**	P	**P**	**09 41 37.5**	**+0.8**
K29M				IAmb	IAmb	09 41 48.9	
	comp=Z,7.5nm,0.8s						
M30M	**Minto, Yukon**	**77.69**	**28**	P	**P**	**09 41 38.4**	**+0.7**
M30M				IAmb	IAmb	09 41 44.7	
	comp=Z,8.1nm,1.1s						
TAOE	**Nuku Hiva Isla**	**77.75**	**101**	*e*LR	LR	10 05 34.1	
	comp=Z,578nm,27.0s						
HRA	**Herat**	**78.27**	**303**	P	**P**	**09 41 40.2**	**-1.6**
HRA				IAmb	IAmb	09 41 45.1	
	comp=Z,13nm,1.0s						
G30M	**tAoh Zraii Nji**	**78.37**	**23**	P	**P**	**09 41 41.4**	**0.0**
G30M				IAmb	IAmb	09 42 11.0	
	comp=Z,12nm,1.1s						
G31M	**Satah River**	**79.13**	**23**	P	**P**	**09 41 46.0**	**+0.5**
G31M				IAmb	IAmb	09 41 56.8	
	comp=Z,16nm,1.1s						
INK	**Inuvik**	**79.51**	**22**	P	**P**	**09 41 47.2**	**-0.3**
INK				IAmb	IAmb	09 41 51.2	
	comp=Z,9.2nm,1.0s						
INK	**Inuvik**	**79.51**	**22**	LR	LR	10 16 02.1	
	comp=Z,106nm,19.6s,baz=243,slow=35						
ABKAR	**Akbulak array**	**79.59**	**319**	P	**P**	**09 41 47.1**	**-1.4**
ABKAR	**Akbulak array**	**79.59**	**319**	P	**P**	**09 41 47.0**	**-1.4**
ARTI	**Arti**	**80.44**	**326**	P	**P**	**09 41 51.3**	**-1.5**
ARTI				IAmb	IAmb	09 41 54.7	
	comp=Z,7.3nm,0.7s						
ARTI	**Arti**	**80.44**	**326**	LR	LR	10 18 51.8	
	comp=Z,549nm,20.7s,baz=91,slow=37						
AKTO	**Aktyubinsk**	**80.81**	**320**	P	**P**	**09 41 53.6**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=41,slow=2.3,SNR=5.9						
AKTO				LR	LR	10 18 38.0	
	comp=Z,316nm,20.3s,baz=64,slow=36						
	comp=Z,1.6nm,0.6s						
BBB	**Bella Bella**	**82.26**	**38**	LR	LR	10 10 48.8	
	comp=Z,158nm,20.4s,baz=264,slow=30						
C36M	**Paulatuk**	**82.92**	**21**	P	**P**	**09 42 05.2**	**-0.5**
C36M				IAmb	IAmb	09 42 16.2	
	comp=Z,11nm,1.1s						
KIRV	**Kirov**	**85.09**	**328**	LR	LR	10 20 53.0	
	comp=Z,381nm,21.8s,baz=83,slow=36						
BELG	**Belogornoye**	**87.07**	**322**	P	**P**	**09 42 23.9**	**-2.9**
	comp=Z,19nm,0.8s,baz=63,slow=4.7,SNR=5.0						
BELG				LR	LR	10 24 08.7	
	comp=Z,296nm,18.3s,baz=50,slow=38						
YBH	**Yreka Blue Hor**	**87.08**	**48**	P	**P**	**09 42 28.6**	**+1.3**
YBH				IAmb	IAmb	09 42 35.6	
	comp=Z,5.4nm,1.1s						
YBH	**Yreka Blue Hor**	**87.08**	**48**	LR	LR	10 14 15.0	
	comp=Z,266nm,20.8s,baz=294,slow=31						
YKA	**Yellowknife Ar**	**87.90**	**27**	P	**P**	**09 42 29.1**	**-1.6**
	comp=Z,2.6nm,1.0s,baz=293,slow=5.0,SNR=3.9						
YKA				LR	LR	10 20 20.4	
	comp=Z,329nm,19.8s,baz=264,slow=35						
	comp=Z,2.6nm,1.0s						
J05D	**Fort Rock, OR**	**87.91**	**47**	P	**P**	**09 42 31.7**	**+0.3**
AFDM	**Forest Hills D**	**88.84**	**51**	P	**P**	**09 42 35.5**	**-0.2**
AFDM				IAmb	IAmb	09 42 40.9	
	comp=Z,8.9nm,1.2s						
SPITS	**Spitsbergen Ar**	**88.90**	**351**	LR	LR	10 21 42.3	
	comp=Z,169nm,21.9s,baz=354,slow=35						
G08A	**Pilot Rock**	**89.16**	**44**	P	**P**	**09 42 37.3**	**+0.1**
G08A				IAmb	IAmb	09 42 46.4	
	comp=Z,6.9nm,1.5s						
RES	**Resolute Bay**	**89.77**	**13**	LR	LR	10 22 16.4	
	comp=Z,103nm,22.0s,baz=358,slow=35						
NEW	**Newport**	**89.79**	**41**	LR	LR	10 18 09.5	
	comp=Z,213nm,18.9s,baz=291,slow=32						
NVAR	**Mina Array Bea**	**90.99**	**51**	P	**P**	**09 42 45.6**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=280,slow=5.4,SNR=4.0						
NVAR				LR	LR	10 17 04.8	
	comp=Z,157nm,20.3s,baz=294,slow=31						
	comp=Z,1.2nm,0.7s						
GNI	**Garni**	**91.41**	**311**	LR	LR	10 25 32.8	
	comp=Z,156nm,21.9s,baz=66,slow=37						
ARCES	**ARCESS Array B**	**91.59**	**342**	P	**P**	**09 42 46.6**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=72,slow=8.6,SNR=5.9						
ARCES				LR	LR	10 26 10.5	
	comp=Z,164nm,21.5s,baz=108,slow=37						
	comp=Z,2.0nm,0.8s						
KBZ	**Khabaz**	**91.95**	**315**	P	**P**	**09 42 50.1**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=44,slow=3.2,SNR=4.1						
KBZ				LR	LR	10 25 44.2	
	comp=Z,168nm,21.7s,baz=52,slow=37						
	comp=Z,1.7nm,0.7s						
OBN	**Obninsk**	**92.75**	**327**	LR	LR	10 26 33.7	
	comp=Z,382nm,20.8s,baz=8.5,slow=37						
PFO	**Pinyon Flats O**	**93.45**	**55**	LR	LR	10 16 06.4	
	comp=Z,163nm,21.7s,baz=290,slow=30						
MAW	**Mawson**	**94.29**	**202**	LR	LR	10 22 41.3	
	comp=Z,236nm,18.9s,baz=70,slow=34						
FINES	**FINESS Array B**	**95.30**	**335**	P	**P**	**09 43 02.3**	**-2.7**
	comp=Z,3.5nm,1.0s,baz=72,slow=6.2,SNR=7.3						
FINES				LR	LR	10 28 59.2	
	comp=Z,354nm,19.5s,baz=50,slow=37						
	comp=Z,3.5nm,1.0s						
PDAR	**Pinedale Array**	**96.35**	**45**	LR	LR	10 19 58.8	
	comp=Z,111nm,20.4s,baz=309,slow=31						
QSPA	**South Pole Qui**	**98.33**	**180**	P	**P**	**09 43 18.3**	**-0.4**
	comp=Z,1.5nm,1.1s,baz=323,slow=7.9,SNR=2.4						
QSPA				LR	LR	10 26 14.5	
	comp=Z,337nm,21.9s,baz=357,slow=34						
	comp=Z,1.5nm,1.1s						
AKASG	**Malin Array Be**	**98.52**	**324**	P	**P**	**09 43 17.1**	**-2.7**
	comp=Z,0.3nm,0.4s,baz=67,slow=5.1,SNR=2.4						
AKASG				LR	LR	10 31 27.6	
	comp=Z,362nm,18.1s,baz=58,slow=38						
	comp=Z,0.3nm,0.4s						
BRTR	**Keskin Array B**	**99.73**	**313**	LR	LR	10 33 02.2	
	comp=Z,116nm,20.6s,baz=14,slow=38						
TORD	**Torodi Ar. Bea**	**136.61**	**299**	PKP	**PKPdf**	**09 49 04.7**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=33,slow=3.5,SNR=4.2						
DBIC	**Dimbokro**	**145.26**	**295**	PKPbc	**PKPbc**	**09 49 19.1**	**-0.7**
	comp=Z,16nm,0.6s,baz=53,slow=3.2,SNR=17						
LPAZ	**La Paz**	**147.96**	**107**	PKPbc	**PKPdf**	**09 49 27.1**	**+1.8**
	comp=Z,3.9nm,0.4s,baz=17,slow=5.5,SNR=20						
CPUP	**Villa Florida**	**153.25**	**134**	PKPbc	**PKPbc**	**09 49 40.0**	**0.0**
	comp=Z,3.8nm,0.9s,baz=158,slow=4.4,SNR=5.3						

*SJA **18** 09:37:41.2±0.7, 18°.95S×69°.74W, h112^{km}±4^{km}, ML3.1, MW3.3*
*GUC **18** 09:37:43.2±0.9, 18°.92S×69°.73W, h97^{km}±4^{km}, ML3.1*

ISC 18 09:37:43.1±1.7, 18°.95S±0°.04×69°.81W±0°.06, h99^{km}±12^{km}, n24, σ0°75/38, 1C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PX02	**IPOC Station P**	**0.37**	**268**	*e*P	**Pn**	**09 37 56.8**	**-1.3**
PB12	**IPOC Station P**	**0.60**	**304**	↑↑*i*P	**Pn**	**09 37 59.0**	**-0.7**
PB12				*i* S	**Sn**	**09 38 12.0**	**0.0**
PB12				IAML		09 38 13.4	
	comp=E,1μm,0.7s						
PB12	**IPOC Station P**	**0.60**	**304**	*e*P	Pn	09 37 47.7	-12
PB12				*e*S	Sn	09 37 59.1	-13
PB12				IAML		09 37 59.5	
	comp=Z,791nm,0.1s						
AP01	**Chacalluta**	**0.77**	**319**	*e*P	**Pn**	**09 38 00.5**	**-0.6**
AP01				*e*S	**Sn**	**09 38 14.7**	**+0.2**
AP01				IAML		09 38 15.7	
	comp=E,2μm,0.2s						
AP01	**Chacalluta**	**0.77**	**319**	*e*P	**Pn**	**09 38 01.0**	**-0.1**
AP01				*e*S	**Sn**	**09 38 16.5**	**+2.0**
AP01				IAML		09 38 19.6	
	comp=Z,785nm,0.1s						
PB11	**IPOC Station P**	**0.82**	**170**	↓↓*i*P	**Pn**	**09 38 01.4**	**-0.4**
PB11				*i* S	**Sn**	**09 38 16.3**	**+0.5**
PB11				IAML		09 38 17.4	
	comp=N,912nm,0.3s						
PB11	**IPOC Station P**	**0.82**	**170**	*e*P	**Pn**	**09 38 01.6**	**-0.3**
PB11				*e*S	**Sn**	**09 38 17.1**	**+1.3**
PB11				IAML		09 38 17.2	
	comp=Z,474nm,0.3s						
GO01	**Chusmiza**	**0.92**	**141**	*e*P	**Pn**	**09 38 02.7**	**-0.5**
GO01				*e*S	**Sn**	**09 38 18.1**	**-0.1**
GO01	**Chusmiza**	**0.92**	**141**	*e*P	**Pn**	**09 38 02.8**	**-0.5**
GO01				*e*S	**Sn**	**09 38 18.8**	**+0.6**
PB08	**IPOC Station P**	**1.34**	**153**	↓↓*i*P	**Pn**	**09 38 07.7**	**-0.1**
PB08				*i* S	**Sn**	**09 38 26.5**	**+0.2**
PB08	**IPOC Station P**	**1.34**	**153**	*e*P	**Pn**	**09 38 07.4**	**-0.4**
PB08				*e*S	**Sn**	**09 38 26.2**	**-0.1**
PB08				IAML		09 38 28.0	
	comp=Z,253nm,0.4s						
TA02	**Huaiquique**	**1.35**	**193**	*e*P	**Pn**	**09 38 07.3**	**-0.2**
TA02	**Huaiquique**	**1.35**	**193**	*e*P	**Pn**	**09 38 08.0**	**+0.5**
TA02				*e*S	**Sn**	**09 38 28.4**	**+2.5**
TA02				IAML		09 38 31.3	
	comp=Z,419nm,0.1s						
PB18	**Visviri**	**1.39**	**13**	↓↓*i*P	**Pn**	**09 38 08.6**	**0.0**
PB18				*e*S	**Sn**	**09 38 28.0**	**+0.3**
TA01	**Diego Aracena**	**1.65**	**192**	*e*P	**Pn**	**09 38 10.6**	**-0.5**
TA01				*e*S	**Sn**	**09 38 32.4**	**-0.1**
TA01				IAML		09 38 40.6	
	comp=N,204nm,0.2s						
TA01	**Diego Aracena**	**1.65**	**192**	*e*P	**Pn**	**09 38 10.7**	**-0.5**
TA01				*e*S	**Sn**	**09 38 32.2**	**-0.3**
TA01				IAML		09 38 39.9	
	comp=Z,90nm,0.5s						
PATCX	**Punta Patache**	**1.89**	**190**	*e*P	**Pn**	**09 38 13.9**	**-0.5**
PATCX				*e*S	**Sn**	**09 38 37.0**	**-1.2**
PATCX				IAML		09 38 49.2	
	comp=E,126nm,0.3s						
PATCX	**Punta Patache**	**1.89**	**190**	*e*P	**Pn**	**09 38 14.3**	**0.0**
PB01	**IPOC Station P**	**2.10**	**172**	↓↓*i*P	**Pn**	**09 38 16.8**	**-0.4**
PB01				*e*S	**Sn**	**09 38 42.7**	**-0.4**
PB01				IAML		09 38 47.4	
	comp=E,148nm,0.1s						
PB01	**IPOC Station P**	**2.10**	**172**	*e*P	**Pn**	**09 38 16.7**	**-0.4**
PB01				IAML		09 38 51.5	
	comp=Z,76nm,0.2s						
PB09	**IPOC Station P**	**2.88**	**169**	*e*P	**Pn**	**09 38 27.8**	**+0.3**
PB09	**IPOC Station P**	**2.88**	**169**	*e*P	**Pn**	**09 38 27.8**	**+0.3**
PB09				IAML		09 39 13.0	
	comp=Z,37nm,0.4s						
LPAZ	**La Paz**	**3.09**	**31**	*e*P	**Pn**	**09 38 30.1**	**-0.6**
PB06	**IPOC Station P**	**3.74**	**177**	*e*P	**Pn**	**09 38 38.8**	**-0.2**
PB06				IAML		09 39 39.7	
	comp=Z,19nm,0.8s						

*IGQ **18** 09:39:12.7±0.9, 2°.S±3°.×7°.8W±°., h2^{km}, M4.1/20*
*RSNC **18** 09:39:14.6±0.7, 2°.S±10°.×7°.8W±°., h10^{km}±34^{km}, M3.9, mb3.9, mB4.6, ML3.4, Mw(mB)3.8*

ISC 18 09:39:11.9±1.9, 2.035±0°.04×77.73W±0°.06, h2^{km}±17^{km}, n73, σ0°81/79, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**0.61**	**331**	P	**Pb**	**09 39 25.1**	**-0.3**
PUYO				S	**Sb**	**09 39 33.7**	**-0.8**
APUY	**Puyo**	**0.63**	**334**	P	**Pb**	**09 39 25.3**	**-0.4**
SANGA	**Volcan Sangay**	**0.65**	**268**	P	**Pb**	**09 39 26.2**	**-0.1**
SANGA				S	**Sb**	**09 39 36.5**	**+0.6**
BPAT	**Tungurahua Vol**	**0.88**	**306**	S	**Sb**	**09 39 43.1**	**+0.5**
BPAT				P	**Pb**	**09 39 30.0**	**-0.2**
ARRY	**Arrayan**	**0.90**	**305**	S	**Sb**	**09 39 42.6**	**-0.3**
ARRY				P	**Pb**	**09 39 29.9**	**-0.5**
BULB	**Ulba Tungurahu**	**0.90**	**311**	S	**Sb**	**09 39 42.8**	**-0.3**
BULB				P	**Pb**	**09 39 30.1**	**-0.4**
BMAS	**Trigal station**	**0.92**	**305**	S	**Sb**	**09 39 42.4**	**-1.2**
BMAS				P	**Pg**	**09 39 29.4**	**-0.1**
TUYU	**Q. Yuibug Volc**	**0.92**	**306**	P	**Pb**	**09 39 30.6**	**-0.3**
POND	**Pondoa**	**0.94**	**310**	P	**Pb**	**09 39 30.8**	**-0.4**
BBIL	**Ulba Tungurahu**	**0.95**	**307**	P	**Pb**	**09 39 31.0**	**-0.4**
JUI6	**Juive**	**0.95**	**309**	P	**Pg**	**09 39 30.7**	**+0.5**
IGUA	**Igualata**	**1.06**	**300**	P	**Pb**	**09 39 33.6**	**+0.3**
TAMH	**Tambohuasha Ch**	**1.16**	**294**	P	**Pb**	**09 39 35.4**	**+0.4**
APSY	**Ecuador-Napo A**	**1.17**	**333**	P	**Pg**	**09 39 34.3**	**-0.2**
PORT	**Chimborazo Vol**	**1.19**	**298**	P	**Pb**	**09 39 35.8**	**+0.2**
CHSH	**Refugio Sur-Vo**	**1.26**	**295**	P	**Pg**	**09 39 36.3**	**+0.2**
JSCH	**Cashca Tororas**	**1.29**	**284**	P	**Pb**	**09 39 37.3**	**+0.1**
AZOG	**Ecuador-Azogue**	**1.33**	**237**	P	**Pg**	**09 39 37.7**	**+0.2**
BOSC	**San Juan Bosco**	**1.36**	**215**	P	**Pn**	**09 39 37.1**	**-0.9**
AGRD	**Ecuador-Guaran**	**1.36**	**289**	P	**Pb**	**09 39 38.5**	**+0.2**
BIBL	**Biblin**	**1.37**	**238**	P	**Pg**	**09 39 37.5**	**-0.7**
VCES	**Cotopaxi**	**1.39**	**331**	P	**Pg**	**09 39 38.3**	**-0.4**
BRRN	**Barrancas-Volc**	**1.45**	**329**	P	**Pg**	**09 39 39.2**	**-0.5**
BMOR	**Cotopaxi Volca**	**1.48**	**330**	P	**Pg**	**09 39 40.0**	**-0.4**
MONB	**Balzapamba Mon**	**1.49**	**280**	P	**Pn**	**09 39 40.3**	**+0.4**
BTAM	**Cotopaxi Volca**	**1.50**	**333**	P	**Pn**	**09 39 40.2**	**-0.2**
SLOR	**San Lorenzo -**	**1.50**	**329**	P	**Pn**	**09 39 40.4**	**+0.1**
SRAM	**San Ramn-Vol**	**1.52**	**326**	P	**Pb**	**09 39 41.3**	**+0.2**
BVC2	**Cotopaxi Volca**	**1.52**	**333**	P	**Pn**	**09 39 40.6**	**-0.1**
BREF	**Cotopaxi Volca**	**1.53**	**332**	P	**Pn**	**09 39 41.0**	**+0.1**
VC1	**Cotopaxi 1**	**1.53**	**334**	P	**Pn**	**09 39 41.1**	**+0.3**
BNAS	**Cotopaxi Volca**	**1.54**	**331**	P	**Pb**	**09 39 42.2**	**+0.6**
CAMI	**Rancho Maria**	**1.55**	**330**	P	**Pn**	**09 39 41.4**	**+0.3**
ANTM	**Antisana-La Mi**	**1.56**	**341**	P	**Pn**	**09 39 40.6**	**-0.6**
ANTS	**Antisana-Sarah**	**1.58**	**344**	P	**Pn**	**09 39 41.1**	**-0.5**
COHC	**Cochancay**	**1.59**	**254**	P	**Pb**	**09 39 42.4**	**+0.4**
ANTG	**Antisana-Guama**	**1.60**	**341**	P	**Pn**	**09 39 41.5**	**-0.3**
PAST	**Pastocalle**	**1.61**	**325**	P	**Pg**	**09 39 43.0**	**+0.2**
PITA	**Cotopaxi Volc**	**1.62**	**334**	P	**Pn**	**09 39 42.5**	**+0.5**
ANTI	**Antisana**	**1.63**	**344**	P	**Pn**	**09 39 41.6**	**-0.6**
ILLI	**Illinizas Sur**	**1.65**	**322**	P	**Pb**	**09 39 43.0**	**-0.3**
MILO	**Milagro-Astudi**	**1.85**	**262**	P	**Pb**	**09 39 46.8**	**+0.3**
TING	**Casa Alexandra**	**1.88**	**337**	P	**Pb**	**09 39 47.4**	**+0.3**
REVN	**San Rafael**	**1.94**	**3**	P	**Pn**	**09 39 45.3**	**-0.9**
PUEM	**Granja Avicola**	**1.98**	**341**	P	**Pb**	**09 39 49.1**	**+0.1**
GGPT	**Toaza - Volcan**	**2.00**	**333**	P	**Pb**	**09 39 48.8**	**-0.6**
JUA2	**San Juan 2**	**2.00**	**334**	P	**Pb**	**09 39 48.6**	**-0.8**
AQUE	**Quevedo**	**2.02**	**299**	P	**Pg**	**09 39 50.1**	**-0.5**
GGPC	**Guagua Pichinc**	**2.03**	**335**	P	**Pb**	**09 39 49.3**	**-0.7**
TERV	**Terraza Guagua**	**2.04**	**334**	P	**Pb**	**09 39 49.4**	**-0.7**
CAYR	**Refugio Cayamb**	**2.05**	**352**	P	**Pn**	**09 39 48.5**	**+0.5**
PINO	**Pino**	**2.06**	**335**	P	**Pb**	**09 39 49.7**	**-0.7**
YANA	**Yana**	**2.08**	**336**	P	**Pb**	**09 39 50.4**	**-0.2**
ANGU	**Angureal**	**2.08**	**352**	P	**Pn**	**09 39 48.8**	**+0.4**
PCRA	**Pucara 2**	**2.13**	**237**	P	**Pb**	**09 39 51.7**	**+0.2**
PULU	**Pululahua**	**2.18**	**339**	P	**Pb**	**09 39 51.7**	**-0.7**
CASC	**Dorado de Casc**	**2.18**	**10**	P	**Pn**	**09 39 49.5**	**+0.1**
AC07	**Ecuador-Guayaq**	**2.26**	**267**	P	**Pb**	**09 39 53.6**	**+0.1**
IMBA	**Imbabura, San**	**2.34**	**348**	P	**Pn**	**09 39 53.3**	**+1.5**
CUSW	**Cuicocha Oeste**	**2.38**	**345**	P	**Pg**	**09 40 00.0**	**+2.4**
AIB2	**Ibarra (Univer**	**2.38**	**351**	P	**Pb**	**09 39 55.9**	**+0.1**
CUIC	**Cuicocha-Domo**	**2.40**	**345**	P	**Pb**	**09 39 54.7**	**-1.4**
YAHU	**Yahuarcocha**	**2.41**	**352**	P	**Pn**	**09 39 54.3**	**+1.6**
CUSE	**Cuicocha Este**	**2.41**	**344**	P	**Pb**	**09 39 55.2**	**-1.1**
BONI	**La Bonita**	**2.47**	**5**	P	**Pn**	**09 39 52.6**	**-0.9**
URCU	**Urcuqui**	**2.51**	**348**	P	**Pb**	**09 39 56.8**	**-1.1**
FLF1	**Flavio Alfaro-**	**2.69**	**308**	P	**Pb**	**09 39 58.8**	**-2.1**
LNGL	**El Angel-Carch**	**2.76**	**354**	P	**Pn**	**09 40 00.4**	**+2.7**
CHL1	**Volc|n Chiles**	**2.81**	**355**	P	**Pn**	**09 40 00.7**	**+2.3**
ECEN	**Cerro Negro**	**2.84**	**355**	P	**Pb**	**09 40 03.2**	**-0.5**
LITE1	**Lita**	**2.87**	**347**	P	**Pb**	**09 40 04.1**	**+0.1**
CHMA	**Chilma**	**2.89**	**353**	P	**Pb**	**09 40 03.0**	**-1.4**
ZUMB	**Zumba**	**3.15**	**207**	P	**Pn**	**09 40 03.3**	**+0.5**

*AEIC **18** 09:39:16.9±2.2, 65°.22N±0°.04×167°.43W±0°.07, h19^{km}±6^{km}, ML3.4, ML3.6/54(NEIC), Error ellipse: s-maj=6.6km s-min=3.4km az=151.0*
*NEIC **18** 09:39:17.6±2.5, 65°.18N±0°.03×167°.4W±0°.1, h16^{km}±6^{km}, Error ellipse: s-maj=6.7km s-min=3.4km az=118.0*

**ISC 18 09:39:16.3±1.3, 65°.23N±0°.03×167°.36W±0

L14K	**Kuka Creek**	**4.44 149**	IAML			09 41 43.8
	comp=N,53nm,1.3s					
L14K			IAML			09 41 52.6
	comp=E,66nm,0.7s					
H19K	**Roundabout Mou**	**4.58 81**	Pn	**Pn**	**09 40 25.9**	**0.0**
H19K			IAML		09 41 41.1	
	comp=E,56nm,0.5s					
H19K			IAML		09 41 53.1	
	comp=N,58nm,0.6s					
E19K	**Redstone River**	**4.65 57**		**Pn**	**09 40 27.7**	**+0.7**
E19K	**Redstone River**	**4.65 57**	IAML		09 41 53.8	
	comp=E,42nm,0.5s					
E19K			IAML		09 42 01.1	
	comp=N,48nm,0.6s					
K17K	**Iditarod**	**4.72 118**	Pn	**Pn**	**09 40 29.0**	**+1.1**
K17K			IAML		09 41 58.7	
	comp=E,58nm,1.0s					
K17K			IAML		09 42 03.2	
	comp=N,61nm,1.3s					
M11K	**Mekoryuk**	**4.89 173**		**Pn**	**09 40 29.6**	**-0.7**
M11K	**Mekoryuk**	**4.89 173**	IAML		09 41 56.9	
	comp=E,48nm,1.3s					
D19K	**Kuna River**	**4.90 44**	Pn	**Pn**	**09 40 30.9**	**+0.5**
J18K	**Innoko River**	**4.95 106**	Pn	**Pn**	**09 40 30.4**	**-0.8**
J18K			IAML		09 41 56.3	
	comp=N,42nm,0.8s					
J18K			IAML		09 41 59.4	
	comp=E,30nm,0.9s					
L16K	**Owhat River**	**5.00 131**		**Pn**	**09 40 32.5**	**+0.9**
M14K	**Bethel**	**5.12 149**		**Pn**	**09 40 34.1**	**+0.7**
M14K	**Bethel**	**5.12 149**	IAML		09 42 17.9	
	comp=N,44nm,1.5s					
M14K			IAML		09 42 26.9	
	comp=E,43nm,1.5s					
M13K	**Dall Lake**	**5.17 157**		**Pn**	**09 40 34.8**	**+0.7**
M13K	**Dall Lake**	**5.17 157**	IAML		09 42 24.7	
	comp=E,28nm,0.9s					
J19K	**Poorman**	**5.20 98**	Pn	**Pn**	**09 40 34.5**	**0.0**
J19K			IAML		09 42 02.0	
	comp=N,43nm,1.1s					
J19K			IAML		09 42 03.9	
	comp=E,39nm,1.0s					
E20K	**Nigu River**	**5.37 51**		**Pn**	**09 40 37.6**	**+0.8**
M15K	**Kasigluk River**	**5.47 143**		**Pn**	**09 40 38.3**	**+0.1**
TTA	**Tatalina**	**5.49 110**	Pn	**Pn**	**09 40 38.9**	**+0.4**
L18K	**Granite Mounta**	**5.62 118**	Pn	**Pn**	**09 40 41.2**	**+1.0**
J20K	**Nowinta River**	**5.76 95**		**Pn**	**09 40 42.6**	**+0.4**
M17K	**Holitna River**	**5.89 126**	Pn	**Pn**	**09 40 45.3**	**+1.3**
N14K	**Kuskokwak Cree**	**5.93 151**		**Pn**	**09 40 45.0**	**+0.5**
N15K	**Kwethluk River**	**6.08 143**	Pn	**Pn**	**09 40 47.8**	**+1.2**
B20K	**Meade River**	**6.17 34**	Pn	**Pn**	**09 40 49.5**	**+1.7**
L19K	**White Mountain**	**6.34 113**		**Pn**	**09 40 51.2**	**+1.0**
O14K	**Tigyukauivet M**	**6.64 152**	Pn	**Pn**	**09 40 54.7**	**+0.5**

*KOLA **18** 10:05:04.1, 76°.96N×18°.99E, h0km, ML3.2, Error ellipse: s-maj=15.6km s-min=8.9km az=120.0, Storfjorden zone*
*NAO **18** 10:05:05.3±1.4, 77°.02N×19°.00E, h15km±13km, ML3.2*
*FCIAR **18** 10:05:07.0, 77°.08N×19°.44E, h10km, station ZFI2 has station magnitude of 3.90 station OMEGA has station magnitude of 3.90*
*BER **18** 10:05:08.0±4.3, 77°.00N×18°.90E, h16km±16km, ML2.9, ML3.2(NAO), Confirmed Earthquake*

ISC 18 10:05:05.1±0.8, **76°.99N**±0°.03×**18°.86E**±0°.04, **h17**km, **n35**, σ**2°.08**/60, **Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.75**	**273**	Pg	**Pb**	**10 05 20.4**	**+0.7**
HSPB				Lg	Lg	10 05 30.2	
HSPB	**Hornsund (broa**	**0.75**	**273**	P	**Pb**	**10 05 20.1**	**+0.4**
HSPB				S	**Sb**	**10 05 30.2**	**+0.5**
HSPB	**Hornsund (broa**	**0.75**	**273**	*e*P	**Pb**	**10 05 20.4**	**+0.7**
HSPB				*e*S	**Sb**	**10 05 30.2**	**+0.5**
HSPB				IAML		10 05 35.8	
	comp=Z,181nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.31**	**337**	Pn	**Pn**	**10 05 29.2**	**+0.6**
	baz=152,slow=22						
SPA0				Pg	**Pb**	**10 05 30.1**	**+0.8**
	baz=152,slow=22						
SPA0				Lg	Lg	10 05 47.5	
	baz=148,slow=37						
SPA0	**Spitsbergen Ar**	**1.31**	**337**	Pn	**Pn**	**10 05 29.2**	**+0.6**
	baz=152,slow=22						
SPA0				Pg	**Pb**	**10 05 30.1**	**+0.8**
	baz=152,slow=22						
SPA0				Sg	**Sn**	**10 05 47.5**	**+1.8**
	baz=148,slow=37						
SPA0	**Spitsbergen Ar**	**1.31**	**337**	*i*P	**Pn**	**10 05 29.2**	**+0.6**
SPA0				*e*S	**Sn**	**10 05 45.7**	**0.0**
SPITS	**Spitsbergen Ar**	**1.31**	**337**	P	**Pn**	**10 05 29.1**	**+0.5**
SPITS				S	**Sn**	**10 05 47.8**	**+2.1**
BRBA	**Barentsburg A**	**1.48**	**319**	Pn	**Pn**	**10 05 32.7**	**+1.8**
BRBA				Lg	Lg	10 05 51.5	
BRBA	**Barentsburg A**	**1.48**	**319**	*e*P	**Pn**	**10 05 32.7**	**+1.8**
BRBA				*e*S	**Sn**	**10 05 51.5**	**+1.8**
BRBA				IAML		10 05 54.1	
	comp=Z,627nm,0.5s						
HOPEN	**Hopen**	**1.50**	**106**	Pn	**Pn**	**10 05 32.2**	**+1.0**
HOPEN				Sn	**Sn**	**10 05 50.2**	**-0.1**
HOPEN				Lg	Lg	10 05 53.2	
HOPEN	**Hopen**	**1.50**	**106**	*e*P	**Pn**	**10 05 31.8**	**+0.7**
HOPEN				*e*S	**Sn**	**10 05 50.6**	**+0.4**
HOPEN				IAML		10 05 56.1	
	comp=Z,560nm,0.4s						
HOPEN	**Hopen**	**1.50**	**106**	*e*P	**Pn**	**10 05 32.1**	**+0.9**
HOPEN				*e*S	**Sn**	**10 05 50.2**	**-0.1**
BRBB	**Barentsburg B**	**1.50**	**320**	Pn	**Pn**	**10 05 31.9**	**+0.7**
BRBB				Lg	Lg	10 05 52.8	
BRBB	**Barentsburg B**	**1.50**	**320**	P	**Pn**	**10 05 31.9**	**+0.7**
BRBB				S	**Sn**	**10 05 52.2**	**+1.8**
BRBB	**Barentsburg B**	**1.50**	**320**	*e*P	**Pn**	**10 05 32.0**	**+0.8**
BRBB				*e*S	**Sn**	**10 05 52.1**	**+1.8**
KBS	**Kingsbay**	**2.43**	**327**	Pn	**Pn**	**10 05 44.0**	**+0.1**
KBS				Pg	**Pb**	**10 05 50.1**	**+1.9**
KBS				Lg	Lg	10 06 20.0	
KBS	**Kingsbay**	**2.43**	**327**	P	**Pn**	**10 05 43.7**	**-0.2**
KBS				S	**Sb**	**10 06 19.9**	**+2.1**
KBS	**Kingsbay**	**2.43**	**327**	*e*P	**Pn**	**10 05 44.0**	**+0.1**
KBS				*e*Sg	**Sb**	**10 06 19.4**	**+1.5**
KBS				IAML		10 06 27.2	
	comp=Z,360nm,0.2s						
KBS	**Kingsbay**	**2.43**	**327**	*e*P	**Pn**	**10 05 45.0**	**+1.0**
KBS				*e*S	**Sn**	**10 06 14.1**	**+0.9**
BJO1	**Bjornoya**	**2.50**	**179**	*e*Pg	**Pb**	**10 05 52.0**	**+2.5**
BJO1				*e*Sg	**Sb**	**10 06 23.2**	**+3.3**
BJO1				IAML		10 06 35.6	
	comp=Z,108nm,0.5s						
BJO1	**Bjornoya**	**2.50**	**179**	*e*P	**Pb**	**10 05 51.5**	**+2.0**
BJO1				*e*S	**Sb**	**10 06 23.6**	**+3.7**
HAMF	**Hammerfest**	**6.52**	**166**	Pn	**Pn**	**10 06 39.8**	**-0.3**
HAMF				Sn	Sn	10 07 46.0	-7.9
HAMF	**Hammerfest**	**6.52**	**166**	*e*P	**Pn**	**10 06 40.4**	**+0.3**
HAMF				*e*S	Sn	10 07 46.0	-7.9
HAMF				IAML		10 07 50.3	
	comp=Z,6.7nm,0.2s						
ZFI2	**Zemlya Franca-**	**6.66**	**42**	*e*P	**Pn**	**10 06 42.5**	**+0.4**
ZFI2				*e*S	**Sn**	**10 07 53.1**	**-4.3**
	comp=Z,45nm,1.6s						
OMEGA	**Omega**	**6.67**	**42**	*e*P	**Pn**	**10 06 42.7**	**+0.7**
OMEGA				*e*S	**Sn**	**10 07 53.8**	**-3.6**
	comp=Z,41nm,1.4s						
VADS	**Vadso**	**7.50**	**151**	*e*P	**Pn**	**10 06 54.0**	**+0.5**
VADS				*e*S	**Sn**	**10 08 12.8**	**-5.2**
VADS				IAML		10 08 32.0	
	comp=Z,9.5nm,0.4s						
KEV	**Kevo**	**7.63**	**158**	Pn	**Pn**	**10 06 54.9**	**-0.4**
KEV				Sn	**Sn**	**10 08 14.8**	**-6.3**
KEV	**Kevo**	**7.63**	**158**	*e*P	**Pn**	**10 06 56.6**	**+1.4**
ARA0	**ARCESS Array S**	**7.73**	**162**	Pn	**Pn**	**10 06 56.4**	**-0.3**
	baz=355,slow=14						
ARA0				Sn	Sn	10 08 15.9	-7.7
	slow=22						
ARA0	**ARCESS Array S**	**7.73**	**162**	Pn	**Pn**	**10 06 56.4**	**-0.3**
	baz=355,slow=14						
ARA0				Sn	Sn	10 08 15.9	-7.7
	slow=22						
KIF	**Kilpisjarvi**	**8.05**	**175**	Pn	**Pn**	**10 07 01.0**	**0.0**
KIF				Sn	**Sn**	**10 08 26.5**	**-5.0**
KIF	**Kilpisjarvi**	**8.05**	**175**	*e*P	**Pn**	**10 07 02.9**	**+1.8**
KTK1	**Kautokeino**	**8.12**	**169**	*e*P	**Pn**	**10 07 04.4**	**+2.4**
HEF	**Hetta**	**8.74**	**168**	Pn	**Pn**	**10 07 11.6**	**+1.0**
HEF				Sn	**Sn**	**10 08 43.2**	**-5.3**
HEF	**Hetta**	**8.74**	**168**	*e*P	**Pn**	**10 07 12.0**	**+1.5**

IDC 18 10:12:53.9±3.8, **5°.51S**×**150°.40E, h0**km, **mb3.4**/2, **mbtmp3.5**/2, **Error ellipse: s-maj=144.1km s-min=50.0km az=116.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.21**	**226**	P	P	10 17 42.0	+0.6
	1.2nm,0.8s,baz=53,slow=10,SNR=6.5						
	1.2nm,0.8s						
ASAR	**Alice Springs**	**24.04**	**220**	P	P	10 18 10.9	-0.1
	1.0nm,0.7s,baz=52,slow=9.0,SNR=16						
	1.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.23**	**286**	PKPbc	PKPbc	10 32 42.1	-1.0
	1.3nm,0.8s,baz=52,slow=2.5,SNR=3.7						

IDC 18 10:33:48.9±3.5, **30°.92N**×**141°.44E, h0**km, **mb3.2**/2, **mbtmp3.3**/4, **ML2.2**/1, **MS3.5**/1, **Error ellipse: s-maj=157.6km s-min=25.9km az=74.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.86**	**170**	Pn	Pn	10 34 47.8	-1.8
	31nm,0.4s,baz=0.0,slow=0.0						
JCJ				Sn	Sn	10 35 30.8	-4.9
	baz=0.0,slow=0.0						
MJAR	**Matsushiro Arr**	**6.22**	**335**	Pn	Pn	10 35 21.7	-0.3
	0.1nm,0.3s,baz=150,slow=12,SNR=2.3						
MJAR				Sn	Sn	10 36 33.2	-0.7
	0.1nm,0.3s,baz=156,slow=20,SNR=2.1						
	0.4nm,0.3s						
PMG	**Port Moresby**	**40.47**	**171**	LR	LR	10 56 32.4	
	comp=Z,73nm,20.9s,baz=273,slow=34						
WRA	**Warramunga Arr**	**51.03**	**189**	P	P	10 42 54.0	+1.1
	0.2nm,0.5s,baz=5.5,slow=7.5,SNR=2.8						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**54.75**	**188**	P	P	10 43 19.9	-0.4
	0.2nm,0.7s,baz=2.8,slow=5.9,SNR=5.0						
	0.2nm,0.7s						

*NNC **18** 10:38:20.5±1.0, 50°.32N×73°.38E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=12.6km s-min=3.4km az=27.0, Suspected Mining explosion.*
*IDC **18** 10:38:23.6±1.9, 50°.45N×73°.44E, h0km, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=29.4km s-min=9.1km az=31.0*

ISC 18 10:38:26.3±1.9, **50°.4N**±0°.2×**73°.8E**±0°.1, **h0**km, **n12**, σ**0°.64**/10, **4C-6D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**3.01**	**84**	⇓Pg	**Pb**	**10 39 21.2**	**+0.4**
	4.1nm,0.7s						
KURBB				⇑Lg	Lg	10 40 05.9	
	33nm,0.7s						
KURBB	**Kurchatov Arra**	**3.01**	**84**	Pn	**Pn**	**10 39 16.5**	**+1.3**
	0.1nm,0.3s,baz=270,slow=13,SNR=2.7						
KURBB				Pg	**Pb**	**10 39 20.7**	**0.0**
	0.3nm,0.3s,baz=267,slow=18,SNR=10						
KURBB				Lg	Lg	10 40 05.2	
	0.5nm,0.3s,baz=279,slow=33,SNR=10						
	0.8nm,0.2s						
KURK	**Kurchatov**	**3.08**	**82**	⇑Pg	**Pb**	**10 39 21.9**	**+0.1**
	2.6nm,0.9s						
KURK				⇓Lg	Lg	10 40 06.3	
	22nm,1.1s						
BVA0	**Borovoye Array**	**3.40**	**322**	Pg	**Pn**	**10 39 20.8**	**+0.3**
	1.8nm,0.7s,baz=143,slow=16,SNR=8.8						
BVA0				⇓Lg	Lg	10 40 04.1	
	6.8nm,1.0s,baz=131,slow=31,SNR=6.1						
BVAR	**Borovoye Array**	**3.40**	**322**	Pg	**Pn**	**10 39 20.0**	**-0.6**
	0.1nm,0.3s,baz=139,slow=16,SNR=12						
BVAR				Lg	Lg	10 40 04.9	
	0.2nm,0.3s,baz=142,slow=29,SNR=9.2						
BRVK	**Borovoye**	**3.46**	**322**	⇓Pg	**Pn**	**10 39 21.4**	**-0.1**
	2.9nm,0.7s						
BRVK				⇑Lg	Lg	10 40 06.8	
	6.2nm,0.5s						
MAKZ	**Makanchi**	**6.48**	**120**	⇓Lg	Lg	10 41 54.0	
	4.6nm,0.8s						
MK31	**Makanchi Array**	**6.67**	**119**	⇓Lg	Lg	10 41 56.1	
	3.0nm,0.8s,baz=308,slow=27,SNR=3.5						
MKAR	**Makanchi Array**	**6.67**	**119**	Pn	**Pn**	**10 40 04.8**	**-0.7**
	0.1nm,0.3s,baz=276,slow=14,SNR=1.5						
MKAR				Pg	**Pb**	**10 40 22.6**	**-0.4**
	0.3nm,0.3s,baz=290,slow=14,SNR=8.2						
MKAR				Lg	Lg	10 41 56.7	
	0.4nm,0.3s,baz=306,slow=28,SNR=7.6						
	0.4nm,0.7s						
TKM2	**Tokmak 2**	**7.57**	**170**	⇑Lg	Lg	10 42 19.8	
	4.6nm,0.8s						
ZALV	**Zalesovo Beam**	**7.64**	**58**	**Pn**	**Pn**	**10 40 18.4**	**-0.3**
	0.2nm,0.3s,baz=256,slow=16,SNR=2.7						
	0.3nm,0.3s						
I46RU	**ZALESOVO INFRA**	**7.64**	**58**	I	I	11 27 20.0	
	baz=243,slow=327,SNR=2.6						

IDC 18 10:41:27.5±2.2, **12°.87S**×**45°.49E, h0**km, **mb3.8**/3, **mbtmp3.9**/5, **ML3.9**/2, **Error ellipse: s-maj=62.1km s-min=30.8km az=162.0, Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.90**	**164**	Pn	Pn	10 42 56.5	+0.1
	2.1nm,0.3s,baz=342,slow=14,SNR=178						
OPO				Sn	Sn	10 43 58.7	-6.2
	1.1nm,0.3s,baz=315,slow=20,SNR=7.7						
	73nm,0.5s						
MATP	**Matopo**	**17.92**	**243**	P	P	10 45 39.5	+0.3
	0.1nm,0.3s,baz=54,slow=14,SNR=4.8						
	1.0nm,0.8s						
BOSA	**Boshof**	**24.50**	**227**	P	P	10 46 48.4	-0.4
	2.0nm,0.9s,baz=42,slow=11,SNR=5.1						
	2.0nm,0.9s						
ASAR	**Alice Springs**	**83.50**	**113**	P	P	10 53 58.0	+0.1
	0.6nm,0.8s,baz=262,slow=4.9,SNR=6.3						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**84.64**	**109**	P	P	10 54 03.8	0.0
	0.7nm,0.9s,baz=267,slow=4.1,SNR=5.1						
	0.7nm,0.9s						

*AEIC **18** 10:59:07.8±1.6, 54°.21N±0°.06×161°.35W±0°.06, h27km±8km, Error ellipse: s-maj=9.0km s-min=4.9km az=172.0*

NEIC 18 10:59:07.9±0.9, **54°.26N**±0°.03×**161°.34W**±0°.05, **h23**km±12km, **ML2.9**/8, **ML2.8**(AEIC), **Error ellipse: s-maj=5.1km s-min=4.4km az=207.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAG	**Hague Volcano**	**1.11**	**343**		Pn	10 59 27.8	-0.4
PS4A	**Pavlof South-4**	**1.13**	**345**		Pn	10 59 27.6	-0.8
PVV	**Pavlof Volcano**	**1.15**	**347**		Pn	10 59 28.0	-0.7
PVV					Sb	10 59 42.7	-0.9
CNBA	**Chernabura Isl**	**1.17**	**60**		Sb	10 59 44.1	+0.1
CNBA	**Chernabura Isl**	**1.17**	**60**	Pn	Pn	10 59 26.5	-2.3
PS1A	**Pavlof South-1**	**1.19**	**349**		Pn	10 59 28.7	-0.5
PS1A					Sb	10 59 45.0	+0.2
PN7A	**Pavlof North-7**	**1.24**	**342**		Pn	10 59 30.1	+0.2
FALS	**False Pass**	**1.35**	**297**		Pn	10 59 30.7	-0.7
ISLZ	**Isanotski Laza**	**1.46**	**290**		Pn	10 59 32.1	-0.8
S12K	**Black Hills**	**1.51**	**344**		Pn	10 59 33.9	+0.3
S12K					Sb	10 59 53.7	-0.3
S12K	**Black Hills**	**1.51**	**344**	IAML		10 59 55.2	
	comp=E,209nm,0.2s						
S12K				IAML		10 59 56.0	
	comp=N,205nm,0.3s						
ISNN	**Isanotski Nort**	**1.54**	**293**		Pn	10 59 33.9	0.0
ISNN					Sn	10 59 53.2	0.0
WESE	**West Dahl East**	**1.92**	**278**		Pn	10 59 39.1	-0.1
WECS	**Westdahl Cape**	**2.03**	**279**		Pn	10 59 41.0	+0.2
AKSA	**Akutan Strait**	**2.56**	**269**		Pn	10 59 48.0	0.0
CHGN	**Chignik**	**2.65**	**38**	Pn	Pn	10 59 49.3	+0.1
CHGN				IAML		11 00 31.2	
	comp=N,41nm,2.3s						
CHGN				IAML		11 00 32.0	
	comp=E,52nm,2.0s						
ZRO	**Akutan Zero**	**2.73**	**268**		Pn	10 59 50.5	+0.1
UNV	**Unalaska Valle**	**3.08**	**264**		Pn	10 59 54.6	-0.4
MREP	**Makushin Rep't**	**3.22**	**264**		Pn	10 59 56.9	-0.3
PLK4	**Peulik 4**	**4.39**	**38**	Pn	Pn	11 00 14.8	+1.6
M17K	**Holitna River**	**7.46**	**15**	Pn	Pn	11 00 54.3	-0.9
K13K	**Kusilvak Mount**	**7.90**	**349**	Pn	Pn	11 01 01.2	0.0

*IDC **18** 11:07:04.5±2.2, 18°.91N×39°.34E, h0km, mb3.6/7, mbtmp3.6/7, MS3.5/4, Error ellipse: s-maj=55.7km s-min=26.9km az=158.0*
*SGS **18** 11:07:06.1, 19°.22N×39°.28E, h31km, Ml2.6*

ISC 18 11:07:06.6±1.0, **19°.18N**±0°.08×**39°.46E**±0°.09, **h10**km, **n26**, σ**1°97**/22, **mb3.6**/7, **Red Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHS	**Al Lith**	**1.41**	**39**	P	**Pn**	**11 07 33.2**	**+0.9**
SADE1	**SADE1**	**1.49**	**21**	P	**Pn**	**11 07 29.9**	**-3.5**
SADE2	**SADE2**	**1.51**	**17**	P	**Pn**	**11 07 30.3**	**-3.4**
QNFDS	**Al Qunfudhah**	**1.53**	**66**	P	**Pn**	**11 07 32.2**	**-1.8**
WASQA	**WASQA**	**1.60**	**54**	P	**Pn**	**11 07 33.1**	**-1.9**
QNF01	**Al Qunfudhah**	**1.73**	**82**	P	**Pn**	**11 07 35.3**	**-1.4**
QNF02	**Al Qunfudhah**	**1.92**	**93**	P	**Pn**	**11 07 39.1**	**-0.2**
BRK01	**Al Birk**	**2.19**	**114**	S	**Sn**	**11 08 08.0**	**-2.2**
BRK01	**Al Birk**	**2.19**	**114**	P	**Pn**	**11 07 41.6**	**-1.4**
BRK04	**Al Birk**	**2.29**	**103**	S	**Sn**	**11 08 11.3**	**-1.4**
BRK04	**Al Birk**	**2.29**	**103**	P	**Pn**	**11 07 43.7**	**-0.7**
BRK03	**Al Birk**	**2.51**	**113**	S	**Sn**	**11 08 16.5**	**-1.7**
BRK03	**Al Birk**	**2.51**	**113**	P	**Pn**	**11 07 46.6**	**-0.9**
BRK02	**Al Birk**	**2.54**	**118**	P	**Pn**	**11 07 46.7**	**-1.2**
BRK02	**Al Birk**	**2.54**	**118**	S	**Sn**	**11 08 17.1**	**-1.9**
MMAI	**Mount Meron Ar**	**14.26**	**346**	LR	LR	11 15 26.3	
	comp=Z,66nm,19.0s,baz=151,slow=35						
WSAR	**Wadi Sarin**	**18.32**	**74**	LR	LR	11 19 19.5	
	comp=Z,96nm,21.8s,baz=320,slow=40						
BRTR	**Keskin Array B**	**21.09**	**347**	P	**P**	**11 11 54.3**	**+3.0**
	2.8nm,1.0s,baz=165,slow=12,SNR=6.5						
	2.8nm,1.0s						
AKASG	**Malin Array Be**	**32.49**	**348**	P	**P**	**11 13 37.6**	**+0.4**
	0.1nm,0.3s,baz=164,slow=7.5,SNR=2.8						
	0.1nm,0.3s						
TORD	**Torodi Ar. Bea**	**36.71**	**266**	P	**P**	**11 14 12.6**	**-1.6**
	1.1nm,0.8s,baz=74,slow=8.0,SNR=6.2						
	1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**44.02**	**35**	P	**P**	**11 15 15.2**	**+1.0**
	0.4nm,0.4s,baz=240,slow=8.0,SNR=2.2						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**44.48**	**42**	P	**P**	**11 15 20.8**	**+2.8**
	1.5nm,0.9s,baz=245,slow=5.6,SNR=6.5						
	1.5nm,0.9s						
ZALV	**Zalesovo Beam**	**49.01**	**34**	P	**P**	**11 15 54.5**	**+1.1**
	0.3nm,0.4s,baz=243,slow=6.3,SNR=2.2						
	0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**56.06**	**80**	LR	LR	11 42 54.6	
	comp=Z,48nm,18.5s,baz=140,slow=38						
SONM	**Songino Array**	**60.61**	**45**	P	**P**	**11 17 18.8**	**+1.1**
	0.3nm,0.3s,baz=279,slow=9.6,SNR=1.9						
	0.3nm,0.3s						
SFJD	**Kangerlussuaq**	**72.56**	**336**	LR	LR	11 54 45.0	
	comp=Z,115nm,18.4s,baz=102,slow=39						

*IDC **18** 11:22:40.2±0.7, 2°.91S×119°.33E, h0km, mb4.0/10, mbtmp4.0/12, ML3.6/2, MS3.7/12, Error ellipse: s-maj=52.1km s-min=12.6km az=65.0*
*DJA **18** 11:22:42.2±0.4, 3°.5S±2°.×11°.9E±°, h11km±3km, M4.6/25, mb4.6/18, mB5.0/6, MLv4.8/25, Mw(mB)4.4/6*
*NEIC **18** 11:22:42.7±2.1, 3°.02S±0°.06×119°.42E±0°.03, h10km±1km, mb4.4/17, Error ellipse: s-maj=9.5km s-min=4.6km az=187.0*

ISC 18 11:22:42.1±0.5, **2°.99S**±0°.04×**119°.46E**±0°.05, **h10**km, **n77**, σ**1°34**/73, **mb4.4**/24, **MS3.6**/10, **4C, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.36**	**98**	Pg	**Pg**	**11 22 49.1**	**-0.2**
TTSI				Sg	**Sg**	**11 22 54.5**	**+0.5**
SPSI	**Sidrap Palu**	**1.01**	**163**	P	**Pg**	**11 23 01.2**	**-0.4**
BNSI	**Bone**	**1.54**	**155**	P	**Pn**	**11 23 10.7**	**+1.0**
KAPI	**Kappang**	**2.03**	**172**	Pn	**Pn**	**11 23 17.8**	**+1.4**
KAPI	**Kappang**	**2.03**	**172**	Pn	**Pn**	**11 23 18.0**	**+1.6**
KAPI				Sn	**Sb**	**11 23 44.5**	**0.0**
	120nm,0.3s,baz=356,slow=13,SNR=107						
	153nm,0.3s,baz=52,slow=20,SNR=19						
	265nm,0.3s						
PCI	**Palu**	**2.11**	**10**	P	**Pn**	**11 23 17.7**	**+0.2**
BKSI	**Bulukumba**	**2.41**	**164**	P	**Pn**	**11 23 23.4**	**+1.8**
BKB	**Balikpapan**	**3.09**	**304**	Pn	**Pn**	**11 23 31.4**	**+0.4**
BKB	**Balikpapan**	**3.09**	**304**	P	**Pn**	**11 23 29.6**	**-1.4**
BSSI	**Bau Bau, Buton**	**3.29**	**162**	P	**Pn**	**11 23 34.4**	**+0.6**
KDI	**Kendari**	**3.29**	**107**	P	**Pn**	**11 23 34.6**	**+0.8**
SMKI	**Samarinda**	**3.39**	**318**	P	**Pn**	**11 23 35.3**	**+0.2**
LUWI	**Luwuk**	**3.83**	**60**	P	**Pn**	**11 23 41.1**	**-0.1**
LUWI	**Luwuk**	**3.83**	**60**	P	**Pn**	**11 23 40.6**	**-0.6**
BBSI	**Bau Bau**	**3.97**	**129**	P	**Pn**	**11 23 40.0**	**-3.1**
TOLI2	**Tolitoli**	**4.28**	**18**		**Pn**	**11 23 49.6**	**+2.2**
MTKI	**Muara Teweh, K**	**5.00**	**294**	P	**Pn**	**11 23 57.6**	**+0.3**
KMSI	**Cibinong**	**5.74**	**52**	P	**Pn**	**11 24 07.8**	**+0.3**
PLAI	**Plampang**	**6.04**	**196**	P	**Pn**	**11 24 12.5**	**+1.0**
	52nm,1.0s,0.3nm						
MMRI	**Maumere**	**6.25**	**154**	P	**Pn**	**11 24 14.4**	**-0.1**
	40nm,0.8s,0.2nm						
SANI	**Sanana**	**6.58**	**82**	P	**Pn**	**11 24 18.1**	**-1.0**
SRBI	**Singaraja**	**6.59**	**220**	P	**Pn**	**11 24 20.0**	**+0.8**
WBSI	**Waikabubak, Su**	**6.61**	**181**	P	**Pn**	**11

comp=Z,0.5nm,0.9s,baz=329,slow=2.1,SNR=3.0
ASAR LR LR 11 39 19.8
comp=Z,101nm,18.9s,baz=294,slow=40
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 29.37 317 P **P 11 28 43.4 -2.3**
comp=Z,0.3nm,0.3s,baz=138,slow=8.3,SNR=7.5
CMAR PcP **PcP 11 31 50.1 -2.0**
comp=Z,0.4nm,0.3s,baz=119,slow=3.3,SNR=2.7
comp=Z,0.3nm,0.3s
NWAO Narrogin (SRO) 29.85 184 LR LR 11 41 17.2
comp=Z,118nm,20.4s,baz=192,slow=37
BBOO Buckleboo 33.50 154 P **P 11 29 21.1 -0.7**
PZH PanZhiHua 33.96 331 P **P 11 29 29.5 +3.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,5.0s
NJ2 Nanjing 34.86 359 *e*P **P 11 29 36.3 +2.7**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
STKA Stephens Creek 35.48 146 P **P 11 29 40.2 +1.1**
STKA Stephens Creek 35.48 146 P **P 11 29 40.8 +1.7**
comp=Z,2.1nm,0.8s,baz=326,slow=16,SNR=1.7
STKA LR LR 11 45 54.1
comp=Z,71nm,21.8s,baz=2.2,slow=39
comp=Z,2.1nm,0.8s
KSRS Korea Array 41.00 10 LR LR 11 48 10.7
comp=Z,55nm,20.5s,baz=335,slow=37
HHC Hu-ho-hao-te 44.23 351 *e*P **P 11 30 53.5 +1.7**
HHC pmax pmax
comp=Z,19nm,0.5s
HHC pmax pmax
comp=Z,130nm,5.3s
USRK Ussuriysk Ar. 48.30 12 P **P 11 31 23.6 0.0**
comp=Z,0.7nm,0.5s,baz=192,slow=8.9,SNR=1.5
comp=Z,0.7nm,0.5s
DZM Mont Dzumac 49.35 117 LR LR 11 54 06.8
comp=Z,79nm,18.3s,baz=294,slow=38
ULN Ulaanbaatar 51.80 349 P **P 11 31 49.9 -0.5**
ULN IAmb IAmb 11 31 57.3
comp=Z,11nm,1.2s
SONM Songino Array 51.90 349 P **P 11 31 50.5 -0.6**
SONM IAmb IAmb 11 31 57.4
comp=Z,2.8nm,0.8s
SONM Songino Array 51.90 349 P **P 11 31 49.5 -1.5**
comp=Z,2.8nm,0.8s,baz=166,slow=9.0,SNR=12
comp=Z,2.8nm,0.8s
HEH HeiHe 53.48 6 *e*P **P 11 32 01.1 -1.4**
HEH pmax pmax
comp=Z,6.0nm,0.8s
KSH Kashi 58.16 321 P **P 11 32 38.4 +1.9**
KSH pP sP 11 32 43.3 +1.7
KSH pmax pmax
comp=Z,6.0nm,0.9s
MK31 Makanchi Array 59.40 331 P **P 11 32 44.9 0.0**
MK31 IAmb IAmb 11 32 50.4
comp=Z,5.3nm,1.2s
MKAR Makanchi Array 59.40 331 P **P 11 32 45.0 +0.1**
MKAR Makanchi Array 59.40 331 P **P 11 32 44.7 -0.2**
comp=Z,3.1nm,0.9s,baz=136,slow=7.7,SNR=11
comp=Z,3.1nm,0.9s
KBL Kabul 60.27 313 P **P 11 32 51.1 -0.2**
URZ Urewera 63.08 132 LR LR 12 01 17.1
comp=Z,71nm,19.0s,baz=356,slow=37
ZALV Zalesovo Beam 63.65 338 P **P 11 33 11.8 -1.6**
comp=Z,1.3nm,0.6s,baz=137,slow=7.2,SNR=7.3
comp=Z,1.3nm,0.6s
KURBB Kurchatov Arra 63.86 332 P **P 11 33 14.2 -0.7**
comp=Z,0.6nm,0.3s,baz=142,slow=6.0,SNR=8.9
comp=Z,0.6nm,0.3s
KURK Kurchatov 63.88 332 P **P 11 33 15.8 +0.8**
BVAR Borovoye Array 69.28 331 P **P 11 33 47.1 -2.4**
comp=Z,1.4nm,0.8s,baz=133,slow=7.2,SNR=3.3
comp=Z,1.4nm,0.8s
ABKAR Akbulak array 72.98 324 P **P 11 34 10.5 -1.5**
TROLL Troll, Antarti 95.24 196 ⇑P P 11 36 01.5 -4.5
comp=Z,129nm,0.6s
SNAA Sanae 96.87 196 ⇑P **P 11 36 10.5 -2.8**
comp=Z,18nm,0.7s
SNAA Sanae 96.87 196 LR LR 12 14 38.9
comp=Z,53nm,21.2s,baz=12,slow=32
VNA1 Neumayer--Stat 98.91 195 ⇑Pdiff **P 11 36 20.4 -1.9**
comp=Z,12nm,1.0s
VNA3 Neumayer Olymp 98.91 195 ⇑Pdiff P 11 36 17.2 -5.2
comp=Z,14nm,0.8s

NEIC 18 11:28:17.5±1.6, 40°.44N±0°.05×125°.72W±0°.04,
h18km±10km, Error ellipse: s-maj=7.6km s-min=3.9km
az=206.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**1.05**	**88**		Pg	11 28 38.1	+0.1
KCTM					Sb	11 28 50.9	+0.2
KMPM	**Mount Pierce**	**1.22**	**91**		Pb	11 28 40.4	+0.3
JCC	**Jacoby Creek,**	**1.34**	**73**		Pn	11 28 41.6	+0.4
JCC	**Jacoby Creek,**	**1.34**	**73**		Pn	11 28 41.0	-0.2
JCC	**Jacoby Creek,**	**1.34**	**73**	IAML		11 28 57.1	
JCC	comp=N,168nm,0.4s			IAML		11 28 57.1	
	comp=E,330nm,0.6s						
KCRM	**Chalk Rock**	**1.45**	**90**		Pb	11 28 43.7	-0.3
KRPM	**Rodgers**	**1.47**	**60**		Pn	11 28 43.6	+0.5
KRPM	**Rodgers**	**1.47**	**60**	IAML		11 29 01.3	
	comp=N,124nm,0.6s						
KMRM	**Mail Ridge**	**1.55**	**98**		Pb	11 28 45.2	-0.5
KHMM	**Horse Mountain**	**1.57**	**73**		Pb	11 28 45.4	-0.7
KHMM	**Horse Mountain**	**1.57**	**73**	IAML		11 29 04.0	
	comp=N,283nm,0.6s						
KHMM				IAML		11 29 04.4	
	comp=E,192nm,0.7s						
KRMB	**Red Mountain**	**1.74**	**51**		Pn	11 28 47.5	+0.6
KCPM	**Cahto Peak**	**1.80**	**114**		Pb	11 28 49.1	-1.0
KCPM	**Cahto Peak**	**1.80**	**114**	IAML		11 29 11.0	
	comp=N,225nm,0.4s						
KIPM	**Iron Peak**	**1.83**	**110**		Pn	11 28 49.0	+0.9
SIGP	**Signal Peak, C**	**1.89**	**41**		Pn	11 28 50.0	+1.1
KHBM	**Hayfork Bally**	**1.92**	**83**		Pn	11 28 50.4	+1.0
KHBM	**Hayfork Bally**	**1.92**	**83**	IAML		11 29 12.6	
	comp=N,140nm,0.5s						
KHBM				IAML		11 29 12.8	
	comp=E,140nm,0.6s						
KFPM	**Farley Peak**	**1.94**	**114**		Pn	11 28 50.6	+1.1
GTC	**Three Chop Rid**	**1.96**	**121**		Pn	11 28 51.2	+1.4
KSXB	**Camp Six Broad**	**1.96**	**44**		Pn	11 28 50.8	+0.9
KSXB	**Camp Six Broad**	**1.96**	**44**	IAML		11 29 14.7	
	comp=E,51nm,0.6s						
KBNM	**Bluenose Ridge**	**2.01**	**105**		Pn	11 28 51.8	+1.2
DCMP	**DeCamp, Califo**	**2.07**	**117**		Pn	11 28 51.5	+0.1
DCMP	**DeCamp, Califo**	**2.07**	**117**	IAML		11 29 17.1	
	comp=N,52nm,0.5s						
KBO	**Bosley Butte**	**2.09**	**32**		Pb	11 28 53.5	-1.5
KBO	**Bosley Butte**	**2.09**	**32**	IAML		11 29 17.0	
	comp=N,149nm,0.3s						
WEAV	**Weaverville**	**2.10**	**81**		Pn	11 28 52.7	+0.8
LBPM	**Beegum Peak**	**2.17**	**92**		Pn	11 28 54.0	+1.2
GWRM	**Wonder Ranch**	**2.23**	**123**		Pn	11 28 54.9	+1.3
O02D	**Mt. Diablo Mer**	**2.25**	**96**	Pn	Pn	11 28 55.0	+1.0
L02F	**Cave Junction**	**2.33**	**43**		Pb	11 28 57.0	-2.0
GGUM	**Gualala**	**2.33**	**132**		Pn	11 28 55.6	+0.6
N02D	**Trinity Center**	**2.35**	**76**		Pn	11 28 56.0	+0.8
N02D	**Trinity Center**	**2.35**	**76**	IAML		11 29 27.1	
	comp=N,87nm,0.6s						
N02D				IAML		11 29 28.9	
	comp=E,53nm,0.5s						
M02C	**Callahan**	**2.37**	**65**		Pn	11 28 56.5	+1.0
GROM	**Round Mountain**	**2.39**	**102**		Pn	11 28 57.9	+2.0
LBKM	**Bonanza King**	**2.41**	**74**		Pn	11 28 57.0	+1.0
GVV	**Valley View**	**2.43**	**105**		Pn	11 28 57.6	+1.3
GSNM	**Snow Mountain**	**2.46**	**127**		Pn	11 28 56.7	0.0
HOPS	**Hopland Field**	**2.50**	**125**		Pn	11 28 57.2	0.0
HOPS	**Hopland Field**	**2.50**	**125**		Pn	11 28 58.9	+1.7
HOPS				IAML		11 29 28.4	
	comp=N,26nm,1.9s						
HOPS				IAML		11 30 19.5	
	comp=E,26nm,4.9s						
YBH	**Yreka Blue Hor**	**2.61**	**59**		Pn	11 29 00.8	+1.9
YBH	**Yreka Blue Hor**	**2.61**	**59**		Pn	11 29 01.0	+2.2
YBH				IAML		11 29 31.7	
	comp=N,9.9nm,0.8s						
YBH				IAML		11 29 32.3	
	comp=E,10.0nm,0.6s						
LAMM	**Antelope Mount**	**2.61**	**63**		Pn	11 29 00.5	+1.6
GCK	**Clark Valley**	**2.67**	**109**		Pn	11 29 01.9	+2.2
GHCM	**House Creek**	**2.68**	**132**		Pn	11 29 01.1	+1.4
K02D	**Willamette Mer**	**2.73**	**34**		Pn	11 29 03.0	+2.6
K02D				IAML		11 29 34.8	
	comp=N,53nm,0.2s						
K02D				IAML		11 29 36.4	
	comp=E,62nm,0.3s						
LTCM	**Tuscan Springs**	**2.76**	**94**		Pn	11 29 02.4	+1.7
LMPM	**Military Pass**	**2.89**	**68**		Pn	11 29 05.4	+2.6
HUMO	**Hull Mountain**	**2.99**	**43**		Pn	11 29 06.1	+2.0
LDBM	**Digger Butte**	**3.00**	**89**		Pn	11 29 05.3	+1.1
J01E	**Myrtle Point**	**3.03**	**26**	Pn	Pn	11 29 07.2	+2.8
J01E				IAML		11 29 43.0	
	comp=N,38nm,0.3s						
J01E				IAML		11 29 43.2	
	comp=E,36nm,0.7s						
L04D	**Klamath Falls**	**3.12**	**54**		Pb	11 29 10.1	-2.5
L04D				IAML		11 29 47.1	
	comp=N,32nm,0.6s						
L04D				IAML		11 29 55.0	
	comp=E,24nm,4.5s						
MCCM	**Marconi Confer**	**3.18**	**135**	Pn	Pn	11 29 08.0	+1.4
MCCM				IAML		11 29 45.8	
	comp=N,18nm,1.1s						
MCCM				IAML		11 31 09.2	
	comp=E,21nm,4.9s						
LRDM	**Redding Peak**	**3.25**	**88**		Pn	11 29 09.7	+2.1
DBO	**Dodson Butte**	**3.25**	**34**		Pn	11 29 10.5	+2.8
DBO				IAML		11 29 48.3	
	comp=E,20nm,0.9s						
DBO				IAML		11 29 50.5	
	comp=N,21nm,4.0s						
HATC	**Hat Creek Radi**	**3.26**	**82**		Pn	11 29 10.3	+2.5
HATC				IAML		11 29 48.1	
	comp=N,40nm,0.9s						
HATC				IAML		11 29 59.4	
	comp=E,51nm,0.8s						
K04D	**Chiloquin, OR**	**3.69**	**52**		Pn	11 29 17.3	+3.6
K04D				IAML		11 29 41.3	
	comp=N,33nm,0.8s						
K04D				IAML		11 30 28.8	
	comp=E,25nm,1.6s						
J04A	**Umpqua Nationa**	**3.88**	**43**		Pn	11 29 20.7	+4.3
I02E	**Swissthome, OR**	**3.92**	**20**	Pn	Pn	11 29 20.3	+3.6
AFDM	**Forest Hills D**	**3.95**	**111**		Pn	11 29 19.5	+2.3
I04A	**Tendick Farm,**	**4.15**	**35**		Pn	11 29 24.0	+4.0
I04A				IAML		11 30 12.2	
	comp=E,14nm,0.7s						
I04A				IAML		11 30 14.1	
	comp=N,14nm,1.7s						
BUCK	**Buck Mountain**	**4.26**	**27**	Pn	Pn	11 29 25.5	+3.9
J05D	**Fort Rock, OR**	**4.39**	**48**		Pn	11 29 27.1	+3.7
J05D				IAML		11 30 03.6	
	comp=N,11nm,4.9s						
J05D				IAML		11 31 52.3	
	comp=E,14nm,4.8s						
MPK	**Martis Peak**	**4.52**	**103**	Pn	Pn	11 29 26.5	+1.2
MPK				IAML		11 30 25.1	
	comp=E,16nm,1.3s						
MPK				IAML		11 30 29.1	
	comp=N,15nm,0.7s						
EMB	**Emerald Bay**	**4.57**	**107**	Pn	Pn	11 29 28.8	+2.9
EMB				IAML		11 30 36.1	
	comp=E,13nm,3.8s						
EMB				IAML		11 31 58.4	
	comp=N,11nm,4.6s						
CMB	**Columbia Colle**	**4.79**	**118**		Pn	11 29 31.9	+3.2
PINE	**Pine Mountain**	**4.88**	**45**		Pn	11 29 34.3	+4.2
PINE				IAML		11 30 29.3	
	comp=N,10nm,4.6s						
PINE				IAML		11 30 46.5	
	comp=E,11nm,4.1s						
PNTR	**Pine Nut**	**4.90**	**104**		Pn	11 29 32.7	+2.2
PNTR				IAML		11 30 41.2	
	comp=E,9.0nm,1.9s						
PNTR				IAML		11 30 46.2	
	comp=N,9.2nm,3.6s						
PAHR	**Pah Rah Range**	**4.91**	**97**	Pn	Pn	11 29 31.5	+0.9
PAHR				IAML		11 31 58.9	
	comp=E,5.2nm,4.6s						
PAHR				IAML		11 32 39.9	
	comp=N,4.5nm,4.8s						
SAO	**San Andreas Ge**	**4.97**	**136**	Pn	Pn	11 29 32.5	+1.4
H04A	**Detroit Lake**	**4.97**	**30**		Pn	11 29 34.9	+3.7
I05D	**Terrebonne, OR**	**5.07**	**38**		Pn	11 29 36.4	+3.9
YERR	**Yerington**	**5.20**	**104**		Pn	11 29 37.5	+2.9
YERR				IAML		11 30 45.6	
	comp=E,8.0nm,3.0s						
YERR				IAML		11 30 47.4	
	comp=N,4.7nm,4.5s						
HOOD	**Mount Hood Mea**	**5.72**	**30**	Pn	Pn	11 29 45.4	+3.8
G05A	**Wamic**	**5.78**	**33**	Pn	Pn	11 29 46.9	+4.5
I07A	**Izee**	**5.87**	**50**		Pn	11 29 48.4	+4.8
OMMB	**Old Mammoth Mi**	**5.94**	**116**	Pn	Pn	11 29 48.6	+3.7
KVN	**Kaiserville**	**6.03**	**101**	Pn	Pn	11 29 49.3	+3.4
G06A	**Carlson Farm,**	**6.07**	**36**	Pn	Pn	11 29 50.5	+4.2
NVAR	**Mina Array Bea**	**6.08**	**107**	Pn	Pn	11 29 48.9	+2.2
J08A	**Circle Bar Ran**	**6.14**	**59**		Pn	11 29 50.4	+3.1
LON	**Longmire**	**6.91**	**23**	Pn	Pn	11 30 02.2	+4.3
MXC	**Moxie City**	**7.29**	**31**		Pn	11 30 08.2	+5.2
BMO	**Blue Mountains**	**7.60**	**52**	Pn	Pn	11 30 11.3	+3.9

JMA ***18*** *11:29:26.9±0.1, 23°.2N±0°.2×120°.5E±0°.5, h0km, MV3.7/13, TAIWAN REGION*
TAP ***18*** *11:29:27.1, 23°.19N×120°.50E, h13km, ML3.9, B*
ASIES ***18*** *11:29:27.1, 23°.19N×120°.50E, h13km, ML3.9, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}2.37; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$-2.16; $M_{r\theta}$0.42; $M_{\theta\phi}$-0.30; $M_{\phi r}$-0.93; Fault plane solution: $M_0$2.51030×10^{21} NP1: ϕ_s176.85000°, δ56.32000°, λ77.44000°. NP2:ϕ_s18.73000°, δ35.68000°, λ108.07000°. Principal axes: T Plg75.1180°, Azm50.0800°; N Plg10.4230°, Azm183.8860°; P Plg10.5030°, Azm275.8410°;*

ISC 18 11:29:27.4±0.8, 23°20N±0°.01×120°.50E±0°.01, h14km±4km,
n156, σ0°82/277, 19C-29D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNST	**Tainan City**	**0.02**	**357**	⇑*i*P	**Pg**	**11 29 29.9**	**-0.2**
SNST				*i* S	**Sg**	**11 29 32.0**	**+0.2**
CHN1	**Nanshi**	**0.03**	**112**	⇑*i*P	**Pg**	**11 29 29.8**	**-0.3**
CHN1				*i* S	**Sg**	**11 29 31.6**	**-0.2**
TWK	**Hsinying**	**0.07**	**352**	⇑*i*P	**Pg**	**11 29 30.4**	**-0.1**
TWK				*i* S	**Sg**	**11 29 32.8**	**+0.4**
SGST	**Jiashian**	**0.14**	**146**	⇓*i*P	**Pg**	**11 29 30.3**	**-0.8**
SGST				S	**Sg**	**11 29 33.5**	**-0.1**
TPUB	**Ta-pu**	**0.16**	**49**	⇓*i*P	**Pg**	**11 29 31.4**	**0.0**
TPUB				S	**Sb**	**11 29 34.6**	**-0.7**
CHN3	**Shinhua**	**0.17**	**226**	⇑P	**Pb**	**11 29 32.4**	**+0.1**
CHN3				*e*S	**Sb**	**11 29 36.6**	**+1.0**
CHN4	**Tsaushan**	**0.18**	**29**	⇓*i*P	**Pb**	**11 29 31.9**	**-0.6**
CHN4				S	**Sb**	**11 29 35.9**	**0.0**
SSHA	**Shanhua**	**0.20**	**253**	⇓*i*P	**Pb**	**11 29 33.0**	**+0.1**
SSHA				S	**Sb**	**11 29 38.3**	**+1.7**
SHHT	**Tainan City**	**0.22**	**219**	⇑P	**Pb**	**11 29 33.6**	**+0.4**
SHHT				*e*S	**Sb**	**11 29 38.5**	**+1.4**
STYH	**Taoyuan**	**0.26**	**96**	⇓*i*P	**Pb**	**11 29 33.3**	**-0.5**
STYH				S	**Sb**	**11 29 37.6**	**-0.5**
ICHU	**Yijhu**	**0.26**	**309**	⇓*i*P	**Pb**	**11 29 33.7**	**-0.2**
ICHU				S	**Sb**	**11 29 39.5**	**+1.2**
WCKO	**Fanlu**	**0.26**	**22**	⇑P	**Pb**	**11 29 33.4**	**-0.5**
WCKO				*i* S	**Sb**	**11 29 38.4**	**+0.1**
SCLT	**Jiali**	**0.28**	**266**	⇓*i*P	**Pb**	**11 29 34.0**	**-0.2**
SCLT				*e*S	**Sb**	**11 29 39.8**	**+1.0**
TAI1	**Yung-k'ang**	**0.29**	**238**	*e*P	**Pb**	**11 29 34.8**	**+0.4**
TAI1				*e*S	**Sb**	**11 29 40.1**	**+1.0**
CHN8	**Yiju**	**0.30**	**300**	⇓P	**Pb**	**11 29 34.1**	**-0.5**
CHN8				*i* S	**Sb**	**11 29 40.6**	**+1.1**
CHY	**Chiayi**	**0.31**	**347**	*e*P	**Pb**	**11 29 34.6**	**-0.1**
CHY				*e*S	**Sb**	**11 29 40.7**	**+1.1**
SCST	**Cishan**	**0.31**	**181**	*e*P	**Pb**	**11 29 35.0**	**+0.2**
SCST				*i* S	**Sb**	**11 29 41.2**	**+1.6**
CHN2	**Minshiung**	**0.34**	**356**	⇓*i*P	**Pb**	**11 29 35.3**	**+0.1**
CHN2				S	**Sb**	**11 29 41.6**	**+1.2**
TWM1	**Shoushan**	**0.38**	**191**	⇑P	**Pn**	**11 29 37.0**	**-1.5**
TWM1				S	**Sb**	**11 29 43.3**	**+1.7**
TSCK	**Chigu Township**	**0.38**	**263**	⇓*e*P	**Pb**	**11 29 35.6**	**-0.4**
TSCK				S	**Sb**	**11 29 43.6**	**+1.9**
WSL	**Shuilin Townsh**	**0.41**	**323**	P	**Pb**	**11 29 36.3**	**-0.2**
WSL				S	**Sb**	**11 29 43.9**	**+1.4**
ALS	**Alishan**	**0.42**	**42**	⇓*i*P	**Pb**	**11 29 36.2**	**-0.7**
ALS				S	**Sb**	**11 29 43.5**	**+0.4**
CHN5	**Tsauling**	**0.43**	**22**	⇑*i*P	**Pb**	**11 29 36.4**	**-0.5**
CHN5				*e*S	**Sb**	**11 29 43.5**	**+0.2**
SNJT	**Kaohsiung City**	**0.47**	**199**	*e*P	**Pn**	**11 29 38.5**	**-1.1**
SNJT				*e*S	**Sn**	**11 29 46.6**	**-1.0**
SGLT	**Jiouru**	**0.47**	**181**	*e*P	**Pn**	**11 29 38.9**	**-0.8**
SGLT				*e*S	**Sn**	**11 29 48.3**	**+0.5**
ELDTW	**Lidau**	**0.48**	**91**	⇓*i*P	**Pb**	**11 29 37.2**	**-0.4**
ELDTW				S	**Sb**	**11 29 44.4**	**-0.1**
WDLH	**Douliu**	**0.49**	**4**	*e*P	**Pb**	**11 29 38.1**	**+0.2**
WDLH				*e*S	**Sb**	**11 29 46.4**	**+1.5**
WGK	**Gukeng**	**0.49**	**7**	*e*P	**Pb**	**11 29 38.1**	**+0.3**
WGK				*e*S	**Sb**	**11 29 46.4**	**+1.5**
WTK	**Tuku**	**0.50**	**348**	*e*P	**Pb**	**11 29 38.2**	**+0.2**
WTK				*i* S	**Sb**	**11 29 46.7**	**+1.5**
TSMG	**Majia**	**0.51**	**165**	*e*P	**Pb**	**11 29 38.2**	**+0.2**
TSMG				*e*S	**Sb**	**11 29 45.8**	**+0.5**
WSF	**Szhu**	**0.51**	**330**	⇓*i*P	**Pb**	**11 29 37.8**	**-0.3**
WSF				*i* S	**Sb**	**11 29 46.4**	**+1.0**
WDL	**Douliou City**	**0.52**	**4**	*e*P	**Pb**	**11 29 38.6**	**+0.3**
WDL				*e*S	**Sb**	**11 29 47.3**	**+1.6**
WSSB	**Gushan**	**0.59**	**202**	*e*P	**Pn**	**11 29 40.5**	**-0.9**
WSSB				*e*S	**Sn**	**11 29 50.8**	**0.0**
MASBT	**Mashibuluo**	**0.59**	**168**	⇑*i*P	**Pb**	**11 29 39.5**	**-0.1**
MASBT				*e*S	**Sb**	**11 29 48.4**	**+0.6**
WHYT	**Xinyi Township**	**0.59**	**33**	*e*P	**Pb**	**11 29 39.5**	**-0.1**
WHYT				*i* S	**Sb**	**11 29 49.0**	**+1.1**
TWG	**Pinlang**	**0.65**	**125**	⇓*i*P	**Pb**	**11 29 40.6**	**+0.1**
TWG				*i* S	**Sb**	**11 29 50.3**	**+0.9**
LONT	**Longtian**	**0.65**	**116**	⇓*i*P	**Pb**	**11 29 40.5**	**-0.1**
LONT				*e*S	**Sb**	**11 29 49.8**	**+0.4**
EHD	**Haiduan**	**0.65**	**94**	⇓*e*P	**Pb**	**11 29 40.2**	**-0.4**
EHD				*e*S	**Sb**	**11 29 49.6**	**+0.1**
TWGBT	**Beinan**	**0.65**	**125**	⇓*i*P	**Pb**	**11 29 40.6**	**-0.1**
TWGBT				S	**Sb**	**11 29 50.3**	**+0.7**
WJS	**Zhushan**	**0.66**	**19**	⇑P	**Pb**	**11 29 40.8**	**+0.1**
WJS				S	**Sb**	**11 29 51.1**	**+1.4**
ECS	**Chishang**	**0.67**	**98**	⇓*e*P	**Pb**	**11 29 40.9**	**0.0**
ECS				*i* S	**Sn**	**11 29 51.3**	**-1.5**
WTCT	**Ta-ch'eng**	**0.69**	**343**	*e*P	**Pg**	**11 29 41.0**	**-0.1**
WTCT				S	**Sb**	**11 29 51.8**	**+1.0**
WNT	**Mingjian**	**0.70**	**14**	⇑*i*P	**Pb**	**11 29 41.5**	**+0.1**
WNT				*e*S	**Sb**	**11 29 52.3**	**+1.4**
WRL	**Guolierlin Hig**	**0.71**	**351**	*e*P	**Pb**	**11 29 41.3**	**-0.3**
WRL				*i* S	**Sb**	**11 29 52.6**	**+1.4**
SSLB	**Suanglung**	**0.72**	**35**	*e*P	**Pg**	**11 29 41.4**	**-0.2**
SSLB				*e*S	**Sb**	**11 29 52.2**	**+0.7**
ECL	**Taimali**	**0.73**	**145**	*e*P	**Pb**	**11 29 41.7**	**-0.2**
ECL				S	**Sn**	**11 29 53.2**	**-1.0**
FULB	**Fuli**	**0.73**	**90**	⇓*i*P	**Pb**	**11 29 42.3**	**+0.4**
FULB				*i* S	**Sn**	**11 29 53.8**	**-0.5**
TTN	**Taitung**	**0.74**	**126**	*e*P	**Pn**	**11 29 43.0**	**-0.4**
TTN				*e*S	**Sn**	**11 29 54.0**	**-0.5**
TWF1	**Yuli**	**0.75**	**78**	⇓*i*P	**Pb**	**11 29 42.0**	**-0.3**
TWF1				S	**Sb**	**11 29 52.3**	**-0.1**
YULB	**Yu-li**	**0.76**	**75**	⇓*i*P	**Pg**	**11 29 42.0**	**-0.3**
YULB				*e*S	**Sg**	**11 29 51.9**	**-0.3**
EYUL	**Yuli**	**0.77**	**79**	⇓*i*P	**Pb**	**11 29 42.4**	**-0.2**
EYUL				*e*S	**Sb**	**11 29 52.8**	**-0.1**
EDH	**Donghe**	**0.77**	**107**	*e*P	**Pb**	**11 29 42.8**	**+0.2**
WDGT	**Dungji**	**0.77**	**275**	⇓P	**Pg**	**11 29 41.8**	**-0.7**
WDGT				*e*S	**Sb**	**11 29 53.3**	**+0.2**
SMLT	**Sun Moon Lake**	**0.78**	**28**	⇑*i*P	**Pg**	**11 29 41.8**	**-0.8**
SMLT				*e*S	**Sb**	**11 29 53.9**	**+0.7**
TYC	**Yuchr**	**0.78**	**25**	⇑*i*P	**Pb**	**11 29 42.8**	**0.0**
TYC				*i* S	**Sn**	**11 29 54.8**	**-0.6**
CHKT	**Chengkung**	**0.80**	**97**	⇓P	**Pn**	**11 29 43.7**	**-0.6**
CHKT				S	**Sn**	**11 29 56.5**	**+0.5**
VWDT	**VWDT**	**0.81**	**47**	*i* P	**Pb**	**11 29 43.3**	**+0.1**
VWDT				*e*S	**Sn**	**11 29 55.2**	**-1.0**
EHY	**Hungye**	**0.82**	**68**	⇓*i*P	**Pb**	**11 29 43.2**	**-0.2**
EHY				*e*S	**Sb**	**11 29 55.1**	**+0.9**
CHKH	**Chenggong**	**0.82**	**90**	⇓P	**Pb**	**11 29 43.8**	**+0.3**
SCZT	**Fangliau**	**0.83**	**172**	*e*P	**Pb**	**11 29 43.5**	**0.0**
SCZT				*e*S	**Sn**	**11 29 55.6**	**-1.0**
EHYH	**Wanrong**	**0.83**	**69**	*e*P	**Pb**	**11 29 43.5**	**-0.1**
EHYH				*e*S	**Sb**	**11 29 55.3**	**+0.6**
WLCH	**Liuqiu**	**0.85**	**188**	*e*P	**Pn**	**11 29 46.3**	**+1.4**
WLCH				*e*S	**Sn**	**11 29 59.9**	**+2.8**
TWP	**Hsiaoliuchiu**	**0.85**	**188**	*e*P	**Pn**	**11 29 46.5**	**+1.4**
EAST	**Anshuo**	**0.87**	**158**	P	**Pn**	**11 29 44.6**	**-0.7**
EAST				*e*S	**Sn**	**11 29 57.7**	**-0.1**
WCH1	**Changhua City**	**0.87**	**3**	*e*P	**Pb**	**11 29 44.2**	**-0.1**
WCH1				*e*S	**Sn**	**11 29 57.3**	**-0.4**
WCHH	**Zhanghua**	**0.88**	**4**	*e*P	**Pb**	**11 29 44.5**	**0.0**
WCHH				*e*S	**Sn**	**11 29 57.5**	**-0.5**
ECBN	**Changbin**	**0.88**	**82**	*e*P	**Pn**	**11 29 45.7**	**+0.3**
HGSD	**Ruisui**	**0.90**	**71**	*e*P	**Pn**	**11 29 45.2**	**-0.4**
HGSD				*e*S	**Sb**	**11 29 57.1**	**+0.5**
PHUB	**P'eng-hu**	**0.91**	**291**	*e*P	**Pg**	**11 29 43.5**	**-1.5**
PHUB				*e*S	**Sg**	**11 29 56.0**	**-1.0**
TAW	**Tawu**	**0.91**	**156**	*e*P	**Pn**	**11 29 45.4**	**-0.4**
TAW				S	**Sn**	**11 29 58.6**	**-0.1**
TAWH	**Dawu Township**	**0.92**	**157**	P	**Pn**	**11 29 45.7**	**-0.3**
TAWH				S	**Sn**	**11 29 58.8**	**-0.2**
WCS	**Beigang Elemen**	**0.94**	**24**	*i* P	**Pg**	**11 29 45.1**	**-0.5**
WCS				*i* S	**Sn**	**11 29 58.8**	**-0.5**
PNG	**Penghu**	**0.94**	**293**	⇓P

LAY	**Lan-yu**	**1.51**	**140**	*e*P		**Pn**	**11 29 53.5**	**-0.5**
LAY				*e*S		**Sb**	**11 30 14.4**	**+0.2**
LIOB	**Emei**	**1.52**	**18**	*e*P		**Pn**	**11 29 54.2**	**+0.1**
LIOB				*e*S		**Sb**	**11 30 14.8**	**+0.3**
NFF	**Wufeng Townshi**	**1.54**	**21**	*e*P		**Pn**	**11 29 54.2**	**-0.3**
NFF				*e*S		**Sb**	**11 30 15.4**	**+0.3**
LYUB	**Lan-yu**	**1.56**	**140**	*e*P		**Pn**	**11 29 52.7**	**-1.9**
LYUB				*e*S		**Sn**	**11 30 14.6**	**0.0**
EAHA	**Aohua**	**1.60**	**45**	*e*P		**Pb**	**11 29 57.0**	**+0.2**
EAHA				*e*S		**Sg**	**11 30 18.6**	**-0.5**
LATG	**Datong**	**1.63**	**35**	P		**Pb**	**11 29 56.5**	**-0.8**
LATG				S		**Sg**	**11 30 19.7**	**-0.4**
SBCB	**Hsinchu**	**1.65**	**16**	*e*P		**Pn**	**11 29 55.8**	**-0.2**
SBCB				*e*S		**Sb**	**11 30 18.9**	**+0.6**
NSK	**Sanguang**	**1.67**	**28**	*e*P		**Pn**	**11 29 56.6**	**+0.3**
NSK				*e*S		**Sg**	**11 30 20.1**	**-1.2**
YHNB	**Yeheng**	**1.67**	**28**	*i* P		**Pn**	**11 29 56.7**	**+0.3**
YHNB				S		**Sg**	**11 30 20.7**	**-0.6**
ENA	**Nanau**	**1.67**	**43**	*e*P		**Pb**	**11 29 57.3**	**-0.7**
ENA				*e*S		**Sg**	**11 30 20.0**	**-1.3**
KSHI	**Guanxi Townshi**	**1.69**	**21**	*e*P		**Pn**	**11 29 57.0**	**+0.5**
EWUT	**Wuta**	**1.71**	**43**	*e*P		**Pn**	**11 29 57.5**	**+0.8**
EWUT				S		**Sg**	**11 30 21.8**	**-0.7**
ENTT	**Nioudou**	**1.74**	**34**	P		**Pn**	**11 29 58.0**	**+0.8**
ENTT				*e*S		**Sg**	**11 30 22.3**	**-1.2**
NDS	**Dongshan**	**1.81**	**38**	*e*P		**Pb**	**11 29 59.6**	**-0.8**
NDS				*e*S		**Sb**	**11 30 23.6**	**+0.6**
NWLT	**Wulai**	**1.82**	**30**	*e*P		**Pn**	**11 29 59.0**	**+0.7**
NWLT				S		**Sb**	**11 30 22.9**	**-0.3**
ESAO	**Su ao**	**1.84**	**42**	*i* P		**Pb**	**11 30 01.1**	**+0.1**
ESAO				*e*S		**Sg**	**11 30 25.2**	**-1.6**
FUSB	**Fushanzhiwuyua**	**1.85**	**32**	*e*P		**Pn**	**11 29 59.8**	**+1.0**
TWE	**Neicheng**	**1.86**	**35**	*e*P		**Pb**	**11 30 00.3**	**-0.8**
TWE				*i* S		**Sb**	**11 30 25.4**	**+1.2**
NCUH	**Zhongli**	**1.87**	**19**	*e*P		**Pb**	**11 30 00.4**	**-1.0**
NCUH				*e*S		**Sb**	**11 30 23.9**	**-0.7**
EOS4	**EOS4**	**1.91**	**61**	*e*P		**Pb**	**11 30 00.4**	**-1.3**
EOS4				*e*S		**Sb**	**11 30 24.6**	**-0.7**
ILA	**Ilan**	**1.94**	**36**	*e*P		**Pb**	**11 30 03.1**	**+0.6**
ILA				*e*S		**Sg**	**11 30 28.8**	**-1.0**
EOS3	**EOS3**	**1.99**	**57**	*e*P		**Pb**	**11 30 01.8**	**-1.5**
EOS2	**EOS2**	**2.00**	**52**	*e*P		**Pb**	**11 30 02.2**	**-1.3**
VWUC	**VWUC**	**2.03**	**332**	*e*P		**Pn**	**11 29 60.0**	**-1.2**
TWA	**Mucha**	**2.04**	**29**	*e*P		**Pn**	**11 30 00.7**	**-0.6**
EGS		**2.10**	**38**	*e*P		**Pb**	**11 30 04.7**	**-0.6**
TIPB	**Shuangxi**	**2.14**	**34**	*e*P		**Pn**	**11 30 03.8**	**+1.0**
YM01	**YM01**	**2.17**	**27**	*e*P		**Pn**	**11 30 03.3**	**+0.1**
ZUZH	**Zhuzihu**	**2.18**	**26**	*e*P		**Pn**	**11 30 03.0**	**-0.3**
ANP	**Anpu**	**2.19**	**25**	*e*P		**Pn**	**11 30 03.5**	**0.0**
WFSB	**Wu-fen Shan**	**2.20**	**32**	*e*P		**Pb**	**11 30 06.9**	**-0.2**
PTMZ	**Houxiangcun**	**2.23**	**326**	*e*P		**Pn**	**11 30 02.6**	**-1.3**
KNM	**Kinmen**	**2.25**	**303**	*e*P		**Pn**	**11 30 04.1**	**-0.1**
TWB1	**Santiao Chiao**	**2.26**	**37**	*e*P		**Pn**	**11 30 05.6**	**+1.3**
TNOU	**National Taiwa**	**2.27**	**31**	*e*P		**Pn**	**11 30 03.4**	**-1.1**
SXI1	**Grass Mountain**	**2.27**	**33**	*e*P		**Pn**	**11 30 05.0**	**+0.5**
TWY	**Chenhua**	**2.30**	**26**	*e*P		**Pn**	**11 30 05.0**	**+0.1**
KNMB	**Chin-men Tao**	**2.31**	**304**	*e*P		**Pn**	**11 30 03.7**	**-1.3**
JYNG	**Yonagunijimaku**	**2.56**	**60**	*e*P		**Pn**	**11 30 09.9**	**+1.4**
YOJ	**Yonaguni jima**	**2.62**	**61**	*e*P		**Pn**	**11 30 11.1**	**+1.8**
YOJ	**Yonaguni jima**	**2.62**	**61**	*e*P		**Pn**	**11 30 08.2**	**-1.2**
ZPLA	**Ao Xicun**	**2.63**	**287**	*e*P		**Pn**	**11 30 10.8**	**+1.4**
PCYT	**Pengchaiyu**	**2.81**	**30**	*e*P		**Pn**	**11 30 12.1**	**+0.1**
MATB	**Ma-tsu**	**2.99**	**350**	*e*P		**Pn**	**11 30 12.9**	**-1.4**
HATJ	**Hateruma jima**	**3.15**	**74**	*e*P		**Pn**	**11 30 17.7**	**+1.1**
HATJ				*e*S		**Sn**	**11 30 56.4**	**+2.4**
IRIF	**Iriomote-Funau**	**3.17**	**68**	*e*P		**Pn**	**11 30 18.5**	**+1.7**
MHZQ	**Yeshan**	**3.19**	**335**	*e*P		**Pn**	**11 30 16.1**	**-1.0**
JKRS	**Kuro-shima**	**3.38**	**71**	P		**Pn**	**11 30 21.2**	**+1.5**
JIJ	**Ishigaki jima**	**3.54**	**70**	*e*P		**Pn**	**11 30 22.5**	**+0.6**
JIJ				*e*S		**Sn**	**11 31 04.8**	**+1.3**
XPSS	**Dashiqiu**	**3.73**	**356**	*e*P		**Pn**	**11 30 23.4**	**-1.2**
JISG	**Ishigakijimahi**	**3.75**	**68**	*e*P		**Pn**	**11 30 25.5**	**+0.6**
JISG				*e*S		**Sn**	**11 31 10.0**	**+1.2**

JMA ***18*** *11:31:52.7±0.2, 44°.6N±0°.7×14°.6E±°, h19km±1km, MV3.3/31, NEAR KUNASHIRI ISLAND*
SKHL ***18*** *11:31:53.0±0.6, 44°.60N×146°.00E, h34km±4km, mb4.5/3*
ISC 18 11:31:47.6±1.4, 44°.75N±0°.04×145°.81E±0°.04, h10km±12km, n13, σ1§17/22, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.71**	**177**	*i* P		**Pn**	**11 32 03.7**	**0.0**
YUK				AMB		AMB	11 32 04.8	
	650nm,0.2s							
YUK				*e*S		**Sb**	**11 32 11.0**	**-0.9**
YUK				A		A	11 32 11.4	
	1μm,0.3s							
YUK				A		A	11 32 11.4	
	1μm,0.3s							
JRA	**Rausu**	**0.95**	**212**	P		**Pn**	**11 32 07.5**	**+0.6**
JRA				S		**Sg**	**11 32 17.7**	**-0.5**
JNSB	**Nemuroshibetsu**	**1.13**	**211**	P		**Pn**	**11 32 10.5**	**+1.0**
JNSB				S		**Sb**	**11 32 23.2**	**-0.7**
SHO	**Shikotan**	**1.14**	**140**	*i* P		**Pn**	**11 32 12.6**	**+3.0**
SHO				AMB		AMB	11 32 13.0	
	460nm,0.2s							
SHO				*e*S		**Sn**	**11 32 26.6**	**+1.3**
SHO				A		A	11 32 27.8	
	2μm,0.4s							
SHO				A		A	11 32 27.8	
	3μm,0.4s							
NMR	**Nemuro--Hokkai**	**1.38**	**182**	*i* P		**Pg**	**11 32 14.1**	**+0.1**
NMR				*e*S		**Sb**	**11 32 29.9**	**-1.2**
NEM2	**Nemuro 2**	**1.38**	**182**	P		**Pg**	**11 32 14.1**	**0.0**
NEM2				S		**Sb**	**11 32 29.9**	**-1.3**
JNK	**Nakash**	**1.40**	**214**	*e*P		**Pg**	**11 32 15.0**	**+0.6**
KUR	**Kuril'sk**	**1.54**	**71**	*e*P		**Pg**	**11 32 16.4**	**-0.6**
KUR				*e*S		**Sn**	**11 32 33.4**	**-1.7**
KUR				A		A	11 32 34.0	
	60nm,0.2s							
KUR				A		A	11 32 34.0	
	50nm,0.2s							
JTKR	**Abashiri--Toko**	**1.57**	**241**	P		**Pg**	**11 32 17.9**	**+0.2**
JKHN	**Kushirohamanak**	**1.73**	**196**	P		**Pb**	**11 32 19.4**	**0.0**
AKK	**Akkeshi**	**1.87**	**202**	*e*P		**Pb**	**11 32 21.1**	**-0.6**
AKK				*e*S		**Sn**	**11 32 42.8**	**-0.4**
JAK	**Akkeshi**	**1.93**	**205**	*e*P		**Pb**	**11 32 22.2**	**-0.5**
YSS	**Yuzh-Sakhalins**	**3.07**	**317**	*e*P		**Pb**	**11 32 43.2**	**+1.0**
YSS				AMB		AMB	11 32 44.0	
	10.0nm,0.3s							
YSS				*e*S		**Sb**	**11 33 18.1**	**-1.6**
YSS				A		A	11 33 19.3	
	10.0nm,0.3s							
YSS				A		A	11 33 19.3	
	10.0nm,0.3s							

IDC ***18*** *11:32:06.5±0.9, 28°.10N×143°.11E, h0km, mb3.7/10, mbtmp3.7/12, ML3.3/2, Error ellipse: s-maj=27.0km s-min=14.8km az=99.0*
JMA ***18*** *11:32:09.4±0.2, 28°.N±1°.×14°.3E±°, h48km, MV4.0/11, NEAR CHICHIJIMA ISLAND*
ISC 18 11:32:11.8±0.9, 28°.23N±0°.07×143°.1E±0°.2, h35km, n16, σ1§50/17, mb3.6/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.41**	**217**	*e*P		**Pn**	**11 32 35.1**	**+0.1**
CBIJ				S		**Sn**	**11 32 54.2**	**+1.8**
JCJ	**Chichijima**	**1.41**	**217**	Pn		Pn	11 32 30.1	-4.9
	baz=45,slow=0.0							
JCJ				Sn		**Sn**	**11 32 48.9**	**-3.5**
	baz=45,slow=0.0							
JOD2	**Odawara 2**	**7.81**	**335**	*e*P		**Pn**	**11 34 01.6**	**-1.3**
JHO	**Hitachi**	**8.63**	**346**	*e*P		**Pn**	**11 34 11.5**	**-2.6**
MJAR	**Matsushiro Arr**	**9.27**	**335**	Pn		**Pn**	**11 34 22.1**	**-0.9**
	0.3nm,0.3s,baz=154,slow=8.8,SNR=13							
	0.9nm,0.3s							
USRK	**Ussuriysk Ar.**	**18.27**	**334**	P		**P**	**11 36 22.0**	**-0.2**
	0.1nm,0.3s,baz=148,slow=8.3,SNR=2.3							
	0.7nm,0.6s							
KLR	**Kul'dur**	**22.72**	**340**	P		**P**	**11 37 10.9**	**+0.5**
	0.6nm,0.4s,baz=153,slow=6.8,SNR=2.6							
	0.6nm,0.4s							
SONM	**Songino Array**	**34.50**	**315**	P		**P**	**11 38 57.9**	**+1.3**
	0.5nm,0.6s,baz=110,slow=8.3,SNR=1.9							
	0.5nm,0.6s							
WRA	**Warramunga Arr**	**48.64**	**191**	P		**P**	**11 40 52.2**	**-0.2**
	1.2nm,0.5s,baz=11,slow=8.2,SNR=14							
	1.2nm,0.5s							
MKAR	**Makanchi Array**	**50.41**	**309**	P		**P**	**11 41 06.7**	**+1.0**
	0.3nm,0.5s,baz=86,slow=8.3,SNR=3.0							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**52.36**	**191**	P		**P**	**11 41 19.7**	**-0.7**
	0.1nm,0.4s,baz=13,slow=9.1,SNR=6.8							
	0.1nm,0.4s							
KURBB	**Kurchatov Arra**	**52.86**	**314**	P		**P**	**11 41 24.2**	**+0.3**
	0.6nm,0.3s,baz=90,slow=8.1,SNR=5.3							
	0.6nm,0.3s							
ILAR	**Eielson Array**	**56.31**	**29**	P		**P**	**11 41 48.2**	**-0.5**
	0.4nm,0.7s,baz=262,slow=6.1,SNR=4.2							
	0.4nm,0.7s							
BVAR	**Borovoye Array**	**57.78**	**317**	P		**P**	**11 42 00.7**	**+1.4**
	0.7nm,0.5s,baz=97,slow=6.4,SNR=4.2							
	0.7nm,0.5s							
FINES	**FINESS Array B**	**77.30**	**334**	P		**P**	**11 44 02.7**	**+0.4**
	7.3nm,1.2s,baz=62,slow=7.2,SNR=3.8							
	7.3nm,1.2s							
NVAR	**Mina Array Bea**	**79.16**	**52**	P		**P**	**11 44 14.1**	**+0.7**
	0.3nm,0.6s,baz=260,slow=3.3,SNR=3.4							
	0.3nm,0.6s							

OSPL ***18*** *11:33:52.4±2.3, 19°.09N×71°.04W, h0km±16km, ML2.5*
SDD ***18*** *11:33:52.3±2.2, 19°.10N×71°.03W, h12km±52km, MD3.2, ML2.9, MW3.1*
ISC 18 11:33:50.5±1.2, 19°.09N±0°.03×71°.03W±0°.03, h13km±10km, n17, σ0§65/27, 8C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.27**	**246**	⇓*e*Pg		**Pg**	**11 33 55.9**	**-0.2**
SDDR				⇓*e*Sg		**Sb**	**11 34 01.5**	**-0.3**
SDDR				IAML			11 34 02.4	
	comp=N,748nm,0.6s							
SDDR	**Presa de Saban**	**0.27**	**246**	*i* P		**Pg**	**11 33 55.9**	**-0.2**
SDDR				IAML			11 34 03.0	
	comp=Z,708nm,0.8s							
SC01	**Santiago de lo**	**0.44**	**40**	⇑*e*Pg		**Pb**	**11 34 00.2**	**+0.1**
SC01				⇑*e*Sg		**Sb**	**11 34 06.8**	**+0.2**
SC01				IAML			11 34 15.3	
	comp=N,606nm,0.6s							
SC01	**Santiago de lo**	**0.44**	**40**	*i* P		**Pb**	**11 34 00.1**	**0.0**
SC01				*e*S		**Sb**	**11 34 06.7**	**+0.1**
SC01				IAML			11 34 13.9	
	comp=Z,426nm,0.4s							
LONE3	**El Aguacate, B**	**0.63**	**220**	*i* P		**Pb**	**11 34 03.3**	**-0.2**
LONE3				*e*S		**Sb**	**11 34 12.6**	**+0.3**
LONE3				IAML			11 34 17.9	
	comp=Z,211nm,0.4s							
NEDR	**Neiba UASD**	**0.71**	**211**	⇑*e*Pg		**Pb**	**11 34 04.8**	**+0.2**
NEDR				⇑*e*Sg		**Sn**	**11 34 16.1**	**-0.9**
NEDR				IAML			11 34 18.2	
	comp=N,180nm,0.3s							
LODU1	**El Espartillar**	**0.85**	**210**	*i* P		**Pn**	**11 34 07.9**	**-0.2**
LODU1				IAML			11 34 29.8	
	comp=Z,219nm,0.4s							
BANI	**BANI**	**0.94**	**137**	⇑*e*Pg		**Pn**	**11 34 10.2**	**+0.6**
BANI				⇓*e*Sg		**Sn**	**11 34 21.6**	**-1.4**
BANI				IAML			11 34 25.4	
	comp=N,702nm,0.4s							
PODR	**Polo**	**0.95**	**195**	*i* P		**Pg**	**11 34 09.1**	**+0.2**
PODR				*e*S		**Sn**	**11 34 24.3**	**+1.0**
PODR				IAML			11 34 26.1	
	comp=Z,112nm,0.3s							
SDD	**Santo Domingo**	**1.23**	**121**	*i* P		**Pg**	**11 34 14.5**	**+0.3**
LOVI	**El Cajuil, Ovi**	**1.33**	**194**	*i* P		**Pg**	**11 34 16.1**	**+0.1**
LOVI				IAML			11 34 37.8	
	comp=Z,66nm,0.9s							
PAPH	**Port-au-Prince**	**1.33**	**245**	*i* P		**Pg**	**11 34 15.9**	**-0.2**
PAPH				*e*S		**Sg**	**11 34 33.8**	**+0.4**
PAPH				IAML			11 34 39.6	
	comp=Z,68nm,0.3s							
LOBH	**Bahia de las A**	**1.35**	**205**	*i* P		**Pg**	**11 34 16.7**	**+0.2**
LOBH				IAML			11 34 47.3	
	comp=Z,76nm,1.3s							
HATOM	**Hato Mayor del**	**1.59**	**101**	⇑*e*Pg		**Pb**	**11 34 19.2**	**-0.5**
HATOM				⇓*e*Sg		**Sb**	**11 34 39.2**	**-0.5**
HATOM				IAML			11 34 40.2	
	comp=N,239nm,0.2s							
GRTK	**Grand Turk**	**2.41**	**358**	⇑*e*Pg		**Pb**	**11 34 34.4**	**+0.7**
GRTK				⇑*e*Sg		**Sb**	**11 35 03.8**	**+0.4**
GRTK				IAML			11 35 06.7	
	comp=N,122nm,0.3s							
GRTK	**Grand Turk**	**2.41**	**358**	*i* P		**Pb**	**11 34 31.9**	**-1.8**
GRTK				IAML			11 35 03.1	
	comp=Z,46nm,4.2s							
MASC	**Masc**	**3.21**	**290**	*i* P		**Pn**	**11 34 41.2**	**+0.7**
MASC				IAML			11 35 26.4	
	comp=Z,14nm,0.8s							

IDC ***18*** *11:34:39.0±0.6, 48°.90N×28°.26W, h0km, mb4.0/20, mbtmp4.0/22, ML3.9/2, MS4.1/23, Error ellipse: s-maj=18.9km s-min=13.4km az=3.0*
GCMT ***18*** *11:34:40.1±0.3, 48°.66N±0°.04×28°.11W±0°.03, h18km±1km, MW5.0/100, Moment Tensor Solution. s13,c15; s100,c134; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=2.84±.26; Mθθ=0.69±.16; Mφφ=3.53±.20; Mrθ=2.32±.47; Mφθ=0.28±.12; Mφr=0.99±.35; Best double couple: M=4.08300×1016 NP1:φs=147.00000°, δ=63.00000°, λ=-124.00000°. NP2:φs=22.00000°, δ=42.00000°, λ=-43.00000°. Principal axes: T 3.7840, Plg12.0000°, Azm260.0000°; N 0.5980, Plg30.0000°, Azm164.0000°; P -4.3830, Plg58.0000°, Azm9.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***18*** *11:34:41.1±1.0, 48°.9N±0°.1×28°.2W±0°.2, h10km±1km, mb4.7/96 Error ellipse: s-maj=22.9km s-min=19.3km az=190.0*
ISC 18 11:34:40.9±0.5, 48°.96N±0°.09×28°.05W±0°.06, h10km, n170, σ1§34/145, mb4.6/82, MS4.2/25, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**11.34**	**170**	Pn		**Pn**	**11 37 22.1**	**-0.7**
ESK	**Eskdalemuir**	**16.47**	**58**	P		**P**	**11 38 34.4**	**-0.1**
EKB	**Eskdalemuir**	**16.48**	**58**	P		**P**	**11 38 35.2**	**+0.5**
EKA	**Eskdalemuir Ar**	**16.50**	**58**	Pn		**P**	**11 38 34.9**	**+0.1**
	baz=256,slow=9.9							
	8.6nm,1.0s							
ESDC	**Sonseca Array**	**19.51**	**109**	P		**Pn**	**11 39 09.2**	**-0.2**
	0.1nm,0.3s,baz=305,slow=12,SNR=5.7							
ESDC				LR		LR	11 44 54.6	
	comp=Z,707nm,21.8s,baz=286,slow=31							
	2.7nm,1.0s							
CLF	**Chambon-Foret**	**20.05**	**81**	P		Pn	11 39 15.8	+0.1
CLF				IAmb		IAmb	11 39 18.2	
	comp=Z,61nm,1.4s							
UCC	**Uccle**	**20.88**	**73**	P		**P**	**11 39 23.8**	**+0.9**
SENIN	**Lac Senin/Sane**	**23.82**	**83**	P		**P**	**11 39 54.3**	**+0.2**
JMIC	**Jan Mayen**	**23.92**	**16**	LR		LR	11 47 08.5	
	comp=Z,313nm,18.7s,baz=186,slow=31							
SCHQ	**Schefferville**	**24.40**	**299**	LR		LR	11 47 54.9	
	comp=Z,301nm,18.2s,baz=81,slow=33							
NOA	**NORSAR Array B**	**25.13**	**46**	P		**P**	**11 40 06.3**	**+0.5**
	comp=Z,3.8nm,1.0s,baz=260,slow=9.9,SNR=3.9							
NOA				LR		LR	11 49 11.7	
	comp=Z,397nm,18.4s,baz=265,slow=34							
	comp=Z,3.8nm,1.0s							
DAVA	**Damuels**	**25.21**	**79**	*e*pP		pP	11 40 09.6	+0.8
	comp=Z,14nm,1.2s							
DAVOX	**Davos/Dischmat**	**25.37**	**80**	LR		LR	11 49 29.3	
	comp=Z,763nm,20.3s,baz=268,slow=35							
RETA	**Reutte**	**25.72**	**78**	*i* P		**P**	**11 40 12.9**	**+1.7**
	comp=Z,11nm,1.4s							
FETA	**Feichten**	**25.84**	**79**	*i* P		**P**	**11 40 14.0**	**+1.6**
	comp=Z,7.7nm,1.2s							
MOTA	**Moosalm**	**25.98**	**79**	*i* P		**P**	**11 40 15.8**	**+2.2**
	comp=Z,8.3nm,1.5s							
SQTA	**Sankt Quirin**	**26.09**	**79**	*i* P		**P**	**11 40 16.3**	**+1.7**
	comp=Z,11nm,1.4s							
CLL	**Collm**	**26.18**	**69**	*e*P		**P**	**11 40 16.0**	**+0.8**
CLL				AMS		AMS	11 49 00.0	
	comp=Z,700nm,20.9s							
HFS	**Hagfors**	**26.21**	**49**	LR		LR	11 50 12.1	
	comp=Z,397nm,18.4s,baz=264,slow=35							
WATA	**Walderalm**	**26.29**	**78**	*e*P		**P**	**11 40 17.7**	**+1.2**
	comp=Z,15nm,1.6s							
WTTA	**Wattenberg**	**26.35**	**79**	*i* pP		pP	11 40 20.0	+0.8
	comp=Z,8.6nm,1.2s							
BRG	**Berggiesshubel**	**26.85**	**70**	*e*P		**P**	**11 40 22.4**	**+1.1**
BRG				Amp			11 40 24.6	
	comp=Z,5.0nm,1.1s							
LESA	**Schwarzleotal**	**26.97**	**78**	*i* P		**P**	**11 40 24.0**	**+1.5**
	comp=Z,7.0nm,1.2s							
ABTA	**Abfaltersbach**	**27.09**	**79**	*e*pP		pP	11 40 26.3	+0.6
	comp=Z,6.8nm,1.2s							
GERES	**GERESS Array B**	**27.20**	**74**	P		**P**	**11 40 25.6**	**+1.0**
	comp=Z,1.1nm,0.8s,baz=269,slow=8.8,SNR=6.0							
GERES				LR		LR	11 50 50.2	
	comp=Z,603nm,19.1s,baz=278,slow=36							
	comp=Z,1.1nm,0.8s							
BIOA	**Bad Ischl, Aus**	**27.50**	**77**	*e*P		**P**	**11 40 28.0**	**+0.8**
	comp=Z,9.3nm,1.3s							
MOA	**Molln**	**27.86**	**76**	*i* P		**P**	**11 40 31.6**	**+1.2**
	comp=Z,7.8nm,1.5s							
MYKA	**Terra Mystica**	**27.86**	**79**	*i* pP		pP	11 40 33.0	+0.3
	comp=Z,8.2nm,1.1s							
CONA	**Conrad Observa**	**28.85**	**75**	*i* P		**P**	**11 40 40.2**	**+0.9**
	comp=Z,6.2nm,1.7s							
ARSA	**Arzberg**	**28.86**	**77**	*e*P		**P**	**11 40 40.2**	**+0.9**
	comp=Z,5.9nm,1.5s							
VRAC	**Vranov**	**28.89**	**72**	LR		LR	11 51 21.7	
	comp=Z,600nm,21.8s,baz=287,slow=34							
KEST	**Kesra**	**30.32**	**102**	LR		LR	11 50 52.5	
	comp=Z,394nm,21.1s,baz=59,slow=32							
VYHS	**Vyhne**	**30.55**	**73**	*e*P		**P**	**11 40 57.8**	**+3.5**
PSZ	**Piszkesteto**	**31.41**	**73**	P		**P**	**11 41 02.5**	**+0.5**
PSZ				IAmb		IAmb	11 41 06.6	
	comp=Z,12nm,1.1s							
FINES	**FINESS Array B**	**32.31**	**47**	P		**P**	**11 41 09.0**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=258,slow=7.0,SNR=3.6							
FINES				LR		LR	11 53 49.8	
	comp=Z,574nm,18.1s,baz=259,slow=36							
	comp=Z,3.3nm,0.8s							
VAE	**Valguarnera**	**32.60**	**94**	LR		LR	11 52 04.1	
	comp=Z,446nm,20.6s,baz=36,slow=32							
ARCES	**ARCESS Array B**	**32.68**	**32**	LR		LR	11 53 14.7	
	comp=Z,263nm,19.1s,baz=252,slow=34							
NACGM	**Naroch**	**33.57**	**59**	*e*P		P	11 41 11.1	-10
	comp=N,1μm,1.2s							
RNPP9	**Sopachiv**	**33.98**	**65**	P		**P**	**11 41 24.6**	**+0.4**
RNPP8	**Varash**	**33.98**	**65**	P		**P**	**11 41 24.3**	**0.0**
RNPP5	**Staryi Chortor**	**34.03**	**65**	P		**P**	**11 41 25.1**	**+0.4**
RAKU	**Rahkiv**	**34.06**	**71**	P		**P**	**11 41 23.3**	**-1.7**
MNK	**Minsk**	**34.29**	**59**	*i* P		P	11 41 22.6	-4.3
	comp=E,20nm,0.8s							
MNK				*i* P		P	11 41 22.6	-4.3
	comp=N,16nm,1.3s							
MNK				*i* P		P	11 41 22.6	-4.3
	comp=Z,19nm,1.0s,baz=284							
MNK				*i* PP		**PnPn**	**11 42 37.0**	**-4.0**
MNK				*i* S		S	11 46 45.6	-8.1
MNK				*i* SS		**SnSn**	**11 48 51.7**	**-11**
MNK				*i* LQ		LQ	11 52 46.2	
MNK				*i* LR		LR	11 54 53.1	
MNK				*i* LRM		MLR	11 57 10.9	
	comp=E,123nm,13.8s							
MNK				*i* LRM		MLR	11 57 28.5	
	comp=Z,273nm,15.0s							
MNK				*i* LRM		MLR	11 57 37.3	
	comp=N,167nm,14.3s							
SADO	**Sadowa**	**34.64**	**283**	LR		LR	11 54 19.1	
	comp=N,585nm,21.0s,baz=67,slow=34							
BUR08	**Bucovina Ar. S**	**34.84**	**72**	P		**P**	**11 41 33.9**	**+1.9**
BUR08				IAmb		IAmb	11 41 41.4	
	comp=Z,25nm,1.4s							
AK20	**Malin Array Si**	**36.06**	**65**	P		**P**	**11 41 41.7**	**-0.5**
KIEV	**Kiev**	**36.19**	**65**	P		**P**	**11 41 43.8**	**+0.5**
KIEV				IAmb		IAmb	11 41 51.1	
	comp=Z,12nm,1.2s							
KIEV	**Kiev**	**36.19**	**65**	P		**P**	**11 41 42.3**	**-1.0**
AK01	**Malin Array Si**	**36.20**	**65**	P		**P**	**11 41 43.1**	**-0.3**
AKASG	**Malin Array Be**	**36.20**	**65**	P		**P**	**11 41 43.7**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=288,slow=8.4,SNR=11							
AKASG				LR		LR	11 56 26.3	
	comp=Z,608nm,22.0s,baz=298,slow=36							
	comp=Z,1.1nm,0.6s							
AKBB	**Malin Array Si**	**36.20**	**65**	P		**P**	**11 41 43.3**	**-0.1**
AKBB				IAmb		IAmb	11 41 51.1	
	comp=Z,13nm,1.2s							
AKBB	**Malin Array Si**	**36.20**	**65**	P		**P**	**11 41 42.4**	**-1.0**
**SORM

N23A	Red Feather La	53.47	293	P	P	11 44 01.1	-0.3
SDV	Santo Domingo	53.49	236	LR	LR	12 02 53.6	
	comp=Z,36nm,20.8s,baz=73,slow=32						
HKT	Hockley	53.85	276	P	P	11 44 02.3	-1.5
HKT				IAmb	IAmb	11 44 04.8	
	comp=Z,18nm,1.4s						
OVMT	Ovando	53.94	303	P	P	11 44 04.4	-0.2
C24K	Franklin Bluff	54.00	338	P	P	11 44 04.9	+0.4
BOZ	Bozeman (W)	54.03	300	P	P	11 44 04.8	-0.5
BOZ				IAmb	IAmb	11 44 05.9	
	comp=Z,5.1nm,0.8s						
I29M	Ogilvie Camp,	54.05	331	P	P	11 44 05.2	+0.2
I29M				IAmb	IAmb	11 44 06.9	
	comp=Z,17nm,1.5s						
APMT	Aspermont	54.47	282	P	P	11 44 07.4	-1.1
APMT				IAmb	IAmb	11 44 10.3	
	comp=Z,12nm,1.1s						
AMTX	Amarillo	54.48	284		P	11 44 08.4	-0.2
AMTX				IAmb	IAmb	11 44 09.8	
	comp=Z,10.0nm,0.9s						
I28M	Miner Creek	54.50	332	P	P	11 44 08.1	-0.3
I28M				IAmb	IAmb	11 44 09.4	
	comp=Z,13nm,1.2s						
PD31	Pinedale Array	54.51	297	P	P	11 44 07.8	-1.1
PDAR	Pinedale Array	54.51	297	P	P	11 44 07.8	-1.1
PDAR	Pinedale Array	54.51	297	P	P	11 44 07.2	-1.7
	comp=Z,1.3nm,0.7s,baz=62,slow=7.6,SNR=12						
	comp=Z,1.3nm,0.7s						
DLMT	Dillon	54.72	301	P	P	11 44 09.8	-0.5
DLMT				IAmb	IAmb	11 44 11.5	
	comp=Z,11nm,1.4s						
FXWY	Fox Creek	54.85	298	P	P	11 44 10.1	-1.3
TPAW	Teton Pass	54.90	298	P	P	11 44 11.5	-0.2
D23K	Nanushuk River	55.04	338		P	11 44 12.6	+0.6
D23K				IAmb	IAmb	11 44 20.3	
	comp=Z,12nm,1.4s						
DAWY	Dawson	55.25	330	P	P	11 44 14.3	+0.6
FYU	Fort Yukon	55.33	334	P	P	11 44 14.9	+0.8
FYU				IAmb	IAmb	11 44 41.6	
	comp=Z,13nm,1.4s						
DLBC	Dease Lake	55.41	321	P	P	11 44 15.0	0.0
L29M	L29M	55.46	329	P	P	11 44 15.6	+0.4
L29M				IAmb	IAmb	11 44 17.9	
	comp=Z,17nm,1.4s						
JCT	Junction City	56.10	279	P	P	11 44 19.4	-0.9
JCT				IAmb	IAmb	11 44 20.3	
	comp=Z,9.9nm,1.1s						
HNDO	Hondo	56.38	278	P	P	11 44 21.6	-0.7
HWUT	Hardware Ranch	56.40	297	P	P	11 44 21.9	-0.6
HWUT				IAmb	IAmb	11 44 22.9	
	comp=Z,5.8nm,0.9s						
ILAR	Eielson Array	57.09	333	P	P	11 44 27.4	+0.6
ILAR	Eielson Array	57.09	333	P	P	11 44 26.9	+0.1
	comp=Z,1.3nm,1.0s,baz=46,slow=5.0,SNR=7.6						
	comp=Z,1.3nm,1.0s						
BVAR	Borovoye Array	57.25	45	P	P	11 44 29.0	+0.9
	comp=Z,2.4nm,0.6s,baz=311,slow=6.5,SNR=7.0						
	comp=Z,2.4nm,0.6s						
833A	Chaparral WMA,	57.26	277		P	11 44 28.2	-0.3
H10N2	ASCENSION HYDR	57.79	164	T	T	12 46 54.8	
	baz=349,slow=74						
H10N3	ASCENSION HYDR	57.80	164	T	T	12 46 50.9	
	baz=349						
H10N1	ASCENSION HYDR	57.81	164	T	T	12 46 49.2	
	baz=349,slow=74						
LTY	Liberty	57.99	307	P	P	11 44 32.3	-1.2
DUG	Dugway, Tooele	58.02	296	P	P	11 44 33.1	-0.8
DUG				IAmb	IAmb	11 44 35.6	
	comp=Z,12nm,1.3s						
IMAR	Indian Mountai	58.08	337	P	P	11 44 34.2	+0.5
HMU	Henry Mountain	58.21	293	P	P	11 44 34.9	-0.5
HMU				IAmb	IAmb	11 44 36.3	
	comp=Z,6.1nm,1.2s						
H10S3	ASCENSION HYDR	58.86	164	T	T	12 48 04.4	
	baz=349,slow=74,SNR=6.3						
H10S2	ASCENSION HYDR	58.87	164	T	T	12 48 06.8	
	baz=231,slow=74,SNR=7.2						
MTPU	Mount Pierson	59.02	294	P	P	11 44 41.1	0.0
MTPU				IAmb	IAmb	11 44 43.6	
	comp=Z,14nm,1.4s						
ELK	Elko	59.10	298		P	11 44 41.0	-0.5
ELK				IAmb	IAmb	11 44 43.0	
	comp=Z,6.5nm,1.3s						
J08A	Circle Bar Ran	59.27	302	P	P	11 44 41.9	-0.6
J08A				IAmb	IAmb	11 44 44.0	
	comp=Z,4.9nm,0.9s						
TXAR	Lajitas Array	59.37	281	P	P	11 44 42.5	-0.8
	comp=Z,1.9nm,0.8s,baz=61,slow=7.3,SNR=12						
	comp=Z,1.9nm,0.8s						
WUAZ	Wupatki	60.16	291		P	11 44 48.3	-0.5
WUAZ				IAmb	IAmb	11 44 50.5	
	comp=Z,9.2nm,1.3s						
J05D	Fort Rock, OR	60.85	303		P	11 44 52.9	-0.5
J05D				IAmb	IAmb	11 44 55.1	
	comp=Z,8.8nm,1.2s						
R11B	Troy Canyon, C	60.86	296	P	P	11 44 52.8	-0.7
X16A	Lo Mia Camp, P	60.93	290		P	11 44 53.5	-0.6
PRN	Pahroc Range	61.16	295	P	P	11 44 55.1	-0.4
PRN				IAmb	IAmb	11 44 57.3	
	comp=Z,8.4nm,1.3s						
TPH	Tonopah	62.00	297	P	P	11 45 00.4	-0.9
PAHR	Pah Rah Range	62.18	299	P	P	11 45 02.3	-0.1
PAHR				IAmb	IAmb	11 45 10.0	
	comp=Z,4.5nm,1.1s						
NVAR	Mina Array Bea	62.40	298	P	P	11 45 01.7	-2.3
	comp=Z,0.3nm,0.6s,baz=41,slow=8.4,SNR=3.2						
	comp=Z,0.3nm,0.6s						
WCT	Wildcat Mounta	62.50	295	P	P	11 45 03.8	-0.7
GMN	Gold Mountain	62.54	296	P	P	11 45 05.1	+0.2
GMN				IAmb	IAmb	11 45 05.9	
	comp=Z,5.3nm,1.3s						
KURBB	Kurchatov Arra	62.62	43	P	P	11 45 05.2	+0.2
	comp=Z,1.1nm,0.8s,baz=320,slow=6.9,SNR=5.0						
	comp=Z,1.1nm,0.8s						
PNTR	Pine Nut	62.71	299	P	P	11 45 06.1	0.0
PNTR				IAmb	IAmb	11 45 14.2	
	comp=Z,4.7nm,0.9s						
DSP	Deep Springs	62.91	297	P	P	11 45 07.9	+0.8
ZALV	Zalesovo Beam	62.92	38	P	P	11 45 07.3	+0.4
	comp=Z,0.3nm,0.3s,baz=322,slow=6.6,SNR=1.8						
	comp=Z,0.3nm,0.3s						
GWY	Greenwater Val	62.94	295		P	11 45 07.8	+0.2
GWY				IAmb	IAmb	11 45 13.5	
	comp=Z,7.8nm,1.3s						
OMMB	Old Mammoth Mi	63.36	297		P	11 45 10.3	-0.2
GSC	Goldstone, Bar	63.61	294		P	11 45 12.4	+0.4
HSIG		64.25	285	P	P	11 45 15.6	-0.5
HSIG				IAmb	IAmb	11 45 17.4	
	comp=Z,8.2nm,1.2s						
ISA	Isabella, Lake	64.37	295		P	11 45 16.3	-0.6
ISA				IAmb	IAmb	11 45 19.5	
	comp=Z,8.0nm,1.1s						
CCAC	Calif City Air	64.44	295	P	P	11 45 17.8	+0.4
PFO	Pinyon Flats O	64.55	293	P	P	11 45 18.8	+0.6
PFO				IAmb	IAmb	11 45 19.9	
	comp=Z,4.5nm,1.2s						
ELS	Elsinore Mount	65.12	293	P	P	11 45 20.8	-1.0
VTX	Valle De La Tr	65.66	290	P	P	11 45 25.5	+0.1
MK31	Makanchi Array	67.11	44	P	P	11 45 34.9	+0.6
MK31				IAmb	IAmb	11 45 41.9	
	comp=Z,3.7nm,1.0s						
MKAR	Makanchi Array	67.11	44	P	P	11 45 35.1	+0.8
MKAR	Makanchi Array	67.11	44	P	P	11 45 34.8	+0.5
	comp=Z,1.2nm,0.7s,baz=320,slow=6.0,SNR=6.9						
	comp=Z,1.2nm,0.7s						
KSH	Kashi	69.33	53	P	P	11 45 50.5	+2.0
KSH				pmax	pmax		
	comp=Z,8.0nm,1.6s						
WMQ	Urumqi	71.84	43	*e*P	P	11 46 06.3	+2.6
WMQ				LR	LR		
	comp=Z,220nm,17.1s						
LPAZ	La Paz	74.06	220	P	P	11 46 16.4	-1.2
	comp=Z,0.6nm,0.5s,baz=53,slow=5.1,SNR=3.8						
	comp=Z,0.6nm,0.5s						
SONM	Songino Array	75.83	30	P	P	11 46 29.0	+2.0
	comp=Z,0.9nm,0.9s,baz=335,slow=6.4,SNR=6.6						
	comp=Z,0.9nm,0.9s						
HHC	Hu-ho-hao-te	83.73	30	*e*P	P	11 47 08.5	-1.5
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,5.7s						
LZH	Lanzhou	85.15	37	*e*P	P	11 47 18.6	+1.3
LZH				sP	pwP	11 47 24.3	+0.5
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
PZH	PanZhiHua	92.53	44	P	P	11 47 53.0	+0.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
NJ2	Nanjing	94.11	28	*e*P	P	11 47 59.0	-0.5
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WRA	Warramunga Arr	147.78	32	PKPbc	PKPbc	11 54 25.6	-0.3
	comp=Z,1.0nm,0.7s,baz=337,slow=3.1,SNR=8.0						
ASAR	Alice Springs	151.02	36	PKPbc	PKPbc	11 54 33.6	-0.3
	comp=Z,1.9nm,0.6s,baz=349,slow=2.1,SNR=37						
ASAR				PKPab	PKPab	11 54 40.1	-1.3
	comp=Z,1.5nm,0.7s,baz=344,slow=1.3,SNR=7.9						

NAO ***18*** *11:36:05.2±1.5, 76°.43N×7°.10E, ML3.8*
NEIC ***18*** *11:36:07.9±2.6, 76°.33N±0°.08×7°.2E±0°.1, h10km±1km, mb4.5/16, Error ellipse: s-maj=13.2km s-min=3.9km az=173.0*
BER ***18*** *11:36:08.9±4.5, 76°.47N×7°.20E, h10km, mb(Pn)4.2, ML3.8(NAO), Confirmed Earthquake*
IDC ***18*** *11:36:09.2±0.6, 76°.32N×8°.06E, h0km, mb3.7/18, mbtmp3.8/23, ML3.1/5, MS3.8/4, Error ellipse: s-maj=11.9km s-min=9.8km az=77.0*
KOLA ***18*** *11:36:09.7, 76°.58N×8°.79E, h0km, ML2.5, Error ellipse: s-maj=21.4km s-min=18.6km az=10.0, Greenland sea, Knipovich ridge, middle*
DNK ***18*** *11:36:10.8±6.2, 76°.48N×7°.47E, h34km±56km, ML2.0*
FCIAR ***18*** *11:36:11.0, 76°.32N×8°.74E, h10km, station OMEGA has station magnitude of 4.00*

ISC 18 11:36:07.8±2.0, 76°.46N±0°.03×7°.90E±0°.04, h9km±13km, n119, σ2°60/135, mb4.2/29, MS3.9/3, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	Hornsund (broa	1.84	69	Pn	Pb	11 36 40.7	-1.0
HSPB				Sn	Sb	11 37 02.3	-2.5
HSPB	Hornsund (broa	1.84	69	P	Pb	11 36 40.4	-1.3
HSPB				S	Sn	11 36 59.1	-3.9
HSPB	Hornsund (broa	1.84	69	*e*P	Pb	11 36 40.5	-1.1
HSPB				*e*S	Sn	11 37 01.5	-1.5
HSPB				IAML		11 37 04.7	
	comp=Z,44nm,0.4s						
BRBA	Barentsburg A	2.13	38	Pn	Pn	11 36 44.4	+0.8
BRBA				Pg	Pb	11 36 46.2	-0.4
BRBA				Sn	Sn	11 37 09.9	-0.2
BRBA	Barentsburg A	2.13	38	*e*P	Pn	11 36 44.5	+1.0
BRBB	Barentsburg B	2.16	37	Pn	Pn	11 36 44.2	+0.3
BRBB				Pg	Pb	11 36 46.3	-0.6
BRBB				Sn	Sn	11 37 10.4	-0.3
BRBB	Barentsburg B	2.16	37	P	Pn	11 36 44.0	+0.1
BRBB				S	Sn	11 37 10.7	0.0
BRBB	Barentsburg B	2.16	37	*e*P	Pn	11 36 44.1	+0.3
BRBB				*i*		11 36 46.4	
SPA0	Spitsbergen Ar	2.54	43	Pn	Pn	11 36 50.8	+1.5
	baz=223,slow=14						
SPA0				Sn	Sn	11 37 21.2	+0.9
	baz=210,slow=28						
SPA0	Spitsbergen Ar	2.54	43	Pn	Pn	11 36 50.8	+1.5
	baz=223,slow=14						
SPA0				Sn	Sn	11 37 21.2	+0.9
	baz=210,slow=28						
SPA0	Spitsbergen Ar	2.54	43	↑*i*P	Pn	11 36 50.7	+1.5
SPA0				*i*S	Sn	11 37 20.3	0.0
SPB2	Spitsbergen Ar	2.54	43	Pn	Pn	11 36 50.8	+1.6
SPITS	Spitsbergen Ar	2.54	43	P	Pn	11 36 50.5	+1.3
SPITS				S	Sn	11 37 18.8	-1.5
SPITS	Spitsbergen Ar	2.54	43	Pn	Pn	11 36 50.6	+1.3
	baz=221,slow=13						
SPITS				Sn	Sn	11 37 21.6	+1.3
	baz=236,slow=24						
	comp=Z,27nm,0.4s						
KBS	Kingsbay	2.63	17	Pn	Pn	11 36 50.3	-0.1
KBS				Sn	Sn	11 37 19.2	-3.1
KBS	Kingsbay	2.63	17	Pn	Pn	11 36 51.5	+1.1
KBS	Kingsbay	2.63	17	P	Pn	11 36 50.4	0.0
KBS				S	Sn	11 37 20.6	-1.8
KBS	Kingsbay	2.63	17	*e*P	Pn	11 36 50.6	+0.2
KBS	Kingsbay	2.63	17	*e*P	Pn	11 36 50.4	0.0
KBS				*e*S	Sn	11 37 18.9	-3.4
KBS	Kingsbay	2.63	17	*i*P	Pn	11 36 49.8	-0.6
KBS				*e*S	Sn	11 37 19.4	-2.9
BJO1	Bjornoya	3.42	120	Pn	Pn	11 37 01.9	+0.8
BJO1				Sn	Sn	11 37 37.7	-4.0
BJO1	Bjornoya	3.42	120	*e*P	Pn	11 37 00.9	-0.3
BJO1				*i*S	Sn	11 37 37.6	-4.0
HOPEN	Hopen	4.01	81	Pn	Pn	11 37 10.9	+1.6
HOPEN				Sn	Sn	11 37 55.7	-0.8
HOPEN	Hopen	4.01	81	*e*P	Pn	11 37 10.9	+1.6
HOPEN				*e*S	Sn	11 37 55.6	-0.8
HOPEN				IAML		11 37 58.8	
	comp=Z,41nm,0.6s						
HOPEN	Hopen	4.01	81	*e*P	Pn	11 37 10.4	+1.0
HOPEN				*e*S	Sn	11 37 54.2	-2.1
DAG	Danmarks Havn	6.14	286	*e*	Pn	11 37 32.4	-6.2
	baz=88,slow=16						
DAG				*i*P	Pn	11 37 34.4	-4.2
DAG				*i*S	Sn	11 38 37.2	-12
DAG				IAML		11 38 39.4	
	comp=Z,9.2nm,0.4s						
DAG	Danmarks Havn	6.14	286	*e*	Pn	11 37 32.4	-6.2
	baz=88,slow=16						
DAG				*i*P	Pn	11 37 34.4	-4.2
DAG				*i*S	Sn	11 38 37.2	-12
DAG				IAML		11 38 39.4	
	comp=Z,9.2nm,0.4s						
NOR	Nord	6.89	329	Pn	Pn	11 37 45.8	-3.0
NOR	Nord	6.89	329	*i*P	Pn	11 37 45.8	-3.0
NOR				IAML		11 39 04.9	
	comp=Z,2.3nm,0.4s						
NOR	Nord	6.89	329	*i*P	Pn	11 37 45.8	-3.0
NOR				IAML		11 39 04.9	
	comp=Z,2.3nm,0.4s						
HAMF	Hammerfest	7.33	135	Pn	Pn	11 37 53.8	-1.0
HAMF				Sn	Sn	11 39 10.4	-7.6
HAMF	Hammerfest	7.33	135	*e*P	Pn	11 37 53.9	-0.9
DBG	Daneborg	7.38	267	Pn	Pn	11 37 51.1	-4.5
DBG				Sn	Sn	11 39 05.1	-14
DBG	Daneborg	7.38	267	*i*P	Pn	11 37 50.9	-4.6
DBG				*i*S	Sn	11 39 04.8	-14
DBG	Daneborg	7.38	267	*i*P	Pn	11 37 50.9	-4.6
DBG				*i*S	Sn	11 39 04.8	-14
TRO	Tromso	7.56	149	Pn	Pn	11 37 57.8	-0.3
TRO	Tromso	7.56	149	*e*P	Pn	11 38 00.3	+2.2
JETT	Jettan, Norway	7.82	146	Pn	Pn	11 38 01.0	-0.7
JETT	Jettan, Norway	7.82	146	Pn	Pn	11 38 01.0	-0.7
KIF	Kilpisjarvi	8.39	147	Pn	Pn	11 38 09.2	-0.2
KIF				Sn	Sn	11 39 37.8	-6.1
KIF	Kilpisjarvi	8.39	147	*e*P	Pn	11 38 09.1	-0.2
LOF	Lofoten	8.54	166	Pn	Pn	11 38 11.9	+0.5
LOF	Lofoten	8.54	166	*e*P	Pn	11 38 11.8	+0.3
ARA0	ARCESS Array S	8.61	135	Pn	Pn	11 38 11.6	-0.8
	baz=329,slow=12						
ARA0				Sn	Sn	11 39 41.5	-8.0
	baz=333,slow=18						
ARA0	ARCESS Array S	8.61	135	Pn	Pn	11 38 11.6	-0.8
	baz=329,slow=12						
ARA0				Sn	Sn	11 39 41.5	-8.0
	baz=333,slow=18						
ARA0				IAML		11 39 48.5	
	comp=Z,4.9nm,0.7s						
ARCES	ARCESS Array B	8.61	135	Pn	Pn	11 38 12.0	-0.4
ARCES	ARCESS Array B	8.61	135	Pn	Pn	11 38 11.2	-1.2
	comp=Z,0.6nm,0.3s,baz=330,slow=12,SNR=65						
ARCES				Sn	Sn	11 39 42.2	-7.2
	comp=Z,0.8nm,0.3s,baz=330,slow=18,SNR=6.7						
ARCES				LR	LR	11 41 47.4	
	comp=Z,265nm,18.8s,baz=299,slow=40						
	comp=Z,5.3nm,0.5s						
KEV	Kevo	8.67	131	Pn	Pn	11 38 13.1	-0.2
KEV				Sn	Sn	11 39 42.2	-8.8
KEV	Kevo	8.67	131	Pn	Pn	11 38 13.5	+0.3
KEV	Kevo	8.67	131	*e*P	Pn	11 38 12.9	-0.4
KTK1	Kautokeino	8.72	141	*e*P	Pn	11 38 14.4	+0.5
ZFI2	Zemlya Franca-	8.76	42	*e*P	Pn	11 38 15.3	+0.8
ZFI2				*e*S	Sn	11 39 48.9	-4.3
OMEGA	Omega	8.77	43	*e*P	Pn	11 38 15.3	+0.7
OMEGA				S	Sn	11 39 48.2	-5.2
	comp=Z,43nm,1.1s						
VADS	Vadso	8.80	125	*e*P	Pn	11 38 15.9	+0.9
HEF	Hetta	9.34	142	Pn	Pn	11 38 22.3	-0.1
HEF				Sn	Sn	11 40 00.4	-7.0
HEF	Hetta	9.34	142	*e*P	Pn	11 38 22.5	+0.1
SCO	Scoresbysund	10.26	250	Pn	Pn	11 38 30.7	-4.4
SCO	Scoresbysund	10.26	250	*e*P	Pn	11 38 31.4	-3.6
SCO				*e*S	Sn	11 40 16.4	-14
STOK	Stokkvaagen	10.30	168	*e*P	Pn	11 38 37.2	+1.6
APA0	Apatity Array	11.64	126	Pn	Pn	11 38 52.4	-1.5
	baz=332,slow=12						
APA0				Sn	Sn	11 40 53.1	-11
	baz=326,slow=28						
APA0	Apatity Array	11.64	126	Pn	Pn	11 38 52.4	-1.5
	baz=332,slow=12						
APA0				Sn	Sn	11 40 53.1	-11
	baz=326,slow=28						
SUMG	Summit	12.66	276	Pn	Pn	11 39 05.1	-3.0
SUMG	Summit	12.66	276	*e*P	Pn	11 39 06.0	-2.2
NEEM	North Greenlan	12.87	303	*e*P	Pn	11 39 06.6	-4.3
NEEM				*e*S	Sn	11 41 17.5	-17
NOA	NORSAR Array B	15.54	174	Pn	P	11 39 48.2	-3.1
	baz=359,slow=13,SNR=4.0						
	comp=Z,1.6nm,0.8s						
FIA0	FINESS Array S	16.29	148	P	Pn	11 39 55.6	-0.8
	baz=348,slow=16						
FIA0	FINESS Array S	16.29	148	P	Pn	11 39 55.6	-0.8
	baz=348,slow=16						
FINES	FINESS Array B	16.29	148	Pn	Pn	11 39 54.7	-1.7
	comp=Z,0.4nm,0.3s,baz=356,slow=12,SNR=14						
	comp=Z,6.3nm,0.8s						
HFS	Hagfors	16.53	170	P	Pn	11 39 57.4	-2.1
HFS	Hagfors	16.53	170	P	Pn	11 39 57.4	-2.1
HFS	Hagfors	16.53	170	Pn	Pn	11 39 58.2	-1.3
	comp=Z,0.1nm,0.3s,baz=0.0,slow=12,SNR=2.4						
	comp=Z,2.2nm,0.8s						
EUNU	Eureka	17.45	325		Pn	11 40 08.3	-2.8
EKA	Eskdalemuir Ar	21.61	197	P	P	11 40 59.8	+2.1
	comp=Z,1.3nm,1.0s,baz=13,slow=11,SNR=1.3						
	comp=Z,1.3nm,1.0s						
NRIK	Noril'sk	22.54	66	P	P	11 41 10.6	+3.0
NRIK				IAmb	IAmb	11 41 20.3	
	comp=Z,14nm,1.3s						
NRIK	Noril'sk	22.54	66	P	P	11 41 10.5	+3.0
	comp=Z,4.6nm,0.8s,baz=345,slow=6.5,SNR=5.3						
NRIK				LR	LR	11 53 10.5	
	comp=Z,224nm,18.0s,baz=318,slow=45						
	comp=Z,4.6nm,0.8s						
RES	Resolute Bay	22.63	318	P	P	11 41 09.1	+0.6
CLL	Collm	25.33	173	*i*P	P	11 41 31.8	-2.7
	comp=Z,16nm,1.8s						
CLL				*ex*	x	11 42 02.0	
FRB	Frobisher Bay	26.49	284	LR	LR	11 51 47.0	
	comp=Z,333nm,19.6s,baz=70,slow=35						
GERES	GERESS Array B	27.82	172	P	P	11 41 59.7	+2.7
	comp=Z,0.4nm,0.6s,baz=356,slow=11,SNR=1.6						
	comp=Z,0.4nm,0.6s						
MODS	Modra-Piesok	28.44	167	*e*P	P	11 42 03.6	+1.0
BVAR	Borovoye Array	32.83	99	P	P	11 42 44.6	+3.4
	comp=Z,1.8nm,0.7s,baz=350,slow=7.3,SNR=7.6						
	comp=Z,1.8nm,0.7s						
INK	Inuvik	33.52	335	P	P	11 42 47.8	+0.8
INK				IAmb	IAmb	11 42 56.4	
	comp=Z,8.1nm,1.1s						
E28M	Babbage River	33.78	339	P	P	11 42 50.5	+1.1
E28M				IAmb	IAmb	11 43 00.0	
	comp=Z,6.5nm,1.1s						
E29M	Blow River	33.85	338	P	P	11 42 58.0	+8.0
ABKAR	Akbulak array	33.99	112	P	P	11 42 51.2	-0.1
ABKAR				IAmb	IAmb	11 43 05.6	
	comp=Z,4.1nm,1.3s						
ABKAR	Akbulak array	33.99	112	P	P	11 42 51.5	+0.1
F28M	Old Crow	34.78	339	P	P	11 42 59.7	+1.7
F28M				IAmb	IAmb	11 43 08.2	
	comp=Z,5.7nm,0.9s						
G29M	Pine Creek	35.30	338	P	P	11 43 04.9	+2.4
ZALV	Zalesovo Beam	35.37	84	P	P	11 43 06.5	+3.3
	comp=Z,0.6nm,0.6s,baz=331,slow=12,SNR=4.5						
	comp=Z,0.6nm,0.6s						
KBZ	Khabaz	35.97	135	P	P	11 43 11.5	+3.1
	comp=Z,1.2nm,0.8s,baz=360,slow=7.7,SNR=2.7						
	comp=Z,1.2nm,0.8s						
H29M	Whitestone	36.01	337	P	P	11 43 07.0	-1.6
H29M				IAmb	IAmb	11 43 18.6	
	comp=Z,9.3nm,1.0s						
I30M	Mount Dempster	36.80	336	P	P	11 43 15.8	+0.3
I30M				IAmb	IAmb	11 43 25.0	
	comp=Z,8.0nm,0.9s						
I28M	Miner Creek	36.91	338	P	P	11 43 17.4	+1.1
KURBB	Kurchatov Arra	36.97	92	P	P	11 43 20.2	+3.3
	comp=Z,1.5nm,0.8s,baz=339,slow=7.8,SNR=8.0						
	comp=Z,1.5nm,0.8s						
ESDC	Sonseca Array	37.26	195	P	P	11 43 21.4	+1.9
	comp=Z,1.5nm,1.1s,baz=20,slow=4.1,SNR=2.8						
	comp=Z,1.5nm,1.1s						
ILAR	Eielson Array	38.12	343	P	P	11 43 30.3	+3.8
	comp=Z,0.4nm,0.9s,baz=359,slow=7.8,SNR=5.1						
	comp=Z,0.4nm,0.9s						
DAWY	Dawson	38.22	337	P	P	11 43 27.8	+0.4
K29M	Barlow Dome	38.26	336	P	P	11 43 29.1	+1.2
K29M				IAmb	IAmb	11 43 38.5	
	comp=Z,12nm,1.1s						
BRTR	Keskin Array B	38.53	147	P	P	11 43 31.9	+1.5
	comp=Z,0.9nm,0.8s,baz=353,slow=6.0,SNR=1.5						
	comp=Z,0.9nm,0.8s						
BCAR	Beaver Creek A	39.41	339	P	P	11 43 39.2	+1.8
MKAR	Makanchi Array	41.44	91	P	P	11 43 55.5	+1.3
MKAR	Makanchi Array	41.44	91	P	P	11 43 57.0	+2.7
	comp=Z,1.0nm,0.9s,baz=354,slow=5.8,SNR=4.6						
	comp=Z,1.0nm,0.9s						
M16K	Timber Creek	42.52	351	P	P	11 44 04.6	+1.7
DLBC	Dease Lake	42.73	329	LR	LR	12 02 50.1	
	comp=Z,139n

EKA Eskdalemuir Ar 16.74 58 Pn **Pn 11 40 15.4 0.0**
baz=253,slow=9.6
1.0nm,0.6s
ESDC Sonseca Array 19.64 109 P **Pn 11 40 50.6 -0.5**
0.1nm,0.3s,baz=284,slow=10,SNR=2.2
1.2nm,1.0s
TORD Torodi Ar. Bea 43.36 135 P **P 11 44 22.8 -0.6**
0.8nm,0.9s,baz=331,slow=6.6,SNR=2.5
0.8nm,0.9s
BRTR Keskin Array B 44.18 78 P **P 11 44 30.8 +0.8**
0.4nm,0.6s,baz=319,slow=6.3,SNR=1.9
0.4nm,0.6s
DBIC Dimbokro 46.47 147 P **P 11 44 48.7 +0.7**
2.8nm,0.9s,baz=313,slow=10,SNR=2.7
2.8nm,0.9s
BVAR Borovoye Array 57.49 45 P **P 11 46 09.2 -0.7**
0.9nm,0.6s,baz=300,slow=6.1,SNR=3.1
0.9nm,0.6s
KURBB Kurchatov Arra 62.85 43 P **P 11 46 46.5 0.0**
0.2nm,0.5s,baz=322,slow=6.6,SNR=1.6
0.2nm,0.5s
MKAR Makanchi Array 67.34 44 P **P 11 47 15.8 -0.1**
0.5nm,0.7s,baz=338,slow=5.6,SNR=2.5
0.5nm,0.7s
SONM Songino Array 76.05 30 P **P 11 48 08.9 +0.5**
0.4nm,0.5s,baz=331,slow=4.6,SNR=1.9
0.4nm,0.5s
WRA Warramunga Arr 148.00 32 PKPbc **PKPbc 11 56 06.4 -0.2**
0.4nm,0.7s,baz=338,slow=2.7,SNR=2.8
ASAR Alice Springs 151.25 36 PKPbc **PKPbc 11 56 13.9 -0.7**
0.6nm,0.6s,baz=347,slow=2.2,SNR=7.5

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*IDC **18** 11:41:07.0±3.5, 6°.16S×148°.64E, h43km±31km, mb3.7/10, mbtmp4.0/11, MLL3.9/2, MS3.2/6, Error ellipse: s-maj=35.6km s-min=18.2km az=101.0*
*NEIC **18** 11:41:08.6±1.6, 6°.33S±0°.05×148°.80E±0°.09, h51km±9km, mb4.5/23, Error ellipse: s-maj=12.3km s-min=6.7km az=82.0*

ISC 18 11:41:08.3±0.6, 6°.33S±0°.07×148°.79E±0°.09, h53km, n54, σ1§35/55, mb4.4/20, MS3.2/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULU	**Kimbe**	**1.71**	**63**	P	**Pn**	**11 41 36.3**	**+0.6**
PMG	**Port Moresby**	**3.46**	**208**		**Pn**	**11 42 00.1**	**+0.5**
PMG	**Port Moresby**	**3.46**	**208**	P	**Pn**	**11 41 59.8**	**+0.1**
	112nm,0.3s,baz=15,slow=8.6,SNR=206						
PMG				S	**Sn**	**11 42 41.0**	**+1.6**
	218nm,0.6s,baz=18,slow=19,SNR=3.1						
PMG				LR	LR	11 43 28.3	
	comp=Z,365nm,18.6s,baz=354,slow=40						
PMG	**Port Moresby**	**3.46**	**208**	P	**Pn**	**11 42 00.8**	**+1.1**
PMG	**Port Moresby**	**3.46**	**208**	P	**Pn**	**11 42 00.7**	**+1.1**
RABL	**Rabaul**	**3.97**	**58**	Pn	**Pn**	**11 42 07.3**	**+0.6**
JAY	**Jayapura**	**8.90**	**295**	P	**Pn**	**11 43 17.9**	**+3.5**
	11nm,0.9s,baz=114,slow=20,SNR=1.6						
JAY				LR	LR	11 47 05.7	
	comp=Z,100nm,21.9s,baz=44,slow=41						
COEN	**Coen**	**9.38**	**216**	Pn	**Pn**	**11 43 19.3**	**-1.6**
HNR	**Honiara**	**11.47**	**106**	LR	LR	11 47 48.4	
	comp=Z,92nm,19.2s,baz=314,slow=34						
MTSU	**Mount Surprise**	**12.52**	**200**	P	**Pn**	**11 44 04.7**	**+0.9**
CTAO	**Charters Tower**	**13.90**	**190**	Pn	**Pn**	**11 44 23.3**	**+0.7**
EIDS	**Eidsvold**	**19.06**	**174**	P	**P**	**11 45 25.1**	**-1.3**
WB0	**Warramunga Arr**	**19.34**	**225**	P	**P**	**11 45 29.2**	**-0.3**
WR0	**Warramunga Arr**	**19.37**	**224**	P	**P**	**11 45 29.9**	**+0.1**
WRAB	**Tennant Creek**	**19.48**	**225**	P	**P**	**11 45 30.8**	**-0.3**
WRAB				IAmb	IAmb	11 45 32.2	
	comp=Z,7.2nm,0.4s						
WB2	**Warramunga Arr**	**19.49**	**225**	P	**P**	**11 45 30.9**	**-0.2**
WB2				IAmb	IAmb	11 45 32.3	
	comp=Z,9.4nm,0.5s						
WRA	**Warramunga Arr**	**19.50**	**225**	P	**P**	**11 45 30.1**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=50,slow=11,SNR=74						
WRA				S	S	11 48 57.4	-11
	comp=Z,0.8nm,0.6s,baz=45,slow=24,SNR=3.5						
WRA				PcP	**PcP**	**11 49 50.9**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=40,slow=1.6,SNR=3.1						
	comp=Z,4.9nm,0.5s						
GUMO	**Guam**	**20.17**	**349**	LR	LR	11 51 40.8	
	comp=Z,80nm,21.6s,baz=112,slow=32						
QLP	**Quilpie**	**20.61**	**192**	P	Pn	11 45 44.8	-1.1
KNRA	**Kununurra**	**21.72**	**243**	P	**P**	**11 45 53.5**	**-1.7**
KNRA				IAmb	IAmb	11 46 19.5	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**22.41**	**218**	P	**P**	**11 46 02.3**	**-0.3**
ASAR	**Alice Springs**	**22.41**	**218**	P	**P**	**11 46 01.6**	**-1.0**
ASAR	**Alice Springs**	**22.41**	**218**	P	**P**	**11 46 02.3**	**-0.4**
	comp=Z,2.8nm,0.6s,baz=51,slow=9.3,SNR=85						
ASAR				PcP	**PcP**	**11 49 56.0**	**0.0**
	comp=Z,0.4nm,0.7s,baz=46,slow=4.0,SNR=3.0						
ASAR				S	**S**	**11 50 03.2**	**-2.3**
	comp=Z,2.0nm,0.7s,baz=33,slow=22,SNR=9.8						
ASAR				LR	LR	11 54 45.2	
	comp=Z,85nm,19.7s,baz=83,slow=36						
	comp=Z,2.8nm,0.6s						
INKA	**Innaminka**	**22.62**	**199**	P	**P**	**11 46 06.9**	**+2.1**
SOEI	**Soe**	**24.51**	**260**	P	**P**	**11 46 24.7**	**+1.6**
SOEI				IAmb	IAmb	11 46 47.7	
	comp=Z,20nm,1.1s						
OOD	**Oodnadatta**	**24.71**	**209**	P	**P**	**11 46 27.5**	**+2.9**
FITZ	**Fitzroy Crossi**	**25.43**	**241**	P	**P**	**11 46 31.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**25.43**	**241**	P	**P**	**11 46 30.7**	**-0.5**
	comp=Z,4.2nm,0.4s,baz=62,slow=9.8,SNR=40						
FITZ				LR	LR	11 57 09.8	
	comp=Z,99nm,21.6s,baz=48,slow=38						
	comp=Z,4.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**25.43**	**241**	P	**P**	**11 46 34.9**	**+3.6**
STKA	**Stephens Creek**	**26.29**	**194**	P	**P**	**11 46 39.3**	**+0.3**
STKA	**Stephens Creek**	**26.29**	**194**	P	**P**	**11 46 39.9**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=5.0,slow=11,SNR=4.5						
	comp=Z,0.9nm,0.4s						
FORT	**Forrest**	**31.15**	**216**	P	**P**	**11 47 24.5**	**+2.3**
USRK	**Ussuriysk Ar.**	**52.53**	**345**	P	**P**	**11 50 16.0**	**-0.2**
USRK	**Ussuriysk Ar.**	**52.53**	**345**	P	**P**	**11 50 14.2**	**-1.9**
	comp=Z,1.1nm,0.6s,baz=134,slow=4.2,SNR=3.1						
	comp=Z,1.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**54.97**	**298**	P	**P**	**11 50 32.5**	**-2.0**
	comp=Z,0.3nm,0.4s,baz=110,slow=8.8,SNR=1.3						
	comp=Z,0.3nm,0.4s						
PEA0B	**Petropavlovsk-**	**59.69**	**6**	P	**P**	**11 51 07.4**	**+0.2**
PETK	**Petropavlovsk-**	**59.69**	**6**	P	**P**	**11 51 07.6**	**+0.4**
PETK	**Petropavlovsk-**	**59.69**	**6**	P	**P**	**11 51 06.2**	**-1.0**
	comp=Z,2.8nm,0.5s,baz=160,slow=6.6,SNR=22						
	comp=Z,2.8nm,0.5s						
SONM	**Songino Array**	**65.56**	**330**	P	**P**	**11 51 45.5**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=152,slow=6.5,SNR=2.3						
	comp=Z,0.2nm,0.4s						
M14K	**Bethel**	**77.10**	**22**	P	**P**	**11 52 55.5**	**-0.1**
L14K	**Kuka Creek**	**77.21**	**22**	P	**P**	**11 52 57.3**	**+1.0**
L14K				IAmb	IAmb	11 53 23.4	
	comp=Z,10nm,1.1s						
O16K	**Kokwok River B**	**77.92**	**25**	P	**P**	**11 53 01.0**	**+0.6**
O16K				IAmb	IAmb	11 53 31.7	
	comp=Z,14nm,1.4s						
ACHA	**Angle Creek He**	**78.33**	**27**	P	**P**	**11 53 02.3**	**-0.5**
ACHA				IAmb	IAmb	11 53 10.8	
	comp=Z,9.1nm,1.2s						
L16K	**Owhat River**	**78.64**	**22**	P	**P**	**11 53 04.3**	**0.0**
L16K				IAmb	IAmb	11 53 16.3	
	comp=Z,7.7nm,1.4s						
MKAR	**Makanchi Array**	**78.88**	**320**	P	**P**	**11 53 03.8**	**-2.3**
	comp=Z,0.4nm,0.7s,baz=107,slow=7.7,SNR=2.5						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**83.64**	**180**	P	**P**	**11 53 30.1**	**-0.9**
QSPA				IAmb	IAmb	11 53 41.3	
	comp=Z,4.4nm,1.2s						
QSPA	**South Pole Qui**	**83.64**	**180**	P	**P**	**11 53 31.5**	**+0.4**
	comp=Z,1.9nm,1.0s,baz=36,slow=1.4,SNR=6.4						
	comp=Z,1.9nm,1.0s						
RND	**Reindeer**	**83.70**	**24**	P	**P**	**11 53 30.6**	**-0.6**
RND				IAmb	IAmb	11 53 31.4	
	comp=Z,5.7nm,0.9s						
ILAR	**Eielson Array**	**85.09**	**23**	P	**P**	**11 53 37.0**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=252,slow=4.9,SNR=17						
	comp=Z,0.9nm,0.7s						
J25K	**Salcha River,**	**85.61**	**23**	P	**P**	**11 53 40.2**	**-0.6**
J25K				IAmb	IAmb	11 53 43.6	
	comp=Z,3.2nm,1.1s						
E23K	**Chandalar**	**85.63**	**19**	P	**P**	**11 53 41.4**	**+0.5**
E23K				IAmb	IAmb	11 53 45.7	
	comp=Z,9.3nm,1.5s						
D23K	**Nanushuk River**	**85.73**	**18**	P	**P**	**11 53 42.8**	**+1.5**
D23K				IAmb	IAmb	11 53 44.8	
	comp=Z,3.9nm,0.7s						
C23K	**Itkillik River**	**86.19**	**18**	P	**P**	**11 53 44.8**	**+1.3**

TORD Torodi Ar. Bea 146.90 284 PKPbc **PKPdf 12 00 44.6 +0.7**
comp=Z,1.3nm,0.5s,baz=88,slow=2.8,SNR=17

TAP 18 11:42:17.8, 23°.18N×120°.51E, h12km, ML1.7, 3C-1D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN1	**Nanshi**	**0.01**	**86**	⇑*iP*	Pg	11 42 20.5	+0.5
CHN1				*eS*	Sg	11 42 22.5	+1.0
SNST	**Tainan City**	**0.04**	**337**	⇑*iP*	Pg	11 42 20.5	+0.5
SNST				S	Sg	11 42 22.6	+0.9
TWK	**Hsinying**	**0.09**	**344**	⇑*iP*	Pg	11 42 21.1	+0.5
TWK				S	Sg	11 42 23.6	+1.0
SGST	**Jiashian**	**0.12**	**148**	⇓*eP*	Pg	11 42 21.1	+0.2
SGST				S	Sg	11 42 24.3	+1.1
TPUB	**Ta-pu**	**0.16**	**42**	*eP*	Pb	11 42 22.3	-0.3
TPUB				*i* S	Sg	11 42 25.6	+1.5
CHN4	**Tsaushan**	**0.18**	**24**	*i P*	Pb	11 42 22.8	-0.2
CHN4				*eS*	Sg	11 42 26.8	+2.1
STYT	**Tauyuan**	**0.23**	**95**	*eP*	Pb	11 42 23.7	-0.1
STYT				*eS*	Sg	11 42 27.3	+1.4
STYH	**Taoyuan**	**0.24**	**93**	*i P*	Pb	11 42 24.1	+0.1
STYH				*eS*	Sg	11 42 28.8	+2.5
WCKO	**Fanlu**	**0.27**	**18**	*eP*	Pb	11 42 24.2	-0.3
WCKO				*i* S	Sb	11 42 29.2	+0.2
ICHU	**Yijhu**	**0.28**	**309**	*eP*	Pb	11 42 24.5	-0.1
ICHU				*i* S	Sb	11 42 29.4	0.0
SCST	**Cishan**	**0.30**	**184**	*eP*	Pb	11 42 24.7	-0.3
SCST				*eS*	Sb	11 42 30.6	+0.8
CHN8	**Yiju**	**0.32**	**300**	*i P*	Pb	11 42 25.3	-0.1
CHN8				*eS*	Sb	11 42 31.5	+0.9
CHY	**Chiayi**	**0.32**	**345**	P	Pb	11 42 25.2	-0.3
CHY				*i* S	Sb	11 42 30.8	+0.2
TSCK	**Chigu Township**	**0.40**	**265**	*i P*	Pb	11 42 26.7	0.0
TSCK				*eS*	Sb	11 42 33.7	+1.0
ALS	**Alishan**	**0.42**	**39**	*i P*	Pb	11 42 27.3	0.0
ALS				*i* S	Sb	11 42 34.1	+0.3
CHN5	**Tsauling**	**0.44**	**20**	P	Pb	11 42 27.3	-0.2
CHN5				S	Sb	11 42 34.9	+0.8
SSD	**Sandimen**	**0.45**	**166**	*eP*	Pb	11 42 28.0	+0.4
SSD				*eS*	Sb	11 42 36.0	+1.8
SNJT	**Kaohsiung City**	**0.46**	**201**	P	Pb	11 42 28.2	+0.5
SNJT				*eS*	Sb	11 42 34.1	-0.4
ELDTW	**Lidau**	**0.46**	**89**	*eP*	Pb	11 42 28.5	+0.6
ELDTW				*i* S	Sb	11 42 35.6	+0.8
TSMG	**Majia**	**0.49**	**166**	*i P*	Pb	11 42 28.5	+0.1
TSMG				S	Sb	11 42 36.0	+0.6
WDLH	**Douliu**	**0.50**	**3**	P	Pb	11 42 28.5	-0.1
WDLH				*eS*	Sb	11 42 35.5	-0.3
WSF	**Szhu**	**0.53**	**329**	*i P*	Pb	11 42 29.1	+0.2
WSF				S	Sb	11 42 37.2	+0.7
MASBT	**Mashibuluo**	**0.58**	**169**	P	Pb	11 42 30.4	+0.6
MASBT				S	Sb	11 42 39.3	+1.3
WHYT	**Xinyi Township**	**0.60**	**31**	P	Pb	11 42 30.6	+0.5
WHYT				S	Sb	11 42 39.3	+0.8
TWGBT	**Beinan**	**0.64**	**125**	P	Pb	11 42 30.8	0.0
TWGBT				*eS*	Sn	11 42 41.2	-1.4
FULB	**Fuli**	**0.72**	**89**	*eP*	Pn	11 42 33.1	-0.7
FULB				*eS*	Sn	11 42 44.2	-0.4
SSLB	**Suanglung**	**0.72**	**34**	*i P*	Pb	11 42 32.7	+0.4
SSLB				S	Sn	11 42 43.5	-1.3
YULB	**Yu-li**	**0.75**	**74**	P	Pb	11 42 33.1	+0.3
YULB				*eS*	Sb	11 42 43.1	+0.2
TYC	**Yuchr**	**0.78**	**24**	*eP*	Pb	11 42 33.5	+0.2
TYC				*eS*	Sn	11 42 45.8	-0.4
WDGT	**Dungji**	**0.79**	**276**	*eP*	Pg	11 42 32.6	-0.5
WDGT				*eS*	Sb	11 42 44.5	+0.5
VWDT	**VWDT**	**0.81**	**45**	P	Pb	11 42 33.8	+0.1
VWDT				S	Sn	11 42 45.9	-1.0
EHY	**Hungye**	**0.81**	**66**	*eP*	Pb	11 42 33.8	+0.1
EHY				*i* S	Sn	11 42 46.2	-0.7
HGSD	**Ruisui**	**0.89**	**70**	*eP*	Pn	11 42 37.2	+1.1
HGSD				*eS*	Sn	11 42 49.0	+0.2
PHUB	**P'eng-hu**	**0.93**	**291**	*eP*	Pg	11 42 34.9	-0.8
PHUB				*eS*	Sg	11 42 47.0	-0.7
WCS	**Beigang Elemen**	**0.94**	**23**	P	Pn	11 42 37.0	+0.2
WCS				*eS*	Sn	11 42 49.5	-0.7
WARBT	**Fenglin Townsh**	**0.96**	**56**	*eS*	Sb	11 42 49.7	+0.7
WUSB	**Renai**	**0.98**	**34**	S	Sn	11 42 51.2	0.0
OWD	**Renai**	**0.98**	**38**	S	Sn	11 42 51.4	+0.1
VCHM	**Qimei**	**1.00**	**272**	*i P*	Pn	11 42 37.5	0.0
VCHM				*eS*	Sb	11 42 49.1	-0.9
WHP	**Taichung City**	**1.16**	**20**	S	Sn	11 42 56.6	+1.0

NEIC 18 11:55:38.6±0.5, 37°.35N±0°.02×97°.99W±0°.02, h2km±4km, mb_Lg2.8/24, ML2.9/30, Error ellipse: s-maj=3.2km s-min=1.8km az=52.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN12	**Harper NE Stat**	**0.06**	**190**		Pg	11 55 39.7	0.0
KAN08	**Anthony NE Sta**	**0.12**	**175**		Pg	11 55 41.0	0.0
KAN08				IAML		11 55 44.8	
	comp=E,4μm,0.2s						
KAN01	**Argonia South**	**0.27**	**137**		Pg	11 55 43.6	-0.1
KAN17	**Caldwell West**	**0.35**	**150**		Pg	11 55 45.1	-0.3
KAN17				IAML		11 55 53.5	
	comp=E,1μm,0.3s						
KAN09	**Caldwell North**	**0.36**	**126**		Pg	11 55 45.3	-0.2
KAN09				IAML		11 55 54.2	
	comp=E,1μm,0.2s						
KAN14	**Manchester OK**	**0.39**	**177**		Pg	11 55 46.0	-0.2
KAN14				IAML		11 55 51.8	
	comp=E,1μm,0.2s						
GC02	**Grant County #**	**0.51**	**169**	Pg	Pg	11 55 47.9	-0.4
KAN13	**South Haven SW**	**0.53**	**130**		Pg	11 55 48.2	-0.5
KAN13				IAML		11 55 55.8	
	comp=E,799nm,0.3s						
KAN13				IAML		11 56 00.6	
	comp=N,745nm,0.3s						
CROK	**Carrier**	**0.84**	**180**	Pg	Pg	11 55 54.3	-0.5
CROK				IAML		11 56 09.6	
	comp=N,382nm,0.3s						
CROK				IAML		11 56 11.7	
	comp=E,551nm,0.4s						
BLOK	**Blackwell**	**0.85**	**133**		Pg	11 55 54.2	-0.8
BLOK				IAML		11 56 19.5	
	comp=E,588nm,0.2s						
NOKA	**Waynoka**	**1.04**	**227**		Pg	11 55 57.4	-1.1
NOKA				IAML		11 56 22.0	
	comp=N,388nm,0.3s						
NOKA				IAML		11 56 22.5	
	comp=E,287nm,0.3s						
R32A	**Long Quarter,**	**1.21**	**332**		Pg	11 56 00.6	-1.3
R32A				IAML		11 56 22.2	
	comp=E,260nm,0.3s						
OK051	**E0350 and S346**	**1.25**	**132**		Pg	11 56 01.3	-1.2
OK048	**Pawnee Station**	**1.25**	**138**	Pg	Pg	11 56 01.4	-1.2
OK048				IAML		11 56 21.9	
	comp=E,242nm,0.3s						
OK048				IAML		11 56 26.1	
	comp=E,213nm,0.3s						
T35A	**Sooner Cattle**	**1.25**	**110**	Pg	Pg	11 56 01.5	-1.1
QUOK	**Quay**	**1.56**	**139**		Pn	11 56 06.3	-1.1
OK029	**Liberty Lake**	**1.61**	**164**	Pg	Pn	11 56 07.5	-0.5
OK052	**Battle Ridge R**	**1.66**	**145**		Pn	11 56 08.1	-0.5
OK031	**S. Brethren Rd**	**1.67**	**146**		Pn	11 56 08.2	-0.6
ELIS	**Ellis County**	**1.72**	**222**		Pb	11 56 10.9	-0.1
CSTR	**Hydro, Custer**	**1.79**	**199**	Pn	Pn	11 56 09.8	-0.8
DEOK	**Depew**	**1.92**	**141**	Pn	Pn	11 56 12.4	0.0
CBKS	**Cedar Bluff**	**2.01**	**317**	Pn	Pn	11 56 14.1	+0.5
CBKS				IAmb_Lg		11 56 41.9	
	comp=Z,39nm,0.7s						
KSU1	**Kansas State U**	**2.06**	**31**		Pn	11 56 13.2	-1.0
FNO	**Franklin**	**2.14**	**167**		Pn	11 56 15.3	-0.1
TUL3	**Leonard**	**2.28**	**129**		Pn	11 56 17.8	+0.6
TUL3				IAmb_Lg		11 56 49.2	
	comp=Z,27nm,0.9s						
W35A	**Tecumseh**	**2.37**	**157**		Pn	11 56 17.4	-1.0
RLO	**Rose Lookout**	**2.66**	**116**		Pn	11 56 22.0	-0.5
WMOK	**Wichita Mounta**	**2.69**	**194**		Pn	11 56 22.3	-0.6
SMWD	**Samnorwood**	**2.89**	**220**		Pn	11 56 25.9	+0.2
U38A	**Gravette**	**3.03**	**106**	IAmb_Lg		11 57 21.8	
	comp=Z,26nm,0.8s						
BGNE	**Belgrade**	**4.05**	**358**	IAmb_Lg		11 57 58.5	
	comp=Z,23nm,0.7s						
DKNS	**Dickens**	**4.39**	**214**	IAmb_Lg		11 58 04.5	
	comp=Z,15nm,1.1s						
MGMO	**Mountain Grove**	**4.56**	**91**	IAmb_Lg		11 58 07.1	
	comp=Z,12nm,0.8s						
Z38A	**Mt. Pleasant**	**4.76**	**148**	IAmb_Lg		11 58 21.3	
	comp=Z,26nm,1.1s						
L34A	**Svendsen Farm,**	**4.77**	**15**	IAmb_Lg		11 58 23.0	
	comp=Z,29nm,0.9s						
WHAR	**Wooly Hollow**	**5.04**	**112**	IAmb_Lg		11 58 18.9	
	comp=Z,19nm,0.7s						
N38A	**Joes South For**	**5.05**	**46**	IAmb_Lg		11 58 27.1	
	comp=Z,13nm,0.9s						
S44A	**Carbondale**	**6.95**	**85**	IAmb_Lg		11 59 18.8	
	comp=Z,20nm,1.0s						
SIUC	**Southern Illin**	**6.98**	**84**	IAmb_Lg		11 59 16.5	
	comp=Z,16nm,0.8s						

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*IDC **18** 12:01:14.9±3.4, 66°.73N×36°.17E, h0km, mbtmp3.2/4, ML2.3/4, Error ellipse: s-maj=37.9km s-min=13.7km az=84.0*
*HEL **18** 12:01:23.5±0.1, 66°.31N×34°.60E, h0km, ML1.9, Explosion*
*KOLA **18** 12:01:23.8, 66°.30N×34°.74E, h0km, ML2.2, Error ellipse: s-maj=7.6km s-min=5.0km az=140.0, Kandalaksha bay*

ISC 18 12:01:21.4±1.6, 66°.31N±0°.05×34°.95E±0°.09, h0km, n22, σ1§57/31, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**1.41**	**335**	P	**Pg**	**12 01 47.4**	**-1.0**
APA				S	**Sg**	**12 02 05.5**	**-1.1**
APA0	**Apatity Array**	**1.52**	**330**	P	**Pn**	**12 01 49.4**	**-0.4**
APA0				S	**Sg**	**12 02 09.0**	**-1.1**
LVZ	**Lovozero**	**1.60**	**356**	P	**Pn**	**12 01 51.9**	**+0.8**
LVZ				S	**Sb**	**12 02 13.5**	**+0.9**
LVZ	**Lovozero**	**1.60**	**356**	*e*P	**Pn**	**12 01 52.0**	**+1.0**
LVZ				*e*SG	**Sn**	**12 02 12.9**	**+0.5**
KU6	**Riekki**	**2.08**	**264**	*e*P	**Pn**	**12 01 57.5**	**0.0**
KU6				*e*PG	**Pb**	**12 01 58.6**	**-1.4**
KU6				MSG		12 02 26.9	
	comp=Z,25nm,0.2s						
OLKF	**Oulanka, Finla**	**2.24**	**273**	*e*P	**Pn**	**12 01 59.8**	**+0.1**
OLKF				MSG		12 02 31.8	
	comp=Z,2.9nm,0.2s						
VRF	**Varrio**	**2.55**	**307**	*e*PB	**Pn**	**12 02 06.0**	**+2.1**
VRF				*e*PG	**Pb**	**12 02 07.2**	**-0.8**
VRF				*e*SG	**Sb**	**12 02 38.3**	**-1.5**
VRF				MSG		12 02 39.9	
	comp=Z,6.0nm,0.2s						
RMF	**Romuvaara**	**2.98**	**227**	*e*P	**Pn**	**12 02 10.4**	**+0.6**
PUF	**PUOLANKA**	**3.31**	**243**	*e*P	**Pn**	**12 02 15.2**	**+0.7**
RANF	**Ranua**	**3.33**	**269**	*e*P	**Pn**	**12 02 15.8**	**+1.2**
RAJF	**Raja-Jooseppi**	**3.36**	**313**	*e*P	**Pn**	**12 02 17.0**	**+1.8**
RNF	**Rovaniemi**	**3.60**	**279**	*e*P	**Pn**	**12 02 18.2**	**-0.2**
RNF				MSG		12 03 12.2	
	comp=Z,1.1nm,0.2s						
JOF	**Joensuu**	**3.75**	**206**	*e*P	**Pn**	**12 02 19.6**	**-0.9**
OUL	**Oulu**	**3.94**	**256**	*e*P	**Pn**	**12 02 24.7**	**+1.7**
KMNF	**Kaamanen**	**4.16**	**317**	*e*P	**Pn**	**12 02 26.8**	**+0.8**
NIF	**Nilsia**	**4.23**	**229**	*e*P	**Pn**	**12 02 27.6**	**+0.6**
KEV	**Kevo**	**4.57**	**323**	*e*P	**Pn**	**12 02 32.5**	**+0.8**
KEV				*e*SG	**Sb**	**12 03 41.2**	**+3.4**
KEV				MSG		12 03 43.9	
	comp=Z,2.7nm,0.2s						
ARCES	**ARCESS Array B**	**4.81**	**317**	P	**Pn**	**12 02 37.5**	**+2.4**
ARCES				S	**Sn**	**12 03 31.6**	**+0.1**
ARCES	**ARCESS Array B**	**4.81**	**317**	Pn	Pn	12 02 28.0	-7.1
	comp=Z,0.2nm,0.3s,baz=126,slow=29,SNR=9.6						
ARCES				Lg	Lg	12 03 47.7	
	comp=Z,0.4nm,0.3s,baz=129,slow=29,SNR=8.1						
	comp=Z,2.1nm,0.8s						
FINES	**FINESS Array B**	**6.26**	**223**	Pn	**Pn**	**12 02 54.7**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=39,slow=13,SNR=9.8						
FINES				Sn	**Sn**	**12 04 11.3**	**+4.3**
	comp=Z,0.1nm,0.3s,baz=48,slow=23,SNR=1.8						
	comp=Z,1.3nm,0.7s						
HFS	**Hagfors**	**11.36**	**247**	Pn	**Pn**	**12 04 02.8**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=59,slow=12,SNR=6.8						
	comp=Z,2.2nm,0.8s						
NOA	**NORSAR Array B**	**11.73**	**254**	Pn	**Pn**	**12 04 08.1**	**-1.8**
	baz=54,slow=11,SNR=1.2						
	comp=Z,0.1nm,0.4s						

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*KOLA **18** 12:07:15.0, 67°.63N×33°.88E, h0km, ML1.9, Error ellipse: s-maj=2.9km s-min=1.4km az=140.0, Khibiny, mines Rasvumchorr, Central*

HEL 18 12:07:15.1±0.1, 67°.62N×33°.89E, h0km, ML1.8, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.19**	**255**	P	Pg	12 07 18.1	-0.7
APA				S	Sg	12 07 20.8	-0.5
APA0	**Apatity Array**	**0.34**	**268**	P	Pg	12 07 20.7	-1.0
APA0				S	Sg	12 07 25.5	-0.6
LVZ	**Lovozero**	**0.40**	**46**	P	Pg	12 07 22.0	-0.8
LVZ				S	Sg	12 07 27.4	-0.6
LVZ	**Lovozero**	**0.40**	**46**	PG	Pg	12 07 22.3	-0.5
	baz=225						
LVZ				SG

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     comp=Z,0.5nm,0.2s
OBF0                          SN   Sn   12 08 26.2 +0.7
OUF  Merijarvi      1.42 179  PG   Pn   12 08 07.4 -1.7
OUF                           MSG       12 08 24.8
     comp=Z,0.5nm,0.2s
UMAU Umeaa          2.56 224  PN   Pn   12 08 24.7  0.0
HEF  Hetta          2.67 352  PG   Pn   12 08 28.1 +2.0
HEF                           MSG       12 09 00.5
     comp=Z,0.6nm,0.2s
HEF                           SG   Sb   12 09 02.1 -1.6
KMNF Kaamanen       3.50  14  PN   Pn   12 08 38.4 +0.9
JOF  Joensuu        4.07 132  SG   Sb   12 09 46.2 +2.1
KEV  Kevo           4.09  11  PN   Pn   12 08 46.8 +1.2
```

*IDC **18** 12:09:12.5±2.0,6.°11S×148.°28E,h52km±16km,mb3.7/6,*
mbtmp4.1/8,ML3.9/2,MS3.0/2,Error ellipse: s-maj=36.7km
s-min=10.5km az=118.0
*NEIC **18** 12:09:12.0±1.9,6.°3S±0.°1×148.°7E±0.°2,h35km±2km,*
mb4.4/15,Error ellipse: s-maj=33.9km s-min=11.6km
az=128.0

ISC 18 12:09:13.8±0.6,6.°25S±0.°08×148.°6E±0.°1,h65km,n45,
σ1⁹58/51,mb4.2/12,New Britain region

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Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC               h m s     ISC
PMG  Port Moresby        3.44 204  P     Pn                12 10 04.1 -0.9
PMG  Port Moresby        3.44 204  P     Pn                12 10 04.0 -0.9
     98nm,0.3s,baz=21,slow=5.4,SNR=264
PMG                               S     Sn                12 10 45.1 +0.6
     180nm,0.6s,baz=47,slow=10.0,SNR=3.7
     222nm,0.3s
PMG  Port Moresby        3.44 204  P     Pn                12 10 05.3 +0.3
PMG  Port Moresby        3.44 204  P     Pn                12 10 05.2 +0.3
RABL Rabaul              4.12  60  Pn    Pn                12 10 12.6 -1.7
COEN Coen                9.32 214  Pn    Pn                12 11 24.6 -1.0
COEN Coen                9.32 214  P     Pn                12 11 23.9 -1.6
MTSU Mount Surprise     12.52 199  P     Pn                12 12 08.8 -0.5
CTAO Charters Tower     13.94 189  P     Pn                12 12 27.7 -0.6
QIS  Mount Isa          16.67 211  P     Pn                12 13 03.4  0.0
MTN  Manton Dam         18.40 248  P     Pn                12 13 25.1 +0.6
MTN                               IAmb  IAmb               12 13 28.8
     comp=Z,13nm,1.3s
EIDS Eidsvold           19.16 173  P     P                 12 13 31.5 -0.6
WB0  Warramunga Arr     19.25 224  P     Pn                12 13 33.9 -0.8
WR0  Warramunga Arr     19.28 224  P     Pn                12 13 34.1 -0.9
WRAB Tennant Creek      19.39 224  P     P                 12 13 35.2 +0.5
WRAB                              IAmb  IAmb               12 13 36.1
     comp=Z,6.9nm,0.5s
WB2  Warramunga Arr     19.40 224  P     P                 12 13 34.9 +0.1
WB2                               IAmb  IAmb               12 13 36.2
     comp=Z,7.6nm,0.5s
WRA  Warramunga Arr     19.41 224  P     P                 12 13 34.9  0.0
     comp=Z,1.4nm,0.3s,baz=51,slow=11,SNR=63
WRA                               S     S                 12 17 09.2 -1.9
     comp=Z,2.1nm,0.9s,baz=45,slow=22,SNR=7.9
WRA                               PcP   PcP               12 17 54.0 -0.4
     comp=Z,0.4nm,0.5s,baz=28,slow=1.8,SNR=2.1
WRA                               LR    LR                12 20 44.5
     comp=Z,52nm,20.8s,baz=238,slow=36
WRA                               ScP   ScP               12 21 28.6 +3.7
     comp=Z,0.3nm,0.7s,baz=51,slow=2.7,SNR=2.4
     comp=Z,4.0nm,0.4s
KNRA Kununurra          21.57 243  P     P                 12 13 58.2  0.0
KNRA                              IAmb  IAmb               12 14 31.0
     comp=Z,14nm,1.3s
AS31 Alice Springs      22.34 218  P     P                 12 14 06.5  0.0
AS31                              IAmb  IAmb               12 14 24.2
     comp=Z,3.3nm,0.5s
ASAR Alice Springs      22.34 218  P     P                 12 14 06.2 -0.3
     comp=Z,2.9nm,0.5s,baz=56,slow=8.7,SNR=99
ASAR                              PcP   PcP               12 17 59.7 -0.2
     comp=Z,0.4nm,0.7s,baz=56,slow=4.9,SNR=2.8
ASAR                              S     S                 12 18 08.1  0.0
     comp=Z,2.3nm,0.8s,baz=29,slow=22,SNR=10.0
ASAR                              ScP   ScP               12 21 34.1 +2.1
     comp=Z,0.4nm,0.9s,baz=46,slow=2.9,SNR=2.5
ASAR                              LR    LR                12 23 44.3
     comp=Z,37nm,20.5s,baz=95,slow=39
     comp=Z,2.9nm,0.5s
INKA Innaminka          22.63 198  P     P                 12 14 13.4 +3.9
OOD  Oodnadatta         24.68 208  P     P                 12 14 30.8 +2.1
FITZ Fitzroy Crossi     25.28 240  P     P                 12 14 35.3 +0.9
FITZ Fitzroy Crossi     25.28 240  P     P                 12 14 32.7 -1.7
LCRK Leigh Creek        25.97 201  P     P                 12 14 45.3 +4.9
STKA Stephens Creek     26.32 193  P     P                 12 14 44.2 +0.7
     comp=Z,0.8nm,0.4s,baz=13,slow=18,SNR=3.0
     comp=Z,0.8nm,0.4s
WRKA Warakurna          26.95 224  P     P                 12 14 49.6 +0.2
MULG Mulgathing         27.53 208  P     P                 12 14 57.8 +3.3
HTT  Hallett            28.49 197  P     P                 12 15 09.2 +6.1
PLAI Plampang           30.63 263  P     P                 12 15 20.5 -1.7
     comp=Z,28nm,0.8s
FORT Forrest            31.09 216  P     P                 12 15 28.4 +2.4
MEEK Meekatharra        35.00 231  P     P                 12 16 02.7 +2.4
BBJI Bungbulang         40.64 266  P     P                 12 16 48.2 +0.1
PEA0B Petropavlovsk-    59.63  6   P     P                 12 19 12.1 +1.1
PETK Petropavlovsk-     59.63  6   P     P                 12 19 11.9 +0.8
PETK Petropavlovsk-     59.63  6   P     P                 12 19 11.6 +0.6
     comp=Z,2.5nm,0.5s,baz=163,slow=6.0,SNR=19
     comp=Z,2.5nm,0.5s
M14K Bethel             77.11  23  P     P                 12 21 00.5 +0.6
M14K                              IAmb  IAmb               12 21 32.4
     comp=Z,18nm,1.2s
L14K Kuka Creek         77.22  22  P     P                 12 21 01.4 +0.8
K15K Wolf Creek Mou     78.25  21  P     P                 12 21 07.1 +0.8
K15K                              IAmb  IAmb               12 21 30.5
     comp=Z,15nm,1.4s
MKAR Makanchi Array     78.69 320  P     P                 12 21 06.6 -2.5
     comp=Z,0.2nm,0.4s,baz=94,slow=9.6,SNR=2.0
     comp=Z,0.2nm,0.4s
L19K White Mountain     80.71  23  P     P                 12 21 20.5 +0.8
L19K                              IAmb  IAmb               12 21 39.1
     comp=Z,13nm,1.4s
QSPA South Pole Qui     83.72 180  P     P                 12 21 34.6 -1.0
QSPA                              IAmb  IAmb               12 22 11.3
     comp=Z,3.7nm,1.5s
QSPA South Pole Qui     83.72 180  P     P                 12 21 34.9 -0.7
     comp=Z,2.4nm,1.1s,baz=14,slow=18,SNR=8.0
     comp=Z,2.4nm,1.1s
ILAR Eielson Array      85.10  23  P     P                 12 21 41.3 -1.0
     comp=Z,1.0nm,0.8s,baz=250,slow=5.0,SNR=14
     comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea    146.67 284  PKPbc  PKPdf            12 28 48.3 +0.7
     comp=Z,1.1nm,0.5s,baz=72,slow=3.0,SNR=16
```

*KRNET **18** 12:34:08.4±0.1,42.°48N×77.°91E,h11km,mb3.0*
*SOME **18** 12:34:08.4,42.°38N×77.°97E,h10km*
*NNC **18** 12:34:09.2±0.6,42.°42N×78.°00E,h0km,mb3.6,mpv3.5,*
Error ellipse: s-maj=4.3km s-min=1.8km az=163.0
*KNET **18** 12:34:10.1±0.2,42.°45N×77.°82E,h2km±1km,ml3.0,Error*
ellipse: s-maj=3.2km s-min=1.5km az=163.0

ISC 18 12:34:09.1±1.1,42.°42N±0.°03×77.°88E±0.°02,h7km±9km,
n66,σ1⁹65/121,27C-21D,Lake Issyk-Kul region

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Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC               h m s     ISC
PRZ  Przheval'sk        0.39  81⇑eP  Pg                12 34 15.6 -1.1
PRZ                               ⇑eS   Sg                12 34 21.1 -0.8
KDJ  Kajisay            0.60 241⇓eP  Pg                12 34 20.7 +0.1
KDJ                               ⇓eS   Sg                12 34 29.7 +1.3
SATY Saty               0.74  31  P     Pg                12 34 22.8 -0.6
     6.8nm,0.2s
SATY                              S     Sg                12 34 33.3 +0.2
     140nm,0.1s
SATY Saty               0.74  31  eP    Pg                12 34 22.8 -0.6
     16nm,0.1s
SATY                              eS    Sg                12 34 33.3 +0.2
     140nm,0.1s
ZHN  Zhinishke          0.85  29  P     Pg                12 34 24.8 -0.6
     20nm,0.2s
ZHN                               S     Sb                12 34 36.7 -1.3
     144nm,0.1s
ZHN  Zhinishke          0.85  29  eP    Pg                12 34 24.8 -0.6
     20nm,0.2s
ZHN                               eS    Sb                12 34 36.7 -1.3
     193nm,0.2s
TNSS Tian-Shan          0.92 312  P     Pb                12 34 27.6  0.0
     20nm,0.2s
TNSS                              S     Sn                12 34 41.6 -1.0
     30nm,0.2s
TNSS Tian-Shan          0.92 312  eP    Pb                12 34 27.6  0.0
     21nm,0.2s
TNSS                              eS    Sn                12 34 41.6 -1.0
     39nm,0.1s
MDOK Medeo              0.96 321 ⇑P     Pb                12 34 28.2  0.0
     13nm,0.8s
MDOK                              Pg    Pn                12 34 28.7 -0.5
     8.1nm,0.2s
MDOK                              ⇓S    Sn                12 34 43.3  0.0
     38nm,0.6s
MDOK                              Lg    Lg                12 34 43.5
     41nm,0.6s
MDOK Medeo              0.96 321  eP    Pn                12 34 28.7 -0.5
     8.1nm,0.2s
MDOK                              eS    Sn                12 34 43.5 +0.3
     41nm,0.6s
KURS Kuram              1.08  11  P     Pg                12 34 29.7 -0.2
     12nm,0.1s
KURS                              S     Sn                12 34 45.0 -1.1
     50nm,0.4s
KURS Kuram              1.08  11  eP    Pg                12 34 29.7 -0.2
     12nm,0.1s
KURS                              eS    Sn                12 34 45.0 -1.1
     50nm,0.4s
UZB  Uzynbulak          1.11  49  P     Pg                12 34 28.5 -1.9
     2.5nm,0.2s
UZB                               S     Sg                12 34 43.0 -1.8
     42nm,0.2s
UZB  Uzynbulak          1.11  49  eP    Pg                12 34 28.4 -1.9
     2.5nm,0.2s
UZB                               eS    Sg                12 34 43.0 -1.8
     42nm,0.2s
KPKS Kokpek             1.20  29  P     Pb                12 34 31.0 -1.2
     8.4nm,0.2s
KPKS                              S     Sg                12 34 47.5 -0.1
     112nm,0.4s
KPKS Kokpek             1.20  29  eP    Pb                12 34 31.0 -1.2
     8.4nm,0.2s
KPKS                              eS    Sg                12 34 47.5 -0.1
     112nm,0.4s
ULHL Ulahol             1.23 262 ⇓P     Pn                12 34 32.8 -0.1
     14nm,0.1s,SNR=5.8
ULHL                              ⇑S    Sn                12 34 50.9 +1.0
     68nm,0.1s
ULHL Ulahol             1.23 262⇓eP     Pn                12 34 32.4 -0.5
ULHL                              ⇓eS   Sn                12 34 49.8 -0.1
MTBS Maitube            1.28 304  P     Pg                12 34 34.2 +0.6
     42nm,0.3s
MTBS                              S     Sn                12 34 53.0 +1.9
     97nm,0.3s
MTBS Maitube            1.28 304  eP    Pg                12 34 34.2 +0.6
     42nm,0.3s
MTBS                              eS    Sn                12 34 53.0 +1.9
     99nm,0.2s
SHLS Shalkode           1.38  57  P     Pg                12 34 38.5 +3.0
     16nm,0.2s
SHLS                              S     Sg                12 35 00.4 +7.1
     99nm,0.5s
SHLS Shalkode           1.38  57  eP    Pg                12 34 38.5 +3.0
     16nm,0.2s
SHLS                              eS    Sg                12 35 00.4 +7.1
     99nm,0.5s
BOOM Boomskoye usch     1.44 273⇑eP     Pn                12 34 35.9 +0.1
BOOM                              ⇑eS   Sg                12 34 55.9 +0.6
KST  Kastek             1.54 294  P     Pg                12 34 38.8 +0.1
     45nm,0.2s
KST                               S     Sg                12 35 00.5 +1.9
     60nm,0.5s
KST  Kastek             1.54 294  eP    Pg                12 34 38.8 +0.1
     45nm,0.2s
KST                               eS    Sg                12 35 00.6 +1.9
     60nm,0.5s
BLB  Baldybastay        1.73  14  P     Pb                12 34 41.0 -0.3
     139nm,0.2s
BLB                               S     Sg                12 35 04.3 -0.3
     105nm,0.2s
DGS  Degeres            1.75 299  P     Pg                12 34 42.8 +0.1
     59nm,0.5s
DGS                               S     Sg                12 35 07.3 +1.9
     63nm,0.4s
DGS  Degeres            1.75 299  eP    Pg                12 34 42.8 +0.1
     59nm,0.5s
DGS                               eS    Sg                12 35 07.3 +1.9
     63nm,0.4s
TKM2 Tokmak 2           1.75 287 ⇓P     Pg                12 34 42.4 -0.3
     35nm,0.4s,SNR=45
TKM2                              ⇑S    Sg                12 35 07.6 +2.1
     109nm,0.1s
TKM2 Tokmak 2           1.75 287 ⇓Pn    Pb                12 34 42.3 +0.5
     17nm,0.5s
TKM2                              ⇓Sn   Sg                12 35 07.1 +1.7
     82nm,0.4s
TKM2 Tokmak 2           1.75 287⇑eP     Pb                12 34 41.3 -0.5
TKM2                              ⇑eS   Sg                12 35 05.3 -0.2
ARXS Arharly            1.79 359  P     Pg                12 34 42.6 -0.7
     53nm,0.2s
ARXS                              S     Sg                12 35 07.1 +0.5
     125nm,0.6s
ARXS Arharly            1.79 359  eP    Pg                12 34 42.6 -0.7
     53nm,0.2s
ARXS                              eS    Sg                12 35 07.1 +0.5
     125nm,0.6s
KUU  Kurty              1.85 323  Pg    Pg                12 34 45.1 +0.5
     8.9nm,0.2s
KUU                               Lg    Lg                12 35 11.5
     82nm,0.5s
KUU  Kurty              1.85 323  eP    Pg                12 34 44.7 +0.1
     3.2nm,0.0s
KUU                               eS    Sg                12 35 10.6 +2.0
     86nm,0.4s
KBK  Karagaybulak       2.18 277 ⇓P     Pb                12 34 49.9 +1.0
     16nm,0.2s,SNR=15
KBK                               ⇑S    Sg                12 35 20.3 +1.3
     78nm,0.2s
KBK  Karagaybulak       2.18 277⇑eP     Pb                12 34 48.2 -0.8
KBK                               ⇑eS   Sb                12 35 17.1 +0.8
DJR  Jarkent            2.36  36  Pg    Pb                12 34 50.7 -1.3
     4.6nm,0.2s
DJR                               Lg    Lg                12 35 21.7
     214nm,0.4s
DJR  Jarkent            2.36  36  eP    Pb                12 34 50.7 -1.3
     4.6nm,0.2s
DJR                               eS    Sb                12 35 21.7 +0.3
     214nm,0.4s
CHMS Chumysh            2.38 285  P     Pb                12 34 52.5 +0.3
     12nm,0.3s,SNR=7.5
CHMS                              ⇓S    Sg                12 35 25.3 -0.1
     64nm,0.3s
CHMS Chumysh            2.38 285 ⇑Pn    Pb                12 34 52.2 -0.1
     5.6nm,0.4s
CHMS                              ⇓Sn   Sg                12 35 24.0 -1.4
     37nm,0.4s
CHMS Chumysh            2.38 285⇓eP     Pb                12 34 50.7 -1.5
CHMS                              ⇓eS   Sb                12 35 21.4 -0.4
FRU1 Bishkek            2.43 280⇑eP     Pb                12 34 51.6 -1.6
FRU1                              ⇑eS   Sb                12 35 22.9 -0.5
UCH  Uchtor             2.50 267⇑eP     Pb                12 34 53.0 -1.7
UCH                               ⇑eS   Sb                12 35 25.5 -0.4
AAK  Ala-Archa          2.51 276 ⇑P     Pb                12 34 54.3 -0.3
     8.3nm,0.2s,SNR=13
AAK                               ⇓S    Sg                12 35 28.6 -1.1
     30nm,0.3s
AAK  Ala-Archa          2.51 276⇓eP     Pb                12 34 52.8 -1.8
AAK                               ⇓eS   Sb                12 35 25.2 -0.6
SGDS Sogindy            2.60 294  Pg    Pb                12 34 57.1 +1.1
     20nm,0.3s
SGDS                              Lg    Lg                12 35 32.1
     82nm,0.5s
TDK  Taldyqorghan       2.60  8   Pg    Pb                12 34 56.7 +0.6
     16nm,0.3s
TDK                               Lg    Lg                12 35 31.5
     256nm,0.6s
TDK  Taldyqorghan       2.60  8   eP    Pb                12 34 56.7 +0.6
     16nm,0.3s
TDK                               eS    Sg                12 35 31.5 -1.3
     256nm,0.6s
ARLS Aral               2.70 259⇑eP     Pb                12 34 55.6 -2.3
ARLS                              ⇑eS   Sb                12 35 30.1 -1.3
EKS2 Erkin-Say          3.04 276⇑eP     Pn                12 35 00.1 +2.3
EKS2                              ⇑eS   Sb                12 35 37.8 -3.2
KAPS Kapalarasan        3.05  20  Pg    Pb                12 35 04.2 +0.3
     3.3nm,0.2s
KAPS                              Lg    Lg                12 35 44.1
     60nm,0.1s
KAPS Kapalarasan        3.05  20  eP    Pb                12 35 04.2 +0.3
     3.3nm,0.2s
KAPS                              eS    Sg                12 35 44.1 -3.0
     60nm,0.1s
AML  Almayashu          3.12 266⇓eP     Pn                12 35 01.6 +2.5
AML                               ⇓eS   Sb                12 35 40.3 -3.2
MRKS Merke              3.45 277  Pg    Pb                12 35 12.1 +1.5
     0.9nm,0.2s
MRKS                              Lg    Lg                12 35 57.7
     130nm,0.4s
MRKS Merke              3.45 277  eP    Pb                12 35 12.1 +1.5
     0.9nm,0.2s
MRKS                              eS    Sg                12 35 57.8 -2.1
     101nm,0.4s
BTLS Baital             3.81 315  Pg    Pb                12 35 18.8 +2.1
     0.7nm,0.4s
BTLS                              Lg    Lg                12 36 09.2
     4.0nm,0.3s
BTLS Baital             3.81 315  eP    Pb                12 35 18.8 +2.1
     0.7nm,0.4s
BTLS                              eS    Sg                12 36 09.2 -2.4
     4.0nm,0.3s
MAKZ Makanchi           5.27  32 ⇑Pn    Pn                12 35 29.1 +0.8
     2.5nm,0.9s
MAKZ                              ⇑Sn   Sn                12 36 30.8 +1.5
     0.9nm,0.5s
MAKZ                              ⇓Lg   Lg                12 36 53.7
     1.4nm,0.5s
MK31 Makanchi Array     5.38  34 ⇑Pn    Pn                12 35 30.8 +0.9
     0.3nm,0.2s,baz=220,slow=13,SNR=24
MK31                              ⇑Sn   Sn                12 36 32.6 +0.4
     0.5nm,0.4s,baz=212,slow=28,SNR=3.7
MK31                              ⇑Lg   Lg                12 36 57.3
     1.1nm,0.5s,baz=215,slow=27,SNR=6.0
KK31 Karatay Array      5.47 280  Pg    Pg                12 35 51.9 -1.8
     1.3nm,0.5s,baz=83,slow=17,SNR=8.1
KK31                              Lg    Lg                12 37 05.9
     5.3nm,0.6s,baz=106,slow=27,SNR=6.3
IUG  Iuzhnay            5.83 270  Pg    Pg                12 35 58.1 -2.6
     1.7nm,0.2s
IUG                               Lg    Lg                12 37 16.5
     18nm,0.6s
IUG  Iuzhnay            5.83 270  eP    Pg                12 35 58.1 -2.6
     1.7nm,0.2s
IUG                               eS    Sg                12 37 16.5 +0.3
     18nm,0.6s
BRLS Borolday           5.96 279  Pg    Pg                12 36 02.3 -0.8
     1.0nm,0.3s
BRLS                              Lg    Lg                12 37 23.6
     3.1nm,0.8s
BRLS Borolday           5.96 279  eP    Pg                12 36 02.3 -0.8
     1.0nm,0.3s
BRLS                              eS    Sg                12 37 23.6 +3.4
     3.1nm,0.8s
KURK Kurchatov          8.31   3 ⇓Lg    Lg                12 38 33.4
     8.7nm,1.1s
```

*ISK **18** 12:40:37.8,38.°20N×26.°88E,h11km,ML2.7/6*
*AFAD **18** 12:40:37.7±0.0,38.°17N×26.°85E,h7km±2km,ML2.3*

ISC 18 12:40:37.9±0.9,38.°17N±0.°02×26.°88E±0.°03,h14km±7km,
n22,σ0⁹57/36,Aegean Sea

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Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC               h m s     ISC
GMLD Gumuldur           0.10 163  Pg    Pg                12 40 41.2 +0.2
GMLD                              Sg    Sg                12 40 43.4 +0.3
BLCB Balcova            0.25  31  Pg    Pg                12 40 42.8 -0.5
BLCB                              Sg    Sg                12 40 46.6 -0.3
ZEYE Izmir, Urla-Ze     0.30 283  P     Pg                12 40 43.9 -0.3
ZEYE                              S     Sg                12 40 48.0 -0.4
ZEYE                              i AML AML               12 40 50.0
     comp=N,580nm,0.2s
GCAM G?zelcaml?         0.55 149  P     Pb                12 40 49.3  0.0
GCAM                              S     Sb                12 40 57.0  0.0
GCAM                              i AML AML               12 41 04.0
     comp=E,139nm,0.6s
GCAM G?zelcaml?         0.55 149  Pg    Pb                12 40 49.6 +0.3
GCAM                              Sg    Sb                12 40 57.6 +0.6
KARB zmir-Karabur       0.61 323  P     Pg                12 40 49.5 -0.5
KARB                              i AML AML               12 40 58.0
     comp=E,590nm,0.3s
KARB                              S     Sb                12 40 58.1 -0.9
KARB                              i AML AML               12 40 59.0
     comp=N,234nm,0.4s
DDIM Aydin, Didim       0.77 158  P     Pg                12 40 52.4 -0.4
ZEDA zmir-Bergama       0.81  11  P     Pb                12 40 53.7 -0.1
ZEDA                              S     Sb                12 41 04.6  0.0
ZEDA                              i AML AML               12 41 08.0
     comp=N,83nm,0.2s
ZEDA                              i AML AML               12 41 21.0
     comp=E,96nm,1.6s
IZMD zmir-Dikili-       0.81   3  P     Pn                12 40 54.9 -0.2
IZMR zmir-demi          0.85  92  P     Pg                12 40 54.0 -0.3
IZMR                              S     Sg                12 41 03.7 -1.7
GOMA Golmarmara-Man     0.97  56  Pg    Pg                12 40 56.7 -0.1
AKHS Akhisar            1.02  46  P     Pb                12 40 57.7 +0.3
AKHS                              S     Sb                12 41 11.6 +0.9
AKHS                              i AML AML               12 41 15.0
     comp=E,88nm,0.7s
NAZL Nazilli-Aydin      1.13 100  Pn    Pg                12 40 59.9 +0.1
AYVA Ayvalik            1.15 353  P     Pn                12 41 01.4 +1.8
BDRM Kayabasi           1.19 158  P     Pb                12 41 00.4 +0.1
KIRA zmir-Kiraz         1.20  88  P     Pg                12 41 01.2 +0.2
KIRA                              S     Sb                12 41 15.8 -0.1
KIRA                              i AML AML               12 41 18.0
     comp=N,43nm,0.2s
KIRA                              i AML AML               12 41 20.0
     comp=E,45nm,0.9s
ESEN Aydn-Nazilli       1.22 107  P     Pn                12 41 00.2 -0.4
ESEN                              S     Sb                12 41 16.4  0.0
GORD Gordes-Manisa      1.26  54  Pn    Pn                12 41 01.5 +0.3
BUHA Balikesir, Bur     1.34   7  P     Pg                12 41 03.9 +0.2
BUHA                              S     Sg                12 41 20.9 -0.2
BUHA                              i AML AML               12 41 24.0
     comp=N,43nm,0.3s
BUHA                              i AML AML               12 41 25.0
     comp=E,44nm,0.3s
MANT Manisa             1.36  76  P     Pg                12 41 04.3 +0.2
MANT                              S     Sb                12 41 20.6 -0.1
MANT                              i AML AML               12 41 24.0
     comp=N,62nm,0.5s
MANT                              i AML AML               12 41 24.0
     comp=E,45nm,0.3s
STEP BALIKESIR_Sava     1.37  28  P     Pb                12 41 03.6 +0.2
STEP                              S     Sb                12 41 21.0 +0.1
STEP                              i AML AML               12 41 24.0
     comp=N,74nm,0.6s
STEP                              i AML AML               12 41 25.0
     comp=E,65nm,0.7s
USAK Uak-Merkez         1.77  71  P     Pg                12 41 11.3 -0.5
```

IDC 18 12:42:09.8±1.9,14.°57S×166.°47E,h0km,mb3.3/3,
mbtmp3.4/4,ML3.5/1,Error ellipse: s-maj=52.1km
s-min=34.5km az=124.0,Vanuatu Islands

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Code Station Name        Δ°   AZ°  Phase ID                Time      Res
                                   Op    ISC               h m s     ISC
DZM  Mont Dzumac        7.46 180  Pn    Pn                12 43 59.8 -0.2
     0.8nm,0.3s,baz=180,slow=19,SNR=13
DZM                               Sn    Sn                12 45 20.2 -5.3
     1.0nm,0.3s,baz=343,slow=19,SNR=6.3
     1.5nm,0.3s
WRA  Warramunga Arr    31.12 256  P     P                 12 48 30.8 +0.4
     0.4nm,1.1s,baz=86,slow=9.4,SNR=1.5
     0.4nm,1.1s
ASAR Alice Springs     32.01 249  P     P                 12 48 37.9 -0.3
     0.5nm,1.1s,baz=71,slow=9.3,SNR=5.4
     0.5nm,1.1s
ILAR Eielson Array     86.61  18  P     P                 12 54 54.7  0.0
     0.2nm,0.6s,baz=239,slow=4.8,SNR=4.9
     0.2nm,0.6s
```

*IDC **18** 12:48:40.1±0.7,44.°01N×12.°56E,h0km,mb3.9/15,*
mbtmp3.9/23,ML4.1/7,MS3.6/4,Error ellipse:
s-maj=13.7km s-min=9.5km az=100.0
*MCSM **18** 12:48:43.7±0.3,44.°N±3.°×1.°3E±.°,h10km,mb4.4,MLv4.5*
*STR **18** 12:48:44.9±1.0,44.°N±5.°×1.°2E±.°,h10km,MLv4.3/39,Error*
ellipse: s-maj=0.0km s-min=0.0km az=90.6,preliminary
*NEIC **18** 12:48:44.8±1.8,44.°19N±0.°04×12.°71E±0.°07,h17km±7km,*
mb4.2/7,Mwr4.0(VIE),Error ellipse: s-maj=7.6km
s-min=5.6km az=65.0
*PRU **18** 12:48:45.9,44.°28N×12.°49E,h10km,M4.2*
*BGR **18** 12:48:45.4±0.7,44.°11N×12.°59E,h10km,ML4.3/11,Error*
ellipse: s-maj=11.1km s-min=7.8km az=177.0
*PDG **18** 12:48:45.9±3.4,44.°13N×12.°51E,h38km±4km,ML4.3/12,*
Error ellipse: s-maj=2.0km s-min=2.7km az=0.0

ROM ***18*** *12:48:46.4±0.0, 44°.051N×0°.003×12°.486E±0°.005, h37km, ML4.2/470, Mw4.0, Error ellipse: s-maj=0.4km s-min=0.2km az=229.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr0.20; Mθθ0.17; Mφφ-0.36; Mrθ-1.35; Mθφ0.26; Mφr0.31; Fault plane solution: M0 1.42993×10^15 NP1:φs187.00000°, δ15.00000°, λ170.00000°. NP2:φs287.00000°, δ88.00000°, λ75.00000°.*

MED_RC ***18*** *12:48:46.0±0.9, 44°.07N×12°.49E, h44km±3km, MW4.3/5, Moment Tensor Solution. Mantle waves: s5,c5; Duration: 1s0 Moment tensor: Scale 10^15Nm; Mrr1.51±.66; Mθθ0.93±.96; Mφφ-2.44±1.15; Mrθ-1.34±.20; Mθφ2.48±1.69; Mφr0.67±.28; Best double couple: M0 3.46000×10^15 NP1:φs295.00000°, δ75.00000°, λ37.00000°. NP2: φs194.00000°, δ55.00000°, λ161.00000°. Principal axes: T 2.9000, Plg37.0000°, Azm160.0000°; N 1.1400, Plg51.0000°, Azm314.0000°; P -4.0300, Plg13.0000°, Azm60.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

LDG ***18*** *12:48:46.1, 44°.17N×12°.53E, h40km*

BEO ***18*** *12:48:46.8±0.5, 44°.20N×12°.78E, h11km±6km, ML4.0/5*

NAO ***18*** *12:48:48.5, 44°.21N×12°.39E, h33km, mb3.9*

TIR ***18*** *12:49:09.0, 42°.53N×15°.14E, h10km±31km, Md4.2, Ml4.0*

ISC 18 12:48:46.3±0.5, 44°.07N±0°.02×12°.51E±0°.02, h38km, n503, σ2s29/622, mb4.0/14, 36C-50D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BLLA	**Bellaria**	**0.07**	**340**	⇑P		**Pn**	**12 48 52.7**	**+0.2**
BLLA				S		**Sn**	**12 48 57.7**	**+0.9**
BLLA				AML		AML		
BLLA				AML		AML		
	comp=E,54600μm,0.6s							
BLLA				AML		AML		
BLLA				AML		AML		
	comp=E,54550μm,0.6s							
BLLA				AML		AML		
BLLA				AML		AML		
	comp=N,87737μm,0.3s							
BLLA				AML		AML		
	comp=N,87737μm,1.7s							
BLLA				AML		AML		
	comp=E,54550μm,0.6s							
A309A	**Martorano (FC)**	**0.21**	**298**	⇑P		**Pn**	**12 48 53.2**	**-2.0**
A309A				S		**Sn**	**12 48 59.2**	**-4.5**
PESA	**Pesaro**	**0.28**	**118**	⇑P		**Pn**	**12 48 54.3**	**-0.2**
PESA				S		**Sn**	**12 49 00.8**	**-1.0**
PESA				AML		AML		
PESA				AML		AML		
	comp=N,83150μm,0.3s							
PESA				AML		AML		
	comp=N,78384μm,0.2s							
PESA				AML		AML		
	comp=N,78384μm,1.8s							
PESA				AML		AML		
CPGN	**Carpegna, Ital**	**0.30**	**206**	⇓P		**Pn**	**12 48 54.5**	**-0.1**
CPGN				S		**Sn**	**12 49 00.6**	**-1.2**
CPGN				AML		AML		
	comp=N,39300μm,0.8s							
CPGN				AML		AML		
	comp=E,40100μm,0.5s							
CPGN				AML		AML		
	comp=N,39250μm,0.8s							
CPGN				AML		AML		
	comp=E,40081μm,0.5s							
CPGN				AML		AML		
	comp=N,36419μm,0.3s							
BRSN	**Barisano**	**0.37**	**305**	⇑P		**Pn**	**12 48 55.6**	**+0.7**
BRSN				S		**Sn**	**12 49 03.9**	**+2.2**
BRSN				AML		AML		
	comp=E,91958μm,0.6s							
BRSN				AML		AML		
	comp=N,88160μm,0.4s							
PE3	**Peglio**	**0.38**	**181**	⇓P		**Pn**	**12 48 55.2**	**+0.1**
PE3				S		**Sn**	**12 49 02.4**	**+0.6**
PE3				AML		AML		
PE3				AML		AML		
PE3				AML		AML		
PE3				AML		AML		
PE3				AML		AML		
PE3				AML		AML		
PARC	**Parchiule**	**0.47**	**205**	⇓P		**Pn**	**12 48 56.0**	**-0.3**
PARC				S		**Sn**	**12 49 03.7**	**+0.2**
PARC				AML		AML		
	comp=N,34700μm,0.6s							
PARC				AML		AML		
	comp=E,25900μm,1.0s							
PARC				AML		AML		
	comp=N,31154μm,0.3s							
PARC				AML		AML		
	comp=E,25480μm,0.4s							
MPAG	**Monte Paganucc**	**0.48**	**157**	P		**Pn**	**12 48 56.8**	**+0.2**
MPAG				S		**Sn**	**12 49 05.2**	**+1.3**
MPAG				AML		AML		
	comp=E,66500μm,1.5s							
MPAG				AML		AML		
	comp=N,75900μm,0.6s							
MPAG				AML		AML		
	comp=N,76500μm,0.7s							
MPAG				AML		AML		
	comp=E,65300μm,1.5s							
MPAG				AML		AML		
	comp=N,58102μm,0.4s							
MPAG				AML		AML		
	comp=E,58955μm,0.2s							
MPAG				AML		AML		
	comp=E,58535μm,0.2s							
MPAG				AML		AML		
	comp=N,57640μm,0.4s							
MPAG				AML		AML		
	comp=E,58535μm,1.8s							
MPAG				AML		AML		
	comp=E,58955μm,1.8s							
FAEN	**Faenza**	**0.50**	**296**	P		**Pn**	**12 48 57.9**	**+1.0**
FAEN				S		**Sn**	**12 49 07.6**	**+3.3**
SFI	**Santa Sofia**	**0.50**	**251**	⇓P		**Pn**	**12 48 56.5**	**-0.5**
SFI				S		**Sn**	**12 49 04.6**	**+0.1**
SFI				AML		AML		
	comp=E,28350μm,0.7s							
SFI				AML		AML		
	comp=N,40350μm,0.7s							
SFI				AML		AML		
	comp=E,28350μm,0.7s							
SFI				AML		AML		
	comp=N,40000μm,0.7s							
SFI				AML		AML		
	comp=E,28250μm,0.7s							
SFI				AML		AML		
	comp=E,28147μm,0.2s							
SFI				AML		AML		
	comp=E,28033μm,0.2s							
SFI				AML		AML		
	comp=N,36962μm,0.2s							
SFI				AML		AML		
	comp=N,37434μm,0.2s							
APEC	**Apecchio**	**0.52**	**187**	⇓P		**Pn**	**12 48 57.0**	**-0.2**
APEC				S		**Sn**	**12 49 05.8**	**+1.0**
APEC				AML		AML		
	comp=E,93050μm,0.4s							
APEC				AML		AML		
	comp=N,99150μm,1.6s							
APEC				AML		AML		
	comp=N,99100μm,1.6s							
APEC				AML		AML		
	comp=E,75800μm,0.4s							
APEC				AML		AML		
APEC				AML		AML		
	comp=E,75808μm,0.4s							
APEC				AML		AML		
	comp=N,93113μm,0.4s							
APEC				AML		AML		
	comp=N,92873μm,0.4s							
APEC				AML		AML		
	comp=E,93098μm,0.4s							
PIEI	**Pieia**	**0.54**	**178**	⇓P		**Pn**	**12 48 57.1**	**-0.4**
PIEI				S		**Sn**	**12 49 06.1**	**+0.8**
PIEI				AML		AML		
	comp=E,70900μm,1.0s							
PIEI				AML		AML		
	comp=N,59000μm,0.4s							
PIEI				AML		AML		
	comp=E,60191μm,0.3s							
PIEI				AML		AML		
	comp=N,59004μm,0.4s							
SSP9	**Sansepolcro**	**0.57**	**209**	⇓P		**Pn**	**12 48 57.7**	**-0.3**
SSP9				S		**Sn**	**12 49 07.7**	**+1.6**
SSP9				AML		AML		
	comp=E,29900μm,0.9s							
SSP9				AML		AML		
	comp=N,26200μm,0.5s							
SSP9				AML		AML		
	comp=E,29950μm,0.9s							
SSP9				AML		AML		
	comp=N,26250μm,0.5s							
SSP9				AML		AML		
	comp=N,26218μm,0.5s							
SSP9				AML		AML		
	comp=E,23979μm,0.5s							
LMD	**Lutirano**	**0.57**	**271**	P		**Pn**	**12 48 57.8**	**-0.3**
LMD				S		**Sn**	**12 49 07.5**	**+1.2**
LMD	**Lutirano**	**0.57**	**271**	⇓P		**Pn**	**12 48 57.8**	**-0.3**
LMD				S		**Sn**	**12 49 07.2**	**+0.9**
LMD				AML		AML		
	comp=E,66750μm,1.4s							
LMD				AML		AML		
	comp=N,81400μm,0.5s							
LMD				AML		AML		
	comp=E,65766μm,0.2s							
LMD				AML		AML		
	comp=N,80982μm,0.4s							
FRON	**Frontone**	**0.58**	**164**	⇑P		**Pn**	**12 48 58.0**	**-0.1**
FRON				S		**Sn**	**12 49 07.6**	**+1.3**
FRON				AML		AML		
	comp=E,27550μm,0.3s							
FRON				AML		AML		
	comp=N,56750μm,0.5s							
FRON				AML		AML		
	comp=E,27556μm,0.3s							
FRON				AML		AML		
	comp=N,56776μm,0.5s							
ASQU	**Asqua**	**0.59**	**242**	P		**Pn**	**12 48 57.7**	**-0.6**
ASQU	**Asqua**	**0.59**	**242**	⇓P		**Pn**	**12 48 57.7**	**-0.6**
ASQU				S		**Sn**	**12 49 07.9**	**+1.3**
ASQU				AML		AML		
	comp=E,44250μm,0.8s							
ASQU				AML		AML		
	comp=N,36950μm,0.3s							
ASQU				AML		AML		
	comp=N,36967μm,0.3s							
ASQU				AML		AML		
	comp=E,38977μm,0.3s							
ATPC	**Poggio Castell**	**0.59**	**183**	P		**Pn**	**12 48 58.2**	**-0.1**
ATPC				S		**Sn**	**12 49 07.8**	**+1.1**
BADI	**Badiali**	**0.59**	**199**	⇓P		**Pn**	**12 48 58.1**	**-0.3**
BADI				S		**Sn**	**12 49 07.8**	**+1.1**
ATBU	**Serra di Buran**	**0.60**	**177**	P		**Pn**	**12 48 58.5**	**+0.1**
ATBU				S		**Sn**	**12 49 08.7**	**+1.8**
CRE	**Caprese Michel**	**0.60**	**222**	P		**Pn**	**12 48 58.2**	**-0.4**
CRE				S		**Sn**	**12 49 08.8**	**+1.7**
CRE				AML		AML		
	comp=N,41800μm,0.6s							
CRE				AML		AML		
	comp=E,48800μm,0.8s							
CRE				AML		AML		
	comp=N,41780μm,0.6s							
CRE				AML		AML		
	comp=E,48786μm,0.8s							
CRE				AML		AML		
	comp=N,41780μm,1.4s							
IMOL	**Imola, Italy**	**0.62**	**298**	P		**Pn**	**12 48 59.8**	**+1.1**
IMOL				S		**Sn**	**12 49 10.6**	**+3.3**
IMOL	**Imola, Italy**	**0.62**	**298**	P		**Pn**	**12 48 59.8**	**+1.1**
IMOL				S		**Sn**	**12 49 09.6**	**+2.3**
IMOL				AML		AML		
	comp=N,46700μm,0.9s							
IMOL				AML		AML		
	comp=E,27900μm,0.6s							
IMOL				AML		AML		
	comp=E,27909μm,0.6s							
IMOL				AML		AML		
	comp=N,44454μm,0.2s							
IMOL				AML		AML		
	comp=E,27909μm,1.4s							
A308A	**Longastrino (F**	**0.62**	**325**	P		**Pn**	**12 48 59.2**	**+0.5**
ATPI	**Pietralunga -**	**0.63**	**187**	⇓P		**Pn**	**12 48 58.7**	**-0.2**
ATPI				S		**Sn**	**12 49 08.4**	**+0.8**
ATPI				AML		AML		
	comp=N,31500μm,1.2s							
ATPI				AML		AML		
	comp=E,31150μm,0.3s							
ATPI				AML		AML		
	comp=N,29864μm,0.4s							
ATPI				AML		AML		
	comp=E,31147μm,0.3s							
ATPI				AML		AML		
	comp=N,29864μm,1.6s							
SENI	**Senigallia**	**0.64**	**125**	P		**Pn**	**12 48 59.8**	**+0.8**
SENI				S		**Sn**	**12 49 10.4**	**+2.6**
SENI				AML		AML		
SENI				AML		AML		
SENI				AML		AML		
	comp=E,35950μm,0.4s							
SENI				AML		AML		
	comp=N,21550μm,0.4s							
SENI				AML		AML		
SENI				AML		AML		
	comp=E,35943μm,0.4s							
SENI				AML		AML		
SENI				AML		AML		
	comp=N,21530μm,0.4s							
SENI				AML		AML		
CDCA	**Citt' di Caste**	**0.64**	**198**	P		**Pn**	**12 48 59.2**	**+0.2**
ARVD	**Arcevia**	**0.66**	**151**	⇑P		**Pn**	**12 48 59.2**	**+0.1**
ARVD				S		**Sn**	**12 49 10.2**	**+2.0**
ARVD				AML		AML		
	comp=E,20000μm,0.3s							
ARVD				AML		AML		
	comp=N,15200μm,1.5s							
ARVD				AML		AML		
	comp=N,13725μm,0.3s							
ARVD				AML		AML		
	comp=E,20013μm,0.3s							
ARVD				AML		AML		
	comp=N,13725μm,1.7s							
ATSC	**Scheggia e Pas**	**0.66**	**168**	⇑P		**Pn**	**12 48 59.2**	**-0.1**
ATMC	**Monte Cedrone**	**0.67**	**200**	P		**Pn**	**12 48 59.2**	**-0.1**
SSFR	**Montelago di S**	**0.67**	**162**	⇑P		**Pn**	**12 48 59.4**	**0.0**
SSFR				AML		AML		
	comp=E,77700μm,0.3s							
SSFR				AML		AML		
SSFR				AML		AML		
	comp=E,70750μm,0.3s							
SSFR				AML		AML		
SSFR				AML		AML		
	comp=E,77700μm,0.3s							
SSFR				AML		AML		
SSFR				AML		AML		
SSFR				AML		AML		
	comp=E,70757μm,0.3s							
SSFR				AML		AML		
	comp=E,77698μm,0.3s							
ATVO	**AVT- Monte Val**	**0.69**	**186**	⇓P		**Pn**	**12 48 59.8**	**+0.1**
ATVO				AML		AML		
	comp=E,34800μm,0.3s							
ATVO				AML		AML		
	comp=N,45500μm,0.3s							
ATVO				AML		AML		
	comp=E,34801μm,0.3s							
ATVO				AML		AML		
	comp=N,45466μm,0.3s							
ATFO	**Monte Foce - G**	**0.71**	**176**	⇑P		**Pn**	**12 48 59.9**	**+0.1**
ATFO				AML		AML		
	comp=E,70450μm,0.8s							
ATFO				AML		AML		
	comp=N,34250μm,0.6s							
ATFO				AML		AML		
	comp=N,34252μm,0.6s							
ATFO				AML		AML		
	comp=E,70416μm,0.8s							
ATFO				AML		AML		
	comp=N,34252μm,1.4s							
ATFO				AML		AML		
	comp=E,70416μm,1.2s							
CMPO	**Campotto Po**	**0.71**	**316**	P		**Pn**	**12 49 01.0**	**+1.1**
BRIS	**BRISIGHELLA**	**0.72**	**277**	P		**Pn**	**12 48 57.9**	**-2.0**
BRIS				S		**Sn**	**12 49 07.0**	**-2.7**
BRIS				AML		AML		
	comp=E,33950μm,1.2s							
BRIS				AML		AML		
	comp=N,43400μm,0.5s							
BRIS				AML		AML		
	comp=E,36250μm,0.4s							
BRIS				AML		AML		
	comp=N,44850μm,0.6s							
BRIS				AML		AML		
	comp=E,34000μm,1.2s							
BRIS				AML		AML		
	comp=N,43450μm,0.5s							
BRIS				AML		AML		
	comp=E,36272μm,0.4s							
BRIS				AML		AML		
	comp=N,44855μm,0.6s							
BRIS				AML		AML		
	comp=E,33871μm,0.4s							
BRIS				AML		AML		
	comp=N,43439μm,0.5s							
BRIS				AML		AML		
	comp=E,36272μm,1.6s							
BRIS				AML		AML		
	comp=E,33871μm,1.6s							
MMUR	**Monte Murano**	**0.72**	**150**	P		**Pn**	**12 49 00.5**	**+0.5**
MMUR				AML		AML		
	comp=N,26550μm,0.8s							
MMUR				AML		AML		
	comp=E,48850μm,0.3s							
MMUR				AML		AML		
	comp=N,24548μm,0.3s							
MMUR				AML		AML		
	comp=E,48850μm,0.3s							
RUFI	**Rufina**	**0.76**	**252**	P		**Pn**	**12 49 00.5**	**+0.1**
RUFI	**Rufina**	**0.76**	**252**	⇓P		**Pn**	**12 49 00.5**	**+0.1**
RUFI				AML		AML		
	comp=E,18200μm,1.0s							
RUFI				AML		AML		
	comp=N,14350μm,0.7s							
RUFI				AML		AML		
	comp=N,14354μm,0.7s							
RUFI				AML		AML		
	comp=E,14209μm,0.6s							
RUFI				AML		AML		
	comp=N,14354μm,1.3s							
ATMI	**Monte Miggiano**	**0.76**	**193**	P		**Pn**	**12 49 00.9**	**+0.4**
ATMI				AML		AML		
	comp=N,60900μm,0.4s							
ATMI				AML		AML		
	comp=E,42250μm,1.2s							
ATMI				AML		AML		
	comp=E,39956μm,0.4s							
ATMI				AML		AML		
	comp=N,60868μm,0.4s							
ATLO	**AVT- Montelove**	**0.76**	**185**	P		**Pn**	**12 49 00.8**	**+0.4**
FOSV	**Fossato di Vic**	**0.80**	**166**	⇑P		**Pn**	**12 49 01.3**	**+0.3**
FOSV				AML		AML		
	comp=E,40500μm,0.5s							
FOSV				AML		AML		
	comp=N,13900μm,0.4s							
FOSV				AML		AML		
	comp=E,40506μm,0.5s							
FOSV				AML		AML		
	comp=N,13919μm,0.4s							
FOSV				AML		AML		
	comp=E,40506μm,1.5s							
MTRZ	**Monterenzio**	**0.81**	**293**	P		**Pn**	**12 49 02.8**	**+1.6**
MTRZ	**Monterenzio**	**0.81**	**293**	P		**Pn**	**12 49 02.8**	**+1.6**
MTRZ				AML		AML		
	comp=E,21550μm,0.5s							
MTRZ				AML		AML		
	comp=N,22000μm,0.5s							
MTRZ				AML		AML		
	comp=N,21600μm,0.5s							
MTRZ				AML		AML		
	comp=E,22050μm,0.5s							
MTRZ				AML		AML		
	comp=E,22065μm,0.5s							
MTRZ				AML		AML		
	comp=E,21531μm,0.5s							
MTRZ				AML		AML		
	comp=N,22008μm,0.5s							
MTRZ				AML		AML		
	comp=N,21604μm,0.5s							
ATVA	**AVT- Monte Val**	**0.81**	**191**	P		**Pn**	**12 49 01.6**	**+0.4**
MURB	**Monte Urbino**	**0.81**	**179**	⇑P		**Pn**	**12 49 01.8**	**+0.6**
MURB				AML		AML		
	comp=N,73250μm,0.3s							
MURB				AML		AML		
	comp=N,73850μm,0.3s							
MURB				AML		AML		
	comp=E,89800μm,0.3s							
MURB				AML		AML		
MURB				AML		AML		
	comp=E,89823μm,0.3s							
MURB				AML		AML		
MURB				AML		AML		
	comp=N,73845μm,0.3s							
MURB				AML		AML		
	comp=N,73222μm,0.3s							
SEI	**Scarperia**	**0.83**	**269**	P		**Pn**	**12 49 01.9**	**+0.5**
SEI	**Scarperia**	**0.83**	**269**	P		**Pn**	**12 49 01.9**	**+0.5**
SEI				AML		AML		
	comp=E,34050μm,0.5s							
SEI				AML		AML		
	comp=N,61700μm,0.5s							
SEI				AML		AML		
	comp=E,34076μm,0.5s							
SEI				AML		AML		
	comp=E,34076μm,1.5s							
SEI				AML		AML		
	comp=N,61724μm,0.5s							
CAFI	**Castiglion Fio**	**0.84**	**208**	⇑P		**Pn**	**12 49 01.9**	**+0.3**
CAFI				AML		AML		
	comp=E,26200μm,0.7s							
CAFI				AML		AML		
	comp=N,23050μm,0.6s							
CAFI				AML		AML		
	comp=E,27050μm,0.7s							
CAFI				AML		AML		
	comp=N,23050μm,0.6s							
CAFI				AML		AML		
	comp=N,23061μm,0.6s							
CAFI				AML		AML		
	comp=E,26208μm,0.7s							
CAFI				AML		AML		
	comp=E,27052μm,0.7s							
CAFI				AML		AML		
	comp=N,23076μm,0.6s							
CING	**Cingoli**	**0.86**	**144**	P		**Pn**	**12 49 02.3**	**+0.5**
EL6	**Elcito**	**0.86**	**150**	⇑P		**Pn**	**12 49 02.4**	**+0.5**
EL6				AML		AML		
	comp=E,31350μm,0.3s							
EL6				AML		AML		
	comp=E,31300μm,0.3s							
EL6				AML		AML		
	comp=N,22250μm,1.5s							
EL6				AML		AML		
	comp=E,31316μm,0.3s							
EL6				AML		AML		
	comp=E,31316μm,1.7s							
EL6				AML		AML		
	comp=N,20263μm,0.5s							
PCRO	**Pietralacroce**	**0.88**	**122**	P		**Pn**	**12 49 02.7**	**+0.7**
PCRO				AML		AML		
	comp=E,46300μm,0.4s							
PCRO				AML		AML		
	comp=N,45050μm,0.4s							
PCRO				AML		AML		
	comp=E,46320μm,0.4s							
PCRO				AML		AML		
	comp=E,46320μm,1.6s							
PCRO				AML		AML		
	comp=N,45047μm,0.4s							
SNTG	**Esanatoglia**	**0.88**	**159**	⇑P		**Pn**	**12 49 02.5**	**+0.4**
SNTG				AML		AML		
	comp=E,13600μm,0.6s							
SNTG				AML		AML		
	comp=N,20500μm,0.8s							
SNTG				AML		AML		
	comp=E,13450μm,1.4s							
SNTG				AML		AML		
	comp=N,20450μm,0.8s							
SNTG				AML		AML		
	comp=N,18936μm,0.3s							
SNTG				AML		AML		
	comp=E,13605μm,0.6s							
SNTG				AML		AML		
	comp=N,19472μm,0.3s							
SNTG				AML		AML		
	comp=E,12940μm,0.5s							

ATTE	**AVT- Monte Tez**	**0.88 187**	⇑P	**Pn**	**12 49 02.8 +0.6**
ATTE			AML	AML	
	comp=E,15850µm,0.6s				
ATTE			AML	AML	
	comp=N,15800µm,0.3s				
ATTE			AML	AML	
	comp=N,15815µm,0.3s				
ATTE			AML	AML	
	comp=E,15865µm,0.6s				
ATTE			AML	AML	
	comp=E,15865µm,1.4s				
A305A	**Porto Tolle (R**	**0.89 357**	P	**Pn**	**12 49 02.8 +0.6**
ATCC	**AVT- Casa Cast**	**0.89 174**	⇑P	**Pn**	**12 49 03.0 +0.7**
ATCC			AML	AML	
	comp=E,69150µm,0.6s				
ATCC			AML	AML	
	comp=N,61550µm,0.5s				
ATCC			AML	AML	
	comp=E,69160µm,0.6s				
ATCC			AML	AML	
	comp=N,61581µm,0.5s				
MTL1	**Matelica**	**0.89 156**	P	**Pn**	**12 49 02.8 +0.5**
FIU	**Minerbio Fiu**	**0.92 308**	P	**Pn**	**12 49 03.9 +1.2**
FIU			AML	AML	
	comp=E,35550µm,1.0s				
FIU			AML	AML	
	comp=N,40100µm,0.5s				
FIU			AML	AML	
	comp=N,40109µm,0.5s				
FIU			AML	AML	
	comp=E,34639µm,0.5s				
GAG1	**Gagliole**	**0.93 154**	P	**Pn**	**12 49 03.3 +0.5**
FIU1	**Fiuminata**	**0.94 161**	P	**Pn**	**12 49 03.3 +0.4**
AOI	**Ancona**	**0.95 123**	⇑P	**Pn**	**12 49 03.5 +0.4**
AOI			AML	AML	
	comp=E,15350µm,0.3s				
AOI			AML	AML	
	comp=N,17000µm,1.0s				
AOI			AML	AML	
	comp=E,15357µm,0.3s				
AOI			AML	AML	
	comp=N,14184µm,0.4s				
MOCL	**Monte Cuccoli**	**0.96 266**	P	**Pn**	**12 49 04.2 +1.0**
MOCL			AML	AML	
	comp=E,10450µm,1.0s				
MOCL			AML	AML	
	comp=N,7310µm,1.0s				
MOCL			AML	AML	
	comp=E,9424µm,0.5s				
MOCL			AML	AML	
	comp=N,7265µm,0.4s				
MOCL			AML	AML	
	comp=N,7265µm,1.6s				
PIO1	**Pioraco**	**0.96 159**	P	**Pn**	**12 49 03.7 +0.5**
TRE1	**Treia**	**0.96 142**	P	**Pn**	**12 49 03.9 +0.7**
TRE1			AML	AML	
	comp=N,24100µm,0.4s				
TRE1			AML	AML	
	comp=E,29000µm,0.4s				
TRE1			AML	AML	
	comp=N,24050µm,0.4s				
TRE1			AML	AML	
	comp=N,24055µm,0.5s				
TRE1			AML	AML	
	comp=E,28980µm,0.4s				
A307A	**Bentivoglio (B**	**0.97 308**	P	**Pn**	**12 49 05.7 +2.4**
SSM1	**San Severino M**	**0.97 150**	P	**Pn**	**12 49 04.7 +1.3**
SEF1	**Sefro**	**0.98 161**	P	**Pn**	**12 49 03.9 +0.4**
SEF1			AML	AML	
	comp=N,39000µm,0.3s				
SEF1			AML	AML	
	comp=E,49150µm,0.2s				
SEF1			AML	AML	
	comp=N,38999µm,0.3s				
SEF1			AML	AML	
	comp=E,49166µm,0.2s				
MDAR	**Monte D'Aria**	**0.99 152**	P	**Pn**	**12 49 04.4 +0.7**
MDAR			AML	AML	
	comp=E,10420µm,0.9s				
MDAR			AML	AML	
	comp=N,13350µm,0.5s				
MDAR			AML	AML	
	comp=E,10077µm,0.4s				
MDAR			AML	AML	
	comp=N,13349µm,0.5s				
FNVD	**Fontana Vidola**	**1.00 276**	P	**Pn**	**12 49 05.5 +1.7**
FNVD			AML	AML	
	comp=E,11850µm,0.5s				
FNVD			AML	AML	
	comp=N,11500µm,0.6s				
FNVD			AML	AML	
	comp=N,11522µm,0.6s				
FNVD			AML	AML	
	comp=N,11522µm,1.4s				
FNVD			AML	AML	
	comp=E,11846µm,0.5s				
A304A	**Bellombra (RO)**	**1.00 340**	P	**Pn**	**12 49 04.1 +0.3**
MML1	**Montelago di S**	**1.02 160**	P	**Pn**	**12 49 04.5 +0.4**
ADRI	**Adria, Italy**	**1.03 340**	*e*Pg	**Pn**	**12 49 04.4 +0.3**
MPPT	**Montemurlo**	**1.03 264**	P	**Pn**	**12 49 04.8 +0.7**
ASSB	**Assisi San Ben**	**1.03 174**	P	**Pn**	**12 49 05.1 +0.8**
PF6	**Pievefavera**	**1.05 151**	P	**Pn**	**12 49 04.8 +0.4**
PP3	**Marolino**	**1.06 131**	P	**Pn**	**12 49 05.4 +0.9**
CSNT	**Castellina Chi**	**1.06 236**	P	**Pn**	**12 49 05.0 +0.3**
CSNT	**Castellina Chi**	**1.06 236**	P	**Pn**	**12 49 05.0 +0.3**
CSNT			AML	AML	
	comp=E,7190µm,1.4s				
CSNT			AML	AML	
	comp=N,6340µm,0.7s				
CSNT			AML	AML	
	comp=N,6335µm,0.6s				
CSNT			AML	AML	
	comp=E,6799µm,0.7s				
FERS	**Ferrara-Casagl**	**1.08 321**	P	**Pn**	**12 49 07.2 +2.4**
MTCR	**Monte La Croce**	**1.09 268**	P	**Pn**	**12 49 05.7 +0.6**
MTCR	**Monte La Croce**	**1.09 268**	⇑P	**Pn**	**12 49 05.7 +0.6**
MTCR			AML	AML	
	comp=E,4860µm,0.3s				
MTCR			AML	AML	
	comp=N,6065µm,0.6s				
MTCR			AML	AML	
	comp=N,6064µm,0.6s				
MTCR			AML	AML	
	comp=E,4858µm,0.3s				
CSP1	**Cessapalombo**	**1.10 152**	P	**Pn**	**12 49 05.8 +0.6**
CSP1			AML	AML	
	comp=E,17650µm,0.5s				
CSP1			AML	AML	
	comp=N,16650µm,0.3s				
CSP1			AML	AML	
	comp=E,17635µm,0.5s				
CSP1			AML	AML	
	comp=N,16646µm,0.3s				
CESI	**CESI - Serrava**	**1.11 165**	⇑P	**Pn**	**12 49 05.7 +0.4**
CESI			AML	AML	
	comp=E,14600µm,0.9s				
CESI			AML	AML	
	comp=N,13200µm,0.4s				
CESI			AML	AML	
	comp=N,13223µm,0.4s				
CESI			AML	AML	
	comp=E,14599µm,0.9s				
FDMO	**Fiordimonte**	**1.12 158**	Pn	**Pn**	**12 49 05.5 +0.1**
FDMO	**Fiordimonte**	**1.12 158**	P	**Pn**	**12 49 05.7 +0.3**
FDMO			AML	AML	
	comp=E,9285µm,0.2s				
FDMO			AML	AML	
	comp=N,12235µm,1.5s				
FDMO			AML	AML	
	comp=E,9288µm,0.2s				
FDMO			AML	AML	
	comp=N,11272µm,0.5s				
ZCCA	**Zocca**	**1.13 285**		**Pn**	**12 49 09.2 +3.6**
ZCCA	**Zocca**	**1.13 285**	P	**Pn**	**12 49 09.1 +3.4**
CIMA	**Civitanova Mar**	**1.14 132**	P	**Pn**	**12 49 06.8 +1.2**
CRMI	**Carmignano**	**1.15 256**	P	**Pn**	**12 49 06.0 +0.3**
CRMI			AML	AML	
	comp=E,4045µm,0.3s				
CRMI			AML	AML	
	comp=N,3990µm,0.4s				
CRMI			AML	AML	
	comp=E,4275µm,0.3s				
CRMI			AML	AML	
	comp=N,4135µm,0.4s				
CRMI			AML	AML	
	comp=E,4048µm,0.3s				
CRMI			AML	AML	
	comp=N,4135µm,0.4s				
CRMI			AML	AML	
	comp=E,4274µm,0.3s				
CRMI			AML	AML	
	comp=N,3993µm,0.4s				
MNTP	**Montappone**	**1.17 143**	P	**Pn**	**12 49 06.8 +0.8**
MNTP			AML	AML	
	comp=E,28800µm,0.5s				
MNTP			AML	AML	
	comp=N,24100µm,0.4s				
MNTP			AML	AML	
	comp=E,28788µm,0.5s				
MNTP			AML	AML	
	comp=N,24131µm,0.4s				
MNTP			AML	AML	
	comp=E,28788µm,1.5s				
MNTP			AML	AML	
	comp=N,24131µm,1.6s				
GUMA	**Gualdo di Mace**	**1.18 149**		**Pn**	**12 49 06.7 +0.5**
GUMA	**Gualdo di Mace**	**1.18 149**	⇑P	**Pn**	**12 49 06.8 +0.6**
GUMA			AML	AML	
	comp=E,41000µm,0.4s				
GUMA			AML	AML	
	comp=N,26350µm,1.1s				
GUMA			AML	AML	
	comp=E,45950µm,0.4s				
GUMA			AML	AML	
	comp=N,27050µm,0.5s				
GUMA			AML	AML	
	comp=N,27042µm,0.5s				
GUMA			AML	AML	
	comp=N,22976µm,0.3s				
GUMA			AML	AML	
	comp=E,45925µm,0.4s				
GUMA			AML	AML	
	comp=N,22976µm,1.6s				
GUMA			AML	AML	
	comp=E,40998µm,0.4s				
FEMA	**Monte Fema**	**1.18 160**	P	**Pn**	**12 49 07.0 +0.7**
FEMA			AML	AML	
	comp=E,22150µm,0.4s				
FEMA			AML	AML	
	comp=N,13950µm,0.6s				
FEMA			AML	AML	
	comp=N,12624µm,0.3s				
FEMA			AML	AML	
	comp=E,22134µm,0.4s				
MGAB	**Montegabbione**	**1.19 194**	⇑P	**Pn**	**12 49 06.7 +0.3**
MGAB			AML	AML	
	comp=E,15900µm,1.0s				
MGAB			AML	AML	
	comp=N,18400µm,0.6s				
MGAB			AML	AML	
	comp=E,17850µm,0.4s				
MGAB			AML	AML	
	comp=N,18600µm,0.6s				
MGAB			AML	AML	
	comp=N,18395µm,0.6s				
MGAB			AML	AML	
	comp=N,18592µm,0.6s				
MGAB			AML	AML	
	comp=E,17865µm,0.4s				
MGAB			AML	AML	
	comp=E,17865µm,1.6s				
MGAB			AML	AML	
	comp=E,15315µm,0.6s				
MGAB			AML	AML	
	comp=N,18592µm,1.4s				
MGAB			AML	AML	
	comp=N,18395µm,1.4s				
RAVA	**Ravarino**	**1.21 305**	P	**Pn**	**12 49 10.0 +3.5**
RAVA	**Ravarino**	**1.21 305**	P	**Pn**	**12 49 08.6 +2.1**
BRJN	**Brijuni**	**1.22 46**	⇓P	**Pn**	**12 49 06.4 -0.4**
POPM	**Popiglio**	**1.26 269**	P	**Pn**	**12 49 07.5 +0.2**
POPM	**Popiglio**	**1.26 269**	P	**Pn**	**12 49 07.7 +0.3**
POPM			AML	AML	
	comp=E,3825µm,0.8s				
POPM			AML	AML	
	comp=N,4620µm,1.3s				
POPM			AML	AML	
	comp=E,3639µm,0.3s				
POPM			AML	AML	
	comp=N,4252µm,0.3s				
MC2	**Monte Cornacci**	**1.26 156**	P	**Pn**	**12 49 08.0 +0.4**
CADA	**Capodarco di F**	**1.27 133**	P	**Pn**	**12 49 08.4 +1.1**
MOMA	**Monte Martano**	**1.27 178**	P	**Pn**	**12 49 07.5 0.0**
MOMA			AML	AML	
	comp=E,8435µm,1.6s				
MOMA			AML	AML	
	comp=N,5445µm,0.8s				
MOMA			AML	AML	
	comp=E,8715µm,1.6s				
MOMA			AML	AML	
	comp=N,5595µm,0.4s				
MOMA			AML	AML	
	comp=N,5595µm,0.4s				
MOMA			AML	AML	
	comp=E,8174µm,0.4s				
MOMA			AML	AML	
	comp=N,5363µm,0.5s				
MOMA			AML	AML	
	comp=N,5363µm,1.6s				
MOMA			AML	AML	
	comp=N,5595µm,1.6s				
MOMA			AML	AML	
	comp=E,7806µm,0.4s				
SERM	**Sermide**	**1.28 318**	P	**Pn**	**12 49 08.1 +0.6**
A303A	**Lido-Pellestri**	**1.28 354**	P	**Pn**	**12 49 07.7 +0.1**
MF5	**Montefalcone A**	**1.29 147**	⇑P	**Pn**	**12 49 08.3 +0.5**
MF5			AML	AML	
	comp=E,14400µm,0.5s				
MF5			AML	AML	
	comp=N,16800µm,0.7s				
MF5			AML	AML	
	comp=E,14418µm,0.5s				
MF5			AML	AML	
	comp=N,16769µm,0.7s				
SACS	**San Casciano d**	**1.30 200**	⇑P	**Pn**	**12 49 07.8 -0.1**
SACS			AML	AML	
	comp=E,7530µm,1.3s				
SACS			AML	AML	
	comp=N,5730µm,0.7s				
SACS			AML	AML	
	comp=E,6995µm,1.3s				
SACS			AML	AML	
	comp=N,5905µm,0.7s				
SACS			AML	AML	
	comp=E,6523µm,0.4s				
SACS			AML	AML	
	comp=N,5732µm,0.7s				
SACS			AML	AML	
	comp=E,5855µm,0.4s				
SACS			AML	AML	
	comp=E,6523µm,1.6s				
SACS			AML	AML	
	comp=N,5907µm,0.7s				
FROS	**Frosini**	**1.30 229**	P	**Pn**	**12 49 07.8 -0.2**
FROS	**Frosini**	**1.30 229**	P	**Pn**	**12 49 07.8 -0.2**
FROS			AML	AML	
	comp=E,5815µm,1.0s				
FROS			AML	AML	
	comp=N,4995µm,0.7s				
FROS			AML	AML	
	comp=E,5818µm,1.0s				
FROS			AML	AML	
	comp=N,4995µm,0.7s				
NRCA	**Norcia**	**1.31 160**		**Pn**	**12 49 08.6 +0.4**
MMO1	**Montemonaco**	**1.32 153**	⇑P	**Pn**	**12 49 08.5 +0.3**
BDI	**Bagni Di Lucca**	**1.38 270**	P	**Pn**	**12 49 08.9 0.0**
TEOL	**Teolo**	**1.42 335**	*e*Pg	**Pn**	**12 49 10.6 +1.1**
TEOL	**Teolo**	**1.42 335**		**Pn**	**12 49 08.6 -0.9**
GAZZ	**Gazzo Veronese**	**1.45 316**	*e*Pg	**Pn**	**12 49 11.3 +1.5**
CARD	**Cardoso**	**1.46 269**	P	**Pn**	**12 49 10.1 0.0**
MAIM	**Mastiano**	**1.46 264**	P	**Pn**	**12 49 09.9 -0.2**
CESX	**Cesi**	**1.46 178**		**Pn**	**12 49 10.2 +0.1**
PII	**Pisa**	**1.47 257**	P	**Pn**	**12 49 10.3 +0.1**
SARO	**Sassorosso**	**1.52 275**	P	**Pn**	**12 49 11.3 +0.3**
VLC	**Villacollemand**	**1.53 274**	P	**Pn**	**12 49 11.3 +0.3**
VLC			S	**Sn**	**12 49 32.6 +2.9**
VLC	**Villacollemand**	**1.53 274**	P	**Pn**	**12 49 11.2 +0.2**
CAMP	**Campotosto**	**1.67 156**		**Pn**	**12 49 13.4 +0.3**
PRMA	**PARMA**	**1.72 295**		**Pn**	**12 49 15.1 +1.5**
SKDS	**Skadanscina**	**1.82 36**	⇓*i*Pn	**Pn**	**12 49 14.1 -1.0**
RIY	**Rijeka**	**1.89 48**	*e*Pg	**Pn**	**12 49 15.5 -0.4**
SABO	**M.te Sabotino**	**2.06 22**	Pn	**Pn**	**12 49 17.4 -0.9**
CTI	**Castel Tesino**	**2.07 343**	Pn	**Pn**	**12 49 17.8 -0.7**
CEY	**Cerknica**	**2.15 39**	*e*Pn	**Pn**	**12 49 18.2 -1.4**
CEY	**Cerknica**	**2.15 39**	⇓*i*Pn	**Pn**	**12 49 18.7 -0.9**
MSSA	**Maissana**	**2.16 278**		**Pn**	**12 49 21.3 +1.5**
INTR	**Introdacqua**	**2.30 153**	Pn	**Pn**	**12 49 21.4 -0.3**
CADS	**Cadrg**	**2.33 22**	⇓*i*Pn	**Pn**	**12 49 21.4 -0.6**
GORR	**Gorreto**	**2.37 284**	P	**Pn**	**12 49 24.3 +1.7**
BOJS	**Bojanci**	**2.42 53**	⇓*i*Pn	**Pn**	**12 49 23.4 +0.1**
LJU	**Ljubljana**	**2.44 35**	*e*Pn	**Pn**	**12 49 23.4 -0.1**
PRED	**Cave del Predi**	**2.49 17**		**Pn**	**12 49 22.7 -1.5**
PDKS	**Podkum**	**2.66 41**	⇓*i*Pn	**Pn**	**12 49 26.5 -0.1**
ABTA	**Abfaltersbach**	**2.67 0**	*e*Pn	**Pn**	**12 49 27.3 +0.4**
	comp=N,50nm,0.4s,SNR=80				
ABTA			Sn	**Sn**	**12 49 57.6 -0.4**
	comp=N,439nm,0.7s				
MYKA	**Terra Mystica**	**2.68 17**	*e*Pn	**Pn**	**12 49 27.0 +0.1**
	comp=N,17nm,0.2s,SNR=33				
MYKA			*e*Sn	**Sn**	**12 49 58.0 -0.1**
	comp=N,75nm,0.3s				
CRES	**Cresnjevec Ost**	**2.73 49**	⇓*i*Pn	**Pn**	**12 49 27.7 +0.1**
OBKA	**Obir**	**2.83 30**	*e*Pn	**Pn**	**12 49 28.5 -0.5**
	comp=N,30nm,0.4s,SNR=69				
OBKA			*e*Sn	**Sn**	**12 50 02.5 +0.6**
	comp=N,506nm,0.6s				
OBKA	**Obir**	**2.83 30**	⇓*i*Pn	**Pn**	**12 49 28.5 -0.5**
OBKA	**Obir**	**2.83 30**	*e*Pn	**Pn**	**12 49 28.5 -0.5**
A050A	**Klekovaca**	**2.92 81**	*e*Pn	**Pn**	**12 49 30.6 +0.4**
PGF	**Pioggiola**	**2.98 240**	*e*Pn	**Pn**	**12 49 31.0 0.0**
PGF			*e*Sn	**Sn**	**12 50 04.6 -0.9**
	comp=N,128nm,0.4s				
FUORN	**Ofenpass-Fuorn**	**3.00 329**	Pn	**Pn**	**12 49 32.6 +1.2**
KBA	**Koelnbreinsper**	**3.06 11**	*i* Pn	**Pn**	**12 49 32.8 +0.6**
	comp=N,30nm,0.2s,SNR=47				
KBA			*e*Sn	**Sn**	**12 50 08.6 +0.9**
	comp=N,268nm,0.5s				
KBA	**Koelnbreinsper**	**3.06 11**	*e*Pn	**Pn**	**12 49 32.8 +0.6**
SOKA	**Soboth**	**3.16 33**	*i* Pn	**Pn**	**12 49 33.0 -0.5**
	comp=N,20nm,0.2s,SNR=12				
SOKA			*i* Sn	**Sn**	**12 50 10.3 +0.5**
	comp=N,68nm,0.4s				
GROS	**Grobnik**	**3.19 40**	⇓*i*Pn	**Pn**	**12 49 33.2 -0.8**
FETA	**Feichten**	**3.20 338**	*i* Pn	**Pn**	**12 49 34.3 +0.1**
	comp=N,50nm,0.4s,SNR=67				
FETA			*i* Sn	**Sn**	**12 50 11.8 +0.6**
	comp=N,110nm,0.6s				
WTTA	**Wattenberg**	**3.25 349**	*i* Pn	**Pn**	**12 49 35.5 +0.7**
	comp=N,80nm,0.2s,SNR=28				
WTTA			*e*Sn	**Sn**	**12 50 12.1 -0.2**
	comp=N,394nm,0.4s				
WTTA	**Wattenberg**	**3.25 349**	*e*Pn	**Pn**	**12 49 35.6 +0.7**
TUE	**Stuetta**	**3.28 318**	Pn	**Pn**	**12 49 35.5 +0.3**
TUE	**Stuetta**	**3.28 318**	P	**Pn**	**12 49 34.4 -0.8**
SQTA	**Sankt Quirin**	**3.28 344**	*i* Pn	**Pn**	**12 49 35.8 +0.7**
	comp=N,82nm,0.1s,SNR=70				
SQTA			*e*Sn	**Sn**	**12 50 13.5 +0.6**
	comp=N,431nm,0.3s				
DAVOX	**Davos/Dischmat**	**3.28 327**	Pn	**Pn**	**12 49 36.1 +0.8**
	comp=N,15nm,0.3s,baz=145,slow=12,SNR=175				
DAVOX			Sn	**Sn**	**12 50 13.9 +0.9**
	comp=N,29nm,0.3s,baz=128,slow=22,SNR=6.9				
DAVOX			Lg	Lg	12 50 25.8
	comp=N,25nm,0.3s,baz=137,slow=14,SNR=5.1				
	comp=N,34nm,0.3s				
A051A	**Mrakovica**	**3.28 72**	⇓*i*Pn	**Pn**	**12 49 35.0 -0.2**
WATA	**Walderalm**	**3.33 349**	*i* Pn	**Pn**	**12 49 36.8 +0.9**
	comp=N,137nm,0.2s,SNR=67				
WATA			*i* Sn	**Sn**	**12 50 14.9 +0.7**
	comp=N,268nm,0.3s				
LESA	**Schwarzleotal**	**3.35 2**	*i* Pn	**Pn**	**12 49 36.9 +0.7**
	comp=N,188nm,0.3s				
LESA			*i* Sn	**Sn**	**12 50 14.9 +0.2**
	comp=N,221nm,0.2s				
PAOL	**Paolisi**	**3.40 153**	Pn	**Pn**	**12 49 36.3 -0.5**
MOTA	**Moosalm**	**3.42 344**	*i* Pn	**Pn**	**12 49 38.2 +1.1**
	comp=N,58nm,0.3s				
MOTA			*e*Sn	**Sn**	**12 50 17.6 +1.2**
	comp=N,150nm,0.3s				
BLY	**Banja Luka**	**3.42 77**	*e*Pn	**Pn**	**12 49 37.4 +0.4**
BLY	**Banja Luka**	**3.42 77**	⇓*i*Pn	**Pn**	**12 49 37.2 +0.2**
AJAC	**Base Areonaval**	**3.48 233**	P	**Pn**	**12 49 38.4 +0.6**
RETA	**Reutte**	**3.63 341**	*i* Pn	**Pn**	**12 49 41.0 +1.1**
	comp=N,107nm,0.2s,SNR=52				
RETA			*i* Sn	**Sn**	**12 50 22.0 +0.6**
	comp=N,173nm,0.5s				
ENR	**Entracque**	**3.66 274**	P	**Pn**	**12 49 40.5 +0.1**
SBF	**Sospel**	**3.67 268**	*e*Pn	**Pn**	**12 49 41.0 +0.6**
SBF			*e*Sn	**Sn**	**12 50 19.0 -3.4**
	comp=N,182nm,0.4s				
RJOB	**Jochberg**	**3.67 3**	*e*Pn	**Pn**	**12 49 41.3 +0.8**
OBER	**Oberstdorf**	**3.68 336**	*e*Pn	**Pn**	**12 49 41.9 +1.3**
PLONS	**Plons/SG**	**3.70 325**	*e*Pn	**Pn**	**12 49 42.3 +1.4**
PLONS			*e*Sn	**Sn**	**12 50 23.6 +0.4**
DAVA	**Damuels**	**3.70 331**	*i* Pn	**Pn**	**12 49 42.5 +1.5**
	comp=N,26nm,0.2s,SNR=104				
DAVA			*e*Sn	**Sn**	**12 50 23.9 +0.4**
	comp=N,105nm,0.4s				
DAVA	**Damuels**	**3.70 331**	*e*Pn	**Pn**	**12 49 42.5 +1.5**
BIOA	**Bad Ischl, Aus**	**3.71 12**	*e*Pn	**Pn**	**12 49 41.4 +0.4**
	comp=N,170nm,0.3s,SNR=114				
BIOA			*i* Sn	**Sn**	**12 50 24.2 +0.9**
	comp=N,108nm,0.5s				
ARSA	**Arzberg**	**3.82 33**	*i* Pn	**Pn**	**12 49 41.9 -0.6**
	comp=N,29nm,0.2s,SNR=25				
ARSA			*e*Sn	**Sn**	**12 50 27.9 +1.8**
	comp=N,19nm,0.3s				
ARSA	**Arzberg**	**3.82 33**	*e*Pn	**Pn**	**12 49 41.9 -0.6**
ARSA	**Arzberg**	**3.82 33**	*e*Pn	**Pn**	**12 49 42.0 -0.6**
BHB	**Bricherasio**	**3.83 283**	P	**Pn**	**12 49 40.6 -2.1**
BEHE	**Becsehely**	**3.85 50**		**Pn**	**12 49 42.5 -0.4**
VULT	**Monte Vulture**	**3.87 143**	AML	AML	
	comp=N,590µm,1.3s				
VULT			AML	AML	
	comp=N,582µm,1.2s				
VULT			AML	AML	
	comp=E,550µm,0.4s				
VULT			AML	AML	
	comp=E,528µm,0.4s				
EMBD	**Embd, Matterta**	**3.94 305**	P	**Pn**	**12 49 43.0 -1.3**
STON	**Ston**	**3.97 106**	*e*Pn	**Pn**	**12 49 44.4 -0.1**
STON			*e*Sn	**Sn**	**12 50 28.1 -1.6**
STON	**Ston**	**3.97 106**	*e*Pn	**Pn**	**12 49 44.1 -0.4**
MOA	**Molln**	**3.97 17**	*i* Pn	**Pn**	**12 49 45.2 +0.6**
	comp=E,81nm,0.2s,SNR=80				
MOA			*e*Sn	**Sn**	**12 50 28.6 -1.3**
	comp=E,59nm,0.4s				
MOA	**Molln**	**3.97 17**	*e*Pn	**Pn**	**12 49 45.2 +0.6**
MOA	**Molln**	**3.97 17**	*e*Pn	**Pn**	**12 49 45.2 +0.6**
UBR	**Ueberruh**	**3.98 336**	*e*Pn	**Pn**	**12 49 45.3 +0.6**
LSD	**Lago del Serru**	**4.07 292**	S	**Sn**	**12 50 25.8 -6.8**
LSD	**Lago del Serru**	**4.07 292**	P	**Pn**	**12 49 43.6 -2.6**
JAUF	**Jausiers**	**4.15 277**	P	**Pn**	**12 49 47.0 -0.2**
ACER	**Acerenza**	**4.15 141**	AML	AML	
	comp=N,404µm,1.6s				
ACER			AML	AML	
	comp=E,268µm,0.7s				
ACER			AML	AML	
	comp=N,267µm,0.6s				
ACER			AML	AML	
	comp=N,404µm,0.4s				
ACER			AML	AML	
	comp=E,432µm,0.7s				
MBDF	**Montbardon**	**4.16 281**	*e*Pn	**Pn**	**12 49 46.4 -0.9**
MBDF			*e*Sn	**Sn**	**12 50 28.8 -6.0**
	comp=E,114nm,0.5s				
RRL	**Rocca Remolon**	**4.18 284**	P	**Pn**	**12 49 46.0 -1.6**
FUR	**Furstenfeldbru**	**4.18 349**	*e*Pn	**Pn**	**12 49 47.7 +0.2**
WILA	**Wila**	**4.18 324**	*e*Pn	**Pn**	**12 49 48.0 +0.5**
REMY	**Saint-Rhmy-en**	**4.19 297**	P	**Pn**	**12 49 46.6 -1.2**
REMY	**Saint-Rhmy-en**	**4.19 297**	AML	AML	
	comp=N,621µm,1.1s				
REMY			AML	AML	
	comp=E,501µm,0.6s				
REMY			AML	AML	
	comp=N,621µm,0.9s				
BNI	**Bardonecchia**	**4.28 285**	Pn	**Pn**	**12 49 47.6 -1.3**
CMPR	**Campora**	**4.29 150**	AML	AML	
	comp=E,78µm,0.5s				
CMPR			AML	AML	
	comp=N,85µm,1.5s				
CMPR			AML	AML	
	comp=N,85µm,0.5s				
ZUR	**Degenried**	**4.29 322**	S	**Sn**	**12 50 35.6 -2.2**
ZUR	**Degenried**	**4.29 322**	P	**Pn**	**12 49 49.3 +0.3**
SENIN	**Lac Senin/Sane**	**4.33 304**	Pn	**Pn**	**12 49 49.9 +0.2**
LPG	**La Plagne**	**4.34 291**	*e*Pn	**Pn**	**12 49 47.9 -2.0**

LPG *eSn* **Sn** **12 50 34.8 -4.5**
comp=N,106nm,0.5s
SLCN Sala Consilina **4.35 147** AML AML
comp=N,168µm,0.6s
SLCN AML AML
comp=E,212µm,0.6s
LPL La Plagne **4.36 291** *e*Pn **Pn** **12 49 48.8 -1.3**
LPL *e*Sn **Sn** **12 50 33.7 -5.9**
comp=E,112nm,0.3s
LMR La Mourre **4.41 262** *e*Pn **Pn** **12 49 49.8 -0.8**
LMR *e*Sn **Sn** **12 50 36.3 -4.3**
comp=E,50nm,0.3s
TREB Trebinje **4.47 106** *e*Pn **Pn** **12 49 51.4 0.0**
MCEL Monticello **4.47 146** AML AML
comp=N,105µm,1.1s
MCEL AML AML
comp=E,147µm,1.5s
MCEL AML AML
comp=N,105µm,0.9s
MCEL AML AML
comp=E,147µm,0.5s
RSL Roselend **4.48 293** P **Pn** **12 49 51.4 -0.4**
RONA Rosalia, Austr **4.49 35** *i* Pn **Pn** **12 49 51.2 -0.5**
comp=E,17nm,0.3s,SNR=55
RONA *i* Sn **Sn** **12 50 43.8 +1.1**
comp=E,41nm,0.6s
MTSN Montesano sull **4.50 147** AML AML
comp=E,97µm,1.0s
MTSN AML AML
comp=N,107µm,1.5s
MTSN AML AML
comp=N,107µm,0.5s
CONA Conrad Observa **4.51 30** *i* Pn **Pn** **12 49 51.7 -0.3**
comp=N,35nm,0.2s,SNR=39
CONA *i* Sn **Sn** **12 50 40.6 -2.6**
comp=N,49nm,0.4s
AIGLE Aigle **4.53 302** P **Pn** **12 49 52.7 +0.4**
BRY Bratogost **4.54 103** *e*Pn **Pn** **12 49 53.2 +0.6**
BRY Bratogost **4.54 103** *e*Pn **Pn** **12 49 52.5 -0.1**
BRY *i* Sn **Sn** **12 50 42.2 -2.0**
MATE Matera **4.62 136** ⇓P **Pn** **12 49 52.1 -1.4**
MATE Matera **4.62 136** AML AML
comp=N,312µm,0.7s
MATE AML AML
comp=E,256µm,1.6s
MATE AML AML
comp=E,256µm,0.4s
SULZ Cheisacher **4.62 320** S **Sn** **12 50 41.9 -4.0**
SULZ Cheisacher **4.62 320** P **Pn** **12 49 53.3 -0.2**
SULZ Cheisacher **4.62 320** *e*Pn **Pn** **12 49 53.3 -0.2**
SLE Schleitheim **4.63 324** S **Sn** **12 50 41.9 -4.3**
SLE Schleitheim **4.63 324** P **Pn** **12 49 53.5 -0.2**
SLE Schleitheim **4.63 324** *e*Pn **Pn** **12 49 53.2 -0.5**
SLE *e*Sn **Sn** **12 50 41.9 -4.3**
HAPS Han Pijesak,Bl **4.64 88** *e*Pn **Pn** **12 49 54.3 +0.4**
HAPS *e*Sn **Sn** **12 50 44.9 -1.7**
HAPS Han Pijesak,Bl **4.64 88** *e*Pn **Pn** **12 49 54.3 +0.4**
HCY Herceg Novi **4.67 108** P **Pn** **12 49 54.1 0.0**
HCY Herceg Novi **4.67 108** *e*Pn **Pn** **12 49 53.8 -0.3**
HCY Herceg Novi **4.67 108** ⇓*i*Pn **Pn** **12 49 54.1 0.0**
HCY *e*Sn **Sn** **12 50 44.7 -2.3**
BALST Balsthal **4.69 316** S **Sn** **12 50 43.1 -4.5**
BALST Balsthal **4.69 316** P **Pn** **12 49 54.1 -0.5**
BALST Balsthal **4.69 316** *e*Pn **Pn** **12 49 54.0 -0.5**
MPLH Magyarpolny **4.70 47** P **Pn** **12 49 52.6 -1.9**
NOCI Noci **4.71 133** P **Pn** **12 49 50.5 -4.2**
UPM Unac-Piva **4.73 98** P **Pn** **12 49 56.4 +1.2**
UPM Unac-Piva **4.73 98** *e*Pn **Pn** **12 49 56.0 +0.9**
UPM Unac-Piva **4.73 98** *e*Pn **Pn** **12 49 55.6 +0.5**
UPM *i* Sn **Sn** **12 50 46.2 -2.5**
TORNY Torny/Romont **4.75 307** P **Pn** **12 49 55.3 0.0**
ORIF Oris-en-Rattie **4.81 282** *e*Pn **Pn** **12 49 57.1 +0.9**
ORIF *e*Sn **Sn** **12 50 45.4 -5.4**
comp=E,75nm,0.4s
NORI Noerdlinger Ri **4.83 345** *e*Pn **Pn** **12 49 55.4 -0.9**
MORH Mrgy, Hungar **4.84 62** P **Pn** **12 49 54.7 -1.8**
GEC2 GERESS Array S **4.84 9** **Pn** **12 49 56.0 -0.7**
GEC2 GERESS Array S **4.84 9** *e*Pn **Pn** **12 49 56.0 -0.7**
GERES GERESS Array B **4.84 9** Pn **Pn** **12 49 55.4 -1.3**
comp=E,22nm,0.3s,baz=168,slow=12,SNR=308
GERES Sn **Sn** **12 50 49.5 -2.0**
comp=E,14nm,0.3s,baz=184,slow=17,SNR=4.4
GERES Lg Lg 12 51 16.8
comp=E,8.9nm,0.3s,baz=200,slow=23,SNR=2.0
comp=E,27nm,0.3s
NKME Niksic **4.87 103** *e*Pn **Pn** **12 49 57.2 +0.2**
NKME *i* Sn **Sn** **12 50 49.4 -2.8**
CKRC Cesky Krumlov **4.91 14** *e*PN **Pn** **12 49 57.0 -0.5**
CEME Cevo **4.92 106** *e*Pn **Pn** **12 49 57.8 +0.1**
CEME *e*Sn **Sn** **12 50 51.1 -2.3**
ENDD Endenburg **4.93 319** S **Sn** **12 50 48.0 -5.6**
ENDD Endenburg **4.93 319** P **Pn** **12 49 57.1 -0.7**
BSTF la Bastide-des **4.96 270** P **Pn** **12 50 00.8 +2.7**
LEPF PUYLOUBIER **4.96 266** P **Pn** **12 50 00.6 +2.5**
GRN Grenoble **4.96 286** P **Pn** **12 49 58.5 +0.3**
BOURR Bourrignon **4.97 314** P **Pn** **12 49 57.6 -0.7**
BBLS Lazi&#263i **4.99 90** *e*Pn **Pn** **12 49 59.0 +0.4**
BBLS *e*Sn **Sn** **12 50 51.8 -3.1**
BBLS Lazi&#263i **4.99 90** *e*Pn **Pn** **12 49 58.2 -0.4**
RUDO Rudo **4.99 93** *e*Pn **Pn** **12 49 58.0 -0.5**
BUM Brajici-Budva **5.00 109** ⇑*i*Pn **Pn** **12 49 58.8 +0.1**
BUM *e*Sn **Sn** **12 50 52.4 -2.8**
SMRF Simiane la Rot **5.00 271** *e*Pn **Pn** **12 50 00.9 +2.2**
SMRF *e*Sn **Sn** **12 50 50.7 -4.5**
comp=E,22nm,0.4s
KIZ Kirchzarten **5.03 322** P **Pn** **12 49 58.6 -0.5**
GIMEL St. Georges / **5.04 301** P **Pn** **12 49 59.5 +0.1**
PLE Pljevlja **5.05 96** P **Pn** **12 50 01.6 +2.2**
PLE Pljevlja **5.05 96** *e*Pn **Pn** **12 49 59.4 0.0**
PLE *i* Sn **Sn** **12 50 53.8 -2.7**
TEKS Tekeris **5.06 82** *e*Pn **Pn** **12 49 59.3 -0.3**
TEKS *e*Sn **Sn** **12 50 53.8 -3.0**
TEKS Tekeris **5.06 82** *e*Pn **Pn** **12 49 58.8 -0.8**
OGSM Saint Maurice **5.08 290** P **Pn** **12 49 59.2 -0.6**
WET Wettzell **5.08 3** *e*Pn **Pn** **12 49 59.0 -0.9**
WET *e*Sn **Sn** **12 50 52.8 -4.4**
KHC Kasperske Hory **5.11 8** Pn **Pn** **12 49 59.0 -1.3**
KHC Kasperske Hory **5.11 8** *e*PN **Pn** **12 49 59.6 -0.7**
KHC *e*SN **Sn** **12 50 54.6 -3.4**
KHC Kasperske Hory **5.11 8** P **Pn** **12 49 58.2 -2.1**
comp=E,62nm,0.4s,comp=E,0.3nm
BRANT Les Verrieres **5.12 306** P **Pn** **12 49 59.8 -0.6**
VSL Villasalto **5.13 208** Pn **Pn** **12 50 01.9 +1.3**
ILLF Illfurth **5.14 316** P **Pn** **12 50 00.6 -0.1**
ILLF S **Sn** **12 50 53.2 -5.5**
BFO Black Forest **5.15 327** **Pn** **12 50 00.2 -0.6**
BFO Black Forest **5.15 327** *e*Pn **Pn** **12 50 00.3 -0.5**
CABF La Chapelle **5.19 302** *e*Pn **Pn** **12 50 01.1 -0.3**
CABF *e*Sn **Sn** **12 50 52.2 -7.7**
comp=E,51nm,0.5s
CHMF Charmoille **5.19 310** P **Pn** **12 50 00.6 -0.8**
PDG Podgorica **5.20 106** Pn **Pn** **12 50 02.0 +0.6**
PDG Podgorica **5.20 106** *e*Pn **Pn** **12 50 01.6 +0.2**
PDG *e*Sn **Sn** **12 50 58.9 -1.1**
PDG Podgorica **5.20 106** *e*Pn **Pn** **12 50 00.6 -0.8**
PDG Podgorica **5.20 106** ⇑P **Pn** **12 50 00.9 -0.5**
PDG Podgorica **5.20 106** *e*Pn **Pn** **12 50 01.9 +0.6**
PDG *i* Sn **Sn** **12 50 57.6 -2.4**
VOGT Vogtsburg - To **5.23 322** S **Sn** **12 50 56.9 -4.1**
VOGT Vogtsburg - To **5.23 322** P **Pn** **12 50 01.4 -0.5**
DRME Dracevica, Mon **5.24 109** ⇑*i*Pn **Pn** **12 50 02.1 +0.1**
DRME *i* Sn **Sn** **12 50 58.4 -2.7**
KOME Kolasin **5.25 101** *e*Pn **Pn** **12 50 02.0 -0.2**
KOME *e*Sn **Sn** **12 50 58.4 -3.0**
OG35 Corcelles **5.29 294** P **Pn** **12 50 02.0 -0.8**
FRGS Fruska Gora **5.33 76** *e*Pn **Pn** **12 50 00.7 -2.5**
FRGS *e*Sn **Sn** **12 50 58.5 -4.8**
FRGS Fruska Gora **5.33 76** *e*Pn **Pn** **12 50 00.2 -3.0**
WALT Westhalten **5.33 319** P **Pn** **12 50 02.5 -0.7**
WALT S **Sn** **12 50 57.3 -6.0**
OPP Oppenau **5.34 327** P **Pn** **12 50 03.0 -0.3**
RIVEL MONT RIVEL **5.36 302** P **Pn** **12 50 03.0 -0.6**
DIVS Divibare **5.39 87** *e*Pn **Pn** **12 50 03.5 -0.7**
BOUC Bouclans **5.41 308** P **Pn** **12 50 03.5 -0.8**
BOUC S **Sn** **12 50 59.2 -6.0**
ZELS Zelsheim **5.42 323** P **Pn** **12 50 04.2 -0.2**
MODS Modra-Piesok **5.43 36** *e*PN **Pn** **12 50 03.7 -0.9**
MODS *e*SN **Sn** **12 51 06.1 +0.4**
HINF Hinteralfeld **5.44 316** *e*Pn **Pn** **12 50 03.5 -1.2**
HINF *e*Sn **Sn** **12 51 00.2 -5.8**
comp=E,91nm,0.4s
RONF Ronchamp **5.47 314** P **Pn** **12 50 04.2 -1.0**

SJES Sjenica **5.48 96** *e*Pn **Pn** **12 50 06.5 +1.1**
SJES *e*Sn **Sn** **12 51 04.4 -2.7**
SJES Sjenica **5.48 96** *e*Pn **Pn** **12 50 05.4 0.0**
ZVC Zvikov **5.49 12** *e*PN **Pn** **12 50 04.5 -0.9**
IVA Berane **5.51 100** ⇑*i*Pn **Pn** **12 50 05.9 +0.1**
IVA *i* Sn **Sn** **12 51 05.0 -2.9**
SRO Srobarova **5.51 45** *e*PN **Pn** **12 50 04.6 -1.1**
SRO *e*SN **Sn** **12 51 04.4 -3.4**
BABA Baden-Baden-Ne **5.52 329** P **Pn** **12 50 05.4 -0.4**
IVAS Ivanjica **5.55 92** *e*Pn **Pn** **12 50 06.5 +0.1**
IVAS *e*Sn **Sn** **12 51 06.4 -2.6**
ECH Echery **5.56 320** Pn **Pn** **12 50 05.8 -0.6**
ECH Echery **5.56 320** P **Pn** **12 50 06.1 -0.4**
TREC Trest **5.61 20** *e*PN **Pn** **12 50 05.5 -1.6**
WLS Welschbruch **5.62 322** P **Pn** **12 50 07.1 -0.2**
PVY Plav **5.63 103** P **Pn** **12 50 06.5 -1.0**
PVY Plav **5.63 103** ⇓*i*Pn **Pn** **12 50 07.6 +0.1**
PVY *i* Sn **Sn** **12 51 07.5 -3.5**
CDF Champ du Feu **5.66 322** *e*Pn **Pn** **12 50 07.3 -0.5**
CDF *e*Sn **Sn** **12 51 05.5 -6.0**
comp=E,36nm,0.3s
VIVF Saint-Julien-I **5.66 281** *e*Pn **Pn** **12 50 07.8 0.0**
VIVF *e*Sn **Sn** **12 51 05.9 -5.6**
comp=E,19nm,0.4s
KRUC Moravsky **5.67 27** *e*PN **Pn** **12 50 06.7 -1.1**
KRUC *e*SN Sn 12 51 57.3 +46
TRUS Trudelj **5.69 86** *e*Pn **Pn** **12 50 07.8 -0.3**
GRA1 Grafenberg Arr **5.69 352** **Pn** **12 50 06.9 -1.4**
GRF Grafenberg Arr **5.69 352** *e*Pn **Pn** **12 50 06.8 -1.4**
GRFO Grafenberg **5.69 352** **Pn** **12 50 07.3 -0.8**
ROTZ Rotzenmuhle **5.70 358** *e*Pn **Pn** **12 50 06.6 -1.7**
NEEW Neewiller pres **5.75 330** P **Pn** **12 50 08.4 -0.6**
HOHE HOHENGOEFT **5.75 325** P **Pn** **12 50 08.6 -0.4**
AVAS Avala Beograd **5.77 81** *e*Pn **Pn** **12 50 07.3 -2.0**
AVAS *e*Sn **Sn** **12 51 09.4 -4.9**
PUK Puka **5.78 108** **Pn** **12 50 08.9 -0.6**
BCI Bajram Curri **5.78 105** AMP
comp=E,1.4nm,0.6s,baz=90
SSB Saint Sauveur **5.81 285** Pn **Pn** **12 50 08.6 -1.2**
SSB Saint Sauveur **5.81 285** P **Pn** **12 50 08.6 -1.2**
HAU Haudompre **5.82 315** *e*Pn **Pn** **12 50 09.0 -0.9**
HAU *e*Sn **Sn** **12 51 10.0 -5.3**
comp=E,175nm,0.4s
MANZ Manzenberg **5.92 358** *e*Pn **Pn** **12 50 09.7 -1.7**
MANZ *e*Sn **Sn** **12 51 12.5 -5.5**
GRUS Gruza **5.93 89** *e*Pn **Pn** **12 50 11.2 -0.2**
CIEL Dossenheim-sur **5.94 325** P **Pn** **12 50 11.3 -0.3**
LEMB Lembach **5.94 328** P **Pn** **12 50 11.4 -0.2**
VRAC Vranov **5.94 27** Pn **Pn** **12 50 10.3 -1.4**
comp=E,8.4nm,0.3s,baz=206,slow=12,SNR=75
VRAC Sn **Sn** **12 51 19.3 +0.9**
baz=277,slow=21
VRAC Lg Lg 12 51 50.6
comp=E,2.2nm,0.3s,baz=333,slow=21,SNR=1.2
VRAC LR LR 12 52 49.6
comp=E,276nm,19.6s,baz=178,slow=42
comp=E,21nm,0.3s
VRAC Vranov **5.94 27** *e*PN **Pn** **12 50 10.5 -1.2**
VRAC *e*SN Sn 12 52 05.4 +47
VRAC Vranov **5.94 27** ⇓P **Pn** **12 50 10.4 -1.2**
XAFF Xaffevillers **5.95 319** P **Pn** **12 50 11.5 -0.2**
JAVC Velka Javorina **5.97 35** *e*PN **Pn** **12 50 12.0 -0.1**
JAVC *e*SN Sn 12 52 07.8 +49
GOPC GO Pecny, Ondr **6.05 14** *e*PN **Pn** **12 50 12.1 -1.0**
TIR Tirane **6.07 114** AMP
comp=E,0.4nm,0.4s,baz=106
TIR Tirane **6.07 114** **Pn** **12 50 12.6 -0.7**
TIR Tirane **6.07 114** *e*Pn **Pn** **12 50 13.0 -0.3**
TIR Tirane **6.07 114** ⇓P **Pn** **12 50 13.1 -0.3**
VOEL Voellerdingen **6.14 325** P **Pn** **12 50 14.1 -0.3**
NKC Novy Kostel **6.16 360** *e*PN **Pn** **12 50 13.7 -1.0**
NKC *e*SN **Sn** **12 51 19.6 -4.3**
PLYF Puligny Montra **6.17 301** P **Pn** **12 50 14.1 -0.6**
VYHS Vyhne **6.23 43** *e*PN **Pn** **12 50 14.2 -1.4**
VYHS *e*SN **Sn** **12 51 23.7 -1.7**
LASF Ste Croix **6.23 273** *e*Pn **Pn** **12 50 18.3 +2.7**
LASF *e*Sn **Sn** **12 51 19.8 -5.7**
comp=E,5.1nm,0.2s
SELS Selova **6.31 95** *e*Pn **Pn** **12 50 17.1 +0.4**
SELS *e*Sn **Sn** **12 51 23.0 -4.4**
CEL Celeste **6.34 155** Pn **Pn** **12 50 17.0 -0.2**
PSZ Piszkesteto **6.42 51** Pn **Pn** **12 50 17.1 -1.2**
MAUC Maruska **6.43 33** *e*PN **Pn** **12 50 16.9 -1.5**
PAGF Fort de Pagny **6.49 316** *e*Pn **Pn** **12 50 18.7 -0.5**
baz=128
PAGF *e*Sn **Sn** **12 51 24.8 -7.1**
comp=E,56nm,0.3s
RICC Richard **6.56 9** *e*PN **Pn** **12 50 18.6 -1.5**
HSKC Hora Svate Kat **6.57 5** *e*PN **Pn** **12 50 18.5 -1.7**
KUBS Kucevo **6.60 84** *e*Pn **Pn** **12 50 18.4 -2.2**
MOX Moxa **6.60 355** *e*Pn **Pn** **12 50 18.8 -1.9**
MOX *e*Sn **Sn** **12 51 28.7 -6.0**
PVCC Panska Ves **6.61 12** *e*PN **Pn** **12 50 18.9 -1.9**
SMF Signal de Mont **6.62 296** *e*Pn **Pn** **12 50 19.9 -1.1**
SMF *e*Sn **Sn** **12 51 27.6 -7.6**
comp=E,47nm,0.3s
MDVR Moldovita **6.63 81** *e*Pn **Pn** **12 50 20.9 -0.3**
MDVR Moldovita **6.63 81** ⇓P **Pn** **12 50 20.9 -0.3**
SFTF Sexfontaines **6.63 311** *e*Pn **Pn** **12 50 20.1 -1.0**
baz=129
SFTF Sexfontaines **6.63 311** *e*P Pn 12 50 24.8 +3.7
SFTF *e*Sn **Sn** **12 51 28.3 -7.0**
comp=E,31nm,0.3s
BZS Buzias **6.66 73** *e*Pn **Pn** **12 50 21.0 -0.5**
BZS Buzias **6.66 73** ⇑P **Pn** **12 50 21.5 0.0**
BOVS Bovan **6.67 91** ⇑P **Pn** **12 50 21.3 -0.2**
MORC Moravsky Berou **6.67 29** Pn **Pn** **12 50 20.6 -1.0**
MORC Moravsky Berou **6.67 29** *e*PN **Pn** **12 50 20.7 -0.9**
MORC Moravsky Berou **6.67 29** ⇑P **Pn** **12 50 20.7 -0.9**
KRLC Kraliky **6.68 24** *e*PN **Pn** **12 50 21.0 -0.7**
VAE Valguarnera **6.74 167** Pn **Pn** **12 50 25.3 +2.6**
comp=E,0.6nm,0.3s,baz=338,slow=21,SNR=1.3
TNS Taunus Mts **6.75 337** *e*Pn **Pn** **12 50 22.1 -0.6**
DPC Dobruska-Polom **6.80 21** *e*PN **Pn** **12 50 21.9 -1.5**
DPC Dobruska-Polom **6.80 21** P **Pn** **12 50 21.3 -2.1**
comp=E,15nm,1.1s,comp=E,0.2nm
OHR Ohrid **6.80 113** *e*Pn **Pn** **12 50 23.9 +0.5**
OHR *e*Sn **Sn** **12 51 36.2 -3.4**
OHR Ohrid **6.80 113** *i* Pn **Pn** **12 50 24.1 +0.6**
OHR *i* Sn **Sn** **12 51 35.7 -3.8**
MEZF Maizieres J'vi **6.80 313** *e*Pn **Pn** **12 50 23.2 -0.2**
baz=128
MEZF *e*Sn **Sn** **12 51 31.0 -8.5**
comp=E,66nm,0.6s
SIRR Siria **6.83 68** *e*Pn **Pn** **12 50 23.6 -0.3**
SIRR Siria **6.83 68** ⇑P **Pn** **12 50 24.3 +0.5**
SAVF Savonnieres en **6.83 314** *e*Pn **Pn** **12 50 22.9 -1.0**
baz=134
SAVF *e*Sn **Sn** **12 51 32.6 -7.7**
comp=E,61nm,0.5s
LOR Lormes **6.85 301** *e*Pn **Pn** **12 50 22.9 -1.2**
baz=119
LOR *e*Sn **Sn** **12 51 34.0 -6.7**
comp=E,55nm,0.3s
UPC Upice **6.87 19** *e*PN **Pn** **12 50 23.0 -1.3**
BRG Berggiesshubel **6.87 8** Pn **Pn** **12 50 22.8 -1.6**
BRG Amp 12 50 24.2
comp=Z,18nm,0.4s
BRG S **Sn** **12 51 33.9 -7.4**
BRG Amp 12 52 13.8
comp=Z,32nm,0.8s
BARS Barje **6.89 97** *e*Pn **Pn** **12 50 25.5 +0.8**
OKC Ostrava-Krasne **6.94 32** *e*PN **Pn** **12 50 24.9 -0.4**
CHVC Chvalec **6.95 19** *e*PN **Pn** **12 50 23.9 -1.6**
OSTC Ostas **6.96 20** *e*PN **Pn** **12 50 24.2 -1.4**
KEK Kerkira **6.97 126** Pn **Pn** **12 50 24.9 -0.8**
SSF Saint Saulge **6.99 298** *e*Pn **Pn** **12 50 24.1 -1.9**
SSF *e*Sn **Sn** **12 51 36.1 -8.0**
comp=Z,37nm,0.4s
AVF Avril sur Loir **6.99 296** *e*Pn **Pn** **12 50 25.1 -0.9**
AVF *e*Sn **Sn** **12 51 37.1 -7.0**
comp=Z,19nm,0.3s
ZAGS Zajecar **7.03 89** *e*Pn **Pn** **12 50 26.6 +0.1**
SURR Surduc **7.03 73** ⇓P **Pn** **12 50 27.5 +0.9**
KECS Kecovo **7.07 49** *e*PN **Pn** **12 50 26.7 -0.4**
KECS *e*SN **Sn** **12 51 45.7 -0.5**
WLF Walferdange **7.09 324** Pn **Pn** **12 50 27.5 +0.2**
WLF Walferdange **7.09 324** P **Pn** **12 50 27.6 +0.3**
WLF S **Sn** **12 51 43.4 -3.1**
WLF Walferdange **7.09 324** *d*P **Pn** **12 50 28.2 +0.9**
WLF *d*S **Sn** **12 51 43.2 -3.3**
HERR Herculane **7.14 80** ⇑P **Pn** **12 50 28.3 +0.3**

KSP Ksiaz **7.24 19** P **Pn** **12 50 27.6 -1.9**
comp=Z,19nm,0.6s,comp=Z,0.2nm
CLL Collm **7.25 2** Pn **Pn** **12 50 28.1 -1.4**
CLL Collm **7.25 2** *i* Pn **Pn** **12 50 27.9 -1.6**
comp=Z,70nm,0.4s
CLL *ex* x 12 50 37.0
CLL *ex* x 12 50 40.0
CLL *eSn* Sn 12 51 35.0 -15
CLL *ex* x 12 51 55.0
CLL *ex* x 12 52 05.0
CLL *ex* x 12 52 21.0
CLL *eSg* 12 52 39.0
comp=Z,52nm,0.8s
CLL Collm **7.25 2** P **Pn** **12 50 27.6 -1.9**
comp=Z,78nm,0.5s,comp=Z,0.3nm
BGF Bois d'Agland **7.25 293** *e*Pn **Pn** **12 50 27.9 -1.7**
BGF *e*Sn **Sn** **12 51 41.9 -8.6**
comp=Z,49nm,0.4s
FNA Florina **7.34 114** **Pn** **12 50 30.5 -0.4**
FNA Florina **7.34 114** *e*Pn **Pn** **12 50 31.0 +0.1**
ZAPS Zavoj **7.39 93** *e*Pn **Pn** **12 50 32.3 +0.8**
ZAPS *e*Sn **Sn** **12 51 50.0 -4.0**
IGT Igoumenitsa **7.40 125** *e*Pn **Pn** **12 50 31.1 -0.5**
MAHO Mahon **7.42 239** P **Pn** **12 50 32.1 +0.2**
GZR Gura Zlata **7.43 76** *e*Pn **Pn** **12 50 32.5 +0.3**
GZR *e*Sn **Sn** **12 51 51.0 -4.2**
GZR Gura Zlata **7.43 76** ⇓P **Pn** **12 50 32.1 0.0**
BOSS Bosilegrad **7.45 99** *e*Pn **Pn** **12 50 33.4 +1.1**
BOSS *e*Sn **Sn** **12 51 50.7 -4.8**
MTLF Montolieu **7.49 268** *e*Pn **Pn** **12 50 34.8 +1.9**
MTLF *e*Sn **Sn** **12 51 49.4 -7.1**
comp=Z,12nm,0.4s
CAF Calviac **7.51 280** *e*Pn **Pn** **12 50 33.1 -0.1**
CAF *e*Sn **Sn** **12 51 50.9 -6.2**
comp=Z,9.0nm,0.5s
TCF Toulx Ste Croi **7.61 291** *e*Pn **Pn** **12 50 33.6 -0.9**
TCF *e*Sn **Sn** **12 51 50.8 -8.5**
comp=Z,20nm,0.3s
HYF Humbligny **7.61 298** *e*Pn **Pn** **12 50 34.3 -0.3**
HYF *e*Sn **Sn** **12 51 51.9 -7.6**
DRGR **7.68 66** *e*Pn **Pn** **12 50 35.0 -0.4**
DRGR *e*Sn **Sn** **12 51 56.4 -4.8**
DRGR **7.68 66** ⇓P **Pn** **12 50 35.1 -0.4**
BHOU Houvegnez **7.68 327** *d*P **Pn** **12 50 36.3 +0.8**
BTNL Terneli **7.82 329** *d*P **Pn** **12 50 38.0 +0.5**
RCHB Rochefort **7.85 323** *d*P **Pn** **12 50 38.0 +0.2**
RCHB *d*S **Sn** **12 52 00.7 -4.6**
MEM Membach **7.88 328** *d*P **Pn** **12 50 38.7 +0.5**
MEM *d*S **Sn** **12 51 58.9 -7.3**
OJC Ojcow **7.91 36** P **Pn** **12 50 37.6 -0.9**
MARR Marisel-Cluj **7.91 67** ⇑P **Pn** **12 50 39.7 +1.0**
RJF Les Rejaudoux **7.93 283** *e*Pn **Pn** **12 50 38.9 0.0**
RJF *e*Sn **Sn** **12 52 00.3 -7.0**
comp=Z,5.4nm,0.5s
VTS Vitosha **7.96 97** *e*Pn **Pn** **12 50 40.5 +1.1**
VTS *e*Sn **Sn** **12 52 03.3 -4.8**
GIVF Givet **7.99 322** *e*Pn **Pn** **12 50 40.0 +0.3**
GIVF *e*Sn **Sn** **12 52 00.5 -8.2**
comp=Z,21nm,0.5s
BCLA Clavier **8.02 325** *d*P **Pn** **12 50 41.0 +0.9**
BCLA *d*S **Sn** **12 52 02.0 -7.4**
STHS Stebnicka Huta **8.03 45** *e*PN **Pn** **12 50 40.7 +0.4**
BSTI Sart Tilman **8.04 327** *d*P **Pn** **12 50 42.1 +1.7**
BGES Gesves **8.08 324** *d*P **Pn** **12 50 42.1 +1.2**
DOU Dourbes **8.09 321** *d*P **Pn** **12 50 42.2 +1.2**
BMRD Maredsous **8.16 323** *d*P **Pn** **12 50 43.0 +1.0**
BMRD *d*S **Sn** **12 52 06.2 -6.7**
HOLU Holmets **8.16 53** P **Pn** **12 50 39.9 -2.1**
BAIF Baives **8.24 320** *e*Pn **Pn** **12 50 42.9 -0.2**
BAIF *e*Sn **Sn** **12 52 06.4 -8.4**
comp=Z,22nm,0.7s
KOLS Kolonicke sedl **8.31 51** *e*PN **Pn** **12 50 47.0 +2.9**
ETOS Mallorca **8.41 243** P **Pn** **12 50 47.4 +1.9**
BRIU Brid **8.45 56** P **Pn** **12 50 45.4 -0.6**
LFF La Frestale **8.46 280** *e*P **Pn** **12 50 48.6 +2.5**
LFF *e*Sn **Sn** **12 52 14.0 -6.2**
comp=Z,2.6nm,0.4s
KEST Kesra **8.68 197** Pn Pn 12 50 54.9 +5.6
KEST Kesra **8.68 197** Pn **Pn** **12 50 51.5 +2.2**
comp=Z,2.6nm,0.3s,baz=342,slow=6.1,SNR=24
SRS Serrai **8.70 106** *e*Pn **Pn** **12 50 48.8 -0.6**
UCC Uccle **8.70 324** *d*P Pn 12 51 15.0 +26
ARR Arges **8.73 77** ⇑P **Pn** **12 50 50.8 +0.9**
EPF Esparros **8.90 267** *e*Sn **Sn** **12 52 23.1 -8.1**
comp=Z,5.3nm,0.5s
AGG Agios Georgios **8.93 121** Pn **Pn** **12 50 52.2 -0.4**
KWP Kalwaria Pacla **8.93 48** **Pn** **12 50 52.9 +0.3**
KWP Kalwaria Pacla **8.93 48** P **Pn** **12 50 52.2 -0.4**
VOIR **9.03 77** ⇑P **Pn** **12 50 54.1 0.0**
MFF Saint Martin d **9.26 290** *e*Pn **Pn** **12 50 55.9 -1.3**
MFF *e*Sn Sn 12 52 30.7 -9.3
comp=Z,4.9nm,0.4s
BUR08 Bucovina Ar. S **9.55 64** Pn **Pn** **12 51 02.8 +1.6**
BURAR Bucovina Array **9.55 64** Pn **Pn** **12 51 02.8 +1.6**
BURAR Bucovina Array **9.55 64** ⇓P **Pn** **12 51 01.4 +0.2**
ETSF Etsaut **9.57 267** *e*Sn **Sn** **12 52 42.2 -5.5**
comp=Z,0.2nm,0.4s
LDF La Druitiere **9.83 302** *e*Pn **Pn** **12 51 04.9 0.0**
LDF *e*Sn **Sn** **12 52 46.2 -7.7**
comp=Z,7.9nm,0.4s
SJPF Ste Jean **10.01 269** *e*Pn **Pn** **12 51 06.4 -1.0**
SJPF *e*Sn **Sn** **12 52 53.2 -5.2**
comp=Z,0.8nm,0.3s
FLN La Foiniere **10.12 302** *e*Pn **Pn** **12 51 08.0 -0.8**
baz=116
FLN *e*Sn Sn 12 52 50.0 -11
comp=Z,10.0nm,0.5s
GRR Gorron **10.21 300** *e*Pn **Pn** **12 51 09.8 -0.4**
GRR *e*Sn Sn 12 52 52.7 -11
comp=Z,6.5nm,0.3s
ALN Alexandroupoli **10.49 103** Pn **Pn** **12 51 12.9 -1.1**
ECHE Chera **11.00 251** P **Pn** **12 51 22.3 +1.2**
BSD Bornholm Skovb **11.16 7** *i* P Pn 12 51 18.0 -5.1
SGMF Saint Gilles **11.25 297** *e*Pn **Pn** **12 51 22.9 -1.4**
SGMF Saint Gilles **11.25 297** *e*P **Pn** **12 51 27.0 +2.7**
SGMF *e*Sn Sn 12 53 19.1 -10
comp=Z,3.0nm,0.3s
QUIF Quistinic **11.56 295** *e*Pn **Pn** **12 51 27.0 -1.5**
QUIF *e*Sn **Sn** **12 53 27.5 -8.7**
comp=Z,1.7nm,0.2s
LUNU Lund **11.59 3** *e* **Pn** **12 51 26.6 -2.3**
ROSF Rostrenen **11.73 297** *e*Pn **Pn** **12 51 29.2 -1.7**
ROSF Rostrenen **11.73 297** *e*P **Pn** **12 51 33.8 +2.9**
ROSF *e*Sn Sn 12 53 30.8 -10
comp=Z,3.5nm,0.3s
EMUR La Murta **12.11 244** P **Pn** **12 51 38.8 +2.6**
DEL Delary **12.44 4** *e* **Pn** **12 51 37.9 -2.6**
IDI Anoyia **12.95 128** Pn **Pn** **12 51 49.7 +2.0**
comp=Z,0.3nm,0.3s,baz=328,slow=18,SNR=1.3
AK20 Malin Array Si **13.00 53** P **Pn** **12 51 46.8 -1.5**
AK17 Malin Array Si **13.01 54** P **Pn** **12 51 46.9 -1.4**
ESDC Sonseca Array **13.03 256** Pn **Pn** **12 51 50.9 +2.0**
comp=Z,0.1nm,0.3s,baz=66,slow=13,SNR=3.6
AK15 Malin Array Si **13.05 54** P **Pn** **12 51 47.8 -1.1**
AKASG Malin Array Be **13.11 54** Pn **Pn** **12 51 48.9 -0.8**
comp=Z,0.3nm,0.3s,baz=249,slow=12,SNR=2.8
comp=Z,0.9nm,0.6s
AK03 Malin Array Si **13.12 54** P **Pn** **12 51 48.6 -1.2**
NACGM Naroch **14.24 35** *e*P **Pn** **12 52 04.2 -0.8**
comp=Z,19nm,1.4s,baz=226
EKA Eskdalemuir Ar **15.11 324** Pn **Pn** **12 52 16.7 -0.1**
baz=140,slow=14
comp=Z,1.5nm,0.6s
HFS Hagfors **16.10 2** Pn **P** **12 52 31.2 -1.3**
comp=Z,0.5nm,0.3s,baz=187,slow=11,SNR=15
HFS LR LR 12 59 43.2
comp=Z,283nm,20.6s,baz=219,slow=41
BRTR Keskin Array B **16.31 98** Pn **Pn** **12 52 30.1 -2.4**
comp=Z,0.2nm,0.4s,baz=288,slow=10,SNR=1.8
NC602 NORSAR Array S **16.70 358** P **Pn** **12 52 37.4 +0.3**
NC602 IAmb IAmb 12 52 51.8
comp=Z,22nm,1.1s
NAO01 NORSAR Array S **16.83 357** P **Pn** **12 52 38.2 -0.6**
NAO01 I

comp=Z,16nm,1.1s
NC405 NORSAR Array S 17.08 359 P **Pn 12 52 42.0 +0.2**
NC405 IAmb IAmb 12 52 45.3
comp=Z,17nm,1.1s
FINES FINESS Array B 19.17 20 P **P 12 53 05.2 -1.0**
FINES FINESS Array B 19.17 20 P **P 12 53 05.6 -0.6**
comp=Z,1.3nm,0.3s,baz=199,slow=11,SNR=50
comp=Z,6.8nm,0.5s
FIA1 FINESS Array S 19.17 20 P **P 12 53 05.0 -1.2**
MMAI Mount Meron Ar 20.97 114 P **P 12 53 24.0 -2.1**
comp=Z,0.6nm,0.2s,baz=0.0,slow=39,SNR=1.8
comp=Z,0.6nm,0.2s
KIV Kislovodsk 21.65 80 P **P 12 53 33.0 -0.4**
EIL Elat 22.90 121 P **P 12 53 46.0 -0.7**
comp=Z,5.9nm,0.9s,baz=304,slow=4.6,SNR=3.8
comp=Z,5.9nm,0.9s
ARCES ARCESS Array B 26.38 10 P **P 12 54 17.7 -0.9**
comp=Z,5.2nm,1.0s,baz=23,slow=4.0,SNR=6.7
ARCES LR LR 13 04 27.2
comp=Z,268nm,20.5s,baz=248,slow=36
comp=Z,5.2nm,1.0s
TORD Torodi Ar. Bea 32.18 200 P **P 12 55 08.8 -1.7**
comp=Z,6.4nm,0.6s,baz=12,slow=9.9,SNR=44
comp=Z,6.4nm,0.6s
ABKAR Akbulak array 32.53 64 P **P 12 55 12.9 -0.5**
SPITS Spitsbergen Ar 34.26 1 P **P 12 55 28.0 -0.1**
comp=Z,6.1nm,0.8s,baz=204,slow=3.2,SNR=1.1
comp=Z,6.1nm,0.8s
BVAR Borovoye Array 38.38 55 P **P 12 56 03.1 -0.4**
comp=Z,0.7nm,0.6s,baz=270,slow=7.4,SNR=5.3
comp=Z,0.7nm,0.6s
DBIC Dimbokro 40.24 207 P **P 12 56 17.7 -1.7**
comp=Z,1.7nm,0.6s,baz=29,slow=6.9,SNR=4.8
comp=Z,1.7nm,0.6s
KURBB Kurchatov Arra 43.87 57 P **P 12 56 47.9 -0.8**
comp=Z,1.1nm,0.2s,baz=290,slow=9.0,SNR=2.6
comp=Z,1.1nm,0.2s
KURK Kurchatov 43.90 57 P **P 12 56 48.4 -0.5**
ZALV Zalesovo Beam 46.49 51 P **P 12 57 09.1 -0.2**
comp=Z,0.5nm,0.3s,baz=296,slow=9.3,SNR=3.5
comp=Z,0.5nm,0.3s
MKAR Makanchi Array 47.56 61 P **P 12 57 17.7 -0.2**
comp=Z,0.7nm,0.5s,baz=278,slow=6.8,SNR=13
comp=Z,0.7nm,0.5s
ILAR Eielson Array 70.30 351 P **P 12 59 55.8 +0.5**
comp=Z,0.2nm,0.7s,baz=19,slow=8.6,SNR=2.4
comp=Z,0.2nm,0.7s
CMAR Chiang Mai Arr 74.89 79 P **P 13 00 23.1 -0.3**
comp=Z,0.4nm,0.3s,baz=331,slow=31,SNR=2.3
comp=Z,0.4nm,0.3s
PDAR Pinedale Array 79.21 321 P **P 13 00 49.0 +1.4**
comp=Z,0.1nm,0.7s,baz=76,slow=8.4,SNR=1.4
comp=Z,0.1nm,0.7s
BDFB Brasilia 81.02 238 P **P 13 00 56.0 -1.4**
comp=Z,2.0nm,0.5s,baz=78,slow=9.3,SNR=4.2
comp=Z,2.0nm,0.5s
TXAR Lajitas Array 86.55 308 P **P 13 01 26.3 +0.7**
comp=Z,0.3nm,0.6s,baz=66,slow=5.0,SNR=2.3
comp=Z,0.3nm,0.6s
ASAR Alice Springs 128.39 87 PKP **PKPdf 13 07 47.7 -1.2**
comp=Z,0.3nm,0.8s,baz=336,slow=2.0,SNR=2.2
QSPA South Pole Qui 133.93 180 PKP **PKPdf 13 07 57.5 -0.6**
comp=Z,0.6nm,0.8s,baz=297,slow=2.3,SNR=1.6

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*MOS **18** 12:54:35.9±0.9, 44.°04N×148.°46E, h59km, mb4.5/5, Error ellipse: s-maj=8.7km s-min=8.0km az=68.8*
*NIED **18** 12:54:36.5, 43.°79N×148.°15E, h0km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr2.47; Mθθ-1.86; Mφφ-0.61; Mrθ1.94; Mrφ0.48; Mθφ4.40; Fault plane solution: M0 5.03000×10^14^ NP1:φs26.00000°, δ81.00000°, λ88.00000°. NP2:φs221.00000°, δ9.00000°, λ106.00000°.*
*NEIC **18** 12:54:36.8±1.0, 44.°0N±0.°1×148.°6E±0.°2, h35km±2km, mb4.4/54 Error ellipse: s-maj=20.2km s-min=17.0km az=116.0*
*JMA **18** 12:54:36.5±0.3, 44.°N±1.°×14.°8E±.°, h0km, MV4.3/35, SE OFF ETOROFU*
*SKHL **18** 12:54:37.3±0.8, 44.°00N×148.°50E, h67km±7km, mb4.8/4*
*IDC **18** 12:54:38.8±2.3, 44.°10N×148.°39E, h64km±19km, mb3.7/22, mbtmp3.9/26, MS3.1/6, Error ellipse: s-maj=17.1km s-min=14.0km az=165.0*

ISC 18 12:54:36.5±1.2, 43.°99N±0.°06×148.°52E±0.°07, h46km±10km, n163, σ1$20/174, mb4.3/62, MS3.1/3, 5D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.22**	**265**	*i* P	**Pn**	**12 54 56.8**	**-0.3**
SHO				AMB	AMB	12 54 58.7	
	340nm,0.3s						
SHO				*e*S	**Sn**	**12 55 11.5**	**-1.0**
SHO				A	A	12 55 13.2	
	2μm,0.3s						
SHO				A	A	12 55 13.2	
	2μm,0.3s						
SHO	**Shikotan**	**1.22**	**265**	⇓*i*PN	**Pn**	**12 54 56.8**	**-0.3**
SHO				*e*S	**Sn**	**12 55 11.1**	**-1.4**
SHO				pmax	pmax		
	comp=Z,322nm,0.3s						
SHO				pmax	pmax		
	comp=N,82nm,0.2s						
SHO				pmax	pmax		
	comp=E,106nm,0.2s						
SHO				smax	smax		
	comp=N,1μm,0.3s						
SHO				smax	smax		
	comp=E,2μm,0.3s						
KUR	**Kuril'sk**	**1.33**	**340**	*i* P	**Pn**	**12 54 58.1**	**-0.5**
KUR				AMB	AMB	12 54 58.6	
	comp=E,600nm,0.4s						
KUR				*e*S	**Sn**	**12 55 14.5**	**-0.6**
KUR				A	A	12 55 15.5	
	comp=E,810nm,0.5s						
KUR				A	A	12 55 15.5	
	comp=E,2μm,0.5s						
KUR				A	A	12 55 15.9	
	comp=E,700nm,0.3s						
KUR				A	A	12 55 15.9	
	comp=E,2μm,0.3s						
KUR	**Kuril'sk**	**1.33**	**340**	⇓*i*PN	**Pn**	**12 54 58.0**	**-0.5**
KUR				*e*S	**Sn**	**12 55 14.4**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.92**	**272**	*i* P	**Pn**	**12 55 06.9**	**+0.3**
YUK				AMB	AMB	12 55 07.8	
	comp=E,860nm,0.4s						
YUK				*e*S	**Sn**	**12 55 28.6**	**-0.9**
YUK				A	A	12 55 33.0	
	comp=E,1μm,0.4s						
YUK				A	A	12 55 33.0	
	comp=E,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.92**	**272**	*d i*PN	**Pn**	**12 55 06.6**	**0.0**
YUK				*e*S	**Sn**	**12 55 28.0**	**-1.5**
YUK				pmax	pmax		
	comp=N,180nm,0.2s						
YUK				pmax	pmax		
	comp=E,149nm,0.2s						
YUK				pmax	pmax		
	comp=Z,796nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.3s						
NEM2	**Nemuro 2**	**2.11**	**254**	P	**Pn**	**12 55 09.2**	**0.0**
NEM2				*e*S	**Sn**	**12 55 32.7**	**-1.5**
NMR	**Nemuro--Hokkai**	**2.12**	**254**	*i* P	**Pn**	**12 55 09.1**	**-0.2**
NMR				*e*S	**Sn**	**12 55 32.7**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.12**	**254**	⇓*i*PN	**Pn**	**12 55 09.1**	**-0.2**
NMR				*e*S	**Sn**	**12 55 32.7**	**-1.7**
RUSJ	**Misakicho**	**2.36**	**274**	⇓*i*PN	**Pn**	**12 55 13.8**	**+1.1**
JRA	**Rausu**	**2.45**	**270**	P	**Pn**	**12 55 15.0**	**+1.1**
JRA				*e*S	**Sn**	**12 55 43.6**	**+1.0**
JNSB	**Nemuroshibetsu**	**2.55**	**266**	P	**Pn**	**12 55 16.2**	**+1.0**
JNSB				*e*S	**Sn**	**12 55 45.2**	**+0.2**
JKHN	**Kushirohamanak**	**2.60**	**251**	P	**Pn**	**12 55 16.5**	**+0.5**
JKHN				S	**Sn**	**12 55 45.4**	**-1.0**
JNK	**Nakash**	**2.78**	**263**	P	**Pn**	**12 55 19.1**	**+0.7**
JNK				*e*S	**Sn**	**12 55 50.7**	**-0.1**
AKK	**Akkeshi**	**2.84**	**251**	*i* P	**Pn**	**12 55 19.5**	**+0.2**
AKK				*e*S	**Sn**	**12 55 50.8**	**-1.5**
JAK	**Akkeshi**	**2.95**	**252**	P	**Pn**	**12 55 21.0**	**+0.2**
JAK				*e*S	**Sn**	**12 55 54.1**	**-0.8**
JTKR	**Abashiri--Toko**	**3.33**	**271**	P	**Pn**	**12 55 27.4**	**+1.4**
JAR	**Ashorobuto**	**3.51**	**260**	P	**Pn**	**12 55 29.8**	**+1.3**
JOB	**Onbets**	**3.58**	**254**	*e*P	**Pn**	**12 55 30.1**	**+0.7**
JOB				*e*S	**Sn**	**12 56 10.6**	**+0.3**
JCH	**Churui**	**4.00**	**252**	*e*P	**Pn**	**12 55 35.7**	**+0.4**
JCH				*e*S	**Sn**	**12 56 20.8**	**-0.1**
JKK2	**Kamakawa 2**	**4.17**	**270**	*e*P	**Pn**	**12 55 39.8**	**+2.2**
JKA	**Kamikawa-asahi**	**4.27**	**274**		**Pn**	**12 55 41.6**	**+2.7**
ASAJ	**Asahikawa**	**4.27**	**274**	P	**Pn**	**12 55 40.6**	**+1.7**
	comp=E,5.3nm,0.3s,baz=50,slow=6.3,SNR=24						
ASAJ				S	**Sn**	**12 56 29.2**	**+1.7**
	comp=E,14nm,0.6s,baz=291,slow=17,SNR=1.0						
ASAJ	**Asahikawa**	**4.27**	**274**	PN	**Pn**	**12 55 41.6**	**+2.7**
JSE	**Soyaes**	**4.36**	**285**	*e*P	**Pn**	**12 55 42.0**	**+1.9**
ERM	**Erimo**	**4.40**	**245**		**Pn**	**12 55 43.3**	**+2.6**
ERM	**Erimo**	**4.40**	**245**	PN	**Pn**	**12 55 43.3**	**+2.6**
JNBK	**Urakawa-nobuka**	**4.55**	**250**	P	**Pn**	**12 55 43.4**	**+0.6**
YSS	**Yuzh-Sakhalins**	**5.02**	**308**		**Pn**	**12 55 50.5**	**+1.3**
YSS	**Yuzh-Sakhalins**	**5.02**	**308**	*e*P	**Pn**	**12 55 50.4**	**+1.2**
YSS				AMB	AMB	12 55 50.8	
	comp=E,20nm,0.3s						
YSS				*e*S	**Sn**	**12 56 43.9**	**-1.9**
YSS				A	A	12 56 49.4	
	comp=E,20nm,0.6s						
YSS				A	A	12 56 49.4	
	comp=E,20nm,0.6s						
YSS	**Yuzh-Sakhalins**	**5.02**	**308**	*e*PN	**Pn**	**12 55 50.1**	**+0.9**
YSS				*e*S	**Sn**	**12 56 44.0**	**-1.9**
YSS				pmax	pmax		
	comp=Z,20nm,1.4s						
YSS				smax	smax		
	comp=N,20nm,0.5s						
YSS				smax	smax		
	comp=E,20nm,0.7s						
JEW	**Eniwo**	**5.27**	**260**	*e*P	**Pn**	**12 55 55.4**	**+2.7**
JRBN	**Rebuntou**	**5.50**	**288**	*e*P	**Pn**	**12 55 58.0**	**+2.3**
JOT	**Ohata**	**6.09**	**247**	P	**Pn**	**12 56 04.2**	**+0.4**
JANG	**Nango**	**6.33**	**238**	*e*P	**Pn**	**12 56 06.3**	**-0.9**
JTM	**Tenmabayashi**	**6.37**	**242**		**Pn**	**12 56 08.2**	**+0.4**
SKR	**Severo-Kuril's**	**8.45**	**35**	*e*P	**Pn**	**12 56 37.1**	**+0.9**
SKR				*e*S	**Sn**	**12 58 07.5**	**-2.7**
SKR	**Severo-Kuril's**	**8.45**	**35**	*i* PN	**Pn**	**12 56 36.3**	**+0.1**
JMM	**Marumori**	**8.46**	**226**	Pn	**Pn**	**12 56 35.4**	**-1.0**
TEY	**Ternei**	**8.58**	**281**	*e*PN	Pn	12 56 44.9	+6.9
MJA0	**Matsu Arr-Jizo**	**10.80**	**230**	*e*PN	**Pn**	**12 57 08.9**	**+0.4**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MJB9	**Matsu-Tunnel**	**10.82**	**230**	Pn	**Pn**	**12 57 09.2**	**+0.4**
MJAR	**Matsushiro Arr**	**10.82**	**230**	P	**Pn**	**12 57 09.1**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=30,slow=15,SNR=11						
PETK	**Petropavlovsk-**	**10.96**	**30**	P	**Pn**	**12 57 10.8**	**+0.3**
	comp=Z,3.4nm,1.1s,baz=41,slow=30,SNR=2.6						
USRK	**Ussuriysk Ar.**	**11.89**	**277**	P	**Pn**	**12 57 23.8**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=111,slow=43,SNR=2.6						
USRK				LR	LR	13 02 16.6	
	comp=Z,102nm,19.4s,baz=347,slow=39						
KLR	**Kul'dur**	**12.66**	**300**	LR	LR	13 01 44.4	
	comp=Z,78nm,21.2s,baz=343,slow=34						
MA2	**Magadan**	**15.67**	**4**	LR	LR	13 03 17.1	
	comp=Z,47nm,20.3s,baz=200,slow=33						
YAK	**Yakutsk**	**21.18**	**335**	P	**P**	**12 59 18.7**	**+1.1**
YAK				IAmb	IAmb	12 59 31.8	
	comp=Z,24nm,1.1s						
YAK	**Yakutsk**	**21.18**	**335**	P	**P**	**12 59 18.0**	**+0.3**
	comp=Z,16nm,0.5s,baz=185,slow=0.3,SNR=5.0						
YAK				LR	LR	13 07 18.4	
	comp=Z,58nm,20.2s,baz=310,slow=36						
	comp=Z,16nm,0.5s						
YAK	**Yakutsk**	**21.18**	**335**	P	**P**	**12 59 18.0**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**28.65**	**142**	T	T	13 31 16.8	
	baz=332,slow=76,SNR=106						
H11N1	**WAKE ISLAND Hy**	**28.67**	**142**	T	T	13 31 15.5	
	baz=332,slow=76,SNR=68						
H11N3	**WAKE ISLAND Hy**	**28.67**	**142**	T	T	13 31 17.8	
	baz=332,slow=76,SNR=64						
ULN	**Ulaanbaatar**	**28.85**	**292**	*e*P	**P**	**13 00 30.8**	**+0.2**
ULN	**Ulaanbaatar**	**28.85**	**292**	*i* P	**P**	**13 00 30.8**	**+0.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**29.29**	**293**	P	**P**	**13 00 33.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=85,slow=4.8,SNR=2.1						
	comp=Z,0.5nm,0.3s						
H11S1	**WAKE ISLAND Hy**	**29.64**	**143**	T	T	13 32 29.0	
	baz=333,slow=76,SNR=114						
H11S3	**WAKE ISLAND Hy**	**29.65**	**143**	T	T	13 32 26.7	
	baz=333,slow=76,SNR=109						
H11S2	**WAKE ISLAND Hy**	**29.66**	**143**	T	T	13 32 30.3	
	baz=333,slow=76,SNR=100						
L16K	**Owhat River**	**34.90**	**41**	P	**P**	**13 01 23.6**	**+0.4**
L16K				IAmb	IAmb	13 02 06.5	
	comp=Z,6.1nm,1.3s						
M16K	**Timber Creek**	**35.08**	**42**	P	**P**	**13 01 25.6**	**+0.8**
C18K	**Utukok River**	**35.62**	**29**	P	**P**	**13 01 29.4**	**0.0**
M17K	**Holitna River**	**35.84**	**42**	P	**P**	**13 01 32.4**	**+1.0**
G18K	**Tagagawik**	**35.89**	**34**	P	**P**	**13 01 32.5**	**+0.7**
G18K				IAmb	IAmb	13 01 33.5	
	comp=Z,3.8nm,0.8s						
L18K	**Granite Mounta**	**36.26**	**40**	P	**P**	**13 01 36.8**	**+1.9**
C19K	**Lookout Ridge**	**36.31**	**28**	P	**P**	**13 01 35.5**	**+0.2**
G19K	**Purcell Mounta**	**36.57**	**34**	P	**P**	**13 01 38.0**	**+0.5**
G19K				IAmb	IAmb	13 02 15.4	
	comp=Z,8.0nm,1.5s						
D19K	**Kuna River**	**36.67**	**30**	P	**P**	**13 01 38.8**	**+0.4**
H19K	**Roundabout Mou**	**36.73**	**35**	P	**P**	**13 01 39.4**	**+0.6**
H19K				IAmb	IAmb	13 01 40.9	
	comp=Z,5.3nm,0.9s						
B20K	**Meade River**	**37.38**	**27**	P	**P**	**13 01 44.8**	**+0.5**
B20K				IAmb	IAmb	13 01 46.3	
	comp=Z,6.9nm,0.8s						
IMAR	**Indian Mountai**	**37.89**	**34**	P	**P**	**13 01 49.6**	**+1.0**
G21K	**Allakaket**	**38.05**	**33**	P	**P**	**13 01 51.4**	**+1.4**
G21K				IAmb	IAmb	13 01 52.1	
	comp=Z,3.6nm,0.8s						
B21K	**Ikpikpuk River**	**38.15**	**28**	P	**P**	**13 01 51.5**	**+0.7**
B21K				IAmb	IAmb	13 02 28.1	
	comp=Z,5.7nm,1.1s						
E21K	**Killik River**	**38.15**	**30**	P	**P**	**13 01 51.8**	**+0.9**
E21K				IAmb	IAmb	13 02 28.5	
	comp=Z,8.2nm,1.5s						
KDAK	**Kodiak Island**	**38.36**	**48**	P	**P**	**13 01 53.3**	**+0.6**
KDAK	**Kodiak Island**	**38.36**	**48**	P	**P**	**13 01 53.3**	**+0.6**
KDAK				pmax	pmax		
	comp=Z,44nm,1.5s						
D22K	**Ayikyak River**	**38.69**	**30**	P	**P**	**13 01 56.5**	**+1.1**
D22K				IAmb	IAmb	13 02 10.2	
	comp=Z,7.4nm,1.3s						
B22K	**Teshekpuk Lake**	**38.70**	**27**	P	**P**	**13 01 55.6**	**+0.3**
B22K				IAmb	IAmb	13 02 18.0	
	comp=Z,9.8nm,1.2s						
E22K	**Anaktuvuk Pass**	**38.90**	**31**	P	**P**	**13 01 58.5**	**+1.2**
E22K				IAmb	IAmb	13 01 58.9	
	comp=Z,3.9nm,0.7s						
D23K	**Nanushuk River**	**39.42**	**30**	P	**P**	**13 02 02.8**	**+1.3**
C23K	**Itkillik River**	**39.56**	**28**	P	**P**	**13 02 04.0**	**+1.4**
C23K				IAmb	IAmb	13 02 34.2	
	comp=Z,11nm,1.4s						
TOLK	**Toolik Lake Re**	**39.78**	**30**	P	**P**	**13 02 05.8**	**+1.3**
TOLK				IAmb	IAmb	13 02 30.2	
	comp=Z,7.3nm,1.4s						
E24K	**Your Creek**	**40.14**	**31**	P	**P**	**13 02 08.8**	**+1.3**
E24K				IAmb	IAmb	13 02 09.6	
	comp=Z,3.8nm,0.6s						
SML	**Sawmill**	**40.19**	**41**	P	**P**	**13 02 08.5**	**+0.5**
WRH	**Wood River Hil**	**40.20**	**37**	P	**P**	**13 02 08.9**	**+1.0**
WRH				IAmb	IAmb	13 02 45.3	
	comp=Z,8.7nm,1.5s						
C24K	**Franklin Bluff**	**40.20**	**29**	P	**P**	**13 02 08.6**	**+0.7**
C24K				IAmb	IAmb	13 02 09.6	
	comp=Z,4.6nm,0.8s						
H24K	**Noodor Dome**	**40.29**	**35**	P	**P**	**13 02 10.1**	**+1.3**
COLA	**College**	**40.30**	**36**	*i* P	**P**	**13 02 08.8**	**+0.1**
COLA				pmax	pmax		
	comp=Z,12nm,1.5s						
F24K	**Squaw Lake**	**40.33**	**32**	P	**P**	**13 02 09.8**	**+0.7**
G24K	**Hadweenzic Riv**	**40.47**	**33**	P	**P**	**13 02 11.8**	**+1.6**
G24K				IAmb	IAmb	13 02 12.7	
	comp=Z,3.9nm,0.8s						
ILAR	**Eielson Array**	**40.71**	**36**	P	**P**	**13 02 12.5**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=281,slow=8.7,SNR=9.5						
ILAR				PcP	**PcP**	**13 04 11.9**	**-0.9**
	comp=Z,0.1nm,0.6s,baz=275,slow=7.9,SNR=1.7						
	comp=Z,0.7nm,0.8s						
D25K	**Kavik River**	**40.99**	**29**	P	**P**	**13 02 15.3**	**+0.8**
F25K	**Christian Rive**	**41.20**	**32**	P	**P**	**13 02 17.1**	**+0.8**
FYU	**Fort Yukon**	**41.36**	**34**	P	**P**	**13 02 19.8**	**+2.3**
FYU				IAmb	IAmb	13 02 20.2	
	comp=Z,4.6nm,0.6s						
BMAR	**Burnt Mountain**	**41.60**	**32**	P	**P**	**13 02 21.3**	**+1.7**
ZALV	**Zalesovo Beam**	**41.64**	**307**	P	**P**	**13 02 18.2**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=76,slow=9.4,SNR=1.7						
ZALV				PcP	**PcP**	**13 04 15.6**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=90,slow=2.9,SNR=2.5						
	comp=Z,0.2nm,0.3s						
F26K	**Sheenjek River**	**41.77**	**32**	P	**P**	**13 02 22.4**	**+1.5**
C27K	**Jago River**	**41.94**	**29**	P	**P**	**13 02 23.1**	**+0.9**
K27K	**Chicken**	**42.85**	**37**	P	**P**	**13 02 30.6**	**+0.9**
D27M	**Malcolm River**	**42.91**	**30**	P	**P**	**13 02 31.2**	**+1.0**
L27K	**Beaver Creek,**	**43.08**	**39**	P	**P**	**13 02 33.6**	**+2.0**
L27K				IAmb	IAmb	13 02 34.8	
	comp=Z,3.3nm,0.7s						
BCAR	**Beaver Creek A**	**43.10**	**39**	P	**P**	**13 02 33.5**	**+1.8**
F28M	**Old Crow**	**43.41**	**32**	P	**P**	**13 02 35.9**	**+1.7**
F28M				IAmb	IAmb	13 02 36.7	
	comp=Z,3.6nm,0.8s						
E28M	**Babbage River**	**43.46**	**30**	P	**P**	**13 02 35.6**	**+1.1**
GRNC	**Granite Creek**	**43.48**	**42**	P	**P**	**13 02 36.2**	**+1.1**
I28M	**Miner Creek**	**43.59**	**35**	P	**P**	**13 02 37.3**	**+1.5**
G29M	**Pine Creek**	**44.19**	**33**	P	**P**	**13 02 42.2**	**+1.8**
G29M				IAmb	IAmb	13 02 43.3	
	comp=Z,5.6nm,0.8s						
EPYK	**Eagle Plains**	**44.78**	**34**	P	**P**	**13 02 46.7**	**+1.5**
G30M	**tAoh Zraii Nji**	**44.88**	**33**	P	**P**	**13 02 47.4**	**+1.4**
G30M				IAmb	IAmb	13 02 47.6	
	comp=Z,3.8nm,0.7s						
I30M	**Mount Dempster**	**45.10**	**35**	P	**P**	**13 02 49.2**	**+1.3**
I30M				IAmb	IAmb	13 02 50.0	
	comp=Z,4.1nm,0.8s						
MK31	**Makanchi Array**	**45.35**	**298**	P	**P**	**13 02 49.8**	**-0.2**
MK31	**Makanchi Array**	**45.35**	**298**	P	**P**	**13 02 49.8**	**-0.2**
MK31				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MKAR	**Makanchi Array**	**45.35**	**298**	P	**P**	**13 02 50.3**	**+0.3**
MKAR	**Makanchi Array**	**45.35**	**298**	P	**P**	**13 02 49.4**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=82,slow=8.3,SNR=9.1						
MKAR				PcP	**PcP**	**13 04 28.4**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=31,slow=3.4,SNR=1.5						
	comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**45.35**	**298**	*e*P	**P**	**13 02 50.0**	**0.0**
HYT	**Haines Junctio**	**45.50**	**41**	P	**P**	**13 02 52.9**	**+1.9**
G31M	**Satah River**	**45.65**	**33**	P	**P**	**13 02 53.1**	**+1.2**
G31M				IAmb	IAmb	13 02 55.6	
	comp=Z,6.1nm,1.3s						
INK	**Inuvik**	**45.70**	**31**	P	**P**	**13 02 53.5**	**+1.2**
INK				IAmb	IAmb	13 02 54.2	
	comp=Z,4.1nm,0.9s						
INK	**Inuvik**	**45.70**	**31**	P	**P**	**13 02 53.5**	**+1.2**
INK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
F31M	**Tsiigehtchic**	**45.76**	**32**	P	**P**	**13 02 54.2**	**+1.4**
O30N	**Mendenhall**	**46.19**	**41**	P	**P**	**13 02 57.9**	**+1.5**
KURK	**Kurchatov**	**46.22**	**304**	*e*P	**P**	**13 02 56.0**	**-0.7**
KURK	**Kurchatov**	**46.22**	**304**	P	**P**	**13 02 56.8**	**+0.1**
KURBB	**Kurchatov Arra**	**46.30**	**304**	P	**P**	**13 02 56.8**	**-0.5**
	comp=Z,1.1nm,0.2s,baz=73,slow=8.4,SNR=2.0						
	comp=Z,1.1nm,0.2s						
FARO	**Faro, Yukon**	**47.08**	**39**	P	**P**	**13 03 04.2**	**+0.9**
FARO				IAmb	IAmb	13 03 09.4	
	comp=Z,5.8nm,1.4s						
CMAR	**Chiang Mai Arr**	**48.54**	**255**	LR	LR	13 24 05.7	
	comp=Z,20nm,19.6s,baz=355,slow=36						
C36M	**Paulatuk**	**48.81**	**28**	P	**P**	**13 03 17.5**	**+1.0**
C36M				IAmb	IAmb	13 03 20.5	
	comp=Z,1.4nm,0.5s						
BVAR	**Borovoye Array**	**50.12**	**310**	P	**P**	**13 03 26.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=64,slow=6.6,SNR=2.1						
BVAR				PcP	**PcP**	**13 04 44.9**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=40,slow=2.5,SNR=3.4						
	comp=Z,0.2nm,0.4s						
AAK	**Ala-Archa**	**52.14**	**296**	*e*P	**P**	**13 03 41.5**	**-0.8**
AAK	**Ala-Archa**	**52.14**	**296**	*i* P	**P**	**13 03 41.5**	**-0.8**
YKA	**Yellowknife Ar**	**55.05**	**34**	LR	LR	13 30 50.8	
	comp=Z,42nm,18.1s,baz=80,slow=39						
ABKAR	**Akbulak array**	**57.68**	**309**	P	**P**	**13 04 21.9**	**-0.1**
ARCES	**ARCESS Array B**	**59.37**	**340**	P	**P**	**13 04 33.0**	**-0.5**
	comp=Z,4.0nm,1.0s,baz=41,slow=8.4,SNR=4.7						
	comp=Z,4.0nm,1.0s						
ARCES	**ARCESS Array B**	**59.37**	**340**	*e*P	**P**	**13 04 32.3**	**-1.1**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**64.93**	**195**	P	**P**	**13 05 11.5**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=18,slow=7.0,SNR=2.4						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**65.11**	**333**	P	**P**	**13 05 10.8**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=35,slow=7.0,SNR=13						
	comp=Z,1.2nm,0.5s						
NVAR	**Mina Array Bea**	**66.61**	**59**	P	**P**	**13 05 23.1**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=287,slow=6.9,SNR=8.4						
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**68.64**	**194**	P	**P**	**13 05 36.1**	**+1.3**
	comp=Z,0.4nm,0.9s,baz=12,slow=7.0,SNR=8.9						
	comp=Z,0.4nm,0.9s						
PDAR	**Pinedale Array**	**69.00**	**51**	P	**P**	**13 05 37.9**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=301,slow=1.8,SNR=5.9						
	comp=Z,0.6nm,0.7s						
NB2	**NORSAR Subarra**	**69.73**	**339**	P	**P**	**13 05 40.7**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.73**	**339**	P	**P**	**13 05 40.8**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=31,slow=6.6,SNR=18						
	comp=Z,1.0nm,0.5s						
HFS

KRI1				S	Sg	12 59 41.9	-0.1
	14μm,0.2s						
LTHK	**Lithakia**	**0.24**	**79**	P	**Pg**	**12 59 39.0**	**0.0**
LTHK				S	**Sg**	**12 59 42.4**	**-0.1**
	10μm,0.2s						
LTHK	**Lithakia**	**0.24**	**79**	P	**Pg**	**12 59 39.0**	**0.0**
LTHK				S	**Sg**	**12 59 42.4**	**-0.1**
LTHK				AML	AML	12 59 42.6	
	comp=E,15079μm,0.1s						
LTHK				AML	AML	12 59 43.0	
	comp=N,20976μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.45**	**24**	P	**Pg**	**12 59 42.9**	**+0.1**
RTZL				S	**Sg**	**12 59 49.7**	**+0.9**
PSDA	**Pessada-Kefalo**	**0.45**	**4**	P	**Pg**	**12 59 42.9**	**+0.1**
PSDA				S	**Sb**	**12 59 50.0**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.45**	**4**	P	**Pg**	**12 59 43.1**	**+0.3**
VLS	**Valsamata**	**0.51**	**4**	P	**Pg**	**12 59 43.9**	**-0.1**
VLS				S	**Sb**	**12 59 51.9**	**-0.1**
	comp=N,2μm,0.2s						
VLS	**Valsamata**	**0.51**	**4**	P	**Pg**	**12 59 43.6**	**-0.3**
VLS				S	**Sg**	**12 59 51.3**	**+0.4**
VLS				AML	AML	12 59 52.2	
	comp=E,4562μm,0.2s						
VLS				AML	AML	12 59 52.3	
	comp=N,3235μm,0.3s						
LXRA	**Lixouri, Kepha**	**0.54**	**351**	P	**Pg**	**12 59 44.9**	**+0.4**
LXRA				S	**Sb**	**12 59 52.9**	**+0.2**
LXR1	**Lixouri, Cepha**	**0.54**	**351**	P	**Pg**	**12 59 44.9**	**+0.4**
DMLN	**Damoulianata-K**	**0.59**	**347**	P	**Pg**	**12 59 45.5**	**+0.1**
DMLN				S	**Sb**	**12 59 54.7**	**+0.6**
DMLN	**Damoulianata-K**	**0.59**	**347**	P	**Pg**	**12 59 45.3**	**-0.1**
VSK1	**VASILIKIADES**	**0.74**	**1**	P	**Pg**	**12 59 47.9**	**-0.4**
VSK1				S	**Sb**	**12 59 59.5**	**+0.9**
FSK	**Fiskardo**	**0.79**	**1**	P	**Pg**	**12 59 48.9**	**-0.3**
FSK	**Fiskardo**	**0.79**	**1**	P	**Pg**	**12 59 48.7**	**-0.6**
FSK				S	**Sg**	**13 00 00.2**	**+0.5**
FSK				AML	AML	13 00 01.2	
	comp=N,2328μm,0.3s						
FSK				AML	AML	13 00 02.3	
	comp=E,2650μm,0.2s						
RLS	**Riolos of Patr**	**0.83**	**62**	P	**Pg**	**12 59 49.7**	**-0.3**
RLS	**Riolos of Patr**	**0.83**	**62**	P	**Pg**	**12 59 49.6**	**-0.3**
RLS				S	**Sb**	**13 00 01.6**	**+0.4**
RLS				AML	AML	13 00 03.2	
	comp=N,2493μm,0.4s						
RLS				AML	AML	13 00 03.9	
	comp=E,1740μm,0.2s						
AMT	**Artemida-Makis**	**0.94**	**98**	P	**Pb**	**12 59 51.6**	**-0.3**
AMT				AML	AML	13 00 08.8	
	comp=N,5778μm,0.3s						
AMT				AML	AML	13 00 09.1	
	comp=E,6967μm,0.2s						
EVGI	**Lefkada island**	**0.96**	**5**	P	**Pb**	**12 59 51.6**	**-0.6**
DRO	**Drossia**	**0.97**	**72**	P	**Pb**	**12 59 52.1**	**-0.4**
DRO				AML	AML	13 00 10.9	
	comp=N,1478μm,0.4s						
DRO				AML	AML	13 00 11.9	
	comp=E,1583μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.05**	**7**	P	**Pb**	**12 59 53.1**	**-0.7**
LKD2	**Lefkada island**	**1.13**	**5**	P	**Pg**	**12 59 56.0**	**+0.4**
TSLK	**Tsoukalades, L**	**1.16**	**4**	P	**Pn**	**12 59 55.3**	**-0.4**
ITM	**Ithomi**	**1.21**	**113**	P	**Pg**	**12 59 57.2**	**+0.1**
PYL	**PYLOS**	**1.23**	**128**	P	**Pn**	**12 59 56.7**	**+0.1**
EFP	**Efpalio**	**1.32**	**54**	P	**Pn**	**12 59 58.0**	**+0.1**
EFP				AML	AML	13 00 20.6	
	comp=E,452μm,0.3s						
EFP				AML	AML	13 00 23.1	
	comp=N,512μm,0.3s						
ANX	**Ano Chora**	**1.43**	**49**	P	**Pn**	**12 59 59.7**	**+0.2**
ANX				AML	AML	13 00 26.6	
	comp=N,1678μm,0.6s						
ANX				AML	AML	13 00 28.3	
	comp=E,657μm,0.6s						
GUR	**Goura**	**1.45**	**79**	P	**Pn**	**13 00 00.3**	**+0.5**
GUR				AML	AML	13 00 29.1	
	comp=N,506μm,0.5s						
GUR				AML	AML	13 00 29.8	
	comp=E,354μm,0.4s						
MAKR	**Makrakomi, Fth**	**1.84**	**42**	P	**Pb**	**13 00 07.7**	**+0.5**
VIL2	**Platees**	**2.23**	**75**	P	**Pb**	**13 00 13.3**	**-0.5**
TYRN	**Tyrnavos**	**2.44**	**32**	P	**Pb**	**13 00 15.9**	**-1.5**

*CATAC **18** 13:28:13.4±0.6, 13°.52N×91°.27W, h10km, ML3.5*
*SNET **18** 13:28:17.7±1.1, 13°.62N×91°.03W, h14km±7km, ML3.3*
ISC 18 13:28:14.1±2.7, 13°.56N±0°.09×91°.20W±0°.07, h10km±11km, n22, σ0°.95/38, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESSG	**Sabana Grande**	**0.89**	**24**	*i* P	**Pg**	**13 28 30.8**	**-0.4**
ESSG				*i* S	**Sg**	**13 28 43.7**	**+0.8**
ESSG				IAML		13 28 47.1	
	comp=Z,900nm,1.0s						
GUMI	**Mixco**	**1.20**	**28**	*i* P	**Pb**	**13 28 36.6**	**-0.5**
GUMI				IAML		13 28 38.1	
	comp=Z,1μm,1.0s						
GUMI				*i* S	**Sn**	**13 28 54.4**	**+0.8**
SOKI	**Kika Raxquin**	**1.27**	**351**	*i* P	**Pn**	**13 28 36.1**	**-2.0**
SOKI				*i* S	**Sb**	**13 28 54.2**	**-0.5**
SOKI				IAML		13 29 10.2	
	comp=Z,380nm,1.0s						
NUBE	**Las Nubes**	**1.42**	**76**	*e*P	**Pn**	**13 28 39.0**	**-1.0**
NUBE				*e*S	**Sb**	**13 28 56.9**	**-2.0**
NUBE	**Las Nubes**	**1.42**	**76**	*i* P	**Pn**	**13 28 39.0**	**-1.0**
NUBE				*i* S	**Sg**	**13 29 00.3**	**+0.5**
NUBE				IAML		13 29 05.9	
	comp=Z,170nm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.45**	**71**	*e*P	**Pn**	**13 28 40.3**	**0.0**
SLOZ				*e*S	**Sn**	**13 28 57.9**	**-1.5**
CEVE	**Cerro Verde**	**1.55**	**80**	*e*P	**Pn**	**13 28 42.1**	**+0.2**
CEVE				IAML		13 29 14.9	
	comp=Z,683nm,0.3s						
CEVE	**Cerro Verde**	**1.55**	**80**	*i* P	**Pn**	**13 28 42.1**	**+0.2**
CEVE				IAML		13 29 14.8	
	comp=Z,560nm,1.0s						
JUAM	**Asuncion Mita**	**1.64**	**62**	*i* P	**Pn**	**13 28 43.2**	**+0.3**
JUAM				*i* S	**Sg**	**13 29 07.4**	**+0.6**
JUAM				IAML		13 29 30.6	
	comp=Z,700nm,1.0s						
JAYA	**Jayaque - finc**	**1.70**	**87**	*e*P	**Pn**	**13 28 44.6**	**+0.7**
JAYA				*e*S	**Sn**	**13 29 04.5**	**-1.3**
JAYA				IAML		13 29 14.8	
	comp=Z,335nm,0.2s						
JAYA	**Jayaque - finc**	**1.70**	**87**	*i* P	**Pn**	**13 28 43.4**	**-0.5**
JAYA				*i* S	**Sb**	**13 29 07.3**	**+0.2**
JAYA				IAML		13 29 13.7	
	comp=Z,790nm,1.0s						
QUIS	**Sacapulas**	**1.72**	**3**	*i* P	**Pn**	**13 28 44.3**	**+0.1**
QUIS				*i* S	**Sn**	**13 29 07.4**	**+1.2**
QUIS				IAML		13 29 12.3	
	comp=Z,490nm,1.0s						
HUEH	**Huehuetenango**	**1.77**	**350**	*i* P	**Pn**	**13 28 45.1**	**+0.2**
HUEH				*i* S	**Sn**	**13 29 09.4**	**+1.8**
HUEH				IAML		13 29 15.2	
	comp=Z,500nm,1.0s						
PMON	**Piamonte**	**1.84**	**85**	*e*P	**Pn**	**13 28 46.7**	**+1.0**
PMON	**Piamonte**	**1.84**	**85**	*i* P	**Pn**	**13 28 46.5**	**+0.8**
PMON				*i* S	**Sb**	**13 29 11.5**	**+0.6**
PMON				IAML		13 29 26.0	
	comp=Z,510nm,1.0s						
MTO3	**Montecristo**	**1.97**	**65**	*e*P	**Pn**	**13 28 48.0**	**+0.4**
MTO3	**Montecristo**	**1.97**	**65**	*i* P	**Pn**	**13 28 47.9**	**+0.3**
MTO3				IAML		13 28 49.5	
	comp=Z,150nm,1.0s						
MTO3				*i* S	**Sb**	**13 29 15.0**	**+0.3**
ESQI	**Esquipulas**	**2.06**	**61**	*e*P	**Pn**	**13 28 49.6**	**+0.9**
COEG	**Centro de Oper**	**2.25**	**88**	*e*P	**Pn**	**13 28 52.5**	**+1.1**
COEG				*e*S	**Sn**	**13 29 19.5**	**+0.1**
COEG				IAML		13 29 33.7	
	comp=Z,148nm,0.3s						
CCIG	**Comitan**	**2.85**	**342**	*i* P	**Pn**	**13 28 59.6**	**-0.2**
CCIG				*i* S	**Sn**	**13 29 35.2**	**+1.0**
CCIG				IAML		13 29 51.0	
	comp=Z,57nm,1.0s						
LCND	**La Caada**	**3.23**	**94**	*e*P	**Pn**	**13 29 06.0**	**+1.3**
LCND				*e*S	**Sn**	**13 29 42.5**	**-0.8**
CNCH	**Conchagua**	**3.29**	**95**	*e*P	**Pn**	**13 29 06.7**	**+1.0**

*IDC **18** 13:29:51.2±2.3, 19°.09N×39°.13E, h0km, mb3.6/7, mbtmp3.6/7, MS3.2/1, Error ellipse: s-maj=56.4km s-min=25.2km az=159.0*

*SGS **18** 13:29:53.8, 18°.81N×39°.38E, h21km, Ml3.1*
ISC 18 13:29:50.7±1.2, 18°.8N±0°.2×39°.38E±0°.09, h10km, n19, σ1°.09/17, mb3.7/7, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRK01	**Al Birk**	**2.14**	**104**	P	**Pn**	**13 30 26.5**	**0.0**
BRK01	**Al Birk**	**2.14**	**104**	S	**Sn**	**13 30 52.2**	**-0.9**
BRK04	**Al Birk**	**2.31**	**94**	S	**Sn**	**13 30 56.3**	**-1.1**
BRK04	**Al Birk**	**2.31**	**94**	P	**Pn**	**13 30 29.0**	**+0.1**
BRK03	**Al Birk**	**2.47**	**104**	S	**Sn**	**13 31 00.1**	**-1.1**
BRK03	**Al Birk**	**2.47**	**104**	P	**Pn**	**13 30 31.6**	**+0.6**
BRK02	**Al Birk**	**2.47**	**110**	P	**Pn**	**13 30 31.7**	**+0.7**
NAMS	**An Nimas**	**2.69**	**82**	P	**Pn**	**13 30 34.6**	**+0.2**
ASIR3	**ASIR3**	**2.83**	**92**	P	**Pn**	**13 30 37.0**	**+0.7**
DRBS	**Ad Darb**	**2.94**	**109**	P	Pn	13 30 31.6	-5.9
ENMS	**ENMS**	**3.03**	**85**	P	**Pn**	**13 30 39.7**	**+0.7**
BRTR	**Keskin Array B**	**21.43**	**348**	P	**P**	**13 34 38.8**	**-0.3**
	0.8nm,0.7s,baz=162,slow=9.8,SNR=4.2						
	0.8nm,0.7s						
GERES	**GERESS Array B**	**36.44**	**331**	P	**P**	**13 36 53.7**	**-2.1**
	0.4nm,0.4s,baz=134,slow=7.1,SNR=13						
	0.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**36.62**	**267**	P	**P**	**13 36 58.0**	**+0.4**
	1.6nm,0.9s,baz=62,slow=8.9,SNR=6.9						
	1.6nm,0.9s						
BVAR	**Borovoye Array**	**41.77**	**28**	P	**P**	**13 37 42.1**	**+1.9**
	0.4nm,0.6s,baz=226,slow=7.8,SNR=2.7						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**44.36**	**35**	P	**P**	**13 38 02.5**	**+1.3**
	0.9nm,0.8s,baz=242,slow=7.7,SNR=4.7						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**44.80**	**42**	P	**P**	**13 38 06.0**	**+1.1**
	1.2nm,0.8s,baz=238,slow=6.8,SNR=7.6						
	1.2nm,0.8s						
ZALV	**Zalesovo Beam**	**49.35**	**34**	P	**P**	**13 38 41.0**	**+0.8**
	0.4nm,0.5s,baz=224,slow=4.0,SNR=4.4						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**56.20**	**80**	LR	LR	14 06 25.7	
	comp=Z,19nm,18.7s,baz=275,slow=39						

*IDC **18** 13:40:40.6±4.2, 36°.26N×82°.54E, h0km, mb3.0/1, mbtmp3.7/6, ML3.2/5, MS3.0/1, Error ellipse: s-maj=50.3km s-min=31.0km az=28.0*
ISC 18 13:40:42.4±2.8, 36°.3N±0°.2×82°.6E±0°.2, h10km, n6, σ1°.39/6, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**8.92**	**318**	Pn	**Pn**	**13 42 52.3**	**+0.8**
	0.1nm,0.3s,baz=283,slow=9.4,SNR=2.1						
AAK				Pg	Pg	13 43 22.6	-11
	0.4nm,0.3s,baz=164,slow=21,SNR=4.1						
AAK				Lg	Lg	13 45 23.5	
	0.4nm,0.3s,baz=15,slow=23,SNR=3.4						
AAK				LR	LR	13 47 12.7	
	comp=Z,94nm,18.3s,baz=322,slow=44						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**10.52**	**359**	Pn	**Pn**	**13 43 13.8**	**+0.6**
	1.4nm,0.3s,baz=183,slow=13,SNR=21						
MKAR				Sn	**Sn**	**13 45 11.2**	**+0.1**
	0.2nm,0.3s,baz=172,slow=22,SNR=3.4						
MKAR				Lg	Lg	13 46 15.1	
	baz=167,slow=7.5						
	2.3nm,0.4s						
KURBB	**Kurchatov Arra**	**14.64**	**350**	Pn	Pn	13 44 07.1	-2.5
	baz=173,slow=12,SNR=12						
	0.7nm,0.9s						
ZALV	**Zalesovo Beam**	**17.75**	**4**	P	**Pn**	**13 44 47.4**	**-2.1**
	0.3nm,0.3s,baz=190,slow=12,SNR=12						
	2.6nm,0.7s						
BVAR	**Borovoye Array**	**18.82**	**337**	P	**P**	**13 45 01.9**	**-0.2**
	0.2nm,0.3s,baz=140,slow=11,SNR=41						
	6.1nm,0.5s						
SONM	**Songino Array**	**21.03**	**49**	P	**P**	**13 45 27.0**	**+0.6**
	0.5nm,0.6s,baz=246,slow=9.3,SNR=2.7						
	0.5nm,0.6s						

IDC 18 13:45:05.1±2.1, 5°.95S×127°.61E, h0km, mb3.5/1, mbtmp3.6/5, ML3.1/4, MS2.8/1, Error ellipse: s-maj=47.7km s-min=27.8km az=84.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.76**	**222**	Pn	Pn	13 46 33.5	+1.5
	1.2nm,0.3s,baz=194,slow=16,SNR=1.7						
BATI				Sn	Sn	13 47 37.6	-1.2
	1.0nm,0.3s,baz=139,slow=18,SNR=1.3						
	10nm,0.6s						
KAPI	**Kappang**	**7.88**	**276**	LR	LR	13 49 53.6	
	comp=Z,76nm,20.8s,baz=99,slow=37						
FITZ	**Fitzroy Crossi**	**12.23**	**189**	Pn	Pn	13 47 59.6	-1.0
	0.1nm,0.3s,baz=218,slow=15,SNR=2.3						
FITZ				Sn	Sn	13 50 14.4	-3.4
	0.1nm,0.3s,baz=73,slow=20,SNR=1.6						
	1.8nm,0.9s						
WRA	**Warramunga Arr**	**15.37**	**155**	Pn	Pn	13 48 42.8	-0.7
	0.1nm,0.3s,baz=335,slow=13,SNR=4.8						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**18.63**	**162**	P	Pn	13 49 24.9	+0.2
	0.1nm,0.3s,baz=341,slow=10.0,SNR=30						
	3.2nm,0.8s						
MKAR	**Makanchi Array**	**66.06**	**328**	P	P	13 55 53.8	-0.1
	0.5nm,0.8s,baz=117,slow=5.0,SNR=2.3						
	0.5nm,0.8s						

*JMA **18** 13:59:38.3±0.1, 42°.9N±0°.6×146°.0E±0°.7, h47km±1km, MV3.3/37, OFF NEMURO PENINSULA*
*SKHL **18** 13:59:39.0±0.8, 42°.90N×146°.00E, h34km±3km, mb4.6/3*
ISC 18 13:59:38.5±2.1, 42°.90N±0°.09×145°.99E±0°.06, h35km±3km, n15, σ0°.52/27, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.50**	**339**	P	**Pb**	**13 59 49.2**	**0.0**
NEM2				S	**Sn**	**13 59 56.8**	**+0.2**
NMR	**Nemuro--Hokkai**	**0.51**	**338**	*i* P	**Pb**	**13 59 49.2**	**-0.1**
NMR				*e*S	**Sb**	**13 59 56.7**	**-0.1**
JKHN	**Kushirohamanak**	**0.63**	**287**	P	**Pn**	**13 59 50.9**	**-0.1**
JKHN				S	**Sn**	**13 59 59.9**	**+0.1**
AKK	**Akkeshi**	**0.85**	**278**	*e*S	**Sn**	**14 00 05.0**	**-0.2**
AKK				*i* P	**Pn**	**13 59 53.8**	**-0.2**
JAK	**Akkeshi**	**0.95**	**276**	*i* P	**Pn**	**13 59 55.3**	**-0.1**
JAK				S	**Sn**	**14 00 07.7**	**0.0**
JNSB	**Nemuroshibetsu**	**1.13**	**321**	*i* P	**Pn**	**13 59 57.9**	**0.0**
JNSB				S	**Sn**	**14 00 11.9**	**-0.3**
YUK	**Yuzh-Kuril'sk**	**1.14**	**355**	*e*S	**Sn**	**14 00 11.3**	**-1.1**
YUK				*e*P	**Pn**	**13 59 58.0**	**0.0**
YUK				AMB	AMB	13 59 59.0	
	1μm,0.2s						
YUK				A	A	14 00 11.9	
	740nm,0.3s						
YUK				A	A	14 00 11.9	
	530nm,0.3s						
SHO	**Shikotan**	**1.15**	**32**	AMB	AMB	14 00 00.1	
	30nm,0.2s						
SHO				*i* P	**Pn**	**13 59 57.9**	**-0.2**
SHO				*e*S	**Sn**	**14 00 11.9**	**-0.8**
SHO				A	A	14 00 12.5	
	450nm,0.3s						
SHO				A	A	14 00 12.5	
	530nm,0.3s						
JNK	**Nakash**	**1.15**	**307**	*i* P	**Pn**	**13 59 57.8**	**-0.4**
JNK				S	**Sn**	**14 00 11.8**	**-1.0**
JRA	**Rausu**	**1.22**	**329**	*i* P	**Pn**	**13 59 59.3**	**+0.3**
JRA				S	**Sn**	**14 00 14.2**	**0.0**
JOB	**Onbets**	**1.58**	**271**	P	**Pn**	**14 00 04.0**	**-0.1**
JAR	**Ashorobuto**	**1.67**	**285**	*i* P	**Pn**	**14 00 05.4**	**+0.1**
JTKR	**Abashiri--Toko**	**1.86**	**306**	P	**Pn**	**14 00 08.5**	**+0.7**
JTKR				S	**Sn**	**14 00 31.1**	**+1.1**
JCH	**Churui**	**1.95**	**263**	P	**Pn**	**14 00 09.2**	**+0.1**
KUR	**Kuril'sk**	**2.70**	**29**	*i* P	**Pn**	**14 00 19.7**	**+0.3**
KUR				AMB	AMB	14 00 24.3	
	70nm,0.6s						
KUR				*e*S	**Sn**	**14 00 51.9**	**+1.0**
KUR				A	A	14 00 59.1	
	50nm,0.5s						
KUR				A	A	14 00 59.1	
	70nm,0.5s						

*THE **18** 14:25:07.7, 37°.65N×20°.54E, h15km, ML3.2/2, Error ellipse: s-maj=1.0km s-min=0.4km az=46.0*

*ATH **18** 14:25:07.2, 37°.63N×20°.51E, h13km±2km, ML3.3/11, Manual Solution by D.Makaris This location: 2020/10/07 12:25:52 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISC 18 14:25:07.5±1.5, 37°.65N±0°.05×20°.53E±0°.06, h15km±8km, n24, σ0°.45/44, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.23**	**87**	P	**Pg**	**14 25 12.7**	**+0.1**
KRI1				S	**Sg**	**14 25 16.3**	**+0.2**
	11μm,0.3s						
LTHK	**Lithakia**	**0.25**	**76**	P	**Pg**	**14 25 12.8**	**-0.1**
LTHK				S	**Sg**	**14 25 16.6**	**-0.1**
	8μm,0.1s						
LTHK	**Lithakia**	**0.25**	**76**	P	**Pg**	**14 25 12.8**	**-0.1**
LTHK				S	**Sg**	**14 25 16.1**	**-0.6**
PSDA	**Pessada-Kefalo**	**0.47**	**5**	P	**Pg**	**14 25 16.7**	**-0.1**
PSDA				S	**Sg**	**14 25 23.9**	**+0.8**
PSDA	**Pessada-Kefalo**	**0.47**	**5**	P	**Pg**	**14 25 16.7**	**-0.1**
PSDA				S	**Sg**	**14 25 23.0**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.47**	**24**	P	**Pg**	**14 25 16.7**	**-0.1**
RTZL				S	**Sg**	**14 25 23.9**	**+0.8**
VLS	**Valsamata**	**0.53**	**5**	P	**Pg**	**14 25 17.7**	**-0.3**
VLS				S	**Sg**	**14 25 25.7**	**+0.6**
VLS	**Valsamata**	**0.53**	**5**	P	**Pg**	**14 25 17.6**	**-0.4**
VLS				S	**Sg**	**14 25 24.6**	**-0.5**
LXRA	**Lixouri, Kepha**	**0.55**	**353**	P	**Pg**	**14 25 18.6**	**+0.2**
LXRA				S	**Sb**	**14 25 27.0**	**+0.4**
DMLN	**Damoulianata-K**	**0.60**	**348**	P	**Pg**	**14 25 19.3**	**0.0**
DMLN	**Damoulianata-K**	**0.60**	**348**	P	**Pg**	**14 25 19.4**	**+0.1**
DMLN				S	**Sb**	**14 25 28.0**	**0.0**
SMHA	**Samh**	**0.61**	**9**	P	**Pg**	**14 25 18.5**	**-0.9**
SMHA				S	**Sg**	**14 25 27.8**	**+0.3**
VSK1	**VASILIKIADES**	**0.76**	**2**	P	**Pg**	**14 25 21.8**	**-0.5**
VSK1				S	**Sb**	**14 25 33.0**	**+0.5**
FSK	**Fiskardo**	**0.81**	**2**	P	**Pg**	**14 25 22.6**	**-0.6**
FSK				S	**Sb**	**14 25 34.9**	**+1.0**
FSK	**Fiskardo**	**0.81**	**2**	P	**Pg**	**14 25 22.6**	**-0.6**
FSK				S	**Sg**	**14 25 34.0**	**+0.1**
RLS	**Riolos of Patr**	**0.85**	**61**	P	**Pg**	**14 25 23.7**	**-0.2**
RLS				S	**Sb**	**14 25 35.5**	**+0.4**
RLS	**Riolos of Patr**	**0.85**	**61**	P	**Pg**	**14 25 23.4**	**-0.5**
RLS				S	**Sb**	**14 25 35.4**	**+0.4**
AMT	**Artemida-Makis**	**0.94**	**97**	P	**Pb**	**14 25 25.6**	**0.0**
EVGI	**Lefkada island**	**0.97**	**6**	P	**Pb**	**14 25 25.7**	**-0.4**
DRO	**Drossia**	**0.98**	**72**	P	**Pb**	**14 25 26.0**	**-0.2**
DRO				S	**Sg**	**14 25 39.5**	**+0.1**
DRAG	**Dragano-Lefkad**	**1.03**	**2**	P	**Pb**	**14 25 26.4**	**-0.6**
DRAG				S	**Sg**	**14 25 41.5**	**+0.5**
NYDR	**Nydri-Lefkada**	**1.07**	**7**	P	**Pb**	**14 25 27.2**	**-0.5**
NYDR				S	**Sg**	**14 25 42.5**	**+0.3**
ITM	**Ithomi**	**1.21**	**112**	P	**Pb**	**14 25 30.3**	**+0.2**
PYL	**PYLOS**	**1.23**	**128**	P	**Pn**	**14 25 30.1**	**0.0**
PYL				S	**Sb**	**14 25 45.6**	**-0.3**

IDC 18 14:28:05.5±1.8, 1°.77N×126°.11E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=176.5km s-min=22.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.04**	**160**	P	P	14 33 12.1	-0.5
	0.6nm,0.3s,baz=338,slow=11,SNR=12						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**26.40**	**164**	P	P	14 33 44.4	+0.4
	0.2nm,0.5s,baz=349,slow=14,SNR=7.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.81**	**326**	P	P	14 38 05.0	-0.8
	0.2nm,0.4s,baz=125,slow=7.4,SNR=4.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.05**	**328**	P	P	14 38 35.3	+0.8
	0.5nm,0.2s,baz=123,slow=6.7,SNR=0.5						
	0.5nm,0.2s						

*ATH **18** 14:28:38.2, 37°.57N×20°.61E, h10km±2km, ML3.1/11, Error ellipse: s-maj=3.4km s-min=1.2km az=40.0*
*THE **18** 14:28:38.7, 37°.60N×20°.75E, h18km±2km, ML3.5/3, Error ellipse: s-maj=5.1km s-min=0.4km az=87.0*
ISC 18 14:28:38.2±1.7, 37°.59N±0°.07×20°.65E±0°.06, h14km±7km, n28, σ0°.44/37, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.15**	**60**	P	**Pg**	**14 28 42.1**	**+0.1**
KRI1				S	**Sg**	**14 28 44.7**	**+0.1**
	31μm,0.4s						
LTHK	**Lithakia**	**0.19**	**50**	P	**Pg**	**14 28 42.7**	**0.0**
LTHK				S	**Sg**	**14 28 45.3**	**-0.3**
	34μm,0.2s						
LTHK	**Lithakia**	**0.19**	**50**	P	**Pg**	**14 28 42.6**	**0.0**
LTHK				S	**Sg**	**14 28 45.5**	**-0.2**
LTHK				AML	AML	14 28 45.8	
	comp=N,87807μm,0.2s						
LTHK				AML	AML	14 28 46.0	
	comp=E,42905μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.50**	**11**	P	**Pg**	**14 28 48.3**	**+0.2**
RTZL				S	**Sg**	**14 28 55.5**	**+0.7**
	comp=E,3μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.53**	**354**	P	**Pg**	**14 28 49.1**	**+0.4**
PSDA	**Pessada-Kefalo**	**0.53**	**354**	P	**Pg**	**14 28 48.9**	**+0.2**
VLS	**Valsamata**	**0.59**	**355**	P	**Pg**	**14 28 50.0**	**+0.1**
VLS	**Valsamata**	**0.59**	**355**	P	**Pg**	**14 28 49.4**	**-0.5**
VLS				S	**Sg**	**14 28 58.4**	**+0.7**
VLS				AML	AML	14 29 03.5	
	comp=E,4432μm,0.4s						
VLS				AML	AML	14 29 03.7	
	comp=N,4773μm,0.8s						
LXR1	**Lixouri, Cepha**	**0.64**	**345**	P	**Pg**	**14 28 51.0**	**+0.3**
LXRA	**Lixouri, Kepha**	**0.64**	**345**	P	**Pg**	**14 28 50.9**	**+0.2**
LXRA				S	**Sg**	**14 28 60.0**	**+0.8**
SMHA	**Samh**	**0.67**	**360**	P	**Pg**	**14 28 50.6**	**-0

comp=N,1281μm,0.6s
GUR AML AML 14 29 45.5
comp=E,977μm,0.5s
ANX Ano Chora 1.42 44 P **Pn 14 29 03.5 -0.3**
ANX AML AML 14 29 35.7
comp=E,2314μm,1.3s
ANX AML AML 14 29 41.4
comp=N,1636μm,1.0s

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*IDC **18** 14:30:13.5±1.0,29°.36N×96°.98E,h0km,mb3.5/7, mbtmp3.5/9,ML3.6/2,Error ellipse: s-maj=56.1km s-min=17.4km az=62.0*
ISC 18 14:30:18.6±0.9,29°.4N±0°.1×97°.0E±0°.3,h35km,n9,σ0$58/9, mb3.5/6,Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.02**	**170**	Pn	**Pn**	**14 32 54.0**	**+0.2**
	0.1nm,0.3s,baz=348,slow=29,SNR=2.4 0.3nm,0.3s						
SONM	**Songino Array**	**19.82**	**19**	P	**P**	**14 34 46.5**	**+0.2**
	0.2nm,0.3s,baz=204,slow=12,SNR=2.6 0.3nm,0.3s						
MKAR	**Makanchi Array**	**20.81**	**331**	P	**P**	**14 34 57.2**	**+0.3**
	0.3nm,0.5s,baz=140,slow=12,SNR=4.3 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**25.36**	**332**	P	**P**	**14 35 43.2**	**+1.0**
	1.7nm,0.2s,baz=143,slow=9.3,SNR=2.0 1.7nm,0.2s						
ZALV	**Zalesovo Beam**	**26.10**	**344**	P	**P**	**14 35 48.4**	**-0.5**
	0.5nm,0.5s,baz=152,slow=8.1,SNR=2.0 0.5nm,0.5s						
BVAR	**Borovoye Array**	**30.63**	**328**	P	**P**	**14 36 29.5**	**+0.2**
	0.3nm,0.5s,baz=130,slow=15,SNR=1.7 0.3nm,0.5s						
AKASG	**Malin Array Be**	**54.06**	**313**	P	**P**	**14 39 38.9**	**-0.6**
	0.3nm,0.4s,baz=76,slow=6.3,SNR=2.2 0.3nm,0.4s						
WRA	**Warramunga Arr**	**60.85**	**139**	P	**P**	**14 40 27.7**	**-0.1**
	0.4nm,0.6s,baz=324,slow=8.1,SNR=6.4 0.4nm,0.6s						
ASAR	**Alice Springs**	**63.59**	**142**	P	**P**	**14 40 45.7**	**-0.3**
	0.1nm,0.3s,baz=324,slow=6.3,SNR=5.9 0.1nm,0.3s						

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*ATH **18** 14:39:16.7,37°.34N×20°.58E,h6km±1km,ML3.3/2,Error ellipse: s-maj=2.8km s-min=1.7km az=58.0*
*IDC **18** 14:39:18.3±1.3,37°.67N×20°.59E,h0km,mb3.6/9, mbtmp3.6/12,ML3.5/2,Error ellipse: s-maj=24.3km s-min=21.9km az=65.0*
ISC 18 14:39:18.8±1.8,37°.52N±0°.06×20°.59E±0°.07,h9km±11km, n25,σ1$62/31,mb3.7/9,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSDA	**Pessada-Kefalo**	**0.59**	**360**	P	**Pb**	**14 39 31.4**	**+0.1**
PSDA				S	**Sn**	**14 39 41.9**	**-1.2**
VLS	**Valsamata**	**0.65**	**360**	P	**Pb**	**14 39 32.4**	**0.0**
VLS				S	**Sn**	**14 39 44.1**	**-0.6**
VLS				AML	AML	14 39 50.0	
	comp=E,5306μm,0.5s						
VLS				AML	AML	14 39 52.0	
	comp=N,6270μm,0.4s						
SMHA	**Samh**	**0.73**	**4**	P	**Pg**	**14 39 33.4**	**+0.6**
SMHA				S	**Sn**	**14 39 46.5**	**-0.1**
DMLN	**Damoulianata-K**	**0.74**	**347**	P	**Pg**	**14 39 33.8**	**+0.8**
DMLN				S	**Sn**	**14 39 46.8**	**0.0**
RLS	**Riolos of Patr**	**0.88**	**52**	P	**Pg**	**14 39 34.8**	**-0.8**
RLS				S	**Sn**	**14 39 48.8**	**-1.4**
RLS				AML	AML	14 39 55.0	
	comp=E,2996μm,0.5s						
RLS				AML	AML	14 39 59.5	
	comp=N,1830μm,0.7s						
EVGI	**Lefkada island**	**1.10**	**3**	P	**Pb**	**14 39 40.1**	**+0.1**
EVGI				S	**Sn**	**14 39 58.0**	**+2.2**
ITM	**Ithomi**	**1.12**	**107**	P	**Pb**	**14 39 37.5**	**-2.8**
NYDR	**Nydri-Lefkada**	**1.19**	**4**	P	**Pb**	**14 39 41.7**	**+0.1**
NYDR				S	**Sn**	**14 39 59.4**	**+1.4**
TSLK	**Tsoukalades, L**	**1.30**	**2**	P	**Pn**	**14 39 43.1**	**-0.1**
OHR	**Ohrid**	**3.59**	**3**	*i* Pn	**Pn**	**14 40 18.0**	**+3.3**
IDI	**Anoyia**	**4.12**	**121**	Pn	**Pn**	**14 40 23.7**	**+1.7**
	comp=N,10nm,1.0s,baz=307,slow=8.1,SNR=2.0						
IDI				Sn	**Sn**	**14 41 09.1**	**-1.3**
	comp=N,1.2nm,0.3s,baz=204,slow=17,SNR=2.8						
MLR	**Muntele Rosu**	**8.91**	**25**	Pn	**Pn**	**14 41 29.6**	**+1.7**
	comp=N,0.3nm,0.3s,baz=194,slow=4.2,SNR=1.4 comp=N,0.9nm,0.4s						
OBKA	**Obir**	**10.04**	**335**	*i* Pn	Pn	14 41 38.3	-4.9
	comp=N,1.5nm,0.5s						
MOA	**Molln**	**11.32**	**338**	*e*Pn	**Pn**	**14 41 56.3**	**-4.3**
	comp=N,0.3nm,0.3s						
LESA	**Schwarzleotal**	**11.48**	**332**	*i* Pn	Pn	14 41 57.7	-5.3
	comp=N,0.5nm,0.4s						
GERES	**GERESS Array B**	**12.38**	**338**	Pn	**Pn**	**14 42 16.3**	**+1.1**
	comp=N,0.1nm,0.3s,baz=2.9,slow=22,SNR=2.6 comp=N,0.3nm,0.3s						
HFS	**Hagfors**	**23.06**	**351**	P	**P**	**14 44 23.2**	**-1.0**
	comp=N,2.1nm,0.6s,baz=175,slow=20,SNR=2.1 comp=N,2.1nm,0.6s						
EKA	**Eskdalemuir Ar**	**24.00**	**326**	P	**P**	**14 44 32.6**	**-0.9**
	comp=N,1.4nm,0.7s,baz=119,slow=10,SNR=3.5 comp=N,1.4nm,0.7s						
FINES	**FINESS Array B**	**24.19**	**6**	P	**P**	**14 44 33.7**	**-1.6**
	comp=N,5.6nm,1.1s,baz=166,slow=12,SNR=4.5 comp=N,5.6nm,1.1s						
NOA	**NORSAR Array B**	**24.27**	**349**	P	**P**	**14 44 35.1**	**-1.0**
	comp=N,0.6nm,0.7s,baz=172,slow=9.9,SNR=3.5 comp=N,0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.56**	**220**	P	**P**	**14 45 26.4**	**+2.4**
	comp=N,0.5nm,0.8s,baz=16,slow=10.0,SNR=3.2 comp=N,0.5nm,0.8s						
BVAR	**Borovoye Array**	**37.50**	**49**	P	**P**	**14 46 32.1**	**-0.6**
	comp=N,0.2nm,0.5s,baz=255,slow=4.3,SNR=1.8 comp=N,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**42.58**	**53**	P	**P**	**14 47 15.2**	**+0.4**
	comp=N,0.4nm,0.2s,baz=283,slow=8.5,SNR=3.7 comp=N,0.4nm,0.2s						
MKAR	**Makanchi Array**	**45.60**	**58**	P	**P**	**14 47 39.1**	**-0.2**
	comp=N,0.2nm,0.4s,baz=251,slow=9.4,SNR=2.1 comp=N,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**46.09**	**48**	P	**P**	**14 47 43.2**	**+0.2**
	comp=N,0.3nm,0.3s,baz=293,slow=7.5,SNR=2.0 comp=N,0.3nm,0.3s						

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*IDC **18** 14:41:02.8±1.4,37°.10N×20°.71E,h0km,mb3.5/7, mbtmp3.5/8,ML0.7/1,Error ellipse: s-maj=28.2km s-min=25.0km az=60.0*
ISC 18 14:41:03.6±1.2,37°.1N±0°.1×20°.6E±0°.1,h6km,n8,σ1$06/9, mb3.3/7,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**3.91**	**117**	Pn	**Pn**	**14 42 03.8**	**-0.4**
	0.3nm,0.3s,baz=159,slow=20,SNR=1.0						
IDI				Sn	**Sn**	**14 42 51.4**	**+1.0**
	1.4nm,0.3s,baz=2.4,slow=24,SNR=1.4 12nm,0.9s						
HFS	**Hagfors**	**23.45**	**351**	P	**P**	**14 46 13.4**	**0.0**
	1.8nm,0.6s,baz=172,slow=12,SNR=4.0 1.8nm,0.6s						
FINES	**FINESS Array B**	**24.58**	**6**	P	**P**	**14 46 23.8**	**-0.3**
	7.8nm,1.1s,baz=180,slow=9.5,SNR=1.8 7.8nm,1.1s						
NOA	**NORSAR Array B**	**24.66**	**349**	P	**P**	**14 46 27.1**	**+2.2**
	0.6nm,0.8s,baz=158,slow=9.1,SNR=4.1 0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.28**	**220**	P	**P**	**14 47 06.6**	**-0.2**
	0.1nm,0.3s,baz=27,slow=9.2,SNR=1.6 0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**42.79**	**53**	P	**P**	**14 49 01.2**	**-0.7**
	0.3nm,0.5s,baz=290,slow=8.8,SNR=2.8 0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.78**	**58**	P	**P**	**14 49 25.8**	**-0.2**
	0.2nm,0.6s,baz=271,slow=7.0,SNR=1.3 0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**46.33**	**47**	P	**P**	**14 49 29.6**	**-0.5**
	0.4nm,0.4s,baz=270,slow=4.3,SNR=1.6 0.4nm,0.4s						

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*SJA **18** 14:51:10.3±0.6,20°.76S×69°.28W,h125km±4km,ML3.6, MW3.5*
*GUC **18** 14:51:11.3±0.8,20°.84S×69°.16W,h103km±4km,ML3.4*
ISC 18 14:51:10.7±2.0,20°.84S±0°.04×69°.20W±0°.08, h115km±13km,n17,σ0$64/33,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.33**	**233**	*e*P	**Pn**	**14 51 27.0**	**-0.3**
PB01				*i* S	**Sn**	**14 51 39.1**	**-0.6**
PB01				IAML		14 51 39.7	
	comp=N,4μm,0.3s						
PX03	**IPOC Station P**	**0.59**	**317**	*e*P	**Pn**	**14 51 28.2**	**-0.6**
PX03				*i* S	**Sn**	**14 51 41.6**	**-0.8**
PX03				IAML		14 51 43.3	
	comp=N,2μm,0.2s						
PB08	**IPOC Station P**	**0.70**	**4**	*e*P	**Pn**	**14 51 30.0**	**0.0**
PB08				*i* S	**Sn**	**14 51 43.8**	**-0.6**
PB08				IAML		14 51 45.1	
	comp=E,693nm,0.2s						
HMBC	**Humberstone**	**0.85**	**311**	*e*P	**Pn**	**14 51 31.3**	**+0.3**
HMBC				*i* S	**Sn**	**14 51 46.5**	**+0.2**
HMBC				IAML		14 51 47.1	
	comp=N,848nm,0.3s						
HMBC	**Humberstone**	**0.85**	**311**	*i* P	**Pn**	**14 51 31.3**	**+0.3**
HMBC				*e*S	**Sn**	**14 51 46.9**	**+0.6**
HMBC				IAML		14 51 49.1	
	comp=Z,692nm,0.2s						
PB09	**IPOC Station P**	**0.95**	**182**	*e*P	**Pn**	**14 51 32.2**	**+0.2**
PB09				*i* S	**Sn**	**14 51 48.2**	**+0.1**
TA01	**Diego Aracena**	**0.95**	**287**	*e*P	**Pn**	**14 51 32.3**	**+0.4**
TA01				*i* S	**Sn**	**14 51 47.9**	**+0.2**
TA01	**Diego Aracena**	**0.95**	**287**	*i* P	**Pn**	**14 51 32.2**	**+0.4**
TA01				*e*S	**Sn**	**14 51 48.1**	**+0.4**
TA02	**Huaiquique**	**1.04**	**303**	*e*P	**Pn**	**14 51 33.0**	**+0.4**
TA02				*i* S	**Sn**	**14 51 49.7**	**+0.5**
TA02	**Huaiquique**	**1.04**	**303**	*i* P	**Pn**	**14 51 32.9**	**+0.2**
TA02				*e*S	**Sn**	**14 51 49.4**	**+0.1**
TA02				IAML		14 51 53.5	
	comp=Z,715nm,0.1s						
PB11	**IPOC Station P**	**1.16**	**338**	*e*P	**Pn**	**14 51 34.5**	**+0.3**
PB11				*i* S	**Sn**	**14 51 52.3**	**+0.5**
PB11				IAML		14 51 53.3	
	comp=E,2μm,0.2s						
PB11	**IPOC Station P**	**1.16**	**338**	*i* P	**Pn**	**14 51 34.4**	**+0.3**
PB11				*e*S	**Sn**	**14 51 51.7**	**-0.1**
PB11				IAML		14 51 53.5	
	comp=Z,519nm,0.2s						
GO01	**Chusmiza**	**1.17**	**0**	*e*P	**Pn**	**14 51 35.0**	**+0.4**
GO01				*i* S	**Sn**	**14 51 52.7**	**+0.2**
GO01				IAML		14 51 55.1	
	comp=E,2μm,0.1s						
GO01	**Chusmiza**	**1.17**	**0**	*i* P	**Pn**	**14 51 35.0**	**+0.4**
GO01				*e*S	**Sn**	**14 51 53.0**	**+0.4**
PB04	**IPOC Station P**	**1.73**	**211**	*e*P	**Pn**	**14 51 41.1**	**+0.4**
PB04				*i* S	**Sn**	**14 52 01.6**	**-1.9**
PB06	**IPOC Station P**	**1.89**	**190**	*e*P	**Pn**	**14 51 43.7**	**+1.0**
PB12	**IPOC Station P**	**2.46**	**334**	*i* P	**Pn**	**14 51 49.0**	**-0.8**
PB12				*e*S	**Sn**	**14 52 18.6**	**-1.3**

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*NEIC **18** 15:06:51.3±2.1,22°.4S±0°.1×174°.51W±0°.10,h10km±1km, mb4.7/18,Error ellipse: s-maj=18.1km s-min=15.3km az=179.0*
*IDC **18** 15:06:53.1±0.9,22°.44S×175°.07W,h0km,mb4.1/12, mbtmp4.1/13,ML3.6/1,MS3.5/4,Error ellipse: s-maj=32.3km s-min=20.2km az=140.0*
ISC 18 15:06:54.0±0.7,22°.5S±0°.1×175°.0W±0°.2,h10km,n44, σ1$27/36,mb4.2/15,MS3.7/3,1D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.84**	**56**	Pn	Pn	15 08 12.3	-8.3
MSVF	**Nonsavu**	**8.04**	**305**		Pn	15 08 58.9	+7.8
AFI	**Afiamalu**	**9.06**	**20**	Pn	Pn	15 08 59.2	-5.7
RAR	**Rarotonga**	**14.21**	**88**	Pn	Pn	15 10 04.5	-11
RAR	**Rarotonga**	**14.21**	**88**	Pn	Pn	15 10 04.4	-11
	4.1nm,0.3s,baz=278,slow=6.8,SNR=11						
RAR				Sn	Sn	15 12 23.6	-30
	0.5nm,0.3s,baz=201,slow=16,SNR=1.1						
RAR				LR	LR	15 15 21.6	
	comp=Z,72nm,18.1s,baz=282,slow=36						
URZ	**Urewera**	**17.12**	**201**	P	**Pn**	**15 10 53.4**	**0.0**
	0.2nm,0.3s,baz=342,slow=5.1,SNR=3.5						
URZ				S	Sn	15 13 44.4	-19
	7.9nm,1.1s,baz=60,slow=20,SNR=1.4 13nm,1.1s						
BKZ	**Black Stump Fm**	**18.15**	**202**	P	**P**	**15 11 06.6**	**+0.1**
BKZ				IAmb	IAmb	15 11 09.8	
	comp=Z,51nm,1.8s						
MRZ	**Mangatainoka R**	**19.80**	**202**	P	**P**	**15 11 23.8**	**-0.7**
MRZ				IAmb	IAmb	15 11 30.1	
	comp=Z,62nm,1.5s						
BHW	**Baring Head**	**20.71**	**202**	P	**P**	**15 11 34.0**	**-0.4**
STKA	**Stephens Creek**	**39.50**	**247**	P	**P**	**15 14 25.1**	**+0.2**
STKA	**Stephens Creek**	**39.50**	**247**	P	**P**	**15 14 25.2**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=94,slow=13,SNR=9.9 comp=Z,0.9nm,0.4s						
BBOO	**Buckleboo**	**44.21**	**246**	P	**P**	**15 15 02.8**	**-0.7**
AS31	**Alice Springs**	**46.80**	**258**	P	**P**	**15 15 23.2**	**-1.0**
ASAR	**Alice Springs**	**46.81**	**258**	P	**P**	**15 15 23.2**	**-1.0**
ASAR	**Alice Springs**	**46.81**	**258**	P	**P**	**15 15 23.5**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=98,slow=6.8,SNR=36 comp=Z,3.6nm,0.8s						
WR0	**Warramunga Arr**	**46.92**	**263**	P	**P**	**15 15 23.8**	**-1.3**
WR0				IAmb	IAmb	15 15 32.5	
	comp=Z,18nm,1.7s						
WB0	**Warramunga Arr**	**47.09**	**263**	P	**P**	**15 15 25.3**	**-1.2**
WB0				IAmb	IAmb	15 15 25.5	
	comp=Z,8.7nm,1.4s						
WB2	**Warramunga Arr**	**47.10**	**263**	P	**P**	**15 15 25.2**	**-1.3**
WRAB	**Tennant Creek**	**47.10**	**263**	P	**P**	**15 15 25.1**	**-1.4**
WRAB				IAmb	IAmb	15 15 50.5	
	comp=Z,26nm,1.9s						
WRA	**Warramunga Arr**	**47.11**	**263**	P	**P**	**15 15 25.6**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=92,slow=8.5,SNR=31 comp=Z,1.4nm,0.6s						
FORT	**Forrest**	**51.10**	**248**	P	**P**	**15 15 56.6**	**-0.5**
KNRA	**Kununurra**	**53.32**	**267**	P	**P**	**15 16 13.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**55.53**	**263**	P	**P**	**15 16 29.7**	**-0.1**
BATI	**Baumata**	**59.75**	**271**	LR	LR	15 44 00.6	
	comp=Z,55nm,18.0s,baz=201,slow=37						
QSPA	**South Pole Qui**	**67.61**	**180**	P	**P**	**15 17 49.9**	**-0.9**
QSPA	**South Pole Qui**	**67.61**	**180**	P	**P**	**15 17 52.9**	**+2.2**
	comp=Z,1.1nm,1.0s,baz=88,slow=1.1,SNR=1.7 comp=Z,1.1nm,1.0s						
MJAR	**Matsushiro Arr**	**73.45**	**322**	P	**P**	**15 18 27.0**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=158,slow=5.9,SNR=6.9 comp=Z,0.9nm,0.6s						
PETK	**Petropavlovsk-**	**78.91**	**344**	P	**P**	**15 18 57.5**	**+0.2**
	comp=Z,5.7nm,1.0s,baz=132,slow=8.1,SNR=2.2						
PETK				LR	LR	15 50 48.9	
	comp=Z,28nm,19.8s,baz=330,slow=33 comp=Z,5.7nm,1.0s						
NVAR	**Mina Array Bea**	**80.59**	**42**	P	**P**	**15 19 07.5**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=232,slow=8.7,SNR=2.5 comp=Z,0.9nm,1.0s						
USRK	**Ussuriysk Ar.**	**82.17**	**325**	P	**P**	**15 19 17.2**	**+2.2**
	comp=Z,4.4nm,0.9s,baz=123,slow=5.3,SNR=4.5 comp=Z,4.4nm,0.9s						
Q19K	**Cape Douglas,**	**83.01**	**11**	P	**P**	**15 19 15.5**	**-3.5**
ELIB	**Princess Elisa**	**84.98**	**186**	*d*P	**P**	**15 19 29.1**	**-0.3**
K15K	**Wolf Creek Mou**	**85.16**	**6**	P	**P**	**15 19 28.5**	**-1.4**
KLR	**Kul'dur**	**85.65**	**328**	LR	LR	15 51 45.1	
	comp=Z,56nm,20.1s,baz=323,slow=31						
L18K	**Granite Mounta**	**85.66**	**8**	P	**P**	**15 19 30.0**	**-2.5**
TXAR	**Lajitas Array**	**85.81**	**56**	P	**P**	**15 19 34.1**	**0.0**
	comp=Z,0.7nm,0.9s,baz=230,slow=7.0,SNR=4.7 comp=Z,0.7nm,0.9s						
PDAR	**Pinedale Array**	**88.52**	**42**	P	**P**	**15 19 47.1**	**0.0**
	comp=Z,0.2nm,0.7s,baz=224,slow=3.8,SNR=2.0 comp=Z,0.2nm,0.7s						
VA03	**San Esteban**	**89.42**	**125**	P	P	15 19 46.2	-5.4
ILAR	**Eielson Array**	**89.65**	**12**	P	**P**	**15 19 51.8**	**+0.3**
	comp=Z,0.7nm,1.1s,baz=225,slow=5.0,SNR=2.4 comp=Z,0.7nm,1.1s						
CMAR	**Chiang Mai Arr**	**93.38**	**288**	P	**P**	**15 20 08.2**	**-1.8**
CMAR	**Chiang Mai Arr**	**93.38**	**288**	P	**P**	**15 20 12.0**	**+2.0**
	comp=Z,1.9nm,0.9s,baz=109,slow=2.9,SNR=11 comp=Z,1.9nm,0.9s						
AKASG	**Malin Array Be**	**146.07**	**332**	PKPbc	**PKPbc**	**15 26 33.5**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=43,slow=4.0,SNR=10						
BRTR	**Keskin Array B**	**150.22**	**312**	PKPbc	**PKiKP**	**15 26 47.9**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=71,slow=3.4,SNR=2.0						
MMAI	**Mount Meron Ar**	**151.20**	**298**	PKPbc	**PKiKP**	**15 26 48.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=48,slow=2.1,SNR=1.5						

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*NEIC **18** 15:29:35.5±0.3,19°.27N±0°.02×155°.42W±0°.03,h36km±1km, Error ellipse: s-maj=4.2km s-min=2.9km az=126.0*
HVO 18 15:29:36.9±0.6,19°.24N±0°.07×155°.38W±0°.08,h30km±8km, ML2.8/43,ML3.0/42(NEIC),Error ellipse: s-maj=12.0km s-min=8.4km az=127.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.01**	**249**		Pb	15 29 41.8	-0.1
HLP	**Hilina Pali**	**0.09**	**53**		Pb	15 29 42.1	-0.2
HLP					Sb	15 29 45.7	-0.2
HLP	**Hilina Pali**	**0.09**	**53**	IAML		15 29 47.5	
	comp=E,3μm,0.3s						
HLP				IAML		15 29 48.2	
	comp=N,3μm,0.2s						
SDHHI	**Sand Hill**	**0.17**	**30**		Pb	15 29 42.4	-0.6
SDHHI					Sb	15 29 46.3	-0.7
WRMHI	**West Rim**	**0.18**	**26**		Pb	15 29 42.4	-0.7
WRMHI					Sb	15 29 46.6	-0.7
RIM	**Rim**	**0.18**	**34**		Pb	15 29 42.4	-0.7
RIM					Sb	15 29 46.6	-0.7
KKO	**Keanakako'i**	**0.19**	**36**		Pb	15 29 42.5	-0.7
KKO					Sb	15 29 46.4	-1.1
OBL	**Observatory Le**	**0.20**	**28**		Pb	15 29 42.5	-0.8
OBL					Sb	15 29 46.7	-0.8
UWE	**Uwekahuna**	**0.20**	**26**		Pb	15 29 42.5	-0.8
UWE					Sb	15 29 46.8	-0.8
UWE	**Uwekahuna**	**0.20**	**26**	IAML		15 29 47.8	
	comp=N,2μm,0.3s						
UWE				IAML		15 29 52.3	
	comp=E,2μm,0.4s						
BYL	**Byron's Ledge**	**0.21**	**35**		Pb	15 29 42.5	-0.8
BYL					Sb	15 29 46.9	-0.7
BYL	**Byron's Ledge**	**0.21**	**35**	IAML		15 29 47.1	
	comp=N,1μm,0.4s						
BYL				IAML		15 29 49.8	
	comp=E,1μm,0.4s						
PUH	**Pauahi**	**0.21**	**50**		Pb	15 29 42.6	-0.7
PUH					Sb	15 29 46.5	-1.1
PUH	**Pauahi**	**0.21**	**50**	IAML		15 29 47.1	
	comp=E,3μm,0.3s						
PUH				IAML		15 29 47.7	
	comp=N,1μm,0.3s						
UWB	**Uwekahuna Bluf**	**0.21**	**29**		Pb	15 29 42.4	-0.9
UWB					Sb	15 29 46.5	-1.2
HATHI	**Halema'uma'u T**	**0.21**	**33**		Pb	15 29 42.6	-0.9
HATHI					Sb	15 29 46.7	-1.1
HATHI	**Halema'uma'u T**	**0.21**	**33**	IAML		15 29 47.4	
	comp=E,2μm,0.4s						
HATHI				IAML		15 29 54.2	
	comp=N,2μm,0.6s						
SBLHI	**Steaming Bluff**	**0.21**	**31**		Pb	15 29 42.5	-0.9
SBLHI					Sb	15 29 46.8	-1.0
KHU	**Kahuku**	**0.22**	**271**		Pb	15 29 42.7	-0.9
KHU					Sb	15 29 46.9	-1.1
KHU	**Kahuku**	**0.22**	**271**	IAML		15 29 47.3	
	comp=N,3μm,0.2s						
KHU				IAML		15 29 47.4	
	comp=E,5μm,0.4s						
RSD	**Rainshed**	**0.24**	**25**		Pb	15 29 42.8	-1.0
RSD					Sb	15 29 47.2	-1.2
RSD	**Rainshed**	**0.24**	**25**	IAML		15 29 48.4	
	comp=N,843nm,1.3s						
RSD				IAML		15 29 52.5	
	comp=E,781nm,0.2s						
KNHH	**Kane Nui o Ham**	**0.24**	**56**		Pb	15 29 43.0	-0.7
MLH	**Mauna Loa**	**0.25**	**360**		Pb	15 29 43.2	-0.7
MLH					Sb	15 29 47.9	-0.8
MLH	**Mauna Loa**	**0.25**	**360**	IAML		15 29 48.1	
	comp=E,2μm,0.4s						
MLH				IAML		15 29 48.3	
	comp=N,2μm,0.4s						
STCH	**Steam Cracks**	**0.28**	**60**		Pb	15 29 43.4	-0.9
STCH					Sb	15 29 48.1	-1.0
STCH	**Steam Cracks**	**0.28**	**60**	IAML		15 29 48.5	
	comp=E,2μm,0.1s						
STCH				IAML		15 29 49.6	
	comp=N,864nm,0.1s						
NPOC	**North of Pu'u**	**0.30**	**60**		Pb	15 29 43.5	-0.9
NPOC					Sb	15 29 48.5	-1.0
JCUZ	**Jacuzzi**	**0.30**	**62**		Pb	15 29 43.6	-0.9
JCUZ					Sb	15 29 48.6	-1.0
MWH	**Mokuaweoweo**	**0.31**	**320**		Pb	15 29 43.8	-1.3
MWH	**Mokuaweoweo**	**0.31**	**320**	IAML		15 29 49.4	
	comp=E,1μm,0.3s						
MWH				IAML		15 29 54.4	
	comp=N,1μm,0.4s						
HMH	**Humu'ula Sheep**	**0.37**	**345**		Pb	15 29 44.7	-0.9
HMH				IAML		15 29 51.0	
	comp=E,1μm,0.3s						
HMH				IAML		15 29 51.2	
	comp=N,1μm,0.2s						
JOKA	**Jonika Flow**	**0.41**	**62**		Pb	15 29 44.7	-1.3
POHA	**Pohakuloa**	**0.53**	**345**		Pb	15 29 46.1	-1.9
HUH	**Hualalai**	**0.61**	**316**		Pb	15 29 47.5	-1.9
HUH				IAML		15 29 58.2	
	comp=N,917nm,0.2s						
HUH				IAML		15 29 59.9	
	comp=E,816nm,0.3s						
HPAH	**Hawaii Prepara**	**0.84**	**339**	IAML		15 30 00.3	
	comp=E,510nm,0.2s						

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*IDC **18** 16:01:26.5±1.1,37°.44N×20°.59E,h0km,mb3.7/11, mbtmp3.6/15,ML2.9/3,Error ellipse: s-maj=21.9km s-min=19.1km az=11.0*
*ATH **18** 16:01:29.2,37°.38N×20°.70E,h14km±2km,ML3.5/8,Error ellipse: s-maj=4.2km s-min=1.5km az=52.0*
*THE **18** 16:01:29.6,37°.38N×20°.71E,h7km±1km,ML3.6/2,Error ellipse: s-maj=1.6km s-min=0.6km az=53.0*
ISC 18 16:01:28.3±1.8,37°.39N±0°.06×20°.70E±0°.05,h11km±11km, n45,σ0$91/50,mb3.7/11,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.29**	**18**	P	**Pb**	**16 01 35.3**	**-0.2**
KRI1				S	**Sb**	**16 01 39.9**	**-0.4**
	17μm,0.4s						
LTHK	**Lithakia**	**0.34**	**18**	P	**Pb**	**16 01 36.2**	**-0.1**
LTHK				S	**Sb**	**16 01 41.4**	**-0.3**
	13μm,0.3s						
LTHK	**Lithakia**	**0.34**	**18**	P	**Pb**	**16 01 36.4**	**+0.1**
LTHK				S	**Sb**

ITM	**Ithomi**	**1.00 102**	P	**Pn**	**16 01 48.0**	**-0.2**
ITM	**Ithomi**	**1.00 102**	P	**Pn**	**16 01 47.9**	**-0.2**
ITM			AML	AML	16 02 08.5	
	comp=E,4831µm,0.5s					
ITM			AML	AML	16 02 10.9	
	comp=N,4493µm,0.5s					
FSK	**Fiskardo**	**1.07 354**	P	**Pn**	**16 01 49.6**	**+0.3**
FSK	**Fiskardo**	**1.07 354**	P	**Pb**	**16 01 48.8**	**-0.1**
FSK			AML	AML	16 02 09.4	
	comp=E,3411µm,0.6s					
FSK			AML	AML	16 02 09.9	
	comp=N,3246µm,0.8s					
AST1	**Astakos**	**1.19 15**	P	**Pg**	**16 01 52.0**	**+0.8**
EVGI	**Lefkada island**	**1.23 358**	P	**Pb**	**16 01 51.9**	**+0.4**
UPR	**University Cam**	**1.24 43**	P	**Pg**	**16 01 52.9**	**+0.8**
KLV	**Kalavryta, Ach**	**1.32 60**	P	**Pg**	**16 01 53.4**	**-0.3**
GUR	**Goura**	**1.41 67**	P	**Pg**	**16 01 54.7**	**-0.7**
OHR	**Ohrid**	**3.72 1**	*i* Pn	**Pb**	**16 02 32.2**	**-1.7**
IDI	**Anoyia**	**3.98 121**	Pn	**Pn**	**16 02 31.7**	**+2.5**
	comp=N,9.3nm,0.7s,baz=350,slow=6.1,SNR=2.2					
IDI			Sn	**Sn**	**16 03 17.8**	**+2.0**
	comp=N,2.1nm,0.3s,baz=282,slow=22,SNR=7.4					
VAE	**Valguarnera**	**5.01 273**	Pn	**Pn**	**16 02 42.6**	**-0.8**
	comp=N,2.4nm,0.3s,baz=14,slow=8.3,SNR=2.1					
	comp=N,6.0nm,0.5s					
MLR	**Muntele Rosu**	**9.00 24**	Pn	**Pn**	**16 03 40.9**	**+2.7**
	comp=N,0.1nm,0.3s,baz=157,slow=15,SNR=3.0					
	comp=N,3.3nm,0.9s					
BRTR	**Keskin Array B**	**10.40 73**	Pn	Pn	16 04 02.0	+4.6
	baz=259,slow=11,SNR=2.9					
	comp=N,0.5nm,0.7s					
AKASG	**Malin Array Be**	**14.64 22**	Pn	**P**	**16 05 01.0**	**-0.5**
	comp=N,0.6nm,0.3s,baz=210,slow=9.6,SNR=1.1					
HFS	**Hagfors**	**23.20 351**	P	**P**	**16 06 33.5**	**-1.3**
	comp=N,2.2nm,0.7s,baz=171,slow=10,SNR=1.9					
	comp=N,2.2nm,0.7s					
EKA	**Eskdalemuir Ar**	**24.16 326**	P	**P**	**16 06 43.0**	**-1.2**
	comp=N,0.9nm,0.7s,baz=86,slow=13,SNR=2.6					
	comp=N,0.9nm,0.7s					
FINES	**FINESS Array B**	**24.31 6**	P	**P**	**16 06 45.3**	**-0.3**
	comp=N,2.7nm,0.7s,baz=166,slow=8.8,SNR=1.7					
	comp=N,2.7nm,0.7s					
NOA	**NORSAR Array B**	**24.42 349**	P	**P**	**16 06 45.6**	**-1.0**
	comp=N,1.6nm,1.2s,baz=162,slow=9.7,SNR=1.8					
	comp=N,1.6nm,1.2s					
TORD	**Torodi Ar. Bea**	**29.51 220**	P	**P**	**16 07 32.9**	**+0.2**
	comp=N,0.4nm,0.8s,baz=17,slow=9.4,SNR=2.8					
	comp=N,0.4nm,0.8s					
BVAR	**Borovoye Array**	**37.52 49**	P	**P**	**16 08 42.0**	**-0.1**
	comp=N,0.4nm,0.6s,baz=272,slow=6.2,SNR=2.2					
	comp=N,0.4nm,0.6s					
KURBB	**Kurchatov Arra**	**42.59 53**	P	**P**	**16 09 23.9**	**-0.2**
	comp=N,1.0nm,0.6s,baz=279,slow=8.6,SNR=6.9					
	comp=N,1.0nm,0.6s					
MKAR	**Makanchi Array**	**45.59 58**	P	**P**	**16 09 47.1**	**-1.2**
	comp=N,0.5nm,0.6s,baz=276,slow=7.8,SNR=4.7					
	comp=N,0.5nm,0.6s					
ZALV	**Zalesovo Beam**	**46.11 48**	P	**P**	**16 09 52.9**	**+0.6**
	comp=N,0.6nm,0.6s,baz=266,slow=8.9,SNR=3.6					
	comp=N,0.6nm,0.6s					
CMAR	**Chiang Mai Arr**	**69.86 82**	P	**P**	**16 12 39.6**	**+0.3**
	comp=N,0.4nm,0.3s,baz=294,slow=8.8,SNR=5.0					
	comp=N,0.4nm,0.3s					
KSRS	**Korea Array**	**79.72 51**	P	**P**	**16 13 36.6**	**+0.5**
	comp=N,0.6nm,0.7s,baz=321,slow=5.1,SNR=2.6					
	comp=N,0.6nm,0.7s					

IDC ***18*** *16:04:21.4±0.5, 14.°96N×45.°06W, h0km, mb4.4/31, mbtmp4.4/33, ML3.9/2, MS4.2/61, Error ellipse: s-maj=15.1km s-min=11.9km az=153.0*

MOS ***18*** *16:04:21.2±0.9, 14.°91N×45.°03W, h10km, mb5.1/36, Error ellipse: s-maj=11.6km s-min=7.7km az=57.7*

NEIC ***18*** *16:04:23.8±1.3, 14.°9N±0.°1×45.°0W±0.°1, h10km±1km, mb5.0/284, Error ellipse: s-maj=19.4km s-min=15.6km az=132.0*

GCMT ***18*** *16:04:24.8±0.2, 15.°06N±0.°02×44.°93W±0.°01, h12km, MW5.0/121, Moment Tensor Solution. s45,c52; s121,c170; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-3.90±.08; Mθθ0.65±.09; Mφφ3.26±.07; Mrθ-0.17±.32; Mφθ1.21±.07; Mφr-0.68±.25; Best double couple: M○3.88200×1016 NP1:φs20.00000°, δ50.00000°, λ-92.00000°. NP2:φs203.00000°, δ40.00000°, λ-88.00000°. Principal axes: T 3.7980, Plg5.0000°, Azm111.0000°; N 0.1740, Plg1.0000°, Azm21.0000°; P -3.9660, Plg85.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 16:04:23.6±0.3, 14.°89N±0.°06×44.°96W±0.°06, h14km, n649, σ0.95/496, mb5.0/218, MS4.2/63, 18C-11D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.32**	**219**	Pn	**Pn**	**16 07 19.5**	**+0.8**
	1.0nm,0.3s,baz=31,slow=14,SNR=16						
MDP				LR	LR	16 11 11.0	
	comp=Z,708nm,19.9s,baz=82,slow=33						
	16nm,0.9s						
GDSD	**La Dsirade Is**	**15.58**	**277**	P	**P**	**16 08 08.2**	**+1.1**
GDSD				IAmb	IAmb	16 08 09.2	
	comp=Z,95nm,1.1s						
BOAV	**Boa Vista**	**19.75**	**232**	P	**Pn**	**16 08 54.2**	**-0.5**
PCRV	**Puerto La Cruz**	**19.76**	**259**	P	**P**	**16 08 53.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=43,slow=7.6,SNR=5.8						
	comp=Z,20nm,1.0s						
HUMP	**Col San Antoni**	**20.28**	**282**	P	**P**	**16 08 58.8**	**-0.3**
SJG	**San Juan**	**20.56**	**282**	P	**P**	**16 09 01.5**	**-0.6**
	comp=Z,10nm,0.6s,baz=87,slow=7.6,SNR=3.7						
SJG				LR	LR	16 15 42.7	
	comp=Z,985nm,21.1s,baz=76,slow=33						
	comp=Z,10nm,0.6s						
NBPB	**Pedra_Branca-C**	**20.99**	**165**	*e*P	**P**	**16 09 04.8**	**-2.0**
ITTB	**Itaituba**	**21.91**	**210**	*e*P	**P**	**16 09 16.8**	**+0.2**
RCBR	**Riachuelo**	**22.46**	**156**	LR	LR	16 15 56.2	
	comp=Z,289nm,19.2s,baz=348,slow=31						
BAUV	**El Baul**	**23.33**	**258**	P	**P**	**16 09 31.2**	**-0.5**
SMTB	**Santa Maria do**	**23.74**	**186**	*e*P	**P**	**16 09 35.6**	**-0.1**
NPGB	**Novo Progresso**	**24.11**	**206**	*e*P	**P**	**16 09 37.9**	**-1.2**
BBTS	**Babate**	**27.48**	**87**	LR	LR	16 18 12.0	
	comp=Z,868nm,19.5s,baz=144,slow=30						
SAML	**Samuel**	**29.79**	**218**	P	**P**	**16 10 30.6**	**+0.4**
SAML	**Samuel**	**29.79**	**218**	P	**P**	**16 10 30.6**	**+0.4**
SAML				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SAML	**Samuel**	**29.79**	**218**	*e*P	**P**	**16 10 30.7**	**+0.5**
BDFB	**Brasilia**	**30.49**	**186**	P	**P**	**16 10 37.2**	**+0.7**
BDFB				IAmb	IAmb	16 10 43.9	
	comp=Z,63nm,2.0s						
BDFB	**Brasilia**	**30.49**	**186**	P	**P**	**16 10 36.5**	**0.0**
	comp=Z,4.6nm,0.7s,baz=17,slow=8.0,SNR=7.7						
BDFB				LR	LR	16 22 05.7	
	comp=Z,456nm,19.8s,baz=332,slow=35						
	comp=Z,4.6nm,0.7s						
BDFB	**Brasilia**	**30.49**	**186**	P	**P**	**16 10 37.2**	**+0.7**
BDFB				pmax	pmax		
	comp=Z,63nm,2.0s						
ROSC	**El Rosal**	**30.56**	**254**	LR	LR	16 24 38.4	
	comp=Z,368nm,18.9s,baz=85,slow=40						
ETMB	**Extrema**	**32.35**	**222**	P	**P**	**16 10 52.5**	**-0.3**
ETMB				IAmb	IAmb	16 11 05.6	
	comp=Z,23nm,1.1s						
ETMB	**Extrema**	**32.35**	**222**	*e*P	**P**	**16 10 51.8**	**-1.0**
PTLB	**Pontes e Lacer**	**33.24**	**206**	*e*P	**P**	**16 11 00.6**	**0.0**
SIV	**San Ignacio**	**34.57**	**208**	LR	LR	16 25 04.6	
	comp=Z,290nm,20.9s,baz=104,slow=36						
M65A	**Busby, Falmout**	**34.65**	**325**	P	**P**	**16 11 14.3**	**+1.7**
	baz=133						
BBSD	**Serra de San D**	**35.42**	**206**	*e*P	**P**	**16 11 19.8**	**+0.3**
CZSB	**Cruzeiro do Su**	**35.52**	**233**	*e*P	**P**	**16 11 20.3**	**-0.1**
L61B	**Northampton**	**36.37**	**325**	P	**P**	**16 11 27.3**	**-0.1**
	baz=131						
H10N3	**ASCENSION HYDR**	**37.71**	**125**	T	T	16 51 44.9	
	baz=306,slow=75,SNR=85						
H10N2	**ASCENSION HYDR**	**37.72**	**125**	T	T	16 51 42.2	
	baz=306,slow=75,SNR=90						
H10N1	**ASCENSION HYDR**	**37.73**	**125**	T	T	16 51 46.8	
	baz=306,slow=75,SNR=124						
H10S3	**ASCENSION HYDR**	**38.26**	**126**	T	T	16 52 23.3	
	baz=306,slow=74,SNR=87						
H10S2	**ASCENSION HYDR**	**38.27**	**126**	T	T	16 52 24.7	
	baz=274,slow=74,SNR=59						
LPAZ	**La Paz**	**38.51**	**217**	P	**P**	**16 11 44.6**	**-1.9**
LPAZ	**La Paz**	**38.51**	**217**	P	**P**	**16 11 46.3**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=13,slow=3.6,SNR=7.4						
LPAZ				LR	LR	16 27 31.4	
	comp=Z,307nm,19.4s,baz=23,slow=36						
	comp=Z,2.3nm,0.7s						
LPAZ	**La Paz**	**38.51**	**217**	P	**P**	**16 11 44.6**	**-1.9**
LPAZ				pmax	pmax		
	comp=Z,15nm,1.3s						
LPAZ	**La Paz**	**38.51**	**217**	*e*P	**P**	**16 11 45.5**	**-1.0**
ACON	**Acoyapa**	**39.18**	**271**	P	**P**	**16 11 52.0**	**+0.5**
ACON				IAmb	IAmb	16 11 56.1	
	comp=Z,50nm,1.4s						
JTS	**Las Juntas de**	**39.26**	**268**	LR	LR	16 31 01.0	
	comp=Z,96nm,18.2s,baz=68,slow=41						
JTS	**Las Juntas de**	**39.26**	**268**	*i* P	**P**	**16 11 54.5**	**+2.3**
JTS				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ATAH	**Atahualpa**	**39.72**	**239**	LR	LR	16 28 23.1	
	comp=Z,354nm,20.5s,baz=51,slow=36						
PCVE	**Castro Verde**	**39.74**	**48**	*e*P	**P**	**16 11 58.7**	**+2.8**
EVO	**Evora**	**40.14**	**47**	*e*P	**P**	**16 12 00.9**	**+1.7**
DBIC	**Dimbokro**	**40.18**	**97**	P	**P**	**16 12 01.1**	**+1.2**
	comp=Z,7.6nm,1.1s,baz=292,slow=10,SNR=4.7						
	comp=Z,7.6nm,1.1s						
TKL	**Tuckaleechee C**	**40.38**	**308**	LR	LR	16 25 00.3	
	comp=Z,661nm,20.9s,baz=92,slow=31						
PCAS	**Casmilo, Conde**	**40.49**	**45**	*e*P	**P**	**16 12 03.4**	**+1.3**
PBAR	**Barrancos**	**40.69**	**48**	*e*P	**P**	**16 12 05.6**	**+1.9**
MDT	**Midelt**	**40.70**	**57**	LR	LR	16 24 54.7	
	comp=Z,374nm,20.0s,baz=341,slow=30						
CPCT	**Cooper Cave**	**40.88**	**307**	P	**P**	**16 12 06.1**	**+0.7**
S51A	**Beattyville**	**40.98**	**311**	P	**P**	**16 12 05.9**	**-0.3**
PCBR	**Castelo Branco**	**41.09**	**45**	*e*P	**P**	**16 12 08.1**	**+1.1**
SSFO	**Shawnee State**	**41.12**	**313**	P	**P**	**16 12 07.2**	**-0.1**
M52A	**Chesterland**	**41.15**	**317**	P	**P**	**16 12 09.0**	**+1.4**
M52A				IAmb	IAmb	16 12 33.7	
	comp=Z,41nm,1.4s						
MTE	**Manteigas**	**41.30**	**45**	*e*P	**P**	**16 12 10.7**	**+1.9**
NNA	**Nana**	**41.35**	**231**	LR	LR	16 28 56.7	
	comp=Z,393nm,20.5s,baz=42,slow=36						
SADO	**Sadowa**	**41.50**	**323**	LR	LR	16 25 55.7	
	comp=Z,406nm,19.8s,baz=89,slow=31						
PB11	**IPOC Station P**	**42.14**	**216**	P	**P**	**16 12 15.6**	**-0.4**
P49A	**Miami Univ. Ec**	**42.54**	**313**	P	**P**	**16 12 20.0**	**+1.0**
	baz=114						
CPUP	**Villa Florida**	**42.70**	**196**	P	**P**	**16 12 19.7**	**-0.6**
CPUP	**Villa Florida**	**42.70**	**196**	P	**P**	**16 12 19.8**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=41,slow=5.6,SNR=4.4						
CPUP				LR	LR	16 31 24.3	
	comp=Z,87nm,19.5s,baz=29,slow=38						
	comp=Z,1.6nm,0.7s						
CPUP	**Villa Florida**	**42.70**	**196**	P	**P**	**16 12 19.7**	**-0.6**
CPUP				pmax	pmax		
	comp=Z,29nm,1.6s						
O48B	**Farmland**	**43.15**	**314**	P	**P**	**16 12 24.4**	**+0.6**
	baz=114						
SCHQ	**Schefferville**	**43.33**	**342**	P	**P**	**16 12 24.9**	**-0.2**
SCHQ				IAmb	IAmb	16 12 33.1	
	comp=Z,45nm,1.4s						
SCHQ	**Schefferville**	**43.33**	**342**	P	**P**	**16 12 25.2**	**+0.1**
	comp=Z,15nm,1.0s,baz=149,slow=8.8,SNR=6.8						
SCHQ				LR	LR	16 27 34.5	
	comp=Z,383nm,19.8s,baz=106,slow=32						
	comp=Z,15nm,1.0s						
L48A	**N Adams**	**43.37**	**316**	P	**P**	**16 12 26.0**	**+0.4**
L48A				IAmb	IAmb	16 12 27.5	
	comp=Z,37nm,1.2s						
ESDC	**Sonseca Array**	**43.48**	**47**	P	**P**	**16 12 27.1**	**+0.5**
	comp=Z,4.1nm,1.0s,baz=239,slow=8.5,SNR=10.0						
ESDC				LR	LR	16 25 38.8	
	comp=Z,246nm,20.6s,baz=224,slow=29						
	comp=Z,4.1nm,1.0s						
WVT	**Waverly**	**43.65**	**307**	P	**P**	**16 12 27.6**	**-0.3**
WVT	**Waverly**	**43.65**	**307**	P	**P**	**16 12 27.6**	**-0.3**
WVT				pmax	pmax		
	comp=Z,11nm,0.9s						
SIUC	**Southern Illin**	**45.19**	**309**	P	**P**	**16 12 40.1**	**-0.1**
SIUC				IAmb	IAmb	16 12 47.7	
	comp=Z,27nm,1.1s						
S44A	**Carbondale**	**45.21**	**309**	P	**P**	**16 12 40.3**	**-0.2**
S44A				IAmb	IAmb	16 12 47.7	
	comp=Z,22nm,1.1s						
TORD	**Torodi Ar. Bea**	**45.24**	**86**	P	**P**	**16 12 40.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**45.24**	**86**	P	**P**	**16 12 40.1**	**-0.8**
	comp=Z,7.5nm,1.1s,baz=298,slow=8.0,SNR=23						
TORD				LR	LR	16 28 57.8	
	comp=Z,662nm,18.0s,baz=288,slow=33						
	comp=Z,7.5nm,1.1s						
FVM	**French Village**	**46.18**	**309**	P	**P**	**16 12 47.7**	**-0.4**
FVM				IAmb	IAmb	16 12 54.5	
	comp=Z,16nm,0.9s						
FVM	**French Village**	**46.18**	**309**	P	**P**	**16 12 47.7**	**-0.4**
FVM				pmax	pmax		
	comp=Z,16nm,1.0s						
HDIL	**Hopedale**	**46.18**	**312**	P	**P**	**16 12 47.9**	**-0.2**
CCM	**Cathedral Cave**	**46.82**	**309**	P	**P**	**16 12 53.4**	**+0.2**
CCM				IAmb	IAmb	16 12 59.4	
	comp=Z,17nm,1.2s						
CCM	**Cathedral Cave**	**46.82**	**309**	P	**P**	**16 12 53.4**	**+0.2**
CCM				pmax	pmax		
	comp=Z,17nm,1.2s						
FCAR	**Ozark Folk Cen**	**46.93**	**305**	P	**P**	**16 12 53.8**	**-0.2**
FCAR				IAmb	IAmb	16 13 06.7	
	comp=Z,15nm,1.4s						
R40A	**Maddies Statio**	**47.66**	**309**	P	**P**	**16 12 58.5**	**-1.2**
R40A				IAmb	IAmb	16 13 05.4	
	comp=Z,11nm,1.0s						
P40A	**Paris**	**47.85**	**310**	IAmb	IAmb	16 13 02.2	
	comp=Z,23nm,1.2s						
CMIG	**Matias Romero**	**47.94**	**280**	LR	LR	16 31 45.4	
	comp=Z,215nm,21.9s,baz=57,slow=34						
TAM	**Tamanrasset**	**48.24**	**73**	P	**P**	**16 13 04.6**	**+0.1**
TAM	**Tamanrasset**	**48.24**	**73**	P	**P**	**16 13 04.6**	**+0.1**
TAM				pmax	pmax		
	comp=Z,45nm,2.0s						
S39A	**Bolivar**	**48.31**	**307**	IAmb	IAmb	16 13 05.8	
	comp=Z,20nm,1.3s						
HKT	**Hockley**	**48.97**	**297**	*i* P	**P**	**16 13 11.7**	**+1.9**
HKT				pmax	pmax		
	comp=Z,13nm,1.3s						
435B	**Jarrell**	**50.56**	**298**	P	**P**	**16 13 21.9**	**-0.2**
	baz=96						
W35A	**Tecumseh**	**50.57**	**303**	IAmb	IAmb	16 13 23.3	
	comp=Z,27nm,1.2s						
PLPT	**Palo Pinto**	**51.41**	**300**	IAmb	IAmb	16 13 34.9	
	comp=Z,27nm,1.0s						
FRB	**Frobisher Bay**	**51.48**	**347**	LR	LR	16 32 09.0	
	comp=Z,238nm,21.7s,baz=140,slow=32						
EKA	**Eskdalemuir Ar**	**51.58**	**29**	P	**P**	**16 13 29.2**	**0.0**
	comp=Z,3.8nm,1.0s,baz=242,slow=4.6,SNR=3.9						
	comp=Z,3.8nm,1.0s						
BRDY	**Brady**	**51.82**	**298**	IAmb	IAmb	16 13 37.5	
	comp=Z,26nm,1.0s						
833A	**Chaparral WMA,**	**51.95**	**294**	P	**P**	**16 13 32.3**	**-0.2**
	baz=93,SNR=6.0						
ECSD	**EROS Data Cent**	**52.35**	**314**	IAmb	IAmb	16 13 41.5	
	comp=Z,31nm,1.7s						
BORG	**Borgarnes**	**52.36**	**13**	LR	LR	16 29 39.2	
	comp=Z,119nm,21.4s,baz=138,slow=29						
JCT	**Junction City**	**52.44**	**297**	IAmb	IAmb	16 13 42.2	
	comp=Z,17nm,1.1s						
ABTX	**Abilene, Hawle**	**52.50**	**300**	IAmb	IAmb	16 13 42.7	
	comp=Z,25nm,1.1s						
KEST	**Kesra**	**52.60**	**56**	LR	LR	16 35 07.3	
	comp=Z,204nm,18.7s,baz=262,slow=35						
F33A	**5 Mile Ranch,**	**52.77**	**317**	IAmb	IAmb	16 13 39.5	
	comp=Z,19nm,1.2s						
APMT	**Aspermont**	**52.98**	**301**	IAmb	IAmb	16 13 46.3	
	comp=Z,29nm,1.0s						
SMWD	**Samnorwood**	**53.29**	**303**	IAmb	IAmb	16 13 48.5	
	comp=Z,18nm,1.1s						
OZNA	**Ozona**	**53.61**	**298**	IAmb	IAmb	16 13 45.7	
	comp=Z,20nm,1.1s						
DKNS	**Dickens**	**53.68**	**301**	IAmb	IAmb	16 13 50.9	
	comp=Z,16nm,1.0s						
BCLA	**Clavier**	**53.73**	**38**	*d*P	**P**	**16 13 44.5**	**-0.7**
WLF	**Walferdange**	**53.95**	**39**	*e*P	**P**	**16 13 49.2**	**+2.4**
	comp=Z,7.2nm,1.0s,baz=252,slow=6.6						
WLF	**Walferdange**	**53.95**	**39**	*d*P	**P**	**16 13 46.3**	**-0.5**
ULM	**Lac du Bonnet**	**54.04**	**322**	P	**P**	**16 13 46.6**	**-1.0**
ULM				IAmb	IAmb	16 13 47.8	
	comp=Z,16nm,0.9s						
ULM	**Lac du Bonnet**	**54.04**	**322**	P	**P**	**16 13 46.5**	**-1.0**
	comp=Z,14nm,0.9s,baz=116,slow=5.8,SNR=13						
ULM				LR	LR	16 33 19.5	
	comp=Z,347nm,21.1s,baz=112,slow=32						
	comp=Z,14nm,0.9s						
ULM	**Lac du Bonnet**	**54.04**	**322**	*i* P	**P**	**16 13 47.0**	**-0.5**
POST	**Post**	**54.10**	**300**	IAmb	IAmb	16 13 54.6	
	comp=Z,19nm,1.1s						
MEM	**Membach**	**54.22**	**38**	*d*P	**P**	**16 13 48.1**	**-0.7**
BTNL	**Ternell**	**54.28**	**38**	*d*P	**P**	**16 13 49.6**	**+0.3**
	comp=Z,8.4nm,1.2s						
SAND	**Sanderson**	**54.41**	**296**	IAmb	IAmb	16 13 56.7	
	comp=Z,13nm,0.9s						
TUE	**Stuetta**	**54.94**	**43**	P	**P**	**16 13 55.8**	**+1.4**
TUE				IAmb	IAmb	16 13 57.1	
	comp=Z,32nm,1.6s						
TUE	**Stuetta**	**54.94**	**43**	P	**P**	**16 13 54.3**	**-0.1**
	comp=Z,59nm,2.2s						
DAVOX	**Davos/Dischmat**	**55.38**	**43**	P	**P**	**16 13 58.3**	**+0.7**
	comp=Z,6.6nm,0.9s,baz=280,slow=12,SNR=8.6						
	comp=Z,6.6nm,0.9s						
RTBA	**Rita Blanca**	**55.47**	**304**	IAmb	IAmb	16 14 04.6	
	comp=Z,28nm,1.3s						
DAVA	**Damuels**	**55.52**	**42**	*i* P	**P**	**16 13 59.0**	**+0.5**
	comp=Z,9.8nm,1.1s						
TXAR	**Lajitas Array**	**55.73**	**295**	P	**P**	**16 13 58.9**	**-1.4**
TXAR	**Lajitas Array**	**55.73**	**295**	P	**P**	**16 13 60.0**	**-0.3**
	comp=Z,3.4nm,0.9s,baz=117,slow=7.8,SNR=19						
TXAR				LR	LR	16 35 40.4	
	comp=Z,147nm,21.8s,baz=73,slow=34						
	comp=Z,3.4nm,0.9s						
TXAR	**Lajitas Array**	**55.73**	**295**	P	**P**	**16 13 58.9**	**-1.4**
ALPN	**Alpine**	**55.74**	**297**	IAmb	IAmb	16 14 06.9	
	comp=Z,18nm,1.1s						
UBR	**Ueberruh**	**55.78**	**42**	*e*P	**P**	**16 14 01.3**	**+1.0**
	comp=Z,4.4nm,0.9s,baz=252,slow=6.6						
FETA	**Feichten**	**56.01**	**43**	*i* P	**P**	**16 14 03.1**	**+1.1**
	comp=Z,13nm,1.1s						
RETA	**Reutte**	**56.15**	**42**	*i* pP	pP	16 14 05.2	-1.1
	comp=Z,12nm,1.5s						
CTI	**Castel Tesino**	**56.37**	**44**	P	**P**	**16 14 04.3**	**-0.3**
CTI				IAmb	IAmb	16 14 07.2	
	comp=Z,22nm,1.1s						
CTI	**Castel Tesino**	**56.37**	**44**	P	**P**	**16 14 04.3**	**-0.3**
CTI				pmax	pmax		
	comp=Z,22nm,1.1s						
UBBA	**Unterbreizbach**	**56.67**	**38**	*e*P	**P**	**16 14 07.8**	**+1.5**
	baz=252,slow=6.6						
FUR	**Furstenfeldbru**	**56.67**	**42**	*e*P	**P**	**16 14 07.1**	**+0.6**
	comp=Z,12nm,0.7s,baz=252,slow=6.6						
VAE	**Valguarnera**	**56.87**	**55**	LR	LR	16 36 44.8	
	comp=Z,237nm,18.7s,baz=176,slow=34						
GTTG	**Gottingen**	**56.88**	**38**	*e*P	**P**	**16 14 09.2**	**+1.2**
	comp=Z,12nm,1.0s,baz=252,slow=6.6						
T25A	**Trinidad**	**56.89**	**305**	IAmb	IAmb	16 14 15.9	
	comp=Z,24nm,1.4s						
T25A	**Trinidad**	**56.89**	**305**	P	**P**	**16 14 08.5**	**0.0**
	baz=96						
BI02	**San Fabin de**	**56.97**	**205**	P	**P**	**16 14 08.7**	**-0.1**
BI02				IAmb	IAmb	16 14 21.9	
	comp=Z,14nm,1.0s						
ABTA	**Abfaltersbach**	**57.12**	**44**	*e*P	**P**	**16 14 11.3**	**+1.4**
	comp=Z,14nm,1.2s						
CLZ	**Clausthal**	**57.22**	**37**	*e*P	**P**	**16 14 11.1**	**+0.7**
	comp=Z,3.7nm,0.9s,baz=252,slow=6.6						
NRDL	**Niedersach Rie**	**57.28**	**37**	*e*P	**P**	**16 14 11.7**	**+1.1**
	comp=Z,10nm,0.9s,baz=252,slow=6.6						
LESA	**Schwarzleotal**	**57.39**	**43**	*e*P	**P**	**16 14 13.4**	**+1.6**
	comp=Z,14nm,1.1s						
HPIG		**57.49**	**293**	IAmb	IAmb	16 14 14.8	
	comp=Z,14nm,1.0s						
MOX	**Moxa**	**57.59**	**39**	*e*P	**P**	**16 14 13.7**	**+0.7**
	comp=Z,3.9nm,0.9s,baz=252,slow=6.6						
Q24A	**Divide**	**57.68**	**307**	P	**P**	**16 14 14.2**	**0.0**
	baz=97						
ROTZ	**Rotzenmuhle**	**57.70**	**40**	*e*P	**P**	**16 14 13.9**	**+0.1**
	baz=252,slow=6.6						
KBA	**Koelnbreinsper**	**57.75**	**43**	*e*P	**P**	**16 14 14.6**	**+0.1**
	comp=Z,13nm,1.1s						
SUMG	**Summit**	**57.80**	**2**	P	**P**	**16 14 12.8**	**-1.8**
SUMG	**Summit**	**57.80**	**2**	P	**P**	**16 14 12.8**	**-1.8**
SUMG				pmax	pmax		
	comp=Z,35nm,1.4s						
SUMG	**Summit**	**57.80**	**2**	*i* P	**P**	**16 14 14.0**	**-0.6**
MYKA	**Terra Mystica**	**57.85**	**44**	*e*P	**P**	**16 14 15.2**	**+0.3**
	comp=Z,22nm,1.2s						
FLTG	**Flechtingen**	**57.88**	**37**	*e*P	**P**	**16 14 15.7**	**+0.7**
	comp=Z,13nm,1.1s,baz=252,slow=6.6						
BSEG	**Bad Segeberg**	**57.89**	**35**	*e*P	**P**	**16 14 15.6**	**+0.6**
	comp=Z,48nm,1.4s,baz=252,slow=6.6						
WET	**Wettzell**	**57.96**	**41**	*e*P	**P**	**16 14 15.7**	**0.0**
	comp=Z,3.0nm,1.0s,baz=252,slow=6.6						
TANN	**Tannenbergstha**	**58.04**	**39**	*e*P	**P**	**16 14 16.6**	**+0.4

DPC Dobruska-Polom 60.42 40 *eP* **P 16 14 34.0 +1.3**
DPC Dobruska-Polom 60.42 40 P **P 16 14 32.8 +0.1**
MPLH Magyarpolny 60.58 44 P **P 16 14 33.5 -0.3**
MODS Modra-Piesok 60.62 43 *eP* **P 16 14 34.9 +0.8**
MODS pmax pmax
comp=Z,22nm,1.0s
MODS Modra-Piesok 60.62 43 *eP* **P 16 14 34.9 +0.8**
KRLC Kraliky 60.65 41 *eP* **P 16 14 35.7 +1.4**
KRLC Kraliky 60.65 41 *eP* **P 16 14 35.7 +1.4**
JAVC Velka Javorina 60.97 42 *eP* **P 16 14 37.0 +0.5**
NOA NORSAR Array B 60.99 28 P **P 16 14 36.6 +0.3**
comp=Z,2.0nm,0.9s,baz=248,slow=7.4,SNR=4.8
NOA LR LR 16 36 20.1
comp=Z,79nm,18.4s,baz=245,slow=32
comp=Z,2.0nm,0.9s
MORC Moravsky Berou 61.06 41 *eP* **P 16 14 37.5 +0.4**
MAUC Maruska 61.17 42 *eP* **P 16 14 38.6 +0.8**
MORH Mrgy, Hungar 61.17 45 P **P 16 14 37.1 -0.7**
SRO Srobarova 61.20 43 *eP* **P 16 14 39.2 +1.2**
SRO pmax pmax
comp=Z,21nm,1.0s
SRO Srobarova 61.20 43 *eP* **P 16 14 39.2 +1.2**
RDMU Red Mountain 61.23 308 IAmb IAmb 16 14 45.4
comp=Z,18nm,1.2s
PDAR Pinedale Array 61.43 311 P **P 16 14 38.2 -1.7**
PDAR Pinedale Array 61.43 311 P **P 16 14 39.0 -1.0**
comp=Z,3.9nm,1.0s,baz=119,slow=6.1,SNR=18
PDAR LR LR 16 38 42.0
comp=Z,159nm,21.6s,baz=108,slow=34
comp=Z,3.9nm,1.0s
RLMT Red Lodge 61.50 313 IAmb IAmb 16 14 42.0
comp=Z,14nm,1.2s
VYHS Vyhne 61.66 43 *eP* **P 16 14 42.0 +0.8**
VYHS pmax pmax
comp=Z,13nm,1.2s
VYHS Vyhne 61.66 43 *eP* **P 16 14 42.0 +0.8**
P18A Preston Nutter 61.67 307 IAmb IAmb 16 14 53.3
comp=Z,16nm,1.2s
HFS Hagfors 61.78 29 P **P 16 14 41.9 +0.2**
comp=Z,10nm,0.9s,baz=232,slow=4.7,SNR=7.9
HFS LR LR 16 36 45.3
comp=Z,154nm,20.1s,baz=309,slow=32
comp=Z,10nm,0.9s
LPIG La Paz 61.82 290 LR LR 16 41 46.9
comp=Z,146nm,20.4s,baz=54,slow=36
SRU San Rafael Swe 61.86 307 IAmb IAmb 16 14 51.2
comp=Z,14nm,1.3s
YMP Mirror Lake Pl 62.08 313 IAmb IAmb 16 14 51.0
comp=Z,14nm,0.9s
HSIG 62.10 295 IAmb IAmb 16 14 51.5
comp=Z,12nm,1.2s
BSUT Blindstream Ca 62.13 308 IAmb IAmb 16 15 05.4
comp=Z,12nm,1.2s
EGMT Eagleton 62.24 317 IAmb IAmb 16 14 46.5
comp=Z,14nm,1.1s
LOHW Long Hollow 62.28 312 IAmb IAmb 16 14 46.8
comp=Z,9.1nm,1.1s
TPAW Teton Pass 62.52 311 IAmb IAmb 16 14 53.9
comp=Z,15nm,1.1s
AHID Auburn Hatcher 62.56 311 IAmb IAmb 16 14 48.5
comp=Z,14nm,1.2s
OJC Ojcow 62.58 41 *eP* **P 16 14 49.7 +2.5**
OJC Ojcow 62.58 41 P **P 16 14 47.5 +0.3**
comp=Z,18nm,2.2s
FXWY Fox Creek 62.59 312 IAmb IAmb 16 14 48.9
comp=Z,10nm,1.1s
NEEM North Greenlan 62.64 358 *eP* **P 16 14 48.5 +0.9**
NEEM IAmb IAmb 16 14 50.3
comp=Z,54nm,1.6s
JLU Jordanelle 62.66 308 IAmb IAmb 16 14 51.0
comp=Z,12nm,1.1s
TCUT Toone Canyon 62.66 309 IAmb IAmb 16 14 49.5
comp=Z,13nm,0.9s
KECS Kecovo 62.74 43 *eP* **P 16 14 50.1 +1.7**
KECS pmax pmax
comp=Z,37nm,1.7s
KECS Kecovo 62.74 43 *eP* **P 16 14 50.1 +1.7**
NIE Niedzica 62.77 42 *eP* **P 16 14 52.4 +3.8**
NIE Niedzica 62.77 42 P **P 16 14 50.4 +1.8**
comp=Z,6.6nm,1.2s
YHL Hebgen Lake 62.82 313 IAmb IAmb 16 14 51.6
comp=Z,17nm,1.1s
MTPU Mount Pierson 63.11 305 IAmb IAmb 16 15 04.1
comp=Z,12nm,1.2s
BZS Buzias 63.15 46 ⇑P **P 16 14 52.3 +1.2**
DAG Danmarks Havn 63.38 7 *i* P **P 16 14 53.0 +0.9**
SURR Surduc 63.52 46 ⇓P **P 16 14 54.8 +1.2**
KNB Kanab 63.59 304 IAmb IAmb 16 15 02.1
comp=Z,26nm,1.9s
DUG Dugway, Tooele 63.68 308 IAmb IAmb 16 15 02.0
comp=Z,28nm,1.9s
Y14A Wickenburg 63.74 301 IAmb IAmb 16 15 02.9
comp=Z,21nm,1.7s
DLMT Dillon 63.86 313 IAmb IAmb 16 15 03.2
comp=Z,10.0nm,1.0s
GZR Gura Zlata 63.94 47 ⇑P **P 16 14 57.9 +1.4**
KOLS Kolonicke sedl 63.98 43 *eP* **P 16 14 58.1 +1.5**
KOLS pmax pmax
comp=Z,9.0nm,1.1s
KOLS Kolonicke sedl 63.98 43 *eP* **P 16 14 58.1 +1.5**
HOLU Holmets 64.00 43 P **P 16 14 56.5 -0.2**
DRGR 64.03 45 ⇓P **P 16 14 58.1 +1.0**
BERU Beregovo 64.14 43 P **P 16 14 57.8 +0.2**
MARR Marisel-Cluj 64.30 45 ⇓P **P 16 14 60.0 +1.2**
BRIU Brid 64.40 43 P **P 16 15 00.1 +0.8**
PSUT Pine Spring 64.44 306 IAmb IAmb 16 15 02.6
comp=Z,10nm,1.0s
MEZ Mezhgor'ye 64.75 43 P **P 16 15 02.3 +0.7**
SPR3 Spring Creek 3 64.81 306 IAmb IAmb 16 15 05.1
comp=Z,14nm,1.1s
HLID Hailey 65.03 311 IAmb IAmb 16 15 05.3
comp=Z,7.8nm,0.9s
RAKU Rahkiv 65.13 44 P **P 16 15 04.1 0.0**
Q12A Willow Creek R 65.20 306 IAmb IAmb 16 15 07.4
comp=Z,12nm,1.1s
LVV L'vov 65.22 42 P **P 16 15 05.4 +0.7**
V12A Nelson 65.23 303 IAmb IAmb 16 15 12.9
comp=Z,9.8nm,1.1s
ARR Arges 65.24 47 ⇑P **P 16 15 06.5 +1.5**
SUW Suwalki 65.25 37 P **P 16 15 05.1 +0.4**
SUW Suwalki 65.25 37 P **P 16 15 05.1 +0.4**
SUW pmax pmax
comp=Z,30nm,0.9s
PRN Pahroc Range 65.37 305 IAmb IAmb 16 15 09.1
comp=Z,13nm,1.2s
STNU Starunia 65.42 43 P **P 16 15 06.4 +0.4**
VOIR 65.54 47 ⇓P **P 16 15 09.1 +2.2**
VOIR 65.54 47 P **P 16 15 07.6 +0.7**
comp=Z,5.6nm,1.0s
ELK Elko 65.55 308 IAmb IAmb 16 15 09.0
comp=Z,14nm,1.1s
ELK Elko 65.55 308 LR LR 16 43 28.7
comp=Z,440nm,18.6s,baz=82,slow=36
RES Resolute Bay 65.69 347 IAmb IAmb 16 15 09.5
comp=Z,17nm,1.4s
RES Resolute Bay 65.69 347 LR LR 16 43 40.1
comp=Z,137nm,18.0s,baz=104,slow=36
KSV Kosov 65.76 43 P **P 16 15 06.5 -1.7**
R11B Troy Canyon, C 65.79 306 P **P 16 15 09.4 +0.6**
baz=90
BURAR Bucovina Array 65.80 44 ⇑P **P 16 15 08.9 +0.3**
S11A Rachel 65.92 305 IAmb IAmb 16 15 12.7
comp=Z,15nm,1.1s
MFID Camas Ranch 66.06 311 IAmb IAmb 16 15 11.9
comp=Z,15nm,1.1s
VTX Valle De La Tr 66.17 298 IAmb IAmb 16 15 14.0
comp=Z,18nm,1.4s
MLR Muntele Rosu 66.17 47 P **P 16 15 11.1 +0.1**
MLR Muntele Rosu 66.17 47 LR LR 16 43 48.7
comp=Z,162nm,18.3s,baz=278,slow=36
MLR Muntele Rosu 66.17 47 ⇑P **P 16 15 12.6 +1.5**
MLR Muntele Rosu 66.17 47 P **P 16 15 11.1 +0.1**
MLR pmax pmax
comp=Z,39nm,1.2s
MLR Muntele Rosu 66.17 47 P **P 16 15 11.6 +0.6**
comp=Z,29nm,1.2s
ESJX Sierra Juarez 66.28 299 IAmb IAmb 16 15 19.9
comp=Z,16nm,1.6s
TPNV Topopah Spring 66.34 304 IAmb IAmb 16 15 15.1
comp=Z,12nm,1.2s
COVR Voineasa-Covas 66.37 46 ⇑P **P 16 15 13.7 +1.5**
RNPP8 Varash 66.54 40 P **P 16 15 13.1 0.0**
RNPP5 Staryi Chortor 66.55 40 P **P 16 15 13.5 +0.4**
RNPP9 Sopachiv 66.56 40 P **P 16 15 13.3 +0.1**
PFO Pinyon Flats O 66.62 300 P **P 16 15 13.4 -0.7**
PFO Pinyon Flats O 66.62 300 LR LR 16 42 19.7
comp=Z,313nm,21.3s,baz=74,slow=34
PFO Pinyon Flats O 66.62 300 P **P 16 15 13.4 -0.7**
PFO pmax pmax
comp=Z,42nm,2.0s
WCT Wildcat Mounta 66.64 304 IAmb IAmb 16 15 17.0
comp=Z,9.9nm,1.0s
PLOR3 Plostina Array 66.68 46 P **P 16 15 13.6 -0.6**
comp=Z,15nm,1.9s
PLOR Plostina 66.68 46 ⇓P **P 16 15 14.0 -0.2**
TESR Tescani 66.71 46 ⇑P **P 16 15 17.0 +2.7**
VRI Vrincioaia 66.74 46 ⇑P **P 16 15 16.2 +1.7**
VRI Vrincioaia 66.74 46 P **P 16 15 14.6 +0.1**
comp=Z,12nm,1.2s
GSC Goldstone, Bar 66.83 302 IAmb IAmb 16 15 17.8
comp=Z,11nm,1.1s
CBX Cerro Bola 66.86 299 IAmb IAmb 16 15 18.2
comp=Z,17nm,1.3s
NEW Newport 67.17 316 LR LR 16 42 47.8
comp=Z,348nm,19.2s,baz=92,slow=34
ELS Elsinore Mount 67.43 301 IAmb IAmb 16 15 21.6
comp=Z,10nm,1.2s
NACGM Naroch 67.46 36 *eP* **P 16 15 19.8 +0.9**
comp=Z,26nm,0.9s,baz=264
YKA Yellowknife Ar 67.52 332 P **P 16 15 17.1 -2.0**
comp=Z,4.2nm,0.9s,baz=106,slow=7.0,SNR=7.3
YKA LR LR 16 42 20.4
comp=Z,339nm,19.5s,baz=99,slow=34
comp=Z,4.2nm,0.9s
YKA Yellowknife Ar 67.52 332 *i* P **P 16 15 18.1 -1.0**
YKA pmax pmax
comp=Z,5.0nm,1.0s
LUBAR Lubar, Ukraine 67.64 42 P **P 16 15 19.3 -0.8**
DSP Deep Springs 67.70 305 IAmb IAmb 16 15 23.7
comp=Z,11nm,1.1s
E09A Wood Farm, Sta 67.80 314 IAmb IAmb 16 15 27.6
comp=Z,13nm,1.1s
NOR Nord 67.80 4 *eP* **P 16 15 20.2 -0.4**
C09A Chrisman Ranch 67.92 316 IAmb IAmb 16 15 22.9
comp=Z,16nm,1.4s
NVAR Mina Array Bea 67.93 306 P **P 16 15 22.0 -0.5**
comp=Z,1.2nm,0.8s,baz=86,slow=7.0,SNR=8.0
NVAR LR LR 16 45 00.3
comp=Z,240nm,18.7s,baz=94,slow=36
comp=Z,1.2nm,0.8s
SORM Soroca 67.94 44 P **P 16 15 20.8 -1.2**
comp=Z,14nm,2.3s
FINES FINESS Array B 67.98 29 LR LR 16 41 56.6
comp=Z,152nm,18.9s,baz=234,slow=33
MNK Minsk 68.05 37 *i* P **P 16 15 23.3 +0.7**
comp=E,7.0nm,0.7s
MNK *i* P **P 16 15 23.3 +0.7**
comp=N,16nm,1.0s
MNK *i* P **P 16 15 23.3 +0.7**
comp=Z,27nm,1.0s,baz=265
MNK *i* PP **PP 16 17 51.6 -1.0**
MNK *i* PPP PPP 16 19 27.6
MNK *i* S **S 16 24 23.7 +2.0**
MNK *i* SS **SS 16 28 38.9 -4.8**
MNK *i* SSS SSS 16 32 09.3
MNK *i* LQ LQ 16 40 21.6
MNK *i* LR LR 16 45 31.7
MNK Minsk 68.05 37 *eP* **P 16 15 23.3 +0.7**
ISA Isabella, Lake 68.18 303 IAmb IAmb 16 15 26.8
comp=Z,15nm,1.2s
AK20 Malin Array Si 68.48 41 P **P 16 15 24.9 -0.5**
KIEV Kiev 68.60 41 P **P 16 15 25.4 -0.7**
comp=Z,30nm,1.3s
AKASG Malin Array Be 68.61 41 P **P 16 15 25.6 -0.6**
comp=Z,5.1nm,0.9s,baz=269,slow=6.0,SNR=15
AKASG LR LR 16 43 38.7
comp=Z,128nm,19.1s,baz=300,slow=34
comp=Z,5.1nm,0.9s
AKBB Malin Array Si 68.61 41 *ceP* **P 16 15 27.5 +1.3**
AKBB Malin Array Si 68.61 41 P **P 16 15 25.1 -1.1**
HAWA Hanford 68.75 314 IAmb IAmb 16 15 34.0
comp=Z,25nm,1.6s
E07A Sunnyside 68.98 314 IAmb IAmb 16 15 30.2
comp=Z,14nm,1.0s
ARCES ARCESS Array B 69.34 21 P **P 16 15 29.3 -1.1**
comp=Z,9.2nm,1.0s,baz=255,slow=7.1,SNR=3.9
comp=Z,9.2nm,1.0s
LTY Liberty 69.54 315 IAmb IAmb 16 15 32.9
comp=Z,17nm,1.1s
CMB Columbia Colle 69.58 305 IAmb IAmb 16 15 59.9
comp=Z,16nm,1.9s
NE56 Odesa 69.65 45 P **P 16 15 32.6 -0.1**
PINE Pine Mountain 69.77 312 P **P 16 15 34.7 +0.9**
J05D Fort Rock, OR 70.00 311 IAmb IAmb 16 15 37.6
comp=Z,15nm,1.1s
PMPB March Peak 70.03 303 IAmb IAmb 16 15 37.5
comp=Z,13nm,1.0s
TSUM Tsumeb 70.26 117 LR LR 16 39 26.2
comp=Z,376nm,21.2s,baz=320,slow=30
LLLB Lillooet 70.35 319 IAmb IAmb 16 15 43.1
comp=Z,17nm,1.4s
H04A Detroit Lake 70.64 312 IAmb IAmb 16 15 40.4
comp=Z,15nm,1.0s
I04A Tendick Farm, 70.83 312 IAmb IAmb 16 15 58.1
comp=Z,17nm,1.3s
YBH Yreka Blue Hor 71.16 309 LR LR 16 44 16.8
comp=Z,268nm,21.8s,baz=88,slow=34
WRGLY Wrigley 71.64 332 P **P 16 15 45.4 +0.9**
baz=93
KOTAN Kotaneelee Air 71.78 329 P **P 16 15 46.3 +0.8**
baz=92
K02D Willamette Mer 71.81 310 IAmb IAmb 16 15 53.0
comp=Z,19nm,1.2s
BR106 Keskin Array S 71.93 53 P **P 16 15 47.2 +0.3**
comp=Z,6.0nm,1.1s,comp=Z,56nm
BR105 Keskin Array S 71.93 53 P **P 16 15 47.2 +0.3**
comp=Z,5.3nm,1.2s
BR131 Keskin Array S 71.94 53 *i* P **P 16 15 47.5 +0.4**
BRTR Keskin Array B 71.94 53 P **P 16 15 47.0 0.0**
comp=Z,3.6nm,1.0s,baz=276,slow=4.8,SNR=11
BRTR LR LR 16 46 53.6
comp=Z,79nm,19.4s,baz=306,slow=36
comp=Z,3.6nm,1.0s
BRTR Keskin Array B 71.94 53 *i* P **P 16 15 47.4 +0.4**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BR104 Keskin Array S 71.95 53 P **P 16 15 47.3 +0.2**
comp=Z,4.7nm,1.2s
KSXB Camp Six Broad 72.02 310 IAmb IAmb 16 15 54.6
comp=Z,19nm,1.0s
C36M Paulatuk 72.33 339 P **P 16 15 48.5 0.0**
baz=95
TOAD Toad River Com 72.36 327 P **P 16 15 48.7 -0.3**
baz=90
CBB Campbell River 72.59 318 IAmb IAmb 16 15 51.8
comp=Z,19nm,1.1s
A36M Sachs Harbour 72.93 341 P **P 16 15 52.4 +0.3**
baz=94,SNR=24
OBN Obninsk 73.09 36 ⇓*eP* **P 16 15 55.2 +1.9**
OBN *PP **pP** 16 15 57.0 +0.3
OBN *SP **sP** 16 15 59.0 +0.9
OBN 16 16 07.0
OBN *i* 16 18 35.5
OBN S **S 16 25 16.0 -4.3**
OBN SS **SS 16 30 04.0 +2.9**
OBN SSS SSS 16 33 21.0
OBN pmax pmax
comp=Z,28nm,1.7s
OBN MLR MLR
comp=Z,144nm,17.0s
MOS Moscow 73.67 36 *eP* **P 16 15 53.6 -3.1**
MMAI Mount Meron Ar 74.07 59 P **P 16 16 00.5 +0.8**
comp=Z,7.5nm,1.1s,baz=305,slow=5.1,SNR=4.7
comp=Z,7.5nm,1.1s
EIL Elat 74.15 63 LR LR 16 51 06.1
comp=Z,113nm,18.9s,baz=252,slow=38
BBB Bella Bella 74.20 321 LR LR 16 49 09.8
comp=Z,196nm,18.3s,baz=73,slow=36
KLMR Klimovskoe 74.44 30 *eP* **P 16 15 57.8 -3.4**
KLMR pmax pmax
comp=Z,26nm,1.9s
DLBC Dease Lake 74.87 327 LR LR 16 47 05.9
comp=Z,362nm,19.4s,baz=104,slow=34
DLBC Dease Lake 74.87 327 P **P 16 16 04.2 +0.4**
baz=86
U35K Hyder 75.05 325 P **P 16 16 05.6 +0.8**
baz=86
T35M Bob Quinn 75.09 326 P **P 16 16 05.3 +0.2**
baz=86
RPN Rapa Nui 75.11 236 LR LR 16 45 42.0
comp=Z,242nm,20.3s,baz=28,slow=33
R33M Jennings River 75.29 328 P **P 16 16 06.7 +0.4**
baz=86
S34M Telegraph Cree 75.50 327 P **P 16 16 08.2 +0.9**
baz=85
INK Inuvik 75.75 337 IAmb IAmb 16 16 10.3
comp=Z,16nm,1.1s
INK Inuvik 75.75 337 P **P 16 16 08.2 -0.4**
baz=86,SNR=18
F31M Tsiigehtchic 75.90 337 IAmb IAmb 16 16 10.5
comp=Z,12nm,1.1s
F31M Tsiigehtchic 75.90 337 P **P 16 16 09.5 0.0**
baz=85
Q32M Nakina River 76.00 328 P **P 16 16 10.2 -0.2**
baz=84
P33M Teslin, Yukon 76.15 329 P **P 16 16 11.5 +0.3**
baz=84
G31M Satah River 76.15 336 IAmb IAmb 16 16 11.9
comp=Z,13nm,0.9s
G31M Satah River 76.15 336 P **P 16 16 10.6 -0.3**
baz=85,SNR=6.9
N32M Quiet Lake 76.19 330 P **P 16 16 11.1 -0.2**
baz=84
FARO Faro, Yukon 76.21 331 P **P 16 16 11.4 +0.1**
baz=84
H31M Peel River 76.29 335 IAmb IAmb 16 16 13.7
comp=Z,20nm,1.1s
H31M Peel River 76.29 335 P **P 16 16 11.7 -0.1**
baz=84
WRAK Wrangell Islan 76.30 325 P **P 16 16 12.2 +0.3**
baz=84
MBAR Mbarara 76.34 94 LR LR 16 47 51.3
comp=Z,166nm,21.9s,baz=296,slow=34
P32M Atlin 76.67 328 P **P 16 16 13.9 -0.1**
baz=83
F30M Barrier River 76.67 337 P **P 16 16 13.7 -0.2**
baz=84
M31M Drury Creek, Y 76.69 331 P **P 16 16 14.2 +0.1**
baz=83
U33K Whale Pass 76.76 325 P **P 16 16 15.1 +0.6**
baz=83
CRAG Craig 76.84 324 P **P 16 16 14.9 -0.1**
baz=83
G30M tAoh Zraii Nji 76.91 336 P **P 16 16 15.4 +0.1**
baz=83
WHY Whitehorse 77.12 330 P **P 16 16 16.8 +0.1**
baz=83
EPYK Eagle Plains 77.19 336 P **P 16 16 17.4 +0.6**
baz=82
I30M Mount Dempster 77.20 334 P **P 16 16 17.1 +0.1**
baz=82
MAYO Mayo, Yukon 77.21 333 P **P 16 16 17.5 +0.5**
baz=82
J30M Hart River 77.27 334 P **P 16 16 17.3 -0.2**
baz=82
E29M Blow River 77.36 338 IAmb IAmb 16 16 19.2
comp=Z,18nm,1.4s
E29M Blow River 77.36 338 P **P 16 16 18.0 +0.3**
baz=82
S32K Killisnoo 77.38 326 P **P 16 16 18.2 +0.2**
baz=82
N31M Braeburn, Yuko 77.44 331 P **P 16 16 18.5 +0.1**
baz=82
SKAG Skagway 77.50 328 IAmb IAmb 16 16 40.8
comp=Z,23nm,1.2s
SKAG Skagway 77.50 328 P **P 16 16 18.7 +0.1**
baz=82
D28M Stokes Point 77.52 339 P **P 16 16 18.2 -0.3**
baz=81
G29M Pine Creek 77.62 336 IAmb IAmb 16 16 38.3
comp=Z,14nm,1.3s
G29M Pine Creek 77.62 336 P **P 16 16 19.1 -0.2**
baz=81,SNR=6.0
O30N Mendenhall 77.69 330 IAmb IAmb 16 16 33.2
comp=Z,15nm,1.2s
O30N Mendenhall 77.69 330 P **P 16 16 19.8 0.0**
baz=82
M30M Minto, Yukon 77.76 332 P **P 16 16 20.6 +0.5**
baz=81
SIT Sitka 77.84 326 P **P 16 16 21.2 +0.6**
baz=82
R31K City Hall, Gus 77.86 327 P **P 16 16 21.1 +0.4**
baz=81
H29M Whitestone 77.87 336 IAmb IAmb 16 16 22.1
comp=Z,13nm,0.9s
K29M Barlow Dome 77.89 333 P **P 16 16 20.7 -0.2**
baz=81
E28M Babbage River 77.92 338 P **P 16 16 20.9 +0.1**
baz=80
I29M Ogilvie Camp, 77.98 335 P **P 16 16 21.4 +0.1**
baz=81
PLBC Pleasant Camp 78.02 329 P **P 16 16 21.7 +0.2**
baz=81
N30M Aishikik Lake 78.06 331 P **P 16 16 22.1 +0.2**
baz=81
KIV Kislovodsk 78.15 48 *eP* **P 16 16 22.6 -0.1**
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,90nm,19.0s
F28M Old Crow 78.22 337 IAmb IAmb 16 16 40.9
comp=Z,16nm,1.4s
F28M Old Crow 78.22 337 P **P 16 16 22.4 -0.1**
baz=80,SNR=8.2
P30M Million Dollar 78.22 329 P **P 16 16 22.6 -0.1**
baz=81
L29M L29M 78.28 332 IAmb IAmb 16 16 25.0
comp=Z,11nm,1.1s
L29M L29M 78.28 332 P **P 16 16 23.3 +0.4**
baz=80
D27M Malcolm River 78.31 339 IAmb IAmb 16 16 25.4
comp=Z,11nm,0.9s
D27M Malcolm River 78.31 339 P **P 16 16 23.6 +0.5**
baz=79,SNR=8.5
KBZ Khabaz 78.34 48 P **P 16 16 25.6 +2.0**
comp=Z,4.8nm,1.0s,baz=318,slow=2.0,SNR=8.7
KBZ LR LR 16 52 30.7
comp=Z,62nm,19.1s,baz=314,slow=37
comp=Z,4.8nm,1.0s
KBZ Khabaz 78.34 48 *ceP* **P 16 16 24.5 +0.9**
KBZ pmax pmax
comp=Z,10.0nm,1.1s
HYT Haines Junctio 78.37 330 P **P 16 16 23.5 -0.1**
baz=80
M29M Somme Creek 78.54 332 P **P 16 16 24.7 +0.1**
baz=80
GURO Guroymak-BITLI 78.57 53 IAmb IAmb 16 16 28.5
comp=Z,16nm,1.2s
I28M Miner Creek 78.64 335 P **P 16 16 25.1 +0.1**
baz=79
DAWY Dawson 78.66 333 P **P 16 16 25.0 -0.1**
baz=79
P29M Windy Craggy 78.69 329 P **P 16 16 25.2 -0.1**
baz=80
E27K Coleen River 78.75 338 P **P 16 16 25.9 +0.5**
baz=78
YUK6 Outpost Mounta 78.76 330 P **P 16 16 26.0 +0.1**
baz=80
NCK Nalchik 78.88 48 *i* P **P 16 16 27.1 +0.4**
NCK pmax pmax
comp=Z,7.0nm,1.1s
O29M Mount Kennedy 78.98 330 P **P 16 16 27.2 +0.2**
baz=79
G27K Doyon Strip 79.05 336 P **P 16 16 27.4 +0.2**
baz=78
H27K Steamboat Moun 79.12 336 P **P 16 16 27.1 -0.4**
baz=78
C27K Jago River 79.18 339 P **P 16 16 28.2 +0.5**
baz=77,SNR=7.6
EGAK Eagle 79.28 334 P **P 16 16 28.4 0.0**
baz=78
I27K Kandik River 79.29 335 P **P 16 16 28.8 +0.2**
baz=78
LBTB Lobatse 79.37 119 LR LR 16 45 10.6
comp=Z,237nm,20.1s,baz=289,slow=31
C26K Camden Bay 79.52 340 P **P 16 16 30.4 +0.9**
baz=76
YUK3 Moose Creek 79.59 331 P **P 16 16 30.8 +0.3**
baz=78
BVCY Beaver Creek 79.64 332 P **P 16 16 31.0 +0.5**
baz=78,SNR=5.2
O28M Mount Upton 79.67 330 P **P 16 16 31.2 +0.2**
baz=78
KIRV Kirov 79.69 32 LR LR 16 47 21.9
comp=Z,185nm,20.5s,baz=282,slow=32
KIRV Kirov 79.69 32 *ceP* **P 16 16 29.9 -0.8**
LODK Lodwar 79.78 89 P **P 16 16 33.0 +0.8**
F26K Sheenjek River 79.80 337 IAmb IAmb 16 16 33.8
comp=Z,16nm,1.1s
F26K Sheenjek River 79.80 337 P **P 16 16 31.6 +0.4**
baz=76,SNR=11

K27K	Chicken	79.83 334	P	P	16 16 31.7	+0.3
	baz=77					
G26K	Porcupine Rive	79.84 337	P	P	16 16 32.0	+0.6
	baz=76					
BCAR	Beaver Creek A	79.92 333	P	P	16 16 30.9	-1.1
BELG	Belogornoye	79.92 38	P	P	16 16 32.8	+0.7
	comp=Z,12nm,0.8s,baz=315,slow=1.4,SNR=4.3					
	comp=Z,12nm,0.8s					
L27K	Beaver Creek,	79.94 333	P	P	16 16 32.4	+0.3
	baz=77					
I26K	Coal Creek Min	79.98 335	P	P	16 16 32.9	+0.7
	baz=76					
M27K	Edge Creek, AK	80.12 332	P	P	16 16 33.7	+0.5
	baz=77					
D25K	Kavik River	80.17 339	IAmb	IAmb	16 16 35.6	
	comp=Z,22nm,0.9s					
D25K	Kavik River	80.17 339	P	P	16 16 34.1	+0.9
	baz=74					
CTG	Chitna Glacier	80.18 331	P	P	16 16 34.2	+0.6
	baz=77					
GNI	Garni	80.34 51	LR	LR	16 50 20.8	
	comp=Z,55nm,21.4s,baz=296,slow=34					
J26L	Joseph Creek	80.35 334	P	P	16 16 34.9	+0.6
	baz=76					
F25K	Christian Rive	80.38 338	IAmb	IAmb	16 16 37.3	
	comp=Z,16nm,1.2s					
F25K	Christian Rive	80.38 338	P	P	16 16 35.3	+0.9
	baz=74					
BOSA	Boshof	80.44 123	LR	LR	16 45 13.0	
	comp=Z,161nm,19.0s,baz=279,slow=30					
M26K	Nabesna, AK	80.61 332	P	P	16 16 35.7	-0.1
	baz=76					
L26K	Log Cabin Wild	80.62 333	P	P	16 16 36.4	+0.7
	baz=76					
MESA	MESA	80.65 330	P	P	16 16 36.5	+0.3
	baz=76					
SCRK	Sand Creek	80.66 334	P	P	16 16 36.3	+0.2
	baz=75					
PMSA	Palmer Station	80.75 188	LR	LR	16 50 44.9	
	comp=Z,66nm,20.9s,baz=48,slow=34					
G25K	Bearman Lake	80.77 337	P	P	16 16 37.2	+0.8
	baz=74					
H25L	Birch Creek	80.80 336	P	P	16 16 37.8	+1.2
	baz=74,SNR=7.5					
C24K	Franklin Bluff	80.83 340	IAmb	IAmb	16 16 39.2	
	comp=Z,26nm,1.4s					
C24K	Franklin Bluff1	80.83 340	P	P	16 16 37.3	+0.6
	baz=72					
MCARA	McCarthy VSAT	80.88 331	P	P	16 16 37.8	+0.7
	baz=76					
PRP	Porcupine Dome	80.89 335	IAmb	IAmb	16 16 39.4	
	comp=Z,20nm,1.1s					
PRP	Porcupine Dome	80.89 335	P	P	16 16 37.3	+0.1
	baz=74,SNR=12					
D24K	Happy Valley	81.05 339	P	P	16 16 37.8	0.0
	baz=72					
CRQE	Cirque	81.06 331	P	P	16 16 37.5	-0.8
	baz=76					
J25K	Salcha River,	81.07 335	P	P	16 16 38.0	-0.2
	baz=74					
RIDG	Independent Ri	81.09 334	P	P	16 16 38.9	+0.6
	baz=75					
F24K	Squaw Lake	81.22 338	P	P	16 16 39.8	+0.9
	baz=72					
E24K	Your Creek	81.27 338	IAmb	IAmb	16 16 42.0	
	comp=Z,11nm,0.8s					
E24K	Your Creek	81.27 338	P	P	16 16 39.7	+0.5
	baz=72					
BGLC	Bering Glacier	81.31 330	P	P	16 16 39.8	+0.5
	baz=75					
G24K	Hadweenzic Riv	81.31 337	IAmb	IAmb	16 16 47.2	
	comp=Z,27nm,1.7s					
G24K	Hadweenzic Riv	81.31 337	P	P	16 16 39.9	+0.5
	baz=73					
C23K	Itkillik River	81.42 340	P	P	16 16 41.0	+1.2
	baz=70					
K24K	Donnelly Dome	81.47 334	P	P	16 16 40.3	0.0
	baz=74					
TOLK	Toolik Lake Re	81.47 339	P	P	16 16 40.8	+0.6
	baz=71					
N25K	Chitina, Valde	81.55 332	P	P	16 16 40.9	+0.1
	baz=74					
PAX	Paxson	81.57 333	P	P	16 16 40.9	0.0
	baz=74					
HARP	HAARP	81.59 332	P	P	16 16 41.2	+0.3
	baz=74					
IL31		81.65 335	IAmb	IAmb	16 16 43.0	
	comp=Z,20nm,1.1s					
ILAR	Eielson Array	81.65 335	P	P	16 16 40.3	-0.9
ILAR	Eielson Array	81.65 335	P	P	16 16 40.5	-0.7
	comp=Z,9.8nm,0.9s,baz=71,slow=4.2,SNR=65					
	comp=Z,9.8nm,0.9s					
ILAR	Eielson Array	81.65 335	P	P	16 16 40.3	-0.9
FURI	Furi	81.66 83	LR	LR	16 52 24.2	
	comp=Z,249nm,18.9s,baz=307,slow=35					
E23K	Chandalar	81.68 338	P	P	16 16 41.8	+0.4
	baz=71					
BMRM	Bremner River	81.72 331	P	P	16 16 42.0	+0.4
	baz=74					
H24K	Noodor Dome	81.73 336	IAmb	IAmb	16 16 44.0	
	comp=Z,17nm,1.2s					
H24K	Noodor Dome	81.73 336	P	P	16 16 41.6	-0.1
	baz=72					
D23K	Nanushuk River	81.74 339	IAmb	IAmb	16 17 01.4	
	comp=Z,20nm,1.4s					
D23K	Nanushuk River	81.74 339	P	P	16 16 42.1	+0.5
	baz=70					
POKR	Poker Plat Res	81.77 335	P	P	16 16 42.3	+0.5
	baz=72					
HDA	Harding Lake	81.79 335	P	P	16 16 41.9	0.0
	baz=73					
KAIM	Kayak Island	81.91 330	P	P	16 16 42.7	+0.1
	baz=74					
COLA	College	82.02 335	P	P	16 16 42.5	-0.4
COLA	College	82.02 335	P	P	16 16 43.3	+0.3
	baz=72					
COLA	College	82.02 335	*i* P	P	16 16 42.6	-0.4
COLA			pmax	pmax		
	comp=Z,22nm,0.9s					
CCB	Clear Creek Bu	82.07 335	IAmb	IAmb	16 16 45.0	
	comp=Z,13nm,1.0s					
M24K	Tolsona, Glenn	82.13 332	P	P	16 16 43.9	+0.1
	baz=73					
B22K	Teshekpuk Lake	82.14 341	P	P	16 16 44.4	+0.8
	baz=68					
COLD	Coldfoot	82.16 338	P	P	16 16 44.8	+1.0
	baz=70					
KLU	Klutina	82.19 332	P	P	16 16 44.8	+0.7
	baz=73					
WRH	Wood River Hil	82.24 335	IAmb	IAmb	16 16 45.9	
	comp=Z,11nm,0.9s					
G23K	Bananza Creek	82.27 337	IAmb	IAmb	16 16 47.0	
	comp=Z,14nm,1.1s					
G23K	Bananza Creek	82.27 337	P	P	16 16 45.2	+0.8
	baz=70					
A22K	Sinclair Lake	82.36 342	P	P	16 16 44.8	+0.1
	baz=66					
DHY	Denali Highway	82.37 333	P	P	16 16 44.1	-1.0
	baz=72					
EYAK	Cordova Ski Ar	82.38 331	P	P	16 16 44.3	-0.7
	baz=73					
H23K	Yukon River	82.39 336	IAmb	IAmb	16 16 47.6	
	comp=Z,14nm,1.1s					
H23K	Yukon River	82.39 336	P	P	16 16 45.6	+0.6
	baz=71					
E22K	Anaktuvuk Pass	82.42 339	IAmb	IAmb	16 16 47.4	
	comp=Z,11nm,1.1s					
E22K	Anaktuvuk Pass	82.42 339	P	P	16 16 45.9	+0.7
	baz=69					
D22K	Ayikyak River	82.45 340	IAmb	IAmb	16 16 48.0	
	comp=Z,16nm,1.0s					
D22K	Ayikyak River	82.45 340	P	P	16 16 46.1	+0.8
	baz=68					
I23K	Minto, Yukon-K	82.54 336	IAmb	IAmb	16 16 47.7	
	comp=Z,8.9nm,0.9s					
I23K	Minto, Yukon-K	82.54 336	P	P	16 16 45.8	0.0
	baz=71					
NEA2	Nenana	82.60 335	IAmb	IAmb	16 16 47.8	
	comp=Z,11nm,1.0s					
NEA2	Nenana	82.60 335	P	P	16 16 46.2	+0.1
	baz=71					
WAT6	Susitna Watana	82.68 333	P	P	16 16 46.3	-0.5
	baz=72					
A21K	Barrow	82.71 342	P	P	16 16 46.9	+0.4
	baz=65					
SCM	Sheep Creek Mo	82.73 332	P	P	16 16 47.5	+0.5
	baz=72					
G22K	Bettles	82.75 338	P	P	16 16 47.4	+0.5
	baz=69					
KMBO	Kilima Mbogo	82.77 93	P	P	16 16 49.7	+1.4
	comp=Z,0.3nm,0.3s,baz=290,slow=5.1,SNR=3.9					
KMBO			LR	LR	16 50 54.7	
	comp=Z,234nm,21.7s,baz=280,slow=34					
	comp=Z,0.3nm,0.3s					
KMBO	Kilima Mbogo	82.77 93	*i* P	P	16 16 51.7	+3.4
F22K	John River	82.78 338	P	P	16 16 47.5	+0.5
	baz=69					
B21K	Ikpikpuk River	82.80 341	IAmb	IAmb	16 16 51.1	
	comp=Z,13nm,1.1s					
B21K	Ikpikpuk River	82.80 341	P	P	16 16 47.9	+0.9
	baz=67					
MCK	McKinley	82.83 334	P	P	16 16 47.6	+0.3
	baz=71					
M23K	Glacier View	82.92 332	P	P	16 16 48.4	+0.5
	baz=72					
WAT1	Susitna Watana	82.96 333	P	P	16 16 48.6	+0.5
	baz=71					
C21K	Knifeblade Rid	83.04 340	P	P	16 16 49.3	+0.9
	baz=66					
E21K	Killik River	83.05 339	P	P	16 16 48.9	+0.5
	baz=67					
H22K	Ishtalitna Cre	83.07 337	P	P	16 16 49.6	+1.0
	baz=69					
MLY	Manley	83.13 336	P	P	16 16 49.9	+1.0
	baz=70					
SML	Sawmill	83.19 332	P	P	16 16 48.8	-0.5
	baz=71					
F21K	Alatna River	83.36 338	P	P	16 16 50.4	+0.3
	baz=67					
KNK	Knik Glacier	83.37 332	P	P	16 16 50.7	+0.4
	baz=71					
B20K	Meade River	83.44 341	P	P	16 16 51.1	+0.8
	baz=64					
TRF	Thorofare Moun	83.49 334	P	P	16 16 51.3	+0.3
	baz=70					
BPAW	Bear Paw Mtn.	83.56 335	P	P	16 16 51.3	+0.1
	baz=69					
I21K	Tanana	83.56 336	P	P	16 16 51.7	+0.7
	baz=68					
PMR	Palmer	83.62 332	P	P	16 16 52.4	+1.0
	baz=71					
G21K	Allakaket	83.64 338	IAmb	IAmb	16 16 54.0	
	comp=Z,14nm,1.1s					
G21K	Allakaket	83.64 338	P	P	16 16 52.6	+1.1
	baz=67					
H21K	Melozitna Rive	83.70 337	IAmb	IAmb	16 16 54.1	
	comp=Z,8.5nm,1.1s					
H21K	Melozitna Rive	83.70 337	P	P	16 16 52.4	+0.5
	baz=68					
KTH	Kantishna Hill	83.72 334	IAmb	IAmb	16 16 53.8	
	comp=Z,14nm,0.9s					
D20K	Etivluk River	83.83 340	P	P	16 16 52.5	+0.1
	baz=65					
E20K	Nigu River	83.88 340	P	P	16 16 52.6	-0.2
	baz=65					
IMAR	Indian Mountai	83.94 337	P	P	16 16 52.6	-0.4
RC01	Rabbit Creek A	84.06 332	P	P	16 16 53.1	-0.7
	baz=70					
CHUM	Lake Minchumin	84.18 335	P	P	16 16 54.6	+0.3
	baz=68					
F20K	Avaraart Lake	84.23 338	IAmb	IAmb	16 17 16.2	
	comp=Z,18nm,1.5s					
F20K	Avaraart Lake	84.23 338	P	P	16 16 54.9	+0.5
	baz=65					
CAST	Castle Rocks	84.26 334	P	P	16 16 55.4	+0.7
	baz=68					
SEW	Seward	84.27 331	P	P	16 16 54.4	-0.3
	baz=70					
SUA	Susitna One	84.39 332	P	P	16 16 56.6	+1.0
	baz=69					
D19K	Kuna River	84.42 340	P	P	16 16 55.8	+0.4
	baz=63					
SKT	Skwentna	84.55 333	P	P	16 16 56.9	+0.7
	baz=68					
H20K	Anotleneega Mo	84.56 337	P	P	16 16 57.1	+0.9
	baz=66					
E19K	Redstone River	84.58 339	P	P	16 16 57.3	+1.0
	baz=64					
C19K	Lookout Ridge	84.61 341	P	P	16 16 57.2	+0.8
	baz=62					
I20K	Naaghedeneel	84.69 336	P	P	16 16 57.6	+0.8
	baz=66					
J20K	Nowinta River	84.81 335	P	P	16 16 57.8	+0.3
	baz=66					
CAPN	Captain Cook N	84.83 332	P	P	16 16 57.6	+0.1
	baz=69					
ARTI	Arti	84.94 33	P	P	16 16 58.5	+0.2
ARTI			IAmb	IAmb	16 17 01.1	
	comp=Z,9.0nm,1.0s					
ARTI	Arti	84.94 33	P	P	16 16 58.9	+0.6
	comp=Z,7.5nm,1.0s,baz=287,slow=3.2,SNR=7.0					
ARTI			LR	LR	16 50 46.2	
	comp=Z,104nm,21.7s,baz=296,slow=33					
	comp=Z,7.5nm,1.0s					
ARTI	Arti	84.94 33 *d*	*i* P	P	16 16 58.2	-0.1
ARTI					16 20 10.2	
ARTI			S	SKSac	16 27 21.6	-0.8
ARTI			pmax	pmax		
	comp=Z,11nm,1.2s					
BRSE	Bradley Lake S	85.00 331	P	P	16 16 58.5	0.0
	baz=69					
ATD	Arta Tunnel	85.01 79	LR	LR	16 53 03.3	
	comp=Z,7.5nm,21.4s,baz=304,slow=34					
F19K	Shaleruckik Mo	85.05 339	P	P	16 16 58.9	+0.4
	baz=63					
K20K	Telida	85.11 335	P	P	16 16 59.2	+0.2
	baz=66					
G19K	Purcell Mounta	85.11 338	P	P	16 16 59.6	+0.7
	baz=64					
H19K	Roundabout Mou	85.14 337	P	P	16 16 59.9	+0.9
	baz=64					
N20K	Mount Spurr	85.14 332	P	P	16 16 59.9	+0.6
	baz=68					
SPCR	Spurr Chakacha	85.14 332	P	P	16 16 59.8	+0.5
	baz=68					
B18K	Kokolik River	85.18 341	P	P	16 17 00.3	+1.1
	baz=60					
M20K	Styx River	85.29 333	P	P	16 17 00.5	+0.5
	baz=67					
C18K	Utukok River	85.34 341	P	P	16 17 00.5	+0.3
	baz=60					
L20K	Farewell, AK	85.38 334	P	P	16 17 00.1	-0.2
	baz=66					
HOM	Homer	85.46 331	P	P	16 17 00.9	+0.2
	baz=68					
J19K	Poorman	85.48 336	P	P	16 17 00.6	-0.2
	baz=65					
E18K	Tukpahlearik C	85.75 340	P	P	16 17 02.2	+0.1
	baz=61					
O20K	Slope Mountain	85.76 331	P	P	16 17 02.3	-0.1
	baz=68					
G18K	Tagagawik	85.80 338	P	P	16 17 02.6	+0.3
	baz=63					
F18K	Selawik	85.82 339	P	P	16 17 02.8	+0.4
	baz=62					
M19K	Big River Lodg	85.83 333	P	P	16 17 03.2	+0.6
	baz=66					
L19K	White Mountain	85.92 334	P	P	16 17 03.5	+0.4
	baz=66					
SVE	Sverdlovsk	85.96 32	*e*P	P	16 17 03.8	+0.5
SVE			pmax	pmax		
	comp=Z,17nm,1.4s					
C17K	DeLong Mountai	86.06 341	P	P	16 17 04.1	+0.5
	baz=59					
J18K	Innoko River	86.14 335	P	P	16 17 04.6	+0.4
	baz=64					
RDOG	Red Dog Mine	86.19 341	P	P	16 17 04.9	+0.6
	baz=59					
P19K	Oil Pt	86.21 331	P	P	16 17 05.2	+0.6
	baz=67					
E17K	Hotham Inlet	86.34 340	P	P	16 17 05.7	+0.7
	baz=60					
D17K	Noatak River	86.44 340	P	P	16 17 06.0	+0.6
	baz=59					
F17K	Baldwin Pennin	86.46 339	P	P	16 17 06.7	+1.1
	baz=60					
O19K	Port Alsworth	86.49 332	P	P	16 17 06.6	+0.7
	baz=66					
M18K	Stony River	86.62 333	P	P	16 17 06.7	+0.2
	baz=65					
KDAK	Kodiak Island	86.62 329	P	P	16 17 07.4	+0.9
	baz=67					
G17K	Kiwalik Mounta	86.71 338	P	P	16 17 07.4	+0.6
	baz=61					
H17K	Granite Mounta	86.71 337	P	P	16 17 07.9	+1.1
	baz=61					
C16K	Lisburne Hills	86.85 341	P	P	16 17 08.6	+1.1
	baz=57					
N18K	Kilae Creek	87.00 333	P	P	16 17 09.4	+1.0
	baz=65					
O18K	Koktuh Hills	87.04 332	P	P	16 17 09.1	+0.5
	baz=65					
J17K	VABM Dome	87.12 336	P	P	16 17 09.3	+0.4
	baz=62					
K17K	Iditarod	87.12 335	P	P	16 17 09.4	+0.4
	baz=63					
OHAK	Old Harbor	87.19 329	P	P	16 17 10.1	+0.8
	baz=67					
M17K	Holitna River	87.36 334	P	P	16 17 11.2	+1.1
	baz=63					
G16K	Koyuk River	87.38 338	P	P	16 17 10.7	+0.6
	baz=59					
L17K	Donlin	87.39 334	P	P	16 17 10.3	+0.1
	baz=63					
Q18K	Katmai Hardscr	87.45 331	P	P	16 17 10.4	-0.3
	baz=65					
I17K	Unalakleet	87.52 336	P	P	16 17 11.2	+0.4
	baz=61					
P17K	Kvichak River	87.89 331	P	P	16 17 11.9	-0.7
	baz=64					
F15K	North Star Dit	88.03 339	P	P	16 17 13.7	+0.5
	baz=57					
Q17K	Contact Creek	88.03 330	P	P	16 17 13.8	+0.2
	baz=65					
L16K	Owhat River	88.08 334	P	P	16 17 14.4	+0.9
	baz=62					
M16K	Timber Creek	88.19 334	P	P	16 17 14.8	+0.7
	baz=62					
G15K	Niukluk	88.20 338	P	P	16 17 15.1	+1.1
	baz=58					
Q16K	King Salmon	88.22 331	P	P	16 17 14.4	+0.2
	baz=54					
ABKAR	Akbulak array	88.28 39	P	P	16 17 14.7	-0.1
N16K	Nishlik Lake	88.36 333	P	P	16 17 16.3	+1.3
	baz=62					
O16K	Kokwok River B	88.47 332	P	P	16 17 15.6	+0.2
	baz=63					
R17L	Mt. Peulik Vol	88.53 330	P	P	16 17 16.7	+0.9
	baz=64					
K15K	Wolf Creek Mou	88.64 335	P	P	16 17 17.8	+1.6
	baz=60					
N15K	Kwethluk River	89.09 333	P	P	16 17 18.9	+0.6
	baz=61					
J14K	Nanvaranak Lak	89.21 336	P	P	16 17 20.4	+1.6
	baz=58					
L14K	Kuka Creek	89.60 335	P	P	16 17 21.2	+0.5
	baz=59					
M14K	Bethel	89.60 334	P	P	16 17 21.7	+1.0
	baz=60					
NRIK	Noril'sk	89.61 15 *ce*	P	P	16 17 22.7	+2.1
NRIK			pmax	pmax		
	comp=Z,6.0nm,1.1s					
M13K	Dall Lake	90.36 334	P	P	16 17 24.8	+0.6
	baz=58					
SNAA	Sanae	90.88 168	P	P	16 17 27.4	+1.0
	comp=Z,3.9nm,1.0s,baz=1.1,slow=7.4,SNR=4.9					
SNAA			LR	LR	16 50 12.4	
	comp=Z,163nm,21.3s,baz=12,slow=30					
	comp=Z,3.9nm,1.0s					
SNAA	Sanae	90.88 168 *ce*	P	P	16 17 26.8	+0.4
SNAA			pmax	pmax		
	comp=Z,7.0nm,1.7s					
BRVK	Borovoye	92.59 33 *ce*	P	P	16 17 35.5	+0.7
BRVK			pmax	pmax		
	comp=Z,6.0nm,2.5s					
BVAR	Borovoye Array	92.67 33	P	P	16 17 35.1	0.0
	comp=Z,1.0nm,0.9s,baz=304,slow=3.4,SNR=4.3					
BVAR			LR	LR	16 58 31.0	
	comp=Z,119nm,18.4s,baz=300,slow=35					
	comp=Z,1.0nm,0.9s					
TIXI	Tiksi	93.57 2	LR	LR	16 54 08.5	
	comp=Z,61nm,20.4s,baz=282,slow=32					
TIXI	Tiksi	93.57 2 *ce*	P	P	16 17 39.2	+0.3
TIXI			pmax	pmax		
	comp=Z,13nm,2.5s					
WSAR	Wadi Sarin	96.25 64	LR	LR	17 06 01.2	
	comp=Z,130nm,18.3s,baz=262,slow=38					
TAOE	Nuku Hiva Isla	97.20 263	*e*LR	LR	16 49 20.7	
	comp=Z,201nm,30.9s					
KURBB	Kurchatov Arra	98.22 32	P	Pdif	16 18 00.9	+0.3
	comp=Z,0.4nm,0.9s,baz=320,slow=4.7,SNR=3.4					
	comp=Z,0.4nm,0.9s					
WMQ	Urumqi	107.34 34	Pdif	Pdif	16 18 43.1	+1.8
PPT2	Papeete2	108.02 256	*e*LR	LR	16 54 21.9	
	comp=Z,162nm,33.8s					
PPT2			*e*LR	LR	16 54 28.6	
	comp=Z,328nm,31.8s					
HHC	Hu-ho-hao-te	120.42 21	*e*P	PKPdf	16 23 10.0	-5.2
PZH	PanZhiHua	127.65 38	PKP	PKPdf	16 23 28.5	-0.9
MJAR	Matsushiro Arr	128.76 357	PKP	PKPdf	16 23 29.9	-1.2
	comp=Z,4.5nm,1.1s,baz=11,slow=2.4,SNR=7.4					
NJ2	Nanjing	130.81 18	*e*P	PKPdf	16 23 34.5	-0.6
NJ2			pmax	pmax		
	comp=Z,8.0nm,0.6s					
CMAR	Chiang Mai Arr	131.39 48	PKPdf	PKPdf	16 23 35.7	-0.9
CMAR	Chiang Mai Arr	131.39 48	PKP	PKPdf	16 23 36.0	-0.5
	comp=Z,1.1nm,0.8s,baz=290,slow=3.8,SNR=9.0					
CMAR	Chiang Mai Arr	131.39 48	PKIKP	PKPdf	16 23 35.7	-0.9
DZM	Mont Dzumac	149.41 252	*e*LR	LR	17 13 35.1	
	comp=Z,87nm,26.8s					
H01W2	Cape Leeuwin H	152.61 140	T	T	19 15 58.6	
	baz=239,slow=75,SNR=3.7					
H01W3	Cape Leeuwin H	152.62 140	T	T	19 16 03.6	
	baz=239,slow=75,SNR=4.0					
H01W1	Cape Leeuwin H	152.62 140	T	T	19 15 59.3	
	baz=239,slow=75,SNR=4.1					

DJA 18 16:24:21.6±0.7, 9°S±4°×11°4E±°, h27km±6km, M3.8/19, mb3.9/5, MLv3.7/19, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	Jajag, Banyuwa	0.69	8	P	Pn	16 24 35.7	+0.1
JAGI				S	Sn	16 24 45.3	-0.2
GMJI	Gumukmas	1.07	325	P	Pn	16 24 40.3	-0.5
GMJI				S	Sn	16 24 53.8	-1.0
DNP	Denpasar	1.23	67	P	Pn	16 24 42.4	-0.7
DNP				S	Sb	16 25 00.9	+1.1
ABJI	Asem Bagus	1.37	7	P	Pb	16 24 46.3	-0.2
BLJI	Banyuglugur	1.48	342	P	Pn	16 24 47.2	+0.7
BLJI				S	Sn	16 25 05.8	+0.9
SRBI	Singaraja	1.56	47	P	Pn	16 24 47.7	+0.1
KMMI	Kalianget	2.10	357	P	Pn	16 24 54.6	-0.4
PWJI	Pagerwojo	2.50	297	P	Pn	16 25 00.0	-0.5
GRJI	Gresik	2.73	325	P	Pn	16 25 04.0	+0.4
PCJI	Pacitan	3.01	288	P	Pn	16 25 06.9	-0.6
PLAI	Plampang	3.69	85	P	Pn	16 25 17.2	+0.3
UGM	Wanagama	3.71	289	P	Pn	16 25 17.2	0.0
UWJI	Ujung Watu	4.11	311	P	Pn	16 25 23.2	+0.5
WBSI	Waikabubak, Su	5.28	96	P	Pn	16 25 38.2	-0.7
	30nm,1.2s,0.1nm						
KPJI	Karang Pucung	5.39	289	P	Pn	16 25 41.5	+1.2
CNJI	Cibinong	7.10	284	P	Pn	16 26 03.2	-0.6

*IDC **18** 16:37:20.9±1.5, 14°.96S×174°.80W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=43.9km s-min=37.4km az=141.0*

*NEIC **18** 16:37:21.6±2.3, 14°.9S±0°.1×174°.85W±0°.08, h10km±4km, mb4.6/16, Error ellipse: s-maj=16.9km s-min=10.1km az=164.0*

ISC 18 16:37:21.2±0.7, 14°.9S±0°.1×174°.84W±0°.08, h10km, n25, σ1°21/25, mb4.5/11, 1D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.14	71	Pn	Pn	16 38 09.9	-0.9
FUTU	Fugatoga	3.24	281	Pn	Pn	16 38 11.1	-1.1
TOZ	Tahuroa Road	24.26	199	P	P	16 42 38.2	-0.3
TOZ				IAmb	IAmb	16 43 12.6	
	comp=Z,12nm,1.2s						
BKZ	Black Stump Fm	25.30	196	P	P	16 42 46.5	-1.6
MRZ	Mangatainoka R	26.95	196	P	P	16 43 01.3	-1.6
THZ	Tophouse	28.75	199	P	P	16 43 18.1	-1.0
GVZ	Greta Valley S	29.81	198	P	P	16 43 26.4	-1.9
FOZ	Fox Glacier	31.37	202	P	P	16 43 40.5	-1.6
WB0	Warramunga Arr	48.56	257	P	P	16 46 06.5	+1.4
WB0				IAmb	IAmb	16 46 23.8	
	comp=Z,6.8nm,1.4s						
WB2	Warramunga Arr	48.59	256	P	P	16 46 06.9	+1.5
WB2				IAmb	IAmb	16 46 13.4	

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
	comp=Z,9.3nm,1.5s						
WRAB	**Tennant Creek**	**48.59**	**256**	P	**P**	**16 46 06.2**	**+0.9**
WRAB				IAmb	IAmb	16 46 07.8	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**48.60**	**256**	P	**P**	**16 46 06.6**	**+1.2**
WRA	**Warramunga Arr**	**48.60**	**256**	P	**P**	**16 46 07.5**	**+2.1**
	comp=Z,0.6nm,0.4s,baz=96,slow=7.6,SNR=31						
	comp=Z,0.6nm,0.4s						
AS31	**Alice Springs**	**48.93**	**252**	P	**P**	**16 46 08.5**	**+0.4**
ASAR	**Alice Springs**	**48.94**	**252**	P	**P**	**16 46 08.2**	**+0.2**
ASAR	**Alice Springs**	**48.94**	**252**	P	**P**	**16 46 08.7**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=90,slow=7.9,SNR=19						
	comp=Z,0.7nm,0.5s						
QSPA	**South Pole Qui**	**75.10**	**180**	P	**P**	**16 49 04.5**	**+1.2**
QSPA	**South Pole Qui**	**75.10**	**180**	P	**P**	**16 49 05.0**	**+1.7**
	comp=Z,1.1nm,0.7s,baz=69,slow=8.6,SNR=10						
	comp=Z,1.1nm,0.7s						
M19K	**Big River Lodg**	**78.28**	**10**	P	**P**	**16 49 21.6**	**+0.5**
M19K				IAmb	IAmb	16 49 56.2	
	comp=Z,8.2nm,1.4s						
O29M	**Mount Kennedy**	**80.45**	**17**	P	**P**	**16 49 33.1**	**0.0**
BPMT	**Black Pine Rid**	**82.24**	**38**	P	**P**	**16 49 43.0**	**-0.1**
ILAR	**Eielson Array**	**82.28**	**12**	P	**P**	**16 49 43.6**	**+1.1**
	comp=Z,1.1nm,1.1s,baz=224,slow=4.9,SNR=4.1						
	comp=Z,1.1nm,1.1s						
E19K	**Redstone River**	**83.18**	**7**	P	**P**	**16 49 46.7**	**-0.5**
E19K				IAmb	IAmb	16 49 58.0	
	comp=Z,7.1nm,1.2s						
INK	**Inuvik**	**88.16**	**14**	P	**P**	**16 50 11.5**	**-0.4**
INK				IAmb	IAmb	16 50 50.6	
	comp=Z,7.1nm,1.5s						
ELIB	**Princess Elisa**	**92.45**	**186**	*d*P	**P**	**16 50 32.8**	**+0.5**

*IDC **18** 16:48:32.8±0.8, 41°.70N×81°.48E, h0km, mb3.7/10, mbtmp3.7/15, ML3.2/5, Error ellipse: s-maj=19.0km s-min=13.0km az=47.0*
*BJI **18** 16:48:33.4, 41°.77N×81°.56E, h8km, mb4.2/14, mB4.4/3, ML3.7/10, Ms3.6/3, Ms7 3.5/2*
*SOME **18** 16:48:33.5, 41°.72N×81°.42E, h10km, MS3.4*
*NNC **18** 16:48:36.6±1.1, 41°.87N×81°.37E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=8.6km s-min=5.7km az=155.0*
*NEIC **18** 16:48:38.9±1.3, 41°.75N±0°.07×81°.57E±0°.04, h35km±2km, mb4.5/11, Error ellipse: s-maj=13.1km s-min=3.1km az=158.0*

ISC 18 16:48:34.3±0.5, 41°.77N±0°.03×81°.34E±0°.03, h10km, n105, σ2°.03/123, mb4.1/18, 12C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WUS	**Wushi**	**1.69**	**251**		**Pg**	**16 49 07.1**	**+0.4**
SHLS	**Shalkode**	**1.96**	**316**	Pg	**Pn**	**16 49 08.0**	**+0.2**
	251nm,0.3s						
SHLS				Lg	Lg	16 49 34.1	
	2μm,0.5s						
SHLS	**Shalkode**	**1.96**	**316**	*e*P	**Pn**	**16 49 08.0**	**+0.2**
	251nm,0.3s						
SHLS				*e*S	**Sn**	**16 49 32.8**	**+0.3**
	2μm,0.5s						
UZB	**Uzynbulak**	**2.20**	**310**	Pg	**Pg**	**16 49 15.8**	**-0.7**
	128nm,0.5s						
UZB				Lg	Lg	16 49 47.0	
	535nm,0.5s						
UZB	**Uzynbulak**	**2.20**	**310**	*e*P	**Pg**	**16 49 15.8**	**-0.7**
	128nm,0.5s						
UZB				*e*S	**Sg**	**16 49 47.0**	**+2.1**
	535nm,0.5s						
PRZ	**Przheval'sk**	**2.30**	**289**		**Pb**	**16 49 17.0**	**+1.0**
SATY	**Saty**	**2.52**	**302**	Pg	**Pb**	**16 49 20.9**	**+1.1**
	122nm,0.6s						
SATY				Lg	Lg	16 49 56.1	
	879nm,0.5s						
SATY	**Saty**	**2.52**	**302**	*e*P	**Pb**	**16 49 20.9**	**+1.1**
	122nm,0.6s						
SATY				*e*S	**Sg**	**16 49 56.1**	**+0.7**
	879nm,0.5s						
ZHN	**Zhinishke**	**2.56**	**304**	Pg	**Pg**	**16 49 22.2**	**-1.3**
	90nm,0.3s						
ZHN				Lg	Lg	16 49 58.0	
	651nm,0.4s						
ZHN	**Zhinishke**	**2.56**	**304**	*e*P	**Pg**	**16 49 22.2**	**-1.3**
	90nm,0.3s						
ZHN				*e*S	**Sg**	**16 49 58.0**	**+1.4**
	651nm,0.4s						
KPKS	**Kokpek**	**2.59**	**312**	Pg	**Pb**	**16 49 20.7**	**-0.2**
	164nm,0.4s						
KPKS				Lg	Lg	16 49 55.6	
	726nm,0.5s						
KPKS	**Kokpek**	**2.59**	**312**	*e*P	**Pb**	**16 49 22.2**	**+1.3**
	164nm,0.4s						
KPKS				*e*S	**Sg**	**16 49 56.8**	**-0.7**
	749nm,0.4s						
DJR	**Jarkent**	**2.80**	**337**	Pg	**Pb**	**16 49 25.7**	**+1.2**
	5.8nm,0.1s						
DJR				Lg	Lg	16 50 03.9	
	248nm,0.6s						
DJR	**Jarkent**	**2.80**	**337**	*e*P	**Pb**	**16 49 25.7**	**+1.2**
	5.8nm,0.1s						
DJR				*e*S	**Sg**	**16 50 03.9**	**-0.5**
	248nm,0.6s						
KURS	**Kuram**	**2.90**	**307**	Pg	**Pb**	**16 49 25.7**	**-0.5**
	18nm,0.7s						
KURS				Lg	Lg	16 50 03.9	
	188nm,0.7s						
KURS	**Kuram**	**2.90**	**307**	*e*P	**Pg**	**16 49 28.1**	**-1.8**
	48nm,0.6s						
KURS				*e*S	**Sg**	**16 50 07.4**	**-0.1**
	188nm,0.7s						
KDJ	**Kajisay**	**3.12**	**278**		**Pb**	**16 49 28.1**	**-1.8**
BLB	**Baldybastay**	**3.13**	**319**	Pg	**Pg**	**16 49 32.9**	**-1.5**
	198nm,0.4s						
BLB				Lg	Lg	16 50 15.6	
	194nm,0.3s						
MDOK	**Medeo**	**3.46**	**295**	⇓Pn	**Pb**	**16 49 33.1**	**-2.7**
	28nm,0.5s						
MDOK				Pg	**Pg**	**16 49 38.6**	**-2.1**
	19nm,0.4s						
MDOK				⇑Lg	Lg	16 50 25.5	
	175nm,0.8s						
MDOK				Lg	Lg	16 50 25.6	
	132nm,0.8s						
MDOK	**Medeo**	**3.46**	**295**	*e*P	**Pg**	**16 49 38.6**	**-2.1**
	19nm,0.4s						
MDOK				*e*S	**Sg**	**16 50 25.6**	**0.0**
	132nm,0.8s						
TNSS	**Tian-Shan**	**3.49**	**293**	Pg	**Pb**	**16 49 38.7**	**+2.3**
	9.5nm,0.3s						
TNSS				Lg	Lg	16 50 26.1	
	100nm,0.5s						
TNSS	**Tian-Shan**	**3.49**	**293**	*e*P	**Pb**	**16 49 38.7**	**+2.3**
	9.5nm,0.3s						
TNSS				*e*S	**Sg**	**16 50 26.1**	**-0.2**
	100nm,0.5s						
KNDC	**Almaty**	**3.54**	**296**	⇓Pn	**Pb**	**16 49 34.7**	**-2.4**
	107nm,0.8s						
KNDC				⇓Lg	Lg	16 50 28.4	
	187nm,0.5s						
ARXS	**Arharly**	**3.55**	**315**	Pg	**Pg**	**16 49 39.8**	**-2.5**
	27nm,0.3s						
ARXS				Lg	Lg	16 50 27.8	
	20nm,0.4s						
ARXS	**Arharly**	**3.55**	**315**	*e*P	**Pg**	**16 49 39.8**	**-2.5**
	27nm,0.3s						
ARXS				*e*S	**Sg**	**16 50 27.8**	**-0.5**
	20nm,0.4s						
KAPS	**Kapalarasan**	**3.80**	**338**	Pg	**Pb**	**16 49 43.9**	**+2.4**
	44nm,0.4s						
KAPS				Lg	Lg	16 50 33.8	
	131nm,0.5s						
KAPS	**Kapalarasan**	**3.80**	**338**	*e*P	**Pb**	**16 49 43.9**	**+2.4**
	44nm,0.4s						
KAPS				*e*S	**Sg**	**16 50 33.8**	**-2.5**
	131nm,0.5s						
ULHL	**Ulahol**	**3.83**	**279**	P	**Pb**	**16 49 37.7**	**-4.3**
	SNR=15						
TDK	**Taldyqorghan**	**3.88**	**328**	Pg	**Pg**	**16 49 48.5**	**-0.1**
	172nm,0.5s						
TDK				Lg	Lg	16 50 42.5	
	326nm,1.0s						
TDK	**Taldyqorghan**	**3.88**	**328**	*e*P	**Pg**	**16 49 45.7**	**-2.8**
	105nm,0.4s						
TDK				*e*S	**Sg**	**16 50 37.5**	**-1.2**
	217nm,0.8s						
MTBS	**Maitube**	**3.88**	**292**	Pg	**Pg**	**16 49 46.8**	**-1.8**
	26nm,0.4s						
MTBS				Lg	Lg	16 50 39.9	
	76nm,0.6s						
MTBS	**Maitube**	**3.88**	**292**	*e*P	**Pg**	**16 49 46.8**	**-1.8**
	26nm,0.4s						
MTBS				*e*S	**Sg**	**16 50 39.9**	**+1.1**
	76nm,0.6s						
KST	**Kastek**	**4.18**	**290**	Pg	**Pg**	**16 49 51.7**	**-2.6**
	34nm,0.5s						
KST				Lg	Lg	16 50 48.4	
	122nm,0.8s						
KST	**Kastek**	**4.18**	**290**	*e*P	**Pg**	**16 49 51.7**	**-2.6**
	34nm,0.5s						
KST				*e*S	**Sg**	**16 50 48.4**	**0.0**
	122nm,0.8s						
KUU	**Kurty**	**4.25**	**302**	Pg	**Pg**	**16 49 52.8**	**-2.8**
	25nm,0.6s						
KUU				Lg	Lg	16 50 50.0	
	197nm,0.8s						
KUU	**Kurty**	**4.25**	**302**	*e*P	**Pg**	**16 49 52.8**	**-2.8**
	25nm,0.6s						
KUU				*e*S	**Sg**	**16 50 50.0**	**-0.6**
	197nm,0.8s						
DGS	**Degeres**	**4.37**	**292**	Pg	**Pg**	**16 49 55.2**	**-2.8**
	20nm,0.5s						
DGS				Lg	Lg	16 50 54.1	
	68nm,0.7s						
DGS	**Degeres**	**4.37**	**292**	*e*P	**Pg**	**16 49 55.2**	**-2.8**
	20nm,0.5s						
DGS				*e*S	**Sg**	**16 50 54.1**	**-0.4**
	68nm,0.7s						
TKM2	**Tokmak 2**	**4.41**	**287**	P	Pn	16 49 46.0	+4.6
	SNR=44						
TKM2	**Tokmak 2**	**4.41**	**287**	⇑Pn	**Pn**	**16 49 45.8**	**+4.3**
	13nm,0.3s						
TKM2				⇑Lg	Lg	16 50 57.9	
	64nm,0.5s						
KSH	**Kashi**	**4.66**	**243**	Pn	**Pb**	**16 49 55.4**	**-0.7**
KSH				Sn	**Sg**	**16 51 02.5**	**-1.3**
KSH				LR	LR		
	comp=N,240nm,9.3s						
KSH				LR	LR		
	comp=E,460nm,7.7s						
KSH				LR	LR		
	comp=Z,280nm,7.9s						
KBK	**Karagaybulak**	**4.83**	**283**	P	**Pn**	**16 49 51.6**	**+4.4**
	SNR=10						
CHMS	**Chumysh**	**5.03**	**286**	P	**Pg**	**16 50 08.2**	**-2.4**
	SNR=5.4						
CHMS	**Chumysh**	**5.03**	**286**	⇑Pn	Pn	16 49 55.0	+5.2
	5.8nm,0.9s						
CHMS				⇑Pg	**Pg**	**16 50 09.3**	**-1.3**
	17nm,0.7s						
CHMS				⇓Lg	Lg	16 51 16.8	
	61nm,0.7s						
MAKZ	**Makanchi**	**5.06**	**5**	⇓Pn	**Pn**	**16 49 52.2**	**+1.9**
	5.9nm,0.4s						
MAKZ				⇓Sn	**Sn**	**16 50 50.4**	**+1.6**
	19nm,0.6s						
MAKZ				⇑Lg	Lg	16 51 11.7	
	48nm,0.8s						
MAKZ	**Makanchi**	**5.06**	**5**		**Pn**	**16 49 52.2**	**+1.9**
MK31	**Makanchi Array**	**5.07**	**7**	⇓Pn	**Pn**	**16 49 52.4**	**+2.0**
	2.1nm,0.3s,baz=186,slow=13,SNR=169						
MK31				⇓Pg	**Pg**	**16 50 07.1**	**-4.3**
	4.5nm,0.4s,baz=185,slow=16,SNR=7.6						
MK31				⇑Sn	**Sn**	**16 50 50.8**	**+1.8**
	5.2nm,0.3s,baz=188,slow=24,SNR=4.6						
MK31				⇑Lg	Lg	16 51 11.7	
	22nm,0.5s,baz=186,slow=31,SNR=4.3						
MK31	**Makanchi Array**	**5.07**	**7**		**Pn**	**16 49 52.3**	**+1.9**
MKAR	**Makanchi Array**	**5.07**	**7**		**Pn**	**16 49 52.3**	**+1.9**
MKAR	**Makanchi Array**	**5.07**	**7**	Pn	**Pn**	**16 49 52.6**	**+2.2**
	4.4nm,0.3s,baz=185,slow=14,SNR=74						
MKAR				Pg	**Pb**	**16 50 06.1**	**+2.9**
	4.4nm,0.3s,baz=190,slow=15,SNR=12						
MKAR				Sn	**Sn**	**16 50 52.3**	**+3.2**
	4.8nm,0.3s,baz=187,slow=18,SNR=5.6						
MKAR				Lg	Lg	16 51 11.9	
	9.9nm,0.3s,baz=188,slow=31,SNR=10.0						
	6.2nm,0.3s						
UCH	**Uchtor**	**5.11**	**277**	P	**Pb**	**16 50 03.1**	**-0.9**
	SNR=6.3						
WMQ	**Urumqi**	**5.11**	**64**	Pg	**Pb**	**16 50 04.3**	**+0.5**
WMQ				Sn	**Sn**	**16 50 52.3**	**+2.3**
WMQ				smax	smax		
	comp=N,64nm,1.3s						
WMQ				smax	smax		
	comp=E,69nm,1.1s						
AAK	**Ala-Archa**	**5.16**	**282**	P	Pn	16 49 56.4	+4.7
	SNR=6.0						
AAK	**Ala-Archa**	**5.16**	**282**	Pn	**Pn**	**16 49 56.0**	**+4.3**
AAK	**Ala-Archa**	**5.16**	**282**	Pn	Pn	16 49 56.3	+4.6
	1.5nm,0.3s,baz=119,slow=8.9,SNR=24						
AAK				Pg	**Pg**	**16 50 10.3**	**-2.7**
	2.7nm,0.3s,baz=102,slow=8.5,SNR=13						
AAK				Lg	Lg	16 51 21.1	
	5.3nm,0.3s,baz=108,slow=20,SNR=5.9						
	3.0nm,0.4s						
SGDS	**Sogindy**	**5.23**	**291**	Pg	**Pg**	**16 50 10.5**	**-3.9**
	2.8nm,0.5s						
SGDS				Lg	Lg	16 51 20.2	
	42nm,0.7s						
USP	**Ospenovka**	**5.27**	**289**	P	Pn	16 49 58.0	+4.9
	SNR=5.3						
AML	**Almayashu**	**5.71**	**276**	P	**Pg**	**16 50 21.1**	**-2.5**
	SNR=18						
MRKS	**Merke**	**6.10**	**282**	Pg	**Pg**	**16 50 27.8**	**-3.2**
	2.8nm,0.6s						
MRKS				Lg	Lg	16 51 49.9	
	19nm,0.5s						
MRKS	**Merke**	**6.10**	**282**	*e*P	**Pg**	**16 50 27.8**	**-3.2**
	2.8nm,0.6s						
MRKS				*e*S	**Sg**	**16 51 49.9**	**-0.1**
	19nm,0.5s						
ZSN	**Zaisan**	**6.22**	**23**	Pg	Pg	16 50 27.2	-6.1
	7.6nm,0.5s						
ZSN				Lg	Lg	16 51 49.6	
	73nm,1.3s						
ZSN	**Zaisan**	**6.22**	**23**	*e*P	Pg	16 50 27.2	-6.1
	7.6nm,0.5s						
ZSN				*e*S	**Sg**	**16 51 49.5**	**-4.2**
	73nm,1.3s						
BTLS	**Baital**	**6.24**	**304**	Pg	**Pg**	**16 50 29.6**	**-4.1**
	4.4nm,0.5s						
BTLS				Lg	Lg	16 51 52.8	
	8.9nm,0.8s						
BTLS	**Baital**	**6.24**	**304**	*e*P	**Pg**	**16 50 30.4**	**-3.3**
	4.4nm,0.4s						
BTLS				*e*S	**Sg**	**16 51 54.1**	**-0.3**
	7.9nm,0.7s						
ARSB	**Arslanbob**	**6.28**	**269**	Pn	Pn	16 50 12.1	+5.0
KK31	**Karatay Array**	**8.12**	**283**	⇓Pg	**Pg**	**16 51 05.8**	**-3.8**
	2.8nm,0.6s,baz=93,slow=15,SNR=12						
KK31				⇑Lg	Lg	16 52 55.8	
	24nm,0.8s,baz=93,slow=26,SNR=9.0						
IUG	**Iuzhnay**	**8.43**	**276**	Pg	Pg	16 51 08.5	-7.2
	4.9nm,0.4s						
IUG				Lg	Lg	16 52 59.7	
	51nm,1.1s						
IUG	**Iuzhnay**	**8.43**	**276**	*e*P	Pg	16 51 10.9	-4.9
	1.5nm,0.1s						
IUG				*e*S	**Sg**	**16 53 03.7**	**-1.1**
	62μm,0.5s						
KURBB	**Kurchatov Arra**	**9.07**	**349**	Pn	Pn	16 50 55.9	+11
	0.3nm,0.3s,baz=174,slow=15,SNR=16						
KURBB				Sn	**Sn**	**16 52 27.5**	**+0.2**
	0.2nm,0.3s,baz=158,slow=24,SNR=5.4						
KURBB				Lg	Lg	16 53 23.6	
	0.3nm,0.3s,baz=180,slow=28,SNR=6.5						
KURK	**Kurchatov**	**9.15**	**349**	⇑Pn	**Pn**	**16 50 49.8**	**+3.6**
	5.6nm,0.7s						
KURK				⇑Lg	Lg	16 53 20.7	
	44nm,1.1s						
KURK	**Kurchatov**	**9.15**	**349**	Pn	**Pn**	**16 50 48.8**	**+2.5**
NIL	**Nilore**	**10.32**	**221**	Pn	**Pn**	**16 51 04.7**	**+2.3**
GOMU	**GeErMu**	**11.87**	**114**	P	**Pn**	**16 51 20.9**	**-3.0**
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ZALV	**Zalesovo Beam**	**12.41**	**10**	Pn	**Pn**	**16 51 30.9**	**0.0**
	0.2nm,0.3s,baz=182,slow=12,SNR=1.8						
ZALV				Sn	**Sn**	**16 53 49.0**	**-0.1**
	0.3nm,0.3s,baz=220,slow=27,SNR=3.0						
ZALV				Lg	Lg	16 55 09.2	
	0.1nm,0.3s,baz=203,slow=27,SNR=2.0						
	0.6nm,0.3s						
BVA0	**Borovoye Array**	**13.46**	**330**	⇑Lg	Lg	16 55 44.7	
	5.5nm,1.0s,baz=130,slow=25,SNR=3.8						
BVAR	**Borovoye Array**	**13.46**	**330**	Pn	**Pn**	**16 51 45.0**	**-0.3**
	baz=131,slow=9.8,SNR=1.9						
BVAR				Sn	**Sn**	**16 54 11.2**	**-3.7**
	baz=131,slow=21,SNR=2.6						
BVAR				Lg	Lg	16 55 44.4	
	baz=143,slow=28,SNR=5.2						
	0.2nm,0.4s						
ABKAR	**Akbulak array**	**16.72**	**304**	Pn	**P**	**16 52 32.2**	**+1.4**
SONM	**Songino Array**	**18.75**	**63**	P	**Pn**	**16 52 52.5**	**-1.2**
	0.2nm,0.3s,baz=275,slow=10,SNR=5.1						
	0.5nm,0.6s						
ARTI	**Arti**	**20.83**	**322**	P	Pn	16 53 18.7	+0.4
ARTI				IAmb	IAmb	16 53 23.5	
	comp=Z,14nm,1.1s						
ARTI	**Arti**	**20.83**	**322**	P	Pn	16 53 18.5	+0.2
	comp=Z,9.2nm,1.0s,baz=131,slow=6.1,SNR=9.2						
	comp=Z,9.2nm,1.0s						
TNCH	**TengChong**	**21.94**	**134**	*e*P	**P**	**16 53 28.1**	**-0.1**
TNCH				pP	sP	16 53 37.3	+4.3
TNCH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**22.68**	**82**	*e*P	**P**	**16 53 35.3**	**-0.6**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
CMAR	**Chiang Mai Arr**	**27.67**	**142**	P	**P**	**16 54 22.1**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=326,slow=7.9,SNR=5.1						
	comp=Z,0.5nm,0.8s						
KIV	**Kislovodsk**	**28.24**	**288**	P	**P**	**16 54 30.5**	**+3.0**
PHRA	**Phrae**	**28.24**	**140**	P	**P**	**16 54 27.9**	**+0.4**
NJ2	**Nanjing**	**31.32**	**96**	*e*P	**P**	**16 54 54.1**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRTR	**Keskin Array B**	**35.83**	**283**	P	**P**	**16 55 34.5**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=74,slow=6.8,SNR=2.4						
	comp=Z,0.5nm,0.7s						
AKASG	**Malin Array Be**	**36.46**	**302**	P	**P**	**16 55 40.2**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=68,slow=9.3,SNR=1.7						
	comp=Z,0.4nm,0.7s						
ARCES	**ARCESS Array B**	**39.74**	**333**	P	**P**	**16 56 07.2**	**+0.6**
	comp=Z,5.9nm,1.1s,baz=96,slow=6.2,SNR=5.5						
	comp=Z,5.9nm,1.1s						
HFS	**Hagfors**	**44.20**	**318**	P	**P**	**16 56 43.7**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=81,slow=9.2,SNR=4.9						
	comp=Z,0.8nm,0.5s						
NB201	**NORSAR Array S**	**45.25**	**320**	P	**P**	**16 56 53.2**	**+1.7**
NB201				IAmb	IAmb	16 57 23.7	
	comp=Z,16nm,1.2s						
NB2	**NORSAR Subarra**	**45.29**	**320**	P	**P**	**16 56 52.2**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=82,slow=7.9						
NOA	**NORSAR Array B**	**45.29**	**320**	P	**P**	**16 56 52.5**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=68,slow=8.1,SNR=5.2						
	comp=Z,0.5nm,0.4s						
NC204	**NORSAR Array S**	**45.47**	**320**	P	**P**	**16 56 53.9**	**+0.6**
NC204				IAmb	IAmb	16 57 31.3	
	comp=Z,8.0nm,1.1s						
CLL	**Collm**	**46.37**	**306**	*e*PP	PP	16 58 54.0	+4.9
BMAR	**Burnt Mountain**	**65.72**	**18**	P	**P**	**16 59 19.6**	**+1.0**
C36M	**Paulatuk**	**67.62**	**9**	P	**P**	**16 59 29.7**	**-1.0**
C36M				IAmb	IAmb	16 59 32.8	
	comp=Z,4.9nm,1.4s						
G31M	**Satah River**	**68.28**	**14**	P	**P**	**16 59 34.2**	**-0.7**
G31M				IAmb	IAmb	17 00 08.3	
	comp=Z,7.3nm,1.4s						
BCAR	**Beaver Creek A**	**69.99**	**19**	P	**P**	**16 59 45.9**	**+0.2**
O29M	**Mount Kennedy**	**73.16**	**19**	P	**P**	**17 00 03.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**73.68**	**273**	P	**P**	**17 00 08.7**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=49,slow=5.9,SNR=7.3						
	comp=Z,0.8nm,0.6s						
WB0	**Warramunga Arr**	**78.44**	**130**	P	**P**	**17 00 34.3**	**-1.1**
WB0				IAmb	IAmb	17 01 06.1	
	comp=Z,7.0nm,1.3s						
WRA	**Warramunga Arr**	**78.55**	**130**	P	**P**	**17 00 35.9**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=326,slow=5.1,SNR=3.3						
	comp=Z,0.6nm,0.9s						
WB2	**Warramunga Arr**	**78.56**	**130**	P	**P**	**17 00 35.8**	**-0.3**
WB2				IAmb	IAmb	17 01 15.4	
	comp=Z,10nm,1.5s						
ASAR	**Alice Springs**	**81.26**	**133**	P	**P**	**17 00 49.9**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=324,slow=5.6,SNR=5.5						
	comp=Z,0.3nm,0.7s						

*IDC **18** 16:54:48.4±3.0, 14°.69N×60°.84W, h135km±31km, mb3.4/3, mbtmp4.0/6, Error ellipse: s-maj=55.8km s-min=16.9km az=49.0*
*TRN **18** 16:54:50.8, 14°.66N×61°.16W, h145km, MD3.9, Near East coast of Martinique.*

ISC 18 16:54:49.8±0.8, 14°.67N±0°.03×61°.06W±0°.07, h153km±6km, n36, σ1°.56/59, mb3.3/3, Windward Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BIM	**Bigot**	**0.15**	**186**	*e*P	**Pn**	**16 55 11.7**	**+1.3**
BIM				*e*S	**Sn**	**16 55 26.4**	**+0.3**
ILAM	**Ilet Lapin Mar**	**0.20**	**60**	*e*P	**Pn**	**16 55 11.4**	**+1.1**
ILAM				*e*S	**Sn**	**16 55 26.6**	**+0.6**
SLBI	**Saint Lucia, B**	**0.65**	**173**	*e*P	**Pn**	**16 55 13.1**	**+0.8**
SLBI				*e*S	**Sn**	**16 55 29.4**	**-0.1**
SLAC	**Saint Lucia, A**	**0.79**	**169**	*e*P	**Pn**	**16 55 14.4**	**+1.2**
SLAC				*e*S	**Sn**	**16 55 31.5**	**+0.4**
DSLB	**Salisbury**	**0.84**	**335**	*e*P	**Pn**	**16 55 14.5**	**+1.0**
DSLB				*e*S	**Sn**	**16 55 31.4**	**-0.4**
TBG	**Guadaloupe-3**	**1.30**	**334**	*e*P	**Pn**	**16 55 17.7**	**+0.1**
TBG				*e*S	**Sn**	**16 55 38.7**	**-0.2**
SSV	**Crater Summit**	**1.34**	**186**	*e*P	**Pn**	**16 55 19.8**	**+1.6**
SVV	**Soufriere Volc**	**1.35**	**187**	*e*P	**Pn**	**16 55 19.9**	**+1.7**
SVB	**Belmont**	**1.41**	**188**	*e*P	**Pn**	**16 55 19.8**	**+1.2**
SVB				*e*S	**Sn**	**16 55 40.9**	**+0.1**
SVT	**Saint Vincent**	**1.50**	**187**	*e*P	**Pn**	**16 55 20.3**	**+0.6**
SVT				*e*S	**Sn**	**16 55 43.7**	**+1.2**
SVOC	**Richmond Hill,**	**1.52**	**186**	*e*P	**Pn**	**16 55 20.6**	**+0.8**
SVOC				*e*S	**Sn**	**16 55 42.6**	**-0.1**
BBGH	**Gun Hill**	**2.10**	**136**	*e*P	**Pn**	**16 55 29.5**	**+3.1**
BBGH				*e*S	**Sn**	**16 55 57.0**	**+2.6**
GCMP	**Grenada, Carri**	**2.20**	**189**	*e*P	**Pn**	**16 55 28.6**	**+1.1**
GCMP				*e*S	**Sn**	**16 55 56.1**	**-0.4**
MBWH		**2.33**	**332**	*e*P	**Pn**	**16 55 30.3**	**+1.3**
MBWH				*e*S	**Sn**	**16 55 59.0**	**-0.3**
MBFL	**Flemmings, Mon**	**2.35**	**332**	*e*P	**Pn**	**16 55 30.

0.2nm,0.5s

*IDC **18** 17:16:26.7±1.5, 36°.96N×141°.40E, h0km, mb3.6/5, mbtmp3.5/7, ML2.8/2, Error ellipse: s-maj=33.6km s-min=21.9km az=71.0*
*JMA **18** 17:16:28.8±0.1, 37°.0N±0°.2×141°.3E±0°.5, h29km, MV3.3/32, E OFF FUKUSHIMA PREF*
ISC 18 17:16:29.7±1.5, 36°.99N±0°.05×141°.29E±0°.07, h20km±5km, n19, σ0°69/20, mb3.5/5, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.41**	**286**	P		**Pg**	**17 16 38.0 -0.2**
ONAJ				*e*S		**Sb**	**17 16 44.7 +0.5**
JFK	**Kawauchi**	**0.50**	**319**	P		**Pg**	**17 16 39.5 -0.3**
JFK				*e*S		**Sb**	**17 16 46.8 +0.1**
JFFD	**Fukushimafurud**	**0.59**	**280**	P		**Pb**	**17 16 40.9 -0.4**
JFFD				S		**Sg**	**17 16 49.5 +0.1**
JHO	**Hitachi**	**0.69**	**237**	⇓P		**Pb**	**17 16 42.3 -0.8**
JHO				⇓*e*S		**Sb**	**17 16 52.4 +0.2**
JOTO	**OTAMA OYAMA**	**0.95**	**307**	P		**Pb**	**17 16 47.4 -0.1**
JOTO				*e*S		**Sg**	**17 17 00.8 0.0**
JMM	**Marumori**	**0.96**	**336**	⇓P		**Pb**	**17 16 46.5 -1.2**
JMM				⇓*e*S		**Sb**	**17 16 59.7 -0.1**
MJAR	**Matsushiro Arr**	**2.51**	**261**	Pn		**Pn**	**17 17 10.2 +0.7**
	0.4nm,0.3s,baz=80,slow=14,SNR=49						
MJAR				Sn		**Sb**	**17 17 43.0 -1.7**
	0.5nm,0.3s,baz=76,slow=16,SNR=5.5 5.7nm,0.6s						
ASAJ	**Asahikawa**	**7.18**	**8**	Pn		**Pn**	**17 18 13.8 +0.2**
	0.3nm,0.3s,baz=243,slow=29,SNR=2.0 4.7nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.21**	**121**	T		T	17 51 44.5
	baz=314,slow=75,SNR=71						
H11N1	**WAKE ISLAND Hy**	**28.22**	**121**	T		T	17 51 47.7
	baz=314,slow=75,SNR=69						
H11N3	**WAKE ISLAND Hy**	**28.23**	**121**	T		T	17 51 45.0
	baz=314,slow=75,SNR=75						
H11S1	**WAKE ISLAND Hy**	**28.92**	**123**	T		T	17 52 37.8
	baz=315,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**28.92**	**123**	T		T	17 52 37.1
	baz=315,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**28.94**	**123**	T		T	17 52 38.3
	baz=315,slow=76,SNR=21						
ZALV	**Zalesovo Beam**	**41.87**	**312**	P		**P**	**17 24 19.1 +0.8**
	0.4nm,0.4s,baz=90,slow=8.5,SNR=2.4 0.4nm,0.4s						
MKAR	**Makanchi Array**	**44.06**	**302**	P		**P**	**17 24 36.6 +0.5**
	0.4nm,0.7s,baz=82,slow=8.2,SNR=2.4 0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**45.95**	**308**	P		**P**	**17 24 51.6 +0.6**
	0.7nm,0.3s,baz=82,slow=8.0,SNR=5.2 0.7nm,0.3s						
WRA	**Warramunga Arr**	**57.01**	**188**	P		**P**	**17 26 13.7 -0.4**
	0.3nm,0.5s,baz=2.7,slow=7.1,SNR=9.7 0.3nm,0.5s						
ASAR	**Alice Springs**	**60.73**	**188**	P		**P**	**17 26 40.2 +0.2**
	0.4nm,1.0s,baz=7.8,slow=6.9,SNR=4.4 0.4nm,1.0s						

*BUL **18** 17:37:27.3±2.6, 21°.65S×33°.28E, h10km, MD2.9*
PRE 18 17:37:14.3±0.6, 21°.35S×33°.88E, h10km, ML2.3, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.15**	**226**	*e*P		Pn	17 38 05.0 +1.0
MOPA				*e*S		Sn	17 38 41.9 +0.1
MOPA				IAML			17 38 52.2
	comp=Z,49nm,0.2s						
MOPA	**Mopani**	**3.15**	**226**	*i* P		Pb	17 38 07.2 -3.2
MOPA				*i* S		Sn	17 38 40.4 -1.3
MOPA	**Mopani**	**3.15**	**226**	*i* P		Pb	17 38 07.2 -3.2
MOPA				*i* S		Sn	17 38 40.4 -1.3
MUSN	**Musina, Limpop**	**3.85**	**255**	*e*P		Pn	17 38 14.8 +1.1
MUSN				*e*S		Sn	17 38 58.7 -0.4
MUSN				IAML			17 39 12.0
	comp=Z,13nm,0.2s						
MUSN	**Musina, Limpop**	**3.85**	**255**	*i* P		Pb	17 38 18.4 -4.0
MUSN				*i* S		Sn	17 38 55.4 -3.7
MUSN	**Musina, Limpop**	**3.85**	**255**	*i* P		Pb	17 38 18.4 -4.0
MUSN				*i* S		Sn	17 38 55.4 -3.7
PILG	**Pilgrimsrest,**	**4.61**	**219**	*e*P		Pn	17 38 24.6 +0.4
PILG				*e*S		Sn	17 39 16.2 -1.7
PILG				IAML			17 39 42.5
	comp=Z,5.3nm,0.5s						
BLWY	**Bulawayo**	**5.08**	**283**	*i* P		Pb	17 38 37.6 -5.8
BLWY				*i* S		Sn	17 39 29.4 0.0
BLWY	**Bulawayo**	**5.08**	**283**	*i* P		Pb	17 38 37.6 -5.8
BLWY				*i* S		Sn	17 39 29.4 0.0
MATP	**Matopo**	**5.12**	**279**	*i* P		Pn	17 38 34.6 +3.4
MATP	**Matopo**	**5.12**	**279**	*i* P		Pn	17 38 34.6 +3.4
KRI	**Karoi**	**6.04**	**317**	*e*P		Pn	17 38 44.9 +0.9
KRI				*e*S		Sn	17 39 50.7 -2.6
KRI	**Karoi**	**6.04**	**317**	*i* P		Pn	17 38 45.9 +2.0
KRI				*i* S		Sn	17 39 44.0 -9.2
KRI	**Karoi**	**6.04**	**317**	*i* P		Pn	17 38 45.9 +2.0
KRI				*i* S		Sn	17 39 44.0 -9.2
HRAO	**HartRAO**	**7.26**	**230**	*e*P		Pn	17 39 02.1 +1.5
HRAO				*e*S		Sn	17 40 20.1 -3.1
HRAO				IAML			17 41 05.6
	comp=Z,2.2nm,0.4s						
NWCL	**Newcastle**	**7.32**	**209**	*e*P		Pn	17 39 02.4 +1.0
NWCL				*e*S		Sn	17 40 22.2 -2.5
NWCL				IAML			17 41 13.2
	comp=Z,4.8nm,0.5s						
LSZ	**Lusaka**	**8.11**	**317**	*i* P		Pn	17 39 22.5 +10
LSZ	**Lusaka**	**8.11**	**317**	*i* P		Pn	17 39 22.5 +10
LBTB	**Lobatse**	**8.45**	**243**	*e*P		Pn	17 39 17.8 +0.9
LBTB				*e*S		Sn	17 40 48.1 -4.3
LBTB				IAML			17 41 35.4
	comp=Z,1.3nm,0.6s						
LBTB	**Lobatse**	**8.45**	**243**	*i* P		Pn	17 39 19.8 +2.8
LBTB	**Lobatse**	**8.45**	**243**	*i* P		Pn	17 39 19.8 +2.8

IDC 18 18:04:50.0±3.7, 10°.70S×163°.08E, h0km, mb3.4/3, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=74.0km s-min=35.9km az=60.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.33**	**292**	Pn		Pn	18 05 45.5 +2.2
	17nm,0.3s,baz=160,slow=3.3,SNR=7.7						
HNR				Sn		Sn	18 06 26.6 +3.0
	11nm,0.3s,baz=340,slow=23,SNR=1.8 50nm,0.4s						
DZM	**Mont Dzumac**	**11.76**	**164**	Pn		Pn	18 07 41.0 +1.8
	0.1nm,0.3s,baz=319,slow=20,SNR=1.5 3.2nm,1.0s						
WRA	**Warramunga Arr**	**29.16**	**248**	P		P	18 10 52.7 -0.5
	0.4nm,0.9s,baz=80,slow=9.5,SNR=1.7 0.4nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**29.23**	**7**	T		T	18 41 13.6
	baz=188						
H11S3	**WAKE ISLAND Hy**	**29.23**	**7**	T		T	18 41 15.6
	baz=188						
H11S1	**WAKE ISLAND Hy**	**29.24**	**7**	T		T	18 41 14.4
	baz=188						
ASAR	**Alice Springs**	**30.63**	**241**	P		P	18 11 05.9 -0.3
	0.2nm,0.5s,baz=65,slow=10,SNR=12 0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**69.58**	**294**	P		P	18 16 01.0 -0.4
	0.3nm,0.5s,baz=114,slow=4.4,SNR=4.9 0.3nm,0.5s						

*IDC **18** 18:18:09.1±1.2, 10°.44S×163°.33E, h0km, mb3.7/6, mbtmp3.8/8, ML4.2/2, MS3.3/4, Error ellipse: s-maj=32.5km s-min=24.5km az=158.0*
ISC 18 18:18:11.7±0.9, 10°.5S±0°.1×163°.3E±0°.1, h16km, n17, σ0°68/9, mb3.7/6, MS3.2/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.50**	**287**	Pn		**Pn**	**18 19 05.6 +0.1**
	57nm,0.3s,baz=156,slow=4.7,SNR=26						
HNR				Sn		**Sn**	**18 19 47.0 +0.4**
	3.8nm,0.3s,baz=43,slow=20,SNR=1.4 164nm,0.4s						
DZM	**Mont Dzumac**	**11.92**	**166**	Pn		**Pn**	**18 21 01.4 +0.2**
	0.5nm,0.3s,baz=330,slow=20,SNR=7.0						
DZM				LR		LR	18 24 42.3
	comp=Z,188nm,18.4s,baz=317,slow=33 2.0nm,0.5s						
H11S2	**WAKE ISLAND Hy**	**28.96**	**7**	T		T	18 55 10.2
	baz=188,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**28.96**	**7**	T		T	18 54 41.8
	baz=188,slow=76,SNR=4.8						
H11S1	**WAKE ISLAND Hy**	**28.98**	**7**	T		T	18 54 45.7
	baz=188,slow=76,SNR=5.0						
WRA	**Warramunga Arr**	**29.49**	**248**	P		**P**	**18 24 14.9 -0.6**
	0.7nm,0.7s,baz=79,slow=9.2,SNR=6.2 0.7nm,0.7s						
GUMO	**Guam**	**30.12**	**322**	LR		LR	18 35 38.9
	comp=Z,26nm,19.7s,baz=98,slow=35						
H11N1	**WAKE ISLAND Hy**	**30.19**	**7**	T		T	18 56 07.9
	baz=188,slow=76,SNR=5.2						
H11N3	**WAKE ISLAND Hy**	**30.20**	**7**	T		T	18 56 16.0
	baz=188,slow=76,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**30.21**	**7**	T		T	18 56 11.9
	baz=188,slow=76,SNR=4.2						
URZ	**Urewera**	**30.31**	**158**	LR		LR	18 35 07.3
	comp=Z,80nm,18.7s,baz=228,slow=34						
ASAR	**Alice Springs**	**30.97**	**241**	P		**P**	**18 24 28.1 -0.4**
	1.0nm,0.7s,baz=72,slow=9.6,SNR=17 1.0nm,0.7s						
KSRS	**Korea Array**	**58.09**	**327**	LR		LR	18 52 08.3
	comp=Z,20nm,18.9s,baz=340,slow=35						
CMAR	**Chiang Mai Arr**	**69.72**	**294**	P		**P**	**18 29 21.9 +0.4**
	0.3nm,0.5s,baz=103,slow=6.2,SNR=2.3 0.3nm,0.5s						
ILAR	**Eielson Array**	**83.73**	**19**	P		**P**	**18 30 38.8 -0.9**
	0.6nm,0.7s,baz=233,slow=4.7,SNR=6.7 0.6nm,0.7s						
NVAR	**Mina Array Bea**	**87.46**	**50**	P		**P**	**18 31 00.1 +1.0**
	0.3nm,0.7s,baz=224,slow=6.3,SNR=2.3 0.3nm,0.7s						
MKAR	**Makanchi Array**	**91.49**	**317**	P		**P**	**18 31 17.1 -0.4**
	0.3nm,0.6s,baz=116,slow=7.2,SNR=2.2 0.3nm,0.6s						

IDC 18 18:20:04.7±999.0, 29°.24N×104°.72E, h0km, Error ellipse: s-maj=643.1km s-min=246.0km az=30.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I34MN	**SONGINO INFRAS**	**18.58**	**4**	I		I	20 09 30.0
	baz=185,slow=337,SNR=0.6						
I45RU	**USSURIYSK INFR**	**26.31**	**48**	I		I	20 59 10.0
	baz=237,slow=310,SNR=1.6						
I30JP	**ISUMI INFRASON**	**30.59**	**69**	I		I	21 30 00.0
	baz=269,slow=306,SNR=1.1						

*DJA **18** 18:24:22.7±0.2, 6°.5S±3°.×12°.8E±°, h10km, M4.3/18, mb4.6/7, mB4.8/3, MLv4.1/18, Mw(mB)4.1/3*
*IDC **18** 18:24:27.9±5.3, 5°.78S×127°.66E, h61km±50km, mb3.5/5, mbtmp4.0/8, ML4.2/3, MS3.2/5, Error ellipse: s-maj=59.8km s-min=12.6km az=70.0*
ISC 18 18:24:24.2±0.8, 5°.64S±0°.06×127°.80E±0°.06, h35km, n25, σ1°74/27, mb3.7/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**1.98**	**11**	P		**Pn**	**18 24 54.0 -1.2**
BNDI	**Bandanaira**	**2.37**	**62**	P		**Pn**	**18 24 59.8 -0.8**
BNDI				S		**Sn**	**18 25 28.5 +0.1**
NLAI	**Namlea**	**2.48**	**344**	P		**Pn**	**18 25 02.1 -0.1**
MSAI	**Masohi**	**2.54**	**26**	P		**Pn**	**18 25 02.7 -0.2**
MSAI				S		**Sn**	**18 25 30.7 -1.9**
SANI	**Sanana**	**4.00**	**333**	P		**Pn**	**18 25 23.1 +0.1**
SANI				S		**Sn**	**18 26 04.6 -4.0**
SAUI	**Saumlaki**	**4.18**	**124**	P		**Pn**	**18 25 27.7 +2.1**
FAKI	**Fak Fak**	**5.19**	**59**	P		**Pn**	**18 25 40.6 +1.2**
	35nm,0.9s,0.2nm						
SOEI	**Soe**	**5.39**	**220**	P		**Pn**	**18 25 41.8 -0.5**
	55nm,0.8s,0.2nm						
KDI	**Kendari**	**5.43**	**288**	P		**Pn**	**18 25 41.9 -0.8**
	53nm,0.8s,444nm0.2nm						
SWI	**Sorong**	**5.86**	**36**	P		**Pn**	**18 25 49.8 +1.1**
	35nm,0.9s,0.1nm						
BATI	**Baumata**	**6.12**	**222**	P		**Pn**	**18 25 54.0 +1.8**
	11nm,0.3s,baz=97,slow=2.4,SNR=24						
BATI				LR		LR	18 28 21.8
	comp=Z,186nm,21.9s,baz=212,slow=40 39nm,0.5s						
BATI	**Baumata**	**6.12**	**222**	P		Pn	18 25 56.6 +4.4
	50nm,0.7s,0.3nm						
LUWI	**Luwuk**	**6.79**	**312**	P		**Pn**	**18 26 01.8 +0.5**
RKPI	**Ransiki, Papua**	**7.57**	**57**	P		**Pn**	**18 26 12.7 +0.6**
	54nm,1.1s						
BKSI	**Bulukumba**	**7.65**	**272**	P		**Pn**	**18 26 14.7 +1.5**
KAPI	**Kappang**	**8.04**	**274**	P		**Pn**	**18 26 19.5 +0.9**
	5.5nm,0.3s,baz=99,slow=9.3,SNR=11						
KAPI				LR		LR	18 29 22.7
	comp=Z,231nm,20.0s,baz=98,slow=37 12nm,0.2s						
FITZ	**Fitzroy Crossi**	**12.56**	**189**	P		**Pn**	**18 27 18.4 -2.2**
	2.6nm,0.6s,baz=25,slow=11,SNR=11						
FITZ				LR		LR	18 32 50.7
	comp=Z,92nm,18.2s,baz=4.5,slow=40						
WRA	**Warramunga Arr**	**15.58**	**156**	P		**Pn**	**18 27 57.0 -4.3**
	1.2nm,0.6s,baz=338,slow=13,SNR=8.5						
WRA				S		Sn	18 30 40.3 -13
	1.0nm,0.9s,baz=324,slow=25,SNR=4.1						
WRA				LR		LR	18 35 03.5
	comp=Z,97nm,20.0s,baz=3.0,slow=41						
ASAR	**Alice Springs**	**18.87**	**162**	P		**Pn**	**18 28 41.1 -1.2**
	0.3nm,0.3s,baz=338,slow=9.5,SNR=61						
ASAR				S		**S**	**18 32 13.5 -0.8**
	0.5nm,0.9s,baz=347,slow=22,SNR=3.3 3.8nm,0.6s						
STKA	**Stephens Creek**	**29.12**	**155**	P		**P**	**18 30 22.6 +0.7**
	0.7nm,0.5s,baz=350,slow=16,SNR=3.1 0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**37.19**	**311**	LR		LR	18 50 25.3
	comp=Z,18nm,18.1s,baz=115,slow=42						
KSRS	**Korea Array**	**42.87**	**0**	P		**P**	**18 32 21.9 +2.8**
	1.3nm,0.7s,baz=177,slow=8.0,SNR=5.4 1.3nm,0.7s						
MKAR	**Makanchi Array**	**65.90**	**328**	P		**P**	**18 35 07.7 +1.1**
	0.6nm,0.7s,baz=129,slow=6.8,SNR=3.6 0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**69.41**	**335**	P		**P**	**18 35 29.6 +1.1**
	0.3nm,0.4s,baz=129,slow=5.8,SNR=2.3 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**70.22**	**329**	P		**P**	**18 35 34.2 +0.7**
	0.5nm,0.8s,baz=128,slow=4.7,SNR=6.9 0.5nm,0.8s						

*IDC **18** 18:29:19.0±3.5, 29°.86S×179°.47W, h356km±32km, mb3.7/10, mbtmp4.4/12, Error ellipse: s-maj=23.5km s-min=17.2km az=53.0*
*NOU **18** 18:30:20.7, 34°.58S×177°.62E, h254km, ML4.5/8, North of New Zealand*
ISC 18 18:29:19.5±0.5, 30°.04S±0°.05×179°.52W±0°.09, h362km, n113, σ1°62/128, mb3.9/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.59**	**61**	P		**Pn**	**18 30 11.6 +2.3**
RIZ	**Raoul Island**	**1.59**	**61**	P		**Pn**	**18 30 11.1 +1.8**
RIZ				S		**S**	**18 30 50.1 +0.6**
RAO	**Raoul Island**	**1.60**	**61**	S		**S**	**18 30 48.1 -1.4**
	767nm,0.3s,baz=91,slow=23,SNR=9.0						
GRZ	**Great Barrier**	**7.49**	**213**	P		**P**	**18 31 12.1 +3.2**
MXZ	**Matakaoa Point**	**7.72**	**193**	P		**P**	**18 31 11.4 -0.1**
MXZ				S		**S**	**18 32 40.0 -1.0**
MXZ	**Matakaoa Point**	**7.72**	**193**	P		**P**	**18 31 14.6 +3.1**
OUZ	**Omahuta**	**7.77**	**227**	P		P	18 31 17.0 +4.8
OUZ	**Omahuta**	**7.77**	**227**	P		P	18 31 17.2 +5.1
KUZ	**Kuaotunu**	**7.79**	**210**	P		**P**	**18 31 16.7 +4.4**
WIZ	**White Island**	**7.96**	**199**	P		**Pn**	**18 31 11.2 -1.9**
HAZ	**Te Kaha**	**8.02**	**196**	P		**Pn**	**18 31 14.6 +0.7**
HAZ				S		**S**	**18 32 49.5 +2.1**
ABAZ	**Army Bay**	**8.07**	**214**	P		P	18 31 21.9 +5.1
WIAZ	**Waiheke Island**	**8.09**	**212**	P		**P**	**18 31 20.2 +3.2**
MBAZ	**Motutapu North**	**8.18**	**213**	P		**P**	**18 31 21.5 +3.5**
PUZ	**Puketiti**	**8.22**	**192**	P		**Pn**	**18 31 17.2 +0.9**
PUZ				S		**S**	**18 32 49.4 -2.5**
MKAZ	**Moumakai**	**8.33**	**211**	P		**P**	**18 31 23.1 +3.4**
AWAZ	**Awhitu Peninsu**	**8.54**	**213**	P		**P**	**18 31 26.4 +4.4**
KMRZ	**Kaimai**	**8.65**	**205**	P		**P**	**18 31 27.0 +3.7**
URZ	**Urewera**	**8.66**	**198**	P		**Pn**	**18 31 22.0 +0.5**
	29nm,0.3s,baz=350,slow=4.0,SNR=54						
URZ				S		**S**	**18 33 00.7 -0.6**
	135nm,0.4s,baz=342,slow=20,SNR=18						
URZ	**Urewera**	**8.66**	**198**	P		**Pn**	**18 31 20.8 -0.7**
OMRZ	**Omania**	**8.74**	**202**	P		**P**	**18 31 28.0 +3.7**
RAGZ	**Rawiri**	**8.81**	**196**	P		**Pn**	**18 31 24.3 +1.0**
RAGZ				S		**S**	**18 33 02.7 -2.0**
RIGZ	**Rimuhau**	**8.94**	**194**	P		**Pn**	**18 31 23.5 -1.2**
RIGZ				S		**S**	**18 33 04.7 -2.6**
MUGZ	**Murupara**	**8.96**	**199**	P		**P**	**18 31 28.1 +1.4**
MUGZ				S		**S**	**18 33 06.7 -1.1**
RTZ	**Ruatahuna**	**9.03**	**198**	P		**P**	**18 31 28.4 +0.8**
RTZ				S		**S**	**18 33 03.6 -5.9**
SNGZ	**Shannon Statio**	**9.10**	**196**	P		**Pn**	**18 31 25.5 -1.1**
SNGZ				S		**S**	**18 33 08.3 -2.6**
RATZ	**Rangitukua**	**9.63**	**203**	P		**P**	**18 31 35.5 +1.3**
BKZ	**Black Stump Fm**	**9.68**	**199**	P		**Pn**	**18 31 31.2 -2.4**
BKZ	**Black Stump Fm**	**9.68**	**199**	P		**Pn**	**18 31 32.5 -1.1**
MCHZ	**McNeill Hill**	**9.89**	**197**	P		**Pn**	**18 31 35.8 -0.2**
MCHZ				S		**S**	**18 33 24.8 -3.1**
ETVZ	**East Tongariro**	**9.89**	**202**	P		**P**	**18 31 37.6 +0.4**
WTVZ	**West Tongariro**	**9.91**	**203**	P		**P**	**18 31 38.0 +0.6**
NNVZ	**North Ngauruho**	**9.92**	**203**	P		**P**	**18 31 38.3 +0.8**
TWVZ	**Taurewa**	**9.92**	**203**	P		**P**	**18 31 38.1 +0.6**
TWVZ				S		**S**	**18 33 30.0 +1.2**
OTVZ	**Oturere**	**9.93**	**202**	P		**Pn**	**18 31 33.0 -3.6**
OTVZ				S		**S**	**18 33 29.3 +0.2**
SNVZ	**South Ngauruho**	**9.96**	**202**	P		**P**	**18 31 38.3 +0.3**
NGZ	**Ngauruhoe**	**9.96**	**202**	P		**P**	**18 31 39.3 +1.3**
COVZ	**Chateau Observ**	**10.00**	**203**	P		**P**	**18 31 40.3 +1.9**
FWVZ	**Far West T-bar**	**10.05**	**202**	P		**P**	**18 31 39.3 +0.3**
MAVZ	**Matarangi**	**10.06**	**202**	P		**P**	**18 31 39.7 +0.4**
WHVZ	**Whangaehu Hut**	**10.06**	**202**	P		**P**	**18 31 39.4 +0.2**
TRVZ	**Turoa**	**10.09**	**202**	P		**P**	**18 31 40.8 +1.3**
WNVZ	**Wahianoa**	**10.10**	**202**	P		**Pn**	**18 31 37.6 -1.0**
MOVZ	**Moawhango**	**10.12**	**201**	P		**Pn**	**18 31 39.4 +0.6**
PKVZ	**Pokaka**	**10.15**	**203**	P		**P**	**18 31 40.2 +0.2**
KRHZ	**Kereru**	**10.16**	**198**	P		**Pn**	**18 31 39.0 -0.2**
KAHZ	**Kahuranaki**	**10.17**	**196**	P		**Pn**	**18 31 39.3 -0.1**
MTVZ	**Mangateitei**	**10.20**	**203**	P		**P**	**18 31 41.4 +0.9**
VRZ	**Vera Road**	**10.22**	**206**	P		**P**	**18 31 42.4 +1.8**
PXZ	**Pawanui**	**10.40**	**196**	P		**Pn**	**18 31 41.5 -0.5**
WPHZ	**Waipukurau**	**10.54**	**197**	P		**P**	**18 31 45.6 +1.4**
NEZ	**North Egmont**	**10.60**	**208**	P		P	18 31 50.4 +5.4
TSZ	**Takapari Road**	**10.66**	**199**	P		**Pn**	**18 31 43.9 -1.2**
PRHZ	**Porangahau**	**10.68**	**196**	P		**Pn**	**18 31 43.1 -2.2**
DVHZ	**Dannevirke**	**10.83**	**198**	P		**Pn**	**18 31 45.6 -1.5**
ANWZ	**Angora Road**	**10.90**	**196**	P		**P**	**18 31 48.9 +0.7**
POWZ	**Post Office Ro**	**11.03**	**199**	P		**Pn**	**18 31 49.7 +0.3**
PRWZ	**Pori Road**	**11.12**	**198**	P		**P**	**18 31 51.6 +0.9**
BFZ	**Birch Farm**	**11.17**	**197**	P		**Pn**	**18 31 49.6 -1.5**
BFZ	**Birch Farm**	**11.17**	**197**	P		**Pn**	**18 31 49.7 -1.4**
MRZ	**Mangatainoka R**	**11.33**	**199**	P		**P**	**18 31 50.7 -2.2**
TIWZ	**Tintock**	**11.35**	**198**	P		**P**	**18 31 53.4 +0.1**
CPWZ	**Castlepoint**	**11.39**	**197**	P		**Pn**	**18 31 54.5 +0.8**
HOWZ	**Holdsworth Sta**	**11.56**	**199**	P		**P**	**18 31 54.8 -0.8**
OGWZ	**Otaki Gorge**	**11.59**	**200**	P		**P**	**18 31 54.8 -1.1**
TMWZ	**Te Maipa**	**11.66**	**197**	P		**Pn**	**18 31 57.3 +0.4**
KIW	**Kapiti Island**	**11.71**	**201**	P		**P**	**18 31 56.3 -1.0**
MTW	**Mount Morrison**	**11.81**	**199**	P		**P**	**18 31 58.9 +0.5**
TRWZ	**Traveller**	**11.98**	**198**	P		**Pn**	**18 32 01.3 +0.6**
DUWZ	**D'Urville Isla**	**11.99**	**205**	P		**P**	**18 32 00.0 -0.3**
PAWZ	**Paruwai Farm**	**12.04**	**199**	P		**P**	**18 32 00.7 -0.2**
MSWZ	**Moikau Station**	**12.12**	**199**	P		**P**	**18 32 01.5 -0.2**
SNZO	**South Karori**	**12.19**	**201**	P		**P**	**18 32 02.5 +0.1**
QRZ	**Quartz Range**	**12.56**	**209**	P		**Pn**	**18 32 08.0 +0.5**
KHZ	**Kahutara**	**13.56**	**202**	P		**Pn**	**18 32 19.6 +0.5**
DZM	**Mont Dzumac**	**14.89**	**299**	P		**Pn**	**18 32 35.1 +0.2**
	2.9nm,0.5s,baz=135,slow=10,SNR=8.5						
RPZ	**Rata Peaks**	**15.58**	**206**	P		**P**	**18 32 41.1 +1.4**
	13nm,0.7s,baz=117,slow=2.3,SNR=5.1						
RPZ				S		**S**	**18 35 24.9 -0.7**
	8.3nm,0.5s,baz=324,slow=23,SNR=6.0						
STKA	**Stephens Creek**	**33.28**	**257**	P		**P**	**18 35 26.1 +1.6**
	3.1nm,0.4s,baz=97,slow=11,SNR=14 3.1nm,0.4s						
ASAR	**Alice Springs**	**41.82**	**267**	P		**P**	**18 36 35.2 -0.2**
	2.2nm,0.5s,baz=103,slow=6.7,SNR=81						
ASAR				PcP		**PcP**	**18 38 23.1 -0.7**
	0.4nm,0.7s,baz=98,slow=5.2,SNR=1.9						
ASAR				S		**S**	**18 42 23.9 -1.6**
	0.7nm,0.9s,baz=108,slow=16,SNR=5.0 2.2nm,0.5s						
WRA	**Warramunga Arr**	**42.77**	**273**	P		**P**	**18 36 42.6 -0.4**
	3.1nm,0.5s,baz=110,slow=7.9,SNR=22						
WRA				S		**S**	**18 42 35.6 -3.9**
	1.6nm,0.8s,baz=111,slow=13,SNR=4.5 3.1nm,0.5s						
QSPA	**South Pole Qui**	**60.07**	**180**	P		**P**	**18 38 51.0 +1.7**
	2.8nm,0.7s,baz=24,slow=0.6,SNR=20 2.8nm,0.7s						
MJAR	**Matsushiro Arr**	**77.20**	**326**	P		**P**	**18 40 33.6 -0.7**
	1.7nm,0.8s,baz=141,slow=5.7,SNR=4.6 1.7nm,0.8s						
ASAJ	**Asahikawa**	**81.52**	**333**	P		**P**	**18 40 57.7 +0.6**
	4.2nm,0.9s,baz=180,slow=12,SNR=1.6 4.2nm,0.9s						
PETK	**Petropavlovsk-**	**85.14**	**346**	P		**P**	**18 41 14.8 -0.4**
	6.

*IDC **18** 18:39:22.3±1.3, 4°60'S×152°91'E, h0km, mb3.9/6, mbtmp4.0/8, ML1.4/1, MS3.0/3, Error ellipse: s-maj=34.6km s-min=23.4km az=105.0*

ISC 18 18:39:27.6±1.0, 4°6'S±0°1×152°9'E±0°1, h35km, n10, σ0°98/10, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.43**	**230**	Pn	**Pn**	**18 41 12.6**	**-1.0**
	0.3nm,0.3s,baz=46,slow=15,SNR=1.9						
PMG				Sn	**Sn**	**18 42 37.9**	**+1.2**
	4.1nm,0.3s,baz=65,slow=19,SNR=10						
PMG				LR	LR	18 44 14.8	
	comp=Z,70nm,19.6s,baz=336,slow=39						
	4.1nm,0.7s						
HNR	**Honiara**	**8.44**	**125**	Pn	**Pn**	**18 41 28.0**	**+0.6**
	24nm,0.5s,baz=352,slow=18,SNR=2.0						
HNR				LR	LR	18 44 47.0	
	comp=Z,91nm,20.6s,baz=238,slow=38						
WRA	**Warramunga Arr**	**23.64**	**228**	P	**P**	**18 44 35.9**	**-0.1**
	6.3nm,0.6s,baz=53,slow=10.0,SNR=81						
	6.3nm,0.6s						
ASAR	**Alice Springs**	**26.35**	**222**	P	**P**	**18 45 00.4**	**-0.2**
	1.5nm,0.6s,baz=56,slow=9.1,SNR=30						
	1.5nm,0.6s						
STKA	**Stephens Creek**	**29.11**	**200**	P	**P**	**18 45 24.7**	**-0.5**
	1.8nm,0.7s,baz=21,slow=10,SNR=4.2						
	1.8nm,0.7s						
BATI	**Baumata**	**29.53**	**258**	LR	LR	18 59 38.7	
	comp=Z,61nm,18.9s,baz=220,slow=41						
CMAR	**Chiang Mai Arr**	**57.92**	**295**	P	**P**	**18 49 18.5**	**+1.7**
	0.2nm,0.5s,baz=112,slow=6.0,SNR=2.6						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**80.29**	**319**	P	**P**	**18 51 34.5**	**-0.6**
	0.3nm,0.5s,baz=111,slow=5.2,SNR=5.4						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**89.19**	**323**	P	**P**	**18 52 19.4**	**-0.3**
	1.0nm,0.6s,baz=116,slow=5.6,SNR=6.2						
	1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.38**	**288**	PKPbc	**PKPbc**	**18 59 15.8**	**-0.6**
	1.4nm,0.8s,baz=63,slow=2.6,SNR=8.9						

*IDC **18** 19:18:04.4±0.7, 1°37'S×150°04'E, h0km, mb4.2/18, mbtmp4.2/18, MS3.7/13, Error ellipse: s-maj=29.3km s-min=15.1km az=99.0*

*NEIC **18** 19:18:06.8±2.0, 1°27'S±0°10×149°73'E±0°06, h10km±1km, mb4.6/27, Error ellipse: s-maj=18.7km s-min=4.5km az=209.0*

ISC 18 19:18:10.2±0.5, 1°39'S±0°07×149°75'E±0°08, h36km, n78, σ1°29/58, mb4.5/41, MS3.7/9, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MANU	**Manus Island**	**2.47**	**255**	Pn	**Pn**	**19 18 48.0**	**+0.1**
RABL	**Rabaul**	**3.68**	**139**	Pn	**Pn**	**19 19 05.5**	**+0.9**
PMG	**Port Moresby**	**8.37**	**198**	Pn	Pn	19 20 15.7	+6.7
	0.4nm,0.3s,baz=19,slow=13,SNR=2.1						
PMG				LR	LR	19 23 36.3	
	comp=Z,578nm,18.7s,baz=33,slow=39						
JAY	**Jayapura**	**9.11**	**263**	LR	LR	19 23 45.5	
	comp=Z,460nm,19.8s,baz=45,slow=36						
HNR	**Honiara**	**12.91**	**129**	LR	LR	19 26 23.9	
	comp=Z,271nm,18.2s,baz=286,slow=39						
COEN	**Coen**	**14.08**	**207**	P	**P**	**19 21 34.8**	**+0.4**
GUMO	**Guam**	**15.65**	**342**	LR	LR	19 26 22.7	
	comp=Z,54nm,19.4s,baz=102,slow=32						
CTA	**Charters Tower**	**18.90**	**190**	LR	LR	19 29 19.4	
	comp=Z,11nm,20.3s,baz=330,slow=36						
MTN	**Manton Dam**	**21.68**	**237**	P	**P**	**19 22 57.1**	**-0.8**
WB0	**Warramunga Arr**	**23.66**	**218**	P	**P**	**19 23 17.6**	**-0.8**
WB0				IAmb	IAmb	19 23 27.7	
	comp=Z,13nm,0.9s						
WR0	**Warramunga Arr**	**23.71**	**218**	P	**P**	**19 23 19.0**	**0.0**
WR0				IAmb	IAmb	19 23 21.8	
	comp=Z,14nm,1.1s						
WRAB	**Tennant Creek**	**23.81**	**218**	P	**P**	**19 23 20.3**	**+0.5**
WRAB				IAmb	IAmb	19 23 29.2	
	comp=Z,14nm,0.8s						
WB2	**Warramunga Arr**	**23.81**	**218**	P	**P**	**19 23 20.6**	**+0.6**
WB2				IAmb	IAmb	19 23 29.3	
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**23.82**	**218**	P	**P**	**19 23 19.0**	**-1.0**
WRA	**Warramunga Arr**	**23.82**	**218**	P	**P**	**19 23 20.7**	**+0.7**
	comp=Z,3.3nm,0.3s,baz=40,slow=10,SNR=103						
WRA				PcP	**PcP**	**19 27 03.4**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=36,slow=2.3,SNR=4.9						
WRA				LR	LR	19 32 59.5	
	comp=Z,203nm,18.8s,baz=346,slow=37						
	comp=Z,3.3nm,0.3s						
KNRA	**Kununurra**	**25.10**	**234**	P	**P**	**19 23 31.0**	**-0.7**
KNRA				IAmb	IAmb	19 23 33.4	
	comp=Z,9.2nm,0.8s						
DAV	**Davao City (W)**	**25.54**	**290**	LR	LR	19 31 56.5	
	comp=Z,39nm,20.5s,baz=139,slow=32						
H11S3	**WAKE ISLAND Hy 25.84**		**39**	T	T	19 50 44.2	
	baz=221,slow=75,SNR=4876						
H11S2	**WAKE ISLAND Hy 25.85**		**39**	T	T	19 50 41.0	
	baz=221,slow=75,SNR=3533						
H11S1	**WAKE ISLAND Hy 25.86**		**39**	T	T	19 50 41.6	
	baz=221,slow=75,SNR=3204						
DZM	**Mont Dzumac**	**26.20**	**143**	P	**P**	**19 23 40.9**	**-0.9**
H11N1	**WAKE ISLAND Hy 26.88**		**38**	T	T	19 51 56.3	
	baz=220,slow=76,SNR=1117						
H11N3	**WAKE ISLAND Hy 26.89**		**38**	T	T	19 51 54.4	
	baz=220,slow=76,SNR=3227						
H11N2	**WAKE ISLAND Hy 26.90**		**38**	T	T	19 51 54.6	
	baz=220,slow=76,SNR=1428						
AS31	**Alice Springs**	**26.95**	**214**	P	**P**	**19 23 47.3**	**-1.2**
ASAR	**Alice Springs**	**26.95**	**214**	P	**P**	**19 23 46.9**	**-1.6**
ASAR	**Alice Springs**	**26.95**	**214**	P	**P**	**19 23 49.0**	**+0.5**
	comp=Z,4.1nm,1.0s,baz=46,slow=8.4,SNR=31						
ASAR				PcP	**PcP**	**19 27 10.7**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=28,slow=2.3,SNR=4.1						
ASAR				LR	LR	19 35 01.0	
	comp=Z,156nm,21.4s,baz=48,slow=38						
	comp=Z,4.1nm,1.0s						
FITZ	**Fitzroy Crossi**	**28.92**	**233**	P	**P**	**19 24 06.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**28.92**	**233**	LR	LR	19 36 39.1	
	comp=Z,412nm,18.2s,baz=55,slow=38						
KAPI	**Kappang**	**30.16**	**262**	LR	LR	19 38 17.6	
	comp=Z,49nm,18.4s,baz=73,slow=40						
STKA	**Stephens Creek**	**31.29**	**193**	P	**P**	**19 24 26.1**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=0.0,slow=11,SNR=4.5						
STKA				LR	LR	19 37 43.1	
	comp=Z,191nm,18.4s,baz=22,slow=38						
	comp=Z,0.8nm,0.5s						
BBOO	**Buckleboo**	**33.81**	**201**	P	**P**	**19 24 47.9**	**-1.0**
KKM	**Kota Kinabalu**	**34.29**	**283**	P	**P**	**19 24 52.1**	**-1.4**
JSG	**Sagara**	**37.48**	**344**	P	**P**	**19 25 18.6**	**-1.7**
JNU	**Nakatsue**	**38.67**	**334**	P	**P**	**19 25 29.2**	**-1.3**
JNU				IAmb	IAmb	19 25 40.7	
	comp=Z,17nm,1.1s						
MJAR	**Matsushiro Arr**	**39.24**	**345**	P	**P**	**19 25 34.0**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=170,slow=9.2,SNR=2.8						
	comp=Z,1.8nm,0.9s						
LEM	**Lembang**	**42.35**	**261**	LR	LR	19 45 41.0	
	comp=Z,147nm,20.2s,baz=351,slow=39						
KSRS	**Korea Array**	**43.62**	**335**	P	**P**	**19 26 10.4**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=152,slow=7.9,SNR=5.8						
	comp=Z,1.4nm,0.8s						
NWAO	**Narrogin (SRO)**	**43.78**	**221**	LR	LR	19 45 58.8	
	comp=Z,130nm,20.3s,baz=275,slow=38						
NJ2	**Nanjing**	**44.30**	**321**	*e*P	**P**	**19 26 17.8**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
RPZ	**Rata Peaks**	**46.22**	**159**	LR	LR	19 45 11.5	
	comp=Z,82nm,18.1s,baz=130,slow=35						
USRK	**Ussuriysk Ar.**	**48.08**	**343**	P	**P**	**19 26 46.7**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=126,slow=7.4,SNR=3.1						
	comp=Z,2.6nm,0.8s						
TIA	**Tai'an**	**48.18**	**324**	P	**P**	**19 26 50.5**	**+3.3**
TIA				sP	**pP**	**19 26 54.9**	**-2.5**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MDJ	**Mudanjiang**	**49.20**	**341**	P	**P**	**19 26 55.5**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.3s						
LYN	**LuoYang**	**49.99**	**319**	*e*P	**P**	**19 27 04.1**	**+3.1**
LYN				pmax	pmax		
	comp=Z,17nm,0.6s						
BNX	**BinXian**	**50.92**	**340**	⇑P	**P**	**19 27 08.5**	**+0.7**
BNX				pmax	pmax		
	comp=Z,15nm,0.8s						
XAN	**Xi'an**	**52.07**	**316**	*e*P	**P**	**19 27 18.1**	**+1.4**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
CMAR	**Chiang Mai Arr**	**53.70**	**294**		**P**	**19 27 29.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**53.70**	**294**	P	**P**	**19 27 31.2**	**+2.2**
	comp=Z,1.5nm,0.8s,baz=109,slow=5.5,SNR=22						
	comp=Z,1.5nm,0.8s						
PZH	**PanZhiHua**	**53.94**	**305**	P	**P**	**19 27 32.9**	**+2.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
HHC	**Hu-ho-hao-te**	**54.52**	**325**	*e*P	**P**	**19 27 37.1**	**+2.4**
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,67nm,5.0s						
PETK	**Petropavlovsk-**	**54.71**	**6**	P	**P**	**19 27 35.5**	**-0.2**
	comp=Z,8.3nm,1.0s,baz=160,slow=6.2,SNR=4.2						
	comp=Z,8.3nm,1.0s						
HEH	**HeiHe**	**54.89**	**343**	*e*P	**P**	**19 27 36.4**	**-0.6**
M13K	**Dall Lake**	**71.45**	**22**	P	**P**	**19 29 27.1**	**+0.4**
MKAR	**Makanchi Array**	**75.77**	**319**	P	**P**	**19 29 53.9**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=91,slow=8.7,SNR=7.8						
	comp=Z,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**76.65**	**327**	P	**P**	**19 29 57.3**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=102,slow=6.2,SNR=7.3						
	comp=Z,1.3nm,0.6s						
E19K	**Redstone River**	**77.89**	**18**	P	**P**	**19 30 05.0**	**+1.0**
MLY	**Manley**	**78.84**	**22**	P	**P**	**19 30 09.4**	**+0.2**
MLY				IAmb	IAmb	19 30 10.3	
	comp=Z,4.2nm,0.8s						
KURK	**Kurchatov**	**79.23**	**322**		**P**	**19 30 11.9**	**+0.3**
KURK				IAmb	IAmb	19 30 39.7	
	comp=Z,3.8nm,0.9s						
KURBB	**Kurchatov Arra**	**79.26**	**322**	P	**P**	**19 30 11.8**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=108,slow=4.9,SNR=12						
	comp=Z,1.7nm,0.8s						
CCB	**Clear Creek Bu**	**79.78**	**23**	P	**P**	**19 30 13.6**	**-0.7**
CCB				IAmb	IAmb	19 30 15.4	
	comp=Z,5.8nm,0.9s						
ILAR	**Eielson Array**	**80.19**	**23**	P	**P**	**19 30 14.4**	**-2.2**
ILAR	**Eielson Array**	**80.19**	**23**	P	**P**	**19 30 15.2**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=249,slow=4.9,SNR=21						
	comp=Z,2.3nm,0.7s						
H24K	**Noodor Dome**	**80.27**	**22**	P	**P**	**19 30 17.1**	**0.0**
J25K	**Salcha River,**	**80.72**	**23**	IAmb	IAmb	19 30 21.1	
	comp=Z,7.0nm,0.8s						
G24K	**Hadweenzic Riv**	**80.80**	**21**	IAmb	IAmb	19 30 40.2	
	comp=Z,8.4nm,1.1s						
F24K	**Squaw Lake**	**81.02**	**20**	IAmb	IAmb	19 30 23.9	
	comp=Z,4.9nm,0.8s						
M27K	**Edge Creek, AK**	**81.34**	**26**	IAmb	IAmb	19 30 29.1	
	comp=Z,8.6nm,1.1s						
NRIK	**Noril'sk**	**81.78**	**342**	P	**P**	**19 30 25.2**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=119,slow=6.4,SNR=6.0						
	comp=Z,2.6nm,0.7s						
K29M	**Barlow Dome**	**83.68**	**25**	IAmb	IAmb	19 30 37.8	
	comp=Z,4.4nm,0.8s						
J30M	**Hart River**	**84.38**	**25**	IAmb	IAmb	19 30 46.9	
	comp=Z,4.0nm,1.0s						
BVAR	**Borovoye Array**	**84.71**	**323**	P	**P**	**19 30 41.4**	**+1.0**
	comp=Z,4.7nm,0.8s,baz=107,slow=5.5,SNR=25						
	comp=Z,4.7nm,0.8s						
MAW	**Mawson**	**87.53**	**203**	P	**P**	**19 30 55.0**	**+1.1**
	comp=Z,3.3nm,0.6s,baz=179,slow=6.3,SNR=2.3						
	comp=Z,3.3nm,0.6s						
QSPA	**South Pole Qui**	**88.55**	**180**	P	**P**	**19 30 59.3**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=17,slow=3.5,SNR=3.7						
	comp=Z,1.7nm,0.8s						
ABKAR	**Akbulak array**	**90.92**	**319**	P	**P**	**19 31 08.9**	**-1.4**
NVAR	**Mina Array Bea**	**92.38**	**52**	P	**P**	**19 31 17.8**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=261,slow=5.6,SNR=6.3						
	comp=Z,0.9nm,0.7s						
PDAR	**Pinedale Array**	**98.79**	**47**	P	**P**	**19 31 44.0**	**-2.7**
	comp=Z,0.3nm,0.7s,baz=232,slow=4.4,SNR=2.2						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**146.29**	**292**	PKPbc	**PKPab**	**19 37 49.1**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=44,slow=3.7,SNR=13						

*NEIC **18** 19:26:50.9±1.3, 19°93S±0°07×177°6W±0°2, h527km±15km, mb4.3/21, Error ellipse: s-maj=26.7km s-min=7.9km az=73.0*

*IDC **18** 19:26:56.2±3.0, 20°18S×177°60W, h599km±38km, mb3.2/9, mbtmp4.2/11, Error ellipse: s-maj=25.5km s-min=16.3km az=174.0*

ISC 18 19:26:51.9±0.6, 20°1S±0°1×177°47W±0°09, h550km, n39, σ1°18/38, mb4.2/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.84**	**298**	P	P	19 28 15.9	-4.7
FUTU	**Fugatoga**	**5.76**	**354**	P	P	19 28 23.8	-4.7
NIUE	**Niue**	**7.18**	**83**	P	**P**	**19 28 39.6**	**-2.1**
DZM	**Mont Dzumac**	**15.15**	**260**	P	**P**	**19 30 05.6**	**+2.5**
	1.8nm,0.4s,baz=296,slow=24,SNR=6.3						
URZ	**Urewera**	**18.73**	**193**	P	**P**	**19 30 36.8**	**+0.5**
	5.0nm,0.3s,baz=356,slow=4.1,SNR=16						
MRZ	**Mangatainoka R**	**21.37**	**195**	P	**P**	**19 30 58.6**	**-1.6**
MRZ				IAmb	IAmb	19 31 02.2	
	comp=Z,14nm,1.0s						
QRZ	**Quartz Range**	**22.39**	**200**	P	**P**	**19 31 10.2**	**+0.9**
TKNZ	**Takaka Hill**	**22.44**	**199**	P	**P**	**19 31 10.5**	**+0.7**
THZ	**Tophouse**	**23.12**	**199**	P	**P**	**19 31 16.4**	**+0.5**
DSZ	**Denniston Nort**	**23.45**	**200**	P	**P**	**19 31 18.3**	**-0.5**
PPT	**Papeete**	**26.50**	**89**	P	**P**	**19 31 49.3**	**+3.2**
	comp=Z,13nm,0.6s,baz=276,slow=13,SNR=2.2						
	comp=Z,13nm,0.6s						
CTAO	**Charters Tower**	**34.03**	**264**	P	**P**	**19 32 51.2**	**+0.3**
CTAO				IAmb	IAmb	19 32 51.2	
	comp=Z,10nm,1.1s						
COEN	**Coen**	**38.06**	**273**	P	**P**	**19 33 24.0**	**-0.1**
COEN				IAmb	IAmb	19 33 25.2	
	comp=Z,8.5nm,0.9s						
STKA	**Stephens Creek**	**38.43**	**244**	P	**P**	**19 33 27.2**	**+0.3**
STKA	**Stephens Creek**	**38.43**	**244**	P	**P**	**19 33 26.9**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=105,slow=13,SNR=3.9						
	comp=Z,1.5nm,0.8s						
BBOO	**Buckleboo**	**43.19**	**243**	P	**P**	**19 34 05.1**	**+0.3**
WR0	**Warramunga Arr**	**44.97**	**262**	P	**P**	**19 34 18.1**	**-0.6**
AS31	**Alice Springs**	**45.10**	**256**		**P**	**19 34 19.0**	**-0.7**
ASAR	**Alice Springs**	**45.11**	**256**	P	**P**	**19 34 18.7**	**-1.0**
ASAR	**Alice Springs**	**45.11**	**256**	P	**P**	**19 34 19.6**	**-0.1**
	comp=Z,5.3nm,0.7s,baz=88,slow=7.5,SNR=128						
ASAR				PcP	**PcP**	**19 35 49.4**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=102,slow=4.1,SNR=2.7						
	comp=Z,5.3nm,0.7s						
WB0	**Warramunga Arr**	**45.13**	**262**	P	**P**	**19 34 19.5**	**-0.5**
WB0				IAmb	IAmb	19 34 20.3	
	comp=Z,5.5nm,0.5s						
WB2	**Warramunga Arr**	**45.15**	**262**		**P**	**19 34 19.0**	**-1.1**
WB2				IAmb	IAmb	19 34 20.6	
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**45.15**	**262**	P	**P**	**19 34 19.6**	**-0.5**
WRAB				IAmb	IAmb	19 34 20.0	
	comp=Z,4.1nm,0.8s						
WRA	**Warramunga Arr**	**45.16**	**261**	P	**P**	**19 34 19.6**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=97,slow=7.7,SNR=81						
	comp=Z,3.2nm,0.5s						
FORT	**Forrest**	**49.93**	**246**	P	**P**	**19 34 55.0**	**-0.6**
KNRA	**Kununurra**	**51.19**	**266**	P	**P**	**19 35 04.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**53.58**	**262**	P	**P**	**19 35 22.4**	**+0.2**
PSA00	**Pilbara Seismi**	**58.25**	**257**	P	**P**	**19 35 54.3**	**-0.1**
PSA00				IAmb	IAmb	19 35 57.8	
	comp=Z,7.0nm,1.0s						
MBWA	**Marble Bar**	**58.44**	**257**	P	**P**	**19 35 55.2**	**-0.5**
MBWA				IAmb	IAmb	19 36 05.1	
	comp=Z,13nm,1.1s						
QSPA	**South Pole Qui**	**70.00**	**180**	P	**P**	**19 37 07.2**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=117,slow=2.2,SNR=2.3						
	comp=Z,0.6nm,0.3s						
MJAR	**Matsushiro Arr**	**70.16**	**323**	P	**P**	**19 37 09.1**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=162,slow=5.6,SNR=9.3						
	comp=Z,1.4nm,0.6s						
MAJO	**Matsushiro**	**70.16**	**323**	P	**P**	**19 37 09.6**	**0.0**
MAJO				IAmb	IAmb	19 37 26.7	
	comp=Z,7.7nm,1.1s						
SSLB	**Suanglung**	**74.16**	**303**	P	**P**	**19 37 31.6**	**-1.4**
SSLB				IAmb	IAmb	19 37 32.8	
	comp=Z,5.0nm,0.5s						
TPUB	**Ta-pu**	**74.17**	**303**	P	**P**	**19 37 32.1**	**-1.0**
TPUB				IAmb	IAmb	19 37 32.5	
	comp=Z,13nm,0.7s						
TXAR	**Lajitas Array**	**86.40**	**57**	P	**P**	**19 38 37.9**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=201,slow=6.7,SNR=4.3						
	comp=Z,0.3nm,0.5s						
PDAR	**Pinedale Array**	**88.31**	**43**	P	**P**	**19 38 45.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=280,slow=2.7,SNR=4.1						
	comp=Z,0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**90.44**	**289**	P	**P**	**19 38 56.5**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=125,slow=2.5,SNR=6.9						
	comp=Z,0.7nm,0.8s						
AKASG	**Malin Array Be**	**142.88**	**332**	PKP	**PKPdf**	**19 45 20.0**	**-2.9**
	comp=Z,0.6nm,0.4s,baz=44,slow=4.1,SNR=7.1						
BRTR	**Keskin Array B**	**146.91**	**313**	PKPbc	**PKPdf**	**19 45 32.0**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=72,slow=2.3,SNR=2.7						

*IDC **18** 19:35:49.7±1.8, 25°39S×179°84E, h502km±23km, mb3.3/7, mbtmp4.2/10, Error ellipse: s-maj=37.5km s-min=14.4km az=173.0*

*NEIC **18** 19:35:51.4±0.6, 25°5S±0°2×179°8E±0°1, h518km±6km, mb4.1/17, Error ellipse: s-maj=22.7km s-min=17.5km az=154.0*

ISC 18 19:35:49.0±0.6, 25°30S±0°08×179°82E±0°10, h493km, n46, σ1°23/44, mb3.9/16, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.42**	**153**	P	**P**	**19 37 13.6**	**+3.2**
RAO	**Raoul Island**	**4.42**	**153**	P	**P**	**19 37 09.6**	**-0.8**
	231nm,0.3s,baz=257,slow=18,SNR=1.5						
RAO				S	**S**	**19 38 17.6**	**+0.7**
	220nm,0.3s,baz=18,slow=20,SNR=1.1						
MSVF	**Nonsavu**	**7.71**	**347**	P	**P**	**19 37 42.3**	**-0.2**
PINNC	**Pines Island,**	**11.62**	**281**	P	**P**	**19 38 26.8**	**+3.1**
DZM	**Mont Dzumac**	**12.67**	**282**	P	**P**	**19 38 37.6**	**+2.7**
DZM	**Mont Dzumac**	**12.67**	**282**	P	**P**	**19 38 37.1**	**+2.3**
	12nm,0.9s,baz=75,slow=18,SNR=9.0						
URZ	**Urewera**	**13.12**	**189**	P	**P**	**19 38 40.1**	**+0.8**
	2.8nm,0.3s,baz=55,slow=19,SNR=2.0						
URZ				S	**S**	**19 40 59.4**	**-0.3**
	17nm,0.6s,baz=299,slow=19,SNR=12						
BFZ	**Birch Farm**	**15.62**	**190**	P	**P**	**19 39 04.7**	**-0.9**
PLWZ	**Palliser**	**16.66**	**192**	P	**P**	**19 39 16.1**	**-0.5**
TKNZ	**Takaka Hill**	**16.70**	**198**	P	**P**	**19 39 16.5**	**-0.5**
NNZ	**Nelson**	**16.75**	**197**	P	**P**	**19 39 16.7**	**-0.8**
THZ	**Tophouse**	**17.39**	**198**	P	**P**	**19 39 23.6**	**-0.2**
EIDS	**Eidsvold**	**25.95**	**264**	P	**P**	**19 40 41.2**	**-0.2**
EIDS				IAmb	IAmb	19 40 49.0	
	comp=Z,8.3nm,1.1s						
CTAO	**Charters Tower**	**31.34**	**273**	P	**P**	**19 41 28.4**	**-0.1**
CTAO				IAmb	IAmb	19 41 31.3	
	comp=Z,7.0nm,0.8s						
COEN	**Coen**	**36.20**	**281**	P	**P**	**19 42 10.5**	**+0.9**
COEN				IAmb	IAmb	19 42 10.5	
	comp=Z,4.5nm,1.0s						
BBOO	**Buckleboo**	**38.76**	**248**	P	**P**	**19 42 28.4**	**-2.0**
BBOO				IAmb	IAmb	19 42 34.6	
	comp=Z,3.9nm,0.9s						
AS31	**Alice Springs**	**41.66**	**262**	P	**P**	**19 42 53.8**	**-0.1**
ASAR	**Alice Springs**	**41.66**	**262**	P	**P**	**19 42 54.0**	**+0.1**
ASAR	**Alice Springs**	**41.66**	**262**	P	**P**	**19 42 54.1**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=89,slow=6.9,SNR=40						
	comp=Z,0.9nm,0.4s						
WR0	**Warramunga Arr**	**41.98**	**268**	P	**P**	**19 42 55.9**	**-0.5**
WB2	**Warramunga Arr**	**42.16**	**268**	P	**P**	**19 42 57.2**	**-0.5**
WB2				IAmb	IAmb	19 42 58.0	
	comp=Z,2.9nm,0.5s						
WRAB	**Tennant Creek**	**42.16**	**268**	P	**P**	**19 42 57.4**	**-0.4**
WRAB				IAmb	IAmb	19 42 58.4	
	comp=Z,3.6nm,0.8s						
WB0	**Warramunga Arr**	**42.16**	**268**	P	**P**	**19 42 57.3**	**-0.6**
WB0				IAmb	IAmb	19 42 58.4	
	comp=Z,4.4nm,0.8s						
WRA	**Warramunga Arr**	**42.17**	**268**	P	**P**	**19 42 57.3**	**-0.5**
WRA	**Warramunga Arr**	**42.17**	**268**	P	**P**	**19 42 57.7**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=100,slow=7.5,SNR=33						
	comp=Z,2.6nm,0.6s						
KNRA	**Kununurra**	**48.53**	**271**	P	**P**	**19 43 46.3**	**-0.5**
KNRA				IAmb	IAmb	19 43 49.8	
	comp=Z,12nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.57**	**267**	P	**P**	**19 44 01.8**	**0.0**
	comp=Z,2.2nm,0.5s,baz=99,slow=7.5,SNR=17						
	comp=Z,2.2nm,0.5s						
O02D	**Mt. Diablo Mer**	**84.23**	**40**		**P**	**19 47 29.6**	**+1.5**
O02D				IAmb	IAmb	19 47 31.4	
	comp=Z,4.9nm,0.9s						
NVAR	**Mina Array Bea**	**85.87**	**44**	P	**P**	**19 47 36.7**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=219,slow=8.4,SNR=10						
	comp=Z,1.6nm,0.7s						
TPNV	**Topopah Spring**	**86.32**	**46**		**P**	**19 47 38.2**	**-0.2**
PINE	**Pine Mountain**	**87.59**	**39**		**P**

2.5nm,0.9s

*IDC **18** 19:42:12.4±0.9,3.′60S×142.′53E,h0km,mb3.7/8, mbtmp3.9/11,ML2.0/2,Error ellipse: s-maj=24.6km s-min=17.0km az=76.0*

ISC 18 19:42:16.2±0.7,3.′62S±0.′09×142.′55E±0.′10,h26km,n13, σ0.′79/15,mb3.6/8,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.15**	**301**	Pn	**Pn**	**19 42 49.8**	**-0.6**
	3.5nm,0.3s,baz=162,slow=6.7,SNR=7.7						
JAY				Sn	**Sn**	**19 43 16.8**	**+0.6**
	3.8nm,0.3s,baz=323,slow=16,SNR=3.8						
PMG	**Port Moresby**	**7.35**	**142**	Pn	**Pn**	**19 44 02.8**	**+1.0**
	0.4nm,0.3s,baz=297,slow=18,SNR=1.9						
PMG				Sn	**Sn**	**19 45 24.1**	**-0.4**
	0.2nm,0.3s,baz=160,slow=20,SNR=1.6						
	5.1nm,0.5s						
WRA	**Warramunga Arr**	**18.09**	**206**	P	**Pn**	**19 46 25.5**	**-0.4**
	5.2nm,0.7s,baz=26,slow=13,SNR=18						
HNR	**Honiara**	**18.22**	**109**	P	**Pn**	**19 46 26.7**	**-0.8**
	20nm,0.2s,baz=203,slow=15,SNR=1.9						
ASAR	**Alice Springs**	**21.61**	**202**	P	**P**	**19 47 05.0**	**+0.6**
	0.8nm,0.7s,baz=29,slow=11,SNR=4.3						
	0.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.93**	**228**	P	**P**	**19 47 07.2**	**-0.8**
	3.7nm,0.6s,baz=46,slow=10,SNR=9.5						
	3.7nm,0.6s						
STKA	**Stephens Creek**	**28.12**	**182**	P	**P**	**19 48 06.5**	**+0.3**
	1.4nm,0.9s,baz=3.8,slow=15,SNR=2.3						
	1.4nm,0.9s						
MJAR	**Matsushiro Arr**	**40.16**	**355**	P	**P**	**19 49 51.4**	**+1.2**
	0.3nm,0.3s,baz=142,slow=12,SNR=7.3						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**72.87**	**321**	P	**P**	**19 53 43.4**	**+0.4**
	0.4nm,0.6s,baz=93,slow=9.4,SNR=6.3						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**74.67**	**329**	P	**P**	**19 53 52.2**	**-1.2**
	0.4nm,0.5s,baz=108,slow=4.7,SNR=1.8						
	0.4nm,0.5s						
BVAR	**Borovoye Array**	**82.26**	**325**	P	**P**	**19 54 35.3**	**0.0**
	1.0nm,0.7s,baz=98,slow=11,SNR=5.7						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**85.09**	**24**	P	**P**	**19 54 48.6**	**-1.0**
	0.2nm,0.7s,baz=261,slow=4.7,SNR=2.1						
	0.2nm,0.7s						
DBIC	**Dimbokro**	**147.40**	**277**	PKPbc	**PKPbc**	**20 01 58.5**	**-0.3**
	1.9nm,0.5s,baz=100,slow=3.0,SNR=6.3						

*IDC **18** 19:43:50.4±1.3,3.′51S×149.′78E,h0km,mb3.9/12, mbtmp3.9/12,MS3.8/1,Error ellipse: s-maj=42.4km s-min=18.9km az=110.0*

ISC 18 19:43:54.0±1.3,3.′5S±0.′2×149.′7E±0.′3,h20km,n14, σ1.9/02/13,mb3.7/12,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**9.05**	**276**	LR	LR	19 48 59.0	
	comp=Z,537nm,20.4s,baz=48,slow=34						
WRA	**Warramunga Arr**	**22.18**	**221**	P	**P**	**19 48 47.3**	**-1.7**
	3.9nm,0.9s,baz=43,slow=10,SNR=11						
	3.9nm,0.9s						
ASAR	**Alice Springs**	**25.21**	**216**	P	**P**	**19 49 17.6**	**-1.0**
	1.7nm,0.8s,baz=53,slow=8.6,SNR=8.3						
	1.7nm,0.8s						
BATI	**Baumata**	**26.70**	**254**	P	**P**	**19 49 32.3**	**+0.2**
	11nm,0.8s,baz=100,slow=6.1,SNR=1.9						
	11nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.68**	**237**	P	**P**	**19 49 41.6**	**+0.7**
	7.1nm,0.6s,baz=56,slow=11,SNR=15						
	7.1nm,0.6s						
STKA	**Stephens Creek**	**29.24**	**194**	P	**P**	**19 49 55.8**	**+1.1**
	0.9nm,0.8s,baz=18,slow=13,SNR=1.5						
	0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**54.55**	**295**	P	**P**	**19 53 20.8**	**-0.4**
	0.5nm,0.8s,baz=123,slow=5.9,SNR=7.2						
	0.5nm,0.8s						
SONM	**Songino Array**	**63.62**	**329**	P	**P**	**19 54 25.2**	**+1.5**
	0.1nm,0.3s,baz=114,slow=3.6,SNR=1.1						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**77.34**	**319**	P	**P**	**19 55 47.1**	**-0.3**
	0.2nm,0.7s,baz=134,slow=8.3,SNR=1.3						
	0.2nm,0.7s						
ZALV	**Zalesovo Beam**	**78.39**	**327**	P	**P**	**19 55 52.6**	**-0.4**
	0.4nm,0.5s,baz=108,slow=7.9,SNR=2.0						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**80.89**	**322**	P	**P**	**19 56 07.3**	**+0.6**
	0.2nm,0.3s,baz=116,slow=5.0,SNR=1.7						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**82.14**	**23**	P	**P**	**19 56 12.2**	**-0.9**
	1.1nm,0.8s,baz=245,slow=5.6,SNR=9.5						
	1.1nm,0.8s						
BVAR	**Borovoye Array**	**86.37**	**324**	P	**P**	**19 56 33.9**	**-0.9**
	0.4nm,0.6s,baz=99,slow=4.5,SNR=2.1						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**146.98**	**289**	PKPbc	**PKPbc**	**20 03 36.2**	**-0.1**
	2.3nm,1.0s,baz=59,slow=3.8,SNR=8.3						

*IDC **18** 19:47:39.4±0.7,10.′78S×162.′99E,h0km,mb4.3/19, mbtmp4.4/22,ML2.2/1,MS4.7/22,Error ellipse: s-maj=19.2km s-min=16.1km az=105.0*

*MOS **18** 19:47:41.0±1.1,10.′55S×163.′01E,h12km,mb5.2/23,Error ellipse: s-maj=10.6km s-min=8.7km az=31.6*

*NOU **18** 19:47:42.5,10.′33S×163.′28E,h31km,mb5.0/30,Solomon Islands*

*NEIC **18** 19:47:42.8±2.8,10.′54S±0.′09×163.′09E±0.′07,h14km±2km, mb5.1/114,Mww5.2/29,Error ellipse: s-maj=14.2km s-min=8.2km az=209.0*

*BJI **18** 19:47:42.3,10.′60S×163.′10E,h10km,mb4.7/64,mB5.4/37, Ms5.1/58,Ms7.4.8/59*

*NEIC **18** 19:47:43,10.′55S×163.′12E,h14km*

*NEIC **18** 19:47:43,10.′65S×163.′01E,h14km,Moment Tensor Solution. Duration:2s0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.21; $M_{\theta\theta}$4.64; $M_{\phi\phi}$-4.85; $M_{r\theta}$0.52; $M_{\theta\phi}$5.92; $M_{\phi r}$-1.89; Fault plane solution: $M_0$7.82000×10^{16} NP1:ϕ_s20.02000°, δ82.83000°,λ-168.71000°. NP2:ϕ_s288.59000°, δ78.80000°,λ-7.31000°. Principal axes: T 7.4998, Plg3.0000°, Azm154.0000°; N 0.6429, Plg77.0000°, Azm52.0000°; P -8.1427, Plg13.0000°, Azm245.0000°;*

*GCMT **18** 19:47:44.8±0.2,10.′47S±0.′01×163.′13E±0.′01,h20km±1km, MW5.3/106,Moment Tensor Solution. s79,c119; s106,c185; Duration: 1s1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.23±.02; $M_{\theta\theta}$0.39±.02; $M_{\phi\phi}$-0.61±.02; $M_{r\theta}$0.01±.04; $M_{\theta\phi}$0.90±.02; $M_{\phi r}$0.04±.04; Best double couple: $M_0$1.03400×10^{17} NP1:ϕ_s15.00000°, δ89.00000°, λ178.00000°. NP2:ϕ_s105.00000°, δ88.00000°, λ1.00000°. Principal axes: T 0.9210, Plg2.0000°, Azm330.0000°; N 0.2250, Plg87.0000°, Azm171.0000°; P -1.1460, Plg1.0000°, Azm60.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 19:47:44.0±0.3,10.′70S±0.′05×163.′13E±0.′04,h21km,n311, σ2.9/06/262,mb5.0/116,MS4.8/42,4C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**1.23**	**281**	P	**Pn**	**19 48 03.6**	**-2.3**
LUES	**Luesalemba Tem**	**2.74**	**89**	P	**Pn**	**19 48 22.7**	**-4.0**
ALEG	**Aligegeo Malai**	**3.08**	**309**	P	**Pn**	**19 48 27.7**	**-3.7**
HNR	**Honiara**	**3.38**	**292**		**Pn**	**19 48 34.1**	**-1.4**
HNR				Sn	**Sn**	**19 49 11.8**	**-3.2**
HNR	**Honiara**	**3.38**	**292**	Pn	**Pn**	**19 48 34.1**	**-1.4**
	1μm,0.6s,baz=140,slow=1.0,SNR=34						
HNR				Sn	**Sn**	**19 49 12.7**	**-2.3**
	383nm,0.3s,baz=267,slow=12,SNR=6.0						
HNR	**Honiara**	**3.38**	**292**	P	**Pn**	**19 48 34.7**	**-0.8**
TATA	**Tatamba Isabel**	**4.00**	**305**	P	**Pn**	**19 48 41.4**	**-2.7**
KOUNC	**Koumac, New Ca**	**9.86**	**174**	Pn	**Pn**	**19 50 06.9**	**+2.5**
KOUNC	**Koumac, New Ca**	**9.86**	**174**	P	**Pn**	**19 50 08.8**	**+4.3**
	46nm,1.2s						
LIFNC	**LIFOU**	**10.77**	**159**	P	**Pn**	**19 50 19.9**	**+2.9**
NOUC	**Port Laguerre**	**11.74**	**165**	P	**Pn**	**19 50 31.9**	**+1.7**
DZM	**Mont Dzumac**	**11.74**	**165**	Pn	**Pn**	**19 50 31.4**	**+0.9**
DZM	**Mont Dzumac**	**11.74**	**165**	*e*P	**Pn**	**19 50 32.0**	**+1.6**
	182nm,1.4s						
DZM				*e*LR	LR	19 53 15.1	
	17μm,25.7s						
DZM	**Mont Dzumac**	**11.74**	**165**	Pn	**Pn**	**19 50 28.7**	**-1.7**
	4.5nm,0.3s,baz=309,slow=18,SNR=27						
DZM				Sn	**Sn**	**19 52 38.8**	**-2.2**
	0.5nm,0.3s,baz=306,slow=22,SNR=0.7						
DZM	**Mont Dzumac**	**11.74**	**165**	P	**Pn**	**19 50 31.1**	**+0.7**
YATNC	**Mamie plateau,**	**11.85**	**163**	P	**Pn**	**19 50 32.9**	**+1.0**
ONTNC	**Ouen Toro**	**11.97**	**165**	Pn	**Pn**	**19 50 35.4**	**+1.9**
OUENC	**Ouen Island, N**	**12.18**	**164**	P	**Pn**	**19 50 38.6**	**+2.3**
	0.2nm,1.6s						
PINNC	**Pines Island,**	**12.54**	**161**	Pn	**Pn**	**19 50 42.8**	**+1.5**
RABL	**Rabaul**	**12.65**	**300**	Pn	**Pn**	**19 50 43.2**	**+0.4**
PMG	**Port Moresby**	**15.78**	**273**	Pn	**Pn**	**19 51 23.0**	**-2.0**
	0.4nm,0.3s,baz=86,slow=12,SNR=1.2						
PMG				LR	LR	19 57 00.7	
	comp=Z,8μm,21.0s,baz=108,slow=36						
	2.7nm,0.4s						
MSVF	**Nonsavu**	**16.06**	**117**	Pn	**Pn**	**19 51 29.6**	**+0.9**
MSVF	**Nonsavu**	**16.06**	**117**	P	**Pn**	**19 51 29.6**	**+0.9**
MSVF				pmax	pmax		
	comp=Z,65nm,1.3s						
MANU	**Manus Island**	**17.86**	**298**	P	**Pn**	**19 51 51.5**	**+0.2**
EIDS	**Eidsvold**	**18.53**	**216**	P	**Pn**	**19 51 60.0**	**+0.6**
EIDS	**Eidsvold**	**18.53**	**216**	P	**Pn**	**19 52 03.4**	**+4.0**
	comp=Z,0.0nmcomp=Z,43nm,0.9s						
CTA	**Charters Tower**	**18.74**	**238**	LR	LR	19 58 23.8	
	comp=Z,288nm,21.9s,baz=64,slow=35						
CTAO	**Charters Tower**	**18.74**	**238**	P	**Pn**	**19 52 02.5**	**+0.4**
CTAO				IAmb	IAmb	19 52 16.5	
	comp=Z,150nm,1.1s						
CTAO	**Charters Tower**	**18.74**	**238**	P	**Pn**	**19 52 02.8**	**+0.7**
CTAO	**Charters Tower**	**18.74**	**238**	P	**Pn**	**19 52 02.5**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,150nm,1.2s						
NFK	**Norfolk Island**	**18.80**	**167**	P	**Pn**	**19 52 05.5**	**+2.8**
	comp=Z,155nm,0.9s						
MTSU	**Mount Surprise**	**19.65**	**246**	P	**Pn**	**19 52 12.8**	**-0.3**
	comp=Z,62nm,0.9s						
COEN	**Coen**	**19.76**	**259**	P	**Pn**	**19 52 14.8**	**+0.4**
COEN	**Coen**	**19.76**	**259**	P	**Pn**	**19 52 14.1**	**-0.2**
	comp=Z,68nm,1.2s						
COEN	**Coen**	**19.76**	**259**	P	**Pn**	**19 52 14.2**	**-0.2**
ARMA	**Armidale**	**22.34**	**207**	P	**P**	**19 52 42.1**	**+1.4**
ARMA	**Armidale**	**22.34**	**207**	P	**P**	**19 52 42.7**	**+1.9**
	comp=Z,34nm,0.9s						
ARMA	**Armidale**	**22.34**	**207**	P	**P**	**19 52 42.6**	**+1.9**
JAY	**Jayapura**	**23.70**	**289**	P	**P**	**19 52 50.9**	**-3.8**
	comp=Z,5.0nm,0.5s,baz=55,slow=3.1,SNR=6.9						
	comp=Z,5.0nm,0.5s						
QLP	**Quilpie**	**23.82**	**226**	P	**P**	**19 52 53.6**	**-2.1**
	comp=Z,76nm,1.5s						
QLP	**Quilpie**	**23.82**	**226**	P	**P**	**19 52 57.5**	**+1.8**
QIS	**Mount Isa**	**24.65**	**244**	P	**P**	**19 53 03.7**	**+0.3**
MGCD	**Mangrove Creek**	**24.98**	**204**	P	**P**	**19 53 09.9**	**+3.7**
	comp=Z,32nm,1.1s						
RAO	**Raoul Island**	**25.58**	**139**	LR	LR	20 01 34.8	
	comp=Z,3μm,21.2s,baz=320,slow=33						
CMSA	**Cobar Meteorol**	**26.28**	**215**	P	**P**	**19 53 18.5**	**+0.5**
	comp=Z,27nm,0.9s						
CMSA	**Cobar Meteorol**	**26.28**	**215**	P	**P**	**19 53 19.0**	**+1.0**
INKA	**Innaminka**	**27.01**	**228**	P	**P**	**19 53 25.4**	**+0.7**
YNG	**Young**	**27.08**	**208**	P	**P**	**19 53 26.6**	**+1.4**
	comp=Z,70nm,2.6s						
CNB	**Canberra Magne**	**27.52**	**205**	P	**P**	**19 53 31.5**	**+2.3**
	comp=Z,13nm,1.2s						
STKA	**Stephens Creek**	**28.98**	**220**	P	**P**	**19 53 42.2**	**0.0**
STKA	**Stephens Creek**	**28.98**	**220**	P	**P**	**19 53 43.5**	**+1.3**
	comp=Z,2.3nm,1.3s						
STKA	**Stephens Creek**	**28.98**	**220**	P	**P**	**19 53 39.2**	**-3.0**
	comp=Z,2.0nm,0.7s,baz=58,slow=12,SNR=5.8						
STKA				LR	LR	20 04 59.5	
	comp=Z,3μm,18.4s,baz=37,slow=36						
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**28.98**	**220**	P	**P**	**19 53 43.2**	**+0.9**
STKA	**Stephens Creek**	**28.98**	**220**	P	**P**	**19 53 42.2**	**0.0**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WR0	**Warramunga Arr**	**29.02**	**248**	P	**P**	**19 53 40.9**	**-1.8**
WB0	**Warramunga Arr**	**29.11**	**249**	P	**P**	**19 53 40.7**	**-2.9**
WRAB	**Tennant Creek**	**29.19**	**248**	*i* P	**P**	**19 53 43.2**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,11nm,0.9s						
WB2	**Warramunga Arr**	**29.19**	**248**	P	**P**	**19 53 42.5**	**-1.8**
WRA	**Warramunga Arr**	**29.20**	**248**	P	**P**	**19 53 45.3**	**+0.9**
WRA	**Warramunga Arr**	**29.20**	**248**	P	**P**	**19 53 41.4**	**-3.0**
	comp=Z,4.0nm,0.6s,baz=79,slow=9.3,SNR=17						
WRA				LR	LR	20 04 36.2	
	comp=Z,5μm,21.6s,baz=88,slow=35						
	comp=Z,4.0nm,0.6s						
WRA	**Warramunga Arr**	**29.20**	**248**	P	**P**	**19 53 45.3**	**+0.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,1.2s						
H11S2	**WAKE ISLAND Hy**	**29.22**	**7**	T	T	20 24 39.7	
	baz=185						
H11S3	**WAKE ISLAND Hy**	**29.22**	**7**	T	T	20 24 40.5	
	baz=185,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.24**	**7**	T	T	20 24 58.3	
	baz=185,slow=74						
KDU	**Kakadu**	**30.08**	**263**	P	**P**	**19 53 51.4**	**-0.7**
URZ	**Urewera**	**30.17**	**158**	LR	LR	20 04 00.6	
	comp=Z,770nm,20.6s,baz=68,slow=33						
GUMO	**Guam**	**30.18**	**323**	LR	LR	20 04 47.5	
	comp=Z,2μm,22.0s,baz=132,slow=34						
LCRK	**Leigh Creek**	**30.37**	**226**	P	**P**	**19 53 54.8**	**+0.3**
H11N1	**WAKE ISLAND Hy**	**30.45**	**7**	T	T	20 26 04.7	
	baz=188,slow=76,SNR=88						
H11N3	**WAKE ISLAND Hy**	**30.46**	**7**	T	T	20 26 00.0	
	baz=188,slow=76,SNR=48						
H11N2	**WAKE ISLAND Hy**	**30.47**	**7**	T	T	20 26 00.9	
	baz=188,slow=76,SNR=98						
AS31	**Alice Springs**	**30.67**	**241**	P	**P**	**19 53 55.4**	**-2.0**
ASAR	**Alice Springs**	**30.67**	**241**	P	**P**	**19 53 58.4**	**+1.0**
ASAR	**Alice Springs**	**30.67**	**241**	P	**P**	**19 53 54.4**	**-3.0**
	comp=Z,3.9nm,0.7s,baz=66,slow=9.9,SNR=40						
ASAR				LR	LR	20 05 38.5	
	comp=Z,4μm,21.9s,baz=66,slow=35						
	comp=Z,3.9nm,0.7s						
ASAR	**Alice Springs**	**30.67**	**241**	P	**P**	**19 53 58.4**	**+1.0**
OOD	**Oodnadatta**	**30.87**	**233**	P	**P**	**19 53 58.7**	**-0.3**
TOO	**Toolangi**	**31.10**	**208**	P	**P**	**19 54 01.5**	**+0.5**
TOO	**Toolangi**	**31.10**	**208**	P	**P**	**19 54 01.5**	**+0.5**
TOO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HTT	**Hallett**	**31.70**	**221**	P	**P**	**19 54 06.6**	**+0.3**
	comp=Z,29nm,1.0s						
HTT	**Hallett**	**31.70**	**221**	P	**P**	**19 54 07.1**	**+0.8**
ARPS	**Mount Arapiles**	**32.30**	**213**	P	**P**	**19 54 13.0**	**+1.5**
	comp=Z,21nm,1.1s						
ARPS	**Mount Arapiles**	**32.30**	**213**	P	**P**	**19 54 13.1**	**+1.6**
BSWZ	**Blackbirch Sta**	**32.30**	**165**	P	**P**	**19 54 10.7**	**-0.7**
BBOO	**Buckleboo**	**33.23**	**224**	P	**P**	**19 54 20.3**	**+0.6**
BBOO				IAmb	IAmb	19 54 27.4	
	comp=Z,28nm,1.1s						
BBOO	**Buckleboo**	**33.23**	**224**	P	**P**	**19 54 19.5**	**-0.2**
MULG	**Mulgathing**	**33.32**	**230**	P	**P**	**19 54 19.2**	**-1.3**
RPZ	**Rata Peaks**	**33.60**	**170**	LR	LR	20 06 12.9	
	comp=Z,2μm,21.2s,baz=342,slow=33						
KNRA	**Kununurra**	**33.80**	**258**	IAmb	IAmb	19 54 50.9	
	comp=Z,14nm,0.8s						
KNRA	**Kununurra**	**33.80**	**258**	P	**P**	**19 54 22.7**	**-2.1**
	comp=Z,21nm,1.2s						
WRKA	**Warakurna**	**35.96**	**242**	P	**P**	**19 54 40.6**	**-2.9**
WRKA	**Warakurna**	**35.96**	**242**	P	**P**	**19 54 41.2**	**-2.3**
FITZ	**Fitzroy Crossi**	**36.99**	**254**	P	**P**	**19 54 49.5**	**-2.8**
FITZ	**Fitzroy Crossi**	**36.99**	**254**	P	**P**	**19 54 49.2**	**-3.1**
	comp=Z,5.8nm,0.6s,baz=97,slow=5.8,SNR=13						
FITZ				LR	LR	20 09 44.6	
	comp=Z,3μm,19.9s,baz=75,slow=36						
	comp=Z,5.8nm,0.6s						
RAR	**Rarotonga**	**37.08**	**111**	LR	LR	20 07 27.7	
	comp=Z,356nm,21.6s,baz=278,slow=32						
FORT	**Forrest**	**38.16**	**233**	P	**P**	**19 55 00.4**	**-1.7**
FORT	**Forrest**	**38.16**	**233**	P	**P**	**19 55 01.9**	**-0.2**
BATI	**Baumata**	**38.80**	**267**	P	**P**	**19 55 04.7**	**-2.9**
	comp=Z,5.8nm,0.5s,baz=211,slow=5.9,SNR=2.3						
BATI				LR	LR	20 12 37.8	
	comp=Z,1μm,19.8s,baz=123,slow=39						
	comp=Z,5.8nm,0.5s						
DAV	**Davao City (W)**	**41.34**	**294**	LR	LR	20 13 16.4	
	comp=Z,398nm,18.4s,baz=100,slow=37						
KAPI	**Kappang**	**43.31**	**274**	LR	LR	20 15 38.6	
	comp=Z,161nm,21.6s,baz=88,slow=39						
KMBL	**Kambalda**	**43.31**	**235**	P	**P**	**19 55 43.4**	**-1.2**
	comp=Z,58nm,1.9s						
MEEK	**Meekatharra**	**44.80**	**243**	P	**P**	**19 55 55.5**	**-1.2**
	comp=Z,48nm,1.0s						
PPT2	**Papeete2**	**46.27**	**104**	*e*S	**S**	**20 02 55.8**	**+1.2**
	comp=Z,95nm,22.8s						
PPT2				*e*SS	**SS**	**20 06 18.3**	**-2.0**
	comp=Z,216nm,24.0s						
PPT2				*e*LQ	LQ	20 07 08.1	
	comp=Z,2μm,30.2s						
PPT2				*e*LR	LR	20 09 05.0	
	comp=Z,2μm,26.2s						
PPT2				*e*LR	LR	20 09 10.0	
	comp=Z,3μm,25.0s						
TBI	**Tubuai**	**46.84**	**112**	*e*S	**S**	**20 03 05.3**	**+2.8**
	comp=Z,595nm,25.5s						
TBI				*e*SS	**SS**	**20 06 28.5**	**-0.8**
	comp=Z,1μm,26.0s						
TBI				*e*LQ	LQ	20 07 24.6	
	comp=Z,22μm,27.8s						
TBI				*e*LR	LR	20 09 26.9	
	comp=Z,1μm,23.8s						
TBI				*e*LR	LR	20 09 27.5	
	comp=Z,5μm,27.0s						
NWAO	**Narrogin (SRO)**	**47.54**	**235**	LR	LR	20 15 49.3	
	comp=Z,3μm,20.2s,baz=50,slow=36						
MORW	**Morawa**	**47.55**	**240**	P	**P**	**19 56 17.1**	**-1.1**
MORW				IAmb	IAmb	19 56 30.5	
	comp=Z,12nm,0.7s						
MORW	**Morawa**	**47.55**	**240**	P	**P**	**19 56 18.0**	**-0.2**
	comp=Z,22nm,1.3s						
TGY	**Tagaytay City**	**48.56**	**300**	LR	LR	20 15 05.9	
	comp=Z,580nm,21.2s,baz=114,slow=34						
JHJ	**Hachijo jima 2**	**48.93**	**334**	LR	LR	20 14 36.9	
	comp=Z,350nm,21.1s,baz=136,slow=33						
JOW	**Kunigami**	**50.37**	**318**	LR	LR	20 16 53.2	
	comp=Z,613nm,20.1s,baz=123,slow=35						
JMN	**Monobe**	**52.22**	**329**	P	**P**	**19 56 52.6**	**-1.0**
MJAR	**Matsushiro Arr**	**52.52**	**335**	P	**P**	**19 56 53.5**	**-2.3**
	comp=Z,1.3nm,0.8s,baz=174,slow=6.6,SNR=2.1						
MJAR				LR	LR	20 17 52.8	
	comp=Z,590nm,21.2s,baz=126,slow=34						
	comp=Z,1.3nm,0.8s						
JNU	**Nakatsue**	**53.33**	**326**	LR	LR	20 16 54.4	
	comp=Z,618nm,21.9s,baz=172,slow=33						
TPUB	**Ta-pu**	**53.58**	**309**	P	**P**	**19 57 03.2**	**-0.6**
TAOE	**Nuku Hiva Isla**	**55.87**	**93**	*e*S	**S**	**20 05 07.1**	**-0.5**
	comp=Z,2μm,29.9s						
TAOE				*e*SS	**SS**	**20 08 55.6**	**+2.0**
	comp=Z,3μm,32.3s						
TAOE				*e*LR	LR	20 13 34.8	
	comp=Z,2μm,25.4s						
QZH	**Quanzhou**	**56.04**	**310**	P	P	19 57 27.6	+6.0
QZH				S	**S**	**20 05 09.9**	**+0.6**
QZH				pmax	pmax		
	comp=Z,230nm,4.5s						
QZH				LR	LR		
	comp=Z,540nm,17.9s						
QZH				LR	LR		
	comp=Z,550nm,17.2s						
QZH				LR	LR		
	comp=Z,660nm,23.4s						
ASAJ	**Asahikawa**	**57.66**	**343**	LR	LR	20 20 34.6	
	comp=Z,514nm,20.4s,baz=172,slow=34						
KSRS	**Korea Array**	**58.17**	**327**	P	**P**	**19 57 35.0**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=142,slow=6.3,SNR=4.1						
KSRS				LR	LR	20 19 20.0	
	comp=Z,558nm,21.4s,baz=135,slow=33						
	comp=Z,0.9nm,0.6s						
NJ2	**Nanjing**	**59.99**	**317**	*e*P	**P**	**19 57 50.3**	**+1.1**
NJ2				S	**S**	**20 06 02.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,200nm,7.1s						
NJ2				LR	LR		
	comp=Z,600nm,22.7s						
NJ2				LR	LR		
	comp=Z,570nm,24.6s						
NJ2				LR	LR		
	comp=Z,710nm,24.6s						
YSS	**Yuzh-Sakhalins**	**60.22**	**344**	*e*P	P	19 57 56.7	+6.3
YSS				*e*S	S	20 06 13.1	+10
YSS				pmax	pmax		
	comp=Z,20nm,1.7s						
QIZ	**Qiongzhong**	**60.26**	**299**	P	**P**	**19 57 51.3**	**0.0**
QIZ				pP	**sP**	**19 57 58.6**	**-0.7**
QIZ				S	**S**	**20 06 05.5**	**+0.8**
QIZ				ScS	**ScS**	**20 07 43.8**	**+2.4**
QIZ				pmax	pmax		
	comp=Z,14nm,1.8s						
QIZ				LR	LR		
	comp=Z,320nm,22.7s						
QIZ				LR	LR		
	comp=Z,350nm,24.2s						
QIZ				LR	LR		
	comp=Z,730nm,21.2s						
USRK	**Ussuriysk Ar.**	**61.52**	**335**	P	**P**	**19 57 56.7**	**-2.6**
USRK	**Ussuriysk Ar.**	**61.52**	**335**	P	**P**	**19 57 58.4**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=160,slow=8.9,SNR=2.0						
	comp=Z,1.5nm,0.7s						
USA0B	**Ussuriysk Arra**	**61.52**	**335**	P	**P**	**19 57 56.9**	**-2.4**
USA0B	**Ussuriysk Arra**	**61.52**	**335**	P	**P**	**19 57 56.9**	**-2.4**
USA0B				pmax	pmax		
	comp=Z,42nm,1.3s						
WHN	**Wuhan**	**62.26**	**313**	P	P	19 58 11.3	+6.7
WHN				pmax	pmax		
	comp=Z,68nm,1.4s						
DL2	**Dalian**	**62.68**	**324**	P	**P**	**19 58 09.3**	**+

comp=E,500nm,20.3s
LYN LR LR
comp=Z,1μm,19.2s
HNS HongShan 65.93 319 *e*P **P** **19 58 29.9 +1.3**
HNS PcP **PcP** **19 58 58.0 -1.3**
HNS S **S** **20 07 13.9 -1.1**
HNS LR LR
comp=Z,440nm,20.7s
HNS LR LR
comp=Z,260nm,19.9s
HNS LR LR
comp=Z,710nm,24.7s
GYA Guiyang 66.11 305 P **P** **19 58 31.4 +1.3**
GYA pP sP 19 58 37.4 -0.8
GYA S **S** **20 07 17.1 -0.8**
GYA SS **SS** **20 11 35.0 +1.0**
GYA pmax pmax
comp=Z,8.0nm,1.3s
GYA LR LR
comp=Z,350nm,24.6s
GSI Gunungsitoli 66.27 276 P **P** **19 58 29.5 -1.8**
GSI IAmb IAmb 19 58 44.8
comp=Z,18nm,1.0s
SLVN Son La 66.29 299 P **P** **19 58 31.3 0.0**
SBA Scott Base 67.17 179 P **P** **19 58 38.7 +2.9**
SBA IAmb IAmb 19 58 47.4
comp=Z,12nm,1.0s
SBA Scott Base 67.17 179 P **P** **19 58 38.7 +2.9**
SBA pmax pmax
comp=Z,12nm,1.0s
XAN Xi'an 68.00 313 P **P** **19 58 41.4 -0.6**
XAN pP pP 19 58 48.0 +0.1
XAN S **S** **20 07 40.4 +0.1**
XAN pmax pmax
comp=Z,32nm,1.4s
XAN pmax pmax
comp=Z,270nm,5.8s
XAN LR LR
comp=Z,590nm,20.0s
XAN LR LR
comp=Z,650nm,17.1s
XAN LR LR
comp=Z,1μm,20.0s
HEH HeiHe 68.24 336 *e*P **P** **19 58 42.0 -1.0**
HEH pmax pmax
comp=Z,4.0nm,0.6s
HEH LR LR
comp=Z,570nm,13.3s
HEH LR LR
comp=Z,350nm,11.6s
HEH LR LR
comp=Z,340nm,13.0s
KMI Kunming 68.76 302 ⇑P **P** **19 58 49.1 +2.0**
KMI PcP **PcP** **19 59 13.4 +1.7**
KMI S **S** **20 07 50.0 0.0**
KMI pmax pmax
comp=Z,31nm,1.1s
KMI pmax pmax
comp=Z,230nm,6.5s
KMI LR LR
comp=Z,260nm,13.8s
KMI LR LR
comp=Z,190nm,16.3s
KMI LR LR
comp=Z,230nm,20.6s
XLT XiLinHaoTe 69.11 326 *e*P **P** **19 58 52.6 +3.9**
XLT S **S** **20 07 55.6 +2.5**
XLT pmax pmax
comp=Z,10.0nm,1.0s
XLT LR LR
comp=Z,470nm,15.4s
XLT LR LR
comp=Z,580nm,21.5s
CM31 Chiang Mai Arr 69.62 294 P **P** **19 58 49.6 -2.6**
CM31 IAmb IAmb 19 59 05.2
comp=Z,13nm,1.1s
CMAR Chiang Mai Arr 69.62 294 P **P** **19 58 49.1 -3.2**
CMAR Chiang Mai Arr 69.62 294 P **P** **19 58 51.2 -1.1**
comp=Z,1.4nm,0.8s,baz=122,slow=4.2,SNR=14
comp=Z,1.4nm,0.8s
CMAR Chiang Mai Arr 69.62 294 *i* P **P** **19 58 52.9 +0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CHTO Chiang Mai 69.74 295 P **P** **19 58 50.5 -2.5**
CHTO IAmb IAmb 19 59 06.3
comp=Z,17nm,1.4s
CHTO Chiang Mai 69.74 295 P **P** **19 58 50.5 -2.5**
CHTO pmax pmax
comp=Z,17nm,1.4s
HHC Hu-ho-hao-te 69.92 321 *e*P **P** **19 58 56.3 +2.5**
HHC S **S** **20 08 04.5 +1.6**
HHC sS sS 20 08 17.1 +4.7
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,130nm,5.2s
HHC LR LR
comp=Z,290nm,13.8s
HHC LR LR
comp=Z,380nm,15.3s
HHC LR LR
comp=Z,730nm,16.0s
PZH PanZhiHua 70.13 303 P **P** **19 58 55.4 0.0**
PZH S **S** **20 08 05.8 -0.1**
PZH pmax pmax
comp=Z,10.0nm,1.4s
PZH pmax pmax
comp=Z,150nm,5.5s
PZH LR LR
comp=Z,220nm,20.0s
PZH LR LR
comp=Z,240nm,19.6s
PZH LR LR
comp=Z,350nm,23.5s
CD2 Chengdu 70.36 308 P **P** **19 58 56.0 -0.7**
CD2 S **S** **20 08 08.0 -0.3**
CD2 SS **SS** **20 12 39.1 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,300nm,4.1s
CD2 LR LR
comp=Z,440nm,17.1s
CD2 LR LR
comp=Z,290nm,14.6s
CD2 LR LR
comp=Z,230nm,12.7s
BTO Baotou 70.76 320 *e*P **P** **19 59 01.8 +2.9**
BTO pP **pwP** **19 59 12.3 +2.8**
BTO S **S** **20 08 13.4 +0.8**
BTO SS **SS** **20 12 49.3 +4.0**
BTO pmax pmax
comp=Z,11nm,0.6s
BTO pmax pmax
comp=Z,420nm,5.7s
BTO LR LR
comp=Z,1μm,17.3s
BTO LR LR
comp=Z,690nm,20.9s
BTO LR LR
comp=Z,2μm,23.9s
HIA Hailar 70.82 332 *i* P **P** **19 58 58.4 -0.6**
HIA pmax pmax
comp=Z,23nm,1.3s
ZEA Zeya 71.06 338 *e*P P 19 59 06.3 +6.0
ZEA pmax pmax
comp=Z,20nm,1.0s
TNCH TengChong 72.26 301 P **P** **19 59 08.9 +0.5**
TNCH pP pP 19 59 11.9 -2.4
TNCH sP sP 19 59 15.5 -0.8
TNCH S **S** **20 08 29.6 -1.2**
TNCH SS **SS** **20 13 15.1 +6.0**
TNCH pmax pmax
comp=Z,11nm,2.5s
TNCH pmax pmax
comp=Z,110nm,3.8s
TNCH LR LR
comp=Z,100nm,8.4s
TNCH LR LR
comp=Z,170nm,16.3s
TNCH LR LR
comp=Z,300nm,19.9s
LZH Lanzhou 72.64 313 *e*P **P** **19 59 12.6 +2.2**
LZH pP sP 19 59 18.4 +0.1
LZH S **S** **20 08 33.8 -0.8**
LZH sS sS 20 08 48.6 +4.4
LZH pmax pmax
comp=Z,46nm,1.3s
LZH LR LR
comp=Z,440nm,18.9s
LZH LR LR
comp=Z,540nm,20.3s
LZH LR LR
comp=Z,700nm,19.6s
CIT Chita 75.60 331 *e*P **P** **19 59 28.4 +1.2**
CIT *e* 20 02 24.6
CIT pmax pmax
comp=Z,87nm,3.4s
ULN Ulaanbaatar 76.53 325 P **P** **19 59 32.3 -0.5**
ULN Ulaanbaatar 76.53 325 *i* P **P** **19 59 32.2 -0.5**
ULN pmax pmax
comp=Z,30nm,1.3s
SONM Songino Array 76.89 325 P **P** **19 59 34.7 0.0**
SONM IAmb IAmb 19 59 50.1
comp=Z,23nm,1.2s
SONM Songino Array 76.89 325 P **P** **19 59 34.2 -0.5**
comp=Z,1.8nm,0.6s,baz=144,slow=6.2,SNR=11
comp=Z,1.8nm,0.6s
SONM Songino Array 76.89 325 P **P** **19 59 34.7 0.0**
SONM pmax pmax
comp=Z,23nm,1.2s
GTA Gaotai 76.98 315 *e*P **P** **19 59 36.8 +1.3**
GTA pP sP 19 59 43.0 -0.4
GTA S **S** **20 09 25.0 +2.1**
GTA pmax pmax
comp=Z,7.0nm,1.4s
GTA pmax pmax
comp=Z,180nm,6.0s
GTA LR LR
comp=Z,220nm,18.7s
GTA LR LR
comp=Z,390nm,18.3s
GTA LR LR
comp=Z,410nm,24.3s
YAK Yakutsk 77.06 345 *i* P **P** **19 59 35.4 +0.2**
YAK pmax pmax
comp=Z,44nm,1.9s
M16K Timber Creek 77.50 18 IAmb IAmb 19 59 48.9
comp=Z,23nm,0.9s
K15K Wolf Creek Mou 77.78 16 IAmb IAmb 19 59 51.6
comp=Z,27nm,1.1s
SHL Shillong 78.10 299 IAmb IAmb 19 59 49.4
comp=Z,13nm,0.9s
K17K Iditarod 79.03 17 IAmb IAmb 19 59 57.4
comp=Z,22nm,1.1s
L18K Granite Mounta 79.12 18 IAmb IAmb 19 59 59.4
comp=Z,27nm,1.0s
QSPA South Pole Qui 79.30 180 P **P** **19 59 45.0 -2.9**
QSPA IAmb IAmb 20 00 04.1
comp=Z,19nm,1.1s
QSPA South Pole Qui 79.30 180 P **P** **19 59 46.2 -1.7**
comp=Z,3.2nm,0.7s,baz=80,slow=6.1,SNR=2.2
comp=Z,3.2nm,0.7s
GOMU GeErMu 79.32 310 P **P** **19 59 49.4 +0.6**
GOMU pP sP 19 59 56.0 -0.8
GOMU PP **PP** **20 02 48.5 -0.5**
GOMU S **S** **20 09 50.1 +1.3**
GOMU SS **SS** **20 14 59.0 +2.8**
GOMU pmax pmax
comp=Z,16nm,1.0s
GOMU pmax pmax
comp=Z,310nm,5.2s
GOMU LR LR
comp=Z,400nm,19.7s
GOMU LR LR
comp=Z,440nm,22.8s
GOMU LR LR
comp=Z,760nm,21.8s
M19K Big River Lodg 79.59 19 IAmb IAmb 19 59 57.5
comp=Z,29nm,1.1s
L19K White Mountain 79.65 19 IAmb IAmb 19 59 57.2
comp=Z,16nm,0.9s
LSA Lhasa 80.00 303 IAmb IAmb 20 00 01.7
comp=Z,17nm,1.1s
J19K Poorman 80.78 17 IAmb IAmb 20 00 10.0
comp=Z,19nm,1.3s
J20K Nowinta River 81.35 17 IAmb IAmb 20 00 09.3
comp=Z,21nm,1.3s
CAST Castle Rocks 81.43 19 IAmb IAmb 20 00 05.2
comp=Z,11nm,0.9s
H19K Roundabout Mou 81.72 16 IAmb IAmb 20 00 14.2
comp=Z,29nm,1.2s
F19K Shaleruckik Mo 82.40 15 IAmb IAmb 20 00 15.9
comp=Z,19nm,1.2s
IMAR Indian Mountai 82.80 16 P **P** **20 00 06.0 -0.2**
H21K Melozitna Rive 82.83 17 IAmb IAmb 20 00 13.8
comp=Z,11nm,0.9s
MLY Manley 82.99 18 IAmb IAmb 20 00 20.0
comp=Z,9.9nm,1.1s
COLA College 83.78 19 *i* P **P** **20 00 11.2 0.0**
COLA pmax pmax
comp=Z,21nm,1.0s
F21K Alatna River 83.79 16 IAmb IAmb 20 00 23.9
comp=Z,13nm,1.1s
H23K Yukon River 83.90 18 IAmb IAmb 20 00 23.9
comp=Z,14nm,1.1s
MENT Mentasta 83.94 22 IAmb IAmb 20 00 23.8
comp=Z,11nm,0.9s
IL31 84.02 19 IAmb IAmb 20 00 18.7
comp=Z,8.0nm,0.8s
ILAR Eielson Array 84.02 19 P **P** **20 00 11.3 -1.2**
comp=Z,2.7nm,0.8s,baz=249,slow=4.6,SNR=17
comp=Z,2.7nm,0.8s
ILAR Eielson Array 84.02 19 P **P** **20 00 11.4 -1.1**
MAW Mawson 84.07 202 P **P** **20 00 12.3 -0.5**
comp=Z,2.3nm,0.6s,baz=90,slow=5.1,SNR=1.5
comp=Z,2.3nm,0.6s
G23K Bananza Creek 84.38 17 IAmb IAmb 20 00 21.7
comp=Z,9.3nm,0.9s
J25K Salcha River, 84.42 20 IAmb IAmb 20 00 26.3
comp=Z,19nm,1.1s
SCRK Sand Creek 84.49 21 IAmb IAmb 20 00 26.9
comp=Z,14nm,1.0s
E21K Killik River 84.57 15 IAmb IAmb 20 00 28.5
comp=Z,17nm,1.1s
BCAR Beaver Creek A 84.73 22 P **P** **20 00 15.7 -0.5**
D22K Ayikyak River 85.21 15 IAmb IAmb 20 00 28.2
comp=Z,18nm,1.2s
TIXI Tiksi 85.28 350 P **P** **20 00 16.5 -2.2**
TIXI IAmb IAmb 20 00 29.6
comp=Z,18nm,1.4s
TIXI Tiksi 85.28 350 *i* P **P** **20 00 19.7 +1.0**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
B21K Ikpikpuk River 85.30 14 IAmb IAmb 20 00 35.1
comp=Z,12nm,1.0s
L29M L29M 86.13 23 IAmb IAmb 20 00 35.6
comp=Z,24nm,1.2s
DAWY Dawson 86.18 22 IAmb IAmb 20 00 36.6
comp=Z,15nm,1.1s
BMAR Burnt Mountain 86.45 18 P **P** **20 00 24.5 -0.2**
F26K Sheenjek River 86.75 18 IAmb IAmb 20 00 39.2
comp=Z,19nm,1.4s
I28M Miner Creek 86.77 21 IAmb IAmb 20 00 38.6
comp=Z,19nm,1.2s
G27K Doyon Strip 86.98 19 IAmb IAmb 20 00 40.1
comp=Z,18nm,1.4s
WMQ Urumqi 87.04 315 *e*P **P** **20 00 30.8 +2.7**
WMQ LR LR
comp=Z,620nm,23.7s
WMQ LR LR
comp=Z,640nm,24.3s
D25K Kavik River 87.16 16 IAmb IAmb 20 00 40.2
comp=Z,13nm,1.2s
PINE Pine Mountain 87.38 45 P **P** **20 00 31.6 +1.7**
PINE IAmb IAmb 20 00 41.2
comp=Z,17nm,1.4s
LHV Little Huntoon 87.58 51 IAmb IAmb 20 00 48.1
comp=Z,5.9nm,0.8s
NVAR Mina Array Bea 87.78 50 P **P** **20 00 28.1 -4.0**
I30M Mount Dempster 87.90 22 IAmb IAmb 20 00 46.0
comp=Z,8.0nm,1.1s
YUH Yuha Desert 88.20 56 IAmb IAmb 20 00 49.5
comp=Z,12nm,1.1s
EPYK Eagle Plains 88.38 20 IAmb IAmb 20 00 41.7
comp=Z,13nm,0.9s
J08A Circle Bar Ran 88.97 46 IAmb IAmb 20 00 55.8
comp=Z,7.4nm,1.1s
BMN Battle Mountai 89.11 49 IAmb IAmb 20 00 47.6
comp=Z,8.9nm,1.1s
PRN Pahroc Range 90.02 52 IAmb IAmb 20 01 09.0
comp=Z,12nm,1.1s
MK31 Makanchi Array 91.52 317 IAmb IAmb 20 01 10.5
comp=Z,7.3nm,1.1s
MK31 Makanchi Array 91.52 317 *i* P **P** **20 00 47.8 -1.3**
MKAR Makanchi Array 91.52 317 P **P** **20 00 47.6 -1.6**
MKAR Makanchi Array 91.52 317 P **P** **20 00 47.3 -1.8**
comp=Z,1.9nm,0.7s,baz=94,slow=5.7,SNR=13
comp=Z,1.9nm,0.7s
MKAR Makanchi Array 91.52 317 *i* P **P** **20 00 48.0 -1.1**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
HSIG 91.59 61 P **P** **20 00 49.7 -0.2**
ZALV Zalesovo Beam 91.78 325 P **P** **20 00 47.6 -2.4**
ZALV Zalesovo Beam 91.78 325 P **P** **20 00 48.1 -2.0**
comp=Z,0.7nm,0.6s,baz=150,slow=6.2,SNR=4.1
comp=Z,0.7nm,0.6s
ZALV Zalesovo Beam 91.78 325 *i* P **P** **20 00 48.5 -1.6**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
WUS Wushi 92.43 311 P **P** **20 00 51.8 -1.8**
WUS IAmb IAmb 20 01 03.4
comp=Z,13nm,1.1s
HVU Hansel Valley 92.69 48 IAmb IAmb 20 01 12.9
comp=Z,6.3nm,1.1s
C36M Paulatuk 93.98 20 P **P** **20 00 58.8 -1.1**
C36M IAmb IAmb 20 01 16.8
comp=Z,7.8nm,1.0s
YHL Hebgen Lake 94.42 45 IAmb IAmb 20 01 22.3
comp=Z,8.5nm,1.2s
A36M Sachs Harbour 94.53 17 IAmb IAmb 20 01 14.8
comp=Z,11nm,0.9s
KSH Kashi 94.54 309 P **P** **20 01 06.1 +2.7**
KSH pmax pmax
comp=Z,4.0nm,1.2s
KURK Kurchatov 94.74 321 *i* P **P** **20 01 03.8 0.0**
KURK pmax pmax
comp=Z,16nm,2.9s
KURBB Kurchatov Arra 94.78 320 P **P** **20 01 02.0 -2.0**
comp=Z,0.2nm,0.3s,baz=91,slow=3.7,SNR=1.8
comp=Z,0.2nm,0.3s
NRIK Noril'sk 94.91 340 P **P** **20 01 02.2 -2.0**
comp=Z,1.0nm,0.2s,baz=89,slow=7.4,SNR=1.7
comp=Z,1.0nm,0.2s
NRIK Noril'sk 94.91 340 *i* P **P** **20 01 03.6 -0.6**
NRIK pmax pmax
comp=Z,8.0nm,1.2s
YKA Yellowknife Ar 95.86 28 *i* P **P** **20 01 12.3 +3.7**
YKA pmax pmax
comp=Z,2.0nm,0.9s
HOPE Hope Point 113.17 168 *i* PKIKP **PKiKP** **20 06 20.3 +0.5**
ARCES ARCESS Array B 115.34 345 PKP **PKPdf** **20 06 24.0 +0.4**
comp=Z,8.7nm,1.1s,baz=0.0,slow=0.9,SNR=1.6
ARCES ARCESS Array B 115.34 345 PKIKP **PKPdf** **20 06 24.0 +0.4**
KIV Kislovodsk 119.16 315 *e*PKIKP **PKPdf** **20 06 30.0 -1.8**
KIV pmax pmax
comp=Z,4.0nm,1.1s
FINES FINESS Array B 120.50 338 PKP **PKPdf** **20 06 33.6 -0.1**
comp=Z,4.9nm,1.0s,baz=222,slow=1.9,SNR=2.3
NACGM Naroch 124.15 331 *e*PKP **PKPdf** **20 06 40.9 0.0**
comp=Z,20nm,0.9s,baz=55
KMBO Kilima Mbogo 124.91 261 **PKPdf** **20 06 41.6 -2.3**
KMBO Kilima Mbogo 124.91 261 PKP **PKPdf** **20 06 41.8 -2.1**
comp=Z,2.3nm,0.5s,baz=1.7,slow=24,SNR=10
AKASG Malin Array Be 125.16 326 PKP **PKPdf** **20 06 41.5 -1.4**
comp=Z,3.7nm,1.0s,baz=72,slow=1.8,SNR=5.6
AKBB Malin Array Si 125.16 326 *c* *i* PKIKP **PKiKP** **20 06 50.5 +7.2**
NB2 NORSAR Subarra 125.67 344 PKPdf **PKiKP** **20 06 49.2 +5.1**
comp=Z,13nm,1.4s,baz=31,slow=1.9
NB2 NORSAR Subarra 125.67 344 PKPdf **PKiKP** **20 06 49.2 +5.1**
baz=31,slow=1.9
NOA NORSAR Array B 125.67 344 PKP **PKPdf** **20 06 42.1 -1.6**
comp=Z,0.8nm,0.8s,baz=36,slow=2.0,SNR=2.6
HFS Hagfors 125.68 342 PKP **PKPdf** **20 06 41.9 -1.8**
comp=Z,3.3nm,0.9s,baz=126,slow=2.0,SNR=2.0
BRTR Keskin Array B 126.83 312 PKP **PKPdf** **20 06 44.9 -1.8**
comp=Z,0.3nm,0.4s,baz=67,slow=2.1,SNR=1.9
BEL Belsk 128.86 331 *e*PKP PKiKP 20 06 58.6 +7.9
KWP Kalwaria Pacla 129.25 328 *e*PKP PKiKP 20 07 02.0 +10
KOLS Kolonicke sedl 129.89 327 *e*PKIKP **PKiKP** **20 06 53.8 +1.0**
KOLS Kolonicke sedl 129.89 327 *e*PKP **PKiKP** **20 06 53.8 +1.0**
STHS Stebnicka Huta 130.15 328 *e*PKIKP **PKiKP** **20 06 54.7 +1.4**
STHS Stebnicka Huta 130.15 328 *e*PKP **PKiKP** **20 06 54.7 +1.4**
OJC Ojcow 130.38 330 *e*PKP PKiKP 20 07 04.4 +11
KSP Ksiaz 131.63 332 *e*PKP PKiKP 20 07 06.8 +11
OSTC Ostas 131.86 332 *e*PKP PKiKP 20 07 07.6 +11
KRLC Kraliky 131.93 331 *e*PKP PKiKP 20 07 07.6 +11
DPC Dobruska-Polom 131.96 332 *e*PKP PKiKP 20 07 07.8 +11
VYHS Vyhne 131.96 329 *e*PKIKP **PKiKP** **20 06 59.0 +2.0**
VYHS Vyhne 131.96 329 *e*PKP **PKiKP** **20 06 59.0 +2.0**
VYHS *e* 20 16 00.2
BRG Berggieshubel 132.65 334 *e*PKP **PKiKP** **20 07 06.0 +7.7**
BRG Amp 20 07 10.5
comp=Z,7.8nm,1.3s
CLL Collm 132.73 335 *e*PKIKP **PKiKP** **20 07 00.0 +1.6**
CLL *i* 20 07 07.9
CLL pmax pmax
comp=Z,26nm,1.9s
CLL Collm 132.73 335 *e*(PKPdf) **PKiKP** **20 07 00.0 +1.6**
comp=Z,26nm,1.9s
CLL *i* x x 20 07 07.9
comp=Z,64nm,2.1s
MODS Modra-Piesok 132.83 329 *e*PKIKP **PKiKP** **20 06 59.8 +1.0**
MODS Modra-Piesok 132.83 329 *e*PKP **PKiKP** **20 06 59.8 +1.0**
RONA Rosalia, Austr 133.77 329 *ep*PKiKP **PKiKP** **20 07 07.0 +6.2**
comp=Z,0.5nm,0.3s
CONA Conrad Observa 133.83 330 *e*PKiKP **PKiKP** **20 07 01.8 +0.8**
comp=Z,1.0nm,0.5s
CKRC Cesky Krumlov 133.96 332 *e*PKP PKiKP 20 07 10.1 +9.0
KHC Kasperske Hory 134.08 332 *e*PKP **PKiKP** **20 07 07.0 +5.7**
KHC Kasperske Hory 134.08 332 *c* *i* PKIKP **PKiKP** **20 07 07.7 +6.4**
KHC pmax pmax
comp=Z,21nm,1.7s
EKA Eskdalemuir Ar 134.19 349 PKP **PKPdf** **20 06 57.9 -2.0**
comp=Z,1.0nm,0.7s,baz=343,slow=2.2,SNR=1.4
GERES GERESS Array B 134.23 332 PKP **PKPdf** **20 06 58.3 -2.0**
comp=Z,0.4nm,0.4s,baz=357,slow=5.9,SNR=2.5
MOA Molln 134.67 331 *i* PKiKP **PKiKP** **20 07 02.9 +0.4**
comp=Z,0.1nm,0.3s
SOKA Soboth 135.10 329 *i* PKiKP **PKiKP** **20 07 05.1 +1.6**
comp=Z,0.2nm,0.3s
OBKA Obir 135.46 329 *e*PKiKP **PKiKP** **20 07 04.1 -0.2**
comp=Z,1.0nm,0.4s
KBA Koelnbreinsper 135.65 331 *i* PKP **PKPdf** **20 07 02.6 -0.6**
comp=Z,1.0nm,0.5s
LESA Schwarzleotal 135.73 331 *i* PKP **PKPdf** **20 07 02.3 -0.9**
comp=Z,0.4nm,0.3s
ABTA Abfaltersbach 136.29 331 *i* PKiKP **PKiKP** **20 07 06.9 +0.9**
comp=Z,0.9nm,0.5s
FETA Feichten 136.93 332 *i* PKiKP **PKiKP** **20 07 07.2 -0.2**
comp=Z,2.5nm,0.7s
DAVA Damuels 137.11 333 *e*PKiKP **PKiKP** **20 07 07.2 -0.5**
comp=Z,1.0nm,0.5s
BKLT Bekalta 144.57 319 *i* P PKPab 20 06 46.8 -31
HANT Hania 144.85 320 *i* P PKPab 20 06 40.1 -39
BLIT Baltah 145.16 322 *i* P **PKPdf** **20 07 20.8 +0.3**
KRIT Krib 145.33 322 *i* P **PKPdf** **20 07 21.2 +0.4**
TROT Trozza 145.50 320 *i* P **PKPbc** **20 07 21.2 0.0**
KEST Kesra 145.55 321 PKPbc **PKPdf** **20 07 20.9 -0.4**
comp=Z,9.8nm,0.9s,baz=290,slow=1.9,SNR=5.9
GHAT Ghardimaou 145.69 323 *i* P **PKPdf** **20 07 19.2 -2.2**
SGNT Sidi Gnaou 146.50 317 *i* P **PKiKP** **20 07 27.5 +0.4**
BERT Berda 146.71 319 *i* P **PKPdf** **20 07 21.2 -1.9**
POLO Lamas de Olo 148.42 347 *ep*PKPbc pPKPbc 20 07 36.5 +1.0
MVO Moncorvo 148.44 346 *ep*PKPab pPKPab 20 07 41.2 +2.7
PVRL Vila Real 148.50 347 *ep*PKPbc **pPKPbc** **20 07 36.4 +0.7**
PVRL *i* pPKPab sPKPab 20 07 41.8 +1.1
ESDC Sonseca Array 148.95 340 PKPbc **PKPbc** **20 07 29.7 -1.1**
comp=Z,1.7nm,0.9s,baz=50,slow=2.5,SNR=4.5
PVIS Viseu 149.07 347 *ep*PKPbc **pPKPbc** **20 07 37.3 +0.1**
PVIS *i* pPKPab sPKPab 20 07 42.2 -0.9
PCBR Castelo Branco 149.80 346 *ep*PKPab pPKPab 20 07 44.9 +1.0
PMRV Marv??o 150.17 345 *ep*PKPab pPKPab 20 07 45.5 0.0
PMTG Montargil 150.72 346 *ep*PKPbc **pPKPbc** **20 07 41.0 -0.1**
PMTG *i* pPKPab pPKPab 20 07 46.4 -1.3
PESTR Estremoz 150.75 345 *ep*PKPab pPKPab 20 07 47.1 -0.8
EVO Evora 151.18 345 *ep*PKPbc **pPKPbc** **20 07 42.7 +0.5**
EVO *i* pPKPab pPKPab 20 07 47.9 -1.7
PBEJ Beja 151.62 345 *ep*PKPab **PKPab** **20 07 48.4 +2.8**
MESJ Messejana 151.88 345 *ep*PKPab **PKPab** **20 07 48.6 +1.9**
TORD Torodi Ar. Bea 161.67 279 PKP **PKPdf** **20 07 43.3 -1.2**
comp=Z,0.2nm,0.5s,baz=349,slow=1.5,SNR=2.0

*IDC **18** 19:48:45.9±0.5,35°.44S×105°.98W,h0km,mb4.4/12, mbtmp4.4/13,ML4.0/1,MS4.2/12,Error ellipse: s-maj=22.0km s-min=16.7km az=87.0*

*NEIC **18** 19:48:47.9±1.8, 35.°32S±0.°10×105.°6W±0.°2, h10km±1km, mb4.7/72, Error ellipse: s-maj=26.9km s-min=16.4km az=259.0*

*GCMT **18** 19:48:52.9±0.4, 35.°28S±0.°02×105.°66W±0.°03, h15km±2km, MW5.0/52, Moment Tensor Solution. s36,c40; s52,c69; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~0.39±.17; Mθθ~0.91±.17; Mφφ 1.30±.18; Mrθ~0.20±.31; Mrφ~3.57±.17; Mθφ~0.75±.32; Best double couple: M0 3.82100×10^16 NP1:φs 8.00000°, δ87.00000°, λ~12.00000°. NP2: φs 99.00000°, δ78.00000°, λ~177.00000°. Principal axes: T 3.9870, Plg6.0000°, Azm54.0000°; N -0.3300, Plg78.0000°, Azm175.0000°; P -3.6540, Plg11.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 19:48:48.0±0.5, 35.°38S±0.°08×105.°79W±0.°10, h15km, n113, σ1§27/78, mb4.7/46, MS4.3/11, 5C-1D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	Isla de Pascua	8.77	338		Pn	19 50 53.9	-0.4
RPN	Rapa Nui	8.77	339	Pn	Pn	19 50 54.1	-0.2
RPN	Rapa Nui	8.77	339	Pn	Pn	19 50 52.7	-1.6
	1.7nm,0.3s,baz=154,slow=6.4,SNR=4.2						
RPN				LR	LR	19 53 22.4	
	comp=Z,2μm,20.9s,baz=156,slow=32						
	64nm,0.9s						
H03N2	Juan Fernandez	22.22	93	T	T	20 16 47.8	
	baz=291,slow=76,SNR=19						
H03N3	Juan Fernandez	22.23	93	T	T	20 17 00.5	
	baz=291,slow=76,SNR=13						
H03N1	Juan Fernandez	22.24	93	T	T	20 17 01.5	
	baz=291,slow=76,SNR=11						
PLCA	Paso Flores	28.13	112	eP	P	19 54 42.0	+2.4
MT09	Talagante	28.61	97	P	P	19 54 40.8	-3.2
GO09	Cerro Castillo	28.74	134	P	P	19 54 41.9	-2.9
MT13	San Alfonso	29.19	97	P	P	19 54 50.8	+1.7
MT13				IAmb	IAmb	19 55 00.9	
	comp=Z,19nm,1.1s						
LMEL	Las Melosas	29.23	97	P	P	19 54 49.6	0.0
GO04	Tololo Observa	29.77	90	P	P	19 54 53.1	-1.3
PB14	IPOC Station P	32.31	80	P	P	19 55 15.3	-1.7
PB14				IAmb	IAmb	19 55 32.5	
	comp=Z,16nm,1.0s						
NNA	Nana	35.05	56	LR	LR	20 06 17.7	
	comp=Z,731nm,20.1s,baz=222,slow=30						
ATAH	Atahualpa	37.71	48	LR	LR	20 07 55.1	
	comp=Z,472nm,19.6s,baz=237,slow=30						
PMSA	Palmer Station	38.55	153	LR	LR	20 07 25.7	
	comp=Z,460nm,21.5s,baz=300,slow=29						
LPAZ	La Paz	38.56	70	P	P	19 56 08.9	-2.1
LPAZ	La Paz	38.56	70	P	P	19 56 12.2	+1.1
	comp=Z,5.2nm,1.1s,baz=227,slow=6.4,SNR=10						
LPAZ				LR	LR	20 08 48.0	
	comp=Z,238nm,20.5s,baz=240,slow=31						
	comp=Z,5.2nm,1.1s						
LPAZ	La Paz	38.56	70	eP	P	19 56 10.6	-0.5
CZSB	Cruzeiro do Su	40.93	56	eP	P	19 56 30.2	+0.2
COHC	Cochancay	40.97	43	P	P	19 56 30.7	+0.3
CPUP	Villa Florida	42.22	91	P	P	19 56 40.9	+0.3
	comp=Z,2.4nm,0.9s,baz=254,slow=10.0,SNR=4.4						
CPUP				LR	LR	20 11 10.9	
	comp=Z,114nm,20.7s,baz=250,slow=32						
	comp=Z,2.4nm,0.9s						
OTAV	Otavalo	43.66	42	P	P	19 56 49.5	-3.4
OTAV	Otavalo	43.66	42	eP	P	19 56 53.2	+0.4
BBSD	Serra de San D	43.95	78	eP	P	19 56 54.8	+0.1
ETMB	Extrema	44.08	65	P	P	19 56 52.7	-3.0
ETMB	Extrema	44.08	65	eP	P	19 56 55.6	-0.1
SIV	San Ignacio	44.25	76	LR	LR	20 13 20.5	
	comp=Z,130nm,19.6s,baz=286,slow=33						
PTLB	Pontes e Lacer	46.09	77	P	P	19 57 09.4	-2.4
PTLB	Pontes e Lacer	46.09	77	eP	P	19 57 12.3	+0.6
VILB	Vilhena	46.70	73	eP	P	19 57 17.1	+0.6
SAML	Samuel	46.90	66	P	P	19 57 17.0	-1.1
SAML				IAmb	IAmb	19 57 19.5	
	comp=Z,12nm,1.2s						
SAML	Samuel	46.90	66	eP	P	19 57 18.0	-0.1
SALV	Santo Antonio	48.60	80	eP	P	19 57 31.6	+0.4
JTS	Las Juntas de	49.51	27	LR	LR	20 13 18.9	
	comp=Z,408nm,20.5s,baz=179,slow=30						
ROSC	El Rosal	49.74	43	P	P	19 57 41.8	+1.4
	comp=Z,9.9nm,0.6s,baz=336,slow=22,SNR=4.4						
ROSC				LR	LR	20 14 43.5	
	comp=Z,377nm,21.7s,baz=232,slow=31						
	comp=Z,9.9nm,0.6s						
PDRB	Porto dos Gac	50.22	74	eP	P	19 57 44.2	+0.6
BELA	Belgrano 2	51.75	165	P	P	19 57 55.0	+0.7
BELA				IAmb	IAmb	19 58 22.0	
	comp=Z,10nm,1.1s						
ARAG	Araguaiana, MT	51.84	82	eP	P	19 57 56.4	+0.6
MACA	Manacapuru-AM	52.59	63	P	P	19 58 00.1	-1.3
NPGB	Novo Progresso	54.06	71	eP	P	19 58 11.4	-0.9
SNDB	Serra Nova Dou	54.32	79	eP	P	19 58 13.8	-0.4
QSPA	South Pole Qui	54.83	180	P	P	19 58 18.5	+1.2
QSPA				IAmb	IAmb	19 58 28.5	
	comp=Z,7.4nm,0.9s						
QSPA	South Pole Qui	54.83	180	P	P	19 58 18.1	+0.8
	comp=Z,3.4nm,0.6s,baz=143,slow=2.6,SNR=6.5						
	comp=Z,3.4nm,0.6s						
BDFB	Brasilia	54.95	85	P	P	19 58 21.6	+2.7
	comp=Z,3.5nm,0.7s,baz=257,slow=8.4,SNR=4.8						
BDFB				LR	LR	20 20 05.8	
	comp=Z,252nm,18.5s,baz=306,slow=34						
	comp=Z,3.5nm,0.7s						
SDV	Santo Domingo	55.13	44	LR	LR	20 18 26.6	
	comp=Z,109nm,21.5s,baz=249,slow=32						
ITTB	Itaituba	55.48	68	eP	P	19 58 21.5	-1.0
JANB	Januaria	58.28	86	eP	P	19 58 43.5	+1.0
VNA3	Neumayer Olymp	58.85	158	⇑P	P	19 58 46.1	+0.5
	comp=Z,35nm,0.7s						
SMTB	Santa Maria do	59.09	78	eP	P	19 58 50.0	+1.9
RIB01	Linhares ES	59.28	93	eP	P	19 58 50.9	+1.6
VNA1	Neumayer--Stat	59.49	157	⇑P	P	19 58 50.4	+0.4
	comp=Z,12nm,0.8s						
VNA2	Neumayer--Watz	59.66	158	⇑P	P	19 58 51.8	+0.6
	comp=Z,22nm,0.7s,baz=271,slow=5.4						
PCRV	Puerto La Cruz	59.70	49	LR	LR	20 21 50.4	
	comp=Z,335nm,21.6s,slow=33						
SNAA	Sanae	60.74	159	P	P	19 58 58.6	0.0
SNAA	Sanae	60.74	159	⇑P	P	19 58 59.0	+0.4
	comp=Z,162nm,0.9s						
SNAA	Sanae	60.74	159	P	P	19 58 58.6	0.0
	comp=Z,6.5nm,0.8s,baz=238,slow=4.8,SNR=17						
	comp=Z,6.5nm,0.8s						
TROLL	Troll, Antarti	62.09	160	⇑P	P	19 59 08.5	+0.6
	comp=Z,194nm,0.3s						
TXAR	Lajitas Array	64.40	2	P	P	19 59 23.8	+0.3
	comp=Z,0.9nm,0.8s,baz=185,slow=8.4,SNR=9.0						
	comp=Z,0.9nm,0.8s						
ALPN	Alpine	65.44	2	P	P	19 59 30.2	-0.1
ALPN				IAmb	IAmb	19 59 41.2	
	comp=Z,4.5nm,0.8s						
ELIB	Princess Elisa	67.24	165	dP	P	19 59 42.0	+0.5
	comp=Z,2.1nm,0.8s						
APMT	Aspermont	68.55	5	P	P	19 59 49.9	-0.1
X18A	Snowflake	69.66	356	IAmb	IAmb	20 00 06.8	
	comp=Z,8.9nm,1.1s						
GSC	Goldstone, Bar	71.07	350	P	P	20 00 07.0	+1.6
Y52A	Lilburn	71.82	19	P	P	20 00 09.7	-0.3
HHAR	Hobbs	72.14	10	IAmb	IAmb	20 00 22.5	
	comp=Z,5.0nm,0.9s						
U38A	Gravette	72.24	10	IAmb	IAmb	20 00 39.5	
	comp=Z,10nm,1.2s						
MVCO	Mesa Verde	72.27	358	IAmb	IAmb	20 00 21.7	
	comp=Z,7.2nm,0.7s						
CPCT	Cooper Cave	73.21	18	IAmb	IAmb	20 00 19.3	
	comp=Z,9.0nm,1.1s						
DSP	Deep Springs	73.26	350	P	P	20 00 20.9	+2.5
DSP				IAmb	IAmb	20 00 46.0	
	comp=Z,14nm,1.3s						
MZP	Montezuma Peak	73.50	350	IAmb	IAmb	20 00 45.8	
	comp=Z,9.4nm,1.5s						
V53A	Saluda	73.86	19	IAmb	IAmb	20 00 26.2	
	comp=Z,12nm,1.0s						
SRU	San Rafael Swe	74.25	356	IAmb	IAmb	20 00 33.0	
	comp=Z,5.3nm,0.7s						
NV11	Mina Array Sit	74.33	350	IAmb	IAmb	20 00 42.6	
	comp=Z,6.7nm,1.1s						
NVAR	Mina Array Bea	74.35	350	P	P	20 00 26.9	+1.8
	comp=Z,2.6nm,0.7s,baz=182,slow=7.9,SNR=14						
	comp=Z,2.6nm,0.7s						
SPR3	Spring Creek 3	74.43	353	IAmb	IAmb	20 00 51.3	
	comp=Z,7.5nm,1.1s						
TMUT	Trail Mountain	74.47	356	IAmb	IAmb	20 00 36.6	
	comp=Z,9.1nm,1.2s						
T50A	Nancy	74.62	17	IAmb	IAmb	20 00 27.9	
	comp=Z,6.6nm,1.0s						
KVN	Kaiserville	74.93	350	IAmb	IAmb	20 00 48.8	
	comp=Z,8.6nm,1.0s						
NLU	North Lily Min	75.19	355	IAmb	IAmb	20 00 39.7	
	comp=Z,9.4nm,1.3s						
BSUT	Blindstream Ca	75.68	356	IAmb	IAmb	20 00 50.0	
	comp=Z,11nm,1.1s						
PAHR	Pah Rah Range	75.76	349	IAmb	IAmb	20 00 51.5	
	comp=Z,7.7nm,1.1s						
R50A	Paris	75.94	17	IAmb	IAmb	20 00 37.4	
	comp=Z,5.7nm,1.0s						
MAW	Mawson	76.97	176	P	P	20 00 39.8	+0.2
	comp=Z,5.7nm,0.8s,baz=152,slow=8.9,SNR=2.6						
	comp=Z,5.7nm,0.8s						
PD31	Pinedale Array	77.85	357	IAmb	IAmb	20 01 01.4	
	comp=Z,7.8nm,1.0s						
PDAR	Pinedale Array	77.85	357	P	P	20 00 45.3	+0.3
PDAR	Pinedale Array	77.85	357	P	P	20 00 45.5	+0.6
	comp=Z,3.3nm,0.7s,baz=153,slow=7.2,SNR=16						
	comp=Z,3.3nm,0.7s						
AHID	Auburn Hatcher	77.92	356	IAmb	IAmb	20 00 55.2	
	comp=Z,4.0nm,0.8s						
WVOR	Wild Horse Val	78.33	350	IAmb	IAmb	20 00 54.4	
	comp=Z,15nm,1.4s						
TPAW	Teton Pass	78.64	356	IAmb	IAmb	20 01 06.2	
	comp=Z,8.6nm,0.9s						
LOHW	Long Hollow	78.74	356	IAmb	IAmb	20 00 59.0	
	comp=Z,11nm,1.5s						
FXWY	Fox Creek	78.79	356	IAmb	IAmb	20 01 07.0	
	comp=Z,6.5nm,0.9s						
RSSD	Black Hills	79.14	1	P	P	20 00 53.1	+1.0
RSSD				IAmb	IAmb	20 01 21.9	
	comp=Z,11nm,1.4s						
ECSD	EROS Data Cent	79.18	7	IAmb	IAmb	20 01 03.1	
	comp=Z,10.0nm,1.3s						
STKA	Stephens Creek	87.96	232	P	P	20 01 37.1	-0.5
	comp=Z,2.5nm,1.0s,baz=128,slow=5.4,SNR=3.0						
	comp=Z,2.5nm,1.0s						
ASAR	Alice Springs	98.51	233	P	P	20 02 24.8	-1.5
	comp=Z,0.3nm,0.7s,baz=133,slow=3.9,SNR=2.4						
	comp=Z,0.3nm,0.7s						
H01W1	Cape Leeuwin H	100.76	212	T	T	21 55 43.8	
	baz=146,slow=75,SNR=12						
H01W2	Cape Leeuwin H	100.77	212	T	T	21 55 27.7	
	baz=146,slow=75,SNR=19						
H01W3	Cape Leeuwin H	100.78	212	T	T	21 55 33.1	
	baz=146,slow=75,SNR=12						
WRA	Warramunga Arr	100.80	236	P	Pdif	20 02 35.1	-1.6
	comp=Z,0.4nm,0.7s,baz=135,slow=4.0,SNR=2.8						
CLL	Collm	134.09	50	ePKPdf	PKPdf	20 08 04.0	-0.3
AKASG	Malin Array Be	144.33	50	PKP	PKPdf	20 08 22.8	-0.2
	comp=Z,0.9nm,0.6s,baz=278,slow=3.6,SNR=5.0						
NRIK	Noril'sk	145.19	352	PKPbc	PKPbc	20 08 23.3	-0.3
	comp=Z,5.1nm,0.7s,baz=18,slow=3.9,SNR=7.7						
TIA	Tai'an	145.39	284	PKPbc	PKPbc	20 08 24.8	-0.5
BRTR	Keskin Array B	147.74	70	PKPbc	PKPbc	20 08 32.1	-0.1
	comp=Z,3.2nm,0.9s,baz=208,slow=3.0,SNR=9.6						
MMAI	Mount Meron Ar	147.95	83	PKPbc	PKPbc	20 08 33.3	+0.3
	comp=Z,5.0nm,0.6s,baz=77,slow=0.5,SNR=10.0						
CMAR	Chiang Mai Arr	152.36	239	PKPbc	PKiKP	20 08 44.0	-0.2
	comp=Z,1.2nm,0.9s,baz=193,slow=1.6,SNR=5.8						
SONM	Songino Array	153.11	307	PKPbc	PKPbc	20 08 43.6	-1.3
	comp=Z,1.4nm,0.6s,baz=136,slow=2.5,SNR=12						
KBZ	Khabaz	154.57	61	PKPbc	PKPbc	20 08 46.5	-1.4
	comp=Z,3.6nm,0.9s,baz=348,slow=2.7,SNR=3.9						
ZALV	Zalesovo Beam	160.00	341	PKP	PKPdf	20 08 45.4	-0.6
	comp=Z,0.2nm,0.3s,baz=25,slow=4.8,SNR=1.9						
ZALV				PKPab	PKPab	20 09 27.2	+1.6
	comp=Z,0.6nm,0.6s,baz=56,slow=3.6,SNR=2.2						
BVAR	Borovoye Array	162.15	8	PKP	PKPdf	20 08 49.1	+0.8
	comp=Z,0.3nm,0.6s,baz=48,slow=2.1,SNR=1.5						
BVAR				PKPab	PKPab	20 09 35.6	+0.5
	comp=Z,0.9nm,0.8s,baz=325,slow=1.8,SNR=2.1						
KURBB	Kurchatov Arra	164.44	350	PKPab	PKPab	20 09 45.5	+0.3
	comp=Z,0.5nm,0.7s,baz=28,slow=4.2,SNR=2.8						
WMQ	Urumqi	166.63	313	ePKP	PKPdf	20 08 53.6	+0.9
WMQ				LR	LR		
	comp=N,1μm,21.3s						
WMQ				LR	LR		
	comp=E,1μm,18.7s						
WMQ				LR	LR		
	comp=Z,1μm,18.7s						

*IDC **18** 19:58:00.5±1.4, 15.°32S×175.°13W, h0km, mb4.2/7, mbtmp4.2/7, MS4.4/1, Error ellipse: s-maj=94.6km s-min=19.2km az=148.0*

ISC 18 19:58:28.5±1.5, 15.°8S±0.°6×175.°2W±0.°4, h250km, n9, σ0§50/8, mb3.8/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	Papeete	24.59	98	LR	LR	20 10 46.9	
	comp=Z,1μm,21.9s,baz=285,slow=31						
STKA	Stephens Creek	42.38	240	P	P	20 05 58.1	-0.5
	1.7nm,0.8s,baz=52,slow=8.0,SNR=4.6						
	1.7nm,0.8s						
WRA	Warramunga Arr	48.09	257	P	P	20 06 44.0	+0.3
	1.8nm,0.4s,baz=97,slow=6.1,SNR=35						
	1.8nm,0.4s						
ASAR	Alice Springs	48.37	252	P	P	20 06 46.0	+0.3
	19nm,0.7s,baz=89,slow=7.9,SNR=305						
	19nm,0.7s						
NVAR	Mina Array Bea	75.74	43	P	P	20 09 47.3	+0.1
	1.5nm,0.8s,baz=226,slow=9.7,SNR=13						
	1.5nm,0.8s						
TXAR	Lajitas Array	82.23	57	P	P	20 10 22.5	+0.1
	0.3nm,0.5s,baz=203,slow=8.1,SNR=5.2						
	0.3nm,0.5s						
ILAR	Eielson Array	83.12	12	P	P	20 10 25.6	-0.4
	0.7nm,0.5s,baz=227,slow=5.8,SNR=21						
	0.7nm,0.5s						
PDAR	Pinedale Array	83.67	42	P	P	20 10 29.4	-0.2
	1.2nm,0.6s,baz=208,slow=3.5,SNR=15						
	1.2nm,0.6s						
BRTR	Keskin Array B	145.32	319	PKPbc	PKPdf	20 17 37.6	+0.7
	1.1nm,0.8s,baz=93,slow=3.2,SNR=5.9						

DJA 18 20:18:04.5±0.4, 1.°S±2.°×12.°0E±.°, h10km, M4.1/13, mb4.3/2, MLv4.0/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	Palu	0.25	190	P	Pg	20 18 08.4	-1.2
PCI				S	Sg	20 18 11.7	-1.3
APSI	Ampana	1.79	98	P	Pn	20 18 35.5	+0.1
MRSI	Marisa	2.35	61	P	Pn	20 18 40.4	-2.8
TTSI	Tana Toraja	2.37	181	P	Pn	20 18 43.9	+0.4
LUWI	Luwuk	2.92	97	P	Pn	20 18 51.7	+0.7
SPSI	Sidrap Palu	3.28	182	P	Pn	20 18 56.0	-0.1
BNSI	Bone	3.72	177	P	Pn	20 19 02.8	+0.7
KDI	Kendari	4.27	140	P	Pn	20 19 09.7	+0.1
KMSI	Cibinong	4.28	73	P	Pn	20 19 10.1	+0.3
BKSI	Bulukumba	4.64	177	P	Pn	20 19 13.7	-1.0
SANI	Sanana	6.26	103	P	Pn	20 19 34.6	-2.4

*JMA **18** 20:19:18.1±0.1, 24.°2N±0.°5×123.°8E±0.°4, h14km±1km, MV3.0/10, NEAR ISHIGAKIJIMA ISLAND*

ISC 18 20:19:18.3±0.9, 24.°19N±0.°05×123.°81E±0.°03, h13km±7km, n15, σ0§81/23, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	0.14	183	iP	Pg	20 19 21.4	-0.4
HATJ				S	Sg	20 19 24.2	0.0
IRIF	Iriomote-Funau	0.16	332	iP	Pg	20 19 22.0	-0.1
IRIF				S	Sg	20 19 25.1	+0.3
JKRS	Kuro-shima	0.18	76	iP	Pg	20 19 22.8	+0.2
JKRS				S	Sb	20 19 26.7	-0.4
JIJ	Ishigaki jima	0.35	61	iP	Pg	20 19 25.2	-0.1
JIJ				S	Sg	20 19 30.4	+0.4
JISG	Ishigakijimahi	0.60	49	iP	Pg	20 19 29.9	-0.1
JISG				S	Sb	20 19 39.0	0.0
YOJ	Yonaguni jima	0.78	290	P	Pb	20 19 33.7	0.0
YOJ	Yonaguni jima	0.78	290	P	Pb	20 19 33.6	0.0
YOJ				S	Sb	20 19 43.7	-0.4
JYNG	Yonagunijimaku	0.83	288	P	Pg	20 19 34.2	-0.2
JYNG				S	Sg	20 19 44.8	-0.6
JTJ	Tarama	0.93	61	P	Pn	20 19 36.7	-0.3
JTJ				S	Sg	20 19 49.1	+0.8
JMJ	Miyako jima 2	1.48	65	P	Pg	20 19 46.4	-0.5
NACB	Ninganchiao	2.02	270	P	Pn	20 19 52.6	+0.4
YHNB	Yeheng	2.27	283	P	Pb	20 19 58.0	-1.2
YULB	Yu-li	2.44	251	P	Pn	20 19 57.4	-0.5
SSLB	Suanglung	2.65	262	P	Pn	20 20 02.7	+2.0
TPUB	Ta-pu	3.05	254	P	Pn	20 20 08.4	+2.1

*JMA **18** 20:25:36.8±0.2, 24.°N±1.°×122.°6E±0.°6, h21km±3km, MV2.1/11, NW OFF ISHIGAKIJIMA IS*
*TAP **18** 20:25:37.7, 24.°12N×122.°64E, h31km, ML2.6, C*

ISC 18 20:25:37.1±1.1, 24.°03N±0.°03×122.°63E±0.°02, h24km±13km, n53, σ0§69/87, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.30	288	eP	Pn	20 25 45.1	-0.5
EOS4				eS	Sn	20 25 50.5	-0.6
EOS3	EOS3	0.39	312	⇓P	Pn	20 25 46.4	-0.5
EOS3				eS	Sn	20 25 52.9	-0.6
JYNG	Yonagunijimaku	0.51	34	S	Sb	20 25 54.3	-0.1
EOS2	EOS2	0.53	317	eP	Pn	20 25 48.9	-0.1
EOS2				eS	Sn	20 25 57.6	+0.4
YOJ	Yonaguni jima	0.55	39	eP	Pb	20 25 48.0	-0.2
YOJ				eS	Sb	20 25 55.9	+0.1
YOJ	Yonaguni jima	0.55	39	eP	Pb	20 25 47.8	-0.3
YOJ				eS	Sb	20 25 55.8	+0.1
EWUT	Wuta	0.88	298	eP	Pn	20 25 53.8	-0.1
EWUT				eS	Sn	20 26 06.5	+0.5
ESAO	Su ao	0.90	307	eP	Pn	20 25 54.2	0.0
ENA	Nanau	0.91	296	eP	Pn	20 25 54.1	-0.1
TWC	Suao	0.92	309	eP	Pn	20 25 54.1	-0.3
TWC				eS	Sn	20 26 07.0	+0.1
NACB	Ninganchiao	0.96	279	eP	Pn	20 25 54.5	-0.5
NACB				eS	Sn	20 26 07.8	-0.1
SHUL	Shoufeng	1.01	256	eP	Pn	20 25 55.4	-0.2
SHUL				eS	Sb	20 26 09.0	+0.3
NDS	Dongshan	1.03	306	eP	Pb	20 25 56.9	+0.7
ETM	Tongmen	1.04	267	eP	Pn	20 25 56.0	-0.2
IRIF	Iriomote-Funau	1.05	73	eP	Pb	20 25 56.4	-0.1
IRIF				eS	Sn	20 26 11.1	+1.1
ETLH	Xiulin Townshi	1.07	280	eP	Pn	20 25 56.3	-0.3
ETLH				eS	Sn	20 26 10.4	-0.2
LXIB	Xiulin Townshi	1.11	270	eP	Pn	20 25 56.9	-0.4
TWE	Neicheng	1.12	308	eP	Pb	20 25 58.2	+0.5
TWE				eS	Sb	20 26 11.9	0.0
LAYG	Datong	1.13	297	eP	Pb	20 25 58.0	0.0
ENTT	Nioudou	1.15	302	eP	Pb	20 25 58.3	0.0
EGFH	Guangfu	1.16	252	eP	Pn	20 25 57.5	-0.3
EGFH				eS	Sn	20 26 13.1	+0.2
WARBT	Fenglin Townsh	1.18	255	eP	Pn	20 25 57.6	-0.5
TIPB	Shuangxi	1.19	322	eP	Pn	20 25 58.2	0.0
FUSB	Fushanzhiwuyua	1.20	308	eP	Pb	20 25 59.2	0.0
NNSB	Datong	1.21	290	eP	Pb	20 25 58.8	-0.5
NNSB				eS	Sb	20 26 14.2	-0.4
WHF	Hehuan Shan	1.25	276	eP	Pn	20 25 59.4	-0.1
WHF				eS	Sn	20 26 15.8	0.0
SXI1	Grass Mountain	1.27	327	eP	Pn	20 25 59.1	-0.2
SXI1				eS	Sn	20 26 13.7	-1.9
NWLT	Wulai	1.27	306	eP	Pb	20 26 00.7	+0.4
NWLT				eS	Sb	20 26 17.3	+1.0
JKRS	Kuro-shima	1.27	80	eP	Pb	20 26 00.2	-0.2
JKRS				eS	Sb	20 26 17.6	+1.2
FUSS	Fushou	1.29	280	eP	Pn	20 26 00.1	+0.4
EHY	Hungye	1.31	247	eP	Pn	20 25 59.5	-0.3
EHY				eS	Sn	20 26 16.0	-0.5
YHNB	Yeheng	1.31	299	eP	Pb	20 26 00.5	-0.6
NSK	Sanguang	1.33	299	eP	Pn	20 26 00.4	+0.2
OWD	Renai	1.33	267	eP	Pn	20 26 00.3	0.0
OWD				eS	Sn	20 26 17.6	+0.2
YULB	Yu-li	1.38	243	eP	Pn	20 26 00.5	-0.3
YULB				eS	Sn	20 26 17.6	-0.6
EYUL	Yuli	1.38	241	eP	Pn	20 26 00.4	-0.4
WUSB	Renai	1.39	269	⇓P	Pn	20 26 01.2	+0.2
WUSB				eS	Sn	20 26 18.9	+0.2
VWDT	VWDT	1.39	259	eP	Pn	20 26 01.4	+0.5
VWDT				eS	Sn	20 26 18.5	0.0
TWF1	Yuli	1.40	241	eP	Pn	20 26 01.0	0.0
TWF1				eS	Sn	20 26 18.8	+0.1
JIJ	Ishigaki jima	1.42	76	eP	Pn	20 26 01.1	-0.2
JIJ				eS	Sb	20 26 19.9	-0.6
SSLB	Suanglung	1.55	261	eP	Pn	20 26 04.0	+0.8
SSLB				eS	Sb	20 26 23.8	-0.7
WCS	Beigang Elemen	1.57	271	eP	Pn	20 26 04.1	+0.7
TYC	Yuchr	1.63	266	eP	Pb	20 26 07.3	+0.9
JISG	Ishigakijimahi	1.63	70	eP	Pn	20 26 04.0	-0.2
JISG				eS	Sn	20 26 24.5	+0.1
WHYT	Xinyi Township	1.66	259	eP	Pn	20 26 05.6	+0.9
ELDTW	Lidau	1.70	241	eP	Pn	20 26 04.5	-0.8
ELDTW				eS	Sn	20 26 25.1	-1.3
ALS	Alishan	1.75	253	eP	Pn	20 26 07.0	+0.9
ALS				eS	Sn	20 26 28.3	+0.4
WJS	Zhushan	1.75	264	eP	Pb	20 26 09.0	+0.4
WJS				iS	Sb	20 26 33.2	+3.0
STYH	Taoyuan	1.91	244	eP	Pn	20 26 09.2	+1.2
STYH				eS

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	Nonsavu	2.98	274		P	20 27 01.9	+2.0
MSVF	Nonsavu	2.98	274	P	P	20 27 01.4	+1.6
MSVF	Nonsavu	2.98	274	⇓P	P	20 27 01.6	+1.7
MSVF	Nonsavu	2.98	274	*i*P	P	20 27 01.9	+2.0
FUTU	Fugatoga	3.69	11	P	P	20 27 04.2	-0.4
FUTU	Fugatoga	3.69	11	P	P	20 27 05.1	+0.5
AFI	Afiamalu	7.88	60	P	P	20 27 38.2	-4.0
AFI	Afiamalu	7.88	60	P	P	20 27 38.2	-4.0
NIUE	Niue	8.52	99		P	20 27 47.7	-0.7
NIUE	Niue	8.52	99	P	P	20 27 48.6	+0.2
NIUE	Niue	8.52	99	⇓P	P	20 27 47.5	-0.9
FUNA	Funafuti	9.57	348	P	P	20 27 58.5	-0.8
FUNA	Funafuti	9.57	348	P	P	20 27 58.2	-1.1
FUNA	Funafuti	9.57	348	⇑P	P	20 27 57.3	-2.0
RAO	Raoul Island	11.28	176	P	P	20 28 15.4	-1.2
RAO	Raoul Island	11.28	176	P	P	20 28 15.6	-1.1
	3μm,0.3s,baz=67,slow=3.4,SNR=29						
RAO				S	S	20 30 20.4	-0.5
	2μm,0.7s,baz=90,slow=20,SNR=1.8						
RAO	Raoul Island	11.28	176	P	P	20 28 16.1	-0.6
RAO	Raoul Island	11.28	176	⇑P	P	20 28 15.3	-1.4
MARNC	Mare, Loyalty	12.86	252	P	P	20 28 32.7	-0.6
	74nm,0.6s						
MARNC	Mare, Loyalty	12.86	252	⇑P	P	20 28 31.7	-1.6
VLAKA	Lakatoro	13.28	276	P	P	20 28 37.0	-0.7
LIFNC	LIFOU	13.45	256	P	P	20 28 37.5	-1.9
PINNC	Pines Island,	13.69	248	P	P	20 28 40.9	-1.0
PINNC	Pines Island,	13.69	248	P	P	20 28 41.2	-0.7
	7μm,1.0s						
YATNC	Mamie plateau,	14.03	251	P	P	20 28 44.2	-1.3
	2μm,2.8s						
OUENC	Ouen Island, N	14.17	249	P	P	20 28 45.9	-1.0
DZM	Mont Dzumac	14.44	251		P	20 28 48.3	-1.5
DZM	Mont Dzumac	14.44	251	*e*P	P	20 28 47.1	-2.7
	5μm,1.4s						
DZM				*e*S	S	20 31 18.2	-3.3
	1μm,1.2s						
DZM	Mont Dzumac	14.44	251	P	P	20 28 47.9	-1.9
	322nm,0.5s,baz=90,slow=8.2,SNR=165						
DZM				S	S	20 31 21.4	-0.1
	167nm,1.0s,baz=131,slow=23,SNR=1.2						
DZM	Mont Dzumac	14.44	251	P	P	20 28 48.9	-0.9
ONTNC	Ouen Toro	14.48	250	P	P	20 28 48.8	-1.4
ONTNC	Ouen Toro	14.48	250	P	P	20 28 49.5	-0.7
ONTNC	Ouen Toro	14.48	250	⇑P	P	20 28 48.7	-1.4
NOUC	Port Laguerre	14.57	251	P	P	20 28 50.3	-0.8
KOUNC	Koumac, New Ca	16.15	258		P	20 29 06.1	-1.2
KOUNC	Koumac, New Ca	16.15	258	P	P	20 29 06.1	-1.2
	13μm,1.1s						
KOUNC	Koumac, New Ca	16.15	258	⇓P	P	20 29 06.1	-1.2
NFK	Norfolk Island	16.39	225	P	P	20 29 11.6	+2.2
NFK	Norfolk Island	16.39	225	⇓P	P	20 29 10.9	+1.5
LUES	Luesalemba Tem	16.46	294	P	P	20 29 08.8	-1.5
RAR	Rarotonga	18.24	103	P	P	20 29 27.5	+0.9
RAR	Rarotonga	18.24	103	P	P	20 29 27.1	+0.5
	1μm,1.0s,baz=255,slow=6.7,SNR=106						
RAR	Rarotonga	18.24	103	P	P	20 29 27.4	+0.9
RAR	Rarotonga	18.24	103	P	P	20 29 27.5	+0.9
OUZ	Omahuta	18.47	200	P	P	20 29 30.4	+1.9
KUZ	Kuaotunu	19.33	193	P	P	20 29 36.5	+0.2
MXZ	Matakaoa Point	19.70	187	P	P	20 29 38.1	-1.5
MXZ	Matakaoa Point	19.70	187	P	P	20 29 38.5	-1.1
WSRZ	White Island S	19.80	189	P	P	20 29 43.9	+3.2
WIZ	White Island	19.81	189	P	P	20 29 41.5	+0.9
HAZ	Te Kaha	19.95	188	P	P	20 29 39.9	-2.0
HURO	Huro Makira	20.10	289	P	P	20 29 42.9	-0.7
TGRZ	Tauranga	20.16	191	P	P	20 29 46.2	+2.3
WHRZ	Whale Island	20.16	190	P	P	20 29 44.8	+0.9
RUGZ	Raukumara Rang	20.17	188	P	P	20 29 42.2	-1.8
RUGZ				S	S	20 32 57.9	+0.6
PUZ	Puketiti	20.20	187	P	P	20 29 43.9	-0.4
PUZ				S	S	20 33 02.4	+4.8
OPRZ	Ohinepanea	20.22	191	P	P	20 29 45.5	+1.1
TOZ	Tahuroa Road	20.32	193	P	P	20 29 46.5	+1.3
TOZ	Tahuroa Road	20.32	193	P	P	20 29 47.1	+1.8
TWGZ	Tauwhareparae	20.34	187	P	P	20 29 44.7	-0.8
TWGZ				S	S	20 33 03.3	+3.5
KMRZ	Kaimai	20.34	192	P	P	20 29 46.1	+0.6
LIRZ	Lichensteins R	20.41	191	P	P	20 29 48.8	+2.7
EDRZ	Edgecumbe	20.45	190	P	P	20 29 48.3	+1.7
KARZ	Kaharoa	20.45	191	P	P	20 29 47.8	+1.3
OMRZ	Omania	20.51	191	P	P	20 29 49.6	+2.6
MKRZ	Makatiti	20.53	191	P	P	20 29 49.9	+2.7
URZ	Urewera	20.54	189	P	P	20 29 44.5	-2.7
	786nm,0.5s,baz=99,slow=2.6,SNR=166						
URZ				S	S	20 32 54.8	-8.0
	80nm,0.6s,baz=284,slow=20,SNR=1.7						
	786nm,0.5s						
URZ	Urewera	20.54	189	P	P	20 29 44.8	-2.5
URZ				S	S	20 33 03.7	+0.9
URZ	Urewera	20.54	189	P	P	20 29 45.0	-2.2
URZ	Urewera	20.54	189	⇓P	P	20 29 43.6	-3.7
NGRZ	Ngongotaha	20.54	191	P	P	20 29 52.0	+4.6
MWZ	Matawai	20.55	188	P	P	20 29 45.6	-1.8
MWZ				S	S	20 33 01.4	-1.7
UTU	Utuhina	20.61	191	P	P	20 29 50.8	+2.9
TARZ	Mount Tarawera	20.61	190	P	P	20 29 48.8	+0.8
TKGZ	Te Karaka	20.61	187	P	P	20 29 48.5	+0.6
TKGZ				S	S	20 33 03.2	-0.8
CNGZ	Carnagh Statio	20.62	187	P	P	20 29 48.4	+0.4
CNGZ				S	S	20 33 09.2	+5.1
HLRZ	Highlands Stat	20.66	191	P	P	20 29 50.6	+2.2
RRRZ	Republican Roa	20.71	190	P	P	20 29 42.2	-6.7
RAGZ	Rawiri	20.73	188	P	P	20 29 48.0	-1.0
RAGZ				S	S	20 33 03.6	-2.4
HSRZ	Hossack Road	20.73	191	P	P	20 29 51.4	+2.4
HRRZ	Handcock Road	20.80	191	P	P	20 29 50.3	+0.6
MUGZ	Murupara	20.80	190	P	P	20 29 48.8	-0.9
TARA	Tarawa	20.84	336	P	P	20 29 49.6	-0.6
RIGZ	Rimuhau	20.89	188	P	P	20 29 49.9	-0.6
TLZ	Tolley Road	20.89	193	P	P	20 29 52.7	+2.2
PRRZ	Plateau Road	20.89	191	P	P	20 29 50.3	-0.2
RTZ	Ruatahuna	20.91	189	P	P	20 29 48.5	-2.2
RTZ	Ruatahuna	20.91	189	P	P	20 29 48.3	-2.4
WPRZ	Whakapapatarin	20.95	191	P	P	20 29 53.1	+2.1
ALRZ	Allen Road	20.96	191	P	P	20 29 52.5	+1.4
KUTZ	Kaahu Road	20.98	192	P	P	20 29 52.8	+1.4
SNGZ	Shannon Statio	21.02	188	P	P	20 29 51.6	0.0
PRGZ	Paritu Road	21.09	187	P	P	20 29 52.7	+0.5
KNZ	Kokohu	21.21	188	P	P	20 29 52.9	-0.4
HIZ	Hauiti	21.21	194	P	P	20 29 56.8	+3.5
HIZ	Hauiti	21.21	194	P	P	20 29 55.5	+2.1
MRHZ	Matea Rd	21.21	190	P	P	20 29 52.5	-1.0
WHHZ	Waihua	21.32	188	P	P	20 29 55.2	+0.9
HATZ	Hinemaiaia	21.32	191	P	P	20 29 53.9	-0.5
RATZ	Rangitukua	21.36	192	P	P	20 29 54.7	-0.1
NMHZ	Naumai	21.41	189	P	P	20 29 54.8	-0.4
KATZ	Kakaramea	21.48	192	P	P	20 29 56.5	+0.6
BKZ	Black Stump Fm	21.52	190	P	P	20 29 54.5	-1.8
BKZ	Black Stump Fm	21.52	190	P	P	20 29 54.7	-1.5
BKZ	Black Stump Fm	21.52	190	P	P	20 29 54.4	-1.8
ARHZ	Aropaoanui	21.54	189	P	P	20 29 56.6	+0.4
NTVZ	North Tongarir	21.60	192	P	P	20 29 57.1	0.0
KRVZ	Karewarewa	21.61	192	P	P	20 29 58.0	+1.0
TMVZ	Te Maari	21.61	192	P	P	20 29 56.3	-0.8
TWVZ	Taurewa	21.62	192	P	P	20 29 56.5	-0.6
ETVZ	East Tongariro	21.63	192	P	P	20 29 56.2	-1.1
WTVZ	West Tongariro	21.64	192	P	P	20 29 56.9	-0.4
NNVZ	North Ngauruho	21.65	192	P	P	20 29 57.1	-0.3
OTVZ	Oturere	21.67	192	P	P	20 29 56.2	-1.5
NGZ	Ngauruhoe	21.69	192	P	P	20 29 57.4	-0.4
SNVZ	South Ngauruho	21.70	192	P	P	20 29 57.5	-0.4
COVZ	Chateau Observ	21.73	192	P	P	20 29 57.4	-0.7
MCHZ	McNeill Hill	21.76	189	P	P	20 29 57.4	-0.9
TUVZ	Tukino	21.77	192	P	P	20 29 57.6	-0.9
FWVZ	Far West T-bar	21.78	192	P	P	20 29 57.8	-0.9
KWHZ	Kaweka Forest	21.79	190	P	P	20 29 57.2	-1.3
MAVZ	Matarangi	21.79	192	P	P	20 29 59.1	+0.2
WHVZ	Whangaehu Hut	21.80	192	P	P	20 29 57.9	-1.0
TRVZ	Turoa	21.82	192	P	P	20 29 58.1	-1.0
WNVZ	Wahianoa	21.84	192	P	P	20 29 57.7	-1.5
PKVZ	Pokaka	21.85	192	P	P	20 29 58.8	-0.4
MOVZ	Moawhango	21.89	191	P	P	20 29 58.0	-1.5
ALEG	Aligegeo Malai	21.90	292	P	P	20 29 59.6	-0.3
CKHZ	Cape Kidnapper	21.92	188	P	P	20 29 59.4	-0.3
MTVZ	Mangateitei	21.92	192	P	P	20 30 00.7	+0.9
KRHZ	Kereru	22.01	190	P	P	20 29 58.8	-1.7
PKE	Pukeiti	22.07	195	P	P	20 30 05.3	+4.2
KAHZ	Kahuranaki	22.08	189	P	P	20 30 00.3	-0.9
NEZ	North Egmont	22.11	195	P	P	20 30 04.9	+3.4
KHEZ	Kahui Hut	22.15	195	P	P	20 30 05.7	+3.7
KHEZ	Kahui Hut	22.15	195	P	P	20 30 04.2	+2.3
PREZ	Palmer Road	22.16	195	P	P	20 30 05.3	+3.3
HNR	Honiara	22.28	290	P	P	20 30 02.0	-1.2
HNR	Honiara	22.28	290	P	P	20 30 02.2	-1.0
	973nm,0.7s,baz=159,slow=5.1,SNR=29						
	973nm,0.7s						
HNR	Honiara	22.28	290	P	P	20 30 03.3	+0.1
HNR	Honiara	22.28	290	⇓P	P	20 30 01.9	-1.4
PXZ	Pawanui	22.31	189	P	P	20 30 01.9	-1.2
WPHZ	Waipukurau	22.41	190	P	P	20 30 05.3	+1.2
DVHZ	Dannevirke	22.68	190	P	P	20 30 05.7	-0.9
TATA	Tatamba Isabel	22.85	292	P	P	20 30 07.4	-1.0
BFZ	Birch Farm	23.04	190	P	P	20 30 08.1	-1.6
SNZO	South Karori	23.93	192	P	P	20 30 16.0	-1.5
SNZO	South Karori	23.93	192	P	P	20 30 16.8	-0.8
QRZ	Quartz Range	23.98	196	P	P	20 30 18.1	+0.1
LHI	Lord Howe Isla	24.14	232	P	P	20 30 20.6	+1.0
KHZ	Kahutara	25.23	193	P	P	20 30 27.6	-1.5
KHZ	Kahutara	25.23	193	⇑P	P	20 30 26.5	-2.6
CTZ	Chatham Island	25.77	176	P	P	20 30 36.2	+2.4
RPZ	Rata Peaks	27.06	196	P	P	20 30 44.1	-1.2
GC1S	Gold Coast 1 S	27.34	243	P	P	20 30 49.0	+1.1
	2μm,0.8s						
AUWSH	Wavell State H	27.55	245	P	P	20 30 51.0	+1.2
PAE	Paea	27.84	94	*e*P	P	20 30 52.6	+0.2
	1μm,1.3s						
PAE				*e*pP	pP	20 32 16.5	-1.8
	503nm,1.4s						
PAE				*e*ScP	ScP	20 36 42.0	+0.9
	95nm,1.3s						
PPT2	Papeete2	27.84	94	*e*P	P	20 30 47.6	-5.0
	2μm,27.5s						
PPT2	Papeete2	27.84	94	*e*P	P	20 30 52.7	+0.1
	2μm,1.3s						
PPT2				*e*pP	pP	20 32 16.0	-2.5
PPT2				*e*pP	pP	20 32 17.0	-1.5
	1μm,1.2s						
PPT2				*e*sP	sP	20 33 20.2	-0.9
PPT2				*e*sP	sP	20 33 20.2	-0.9
	27μm,40.5s						
PPT2				*e*S	S	20 34 51.3	-7.1
	11μm,41.8s						
PPT2				*e*S	S	20 34 58.0	-0.4
	37μm,43.8s						
PPT2				*e*ScP	ScP	20 36 42.0	+0.8
	319nm,1.2s						
PPT2				*e*sS	sS	20 37 33.7	-10
	9μm,40.8s						
PPT2				*e*sS	sS	20 37 38.5	-4.7
	18μm,28.5s						
PPT2				*e*LR	LR	20 38 46.4	
	12μm,26.5s						
PPT2				*e*LR	LR	20 38 49.1	
	7μm,28.2s						
PPT	Papeete	27.85	94	P	P	20 30 53.6	+1.1
	1μm,0.7s,baz=217,slow=3.0,SNR=140						
	1μm,0.7s						
PPTF	Pamatai, Papee	27.86	94	P	P	20 30 53.5	+0.9
PPTF	Pamatai, Papee	27.86	94	P	P	20 30 53.5	+0.9
TBI	Tubuai	27.97	106	*e*P	P	20 30 49.4	-4.1
	3μm,27.0s						
TBI	Tubuai	27.97	106	*e*P	P	20 30 54.7	+1.2
	677nm,0.7s						
TBI				*e*pP	pP	20 32 16.2	-3.3
	2μm,1.3s						
TBI				*e*pP	pP	20 32 16.9	-2.6
	573nm,13.2s						
TBI				*e*sP	sP	20 33 20.8	0.0
	53μm,28.8s						
TBI				*e*sP	sP	20 33 22.0	+1.2
TBI				*e*S	S	20 34 55.9	-4.1
	14μm,31.5s						
TBI				*e*S	S	20 34 59.4	-0.6
	75μm,44.5s						
TBI				*e*sS	sS	20 37 41.7	-3.3
	48μm,24.2s						
TBI				*e*sS	sS	20 37 43.8	-1.2
	13μm,24.0s						
JCZ	Jackson Bay	28.05	199	P	P	20 30 54.6	+0.6
ODZ	Otahua Downs	28.41	196	P	P	20 30 56.6	-0.4
ODZ	Otahua Downs	28.41	196	⇓P	P	20 30 54.8	-2.2
TW1H	Toowoomba 1 Ha	28.51	245	P	P	20 30 58.3	+0.1
GD1S	Gladstone Soft	28.60	253	P	P	20 30 59.7	+0.7
EIDS	Eidsvold	28.88	250	P	P	20 31 00.7	-0.8
EIDS				PcP	PcP	20 33 53.3	-0.3
EIDS	Eidsvold	28.88	250	P	P	20 31 00.6	-0.8
EIDS	Eidsvold	28.88	250	⇓P	P	20 31 00.1	-1.3
RK1H	Rockhampton Ha	29.17	254	P	P	20 31 04.6	+0.6
ARMA	Armidale	29.57	240	P	P	20 31 07.4	-0.1
ARMA	Armidale	29.57	240	P	P	20 31 07.5	0.0
ARMA	Armidale	29.57	240	⇑P	P	20 31 07.4	-0.1
PMOR	Pomariorio Ree	29.79	89	*e*P	P	20 31 10.1	+0.7
	4μm,1.3s						
PMOR				*e*pP	pP	20 32 35.8	-1.1
	2μm,1.4s						
PMOR				*e*ScP	ScP	20 36 48.1	+0.7
	1μm,1.3s						
VAH	Vaihoa	30.00	89	*e*P	P	20 31 11.5	+0.3
	3μm,1.3s						
VAH				*e*pP	pP	20 32 36.7	-2.2
	2μm,1.6s						
VAH				*e*ScP	ScP	20 36 49.0	+0.9
	617nm,1.3s						
KWJN	Gagan, Kwajale	30.19	332	P	P	20 31 13.6	+0.8
SYZ	Scrubby Hill	30.19	197	P	P	20 31 13.2	+0.8
NTLH	Newcastle Hard	30.36	235	P	P	20 31 14.6	+0.5
AUPHS	Peel High Scho	30.39	239	P	P	20 31 14.1	-0.3
PYZ	Puysegur Point	30.59	200	P	P	20 31 16.8	+0.9
ALOT	Alotau	30.70	280	P	P	20 31 17.9	+0.6
MGCD	Mangrove Creek	30.94	235	P	P	20 31 19.1	0.0
RIV	Riverview	31.14	234	P	P	20 31 21.4	+0.6
RIV	Riverview	31.14	234	⇓P	P	20 31 21.9	+1.1
SYDH	Sydney Hard Ro	31.43	234	P	P	20 31 23.4	+0.1
RABL	Rabaul	31.51	292	P	P	20 31 22.8	-1.5
RABL				IAmb	IAmb	20 31 34.4	
	comp=Z,1μm,0.6s						
WOLH	Wollongong Har	31.58	233	P	P	20 31 24.6	0.0
AUAYR	Ayr State High	31.98	262	P	P	20 31 27.8	-0.3
AUUHS	Ulladulla High	32.27	231	P	P	20 31 30.2	-0.2
AULRC	Lightning Ridg	32.36	243	P	P	20 31 30.6	-0.7
BULU	Kimbe	32.57	288	P	P	20 31 32.7	-0.5
AUDCS	Dubbo College	32.57	238	P	P	20 31 33.0	0.0
TV1H	Townsville Har	32.58	262	P	P	20 31 32.0	-1.2
CTA	Charters Tower	33.05	261	P	P	20 31 35.9	-1.3
CTAO	Charters Tower	33.05	261	P	P	20 31 36.1	-1.3
CTAO	Charters Tower	33.05	261	P	P	20 31 35.9	-1.3
CTAO	Charters Tower	33.05	261	⇓P	P	20 31 36.0	-1.3
CTAO	Charters Tower	33.05	261	P	P	20 31 36.0	-1.3
CTAO				pmax	pmax		
	comp=Z,2μm,0.7s						
CTAO	Charters Tower	33.05	261	P	P	20 31 36.2	-1.0
CTAO				pP	pP	20 33 08.5	+1.4
CTAO				ScP	ScP	20 37 00.7	+2.2
CNB	Canberra Magne	33.08	232	P	P	20 31 37.4	0.0
CAN	Canberra	33.36	232	P	P	20 31 39.3	-0.4
CAN				IAmb	IAmb	20 31 43.0	
	comp=Z,2μm,1.1s						
CAN	Canberra	33.36	232	P	P	20 31 39.5	-0.2
CAN	Canberra	33.36	232	P	P	20 31 39.3	-0.4
CAN				pmax	pmax		
	comp=Z,2μm,1.1s						
CAN	Canberra	33.36	232	P	P	20 31 39.5	-0.2
CAN				ScP	ScP	20 37 00.5	+1.1
YNG	Young	33.44	234	P	P	20 31 40.5	+0.1
PMG	Port Moresby	34.08	280	P	P	20 31 45.5	-0.4
PMG	Port Moresby	34.08	280	P	P	20 31 45.2	-0.7
	comp=Z,611nm,0.8s,baz=81,slow=6.1,SNR=292						
PMG				ScP	ScP	20 37 03.9	+1.7
	comp=Z,85nm,0.9s,baz=104,slow=4.6,SNR=7.1						
	comp=Z,611nm,0.8s						
PMG	Port Moresby	34.08	280	P	P	20 31 45.5	-0.4
PMG	Port Moresby	34.08	280	P	P	20 31 45.6	-0.4
PMG	Port Moresby	34.08	280	⇓P	P	20 31 45.2	-0.7
PMG	Port Moresby	34.08	280	*d*iP	P	20 31 46.4	+0.5
PMG				pmax	pmax		
	comp=Z,5μm,1.8s						
PMG	Port Moresby	34.08	280	P	P	20 31 45.7	-0.2
PMG				pP	pP	20 33 17.2	+0.7
PMG				ScP	ScP	20 37 03.6	+1.4
AUSMG	Snowy Mountain	34.08	231	P	P	20 31 45.5	-0.3
CMSA	Cobar Meteorol	34.78	240	P	P	20 31 50.5	-1.1
MTSU	Mount Surprise	35.01	264	P	P	20 31 52.4	-1.3
QLP	Quilpie	35.15	249	P	P	20 31 53.5	-1.2
QLP	Quilpie	35.15	249	⇓P	P	20 31 53.6	-1.1
JOHN	Johnston Islan	35.66	15	P	P	20 31 59.1	+0.1
JOHN	Johnston Islan	35.66	15	P	P	20 31 59.1	+0.1
JOHN	Johnston Islan	35.66	15	⇑P	P	20 31 59.1	+0.1
JOHN	Johnston Islan	35.66	15	P	P	20 31 59.0	-0.1
JOHN				pP	pwP	20 33 32.4	-1.0
AUSSC	Sale College,	35.88	229	P	P	20 32 01.5	+0.8
GLAD	Gladstone	36.54	224	P	P	20 32 05.6	-0.4
COEN	Coen	36.71	271	P	P	20 32 07.1	-0.7
COEN	Coen	36.71	271	⇓P	P	20 32 06.9	-0.9
MANU	Manus Island	36.75	292	P	P	20 32 08.1	-0.1
TOO	Toolangi	36.83	231	IAmb	IAmb	20 32 12.0	
	comp=Z,2μm,1.1s						
AUMAG	Moama Anglican	36.86	233	P	P	20 32 09.2	+0.4
CORO	Coronation Par	37.34	224	P	P	20 32 12.6	+0.1
MLBS	Spotswood, Mel	37.37	231	P	P	20 32 14.6	+1.7
MOO	Moorlands	37.79	222	P	P	20 32 16.8	+0.5
AUTAR	Taroona High S	37.93	222	P	P	20 32 18.4	+1.0
TAU	Tasmania Unive	37.94	222	P	P	20 32 17.6	+0.1
TAU				IAmb	IAmb	20 32 20.5	
	comp=Z,1μm,1.2s						
TAU	Tasmania Unive	37.94	222	P	P	20 32 18.6	+1.1
TAU	Tasmania Unive	37.94	222	⇑P	P	20 32 17.0	-0.5
TAU	Tasmania Unive	37.94	222	P	P	20 32 17.6	+0.1
TAU				pmax	pmax		
	comp=Z,1μm,1.3s						
TAU	Tasmania Unive	37.94	222	P	P	20 32 16.8	-0.7
GEXS	Deakin Univers	37.95	230	P	P	20 32 19.6	+2.0
BRAT	Ballarat	37.98	231	P	P	20 32 18.1	+0.2
STKA	Stephens Creek	38.26	241	IAmb	IAmb	20 32 23.7	
	comp=Z,1μm,1.2s						
STKA	Stephens Creek	38.26	241	P	P	20 32 20.0	-0.3
	comp=Z,1μm,0.4s,baz=90,slow=10.0,SNR=659						
STKA				ScP	ScP	20 37 19.9	+2.3
	comp=Z,238nm,1.1s,baz=70,slow=4.3,SNR=4.9						
STKA				P3KPbc		21 02 19.3	
	comp=Z,16nm,1.1s,baz=240,slow=5.9,SNR=14						
	comp=Z,1μm,0.4s						
STKA	Stephens Creek	38.26	241	P	P	20 32 19.9	-0.3
STKA	Stephens Creek	38.26	241	P	P	20 32 20.0	-0.3
INKA	Innaminka	38.36	248	P	P	20 32 20.9	-0.2
TAOE	Nuku Hiva Isla	38.63	82	P	P	20 32 24.6	+1.1
TAOE				IAmb	IAmb	20 32 28.5	
	comp=Z,590nm,0.7s						
TAOE	Nuku Hiva Isla	38.63	82	⇑*i*P	P	20 32 24.7	+1.1
	comp=Z,1μm,0.7s						
TAOE				*e*pP	pP	20 33 58.0	+0.7
	comp=Z,871nm,1.4s						
TAOE				*e*ScP	ScP	20 37 21.0	+1.7
	comp=Z,471nm,1.4s						
TAOE	Nuku Hiva Isla	38.63	82	P	P	20 32 24.5	+0.9
TAOE	Nuku Hiva Isla	38.63	82	P	P	20 32 24.5	+0.9
H11S2	WAKE ISLAND Hy	38.91	338	P	P	20 32 25.1	-0.3
	baz=150,slow=6.6,SNR=26						
H11S3	WAKE ISLAND Hy	38.92	338	P	P	20 32 25.0	-0.5
	baz=150,slow=6.6,SNR=35						
H11S1	WAKE ISLAND Hy	38.93	338	P	P	20 32 25.1	-0.4
	baz=150,slow=6.6,SNR=25						
QIS	Mount Isa	39.26	259	P	P	20 32 28.2	-0.3
ARPS	Mount Arapiles	39.30	233	P	P	20 32 28.2	-0.4
AUHPC	Hawkesdale P12	39.37	231	P	P	20 32 30.9	+1.8
WAKE	Wake Island	39.66	338	P	P	20 32 31.2	-0.4
WAKE	Wake Island	39.66	338	P	P	20 32 31.3	-0.4
WAKE	Wake Island	39.66	338	⇑P	P	20 32 31.4	-0.3
WAKE	Wake Island	39.66	338	P	P	20 32 31.1	-0.4
WAKE				ScP	ScP	20 37 24.8	+1.8
H11N3	WAKE ISLAND Hy	39.97	339	P	P	20 32 33.9	0.0
	baz=178,slow=10,SNR=111						
H11N1	WAKE ISLAND Hy	39.98	339	P	P	20 32 32.8	-1.1
	baz=178,slow=10,SNR=164						
H11N2	WAKE ISLAND Hy	39.99	339	P	P	20 32 34.0	0.0
	baz=178,slow=10,SNR=126						
MCQ	Macquarie Isla	40.28	200	P	P	20 32 37.5	+1.4
MCQ				IAmb	IAmb	20 32 39.6	
	comp=Z,1μm,1.3s						
MCQ	Macquarie Isla	40.28	200	P	P	20 32 37.9	+1.8
MCQ	Macquarie Isla	40.28	200	⇑P	P	20 32 37.2	+1.1
MCQ	Macquarie Isla	40.28	200	P	P	20 32 37.5	+1.4
MCQ				pmax	pmax		
	comp=Z,1μm,1.3s						
MGBR	Mount Gambier	40.55	233	P	P	20 32 39.4	+0.8
MMPI	Meraukе	40.73

MULG	Mulgathing	44.43 245	P	P	20 33 07.7	-1.5
PTCN	Pitcairn Islan	45.69 108	P	P	20 33 20.3	+1.4
MIDW	Midway	45.92 2	P	P	20 33 19.6	-0.8
MIDW			IAmb	IAmb	20 33 20.7	
	comp=Z,2μm,1.1s					
MIDW	Midway	45.92 2	P	P	20 33 19.8	-0.7
MIDW	Midway	45.92 2	P	P	20 33 19.7	-0.8
MIDW			ScP	ScP	20 37 50.4	+2.2
KDU	Kakadu	47.16 269	P	P	20 33 28.5	-1.7
KDU	Kakadu	47.16 269	⇓P	P	20 33 28.5	-1.7
GUMO	Guam	47.59 309	P	P	20 33 33.1	-0.3
GUMO	Guam	47.59 309	P	P	20 33 32.4	-0.9
	comp=Z,827nm,0.6s,baz=154,slow=8.8,SNR=47					
	comp=Z,827nm,0.6s					
GUMO	Guam	47.59 309	P	P	20 33 33.2	-0.1
GUMO	Guam	47.59 309	⇑P	P	20 33 33.2	-0.1
GUMO	Guam	47.59 309	P	P	20 33 33.1	-0.3
GUMO			pmax	pmax		
	comp=Z,2μm,0.8s					
GUMO	Guam	47.59 309	P	P	20 33 33.3	-0.1
GUMO			ScP	ScP	20 37 56.9	+1.2
MTN	Manton Dam	48.40 269	P	P	20 33 37.6	-1.9
MTN	Manton Dam	48.40 269	⇓P	P	20 33 37.4	-2.0
KMPI	Kaimana, Papua	48.58 281	P	P	20 33 39.6	-1.2
	comp=Z,4μm,1.4s,comp=Z,51μmcomp=Z,36μm					
DRS	Darwin Rock St	48.71 269	P	P	20 33 41.0	-0.8
RKPI	Ransiki, Papua	48.92 284	P	P	20 33 43.1	-0.3
	comp=Z,2μm,1.6s,comp=Z,40μmcomp=Z,32μm					
WRKA	Warakurna	49.45 252	P	P	20 33 45.9	-1.3
WRKA	Warakurna	49.45 252	⇓P	P	20 33 45.0	-2.2
SAUI	Saumlaki	49.47 275	P	P	20 33 48.2	+0.8
SAUI	Saumlaki	49.47 275	⇑P	P	20 33 47.9	+0.5
SAUI	Saumlaki	49.47 275	P	P	20 33 47.0	-0.4
	comp=Z,4μm,1.4s					
FORT	Forrest	49.63 245	P	P	20 33 46.7	-1.7
FORT	Forrest	49.63 245	⇓P	P	20 33 46.6	-1.7
FAKI	Fak Fak	50.20 281	P	P	20 33 51.3	-1.5
FAKI			IAmb	IAmb	20 33 54.7	
	comp=Z,3μm,1.4s					
FAKI	Fak Fak	50.20 281	P	P	20 33 52.6	-0.2
FAKI	Fak Fak	50.20 281	⇑P	P	20 33 51.3	-1.5
FAKI	Fak Fak	50.20 281	P	P	20 33 50.8	-2.0
	comp=Z,1μm,1.6s,comp=Z,33μm					
BNDI	Bandanaira	51.85 279	P	P	20 34 04.7	0.0
BNDI	Bandanaira	51.85 279	⇑P	P	20 34 03.9	-0.9
BNDI	Bandanaira	51.85 279	P	P	20 34 04.1	-0.6
	comp=Z,4μm,2.4s					
SWI	Sorong	51.87 283	P	P	20 34 02.9	-2.0
FITZ	Fitzroy Crossi	52.63 261	P	P	20 34 09.2	-1.1
	comp=Z,845nm,0.6s,baz=102,slow=4.4,SNR=748					
FITZ			S	S	20 40 57.8	+0.1
	comp=Z,24nm,0.8s,baz=292,slow=19,SNR=6.2					
FITZ			PKPPKP	P'P'df	21 04 28.9	-1.6
	comp=Z,19nm,1.1s,baz=277,slow=2.0,SNR=9.3					
	comp=Z,845nm,0.6s					
MSAI	Masohi	53.16 280	P	P	20 34 12.8	-1.3
	comp=Z,2μm,0.6s,comp=Z,22μmcomp=Z,32μm					
AAI	Ambon	53.73 279	P	P	20 34 16.4	-1.8
NLAI	Namlea	54.91 279	P	P	20 34 24.9	-1.6
	comp=Z,2μm,1.4s,comp=Z,42μmcomp=Z,29μm					
KMBL	Kambalda	54.93 244	P	P	20 34 24.6	-1.8
LBMI	Labuha	55.44 282	P	P	20 34 29.9	-0.3
	comp=Z,2μm,1.1s,comp=Z,28μm					
DRV	Dumont d'Urvil	55.49 199	P	P	20 34 29.0	-0.6
DRV			pP	pP	20 36 13.1	+0.5
DRV			ScP	ScP	20 38 30.1	+1.1
SOEI	Soe	55.67 270	P	P	20 34 31.0	-0.9
SOEI	Soe	55.67 270	P	P	20 34 31.9	0.0
SOEI	Soe	55.67 270	⇓P	P	20 34 32.0	0.0
SOEI	Soe	55.67 270	P	P	20 34 31.4	-0.5
TNTI	Ternate	56.09 283	P	P	20 34 34.0	-0.6
TNTI			IAmb	IAmb	20 34 39.7	
	comp=Z,2μm,1.0s					
TNTI	Ternate	56.09 283	P	P	20 34 34.4	-0.2
TNTI	Ternate	56.09 283	⇑P	P	20 34 34.4	-0.2
TNTI	Ternate	56.09 283	P	P	20 34 33.1	-1.5
	comp=Z,3μm,1.3s,comp=Z,31μmcomp=Z,17μm					
BATI	Baumata	56.13 270	PKPPKP		21 04 22.6	
	comp=Z,12nm,0.4s,baz=23,slow=15,SNR=5.5					
BATI	Baumata	56.13 270	P	P	20 34 35.0	0.0
	comp=Z,2μm,0.9s,comp=Z,47μm					
SANI	Sanana	56.36 280	P	P	20 34 33.8	-2.7
SANI	Sanana	56.36 280	P	P	20 34 34.9	-1.6
SANI	Sanana	56.36 280	⇓P	P	20 34 34.6	-1.9
SANI	Sanana	56.36 280	P	P	20 34 34.6	-1.9
	comp=Z,2μm,1.1s,comp=Z,32μmcomp=Z,30μm					
PSA00	Pilbara Seismi	57.51 256	IAmb	IAmb	20 34 45.3	
	comp=Z,2μm,0.8s					
PSA00	Pilbara Seismi	57.51 256	P	P	20 34 42.8	-1.5
MBWA	Marble Bar	57.68 256	P	P	20 34 43.7	-1.7
MBWA	Marble Bar	57.68 256	P	P	20 34 44.2	-1.3
MBWA	Marble Bar	57.68 256	P	P	20 34 44.1	-1.3
MBWA	Marble Bar	57.68 256	⇓P	P	20 34 43.7	-1.7
MBWA	Marble Bar	57.68 256	P	P	20 34 43.8	-1.7
MBWA			ScP	ScP	20 38 40.1	+0.4
MMRI	Maumere	57.90 271	P	P	20 34 46.2	-0.9
MMRI	Maumere	57.90 271	⇑P	P	20 34 46.1	-0.9
MMRI	Maumere	57.90 271	P	P	20 34 45.3	-1.8
	comp=Z,2μm,0.7s,comp=Z,34μmcomp=Z,34μm					
MEEK	Meekatharra	58.04 249	P	P	20 34 46.1	-1.8
AUALB	St Joseph's Co	58.24 240	P	P	20 34 47.9	-1.1
KLBR	Kellerberrin	58.45 244	P	P	20 34 48.7	-1.9
BBSI	Bau Bau	58.48 275	P	P	20 34 50.7	-0.3
	comp=Z,1μm,1.8s,comp=Z,30μmcomp=Z,31μm					
CBIJ	Chichi jima	58.62 319	P	P	20 34 51.5	-0.1
CBIJ			S	S	20 42 15.8	+0.8
JCJ	Chichijima	58.62 319	P	P	20 34 51.2	-0.4
JCJ	Chichijima	58.62 319	⇑P	P	20 34 51.4	-0.2
NWAO	Narrogin (SRO)	58.84 242	P	P	20 34 51.9	-1.2
NWAO			IAmb	IAmb	20 34 55.2	
	comp=Z,4μm,1.5s					
NWAO	Narrogin (SRO)	58.84 242	P	P	20 34 52.0	-1.1
NWAO	Narrogin (SRO)	58.84 242	P	P	20 34 53.1	0.0
NWAO	Narrogin (SRO)	58.84 242	P	P	20 34 51.9	-1.2
NWAO	Narrogin (SRO)	58.84 242	P	P	20 34 51.9	-1.2
NWAO			pmax	pmax		
	comp=Z,4μm,1.5s					
NWAO	Narrogin (SRO)	58.84 242	P	P	20 34 51.6	-1.5
KDI	Kendari	58.91 276	P	P	20 34 53.0	-0.9
	comp=Z,855nm,1.7s,comp=Z,16μmcomp=Z,27μm					
RKGY	Rocky Gully	59.00 240	P	P	20 34 53.7	-0.5
BASI	Baing, Sumba	59.07 269	P	P	20 34 54.5	-0.4
	comp=Z,3μm,1.7s,comp=Z,53μmcomp=Z,27μm					
KMSI	Cibinong	59.16 282	P	P	20 34 54.2	-1.3
WSI	Waingapu	59.47 269	P	P	20 34 56.8	-0.8
	comp=Z,3μm,0.9s,comp=Z,53μmcomp=Z,31μm					
LUWI	Luwuk	59.72 280	IAmb	IAmb	20 35 01.9	
	comp=Z,5μm,1.4s					
LUWI	Luwuk	59.72 280	P	P	20 34 56.3	-3.0
LUWI	Luwuk	59.72 280	P	P	20 34 58.7	-0.6
LUWI	Luwuk	59.72 280	⇓P	P	20 34 58.4	-0.9
LUWI	Luwuk	59.72 280	P	P	20 34 59.1	-0.2
	comp=Z,3μm,1.5s,comp=Z,46μmcomp=Z,26μm					
MUN	Mundaring	59.75 243	P	P	20 34 58.9	-0.3
AUHAR	St Anne's Scho	59.96 242	P	P	20 35 00.9	+0.3
MORW	Morawa	60.10 246	P	P	20 35 00.0	-1.6
MORW			IAmb	IAmb	20 35 03.4	
	comp=Z,4μm,1.6s					
MORW	Morawa	60.10 246	P	P	20 34 59.9	-1.7
MORW	Morawa	60.10 246	⇓P	P	20 34 59.8	-1.8
MTKN	Mount Kenneth	60.12 243	P	P	20 35 02.0	+0.3
DAV	Davao City (W)	60.24 289	P	P	20 35 04.2	+1.5
DAV	Davao City (W)	60.24 289	P	P	20 35 04.3	+1.5
DAV	Davao City (W)	60.24 289	P	P	20 35 01.0	-1.7
BSSI	Bau Bau, Buton	60.26 273	P	P	20 35 01.4	-1.5
	comp=Z,983nm,1.9s,comp=Z,25μmcomp=Z,27μm					
WBSI	Waikabubak, Su	60.34 269	P	P	20 35 03.2	-0.3
	comp=Z,1μm,1.4s,comp=Z,29μmcomp=Z,29μm					
SBA	Scott Base	60.35 183	P	P	20 35 04.0	+1.6
SBA	Scott Base	60.35 183	P	P	20 35 04.0	+1.6
SBA			pmax	pmax		
	comp=Z,1μm,1.3s					
SBA	Scott Base	60.35 183	P	P	20 35 04.2	+1.8
SBA			pP	pwP	20 36 50.9	+0.3
APSI	Ampana	60.82 279	P	P	20 35 06.5	-0.1
	comp=Z,3μm,1.5s,comp=Z,39μm					
BKSI	Bulukumba	60.85 274	P	P	20 35 04.9	-1.9
MRSI	Marisa	61.03 281	P	P	20 35 06.5	-1.4
	comp=Z,979nm,1.0s,comp=Z,16μmcomp=Z,19μm					
BNSI	Bone	61.15 275	P	P	20 35 08.4	-0.3
	comp=Z,1μm,1.3s,comp=Z,26μmcomp=Z,24μm					
KAPI	Kappang	61.30 274	P	P	20 35 09.4	-0.3
KAPI			IAmb	IAmb	20 35 14.7	
	comp=Z,2μm,1.6s					
KAPI	Kappang	61.30 274	P	P	20 35 09.7	-0.1
	comp=Z,186nm,0.5s,baz=96,slow=5.3,SNR=97					
KAPI			PP	PP	20 37 30.8	-2.7
	comp=Z,141nm,0.8s,baz=134,slow=8.7,SNR=3.7					
	comp=Z,186nm,0.5s					
KAPI	Kappang	61.30 274	P	P	20 35 10.1	+0.4
KAPI	Kappang	61.30 274	P	P	20 35 09.8	+0.1
KAPI	Kappang	61.30 274	P	P	20 35 09.4	-0.3
KAPI			pmax	pmax		
	comp=Z,2μm,1.7s					
KAPI	Kappang	61.30 274	P	P	20 35 09.7	-0.1
H01W1	Cape Leeuwin H	61.32 240	P	P	20 35 11.2	+1.9
	baz=115,slow=6.8,SNR=92					
H01W3	Cape Leeuwin H	61.33 240	P	P	20 35 11.2	+1.8
	baz=115,slow=6.8,SNR=87					
H01W2	Cape Leeuwin H	61.33 240	P	P	20 35 11.0	+1.7
	baz=115,slow=6.8,SNR=53					
SPSI	Sidrap Palu	61.60 275	P	P	20 35 09.6	-2.1
TTSI	Tana Toraja	61.84 276	P	P	20 35 12.3	-1.0
	comp=Z,604nm,1.2s,comp=Z,20μm					
PLAI	Plampang	62.10 269	P	P	20 35 13.5	-1.4
PLAI	Plampang	62.10 269	P	P	20 35 13.1	-1.8
	comp=Z,2μm,0.9s,comp=Z,39μmcomp=Z,28μm					
TOLI2	Tolitoli	62.33 281	P	P	20 35 15.4	-1.0
TOLI2			IAmb	IAmb	20 35 18.3	
	comp=Z,2μm,1.7s					
TOLI2	Tolitoli	62.33 281	P	P	20 35 16.0	-0.5
GIRL	Giralia	62.50 253	P	P	20 35 17.3	-0.1
GIRL	Giralia	62.50 253	P	P	20 35 18.1	+0.7
GIRL	Giralia	62.50 253	⇑P	P	20 35 17.2	-0.2
PCI	Palu	62.53 279	P	P	20 35 17.7	0.0
	comp=Z,4μm,1.2s,comp=Z,49μmcomp=Z,32μm					
RPN	Rapa Nui	64.14 112	P	P	20 35 30.2	+2.4
RPN	Rapa Nui	64.14 112	P	P	20 35 29.2	+1.4
	comp=Z,120nm,0.9s,baz=298,slow=5.4,SNR=7.3					
	comp=Z,120nm,0.9s					
RPN	Rapa Nui	64.14 112	⇑P	P	20 35 30.5	+2.7
RPN	Rapa Nui	64.14 112	P	P	20 35 30.2	+2.4
RPN			pmax	pmax		
	comp=Z,158nm,1.0s					
JHJ2	Mitsune	64.34 322	P	P	20 35 29.2	+0.3
JHJ2	Mitsune	64.34 322	⇑P	P	20 35 29.1	+0.2
JHJ2	Mitsune	64.34 322	P	P	20 35 28.8	-0.1
JHJ2			S	S	20 43 26.4	+1.2
DNP	Denpasar	64.58 269	P	P	20 35 30.4	-0.4
CCD	Concordia, Ant	64.73 194	P	P	20 35 31.1	-0.1
CCD			pP	pP	20 37 20.2	+1.0
SRBI	Singaraja	64.74 269	P	P	20 35 30.2	-1.6
	comp=Z,1μm,1.1s,comp=Z,34μmcomp=Z,29μm					
SMKI	Samarinda	65.16 278	P	P	20 35 35.0	+0.5
	comp=Z,2μm,1.5s,comp=Z,31μm					
BKB	Balikpapan	65.18 277	P	P	20 35 37.2	+2.6
BKB	Balikpapan	65.18 277	⇓P	P	20 35 36.9	+2.2
BKB	Balikpapan	65.18 277	P	P	20 35 35.3	+0.7
	comp=Z,1μm,0.9s,comp=Z,27μm					
JMZ	Miamidaito 2	65.21 311	P	P	20 35 36.0	+1.5
JMZ	Minamidaito 2	65.21 311	⇑P	P	20 35 35.8	+1.2
JMZ	Minamidaito 2	65.21 311	P	P	20 35 35.1	+0.6
JMZ			S	S	20 43 36.9	+0.9
JAGI	Jajag, Banyuwa	65.64 269	P	P	20 35 34.9	-2.6
JAGI			IAmb	IAmb	20 35 40.8	
	comp=Z,1μm,0.8s					
JAGI	Jajag, Banyuwa	65.64 269	P	P	20 35 35.7	-1.8
JAGI	Jajag, Banyuwa	65.64 269	⇓P	P	20 35 34.7	-2.9
JAGI	Jajag, Banyuwa	65.64 269	P	P	20 35 35.0	-2.5
	comp=Z,2μm,0.9s,comp=Z,27μmcomp=Z,24μm					
ABJI	Asem Bagus	65.75 269	P	P	20 35 37.9	-0.3
	comp=Z,2μm,1.2s,comp=Z,31μmcomp=Z,28μm					
CASY	Casey	65.93 205	P	P	20 35 38.5	+0.1
CASY			IAmb	IAmb	20 35 41.4	
	comp=Z,1μm,1.1s					
CASY	Casey	65.93 205	⇓P	P	20 35 38.9	+0.5
CASY	Casey	65.93 205	P	P	20 35 38.7	+0.4
CASY			pP	pP	20 37 27.4	+1.0
MYLDM	Lahad Datu	65.94 284	IAmb	IAmb	20 35 43.5	
	comp=Z,3μm,1.6s					
MYLDM	Lahad Datu	65.94 284	P	P	20 35 41.4	+2.1
KMMI	Kalianget	66.21 270	P	P	20 35 40.9	-0.2
	comp=Z,1μm,1.4s,comp=Z,25μmcomp=Z,27μm					
JOD2	Odawara 2	66.30 323	P	P	20 35 40.9	-0.2
JOD2			S	S	20 43 48.1	-0.5
GMJI	Gumukmas	66.37 269	P	P	20 35 40.2	-1.8
	comp=Z,980nm,1.2s,comp=Z,19μmcomp=Z,22μm					
BLJI	Banyuglugur	66.37 269	P	P	20 35 40.3	-1.8
	comp=Z,2μm,1.8s,comp=Z,31μmcomp=Z,25μm					
JYT	Yasato	66.37 325	P	P	20 35 42.1	+0.5
JSG	Sagara	66.40 322	P	P	20 35 42.5	+0.7
JSG	Sagara	66.40 322	⇑P	P	20 35 42.9	+1.0
JSG	Sagara	66.40 322	P	P	20 35 42.8	+1.0
JSG			S	S	20 43 52.4	+2.6
JRY	Ryogami san	66.94 324	P	P	20 35 45.5	+0.3
JRY			S	S	20 43 56.4	+0.2
JIE	Ise	67.08 321	P	P	20 35 46.8	+0.9
JIE			S	S	20 43 59.3	+1.6
MTKI	Muara Teweh, K	67.18 277	P	P	20 35 46.0	-1.1
	comp=Z,895nm,1.2s,comp=Z,16μmcomp=Z,20μm					
JMM	Marumori	67.26 326	P	P	20 35 45.3	-1.7
JMM	Marumori	67.26 326	P	P	20 35 46.7	-0.3
JMM	Marumori	67.26 326	P	P	20 35 47.0	0.0
JMM			S	S	20 43 59.9	+0.2
JGF	Kuroka	67.53 322	P	P	20 35 48.5	-0.3
JGF	Kuroka	67.53 322	P	P	20 35 48.8	0.0
JGF			S	S	20 44 03.7	+0.6
INU	Inuyama	67.56 322	P	P	20 35 48.9	0.0
INU	Inuyama	67.56 322	P	P	20 35 48.9	0.0
INU			PcP	PcP	20 36 11.7	+0.4
INU			pP	pP	20 37 39.7	+1.6
GRJI	Gresik	67.66 270	P	P	20 35 49.5	-0.5
	comp=Z,2μm,2.0s					
MJAR	Matsushiro Arr	67.71 324	P	P	20 35 48.5	-1.3
	comp=Z,258nm,0.9s,baz=158,slow=5.8,SNR=416					
MJAR			S	S	20 44 04.3	-0.8
	comp=Z,5.5nm,1.1s,baz=114,slow=15,SNR=3.1					
MJAR			PKP2bc		21 04 07.0	
	comp=Z,6.2nm,1.2s,baz=304,slow=4.3,SNR=6.6					
	comp=Z,258nm,0.9s					
MAJO	Matsushiro	67.71 324	P	P	20 35 48.3	-1.6
MAJO	Matsushiro	67.71 324	P	P	20 35 49.6	-0.2
MAJO	Matsushiro	67.71 324	⇑P	P	20 35 48.8	-1.1
MAJO	Matsushiro	67.71 324	*c iP*	P	20 35 50.1	+0.3
MAJO			pmax	pmax		
	comp=Z,457nm,0.9s					
MAJO	Matsushiro	67.71 324	P	P	20 35 49.7	-0.2
MAT	Matsushiro	67.71 324	P	P	20 35 49.8	-0.1
MAT			S	S	20 44 05.4	+0.3
MJB9	Matsu-Tunnel	67.71 324	P	P	20 35 49.3	-0.6
JAM	Amami Oshima	67.90 312	P	P	20 35 52.9	+1.8
JOW	Kunigami	67.94 310	P	P	20 35 53.1	+1.7
JOW	Kunigami	67.94 310	P	P	20 35 53.2	+1.7
JOW			S	S	20 44 11.5	+3.3
JGN	Niukaw	67.99 323	P	P	20 35 51.8	+0.2
JGN			S	S	20 44 08.9	+0.4
PWJI	Pagerwojo	68.00 268	P	P	20 35 50.4	-1.7
	comp=Z,1μm,0.8s,comp=Z,20μmcomp=Z,23μm					
JOM	Ohasama	68.20 328	P	P	20 35 52.6	-0.1
TBJI	Tambak Boyo	68.29 270	P	P	20 35 53.1	-0.7
	comp=Z,3μm,1.7s					
JMN	Monobe	68.36 319	P	P	20 35 54.8	+0.9
JMN	Monobe	68.36 319	P	P	20 35 55.0	+1.1
JMN			S	S	20 44 16.2	+3.3
JYA	Atsumi	68.37 326	P	P	20 35 54.3	+0.6
KKM	Kota Kinabalu	68.37 284	IAmb	IAmb	20 35 56.6	
	comp=Z,2μm,1.5s					
KKM	Kota Kinabalu	68.37 284	P	P	20 35 53.6	-0.8
JWT	Wachi	68.47 321	P	P	20 35 54.9	+0.5
JWT			S	S	20 44 14.1	+0.2
NGJI	Ngawi	68.51 269	P	P	20 35 56.0	+0.9
	comp=Z,794nm,2.1s,comp=Z,27μm					
PCJI	Pacitan	68.55 268	P	P	20 35 53.9	-1.5
JSD	Sado	68.75 325	P	P	20 35 56.4	+0.4
JSD	Sado	68.75 325	⇑P	P	20 35 56.5	+0.4
JSD	Sado	68.75 325	P	P	20 35 56.6	+0.5
JSD			S	S	20 44 17.0	0.0
JAD	Aida	68.99 320	P	P	20 35 58.5	+0.9
JAD			S	S	20 44 22.4	+2.5
ERM	Erimo	69.24 331	P	P	20 35 59.8	+0.9
ERM	Erimo	69.24 331	P	P	20 35 59.2	+0.3
ERM	Erimo	69.24 331	*c iP*	P	20 35 59.8	+0.9
ERM			pmax	pmax		
	comp=Z,455nm,1.1s					
ERM	Erimo	69.24 331	P	P	20 35 59.6	+0.7
JEM	Erimo	69.24 331	P	P	20 35 59.6	+0.7
UGM	Wanagama	69.25 268	P	P	20 35 59.5	-0.2
UGM	Wanagama	69.25 268	P	P	20 35 58.6	-1.1
UWJI	Ujung Watu	69.26 270	P	P	20 35 59.3	-0.4
	comp=Z,2μm,1.7s,comp=Z,46μmcomp=Z,26μm					
JTM	Tenmabayashi	69.30 328	P	P	20 35 59.2	-0.1
JTM	Tenmabayashi	69.30 328	P	P	20 35 59.4	+0.1
JTM			S	S	20 44 22.4	-0.9
SZP	Santa	69.37 297	P	P	20 36 00.4	+0.2
KIWB	Kanaga Island	69.53 1	P	P	20 36 00.7	+0.3
ADK	Adak	69.56 1	P	P	20 36 00.1	-0.5
ADK	Adak	69.56 1	P	P	20 35 59.5	-1.1
ADK	Adak	69.56 1	P	P	20 36 00.1	-0.5
ADK			pmax	pmax		
	comp=Z,8μm,1.6s					
ADK	Adak	69.56 1	P	P	20 35 59.8	-0.8
SMRI	Semarang	69.57 269	P	P	20 36 01.6	0.0
SMRI	Semarang	69.57 269	⇓P	P	20 36 02.0	+0.4
SMRI	Semarang	69.57 269	P	P	20 36 00.8	-0.8
	comp=Z,1μm,1.7s,comp=Z,33μm					
YUK	Yuzh-Kuril'sk	69.64 334	*c iP*	P	20 36 01.5	+0.3
JHS	Saijyo	69.67 319	S	S	20 44 30.6	+2.8
JOT	Ohata	69.76 329	P	P	20 36 02.4	+0.3
KUR	Kuril'sk	69.80 336	*c iP*	P	20 36 02.6	+0.4
KUR			*e*		20 36 20.6	
KUR			*e*		20 38 44.9	
KUR			*e*PPP	PPP	20 40 34.2	
KUR			*i* S	S	20 44 30.7	+2.0
KUR			*e*		20 45 14.0	
KUR			*e*SS	SS	20 49 08.1	-4.0
KUR			pmax	pmax		
	comp=N,1μm,1.6s					
KUR			pmax	pmax		
	comp=Z,4μm,1.6s					
KUR			pmax	pmax		
	comp=E,477nm,0.9s					
KUR			pmax	pmax		
	comp=Z,14μm,8.1s					
JNU	Nakatsue	69.90 317	P	P	20 36 03.4	+0.2
JNU	Nakatsue	69.90 317	P	P	20 36 03.3	+0.2
JNU			S	S	20 44 32.4	+1.8
ATKA	Atka Island	69.98 3	P	P	20 36 02.1	-0.9
ATKA	Atka Island	69.98 3	P	P	20 36 01.8	-1.2
YOJ	Yonaguni jima	70.65 305	IAmb	IAmb	20 36 12.4	
	comp=Z,856nm,0.7s					
YOJ	Yonaguni jima	70.65 305	P	P	20 36 07.9	+0.2
YOJ	Yonaguni jima	70.65 305	⇓P	P	20 36 07.8	+0.1
YOJ	Yonaguni jima	70.65 305	P	P	20 36 08.1	+0.4
YOJ			S	S	20 44 39.2	0.0
JEW	Eniwo	70.68 330	P	P	20 36 08.4	+0.9
JMP	Maruseppu	70.70 332	P	P	20 36 08.4	+0.8
JMP			S	S	20 44 40.9	+1.7
STKI	Sintang	70.73 277	P	P	20 36 08.2	-0.3
	comp=Z,1μm,1.2s,comp=Z,25μmcomp=Z,22μm					
SBUM	Sibu	70.82 279	P	P	20 36 08.9	-0.1
KPJI	Karang Pucung	70.92 268	P	P	20 36 08.2	-1.4
	comp=Z,2μm,0.8s,comp=Z,22μmcomp=Z,25μm					
ASAJ	Asahikawa	71.13 332	P	P	20 36 11.6	+1.5
ASAJ			S	S	20 44 47.5	+3.6
NIKH	Nikolski High	71.16 6	P	P	20 36 09.5	-0.6
	baz=190,SNR=57					
NIKH			S	S	20 44 42.1	-1.8
	baz=190					
NIKH	Nikolski High	71.16 6	P	P	20 36 09.4	-0.6
JSH	Shimam	71.20 329	P	P	20 36 11.4	+0.9
CMJI	Cimerak	71.26 268	P	P	20 36 09.3	-2.2
	comp=Z,2μm,1.1s,comp=Z,23μmcomp=Z,19μm					
TWGBT	Beinan	71.35 302	P	P	20 36 10.6	-1.3
YULB	Yu-li	71.46 303	P	P	20 36 12.0	-0.5
NACB	Ninganchiao	71.61 304	P	P	20 36 13.2	-0.2
JTU	Tsushima	71.73 317	S	S	20 44 51.5	+0.4
JCJI	Jatiwangi	71.79 269	P	P	20 36 13.8	-0.8
	comp=Z,3μm,1.7s,comp=Z,28μm					
SKR	Severo-Kuril's	71.81 344	*c iP*	P	20 36 13.9	0.0
SKR			*e*		20 36 24.2	
SKR			*i* *PP	sP	20 38 58.8	-1.7
SKR			*e*S	S	20 44 43.0	-8.2
SKR			pmax	pmax		
	comp=Z,11μm,4.8s					
SKR			pmax	pmax		
	comp=Z,2μm,0.8s					
SKR			MLR	MLR		
	comp=Z,2μm,18.0s					
SSLB	Suanglung	71.93 303	P	P	20 36 14.7	-0.6
TPUB	Ta-pu	71.95 303	P	P	20 36 13.2	-2.1
TPUB			IAmb	IAmb	20 36 18.9	
	comp=Z,706nm,0.7s					
TPUB	Ta-pu	71.95 303	P	P	20 36 14.0	-1.4
YHNB	Yeheng	72.03 304	P	P	20 36 15.9	0.0
QSPA	South Pole Qui	72.10 180	P	P	20 36 15.1	-0.6
QSPA			IAmb	IAmb	20 36 18.9	
	comp=Z,892nm,0.9s					
QSPA	South Pole Qui	72.10 180	P	P	20 36 15.6	0.0
	comp=Z,562nm,0.8s,baz=26,slow=1.1,SNR=390					
QSPA			pP	pP	20 38 09.2	+2.0
	comp=Z,215nm,0.9s,baz=77,slow=1.8,SNR=9.2					
QSPA			S	S	20 44 53.1	-1.3
	comp=Z,11nm,1.0s,baz=342,slow=4.6,SNR=4.0					
QSPA			PKPPKP		21 03 53.3	
	comp=Z,49nm,1.2s,baz=141,slow=5.2,SNR=14					
	comp=Z,562nm,0.8s					
TATO	Taipei	72.10 305	P	P	20 36 15.8	-0.4
TATO	Taipei	72.10 305	P	P	20 36 16.1	-0.1
BBJI

PET				pmax	pmax		
	comp=Z,4μm,17.1s						
PET				MLR	MLR		
	comp=Z,3μm,15.0s						
PET	**Petropavlovsk**	**73.32**	**346**	P	**P**	**20 36 21.7**	**-0.8**
	comp=Z,952nm,1.6s,comp=Z,19μm						
TNG	**Tangerang**	**73.43**	**269**	P	**P**	**20 36 23.6**	**-0.5**
	comp=Z,1μm,1.9s,comp=Z,41μm						
TNG				P	**P**	**20 36 23.7**	**-0.4**
	comp=Z,3μm,1.8s						
TPI	**Tanjungpandan**	**73.48**	**272**	P	**P**	**20 36 23.4**	**-1.0**
	comp=Z,807nm,1.7s,comp=Z,17μmcomp=Z,23μm						
PEA0B	**Petropavlovsk-**	**73.62**	**346**	P	**P**	**20 36 23.8**	**-0.5**
PEA0B	**Petropavlovsk-**	**73.62**	**346**	P	**P**	**20 36 23.8**	**-0.5**
PEA0B				pmax	pmax		
	comp=Z,4μm,1.3s						
PETK	**Petropavlovsk-**	**73.62**	**346**	P	**P**	**20 36 23.5**	**-0.8**
	comp=Z,1μm,0.9s,baz=127,slow=5.1,SNR=362						
PETK				PP	**PP**	**20 39 21.0**	**+2.5**
	comp=Z,71nm,1.0s,baz=132,slow=8.8,SNR=3.8						
	comp=Z,1μm,0.9s						
FALS	**False Pass**	**73.70**	**9**	P	**P**	**20 36 23.7**	**-0.9**
	baz=195,SNR=24						
FALS				S	**S**	**20 45 08.9**	**-3.1**
	baz=195						
FALS	**False Pass**	**73.70**	**9**	P	**P**	**20 36 23.6**	**-1.1**
TJN	**Taejon**	**74.18**	**317**	P	**P**	**20 36 28.5**	**+0.7**
TJN	**Taejon**	**74.18**	**317**	*c iP*	**P**	**20 36 28.0**	**+0.2**
CNBA	**Chernabura Isl**	**74.32**	**11**	P	**P**	**20 36 27.4**	**-0.8**
CNBA				IAmb	IAmb	20 36 29.0	
	comp=Z,2μm,1.3s						
CHNA	**Chernabura Isl**	**74.33**	**11**	P	**P**	**20 36 27.5**	**-0.7**
	baz=199						
CHNA				S	**S**	**20 45 17.0**	**-1.9**
	baz=199						
CHNA	**Chernabura Isl**	**74.33**	**11**	P	**P**	**20 36 27.2**	**-1.0**
QZH	**Quanzhou**	**74.37**	**303**	⇓*iP*	**P**	**20 36 29.6**	**+0.5**
QZH				pP	**pP**	**20 38 24.4**	**+2.4**
QZH				sP	**sP**	**20 39 18.8**	**+1.2**
QZH				PP	**PP**	**20 39 27.3**	**+2.1**
QZH				S	**S**	**20 45 22.3**	**+1.7**
QZH				pmax	pmax		
	comp=Z,600nm,0.8s						
QZH				pmax	pmax		
	comp=Z,2μm,3.6s						
KSRS	**Korea Array**	**74.47**	**319**	P	**P**	**20 36 29.1**	**-0.3**
	comp=Z,52nm,0.9s,baz=126,slow=5.8,SNR=86						
KSRS				PP	**PP**	**20 39 25.8**	**0.0**
	comp=Z,28nm,1.0s,baz=139,slow=7.1,SNR=4.6						
	comp=Z,52nm,0.9s						
KSAR	**Wonju Array Be**	**74.49**	**319**	P	**P**	**20 36 28.8**	**-0.8**
KSAR	**Wonju Array Be**	**74.49**	**319**	P	**P**	**20 36 28.8**	**-0.8**
TEY	**Ternei**	**74.65**	**329**	⇓*eP*	**P**	**20 36 30.5**	**+0.3**
TEY				*e*		20 39 21.2	
TEY				*e*		20 45 23.1	
TEY				pmax	pmax		
	comp=Z,120nm,1.4s						
TEY				pmax	pmax		
	comp=N,30nm,1.5s						
TEY				pmax	pmax		
	comp=E,30nm,1.5s						
TEY				pmax	pmax		
	comp=E,200nm,4.2s						
TEY				pmax	pmax		
	comp=N,200nm,4.0s						
TEY				pmax	pmax		
	comp=Z,700nm,4.3s						
P08K	**Saint George I**	**74.68**	**5**	P	**P**	**20 36 29.7**	**-0.4**
	baz=189,SNR=14						
P08K				S	**S**	**20 45 21.0**	**-1.6**
	baz=189						
P08K				S	**S**	**20 45 21.0**	**-1.6**
	baz=189						
S12K	**Black Hills**	**74.73**	**10**	P	**P**	**20 36 29.6**	**-0.9**
S12K				IAmb	IAmb	20 36 31.0	
	comp=Z,4μm,1.4s						
S12K	**Black Hills**	**74.73**	**10**	P	**P**	**20 36 29.6**	**-0.9**
	baz=197,SNR=60						
S12K				S	**S**	**20 45 20.7**	**-2.6**
	baz=197						
BLSI	**Bandar Lampung**	**74.99**	**269**	P	**P**	**20 36 31.3**	**-1.7**
	comp=Z,1μm,1.0s,comp=Z,18μm						
PPBI	**Pangkal Pinang**	**75.10**	**273**	P	**P**	**20 36 32.5**	**-1.1**
	comp=Z,986nm,1.8s,comp=Z,19μmcomp=Z,22μm						
SPIA	**Saint Paul Isl**	**75.19**	**5**	P	**P**	**20 36 32.8**	**-0.2**
SPIA	**Saint Paul Isl**	**75.19**	**5**	P	**P**	**20 36 32.7**	**-0.2**
	baz=188,SNR=27						
SPIA				S	**S**	**20 45 25.9**	**-2.2**
	baz=188						
SPIA	**Saint Paul Isl**	**75.19**	**5**	P	**P**	**20 36 32.9**	**-0.2**
UGL	**Uglegorsk**	**75.24**	**335**	*c iP*	**P**	**20 36 33.9**	**+0.5**
UGL				*e*		20 39 28.4	
UGL				*i* S	**S**	**20 45 31.7**	**+2.8**
UGL				pmax	pmax		
	comp=Z,720nm,1.1s						
UGL				pmax	pmax		
	comp=E,3μm,4.5s						
UGL				pmax	pmax		
	comp=N,2μm,5.0s						
UGL				pmax	pmax		
	comp=Z,8μm,5.0s						
UGL				pmax	pmax		
	comp=E,2μm,3.0s						
UGL				pmax	pmax		
	comp=N,2μm,5.0s						
UGL				pmax	pmax		
	comp=Z,4μm,6.5s						
UGL				smax	smax		
	comp=E,6μm,5.0s						
UGL				smax	smax		
	comp=N,12μm,9.0s						
INCN	**Inchon**	**75.31**	**318**	P	**P**	**20 36 35.8**	**+1.7**
INCN	**Inchon**	**75.31**	**318**	P	**P**	**20 36 35.3**	**+1.1**
SSE	**Sheshan**	**75.47**	**310**	P	**P**	**20 36 36.1**	**+1.0**
SSE				S	**S**	**20 45 34.1**	**+1.9**
SSE				pmax	pmax		
	comp=N,83nm,0.8s						
SSE				pmax	pmax		
	comp=N,550nm,4.3s						
KASI	**Kota Agung**	**75.66**	**269**	P	**P**	**20 36 33.9**	**-2.7**
	comp=N,1μm,0.9s						
S14K	**Fog Glacier**	**75.72**	**11**	P	**P**	**20 36 35.8**	**-0.3**
	baz=199						
S14K				S	**S**	**20 45 31.5**	**-2.5**
	baz=199						
VLA	**Vladivostok**	**75.76**	**325**	*d iP*	**P**	**20 36 37.3**	**+0.8**
VLA				pmax	pmax		
	comp=Z,596nm,1.3s						
MSHR	**Mys Shultsa**	**75.81**	**324**	*c iP*	**P**	**20 36 38.2**	**+1.4**
MSHR				pmax	pmax		
	comp=Z,1μm,1.2s						
CHGN	**Chignik**	**75.94**	**12**	P	**P**	**20 36 36.6**	**-0.5**
	baz=200						
CHGN				S	**S**	**20 45 33.6**	**-2.6**
	baz=200						
H06S1	**SOCORRO T**	**76.00**	**65**	P	**P**	**20 36 39.8**	**+1.5**
	SNR=46						
H06E1	**SOCORRO T-PHAS**	**76.04**	**65**	P	**P**	**20 36 40.4**	**+1.8**
	SNR=93						
PSTR	**Posyet**	**76.05**	**324**	*c iP*	**P**	**20 36 39.8**	**+1.7**
CHIR	**Chirikof Islan**	**76.07**	**13**	IAmb	IAmb	20 36 39.1	
	comp=Z,2μm,0.9s						
CHIR	**Chirikof Islan**	**76.07**	**13**	P	**P**	**20 36 37.8**	**-0.1**
	baz=203,SNR=42						
CHIR				S	**S**	**20 45 37.4**	**-0.2**
	baz=203						
CHIR	**Chirikof Islan**	**76.07**	**13**	P	**P**	**20 36 37.9**	**0.0**
SNCC	**San Nicolas Is**	**76.11**	**48**	IAmb	IAmb	20 36 41.7	
	comp=Z,3μm,1.6s						
PMBI	**Palembang**	**76.17**	**271**	P	**P**	**20 36 41.2**	**+1.7**
PMBI	**Palembang**	**76.17**	**271**	P	**P**	**20 36 39.3**	**-0.2**
	comp=Z,2μm,1.4s,comp=Z,27μmcomp=Z,19μm						
LWLI	**Liwa**	**76.23**	**269**	P	**P**	**20 36 37.4**	**-2.5**
TYV	**Tymovskoe**	**76.41**	**336**	*eP*	**P**	**20 36 40.9**	**+1.0**
TYV				*eS*	**S**	**20 45 37.7**	**-3.8**
TYV				pmax	pmax		
	comp=Z,8μm,3.8s						
TYV				pmax	pmax		
	comp=Z,2μm,1.2s						
TYV				smax	smax		
	comp=N,271nm,2.7s						
TYV				smax	smax		
	comp=E,387nm,2.7s						
TYV				smax	smax		
	comp=N,9μm,5.4s						
TYV				smax	smax		
	comp=E,18μm,5.4s						

USA0B	**Ussuriysk Arra**	**76.43**	**326**	*c iP*	**P**	**20 36 41.4**	**+1.2**
USRK	**Ussuriysk Ar.**	**76.43**	**326**	P	**P**	**20 36 40.1**	**-0.1**
USRK	**Ussuriysk Ar.**	**76.43**	**326**	P	**P**	**20 36 41.1**	**+1.0**
	comp=E,81nm,0.7s,baz=122,slow=3.6,SNR=156						
USRK				S	**S**	**20 45 44.8**	**+2.8**
	comp=E,1.3nm,0.6s,baz=135,slow=14,SNR=4.6						
	comp=E,81nm,0.7s						
MCCM	**Marconi Confer**	**76.60**	**42**	IAmb	IAmb	20 36 43.7	
	comp=Z,2μm,1.5s						
SAO	**San Andreas Ge**	**76.73**	**44**	IAmb	IAmb	20 36 44.7	
	comp=Z,1μm,0.9s						
HKC	**Hong Kong Obse**	**76.77**	**299**	⇑P	**P**	**20 36 44.0**	**+1.5**
HKPS	**Hong Kong Po S**	**76.79**	**299**	P	**P**	**20 36 43.7**	**+1.1**
PYAG	**Pyongyang**	**76.79**	**319**	P	**P**	**20 36 43.4**	**+1.2**
PYAG				pP	**pwP**	**20 38 38.9**	**+0.9**
PYAG				S	**S**	**20 45 44.9**	**-1.1**
PYAG				AmB			
	comp=Z,2μm,2.4s						
PMPB	**Monarch Peak**	**76.86**	**45**	IAmb	IAmb	20 36 45.8	
	comp=Z,5μm,1.6s						
BBGB	**Big Mountain B**	**76.90**	**44**	IAmb	IAmb	20 36 46.4	
	comp=Z,3μm,1.3s						
HOPS	**Hopland Field**	**76.97**	**41**	IAmb	IAmb	20 36 46.0	
	comp=Z,3μm,1.6s						
SII	**Sitkinak Islan**	**77.06**	**14**	IAmb	IAmb	20 36 44.8	
	comp=Z,3μm,0.8s						
SII	**Sitkinak Islan**	**77.06**	**14**	P	**P**	**20 36 43.5**	**+0.1**
	baz=204,SNR=128						
SII				S	**S**	**20 45 47.2**	**-1.1**
	baz=204						
SII	**Sitkinak Islan**	**77.06**	**14**	P	**P**	**20 36 43.0**	**-0.4**
KCPM	**Cahto Peak**	**77.06**	**41**	IAmb	IAmb	20 36 46.8	
	comp=Z,4μm,1.7s						
BCW	**Bitter Crk WRg**	**77.10**	**47**	IAmb	IAmb	20 36 47.2	
	comp=Z,4μm,1.6s						
KMPM	**Mount Pierce**	**77.17**	**40**	IAmb	IAmb	20 36 47.5	
	comp=Z,2μm,1.1s						
R16K	**Pilot Point**	**77.29**	**12**	P	**P**	**20 36 44.5**	**-0.1**
	baz=201,SNR=38						
R16K				S	**S**	**20 45 48.8**	**-1.7**
	baz=201						
R16K				S	**S**	**20 45 48.8**	**-1.7**
	baz=201						
KMRM	**Mail Ridge**	**77.31**	**40**	IAmb	IAmb	20 36 48.2	
	comp=Z,2μm,0.9s						
JCC	**Jacoby Creek,**	**77.47**	**39**	IAmb	IAmb	20 36 48.8	
	comp=Z,2μm,1.4s						
PASC	**Pasadena Art C**	**77.55**	**48**	P	**P**	**20 36 47.5**	**+0.9**
TPRI	**Tanjung Pinang**	**77.59**	**275**	P	**P**	**20 36 46.6**	**-0.6**
	comp=Z,566nm,1.7s,comp=Z,14μmcomp=Z,17μm						
R17L	**Mt. Peulik Vol**	**77.59**	**12**	P	**P**	**20 36 46.2**	**0.0**
	baz=202,SNR=314						
R17L				S	**S**	**20 45 52.3**	**-1.5**
	baz=202						
DLV	**Lat**	**77.63**	**287**	P	**P**	**20 36 48.7**	**+1.1**
NJ2	**Nanjing**	**77.66**	**310**	⇓P	**P**	**20 36 46.5**	**-0.7**
NJ2				pP	**pP**	**20 38 45.3**	**+4.0**
NJ2				sP	**sP**	**20 39 37.8**	**+1.3**
NJ2				PP	**PP**	**20 39 52.3**	**-0.1**
NJ2				S	**S**	**20 45 57.9**	**+2.4**
NJ2				sS	**sS**	**20 49 21.6**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,200nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,910nm,3.8s						
KRPM	**Rodgers**	**77.68**	**39**	IAmb	IAmb	20 36 50.4	
	comp=Z,2μm,1.1s						
CBX	**Cerro Bola**	**77.68**	**50**	IAmb	IAmb	20 36 50.2	
	comp=Z,3μm,1.5s						
KHMM	**Horse Mountain**	**77.69**	**40**	IAmb	IAmb	20 36 50.3	
	comp=Z,2μm,1.2s						
GZH	**Guangzhou**	**77.80**	**299**	P	**P**	**20 36 48.8**	**+0.7**
GZH				S	**S**	**20 45 59.8**	**+2.5**
GZH				SS	**SS**	**20 51 12.8**	**-0.5**
GZH				pmax	pmax		
	comp=Z,360nm,1.3s						
O02D	**Mt. Diablo Mer**	**77.85**	**41**	IAmb	IAmb	20 36 51.4	
	comp=Z,3μm,1.6s						
TKX	**Tecate**	**77.85**	**50**	IAmb	IAmb	20 36 51.0	
	comp=Z,3μm,1.8s						
OHAK	**Old Harbor**	**77.87**	**14**	IAmb	IAmb	20 36 49.2	
	comp=Z,2μm,1.1s						
OHAK	**Old Harbor**	**77.87**	**14**	P	**P**	**20 36 47.9**	**+0.2**
	baz=205,SNR=169						
OHAK				S	**S**	**20 45 56.5**	**-0.1**
	baz=205						
OHAK	**Old Harbor**	**77.87**	**14**	P	**P**	**20 36 47.1**	**-0.6**
R18K	**Karluk**	**77.93**	**13**	P	**P**	**20 36 48.0**	**+0.1**
	baz=204						
R18K				S	**S**	**20 45 56.2**	**-1.0**
	baz=204						
R18K				S	**S**	**20 45 56.2**	**-1.0**
	baz=204						
KRMB	**Red Mountain**	**77.97**	**39**	IAmb	IAmb	20 36 52.0	
	comp=Z,4μm,1.7s						
MDJ	**Mudanjiang**	**78.00**	**325**	P	**P**	**20 36 48.6**	**-0.1**
MDJ				pP	pwP	20 38 48.8	+4.0
MDJ				PP	**PP**	**20 39 51.8**	**-3.1**
MDJ				S	**S**	**20 46 02.5**	**+4.0**
MDJ				SS	**SS**	**20 51 17.0**	**+1.4**
MDJ				pmax	pmax		
	comp=Z,740nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,6μm,5.6s						
MDJ	**Mudanjiang**	**78.00**	**325**	P	**P**	**20 36 48.7**	**0.0**
KSI	**Kapahiang**	**78.03**	**270**	P	**P**	**20 36 48.2**	**-1.5**
	comp=Z,1μm,1.4s,comp=Z,26μmcomp=Z,19μm						
ESJX	**Sierra Juarez**	**78.05**	**51**	IAmb	IAmb	20 36 52.7	
	comp=Z,2μm,1.5s						
ISA	**Isabella, Lake**	**78.14**	**46**	IAmb	IAmb	20 36 52.4	
	comp=Z,2μm,1.1s						
CMB	**Columbia Colle**	**78.15**	**43**	IAmb	IAmb	20 36 52.1	
	comp=Z,1μm,1.1s						
CCAC	**Calif City Air**	**78.18**	**47**	IAmb	IAmb	20 36 52.7	
	comp=Z,2μm,1.5s						
KBO	**Bosley Butte**	**78.20**	**38**	IAmb	IAmb	20 36 53.1	
	comp=Z,3μm,1.5s						
SUJ	**Sinuiju**	**78.20**	**319**	P	**P**	**20 36 50.6**	**+0.8**
SUJ				S	**S**	**20 45 60.0**	**-0.9**
SUJ				AmB			
	comp=Z,2μm,2.7s						
O14K	**Tigyukauivet M**	**78.27**	**9**	P	**P**	**20 36 49.4**	**-0.3**
	baz=197						
O14K				S	**S**	**20 45 57.7**	**-2.9**
	baz=197						
Q17K	**Contact Creek**	**78.27**	**12**	P	**P**	**20 36 49.6**	**-0.4**
	baz=202,SNR=317						
Q17K				S	**S**	**20 45 59.2**	**-1.8**
	baz=202						
ACHA	**Angle Creek He**	**78.34**	**12**	IAmb	IAmb	20 36 52.7	
	comp=Z,2μm,1.8s						
YUH	**Yuha Desert**	**78.39**	**50**	IAmb	IAmb	20 36 53.9	
	comp=Z,2μm,1.4s						
O15K	**Ungalikthiuk R**	**78.42**	**10**	P	**P**	**20 36 50.1**	**-0.5**
	baz=198						
O15K				S	**S**	**20 45 59.2**	**-3.1**
	baz=198						
BTDF	**Bukit Timah Da**	**78.44**	**275**	P	**P**	**20 36 52.1**	**+0.3**
PFO	**Pinyon Flats O**	**78.49**	**49**	P	**P**	**20 36 51.7**	**-0.1**
PFO	**Pinyon Flats O**	**78.49**	**49**	PKPPKP		21 03 47.3	
	comp=Z,2.3nm,0.9s,baz=134,slow=2.0,SNR=3.7						
PFO	**Pinyon Flats O**	**78.49**	**49**	*c iP*	**P**	**20 36 52.4**	**+0.6**
PFO				pmax	pmax		
	comp=Z,1μm,1.6s						
MYKOM	**Kota Tinggi**	**78.50**	**276**	P	**P**	**20 36 52.5**	**+0.4**
Q16K	**King Salmon**	**78.51**	**12**	P	**P**	**20 36 51.0**	**-0.1**
	baz=202,SNR=144						
Q16K				S	**S**	**20 46 02.1**	**-1.0**
	baz=202						
KDAK	**Kodiak Island**	**78.54**	**14**	P	**P**	**20 36 50.6**	**-0.7**
KDAK	**Kodiak Island**	**78.54**	**14**	P	**P**	**20 36 51.5**	**+0.3**
	baz=206						
KDAK				S	**S**	**20 46 04.0**	**+0.4**
	baz=206						
KDAK	**Kodiak Island**	**78.54**	**14**	*c iP*	**P**	**20 36 51.8**	**+0.5**
KDAK				pmax	pmax		
	comp=Z,5μm,1.5s						
P16K	**Nushagak River**	**78.59**	**11**	P	**P**	**20 36 51.2**	**-0.3**
	baz=200,SNR=242						
P16K				S	**S**	**20 46 03.8**	**-0.2**
	baz=200						
P16K				S	**S**	**20 46 03.8**	**-0.2**
	baz=200						
CPBX	**Cerro Prieto**	**78.73**	**51**	IAmb	IAmb	20 36 56.1	
	comp=Z,2μm,1.2s						
M11K	**Mekoryuk**	**78.73**	**6**	IAmb	IAmb	20 36 54.6	
	comp=Z,2μm,1.1s						

M11K	**Mekoryuk**	**78.73**	**6**	P	**P**	**20 36 53.3**	**+1.1**
	baz=192,SNR=126						
M11K				S	**S**	**20 46 07.7**	**+2.2**
	baz=192						
Q18K	**Katmai Hardscr**	**78.81**	**12**	P	**P**	**20 36 52.5**	**-0.3**
	baz=203,SNR=348						
Q18K				S	**S**	**20 46 05.6**	**-1.0**
	baz=203						
YBH	**Yreka Blue Hor**	**78.81**	**39**	PKPPKP		21 03 48.3	
	comp=Z,3.5nm,1.1s,baz=83,slow=5.6,SNR=7.5						
OMMB	**Old Mammoth Mi**	**78.83**	**44**	IAmb	IAmb	20 36 56.3	
	comp=Z,2μm,1.4s						
N14K	**Kuskokwak Cree**	**78.85**	**9**	P	**P**	**20 36 53.4**	**+0.5**
	baz=197						
N14K				S	**S**	**20 46 05.6**	**-1.1**
	baz=197						
GRNR	**Gornyy**	**78.90**	**333**	⇑*iP*	**P**	**20 36 54.5**	**+1.1**
GRNR				*e*S	**S**	**20 46 05.1**	**-2.6**
GRNR				pmax	pmax		
	comp=N,240nm,1.2s						
GRNR				pmax	pmax		
	comp=Z,900nm,1.2s						
GRNR				pmax	pmax		
	comp=E,200nm,1.2s						
GRNR				smax	smax		
	comp=N,8.0nm,0.7s						
GRNR				MLR	MLR		
	comp=E,1μm,15.0s						
SLBS	**Sierra La Lagu**	**78.93**	**61**	P	**P**	**20 36 55.4**	**+1.1**
SLBS				IAmb	IAmb	20 36 57.8	
	comp=Z,3μm,1.6s						
WAKR	**Walker**	**79.03**	**43**	IAmb	IAmb	20 36 57.5	
	comp=Z,4μm,1.6s						
P17K	**Kvichak River**	**79.03**	**12**	P	**P**	**20 36 53.6**	**-0.2**
	baz=202,SNR=468						
P17K				S	**S**	**20 46 08.0**	**-0.6**
	baz=202						
P17K				S	**S**	**20 46 08.0**	**-0.6**
	baz=202						
HATC	**Hat Creek Radi**	**79.04**	**41**	IAmb	IAmb	20 36 57.2	
	comp=Z,4μm,1.4s						
M13K	**Dall Lake**	**79.09**	**8**	P	**P**	**20 36 55.0**	**+0.8**
	baz=195,SNR=96						
M13K				S	**S**	**20 46 11.8**	**+2.7**
	baz=195						
O16K	**Kokwok River B**	**79.10**	**11**	P	**P**	**20 36 53.4**	**-0.8**
	baz=200						
O16K				S	**S**	**20 46 06.3**	**-3.1**
	baz=200						
GSC	**Goldstone, Bar**	**79.11**	**47**	IAmb	IAmb	20 36 57.6	
	comp=Z,2μm,1.7s						
QIZ	**Qiongzhong**	**79.11**	**294**	P	**P**	**20 36 55.0**	**-0.2**
QIZ				S	**S**	**20 46 14.4**	**+3.3**
QIZ				pmax	pmax		
	comp=Z,150nm,1.7s						
QIZ				pmax	pmax		
	comp=Z,3μm,3.9s						
QIZ	**Qiongzhong**	**79.11**	**294**	P	**P**	**20 36 56.0**	**+0.8**
HUMO	**Hull Mountain**	**79.19**	**38**	IAmb	IAmb	20 36 58.1	
	comp=Z,1μm,1.2s						
PNTR	**Pine Nut**	**79.25**	**43**	IAmb	IAmb	20 36 58.4	
	comp=Z,2μm,0.9s						
N15K	**Kwethluk River**	**79.32**	**9**	IAmb	IAmb	20 36 57.3	
	comp=Z,1μm,1.0s						
N15K	**Kwethluk River**	**79.32**	**9**	P	**P**	**20 36 55.9**	**+0.5**
	baz=198,SNR=239						
N15K				S	**S**	**20 46 10.3**	**-1.3**
	baz=198						
Q20K	**Shuyak Island**	**79.33**	**14**	P	**P**	**20 36 55.8**	**+0.3**
	baz=206,SNR=78						
Q20K				S	**S**	**20 46 12.1**	**+0.3**
	baz=206						
SYI	**Shuyak Island**	**79.34**	**14**	IAmb	IAmb	20 36 57.1	
	comp=Z,2μm,1.0s						
L04D	**Klamath Falls**	**79.34**	**39**	IAmb	IAmb	20 36 58.0	
	comp=Z,1μm,0.8s						
Q19K	**Cape Douglas,**	**79.35**	**13**	IAmb	IAmb	20 36 56.8	
	comp=Z,3μm,1.1s						
Q19K	**Cape Douglas,**	**79.35**	**13**	P	**P**	**20 36 55.4**	**-0.2**
	baz=204,SNR=68						
Q19K				S	**S**	**20 46 11.6**	**-0.5**
	baz=204						
Q19K				S	**S**	**20 46 11.6**	**-0.5**
	baz=204						
DL2	**Dalian**	**79.35**	**317**	P	**P**	**20 36 56.9**	**+0.9**
DL2				pP	**pwP**	**20 38 55.4**	**+2.9**
DL2				sP	**sP**	**20 39 48.8**	**+3.0**
DL2				PP	**PP**	**20 40 08.3**	**+2.2**
DL2				S	**S**	**20 46 15.6**	**+2.8**
DL2				pmax	pmax		
	comp=Z,300nm,0.8s						
DL2				pmax	pmax		
	comp=Z,2μm,6.4s						
DSP	**Deep Springs**	**79.39**	**45**	IAmb	IAmb	20 36 59.2	
	comp=Z,2μm,1.3s						
GLA	**Glamis**	**79.39**	**50**	IAmb	IAmb	20 36 59.7	
	comp=Z,2μm,1.3s						
YERR	**Yerington**	**79.42**	**43**	IAmb	IAmb	20 36 59.1	
	comp=Z,5μm,1.5s						
P18K	**Big Mountain,**	**79.45**	**12**	IAmb	IAmb	20 36 57.0	
	comp=Z,2μm,0.8s						
P18K	**Big Mountain,**	**79.45**	**12**	P	**P**	**20 36 55.7**	**-0.5**
	baz=203,SNR=452						
P18K				S	**S**	**20 46 11.9**	**-1.2**
	baz=203						
O17K	**Koliganek Bris**	**79.45**	**11**	P	**P**	**20 36 55.5**	**-0.5**
	baz=201,SNR=255						
O17K				S	**S**	**20 46 11.7**	**-1.3**
	baz=201						
LHV	**Little Huntoon**	**79.50**	**44**	IAmb	IAmb	20 36 59.9	
	comp=Z,2μm,1.1s						
M14K	**Bethel**	**79.60**	**8**	IAmb	IAmb	20 36 58.9	
	comp=Z,2μm,1.4s						
M14K	**Bethel**	**79.60**	**8**	P	**P**	**20 36 57.4**	**+0.6**
	baz=196,SNR=224						
M14K				S	**S**	**20 46 16.4**	**+1.9**
	baz=196						
PIX	**Pinacate**	**79.68**	**52**	IAmb	IAmb	20 37 00.7	
	comp=Z,3μm,1.7s						
RYN	**Ryan**	**79.70**	**44**	IAmb	IAmb	20 37 00.8	
	comp=Z,3μm,1.6s						
PAHR	**Pah Rah Range**	**79.73**	**42**	IAmb	IAmb	20 37 00.8	
	comp=Z,3μm,1.7s						
M15K	**Kasigluk River**	**79.73**	**9**	P	**P**	**20 36 58.1**	**+0.6**
	baz=198						
M15K				S	**S**	**20 46 16.0**	**+0.2**
	baz=198						
NVAR	**Mina Array Bea**	**79.73**	**44**	P	**P**	**20 36 58.3**	**-0.1**
NVAR	**Mina Array Bea**	**79.73**	**44**	P	**P**	**20 36 57.9**	**-0.5**
	comp=Z,562nm,0.8s,baz=229,slow=7.1,SNR=2151						
NVAR				pP	**pwP**	**20 38 55.6**	**+0.5**
	comp=Z,38nm,1.0s,baz=226,slow=5.5,SNR=2.9						
NVAR				S	**S**	**20 46 15.8**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=231,slow=11,SNR=1.9						
NVAR				PKKPbc	**PKKPbc**	**20 55 43.2**	**+1.4**
	comp=Z,1.7nm,0.5s,baz=68,slow=4.5,SNR=8.4						
NVAR				PKPPKP	**P'P'df**	**21 03 45.2**	**+1.7**
	comp=Z,2.5nm,0.9s,baz=87,slow=3.1,SNR=8.0						
	comp=Z,562nm,0.8s						
SNY	**Shenyang**	**79.77**	**320**	⇑P	**P**	**20 36 58.9**	**+0.8**
SNY				pP	**pwP**	**20 38 59.3**	**+4.6**
SNY				sP	**sP**	**20 39 49.0**	**+1.3**
SNY				PP	**PP**	**20 40 11.8**	**+2.

BNX				PP	**PP**	**20 40 10.3 -0.2**
BNX				S	**S**	**20 46 18.3 +0.1**
BNX				ScS	**ScS**	**20 46 33.3 -1.0**
BNX				pmax	pmax	
	comp=Z,680nm,1.0s					
BNX				pmax	pmax	
	comp=Z,3μm,3.5s					
KLR	**Kul'dur**	**79.95**	**330**	*c iP*	**P**	**20 37 00.1 +1.1**
KLR				pmax	pmax	
	comp=Z,417nm,1.4s					
BLYC	**Blythe**	**79.95**	**50**	IAmb	IAmb	20 37 02.3
	comp=Z,2μm,1.6s					
WCT	**Wildcat Mounta**	**80.00**	**46**	IAmb	IAmb	20 37 02.4
	comp=Z,2μm,1.6s					
L14K	**Kuka Creek**	**80.08**	**8**	P	**P**	**20 36 59.9 +0.6**
	baz=196					
L14K				S	**S**	**20 46 20.7 +1.4**
	baz=196					
P19K	**Oil Pt**	**80.10**	**13**	P	**P**	**20 36 59.4 -0.2**
	baz=205,SNR=67					
P19K				S	**S**	**20 46 19.2 -0.5**
	baz=205					
BUCK	**Buck Mountain**	**80.12**	**37**	IAmb	IAmb	20 37 02.8
	comp=Z,2μm,1.3s					
N17K	**Nushagak Hills**	**80.14**	**11**	P	**P**	**20 36 59.6 -0.1**
	baz=201,SNR=163					
N17K				S	**S**	**20 46 18.1 -1.9**
	baz=201					
COR	**Corvallis**	**80.17**	**37**	P	**P**	**20 37 01.5 +1.3**
COR				IAmb	IAmb	20 37 03.1
	comp=Z,4μm,1.9s					
COR	**Corvallis**	**80.17**	**37**	P	**P**	**20 37 01.5 +1.3**
COR				pmax	pmax	
	comp=Z,4μm,2.0s					
KVN	**Kaiserville**	**80.20**	**44**	IAmb	IAmb	20 37 03.3
	comp=Z,3μm,1.5s					
HEBO	**Mount Hebo**	**80.30**	**36**	IAmb	IAmb	20 37 03.7
	comp=Z,2μm,1.1s					
M16K	**Timber Creek**	**80.31**	**10**	P	**P**	**20 37 01.8 +1.2**
	baz=199					
M16K				S	**S**	**20 46 23.2 +1.4**
	baz=199					
WHN	**Wuhan**	**80.31**	**306**	⇓*iP*	**P**	**20 37 02.1 +0.8**
WHN				pP	**pP**	**20 39 02.4 +5.9**
WHN				S	**SKSac**	**20 46 25.1 -2.9**
WHN				SS	**SS**	**20 51 53.8 +3.4**
WHN				pmax	pmax	
	comp=Z,640nm,1.1s					
WHN				pmax	pmax	
	comp=Z,6μm,4.0s					
TPNV	**Topopah Spring**	**80.34**	**46**	IAmb	IAmb	20 37 04.3
	comp=Z,3μm,1.6s					
CNSH	**ChangSha**	**80.36**	**304**	P	**P**	**20 37 02.4 +0.8**
CNSH				S	**SKSac**	**20 46 25.3 -3.1**
CNSH				pmax	pmax	
	comp=Z,170nm,1.4s					
O19K	**Port Alsworth**	**80.37**	**12**	P	**P**	**20 37 00.6 -0.2**
	baz=204,SNR=698					
O19K				S	**S**	**20 46 21.2 -1.1**
	baz=204					
O19K				S	**S**	**20 46 21.2 -1.1**
	baz=204					
K13K	**Kusilvak Mount**	**80.41**	**7**	IAmb	IAmb	20 37 03.4
	comp=Z,2μm,1.4s					
K13K	**Kusilvak Mount**	**80.41**	**7**	P	**P**	**20 37 01.9 +0.8**
	baz=194					
K13K				S	**SKSac**	**20 46 24.7 -2.5**
	baz=194					
ILSW	**Iliamna Southw**	**80.42**	**13**	IAmb	IAmb	20 37 02.1
	comp=Z,3μm,1.0s					
CNPM	**China Poot**	**80.42**	**14**	IAmb	IAmb	20 37 02.7
	comp=Z,2μm,1.1s					
HSIG		**80.44**	**55**	IAmb	IAmb	20 37 04.9
	comp=Z,2μm,1.6s					
HOM	**Homer**	**80.45**	**14**	P	**P**	**20 37 01.6 +0.3**
	baz=206,SNR=42					
HOM				S	**S**	**20 46 23.3 +0.1**
	baz=206					
N18K	**Kilae Creek**	**80.52**	**11**	P	**P**	**20 37 01.5 -0.2**
	baz=202					
N18K				S	**S**	**20 46 22.6 -1.4**
	baz=202					
N18K				S	**S**	**20 46 22.6 -1.4**
	baz=202					
L15K	**Ungalak Mounta**	**80.56**	**8**	P	**P**	**20 37 02.3 +0.5**
	baz=197					
L15K				S	**S**	**20 46 24.9 +0.6**
	baz=197					
G03D	**McMinnville, O**	**80.57**	**36**	IAmb	IAmb	20 37 04.9
	comp=Z,4μm,1.5s					
O20K	**Slope Mountain**	**80.62**	**13**	P	**P**	**20 37 02.0 -0.3**
	baz=205,SNR=65					
O20K				S	**S**	**20 46 24.6 -0.5**
	baz=205					
O20K				S	**S**	**20 46 24.6 -0.5**
	baz=205					
Q09A	**Carvers**	**80.69**	**44**	IAmb	IAmb	20 37 05.8
	comp=Z,2μm,1.0s					
V12A	**Nelson**	**80.69**	**48**	IAmb	IAmb	20 37 06.2
	comp=Z,1μm,1.4s					
BKNI	**Bangkinang**	**80.71**	**273**	IAmb	IAmb	20 37 06.0
	comp=Z,4μm,1.5s					
BKNI	**Bangkinang**	**80.71**	**273**	P	**P**	**20 37 01.2 -2.6**
BKNI	**Bangkinang**	**80.71**	**273**	P	**P**	**20 37 04.3 +0.5**
BKNI	**Bangkinang**	**80.71**	**273**	P	**P**	**20 37 03.4 -0.4**
	comp=Z,1μm,1.2s,comp=Z,25μmcomp=Z,18μm					
BRLK	**Bradley Lake**	**80.72**	**14**	IAmb	IAmb	20 37 04.0
	comp=Z,2μm,1.0s					
BRSE	**Bradley Lake S**	**80.73**	**14**	P	**P**	**20 37 02.9 +0.1**
	baz=207,SNR=147					
BRSE				S	**S**	**20 46 26.2 0.0**
	baz=207					
PPSI	**Pulau Pagai**	**80.75**	**270**	P	**P**	**20 37 03.5 -0.5**
	comp=Z,1μm,1.9s,comp=Z,32μm					
F03A	**Seaside**	**80.85**	**36**	IAmb	IAmb	20 37 06.3
	comp=Z,3μm,1.4s					
L16K	**Owhat River**	**80.88**	**9**	IAmb	IAmb	20 37 05.9
	comp=Z,3μm,1.3s					
L16K	**Owhat River**	**80.88**	**9**	P	**P**	**20 37 04.3 +0.8**
	baz=199,SNR=420					
L16K				S	**SKSac**	**20 46 29.0 -1.4**
	baz=199					
N19K	**Bonanza Creek**	**80.91**	**12**	IAmb	IAmb	20 37 04.6
	comp=Z,1μm,1.1s					
N19K	**Bonanza Creek**	**80.91**	**12**	P	**P**	**20 37 03.3 -0.6**
	baz=204					
N19K				S	**S**	**20 46 25.8 -2.2**
	baz=204					
N19K				S	**S**	**20 46 25.8 -2.2**
	baz=204					
M17K	**Holitna River**	**80.92**	**10**	P	**P**	**20 37 05.0 +1.3**
	baz=201					
M17K				S	**SKSac**	**20 46 30.2 -0.5**
	baz=201					
SVW2	**Sparrevohn**	**80.96**	**11**	P	**P**	**20 37 03.5 -0.5**
TIA	**Tai'an**	**80.99**	**313**	P	**P**	**20 37 04.4 -0.3**
TIA				S	**SKSac**	**20 46 33.1 +0.7**
TIA				pmax	pmax	
	comp=Z,110nm,1.0s					
COCO	**West Island**	**81.02**	**260**	P	**P**	**20 37 07.1 +1.8**
COCO	**West Island**	**81.02**	**260**	P	**P**	**20 37 06.9 +1.6**
S11A	**Rachel**	**81.04**	**46**	IAmb	IAmb	20 37 07.7
	comp=Z,2μm,1.2s					
PPI	**Padang Panjang**	**81.08**	**272**	P	**P**	**20 37 04.4 -1.3**
	comp=Z,381nm,1.1s,comp=Z,15μm					
MA2	**Magadan**	**81.14**	**345**	P	**P**	**20 37 04.2 -0.6**
MA2				IAmb	IAmb	20 37 05.9
	comp=Z,1μm,1.2s					
MA2	**Magadan**	**81.14**	**345**	P	**P**	**20 37 04.3 -0.6**
MA2	**Magadan**	**81.14**	**345**	*c iP*	**P**	**20 37 04.7 -0.2**
MA2				pmax	pmax	
	comp=Z,1μm,1.4s					
MA2	**Magadan**	**81.14**	**345**	P	**P**	**20 37 03.0 -1.9**
	comp=Z,1μm,1.4s,comp=Z,15μm					
K15K	**Wolf Creek Mou**	**81.15**	**8**	P	**P**	**20 37 06.1 +1.2**
	baz=197					
K15K				S	**SKSac**	**20 46 31.6 -0.6**
	baz=197					
GULI	**GuiLin**	**81.19**	**300**	⇓*iP*	**P**	**20 37 07.4 +1.4**
GULI				pP	**pP**	**20 38 57.8 -3.7**
GULI				SKS	**SKSac**	**20 46 34.3 +0.1**
GULI				pmax	pmax	
	comp=Z,260nm,1.6s					
GULI				pmax	pmax	
	comp=Z,1μm,5.4s					
M18K	**Stony River**	**81.28**	**11**	P	**P**	**20 37 06.2 +0.6**
	baz=202					
M18K				S	**S**	**20 46 31.9 +0.3**
	baz=202					
J14K	**Nanvaranak Lak**	**81.33**	**7**	IAmb	IAmb	20 37 07.8
	comp=Z,1μm,1.4s					
J14K	**Nanvaranak Lak**	**81.33**	**7**	P	**P**	**20 37 06.4 +0.6**
	baz=195					
J14K				S	**SKSac**	**20 46 33.4 0.0**
	baz=195					
DIB	**Dawson Inlet,**	**81.34**	**26**	IAmb	IAmb	20 37 07.9
	comp=Z,932nm,1.1s					
H02S1	**DAWSON INLET T**	**81.34**	**26**	P	**P**	**20 37 06.3 +0.2**
	SNR=112					
SEW	**Seward**	**81.35**	**14**	P	**P**	**20 37 05.6 -0.3**
	baz=208,SNR=64					
SEW				S	**S**	**20 46 31.4 -0.9**
	baz=208					
PRN	**Pahroc Range**	**81.40**	**46**	IAmb	IAmb	20 37 10.0
	comp=Z,3μm,1.4s					
L17K	**Donlin**	**81.47**	**10**	P	**P**	**20 37 08.0 +1.5**
	baz=200					
L17K				S	**S**	**20 46 36.3 +2.9**
	baz=200					
F04A	**Amboy**	**81.48**	**36**	IAmb	IAmb	20 37 09.2
	comp=Z,3μm,1.5s					
HOLB	**Holberg**	**81.51**	**30**	IAmb	IAmb	20 37 09.2
	comp=Z,3μm,1.5s					
R11B	**Troy Canyon, C**	**81.51**	**45**	P	**P**	**20 37 08.6 +1.0**
	baz=239					
R11B				S	**SKSac**	**20 46 36.6 +0.5**
	baz=239					
BMN	**Battle Mountai**	**81.51**	**43**	IAmb	IAmb	20 37 10.1
	comp=Z,4μm,1.5s					
Q23K	**Middleton Isla**	**81.54**	**16**	IAmb	IAmb	20 37 08.4
	comp=Z,3μm,1.3s					
Q23K	**Middleton Isla**	**81.54**	**16**	P	**P**	**20 37 07.1 +0.1**
	baz=211,SNR=8.0					
Q23K				S	**SKSac**	**20 46 34.7 -0.2**
	baz=211					
Q23K				S	**SKSac**	**20 46 34.7 -0.2**
	baz=211					
MID	**Middleton Isla**	**81.54**	**16**	IAmb	IAmb	20 37 08.4
	comp=Z,3μm,1.3s					
MID	**Middleton Isla**	**81.54**	**16**	P	**P**	**20 37 07.5 +0.6**
HOOD	**Mount Hood Mea**	**81.55**	**37**	IAmb	IAmb	20 37 09.7
	comp=Z,2μm,1.2s					
CAPN	**Captain Cook N**	**81.56**	**13**	IAmb	IAmb	20 37 08.7
	comp=Z,2μm,0.8s					
CAPN	**Captain Cook N**	**81.56**	**13**	P	**P**	**20 37 07.9 +1.0**
	baz=207					
NLWA	**Neilton Lookou**	**81.57**	**34**	IAmb	IAmb	20 37 10.1
	comp=Z,2μm,1.4s					
O22K	**Cooper Landing**	**81.62**	**14**	IAmb	IAmb	20 37 12.2
	comp=Z,1μm,0.7s					
O22K	**Cooper Landing**	**81.62**	**14**	P	**P**	**20 37 07.2 -0.1**
	baz=208,SNR=78					
O22K				S	**S**	**20 46 34.2 -0.8**
	baz=208					
GAMB	**Gambell**	**81.66**	**3**	P	**P**	**20 37 08.2 +0.8**
	baz=187,SNR=23					
GAMB				S	**SKSac**	**20 46 36.2 +0.8**
	baz=187					
G05A	**Wamic**	**81.70**	**37**	IAmb	IAmb	20 37 09.8
	comp=Z,984nm,1.0s					
WVOR	**Wild Horse Val**	**81.70**	**40**	IAmb	IAmb	20 37 11.0
	comp=Z,2μm,1.1s					
OZB	**Mount Ozzard**	**81.71**	**32**	IAmb	IAmb	20 37 10.3
	comp=Z,3μm,1.9s					
N20K	**Mount Spurr**	**81.72**	**13**	P	**P**	**20 37 07.0 -1.0**
	baz=206,SNR=320					
N20K				S	**S**	**20 46 33.3 -2.9**
	baz=206					
SPCR	**Spurr Chakacha**	**81.72**	**13**	P	**P**	**20 37 07.0 -0.9**
	baz=206,SNR=156					
SPCR				S	**S**	**20 46 33.1 -3.1**
	baz=206					
P23K	**Montague Islan**	**81.76**	**15**	P	**P**	**20 37 07.9 -0.1**
	baz=210,SNR=21					
P23K				S	**S**	**20 46 36.2 -0.2**
	baz=210					
P23K				S	**S**	**20 46 36.2 -0.2**
	baz=210					
L18K	**Granite Mounta**	**81.81**	**10**	P	**P**	**20 37 09.3 +1.0**
	baz=201					
L18K				S	**S**	**20 46 39.3 +2.5**
	baz=201					
L18K				S	**S**	**20 46 39.3 +2.5**
	baz=201					
M19K	**Big River Lodg**	**81.93**	**11**	P	**P**	**20 37 08.8 -0.1**
	baz=204					
M19K				S	**S**	**20 46 39.9 +1.8**
	baz=204					
M19K				S	**S**	**20 46 39.9 +1.8**
	baz=204					
K17K	**Iditarod**	**82.02**	**9**	IAmb	IAmb	20 37 11.7
	comp=Z,3μm,1.4s					
K17K	**Iditarod**	**82.02**	**9**	P	**P**	**20 37 10.0 +0.7**
	baz=200					
K17K				S	**S**	**20 46 41.2 +2.3**
	baz=200					
IPM	**Ipoh**	**82.03**	**277**	P	**P**	**20 37 10.3 -0.3**
SISI	**Saibi**	**82.06**	**271**	P	**P**	**20 37 10.3 -0.4**
	comp=Z,566nm,0.6s,comp=Z,16μm					
G06A	**Carlson Farm,**	**82.09**	**37**	IAmb	IAmb	20 37 12.4
	comp=Z,4μm,1.9s					
L19K	**White Mountain**	**82.10**	**11**	IAmb	IAmb	20 37 11.7
	comp=Z,2μm,1.2s					
L19K	**White Mountain**	**82.10**	**11**	P	**P**	**20 37 10.1 +0.3**
	baz=203					
L19K				S	**S**	**20 46 39.8 -0.1**
	baz=203					
L19K				S	**S**	**20 46 39.8 -0.1**
	baz=203					
M20K	**Styx River**	**82.15**	**12**	P	**P**	**20 37 09.3 -0.8**
	baz=205					
RC01	**Rabbit Creek A**	**82.16**	**14**	IAmb	IAmb	20 37 11.3
	comp=Z,2μm,1.2s					
RC01	**Rabbit Creek A**	**82.16**	**14**	P	**P**	**20 37 09.9 -0.2**
	baz=208,SNR=118					
BELA	**Belgrano 2**	**82.17**	**173**	P	**P**	**20 37 08.7 -1.3**
J16K	**Anvik River**	**82.22**	**8**	IAmb	IAmb	20 37 12.7
	comp=Z,2μm,1.1s					
J16K	**Anvik River**	**82.22**	**8**	P	**P**	**20 37 11.3 +1.0**
	baz=198,SNR=300					
J16K				S	**S**	**20 46 44.1 +3.2**
	baz=198					
MNSI	**Mandailing Nat**	**82.25**	**273**	P	**P**	**20 37 09.5 -2.1**
SUA	**Susitna One**	**82.27**	**13**	IAmb	IAmb	20 37 11.6
	comp=Z,1μm,0.9s					
SUA	**Susitna One**	**82.27**	**13**	P	**P**	**20 37 10.4 -0.4**
	baz=207,SNR=103					
PWL	**Port Wells**	**82.28**	**15**	IAmb	IAmb	20 37 11.7
	comp=Z,2μm,1.0s					
PWL	**Port Wells**	**82.28**	**15**	P	**P**	**20 37 10.5 -0.3**
	baz=209,SNR=105					
LON	**Longmire**	**82.31**	**36**	IAmb	IAmb	20 37 13.4
	comp=Z,2μm,1.9s					
J08A	**Circle Bar Ran**	**82.31**	**40**	IAmb	IAmb	20 37 13.9
	comp=Z,3μm,1.3s					
CLRS	**Cowichan Lake**	**82.32**	**33**	IAmb	IAmb	20 37 13.3
	comp=Z,2μm,1.4s					
HIN	**Hinchinbrook I**	**82.33**	**16**	IAmb	IAmb	20 37 12.1
	comp=Z,2μm,1.4s					
Q12A	**Willow Creek R**	**82.37**	**45**	IAmb	IAmb	20 37 14.5
	comp=Z,4μm,1.4s					
LCMT	**Little Creek M**	**82.45**	**47**	IAmb	IAmb	20 37 15.1
	comp=Z,1μm,1.3s					
CBB	**Campbell River**	**82.46**	**32**	IAmb	IAmb	20 37 14.1
	comp=Z,2μm,1.2s					
KAIM	**Kayak Island**	**82.48**	**17**	IAmb	IAmb	20 37 13.6
	comp=Z,2μm,1.0s					
KAIM	**Kayak Island**	**82.48**	**17**	P	**P**	**20 37 12.1 +0.3**
	baz=213,SNR=23					
X16A	**Lo Mia Camp, P**	**82.52**	**50**	IAmb	IAmb	20 37 16.0
	comp=Z,1μm,1.0s					
J17K	**VABM Dome**	**82.55**	**9**	IAmb	IAmb	20 37 14.3
	comp=Z,3μm,1.6s					
J17K	**VABM Dome**	**82.55**	**9**	P	**P**	**20 37 12.7 +0.7**
	baz=199,SNR=239					
J17K				S	**S**	**20 46 46.5 +2.4**
	baz=199					
J17K				S	**S**	**20 46 46.5 +2.4**
	baz=199					
BBB	**Bella Bella**	**82.55**	**29**	IAmb	IAmb	20 37 14.3
	comp=Z,2μm,1.4s					
L20K	**Farewell, AK**	**82.56**	**11**	P	**P**	**20 37 12.0 -0.1**
	baz=204					
L20K				S	**S**	**20 46 48.0 +3.7**
	baz=204					
L20K				S	**S**	**20 46 48.0 +3.7**
	baz=204					
SKT	**Skwentna**	**82.57**	**13**	P	**P**	**20 37 10.6 -1.5**
	baz=206,SNR=173					
PGC	**Sidney**	**82.57**	**33**	IAmb	IAmb	20 37 14.6
	comp=Z,2μm,1.6s					
TTA	**Tatalina**	**82.59**	**10**	IAmb	IAmb	20 37 14.3
	comp=Z,2μm,1.4s					
TTA	**Tatalina**	**82.59**	**10**	P	**P**	**20 37 12.7 +0.4**
	baz=202,SNR=450					
TTA				S	**S**	**20 46 47.0 +2.2**
	baz=202					
TTA	**Tatalina**	**82.59**	**10**	P	**P**	**20 37 12.2 -0.1**
GLI	**Glacier Island**	**82.60**	**15**	P	**P**	**20 37 11.9 -0.4**
	baz=210,SNR=138					
FID	**Port Fidalgo**	**82.64**	**15**	IAmb	IAmb	20 37 13.5
	comp=Z,2μm,1.4s					
EYAK	**Cordova Ski Ar**	**82.66**	**16**	P	**P**	**20 37 12.5 -0.1**
	baz=212,SNR=45					
EYAK	**Cordova Ski Ar**	**82.66**	**16**	P	**P**	**20 37 12.2 -0.4**
M22K	**Willow**	**82.66**	**13**	P	**P**	**20 37 12.2 -0.3**
	baz=208,SNR=208					
SPR3	**Spring Creek 3**	**82.68**	**45**	IAmb	IAmb	20 37 15.8
	comp=Z,2μm,1.4s					
CRAG	**Craig**	**82.72**	**24**	P	**P**	**20 37 14.2 +1.2**
	baz=223,SNR=36					
CRAG	**Craig**	**82.72**	**24**	P	**P**	**20 37 13.6 +0.6**
KNK	**Knik Glacier**	**82.74**	**14**	IAmb	IAmb	20 37 14.2
	comp=Z,957nm,0.8s					
KNK	**Knik Glacier**	**82.74**	**14**	P	**P**	**20 37 12.9 -0.1**
	baz=209,SNR=137					
PMR	**Palmer**	**82.74**	**14**	IAmb	IAmb	20 37 14.2
	comp=Z,4μm,1.6s					
PMR	**Palmer**	**82.74**	**14**	P	**P**	**20 37 12.6 -0.3**
	baz=208,SNR=215					
PMR	**Palmer**	**82.74**	**14**	P	**P**	**20 37 12.0 -1.0**
HEH	**HeiHe**	**82.75**	**329**	*eP*	**P**	**20 37 13.6 +0.3**
HEH				pP	**pP**	**20 39 13.0 +4.1**
HEH				S	**SKSac**	**20 46 43.4 +0.2**
HEH				pmax	pmax	
	comp=Z,480nm,1.5s					
HEH				pmax	pmax	
	comp=Z,5μm,4.1s					
I17K	**Unalakleet**	**82.79**	**8**	IAmb	IAmb	20 37 15.5
	comp=Z,1μm,1.3s					
I17K	**Unalakleet**	**82.79**	**8**	P	**P**	**20 37 14.0 +0.9**
	baz=197,SNR=40					
I17K				S	**S**	**20 46 49.0 +2.5**
	baz=197					
RAGM	**Ragged Mountai**	**82.80**	**16**	IAmb	IAmb	20 37 14.9
	comp=Z,2μm,1.2s					
U15A	**North Rim**	**82.85**	**48**	IAmb	IAmb	20 37 17.6
	comp=Z,3μm,1.3s					
GRNB	**Grenville Isla**	**82.87**	**27**	IAmb	IAmb	20 37 16.2
	comp=Z,1μm,1.2s					
F07A	**Phinny Hill Vi**	**82.87**	**37**	IAmb	IAmb	20 37 16.2
	comp=Z,3μm,1.7s					
HMT	**Hamilton**	**82.87**	**17**	IAmb	IAmb	20 37 14.5
	comp=Z,972nm,1.0s					
ANM	**Nome**	**82.91**	**6**	IAmb	IAmb	20 37 16.1
	comp=Z,1μm,1.6s					
ANM	**Nome**	**82.91**	**6**	P	**P**	**20 37 14.4 +0.7**
	baz=193,SNR=18					
ANM				S	**S**	**20 46 49.4 +1.7**
	baz=193					
BGLC	**Bering Glacier**	**82.96**	**17**	P	**P**	**20 37 15.1 +1.0**
	baz=214					
ELK	**Elko**	**82.96**	**43**	IAmb	IAmb	20 37 17.3
	comp=Z,1μm,1.2s					
J18K	**Innoko River**	**82.97**	**10**	IAmb	IAmb	20 37 15.9
	comp=Z,1μm,0.9s					
J18K	**Innoko River**	**82.97**	**10**	P	**P**	**20 37 14.5 +0.3**
	baz=201					
J18K				S	**S**	**20 46 50.1 +1.7**
	baz=201					
MXC	**Moxie City**	**83.06**	**36**	IAmb	IAmb	20 37 17.3
	comp=Z,1μm,1.4s					
BERG	**Berg Lake**	**83.07**	**17**	IAmb	IAmb	20 37 16.4
	comp=Z,4μm,1.5s					
SIT	**Sitka**	**83.07**	**22**	P	**P**	**20 37 15.4 +0.7**
	baz=221,SNR=30					
SIT				S	**S**	**20 46 51.4 +1.9**
	baz=221					
SIT	**Sitka**	**83.07**	**22**	P	**P**	**20 37 15.1 +0.4**
WUAZ	**Wupatki**	**83.08**	**49**	IAmb	IAmb	20 37 18.6
	comp=Z,2μm,1.1s					
G08A	**Pilot Rock**	**83.09**	**38**	IAmb	IAmb	20 37 17.7
	comp=Z,4μm,1.6s					
SML	**Sawmill**	**83.11**	**14**	IAmb	IAmb	20 37 19.5
	comp=Z,1μm,1.2s					
SML	**Sawmill**	**83.11**	**14**	P	**P**	**20 37 14.6 -0.4**
	baz=209,SNR=94					
U33K	**Whale Pass**	**83.19**	**24**	IAmb	IAmb	20 37 17.8
	comp=Z,3μm,1.4s					
U33K	**Whale Pass**	**83.19**	**24**	P	**P**	**20 37 16.4 +1.0**
	baz=223,SNR=81					
U33K				S	**S**	**20 46 53.5 +2.7**
	baz=223					
U33K				S	**S**	**20 46 53.5 +2.7**
	baz=223					
PBSI	**Pulau Batu**	**83.22**	**272**	P	**P**	**20 37 16.1 -0.4**
V35K	**Ketchikan**	**83.22**	**25**	IAmb	IAmb	20 37 17.9
	comp=Z,3μm,1.5s					
V35K	**Ketchikan**	**83.22**	**25**	P	**P**	**20 37 16.5 +1.0**
	baz=225,SNR=88					
V35K				S	**S**	**20 46 52.6 +1.5**
	baz=225					
V35K				S	**S**	**20 46 52.6 +1.5**
	baz=225					
M23K	**Glacier View**	**83.24**	**14**	P	**P**	**20 37 15.1 -0.4**
	baz=210,SNR=123					
HNS	**HongShan**	**83.26**	**313**	⇑P	**P**	**20 37 17.8 +1.7**
HNS				pP	**pP**	**20 39 16.5 +4.1**
HNS				sP	**sP**	**20 40 10.5 +3.4**
HNS				PP	**PP**	**20 40 36.8 -1.1**
HNS				SKS	**SKSac**	**20 46 47.4 +0.3**
HNS				S	**SKKSac**	**20 46 54.6 +1.5**
HNS				pmax	pmax	
	comp=Z,62nm,1.4s					
HNS				pmax	pmax	
	comp=Z,2μm,5.7s					
PPLA	**Purkeypile**	**83.26**	**12**	P	**P**	**20 37 13.9 -1.8**
	baz=206,SNR=108					
E07A	**Sunnyside**	**83.29**	**37**	IAmb	IAmb	20 37 18.6
	comp=Z,3μm,1.4s					
BMRM	**Bremner River**	**83.31**	**16**	P	**P**	**20 37 15.9 -0.1**
	baz=213,SNR=216					
BMRM				S	**S**	**20 46 51.4 -0.6**
	baz=213					
H16K	**Elim**	**83.32**	**7**	P	**P**	**20 37 16.2 +0.4**
	baz=196,SNR=197					
H16K				S	**S**	**20 46 53.5 +1.8**
	baz=196					
K20K	**Telida**	**83.33**	**11**	IAmb	IAmb	20 37 17.4
	comp=Z,2μm,1.1s					
K20K	**Telida**	**83.33**	**11**	P	**P**	**20 37 16.1 +0.1**
	baz=204					
K20K				S	**S**	**20 46 51.2 -0.7**
	baz=204					
K20K				S	**S**	**20 46 51.2 -0.7**
	baz=204					
WAX	**Waxell Ridge**	**83.35**	**17**	IAmb	IAmb	20 37 18.0
	comp=Z,2μm,1.0s					
SCM	**Sheep Creek Mo**	**83.37**	**14**	P	**P**	**20 37 16.2 -0.1**
	baz=210,SNR=352					
MESA	**MESA**	**83.39**	**18**	P	**P**	**20 37 17.0 +0.5**
	baz=215,SNR=145					
KLU	**Klutina**	**83.42**	**15**	IAmb	IAmb	20 37 17.8
	comp=Z,2μm,1.6s					
KLU	**Klutina**	**83.42**	**15**	P	**P**	**20 37 16.5 0.0**
	baz=211,SNR=166					
S31K	**Pelican**	**83.44**	**21**	IAmb	IAmb	20 37 18.8
	comp=Z,2μm,1.1s					
S31K	**Pelican**	**83.44**	**21**	P	**P**	**20 37 17.4 +0.9**
	baz=220,SNR=79					
S31K				S	**S**	**20 46 55.7 +2.7**
	baz=220					
S31K				S	**S**	**20 46 55.7 +2.7**
	baz=220					
G15K	**Niukluk**	**83.46**	**6**	P	**P**	**20 37 17.0 +0.5**
	baz=194,SNR=99					
G15K				S	**S**	**20 46 55.0 +1.9**
	baz=194					
PSI	**Prapat**	**83.49**	**275**	P	**P**	**20 37 16.3 -1.7**
CRQM	**Cirque**	**83.53**	**17**	IAmb	IAmb	20 37 18.7
	comp=Z,2μm,1.1s					
BJT	**Baijiatuau**	**83.53**	**316**	P	**P**	**20 37 18.3 +0.8**

CRQE	Cirque	83.54	17	P	P	20 37 17.3 +0.2
	baz=214,SNR=194					
BJI	Beijing	83.54	316	P	P	20 37 18.6 +1.1
BJI				S	S	20 46 57.0 +2.1
BJI				SS	SS	20 52 37.4 0.0
BJI				pmax	pmax	
	comp=Z,57nm,1.3s					
BJI				pmax	pmax	
	comp=Z,850nm,5.5s					
LYN	LuoYang	83.55	309	P	P	20 37 19.5 +1.8
LYN				pP	pP	20 39 17.4 +3.4
LYN				PP	PP	20 40 40.0 -0.3
LYN				SKS	S	20 46 51.8 -3.5
LYN				S	ScS	20 47 00.8 -4.0
LYN				SS	SS	20 52 40.0 +2.2
LYN				pmax	pmax	
	comp=Z,490nm,1.0s					
LYN				pmax	pmax	
	comp=Z,2µm,4.8s					
YAH	Yahtse	83.60	18	IAmb	IAmb	20 37 19.4
	comp=Z,2µm,1.0s					
TGL	Tana Glacier	83.61	17	IAmb	IAmb	20 37 19.1
	comp=Z,2µm,1.2s					
ISLE	Juniper Island	83.62	17	IAmb	IAmb	20 37 19.0
	comp=Z,2µm,1.0s					
J19K	Poorman	83.65	10	P	P	20 37 18.1 +0.6
	baz=202					
J19K				S	S	20 46 56.3 +1.4
	baz=202					
J19K				S	S	20 46 56.3 +1.4
	baz=202					
S32K	Killisnoo	83.65	22	IAmb	IAmb	20 37 19.9
	comp=Z,2µm,1.6s					
S32K	Killisnoo	83.65	22	P	P	20 37 18.3 +0.7
	baz=222,SNR=74					
S32K				S	S	20 46 56.6 +1.4
	baz=222					
S32K				S	S	20 46 56.6 +1.4
	baz=222					
X18A	Snowflake	83.67	51	IAmb	IAmb	20 37 21.6
	comp=Z,3µm,1.9s					
TNA	Tin City	83.67	5	P	P	20 37 18.1 +0.6
	baz=190,SNR=53					
TNA				S	S	20 46 56.2 +1.2
	baz=190					
MAW	Mawson	83.68	200	P	P	20 37 17.1 -0.6
	comp=Z,297nm,0.9s,baz=130,slow=6.4,SNR=177					
MAW				PKPPKP	P'P'df	21 03 36.0 -0.7
	comp=Z,6.7nm,1.0s,baz=279,slow=6.4,SNR=3.7					
	comp=Z,297nm,0.9s					
MTPU	Mount Pierson	83.69	47	IAmb	IAmb	20 37 22.3
	comp=Z,3µm,1.5s					
WRAK	Wrangell Islan	83.71	24	IAmb	IAmb	20 37 20.2
	comp=Z,1µm,1.1s					
WRAK	Wrangell Islan	83.71	24	P	P	20 37 18.8 +0.9
	baz=224,SNR=90					
WRAK				S	S	20 46 57.3 +1.4
	baz=224					
F14K	Arctic Creek	83.72	5	P	P	20 37 18.3 +0.6
	baz=192,SNR=48					
F14K				S	S	20 46 57.5 +1.9
	baz=192					
PNL	Peninsula	83.73	19	P	P	20 37 18.5 +0.5
	baz=218,SNR=75					
PNL				S	S	20 46 56.8 +0.7
	baz=218					
PNL	Peninsula	83.73	19	P	P	20 37 17.9 -0.1
SEY	Seymchan	83.73	347	*c i*P	P	20 37 18.0 +0.1
SEY				pmax	pmax	
	comp=Z,2µm,1.3s					
CAST	Castle Rocks	83.75	12	IAmb	IAmb	20 37 18.0
	comp=Z,2µm,0.9s					
CAST	Castle Rocks	83.75	12	P	P	20 37 16.8 -1.3
	baz=206,SNR=1000					
T33K	Petersburg	83.77	23	P	P	20 37 19.1 +0.9
	baz=223,SNR=13					
TCRU	Three Creeks R	83.78	46	IAmb	IAmb	20 37 22.2
	comp=Z,1µm,1.3s					
HPIG		83.79	59	IAmb	IAmb	20 37 22.5
	comp=Z,1µm,1.6s					
PINM	Pinnacle	83.82	18	P	P	20 37 18.6 +0.1
	baz=217,SNR=71					
PINM				S	S	20 46 56.8 -0.2
	baz=217					
BMO	Blue Mountains	83.83	39	IAmb	IAmb	20 37 21.4
	comp=Z,3µm,1.9s					
TABL	Table Mountain	83.83	18	IAmb	IAmb	20 37 20.2
	comp=Z,1µm,0.8s					
N25K	Chitina, Valde	83.85	16	IAmb	IAmb	20 37 20.0
	comp=Z,1µm,0.8s					
N25K	Chitina, Valde	83.85	16	P	P	20 37 18.8 +0.1
	baz=213,SNR=470					
N25K				S	S	20 46 57.0 -0.3
	baz=213					
M24K	Tolsona, Glenn	83.89	15	P	P	20 37 19.3 +0.5
	baz=211,SNR=228					
M24K				S	S	20 46 58.6 +1.0
	baz=211					
BCPM	Bancas Point	83.89	19	IAmb	IAmb	20 37 20.5
	comp=Z,3µm,1.8s					
GRNC	Granite Creek	83.89	17	IAmb	IAmb	20 37 20.6
	comp=Z,2µm,1.3s					
H17K	Granite Mounta	83.89	8	P	P	20 37 18.7 0.0
	baz=198					
H17K				S	S	20 46 58.4 +1.0
	baz=198					
WAT6	Susitna Watana	83.93	14	P	P	20 37 18.9 -0.2
	baz=210,SNR=608					
WAT6				S	S	20 46 56.7 -1.4
	baz=210					
R31K	City Hall, Gus	83.95	21	P	P	20 37 19.8 +0.8
	baz=221,SNR=11					
R31K				S	S	20 47 00.3 +2.3
	baz=221					
WAT1	Susitna Watana	83.96	13	P	P	20 37 18.9 -0.2
	baz=209					
ENH	Enshi	83.97	304	P	P	20 37 19.3 -0.6
MFID	Camas Ranch	83.97	41	IAmb	IAmb	20 37 22.2
	comp=Z,2µm,1.3s					
G16K	Koyuk River	84.03	7	IAmb	IAmb	20 37 21.2
	comp=Z,1µm,1.3s					
G16K	Koyuk River	84.03	7	P	P	20 37 19.8 +0.4
	baz=196					
G16K				S	S	20 47 00.7 +2.1
	baz=196					
J20K	Nowinta River	84.07	11	IAmb	IAmb	20 37 21.1
	comp=Z,1µm,1.1s					
J20K	Nowinta River	84.07	11	P	P	20 37 19.9 +0.4
	baz=204					
J20K				S	S	20 46 59.9 +0.8
	baz=204					
J20K				S	S	20 46 59.9 +0.8
	baz=204					
MCARA	McCarthy VSAT	84.08	16	IAmb	IAmb	20 37 21.3
	comp=Z,2µm,1.3s					
MCARA	McCarthy VSAT	84.08	16	P	P	20 37 19.8 +0.1
	baz=214,SNR=158					
MCARA				S	S	20 46 59.5 +0.2
	baz=214					
F15K	North Star Dit	84.10	6	P	P	20 37 19.6 0.0
	baz=194					
F15K				S	S	20 47 00.4 +1.1
	baz=194					
D08A	Wollman Farm,	84.10	36	IAmb	IAmb	20 37 21.9
	comp=Z,920nm,0.9s					
KTH	Kantishna Hill	84.11	12	IAmb	IAmb	20 37 20.0
	comp=Z,960nm,0.9s					
CHUM	Lake Minchumin	84.13	11	P	P	20 37 19.0 -0.9
	baz=205,SNR=375					
TRF	Thorofare Moun	84.14	12	P	P	20 37 19.4 -0.8
	baz=207,SNR=620					
GCSA	Galena City Sc	84.15	9	P	P	20 37 20.2 +0.3
	baz=201,SNR=163					
GCSA				S	S	20 47 01.1 +1.3
	baz=201					
LOGN	Logan Glacier	84.19	18	IAmb	IAmb	20 37 21.9
	comp=Z,2µm,1.3s					
CTG	Chitna Glacier	84.20	17	P	P	20 37 20.6 +0.2
	baz=216,SNR=207					
CTGM	Chitina Glacie	84.20	17	IAmb	IAmb	20 37 22.0
	comp=Z,1µm,1.0s					
P29M	Windy Craggy	84.22	20	P	P	20 37 21.4 +0.9
	baz=219					
P29M				S	S	20 47 02.7 +1.8
	baz=219					
E09A	Wood Farm, Sta	84.24	37	IAmb	IAmb	20 37 23.0
	comp=Z,3µm,1.7s					
R32K	Eaglecrest	84.27	22	P	P	20 37 21.4 +0.7
	baz=222,SNR=71					
U35K	Hyder	84.28	25	IAmb	IAmb	20 37 27.2
	comp=Z,3µm,1.5s					
U35K	Hyder	84.28	25	P	P	20 37 21.6 +1.0
	baz=226,SNR=38					
U35K				S	S	20 47 03.6 +2.2
	baz=226					
GSI	Gunungsitoli	84.31	273	P	P	20 37 21.8 -0.1
H18K	Gonhosa River	84.31	9	P	P	20 37 20.5 -0.2
	baz=200					
H18K				S	S	20 47 02.9 +1.5
	baz=200					
JIS	Juneau Island	84.32	22	P	P	20 37 21.2 +0.3
G17K	Kiwalik Mounta	84.34	8	P	P	20 37 21.0 +0.1
	baz=197					
G17K				S	S	20 47 02.8 +1.2
	baz=197					
O28M	Mount Upton	84.38	18	P	P	20 37 21.8 +0.3
	baz=217					
O28M				S	S	20 47 03.2 +0.4
	baz=217					
HARP	HAARP	84.39	15	P	P	20 37 21.3 +0.2
	baz=212,SNR=217					
121A	Cookes Peak, D	84.42	53	IAmb	IAmb	20 37 25.5
	comp=Z,2µm,2.0s					
121A	Cookes Peak, D	84.42	53	P	P	20 37 24.0 +1.7
	baz=245					
121A				S	S	20 47 10.9 +6.7
	baz=245					
DHY	Denali Highway	84.44	14	IAmb	IAmb	20 37 22.9
	comp=Z,2µm,1.5s					
DHY	Denali Highway	84.44	14	P	P	20 37 21.2 -0.5
	baz=210,SNR=233					
F10A	Beach Ranch, E	84.48	38	IAmb	IAmb	20 37 24.0
	comp=Z,2µm,1.1s					
O29M	Mount Kennedy	84.49	19	IAmb	IAmb	20 37 24.0
	comp=Z,2µm,1.6s					
O29M	Mount Kennedy	84.49	19	P	P	20 37 22.3 +0.5
	baz=218					
O29M				S	S	20 47 04.4 +0.8
	baz=218					
PLBC	Pleasant Camp	84.54	20	P	P	20 37 22.8 +0.9
	baz=220,SNR=228					
PLBC				S	S	20 47 06.1 +2.3
	baz=220					
LLLB	Lillooet	84.57	32	IAmb	IAmb	20 37 24.4
	comp=Z,2µm,1.5s					
I20K	Naaghedeneel	84.58	10	IAmb	IAmb	20 37 23.9
	comp=Z,2µm,1.1s					
I20K	Naaghedeneel	84.58	10	P	P	20 37 22.4 +0.4
	baz=203					
BPAW	Bear Paw Mtn.	84.58	12	IAmb	IAmb	20 37 23.5
	comp=Z,1µm,1.7s					
BPAW	Bear Paw Mtn.	84.58	12	P	P	20 37 20.6 -1.5
	baz=207,SNR=83					
B08A	Colville Reser	84.61	35	IAmb	IAmb	20 37 24.1
	comp=Z,3µm,1.8s					
MCK	McKinley	84.67	13	P	P	20 37 22.0 -0.5
	baz=208,SNR=489					
SRIT	Nakonsritamara	84.69	281	IAmb	IAmb	20 37 30.1
	comp=Z,748nm,1.0s					
SRIT	Nakonsritamara	84.69	281	P	P	20 37 24.1 +0.3
GYA	Guiyang	84.72	300	⇓P	P	20 37 24.5 +0.7
GYA				pP	pP	20 39 23.5 +3.0
GYA				PP	PP	20 40 50.1 +0.2
GYA				SKS	SKSac	20 46 58.3 +1.2
GYA				S	S	20 47 08.5 +1.3
GYA				pmax	pmax	
	comp=Z,180nm,1.2s					
PLID	Pearl Lake	84.74	39	IAmb	IAmb	20 37 25.8
	comp=Z,4µm,1.9s					
PAX	Paxson	84.80	15	P	P	20 37 22.6 -0.7
	baz=212,SNR=218					
P30M	Million Dollar	84.86	20	P	P	20 37 24.5 +0.9
	baz=220					
P30M				S	S	20 47 09.7 +2.7
	baz=220					
MOIG	Morelia	84.87	68	IAmb	IAmb	20 37 27.6
	comp=Z,1µm,1.5s					
C09A	Chrisman Ranch	84.88	36	IAmb	IAmb	20 37 26.0
	comp=Z,2µm,1.6s					
SKAG	Skagway	84.88	21	P	P	20 37 24.8 +1.2
	baz=221,SNR=151					
SKAG				S	S	20 47 10.2 +3.1
	baz=221					
SKAG	Skagway	84.88	21	P	P	20 37 24.4 +0.8
YUK8	Steele Glacier	84.92	18	P	P	20 37 24.5 +0.4
	baz=217,SNR=294					
YUK8				S	S	20 47 08.9 +1.0
	baz=217					
T35M	Bob Quinn	84.93	24	P	P	20 37 25.0 +1.1
	baz=226,SNR=136					
T35M				S	S	20 47 09.6 +1.9
	baz=226					
M26K	Nabesna, AK	84.94	16	IAmb	IAmb	20 37 25.6
	comp=Z,2µm,1.1s					
M26K	Nabesna, AK	84.94	16	P	P	20 37 24.0 0.0
	baz=214,SNR=607					
M26K				S	S	20 47 07.4 -0.3
	baz=214					
M26K				S	S	20 47 07.4 -0.3
	baz=214					
H19K	Roundabout Mou	84.95	9	IAmb	IAmb	20 37 25.7
	comp=Z,3µm,1.9s					
H19K	Roundabout Mou	84.95	9	P	P	20 37 24.1 +0.4
	baz=201					
H19K				S	S	20 47 09.1 +1.6
	baz=201					
G18K	Tagagawik	84.97	8	P	P	20 37 23.7 -0.3
	baz=199					
G18K				S	S	20 47 08.0 +0.2
	baz=199					
TIY	Taiyuan	85.00	312	*e*P	P	20 37 26.1 +1.2
TIY				pP	pP	20 39 27.4 +5.7
TIY				pmax	pmax	
	comp=Z,220nm,0.8s					
TIY				pmax	pmax	
	comp=Z,1µm,5.0s					
ZEA	Zeya	85.04	331	*e*P	P	20 37 25.5 +1.0
ZEA				*e**PP	pP	20 39 26.0 +5.2
ZEA				*e*		20 46 59.4
ZEA				*e*S	S	20 47 12.1 +3.2
ZEA				*e*		20 52 59.1
ZEA				pmax	pmax	
	comp=E,70nm,0.9s					
ZEA				pmax	pmax	
	comp=N,250nm,1.1s					
ZEA				pmax	pmax	
	comp=Z,520nm,1.4s					
ZEA				pmax	pmax	
	comp=E,700nm,3.5s					
ZEA				pmax	pmax	
	comp=N,1µm,5.4s					
ZEA				pmax	pmax	
	comp=Z,3µm,8.0s					
ZEA				smax	smax	
	comp=N,7µm,5.2s					
ZEA				smax	smax	
	comp=E,11µm,10.2s					
YUK6	Outpost Mounta	85.06	19	P	P	20 37 25.1 +0.3
	baz=218,SNR=92					
YUK6				S	S	20 47 09.2 -0.1
	baz=218					
SPUT	South Promonto	85.08	44	IAmb	IAmb	20 37 27.9
	comp=Z,1µm,1.5s					
EPT	El Paso	85.09	55	IAmb	IAmb	20 37 28.3
	comp=Z,864nm,1.1s					
HVU	Hansel Valley	85.09	43	IAmb	IAmb	20 37 27.9
	comp=Z,2µm,1.8s					
YUK3	Moose Creek	85.11	17	P	P	20 37 25.2 +0.2
	baz=216,SNR=691					
YUK3				S	S	20 47 09.7 0.0
	baz=216					
SLVN	Son La	85.14	294	P	P	20 37 26.0 +0.1
H20K	Anotleneega Mo	85.16	10	P	P	20 37 25.2 +0.3
	baz=203					
H20K				S	S	20 47 10.1 +0.5
	baz=203					
F17K	Baldwin Pennin	85.17	7	P	P	20 37 24.9 +0.1
	baz=197					
F17K				S	S	20 47 09.9 +0.4
	baz=197					
M27K	Edge Creek, AK	85.20	16	P	P	20 37 26.0 +0.7
	baz=215					
M27K				S	S	20 47 11.1 +0.8
	baz=215					
M27K				S	S	20 47 11.1 +0.8
	baz=215					
MENT	Mentasta	85.20	15	IAmb	IAmb	20 37 26.2
	comp=Z,645nm,0.9s					
MENT	Mentasta	85.20	15	P	P	20 37 24.6 -0.6
HYT	Haines Junctio	85.23	19	P	P	20 37 25.9 +0.4
	baz=219,SNR=256					
HYT				S	S	20 47 11.3 +0.6
	baz=219					
S34M	Telegraph Cree	85.25	23	IAmb	IAmb	20 37 27.9
	comp=Z,2µm,0.9s					
S34M	Telegraph Cree	85.25	23	P	P	20 37 26.6 +1.2
	baz=225,SNR=658					
S34M				S	S	20 47 11.8 +1.1
	baz=225					
YUK4	Talbot Arm	85.29	18	P	P	20 37 26.5 +0.6
	baz=218,SNR=134					
YUK4				S	S	20 47 12.3 +0.8
	baz=218					
L26K	Log Cabin Wild	85.37	15	IAmb	IAmb	20 37 27.6
	comp=Z,1µm,1.3s					
L26K	Log Cabin Wild	85.37	15	P	P	20 37 26.0 +0.1
	baz=214,SNR=305					
L26K				S	S	20 47 11.9 +0.2
	baz=214					
L26K				S	S	20 47 11.9 +0.2
	baz=214					
I21K	Tanana	85.37	11	IAmb	IAmb	20 37 27.2
	comp=Z,1µm,1.2s					
I21K	Tanana	85.37	11	P	P	20 37 25.6 -0.3
	baz=206					
I21K				S	S	20 47 09.2 -2.3
	baz=206					
I21K				S	S	20 47 09.2 -2.3
	baz=206					
NEA2	Nenana	85.41	12	P	P	20 37 25.0 -1.1
	baz=208,SNR=86					
NEA2				S	S	20 47 09.0 -3.0
	baz=208					
G19K	Purcell Mounta	85.43	9	P	P	20 37 26.2 0.0
	baz=201					
G19K				S	S	20 47 11.8 -0.3
	baz=201					
K24K	Donnelly Dome	85.44	14	P	P	20 37 26.4 +0.1
	baz=211,SNR=136					
K24K				S	S	20 47 11.4 -1.0
	baz=211					
K24K				S	S	20 47 11.4 -1.0
	baz=211					
MLY	Manley	85.47	12	IAmb	IAmb	20 37 27.0
	comp=Z,826nm,1.2s					
MLY	Manley	85.47	12	P	P	20 37 25.5 -1.0
	baz=207,SNR=332					
MLY				S	S	20 47 09.3 -3.4
	baz=207					
F18K	Selawik	85.52	8	P	P	20 37 26.0 -0.5
	baz=198,SNR=45					
F18K				S	S	20 47 13.4 +0.6
	baz=198					
BVCY	Beaver Creek	85.52	17	P	P	20 37 27.1 +0.4
	baz=216,SNR=477					
BVCY				S	S	20 47 14.3 +1.1
	baz=216					
XLT	XiLinHaoTe	85.52	319	*e*P	P	20 37 28.1 +0.9
XLT				pP	pP	20 39 27.1 +2.8
XLT				SKS	SKSac	20 46 58.0 -3.3
XLT				S	ScS	20 47 17.8 -3.1
XLT				pmax	pmax	
	comp=Z,160nm,1.3s					
XLT				pmax	pmax	
	comp=Z,2µm,4.6s					
P32M	Atlin	85.53	21	P	P	20 37 27.6 +0.7
	baz=223,SNR=176					
P32M				S	S	20 47 15.0 +1.5
	baz=223					
Q32M	Nakina River	85.58	22	P	P	20 37 28.2 +0.9
	baz=224,SNR=289					
Q32M				S	S	20 47 15.6 +1.4
	baz=224					
RIDG	Independent Ri	85.60	14	IAmb	IAmb	20 37 28.4
	comp=Z,1µm,1.1s					
RIDG	Independent Ri	85.60	14	P	P	20 37 27.0 -0.1
	baz=212,SNR=61					
RIDG				S	S	20 47 13.0 -1.0
	baz=212					
O30N	Mendenhall	85.63	20	IAmb	IAmb	20 37 29.4
	comp=Z,3µm,1.6s					
O30N	Mendenhall	85.63	20	P	P	20 37 27.9 +0.6
	baz=220,SNR=318					
O30N				S	S	20 47 15.7 +1.3
	baz=220					
H21K	Melozitna Rive	85.66	11	IAmb	IAmb	20 37 29.2
	comp=Z,2µm,1.6s					
H21K	Melozitna Rive	85.66	11	P	P	20 37 27.5 +0.3
	baz=205					
H21K				S	S	20 47 14.5 +0.2
	baz=205					
H21K				S	S	20 47 14.5 +0.2
	baz=205					
HDA	Harding Lake	85.70	13	IAmb	IAmb	20 37 29.6
	comp=Z,2µm,1.4s					
HDA	Harding Lake	85.70	13	P	P	20 37 26.9 -0.6
	baz=210,SNR=178					
HDA				S	S	20 47 13.1 -1.7
	baz=210					
E17K	Hotham Inlet	85.72	7	P	P	20 37 27.6 0.0
	baz=196,SNR=83					
E17K				S	S	20 47 15.5 +0.6
	baz=196					
Y22D	IRIS PASSCAL I	85.73	52	IAmb	IAmb	20 37 34.5
	comp=Z,999nm,1.2s					
Y22D	IRIS PASSCAL I	85.73	52	P	P	20 37 30.3 +1.7
	baz=245					
Y22D				S	S	20 47 23.0 +6.3
	baz=245					
L27K	Beaver Creek,	85.79	16	IAmb	IAmb	20 37 29.7
	comp=Z,1µm,1.6s					
L27K	Beaver Creek,	85.79	16	P	P	20 37 28.1 +0.1
	baz=215					
L27K				S	S	20 47 15.6 -0.2
	baz=215					
IMAR	Indian Mountai	85.80	10	P	P	20 37 26.9 -1.0
BCAR	Beaver Creek A	85.80	16	P	P	20 37 27.4 -0.7
I23K	Minto, Yukon-K	85.84	12	IAmb	IAmb	20 37 28.9
	comp=Z,2µm,1.6s					
I23K	Minto, Yukon-K	85.84	12	P	P	20 37 27.0 -1.1
	baz=208,SNR=279					
I23K				S	S	20 47 13.3 -2.7
	baz=208					
I23K				S	S	20 47 13.3 -2.7
	baz=208					
N30M	Aishikik Lake	85.85	19	IAmb	IAmb	20 37 31.4
	comp=Z,877nm,1.5s					
N30M	Aishikik Lake	85.85	19	P	P	20 37 28.4 +0.1
	baz=220					
N30M				S	S	20 47 16.5 0.0
	baz=220					
VHRN	Van Horn	85.88	56	IAmb	IAmb	20 37 32.7
	comp=Z,2µm,1.6s					
COLA	College	85.91	13	P	P	20 37 27.2 -1.2
COLA	College	85.91	13	P	P	20 37 27.7 -0.7
	baz=210					
COLA				S	S	20 47 14.5 -2.2
	baz=210					
COLA	College	85.91	13	P	P	20 37 26.9 -1.5
COLA	College	85.91	13	*c i*P	P	20 37 27.7 -0.7
COLA				pmax	pmax	
	comp=Z,3µm,1.5s					
WHY	Whitehorse	85.94	20	P	P	20 37 29.4 +0.6
	baz=222,SNR=294					
WHY				S	S	20 47 19.4 +1.9
	baz=222					
XAN	Xi'an	85.97	308	⇓P	P	20 37 29.3 -0.3
XAN				sP	sP	20 40 23.6 +2.3
XAN				PP	PP	20 41 05.6 +5.9
XAN				SKS	SKSac	20 47 03.8 -0.6
XAN				S	ScS	20 47 22.3 -2.7
XAN				SS	SS	20 53 11.3 -1.9
XAN				pmax	pmax	
	comp=Z,650nm,1.3s					
XAN				pmax	pmax	
	comp=Z,3µm,4.0s					
F19K	Shaleruckik Mo	85.98	8	IAmb	IAmb	20 37 33.5
	comp=Z,2µm,1.9s					
F19K	Shaleruckik Mo	85.98	8	P	P	20 37 28.4 -0.4
	baz=200,SNR=146					
F19K				S	S	20 47 16.7 -0.6
	baz=200					
SCRK	Sand Creek	86.01	15	IAmb	IAmb	20 37 29.9
	comp=Z,846nm,1.2s					

SCRK	**Sand Creek**	**86.01**	**15**	P	**P**	**20 37 29.1**	**0.0**
	baz=213,SNR=391						
SCRK				S	**S**	**20 47 16.6**	**-1.4**
	baz=213						
IL31		**86.02**	**13**	IAmb	IAmb	20 37 29.8	
	comp=Z,2μm,1.5s						
ILAR	**Eielson Array**	**86.02**	**13**	P	**P**	**20 37 27.4**	**-1.6**
ILAR	**Eielson Array**	**86.02**	**13**	P	**P**	**20 37 27.7**	**-1.4**
	comp=Z,281nm,0.8s,baz=221,slow=5.0,SNR=485						
ILAR				pP	**pwP**	**20 39 27.6**	**-0.7**
	comp=Z,30nm,1.0s,baz=234,slow=5.8,SNR=4.1						
ILAR				PP	**PP**	**20 40 59.4**	**0.0**
	comp=Z,58nm,0.9s,baz=215,slow=8.4,SNR=4.1						
ILAR				S	**SKSac**	**20 46 56.9**	**-6.3**
	comp=Z,5.4nm,1.1s,baz=194,slow=7.1,SNR=4.7						
ILAR				PKKPbc	**PKKPdf**	**20 55 24.2**	**+3.1**
	comp=Z,2.8nm,0.6s,baz=351,slow=2.7,SNR=16						
ILAR				SKKS	**SKKSdf**	**21 01 44.0**	**+1.9**
	comp=Z,0.4nm,0.9s,baz=0.6,slow=3.3,SNR=1.6						
ILAR				PKPPKP	**P'P'df**	**21 03 35.4**	**+5.4**
	comp=Z,12nm,1.4s,baz=326,slow=1.5,SNR=5.7						
	comp=Z,281nm,0.8s						
DLBC	**Dease Lake**	**86.03**	**23**	P	**P**	**20 37 30.1**	**+0.8**
	baz=226,SNR=407						
DLBC				S	**S**	**20 47 20.7**	**+2.3**
	baz=226						
LHMI	**Lhok Sumawe**	**86.12**	**277**	IAmb	IAmb	20 37 36.2	
	comp=Z,1μm,1.1s						
H22K	**Ishtalitna Cre**	**86.13**	**11**	P	**P**	**20 37 29.4**	**-0.1**
	baz=206						
H22K				S	**S**	**20 47 17.2**	**-1.7**
	baz=206						
H22K				S	**S**	**20 47 17.2**	**-1.7**
	baz=206						
HIA	**Hailar**	**86.18**	**325**	P	**P**	**20 37 30.5**	**+0.3**
E18K	**Tukpahlearik C**	**86.19**	**7**	P	**P**	**20 37 29.8**	**0.0**
	baz=197,SNR=116						
E18K				S	**S**	**20 47 18.9**	**-0.4**
	baz=197						
D17K	**Noatak River**	**86.19**	**6**	P	**P**	**20 37 29.9**	**+0.2**
	baz=195,SNR=98						
D17K				S	**S**	**20 47 20.8**	**+1.5**
	baz=195						
POKR	**Poker Plat Res**	**86.21**	**13**	P	**P**	**20 37 28.9**	**-1.1**
	baz=210,SNR=167						
POKR				S	**S**	**20 47 16.7**	**-2.9**
	baz=210						
POKR				S	**S**	**20 47 16.7**	**-2.9**
	baz=210						
M29M	**Somme Creek**	**86.21**	**18**	P	**P**	**20 37 29.9**	**-0.2**
M29M				IAmb	IAmb	20 37 33.0	
	comp=Z,602nm,1.1s						
M29M	**Somme Creek**	**86.21**	**18**	P	**P**	**20 37 30.5**	**+0.4**
	baz=218						
M29M				S	**S**	**20 47 18.8**	**-1.2**
	baz=218						
J25K	**Salcha River,**	**86.22**	**14**	IAmb	IAmb	20 37 31.3	
	comp=Z,2μm,1.6s						
J25K	**Salcha River,**	**86.22**	**14**	P	**P**	**20 37 29.8**	**-0.3**
	baz=212,SNR=601						
J25K				S	**S**	**20 47 19.1**	**-0.8**
	baz=212						
J25K				S	**S**	**20 47 19.1**	**-0.8**
	baz=212						
N31M	**Braeburn, Yuko**	**86.28**	**19**	P	**P**	**20 37 30.8**	**+0.4**
	baz=221,SNR=340						
N31M				S	**S**	**20 47 21.8**	**+1.3**
	baz=221						
P33M	**Teslin, Yukon**	**86.29**	**21**	P	**P**	**20 37 30.9**	**+0.3**
	baz=223,SNR=181						
P33M				S	**S**	**20 47 22.1**	**+1.3**
	baz=223						
G21K	**Allakaket**	**86.33**	**10**	P	**P**	**20 37 30.4**	**0.0**
	baz=204						
G21K				S	**S**	**20 47 21.2**	**+0.5**
	baz=204						
TXAR	**Lajitas Array**	**86.36**	**58**	P	**P**	**20 37 31.9**	**+0.3**
	comp=Z,522nm,0.9s,baz=229,slow=3.0,SNR=1593						
TXAR				PKKPbc	**PKKPbc**	**20 55 26.4**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=128,slow=3.3,SNR=6.7						
TXAR				PKPPKP		21 03 32.0	
	comp=Z,1,2nm,0.9s,baz=116,slow=2.9,SNR=5.3						
	comp=Z,522nm,0.9s						
R33M	**Jennings River**	**86.36**	**22**	IAmb	IAmb	20 37 33.4	
	comp=Z,2μm,1.4s						
R33M	**Jennings River**	**86.36**	**22**	P	**P**	**20 37 31.9**	**+1.0**
	baz=225,SNR=453						
R33M				S	**S**	**20 47 22.6**	**+1.1**
	baz=225						
H23K	**Yukon River**	**86.41**	**12**	P	**P**	**20 37 30.0**	**-0.8**
	baz=208						
H23K				S	**S**	**20 47 19.1**	**-2.4**
	baz=208						
H23K				S	**S**	**20 47 19.1**	**-2.4**
	baz=208						
ANMO	**Albuquerque**	**86.44**	**52**	P	**P**	**20 37 31.5**	**-0.4**
ANMO				IAmb	IAmb	20 37 34.4	
	comp=Z,733nm,1.3s						
ANMO	**Albuquerque**	**86.44**	**52**	*c iP*	**P**	**20 37 33.1**	**+1.1**
ANMO				pmax	pmax		
	comp=Z,299nm,1.2s						
BILL	**Bilibino**	**86.44**	**354**	P	**P**	**20 37 30.4**	**-0.5**
BILL				IAmb	IAmb	20 37 32.6	
	comp=Z,1μm,1.1s						
F20K	**Avaraart Lake**	**86.47**	**9**	P	**P**	**20 37 31.1**	**0.0**
	baz=202						
F20K				S	**S**	**20 47 22.1**	**+0.1**
	baz=202						
K27K	**Chicken**	**86.52**	**15**	IAmb	IAmb	20 37 33.6	
	comp=Z,2μm,1.5s						
K27K	**Chicken**	**86.52**	**15**	P	**P**	**20 37 31.9**	**+0.5**
	baz=215						
K27K				S	**S**	**20 47 23.8**	**+1.2**
	baz=215						
K27K				S	**S**	**20 47 23.8**	**+1.2**
	baz=215						
UNM	**Universidad Na**	**86.52**	**69**	IAmb	IAmb	20 37 36.1	
	comp=Z,949nm,1.3s						
C16K	**Lisburne Hills**	**86.55**	**5**	P	**P**	**20 37 31.3**	**-0.1**
	baz=193,SNR=25						
C16K				S	**S**	**20 47 23.0**	**+0.4**
	baz=193						
J26L	**Joseph Creek**	**86.55**	**14**	P	**P**	**20 37 32.1**	**+0.5**
	baz=213						
J26L				S	**S**	**20 47 23.7**	**+0.7**
	baz=213						
J26L				S	**S**	**20 47 23.7**	**+0.7**
	baz=213						
RDOG	**Red Dog Mine**	**86.55**	**6**	P	**P**	**20 37 31.5**	**+0.1**
	baz=195,SNR=36						
RDOG				S	**S**	**20 47 23.3**	**+0.5**
	baz=195						
E19K	**Redstone River**	**86.64**	**8**	P	**P**	**20 37 32.2**	**+0.3**
	baz=201						
E19K				S	**S**	**20 47 22.7**	**-1.0**
	baz=201						
AHID	**Auburn Hatcher**	**86.65**	**43**	IAmb	IAmb	20 37 35.4	
	comp=Z,1μm,1.2s						
RDMU	**Red Mountain**	**86.66**	**46**	IAmb	IAmb	20 37 36.5	
	comp=Z,1μm,1.7s						
H24K	**Noodor Dome**	**86.75**	**12**	P	**P**	**20 37 30.8**	**-1.7**
	baz=209						
H24K				S	**S**	**20 47 21.1**	**-3.6**
	baz=209						
H24K				S	**S**	**20 47 21.1**	**-3.6**
	baz=209						
ALPN	**Alpine**	**86.78**	**57**	IAmb	IAmb	20 37 36.8	
	comp=Z,2μm,1.4s						
M30M	**Minto, Yukon**	**86.80**	**18**	P	**P**	**20 37 33.0**	**+0.2**
	baz=220,SNR=670						
M30M				S	**S**	**20 47 25.9**	**+0.5**
	baz=220						
L29M	**L29M**	**86.83**	**17**	P	**P**	**20 37 33.5**	**+0.6**
	baz=218,SNR=574						
L29M				S	**S**	**20 47 27.3**	**+1.6**
	baz=218						
N32M	**Quiet Lake**	**86.89**	**20**	P	**P**	**20 37 34.1**	**+0.8**
	baz=223						
N32M				S	**S**	**20 47 28.4**	**+2.1**
	baz=223						
C17K	**DeLong Mountai**	**86.93**	**6**	P	**P**	**20 37 33.2**	**0.0**
	baz=195						
C17K				S	**S**	**20 47 26.5**	**+0.2**
	baz=195						
PRP	**Porcupine Dome**	**86.96**	**13**	P	**P**	**20 37 32.9**	**-0.7**
	baz=212,SNR=158						
PRP				S	**S**	**20 47 25.2**	**-1.8**
	baz=212						
F21K	**Alatna River**	**86.98**	**10**	P	**P**	**20 37 33.3**	**-0.2**
	baz=204						
F21K				S	**S**	**20 47 26.1**	**-0.7**
	baz=204						
PECS	**Pecos**	**86.99**	**56**	IAmb	IAmb	20 37 37.2	
	comp=Z,880nm,1.5s						
HHC	**Hu-ho-hao-te**	**87.02**	**315**	*e*P	**P**	**20 37 36.1**	**+1.6**
HHC				pP	pP	20 39 35.3	+3.2
HHC				SKS	**SKSac**	**20 47 10.8**	**+0.2**
HHC				S	**ScS**	**20 47 31.8**	**-1.7**
HHC				pmax	pmax		
	comp=Z,96nm,1.1s						
HHC				pmax	pmax		
	comp=Z,1μm,4.7s						
G22K	**Bettles**	**87.03**	**10**	P	**P**	**20 37 33.9**	**+0.2**
	baz=206						
G22K				S	**S**	**20 47 27.2**	**0.0**
	baz=206						
TPAW	**Teton Pass**	**87.09**	**42**	IAmb	IAmb	20 37 37.6	
	comp=Z,2μm,1.4s						
G23K	**Bananza Creek**	**87.11**	**11**	P	**P**	**20 37 34.2**	**+0.1**
	baz=207						
G23K				S	**S**	**20 47 28.4**	**+0.3**
	baz=207						
SNOW	**Snow King Moun**	**87.20**	**43**	IAmb	IAmb	20 37 38.1	
	comp=Z,2μm,1.1s						
DAWY	**Dawson**	**87.24**	**16**	IAmb	IAmb	20 37 36.6	
	comp=Z,1μm,1.3s						
DAWY	**Dawson**	**87.24**	**16**	P	**P**	**20 37 35.0**	**+0.1**
	baz=217,SNR=484						
DAWY				S	**S**	**20 47 29.6**	**+0.2**
	baz=217						
M31M	**Drury Creek, Y**	**87.25**	**19**	IAmb	IAmb	20 37 36.3	
	comp=Z,1μm,1.4s						
M31M	**Drury Creek, Y**	**87.25**	**19**	P	**P**	**20 37 34.6**	**-0.3**
	baz=222,SNR=216						
M31M				S	**S**	**20 47 29.5**	**-0.1**
	baz=222						
C18K	**Utukok River**	**87.30**	**6**	P	**P**	**20 37 34.9**	**-0.2**
	baz=197						
C18K				S	**S**	**20 47 29.1**	**-0.8**
	baz=197						
I26K	**Coal Creek Min**	**87.32**	**14**	P	**P**	**20 37 35.5**	**+0.4**
	baz=214						
I26K				S	**S**	**20 47 30.8**	**+0.8**
	baz=214						
I26K				S	**S**	**20 47 30.8**	**+0.8**
	baz=214						
S22A	**4UR Ranch, Cre**	**87.34**	**49**	IAmb	IAmb	20 37 39.0	
	comp=Z,1μm,1.4s						
S22A	**4UR Ranch, Cre**	**87.34**	**49**	P	**P**	**20 37 37.5**	**+1.3**
	baz=245						
S22A				S	**S**	**20 47 32.7**	**+0.6**
	baz=245						
MOOW	**Moose Ponds**	**87.34**	**42**	IAmb	IAmb	20 37 38.6	
	comp=Z,1μm,1.6s						
EGAK	**Eagle**	**87.36**	**15**	IAmb	IAmb	20 37 37.0	
	comp=Z,2μm,1.6s						
EGAK	**Eagle**	**87.36**	**15**	P	**P**	**20 37 35.3**	**0.0**
	baz=216,SNR=346						
EGAK				S	**S**	**20 47 31.0**	**+0.6**
	baz=216						
LOHW	**Long Hollow**	**87.37**	**42**	IAmb	IAmb	20 37 38.8	
	comp=Z,2μm,1.6s						
O20A	**White River Ci**	**87.37**	**46**	IAmb	IAmb	20 37 38.0	
	comp=Z,649nm,1.1s						
F22K	**John River**	**87.45**	**10**	P	**P**	**20 37 35.9**	**+0.2**
	baz=205						
F22K				S	**S**	**20 47 30.4**	**-0.8**
	baz=205						
KMI	**Kunming**	**87.50**	**297**	⇓P	**P**	**20 37 38.8**	**+1.6**
KMI				pP	pP	20 39 39.1	+4.5
KMI				sP	sP	20 40 26.8	-2.2
KMI				SKS	**SKSac**	**20 47 15.0**	**+0.7**
KMI				S	**S**	**20 47 32.3**	**-1.6**
KMI				SS	**SS**	**20 53 35.5**	**-0.4**
KMI				pmax	pmax		
	comp=Z,260nm,0.9s						
KMI				pmax	pmax		
	comp=Z,2.0nm,2.9s						
D19K	**Kuna River**	**87.51**	**8**	P	**P**	**20 37 36.0**	**0.0**
	baz=200						
D19K				S	**S**	**20 47 30.2**	**-1.5**
	baz=200						
COLD	**Coldfoot**	**87.53**	**11**	P	**P**	**20 37 36.4**	**+0.3**
	baz=207,SNR=550						
COLD				S	**S**	**20 47 32.0**	**+0.1**
	baz=207						
E20K	**Nigu River**	**87.54**	**8**	P	**P**	**20 37 36.2**	**+0.1**
	baz=202,SNR=394						
E20K				S	**S**	**20 47 31.0**	**-1.1**
	baz=202						
H25L	**Birch Creek**	**87.54**	**13**	P	**P**	**20 37 34.8**	**-1.3**
	baz=211,SNR=82						
H25L				S	**S**	**20 47 30.0**	**-2.0**
	baz=211						
G24K	**Hadweenzic Riv**	**87.58**	**12**	P	**P**	**20 37 35.6**	**-0.8**
	baz=210						
G24K				S	**S**	**20 47 30.6**	**-1.9**
	baz=210						
K29M	**Barlow Dome**	**87.58**	**17**	IAmb	IAmb	20 37 38.6	
	comp=Z,1μm,1.3s						
K29M	**Barlow Dome**	**87.58**	**17**	P	**P**	**20 37 37.0**	**+0.5**
	baz=219						
K29M				S	**S**	**20 47 32.2**	**-0.5**
	baz=219						
FARO	**Faro, Yukon**	**87.60**	**20**	IAmb	IAmb	20 37 38.3	
	comp=Z,2μm,1.8s						
FARO	**Faro, Yukon**	**87.60**	**20**	P	**P**	**20 37 36.5**	**-0.1**
	baz=223,SNR=182						
FARO				S	**S**	**20 47 32.7**	**-0.1**
	baz=223						
YFT	**Old Faithful**	**87.61**	**42**	IAmb	IAmb	20 37 41.1	
	comp=Z,1μm,1.3s						
WTLY	**Watson Lake, Y**	**87.65**	**23**	IAmb	IAmb	20 37 39.1	
	comp=Z,1μm,1.4s						
WTLY	**Watson Lake, Y**	**87.65**	**23**	P	**P**	**20 37 37.6**	**+0.8**
	baz=227,SNR=118						
WTLY				S	**S**	**20 47 34.6**	**+1.3**
	baz=227						
BOZ	**Bozeman (W)**	**87.66**	**40**	IAmb	IAmb	20 37 40.0	
	comp=Z,1μm,1.4s						
PD31	**Pinedale Array**	**87.66**	**44**	IAmb	IAmb	20 37 39.6	
	comp=Z,2μm,1.5s						
PDAR	**Pinedale Array**	**87.66**	**44**	P	**P**	**20 37 36.2**	**-1.3**
PDAR	**Pinedale Array**	**87.66**	**44**	P	**P**	**20 37 36.8**	**-0.8**
	comp=Z,299nm,0.7s,baz=220,slow=1.7,SNR=1647						
PDAR				pP	**pwP**	**20 39 36.8**	**-0.8**
	comp=Z,32nm,1.0s,baz=163,slow=2.4,SNR=4.8						
PDAR				PP	**PP**	**20 41 10.9**	**-2.2**
	comp=Z,122nm,1.1s,baz=245,slow=6.4,SNR=13						
PDAR				PKKPbc	**PKKPbc**	**20 55 22.0**	**-1.6**
	comp=Z,3.1nm,0.8s,baz=99,slow=4.5,SNR=8.3						
PDAR				SKKPbc	SKKPbc	20 58 11.3	-1.3
	comp=Z,3.6nm,0.8s,baz=101,slow=4.7,SNR=7.6						
PDAR				SKKS	**SKKSdf**	**21 01 44.1**	**+5.7**
	comp=Z,0.4nm,0.9s,baz=46,slow=5.3,SNR=1.9						
	comp=Z,299nm,0.7s						
H17A	**Grant Village**	**87.75**	**42**	IAmb	IAmb	20 37 41.6	
	comp=Z,904nm,1.0s						
YNM	**Yellowstone No**	**87.83**	**41**	IAmb	IAmb	20 37 42.6	
	comp=Z,1μm,1.1s						
SAND	**Sanderson**	**87.83**	**58**	IAmb	IAmb	20 37 41.1	
	comp=Z,1μm,1.3s						
YNR	**Norris Junctio**	**87.84**	**41**	IAmb	IAmb	20 37 42.8	
	comp=Z,1μm,1.4s						
MNHN	**Monahans**	**87.85**	**56**	IAmb	IAmb	20 37 41.0	
	comp=Z,1μm,1.5s						
MAYO	**Mayo, Yukon**	**87.85**	**18**	P	**P**	**20 37 38.5**	**+0.8**
	baz=220,SNR=159						
MAYO				S	**S**	**20 47 36.0**	**+0.9**
	baz=220						
D20K	**Etivluk River**	**87.91**	**8**	P	**P**	**20 37 37.9**	**+0.1**
	baz=201,SNR=250						
D20K				S	**S**	**20 47 34.6**	**-0.8**
	baz=201						
G25K	**Bearman Lake**	**87.91**	**12**	P	**P**	**20 37 37.3**	**-0.5**
	baz=211						
G25K				S	**S**	**20 47 34.8**	**-0.6**
	baz=211						
C19K	**Lookout Ridge**	**87.91**	**7**	P	**P**	**20 37 38.1**	**+0.2**
	baz=198						
C19K				S	**S**	**20 47 34.8**	**-0.7**
	baz=198						
B18K	**Kokolik River**	**87.93**	**6**	P	**P**	**20 37 38.0**	**+0.2**
	baz=196,SNR=24						
B18K				S	**S**	**20 47 34.5**	**-1.0**
	baz=196						
I27K	**Kandik River**	**87.93**	**15**	P	**P**	**20 37 38.0**	**-0.1**
	baz=215						
I27K				S	**S**	**20 47 34.7**	**-1.1**
	baz=215						
I27K				S	**S**	**20 47 34.7**	**-1.1**
	baz=215						
LKWY	**Lake**	**87.94**	**42**	IAmb	IAmb	20 37 42.8	
	comp=Z,2μm,1.4s						
BTO	**Baotou**	**87.97**	**314**	*e*P	**P**	**20 37 40.9**	**+2.0**
BTO				pP	**pP**	**20 39 34.0**	**-2.8**
BTO				sP	**sP**	**20 40 24.3**	**-6.9**
BTO				PP	**PP**	**20 41 19.3**	**+3.8**
BTO				SKS	**SKSac**	**20 47 14.6**	**-1.6**
BTO				S	**SKKSac**	**20 47 32.9**	**+4.3**
BTO				sS	**sS**	**20 51 02.0**	**-3.9**
BTO				SS	**SS**	**20 53 46.6**	**+4.8**
BTO				pmax	pmax		
	comp=Z,58nm,1.6s						
BTO				pmax	pmax		
	comp=Z,3μm,5.8s						
E21K	**Killik River**	**88.02**	**9**	IAmb	IAmb	20 37 39.5	
	comp=Z,949nm,1.4s						
E21K	**Killik River**	**88.02**	**9**	P	**P**	**20 37 38.1**	**-0.3**
	baz=204						
E21K				S	**S**	**20 47 33.9**	**-2.6**
	baz=204						
E22K	**Anaktuvuk Pass**	**88.08**	**10**	IAmb	IAmb	20 37 40.1	
	comp=Z,1μm,1.3s						
E22K	**Anaktuvuk Pass**	**88.08**	**10**	P	**P**	**20 37 38.7**	**0.0**
	baz=206,SNR=463						
E22K				S	**S**	**20 47 35.6**	**-1.5**
	baz=206						
TOAD	**Toad River Com**	**88.17**	**25**	P	**P**	**20 37 39.9**	**+0.6**
	baz=230,SNR=606						
TOAD				S	**S**	**20 47 37.3**	**-1.0**
	baz=230						
YMP	**Mirror Lake Pl**	**88.18**	**42**	IAmb	IAmb	20 37 57.6	
	comp=Z,858nm,1.3s						
LIRD	**Liard River Hi**	**88.19**	**24**	P	**P**	**20 37 40.0**	**+0.6**
	baz=229,SNR=70						
LIRD				S	**S**	**20 47 37.8**	**-0.6**
	baz=229						
I28M	**Miner Creek**	**88.21**	**15**	P	**P**	**20 37 39.1**	**-0.3**
	baz=217,SNR=248						
I28M				S	**S**	**20 47 37.7**	**-0.9**
	baz=217						
F24K	**Squaw Lake**	**88.22**	**11**	P	**P**	**20 37 39.7**	**+0.3**
	baz=209,SNR=441						
F24K				S	**S**	**20 47 37.9**	**-0.5**
	baz=209						
ODSA	**Odessa**	**88.31**	**56**	IAmb	IAmb	20 37 43.1	
	comp=Z,1μm,1.3s						
E23K	**Chandalar**	**88.38**	**11**	IAmb	IAmb	20 37 41.7	
	comp=Z,788nm,1.1s						
E23K	**Chandalar**	**88.38**	**11**	P	**P**	**20 37 40.2**	**+0.1**
	baz=208,SNR=397						
E23K				S	**S**	**20 47 38.8**	**-1.1**
	baz=208						
YNE	**Yellowstone No**	**88.39**	**41**	IAmb	IAmb	20 37 43.9	
	comp=Z,1μm,1.4s						
H27K	**Steamboat Moun**	**88.46**	**14**	P	**P**	**20 37 40.9**	**+0.3**
	baz=215						
H27K				S	**S**	**20 47 40.5**	**-0.2**
	baz=215						
J30M	**Hart River**	**88.48**	**17**	IAmb	IAmb	20 37 42.7	
	comp=Z,2μm,1.9s						
J30M	**Hart River**	**88.48**	**17**	P	**P**	**20 37 40.8**	**0.0**
	baz=220,SNR=238						
J30M				S	**S**	**20 47 40.1**	**-0.9**
	baz=220						
CMAR	**Chiang Mai Arr**	**88.53**	**290**	P	**P**	**20 37 41.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**88.53**	**290**	P	**P**	**20 37 41.8**	**-0.1**
	comp=Z,102nm,1.0s,baz=110,slow=2.5,SNR=224						
CMAR				PP	**PP**	**20 41 19.8**	**-0.4**
	comp=Z,20nm,1.0s,baz=126,slow=5.2,SNR=4.5						
CMAR				PKKP	**PKKPdf**	**20 55 15.7**	**+0.8**
	comp=Z,3.6nm,0.6s,baz=287,slow=4.1,SNR=4.0						
CMAR				PKKPbc	**PKKPbc**	**20 55 21.4**	**+1.2**
	comp=Z,3.6nm,0.6s,baz=285,slow=4.2,SNR=14						
CMAR				PKPPKP		21 03 27.8	
	comp=Z,0.8nm,0.3s,baz=308,slow=3.5,SNR=4.0						
	comp=Z,102nm,1.0s						
CMAR	**Chiang Mai Arr**	**88.53**	**290**	*i* P	**P**	**20 37 41.7**	**-0.1**
CMAR				pmax	pmax		
	comp=Z,103nm,1.0s						
MMPY	**Sheldon Lake,**	**88.55**	**20**	P	**P**	**20 37 41.8**	**+0.8**
	baz=225,SNR=593						
MMPY				S	**S**	**20 47 42.3**	**+0.7**
	baz=225						
G26K	**Porcupine Rive**	**88.56**	**13**	P	**P**	**20 37 41.4**	**+0.6**
	baz=213						
G26K				S	**S**	**20 47 40.7**	**-0.6**
	baz=213						
I29M	**Ogilvie Camp,**	**88.56**	**16**	IAmb	IAmb	20 37 42.1	
	comp=Z,2μm,1.6s						
I29M	**Ogilvie Camp,**	**88.56**	**16**	P	**P**	**20 37 40.6**	**-0.4**
	baz=218,SNR=197						
I29M				S	**S**	**20 47 39.9**	**-1.6**
	baz=218						
C21K	**Knifeblade Rid**	**88.57**	**8**	P	**P**	**20 37 41.4**	**+0.5**
	baz=203						
C21K				S	**S**	**20 47 40.5**	**-0.9**
	baz=203						
E24K	**Your Creek**	**88.59**	**11**	P	**P**	**20 37 41.3**	**+0.2**
	baz=209						
E24K				S	**S**	**20 47 40.4**	**-1.4**
	baz=209						
D22K	**Ayikyak River**	**88.62**	**9**	P	**P**	**20 37 41.7**	**+0.6**
	baz=205						
D22K				S	**S**	**20 47 41.0**	**-1.0**
	baz=205						
CHTO	**Chiang Mai**	**88.64**	**290**	P	**P**	**20 37 41.8**	**-0.6**
CHTO	**Chiang Mai**	**88.64**	**290**	P	**P**	**20 37 41.8**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,419nm,1.5s						
F25K	**Christian Rive**	**88.72**	**12**	IAmb	IAmb	20 37 43.6	
	comp=Z,573nm,1.2s						
F25K	**Christian Rive**	**88.72**	**12**	P	**P**	**20 37 42.2**	**+0.5**
	baz=212,SNR=382						
F25K				S	**S**	**20 47 43.1**	**+0.1**
	baz=212						
CD2	**Chengdu**	**88.76**	**303**	P	**P**	**20 37 43.5**	**+0.8**
CD2				pP	pP	20 39 43.8	+3.1
CD2				sP	sP	20 40 32.6	-2.3
CD2				SKS	**SKSac**	**20 47 20.9**	**-0.2**
CD2				S	**S**	**20 47 42.3**	**-2.6**
CD2				SS	**SS**	**20 53 54.4**	**+0.9**
CD2				pmax	pmax		
	comp=Z,50nm,1.3s						
CD2				pmax	pmax		
	comp=Z,2μm,3.2s						
BMAR	**Burnt Mountain**	**88.79**	**13**	P	**P**	**20 37 41.1**	**-1.0**
A19K	**Wainwright**	**88.81**	**6**	P	**P**	**20 37 42.1**	**+0.2**
	baz=197						
A19K				S	**S**	**20 47 42.9**	**-0.6**
	baz=197						
PZH	**PanZhiHua**	**88.83**	**298**	P	**P**	**20 37 43.9**	**+0.7**
PZH				pP	**pP**	**20 39 41.1**	**-0.2**
PZH				sP	**sP**	**20 40 32.8**	**-2.3**
PZH				PP	**PP**	**20 41 24.6**	**+2.0**
PZH				SKS	**SKSac**	**20 47 19.9**	**-2.0**
PZH	**PanZhiHua**	**88.83**	**298**	S	**S**	**20 47 47.6**	**+1.7**
PZH	**PanZhiHua**	**88.83**	**298**	sS	sS	20 51 29.8	+15
PZH	**PanZhiHua**	**88.83**	**298**	SS	SS	20 53 51.3	-3.4
PZH				pmax	pmax		
	comp=Z,160nm,1.2s						
PZH				pmax	pmax		
	comp=Z,2μm,3.5s						
T25A	**Trinidad**	**88.84**	**50**	P	**P**	**20 37 43.8**	**+0.6**
	baz=246						
T25A				S	**S**	**20 47 47.9**	**+2.1**
	baz=246						
TOLK	**Toolik Lake Re**	**88.90**	**10**	IAmb	IAmb	20 37 44.1	
	comp=Z,2μm,1.6s						
TOLK	**Toolik Lake Re**	**88.90**	**10**	P	**P**	**20 37 42.5**	**0.0**
	baz=208,SNR=250						
TOLK				S	**S**	**20 47 45.6**	**+1.0**
	baz=208						
TOLK				S	**S**	**20 47 45.6**	**+1.0**
	baz=208						
G27K	**Doyon Strip**	**88.91**	**14**	P	**P**	**20 37 42.8**	**+0.3**
	baz=215						
G27K				S	**S**	**20 47 43

comp=Z,726nm,1.1s
I30M Mount Dempster 88.96 17 P P 20 37 42.9 0.0
baz=220
I30M S **S 20 47 44.2 -1.2**
baz=220
D23K Nanushuk River 89.01 10 IAmb IAmb 20 37 44.9
comp=Z,1µm,1.1s
D23K Nanushuk River 89.01 10 P P 20 37 43.5 +0.6
baz=207
D23K S **S 20 47 45.3 -0.2**
baz=207
B21K Ikpikpuk River 89.02 8 IAmb IAmb 20 37 44.5
comp=Z,1µm,1.4s
B21K Ikpikpuk River 89.02 8 P P 20 37 43.0 +0.1
baz=203
B21K S **S 20 47 45.7 +0.3**
baz=203
Q24A Divide 89.05 48 IAmb IAmb 20 37 46.9
comp=Z,1µm,1.4s
Q24A Divide 89.05 48 P P 20 37 45.3 +1.1
baz=246
Q24A S **S 20 47 49.9 +2.2**
baz=246
B20K Meade River 89.05 7 IAmb IAmb 20 37 44.7
comp=Z,2µm,1.6s
B20K Meade River 89.05 7 P P 20 37 43.4 +0.3
baz=201
B20K S **S 20 47 45.5 -0.3**
baz=201
ISCO Idaho Springs 89.06 48 IAmb IAmb 20 37 47.0
comp=Z,1µm,1.8s
ELIB Princess Elisa 89.07 187 *d*P **P 20 37 42.1 -1.4**
ELIB *d*pP **pwP 20 39 44.3 +0.7**
F26K Sheenjek River 89.11 13 IAmb IAmb 20 37 45.6
comp=Z,561nm,1.2s
F26K Sheenjek River 89.11 13 P P 20 37 44.3 +0.8
baz=213
F26K S **S 20 47 47.0 +0.5**
baz=213
H29M Whitestone 89.22 15 IAmb IAmb 20 37 45.5
comp=Z,1µm,1.1s
H29M Whitestone 89.22 15 P P 20 37 44.1 +0.1
baz=218,SNR=522
H29M S **S 20 47 47.7 +0.2**
baz=218
N23A Red Feather La 89.28 46 P P 20 37 46.6 +1.4
baz=246
N23A S **S 20 47 53.9 +4.2**
baz=246
SGCY Sterling City 89.36 56 IAmb IAmb 20 37 47.7
comp=Z,1µm,1.5s
KOTAN Kotaneelee Air 89.45 24 P P 20 37 45.8 +0.7
baz=231,SNR=203
KOTAN S **S 20 47 50.8 +1.0**
baz=231
833A Chaparral WMA, 89.47 60 IAmb IAmb 20 37 49.0
comp=Z,961nm,1.3s
833A Chaparral WMA, 89.47 60 P P 20 37 47.4 +1.4
baz=249
833A S **S 20 47 56.3 +5.0**
baz=249
YAK Yakutsk 89.47 338 P P 20 37 44.3 -0.9
YAK Yakutsk 89.47 338*c i*P **P 20 37 44.3 -0.9**
YAK *e**PP **pP 20 39 45.1 +2.0**
YAK *e* 20 41 22.8
YAK *e*PPP PPP 20 43 28.1
YAK *e*S **SKSac 20 47 21.3 -2.3**
YAK *e* 20 47 43.5
YAK *e*SP **SP 20 48 57.4 -2.1**
YAK *e*SS **SS 20 54 02.6 +0.4**
YAK *e*SSS SSS 20 57 43.4
YAK pmax pmax
comp=Z,592nm,1.9s
YAK pmax pmax
comp=N,83nm,1.8s
YAK pmax pmax
comp=E,94nm,1.2s
YAK pmax pmax
comp=Z,4µm,3.2s
YAK pmax pmax
comp=N,1µm,2.7s
YAK pmax pmax
comp=E,818nm,3.2s
YAK smax smax
comp=N,6µm,3.5s
YAK smax smax
comp=E,603nm,2.5s
POST Post 89.48 55 IAmb IAmb 20 37 47.8
comp=Z,555nm,0.9s
D24K Happy Valley 89.49 10 IAmb IAmb 20 37 46.9
comp=Z,869nm,1.3s
D24K Happy Valley 89.49 10 P P 20 37 45.4 +0.2
baz=208
D24K S **S 20 47 51.2 +1.4**
baz=208
CMBY CAMPBELL BAY 89.53 277⇓*i*P **P 20 37 46.1 -0.5**
CMBY *i* PP **PP 20 41 23.9 -4.1**
K22A Casper 89.62 45 IAmb IAmb 20 37 48.8
comp=Z,1µm,1.5s
EPYK Eagle Plains 89.76 16 P P 20 37 46.3 -0.2
baz=220,SNR=472
EPYK S **S 20 47 53.7 +1.3**
baz=220
C23K Itkillik River 89.80 9 P P 20 37 47.1 +0.5
baz=207
C23K S **S 20 47 53.0 +0.5**
baz=207
RTBA Rita Blanca 89.81 52 IAmb IAmb 20 37 50.1
comp=Z,1µm,1.6s
B22K Teshekpuk Lake 89.85 8 IAmb IAmb 20 37 48.3
comp=Z,1µm,1.2s
B22K Teshekpuk Lake 89.85 8 P P 20 37 47.0 +0.2
baz=204
B22K S **S 20 47 53.7 +0.8**
baz=204
G29M Pine Creek 89.85 15 IAmb IAmb 20 37 48.3
comp=Z,824nm,1.1s
G29M Pine Creek 89.85 15 P P 20 37 46.9 -0.1
baz=218
G29M S **S 20 47 53.1 -0.1**
baz=218
JCT Junction City 89.90 58 IAmb IAmb 20 37 50.1
comp=Z,2µm,1.9s
SN05 Snyder 5 89.90 55 IAmb IAmb 20 37 49.7
comp=Z,490nm,0.9s
EGMT Eagleton 89.94 39 IAmb IAmb 20 37 50.0
comp=Z,691nm,1.3s
H31M Peel River 89.96 17 IAmb IAmb 20 37 48.5
comp=Z,610nm,1.1s
H31M Peel River 89.96 17 P P 20 37 47.1 -0.4
baz=222
H31M S **S 20 47 53.2 -1.1**
baz=222
SN07 Snyder 07 89.97 55 IAmb IAmb 20 37 49.9
comp=Z,869nm,1.5s
F28M Old Crow 89.97 14 IAmb IAmb 20 37 49.0
comp=Z,1µm,1.7s
F28M Old Crow 89.97 14 P P 20 37 47.5 +0.1
baz=217,SNR=276
F28M S **S 20 47 53.6 -0.6**
baz=217
C24K Franklin Bluff 90.01 10 P P 20 37 47.8 +0.3
baz=209,SNR=355
C24K S **S 20 47 55.6 +1.3**
baz=209
AMTX Amarillo 90.02 53 IAmb IAmb 20 37 50.6
comp=Z,929nm,1.3s
E27K Coleen River 90.05 13 IAmb IAmb 20 37 49.9
comp=Z,2µm,1.8s
E27K Coleen River 90.05 13 P P 20 37 48.1 +0.3
baz=215,SNR=332
E27K S **S 20 47 56.3 +1.3**
baz=215
D25K Kavik River 90.06 11 IAmb IAmb 20 37 48.8
comp=Z,789nm,1.6s
D25K Kavik River 90.06 11 P P 20 37 47.6 -0.3
baz=211
D25K S **S 20 47 54.9 -0.2**
baz=211
DKNS Dickens 90.16 55 IAmb IAmb 20 37 51.0
comp=Z,420nm,1.2s
A22K Sinclair Lake 90.25 8 P P 20 37 49.0 +0.3
baz=203
A22K S **S 20 47 57.0 +0.5**
baz=203
TROLL Troll, Antarti 90.26 180⇑P **P 20 37 49.5 +0.4**
comp=Z,21µm,0.9s
TROLL ⇑pP pP 20 39 59.1 +12
comp=Z,5µm,0.9s
TROLL ⇑SKSac **SKSac 20 47 29.3 +0.7**
comp=Z,290nm,0.8s
TROLL ⇓S **S 20 47 56.3 -0.9**
TROLL ⇑PKKPdf **PKKPdf 20 55 13.4 +2.1**
comp=Z,247nm,0.6s
BRIGG Briggsdale 90.28 47 IAmb IAmb 20 37 52.1
comp=Z,1µm,1.4s
A21K Barrow 90.35 7 P P 20 37 49.0 -0.1
baz=201
A21K S **S 20 47 56.2 -1.2**
baz=201
A21K S **S 20 47 56.2 -1.2**
baz=201
G30M tAoh Zraii Nji 90.36 15 P P 20 37 49.1 -0.1
baz=220
G30M S **S 20 47 56.4 -1.3**
baz=220
SNAA Sanae 90.56 179 P P 20 37 48.9 -1.4
SNAA Sanae 90.56 179⇑P **P 20 37 50.3 0.0**
comp=Z,2µm,0.6s
SNAA ⇑pP **pwP 20 39 55.3 +5.0**
comp=Z,782nm,1.4s
SNAA ⇑SKSac **SKSac 20 47 30.4 +0.2**
comp=Z,193nm,1.0s
SNAA ⇓S **S 20 47 56.7 -3.1**
SNAA ⇑PKKPdf **PKKPdf 20 55 12.9 +2.2**
comp=Z,89nm,0.5s
SNAA Sanae 90.56 179 P P 20 37 50.1 -0.2
comp=Z,112nm,0.7s,baz=212,slow=5.9,SNR=117
SNAA pP **pwP 20 39 51.0 +0.7**
comp=Z,9.3nm,0.7s,baz=193,slow=5.7,SNR=1.5
SNAA S **SKSac 20 47 29.9 -0.2**
comp=Z,6.9nm,0.8s,baz=358,slow=23,SNR=14
SNAA PKKPbc **PKKPbc 20 55 14.5 -2.6**
comp=Z,10.0nm,1.1s,baz=328,slow=5.8,SNR=10
SNAA PKPPKP **P'P'df 21 03 25.3 +1.5**
comp=Z,2.5nm,0.9s,baz=340,slow=8.8,SNR=4.1
comp=Z,112nm,0.7s
LZH Lanzhou 90.61 308 *e*P **P 20 37 52.8 +1.5**
LZH pP pP 20 39 54.1 +4.2
LZH sP sP 20 40 46.8 +2.9
LZH SKS **SKSac 20 47 35.9 +4.2**
LZH S **ScS 20 48 07.0 +3.4**
LZH SS **SS 20 54 17.4 -2.5**
LZH pmax pmax
comp=Z,330nm,1.2s
LZH pmax pmax
comp=Z,1µm,5.1s
VNA3 Neumayer Olymp 90.72 177⇑P **P 20 37 51.7 +0.7**
comp=Z,580nm,0.7s
VNA3 ⇑pP **pwP 20 39 51.7 +0.7**
comp=Z,55nm,0.7s
VNA3 ⇑SKSac **SKSac 20 47 30.2 -0.7**
comp=Z,5.1nm,0.8s
VNA3 ⇓S **S 20 47 58.2 -2.9**
VNA3 ⇑PKKPdf **PKKPdf 20 55 11.9 +1.5**
comp=Z,10nm,0.7s
G31M Satah River 90.81 16 P P 20 37 51.2 -0.1
baz=222,SNR=623
G31M S **S 20 48 00.6 -1.1**
baz=222
C27K Jago River 90.82 12 P P 20 37 51.7 +0.4
baz=213
C27K S **S 20 48 00.4 -1.3**
baz=213
BRDY Brady 90.83 57 IAmb IAmb 20 37 54.4
comp=Z,734nm,1.3s
C26K Camden Bay 90.84 11 P P 20 37 52.0 +0.7
baz=212
C26K S **S 20 48 00.7 -1.1**
baz=212
E28M Babbage River 90.84 13 P P 20 37 51.7 +0.2
baz=217
E28M S **S 20 48 02.4 +0.4**
baz=217
F30M Barrier River 90.95 15 P P 20 37 51.5 -0.4
baz=221,SNR=264
F30M S **S 20 48 01.6 -1.3**
baz=221
CIT Chita 90.97 325 *e*P **P 20 37 53.2 +0.7**
CIT *e* 20 40 47.4
CIT pmax pmax
comp=Z,678nm,1.7s
E29M Blow River 91.04 14 IAmb IAmb 20 37 54.2
comp=Z,575nm,1.3s
E29M Blow River 91.04 14 P P 20 37 51.9 -0.4
baz=219
E29M S **S 20 48 03.9 +0.2**
baz=219
D27M Malcolm River 91.05 13 IAmb IAmb 20 37 55.3
comp=Z,999nm,1.4s
D27M Malcolm River 91.05 13 P P 20 37 52.9 +0.5
baz=216
D27M S **S 20 48 05.2 +1.3**
baz=216
TNCH TengChong 91.06 296⇓*i*P **P 20 37 54.9 +1.2**
TNCH pP pP 20 39 53.5 +1.7
TNCH sP sP 20 40 47.0 +1.2
TNCH PP **PP 20 41 42.4 +2.3**
TNCH SKS **SKSac 20 47 36.3 +1.5**
TNCH S **ScS 20 48 09.6 +1.7**
TNCH SS **SS 20 54 29.9 +3.1**
TNCH pmax pmax
comp=Z,170nm,1.9s
TNCH pmax pmax
comp=Z,2µm,3.3s
VNA2 Neumayer--Watz 91.15 177⇑P **P 20 37 53.2 +0.2**
comp=Z,275nm,0.8s,baz=181,slow=3.5
VNA2 ⇑pP **pwP 20 39 52.6 -0.4**
comp=Z,44nm,0.8s,baz=184,slow=1.0
VNA2 ⇑SKSac **SKSac 20 47 33.4 0.0**
comp=Z,6.7nm,0.6s,baz=109,slow=1.5
VNA2 ⇑S **S 20 48 02.8 -2.1**
baz=181,slow=2.9
VNA2 ⇑PKKPdf **PKKPdf 20 55 11.6 +2.0**
comp=Z,8.9nm,0.6s,baz=14,slow=4.8
NVL N'lazarevskaya 91.20 184 *e*P **P 20 37 50.9 -2.3**
NVL *e**PP **pP 20 39 53.2 +2.1**
NVL *e*S **SKSac 20 47 35.6 +2.0**
NVL pmax pmax
comp=Z,263nm,0.9s
SMWD Samnorwood 91.20 54 IAmb IAmb 20 37 56.0
comp=Z,526nm,1.2s
F31M Tsiigehtchic 91.34 16 P P 20 37 53.6 0.0
baz=222,SNR=1000
F31M S **S 20 48 06.3 0.0**
baz=222
VNA1 Neumayer--Stat 91.38 177⇑P **P 20 37 54.8 +0.7**
comp=Z,592nm,1.0s
VNA1 ⇑pP **pwP 20 39 55.0 +1.0**
comp=Z,88nm,1.2s
VNA1 ⇑PKKPdf **PKKPdf 20 55 11.8 +2.6**
comp=Z,18nm,1.0s
GO06 Curarrehue 91.43 132 P P 20 37 56.8 +1.7
PLCA Paso Flores 91.58 134 P P 20 37 57.0 +1.2
PLCA Paso Flores 91.58 134 P P 20 37 57.0 +1.2
PLCA pmax pmax
comp=Z,237nm,1.9s
PLCA Paso Flores 91.58 134 *e*P **P 20 37 57.2 +1.5**
D28M Stokes Point 91.60 13 P P 20 37 54.9 0.0
baz=218
D28M S **S 20 48 09.3 +0.9**
baz=218
WRGLY Wrigley 91.62 22 P P 20 37 55.3 +0.2
baz=232,SNR=9.2
WRGLY S **S 20 48 09.2 +0.4**
baz=232
435B Jarrell 91.79 58 IAmb IAmb 20 37 59.2
comp=Z,814nm,1.5s
435B Jarrell 91.79 58 P P 20 37 57.8 +1.1
baz=250
435B S **S 20 48 17.4 +5.4**
baz=250
RSSD Black Hills 91.88 44 P P 20 37 57.1 0.0
RSSD IAmb IAmb 20 37 58.8
comp=Z,583nm,1.1s
RSSD Black Hills 91.88 44 P P 20 37 57.1 0.0
RSSD pmax pmax
comp=Z,583nm,1.1s
MLDN Muldoon 91.88 59 IAmb IAmb 20 38 00.4
comp=Z,653nm,1.1s
OGNE Ogallala 92.02 48 IAmb IAmb 20 37 59.7
comp=Z,948nm,1.4s
INK Inuvik 92.04 15 P P 20 37 56.4 -0.5
baz=223,SNR=655
INK S **S 20 48 13.2 +0.9**
baz=223
PBA Port Blair 92.06 282 IAmb IAmb 20 38 04.2
comp=Z,918nm,1.9s
PBA Port Blair 92.06 282 P P 20 37 59.1 +0.9
SNR=5.8
PBA Port Blair 92.06 282⇓*i*P **P 20 37 57.9 -0.3**
PBA *i* x **PP 20 41 45.0 -2.8**
PBA *ex* x 20 47 32.4
WTFS Witchita Falls 92.11 55 IAmb IAmb 20 38 00.1
comp=Z,494nm,1.2s
FW07 Weatherford 92.28 56 IAmb IAmb 20 38 01.2
comp=Z,910nm,1.6s
WHTX Lake Whitney, 92.30 57 IAmb IAmb 20 38 01.1
comp=Z,1µm,1.8s
FW13 Cleburne 92.44 57 IAmb IAmb 20 38 01.8
comp=Z,1µm,1.6s
FW06 Azle 92.55 56 IAmb IAmb 20 38 02.3
comp=Z,525nm,1.2s
NOKA Waynoka 92.73 52 IAmb IAmb 20 38 02.4
comp=Z,325nm,0.9s
OK038 West end E0370 92.82 53 IAmb IAmb 20 38 03.5
comp=Z,728nm,1.2s
X34A Smith Ranch, M 92.88 55 IAmb IAmb 20 38 04.3
comp=Z,504nm,1.2s
Z35A Perchaven, San 92.91 56 IAmb IAmb 20 38 03.8
comp=Z,858nm,1.4s
FW16 Waxahatchie 92.91 57 IAmb IAmb 20 38 03.9
comp=Z,354nm,1.0s
ULN Ulaanbaatar 92.93 320 P **P 20 38 00.7 -1.0**
ULN Ulaanbaatar 92.93 320 P **P 20 38 00.4 -1.3**
ULN Ulaanbaatar 92.93 320*c i*P **P 20 38 02.1 +0.4**
ULN pmax pmax
comp=Z,154nm,1.4s
HKT Hockley 92.95 60 P **P 20 38 03.4 +1.5**
HKT IAmb IAmb 20 38 05.1
comp=Z,466nm,1.4s
HKT Hockley 92.95 60*c i*P **P 20 38 03.4 +1.5**
HKT pmax pmax
comp=Z,380nm,1.5s
SONM Songino Array 93.33 319 P **P 20 38 02.8 -0.7**
SONM Songino Array 93.33 319 P **P 20 38 02.8 -0.7**
comp=Z,9.3nm,0.5s,baz=129,slow=3.7,SNR=92
SONM pP **pP 20 40 04.3 +2.1**
comp=Z,5.4nm,0.9s,baz=129,slow=4.7,SNR=1.9
SONM PP **PP 20 41 57.1 0.0**
comp=Z,14nm,0.8s,baz=118,slow=6.3,SNR=4.0
SONM PKiKP **PKiKP 20 42 46.3 +0.2**
comp=Z,11nm,1.1s,baz=97,slow=1.1,SNR=8.9
SONM S **SKSac 20 47 44.3 -1.8**
comp=Z,22nm,1.3s,baz=128,slow=2.4,SNR=4.3
SONM PKKP **PKKPdf 20 55 07.5 -0.3**
comp=Z,1.3nm,0.6s,baz=269,slow=2.1,SNR=5.0
SONM PKPPKP **P'P'df 21 03 22.4 +4.3**
comp=Z,0.8nm,0.8s,baz=327,slow=2.0,SNR=3.8
comp=Z,9.3nm,0.5s
BOD Bodaibo 93.51 330 *e*P **P 20 38 02.7 -1.2**
BOD pmax pmax
comp=Z,176nm,1.5s
OK029 Liberty Lake 93.57 54 IAmb IAmb 20 38 06.7
comp=Z,840nm,1.9s
237A Washetta, Mont 93.63 58 IAmb IAmb 20 38 07.8
comp=Z,625nm,1.2s
ESQI Esquipulas 93.91 76 IAmb IAmb 20 40 27.3
comp=Z,372nm,1.6s
LKP Lekhapani 94.07 297⇓*i*P **P 20 38 06.8 -0.4**
OK031 S. Brethren Rd 94.10 54 IAmb IAmb 20 38 09.1
comp=Z,372nm,1.4s
OK052 Battle Ridge R 94.14 54 IAmb IAmb 20 38 09.3
comp=Z,451nm,1.4s
OK048 Pawnee Station 94.17 53 IAmb IAmb 20 38 09.7
comp=Z,199nm,0.9s
QUOK Quay 94.27 53 IAmb IAmb 20 38 09.9
comp=Z,534nm,1.6s
OK051 E0350 and S346 94.28 53 IAmb IAmb 20 39 08.2
comp=Z,370nm,0.7s
DEOK Depew 94.32 54 IAmb IAmb 20 38 10.1
comp=Z,236nm,1.1s
YKA Yellowknife Ar 94.54 25 P P 20 38 08.1 -0.3
comp=Z,145nm,0.9s,baz=246,slow=4.5,SNR=248
YKA pP **pwP 20 40 09.8 +0.3**
comp=Z,1.7nm,0.7s,baz=241,slow=4.4,SNR=1.4
YKA PP **PP 20 42 03.4 -2.5**
comp=Z,56nm,1.1s,baz=243,slow=7.6,SNR=5.5
YKA S **SKSac 20 47 50.2 -1.4**
comp=Z,10.0nm,1.1s,baz=245,slow=5.7,SNR=7.1
YKA PKKPbc **PKKPdf 20 55 04.2 -1.6**
comp=Z,0.6nm,0.4s,baz=34,slow=2.2,SNR=8.4
comp=Z,145nm,0.9s
YKA Yellowknife Ar 94.54 25 P P 20 38 08.0 -0.5
T35A Sooner Cattle 94.66 53 IAmb IAmb 20 38 11.9
comp=Z,264nm,0.9s
Z38A Mt. Pleasant 94.69 57 IAmb IAmb 20 38 12.7
comp=Z,454nm,1.4s
GTA Gaotai 94.76 310 *e*P **P 20 38 09.3 -0.9**
GTA SKS **SKSac 20 47 51.9 -2.2**
GTA S **ScS 20 48 39.3 +1.3**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA pmax pmax
comp=Z,480nm,8.4s
IMP Imphal 94.94 294⇓*i*P **P 20 38 10.7 -0.6**
KOHI KOHIMA 95.06 295⇓*i*P **P 20 38 10.8 -1.2**
C36M Paulatuk 95.26 17 P P 20 38 11.2 -0.3
baz=231
C36M S **S 20 48 36.8 -3.4**
baz=231
SUSD Miller 95.39 45 IAmb IAmb 20 38 14.1
comp=Z,210nm,1.0s
AZL Aizawl 95.72 293⇓*i*P **P 20 38 14.3 -0.6**
AZL *i* x x 20 41 02.0
AZL *ex* **PP 20 42 10.0 -5.8**
ZIRO ZIRO 95.82 297⇓*i*P **P 20 38 15.8 +0.4**
ZIRO *i* x **pP 20 40 14.8 +1.2**
TIXI Tiksi 96.10 345 P **P 20 38 14.3 -1.0**
TIXI IAmb IAmb 20 42 15.8
comp=Z,586nm,1.8s
TIXI Tiksi 96.10 345*c i*P **P 20 38 14.5 -0.8**
TIXI pmax pmax
comp=Z,221nm,1.4s
U38A Gravette 96.13 54 IAmb IAmb 20 38 19.9
comp=Z,337nm,1.6s
WLAR White Oak Lake 96.31 57 IAmb IAmb 20 38 23.2
comp=Z,239nm,1.2s
L34A Svendsen Farm, 96.36 48 IAmb IAmb 20 38 18.6
comp=Z,226nm,1.1s
Z41A Richland Creek 96.43 57 IAmb IAmb 20 42 19.8
comp=Z,568nm,1.8s
HHAR Hobbs 96.43 54 IAmb IAmb 20 42 19.5
comp=Z,287nm,1.6s
A36M Sachs Harbour 96.63 15 P P 20 38 17.7 0.0
baz=230
A36M S **S 20 48 49.7 -2.1**
baz=230
ECSD EROS Data Cent 96.75 46 IAmb IAmb 20 38 20.3
comp=Z,162nm,1.0s
JTS Las Juntas de 96.76 81 *i* P **P 20 38 20.3 +0.6**
JTS pmax pmax
comp=Z,89nm,2.4s
SHL Shillong 96.94 295 P P 20 38 20.5 +0.1
SHL Shillong 96.94 295⇓*i*P **P 20 38 19.8 -0.6**
UALR University of 97.23 56 IAmb IAmb 20 42 27.3
comp=Z,276nm,1.6s
143A Socs Landing, 97.39 58 IAmb IAmb 20 42 27.5
comp=Z,412nm,1.4s
CCAR Cane Creek 97.44 57 IAmb IAmb 20 38 27.5
comp=Z,233nm,1.6s
GOMU GeErMu 97.54 305 P P 20 38 23.8 +0.7
GOMU pP pP 20 40 23.9 +1.9
GOMU sP sP 20 41 13.9 -1.9
GOMU S **S 20 49 02.3 +0.4**
GOMU pmax pmax
comp=Z,32nm,2.1s
GOMU pmax pmax
comp=Z,490nm,8.6s
FCAR Ozark Folk Cen 97.72 55 Pdif 20 38 23.4 0.0
MGMO Mountain Grove 97.97 54 Pdif **P 20 38 24.8 +0.2**
MGMO IAmb IAmb 20 38 28.4
comp=Z,198nm,1.1s
LSA Lhasa 98.71 298 Pdiff **P 20 38 29.4 +0.7**
LSA Lhasa 98.71 298 P Pdif 20 38 28.5 -0.1
LSA Lhasa 98.71 298 P **P 20 38 30.2 +1.6**
ULM Lac du Bonnet 99.20 40 P Pdif 20 38 28.5 -1.1
comp=Z,45nm,0.9s,baz=248,slow=4.6,SNR=29
ULM pP **pwP 20 40 29.9 -0.9**
comp=Z,6.2nm,0.8s,baz=227,slow=4.9,SNR=1.2

ULM PP **PP** **20 42 38.9 -2.5**
comp=Z,30nm,0.9s,baz=243,slow=7.2,SNR=3.7
ULM S **SKSac** **20 48 14.2 -1.7**
comp=Z,15nm,1.2s,baz=78,slow=21,SNR=8.5
ULM PKKPbc **PKKPbc** **20 54 51.5 -2.1**
comp=Z,4.1nm,0.5s,baz=92,slow=3.3,SNR=7.6
comp=Z,45nm,0.9s
GTK Tadong 100.25 295 ‖ *i* P **Pdif** **20 38 35.4 +0.3**
BOK Bokaro 101.73 291 *i* x **Pdif** **20 38 40.3 -1.2**
BOK *ex* x 20 42 55.3
MALK Mahakanadarawa 102.60 275 PP **PKiKP** **20 42 59.7 -3.8**
CZSB Cruzeiro do Su 102.77 103 *e*P **Pdif** **20 38 60.0 +14**
LPAZ La Paz 103.75 112 Pdiff **Pdif** **20 38 53.6 +2.1**
comp=Z,2.9nm,0.8s,baz=238,slow=1.6,SNR=10
LPAZ pP **pPdif** **20 40 54.0 +4.2**
comp=Z,1.8nm,0.8s,baz=211,slow=6.4,SNR=3.7
LPAZ PKiKP **PKiKP** **20 43 05.7 -0.6**
comp=Z,2.3nm,0.7s,baz=281,slow=3.4,SNR=1.9
LPAZ PKKPbc **PKKPbc** **20 54 40.7 +0.3**
comp=Z,3.8nm,0.8s,baz=9.8,slow=6.5,SNR=4.4
LPAZ La Paz 103.75 112 *e*P **Pdif** **20 38 53.3 +1.8**
MDRS Chennai 104.16 279 ‖ *i* P **Pdif** **20 38 53.4 +0.9**
HYB Hyderabad 106.84 283 *e*Pdif **Pdif** **20 39 04.0 -0.4**
HYB *e*PKiKP **PKiKP** **20 43 10.0 -1.2**
HYB *e*PP **PP** **20 43 35.3 -3.1**
HYB *e*SKSac **SKSac** **20 48 50.9 -1.6**
HYB *e*SKKSac **SKKSac** **20 49 42.3 -3.7**
HYB *e*Sdif **Sdif** **20 50 18.0 -1.5**
HYB *e*SP SP 20 52 06.0 -0.9
HYB *e*PKKPbc **PKKPbc** **20 54 29.3 -1.0**
HYB *e*PKKPdf **PKKPdf** **20 54 40.2 -1.6**
HYB *e*SS **SS** **20 58 00.8 -3.9**
ZSN Zaisan 107.22 315 *e*PKiKP **PKiKP** **20 43 10.9 -0.2**
LGTI Lohaghat 107.89 296 *ex* **PKiKP** **20 43 13.1 +0.3**
NRIK Noril'sk 107.93 338 Pdiff **Pdif** **20 39 07.6 -0.4**
comp=Z,3.4nm,0.3s,baz=100,slow=4.8,SNR=14
NRIK PKiKP **PKiKP** **20 43 11.8 +0.1**
comp=Z,7.0nm,0.5s,baz=88,slow=3.0,SNR=6.9
NRIK PP **PP** **20 43 42.9 -1.9**
comp=Z,97nm,1.2s,baz=112,slow=6.9,SNR=8.0
ETMB Extrema 107.99 107 *e*P **Pdif** **20 39 16.3 +6.7**
ZALV Zalesovo Beam 108.03 322 Pdiff **Pdif** **20 39 07.9 -0.9**
comp=Z,4.5nm,0.9s,baz=104,slow=4.7,SNR=21
ZALV PKiKP **PKiKP** **20 43 11.4 -0.9**
comp=Z,12nm,0.6s,baz=121,slow=1.0,SNR=22
ZALV PP **PP** **20 43 44.4 -1.6**
comp=Z,32nm,1.0s,baz=91,slow=5.9,SNR=8.8
ZALV PKKPbc **PKKPbc** **20 54 26.5 -1.1**
comp=Z,4.6nm,0.6s,baz=253,slow=4.2,SNR=8.8
CPUP Villa Florida 108.13 126 PKiKP **PKiKP** **20 43 13.0 -0.4**
comp=Z,2.9nm,0.7s,baz=184,slow=5.0,SNR=5.2
CPUP PKKPab **PKKPab** **20 54 43.5 0.0**
comp=Z,6.3nm,1.0s,baz=59,slow=7.3,SNR=4.7
MKAR Makanchi Array 108.88 314 Pdiff **Pdif** **20 39 13.3 +0.4**
comp=Z,5.6nm,0.7s,baz=86,slow=4.8,SNR=24
MKAR PKiKP **PKiKP** **20 43 13.7 -0.5**
comp=Z,9.8nm,0.5s,baz=160,slow=0.6,SNR=46
MKAR PP **PP** **20 43 51.2 -1.2**
comp=Z,7.1nm,0.9s,baz=109,slow=6.6,SNR=4.5
MKAR PKKPbc **PKKPbc** **20 54 24.4 -0.3**
comp=Z,4.6nm,0.7s,baz=277,slow=3.3,SNR=9.9
BHPL Bhopal 109.17 289 *i* x PP 20 43 42.3 -13
NRDN NARMADA NAGAR 109.29 288 *ex* **PKiKP** **20 43 15.9 +0.2**
KLP Kalpa 109.95 298 *e*P **Pdif** **20 39 16.9 -1.5**
SIV San Ignacio 110.03 116 PKKPbc PKKPbc 20 54 20.5 -0.1
comp=Z,8.2nm,0.6s,baz=84,slow=2.5,SNR=17
SIV PKKP **PKKPab** **20 54 33.9 -0.8**
comp=Z,14nm,1.0s,baz=91,slow=4.8,SNR=6.0
SHLS Shalkode 110.50 310 *e*PKiKP **PKiKP** **20 43 16.5 -1.0**
UZB Uzynbulak 110.82 310 *e*PKiKP **PKiKP** **20 43 17.5 -0.7**
UZB Uzynbulak 110.82 310 *i* PKIKP **PKiKP** **20 43 17.4 -0.7**
KAD Karad 110.87 282 *ex* **PKiKP** **20 43 17.7 -1.2**
KUDL Kundal 110.91 294 *ex* **PKiKP** **20 43 17.6 -1.0**
KPKS Kokpek 111.10 310 *e*PKiKP **PKiKP** **20 43 18.0 -0.7**
KPKS Kokpek 111.10 310 *i* PKIKP **PKiKP** **20 43 17.9 -0.7**
ZHN Zhinishke 111.25 310 *e*PKiKP **PKiKP** **20 43 18.3 -0.7**
ZHN Zhinishke 111.25 310 *i* PKIKP **PKiKP** **20 43 18.2 -0.7**
SATY Saty 111.26 310 *e*PKiKP **PKiKP** **20 43 18.5 -0.5**
SATY Saty 111.26 310 *i* PKIKP **PKiKP** **20 43 18.5 -0.5**
BHK Bhakra 111.48 297 *ex* **PKiKP** **20 43 19.7 +0.1**
KURK Kurchatov 111.60 318 P **PKiKP** **20 43 18.0 -1.2**
KURK Kurchatov 111.60 318 *i* PKIKP **PKiKP** **20 43 18.3 -0.8**
KURBB Kurchatov Arra 111.65 318 Pdiff **Pdif** **20 39 24.4 -0.6**
comp=Z,0.7nm,0.8s,baz=94,slow=4.4,SNR=3.0
KURBB PKiKP **PKiKP** **20 43 18.3 -1.0**
comp=Z,13nm,0.6s,baz=91,slow=1.8,SNR=51
KURBB PP **PP** **20 44 10.2 -1.7**
comp=Z,29nm,1.0s,baz=87,slow=6.4,SNR=8.3
KURBB SKP 20 46 04.1
comp=Z,7.7nm,0.9s,baz=95,slow=2.2,SNR=4.0
KURBB PKKPbc **PKKPbc** **20 54 15.5 -0.4**
comp=Z,5.6nm,0.6s,baz=276,slow=4.0,SNR=26
KURBB SKKPbc SKKPbc 20 57 08.3 -1.9
comp=Z,4.8nm,1.1s,baz=281,slow=3.6,SNR=4.6
AJM Ajmer 112.25 292 *ex* **PKiKP** **20 43 20.5 -0.7**
MDOK Medeo 112.26 310 *e*PKiKP **PKiKP** **20 43 20.1 -0.8**
MDOK Medeo 112.26 310 *i* PKIKP **PKiKP** **20 43 20.1 -0.8**
TNSS Tian-Shan 112.33 310 *e*PKiKP **PKiKP** **20 43 20.3 -1.1**
TNSS Tian-Shan 112.33 310 *i* PKIKP **PKiKP** **20 43 20.2 -1.1**
AAA Alma-Ata 112.36 310 *e*PKiKP **PKiKP** **20 43 20.6 -0.4**
AAA Alma-Ata 112.36 310 *i* PKIKP **PKiKP** **20 43 20.5 -0.4**
KSH Kashi 112.78 306 PKP **PKiKP** **20 43 22.9 +0.9**
KSH SS SS 20 59 25.9 +3.2
KSH AMB AMB
comp=Z,590nm,5.5s
BKNR BIKANER 113.69 293 *ex* PKiKP 20 43 15.8 -8.1
SGDS Sogindy 114.04 310 *e*PKiKP PKPdf 20 43 23.4 -0.7
SGDS Sogindy 114.04 310 *i* PKIKP PKPdf 20 43 23.4 -0.8
AAK Ala-Archa 114.10 309 *i* PKPdf PKPdf 20 43 24.1 -0.4
SNR=5.4
AAK Ala-Archa 114.10 309 P PKPdf 20 43 24.2 -0.3
AAK Ala-Archa 114.10 309 *i* PKIKP PKPdf 20 43 23.8 -0.7
NIL Nilore 114.42 299 P PKPdf 20 43 23.0 -2.2
BTLS Baital 114.51 312 *e*PKiKP PKPdf 20 43 24.4 -0.5
BTLS *e*PP **PP** **20 44 30.6 -1.4**
BTLS Baital 114.51 312 *i* PKIKP PKPdf 20 43 24.4 -0.5
BTLS *e* 20 44 30.6
NEEM North Greenlan 115.25 11 *i* P **PKPdf** **20 43 25.4 -0.4**
NOR Nord 115.87 3 *i* P **PKPdf** **20 43 24.4 -2.2**
NOR *i* 20 44 36.8
DZA Taraz 116.44 309 *e*PKiKP **PKPdf** **20 43 28.3 -0.5**
DZA Taraz 116.44 309 *i* PKIKP **PKPdf** **20 43 28.3 -0.5**
UPNV Upernavik 116.46 16 *i* P **PKPdf** **20 43 27.8 -0.1**
HUMP Col San Antoni 116.63 78 **PKPdf** **20 43 29.4 -0.4**
BVAR Borovoye Array 116.63 321 Pdiff **Pdif** **20 39 48.3 +1.1**
comp=Z,0.4nm,0.5s,baz=60,slow=3.5,SNR=2.9
BVAR PKP **PKPdf** **20 43 27.6 -1.2**
comp=Z,39nm,0.5s,baz=109,slow=1.6,SNR=87
BVAR PP **PP** **20 44 45.8 -0.6**
comp=Z,30nm,0.9s,baz=83,slow=6.1,SNR=3.7
BVAR PKKPbc **PKKPbc** **20 53 58.2 -1.0**
comp=Z,1.9nm,0.6s,baz=296,slow=2.7,SNR=7.5
BVAR SKKPbc SKKPbc 20 56 55.0 -0.3
comp=Z,2.1nm,0.8s,baz=238,slow=1.4,SNR=3.7
BRVK Borovoye 116.69 321 **PKPdf** **20 43 28.7 -0.2**
BRVK Borovoye 116.69 321 P **PKPdf** **20 43 27.9 -1.0**
BRVK Borovoye 116.69 321 *i* PKIKP **PKPdf** **20 43 26.0 -2.9**
SCHQ Schefferville 117.14 37 PKP **PKPdf** **20 43 28.7 -1.0**
comp=Z,23nm,1.1s,baz=324,slow=3.6,SNR=7.1
SCHQ PP **PP** **20 44 47.0 -2.8**
comp=Z,124nm,1.1s,baz=282,slow=6.0,SNR=14
SCHQ PKKPab **PKKPab** **20 54 01.1 +0.3**
comp=Z,11nm,0.6s,baz=85,slow=5.2,SNR=10
IUG Iuzhnay 117.40 309 *e*PKiKP **PKPdf** **20 43 30.2 -0.6**
IUG *e*PP **PP** **20 44 51.0 -1.2**
IUG Iuzhnay 117.40 309 *i* PKIKP **PKPdf** **20 43 30.1 -0.6**
IUG *e* 20 44 50.9
BRLS Borolday 117.54 310 *e*PKiKP **PKPdf** **20 43 30.6 -0.3**
BRLS *e*PP **PP** **20 44 52.3 -0.7**
BRLS Borolday 117.54 310 *i* PKIKP **PKPdf** **20 43 30.5 -0.3**
BRLS *e* 20 44 52.3
NUUG Nuugaatsiaq 117.85 17 *i* P **PKPdf** **20 43 30.1 -0.4**
KBU Kabul Universi 117.89 300 PP PP 20 44 45.3 -11
KBL Kabul 117.97 300 **PKiKP** **20 43 32.7 +0.5**
KBL Kabul 117.97 300 P **PKPdf** **20 43 32.0 -0.2**
SNR=19
KBL Kabul 117.97 300 PKIKP **PKiKP** **20 43 32.7 +0.5**
KBS Kingsbay 118.78 358 *e*PKPdf **PKiKP** **20 43 33.3 +1.0**
KBS *e*PP **PP** **20 45 01.1 +0.9**
KBS *e*SP SP 20 53 53.2 +0.2
SPA0 Spitsbergen Ar 119.29 356 *e*PKPdf **PKiKP** **20 43 33.9 +0.5**
SPA0 *e*PP **PP** **20 45 02.1 -1.5**
SPA0 *e*SKSac **SKSac** **20 49 36.7 -1.9**
SPA0 *e*SP **SP** **20 53 57.0 -0.6**

SPITS Spitsbergen Ar 119.29 356 PKhKP PKPpre 20 43 29.4
comp=Z,78nm,0.8s,baz=57,slow=5.3,SNR=10
SPITS PKP **PKPdf** **20 43 32.6 -0.6**
comp=Z,60nm,0.7s,baz=57,slow=9.3,SNR=23
SPITS PP **PP** **20 45 00.4 -3.3**
comp=Z,313nm,1.3s,baz=48,slow=6.8,SNR=7.5
SPITS PKKPbc **PKKPbc** **20 53 50.0 -0.4**
comp=Z,27nm,0.9s,baz=162,slow=6.0,SNR=6.2
HOPEN **Hopen 120.15 354** *e*PP **PP** **20 45 07.0 -2.4**
HOPEN *e*SP SP 20 54 06.9 +1.7
HOPEN *e*SS **SS** **21 00 53.5 -1.3**
DAG Danmarks Havn 120.29 5 PP PP 20 44 55.5 -15
DAG Danmarks Havn 120.29 5 *i* P **PKPdf** **20 43 31.4 -3.8**
VOI Vohitsoka 120.31 230 P **PKiKP** **20 43 37.5 +0.4**
SNR=6.0
FDF Fort de France 120.35 83 **PKPdf** **20 43 36.8 -0.2**
FDF Fort de France 120.35 83 PKIKP **PKPdf** **20 43 36.8 -0.2**
SUMG Summit 120.87 13 *i* P **PKPdf** **20 43 36.4 -0.5**
SFJD Kangerlussuaq 120.87 21 **PKPdf** **20 43 36.1 -0.4**
SFJD Kangerlussuaq 120.87 21 PKIKP **PKPdf** **20 43 36.1 -0.4**
SFJD Kangerlussuaq 120.87 21 *i* P **PKPdf** **20 43 35.9 -0.6**
SFJD *i* 20 45 11.5
BDFB Brasilia 121.15 122 **PKiKP** **20 43 38.9 0.0**
BDFB Brasilia 121.15 122 PKP **PKPdf** **20 43 38.5 -0.2**
comp=Z,11nm,0.6s,baz=286,slow=2.0,SNR=18
BDFB PKKPab **PKKPbc** **20 53 43.8 +0.9**
comp=Z,16nm,0.6s,baz=90,slow=4.0,SNR=11
SVE Sverdlovsk 121.46 326 *e*PKIKP **PKiKP** **20 43 38.0 -0.1**
SVE pmax pmax
comp=Z,65nm,0.8s
DUB01 Friburgo-RJ 121.70 131 *e*P **PKPdf** **20 43 34.1 -5.5**
ABPO Ambohimpanom 121.72 233 **PKiKP** **20 43 40.7 +0.7**
ABPO Ambohimpanom 121.72 233 PKIKP **PKiKP** **20 43 40.7 +0.7**
NUUK Nuuk 121.80 24 *i* P **PKPdf** **20 43 38.2 -0.1**
MSEY Mahe Island 121.92 252 **PKiKP** **20 43 40.5 +0.1**
MSEY Mahe Island 121.92 252 *i* PKPdf **PKPdf** **20 43 39.9 -0.3**
SNR=9.9
MSEY Mahe Island 121.92 252 P **PKiKP** **20 43 40.6 +0.2**
MSEY Mahe Island 121.92 252 PKIKP **PKiKP** **20 43 40.5 +0.1**
OPO Ambohidratompo 122.01 234 PKKPbc PKKPbc 20 53 40.7 +0.8
comp=Z,9.9nm,0.9s,baz=354,slow=5.5,SNR=7.3
CAM01 Campos-RJ 122.37 132 *e*P **PKPdf** **20 43 39.0 -1.7**
BJO1 Bjornoya 122.60 354 *e*PP **PP** **20 45 26.3 +0.4**
BJO1 *e*SKSac **SKSac** **20 49 48.9 -0.8**
BJO1 *e*SP **SP** **20 54 27.9 +1.1**
BJO1 *e*SS **SS** **21 01 28.2 +2.6**
DY2G Dye2 122.62 21 *i* P **PKPdf** **20 43 39.9 -0.3**
SBV Sambava 122.67 240 P **PKPdf** **20 43 41.1 -0.4**
ARTI Arti 122.78 326 **PKiKP** **20 43 41.1 +0.3**
ARTI Arti 122.78 326 *i* PKIKP **PKPdf** **20 43 40.3 -0.2**
ARTI 20 45 23.8
ARTI 20 49 49.8
ICESG Greenland Ices 123.00 16 *i* P **PKPdf** **20 43 40.8 -0.2**
ABKAR Akbulak array 123.70 318 **PKiKP** **20 43 43.2 +0.4**
ALF01 Guarapari-ES 123.81 131 *e*P **PKPdf** **20 43 43.2 -0.3**
NGCH Negor - Chabah 124.17 289 P **PKiKP** **20 43 44.8 +0.4**
SNR=8.7
SJMB Sao Joao De Ma 124.68 129 *e*P **PKPdf** **20 43 38.9 -6.4**
RIB01 Linhares ES 124.88 130 *e*P **PKPdf** **20 43 45.2 -0.5**
VADS Vadso 125.09 349 *e*PKPdf **PKiKP** **20 43 45.1 +0.1**
VADS IVmB_BB 20 43 52.5
comp=Z,5μm,3.9s
VADS *e*PP **PP** **20 45 42.2 -0.2**
VADS *e*SKSac **SKSac** **20 49 58.2 +0.5**
VADS *e*SP SP 20 54 45.3 -3.5
VADS *e*SS **SS** **21 01 57.8 +1.1**
JLN Jalan Bani Buh 125.41 285 P **PKiKP** **20 43 47.1 +0.1**
SNR=8.9
ISOG Isortoq, Green 125.55 19 *i* P **PKiKP** **20 43 45.7 -0.2**
HAMF Hammerfest 125.60 351 *e*PKPdf **PKPdf** **20 43 45.1 -0.3**
HAMF IVmB_BB 20 44 06.4
comp=Z,3μm,3.5s
HAMF *e*PP **PP** **20 45 45.4 -0.3**
HAMF *e*SKSac **SKSac** **20 49 59.9 +0.6**
HAMF *e*SP SP 20 54 53.5 +0.4
HAMF *e*SS **SS** **21 02 02.8 -0.1**
LVZ Lovozero 125.74 345 **PKPdf** **20 43 46.0 +0.1**
LVZ Lovozero 125.74 345 PKIKP **PKPdf** **20 43 46.0 +0.1**
NRS Narsarsuaq 125.81 26 *i* P **PKPdf** **20 43 45.4 -0.7**
WBK Wadi Bani Khal 125.87 285 P **PKiKP** **20 43 47.8 -0.2**
SNR=6.2
ANGG Ammassalik, Gr 125.92 19 *i* P **PKPdf** **20 43 45.7 -0.5**
WSAR Wadi Sarin 126.24 286 PKKPbc PKKPbc 20 53 26.3 +3.4
comp=Z,4.3nm,0.9s,baz=267,slow=14,SNR=4.8
ARA0 ARCESS Array S 126.29 350 *e*PKPdf **PKPdf** **20 43 46.9 0.0**
ARA0 IVmB_BB 20 43 56.6
comp=Z,3μm,4.4s
ARA0 *e*PP **PP** **20 45 49.5 -0.7**
ARA0 *e*SKSac **SKSac** **20 50 02.1 +0.5**
ARA0 *e*SP SP 20 54 55.8 -3.4
ARA0 *e*SS **SS** **21 02 13.5 +2.0**
ARCES ARCESS Array B 126.29 350 PKhKP PKPpre 20 43 30.1
comp=Z,3.8nm,0.7s,baz=54,slow=0.8,SNR=7.8
ARCES PKP **PKPdf** **20 43 46.5 -0.4**
comp=Z,60nm,0.8s,baz=29,slow=2.1,SNR=23
ARCES PP **PP** **20 45 48.2 -2.0**
comp=Z,33nm,1.1s,baz=16,slow=10,SNR=4.9
ARCES PKKPbc **PKKPbc** **20 53 22.5 -1.2**
comp=Z,0.9nm,0.4s,baz=208,slow=2.9,SNR=8.8
ARCES PKKP **PKKPdf** **20 54 04.0 -2.0**
comp=Z,0.6nm,0.3s,baz=212,slow=3.3,SNR=5.4
ARCES ARCESS Array B 126.29 350 PKIKP **PKPdf** **20 43 44.2 -2.7**
APA Apatity 126.30 345 ‖ *i* PKIKP **PKPdf** **20 43 44.2 -2.7**
APA *i* 20 45 42.0
APA *i* 20 45 50.0
APA *i* 20 50 01.0
APA *i* SS SS 21 02 06.0 -5.7
APA pmax pmax
comp=Z,62nm,1.0s
KIRV Kirov 126.38 331 *i* PKIKP **PKiKP** **20 43 47.5 -0.3**
SUR Sutherland 126.53 201 **PKiKP** **20 43 49.7 +0.4**
SUR Sutherland 126.53 201 P **PKPdf** **20 43 47.7 -1.1**
MHTO MHTO 126.60 283 P **PKPdf** **20 43 48.8 -0.1**
SNR=31
JMDO Jabal Madar 126.64 285 P **PKiKP** **20 43 49.4 0.0**
SNR=13
JMIC Jan Mayen 126.66 4 *e*PKPdf **PKPdf** **20 43 46.6 -0.9**
JMIC *e*PP **PP** **20 45 48.4 -4.1**
JNE Jan Mayen East 126.67 4 *e*PP **PP** **20 45 51.8 -0.8**
JNE *e*SP SP 20 55 04.3 +1.9
BIDO Bidbid 126.73 286 P **PKiKP** **20 43 49.7 +0.1**
BIDO P **PKiKP** **20 43 49.7 +0.1**
SNR=13
SMDO Samad 126.76 286 P **PKiKP** **20 43 49.8 0.0**
SNR=22
GUA01 Guaratinga, BA 127.03 128 *e*P **PKPdf** **20 43 49.3 -0.5**
KTK1 Kautokeino 127.13 350 *e*PKPdf **PKiKP** **20 43 48.8 -0.3**
KTK1 IVmB_BB 20 43 49.5
comp=Z,1μm,0.8s
KTK1 *e*pPKPdf **pPKPdf** **20 45 52.6 -2.0**
KTK1 *e*SP SP 20 55 01.6 -4.9
KTK1 *e*SS **SS** **21 02 22.1 +0.3**
JASK Jask - Hormozg 127.15 289 P **PKiKP** **20 43 51.2 +0.8**
SNR=5.8
TRO Tromso 127.19 352 *e*PKPdf **PKPdf** **20 43 48.5 0.0**
TRO IVmB_BB 20 43 49.1
comp=Z,2μm,1.7s
TRO *e*pPKPdf **pPKPdf** **20 45 53.7 -0.9**
TRO *e*SKSac **SKSac** **20 50 05.1 +1.0**
TRO *e*SP **SP** **20 55 01.9 -4.9**
TRO *e*SS **SS** **21 02 24.5 +2.1**
HOQ Hoqain 127.48 286 P **PKiKP** **20 43 51.0 -0.1**
SNR=18
BSY Bisya 127.51 285 P **PKPdf** **20 43 49.5 -1.1**
SNR=17
CMC01 Camacan, BA 128.00 127 *e*P **PKPdf** **20 43 51.1 -0.6**
BOSA Boshof 128.18 207 PKhKP PKPpre 20 43 36.2
comp=Z,2.4nm,0.7s,baz=234,slow=2.9,SNR=6.1
BOSA PKP **PKPdf** **20 43 51.7 -0.2**
comp=Z,28nm,0.8s,baz=156,slow=2.2,SNR=26
BOSA PP **PP** **20 46 05.7 +3.1**
comp=Z,63nm,1.1s,baz=152,slow=6.7,SNR=8.1
BOSA SKPbc SKPbc 20 46 22.5
comp=Z,66nm,0.7s,baz=161,slow=3.3,SNR=17
BOSA PKKPbc **Sdif** **20 53 14.0 -3.5**
comp=Z,5.9nm,0.8s,baz=330,slow=6.2,SNR=4.2
BOSA SKKPbc **SKKPbc** **20 56 15.1 +0.5**
comp=Z,13nm,1.1s,baz=334,slow=6.0,SNR=4.0
ARQ Araqi 128.18 286 P **PKPdf** **20 43 50.7 -1.2**
SNR=14
SOHO SOHO 128.24 287 *i* PKPdf **PKPdf** **20 43 52.0 +0.1**
SNR=49
SOHO *i* PKPdf **PKPdf** **20 43 52.0 +0.1**
SNR=28

SOHO SOHO 128.24 287 P **PKPdf** **20 43 50.3 -1.6**
MDH Madha 128.53 288 P **PKPdf** **20 43 51.4 -1.0**
UOSS Minazif 128.59 288 **PKiKP** **20 43 53.1 -0.2**
UOSS Minazif 128.59 288 *i* PKPdf **PKPdf** **20 43 52.7 +0.1**
SNR=5.5
UOSS Minazif 128.59 288 P **PKPdf** **20 43 51.5 -1.0**
HATD Hatta, Dubai 128.65 288 *i* PKPdf **PKPdf** **20 43 52.2 -0.5**
SNR=20
HATD Hatta, Dubai 128.65 288 P **PKPdf** **20 43 52.6 -0.1**
SNR=9.4
MSFE Esma-Masafi 128.66 288 *i* PKPdf **PKPdf** **20 43 52.4 -0.4**
SNR=8.9
MASF Masafi 128.66 288 P **PKPdf** **20 43 52.4 -0.3**
ASHO Ashiyiah 128.71 288 *i* PKPdf **PKPdf** **20 43 52.0 -0.8**
SNR=18
ASHO Ashiyiah 128.71 288 P **PKPdf** **20 43 52.8 0.0**
SNR=11
SHME Shamm 128.71 289 P **PKiKP** **20 43 53.4 -0.1**
ALNE Al Ain 128.94 287 *i* PKPdf **PKPdf** **20 43 52.8 -0.5**
SNR=29
ALNE Al Ain 128.94 287 P **PKPdf** **20 43 53.5 +0.3**
SNR=11
GDU01 Guandu, BA 128.95 125 *e*P **PKPdf** **20 43 51.6 -1.9**
DMTO DMTO 128.97 279 P **PKPdf** **20 43 53.3 -0.1**
SNR=29
NAZ Nazwa, Dubai 129.09 288 *i* PKPdf **PKPdf** **20 43 52.3 -1.2**
SNR=10
NAZ Nazwa, Dubai 129.09 288 P **PKPdf** **20 43 53.2 -0.3**
SNR=6.5
UMQ Umm Al-Quwin 129.12 289 *i* PKPdf **PKPdf** **20 43 53.8 +0.3**
SNR=6.5
UMQ Umm Al-Quwin 129.12 289 P **PKPdf** **20 43 52.3 -1.2**
FAQ Al Faqa, Dubai 129.13 288 *i* PKPdf **PKPdf** **20 43 52.8 -0.8**
SNR=6.6
FAQ Al Faqa, Dubai 129.13 288 P **PKPdf** **20 43 53.5 -0.1**
LOF Lofoten 129.23 354 *e*PKPdf **PKPdf** **20 43 52.7 +0.3**
LOF *e*SP SP 20 55 23.8 -0.8
LOF *e*SS **SS** **21 02 49.3 +2.0**
STEI Steigen 129.25 353 *e*PKPdf **PKiKP** **20 43 52.9 -0.4**
STEI IVmB_BB 20 43 56.5
comp=Z,948nm,1.6s
STEI *e*SKSac **SKSac** **20 50 09.7 -0.4**
STEI *e*SS **SS** **21 02 49.2 +1.7**
KLMR Klimovskoe 129.25 337 *d* *i* PKIKP **PKiKP** **20 43 53.1 -0.4**
KLMR 20 50 10.5
KLMR SS SS 21 02 51.5 +3.4
MOPA Mopani 129.30 217 *i* P **PKiKP** **20 43 54.8 -0.1**
ASUD Al Ashush, Dub 129.37 287 *i* PKPdf **PKPdf** **20 43 53.8 -0.3**
SNR=9.3
ASUD Al Ashush, Dub 129.37 287 P **PKiKP** **20 43 54.7 -0.2**
UMZA Um Al Zommool 129.38 285 P **PKPdf** **20 43 54.4 +0.3**
RBK Rabkut 129.63 278 P **PKPdf** **20 43 55.2 +0.4**
SNR=46
AJN Ajban 129.67 287 PKPdf **PKPdf** **20 43 53.6 -1.0**
AJN Ajban 129.67 287 P **PKiKP** **20 43 55.4 0.0**
FAUS Fauske 129.76 353 *e*PKPdf **PKPdf** **20 43 53.1 -0.4**
FAUS IVmBBB 20 43 57.7
comp=Z,2μm,2.5s
FAUS *e* 20 46 26.9
FAUS *e*SKSac **SKSac** **20 50 11.9 +0.2**
FAUS *e*SS **SS** **21 02 55.7 +1.9**
DOK Doka 129.87 280 P **PKPdf** **20 43 54.7 -0.4**
SNR=40
BELG Belogornoye 130.09 325 *i* PKIKP **PKiKP** **20 43 55.4 0.0**
WHFO Wadi Hawf 130.11 279 P **PKPdf** **20 43 54.6 -1.1**
SNR=37
ABTO Aybut 130.47 278 P **PKPdf** **20 43 56.5 +0.1**
SNR=35
MZWR Madinat Zayed 130.63 286 P **PKiKP** **20 43 57.0 -0.4**
KONS Konsvik 130.86 354 *e*PKPdf **PKPdf** **20 43 55.3 -0.3**
MZR Muzera 130.95 285 *i* PKPdf **PKPdf** **20 43 57.5 +0.4**
SNR=12
MZR Muzera 130.95 285 P **PKiKP** **20 43 58.6 +0.5**
SNR=8.6
MOR8 Moi Rana 131.03 353 *e*PKPdf **PKPdf** **20 43 55.5 -0.5**
MOR8 *e*SS SS 21 03 07.0 -2.2
LBTB Lobatse 131.11 210 *i* P PKPpre 20 43 44.1
MUSN Musina, Limpop 131.14 216 *i* P PKPpre 20 43 52.3
GHWR Ruwais 131.56 286 P **PKiKP** **20 43 59.0 -0.2**
JRN Qarnain Island 131.63 288 P **PKiKP** **20 43 59.5 +0.2**
SLWR Sila 132.65 286 P **PKiKP** **20 44 01.9 +0.4**
NSS Namsos 132.89 354 *i* PKPpre 20 43 47.2
NSS *e*PKPdf **PKPdf** **20 43 59.2 -0.3**
TRNA Turayna 133.11 287 P **PKiKP** **20 44 02.6 +0.2**
FINES FINESS Array B 133.12 344 PKhKP PKPpre 20 43 45.1
comp=Z,3.4nm,0.6s,baz=47,slow=3.4,SNR=14
FINES PKP **PKPdf** **20 43 59.6 -0.4**
comp=Z,22nm,0.5s,baz=48,slow=2.3,SNR=13
FINES PP **PP** **20 46 33.1 -0.9**
comp=Z,26nm,0.6s,baz=69,slow=6.3,SNR=4.0
FINES SKPbc **SKPbc** **20 46 39.0 +1.2**
comp=Z,211nm,1.0s,baz=54,slow=4.9,SNR=25
FINES SKKPbc **SKKPbc** **20 55 57.0 -3.2**
comp=Z,4.5nm,0.8s,baz=177,slow=2.8,SNR=5.5
MOS Moscow 133.29 333 *e*PKIKP **PKPdf** **20 43 59.0 -1.5**
MOS *e* 20 46 01.9
MOS *e* 20 46 38.3
MOS pmax pmax
comp=Z,95nm,1.0s
SHMA Al-Shehemyia 133.36 289 P **PKiKP** **20 44 03.3 +0.4**
MATP Matopo 133.38 216 SKPab **SKPab** **20 46 44.0 +0.9**
comp=Z,60nm,0.8s,baz=145,slow=4.6,SNR=16
SMRA Abu-Samra 133.47 287 P **PKPdf** **20 44 02.4 +0.6**
NBPB Pedra_Branca-C 133.50 116 *e*P **PKPdf** **20 44 01.7 -0.5**
MAK Makhachkala 133.68 313 *i* P **Pdif** **20 40 59.9 -3.2**
MAK *i* 20 44 00.0
MAK *e* 20 46 41.9
MAK *e*PPP PPP 20 49 37.7
MAK *e* 20 50 18.5
MAK *e*SSS SSS 21 08 49.2
MAK pmax pmax
comp=Z,180nm,1.1s
VRH Novokhopyorsk 133.89 325 *e*PKIKP **PKPdf** **20 44 01.2 -0.5**
VRH *e* 20 46 39.8
VRH *e*SPP SPP 20 57 43.8
VRH pmax pmax
comp=Z,60nm,0.6s
AKT Akhty 133.95 311 *e*P **Pdif** **20 41 02.3 -2.3**
AKT *i* 20 44 02.5
AKT *e* 20 46 08.8
AKT *e* 20 46 42.5
AKT *e* 20 47 00.8
AKT *e* 20 50 20.0
AKT pmax pmax
comp=Z,32nm,1.0s
OBN Obninsk 134.16 332 ⇑ **PKiKP** **20 44 03.1 -0.5**
OBN Obninsk 134.16 332 ⇑ *e*PKIKP **PKPdf** **20 43 56.5 -5.6**
OBN *i* 20 46 42.0
OBN *i* 20 46 50.3
OBN *i* PPP PPP 20 49 40.5
OBN *e* 20 50 20.3
OBN *i* SS SS 21 03 41.3 -5.9
OBN *e*SSS SSS 21 08 55.4
OBN pmax pmax
comp=Z,22nm,1.0s
OBN pmax pmax
comp=Z,214nm,1.5s
LPSR Galich'ya Gora 134.58 328 *e*PKIKP **PKPdf** **20 44 02.9 -0.1**
LPSR *e* 20 46 43.2
LPSR *e*SPP SPP 20 57 56.2
LPSR pmax pmax
comp=Z,90nm,0.9s
VORR Voronezh 134.96 327 *e*PKIKP **PKPdf** **20 44 03.3 -0.4**
VORR *e* 20 46 44.4
VORR pmax pmax
comp=Z,160nm,0.8s
CKGRV **CKGRV 135.05 210** *i* P PKPpre 20 43 51.2
MOL Molde 135.21 356 *e*PKPdf **PKPdf** **20 44 02.5 -1.4**
MOL IVmBBB 20 44 06.5
comp=Z,1μm,3.6s
MOL *e*PP **PP** **20 46 43.5 -3.4**
MOL *e*SS SS 21 03 60.0 +1.1
VSR Storozhevoye 135.24 327 *e*PKIKP **PKPdf** **20 44 03.6 -0.7**
VSR *e* 20 46 43.7
VSR *e*SPP SPP 20 57 58.1
VSR pmax pmax
comp=Z,130nm,1.1s
KOOLE **Kule 135.26 205** *i* P PKPpre 20 43 54.1
VORD Divnogorie 135.31 326 *e*PKIKP **PKPdf** **20 44 04.3 -0.1**
VORD *e* 20 46 43.9
VORD pmax pmax
comp=Z,70nm,0.7s
KRI Karoi 135.51 221 *i* P PKPpre 20 43 54.3

DOMB	**Dombas**	**135.61 355**	*i*	PKPpre	20 43 52.3	
DOMB			*e*PKPdf	**PKiKP**	**20 44 05.8**	**-0.7**
AKN	**Aaknes**	**135.63 356**	*i*	PKPpre	20 43 53.8	
AKN			*e*PKPdf	**PKPdf**	**20 44 05.3**	**+0.5**
PHDHD	**Phuduhudu**	**135.69 212**	*i* P	PKPpre	20 43 54.1	
GOF	**Gofitskoye**	**135.94 317**	*ce*PKIKP	**PKPdf**	**20 44 05.0**	**-0.8**
GRTLG	**Ghanzi**	**136.27 208**	*i* P	PKPpre	20 43 55.1	
FOO	**Floro**	**136.32 357**	*e*PKPdf	**PKPdf**	**20 44 06.0**	**0.0**
FOO			IVmBBB		20 44 08.3	
	comp=Z,1μm,2.0s					
FOO			*e*SKPdf	**SKPbc**	**20 46 47.8**	**0.0**
NB2	**NORSAR Subarra**	**136.37 353**	PKPdf	PKPpre	20 43 53.9	
	comp=Z,165nm,1.7s,baz=14,slow=1.8					
NB2			SKPa		20 46 49.4	
	comp=Z,2μm,1.7s,baz=14,slow=3.0					
NB2			SKKP		20 55 49.5	
	comp=Z,1.0nm,0.7s,baz=208,slow=5.9					
NB2			P5KP		21 20 05.9	
	comp=Z,3.0nm,0.8s,baz=18,slow=5.1					
NB2	**NORSAR Subarra**	**136.37 353**	PKPdf	PKPpre	20 43 53.9	
	baz=14,slow=1.8					
NOA	**NORSAR Array B**	**136.37 353**	PKhKP	PKPpre	20 43 53.3	
	comp=Z,3.8nm,0.5s,baz=12,slow=4.2,SNR=34					
NOA			PKP	**PKPdf**	**20 44 05.9**	**-0.3**
	comp=Z,20nm,0.7s,baz=13,slow=4.0,SNR=19					
NOA			SKPbc	**SKPbc**	**20 46 48.7**	**+0.6**
	comp=Z,160nm,1.2s,baz=6.3,slow=4.0,SNR=23					
NOA			SKKPbc	**SKKPbc**	**20 55 49.4**	**+1.2**
	comp=Z,5.2nm,1.0s,baz=191,slow=4.2,SNR=5.4					
NOA			SKKP		20 56 30.0	
	comp=Z,3.2nm,1.0s,baz=191,slow=4.2,SNR=3.4					
RCBR	**Riachuelo**	**136.44 119**	PKhKP	PKPpre	20 43 57.2	
	comp=Z,3.7nm,0.7s,baz=290,slow=14,SNR=5.9					
RCBR			SKPbc	**SKPbc**	**20 46 50.6**	**+0.8**
	comp=Z,28nm,1.1s,baz=206,slow=9.0,SNR=8.2					
KBZ	**Khabaz**	**136.56 315**	PKhKP	PKPpre	20 43 57.8	
	comp=Z,5.8nm,0.9s,baz=111,slow=5.4,SNR=7.7					
KBZ			SKP		20 46 49.9	
	comp=Z,47nm,1.1s,baz=162,slow=5.2,SNR=7.6					
KIV	**Kislovodsk**	**136.61 316**	PKPdf	**PKPdf**	**20 44 05.3**	**-1.9**
KIV	**Kislovodsk**	**136.61 316**	⇓P	PKPpre	20 44 00.1	
KIV	**Kislovodsk**	**136.61 316**	*i* PKIKP	**PKPdf**	**20 44 07.8**	**+0.6**
KIV			*e*		20 46 55.6	
KIV			*e*SS	SS	21 04 16.8	-0.8
KIV			*e*SSS	SSS	21 09 28.8	
KIV			pmax	pmax		
	comp=Z,30nm,1.0s					
NC602	**NORSAR Array S**	**136.63 353**	*e*	PKPpre	20 43 55.9	
NC602			*e*PKPdf	**PKPdf**	**20 44 06.8**	**+0.2**
NC602			*e*SKPdf	**SKPbc**	**20 46 49.1**	**+0.3**
NC602			*e*SP	**SP**	**20 56 16.5**	**-11**
NC602			*e*SS	**SS**	**21 04 15.0**	**-0.8**
NC602			*e*SS	SS	21 04 17.2	+1.5
HYA	**Hoyanger**	**136.69 356**	*e*PKPdf	**PKPdf**	**20 44 07.0**	**+0.4**
HYA			IVmBBB		20 44 11.3	
	comp=Z,801nm,2.0s					
HYA			*e*SKPdf	**SKPdf**	**20 46 50.5**	**-0.3**
HYA			*e*SS	**SS**	**21 04 17.5**	**+1.2**
SUE	**Sulen**	**136.87 357**	*e*	PKPpre	20 43 55.7	
SUE			*e*PKPdf	sPdif	20 44 07.8	-0.9
SUE			*e*SKPdf	**SKPdf**	**20 46 51.1**	**+0.1**
SUE			*e*SS	**SS**	**21 04 21.4**	**+3.0**
HFS	**Hagfors**	**136.92 351**	PKhKP	PKPpre	20 43 54.3	
	comp=Z,12nm,0.4s,baz=56,slow=3.2,SNR=32					
HFS			SKP		20 46 51.1	
	comp=Z,108nm,0.9s,baz=70,slow=1.7,SNR=21					
SKAR	**Skarslia**	**137.02 355**	*e*	PKPpre	20 43 55.7	
SKAR			*e*PKPdf	**PKPdf**	**20 44 07.8**	**+0.4**
SKAR			IVmB_BB		20 44 10.2	
	comp=Z,2μm,5.4s					
ERBR	**Yeremizino-Bor**	**137.28 319**	*i* PKIKP	**PKiKP**	**20 44 10.5**	**+0.2**
ERBR			*e*		20 46 14.8	
ERBR			*e*		20 46 55.6	
ERBR			*e*		20 50 22.3	
ERBR			*e*		21 04 24.9	
ERBR			*e*SSS	SSS	21 09 37.2	
ERBR			pmax	pmax		
	comp=Z,191nm,1.6s					
KSANE	**Kasane**	**137.35 215**	*i* P	PKPpre	20 43 59.7	
ASK	**Askoy**	**137.43 357**	*e*	PKPpre	20 43 57.8	
ASK			*e*PKPdf	**PKPdf**	**20 44 08.4**	**+0.4**
ASK			IVmB_BB		20 44 10.8	
	comp=Z,987nm,1.6s					
ASK			*e*SKPdf	**SKPdf**	**20 46 51.9**	**-0.2**
ASK			*e*SKSdf	**SKSdf**	**20 50 28.5**	**+0.9**
KHAM	**Kharkiv**	**137.46 327**	PKP	**PKiKP**	**20 44 11.9**	**+1.3**
OSL	**Oslo**	**137.51 353**	*e*	PKPpre	20 43 59.4	
OSL			*e*SKPdf	**SKPdf**	**20 46 52.2**	**0.0**
OSL			*e*SS	**SS**	**21 04 29.3**	**+3.4**
BER	**Bergen**	**137.52 357**	*e*	PKPpre	20 43 56.4	
BER			IVmB_BB		20 44 11.9	
	comp=Z,913nm,1.7s					
BER			*e*SKPdf	**SKPbc**	**20 46 52.2**	**+0.9**
LABN	**Labinsk**	**137.61 318**	*i* PKIKP	**PKPdf**	**20 44 09.5**	**+0.6**
LABN			*e*		20 46 16.0	
LABN			*e*		20 47 01.4	
LABN			*e*		20 50 23.3	
LABN			*e*SS	SS	21 04 23.9	-5.0
LABN			*e*SSS	SSS	21 09 47.6	
LABN			pmax	pmax		
	comp=Z,34nm,0.8s					
QNGWA	**Qangwa**	**137.89 209**	*i* P	PKPpre	20 44 02.4	
QNGWA			*e*		20 52 24.7	
ODD1	**Odda**	**137.91 356**	*e*	PKPpre	20 43 59.7	
ODD1			*e*SKPdf	**SKPbc**	**20 46 52.6**	**0.0**
KONO	**Kongsberg**	**137.91 354**	*e*	PKPpre	20 43 59.5	
KONO			IVmB_BB		20 44 09.6	
	comp=Z,1μm,4.3s					
KONO			*e*SKPdf	**SKPbc**	**20 46 53.0**	**+0.4**
KONO			*e*SS	**SS**	**21 04 32.1**	**+1.4**
KONO	**Kongsberg**	**137.91 354**	⇓PKHKP	PKPpre	20 43 58.4	
MNK	**Minsk**	**138.15 337**	*e*PKP	PKPpre	20 44 00.9	
	comp=E,10.0nm,0.8s					
MNK			*e*PKP	PKPpre	20 44 00.9	
	comp=N,8.0nm,0.8s,baz=40					
MNK			*i* PKP	PKPpre	20 44 00.9	
	comp=Z,39nm,0.9s					
MNK			*i* pPKP	pPKPdf	20 46 07.5	-8.2
MNK			*i* PP	PP	20 46 51.9	-13
MNK			*i* PPP	PPP	20 49 54.4	
MNK			*i* SKS	SKSdf	20 49 58.7	-30
MNK			*i* SKKS	SKKSdf	20 59 42.5	-23
MNK			*i* SS	**SS**	**21 04 26.0**	**-8.0**
MNK			*i* SSS	SSS	21 09 49.4	
MNK	**Minsk**	**138.15 337**	*e*PKHKP	PKPpre	20 44 00.9	
MNK			*i* SSS	SSS	21 09 49.3	
MNK			pmax	pmax		
	comp=N,8.0nm,0.8s					
MNK			pmax	pmax		
	comp=Z,39nm,0.9s					
MNK			pmax	pmax		
	comp=E,10.0nm,0.8s					
NACGM	**Naroch**	**138.24 338**	⇑*i* PKP	PKPpre	20 44 02.8	
	comp=Z,209nm,1.0s,baz=38					
HARA	**HARA**	**138.26 264**	*e*P	PKPpre	20 44 05.5	
DODT	**Dodoma, Tanzan**	**138.28 238**	*i* P	PKPpre	20 44 02.7	
RAYN	**Ar Rayn**	**138.30 285**	⇑PKHKP	PKPpre	20 44 03.5	
BLS5	**Blasjo**	**138.41 356**	*e*	PKPpre	20 44 01.2	
BLS5			*e*PKPdf	**PKPdf**	**20 44 09.8**	**-0.1**
BLS5			IVmB_BB		20 44 12.0	
	comp=Z,1μm,1.9s					
BLS5			*e*SKPdf	**SKPbc**	**20 46 54.6**	**+0.6**
KMY	**Karmoy**	**138.69 357**	*e*	PKPpre	20 43 59.7	
KMY			IVmB_BB		20 44 14.1	
	comp=Z,2μm,4.5s					
KMY			*e*SKPdf	**SKPbc**	**20 46 55.0**	**+0.3**
KMY			*e*SS	**SS**	**21 04 46.5**	**+6.8**
SOC	**Sochi**	**138.72 317**	*e*PKIKP	**PKPdf**	**20 44 09.9**	**-1.0**
SOC			*e*		20 46 16.9	
SOC			*e*		20 47 09.0	
SOC			*e*PPP	PPP	20 50 16.1	
SOC			*e*		20 50 34.6	
SOC			pmax	pmax		
	comp=Z,18nm,0.7s					
SOC			pmax	pmax		
	comp=Z,25nm,0.8s					
ATD	**Arta Tunnel**	**139.26 267**	PKhKP	PKPpre	20 44 06.3	
	comp=Z,1.4nm,1.1s,baz=72,slow=13,SNR=5.5					
ATD			SKPbc	**SKPbc**	**20 46 58.9**	**+1.1**
	comp=Z,7.3nm,1.2s,baz=74,slow=2.4,SNR=19					
ATD	**Arta Tunnel**	**139.26 267**	*e*P	PKPpre	20 44 07.3	
ATD	**Arta Tunnel**	**139.26 267**	*e*P	PKPpre	20 44 01.1	
HOMB	**Homborsund**	**139.38 354**	*e*	PKPpre	20 44 02.2	
HOMB			IVmB_BB		20 44 07.6	
	comp=Z,1μm,1.2s					
HOMB			*e*SKPdf	**SKPdf**	**20 46 56.0**	**+0.4**
HOMB			*e*SS	**SS**	**21 04 49.6**	**+1.8**
HOMB	**Homborsund**	**139.38 354**	*i* P	PKPpre	20 44 03.0	
HOMB			*i* P	PKPpre	20 44 04.3	
SNART	**Snartemo**	**139.43 355**	*e*	PKPpre	20 44 04.0	
SNART			*e*SKPdf	**SKPbc**	**20 46 57.4**	**+0.7**
SNART	**Snartemo**	**139.43 355**	*i* P	PKPpre	20 44 04.2	
LEWI	**Lewis, Hebride**	**139.43 7**	*e*P	PKPpre	20 44 02.9	
LINV	**Loch Inver, As**	**139.59 5**	*e*P	PKPpre	20 44 03.9	
ANN	**Anapa**	**139.61 319**	*i* PKHKP	PKPpre	20 44 06.6	
ANN			*e*SSS	SSS	21 10 09.3	
ANN			pmax	pmax		
	comp=Z,29nm,1.0s					
TSUM	**Tsumeb**	**139.71 204**	SKKPbc	SKKPbc	20 55 34.9	+2.4
	comp=Z,27nm,1.0s,baz=7.5,slow=5.8,SNR=9.9					
KMBO	**Kilima Mbogo**	**139.75 246**	*i* PKPdf	PKPpre	20 44 08.3	
	SNR=29					
KMBO	**Kilima Mbogo**	**139.75 246**	PKhKP	PKPpre	20 44 06.9	
	comp=Z,11nm,0.7s,baz=128,slow=4.0,SNR=35					
KMBO			SKPbc	**SKiKP**	**20 47 01.4**	**-0.4**
	comp=Z,199nm,1.2s,baz=97,slow=2.6,SNR=24					
KMBO			SKKPbc	**SKKPbc**	**20 55 37.6**	**+5.0**
	comp=Z,5.9nm,1.1s,baz=292,slow=8.1,SNR=5.3					
KMBO	**Kilima Mbogo**	**139.75 246**	*e*P	PKPpre	20 44 06.2	
KMBO	**Kilima Mbogo**	**139.75 246**	*e*P	PKPpre	20 44 00.8	
ONAU	**Onsala**	**139.81 351**	*i* P	PKPpre	20 44 05.0	
FABU	**Falkenberg**	**140.07 350**	*i* P	PKPpre	20 44 06.1	
OVD	**Ostervraa, Den**	**140.12 352**	*i* P	PKPpre	20 44 07.5	
OVD			*i*		20 46 59.9	
SUW	**Suwalki**	**140.19 340**	*e*PKP	PKPpre	20 44 06.6	
SUW			*e*SKS		20 53 15.2	
MCD	**Coleburn Disti**	**140.30 4**	*e*P	PKPpre	20 44 05.6	
KPL	**Plockton**	**140.35 6**	*e*P	PKPpre	20 44 06.4	
DEL	**Delary**	**140.38 349**	*i* P	PKPpre	20 44 07.2	
AKASG	**Malin Array Be**	**140.42 332**	PKhKP	PKPpre	20 44 07.0	
	comp=Z,15nm,0.3s,baz=44,slow=4.0,SNR=111					
AKASG			SKPbc	**SKPbc**	**20 46 59.7**	**+0.1**
	comp=Z,43nm,0.7s,baz=38,slow=3.2,SNR=11					
AKASG			SKKPbc	**SKKPbc**	**20 55 32.1**	**-0.1**
	comp=Z,9.6nm,0.8s,baz=239,slow=4.0,SNR=16					
KIEV	**Kiev**	**140.43 332**	*i* PKPdf	PKPpre	20 44 06.9	
	SNR=33					
KIEV	**Kiev**	**140.43 332**	⇑P	PKPpre	20 44 06.2	
KIEV	**Kiev**	**140.43 332**	⇑PKHKP	PKPpre	20 44 06.2	
MI28	**Mi28,Pidlybu**	**140.93 333**	PKP	PKPpre	20 44 08.9	
DRUM	**Mains of Drumt**	**141.01 3**	*e*P	PKPpre	20 44 08.1	
TEND	**Ethiopian Broa**	**141.08 267**	*e*P	**PKPdf**	**20 44 14.2**	**-1.9**
MUD	**Monsted U'grnd**	**141.09 353**	*i* P	PKPpre	20 44 08.0	
MUD			*i* P	PKPpre	20 44 09.5	
MUD			*i*		20 47 02.3	
LUNU	**Lund**	**141.25 349**	*i* P	PKPpre	20 44 10.0	
RNPP9	**Sopachiv**	**141.30 335**	PKP	PKPpre	20 44 09.6	
RNPP2	**Kostyukhnivka**	**141.37 335**	PKP	PKPpre	20 44 10.6	
RNPP8	**Varash**	**141.37 335**	PKP	PKPpre	20 44 10.6	
LAWE	**Loch Awe, Argy**	**141.44 6**	*e*P	PKPpre	20 44 10.1	
RNPP5	**Staryi Chortor**	**141.44 335**	PKP	PKPpre	20 44 09.1	
BSD	**Bornholm Skovb**	**141.45 347**	*i* P	PKPpre	20 44 09.0	
BSD			*i* P	PKPpre	20 44 10.7	
BSD			*i*		20 47 03.0	
SIM	**Simferopol'**	**141.54 322**	*i* PKHKP	PKPpre	20 44 12.7	
SIM			*e*		20 47 23.0	
SIM			*e*PPP	PPP	20 50 36.0	
SIM			*e*SS	SS	21 05 08.0	-6.1
SIM			pmax	pmax		
	comp=Z,460nm,4.7s					
SIM			pmax	pmax		
	comp=Z,300nm,10.3s					
SIM			pmax	pmax		
	comp=Z,420nm,8.8s					
SIM			pmax	pmax		
	comp=Z,460nm,15.0s					
SIM			pmax	pmax		
	comp=E,740nm,11.0s					
SIM			pmax	pmax		
	comp=Z,1μm,19.0s					
SIM			pmax	pmax		
	comp=N,1μm,15.0s					
SIM			pmax	pmax		
	comp=N,3μm,20.0s					
LUBAR	**Lubar, Ukraine**	**141.63 332**	PKP	PKPpre	20 44 10.4	
ANKE	**Ethiopia-Afar**	**141.70 263**	*e*P	**PKPdf**	**20 44 15.4**	**-2.2**
EDI	**Edinburgh**	**141.95 4**	*e*P	PKPpre	20 44 11.8	
PGBU	**Glenifferbraes**	**141.97 5**	*e*P	PKPpre	20 44 12.2	
DILA	**Dilla**	**142.04 257**	*e*P	**PKPdf**	**20 44 15.4**	**-2.6**
BAL3X	**Bal3x, Balta**	**142.16 329**	PKP	PKPpre	20 44 12.1	
DESE	**Dese**	**142.21 265**	*e*P	**PKPdf**	**20 44 16.9**	**-1.6**
DESE	**Dese**	**142.21 265**	*e*P	**PKPdf**	**20 44 15.2**	**-3.3**
IDGL	**Inch Island, C**	**142.36 8**	PKP	**PKPdf**	**20 44 13.3**	**-3.8**
FURI	**Furi**	**142.49 261**	*e*P	**PKPdf**	**20 44 15.2**	**-3.8**
CLGH	**Cloghs, Cushen**	**142.52 7**	*e*P	PKPpre	20 44 12.7	
WLRA	**Wolmera**	**142.53 261**	*e*P	**PKPdf**	**20 44 18.1**	**-1.0**
EKA	**Eskdalemuir Ar**	**142.54 4**	PKhKP	PKPpre	20 44 12.9	
	comp=N,46nm,0.6s,baz=334,slow=2.9,SNR=159					
EKA			SKKPbc	**SKiKP**	**20 47 06.9**	**+0.9**
	comp=N,62nm,1.1s,baz=346,slow=2.1,SNR=8.2					
EKA			SKKPbc	**SKKPab**	**20 55 22.8**	**-0.1**
	comp=N,11nm,0.8s,baz=169,slow=4.9,SNR=14					
ESK	**Eskdalemuir**	**142.56 4**	*e*P	PKPpre	20 44 13.3	
GKP	**Gorka Klasztor**	**142.60 344**	*e*PKPc		20 44 14.0	
GKP			*e*SKS		20 53 30.1	
SORM	**Soroca**	**142.63 330**	⇑P	PKPpre	20 44 13.0	
SORM	**Soroca**	**142.63 330**	⇑P		20 55 21.3	
SORM	**Soroca**	**142.63 330**	⇑PKHKP	PKPpre	20 44 13.0	
SORM	**Soroca**	**142.63 330**	PKP	**PKPdf**	**20 44 14.3**	**-3.5**
NEWG	**New Galloway**	**142.68 5**	*e*P	**PKPdf**	**20 44 13.8**	**-3.9**
HORU	**Horodok**	**142.74 332**	PKP	**PKPdf**	**20 44 14.3**	**-3.7**
NDNU	**Novodnistrovsk**	**142.77 331**	PKP	**PKPdf**	**20 44 14.6**	**-3.4**
BEL	**Belsk**	**142.81 340**	*e*PKP	**PKPdf**	**20 44 15.6**	**-2.4**
BEL			*e*SKS		20 53 32.6	
GAL1	**Galloway**	**142.88 6**	*e*P	**PKPdf**	**20 44 14.2**	**-3.8**
PURM	**Purcari**	**142.95 327**	⇓P	**PKPdf**	**20 44 17.2**	**-1.2**
PURM	**Purcari**	**142.95 327**	⇑P	**Sdif**	**20 55 20.5**	**+1.0**
PURM	**Purcari**	**142.95 327**	PKP	**PKPdf**	**20 44 15.9**	**-2.5**
EDMD	**Edmundbyers**	**143.12 3**	*e*P	PKPab	20 44 14.9	-1.3
KIS	**Kishinev**	**143.18 328**	⇓P	PKPab	20 44 16.8	+0.2
KIS	**Kishinev**	**143.18 328**	⇓PKIKP	PKPab	20 44 16.8	+0.2
KIS	**Kishinev**	**143.18 328**	PKP	PKPab	20 44 16.6	0.0
KMPD	**K-Podol'skiy**	**143.21 332**	PKP	PKPbc	20 44 16.8	-0.2
KMPD			PKP	PKPab	20 44 14.3	-2.4
MILM	**Milestii Mici**	**143.24 328**	⇑P	PKPab	20 44 16.7	-0.1
MILM	**Milestii Mici**	**143.24 328**	⇑PKIKP	PKPab	20 44 16.7	-0.1
LVV	**L'vov**	**143.28 335**	PKP	PKPab	20 44 16.4	-0.5
KESW	**Keswick, Cumbr**	**143.29 4**	*e*P	PKPab	20 44 15.8	-1.0
BSEG	**Bad Segeberg**	**143.40 351**	*e*PKPbc	PKPbc	20 44 17.6	+0.2
	baz=12,slow=2.9					
DRBR	**Darabani**	**143.40 331**	⇓P	PKPab	20 44 16.8	-0.6
ILTH	**Belurgan, Co L**	**143.53 7**	PKP	PKPab	20 44 17.0	-0.7
LODK	**Lodwar**	**143.53 251**	*e*P	PKPab	20 44 17.4	-1.6
GDLE	**Glaisdale, N Y**	**143.57 2**	*e*P	PKPab	20 44 16.4	-1.5
WIM	**Isle of Man**	**143.60 6**	*e*P	PKPab	20 44 17.3	-0.7
CHRU	**Chernivtsi**	**143.64 332**	PKP	PKPab	20 44 15.5	-2.8
IGLA	**Glengowla, Co**	**143.67 11**	PKP	PKPab	20 44 18.0	-0.2
IGLA	**Glengowla, Co**	**143.67 11**	*e*P	PKPab	20 44 17.4	-0.8
IASR	**Iasi**	**143.68 329**	⇑P	PKPbc	20 44 18.8	+0.2
CIDE	**Kastamonu/Cide**	**143.91 318**	⇓P	**PKPdf**	**20 44 20.1**	**-0.1**
STNU	**Staruniа**	**143.95 334**	PKP	PKPbc	20 44 18.5	-0.9
KWP	**Kalwaria Pacla**	**143.95 336**	*e*PKPc	PKPbc	20 44 19.9	+0.6
KWP	**Kalwaria Pacla**	**143.95 336**	PKP	PKPbc	20 44 18.7	-0.7
HPK	**Haverah Park**	**144.00 3**	*e*P	PKPbc	20 44 19.1	-0.3
KSV	**Kosov**	**144.01 333**	PKP	PKPbc	20 44 18.4	-1.2
RUE	**Ruedersdorf**	**144.15 347**	*e*PKPbc	**PKPdf**	**20 44 20.7**	**+0.4**
	baz=12,slow=2.9					
PRAR	**RASCA**	**144.19 331**	⇓P	**PKPdf**	**20 44 21.1**	**+0.5**
BIR	**Birlad**	**144.28 328**	⇑P	**PKPab**	**20 44 22.0**	**+1.1**
BIR	**Birlad**	**144.28 328**	⇑PKIKP	**PKPab**	**20 44 22.0**	**+1.1**
VLDR	**Vladesti**	**144.34 327**	⇓P	**PKPab**	**20 44 22.3**	**+1.3**
WPS	**Cemaes, Angles**	**144.35 6**	*e*P	PKPbc	20 44 19.7	-0.7
WME	**Myndd Eilian**	**144.37 6**	*e*P	PKPbc	20 44 19.6	-1.0
TLCR		**144.39 326**	⇑P	PKPbc	20 44 19.8	-1.1
TLCR		**144.39 326**	⇑PKIKP	PKPbc	20 44 19.8	-1.0
VARL	**Varlezi**	**144.42 327**	⇑P	**PKPab**	**20 44 21.8**	**+0.5**
BURAR	**Bucovina Array**	**144.47 332**		**PKPab**	**20 44 23.0**	**+1.4**
BURAR	**Bucovina Array**	**144.47 332**	⇑P	PKPbc	20 44 20.6	-0.6
BURAR	**Bucovina Array**	**144.47 332**	⇑PKIKP	PKPbc	20 44 20.6	-0.6
WLF1	**Llynfaes**	**144.47 6**	*e*P	PKPbc	20 44 19.5	-1.3
SCTR	**Scanteiesti**	**144.50 327**	⇑P	**PKPab**	**20 44 22.7**	**+1.1**
GIUM	**Giurgiulesti**	**144.51 327**	⇑P	**PKPab**	**20 44 21.7**	**0.0**
OJC	**Ojcow**	**144.52 339**	*e*PKPc	**PKPdf**	**20 44 21.6**	**+0.5**
OJC	**Ojcow**	**144.52 339**	PKP	**PKPdf**	**20 44 20.2**	**-0.9**
MEZ	**Mezhgor'ye**	**144.52 334**	PKP	**PKPdf**	**20 44 20.6**	**-0.5**
TATR	**Tatarca**	**144.52 327**	⇑P	**PKPab**	**20 44 22.6**	**+0.8**
BRTR	**Keskin Array B**	**144.53 314**		**PKPab**	**20 44 22.6**	**+0.4**
BRTR	**Keskin Array B**	**144.53 314**	PKP	**PKPdf**	**20 44 19.9**	**-1.7**
	comp=N,59nm,0.7s,baz=125,slow=2.5,SNR=212					
BRTR			SKKPbc	SKKPbc	20 55 15.1	-0.1
	comp=N,10nm,0.9s,baz=210,slow=4.5,SNR=9.4					
BRTR	**Keskin Array B**	**144.53 314**	PKIKP	**PKPab**	**20 44 22.6**	**+0.4**
GHRR		**144.53 328**	⇑P	PKPbc	20 44 21.5	+0.2
GHRR		**144.53 328**	PKP	**PKPab**	**20 44 21.6**	**-0.2**
BR104	**Keskin Array S**	**144.54 314**	PKP	**PKPdf**	**20 44 21.0**	**-0.6**
BR106	**Keskin Array S**	**144.54 315**	PKP	**PKPdf**	**20 44 20.8**	**-0.8**
BR105	**Keskin Array S**	**144.55 314**	PKP	**PKPdf**	**20 44 21.3**	**-0.3**
LMK	**Market Rasen**	**144.55 2**	*e*P	**PKPdf**	**20 44 20.7**	**-0.3**
LBWR	**Ladybower, Pea**	**144.55 3**	*e*P	**PKPdf**	**20 44 20.9**	**-0.1**
TESR	**Tescani**	**144.60 329**	⇑P	**PKPab**	**20 44 21.8**	**-0.2**
TESR	**Tescani**	**144.60 329**	⇑P	**SKKPbc**	**20 55 14.3**	**-0.9**
TESR	**Tescani**	**144.60 329**	PKP	**PKPdf**	**20 44 20.8**	**-0.5**
KIRS	**Kirsehir-Merke**	**144.62 313**	⇑P	**PKPdf**	**20 44 20.5**	**-1.2**
RAKU	**Rahkiv**	**144.62 333**	PKP	**PKPdf**	**20 44 21.3**	**0.0**
JURR	**Jurilovca**	**144.63 325**	⇓P	**PKPab**	**20 44 22.9**	**+0.7**
YLL	**Llanberis**	**144.64 6**	*e*P	**PKPdf**	**20 44 20.9**	**-0.3**
NEGRR	**Negrea**	**144.65 327**	⇓P	**PKPab**	**20 44 22.9**	**+0.6**
SLCR	**Slobozia Conac**	**144.67 327**	⇑P	**PKPab**	**20 44 23.2**	**+0.9**
STHS	**Stebnicka Huta**	**144.68 337**	*e*PKIKP	**PKPab**	**20 44 22.0**	**-0.3**
STHS	**Stebnicka Huta**	**144.68 337**	*e*PKP	**PKPab**	**20 44 22.0**	**-0.3**
KOLS	**Kolonicke sedl**	**144.69 336**	*e*PKIKP	**PKPdf**	**20 44 20.8**	**-0.6**
KOLS	**Kolonicke sedl**	**144.69 336**	*e*PKP	**PKPdf**	**20 44 20.8**	**-0.6**
KOLS			*e*		20 44 23.1	
SCHL	**Schela**	**144.70 327**	⇑P	**PKPab**	**20 44 23.2**	**+0.8**
IZVR	**Izvoarele**	**144.70 327**	⇑P	**PKPab**	**20 44 22.9**	**+0.5**
SCHLR	**Schela**	**144.72 327**	⇑P	**PKPab**	**20 44 23.2**	**+0.7**
TUDR		**144.72 327**	⇑P	**PKPab**	**20 44 23.3**	**+0.8**
COSR	**Cosmesti PH**	**144.72 328**	⇑P	**PKPab**	**20 44 23.6**	**+1.1**
CFR	**Carcaliu**	**144.75 326**	⇑P	**PKPab**	**20 44 22.8**	**+0.2**
CFR	**Carcaliu**	**144.75 326**	⇑P	**SKKPbc**	**20 55 12.8**	**-1.6**
CFR	**Carcaliu**	**144.75 326**	⇑PKIKP	**PKPab**	**20 44 22.8**	**+0.2**
FLTG	**Flechtingen**	**144.80 349**	*e*PKPbc	**PKPab**	**20 44 22.2**	**-0.3**
	baz=12,slow=2.9					
NRDL	**Niedersach Rie**	**144.83 351**	*e*PKPbc	PKPbc	20 44 22.1	+0.2
	baz=12,slow=2.9					
STNC	**Stoke**	**144.84 4**	*e*P	PKPbc	20 44 22.0	0.0
ONER	**Baraj Valea Uz**	**144.85 329**	⇑P	PKPbc	20 44 22.5	+0.2
BRIU	**Brid**	**144.86 334**	PKP	PKPbc	20 44 22.5	+0.3
MUKU	**Mukachevo**	**144.90 335**	PKP	**PKPab**	**20 44 22.8**	**-0.3**
VAL	**Valentia**	**144.91 12**	PKP	**PKPdf**	**20 44 21.6**	**0.0**
VAL	**Valentia**	**144.91 12**	PKP	**PKPdf**	**20 44 21.5**	**-0.1**
ODBI	**Odobesti**	**144.92 328**	⇑P	**PKiKP**	**20 44 24.8**	**-1.1**
ODBI	**Odobesti**	**144.92 328**	⇓P	**SKKPbc**	**20 55 13.7**	**-0.1**
ODBI	**Odobesti**	**144.92 328**	PKP	**PKPab**	**20 44 23.1**	**-0.2**
UZHM	**Uzhgorod**	**144.92 335**	PKP	**PKPdf**	**20 44 21.8**	**0.0**
KORU	**Korolevo**	**144.96 334**	PKP	**PKPdf**	**20 44 22.1**	**+0.3**
HOLU	**Holmets**	**144.97 335**	PKP	PKPbc	20 44 22.7	+0.2
FOEL	**Foel Wylfa**	**144.97 5**	*e*P	**PKPdf**	**20 44 21.3**	**-0.4**
LLW	**Llanuwychllyn**	**144.97 5**	*e*P	**

KRLC	Kraliky	145.59 342	⇑	*e*PKP	PKPab	20 44 25.4 -0.4
KRLC				*e*SKKS		20 53 49.5
KRLC	Kraliky	145.59 342		*e*PKP2	PKPab	20 44 25.4 -0.4
TGMR	Targu Mures	145.59 331	⇑	P	PKPab	20 44 25.9 0.0
DOPR	Dopca	145.60 330	⇑	P	PKPab	20 44 26.0 0.0
DOPR	Dopca	145.60 330	⇑	P	SKKPbc	20 55 09.3 -1.8
CEI	Carei	145.61 334	⇑	P	PKPab	20 44 25.5 -0.4
CEI	Carei	145.61 334	⇑	PKP2	PKPab	20 44 25.5 -0.4
BRG	Berggiesshubel	145.62 346		SKS	SKSdf	20 50 50.0 +9.0
BRG	Berggiesshubel	145.62 346		*i* PKIKP	PKPdf	20 44 23.2 +0.3
BRG						20 47 48.1
BRG				pmax	pmax	
	comp=Z,43nm,1.0s					
BRG				pmax	pmax	
	comp=Z,175nm,0.9s					
BRG				pmax	pmax	
	comp=Z,103nm,1.1s					
BRG				pmax	pmax	
	comp=Z,160nm,1.6s					
BRG	Berggiesshubel	145.62 346		*e*PKPbc	PKPab	20 44 25.6 -0.2
	baz=12,slow=2.9					
ISR	Istrita	145.62 328	⇑	P	PKPab	20 44 25.6 -0.6
ISR	Istrita	145.62 328	⇑	PKP2	PKPab	20 44 25.6 -0.6
ISR	Istrita	145.62 328		PKP	PKPbc	20 44 24.4 -0.3
MORC	Moravsky Berou	145.63 341		*e*PKP	PKPdf	20 44 23.4 +0.4
MORC	Moravsky Berou	145.63 341	⇓	P	PKPab	20 44 25.3 -0.7
MORC	Moravsky Berou	145.63 341	⇑	P	SKKPbc	20 55 10.2 -1.0
MORC	Moravsky Berou	145.63 341	⇓	PKP2	PKPab	20 44 25.3 -0.7
ICOR	Ion Corvin	145.63 325	⇑	P	PKPab	20 44 25.8 -0.3
MLR	Muntele Rosu	145.67 328	⇑	P	PKPbc	20 44 24.4 -0.5
MLR	Muntele Rosu	145.67 328	⇑	P	SKKPbc	20 55 09.9 -1.0
MLR	Muntele Rosu	145.67 328	⇑	PKIKP	PKPbc	20 44 24.4 -0.5
MLR	Muntele Rosu	145.67 328		PKP	PKPdf	20 44 23.7 +0.4
KECS	Kecovo	145.74 337		*e*PKP2	PKPab	20 44 26.1 -0.3
KECS	Kecovo	145.74 337		*e*PKP	PKPab	20 44 26.1 -0.3
RSBS	Rosebush, Pemb	145.76 7		*e*P	PKPdf	20 44 23.5 +0.4
PSN	Preselentsi	145.76 324		P	PKPbc	20 44 25.5 +0.5
GTTG	Gottingen	145.77 350		*e*PKPbc	PKPbc	20 44 25.2 +0.4
	baz=12,slow=2.9					
NEUB	Neuenburg	145.77 348		*e*PKPbc	PKPbc	20 44 25.5 +0.7
	baz=12,slow=2.9					
PVCC	Panska Ves	145.78 345	⇑	*e*PKP	PKPab	20 44 26.1 -0.4
PVCC				*e*SKKS		20 53 49.2
PVCC	Panska Ves	145.78 345		*e*PKP2	PKPab	20 44 26.1 -0.4
MESR	Meseseni	145.82 333	⇓	P	PKPbc	20 44 24.9 -0.2
MESR	Meseseni	145.82 333	⇓	P	SKKPbc	20 55 09.7 -0.5
MMAI	Mount Meron Ar	145.83 303		PKPbc	PKPdf	20 44 24.7 +0.8
	comp=Z,249nm,0.5s,baz=69,slow=5.4,SNR=217					
MMAI				SKKPbc	SKKPbc	20 55 10.4 +1.0
	comp=Z,9.4nm,0.7s,baz=248,slow=1.6,SNR=7.8					
CBBR	Cluj-Babes-Bol	145.85 332	⇓	P	PKPab	20 44 26.4 -0.6
CJR	Cluj-Napoca	145.87 332	⇑	P	PKPbc	20 44 24.5 -0.8
CJR	Cluj-Napoca	145.87 332	⇑	P	SKKPbc	20 55 07.9 -2.1
CJR	Cluj-Napoca	145.87 332	⇑	PKIKP	PKPbc	20 44 24.5 -0.8
RICC	Richard	145.88 345		*e*PKPDF	PKPbc	20 44 24.5 -0.6
RICC			⇑	*e*PKP	PKPab	20 44 26.3 -0.6
MAUC	Maruska	145.90 340		*e*PKPDF	PKPbc	20 44 24.6 -0.7
MAUC			⇑	*e*PKP	PKPab	20 44 26.6 -0.5
LEHL	Lehliu	145.92 326	⇑	P	PKPab	20 44 26.5 -0.7
HSKC	Hora Svate Kat	145.98 346	⇑	*e*PKP	PKPbc	20 44 26.3 +0.8
HSKC				*e*SKKS		20 53 50.7
PLAR	PLOIESTI	146.03 328	⇓	P	PKPab	20 44 26.8 -0.9
MONM	Monmouth	146.04 4		*e*P	PKPdf	20 44 23.6 +0.1
MARR	Marisel-Cluj	146.11 333	⇑	P	PKPdf	20 44 24.7 +0.7
MARR	Marisel-Cluj	146.11 333	⇓	P	SKKPbc	20 55 07.5 -1.5
VOIR		146.15 329	⇑	P	PKPbc	20 44 25.9 -0.2
VOIR		146.15 329	⇓	P	SKKPbc	20 55 07.4 -1.4
VOIR		146.15 329	⇑	PKIKP	PKPbc	20 44 25.9 -0.2
STRD	Stroud	146.15 4		*e*P	PKPdf	20 44 24.3 +0.6
DRGR		146.20 333	⇑	P	PKPab	20 44 26.1 -0.1
DRGR		146.20 333	⇑	P	SKKPbc	20 55 07.5 -1.1
DRGR		146.20 333	⇑	PKIKP	PKPbc	20 44 26.1 -0.1
OLDB	Oldbury-Upon-S	146.24 4		*e*P	PKPdf	20 44 24.4 +0.5
BUG	Bochum--Univer	146.24 353		*e*PKPbc	PKPbc	20 44 26.3 +0.2
	baz=12,slow=2.9					
PRU	Pruhonice	146.28 344		*e*PKPDF	PKPdf	20 44 24.7 +0.6
PRU			⇑	*e*PKP	PKPbc	20 44 27.2 +0.9
PRU				*e*SKKS		20 53 50.6
PRU	Pruhonice	146.28 344		*e*PKIKP	PKPdf	20 44 24.7 +0.6
PRU				*e*		20 44 27.2
GOPC	GO Pecny, Ondr	146.29 344		*e*PKPDF	PKPdf	20 44 24.9 +0.8
GOPC			⇑	*e*PKP	PKPbc	20 44 27.3 +1.0
GOPC	GO Pecny, Ondr	146.29 344		*e*PKIKP	PKPdf	20 44 24.9 +0.8
GOPC				*e*		20 44 27.3
MTUR	Matau	146.29 329	⇑	P	PKPbc	20 44 26.3 -0.3
MTUR	Matau	146.29 329	⇑	PKIKP	PKPbc	20 44 26.3 -0.3
VYHS	Vyhne	146.32 339		*e*PKIKP	PKPdf	20 44 24.7 +0.5
VYHS				*e*		20 44 27.6
VYHS	Vyhne	146.32 339		*e*PKP	PKPdf	20 44 24.7 +0.5
VYHS				*e*		20 44 27.6
VYHS				*e*		20 51 10.9
VYHS				*e*		20 55 05.4
KASTN	Kahler Asten	146.33 352		*e*PKPbc	PKPbc	20 44 26.5 +0.1
	baz=12,slow=2.9					
VRAC	Vranov	146.33 342		SKKPbc	SKKPbc	20 55 08.0 -0.2
	comp=Z,12nm,1.0s,baz=213,slow=6.2,SNR=4.2					
VRAC	Vranov	146.33 342		*e*PKP	PKPdf	20 44 24.6 +0.4
VRAC	Vranov	146.33 342	⇑	P	PKPbc	20 44 25.6 -0.8
VRAC	Vranov	146.33 342	⇓	P	SKKPbc	20 55 08.4 -2.8
VRAC	Vranov	146.33 342	⇑	PKIKP	PKPbc	20 44 25.6 -0.8
MOX	Moxa	146.34 348		*e*PKPbc	PKPbc	20 44 27.3 +0.9
	baz=12,slow=2.9					
BORR	Bors	146.36 334	⇑	P	PKiKP	20 44 27.9 -0.9
TANN	Tannenbergstha	146.38 347		*e*PKPbc	PKPbc	20 44 27.7 +1.1
	baz=12,slow=2.9					
JAVC	Velka Javorina	146.39 340		*e*PKP	PKPbc	20 44 26.0 -0.7
ARR	Arges	146.40 330	⇑	P	PKPdf	20 44 25.6 +1.1
ARR	Arges	146.40 330	⇓	P	SKKPbc	20 55 06.6 -1.2
BUC1	Bucharest	146.42 327	⇑	P	PKPbc	20 44 27.1 +0.3
BUC1	Bucharest	146.42 327	⇑	PKP2	PKPbc	20 44 27.1 +0.3
PSZ	Piszkesteto	146.43 337	⇓	P	PKiKP	20 44 28.0 -1.1
PSZ	Piszkesteto	146.43 337	⇓	P	SKKPbc	20 55 05.7 -2.1
PSZ	Piszkesteto	146.43 337	⇓	PKP2	PKiKP	20 44 28.0 -1.1
SWN1	Swindon	146.44 3		*e*P	PKPbc	20 44 25.9 -0.7
UBBA	Unterbreizbach	146.46 350		*e*PKPbc	PKPbc	20 44 27.2 +0.7
	baz=12,slow=2.9					
PRD	Provadia	146.47 324		P	PKPbc	20 44 27.6 +0.6
NEF	NEVSHA	146.48 324		P	PKPbc	20 44 27.7 +0.7
SGRR	Singureni	146.54 327	⇑	P	PKPbc	20 44 27.3 +0.1
NKC	Novy Kostel	146.55 347		*e*PKPDF	PKPdf	20 44 25.6 +1.1
NKC			⇑	*e*PKP	PKPbc	20 44 28.0 +1.0
NKC				*e*SKKS		20 53 55.9
NKC	Novy Kostel	146.55 347		*e*PKIKP	PKPdf	20 44 25.6 +1.1
NKC				*e*		20 44 28.0
KRUC	Moravsky	146.61 342		*e*PKP	PKPdf	20 44 25.0 +0.4
TREC	Trest	146.66 343		*e*PKPDF	PKPdf	20 44 24.7 -0.1
TREC	Trest	146.66 343		*e*PKIKP	PKPdf	20 44 24.7 -0.1
SMOL	Smolenice	146.77 340		*e*PKIKP	PKPbc	20 44 26.7 -1.0
SMOL				*e*		20 44 29.4
DEV	Deva	146.82 332	⇓	P	PKPbc	20 44 26.8 -1.1
DEV	Deva	146.82 332	⇑	P	SKKPbc	20 55 04.1 -1.8
DEV	Deva	146.82 332	⇓	PKIKP	PKPbc	20 44 26.8 -1.1
PCED	Cedros	146.82 45		*e*PKP	PKPbc	20 44 28.3 +0.2
HUMR	Humele	146.83 328	⇓	P	PKPbc	20 44 28.0 +0.1
CALA	Caldeira	146.85 46		*e*PKP	PKPbc	20 44 28.3 0.0
MANZ	Manzenberg	146.86 347		*e*PKPbc	PKiKP	20 44 29.2 -0.6
	baz=12,slow=2.9					
ZVC	Zvikov	146.88 344		*e*PKPDF	PKPdf	20 44 25.8 +0.7
ZVC			⇑	*e*PKP	PKiKP	20 44 29.1 -0.8
ELSH	Elham, Standar	146.88 0		*e*P	PKPbc	20 44 28.5 +0.6
HOR	Horta	146.92 46		*e*PKP	PKiKP	20 44 29.4 -0.9
MODS	Modra-Piesok	146.94 340		*e*PKIKP	PKPdf	20 44 26.2 +1.0
MODS				*e*		20 44 29.7
MODS	Modra-Piesok	146.94 340		*e*PKP	PKPdf	20 44 26.2 +1.0
MODS				*e*		20 44 29.7
MODS				*e*		20 51 11.4
MODS				*e*		20 55 02.3
BEBN	Eben Emael	147.04 355		*d*PKPdf	PKPdf	20 44 25.5 +0.3
BEBN				*d*PKP	PKPbc	20 44 28.6 +0.4
ROTZ	Rotzenmuhle	147.04 347		*e*PKPbc	PKiKP	20 44 29.6 -0.6
	baz=12,slow=2.9					
PCAN	Candelaria	147.05 46		*e*PKP	PKPbc	20 44 28.6 -0.2
SIRR	Siria	147.06 333	⇑	P	PKPdf	20 44 26.7 +1.2
SIRR	Siria	147.06 333	⇑	P	SKKPbc	20 55 02.2
PICO	Pico	147.08 45		*e*PKP	PKiKP	20 44 30.9 +0.2
SRO	Srobarova	147.08 339		*e*PKP2	PKiKP	20 44 29.9 -0.4
SRO	Srobarova	147.08 339		*e*PKP	PKiKP	20 44 29.9 -0.4
SRO				*e*		20 55 04.3
EIL	Elat	147.09 297		SKKPbc		20 55 05.8
	comp=Z,24nm,1.1s,baz=300,slow=4.3,SNR=7.6					
ROSA	Rosais	147.09 45		*e*PKP	PKPbc	20 44 28.9 +0.1

UCC	Uccle	147.13 356		*d*PKPdf	PKPdf	20 44 25.8 +0.4
UCC				*d*PKP	PKPbc	20 44 28.6 +0.1
HMNX	Herstmonceux	147.16 1		*e*P	PKPbc	20 44 27.9 -0.6
SZH	Strazhitsa	147.19 326		P	PKPbc	20 44 29.0 +0.1
MEM	Membach	147.19 354		*d*PKPdf	PKPdf	20 44 25.1 -0.5
MEM				*d*PKP	PKPbc	20 44 29.0 +0.4
PPNO	Prainha do Nor	147.20 45		*e*PKP	PKPbc	20 44 28.8 -0.4
BTNL	Ternell	147.21 354		*d*PKPdf	PKPdf	20 44 26.0 +0.4
BTNL				*d*PKP	PKPbc	20 44 29.1 +0.3
PMAN	Manadas	147.24 45		*e*PKP	PKPbc	20 44 29.1 -0.1
GZR	Gura Zlata	147.25 331	⇓	P	PKPdf	20 44 25.6 -0.3
GZR	Gura Zlata	147.25 331	⇓	P	SKKPbc	20 55 04.2
GZR	Gura Zlata	147.25 331	⇓	PKIKP	PKPdf	20 44 25.6 -0.3
BSTI	Sart Tilman	147.26 355		*d*PKPdf	PKPdf	20 44 26.4 +0.7
BSTI				*d*PKP	PKPbc	20 44 29.2 +0.4
SURR	Surduc	147.26 332	⇑	P	PKPbc	20 44 29.8 +0.8
SURR	Surduc	147.26 332	⇓	P	SKKPbc	20 55 02.2
TNS	Taunus Mts	147.28 351		*e*PKPbc	PKPbc	20 44 29.6 +0.5
	baz=12,slow=2.9					
PID	Ribeirinha	147.31 45		*e*PKP	PKPbc	20 44 29.6 +0.2
KHC	Kasperske Hory	147.32 345		*e*PKPDF	PKPdf	20 44 26.5 +0.6
KHC			⇑	*e*PKP	PKiKP	20 44 30.1 -0.7
KHC				*e*PKPAB	PKPab	20 44 33.5 +0.7
KHC				*e*x	x	20 45 27.0
KHC				*e*PP	PP	20 47 56.0 -3.7
KHC				*e*SKKS		20 53 57.6
KHC				AMS	AMS	21 24 00.0
	comp=Z,4μm,24.7s					
KHC	Kasperske Hory	147.32 345		*e*PKIKP	PKPdf	20 44 26.5 +0.6
KHC				*e*		20 44 33.5
KHC				*e*		20 47 56.0
KHC				MLR	MLR	
	comp=Z,4μm,24.7s					
GRF	Grafenberg Arr	147.32 348		*e*PKPbc	PKiKP	20 44 30.3 -0.5
	baz=12,slow=2.9					
GRFO	Grafenberg	147.32 348			PKiKP	20 44 30.4 -0.4
GRFO	Grafenberg	147.32 348		PKP2	PKiKP	20 44 30.4 -0.4
JMB	Yambol	147.40 324		P	PKPbc	20 44 29.7 +0.2
CKRC	Cesky Krumlov	147.42 344		*e*PKPDF	PKPdf	20 44 26.9 +0.9
CKRC			⇑	*e*PKP	PKiKP	20 44 30.3 -0.7
CKRC	Cesky Krumlov	147.42 344		*e*PKIKP	PKPdf	20 44 26.9 +0.9
CKRC				*e*		20 44 30.3
CCA1	Carnmenellis	147.44 8		*e*P	PKPbc	20 44 28.6 -0.7
BCLA	Clavier	147.44 355		*d*PKPdf	PKPdf	20 44 26.1 +0.1
BCLA				*d*PKP	PKPbc	20 44 29.2 -0.1
BHOU	Houvegnez	147.45 354		*d*PKPdf	PKPdf	20 44 26.7 +0.7
BHOU				*d*PKP	PKPbc	20 44 29.2 -0.2
ELND	Elena	147.47 325	⇓	P	PKPdf	20 44 27.0 +0.7
WET	Wettzell	147.48 346		*e*PKPbc	PKiKP	20 44 30.7 -0.4
	baz=12,slow=2.9					
BGES	Gesves	147.50 355		*d*PKPdf	PKPdf	20 44 26.3 +0.3
BGES				*d*PKP	PKPbc	20 44 29.8 +0.3
GEC2	GERESS Array S	147.55 345		*e*PKPbc	PKiKP	20 44 30.8 -0.6
	baz=12,slow=2.9					
GERES	GERESS Array B	147.55 345		PKPbc	PKPdf	20 44 27.0 +0.7
	comp=Z,224nm,0.6s,baz=36,slow=2.9,SNR=216					
GERES				SKKPbc		20 55 02.0
	comp=Z,7.1nm,1.1s,baz=163,slow=5.0,SNR=4.5					
BZS	Buzias	147.59 333	⇑	P	PKPdf	20 44 26.5 +0.2
BZS	Buzias	147.59 333	⇑	P	SKKPbc	20 55 01.8
BZS	Buzias	147.59 333	⇑	PKIKP	PKPdf	20 44 26.5 +0.2
BMRD	Maredsous	147.60 356		*d*PKPdf	PKPdf	20 44 26.6 +0.4
BMRD				*d*PKP	PKPbc	20 44 30.0 +0.3
SRE	Strehaia	147.60 330	⇑	P	PKiKP	20 44 31.2 -0.3
SRE	Strehaia	147.60 330	⇑	PKP2	PKiKP	20 44 31.2 -0.3
TIM	Timisoara	147.67 333	⇑	P	PKiKP	20 44 31.7 +0.1
TIM	Timisoara	147.67 333	⇑	PKP2	PKiKP	20 44 31.7 +0.1
PSBA	Serra de Santa	147.68 44		*e*PKP	PKPbc	20 44 29.9 -0.5
RCHB	Rochefort	147.71 355		*d*PKP	PKPdf	20 44 26.9 +0.5
PVL	Pavlikeni	147.72 326		P	PKPbc	20 44 30.9 +0.6
PAGU	Agualva, Azore	147.77 44		*e*PKP	PKPbc	20 44 30.6 0.0
CONA	Conrad Observa	147.78 341		*e*PKiKP	PKPbc	20 44 31.1 +0.7
	comp=Z,192nm,0.6s,SNR=352					
CONA				*e*SKKP		20 54 59.9
	comp=Z,36nm,1.5s					
BAND	Balkesir-Ban	147.80 320	⇓	P	PKPbc	20 44 30.3 -0.3
HERR	Herculane	147.81 331	⇑	P	PKPbc	20 44 31.0 +0.6
HERR	Herculane	147.81 331	⇓	P	SKKPbc	20 55 01.3
DOU	Dourbes	147.82 356		*d*PKPdf	PKPdf	20 44 26.6 0.0
DOU				*d*PKP	PKPbc	20 44 30.5 +0.2
RMGR	Halanga-Turnu	147.84 331	⇑	P	PKPbc	20 44 31.2 +0.7
PSCM	Serra do Cume	147.85 44		*e*PKP	PKPbc	20 44 30.4 -0.4
RONA	Rosalia, Austr	147.85 341		*i* PKP	PKPdf	20 44 27.1 +0.3
	comp=Z,7.1nm,0.7s,SNR=236					
DJES	Djerdap	147.92 331	⇓	P	PKPbc	20 44 30.6 -0.2
BANR	Banloc	147.99 333	⇑	P	PKiKP	20 44 32.3 +0.1
PUNG	Punghina	148.02 330	⇓	P	PKiKP	20 44 31.7 -0.6
WLF	Walferdange	148.12 354		PKP	PKPbc	20 44 30.6 -0.5
WLF	Walferdange	148.12 354		*e*PKPbc	PKiKP	20 44 32.0 -0.4
	baz=12,slow=2.9					
WLF	Walferdange	148.12 354		*d*PKPdf	PKPdf	20 44 27.9 +0.8
WLF				*d*PKP	PKPbc	20 44 31.7 +0.6
MDVR	Moldovita	148.20 332	⇑	P	PKPdf	20 44 27.3 -0.1
DIM	Dimitrovgrad	148.22 324		P	PKPbc	20 44 30.8 -0.8
MPEP	Malo Peshtene	148.29 328		P	PKiKP	20 44 32.4 -0.6
MOA	Molln	148.32 343		*i* PKiKP	PKPbc	20 44 32.2 +0.5
	comp=Z,55nm,0.5s,SNR=122					
MORH	Mrgy, Hungar	148.32 337	⇑	P	PKPdf	20 44 27.7 +0.2
ARSA	Arzberg	148.49 341		*i* PKP	PKPbc	20 44 32.4 +0.3
	comp=Z,23nm,0.5s,SNR=35					
STU	Stuttgart	148.58 350		*e*PKPbc	PKiKP	20 44 33.4 0.0
	baz=12,slow=2.9					
PLD	Plovdiv	148.61 325		P	PKPbc	20 44 32.3 -0.3
BIOA	Bad Ischl, Aus	148.63 344		*i* PKP	PKPdf	20 44 28.0 -0.1
	comp=Z,5.4nm,0.8s,SNR=117					
KDZ	Kurdzhali	148.63 324		P	PKPbc	20 44 32.8 +0.1
PGB	Panagyurishte	148.67 326		P	PKiKP	20 44 33.4 -0.4
ALN	Alexandroupoli	148.71 322		P	PKPbc	20 44 32.6 -0.2
JSA	Saint Aubin	148.73 4		*e*P	PKPdf	20 44 29.0 +1.0
FRGS	Fruska Gora	148.73 334	⇑	P	PKPbc	20 44 32.5 -0.3
FUR	Furstenfeldbru	148.76 347		*e*PKPbc	PKiKP	20 44 33.9 +0.1
	baz=12,slow=2.9					
CAVK	Edirne/Enez-Ca	148.76 322	⇓	P	PKPbc	20 44 33.3 +0.3
RDO	Rodhopi	148.84 323		P	PKPdf	20 44 30.2 +1.7
RZN	Rozhen	148.93 325		P	PKPbc	20 44 33.0 -0.6
KOGS	Kog	148.97 340		*i* PKPdf	PKPdf	20 44 28.4 -0.1
KOGS				*i* PKPbc	PKPbc	20 44 33.5 +0.2
KOGS				*e*SKKSac	SKKSac	20 54 06.3 -0.6
KOGS				*e*		21 12 17.4
VTS	Vitosha	149.08 327		P	PKPbc	20 44 34.1 +0.2
BOVS	Bovan	149.09 330	⇑	P	PKPbc	20 44 33.1 -0.5
PLNA	Plana	149.09 327		P	PKiKP	20 44 34.7 -0.1
LESA	Schwarzleotal	149.13 345		*i* PKiKP	PKiKP	20 44 34.8 +0.1
	comp=Z,86nm,0.3s					
BFO	Black Forest	149.15 351		*e*PKPbc	PKiKP	20 44 34.7 +0.1
	baz=12,slow=2.9					
SOKA	Soboth	149.15 341		*i* PKP	PKPdf	20 44 28.9 -0.1
	comp=Z,5.1nm,0.8s,SNR=125					
PSET	Sete Cidades	149.25 44		*e*PKP	PKPbc	20 44 34.0 -0.3
KBA	Koelnbreinsper	149.28 344		*i* PKP	PKPbc	20 44 33.8 -0.5
	comp=Z,160nm,0.5s,SNR=39					
SMTH	Samothraki Isl	149.28 322		P	PKPbc	20 44 33.8 -0.5
TEKS	Tekeris	149.34 334	⇑	*i* P	PKiKP	20 44 34.7 -0.4
CMLA	Cha da Macela	149.41 44		*e*PKP	PKPdf	20 44 31.1 +1.5
PCALD	Caldeiras da R	149.42 44		*e*PKP	PKPdf	20 44 30.8 +1.2
OBKA	Obir	149.45 342		*i* PKP	PKPbc	20 44 34.5 -0.1
	comp=Z,38nm,0.7s,SNR=27					
OBKA	Obir	149.45 342		*e*P	PKPbc	20 44 34.0 -0.6
UBR	Ueberruh	149.46 348		*e*PKPbc	PKiKP	20 44 35.5 +0.2
	baz=12,slow=2.9					
PGRON	Lagoa das Cont	149.51 44		*e*PKP	PKPbc	20 44 35.3 +0.4
RETA	Reutte	149.51 347		*i* PKP	PKPdf	20 44 29.7 +0.2
	comp=Z,1.8nm,0.3s,SNR=78					
KAVA	Kavala	149.52 324		P	PKPbc	20 44 34.3 -0.5
MMB	Musomishta	149.57 325		P	PKPbc	20 44 34.9 -0.1
PRK	Paraskevi	149.59 319		P	PKiKP	20 44 35.4 -0.3
MYKA	Terra Mystica	149.60 343		*i* PKP	PKPdf	20 44 29.7 0.0
	comp=Z,11nm,0.8s,SNR=111					
BART	Pico Bartolome	149.64 44		*e*PKP	PKPdf	20 44 31.3 +1.3
NVR	Nevrokopi	149.64 325		P	PKiKP	20 44 35.7 -0.2
KKB	Krupnik	149.69 326		P	PKPbc	20 44 35.2 0.0
CRES	Cresnjevec Ost	149.78 340	⇑	*i* P	PKPbc	20 44 35.4 +0.1
ABTA	Abfaltersbach	149.80 344		*i* PKP	PKPdf	20 44 29.7 -0.3
	comp=Z,27nm,0.8s,SNR=112					
LJU	Ljubljana	149.88 341		*i* PKPdf	PKPdf	20 44 30.3 +0.2
LJU				*i* PKPbc	PKiKP	20 44 36.0 -0.2
LJU				*e*pPKPbc	pPKPbc	20 46 41.9 +1.4
LJU				*e*PP	PP	20 48 12.5 -1.8
LJU				*e*		20 51 39.5
LJU				*e*SKKSac	SKKSac	20 54 10.0 -1.9
LJU				*e*		20 57 40.1
LJU				*e*SS	SS	21 06 48.4 +1.8

DAVA	Damuels	149.88 348		*i* PKP	PKPdf	20 44 30.7 +0.5
	comp=Z,13nm,0.8s,SNR=84					
KOKK	Kokkinochori,	149.93 324		P	PKPbc	20 44 35.0 -0.8
BBLS	Lazi&#263i	149.94 333	⇑	P	PKiKP	20 44 36.2 -0.2
SRS	Serrai	149.95 325		P	PKPbc	20 44 34.7 -1.1
HAPS	Han Pijesak,Bl	149.96 334	⇑	P	PKiKP	20 44 36.8 +0.3
FETA	Feichten	149.96 347		*i* PKP	PKPdf	20 44 30.8 +0.5
	comp=Z,27nm,0.7s,SNR=81					
A051A	Mrakovica	149.99 337	⇑	*i* P	PKiKP	20 44 36.5 0.0
PSMA	Santa Maria	150.09 45		*e*PKP	PKPdf	20 44 30.6 0.0
BLY	Banja Luka	150.11 337	⇑	*i* P	PKiKP	20 44 36.7 0.0
PSMN	Pico do Norte,	150.13 45		*e*PKP	PKPdf	20 44 32.1 +1.4
BOJS	Bojanci	150.13 340		*i* PKPdf	PKPdf	20 44 30.9 +0.5
BOJS				*i* PKPbc	PKiKP	20 44 36.9 +0.2
BOJS				*e*pPKPbc	pPKPab	20 46 43.1 -1.8
RUDO	Rudo	150.16 333	⇑	*i* P	PKPbc	20 44 36.0 -0.2
DAT	Datca	150.16 314		P	PKPbc	20 44 35.4 -1.2
SJES	Sjenica	150.17 332	⇑	*i* P	PKiKP	20 44 37.1 +0.1
CEY	Cerknica	150.18 341	⇑	*i* P	PKPbc	20 44 35.9 -0.4
CHOS	Chios island	150.24 318		P	PKPbc	20 44 36.9 +0.2
VAY	Valandovo	150.36 326		*i* P	PKPbc	20 44 36.6 -0.2
HORT	Hortiatis	150.58 325		P	PKPbc	20 44 36.5 -0.9
A050A	Klekovaca	150.58 337	⇑	*i* P	PKPbc	20 44 36.6 -0.7
UPM	Unac-Piva	150.69 333	⇑	*i* P	PKPbc	20 44 37.5 -0.2
KARP	Karpathos	151.06 312		P	PKPbc	20 44 38.6 0.0
BRY	Bratogost	151.09 333	⇑	*i* P	PKPbc	20 44 38.5 -0.1
PDG	Podgorica	151.15 332	⇑	*i* P	PKPbc	20 44 38.6 +0.1
PDG	Podgorica	151.15 332	⇓	P	PKPbc	20 44 38.6 +0.1
LIT	Litokhoron	151.26 326		P	PKPbc	20 44 38.6 -0.3
TREB	Trebinje	151.32 333	⇑	*i* P	PKPbc	20 44 38.6 -0.3
APE	Apeiranthos	151.34 317	⇑	P	PKPbc	20 44 38.1 -1.1
APE	Apeiranthos	151.34 317	⇑	PKIKP	PKPbc	20 44 38.1 -1.1
OHR	Ohrid	151.43 328		*i* P	PKiKP	20 44 40.0 +0.4
STON	Ston	151.47 334	⇑	*i* P	PKPbc	20 44 38.3 -0.9
HCY	Herceg Novi	151.48 333	⇑	*i* P	PKPbc	20 44 39.0 -0.3
KZN	Kozani	151.50 326		P	PKiKP	20 44 39.7 -0.1
TIR	Tirane	151.71 329	⇑	P	PKPbc	20 44 39.9 +0.1
TIR	Tirane	151.71 329	⇑	PKIKP	PKPbc	20 44 39.9 +0.1
DION	Dionisos Attik	151.75 320		P	PKPbc	20 44 39.3 -0.8
PTL	Penteli	151.81 320		P	P

1.4nm,0.7s,baz=232,slow=3.2,SNR=7.0
ILAR Eielson Array 151.20 310 PKPbc **PKPdf 20 53 11.6 +0.2**
0.5nm,0.6s,baz=132,slow=1.3,SNR=4.8

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*NEIC **18** 20:44:49.4±1.6, 10.°97S±0.°06×162.°7E±0.°1, h10km±2km, mb4.6/12, Error ellipse: s-maj=20.2km s-min=7.3km az=71.0*
*IDC **18** 20:44:50.3±2.8, 10.°86S×163.°06E, h45km±23km, mb3.8/8, mbtmp4.1/10, ML4.2/2, MS4.6/2, Error ellipse: s-maj=27.2km s-min=16.6km az=57.0*
ISC 18 20:44:50.4±0.8, 10.°87S±0.°09×162.°76E±0.°10, h34km, n34, σ1§36/29, mb4.3/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.11 297**			**Pn**	**20 45 38.4**	**+1.3**
HNR	**Honiara**	**3.11 297**		P	**Pn**	**20 45 39.0**	**+1.9**
	55nm,0.3s,baz=207,slow=4.6,SNR=15						
HNR				S	**Sb**	**20 46 20.1**	**-2.5**
	196nm,0.4s,baz=344,slow=19,SNR=4.0						
	152nm,0.4s						
KOUNC	**Koumac, New Ca**	**9.74 171**		Pn	**Pn**	**20 47 08.7**	**+0.5**
DZM	**Mont Dzumac**	**11.69 163**			**Pn**	**20 47 35.6**	**+0.6**
DZM	**Mont Dzumac**	**11.69 163**		P	**Pn**	**20 47 35.3**	**+0.4**
	0.8nm,0.3s,baz=307,slow=19,SNR=18						
DZM				S	**Sn**	**20 49 42.2**	**-2.2**
	3.9nm,0.8s,baz=349,slow=23,SNR=1.4						
DZM				LR	LR	20 51 27.4	
	comp=Z,3μm,19.4s,baz=310,slow=34						
	4.4nm,0.5s						
PINNC	**Pines Island,**	**12.51 160**		Pn	**Pn**	**20 47 45.6**	**-0.5**
EIDS	**Eidsvold**	**18.18 216**		P	**P**	**20 49 00.5**	**+0.2**
CTAO	**Charters Tower**	**18.34 238**			**Pn**	**20 49 02.0**	**-0.3**
CTAO				IAmb	IAmb	20 49 17.1	
	comp=Z,30nm,0.9s						
COEN	**Coen**	**19.37 259**		P	**P**	**20 49 11.3**	**-2.1**
COEN				IAmb	IAmb	20 49 34.4	
	comp=Z,95nm,1.5s						
ARMA	**Armidale**	**22.04 206**		P	**P**	**20 49 42.3**	**+0.1**
AFI	**Afiamalu**	**25.05 100**		P	**P**	**20 50 13.6**	**+1.8**
AFI				IAmb	IAmb	20 50 39.5	
	comp=Z,21nm,0.8s						
STKA	**Stephens Creek**	**28.62 220**		P	**P**	**20 50 43.2**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=61,slow=13,SNR=1.5						
	comp=Z,1.0nm,0.3s						
WB0	**Warramunga Arr**	**28.71 249**		P	**P**	**20 50 45.8**	**+1.0**
WB0				IAmb	IAmb	20 50 56.1	
	comp=Z,17nm,1.4s						
WRAB	**Tennant Creek**	**28.79 248**		P	**P**	**20 50 46.9**	**+1.5**
WRAB				IAmb	IAmb	20 51 07.7	
	comp=Z,7.7nm,1.1s						
WRA	**Warramunga Arr**	**28.80 248**		P	**P**	**20 50 46.6**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=80,slow=9.0,SNR=5.1						
	comp=Z,1.6nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**29.43**	**8**	T	T	21 21 27.7	
	baz=188,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**29.43**	**8**	T	T	21 21 40.6	
	baz=188,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**29.45**	**8**	T	T	21 21 39.1	
	baz=188,slow=76,SNR=23						
AS31	**Alice Springs**	**30.27 241**		P	**P**	**20 50 59.0**	**+0.5**
ASAR	**Alice Springs**	**30.27 241**		P	**P**	**20 50 58.4**	**-0.1**
ASAR	**Alice Springs**	**30.27 241**		P	**P**	**20 50 59.6**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=66,slow=9.9,SNR=16						
	comp=Z,1.5nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**30.66**	**8**	T	T	21 23 04.9	
	baz=188,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**30.66**	**8**	T	T	21 23 13.2	
	baz=188,slow=76,SNR=19						
H11N2	**WAKE ISLAND Hy**	**30.68**	**8**	T	T	21 23 15.2	
	baz=188,slow=76,SNR=18						
BBOO	**Buckleboo**	**32.85 224**		P	**P**	**20 51 21.6**	**+0.5**
KNRA	**Kununurra**	**33.40 258**		P	**P**	**20 51 25.6**	**-0.5**
KNRA				IAmb	IAmb	20 51 32.1	
	comp=Z,9.9nm,1.1s						
FITZ	**Fitzroy Crossi**	**36.59 254**		P	**P**	**20 51 52.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**36.59 254**		P	**P**	**20 51 54.2**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=86,slow=8.0,SNR=6.9						
	comp=Z,3.1nm,0.8s						
FORT	**Forrest**	**37.77 233**		P	**P**	**20 52 05.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**69.36 294**		P	**P**	**20 55 57.4**	**+2.2**
	comp=Z,0.6nm,0.6s,baz=123,slow=4.8,SNR=2.0						
	comp=Z,0.6nm,0.6s						
SONM	**Songino Array**	**76.81 325**		P	**P**	**20 56 38.5**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=127,slow=5.3,SNR=1.4						
	comp=Z,0.6nm,0.6s						
ILAR	**Eielson Array**	**84.30 19**		P	**P**	**20 57 15.6**	**-2.8**
	comp=Z,2.3nm,0.9s,baz=232,slow=5.4,SNR=6.5						
	comp=Z,2.3nm,0.9s						
MKAR	**Makanchi Array**	**91.39 317**		P	**P**	**20 57 52.6**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=96,slow=5.6,SNR=1.8						
	comp=Z,1.4nm,0.9s						
PMSA	**Palmer Station**	**96.83 162**		LR	LR	21 36 28.3	
	comp=Z,362nm,20.8s,baz=216,slow=32						

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*IDC **18** 20:59:06.3±11.0, 20.°31S×177.°38W, h438km±104km, mb3.5/7, mbtmp4.3/7, Error ellipse: s-maj=81.6km s-min=42.9km az=122.0*
*NEIC **18** 20:59:10.8±1.1, 19.°9S±0.°2×177.°1W±0.°2, h547km±18km, mb4.1/21, Error ellipse: s-maj=30.5km s-min=25.3km az=96.0*
ISC 18 20:59:11.3±1.1, 20.°1S±0.°1×177.°6W±0.°2, h500km, n38, σ1§43/36, mb4.0/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.79 299**		P	P	21 00 41.4	+4.8
FUTU	**Fugatoga**	**5.80 355**		P	**P**	**21 00 45.9**	**0.0**
PINNC	**Pines Island,**	**14.20 257**		P	**P**	**21 02 14.9**	**+1.8**
DZM	**Mont Dzumac**	**15.07 260**		P	**P**	**21 02 25.2**	**+2.9**
DZM				IAmb	IAmb	21 02 25.5	
	comp=Z,6.3nm,1.0s						
RTZ	**Ruatahuna**	**19.04 193**		P	**P**	**21 02 59.9**	**-1.2**
RTZ				IAmb	IAmb	21 03 15.1	
	comp=Z,5.3nm,0.8s						
BKZ	**Black Stump Fm**	**19.67 194**		P	**P**	**21 03 05.5**	**-1.4**
MRZ	**Mangatainoka R**	**21.31 195**		P	**P**	**21 03 22.6**	**+1.0**
EIDS	**Eidsvold**	**29.36 254**		P	**P**	**21 04 31.8**	**-1.4**
ARMA	**Armidale**	**29.62 244**		P	**P**	**21 04 36.7**	**+1.2**
ARMA				IAmb	IAmb	21 04 36.8	
	comp=Z,4.2nm,0.8s						
CTAO	**Charters Tower**	**33.95 264**		P	**P**	**21 05 11.9**	**-0.7**
CTAO				IAmb	IAmb	21 05 16.2	
	comp=Z,7.9nm,1.1s						
COEN	**Coen**	**37.98 273**		P	**P**	**21 05 44.5**	**-1.6**
COEN				IAmb	IAmb	21 05 51.2	
	comp=Z,5.5nm,1.1s						
STKA	**Stephens Creek**	**38.34 244**		P	**P**	**21 05 49.5**	**+0.7**
	comp=Z,1.8nm,0.3s,baz=78,slow=9.3,SNR=3.3						
	comp=Z,1.8nm,0.3s						
BBOO	**Buckleboo**	**43.10 243**		P	**P**	**21 06 26.2**	**-0.6**
BBOO				IAmb	IAmb	21 06 27.6	
	comp=Z,4.2nm,0.8s						
JAY	**Jayapura**	**44.32 288**		P	**P**	**21 06 37.8**	**+1.1**
	comp=Z,14nm,0.9s,baz=165,slow=6.3,SNR=4.6						
	comp=Z,14nm,0.9s						
WR0	**Warramunga Arr**	**44.88 262**		P	**P**	**21 06 40.6**	**-0.3**
WR0				IAmb	IAmb	21 06 48.1	
	comp=Z,4.9nm,1.1s						
AS31	**Alice Springs**	**45.02 256**		P	**P**	**21 06 41.4**	**-0.5**
ASAR	**Alice Springs**	**45.02 256**		P	**P**	**21 06 41.0**	**-1.0**
ASAR	**Alice Springs**	**45.02 256**		P	**P**	**21 06 42.1**	**+0.2**
	comp=Z,6.6nm,0.8s,baz=95,slow=7.6,SNR=44						
ASAR				PcP	**pP**	**21 08 13.4**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=94,slow=4.3,SNR=5.5						
	comp=Z,6.6nm,0.8s						
WB0	**Warramunga Arr**	**45.05 262**		P	**P**	**21 06 42.1**	**-0.1**
WB2	**Warramunga Arr**	**45.06 262**		P	**P**	**21 06 41.4**	**-0.9**
WB2				IAmb	IAmb	21 06 42.8	
	comp=Z,8.8nm,1.1s						
WRAB	**Tennant Creek**	**45.06 262**		P	**P**	**21 06 41.6**	**-0.7**
WRAB				IAmb	IAmb	21 06 42.7	
	comp=Z,8.0nm,1.1s						
WRA	**Warramunga Arr**	**45.07 262**		P	**P**	**21 06 42.3**	**-0.2**
WRA	**Warramunga Arr**	**45.07 262**		P	**P**	**21 06 42.2**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=97,slow=7.6,SNR=56						
	comp=Z,2.7nm,0.6s						
MTN	**Manton Dam**	**49.58 270**		P	**P**	**21 07 16.7**	**+0.3**
MTN				IAmb	IAmb	21 07 18.4	
	comp=Z,6.4nm,0.8s						
FORT	**Forrest**	**49.84 246**		P	**P**	**21 07 17.3**	**-0.8**
KNRA	**Kununurra**	**51.11 266**		P	**P**	**21 07 26.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**53.50 262**		P	**P**	**21 07 43.0**	**-1.7**
FITZ	**Fitzroy Crossi**	**53.50 262**		P	**P**	**21 07 45.1**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=117,slow=4.5,SNR=8.1						
	comp=Z,1.6nm,0.5s						
PSA00	**Pilbara Seismi**	**58.17 257**		P	**P**	**21 08 14.8**	**-2.4**
INU	**Inuyama**	**69.99 322**		P	**P**	**21 09 27.9**	**-4.2**
INU				IAmb	IAmb	21 09 28.9	
	comp=Z,6.0nm,0.8s						
ILAR	**Eielson Array**	**87.84 13**		P	**P**	**21 11 07.9**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=214,slow=5.4,SNR=4.9						
	comp=Z,0.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**90.38 289**		P	**P**	**21 11 21.9**	**+2.6**
	comp=Z,1.3nm,0.7s,baz=119,slow=2.9,SNR=11						
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**111.24 313**	PKiKP	**PKiKP**		**21 16 48.7**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=149,slow=2.0,SNR=2.0						
BVAR	**Borovoye Array**	**119.05 320**	PKP	**PKiKP**		**21 17 03.5**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=109,slow=2.3,SNR=6.4						
HFS	**Hagfors**	**139.22 351**	PKhKP	PKPpre		21 17 35.0	
	comp=Z,6.0nm,1.2s,baz=73,slow=4.8,SNR=4.8						
AKASG	**Malin Array Be**	**142.88 332**	PKhKP	PKPpre		21 17 45.6	
	comp=Z,0.7nm,0.3s,baz=42,slow=3.9,SNR=8.1						
BRTR	**Keskin Array B**	**146.89 313**	PKPbc	**PKiKP**		**21 17 58.9**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=148,slow=5.0,SNR=5.9						
MMAI	**Mount Meron Ar**	**147.99 300**	PKPbc	**PKiKP**		**21 18 02.6**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=77,slow=7.6,SNR=6.0						

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*NEIC **18** 21:01:21.1±1.0, 43.°89N±0.°04×105.°5W±0.°1, h0km±1km, ML3.4/78, Error ellipse: s-maj=13.6km s-min=6.2km az=266.0*
*IDC **18** 21:01:26.6±1.7, 44.°04N×105.°75W, h0km, mb3.8/2, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=62.5km s-min=8.3km az=147.0*
ISC 18 21:01:23.3±0.9, 43.°86N±0.°06×105.°47W±0.°06, h0km, n48, σ1§48/46, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.07 75**			**Pg**	**21 01 40.5**	**-3.3**
K22A	**Casper**	**1.43 213**			**Pn**	**21 01 48.7**	**-2.1**
K22A				IAML		21 02 15.1	
	comp=E,457nm,0.4s						
K22A				IAML		21 02 15.2	
	comp=N,539nm,0.3s						
LAO	**LASA Array**	**2.88 350**		Pn	**Pn**	**21 02 09.7**	**-0.8**
LAO				IAML		21 03 05.0	
	comp=N,195nm,0.9s						
LAO				IAML		21 03 08.4	
	comp=N,194nm,0.9s						
N23A	**Red Feather La**	**2.98 187**		Pn	**Pn**	**21 02 11.6**	**-0.6**
N23A				IAML		21 02 55.7	
	comp=N,134nm,0.5s						
N23A				IAML		21 02 57.4	
	comp=E,94nm,0.5s						
RLMT	**Red Lodge**	**3.00 296**		Pn	**Pn**	**21 02 11.2**	**-1.1**
RLMT				IAML		21 03 08.4	
	comp=E,82nm,0.5s						
PD31	**Pinedale Array**	**3.18 251**		Pn	**Pn**	**21 02 14.2**	**-0.7**
PDAR	**Pinedale Array**	**3.18 251**			**Pn**	**21 02 12.7**	**-2.1**
PDAR	**Pinedale Array**	**3.18 251**		Pn	**Pb**	**21 02 19.1**	**-1.7**
PDAR	comp=E,2.8nm,0.3s,baz=69,slow=16,SNR=36			Lg	Lg	21 03 01.6	
	comp=E,13nm,0.3s,baz=68,slow=30,SNR=12						
	comp=E,5.8nm,0.3s						
YNE	**Yellowstone No**	**3.45 291**			**Pn**	**21 02 18.0**	**-0.6**
YNE				IAML		21 03 22.8	
	comp=E,96nm,0.4s						
YNE				IAML		21 03 23.6	
	comp=N,68nm,0.6s						
YMP	**Mirror Lake Pl**	**3.48 286**		Pn	**Pn**	**21 02 17.2**	**-1.8**
YMP				IAML		21 03 20.8	
	comp=N,79nm,0.4s						
YMP				IAML		21 03 23.5	
	comp=E,107nm,0.6s						
H17A	**Grant Village**	**3.72 280**		Pn	**Pn**	**21 02 21.2**	**-1.0**
LOHW	**Long Hollow**	**3.73 268**		Pn	**Pn**	**21 02 21.6**	**-0.8**
FLWY	**Flagg Ranch**	**3.78 275**		Pn	**Pn**	**21 02 22.5**	**-0.6**
FLWY				IAML		21 03 35.7	
	comp=E,37nm,1.9s						
FLWY				IAML		21 03 46.5	
	comp=E,38nm,2.0s						
MOOW	**Moose Ponds**	**3.82 270**			**Pn**	**21 02 23.8**	**+0.1**
YNR	**Norris Junctio**	**3.84 285**		Pn	**Pn**	**21 02 23.3**	**-0.6**
YNR				IAML		21 03 34.8	
	comp=E,35nm,3.1s						
SNOW	**Snow King Moun**	**3.86 266**		Pn	**Pn**	**21 02 23.4**	**-0.7**
SNOW				IAML		21 03 46.3	
	comp=E,40nm,1.2s						
YFT	**Old Faithful**	**3.91 281**		Pn	**Pn**	**21 02 23.7**	**-1.1**
YHH	**Holmes Hill**	**3.97 285**		Pn	**Pn**	**21 02 24.7**	**-1.0**
TPAW	**Teton Pass**	**3.99 267**		Pn	**Pn**	**21 02 24.8**	**-1.3**
YMR	**Madison River**	**4.03 283**		Pn	**Pn**	**21 02 26.2**	**-0.3**
YMR				IAML		21 03 42.9	
	comp=E,43nm,3.3s						
YMR				IAML		21 03 48.7	
	comp=N,42nm,1.1s						
FXWY	**Fox Creek**	**4.03 269**		Pn	**Pn**	**21 02 25.8**	**-0.7**
YHB	**Horse Butte**	**4.21 284**		Pn	**Pn**	**21 02 26.2**	**-2.7**
YHL	**Hebgen Lake**	**4.22 286**		Pn	**Pn**	**21 02 27.6**	**-1.6**
YHL				IAML		21 03 57.9	
	comp=E,29nm,0.8s						
YHL				IAML		21 04 05.2	
	comp=N,26nm,1.2s						
O20A	**White River Ci**	**4.26 210**			**Pn**	**21 02 28.7**	**-0.9**
O20A				IAML		21 03 42.8	
	comp=E,40nm,0.9s						
O20A				IAML		21 03 46.9	
	comp=N,40nm,0.7s						
E28A	**Huff**	**4.33 50**			**Pn**	**21 02 28.7**	**-1.7**
K30B	**Basset**	**4.44 103**		Pn	**Pn**	**21 02 30.5**	**-1.4**
RDMU	**Red Mountain**	**4.48 224**		Pn	**Pn**	**21 02 33.5**	**+0.8**
RDMU				IAML		21 03 51.8	
	comp=N,27nm,1.0s						
RDMU				IAML		21 03 53.1	
	comp=E,31nm,0.8s						
DGMT	**Dagmar**	**4.70 10**		Pn	**Pn**	**21 02 33.3**	**-2.1**
Q24A	**Divide**	**4.90 177**		Pn	**Pn**	**21 02 37.9**	**-0.6**
Q24A				IAML		21 03 58.5	
	comp=E,38nm,0.6s						
Q24A				IAML		21 05 27.2	
	comp=N,19nm,4.7s						
HWUT	**Hardware Ranch**	**5.02 245**		Pn	**Pn**	**21 02 39.4**	**-0.8**
HWUT				IAML		21 04 31.4	
	comp=N,25nm,0.9s						
HWUT				IAML		21 04 31.6	
	comp=N,25nm,4.6s						
EGMT	**Eagleton**	**5.12 326**		Pn	**Pn**	**21 02 39.8**	**-1.6**
BSUT	**Blindstream Ca**	**5.15 232**			**Pn**	**21 02 41.2**	**-0.8**
BSUT				IAML		21 04 16.5	
	comp=E,16nm,1.6s						
BSUT				IAML		21 04 20.7	
	comp=N,16nm,1.5s						
TCUT	**Toone Canyon**	**5.18 240**			**Pn**	**21 02 42.5**	**+0.2**
P18A	**Preston Nutter**	**5.54 222**			**Pn**	**21 02 47.5**	**+0.2**
SPUT	**South Promonto**	**5.75 246**			**Pn**	**21 02 49.6**	**-0.4**
HVU	**Hansel Valley**	**5.76 251**			**Pn**	**21 02 48.6**	**-1.6**
MPU	**Maple Canyon**	**5.99 232**		Pn	**Pn**	**21 02 52.0**	**-1.4**
SRU	**San Rafael Swe**	**6.08 220**		Pn	**Pn**	**21 02 54.2**	**-0.3**
OVMT	**Ovando**	**6.19 304**		Pn	**Pn**	**21 02 54.4**	**-1.7**
BPMT	**Black Pine Rid**	**6.20 297**		Pn	**Pn**	**21 02 54.4**	**-2.0**
NLU	**North Lily Min**	**6.29 234**		Pn	**Pn**	**21 02 57.3**	**-0.2**
Q16A	**Castle Valley**	**6.54 223**		Pn	**Pn**	**21 03 00.4**	**-0.6**
T25A	**Trinidad**	**6.76 173**		Pn	**Pn**	**21 03 04.9**	**+0.9**
ELK	**Elko**	**7.88 250**		Pn	Pn	21 03 24.6	+5.1
	comp=N,0.2nm,0.3s,baz=63,slow=9.0,SNR=2.3						
	comp=N,0.5nm,0.4s						
I10CA	**LAC DU BONNET**	**9.04 42**		I	I	21 57 30.0	
	baz=218,slow=327,SNR=1.0						
ULM	**Lac du Bonnet**	**9.14 42**		Pn	**Pn**	**21 03 37.1**	**+0.7**
	comp=N,1.0nm,0.3s,baz=226,slow=9.6,SNR=7.3						
ULM				Lg	Lg	21 06 09.9	
	comp=N,0.2nm,0.3s,baz=192,slow=19,SNR=1.4						
	comp=N,1.6nm,0.3s						
FINES	**FINESS Array B**	**67.97 23**		P	**P**	**21 12 26.6**	**+3.0**
	comp=N,1.4nm,0.9s,baz=339,slow=7.4,SNR=1.3						
	comp=N,1.4nm,0.9s						
MKAR	**Makanchi Array**	**89.47 355**		P	**P**	**21 14 25.4**	**+3.3**
	comp=N,0.3nm,0.6s,baz=349,slow=4.4,SNR=2.3						
	comp=N,0.3nm,0.6s						

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*NEIC **18** 21:12:42.9±1.7, 3.°05N±0.°09×124.°44E±0.°09, h332km±9km, mb4.2/18, Error ellipse: s-maj=14.1km s-min=11.7km az=60.0*

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*IDC **18** 21:12:44.1±4.9, 2.°98N×124.°33E, h349km±55km, mb3.2/6, mbtmp4.1/8, Error ellipse: s-maj=39.2km s-min=16.4km az=70.0*
ISC 18 21:12:39.6±0.6, 3.°14N±0.°09×124.°64E±0.°10, h300km, n32, σ1§25/32, mb4.1/15, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.60 131**		Pn	Pn	21 13 47.6	+6.0
TOLI2	**Tolitoli**	**4.35 242**		Pn	**Pn**	**21 13 51.5**	**+1.7**
MYLDM	**Lahad Datu**	**6.45 289**		Pn	**Pn**	**21 14 17.6**	**+3.2**
KKM	**Kota Kinabalu**	**8.88 289**		Pn	**Pn**	**21 14 45.1**	**+0.9**
SBUM	**Sibu**	**12.43 267**			**P**	**21 15 27.8**	**-0.6**
BATI	**Baumata**	**13.29 184**		P	**P**	**21 15 39.8**	**+1.8**
	14nm,0.3s,baz=266,slow=3.1,SNR=3.6						
JAY	**Jayapura**	**17.01 109**		P	**Pn**	**21 16 22.8**	**+1.0**
	7.1nm,0.8s,baz=3.5,slow=19,SNR=1.7						
KNRA	**Kununurra**	**19.14 168**		P	**P**	**21 16 41.4**	**-0.1**
KNRA				IAmb	IAmb	21 17 06.4	
	comp=Z,12nm,1.2s						
FITZ	**Fitzroy Crossi**	**21.13 177**		P	**P**	**21 17 00.7**	**-1.1**
	comp=Z,6.8nm,0.3s,baz=15,slow=11,SNR=83						
	comp=Z,6.8nm,0.3s						
WB0	**Warramunga Arr**	**24.70 158**		P	**P**	**21 17 34.5**	**+0.2**
WB0				IAmb	IAmb	21 17 46.3	
	comp=Z,11nm,1.5s						
WRAB	**Tennant Creek**	**24.83 158**		P	**P**	**21 17 35.7**	**+0.2**
WRAB				IAmb	IAmb	21 17 36.3	
	comp=Z,7.0nm,0.3s						
WRA	**Warramunga Arr**	**24.84 158**		P	**P**	**21 17 34.8**	**-0.7**
WRA	**Warramunga Arr**	**24.84 158**		P	**P**	**21 17 35.7**	**+0.2**
	comp=Z,2.0nm,0.3s,baz=335,slow=10,SNR=73						
WRA				PcP	**PcP**	**21 21 02.3**	**-0.7**
	comp=Z,1.0nm,1.1s,baz=331,slow=2.0,SNR=3.0						
	comp=Z,2.0nm,0.3s						
WB2	**Warramunga Arr**	**24.84 158**		P	**P**	**21 17 35.8**	**+0.2**
WB2				IAmb	IAmb	21 17 48.5	
	comp=Z,7.9nm,1.4s						
WR0	**Warramunga Arr**	**24.93 157**		P	**P**	**21 17 36.7**	**+0.4**
PSA00	**Pilbara Seismi**	**25.00 191**		P	**P**	**21 17 35.8**	**-1.2**
PSA00				IAmb	IAmb	21 17 51.4	
	comp=Z,29nm,1.4s						
AS31	**Alice Springs**	**28.13 162**		P	**P**	**21 18 05.1**	**+0.3**
ASAR	**Alice Springs**	**28.13 162**		P	**P**	**21 18 05.1**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=342,slow=7.0,SNR=11						
	comp=Z,0.5nm,0.5s						
MORW	**Morawa**	**33.07 194**		P	**P**	**21 18 46.1**	**-1.7**
MORW				IAmb	IAmb	21 18 56.1	
	comp=Z,24nm,1.4s						
NWAO	**Narrogin (SRO)**	**36.55 190**		P	**P**	**21 19 15.6**	**-1.8**
BBOO	**Buckleboo**	**37.35 164**		P	**P**	**21 19 24.6**	**+0.4**
BBOO				IAmb	IAmb	21 19 30.5	
	comp=Z,26nm,1.4s						
STKA	**Stephens Creek**	**38.37 156**		P	**P**	**21 19 33.9**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=329,slow=12,SNR=3.0						
	comp=Z,1.1nm,0.7s						
ERM	**Erimo**	**42.11 21**		P	**P**	**21 20 03.0**	**+0.1**
ERM				IAmb	IAmb	21 20 33.2	
	comp=Z,40nm,1.1s						
JKA	**Kamikawa-asahi**	**43.79 19**		P	**P**	**21 20 16.6**	**+0.3**
MK31	**Makanchi Array**	**56.87 326**		P	**P**	**21 21 53.3**	**-0.4**
MKAR	**Makanchi Array**	**56.87 326**		P	**P**	**21 21 53.4**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=121,slow=7.5,SNR=11						
	comp=Z,0.3nm,0.3s						
KDJ	**Kajisay**	**57.42 319**		P	**P**	**21 21 56.1**	**-1.7**
KDJ				IAmb	IAmb	21 22 28.1	
	comp=Z,13nm,1.0s						
KURBB	**Kurchatov Arra**	**61.13 328**		P	**P**	**21 22 22.2**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=134,slow=7.1,SNR=4.7						
	comp=Z,0.3nm,0.5s						
KURK	**Kurchatov**	**61.13 329**		P	**P**	**21 22 23.1**	**+0.5**
KURK				IAmb	IAmb	21 22 25.4	
	comp=Z,4.2nm,1.3s						
AFI	**Afiamalu**	**65.27 107**		P	**P**	**21 22 51.4**	**+1.0**
NIUE	**Niue**	**67.98 112**		P	**P**	**21 23 06.2**	**-1.1**
TORD	**Torodi Ar. Bea**	**121.11 287**	PKP	**PKPdf**		**21 30 54.9**	**-3.0**
	comp=Z,0.6nm,0.9s,baz=51,slow=2.4,SNR=1.7						

IDC 18 21:18:42.8±8.7, 7.°23S×129.°78E, h103km±93km, mb3.0/1, mbtmp3.7/5, ML3.8/4, Error ellipse: s-maj=77.1km s-min=28.1km az=29.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.73 244**		P	Pn	21 20 19.0	-0.1
	1.2nm,0.3s,baz=109,slow=22,SNR=1.7						
BATI				S	Sn	21 21 35.2	+0.9
	8.6nm,0.4s,baz=203,slow=21,SNR=2.3						
	3.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.53 200**		P	Pn	21 21 24.5	+0.3
	0.9nm,0.3s,baz=22,slow=11,SNR=25						
FITZ				S	Sn	21 23 23.1	-8.0
	0.9nm,0.3s,baz=87,slow=19,SNR=1.8						
	1.9nm,0.3s						
WRA	**Warramunga Arr**	**13.39 161**		P	Pn	21 21 47.1	-1.6
	0.6nm,0.3s,baz=342,slow=13,SNR=23						
WRA				S	Sn	21 24 05.6	-11
	0.9nm,0.5s,baz=331,slow=24,SNR=5.7						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**16.82 167**		P	P

*CATAC **18** 21:47:15.2±0.5, 8.°67N×83.°23W, h18km±5km, ML3.1*
*UCR **18** 21:47:15.4±0.7, 8.°59N×83.°24W, h31km±2km, MW3.7*
*UPA **18** 21:47:17.1±2.4, 8.°60N×83.°17W, h16km±8km, ML3.3*
ISC 18 21:47:15.7±1.0, **8.°61N**±0.°04×**83.°25W**±0.°03, **h29**km±6km, **n26**, σ0°**59**/45, **4D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	**0.09**	**214**	*i* P	**Pb**	**21 47 20.3**	**-0.5**
PTJ1				*i* S	**Sb**	**21 47 24.9**	**+0.5**
PTJ1				IAML		21 47 25.8	
	comp=Z,11μm,1.0s						
PTJ1	**Puerto Jimnez**	**0.09**	**214**	*e*P	**Pb**	**21 47 20.6**	**-0.3**
PTJ1				*i* S	**Sb**	**21 47 25.1**	**+0.7**
PTJ1	**Puerto Jimnez**	**0.09**	**214**	*e*P	**Pb**	**21 47 20.4**	**-0.5**
PTJ1				*e*S	**Sb**	**21 47 24.9**	**+0.5**
JIME	**Puerto Jimenez**	**0.10**	**226**	*e*P	**Pb**	**21 47 20.5**	**-0.4**
JIME				*e*S	**Sb**	**21 47 25.1**	**+0.6**
NELY	**Ciudad Neily**	**0.30**	**82**	*e*P	**Pb**	**21 47 22.9**	**-0.3**
NELY				*e*S	**Sb**	**21 47 28.9**	**+0.7**
VITO	**San Vito**	**0.35**	**53**	*e*P	**Pb**	**21 47 23.9**	**0.0**
VITO				*e*S	**Sn**	**21 47 30.9**	**-0.1**
CDITO	**Canoas**	**0.38**	**96**	*i* P	**Pb**	**21 47 23.7**	**-0.5**
CDITO				*i* S	**Sb**	**21 47 30.5**	**+0.5**
CDITO				IAML		21 47 32.3	
	comp=Z,2μm,1.0s						
EDP2	**Potrero Grande**	**0.41**	**10**	*e*P	**Pb**	**21 47 24.6**	**-0.1**
LPPC	**Paso Canoas**	**0.41**	**101**	*e*P	**Pb**	**21 47 24.3**	**-0.5**
LPPC				*e*S	**Sb**	**21 47 30.8**	**-0.2**
MLIR3	**Monte Lirio, C**	**0.46**	**67**⇓	*e*P	**Pb**	**21 47 25.6**	**+0.1**
MLIR3				AMP		21 47 25.9	
	comp=Z,4μm,0.1s						
MLIR3				*e*S	**Sb**	**21 47 32.7**	**+0.5**
PTPM	**Petroterminale**	**0.55**	**138**	*e*P	**Pb**	**21 47 27.0**	**+0.1**
PTPM				*e*S	**Sn**	**21 47 36.9**	**+1.2**
BURE	**Buenos Aires**	**0.57**	**351**	*e*P	**Pb**	**21 47 27.1**	**-0.2**
BRU2	**Volcan**	**0.58**	**72**	*i* P	**Pb**	**21 47 27.1**	**-0.5**
BRU2				*i* S	**Sb**	**21 47 36.1**	**+0.4**
BRU2				IAML		21 47 39.0	
	comp=Z,1μm,1.0s						
BRU2	**Volcan**	**0.58**	**72**⇓	*i*P	**Pb**	**21 47 27.1**	**-0.5**
BRU2				AMP		21 47 27.3	
	comp=Z,2μm,0.1s						
BRU2				*e*S	**Sn**	**21 47 36.4**	**-0.5**
BRU2	**Volcan**	**0.58**	**72**⇓	*e*P	**Pb**	**21 47 27.0**	**-0.5**
OCHAL	**Ojochal**	**0.62**	**321**	*i* P	**Pb**	**21 47 27.3**	**-0.8**
OCHAL				IAML		21 47 27.4	
	comp=Z,560nm,1.0s						
OCHAL				*i* S	**Sb**	**21 47 36.8**	**+0.2**
BCO2	**Palmira**	**0.72**	**81**⇓	*e*P	**Pb**	**21 47 29.3**	**-0.6**
BCO2				*e*S	**Sn**	**21 47 40.0**	**-0.3**
PTAR3	**Potrerillos Ar**	**0.75**	**84**	*e*P	**Pb**	**21 47 29.7**	**-0.7**
LNBQ3	**Los Naranjos,**	**0.82**	**77**	*e*P	**Pn**	**21 47 30.3**	**-1.1**
LNBQ3				*e*S	**Sn**	**21 47 43.0**	**+0.3**
BUS1	**Rivas**	**1.06**	**332**	*e*P	**Pn**	**21 47 34.5**	**-0.5**
BRIBI	**Bribri**	**1.08**	**21**	*e*P	**Pb**	**21 47 36.1**	**+0.2**
CNI2	**El Empalme, Bo**	**1.12**	**44**	*e*P	**Pb**	**21 47 37.5**	**+1.1**
CNI2				*e*S	**Sb**	**21 47 51.2**	**+0.6**
CHGR2	**Aguacate**	**1.14**	**73**	*e*P	**Pn**	**21 47 34.5**	**-1.2**
CHGR2				*e*S	**Sn**	**21 47 50.4**	**0.0**
RGM0	**Gandoca**	**1.16**	**33**	*i* P	**Pn**	**21 47 35.7**	**-0.3**
RGM0				IAML		21 47 50.5	
	comp=Z,950nm,1.0s						
RGM0				*i* S	**Sn**	**21 47 50.6**	**-0.3**
HDC	**Heredia**	**1.62**	**328**	*i* P	**Pn**	**21 47 42.5**	**0.0**
HDC				*i* S	**Sn**	**21 48 03.2**	**+0.7**
HDC				IAML		21 48 17.5	
	comp=Z,150nm,1.0s						
CRIS3	**El Cristo, Coc**	**2.63**	**98**	*e*P	**Pn**	**21 47 57.2**	**+1.0**

*IDC **18** 21:51:23.6±2.1, 43.°63N×105.°42W, h0km, mbtmp3.1/2, ML2.0/1, Error ellipse: s-maj=48.5km s-min=10.3km az=151.0*
*NEIC **18** 21:51:23.5±1.4, 43.°58N±0.°05×105.°38W±0.°06, h0km±2km, ML3.2/56, Error ellipse: s-maj=10.2km s-min=4.8km az=137.0*
ISC 18 21:51:23.2±1.2, **43.°61N**±0.°06×**105.°37W**±0.°06, **h0**km, **n30**, σ1°**01**/29, **Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.09**	**61**		**Pg**	**21 51 44.9**	**+0.7**
K22A	**Casper**	**1.28**	**222**	Pn	**Pn**	**21 51 48.5**	**0.0**
N23A	**Red Feather La**	**2.74**	**189**	Pn	**Pn**	**21 52 08.8**	**0.0**
N23A				IAML		21 52 52.6	
	comp=N,85nm,0.5s						
BRIGG	**Briggsdale**	**3.12**	**165**		**Pn**	**21 52 13.8**	**-0.1**
BRIGG				IAML		21 53 11.8	
	comp=E,83nm,0.7s						
BRIGG				IAML		21 53 21.2	
	comp=N,63nm,3.6s						
LAO	**LASA Array**	**3.14**	**349**	Pn	**Pn**	**21 52 13.5**	**-0.6**
PD31	**Pinedale Array**	**3.18**	**256**	Pn	**Pn**	**21 52 16.4**	**+1.7**
PDAR	**Pinedale Array**	**3.18**	**256**	Pn	**Pn**	**21 52 14.7**	**0.0**
PDAR	**Pinedale Array**	**3.18**	**256**	Pn	**Pn**	**21 52 17.2**	**+2.5**
	comp=N,1.4nm,0.3s,baz=77,slow=16,SNR=36						
PDAR				Lg	Lg	21 53 02.6	
	comp=N,5.1nm,0.3s,baz=72,slow=35,SNR=11						
RLMT	**Red Lodge**	**3.18**	**300**	Pn	**Pn**	**21 52 15.0**	**+0.2**
RLMT				IAML		21 54 01.6	
	comp=N,48nm,4.5s						
RLMT				IAML		21 54 14.8	
	comp=N,49nm,4.3s						
ISCO	**Idaho Springs**	**3.81**	**183**	Pn	**Pn**	**21 52 22.8**	**-0.6**
H17A	**Grant Village**	**3.84**	**284**		**Pn**	**21 52 22.8**	**-1.0**
FLWY	**Flagg Ranch**	**3.89**	**279**		**Pn**	**21 52 24.3**	**-0.1**
FLWY				IAML		21 52 54.3	
	comp=N,39nm,4.0s						
FLWY				IAML		21 53 49.5	
	comp=N,42nm,2.8s						
SNOW	**Snow King Moun**	**3.92**	**270**	Pn	**Pn**	**21 52 25.2**	**+0.3**
SNOW				IAML		21 53 57.4	
	comp=N,44nm,4.3s						
SNOW				IAML		21 53 58.5	
	comp=N,34nm,2.5s						
YFT	**Old Faithful**	**4.03**	**284**		**Pn**	**21 52 25.9**	**-0.6**
TPAW	**Teton Pass**	**4.06**	**270**		**Pn**	**21 52 26.9**	**+0.1**
TPAW				IAML		21 53 34.7	
	comp=N,27nm,4.4s						
O20A	**White River Ci**	**4.08**	**213**	Pn	**Pn**	**21 52 27.6**	**+0.5**
YHH	**Holmes Hill**	**4.12**	**289**		**Pn**	**21 52 29.0**	**+1.4**
YMR	**Madison River**	**4.17**	**287**		**Pn**	**21 52 26.9**	**-1.4**
YMR				IAML		21 53 49.7	
	comp=N,29nm,3.5s						
YMR				IAML		21 54 05.4	
	comp=E,28nm,2.5s						
YHB	**Horse Butte**	**4.34**	**287**		**Pn**	**21 52 32.6**	**+1.9**
RDMU	**Red Mountain**	**4.36**	**227**	Pn	**Pn**	**21 52 30.0**	**-0.8**
RDMU				IAML		21 53 45.8	
	comp=E,24nm,0.9s						
RDMU				IAML		21 53 59.6	
	comp=N,23nm,2.5s						
YHL	**Hebgen Lake**	**4.36**	**289**	Pn	**Pn**	**21 52 29.8**	**-1.2**
YHL				IAML		21 54 00.7	
	comp=E,21nm,2.2s						
YHL				IAML		21 54 58.2	
	comp=N,22nm,4.1s						
E28A	**Huff**	**4.45**	**46**	Pn	**Pn**	**21 52 33.5**	**+1.6**
Q24A	**Divide**	**4.64**	**178**	Pn	**Pn**	**21 52 35.0**	**+0.1**
Q24A				IAML		21 53 53.6	
	comp=E,20nm,1.3s						
Q24A				IAML		21 54 28.7	
	comp=N,17nm,4.5s						
BOZ	**Bozeman (W)**	**4.89**	**296**	Pn	**Pn**	**21 52 37.6**	**-0.6**
BOZ				IAML		21 55 14.6	
	comp=N,17nm,4.7s						
HWUT	**Hardware Ranch**	**4.99**	**249**	Pn	**Pn**	**21 52 39.9**	**+0.3**
BSUT	**Blindstream Ca**	**5.05**	**234**	Pn	**Pn**	**21 52 40.2**	**-0.4**
BSUT				IAML		21 54 21.5	
	comp=N,17nm,4.2s						
BSUT				IAML		21 54 44.9	
	comp=E,18nm,4.6s						
P18A	**Preston Nutter**	**5.40**	**224**	Pn	**Pn**	**21 52 44.8**	**-0.5**
SPUT	**South Promonto**	**5.72**	**249**	Pn	**Pn**	**21 52 49.0**	**-0.6**
I10CA	**LAC DU BONNET**	**9.18**	**41**	I	I	22 44 50.0	
	comp=E,0.3nm,2.0s,baz=218,slow=325,SNR=2.3						
ULM	**Lac du Bonnet**	**9.29**	**41**	Pn	**Pn**	**21 53 37.3**	**-1.0**
	comp=E,0.3nm,0.3s,baz=234,slow=13,SNR=1.6						
ULM				Lg	Lg	21 56 09.9	
	comp=E,0.2nm,0.3s,baz=346,slow=10,SNR=1.6						
	comp=E,0.9nm,0.4s						

*IDC **18** 21:55:38.6±1.2, 9.°47S×123.°16E, h53km±11km, mb4.2/14, mbtmp4.5/16, Error ellipse: s-maj=25.3km s-min=12.3km az=70.0*
*NEIC **18** 21:55:38.9±2.1, 9.°82S±0.°06×123.°07E±0.°06, h66km±2km, mb4.6/29, Error ellipse: s-maj=10.1km s-min=7.1km az=211.0*
*DJA **18** 21:55:40.9±0.3, 10.°S±3.°×12.°3E±.°, h57km±8km, M4.7/18, mb5.1/14, mB5.2/11, MLv4.9/18, Mw(mB)4.5/11*
ISC 18 21:55:39.3±0.6, **9.°69S**±0.°05×**123.°15E**±0.°04, **h65**km±5km, **n131**, σ1°**84**/132, **mb4.7**/27, **Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.72**	**135**	P	**Pn**	**21 55 55.2**	**+1.0**
	10μm,0.3s,baz=339,slow=0.9,SNR=2644						
BATI				LR	LR	21 55 56.1	
	comp=Z,458nm,20.1s,baz=302,slow=20						
BATI				S	**Sn**	**21 56 07.7**	**+2.6**
	16μm,0.3s,baz=175,slow=18,SNR=14						
BATI	**Baumata**	**0.72**	**135**	P	**Pn**	**21 55 55.1**	**+0.9**
BATI				S	**Sn**	**21 56 07.5**	**+2.4**
SOEI	**Soe**	**1.10**	**94**		**Pn**	**21 55 59.9**	**+0.9**
SOEI				Sn	**Sn**	**21 56 15.7**	**+2.0**
SOEI	**Soe**	**1.10**	**94**	P	**Pn**	**21 55 59.3**	**+0.3**
SOEI	**Soe**	**1.10**	**94**	P	**Pn**	**21 56 00.0**	**+0.9**
SOEI				S	**Sn**	**21 56 15.3**	**+1.6**
MMRI	**Maumere**	**1.38**	**319**	Pn	**Pn**	**21 56 03.5**	**+0.9**
MMRI	**Maumere**	**1.38**	**319**	P	**Pn**	**21 56 03.9**	**+1.3**
MMRI	**Maumere**	**1.38**	**319**	P	**Pn**	**21 56 03.7**	**+1.1**
MMRI				S	**Sn**	**21 56 21.4**	**+1.4**
BASI	**Baing, Sumba**	**2.59**	**258**	P	**Pn**	**21 56 21.4**	**+2.5**
WSI	**Waingapu**	**2.81**	**270**	P	**Pn**	**21 56 24.8**	**+2.9**
WBSI	**Waikabubak, Su**	**3.71**	**270**	P	**Pn**	**21 56 36.5**	**+2.3**
WBSI				S	**Sn**	**21 57 17.5**	**+0.8**
BBSI	**Bau Bau**	**4.21**	**352**	P	**Pn**	**21 56 43.8**	**+2.7**
BSSI	**Bau Bau, Buton**	**4.40**	**323**	P	**Pn**	**21 56 46.4**	**+2.8**
BKSI	**Bulukumba**	**5.28**	**325**	P	**Pn**	**21 56 58.4**	**+2.8**
PLAI	**Plampang**	**5.37**	**279**	P	**Pn**	**21 56 59.8**	**+2.8**
PLAI	**Plampang**	**5.37**	**279**	P	**Pn**	**21 56 59.6**	**+2.6**
	209nm,0.7s,3μm						
KDI	**Kendari**	**5.72**	**355**	P	**Pn**	**21 57 03.9**	**+2.2**
	168nm,0.9s,1μm0.6nm						
KAPI	**Kappang**	**5.74**	**324**	Pn	**Pn**	**21 57 03.5**	**+1.6**
KAPI	**Kappang**	**5.74**	**324**	P	**Pn**	**21 57 05.4**	**+3.5**
	101nm,0.5s,baz=145,slow=4.3,SNR=53						
BNSI	**Bone**	**6.06**	**330**	P	**Pn**	**21 57 09.6**	**+3.2**
SPSI	**Sidrap Palu**	**6.60**	**329**	P	**Pn**	**21 57 16.9**	**+3.1**
	74nm,1.1s,0.3nm						
TTSI	**Tana Toraja**	**7.38**	**333**	P	**Pn**	**21 57 28.4**	**+3.9**
	181nm,0.8s						
NLAI	**Namlea**	**7.51**	**32**	P	**Pn**	**21 57 29.3**	**+3.0**
	74nm,0.9s,1μm0.2nm						
DRS	**Darwin Rock St**	**8.08**	**110**	P	**Pn**	**21 57 32.9**	**-1.1**
KNRA	**Kununurra**	**8.09**	**138**	Pn	**Pn**	**21 57 31.6**	**-2.6**
SANI	**Sanana**	**8.10**	**21**	P	**Pn**	**21 57 37.7**	**+3.4**
SANI	**Sanana**	**8.10**	**21**	P	**Pn**	**21 57 36.5**	**+2.2**
	98nm,0.7s,931nm						
SAUI	**Saumlaki**	**8.23**	**79**	Pn	**Pn**	**21 57 35.5**	**-0.6**
SAUI	**Saumlaki**	**8.23**	**79**	P	**Pn**	**21 57 35.9**	**-0.2**
	204nm,0.9s						
MTN	**Manton Dam**	**8.44**	**113**	Pn	**Pn**	**21 57 36.1**	**-2.8**
MTN	**Manton Dam**	**8.44**	**113**	P	**Pn**	**21 57 36.4**	**-2.5**
LUWI	**Luwuk**	**8.60**	**357**	Pn	**Pn**	**21 57 43.2**	**+2.1**
LUWI	**Luwuk**	**8.60**	**357**	P	**Pn**	**21 57 43.3**	**+2.1**
	92nm,0.8s						
FITZ	**Fitzroy Crossi**	**8.70**	**164**	Pn	**Pn**	**21 57 40.3**	**-2.2**
FITZ	**Fitzroy Crossi**	**8.70**	**164**	P	**Pn**	**21 57 40.6**	**-1.9**
	22nm,0.3s,baz=0.3,slow=9.6,SNR=157						
FITZ				S	Sn	21 59 09.3	-10
	257nm,0.4s,baz=252,slow=20,SNR=20						
APSI	**Ampana**	**8.85**	**350**	P	**Pn**	**21 57 47.9**	**+3.4**
	115nm,0.6s,1μm						
JAGI	**Jajag, Banyuwa**	**8.97**	**277**	Pn	**Pn**	**21 57 44.5**	**-1.7**
JAGI	**Jajag, Banyuwa**	**8.97**	**277**	P	**Pn**	**21 57 46.0**	**-0.2**
PCI	**Palu**	**9.33**	**339**	P	**Pn**	**21 57 55.7**	**+4.6**
KDU	**Kakadu**	**9.62**	**109**	P	**Pn**	**21 57 52.5**	**-2.6**
MRSI	**Marisa**	**10.17**	**353**	P	**Pn**	**21 58 03.4**	**+0.8**
TOLI2	**Tolitoli**	**10.98**	**347**	Pn	**Pn**	**21 58 17.6**	**+3.9**
TOLI2	**Tolitoli**	**10.98**	**347**	P	**Pn**	**21 58 18.0**	**+4.2**
FAKI	**Fak Fak**	**11.27**	**54**	Pn	**Pn**	**21 58 16.4**	**-1.3**
FAKI	**Fak Fak**	**11.27**	**54**	P	**Pn**	**21 58 18.6**	**+1.0**
MBWA	**Marble Bar**	**11.87**	**196**	Pn	**Pn**	**21 58 22.3**	**-3.5**
PSA00	**Pilbara Seismi**	**12.23**	**195**	Pn	**Pn**	**21 58 27.0**	**-3.8**
PSA00	**Pilbara Seismi**	**12.23**	**195**	Pn	Pn	21 58 26.2	-4.6
PSA00	**Pilbara Seismi**	**12.23**	**195**	P	**Pn**	**21 58 29.9**	**-0.9**
UGM	**Wanagama**	**12.60**	**277**	P	**Pn**	**21 58 37.7**	**+1.8**
WB0	**Warramunga Arr**	**14.78**	**134**	Pn	Pn	21 58 59.1	-5.7
WRA	**Warramunga Arr**	**14.85**	**135**	Pn	Pn	21 59 00.1	-5.7
WRA	**Warramunga Arr**	**14.85**	**135**	P	Pn	21 58 59.6	-6.2
	3.3nm,0.6s,baz=302,slow=14,SNR=69						
WB2	**Warramunga Arr**	**14.86**	**135**	Pn	Pn	21 59 00.2	-5.7
GIRL	**Giralia**	**15.46**	**212**	P	**Pn**	**21 59 13.2**	**-0.3**
BBJI	**Bungbulang**	**15.48**	**277**	P	**P**	**21 59 16.5**	**-0.7**
LEM	**Lembang**	**15.63**	**279**	P	**Pn**	**21 59 15.8**	**-0.2**
	8.2nm,0.4s,baz=111,slow=16,SNR=1.2						
WRKA	**Warakurna**	**16.03**	**163**	P	**Pn**	**21 59 18.4**	**-2.4**
KKM	**Kota Kinabalu**	**17.09**	**336**		**P**	**21 59 35.1**	**+0.2**
KKM				IAmb	IAmb	21 59 48.6	
	comp=Z,31nm,1.0s						
AS31	**Alice Springs**	**17.29**	**145**	Pn	**Pn**	**21 59 33.3**	**-3.1**
ASAR	**Alice Springs**	**17.29**	**145**	P	**Pn**	**21 59 33.6**	**-2.9**
ASAR	**Alice Springs**	**17.29**	**145**	P	**Pn**	**21 59 34.2**	**-2.2**
	comp=Z,8.4nm,0.5s,baz=317,slow=12,SNR=126						
ASAR				S	Sn	22 02 32.4	-16
	comp=Z,5.3nm,0.6s,baz=317,slow=22,SNR=6.3						
ASAR				ScP	**ScP**	**22 07 46.0**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=333,slow=1.0,SNR=3.2						
MEEK	**Meekatharra**	**17.40**	**194**	P	**P**	**21 59 38.7**	**+0.5**
JAY	**Jayapura**	**18.84**	**69**	P	**Pn**	**21 59 55.2**	**-0.2**
	comp=Z,11nm,0.6s,baz=199,slow=6.7,SNR=8.5						
QIS	**Mount Isa**	**19.19**	**126**	P	**P**	**21 59 58.6**	**+0.6**
COEN	**Coen**	**20.05**	**104**		**P**	**22 00 08.1**	**+0.6**
COEN				IAmb	IAmb	22 00 08.9	
	comp=Z,20nm,0.6s						
COEN	**Coen**	**20.05**	**104**	P	**P**	**22 00 08.0**	**+0.6**
MORW	**Morawa**	**20.40**	**198**	Pn	**P**	**22 00 11.8**	**+0.8**
MORW				IAmb	IAmb	22 00 13.5	
	comp=Z,16nm,0.8s						
MORW	**Morawa**	**20.40**	**198**	P	Pn	22 00 12.8	-0.8
FORT	**Forrest**	**21.48**	**168**	P	**P**	**22 00 23.4**	**+0.8**
OOD	**Oodnadatta**	**21.54**	**148**	P	**P**	**22 00 24.0**	**+0.8**
KMBL	**Kambalda**	**21.60**	**183**	P	**P**	**22 00 24.9**	**+1.0**
MTSU	**Mount Surprise**	**22.18**	**115**	P	**P**	**22 00 31.4**	**+1.1**
KLBR	**Kellerberrin**	**22.36**	**192**	P	**P**	**22 00 33.0**	**+0.9**
MULG	**Mulgathing**	**22.88**	**155**	P	**P**	**22 00 37.6**	**0.0**
MUN	**Mundaring**	**23.09**	**195**	P	**P**	**22 00 40.2**	**+0.5**
INKA	**Innaminka**	**24.44**	**140**	P	**P**	**22 00 54.3**	**+2.2**
LCRK	**Leigh Creek**	**24.98**	**148**	P	**P**	**22 00 58.3**	**+1.3**
BBOO	**Buckleboo**	**25.91**	**154**	P	**P**	**22 01 06.1**	**+0.7**
HTT	**Hallett**	**27.73**	**151**	P	**P**	**22 01 23.4**	**+1.6**
STKA	**Stephens Creek**	**27.92**	**145**	P	**P**	**22 01 24.0**	**+0.5**
STKA	**Stephens Creek**	**27.92**	**145**	P	**P**	**22 01 24.7**	**+1.2**
	comp=Z,6.4nm,0.8s,baz=310,slow=9.5,SNR=11						
	comp=Z,6.4nm,0.8s						
CMSA	**Cobar Meteorol**	**30.17**	**139**	P	**P**	**22 01 45.5**	**+2.1**
ARPS	**Mount Arapiles**	**31.83**	**151**	P	**P**	**22 02 00.1**	**+2.1**
BRAT	**Ballarat**	**33.48**	**149**	P	**P**	**22 02 12.3**	**-0.1**
ARMA	**Armidale**	**33.61**	**132**	P	**P**	**22 02 12.7**	**-1.1**
TOO	**Toolangi**	**34.30**	**148**	P	**P**	**22 02 20.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**36.78**	**319**	P	**P**	**22 02 40.5**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=146,slow=7.0,SNR=9.8						
CMAR				ScP	**ScP**	**22 08 45.0**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=191,slow=2.8,SNR=1.3						
	comp=Z,1.4nm,0.7s						
XAN	**Xi'an**	**45.54**	**343**	P	**P**	**22 03 51.6**	**-1.1**
XAN				pP	pP	22 03 56.8	-11
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MJAR	**Matsushiro Arr**	**48.12**	**16**	P	**P**	**22 04 11.2**	**-1.6**
	comp=Z,1.6nm,0.5s,baz=184,slow=8.4,SNR=4.6						
	comp=Z,1.6nm,0.5s						
LSA	**Lhasa**	**49.83**	**323**	P	**P**	**22 04 25.0**	**-1.6**
GTA	**Gaotai**	**53.45**	**338**	*e*P	**P**	**22 04 53.3**	**+0.4**
GTA				pP	pP	22 05 00.9	-7.9
GTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
USRK	**Ussuriysk Ar.**	**54.23**	**8**	P	**P**	**22 04 57.6**	**-0.8**
	comp=Z,2.6nm,0.5s,baz=194,slow=7.1,SNR=11						
	comp=Z,2.6nm,0.5s						
MDJ	**Mudanjiang**	**54.36**	**6**	P	**P**	**22 04 59.2**	**-0.1**
MDJ				IAmb	IAmb	22 04 59.8	
	comp=Z,6.4nm,0.7s						
SONM	**Songino Array**	**59.17**	**347**	P	**P**	**22 05 33.0**	**-0.5**
	comp=Z,2.7nm,0.6s,baz=160,slow=8.1,SNR=20						
	comp=Z,2.7nm,0.6s						
HEH	**HeiHe**	**59.81**	**3**	*e*P	**P**	**22 05 36.8**	**-0.9**
HEH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NIL	**Nilore**	**64.05**	**315**	P	**P**	**22 06 04.4**	**-2.2**
KSH	**Kashi**	**65.64**	**321**	P	**P**	**22 06 16.4**	**-0.5**
KSH				pmax	pmax		
	comp=Z,15nm,0.7s						
MK31	**Makanchi Array**	**66.99**	**331**	P	**P**	**22 06 24.5**	**-0.8**
MK31				IAmb	IAmb	22 06 26.9	
	comp=Z,6.5nm,0.7s						
MKAR	**Makanchi Array**	**66.99**	**331**	P	**P**	**22 06 25.0**	**-0.3**
MKAR	**Makanchi Array**	**66.99**	**331**	P	**P**	**22 06 24.9**	**-0.4**
	comp=Z,9.6nm,0.6s,baz=139,slow=6.7,SNR=80						
	comp=Z,9.6nm,0.6s						
MAKZ	**Makanchi**	**67.16**	**331**	P	**P**	**22 06 25.5**	**-0.8**
MAKZ				IAmb	IAmb	22 06 27.3	
	comp=Z,3.3nm,0.8s						
KBL	**Kabul**	**67.49**	**314**	P	**P**	**22 06 27.5**	**-1.5**
KBL				IAmb	IAmb	22 06 29.5	
	comp=Z,5.4nm,0.7s						
DRK	**Karamyk**	**68.24**	**319**	P	**P**	**22 06 33.0**	**-0.7**
AAK	**Ala-Archa**	**68.42**	**323**	P	**P**	**22 06 34.4**	**-0.2**
ARSB	**Arslanbob**	**68.55**	**322**	P	**P**	**22 06 35.0**	**-0.4**
GAR	**Garm**	**68.94**	**318**	P	**P**	**22 06 36.8**	**-1.0**
GAR				IAmb	IAmb	22 06 51.6	
	comp=Z,18nm,1.2s						
PETK	**Petropavlovsk-**	**69.14**	**21**	P	**P**	**22 06 37.1**	**-1.4**
	comp=Z,5.0nm,0.9s,baz=208,slow=2.8,SNR=2.5						
	comp=Z,5.0nm,0.9s						
BTK	**Batken**	**69.19**	**319**	P	**P**	**22 06 38.9**	**-0.4**
ZAA0	**Zalesovo Array**	**71.20**	**337**	P	**P**	**22 06 50.2**	**-0.9**
ZAA0				IAmb	IAmb	22 06 51.0	
	comp=Z,6.6nm,0.7s						
ZALV	**Zalesovo Beam**	**71.20**	**337**	P	**P**	**22 06 49.8**	**-1.4**
	comp=Z,8.0nm,0.6s,baz=133,slow=4.9,SNR=30						
	comp=Z,8.0nm,0.6s						
KURBB	**Kurchatov Arra**	**71.45**	**332**	P	**P**	**22 06 51.9**	**-0.9**
	comp=Z,2.5nm,0.6s,baz=147,slow=5.4,SNR=16						
	comp=Z,2.5nm,0.6s						
KURK	**Kurchatov**	**71.47**	**332**	P	**P**	**22 06 52.2**	**-0.7**
KURK				IAmb	IAmb	22 06 54.7	
	comp=Z,7.1nm,0.8s						
BVAR	**Borovoye Array**	**76.87**	**330**	P	**P**	**22 07 23.7**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=117,slow=8.3,SNR=3.8						
	comp=Z,0.8nm,0.6s						
QSPA	**South Pole Qui**	**80.31**	**180**	P	**P**	**22 07 45.0**	**+1.8**
	comp=Z,5.9nm,0.6s,baz=297,slow=1.5,SNR=24						
	comp=Z,5.9nm,0.6s						
TIXI	**Tiksi**	**81.25**	**2**	P	**P**	**22 07 48.0**	**+0.2**
TIXI				IAmb	IAmb	22 07 54.0	
	comp=Z,14nm,1.4s						
NRIK	**Noril'sk**	**82.63**	**348**	P	**P**	**22 07 54.6**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=81,slow=4.5,SNR=3.8						
	comp=Z,1.1nm,0.3s						
RAYN	**Ar Rayn**	**82.69**	**295**	P	**P**	**22 07 56.6**	**+0.1**
KMBO	**Kilima Mbogo**	**85.77**	**270**	P	**P**	**22 08 16.0**	**+3.4**
	comp=Z,0.8nm,0.6s,baz=38,slow=7.7,SNR=4.0						
SNAA	**Sanae**	**91.41**	**195**	P	**P**	**22 08 39.9**	**+1.9**
	comp=Z,2.9nm,0.8s,baz=295,slow=1.4,SNR=6.0						
	comp=Z,2.9nm,0.8s						
K17K	**Iditarod**	**93.34**	**27**	P	**P**	**22 08 47.3**	**+0.5**
ILAR	**Eielson Array**	**98.67**	**26**	P	**P**	**22 09 08.7**	**-2.4**
	comp=Z,1.1nm,0.7s,baz=244,slow=5.0,SNR=10						
	comp=Z,1.1nm,0.7s						
YKA	**Yellowknife Ar**	**113.10**	**25**	Pdiff	**Pdif**	**22 10 15.

comp=Z,0.8nm,0.6s
F20K Avaraart Lake 80.93 19 P P 22 08 59.9 +0.8
F20K IAmb IAmb 22 09 06.9
comp=Z,5.5nm,1.2s
J25K Salcha River, 83.45 23 P P 22 09 11.9 -0.7
J25K IAmb IAmb 22 09 19.0
comp=Z,15nm,1.5s
KKAR Karatay Array 84.78 314 P P 22 09 18.4 -1.4
K29M Barlow Dome 86.39 25 P P 22 09 26.1 -1.3
K29M IAmb IAmb 22 09 35.1
comp=Z,10.0nm,1.1s
N31M Braeburn, Yuko 86.50 28 P P 22 09 26.4 -1.5
N31M IAmb IAmb 22 09 26.7
comp=Z,16nm,1.4s
BVAR Borovoye Array 86.76 324 P P 22 09 31.9 +2.6
comp=Z,1.2nm,0.7s,baz=127,slow=3.8,SNR=2.0
comp=Z,1.2nm,0.7s
J30M Hart River 87.09 25 P P 22 09 31.9 +1.0
J30M IAmb IAmb 22 09 39.1
comp=Z,4.5nm,1.0s
H31M Peel River 88.23 24 P P 22 09 36.5 +0.3
H31M IAmb IAmb 22 09 42.8
comp=Z,3.1nm,0.9s
G31M Satah River 88.53 23 P P 22 09 37.1 -0.4
ABKAR Akbulak array 92.81 319 P P 22 09 57.1 -0.7
TORD Torodi Ar. Bea 146.90 288 PKPbc **PKiKP 22 16 32.4 +1.0**
comp=Z,4.4nm,1.1s,baz=62,slow=3.4,SNR=8.3

*IDC **18** 22:26:40.3±15.0, 14°.98S×178°.21W, h250km±142km, mb3.6/5, mbtmp4.1/5, Error ellipse: s-maj=43.7km s-min=26.3km az=58.0*
*NEIC **18** 22:26:55.4±1.6, 15°.1S±0°.1×178°.3W±0°.1, h392km±6km, mb4.4/14, Error ellipse: s-maj=19.6km s-min=13.8km az=150.0*
ISC 18 22:26:54.7±0.9, 15°.1S±0°.1×178°.3W±0°.2, h390km, n22, σ1§20/22, mb4.2/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**0.84**	**12**		**Pn**	**22 27 45.5**	**+1.2**
MSVF	**Nonsavu**	**4.35**	**233**		**Pn**	**22 28 12.0**	**+2.4**
URZ	**Urewera**	**23.39**	**189**	P	**P**	**22 31 28.3**	**-2.2**
	1.9nm,0.3s,baz=5.8,slow=1.9,SNR=1.9						
	1.9nm,0.3s						
THZ	**Tophouse**	**27.61**	**194**	P	**P**	**22 32 08.0**	**-0.1**
THZ				IAmb	IAmb	22 32 16.4	
	comp=Z,36nm,1.4s						
MLZ	**Mavora Lakes**	**32.25**	**198**	P	**P**	**22 32 48.2**	**-0.3**
MLZ				IAmb	IAmb	22 32 56.0	
	comp=Z,38nm,1.4s						
WR0	**Warramunga Arr**	**45.10**	**257**	P	**P**	**22 34 33.7**	**-0.7**
WB0	**Warramunga Arr**	**45.25**	**257**	P	**P**	**22 34 33.0**	**-2.4**
WB2	**Warramunga Arr**	**45.28**	**257**	P	**P**	**22 34 34.5**	**-1.2**
WRA	**Warramunga Arr**	**45.29**	**257**	P	**P**	**22 34 34.3**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=93,slow=7.6,SNR=16						
	comp=Z,0.3nm,0.4s						
AS31	**Alice Springs**	**45.69**	**252**	P	**P**	**22 34 38.5**	**-0.4**
AS31				IAmb	IAmb	22 34 38.8	
	comp=Z,2.4nm,0.4s						
ASAR	**Alice Springs**	**45.70**	**252**	P	**P**	**22 34 37.8**	**-1.1**
ASAR	**Alice Springs**	**45.70**	**252**	P	**P**	**22 34 38.2**	**-0.7**
	comp=Z,4.5nm,0.4s,baz=84,slow=8.4,SNR=57						
	comp=Z,4.5nm,0.4s						
MBWA	**Marble Bar**	**58.88**	**254**	P	**P**	**22 36 14.5**	**-0.2**
MBWA				IAmb	IAmb	22 36 34.0	
	comp=Z,33nm,1.5s						
GIRL	**Giralia**	**63.81**	**252**	P	**P**	**22 36 46.9**	**-0.4**
ERM	**Erimo**	**67.05**	**330**	P	**P**	**22 37 07.3**	**+0.1**
QSPA	**South Pole Qui**	**74.91**	**180**	P	**P**	**22 37 54.8**	**+1.0**
QSPA				IAmb	IAmb	22 37 55.1	
	comp=Z,4.2nm,0.7s						
QSPA	**South Pole Qui**	**74.91**	**180**	P	**P**	**22 37 54.6**	**+0.8**
	comp=Z,4.9nm,0.7s,baz=296,slow=0.5,SNR=18						
	comp=Z,4.9nm,0.7s						
KDAK	**Kodiak Island**	**75.69**	**14**	P	**P**	**22 37 58.5**	**+0.5**
O18K	**Koktuh Hills**	**77.03**	**12**	P	**P**	**22 38 05.2**	**-0.2**
ILSW	**Iliamna Southw**	**77.57**	**13**	P	**P**	**22 38 08.5**	**0.0**
ILSW				IAmb	IAmb	22 38 09.9	
	comp=Z,10nm,1.1s						
L18K	**Granite Mounta**	**78.96**	**10**	P	**P**	**22 38 16.9**	**+1.1**
L18K				IAmb	IAmb	22 38 20.9	
	comp=Z,6.3nm,1.2s						
ILAR	**Eielson Array**	**83.17**	**13**	P	**P**	**22 38 37.1**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=224,slow=5.1,SNR=7.8						
	comp=Z,0.4nm,0.5s						

RSNC 18 22:27:28.0±0.7, 11°N±3°×7°1W±°, h0km, M2.8, mb3.5, ML2.6, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**1.29**	**288**	P	Pg	22 27 49.6	-3.2
URIC				S	Sg	22 28 07.4	-2.1
CRJC	**Cerrejon, Guaj**	**2.12**	**263**	P	Pn	22 28 04.4	-0.4
CRJC				S	Sn	22 28 32.1	+0.2
SDV	**Santo Domingo**	**2.40**	**177**	P	Pn	22 28 09.5	+0.7
SDV				S	Sb	22 28 41.8	-0.7
OCAC	**Ocana**	**3.96**	**220**	P	Pn	22 28 28.3	-2.0
OCAC				S	Sn	22 29 16.5	-1.1
PAMC	**Pamplona, Colo**	**4.38**	**206**	P	Pn	22 28 35.1	-1.2
PAMC				S	Sn	22 29 23.5	-4.9
SJCC	**San Jacinto, C**	**4.58**	**253**	P	Pn	22 28 37.0	-1.7
SJCC				S	Sn	22 29 31.7	-1.0
ZARC	**Zaragoza, Cauc**	**5.55**	**227**	P	Pn	22 28 52.7	+0.7
	5.1nm,0.5s						
ZARC				S	Sn	22 29 54.8	-1.8
	5.1nm,0.5s						
RUSC	**La Rusia**	**5.85**	**204**	P	Pn	22 28 55.2	-1.3
	4.8nm,1.5s						
RUSC				S	Sn	22 30 01.1	-3.5
	4.8nm,1.5s						
PTBC	**PUERTO BERRIO,**	**5.99**	**218**	P	Pn	22 28 57.5	-0.5
	3.8nm,1.3s						
GUY2C	**Guyana, Caldas**	**7.58**	**218**	P	Pn	22 29 19.6	-0.6
GUY2C				S	Sn	22 30 46.5	-0.6

IDC 18 22:51:36.4±35.0, 27°.52N×140°.18E, h504km±386km, mb2.7/4, mbtmp3.6/4, Error ellipse: s-maj=264.8km s-min=27.0km az=70.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.52**	**187**	P	P	22 59 25.4	-0.2
	0.1nm,0.3s,baz=4.1,slow=7.6,SNR=1.6						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**48.00**	**319**	P	P	22 59 27.9	-0.8
	0.4nm,0.4s,baz=108,slow=7.0,SNR=2.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**48.83**	**309**	P	P	22 59 35.4	+0.3
	0.4nm,0.5s,baz=88,slow=9.4,SNR=9.2						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**76.77**	**333**	P	P	23 02 35.3	+0.1
	1.2nm,0.6s,baz=65,slow=3.7,SNR=13						
	1.2nm,0.6s						

*TAP **18** 22:57:42.5, 23°.30N×121°.53E, h44km, ML3.6, C*
*JMA **18** 22:57:42.4±0.2, 23°N±1°×12°1E±°, h45km±3km, MV3.3/8, TAIWAN REGION*
ISC 18 22:57:42.8±0.9, 23°.28N±0°.02×121°.58E±0°.02, h34km±1km, n139, σ0§95/243, 1C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBN	**Changbin**	**0.12**	**289**	*i* P	**Pb**	**22 57 50.0**	**+1.2**
ECBN				S	**Sb**	**22 57 55.7**	**+2.8**
CHKH	**Chenggong**	**0.19**	**244**	P	**Pb**	**22 57 50.0**	**+0.7**
CHKH				S	**Sb**	**22 57 55.7**	**+1.9**
EYUL	**Yuli**	**0.25**	**287**	*e*P	**Pb**	**22 57 50.1**	**+0.4**
EYUL				*e*S	**Sb**	**22 57 57.3**	**+2.3**
HGSD	**Ruisui**	**0.26**	**326**	*i* P	**Pn**	**22 57 50.4**	**+0.6**
HGSD				S	**Sb**	**22 57 56.1**	**+1.0**
CHKT	**Chengkung**	**0.27**	**228**	⇑*i*P	**Pb**	**22 57 50.6**	**+0.5**
CHKT				*i* S	**Sb**	**22 57 56.9**	**+1.7**
TWF1	**Yuli**	**0.27**	**286**	*i* P	**Pn**	**22 57 50.2**	**0.0**
TWF1				*e*S	**Sn**	**22 57 55.4**	**+1.2**
FULB	**Fuli**	**0.27**	**254**	*e*P	**Pb**	**22 57 50.9**	**+0.6**
FULB				S	**Sb**	**22 57 57.7**	**+2.2**
YULB	**Yu-li**	**0.28**	**294**	P	**Pn**	**22 57 50.0**	**-0.4**
YULB	**Yu-li**	**0.28**	**294**	⇓*i*P	**Pn**	**22 57 50.2**	**-0.2**
YULB				S	**Sn**	**22 57 55.6**	**+0.9**
EHYH	**Wanrong**	**0.31**	**315**	*i* P	**Pb**	**22 57 50.6**	**-0.1**
EHYH					**Sn**	**22 57 56.0**	**+0.5**
EHY	**Hungye**	**0.33**	**314**	*i* P	**Pb**	**22 57 50.6**	**-0.5**
EHY				*e*S	**Sn**	**22 57 56.0**	**-0.4**
EHD	**Haiduan**	**0.37**	**250**	*i* P	**Pb**	**22 57 51.0**	**-0.5**
EHD				*e*S	**Sn**	**22 57 56.8**	**-0.7**
ECS	**Chishang**	**0.38**	**242**	*e*P	**Pb**	**22 57 51.9**	**+0.2**
ECS				S	**Sb**	**22 57 59.1**	**+1.4**
EDH	**Donghe**	**0.40**	**220**	*e*P	**Pb**	**22 57 52.2**	**+0.3**
EDH				*e*S	**Sn**	**22 57 59.6**	**+1.3**
EGFH	**Guangfu**	**0.42**	**340**	*e*P	**Pb**	**22 57 51.8**	**-0.4**
EGFH				*e*S	**Sb**	**22 57 58.7**	**+0.1**
TEGC	**Jichi Village**	**0.43**	**355**	*e*P	**Pb**	**22 57 52.6**	**+0.2**
TEGC				*e*S	**Sn**	**22 58 00.3**	**+1.0**
WARBT	**Fenglin Townsh**	**0.47**	**338**	*i* P	**Pb**	**22 57 52.0**	**-1.1**
WARBT				*e*S	**Sb**	**22 57 59.2**	**-0.9**
SHUL	**Shoufeng**	**0.51**	**358**	P	**Pn**	**22 57 53.4**	**-0.3**
SHUL				*e*S	**Sn**	**22 58 02.1**	**+0.8**
ELDTW	**Lidau**	**0.53**	**261**	*i* P	**Pn**	**22 57 53.0**	**-1.0**
ELDTW				S	**Sb**	**22 58 00.1**	**-1.5**
ESL	**Shilin**	**0.55**	**346**	*e*P	**Pn**	**22 57 53.0**	**-1.2**
ESL				S	**Sn**	**22 58 00.6**	**-1.7**
LONT	**Longtian**	**0.55**	**229**	*i* P	**Pn**	**22 57 53.5**	**-0.8**
LONT				*e*S	**Sn**	**22 58 01.7**	**-0.6**
TEYL	**Yanliau Villag**	**0.59**	**2**	*e*P	**Pb**	**22 57 55.9**	**+1.0**
LDUT	**Ludao**	**0.61**	**190**	P	**Pn**	**22 57 54.6**	**-0.4**
LDUT				*e*S	**Sn**	**22 58 03.6**	**0.0**
VWDT	**VWDT**	**0.62**	**320**	*e*P	**Pn**	**22 57 54.7**	**-0.5**
VWDT				*e*S	**Sn**	**22 58 02.9**	**-1.1**
TWGBT	**Beinan**	**0.65**	**225**	P	**Pn**	**22 57 54.4**	**-1.1**
TWGBT	**Beinan**	**0.65**	**225**	*e*P	**Pn**	**22 57 54.4**	**-1.1**
TWGBT				*e*S	**Sn**	**22 58 03.4**	**-1.3**
TWG	**Pinlang**	**0.65**	**226**	*i* P	**Pn**	**22 57 54.4**	**-1.2**
TWG				*e*S	**Sn**	**22 58 03.1**	**-1.7**
TTN	**Taitung**	**0.66**	**218**	*e*P	**Pn**	**22 57 55.8**	**+0.2**
TTN				*e*S	**Sb**	**22 58 05.7**	**+0.8**
ETM	**Tongmen**	**0.69**	**353**	*e*P	**Pn**	**22 57 54.8**	**-1.4**
HWA	**Hwalien**	**0.70**	**2**	*e*P	**Pn**	**22 57 56.2**	**-0.1**
HWA				*e*S	**Sn**	**22 58 06.0**	**+0.1**
STYH	**Taoyuan**	**0.75**	**262**	*i* P	**Pn**	**22 57 56.6**	**-0.4**
STYH				S	**Sn**	**22 58 06.7**	**-0.4**
ALS	**Alishan**	**0.75**	**288**	*i* P	**Pn**	**22 57 57.1**	**-0.2**
ALS				S	**Sn**	**22 58 07.6**	**0.0**
LXIB	**Xiulin Townshi**	**0.76**	**348**	*e*P	**Pn**	**22 57 55.8**	**-1.5**
LXIB				*i* S	**Sn**	**22 58 05.7**	**-1.9**
SSLB	**Suanglung**	**0.77**	**312**	P	**Pn**	**22 57 56.6**	**-0.7**
SSLB	**Suanglung**	**0.77**	**312**	*e*P	**Pn**	**22 57 56.7**	**-0.7**
SSLB				*e*S	**Sn**	**22 58 06.2**	**-1.5**
OWD	**Renai**	**0.77**	**331**	*i* P	**Pn**	**22 57 56.5**	**-0.9**
OWD				*e*S	**Sn**	**22 58 07.0**	**-1.0**
WHYT	**Xinyi Township**	**0.79**	**302**	*i* P	**Pn**	**22 57 57.5**	**-0.1**
WHYT				S	**Sn**	**22 58 07.9**	**-0.3**
TWD	**Chiawan**	**0.80**	**1**	*e*P	**Pn**	**22 57 57.0**	**-0.7**
TWD				S	**Sn**	**22 58 07.1**	**-1.3**
WUSB	**Renai**	**0.83**	**329**	*i* P	**Pn**	**22 57 57.7**	**-0.6**
WUSB				*e*S	**Sn**	**22 58 07.4**	**-1.9**
SMLT	**Sun Moon Lake**	**0.87**	**314**	⇓*i*P	**Pn**	**22 57 57.5**	**-1.2**
SMLT				*e*S	**Sn**	**22 58 08.6**	**-1.6**
TPUB	**Ta-pu**	**0.87**	**272**	P	**Pn**	**22 57 59.1**	**+0.3**
TPUB	**Ta-pu**	**0.87**	**272**	*i* P	**Pn**	**22 57 59.0**	**+0.3**
TPUB				*e*S	**Sn**	**22 58 11.0**	**+0.7**
ETL	**Fush Village**	**0.88**	**3**	*e*P	**Pn**	**22 57 58.1**	**-0.8**
CHN5	**Tsauling**	**0.89**	**291**	*i* P	**Pn**	**22 57 59.3**	**+0.4**
CHN5				*i* S	**Sb**	**22 58 11.9**	**+0.4**
ECL	**Taimali**	**0.89**	**221**	*i* P	**Pn**	**22 57 57.4**	**-1.5**
ECL				S	**Sn**	**22 58 08.5**	**-2.0**
NACB	**Ninganchiao**	**0.89**	**1**	P	**Pn**	**22 57 58.2**	**-0.8**
NACB	**Ninganchiao**	**0.89**	**1**	*i* P	**Pn**	**22 57 57.9**	**-1.1**
NACB				*i* S	**Sn**	**22 58 09.1**	**-1.6**
CHN4	**Tsaushan**	**0.91**	**275**	*e*P	**Pn**	**22 57 59.8**	**+0.6**
CHN4				S	**Sn**	**22 58 12.0**	**+0.8**
WCKO	**Fanlu**	**0.91**	**280**	*e*P	**Pn**	**22 57 59.4**	**+0.1**
WCKO				*e*S	**Sn**	**22 58 12.1**	**+0.9**
WHF	**Hehuan Shan**	**0.91**	**342**	*e*P	**Pn**	**22 57 58.7**	**-0.9**
WHF				*e*S	**Sn**	**22 58 10.5**	**-1.3**
ETLH	**Xiulin Townshi**	**0.93**	**354**	*e*P	**Pn**	**22 57 58.3**	**-1.3**
ETLH				*e*S	**Sn**	**22 58 10.0**	**-1.8**
SGST	**Jiashian**	**0.94**	**258**	*e*P	**Pn**	**22 57 59.1**	**-0.5**
SGST				*i* S	**Sn**	**22 58 11.9**	**+0.1**
WJS	**Zhushan**	**0.95**	**305**	*e*P	**Pn**	**22 58 00.6**	**+0.7**
WJS				*e*S	**Sb**	**22 58 13.9**	**+0.7**
CHN1	**Nanshi**	**0.97**	**265**	*e*P	**Pn**	**22 58 00.9**	**+0.8**
CHN1				*i* S	**Sb**	**22 58 14.1**	**+0.3**
WCS	**Beigang Elemen**	**0.99**	**322**	*e*P	**Pn**	**22 58 00.4**	**+0.1**
WCS				*e*S	**Sn**	**22 58 14.0**	**+0.8**
SNST	**Tainan City**	**1.00**	**267**	*e*P	**Pn**	**22 58 00.9**	**+0.5**
SNST				*i* S	**Sn**	**22 58 14.6**	**+1.2**
TWK	**Hsinying**	**1.00**	**270**	*e*P	**Pn**	**22 58 00.8**	**+0.2**
TWK				*e*S	**Sn**	**22 58 14.6**	**+1.0**
FUSS	**Fushou**	**1.01**	**342**	*e*P	**Pn**	**22 58 00.4**	**-0.5**
FUSS				S	**Sn**	**22 58 13.0**	**-1.1**
WNT	**Mingjian**	**1.02**	**306**	*e*P	**Pn**	**22 58 00.8**	**+0.1**
WNT				*e*S	**Sn**	**22 58 13.2**	**-0.7**
WGK	**Gukeng**	**1.02**	**294**	*i* P	**Pn**	**22 58 01.6**	**+0.8**
WGK				*e*S	**Sn**	**22 58 15.2**	**+1.4**
TSMG	**Majia**	**1.03**	**237**	*e*P	**Pn**	**22 58 00.8**	**-0.1**
TSMG				*e*S	**Sn**	**22 58 14.5**	**+0.3**
TWT	**Tachien**	**1.04**	**339**	*e*P	**Pn**	**22 58 01.3**	**+0.1**
TWT				S	**Sn**	**22 58 13.6**	**-1.1**
WDLH	**Douliu**	**1.04**	**293**	*i* P	**Pn**	**22 58 00.8**	**-0.2**
WDLH				*e*S	**Sn**	**22 58 14.3**	**-0.1**
TDCB	**Techi**	**1.05**	**338**	P	**Pn**	**22 58 01.1**	**-0.2**
TDCB				S	**Sn**	**22 58 13.7**	**-1.1**
EAHA	**Aohua**	**1.06**	**8**	*e*P	**Pn**	**22 58 00.9**	**-0.3**
EAHA				*e*S	**Sn**	**22 58 14.7**	**-0.2**
SCST	**Cishan**	**1.07**	**249**	*e*P	**Pb**	**22 58 02.7**	**-0.2**
SCST				*i* S	**Sb**	**22 58 17.9**	**+1.3**
EOS4	**EOS4**	**1.08**	**39**	P	**Pn**	**22 58 01.2**	**0.0**
EOS4				*e*S	**Sn**	**22 58 14.4**	**-0.4**
CHY	**Chiayi**	**1.08**	**282**	*e*P	**Pn**	**22 58 02.0**	**+0.4**
CHY				*i* S	**Sn**	**22 58 16.6**	**+1.1**
MASBT	**Mashibuluo**	**1.09**	**233**	*e*P	**Pn**	**22 58 01.3**	**-0.5**
MASBT				*e*S	**Sb**	**22 58 17.5**	**+0.2**
TAW	**Tawu**	**1.11**	**215**	P	**Pn**	**22 58 00.8**	**-1.2**
TAW				*e*S	**Sn**	**22 58 14.2**	**-1.9**
EAST	**Anshuo**	**1.12**	**217**	P	**Pn**	**22 58 01.1**	**-1.0**
EAST				*e*S	**Sn**	**22 58 14.7**	**-1.6**
TAWH	**Dawu Township**	**1.13**	**215**	*i* P	**Pn**	**22 58 01.2**	**-1.0**
TAWH				*i* S	**Sn**	**22 58 14.9**	**-1.7**
WHP	**Taichung City**	**1.15**	**330**	*e*P	**Pn**	**22 58 03.3**	**+0.6**
WHP				S	**Sn**	**22 58 18.5**	**+1.1**
ENA	**Nanau**	**1.16**	**7**	*e*P	**Pn**	**22 58 02.5**	**-0.1**
ENA				*e*S	**Sn**	**22 58 17.5**	**+0.2**
TWM1	**Shoushan**	**1.16**	**247**	*e*P	**Pn**	**22 58 03.0**	**+0.3**
TWM1				*e*S	**Sb**	**22 58 20.4**	**+1.3**
NNSB	**Datong**	**1.16**	**351**	*e*P	**Pn**	**22 58 02.4**	**-0.4**
NNSB				*e*S	**Sn**	**22 58 16.0**	**-1.5**
WTK	**Tuku**	**1.17**	**291**	*e*P	**Pn**	**22 58 03.1**	**+0.4**
WTK				*e*S	**Sn**	**22 58 18.0**	**+0.4**
NNS	**Nan Shan**	**1.17**	**351**	*e*P	**Pn**	**22 58 03.2**	**+0.2**
NNS				*e*S	**Sn**	**22 58 17.4**	**-0.5**
EWUT	**Wuta**	**1.18**	**9**	*e*P	**Pn**	**22 58 02.7**	**-0.2**
EWUT				*e*S	**Sn**	**22 58 18.0**	**+0.2**
SSHA	**Shanhua**	**1.20**	**264**	*e*P	**Pn**	**22 58 03.5**	**+0.4**
SSHA				*e*S	**Sn**	**22 58 19.6**	**+1.4**
ICHU	**Yijhu**	**1.20**	**274**	P	**Pn**	**22 58 03.6**	**+0.4**
ICHU				*e*S	**Sn**	**22 58 19.7**	**+1.4**
EOS3	**EOS3**	**1.21**	**34**	*e*P	**Pn**	**22 58 03.4**	**+0.2**
EOS3				*e*S	**Sn**	**22 58 17.3**	**-1.1**
LAY	**Lan-yu**	**1.23**	**181**	*i* P	**Pn**	**22 58 03.0**	**-0.6**
LAY				*e*S	**Sn**	**22 58 20.0**	**+0.9**
WCHH	**Zhanghua**	**1.23**	**311**	*e*P	**Pn**	**22 58 04.5**	**+0.9**
LATG	**Datong**	**1.25**	**358**	*e*P	**Pn**	**22 58 03.4**	**-0.6**
SNJT	**Kaohsiung City**	**1.26**	**246**	*e*P	**Pn**	**22 58 03.8**	**-0.2**
SNJT				*e*S	**Sb**	**22 58 23.6**	**+1.7**
CHN8	**Yiju**	**1.26**	**273**	P	**Pn**	**22 58 04.4**	**+0.4**
CHN8				*i* S	**Sn**	**22 58 20.9**	**+1.0**
SCZT	**Fangliau**	**1.26**	**225**	*e*P	**Pn**	**22 58 04.7**	**+0.6**
WRL	**Guolierlin Hig**	**1.27**	**300**	*e*P	**Pn**	**22 58 02.4**	**-1.8**
LYUB	**Lan-yu**	**1.27**	**180**	*e*P	**Pn**	**22 58 02.8**	**-1.3**
SLIU	**Shizi**	**1.28**	**215**	*e*P	**Pn**	**22 58 03.2**	**-1.1**
TWQ1	**Liyutan**	**1.30**	**325**	*i* P	**Pn**	**22 58 05.9**	**+1.3**
TWQ1				*i* S	**Sb**	**22 58 22.7**	**-0.4**
WSF	**Szhu**	**1.30**	**286**	*e*P	**Pn**	**22 58 04.9**	**+0.4**
WSF				*e*S	**Sn**	**22 58 21.2**	**+0.4**
ESAO	**Su ao**	**1.32**	**11**	*e*P	**Pn**	**22 58 05.3**	**+0.5**
ESAO				*e*S	**Sn**	**22 58 21.1**	**-0.1**
TWC	**Suao**	**1.35**	**10**	P	**Pn**	**22 58 05.9**	**+0.7**
TWC				*e*S	**Sn**	**22 58 22.5**	**+0.5**
NDS	**Dongshan**	**1.36**	**5**	*e*P	**Pn**	**22 58 06.2**	**+0.9**
NDS				*e*S	**Sn**	**22 58 22.6**	**+0.4**
ENTT	**Nioudou**	**1.36**	**359**	*e*P	**Pn**	**22 58 05.4**	**0.0**
ENTT				*e*S	**Sn**	**22 58 21.2**	**-1.0**
NSY	**Sanyi**	**1.36**	**327**	*e*P	**Pn**	**22 58 06.8**	**+1.4**
NSY				*i* S	**Sb**	**22 58 24.7**	**-0.1**
WSSB	**Gushan**	**1.37**	**243**	*e*P	**Pn**	**22 58 06.8**	**+1.3**
WSSB				*e*S	**Sb**	**22 58 25.6**	**+0.5**
WDJ	**Dajia District**	**1.37**	**321**	*e*P	**Pn**	**22 58 06.7**	**+1.1**
WDJ				*e*S	**Sb**	**22 58 25.1**	**0.0**
TSCK	**Chigu Township**	**1.38**	**265**	*e*P	**Pn**	**22 58 06.4**	**+0.7**
TSCK				*e*S	**Sn**	**22 58 24.3**	**+1.6**
YHNB	**Yeheng**	**1.40**	**352**	P	**Pn**	**22 58 06.3**	**+0.3**
YHNB	**Yeheng**	**1.40**	**352**	*e*P	**Pn**	**22 58 05.8**	**-0.2**
YHNB				*e*S	**Sn**	**22 58 23.1**	**-0.3**
NSK	**Sanguang**	**1.41**	**352**	*e*P	**Pn**	**22 58 06.4**	**+0.2**
NSK				S	**Sn**	**22 58 23.0**	**-0.6**
NFF	**Wufeng Townshi**	**1.42**	**343**	*e*P	**Pn**	**22 58 07.1**	**+0.9**
NFF				*e*S	**Sn**	**22 58 24.3**	**+0.6**
TWE	**Neicheng**	**1.44**	**3**	*e*P	**Pn**	**22 58 05.9**	**-0.6**
NMLH	**Miaoli**	**1.45**	**330**	*e*P	**Pn**	**22 58 07.7**	**+1.1**
NMLH				*i* S	**Sn**	**22 58 25.4**	**+1.0**
NSTT	**Nanjuang**	**1.45**	**339**	*e*P	**Pn**	**22 58 07.6**	**+0.9**
NSTT				*e*S	**Sn**	**22 58 25.6**	**+1.1**
LIOB	**Emei**	**1.46**	**339**	*i* P	**Pn**	**22 58 07.9**	**+1.1**
LIOB				S	**Sn**	**22 58 26.4**	**+1.7**
FUSB	**Fushanzhiwuyua**	**1.48**	**0**	*e*P	**Pn**	**22 58 06.8**	**-0.3**
HEN	**Hengchun**	**1.48**	**212**	*e*P	**Pn**	**22 58 08.1**	**+1.0**
NWLT	**Wulai**	**1.50**	**357**	*e*P	**Pn**	**22 58 07.6**	**+0.3**
NWLT				*e*S	**Sn**	**22 58 24.9**	**-0.8**
TWKBT	**Hengchun**	**1.51**	**208**	*i* P	**Pn**	**22 58 07.3**	**-0.1**
TWKBT				S	**Sn**	**22 58 25.9**	**0.0**
TWK1	**Hengchun**	**1.51**	**209**	*e*P	**Pn**	**22 58 07.1**	**-0.3**
KSHI	**Guanxi Townshi**	**1.54**	**346**	*e*P	**Pn**	**22 58 09.3**	**+1.4**
KSHI				*e*S	**Sn**	**22 58 27.0**	**+0.3**
EGS		**1.59**	**12**	*e*P	**Pn**	**22 58 09.3**	**+0.7**
EGS				*e*S	**Sn**	**22 58 29.6**	**+1.6**
TATO	**Taipei**	**1.69**	**357**	P	**Pn**	**22 58 11.9**	**+1.9**
TIPB	**Shuangxi**	**1.70**	**8**	*e*P	**Pn**	**22 58 11.4**	**+1.3**
JYNG	**Yonaguni jima**	**1.71**	**47**	P	**Pn**	**22 58 10.9**	**+0.7**
JYNG				*e*S	**Sn**	**22 58 31.6**	**+0.7**
YOJ	**Yonaguni jima**	**1.76**	**48**	P	**Pn**	**22 58 11.8**	**+0.8**
YOJ	**Yonaguni jima**	**1.76**	**48**	P	**Pn**	**22 58 11.7**	**+0.8**
YOJ				*e*S	**Sn**	**22 58 32.9**	**+0.6**
YOJ	**Yonaguni jima**	**1.76**	**48**	*e*P	**Pn**	**22 58 11.8**	**+0.8**
YOJ				*i* S	**Sn**	**22 58 33.0**	**+0.8**
TWB1	**Santiao Chiao**	**1.77**	**12**	*e*P	**Pn**	**22 58 11.8**	**+0.8**
TWB1				*e*S	**Sn**	**22 58 32.2**	**-0.1**
WDGT	**Dungji**	**1.77**	**270**	*e*P	**Pn**	**22 58 10.7**	**-0.3**
WDGT				*e*S	**Sn**	**22 58 30.8**	**-1.5**
SXI1	**Grass Mountain**	**1.83**	**8**	*e*P	**Pn**	**22 58 13.1**	**+1.2**
PHUB	**P'eng-hu**	**1.86**	**278**	*e*P	**Pn**	**22 58 11.8**	**-0.4**
PHUB				*i* S	**Sn**	**22 58 32.9**	**-1.7**
YM01	**YM01**	**1.86**	**360**	*e*P	**Pn**	**22 58 12.0**	**-0.3**
ZUZH	**Zhuzihu**	**1.88**	**359**	*e*P	**Pn**	**22 58 13.5**	**+1.0**
PNG	**Penghu**	**1.88**	**279**	P	**Pn**	**22 58 12.1**	**-0.5**
PNG				*e*S	**Sn**	**22 58 34.0**	**-1.2**
ANP	**Anpu**	**1.90**	**358**	*e*P	**Pn**	**22 58 13.4**	**+0.4**
YM08	**YM08**	**1.90**	**0**	*e*P	**Pn**	**22 58 12.6**	**-0.3**
VCHM	**Qimei**	**1.98**	**268**	*e*P	**Pn**	**22 58 13.4**	**-0.5**
VWUC	**VWUC**	**2.59**	**312**	*e*P	**Pn**	**22 58 22.1**	**-0.3**
PTMZ	**Houxiangcun**	**2.85**	**309**	P	**Pn**	**22 58 25.5**	**-0.4**
KNMB	**Chin-men

JOW	Kunigami	3.74	47	P	Pn	23 03 02.4	-0.7
SSLB	Suanglung	3.92	263	Pn	Pn	23 03 05.2	-0.5
SSLB	Suanglung	3.92	263	P	Pn	23 03 05.8	+0.2
TWGBT	Beinan	4.07	249	P	Pn	23 03 05.4	-2.2
TWG	Pinlang	4.07	250		Pn	23 03 05.6	-2.0
TPUB	Ta-pu	4.31	257		Pn	23 03 10.7	-0.2
TPUB	Ta-pu	4.31	257	P	Pn	23 03 11.4	+0.5
JMZ	Minamidaito 2	5.66	73	Pn	Pn	23 03 26.3	-3.1
JMZ	Minamidaito 2	5.66	73	P	Pn	23 03 26.7	-2.8
KNMB	Chin-men Tao	6.22	273	Pn	Pn	23 03 35.8	-1.4
NJ2	Nanjing	9.53	325	eP	Pn	23 04 24.5	+1.9
NJ2				pmax	pmax		
	comp=N,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=N,140nm,3.5s						
NJ2				LR	LR		
	comp=N,1μm,15.2s						
NJ2				LR	LR		
	comp=N,760nm,15.2s						
NJ2				LR	LR		
	comp=N,940nm,15.6s						
JNU	Nakatsue	10.09	28	Pn	Pn	23 04 29.6	-0.8
	comp=N,0.6nm,0.3s,baz=198,slow=9.6,SNR=2.2						
JNU				LR	LR	23 08 47.6	
	comp=N,490nm,19.4s,baz=154,slow=40						
	comp=N,4.7nm,0.7s						
TGY	Tagaytay City	10.92	202	LR	LR	23 09 02.3	
	comp=N,243nm,18.6s,baz=107,slow=38						
KSRS	Korea Array	13.31	9	Pn	Pn	23 05 14.8	+0.5
	baz=189,slow=15						
KSRS				LR	LR	23 10 50.2	
	comp=N,412nm,18.1s,baz=190,slow=40						
LYN	LuoYang	15.06	316	P	P	23 05 44.5	+1.4
LYN				pP	sP	23 05 52.0	-2.4
LYN				pmax	pmax		
	comp=N,25nm,1.0s						
LYN				LR	LR		
	comp=N,1μm,15.5s						
LYN				LR	LR		
	comp=N,580nm,16.8s						
LYN				LR	LR		
	comp=N,1μm,15.8s						
HNS	HongShan	15.85	328	⇓P	P	23 05 53.5	+1.7
HNS				pP	pwP	23 05 58.8	-0.4
HNS				eS	S	23 08 52.5	-4.2
HNS				pmax	pmax		
	comp=N,14nm,1.8s						
HNS				LR	LR		
	comp=N,730nm,14.7s						
HNS				LR	LR		
	comp=N,630nm,14.7s						
HNS				LR	LR		
	comp=N,840nm,15.1s						
MAJO	Matsushiro	16.55	40	Pn	Pn	23 05 57.6	+0.4
MJAR	Matsushiro Arr	16.55	40	Pn	P	23 05 59.0	-0.7
	comp=N,0.2nm,0.3s,baz=230,slow=11,SNR=16						
MJB9	Matsu-Tunnel	16.55	39	Pn	Pn	23 05 58.0	+0.7
XAN	Xi'an	17.19	308	P	P	23 06 08.8	+2.0
XAN				pP	sP	23 06 18.3	+0.5
XAN				S	S	23 09 23.8	-0.7
XAN				pmax	pmax		
	comp=N,9.0nm,1.4s						
XAN				LR	LR		
	comp=N,550nm,12.9s						
XAN				LR	LR		
	comp=N,1μm,13.6s						
XAN				LR	LR		
	comp=N,1μm,14.1s						
HHC	Hu-ho-hao-te	20.06	329	eP	Pn	23 06 42.9	+2.6
HHC				pP	sP	23 06 49.5	0.0
HHC				sP	pwP	23 06 54.6	+8.7
HHC				pmax	pmax		
	comp=N,15nm,0.6s						
HHC				pmax	pmax		
	comp=N,150nm,4.1s						
HHC				LR	LR		
	comp=N,540nm,14.1s						
HHC				LR	LR		
	comp=N,340nm,13.4s						
HHC				LR	LR		
	comp=N,780nm,15.3s						
CD2	Chengdu	20.10	294	P	Pn	23 06 41.5	+0.8
CD2				pmax	pmax		
	comp=N,10.0nm,0.5s						
KMI	Kunming	20.42	277	⇑P	Pn	23 06 46.9	+2.1
KMI				pP	pwP	23 06 56.8	+4.8
KMI				pmax	pmax		
	comp=N,9.0nm,1.0s						
KMI				LR	LR		
	comp=N,110nm,11.4s						
KMI				LR	LR		
	comp=N,470nm,14.3s						
KMI				LR	LR		
	comp=N,460nm,14.2s						
USRK	Ussuriysk Ar.	20.61	14	P	P	23 06 42.1	-2.0
	comp=N,0.5nm,0.4s,baz=197,slow=9.6,SNR=2.1						
	comp=N,0.5nm,0.4s						
BTO	Baotou	20.65	326	eP	Pn	23 06 47.8	+0.7
BTO				pP	sP	23 06 57.3	+1.5
BTO				sP	pwP	23 07 00.8	+8.6
BTO				PP	PnPn	23 07 11.1	+8.2
BTO				S	Sn	23 10 38.0	-1.2
BTO				sS	pS	23 10 48.1	-0.1
BTO				SS	SnSn	23 11 07.0	+13
BTO				pmax	pmax		
	comp=N,13nm,0.7s						
BTO				pmax	pmax		
	comp=N,280nm,4.5s						
BTO				LR	LR		
	comp=N,770nm,19.5s						
BTO				LR	LR		
	comp=N,740nm,17.2s						
BTO				LR	LR		
	comp=N,1μm,20.3s						
PZH	PanZhiHua	21.30	281	P	P	23 06 52.6	+0.7
PZH				S	S	23 10 45.4	-1.9
PZH				pmax	pmax		
	comp=N,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=N,90nm,3.5s						
PZH				LR	LR		
	comp=N,160nm,15.4s						
PZH				LR	LR		
	comp=N,360nm,14.1s						
PZH				LR	LR		
	comp=N,410nm,13.7s						
GUMO	Guam	21.41	116	LR	LR	23 13 51.3	
	comp=N,178nm,20.6s,baz=309,slow=33						
LZH	Lanzhou	21.83	307	eP	P	23 06 49.6	-7.9
LZH				pP	pP	23 06 59.0	-6.2
LZH				sP	sP	23 07 03.5	-5.1
LZH				pmax	pmax		
	comp=Z,6.0nm,1.2s						
TNCH	TengChong	24.25	277	P	P	23 07 24.0	+1.8
TNCH				sP	pwP	23 07 33.8	+1.2
TNCH				pmax	pmax		
	comp=Z,68nm,1.7s						
ASAJ	Asahikawa	24.35	31	LR	LR	23 17 38.6	
	comp=Z,371nm,19.9s,baz=254,slow=38						
CHTO	Chiang Mai	25.01	262	P	P	23 07 29.0	+0.1
CMAR	Chiang Mai Arr	25.12	262	P	P	23 07 29.6	-0.3
	comp=Z,0.5nm,0.5s,baz=58,slow=7.6,SNR=6.9						
CMAR				LR	LR	23 18 03.9	
	comp=Z,161nm,20.4s,baz=295,slow=38						
	comp=Z,0.5nm,0.5s						
APSI	Ampana	25.30	188	P	P	23 07 38.0	+6.5
	comp=Z,41nm,1.4s						
KLR	Kul'dur	25.40	10	LR	LR	23 17 14.8	
	comp=Z,273nm,21.4s,baz=172,slow=36						
GTA	Gaotai	26.18	311	eP	P	23 07 37.9	-1.6
GTA				pP	pP	23 07 45.8	-1.7
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GTA				LR	LR		
	comp=Z,170nm,12.7s						
GTA				LR	LR		
	comp=Z,270nm,14.3s						
GTA				LR	LR		
	comp=Z,380nm,15.1s						
SANI	Sanana	26.21	178	P	P	23 07 45.4	+5.7
	comp=Z,45nm,1.1s						
SONM	Songino Array	27.83	332	P	P	23 07 52.4	-1.8
	comp=Z,0.8nm,0.3s,baz=148,slow=6.9,SNR=7.2						
SONM				LR	LR	23 20 28.2	
	comp=Z,445nm,19.9s,baz=144,slow=40						
	comp=Z,0.8nm,0.3s						

KAPI	Kappang	29.62	191		S	23 12 56.7	-7.2
SHL	Shillong	30.20	279	P	P	23 08 15.2	-0.4
SHL				IAmb	IAmb	23 08 26.3	
	comp=Z,17nm,1.2s						
WMQ	Urumqi	36.27	312	eP	P	23 09 10.1	+2.0
WMQ				pP	sP	23 09 17.0	-2.6
WMQ				pmax	pmax		
	comp=Z,13nm,1.7s						
WMQ				LR	LR		
	comp=Z,240nm,17.5s						
H11N1	WAKE ISLAND Hy	38.81	88	T	T	23 50 49.2	
	baz=283,slow=74,SNR=6.7						
H11N2	WAKE ISLAND Hy	38.81	88	T	T	23 50 49.4	
	baz=283,slow=74,SNR=11						
H11N3	WAKE ISLAND Hy	38.83	88	T	T	23 50 50.4	
	baz=283,slow=74,SNR=6.0						
H11S3	WAKE ISLAND Hy	38.95	90	T	T	23 50 56.0	
	baz=284,slow=74,SNR=10.0						
H11S1	WAKE ISLAND Hy	38.95	90	T	T	23 51 07.3	
	baz=284,slow=74,SNR=4.6						
H11S2	WAKE ISLAND Hy	38.97	90	T	T	23 50 56.1	
	baz=284,slow=74,SNR=4.1						
MA2	Magadan	39.53	20	LR	LR	23 26 22.0	
	comp=Z,141nm,19.5s,baz=128,slow=37						
MK31	Makanchi Array	40.84	314	P	P	23 09 46.1	-0.4
MKAR	Makanchi Array	40.84	314	P	P	23 09 46.0	-0.4
MKAR	Makanchi Array	40.84	314	P	P	23 09 45.8	-0.7
	comp=Z,4.5nm,0.4s,baz=101,slow=10,SNR=133						
MKAR				LR	LR	23 28 14.8	
	comp=Z,243nm,19.2s,baz=344,slow=39						
	comp=Z,4.5nm,0.4s						
MAKZ	Makanchi	41.05	314	P	P	23 09 47.8	-0.4
MAKZ				IAmb	IAmb	23 09 58.7	
	comp=Z,12nm,1.1s						
FITZ	Fitzroy Crossi	42.15	179	P	P	23 09 57.0	-0.3
FITZ	Fitzroy Crossi	42.15	179	P	P	23 09 56.3	-1.0
	comp=Z,1.6nm,0.7s,baz=34,slow=3.6,SNR=2.2						
	comp=Z,1.6nm,0.7s						
ZAA0	Zalesovo Array	42.19	325	P	P	23 09 55.9	-1.4
ZALV	Zalesovo Beam	42.19	325	P	P	23 09 55.8	-1.5
ZALV	Zalesovo Beam	42.19	325	P	P	23 09 55.5	-1.8
	comp=Z,3.0nm,0.4s,baz=113,slow=9.0,SNR=20						
ZALV				PcP	PcP	23 11 49.9	-1.2
	comp=Z,0.4nm,0.4s,baz=103,slow=5.0,SNR=2.3						
ZALV				LR	LR	23 28 54.2	
	comp=Z,180nm,18.4s,baz=94,slow=38						
	comp=Z,3.0nm,0.4s						
KDJ	Kajisay	43.33	306	P	P	23 10 07.5	+0.5
KDJ				IAmb	IAmb	23 10 15.8	
	comp=Z,10.0nm,1.0s						
KSH	Kashi	43.92	302	P	P	23 10 15.4	+3.7
KSH				pP	sP	23 10 24.8	+1.4
KSH				pmax	pmax		
	comp=Z,8.0nm,1.5s						
KURK	Kurchatov	44.39	319	P	P	23 10 14.1	-1.0
KURK				IAmb	IAmb	23 10 25.3	
	comp=Z,15nm,1.1s						
KURBB	Kurchatov Arra	44.41	319	P	P	23 10 14.0	-1.3
	comp=Z,1.5nm,0.4s,baz=108,slow=8.3,SNR=15						
	comp=Z,1.5nm,0.4s						
WB0	Warramunga Arr	44.71	168	P	P	23 10 17.4	-0.6
WB0				IAmb	IAmb	23 10 25.1	
	comp=Z,16nm,1.0s						
WRA	Warramunga Arr	44.87	168	P	P	23 10 18.8	-0.5
WRA	Warramunga Arr	44.87	168	P	P	23 10 18.4	-0.9
	comp=Z,2.8nm,0.8s,baz=348,slow=8.8,SNR=19						
	comp=Z,2.8nm,0.8s						
WB2	Warramunga Arr	44.88	168	P	P	23 10 18.7	-0.6
WR0	Warramunga Arr	44.93	168	P	P	23 10 19.1	-0.6
WR0				IAmb	IAmb	23 10 26.9	
	comp=Z,11nm,0.8s						
AAK	Ala-Archa	45.37	307	P	P	23 10 24.0	+0.7
NIL	Nilore	45.99	294	P	P	23 10 28.4	+0.3
ARSB	Arslanbob	46.35	305	P	P	23 10 31.9	+0.9
TIXI	Tiksi	47.42	2	LR	LR	23 32 24.3	
	comp=Z,161nm,18.8s,baz=195,slow=38						
GAR	Garm	48.28	301	P	P	23 10 46.7	+0.6
KKAR	Karatay Array	48.33	307	P	P	23 10 47.1	+0.9
KKAR	Karatay Array	48.33	307	P	P	23 10 46.6	+0.4
AS31	Alice Springs	48.43	169	P	P	23 10 47.3	+0.2
ASAR	Alice Springs	48.43	169	P	P	23 10 45.8	-1.3
ASAR	Alice Springs	48.43	169	P	P	23 10 47.1	0.0
	comp=Z,0.9nm,0.4s,baz=354,slow=12,SNR=16						
	comp=Z,0.9nm,0.4s						
KBL	Kabul	49.43	295	P	P	23 10 55.6	+0.5
KBL				IAmb	IAmb	23 10 56.6	
	comp=Z,13nm,1.1s						
BVAR	Borovoye Array	49.93	320	P	P	23 10 57.2	-1.1
	comp=Z,2.1nm,0.5s,baz=106,slow=8.1,SNR=23						
	comp=Z,2.1nm,0.5s						
BRVK	Borovoye	50.00	320	P	P	23 10 58.5	-0.3
NRIK	Noril'sk	50.28	344	P	P	23 10 58.5	-2.1
	comp=Z,1.8nm,0.6s,baz=135,slow=9.7,SNR=4.3						
NRIK				LR	LR	23 34 25.6	
	comp=Z,278nm,19.0s,baz=146,slow=39						
	comp=Z,1.8nm,0.6s						
ABKAR	Akbulak array	55.99	314	P	P	23 11 42.9	-0.2
ABKAR	Akbulak array	55.99	314	P	P	23 11 43.2	+0.2
ABKAR				IAmb	IAmb	23 11 43.4	
	comp=Z,12nm,0.5s						
ARTI	Arti	57.32	323	P	P	23 11 51.5	-0.9
ARTI				IAmb	IAmb	23 12 02.0	
	comp=Z,8.6nm,1.1s						
BBOO	Buckleboo	57.73	169	P	P	23 11 54.7	-0.7
BBOO				IAmb	IAmb	23 12 05.3	
	comp=Z,8.4nm,1.1s						
STKA	Stephens Creek	58.02	164	P	P	23 11 57.0	-0.6
	comp=Z,0.6nm,0.3s,baz=346,slow=8.3,SNR=1.6						
	comp=Z,0.6nm,0.3s						
M11K	Mekoryuk	58.62	33	P	P	23 12 02.4	+1.0
D19K	Kuna River	62.74	24	P	P	23 12 30.2	+0.7
F19K	Shaleruckik Mo	62.81	26	P	P	23 12 31.3	+1.5
F19K				IAmb	IAmb	23 12 33.2	
	comp=Z,3.1nm,0.8s						
M17K	Holitna River	62.94	32	P	P	23 12 33.9	+3.1
M17K				IAmb	IAmb	23 12 45.7	
	comp=Z,5.9nm,1.0s						
E19K	Redstone River	63.04	25	P	P	23 12 33.5	+2.1
E19K				IAmb	IAmb	23 12 44.4	
	comp=Z,9.2nm,1.0s						
H19K	Roundabout Mou	63.33	27	P	P	23 12 36.2	+2.9
J19K	Poorman	63.71	29	P	P	23 12 39.0	+3.1
J19K				IAmb	IAmb	23 12 51.1	
	comp=Z,4.4nm,0.9s						
B21K	Ikpikpuk River	64.03	23	P	P	23 12 39.1	+1.2
O18K	Koktuh Hills	64.11	33	P	P	23 12 41.0	+2.4
O18K				IAmb	IAmb	23 12 53.8	
	comp=Z,10nm,1.1s						
L19K	White Mountain	64.14	31	P	P	23 12 42.2	+3.5
L19K				IAmb	IAmb	23 12 53.1	
	comp=Z,6.9nm,1.1s						
I20K	Naaghedeneel	64.18	28	P	P	23 12 42.2	+3.3
LHI	Lord Howe Isla	64.27	148	P	P	23 12 39.6	-0.3
J20K	Nowinta River	64.35	29	P	P	23 12 43.8	+3.7
J20K				IAmb	IAmb	23 12 55.0	
	comp=Z,5.0nm,0.9s						
M19K	Big River Lodg	64.37	31	P	P	23 12 40.5	+0.2
M19K				IAmb	IAmb	23 12 53.1	
	comp=Z,4.0nm,1.1s						
N19K	Bonanza Creek	64.40	32	P	P	23 12 41.1	+0.5
N19K				IAmb	IAmb	23 12 49.2	
	comp=Z,6.1nm,1.1s						
IMAR	Indian Mountai	64.43	27	P	P	23 12 42.1	+1.6
B22K	Teshekpuk Lake	64.44	22	P	P	23 12 41.5	+1.0
F21K	Alatna River	64.49	25	P	P	23 12 42.8	+1.8
F21K				IAmb	IAmb	23 12 44.1	
	comp=Z,5.5nm,1.1s						
G21K	Allakaket	64.51	26	P	P	23 12 43.2	+2.1
G21K				IAmb	IAmb	23 12 59.1	
	comp=Z,10nm,1.1s						
D22K	Ayikyak River	64.73	23	P	P	23 12 43.9	+1.4
H21K	Melozitna Rive	64.84	27	P	P	23 12 46.1	+2.8
H21K				IAmb	IAmb	23 12 47.1	
	comp=Z,10nm,1.1s						
E22K	Anaktuvuk Pass	65.08	24	P	P	23 12 45.8	+0.9
E22K				IAmb	IAmb	23 12 57.6	
	comp=Z,9.3nm,1.0s						
E23K	Chandalar	65.91	24	P	P	23 12 51.7	+1.4
E23K				IAmb	IAmb	23 13 03.3	
	comp=Z,9.3nm,1.0s						
SUA	Susitna One	66.14	31	P	P	23 12 54.5	+2.6
F24K	Squaw Lake	66.62	25	P	P	23 12 55.9	+1.1
F24K				IAmb	IAmb	23 12 58.4	
	comp=Z,5.0nm,0.7s						
G24K	Hadweenzic Riv	66.89	26	P	P	23 12 59.7	+3.3
G24K				IAmb	IAmb	23 13 00.1	

	comp=Z,4.5nm,0.6s						
D25K	Kavik River	66.95	23	P	P	23 12 58.4	+1.6
D25K				IAmb	IAmb	23 13 09.4	
	comp=Z,7.1nm,1.0s						
GHO	Glory Hole Cre	66.96	31	P	P	23 13 00.2	+3.1
GHO				IAmb	IAmb	23 13 16.1	
	comp=Z,5.2nm,1.1s						
ILAR	Eielson Array	67.41	28	P	P	23 13 00.5	+0.7
	comp=Z,0.5nm,0.4s,baz=270,slow=6.6,SNR=11						
	comp=Z,0.5nm,0.4s						
F25K	Christian Rive	67.47	25	P	P	23 13 03.7	+3.5
F25K				IAmb	IAmb	23 13 13.8	
	comp=Z,5.6nm,0.9s						
FYU	Fort Yukon	67.79	26	P	P	23 13 05.8	+3.6
FYU				IAmb	IAmb	23 13 14.4	
	comp=Z,6.5nm,1.1s						
BMAR	Burnt Mountain	67.90	25	P	P	23 13 05.0	+2.1
F26K	Sheenjek River	68.01	24	P	P	23 13 06.5	+2.9
F26K				IAmb	IAmb	23 13 17.8	
	comp=Z,5.7nm,1.0s						
J25K	Salcha River,	68.08	28	P	P	23 13 05.2	+1.2
KBZ	Khabaz	68.25	309	P	P	23 13 05.2	-0.2
	comp=Z,2.7nm,0.9s,baz=65,slow=7.7,SNR=4.7						
KBZ				LR	LR	23 47 42.5	
	comp=Z,134nm,19.9s,baz=181,slow=40						
	comp=Z,2.7nm,0.9s						
KIV	Kislovodsk	68.35	310	P	P	23 13 07.0	+0.8
KLU	Klutina	68.42	31	P	P	23 13 05.9	-0.4
I26K	Coal Creek Min	68.87	27	IAmb	IAmb	23 13 28.0	
	comp=Z,4.9nm,1.1s						
E28M	Babbage River	69.51	23	P	P	23 13 14.6	+1.8
E28M				IAmb	IAmb	23 13 25.9	
	comp=Z,5.7nm,0.9s						
M26K	Nabesna, AK	69.58	30	P	P	23 13 14.2	+0.7
M26K				IAmb	IAmb	23 13 31.5	
	comp=Z,5.1nm,0.8s						
F28M	Old Crow	69.63	24	P	P	23 13 16.2	+2.6
F28M				IAmb	IAmb	23 13 32.5	
	comp=Z,3.7nm,0.9s						
I28M	Miner Creek	70.15	26	P	P	23 13 18.5	+1.6
I28M				IAmb	IAmb	23 13 31.3	
	comp=Z,4.0nm,0.9s						
G29M	Pine Creek	70.51	25	P	P	23 13 21.6	+2.6
G29M				IAmb	IAmb	23 13 32.7	
	comp=Z,7.2nm,1.0s						
H29M	Whitestone	70.56	25	P	P	23 13 22.2	+2.9
ARCES	ARCESS Array B	70.79	338	P	P	23 13 20.0	-0.7
	comp=Z,17nm,1.2s,baz=70,slow=7.8,SNR=5.4						
	comp=Z,17nm,1.2s						
EPYK	Eagle Plains	71.16	25	P	P	23 13 25.6	+2.6
EPYK				IAmb	IAmb	23 13 40.9	
	comp=Z,11nm,1.1s						
G30M	tAoh Zraii Nji	71.17	24	P	P	23 13 24.6	+1.6
G30M				IAmb	IAmb	23 13 35.9	
	comp=Z,6.5nm,1.1s						
L29M	L29M	71.56	28	P	P	23 13 28.9	+3.5
L29M				IAmb	IAmb	23 13 45.4	
	comp=Z,7.1nm,1.1s						
K29M	Barlow Dome	71.60	28	P	P	23 13 28.6	+2.8
K29M				IAmb	IAmb	23 13 39.4	
	comp=Z,6.0nm,1.1s						
I30M	Mount Dempster	71.64	26	P	P	23 13 28.9	+2.9
INK	Inuvik	71.72	23	P	P	23 13 28.1	+1.9
BCPM	Bancas Point	71.80	32	P	P	23 13 29.2	+2.3
J30M	Hart River	71.87	27	P	P	23 13 30.4	+3.0
G31M	Satah River	71.91	24	P	P	23 13 30.0	+2.6
G31M				IAmb	IAmb	23 13 39.4	
	comp=Z,6.4nm,1.1s						
F31M	Tsiigehtchic	71.93	23	P	P	23 13 29.5	+1.9
O29M	Mount Kennedy	72.20	31	P	P	23 13 30.3	+0.9
H31M	Peel River	72.26	25	P	P	23 13 32.2	+2.6
H31M				IAmb	IAmb	23 13 47.0	
	comp=Z,6.2nm,1.1s						
M30M	Minto, Yukon	72.30	29	P	P	23 13 31.4	+1.4
FINES	FINESS Array B	73.18	330	P	P	23 13 34.5	-0.6
	comp=Z,4.7nm,0.6s,baz=62,slow=5.9,SNR=42						
	comp=Z,4.7nm,0.6s						
C36M	Paulatuk	74.45	20	P	P	23 13 42.6	+0.3
C36M				IAmb	IAmb	23 13 54.0	
	comp=Z,5.9nm,0.9s						
AKASG	Malin Array Be	75.20	319	P	P	23 13 45.5	-1.6
	comp=Z,0.6nm,0.4s,baz=68,slow=4.4,SNR=6.0						
	comp=Z,0.6nm,0.4s						
BRTR	Keskin Array B	76.03	307	P	P	23 13 52.0	-0.3
BRTR	Keskin Array B	76.03	307	P	P	23 13 51.8	-0.5
	comp=Z,1.8nm,1.1s,baz=70,slow=1.9,SNR=5.0						
	comp=Z,1.8nm,1.1s						
PABE	Paberze	76.38	325	P	P	23 13 54.2	+0.5
MLR	Muntele Rosu	79.18	315	LR	LR	23 51 01.7	
	comp=Z,115nm,19.5s,baz=315,slow=37						
HFS	Hagfors	79.23	332	P	P	23 14 09.2	-0.3
	comp=Z,2.0nm,0.5s,baz=75,slow=6.3,SNR=14						
	comp=Z,2.0nm,0.5s						
RPZ	Rata Peaks	79.69	148	LR	LR	23 47 14.9	
	comp=Z,117nm,21.5s,baz=312,slow=34						
NB2	NORSAR Subarra	79.80	333	P	P	23 14 12.6	-0.1
	comp=Z,0.6nm,0.5s,baz=51,slow=5.9						
NOA	NORSAR Array B	79.80	333	P	P	23 14 11.9	-0.8
	comp=Z,2.3nm,0.9s,baz=53,slow=6.0,SNR=7.1						
NOA				LR	LR	23 54 12.1	
	comp=Z,89nm,20.2s,baz=20,slow=39						
	comp=Z,2.3nm,0.9s						
YKA	Yellowknife Ar	81.40	24	P	P	23 14 20.6	-0.5
	comp=Z,1.7nm,0.9s,baz=306,slow=4.5,SNR=4.9						
	comp=Z,1.7nm,0.9s						
VYHS	Vyhne	82.27	320	eP	P	23 14 27.8	+1.8
GERES	GERESS Array B	85.05	322	P	P	23 14 39.5	-0.9
	comp=Z,0.7nm,0.7s,baz=50,slow=11,SNR=2.4						
	comp=Z,0.7nm,0.7s						
NVAR	Mina Array Bea	93.80	45	P	P	23 15 22.4	+0.1
	comp=Z,0.2nm,0.3s,baz=260,slow=5.4,SNR=3.9						
	comp=Z,0.2nm,0.3s						
ESJX	Sierra Juarez	99.10	49	P	Pdif	23 15 45.4	-0.9
ESJX				IAmb	IAmb	23 16 01.6	
	comp=Z,3.0nm,0.8s						

*IDC **18** 23:32:39.3±4.0, 11°.01S×163°.25E, h0km, mb3.8/4, mbtmp3.9/5, ML4.4/1, Error ellipse: s-maj=77.0km s-min=50.8km az=104.0*

ISC 18 23:32:45.7±2.3, 10°.9S±0°.3×163°.0E±0°.2, h34km, n11, σ0°.25/7, mb3.7/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.39	296	Pn	Pn	23 33 36.3	+0.1
	33nm,0.3s,baz=184,slow=9.4,SNR=2.0						
HNR				Sn	Sn	23 34 15.2	-0.1
	32nm,0.3s,baz=254,slow=23,SNR=1.6						
	74nm,0.3s						
WRA	Warramunga Arr	29.04	249	P	P	23 38 42.7	-0.2
	0.5nm,0.7s,baz=79,slow=9.0,SNR=7.7						
	0.5nm,0.7s						
H11S2	WAKE ISLAND Hy	29.46	7	T	T	00 09 26.1	
	baz=189						
H11S3	WAKE ISLAND Hy	29.46	7	T	T	00 09 17.8	
	baz=189						
H11S1	WAKE ISLAND Hy	29.47	7	T	T	00 09 44.6	
	baz=189						
KDU	Kakadu	29.97	264	P	P	23 38 59.3	+8.2
ASAR	Alice Springs	30.49	242	P	P	23 38 55.5	-0.2
	0.5nm,0.4s,baz=69,slow=10.0,SNR=8.9						
	0.5nm,0.4s						
MTN	Manton Dam

ISC 18 23:35:17.0±2.2, 36°99N±0°06×141°29E±0°10, h15km±12km, n39, σ2°04/23, mb3.7/9, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.41	287	P	Pg	23 35 24.9	-0.3
ONAJ				S	Sg	23 35 31.8	+1.0
ONAJ	Iwakimizuishiy	0.41	287	A	A	23 35 24.9	
	comp=E,11nm,1.1s,comp=N,8.0nm,1.2s						
JFK	Kawauchi	0.50	319	P	Pg	23 35 26.2	-0.8
JFK				S	Sg	23 35 33.8	0.0
JFFD	Fukushimafurud	0.59	280	P	Pg	23 35 27.9	-0.7
JFFD				S	Sg	23 35 36.6	+0.1
JHO	Hitachi	0.69	237	⇓iP	Pg	23 35 29.1	-1.3
JHO				⇓eS	Sb	23 35 39.1	-0.8
JHYU	Hitachinakayam	0.85	221	A	A	23 35 31.7	
	comp=E,9.0nm,0.5s,comp=N,15nm,0.4s						
JOTO	OTAMA OYAMA	0.95	307	A	A	23 35 33.6	
	comp=E,15nm,1.3s,comp=N,15nm,3.3s						
JSB	Shiboa	1.09	270	A	A	23 35 35.9	
	comp=E,16nm,1.1s,comp=N,14nm,1.8s						
JYT	Yasato	1.16	230	A	A	23 35 36.5	
	comp=E,16nm,0.4s,comp=N,9.0nm,0.4s						
JIHU	Itakohorinouch	1.19	211	A	A	23 35 36.7	
	comp=E,30nm,1.5s,comp=N,24nm,1.4s						
JYAR	Yonezawaarcadi	1.30	316	A	A	23 35 38.8	
	comp=E,20nm,1.2s,comp=N,28nm,1.2s						
JFY	Yanaizu	1.33	289	P	Pn	23 35 40.3	-0.8
JOU	Okura	1.46	340	A	A	23 35 41.1	
	comp=E,8.0nm,2.4s,comp=N,6.0nm,1.6s						
JIO	Ouri	1.47	2	eP	Pn	23 35 40.6	-2.3
JIO				eS	Sn	23 35 58.5	-3.4
JYS	Shiratake	1.57	322	A	A	23 35 42.8	
	comp=E,9.0nm,1.2s,comp=N,7.0nm,1.6s						
JOFO	Osakifurukawao	1.64	350	A	A	23 35 43.5	
	comp=E,21nm,1.8s,comp=N,14nm,2.1s						
JYA	Atsumi	2.03	323	A	A	23 35 49.6	
	comp=E,5.0nm,1.0s,comp=N,5.0nm,1.2s						
MJAR	Matsushiro Arr	2.51	261	Pn	Pn	23 35 56.8	-0.5
	comp=N,1.0nm,0.3s,baz=88,slow=15,SNR=50						
MJAR				Lg	Lg	23 36 34.7	
	comp=N,2.0nm,0.3s,baz=80,slow=25,SNR=6.8 comp=N,14nm,0.6s						
USRK	Ussuriysk Ar.	10.09	318	Pn	Pn	23 37 45.8	+4.4
	comp=N,0.3nm,0.3s,baz=110,slow=13,SNR=2.7						
KSRS	Korea Array	10.67	277	Pn	Pn	23 37 52.9	+3.7
	comp=N,0.2nm,0.3s,baz=85,slow=15,SNR=4.9						
KSRS				LR	LR	23 41 33.8	
	comp=N,91nm,18.3s,baz=110,slow=35						
H11N2	WAKE ISLAND Hy	28.21	121	T	T	00 10 33.4	
	baz=313,slow=75,SNR=337						
H11N1	WAKE ISLAND Hy	28.22	121	T	T	00 10 36.3	
	baz=313,slow=75,SNR=330						
H11N3	WAKE ISLAND Hy	28.23	121	T	T	00 10 35.7	
	baz=313,slow=75,SNR=281						
H11S1	WAKE ISLAND Hy	28.92	123	T	T	00 11 32.6	
	baz=315,slow=76,SNR=56						
H11S3	WAKE ISLAND Hy	28.92	123	T	T	00 11 31.9	
	baz=315,slow=76,SNR=59						
H11S2	WAKE ISLAND Hy	28.93	123	T	T	00 11 31.5	
	baz=315,slow=76,SNR=20						
ZALV	Zalesovo Beam	41.87	312	P	P	23 43 05.3	-1.1
	comp=N,1.1nm,0.6s,baz=108,slow=7.1,SNR=4.6 comp=N,1.1nm,0.6s						
MKAR	Makanchi Array	44.06	302	P	P	23 43 23.4	-0.9
	comp=N,0.8nm,0.8s,baz=95,slow=9.7,SNR=7.7 comp=N,0.8nm,0.8s						
KURBB	Kurchatov Arra	45.95	308	P	P	23 43 38.1	-1.0
	comp=N,1.8nm,0.9s,baz=83,slow=8.4,SNR=9.9 comp=N,1.8nm,0.9s						
ILAR	Eielson Array	49.59	32	P	P	23 44 07.7	+0.5
	comp=N,0.6nm,0.8s,baz=247,slow=6.3,SNR=4.5 comp=N,0.6nm,0.8s						
BVAR	Borovoye Array	50.53	312	P	P	23 44 13.8	-0.7
	comp=N,0.5nm,0.5s,baz=68,slow=9.2,SNR=4.1 comp=N,0.5nm,0.5s						
WRA	Warramunga Arr	57.00	188	P	P	23 45 00.9	-1.2
	comp=N,0.8nm,0.6s,baz=4.4,slow=7.2,SNR=5.3 comp=N,0.8nm,0.6s						
ASAR	Alice Springs	60.73	188	P	P	23 45 27.4	-0.6
	comp=N,0.5nm,0.7s,baz=20,slow=8.2,SNR=2.0 comp=N,0.5nm,0.7s						
NOA	NORSAR Array B	74.19	337	LR	LR	00 23 24.8	
	comp=N,59nm,18.3s,baz=300,slow=39						
AKASG	Malin Array Be	74.27	322	P	P	23 46 51.9	-1.5
	comp=N,0.6nm,0.7s,baz=46,slow=6.7,SNR=2.5 comp=N,0.6nm,0.7s						
TXAR	Lajitas Array	90.23	52	P	P	23 48 21.4	+4.0
	comp=N,0.2nm,0.5s,baz=325,slow=1.1,SNR=2.5						
H03N2	Juan Fernandez	147.12	96	T	T	02 39 30.8	
	baz=291,slow=76,SNR=14						
H03N3	Juan Fernandez	147.13	96	T	T	02 39 28.9	
	baz=291,slow=76,SNR=15						
H03N1	Juan Fernandez	147.14	96	T	T	02 39 29.1	
	baz=291,slow=76,SNR=15						

RSNC 18 23:39:25.1±0.0, 7°N±1°×77°3W±°, h144km±2km, M2.4, mb3.1, mB4.5, ML2.2, Mw(mB)3.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.22	194	P	Pn	23 39 44.2	-0.8
BARC				S	Sn	23 39 59.7	-0.5
BRJC	Barrancabermej	0.63	285	P	Pn	23 39 45.9	-0.6
BRJC				S	Sn	23 40 03.2	+0.4
PAMC	Pamplona, Colo	0.68	39	P	Pn	23 39 47.0	-0.4
PAMC				S	Sn	23 40 04.0	-0.3
RUSC	La Rusia	0.91	177	P	Pn	23 39 48.3	-0.9
RUSC				S	Sn	23 40 06.8	-0.6
PTBC	PUERTO BERRIO,	1.34	259	P	Pn	23 39 50.8	-1.8
PTBC				S	Sn	23 40 12.3	-1.3
TAMC	Tame, Arauca	1.38	106	P	Pn	23 39 52.6	-0.4
TAMC				S	Sn	23 40 14.4	+0.1
OCAC	Ocana	1.43	352	P	Pn	23 39 52.9	-0.8
OCAC				S	Sn	23 40 14.7	-0.8
SPBC	San Pablo de B	1.48	219	P	Pn	23 39 53.3	-0.9
SPBC				S	Sn	23 40 15.7	-0.6
ZARC	Zaragoza, Cauc	1.84	292	P	Pn	23 39 58.7	+0.6
ZARC				S	Sn	23 40 22.5	-0.8
NORC	Norcasia	2.13	234	P	Pn	23 40 00.2	-1.3
NORC				S	Sn	23 40 28.4	-1.0
CHIC	Chingaza	2.25	195	P	Pn	23 40 02.6	-0.7
CHIC				S	Sn	23 40 31.8	-0.8
ROSC	El Rosal	2.29	211	P	Pn	23 40 03.5	-0.2
ROSC				S	Sn	23 40 33.3	-0.1
HELC	Santa Helena	2.46	256	P	Pn	23 40 06.5	+0.7
HELC				S	Sn	23 40 37.4	+0.3
GUY2C	Guyana, Caldas	2.73	235	P	Pn	23 40 09.8	+0.6
GUY2C				S	Sn	23 40 43.1	-0.1
VILC	Villavicencio,	2.74	192	P	Pn	23 40 10.1	+1.0
VILC				S	Sn	23 40 41.8	-1.2
PTGC	Puerto Gaitan,	2.78	159	P	Pn	23 40 07.5	-2.0
PTGC				S	Sn	23 40 40.8	-2.9
CBOC	Ciudad Bolivar	3.02	252	P	Pn	23 40 12.6	0.0
CBOC				S	Sn	23 40 49.5	+0.2
PRAC	Prado	3.54	210	P	Pn	23 40 18.8	-0.5
PRAC				S	Sn	23 41 01.0	-0.2
ORTC	Ortega, Tolima	3.57	216	P	Pn	23 40 19.8	+0.1
ORTC				S	Sn	23 41 02.4	+0.5
SJCC	San Jacinto, C	3.68	327	P	Pn	23 40 18.7	-2.4
SJCC				S	Sn	23 41 00.7	-3.8
JAMC	Jamundi, Valle	5.02	225	P	Pn	23 40 38.0	-1.0

IDC 19 00:05:43.1±2.7, 1°25S×134°23E, h0km, mb3.2/3, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=132.6km s-min=26.7km az=77.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.58	180	P	Pn	00 10 02.8	+0.8
	0.1nm,0.3s,baz=359,slow=12,SNR=7.1 0.3nm,0.4s						
ASAR	Alice Springs	22.29	181	P	P	00 10 41.6	-0.6
	0.4nm,0.7s,baz=5.8,slow=12,SNR=3.2 0.4nm,0.7s						
MKAR	Makanchi Array	65.93	324	P	P	00 16 32.0	+1.0
	0.3nm,0.6s,baz=113,slow=7.0,SNR=3.2 0.3nm,0.6s						
KURBB	Kurchatov Arra	69.99	326	P	P	00 16 55.4	-1.1
	0.3nm,0.7s,baz=113,slow=6.1,SNR=2.0 0.3nm,0.7s						

RSNC 19 00:09:37.3±0.0, 11°N±2°×77°4W±°, h23km±2km, M1.8, mb3.4, mB5.3, ML2.0, Mw(mB)4.7, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRJC	Cerrejon, Guaj	0.67	92	P	Pb	00 09 49.1	-1.2
CRJC				S	Sb	00 09 59.6	+0.4
ARGC	Ariguani, Magd	1.35	210	P	Pb	00 10 01.9	-0.1
ARGC				S	Sn	00 10 18.3	+0.2
URIC	Uribia, Colomb	1.67	67	P	Pn	00 10 04.4	-0.8
URIC				S	Sn	00 10 25.1	-0.8
SJCC	San Jacinto, C	1.96	235	P	Pn	00 10 08.3	-0.9
SJCC				S	Sn	00 10 32.4	-0.7
OCAC	Ocana	2.79	175	P	Pn	00 10 20.2	-0.6
OCAC				S	Sn	00 10 54.9	+1.0
ZARC	Zaragoza, Cauc	3.75	200	P	Pn	00 10 38.0	+4.2
ZARC				S	Sb	00 11 24.6	-3.3
PAMC	Pamplona, Colo	3.77	167	P	Pn	00 10 36.6	+2.0
PAMC				S	Sn	00 11 17.8	-0.7
PTBC	PUERTO BERRIO,	4.56	191	P	Pn	00 10 48.4	+3.5
PTBC				S	Sn	00 11 39.6	+2.3
RUSC	La Rusia	5.14	175	P	Pn	00 10 55.0	+1.7
	4.9nm,1.4s						
RUSC				S	Sn	00 11 52.6	+0.4
	4.9nm,1.4s						
NORC	Norcasia	5.59	193	P	Pn	00 10 58.8	-0.4
	3.0nm,1.8s						
NORC				S	Sn	00 12 03.9	+1.1
	3.0nm,1.8s						
PTAC	Punta Ardita,	5.71	228	P	Pn	00 11 03.7	+3.0
	15nm,1.1s,3μm						
PTAC				S	Sn	00 12 05.8	+0.3
	15nm,1.1s,3μm						
GUY2C	Guyana, Caldas	6.05	197	P	Pn	00 11 03.2	-2.6
GUY2C				S	Sn	00 12 15.6	+1.0

IDC 19 00:47:26.0±1.2, 37°50N×20°74E, h0km, mb3.5/9, mbtmp3.4/18, ML3.4/8, Error ellipse: s-maj=22.1km s-min=16.2km az=165.0
ATH 19 00:47:27.4, 37°34N×20°57E, h12km±3km, ML3.5/6, Error ellipse: s-maj=3.5km s-min=1.7km az=27.0
THE 19 00:47:28.3, 37°39N×20°58E, h6km, ML3.5/10, Error ellipse: s-maj=1.0km s-min=0.5km az=51.0

ISC 19 00:47:28.1±1.2, 37°38N±0°04×20°60E±0°03, h13km±8km, n59, σ1°23/73, mb3.5/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.33	32	P	Pg	00 47 34.7	-0.1
KRI1				S	Sg	00 47 39.7	+0.4
	14μm,0.4s						
LTHK	Lithakia	0.38	30	P	Pg	00 47 35.5	-0.1
LTHK				S	Sb	00 47 41.5	-0.8
LTHK				AML	AML	00 47 42.2	
	comp=N,26907μm,0.3s						
LTHK				AML	AML	00 47 43.1	
	comp=E,21573μm,0.4s						
RTZL	Ratzakli, Kefa	0.70	11	P	Pb	00 47 41.6	-0.6
RTZL				S	Sb	00 47 52.3	+0.5
PSDA	Pessada-Kefalo	0.73	359	P	Pb	00 47 42.0	-0.6
PSDA				S	Sb	00 47 52.3	-0.2
	comp=E,6μm,0.4s						
PSDA	Pessada-Kefalo	0.73	359	P	Pb	00 47 41.9	-0.7
VLS	Valsamata	0.79	359	P	Pb	00 47 43.1	-0.6
VLS				S	Sb	00 47 54.8	+0.5
VLS	Valsamata	0.79	359	P	Pb	00 47 43.1	-0.6
VLS				S	Sb	00 47 54.3	0.0
VLS				AML	AML	00 47 59.2	
	comp=E,10375μm,0.4s						
VLS				AML	AML	00 48 02.5	
	comp=N,6627μm,0.8s						
LXR1	Lixouri, Cepha	0.82	351	P	Pb	00 47 44.2	0.0
LXR1				S	Sb	00 47 55.4	+0.2
	comp=N,16μm,0.5s						
LXRA	Lixouri, Kepha	0.82	351	P	Pb	00 47 44.2	0.0
LXRA				AML	AML	00 48 01.0	
	comp=E,19444μm,0.8s						
LXRA				AML	AML	00 48 02.7	
	comp=N,18370μm,0.4s						
SMHA	Samh	0.87	2	P	Pg	00 47 43.8	-1.0
SMHA				S	Sb	00 47 57.0	+0.6
DMLN	Damoulianata-K	0.87	348	P	Pg	00 47 44.1	-0.9
AMT	Artemida-Makis	0.90	80	P	Pg	00 47 44.8	-0.5
RLS	Riolos of Patr	0.96	45	P	Pg	00 47 46.1	-0.5
VSK1	VASILIKIADES	1.02	358	P	Pg	00 47 47.0	-0.8
VSK1				S	Sn	00 48 02.3	0.0
	comp=N,4μm,0.5s						
PYL	PYLOS	1.03	118	P	Pg	00 47 46.6	-1.4
DRO	Drossia	1.05	57	P	Pg	00 47 47.4	-0.9
DRO				S	Sn	00 48 03.7	+0.8
	comp=N,2μm,0.6s						
DRO	Drossia	1.05	57	P	Pg	00 47 47.4	-0.9
FSK	Fiskardo	1.07	358	P	Pg	00 47 47.9	-0.9
FSK				S	Sn	00 48 03.7	+0.2
	comp=N,3μm,0.7s						
FSK	Fiskardo	1.07	358	P	Pg	00 47 47.9	-0.9
FSK				S	Sn	00 48 03.4	-0.1
FSK				AML	AML	00 48 08.6	
	comp=E,4464μm,0.5s						
FSK				AML	AML	00 48 11.9	
	comp=N,4972μm,0.8s						
ITM	Ithomi	1.08	101	P	Pg	00 47 48.5	-0.3
ITM				S	Sn	00 48 04.8	+1.2
	comp=N,1μm,0.7s						
ITM	Ithomi	1.08	101	P	Pg	00 47 48.4	-0.4
ITM				AML	AML	00 48 11.9	
	comp=N,2231μm,0.8s						
ITM				AML	AML	00 48 15.1	
	comp=E,2964μm,0.6s						
AST1	Astakos	1.22	18	P	Pg	00 47 50.8	-0.7
AST1				S	Sn	00 48 08.4	+1.3
	comp=E,2μm,0.7s						
EVGI	Lefkada island	1.23	2	P	Pg	00 47 50.9	-1.0
EVGI				S	Sn	00 48 08.8	+1.3
	comp=E,2μm,0.3s						
DRAG	Dragano-Lefkad	1.30	359	P	Pg	00 47 52.2	-0.8
UPR	University Cam	1.30	46	P	Pg	00 47 53.3	+0.2
NYDR	Nydri-Lefkada	1.33	3	P	Pb	00 47 52.7	-0.1
NYDR				S	Sn	00 48 11.1	+1.3
	comp=E,1μm,0.6s						
KLV	Kalavryta, Ach	1.39	61	P	Pn	00 47 53.7	+0.4
KLV	Kalavryta, Ach	1.39	61	P	Pn	00 47 53.0	-0.2
KLV				AML	AML	00 48 27.6	
	comp=E,896μm,0.6s						
KLV				AML	AML	00 48 29.5	
	comp=N,1123μm,0.9s						
LKD2	Lefkada island	1.40	2	P	Pn	00 47 53.5	+0.2
TSLK	Tsoukalades, L	1.44	2	P	Pb	00 47 54.6	-0.1
TSLK	Tsoukalades, L	1.44	2	P	Pb	00 47 54.6	-0.1
EFP	Efpalio	1.47	44	P	Pb	00 47 55.0	-0.2
GUR	Goura	1.49	68	P	Pb	00 47 55.4	-0.2
OHR	Ohrid	3.73	2	iPn	Pn	00 48 28.2	+2.9
IDI	Anoyia	4.05	120	Sn	Sn	00 49 19.1	+2.1
	baz=279,slow=18						
VAY	Valandovo	4.22	21	iPn	Pn	00 48 34.1	+2.1
VAE	Valguarnera	4.93	273	Pn	Pn	00 48 44.8	+3.0
	comp=N,6.5nm,0.9s,baz=126,slow=20,SNR=1.5						
VAE				Sn	Sn	00 49 37.6	-1.1
	comp=N,1.0nm,0.3s,baz=140,slow=16,SNR=1.9						
MLR	Muntele Rosu	9.04	25	Pn	Pn	00 49 37.9	-0.3
	comp=N,0.1nm,0.3s,baz=199,slow=18,SNR=2.6 comp=N,2.1nm,0.9s						
KEST	Kesra	9.20	263	Pn	Pn	00 49 42.7	+2.1
	comp=N,0.1nm,0.3s,baz=81,slow=23,SNR=1.5						
KEST				Sn	Sn	00 51 22.4	-1.6
	baz=153,slow=23,SNR=1.5 comp=N,1.8nm,0.8s						
SOKA	Soboth	10.16	338	iPn	Pn	00 49 58.9	+5.2
	comp=N,0.6nm,0.5s						
OBKA	Obir	10.17	336	iPn	Pn	00 50 00.3	+6.6
	comp=N,1.1nm,0.4s						
BRTR	Keskin Array B	10.48	73	Pn	Pn	00 49 57.9	-0.2
	comp=N,0.1nm,0.3s,baz=258,slow=11,SNR=1.3 comp=N,0.1nm,0.4s						
VYHS	Vyhne	11.18	354	ePN	Pn	00 50 17.0	+10
VYHS				e		01 02 18.6	
MOA	Molln	11.45	338	iPn	Pn	00 50 15.1	+3.9
	comp=N,0.6nm,0.3s						
LESA	Schwarzleotal	11.61	332	iPn	Pn	00 50 17.2	+3.8
	comp=N,1.1nm,0.4s						
DAVOX	Davos/Dischmat	12.30	323	Pn	Pn	00 50 22.8	-0.1
	comp=N,0.2nm,0.3s,baz=210,slow=16,SNR=1.9 comp=N,0.7nm,0.4s						
GERES	GERESS Array B	12.51	339	Pn	Pn	00 50 25.3	-0.4
	comp=N,0.1nm,0.3s,baz=154,slow=14,SNR=2.1 comp=N,0.5nm,0.6s						
MMAI	Mount Meron Ar	12.87	105	Pn	Pn	00 50 30.3	-0.4
	comp=N,0.4nm,0.3s,baz=298,slow=12,SNR=1.6 comp=N,2.2nm,0.9s						
AKASG	Malin Array Be	14.67	22	Pn	Pn	00 50 50.1	-5.1
	comp=N,0.2nm,0.3s,baz=211,slow=9.1,SNR=1.6 comp=N,0.1nm,0.3s						
ESDC	Sonseca Array	19.34	284	P	P	00 51 52.0	-1.2
	comp=N,0.1nm,0.3s,baz=84,slow=11,SNR=2.9 comp=N,0.7nm,0.9s						
HFS	Hagfors	23.19	351	P	P	00 52 32.6	-1.7
	comp=N,2.6nm,0.7s,baz=165,slow=12,SNR=6.5 comp=N,2.6nm,0.7s						
EKA	Eskdalemuir Ar	24.11	326	P	P	00 52 43.6	+0.3
	comp=N,1.6nm,0.7s,baz=130,slow=7.8,SNR=4.7 comp=N,1.6nm,0.7s						
FINES	FINESS Array B	24.33	6	P	P	00 52 44.4	-0.8
	comp=N,1.6nm,0.7s,baz=177,slow=10,SNR=8.1 comp=N,1.6nm,0.7s						
NOA	NORSAR Array B	24.41	349	P	P	00 52 45.5	-0.4
	comp=N,0.3nm,0.5s,baz=163,slow=10,SNR=1.5 comp=N,0.3nm,0.5s						
TORD	Torodi Ar. Bea	29.46	220	P	P	00 53 32.5	+0.9
	comp=N,0.2nm,0.7s,baz=30,slow=9.4,SNR=1.9 comp=N,0.2nm,0.7s						
BVAR	Borovoye Array	37.58	49	P	P	00 54 42.4	+0.4
	comp=N,0.2nm,0.6s,baz=280,slow=8.6,SNR=1.6 comp=N,0.2nm,0.6s						
KURBB	Kurchatov Arra	42.65	53	P	P	00 55 23.5	-0.6
	comp=N,0.2nm,0.2s,baz=276,slow=9.2,SNR=2.2 comp=N,0.2nm,0.2s						
MKAR	Makanchi Array	45.67	58	P	P	00 55 46.2	-2.1
	comp=N,0.3nm,0.6s,baz=271,slow=7.3,SNR=1.2 comp=N,0.3nm,0.6s						
ZALV	Zalesovo Beam	46.18	48	P	P	00 55 49.4	-2.8
	comp=N,0.3nm,0.4s,baz=278,slow=7.6,SNR=2.5 comp=N,0.3nm,0.4s						

IDC 19 00:50:40.4±1.5, 2°35S×121°07E, h0km, mb3.5/4, mbtmp3.6/5, ML3.6/1, MS3.6/1, Error ellipse: s-maj=50.7km s-min=25.0km az=64.0
DJA 19 00:50:42.8±0.2, 2°S±1°×12°1E±°, h10km, M3.9/12, MLv3.9/12

ISC 19 00:50:41.3±2.4, 2°45S±0°04×120°96E±0°05, h5km±17km, n15, σ0°76/21, mb3.6/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	1.29	243	P	Pn	00 51 04.9	-1.1
TTSI				S	Sg	00 51 22.5	-0.2
APSI	Ampana	1.68	24	P	Pn	00 51 11.2	-0.1
PCI	Palu	1.90	324	P	Pb	00 51 16.6	0.0
PCI				S	Sb	00 51 41.0	+0.3
SPSI	Sidrap Palu	1.92	218	P	Pn	00 51 14.2	-0.5
SPSI				S	Sn	00 51 39.2	-0.1
BNSI	Bone	2.12	204	P	Pn	00 51 17.8	+0.4
BNSI				S	Sn	00 51 44.9	+0.8
KDI	Kendari	2.23	132	P	Pn	00 51 19.9	+0.9
KDI				S	Sb	00 51 49.0	-1.1
LUWI	Luwuk	2.29	52	P	Pn	00 51 19.7	0.0
LUWI				S	Sb	00 51 51.7	0.0
KAPI	Kappang	2.82	205	Pn	Pn	00 51 28.0	+0.9
	9.2nm,0.3s,baz=31,slow=13,SNR=14						
KAPI				Sn	Sn	00 52 01.2	-0.3
	4.7nm,0.3s,baz=119,slow=19,SNR=1.9 23nm,0.4s						
BSSI	Bau Bau, Buton	3.70	187	P	Pn	00 51 40.5	+1.3
SMKI	Samarinda	4.25	298	P	Pn	00 51 48.1	+1.3
WRA	Warramunga Arr	21.75	144	P	P	00 55 34.3	+0.3
	1.0nm,1.0s,baz=324,slow=10,SNR=4.8 1.0nm,1.0s						
ASAR	Alice Springs	24.53	150	P	P	00 56 02.6	+0.5
	0.3nm,0.3s,baz=316,slow=7.7,SNR=5.1 0.3nm,0.3s						
STKA	Stephens Creek	35.13	149	P	P	00 57 35.4	-0.6
	1.2nm,0.6s,baz=339,slow=13,SNR=3.5 1.2nm,0.6s						
DZM	Mont Dzumac	48.27	118	LR	LR	01 19 04.4	
	comp=Z,70nm,21.3s,baz=261,slow=35						
MKAR	Makanchi Array	59.66	330	P	P	01 00 46.4	-0.4
	0.6nm,0.8s,baz=133,slow=8.4,SNR=5.0 0.6nm,0.8s						

IDC 19 01:06:41.1±4.9, 5°50S×151°44E, h47km±45km, mb3.7/8, mbtmp4.0/9, ML1.8/1, MS3.6/3, Error ellipse: s-maj=39.7km s-min=28.2km az=110.0

ISC 19 01:06:42.1±1.1, 5°5S±0°2×151°4E±0°2, h57km, n14, σ0°97/11, mb3.9/8, MS3.6/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.74	227	P	Pn	01 08 05.9	+1.1
	1.9nm,0.3s,baz=15,slow=11,SNR=7.1						
PMG				S	Sn	01 09 08.0	-1.4
	19nm,0.5s,baz=18,slow=20,SNR=3.3 22nm,0.8s						
CTA	Charters Tower	15.35	199	LR	LR	01 15 57.0	
	comp=Z,7.7nm,18.4s,baz=32,slow=36						
WRA	Warramunga Arr	21.96	228	P	P	01 11 31.1	-0.2
	7.0nm,1.3s,baz=53,slow=9.9,SNR=14 7.0nm,1.3s						
ASAR	Alice Springs	24.72	221	P	P	01 11 58.3	0.0
	0.7nm,0.3s,baz=58,slow=8.8,SNR=4.8 0.7nm,0.3s						
STKA	Stephens Creek	27.81	198	P	P	01 12 25.8	-0.2
	1.2nm,0.7s,baz=342,slow=16,SNR=2.1 1.2nm,0.7s						
FITZ	Fitzroy Crossi	28.12	241	LR	LR	01 24 45.1	
	comp=Z,87nm,18.5s,baz=220,slow=38						
RPZ	Rata Peaks	41.80	159	LR	LR	01 30 34.3	
	comp=Z,86nm,21.4s,baz=158,slow=34						
NWAO	Narrogin (SRO)	41.92	225	LR	LR	01 32 20.1	
	comp=Z,73nm,18.4s,baz=76,slow=37						
CMAR	Chiang Mai Arr	56.95	296	P	P	01 16 23.5	+1.4
	0.8nm,0.3s,baz=93,slow=6.2,SNR=4.1 0.8nm,0.3s						
SONM	Songino Array	66.20	329	P	P	01 17 23.3	-0.9
	0.5nm,0.7s,baz=146,slow=3.1,SNR=3.2 0.5nm,0.7s						
ZALV	Zalesovo Beam	80.98	327	P	P	01 18 50.1	-0.4
	1.3nm,0.8s,baz=101,slow=6.2,SNR=5.3 1.3nm,0.8s						
ILAR	Eielson Array	83.32	22	P	P	01 19 01.8	-0.9
	0.9nm,0.8s,baz=253,slow=5.5,SNR=9.4 0.9nm,0.8s						
NVAR	Mina Array Bea	93.59	52	P	P	01 19 53.5	+0.7
	1.1nm,0.8s,baz=251,slow=7.2,SNR=8.2 1.1nm,0.8s						
TORD	Torodi Ar. Bea	149.21	286	PKPbc	PKPbc	01 26 25.4	-0.1

PODR ⇑eSg **Sg** **01 08 43.9 -0.2**
PODR IAML 01 08 48.2
comp=N,292nm,0.3s
PODR IAML 01 08 51.3
comp=E,493nm,0.3s
LOBH Bahia de las A 0.28 255 *i* P **Pg** **01 08 39.8 -0.8**
LOBH eS **Sb** **01 08 44.3 -0.5**
LOBH IAML 01 08 55.5
comp=Z,349nm,0.5s
LOBA2 Hotel Casa Bon 0.29 60⇓ePg **Pg** **01 08 40.7 0.0**
LOBA2 ⇑eSg **Sg** **01 08 43.8 -1.4**
LOBA2 IAML 01 08 47.9
comp=E,21nm,0.3s
LOBA2 IAML 01 08 49.5
comp=N,26nm,0.4s
LODU1 El Espartillar 0.43 345 *i* P **Pg** **01 08 42.6 -0.5**
LODU1 eS **Sg** **01 08 50.3 +1.2**
LODU1 IAML 01 08 50.5
comp=Z,225nm,0.8s
LONE3 El Aguacate, B 0.67 352 *i* P **Pb** **01 08 46.7 -0.7**
LONE3 eS **Sb** **01 08 56.9 +0.5**
LONE3 IAML 01 08 59.6
comp=Z,36nm,0.5s
JIDR Jimani 0.72 320⇑ePg **Pb** **01 08 47.1 -1.2**
JIDR ⇑eSg **Sb** **01 08 58.3 +0.5**
JIDR IAML 01 08 59.1
comp=E,129nm,0.5s
JIDR IAML 01 09 02.4
comp=N,79nm,0.3s
SDDR Presa de Saban 1.04 4⇑ePg **Pn** **01 08 54.7 +0.9**
SDDR ⇑eSg **Sb** **01 09 07.8 +0.8**
SDDR IAML 01 09 08.8
comp=E,24nm,4.7s
SDDR IAML 01 09 28.0
comp=N,25nm,1.6s
PAPH Port-au-Prince 1.07 303⇑ePg **Pb** **01 08 53.7 -0.4**
PAPH ⇓eSg **Sb** **01 09 08.7 +1.0**
PAPH IAML 01 09 10.5
comp=E,53nm,0.6s
PAPH IAML 01 09 20.9
comp=N,54nm,0.3s

*IDC **19** 01:10:23.0±0.6, 19°.47N×38°.80E, h0km, mb4.2/29, mbtmp4.2/33, ML3.5/4, MS3.9/41, Error ellipse: s-maj=14.3km s-min=13.0km az=140.0*
*SGS **19** 01:10:24.9, 19°.61N×39°.06E, h16km, Ml3.8*
*NEIC **19** 01:10:25.9±1.5, 19°.63N±0°.06×38°.83E±0°.04, h10km±1km, mb4.5/56, Error ellipse: s-maj=11.8km s-min=4.2km az=204.0*
*GII **19** 01:10:28.9±0.2, 19°.59N×38°.73E, h20km, confirmed*
ISC 19 01:10:26.2±0.4, 19°.58N±0°.04×38°.94E±0°.04, h18km, n246, σ1s76/228, mb4.5/72, MS4.0/41, 7C-6D, Red Sea

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
SADE2	**SADE2**	**1.41**	**42**	P	Pn	01 10 47.1	-3.9
SADE2	**SADE2**	**1.41**	**42**	S	**Sn**	**01 11 04.6**	**-4.5**
SADE1	**SADE1**	**1.42**	**46**	P	Pn	01 10 47.6	-3.6
SADE1	**SADE1**	**1.42**	**46**	S	**Sn**	**01 11 04.9**	**-4.6**
LTHS	**Al Lith**	**1.55**	**63**	P	**Pn**	**01 10 49.2**	**-3.8**
LTHS	**Al Lith**	**1.55**	**63**	S	**Sn**	**01 11 08.5**	**-4.1**
LBNS	**Jabal Laban**	**1.72**	**32**	P	Pn	01 10 51.7	-3.5
LBNS	**Jabal Laban**	**1.72**	**32**	S	**Sn**	**01 11 11.9**	**-4.8**
WASQA	**WASQA**	**1.87**	**73**	S	**Sn**	**01 11 16.8**	**-3.8**
WASQA	**WASQA**	**1.87**	**73**	P	**Pn**	**01 10 54.3**	**-3.0**
QNFDS	**Al Qunfudhah**	**1.90**	**83**	S	**Sn**	**01 11 17.1**	**-4.2**
QNFDS				P	**Pn**	**01 10 54.5**	**-3.3**
SHMS		**1.99**	**21**	P	**Pn**	**01 10 57.1**	**-2.0**
FRAS	**Faraa**	**2.09**	**45**	S	**Sn**	**01 11 23.5**	**-2.8**
FRAS	**Faraa**	**2.09**	**45**	P	**Pn**	**01 10 58.2**	**-2.4**
QNF01	**Al Qunfudhah**	**2.22**	**94**	P	**Pn**	**01 10 59.4**	**-2.8**
QNF01	**Al Qunfudhah**	**2.22**	**94**	S	**Sn**	**01 11 25.2**	**-3.9**
QNF02	**Al Qunfudhah**	**2.46**	**102**	S	**Sn**	**01 11 31.9**	**-3.2**
QNF02	**Al Qunfudhah**	**2.46**	**102**	P	**Pn**	**01 11 03.3**	**-2.2**
BAHS2	**Abu Rakh**	**2.48**	**58**	P	**Pn**	**01 11 04.1**	**-1.6**
FDAS		**2.61**	**30**	P	**Pn**	**01 11 05.7**	**-1.8**
KHLS2	**Khulais**	**2.72**	**11**	P	**Pn**	**01 11 07.6**	**-1.5**
BRK01	**Al Birk**	**2.81**	**117**	S	**Sn**	**01 11 40.6**	**-3.1**
BRK01	**Al Birk**	**2.81**	**117**	P	**Pn**	**01 11 07.5**	**-2.8**
BRK04	**Al Birk**	**2.88**	**109**	P	**Pn**	**01 11 09.0**	**-2.2**
BRK04	**Al Birk**	**2.88**	**109**	S	**Sn**	**01 11 41.9**	**-3.6**
MDRK2	**MDRK2**	**2.97**	**24**	P	**Pn**	**01 11 11.3**	**-1.4**
NAMS	**An Nimas**	**3.11**	**97**	P	**Pn**	**01 11 13.5**	**-1.1**
BRK03	**Al Birk**	**3.13**	**116**	P	**Pn**	**01 11 12.8**	**-1.9**
BRK03	**Al Birk**	**3.13**	**116**	S	**Sn**	**01 11 48.5**	**-3.1**
BRK02	**Al Birk**	**3.17**	**120**	P	**Pn**	**01 11 13.2**	**-2.1**
GHASH	**GHASH**	**3.35**	**21**	P	**Pn**	**01 11 16.3**	**-1.5**
ASIR3	**ASIR3**	**3.36**	**105**	P	**Pn**	**01 11 17.0**	**-1.1**
HAJR	**Hajar**	**3.37**	**12**	P	**Pn**	**01 11 16.0**	**-2.1**
HAJR	**Hajar**	**3.37**	**12**	S	**Sn**	**01 11 54.6**	**-3.1**
ENMS	**ENMS**	**3.47**	**98**	P	**Pn**	**01 11 19.1**	**-0.4**
DRBS	**Ad Darb**	**3.63**	**118**	P	**Pn**	**01 11 19.7**	**-1.9**
FRSS2	**Sair Farasan I**	**3.84**	**135**	P	**Pn**	**01 11 22.2**	**-2.2**
ASIR1	**ASIR1**	**3.89**	**104**	P	**Pn**	**01 11 26.9**	**+1.5**
BESHS	**BESHS**	**4.31**	**120**	P	**Pn**	**01 11 29.4**	**-1.5**
RAYN	**Ar Rayn**	**7.26**	**56**	Pn	**Pn**	**01 12 13.2**	**+1.6**
DESE	**Dese**	**8.44**	**175**	*e*S	Sb	01 14 50.3	+18
ATD	**Arta Tunnel**	**8.85**	**154**	Pn	**Pn**	**01 12 34.8**	**+1.4**
ATD	**Arta Tunnel**	**8.85**	**154**	Pn	**Pn**	**01 12 32.2**	**-1.1**
	baz=248,slow=23						
FURI	**Furi**	**10.62**	**181**	Pn	**Pn**	**01 12 58.0**	**+0.1**
EIL	**Elat**	**10.68**	**341**	Pn	**Pn**	**01 12 59.2**	**+0.9**
	0.1nm,0.3s,baz=107,slow=2.7,SNR=3.6						
EIL				LR	LR	01 16 22.9	
	comp=Z,443nm,18.7s,baz=168,slow=34						
	3.8nm,0.8s						
EIL	**Elat**	**10.68**	**341**	P	**Pn**	**01 12 59.5**	**+1.1**
EIL	**Elat**	**10.68**	**341**	P	**Pn**	**01 12 59.5**	**+1.1**
AQBJ	**Aqaba**	**10.70**	**341**	P	**Pn**	**01 13 00.1**	**+1.4**
MBRI	**Mt Berech**	**10.81**	**341**	P	**Pn**	**01 13 01.8**	**+1.7**
MBRI	**Mt Berech**	**10.81**	**341**	P	**Pn**	**01 13 01.9**	**+1.7**
HRFI	**Mount Harif**	**11.00**	**342**	P	**Pn**	**01 13 04.7**	**+2.0**
HSNJ	**Maan**	**11.03**	**345**	P	**Pn**	**01 13 05.7**	**+2.4**
KRMI	**Paran Flat**	**11.16**	**341**	P	**Pn**	**01 13 07.0**	**+2.0**
PRNI	**Paran**	**11.30**	**342**	P	**Pn**	**01 13 10.5**	**+3.6**
PRNI	**Paran**	**11.30**	**342**	P	**Pn**	**01 13 09.2**	**+2.3**
ZFRI	**Zfri**	**11.44**	**343**	P	**Pn**	**01 13 11.1**	**+2.3**
ZFRI	**Zfri**	**11.44**	**343**	P	**Pn**	**01 13 10.9**	**+2.0**
KZIT	**Kziot**	**12.00**	**341**	P	**Pn**	**01 13 18.6**	**+2.1**
KZIT	**Kziot**	**12.00**	**341**	P	**Pn**	**01 13 18.3**	**+1.8**
LISJ	**El Lisan**	**12.02**	**346**	P	Pn	01 13 22.0	+5.3
MSBI	**Mazada**	**12.12**	**345**	P	**Pn**	**01 13 19.9**	**+1.9**
YTIR	**Yattir**	**12.23**	**344**	P	**Pn**	**01 13 21.6**	**+1.9**
DSI	**Dead Sea**	**12.36**	**346**	P	**Pn**	**01 13 23.5**	**+2.1**
AMAZ	**Amatzia**	**12.44**	**344**	P	**Pn**	**01 13 24.2**	**+1.7**
ASF	**Jabal al Asfar**	**12.67**	**352**	Pn	**Pn**	**01 13 27.6**	**+1.8**
	0.3nm,0.3s,baz=82,slow=0.0,SNR=6.5						
	5.4nm,1.0s						
ASF	**Jabal al Asfar**	**12.67**	**352**	P	**Pn**	**01 13 27.8**	**+2.1**
SLTI	**Sal'it**	**13.09**	**345**	P	Pn	01 13 36.8	+5.5
OFRI	**`Ofer**	**13.46**	**346**	P	**Pn**	**01 13 38.3**	**+1.9**
BLGI	**Bet Lehem HaGe**	**13.52**	**346**	P	**Pn**	**01 13 39.5**	**+2.2**
MMAI	**Mount Meron Ar**	**13.75**	**347**	Pn	**Pn**	**01 13 41.2**	**+0.8**
	0.5nm,0.3s,baz=140,slow=14,SNR=2.7						
MMAI				LR	LR	01 18 26.5	
	comp=Z,386nm,19.6s,baz=114,slow=35						
	0.5nm,0.5s						
ABTO	**Aybut**	**13.80**	**97**	P	**P**	**01 13 50.4**	**+0.9**
ABTO				S	**S**	**01 16 34.6**	**-1.8**
MZR	**Muzera**	**13.97**	**73**	P	**P**	**01 13 49.9**	**-1.5**
WHFO	**Wadi Hawf**	**14.15**	**94**	P	**P**	**01 13 51.3**	**-2.1**
WHFO				S	**S**	**01 16 39.4**	**-4.0**
RBK	**Rabkut**	**14.62**	**96**	P	**P**	**01 14 03.0**	**+4.3**
	SNR=6.3						
DMTO	**DMTO**	**15.29**	**94**	S	**S**	**01 17 11.1**	**+4.5**
CSS	**Mathiatis**	**16.11**	**343**	Pn	**Pn**	**01 14 10.1**	**-1.8**
ALNE	**Al Ain**	**16.23**	**71**	P	**P**	**01 14 15.9**	**-0.6**
	SNR=5.1						
ALNE				P	**P**	**01 14 15.9**	**-0.6**
	SNR=5.1						
LODK	**Lodwar**	**16.43**	**193**	Pn	**Pn**	**01 14 17.3**	**+1.2**
ASHO	**Ashiyiah**	**16.65**	**69**	P	**Pn**	**01 14 20.5**	**+1.6**
ASHO				P	**Pn**	**01 14 20.5**	**+1.6**
HATD	**Hatta, Dubai**	**16.75**	**69**	P	**Pn**	**01 14 21.8**	**+1.7**
ARQ	**Araqi**	**16.79**	**74**	P	**P**	**01 14 24.3**	**+1.6**
	SNR=8.7						
UOSS	**Minazif**	**16.85**	**68**	Pn	**Pn**	**01 14 22.7**	**+1.5**
UOSS				IAmb	IAmb	01 14 29.0	
	comp=Z,37nm,0.8s						
UOSS	**Minazif**	**16.85**	**68**	P	**P**	**01 14 23.5**	**+0.2**
UOSS				P	**P**	**01 14 23.5**	**+0.2**
MASF	**Masafi**	**16.92**	**67**	P	**P**	**01 14 26.8**	**+2.6**
SOHO	**SOHO**	**16.95**	**71**	P	**P**	**01 14 27.3**	**+2.9**
SOHO				P	**P**	**01 14 27.3**	**+2.9**
MDH	**Madha**	**17.02**	**67**	P	**P**	**01 14 28.9**	**+3.6**
SHME	**Shamm**	**17.11**	**65**	P	**P**	**01 14 27.1**	**+0.9**
BSY	**Bisya**	**17.32**	**76**	P	**P**	**01 14 29.9**	**+1.3**
	SNR=9.4						
BSY				S	**S**	**01 17 49.2**	**+0.9**
HOQ	**Hoqain**	**17.54**	**74**	P	**P**	**01 14 34.3**	**+3.2**
MARD	**Mardin**	**17.74**	**5**		**Pn**	**01 14 31.9**	**-0.6**
JMDO	**Jabal Madar**	**18.11**	**78**	P	**P**	**01 14 38.5**	**+1.2**
	SNR=11						
SMDO	**Samad**	**18.14**	**76**	P	**P**	**01 14 38.5**	**+0.8**
	SNR=8.5						
SMDO				P	**P**	**01 14 38.5**	**+0.8**
	SNR=8.5						
BIDO	**Bidbid**	**18.27**	**74**	P	**P**	**01 14 41.4**	**+2.3**
WSAR	**Wadi Sarin**	**18.69**	**75**	P	**Pn**	**01 14 44.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=276,slow=13,SNR=7.0						
WSAR				LR	LR	01 22 52.9	
	comp=Z,862nm,18.2s,baz=280,slow=40						
	comp=Z,10nm,0.8s						
WBK	**Wadi Bani Khal**	**18.93**	**77**	P	**Pn**	**01 14 49.3**	**+2.3**
	SNR=12						
GURO	**Guroymak-BITLI**	**19.09**	**7**	P	**P**	**01 14 49.0**	**+0.9**
JLN	**Jalan Bani Buh**	**19.30**	**79**	P	**Pn**	**01 14 52.4**	**+0.9**
	SNR=12						
BR131	**Keskin Array S**	**20.59**	**348**	P	**P**	**01 15 04.9**	**+0.4**
BRTR	**Keskin Array B**	**20.59**	**348**	P	**P**	**01 15 03.6**	**-0.8**
BRTR	**Keskin Array B**	**20.59**	**348**	P	**P**	**01 15 06.0**	**+1.5**
	comp=Z,5.8nm,1.1s,baz=164,slow=14,SNR=15						
BRTR				PcP	**PcP**	**01 19 14.6**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=126,slow=3.2,SNR=5.3						
BRTR				LR	LR	01 22 51.5	
	comp=Z,131nm,21.5s,baz=152,slow=36						
	comp=Z,5.8nm,1.1s						
KMBO	**Kilima Mbogo**	**20.64**	**185**	P	**P**	**01 15 07.1**	**+1.8**
KMBO				IAmb	IAmb	01 15 13.3	
	comp=Z,24nm,1.5s						
KMBO	**Kilima Mbogo**	**20.64**	**185**	P	**P**	**01 15 05.1**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=349,slow=7.7,SNR=7.7						
KMBO				LR	LR	01 22 08.9	
	comp=Z,381nm,20.4s,baz=302,slow=34						
	comp=Z,2.0nm,0.8s						
MANT	**Manisa**	**20.89**	**337**	P	**P**	**01 15 07.8**	**+0.1**
MANT				IAmb	IAmb	01 15 10.7	
	comp=Z,51nm,1.3s						
ANTO	**Ankara**	**20.90**	**347**	P	**P**	**01 15 08.0**	**+0.3**
GNI	**Garni**	**21.10**	**12**	P	**P**	**01 15 10.4**	**+0.5**
GNI				IAmb	IAmb	01 15 18.0	
	comp=Z,18nm,0.9s						
GNI	**Garni**	**21.10**	**12**	P	**P**	**01 15 12.1**	**+2.2**
	comp=Z,5.6nm,0.8s,baz=202,slow=11,SNR=3.3						
GNI				LR	LR	01 24 02.2	
	comp=Z,284nm,18.3s,baz=210,slow=39						
	comp=Z,5.6nm,0.8s						
KARS	**Kars**	**21.28**	**9**	P	**P**	**01 15 14.7**	**+2.8**
MBAR	**Mbarara**	**21.61**	**203**	P	**P**	**01 15 15.4**	**-0.2**
MBAR	**Mbarara**	**21.61**	**203**	P	**P**	**01 15 12.6**	**-3.0**
	comp=Z,2.0nm,0.2s,baz=360,slow=10.0,SNR=1.5						
MBAR				LR	LR	01 22 44.5	
	comp=Z,224nm,18.3s,baz=11,slow=35						
	comp=Z,2.0nm,0.2s						
KIBK	**Kibwezi**	**21.80**	**182**	P	**P**	**01 15 18.5**	**+0.9**
KBZ	**Khabaz**	**24.31**	**7**	P	**P**	**01 15 42.7**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=174,slow=7.8,SNR=5.9						
KBZ				LR	LR	01 26 04.9	
	comp=Z,176nm,19.6s,baz=208,slow=39						
	comp=Z,2.4nm,0.9s						
KIV	**Kislovodsk**	**24.51**	**7**	P	**P**	**01 15 43.9**	**-0.7**
KIV				IAmb	IAmb	01 16 16.9	
	comp=Z,12nm,1.1s						
KVAR	**Kislovodsk Arr**	**24.51**	**7**	P	**P**	**01 15 46.4**	**+1.7**
	comp=Z,1.5nm,0.8s,baz=186,slow=9.6,SNR=1.5						
	comp=Z,1.5nm,0.8s						
HRA	**Herat**	**25.39**	**50**	P	**P**	**01 15 54.3**	**+1.4**
HRA				IAmb	IAmb	01 16 15.8	
	comp=Z,9.5nm,1.3s						
VAE	**Valguarnera**	**27.84**	**315**	LR	LR	01 28 18.3	
	comp=Z,306nm,18.4s,baz=314,slow=39						
MLR	**Muntele Rosu**	**27.99**	**340**	P	**P**	**01 16 16.6**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=170,slow=6.1,SNR=1.2						
	comp=Z,1.3nm,0.8s						
MLR	**Muntele Rosu**	**27.99**	**340**	⇑P	**P**	**01 16 17.5**	**+1.4**
VRI	**Vrincioaia**	**28.09**	**342**	⇓P	**P**	**01 16 18.4**	**+1.6**
PLOR	**Plostina**	**28.10**	**342**	⇓P	**P**	**01 16 19.2**	**+2.2**
VOIR		**28.23**	**339**	⇑P	**P**	**01 16 18.2**	**-0.1**
ARR	**Arges**	**28.32**	**338**	⇑P	**P**	**01 16 19.5**	**+0.6**
HERR	**Herculane**	**28.73**	**335**	⇑P	**P**	**01 16 22.7**	**+0.2**
GZR	**Gura Zlata**	**29.01**	**336**	⇓P	**P**	**01 16 24.2**	**-0.9**
BZS	**Buzias**	**29.65**	**335**	⇓P	**P**	**01 16 29.4**	**-1.3**
MARR	**Marisel-Cluj**	**29.98**	**338**	⇑P	**P**	**01 16 34.8**	**+1.1**
SIRR	**Siria**	**30.17**	**336**	⇑P	**P**	**01 16 35.2**	**-0.2**
DRGR		**30.22**	**338**	⇑P	**P**	**01 16 35.5**	**-0.3**
KEST	**Kesra**	**30.60**	**308**	P	**P**	**01 16 39.5**	**+0.1**
	comp=Z,5.2nm,0.9s,baz=180,slow=2.0,SNR=4.5						
	comp=Z,5.2nm,0.9s						
TAM	**Tamanrasset**	**31.28**	**282**	P	**P**	**01 16 45.4**	**-0.2**
TAM				IAmb	IAmb	01 16 46.5	
	comp=Z,7.3nm,0.9s						
KIEV	**Kiev**	**31.99**	**348**	P	**P**	**01 16 51.0**	**-0.3**
KIEV				IAmb	IAmb	01 16 51.9	
	comp=Z,7.6nm,1.1s						
AKASG	**Malin Array Be**	**32.00**	**348**	P	**P**	**01 16 51.0**	**-0.3**
AKASG	**Malin Array Be**	**32.00**	**348**	P	**P**	**01 16 50.6**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=173,slow=7.5,SNR=11						
AKASG				PcP	**PcP**	**01 19 40.5**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=110,slow=2.0,SNR=4.6						
AKASG				LR	LR	01 30 50.1	
	comp=Z,86nm,18.4s,baz=177,slow=38						
	comp=Z,0.9nm,0.7s						
AKBB	**Malin Array Si**	**32.00**	**348**	P	**P**	**01 16 50.8**	**-0.5**
AKBB				IAmb	IAmb	01 16 51.9	
	comp=Z,8.4nm,1.1s						
KOLS	**Kolonicke sedl**	**32.21**	**339**	*e*P	**P**	**01 16 55.2**	**+1.9**
PSZ	**Piszkesteto**	**32.22**	**336**	P	**P**	**01 16 52.5**	**-0.9**
PSZ				IAmb	IAmb	01 16 58.7	
	comp=Z,11nm,1.2s						
STHS	**Stebnicka Huta**	**32.97**	**339**	*e*P	**P**	**01 17 01.6**	**+1.6**
VYHS	**Vyhne**	**33.10**	**335**	*e*P	**P**	**01 17 01.5**	**+0.4**
GAR	**Garm**	**33.28**	**48**	P	**P**	**01 17 04.1**	**+1.2**
SOKA	**Soboth**	**33.37**	**330**	*e*pP	**P**	**01 17 06.4**	**+2.8**
	comp=Z,12nm,2.1s						
BELG	**Belogornoye**	**33.44**	**10**	LR	LR	01 30 42.2	
	comp=Z,105nm,21.1s,baz=221,slow=36						
RONA	**Rosalia, Austr**	**33.54**	**332**	*e*pP	**P**	**01 17 07.3**	**+2.3**
	comp=Z,5.1nm,1.4s						
ARSA	**Arzberg**	**33.56**	**331**	*i* P	**P**	**01 17 06.2**	**+1.1**
	comp=Z,6.5nm,1.1s						
MODS	**Modra-Piesok**	**33.64**	**334**	*e*P	**P**	**01 17 06.2**	**+0.4**
JAVC	**Velka Javorina**	**33.86**	**335**	*e*P	**P**	**01 17 08.0**	**+0.3**
CONA	**Conrad Observa**	**33.91**	**332**	*e*P	**P**	**01 17 08.7**	**+0.5**
	comp=Z,2.3nm,1.3s						
MYKA	**Terra Mystica**	**34.02**	**328**	*e*P	**P**	**01 17 09.3**	**+0.1**
	comp=Z,2.3nm,0.6s						
ABKAR	**Akbulak array**	**34.07**	**25**	P	**P**	**01 17 09.3**	**-0.1**
BTK	**Batken**	**34.10**	**46**	P	**P**	**01 17 11.2**	**+1.2**
BTK				IAmb	IAmb	01 17 19.9	
	comp=Z,5.6nm,1.1s						
OJC	**Ojcow**	**34.16**	**338**	P	**P**	**01 17 09.5**	**-0.7**
AKTO	**Aktyubinsk**	**34.31**	**22**	LR	LR	01 34 07.9	
	comp=Z,203nm,19.5s,baz=280,slow=41						
KBA	**Koelnbreinsper**	**34.48**	**329**	*e*P	**P**	**01 17 12.2**	**-1.1**
	comp=Z,4.6nm,0.8s						
DRK	**Karamyk**	**34.52**	**48**	P	**P**	**01 17 14.4**	**+0.5**
KRUC	**Moravsky**	**34.54**	**334**	*e*P	**P**	**01 17 12.9**	**-0.7**
MOA	**Molln**	**34.58**	**330**	*i* P	**P**	**01 17 14.2**	**+0.2**
	comp=Z,4.6nm,1.1s						
MORC	**Moravsky Berou**	**34.64**	**335**	P	**P**	**01 17 13.8**	**-0.7**
MORC				IAmb	IAmb	01 17 19.7	
	comp=Z,7.7nm,1.2s						
MORC	**Moravsky Berou**	**34.64**	**335**	*e*P	**P**	**01 17 13.5**	**-1.0**
MORC	**Moravsky Berou**	**34.64**	**335**	⇓P	**P**	**01 17 12.7**	**-1.8**
VRAC	**Vranov**	**34.65**	**334**	*e*P	**P**	**01 17 13.6**	**-0.9**
ABTA	**Abfaltersbach**	**34.66**	**327**	*e*P	**P**	**01 17 15.0**	**+0.2**
	comp=Z,14nm,1.5s						
BIOA	**Bad Ischl, Aus**	**34.76**	**330**	*e*P	**P**	**01 17 16.9**	**+1.3**
	comp=Z,12nm,1.9s						
LESA	**Schwarzleotal**	**35.04**	**328**	*i* P	**P**	**01 17 17.3**	**-0.8**
	comp=Z,10nm,1.6s						
KKAR	**Karatay Array**	**35.40**	**41**	P	**P**	**01 17 21.9**	**+0.8**
WTTA	**Wattenberg**	**35.46**	**327**	*i* P	**P**	**01 17 21.6**	**-0.1**
	comp=Z,7.7nm,1.3s						
OBN	**Obninsk**	**35.52**	**358**	P	**P**	**01 17 21.1**	**-0.8**
OBN	**Obninsk**	**35.52**	**358**	P	**P**	**01 17 21.9**	**0.0**
	comp=Z,6.6nm,0.5s,baz=176,slow=9.8,SNR=5.3						
	comp=Z,6.6nm,0.5s						
WATA	**Walderalm**	**35.53**	**327**	*e*P	**P**	**01 17 23.2**	**+0.8**
	comp=Z,7.6nm,1.3s						
GEC2	**GERESS Array S**	**35.56**	**331**	P	**P**	**01 17 21.2**	**-1.3**
GEC2				IAmb	IAmb	01 17 27.6	
	comp=Z,7.8nm,1.2s						
GERES	**GERESS Array B**	**35.56**	**331**	P	**P**	**01 17 21.8**	**-0.7**
	comp=Z,1.9nm,1.0s,baz=102,slow=9.7,SNR=5.4						
GERES				PcP	**PcP**	**01 19 50.5**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=83,slow=3.1,SNR=2.1						
	comp=Z,1.9nm,1.0s						
FETA	**Feichten**	**35.76**	**326**	*e*P	**P**	**01 17 24.6**	**+0.3**
	comp=Z,5.3nm,1.3s						
MOTA	**Moosalm**	**35.78**	**327**	*e*P	**P**	01 17 21.7	-2.8
	comp=Z,8.5nm,1.4s						
KHC	**Kasperske Hory**	**35.82**	**331**	*e*P	**P**	**01 17 24.0**	**-0.7**
DAVOX	**Davos/Dischmat**	**36.06**	**325**	P	**P**	**01 17 27.6**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=138,slow=13,SNR=2.4						
	comp=Z,1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**36.25**	**266**	P	**P**	**01 17 27.3**	**-1.4**
TORD				IAmb	IAmb	01 17 33.2	
	comp=Z,15nm,1.4s						
TORD	**Torodi Ar. Bea**	**36.25**	**266**	P	**P**	**01 17 27.3**	**-1.4**
	comp=Z,7.6nm,0.8s,baz=65,slow=9.1,SNR=61						
TORD				PcP	**PcP**	**01 19 53.0**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=20,slow=4.0,SNR=5.2						
TORD				LR	LR	01 33 50.4	
	comp=Z,233nm,18.8s,baz=82,slow=39						
	comp=Z,7.6nm,0.8s						
DAVA	**Damuels**	**36.38**	**326**	*e*P	**P**	**01 17 29.0**	**-0.6**
	comp=Z,5.2nm,0.8s						
BRG	**Berggiesshubel**	**36.95**	**334**	*e*P	**P**	**01 17 33.7**	**-0.5**
BRG				Amp		01 17 35.6	
	comp=Z,25nm,1.6s						
SENIN	**Lac Senin/Sane**	**37.23**	**323**	P	**P**	**01 17 36.3**	**-0.7**
KSH	**Kashi**	**37.50**	**50**	P	**P**	**01 17 37.8**	**-1.4**
KSH				sP	pP	01 17 45.3	+0.8
KSH				pmax	pmax		
	comp=Z,5.0nm,1.2s						
CLL	**Collm**	**37.67**	**333**	*e*P	**P**	**01 17 39.0**	**-1.3**
	comp=Z,12nm,1.4s						
AAK	**Ala-Archa**	**37.73**	**45**	LR	LR	01 36 14.1	
	comp=Z,181nm,19.6s,baz=261,slow=41						
SSB	**Saint Sauveur**	**38.26**	**320**	P	**P**	**01 17 44.8**	**-0.7**
ARTI	**Arti**	**39.53**	**17**	P	**P**	**01 17 55.8**	**-0.1**
ARTI				IAmb	IAmb	01 18 02.5	
	comp=Z,24nm,1.4s						
ARTI	**Arti**	**39.53**	**17**	LR	LR	01 36 15.1	
	comp=Z,132nm,21.2s,baz=226,slow=39						
KIRV	**Kirov**	**39.70**	**9**	LR	LR	01 36 12.3	
	comp=Z,110nm,21.4s,baz=208,slow=39						
MDT	**Midelt**	**40.96**	**298**	LR	LR	01 36 06.2	
	comp=Z,79nm,19.7s,baz=178,slow=38						
BRVK	**Borovoye**	**41.27**	**28**	P	**P**	**01 18 11.5**	**+1.2**
BRVK				IAmb	IAmb	01 18 16.9	
	comp=Z,9.1nm,1.3s						
BVAR	**Borovoye Array**	**41.29**	**29**	P	**P**	**01 18 11.5**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=216,slow=7.3,SNR=11						
BVAR				PcP	**PcP**	**01 20 08.8**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=197,slow=4.5,SNR=2.6						
BVAR				LR	LR	01 39 28.7	
	comp=Z,102nm,19.1s,baz=250,slow=42						
	comp=Z,1.5nm,0.6s						
ESDC	**Sonseca Array**	**41.85**	**308**	P	**P**	**01 18 14.8**	**-0.5**
ESDC	**Sonseca Array**	**41.85**	**308**	P	**P**	**01 18 14.3**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=102,slow=7.1,SNR=11						
	comp=Z,2.7nm,0.8s						
FINES	**FINESS Array B**	**42.79**	**351**	P	**P**	**01 18 23.2**	**+0.6**
	comp=Z,3.1nm,0.9s,baz=125,slow=8.7,SNR=2.1						
	comp=Z,3.1nm,0.9s						
TSUM	**Tsumeb**	**43.86**	**210**	LR	LR	01 36 02.8	
	comp=Z,94nm,21.8s,baz=31,slow=35						
KURBB	**Kurchatov Arra**	**43.98**	**36**

SONM LR LR 01 50 35.6
comp=Z,163nm,18.6s,baz=280,slow=40
comp=Z,2.0nm,0.8s
XAN Xi'an 63.02 61 P P 01 20 54.0 +1.5
XAN pmax pmax
comp=Z,11nm,1.6s
BKNI Bangkinang 63.70 100 P P 01 21 03.9 +6.7
HHC Hu-ho-hao-te 64.49 53 *e*P **P 01 21 03.0 +0.8**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,120nm,3.5s
HHC LR LR
comp=N,94nm,14.2s
HHC LR LR
comp=E,160nm,14.7s
HHC LR LR
comp=Z,220nm,17.6s
LYN LuoYang 65.88 60 P P 01 21 18.0 +6.9
LYN pmax pmax
comp=Z,12nm,0.7s
XLT XiLinHaoTe 67.55 50 *e*P P 01 21 27.8 +6.0
XLT pmax pmax
comp=Z,9.0nm,1.4s
XLT pmax pmax
comp=Z,130nm,4.4s
TIA Tai'an 69.39 58 P **P 01 21 34.3 +1.0**
TIA pmax pmax
comp=Z,9.0nm,0.9s
TIXI Tiksi 71.56 20 P **P 01 21 45.4 -0.4**
TIXI IAmb IAmb 01 21 46.0
comp=Z,4.1nm,0.9s
NJ2 Nanjing 71.57 62 *e*P **P 01 21 47.1 +0.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
YAK Yakutsk 73.26 29 LR LR 01 59 31.0
comp=Z,124nm,18.1s,baz=310,slow=40
SBUM Sibu 73.43 93 P **P 01 21 56.9 -1.2**
SBUM IAmb IAmb 01 22 00.5
comp=Z,6.2nm,1.4s
KLR Kul'dur 77.22 42 LR LR 02 00 12.4
comp=Z,145nm,18.6s,baz=268,slow=39
KSAR Wonju Array Be 77.56 55 P **P 01 22 21.0 -0.4**
KSRS Korea Array 77.58 55 P **P 01 22 21.8 +0.3**
comp=Z,1.4nm,0.7s,baz=282,slow=8.3,SNR=4.1
KSRS LR LR 02 01 23.8
comp=Z,114nm,18.0s,baz=290,slow=39
comp=Z,1.4nm,0.7s
USRK Ussuriysk Ar. 78.73 47 P **P 01 22 27.2 -0.5**
comp=Z,2.3nm,0.7s,baz=274,slow=5.4,SNR=6.3
USRK LR LR 02 01 42.9
comp=Z,132nm,18.2s,baz=281,slow=39
comp=Z,2.3nm,0.7s
JNU Nakatsue 81.12 58 LR LR 02 02 54.6
comp=Z,79nm,18.1s,baz=315,slow=39
KAPI Kappang 83.05 98 LR LR 02 00 48.0
comp=Z,25nm,18.2s,baz=262,slow=36
MJAR Matsushiro Arr 85.69 53 P **P 01 23 04.0 -0.4**
comp=Z,3.6nm,0.9s,baz=314,slow=5.3,SNR=6.2
MJAR LR LR 02 05 00.1
comp=Z,66nm,20.3s,baz=322,slow=38
comp=Z,3.6nm,0.9s
ASAJ Asahikawa 85.94 45 LR LR 02 05 21.5
comp=Z,107nm,18.6s,baz=316,slow=38
MDP Montagnes des 89.80 275 LR LR 02 02 49.9
comp=Z,87nm,19.3s,baz=116,slow=35
PETK Petropavlovsk- 90.44 32 LR LR 02 07 35.3
comp=Z,54nm,21.1s,baz=304,slow=38
SNAA Sanae 95.37 192 LR LR 02 05 37.3
comp=Z,82nm,18.8s,baz=11,slow=35
ILAR Eielson Array 95.80 3 P **P 01 23 51.1 -0.1**
comp=Z,0.3nm,0.9s,baz=330,slow=5.2,SNR=2.7
comp=Z,0.3nm,0.9s
SHEM Shemya Is, Ala 98.17 26 LR LR 02 14 11.3
comp=Z,59nm,19.1s,baz=212,slow=39
TXAR Lajitas Array 119.45 322 PKP **PKPdf 01 29 14.1 -1.4**
comp=Z,0.4nm,0.8s,baz=122,slow=1.9,SNR=4.6

*OSPL **19** 01:25:02.3±0.8, 17°.87N×71°.37W, h29km±3km, ML1.5*
*SDD **19** 01:25:03.5±1.7, 17°.87N×71°.37W, h0km±177km, MD2.5, ML1.7, MW2.8*
ISC 19 01:25:03.9±1.7, 17°.96N±0°.04×71°.39W±0°.05, h11km±17km, n7, σ0s96/13, 4C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOVI	**El Cajuil, Ovi**	**0.16**	**174**	*i* P	**Pg**	**01 25 07.2**	**-0.3**
LOVI				*e*S	**Sg**	**01 25 10.8**	**+0.8**
LOVI				IAML		01 25 12.5	
comp=Z,98nm,0.3s							
PODR	**Polo**	**0.23**	**26**	⇑*e*Pg	**Pg**	**01 25 08.1**	**-0.8**
PODR				⇑*e*Sg	**Sg**	**01 25 12.3**	**+0.2**
PODR				IAML		01 25 14.8	
comp=N,95nm,0.2s							
PODR				IAML		01 25 17.4	
comp=N,91nm,0.2s							
LOBH	**Bahia de las A**	**0.26**	**248**	*i* P	**Pg**	**01 25 08.4**	**-0.9**
LOBH				*e*S	**Sg**	**01 25 12.9**	**+0.1**
LOBH				IAML		01 25 18.9	
comp=Z,62nm,0.8s							
LOBA2	**Hotel Casa Bon**	**0.30**	**66**	⇓*e*Pg	**Pg**	**01 25 09.3**	**-0.8**
LOBA2				⇑*e*Sg	**Sg**	**01 25 14.8**	**+0.6**
LOBA2				IAML		01 25 15.7	
comp=E,937nm,1.0s							
LOBA2				IAML		01 25 16.2	
comp=N,11nm,1.4s							
LODU1	**El Espartillar**	**0.40**	**348**	*i* P	**Pg**	**01 25 11.5**	**-0.4**
LODU1				*e*S	**Sg**	**01 25 19.0**	**+1.7**
LODU1				IAML		01 25 27.9	
comp=Z,33nm,0.8s							
LONE3	**El Aguacate, B**	**0.65**	**354**	*i* P	**Pg**	**01 25 15.4**	**-1.2**
LONE3				*e*S	**Sg**	**01 25 25.6**	**+0.5**
LONE3				IAML		01 25 26.9	
comp=Z,18nm,1.8s							
JIDR	**Jimani**	**0.69**	**320**	⇑*e*Sg	**Sb**	**01 25 28.2**	**+0.6**
JIDR				IAML		01 25 30.7	
comp=E,26nm,1.8s							
JIDR				IAML		01 26 06.5	
comp=N,27nm,4.2s							

*IDC **19** 01:36:29.2±1.6, 57°.89S×25°.46W, h0km, mb3.8/2, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=57.2km s-min=43.4km az=53.0*
ISC 19 01:36:35.3±1.1, 58°.1S±0°.2×25°.5W±0°.3, h49km, n8, σ0s70/8, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.54**	**157**	⇑P	**Pn**	**01 39 58.5**	**+0.7**
comp=Z,0.6nm,0.2s							
VNA3	**Neumayer Olymp**	**14.74**	**160**	⇑P	**Pn**	**01 40 00.3**	**-0.2**
comp=Z,0.2nm,0.2s							
VNA2	**Neumayer--Watz**	**14.94**	**157**	⇑P	**Pn**	**01 40 03.0**	**0.0**
comp=Z,126μm,0.0s,baz=318,slow=14							
SNAA	**Sanae**	**16.49**	**155**	⇑P	**Pn**	**01 40 23.9**	**+1.0**
comp=Z,3.5nm,0.2s							
SNAA	**Sanae**	**16.49**	**155**	Pn	**P**	**01 40 24.1**	**-0.8**
comp=Z,0.4nm,0.3s,baz=320,slow=16,SNR=8.6							
comp=Z,1.2nm,0.5s							
LPAZ	**La Paz**	**52.31**	**305**	P	**P**	**01 45 42.5**	**0.0**
comp=Z,0.5nm,0.3s,baz=146,slow=3.6,SNR=2.8							
comp=Z,0.5nm,0.3s							
TORD	**Torodi Ar. Bea**	**74.43**	**28**	P	**P**	**01 48 07.8**	**-0.1**
comp=Z,0.5nm,0.4s,baz=204,slow=6.2,SNR=5.8							
comp=Z,0.5nm,0.4s							
ILAR	**Eielson Array**	**152.14**	**308**	PKPbc	**PKiKP**	**01 56 24.4**	**+0.4**
comp=Z,0.3nm,0.4s,baz=130,slow=2.4,SNR=5.9							

IDC 19 01:56:00.2±3.5, 23°.61N×144°.06E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=143.6km s-min=30.8km az=78.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.31**	**193**	P	P	02 04 12.0	-0.1
0.2nm,0.5s,baz=17,slow=9.2,SNR=5.6							
0.2nm,0.5s							
MKAR	**Makanchi Array**	**54.02**	**312**	P	P	02 05 26.1	-0.2
0.2nm,0.4s,baz=92,slow=7.5,SNR=4.3							
0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**56.70**	**316**	P	P	02 05 44.2	-1.2
0.8nm,0.3s,baz=97,slow=7.4,SNR=1.5							
0.8nm,0.3s							
BVAR	**Borovoye Array**	**61.76**	**319**	P	P	02 06 20.9	+0.5
0.7nm,0.4s,baz=90,slow=7.5,SNR=3.5							
0.7nm,0.4s							
FINES	**FINESS Array B**	**81.81**	**335**	P	P	02 08 21.5	+0.6
2.8nm,0.9s,baz=1.8,slow=8.9,SNR=1.9							
2.8nm,0.9s							

*SOF **19** 02:09:02.9, 41°.94N±0°.01×23°.20E±0°.01, h17km±1km, MD2.8/10*
*SKO **19** 02:09:03.2, 41°.94N×23°.19E, h18km, ML2.6*
*BEO **19** 02:09:05.7±0.5, 42°.07N×23°.22E, h10km±2km, ML2.5/14*
*THE **19** 02:09:06.1, 41°.81N×23°.22E, h10km, ML2.6/9, Error ellipse: s-maj=0.7km s-min=0.4km az=165.0*
ISC 19 02:09:03.5±0.9, 41°.96N±0°.02×23°.23E±0°.02, h10km±6km, n66, σ1s12/106, 12C-4D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.14**	**213**	P	**Pg**	**02 09 06.9**	**+0.2**
KKB				S	**Sg**	**02 09 09.0**	**0.0**
KKB	**Krupnik**	**0.14**	**213**	*i* Pg	**Pg**	**02 09 07.0**	**+0.2**
KKB				*i* Sg	**Sg**	**02 09 09.2**	**+0.2**
PLNA	**Plana**	**0.53**	**15**	P	**Pb**	**02 09 14.5**	**-0.5**
PLNA				S	**Sb**	**02 09 21.9**	**-0.9**
MMB	**Musomishta**	**0.57**	**137**	P	**Pg**	**02 09 14.6**	**+0.1**
MMB				S	**Sg**	**02 09 22.0**	**0.0**
MMB	**Musomishta**	**0.57**	**137**	*i* Pg	**Pg**	**02 09 14.6**	**+0.1**
MMB				*i* Sg	**Sg**	**02 09 22.4**	**+0.4**
VTS	**Vitosha**	**0.66**	**0**	P	**Pg**	**02 09 16.2**	**0.0**
VTS				S	**Sg**	**02 09 24.4**	**-0.4**
VTS	**Vitosha**	**0.66**	**0**	*e*Pg	**Pg**	**02 09 16.1**	**-0.1**
VTS				*e*Sg	**Sg**	**02 09 24.5**	**-0.4**
SOF	**Sofia**	**0.72**	**8**	P	**Pb**	**02 09 18.0**	**-0.2**
SOF				S	**Sb**	**02 09 28.3**	**+0.2**
NVR	**Nevrokopi**	**0.77**	**142**	P	**Pb**	**02 09 19.3**	**+0.3**
NVR				S	**Sg**	**02 09 28.6**	**+0.2**
412nm,0.2s							
BOSS	**Bosilegrad**	**0.77**	**314**	*e*Pg	**Pg**	**02 09 17.9**	**-0.5**
BOSS				*e*Sg	**Sg**	**02 09 28.0**	**-0.5**
VAY	**Valandovo**	**0.81**	**218**	*i* Pg	**Pg**	**02 09 19.2**	**+0.1**
VAY				*i* Sg	**Sg**	**02 09 29.6**	**-0.1**
VAY				*e*Lg	Lg	02 09 30.0	
comp=N,186nm,0.4s							
KNT	**Kendrikon**	**0.84**	**198**	P	**Pg**	**02 09 19.1**	**-0.5**
KNT				S	**Sg**	**02 09 29.4**	**-1.2**
comp=N,305nm,0.1s							
KNT	**Kendrikon**	**0.84**	**198**	*i* Pg	**Pg**	**02 09 19.1**	**-0.5**
KNT				*i* Sg	**Sg**	**02 09 29.6**	**-1.0**
SRS	**Serrai**	**0.89**	**162**	P	**Pg**	**02 09 20.3**	**-0.2**
SRS				S	**Sg**	**02 09 31.8**	**-0.3**
comp=N,355nm,0.3s							
SRS	**Serrai**	**0.89**	**162**	*i* Pg	**Pg**	**02 09 20.4**	**-0.2**
SRS				*i* Sg	**Sb**	**02 09 33.4**	**+0.6**
PGB	**Panagyurishte**	**0.89**	**51**	P	**Pb**	**02 09 20.7**	**-0.3**
TRAN	**Tran**	**0.97**	**334**	P	**Pg**	**02 09 21.8**	**-0.4**
TRAN				S	**Sg**	**02 09 34.9**	**0.0**
PLD	**Plovdiv**	**1.14**	**80**	P	**Pg**	**02 09 24.7**	**-0.7**
PLD				S	**Sn**	**02 09 41.1**	**-0.1**
PLD	**Plovdiv**	**1.14**	**80**	*e*Pg	**Pg**	**02 09 24.7**	**-0.7**
PLD				*e*Sg	**Sn**	**02 09 41.9**	**+0.7**
PLD	**Plovdiv**	**1.14**	**80**	*i* Pg	**Pb**	**02 09 25.1**	**-0.2**
PLD				*i* Sg	**Sn**	**02 09 42.2**	**+1.0**
SOH	**Sokhos**	**1.14**	**175**	P	**Pg**	**02 09 24.9**	**-0.5**
SOH				S	**Sg**	**02 09 39.4**	**-0.9**
comp=N,398nm,0.5s							
SOH	**Sokhos**	**1.14**	**175**	*i* Pg	**Pg**	**02 09 24.9**	**-0.5**
SOH				*i* Sg	**Sg**	**02 09 40.0**	**-0.3**
RZN	**Rozhen**	**1.16**	**103**	P	**Pb**	**02 09 25.5**	**-0.2**
RZN				S	**Sn**	**02 09 41.9**	**0.0**
KOKK	**Kokkinochori,**	**1.28**	**153**	P	**Pg**	**02 09 27.3**	**-0.8**
KOKK				S	**Sg**	**02 09 44.2**	**-0.5**
BARS	**Barje**	**1.35**	**310**	*e*Pg	**Pn**	**02 09 28.8**	**+0.3**
BARS				*e*Sg	**Sg**	**02 09 46.0**	**-1.0**
BARS	**Barje**	**1.35**	**310**	*i* Pg	**Pn**	**02 09 28.5**	**0.0**
BARS				*i* Sg	**Sb**	**02 09 47.1**	**+0.8**
KAVA	**Kavala**	**1.36**	**135**	P	**Pn**	**02 09 28.4**	**-0.1**
KAVA				S	**Sn**	**02 09 47.2**	**+0.6**
comp=N,420nm,0.3s							
HORT	**Hortiatis**	**1.37**	**184**	P	**Pn**	**02 09 28.6**	**-0.1**
MPEP	**Malo Peshtene**	**1.44**	**15**	P	**Pb**	**02 09 30.5**	**+0.1**
MPEP				S	**Sn**	**02 09 50.3**	**+1.6**
PLG	**Polygyros**	**1.59**	**174**	P	**Pn**	**02 09 31.6**	**-0.2**
PLG				S	**Sn**	**02 09 51.6**	**-0.9**
comp=N,108nm,0.4s							
KDZ	**Kurdzhali**	**1.61**	**101**	S	**Sg**	**02 09 55.3**	**+0.1**
OUR	**Ouranopolis**	**1.72**	**161**	P	**Pn**	**02 09 33.8**	**+0.3**
OUR				S	**Sn**	**02 09 54.9**	**-0.6**
comp=N,348nm,0.5s							
DIM	**Dimitrovgrad**	**1.75**	**87**	P	**Pg**	**02 09 36.2**	**-0.8**
DIM				S	**Sg**	**02 09 59.4**	**-0.3**
THAS	**Thassos island**	**1.76**	**140**	P	**Pn**	**02 09 34.6**	**+0.6**
THAS				S	**Sn**	**02 09 56.5**	**+0.1**
comp=N,145nm,0.3s							
RDO	**Rodhopi**	**1.91**	**114**	P	**Pb**	**02 09 37.7**	**-0.7**
RDO				S	**Sn**	**02 10 01.3**	**+1.1**
comp=N,202nm,0.2s							
ZAGS	**Zajecar**	**1.99**	**339**	*e*Pn	**Pn**	**02 09 37.4**	**+0.2**
SELS	**Selova**	**2.00**	**310**	*e*Pn	**Pb**	**02 09 40.0**	**0.0**
SELS				*e*Sn	**Sn**	**02 10 04.3**	**+1.7**
BOVS	**Bovan**	**2.02**	**327**	*e*Pn	**Pn**	**02 09 37.5**	**0.0**
BOVS	**Bovan**	**2.02**	**327**	⇑P	**Pn**	**02 09 37.8**	**+0.3**
PAIG	**Paliouri**	**2.06**	**170**	P	**Pn**	**02 09 38.0**	**-0.2**
PAIG				S	**Sn**	**02 10 03.0**	**-0.9**
ELND	**Elena**	**2.18**	**63**	⇑P	**Pn**	**02 09 36.5**	**-3.3**
SMTH	**Samothraki Isl**	**2.29**	**130**	P	**Pn**	**02 09 42.5**	**+1.2**
SMTH				S	**Sn**	**02 10 10.4**	**+0.9**
ALN	**Alexandroupoli**	**2.37**	**116**	P	**Pn**	**02 09 43.9**	**+1.5**
ALN				S	**Sn**	**02 10 13.1**	**+1.7**
SZH	**Strazhitsa**	**2.41**	**56**	S	**Sg**	**02 10 21.0**	**+0.2**
LIA	**Limnos Island**	**2.54**	**144**	P	**Pn**	**02 09 45.3**	**+0.6**
LIA				S	**Sn**	**02 10 16.2**	**+0.6**
GRUS	**Gruza**	**2.67**	**317**	*e*Pn	**Pn**	**02 09 46.8**	**+0.3**
GRUS				*e*Sn	**Sn**	**02 10 20.1**	**+1.2**
SRE	**Strehaia**	**2.70**	**360**	⇑P	**Pg**	**02 09 53.8**	**-1.4**
KUBS	**Kucevo**	**2.70**	**336**	*e*Pn	**Pn**	**02 09 45.8**	**-1.2**
SJES	**Sjenica**	**2.73**	**299**	*e*Pn	**Pn**	**02 09 49.7**	**+2.2**
SJES				*e*Sn	**Sn**	**02 10 21.9**	**+1.2**
IVAS	**Ivanjica**	**2.78**	**306**	*e*Pn	**Pn**	**02 09 50.4**	**+2.2**
MDVR	**Moldovita**	**3.03**	**339**	⇓P	**Pn**	**02 09 51.8**	**+0.3**
TRUS	**Trudelj**	**3.06**	**318**	*e*Pn	**Pn**	**02 09 52.9**	**+0.9**
DIVS	**Divibare**	**3.19**	**313**	*e*Pn	**Pn**	**02 09 54.2**	**+0.4**
BBLS	**Lazi&#263i**	**3.40**	**305**	*e*Pn	**Pn**	**02 09 59.2**	**+2.6**
BBLS				*e*Sn	**Sn**	**02 10 36.7**	**-0.2**
GZR	**Gura Zlata**	**3.44**	**355**	⇑P	**Pb**	**02 10 02.1**	**-2.5**
LOT	**Lotru**	**3.51**	**6**	⇓P	**Pn**	**02 09 58.4**	**+0.3**
ARR	**Arges**	**3.55**	**16**	⇑P	**Pn**	**02 10 00.3**	**+1.6**
VOIR		**3.71**	**20**	⇑P	**Pn**	**02 10 02.0**	**+1.0**
BZS	**Buzias**	**3.84**	**343**	⇑P	**Pn**	**02 10 02.1**	**-0.4**
SURR	**Surduc**	**3.87**	**348**	⇑P	**Pn**	**02 10 06.2**	**+3.1**
MLR	**Muntele Rosu**	**4.04**	**28**	⇑P	**Pn**	**02 10 08.0**	**+2.6**
SIRR	**Siria**	**4.45**	**346**	⇑P	**Pn**	**02 10 12.6**	**+1.5**
PLOR	**Plostina**	**4.60**	**31**	⇑P	**Pn**	**02 10 14.7**	**+1.5**
VRI	**Vrincioaia**	**4.65**	**32**	⇓P	**Pn**	**02 10 15.5**	**+1.8**
MARR	**Marisel-Cluj**	**4.71**	**359**	⇑P	**Pn**	**02 10 18.0**	**+3.2**
MORH	**Mrgy, Hungar**	**5.38**	**324**	⇓P	**Pn**	**02 10 19.8**	**-4.0**

RSNC 19 02:13:23.3±0.0, 5°N±1°×7°4W±°, h135km±2km, M3.0, mb4.1, ML2.8, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.37**	**308**	P	Pn	02 13 42.4	0.0
SPBC				S	Sn	02 13 56.9	0.0
CHIC	**Chingaza**	**0.79**	**177**	P	Pn	02 13 45.3	-0.1
CHIC				S	Sn	02 14 01.9	-0.2
ROSC	**El Rosal**	**0.79**	**223**	P	Pn	02 13 46.2	+0.9
ROSC				S	Sn	02 14 02.5	+0.5
RUSC	**La Rusia**	**0.84**	**56**	P	Pn	02 13 46.3	+0.5
RUSC				S	Sn	02 14 03.3	+0.4
BOG	**Bogota**	**0.84**	**200**	P	Pn	02 13 44.9	-0.8
BOG				S	Sn	02 14 01.7	-1.0
CVER	**Cruz Verde, Cu**	**0.94**	**198**	P	Pn	02 13 47.3	+0.6
CVER				S	Sn	02 14 03.5	-0.9
NORC	**Norcasia**	**1.09**	**278**	P	Pn	02 13 47.2	-0.4
NORC				S	Sn	02 14 05.9	-0.1
PTBC	**PUERTO BERRIO,**	**1.30**	**329**	P	Pn	02 13 48.6	-1.0
PTBC				S	Sn	02 14 08.9	-0.8
VILC	**Villavicencio,**	**1.30**	**176**	P	Pn	02 13 49.2	-0.6
VILC				S	Sn	02 14 09.8	-0.2
BARC	**Barichara**	**1.31**	**27**	P	Pn	02 13 49.7	-0.3
BARC				S	Sn	02 14 08.9	-1.4
BRJC	**Barrancabermej**	**1.54**	**1**	P	Pn	02 13 52.1	-0.2
BRJC				S	Sn	02 14 14.5	+0.1
GUY2C	**Guyana, Caldas**	**1.59**	**263**	P	Pn	02 13 53.2	0.0
GUY2C				S	Sn	02 14 15.9	-0.1
NIZA	**Niza - Manizal**	**1.72**	**258**	P	Pn	02 13 54.7	+0.1
NIZA				S	Sn	02 14 19.0	+0.6
HELC	**Santa Helena**	**1.90**	**294**	P	Pn	02 13 56.5	-0.2
HELC				S	Sn	02 14 21.2	-1.1
MEDEC	**Medelln, Ant**	**1.99**	**295**	P	Pn	02 13 57.7	+0.1
MEDEC				S	Sn	02 14 23.4	-0.5
PRAC	**Prado**	**2.02**	**213**	P	Pn	02 13 57.5	-0.4
PRAC				S	Sn	02 14 23.5	-0.9
PTGC	**Puerto Gaitan,**	**2.04**	**126**	P	Pn	02 13 57.1	-1.0
PTGC				S	Sn	02 14 22.7	-2.0
ORTC	**Ortega, Tolima**	**2.10**	**224**	P	Pn	02 13 58.0	-0.8
ORTC				S	Sn	02 14 25.4	-0.5
PAMC	**Pamplona, Colo**	**2.19**	**29**	P	Pn	02 13 59.8	-0.5
PAMC				S	Sn	02 14 28.4	-0.3
TAMC	**Tame, Arauca**	**2.22**	**63**	P	Pn	02 14 00.0	-0.3
TAMC				S	Sn	02 14 27.6	-1.1
URMC	**La Uribe, Meta**	**2.24**	**195**	P	Pn	02 14 00.8	+0.2
URMC				S	Sn	02 14 29.2	0.0
CBOC	**Ciudad Bolivar**	**2.27**	**281**	P	Pn	02 14 00.7	-0.3
CBOC				S	Sn	02 14 29.5	-0.3
ZARC	**Zaragoza, Cauc**	**2.32**	**333**	P	Pn	02 13 59.6	-1.9
ZARC				S	Sn	02 14 29.6	-1.3
OCAC	**Ocana**	**2.84**	**9**	P	Pn	02 14 07.8	-0.4
OCAC				S	Sn	02 14 42.7	-0.1
DBBC	**Dabeiba**	**2.89**	**303**	P	Pn	02 14 08.8	0.0
DBBC				S	Sn	02 14 42.9	-0.9
UREC	**San Jos de Ur**	**2.90**	**323**	P	Pn	02 14 06.3	-2.5
UREC				S	Sn	02 14 40.6	-3.3
YOTC	**Yotoco, Valle**	**2.93**	**241**	P	Pn	02 14 08.2	-1.1
YOTC				S	Sn	02 14 45.6	+0.8
GUVC	**San Jose del G**	**3.08**	**158**	P	Pn	02 14 09.7	-1.5
GUVC				S	Sn	02 14 45.1	-3.0
MACC	**Macarena, Meta**	**3.25**	**181**	P	Pn	02 14 11.4	-2.1
MACC				S	Sn	02 14 48.2	-4.0
JAMC	**Jamundi, Valle**	**3.62**	**233**	P	Pn	02 14 17.2	-1.2
JAMC				S	Sn	02 15 00.2	-0.9
APAC	**Apartado, Choc**	**3.72**	**312**	P	Pn	02 14 18.6	-0.8
APAC				S	Sn	02 15 02.4	-0.6
FLOC	**Florencia**	**4.25**	**206**	P	Pn	02 14 25.5	-1.0
FLOC				S	Sn	02 15 14.0	-1.6
ARGC	**Ariguani, Magd**	**4.43**	**354**	P	Pn	02 14 28.7	-0.3
ARGC				S	Sn	02 15 18.3	-1.7
SJCC	**San Jacinto, C**	**4.66**	**343**	P	Pn	02 14 28.8	-3.2
SJCC				S	Sn	02 15 20.2	-5.3
CAPC	**Capurgana**	**4.77**	**312**	P	Pn	02 14 31.3	-2.2
CAPC				S	Sn	02 15 24.4	-3.6
BBAC	**Balboa, Cauca**	**4.83**	**226**	P	Pn	02 14 34.7	+0.2
BBAC				S	Sn	02 15 30.6	+0.7
CRJC	**Cerrejon, Guaj**	**5.63**	**9**	P	Pn	02 14 42.9	-2.2
35nm,0.8s							
CRJC				S	Sn	02 15 44.3	-4.6
35nm,0.8s							
URIC	**Uribia, Colomb**	**6.49**	**16**	P	Pn	02 14 54.3	-2.1
URIC				S	Sn	02 16 03.9	-5.4

*IDC **19** 02:26:46.2±0.7, 23°.42N×143°.36E, h0km, mb4.0/14, mbtmp4.0/16, ML3.2/2, MS3.1/4, Error ellipse: s-maj=31.3km s-min=14.7km az=79.0*
*NEIC **19** 02:26:49.2±1.7, 23°.47N±0°.07×143°.3E±0°.2, h10km±1km, mb4.5/31, Error ellipse: s-maj=25.8km s-min=7.4km az=246.0*
ISC 19 02:26:51.7±0.6, 23°.52N±0°.07×143°.3E±0°.1, h31km, n63, σ1s40/64, mb4.4/36, MS3.1/3, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.70**	**345**		**Pn**	**02 27 46.9**	**+0.1**
JCJ				Sn	**Sn**	**02 28 28.4**	**-1.0**
JCJ	**Chichijima**	**3.70**	**345**	Pn	Pn	02 27 42.2	-4.6
JCJ				Sn	**Sn**	**02 28 23.2**	**-6.1**
MJAR	**Matsushiro Arr**	**13.70**	**343**	Pn	**Pn**	**02 30 04.0**	**+0.1**
baz=150,slow=13,SNR=1.9							
0.8nm,0.3s							
JMM	**Marumori**	**14.46**	**352**	Pn	**Pn**	**02 30 13.4**	**-0.8**
KSRS	**Korea Array**	**19.15**	**320**	P	**P**	**02 31 13.2**	**+0.8**
0.3nm,0.3s,baz=140,slow=12,SNR=4.2							
KSRS				LR	LR	02 37 56.6	
comp=Z,30nm,20.8s,baz=120,slow=35							
1.0nm,0.6s							
USRK	**Ussuriysk Ar.**	**22.62**	**339**	P	**P**	**02 31 51.4**	**+1.5**
2.4nm,0.7s,baz=178,slow=9.5,SNR=4.2							
2.4nm,0.7s							
NJ2	**Nanjing**	**23.19**	**297**	*e*P	**P**	**02 31 56.3**	**+0.4**
NJ2				pmax	pmax		
comp=Z,8.0nm,0.6s							
XLT	**XiLinHaoTe**	**30.20**	**319**	*e*P	**P**	**02 32 58.9**	**-0.5**
XLT				sP	pP	02 33 06.8	-0.2
XLT				pmax	pmax		
comp=Z,6.0nm,0.7s							
XLT				pmax	pmax		
comp=Z,190nm,3.9s							
PETK	**Petropavlovsk-**	**31.51**	**17**	LR	LR	02 43 48.9	
comp=Z,46nm,21.2s,baz=235,slow=32							
HHC	**Hu-ho-hao-te**	**31.70**	**311**	*e*P	**P**	**02 33 15.8**	**+3.1**
HHC				pmax	pmax		
comp=Z,21nm,0.5s							
HHC				pmax	pmax		
comp=Z,140nm,4.3s							
LZH	**Lanzhou**	**36.21**	**299**	*e*P	**P**	**02 33 49.3**	**-2.7**
LZH				pP	pP	02 33 54.6	-5.1
LZH				pmax	pmax		
comp=Z,11nm,1.1s							
PZH	**PanZhiHua**	**37.65**	**283**	P	**P**	**02 34 05.8**	**+1.5**
PZH				pmax	pmax		
comp=Z,9.0nm,0.8s							
PZH				pmax	pmax		
comp=Z,90nm,4.7s							
SONM	**Songino Array**	**38.02**	**319**	P	**P**	**02 34 07.3**	**+0.2**
comp=Z,0.3nm,0.6s,baz=111,slow=8.9,SNR=2.1							
comp=Z,0.3nm,0.6s							
MTN	**Manton Dam**	**38.04**	**199**		**P**	**02 34 07.2**	**-0.3**
MTN				IAmb	IAmb	02 34 29.1	
comp=Z,9.2nm,1.3s							
**CMAR

CAST IAmb IAmb 02 36 52.0
comp=Z,6.1nm,1.2s
KSH Kashi 58.31 303 P **P 02 36 48.3 +4.4**
KSH pmax pmax
comp=Z,5.0nm,0.8s
BPAW Bear Paw Mtn. 58.52 28 P **P 02 36 45.5 +0.6**
H23K Yukon River 59.46 26 P **P 02 36 52.5 +1.2**
H23K IAmb IAmb 02 37 11.3
comp=Z,4.1nm,1.4s
ILAR Eielson Array 60.39 28 P **P 02 36 57.1 -0.6**
comp=Z,0.8nm,0.7s,baz=251,slow=5.9,SNR=8.3
comp=Z,0.8nm,0.7s
ARSB Arslanbob 60.39 305 P **P 02 36 59.8 +1.5**
D25K Kavik River 61.28 22 P **P 02 37 05.1 +1.3**
D25K IAmb IAmb 02 37 06.2
comp=Z,2.3nm,0.7s
BVAR Borovoye Array 61.36 319 P **P 02 37 05.1 +0.6**
comp=Z,4.0nm,0.6s,baz=91,slow=7.6,SNR=27
comp=Z,4.0nm,0.6s
BRVK Borovoye 61.42 319 P **P 02 37 04.7 -0.2**
BRVK IAmb IAmb 02 37 06.6
comp=Z,3.6nm,0.8s
BMAR Burnt Mountain 61.66 25 P **P 02 37 07.8 +1.4**
J26L Joseph Creek 61.78 28 P **P 02 37 07.9 +0.6**
J26L IAmb IAmb 02 37 30.0
comp=Z,4.9nm,1.2s
KKAR Karatay Array 62.01 308 P **P 02 37 10.1 +0.9**
KKAR IAmb IAmb 02 37 10.7
comp=Z,2.5nm,0.8s
GAR Garm 62.73 303 P **P 02 37 15.0 +0.9**
D27M Malcolm River 63.18 23 P **P 02 37 17.1 +0.6**
D27M IAmb IAmb 02 37 37.9
comp=Z,2.2nm,1.0s
I28M Miner Creek 63.37 27 P **P 02 37 18.2 +0.3**
I28M IAmb IAmb 02 37 27.3
comp=Z,3.3nm,1.3s
I30M Mount Dempster 64.87 27 P **P 02 37 28.4 +0.7**
I30M IAmb IAmb 02 38 01.4
comp=Z,3.8nm,1.3s
G31M Satah River 65.66 25 P **P 02 37 33.0 +0.4**
G31M IAmb IAmb 02 37 39.8
comp=Z,5.6nm,1.2s
INK Inuvik 65.87 24 P **P 02 37 34.2 +0.2**
INK IAmb IAmb 02 37 56.1
comp=Z,3.2nm,1.4s
ARTI Arti 67.97 323 P **P 02 37 47.5 0.0**
ABKAR Akbulak array 68.31 316 P **P 02 37 50.0 +0.2**
ABKAR IAmb IAmb 02 37 50.5
comp=Z,1.9nm,0.6s
C36M Paulatuk 69.15 22 P **P 02 37 55.0 +0.4**
C36M IAmb IAmb 02 38 16.0
comp=Z,6.2nm,1.5s
ARCES ARCESS Array B 77.23 341 P **P 02 38 42.8 +0.4**
comp=Z,4.7nm,0.9s,baz=70,slow=8.0,SNR=4.6
comp=Z,4.7nm,0.9s
PINE Pine Mountain 78.07 47 P **P 02 38 49.6 +1.7**
KBZ Khabaz 81.18 314 P **P 02 39 03.6 -0.8**
comp=Z,2.8nm,0.8s,baz=52,slow=6.6,SNR=7.9
comp=Z,2.8nm,0.8s
FINES FINESS Array B 81.59 334 P **P 02 39 05.7 -0.5**
comp=Z,2.5nm,0.7s,baz=57,slow=5.1,SNR=10
comp=Z,2.5nm,0.7s
NVAR Mina Array Bea 81.95 52 P **P 02 39 09.1 +0.1**
comp=Z,0.3nm,0.8s,baz=274,slow=5.3,SNR=3.9
comp=Z,0.3nm,0.8s
HMBC Humberstone 149.09 90 PKPbc **PKPbc 02 46 37.8 0.0**
PB11 IPOC Station P 149.19 89 PKPbc **PKPdf 02 46 34.5 +0.7**
SAML Samuel 150.83 65 PKPbc **PKPbc 02 46 41.4 -0.6**

RSNC 19 02:46:46.8±0.0, 7°N±1°×7°3W±°, h152km±3km, M1.7, mB5.9, ML1.5, Mw(mB)5.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**204**	P	Pn	02 47 08.0	+0.3
BARC				S	Sn	02 47 23.7	+0.1
PAMC	**Pamplona, Colo**	**0.66**	**36**	P	Pn	02 47 09.5	-0.4
PAMC				S	Sn	02 47 27.3	-0.1
BRJC	**Barrancabermej**	**0.67**	**285**	P	Pn	02 47 08.6	-0.7
BRJC				S	Sn	02 47 26.9	+0.4
RUSC	**La Rusia**	**0.90**	**180**	P	Pn	02 47 12.0	+0.4
RUSC				S	Sn	02 47 29.7	-0.7
TAMC	**Tame, Arauca**	**1.34**	**106**	P	Pn	02 47 15.6	+0.7
TAMC				S	Sn	02 47 34.8	-1.6
PTBC	**PUERTO BERRIO,**	**1.38**	**259**	P	Pn	02 47 14.9	-0.4
PTBC				S	Sn	02 47 35.7	-1.4
OCAC	**Ocana**	**1.45**	**351**	P	Pn	02 47 15.4	-0.8
OCAC				S	Sn	02 47 38.3	-0.4
SPBC	**San Pablo de B**	**1.50**	**221**	P	Pn	02 47 16.9	+0.2
SPBC				S	Sn	02 47 39.1	-0.4
ZARC	**Zaragoza, Cauc**	**1.88**	**292**	P	Pn	02 47 20.1	-0.6
NORC	**Norcasia**	**2.15**	**235**	P	Pn	02 47 24.1	+0.2
CHIC	**Chingaza**	**2.25**	**197**	P	Pn	02 47 25.1	-0.3
CHIC				S	Sn	02 47 54.3	-0.8
ROSC	**El Rosal**	**2.30**	**212**	P	Pn	02 47 26.6	+0.6
ROSC				S	Sn	02 47 54.7	-1.5
GUY2C	**Guyana, Caldas**	**2.75**	**235**	P	Pn	02 47 33.4	+1.8
GUY2C				S	Sn	02 48 05.0	-1.1
PRAC	**Prado**	**3.55**	**210**	P	Pn	02 47 43.7	+2.3
PRAC				S	Sn	02 48 24.9	+1.2
MALC	**Bahia Malaga**	**5.05**	**237**	P	Pn	02 47 59.9	-1.1
MALC				S	Sn	02 48 58.9	0.0

RSNC 19 02:47:17.6±0.0, 7°N±2°×7°3W±°, h139km±3km, M1.6, ML1.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**169**	P	Pn	02 47 36.8	-0.2
BARC				S	Sn	02 47 51.3	-0.3
PAMC	**Pamplona, Colo**	**0.73**	**46**	P	Pn	02 47 39.6	-0.1
PAMC				S	Sn	02 47 55.6	-0.9
RUSC	**La Rusia**	**0.94**	**171**	P	Pn	02 47 41.1	-0.3
RUSC				S	Sn	02 47 58.2	-1.3
PTBC	**PUERTO BERRIO,**	**1.25**	**257**	P	Pn	02 47 40.9	-2.9
PTBC				S	Sn	02 48 03.8	+0.1
OCAC	**Ocana**	**1.40**	**356**	P	Pn	02 47 44.2	-1.3
OCAC				S	Sn	02 48 06.9	+0.1
SPBC	**San Pablo de B**	**1.44**	**216**	P	Pn	02 47 43.3	-2.5
SPBC				S	Sn	02 48 07.5	+0.2
ZARC	**Zaragoza, Cauc**	**1.74**	**292**	P	Pn	02 47 46.7	-2.4
ZARC				S	Sn	02 48 12.1	-1.1
NORC	**Norcasia**	**2.06**	**232**	P	Pn	02 47 52.2	-0.7
NORC				S	Sn	02 48 20.2	+0.3
CHIC	**Chingaza**	**2.24**	**193**	P	Pn	02 47 55.5	0.0
CHIC				S	Sn	02 48 23.9	-0.6
ARGC	**Ariguani, Magd**	**3.17**	**342**	P	Pn	02 48 09.1	+2.3
ARGC				S	Sn	02 48 46.1	+1.3
SJCC	**San Jacinto, C**	**3.61**	**328**	P	Pn	02 48 12.9	+0.4
SJCC				S	Sn	02 48 52.3	-2.7

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*IDC **19** 03:37:19.6±0.6, 12°.86S×45°.47E, $h0^{km}$, mb4.0/12, mbtmp4.0/15, ML3.8/3, MS3.4/4, Error ellipse: s-maj=20.7km s-min=18.0km az=70.0*
*NEIC **19** 03:37:22.1±1.7, 12°.91S±0°.09×45°.4E±0°.1, $h10^{km}$ 1^{km}, mb4.5/15, Error ellipse: s-maj=18.7km s-min=15.3km az=104.0*

ISC 19 03:37:21.2±0.4, 12°.90S±0°.06×45°.44E±0°.07, h10km, n58, σ1§35/57, mb4.4/23, 1D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.89**	**164**	Pn	**Pn**	**03 38 49.4**	**+0.7**
	21nm,0.3s,baz=336,slow=12,SNR=1053						
OPO				Sn	**Sn**	**03 39 51.2**	**-5.2**
	3.3nm,0.3s,baz=66,slow=23,SNR=9.1						
OPO				LR	LR	03 41 11.3	
	comp=Z,234nm,21.1s,baz=184,slow=39						
ABPO	**Ambohimpanom**	**6.33**	**164**	Pn	**Pn**	**03 38 54.8**	**0.0**
VOI	**Vohitsoka**	**9.05**	**172**	Pn	**Pn**	**03 39 32.0**	**-0.2**
FOMA	**Nahampoana Res**	**12.10**	**173**	Pn	**Pn**	**03 40 13.6**	**-0.2**
KIBK	**Kibwezi**	**12.79**	**325**	Pn	**Pn**	**03 40 19.9**	**-3.4**
RER	**Riviere de l'E**	**12.83**	**131**	Pn	**Pn**	**03 40 23.5**	**-0.4**
MSEY	**Mahe Island**	**12.85**	**51**	Pn	**Pn**	**03 40 21.4**	**-2.7**
KMBO	**Kilima Mbogo**	**14.23**	**325**	Pn	**Pn**	**03 40 40.6**	**-2.6**
	0.3nm,0.3s,baz=136,slow=16,SNR=5.2						
KMBO				Sn	**Sn**	**03 43 19.3**	**-2.1**
	0.6nm,0.3s,baz=61,slow=8.1,SNR=6.1						
	1.0nm,0.4s						
LSZ	**Lusaka**	**16.90**	**260**	Pn	**Pn**	**03 41 17.8**	**-0.4**
LSZ				IAmb	IAmb	03 41 22.3	
	comp=Z,37nm,0.9s						
MATP	**Matopo**	**17.86**	**243**	Pn	**P**	**03 41 31.4**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=66,slow=13,SNR=13						
	comp=Z,3.0nm,0.7s						
MBAR	**Mbarara**	**19.01**	**309**	P	**Pn**	**03 41 44.0**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=148,slow=11,SNR=3.6						
MBAR				LR	LR	03 47 51.7	
	comp=Z,78nm,20.1s,baz=120,slow=33						
	comp=Z,2.1nm,0.3s						
LBTB	**Lobatse**	**22.26**	**234**	P	**P**	**03 42 18.3**	**-0.3**
LBTB				IAmb	IAmb	03 42 22.1	
	comp=Z,15nm,0.9s						
BOSA	**Boshof**	**24.45**	**227**	P	**P**	**03 42 39.9**	**-0.6**
BOSA				IAmb	IAmb	03 43 00.5	
	comp=Z,12nm,1.2s						
BOSA	**Boshof**	**24.45**	**227**	P	**P**	**03 42 40.1**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=49,slow=8.1,SNR=11						
	comp=Z,2.9nm,0.6s						
SUR	**Sutherland**	**29.75**	**225**	LR	LR	03 54 40.3	
	comp=Z,85nm,18.6s,baz=6.0,slow=35						
TORD	**Torodi Ar. Bea**	**50.50**	**299**	P	**P**	**03 46 20.2**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=122,slow=5.0,SNR=3.1						
	comp=Z,0.6nm,0.8s						
BRTR	**Keskin Array B**	**53.49**	**349**	P	**P**	**03 46 42.6**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=171,slow=10,SNR=3.2						
	comp=Z,0.6nm,0.8s						
KKAR	**Karatay Array**	**60.27**	**21**	P	**P**	**03 47 29.9**	**0.0**
ELIB	**Princess Elisa**	**60.50**	**188**	*d*P	**P**	**03 47 33.0**	**+1.7**
	comp=Z,1.9nm,1.5s						
CMAR	**Chiang Mai Arr**	**61.27**	**60**	P	**P**	**03 47 37.7**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=246,slow=8.8,SNR=4.0						
	comp=Z,1.8nm,0.3s						
BUR08	**Bucovina Ar. S**	**62.92**	**345**		**P**	**03 47 49.8**	**+2.0**
BUR08				IAmb	IAmb	03 48 11.6	
	comp=Z,10.0nm,1.5s						
ABKAR	**Akbulak array**	**63.19**	**11**	P	**P**	**03 47 49.7**	**+0.2**
ABKAR				IAmb	IAmb	03 47 51.9	
	comp=Z,6.3nm,1.1s						
PZH	**PanZhiHua**	**67.28**	**54**	P	**P**	**03 48 19.6**	**+3.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.3s						
JAGI	**Jajag, Banyuwa**	**67.51**	**94**	P	**P**	**03 48 17.8**	**-0.4**
MK31	**Makanchi Array**	**67.98**	**26**	P	**P**	**03 48 21.0**	**+0.5**
MK31				IAmb	IAmb	03 48 22.3	
	comp=Z,1.9nm,1.2s						
MKAR	**Makanchi Array**	**67.98**	**26**	P	**P**	**03 48 20.9**	**+0.4**
MKAR	**Makanchi Array**	**67.98**	**26**	P	**P**	**03 48 20.1**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=227,slow=7.0,SNR=3.5						
	comp=Z,0.7nm,0.9s						
KURBB	**Kurchatov Arra**	**69.55**	**22**	P	**P**	**03 48 30.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=221,slow=6.5,SNR=2.5						
	comp=Z,0.3nm,0.5s						
ESDC	**Sonseca Array**	**69.59**	**321**	P	**P**	**03 48 31.2**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=130,slow=5.9,SNR=6.2						
	comp=Z,0.7nm,0.6s						
LZH	**Lanzhou**	**73.52**	**46**	*e*P	**P**	**03 48 54.8**	**+0.2**
LZH				sP	pwP	03 49 02.3	+2.3
LZH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
ZALV	**Zalesovo Beam**	**74.54**	**23**	P	**P**	**03 48 58.9**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=213,slow=7.7,SNR=2.0						
	comp=Z,0.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**76.92**	**106**	P	**P**	**03 49 13.5**	**-1.0**
HFS	**Hagfors**	**77.11**	**344**	P	**P**	**03 49 14.8**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=127,slow=6.5,SNR=1.8						
	comp=Z,1.3nm,0.7s						
QSPA	**South Pole Qui**	**77.20**	**180**	P	**P**	**03 49 16.6**	**+1.3**
	comp=Z,3.7nm,1.0s,baz=238,slow=3.1,SNR=5.6						
	comp=Z,3.7nm,1.0s						
HHC	**Hu-ho-hao-te**	**81.09**	**45**	*e*P	**P**	**03 49 38.4**	**+1.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,65nm,4.2s						
NJ2	**Nanjing**	**83.16**	**55**	*e*P	**P**	**03 49 49.3**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ASAR	**Alice Springs**	**83.55**	**113**	P	**P**	**03 49 49.4**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=263,slow=4.7,SNR=26						
	comp=Z,1.8nm,0.5s						
WRA	**Warramunga Arr**	**84.68**	**109**	P	**P**	**03 49 56.2**	**+0.2**
	comp=Z,2.8nm,1.0s,baz=262,slow=3.4,SNR=13						
	comp=Z,2.8nm,1.0s						
WB2	**Warramunga Arr**	**84.69**	**109**	P	**P**	**03 49 56.2**	**+0.2**
WB2				IAmb	IAmb	03 49 60.0	
	comp=Z,6.4nm,1.2s						
WB0	**Warramunga Arr**	**84.76**	**109**	P	**P**	**03 49 57.3**	**+0.9**
WR0	**Warramunga Arr**	**84.86**	**109**	P	**P**	**03 49 57.4**	**+0.5**
WR0				IAmb	IAmb	03 50 08.3	
	comp=Z,8.3nm,1.4s						
JNU	**Nakatsue**	**93.19**	**57**	LR	LR	04 32 55.0	
	comp=Z,46nm,18.6s,baz=118,slow=36						
INK	**Inuvik**	**124.64**	**360**	PKPdf	**PKPdf**	**03 56 19.1**	**-1.3**
PDAR	**Pinedale Array**	**143.21**	**329**	PKP	**PKPdf**	**03 56 56.0**	**-0.3**
	comp=Z,0.8nm,1.0s,baz=81,slow=4.7,SNR=3.8						
POST	**Post**	**143.77**	**309**	PKPdf	**PKPdf**	**03 56 56.9**	**-0.4**
SDCO	**Great Sand Dun**	**144.18**	**319**	PKPdf	PKPbc	03 56 56.6	+0.4
BMO	**Blue Mountains**	**144.91**	**338**	PKPdf	**PKPdf**	**03 56 58.6**	**-0.4**
HWUT	**Hardware Ranch**	**145.07**	**329**		**PKPbc**	**03 56 58.7**	**-0.1**
G08A	**Pilot Rock**	**145.09**	**341**	PKPdf	**PKPdf**	**03 56 59.2**	**-0.1**
TCUT	**Toone Canyon**	**145.35**	**328**		**PKPbc**	**03 56 59.0**	**-0.9**
HVU	**Hansel Valley**	**145.53**	**331**		**PKPbc**	**03 57 00.3**	**+0.1**
MFID	**Camas Ranch**	**145.56**	**336**		**PKPab**	**03 57 01.8**	**+1.2**
HOOD	**Mount Hood Mea**	**145.86**	**344**		**PKPab**	**03 57 02.1**	**+0.5**
PV14	**Lion Creek, Pa**	**145.96**	**323**	PKPbc	**PKPdf**	**03 57 01.0**	**-0.2**
SRU	**San Rafael Swe**	**146.32**	**325**	PKPbc	**PKPbc**	**03 57 03.1**	**+0.3**
TXAR	**Lajitas Array**	**147.00**	**305**	PKPbc	**PKPdf**	**03 57 03.7**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=91,slow=4.9,SNR=3.7						
MVU	**Marysvale**	**147.68**	**326**	PKPbc	**PKPbc**	**03 57 07.0**	**+0.2**
NVAR	**Mina Array Bea**	**150.75**	**333**	PKPbc	**PKPbc**	**03 57 12.0**	**-2.5**
	comp=Z,0.4nm,0.7s,baz=71,slow=0.4,SNR=3.6						

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*IDC **19** 03:56:12.3±0.7, 14°.92S×168°.05E, $h0^{km}$, mb4.7/17, mbtmp4.7/19, ML4.9/2, MS4.1/29, Error ellipse: s-maj=21.4km s-min=16.0km az=109.0*
*MOS **19** 03:56:13.3±1.0, 14°.84S×167°.88E, $h10^{km}$, mb5.2/17, Error ellipse: s-maj=11.9km s-min=9.3km az=22.5*
*NEIC **19** 03:56:15.2±2.0, 14°.96S±0°.09×168°.1E±0°.1, $h10^{km}$ 1^{km}, mb5.1/64, Error ellipse: s-maj=17.3km s-min=14.6km az=113.0*
*NOU **19** 03:56:16.2, 14°.97S×167°.86E, $h0^{km}$, mb5.0/50, Vanuatu Islands*
*GCMT **19** 03:56:17.2±0.2, 14°.83S±0°.02×167°.94E±0°.01, $h12^{km}$, MW5.0/102, Moment Tensor Solution. s53,c61; s102,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.74±.10; M_{tt}0.31±.10; M_{pp}-4.05±.08; M_{rt}0.96±.36; M_{tp}0.14±.08; M_{rp}-0.56±.30; Best double couple: M_o4.06200×10^{16} NP1:φs164.0000°, δ51.00000°, λ72.00000°. NP2:φs12.00000°, δ42.00000°, λ111.00000°. Principal axes: T 4.0240, Plg75.0000°, Azm14.0000°; N 0.0740, Plg14.0000°, Azm176.0000°; P -4.1000, Plg4.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 03:56:18.6±0.3, 14°.97S±0°.05×168°.07E±0°.04, h36km, n255, σ1§96/251, mb5.0/88, MS4.1/30, 8C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**1.30**	**209**	P	**Pn**	**03 56 36.8**	**-3.4**
LUES	**Luesalemba Tem**	**4.77**	**334**	P	**Pn**	**03 57 27.1**	**-0.9**
KOUNC	**Koumac, New Ca**	**6.62**	**212**	Pn	**Pn**	**03 57 53.1**	**-0.4**
KOUNC				Sn	**Sn**	**03 59 05.0**	**-2.7**
KOUNC	**Koumac, New Ca**	**6.62**	**212**	P	**Pn**	**03 57 53.4**	**-0.1**
DZM	**Mont Dzumac**	**7.24**	**192**	Pn	**Pn**	**03 58 01.7**	**-0.3**
DZM	**Mont Dzumac**	**7.24**	**192**	*e*Pn	**Pn**	**03 58 01.7**	**-0.3**
	109nm,1.1s						
DZM				*e*LR	LR	03 59 34.1	
	586nm,24.2s						
DZM	**Mont Dzumac**	**7.24**	**192**	Pn	**Pn**	**03 58 01.9**	**0.0**
	9.7nm,0.3s,baz=6.7,slow=20,SNR=7.5						
DZM				Sn	**Sn**	**03 59 23.0**	**0.0**
	baz=59,slow=18						
	26nm,0.4s						
ONTNC	**Ouen Toro**	**7.46**	**192**	Pn	**Pn**	**03 58 04.2**	**-0.8**
HURO	**Huro Makira**	**7.50**	**306**	P	**Pn**	**03 58 04.0**	**-1.5**
PINNC	**Pines Island,**	**7.63**	**184**	Pn	**Pn**	**03 58 06.4**	**-0.9**
ALEG	**Aligegeo Malai**	**9.50**	**310**	P	**Pn**	**03 58 31.2**	**-1.8**
HNR	**Honiara**	**9.66**	**304**	Pn	**Pn**	**03 58 32.1**	**-3.0**
	22nm,0.3s,baz=160,slow=11,SNR=1.7						
HNR				LR	LR	04 01 48.0	
	comp=Z,2μm,21.8s,baz=136,slow=35						
	153nm,0.5s						
MSVF	**Nonsavu**	**9.96**	**107**	Pn	**Pn**	**03 58 43.4**	**+4.0**
MSVF	**Nonsavu**	**9.96**	**107**	P	Pn	03 58 44.5	+5.1
MSVF	**Nonsavu**	**9.96**	**107**	P	**Pn**	**03 58 43.4**	**+4.0**
TATA	**Tatamba Isabel**	**10.40**	**308**	P	**Pn**	**03 58 44.2**	**-1.2**
EIDS	**Eidsvold**	**18.99**	**234**	P	**Pn**	**04 00 38.2**	**+0.1**
EIDS	**Eidsvold**	**18.99**	**234**	P	**Pn**	**04 00 38.3**	**+0.1**
EIDS	**Eidsvold**	**18.99**	**234**	P	**Pn**	**04 00 39.0**	**+0.8**
TW1H	**Toowoomba 1 Ha**	**19.51**	**227**	P	**Pn**	**04 00 44.9**	**+0.5**
TV1H	**Townsville Har**	**20.77**	**255**	P	**P**	**04 00 57.4**	**+0.7**
PMG	**Port Moresby**	**21.17**	**283**	P	**P**	**04 00 60.0**	**-1.0**
PMG				IAmb	IAmb	04 01 15.9	
	comp=Z,51nm,0.8s						
PMG	**Port Moresby**	**21.17**	**283**	P	**P**	**04 01 00.8**	**-0.1**
	comp=Z,55nm,1.0s,baz=110,slow=5.9,SNR=10						
PMG				LR	LR	04 08 04.4	
	comp=Z,1μm,19.2s,baz=60,slow=34						
	comp=Z,55nm,1.0s						
PMG	**Port Moresby**	**21.17**	**283**	P	**P**	**04 01 01.2**	**+0.2**
CTA	**Charters Tower**	**21.41**	**253**	LR	LR	04 08 10.1	
	comp=Z,100nm,20.1s,baz=85,slow=34						
CTAO	**Charters Tower**	**21.41**	**253**	P	**P**	**04 01 03.2**	**-0.4**
CTAO	**Charters Tower**	**21.41**	**253**	P	**P**	**04 01 03.4**	**-0.2**
CTAO	**Charters Tower**	**21.41**	**253**	P	**P**	**04 01 03.2**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,64nm,1.3s						
NIUE	**Niue**	**21.43**	**104**	P	**P**	**04 01 03.0**	**-0.7**
NIUE				IAmb	IAmb	04 01 18.2	
	comp=Z,117nm,1.3s						
ARMA	**Armidale**	**21.56**	**222**	P	**P**	**04 01 05.9**	**+0.7**
ARMA	**Armidale**	**21.56**	**222**	P	**P**	**04 01 05.9**	**+0.7**
	comp=Z,27nm,1.2s						
ARMA	**Armidale**	**21.56**	**222**	P	**P**	**04 01 07.1**	**+1.9**
MTSU	**Mount Surprise**	**22.98**	**259**	P	**P**	**04 01 19.3**	**-1.1**
	comp=Z,58nm,1.0s						
MTSU	**Mount Surprise**	**22.98**	**259**	P	**P**	**04 01 20.3**	**-0.1**
AULRC	**Lightning Ridg**	**23.47**	**229**	P	**P**	**04 01 25.6**	**+0.6**
MGCD	**Mangrove Creek**	**23.81**	**217**	P	**P**	**04 01 30.2**	**+1.9**
MGCD	**Mangrove Creek**	**23.81**	**217**	P	**P**	**04 01 30.7**	**+2.5**
COEN	**Coen**	**24.13**	**269**	P	**P**	**04 01 30.4**	**-1.0**
COEN				IAmb	IAmb	04 01 32.2	
	comp=Z,50nm,1.4s						
COEN	**Coen**	**24.13**	**269**	P	**P**	**04 01 29.9**	**-1.6**
	comp=Z,22nm,1.4s						
COEN	**Coen**	**24.13**	**269**	P	**P**	**04 01 31.4**	**0.0**
URZ	**Urewera**	**24.54**	**163**	LR	LR	04 09 15.5	
	comp=Z,530nm,19.6s,baz=92,slow=32						
AUDCS	**Dubbo College**	**24.68**	**222**	P	**P**	**04 01 38.1**	**+1.8**
RTZ	**Ruatahuna**	**24.84**	**163**	P	**P**	**04 01 40.2**	**+2.6**
RTZ				IAmb	IAmb	04 01 55.2	
	comp=Z,52nm,1.3s						
QLP	**Quilpie**	**25.06**	**239**	P	**P**	**04 01 39.5**	**-0.3**
	comp=Z,155nm,0.9s						
QLP	**Quilpie**	**25.06**	**239**	P	**P**	**04 01 41.0**	**+1.2**
BKZ	**Black Stump Fm**	**25.22**	**165**	P	**P**	**04 01 41.7**	**+0.5**
BKZ				IAmb	IAmb	04 02 04.7	
	comp=Z,106nm,1.8s						
QRZ	**Quartz Range**	**26.06**	**172**	P	**P**	**04 01 52.4**	**+3.8**
YNG	**Young**	**26.19**	**219**	P	**P**	**04 01 50.8**	**+0.8**
	comp=Z,94nm,1.4s						
YNG	**Young**	**26.19**	**219**	P	**P**	**04 01 51.0**	**+1.1**
CMSA	**Cobar Meteorol**	**26.28**	**227**	P	**P**	**04 01 50.0**	**-0.7**
	comp=Z,62nm,1.1s						
CMSA	**Cobar Meteorol**	**26.28**	**227**	P	**P**	**04 01 52.2**	**+1.4**
CNB	**Canberra Magne**	**26.32**	**216**	P	**P**	**04 01 51.3**	**+0.1**
	comp=Z,23nm,1.4s						
CNB	**Canberra Magne**	**26.32**	**216**	P	**P**	**04 01 52.5**	**+1.3**
QIS	**Mount Isa**	**27.65**	**254**	P	**P**	**04 02 01.1**	**-2.2**
	comp=Z,17nm,1.4s						
QIS	**Mount Isa**	**27.65**	**254**	P	**P**	**04 02 02.5**	**-0.8**
INKA	**Innaminka**	**28.37**	**239**	P	**P**	**04 02 11.3**	**+1.7**
STKA	**Stephens Creek**	**29.44**	**231**	P	**P**	**04 02 18.9**	**-0.1**
STKA	**Stephens Creek**	**29.44**	**231**	P	**P**	**04 02 19.1**	**+0.1**
	comp=Z,5.5nm,1.2s						
STKA	**Stephens Creek**	**29.44**	**231**	P	**P**	**04 02 19.0**	**0.0**
	comp=Z,22nm,1.0s,baz=37,slow=7.7,SNR=18						
STKA				LR	LR	04 13 39.6	
	comp=Z,245nm,18.8s,baz=56,slow=36						
	comp=Z,22nm,1.0s						
STKA	**Stephens Creek**	**29.44**	**231**	P	**P**	**04 02 19.0**	**0.0**
STKA	**Stephens Creek**	**29.44**	**231**	*i* P	**P**	**04 02 19.3**	**+0.3**
TOO	**Toolangi**	**30.13**	**217**	P	**P**	**04 02 24.8**	**-0.4**
TOO	**Toolangi**	**30.13**	**217**	P	**P**	**04 02 24.8**	**-0.4**
TOO				pmax	pmax		
	comp=Z,19nm,1.6s						
RAR	**Rarotonga**	**31.15**	**106**	LR	LR	04 12 30.0	
	comp=Z,204nm,21.2s,baz=275,slow=31						
LCRK	**Leigh Creek**	**31.43**	**236**	P	**P**	**04 02 37.8**	**+1.1**
HTT	**Hallett**	**32.16**	**230**	P	**P**	**04 02 43.0**	**-0.1**
	comp=Z,19nm,2.3s						
HTT	**Hallett**	**32.16**	**230**	P	**P**	**04 02 43.2**	**+0.1**
WR0	**Warramunga Arr**	**32.34**	**256**	P	**P**	**04 02 42.0**	**-2.7**
WB0	**Warramunga Arr**	**32.46**	**257**	P	**P**	**04 02 43.3**	**-2.6**
WB2	**Warramunga Arr**	**32.51**	**256**	P	**P**	**04 02 44.0**	**-2.3**
WRAB	**Tennant Creek**	**32.51**	**256**	P	**P**	**04 02 43.9**	**-2.4**
WRAB	**Tennant Creek**	**32.51**	**

TBI eLR LR 04 15 12.7
comp=Z,3μm,28.2s
SOEI Soe 43.05 272 P **P** **04 04 15.8 +0.3**
SANI Sanana 43.45 283 P **P** **04 04 19.7 +1.1**
BATI Baumata 43.55 271 LR LR 04 21 45.8
comp=Z,319nm,19.8s,baz=97,slow=35
PSA00 Pilbara Seismi 46.12 254 P **P** **04 04 38.3 -1.5**
PSA00 Pilbara Seismi 46.12 254 P **P** **04 04 38.1 -1.7**
comp=Z,29nm,1.0s
PSA00 Pilbara Seismi 46.12 254 P **P** **04 04 39.5 -0.3**
PSAC1 Pilbara Seismi 46.16 254 P **P** **04 04 37.5 -2.6**
comp=Z,22nm,1.1s
MBWA Marble Bar 46.23 255 P **P** **04 04 40.0 -0.7**
MBWA Marble Bar 46.23 255 P **P** **04 04 39.1 -1.6**
comp=Z,34nm,1.1s
MBWA Marble Bar 46.23 255 P **P** **04 04 41.0 +0.3**
LUWI Luwuk 46.82 283 P **P** **04 04 43.7 -1.6**
MEEK Meekatharra 47.41 248 P **P** **04 04 48.4 -1.4**
comp=Z,28nm,1.2s
MEEK Meekatharra 47.41 248 P **P** **04 04 51.3 +1.4**
KAPI Kappang 48.51 277 LR LR 04 27 00.8
comp=Z,107nm,18.2s,baz=96,slow=38
KLBR Kellerberrin 48.67 241 P **P** **04 04 55.9 -3.6**
NWAO Narrogin (SRO) 49.30 239 P **P** **04 05 03.5 -0.7**
NWAO Narrogin (SRO) 49.30 239 LR LR 04 26 13.3
comp=Z,573nm,18.3s,baz=70,slow=36
NWAO Narrogin (SRO) 49.30 239 P **P** **04 05 03.6 -0.7**
NWAO pmax pmax
comp=Z,49nm,1.3s
PLAI Plampang 49.51 271 P **P** **04 05 07.4 +1.3**
MORW Morawa 49.87 245 P **P** **04 05 06.8 -1.9**
MORW IAmb IAmb 04 05 10.9
comp=Z,19nm,0.9s
TAOE Nuku Hiva Isla 50.94 89 *e*S **S** **04 12 28.4 -3.4**
comp=Z,241nm,26.2s
TAOE *e*SS **SS** **04 16 09.4 +2.3**
comp=Z,86nm,26.9s
TAOE *e*LR LR 04 19 57.6
JHJ Hachijo jima 2 54.92 331 LR LR 04 31 02.7
comp=Z,45nm,18.0s,baz=106,slow=38
KKM Kota Kinabalu 55.47 288 P **P** **04 05 49.0 -1.4**
KKM Kota Kinabalu 55.47 288 P **P** **04 05 52.0 +1.6**
SBUM Sibu 57.92 283 P **P** **04 06 07.3 -0.4**
SBUM Sibu 57.92 283 P **P** **04 06 09.9 +2.2**
MJAR Matsushiro Arr 58.48 332 P **P** **04 06 09.1 -2.0**
comp=Z,4.6nm,0.9s,baz=150,slow=7.5,SNR=4.1
MJAR LR LR 04 29 10.5
comp=Z,41nm,21.2s,baz=152,slow=34
comp=Z,4.6nm,0.9s
KSM Kuching 59.41 281 P **P** **04 06 19.9 +1.7**
LEM Lembang 59.77 271 LR LR 04 33 50.0
comp=Z,149nm,18.1s,baz=320,slow=38
SBA Scott Base 62.91 180 P **P** **04 06 41.5 +0.8**
SBA IAmb IAmb 04 06 48.3
comp=Z,16nm,1.1s
SBA Scott Base 62.91 180 P **P** **04 06 41.5 +0.8**
SBA pmax pmax
comp=Z,16nm,1.2s
JKA Kamikawa-asahi 63.23 340 P **P** **04 06 41.9 -1.4**
ASAJ Asahikawa 63.23 340 P **P** **04 06 41.6 -1.7**
comp=Z,13nm,1.0s,baz=210,slow=5.7,SNR=4.0
ASAJ LR LR 04 29 27.6
comp=Z,120nm,20.8s,baz=178,slow=32
comp=Z,13nm,1.0s
ASAJ Asahikawa 63.23 340 P **P** **04 06 41.9 -1.4**
ASAJ pmax pmax
comp=Z,63nm,1.5s
KSRS Korea Array 64.37 325 P **P** **04 06 50.1 -0.8**
comp=Z,2.7nm,0.8s,baz=140,slow=7.1,SNR=10.0
comp=Z,2.7nm,0.8s
KS19 Wonju Array Si 64.44 325 P **P** **04 06 52.1 +0.7**
YSS Yuzh-Sakhalins 65.70 341 *e*P **P** **04 06 59.8 +0.4**
YSS *e*S **S** **04 15 40.3 -2.5**
YSS *e* 04 16 57.6
YSS pmax pmax
comp=Z,10.0nm,1.3s
YSS smax smax
comp=N,200nm,8.0s
NJ2 Nanjing 66.39 315 *e*P **P** **04 07 05.1 +1.0**
NJ2 pmax pmax
comp=N,8.0nm,0.5s
QIZ Qiongzhong 66.53 299 P **P** **04 07 05.4 +0.1**
QIZ S **S** **04 15 59.5 +5.4**
QIZ LR LR
comp=N,140nm,14.7s
QIZ LR LR
comp=N,180nm,19.6s
QIZ LR LR
comp=N,220nm,18.5s
USA0B Ussuriysk Arra 67.45 333 P **P** **04 07 10.8 +0.2**
USA0B Ussuriysk Arra 67.45 333 P **P** **04 07 10.8 +0.2**
USA0B pmax pmax
comp=Z,30nm,1.3s
USRK Ussuriysk Ar. 67.45 333 P **P** **04 07 09.8 -0.8**
USRK Ussuriysk Ar. 67.45 333 P **P** **04 07 10.9 +0.3**
comp=Z,7.0nm,1.0s,baz=152,slow=7.8,SNR=11
comp=Z,7.0nm,1.0s
USRK Ussuriysk Ar. 67.45 333 P **P** **04 07 11.0 +0.3**
SHEM Shemya Is, Ala 67.61 4 LR LR 04 31 34.3
comp=Z,98nm,20.7s,baz=194,slow=31
PETK Petropavlovsk- 68.38 353 LR LR 04 33 14.6
comp=Z,77nm,19.3s,baz=133,slow=32
WHN Wuhan 68.68 312 P **P** **04 07 22.6 +4.0**
MDJ Mudanjiang 68.86 332 P **P** **04 07 18.8 -0.7**
MDJ S **S** **04 16 27.8 +6.9**
MDJ ScS **ScS** **04 17 19.3 +2.3**
MDJ pmax pmax
comp=Z,17nm,1.2s
TIA Tai'an 70.03 318 P **P** **04 07 29.5 +2.6**
TIA PcP **PcP** **04 07 52.8 +3.8**
TIA S **S** **04 16 34.6 -0.6**
TIA pmax pmax
comp=Z,12nm,1.0s
CN2 Changchun 70.25 329 *e*P **P** **04 07 26.6 -1.5**
CN2 *ep*P pP 04 07 31.1 -8.0
CN2 pmax pmax
comp=Z,10.0nm,1.1s
BNX BinXian 70.72 331 ⇓P **P** **04 07 34.1 +3.2**
BNX pmax pmax
comp=Z,12nm,0.7s
KLR Kul'dur 71.54 336 P **P** **04 07 35.3 -0.5**
comp=Z,5.6nm,1.1s,baz=111,slow=7.1,SNR=5.3
comp=Z,5.6nm,1.1s
KLR Kul'dur 71.54 336 *i* P **P** **04 07 35.0 -0.8**
KLR pmax pmax
comp=Z,30nm,2.0s
LYN LuoYang 72.19 314 P **P** **04 07 43.4 +3.3**
LYN pmax pmax
comp=Z,18nm,0.8s
LYN pmax pmax
comp=Z,170nm,4.6s
HNS HongShan 72.30 318 ⇓P **P** **04 07 43.8 +3.2**
HNS S **S** **04 17 05.8 +4.5**
HNS pmax pmax
comp=Z,13nm,1.0s
GYA Guiyang 72.49 304 ⇑P **P** **04 07 45.3 +3.1**
GYA pmax pmax
comp=Z,13nm,0.7s
HEH HeiHe 74.10 334 *e*P **P** **04 07 49.8 -1.2**
HEH pmax pmax
comp=Z,11nm,1.5s
XAN Xi'an 74.42 312 P **P** **04 07 55.6 +2.3**
XAN pP pP 04 08 02.3 -1.5
XAN pmax pmax
comp=Z,14nm,1.0s
PHRA Phrae 74.64 294 P **P** **04 07 53.6 -1.1**
QSPA South Pole Qui 75.06 180 P **P** **04 07 55.4 -1.2**
comp=Z,5.3nm,0.9s,baz=16,slow=3.7,SNR=12
QSPA LR LR 04 36 13.5
comp=Z,102nm,18.3s,baz=12,slow=32
comp=Z,5.3nm,0.9s
KMI Kunming 75.09 302 ⇑P **P** **04 07 55.3 -2.3**
KMI pmax pmax
comp=Z,12nm,1.0s
XLT XiLinHaoTe 75.35 324 *e*P **P** **04 08 00.4 +1.9**
XLT sP pP 04 08 08.3 -1.3
XLT PcP **PcP** **04 08 11.3 -0.3**
XLT pmax pmax
comp=Z,15nm,1.0s
MA2 Magadan 75.60 351 LR LR 04 36 02.4
comp=Z,93nm,21.6s,baz=102,slow=32
CMAR Chiang Mai Arr 75.75 294 P **P** **04 08 00.2 -1.0**
CMAR Chiang Mai Arr 75.75 294 P **P** **04 07 59.1 -2.1**
comp=Z,1.6nm,0.3s,baz=124,slow=4.2,SNR=1.5
CMAR LR LR 04 41 59.8
comp=Z,29nm,19.4s,baz=95,slow=36
comp=Z,1.6nm,0.3s
CMAR Chiang Mai Arr 75.75 294 P **P** **04 08 00.3 -1.0**
CHTO Chiang Mai 75.88 294 P **P** **04 08 01.3 -0.7**
CHTO Chiang Mai 75.88 294 P **P** **04 08 01.3 -0.7**
CHTO pmax pmax
comp=Z,88nm,0.8s
HHC Hu-ho-hao-te 76.27 319 *e*P **P** **04 08 06.8 +3.0**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,150nm,4.5s
HHC LR LR
comp=Z,90nm,12.4s
HHC LR LR
comp=Z,90nm,12.9s
HHC LR LR
comp=Z,140nm,16.7s
CD2 Chengdu 76.77 307 P **P** **04 08 08.6 +1.8**
CD2 S **S** **04 17 53.1 +1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ZEA Zeya 76.82 336 *e*P **P** **04 08 09.0 +2.5**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
RPN Rapa Nui 76.85 115 LR LR 04 35 01.2
comp=Z,41nm,20.7s,baz=268,slow=30
ACHA Angle Creek He 78.87 19 P **P** **04 08 19.1 +1.2**
ACHA IAmb IAmb 04 10 10.1
comp=Z,38nm,1.8s
LZH Lanzhou 79.05 312 *e*P **P** **04 08 21.1 +1.5**
LZH pP pP 04 08 28.6 -2.1
LZH S **S** **04 18 21.6 +5.1**
LZH pmax pmax
comp=Z,19nm,1.4s
L19K White Mountain 82.23 17 P **P** **04 08 36.0 +0.2**
L19K IAmb IAmb 04 09 42.0
comp=Z,15nm,1.4s
YAK Yakutsk 82.48 343 LR LR 04 45 24.2
comp=Z,84nm,18.4s,baz=76,slow=36
YAK Yakutsk 82.48 343 *ce*P **P** **04 08 36.4 -0.6**
YAK pmax pmax
comp=Z,66nm,2.5s
BILL Bilibino 82.78 359 *ce*P **P** **04 08 37.6 -0.9**
BILL pmax pmax
comp=Z,20nm,1.5s
ULN Ulaanbaatar 82.78 324 P **P** **04 08 38.5 -0.6**
ULN IAmb IAmb 04 08 43.5
comp=Z,19nm,1.1s
ULN Ulaanbaatar 82.78 324 *ce*P **P** **04 08 38.6 -0.6**
ULN pmax pmax
comp=Z,21nm,1.3s
SONM Songino Array 83.15 323 P **P** **04 08 39.7 -1.3**
SONM IAmb IAmb 04 08 45.8
comp=Z,29nm,1.5s
SONM Songino Array 83.15 323 P **P** **04 08 40.0 -1.0**
comp=Z,8.4nm,1.1s,baz=138,slow=3.4,SNR=23
comp=Z,8.4nm,1.1s
SONM Songino Array 83.15 323 P **P** **04 08 40.0 -1.0**
GTA Gaotai 83.39 314 *e*P **P** **04 08 42.4 -0.1**
GTA pP PcP 04 08 46.4 -0.4
GTA pmax pmax
comp=Z,6.0nm,1.3s
KCPM Cahto Peak 83.57 46 P **P** **04 08 42.9 -0.4**
KMRM Mail Ridge 83.71 46 P **P** **04 08 45.2 +1.2**
CAST Castle Rocks 83.99 17 P **P** **04 08 43.1 -1.8**
CAST IAmb IAmb 04 08 44.4
comp=Z,22nm,1.2s
KTH Kantishna Hill 84.42 17 P **P** **04 08 46.9 -0.2**
KTH IAmb IAmb 04 08 48.3
comp=Z,29nm,1.6s
AFDM Forest Hills D 85.11 48 P **P** **04 08 50.8 -0.3**
AFDM IAmb IAmb 04 08 52.8
comp=Z,24nm,1.8s
IMAR Indian Mountai 85.59 15 P **P** **04 08 52.1 -0.8**
F20K Avaraart Lake 86.00 13 P **P** **04 08 54.2 -0.6**
F20K IAmb IAmb 04 08 55.9
comp=Z,18nm,1.3s
PNTR Pine Nut 86.15 48 P **P** **04 08 56.3 -0.2**
PNTR IAmb IAmb 04 08 58.5
comp=Z,23nm,1.7s
YERR Yerington 86.36 48 P **P** **04 08 57.7 +0.1**
YERR IAmb IAmb 04 08 59.5
comp=Z,15nm,1.6s
PFO Pinyon Flats O 86.50 54 LR LR 04 41 51.5
comp=Z,121nm,18.6s,baz=266,slow=32
IL31 86.51 18 P **P** **04 08 56.1 -1.2**
IL31 IAmb IAmb 04 09 00.1
comp=Z,29nm,1.9s
ILAR Eielson Array 86.51 18 P **P** **04 08 55.0 -2.4**
comp=Z,1.8nm,0.6s,baz=238,slow=5.1,SNR=46
comp=Z,1.8nm,0.6s
J05D Fort Rock, OR 86.67 44 P **P** **04 08 59.3 +0.4**
J05D IAmb IAmb 04 09 12.8
comp=Z,20nm,1.7s
NVAR Mina Array Bea 86.84 49 P **P** **04 08 59.6 -0.3**
NVAR Mina Array Bea 86.84 49 P **P** **04 09 00.6 +0.7**
comp=Z,0.9nm,0.7s,baz=224,slow=6.3,SNR=11
NVAR LR LR 04 39 35.7
comp=Z,79nm,21.4s,baz=288,slow=30
comp=Z,0.9nm,0.7s
GMN Gold Mountain 87.19 50 P **P** **04 09 01.7 0.0**
WCT Wildcat Mounta 87.49 51 P **P** **04 09 02.9 0.0**
E22K Anaktuvuk Pass 87.77 14 IAmb IAmb 04 09 05.4
comp=Z,25nm,1.6s
BMN Battle Mountai 88.35 47 P **P** **04 09 07.4 +0.4**
BMN IAmb IAmb 04 09 09.2
comp=Z,23nm,1.7s
BMN Battle Mountai 88.35 47 P **P** **04 09 07.4 +0.4**
BMN pmax pmax
comp=Z,23nm,1.7s
V12A Nelson 88.47 52 P **P** **04 09 08.3 +0.6**
V12A IAmb IAmb 04 09 09.8
comp=Z,15nm,1.6s
LPIG La Paz 88.59 65 LR LR 04 41 48.1
comp=Z,70nm,18.9s,baz=308,slow=31
PRN Pahroc Range 88.88 51 P **P** **04 09 10.3 +0.7**
E08A Dider Farm, El 89.36 41 P **P** **04 09 11.6 +0.2**
E08A IAmb IAmb 04 09 13.3
comp=Z,22nm,1.4s
B08A Colville Reser 89.91 40 P **P** **04 09 12.5 -1.5**
B08A IAmb IAmb 04 09 15.3
comp=Z,18nm,1.6s
ELIB Princess Elisa 90.13 190 *d*P **P** **04 09 19.5 +4.7**
PSUT Pine Spring 90.15 50 P **P** **04 09 16.2 +0.6**
PSUT IAmb IAmb 04 09 17.8
comp=Z,16nm,1.6s
PLID Pearl Lake 90.84 43 P **P** **04 09 18.7 0.0**
PLID IAmb IAmb 04 09 20.0
comp=Z,11nm,1.4s
MTPU Mount Pierson 91.24 51 P **P** **04 09 21.6 +0.7**
MTPU IAmb IAmb 04 09 23.0
comp=Z,15nm,1.6s
MSU Marysvale 91.39 51 P **P** **04 09 22.8 +1.4**
MSU Marysvale 91.39 51 P **P** **04 09 22.8 +1.4**
Q16A Castle Valley 92.26 50 P **P** **04 09 25.6 +0.2**
Q16A IAmb IAmb 04 09 28.0
comp=Z,16nm,1.6s
SNAA Sanae 93.36 183 LR LR 04 50 23.1
comp=Z,99nm,18.1s,baz=191,slow=35
WMQ Urumqi 93.45 314 *e*P **P** **04 09 31.6 +1.0**
DGAR Diego Garcia 93.50 261 *i* P P 04 09 37.9 +6.5
ANMO Albuquerque 94.80 55 *ce*P **P** **04 09 39.4 +2.2**
TXAR Lajitas Array 95.71 61 P **P** **04 09 40.7 -0.6**
comp=Z,0.4nm,0.7s,baz=212,slow=6.4,SNR=4.8
comp=Z,0.4nm,0.7s
MK31 Makanchi Array 97.91 316 P **P** **04 09 48.5 -2.2**
MK31 IAmb IAmb 04 13 30.4
comp=Z,4.8nm,0.7s
MK31 Makanchi Array 97.91 316 *ce*P **P** **04 09 49.9 -0.9**
MKAR Makanchi Array 97.91 316 P **P** **04 09 49.4 -1.4**
MKAR Makanchi Array 97.91 316 P **P** **04 09 50.3 -0.5**
comp=Z,4.6nm,0.7s,baz=96,slow=6.4,SNR=17
comp=Z,4.6nm,0.7s
ZALV Zalesovo Beam 98.04 324 P **P** **04 09 48.2 -3.0**
ZALV Zalesovo Beam 98.04 324 P **P** **04 09 48.4 -2.8**
comp=Z,0.6nm,0.5s,baz=101,slow=3.1,SNR=8.1
comp=Z,0.6nm,0.5s
ZALV Zalesovo Beam 98.04 324 *i* P Pdif 04 09 51.2 0.0
ZALV pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 98.12 316 P **P** **04 09 50.9 -0.9**
MAKZ IAmb IAmb 04 09 56.1
comp=Z,6.7nm,1.1s
MAKZ Makanchi 98.12 316 P **P** **04 09 50.9 -0.9**
MAKZ pmax pmax
comp=Z,7.0nm,1.1s
NRIK Noril'sk 100.57 339 *ce*P **Pdif** **04 10 01.5 -0.6**
M57A Sunshine Farm, 118.30 51 PKPdf **PKPdf** **04 15 01.9 -0.5**
CHIV Chivirico 118.60 75 PKPdf **PKPdf** **04 15 02.2 -1.4**
ARCES ARCESS Array B 120.67 346 PKP **PKPdf** **04 15 04.0 -2.1**
comp=Z,1.6nm,0.5s,baz=52,slow=1.5,SNR=1.5
OBN Obninsk 125.31 328 *e*PKIKP **PKiKP** **04 15 18.8 +3.1**
OBN *e* 04 17 03.2
OBN pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 126.23 338 PKP **PKPdf** **04 15 16.4 -0.6**
comp=Z,2.8nm,0.9s,baz=37,slow=2.6,SNR=2.2
SOC Sochi 127.74 314 *i* PKIKP **PKPdf** **04 15 17.8 -2.6**
SOC *e*PPP PPP 04 20 03.5
SOC *e*PS **PS** **04 27 23.2 -5.8**
SOC *e*SS SS 04 34 33.9 +1.9
SOC *e*SSS SSS 04 39 18.6
MODS Modra-Piesok 138.92 330 *e*PKIKP **PKiKP** **04 15 48.5 +5.0**
MODS Modra-Piesok 138.92 330 *e* **PKiKP** **04 15 48.5 +5.0**
BIOA Bad Ischl, Aus 141.10 332 *i* PKP **PKPdf** **04 15 42.2 -3.1**
comp=Z,4.6nm,1.1s
LESA Schwarzleotal 141.73 333 *i* PKP **PKPdf** **04 15 41.9 -4.6**
comp=Z,9.3nm,1.8s
WATA Walderalm 142.28 334 *e*PKP **PKPdf** **04 15 43.4 -4.2**
comp=Z,6.0nm,1.0s
WTTA Wattenberg 142.31 334 *i* PKP **PKPdf** **04 15 42.9 -4.8**
comp=Z,12nm,1.3s
MOTA Moosalm 142.47 334 *e*PKP **PKPdf** **04 15 44.3 -3.7**
comp=Z,5.4nm,1.1s
RETA Reutte 142.50 335 *i* pPKP **PKiKP** **04 15 54.2 +3.3**
comp=Z,5.0nm,1.1s
SQTA Sankt Quirin 142.52 334 *e*PKP **PKPdf** **04 15 43.7 -4.2**
comp=Z,7.3nm,1.2s
FETA Feichten 142.88 334 *i* PKP **PKPdf** **04 15 46.9 -1.8**
comp=Z,5.7nm,1.3s
DAVA Damuels 143.02 335 *i* PKP **PKPdf** **04 15 44.5 -4.4**
comp=Z,13nm,1.8s
TUE Stuetta 143.89 335 PKPdf PKPbc 04 15 48.0 -0.3
FDMO Fiordimonte 144.75 328 PKPdf PKPbc 04 15 50.7 -0.2
NRCA Norcia 144.88 327 PKPdf **PKPab** **04 15 50.5 -0.8**
TIP Timpagrande 145.13 319 PKPdf **PKPab** **04 15 51.9 -0.4**
RAFF Raffo Rosso 147.81 318 PKPbc **PKPbc** **04 15 59.7 -0.5**
VSL Villasalto 149.24 327 PKPbc **PKPbc** **04 16 02.4 -1.4**
KEST Kesra 151.88 321 PKPbc **PKPbc** **04 16 09.3 -1.0**
comp=Z,6.7nm,0.7s,baz=41,slow=6.2,SNR=6.0
ESDC Sonseca Array 154.41 346 PKPbc **PKiKP** **04 16 16.0 +0.3**
comp=Z,1.2nm,0.9s,baz=20,slow=2.2,SNR=4.0
TORD Torodi Ar. Bea 166.66 264 PKP **PKPdf** **04 16 20.4 -0.9**
comp=Z,1.0nm,1.1s,baz=6.9,slow=1.9,SNR=3.9

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*BKK **19** 04:07:41.1±6.2, 22°N±30°×9°4E±4°4, h10km, M4.4/10, mb4.5/8, mB4.8/7, Mjma4.0/10, ML5.0/6, MLv4.7/8, Mw(mB)4.0/7*
*NDI **19** 04:07:48.6, 20°.92N×94°.26E, h35km, mb4.3, ML4.3, mb4.9(NEIC)*
*BJI **19** 04:07:52.4, 21°.47N×94°.26E, h81km, mb4.6/37, mB4.7/10, Ms4.0/2, Ms7 3.7/1*
*IDC **19** 04:07:53.5±1.1, 21°.48N×94°.30E, h78km±9km, mb4.2/31, mbtmp4.5/33, MS4.6/1, Error ellipse: s-maj=16.8km s-min=7.8km az=39.0*
*NEIC **19** 04:07:54.0±1.7, 21°.52N±0°.07×94°.40E±0°.07, h77km±5km, mb4.9/80, Error ellipse: s-maj=11.9km s-min=7.8km az=216.0*

ISC 19 04:07:55.4±0.3, 21°.43N±0°.05×94°.28E±0°.04, h97km, n198, σ1 28/206, mb4.7/70, 10C-3D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AZL	**Aizawl**	**2.73**	**328**	*e*P		**Pn**	**04 08 37.0**	**-0.6**
AZL				IAML			04 09 18.4	
comp=N,2μm,0.4s								
BRDH	**Bariadhala**	**2.74**	**297**	P		**Pn**	**04 08 36.3**	**-1.3**
comp=N,175nm,0.4s,baz=96,slow=8.0,SNR=6.4								
BRDH				S		**Sn**	**04 09 07.2**	**-2.9**
comp=N,631nm,0.4s,baz=332,slow=23,SNR=26								
BELO	**BELONIA**	**3.19**	**305**	*ex*		x	04 08 28.1	
BELO				*e*S		**Sn**	**04 09 19.8**	**-0.9**
BELO				IAML			04 09 21.3	
comp=N,48μm,0.3s								
IMP	**Imphal**	**3.40**	**355**	*e*P		**Pn**	**04 08 47.6**	**+1.0**
IMP				*e*S		Sn	04 09 33.3	+7.3
IMP				IAML			04 09 40.8	
comp=N,593nm,0.5s								
KOHI	**KOHIMA**	**4.28**	**358**	*e*P		**Pn**	**04 08 58.6**	**+0.1**
KOHI				*e*S		**Sn**	**04 09 48.6**	**+1.3**
KOHI				IAML			04 10 01.2	
comp=E,571nm,0.7s								
KOHI				IAML			04 10 03.1	
comp=E,719nm,0.8s								
SHL	**Shillong**	**4.67**	**332**	Pn		**Pn**	**04 09 01.4**	**-2.4**
SHL	**Shillong**	**4.67**	**332**	*e*P		**Pn**	**04 09 01.5**	**-2.4**
SHL				*e*S		**Sn**	**04 09 51.5**	**-5.4**
SHL				IAML			04 09 56.3	
comp=E,438nm,0.0s								
SHL				IAML			04 09 57.2	
comp=N,378nm,0.2s								
MOKO	**MOKOCHONG**	**4.88**	**3**	*e*P		**Pn**	**04 09 06.7**	**+0.2**
MOKO				*e*S		**Sn**	**04 09 59.6**	**-2.3**
MOKO				IAML			04 10 20.8	
comp=N,538nm,0.5s								
MOKO				IAML			04 10 21.9	
comp=E,518nm,0.6s								
CHTO	**Chiang Mai**	**5.10**	**120**	Pn		**Pn**	**04 09 06.8**	**-2.7**
CM31	**Chiang Mai Arr**	**5.29**	**123**	Pn		**Pn**	**04 09 09.0**	**-3.1**
CMAR	**Chiang Mai Arr**	**5.29**	**123**	P		**Pn**	**04 09 09.8**	**-2.3**
comp=E,5.6nm,0.5s,baz=303,slow=14,SNR=26								
CMAR				S		**Sn**	**04 10 11.8**	**0.0**
comp=E,5.5nm,0.4s,baz=309,slow=28,SNR=1.9								
CMAR				LR		LR	04 11 31.9	
comp=E,48nm,20.9s,baz=290,slow=41								
TNCH	**TengChong**	**5.30**	**47**	P		**Pn**	**04 09 07.8**	**-4.5**
TNCH				S		**Sn**	**04 10 13.1**	**+0.9**
TNCH				smax		smax		
comp=E,190nm,0.8s								
TNCH				smax		smax		
comp=E,130nm,0.7s								
TNCH				LR		LR		
comp=E,340nm,3.5s								
CM01	**Chiang Mai Arr**	**5.32**	**123**	P		**Pn**	**04 09 10.3**	**-2.3**
comp=E,40nm,0.8s,comp=E,482nmcomp=E,0.3nmcomp=E,0.4nm								
ITAN	**ITANAGAR**	**5.71**	**355**	*e*S		**Sn**	**04 10 26.2**	**+4.2**
LAMP	**Lampang**	**5.81**	**119**	P		**Pn**	**04 09 16.6**	**-2.5**
comp=E,29nm,0.8s,comp=E,430nmcomp=E,0.5nmcomp=E,0.4nm								
ZIRO	**ZIRO**	**6.08**	**356**	*e*P		**Pn**	**04 09 21.1**	**-1.9**
ZIRO				*e*S		**Sn**	**04 10 29.0**	**-2.3**
PHRA	**Phrae**	**6.31**	**116**	Pn		**Pn**	**04 09 22.8**	**-3.2**
PHRA	**Phrae**	**6.31**	**116**	P		**Pn**	**04 09 23.7**	**-2.3**
UTHA	**Uthaitani**	**7.62**	**139**	P		**Pn**	**04 09 42.4**	**-1.4**
GTK	**Tadong**	**7.82**	**320**	*e*P		**Pn**	**04 09 43.8**	**-2.8**
BOK	**Bokaro**	**8.10**	**288**	*e*S		Sn	04 11 10.9	-9.3
BOK				IAML			04 11 20.6	
comp=N,211nm,0.3s								
BOK				IAML			04 11 20.9	
comp=E,127nm,0.0s								
PZH	**PanZhiHua**	**8.49**	**52**	P		**Pn**	**04 09 57.9**	**+2.2**
PZH				pmax		pmax		
comp=E,40nm,1.1s								
PZH				pmax		pmax		
comp=E,90nm,6.5s								
KMI	**Kunming**	**8.60**	**63**	⇓P		Pn	04 10 00.5	+3.1
KMI				pmax		pmax		
comp=E,28nm,1.3s								
LSA	**Lhasa**	**8.71**	**342**	Pn		**Pn**	**04 09 56.6**	**-2.3**
LSA	**Lhasa**	**8.71**	**342**	P		**Pn**	**04 09 57.1**	**-1.8**
LSA				pmax		pmax		
comp=E,23nm,0.6s								
JHSG	**JHARSUGUGA**	**9.78**	**274**	*ex*		x	04 11 50.6	
BLSP	**Bilaspur**	**11.31**	**276**	IAmb		IAmb	04 12 26.6	
comp=Z,40nm,0.3s								
NGP	**Nagpur**	**14.20**	**272**	*ex*		x	04 10 59.6	
GOMU	**GeErMu**	**14.72**	**2**	P		**Pn**	**04 11 17.8**	**-1.3**
GOMU				pmax		pmax		
comp=Z,8.0nm,0.8s								
HYB	**Hyderabad**	**15.36**	**258**	*e*P		**Pn**	**04 11 27.0**	**0.0**
BHPL	**Bhopal**	**15.70**	**280**	*ex*		x	04 11 30.7	
BHPL				*ex*		x	04 14 10.1	
NRDN	**NARMADA NAGAR**	**15.91**	**278**	*ex*		x	04 11 40.0	
NRDN				IAmb		IAmb	04 11 42.4	
comp=Z,14nm,1.6s								
ENH	**Enshi**	**16.27**	**54**	Pn		**Pn**	**04 11 35.1**	**-3.0**
LZH	**Lanzhou**	**16.83**	**28**	*e*P		Pn	04 11 33.3	-12
LZH				pP		P	04 11 47.4	+1.7

LZH sP pP 04 11 59.5 -4.5
LZH pmax pmax
comp=Z,10.0nm,1.0s
HNLY HANLEY 17.68 313 *e*P **Pn 04 11 56.8 +0.8**
HNLY IAmb IAmb 04 11 58.4
comp=Z,9.5nm,0.3s
XAN Xi'an 18.02 43 P **Pn 04 11 58.4 -1.2**
XAN sP sP 04 12 22.5 -7.0
XAN pmax pmax
comp=Z,23nm,0.8s
XAN LR LR
comp=Z,130nm,13.7s
XAN LR LR
comp=Z,170nm,12.4s
THN Thein Dam 19.82 307 *e*P **P 04 12 17.9 -0.4**
THN IAmb IAmb 04 12 19.6
comp=Z,26nm,0.6s
WHN Wuhan 20.17 59 P **Pn 04 12 24.3 -0.6**
NIL Nilore 22.22 308 P **P 04 12 42.7 -1.3**
NIL IAmb IAmb 04 12 46.4
comp=Z,40nm,0.5s
WMQ Urumqi 22.99 348 *e*P **P 04 12 53.1 +1.2**
WMQ pmax pmax
comp=Z,18nm,0.9s
WUS Wushi 23.47 331 P **P 04 12 56.7 +0.2**
KSH Kashi 23.88 323 P **P 04 13 00.5 +0.4**
KSH pmax pmax
comp=Z,26nm,0.7s
HHC Hu-ho-hao-te 24.28 33 *e*P **P 04 13 03.3 -0.5**
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,82nm,4.6s
NJ2 Nanjing 24.31 59 *e*P **P 04 13 04.3 +0.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
TARG Taragay, Kyrgy 24.55 329 P **P 04 13 07.7 +1.2**
TARG IAmb IAmb 04 13 09.1
comp=Z,23nm,0.7s
PRZ Przheval'sk 24.86 331 P **P 04 13 11.2 +2.1**
PRZ IAmb IAmb 04 13 19.9
comp=Z,87nm,1.3s
KDJ Kajisay 25.15 329 P **P 04 13 13.5 +1.8**
KBL Kabul 25.75 306 P **P 04 13 18.7 +1.4**
KBL IAmb IAmb 04 13 20.7
comp=Z,22nm,0.6s
DRK Karamyk 26.32 318 P **P 04 13 23.2 +0.7**
DRK IAmb IAmb 04 13 25.8
comp=Z,22nm,0.5s
AAK Ala-Archa 26.86 326 P **P 04 13 28.2 +1.0**
GAR Garm 26.99 316 P **P 04 13 28.4 +0.1**
MK31 Makanchi Array 27.11 342 P **P 04 13 28.7 -0.5**
MKAR Makanchi Array 27.11 342 P **P 04 13 28.9 -0.3**
MKAR Makanchi Array 27.11 342 P **P 04 13 29.6 +0.4**
comp=Z,6.4nm,0.6s,baz=149,slow=9.9,SNR=54
MKAR PcP **PcP 04 16 49.0 +1.4**
comp=Z,0.4nm,0.4s,baz=155,slow=2.9,SNR=3.7
MKAR ScP **ScP 04 20 20.9 +1.7**
comp=Z,1.0nm,0.7s,baz=147,slow=3.4,SNR=9.8
comp=Z,6.4nm,0.6s
MAKZ Makanchi 27.22 341 P **P 04 13 29.5 -0.6**
BTK Batken 27.27 318 P **P 04 13 31.5 +0.7**
SIMJ Simiganj 27.67 314 P **P 04 13 34.6 +0.2**
SONM Songino Array 28.10 17 P **P 04 13 37.5 -0.6**
comp=Z,0.5nm,0.3s,baz=204,slow=8.9,SNR=4.6
SONM ScP **ScP 04 20 23.4 +1.0**
comp=Z,0.9nm,0.6s,baz=203,slow=3.7,SNR=5.1
comp=Z,0.5nm,0.3s
XLT XiLinHaoTe 28.80 34 *e*P **P 04 13 44.0 -0.3**
XLT pP pP 04 14 00.9 -5.2
XLT sP sP 04 14 11.4 -6.1
XLT PP **PnPn 04 14 42.8 +2.5**
XLT pmax pmax
comp=Z,10.0nm,0.7s
KKAR Karatay Array 29.33 323 P **P 04 13 47.9 -1.0**
KKAR Karatay Array 29.33 323 P **P 04 13 47.2 -1.7**
KKAR IAmb IAmb 04 14 51.4
comp=Z,1.9nm,1.1s
KURBB Kurchatov Arra 31.66 341 P **P 04 14 09.4 +0.1**
comp=Z,9.2nm,0.7s,baz=154,slow=8.2,SNR=56
KURBB PcP **PcP 04 16 59.0 -0.1**
comp=Z,0.6nm,0.4s,baz=164,slow=2.5,SNR=5.9
KURBB ScP **ScP 04 20 35.4 +1.8**
comp=Z,1.1nm,0.5s,baz=156,slow=2.9,SNR=9.5
comp=Z,9.2nm,0.7s
KURK Kurchatov 31.71 341 P **P 04 14 09.3 -0.5**
KURK IAmb IAmb 04 14 10.7
comp=Z,11nm,0.6s
KURK Kurchatov 31.71 341 P **P 04 14 09.8 +0.1**
ZAA0 Zalesovo Array 33.26 350 P **P 04 14 23.1 -0.2**
ZALV Zalesovo Beam 33.26 350 P **P 04 14 22.7 -0.6**
ZALV Zalesovo Beam 33.26 350 P **P 04 14 23.4 +0.1**
comp=Z,18nm,0.4s,baz=173,slow=7.9,SNR=61
comp=Z,18nm,0.4s
BVAR Borovoye Array 36.48 336 P **P 04 14 51.0 0.0**
comp=Z,1.8nm,0.3s,baz=126,slow=9.3,SNR=15
BVAR PcP **PcP 04 17 12.4 -0.4**
comp=Z,1.2nm,0.3s,baz=132,slow=3.0,SNR=8.3
comp=Z,1.8nm,0.3s
BRVK Borovoye 36.55 336 P **P 04 14 51.4 -0.2**
BRVK Borovoye 36.55 336 P **P 04 14 51.4 -0.2**
ABKAR Akbulak array 38.88 324 P **P 04 15 12.0 +0.7**
JGF Kuroka 40.09 60 P **P 04 15 21.6 +0.1**
AKTO Aktyubinsk 40.56 324 P **P 04 15 25.9 +0.7**
comp=Z,14nm,0.3s,baz=122,slow=6.7,SNR=45
comp=Z,14nm,0.3s
ARTI Arti 43.81 332 P **P 04 15 51.5 +0.1**
ARTI IAmb IAmb 04 15 52.3
comp=Z,14nm,0.9s
ARTI Arti 43.81 332 P **P 04 15 51.6 +0.1**
comp=Z,9.7nm,0.3s,baz=140,slow=4.5,SNR=18
comp=Z,9.7nm,0.3s
ARTI Arti 43.81 332 P **P 04 15 51.5 +0.1**
RAYN Ar Rayn 44.95 282 P **P 04 16 01.7 +0.6**
RAYN Ar Rayn 44.95 282 P **P 04 16 01.8 +0.7**
KARS Kars 47.16 306 P **P 04 16 20.1 +1.8**
BELG Belogornoye 47.24 323 P **P 04 16 18.5 -0.1**
comp=Z,18nm,0.8s,baz=117,slow=14,SNR=5.1
comp=Z,18nm,0.8s
GURO Guroymak-BITLI 47.72 303 P **P 04 16 24.2 +1.5**
GURO IAmb IAmb 04 16 25.8
comp=Z,8.8nm,0.9s
KBZ Khabaz 47.80 310 P **P 04 16 24.1 +1.1**
comp=Z,1.9nm,0.5s,baz=113,slow=11,SNR=6.7
comp=Z,1.9nm,0.5s
KIV Kislovodsk 47.99 310 P **P 04 16 25.6 +1.0**
KIV IAmb IAmb 04 16 27.4
comp=Z,20nm,0.8s
KIV Kislovodsk 47.99 310 P **P 04 16 26.2 +1.6**
NRIK Noril'sk 48.09 357 P **P 04 16 24.4 -0.5**
NRIK IAmb IAmb 04 16 25.6
comp=Z,6.2nm,0.6s
NRIK Noril'sk 48.09 357 P **P 04 16 24.8 -0.1**
comp=Z,4.8nm,0.4s,baz=39,slow=7.8,SNR=7.9
comp=Z,4.8nm,0.4s
KIRV Kirov 49.06 331 P **P 04 16 32.6 +0.2**
comp=Z,20nm,0.5s,baz=130,slow=2.9,SNR=5.9
comp=Z,20nm,0.5s
TIXI Tiksi 54.02 13 P **P 04 17 07.9 -1.3**
comp=Z,5.9nm,0.3s,baz=204,slow=4.5,SNR=13
comp=Z,5.9nm,0.3s
KIRS Kirsehir-Merke 54.08 303 ⇑P **P 04 17 11.6 +1.3**
BR131 Keskin Array S 54.30 304 P **P 04 17 12.2 +0.2**
BRTR Keskin Array B 54.30 304 P **P 04 17 12.0 0.0**
BRTR Keskin Array B 54.30 304 P **P 04 17 12.6 +0.6**
comp=Z,2.0nm,0.8s,baz=87,slow=7.5,SNR=11
comp=Z,2.0nm,0.8s
ANTO Ankara 54.95 304 P **P 04 17 17.4 +0.8**
ANTO IAmb IAmb 04 17 18.1
comp=Z,11nm,0.9s
WRA Warramunga Arr 56.79 134 P **P 04 17 30.1 +0.2**
comp=Z,0.8nm,0.7s,baz=320,slow=7.5,SNR=13
WRA PcP **PcP 04 18 23.5 -1.1**
comp=Z,0.3nm,0.6s,baz=325,slow=3.1,SNR=4.8
comp=Z,0.8nm,0.7s
WB2 Warramunga Arr 56.80 134 P **P 04 17 29.0 -0.9**
WB2 IAmb IAmb 04 17 55.1
comp=Z,26nm,1.9s
WR0 Warramunga Arr 56.94 133 P **P 04 17 30.4 -0.5**
WR0 IAmb IAmb 04 17 53.3
comp=Z,10nm,1.4s
ELL Elmali 57.31 301 P **P 04 17 34.2 +0.7**
AKASG Malin Array Be 57.98 317 P **P 04 17 36.9 -0.9**
comp=Z,1.6nm,0.5s,baz=83,slow=6.6,SNR=17
AKASG PcP **PcP 04 18 28.5 -0.3**
comp=Z,1.0nm,0.7s,baz=76,slow=3.7,SNR=4.2
comp=Z,1.6nm,0.5s
AKBB Malin Array Si 57.98 317 P **P 04 17 36.8 -1.0**
AKBB IAmb IAmb 04 17 37.3
comp=Z,7.1nm,0.8s
KIEV Kiev 57.99 317 P **P 04 17 37.0 -0.8**
KIEV IAmb IAmb 04 17 37.4
comp=Z,6.4nm,0.8s
KIEV Kiev 57.99 317 ⇑P **P 04 17 37.3 -0.5**
KIEV Kiev 57.99 317 P **P 04 17 37.0 -0.8**
ASAR Alice Springs 59.14 137 P **P 04 17 46.5 +0.3**
comp=Z,0.8nm,0.6s,baz=320,slow=7.4,SNR=9.2
ASAR PcP **PcP 04 18 33.8 -0.1**
comp=Z,1.2nm,0.8s,baz=318,slow=4.4,SNR=6.6
comp=Z,0.8nm,0.6s
PLOR Plostina 59.49 311 ⇑P **P 04 17 50.0 +1.5**
COVR Voineasa-Covas 59.81 311 ⇑P **P 04 17 51.5 +0.9**
KIBK Kibwezi 59.82 254 P **P 04 17 52.8 +1.6**
KIBK IAmb IAmb 04 18 39.2
comp=Z,15nm,2.0s
TURR Turia 59.94 312 ⇑P **P 04 17 52.5 +1.0**
MLR Muntele Rosu 59.99 311 P **P 04 17 53.2 +1.3**
MLR IAmb IAmb 04 18 07.4
comp=Z,16nm,1.2s
MLR Muntele Rosu 59.99 311 P **P 04 17 53.3 +1.3**
comp=Z,8.3nm,0.8s,baz=180,slow=6.6,SNR=9.1
comp=Z,8.3nm,0.8s
MLR Muntele Rosu 59.99 311 ⇑P **P 04 17 53.6 +1.6**
KMBO Kilima Mbogo 60.01 256 P **P 04 17 53.5 +0.9**
comp=Z,1.0nm,0.3s,baz=40,slow=11,SNR=3.8
comp=Z,1.0nm,0.3s
DOPR Dopca 60.37 312 ⇑P **P 04 17 55.1 +0.7**
BUR08 Bucovina Ar. S 60.49 313 P **P 04 17 55.0 -0.4**
BUR08 IAmb IAmb 04 18 01.2
comp=Z,19nm,1.6s
ARR Arges 60.92 311 ⇑P **P 04 17 58.5 +0.4**
FIA1 FINESS Array S 61.00 329 P **P 04 17 57.8 -0.6**
FINES FINESS Array B 61.00 329 P **P 04 17 58.0 -0.4**
comp=Z,3.0nm,0.5s,baz=94,slow=5.7,SNR=26
comp=Z,3.0nm,0.5s
PABE Paberze 61.49 322 P **P 04 18 01.6 -0.1**
IDI Anoyia 61.50 299 P **P 04 18 02.5 +0.2**
MARR Marisel-Cluj 61.93 312 ⇓P **P 04 18 05.8 +0.8**
KRVT Keravat (AS076 62.05 107 LR LR 04 43 32.6
comp=Z,544nm,21.6s,baz=12,slow=34
KWP Kalwaria Pacla 62.13 316 P **P 04 18 06.4 +0.2**
KWP IAmb IAmb 04 18 07.2
comp=Z,10nm,0.8s
SURR Surduc 62.66 311 ⇑P **P 04 18 10.8 +1.0**
ARCES ARCESS Array B 62.70 338 P **P 04 18 09.3 -0.3**
comp=Z,3.8nm,0.6s,baz=95,slow=8.6,SNR=9.1
comp=Z,3.8nm,0.6s
MDVR Moldovita 63.01 310 ⇑P **P 04 18 13.2 +0.9**
VOI Vohitsoka 63.26 230 P **P 04 18 14.9 +0.7**
VOI IAmb IAmb 04 20 11.8
comp=Z,25nm,1.5s
PDG Podgorica 65.01 308 P **P 04 18 24.1 -1.2**
VRAC Vranov 66.13 316 P **P 04 18 32.8 +0.4**
comp=Z,1.4nm,0.5s,baz=13,slow=3.4,SNR=3.2
comp=Z,1.4nm,0.5s
HFS Hagfors 67.00 328 P **P 04 18 37.3 -0.4**
comp=Z,5.4nm,0.6s,baz=96,slow=6.0,SNR=21
comp=Z,5.4nm,0.6s
NC405 NORSAR Array S 67.91 329 P **P 04 18 42.3 -1.1**
GEC2 GERESS Array S 68.07 315 P **P 04 18 44.6 -0.2**
GEC2 IAmb IAmb 04 20 54.8
comp=Z,23nm,1.9s
GERES GERESS Array B 68.07 315 P **P 04 18 44.5 -0.2**
comp=Z,2.8nm,0.8s,baz=75,slow=6.1,SNR=7.5
comp=Z,2.8nm,0.8s
NB2 NORSAR Subarra 68.16 329 P **P 04 18 44.1 -0.9**
comp=Z,1.6nm,0.6s,baz=85,slow=6.5
NB2 NORSAR Subarra 68.16 329 P **P 04 18 44.1 -0.9**
baz=85,slow=6.5
NOA NORSAR Array B 68.16 329 P **P 04 18 44.0 -0.9**
comp=Z,2.1nm,0.6s,baz=86,slow=6.2,SNR=13
comp=Z,2.1nm,0.6s
NC204 NORSAR Array S 68.36 329 P **P 04 18 45.5 -0.8**
NC204 IAmb IAmb 04 19 52.9
comp=Z,32nm,1.6s
FDMO Fiordimonte 69.41 309 P **P 04 18 53.3 +0.2**
NRCA Norcia 69.43 309 P **P 04 18 53.4 +0.1**
NRCA IAmb IAmb 04 21 16.5
comp=Z,33nm,1.5s
STKA Stephens Creek 69.73 138 P **P 04 18 55.6 +0.6**
comp=Z,1.7nm,0.7s,baz=347,slow=9.5,SNR=2.1
comp=Z,1.7nm,0.7s
FUORN Ofenpass-Fuorn 70.72 313 P **P 04 19 01.1 -0.2**
DAVOX Davos/Dischmat 70.95 314 P **P 04 19 02.5 -0.2**
comp=Z,1.7nm,0.5s,baz=112,slow=9.3,SNR=4.6
comp=Z,1.7nm,0.5s
SENIN Lac Senin/Sane 72.78 314 P **P 04 19 13.3 -0.3**
LSZ Lusaka 74.37 246 P **P 04 19 23.7 +0.4**
LSZ IAmb IAmb 04 20 43.1
comp=Z,18nm,1.7s
C19K Lookout Ridge 75.75 21 P **P 04 19 30.7 +0.4**
D19K Kuna River 76.48 21 P **P 04 19 33.8 -0.6**
D19K IAmb IAmb 04 22 10.2
comp=Z,41nm,1.8s
EKA Eskdalemuir Ar 76.75 324 P **P 04 19 36.1 0.0**
comp=Z,3.8nm,0.7s,baz=74,slow=5.5,SNR=9.0
comp=Z,3.8nm,0.7s
E19K Redstone River 77.22 22 P **P 04 19 38.6 +0.1**
E19K IAmb IAmb 04 20 19.5
comp=Z,19nm,1.6s
POGA Pongola 77.54 234 P **P 04 19 41.6 +0.7**
F20K Avaraart Lake 77.93 22 P **P 04 19 42.0 -0.4**
K17K Iditarod 78.83 27 P **P 04 19 47.9 +0.4**
IMAR Indian Mountai 79.12 23 P **P 04 19 49.0 -0.1**
TOLK Toolik Lake Re 79.19 20 P **P 04 19 49.3 -0.1**
TOLK IAmb IAmb 04 21 42.8
comp=Z,35nm,1.9s
H21K Melozitna Rive 79.62 23 P **P 04 19 52.0 +0.2**
H21K IAmb IAmb 04 21 32.4
comp=Z,16nm,1.8s
H23K Yukon River 80.69 22 P **P 04 19 58.0 +0.5**
H23K IAmb IAmb 04 20 22.1
comp=Z,21nm,1.9s
CAST Castle Rocks 81.01 25 P **P 04 19 59.7 +0.4**
BPAW Bear Paw Mtn. 81.08 24 P **P 04 19 59.8 +0.1**
BPAW IAmb IAmb 04 21 16.2
comp=Z,31nm,1.8s
I23K Minto, Yukon-K 81.12 23 P **P 04 19 59.9 +0.1**
I23K IAmb IAmb 04 22 49.8
comp=Z,35nm,1.9s
M20K Styx River 81.36 26 P **P 04 20 01.5 +0.3**
M20K IAmb IAmb 04 20 23.9
comp=Z,44nm,2.0s
BMAR Burnt Mountain 81.43 20 P **P 04 20 02.6 +1.1**
WRH Wood River Hil 81.95 23 P **P 04 20 03.3 -0.9**
WRH IAmb IAmb 04 22 33.3
comp=Z,26nm,1.9s
CCB Clear Creek Bu 81.95 23 P **P 04 20 03.4 -0.7**
CCB IAmb IAmb 04 20 12.2
comp=Z,19nm,1.8s
ILAR Eielson Array 82.21 22 P **P 04 20 04.2 -1.3**
ILAR Eielson Array 82.21 22 P **P 04 20 04.4 -1.1**
comp=Z,0.9nm,0.7s,baz=290,slow=5.0,SNR=22
comp=Z,0.9nm,0.7s
ESDC Sonseca Array 82.65 310 P **P 04 20 09.0 +0.6**
comp=Z,0.7nm,0.7s,baz=70,slow=5.9,SNR=4.1
comp=Z,0.7nm,0.7s
J25K Salcha River, 82.83 22 P **P 04 20 06.8 -2.0**
A36M Sachs Harbour 83.02 12 P **P 04 20 09.4 -0.1**
I26K Coal Creek Min 83.17 21 P **P 04 20 10.3 -0.1**
I26K IAmb IAmb 04 22 31.0
comp=Z,16nm,1.8s
SML Sawmill 83.33 25 P **P 04 20 12.0 +0.5**
SCRK Sand Creek 83.70 22 P **P 04 20 13.0 -0.4**
SCRK IAmb IAmb 04 20 55.1
comp=Z,30nm,1.9s
RES Resolute Bay 83.93 2 P **P 04 20 14.0 -0.2**
comp=Z,2.0nm,0.8s,baz=10.0,slow=8.2,SNR=4.0
comp=Z,2.0nm,0.8s
INK Inuvik 84.00 16 P **P 04 20 14.1 -0.6**
INK IAmb IAmb 04 20 15.1
comp=Z,5.4nm,0.7s
I28M Miner Creek 84.13 20 P **P 04 20 15.7 +0.2**
I28M IAmb IAmb 04 20 45.7
comp=Z,33nm,2.0s
KLU Klutina 84.46 25 P **P 04 20 17.7 +0.5**
F31M Tsiigehtchic 84.57 17 P **P 04 20 16.9 -0.6**
G31M Satah River 84.80 17 P **P 04 20 18.0 -0.7**
N25K Chitina, Valde 84.90 24 P **P 04 20 19.6 +0.1**
C36M Paulatuk 85.39 13 P **P 04 20 21.0 -0.6**
TORD Torodi Ar. Bea 87.64 283 P **P 04 20 34.3 +0.6**
comp=Z,0.9nm,0.5s,baz=62,slow=5.0,SNR=14
comp=Z,0.9nm,0.5s
ELIB Princess Elisa 104.49 198 *d*PP **PKiKP 04 26 09.9 +5.3**
MVU Marysvale 115.41 23 PKPdf **PKPdf 04 26 27.3 +0.7**
MSU Marysvale 115.41 23 **PKPdf 04 26 27.6 +1.0**
BELA Belgrano 2 118.60 191 PKPdf **PKPdf 04 26 30.6 -0.5**
ESJX Sierra Juarez 119.50 29 PKPdf **PKiKP 04 26 35.5 +1.0**
R40A Maddies Statio 120.28 6 PKPdf **PKPdf 04 26 34.8 -0.8**
CLTN Cedars of Leba 122.79 1 PKPdf **PKPdf 04 26 40.0 -0.4**
VHRN Van Horn 124.89 20 PKPdf **PKPdf 04 26 44.0 -0.8**
Z47A Carrollton 125.63 2 PKPdf **PKPdf 04 26 45.2 -0.8**
TXAR Lajitas Array 126.65 20 PKPdf **PKiKP 04 26 48.5 -0.2**
TXAR Lajitas Array 126.65 20 PKP **PKPdf 04 26 47.8 -0.4**
comp=Z,0.5nm,0.6s,baz=349,slow=1.8,SNR=6.2
TGUH Tegucigalpa,Un 144.70 3 PKPdf **PKPdf 04 27 21.6 -0.3**
BAUV El Baul 145.18 328 PKPbc **PKPbc 04 27 22.2 -0.1**
BOAV Boa Vista 145.81 311 PKPdf **PKPdf 04 27 23.7 0.0**
ACON Acoyapa 146.81 359 PKPbc **PKPbc 04 27 27.1 -0.1**
PLTB Pedras Altas 149.59 243 PKPbc **PKPbc 04 27 34.5 +0.4**
MACA Manacapuru-AM 149.63 303 PKPbc **PKPbc 04 27 34.7 0.0**
ROSC El Rosal 151.60 336 PKPbc **PKPbc 04 27 39.9 0.0**
comp=Z,12nm,0.6s,baz=50,slow=7.7,SNR=8.3
AQDB Aquidauana 151.96 266 PKPbc **PKPbc 04 27 38.6 -1.3**
CPUP Villa Florida 153.61 254 PKPbc **PKPbc 04 27 42.8 -0.6**
CPUP Villa Florida 153.61 254 PKPbc **PKPbc 04 27 43.0 -0.4**
comp=Z,2.9nm,0.7s,baz=114,slow=2.7,SNR=7.1

DJA 19 04:10:38.2±0.6, 1°S±7°×13°8E±°, h61km±75km, M4.3/7, mb4.2/3, mB5.7/2, MLv4.4/7, Mw(mB)5.2/2, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**2.67**	**121**	P	Pn	04 11 21.3	+2.4
GENI				S	Sn	04 11 35.1	-15
JAY	**Jayapura**	**3.11**	**115**	P	Pn	04 11 24.7	-0.2
RKPI	**Ransiki, Papua**	**3.71**	**265**	P	Pn	04 11 33.5	+0.4
KMPI	**Kaimana, Papua**	**4.83**	**240**	P	Pn	04 11 47.7	-0.8
FAKI	**Fak Fak**	**5.88**	**253**	P	Pn	04 12 03.1	+0.3
	33nm,1.6s,0.1nm						
SWI	**Sorong**	**6.63**	**273**	P	Pn	04 12 12.9	-0.1
	15nm,0.5s,880nm0.1nm						
SAUI	**Saumlaki**	**9.40**	**224**	P	Pn	04 12 51.2	+0.2

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*IDC **19** 04:13:58.1±0.7, 85°.31N×12°.94E, h0km, mb3.9/19, mbtmp4.0/22, ML4.2/3, MS3.7/34, Error ellipse: s-maj=16.3km s-min=14.2km az=61.0*
*KOLA **19** 04:13:59.1, 85°.33N×11°.56E, h0km, ML2.0, Arctic Ocean, Gakkel ridge*
*FCIAR **19** 04:14:00.0, 85°.09N×15°.70E, h10km, station ZFI2 has station magnitude of 4.10 station OMEGA has station magnitude of 4.00*
*NEIC **19** 04:14:00.0±1.5, 85°.15N±0°.09×12°.2E±°, h10km±1km, mb4.4/44, Error ellipse: s-maj=21.1km s-min=14.0km az=70.0*

ISC 19 04:13:59.4±0.4, 85°.13N±0°.05×13°.85E±0°.05, h10km, n136, σ1.95/124, mb4.3/40, MS3.6/33, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**4.91**	**241**	*i* P	**Pn**	**04 15 15.8**	**+2.9**
NOR	**Nord**	**4.91**	**241**	*i* P	**Pn**	**04 15 15.8**	**+2.9**
ZFI2	**Zemlya Franca-**	**5.85**	**119**	*e*P	**Pn**	**04 15 24.6**	**-1.3**
ZFI2				S	**Sn**	**04 16 27.9**	**-4.9**
	81nm,1.6s						
ZFI2				*i* tx	tx	04 19 57.6	
OMEGA	**Omega**	**5.87**	**119**	*e*P	**Pn**	**04 15 25.0**	**-1.3**
OMEGA				*e*S	**Sn**	**04 16 27.9**	**-5.5**
	74nm,2.1s						
OMEGA				*i* tx	tx	04 19 57.6	
KBS	**Kingsbay**	**6.25**	**183**		**Pn**	**04 15 31.4**	**-0.1**
KBS	**Kingsbay**	**6.25**	**183**	P	**Pn**	**04 15 30.7**	**-0.7**
KBS				S	**Sn**	**04 16 40.5**	**-2.2**
KBS	**Kingsbay**	**6.25**	**183**	*e*P	**Pn**	**04 15 31.3**	**-0.1**
KBS				*e*S	**Sn**	**04 16 40.6**	**-2.0**
KBS				IAML		04 16 44.5	
	comp=Z,22nm,0.5s						
KBS	**Kingsbay**	**6.25**	**183**	*e*P	**Pn**	**04 15 30.8**	**-0.6**
KBS				*e*S	**Sn**	**04 16 39.9**	**-2.8**
KBS	**Kingsbay**	**6.25**	**183**	*i* P	**Pn**	**04 15 31.2**	**-0.2**
KBS				*i* S	**Sn**	**04 16 38.1**	**-4.6**
SPA0	**Spitsbergen Ar**	**7.00**	**176**	*e*P	**Pn**	**04 15 42.1**	**+0.3**
SPA0				IAML		04 17 18.3	
	comp=Z,8.8nm,0.6s						
SPA0	**Spitsbergen Ar**	**7.00**	**176**	*e*P	**Pn**	**04 15 41.6**	**-0.2**
SPA0				*e*S	**Sn**	**04 16 58.4**	**-2.9**
SPITS	**Spitsbergen Ar**	**7.00**	**176**	P	**Pn**	**04 15 41.6**	**-0.2**
SPITS				S	**Sn**	**04 16 58.1**	**-3.2**
SPITS	**Spitsbergen Ar**	**7.00**	**176**	Pn	**Pn**	**04 15 42.0**	**+0.3**
	baz=1.7,slow=14						
SPITS				Sn	**Sn**	**04 17 00.1**	**-1.2**
	baz=49,slow=13						
	comp=Z,9.8nm,0.3s						
SPB2	**Spitsbergen Ar**	**7.01**	**176**	Pn	**Pn**	**04 15 42.2**	**+0.4**
BRBB	**Barentsburg B**	**7.08**	**179**	P	**Pn**	**04 15 42.2**	**-0.6**
BRBB				S	**Sn**	**04 17 00.9**	**-2.3**
BRBB	**Barentsburg B**	**7.08**	**179**	*e*P	**Pn**	**04 15 43.1**	**+0.3**
BRBA	**Barentsburg A**	**7.12**	**179**	*e*P	**Pn**	**04 15 44.8**	**+1.5**
HOPEN	**Hopen**	**8.82**	**163**	*e*P	**Pn**	**04 16 06.4**	**-0.1**
HOPEN				IAML		04 16 07.4	
	comp=Z,51nm,0.4s						
HOPEN	**Hopen**	**8.82**	**163**	*e*P	**Pn**	**04 16 06.1**	**-0.5**
HOPEN				S	Sn	04 17 35.3	-10
DAG	**Danmarks Havn**	**9.54**	**228**	*i* P	**Pn**	**04 16 18.0**	**+1.5**
DAG	**Danmarks Havn**	**9.54**	**228**	*i* P	**Pn**	**04 16 18.0**	**+1.5**
DAG				*i* P		04 16 18.1	
NEEM	**North Greenlan**	**11.44**	**267**	*i* P	**Pn**	**04 16 39.5**	**-3.2**
NEEM				*i* S	Sn	04 18 39.6	-11
NEEM				IAML		04 18 46.7	
	comp=Z,1.2nm,0.3s						
NEEM	**North Greenlan**	**11.44**	**267**	*i* P	**Pn**	**04 16 39.5**	**-3.2**
NEEM				*i* S	Sn	04 18 39.6	-11
NEEM				IAML		04 18 46.7	
	comp=Z,1.2nm,0.3s						
SVZ	**Severnaya Zeml**	**11.67**	**68**	*e*P	**Pn**	**04 16 41.9**	**-3.7**
EUNU	**Eureka**	**11.90**	**304**	Pn	**Pn**	**04 16 44.5**	**-4.3**
DBG	**Daneborg**	**12.04**	**227**	*i* P	**Pn**	**04 16 52.2**	**+1.5**
DBG	**Daneborg**	**12.04**	**227**	*i* P	**Pn**	**04 16 49.5**	**-1.1**
HAMF	**Hammerfest**	**14.67**	**167**	*e*P	**Pn**	**04 17 25.8**	**-0.7**
HAMF				IAML		04 17 26.6	
	comp=Z,6.6nm,0.7s						
JMIC	**Jan Mayen**	**14.71**	**209**	*e*P	**P**	**04 17 33.0**	**-0.2**
JMIC				IAML		04 17 33.4	
	comp=Z,70nm,0.4s						
JMI	**Jan Mayen**	**14.78**	**210**	*e*P	**P**	**04 17 32.0**	**-2.0**
JMI				IAML		04 17 32.5	
	comp=Z,41nm,0.4s						
SUMG	**Summit**	**15.03**	**247**	Pn	**Pn**	**04 17 30.3**	**-1.4**
SUMG	**Summit**	**15.03**	**247**	*i* P	**Pn**	**04 17 31.3**	**-0.5**
SUMG	**Summit**	**15.03**	**247**	*i* P	**Pn**	**04 17 31.3**	**-0.5**
VADS	**Vadso**	**15.33**	**160**	*e*P	**Pn**	**04 17 33.5**	**-1.9**
VADS				IAML		04 17 35.1	
	comp=Z,8.9nm,0.4s						
KEV	**Kevo**	**15.63**	**163**	Pn	**Pn**	**04 17 38.4**	**-0.9**
ARA0	**ARCESS Array S**	**15.82**	**165**	*e*P	**Pn**	**04 17 42.3**	**+0.5**
ARCES	**ARCESS Array B**	**15.82**	**165**	Pn	**Pn**	**04 17 39.8**	**-2.0**
ARCES				IAmb	IAmb	04 18 14.7	
	comp=Z,21nm,1.2s						
ARCES	**ARCESS Array B**	**15.82**	**165**	Pn	**Pn**	**04 17 39.1**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=1.6,slow=13,SNR=22						
ARCES				Sn	**Sn**	**04 20 29.4**	**-7.3**
	comp=Z,0.2nm,0.3s,baz=1.7,slow=25,SNR=1.3						
	comp=Z,2.5nm,0.4s						
KIF	**Kilpisjarvi**	**16.27**	**171**	*e*P	**Pn**	**04 17 48.4**	**+0.9**
KTK1	**Kautokeino**	**16.30**	**168**	*e*P	**Pn**	**04 17 46.5**	**-1.4**
HEF	**Hetta**	**16.91**	**167**	*e*P	**Pn**	**04 17 56.0**	**+0.4**
RES	**Resolute Bay**	**17.60**	**304**	Pn	**Pn**	**04 18 01.0**	**-3.1**
RES	**Resolute Bay**	**17.60**	**304**	Pn	**Pn**	**04 18 00.7**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=12,slow=12,SNR=7.8						
RES				LR	LR	04 24 53.5	
	comp=Z,322nm,18.9s,baz=22,slow=38						
	comp=Z,1.4nm,0.5s						
LVZ	**Lovozero**	**17.73**	**154**		**P**	**04 18 08.2**	**+1.5**
NRIK	**Noril'sk**	**19.95**	**93**	P	**Pn**	**04 18 33.0**	**+0.3**
NRIK	**Noril'sk**	**19.95**	**93**	P	**P**	**04 18 30.8**	**-0.2**
	comp=Z,4.3nm,0.5s,baz=360,slow=12,SNR=5.5						
NRIK				LR	LR	04 26 37.5	
	comp=Z,99nm,18.5s,baz=332,slow=38						
	comp=Z,4.3nm,0.5s						
TIXI	**Tiksi**	**21.00**	**53**	P	**P**	**04 18 42.1**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=64,slow=9.1,SNR=3.2						

comp=Z,0.8nm,0.4s
SFJD Kangerlussuaq 21.46 256 LR LR 04 26 22.3
comp=Z,98nm,21.9s,baz=6.5,slow=35
A36M Sachs Harbour 22.06 327 P **P** **04 18 53.2 -0.5**
FIA1 FINESS Array S 23.95 165 P **P** **04 19 14.6 +1.5**
FINES FINESS Array B 23.95 165 P **P** **04 19 14.1 +1.0**
FINES FINESS Array B 23.95 165 P **P** **04 19 15.7 +2.5**
comp=Z,2.4nm,0.6s,baz=7.5,slow=11,SNR=7.7
comp=Z,2.4nm,0.6s
NOA NORSAR Array B 24.23 183 P **P** **04 19 18.0 +2.2**
comp=Z,1.1nm,0.9s,baz=0.7,slow=9.0,SNR=4.5
NOA LR LR 04 27 57.6
comp=Z,71nm,18.2s,baz=0.0,slow=34
comp=Z,1.1nm,0.9s
B22K Teshekpuk Lake 24.59 350 P **P** **04 19 18.4 -0.5**
B22K IAmb IAmb 04 19 36.9
comp=Z,19nm,1.4s
C36M Paulatuk 24.63 325 P **P** **04 19 19.4 +0.1**
B20K Meade River 24.97 353 P **P** **04 19 22.7 +0.3**
C23K Itkillik River 25.05 347 P **P** **04 19 23.7 +0.6**
C23K IAmb IAmb 04 19 45.6
comp=Z,12nm,1.3s
C27K Jago River 25.10 342 P **P** **04 19 24.6 +1.0**
C27K IAmb IAmb 04 19 57.2
comp=Z,7.6nm,1.0s
HFS Hagfors 25.13 180 P **P** **04 19 26.2 +2.3**
comp=Z,4.5nm,0.8s,baz=25,slow=7.4,SNR=5.1
HFS LR LR 04 29 04.8
comp=Z,220nm,18.1s,baz=340,slow=36
comp=Z,4.5nm,0.8s
D27M Malcolm River 25.41 339 P **P** **04 19 26.5 +0.1**
D25K Kavik River 25.47 344 P **P** **04 19 27.5 +0.5**
D25K IAmb IAmb 04 19 35.7
comp=Z,6.8nm,0.9s
E28M Babbage River 26.00 338 P **P** **04 19 32.6 +0.8**
INK Inuvik 26.09 333 P **P** **04 19 31.7 -0.8**
INK Inuvik 26.09 333 LR LR 04 30 04.4
comp=Z,128nm,21.3s,baz=27,slow=37
FRB Frobisher Bay 26.18 272 LR LR 04 28 59.6
comp=Z,124nm,21.9s,baz=82,slow=34
E22K Anaktuvuk Pass 26.78 348 P **P** **04 19 37.7 -1.2**
F28M Old Crow 27.00 338 P **P** **04 19 40.5 -0.4**
F28M IAmb IAmb 04 19 48.5
comp=Z,5.2nm,1.0s
F25K Christian Rive 27.19 343 P **P** **04 19 43.1 +0.6**
F25K IAmb IAmb 04 20 01.4
comp=Z,5.4nm,1.0s
G31M Satah River 27.50 333 P **P** **04 19 44.7 -0.5**
G31M IAmb IAmb 04 19 52.1
comp=Z,7.2nm,0.9s
F21K Alatna River 27.72 349 P **P** **04 19 45.5 -1.8**
KIRV Kirov 27.73 139 LR LR 04 33 25.4
comp=Z,111nm,19.2s,baz=327,slow=42
I30M Mount Dempster 29.28 335 P **P** **04 19 59.5 -1.7**
I30M IAmb IAmb 04 20 03.1
comp=Z,9.5nm,1.4s
ILAR Eielson Array 30.05 344 LR LR 04 31 36.3
comp=Z,131nm,19.7s,baz=290,slow=35
ARTI Arti 30.46 130 LR LR 04 34 32.5
comp=Z,95nm,19.5s,baz=352,slow=40
OBN Obninsk 30.59 154 LR LR 04 33 12.0
comp=Z,140nm,18.9s,baz=355,slow=38
YKA Yellowknife Ar 30.93 315 LR LR 04 32 56.9
comp=Z,63nm,18.5s,baz=334,slow=37
BCAR Beaver Creek A 31.62 339 P **P** **04 20 21.8 0.0**
M30M Minto, Yukon 31.94 335 P **P** **04 20 25.1 +0.4**
M30M IAmb IAmb 04 20 33.3
comp=Z,5.3nm,1.3s
N31M Braeburn, Yuko 32.99 334 P **P** **04 20 36.2 +2.3**
O30N Mendenhall 33.72 334 P **P** **04 20 38.1 -2.2**
O30N IAmb IAmb 04 20 38.8
comp=Z,4.1nm,0.8s
BELG Belogornoye 33.81 142 LR LR 04 37 48.4
comp=Z,118nm,18.3s,baz=357,slow=42
BERG Berg Lake 34.35 340 P **P** **04 20 45.5 -0.2**
BVAR Borovoye Array 34.66 118 P **P** **04 20 49.5 +1.1**
comp=Z,0.7nm,0.4s,baz=358,slow=7.5,SNR=3.3
BVAR LR LR 04 38 01.0
comp=Z,92nm,18.6s,baz=329,slow=41
comp=Z,0.7nm,0.4s
AKASG Malin Array Be 34.78 163 P **P** **04 20 50.8 +1.4**
comp=Z,2.7nm,0.7s,baz=356,slow=8.6,SNR=7.2
AKASG LR LR 04 34 50.8
comp=Z,225nm,18.6s,baz=348,slow=36
comp=Z,2.7nm,0.7s
ZALV Zalesovo Beam 34.90 102 P **P** **04 20 52.3 +1.9**
comp=Z,1.0nm,0.5s,baz=359,slow=8.9,SNR=3.8
ZALV LR LR 04 37 03.4
comp=Z,101nm,20.5s,baz=14,slow=40
comp=Z,1.0nm,0.5s
DLBC Dease Lake 35.80 328 LR LR 04 36 17.3
comp=Z,71nm,19.9s,baz=3.0,slow=38
VRAC Vranov 35.98 177 LR LR 04 37 01.8
comp=Z,91nm,18.3s,baz=342,slow=38
AKTO Aktyubinsk 36.37 131 P **P** **04 21 04.9 +1.8**
comp=Z,1.0nm,0.5s,baz=351,slow=3.6,SNR=3.7
AKTO LR LR 04 38 19.8
comp=Z,125nm,19.3s,baz=58,slow=40
comp=Z,1.0nm,0.5s
KOLS Kolonicke sedl 36.41 171 *e*P **P** **04 21 07.2 +3.7**
GERES GERESS Array B 36.44 180 LR LR 04 36 04.7
comp=Z,78nm,19.2s,baz=284,slow=36
VYHS Vyhne 36.81 174 *e*P **P** **04 21 11.1 +4.2**
KURBB Kurchatov Arra 37.69 110 P **P** **04 21 15.7 +1.5**
comp=Z,1.5nm,0.8s,baz=354,slow=8.0,SNR=12
comp=Z,1.5nm,0.8s
BUR08 Bucovina Ar. S 37.75 167 P **P** **04 21 17.1 +2.2**
BUR08 IAmb IAmb 04 21 44.9
comp=Z,16nm,1.4s
DAVOX Davos/Dischmat 38.52 184 LR LR 04 38 24.4
comp=Z,118nm,18.6s,baz=324,slow=38
MLR Muntele Rosu 39.92 167 P **P** **04 21 34.9 +1.7**
comp=Z,3.1nm,0.8s,baz=99,slow=19,SNR=1.4
comp=Z,3.1nm,0.8s
MKAR Makanchi Array 41.80 107 P **P** **04 21 50.4 +1.9**
comp=Z,0.6nm,0.8s,baz=356,slow=8.6,SNR=4.2
MKAR LR LR 04 41 28.7
comp=Z,141nm,19.6s,baz=337,slow=39
comp=Z,0.6nm,0.8s
ULM Lac du Bonnet 41.81 295 LR LR 04 38 30.4
comp=Z,86nm,18.6s,baz=96,slow=35
KBZ Khabaz 42.23 148 LR LR 04 40 57.8
comp=Z,124nm,18.5s,baz=3.5,slow=38
SONM Songino Array 42.80 82 P **P** **04 21 57.7 +0.8**
comp=Z,1.4nm,0.4s,baz=358,slow=6.5,SNR=5.8
SONM LR LR 04 42 09.2
comp=Z,52nm,19.0s,baz=118,slow=40
comp=Z,1.4nm,0.4s
KLR Kul'dur 43.43 57 P **P** **04 22 00.8 -0.9**
comp=Z,1.3nm,0.7s,baz=330,slow=21,SNR=3.0
comp=Z,1.3nm,0.7s
G65A Princeton 44.47 266 P **P** **04 22 09.1 -0.9**
AAK Ala-Archa 45.30 115 LR LR 04 44 23.4
comp=Z,93nm,19.2s,baz=34,slow=40
GNI Garni 45.88 147 LR LR 04 43 25.9
comp=Z,76nm,19.0s,baz=336,slow=38
OVMT Ovando 46.20 311 P **P** **04 22 23.0 -1.0**
MSO Missoula 46.50 312 P **P** **04 22 25.9 -0.3**
MSO IAmb IAmb 04 22 40.4
comp=Z,3.8nm,1.2s
YHL Hebgen Lake 48.29 309 P **P** **04 22 41.0 +0.6**
YHL IAmb IAmb 04 22 48.6
comp=Z,2.9nm,0.9s
ECSD EROS Data Cent 48.34 295 P **P** **04 22 39.5 -1.0**
ECSD IAmb IAmb 04 22 48.6
comp=Z,4.9nm,1.0s
I02E Swisshome, OR 49.80 321 P **P** **04 22 51.5 -0.1**
HHC Hu-ho-hao-te 50.17 78 *e*P **P** **04 22 57.4 +2.7**
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,48nm,3.6s
HHC LR LR
comp=N,90nm,11.8s
HHC LR LR
comp=E,120nm,12.9s
HHC LR LR
comp=Z,110nm,12.3s
PDAR Pinedale Array 50.25 307 P **P** **04 22 54.1 -1.3**
PDAR Pinedale Array 50.25 307 P **P** **04 22 54.6 -0.8**
comp=Z,0.7nm,0.9s,baz=351,slow=4.7,SNR=5.4
comp=Z,0.7nm,0.9s
DBO Dodson Butte 50.75 320 P **P** **04 22 59.3 +0.4**
DBO IAmb IAmb 04 23 00.5
comp=Z,5.0nm,1.0s
K02D Willamette Mer 51.19 320 P **P** **04 23 02.6 +0.2**
K02D IAmb IAmb 04 23 04.7
comp=Z,3.0nm,0.8s
HUMO Hull Mountain 51.24 320 P **P** **04 23 03.0 +0.4**
KRMB Red Mountain 52.38 320 P **P** **04 23 12.0 +0.8**
KRMB IAmb IAmb 04 23 14.8
comp=Z,9.8nm,1.3s
LZH Lanzhou 54.25 86 *e*P **P** **04 23 29.4 +4.3**
LZH pP pwP 04 23 33.0 +1.6
LZH pmax pmax
comp=Z,19nm,1.2s
KVN Kaiserville 54.50 315 P **P** **04 23 26.9 0.0**
KVN IAmb IAmb 04 23 29.2
comp=Z,3.3nm,0.9s
PNTR Pine Nut 54.55 316 P **P** **04 23 27.4 0.0**
PNTR IAmb IAmb 04 23 30.9
comp=Z,3.5nm,0.7s
YERR Yerington 54.64 316 P **P** **04 23 28.2 +0.3**
YERR IAmb IAmb 04 23 29.8
comp=Z,2.8nm,0.9s
NVAR Mina Array Bea 55.13 315 P **P** **04 23 30.2 -1.4**
comp=Z,0.6nm,0.8s,baz=4.0,slow=5.1,SNR=4.9
comp=Z,0.6nm,0.8s
TKL Tuckaleechee C 55.32 281 LR LR 04 45 55.7
comp=Z,100nm,21.7s,baz=354,slow=35
EIL Elat 55.94 158 LR LR 04 48 29.8
comp=Z,49nm,18.4s,baz=254,slow=37
PMPB Monarch Peak 57.49 317 P **P** **04 23 49.4 +1.2**
V12A Nelson 57.61 311 P **P** **04 23 49.9 +0.8**
ANMO Albuquerque 57.81 303 LR LR 04 48 47.8
comp=Z,122nm,20.3s,baz=133,slow=36
TXAR Lajitas Array 63.18 300 P **P** **04 24 26.5 -0.7**
comp=Z,0.4nm,0.8s,baz=6.3,slow=6.5,SNR=2.3
comp=Z,0.4nm,0.8s
PZH PanZhiHua 63.57 90 P **P** **04 24 33.3 +3.4**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
LPIG La Paz 68.86 306 LR LR 04 56 13.9
comp=Z,75nm,18.8s,baz=344,slow=37
CMAR Chiang Mai Arr 71.31 93 P **P** **04 25 19.4 +0.6**
comp=Z,2.0nm,0.3s,baz=347,slow=7.8,SNR=4.2
CMAR LR LR 04 59 07.8
comp=Z,80nm,19.6s,baz=40,slow=38
comp=Z,2.0nm,0.3s
TORD Torodi Ar. Bea 72.14 192 P **P** **04 25 24.4 +0.7**
TORD Torodi Ar. Bea 72.14 192 P **P** **04 25 25.3 +1.5**
comp=Z,2.7nm,0.8s,baz=5.7,slow=6.1,SNR=16
comp=Z,2.7nm,0.8s
BAUV El Baul 80.46 263 P **P** **04 26 11.4 +0.5**
MBAR Mbarara 85.91 163 LR LR 05 07 40.8
comp=Z,127nm,20.4s,baz=98,slow=37
KMBO Kilima Mbogo 86.62 157 LR LR 05 05 32.7
comp=Z,246nm,22.0s,baz=96,slow=36
MCQ Macquarie Isla 148.23 39 **PKPab** **04 33 47.4 +0.6**
SNAA Sanae 156.82 193 PKPdf **PKPdf** **04 33 55.3 +2.7**

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*BJI **19** 04:20:27.0, 36°.70N×69°.73E, h293km, mb4.5/21, mB4.6/4*
*NEIC **19** 04:20:29.4±1.3, 36°.76N±0°.06×69°.81E±0°.06, h300km±5km, mb4.3/55, Error ellipse: s-maj=9.9km s-min=5.6km az=144.0*
*IDC **19** 04:20:31.1±2.1, 36°.71N×69°.85E, h323km±21km, mb3.7/26, mbtmp4.4/33, Error ellipse: s-maj=12.0km s-min=8.0km az=6.0*
ISC 19 04:20:29.0±0.3, 36°.72N±0°.04×69°.86E±0°.04, h300km, n184, σ1 24/207, mb4.2/59, 3C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIMJ	**Simiganj**	**2.05**	**341**	Pn	**Pn**	**04 21 15.8**	**-0.5**
KBL	**Kabul**	**2.28**	**197**	Pn	**Pn**	**04 21 18.6**	**+0.1**
KBL	**Kabul**	**2.28**	**197**	P	**Pn**	**04 21 18.5**	**+0.1**
KBL	SNR=776			S	**S**	**04 21 55.9**	**-1.9**
GAR	**Garm**	**2.30**	**9**	Pn	**Pn**	**04 21 18.5**	**+0.1**
DRK	**Karamyk**	**3.15**	**28**	Pn	**Pn**	**04 21 26.9**	**+0.4**
BTK	**Batken**	**3.41**	**12**	Pn	**Pn**	**04 21 29.7**	**+0.7**
NIL	**Nilore**	**4.13**	**137**	Pn	**Pn**	**04 21 38.0**	**+1.1**
NIL	**Nilore**	**4.13**	**137**	P	**Pn**	**04 21 38.0**	**+1.1**
NIL				S	**S**	**04 22 32.2**	**+1.0**
ARSB	**Arslanbob**	**5.20**	**27**	Pn	**Pn**	**04 21 48.4**	**-0.5**
JMU	**Jammu**	**5.76**	**132**	*e*P	**Pn**	**04 21 55.0**	**-0.5**
JMU				*e*S	**S**	**04 23 01.0**	**-4.1**
JMU				IAML		04 23 02.7	
JMU	comp=E,500nm,1.5s			IAML		04 23 03.3	
JMU	comp=N,301nm,0.9s						
AML	**Almayashu**	**6.16**	**28**	P	**Pn**	**04 22 00.5**	**-0.1**
KKAR	SNR=44 **Karatay Array**	**6.39**	**4**	Pn	**Pn**	**04 22 02.5**	**-0.4**
THN	**Thein Dam**	**6.45**	**130**	*e*P	**Pn**	**04 22 02.4**	**-1.4**
THN				*e*S	**S**	**04 23 18.8**	**-1.4**
THN				IAML		04 23 20.0	
THN	comp=E,373nm,0.7s			IAML		04 23 27.2	
HRA	comp=E,347nm,0.7s **Herat**	**6.63**	**252**	Pn	**Pn**	**04 22 05.7**	**-0.5**
EKS2	**Erkin-Say**	**6.65**	**26**	P	**Pn**	**04 22 06.9**	**+0.7**
AAK	SNR=44 **Ala-Archa**	**6.90**	**30**	P	**Pn**	**04 22 09.9**	**+0.7**
AAK	SNR=14 **Ala-Archa**	**6.90**	**30**	Pn	**Pn**	**04 22 09.5**	**+0.3**
AAK	**Ala-Archa**	**6.90**	**30**	P	**Pn**	**04 22 10.3**	**+1.1**
AAK	comp=E,7.1nm,0.3s,baz=196,slow=6.2,SNR=34			S	**S**	**04 23 28.8**	**-1.4**
AAK	comp=E,6.4nm,0.4s,baz=260,slow=13,SNR=6.3 **Ala-Archa**	**6.90**	**30**	P	**Pn**	**04 22 09.9**	**+0.7**
DHRM	**DHARAMSHALA**	**6.94**	**128**	*e*P	**Pn**	**04 22 09.5**	**-0.4**
DHRM				*e*S	**S**	**04 23 29.3**	**-2.2**
KBK	**Karagaybulak**	**7.10**	**32**	P	**Pn**	**04 22 12.8**	**+1.0**
ULHL	SNR=9.4 **Ulahol**	**7.40**	**40**	P	**Pn**	**04 22 16.2**	**+0.8**
USP	SNR=8.8 **Ospenovka**	**7.44**	**27**	P	**Pn**	**04 22 15.4**	**-0.3**
BHK	SNR=11 **Bhakra**	**7.59**	**132**	*e*x	**Pn**	**04 22 17.9**	**+0.3**
TKM2	**Tokmak 2**	**7.60**	**34**	P	**Pn**	**04 22 18.0**	**+0.2**
KDJ	SNR=7.9 **Kajisay**	**7.82**	**44**	Pn	**Pn**	**04 22 21.2**	**+0.7**
TARG	**Taragay, Kyrgy**	**7.94**	**49**	Pn	**Pn**	**04 22 21.8**	**-0.3**
SMLA	**Simla**	**8.24**	**130**	*e*P	**Pn**	**04 22 26.1**	**+0.4**
SMLA				*e*S	**S**	**04 23 56.8**	**-3.4**
HNLY	**HANLEY**	**8.46**	**115**	*e*P	**Pn**	**04 22 29.3**	**+0.4**
WUS	**Wushi**	**8.55**	**56**	Pn	**Pn**	**04 22 29.4**	**0.0**
KLP	**Kalpa**	**8.67**	**124**	*e*P	**Pn**	**04 22 31.6**	**+0.4**
KLP				*e*S	**S**	**04 24 06.1**	**-4.2**
KLP				IAML		04 24 09.3	
KLP	comp=E,169nm,0.6s			IAML		04 24 09.7	
DDI	comp=N,184nm,0.6s **Dehra Dun**	**9.35**	**131**	*e*P	**Pn**	**04 22 39.6**	**+0.3**
JOSI	**Joshimath**	**10.15**	**124**	*e*P	**Pn**	**04 22 49.7**	**+0.4**
JOSI				*e*S	**S**	**04 24 39.7**	**-4.1**
JOSI				IAML		04 24 41.2	
JOSI	comp=E,92nm,0.7s			IAML		04 24 42.0	
KUDL	comp=N,114nm,0.3s **Kundal**	**10.22**	**145**	*e*P	**Pn**	**04 22 49.6**	**-0.3**
KUDL				*e*x	**S**	**04 24 38.2**	**-6.8**
KUDL				IAML		04 24 53.6	
KUDL	comp=N,23nm,0.3s			IAML		04 24 53.7	
LGTI	comp=E,30nm,0.9s **Lohaghat**	**11.33**	**127**	*e*P	**Pn**	**04 23 02.4**	**-1.1**
LGTI				*e*S	S	04 25 02.1	-7.9
MAKZ	**Makanchi**	**13.52**	**38**	P	**P**	**04 23 29.8**	**+0.1**
NGCH	**Negor - Chabah**	**13.56**	**216**	P	**Pn**	**04 23 31.4**	**+0.9**
MK31	**Makanchi Array**	**13.67**	**39**	P	**P**	**04 23 31.4**	**+0.1**
MKAR	**Makanchi Array**	**13.67**	**39**	P	**P**	**04 23 31.4**	**+0.1**
MKAR	**Makanchi Array**	**13.67**	**39**	P	**P**	**04 23 31.7**	**+0.4**
	comp=E,9.1nm,0.5s,baz=223,slow=10,SNR=68						
ABKAR	**Akbulak array**	**14.46**	**333**	P	**P**	**04 23 39.3**	**-0.6**
BHPL	**Bhopal**	**14.94**	**152**	*e*P	**Pn**	**04 23 47.6**	**+0.7**
KURBB	**Kurchatov Arra**	**15.23**	**21**	P	**P**	**04 23 48.6**	**+0.3**
	comp=E,24nm,0.6s,baz=210,slow=12,SNR=131						
NRDN	**NARMADA NAGAR**	**15.32**	**154**	*e*P	**P**	**04 23 50.4**	**+0.6**
WMQ	**Urumqi**	**15.33**	**57**	*e*P	**Pn**	**04 23 53.0**	**+1.7**
WMQ				pmax	pmax		
	comp=E,29nm,0.9s						
KURK	**Kurchatov**	**15.34**	**21**	P	**P**	**04 23 49.2**	**-0.3**
KURK	**Kurchatov**	**15.34**	**21**	P	**P**	**04 23 49.8**	**+0.3**
BANOM	**Banah**	**15.80**	**231**	P	**P**	**04 23 55.8**	**+0.9**
AKTO	**Aktyubinsk**	**16.14**	**332**	P	**P**	**04 23 58.8**	**+0.4**
	comp=E,21nm,0.6s,baz=151,slow=8.6,SNR=45						
AKTO				S	**S**	**04 26 50.9**	**-1.3**
	comp=E,5.4nm,0.8s,baz=255,slow=20,SNR=6.2						
BVAR	**Borovoye Array**	**16.31**	**1**	P	**P**	**04 24 00.4**	**+0.3**
	comp=E,9.1nm,0.5s,baz=179,slow=11,SNR=51						
BVAR				S	**S**	**04 26 56.8**	**+1.4**
	comp=E,3.6nm,0.8s,baz=182,slow=20,SNR=6.7						
BRVK	**Borovoye**	**16.34**	**1**	P	**P**	**04 24 00.5**	**+0.1**
BRVK				IAmb	IAmb	04 24 04.0	
	comp=Z,12nm,0.7s						
BRVK	**Borovoye**	**16.34**	**1**	P	**P**	**04 24 01.1**	**+0.7**
BRVK				S	**S**	**04 26 55.2**	**-0.8**
WSAR	**Wadi Sarin**	**16.57**	**219**	P	**P**	**04 24 04.4**	**+1.0**
	comp=Z,8.8nm,0.9s,baz=66,slow=2.7,SNR=7.2						
UOSS	**Minazif**	**16.57**	**229**	P	**P**	**04 24 03.6**	**+0.2**
UOSS				IAmb	IAmb	04 24 04.8	
	comp=Z,9.5nm,0.7s						
UOSS	**Minazif**	**16.57**	**229**	P	**P**	**04 24 02.9**	**-0.5**
HATD	**Hatta, Dubai**	**16.71**	**229**	P	**P**	**04 24 05.5**	**+0.7**
HATD				S	**S**	**04 27 04.0**	**0.0**
ASHO	**Ashiyiah**	**16.86**	**228**	P	**P**	**04 24 07.5**	**+1.0**
ASHO	SNR=12			S	**S**	**04 27 10.6**	**+3.7**
WBK	**Wadi Bani Khal**	**16.93**	**217**	P	**P**	**04 24 09.1**	**+1.8**
JLN	**Jalan Bani Buh**	**17.12**	**215**	P	**P**	**04 24 10.5**	**+1.2**
ALNE	**Al Ain**	**17.51**	**228**	P	**P**	**04 24 14.0**	**+0.5**
ALNE	SNR=8.6			S	**S**	**04 27 19.6**	**-0.3**
JMDO	**Jabal Madar**	**17.56**	**219**	P	**P**	**04 24 15.3**	**+1.3**
AJN	**Ajban**	**17.60**	**231**	P	**P**	**04 24 15.0**	**+0.6**
BSY	**Bisya**	**17.72**	**222**	P	**P**	**04 24 16.8**	**+1.0**
JRN	**Qarnain Island**	**18.71**	**236**	P	**P**	**04 24 26.8**	**+0.5**
MHTO	**MHTO**	**18.80**	**217**	P	**P**	**04 24 28.7**	**+1.4**
LSA	**Lhasa**	**19.12**	**105**	P	**P**	**04 24 32.4**	**+1.3**
LSA				IAmb	IAmb	04 24 35.3	
	comp=Z,12nm,0.7s						
GNI	**Garni**	**19.95**	**288**	P	**P**	**04 24 41.2**	**+1.7**
GNI				IAmb	IAmb	04 24 43.9	
	comp=Z,18nm,0.8s						
GNI	**Garni**	**19.95**	**288**	P	**P**	**04 24 41.6**	**+2.0**
	comp=Z,14nm,0.7s,baz=221,slow=2.3,SNR=6.1						
SLWR	**Sila**	**20.07**	**236**	P	**P**	**04 24 41.2**	**+0.5**
ZAA0	**Zalesovo Array**	**20.11**	**26**	P	**P**	**04 24 39.9**	**-0.8**
ZAA0				IAmb	IAmb	04 24 42.7	
	comp=Z,15nm,0.6s						
ZALV	**Zalesovo Beam**	**20.11**	**26**	P	**P**	**04 24 39.6**	**-1.1**
ZALV	**Zalesovo Beam**	**20.11**	**26**	P	**P**	**04 24 40.3**	**-0.4**
	comp=Z,14nm,0.4s,baz=219,slow=10,SNR=44						
	comp=Z,14nm,0.4s						
ARTI	**Arti**	**21.14**	**342**	P	**P**	**04 24 51.5**	**+0.6**
ARTI	**Arti**	**21.14**	**342**	P	**P**	**04 24 51.3**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=189,slow=4.2,SNR=5.2						
	comp=Z,2.9nm,0.6s						
KBZ	**Khabaz**	**21.69**	**297**	P	**P**	**04 24 56.2**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=102,slow=8.4,SNR=5.1						
	comp=Z,2.0nm,0.7s						
SHL	**Shillong**	**21.83**	**114**	P	**P**	**04 24 57.3**	**-0.5**
SHL	**Shillong**	**21.83**	**114**	P	**P**	**04 24 58.1**	**+0.4**
	SNR=18						
SHL	**Shillong**	**21.83**	**114**	*e*P	**P**	**04 24 58.0**	**+0.3**
DOK	**Doka**	**22.73**	**222**	P	**P**	**04 25 06.5**	**+0.7**
	SNR=5.2						
DMTO	**DMTO**	**23.06**	**219**	P	**P**	**04 25 09.2**	**+0.4**
	SNR=5.2						
WHFO	**Wadi Hawf**	**23.50**	**221**	P	**P**	**04 25 13.0**	**+0.2**
	SNR=12						
GTA	**Gaotai**	**23.68**	**74**	⇑P	**P**	**04 25 16.4**	**+2.0**
GTA				pmax	pmax		
	comp=Z,17nm,0.6s						
ABTO	**Aybut**	**24.22**	**222**	P	**P**	**04 25 19.5**	**+0.2**
	SNR=7.0						
RAYN	**Ar Rayn**	**24.76**	**245**	P	**P**	**04 25 23.5**	**-0.6**
RAYN				IAmb	IAmb	04 25 31.3	
	comp=Z,6.4nm,0.5s						
RAYN	**Ar Rayn**	**24.76**	**245**	P	**P**	**04 25 24.9**	**+0.8**
LZH	**Lanzhou**	**27.28**	**81**	*e*P	**P**	**04 25 42.8**	**-3.8**
LZH				pP	pP	04 26 43.1	-1.9
LZH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BRTR	**Keskin Array B**	**28.50**	**287**	P	**P**	**04 25 58.1**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=96,slow=8.6,SNR=8.9						
	comp=Z,1.7nm,0.8s						
PZH	**PanZhiHua**	**28.88**	**102**	P	**P**	**04 26 03.1**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
SONM	**Songino Array**	**28.96**	**56**	P	**P**	**04 26 02.8**	**+1.4**
SONM	**Songino Array**	**28.96**	**56**	P	**P**	**04 26 03.0**	**+1.6**
	comp=Z,2.2nm,0.6s,baz=262,slow=9.1,SNR=12						
	comp=Z,2.2nm,0.6s						
CM31	**Chiang Mai Arr**	**31.37**	**118**	P	**P**	**04 26 22.8**	**+0.2**
CM31				IAmb	IAmb	04 26 24.8	
	comp=Z,14nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.37**	**118**	P	**P**	**04 26 23.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**31.37**	**118**	P	**P**	**04 26 23.1**	**+0.6**
	comp=Z,9.1nm,0.9s,baz=295,slow=7.8,SNR=35						
	comp=Z,9.1nm,0.9s						
XAN	**Xi'an**	**31.81**	**83**	P	**P**	**04 26 27.3**	**+1.0**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AKASG	**Malin Array Be**	**32.09**	**309**	P	**P**	**04 26 28.2**	**-0.3**
AKASG	**Malin Array Be**	**32.09**	**309**	P	**P**	**04 26 28.2**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=84,slow=7.1,SNR=19						
	comp=Z,1.5nm,0.5s						
PHRA	**Phrae**	**32.26**	**116**	P	**P**	**04 26 29.6**	**-0.7**
SORM	**Soroca**	**32.32**	**304**	⇓P	**P**	**04 26 30.5**	**0.0**
HHC	**Hu-ho-hao-te**	**32.54**	**70**	*e*P	**P**	**04 26 32.8**	**+0.1**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,4.2s						
SLVN	**Son La**	**33.28**	**108**	P	**P**	**04 26 39.5**	**+0.3**
MNK	**Minsk**	**33.70**	**315**	*i* P	**P**	**04 26 40.6**	**-1.7**
	comp=E,27nm,0.8s						
MNK				*i* P	**P**	**04 26 40.6**	**-1.7**
	comp=N,23nm,1.0s						
MNK				*i* P	**P**	**04 26 40.6**	**-1.7**
	comp=Z,10.0nm,0.7s,baz=104						
MNK				*i* pP	**pP**	**04 27 38.4**	**-2.5**
MNK				*i* PP	**PP**	**04 28 02.6**	**-3.0**
MNK				*i* S	**S**	**04 31 41.0**	**-1.4**
MNK				*i* sS	**sS**	**04 33 26.8**	**-2.2**
MNK				*i* SS	**SS**	**04 34 22.1**	**-0.5**
MNK				*i* LRM	MLR	04 41 00.6	
	comp=Z,121nm,17.3s						
MNK				*i* LRM	MLR	04 41 51.3	
	comp=N,216nm,17.7s						
MLR	**Muntele Rosu**	**33.87**	**299**	P	**P**	**04 26 45.7**	**+1.7**
	comp=N,10nm,0.9s,baz=170,slow=23,SNR=8.2						
	comp=N,10nm,0.9s						
MLR	**Muntele Rosu**	**33.87**	**299**	⇑P	**P**	**04 26 45.7**	**+1.7**
NRIK	**Noril'sk**	**34.08**	**11**	P	**P**	**04 26 46.1**	**+0.8**
NRIK				IAmb	IAmb	04 26 47.2	
	comp=Z,11nm,1.2s						
NRIK	**Noril'sk**	**34.08**	**11**	P	**P**	**04 26 46.5**	**+1.2**
	comp=Z,5.3nm,0.4s,baz=182,slow=6.4,SNR=8.9						
	comp=Z,5.3nm,0.4s						
BUR08	**Bucovina Ar. S**	**34.41**	**303**	P	**P**	**04 26 48.5**	**0.0**
ARR	**Arges**	**34.80**	**299**	⇓P	**P**	**04 26 53.0**	**+1.1**
MARR	**Marisel-Cluj**	**35.82**	**301**	⇓P	**P**	**04 27 00.0**	**-0.5**
DRGR		**36.10**	**301**	⇑P	**P**	**04 27 04.3**	**+1.4**
KWP	**Kalwaria Pacla**	**36.14**	**306**	P	**P**	**04 27 03.8**	**+0.7**
KWP				IAmb	IAmb	04 27 05.5	
	comp=Z,15nm,1.2s						
KOLS	**Kolonicke sedl**	**36.40**	**305**	*e*P	**P**	**04 27 06.5**	**+1.2**
SURR	**Surduc**	**36.54**	**300**	⇓P	**P**	**04 27 07.8**	**+1.3**
FIA1	**FINESS Array S**	**36.79**	**326**	P	**P**	**04 27 08.6**	**+0.2**
FINES	**FINESS Array B**	**36.79**	**326**	P	**P**	**04 27 08.3**	**0.0**
FINES	**FINESS Array B**	**36.79**	**326**	P	**P**	**04 27 08.5**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=110,slow=9.1,SNR=10						
	comp=Z,2.4nm,0.6s			

comp=Z,8.7nm,1.0s
HFS Hagfors 42.33 322 P **P 04 27 53.7 0.0**
comp=Z,7.2nm,0.7s,baz=96,slow=8.3,SNR=27
comp=Z,7.2nm,0.7s
CLL Collm 42.34 309 *e*P **P 04 27 56.0 +2.0**
HEH HeiHe 42.84 53 *e*P **P 04 27 59.3 +1.3**
HEH pmax pmax
comp=Z,19nm,0.9s
LESA Schwarzleotal 42.89 303 *e*P **P 04 27 58.6 +0.1**
comp=Z,1.2nm,0.3s
NC405 NORSAR Array S 43.42 323 P **P 04 28 02.0 -0.5**
NC405 IAmb IAmb 04 28 10.8
comp=Z,15nm,1.2s
GSI Gunungsitoli 43.57 138 P **P 04 28 05.3 +1.1**
WTTA Wattenberg 43.61 303 *i* P **P 04 28 03.2 -1.1**
comp=Z,7.6nm,1.4s
NB2 NORSAR Subarra 43.65 323 P **P 04 28 03.9 -0.4**
comp=Z,2.0nm,0.5s,baz=97,slow=7.9
NB2 NORSAR Subarra 43.65 323 P **P 04 28 03.9 -0.4**
baz=97,slow=7.9
NOA NORSAR Array B 43.65 323 P **P 04 28 03.8 -0.6**
comp=Z,3.3nm,0.6s,baz=97,slow=7.8,SNR=17
comp=Z,3.3nm,0.6s
SQTA Sankt Quirin 43.90 303 *i* P **P 04 28 06.2 -0.5**
comp=Z,1.9nm,0.5s
MOTA Moosalm 43.96 303 *i* P **P 04 28 06.7 -0.3**
comp=Z,9.9nm,1.3s
FETA Feichten 44.26 303 *e*P **P 04 28 08.5 -1.0**
comp=Z,3.5nm,0.7s
KONO Kongsberg 44.34 321 P **P 04 28 09.5 -0.2**
KONO IAmb IAmb 04 28 31.1
comp=Z,24nm,1.3s
DAVA Damuels 44.79 303 *e*P **P 04 28 13.1 -0.5**
comp=Z,5.1nm,0.5s
DAVOX Davos/Dischmat 44.87 302 P **P 04 28 14.0 -0.3**
comp=Z,3.4nm,0.7s,baz=79,slow=6.3,SNR=7.0
comp=Z,3.4nm,0.7s
TUE Stuetta 45.28 302 P **P 04 28 15.4 -2.1**
KSRS Korea Array 45.67 71 P **P 04 28 20.8 +0.3**
comp=Z,1.7nm,0.5s,baz=276,slow=7.5,SNR=8.7
comp=Z,1.7nm,0.5s
KLR Kul'dur 45.75 54 P **P 04 28 21.5 +0.6**
comp=Z,2.2nm,0.8s,baz=298,slow=7.7,SNR=5.4
comp=Z,2.2nm,0.8s
TIXI Tiksi 45.91 22 P **P 04 28 22.1 +0.4**
comp=Z,4.1nm,0.3s,baz=287,slow=4.5,SNR=13
comp=Z,4.1nm,0.3s
SENIN Lac Senin/Sane 46.70 302 P **P 04 28 27.9 -0.7**
SENIN IAmb IAmb 04 28 30.3
comp=Z,19nm,0.8s
KIBK Kibwezi 48.85 224 P **P 04 28 45.5 +0.3**
KIBK Kibwezi 48.85 224 P **P 04 28 46.5 +1.4**
EKA Eskdalemuir Ar 51.49 316 P **P 04 29 03.4 -0.8**
comp=Z,0.6nm,0.4s,baz=74,slow=6.9,SNR=5.3
comp=Z,0.6nm,0.4s
MBAR Mbarara 51.90 233 P **P 04 29 08.3 +0.4**
MBAR IAmb IAmb 04 29 09.9
comp=Z,5.8nm,0.7s
MBAR Mbarara 51.90 233 P **P 04 29 08.9 +1.0**
ESDC Sonseca Array 56.54 297 P **P 04 29 40.3 -0.5**
comp=Z,1.0nm,0.7s,baz=56,slow=8.0,SNR=8.2
comp=Z,1.0nm,0.7s
TORD Torodi Ar. Bea 64.81 268 P **P 04 30 35.1 -1.4**
TORD IAmb IAmb 04 30 36.1
comp=Z,5.5nm,0.7s
TORD Torodi Ar. Bea 64.81 268 P **P 04 30 35.3 -1.2**
comp=Z,11nm,0.6s,baz=46,slow=6.1,SNR=168
comp=Z,11nm,0.6s
C23K Itkillik River 69.73 14 P **P 04 31 07.1 +0.8**
C23K IAmb IAmb 04 31 07.9
comp=Z,2.6nm,0.7s
D22K Ayikyak River 70.10 15 P **P 04 31 09.7 +1.0**
D22K IAmb IAmb 04 31 45.0
comp=Z,16nm,1.5s
E22K Anaktuvuk Pass 70.90 15 P **P 04 31 13.7 +0.2**
E22K IAmb IAmb 04 31 32.8
comp=Z,6.9nm,1.4s
TOLK Toolik Lake Re 70.94 14 P **P 04 31 14.1 +0.4**
TOLK IAmb IAmb 04 31 14.8
comp=Z,4.2nm,0.6s
F21K Alatna River 71.28 16 P **P 04 31 16.2 +0.5**
IMAR Indian Mountai 72.23 17 P **P 04 31 21.0 -0.3**
J16K Anvik River 72.55 21 P **P 04 31 24.3 +1.0**
E27K Coleen River 72.78 12 P **P 04 31 25.1 +0.6**
BMAR Burnt Mountain 72.94 13 P **P 04 31 26.4 +0.8**
DBIC Dimbokro 73.80 266 P **P 04 31 30.5 -0.8**
comp=Z,4.6nm,0.5s,baz=39,slow=5.7,SNR=12
comp=Z,4.6nm,0.5s
INK Inuvik 73.83 9 P **P 04 31 31.1 +0.5**
INK IAmb IAmb 04 32 00.7
comp=Z,5.8nm,1.4s
L16K Owhat River 74.09 22 P **P 04 31 33.5 +1.3**
L16K IAmb IAmb 04 31 36.2
comp=Z,11nm,1.4s
F31M Tsiigehtchic 74.62 9 P **P 04 31 35.5 +0.4**
CAST Castle Rocks 74.76 18 P **P 04 31 36.4 +0.3**
CAST IAmb IAmb 04 31 37.5
comp=Z,5.9nm,1.0s
ILAR Eielson Array 74.81 15 P **P 04 31 35.9 -0.4**
comp=Z,0.6nm,0.7s,baz=329,slow=5.6,SNR=6.9
comp=Z,0.6nm,0.7s
KTH Kantishna Hill 74.93 18 P **P 04 31 37.1 0.0**
KTH IAmb IAmb 04 31 42.8
comp=Z,8.4nm,1.3s
H29M Whitestone 75.10 11 P **P 04 31 38.2 +0.3**
I28M Miner Creek 75.55 12 P **P 04 31 40.6 +0.1**
H31M Peel River 76.09 10 P **P 04 31 43.5 0.0**
H31M IAmb IAmb 04 32 07.2
comp=Z,10.0nm,1.5s
KNRA Kununurra 76.12 122 P **P 04 31 43.3 -1.0**
BOSA Boshof 77.33 219 P **P 04 31 50.5 -0.5**
BOSA IAmb IAmb 04 32 08.5
comp=Z,11nm,1.4s
BOSA Boshof 77.33 219 P **P 04 31 51.4 +0.3**
comp=Z,3.1nm,0.8s,baz=57,slow=5.4,SNR=4.4
comp=Z,3.1nm,0.8s
BCAR Beaver Creek A 77.38 14 P **P 04 31 50.0 -0.7**
MORW Morawa 78.51 140 P **P 04 31 56.2 -1.1**
WB0 Warramunga Arr 82.81 121 P **P 04 32 19.0 -1.2**
WB0 IAmb IAmb 04 32 19.8
comp=Z,4.0nm,0.7s
WRA Warramunga Arr 82.89 121 P **P 04 32 19.5 -1.1**
comp=Z,4.6nm,0.6s,baz=328,slow=4.9,SNR=88
comp=Z,4.6nm,0.6s
WB2 Warramunga Arr 82.89 121 P **P 04 32 19.5 -1.2**
WR0 Warramunga Arr 83.04 121 P **P 04 32 19.9 -1.5**
WR0 IAmb IAmb 04 32 20.6
comp=Z,4.9nm,0.7s
S34M Telegraph Cree 84.08 11 P **P 04 32 26.1 0.0**
ASAR Alice Springs 85.13 124 P **P 04 32 30.9 -0.9**
comp=Z,4.1nm,0.6s,baz=314,slow=5.0,SNR=38
comp=Z,4.1nm,0.6s
GO04 Tololo Observa 146.71 270 PKPbc **PKPbc 04 39 36.2 +0.1**
BO04 La Punta 147.80 263 PKPbc **PKPbc 04 39 38.4 -0.3**

IDC ***19*** *04:30:49.8±1.2, 5°.31S×151°.58E, h0km, mb3.9/4, mbtmp3.9/5, ML2.2/1, Error ellipse: s-maj=99.1km s-min=22.3km az=131.0*
ISC 19 04:30:57.1±1.2, 5°.1S±0°.6×151°.1E±0°.7, h50km, n6, σ0°77/8, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.79**	**223**	Pn	**Pn**	**04 32 20.3**	**-0.2**
	3.8nm,0.3s,baz=36,slow=8.7,SNR=5.8						
PMG				Sn	**Sn**	**04 33 25.2**	**-0.6**
	6.4nm,0.3s,baz=314,slow=18,SNR=9.0						
	11nm,0.4s						
WRA	**Warramunga Arr**	**22.00**	**227**	P	**P**	**04 35 48.5**	**+1.3**
	1.6nm,0.4s,baz=53,slow=9.9,SNR=21						
WRA				PcP	**PcP**	**04 39 45.3**	**+0.8**
	0.4nm,0.8s,baz=63,slow=1.8,SNR=2.7						
	1.6nm,0.4s						
ASAR	**Alice Springs**	**24.80**	**220**	P	**P**	**04 36 14.6**	**-0.1**
	0.9nm,0.4s,baz=57,slow=8.6,SNR=13						
	0.9nm,0.4s						
ILAR	**Eielson Array**	**83.10**	**22**	P	**P**	**04 43 16.7**	**-0.6**
	0.5nm,0.6s,baz=243,slow=5.7,SNR=10						
	0.5nm,0.6s						
NVAR	**Mina Array Bea**	**93.60**	**52**	P	**P**	**04 44 08.6**	**0.0**
	0.8nm,0.9s,baz=240,slow=5.0,SNR=5.8						
	0.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**148.82**	**287**	PKPbc	**PKPbc**	**04 50 40.3**	**0.0**
	2.3nm,0.6s,baz=59,slow=3.3,SNR=16						

NAO ***19*** *04:47:24.3, 40°.39N×23°.44E, h10km, mb4.2*
IDC ***19*** *04:47:27.2±0.7, 40°.52N×22°.36E, h0km, mb3.9/15, mbtmp3.9/22, ML3.6/4, MS3.4/8, Error ellipse: s-maj=12.4km s-min=9.5km az=142.0*
TIR ***19*** *04:47:27.9, 40°.63N×22°.51E, h21km, Md4.1, Ml4.2*
THE ***19*** *04:47:28.6, 40°.53N×22°.51E, h9km±1km, ML3.9/11, Error ellipse: s-maj=1.0km s-min=0.3km az=138.0*
SOF ***19*** *04:47:28.1, 40°.57N±0°.02×22°.52E±0°.02, h16km±5km, MD4.0/12*
PDG ***19*** *04:47:28.1±0.2, 40°.53N×22°.49E, h3km±1km, ML4.3/12, Error ellipse: s-maj=0.8km s-min=0.9km az=0.0*
MED_RC ***19*** *04:47:28.0±0.5, 40°.50N×22°.53E, h14km±2km, MW4.3/12, Moment Tensor Solution.Mantle waves: s12,c16; Duration: 1§0 Moment tensor: Scale 10^15Nm; Mrr=2.55±.71; Mθθ3.23±.50; Mφφ=-0.69±.30; Mrθ1.18±.48; Mθφ0.60±.38; Mφr=2.18±.67; Best double couple: M0=3.85000×10^15 NP1:φs=293.00000°, δ=63.00000°, λ=-53.00000°. NP2:φs=54.00000°, δ=45.00000°, λ=-139.00000°. Principal axes: T 3.4700, Plg10.0000°, Azm357.0000°; N 0.7400, Plg33.0000°, Azm94.0000°; P -4.2200, Plg56.0000°, Azm252.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
ISK ***19*** *04:47:29.4, 40°.51N×22°.58E, h8km, ML4.0/28*
ATH ***19*** *04:47:29.0, 40°.51N×22°.53E, h14km±1km, ML3.9/14, Error ellipse: s-maj=1.7km s-min=0.6km az=348.0*
SKO ***19*** *04:47:29.1, 40°.51N×22°.51E, h12km, ML4.2*
NEIC ***19*** *04:47:29.6±2.1, 40°.61N±0°.05×22°.38E±0°.04, h10km±1km, mb4.5/21, Error ellipse: s-maj=8.9km s-min=3.9km az=148.0*
BEO ***19*** *04:47:29.6±0.5, 40°.59N×22°.48E, h21km±3km, ML3.9/20*
MCSM ***19*** *04:47:29.9±0.5, 41°.N±4°×2°.2E±°, h10km, mB5.0, mb4.6, MLv4.6, Mw(mB)4.3*
AFAD ***19*** *04:47:33.8±0.0, 40°.20N×22°.75E, h6km±5km, MW4.0*
PRU ***19*** *04:47:39.7, 40°.43N×21°.00E, h10km, M4.4*
ISC 19 04:47:28.5±0.9, 40°.53N±0°.02×22°.52E±0°.01, h9km±6km, n375, σ1§41/463, mb4.4/26, MS3.5/4, 40C-22D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTI	**Kastanea**	**0.34**	**246**	P	**Pg**	**04 47 34.5**	**-0.8**
THE	**Thessaloniki**	**0.35**	**74**	P	**Pg**	**04 47 36.1**	**+0.6**
THE				S	**Sb**	**04 47 42.0**	**-0.6**
THE				AML	AML	04 47 48.4	
	comp=E,16946μm,0.5s						
THE				AML	AML	04 47 49.0	
	comp=N,39058μm,0.7s						
LIT	**Litokhoron**	**0.43**	**183**		**Pg**	**04 47 37.0**	**0.0**
LIT	**Litokhoron**	**0.43**	**183**	P	**Pg**	**04 47 37.0**	**0.0**
LIT				S	**Sg**	**04 47 42.8**	**+0.1**
	comp=N,8μm,0.2s						
LIT	**Litokhoron**	**0.43**	**183**	⇑*i*Pg	**Pg**	**04 47 37.1**	**+0.1**
LIT				*i* Sg	**Sg**	**04 47 44.0**	**+1.3**
HORT	**Hortiatis**	**0.45**	**82**	Pg	**Pg**	**04 47 37.8**	**+0.6**
HORT				Sg	**Sg**	**04 47 43.9**	**+0.9**
HORT	**Hortiatis**	**0.45**	**82**	P	**Pg**	**04 47 37.6**	**+0.4**
HORT	**Hortiatis**	**0.45**	**82**	P	**Pg**	**04 47 37.7**	**+0.4**
HORT				S	**Sg**	**04 47 44.0**	**+0.9**
HORT				AML	AML	04 47 46.7	
	comp=N,18824μm,0.3s						
HORT				AML	AML	04 47 46.8	
	comp=E,12701μm,0.5s						
KZN	**Kozani**	**0.62**	**249**	P	**Pg**	**04 47 40.4**	**0.0**
KZN				S	**Sg**	**04 47 48.8**	**+0.2**
	comp=E,11μm,0.5s						
KZN	**Kozani**	**0.62**	**249**	P	**Pg**	**04 47 40.5**	**0.0**
KZN				S	**Sg**	**04 47 48.6**	**0.0**
KZN				AML	AML	04 47 56.5	
	comp=E,28782μm,0.5s						
KZN				AML	AML	04 47 56.8	
	comp=N,15850μm,0.5s						
KNT	**Kendrikon**	**0.69**	**24**	P	**Pg**	**04 47 41.7**	**-0.1**
KNT				S	**Sb**	**04 47 52.0**	**-0.4**
	comp=N,13μm,0.5s						
KNT	**Kendrikon**	**0.69**	**24**	⇑*i*Pg	**Pg**	**04 47 41.8**	**-0.1**
KNT				*i* Sg	**Sb**	**04 47 53.4**	**+1.0**
SOH	**Sokhos**	**0.69**	**65**	P	**Pg**	**04 47 42.2**	**+0.2**
SOH				S	**Sb**	**04 47 52.2**	**-0.4**
	comp=N,11μm,0.5s						
SOH	**Sokhos**	**0.69**	**65**	⇓*i*Pg	**Pg**	**04 47 42.4**	**+0.4**
SOH				*i* Sg	**Sb**	**04 47 52.8**	**+0.2**
SOH	**Sokhos**	**0.69**	**65**	P	**Pg**	**04 47 42.4**	**+0.4**
SOH				S	**Sb**	**04 47 52.3**	**-0.3**
SOH				AML	AML	04 47 58.2	
	comp=E,24147μm,0.4s						
SOH				AML	AML	04 48 02.0	
	comp=N,33128μm,0.5s						
PLG	**Polygyros**	**0.72**	**102**	P	**Pg**	**04 47 42.8**	**+0.3**
PLG				S	**Sg**	**04 47 52.8**	**+0.9**
	comp=N,8μm,0.7s						
PLG	**Polygyros**	**0.72**	**102**	P	**Pg**	**04 47 43.0**	**+0.5**
PLG				S	**Sg**	**04 47 52.0**	**+0.1**
PLG				AML	AML	04 47 54.5	
	comp=N,19143μm,0.6s						
PLG				AML	AML	04 48 00.6	
	comp=E,12484μm,0.4s						
VAY	**Valandovo**	**0.79**	**3**	*e*Pg	**Pg**	**04 47 43.5**	**-0.2**
VAY				*e*Sg	**Sb**	**04 47 54.6**	**-0.6**
VAY	**Valandovo**	**0.79**	**3**	⇑*i*Pg	**Pg**	**04 47 43.2**	**-0.5**
VAY				*i* Sg	**Sb**	**04 47 56.3**	**+1.1**
VAY				*e*Lg	Lg	04 47 58.2	
	comp=N,5μm,0.4s						
VAY				*e*Lg	Lg	04 47 59.0	
	comp=E,12μm,0.6s						
TYRN	**Tyrnavos**	**0.85**	**195**	P	**Pg**	**04 47 44.4**	**-0.5**
TYRN				S	**Sb**	**04 47 57.8**	**+0.8**
	comp=E,13μm,0.6s						
TYRN	**Tyrnavos**	**0.85**	**195**	P	**Pg**	**04 47 44.5**	**-0.4**
TYRN				S	**Sg**	**04 47 56.5**	**+0.5**
SRS	**Serrai**	**1.00**	**54**	P	**Pg**	**04 47 47.3**	**-0.5**
SRS				S	**Sb**	**04 48 02.2**	**+0.9**
	comp=E,5μm,0.5s						
SRS	**Serrai**	**1.00**	**54**	*e*Pg	**Pg**	**04 47 47.4**	**-0.3**
SRS				*e*Sg	**Sb**	**04 48 01.8**	**+0.5**
SRS	**Serrai**	**1.00**	**54**	⇑*i*Pg	**Pg**	**04 47 47.2**	**-0.5**
SRS				*i* Sg	**Sn**	**04 48 02.4**	**-0.6**
SRS	**Serrai**	**1.00**	**54**	P	**Pg**	**04 47 47.6**	**-0.2**
SRS				S	**Sg**	**04 48 00.9**	**+0.1**
SRS				AML	AML	04 48 04.3	
	comp=E,10702μm,0.5s						
SRS				AML	AML	04 48 07.1	
	comp=N,8254μm,0.3s						
THL	**Klokotos Trika**	**1.04**	**202**	P	**Pg**	**04 47 47.8**	**-0.8**
THL				S	**Sn**	**04 48 03.5**	**-0.5**
	comp=N,9μm,0.8s						
THL	**Klokotos Trika**	**1.04**	**202**	P	**Pg**	**04 47 48.2**	**-0.3**
THL				S	**Sb**	**04 48 02.4**	**-0.1**
THL				AML	AML	04 48 05.0	
	comp=N,9205μm,0.8s						
THL				AML	AML	04 48 08.0	
	comp=E,24881μm,0.8s						
KPRO	**Kipourio**	**1.06**	**237**	P	**Pg**	**04 47 48.4**	**-0.5**
KPRO				S	**Sn**	**04 48 04.4**	**-0.1**
	comp=E,7μm,0.6s						
KPRO	**Kipourio**	**1.06**	**237**	P	**Pg**	**04 47 48.6**	**-0.3**
KPRO				S	**Sb**	**04 48 02.9**	**-0.1**
KPRO				AML	AML	04 48 09.2	
	comp=N,13031μm,0.5s						
KPRO				AML	AML	04 48 11.6	
	comp=E,16733μm,0.8s						
PAIG	**Paliouri**	**1.07**	**124**	Pg	**Pg**	**04 47 49.3**	**+0.2**
PAIG				Sg	**Sb**	**04 48 03.7**	**+0.3**
PAIG	**Paliouri**	**1.07**	**124**	P	**Pg**	**04 47 48.1**	**-1.0**
PAIG				S	**Sb**	**04 48 03.9**	**+0.5**
	comp=E,4μm,0.6s						
PENT	**Pentalofos**	**1.11**	**253**	P	**Pg**	**04 47 49.2**	**-0.6**
PENT	**Pentalofos**	**1.11**	**253**	P	**Pg**	**04 47 49.5**	**-0.4**
PENT				S	**Sg**	**04 48 04.2**	**0.0**
NEST	**Nestorio**	**1.13**	**264**	AMP			
	comp=E,21nm,0.8s,baz=260						
NEST	**Nestorio**	**1.13**	**264**	P	**Pb**	**04 47 49.2**	**-1.1**
NEST				S	**Sb**	**04 48 05.4**	**+0.3**
	comp=E,6μm,0.9s						
NEST	**Nestorio**	**1.13**	**264**	P	**Pb**	**04 47 49.6**	**-0.7**
NEST				S	**Sb**	**04 48 05.0**	**-0.1**
NEST				AML	AML	04 48 13.1	
	comp=N,14438μm,0.8s						
NEST				AML	AML	04 48 15.5	
	comp=E,9641μm,1.1s						
OUR	**Ouranopolis**	**1.13**	**100**	Pn	**Pb**	**04 47 50.3**	**+0.1**
OUR				Sn	**Sn**	**04 48 05.9**	**-0.3**
OUR	**Ouranopolis**	**1.13**	**100**	P	**Pb**	**04 47 50.1**	**-0.2**
OUR	**Ouranopolis**	**1.13**	**100**	P	**Pb**	**04 47 50.4**	**+0.1**
OUR				S	**Sb**	**04 48 05.2**	**+0.2**
OUR				AML	AML	04 48 09.3	
	comp=E,10486μm,0.5s						
OUR				AML	AML	04 48 14.4	
	comp=N,12123μm,0.8s						
KOKK	**Kokkinochori,**	**1.16**	**75**	P	**Pb**	**04 47 50.8**	**0.0**
KOKK	**Kokkinochori,**	**1.16**	**75**	P	**Pb**	**04 47 50.7**	**0.0**
KOKK				S	**Sb**	**04 48 05.4**	**-0.5**
KOKK				AML	AML	04 48 09.6	
	comp=N,12418μm,0.6s						
KOKK				AML	AML	04 48 11.3	
	comp=E,11679μm,0.6s						
NVR	**Nevrokopi**	**1.30**	**51**	P	**Pb**	**04 47 53.4**	**+0.2**
NVR	**Nevrokopi**	**1.30**	**51**	P	**Pg**	**04 47 53.7**	**+0.2**
NVR				S	**Sb**	**04 48 09.7**	**-0.3**
NVR				AML	AML	04 48 14.9	
	comp=E,9437μm,1.0s						
NVR				AML	AML	04 48 15.7	
	comp=N,7520μm,1.0s						
KBN	**Korca**	**1.32**	**274**	AMP			
	comp=E,14nm,0.7s,baz=271						
NEO	**Neokhori**	**1.34**	**156**	P	**Pn**	**04 47 52.1**	**-1.3**
NEO	**Neokhori**	**1.34**	**156**	P	**Pn**	**04 47 52.5**	**-1.0**
NEO				S	**Sb**	**04 48 10.5**	**-0.6**
NEO				AML	AML	04 48 12.4	
	comp=N,6478μm,0.4s						
NEO				AML	AML	04 48 14.4	
	comp=E,3096μm,0.6s						
MMB	**Musomishta**	**1.37**	**42**	P	**Pn**	**04 47 53.5**	**-0.4**
MMB				S	**Sb**	**04 48 12.1**	**0.0**
MMB	**Musomishta**	**1.37**	**42**	⇑*i*Pg	**Pn**	**04 47 53.6**	**-0.3**
MMB				*i* Sg	**Sg**	**04 48 12.8**	**+0.1**
KKB	**Krupnik**	**1.38**	**19**	P	**Pn**	**04 47 53.3**	**-0.8**
KKB				S	**Sb**	**04 48 11.5**	**-0.9**
KKB	**Krupnik**	**1.38**	**19**	⇑*i*Pg	**Pn**	**04 47 53.8**	**-0.3**
OHR	**Ohrid**	**1.43**	**294**	*e*Pg	**Pn**	**04 47 54.9**	**+0.2**
OHR				*e*Sg	**Sn**	**04 48 12.5**	**-1.2**
OHR	**Ohrid**	**1.43**	**294**	*i* Pn	**Pn**	**04 47 54.4**	**-0.4**
OHR				*i* Sn	**Sg**	**04 48 16.5**	**+2.0**
OHR				*e*Lg	Lg	04 48 22.1	
	comp=N,3μm,0.8s						
OHR				*e*Lg	Lg	04 48 22.4	
	comp=E,2μm,0.9s						
KVLA	**Kavala**	**1.47**	**74**	P	**Pn**	**04 47 54.9**	**-0.3**
KVLA				S	**Sb**	**04 48 15.1**	**+0.2**
AGG	**Agios Georgios**	**1.52**	**186**	Pn	**Pb**	**04 47 57.2**	**+0.3**
AGG	**Agios Georgios**	**1.52**	**186**		**Pn**	**04 47 55.6**	**-0.3**
AGG	**Agios Georgios**	**1.52**	**186**	P	**Pn**	**04 47 55.6**	**-0.3**
LSK	**Leskovik**	**1.52**	**256**	AMP			
	comp=E,23nm,0.8s,baz=253						
LSK	**Leskovik**	**1.52**	**256**	P	**Pn**	**04 47 56.2**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.55**	**191**	P	**Pn**	**04 47 56.7**	**+0.3**
JAN	**Janina**	**1.55**	**236**	P	**Pn**	**04 47 56.1**	**-0.3**
JAN	**Janina**	**1.55**	**236**	P	**Pb**	**04 47 57.5**	**0.0**
KAVA	**Kavala**	**1.58**	**72**	P	**Pn**	**04 47 56.2**	**-0.5**
KAVA	**Kavala**	**1.58**	**72**	P	**Pn**	**04 47 56.5**	**-0.2**
KAVA				S	**Sb**	**04 48 18.3**	**+0.3**
THAS	**Thassos island**	**1.68**	**87**	P	**Pn**	**04 47 57.4**	**-0.6**
THAS	**Thassos island**	**1.68**	**87**	P	**Pn**	**04 47 58.7**	**+0.7**
AOS	**Alonnisos**	**1.72**	**142**	P	**Pn**	**04 47 56.8**	**-1.8**
AXAR	**Agios Charalam**	**1.77**	**177**	P	**Pn**	**04 47 59.4**	**+0.1**
IGT	**Igoumenitsa**	**1.96**	**240**	AMP			
	comp=E,4.7nm,0.9s,baz=238						
IGT	**Igoumenitsa**	**1.96**	**240**	*i* Pn	**Pb**	**04 48 04.3**	**0.0**
IGT				*i* Sn	**Sg**	**04 48 32.5**	**+1.1**
IGT	**Igoumenitsa**	**1.96**	**240**	P	**Pb**	**04 48 04.3**	**0.0**
BOSS	**Bosilegrad**	**1.96**	**359**	*e*Pn	**Pn**	**04 48 01.4**	**-0.6**
BOSS				*e*Sn	**Sn**	**04 48 25.8**	**-0.9**
SRN	**Sarande**	**2.04**	**252**	AMP			
	comp=E,4.4nm,0.9s,baz=250						
PLNA	**Plana**	**2.06**	**19**	P	**Pn**	**04 48 03.5**	**+0.1**
PLNA				S	**Sn**	**04 48 29.0**	**-0.2**
LIA	**Limnos Island**	**2.13**	**106**	P	**Pn**	**04 48 04.0**	**-0.3**
VTS	**Vitosha**	**2.15**	**14**	P	**Pn**	**04 48 04.2**	**-0.5**
EFP	**Efpalio**	**2.16**	**193**	P	**Pn**	**04 48 05.1**	**+0.4**
TIR	**Tirane**	**2.17**	**293**	AMP			
	comp=E,1.7nm,0.6s,baz=291						
TIR	**Tirane**	**2.17**	**293**	Pn	**Pn**	**04 48 06.0**	**+1.2**
TIR	**Tirane**	**2.17**	**293**	⇓P	**Pn**	**04 48 05.8**	**+1.0**
KEK	**Kerkira**	**2.24**	**249**	Pn	**Pb**	**04 48 08.3**	**-0.9**
KEK	**Kerkira**	**2.24**	**249**	Pn	**Pn**	**04 48 06.9**	**+1.0**
KYMI	**Kymi, Euboea I**	**2.26**	**147**	P	**Pn**	**04 48 05.0**	**-1.0**
LKD2	**Lefkada island**	**2.26**	**220**	AMP			
	comp=E,8.7nm,1.1s,baz=219						
SMTH	**Samothraki Isl**	**2.29**	**91**	P	**Pn**	**04 48 06.4**	**-0.2**
TRAN	**Tran**	**2.30**	**2**	P	**Pn**	**04 48 06.8**	**+0.1**
PLD	**Plovdiv**	**2.33**	**45**	Pn	**Pn**	**04 48 07.9**	**+0.9**
PLD	**Plovdiv**	**2.33**	**45**	P	**Pn**	**04 48 07.5**	**+0.5**
PGB	**Panagyurishte**	**2.33**	**32**	P	**Pn**	**04 48 07.4**	**+0.3**
BARS	**Barje**	**2.34**	**347**	*e*Pn	**Pn**	**04 48 06.3**	**-0.9**
BARS	**Barje**	**2.34**	**347**	*i* Pn	**Pn**	**04 48 06.5**	**-0.7**
RDO	**Rodhopi**	**2.37**	**74**	Pn	**Pn**	**04 48 08.9**	**+1.4**
RDO	**Rodhopi**	**2.37**	**74**	Pn	**Pn**	**04 48 07.3**	**-0.2**
RDO	**Rodhopi**	**2.37**	**74**	P	**Pn**	**04 48 07.1**	**-0.4**
KDZ	**Kurdzhali**	**2.40**	**62**	Pn	**Pn**	**04 48 09.4**	**+1.5**
KDZ	**Kurdzhali**	**2.40**	**62**	P	**Pn**	**04 48 07.6**	**-0.3**
PUK	**Puka**	**2.49**	**308**	P	**Pn**	**04 48 09.5**	**+0.2**
PUK				S	**Sb**	**04 48 41.9**	**-2.4**
PUK				AMP			
	comp=E,3.1nm,0.4s,baz=307						
PUK	**Puka**	**2.49**	**308**	Pn	**Pn**	**04 48 07.8**	**-1.5**
GOAD	**anakkale-G¶**	**2.62**	**97**	P	**Pb**	**04 48 14.1**	**-1.5**
GOAD				S	**Sn**	**04 48 44.9**	**+2.1**
ALN	**Alexandroupoli**	**2.70**	**81**	Pn	**Pn**	**04 48 14.2**	**+2.1**
ALN	**Alexandroupoli**	**2.70**	**81**	Pn	**Pn**	**04 48 12.2**	**+0.1**
ALN	**Alexandroupoli**	**2.70**	**81**	P	**Pn**	**04 48 12.0**	**-0.1**
DIM	**Dimitrovgrad**	**2.75**	**56**	P	**Pn**	**04 48 12.7**	**-0.1**
ENEZ	**Enez**	**2.77**	**85**	Pn	**Pn**	**04 48 14.7**	**+1.6**
CAVK	**Edirne/Enez-Ca**	**2.78**	**86**	P	**Pb**	**04 48 16.5**	**-1.8**
CAVK				S	**Sb**	**04 48 50.1**	**-2.4**
CAVK	**Edirne/Enez-Ca**	**2.78**	**86**		**Pb**	**04 48 16.6**	**-1.8**
CAVK	**Edirne/Enez-Ca**	**2.78**	**86**	⇑P	**Pb**	**04 48 16.6**	**-1.8**
BOZC	**Bozcaada**	**2.79**	**103**	P	**Pn**	**04 48 15.1**	**+1.7**
BOZC				S	**Sn**	**04 48 49.0**	**+1.8**
PVY	**Plav**	**2.82**	**318**	*e*Pn	**Pn**	**04 48 13.7**	**-0.2**
PVY				*i* Sn	**Sn**	**04 48 48.3**	**+0.3**
ULC	**Ulcinj**	**2.85**	**301**	*e*Pn	**Pn**	**04 48 14.9**	**+0.6**
ULC				*i* Sn	**Sn**	**04 48 48.6**	**-0.2**
SELS	**Selova**	**2.88**	**339**	*e*Pn	**Pn**	**04 48 13.5**	**-1.1**
SELS				*e*Sn	**Sn**	**04 48 48.6**	**-0.8**
SIGR	**SIGRI**	**2.88**	**116**	Pn

CEME Cevo 3.37 308 *e*Pn **Pn** 04 48 22.4 +1.0
CEME *i* Sn **Sn** 04 49 01.2 -0.4
ITM Ithomi 3.38 188 Pn **Pn** 04 48 23.9 +2.4
AYVA Ayvalik 3.43 110 P **Pn** 04 48 25.3 +3.2
EDRB Edirne 3.44 66 Pn **Pn** 04 48 24.3 +1.9
ELND Elena 3.47 45 **Pn** 04 48 22.6 -0.1
ELND Elena 3.47 45 ⇑P **Pn** 04 48 22.6 -0.1
NKME Niksic 3.48 311 ⇓*i*Pn **Pn** 04 48 23.4 +0.5
NKME *i* Sn **Sn** 04 49 04.1 -0.2
CANM Can-anakkale 3.50 97 Pn **Pn** 04 48 24.9 +1.7
IVAS Ivanjica 3.52 331 *e*Pn **Pn** 04 48 22.0 -1.4
RKY Sarkoy-Tekirda 3.55 86 Pn **Pn** 04 48 26.0 +2.2
SART Tekirdag 3.55 86 P **Pn** 04 48 27.3 +3.4
SART S **Sn** 04 49 06.9 +0.9
HCY Herceg Novi 3.58 304 *e*Pn **Pn** 04 48 24.5 +0.3
HCY Herceg Novi 3.58 304 ⇑*i*Pn **Pn** 04 48 24.0 -0.2
HCY *i* Sn **Sn** 04 49 06.4 -0.2
JMB Yambol 3.59 56 P **Pn** 04 48 24.0 -0.3
GRUS Gruza 3.61 339 *e*Pn **Pn** 04 48 23.3 -1.3
GRUS *e*Sn **Sn** 04 49 04.5 -2.9
PLE Pljevlja 3.64 321 ⇑*i*Pn **Pn** 04 48 25.3 +0.1
PLE *i* Sn **Sn** 04 49 07.6 -0.7
KRBG Karabiga-Canak 3.65 91 Pn **Pn** 04 48 27.3 +2.2
BUHA Balikesir, Bur 3.65 105 P **Pn** 04 48 27.0 +1.9
IZMD zmir-Dikili- 3.73 113 P **Pb** 04 48 31.4 -3.3
PUNG Punghina 3.75 5 ⇑P **Pn** 04 48 25.9 -0.6
SZH Strazhitsa 3.75 42 P **Pn** 04 48 27.0 +0.4
UPM Unac-Piva 3.79 316 *e*Pn **Pn** 04 48 28.5 +1.1
UPM Unac-Piva 3.79 316 ⇑*i*Pn **Pn** 04 48 27.1 -0.3
UPM *i* Sn **Sn** 04 49 11.2 -1.0
BRY Bratogost 3.81 310 ⇑*i*Pn **Pn** 04 48 27.5 0.0
BRY *i* Sn **Sn** 04 49 11.4 -1.0
TREB Trebinje 3.81 306 *e*Pn **Pn** 04 48 28.5 +1.1
ZEDA zmir-Bergama 3.84 113 P **Pn** 04 48 27.8 0.0
SVIS Svilajnac 3.85 346 *e*Pn **Pn** 04 48 28.1 +0.2
SVIS *e*Sn **Sn** 04 49 09.7 -3.6
MRMT Marmara Adasi 3.87 87 Pn **Pn** 04 48 30.3 +2.1
RUDO Rudo 3.87 324 *e*Pn **Pn** 04 48 27.0 -1.3
KUBS Kucevo 3.93 351 *e*Pn **Pn** 04 48 26.2 -2.8
KUBS *e*Sn **Sn** 04 49 11.6 -3.6
GONE Gonen-Balikesi 3.98 95 Pn **Pn** 04 48 31.8 +2.1
TRUS Trudelj 4.01 338 *e*Pn **Pn** 04 48 28.8 -1.3
DIVS Divibare 4.03 333 *e*Pn **Pn** 04 48 29.2 -1.2
DIVS *e*Sn **Sn** 04 49 14.8 -2.9
BBLS Lazi&#263i 4.05 326 *e*Pn **Pn** 04 48 30.4 -0.4
BBLS Lazi&#263i 4.05 326 *e*Pn **Pn** 04 48 29.6 -1.2
EDC Edincik 4.08 91 Pn **Pn** 04 48 33.1 +2.0
DJES Djerdap 4.13 360 *e*Pn **Pn** 04 48 30.5 -1.3
DJES Djerdap 4.13 360 ⇓P **Pn** 04 48 31.6 -0.2
SRE Strehaia 4.16 7 ⇓P **Pn** 04 48 32.0 -0.1
STEP BALIKESIR_Sava 4.16 104 P **Pn** 04 48 34.2 +2.0
STEP S **Sn** 04 49 19.3 -1.6
APE Apeiranthos 4.18 145 Pn **Pn** 04 48 34.6 +2.0
APE Apeiranthos 4.18 145 **Pb** 04 48 37.8 -4.6
APE Apeiranthos 4.18 145 ⇓P **Pb** 04 48 37.8 -4.6
BKES Balkesir-Mer 4.22 99 P **Pn** 04 48 33.9 +0.9
BKES S **Sn** 04 49 21.4 -1.1
BAND Balkesir-Ban 4.26 91 P **Pn** 04 48 34.2 +0.6
BAND Balkesir-Ban 4.26 91 **Pn** 04 48 37.5 +3.9
BAND Balkesir-Ban 4.26 91 ⇓P **Pn** 04 48 37.5 +3.9
MDVR Moldovita 4.29 352 ⇓P **Pn** 04 48 33.2 -0.8
STON Ston 4.30 304 *e*Pn **Pn** 04 48 34.4 +0.3
HERR Herculane 4.34 359 ⇓P **Pn** 04 48 33.8 -0.9
SLVT Silivri 4.37 79 Pn **Pn** 04 48 37.6 +2.6
HUMR Humele 4.38 24 ⇑P **Pn** 04 48 35.2 -0.1
HAPS Han Pijesak,BI 4.43 324 *e*Pn **Pn** 04 48 35.5 -0.5
MATE Matera 4.43 273 **Pn** 04 48 35.9 0.0
MATE Matera 4.43 273 ⇓P **Pn** 04 48 35.9 0.0
KCTX Karacabey (Bur 4.46 92 Pn **Pn** 04 48 38.6 +2.2
CTYL Yalikoy Yolu 4.46 76 Pn **Pn** 04 48 39.0 +2.7
TEKS Tekeris 4.58 332 *e*Pn **Pn** 04 48 37.6 -0.4
TEKS *e*Sn **Sn** 04 49 27.2 -4.1
TEKS Tekeris 4.58 332 *e*Pn **Pn** 04 48 36.8 -1.2
CTKS Kestanelik-??a 4.59 79 Pn **Pn** 04 48 40.5 +2.4
TIP Timpagrande 4.64 255 Pn **Pn** 04 48 38.5 -0.3
TIP Timpagrande 4.64 255 ⇑P **Pn** 04 48 39.8 +0.9
TIP Timpagrande 4.64 255 P **Pn** 04 48 39.4 +0.6
GORD Gordes-Manisa 4.65 109 Pn **Pn** 04 48 41.4 +2.4
VRSS Vrsac 4.67 350 *e*Pn **Pn** 04 48 37.8 -1.4
VRSS *e*Sn **Sn** 04 49 28.8 -4.7
GZR Gura Zlata 4.86 2 ⇑P **Pn** 04 48 40.7 -1.1
BANR Banloc 4.95 349 ⇓P **Pn** 04 48 42.5 -0.6
LOT Lotru 5.00 10 ⇑P **Pn** 04 48 43.3 -0.4
FRGS Fruska Gora 5.03 338 *e*Pn **Pn** 04 48 42.4 -1.8
FRGS *e*Sn **Sn** 04 49 36.8 -5.7
FRGS Fruska Gora 5.03 338 *e*Pn **Pn** 04 48 42.8 -1.4
ARR Arges 5.07 17 ⇓P **Pn** 04 48 44.5 -0.3
BZS Buzias 5.12 353 ⇑P **Pn** 04 48 43.9 -1.5
SURR Surduc 5.23 357 **Pn** 04 48 46.3 -0.5
SURR Surduc 5.23 357 ⇑P **Pn** 04 48 46.3 -0.5
VOIR 5.24 20 ⇑P **Pn** 04 48 47.1 0.0
VOIR 5.24 20 P **Pn** 04 48 46.7 -0.4
comp=E,33nm,0.5s,comp=E,0.2nm
TNR Turnu Rosu 5.27 13 **Pn** 04 48 47.9 +0.4
TNR Turnu Rosu 5.27 13 ⇑P **Pn** 04 48 47.9 +0.4
ICOR Ion Corvin 5.30 46 ⇑P **Pn** 04 48 49.6 +1.7
DEV Deva 5.35 3 ⇑P **Pn** 04 48 49.0 +0.4
ISR Istrita 5.45 32 ⇓P **Pn** 04 48 50.6 +0.6
ISR Istrita 5.45 32 P **Pn** 04 48 51.1 +1.1
comp=E,117nm,0.6s,comp=E,1.0nm
MLR Muntele Rosu 5.55 26 Pn **Pn** 04 48 51.3 -0.2
MLR Muntele Rosu 5.55 26 Pn **Pn** 04 48 52.8 +1.3
comp=E,25nm,0.5s,baz=246,slow=2.8,SNR=44
MLR Sn **Sn** 04 49 58.1 +2.6
comp=E,7.6nm,0.3s,baz=96,slow=21,SNR=1.7
MLR Lg Lg 04 50 26.7
baz=98,slow=23
MLR Muntele Rosu 5.55 26 ⇓P **Pn** 04 48 52.1 +0.7
MLR Muntele Rosu 5.55 26 P **Pn** 04 48 52.2 +0.7
comp=E,91nm,0.9s,comp=E,939nmcomp=E,0.5nm
IDI Anoyia 5.56 160 Pn **Pn** 04 48 53.1 +1.6
IDI Anoyia 5.56 160 Pn **Pn** 04 48 53.2 +1.7
comp=E,12nm,0.8s,baz=265,slow=9.2,SNR=6.9
IDI Sn **Sn** 04 49 57.7 +2.1
comp=E,1.0nm,0.3s,baz=56,slow=9.7,SNR=1.2
CEL Celeste 5.61 248 Pn **Pn** 04 48 51.7 -0.5
CEL Celeste 5.61 248 P **Pn** 04 48 52.0 -0.2
comp=E,85nm,1.0s,comp=E,0.2nm
NEHR Nehoiu 5.62 28 **Pn** 04 48 53.5 +1.3
NEHR Nehoiu 5.62 28 ⇑P **Pn** 04 48 53.5 +1.3
BLY Banja Luka 5.76 319 *e*Pn **Pn** 04 48 55.8 +1.6
SIRR Siria 5.76 354 ⇑P **Pn** 04 48 53.6 -0.7
MDB Medias 5.77 13 **Pn** 04 48 53.6 -0.6
MDB Medias 5.77 13 ⇑P **Pn** 04 48 53.6 -0.6
DOPR Dopca 5.82 20 ⇓P **Pn** 04 48 55.3 +0.3
A050A Klekovaca 5.93 314 *e*Pn **Pn** 04 48 55.9 -0.7
COVR Voineasa-Covas 5.95 26 **Pn** 04 48 58.1 +1.3
COVR Voineasa-Covas 5.95 26 ⇑P **Pn** 04 48 58.1 +1.3
OZUR 6.05 22 ⇓P **Pn** 04 48 58.8 +0.6
PAOL Paolisi 6.06 277 Pn **Pn** 04 48 57.5 -0.8
TURR Turia 6.08 24 ⇓P **Pn** 04 48 59.6 +1.0
A051A Mrakovica 6.09 319 *e*Pn **Pn** 04 48 57.6 -1.2
PLOR Plostina 6.11 28 ⇑P **Pn** 04 49 00.2 +1.2
PLOR5 Plostina Array 6.11 28 P **Pn** 04 49 01.2 +2.2
comp=E,72nm,0.6s,comp=E,0.4nm
PLOR3 Plostina Array 6.11 28 P **Pn** 04 48 59.9 +0.9
comp=E,103nm,0.9s,comp=E,1μmcomp=E,0.5nm
VRI Vrincioaia 6.15 29 ⇓P **Pn** 04 48 60.0 +0.4
VRI Vrincioaia 6.15 29 P **Pn** 04 49 00.5 +1.0
comp=E,99nm,1.1s,comp=E,1μmcomp=E,0.4nm
MARR Marisel-Cluj 6.16 4 **Pn** 04 48 59.1 -0.6
MARR Marisel-Cluj 6.16 4 ⇑P **Pn** 04 48 59.1 -0.6
ODBI Odobesti 6.19 31 **Pn** 04 48 59.7 -0.3
ODBI Odobesti 6.19 31 ⇑P **Pn** 04 48 59.7 -0.3
ODBI Odobesti 6.19 31 P **Pn** 04 49 02.0 +2.0
comp=E,40nm,0.6s,comp=E,975nmcomp=E,0.2nm
CFR Carcaliu 6.21 40 ⇑P **Pn** 04 49 00.8 +0.5
CJR Cluj-Napoca 6.23 7 ⇑P **Pn** 04 49 00.3 -0.3
DRGR 6.26 1 ⇑P **Pn** 04 49 00.6 -0.4
MORH Mrgy, Hungar 6.34 335 ⇑P **Pn** 04 49 01.6 -0.5
MORH Mrgy, Hungar 6.34 335 P **Pn** 04 49 01.4 -0.7
comp=E,22nm,0.8s,comp=E,0.1nm
GHRR 6.57 31 ⇓P **Pn** 04 49 05.5 +0.2
GHRR 6.57 31 P **Pn** 04 49 06.5 +1.2
INTR Introdacqua 6.66 286 Pn **Pn** 04 49 05.3 -1.3
TESR Tescani 6.69 25 ⇓P **Pn** 04 49 08.1 +1.2
TESR Tescani 6.69 25 P **Pn** 04 49 07.9 +1.0
comp=E,17nm,0.9s,comp=E,0.2nm
VAE Valguarnera 7.01 247 Pn **Pn** 04 49 09.9 -1.5
comp=E,4.8nm,0.4s,baz=12,slow=19,SNR=2.1
VAE Sn **Sn** 04 50 31.2 -0.1
comp=E,1.4nm,0.3s,baz=108,slow=22,SNR=1.3
CAMP Campotosto 7.12 289 Pn **Pn** 04 49 12.5 -0.5
RAFF Raffo Rosso 7.17 245 Pn **Pn** 04 49 12.7 -0.9
BEHE Becsehely 7.25 327 Pn **Pn** 04 49 15.2 +0.5
BUR08 Bucovina Ar. S 7.36 14 Pn **Pn** 04 49 15.9 -0.4
CRES Cresnjevec Ost 7.39 318 *e*Pn **Pn** 04 49 16.0 -0.5
NRCA Norcia 7.41 291 Pn **Pn** 04 49 15.9 -0.9
FDMO Fiordimonte 7.48 293 Pn **Pn** 04 49 17.1 -0.8
MPLH Magyarpolny 7.55 333 P **Pn** 04 49 18.5 -0.2
comp=E,116nm,0.8s,comp=E,0.4nm
PSZ Piszkesteto 7.62 347 Pn **Pn** 04 49 19.3 -0.5
PSZ Piszkesteto 7.62 347 **Pn** 04 49 19.1 -0.6
PSZ Piszkesteto 7.62 347 ⇓P **Pn** 04 49 19.1 -0.6
BERU Beregovo 7.70 1 P **Pn** 04 49 19.6 -1.1
NSLU Nyzhne Selyshc 7.79 10 P **Pn** 04 49 22.1 +0.1
BRIU Brid 7.81 2 P **Pn** 04 49 22.3 0.0
CEY Cerknica 7.88 314 *e*Pn **Pn** 04 49 25.1 +1.8
SRO Srobarova 7.88 339 *e*PN **Pn** 04 49 25.6 +2.4
SRO *e*SN **Sn** 04 50 52.7 +0.2
MUKU Mukachevo 7.92 1 P **Pn** 04 49 23.2 -0.6
KSV Kosov 7.99 12 P **Pn** 04 49 23.9 -0.9
KECS Kecovo 8.08 350 *e*PN **Pn** 04 49 26.4 +0.4
KECS *e*SN **Sn** 04 50 51.8 -5.6
SOKA Soboth 8.20 321 *i* Pn **Pn** 04 49 28.5 +0.9
comp=E,3.0nm,0.3s,SNR=9.0
SOKA *i* Sn **Sn** 04 51 03.1 +2.7
comp=E,2.4nm,0.6s
STNU Starunia 8.30 9 P **Pn** 04 49 30.5 +1.5
OBKA Obir 8.32 319 *i* Pn **Pn** 04 49 31.8 +2.4
comp=E,2.8nm,0.4s
OBKA *i* Sn **Sn** 04 51 05.3 +1.9
comp=E,15nm,0.9s
OBKA Obir 8.32 319 *e*Pn **Pn** 04 49 29.6 +0.3
VYHS Vyhne 8.38 343 *e*PN **Pn** 04 49 29.0 -1.1
VYHS *e*SN **Sn** 04 51 05.3 +0.4
ARSA Arzberg 8.40 325 *i* Pn **Pn** 04 49 31.6 +1.2
comp=E,3.2nm,0.4s,SNR=7.2
KOLS Kolonicke sedl 8.40 359 *e*PN **Pn** 04 49 30.8 +0.4
KOLS *e*SN **Sn** 04 51 07.7 +2.4
RONA Rosalia, Austr 8.45 330 *i* Pn **Pn** 04 49 32.8 +1.8
comp=E,2.9nm,0.4s
SABO M.te Sabotino 8.48 313 Pn **Pn** 04 49 31.4 -0.2
BR106 Keskin Array S 8.54 92 P **Pn** 04 49 35.1 +2.7
comp=E,3.1nm,0.9s
BRTR Keskin Array B 8.56 92 Pn **Pn** 04 49 33.5 +0.8
BRTR Keskin Array B 8.56 92 Pn **Pn** 04 49 33.9 +1.2
comp=E,0.5nm,0.3s,baz=266,slow=12,SNR=15
BRTR Sn **Sn** 04 51 10.6 +1.2
comp=E,0.2nm,0.3s,baz=269,slow=26,SNR=1.7
BRTR Lg Lg 04 52 03.4
baz=284,slow=29
comp=E,0.8nm,0.4s
MORS Morshin 8.65 6 P **Pn** 04 49 33.4 -0.4
MODS Modra-Piesok 8.69 336 *e*PN **Pn** 04 49 36.0 +1.7
PRED Cave del Predi 8.79 315 Pn **Pn** 04 49 35.8 +0.1
CONA Conrad Observa 8.80 329 *i* Pn **Pn** 04 49 39.3 +3.3
comp=E,1.8nm,0.5s
CONA *i* Sn **Sn** 04 51 14.0 -1.3
comp=E,2.1nm,0.4s
MYKA Terra Mystica 8.87 316 *i* Pn **Pn** 04 49 39.4 +2.5
comp=E,1.6nm,0.4s
MYKA *i* Sn **Sn** 04 51 17.8 +1.0
comp=E,1.2nm,0.4s
JAVC Velka Javorina 9.01 339 *e*PN **Pn** 04 49 40.0 +1.2
KWP Kalwaria Pacla 9.10 1 Pn **Pn** 04 49 40.6 +0.7
KWP Kalwaria Pacla 9.10 1 P **Pn** 04 49 41.1 +1.1
comp=E,20nm,1.3s
TEOL Teolo 9.30 305 Pn **Pn** 04 49 41.1 -1.6
KBA Koelnbreinsper 9.31 318 *i* Pn **Pn** 04 49 46.6 +3.6
comp=E,3.4nm,0.4s
MOA Molln 9.41 324 *i* Pn **Pn** 04 49 47.8 +3.6
comp=E,6.9nm,0.6s,SNR=9.5
MOA *i* Sn **Sn** 04 51 29.7 -0.4
comp=E,2.2nm,0.5s
ABTA Abfaltersbach 9.55 314 *i* Pn **Pn** 04 49 45.7 -0.5
comp=E,1.7nm,0.5s
ABTA *i* Sn **Sn** 04 51 34.1 +0.5
comp=E,4.1nm,0.5s
BIOA Bad Ischl, Aus 9.59 321 *i* Pn **Pn** 04 49 48.3 +1.6
comp=E,2.1nm,0.4s
CTI Castel Tesino 9.65 308 Pn **Pn** 04 49 45.3 -2.4
VRAC Vranov 9.72 336 LR LR 04 54 44.2
comp=E,226nm,18.2s,baz=160,slow=45
LESA Schwarzleotal 9.88 317 *i* Pn **Pn** 04 49 51.7 +0.9
comp=E,2.9nm,0.5s
LESA *i* Sn **Sn** 04 51 39.2 -2.7
comp=E,2.4nm,0.5s
MSSA Maissana 10.33 296 Pn **Pn** 04 49 56.5 -0.4
WTTA Wattenberg 10.34 314 *e*Pn **Pn** 04 49 59.5 +2.5
comp=E,18nm,1.2s
WTTA *e*Sn **Sn** 04 51 51.3 -1.8
comp=E,4.1nm,0.6s
GERES GERESS Array B 10.41 326 Pn **Pn** 04 50 01.2 +3.3
comp=E,0.2nm,0.3s,baz=136,slow=15,SNR=6.1
GERES Sn **Sn** 04 51 50.7 -4.0
comp=E,0.2nm,0.3s,baz=141,slow=26,SNR=1.6
WATA Walderalm 10.41 314 *i* Pn **Pn** 04 49 59.7 +1.6
comp=E,19nm,0.9s
WATA *e*Sn **Sn** 04 51 52.7 -2.2
comp=E,2.4nm,0.4s
SQTA Sankt Quirin 10.55 313 *i* Pn **Pn** 04 50 01.0 +1.1
comp=E,5.2nm,0.9s
SQTA *i* Sn **Sn** 04 51 54.6 -3.5
comp=E,4.0nm,0.5s
MOTA Moosalm 10.68 313 *i* Pn **Pn** 04 50 03.2 +1.4
comp=E,4.4nm,1.0s
MOTA *e*Sn **Sn** 04 51 57.5 -3.9
comp=E,7.1nm,0.7s
KHC Kasperske Hory 10.68 327 *e*PN **Pn** 04 50 02.7 +1.1
FETA Feichten 10.71 311 *i* Pn **Pn** 04 50 02.8 +0.7
comp=E,0.8nm,0.4s
FETA *i* Sn **Sn** 04 52 01.1 -1.1
comp=E,1.8nm,0.7s
FUORN Ofenpass-Fuorn 10.77 308 Pn **Pn** 04 50 02.1 -1.0
RETA Reutte 10.95 313 *i* Pn **Pn** 04 50 06.4 +1.0
comp=E,0.8nm,0.4s
DAVOX Davos/Dischmat 11.08 308 Pn **Pn** 04 50 05.9 -1.3
comp=E,1.0nm,0.3s,baz=126,slow=13,SNR=12
DAVOX Sn **Sn** 04 52 07.3 -4.0
comp=E,0.4nm,0.3s,baz=24,slow=23,SNR=1.9
DAVOX LR LR 04 54 41.2
comp=E,174nm,18.5s,baz=122,slow=40
comp=E,2.2nm,0.4s
AKASG Malin Array Be 11.19 22 Pn **Pn** 04 50 06.2 -2.4
AKASG Malin Array Be 11.19 22 Pn **Pn** 04 50 07.8 -0.7
comp=E,0.6nm,0.3s,baz=209,slow=12,SNR=5.2
AKASG LR LR 04 54 33.3
comp=E,92nm,20.2s,baz=206,slow=38
comp=E,0.2nm,0.3s
AK04 Malin Array Si 11.20 22 P **Pn** 04 50 08.5 -0.1
AK03 Malin Array Si 11.21 22 P **Pn** 04 50 08.2 -0.7
TUE Stuetta 11.25 306 Pn **Pn** 04 50 07.8 -1.9
SENIN Lac Senin/Sane 12.49 303 Pn **Pn** 04 50 24.6 -2.1
MMAI Mount Meron Ar 12.76 122 LR LR 04 56 01.6
comp=E,80nm,20.9s,baz=286,slow=40
NACGM Naroch 14.66 10 *e*P **Pn** 04 50 55.7 -0.2
KBZ Khabaz 15.45 71 Pn **P** 04 51 10.7 -0.4
comp=E,0.1nm,0.3s,baz=177,slow=12,SNR=2.3
comp=E,1.4nm,0.8s
ESBB Sonseca Array 20.25 276 **P** 04 52 02.4 -1.7
ESDC Sonseca Array 20.26 276 P **P** 04 52 03.0 -1.1
comp=E,3.2nm,1.0s,baz=81,slow=11,SNR=13
comp=E,3.2nm,1.0s
HFS Hagfors 20.38 347 P **P** 04 52 05.5 +0.2
comp=E,3.8nm,0.7s,baz=152,slow=13,SNR=5.5
HFS LR LR 05 00 28.6
comp=E,71nm,19.4s,baz=116,slow=38
comp=E,3.8nm,0.7s
FINES FINESS Array B 21.05 5 **P** 04 52 10.2 -2.3
FINES FINESS Array B 21.05 5 P **P** 04 52 10.9 -1.6
comp=E,2.2nm,0.8s,baz=188,slow=11,SNR=1.9
comp=E,2.2nm,0.8s
NC602 NORSAR Array S 21.33 345 P **P** 04 52 14.6 -0.9
NC602 IAmb IAmb 04 52 16.0
comp=Z,19nm,0.8s
NB2 NORSAR Subarra 21.68 345 P **P** 04 52 17.9 -1.4
comp=Z,8.8nm,0.8s,baz=154,slow=11
NOA NORSAR Array B 21.68 345 P **P** 04 52 19.1 -0.2
comp=Z,5.5nm,0.8s,baz=153,slow=11,SNR=20
NOA LR LR 05 02 48.8
comp=Z,42nm,19.7s,baz=0.0,slow=43
comp=Z,5.5nm,0.8s
EKA Eskdalemuir Ar 22.52 320 P **P** 04 52 27.1 -1.2
comp=Z,1.7nm,0.5s,baz=117,slow=10,SNR=9.7
comp=Z,1.7nm,0.5s
ESK Eskdalemuir 22.53 320 P **P** 04 52 27.5 -0.9
ESK IAmb IAmb 04 52 58.9
comp=Z,22nm,1.2s
MDT Midelt 23.02 259 P **P** 04 52 32.1 -1.8
comp=Z,4.8nm,0.9s,baz=73,slow=11,SNR=4.3
comp=Z,4.8nm,0.9s
ABKAR Akbulak array 27.67 59 P **P** 04 53 18.8 +2.2
ARCES ARCESS Array B 29.11 2 P **P** 04 53 28.5 -0.7
comp=Z,1.1nm,0.6s,baz=190,slow=9.8,SNR=1.1
comp=Z,1.1nm,0.6s
TORD Torodi Ar. Bea 32.83 220 P **P** 04 54 01.7 -0.8
TORD Torodi Ar. Bea 32.83 220 P **P** 04 54 01.9 -0.6
comp=Z,3.1nm,0.7s,baz=28,slow=10,SNR=29
comp=Z,3.1nm,0.7s
BVAR Borovoye Array 34.43 52 P **P** 04 54 18.3 +2.1
comp=Z,0.9nm,0.6s,baz=262,slow=7.3,SNR=4.9
comp=Z,0.9nm,0.6s
KKAR Karatay Array 35.48 70 P **P** 04 54 25.9 +0.6
KURBB Kurchatov Arra 39.60 56 P **P** 04 55 02.8 +2.7
comp=Z,0.4nm,0.5s,baz=280,slow=9.3,SNR=4.1
comp=Z,0.4nm,0.5s
DBIC Dimbokro 41.67 223 P **P** 04 55 17.0 -0.5
comp=Z,3.6nm,0.8s,baz=358,slow=6.3,SNR=4.7
comp=Z,3.6nm,0.8s
MK31 Makanchi Array 42.77 61 P **P** 04 55 26.4 +0.1
MKAR Makanchi Array 42.77 61 P **P** 04 55 26.6 +0.3
comp=Z,1.2nm,0.5s,baz=283,slow=6.8,SNR=14
comp=Z,1.2nm,0.5s
ZALV Zalesovo Beam 42.98 50 P **P** 04 55 29.2 +1.5
comp=Z,1.0nm,0.5s,baz=289,slow=9.2,SNR=4.1
comp=Z,1.0nm,0.5s
EUNU Eureka 53.52 348 P **P** 04 56 49.1 +0.2
EUNU IAmb IAmb 04 56 54.8
comp=Z,6.4nm,1.4s
SONM Songino Array 57.78 52 P **P** 04 57 21.6 +1.6
comp=Z,0.5nm,0.6s,baz=308,slow=7.1,SNR=2.6
comp=Z,0.5nm,0.6s
HHC Hu-ho-hao-te 64.44 57 *e*P **P** 04 58 04.5 -0.8
HHC pmax pmax
comp=Z,20nm,0.6s
HHC pmax pmax
comp=Z,86nm,4.4s
G62A West of Eustis 64.58 309 P **P** 04 58 06.2 +0.2
LBTB Lobatse 65.27 177 LR LR 05 28 30.2
comp=Z,73nm,18.6s,baz=304,slow=38
PZH PanZhiHua 65.48 75 P **P** 04 58 13.1 +0.8
PZH pmax pmax
comp=Z,90nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.3s
CMAR Chiang Mai Arr 68.06 84 P **P** 04 58 27.8 -0.9
comp=Z,1.3nm,0.3s,baz=299,slow=6.3,SNR=1.6
comp=Z,1.3nm,0.3s
C23K Itkillik River 69.83 357 P **P** 04 58 40.3 +1.5
C23K IAmb IAmb 04 59 00.7
comp=Z,5.7nm,1.4s
F31M Tsiigehtchic 70.85 351 P **P** 04 58 44.7 -0.4
F31M IAmb IAmb 04 59 24.9
comp=Z,8.3nm,1.5s
F28M Old Crow 71.35 353 P **P** 04 58 49.5 +1.2
F28M IAmb IAmb 04 59 28.8
comp=Z,2.9nm,1.2s
E22K Anaktuvuk Pass 71.57 358 P **P** 04 58 50.4 +0.8
E22K IAmb IAmb 04 59 32.6
comp=Z,7.3nm,1.4s
ERPA Erie 71.96 310 P **P** 04 58 53.0 +0.7
E19K Redstone River 72.33 360 P **P** 04 58 54.3 +0.2
IMAR Indian Mountai 73.78 358 P **P** 04 59 03.5 +0.8
J30M Hart River 73.91 351 P **P** 04 59 05.3 +1.7
DAWY Dawson 74.76 352 P **P** 04 59 10.3 +1.8
DAWY IAmb IAmb 04 59 29.8
comp=Z,5.9nm,1.5s
BPAW Bear Paw Mtn. 75.58 357 P **P** 04 59 14.7 +1.5
BPAW IAmb IAmb 04 59 23.2
comp=Z,6.4nm,1.4s
BCAR Beaver Creek A 75.98 353 P **P** 04 59 16.7 +1.2
M29M Somme Creek 76.23 351 P **P** 04 59 18.6 +1.5
M29M IAmb IAmb 04 59 32.6
comp=Z,5.8nm,1.1s
EMPR Esperanza - Ma 77.53 284 P **P** 04 59 25.3 +0.4
YNE Yellowstone No 84.79 328 P **P** 05 00 04.3 +0.8
YNE IAmb IAmb 05 00 21.9
comp=Z,5.4nm,1.4s
PDAR Pinedale Array 86.45 327 LR LR 05 40 25.7
comp=Z,43nm,19.2s,baz=56,slow=37

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*NOU **19** 05:00:53.1, 18.°11S×168.°34E, h0km, MLv4.2/10, Vanuatu Islands*
*IDC **19** 05:00:55.3±12.0, 17.°88S×166.°48E, h0km, mb4.1/3, mbtmp4.1/4, ML4.0/1, Error ellipse: s-maj=216.2km s-min=35.5km az=61.0*
ISC 19 05:00:48.3±3.7, 17.°7S±0.°2×168.°5E±0.°2, h35km, n13, σ2.°55/12, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**3.34**	**201**	P	**Pn**	**05 01 39.2**	**+1.2**
MARNC	**Mare, Loyalty**	**3.83**	**187**	P	**Pn**	**05 01 46.8**	**+2.0**
YATNC	**Mamie plateau,**	**4.65**	**199**	P	**Pn**	**05 01 56.5**	**+0.5**
DZM	**Mont Dzumac**	**4.81**	**204**	**Pn**	**Pn**	**05 02 00.4**	**+2.0**
DZM	9.7nm,0.3s,baz=352,slow=5.3,SNR=77			Sn	**Sn**	**05 02 51.2**	**-1.8**
	7.0nm,0.3s,baz=54,slow=19,SNR=6.0						
	21nm,0.4s						
DZM	**Mont Dzumac**	**4.81**	**204**	P	**Pn**	**05 01 59.8**	**+1.4**
NOUC	**Port Laguerre**	**4.90**	**205**	P	**Pn**	**05 02 01.9**	**+2.5**
KOUNC	**Koumac, New Ca**	**4.95**	**234**	P	**Pn**	**05 02 02.9**	**+2.8**
OUENC	**Ouen Island, N**	**5.00**	**198**	P	**Pn**	**05 02 03.2**	**+2.4**
ONTNC	**Ouen Toro**	**5.03**	**203**	P	**Pn**	**05 02 03.9**	**+2.7**
PINNC	**Pines Island,**	**5.04**	**192**	P	**Pn**	**05 02 03.6**	**+2.2**
STKA	**Stephens Creek**	**28.17**	**235**	P	**P**	**05 06 34.0**	**-3.5**
	1.3nm,0.6s,baz=69,slow=8.6,SNR=2.9						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**32.43**	**260**	P	P	05 07 09.7	-5.6
	0.7nm,0.7s,baz=90,slow=9.1,SNR=11						
	0.7nm,0.7s						
ASAR	**Alice Springs**	**32.90**	**254**	P	P	05 07 14.7	-4.8
	3.5nm,0.4s,baz=83,slow=8.8,SNR=50						
	3.5nm,0.4s						

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*IDC **19** 05:09:51.3±1.7, 12.°24N×57.°83E, h0km, mb3.7/7, mbtmp3.7/7, MS3.3/4, Error ellipse: s-maj=42.7km s-min=31.2km az=48.0*
ISC 19 05:09:53.4±1.5, 12.°1N±0.°2×57.°8E±0.°2, h16km, n14, σ1.°9/17/8, mb3.7/7, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**11.09**	**4**	Pn	**Pn**	**05 12 32.5**	**+1.0**
	0.6nm,0.3s,baz=213,slow=10,SNR=5.8						
WSAR				LR	LR	05 16 17.2	
	comp=Z,174nm,18.1s,baz=200,slow=35						
FURI	**Furi**	**19.08**	**262**	LR	LR	05 20 03.0	
	comp=Z,52nm,19.6s,baz=354,slow=32						
KMBO	**Kilima Mbogo**	**24.29**	**239**	LR	LR	05 24 20.2	
	comp=Z,73nm,18.2s,baz=98,slow=36						
MMAI	**Mount Meron Ar**	**29.22**	**319**	LR	LR	05 28 39.3	
	comp=Z,52nm,18.5s,baz=128,slow=39						
CMAR	**Chiang Mai Arr**	**40.10**	**76**	P	**P**	**05 17 27.4**	**-1.3**
	0.6nm,0.4s,baz=254,slow=8.5,SNR=8.2						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**40.26**	**26**	P	**P**	**05 17 29.4**	**-0.3**
	0.6nm,0.6s,baz=217,slow=8.1,SNR=6.2						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**41.97**	**20**	P	**P**	**05 17 43.3**	**-0.4**
	0.2nm,0.3s,baz=209,slow=8.6,SNR=1.2						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**46.90**	**22**	P	**P**	**05 18 22.3**	**-0.7**
	1.3nm,0

NSSP **19** *05:51:23.3,38°.75N×43°.93E,h10km,Ms3.5*
AFAD **19** *05:51:24.6±0.0,38°.75N×43°.86E,h11km±2km,ML3.0*
ISK **19** *05:51:25.1,38°.70N×43°.83E,h9km,ML3.1/10*
TEH **19** *05:51:26.7,38°.73N×44°.12E,h11km,ML2.9*
ISC 19 05:51:25.3±0.9,**38°.72N**±0°.02×**43°.89E**±0°.02,**h10**km±7km,
n48,σ0**96/71,2C,Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.10**	**128**	P		**Pg**		**05 51 27.9**	**-0.2**
OZAP				S		**Sg**		**05 51 31.2**	**+1.1**
VMUR	**Van-Muradiye**	**0.36**	**317**	P		**Pg**		**05 51 31.7**	**-0.8**
VMUR				S		**Sg**		**05 51 37.9**	**+0.4**
VMUR				*i* AML		AML		05 51 39.0	
	comp=N,4μm,0.6s								
VMUR				*i* AML		AML		05 51 39.0	
	comp=E,4μm,0.9s								
VANB	**Van**	**0.41**	**252**	Pg		**Pg**		**05 51 33.2**	**-0.3**
TVAN	**Van**	**0.43**	**243**	P		**Pg**		**05 51 33.2**	**-0.5**
TVAN				*i* AML		AML		05 51 42.0	
	comp=E,1μm,0.5s								
TVAN				S		**Sb**		**05 51 42.4**	**+0.8**
TVAN				*i* AML		AML		05 51 49.0	
	comp=N,1μm,0.4s								
ERCV	**ERCIS-VAN**	**0.52**	**305**	Pg		**Pg**		**05 51 35.5**	**0.0**
GEVA	**Gevas**	**0.77**	**238**	P		**Pg**		**05 51 39.8**	**-0.4**
GEVA				S		**Sb**		**05 51 52.3**	**+0.8**
AKDM	**Akdamar-Van**	**0.82**	**241**	Pg		**Pg**		**05 51 40.2**	**-0.9**
DYDN	**Diyadin**	**0.83**	**349**	P		**Pg**		**05 51 39.7**	**-1.7**
DYDN				S		**Sg**		**05 51 51.3**	**-1.0**
DYDN				*i* AML		AML		05 51 59.0	
	comp=E,492nm,0.5s								
MAKU	**Maku**	**0.88**	**44**	Pg		**Pg**		**05 51 41.0**	**-1.3**
ADCV	**BITLIS_Adilcev**	**0.92**	**276**	P		**Pg**		**05 51 42.2**	**-0.8**
ADCV				S		**Sg**		**05 51 55.1**	**+0.2**
ADCV				*i* AML		AML		05 52 02.0	
	comp=E,350nm,0.9s								
ADCV				*i* AML		AML		05 52 03.0	
	comp=N,456nm,0.5s								
DORK	**Agr/Tutak/Do**	**1.09**	**308**	P		**Pg**		**05 51 43.3**	**-3.0**
DORK				S		**Sg**		**05 51 59.5**	**-0.9**
MLAZ	**Malazgirt-MUS**	**1.13**	**292**	Pn		**Pb**		**05 51 46.1**	**-0.8**
MLAZ				Sn		**Sb**		**05 52 02.1**	**+0.4**
IGDI	**IGDIR**	**1.15**	**7**	P		**Pb**		**05 51 46.3**	**-1.0**
IGDI				S		**Sn**		**05 52 02.6**	**-0.8**
IGDI				*i* AML		AML		05 52 06.0	
	comp=N,340nm,0.4s								
IGDI				*i* AML		AML		05 52 07.0	
	comp=E,494nm,0.5s								
HAKT	**HAKKARI**	**1.17**	**187**	P		**Pb**		**05 51 45.6**	**-2.2**
KOTA	**Agri, Merkez-K**	**1.20**	**334**	P		**Pb**		**05 51 46.8**	**-1.4**
TASB	**TASBURUN-IGDIR**	**1.29**	**12**	Pn		**Pg**		**05 51 50.2**	**+0.2**
TASB				Sn		**Sn**		**05 52 08.9**	**+2.2**
PERV	**Siirt/Pervari-**	**1.32**	**234**	P		**Pg**		**05 51 51.4**	**+0.9**
PERV				*i* AML		AML		05 52 15.0	
	comp=N,332nm,0.9s								
PERV				*i* AML		AML		05 52 19.0	
	comp=E,385nm,0.9s								
VNNZ	**Vanand**	**1.38**	**358**	*e*P		**Pg**		**05 51 51.0**	**-0.8**
VNNZ				*e*S		**Sg**		**05 52 10.5**	**+0.8**
NRKZ	**NAREK**	**1.41**	**25**	*e*P		**Pg**		**05 51 51.4**	**-0.9**
NRKZ				*e*S		**Sg**		**05 52 11.4**	**+0.8**
IMRD	**Marand**	**1.42**	**90**	Pg		**Pn**		**05 51 50.3**	**-0.9**
ISHB	**Shabestar**	**1.42**	**107**	Pg		**Pn**		**05 51 50.0**	**-1.4**
BLIS	**Bitlis-Merkez**	**1.43**	**258**	P		**Pn**		**05 51 50.2**	**-1.2**
BLIS				S		**Sn**		**05 52 10.2**	**-0.1**
METS	**Metsamor**	**1.43**	**6**	*e*P		**Pg**		**05 51 52.2**	**-0.6**
METS				*e*S		**Sg**		**05 52 12.3**	**+1.0**
GURO	**Guroymak-BITLI**	**1.47**	**264**	Pn		**Pn**		**05 51 51.4**	**-0.5**
GURO				Sn		**Sn**		**05 52 10.8**	**-0.4**
ARUZ	**Aruch**	**1.56**	**6**	*e*P		**Pg**		**05 51 54.8**	**-0.5**
ARUZ				*e*S		**Sg**		**05 52 17.2**	**+1.6**
GNI	**Garni**	**1.57**	**25**	Pn		**Pg**		**05 51 54.5**	**-0.9**
GNI	**Garni**	**1.57**	**25**	⇑*i*P		**Pg**		**05 51 54.3**	**-1.1**
GNI				⇑*i*S		**Sg**		**05 52 16.3**	**+0.5**
EATA	**Eleskirt**	**1.57**	**317**	P		**Pb**		**05 51 54.2**	**-0.4**
EATA				S		**Sg**		**05 52 15.8**	**-0.2**
AMBZ	**Amberd**	**1.69**	**10**	*e*P		**Pg**		**05 51 56.7**	**-0.9**
AMBZ				*e*S		**Sg**		**05 52 19.9**	**+0.4**
SRTM	**Siirt_Merkez**	**1.71**	**245**	P		**Pb**		**05 51 56.6**	**-0.3**
SRTM				S		**Sn**		**05 52 18.2**	**+1.0**
SRTM				*i* AML		AML		05 52 26.0	
	comp=E,186nm,1.3s								
SRTM				*i* AML		AML		05 52 29.0	
	comp=N,247nm,0.9s								
KAPZ	**Kaputan**	**1.71**	**21**	*e*P		**Pg**		**05 51 57.3**	**-0.9**
KAPZ				*e*S		**Sg**		**05 52 20.7**	**+0.3**
DIGO	**Kars**	**1.74**	**347**	P		**Pb**		**05 51 57.2**	**-0.2**
DIGO				*i* AML		AML		05 52 28.0	
	comp=E,164nm,0.6s								
ITBZ	**Tabriz**	**1.84**	**105**	Pg		**Pn**		**05 51 57.4**	**+0.4**
MUSM	**Mu-Merkez**	**1.86**	**271**	P		**Pn**		**05 51 58.2**	**+0.9**
MUSM				S		**Sn**		**05 52 22.2**	**+1.3**
IAZR	**Azarshahr**	**1.95**	**122**	Pg		**Pb**		**05 52 00.1**	**-0.9**
EAK	**Akyaka**	**1.97**	**354**	P		**Pg**		**05 52 02.4**	**-0.7**
BOZK	**Kars-Merkez-Bo**	**1.99**	**340**	P		**Pb**		**05 52 01.7**	**0.0**
KARS	**Kars**	**2.00**	**342**	Pn		**Pn**		**05 52 00.0**	**+0.7**
KOPR	**Koprukoy-ERZUR**	**2.02**	**309**	Pn		**Pn**		**05 52 00.0**	**+0.4**
HOMI	**Horasan**	**2.03**	**311**	P		**Pb**		**05 52 02.5**	**+0.1**
BTMN	**Batman**	**2.22**	**249**	P		**Pb**		**05 52 04.9**	**-0.7**
BTMN				*i* AML		AML		05 52 44.0	
	comp=E,200nm,1.1s								
SLHN	**Bingol, Solhan**	**2.25**	**277**	P		**Pg**		**05 52 08.1**	**-0.3**
ERZM	**Erzurum**	**2.29**	**302**	P		**Pb**		**05 52 06.1**	**-0.7**
KARO	**Karliova-Bingo**	**2.29**	**286**	Pn		**Pn**		**05 52 03.6**	**+0.3**
GOLE	**Ardahan-G¶le**	**2.33**	**335**	P		**Pb**		**05 52 08.4**	**+0.9**
ETEKE	**Tekederesi - E**	**2.39**	**297**	P		**Pb**		**05 52 09.1**	**+0.6**
ETEKE				S		**Sg**		**05 52 41.9**	**-0.2**
IHRS	**Heris**	**2.50**	**98**	Pn		**Pn**		**05 52 07.7**	**+1.4**
GRMI	**Germi**	**3.13**	**87**	Pn		**Pn**		**05 52 15.7**	**+1.0**

AFAD **19** *05:56:40.2±0.0,37°.15N×19°.83E,h25km±7km,MW4.3*
TIR **19** *05:56:41.4,37°.20N×20°.82E,h10km±31km,Md4.4,Ml4.7*
IDC **19** *05:56:48.6±0.6,37°.62N×20°.80E,h0km,mb4.1/19,*
mbtmp4.1/29,ML3.7/9,MS3.5/14,Error ellipse:
s-maj=14.0km s-min=11.3km az=176.0
NEIC **19** *05:56:50.4±1.8,37°.49N±0°.04×20°.68E±0°.05,h10km±1km,*
mb4.6/67,Mwr4.4/11,Error ellipse: s-maj=8.0km
s-min=7.2km az=211.0,Moment Tensor Solution.
Moment tensor: Scale 10^15^Nm; Mrr2.59; Mθθ1.40;
Mφφ-3.99; Mrθ-2.51; Mθφ0.41; Mφr-0.63; Fault plane
solution: Mo4.37000×10^15^ NP1:φs324.22000°,δ52.47000°,
λ38.79000°. NP2:φs208.14000°,δ60.21000°,λ135.42000°.
Principal axes: T 4.6346, Plg51.0000°, Azm172.0000°;
N -0.5803, Plg38.0000°, Azm1.0000°; P -4.0543,
Plg5.0000°, Azm268.0000°;
BEO **19** *05:56:50.3±3.4,37°.21N×20°.13E,h102km±4km,ML4.0/18*
NEIC **19** *05:56:50.5,37°.47N×20°.66E,h10km*
MCSM **19** *05:56:50.4±0.6,38°N±4°×2°1E±°,h10km±4km,mB4.0,*
mb4.2,MLv4.5,Mw(mB)3.0
PDG **19** *05:56:51.2±0.8,37°.54N×20°.61E,h12km±2km,ML4.2/13,*
Error ellipse: s-maj=1.5km s-min=1.6km az=0.0
ATH **19** *05:56:51.2,37°.54N×20°.67E,h16km±1km,ML4.1/22,Error*
ellipse: s-maj=2.8km s-min=1.1km az=42.0
THE **19** *05:56:51.4,37°.57N×20°.68E,h15km,ML4.2/10,Error*
ellipse: s-maj=0.6km s-min=0.3km az=53.0
ISC 19 05:56:51.3±0.7,**37°.56N**±0°.03×**20.73E**±0°.02,**h18**km±3km,
n360,σ1**52/407,mb4.5/49,MS3.6/7,22C-8D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.12**	**36**	P		**Pg**		**05 56 55.2**	**-0.1**
KRI1				S		**Sg**		**05 56 57.9**	**-0.1**
	163μm,0.4s								
LTHK	**Lithakia**	**0.17**	**31**	P		**Pg**		**05 56 55.8**	**-0.1**
LTHK				S		**Sb**		**05 56 59.1**	**+1.3**
LTHK				AML		AML		05 57 00.4	
LTHK				AML		AML		05 57 00.5	
RTZL	**Ratzakli, Kefa**	**0.52**	**4**	P		**Pg**		**05 57 01.4**	**-0.3**
RTZL				S		**Sb**		**05 57 09.0**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.56**	**349**	P		**Pg**		**05 57 02.2**	**-0.4**
PSDA				S		**Sg**		**05 57 10.1**	**0.0**
	37μm,0.1s								
PSDA	**Pessada-Kefalo**	**0.56**	**349**	P		**Pg**		**05 57 02.5**	**0.0**
PSDA				S		**Sb**		**05 57 10.4**	**+0.1**
VLS	**Valsamata**	**0.62**	**350**	P		**Pg**		**05 57 03.1**	**-0.6**
VLS				S		**Sb**		**05 57 12.6**	**+0.6**
VLS	**Valsamata**	**0.62**	**350**	P		**Pg**		**05 57 03.3**	**-0.4**
VLS				S		**Sb**		**05 57 12.7**	**+0.6**
VLS				AML		AML		05 57 14.4	
	comp=N,63176μm,0.1s								
VLS				AML		AML		05 57 14.7	
	comp=E,49773μm,0.1s								
LXR1	**Lixouri, Cepha**	**0.68**	**341**	P		**Pb**		**05 57 03.8**	**-0.7**
LXR1				S		**Sb**		**05 57 13.9**	**+0.3**
	comp=E,85μm,0.4s								
LXRA	**Lixouri, Kepha**	**0.68**	**340**	P		**Pb**		**05 57 04.7**	**+0.2**
LXRA				AML		AML		05 57 20.7	
	comp=E,84140μm,0.5s								
LXRA				AML		AML		05 57 24.1	
SMHA	**Samh**	**0.69**	**355**	P		**Pb**		**05 57 04.1**	**-0.7**
DMLN	**Damoulianata-K**	**0.73**	**338**	P		**Pb**		**05 57 05.2**	**-0.3**
RLS	**Riolos of Patr**	**0.77**	**50**	P		**Pg**		**05 57 06.4**	**0.0**
RLS				S		**Sn**		**05 57 18.0**	**-0.3**
RLS	**Riolos of Patr**	**0.77**	**50**	P		**Pg**		**05 57 06.4**	**0.0**
RLS				AML		AML		05 57 25.7	
	comp=E,12176μm,0.6s								
RLS				AML		AML		05 57 26.6	
	comp=N,9759μm,0.4s								
AMT	**Artemida-Makis**	**0.78**	**92**	P		**Pg**		**05 57 06.8**	**+0.2**
AMT				AML		AML		05 57 23.4	
	comp=N,55487μm,0.4s								
AMT				AML		AML		05 57 23.7	
	comp=E,59769μm,0.4s								
VSK1	**VASILIKIADES**	**0.86**	**352**	P		**Pb**		**05 57 07.4**	**-0.2**
VSK1				S		**Sg**		**05 57 19.6**	**+0.2**
	comp=E,27μm,1.1s								
DRO	**Drossia**	**0.87**	**63**	P		**Pn**		**05 57 08.5**	**-0.2**
DRO				S		**Sn**		**05 57 21.3**	**+0.3**
	comp=E,15μm,0.5s								
DRO	**Drossia**	**0.87**	**63**	P		**Pn**		**05 57 08.6**	**-0.2**
DRO				AML		AML		05 57 38.2	
	comp=N,21607μm,0.4s								
DRO				AML		AML		05 57 39.8	
	comp=E,39414μm,0.5s								
FSK	**Fiskardo**	**0.91**	**352**	P		**Pb**		**05 57 08.1**	**-0.4**
FSK				S		**Sg**		**05 57 21.3**	**+0.4**
	comp=E,31μm,0.8s								
FSK	**Fiskardo**	**0.91**	**352**	P		**Pb**		**05 57 08.1**	**-0.4**
FSK				AML		AML		05 57 26.3	
	comp=E,69344μm,0.7s								
FSK				AML		AML		05 57 26.8	
	comp=N,45304μm,0.7s								
AST1	**Astakos**	**1.02**	**16**	P		**Pb**		**05 57 10.2**	**-0.2**
AST1				S		**Sn**		**05 57 25.2**	**+0.7**
	comp=N,12μm,0.8s								
ITM	**Ithomi**	**1.03**	**111**	Pg		**Pb**		**05 57 10.4**	**-0.2**
ITM	**Ithomi**	**1.03**	**111**	P		**Pn**		**05 57 10.8**	**0.0**
ITM				S		**Sn**		**05 57 26.2**	**+1.4**
	comp=N,5μm,1.2s								
ITM	**Ithomi**	**1.03**	**111**	P		**Pn**		**05 57 10.8**	**0.0**
ITM				AML		AML		05 57 38.6	
	comp=N,8970μm,0.7s								
ITM				AML		AML		05 57 41.5	
	comp=E,10080μm,0.9s								
PYL	**PYLOS**	**1.05**	**129**	P		**Pb**		**05 57 11.0**	**+0.1**
PYL	**PYLOS**	**1.05**	**129**	P		**Pb**		**05 57 10.9**	**0.0**
EVGI	**Lefkada island**	**1.06**	**357**	P		**Pb**		**05 57 10.9**	**-0.2**
EVGI				S		**Sg**		**05 57 26.1**	**+0.3**
	comp=E,8μm,0.5s								
EVGI	**Lefkada island**	**1.06**	**357**	P		**Pb**		**05 57 11.2**	**+0.1**
UPR	**University Cam**	**1.11**	**49**	P		**Pn**		**05 57 12.1**	**+0.2**
UPR	**University Cam**	**1.11**	**49**	P		**Pg**		**05 57 12.4**	**-0.4**
DRAG	**Dragano-Lefkad**	**1.13**	**354**	P		**Pn**		**05 57 11.8**	**-0.4**
DRAG				S		**Sn**		**05 57 27.5**	**+0.3**
DRAG	**Dragano-Lefkad**	**1.13**	**354**	P		**Pn**		**05 57 12.0**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.15**	**359**	P		**Pn**		**05 57 12.1**	**-0.4**
NYDR				S		**Sn**		**05 57 28.1**	**+0.4**
	comp=E,8μm,0.6s								
NYDR	**Nydri-Lefkada**	**1.15**	**359**	P		**Pn**		**05 57 12.4**	**-0.1**
LKD2	**Lefkada island**	**1.23**	**358**	AMP					
	comp=E,56nm,0.7s,baz=356								
KLV	**Kalavryta, Ach**	**1.23**	**66**	P		**Pb**		**05 57 14.2**	**+0.2**
KLV	**Kalavryta, Ach**	**1.23**	**66**	P		**Pb**		**05 57 14.3**	**+0.2**
KLV				AML		AML		05 57 48.3	
	comp=E,7102μm,1.0s								
KLV				AML		AML		05 57 51.3	
	comp=N,11100μm,0.9s								
TSLK	**Tsoukalades, L**	**1.26**	**358**	P		**Pn**		**05 57 14.1**	**+0.1**
TSLK	**Tsoukalades, L**	**1.26**	**358**	P		**Pn**		**05 57 14.3**	**+0.3**
EFP	**Efpalio**	**1.27**	**47**	P		**Pn**		**05 57 14.3**	**+0.1**
EFP	**Efpalio**	**1.27**	**47**	P		**Pg**		**05 57 15.2**	**-0.7**
EFP				AML		AML		05 57 38.9	
	comp=N,9874μm,1.0s								
EFP				AML		AML		05 57 39.6	
	comp=E,7272μm,1.0s								
GUR	**Goura**	**1.34**	**73**	P		**Pb**		**05 57 15.6**	**-0.3**
GUR	**Goura**	**1.34**	**73**	P		**Pb**		**05 57 15.8**	**-0.1**
GUR				AML		AML		05 57 48.4	
	comp=N,16034μm,0.6s								
GUR				AML		AML		05 57 48.8	
	comp=E,9211μm,0.8s								
KALE	**Kalithea**	**1.39**	**53**	P		**Pb**		**05 57 17.0**	**+0.2**
KALE				AML		AML		05 57 52.5	
	comp=N,6718μm,0.6s								
KALE				AML		AML		05 57 56.2	
	comp=E,13508μm,0.8s								
ANX	**Ano Chora**	**1.40**	**42**	P		**Pb**		**05 57 17.1**	**+0.2**
ANX				AML		AML		05 57 43.4	
	comp=E,11279μm,0.6s								
ANX				AML		AML		05 57 49.9	
	comp=N,15916μm,1.3s								
EVR	**Evrytania**	**1.60**	**32**	P		**Pb**		**05 57 20.5**	**+0.1**
EVR				AML		AML		05 57 53.7	
	comp=N,7071μm,0.8s								
EVR				AML		AML		05 58 01.8	
	comp=E,6713μm,1.3s								
DLFA	**Delphi**	**1.67**	**56**	P		**Pg**		**05 57 22.7**	**-0.8**
MAKR	**Makrakomi, Fth**	**1.82**	**37**	P		**Pb**		**05 57 24.6**	**+0.5**
MAKR				AML		AML		05 57 58.0	
	comp=E,14569μm,1.0s								
MAKR				AML		AML		05 57 58.8	
	comp=N,9786μm,0.8s								
AGG	**Agios Georgios**	**1.93**	**40**	P		**Pb**		**05 57 26.5**	**+0.6**
AGG				S		**Sg**		**05 57 58.6**	**+5.1**
AGG	**Agios Georgios**	**1.93**	**40**	Pn		**Pb**		**05 57 26.2**	**+0.2**
AXAR	**Agios Charalam**	**1.94**	**51**	P		**Pb**		**05 57 26.4**	**+0.3**
AXAR				AML		AML		05 58 10.9	
	comp=E,13625μm,1.9s								
AXAR				AML		AML		05 58 16.1	
	comp=N,11916μm,1.1s								
VLI	**Velíai**	**1.96**	**115**	P		**Pb**		**05 57 26.6**	**+0.2**
VLI				AML		AML		05 58 15.7	
	comp=N,2938μm,1.5s								
VLI				AML		AML		05 58 21.2	
	comp=E,3860μm,1.1s								
IGT	**Igoumenitsa**	**1.99**	**351**	AMP					
	comp=N,9.8nm,1.0s,baz=351								
IGT	**Igoumenitsa**	**1.99**	**351**	P		**Pb**		**05 57 25.8**	**-1.2**
IGT				AML		AML		05 58 06.1	
	comp=E,4057μm,0.5s								
IGT				AML		AML		05 58 09.1	
	comp=N,5044μm,1.0s								
JAN	**Janina**	**2.10**	**3**	P		**Pb**		**05 57 29.0**	**+0.2**
JAN				AML		AML		05 58 15.6	
	comp=E,5629μm,0.7s								
JAN				AML		AML		05 58 20.7	
	comp=N,5163μm,1.1s								
VIL2	**Platees**	**2.11**	**71**	P		**Pb**		**05 57 28.2**	**-0.9**
VIL2				AML		AML		05 58 15.1	
	comp=N,4309μm,1.0s								
VIL2				AML		AML		05 58 21.5	
	comp=E,5372μm,0.9s								
THL	**Klokotos Trika**	**2.24**	**26**	P		**Pb**		**05 57 30.3**	**-1.0**
THL				AML		AML		05 58 14.3	
	comp=E,3228μm,0.9s								
THL				AML		AML		05 58 18.4	
	comp=N,1606μm,0.8s								
KEK	**Kerkira**	**2.27**	**342**	Pn		**Pn**		**05 57 28.1**	**+0.3**
SRN	**Sarande**	**2.38**	**346**	AMP					
	comp=E,4.9nm,0.7s,baz=347								
KPRO	**Kipourio**	**2.44**	**12**	P		**Pb**		**05 57 34.0**	**-0.7**
LSK	**Leskovik**	**2.59**	**358**	AMP					
	comp=E,11nm,0.7s,baz=357								
KZN	**Kozani**	**2.86**	**16**	P		**Pb**		**05 57 40.8**	**-1.1**
LIT	**Litokhoron**	**2.89**	**28**	P		**Pn**		**05 57 38.3**	**+1.9**
LIT				S		**Sn**		**05 58 13.8**	**+3.1**
LIT	**Litokhoron**	**2.89**	**28**			**Pn**		**05 57 38.4**	**+2.1**
KBN	**Korca**	**3.06**	**1**	AMP					
	comp=E,3.2nm,1.2s,baz=0.0								
SCTE	**Santa Cesarea**	**3.06**	**326**			**Pn**		**05 57 39.0**	**+0.2**
TIP	**Timpagrande**	**3.51**	**299**	Pn		**Pn**		**05 57 45.2**	**+0.3**
TIP	**Timpagrande**	**3.51**	**299**	⇑P		**Pn**		**05 57 45.3**	**+0.3**
TIP				⇓S		**Sn**		**05 58 24.8**	**-1.3**
TIP	**Timpagrande**	**3.51**	**299**	P		**Pn**		**05 57 45.0**	**0.0**
THE	**Thessaloniki**	**3.53**	**29**	P		**Pn**		**05 57 48.0**	**+2.9**
THE				S		**Sb**		**05 58 32.4**	**-3.3**
OHR	**Ohrid**	**3.55**	**1**	*e*Pn		**Pn**		**05 57 47.9**	**+2.4**
OHR	**Ohrid**	**3.55**	**1**	*i* Pn		**Pn**		**05 57 48.5**	**+3.0**
TIR	**Tirane**	**3.84**	**350**	S		**Sb**		**05 58 43.7**	**-0.9**
TIR	**Tirane**	**3.84**	**350**	Pn		**Pn**		**05 57 50.7**	**+1.3**
TIR	**Tirane**	**3.84**	**350**	⇑P		**Pn**		**05 57 50.1**	**+0.6**
APE	**Apeiranthos**	**3.86**	**96**	P		**Pn**		**05 57 49.9**	**+0.1**
APE				S		**Sg**		**05 59 01.3**	**+6.0**
APE	**Apeiranthos**	**3.86**	**96**	⇑P		**Pb**		**05 57 54.9**	**-4.0**
CEL	**Celeste**	**3.88**	**282**			**Pb**		**05 57 50.1**	**-0.1**
CEL	**Celeste**	**3.88**	**282**	P		**Pn**		**05 57 50.2**	**+0.1**
VAY	**Valandovo**	**4.02**	**20**	*e*Pn		**Pn**		**05 57 54.8**	**+2.9**
IDI	**Anoyia**	**4.05**	**123**	Pn		**Pn**		**05 57 52.8**	**+0.3**
	comp=E,6.7nm,0.3s,baz=307,slow=11,SNR=17								
IDI				Sn		**Sn**		**05 58 40.7**	**+1.3**
	comp=E,6.7nm,0.3s,baz=329,slow=18,SNR=4.1								
SRS	**Serrai**	**4.19**	**31**	*e*Pn		**Pn**		**05 57 56.6**	**+2.3**
MATE	**Matera**	**4.39**	**316**	⇑P		**Pn**		**05 57 56.9**	**-0.1**
PUK	**Puka**	**4.52**	**352**	P		**Pn**		**05 58 00.0**	**+1.1**
PUK	**Puka**	**4.52**	**352**			**Pn**		**05 57 60.0**	**+1.1**
ULC	**Ulcinj**	**4.54**	**346**	*e*Pn		**Pn**		**05 57 59.4**	**+0.3**
ULC				*i* Sn		**Sn**		**05 58 51.7**	**+0.2**
KOCA	**Canakkale, Ayv**	**4.67**	**64**	P		**Pn**		**05 58 02.5**	**+1.7**
KOCA				S		**Sb**		**05 59 07.9**	**-0.5**
DRME	**Dracevica, Mon**	**4.77**	**346**	⇑*i*Pn		**Pn**		**05 58 02.9**	**+0.7**
DRME				*e*Sn		**Sn**		**05 58 57.6**	**+0.6**
GOAD	**anakkale-G¶**	**4.81**	**56**	P		**Pn**		**05 58 04.4**	**+1.6**
BCI	**Bajram Curri**	**4.83**	**354**	P		**Pn**		**05 58 05.8**	**+2.7**
BUM	**Brajici-Budva**	**4.94**	**344**	P		**Pn**		**05 58 05.5**	**+0.9**
BUM	**Brajici-Budva**	**4.94**	**344**	*e*Pn		**Pn**		**05 58 04.8**	**+0.2**
BUM				*i* Sn		**Sn**		**05 59 01.3**	**0.0**
MRVN	**Minervino Murg**	**4.95**	**316**	P		**Pn**		**05 58 06.3**	**+1.5**
PDG	**Podgorica**	**4.99**	**347**	Pn		**Pn**		**05 58 05.0**	**-0.3**
PDG	**Podgorica**	**4.99**	**347**	*e*Pn		**Pn**		**05 58 03.8**	**-1.5**
PDG	**Podgorica**	**4.99**	**347**	⇑P		**Pn**		**05 58 05.6**	**+0.3**
PDG				⇑S		**Sn**		**05 59 01.9**	**-0.5**
PDG	**Podgorica**	**4.99**	**347**	*e*Pn		**Pn**		**05 58 05.5**	**+0.3**
PDG				*i* Sn		**Sn**		**05 59 02.6**	**+0.1**
VAE	**Valguarnera**	**5.02**	**271**	Pn		**Pn**		**05 58 06.6**	**+0.9**
	comp=E,33nm,0.6s,baz=345,slow=23,SNR=1.8								
VAE				Sn		**Sn**		**05 59 06.5**	**+3.2**
	comp=E,15nm,0.3s,baz=61,slow=9.6,SNR=4.3								
BAYC	**CANAKKALE_Bayr**	**5.05**	**63**	S		**Sg**		**05 59 32.0**	**-1.4**
PVY	**Plav**	**5.06**	**354**	⇑*i*Pn		**Pn**		**05 58 07.8**	**+1.4**
PVY				*i* Sn		**Sn**		**05 59 05.2**	**+0.8**
RAFF	**Raffo Rosso**	**5.08**	**268**	Pn		**Pn**		**05 58 05.9**	**-0.6**
BOSS	**Bosilegrad**	**5.11**	**15**	*e*Pn		**Pn**		**05 58 08.4**	**+1.5**
BOSS				*e*Sn		**Sn**		**05 59 02.2**	**-3.2**
CEME	**Cevo**	**5.17**	**345**	*e*Pn		**Pn**		**05 58 07.5**	**-0.3**
CEME				*e*Sn		**Sn**		**05 59 06.0**	**-1.0**
RDO	**Rodhopi**	**5.17**	**45**	Pn		**Pn**		**05 58 08.5**	**+0.8**
HCY	**Herceg Novi**	**5.17**	**341**	P		**Pn**		**05 58 07.9**	**+0.1**
HCY	**Herceg Novi**	**5.17**	**341**	*e*Pn		**Pn**		**05 58 07.8**	**+0.1**
HCY	**Herceg Novi**	**5.17**	**341**	*e*Pn		**Pn**		**05 58 07.1**	**-0.7**
HCY				*i* Sn		**Sn**		**05 59 05.0**	**-1.9**
WDD	**Wied Dalam**	**5.27**	**253**	Pn		**Pn**		**05 58 09.4**	**+0.2**
ALN	**Alexandroupoli**	**5.31**	**49**	P		**Pn**		**05 58 12.4**	**+2.8**
ALN	**Alexandroupoli**	**5.31**	**49**	Pn		**Pn**		**05 58 10.5**	**+0.9**
BARS	**

comp=E,29nm,1.2s
ANTO Ankara 9.71 73 Pn **Pn 05 59 10.3 +0.2**
SABO M.te Sabotino 9.95 330 Pn **Pn 05 59 13.0 -0.3**
SOKA Soboth 10.04 337 *i* Pn **Pn 05 59 13.9 -0.7**
comp=E,3.6nm,0.3s
SOKA *i* Sn **Sn 06 01 08.3 +1.5**
comp=E,0.7nm,0.3s
OBKA Obir 10.05 335 *i* Pn **Pn 05 59 16.1 +1.4**
comp=E,8.0nm,0.7s
OBKA *e*Sn **Sn 06 01 08.0 +1.0**
comp=E,12nm,0.6s
OBKA Obir 10.05 335 *e*Pn **Pn 05 59 12.4 -2.3**
BR131 Keskin Array S 10.33 74 Pn **Pn 05 59 19.5 +0.8**
BRTR Keskin Array B 10.33 74 Pn **Pn 05 59 19.5 +0.8**
comp=E,0.1nm,0.3s,baz=260,slow=14,SNR=1.7
TEOL Teolo 10.33 322 Pn **Pn 05 59 18.4 -0.1**
PRED Cave del Predi 10.35 331 Pn **Pn 05 59 19.1 +0.3**
PSZ Piszkesteto 10.37 357 Pn **Pn 05 59 21.0 +1.9**
ARSA Arzberg 10.41 340 *i* Pn **Pn 05 59 21.9 +2.2**
comp=E,2.0nm,0.5s
ARSA *i* Sn **Sn 06 01 18.0 +2.1**
comp=E,2.2nm,0.5s
MYKA Terra Mystica 10.47 332 *i* Pn **Pn 05 59 21.4 +0.9**
comp=E,3.8nm,0.5s
MYKA *i* Sn **Sn 06 01 17.4 0.0**
comp=E,2.9nm,0.4s
RONA Rosalia, Austr 10.64 344 *i* Pn **Pn 05 59 22.6 -0.2**
comp=E,1.7nm,0.4s
CTI Castel Tesino 10.85 324 Pn **Pn 05 59 27.0 +1.4**
CONA Conrad Observa 10.96 343 *i* Pn **Pn 05 59 27.8 +0.7**
comp=E,0.5nm,0.2s
ABTA Abfaltersbach 11.01 329 *i* Pn **Pn 05 59 30.5 +2.6**
comp=E,4.9nm,0.6s
ABTA *e*Sn **Sn 06 01 27.5 -3.1**
comp=E,24nm,1.0s
VYHS Vyhne 11.01 353 *e*PN **Pn 05 59 28.9 +1.0**
MOA Molln 11.32 337 *i* Pn **Pn 05 59 34.3 +2.2**
comp=E,10nm,1.0s
MOA *i* Sn **Sn 06 01 37.5 -0.6**
comp=E,3.6nm,0.5s
BIOA Bad Ischl, Aus 11.38 335 *e*Pn **Pn 05 59 32.8 -0.2**
comp=E,5.9nm,0.7s
BIOA *i* Sn **Sn 06 01 36.1 -3.6**
comp=E,8.5nm,0.6s
LESA Schwarzleotal 11.50 332 *i* Pn **Pn 05 59 35.4 +0.8**
comp=E,2.0nm,0.4s
LESA *i* Sn **Sn 06 01 43.3 +0.8**
comp=E,15nm,0.5s
WTTA Wattenberg 11.79 328 *i* Pn **Pn 05 59 38.5 -0.1**
comp=E,1.2nm,0.3s
WTTA *i* Sn **Sn 06 01 50.7 +1.0**
comp=E,12nm,0.7s
STHS Stebnicka Huta 11.86 2 *e*PN **Pn 05 59 41.7 +2.3**
WATA Walderalm 11.87 328 *i* Pn **Pn 05 59 40.1 +0.5**
comp=E,5.9nm,0.5s
WATA *i* Sn **Sn 06 01 53.5 +1.9**
comp=E,12nm,0.6s
FUORN Ofenpass-Fuorn 11.92 323 **Pn 05 59 41.2 +0.7**
SQTA Sankt Quirin 11.93 327 *i* Pn **Pn 05 59 42.9 +2.4**
comp=E,3.7nm,0.4s
SQTA *i* Sn **Sn 06 01 54.6 +1.4**
comp=E,4.6nm,0.5s
FETA Feichten 11.99 325 *i* Pn **Pn 05 59 44.2 +2.8**
comp=E,1.7nm,0.6s
FETA *i* Sn **Sn 06 01 56.5 +1.7**
comp=E,2.8nm,0.5s
MOTA Moosalm 12.07 327 *i* Pn **Pn 05 59 45.4 +2.9**
comp=E,8.3nm,0.8s
MOTA *i* Sn **Sn 06 01 57.3 +0.6**
comp=E,10nm,0.8s
VRAC Vranov 12.12 347 Pn **Pn 05 59 43.3 +0.3**
comp=E,0.2nm,0.3s,baz=150,slow=9.4,SNR=1.9
VRAC LR LR 06 04 25.5
comp=E,122nm,20.4s,baz=176,slow=38
comp=E,2.2nm,0.5s
DAVOX Davos/Dischmat 12.22 322 Pn **Pn 05 59 44.6 +0.1**
comp=E,0.2nm,0.3s,baz=150,slow=12,SNR=3.7
DAVOX Sn **Sn 06 01 54.2 -6.0**
comp=E,0.4nm,0.3s,baz=315,slow=23,SNR=1.7
DAVOX LR LR 06 05 44.7
comp=E,152nm,21.1s,baz=118,slow=44
comp=E,2.0nm,0.5s
BAL3X Bal3x, Balta 12.24 29 P **Pn 05 59 45.5 +0.9**
TUE Stuetta 12.27 320 Pn **Pn 05 59 46.0 +0.7**
TUE Stuetta 12.27 320 P **Pn 05 59 44.6 -0.6**
comp=E,62nm,0.7s
RETA Reutte 12.33 327 *i* Pn **Pn 05 59 46.7 +0.7**
comp=E,0.3nm,0.2s
RETA *i* Sn **Sn 06 02 02.8 -0.1**
comp=E,20nm,1.2s
GEC2 GERESS Array S 12.38 338 Pn **Pn 05 59 48.0 +1.4**
GERES GERESS Array B 12.38 338 Pn **Pn 05 59 46.5 -0.2**
comp=E,0.2nm,0.3s,baz=152,slow=14,SNR=3.1
GERES Sn **Sn 06 01 59.4 -4.6**
comp=E,0.5nm,0.3s,baz=153,slow=23,SNR=2.6
GERES LR LR 06 06 08.5
comp=E,338nm,18.2s,baz=120,slow=45
comp=E,0.9nm,0.5s
MORC Moravsky Berou 12.43 350 Pn **Pn 05 59 48.8 +1.6**
DAVA Damuels 12.58 324 *i* Pn **Pn 05 59 50.7 +1.2**
comp=E,2.9nm,0.4s
DAVA *i* Sn **Sn 06 02 09.6 +0.4**
comp=E,5.9nm,0.5s
KHC Kasperske Hory 12.67 338 Pn **Pn 05 59 51.8 +1.3**
KHC Kasperske Hory 12.67 338 *e*PN **Pn 05 59 50.4 -0.2**
KHC *e*SN **Sn 06 02 08.0 -3.1**
KHC Kasperske Hory 12.67 338 P **Pn 05 59 50.4 -0.2**
comp=E,8.2nm,1.4s
MMAI Mount Meron Ar 12.82 106 Pn **Pn 05 59 51.4 -1.2**
comp=E,0.7nm,0.3s,baz=297,slow=14,SNR=1.9
MMAI LR LR 06 06 32.6
comp=E,113nm,20.5s,baz=249,slow=46
comp=E,0.9nm,0.3s
BNI Bardonecchia 12.93 310 Pn **Pn 05 59 54.6 +0.4**
QRNJ Al-Qirein 13.25 109 P **Pn 05 59 57.3 -1.1**
SENIN Lac Senin/Sane 13.29 316 Pn **Pn 05 59 59.2 0.0**
PRNI Paran 13.85 117 P **Pn 06 00 02.4 -4.4**
ZFRI Zfri 13.86 116 P **P 06 00 11.9 -3.1**
BFO Black Forest 14.06 324 Pn **Pn 06 00 08.6 -0.9**
MBRI Mt Berech 14.12 119 P **Pn 06 00 08.7 -1.7**
EIL Elat 14.22 119 Pn **Pn 06 00 11.0 -0.8**
comp=E,0.9nm,0.3s,baz=0.3,slow=21,SNR=5.3
comp=E,4.0nm,0.5s
EIL Elat 14.22 119 P **Pn 06 00 12.8 +1.1**
RNPP1 Kostyukhnivka 14.24 13 P **Pn 06 00 12.5 +0.6**
RNPP2 Kostyukhnivka 14.24 13 P **Pn 06 00 12.5 +0.6**
AK06 Malin Array Si 14.36 22 P **Pn 06 00 14.5 +1.0**
AK14 Malin Array Si 14.37 22 P **Pn 06 00 14.7 +1.0**
AK14 pP **P 06 00 24.1 +3.5**
AK05 Malin Array Si 14.39 22 Pn **Pn 06 00 13.7 -0.3**
AK05 Malin Array Si 14.39 22 P **Pn 06 00 15.0 +1.0**
KIEV Kiev 14.46 22 Pn **Pn 06 00 15.0 +0.1**
AKASG Malin Array Be 14.47 22 Pn **Pn 06 00 15.7 +0.7**
AKBB Malin Array Si 14.47 22 Pn **Pn 06 00 14.9 -0.1**
AKBB Malin Array Si 14.47 22 P **Pn 06 00 16.2 +1.2**
ECH Echery 14.55 321 Pn **Pn 06 00 14.8 -1.4**
CLL Collm 14.80 341 Pn **Pn 06 00 19.3 -0.2**
CLL Collm 14.80 341 *i* sP **P 06 00 25.4 +0.1**
CLL *i* PP **PnPn 06 00 27.8 +0.4**
comp=Z,32nm,1.4s
CEST Esterri de Car 15.72 295 Pn **Pn 06 00 30.7 -1.2**
CEST IAmb IAmb 06 00 39.4
comp=Z,36nm,1.1s
WLF Walferdange 16.02 324 Pn **Pn 06 00 34.8 -0.7**
WLF IAmb IAmb 06 00 43.7
comp=Z,58nm,1.1s
WLF Walferdange 16.02 324 *d*P **P 06 00 40.9 +2.0**
comp=Z,31nm,1.0s
SUW Suwalki 16.54 5 **Pn 06 00 42.9 +0.7**
SUW IAmb IAmb 06 00 49.9
comp=Z,65nm,1.1s
MEM Membach 16.75 326 *d*P **Pn 06 00 46.0 +1.2**
comp=Z,13nm,1.0s
DOU Dourbes 17.05 322 *d*P **P 06 00 51.4 +1.1**
comp=Z,9.6nm,1.0s
UCC Uccle 17.63 324 *d*P **P 06 00 58.1 +1.4**
KBZ Khabaz 17.89 63 LR LR 06 09 58.5
comp=Z,125nm,18.7s,baz=264,slow=44
PABE Paberze 18.08 6 **Pn 06 01 00.9 -0.4**
PABE IAmb IAmb 06 01 02.0
comp=Z,53nm,0.9s
GNI Garni 18.87 75 P **P 06 01 10.6 -0.1**
GNI Garni 18.87 75 LR LR 06 08 42.1
comp=Z,56nm,21.7s,baz=282,slow=38
ESBB Sonseca Array 19.39 284 P **P 06 01 15.3 -1.0**
ESBB IAmb IAmb 06 01 18.4
comp=Z,29nm,1.1s
ESDC Sonseca Array 19.39 284 P **P 06 01 15.4 -0.8**
ESDC Sonseca Array 19.39 284 P **P 06 01 16.6 +0.4**
comp=Z,0.1nm,0.3s,baz=78,slow=12,SNR=32
comp=Z,11nm,0.9s
TAM Tamanrasset 19.69 226 P **P 06 01 18.1 -1.7**
MDT Midelt 21.21 265 P **P 06 01 37.0 +0.8**
comp=Z,8.5nm,0.9s,baz=98,slow=10,SNR=8.5
comp=Z,8.5nm,0.9s
PBRG Braganca 21.52 290 *e*P **P 06 01 39.9 +0.6**
MVO Moncorvo 21.72 288 *e*P **P 06 01 42.0 +0.5**
MVO A A 06 01 43.2
comp=Z,55nm,1.9s
PMRV Marv??o 22.05 284 *e*P **P 06 01 47.6 +2.6**
PCBR Castelo Branco 22.09 285 *e*P **P 06 01 46.0 +0.6**
MTE Manteigas 22.12 286 *e*P **P 06 01 46.5 +0.7**
PVIS Viseu 22.38 287 *e*P **P 06 01 49.3 +0.8**
PMTG Montargil 22.73 283 *e*P **P 06 01 51.4 -0.8**
PMTG A A 06 02 09.6
comp=Z,42nm,1.8s
COI Coimbra 22.79 286 *e*P **P 06 01 54.5 +1.7**
PCAS Casmilo, Conde 22.86 285 *e*P **P 06 01 54.2 +0.6**
MESJ Messejana 22.87 280 *e*P **P 06 01 54.0 +0.3**
HFS Hagfors 23.03 351 P **P 06 01 54.4 -0.7**
comp=Z,6.6nm,0.9s,baz=168,slow=10.0,SNR=16
comp=Z,6.6nm,0.9s
NC602 NORSAR Array S 23.91 349 P **P 06 02 03.6 -0.2**
NC602 IAmb IAmb 06 02 31.6
comp=Z,25nm,1.4s
EKA Eskdalemuir Ar 24.02 325 P **P 06 02 05.1 +0.2**
comp=Z,14nm,0.8s,baz=125,slow=8.6,SNR=22
comp=Z,14nm,0.8s
ESK Eskdalemuir 24.04 325 P **P 06 02 06.1 +1.1**
EKB Eskdalemuir 24.04 325 P **P 06 02 06.0 +0.9**
NAO01 NORSAR Array S 24.12 348 P **P 06 02 06.7 +0.9**
NAO01 IAmb IAmb 06 02 16.8
comp=Z,17nm,1.2s
FINES FINESS Array B 24.14 6 P **P 06 02 05.4 -0.5**
comp=Z,1.6nm,0.5s,baz=168,slow=12,SNR=9.7
comp=Z,1.6nm,0.5s
FIA1 FINESS Array S 24.14 6 P **P 06 02 07.1 +1.2**
NC405 NORSAR Array S 24.25 349 P **P 06 02 07.5 +0.5**
NC405 IAmb IAmb 06 02 17.4
comp=Z,22nm,1.1s
NB201 NORSAR Array S 24.25 349 P **P 06 02 07.1 +0.1**
NOA NORSAR Array B 24.25 349 P **P 06 02 06.5 -0.5**
comp=Z,3.2nm,0.9s,baz=161,slow=9.9,SNR=8.4
NOA LR LR 06 14 22.2
comp=Z,82nm,18.1s,baz=350,slow=44
comp=Z,3.2nm,0.9s
RAYN Ar Rayn 25.42 116 P **P 06 02 16.2 -1.7**
RAYN IAmb IAmb 06 02 21.9
comp=Z,13nm,1.4s
AKTO Aktyubinsk 29.43 52 P **P 06 02 52.7 -0.9**
comp=Z,2.4nm,0.8s,baz=257,slow=6.3,SNR=6.9
comp=Z,2.4nm,0.8s
TORD Torodi Ar. Bea 29.66 220 P **P 06 02 56.7 +0.8**
comp=Z,1.1nm,0.7s,baz=22,slow=10.0,SNR=9.1
comp=Z,1.1nm,0.7s
ABKAR Akbulak array 30.46 55 P **P 06 03 03.3 +0.5**
PMOZ Porto Moniz, M 31.20 273 P **P 06 03 07.8 -1.8**
ARTI Arti 31.31 41 P **P 06 03 09.6 -0.6**
ARTI IAmb IAmb 06 03 16.3
comp=Z,9.5nm,1.2s
ARTI Arti 31.31 41 P **P 06 03 09.5 -0.6**
comp=Z,3.3nm,0.5s,baz=217,slow=2.8,SNR=5.8
comp=Z,3.3nm,0.5s
ARCES ARCESS Array B 32.14 3 P **P 06 03 17.1 -0.3**
comp=Z,8.2nm,1.1s,baz=190,slow=9.2,SNR=2.3
comp=Z,8.2nm,1.1s
UOSS Minazif 32.64 102 P **P 06 03 23.0 +0.8**
LODK Lodwar 36.53 155 P **P 06 03 55.0 -0.9**
BORG Borgarnes 36.73 331 LR LR 06 20 26.4
comp=Z,87nm,18.1s,baz=121,slow=39
BRVK Borovoye 37.33 49 P **P 06 04 02.9 +0.6**
BVAR Borovoye Array 37.39 49 P **P 06 04 02.4 -0.5**
comp=Z,0.8nm,0.5s,baz=267,slow=7.9,SNR=5.5
comp=Z,0.8nm,0.5s
KKAR Karatay Array 37.90 66 P **P 06 04 07.3 0.0**
DBIC Dimbokro 38.55 223 P **P 06 04 13.4 +0.5**
comp=Z,2.5nm,0.8s,baz=46,slow=5.5,SNR=4.3
comp=Z,2.5nm,0.8s
GAR Garm 38.57 72 P **P 06 04 12.9 -0.3**
GAR IAmb IAmb 06 04 15.0
comp=Z,16nm,1.1s
SPITS Spitsbergen Ar 40.77 359 LR LR 06 23 47.5
comp=Z,202nm,18.8s,baz=149,slow=40
AAK Ala-Archa 40.86 65 P **P 06 04 32.2 0.0**
KMBO Kilima Mbogo 41.42 155 LR LR 06 22 55.7
comp=Z,46nm,18.5s,baz=84,slow=38
KURBB Kurchatov Arra 42.47 53 P **P 06 04 44.2 -0.8**
comp=Z,1.0nm,0.3s,baz=281,slow=8.7,SNR=11
comp=Z,1.0nm,0.3s
SUMG Summit 45.45 339 P **P 06 05 08.5 -0.7**
SUMG IAmb IAmb 06 05 11.7
comp=Z,5.0nm,1.0s
MK31 Makanchi Array 45.49 58 P **P 06 05 08.5 -0.9**
MKAR Makanchi Array 45.49 58 P **P 06 05 09.1 -0.3**
MKAR Makanchi Array 45.49 58 P **P 06 05 08.6 -0.8**
comp=Z,1.7nm,0.4s,baz=272,slow=7.4,SNR=24
comp=Z,1.7nm,0.4s
ZAA0 Zalesovo Array 45.98 48 P **P 06 05 12.6 -0.6**
ZAA0 IAmb IAmb 06 05 29.4
comp=Z,3.6nm,0.6s
ZALV Zalesovo Beam 45.98 48 P **P 06 05 12.0 -1.1**
ZALV Zalesovo Beam 45.98 48 P **P 06 05 12.4 -0.7**
comp=Z,2.4nm,0.4s,baz=271,slow=9.6,SNR=9.0
comp=Z,2.4nm,0.4s
WMQ Urumqi 49.92 61 *e*P P 06 05 49.1 +5.2
WMQ pmax pmax
comp=Z,15nm,0.7s
DRLN Deer Lake 55.61 309 P **P 06 06 27.1 +1.3**
SCHQ Schefferville 59.02 318 P **P 06 06 50.6 +0.8**
SCHQ Schefferville 59.02 318 P **P 06 06 49.9 +0.2**
comp=Z,2.5nm,0.7s,baz=98,slow=2.1,SNR=3.7
SCHQ LR LR 06 31 21.9
comp=Z,48nm,18.7s,baz=228,slow=35
comp=Z,2.5nm,0.7s
RES Resolute Bay 60.40 344 P **P 06 06 59.7 +0.8**
RES IAmb IAmb 06 07 03.4
comp=Z,5.7nm,1.2s
SHL Shillong 60.51 79 P **P 06 06 59.7 -0.9**
SONM Songino Array 60.73 50 P **P 06 07 01.6 -0.1**
comp=Z,1.0nm,0.8s,baz=294,slow=6.4,SNR=4.7
comp=Z,1.0nm,0.8s
HHC Hu-ho-hao-te 67.25 55 *e*P **P 06 07 44.3 -0.4**
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,48nm,4.4s
PZH PanZhiHua 67.63 73 P **P 06 07 48.9 +1.5**
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
A36M Sachs Harbour 68.16 349 P **P 06 07 51.3 +1.6**
A36M IAmb IAmb 06 08 17.3
comp=Z,5.5nm,1.1s
SUR Sutherland 69.58 180 LR LR 06 41 19.4
comp=Z,46nm,19.0s,baz=330,slow=38
CHTO Chiang Mai 69.62 82 P **P 06 07 59.6 -0.1**
CHTO IAmb IAmb 06 08 00.3
comp=Z,4.6nm,0.8s
CMAR Chiang Mai Arr 69.81 82 P **P 06 08 01.5 +0.6**
CMAR Chiang Mai Arr 69.81 82 P **P 06 08 00.7 -0.2**
comp=Z,1.2nm,0.3s,baz=307,slow=8.1,SNR=18
comp=Z,1.2nm,0.3s
C36M Paulatuk 70.30 347 P **P 06 08 04.8 +1.8**
PHRA Phrae 70.80 81 P **P 06 08 07.3 +0.3**
C27K Jago River 72.51 354 P **P 06 08 18.0 +1.6**
C27K IAmb IAmb 06 08 26.2
comp=Z,6.1nm,1.3s
D27M Malcolm River 72.65 353 P **P 06 08 18.0 +0.7**
C23K Itkillik River 72.72 357 P **P 06 08 19.6 +1.9**
C23K IAmb IAmb 06 08 26.6
comp=Z,7.6nm,1.2s
E28M Babbage River 73.13 353 P **P 06 08 22.4 +2.2**
E29M Blow River 73.16 352 P **P 06 08 22.0 +1.7**
E29M IAmb IAmb 06 08 29.6
comp=Z,4.2nm,0.9s
F31M Tsiigehtchic 73.54 350 P **P 06 08 23.4 +0.9**
F31M IAmb IAmb 06 08 31.8
comp=Z,7.1nm,1.1s
D23K Nanushuk River 73.60 357 P **P 06 08 24.2 +1.3**
D23K IAmb IAmb 06 08 50.4
comp=Z,10nm,1.4s
D22K Ayikyak River 73.76 358 P **P 06 08 25.7 +1.8**
D22K IAmb IAmb 06 08 29.9
comp=Z,12nm,1.4s
G31M Satah River 74.10 350 P **P 06 08 26.6 +0.8**
G31M IAmb IAmb 06 08 54.2
comp=Z,6.7nm,1.4s
F28M Old Crow 74.12 352 P **P 06 08 27.7 +1.7**
G30M tAoh Zraii Nji 74.30 351 P **P 06 08 26.5 -0.6**
G30M IAmb IAmb 06 09 05.8
comp=Z,5.3nm,1.3s
E24K Your Creek 74.37 356 P **P 06 08 28.0 +0.5**
E22K Anaktuvuk Pass 74.47 357 P **P 06 08 29.7 +1.6**
E22K IAmb IAmb 06 08 30.1
comp=Z,8.8nm,1.5s
G29M Pine Creek 74.59 351 P **P 06 08 30.2 +1.5**
F25K Christian Rive 74.66 355 P **P 06 08 31.5 +2.3**
BMAR Burnt Mountain 74.74 354 P **P 06 08 29.6 -0.1**
MA2 Magadan 74.79 24 P **P 06 08 30.7 +0.7**
F24K Squaw Lake 74.89 355 P **P 06 08 30.9 +0.4**
F24K IAmb IAmb 06 09 05.1
comp=Z,9.1nm,1.4s
EPYK Eagle Plains 74.95 351 P **P 06 08 32.0 +1.2**
EPYK IAmb IAmb 06 08 50.3
comp=Z,6.2nm,1.1s
H31M Peel River 75.16 350 P **P 06 08 33.7 +1.6**
H31M IAmb IAmb 06 08 39.6
comp=Z,7.2nm,1.4s
H29M Whitestone 75.30 351 P **P 06 08 34.1 +1.3**
H29M IAmb IAmb 06 09 13.4
comp=Z,8.2nm,1.3s
I30M Mount Dempster 76.00 350 P **P 06 08 38.6 +1.6**
I30M IAmb IAmb 06 09 17.6
comp=Z,5.6nm,1.4s
I28M Miner Creek 76.22 352 P **P 06 08 38.2 0.0**
J30M Hart River 76.61 350 P **P 06 08 41.2 +0.7**
J30M IAmb IAmb 06 09 20.7
comp=Z,9.5nm,1.5s
IMAR Indian Mountai 76.69 358 P **P 06 08 41.6 +0.8**
H21K Melozitna Rive 76.99 357 P **P 06 08 43.2 +0.8**
DAWY Dawson 77.49 351 P **P 06 08 47.2 +1.8**
DAWY IAmb IAmb 06 09 14.6
comp=Z,6.6nm,1.4s
ILAR Eielson Array 77.54 355 P **P 06 08 46.1 +0.5**
comp=Z,0.3nm,0.9s,baz=13,slow=5.7,SNR=2.7
comp=Z,0.3nm,0.9s
BCAR Beaver Creek A 78.74 352 P **P 06 08 53.6 +1.3**
M29M Somme Creek 78.93 350 P **P 06 08 54.9 +1.4**
M29M IAmb IAmb 06 09 09.4
comp=Z,8.9nm,1.2s
KSRS Korea Array 79.59 51 P **P 06 08 57.6 +0.3**
comp=Z,1.8nm,0.7s,baz=311,slow=4.8,SNR=6.2
comp=Z,1.8nm,0.7s
CPUP Villa Florida 96.90 242 LR LR 06 55 43.5
comp=Z,78nm,18.2s,baz=43,slow=36
ASAR Alice Springs 121.94 97 PKP **PKPdf 06 15 45.1 +0.3**
comp=Z,0.4nm,0.8s,baz=292,slow=1.2,SNR=2.2

IDC ***19*** *06:09:40.8±14.0, 17°.14S×178°.41W, h461km±174km, mb3.0/7, mbtmp3.8/7, Error ellipse: s-maj=104.9km s-min=40.1km az=162.0*

ISC 19 06:09:40.0±1.5, 17°.1S±0°.6×178°.4W±0°.4, h453km, n8, σ0°35/8, mb3.1/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.00**	**240**	P		**P**		**06 16 25.9**	**-0.2**
	0.8nm,0.3s,baz=85,slow=11,SNR=2.1								
	0.8nm,0.3s								
WRA	**Warramunga Arr**	**44.76**	**259**	P		**P**		**06 17 12.3**	**+0.3**
	0.8nm,0.5s,baz=97,slow=6.7,SNR=23								
	0.8nm,0.5s								
ASAR	**Alice Springs**	**44.99**	**253**	P		**P**		**06 17 14.0**	**+0.2**
	5.9nm,0.6s,baz=88,slow=8.6,SNR=96								
	5.9nm,0.6s								
NVAR	**Mina Array Bea**	**78.86**	**44**	P		**P**		**06 20 55.8**	**+0.3**
	0.4nm,0.8s,baz=220,slow=8.3,SNR=4.6								
	0.4nm,0.8s								
ILAR	**Eielson Array**	**85.11**	**13**	P		**P**		**06 21 26.4**	**-0.1**
	0.3nm,0.7s,baz=215,slow=5.3,SNR=7.4								
	0.3nm,0.7s								
TXAR	**Lajitas Array**	**85.58**	**58**	P		**P**		**06 21 29.8**	**0.0**
	0.2nm,0.7s,baz=239,slow=6.2,SNR=3.5								
	0.2nm,0.7s								
PDAR	**Pinedale Array**	**86.78**	**43**	P		**P**		**06 21 35.6**	**+0.1**
	0.2nm,0.7s,baz=225,slow=5.0,SNR=2.6								
	0.2nm,0.7s								
GERES	**GERESS Array B**	**146.82**	**345**	PKPbc		**PKPbc**		**06 28 29.9**	**-0.6**
	0.7nm,0.5s,baz=32,slow=5.8,SNR=2.2								

MOS ***19*** *06:18:57.4±0.9, 24°.09N×122°.59E, h11km, mb5.1/49, Error ellipse: s-maj=7.9km s-min=4.8km az=118.7*

NEIC ***19*** *06:18:58.8±1.8, 23°.86N±0°.04×122°.55E±0°.05, h10km±1km, mb4.9/192, Mwr4.4/13, Error ellipse: s-maj=7.3km s-min=7.1km az=265.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.23; $M_{\theta\theta}$-1.05; $M_{\phi\phi}$2.27; $M_{r\theta}$4.39; $M_{\phi\theta}$1.21; $M_{\phi r}$2.21; Fault plane solution: $M_0$5.43000×10^{15} NP1:ϕ_s238.36000°, δ83.51000°, λ-67.65000°. NP2:ϕ_s343.73000°, δ23.23000°, λ-163.34000°. Principal axes: T 5.2378, Plg35.0000°, Azm309.0000°; N 0.3613, Plg22.0000°, Azm56.0000°; P -5.5991, Plg47.0000°, Azm172.0000°;*

BJI ***19*** *06:18:59.6, 23°.98N×122°.48E, h7km, mb4.6/59, mB4.8/21, ML4.4/10, Ms4.3/56, Ms7 4.3/54*

NEIC ***19*** *06:19:00.1, 23°.93N×122°.51E, h14km*

JMA ***19*** *06:19:01.5±0.2, 24°N±1°×122°.5E±0°.4, h22km±3km, MD4.8/18, MV4.8/18, NW OFF ISHIGAKIJIMA IS*

JMA Felt I J1 at NW OFF ISHIGAKIJIMA IS .

TAP ***19*** *06:19:01.7, 23°.95N×122°.47E, h27km, ML5.0, C*

ASIES ***19*** *06:19:01.7, 23°.95N×122°.47E, h27km, ML5.0, Mw4.5, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}-0.32; $M_{\theta\theta}$-1.94; $M_{\phi\phi}$0.04; $M_{r\theta}$5.47; $M_{\phi\theta}$0.76; $M_{\phi r}$1.07; Fault plane solution: $M_0$5.79898×10^{22} NP1:ϕ_s78.32000°, δ86.91000°, λ79.05000°. NP2:ϕ_s332.78000°, δ11.37000°, λ164.16000°. Principal axes: T Plg46.9940°, Azm336.9680°; N Plg10.9330°, Azm78.9210°; P Plg40.9330°, Azm178.5640°;*

NIED ***19*** *06:19:01.5, 23°.93N×122°.46E, h22km, MW4.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.49; $M_{\theta\theta}$-3.92; $M_{\phi\phi}$2.43; $M_{r\theta}$6.59; $M_{\phi\theta}$0.59; $M_{\phi r}$3.19; Fault plane solution: $M_0$8.07000×10^{15} NP1:ϕ_s64.00000°, δ83.00000°, λ69.00000°. NP2:ϕ_s316.00000°, δ22.00000°, λ161.00000°.*

IDC ***19*** *06:19:03.4±1.9, 24°.18N×122°.61E, h42km±16km, mb4.3/27, mbtmp4.5/31, ML3.9/3, MS3.9/42 Error ellipse: s-maj=14.0km s-min=11.7km az=58.0*

ISC 19 06:19:00.7±0.6, 23°.91N±0°.02×122°.54E±0°.02, h27km±3km, n597, σ1°49/688, mb4.8/168, MS4.0/48, 66C-20D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.29**	**317**	‖*i*P		**Pb**		**06 19 07.7**	**+0.2**
EOS4				*e*S		**Sb**		**06 19 11.8**	**-0.3**
EOS3	**EOS3**	**0.43**	**332**	‖*i*P		**Pn**		**06 19 10.2**	**-0.7**
EOS3				*e*S		**Sb**		**06 19 16.2**	**+0.3**
EOS2	**EOS2**	**0.58**	**331**	‖*i*P		**Pn**		**06 19 13.0**	**0.0**
EOS2				*e*S		**Sb**		**06 19 20.1**	**0.0**
JYNG	**Yonagunijimaku**	**0.66**	**34**	P		**Pn**		**06 19 14.6**	**+0.4**
JYNG				*e*S		**Sn**		**06 19 23.0**	**-0.6**
JYNG	**Yonagunijimaku**	**0.66**	**34**	A		A		06 19 14.6	
	comp=E,71nm,0.4s,comp=N,70nm,0.5s								
YOJ	**Yonaguni jima**	**0.70**	**38**			**Pn**		**06 19 15.3**	**+0.5**
YOJ					Sg	**Sn**		**06 19 24.1**	**-0.6**
YOJ	**Yonaguni jima**	**0.70**	**38**	P		**Pn**		**06 19 15.4**	**+0.5**
YOJ	**Yonaguni jima**	**0.70**	**38**	P		**Pn**		**06 19 15.3**	**+0.5**
YOJ								06 19 24.1	
YOJ	**Yonaguni jima**	**0.70**	**38**	*i*P		**Pn**		**06 19 15.5**	**+0.7**
YOJ				S		**Sn**		**06 19 24.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.70**	**38**	A		A		06 19 15.5	
	comp=E,61nm,0.9s,comp=N,71nm,2.5s								
YOJ	**Yonaguni jima**	**0.70**	**38**	‖*i*P		**Pn**		**06 19 15.5**	**+0.7**
YOJ					S	**Sn**		**06 19 23.7**	**-1.0**
EAHA	**Aohua**	**0.84**	**300**	‖*i*P		**Pb**		**06 19 16.4**	**-0.3**
EAHA				*e*S		**Sb**		**06 19 27.8**	**+0.1**
HWA	**Hwalien**	**0.86**	**275**	*e*P		**Pb**		**06 19 16.8**	**-0.2**
HWA				*e*S		**Sb**		**06 19 27.6**	**-0.4**
TEYL	**Yanliau Villag**	**0.86**	**268**	*e*P		**Pb**		**06 19 17.3**	**+0.3**
TEYL				*e*S		**Sb**		**06 19 27.6**	**-0.6**

ETL	**Fush Village**	**0.87 287**	P	**Pb**	**06 19 16.7**	**-0.6**	
EWUT	**Wuta**	**0.88 308**	⇓*i*P	**Pb**	**06 19 16.8**	**-0.5**	
EWUT			*e*S	**Sb**	**06 19 27.5**	**-1.2**	
TWD	**Chiawan**	**0.88 281**	⇑*i*P	**Pb**	**06 19 16.6**	**-0.8**	
TWD			S	**Sb**	**06 19 27.6**	**-1.1**	
ENA	**Nanau**	**0.89 306**	⇓*i*P	**Pb**	**06 19 17.0**	**-0.6**	
SHUL	**Shoufeng**	**0.90 263**	⇑*i*P	**Pn**	**06 19 17.2**	**-0.4**	
SHUL			S	**Sb**	**06 19 28.6**	**-0.8**	
NACB	**Ninganchiao**	**0.90 287**	Pg	**Pn**	**06 19 17.0**	**-0.6**	
NACB			Sg	**Sb**	**06 19 28.3**	**-1.1**	
NACB	**Ninganchiao**	**0.90 287**	P	**Pn**	**06 19 17.0**	**-0.6**	
NACB	**Ninganchiao**	**0.90 287**	⇑*i*P	**Pn**	**06 19 17.0**	**-0.6**	
NACB			S	**Sb**	**06 19 28.6**	**-0.8**	
ESAO	**Su ao**	**0.92 317**	⇓*i*P	**Pb**	**06 19 17.4**	**-0.6**	
ESAO			*e*S	**Sb**	**06 19 28.1**	**-1.8**	
TEGC	**Jichi Village**	**0.94 258**	*e*P	**Pb**	**06 19 17.8**	**-0.2**	
TEGC			*e*S	**Sb**	**06 19 29.9**	**-0.5**	
TWC	**Suao**	**0.94 318**	⇓*i*P	**Pn**	**06 19 17.7**	**-0.4**	
TWC			*e*S	**Sb**	**06 19 29.4**	**-1.0**	
ETM	**Tongmen**	**0.96 274**	⇑*i*P	**Pn**	**06 19 17.6**	**-0.7**	
ETM			*e*S	**Sb**	**06 19 29.1**	**-1.9**	
ETLH	**Xiulin Townshi**	**1.01 287**	⇑*i*P	**Pn**	**06 19 18.8**	**-0.3**	
ETLH			*e*S	**Sb**	**06 19 31.9**	**-0.6**	
ESL	**Shilin**	**1.02 265**	⇑*i*P	**Pn**	**06 19 18.3**	**-0.9**	
ESL			*e*S	**Sb**	**06 19 29.0**	**-3.6**	
LXIB	**Xiulin Townshi**	**1.03 276**	⇑*i*P	**Pn**	**06 19 18.9**	**-0.6**	
LXIB			*e*S	**Sb**	**06 19 32.4**	**-1.0**	
NDS	**Dongshan**	**1.04 314**	⇓*i*P	**Pb**	**06 19 19.8**	**-0.3**	
EGFH	**Guangfu**	**1.04 257**	*e*P	**Pn**	**06 19 19.9**	**+0.3**	
EGFH			*e*S	**Sn**	**06 19 32.6**	**-0.6**	
WARBT	**Fenglin Townsh**	**1.07 260**	⇑*i*P	**Pn**	**06 19 19.1**	**-0.9**	
EGS		**1.08 329**	⇓*i*P	**Pb**	**06 19 20.7**	**-0.1**	
HGSD	**Ruisui**	**1.10 248**	⇓*e*P	**Pn**	**06 19 19.7**	**-0.6**	
LATG	**Datong**	**1.11 304**	⇑*i*P	**Pn**	**06 19 20.9**	**+0.2**	
LATG			*e*S	**Sn**	**06 19 34.2**	**-1.0**	
ILA	**Ilan**	**1.12 320**	⇑*i*P	**Pb**	**06 19 21.4**	**0.0**	
ILA			*e*S	**Sn**	**06 19 34.4**	**-0.6**	
TWE	**Neicheng**	**1.13 316**	⇑P	**Pb**	**06 19 21.3**	**-0.3**	
TWE			*e*S	**Sb**	**06 19 35.6**	**-0.4**	
NTC	**Toucheng**	**1.14 326**	*e*P	**Pb**	**06 19 22.0**	**+0.2**	
NTC			*e*S	**Sn**	**06 19 35.2**	**-0.4**	
ENTT	**Nioudou**	**1.15 310**	⇑*i*P	**Pb**	**06 19 21.5**	**-0.4**	
ECBN	**Changbin**	**1.16 240**	*e*P	**Pn**	**06 19 21.2**	**+0.1**	
ECBN			*e*S	**Sn**	**06 19 35.0**	**-1.0**	
EHYH	**Wanrong**	**1.17 250**	*e*P	**Pn**	**06 19 21.5**	**+0.2**	
EHYH			*e*S	**Sn**	**06 19 36.0**	**-0.3**	
HATJ	**Hateruma jima**	**1.17 82**	P	**Pb**	**06 19 23.9**	**+1.6**	
HATJ			S	**Sb**	**06 19 39.5**	**+2.5**	
HATJ	**Hateruma jima**	**1.17 82**	A	A	06 19 23.9		
	comp=E,30nm,2.3s,comp=N,34nm,1.8s						
IRIF	**Iriomote-Funau**	**1.17 68**	P	**Pb**	**06 19 23.7**	**+1.4**	
IRIF			*e*S	**Sb**	**06 19 39.5**	**+2.5**	
IRIF	**Iriomote-Funau**	**1.17 68**	A	A	06 19 23.7		
	comp=E,45nm,0.6s,comp=N,55nm,1.5s						
NNSB	**Datong**	**1.18 296**	⇑*i*P	**Pn**	**06 19 21.6**	**+0.2**	
NNSB			*e*S	**Sn**	**06 19 36.4**	**-0.3**	
EHY	**Hungye**	**1.18 250**	⇑*i*P	**Pn**	**06 19 21.3**	**-0.1**	
EHY			*e*S	**Sn**	**06 19 36.8**	**+0.1**	
WHF	**Hehuan Shan**	**1.19 282**	⇑*i*P	**Pn**	**06 19 21.6**	**-0.3**	
WHF			*e*S	**Sn**	**06 19 36.0**	**-1.3**	
NNS	**Nan Shan**	**1.19 297**	⇑*i*P	**Pn**	**06 19 21.7**	**+0.1**	
NNS			*e*S	**Sn**	**06 19 37.1**	**+0.1**	
TWB1	**Santiao Chiao**	**1.20 336**	⇑*i*P	**Pb**	**06 19 22.1**	**-0.7**	
TWB1			*e*S	**Sn**	**06 19 36.6**	**-0.5**	
FUSB	**Fushanzhiwuyua**	**1.21 315**	⇑*i*P	**Pb**	**06 19 22.9**	**-0.2**	
FUSB			*e*S	**Sb**	**06 19 38.9**	**+0.6**	
FUSS	**Fushou**	**1.23 286**	⇑*i*P	**Pn**	**06 19 22.6**	**+0.2**	
TIPB	**Shuangxi**	**1.24 329**	⇑P	**Pb**	**06 19 22.9**	**-0.6**	
TIPB			*e*S	**Sb**	**06 19 38.4**	**-0.7**	
OWD	**Renai**	**1.25 272**	*e*P	**Pn**	**06 19 22.7**	**+0.2**	
OWD			*e*S	**Sn**	**06 19 37.9**	**-0.5**	
YULB	**Yu-li**	**1.25 246**		**Pn**	**06 19 22.3**	**0.0**	
YULB	**Yu-li**	**1.25 246**	P	**Pn**	**06 19 22.5**	**+0.1**	
YULB	**Yu-li**	**1.25 246**	⇑*i*P	**Pn**	**06 19 22.6**	**+0.3**	
YULB			*e*S	**Sn**	**06 19 37.7**	**-0.6**	
EYUL	**Yuli**	**1.25 244**	*e*P	**Pn**	**06 19 22.5**	**+0.1**	
EYUL			*e*S	**Sn**	**06 19 38.4**	**+0.1**	
TWF1	**Yuli**	**1.27 244**	⇓*i*P	**Pn**	**06 19 22.6**	**0.0**	
TWF1			*e*S	**Sn**	**06 19 39.4**	**+0.7**	
CHKH	**Chenggong**	**1.27 236**	*i*P	**Pn**	**06 19 22.2**	**-0.4**	
CHKH			S	**Sn**	**06 19 37.1**	**-1.6**	
NWLT	**Wulai**	**1.28 313**	⇑*i*P	**Pb**	**06 19 23.6**	**-0.6**	
NWLT			*e*S	**Sn**	**06 19 38.1**	**-1.0**	
VWDT	**VWDT**	**1.29 263**	⇑*i*P	**Pn**	**06 19 23.2**	**+0.4**	
VWDT			S	**Sn**	**06 19 38.7**	**-0.5**	
TWT	**Tachien**	**1.29 286**	⇑*i*P	**Pn**	**06 19 23.6**	**+0.6**	
TWT			S	**Sn**	**06 19 39.4**	**-0.2**	
WUSB	**Renai**	**1.30 274**	⇑*i*P	**Pn**	**06 19 23.4**	**+0.2**	
WUSB			*e*S	**Sn**	**06 19 39.2**	**-0.5**	
YHNB	**Yeheng**	**1.30 306**	Pn	**Pn**	**06 19 23.0**	**-0.2**	
YHNB	**Yeheng**	**1.30 306**	P	**Pn**	**06 19 23.8**	**+0.6**	
YHNB	**Yeheng**	**1.30 306**	⇑*i*P	**Pn**	**06 19 23.7**	**+0.6**	
YHNB			*e*S	**Sn**	**06 19 39.3**	**-0.4**	
TDCB	**Techi**	**1.31 286**	⇑*i*P	**Pn**	**06 19 23.7**	**+0.4**	
TDCB			*e*S	**Sn**	**06 19 40.0**	**0.0**	
NSK	**Sanguang**	**1.32 306**	⇑*i*P	**Pn**	**06 19 23.9**	**+0.5**	
NSK			*e*S	**Sn**	**06 19 39.5**	**-0.6**	
SXI1	**Grass Mountain**	**1.33 333**	⇑*i*P	**Pb**	**06 19 24.1**	**-0.8**	
SXI1			*e*S	**Sb**	**06 19 40.3**	**-1.3**	
FULB	**Fuli**	**1.34 238**	*e*P	**Pn**	**06 19 23.6**	**-0.1**	
FULB			*i*S	**Sn**	**06 19 40.0**	**-0.7**	
CHKT	**Chengkung**	**1.34 233**	⇓*e*P	**Pn**	**06 19 23.2**	**-0.4**	
NWF	**Wu-fen Shan**	**1.35 329**	⇑*i*P	**Pb**	**06 19 24.6**	**-0.8**	
NWF			*e*S	**Sb**	**06 19 41.1**	**-1.1**	
JKRS	**Kuro-shima**	**1.38 76**	P	**Pb**	**06 19 27.2**	**+1.3**	
JKRS			S	**Sb**	**06 19 46.4**	**+3.2**	
JKRS	**Kuro-shima**	**1.38 76**	A	A	06 19 27.2		
	comp=E,40nm,2.9s,comp=N,39nm,1.6s						
TATO	**Taipei**	**1.43 318**	Pn	**Pb**	**06 19 26.1**	**-0.6**	
TATO	**Taipei**	**1.43 318**	P	**Pn**	**06 19 25.5**	**+0.7**	
NHY	**Taipei**	**1.43 322**	*e*P	**Pb**	**06 19 26.8**	**+0.1**	
EHD	**Haiduan**	**1.44 239**	P	**Pn**	**06 19 25.0**	**+0.1**	
SSLB	**Suanglung**	**1.46 266**	Pn	**Pn**	**06 19 25.5**	**+0.2**	
SSLB	**Suanglung**	**1.46 266**	P	**Pn**	**06 19 25.8**	**+0.6**	
SSLB	**Suanglung**	**1.46 266**	⇑*i*P	**Pn**	**06 19 25.4**	**-0.2**	
SSLB			*e*S	**Sn**	**06 19 43.2**	**-0.2**	
ECS	**Chishang**	**1.46 236**	P	**Pn**	**06 19 25.3**	**+0.1**	
ECS			S	**Sn**	**06 19 44.7**	**+1.3**	
EDH	**Donghe**	**1.47 231**	⇓*e*P	**Pn**	**06 19 25.0**	**-0.3**	
EDH			*i*S	**Sn**	**06 19 42.0**	**-1.7**	
NFF	**Wufeng Townshi**	**1.48 299**	⇑P	**Pn**	**06 19 26.6**	**+1.0**	
NFF			*i*S	**Sb**	**06 19 46.0**	**-0.1**	
WCS	**Beigang Elemen**	**1.50 276**	⇑P	**Pn**	**06 19 26.5**	**+0.8**	
SMLT	**Sun Moon Lake**	**1.50 269**	⇑P	**Pn**	**06 19 25.6**	**-0.3**	
WHP	**Taichung City**	**1.50 285**	⇑*i*P	**Pn**	**06 19 26.9**	**+1.0**	
WHP			*e*S	**Sn**	**06 19 45.6**	**+1.0**	
KSHI	**Guanxi Townshi**	**1.51 305**	⇑P	**Pb**	**06 19 27.7**	**-0.4**	
YM01	**YM01**	**1.52 325**	⇑*e*P	**Pn**	**06 19 26.6**	**+0.5**	
JIJ	**Ishigaki jima**	**1.54 73**	*i*P	**Pb**	**06 19 28.6**	**+0.1**	
JIJ			S	**Sb**	**06 19 48.5**	**+1.0**	
JIJ	**Ishigaki jima**	**1.54 73**	A	A	06 19 28.6		
	comp=E,8.0nm,1.6s,comp=N,12nm,3.0s						
TYC	**Yuchr**	**1.54 270**	⇑*i*P	**Pn**	**06 19 27.0**	**+0.7**	
TYC			*e*S	**Sn**	**06 19 46.0**	**+0.6**	
YM08	**YM08**	**1.54 326**	⇑P	**Pn**	**06 19 26.6**	**+0.2**	
ZUZH	**Zhuzihu**	**1.54 324**	*e*P	**Pb**	**06 19 27.9**	**-0.7**	
WHYT	**Xinyi Township**	**1.56 263**	⇑*i*P	**Pn**	**06 19 27.6**	**+1.0**	
WHYT			*e*S	**Sn**	**06 19 45.6**	**-0.3**	
TWS1	**Kuangyinshan**	**1.56 320**	P	**Pn**	**06 19 26.9**	**+0.1**	
ELDTW	**Lidau**	**1.57 243**	⇓*i*P	**Pn**	**06 19 26.8**	**0.0**	
ELDTW			*e*S	**Sn**	**06 19 45.0**	**-1.4**	
LIOB	**Emei**	**1.57 298**	⇑*i*P	**Pb**	**06 19 28.6**	**-0.5**	
LIOB			*e*S	**Sn**	**06 19 47.4**	**+1.2**	
ANP	**Anpu**	**1.57 324**	⇑*e*P	**Pn**	**06 19 27.0**	**+0.1**	
LDUT	**Ludao**	**1.57 219**	P	**Pn**	**06 19 26.7**	**-0.1**	
LDUT			*i*S	**Sn**	**06 19 45.0**	**-1.3**	
NSTT	**Nanjuang**	**1.58 297**	⇑*i*P	**Pb**	**06 19 28.5**	**-0.7**	
NSTT			*e*S	**Sn**	**06 19 47.5**	**+1.2**	
NTST	**Danshui**	**1.60 322**	*e*P	**Pb**	**06 19 28.2**	**+1.0**	
NCUH	**Zhongli**	**1.62 311**	*e*P	**Pb**	**06 19 28.9**	**-1.1**	
LONT	**Longtian**	**1.63 233**	*e*P	**Pn**	**06 19 27.9**	**+0.2**	
LONT			*e*S	**Sn**	**06 19 48.0**	**+0.3**	
ALS	**Alishan**	**1.64 256**	⇑P	**Pn**	**06 19 28.9**	**+1.0**	
ALS			*e*S	**Sn**	**06 19 48.7**	**+0.4**	
WJS	**Zhushan**	**1.66 267**	*e*P	**Pn**	**06 19 29.8**	**+1.8**	
WJS			*e*S	**Sn**	**06 19 49.9**	**+1.5**	
SBCB	**Hsinchu**	**1.67 302**	*e*P	**Pb**	**06 19 29.6**	**-1.1**	
HSN	**Hsinchu**	**1.68 302**	*e*P	**Pb**	**06 19 30.0**	**-1.1**	
WNT	**Mingjian**	**1.70 269**	*e*P	**Pn**	**06 19 30.4**	**+1.9**	
WNT			*e*S	**Sn**	**06 19 51.1**	**+1.8**	
NSY	**Sanyi**	**1.70 288**	⇑*e*P	**Pb**	**06 19 30.8**	**-0.5**	
NMLH	**Miaoli**	**1.71 292**	⇑*i*P	**Pb**	**06 19 30.8**	**-0.8**	
NMLH			*e*S	**Sn**	**06 19 50.4**	**+0.7**	
TCU	**Taichung**	**1.72 278**	⇑*e*P	**Pb**	**06 19 30.9**	**-0.7**	
TCU			S	**Sb**	**06 19 52.5**	**-0.3**	
TTN	**Taitung**	**1.72 228**	*e*P	**Pn**	**06 19 30.3**	**+1.5**	
TTN			*e*S	**Sn**	**06 19 51.2**	**+1.3**	
TWGBT	**Beinan**	**1.72 231**	P	**Pn**	**06 19 29.4**	**+0.5**	
TWGBT	**Beinan**	**1.72 231**	⇓*e*P	**Pn**	**06 19 28.9**	**0.0**	
TWGBT			*e*S	**Sn**	**06 19 49.1**	**-1.0**	
TWG	**Pinlang**	**1.73 231**	Pn	**Pn**	**06 19 28.9**	**-0.1**	
TWG	**Pinlang**	**1.73 231**	P	**Pn**	**06 19 29.2**	**+0.2**	
TWG			*e*S	**Sn**	**06 19 49.0**	**-1.2**	
CHN5	**Tsauling**	**1.73 260**	⇑*i*P	**Pn**	**06 19 30.7**	**+1.6**	
JISG	**Ishigakijimahi**	**1.75 67**	P	**Pb**	**06 19 31.5**	**-0.7**	
JISG			*e*S	**Sb**	**06 19 53.2**	**-0.6**	
JISG	**Ishigakijimahi**	**1.75 67**	A	A	06 19 31.5		
	comp=E,16nm,0.5s,comp=N,23nm,0.5s						
PCYT	**Pengchaiyu**	**1.77 346**	*e*P	**Pn**	**06 19 30.2**	**+0.8**	
STYH	**Taoyuan**	**1.78 246**	*e*P	**Pn**	**06 19 30.8**	**+1.2**	
STYH			*e*S	**Sn**	**06 19 51.9**	**+0.6**	
WDJ	**Dajia District**	**1.79 285**	⇑*e*P	**Pn**	**06 19 31.4**	**+1.7**	
WDJ			*e*S	**Sn**	**06 19 53.4**	**+1.8**	
WCHH	**Zhanghua**	**1.82 276**	*e*P	**Pb**	**06 19 32.6**	**-0.7**	
WGK	**Gukeng**	**1.82 263**	*e*P	**Pn**	**06 19 32.4**	**+2.1**	
WGK			*e*S	**Sn**	**06 19 55.2**	**+2.7**	
WCH1	**Changhua City**	**1.83 276**	*e*P	**Pn**	**06 19 32.5**	**+2.2**	
WCKO	**Fanlu**	**1.83 256**	*i*P	**Pb**	**06 19 33.4**	**-0.2**	
WCKO			S	**Sn**	**06 19 55.0**	**+2.3**	
WDL	**Douliou City**	**1.84 264**	*e*P	**Pn**	**06 19 32.7**	**+2.2**	
WDL			*e*S	**Sb**	**06 19 56.0**	**-0.3**	
WDLH	**Douliu**	**1.84 264**	*e*P	**Pn**	**06 19 31.8**	**+1.3**	
WDLH			*e*S	**Sn**	**06 19 53.6**	**+0.7**	
TPUB	**Ta-pu**	**1.85 251**	Pn	**Pn**	**06 19 30.2**	**-0.5**	
TPUB	**Ta-pu**	**1.85 251**	P	**Pb**	**06 19 33.8**	**-0.1**	
TPUB	**Ta-pu**	**1.85 251**	⇓*i*P	**Pn**	**06 19 32.8**	**+2.1**	
TPUB			*e*S	**Sn**	**06 19 56.2**	**+3.0**	
CHN4	**Tsaushan**	**1.87 253**	*e*P	**Pn**	**06 19 33.1**	**+2.2**	
CHN2	**Minshiung**	**1.93 259**	*e*P	**Pb**	**06 19 34.6**	**-0.5**	
ECL	**Taimali**	**1.96 228**	*e*P	**Pn**	**06 19 32.3**	**+0.2**	
SGST	**Jiashian**	**1.97 246**	*e*P	**Pn**	**06 19 33.9**	**+1.5**	
SGST			*e*S	**Sn**	**06 19 59.8**	**+3.6**	
WRL	**Guolierlin Hig**	**1.98 270**	*e*P	**Pn**	**06 19 34.8**	**+2.4**	
WRL			*e*S	**Sb**	**06 19 59.9**	**-0.3**	
CHN1	**Nanshi**	**1.98 249**	*e*P	**Pn**	**06 19 34.8**	**+2.4**	
CHY	**Chiayi**	**1.98 259**	*e*P	**Pb**	**06 19 35.2**	**-0.8**	
CHY			*e*S	**Sn**	**06 19 59.2**	**+2.8**	
WTK	**Tuku**	**1.98 264**	*e*P	**Pn**	**06 19 34.7**	**+2.3**	
WTK			*i*S	**Sb**	**06 20 00.3**	**0.0**	
TWK	**Hsinying**	**1.99 252**	*e*P	**Pn**	**06 19 34.4**	**+1.9**	
SNST	**Tainan City**	**1.99 250**	*e*P	**Pn**	**06 19 35.2**	**+2.6**	
WTCT	**Ta-ch'eng**	**2.07 269**	*e*P	**Pn**	**06 19 35.7**	**+2.1**	
WTCT			*e*S	**Sn**	**06 20 01.0**	**+2.6**	
LAY	**Lan-yu**	**2.07 206**	*e*P	**Pn**	**06 19 33.2**	**-0.5**	
LYUB	**Lan-yu**	**2.09 205**	P	**Pn**	**06 19 33.3**	**-0.6**	
JTJ	**Tarama**	**2.11 69**	*e*P	**Pb**	**06 19 36.8**	**-1.4**	
JTJ			*e*S	**Sb**	**06 20 02.8**	**-1.1**	
JTJ	**Tarama**	**2.11 69**	A	A	06 19 36.8		
	comp=E,22nm,1.3s,comp=N,17nm,1.0s						
TSMG	**Majia**	**2.11 236**	*e*P	**Pn**	**06 19 36.4**	**+2.2**	
TSMG			*e*S	**Sn**	**06 19 59.9**	**+0.3**	
SCST	**Cishan**	**2.14 242**	*e*P	**Pn**	**06 19 37.7**	**+3.2**	
SCST			*e*S	**Sb**	**06 20 05.2**	**+0.4**	
WSF	**Szhu**	**2.14 263**	*e*P	**Pn**	**06 19 37.0**	**+2.4**	
ICHU	**Yijhu**	**2.14 256**	⇑P	**Pn**	**06 19 36.8**	**+2.1**	
ICHU			*e*S	**Sn**	**06 20 02.0**	**+1.7**	
WSL	**Shuilin Townsh**	**2.15 260**	*e*P	**Pn**	**06 19 36.9**	**+2.1**	
CHN3	**Shinhua**	**2.16 248**	*e*P	**Pn**	**06 19 37.1**	**+2.2**	
TAW	**Tawu**	**2.16 225**	*e*P	**Pn**	**06 19 35.5**	**+0.6**	
EAST	**Anshuo**	**2.17 226**	⇑P	**Pn**	**06 19 35.5**	**+0.4**	
MASBT	**Mashibuluo**	**2.18 234**	*e*P	**Pn**	**06 19 36.1**	**+1.0**	
MASBT			*e*S	**Sn**	**06 20 03.8**	**+2.6**	
TAWH	**Dawu Township**	**2.18 225**	P	**Pn**	**06 19 35.5**	**+0.4**	
SSHA	**Shanhua**	**2.20 250**	*e*P	**Pn**	**06 19 36.4**	**+0.9**	
CHN8	**Yiju**	**2.21 256**	*e*P	**Pn**	**06 19 37.8**	**+2.3**	
SGLT	**Jiouru**	**2.22 238**	*e*P	**Pn**	**06 19 37.0**	**+1.3**	
TWM1	**Shoushan**	**2.22 241**	*e*P	**Pb**	**06 19 39.7**	**-0.5**	
SLIU	**Shizi**	**2.32 224**	*e*P	**Pn**	**06 19 37.8**	**+0.6**	
SCZT	**Fangliau**	**2.33 229**	*e*P	**Pn**	**06 19 39.1**	**+1.8**	
TSCK	**Chigu Township**	**2.37 252**	*e*P	**Pn**	**06 19 40.0**	**+2.2**	
WSSB	**Gushan**	**2.44 239**	*e*P	**Pn**	**06 19 42.3**	**+3.4**	
SMST	**Manzhou Townsh**	**2.45 220**	*e*P	**Pn**	**06 19 39.9**	**+1.1**	
HEN	**Hengchun**	**2.52 222**	*e*P	**Pn**	**06 19 41.9**	**+2.1**	
TWKBT	**Hengchun**	**2.52 219**	*e*P	**Pn**	**06 19 40.8**	**+0.9**	
TWKBT			S	**Sn**	**06 20 11.1**	**+1.4**	
TWK1	**Hengchun**	**2.52 220**	*e*P	**Pn**	**06 19 40.8**	**+0.9**	
JIRB	**Irabujima**	**2.57 69**	*e*P	**Pb**	**06 19 43.5**	**-2.6**	
JIRB			*e*S	**Sb**	**06 20 13.7**	**-3.6**	
JIKM	**Ikemajima**	**2.67 67**	*e*P	**Pb**	**06 19 45.5**	**-2.3**	
JIKM			*e*S	**Sb**	**06 20 17.3**	**-2.8**	
JMJ	**Miyako jima 2**	**2.67 70**	P	**Pb**	**06 19 46.0**	**-1.8**	
JMJ2	**Miyako jima3**	**2.68 71**	*e*P	**Pb**	**06 19 45.7**	**-2.3**	
JMJ2			*e*S	**Sb**	**06 20 17.4**	**-2.9**	
JMJ2	**Miyako jima3**	**2.68 71**	A	A	06 19 45.7		
	comp=E,13nm,2.3s,comp=N,12nm,2.2s						
WDGT	**Dungji**	**2.72 257**	*e*P	**Pn**	**06 19 44.3**	**+1.7**	
WDGT			*e*S	**Sn**	**06 20 15.2**	**+0.7**	
PHUB	**P'eng-hu**	**2.75 262**	*e*P	**Pn**	**06 19 43.9**	**+1.0**	
PHUB			S	**Sn**	**06 20 16.1**	**+0.9**	
JOGS	**Gusukube**	**2.75 71**	A	A	06 19 46.6		
	comp=E,14nm,1.9s,comp=N,16nm,2.9s						
PNG	**Penghu**	**2.75 264**	*e*P	**Pn**	**06 19 44.5**	**+1.5**	
PNG			*i*S	**Sn**	**06 20 16.3**	**+0.9**	
VCHM	**Qimei**	**2.94 257**	*e*P	**Pn**	**06 19 47.4**	**+1.8**	
VCHM			S	**Sn**	**06 20 21.2**	**+1.2**	
VWUC	**VWUC**	**3.01 292**	*e*P	**Pn**	**06 19 46.8**	**+0.2**	
PTMZ	**Houxiangcun**	**3.31 291**	⇑*i*P	**Pn**	**06 19 51.1**	**+0.4**	
XPSS	**Dashiqiu**	**3.68 325**	*e*P	**Pn**	**06 19 56.1**	**+0.3**	
QZH	**Quanzhou**	**3.74 287**	⇑*i*P	**Pn**	**06 19 56.8**	**+0.2**	
QZH			Sn	**Sn**	**06 20 36.6**	**-3.2**	
QZH			smax	smax			
	comp=N,690nm,0.8s						
QZH			smax	smax			
	comp=N,740nm,0.3s						
QZH			LR	LR			
	comp=N,3μm,11.5s						
QZH			LR	LR			
	comp=N,3μm,15.3s						
QZH			LR	LR			
	comp=N,3μm,11.7s						
KNM	**Kinmen**	**3.78 279**	*e*P	**Pn**	**06 19 58.8**	**+1.6**	
KNMB	**Chin-men Tao**	**3.83 279**	Pn	**Pn**	**06 19 58.0**	**+0.2**	
KNMB	**Chin-men Tao**	**3.83 279**	⇓*e*P	**Pn**	**06 19 57.7**	**-0.1**	
MHZQ	**Yeshan**	**3.86 305**	*e*P	**Pn**	**06 19 58.1**	**-0.1**	
AXDP	**Jialang**	**4.28 284**	*e*P	**Pn**	**06 20 04.1**	**+0.1**	
ZPLA	**Ao Xicun**	**4.38 271**	*e*P	**Pn**	**06 20 08.9**	**+3.4**	
JOW	**Kunigami**	**5.95 60**	P	**Pn**	**06 20 27.8**	**+0.7**	
	comp=N,13nm,0.3s,baz=241,slow=12,SNR=24						
JOW			S	**Sn**	**06 21 32.4**	**-1.9**	
	comp=N,20nm,0.3s,baz=123,slow=20,SNR=1.4						
	comp=N,44nm,0.3s						
JOW	**Kunigami**	**5.95 60**	P	**Pn**	**06 20 27.7**	**+0.7**	
SSE	**Sheshan**	**7.26 351**	Pn	**Pn**	**06 20 45.5**	**+0.5**	
SSE			Sn	**Sn**	**06 22 07.8**	**+1.3**	
SSE			smax	smax			
	comp=N,44nm,1.2s						
SSE			smax	smax			
	comp=N,64nm,0.9s						
SSE			LR	LR			
	comp=N,690nm,12.6s						
SSE			LR	LR			
	comp=N,220nm,12.6s						
HKPS	**Hong Kong Po S**	**7.90 260**	Pn	**Pn**	**06 20 53.5**	**-0.3**	
JMZ	**Minamidaito 2**	**8.12 75**	Pn	**Pn**	**06 20 55.6**	**-1.1**	
GZH	**Guangzhou**	**8.48 266**	P	Pn	06 20 57.1	-4.6	
GZH			S	**Sn**	**06 22 29.8**	**-6.7**	
GZH			smax	smax			
	comp=N,270nm,1.0s						
GZH			smax	smax			
	comp=N,190nm,0.9s						
NJ2	**Nanjing**	**8.74 339**	*e*P	**Pn**	**06 21 05.8**	**+0.5**	
NJ2			S	**Sn**	**06 22 43.4**	**+0.5**	
NJ2			pmax	pmax			
	comp=N,41nm,0.6s						
NJ2			smax	smax			
	comp=N,110nm,0.8s						
NJ2			smax	smax			
	comp=N,59nm,0.9s						
NJ2			LR	LR			
	comp=N,2μm,10.4s						
NJ2			LR	LR			
	comp=N,1μm,9.2s						
NJ2			LR	LR			
	comp=N,2μm,10.0s						
CNSH	**ChangSha**	**9.63 298**	P	**Pn**	**06 21 16.1**	**-1.4**	
CNSH			S	**Sn**	**06 23 03.3**	**-1.5**	
CNSH			pmax	pmax			
	comp=N,27nm,1.1s						
CNSH			smax	smax			
	comp=N,240nm,1.0s						
CNSH			smax	smax			
	comp=N,200nm,1.0s						
WHN	**Wuhan**	**9.83 314**	P	**Pn**	**06 21 24.8**	**+4.5**	
WHN			S	**Sn**	**06 23 15.1**	**+5.3**	
WHN			LR	LR			
	comp=N,3μm,11.4s						
WHN			LR	LR			
	comp=N,2μm,8.6s						
WHN			LR	LR			
	comp=N,4μm,12.4s						
TGY	**Tagaytay City**	**9.87 189**	LR	LR	06 25 20.0		
	comp=N,370nm,20.5s,baz=358,slow=37						
JNU	**Nakatsue**	**11.74 37**	P	**Pn**	**06 21 46.1**	**-0.4**	
	comp=N,0.7nm,0.3s,baz=216,slow=19,SNR=1.7						
JNU			LR	LR	06 26 39.7		
	comp=N,442nm,19.3s,baz=214,slow=40						
	comp=N,2.1nm,0.4s						
QIZ	**Qiongzhong**	**12.77 250**	P	**Pn**	**06 22 00.8**	**+0.2**	
QIZ			S	**Sn**	**06 24 22.6**	**+0.6**	
QIZ			LR	LR			
	comp=N,340nm,18.5s						
QIZ			LR	LR			
	comp=N,240nm,20.2s						
QIZ			LR	LR			
	comp=N,340nm,17.6s						
LYN	**LuoYang**	**13.76 323**	⇓P	**P**	**06 22 25.1**	**+2.8**	
LYN			SS	**S**	**06 25 14.3**	**+6.4**	
LYN			pmax	pmax			
	comp=Z,59nm,1.1s						
LYN			LR	LR			
	comp=N,2μm,13.4s						
LYN			LR	LR			
	comp=E,840nm,15.1s						
LYN			LR	LR			
	comp=Z,2μm,14.4s						
KSAR	**Wonju Array Be**	**14.25 18**	Pn	**Pn**	**06 22 20.8**	**+0.2**	
KSAR	**Wonju Array Be**	**14.25 18**	P	**Pn**	**06 22 20.8**	**+0.2**	
KSRS	**Korea Array**	**14.27 18**	P	**Pn**	**06 22 20.2**	**-0.7**	
	comp=Z,4.5nm,0.4s,baz=197,slow=12,SNR=2

comp=Z,620nm,17.2s
LZH LR LR
comp=Z,990nm,17.2s
XLT XiLinHaoTe 20.64 347 *e*P **P 06 23 38.8 +0.7**
XLT pP pP 06 23 43.6 -0.9
XLT sP pwP 06 23 51.3 +2.1
XLT PP **PnPn 06 24 00.9 +4.6**
XLT pmax pmax
comp=Z,13nm,0.7s
XLT pmax pmax
comp=Z,110nm,5.5s
XLT LR LR
comp=Z,67nm,13.2s
XLT LR LR
comp=Z,220nm,12.8s
XLT LR LR
comp=Z,860nm,14.5s
MDJ Mudanjiang 21.45 14 P **P 06 23 53.3 +6.6**
MDJ sP pwP 06 24 03.3 +5.4
MDJ PP **PnPn 06 24 11.6 +4.3**
MDJ S **S 06 27 44.8 +1.5**
MDJ pmax pmax
comp=Z,13nm,1.5s
MDJ LR LR
comp=Z,630nm,16.8s
MDJ LR LR
comp=Z,420nm,12.7s
MDJ LR LR
comp=Z,940nm,14.8s
PHRA Phrae 21.47 260 **P 06 23 45.3 -1.9**
USA0B Ussuriysk Arra 21.67 19 P **P 06 23 48.5 -0.6**
USA0B Ussuriysk Arra 21.67 19 *i*P **P 06 23 47.9 -1.2**
USRK Ussuriysk Ar. 21.67 19 P **P 06 23 47.9 -1.2**
USRK Ussuriysk Ar. 21.67 19 P **P 06 23 48.1 -1.0**
comp=Z,10nm,0.8s,baz=207,slow=10,SNR=15
USRK LR LR 06 33 04.4
comp=Z,350nm,18.0s,baz=193,slow=39
comp=Z,10nm,0.8s
USRK Ussuriysk Ar. 21.67 19 P **P 06 23 47.9 -1.2**
BNX BinXian 22.14 9 ⇑P **P 06 23 54.3 +0.2**
BNX pmax pmax
comp=Z,20nm,0.8s
CHTO Chiang Mai 22.54 262 P **P 06 23 56.6 -2.1**
CHTO Chiang Mai 22.54 262 P **P 06 23 56.6 -2.1**
CHTO pmax pmax
comp=Z,12nm,1.4s
CMAR Chiang Mai Arr 22.65 261 P **P 06 23 57.5 -2.3**
CMAR Chiang Mai Arr 22.65 261 P **P 06 24 02.1 +2.3**
comp=Z,1.6nm,0.4s,baz=64,slow=8.2,SNR=16
CMAR PcP **PcP 06 27 53.1 +1.0**
comp=Z,1.2nm,0.3s,baz=85,slow=1.6,SNR=6.4
CMAR LR LR 06 33 12.6
comp=Z,77nm,18.9s,baz=90,slow=37
comp=Z,1.6nm,0.4s
TOLI2 Tolitoli 22.73 185 P **P 06 23 58.5 -2.2**
TNTI Ternate 23.47 168 P **P 06 24 06.5 -1.7**
TNTI IAmb IAmb 06 24 27.0
comp=Z,49nm,1.0s
GUMO Guam 23.47 112 LR LR 06 33 18.6
comp=Z,156nm,19.4s,baz=353,slow=36
SBUM Sibu 23.55 207 P **P 06 24 07.5 -1.5**
GTA Gaotai 24.66 314 *e*P **P 06 24 20.1 +0.8**
GTA pP sP 06 24 27.5 -1.7
GTA S **S 06 28 41.9 +2.6**
GTA pmax pmax
comp=Z,24nm,0.9s
GTA LR LR
comp=Z,200nm,14.7s
GTA LR LR
comp=Z,460nm,15.5s
GTA LR LR
comp=Z,500nm,15.1s
ERM Erimo 24.90 39 P **P 06 24 19.4 -1.8**
ERM Erimo 24.90 39 P **P 06 24 19.4 -1.8**
ERM pmax pmax
comp=Z,99nm,1.2s
ASAJ Asahikawa 26.00 34 LR LR 06 34 47.9
comp=Z,218nm,21.6s,baz=240,slow=37
ASAJ Asahikawa 26.00 34 P **P 06 24 30.3 -1.0**
ASAJ pmax pmax
comp=Z,25nm,1.2s
JKA Kamikawa-asahi 26.01 34 P **P 06 24 30.3 -1.0**
JKA IAmb IAmb 06 24 57.0
comp=Z,25nm,1.2s
HEH HeiHe 26.57 7 *e*P **P 06 24 36.1 -0.2**
HEH LR LR
comp=Z,580nm,13.7s
HEH LR LR
comp=Z,530nm,12.7s
HEH LR LR
comp=Z,570nm,14.1s
GOMU GeErMu 26.84 304 P **P 06 24 40.3 +0.9**
GOMU pP pP 06 24 43.8 -2.5
GOMU sP sP 06 24 47.6 -1.6
GOMU S **S 06 29 17.8 +3.3**
GOMU pmax pmax
comp=Z,10.0nm,0.8s
GOMU LR LR
comp=Z,380nm,15.6s
GOMU LR LR
comp=Z,290nm,15.0s
GOMU LR LR
comp=Z,470nm,15.7s
ULN Ulaanbaatar 26.90 337 P **P 06 24 38.9 -0.6**
ULN Ulaanbaatar 26.90 337 *ce*P **P 06 24 39.3 -0.2**
ULN pmax pmax
comp=Z,23nm,1.6s
SONM Songino Array 27.11 336 P **P 06 24 40.9 -0.5**
SONM IAmb IAmb 06 24 42.8
comp=Z,17nm,0.8s
SONM Songino Array 27.11 336 P **P 06 24 41.1 -0.3**
comp=Z,12nm,0.6s,baz=152,slow=8.5,SNR=56
SONM PcP **PcP 06 28 02.3 +0.5**
comp=Z,0.7nm,0.4s,baz=157,slow=2.6,SNR=6.4
comp=Z,12nm,0.6s
NLAI Namlea 27.35 170 P **P 06 24 47.4 +3.8**
SHL Shillong 27.86 280 P **P 06 24 48.7 +0.3**
SHL IAmb IAmb 06 25 21.9
comp=Z,17nm,1.2s
SHL Shillong 27.86 280 P **P 06 24 48.7 +0.3**
SHL pmax pmax
comp=Z,17nm,1.2s
KAPI Kappang 28.88 186 LR LR 06 37 52.3
comp=Z,84nm,19.2s,baz=352,slow=39
ZEA Zeya 30.00 6 *e*P P 06 25 13.3 +6.5
ZEA *e* 06 30 04.0
ZEA pmax pmax
comp=Z,10.0nm,0.8s
JAY Jayapura 31.66 144 LR LR 06 36 20.9
comp=Z,155nm,19.0s,baz=340,slow=33
UGM Wanagama 33.73 202 P **P 06 25 40.4 +0.4**
WMQ Urumqi 34.74 313 *e*P **P 06 25 50.3 +1.7**
WMQ pmax pmax
comp=Z,27nm,0.7s
MTN Manton Dam 37.48 166 P **P 06 26 12.8 +0.6**
MTN IAmb IAmb 06 26 25.2
comp=Z,16nm,0.7s
ZSN Zaisan 38.04 318 *e*P **P 06 26 16.7 +0.1**
ZSN Zaisan 38.04 318 *e*P **P 06 26 16.7 +0.1**
YAK Yakutsk 38.41 5 LR LR 06 43 56.4
comp=Z,132nm,18.7s,baz=192,slow=39
YAK Yakutsk 38.41 5 *i*P **P 06 26 17.5 -2.0**
YAK pmax pmax
comp=Z,28nm,1.0s
MK31 Makanchi Array 39.40 316 P **P 06 26 28.4 +0.3**
MK31 IAmb IAmb 06 26 29.6
comp=Z,29nm,1.2s
MK31 Makanchi Array 39.40 316 *ce*P **P 06 26 27.9 -0.2**
MKAR Makanchi Array 39.40 316 P **P 06 26 28.6 +0.5**
comp=Z,12nm,0.4s,baz=100,slow=9.6,SNR=290
MKAR PcP **PcP 06 28 36.5 +0.5**
comp=Z,1.9nm,0.9s,baz=122,slow=3.8,SNR=3.7
MKAR ScP **ScP 06 32 22.8 -0.1**
comp=Z,1.0nm,1.0s,baz=92,slow=4.6,SNR=4.0
MKAR LR LR 06 44 14.6
comp=Z,327nm,18.0s,baz=56,slow=38
comp=Z,12nm,0.4s
PETK Petropavlovsk- 39.41 33 P **P 06 26 26.4 -1.7**
comp=Z,6.1nm,1.1s,baz=177,slow=7.1,SNR=2.0
PETK LR LR 06 42 59.6
comp=Z,119nm,19.9s,baz=230,slow=37
comp=Z,6.1nm,1.1s
MAKZ Makanchi 39.60 316 P **P 06 26 30.4 +0.6**
MAKZ IAmb IAmb 06 26 31.9
comp=Z,36nm,1.1s
MAKZ Makanchi 39.60 316 P **P 06 26 30.0 +0.2**

KNRA Kununurra 39.81 171 P **P 06 26 32.4 +0.7**
WUS Wushi 39.92 306 P **P 06 26 33.0 +0.4**
SHLS Shalkode 40.19 309 *e*P **P 06 26 33.1 -1.9**
comp=Z,14nm,0.7s
SHLS Shalkode 40.19 309 *e*P **P 06 26 33.0 -1.9**
SHLS pmax pmax
comp=Z,14nm,0.7s
UZB Uzynbulak 40.50 309 *e*P **P 06 26 38.2 +0.6**
UZB Uzynbulak 40.50 309 *e*P **P 06 26 38.1 +0.6**
KPKS Kokpek 40.82 309 *e*P **P 06 26 40.9 +0.8**
comp=Z,8.3nm,0.7s
KPKS Kokpek 40.82 309 *e*P **P 06 26 40.8 +0.8**
KPKS pmax pmax
comp=Z,8.0nm,0.7s
ZAA0 Zalesovo Array 41.15 327 P **P 06 26 41.4 -1.0**
ZAA0 IAmb IAmb 06 26 42.4
comp=Z,17nm,0.7s
ZALV Zalesovo Beam 41.15 327 P **P 06 26 41.4 -1.0**
ZALV Zalesovo Beam 41.15 327 P **P 06 26 41.6 -0.8**
comp=Z,16nm,0.5s,baz=112,slow=7.8,SNR=67
ZALV PcP **PcP 06 28 41.0 -0.4**
comp=Z,3.2nm,0.6s,baz=105,slow=4.2,SNR=5.0
ZALV LR LR 06 44 30.5
comp=Z,179nm,20.2s,baz=117,slow=37
comp=Z,16nm,0.5s
ZALV Zalesovo Beam 41.15 327 *i*P **P 06 26 41.5 -1.0**
ZALV pmax pmax
comp=Z,16nm,0.5s
TDK Taldyqorghan 41.41 312 *e*P **P 06 26 45.3 +0.6**
comp=Z,24nm,0.7s
TDK Taldyqorghan 41.41 312 *e*P **P 06 26 45.3 +0.6**
TDK pmax pmax
comp=Z,24nm,0.7s
KDJ Kajisay 41.61 307 P **P 06 26 48.1 +1.5**
KDJ IAmb IAmb 06 26 49.5
comp=Z,35nm,1.0s
KDJ Kajisay 41.61 307 P **P 06 26 48.1 +1.5**
KDJ pmax pmax
comp=Z,35nm,1.0s
MDOK Medeo 41.91 309 *e*P **P 06 26 49.8 +0.6**
MDOK Medeo 41.91 309 *e*P **P 06 26 49.7 +0.6**
AAA Alma-Ata 42.02 309 *e*P **P 06 26 50.7 +0.8**
AAA Alma-Ata 42.02 309 *e*P **P 06 26 50.6 +0.8**
KSH Kashi 42.09 303 P **P 06 26 54.9 +4.4**
KSH pmax pmax
comp=Z,20nm,1.0s
KSH LR LR
comp=Z,140nm,14.3s
KSH LR LR
comp=Z,230nm,14.8s
KSH LR LR
comp=Z,390nm,16.1s
CHKK Chushkaly 42.11 310 *e*P **P 06 26 51.4 +0.8**
CHKK Chushkaly 42.11 310 *e*P **P 06 26 51.3 +0.8**
ULHL Ulahol 42.31 307 P **P 06 26 54.6 +2.2**
SNR=5.3
KUU Kurty 42.57 310 *e*P **P 06 26 55.1 +0.8**
comp=Z,14nm,0.7s
KUU Kurty 42.57 310 *e*P **P 06 26 55.0 +0.8**
KUU pmax pmax
comp=Z,14nm,0.7s
BOOM Boomskoye usch 42.58 307 P **P 06 26 55.2 +0.7**
BOOM Boomskoye usch 42.58 307 P **P 06 26 55.2 +0.7**
BOOM pmax pmax
comp=Z,12nm,0.8s
COEN Coen 42.70 150 P **P 06 26 54.2 -1.2**
COEN IAmb IAmb 06 27 12.8
comp=Z,17nm,1.1s
TKM2 Tokmak 2 42.91 308 P **P 06 26 59.1 +1.8**
SNR=14
TKM2 Tokmak 2 42.91 308 P **P 06 26 58.7 +1.5**
KURK Kurchatov 43.10 320 P **P 06 26 58.1 -0.2**
KURK IAmb IAmb 06 26 59.3
comp=Z,16nm,0.8s
KURK Kurchatov 43.10 320 P **P 06 26 58.2 -0.2**
KURK pmax pmax
comp=Z,16nm,0.9s
KURBB Kurchatov Arra 43.12 320 P **P 06 26 58.4 -0.1**
comp=Z,5.0nm,0.4s,baz=111,slow=8.1,SNR=56
KURBB PcP **PcP 06 28 47.5 -0.5**
comp=Z,1.2nm,0.7s,baz=106,slow=2.7,SNR=4.7
comp=Z,5.0nm,0.4s
KBK Karagaybulak 43.33 307 P **P 06 27 02.7 +2.1**
SNR=14
CHMS Chumysh 43.53 308 P **P 06 27 03.6 +1.5**
SNR=11
UCH Uchtor 43.58 307 P **P 06 27 05.5 +2.6**
SNR=7.5
AAK Ala-Archa 43.66 307 P **P 06 27 05.0 +1.8**
SNR=8.7
AAK Ala-Archa 43.66 307 P **P 06 27 03.7 +0.5**
AAK IAmb IAmb 06 27 05.8
comp=Z,13nm,0.8s
AAK Ala-Archa 43.66 307 LR LR 06 48 04.2
comp=Z,216nm,19.2s,baz=90,slow=40
AAK Ala-Archa 43.66 307 *ce*P **P 06 27 04.3 +1.1**
AAK pmax pmax
comp=Z,12nm,0.7s
USP Ospenovka 43.76 308 P **P 06 27 05.2 +1.3**
SNR=9.0
NIL Nilore 43.93 294 P **P 06 27 05.8 +0.4**
NIL IAmb IAmb 06 27 07.5
comp=Z,16nm,1.0s
NIL Nilore 43.93 294 P **P 06 27 05.8 +0.4**
NIL pmax pmax
comp=Z,16nm,1.0s
AML Almayashu 44.16 306 P **P 06 27 09.8 +2.2**
SNR=32
EKS2 Erkin-Say 44.18 307 P **P 06 27 09.2 +1.8**
SNR=11
BTLS Baital 44.42 311 *e*P **P 06 27 09.9 +0.7**
comp=Z,6.2nm,0.8s
BTLS Baital 44.42 311 *e*P **P 06 27 09.8 +0.7**
BTLS pmax pmax
comp=Z,6.0nm,0.8s
WB0 Warramunga Arr 44.92 164 P **P 06 27 14.7 +1.4**
WB0 IAmb IAmb 06 27 16.3
comp=Z,16nm,1.2s
WRAB Tennant Creek 45.07 164 P **P 06 27 15.5 +1.0**
WRAB IAmb IAmb 06 27 17.6
comp=Z,13nm,1.0s
WRAB Tennant Creek 45.07 164 P **P 06 27 15.5 +1.0**
WRAB pmax pmax
comp=Z,13nm,1.0s
WRA Warramunga Arr 45.08 164 P **P 06 27 15.8 +1.2**
WRA Warramunga Arr 45.08 164 P **P 06 27 16.5 +1.9**
comp=Z,7.1nm,0.8s,baz=346,slow=8.5,SNR=34
comp=Z,7.1nm,0.8s
WB2 Warramunga Arr 45.08 164 P **P 06 27 15.8 +1.2**
WB2 IAmb IAmb 06 27 17.6
comp=Z,14nm,1.0s
WR0 Warramunga Arr 45.15 164 P **P 06 27 15.6 +0.6**
WR0 IAmb IAmb 06 27 54.4
comp=Z,16nm,0.8s
DZA Taraz 46.00 307 *e*P **P 06 27 22.7 +1.0**
comp=Z,8.2nm,0.8s
DZA Taraz 46.00 307 *e*P **P 06 27 22.7 +1.0**
DZA pmax pmax
comp=Z,8.0nm,0.8s
GAR Garm 46.41 302 P **P 06 27 26.3 +1.2**
KK31 Karatay Array 46.62 307 *e*P **P 06 27 27.4 +0.8**
KKAR Karatay Array 46.62 307 P **P 06 27 27.3 +0.7**
KKAR IAmb IAmb 06 27 28.8
comp=Z,8.8nm,0.6s
KKAR Karatay Array 46.62 307 P **P 06 27 27.3 +0.7**
KKAR pmax pmax
comp=Z,9.0nm,0.6s
IUG Iuzhnay 46.87 306 *e*P **P 06 27 29.6 +0.9**
comp=Z,7.2nm,0.6s
IUG Iuzhnay 46.87 306 *e*P **P 06 27 29.5 +0.9**
IUG pmax pmax
comp=Z,7.0nm,0.6s
BRLS Borolday 47.10 307 *e*P **P 06 27 32.0 +1.6**
BRLS Borolday 47.10 307 *e*P **P 06 27 32.0 +1.6**
QIS Mount Isa 47.22 158 P **P 06 27 31.1 -0.3**
KBL Kabul 47.40 296 P **P 06 27 32.0 -1.0**
KBL Kabul 47.40 296 P **P 06 27 32.0 -1.0**
KBL pmax pmax
comp=Z,18nm,0.7s
SIMJ Simiganj 47.42 301 P **P 06 27 31.4 -1.7**
SIMJ IAmb IAmb 06 27 58.2
comp=Z,6.6nm,0.7s
TIXI Tiksi 47.90 3 P **P 06 27 34.7 -1.4**
TIXI IAmb IAmb 06 27 36.4
comp=Z,6.9nm,0.7s
TIXI Tiksi 47.90 3 LR LR 06 50 22.7

comp=Z,460nm,18.7s,baz=190,slow=40
TIXI Tiksi 47.90 3 *i*P **P 06 27 34.5 -1.6**
TIXI pmax pmax
comp=Z,6.0nm,0.6s
SHEM Shemya Is, Ala 48.25 40 LR LR 06 48 20.7
comp=Z,39nm,20.3s,baz=286,slow=37
AS31 Alice Springs 48.56 166 P **P 06 27 40.5 -1.3**
ASAR Alice Springs 48.56 166 P **P 06 27 40.9 -0.9**
ASAR Alice Springs 48.56 166 P **P 06 27 44.3 +2.5**
comp=Z,5.6nm,1.0s,baz=348,slow=6.3,SNR=28
comp=Z,5.6nm,1.0s
ASAR Alice Springs 48.56 166 P **P 06 27 40.9 -0.9**
BVA0 Borovoye Array 48.67 321 *i*P **P 06 27 41.8 -0.5**
BVAR Borovoye Array 48.67 321 P **P 06 27 42.4 0.0**
comp=Z,8.5nm,0.5s,baz=107,slow=8.3,SNR=46
BVAR PcP **PcP 06 29 07.7 +0.3**
comp=Z,6.2nm,0.8s,baz=107,slow=4.8,SNR=7.3
BVAR ScP **ScP 06 33 00.0 -0.4**
comp=Z,0.6nm,0.5s,baz=90,slow=4.4,SNR=4.1
BVAR LR LR 06 50 28.1
comp=Z,100nm,20.0s,baz=82,slow=39
comp=Z,8.5nm,0.5s
BRVK Borovoye 48.74 321 P **P 06 27 42.8 -0.1**
BRVK IAmb IAmb 06 27 44.4
comp=Z,15nm,1.1s
BRVK Borovoye 48.74 321 *ce*P **P 06 27 43.0 +0.1**
BRVK pmax pmax
comp=Z,12nm,1.0s
HNR Honiara 49.33 128 P **P 06 27 50.2 +2.3**
comp=Z,220nm,0.7s,baz=206,slow=2.1,SNR=2.1
HNR LR LR 06 47 13.5
comp=Z,65nm,20.2s,baz=302,slow=34
CTA Charters Tower 49.46 150 LR LR 06 46 20.5
comp=Z,7.4nm,22.0s,baz=290,slow=33
NRIK Noril'sk 49.99 345 P **P 06 27 50.6 -1.6**
comp=Z,2.8nm,0.3s,baz=141,slow=3.0,SNR=7.3
NRIK LR LR 06 50 59.7
comp=Z,227nm,19.9s,baz=154,slow=38
comp=Z,2.8nm,0.3s
NRIK Noril'sk 49.99 345 *ce*P **P 06 27 52.4 +0.3**
AB31 Akbulak array 54.52 314 *i*P **P 06 28 26.5 +0.4**
ABKAR Akbulak array 54.52 314 P **P 06 28 26.6 +0.5**
ATKA Atka Island 55.18 42 P **P 06 28 30.6 -0.2**
ARTI Arti 56.16 323 P **P 06 28 37.4 -0.5**
ARTI IAmb IAmb 06 28 37.9
comp=Z,9.8nm,0.5s
ARTI Arti 56.16 323 LR LR 06 53 21.3
comp=Z,117nm,21.7s,baz=35,slow=37
ARTI Arti 56.16 323 *c i*P **P 06 28 37.3 -0.5**
ARTI S **S 06 36 27.6 +2.4**
ARTI SS **SS 06 40 09.2 -2.4**
ARTI pmax pmax
comp=Z,6.0nm,0.5s
STKA Stephens Creek 58.39 161 P **P 06 28 53.9 +0.1**
STKA Stephens Creek 58.39 161 P **P 06 28 56.7 +2.9**
comp=Z,4.6nm,0.8s,baz=354,slow=5.5,SNR=7.2
STKA LR LR 06 56 19.0
comp=Z,76nm,19.1s,baz=222,slow=38
comp=Z,4.6nm,0.8s
UOSS Minazif 59.83 286 P **P 06 29 03.6 -0.5**
UOSS IAmb IAmb 06 29 39.0
comp=Z,23nm,1.4s
K13K Kusilvak Mount 61.12 31 P **P 06 29 13.2 +1.0**
KIRV Kirov 61.15 325 LR LR 06 57 43.2
comp=Z,154nm,19.6s,baz=84,slow=38
KIRV Kirov 61.15 325 *ce*P **P 06 29 12.9 +0.4**
L14K Kuka Creek 62.04 32 P **P 06 29 19.4 +1.1**
G16K Koyuk River 62.33 27 P **P 06 29 21.0 +0.8**
BELG Belogornoye 62.33 318 LR LR 07 00 13.7
comp=Z,75nm,21.0s,baz=276,slow=40
DZM Mont Dzumac 62.54 134 *e*LR LR 06 48 02.9
comp=Z,240nm,24.4s
DZM Mont Dzumac 62.54 134 LR LR 06 52 10.2
comp=Z,71nm,21.3s,baz=216,slow=32
K15K Wolf Creek Mou 62.60 31 P **P 06 29 23.4 +1.2**
F17K Baldwin Pennin 62.83 26 P **P 06 29 24.9 +1.3**
F17K IAmb IAmb 06 30 03.6
comp=Z,13nm,1.2s
H17K Granite Mounta 63.34 28 P **P 06 29 28.4 +1.3**
H17K IAmb IAmb 06 29 36.2
comp=Z,6.9nm,1.1s
AKT Akhty 63.50 306 *e*P **P 06 29 29.6 +0.9**
AKT *e* 06 30 07.0
AKT pmax pmax
comp=Z,17nm,0.7s
H18K Honhosa River 64.00 27 P **P 06 29 32.4 +1.0**
H18K IAmb IAmb 06 30 13.5
comp=Z,13nm,1.4s
F19K Shaleruckik Mo 64.22 26 P **P 06 29 32.8 0.0**
F19K IAmb IAmb 06 29 59.2
comp=Z,9.7nm,1.5s
B20K Meade River 64.44 22 P **P 06 29 35.0 +0.8**
G19K Purcell Mounta 64.51 26 P **P 06 29 35.5 +0.8**
G19K IAmb IAmb 06 29 58.0
comp=Z,7.6nm,1.3s
H19K Roundabout Mou 64.79 27 P **P 06 29 37.7 +1.2**
H19K IAmb IAmb 06 29 48.5
comp=Z,10.0nm,1.1s
J19K Poorman 65.23 29 P **P 06 29 41.1 +1.6**
J19K IAmb IAmb 06 29 50.8
comp=Z,10nm,1.1s
E21K Killik River 65.62 24 P **P 06 29 42.5 +0.5**
B22K Teshekpuk Lake 65.71 22 P **P 06 29 43.2 +0.8**
B22K IAmb IAmb 06 29 43.7
comp=Z,7.9nm,0.7s
O18K Koktuh Hills 65.78 33 P **P 06 29 44.7 +1.6**
F21K Alatna River 65.89 25 P **P 06 29 44.9 +1.2**
F21K IAmb IAmb 06 29 46.0
comp=Z,3.1nm,0.5s
G21K Allakaket 65.93 26 IAmb IAmb 06 29 47.6
comp=Z,14nm,1.4s
K20K Telida 65.97 29 P **P 06 29 46.0 +1.8**
K20K IAmb IAmb 06 30 03.4
comp=Z,7.0nm,1.1s
GNI Garni 65.98 305 LR LR 07 02 13.3
comp=Z,62nm,18.1s,baz=38,slow=39
GNI Garni 65.98 305 *i*P **P 06 29 45.6 +0.7**
GNI pmax pmax
comp=Z,12nm,0.8s
D22K Ayikyak River 66.06 23 P **P 06 29 45.9 +1.1**
VRH Novokhopyorsk 66.10 317 *e*P **P 06 29 43.6 -1.7**
VRH pmax pmax
comp=Z,10.0nm,1.0s
H21K Melozitna Rive 66.29 27 P **P 06 29 47.6 +1.3**
H21K IAmb IAmb 06 29 48.3
comp=Z,4.5nm,0.5s
E22K Anaktuvuk Pass 66.44 24 P **P 06 29 48.3 +1.1**
E22K IAmb IAmb 06 29 55.4
comp=Z,6.1nm,0.9s
KBZ Khabaz 66.61 309 P **P 06 29 48.9 +0.2**
comp=Z,12nm,0.9s,baz=146,slow=5.4,SNR=22
KBZ LR LR 07 02 33.7
comp=Z,90nm,19.0s,baz=0.0,slow=39
comp=Z,12nm,0.9s
KBZ Khabaz 66.61 309 *ce*P **P 06 29 50.4 +1.7**
KBZ pmax pmax
comp=Z,14nm,0.9s
KIV Kislovodsk 66.72 309 P **P 06 29 49.4 -0.1**
KIV Kislovodsk 66.72 309 *e*P **P 06 29 48.4 -1.1**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,58nm,17.0s
D23K Nanushuk River 66.77 23 P **P 06 29 50.5 +1.2**
SHA1 Shidzhatmaz 66.78 309 *ce*P **P 06 29 51.5 +1.4**
CAST Castle Rocks 66.85 29 IAmb IAmb 06 30 09.8
comp=Z,6.8nm,1.2s
OHAK Old Harbor 67.13 36 P **P 06 29 52.3 +0.6**
TOLK Toolik Lake Re 67.21 23 P **P 06 29 53.2 +1.0**
TOLK IAmb IAmb 06 29 54.0
comp=Z,4.8nm,0.8s
BPAW Bear Paw Mtn. 67.25 28 P **P 06 29 53.4 +1.0**
BPAW IAmb IAmb 06 29 58.6
comp=Z,14nm,1.5s
E23K Chandalar 67.27 24 IAmb IAmb 06 30 22.5
comp=Z,6.3nm,0.9s
KTH Kantishna Hill 67.35 29 P **P 06 29 54.3 +1.2**
KTH IAmb IAmb 06 30 11.9
comp=Z,7.9nm,1.1s
C24K Franklin Bluff 67.38 22 IAmb IAmb 06 30 00.7
comp=Z,6.3nm,0.8s
D24K Happy Valley 67.41 23 IAmb IAmb 06 29 55.1
comp=Z,6.5nm,0.7s
KDAK Kodiak Island 67.41 35 P **P 06 29 54.2 +0.7**
KDAK Kodiak Island 67.41 35 P **P 06 29 54.2 +0.7**
KDAK pmax pmax

comp=Z,77nm,1.4s
LPSR Galich'ya Gora 67.57 319 *e*P **P 06 29 52.1 -2.5**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
H23K Yukon River 67.61 26 P **P 06 29 56.4 +1.7**
H23K IAmb IAmb 06 29 59.1
comp=Z,8.5nm,1.2s
VSR Storozhevoye 67.68 318 *e*P **P 06 29 53.2 -2.1**
VSR pmax pmax
comp=Z,9.0nm,1.0s
E24K Your Creek 67.69 24 P **P 06 29 56.4 +1.2**
E24K IAmb IAmb 06 29 57.1
comp=Z,4.0nm,0.7s
SUA Susitna One 67.75 31 P **P 06 29 56.6 +0.8**
I23K Minto, Yukon-K 67.79 27 P **P 06 29 57.1 +1.3**
I23K IAmb IAmb 06 30 24.6
comp=Z,14nm,1.5s
NEA2 Nenana 68.00 28 P **P 06 29 57.6 +0.5**
NEA2 IAmb IAmb 06 30 01.6
comp=Z,10nm,1.2s
F24K Squaw Lake 68.00 25 P **P 06 29 58.3 +1.1**
F24K IAmb IAmb 06 29 58.8
comp=Z,5.2nm,0.6s
D25K Kavik River 68.25 22 IAmb IAmb 06 30 02.7
comp=Z,4.8nm,0.8s
RND Reindeer 68.29 29 P **P 06 29 59.5 +0.4**
RND IAmb IAmb 06 30 08.9
comp=Z,7.7nm,0.7s
RND Reindeer 68.29 29 P **P 06 29 59.5 +0.4**
RND pmax pmax
comp=Z,8.0nm,0.7s
G24K Hadweenzic Riv 68.30 25 IAmb IAmb 06 30 02.9
comp=Z,5.2nm,1.0s
WRH Wood River Hil 68.44 28 P **P 06 30 00.3 +0.4**
WRH IAmb IAmb 06 30 20.0
comp=Z,12nm,1.4s
OBN Obninsk 68.48 322 LR LR 07 02 51.2
comp=Z,134nm,19.2s,baz=348,slow=38
OBN Obninsk 68.48 322 *e*P **P 06 30 00.7 +0.5**
OBN *e* 06 30 25.9
OBN *e* 06 32 32.2
OBN *e*PPP PPP 06 34 10.6
OBN pmax pmax
comp=Z,5.0nm,0.9s
PMR Palmer 68.49 31 P **P 06 30 00.4 +0.2**
PMR IAmb IAmb 06 30 21.8
comp=Z,17nm,1.4s
PMR Palmer 68.49 31 P **P 06 30 00.4 +0.2**
PMR pmax pmax
comp=Z,17nm,1.4s
CCB Clear Creek Bu 68.53 28 P **P 06 30 00.8 +0.4**
CCB IAmb IAmb 06 30 26.9
comp=Z,8.5nm,1.4s
GHO Glory Hole Cre 68.55 31 P **P 06 30 01.3 +0.6**
F25K Christian Rive 68.83 24 P **P 06 30 03.5 +1.1**
F25K IAmb IAmb 06 30 05.6
comp=Z,3.2nm,0.7s
IL31 68.89 27 P **P 06 30 02.3 -0.4**
ILAR Eielson Array 68.89 27 P **P 06 30 01.4 -1.2**
comp=Z,0.6nm,0.4s,baz=273,slow=5.0,SNR=17
comp=Z,0.6nm,0.4s
HDA Harding Lake 68.93 28 P **P 06 30 02.8 -0.2**
C27K Jago River 69.11 22 P **P 06 30 05.1 +1.1**
C27K IAmb IAmb 06 30 30.8
comp=Z,12nm,1.3s
BMAR Burnt Mountain 69.27 24 P **P 06 30 05.6 +0.6**
SCM Sheep Creek Mo 69.28 30 P **P 06 30 06.0 +0.7**
SCM Sheep Creek Mo 69.28 30 P **P 06 30 06.0 +0.7**
SCM pmax pmax
comp=Z,18nm,1.1s
F26K Sheenjek River 69.37 24 P **P 06 30 06.9 +1.2**
RAYN Ar Rayn 69.61 287 P **P 06 30 08.7 +0.7**
RAYN IAmb IAmb 06 30 10.7
comp=Z,7.7nm,0.8s
RAYN Ar Rayn 69.61 287 P **P 06 30 08.7 +0.7**
RAYN pmax pmax
comp=Z,8.0nm,0.9s
MARD Mardin 69.64 303 P **P 06 30 09.7 +1.7**
M24K Tolsona, Glenn 69.76 30 P **P 06 30 09.4 +1.2**
FID Port Fidalgo 69.92 32 P **P 06 30 10.0 +0.9**
SPITS Spitsbergen Ar 70.01 348 P **P 06 30 07.6 -1.9**
comp=Z,3.6nm,0.4s,baz=72,slow=6.0,SNR=13
SPITS LR LR 07 05 03.3
comp=Z,168nm,18.2s,baz=102,slow=40
comp=Z,3.6nm,0.4s
SPITS Spitsbergen Ar 70.01 348 P **P 06 30 09.0 -0.5**
SPITS pmax pmax
comp=Z,121nm,1.5s
D27M Malcolm River 70.15 22 P **P 06 30 11.3 +0.9**
E27K Coleen River 70.19 23 P **P 06 30 11.6 +0.9**
ANN Anapa 70.21 311 *e*P **P 06 30 09.4 -1.7**
ANN *e**PP **pP 06 30 16.0 -2.6**
ANN *e*S **S 06 39 20.6 -0.4**
ANN pmax pmax
comp=Z,28nm,0.8s
ARCES ARCESS Array B 70.25 338 P **P 06 30 11.0 -0.1**
ARCES ARCESS Array B 70.25 338 P **P 06 30 10.3 -0.7**
comp=Z,2.4nm,0.5s,baz=67,slow=6.9,SNR=15
ARCES LR LR 07 04 45.6
comp=Z,114nm,18.4s,baz=287,slow=39
comp=Z,2.4nm,0.5s
ARCES ARCESS Array B 70.25 338 P **P 06 30 11.0 -0.1**
ARCES pmax pmax
comp=Z,24nm,1.4s
SCRK Sand Creek 70.29 28 P **P 06 30 11.8 +0.2**
I26K Coal Creek Min 70.32 26 P **P 06 30 11.1 -0.4**
I26K IAmb IAmb 06 30 16.5
comp=Z,7.7nm,1.2s
J26L Joseph Creek 70.34 27 IAmb IAmb 06 30 50.0
comp=Z,9.0nm,1.4s
N25K Chitina, Valde 70.60 30 P **P 06 30 14.2 +0.8**
N25K IAmb IAmb 06 30 52.5
comp=Z,15nm,1.4s
E28M Babbage River 70.82 23 P **P 06 30 15.2 +0.7**
F28M Old Crow 70.98 24 P **P 06 30 16.4 +0.9**
F28M IAmb IAmb 06 30 18.7
comp=Z,6.5nm,1.1s
GLB Gilahina Butte 71.01 30 P **P 06 30 16.7 +0.9**
GLB IAmb IAmb 06 30 27.0
comp=Z,17nm,1.4s
ARPR Arapgir-MALATY 71.03 305 P **P 06 30 16.1 -0.4**
ARPR IAmb IAmb 06 30 26.2
comp=Z,9.3nm,0.9s
K27K Chicken 71.09 28 P **P 06 30 16.4 +0.1**
K27K IAmb IAmb 06 30 29.2
comp=Z,12nm,1.5s
M26K Nabesna, AK 71.13 29 P **P 06 30 17.5 +1.0**
G29M Pine Creek 71.87 24 IAmb IAmb 06 30 23.8
comp=Z,8.8nm,1.0s
FINES FINESS Array B 72.31 330 P **P 06 30 23.3 -0.2**
comp=Z,4.1nm,0.4s,baz=69,slow=4.8,SNR=24
FINES LR LR 07 05 45.3
comp=Z,227nm,18.8s,baz=39,slow=39
comp=Z,4.1nm,0.4s
FINES FINESS Array B 72.31 330 *i* P **P 06 30 23.5 0.0**
FINES pmax pmax
comp=Z,4.0nm,0.4s
EPYK Eagle Plains 72.54 25 P **P 06 30 25.3 +0.3**
EPYK IAmb IAmb 06 30 31.1
comp=Z,10nm,1.4s
L29M L29M 73.06 28 IAmb IAmb 06 30 32.7
comp=Z,12nm,1.3s
F31M Tsiigehtchic 73.26 23 P **P 06 30 28.6 -0.4**
G31M Satah River 73.26 24 P **P 06 30 29.3 +0.2**
MNK Minsk 73.50 323 *i* P **P 06 30 28.4 -2.4**
comp=E,19nm,1.0s
MNK *i* P **P 06 30 28.4 -2.4**
comp=N,13nm,0.9s
MNK *i* P **P 06 30 28.4 -2.4**
comp=Z,14nm,0.9s,baz=72
MNK *i* PP **PP 06 33 10.4 -3.9**
MNK *i* PPP PPP 06 34 59.6
MNK *i* S **S 06 39 57.4 -1.2**
MNK *i* SS **SS 06 44 41.0 +0.1**
MNK *i* SSS SSS 06 48 01.6
MNK *i* LQ LQ 06 56 41.5
MNK *i* LR LR 07 00 05.9
MNK *i* LRM MLR 07 02 09.0
comp=Z,131nm,14.0s
MNK *i* LRM MLR 07 02 23.5
comp=N,717nm,19.3s
MNK *i* LRM MLR 07 02 55.5
comp=E,793nm,24.4s
MNK Minsk 73.50 323 *i* P **P 06 30 28.3 -2.4**
MNK *i* 06 33 10.4
MNK *i* PPP PPP 06 34 59.6
MNK *i* S **S 06 39 57.4 -1.2**
MNK *i* SS **SS 06 44 40.9 +0.1**
MNK *i* SSS SSS 06 48 01.6
MNK pmax pmax
comp=Z,14nm,0.9s
MNK pmax pmax
comp=E,19nm,1.0s
MNK pmax pmax
comp=N,13nm,0.9s
MNK MLR MLR
comp=Z,131nm,14.0s
MNK MLR MLR
comp=N,717nm,19.0s
MNK MLR MLR
comp=E,793nm,24.0s
H31M Peel River 73.65 25 IAmb IAmb 06 30 55.5
comp=Z,8.7nm,1.2s
AKASG Malin Array Be 73.90 319 P **P 06 30 31.7 -1.4**
AKASG Malin Array Be 73.90 319 P **P 06 30 32.5 -0.7**
comp=Z,1.1nm,0.4s,baz=62,slow=6.3,SNR=9.3
AKASG LR LR 07 05 43.9
comp=Z,74nm,18.1s,baz=8.0,slow=38
comp=Z,1.1nm,0.4s
AKBB Malin Array Si 73.90 319 P **P 06 30 32.9 -0.2**
AKBB Malin Array Si 73.90 319 P **P 06 30 32.9 -0.2**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
AKBB Malin Array Si 73.90 319 P **P 06 30 33.0 -0.2**
KIEV Kiev 73.91 319 P **P 06 30 32.9 -0.3**
KIEV Kiev 73.91 319 P **P 06 30 32.9 -0.3**
KIEV pmax pmax
comp=Z,4.0nm,0.8s
NACGM Naroch 73.98 323 *e*P **P 06 30 32.9 -0.7**
A36M Sachs Harbour 74.02 17 P **P 06 30 33.5 0.0**
BRTR Keskin Array B 74.33 307 P **P 06 30 36.7 +0.5**
BRTR Keskin Array B 74.33 307 P **P 06 30 36.2 +0.1**
comp=Z,11nm,0.8s,baz=88,slow=5.7,SNR=38
comp=Z,11nm,0.8s
BRTR Keskin Array B 74.33 307 *ce*P **P 06 30 37.2 +1.1**
BRTR pmax pmax
comp=Z,12nm,0.8s
ANTO Ankara 74.90 307 P **P 06 30 39.9 +0.5**
ANTO Ankara 74.90 307 P **P 06 30 39.9 +0.5**
ANTO pmax pmax
comp=Z,38nm,1.2s
MMAI Mount Meron Ar 75.11 300 P **P 06 30 41.8 +1.1**
comp=Z,2.7nm,0.6s,baz=72,slow=9.3,SNR=3.8
comp=Z,2.7nm,0.6s
C36M Paulatuk 75.65 20 P **P 06 30 42.2 -0.7**
RNPP9 Sopachiv 75.65 320 P **P 06 30 43.7 +0.4**
CSS Mathiatis 76.10 302 P **P 06 30 46.8 +0.6**
KWP Kalwaria Pacla 78.19 319 IAmb IAmb 06 31 01.5
comp=Z,11nm,0.7s
HFS Hagfors 78.41 331 P **P 06 30 58.1 -0.5**
comp=Z,2.7nm,0.5s,baz=97,slow=7.4,SNR=14
HFS LR LR 07 09 24.2
comp=Z,296nm,18.2s,baz=39,slow=39
comp=Z,2.7nm,0.5s
NC405 NORSAR Array S 78.79 332 P **P 06 31 00.6 -0.2**
NC303 NORSAR Array S 78.89 333 P **P 06 31 01.2 -0.1**
NC303 IAmb IAmb 06 31 15.8
comp=Z,24nm,1.3s
NB201 NORSAR Array S 79.00 332 P **P 06 31 01.9 -0.1**
NB201 IAmb IAmb 06 31 32.1
comp=Z,22nm,1.3s
NB2 NORSAR Subarra 79.04 332 P **P 06 31 01.9 -0.3**
comp=Z,2.1nm,0.5s,baz=54,slow=6.2
NOA NORSAR Array B 79.04 332 P **P 06 31 01.3 -0.9**
comp=Z,3.4nm,0.7s,baz=52,slow=5.8,SNR=15
NOA LR LR 07 09 31.3
comp=Z,145nm,19.6s,baz=40,slow=38
comp=Z,3.4nm,0.7s
NC204 NORSAR Array S 79.11 333 P **P 06 31 01.7 -0.9**
NC204 IAmb IAmb 06 31 03.1
comp=Z,13nm,1.1s
STHS Stebnicka Huta 79.16 319 *e*P **P 06 31 04.6 +1.6**
STHS Stebnicka Huta 79.16 319 *e*P **P 06 31 04.6 +1.6**
JMIC Jan Mayen 79.41 345 LR LR 07 09 35.5
comp=Z,84nm,20.0s,baz=51,slow=38
URZ Urewera 80.26 139 LR LR 07 05 59.5
comp=Z,42nm,18.8s,baz=22,slow=35
LANS Liptovska Anna 80.32 320 *e*P **P 06 31 10.4 +1.0**
LANS Liptovska Anna 80.32 320 *e*P **P 06 31 10.4 +1.0**
VYHS Vyhne 80.98 319 *e*P **P 06 31 14.2 +1.3**
VYHS pmax pmax
comp=Z,7.0nm,0.9s
VYHS Vyhne 80.98 319 *e*P **P 06 31 14.2 +1.3**
MODS Modra-Piesok 81.97 319 *e*P **P 06 31 19.3 +1.2**
MODS pmax pmax
comp=Z,14nm,1.0s
MODS Modra-Piesok 81.97 319 *e*P **P 06 31 19.3 +1.2**
YKA Yellowknife Ar 82.74 23 P **P 06 31 20.9 -0.9**
comp=Z,2.3nm,0.7s,baz=314,slow=5.0,SNR=7.7
YKA LR LR 07 12 52.0
comp=Z,51nm,18.0s,baz=9.0,slow=39
comp=Z,2.3nm,0.7s
CLL Collm 83.01 323 *i* P **P 06 31 25.2 +1.7**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 83.01 323 *i* P **P 06 31 25.2 +1.7**
comp=Z,7.0nm,0.8s
CONA Conrad Observa 83.01 320 *i* P **P 06 31 24.6 +0.9**
comp=Z,8.0nm,1.4s
KHC Kasperske Hory 83.77 321 *ce*P **P 06 31 29.1 +1.6**
KHC pmax pmax
comp=Z,8.0nm,1.3s
GEC2 GERESS Array S 83.84 321 IAmb IAmb 06 31 29.8
comp=Z,5.6nm,0.9s
GERES GERESS Array B 83.84 321 P **P 06 31 28.0 +0.1**
comp=Z,3.9nm,0.8s,baz=66,slow=3.3,SNR=11
GERES LR LR 07 11 45.0
comp=Z,118nm,20.7s,baz=318,slow=38
comp=Z,3.9nm,0.8s
SOKA Soboth 84.10 319 *i* P **P 06 31 29.5 +0.3**
comp=Z,8.8nm,1.3s
OBKA Obir 84.48 319 *i* P **P 06 31 31.6 +0.4**
comp=Z,9.0nm,1.1s
KBA Koelnbreinsper 84.92 320 *i* P **P 06 31 33.9 +0.4**
comp=Z,10nm,1.2s
LESA Schwarzleotal 85.14 320 *e*P **P 06 31 32.9 -1.6**
comp=Z,3.9nm,1.0s
ABTA Abfaltersbach 85.58 320 *i* P **P 06 31 36.8 +0.1**
comp=Z,6.0nm,0.7s
WATA Walderalm 85.83 320 *i* P **P 06 31 38.0 0.0**
comp=Z,3.5nm,0.5s
WTTA Wattenberg 85.83 320 *i* P **P 06 31 38.7 +0.6**
comp=Z,12nm,1.1s
KMBO Kilima Mbogo 86.14 267 P **P 06 31 42.6 +2.4**
comp=Z,1.2nm,0.3s,baz=58,slow=13,SNR=4.5
comp=Z,1.2nm,0.3s
RETA Reutte 86.22 321 *i* P **P 06 31 40.0 +0.2**
comp=Z,5.4nm,1.0s
FETA Feichten 86.49 320 *i* PcP **P 06 31 42.3 +1.0**
comp=Z,5.6nm,1.2s
LLLB Lillooet 86.63 35 IAmb IAmb 06 31 44.1
comp=Z,7.5nm,0.9s
FUORN Ofenpass-Fuorn 86.97 320 P **P 06 31 44.9 +1.2**
FUORN IAmb IAmb 06 31 46.6
comp=Z,6.1nm,0.9s
DAVOX Davos/Dischmat 87.11 321 LR LR 07 14 33.4
comp=Z,120nm,21.1s,baz=347,slow=38
BORG Borgarnes 87.31 345 LR LR 07 13 38.6
comp=Z,80nm,19.5s,baz=341,slow=38
GNW Green Mountain 87.81 38 IAmb IAmb 06 31 50.5
comp=Z,6.7nm,1.0s
EKA Eskdalemuir Ar 88.53 332 P **P 06 31 50.0 -0.7**
comp=Z,0.9nm,0.4s,baz=26,slow=3.9,SNR=7.9
comp=Z,0.9nm,0.4s
LON Longmire 88.84 38 IAmb IAmb 06 31 55.8
comp=Z,7.9nm,1.1s
F04A Amboy 88.95 39 P **P 06 31 53.7 +0.8**
LTY Liberty 89.19 37 IAmb IAmb 06 31 56.4
comp=Z,6.4nm,0.9s
HOOD Mount Hood Mea 89.74 39 P **P 06 31 56.1 -0.8**
MXC Moxie City 89.80 38 P **P 06 31 57.8 +0.9**
C09A Chrisman Ranch 90.19 36 P **P 06 31 59.4 +0.7**
C09A IAmb IAmb 06 32 01.3
comp=Z,8.3nm,0.9s
D08A Wollman Farm, 90.28 37 P **P 06 31 59.5 +0.4**
HAWA Hanford 90.33 38 P **P 06 31 59.9 +0.5**
HAWA IAmb IAmb 06 32 02.3
comp=Z,9.8nm,1.0s
G06A Carlson Farm, 90.38 39 P **P 06 31 59.6 -0.1**
G06A IAmb IAmb 06 32 02.0
comp=Z,5.4nm,1.1s
NEW Newport 90.52 35 P **P 06 32 01.8 +1.6**
NEW Newport 90.52 35 LR LR 07 14 47.6
comp=Z,24nm,18.6s,baz=44,slow=37
NEW Newport 90.52 35 P **P 06 32 01.8 +1.6**
NEW pmax pmax
comp=Z,11nm,0.9s
E08A Dider Farm, El 90.54 37 P **P 06 32 00.6 +0.3**
E08A IAmb IAmb 06 32 03.6
comp=Z,5.8nm,0.8s
J04A Umpqua Nationa 90.65 41 P **P 06 32 00.2 -1.0**
J04A IAmb IAmb 06 32 03.9
comp=Z,11nm,1.1s
E09A Wood Farm, Sta 91.03 37 P **P 06 32 03.5 +0.9**
E09A IAmb IAmb 06 32 06.0
comp=Z,6.7nm,0.8s
PINE Pine Mountain 91.03 40 P **P 06 32 02.9 -0.1**
PINE IAmb IAmb 06 32 06.8
comp=Z,5.5nm,1.0s
L04D Klamath Falls 91.10 42 P **P 06 32 03.7 +0.5**
L04D IAmb IAmb 06 32 05.7
comp=Z,8.4nm,1.0s
YBH Yreka Blue Hor 91.12 43 P **P 06 32 03.6 +0.3**
YBH Yreka Blue Hor 91.12 43 P **P 06 32 03.6 +0.3**
YBH pmax pmax
comp=Z,2.0nm,1.2s
J05D Fort Rock, OR 91.15 41 P **P 06 32 03.7 +0.3**
J05D IAmb IAmb 06 32 07.3
comp=Z,3.6nm,0.7s
G08A Pilot Rock 91.31 38 P **P 06 32 05.0 +0.9**
BMO Blue Mountains 92.51 38 P **P 06 32 08.9 -0.7**
BMO IAmb IAmb 06 32 12.6
comp=Z,2.5nm,0.8s
BMO Blue Mountains 92.51 38 P **P 06 32 08.9 -0.7**
BMO pmax pmax
comp=Z,3.0nm,0.8s
J08A Circle Bar Ran 92.74 40 P **P 06 32 11.2 +0.5**
J08A IAmb IAmb 06 32 14.6
comp=Z,4.1nm,0.8s
FFC Flin Flon 92.88 24 P **P 06 32 11.6 +0.6**
FFC Flin Flon 92.88 24 P **P 06 32 11.6 +0.6**
FFC pmax pmax
comp=Z,10.0nm,0.9s
PLID Pearl Lake 93.09 37 P **P 06 32 13.6 +1.1**
MSO Missoula 93.10 35 P **P 06 32 12.2 -0.2**
MSO IAmb IAmb 06 32 20.4
comp=Z,3.9nm,1.1s
OVMT Ovando 93.44 34 P **P 06 32 13.3 -0.6**
BPMT Black Pine Rid 93.61 35 P **P 06 32 14.2 -0.6**
CMB Columbia Colle 94.69 45 P **P 06 32 19.8 +0.1**
CMB Columbia Colle 94.69 45 P **P 06 32 19.8 +0.1**
CMB pmax pmax
comp=Z,2.0nm,1.0s
DLMT Dillon 94.76 35 P **P 06 32 20.8 +0.7**
DLMT IAmb IAmb 06 32 22.4
comp=Z,5.5nm,1.2s
HLID Hailey 94.94 38 P **P 06 32 21.9 +1.0**
PPT2 Papeete2 95.10 107 *e*LR LR 07 03 03.0
comp=Z,81nm,24.0s
BOZ Bozeman (W) 95.12 35 P **P 06 32 22.2 +0.6**
BOZ Bozeman (W) 95.12 35 P **P 06 32 22.2 +0.6**
BOZ pmax pmax
comp=Z,2.0nm,1.1s
NVAR Mina Array Bea 95.78 44 P **P 06 32 25.7 +0.8**
NVAR Mina Array Bea 95.78 44 P **P 06 32 22.8 -2.1**
comp=Z,0.8nm,0.8s,baz=297,slow=4.0,SNR=9.7
comp=Z,0.8nm,0.8s
YHL Hebgen Lake 95.85 35 P **P 06 32 24.9 -0.4**
YHL IAmb IAmb 06 32 53.3
comp=Z,4.5nm,1.3s
TBI Tubuai 97.44 112 *e*LR LR 07 04 10.5
comp=Z,952nm,41.8s
PFO Pinyon Flats O 99.87 47 LR LR 07 15 47.0
comp=Z,52nm,19.9s,baz=32,slow=34
BAUV El Baul 145.75 19 PKPab 06 38 38.4 +0.1
ROSC El Rosal 147.04 32 PKPdf **PKPdf 06 38 38.2 -2.1**
ROSC El Rosal 147.04 32 PKPbc **PKPbc 06 38 43.0 +0.7**
comp=Z,13nm,0.6s,baz=343,slow=19,SNR=7.6
ROSC El Rosal 147.04 32 PKP2 **PKPbc 06 38 43.0 +0.7**
OTAV Otavalo 148.52 43 PKPbc **PKPbc 06 38 45.3 -1.2**
OTAV Otavalo 148.52 43 PKP2 **PKPbc 06 38 45.3 -1.2**
MG04 Isla Riesco 149.17 163 PKPdf **PKPdf 06 38 42.4 +0.4**
RCBR Riachuelo 152.56 308 PKPbc **PKPbc 06 38 55.1 -0.4**
RCBR Riachuelo 152.56 308 PKIKP **PKPbc 06 38 55.1 -0.4**
BOAV Boa Vista 153.69 7 PKPbc **PKPbc 06 38 58.2 +0.2**
GO06 Curarrehue 160.39 146 PKPdf **PKPdf 06 38 56.4 -1.6**
GO06 PKPab **PKPab 06 39 38.2 -0.8**
ETMB Extrema 163.69 32 PKPab **PKPab 06 39 52.9 -0.8**
SAML Samuel 164.15 21 PKPab **PKPab 06 39 55.5 -0.2**
SAML Samuel 164.15 21 PKP2 **PKPab 06 39 55.5 -0.2**
TRQA Tornquist 165.38 166 PKPdf **PKPdf 06 39 01.5 -1.3**
TRQA PKPab **PKPab 06 40 00.0 -0.6**
TRQA Tornquist 165.38 166 PKIKP **PKPdf 06 39 01.5 -1.3**
TRQA 06 40 00.0
PATCX Punta Patache 167.86 78 PKPdf **PKPdf 06 39 04.3 -1.0**
PATCX PKPab **PKPab 06 40 11.0 -1.4**
PB11 IPOC Station P 167.95 72 PKPdf **PKPdf 06 39 03.1 -2.4**
PB11 PKPab **PKPab 06 40 09.9 -3.0**

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*IDC **19** 06:23:46.5±1.2, 5°.45S×146°.96E, h193km±11km, mb3.7/12, mbtmp4.3/15, Error ellipse: s-maj=17.0km s-min=8.7km az=96.0*

*NEIC **19** 06:23:48.3±1.4, 5°.50S±0°.06×147°.0E±0°.1, h196km±7km, mb4.4/68, Error ellipse: s-maj=14.9km s-min=9.2km az=90.0*

ISC 19 06:23:47.6±0.4, 5°.45S±0°.05×146°.93E±0°.06, h195km, n123, σ0°98/127, mb4.3/43, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.42**	**7**			**Pn**	**06 24 43.8**	**+1.8**
PMG	**Port Moresby**	**3.93**	**177**			**Pn**	**06 24 48.2**	**-0.2**
PMG				Sn		**Sn**	**06 25 34.7**	**-1.6**
PMG	**Port Moresby**	**3.93**	**177**	P		**Pn**	**06 24 48.1**	**-0.3**
	241nm,0.5s,baz=22,slow=9.2,SNR=97							
PMG				S		**Sn**	**06 25 33.9**	**-2.3**
	77nm,0.3s,baz=140,slow=22,SNR=1.7							
PMG	**Port Moresby**	**3.93**	**177**	P		**Pn**	**06 24 48.3**	**-0.2**
PMG	**Port Moresby**	**3.93**	**177**	P		**Pn**	**06 24 48.2**	**-0.2**
RABL	**Rabaul**	**5.37**	**77**	Pn		**Pn**	**06 25 06.8**	**+0.1**
TABU	**Tabubil**	**5.68**	**272**	P		**Pn**	**06 25 12.4**	**+1.6**
JAY	**Jayapura**	**6.86**	**295**	P		**Pn**	**06 25 26.9**	**+0.8**
	11nm,0.2s,baz=147,slow=3.8,SNR=24							
JAY				S		**Sn**	**06 26 41.1**	**-3.0**
	8.7nm,0.7s,baz=353,slow=24,SNR=1.1							
COEN	**Coen**	**9.22**	**203**			**Pn**	**06 25 56.7**	**-0.2**
COEN	**Coen**	**9.22**	**203**	P		**Pn**	**06 25 58.9**	**+2.0**
MTSU	**Mount Surprise**	**12.86**	**191**	P		**P**	**06 26 45.6**	**-1.6**
MTSU	**Mount Surprise**	**12.86**	**191**	P		**Pn**	**06 26 44.7**	**+1.1**
TATA	**Tatamba Isabel**	**13.11**	**104**	P		**P**	**06 26 50.3**	**+0.3**
TATA	**Tatamba Isabel**	**13.11**	**104**	P		**P**	**06 26 49.6**	**-0.4**
ALEG	**Aligegeo Malai**	**14.05**	**104**	P		**P**	**06 27 00.3**	**-0.1**
ALEG	**Aligegeo Malai**	**14.05**	**104**	P		**P**	**06 26 59.9**	**-0.5**
CTAO	**Charters Tower**	**14.56**	**183**	Pn		**Pn**	**06 27 04.0**	**-0.8**
CTAO	**Charters Tower**	**14.56**	**183**	P		**P**	**06 27 06.2**	**+0.2**
KDU	**Kakadu**	**15.97**	**242**	P		**Pn**	**06 27 22.4**	**+0.4**
WB0	**Warramunga Arr**	**18.74**	**220**	P		**P**	**06 27 53.1**	**+1.1**
WB0				IAmb		IAmb	06 27 54.8	
	comp=Z,5.7nm,0.7s							
WR0	**Warramunga Arr**	**18.79**	**219**	P		**P**	**06 27 53.9**	**+1.4**
WB2	**Warramunga Arr**	**18.90**	**219**	P		**P**	**06 27 54.8**	**+1.2**
WRA	**Warramunga Arr**	**18.90**	**219**	P		**P**	**06 27 53.9**	**+0.2**
WRA	**Warramunga Arr**	**18.90**	**219**	P		**P**	**06 27 54.0**	**+0.3**
	comp=Z,4.9nm,0.4s,baz=46,slow=12,SNR=44							
WRA				S		**S**	**06 31 17.1**	**-1.1**
	comp=Z,3.7nm,1.1s,baz=39,slow=19,SNR=7.7							
EIDS	**Eidsvold**	**20.20**	**169**	P		**P**	**06 28 08.8**	**+1.2**
EIDS				IAmb		IAmb	06 28 10.8	
	comp=Z,11nm,0.6s							
EIDS	**Eidsvold**	**20.20**	**169**	P		**P**	**06 28 08.9**	**+1.4**
EIDS	**Eidsvold**	**20.20**	**169**	P		**P**	**06 28 08.6**	**+1.1**
KNRA	**Kununurra**	**20.52**	**239**	P		**P**	**06 28 12.2**	**+1.1**
KNRA				IAmb		IAmb	06 28 13.7	
	comp=Z,6.4nm,0.5s							
QLP	**Quilpie**	**21.17**	**187**	P		**P**	**06 28 20.4**	**+2.6**
	comp=Z,29nm,0.6s							
AS31	**Alice Springs**	**22.03**	**213**	P		**P**	**06 28 27.9**	**+1.2**
AS31				IAmb		IAmb	06 28 28.9	
	comp=Z,6.0nm,0.3s							
ASAR	**Alice Springs**	**22.03**	**213**	P		**P**	**06 28 27.8**	**+1.2**
ASAR	**Alice Springs**	**22.03**	**213**	P		**P**	**06 28 27.7**	**+1.0**
	comp=Z,6.1nm,0.6s,baz=44,slow=8.3,SNR=30							
ASAR				S		**S**	**06 32 16.4**	**+0.8**
	comp=Z,2.0nm,1.0s,baz=24,slow=21,SNR=4.2							

comp=Z,6.1nm,0.6s
SOEI Soe 22.86 258 P P 06 28 34.1 -0.3
INKA Innaminka 22.93 194 P P 06 28 36.0 +1.2
FITZ Fitzroy Crossi 24.29 237 P P 06 28 47.7 +0.4
OOD Oodnadatta 24.66 204 P P 06 28 51.5 +1.0
DZM Mont Dzumac 25.09 133 P P 06 28 54.1 -0.5
ARMA Armidale 25.23 170 P P 06 28 56.4 +0.7
ARMA IAmb IAmb 06 28 57.4
comp=Z,17nm,1.0s
ARMA Armidale 25.23 170 P P 06 28 56.6 +0.9
AUPHS Peel High Scho 25.78 172 P P 06 29 02.3 +1.7
CMSA Cobar Meteorol 25.98 182 P P 06 29 03.0 +0.7
LCRK Leigh Creek 26.18 197 P P 06 29 05.0 +0.8
STKA Stephens Creek 26.76 190 P P 06 29 08.5 -0.8
STKA Stephens Creek 26.76 190 P P 06 29 08.3 -1.0
comp=Z,7.7nm,0.7s,baz=334,slow=6.8,SNR=8.7
comp=Z,7.7nm,0.7s
STKA Stephens Creek 26.76 190 P P 06 29 10.7 +1.4
comp=Z,2.8nm,1.0s
MULG Mulgathing 27.51 205 P P 06 29 16.5 +0.4
BBOO Buckleboo 29.05 199 P P 06 29 30.5 +0.8
CAN Canberra 29.78 177 P P 06 29 36.9 +0.7
CAN IAmb IAmb 06 30 06.3
comp=Z,19nm,1.3s
FORT Forrest 30.81 213 P P 06 29 45.5 +0.2
FORT Forrest 30.81 213 P P 06 29 45.6 +0.4
TOO Toolangi 32.00 182 P P 06 29 54.9 -0.7
JCJ Chichijima 32.68 352 P P 06 30 02.1 +0.5
UGM Wanagama 36.23 264 P P 06 30 32.3 -0.1
JOW Kunigami 36.83 332 P P 06 30 37.5 +0.4
YULB Yu-li 38.06 320 P P 06 30 47.9 +0.4
TPUB Ta-pu 38.42 319 P P 06 30 50.3 -0.3
SSLB Suanglung 38.56 320 P P 06 30 51.9 +0.2
YHNB Yeheng 38.92 321 P P 06 30 56.1 +1.3
TKNZ Takaka Hill 42.40 151 P P 06 31 23.3 +0.4
RTZ Ruatahuna 42.80 145 P P 06 31 26.6 +0.3
BKZ Black Stump Fm 42.90 146 P P 06 31 27.5 +0.4
TUWZ Tuamarina 43.19 150 P P 06 31 29.6 +0.4
TCW Tory Channel 43.19 150 P P 06 31 30.1 +0.9
MRZ Mangatainoka R 43.46 148 P P 06 31 31.8 +0.4
MRZ IAmb IAmb 06 32 04.2
comp=Z,18nm,1.1s
KSRS Korea Array 46.22 339 P P 06 31 53.3 +0.1
comp=Z,1.4nm,0.4s,baz=158,slow=9.0,SNR=4.8
comp=Z,1.4nm,0.4s
USRK Ussuriysk Ar. 51.23 346 P P 06 32 28.2 -2.9
comp=Z,1.4nm,0.6s,baz=193,slow=5.9,SNR=1.9
comp=Z,1.4nm,0.6s
PETK Petropavlovsk- 59.05 8 P P 06 33 26.6 -0.4
comp=Z,2.1nm,0.5s,baz=168,slow=8.1,SNR=2.7
comp=Z,2.1nm,0.5s
SONM Songino Array 63.89 331 P P 06 34 01.0 +1.3
SONM IAmb IAmb 06 34 01.8
comp=Z,7.7nm,1.5s
SONM Songino Array 63.89 331 P P 06 33 60.0 +0.3
comp=Z,1.3nm,0.5s,baz=151,slow=7.9,SNR=7.8
comp=Z,1.3nm,0.5s
SBA Scott Base 73.10 176 P P 06 34 57.5 +1.4
MK31 Makanchi Array 77.03 320 P P 06 35 18.6 -0.5
MKAR Makanchi Array 77.03 320 P P 06 35 18.6 -0.5
MKAR Makanchi Array 77.03 320 P P 06 35 18.2 -0.9
comp=Z,0.8nm,0.5s,baz=96,slow=8.1,SNR=9.0
comp=Z,0.8nm,0.5s
L14K Kuka Creek 77.10 22 P P 06 35 20.2 +1.1
O16K Kokwok River B 77.92 25 P P 06 35 24.3 +0.7
K15K Wolf Creek Mou 78.12 22 P P 06 35 25.7 +1.0
K15K IAmb IAmb 06 35 49.1
comp=Z,19nm,1.4s
ZAA0 Zalesovo Array 78.51 328 P P 06 35 26.4 -0.7
ZALV Zalesovo Beam 78.51 328 P P 06 35 26.0 -1.1
ZALV Zalesovo Beam 78.51 328 P P 06 35 25.9 -1.1
comp=Z,2.2nm,0.4s,baz=118,slow=6.0,SNR=10
comp=Z,2.2nm,0.4s
BOOM Boomskoye usch 79.84 315 P P 06 35 34.8 +0.1
BOOM IAmb IAmb 06 35 50.5
comp=Z,6.3nm,1.2s
L19K White Mountain 80.64 24 P P 06 35 39.2 +0.8
L19K IAmb IAmb 06 35 46.1
comp=Z,9.2nm,1.4s
KURBB Kurchatov Arra 80.75 323 P P 06 35 38.0 -1.2
comp=Z,0.4nm,0.3s,baz=114,slow=4.2,SNR=4.4
comp=Z,0.4nm,0.3s
G18K Tagagawik 81.27 20 P P 06 35 41.8 +0.1
E19K Redstone River 82.62 19 P P 06 35 49.4 +0.7
E19K IAmb IAmb 06 36 01.6
comp=Z,5.9nm,1.2s
D19K Kuna River 82.93 18 P P 06 35 50.5 +0.3
D19K IAmb IAmb 06 36 22.2
comp=Z,14nm,1.4s
IMAR Indian Mountai 83.01 21 P P 06 35 50.7 0.0
KKAR Karatay Array 83.86 314 P P 06 35 55.5 0.0
E21K Killik River 84.19 19 P P 06 35 57.4 +0.7
E21K IAmb IAmb 06 35 57.4
comp=Z,7.5nm,1.4s
I23K Minto, Yukon-K 84.22 22 P P 06 35 56.9 +0.1
I23K IAmb IAmb 06 36 28.7
comp=Z,7.2nm,1.5s
WRH Wood River Hil 84.41 23 P P 06 35 56.5 -1.3
WRH IAmb IAmb 06 36 11.9
comp=Z,13nm,1.4s
H23K Yukon River 84.45 22 P P 06 35 58.3 +0.2
QSPA South Pole Qui 84.51 180 P P 06 35 58.0 -0.5
QSPA South Pole Qui 84.51 180 P P 06 35 57.7 -0.8
comp=Z,2.0nm,0.8s,baz=244,slow=0.6,SNR=9.6
comp=Z,2.0nm,0.8s
CCB Clear Creek Bu 84.60 23 P P 06 35 57.4 -1.3
B21K Ikpikpuk River 84.61 17 P P 06 35 59.1 +0.4
B21K IAmb IAmb 06 36 43.2
comp=Z,7.0nm,1.2s
D22K Ayikyak River 84.82 18 P P 06 36 00.6 +0.8
D22K IAmb IAmb 06 36 38.7
comp=Z,14nm,1.5s
ILAR Eielson Array 85.01 23 P P 06 35 58.8 -2.0
comp=Z,0.4nm,0.5s,baz=249,slow=5.1,SNR=11
comp=Z,0.4nm,0.5s
B22K Teshekpuk Lake 85.33 17 P P 06 36 02.0 -0.2
B22K IAmb IAmb 06 36 33.6
comp=Z,16nm,1.4s
D23K Nanushuk River 85.50 19 P P 06 36 04.2 +1.1
D23K IAmb IAmb 06 36 20.2
comp=Z,9.1nm,1.5s
J25K Salcha River, 85.55 24 P P 06 36 02.9 -0.7
J25K IAmb IAmb 06 36 34.2
comp=Z,8.8nm,1.5s
F24K Squaw Lake 85.78 20 P P 06 36 04.2 -0.4
C23K Itkillik River 85.92 18 P P 06 36 05.6 +0.4
C23K IAmb IAmb 06 36 06.6
comp=Z,11nm,1.5s
D24K Happy Valley 86.18 19 P P 06 36 08.4 +1.9
D24K IAmb IAmb 06 36 19.2
comp=Z,6.5nm,1.5s
M27K Edge Creek, AK 86.21 26 P P 06 36 06.9 0.0
M27K IAmb IAmb 06 36 50.4
comp=Z,11nm,1.4s
BVAR Borovoye Array 86.29 324 P P 06 36 05.5 -1.9
comp=Z,0.7nm,0.5s,baz=99,slow=6.2,SNR=3.6
comp=Z,0.7nm,0.5s
K27K Chicken 86.68 25 P P 06 36 09.9 +0.9
K27K IAmb IAmb 06 36 27.3
comp=Z,10nm,1.5s
BMAR Burnt Mountain 86.92 21 P P 06 36 10.8 +0.6
D25K Kavik River 87.04 19 P P 06 36 11.2 +0.5
D25K IAmb IAmb 06 36 26.3
comp=Z,6.4nm,1.4s
DAWY Dawson 87.81 25 P P 06 36 15.3 +0.8
I28M Miner Creek 88.00 24 P P 06 36 15.6 +0.2
C27K Jago River 88.03 19 P P 06 36 16.1 +0.8
C27K IAmb IAmb 06 36 31.4
comp=Z,5.1nm,1.5s
L29M L29M 88.08 26 P P 06 36 16.4 +0.6
L29M IAmb IAmb 06 36 28.1
comp=Z,6.6nm,1.3s
E27K Coleen River 88.25 21 P P 06 36 16.8 +0.4
E27K IAmb IAmb 06 36 22.5
comp=Z,5.3nm,1.4s
K29M Barlow Dome 88.54 25 P P 06 36 18.7 +0.7
K29M IAmb IAmb 06 36 21.8
comp=Z,7.6nm,1.5s
D27M Malcolm River 88.81 20 P P 06 36 19.6 +0.6
D27M IAmb IAmb 06 36 59.0
comp=Z,6.6nm,1.5s
E28M Babbage River 89.10 21 P P 06 36 21.2 +0.8
G29M Pine Creek 89.17 22 P P 06 36 21.2 +0.5
J30M Hart River 89.23 25 P P 06 36 21.6 +0.3
J30M IAmb IAmb 06 36 56.3
comp=Z,5.3nm,1.4s
EPYK Eagle Plains 89.53 23 P P 06 36 22.9 +0.4
H31M Peel River 90.33 24 P P 06 36 26.5 +0.3
H31M IAmb IAmb 06 36 38.1
comp=Z,6.1nm,1.4s
G31M Satah River 90.61 23 P P 06 36 27.1 -0.2
G31M IAmb IAmb 06 37 10.3
comp=Z,7.8nm,1.5s
BUCK Buck Mountain 93.82 46 P P 06 36 42.7 -0.2
TORD Torodi Ar. Bea 144.88 285 PKP PKPbc 06 43 00.3 -1.8
comp=Z,0.4nm,0.5s,baz=63,slow=4.3,SNR=5.2

TRN 19 06:24:57.7, 10°.32N×61°.72W, h29km, MD3.7, 1D, Gulf of Paria., Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.26**	**91**	*eP*	Pn	06 25 07.5	+1.9
TPP				*eS*	Sn	06 25 12.5	+1.8
PSMG	**Mucurapo Girls**	**0.39**	**27**	*eP*	Pn	06 25 07.0	-0.5
PSMG				*eS*	Sb	06 25 12.9	+0.5
PSGH	**Port of Spain**	**0.40**	**31**	*eP*	Pb	06 25 06.9	+0.4
PSGH				*eS*	Sb	06 25 12.7	+0.2
PSQC	**Port of Spain**	**0.40**	**29**	*eP*	Pb	06 25 06.6	+0.1
PSQC				*eS*	Sb	06 25 12.7	+0.3
PSKH	**Kent House, Po**	**0.40**	**28**	*eP*	Pb	06 25 07.0	+0.4
PSKH				*eS*	Sb	06 25 13.4	+0.7
TRN	**Trinidad (W)**	**0.45**	**43**	*iP*	Pb	06 25 07.5	+0.2
TRN				*eS*	Sb	06 25 14.0	+0.2
TBH	**Brigand Hill**	**0.66**	**76**	*eP*	Pn	06 25 12.4	+1.3
TOSP	**Speyside**	**1.51**	**50**	*eP*	Pn	06 25 22.4	-0.4
TOSP				*eS*	Sn	06 25 41.5	-0.1
TOSP	**Speyside**	**1.51**	**50**	*e*	Pb	06 25 24.8	-0.6
TOSP				*eS*	Sn	06 25 41.5	-0.1
GRFF	**Grenada Fort F**	**1.72**	**359**	*eP*	Pn	06 25 26.0	+0.3
GRFF				*eS*	Sn	06 25 47.2	+0.5
GRGR	**Grenville**	**1.80**	**2**	*eP*	Pn	06 25 26.9	0.0
GRGR				*eS*	Sn	06 25 50.0	+1.2
GRW	**Mount Saint Ca**	**1.83**	**2**	*eP*	Pn	06 25 28.3	+1.0
GRW				*eS*	Sn	06 25 49.7	+0.1
GRHS	**Sauteurs**	**1.89**	**2**	*eP*	Pn	06 25 28.1	-0.1
GRHS				*eS*	Sn	06 25 51.0	0.0
GRSS	**Sisters**	**1.97**	**3**	*eP*	Pn	06 25 29.4	+0.3
GRSS				*eS*	Sn	06 25 51.7	-1.2
GCMP	**Grenada, Carri**	**2.17**	**7**	*eP*	Pn	06 25 31.7	-0.2
GCMP				*eS*	Sn	06 25 58.1	+0.2
SVOC	**Richmond Hill,**	**2.86**	**10**	*eP*	Pn	06 25 42.3	+0.9
SVOC				*eS*	Sn	06 26 14.3	-0.5
SVT	**Saint Vincent**	**2.87**	**9**	*eP*	Pn	06 25 41.7	+0.2
SVT				*eS*	Sn	06 26 15.7	+0.6
SVB	**Belmont**	**2.97**	**9**	*eP*	Pn	06 25 43.3	+0.3
SVB				*eS*	Sn	06 26 17.6	0.0
SVV	**Soufriere Volc**	**3.02**	**9**	*eP*	Pn	06 25 44.7	+1.0
SLAC	**Saint Lucia, A**	**3.64**	**13**	*eP*	Pn	06 25 52.8	+0.5
SLAC				*eS*	Sn	06 26 33.2	-1.1
SLBI	**Saint Lucia, B**	**3.75**	**11**	*eP*	Pn	06 25 53.9	+0.2
SLBI				*eS*	Sn	06 26 34.4	-2.5
BAUV	**El Baul**	**6.39**	**258**	*eP*	Pn	06 26 30.6	+0.6
BAUV				*eS*	Sn	06 27 32.9	-9.0
ANBD	**Bethesda, Anti**	**6.69**	**360**	*eP*	Pn	06 26 35.4	+1.3
ANBD				*eS*		06 26 42.4	

IDC 19 06:40:42.8±2.2, 43°.34N×138°.13E, h272km±22km, mb3.2/6, mbtmp3.7/8, Error ellipse: s-maj=26.8km s-min=15.3km az=79.0
JMA 19 06:40:42.3±0.3, 43°N±1°×13°8E±°, h266km, MV2.8/20, EASTERN SEA OF JAPAN
ISC 19 06:40:42.0±0.8, 43°.30N±0°.07×138°.41E±0°.07, h274km, n21, σ1§18/27, mb3.6/6, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**1.45**	**147**	*eP*	**Pn**	**06 41 21.7**	**-0.5**
JSK	**Shakotan**	**1.51**	**87**	P	**Pn**	**06 41 22.1**	**-0.5**
JOT	**Ohata**	**2.74**	**133**	*eP*	**Pn**	**06 41 33.2**	**0.0**
JRBN	**Rebuntou**	**2.86**	**41**	*eP*	**Pn**	**06 41 33.6**	**-0.8**
JKK2	**Kamakawa 2**	**3.21**	**78**	*eP*	**Pn**	**06 41 38.7**	**+0.6**
JKK2				*eS*	**S**	**06 42 22.9**	**+0.1**
JWK2	**Keihoku**	**3.22**	**50**	*eP*	**Pn**	**06 41 38.9**	**+0.8**
JNBK	**Urakawa-nobuka**	**3.36**	**106**	*eP*	**Pn**	**06 41 39.4**	**-0.3**
JNBK				*eS*	**S**	**06 42 25.6**	**-0.1**
JCH	**Churui**	**3.70**	**99**	*eP*	**Pn**	**06 41 42.1**	**-1.3**
JCH				*eS*	**S**	**06 42 29.0**	**-3.5**
JANG	**Nango**	**3.73**	**140**	*eP*	**Pn**	**06 41 44.2**	**+0.3**
JANG				*eS*	**S**	**06 42 31.3**	**-1.9**
JAR	**Ashorobuto**	**3.92**	**88**	*eP*	**Pn**	**06 41 45.9**	**0.0**
JAR				*eS*	**S**	**06 42 35.5**	**-1.3**
JOM	**Ohasama**	**4.39**	**149**	*eP*	**Pn**	**06 41 51.8**	**+0.4**
JOM				*eS*	**S**	**06 42 45.6**	**-1.4**
JYK	**Kaneyama**	**4.62**	**161**	*eP*	**Pn**	**06 41 54.8**	**+0.7**
USRK	**Ussuriysk Ar.**	**4.74**	**283**	P	**Pn**	**06 41 54.5**	**-0.8**
	2.0nm,0.6s,baz=96,slow=15,SNR=2.4						
JMK	**Ichinoseki**	**4.83**	**153**	*eP*	**Pn**	**06 41 56.1**	**-0.4**
MJAR	**Matsushiro Arr**	**6.75**	**181**	P	**Pn**	**06 42 20.3**	**+0.4**
	2.2nm,0.7s,baz=9.9,slow=15,SNR=2.6						
ZALV	**Zalesovo Beam**	**36.16**	**306**	P	**P**	**06 47 17.9**	**-0.4**
	0.9nm,0.4s,baz=94,slow=8.7,SNR=0.7						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**40.52**	**302**	P	**P**	**06 47 53.5**	**-1.0**
	0.7nm,0.6s,baz=79,slow=9.3,SNR=3.8						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**45.58**	**35**	P	**P**	**06 48 36.3**	**+1.7**
	0.5nm,0.7s,baz=285,slow=8.2,SNR=8.0						
	0.5nm,0.7s						
FINES	**FINESS Array B**	**62.23**	**330**	P	**P**	**06 50 33.8**	**-0.6**
	0.6nm,0.4s,baz=60,slow=8.2,SNR=1.3						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**63.03**	**184**	P	**P**	**06 50 41.3**	**+1.1**
	1.0nm,0.5s,baz=2.6,slow=7.1,SNR=45						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**66.76**	**184**	P	**P**	**06 51 05.7**	**+1.7**
	0.6nm,0.5s,baz=9.8,slow=6.6,SNR=8.4						
	0.6nm,0.5s						

IDC 19 06:43:14.2±1.8, 21°.29S×177°.63W, h0km, mb4.1/5, mbtmp4.1/5, Error ellipse: s-maj=49.3km s-min=38.3km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.76**	**245**	P	P	06 50 30.8	-1.3
	3.6nm,0.7s,baz=90,slow=9.8,SNR=7.1						
	3.6nm,0.7s						
ASAR	**Alice Springs**	**44.68**	**257**	P	P	06 51 29.0	-0.1
	3.1nm,0.5s,baz=101,slow=7.0,SNR=32						
	3.1nm,0.5s						
WRA	**Warramunga Arr**	**44.84**	**263**	P	P	06 51 31.2	+0.8
	4.1nm,0.6s,baz=92,slow=8.4,SNR=56						
	4.1nm,0.6s						
QSPA	**South Pole Qui**	**68.78**	**180**	P	P	06 54 20.1	+0.1
	0.8nm,0.9s,baz=239,slow=8.4,SNR=1.7						
	0.8nm,0.9s						
ILAR	**Eielson Array**	**89.01**	**13**	P	P	06 56 10.3	-0.1
	0.3nm,0.9s,baz=224,slow=7.6,SNR=2.4						
	0.3nm,0.9s						

NNC 19 06:44:16.0±8.9, 52°.73N×83°.29E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=62.5km s-min=31.6km az=33.0, Suspected Mining explosion.
IDC 19 06:44:48.3±1.8, 51°.57N×82°.48E, h0km, mbtmp2.4/3, ML1.7/3, Error ellipse: s-maj=18.6km s-min=17.9km az=21.0
ISC 19 06:44:41.2±1.4, 51°.02N±0°.07×82°.49E±0°.08, h0km, n7, σ1§86/7, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.47**	**264**	⇑Pg	**Pn**	**06 45 21.1**	**-1.6**
	0.8nm,0.7s						
KURK				⇑Lg	Lg	06 46 08.9	
	8.7nm,0.7s						
KURBB	**Kurchatov Arra**	**2.54**	**263**	⇑Pg	**Pn**	**06 45 21.6**	**-2.2**
	0.4nm,0.3s						
KURBB				⇓Lg	Lg	06 46 11.1	
	16nm,0.7s						
KURBB	**Kurchatov Arra**	**2.54**	**263**	Pn	**Pg**	**06 45 31.8**	**+1.9**
	baz=69,slow=14,SNR=0.9						
KURBB				Lg	Lg	06 46 12.0	
	0.1nm,0.3s,baz=72,slow=34,SNR=16						
	0.1nm,0.3s						
ZALV Zalesovo Beam 3.26 25 Pn Pn 06 45 32.9 -0.7
0.8nm,0.3s,baz=210,slow=14,SNR=18
3.2nm,0.4s
I46RU ZALESOVO INFRA 3.26 25 I I 07 01 07.6
0.1nm,0.9s,baz=205,slow=325,SNR=0.8
MK31 Makanchi Array 4.23 182 ⇓Pg Pg 06 46 02.1 -0.1
0.6nm,0.5s,baz=11,slow=12,SNR=8.3
MK31 ⇑Sn **Sg 06 46 58.1 +1.1**
0.2nm,0.5s
MK31 ⇓Lg Lg 06 47 17.1
1.2nm,0.7s,baz=9.6,slow=28,SNR=8.7
MKAR Makanchi Array 4.23 182 Pn Pg 06 46 03.4 +1.2
0.1nm,0.3s,baz=5.0,slow=14,SNR=11
MKAR Lg Lg 06 47 17.0
0.2nm,0.3s,baz=3.2,slow=32,SNR=13
1.0nm,0.6s

UCR 19 06:48:22.9±0.8, 8°.61N×83°.79W, h0km±3km, MW4.2, Fault plane solution: NP1:ϕ=257.19000°, δ61.12000°, λ8.50000°.
CATAC 19 06:48:25.3±0.5, 8°.63N×83°.74W, h10km, mb4.3, ML4.1
ISC 19 06:48:24.0±1.5, 8°.63N±0°.05×83°.76W±0°.05, h2km±11km, n49, σ1§26/66, 6C-15D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIME	**Puerto Jimenez**	**0.44**	**102**	⇑*eP*	**Pg**	**06 48 33.6**	**+1.2**
JIME				*eS*	**Sb**	**06 48 41.7**	**+0.2**
PTJ1	**Puerto Jimnez**	**0.46**	**101**	*iP*	**Pg**	**06 48 33.6**	**+0.8**
PTJ1				IAML		06 48 41.1	
	comp=Z,35μm,1.0s						
PTJ1				*iS*	**Sb**	**06 48 42.0**	**-0.1**
PTJ1	**Puerto Jimnez**	**0.46**	**101**	⇑*eP*	**Pg**	**06 48 33.7**	**+0.8**
PTJ1				*eS*	**Sb**	**06 48 41.8**	**-0.3**
PIRO	**Carate, Puerto**	**0.48**	**118**	⇑*eP*	**Pg**	**06 48 33.7**	**+0.6**
PIRO				*eS*	**Sg**	**06 48 41.2**	**+1.9**
OCHAL	**Ojochal**	**0.48**	**14**	*iP*	**Pg**	**06 48 33.7**	**+0.5**
OCHAL				*iS*	**Sg**	**06 48 41.7**	**+2.3**
OCHAL				IAML		06 48 42.8	
	comp=Z,10μm,1.0s						
BURE	**Buenos Aires**	**0.68**	**38**	⇓*eP*	**Pg**	**06 48 37.8**	**+0.7**
EDP2	**Potrero Grande**	**0.69**	**56**	⇓*eP*	**Pg**	**06 48 38.0**	**+0.7**
ZELE	**Perez Zeledon**	**0.74**	**4**	⇓*eP*	**Pg**	**06 48 38.6**	**+0.4**
ZELE				*eS*	**Sg**	**06 48 49.7**	**+1.9**
VITO	**San Vito**	**0.81**	**76**	⇓*eP*	**Pg**	**06 48 39.9**	**+0.5**
NELY	**Ciudad Neily**	**0.81**	**88**	⇑*eP*	**Pg**	**06 48 39.3**	**-0.2**
CDITO	**Canoas**	**0.88**	**94**	*iP*	**Pg**	**06 48 40.3**	**-0.6**
CDITO				*iS*	**Sg**	**06 48 50.0**	**-2.3**
CDITO				IAML		06 49 00.8	
	comp=Z,2μm,1.0s						
LLNJ	**Naranjito**	**0.90**	**338**	⇑*eP*	**Pg**	**06 48 41.0**	**-0.3**
LPPC	**Paso Canoas**	**0.92**	**96**	*eP*	**Pg**	**06 48 40.7**	**-0.9**
BUS1	**Rivas**	**0.92**	**1**	⇓*eP*	**Pg**	**06 48 41.4**	**-0.2**
BRU2	**Volcan**	**1.07**	**81**	*iP*	**Pg**	**06 48 44.2**	**-0.3**
BRU2				*iS*	**Sg**	**06 48 58.4**	**0.0**
BRU2				IAML		06 49 04.8	
	comp=Z,6μm,1.0s						
BRU2	**Volcan**	**1.07**	**81**	⇑*eP*	**Pg**	**06 48 43.7**	**-0.8**
ABE2	**San Pablo**	**1.11**	**345**	*eP*	**Pg**	**06 48 44.5**	**-0.7**
LCR2	**La Lucha 2**	**1.13**	**348**	*iP*	**Pg**	**06 48 44.6**	**-1.8**
LCR2				*iS*	**Sg**	**06 49 00.2**	**-0.2**
LCR2				IAML		06 49 02.4	
	comp=Z,3μm,1.0s						
REPA	**Paraso**	**1.20**	**355**	⇓*eP*	**Pb**	**06 48 45.8**	**-1.6**
ACOS	**Acosta**	**1.23**	**341**	⇓*eP*	**Pn**	**06 48 46.2**	**-2.0**
TAGO	**Cartago**	**1.24**	**353**	*eP*	**Pn**	**06 48 47.0**	**-1.5**
VINA	**Juan Vinas**	**1.26**	**1**	⇓*eP*	**Pn**	**06 48 47.1**	**-1.5**
TURIB	**Turrialba**	**1.27**	**3**	⇓*eP*	**Pn**	**06 48 47.1**	**-1.7**
PCAYA	**Pacayas**	**1.28**	**358**	⇓*eP*	**Pn**	**06 48 47.6**	**-1.5**
TRIO	**Tres Rios**	**1.29**	**350**	*eP*	**Pn**	**06 48 47.5**	**-1.6**
BRIBI	**Bribri**	**1.34**	**42**	⇓*eP*	**Pn**	**06 48 49.5**	**-0.1**
LUPE	**Guadalupe**	**1.34**	**348**	*eP*	**Pn**	**06 48 48.5**	**-1.3**
RVSTA	**Santa Teresita**	**1.34**	**5**	⇓*eP*	**Pn**	**06 48 48.7**	**-1.1**
VTCV	**VTCV, Calle Va**	**1.35**	**1**	⇓*eP*	**Pn**	**06 48 48.6**	**-1.4**
VICA	**Volcano Irazu**	**1.35**	**357**	⇓*eP*	**Pn**	**06 48 48.5**	**-1.6**
CORON	**Coronado**	**1.36**	**350**	*eP*	**Pn**	**06 48 48.6**	**-1.4**
SANTA	**Santa Ana**	**1.36**	**342**	*eP*	**Pn**	**06 48 48.3**	**-1.8**
CVTV	**Tajo**	**1.37**	**0**	*eP*	**Pn**	**06 48 49.3**	**-1.1**
CVTQ	**Turrialba Volc**	**1.37**	**360**	*eP*	**Pn**	**06 48 49.3**	**-1.1**
CVTR	**Volcan Turrial**	**1.38**	**0**	*eP*	**Pn**	**06 48 49.6**	**-1.0**
CVIMO	**Finca Echandi**	**1.40**	**353**	*eP*	**Pn**	**06 48 49.5**	**-1.1**
IRES	**Siquirres**	**1.48**	**10**	⇓*eP*	**Pn**	**06 48 51.0**	**-0.6**
RVLA	**Villa Bonita**	**1.48**	**7**	*eP*	**Pn**	**06 48 51.0**	**-0.6**
TCS1	**Tacares**	**1.50**	**339**	*iP*	**Pn**	**06 48 52.7**	**+0.7**
TCS1				*iS*	**Sn**	**06 49 12.3**	**+0.1**
TCS1				IAML		06 49 15.9	
	comp=Z,15μm,1.0s						
TAAN	**Batan**	**1.50**	**16**	*eP*	**Pn**	**06 48 51.2**	**-0.7**
SRA1	**San Ramn**	**1.61**	**334**	*eP*	**Pn**	**06 48 52.3**	**-1.2**
TRT2	**Tortugero**	**1.92**	**1**	*iP*	**Pn**	**06 48 57.7**	**+0.1**
TRT2				*iS*	**Sb**	**06 49 23.5**	**-0.5**
TRT2				IAML		06 49 28.9	
	comp=Z,990nm,1.0s						
SOCE	**Pocosol**	**1.94**	**334**	*iP*	**Pn**	**06 48 58.3**	**+0.4**
SOCE				*iS*	**Sn**	**06 49 24.1**	**+1.2**
SOCE				IAML		06 49 26.4	
	comp=Z,3μm,1.0s						
COVE	**Coope Vega, Sa**	**2.17**	**343**	*iP*	**Pn**	**06 49 00.8**	**-0.3**
COVE				*iS*	**Sn**	**06 49 29.9**	**+1.3**
COVE				IAML		06 49 49.3	
	comp=Z,790nm,1.0s						
BLUN	**Bluefields**	**3.35**	**360**	*iP*	**Pn**	**06 49 16.7**	**-0.7**
BLUN				*iS*	**Sn**	**06 49 57.7**	**-0.1**
BLUN				IAML		06 50 12.2	
	comp=Z,92nm,1.0s						
ESPN	**Las Esperanzas**	**3.58**	**352**	*iP*	**Pn**	**06 49 24.4**	**+3.9**
ESPN				*iS*	**Sn**	**06 50 06.0**	**+2.6**
ESPN				IAML		06 50 21.9	
	comp=Z,200nm,1.0s						
ACON	**Acoyapa**	**3.60**	**337**	*iP*	**Pn**	**06 49 21.9**	**+1.2**
ACON				IAML		06 49 43.9	
	comp=Z,120nm,1.0s						
ACON				*iS*	**Sn**	**06 50 04.6**	**+0.8**
BCIP	**Isla Barro Col**	**3.91**	**82**	*iP*	**Pn**	**06 49 25.2**	**+0.1**
BCIP				*iS*	**Sb**	**06 50 21.6**	**+0.1**
BCIP				IAML		06 50 39.9	
	comp=Z,130nm,1.0s						
LIMN	**Finca el Limon**	**5.09**	**330**	*iP*	**Pn**	**06 49 43.2**	**+1.8**
LIMN				IAML		06 50 02.1	
	comp=Z,45nm,1.0s						
LIMN				IAmb	IAmb	06 50 09.1	
	comp=Z,22nm,0.6s						

JSN 19 06:49:51.3±0.4, 19°.64N×81°.69W, h50km±999km, MD4.7
SSNC 19 06:49:55.8±1.6, 18°.88N×81°.51W, h34km±999km, MD3.4, ML3.2
ISC 19 06:49:51.9±2.5, 18°.9N±0°.1×81°.5W±0°.1, h10km, n15, σ2§61/20, 1C, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTDJ	**Mount Denham**	**3.81**	**100**	⇑*iP*	**Pn**	**06 50 51.6**	**+0.8**
MTDJ	**Mount Denham**	**3.81**	**100**	*eP*	**Pn**	**06 50 51.4**	**+0.6**
MTDJ				*eS*	**Sn**	**06 51 32.0**	**-3.6**
SOR	**Soroa**	**4.10**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**139**	I	I	07 08 20.6	
	0.1nm,1.1s,baz=318,slow=334,SNR=2.9						
ZALV	**Zalesovo Beam**	**0.98**	**139**	Pg	Pg	07 03 08.4	-0.6
	1.8nm,0.3s,baz=319,slow=15,SNR=8.9						
ZALV				Lg	Lg	07 03 23.3	
	4.6nm,0.3s,baz=322,slow=29,SNR=12						
KURBB	**Kurchatov Arra**	**5.15**	**220**	Pn	Pn	07 04 09.4	+0.7
	0.1nm,0.3s,baz=38,slow=13,SNR=6.6						
KURBB				Sn	Sn	07 05 06.9	-1.9
	baz=37,slow=30,SNR=1.2						
KURBB				Lg	Lg	07 05 32.8	
	0.1nm,0.3s,baz=37,slow=30,SNR=3.0						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.95**	**187**	Pn	Pn	07 04 47.2	+0.1
	0.1nm,0.3s,baz=8.4,slow=12,SNR=2.0						
MKAR				Lg	Lg	07 07 03.1	
	baz=6.1,slow=35,SNR=2.2						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**8.06**	**264**	Pn	Pn	07 04 47.6	-1.0
	0.1nm,0.3s,baz=66,slow=14,SNR=4.7						
	0.7nm,0.3s						

IDC 19 07:05:30.9±3.7, 55°.67N×85°.98E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=31.8km s-min=27.4km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**202**	I	I	07 16 28.2	
	baz=22,slow=346,SNR=5.5						
ZALV	**Zalesovo Beam**	**1.85**	**202**	Pn	Pn	07 06 02.6	-1.3
	1.6nm,0.3s,baz=22,slow=15,SNR=11						
ZALV				Lg	Lg	07 06 29.8	
	1.3nm,0.3s,baz=20,slow=26,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.75**	**225**	Pn	Pn	07 07 10.8	-0.4
	baz=45,slow=14,SNR=3.0						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**9.19**	**196**	Pn	Pn	07 07 45.2	+0.6
	baz=14,slow=19,SNR=1.5						
	0.1nm,0.4s						

*NEIC **19** 07:10:21.1±2.4, 17°.9N±0°.3×68°.79W±0°.07, h154km±18km, ML2.5/22, Md2.8/6(RSPR), Error ellipse: s-maj=48.0km s-min=7.1km az=188.0*
*SDD **19** 07:10:23.1±1.6, 17°.42N×69°.11W, h80km±50km, MD2.9, ML2.3, MW2.5*
*RSPR **19** 07:10:24.5±2.6, 18°.3N±0°.2×68°.72W±0°.09, h143km±4km, Error ellipse: s-maj=34.6km s-min=9.5km az=195.0*
ISC 19 07:10:21.4±2.2, 18°.0N±0°.2×68°.80W±0°.09, h153km±18km, n20, σ1§36/34, 10C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.59**	**8**	⇑*e*Pg	**Pn**	**07 10 44.1**	**+0.6**
HIDR				*e*Sg	**Sn**	**07 10 59.1**	**-1.4**
HIDR				IAML		07 10 59.3	
	comp=E,50nm,0.2s						
HIDR				IAML		07 11 01.9	
	comp=N,96nm,0.2s						
PCDR	**Punta Cana, DR**	**0.64**	**38**		**Pn**	**07 10 43.9**	**0.0**
PCDR					**Sn**	**07 10 59.9**	**-1.1**
PCDR				IAML		07 11 39.2	
	comp=E,82nm,2.1s						
PCDR	**Punta Cana, DR**	**0.64**	**38**	⇑*e*Pg	**Pn**	**07 10 44.6**	**+0.7**
PCDR				IAML		07 10 58.6	
	comp=N,76nm,1.8s						
PCDR				⇑*e*Sg	**Sn**	**07 11 00.1**	**-0.9**
PCDR				IAML		07 11 35.0	
	comp=N,114nm,2.0s						
HATOM	**Hato Mayor del**	**0.95**	**325**	⇑*e*Pg	**Pn**	**07 10 47.0**	**+0.9**
HATOM				⇑*e*Sg	**Sn**	**07 11 03.6**	**-1.5**
HATOM				IAML		07 11 03.7	
	comp=E,17nm,1.4s						
HATOM				IAML		07 11 44.2	
	comp=N,16nm,1.4s						
MIDR	**Miches**	**1.00**	**346**	*e*Pg	**Pn**	**07 10 47.0**	**+0.6**
MIDR				IAML		07 11 05.8	
	comp=E,13nm,0.8s						
MIDR				*e*Sg	**Sn**	**07 11 06.2**	**+0.6**
MIDR				IAML		07 11 06.6	
	comp=N,13nm,0.7s						
MIDR				IAML		07 11 18.5	
	comp=N,25nm,2.4s						
PRSN	**Puerto Rico Se**	**1.59**	**82**	Pn	**Pn**	**07 10 52.6**	**+0.5**
PRSN				IAML		07 11 19.0	
	comp=N,29nm,0.3s						
PRSN				IAML		07 11 21.4	
	comp=E,32nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.61**	**90**		**Pn**	**07 10 51.8**	**-0.6**
CRPR					**Sn**	**07 11 13.9**	**-2.1**
CRPR				IAML		07 11 23.8	
	comp=E,25nm,2.7s						
CRPR	**Cabo Rojo, PR**	**1.61**	**90**	*e*Pg	**Pn**	**07 10 53.4**	**+1.1**
CRPR				⇑*e*Sg	**Sn**	**07 11 18.9**	**+2.9**
CRPR				IAML		07 11 23.1	
	comp=E,36nm,2.5s						
CRPR				IAML		07 11 59.6	
	comp=N,28nm,2.1s						
LSP	**Las Mesas**	**1.64**	**84**		**Pn**	**07 10 54.0**	**+1.2**
LSP					**Sn**	**07 11 19.7**	**+3.0**
MLPR	**Magueyes Islan**	**1.67**	**91**		**Pn**	**07 10 51.7**	**-1.3**
MLPR					**Sn**	**07 11 15.8**	**-1.4**
MLPR				IAML		07 11 29.3	
	comp=E,29nm,3.5s						
MLPR	**Magueyes Islan**	**1.67**	**91**	⇑*e*Pg	**Pn**	**07 10 53.9**	**+0.9**
MLPR				⇑*e*Sg	**Sn**	**07 11 16.2**	**-1.0**
MLPR				IAML		07 11 21.2	
	comp=E,19nm,1.6s						
MLPR				IAML		07 11 55.5	
	comp=N,22nm,2.2s						
AOPR	**Arecibo Observ**	**1.98**	**80**		**Pn**	**07 10 56.4**	**0.0**
AOPR					**Sn**	**07 11 21.8**	**-1.6**
AOPR				IAML		07 11 28.2	
	comp=E,45nm,0.3s						
AOPR				IAML		07 11 30.7	
	comp=N,38nm,0.8s						
UUPR	**Utuado, UPR, P**	**1.99**	**83**		**Pn**	**07 10 57.2**	**+0.5**
OBIP	**Obispado Ponce**	**2.09**	**89**		**Pn**	**07 10 56.5**	**-1.2**
OBIP				Sn	**Sn**	**07 11 25.4**	**-0.3**
OBIP				IAML		07 12 09.3	
	comp=N,17nm,3.0s						
CELP	**Cerrillos**	**2.12**	**88**		**Pn**	**07 10 57.5**	**-0.5**
CELP					**Sn**	**07 11 26.3**	**+0.1**
CELP				IAML		07 11 40.6	
	comp=E,17nm,2.8s						
CELP				IAML		07 11 46.9	
	comp=N,17nm,1.9s						
CELP	**Cerrillos**	**2.12**	**88**	⇑*e*Pg	**Pn**	**07 11 00.2**	**+2.2**
CELP				⇑*e*Sg	**Sn**	**07 11 28.3**	**+2.1**
CELP				IAML		07 11 37.1	
	comp=E,12nm,2.5s						
CELP				IAML		07 11 46.4	
	comp=N,16nm,1.6s						
EMPR	**Esperanza - Ma**	**2.21**	**77**	Pn	**Pn**	**07 10 59.3**	**+0.1**
SDDR	**Presa de Saban**	**2.55**	**293**	Pn	**Pn**	**07 11 03.6**	**+0.3**
SDDR				IAML		07 12 41.0	
	comp=N,16nm,1.9s						
SDDR				IAML		07 12 44.2	
	comp=N,21nm,2.7s						
GCPR	**Guaynabo City**	**2.60**	**83**	Pn	**Pn**	**07 11 02.4**	**-1.6**
PDPR	**Patillas Dam,**	**2.64**	**89**	Pn	**Pn**	**07 11 04.0**	**-0.4**

*SNET **19** 07:18:55.5±1.1, 13°.77N×90°.55W, h66km, ML4.2*
*CATAC **19** 07:18:55.2±0.2, 13°.71N×90°.56W, h79km±3km, mb4.9, ML4.3*
*GCG **19** 07:19:00.1±0.6, 14°.13N×90°.66W, h67km±16km, MD4.0*
ISC 19 07:18:55.1±1.3, 13°.71N±0°.05×90°.57W±0°.04, h83km±9km, n110, σ0§87/170, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.68**	**357**	‖*e*P	**Pn**	**07 19 11.4**	**+0.2**
ESSG	**Sabana Grande**	**0.72**	**339**	*i*P	**Pn**	**07 19 11.3**	**-0.1**
ESSG				IAML		07 19 24.6	
	comp=Z,8μm,1.0s						
FUG	**Fuego 3**	**0.79**	**340**	*e*P	**Pn**	**07 19 12.2**	**+0.1**
NUBE	**Las Nubes**	**0.79**	**75**	*e*P	**Pn**	**07 19 11.6**	**-0.5**
NUBE				*e*S	**Sn**	**07 19 23.2**	**-1.6**
NUBE	**Las Nubes**	**0.79**	**75**	*i*P	**Pn**	**07 19 11.6**	**-0.5**
NUBE				*i*S	**Sn**	**07 19 24.7**	**-0.1**
NUBE				IAML		07 19 26.4	
	comp=Z,5μm,1.0s						
SLOZ	**Alcaldia de Sa**	**0.82**	**67**	*e*P	**Pn**	**07 19 11.8**	**-0.6**
SLOZ				*e*S	**Sn**	**07 19 24.6**	**-0.7**
GCG4	**OSOP**	**0.88**	**2**	*i*P	**Pn**	**07 19 13.4**	**+0.2**
GCG4				*i*S	**Sn**	**07 19 26.8**	**+0.2**
GCG4				IAML		07 19 28.2	
	comp=Z,2μm,1.0s						
NBG	**Las Nubes**	**0.90**	**14**	*e*P	**Pn**	**07 19 14.2**	**+0.6**
NBG				*e*S	**Sn**	**07 19 28.3**	**+1.1**
RTR	**El Retiro**	**0.92**	**78**	*e*P	**Pn**	**07 19 13.5**	**-0.1**
GUMI	**Mixco**	**0.92**	**357**	*i*P	**Pn**	**07 19 12.6**	**-1.1**
GUMI				*i*S	**Sn**	**07 19 28.1**	**+0.6**
GUMI				IAML		07 19 34.2	
	comp=Z,5μm,1.0s						
CEVE	**Cerro Verde**	**0.92**	**82**	*e*P	**Pn**	**07 19 13.6**	**-0.1**
CEVE				*e*S	**Sn**	**07 19 27.8**	**+0.2**
CEVE	**Cerro Verde**	**0.92**	**82**	*i*P	**Pn**	**07 19 13.9**	**+0.2**
CEVE				*i*S	**Sn**	**07 19 28.6**	**+1.0**
CEVE				IAML		07 19 34.4	
	comp=Z,15μm,1.0s						
SBLS	**San Blas**	**0.93**	**82**	*e*P	**Pn**	**07 19 13.4**	**-0.3**
SBLS				*e*S	**Sn**	**07 19 27.6**	**0.0**
SNJE	**San Jose**	**0.95**	**80**	*e*P	**Pn**	**07 19 13.6**	**-0.3**
UNIC	**Universidad Ca**	**1.03**	**74**	*e*P	**Pn**	**07 19 14.0**	**-0.7**
UNIC				*e*S	**Sn**	**07 19 28.6**	**-0.9**
UNIC	**Universidad Ca**	**1.03**	**74**	*i*P	**Pn**	**07 19 14.3**	**-0.4**
UNIC				*i*S	**Sn**	**07 19 28.7**	**-0.7**
UNIC				IAML		07 19 32.0	
	comp=Z,2μm,1.0s						
JUAM	**Asuncion Mita**	**1.04**	**53**	*i*P	**Pn**	**07 19 14.4**	**-0.5**
JUAM				*i*S	**Sn**	**07 19 29.5**	**-0.3**
JUAM				IAML		07 19 32.0	
	comp=Z,4μm,1.0s						
JAYA	**Jayaque - finc**	**1.09**	**93**	‖*e*P	**Pn**	**07 19 15.4**	**-0.2**
JAYA				*e*S	**Sn**	**07 19 29.6**	**-1.2**
JAYA	**Jayaque - finc**	**1.09**	**93**	*i*P	**Pn**	**07 19 15.3**	**-0.2**
JAYA				*i*S	**Sn**	**07 19 31.1**	**+0.2**
JAYA				IAML		07 19 32.1	
	comp=Z,20μm,1.0s						
SULM	**Suchitepequez,**	**1.14**	**302**	*e*P	**Pn**	**07 19 17.1**	**+1.1**
CEDA	**San Andres**	**1.14**	**85**	*e*P	**Pn**	**07 19 15.8**	**-0.3**
CEDA	**San Andres**	**1.14**	**85**	*i*P	**Pn**	**07 19 16.3**	**+0.2**
CEDA				*i*S	**Sn**	**07 19 32.1**	**+0.2**
CEDA				IAML		07 19 37.3	
	comp=Z,10μm,1.0s						
PMON	**Piamonte**	**1.22**	**90**	*e*P	**Pn**	**07 19 16.9**	**-0.2**
PMON	**Piamonte**	**1.22**	**90**	*i*P	**Pn**	**07 19 17.2**	**+0.1**
PMON				*i*S	**Sn**	**07 19 33.9**	**+0.3**
PMON				IAML		07 19 38.2	
	comp=Z,8μm,1.0s						
LALI	**Alcalda de L**	**1.23**	**100**	*e*P	**Pn**	**07 19 17.1**	**-0.1**
LALI	**Alcalda de L**	**1.23**	**100**	*i*P	**Pn**	**07 19 17.4**	**+0.3**
LALI				*i*S	**Sn**	**07 19 35.0**	**+1.3**
LALI				IAML		07 19 37.1	
	comp=Z,2μm,1.0s						
BOQS	**Boqueron**	**1.25**	**88**	*e*P	**Pn**	**07 19 17.5**	**-0.1**
BOQS				*e*S	**Sn**	**07 19 34.3**	**-0.2**
ITCA	**Escuela Especi**	**1.25**	**91**	*e*P	**Pn**	**07 19 17.4**	**-0.1**
ITCA	**Escuela Especi**	**1.25**	**91**	*i*P	**Pn**	**07 19 17.5**	**-0.1**
ITCA				*i*S	**Sn**	**07 19 34.4**	**0.0**
ITCA				IAML		07 19 43.7	
	comp=Z,9μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.26**	**84**	*e*P	**Pn**	**07 19 17.5**	**-0.1**
QUEZ	**Alcaldia de Qu**	**1.26**	**84**	*i*P	**Pn**	**07 19 17.5**	**-0.1**
QUEZ				*i*S	**Sn**	**07 19 35.4**	**+0.9**
QUEZ				IAML		07 19 39.5	
	comp=Z,6μm,1.0s						
PIC2	**El Picacho**	**1.27**	**88**	*e*P	**Pn**	**07 19 17.7**	**-0.2**
UEES	**Universidad Ev**	**1.29**	**89**	*e*P	**Pn**	**07 19 17.6**	**-0.4**
UEES	**Universidad Ev**	**1.29**	**89**	*i*P	**Pn**	**07 19 18.0**	**0.0**
UEES				IAML		07 19 19.2	
	comp=Z,3μm,1.0s						
UEES				*i*S	**Sn**	**07 19 35.3**	**+0.1**
SNET	**Serv Nac Est T**	**1.30**	**91**	*e*P	**Pn**	**07 19 17.8**	**-0.3**
SNET	**Serv Nac Est T**	**1.30**	**91**	*i*P	**Pn**	**07 19 18.1**	**0.0**
SNET				IAML		07 19 19.2	
	comp=Z,12μm,1.0s						
SNET				*i*S	**Sn**	**07 19 35.4**	**+0.1**
SEMO	**Seminario San**	**1.30**	**90**	*e*P	**Pn**	**07 19 18.1**	**-0.1**
SEMO	**Seminario San**	**1.30**	**90**	*i*P	**Pn**	**07 19 18.5**	**+0.3**
SEMO				IAML		07 19 19.3	
	comp=Z,16μm,1.0s						
SEMO				*i*S	**Sn**	**07 19 35.5**	**0.0**
IGN	**Direccin Gen**	**1.36**	**89**	*e*P	**Pn**	**07 19 18.8**	**-0.1**
IGN	**Direccin Gen**	**1.36**	**89**	*i*P	**Pn**	**07 19 18.6**	**-0.2**
IGN				IAML		07 19 20.3	
	comp=Z,13μm,1.0s						
IGN				*i*S	**Sn**	**07 19 37.5**	**+0.8**
LOMA	**Loma Larga**	**1.36**	**92**	*e*P	**Pn**	**07 19 18.7**	**-0.2**
LOMA	**Loma Larga**	**1.36**	**92**	*i*P	**Pn**	**07 19 19.4**	**+0.5**
LOMA				*i*S	**Sn**	**07 19 36.8**	**0.0**
LOMA				IAML		07 19 41.1	
	comp=Z,4μm,1.0s						
MTO3	**Montecristo**	**1.36**	**59**	*e*P	**Pn**	**07 19 18.2**	**-0.7**
MTO3	**Montecristo**	**1.36**	**59**	*i*P	**Pn**	**07 19 18.5**	**-0.5**
MTO3				*i*S	**Sn**	**07 19 36.4**	**-0.5**
MTO3				IAML		07 19 38.0	
	comp=Z,2μm,1.0s						
RTAL	**Retalhuleu**	**1.36**	**307**	*i*P	**Pn**	**07 19 18.2**	**-0.7**
RTAL				*i*S	**Sn**	**07 19 36.0**	**-0.7**
RTAL				IAML		07 19 50.9	
	comp=Z,3μm,1.0s						
UDBS	**Universidad Do**	**1.37**	**89**	*e*P	**Pn**	**07 19 18.8**	**-0.2**
SOKI	**Kika Raxquin**	**1.38**	**324**	*i*P	**Pn**	**07 19 19.5**	**+0.1**
SOKI				*i*S	**Sn**	**07 19 37.8**	**+0.2**
SOKI				IAML		07 19 41.6	
	comp=Z,6μm,1.0s						
STG3	**Santiaguito 3,**	**1.40**	**316**	*e*P	**Pn**	**07 19 19.6**	**+0.2**
AEIL	**Aeropuerto Ilo**	**1.41**	**90**	*e*P	**Pn**	**07 19 19.9**	**+0.4**
LFU	**La Fuente**	**1.41**	**88**	*e*P	**Pn**	**07 19 19.6**	**+0.1**
ESQI	**Esquipulas**	**1.46**	**54**	⇑*e*P	**Pn**	**07 19 19.9**	**-0.3**
ESQI	**Esquipulas**	**1.46**	**54**	*i*P	**Pn**	**07 19 19.7**	**-0.5**
ESQI				*i*S	**Sn**	**07 19 39.1**	**0.0**
ESQI				IAML		07 19 40.1	
	comp=Z,2μm,1.0s						
LFRS	**El Faro**	**1.47**	**93**	*e*P	**Pn**	**07 19 20.1**	**-0.1**
LFRS				*e*S	**Sn**	**07 19 38.6**	**-0.6**
PAVA	**Las Pavas**	**1.58**	**90**	*e*P	**Pn**	**07 19 21.7**	**-0.1**
PAVA				*e*S	**Sn**	**07 19 42.2**	**+0.2**
PAVA	**Las Pavas**	**1.58**	**90**	*i*P	**Pn**	**07 19 21.9**	**+0.1**
PAVA				IAML		07 19 24.2	
	comp=Z,3μm,1.0s						
PAVA				*i*S	**Sn**	**07 19 42.7**	**+0.8**
LLGN	**La Laguna**	**1.64**	**74**	*e*P	**Pn**	**07 19 21.8**	**-0.7**
LLGN	**La Laguna**	**1.64**	**74**	*i*P	**Pn**	**07 19 21.7**	**-0.7**
LLGN				*i*S	**Sn**	**07 19 43.2**	**0.0**
LLGN				IAML		07 19 44.3	
	comp=Z,2μm,1.0s						
COEG	**Centro de Oper**	**1.64**	**93**	*e*P	**Pn**	**07 19 22.5**	**+0.1**
COEG				*e*S	**Sn**	**07 19 42.1**	**-1.1**
COEG	**Centro de Oper**	**1.64**	**93**	*i*P	**Pn**	**07 19 22.9**	**+0.4**
COEG				IAML		07 19 24.2	
	comp=Z,3μm,1.0s						
COEG				*i*S	**Sn**	**07 19 43.7**	**+0.5**
QUIS	**Sacapulas**	**1.66**	**342**	*i*P	**Pn**	**07 19 22.8**	**0.0**
QUIS				*i*S	**Sn**	**07 19 43.6**	**-0.1**
QUIS				IAML		07 19 51.1	
	comp=Z,1μm,1.0s						
SNVI	**San Vicente**	**1.68**	**93**	*e*P	**Pn**	**07 19 23.2**	**+0.1**
UESV	**Universidad de**	**1.73**	**92**	*e*P	**Pn**	**07 19 23.7**	**+0.1**
UESV	**Universidad de**	**1.73**	**92**	*i*P	**Pn**	**07 19 23.8**	**+0.2**
UESV				*i*S	**Sn**	**07 19 45.6**	**+0.4**
UESV				IAML		07 19 51.9	
	comp=Z,1μm,1.0s						
TECO	**Alcaldia de Te**	**1.74**	**95**	*e*P	**Pn**	**07 19 23.4**	**-0.3**
TECO	**Alcaldia de Te**	**1.74**	**95**	*i*P	**Pn**	**07 19 23.7**	**-0.1**
TECO				*i*S	**Sn**	**07 19 45.8**	**+0.3**
TECO				IAML		07 19 51.4	
	comp=Z,680nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.79**	**90**	*e*P	**Pn**	**07 19 24.5**	**+0.2**
SCLA	**Alcaldia de Sa**	**1.79**	**90**	*i*P	**Pn**	**07 19 24.6**	**+0.2**
SCLA				*i*S	**Sn**	**07 19 47.0**	**+0.5**
SCLA				IAML		07 19 53.7	
	comp=Z,570nm,1.0s						
HUEH	**Huehuetenango**	**1.84**	**331**	*i*P	**Pn**	**07 19 25.0**	**-0.3**
HUEH				*i*S	**Sn**	**07 19 47.2**	**-0.9**
HUEH				IAML		07 20 01.1	
	comp=Z,1μm,1.0s						
SMCA	**Catarina**	**1.86**	**308**	*i*P	**Pn**	**07 19 25.2**	**-0.1**
SMCA				*i*S	**Sn**	**07 19 46.8**	**-1.4**
SMCA				IAML		07 19 49.2	
	comp=Z,2μm,1.0s						
PQSS	**Presa 15 de Se**	**1.95**	**92**	*e*P	**Pn**	**07 19 26.4**	**-0.1**
PQSS	**Presa 15 de Se**	**1.95**	**92**	*i*P	**Pn**	**07 19 26.7**	**+0.2**
PQSS				*i*S	**Sn**	**07 19 51.6**	**+1.2**
PQSS				IAML		07 20 02.7	
	comp=Z,440nm,1.0s						
TECA	**Tecapa**	**2.02**	**96**	*e*P	**Pn**	**07 19 27.2**	**-0.3**
TECA				*e*P		07 19 27.6	
TECA				*e*S	**Sn**	**07 19 52.7**	**+0.5**
LCY	**Lacayo**	**2.23**	**97**	*e*P	**Pn**	**07 19 30.6**	**+0.3**
RANC	**El Ranchito**	**2.23**	**97**	*e*P	**Pn**	**07 19 30.9**	**+0.5**
RANC	**El Ranchito**	**2.23**	**97**	*i*P	**Pn**	**07 19 31.0**	**+0.7**
RANC				IAML		07 20 11.2	
	comp=Z,500nm,1.0s						
BLLM	**Bellamira**	**2.28**	**96**	*e*P	**Pn**	**07 19 30.9**	**0.0**
CAHU	**Cacacuatique**	**2.29**	**88**	*e*P	**Pn**	**07 19 31.1**	**-0.1**
CNRM	**Centro Naciona**	**2.34**	**95**	*i*P	**Pn**	**07 19 31.8**	**+0.1**
CNRM				IAML		07 20 25.4	
	comp=Z,2μm,1.0s						
INTHN	**La Esperanza I**	**2.47**	**75**	*i*P	**Pn**	**07 19 33.6**	**0.0**
INTHN				*i*S	**Sn**	**07 20 02.8**	**-0.2**
CHIHN	**Chmisales**	**2.59**	**56**	*i*P	**Pn**	**07 19 35.1**	**-0.1**
CHIHN				*i*S	**Sn**	**07 20 05.6**	**-0.3**
LCND	**La Caada**	**2.63**	**98**	*e*P	**Pn**	**07 19 35.8**	**+0.2**
LCND	**La Caada**	**2.63**	**98**	*i*P	**Pn**	**07 19 35.9**	**+0.3**
LCND				IAML		07 19 39.7	
	comp=Z,480nm,1.0s						
LCND				*i*S	**Sn**	**07 20 07.6**	**+0.9**
CNCH	**Conchagua**	**2.69**	**99**	*e*P	**Pn**	**07 19 36.6**	**+0.1**
CNCH	**Conchagua**	**2.69**	**99**	*i*P	**Pn**	**07 19 36.8**	**+0.3**
CNCH				*i*S	**Sn**	**07 20 10.6**	**+2.3**
CNCH				IAML		07 20 25.0	
	comp=Z,1μm,1.0s						
IZABA	**Izabal, Puerto**	**2.78**	**43**	*i*P	**Pn**	**07 19 37.8**	**+0.2**
IZABA				IAML		07 20 40.2	
	comp=Z,1.3nm,1.0s						
COMHN	**El Horno**	**3.01**	**76**	*i*P	**Pn**	**07 19 40.0**	**-0.9**
CSGN	**Cosiguina Volc**	**3.02**	**104**	*i*P	**Pn**	**07 19 41.3**	**+0.5**
CSGN				*i*S	**Sn**	**07 20 17.1**	**+1.1**
CSGN				IAML		07 20 22.2	
	comp=Z,120nm,1.0s						
POTN	**Potosi Cosigui**	**3.06**	**103**	*i*P	**Pn**	**07 19 42.8**	**+1.5**
POTN				*i*S	**Sn**	**07 20 17.9**	**+0.9**
POTN				IAML		07 20 21.7	
	comp=Z,200nm,1.0s						
PETF	**Flores**	**3.26**	**12**	*e*P	**Pn**	**07 19 44.8**	**+0.6**
PETF	**Flores**	**3.26**	**12**	*i*P	**Pn**	**07 19 44.7**	**+0.6**
PETF				IAML		07 19 45.7	
	comp=Z,280nm,1.0s						
PETF				*i*S	**Sn**	**07 20 22.7**	**+0.8**
CRIN	**San Cristobal**	**3.57**	**106**	*i*P	**Pn**	**07 19 49.1**	**+0.8**
CRIN				*i*S	**Sn**	**07 20 29.3**	**-0.1**
CRIN				IAML		07 20 35.8	
	comp=Z,1μm,1.0s						
YUSH	**Yuscaran**	**3.63**	**86**	*i*P	**Pn**	**07 19 49.4**	**+0.3**
PKGN	**Cerro Pekin**	**3.64**	**106**	*i*P	**Pn**	**07 19 50.1**	**+0.8**
PKGN				*i*S	**Sn**	**07 20 29.4**	**-1.8**
PKGN				IAML		07 20 35.4	
	comp=Z,1μm,1.0s						
PLRN	**Geotermica Pol**	**3.86**	**106**	*i*P	**Pn**	**07 19 52.8**	**+0.5**
PLRN				*i*S	**Sn**	**07 20 34.4**	**-2.2**
CNGA	**AI SSO del Vol**	**3.95**	**107**	*i*P	**Pn**	**07 19 53.5**	**0.0**
CNGA				*i*S	**Sn**	**07 20 37.3**	**-1.5**
CNGA				IAML		07 20 40.3	
	comp=Z,320nm,1.0s						
MACN	**El Madrono**	**3.99**	**108**	*i*P	**Pn**	**07 19 54.5**	**+0.5**
MACN				*i*S	**Sn**	**07 20 37.4**	**-2.2**
MACN				IAML		07 20 42.7	
	comp=Z,160nm,1.0s						
MOMN	**Momotombo**	**4.13**	**108**	*i*P	**Pn**	**07 19 56.7**	**+0.8**
MOMN				IAML		07 19 57.4	
	comp=Z,16nm,1.0s						
MOMN				*i*S	**Sn**	**07 20 40.1**	**-3.0**
LIMN	**Finca el Limon**	**4.14**	**98**	*i*P	**Pn**	**07 19 57.0**	**+0.9**
LIMN				IAML		07 20 54.3	
	comp=Z,72nm,1.0s						
COPN	**Copaltepe**	**4.16**	**111**	*i*P	**Pn**	**07 19 56.8**	**+0.5**
COPN				IAML		07 20 00.5	
	comp=Z,130nm,1.0s						
BRAN	**Las Pilas**	**4.22**	**103**	*i*P	**Pn**	**07 19 59.9**	**+2.8**
BRAN				IAML		07 20 01.1	
	comp=Z,510nm,1.0s						
BRAN				*i*S	**Sn**	**07 20 46.4**	**+1.1**
RCVN	**Varillal2**	**4.25**	**91**	*i*P	**Pn**	**07 19 57.3**	**-0.4**
RCVN				IAML		07 20 15.8	
	comp=Z,900nm,1.0s						
APQ2	**Apoyeque**	**4.40**	**109**	*i*P	**Pn**	**07 20 00.0**	**+0.5**
APQ2				IAML		07 20 57.3	
	comp=Z,230nm,1.0s						
UNAN	**Cigeo UNAN**	**4.48**	**110**	*i*P	**Pn**	**07 20 01.6**	**+1.0**
UNAN				*i*S	**Sn**	**07 20 48.2**	**-3.4**
UNAN				IAML		07 20 57.3	
	comp=Z,1μm,1.0s						
R4DEC	**Barrio San Lui**	**4.49**	**110**	*i*P	**Pn**	**07 20 01.7**	**+1.0**
R4DEC				IAML		07 20 04.1	
	comp=Z,190nm,1.0s						
R4DEC				*i*S	**Sn**	**07 20 48.4**	**-3.3**
RA5A7	**El Crucero**	**4.49**	**112**	*i*P	**Pn**	**07 20 02.7**	**+1.9**
RA5A7				IAML		07 20 02.9	
	comp=Z,2μm,1.0s						
MGAN	**Managua**	**4.49**	**110**	*i*P	**

MKAR	Makanchi Array	59.40	331	P	P	07 33 26.1 +0.2
	0.7nm,0.7s,baz=140,slow=7.9,SNR=5.9					
	0.7nm,0.7s					
ZALV	Zalesovo Beam	63.65	338	P	P	07 33 56.1 +1.6
	0.4nm,0.4s,baz=159,slow=5.2,SNR=1.6					
	0.4nm,0.4s					

NEIC 19 07:44:09.4±2.6, 38°.70N±0°.03×97°.65W±0°.03, h5km±1km, mb_Lg2.7/41, Error ellipse: s-maj=4.6km s-min=3.3km az=335.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R32A	Long Quarter,	0.88	252		Pn	07 44 30.5	+2.0
R32A				Sg	Sb	07 44 38.8	-0.5
KSU1	Kansas State U	0.90	63	Pg	Pb	07 44 27.4	-0.1
KSU1					Sg	07 44 39.1	+0.7
KAN12	Harper NE Stat	1.43	191		Pb	07 44 36.6	+0.1
KAN08	Anthony NE Sta	1.49	190		Pn	07 44 37.1	+0.2
KAN01	Argonia South	1.55	183		Pn	07 44 37.8	+0.2
KAN09	Caldwell North	1.56	179		Pg	07 44 39.2	-0.2
CBKS	Cedar Bluff	1.64	275		Pb	07 44 40.2	0.0
KAN17	Caldwell West	1.66	183		Pg	07 44 41.2	+0.1
KAN13	South Haven SW	1.69	175		Pg	07 44 41.8	0.0
KAN14	Manchester OK	1.76	188	Pn	Pg	07 44 42.9	-0.2
GC02	Grant County #	1.85	185	Pn	Pb	07 44 43.4	-0.4
BLOK	Blackwell	1.97	170	Pn	Pb	07 44 45.2	-0.5
T35A	Sooner Cattle	2.00	153	Pn	Pn	07 44 44.8	+0.9
CROK	Carrier	2.21	187	Pn	Pb	07 44 48.7	-1.2
OK051	E0350 and S346	2.28	163	Pn	Pn	07 44 48.1	+0.3
NOKA	Waynoka	2.30	207	Pn	Pn	07 44 48.6	+0.6
OK048	Pawnee Station	2.35	166	Pn	Pn	07 44 49.5	+0.9
QUOK	Quay	2.63	163	Pn	Pn	07 44 52.9	+0.3
N35A	Tabor	2.65	35	Pn	Pn	07 44 52.6	-0.2
N35A				IAmb_Lg		07 45 34.1	
	comp=Z,30nm,0.8s						
BGNE	Belgrade	2.73	352	Pn	Pn	07 44 54.4	+0.4
OK052	Battle Ridge R	2.78	166	Pn	Pn	07 44 54.2	-0.5
OK031	S. Brethren Rd	2.82	167	Pn	Pn	07 44 56.0	+0.9
ELIS	Ellis County	2.98	209	Pn	Pn	07 44 57.0	-0.5
TUL3	Leonard	3.15	151	Pn	Pn	07 45 00.1	+0.4
TUL3				IAmb_Lg		07 45 58.0	
	comp=Z,24nm,0.8s						
CSTR	Hydro, Custer	3.16	196	Pn	Pn	07 45 00.9	+1.1
RLO	Rose Lookout	3.28	140	Pn	Pn	07 45 01.4	0.0
RLO				IAmb_Lg		07 45 57.2	
	comp=Z,19nm,0.8s						
P38A	Dawn	3.33	73	Pn	Pn	07 45 01.9	-0.3
L34A	Svendsen Farm,	3.40	16	Pn	Pn	07 45 04.6	+1.4
L34A				IAmb_Lg		07 46 01.3	
	comp=Z,19nm,0.7s						
U38A	Gravette	3.44	130	Pn	Pn	07 45 07.0	+3.4
U38A				IAmb_Lg		07 46 08.0	
	comp=Z,15nm,1.0s						
FNO	Franklin	3.44	177	Pn	Pn	07 45 06.0	+2.3
S39A	Bolivar	3.55	105	Pn	Pn	07 45 06.9	+1.7
W35A	Tecumseh	3.59	170	Pn	Pn	07 45 08.2	+2.4
HHAR	Hobbs	3.81	128	Pn	Pn	07 45 11.9	+3.1
HHAR				IAmb_Lg		07 46 15.4	
	comp=Z,19nm,0.9s						
N38A	Joes South For	3.99	57	IAmb_Lg		07 46 18.5	
	comp=Z,24nm,0.8s						
OGNE	Ogallala	4.05	305	Pn	Pn	07 45 13.5	+1.3
OGNE				IAmb_Lg		07 46 23.8	
	comp=Z,22nm,0.7s						
WMOK	Wichita Mounta	4.06	193	Pn	Pn	07 45 16.3	+4.1
X34A	Smith Ranch, M	4.09	182	Pn	Pn	07 45 14.1	+1.4
X34A				IAmb_Lg		07 46 26.0	
	comp=Z,17nm,0.9s						
SMWD	Samnorwood	4.15	211	Pn	Pn	07 45 15.9	+2.5
R40A	Maddies Statio	4.24	94	Pn	Pn	07 45 15.0	+0.4
R40A				IAmb_Lg		07 46 26.0	
	comp=Z,13nm,0.8s						
K30B	Basset	4.24	340	IAmb_Lg		07 46 29.1	
	comp=Z,20nm,0.7s						
P40A	Paris	4.43	77	Pn	Pn	07 45 18.7	+1.4
P40A				IAmb_Lg		07 46 34.0	
	comp=Z,11nm,0.7s						
RTBA	Rita Blanca	4.63	242	Pn	Pn	07 45 22.9	+2.7
LOOK	Love County	4.71	175	Pn	Pn	07 45 22.9	+1.7
WTFS	Witchita Falls	4.97	188	Pn	Pn	07 45 27.1	+2.4
AMTX	Amarillo	5.00	222	IAmb_Lg		07 46 54.7	
	comp=Z,11nm,1.0s						
ECSD	EROS Data Cent	5.09	8	Pn	Pn	07 45 27.6	+1.2
FCAR	Ozark Folk Cen	5.22	121	Pn	Pn	07 45 30.9	+2.8
FCAR				IAmb_Lg		07 46 56.8	
	comp=Z,9.4nm,0.7s						
MIAR	Mount Ida	5.28	140	Pn	Pn	07 45 33.3	+4.3
WHAR	Wooly Hollow	5.47	127	Pn	Pn	07 45 33.9	+2.3
T25A	Trinidad	5.57	256	Pn	Pn	07 45 34.9	+1.8
DKNS	Dickens	5.68	209	Pn	Pn	07 45 37.6	+3.0
X40A	Basin Creek Fa	5.71	136	Pn	Pn	07 45 35.9	+1.0
LCAR	Lake Charles	5.80	115	Pn	Pn	07 45 38.7	+2.7
WLAR	White Oak Lake	6.20	142	IAmb_Lg		07 47 27.4	
	comp=Z,10.0nm,0.7s						
RSSD	Black Hills	7.24	320	IAmb_Lg		07 48 06.2	
	comp=Z,6.2nm,0.8s						
K22A	Casper	7.81	303	IAmb_Lg		07 48 30.9	
	comp=Z,6.8nm,1.0s						

*NAO **19** 07:48:18.7±2.5, 71°.17N×9°.79W, h24km±15km, ML4.0*
*IDC **19** 07:48:18.3±0.9, 71°.12N×8°.79W, h0km, mb3.9/8, mbtmp4.0/13, ML3.3/4, MS3.5/25, Error ellipse: s-maj=21.1km s-min=8.6km az=65.0*
*NEIC **19** 07:48:18.5±2.1, 71°.30N±0°.03×9°.3W±0°.2, h10km±1km, mb4.3/37, Error ellipse: s-maj=11.8km s-min=4.5km az=258.0*
*REY **19** 07:48:19.1, 70°.71N×8°.28W, h10km*
*BER **19** 07:48:19.8±4.0, 71°.30N×9°.71W, h0km±13km, mb(Pn)4.4, ML3.8, ML4.0(NAO), Confirmed Earthquake*
*DNK **19** 07:48:21.3±5.3, 71°.49N×9°.75W, h0km±46km, ML2.4*

ISC 19 07:48:19.8±1.0, 71°.31N±0°.04×9°.22W±0°.04, h25km±8km, n167, σ2°50/186, mb4.3/30, MS3.5/22, 4C-1D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	Jan Mayen West	0.38	138	⇑iP	Pb	07 48 28.0	0.0
JNW				eS	Sn	07 48 34.0	-2.3
JNW				IAML		07 48 34.8	
	comp=Z,7μm,0.2s						
JMIC	Jan Mayen	0.40	144	Pg	Pb	07 48 28.2	-0.1
JMIC				Lg	Lg	07 48 34.2	
JMIC	Jan Mayen	0.40	144	⇑iP	Pb	07 48 28.1	-0.3
JMIC				eS	Sb	07 48 33.7	-0.5
JMIC				IAML		07 48 35.3	
	comp=Z,5μm,0.2s						
JMIC	Jan Mayen	0.40	144	Pn	Pb	07 48 27.8	-0.6
	comp=Z,1μm,0.3s,baz=190,slow=2.4,SNR=1218						
JMIC				Sn	Sb	07 48 34.0	-0.2
	comp=Z,2μm,0.3s,baz=52,slow=22,SNR=16						
JMI	Jan Mayen	0.42	157	Pg	Pb	07 48 28.4	-0.2
JMI				Lg	Lg	07 48 34.5	
JMI	Jan Mayen	0.42	157	⇑iP	Pb	07 48 28.4	-0.2
JMI				eS	Sn	07 48 34.3	-2.7
JNE	Jan Mayen East	0.44	137	⇑iP	Pb	07 48 28.7	-0.3
JNE				eS	Sb	07 48 35.1	-0.1
JNE				IAML		07 48 38.4	
	comp=Z,7μm,0.2s						
SCO	Scoresbysund	4.26	265		Pn	07 49 23.2	+0.2
SCO	Scoresbysund	4.26	265	iP	Pn	07 49 23.0	0.0
SCO				iS	Sn	07 50 09.7	-2.2
SCO				IAML		07 50 27.9	
	comp=Z,2.6nm,0.3s						
SCO	Scoresbysund	4.26	265	iP	Pn	07 49 23.0	0.0
SCO				iS	Sn	07 50 09.7	-2.2
SCO				IAML		07 50 27.9	
	comp=Z,2.6nm,0.3s						
DBG	Daneborg	4.43	318	Pn	Pn	07 49 24.1	-1.3
DBG				Sn	Sn	07 50 09.8	-6.2
DBG	Daneborg	4.43	318	iP	Pn	07 49 23.9	-1.4
DBG				iS	Sn	07 50 09.5	-6.5
DBG				IAML		07 50 13.7	
	comp=Z,55nm,0.3s						
DBG	Daneborg	4.43	318	iP	Pn	07 49 23.9	-1.4
DBG				iS	Sn	07 50 09.5	-6.5
DBG				IAML		07 50 13.7	
	comp=Z,55nm,0.3s						
ILEI	Leirhofn	5.58	212	P	Pn	07 49 38.2	-2.9
ILEI				S	Sn	07 50 41.8	-2.5
IGRI	Grimsey	5.74	218	P	Pn	07 49 43.4	+0.2
IGRI				S	Sn	07 50 45.7	-2.5
IGIL	Gilhagi	5.86	210	P	Pn	07 49 42.8	-2.2
IGIL				S	Sn	07 50 49.4	-1.8
IHED	Heoinshofoi	6.02	213	S	Sn	07 50 53.4	-1.7
DAG	Danmarks Havn	6.06	339	iP	Pn	07 49 46.7	-0.9
DAG				eS	Sn	07 50 50.1	-6.0
DAG				IAML		07 50 52.5	
	comp=Z,52nm,0.2s						
DAG	Danmarks Havn	6.06	339	iP	Pn	07 49 46.7	-0.9
DAG				eS	Sn	07 50 50.1	-6.0
DAG				IAML		07 50 52.5	
	comp=Z,52nm,0.2s						
IDIM	Dimmadalss	6.06	211	S	Sn	07 50 54.8	-1.4
IGHA	Grjothals	6.13	210	P	Pn	07 49 46.1	-2.5
IGHA				S	Sn	07 50 56.6	-1.2
ISKI	Skildingahlsh	6.16	211	P	Pn	07 49 47.3	-1.8
IGRS	Grimsstaoir	6.24	207	P	Pn	07 49 47.8	-2.3
IGRS				S	Sn	07 50 59.2	-1.3
IKVO	Krokottuvotn	6.28	210	P	Pn	07 49 49.5	-1.3
IKVO				S	Sn	07 51 02.8	+1.1
IHLA	Hella	6.34	216	P	Pn	07 49 49.5	-1.9
IHLA				S	Sn	07 51 00.7	-2.3
IREN	Reynihlio	6.35	210	P	Pn	07 49 49.9	-1.7
IMEL	Melhnausar	6.38	209	P	Pn	07 49 50.6	-1.5
IMEL				S	Sn	07 51 02.6	-1.4
IHRN	Hraun	6.55	222	P	Pn	07 49 54.8	+0.4
IADA	Aoalbol	6.75	204	S	Sn	07 51 12.6	-0.5
BORG	Borgarnes	7.99	220	Pn	Pn	07 50 13.9	-0.1
BORG	Borgarnes	7.99	220	Pn	Pn	07 50 18.1	+4.1
	comp=Z,1.5nm,0.3s,baz=261,slow=21,SNR=1.7						
BORG				Sn	Sn	07 51 45.8	+2.5
	comp=Z,0.4nm,0.3s,baz=14,slow=15,SNR=1.0						
LOF	Lofoten	8.49	101	Pn	Pn	07 50 21.9	+1.0
LOF	Lofoten	8.49	101	eP	Pn	07 50 22.0	+1.0
BJO1	Bjornoya	8.84	56	eP	Pn	07 50 29.1	+3.5
BRBA	Barentsburg A	9.08	32	Pn	Pn	07 50 30.7	+1.7
BRBB	Barentsburg B	9.10	31	Pn	Pn	07 50 30.2	+0.9
SUMG	Summit	9.11	292		Pn	07 50 30.5	+0.7
SUMG	Summit	9.11	292	iP	Pn	07 50 31.7	+1.9
SUMG				iS	Sn	07 52 06.3	-5.2
SUMG				IAML		07 52 14.3	
	comp=Z,2.1nm,0.2s						
SUMG	Summit	9.11	292	iP	Pn	07 50 31.7	+1.9
SUMG				iS	Sn	07 52 06.3	-5.2
SUMG				IAML		07 52 14.3	
	comp=Z,2.1nm,0.2s						
STEI	Steigen	9.14	100	eP	Pn	07 50 30.7	+0.9
STEI				eS	Sn	07 52 07.6	-4.1
STEI				IAML		07 52 19.9	
	comp=Z,5.4nm,0.9s						
KBS	Kingsbay	9.29	26	Pn	Pn	07 50 32.6	+0.8
KBS				Sn	Sn	07 52 09.7	-5.6
KBS	Kingsbay	9.29	26	Pn	Pn	07 50 33.0	+1.2
KBS	Kingsbay	9.29	26	eP	Pn	07 50 32.9	+1.1
KBS				eS	Sn	07 52 08.8	-6.5
KBS				IAML		07 52 18.2	
	comp=Z,25nm,0.6s						
KBS	Kingsbay	9.29	26	⇓iP	Pn	07 50 32.8	+0.9
KBS				iS	Sn	07 52 08.8	-6.5
KONS	Konsvik	9.34	110	eP	Pn	07 50 33.1	+0.5
KONS				eS	Sn	07 52 12.0	-4.6
KONS				IAML		07 52 15.9	
	comp=Z,5.7nm,0.4s						
STOK	Stokkvaagen	9.42	111	eP	Pn	07 50 33.9	+0.2
STOK				eS	Sn	07 52 13.0	-5.6
STOK				IAML		07 52 19.2	
	comp=Z,9.9nm,0.8s						
FAUS	Fauske	9.46	103	eP	Pn	07 50 35.4	+1.1
FAUS				eS	Sn	07 52 14.6	-5.0
FAUS				IAML		07 52 23.7	
	comp=Z,5.2nm,0.4s						
SPA0	Spitsbergen Ar	9.52	33	Pn	Pn	07 50 37.1	+2.1
	baz=216,slow=16						
SPA0				Sn	Sn	07 52 20.6	-0.4
	baz=215,slow=22						
SPA0	Spitsbergen Ar	9.52	33	Pn	Pn	07 50 37.1	+2.1
	baz=216,slow=16						
SPA0				Sn	Sn	07 52 20.6	-0.4
	baz=215,slow=22						
SPITS	Spitsbergen Ar	9.52	33	Pn	Pn	07 50 37.2	+2.1
	comp=Z,33nm,0.5s,baz=222,slow=16,SNR=75						
SPITS				Sn	Sn	07 52 21.5	+0.5
	baz=232,slow=26						
SPB2	Spitsbergen Ar	9.52	33		Pn	07 50 35.5	+0.5
TRO	Tromso	9.52	87	Pn	Pn	07 50 36.9	+1.8
MOR8	Moi Rana	9.96	109	eP	Pn	07 50 43.0	+1.9
MOR8				eS	Sn	07 52 28.6	-3.3
MOR8				IAML		07 52 35.2	
	comp=Z,14nm,0.3s						
KIF	Kilpisjarvi	10.39	88	Pn	Pn	07 50 47.9	+0.9
KIF	Kilpisjarvi	10.39	88	eP	Pn	07 50 48.1	+1.1
NSS	Namsos	10.42	120	eP	Pn	07 50 48.3	+1.0
NSS				eS	Sn	07 52 34.9	-8.1
NSS				IAML		07 52 45.2	
	comp=Z,9.0nm,0.6s						
NOR	Nord	10.48	354	Pn	Pn	07 50 48.2	+0.2
NOR	Nord	10.48	354	iP	Pn	07 50 47.0	-1.0
NOR				eS	Sn	07 52 34.6	-10
NOR				IAML		07 52 44.2	
	comp=Z,28nm,0.2s						
HOPEN	Hopen	10.66	46	Pn	Pn	07 50 52.7	+2.1
HOPEN	Hopen	10.66	46	eP	Pn	07 50 53.1	+2.5
HAMF	Hammerfest	10.68	78	Pn	Pn	07 50 52.5	+1.7
HAMF	Hammerfest	10.68	78	eP	Pn	07 50 52.7	+1.9
MOL	Molde	10.91	135	eP	Pn	07 50 55.0	+0.9
AKN	Aaknes	11.13	137	Pn	Pn	07 50 56.9	-0.3
AKN				Sn	Sn	07 52 53.2	-7.4
AKN	Aaknes	11.13	137	Pn	Pn	07 50 56.9	-0.3
AKN				Sn	Sn	07 52 53.2	-7.4
KTK1	Kautokeino	11.17	86	eP	Pn	07 50 59.4	+1.8
FOO	Floro	11.25	143	eP	Pn	07 50 58.1	-0.6
HEF	Hetta	11.60	89	Pn	Pn	07 51 04.9	+1.4
HEF	Hetta	11.60	89	eP	Pn	07 51 04.7	+1.3
ARA0	ARCESS Array S	11.67	82	Pn	Pn	07 51 06.5	+2.0
	baz=292,slow=12						
ARA0	ARCESS Array S	11.67	82	Pn	Pn	07 51 06.5	+2.0
	baz=292,slow=12						
ARCES	ARCESS Array B	11.67	82	Pn	Pn	07 51 05.9	+1.4
ARCES	ARCESS Array B	11.67	82	Pn	Pn	07 51 06.2	+1.7
	comp=Z,0.2nm,0.3s,baz=296,slow=12,SNR=14						
ARCES				LR	LR	07 54 45.2	
	comp=Z,173nm,20.7s,baz=307,slow=34						
	comp=Z,13nm,1.1s						
SUE	Sulen	11.70	145	eP	Pn	07 51 04.1	-0.7
DOMB	Dombas	11.72	133	eP	Pn	07 51 07.5	+2.3
HYA	Hoyanger	11.87	141	eP	Pn	07 51 06.6	-0.6
KEV	Kevo	12.06	80	Pn	Pn	07 51 11.8	+2.1
KEV	Kevo	12.06	80	Pn	Pn	07 51 11.1	+1.4
KEV	Kevo	12.06	80	eP	Pn	07 51 12.5	+2.8
NEEM	North Greenlan	12.52	318	iP	Pn	07 51 12.5	-3.7
NEEM				iS	Sn	07 53 21.6	-13
NEEM				IAML		07 53 30.7	
	comp=Z,3.7nm,0.2s						
NEEM	North Greenlan	12.52	318	iP	Pn	07 51 12.5	-3.7
NEEM				iS	Sn	07 53 21.6	-13
NEEM				IAML		07 53 30.7	
	comp=Z,3.7nm,0.2s						
NC204	NORSAR Array S	12.79	132	Pn	Pn	07 51 21.6	+1.7
NBO00	NORSAR Array S	13.01	132	Pn	Pn	07 51 24.5	+1.8
NOA	NORSAR Array B	13.11	131	Pn	Pn	07 51 22.7	-1.4
	baz=313,slow=12,SNR=1.7						
NOA				Sn	Sn	07 53 42.5	-6.4
	baz=319,slow=23,SNR=1.4						
NOA				LR	LR	07 55 52.4	
	comp=Z,69nm,20.4s,baz=330,slow=35						
	comp=Z,0.4nm,0.7s						
NB201	NORSAR Array S	13.12	131	Pn	Pn	07 51 25.1	+0.8
BLS5	Blasjo	13.53	144	eP	Pn	07 51 29.1	-0.8
KULLO	Kullorsuaq	14.11	305	iP	Pn	07 51 38.8	+1.2
KULLO	Kullorsuaq	14.11	305	iP	Pn	07 51 38.8	+1.2
HFS	Hagfors	14.51	129	P	Pn	07 51 44.0	+0.9
	baz=326,slow=16						
HFS	Hagfors	14.51	129	P	Pn	07 51 44.0	+0.9
	baz=326,slow=16						
HFS	Hagfors	14.51	129	Pn	Pn	07 51 43.8	+0.7
	comp=Z,0.2nm,0.3s,baz=331,slow=16,SNR=2.7						
HFS				LR	LR	07 56 07.0	
	comp=Z,108nm,20.2s,baz=318,slow=33						
EKA	Eskdalemuir Ar	16.25	168	Pn	Pn	07 52 05.9	-0.2
	baz=346,slow=13						
	comp=Z,2.3nm,0.7s						
FIA0	FINESS Array S	16.94	108	P	P	07 52 16.8	+0.3
	baz=320,slow=14						
FIA0	FINESS Array S	16.94	108	P	P	07 52 16.8	+0.3
	baz=320,slow=14						
FIA1	FINESS Array S	16.94	108	Pn	Pn	07 52 14.9	+0.2
FIA1				IAmb	IAmb	07 52 48.7	
	comp=Z,48nm,1.3s						
FINES	FINESS Array B	16.94	108	Pn	Pn	07 52 14.5	-0.2
FINES	FINESS Array B	16.94	108	Pn	Pn	07 52 14.4	-0.3
	comp=Z,0.3nm,0.3s,baz=316,slow=12,SNR=11						
	comp=Z,0.7nm,0.2s						
NRS	Narsarsuaq	17.44	253	Pn	Pn	07 52 20.1	-0.8
KLMR	Klimovskoe	21.64	94	P	P	07 53 08.8	+1.0
	comp=Z,44nm,1.0s						
CLL	Collm	22.45	142	iP	P	07 53 18.8	+2.3
	comp=Z,30nm,1.6s						
CLL				eSP	sP	07 53 22.0	-4.0
NACGM	Naroch	22.57	118	eP	P	07 53 23.1	+5.3
	comp=Z,13nm,0.8s,baz=331						
RES	Resolute Bay	23.21	318	LR	LR	08 01 57.4	
	comp=Z,88nm,18.0s,baz=22,slow=35						
GERES	GERESS Array B	24.93	142	P	P	07 53 41.5	+0.8
	comp=Z,3.2nm,0.9s,baz=327,slow=9.5,SNR=6.2						
	comp=Z,3.2nm,0.9s						
VRAC	Vranov	25.09	138	LR	LR	08 02 34.9	
	comp=Z,60nm,18.7s,baz=360,slow=34						
MODS	Modra-Piesok	26.12	138	eP	P	07 53 55.2	+3.8
DAVOX	Davos/Dischmat	26.23	149	LR	LR	08 05 00.3	
	comp=Z,84nm,18.2s,baz=322,slow=38						
VYHS	Vyhne	26.36	135	eP	P	07 53 58.2	+4.7
KIRV	Kirov	26.59	88	LR	LR	08 03 02.3	
	comp=Z,64nm,18.3s,baz=307,slow=33						
AKASG	Malin Array Be	26.99	119	P	P	07 54 00.5	+1.5
	comp=Z,0.2nm,0.3s,baz=288,slow=9.4,SNR=2.7						
AKASG				LR	LR	08 02 43.4	
	comp=Z,70nm,18.9s,baz=344,slow=32						
	comp=Z,0.2nm,0.3s						
SCHQ	Scheifferville	29.31	266	P	P	07 54 19.0	-0.8
FDMO	Fiordimonte	30.42	147	P	P	07 54 30.2	+0.5
MLR	Muntele Rosu	30.89	128	P	P	07 54 34.9	+1.0
MLR	Muntele Rosu	30.89	128	LR	LR	08 07 32.6	
	comp=Z,191nm,18.8s,baz=330,slow=38						
ARTI	Arti	31.24	83	LR	LR	08 05 08.7	
	comp=Z,100nm,19.0s,baz=316,slow=32						
ESDC	Sonseca Array	31.82	172	P	P	07 54 44.3	+2.2
	comp=Z,1.1nm,0.7s,baz=358,slow=10,SNR=5.9						
	comp=Z,1.1nm,0.7s						
INK	Inuvik	35.78	328	LR	LR	08 10 46.1	
	comp=Z,76nm,18.5s,baz=262,slow=37						
E28M	Babbage River	36.48	332	P	P	07 55 22.0	-0.2
D25K	Kavik River	36.78	336	P	P	07 55 23.9	-0.9
D25K				IAmb	IAmb	07 55 27.7	
	comp=Z,7.5nm,1.4s						
C23K	Itkillik River	36.82	339	P	P	07 55 25.2	+0.2
C23K				IAmb	IAmb	07 55 42.8	
	comp=Z,13nm,1.5s						
YKA	Yellowknife Ar	36.99	312	P	P	07 55 28.7	+2.2
	comp=Z,1.9nm,0.8s,baz=26,slow=9.2,SNR=3.0						
	comp=Z,1.9nm,0.8s						
G31M	Satah River	37.16	328	P	P	07 55 28.0	+0.2
G31M				IAmb	IAmb	07 55 30.2	
	comp=Z,6.0nm,0.9s						
E27K	Coleen River	37.17	333	P	P	07 55 28.0	0.0
F28M	Old Crow	37.44	331	P	P	07 55 31.6	+1.2
F28M				IAmb	IAmb	07 56 00.5	
	comp=Z,6.3nm,1.5s						
ABKAR	Akbulak array	37.79	88	P	P	07 55 33.5	0.0
G29M	Pine Creek	37.79	330	P	P	07 55 35.1	+1.8
G29M				IAmb	IAmb	07 55 35.8	
	comp=Z,3.9nm,0.8s						
TOLK	Toolik Lake Re	37.83	338	P	P	07 55 35.5	+1.9
TOLK				IAmb	IAmb	07 55 53.1	
	comp=Z,10nm,1.4s						
EPYK	Eagle Plains	38.07	329	P	P	07 55 37.4	+1.7
E24K	Your Creek	38.22	337	P	P	07 55 37.2	+0.2
E24K				IAmb	IAmb	07 55 38.1	
	comp=Z,6.4nm,1.5s						
F25K	Christian Rive	38.30	335	P	P	07 55 38.6	+1.0
BMAR	Burnt Mountain	38.31	334	P	P	07 55 40.2	+2.5
E23K	Chandalar	38.38	337	P	P	07 55 41.1	+2.7
E23K				IAmb	IAmb	07 56 09.5	
	comp=Z,7.7nm,1.4s						
H29M	Whitestone	38.48	330	P	P	07 55 40.9	+1.7
E22K	Anaktuvuk Pass	38.58	339	P	P	07 55 42.3	+2.4
E22K				IAmb	IAmb	07 56 04.5	
	comp=Z,5.5nm,1.2s						
I28M	Miner Creek	39.45	330	P	P	07 55 48.4	+1.0
J30M	Hart River	39.65	327	P	P	07 55 51.1	+2.0
F20K	Avaraart Lake	40.06	340	P	P	07 55 53.5	+1.3
F20K				IAmb	IAmb	07 55 56.1	
	comp=Z,5.2nm,1.1s						
I26K	Coal Creek Min	40.09	332	P	P	07 55 54.1	+1.6
I26K				IAmb	IAmb	07 56 13.0	
	comp=Z,7.3nm,1.4s						
K29M	Barlow Dome	40.53	328	P	P	07 55 57.2	+0.9
K29M				IAmb	IAmb	07 55 59.7	
	comp=Z,5.6nm,1.1s						
H21K	Melozitna Rive	41.07	338	P	P	07 56 01.6	+1.0
K27K	Chicken	41.11	331	P	P	07 56 02.7	+1.7
K27K				IAmb	IAmb	07 56 22.9	
	comp=Z,7.2nm,1.3s						
GNI	Garni	41.12	110	LR	LR	08 13 10.0	
	comp=Z,45nm,19.0s,baz=332,slow=36						
IL31		41.14	334	P	P	07 56 02.7	+1.6
IL31				IAmb	IAmb	07 56 36.7	
	comp=Z,5.6nm,1.4s						
ILAR	Eielson Array	41.14	334	P	P	07 56 04.0	+2.9
	comp=Z,0.8nm,0.7s,baz=16,slow=6.3,SNR=8.2

*IDC **19** 08:18:21.1±1.3, 18°.57N×147°.91E, h0km, mb3.5/7, mbtmp3.5/7, Error ellipse: s-maj=48.5km s-min=24.5km az=83.0*
ISC 19 08:18:26.6±1.1, 18°.5N±0°.2×147°.8E±0°.3, h35km, n7, σ0s58/8, mb3.4/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.46**	**200**	P	**P**	**08 26 02.2**	**+0.1**
	0.7nm,0.9s,baz=28,slow=8.5,SNR=3.8						
WRA				PcP	**PcP**	**08 28 03.9**	**-0.6**
	0.1nm,0.5s,baz=8.9,slow=3.1,SNR=1.3						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**44.09**	**198**	P	**P**	**08 26 31.9**	**+0.3**
	0.3nm,0.6s,baz=26,slow=8.2,SNR=2.5						
	0.3nm,0.6s						
SONM	**Songino Array**	**44.52**	**321**	P	**P**	**08 26 35.0**	**+0.1**
	0.3nm,0.5s,baz=136,slow=9.7,SNR=1.7						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**59.36**	**322**	P	**P**	**08 28 25.6**	**+0.5**
	0.6nm,0.6s,baz=111,slow=8.0,SNR=1.5						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**62.77**	**318**	P	**P**	**08 28 47.5**	**-0.9**
	0.3nm,0.5s,baz=91,slow=7.3,SNR=1.7						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**67.87**	**320**	P	**P**	**08 29 21.8**	**+0.4**
	0.8nm,0.5s,baz=102,slow=5.6,SNR=2.8						
	0.8nm,0.5s						
NVAR	**Mina Array Bea**	**81.66**	**52**	P	**P**	**08 30 41.8**	**0.0**
	0.2nm,0.6s,baz=252,slow=7.5,SNR=1.9						
	0.2nm,0.6s						

*IDC **19** 08:33:41.9±1.3, 6°.31S×130°.41E, h0km, mb3.9/4, mbtmp4.1/7, ML4.5/3, MS3.9/2, Error ellipse: s-maj=77.9km s-min=20.5km az=74.0*
*DJA **19** 08:33:54.6±0.4, 7°.5±2°.×13°.1E±°, h144km±7km, M4.5/12, mb4.4/6, mB5.3/3, MLv4.5/12, Mw(mB)4.8/3*
ISC 19 08:33:55.4±0.8, 6°.52S±0°.05×130°.55E±0°.08, h150km, n17, σ2s80/21, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.63**	**153**	P	**Pn**	**08 34 26.8**	**+0.4**
SAUI				S	**Sn**	**08 34 49.2**	**-1.0**
BNDI	**Bandanaira**	**2.08**	**342**	P	**Pn**	**08 34 29.2**	**-2.3**
BNDI				S	**Sn**	**08 34 57.9**	**-1.4**
MSAI	**Masohi**	**3.54**	**333**	P	**Pn**	**08 34 48.5**	**-1.2**
FAKI	**Fak Fak**	**3.96**	**25**	P	**Pn**	**08 34 53.4**	**-1.7**
FAKI				S	**Sn**	**08 35 37.7**	**-3.9**
KMPI	**Kaimana, Papua**	**4.24**	**48**	P	**Pn**	**08 34 59.1**	**+0.4**
KMPI				S	**Sn**	**08 35 45.8**	**-2.2**
SWI	**Sorong**	**5.66**	**7**	P	**Pn**	**08 35 16.3**	**-1.3**
	39nm,0.7s,4μm0.6nm						
RKPI	**Ransiki, Papua**	**6.15**	**36**	P	**Pn**	**08 35 24.6**	**+0.4**
	140nm,0.9s,9μm1.3nm						
SANI	**Sanana**	**6.36**	**314**	P	**Pn**	**08 35 26.9**	**0.0**
	24nm,0.7s,0.1nm						
SOEI	**Soe**	**7.00**	**242**	P	**Pn**	**08 35 33.0**	**-2.6**
FITZ	**Fitzroy Crossi**	**12.46**	**202**	Pn	**Pn**	**08 36 43.5**	**-4.2**
	2.9nm,0.3s,baz=28,slow=16,SNR=42						
FITZ				Sn	Sn	08 38 51.8	-14
	2.9nm,0.3s,baz=32,slow=19,SNR=10						
	6.2nm,0.4s						
WRA	**Warramunga Arr**	**13.84**	**165**	Pn	**Pn**	**08 37 04.1**	**-1.3**
	2.5nm,0.3s,baz=346,slow=13,SNR=85						
WRA				Sn	Sn	08 39 29.5	-9.3
	2.8nm,0.3s,baz=342,slow=22,SNR=15						
	6.4nm,0.5s						
ASAR	**Alice Springs**	**17.35**	**170**	P	**Pn**	**08 37 49.3**	**+0.8**
	1.4nm,0.3s,baz=339,slow=9.0,SNR=45						
ASAR				S	**S**	**08 40 54.5**	**-6.3**
	4.1nm,0.8s,baz=348,slow=26,SNR=11						
	3.1nm,0.5s						
KRVT	**Keravat (AS076**	**21.49**	**85**	LR	LR	08 48 56.4	
	comp=Z,1μm,21.5s,baz=192,slow=42						
STKA	**Stephens Creek**	**27.26**	**159**	P	**P**	**08 39 29.1**	**+3.4**
	1.4nm,0.8s,baz=339,slow=8.6,SNR=1.5						
	1.4nm,0.8s						
SONM	**Songino Array**	**58.16**	**341**	P	**P**	**08 43 36.5**	**+2.9**
	0.5nm,0.4s,baz=157,slow=6.7,SNR=4.6						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**68.13**	**326**	P	**P**	**08 44 41.9**	**+2.7**
	1.6nm,0.7s,baz=121,slow=8.0,SNR=16						
MKAR				LR	LR	09 16 20.8	
	comp=Z,30nm,19.8s,baz=340,slow=38						
	1.6nm,0.7s						
KURBB	**Kurchatov Arra**	**72.39**	**328**	P	**P**	**08 45 08.4**	**+3.5**
	0.3nm,0.5s,baz=123,slow=5.3,SNR=2.5						
	0.3nm,0.5s						

*THE **19** 08:37:24.8, 37°.22N×20°.70E, h9km, ML3.3/9, Error ellipse: s-maj=0.8km s-min=0.3km az=224.0*
*ATH **19** 08:37:25.4, 37°.24N×20°.70E, h12km±3km, ML3.5/3, Error ellipse: s-maj=3.8km s-min=1.4km az=15.0*
ISC 19 08:37:24.2±1.8, 37°.25N±0°.07×20°.77E±0°.08, h5km±13km, n24, σ0s60/41, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.41**	**5**	P	**Pb**	**08 37 33.7**	**-0.3**
KRI1				S	**Sb**	**08 37 40.3**	**-0.4**
	15μm,0.4s						
LTHK	**Lithakia**	**0.46**	**7**	P	**Pb**	**08 37 34.6**	**-0.3**
LTHK				S	**Sb**	**08 37 41.0**	**-1.1**
LTHK				AML	AML	08 37 41.7	
	comp=E,19603μm,0.3s						
LTHK				AML	AML	08 37 41.9	
	comp=N,21305μm,0.3s						
AMT	**Artemida-Makis**	**0.80**	**69**	P	**Pn**	**08 37 42.3**	**0.0**
AMT				S	**Sn**	**08 37 53.8**	**-0.7**
AMT				AML	AML	08 37 59.5	
	comp=N,7788μm,0.5s						
AMT				AML	AML	08 38 02.1	
	comp=E,8464μm,0.3s						
PYL	**PYLOS**	**0.85**	**114**	P	**Pb**	**08 37 41.7**	**+0.2**
PYL				S	**Sn**	**08 37 54.5**	**-1.3**
PYL	**PYLOS**	**0.85**	**114**	P	**Pb**	**08 37 42.0**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.88**	**350**	P	**Pg**	**08 37 41.6**	**+0.6**
PSDA				S	**Sn**	**08 37 55.4**	**-1.0**
	comp=E,2μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.88**	**350**	P	**Pb**	**08 37 41.8**	**-0.1**
ITM	**Ithomi**	**0.93**	**94**	P	**Pb**	**08 37 43.2**	**+0.4**
ITM				S	**Sn**	**08 37 57.5**	**-0.1**
	comp=E,912nm,0.4s						
ITM	**Ithomi**	**0.93**	**94**	P	**Pn**	**08 37 43.7**	**-0.3**
ITM				S	**Sn**	**08 37 57.1**	**-0.6**
ITM				AML	AML	08 38 00.5	
	comp=N,1940μm,0.2s						
ITM				AML	AML	08 38 03.4	
	comp=E,1264μm,0.4s						
RLS	**Riolos of Patr**	**0.98**	**34**	P	**Pn**	**08 37 43.9**	**-0.7**
RLS	**Riolos of Patr**	**0.98**	**34**	P	**Pn**	**08 37 44.2**	**-0.4**
LXR1	**Lixouri, Cepha**	**0.99**	**345**	P	**Pg**	**08 37 43.5**	**+0.4**
LXR1				S	**Sb**	**08 37 58.2**	**+1.1**
	comp=E,5μm,0.5s						
DRO	**Drossia**	**1.02**	**46**	P	**Pn**	**08 37 45.2**	**-0.1**
DRO				S	**Sn**	**08 38 01.2**	**+1.1**
	comp=E,1μm,0.5s						
DRO	**Drossia**	**1.02**	**46**	P	**Pn**	**08 37 45.1**	**-0.1**
DMLN	**Damoulianata-K**	**1.04**	**342**	P	**Pb**	**08 37 45.1**	**+0.4**
KLMT	**Kalamata**	**1.05**	**100**	P	**Pn**	**08 37 45.4**	**-0.2**
KLMT				S	**Sn**	**08 38 01.2**	**+0.6**
	comp=E,738nm,0.6s						
VSK1	**VASILIKIADES**	**1.17**	**352**	P	**Pg**	**08 37 46.5**	**-0.1**
VSK1				S	**Sn**	**08 38 04.0**	**+0.3**
	comp=E,2μm,0.6s						
FSK	**Fiskardo**	**1.22**	**352**	P	**Pg**	**08 37 47.5**	**-0.1**
FSK				S	**Sb**	**08 38 04.3**	**+0.5**
UPR	**University Cam**	**1.31**	**38**	P	**Pn**	**08 37 49.4**	**+0.2**
UPR				S	**Sn**	**08 38 07.6**	**+0.5**
KLV	**Kalavryta, Ach**	**1.35**	**54**	P	**Pn**	**08 37 50.0**	**+0.1**
KLV				S	**Sn**	**08 38 09.2**	**+1.0**
EVGI	**Lefkada island**	**1.37**	**356**	P	**Pg**	**08 37 49.6**	**-0.9**
EVGI				S	**Sn**	**08 38 08.9**	**+0.2**
	comp=E,672nm,0.3s						
DRAG	**Dragano-Lefkad**	**1.44**	**354**	P	**Pn**	**08 37 50.8**	**-0.2**
DRAG				S	**Sn**	**08 38 10.8**	**+0.4**
NYDR	**Nydri-Lefkada**	**1.46**	**358**	P	**Pn**	**08 37 50.9**	**-0.4**
NYDR				S	**Sn**	**08 38 11.4**	**+0.6**
	comp=E,635nm,0.5s						
TSLK	**Tsoukalades, L**	**1.58**	**357**	P	**Pn**	**08 37 52.6**	**-0.3**

*BGSI **19** 08:41:07.4±0.5, 18°.18S×26°.78E, h31km±999km, ML2.5*
*BUL **19** 08:41:12.8±2.2, 18°.18S×26°.87E, h10km, MD3.0*
ISC 19 08:41:02.6±0.9, 18°.21S±0°.04×26°.71E±0°.04, h10km, n16, σ2s31/25, Zimbabwe

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSANE	**Kasane**	**1.53**	**285**	*i* P	**Pg**	**08 41 32.1**	**+0.1**
KSANE				*i* S	**Sb**	**08 41 50.3**	**-0.4**
KSANE				IAML		08 41 57.1	
	comp=E,118nm,0.2s						
SOOWA	**Sowa**	**2.39**	**191**	*i* P	**Pb**	**08 41 43.9**	**-1.9**
SOOWA				*i* S	**Sn**	**08 42 10.5**	**-0.9**
SOOWA				IAML		08 42 17.7	
	comp=E,94nm,0.4s						
BLWY	**Bulawayo**	**2.63**	**137**	*i* P	**Pg**	**08 41 52.0**	**-1.0**
BLWY				*i* S	**Sb**	**08 42 23.3**	**+1.0**
BLWY	**Bulawayo**	**2.63**	**137**	*i* P	**Pg**	**08 41 52.0**	**-1.0**
BLWY				*i* S	**Sb**	**08 42 23.3**	**+1.0**
MATP	**Matopo**	**2.78**	**143**	*i* P	**Pg**	**08 41 54.1**	**-1.8**
MATP				*i* S	**Sb**	**08 42 27.3**	**+0.7**
MATP	**Matopo**	**2.78**	**143**	*i* P	**Pg**	**08 41 54.5**	**-1.3**
MATP				*i* S	**Sb**	**08 42 27.3**	**+0.7**
PHDHD	**Phuduhudu**	**2.85**	**226**	*i* P	**Pn**	**08 41 50.7**	**+2.4**
BROLN	**Tlhalogang**	**2.94**	**169**	*i* P	**Pn**	**08 41 50.8**	**+1.4**
BROLN				IAML		08 42 32.9	
	comp=E,14nm,0.5s						
KRI	**Karoi**	**3.09**	**64**	*i* P	**Pg**	**08 42 01.6**	**-0.3**
KRI				*i* S	**Sb**	**08 42 36.9**	**+1.3**
KRI	**Karoi**	**3.09**	**64**	*i* P	**Pg**	**08 42 01.6**	**-0.3**
KRI				*i* S	**Sb**	**08 42 36.9**	**+1.3**
LSZ	**Lusaka**	**3.24**	**26**	*i* P	**Pg**	**08 42 03.3**	**-1.5**
LSZ	**Lusaka**	**3.24**	**26**	*i* P	**Pg**	**08 42 03.3**	**-1.5**
MUSN	**Musina, Limpop**	**5.02**	**144**	*i* P	**Pb**	**08 42 26.1**	**-4.5**
MUSN				*i* S	**Sn**	**08 43 20.2**	**+3.9**
MUSN	**Musina, Limpop**	**5.02**	**144**	*i* P	**Pb**	**08 42 26.1**	**-4.5**
MUSN				*i* S	**Sn**	**08 43 20.2**	**+3.9**
MOPA	**Mopani**	**6.86**	**141**	*i* P	Pb	08 42 55.9	-6.1
MOPA				*i* S	Sb	08 44 12.7	-11
MOPA	**Mopani**	**6.86**	**141**	*i* P	Pb	08 42 53.0	-9.0
MOPA				*i* S	**Sn**	**08 44 05.5**	**+3.9**

*IDC **19** 08:42:08.9±1.3, 18°.71N×81°.94W, h0km, mb3.2/3, mbtmp3.5/5, ML1.1/1, MS3.1/6, Error ellipse: s-maj=46.7km s-min=26.4km az=36.0*
*JSN **19** 08:42:13.9±0.6, 19°.28N×81°.28W, h15km±999km, MD4.4*
*SSNC **19** 08:42:15.5±1.0, 18°.77N×81°.37W, h20km±18km, MD3.7, ML4.6*
ISC 19 08:42:10.2±0.9, 19°.0N±0°.1×81°.46W±0°.07, h10km, n32, σ2s51/35, mb3.3/3, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTDJ	**Mount Denham**	**3.79**	**101**	*i* P	**Pn**	**08 43 09.6**	**+0.7**
MTDJ	**Mount Denham**	**3.79**	**101**	*e* P	**Pn**	**08 43 09.8**	**+0.9**
MTDJ				*e* S	**Sn**	**08 43 50.0**	**-3.6**
MTDJ				*e* Sg	**Sn**	**08 43 52.3**	**-1.4**
MTDJ				IAML		08 43 55.5	
	344nm,0.4s						
MTDJ				IAML		08 43 57.6	
	comp=Z,227nm,0.3s						
SOR	**Soroa**	**4.07**	**339**	*e* P	**Pn**	**08 43 13.8**	**+1.2**
LMGC	**Las Mercedes**	**4.34**	**75**	*e* P	**Pn**	**08 43 18.3**	**+2.0**
LMGC				*e* S	**Sn**	**08 44 07.7**	**+0.8**
LMGC				IAML		08 44 12.4	
	comp=E,40nm,0.1s						
LMGC				IAML		08 44 13.0	
	comp=N,41nm,0.1s						
STH	**Stony Hill**	**4.50**	**101**	*i* P	**Pn**	**08 43 19.5**	**+0.9**
STH	**Stony Hill**	**4.50**	**101**	*e* P	**Pn**	**08 43 19.4**	**+0.9**
STH				*e* S	**Sn**	**08 44 08.7**	**-2.3**
STH				IAML		08 44 15.2	
	comp=N,19μm,0.2s						
STH				IAML		08 44 15.6	
	comp=E,16μm,0.2s						
HOJ	**Hope**	**4.57**	**101**	*i* P	**Pn**	**08 43 20.8**	**+1.3**
HOJ				*i* S	**Sn**	**08 44 10.1**	**-2.6**
GWJ	**Greenwich**	**4.57**	**100**	*i* P	**Pn**	**08 43 20.5**	**+0.8**
CHIV	**Chivirico**	**4.86**	**77**	*e* P	**Pn**	**08 43 25.1**	**+1.7**
CHIV				*e* S	**Sn**	**08 44 15.6**	**-4.2**
MARVS	**Santiago de Cu**	**5.34**	**78**	*e* P	**Pn**	**08 43 30.4**	**+0.4**
MARVS				*e* S	**Sn**	**08 44 28.5**	**-3.2**
MARVS				IAML		08 44 40.1	
	comp=N,20nm,0.5s						
MARVS				IAML		08 44 40.6	
	comp=E,19nm,0.4s						
HLGC	**Holguin**	**5.42**	**68**	*e* P	**Pn**	**08 43 33.9**	**+2.6**
RCC	**Rio Carpintero**	**5.53**	**78**	*e* P	**Pn**	**08 43 35.6**	**+3.0**
RCC				*e* S	**Sn**	**08 44 30.9**	**-5.4**
PINC	**Pinares de May**	**5.55**	**73**	*e* P	**Pn**	**08 43 35.0**	**+2.1**
GTBY	**Guantanamo Bay**	**6.06**	**80**	*e* P	**Pn**	**08 43 43.4**	**+3.4**
GTBY				*e* S	**Sn**	**08 44 46.0**	**-3.5**
MOAC	**Moa**	**6.34**	**74**	*e* P	**Pn**	**08 43 46.6**	**+2.8**
QMBU	**Quimbuelo**	**6.38**	**78**	*e* P	**Pn**	**08 43 46.5**	**+2.1**
QMBU				*e* S	**Sn**	**08 44 54.8**	**-2.7**
TEIG	**Tepich**	**6.55**	**282**	Pn	Pn	08 43 41.4	-5.3
	baz=320,slow=24,SNR=20						
TEIG				Sn	Sn	08 44 47.8	-14
	baz=162,slow=24,SNR=16						
MASC	**Masc**	**6.92**	**79**	*e* P	**Pn**	**08 43 55.4**	**+3.7**
JTS	**Las Juntas de**	**9.27**	**202**	LR	LR	08 47 46.0	
	comp=E,99nm,19.7s,baz=52,slow=38						
CMIG	**Matias Romero**	**12.91**	**264**	LR	LR	08 50 05.9	
	comp=E,34nm,18.9s,baz=88,slow=38						
SDV	**Santo Domingo**	**14.51**	**132**	LR	LR	08 51 06.4	
	comp=E,69nm,19.2s,baz=72,slow=37						
SJG	**San Juan**	**14.54**	**91**	LR	LR	08 50 57.6	
	comp=E,101nm,18.1s,baz=108,slow=35						
TKL	**Tuckaleechee C**	**16.75**	**353**	Pn	**P**	**08 46 07.7**	**+0.5**
	comp=E,1.4nm,0.6s,baz=168,slow=8.1,SNR=4.2						
PCRV	**Puerto La Cruz**	**18.46**	**116**	P	**Pn**	**08 46 31.2**	**+4.7**
	comp=E,8.2nm,1.0s,baz=268,slow=4.1,SNR=6.3						
TXAR	**Lajitas Array**	**22.70**	**301**	P	**P**	**08 47 10.7**	**-1.7**
	comp=E,0.8nm,0.8s,baz=112,slow=9.8,SNR=9.3						
	comp=E,0.8nm,0.8s						
LPIG	**La Paz**	**27.29**	**286**	LR	LR	08 58 33.8	
	comp=E,32nm,18.7s,baz=46,slow=37						
MDP	**Montagnes des**	**31.30**	**112**	LR	LR	09 02 09.4	
	comp=E,115nm,20.3s,baz=104,slow=38						
PDAR	**Pinedale Array**	**33.56**	**321**	P	**P**	**08 48 51.0**	**+0.3**
	comp=E,0.1nm,0.4s,baz=138,slow=9.6,SNR=1.5						
	comp=E,0.1nm,0.4s						
NVAR	**Mina Array Bea**	**37.36**	**309**	PcP	**PcP**	**08 51 42.1**	**-0.4**
	comp=E,0.4nm,0.7s,baz=123,slow=5.1,SNR=4.1						
ILAR	**Eielson Array**	**62.58**	**334**	P	**P**	**08 52 33.3**	**-0.9**
	comp=E,0.3nm,0.9s,baz=103,slow=5.0,SNR=4.0						
	comp=E,0.3nm,0.9s						
WRA	**Warramunga Arr**	**146.27**	**262**	PKPbc	**PKPdf**	**09 01 49.9**	**-0.9**
	comp=E,0.7nm,0.7s,baz=82,slow=3.6,SNR=8.6						
ASAR	**Alice Springs**	**146.78**	**256**	PKPbc	**PKPdf**	**09 01 51.0**	**-0.6**
	comp=E,0.5nm,0.7s,baz=111,slow=3.4,SNR=7.6						

*IDC **19** 08:48:49.5±1.1, 37°.52N×20°.52E, h0km, mb3.7/11, mbtmp3.7/14, ML4.2/2, MS3.0/1, Error ellipse: s-maj=22.5km s-min=19.0km az=29.0*
*ATH **19** 08:48:51.5, 37°.38N×20°.39E, h8km±3km, ML3.7/6, Error ellipse: s-maj=4.6km s-min=1.4km az=42.0*
*THE **19** 08:48:53.1, 37°.43N×20°.46E, h13km, ML3.6/8, Error ellipse: s-maj=1.2km s-min=0.5km az=59.0*
ISC 19 08:48:51.3±1.6, 37°.41N±0°.04×20°.43E±0°.05, h13km±10km, n55, σ0s98/67, mb3.6/11, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.40**	**50**	P	**Pb**	**08 49 00.2**	**0.0**
KRI1				S	**Sb**	**08 49 06.0**	**-0.2**
	14μm,0.4s						
LTHK	**Lithakia**	**0.44**	**47**	P	**Pb**	**08 49 00.8**	**-0.1**
LTHK				S	**Sb**	**08 49 07.3**	**-0.1**
LTHK				AML	AML	08 49 11.4	
	comp=N,36926μm,0.4s						
LTHK				AML	AML	08 49 11.5	
	comp=E,22093μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.71**	**10**	P	**Pb**	**08 49 05.8**	**+0.2**
PSDA				S	**Sb**	**08 49 16.3**	**+1.0**
	comp=E,12μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.71**	**10**	P	**Pb**	**08 49 05.6**	**0.0**
PSDA				S	**Sb**	**08 49 16.4**	**+1.1**
LXR1	**Lixouri, Cepha**	**0.79**	**0**	P	**Pn**	**08 49 07.9**	**-0.3**
LXR1				S	**Sb**	**08 49 18.8**	**+1.3**
	comp=E,25μm,0.4s						
DMLN	**Damoulianata-K**	**0.83**	**357**	P	**Pg**	**08 49 07.4**	**0.0**
DMLN				S	**Sb**	**08 49 18.6**	**-0.1**
SMHA	**Samh**	**0.86**	**11**	P	**Pn**	**08 49 09.0**	**0.0**
VSK1	**VASILIKIADES**	**1.00**	**6**	P	**Pg**	**08 49 10.3**	**-0.3**
VSK1				S	**Sn**	**08 49 25.6**	**+0.4**
	comp=E,6μm,0.7s						
AMT	**Artemida-Makis**	**1.02**	**83**	P	**Pb**	**08 49 11.5**	**+0.6**
AMT				AML	AML	08 49 33.2	
	comp=E,12535μm,0.7s						
AMT				AML	AML	08 49 43.4	
	comp=N,13551μm,0.7s						
RLS	**Riolos of Patr**	**1.04**	**51**	P	**Pb**	**08 49 11.7**	**+0.5**
RLS	**Riolos of Patr**	**1.04**	**51**	P	**Pn**	**08 49 11.9**	**+0.2**
RLS				AML	AML	08 49 29.5	
	comp=E,7614μm,0.7s						
RLS				AML	AML	08 49 29.9	
	comp=N,4881μm,0.7s						
FSK	**Fiskardo**	**1.05**	**6**	P	**Pg**	**08 49 11.4**	**-0.2**
FSK				S	**Sn**	**08 49 27.1**	**+0.7**
FSK	**Fiskardo**	**1.05**	**6**	P	**Pg**	**08 49 11.2**	**-0.4**
FSK				AML	AML	08 49 35.4	
	comp=N,5410μm,0.8s						
FSK				AML	AML	08 49 36.4	
	comp=E,10056μm,0.4s						
DRO	**Drossia**	**1.15**	**61**	P	**Pn**	**08 49 13.6**	**+0.5**
DRO				S	**Sn**	**08 49 29.8**	**+1.0**
	comp=E,4μm,0.6s						
DRO	**Drossia**	**1.15**	**61**	P	**Pn**	**08 49 13.7**	**+0.6**
DRO				AML	AML	08 49 35.2	
	comp=N,8079μm,0.7s						
DRO				AML	AML	08 49 37.7	
	comp=E,6660μm,0.4s						
PYL	**PYLOS**	**1.17**	**116**	P	**Pb**	**08 49 13.9**	**+0.6**
PYL				S	**Sn**	**08 49 30.4**	**+1.3**
PYL	**PYLOS**	**1.17**	**116**	P	**Pg**	**08 49 13.3**	**-0.4**
ITM	**Ithomi**	**1.21**	**100**	P	**Pn**	**08 49 14.8**	**+0.8**
ITM				S	**Sn**	**08 49 31.8**	**+1.5**
	comp=E,1μm,1.2s						
ITM	**Ithomi**	**1.21**	**100**	P	**Pn**	**08 49 14.7**	**+0.6**
ITM				AML	AML	08 49 33.0	
	comp=N,2086μm,0.8s						
ITM				AML	AML	08 49 34.5	
	comp=E,2093μm,1.1s						
EVGI	**Lefkada island**	**1.22**	**8**	P	**Pn**	**08 49 14.6**	**+0.4**
EVGI				S	**Sn**	**08 49 31.3**	**+0.7**
	comp=E,2μm,0.3s						
EVGI	**Lefkada island**	**1.22**	**8**	P	**Pn**	**08 49 14.6**	**+0.4**
DRAG	**Dragano-Lefkad**	**1.28**	**5**	P	**Pg**	**08 49 15.5**	**-0.3**
DRAG	**Dragano-Lefkad**	**1.28**	**5**	P	**Pn**	**08 49 15.4**	**+0.5**
NYDR	**Nydri-Lefkada**	**1.32**	**9**	P	**Pg**	**08 49 16.3**	**-0.3**
NYDR				S	**Sn**	**08 49 34.0**	**+1.1**
	comp=E,2μm,0.6s						
UPR	**University Cam**	**1.38**	**50**	P	**Pn**	**08 49 16.9**	**+0.6**
LKD2	**Lefkada island**	**1.39**	**7**	P	**Pg**	**08 49 19.0**	**+1.0**
TSLK	**Tsoukalades, L**	**1.42**	**7**	P	**Pb**	**08 49 18.1**	**+0.4**
KLV	**Kalavryta, Ach**	**1.50**	**65**	P	**Pg**	**08 49 20.0**	**-0.1**
EFP	**Efpalio**	**1.54**	**48**	P	**Pg**	**08 49 20.7**	**-0.2**
GUR	**Goura**	**1.60**	**70**	P	**Pb**	**08 49 21.1**	**+0.3**
EVR	**Evrytania**	**1.85**	**35**	P	**Pn**	**08 49 23.3**	**+0.4**
VLI	**Veliai**	**2.12**	**108**	P	**Pn**	**08 49 27.9**	**+1.5**
AGG	**Agios Georgios**	**2.20**	**42**	P	**Pb**	**08 49 30.0**	**-0.9**
TYRN	**Tyrnavos**	**2.70**	**31**	P	**Pn**	**08 49 35.8**	**+1.4**
VLY	**Voula,Athens**	**2.71**	**80**	P	**Pn**	**08 49 35.6**	**+1.1**
AOS	**Alonnisos**	**3.23**	**56**	P	**Pn**	**08 49 42.0**	**+0.3**
OHR	**Ohrid**	**3.71**	**4**	*i* Pn	**Pn**	**08 49 51.2**	**+2.9**
IDI	**Anoyia**	**4.17**	**119**	Pn	**Pn**	**08 49 56.4**	**+1.6**
	comp=E,4.8nm,0.4s,baz=305,slow=6.0,SNR=11						
IDI				Sn	**Sn**	**08 50 43.5**	**0.0**
	comp=E,1.7nm,0.3s,baz=38,slow=24,SNR=3.9						
VAY	**Valandovo**	**4.24**	**22**	*i* Pn	**Pn**	**08 49 57.0**	**+1.4**
MLR	**Muntele Rosu**	**9.07**	**25**	Pn	**Pn**	**08 51 05.3**	**+3.3**
	comp=E,0.7nm,0.3s,baz=145,slow=17,SNR=9.1						
BRTR	**Keskin Array B**	**10.60**	**73**	Pn	Pn	08 51 28.3	+5.3
	comp=E,0.1nm,0.3s,baz=265,slow=12,SNR=2.1						
EIL	**Elat**	**14.35**	**118**	Pn	**Pn**	**08 52 13.8**	**-0.4**
	comp=E,0.6nm,0.3s,baz=313,slow=23,SNR=1.6						
	comp=E,2.3nm,0.5s						
GNI	**Garni**	**19.14**	**74**	LR	LR	09 01 15.7	
	comp=E,47nm,20.4s,baz=300,slow=39						
ESDC	**Sonseca Array**	**19.20**	**284**	P	**P**	**08 53 14.0**	**-1.0**
	comp=E,0.2nm,0.3s,baz=82,slow=9.8,SNR=2.7						
	comp=E,0.6nm,0.7s						
HFS	**Hagfors**	**23.15**	**351**	P	**P**	**08 53 56.1**	**-1.0**
	comp=E,1.6nm,0.5s,baz=171,slow=14,SNR=2.4						
	comp=E,1.6nm,0.5s						
EKA	**Eskdalemuir Ar**	**24.02**	**326**	P	**P**	**08 54 05.8**	**+0.2**
	comp=E,0.9nm,0.6s,baz=133,slow=5.8,SNR=3.8						
	comp=E,0.9nm,0.6s						
FINES	**FINESS Array B**	**24.32**	**7**	P	**P**	**08 54 07.8**	**-0.6**
	comp=E,2.6nm,0.9s,baz=169,slow=11,SNR=5.0						
	comp=E,2.6nm,0.9s						
NOA	**NORSAR Array B**	**24.36**	**349**	P	**P**	**08 54 09.1**	**+0.3**
	comp=E,0.5nm,0.6s,baz=162,slow=9.5,SNR=

	comp=Z,23nm,0.8s					
KAN09	**Caldwell North**	1.63 182		Pn	09 01 33.2	-0.4
CBKS	**Cedar Bluff**	1.70 272	Pn	Pn	09 01 34.0	-0.6
KAN17	**Caldwell West**	1.73 185	Pn	Pn	09 01 34.1	-0.8
KAN13	**South Haven SW**	1.75 178	Pn	Pn	09 01 34.9	-0.4
KAN13				Pb	09 01 35.0	-1.9
KAN14	**Manchester OK**	1.84 190	Pn	Pn	09 01 36.2	-0.2
GC02	**Grant County #**	1.93 187	Pn	Pn	09 01 37.1	-0.5
BLOK	**Blackwell**	2.02 172	Pn	Pn	09 01 39.2	+0.3
T35A	**Sooner Cattle**	2.03 156	Pn	Pn	09 01 38.7	-0.3
CROK	**Carrier**	2.29 189	Pn	Pn	09 01 42.8	+0.3
OK051	**E0350 and S346**	2.33 166	Pn	Pn	09 01 42.7	-0.5
OK048	**Pawnee Station**	2.40 168	Pn	Pn	09 01 43.4	-0.7
N35A	**Tabor**	2.56 35	lAmb_Lg		09 02 24.7	
	comp=Z,31nm,0.7s					
BGNE	**Belgrade**	2.67 350	Pn	Pn	09 01 47.6	-0.3
BGNE			lAmb_Lg		09 02 31.2	
	comp=Z,18nm,0.7s					
QUOK	**Quay**	2.68 165	Pn	Pn	09 01 47.8	-0.2
OK052	**Battle Ridge R**	2.84 168	Pn	Pn	09 01 49.7	-0.4
OK031	**S. Brethren Rd**	2.87 168	Pn	Pn	09 01 50.2	-0.3
DEOK	**Depew**	3.04 164	Pn	Pn	09 01 53.1	+0.1
ELIS	**Ellis County**	3.08 209	Pn	Pn	09 01 54.1	+0.6
TUL3	**Leonard**	3.18 153	Pn	Pn	09 01 54.6	-0.3
TUL3			lAmb_Lg		09 02 48.5	
	comp=Z,26nm,0.7s					
P38A	**Dawn**	3.24 73	Pn	Pn	09 01 56.2	+0.5
RLO	**Rose Lookout**	3.29 141	Pn	Pn	09 01 56.0	-0.3
RLO			lAmb_Lg		09 02 47.5	
	comp=Z,16nm,0.8s					
U38A	**Gravette**	3.43 132	Pn	Pn	09 01 58.3	0.0
S39A	**Bolivar**	3.50 107	Pn	Pn	09 01 58.9	-0.4
FNO	**Franklin**	3.51 178	Pn	Pn	09 01 59.0	-0.4
FNO			lAmb_Lg		09 02 59.9	
	comp=Z,12nm,0.8s					
W35A	**Tecumseh**	3.65 171	Pn	Pn	09 01 59.8	-1.5
HHAR	**Hobbs**	3.80 130	Pn	Pn	09 02 02.8	-0.6
HHAR			lAmb_Lg		09 03 05.9	
	comp=Z,15nm,0.8s					
N38A	**Joes South For**	3.90 57	Pn	Pn	09 02 04.2	-0.4
N38A			lAmb_Lg		09 03 13.2	
	comp=Z,20nm,0.8s					
OGNE	**Ogallala**	4.07 304	lAmb_Lg		09 03 15.1	
	comp=Z,16nm,0.8s					
WMOK	**Wichita Mounta**	4.14 194	Pn	Pn	09 02 07.3	-0.8
X34A	**Smith Ranch, M**	4.17 183	Pn	Pn	09 02 07.4	-1.0
X34A			lAmb_Lg		09 03 21.0	
	comp=Z,15nm,0.7s					
R40A	**Maddies Statio**	4.17 95	Pn	Pn	09 02 08.4	-0.1
K30B	**Basset**	4.20 339	Pn	Pn	09 02 09.2	+0.2
K30B			lAmb_Lg		09 03 20.4	
	comp=Z,15nm,0.8s					
SMWD	**Samnorwood**	4.24 211	Pn	Pn	09 02 08.6	-0.9
P40A	**Paris**	4.35 78	Pn	Pn	09 02 10.5	-0.4
P40A			lAmb_Lg		09 03 25.2	
	comp=Z,9.3nm,0.7s					
RTBA	**Rita Blanca**	4.73 242	Pn	Pn	09 02 15.7	-0.5
CCM	**Cathedral Cave**	5.01 96	Pn	Pn	09 02 20.3	+0.3
ECSD	**EROS Data Cent**	5.01 8	Pn	Pn	09 02 19.9	-0.1
AMTX	**Amarillo**	5.10 222	lAmb_Lg		09 03 57.2	
	comp=Z,12nm,0.9s					
FCAR	**Ozark Folk Cen**	5.20 122	Pn	Pn	09 02 21.4	-1.1
MIAR	**Mount Ida**	5.29 142	Pn	Pn	09 02 23.2	-0.7
MIAR			lAmb_Lg		09 04 04.0	
	comp=Z,11nm,0.8s					
WHAR	**Wooly Hollow**	5.46 128	Pn	Pn	09 02 25.1	-1.1
N41A	**Harden Midland**	5.52 67	Pn	Pn	09 02 25.1	-1.9
BRIGG	**Briggsdale**	5.52 291	lAmb_Lg		09 04 13.1	
	comp=Z,10nm,0.7s					
T25A	**Trinidad**	5.66 255	Pn	Pn	09 02 29.1	0.0
X40A	**Basin Creek Fa**	5.72 137	Pn	Pn	09 02 29.0	-0.7
X40A			lAmb_Lg		09 04 11.0	
	comp=Z,12nm,0.7s					
LCAR	**Lake Charles**	5.76 116	Pn	Pn	09 02 29.2	-1.1
LCAR			lAmb_Lg		09 04 12.2	
	comp=Z,5.7nm,0.8s					
DKNS	**Dickens**	5.77 209	Pn	Pn	09 02 29.7	-0.8
WLAR	**White Oak Lake**	6.21 143	lAmb_Lg		09 04 20.9	
	comp=Z,9.0nm,0.8s					
P43A	**Skaggs, Pawnee**	6.30 80	Pn	Pn	09 02 37.5	-0.2

IDC 19 09:12:36.7±25.0, 20°99S×177°99W, h423km±232km, mb3.2/3, mbtmp4.0/3, MS3.5/1, Error ellipse: s-maj=156.1km s-min=35.9km az=48.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	24.43	199	LR	LR	09 27 51.4	
	comp=Z,110nm,18.3s,baz=132,slow=37						
ASAR	**Alice Springs**	44.42	257	P	P	09 20 08.6	+0.2
	2.1nm,0.7s,baz=97,slow=7.6,SNR=33						
ASAR				PcP	PcP	09 21 43.8	+0.2
	0.5nm,0.6s,baz=102,slow=3.8,SNR=7.0						
	2.1nm,0.7s						
WRA	**Warramunga Arr**	44.54	263	P	P	09 20 08.7	-0.6
	0.6nm,0.3s,baz=104,slow=8.3,SNR=38						
	0.6nm,0.3s						
QSPA	**South Pole Qui**	69.08	180	P	P	09 22 58.8	+0.2
	1.6nm,1.0s,baz=34,slow=3.6,SNR=6.2						
	1.6nm,1.0s						
AKASG	**Malin Array Be**	143.44	331	PKP	PKPbc	09 31 20.1	+0.3
	0.6nm,0.4s,baz=50,slow=3.7,SNR=7.7						

*OSPL **19** 09:15:21.1±0.5, 18°37N×69°10W, h46km±8km, ML2.6*
*SDD **19** 09:15:22.1±2.3, 18°78N×69°58W, h103km±19km, MD3.0, ML2.5, MW2.8*

ISC 19 09:15:25.1±2.0, 18°7N±0°2×69°51W±0°05, h71km±19km, n7, σ1§62/13, 4C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	0.17	45	⇓*e*Pg	**Pn**	**09 15 35.2**	**-0.5**
HATOM				⇑*e*Sg	**Sn**	**09 15 44.9**	**+1.4**
HATOM				lAML		09 15 45.4	
	comp=E,46nm,0.4s						
HATOM				lAML		09 15 45.8	
	comp=N,43nm,0.3s						
MIDR	**Miches**	0.54	54	*e*Pg	**Pn**	**09 15 37.6**	**-0.8**
MIDR				⇑*e*Sg	**Sn**	**09 15 48.9**	**+0.9**
MIDR				lAML		09 15 50.2	
	comp=N,35nm,0.2s						
MIDR				lAML		09 15 50.3	
	comp=N,35nm,0.2s						
MIDR				lAML		09 15 50.3	
	comp=E,53nm,0.6s						
DR08	**Loma La Naviza**	0.57	301	*e*Pg	**Pn**	**09 15 36.6**	**-2.2**
DR08				*e*Sg	**Sn**	**09 15 49.7**	**+0.9**
DR08				lAML		09 15 51.5	
	comp=N,2μm,0.3s						
DR08				lAML		09 15 51.5	
	comp=E,1μm,0.1s						
HIDR	**Higuey Centro**	0.76	96	*e*Pg	**Pn**	**09 15 39.0**	**-1.7**
HIDR				⇑*e*Sg	**Sn**	**09 15 53.2**	**+1.0**
HIDR				lAML		09 15 53.9	
	comp=E,122nm,0.2s						
HIDR				lAML		09 15 54.0	
	comp=N,152nm,0.2s						
PCDR	**Punta Cana, DR**	1.08	98	*e*Pg	**Pn**	**09 15 44.1**	**-0.6**
PCDR				⇑*e*Sg	**Sn**	**09 16 00.7**	**+1.5**
PCDR				lAML		09 16 01.0	
	comp=E,74nm,1.9s						
PCDR				lAML		09 16 11.9	
	comp=N,135nm,2.1s						
LONE3	**El Aguacate, B**	1.85	268	*i* P	**Pn**	**09 15 54.8**	**-0.1**
LONE3				*e*S	**Sn**	**09 16 20.3**	**+2.8**
LONE3				lAML		09 16 23.1	
	comp=Z,23nm,5.7s						
LOVI	**El Cajuil, Ovi**	1.97	244	*e*S	**Sn**	**09 16 19.4**	**-0.7**
LOVI				lAML		09 16 29.6	
	comp=Z,71nm,1.4s						

NEIC 19 09:31:25.1±0.7, 38°78N±0°03×97°55W±0°01, h5km±2km, mb_Lg2.3/4, Error ellipse: s-maj=4.6km s-min=3.0km az=174.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSU1	**Kansas State U**	0.80	66	Pg	Pg	09 31 39.6	-0.8
KSU1				Sg	Sg	09 31 50.6	-0.2
R32A	**Long Quarter,**	0.98	249	Pg	Pg	09 31 42.5	-1.3
R32A				Sg	Sg	09 31 56.1	-0.4
KAN12	**Harper NE Stat**	1.52 194		Pn		09 31 52.2	-0.7
KAN08	**Anthony NE Sta**	1.59 192		Pn		09 31 53.1	-0.7
KAN01	**Argonia South**	1.63 186		Pn		09 31 53.9	-0.6
KAN09	**Caldwell North**	1.64 182		Pn		09 31 54.0	-0.6
CBKS	**Cedar Bluff**	1.71 272	Pn	Pn		09 31 55.2	-0.4
KAN17	**Caldwell West**	1.74 186	Pn	Pn		09 31 55.7	-0.3
KAN13	**South Haven SW**	1.77 178	Pn	Pn		09 31 56.1	-0.2
T35A	**Sooner Cattle**	2.03 156	Pn	Pn		09 32 00.1	+0.2
T35A			lAmb_Lg			09 32 34.1	
	comp=Z,3.3nm,0.8s						
N35A	**Tabor**	2.54 35	Pn		Pn	09 32 06.8	-0.2
QUOK	**Quay**	2.69 165	Pn		Pn	09 32 08.8	-0.2
RLO	**Rose Lookout**	3.29 142	Pn		Pn	09 32 17.0	-0.3
WMOK	**Wichita Mounta**	4.15 194	Pn		Pn	09 32 28.1	-1.1
R40A	**Maddies Statio**	4.17 95	Pn		Pn	09 32 27.9	-1.5
P40A	**Paris**	4.34 78	Pn		Pn	09 32 30.4	-1.3
ECSD	**EROS Data Cent**	5.00 8	Pn		Pn	09 32 38.3	-2.4
MIAR	**Mount Ida**	5.30 142	Pn		Pn	09 32 44.0	-0.9
E28A	**Huff**	8.13 344	lAmb_Lg			09 35 56.3	
	comp=Z,11nm,0.7s						

*NNC **19** 09:34:28.4±2.6, 41°69N×70°11E, h0km, mb2.6, mpv2.9, Error ellipse: s-maj=18.7km s-min=8.9km az=30.0*
*SOME **19** 09:34:29.2, 41°73N×70°38E, h10km*
*KRNET **19** 09:34:30.5±0.1, 41°85N×70°31E, h12km, mb2.1*

ISC 19 09:34:30.5±1.2, 41°84N±0°05×70°22E±0°04, h11km±11km, n14, σ1§82/27, 9C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	0.33	335	P	**Pg**	**09 34 37.9**	**+0.7**
IUG	57nm,0.2s			S	**Sb**	**09 34 44.0**	**+0.1**
	21nm,0.2s						
IUG	**Iuzhnay**	0.33	335	*e*P	**Pg**	**09 34 37.9**	**+0.7**
IUG	57nm,0.1s			*e*S	**Sb**	**09 34 44.0**	**+0.1**
	21nm,0.2s						
CHM	**Chimkent**	0.66	316	*e*P	**Pb**	**09 34 45.4**	**+1.4**
CHM	66nm,0.2s			*e*S	**Sn**	**09 34 56.9**	**+0.7**
	128nm,0.2s						
TRKS	**Terek-Say**	0.76	114	⇑*i*P	**Pg**	**09 34 44.8**	**-0.4**
TRKS				⇑*i*S	**Sg**	**09 34 55.1**	**0.0**
BRLS	**Borolday**	1.22	347	P	**Pn**	**09 34 50.8**	**-2.6**
BRLS	3.7nm,0.2s			S	**Sb**	**09 35 06.4**	**-2.9**
	3.1nm,0.2s						
BRLS	**Borolday**	1.22	347	*e*P	**Pn**	**09 34 50.8**	**-2.6**
BRLS	3.7nm,0.1s			*e*S	**Sb**	**09 35 06.4**	**-2.9**
	3.1nm,0.2s						
KK31	**Karatay Array**	1.28	10	⇑P	**Pn**	**09 34 54.4**	**+0.1**
KK31	0.4nm,0.2s,baz=190,slow=17,SNR=20			⇓S	**Sn**	**09 35 15.0**	**+3.6**
	0.5nm,0.2s,baz=196,slow=24,SNR=7.1						
KKAR	**Karatay Array**	1.28	10	⇑*i*P	**Pn**	**09 34 54.3**	**0.0**
KKAR				⇑*i*S	**Sn**	**09 35 11.8**	**+0.4**
MNAS	**Manas**	1.82	69	⇑*i*P	**Pb**	**09 35 03.2**	**-0.6**
MNAS				⇑*i*S	**Sb**	**09 35 27.0**	**+0.4**
BTK	**Batken**	1.84	165	⇓*e*P	**Pb**	**09 35 04.1**	**-0.1**
BTK				⇓*e*S	**Sg**	**09 35 29.5**	**-0.2**
MRKS	**Merke**	2.41	67	Pg	**Pb**	**09 35 14.4**	**+0.6**
MRKS	1.4nm,0.2s			Lg	Lg	09 35 47.9	
	3.6nm,0.3s						
MRKS	**Merke**	2.41	67	*e*P	**Pb**	**09 35 12.6**	**-1.3**
MRKS	1.4nm,0.2s			*e*S	**Sb**	**09 35 43.9**	**+0.3**
	3.6nm,0.3s						
AML	**Almayashu**	2.61	83	⇑*i*P	**Pn**	**09 35 14.9**	**+2.0**
AML				⇑*i*S	**Sb**	**09 35 46.9**	**-2.7**
EKS2	**Erkin-Say**	2.77	72	⇓*i*P	**Pn**	**09 35 16.8**	**+2.0**
EKS2				⇓*i*S	**Sb**	**09 35 50.7**	**-3.2**

*AEIC **19** 10:15:00.3±0.9, 54°3N±0°1×164°1W±0°1, h73km±6km, Error ellipse: s-maj=19.7km s-min=4.3km az=151.0*

NEIC 19 10:15:00.9±0.8, 54°2N±0°1×164°0W±0°1, h70km±10km, ML3.3/10, ML3.3(AEIC), Error ellipse: s-maj=20.6km s-min=4.6km az=153.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	0.41	308		Pn	10 15 13.0	+0.1
WESE					Sn	10 15 21.4	-0.4
WECS	**Westdahl Cape**	0.53	305		Pn	10 15 14.0	0.0
ISLZ	**Isanotski Laza**	0.54	20		Pn	10 15 13.7	-0.4
ISLZ					Sn	10 15 23.9	+0.2
WEBT	**Westdahl Beart**	0.56	311		Pn	10 15 14.0	-0.3
WEBT					Sn	10 15 24.4	+0.3
ISNN	**Isanotski Nort**	0.63	14		Pn	10 15 14.9	0.0
ISNN					Sn	10 15 26.3	+0.9
FALS	**False Pass**	0.73	29		Pn	10 15 15.8	-0.2
FALS					Sn	10 15 27.4	+0.2
AKSA	**Akutan Strait**	0.98	265		Pn	10 15 19.2	+0.1
AKSA					Sn	10 15 33.6	+1.0
AKGG	**Akutan Green G**	1.15	269		Pn	10 15 21.3	0.0
AKGG					Sn	10 15 36.3	-0.2
ZRO	**Akutan Zero**	1.15	264		Pn	10 15 21.3	0.0
ZRO					Sn	10 15 36.6	+0.1
LVA	**Lava Point**	1.18	268	Pn	Pn	10 15 21.3	-0.3
LVA				lAML		10 15 39.4	
	comp=N,764nm,0.7s						
LVA				lAML		10 15 42.1	
	comp=E,415nm,0.6s						
AKRB	**Akutan Reef Bi**	1.20	266		Pn	10 15 21.6	-0.2
AKRB					Sn	10 15 38.4	+0.8
UNV	**Unalaska Valle**	1.51	256		Pn	10 15 25.5	-0.3
UNV					Sn	10 15 44.0	-0.7
MTBL	**Makushin Table**	1.58	262		Pn	10 15 26.9	-0.1
MSW	**Makushin Switc**	1.65	260		Sn	10 15 47.8	-0.4
PN7A	**Pavlof North-7**	1.69	43		Pn	10 15 28.5	+0.2
PS4A	**Pavlof South-4**	1.69	47		Pn	10 15 28.2	-0.1
PS4A					Sn	10 15 50.8	+1.7
S12K	**Black Hills**	1.87	37	Pn	Pn	10 15 30.1	-0.6
S12K				lAML		10 15 55.4	
	comp=E,197nm,0.3s						
S12K				lAML		10 15 57.5	
	comp=N,156nm,0.5s						
OKFG	**Magazine Ridge**	2.44	252		Pn	10 15 38.6	+0.2
OKTU	**Okmok Mt. Tuli**	2.52	252		Pn	10 15 39.9	+0.3
CNBA	**Chernabura Isl**	2.66	75	Pn	Pn	10 15 40.4	-0.9
CHGN	**Chignik**	3.83	55	Pn	Pn	10 15 57.6	+0.3
O14K	**Tigyukauivet M**	5.27	16	Pn	Pn	10 16 15.7	-1.1
O14K				lAML		10 17 01.0	
	comp=E,20nm,1.4s						
O14K				lAML		10 17 49.5	
	comp=N,26nm,1.5s						
P16K	**Nushagak River**	5.86	32		Pn	10 16 25.1	+0.2
M13K	**Dall Lake**	6.22	3	Pn	Pn	10 16 29.3	-0.6
O16K	**Kokwok River B**	6.29	29	Pn	Pn	10 16 31.0	+0.2
N15K	**Kwethluk River**	6.33	18	Pn	Pn	10 16 31.9	+0.4
M14K	**Bethel**	6.64	9	Pn	Pn	10 16 35.7	+0.1
O17K	**Koliganek Bris**	6.73	31		Pn	10 16 36.5	-0.3
M15K	**Kasigluk River**	6.73	14		Pn	10 16 36.4	-0.5
L14K	**Kuka Creek**	7.17	5	Pn	Pn	10 16 43.0	+0.2
M16K	**Timber Creek**	7.34	20	Pn	Pn	10 16 44.6	-0.6
L16K	**Owhat River**	7.88	16	Pn	Pn	10 16 52.1	-0.5
SUA	**Susitna One**	10.12	39	Pn	Pn	10 17 22.2	-1.1
SKT	**Skwentna**	10.19	35	Pn	Pn	10 17 24.9	+0.7

*SOME **19** 11:09:01.1, 44°67N×82°00E, h20km*
*NNC **19** 11:09:01.2±1.8, 44°62N×82°03E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=17.4km s-min=7.4km az=127.0, Suspected Mining explosion.*

ISC 19 11:09:00.8±1.7, 44°59N±0°06×82°05E±0°08, h0km, n16, σ0§96/27, 1C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	1.64	262	P	**Pg**	**11 09 32.0**	**-0.1**
DJR	9.6nm,0.2s			S	**Sg**	**11 09 54.7**	**+1.4**
	13nm,0.5s						
DJR	**Jarkent**	1.64	262	*e*P	**Pn**	**11 09 31.2**	**+0.3**
DJR	9.6nm,0.2s			*e*S	**Sn**	**11 09 52.7**	**0.0**
	13nm,0.3s						
KAPS	**Kapalarasan**	2.03	291	Pg	**Pb**	**11 09 37.7**	**-0.9**
KAPS	4.6nm,0.2s			Lg	Lg	11 10 04.1	
	19nm,0.1s						
KAPS	**Kapalarasan**	2.03	291	*e*P	**Pn**	**11 09 36.9**	**+0.6**
KAPS	4.6nm,0.2s			*e*S	**Sn**	**11 10 02.8**	**+0.3**
	19nm,0.1s						
MK31	**Makanchi Array**	2.21 4	Pn		**Pn**	**11 09 38.9**	**+0.1**
MK31	6.8nm,0.4s,baz=191,slow=13,SNR=160		⇑Sn		**Sn**	**11 10 06.9**	**+0.1**
	2.8nm,0.2s,baz=186,slow=23,SNR=16						
SHLS	**Shalkode**	2.35 233	Pg		**Pn**	**11 09 40.9**	**+0.1**
SHLS	26nm,0.3s			Lg	Lg	11 10 09.7	
	33nm,0.3s						
SHLS	**Shalkode**	2.35 233	*e*P		**Pn**	**11 09 40.9**	**+0.1**
SHLS	26nm,0.2s			*e*S	**Sn**	**11 10 09.7**	**-0.8**
	40nm,0.3s						
UZB	**Uzynbulak**	2.62 238	Pg		**Pb**	**11 09 48.6**	**-0.1**
UZB	6.9nm,0.2s			Lg	Lg	11 10 23.1	
	3.3nm,0.3s						
UZB	**Uzynbulak**	2.62 238	*e*P		**Pb**	**11 09 48.6**	**-0.1**
UZB	6.9nm,0.2s			*e*S	**Sb**	**11 10 23.1**	**+1.6**
	4.2nm,0.1s						
KPKS	**Kokpek**	2.67 246	Pg		**Pb**	**11 09 48.7**	**-0.8**
KPKS	16nm,0.2s			Lg	Lg	11 10 23.0	
	13nm,0.3s						
KPKS	**Kokpek**	2.67 246	*e*P		**Pb**	**11 09 48.7**	**-0.8**
KPKS	16nm,0.2s			*e*S	**Sb**	**11 10 23.0**	**+0.1**
	13nm,0.3s						
KURS	**Kuram**	3.00 250	Pg		**Pb**	**11 09 55.0**	**-0.1**
KURS	2.1nm,0.4s			Lg	Lg	11 10 33.5	
	2.7nm,0.4s						
KURS	**Kuram**	3.00 250	*e*P		**Pb**	**11 09 55.0**	**-0.1**
KURS	2.1nm,0.4s			*e*S	**Sb**	**11 10 33.5**	**+1.0**
	2.7nm,0.4s						
ARXS	**Arharly**	3.05 264	*e*P		**Pb**	**11 09 55.5**	**-0.5**
ARXS	3.9nm,0.2s			*e*S	**Sb**	**11 10 34.5**	**+0.8**
	11nm,0.3s						
CHKK	**Chushkaly**	3.71 260	*e*P		**Pb**	**11 10 06.3**	**-0.9**
CHKK	3.9nm,0.2s			*e*S	**Sb**	**11 10 53.0**	**+0.3**
	8.3nm,0.3s						
TNSS	**Tian-Shan**	4.00 249	*e*P		**Pb**	**11 10 13.9**	**+1.4**
TNSS	3.4nm,0.4s			*e*S	**Sg**	**11 11 06.3**	**-3.0**
	1.8nm,0.3s						

*IDC **19** 11:09:09.1±0.6, 47°70N×123°48W, h0km, mb3.8/9, mbtmp3.6/18, ML3.4/8, MS3.0/10, Error ellipse: s-maj=11.7km s-min=6.4km az=57.0*
*NEIC **19** 11:09:13.0±1.1, 47°72N±0°02×123°58W±0°03, h32km±5km, Error ellipse: s-maj=3.3km s-min=2.6km az=202.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=6.88; $M_{\theta\theta}$=2.58; $M_{\phi\phi}$=9.46; $M_{r\theta}$=1.75; $M_{\theta\phi}$=0.67; $M_{\phi r}$=-0.87; Fault plane solution: M_0=8.72000×10^{14} NP1: ϕ_s=202.43000°, δ=45.76000°, λ=-61.62000°. NP2: ϕ_s=344.68000°, δ=50.93000°, λ=-116.02000°. Principal axes: T 9.5335, Plg3.0000°, Azm93.0000°; N -1.9684, Plg20.0000°, Azm2.0000°; P -7.5651, Plg70.0000°, Azm190.0000°;*
*SEA **19** 11:09:13.1±1.5, 47°70N±0°02×123°55W±0°03, h39km±4km, ML4.1/40, mb4.0/20(NEIC), ML3.7/96(NEIC), Mwr3.9/77(NEIC) Error ellipse: s-maj=2.8km s-min=2.4km az=117.0*
*PGC **19** 11:09:13.1, 47°70N×123°55W, h39km, ML4.1, ML4.1, 82km Ssw of Victoria, Bc Washington*
*NEIC **19** 11:09:13.2, 47°70N×123°55W, h38km*

ISC 19 11:09:13.0±0.8, 47°72N±0°02×123°56W±0°02, h33km±4km, n255, σ0§90/262, mb4.0/18, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSD	**Olympics--Snow**	0.14	317		**Pb**	**11 09 19.6**	**+0.3**
OSD					**Sb**	**11 09 24.5**	**+0.9**
B04A	**Port Angeles**	0.34	7		**Pb**	**11 09 21.4**	**+0.1**
B04A					**Sn**	**11 09 28.0**	**+0.7**
HDW	**Hoodsport**	0.35	102		**Pb**	**11 09 21.3**	**-0.3**
NLWA	**Neilton Lookou**	0.39	212		**Pb**	**11 09 21.9**	**-0.1**
NLWA	**Neilton Lookou**	0.39	212		**Sn**	**11 09 28.7**	**0.0**
NLWA	**Neilton Lookou**	0.39	212	IAML		11 09 29.4	
	23μm,0.7s						
NLWA				IAML		11 09 29.9	
	24μm,0.4s						
C04A	**Brinnon**	0.40	91		**Pb**	**11 09 21.7**	**-0.4**
C04A					**Sb**	**11 09 28.3**	**0.0**
SMW	**South Mountain**	0.43	160		**Pb**	**11 09 22.4**	**-0.3**
STW	**Striped Peak**	0.43	351		**Pn**	**11 09 23.0**	**0.0**
STW					**Sn**	**11 09 30.7**	**+0.9**
B013	**Quilcene**	0.45	78		**Pb**	**11 09 22.5**	**-0.3**
B013					**Sb**	**11 09 29.6**	**+0.1**
B013	**Quilcene**	0.45	78		**Pb**	**11 09 22.5**	**-0.3**
OBC	**Olympics--Boni**	0.47	312		**Pn**	**11 09 23.5**	**-0.1**
SQM	**Sequim**	0.49	44		**Pn**	**11 09 24.0**	**+0.2**
P403	**Sandy Floe Qua**	0.52	311		**Pb**	**11 09 23.9**	**0.0**
P403					**Sn**	**11 09 32.2**	**+0.4**
GNW	**Green Mountain**	0.52	107		**Pb**	**11 09 23.4**	**-0.6**
GNW	**Green Mountain**	0.52	107		**Sb**	**11 09 31.5**	**0.0**
GNW	**Green Mountain**	0.52	107	IAML		11 09 32.0	
	comp=E,13μm,0.4s						
GNW				IAML		11 09 32.4	
	comp=N,4μm,0.7s						
GMW	**Gold Mountain**	0.55	108		**Pb**	**11 09 23.8**	**-0.6**
WISH	**Wishkah**	0.62	193		**Pn**	**11 09 25.1**	**-0.4**
WISH				IAML		11 09 44.6	
	comp=N,3μm,0.5s						
WISH				IAML		11 09 47.1	
	comp=E,3μm,0.5s						
KINR	**Kitsap County**	0.62	87		**Pn**	**11 09 23.1**	**-2.4**
KITP	**Kitsap County**	0.63	94		**Pb**	**11 09 26.0**	**+0.3**
OTR	**Olympics--Tyee**	0.64	305		**Pn**	**11 09 25.8**	**-0.1**
PABH	**Pacific Beach**	0.67	221		**Pb**	**11 09 26.4**	**+0.1**
BABE	**Bainbridge Sch**	0.70	99		**Pb**	**11 09 27.4**	**+0.5**
VGZ	**Gonzales**	0.71	13		**Pn**	**11 09 26.2**	**-0.6**
VGZ					**Sn**	**11 09 36.5**	**-0.1**
VGZ	**Gonzales**	0.71	13	P	**Pn**	**11 09 26.1**	**-0.6**
C03A	**Quillayute Air**	0.71	289		**Pn**	**11 09 26.5**	**-0.2**
C03A				IAML		11 09 41.3	
	comp=E,3μm,0.6s						
C03A				IAML		11 09 41.5	
	comp=N,3μm,0.3s						
MNWA	**Manchester**

PTRF Port Renfrew 1.00 326 Pn 11 09 29.8 -0.9
PTRF Port Renfrew 1.00 326 P Pn 11 09 29.9 -0.9
PFB Port Renfrew 1.03 326 P Pn 11 09 30.4 -0.8
BLH Bald Hill 1.04 83 Pn 11 09 31.0 -0.3
PCFR Pierce County 1.06 133 Pn 11 09 31.0 -0.5
B019 Raymond 1.07 183 Pn 11 09 30.7 -1.1
MCW Mount Constitu 1.08 27 Pn 11 09 31.8 0.0
MCW Mount Constitu 1.08 27 P Pn 11 09 31.8 0.0
SNB Saturna Island 1.09 14 Pn 11 09 32.0 +0.1
SNB Saturna Island 1.09 14 P Pn 11 09 32.0 +0.1
GHW Garrison Hill 1.11 127 Pn 11 09 31.6 -0.7
A04D Lummi Island 1.15 30 Pn 11 09 33.0 +0.1
B926 Mesachie Lake 1.16 341 P Pn 11 09 32.5 -0.5
CLRS Cowichan Lake 1.16 341 Pn Pn 11 09 32.3 -0.6
CLRS Cowichan Lake 1.16 341 P Pn 11 09 32.3 -0.6
B941 Kapowsin 1.17 128 Pn 11 09 32.2 -0.9
D05A Enumclaw 1.20 116 Pn Pn 11 09 33.4 0.0
D05A IAML 11 09 49.9
comp=E,2µm,1.1s
JCW Jim Creek 1.20 66 Pn 11 09 33.5 0.0
HTW Haystack Looko 1.21 85 Pn 11 09 33.5 -0.2
GOBB Galiano Island 1.23 2 P Pn 11 09 33.9 0.0
OBSR Observation Ro 1.45 124 Pn 11 09 36.7 -0.5
REMR Mount Rainier- 1.48 127 Pn 11 09 37.0 -0.5
RCS Mount Rainier- 1.51 124 Pn 11 09 37.6 -0.5
B928 Bamfield 1.53 317 Pn 11 09 37.1 -0.9
B928 Bamfield 1.53 317 P Pn 11 09 37.1 -0.9
BFSB Bamfield 1.53 317 Pn 11 09 37.1 -0.9
BFSB Bamfield 1.53 317 P Pn 11 09 37.1 -0.9
NLLB Nanaimo Lost L 1.53 350 Pn 11 09 37.8 -0.3
NLLB Nanaimo Lost L 1.53 350 P Pn 11 09 37.7 -0.3
MBW Mount Baker 1.54 46 Pn 11 09 38.9 +0.6
LON Longmire 1.54 129 Pn 11 09 37.7 -0.6
LON IAML 11 09 59.4
comp=E,738nm,0.4s
LON IAML 11 09 59.7
comp=N,633nm,0.6s
RPW Rockport 1.55 61 Pn 11 09 38.7 +0.2
KOSW Kosmos 1.57 143 Pn 11 09 39.1 +0.4
B023 Clatskanie 1.65 168 Pn 11 09 39.1 -0.5
ERK Elk Rock 1.65 149 Pn 11 09 39.5 -0.2
TDL Tradedollar La 1.65 146 Pn 11 09 39.8 0.0
B201 Coldwater, Mou 1.68 147 Pn 11 09 39.9 -0.2
GPW Glacier Peak 1.68 75 Pn 11 09 40.5 +0.1
F04D Rainier, OR 1.68 167 Pn 11 09 40.1 0.0
BIB Bowen Island 1.69 6 Pn 11 09 40.4 +0.1
BIB Bowen Island 1.69 6 P Pn 11 09 40.3 +0.1
HNBB Haney 1.70 22 Pn 11 09 40.9 +0.5
HNBB Haney 1.70 22 P Pn 11 09 40.8 +0.5
B927 Port Alberni 1.71 331 Pn 11 09 40.0 -0.5
JRO Jston Ridge Ob 1.72 147 Pn 11 09 40.0 -0.7
FL2 Flat Top 2 1.74 151 Pn 11 09 41.0 0.0
STD Studebaker Rid 1.75 148 Pn 11 09 42.4 +1.2
B203 Quarry, Mount 1.77 151 Pn 11 09 41.3 0.0
B202 Windy Ridge, M 1.77 146 Pn 11 09 41.4 -0.1
VALT Mount Saint He 1.78 148 Pn 11 09 42.1 +0.5
SHW Mount Saint He 1.78 149 Pn 11 09 41.7 +0.1
BOLM Sugar Bowl 1.78 147 Pn 11 09 42.1 +0.4
B022 Seaside 1.79 188 Pn 11 09 40.6 -0.9
B012 Ucluelet 1.79 313 Pn 11 09 40.4 -1.2
B012 Ucluelet 1.79 313 P Pn 11 09 40.4 -1.2
OZB Mount Ozzard 1.79 315 Pn 11 09 40.7 -0.9
OZB IAML 11 10 01.7
comp=E,479nm,0.4s
OZB IAML 11 10 02.0
comp=N,872nm,0.3s
OZB Mount Ozzard 1.79 315 P Pn 11 09 40.6 -1.0
SEPW September Lobe 1.79 148 Pn 11 09 42.1 +0.3
F03A Seaside 1.79 180 Pn 11 09 41.3 -0.4
SWF2 Southwest Flan 1.80 149 Pn 11 09 42.0 +0.1
ESD East Dome 1.81 147 Pn 11 09 42.3 +0.3
WRW Wenatchee Ridg 1.81 85 Pn 11 09 42.2 +0.2
HSR South Ridge 1.82 148 Pn 11 09 42.4 +0.3
JLK June Lake 1.85 148 Pn 11 09 42.8 +0.3
SHB Sechelt 1.89 354 Pn 11 09 41.6 -1.4
SHB Sechelt 1.89 354 P Pn 11 09 43.2 +0.2
MTMW Mount Mitchell 1.93 151 Pn 11 09 44.0 +0.3
F04A Amboy 1.96 156 Pn 11 09 44.0 +0.1
AWST Adams West 2.00 141 Pn 11 09 45.3 +0.7
LTY Liberty 2.02 102 Pn 11 09 44.9 +0.1
LTY IAML 11 10 14.4
comp=N,598nm,0.4s
LTY IAML 11 10 22.2
comp=E,563nm,0.6s
TXB Texada 2.06 344 Pn 11 09 45.3 0.0
TXB Texada 2.06 344 P Pn 11 09 45.3 0.0
TBM Table Mountain 2.09 104 Pn 11 09 46.5 +0.7
KMOR Kings Mountain 2.09 179 Pn 11 09 45.2 -0.6
NAC Naches 2.11 117 Pn 11 09 46.5 +0.4
ETW Entiat 2.19 92 Pn 11 09 47.5 +0.3
HOPB Hope 2.19 40 P Pn 11 09 47.9 +0.8
EBG Ellensburg 2.19 111 Pn 11 09 48.3 +1.1
NLW Nelson Butte 2.20 79 Pn 11 09 47.4 0.0
F05D White Salmon 2.34 141 Pn 11 09 50.1 +1.0
CBSW Chelan Butte S 2.38 87 Pn 11 09 49.7 -0.1
YA2 Yakima 2.39 119 Pb 11 09 53.8 -1.6
WTV Waterville 2.44 89 Pn 11 09 50.3 -0.3
WSLR Whistler 2.44 10 P Pn 11 09 51.2 +0.6
MXC Moxie City 2.51 116 Pn 11 09 51.1 -0.4
MXC IAML 11 10 41.3
comp=N,440nm,0.9s
MXC IAML 11 10 41.4
comp=E,444nm,0.9s
HEBO Mount Hebo 2.51 183 Pn 11 09 51.0 -0.6
HEBO IAML 11 10 21.8
comp=N,280nm,0.5s
HEBO IAML 11 10 22.4
comp=E,305nm,0.2s
G03D McMinnville, O 2.52 175 Pn 11 09 52.2 +0.6
DHW2 Dyer Hill 2 2.57 83 Pn 11 09 52.5 +0.2
ETB Estevan Point 2.58 311 P Pn 11 09 52.4 0.0
CBB Campbell River 2.60 333 Pn 11 09 52.6 -0.2
CBB Campbell River 2.60 333 P Pn 11 09 52.6 -0.2
G04A Mulino 2.63 163 Pn 11 09 53.8 +0.6
GDR Gold River 2.63 323 P Pn 11 09 53.0 -0.1
PALME Palmer Lift, M 2.69 151 Pn 11 09 55.2 +0.9
TIMB Timberline 2.71 151 Pn 11 09 55.9 +1.5
TDH Tom, Dick, Har 2.72 153 Pn 11 09 55.3 +0.7
HOOD Mount Hood Mea 2.74 151 Pn 11 09 55.4 +0.6
HOOD IAML 11 10 46.4
comp=N,283nm,1.3s
HOOD IAML 11 10 51.5
comp=E,343nm,1.3s
E07A Sunnyside 2.79 113 Pn Pn 11 09 55.2 -0.1
SAW Saint Andrews 2.81 89 Pn 11 09 54.9 -0.8
NC27 ODP1027 2.83 272 P Pn 11 09 52.9 -2.7
WAH2 Wahluke Slope 2.89 108 Pn 11 09 56.9 +0.1
GBB Gable Butte 2.91 111 Pn 11 09 56.9 0.0
B08A Colville Reser 2.91 76 Pn 11 09 56.2 -0.8
G05A Wamic 2.93 147 Pn Pn 11 09 57.8 +0.5
G05A IAML 11 10 58.0
comp=E,260nm,1.3s
G05A IAML 11 11 08.5
comp=N,193nm,2.4s
BLTW Bickleton 2.94 127 Pn 11 09 57.6 +0.1
LOCW Locke Island 2.99 108 Pn 11 09 58.0 -0.1
HAWA Hanford 3.06 114 Pn Pn 11 09 58.5 -0.6
HAWA IAML 11 10 54.3
comp=N,180nm,0.6s
LLLB Lillooet 3.09 20 Pn Pn 11 10 00.2 +0.7
LLLB IAML 11 10 57.9
comp=E,162nm,0.8s
LLLB IAML 11 10 59.6
comp=N,228nm,0.7s
LLLB Lillooet 3.09 20 P Pn 11 10 00.3 +0.7
F07A Phinny Hill Vi 3.09 125 Pn 11 09 59.7 +0.1
F07A IAML 11 11 01.4
comp=N,288nm,0.5s
F07A IAML 11 11 08.9
comp=E,247nm,1.0s
COR Corvallis 3.14 177 Pn 11 10 00.8 +0.6
COR IAML 11 10 37.4
comp=E,278nm,0.8s
COR IAML 11 10 37.7
comp=E,316nm,0.8s
NCRB Newcastle Ridg 3.14 330 P Pn 11 10 00.9 +0.5
NCSB Newcastle Ridg 3.14 330 P Pn 11 10 00.8 +0.4
H04A Detroit Lake 3.19 162 Pn 11 10 01.3 +0.4
H04A IAML 11 10 38.5
comp=E,298nm,0.3s
EDB Eliza Dome 3.19 314 P Pn 11 10 00.7 -0.1
G06A Carlson Farm, 3.21 140 Pn 11 10 01.3 +0.2
D08A Wollman Farm, 3.22 100 Pn Pn 11 09 60.0 -1.4
H04D Lebanon 3.25 170 IAML 11 11 13.0
comp=N,275nm,1.0s
E08A Dider Farm, El 3.31 110 Pn 11 10 02.1 -0.5
E08A IAML 11 11 07.4
comp=N,125nm,1.0s
BUCK Buck Mountain 3.55 173 Pn **Pn 11 10 07.2 +1.3**
BUCK IAML 11 10 48.2
comp=E,212nm,0.3s
BUCK IAML 11 10 48.2
comp=N,104nm,0.5s
C09A Chrisman Ranch 3.57 87 Pn **Pn 11 10 05.0 -1.1**
I02E Swisshome, OR 3.62 183 Pn 11 10 05.6 -1.2
I02E IAML 11 11 05.8
comp=E,85nm,1.3s
I05D Terrebonne, OR 3.72 155 Pn 11 10 07.6 -0.7
I05D IAML 11 11 25.3
comp=E,88nm,1.2s
I05D IAML 11 11 27.6
comp=N,145nm,1.1s
NCHR NEPTUNE Canada 3.73 276 P **Pn 11 10 06.4 -1.5**
PACB Port Alice, BC 3.75 318 P **Pn 11 10 09.0 +0.5**
E09A Wood Farm, Sta 3.89 106 Pn **Pn 11 10 09.2 -1.3**
E09A IAML 11 11 26.7
comp=N,98nm,0.8s
E09A IAML 11 11 28.2
comp=E,81nm,0.6s
PHC Port Hardy 3.92 321 P **Pn 11 10 11.6 +0.8**
G08A Pilot Rock 4.00 126 Pn 11 10 12.4 +0.2
G08A IAML 11 11 25.6
comp=N,83nm,1.0s
G08A IAML 11 11 29.6
comp=E,70nm,0.6s
I04A Tendick Farm, 4.01 168 Pn 11 10 13.1 +0.9
I04A IAML 11 10 59.2
comp=E,88nm,0.3s
HOLB Holberg 4.18 316 Pn **Pn 11 10 15.5 +0.9**
HOLB Holberg 4.18 316 P **Pn 11 10 15.1 +0.6**
PINE Pine Mountain 4.34 154 Pn **Pn 11 10 17.8 +1.0**
NEW Newport 4.36 80 Pn **Pn 11 10 15.7 -1.2**
NEW Newport 4.36 80 Pn **Pn 11 10 16.2 -0.8**
comp=E,1.6nm,0.3s,baz=278,slow=13,SNR=26
NEW Lg Lg 11 11 23.3
comp=E,4.2nm,0.3s,baz=120,slow=11,SNR=3.7
NEW LR LR 11 12 22.7
comp=E,219nm,18.5s,baz=282,slow=45
comp=E,4.8nm,0.3s
J01E Myrtle Point 4.57 183 Pn 11 10 19.3 -0.5
J04A Umpqua National 4.60 167 Pn **Pn 11 10 21.8 +1.4**
DBO Dodson Butte 4.61 177 Pn 11 10 21.1 +0.6
I07A Izee 4.61 141 Pn 11 10 21.7 +1.1
F10A Beach Ranch, E 4.69 110 Pn **Pn 11 10 20.5 -1.0**
K02D Willamette Mer 5.03 181 Pn **Pn 11 10 26.6 +0.4**
HUMO Hull Mountain 5.13 175 Pn **Pn 11 10 28.9 +1.3**
BMO Blue Mountains 5.20 121 Pn **Pn 11 10 28.4 -0.2**
BBB Bella Bella 5.34 328 Pn **Pn 11 10 32.3 +1.9**
BBB IAML 11 12 20.3
comp=N,25nm,1.0s
BBB Bella Bella 5.34 328 Pn **Pn 11 10 31.9 +1.5**
comp=N,1.2nm,0.3s,baz=148,slow=4.7,SNR=48
BBB Sn **Sn 11 11 33.8 +3.1**
comp=N,1.1nm,0.3s,baz=68,slow=12,SNR=1.5
BBB LR LR 11 11 51.2
comp=N,37nm,21.3s,baz=114,slow=30
BBB Lg Lg 11 11 57.7
comp=N,1.0nm,0.3s,baz=242,slow=13,SNR=3.9
comp=N,3.7nm,0.3s
BBB Bella Bella 5.34 328 P **Pn 11 10 31.3 +0.9**
L04D Klamath Falls 5.58 170 Pn 11 10 34.8 +1.0
PLID Pearl Lake 5.86 114 Pn **Pn 11 10 37.0 -0.7**
KSXB Camp Six Broad 5.90 182 Pn **Pn 11 10 39.0 +0.8**
YBH Yreka Blue Hor 6.02 174 Pn **Pn 11 10 42.7 +2.9**
comp=N,0.5nm,0.3s,baz=350,slow=15,SNR=13
YBH Sn **Sn 11 11 50.3 +2.7**
comp=N,0.1nm,0.3s,baz=9.5,slow=15,SNR=1.8
YBH LR LR 11 13 24.1
comp=N,85nm,20.3s,baz=348,slow=42
comp=N,1.1nm,0.3s
KRMB Red Mountain 6.20 182 Pn **Pn 11 10 44.1 +1.7**
KRPM Rodgers 6.57 183 Pn **Pn 11 10 48.0 +0.7**
MSO Missoula 6.61 94 Pn **Pn 11 10 47.2 -0.7**
FSJB Fort St James 6.76 356 P **Pn 11 10 49.7 -0.2**
BPMT Black Pine Rid 7.03 97 Pn 11 10 53.6 -0.2
OVMT Ovando 7.20 91 Pn 11 10 54.7 -1.4
KMRM Mail Ridge 7.50 181 Pn **Pn 11 11 02.1 +2.0**
LYMT Lyon Mountain 7.70 91 Pn 11 11 02.4 -0.6
DLMT Dillon 7.92 103 Pn 11 11 05.4 -0.6
ELK Elko 9.18 136 Pn **Pn 11 11 25.2 +1.9**
comp=N,0.1nm,0.3s,baz=332,slow=12,SNR=3.7
ELK Lg Lg 11 13 56.7
comp=N,0.1nm,0.3s,baz=199,slow=19,SNR=1.4
ELK LR LR 11 15 20.7
comp=N,78nm,19.2s,baz=346,slow=41
comp=N,0.9nm,0.8s
NVAR Mina Array Bea 10.05 156 Pn **Pn 11 11 36.1 +0.9**
comp=N,0.2nm,0.5s,baz=293,slow=22,SNR=2.7
NVAR LR LR 11 15 56.2
comp=N,123nm,19.1s,baz=344,slow=40
RLMT Red Lodge 10.21 99 Pn 11 11 37.6 +0.2
PDAR Pinedale Array 11.04 112 Pn **Pn 11 11 51.7 +2.9**
baz=310,slow=13,SNR=11
PDAR LR LR 11 16 32.4
comp=N,50nm,19.0s,baz=322,slow=40
comp=N,1.6nm,0.9s
DLBC Dease Lake 11.41 343 Pn **Pn 11 11 54.2 +0.7**
comp=N,0.2nm,0.3s,baz=171,slow=15,SNR=1.8
DLBC LR LR 11 16 40.2
comp=N,105nm,18.1s,baz=139,slow=39
comp=N,1.5nm,0.8s
N23A Red Feather La 14.33 112 Pn **Pn 11 12 32.6 -1.1**
PFO Pinyon Flats O 15.08 157 Pn **Pn 11 12 45.7 +2.0**
baz=310,slow=7.9,SNR=2.3
PFO LR LR 11 19 00.6
comp=N,76nm,19.0s,baz=334,slow=39
comp=N,0.8nm,0.7s
FFC Flin Flon 15.19 55 Pn **Pn 11 12 45.5 +0.6**
FFC IAmb IAmb 11 12 48.2
comp=Z,5.7nm,0.7s
MVCO Mesa Verde 15.27 128 Pn **Pn 11 12 46.9 +0.6**
YKA Yellowknife Ar 15.64 16 Pn **Pn 11 12 49.1 -1.6**
comp=Z,0.1nm,0.3s,baz=203,slow=11,SNR=2.3
YKA LR LR 11 18 28.4
comp=Z,66nm,18.3s,baz=60,slow=36
ANMO Albuquerque 18.06 129 P **P 11 13 21.8 +0.1**
comp=Z,0.1nm,0.3s,baz=270,slow=20,SNR=5.6
comp=Z,0.7nm,0.5s
ULM Lac du Bonnet 18.31 72 P **P 11 13 22.0 -2.1**
ULM Lac du Bonnet 18.31 72 P **P 11 13 20.7 -3.4**
comp=Z,4.4nm,0.6s,baz=289,slow=11,SNR=6.5
ULM LR LR 11 20 51.3
comp=Z,105nm,20.0s,baz=54,slow=38
AGMN Agassiz Nation 18.51 78 P **P 11 13 24.4 -1.9**
AGMN IAmb IAmb 11 13 25.1
comp=Z,6.2nm,0.8s
121A Cookes Peak, D 19.33 136 P **Pn 11 13 36.5 -0.4**
121A IAmb IAmb 11 13 39.0
comp=Z,7.0nm,0.9s
N35A Tabor 21.06 99 P **P 11 13 51.8 -2.4**
ILAR Eielson Array 21.22 332 P **P 11 13 58.0 +2.3**
comp=Z,1.1nm,0.8s,baz=143,slow=9.3,SNR=12
comp=Z,1.1nm,0.8s
INK Inuvik 21.25 350 P **P 11 13 57.0 +1.0**
comp=Z,2.2nm,0.9s,baz=159,slow=9.4,SNR=5.3
comp=Z,2.2nm,0.9s
SPMN Marine on St. 21.26 85 P **P 11 13 55.9 -0.4**
SPMN IAmb IAmb 11 13 57.7
comp=Z,13nm,1.1s
PECS Pecos 22.20 130 P **P 11 14 06.6 0.0**
PECS IAmb IAmb 11 14 08.2
comp=Z,4.3nm,0.6s
SN07 Snyder 07 22.50 122 P **P 11 14 08.9 -0.8**
SN07 IAmb IAmb 11 14 11.2
comp=Z,6.6nm,0.7s
WMOK Wichita Mounta 22.59 116 P **P 11 14 10.9 +0.2**
H23K Yukon River 22.76 332 P **P 11 14 14.4 +2.3**
H23K IAmb IAmb 11 14 36.6
comp=Z,7.3nm,1.4s
TX31 Lajitas Ar. Si 23.95 133 P **P 11 14 24.4 +0.1**
TXAR Lajitas Array 23.95 133 P **P 11 14 24.7 +0.4**
comp=Z,1.0nm,0.6s,baz=330,slow=8.8,SNR=17
comp=Z,1.0nm,0.6s
SAND Sanderson 24.23 129 P **P 11 14 27.1 +0.3**
SAND IAmb IAmb 11 14 27.9
comp=Z,3.6nm,1.0s
R40A Maddies Statio 24.61 101 P **P 11 14 28.0 -2.2**
J17K VABM Dome 25.03 322 P **P 11 14 35.5 +1.8**
CCM Cathedral Cave 25.41 100 P **P 11 14 36.5 -1.0**
E21K Killik River 25.76 335 P **P 11 14 40.9 +0.6**
E21K IAmb IAmb 11 14 49.6
comp=Z,5.5nm,1.2s
H17K Granite Mounta 25.97 325 P **P 11 14 43.3 +1.0**
FINES FINESS Array B 68.47 15 P **P 11 20 12.0 +0.6**
comp=Z,2.1nm,0.7s,baz=324,slow=3.8,SNR=6.9
comp=Z,2.1nm,0.7s
SONM Songino Array 75.38 328 P **P 11 20 54.4 +1.3**
comp=Z,0.5nm,0.6s,baz=35,slow=5.3,SNR=1.8
comp=Z,0.5nm,0.6s
ZALV Zalesovo Beam 75.89 343 P **P 11 20 56.3 +0.5**
comp=Z,0.3nm,0.4s,baz=38,slow=7.3,SNR=2.6
comp=Z,0.3nm,0.4s
HHC Hu-ho-hao-te 79.18 321 *e*P **P 11 21 13.9 -0.7**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,82nm,4.1s
AKASG Malin Array Be 79.20 17 P **P 11 21 14.3 0.0**
comp=Z,0.4nm,0.4s,baz=330,slow=5.1,SNR=1.6
comp=Z,0.4nm,0.4s
KURBB Kurchatov Arra 80.20 346 P **P 11 21 19.3 -0.5**
comp=Z,0.5nm,0.2s,baz=18,slow=5.1,SNR=2.5
comp=Z,0.5nm,0.2s
MKAR Makanchi Array 83.19 342 P **P 11 21 35.8 +0.1**
comp=Z,0.7nm,0.6s,baz=352,slow=5.1,SNR=5.1
comp=Z,0.7nm,0.6s
LZH Lanzhou 86.42 323 *e*P **P 11 21 52.6 +0.3**
LZH pP sP 11 22 08.8 +1.8
LZH pmax pmax
comp=Z,13nm,1.1s
PZH PanZhiHua 95.63 320 P **P 11 22 34.4 -1.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,5.2s
ASAR Alice Springs 115.39 262 PKP **PKPdf 11 27 50.8 -0.5**
comp=Z,0.3nm,0.6s,baz=77,slow=2.8,SNR=5.6

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*IDC **19** 11:23:58.3±0.8, 32°.54N×73°.85E, h0km, mb4.0/16, mbtmp4.0/19, ML3.6/3, Error ellipse: s-maj=20.5km s-min=14.3km az=46.0*
*DJA **19** 11:24:03.4±0.4, 9°.5E×11°.5E±°, h103km±4km, M3.7/14, mb3.9/1, MLv3.5/14*

ISC 19 11:24:03.6±0.8, 32°.56N±0°.10×73°.9E±0°.1, h35km, n20, σ0.074/21, mb4.0/15, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**10.07**	**3**	P	**Pn**		**11 26 26.4**	**+0.6**
	1.0nm,0.3s,baz=191,slow=7.2,SNR=15							
AAK				Sn	**Sn**		**11 28 18.4**	**+0.8**
	0.6nm,0.3s,baz=132,slow=20,SNR=1.7							
	2.7nm,0.4s							
MKAR	**Makanchi Array**	**15.61**	**22**	Pn	**Pn**		**11 27 40.1**	**-0.8**
	0.2nm,0.3s,baz=201,slow=13,SNR=6.3							
MKAR				Sn	Sn		11 30 10.8	-22
	0.1nm,0.3s,baz=304,slow=26,SNR=6.0							
	0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**18.37**	**9**	P	**P**		**11 28 13.4**	**-1.8**
	0.2nm,0.3s,baz=194,slow=10,SNR=8.7							
	3.8nm,0.8s							
BVAR	**Borovoye Array**	**20.61**	**354**	P	**P**		**11 28 39.1**	**-0.4**
	6.4nm,0.6s,baz=149,slow=9.2,SNR=17							
	6.4nm,0.6s							
AKTO	**Aktyubinsk**	**21.36**	**331**	P	**P**		**11 28 47.3**	**-0.4**
	16nm,0.7s,baz=136,slow=8.7,SNR=13							
	16nm,0.7s							
ZALV	**Zalesovo Beam**	**22.77**	**17**	P	**P**		**11 29 02.2**	**-0.4**
	2.9nm,0.4s,baz=215,slow=11,SNR=17							
	2.9nm,0.4s							
CMAR	**Chiang Mai Arr**	**26.55**	**116**	P	**P**		**11 29 38.5**	**+0.2**
	0.7nm,0.4s,baz=292,slow=10.0,SNR=6.6							
	0.7nm,0.4s							
SONM	**Songino Array**	**28.90**	**49**	P	**P**		**11 30 00.0**	**+0.9**
	0.6nm,0.7s,baz=268,slow=9.8,SNR=1.6							
	0.6nm,0.7s							
BRTR	**Keskin Array B**	**33.05**	**294**	P	**P**		**11 30 37.0**	**+1.1**
	1.7nm,0.7s,baz=114,slow=9.1,SNR=8.2							
	1.7nm,0.7s							
AKASG	**Malin Array Be**	**37.30**	**312**	P	**P**		**11 31 12.4**	**+0.3**
	0.8nm,0.5s,baz=84,slow=6.7,SNR=9.0							
	0.8nm,0.5s							
FINES	**FINESS Array B**	**42.07**	**328**	P	**P**		**11 31 51.3**	**-0.3**
	3.3nm,0.7s,baz=111,slow=10,SNR=15							
	3.3nm,0.7s							
ARCES	**ARCESS Array B**	**45.67**	**338**	P	**P**		**11 32 20.3**	**-0.2**
	1.8nm,0.6s,baz=118,slow=8.3,SNR=11							
	1.8nm,0.6s							
HFS	**Hagfors**	**47.63**	**324**	P	**P**		**11 32 35.7**	**-0.2**
	5.7nm,0.6s,baz=106,slow=9.4,SNR=19							
	5.7nm,0.6s							
NB2	**NORSAR Subarra**	**48.95**	**325**	P	**P**		**11 32 45.5**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**48.95**	**325**	P	**P**		**11 32 45.5**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=102,slow=7.2,SNR=8.6							
	comp=Z,1.3nm,0.4s							
ESDC	**Sonseca Array**	**61.45**	**301**	P	**P**		**11 34 16.7**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=59,slow=8.1,SNR=4.5							
	comp=Z,0.8nm,0.6s							
TORD	**Torodi Ar. Bea**	**68.10**	**272**	P	**P**		**11 34 59.5**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=48,slow=6.2,SNR=6.3							
	comp=Z,0.8nm,0.6s							
WRA	**Warramunga Arr**	**77.88**	**123**	P	**P**		**11 35 58.2**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=323,slow=5.2,SNR=19							
	comp=Z,0.7nm,0.6s							
ILAR	**Eielson Array**	**77.89**	**17**	P	**P**		**11 35 56.6**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=318,slow=6.6,SNR=4.2							
	comp=Z,0.4nm,0.8s							
ASAR	**Alice Springs**	**80.04**	**126**	P	**P**		**11 36 10.2**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=309,slow=5.5,SNR=6.0							
	comp=Z,0.5nm,0.7s							

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*IDC **19** 11:34:13.9±2.1, 9°.05S×113°.98E, h0km, mb3.7/4, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=119.4km s-min=23.4km az=49.0*
*DJA **19** 11:34:31.4±0.4, 9°.5±5°×11°.5E±°, h103km±4km, M3.7/14, mb3.9/1, MLv3.5/14*

ISC 19 11:34:30.5±0.8, 8.73S±0°.09×114°.93E±0°.05, h124km±7km, n17, σ1.910/25, mb3.5/4, Bali region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**0.28**	**80**	P	**Pn**		**11 34 49.6**	**+1.8**
DNP				S	**Sn**		**11 35 01.3**	**+0.4**
SRBI	**Singaraja**	**0.70**	**23**	P	**Pn**		**11 34 49.8**	**-0.5**
SRBI				S	**Sn**		**11 35 04.3**	**-0.9**
JAGI	**Jajag, Banyuwa**	**0.81**	**288**	P	**Pn**		**11 34 50.7**	**-0.5**
JAGI				S	**Sn**		**11 35 05.8**	**-1.0**
ABJI	**Asem Bagus**	**1.16**	**323**	P	**Pn**		**11 34 54.9**	**+0.5**
ABJI				S	**Sn**		**11 35 12.9**	**+0.3**
GMJI	**Gumukmas**	**1.54**	**287**	P	**Pn**		**11 34 58.7**	**+0.1**
GMJI				S	**Sn**		**11 35 20.1**	**0.0**
BLJI	**Banyuglugur**	**1.65**	**306**	P	**Pn**		**11 35 00.4**	**+0.5**
BLJI				S	**Sn**		**11 35 21.9**	**-0.4**
KMMI	**Kalianget**	**1.92**	**330**	P	**Pn**		**11 35 04.9**	**+1.7**
KMMI				S	**Sn**		**11 35 28.9**	**+0.7**
PLAI	**Plampang**	**2.81**	**92**	P	**Pn**		**11 35 15.4**	**+0.9**
PWJI	**Pagerwojo**	**3.17**	**283**	P	**Pn**		**11 35 19.6**	**+0.4**
PCJI	**Pacitan**	**3.75**	**278**	P	**Pn**		**11 35 27.3**	**+0.5**
UGM	**Wanagama**	**4.44**	**280**	P	**Pn**		**11 35 37.1**	**+1.1**
WBSI	**Waikabubak, Su**	**4.50**	**102**	P	**Pn**		**11 35 35.8**	**-1.0**
FITZ	**Fitzroy Crossi**	**13.96**	**133**	Pn	**Pn**		**11 37 41.9**	**-1.2**
	0.2nm,0.3s,baz=104,slow=4.7,SNR=1.8							
FITZ				Sn	Sn		11 40 07.7	-10
	0.3nm,0.3s,baz=182,slow=20,SNR=7.0							
	1.3nm,0.6s							
WRA	**Warramunga Arr**	**21.83**	**123**	P	**P**		**11 39 14.4**	**+1.2**
	0.6nm,0.4s,baz=295,slow=12,SNR=16							
WRA				S	**S**		**11 43 08.7**	**+1.9**
	0.4nm,0.8s,baz=290,slow=22,SNR=2.1							
	0.6nm,0.4s							
ASAR	**Alice Springs**	**23.46**	**132**	P	**P**		**11 39 29.6**	**+0.6**
	0.9nm,0.4s,baz=306,slow=9.1,SNR=33							
	0.9nm,0.4s							
STKA	**Stephens Creek**	**33.81**	**137**	P	**P**		**11 41 02.0**	**+1.0**
	1.7nm,0.5s,baz=321,slow=11,SNR=5.3							
	1.7nm,0.5s							
MKAR	**Makanchi Array**	**62.46**	**335**	P	**P**		**11 44 38.5**	**-2.1**
	0.2nm,0.4s,baz=148,slow=8.1,SNR=5.1							
	0.2nm,0.4s							

IDC 19 11:38:37.8±1.4, 49°.86S×126°.51E, h0km, mb3.9/5, mbtmp4.0/5, MS3.3/2, Error ellipse: s-maj=100.9km s-min=20.6km az=106.0, Western Indian-Antarctic

Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**17.48**	**324**	T	T	12 00 55.0	
	baz=151,slow=75,SNR=43						
H01W2	**Cape Leeuwin H**	**17.48**	**324**	T	T	12 00 56.1	
	baz=151,slow=75,SNR=39						
H01W3	**Cape Leeuwin H**	**17.50**	**324**	T	T	12 00 55.9	
	baz=151,slow=75,SNR=35						
STKA	**Stephens Creek**	**21.20**	**38**	P	P	11 43 24.2	-0.6
	3.1nm,0.8s,baz=203,slow=11,SNR=4.8						
STKA				LR	LR	11 50 30.7	
	comp=Z,62nm,19.5s,baz=205,slow=34						
	3.1nm,0.8s						
ASAR	**Alice Springs**	**26.77**	**15**	P	P	11 44 19.7	+0.4
	3.2nm,0.8s,baz=191,slow=9.7,SNR=21						
	3.2nm,0.8s						
WRA	**Warramunga Arr**	**30.49**	**15**	P	P	11 44 52.3	-0.1
	0.7nm,0.8s,baz=189,slow=8.6,SNR=3.4						
	0.7nm,0.8s						
QSPA	**South Pole Qui**	**40.27**	**180**	P	P	11 46 15.3	-0.8
	2.2nm,1.1s,baz=338,slow=5.9,SNR=3.6						
	2.2nm,1.1s						
DZM	**Mont Dzumac**	**41.83**	**63**	LR	LR	12 00 50.7	
	comp=Z,45nm,19.8s,baz=224,slow=32						
SNAA	**Sanae**	**53.61**	**198**	P	P	11 48 00.6	+0.5
	2.9nm,1.0s,baz=138,slow=12,SNR=5.1						
	2.9nm,1.0s						
H08S2	**Diego Garcia H**	**61.47**	**294**	T	T	12 56 03.3	
	baz=144						
H08S1	**Diego Carcia H**	**61.48**	**294**	T	T	12 56 04.3	
	baz=144						
H08S3	**Diego Garcia H**	**61.48**	**294**	T	T	12 55 58.3	
	baz=144						

*IDC **19** 11:38:46.5±1.8, 63.°02N×28.°18E, h0km, mbtmp3.2/3, ML2.1/3, Error ellipse: s-maj=25.7km s-min=7.4km az=106.0*
*HEL **19** 11:38:47.6±0.1, 63.°13N×27.°77E, h0km, ML1.7, Suspected explosion*

ISC 19 11:38:46.8±0.8, 63.°11N±0.°02×27.°77E±0.°03, h0km, n33, σ1°34/51, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.28**	**3**	PG	**Pg**	**11 38 52.6**	**+0.4**
NIF				SG	**Sg**	**11 38 56.0**	**+0.2**
SUF	**Sumiainen**	**0.84**	**243**	PG	**Pg**	**11 39 02.9**	**+0.1**
SUF				MSG		11 39 13.8	
	comp=Z,4.3nm,0.2s						
SUF				SB	**Sg**	**11 39 14.3**	**+0.6**
KAF	**Kangasniemi**	**1.21**	**215**	PG	**Pg**	**11 39 09.6**	**-0.3**
KAF				MSG		11 39 24.7	
	comp=Z,8.8nm,0.2s						
KAF				SN	**Sb**	**11 39 26.5**	**-0.1**
RMF	**Romuvaara**	**1.47**	**40**	PN	**Pg**	**11 39 14.5**	**-0.4**
	baz=224						
RMF				MSG		11 39 31.4	
	comp=Z,6.0nm,0.2s						
RMF				SN	**Sn**	**11 39 34.4**	**0.0**
JOF	**Joensuu**	**1.63**	**95**	*eP*	**Pn**	**11 39 16.4**	**-0.2**
JOF	**Joensuu**	**1.63**	**95**	PG	**Pb**	**11 39 16.9**	**-0.7**
JOF				SG	**Sb**	**11 39 38.2**	**-0.3**
KEF	**Keuruu**	**1.64**	**236**	*eP*	**Pn**	**11 39 14.2**	**-2.6**
KEF	**Keuruu**	**1.64**	**236**	PG	**Pb**	**11 39 17.6**	**-0.2**
KEF				MSG		11 39 37.1	
	comp=Z,5.6nm,0.2s						
KEF				SN	**Sg**	**11 39 39.4**	**+0.1**
RUF	**Ruokolahti**	**1.78**	**161**	PG	**Pb**	**11 39 19.6**	**-0.6**
	baz=345						
RUF				MSG		11 39 41.0	
	comp=Z,6.6nm,0.2s						
RUF				SN	**Sg**	**11 39 44.1**	**+0.3**
FIA0	**FINESS Array S**	**1.85**	**206**	PG	**Pb**	**11 39 21.0**	**-0.4**
	baz=24						
FIA0				MSG		11 39 43.1	
	comp=Z,6.4nm,0.2s						
FIA0				SG	**Sb**	**11 39 45.5**	**+0.5**
FINES	**FINESS Array B**	**1.85**	**206**	Pn	**Pb**	**11 39 20.9**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=28,slow=16,SNR=10						
FINES				Lg	Lg	11 39 45.8	
	comp=Z,1.2nm,0.3s,baz=29,slow=29,SNR=20						
OUF	**Merijarvi**	**1.85**	**314**	PG	**Pb**	**11 39 20.6**	**-0.8**
OUF				MSG		11 39 42.3	
	comp=Z,6.7nm,0.2s						
OUF				SG	**Sg**	**11 39 45.5**	**-0.7**
OBF4	**Vikkela, Lumij**	**2.08**	**327**	PG	**Pb**	**11 39 24.6**	**-0.6**
OBF4				MSG		11 39 48.8	
	comp=Z,4.3nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.10**	**313**	PG	**Pb**	**11 39 24.7**	**-0.9**
	baz=126						
OBF0				MSG		11 39 49.5	
	comp=Z,3.2nm,0.2s						
OUL	**Oulu**	**2.15**	**338**	PG	**Pb**	**11 39 25.5**	**-1.0**
	baz=155						
OUL				SG	**Sb**	**11 39 54.2**	**+0.6**
VAF	**Ylistaro**	**2.32**	**271**	*eP*	**Pb**	**11 39 29.1**	**-0.3**
VAF	**Ylistaro**	**2.32**	**271**	PG	**Pb**	**11 39 28.9**	**-0.5**
VAF				MSG		11 39 56.3	
	comp=Z,6.3nm,0.2s						
VAF				SG	**Sb**	**11 39 58.9**	**+0.3**
VJF	**Virojoki**	**2.58**	**182**	PG	**Pb**	**11 39 32.7**	**-1.1**
VJF				MSG		11 40 04.3	
	comp=Z,4.1nm,0.2s						
VJF				SG	**Sb**	**11 40 07.2**	**+1.2**
PVF	**Pernaja**	**2.73**	**200**	PN	**Pn**	**11 39 31.8**	**+0.1**
PVF				MSG		11 40 08.4	
	comp=Z,2.2nm,0.2s						
KPF	**Kankaanpaa**	**2.94**	**247**	PB	**Pb**	**11 39 38.2**	**-1.8**
RANF	**Ranua**	**2.95**	**352**	PB	**Pb**	**11 39 38.4**	**-1.7**
	baz=173						
RANF				SB	**Sb**	**11 40 15.2**	**-1.4**
KU6	**Riekki**	**3.07**	**16**	PB	**Pn**	**11 39 38.9**	**+2.5**
	baz=203						
KU6				MSG		11 40 17.2	
	comp=Z,1.2nm,0.2s						
KU6				SB	**Sb**	**11 40 19.0**	**-1.1**
UMAU	**Umeaa**	**3.27**	**287**	PN	**Pn**	**11 39 40.6**	**+1.3**
	baz=105						
UMAU				SB	**Sb**	**11 40 23.0**	**-3.0**
OLKF	**Oulanka, Finla**	**3.30**	**11**	PB	**Pb**	**11 39 44.1**	**-2.0**
OLKF				SB	**Sb**	**11 40 25.4**	**-1.3**
TOF	**Tornio**	**3.33**	**335**	PB	**Pn**	**11 39 42.9**	**+2.9**
TOF				SB	**Sn**	**11 40 22.5**	**+2.3**
RAF	**Rauma**	**3.52**	**236**	*eP*	Pn	11 39 33.5	-9.0
RAF	**Rauma**	**3.52**	**236**	PB	**Pn**	**11 39 45.1**	**+2.5**
RNF	**Rovaniemi**	**3.59**	**349**	PB	**Pn**	**11 39 46.5**	**+2.9**
	baz=168						
KLF	**Kolari**	**4.44**	**341**	PN	**Pn**	**11 39 57.3**	**+2.0**
	baz=155						
KLF				SN	**Sn**	**11 40 48.6**	**+1.0**
HEMU	**Hemsoen**	**4.48**	**269**	PN	**Pn**	**11 39 57.1**	**+1.3**
ARCES	**ARCESS Array B**	**6.52**	**353**	Pn	**Pn**	**11 40 24.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=169,slow=15,SNR=1.6						
ARCES				Sn	**Sn**	**11 41 37.2**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=171,slow=24,SNR=2.4						
	comp=Z,9.2nm,1.2s						
HFS	**Hagfors**	**7.34**	**252**	Pn	**Pn**	**11 40 34.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=57,slow=24,SNR=2.3						
	comp=Z,2.7nm,1.0s						
NOA	**NORSAR Array B**	**8.04**	**262**	Pn	**Pn**	**11 40 44.6**	**-0.1**
	baz=70,slow=16,SNR=1.8						
	comp=Z,0.1nm,0.3s						

*IDC **19** 11:38:42.8±1.1, 56.°10N×148.°73W, h0km, mb3.5/7, mbtmp3.6/12, ML3.3/4, MS3.2/7, Error ellipse: s-maj=24.8km s-min=16.5km az=43.0*
*NEIC **19** 11:38:45.8±1.7, 56.°26N±0.°08×148.°6W±0.°1, h23km±10km, ML3.8/72, ML3.5(AEIC), Error ellipse: s-maj=13.0km s-min=8.2km az=158.0*
*AEIC **19** 11:38:48.4±1.7, 56.°19N±0.°09×148.°6W±0.°1, h12km±7km, Error ellipse: s-maj=12.9km s-min=8.3km az=162.0*

ISC 19 11:38:48.1±0.8, 56.°33N±0.°08×148.°62W±0.°05, h35km, n209, σ1°00/193, mb3.6/7, MS3.2/4, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.61**	**306**		**Pn**	**11 39 26.0**	**-1.7**
KDAK	**Kodiak Island**	**2.61**	**306**		**Sn**	**11 39 56.7**	**-1.4**
KDAK	**Kodiak Island**	**2.61**	**306**	Pn	**Pn**	**11 39 25.6**	**-2.1**
	11nm,0.3s,baz=170,slow=18,SNR=182						
KDAK				Sn	**Sn**	**11 39 57.0**	**-1.1**
	9.1nm,0.3s,baz=183,slow=22,SNR=7.8						
KDAK				LR	LR	11 40 44.2	
	comp=Z,362nm,19.2s,baz=307,slow=45						
	19nm,0.3s						
OHAK	**Old Harbor**	**2.72**	**291**		**Pn**	**11 39 26.8**	**-2.4**
OHAK					**Sn**	**11 39 58.2**	**-2.6**
SYI	**Shuyak Island**	**3.06**	**320**	Pn	**Pn**	**11 39 33.4**	**-0.5**
SYI	**Shuyak Island**	**3.06**	**320**		**Sn**	**11 40 09.1**	**-0.2**
SII	**Sitkinak Islan**	**3.10**	**277**	Pn	**Pn**	**11 39 32.5**	**-1.9**
SII				IAML		11 40 11.0	
	comp=E,208nm,0.9s						
SII				IAML		11 40 22.4	
	comp=N,242nm,0.7s						
Q23K	**Middleton Isla**	**3.33**	**20**		**Pn**	**11 39 36.6**	**-1.0**
Q23K	**Middleton Isla**	**3.33**	**20**	IAML		11 40 13.8	
	comp=N,230nm,1.5s						
Q23K				IAML		11 40 17.3	
	comp=E,263nm,1.2s						
MID	**Middleton Isla**	**3.34**	**20**		**Pn**	**11 39 36.6**	**-1.0**
MID	**Middleton Isla**	**3.34**	**20**	IAML		11 40 13.9	
	comp=N,180nm,1.4s						
MID				IAML		11 40 34.7	
	comp=E,238nm,1.1s						
R18K	**Karluk**	**3.43**	**294**		**Pn**	**11 39 37.2**	**-1.7**
R18K					**Sn**	**11 40 16.2**	**-2.0**
R18K	**Karluk**	**3.43**	**294**	IAML		11 40 21.7	
	comp=N,241nm,0.5s						
R18K				IAML		11 40 22.1	
	comp=E,236nm,0.4s						
CNPM	**China Poot**	**3.50**	**338**	Pn	**Pn**	**11 39 39.3**	**-0.6**
BRSE	**Bradley Lake S**	**3.60**	**343**		**Pn**	**11 39 40.5**	**-0.9**
BRSE					**Sn**	**11 40 20.7**	**-2.0**
BRLK	**Bradley Lake**	**3.65**	**342**		**Pn**	**11 39 41.4**	**-0.6**
HOM	**Homer**	**3.71**	**335**		**Pn**	**11 39 42.8**	**+0.1**
P23K	**Montague Islan**	**3.73**	**9**		**Pn**	**11 39 42.5**	**-0.7**
P23K					**Sn**	**11 40 25.0**	**-0.8**
Q19K	**Cape Douglas,**	**3.75**	**316**		**Pn**	**11 39 43.8**	**+0.3**
Q19K				IAML		11 40 33.0	
	comp=N,206nm,0.8s						
SEW	**Seward**	**3.81**	**354**		**Pn**	**11 39 43.5**	**-0.7**
KAHG	**Katmai Hook Gl**	**3.87**	**307**		**Pn**	**11 39 45.2**	**+0.1**
CHIR	**Chirikof Islan**	**3.96**	**266**	Pn	**Pn**	**11 39 45.5**	**-0.8**
CHIR				IAML		11 40 27.6	
	comp=E,128nm,1.5s						
CHIR				IAML		11 40 29.2	
	comp=N,136nm,1.1s						
AU22	**Augustine Moun**	**3.96**	**322**		**Pn**	**11 39 46.5**	**+0.2**
AUL	**Augustine Lava**	**4.00**	**322**		**Pn**	**11 39 47.4**	**+0.6**
ACHA	**Angle Creek He**	**4.10**	**300**		**Pn**	**11 39 48.0**	**-0.3**
KABU	**Katmai Buttres**	**4.11**	**301**		**Pn**	**11 39 48.5**	**+0.2**
P19K	**Oil Pt**	**4.14**	**326**	Pn	**Pn**	**11 39 48.8**	**+0.1**
P19K				IAML		11 40 48.1	
	comp=E,157nm,0.8s						
KAHC	**Katmai Hardscr**	**4.16**	**307**		**Pn**	**11 39 48.6**	**-0.4**
ANCK	**Angle Creek**	**4.18**	**299**		**Pn**	**11 39 49.0**	**-0.3**
O22K	**Cooper Landing**	**4.20**	**352**		**Pn**	**11 39 49.5**	**-0.1**
HIN	**Hinchinbrook I**	**4.23**	**14**		**Pn**	**11 39 49.4**	**-0.6**
KAIM	**Kayak Island**	**4.24**	**30**		**Pn**	**11 39 49.5**	**-0.5**
KAIM	**Kayak Island**	**4.24**	**30**	IAML		11 40 42.5	
	comp=N,132nm,1.2s						
KAIM				IAML		11 42 14.1	
	comp=E,133nm,1.4s						
SLKM	**Skilak Lake**	**4.27**	**349**		**Pn**	**11 39 50.0**	**-0.6**
O20K	**Slope Mountain**	**4.32**	**332**		**Pn**	**11 39 50.7**	**-0.5**
ILS	**Iliamna Low So**	**4.33**	**329**		**Pn**	**11 39 50.9**	**-0.6**
IVE	**Iliamna Volcan**	**4.37**	**330**		**Pn**	**11 39 51.0**	**-1.0**
ILSW	**Iliamna Southw**	**4.38**	**329**		**Pn**	**11 39 51.4**	**-0.7**
ILSW				IAML		11 40 50.1	
	comp=E,70nm,0.7s						
ILSW				IAML		11 40 52.4	
	comp=N,77nm,1.0s						
CNTC	**Contact Creek**	**4.39**	**299**		**Pn**	**11 39 51.7**	**-0.6**
PLK4	**Peulik 4**	**4.43**	**290**		**Pn**	**11 39 51.9**	**-0.9**
PLK4	**Peulik 4**	**4.43**	**290**	IAML		11 40 49.4	
	comp=E,109nm,0.4s						
PLK4				IAML		11 40 49.5	
	comp=N,76nm,0.5s						
EYAK	**Cordova Ski Ar**	**4.49**	**18**		**Pn**	**11 39 53.0**	**-0.5**
SUCK	**Suckling Hills**	**4.54**	**32**		**Pn**	**11 39 54.1**	**-0.1**
SUCK	**Suckling Hills**	**4.54**	**32**	IAML		11 40 48.5	
	comp=N,112nm,0.6s						
PWL	**Port Wells**	**4.54**	**2**		**Pn**	**11 39 53.7**	**-0.6**
PWL	**Port Wells**	**4.54**	**2**	IAML		11 40 50.4	
	comp=N,65nm,1.1s						
PWL				IAML		11 40 53.0	
	comp=E,72nm,0.7s						
FID	**Port Fidalgo**	**4.57**	**13**	Pn	**Pn**	**11 39 53.8**	**-0.9**
FID				IAML		11 40 47.9	
	comp=E,67nm,0.6s						
FID				IAML		11 40 48.7	
	comp=N,55nm,0.6s						
HMT	**Hamilton**	**4.63**	**28**		**Pn**	**11 39 55.1**	**-0.3**
GLI	**Glacier Island**	**4.63**	**9**	Pn	**Pn**	**11 39 54.6**	**-0.8**
GLI				IAML		11 40 52.4	
	comp=N,56nm,0.9s						
GLI				IAML		11 40 53.7	
	comp=E,91nm,0.6s						
RED	**Redoubt Volcan**	**4.65**	**334**		**Pn**	**11 39 54.5**	**-1.2**
P18K	**Big Mountain,**	**4.68**	**314**		**Pn**	**11 39 54.8**	**-1.4**
RDT	**Redoubt**	**4.70**	**337**		**Pn**	**11 39 55.3**	**-1.2**
RDWB	**Redoubt West**	**4.72**	**334**		**Pn**	**11 39 55.7**	**-1.2**
RDJH	**Redoubt Jeurge**	**4.80**	**335**		**Pn**	**11 39 56.6**	**-1.4**
RC01	**Rabbit Creek A**	**4.81**	**353**		**Pn**	**11 39 57.6**	**-0.3**
RC01	**Rabbit Creek A**	**4.81**	**353**	IAML		11 40 55.2	
	comp=N,67nm,0.5s						
RC01				IAML		11 41 02.5	
	comp=E,75nm,0.5s						
BERG	**Berg Lake**	**4.83**	**30**	Pn	**Pn**	**11 39 59.6**	**+1.5**
O19K	**Port Alsworth**	**4.91**	**325**		**Pn**	**11 39 58.2**	**-1.0**
Q16K	**King Salmon**	**4.93**	**302**		**Pn**	**11 39 59.1**	**-0.5**
O18K	**Koktuh Hills**	**4.97**	**318**	Pn	**Pn**	**11 39 59.2**	**-0.9**
KHIT	**Khitrov Hills**	**5.00**	**32**		**Pn**	**11 40 00.0**	**-0.5**
P17K	**Kvichak River**	**5.08**	**308**		**Pn**	**11 40 00.9**	**-0.6**
KNK	**Knik Glacier**	**5.10**	**1**		**Pn**	**11 40 01.0**	**-0.9**
KNK	**Knik Glacier**	**5.10**	**1**	IAML		11 41 07.2	
	comp=E,38nm,0.8s						
KNK				IAML		11 41 19.8	
	comp=N,31nm,0.6s						
BMRM	**Bremner River**	**5.10**	**23**		**Pn**	**11 40 01.6**	**-0.3**
WAX	**Waxell Ridge**	**5.12**	**34**		**Pn**	**11 40 01.6**	**-0.7**
SPU	**Mount Spurr**	**5.18**	**341**		**Pn**	**11 40 02.1**	**-1.0**
MESA	**MESA**	**5.22**	**40**		**Pn**	**11 40 03.9**	**+0.2**
MESA	**MESA**	**5.22**	**40**	IAML		11 41 19.4	
	comp=E,52nm,1.3s						
SPCR	**Spurr Chakacha**	**5.23**	**341**		**Pn**	**11 40 03.2**	**-0.5**
SUA	**Susitna One**	**5.27**	**349**		**Pn**	**11 40 03.7**	**-0.6**
SUA	**Susitna One**	**5.27**	**349**	IAML		11 41 08.0	
	comp=N,41nm,0.8s						
SUA				IAML		11 41 33.1	
	comp=E,31nm,1.0s						
SPCG	**Spurr Capps Gl**	**5.28**	**342**		**Pn**	**11 40 03.7**	**-0.7**
SPCP	**Crater Peak Br**	**5.28**	**341**		**Pn**	**11 40 04.2**	**-0.3**
CRQM	**Cirque**	**5.28**	**31**		**Pn**	**11 40 03.6**	**-1.0**
CRQM				IAML		11 41 11.4	
	comp=E,60nm,0.7s						
CRQM				IAML		11 41 12.0	
	comp=N,53nm,1.3s						
PMR	**Palmer**	**5.29**	**357**		**Pn**	**11 40 04.1**	**-0.3**
PMR	**Palmer**	**5.29**	**357**	IAML		11 41 06.5	
	comp=N,30nm,1.3s						
PMR				IAML		11 41 25.0	
	comp=E,28nm,0.6s						
KLU	**Klutina**	**5.36**	**14**		**Pn**	**11 40 05.7**	**+0.1**
TGL	**Tana Glacier**	**5.37**	**32**		**Pn**	**11 40 05.0**	**-0.7**
ISLE	**Juniper Island**	**5.40**	**35**		**Pn**	**11 40 05.3**	**-0.8**
YAH	**Yahtse**	**5.42**	**39**		**Pn**	**11 40 06.5**	**-0.1**
N19K	**Bonanza Creek**	**5.44**	**328**		**Pn**	**11 40 06.0**	**-0.6**
STLK	**Strandline Lak**	**5.45**	**344**		**Pn**	**11 40 06.4**	**-0.3**
CHGN	**Chignik**	**5.46**	**172**	**Pn**	**Pn**	**11 40 05.5**	**-1.2**
GHO	**Glory Hole Cre**	**5.46**	**358**		**Pn**	**11 40 07.1**	**+0.1**
SML	**Sawmill**	**5.50**	**1**		**Pn**	**11 40 07.8**	**+0.5**
RKAV	**Rock Avalanche**	**5.52**	**41**		**Pn**	**11 40 07.4**	**-0.4**
SCM	**Sheep Creek Mo**	**5.56**	**6**		**Pn**	**11 40 08.9**	**+0.6**
VRDI	**Verde Repeater**	**5.60**	**27**	Pn	**Pn**	**11 40 08.0**	**-0.9**
KIAG	**Kiagna River**	**5.65**	**33**		**Pn**	**11 40 08.9**	**-0.6**
O17K	**Koliganek Bris**	**5.67**	**311**		**Pn**	**11 40 08.8**	**-0.9**
N25K	**Chitina, Valde**	**5.68**	**20**	Pn	**Pn**	**11 40 10.3**	**+0.3**
GRNC	**Granite Creek**	**5.69**	**36**		**Pn**	**11 40 09.5**	**-0.7**
TABL	**Table Mountain**	**5.69**	**41**		**Pn**	**11 40 09.7**	**-0.6**
GLB	**Gilahina Butte**	**5.70**	**24**	Pn	**Pn**	**11 40 10.3**	**+0.2**
P16K	**Nushagak River**	**5.71**	**302**		**Pn**	**11 40 09.8**	**-0.4**
BALM	**Baldy**	**5.74**	**32**		**Pn**	**11 40 10.3**	**-0.5**
N18K	**Kilae Creek**	**5.79**	**322**		**Pn**	**11 40 10.3**	**-1.1**
PTPK	**Patty Peak**	**5.83**	**31**		**Pn**	**11 40 11.8**	**-0.2**
MCARA	**McCarthy VSAT**	**5.84**	**27**		**Pn**	**11 40 12.8**	**+0.8**
SKT	**Skwentna**	**5.86**	**346**		**Pn**	**11 40 12.5**	**+0.2**
M24K	**Tolsona, Glenn**	**5.93**	**11**		**Pn**	**11 40 15.0**	**+1.7**
BCPM	**Bancas Point**	**5.98**	**49**	Pn	**Pn**	**11 40 13.4**	**-0.6**
CTGM	**Chitina Glacie**	**6.00**	**36**	Pn	**Pn**	**11 40 13.3**	**-1.1**
LOGN	**Logan Glacier**	**6.01**	**38**		**Pn**	**11 40 13.6**	**-1.0**
O16K	**Kokwok River B**	**6.01**	**307**		**Pn**	**11 40 13.7**	**-0.7**
M20K	**Styx River**	**6.03**	**339**		**Pn**	**11 40 13.9**	**-0.9**
WACK	**Wrangell Chich**	**6.09**	**19**		**Pn**	**11 40 16.1**	**+0.5**
N17K	**Nushagak Hills**	**6.16**	**317**		**Pn**	**11 40 15.4**	**-1.0**
O28M	**Mount Upton**	**6.26**	**41**		**Pn**	**11 40 17.6**	**-0.5**
M19K	**Big River Lodg**	**6.33**	**334**		**Pn**	**11 40 17.4**	**-1.4**
HARP	**HAARP**	**6.34**	**15**		**Pn**	**11 40 19.4**	**+0.5**
M18K	**Stony River**	**6.38**	**327**		**Pn**	**11 40 18.2**	**-1.2**
WAT1	**Susitna Watana**	**6.52**	**0**		**Pn**	**11 40 22.1**	**+0.7**
WAT7	**Susitna Watana**	**6.53**	**359**		**Pn**	**11 40 21.8**	**+0.3**
O29M	**Mount Kennedy**	**6.62**	**49**		**Pn**	**11 40 22.4**	**-0.4**
O15K	**Ungalikthiuk R**	**6.64**	**300**		**Pn**	**11 40 22.5**	**-0.6**
P29M	**Windy Craggy**	**6.66**	**56**		**Pn**	**11 40 22.3**	**-1.0**
L19K	**White Mountain**	**6.68**	**334**		**Pn**	**11 40 22.2**	**-1.4**
M26K	**Nabesna, AK**	**6.73**	**23**	Pn	**Pn**	**11 40 24.9**	**+0.5**
N16K	**Nishlik Lake**	**6.76**	**312**		**Pn**	**11 40 24.1**	**-0.5**
YUK8	**Steele Glacier**	**6.76**	**39**		**Pn**	**11 40 25.7**	**+0.7**
YUK2	**White River**	**6.78**	**33**		**Pn**	**11 40 26.1**	**+1.0**
DHY	**Denali Highway**	**6.80**	**5**	Pn	**Pn**	**11 40 25.6**	**+0.4**
M17K	**Holitna River**	**6.84**	**322**		**Pn**	**11 40 24.7**	**-1.0**
YUK3	**Moose Creek**	**6.89**	**34**		**Pn**	**11 40 27.2**	**+0.6**
S31K	**Pelican**	**6.93**	**71**	Pn	**Pn**	**11 40 23.9**	**-3.1**
M27K	**Edge Creek, AK**	**6.96**	**27**	Pn	**Pn**	**11 40 28.6**	**+1.2**
YUK6	**Outpost Mounta**	**7.07**	**45**		**Pn**	**11 40 29.5**	**+0.4**
RND	**Reindeer**	**7.10**	**359**		**Pn**	**11 40 30.2**	**+0.9**
M16K	**Timber Creek**	**7.15**	**315**		**Pn**	**11 40 29.7**	**-0.4**
N15K	**Kwethluk River**	**7.17**	**307**		**Pn**	**11 40 30.9**	**+0.5**
L18K	**Granite Mounta**	**7.21**	**328**	Pn	**Pn**	**11 40 29.6**	**-1.2**
CAST	**Castle Rocks**	**7.32**	**348**		**Pn**	**11 40 31.9**	**-0.5**
KTH	**Kantishna Hill**	**7.34**	**352**		**Pn**	**11 40 32.8**	**+0.2**
HYT	**Haines Junctio**	**7.35**	**48**	Pn	**Pn**	**11 40 32.3**	**-0.5**
O14K	**Tigyukauivet M**	**7.37**	**299**	Pn	**Pn**	**11 40 33.1**	**+0.1**
MCK	**McKinley**	**7.43**	**359**		**Pn**	**11 40 35.4**	**+1.6**
K20K	**Telida**	**7.56**	**341**		**Pn**	**11 40 35.5**	**-0.2**
TTA	**Tatalina**	**7.60**	**334**		**Pn**	**11 40 34.8**	**-1.4**
L16K	**Owhat River**	**7.77**	**318**		**Pn**	**11 40 38.1**	**-0.4**
N30M	**Aishikik Lake**	**7.87**	**44**		**Pn**	**11 40 39.9**	**-0.1**
BPAW	**Bear Paw Mtn.**	**7.88**	**352**		**Pn**	**11 40 39.7**	**-0.4**
O30N	**Mendenhall**	**7.91**	**51**	Pn	**Pn**	**11 40 40.1**	**-0.4**
K17K	**Iditarod**	**8.07**	**326**		**Pn**	**11 40 41.2**	**-1.4**
HDA	**Harding Lake**	**8.15**	**5**		**Pn**	**11 40 44.6**	**+1.0**
WRH	**Wood River Hil**	**8.17**	**2**	Pn	**Pn**	**11 40 45.0**	**+1.0**
J18K	**Innoko River**	**8.23**	**334**	Pn	**Pn**	**11 40 44.3**	**-0.5**
M14K	**Bethel**	**8.26**	**308**	Pn	**Pn**	**11 40 44.9**	**-0.3**
NEA2	**Nenana**	**8.29**	**359**		**Pn**	**11 40 46.0**	**+0.3**
J20K	**Nowinta River**	**8.34**	**343**		**Pn**	**11 40 45.8**	**-0.4**
CCB	**Clear Creek Bu**	**8.36**	**2**	Pn	**Pn**	**11 40 47.2**	**+0.8**
WHY	**Whitehorse**	**8.39**	**53**	Pn	**Pn**	**11 40 46.7**	**-0.4**
N31M	**Braeburn, Yuko**	**8.41**	**47**	Pn	**Pn**	**11 40 47.6**	**+0.3**
J19K	**Poorman**	**8.44**	**339**	Pn	**Pn**	**11 40 46.3**	**-1.3**
ILAR	**Eielson Array**	**8.51**	**5**	Pn	**Pn**	**11 40 49.0**	**+0.3**
	comp=E,0.6nm,0.3s,baz=191,slow=14,SNR=9.1						
ILAR				Sn	**Sn**	**11 42 23.0**	**-0.3**
	comp=E,0.4nm,0.3s,baz=188,slow=22,SNR=6.4						
ILAR				LR	LR	11 44 11.2	
	comp=E,47nm,18.7s,baz=260,slow=38						
	comp=E,1.2nm,0.3s						
J26L	**Joseph Creek**	**8.57**	**15**	Pn	**Pn**	**11 40 49.8**	**+0.3**
M13K	**Dall Lake**	**8.75**	**304**	Pn	**Pn**	**11 40 52.1**	**+0.2**
MLY	**Manley**	**8.79**	**354**		**Pn**	**11 40 52.5**	**0.0**
J17K	**VABM Dome**	**8.82**	**328**	Pn	**Pn**	**11 40 51.5**	**-1.4**
L14K	**Kuka Creek**	**8.85**	**310**	Pn	**Pn**	**11 40 53.2**	**0.0**
I23K	**Minto, Yukon-K**	**8.86**	**358**		**Pn**	**11 40 53.2**	**-0.1**
K15K	**Wolf Creek Mou**	**8.90**	**318**	Pn	**Pn**	**11 40 54.1**	**+0.2**
I21K	**Tanana**	**9.03**	**351**	Pn	**Pn**	**11

MEF				*e*S	Sg	11 39 24.4	-0.4
MEF				MSG		11 39 24.7	
	comp=Z,4.3nm,0.1s						
PVF	**Pernaja**	**0.53**	**75**	*e*P	Pg	11 39 24.8	-0.7

*NEIC **19** 12:17:11.1±1.2, 17°.9S±0°.2×177°.9W±0°.1, h582km±13km, mb4.4/27, Error ellipse: s-maj=22.5km s-min=19.7km az=193.0*
*IDC **19** 12:17:12.3±1.9, 18°.00S×178°.11W, h595km±23km, mb3.5/15, mbtmp4.4/16, Error ellipse: s-maj=16.0km s-min=10.6km az=154.0*

ISC 19 12:17:11.5±0.5, 17°.91S±0°.10×178°.02W±0°.08, h590km, n60, σ0§96/64, mb4.4/29, 4C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.59**	**358**	P	**P**	**12 18 32.7**	**-0.8**
MSVF	**Nonsavu**	**3.75**	**272**	P	**P**	**12 18 35.6**	**+1.0**
AFI	**Afiamalu**	**7.20**	**57**	P	**P**	**12 19 00.5**	**-2.7**
NIUE	**Niue**	**7.76**	**100**	P	**P**	**12 19 06.1**	**-2.2**
PINNC	**Pines Island,**	**14.41**	**249**	P	**P**	**12 20 14.2**	**-0.3**
DZM	**Mont Dzumac**	**15.18**	**252**	P	**P**	**12 20 21.3**	**-0.5**
	1.7nm,0.5s,baz=118,slow=23,SNR=1.3						
KOUNC	**Koumac, New Ca**	**16.91**	**258**	P	**P**	**12 20 39.4**	**+1.7**
TOZ	**Tahuroa Road**	**20.55**	**195**	P	**P**	**12 21 10.9**	**+0.5**
TOZ				IAmb	IAmb	12 21 54.1	
	comp=Z,12nm,1.1s						
URZ	**Urewera**	**20.71**	**191**	P	**P**	**12 21 09.6**	**-2.3**
	comp=Z,7.4nm,0.7s,baz=63,slow=16,SNR=6.9						
	comp=Z,7.4nm,0.7s						
INZ	**Inchbonnie**	**26.31**	**198**	P	**P**	**12 22 00.1**	**-1.3**
PPT	**Papeete**	**27.08**	**94**	P	**P**	**12 22 08.9**	**+0.2**
	comp=Z,14nm,0.6s,baz=152,slow=3.5,SNR=4.5						
	comp=Z,14nm,0.6s						
EIDS	**Eidsvold**	**29.61**	**250**	P	**P**	**12 22 30.6**	**0.0**
EIDS				IAmb	IAmb	12 23 08.0	
	comp=Z,20nm,1.5s						
ARMA	**Armidale**	**30.26**	**240**	P	**P**	**12 22 36.5**	**+0.4**
ARMA				IAmb	IAmb	12 23 17.0	
	comp=Z,19nm,1.4s						
CTAO	**Charters Tower**	**33.81**	**260**	P	**P**	**12 23 06.0**	**-0.3**
CTAO				IAmb	IAmb	12 23 30.3	
	comp=Z,16nm,1.4s						
CAN	**Canberra**	**34.00**	**233**	P	**P**	**12 23 07.6**	**0.0**
TOO	**Toolangi**	**37.45**	**231**	P	**P**	**12 23 36.7**	**+0.7**
TOO				IAmb	IAmb	12 23 37.8	
	comp=Z,5.4nm,0.8s						
COEN	**Coen**	**37.48**	**270**	P	**P**	**12 23 37.1**	**+0.6**
COEN				IAmb	IAmb	12 23 38.3	
	comp=Z,12nm,0.7s						
STKA	**Stephens Creek**	**38.95**	**241**	P	**P**	**12 23 48.9**	**+0.6**
STKA	**Stephens Creek**	**38.95**	**241**	P	**P**	**12 23 49.0**	**+0.8**
	comp=Z,7.2nm,0.5s,baz=95,slow=10,SNR=19						
	comp=Z,7.2nm,0.5s						
BBOO	**Buckleboo**	**43.73**	**241**	P	**P**	**12 24 25.9**	**0.0**
BBOO				IAmb	IAmb	12 24 26.5	
	comp=Z,12nm,0.6s						
WR0	**Warramunga Arr**	**44.80**	**259**	P	**P**	**12 24 34.1**	**-0.2**
WB0	**Warramunga Arr**	**44.96**	**260**	P	**P**	**12 24 35.2**	**-0.3**
WB0				IAmb	IAmb	12 24 35.9	
	comp=Z,8.6nm,0.6s						
WB2	**Warramunga Arr**	**44.98**	**259**	P	**P**	**12 24 35.4**	**-0.3**
WB2				IAmb	IAmb	12 24 36.1	
	comp=Z,9.3nm,0.6s						
WRAB	**Tennant Creek**	**44.99**	**259**	P	**P**	**12 24 35.6**	**-0.1**
WRAB				IAmb	IAmb	12 24 36.0	
	comp=Z,7.5nm,0.6s						
WRA	**Warramunga Arr**	**45.00**	**259**	P	**P**	**12 24 35.4**	**-0.4**
WRA	**Warramunga Arr**	**45.00**	**259**	P	**P**	**12 24 35.1**	**-0.6**
	comp=Z,4.2nm,0.3s,baz=94,slow=7.4,SNR=269						
WRA				PcP	**PcP**	**12 26 04.3**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=93,slow=3.6,SNR=7.5						
WRA				S	**S**	**12 30 29.6**	**-2.9**
	comp=Z,0.8nm,0.9s,baz=102,slow=12,SNR=4.6						
	comp=Z,4.2nm,0.3s						
AS31	**Alice Springs**	**45.15**	**254**	P	**P**	**12 24 36.8**	**-0.1**
AS31				IAmb	IAmb	12 24 38.1	
	comp=Z,8.1nm,0.5s						
ASAR	**Alice Springs**	**45.15**	**254**	P	**P**	**12 24 37.0**	**+0.1**
ASAR	**Alice Springs**	**45.15**	**254**	P	**P**	**12 24 37.0**	**+0.1**
	comp=Z,25nm,0.6s,baz=88,slow=8.4,SNR=486						
ASAR				PcP	**PcP**	**12 26 04.7**	**+0.1**
	comp=Z,3.7nm,0.6s,baz=104,slow=3.7,SNR=13						
ASAR				S	**S**	**12 30 32.3**	**-2.3**
	comp=Z,2.8nm,0.8s,baz=91,slow=15,SNR=19						
	comp=Z,25nm,0.6s						
FORT	**Forrest**	**50.34**	**245**	P	**P**	**12 25 14.9**	**-0.6**
KNRA	**Kununurra**	**50.86**	**264**	P	**P**	**12 25 19.2**	**-0.1**
KNRA				IAmb	IAmb	12 25 20.0	
	comp=Z,7.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.39**	**260**	P	**P**	**12 25 37.5**	**0.0**
PSA00	**Pilbara Seismi**	**58.27**	**255**	P	**P**	**12 26 10.6**	**-0.5**
PSA00	**Pilbara Seismi**	**58.27**	**255**	P	**P**	**12 26 10.4**	**-0.7**
PSA00				IAmb	IAmb	12 26 39.0	
	comp=Z,24nm,1.3s						
MBWA	**Marble Bar**	**58.43**	**256**	P	**P**	**12 26 11.7**	**-0.5**
MBWA				IAmb	IAmb	12 26 26.9	
	comp=Z,19nm,1.2s						
SBA	**Scott Base**	**60.44**	**184**	P	**P**	**12 26 26.1**	**+1.6**
GIRL	**Giralia**	**63.25**	**253**	P	**P**	**12 26 44.1**	**+0.4**
MJAR	**Matsushiro Arr**	**68.13**	**323**	P	**P**	**12 27 13.0**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=162,slow=5.8,SNR=6.8						
	comp=Z,1.5nm,0.5s						
QSPA	**South Pole Qui**	**72.14**	**180**	P	**P**	**12 27 37.7**	**+0.6**
QSPA	**South Pole Qui**	**72.14**	**180**	P	**P**	**12 27 37.5**	**+0.4**
	comp=Z,4.4nm,0.5s,baz=60,slow=2.8,SNR=42						
	comp=Z,4.4nm,0.5s						
PETK	**Petropavlovsk-**	**73.78**	**345**	P	**P**	**12 27 46.6**	**+0.2**
	comp=Z,3.2nm,0.9s,baz=111,slow=7.7,SNR=5.1						
	comp=Z,3.2nm,0.9s						
NVAR	**Mina Array Bea**	**79.17**	**44**	P	**P**	**12 28 17.4**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=230,slow=9.9,SNR=5.0						
	comp=Z,0.6nm,0.8s						
MAW	**Mawson**	**83.98**	**200**	P	**P**	**12 28 40.5**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=308,slow=20,SNR=1.9						
	comp=Z,2.8nm,0.7s						
TXAR	**Lajitas Array**	**85.69**	**57**	P	**P**	**12 28 51.1**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=222,slow=5.5,SNR=8.1						
	comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	**85.81**	**13**	P	**P**	**12 28 48.4**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=221,slow=5.1,SNR=10						
	comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**89.23**	**290**	P	**P**	**12 29 07.4**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=92,slow=2.6,SNR=12						
	comp=Z,1.8nm,0.9s						
TROLL	**Troll, Antarti**	**90.30**	**180**	⇑P	**P**	**12 29 10.0**	**-0.2**
	comp=Z,173nm,0.6s						
SNAA	**Sanae**	**90.58**	**178**	P	**P**	**12 29 11.2**	**-0.2**
SNAA				IAmb	IAmb	12 29 11.9	
	comp=Z,10.0nm,1.4s						
SNAA	**Sanae**	**90.58**	**178**	⇑P	**P**	**12 29 11.0**	**-0.4**
	comp=Z,50nm,0.6s						
SNAA	**Sanae**	**90.58**	**178**	P	**P**	**12 29 10.7**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=200,slow=10,SNR=8.0						
	comp=Z,2.2nm,0.7s						
VNA3	**Neumayer Olymp**	**90.71**	**176**	⇑P	**P**	**12 29 12.0**	**+0.1**
	comp=Z,7.6nm,0.7s						
VNA2	**Neumayer--Watz**	**91.15**	**177**	⇑P	**P**	**12 29 14.4**	**+0.5**
	comp=Z,5.1nm,0.7s,baz=194,slow=6.5						
SONM	**Songino Array**	**93.80**	**319**	P	**P**	**12 29 27.1**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=119,slow=1.8,SNR=2.6						
	comp=Z,0.3nm,0.4s						
BVAR	**Borovoye Array**	**117.08**	**321**	PKP	**PKPdf**	**12 34 49.0**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=152,slow=2.6,SNR=5.2						
ARCES	**ARCESS Array B**	**126.38**	**350**	PKP	**PKPdf**	**12 35 06.7**	**-0.7**
	comp=Z,3.2nm,0.9s,baz=29,slow=2.8,SNR=5.3						
BRTR	**Keskin Array B**	**145.05**	**315**		**PKPbc**	**12 35 43.8**	**0.0**
BRTR	**Keskin Array B**	**145.05**	**315**	PKPbc	**PKPbc**	**12 35 44.0**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=135,slow=4.2,SNR=13						
MMAI	**Mount Meron Ar**	**146.46**	**303**	PKPbc	**PKPbc**	**12 35 48.7**	**+0.8**
	comp=Z,6.4nm,0.5s,baz=67,slow=6.4,SNR=9.9						
GERES	**GERESS Array B**	**147.71**	**345**	PKPbc	**PKPbc**	**12 35 51.0**	**+0.2**
	comp=Z,2.7nm,0.5s,baz=29,slow=4.6,SNR=7.5						
ECH	**Echery**	**149.48**	**353**		**PKPdf**	**12 35 49.4**	**-0.3**

*IDC **19** 12:28:20.5±1.1, 29°.58N×104°.41E, h0km, mb3.7/7, mbtmp3.6/8, ML2.9/1, MS3.3/1, Error ellipse: s-maj=43.4km s-min=20.2km az=55.0*

ISC 19 12:28:25.7±1.2, 29°.6N±0°.2×104°.5E±0°.2, h35km, n9, σ1§06/8, mb3.7/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**18.23**	**4**	P	**P**	**12 32 35.6**	**-0.4**
	baz=187,slow=10,SNR=1.8						
	0.2nm,0.5s						
KSRS	**Korea Array**	**21.00**	**62**	P	**P**	**12 33 06.4**	**+0.4**
	1.2nm,0.8s,baz=305,slow=19,SNR=3.2						
	1.2nm,0.8s						
MKAR	**Makanchi Array**	**24.31**	**321**	P	**P**	**12 33 41.1**	**+1.2**
	1.1nm,0.8s,baz=128,slow=11,SNR=8.0						
	1.1nm,0.8s						
KURBB	**Kurchatov Arra**	**28.61**	**324**	P	**P**	**12 34 19.5**	**+0.9**
	0.8nm,0.2s,baz=125,slow=10.0,SNR=1.7						
	0.8nm,0.2s						
BVAR	**Borovoye Array**	**34.15**	**323**	LR	LR	12 51 26.0	
	comp=Z,54nm,20.4s,baz=317,slow=41						
WRA	**Warramunga Arr**	**57.07**	**146**	P	**P**	**12 38 08.4**	**-0.2**
	0.5nm,0.8s,baz=337,slow=8.4,SNR=3.7						
	0.5nm,0.8s						
FINES	**FINESS Array B**	**58.97**	**327**	P	**P**	**12 38 21.1**	**-0.2**
	1.1nm,0.8s,baz=61,slow=11,SNR=1.5						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**60.07**	**149**	P	**P**	**12 38 29.7**	**+0.3**
	0.3nm,0.7s,baz=333,slow=6.8,SNR=5.3						
	0.3nm,0.7s						
NOA	**NORSAR Array B**	**66.07**	**328**	P	**P**	**12 39 07.2**	**-1.7**
	0.8nm,0.8s,baz=84,slow=8.5,SNR=3.8						
	0.8nm,0.8s						

*HEL **19** 12:29:28.1±0.2, 61°.55N×30°.22E, h0km, ML1.8, Explosion*
*IDC **19** 12:29:31.4±3.3, 61°.67N×29°.83E, h0km, mbtmp3.9/1, ML2.4/1, Error ellipse: s-maj=30.6km s-min=11.1km az=139.0*

ISC 19 12:29:27.6±1.3, 61°.62N±0°.05×30°.05E±0°.06, h0km, n16, σ1§54/26, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.56**	**251**	PG	**Pb**	**12 29 39.6**	**-0.6**
	baz=77						
RUF				SG	**Sb**	**12 29 47.5**	**-1.3**
RUF				MSG		12 29 47.8	
	comp=Z,8.2nm,0.2s						
JOF	**Joensuu**	**1.44**	**24**	PN	**Pb**	**12 29 55.8**	**+0.6**
	baz=198						
JOF				SN	**Sn**	**12 30 15.4**	**+1.0**
VJF	**Virojoki**	**1.62**	**229**	PG	**Pn**	**12 29 57.6**	**+0.2**
VJF				MSG		12 30 17.4	
	comp=Z,9.7nm,0.2s						
VJF				SN	**Sg**	**12 30 20.5**	**+0.9**
KAF	**Kangasniemi**	**1.84**	**287**	PG	**Pg**	**12 30 03.4**	**+0.6**
KAF				MSG		12 30 25.9	
	comp=Z,4.9nm,0.2s						
KAF				SG	**Sg**	**12 30 28.1**	**+1.4**
FIA0	**FINESS Array S**	**1.91**	**267**	PG	**Pb**	**12 30 03.6**	**+0.4**
FIA0				MSG		12 30 27.2	
	comp=Z,7.4nm,0.2s						
FIA0				SG	**Sg**	**12 30 29.3**	**+0.5**
FINES	**FINESS Array B**	**1.91**	**267**	Pg	**Pg**	**12 30 03.9**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=86,slow=15,SNR=31						
FINES				Lg	Lg	12 30 28.1	
	comp=Z,0.9nm,0.3s,baz=84,slow=30,SNR=5.4						
NIF	**Nilsia**	**2.06**	**331**	PG	**Pg**	**12 30 06.8**	**-0.3**
	baz=148						
NIF				SG	**Sg**	**12 30 34.7**	**+1.0**
SUF	**Sumiainen**	**2.14**	**303**	PG	**Pg**	**12 30 08.4**	**-0.1**
	baz=116						
SUF				MSG		12 30 34.7	
	comp=Z,5.4nm,0.2s						
SUF				SG	**Sg**	**12 30 37.7**	**+1.5**
PVF	**Pernaja**	**2.30**	**244**	PG	**Pb**	**12 30 09.3**	**-0.6**
PVF				MSG		12 30 37.5	
	comp=Z,3.1nm,0.2s						
PVF				SB	**Sb**	**12 30 38.5**	**-0.2**
KEF	**Keuruu**	**2.51**	**285**	PG	**Pb**	**12 30 13.9**	**+0.4**
	baz=105						
KEF				MSG		12 30 45.1	
	comp=Z,2.9nm,0.2s						
KEF				SG	**Sg**	**12 30 47.6**	**-0.6**
RMF	**Romuvaara**	**2.61**	**359**	PB	**Pb**	**12 30 14.4**	**-0.8**
RMF				SN	**Sn**	**12 30 42.0**	**-1.4**
RMF				MSG		12 30 47.1	
	comp=Z,4.2nm,0.2s						
OUF	**Merijarvi**	**3.67**	**321**	SB	**Sb**	**12 31 18.1**	**-0.2**
OBF4	**Vikkela, Lumij**	**3.91**	**327**	SN	**Sn**	**12 31 18.0**	**+2.6**
RANF	**Ranua**	**4.65**	**343**	SN	**Sn**	**12 31 31.2**	**-2.2**
I43RU	**DUBNA INFRASON**	**6.14**	**140**	I	I	13 04 50.0	
	baz=326,slow=318,SNR=5.1						
ARCES	**ARCESS Array B**	**8.17**	**349**	Pn	**Pn**	**12 31 28.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=160,slow=14,SNR=1.0						
ARCES				Sn	**Sn**	**12 32 54.9**	**-5.3**
	comp=Z,0.1nm,0.3s,baz=171,slow=24,SNR=2.1						
	comp=Z,9.3nm,1.2s						

*KRNET **19** 12:33:09.4±0.1, 43°.59N×69°.59E, mb2.6*
*SOME **19** 12:33:10.8, 43°.55N×69°.63E*
*NNC **19** 12:33:11.7±3.4, 43°.64N×69°.75E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=23.3km s-min=8.8km az=133.0, Suspected Mining explosion.*

ISC 19 12:33:13.7±2.1, 43°.55N±0°.07×69°.73E±0°.09, h0km, n14, σ1§16/25, 13C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.52**	**172**	P	**Pb**	**12 33 26.9**	**+1.1**
	3.4nm,0.1s						
BRLS				S	**Sn**	**12 33 38.1**	**+0.1**
	10nm,0.2s						
KK31	**Karatay Array**	**0.72**	**128**	P	**Pg**	**12 33 25.4**	**-2.1**
	3.9nm,0.2s,baz=319,slow=17,SNR=77						
KK31				⇑S	**Sg**	**12 33 38.2**	**+1.5**
	3.9nm,0.2s,baz=319,slow=34,SNR=104						
KKAR	**Karatay Array**	**0.72**	**128**	⇑*i*P	**Pg**	**12 33 25.4**	**-2.0**
KKAR				⇑*i*S	**Sg**	**12 33 37.1**	**+0.4**
IUG	**luzhnay**	**1.41**	**171**	P	**Pn**	**12 33 40.5**	**-0.3**
	6.1nm,0.1s						
IUG				S	**Sn**	**12 34 01.6**	**+1.4**
	19nm,0.3s						
TRKS	**Terek-Say**	**2.27**	**152**	⇓*i*P	**Pn**	**12 33 52.5**	**0.0**
TRKS				⇓*i*S	**Sb**	**12 34 23.9**	**-0.3**
MNAS	**Manas**	**2.29**	**117**	⇑*i*P	**Pn**	**12 33 52.2**	**-0.7**
MNAS				⇑*i*S	**Sn**	**12 34 23.4**	**+1.6**
ARK	**Arkit**	**2.40**	**136**	⇑*e*P	**Pn**	**12 33 53.3**	**-1.0**
ARK				⇑*e*S	**Sn**	**12 34 25.3**	**+0.9**
MRKS	**Merke**	**2.68**	**106**	Pg	**Pb**	**12 34 01.9**	**-0.6**
	1.3nm,0.1s						
MRKS				Lg	Lg	12 34 38.2	
	7.0nm,0.3s						
EKS2	**Erkin-Say**	**3.09**	**105**	⇑*i*P	**Pn**	**12 34 03.3**	**-0.5**
EKS2				⇑*i*S	**Sn**	**12 34 42.5**	**+1.0**
AML	**Almayashu**	**3.24**	**115**	⇑*i*P	**Pn**	**12 34 05.5**	**-0.6**
AML				⇑*i*S	**Sn**	**12 34 46.5**	**+1.0**
BTLS	**Baital**	**3.44**	**63**	Pg	**Pb**	**12 34 16.4**	**+1.0**
	3.7nm,0.3s						
BTLS				Lg	Lg	12 35 02.8	
	1.5nm,0.3s						
USP	**Ospenovka**	**3.48**	**93**	⇓*i*P	**Pn**	**12 34 08.5**	**-0.7**
USP				⇓*i*S	**Sn**	**12 34 51.7**	**+0.6**
AAK	**Ala-Archa**	**3.60**	**103**	⇑*i*P	**Pn**	**12 34 10.4**	**-0.5**
AAK				⇑*i*S	**Sn**	**12 34 54.9**	**+0.7**
KST	**Kastek**	**4.57**	**94**	Pg	**Pb**	**12 34 37.1**	**+2.2**
	1.1nm,0.3s						
KST				Lg	Lg	12 35 38.4	
	4.1nm,0.4s						

NEIC 19 12:37:07.0±0.8, 38°.76N±0°.04×97°.56W±0°.02, h5km±2km, mb_Lg2.4/21, Error ellipse: s-maj=6.7km s-min=3.0km az=354.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSU1	**Kansas State U**	**0.82**	**65**	Pg	Pg	12 37 21.7	-1.0
KSU1				Sg	Sg	12 37 32.5	-0.8
R32A	**Long Quarter,**	**0.96**	**250**	Pg	Pg	12 37 24.5	-1.0
R32A				Sg	Sg	12 37 37.2	-0.7
KAN12	**Harper NE Stat**	**1.50**	**193**	Pg	Pn	12 37 33.1	-1.6
KAN08	**Anthony NE Sta**	**1.57**	**192**		Pn	12 37 34.6	-0.9
KAN01	**Argonia South**	**1.61**	**186**		Pn	12 37 35.6	-0.6
KAN09	**Caldwell North**	**1.62**	**182**		Pn	12 37 35.6	-0.7
CBKS	**Cedar Bluff**	**1.70**	**272**	Pn	Pn	12 37 37.0	-0.3
CBKS				Sg	Sn	12 37 59.5	0.0
KAN17	**Caldwell West**	**1.72**	**185**	Pn	Pn	12 37 36.3	-1.4
KAN13	**South Haven SW**	**1.75**	**178**	Pn	Pn	12 37 37.9	-0.1
KAN13				IAmb_Lg		12 38 06.3	
	comp=Z,22nm,0.7s						
KAN14	**Manchester OK**	**1.83**	**190**	Pn	Pn	12 37 38.5	-0.6
GC02	**Grant County #**	**1.92**	**187**	Pn	Pn	12 37 39.9	-0.5
BLOK	**Blackwell**	**2.02**	**172**	Pn	Pn	12 37 41.6	0.0
T35A	**Sooner Cattle**	**2.02**	**155**	Pn	Pn	12 37 40.8	-1.0
CROK	**Carrier**	**2.28**	**189**	Pn	Pn	12 37 45.7	+0.4
NOKA	**Waynoka**	**2.38**	**207**	Pn	Pn	12 37 46.6	-0.1
OK048	**Pawnee Station**	**2.39**	**168**	Pn	Pn	12 37 46.2	-0.6
N35A	**Tabor**	**2.57**	**35**	Pn	Pn	12 37 48.9	-0.3
N35A				IAmb_Lg		12 38 27.3	
	comp=Z,16nm,0.7s						
OK031	**S. Brethren Rd**	**2.86**	**168**	Pn	Pn	12 37 53.2	-0.1
TUL3	**Leonard**	**3.18**	**153**	IAmb_Lg		12 38 55.5	
	comp=Z,15nm,0.9s						
P38A	**Dawn**	**3.25**	**73**	Pn	Pn	12 37 59.1	+0.4
L34A	**Svendsen Farm,**	**3.33**	**15**	Pn	Pn	12 37 58.8	-0.9
L34A				IAmb_Lg		12 38 56.1	
	comp=Z,13nm,0.9s						
S39A	**Bolivar**	**3.51**	**106**	Pn	Pn	12 38 01.5	-0.7
W35A	**Tecumseh**	**3.64**	**171**	Pn	Pn	12 38 03.6	-0.4
HHAR	**Hobbs**	**3.80**	**130**	Pn	Pn	12 38 06.1	-0.1
HHAR				IAmb_Lg		12 39 14.0	
	comp=Z,6.6nm,0.8s						
N38A	**Joes South For**	**3.90**	**57**	IAmb_Lg		12 39 12.6	
	comp=Z,12nm,0.9s						
WMOK	**Wichita Mounta**	**4.13**	**194**	Pn	Pn	12 38 10.4	-0.4
R40A	**Maddies Statio**	**4.18**	**95**	Pn	Pn	12 38 11.8	+0.4
K30B	**Basset**	**4.21**	**339**	IAmb_Lg		12 39 28.5	
	comp=Z,13nm,0.9s						
SMWD	**Samnorwood**	**4.23**	**211**	IAmb_Lg		12 39 22.3	
	comp=Z,11nm,0.9s						
P40A	**Paris**	**4.36**	**78**	IAmb_Lg		12 39 26.5	
	comp=Z,9.9nm,1.2s						
RTBA	**Rita Blanca**	**4.72**	**242**	Pn	Pn	12 38 18.5	-0.4
FCAR	**Ozark Folk Cen**	**5.20**	**122**	Pn	Pn	12 38 24.6	-0.9
MIAR	**Mount Ida**	**5.29**	**141**	Pn	Pn	12 38 26.4	-0.3
X40A	**Basin Creek Fa**	**5.71**	**137**	Pn	Pn	12 38 31.2	-1.3
PLPT	**Palo Pinto**	**5.97**	**186**	Pn	Pn	12 38 35.4	-0.7
N23A	**Red Feather La**	**6.79**	**291**	Pn	Pn	12 38 44.9	-2.7

*IDC **19** 12:49:20.7±3.5, 31°.62N×140°.87E, h54km±36km, mb3.2/4, mbtmp3.5/5, ML2.6/1, MS2.5/1, Error ellipse: s-maj=101.6km s-min=22.7km az=69.0*
*JMA **19** 12:49:28.9±0.3, 32°.3N±0°.8×14°.1E±°, h37km, MV3.9/18, E OFF HACHIJOJIMA ISLAND*

ISC 19 12:49:22.7±1.3, 31°.87N±0°.08×140°.7E±0°.1, h73km, n22, σ2§76/21, mb3.5/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.00**	**307**	P	**Pn**	**12 49 42.6**	**+1.3**
JHCJ	**Hachijojimakas**	**1.43**	**328**	P	**Pn**	**12 49 47.2**	**+0.5**
JHCJ				*e*S	**Sn**	**12 50 00.8**	**-4.2**
JHJ2	**Mitsune**	**1.45**	**329**	P	**Pn**	**12 49 47.7**	**+0.6**
JHJ	**Hachijo jima 2**	**1.48**	**328**	P	**Pn**	**12 49 47.8**	**+0.4**
	52nm,0.3s,baz=90,slow=20,SNR=22						
JHJ				S	**Sn**	**12 50 01.6**	**-4.4**
	518nm,0.3s,baz=74,slow=22,SNR=11						
JMKN	**Mikurajimanish**	**2.23**	**335**	S	**Sn**	**12 50 20.2**	**-3.9**
JMYK	**Miyake Tsubota**	**2.40**	**336**	P	**Pn**	**12 50 01.3**	**+1.6**
JMYK				S	**Sn**	**12 50 25.2**	**-2.9**
BSO1	**Boso 1**	**2.79**	**5**	P	**Pn**	**12 50 05.7**	**+1.1**
BSO1				S	**Sn**	**12 50 33.9**	**-3.0**
BSO3	**Boso 3**	**2.93**	**357**	P	**Pn**	**12 50 08.2**	**+1.4**
BSO3				*e*S	**Sn**	**12 50 37.5**	**-3.3**
JIM2	**Oshima 3**	**3.04**	**340**	*e*P	**Pn**	**12 50 09.8**	**+1.4**
BSO4	**Boso 4**	**3.13**	**354**	P	**Pn**	**12 50 11.6**	**+2.0**
MJAR	**Matsushiro Arr**	**5.10**	**337**	P	**Pn**	**12 50 39.9**	**+3.3**
	0.2nm,0.3s,baz=159,slow=14,SNR=9.1						
MJAR				S	**Sn**	**12 51 38.6**	**+4.4**
	1.1nm,0.4s,baz=154,slow=28,SNR=1.6						
	1.3nm,0.3s						
KSRS	**Korea Array**	**11.91**	**301**	LR	LR	12 57 03.7	
	comp=Z,19nm,18.2s,baz=330,slow=38						
H11N2	**WAKE ISLAND Hy**	**26.42**	**111**	T	T	13 23 56.0	
	baz=304,slow=75,SNR=9.1						
H11N1	**WAKE ISLAND Hy**	**26.42**	**111**	T	T	13 23 56.0	
	baz=304,slow=75,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**26.44**	**111**	T	T	13 23 57.8	
	baz=304,slow=75						
H11S3	**WAKE ISLAND Hy**	**26.93**	**113**	T	T	13 24 10.9	
	baz=305,slow=75,SNR=7.5						
H11S1	**WAKE ISLAND Hy**	**26.94**	**113**	T	T	13 24 14.0	
	baz=305,slow=75,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**26.95**	**113**	T	T	13 24 17.4	
	baz=305,slow=75,SNR=9.0						
MKAR	**Makanchi Array**	**46.54**	**306**	P	**P**	**12 57 44.6**	**+1.8**
	0.2nm,0.3s,baz=86,slow=9.1,SNR=5.8						
	0.

λ-7.00000°. Principal axes: T 6.0320, Plg7.0000°, Azm136.0000°; N 3.2220, Plg72.0000°, Azm23.0000°; P -9.2570, Plg17.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function MCSM **19** 13:05:58.1±0.5,37°N±5°×2°1E±°,h10km,mB5.4,mb5.1, MLv5.4,Mw(mB)4.8

ISC 19 13:05:57.1±0.4,**37°27N**±0°.02×**20°66E**±0°.02,**h20**km±1km, **h20**km:**pP-P,n1419,**σ1**983**/1392,**mb5.1**/247,**MS4.7**/108, **111C-58D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.41**	**18**	P	**Pb**	**13 06 06.0**	**+0.2**
KRI1				S	**Sb**	**13 06 13.2**	**+1.5**
	472μm,0.5s						
LTHK	**Lithakia**	**0.47**	**18**	P	**Pb**	**13 06 06.7**	**+0.1**
LTHK				S	**Sn**	**13 06 15.0**	**-1.3**
	300μm,0.6s						
LTHK	**Lithakia**	**0.47**	**18**	P	**Pb**	**13 06 06.6**	**+0.1**
LTHK				S	**Sb**	**13 06 14.4**	**+1.3**
LTHK				AML	AML	13 06 15.4	
LTHK				AML	AML	13 06 22.4	
RTZL	**Ratzakli, Kefa**	**0.81**	**6**	P	**Pg**	**13 06 12.7**	**-0.3**
RTZL				S	**Sn**	**13 06 27.1**	**+2.2**
	94μm,0.9s						
PSDA	**Pessada-Kefalo**	**0.85**	**356**	P	**Pg**	**13 06 13.7**	**0.0**
PSDA				S	**Sn**	**13 06 27.9**	**+2.1**
	153μm,0.8s						
PSDA	**Pessada-Kefalo**	**0.85**	**356**	P	**Pg**	**13 06 13.5**	**-0.2**
PSDA				S	**Sn**	**13 06 26.1**	**+0.3**
AMT	**Artemida-Makis**	**0.88**	**72**	P	**Pg**	**13 06 14.3**	**+0.1**
PYL	**PYLOS**	**0.94**	**113**	P	**Pb**	**13 06 14.1**	**-0.6**
PYL	**PYLOS**	**0.94**	**113**	P	**Pb**	**13 06 14.1**	**-0.6**
PYL				S	**Sn**	**13 06 28.5**	**+0.4**
LXR1	**Lixouri, Cepha**	**0.95**	**349**	P	**Pb**	**13 06 15.0**	**+0.2**
LXR1				S	**Sn**	**13 06 30.4**	**+2.1**
	388μm,0.9s						
DMLN	**Damoulianata-K**	**1.00**	**347**	P	**Pg**	**13 06 16.2**	**-0.3**
DMLN				S	**Sn**	**13 06 31.8**	**+2.3**
	128μm,0.7s						
DMLN	**Damoulianata-K**	**1.00**	**347**	P	**Pb**	**13 06 15.2**	**-0.5**
ITM	**Ithomi**	**1.02**	**94**	*i* P	**Pn**	**13 06 16.3**	**+0.1**
ITM	**Ithomi**	**1.02**	**94**		**Pn**	**13 06 16.6**	**+0.4**
ITM	**Ithomi**	**1.02**	**94**	P	**Pb**	**13 06 16.1**	**+0.1**
ITM				S	**Sn**	**13 06 32.2**	**+2.3**
	76μm,0.4s						
ITM	**Ithomi**	**1.02**	**94**	⇑P	**Pb**	**13 06 15.4**	**-0.6**
ITM	**Ithomi**	**1.02**	**94**	P	**Pb**	**13 06 15.7**	**-0.3**
ITM				S	**Sn**	**13 06 31.7**	**+1.7**
ITM				AML	AML	13 06 35.5	
ITM				AML	AML	13 06 38.6	
RLS	**Riolos of Patr**	**1.02**	**39**	P	**Pb**	**13 06 16.2**	**+0.2**
RLS				S	**Sn**	**13 06 32.9**	**+2.9**
	59μm,1.0s						
RLS	**Riolos of Patr**	**1.02**	**39**	P	**Pn**	**13 06 16.3**	**+0.1**
RLS				S	**Sn**	**13 06 33.2**	**+3.2**
RLS				AML	AML	13 06 43.4	
RLS				AML	AML	13 06 44.1	
DRO	**Drossia**	**1.08**	**50**	P	**Pn**	**13 06 17.5**	**+0.4**
DRO				S	**Sg**	**13 06 35.9**	**+3.6**
	123μm,0.7s						
DRO	**Drossia**	**1.08**	**50**	P	**Pn**	**13 06 17.4**	**+0.2**
DRO				S	**Sg**	**13 06 34.8**	**+2.5**
DRO				AML	AML	13 06 52.4	
DRO				AML	AML	13 06 52.5	
VSK1	**VASILIKIADES**	**1.14**	**356**	P	**Pb**	**13 06 18.4**	**+0.2**
VSK1				S	**Sg**	**13 06 36.7**	**+2.4**
	93μm,0.8s						
FSK	**Fiskardo**	**1.19**	**356**	P	**Pb**	**13 06 19.3**	**+0.2**
FSK				S	**Sg**	**13 06 36.9**	**+1.0**
	63μm,0.9s						
FSK	**Fiskardo**	**1.19**	**356**	P	**Pb**	**13 06 19.2**	**+0.2**
FSK				S	**Sg**	**13 06 36.7**	**+0.9**
FSK				AML	AML	13 06 51.1	
FSK				AML	AML	13 06 52.4	
AST1	**Astakos**	**1.32**	**15**	P	**Pg**	**13 06 21.8**	**-0.8**
EVGI	**Lefkada island**	**1.35**	**360**	P	**Pg**	**13 06 22.5**	**-0.7**
EVGI				S	**Sg**	**13 06 41.4**	**+0.5**
	40μm,0.8s						
EVGI	**Lefkada island**	**1.35**	**360**	P	**Pb**	**13 06 22.2**	**+0.5**
UPR	**University Cam**	**1.35**	**41**	P	**Pg**	**13 06 22.9**	**-0.3**
KLV	**Kalavryta, Ach**	**1.42**	**56**	P	**Pb**	**13 06 23.6**	**+0.7**
KLV	**Kalavryta, Ach**	**1.42**	**56**	P	**Pb**	**13 06 23.2**	**+0.4**
KLV				AML	AML	13 06 57.4	
	comp=N,66384μm,0.8s						
KLV				AML	AML	13 07 00.2	
	comp=E,53069μm,1.0s						
DRAG	**Dragano-Lefkad**	**1.42**	**357**	P	**Pb**	**13 06 23.2**	**+0.3**
DRAG	**Dragano-Lefkad**	**1.42**	**357**	P	**Pb**	**13 06 23.1**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.45**	**1**	P	**Pb**	**13 06 23.6**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.45**	**1**	P	**Pb**	**13 06 23.6**	**+0.3**
GUR	**Goura**	**1.50**	**63**	P	**Pb**	**13 06 25.0**	**+0.8**
GUR	**Goura**	**1.50**	**63**	P	**Pb**	**13 06 24.7**	**+0.5**
GUR				AML	AML	13 06 59.8	
GUR				AML	AML	13 07 01.8	
	comp=E,83273μm,0.7s						
LKD2	**Lefkada island**	**1.52**	**360**	P	**Pb**	**13 06 24.4**	**-0.2**
LKD2				AMP			
	comp=N,156nm,0.7s,baz=354						
LKD2	**Lefkada island**	**1.52**	**360**	P	**Pb**	**13 06 24.9**	**+0.2**
LKD2				AML	AML	13 07 03.0	
LKD2				AML	AML	13 07 03.8	
	comp=E,95800μm,0.9s						
EFP	**Efpalio**	**1.52**	**40**	P	**Pb**	**13 06 25.5**	**+0.8**
EFP	**Efpalio**	**1.52**	**40**	P	**Pb**	**13 06 25.4**	**+0.8**
EFP				S	**Sg**	**13 06 47.5**	**+1.1**
EFP				AML	AML	13 07 03.6	
	comp=N,76199μm,1.1s						
EFP				AML	AML	13 07 05.8	
	comp=E,67715μm,1.4s						
TSLK	**Tsoukalades, L**	**1.56**	**360**	P	**Pb**	**13 06 24.9**	**-0.4**
TSLK				AML	AML	13 07 02.0	
	comp=E,86829μm,1.8s						
TSLK				AML	AML	13 07 03.4	
	comp=N,82495μm,0.7s						
KALE	**Kalithea**	**1.62**	**46**	P	**Pg**	**13 06 27.6**	**-0.8**
KALE				AML	AML	13 06 59.9	
	comp=N,62093μm,1.0s						
KALE				AML	AML	13 07 04.3	
	comp=E,90566μm,0.8s						
ANX	**Ano Chora**	**1.66**	**37**	P	**Pg**	**13 06 28.3**	**-0.8**
ANX				AML	AML	13 07 05.3	
	comp=E,64815μm,0.9s						
ANX				AML	AML	13 07 08.2	
EVR	**Evrytania**	**1.88**	**28**	P	**Pb**	**13 06 31.3**	**+0.5**
DLFA	**Delphi**	**1.89**	**50**	P	**Pb**	**13 06 31.0**	**0.0**
DLFA				AML	AML	13 07 14.8	
	comp=E,33741μm,1.7s						
DLFA				AML	AML	13 07 16.9	
	comp=N,27138μm,0.8s						
VLI	**Velíai**	**1.90**	**106**	P	**Pn**	**13 06 29.6**	**+1.2**
VLI				AML	AML	13 07 17.3	
	comp=N,40829μm,0.7s						
VLI				AML	AML	13 07 18.1	
	comp=E,51654μm,1.3s						
MAKR	**Makrakomi, Fth**	**2.10**	**33**	P	**Pb**	**13 06 34.5**	**+0.1**
MAKR				AML	AML	13 07 17.1	
	comp=N,77200μm,1.2s						
MAKR				AML	AML	13 07 18.3	
AXAR	**Agios Charalam**	**2.18**	**46**	P	**Pb**	**13 06 35.8**	**0.0**
AXAR				AML	AML	13 07 21.9	
	comp=N,96824μm,1.2s						
AXAR				AML	AML	13 07 23.6	
AGG	**Agios Georgios**	**2.19**	**36**	P	**Pb**	**13 06 35.6**	**-0.6**
AGG				S	**Sg**	**13 07 16.3**	**+8.6**
AGG	**Agios Georgios**	**2.19**	**36**	*e*P	**Pn**	**13 06 32.7**	**+0.3**
AGG	**Agios Georgios**	**2.19**	**36**		**Pb**	**13 06 35.2**	**-0.9**
AGG	**Agios Georgios**	**2.19**	**36**	⇓P	**Pb**	**13 06 35.5**	**-0.6**
AGG	**Agios Georgios**	**2.19**	**36**	P	**Pb**	**13 06 35.2**	**-0.9**
IGT	**Igoumenitsa**	**2.28**	**354**	P	**Pb**	**13 06 36.5**	**-1.0**
IGT				AMP			
	comp=N,41nm,1.1s,baz=350						
IGT	**Igoumenitsa**	**2.28**	**354**	*e*Pn	**Pb**	**13 06 35.9**	**-1.6**
IGT	**Igoumenitsa**	**2.28**	**354**	P	**Pb**	**13 06 36.6**	**-0.9**
THL	**Klokotos Trika**	**2.53**	**24**	P	**Pb**	**13 06 40.2**	**-1.6**
KEK	**Kerkira**	**2.54**	**345**	*e*P	**Pn**	**13 06 37.1**	**0.0**
KEK	**Kerkira**	**2.54**	**345**		**Pn**	**13 06 38.0**	**+0.9**
KEK	**Kerkira**	**2.54**	**345**	⇑P	**Pn**	**13 06 37.6**	**+0.5**
SRN	**Sarande**	**2.66**	**349**	P	**Pb**	**13 06 42.3**	**-1.7**
LSK	**Leskovik**	**2.88**	**359**	P	**Pb**	**13 06 45.4**	**-2.4**
LSK				AMP			
	comp=N,90nm,1.1s,baz=356						
LIT	**Litokhoron**	**3.17**	**26**	P	**Pn**	**13 06 47.8**	**+1.9**
LIT				S	**Sn**	**13 07 25.8**	**+2.6**
LIT	**Litokhoron**	**3.17**	**26**		**Pn**	**13 06 47.6**	**+1.7**
LIT	**Litokhoron**	**3.17**	**26**	P	**Pn**	**13 06 47.6**	**+1.7**
IMMV	**Iera Moni Meta**	**3.23**	**123**	*e*P	**Pn**	**13 06 48.5**	**+1.8**
VLO	**Vlora**	**3.32**	**345**	P	**Pn**	**13 06 51.2**	**+3.3**
VLO				AMP			
	comp=N,48nm,0.9s,baz=342						
KBN	**Korca**	**3.35**	**2**	AMP			
	comp=N,39nm,1.3s,baz=359						
PAIG	**Paliouri**	**3.56**	**41**	*e*P	**Pn**	**13 06 52.4**	**+1.2**
TIP	**Timpagrande**	**3.62**	**303**	Pn	**Pn**	**13 06 51.5**	**-0.6**
TIP	**Timpagrande**	**3.62**	**303**	⇑P	**Pn**	**13 06 52.0**	**-0.1**
TIP				⇓S	**Sn**	**13 07 32.2**	**-2.0**
TIP	**Timpagrande**	**3.62**	**303**	⇓P	**Pn**	**13 06 51.5**	**-0.6**
TIP	**Timpagrande**	**3.62**	**303**	P	**Pn**	**13 06 53.5**	**+1.5**
GVD	**Gavdhos**	**3.69**	**130**	*e*P	**Pn**	**13 06 54.6**	**+1.7**
THE	**Thessaloniki**	**3.81**	**27**	P	**Pn**	**13 06 57.3**	**+2.7**
HORT	**Hortiatis**	**3.83**	**29**	*e*P	**Pn**	**13 06 56.5**	**+1.5**
OHR	**Ohrid**	**3.84**	**2**	*e*Pn	**Pn**	**13 06 57.8**	**+2.6**
OHR	**Ohrid**	**3.84**	**2**	*i* Pn	**Pn**	**13 06 57.7**	**+2.6**
APE	**Apeiranthos**	**3.90**	**91**	P	**Pn**	**13 06 56.4**	**+0.5**
APE				S	**Sg**	**13 08 06.0**	**+3.8**
APE	**Apeiranthos**	**3.90**	**91**	*e*P	**Pn**	**13 06 56.9**	**+1.0**
APE	**Apeiranthos**	**3.90**	**91**	⇑P	**Pn**	**13 06 55.0**	**-0.9**
APE	**Apeiranthos**	**3.90**	**91**	P	Pn	13 06 50.7	-5.2
APE				S	**Sn**	**13 07 37.0**	**-4.0**
CEL	**Celeste**	**3.90**	**286**		**Pn**	**13 06 55.5**	**-0.5**
CEL	**Celeste**	**3.90**	**286**	⇓P	**Pn**	**13 06 55.5**	**-0.5**
CEL	**Celeste**	**3.90**	**286**	P	**Pn**	**13 06 56.7**	**+0.7**
IDI	**Anoyia**	**3.95**	**119**	*e*P	**Pn**	**13 06 58.4**	**+1.8**
IDI	**Anoyia**	**3.95**	**119**	Pn	**Pn**	**13 06 57.9**	**+1.3**
IDI	**Anoyia**	**3.95**	**119**	P	**Pn**	**13 06 58.4**	**+1.8**
IDI	**Anoyia**	**3.95**	**119**	Pn	**Pn**	**13 06 55.7**	**-0.9**
	comp=N,17nm,0.3s,baz=282,slow=16,SNR=31						
IDI				Sn	**Sn**	**13 07 41.4**	**-1.0**
	comp=N,71nm,0.3s,baz=299,slow=18,SNR=3.1						
IDI				LR	LR	13 08 34.1	
	comp=N,5μm,19.9s,baz=311,slow=40						
OUR	**Ouranopolis**	**4.02**	**39**	*e*P	**Pn**	**13 06 58.4**	**+1.0**
TIR	**Tirane**	**4.12**	**352**	AMP			
	comp=E,8.4nm,1.3s,baz=350						
TIR	**Tirane**	**4.12**	**352**		**Pn**	**13 06 59.4**	**+0.5**
TIR	**Tirane**	**4.12**	**352**	⇑P	**Pn**	**13 06 59.3**	**+0.3**
TIR	**Tirane**	**4.12**	**352**	⇑P	**Pn**	**13 07 00.1**	**+1.2**
TIR	**Tirane**	**4.12**	**352**	P	**Pn**	**13 06 59.2**	**+0.3**
TIR	**Tirane**	**4.12**	**352**	P	**Pn**	**13 07 01.1**	**+2.2**
VAY	**Valandovo**	**4.31**	**20**	*i* Pn	**Pn**	**13 07 03.2**	**+1.7**
SRS	**Serrai**	**4.47**	**30**	*e*Pn	**Pn**	**13 07 05.2**	**+1.5**
SRS				*e*Sn	**Sn**	**13 07 59.2**	**+4.0**
SIGR	**SIGRI**	**4.53**	**63**	*e*P	**Pn**	**13 07 05.9**	**+1.4**
MATE	**Matera**	**4.57**	**319**	*e*P	**Pn**	**13 07 06.3**	**+1.2**
MATE	**Matera**	**4.57**	**319**	⇑P	**Pn**	**13 07 05.0**	**-0.1**
MATE				⇑S	**Sn**	**13 07 56.0**	**-1.6**
MATE	**Matera**	**4.57**	**319**	⇑P	**Pn**	**13 07 05.0**	**-0.1**
ZEYE	**Izmir, Urla-Ze**	**4.73**	**76**	P	**Pn**	**13 07 08.4**	**+1.1**
KAYB	**zmir-Karabur**	**4.76**	**71**	P	**Pn**	**13 07 08.4**	**+0.8**
PUK	**Puka**	**4.81**	**353**		**Pn**	**13 07 08.5**	**+0.1**
ULC	**Ulcinj**	**4.82**	**347**	*e*Pn	**Pn**	**13 07 08.9**	**+0.4**
ULC				*i* Sn	**Sn**	**13 08 01.6**	**-2.1**
KOCA	**Canakkale, Ayv**	**4.85**	**61**	P	**Pg**	**13 07 25.9**	**-4.0**
MMB	**Musomishta**	**4.90**	**28**	P	**Pn**	**13 07 11.2**	**+1.6**
BOZC	**Bozcaada**	**4.95**	**57**	P	**Pn**	**13 07 11.2**	**+1.0**
KKB	**Krupnik**	**4.95**	**22**	P	**Pn**	**13 07 11.9**	**+1.6**
VAE	**Valguarnera**	**4.98**	**274**	Pn	**Pn**	**13 07 11.1**	**+0.4**
	comp=E,102nm,0.3s,baz=80,slow=4.6,SNR=43						
VAE				Sn	**Sn**	**13 08 05.3**	**-2.5**
	comp=E,129nm,0.3s,baz=184,slow=17,SNR=3.6						
VAE				LR	LR	13 08 56.6	
	comp=E,6μm,20.0s,baz=112,slow=36						
	comp=E,1μm,0.7s						
ZKR	**Zakros**	**4.98**	**114**	*e*P	**Pn**	**13 07 13.3**	**+2.6**
GOAD	**anakkale-G¶**	**5.02**	**53**	P	**Pn**	**13 07 12.6**	**+1.3**
GOAD				S	**Sn**	**13 08 16.0**	**+7.2**
RAFF	**Raffo Rosso**	**5.02**	**271**	Pn	**Pn**	**13 07 10.8**	**-0.5**
DRME	**Dracevica, Mon**	**5.04**	**347**	⇓*i*Pn	**Pn**	**13 07 12.1**	**+0.5**
DRME				*i* Sn	**Sn**	**13 08 07.0**	**-2.3**
EZN	**Ezine**	**5.12**	**58**	P	**Pn**	**13 07 12.3**	**-0.3**
EZN	**Ezine**	**5.12**	**58**	*e*P	**Pn**	**13 07 14.4**	**+1.7**
ECEA	**Canakkale, Ece**	**5.13**	**56**	P	**Pn**	**13 07 15.7**	**+2.9**
MRVN	**Minervino Murg**	**5.14**	**319**	⇑P	**Pn**	**13 07 12.8**	**-0.1**
WDD	**Wied Dalam**	**5.14**	**256**	Pn	**Pn**	**13 07 12.3**	**-0.6**
WDD	**Wied Dalam**	**5.14**	**256**	⇓P	**Pn**	**13 07 11.9**	**-1.0**
AYVA	**Ayvalik**	**5.17**	**65**	P	**Pn**	**13 07 14.9**	**+1.7**
BLCB	**Balcova**	**5.18**	**76**	*e*P	**Pn**	**13 07 15.6**	**+2.2**
BUM	**Brajici-Budva**	**5.21**	**345**	*e*Pn	**Pn**	**13 07 14.3**	**+0.4**
BUM				*i* Sn	**Sn**	**13 08 11.0**	**-2.4**
BAYC	**CANAKKALE_Bayr**	**5.24**	**60**	P	**Pn**	**13 07 15.8**	**+1.5**
DKL	**Dikili**	**5.24**	**68**	*e*P	**Pn**	**13 07 16.5**	**+2.2**
DKL	**Dikili**	**5.24**	**68**	⇓P	**Pn**	**13 07 15.8**	**+1.5**
PDG	**Podgorica**	**5.27**	**349**	Pn	**Pn**	**13 07 14.0**	**-0.7**
PDG	**Podgorica**	**5.27**	**349**	*e*Pn	**Pn**	**13 07 14.8**	**+0.1**
PDG	**Podgorica**	**5.27**	**349**	⇑P	**Pn**	**13 07 15.7**	**+1.0**
PDG				⇑S	**Sn**	**13 08 14.7**	**-0.1**
PDG	**Podgorica**	**5.27**	**349**	⇑P	**Pn**	**13 07 14.3**	**-0.3**
PDG	**Podgorica**	**5.27**	**349**	*e*Pn	**Pn**	**13 07 15.2**	**+0.5**
PDG				*i* Sn	**Sn**	**13 08 12.4**	**-2.4**
BODT	**Bodrum**	**5.32**	**90**	*e*P	**Pn**	**13 07 17.4**	**+2.0**
PVY	**Plav**	**5.35**	**354**	⇑*i*Pn	**Pn**	**13 07 16.4**	**+0.5**
PVY				*i* Sn	**Sn**	**13 08 14.6**	**-2.4**
BOSS	**Bosilegrad**	**5.41**	**14**	*e*Pn	**Pn**	**13 07 17.8**	**+1.2**
BOSS				*e*Sn	**Sn**	**13 08 17.2**	**-1.1**
RDO	**Rodhopi**	**5.42**	**43**	*e*P	**Pn**	**13 07 18.5**	**+1.8**
RDO	**Rodhopi**	**5.42**	**43**	Pn	**Pn**	**13 07 17.3**	**+0.6**
RDO	**Rodhopi**	**5.42**	**43**	⇑P	**Pn**	**13 07 17.3**	**+0.6**
HCY	**Herceg Novi**	**5.44**	**343**	*e*Pn	**Pn**	**13 07 16.1**	**-0.9**
HCY	**Herceg Novi**	**5.44**	**343**	⇑*i*Pn	**Pn**	**13 07 16.5**	**-0.5**
HCY				*i* Sn	**Sn**	**13 08 16.3**	**-2.6**
CEME	**Cevo**	**5.44**	**346**	*e*Pn	**Pn**	**13 07 16.9**	**-0.2**
CEME				*i* Sn	**Sn**	**13 08 16.4**	**-2.8**
CAVK	**Edirne/Enez-Ca**	**5.49**	**50**	P	**Pn**	**13 07 18.9**	**+1.3**
CAVK	**Edirne/Enez-Ca**	**5.49**	**50**	⇑P	**Pn**	**13 07 19.7**	**+2.1**
ENEZ	**Enez**	**5.51**	**49**	*e*P	**Pn**	**13 07 19.9**	**+2.0**
GELI	**Tayfur-Gelibol**	**5.51**	**54**	*e*P	**Pn**	**13 07 19.9**	**+1.9**
KARP	**Karpathos**	**5.52**	**106**	*e*P	**Pn**	**13 07 20.6**	**+2.5**
KARP	**Karpathos**	**5.52**	**106**	Pn	**Pn**	**13 07 19.0**	**+0.9**
KARP	**Karpathos**	**5.52**	**106**	P	**Pn**	**13 07 19.0**	**+0.9**
KARP	**Karpathos**	**5.52**	**106**	⇓P	**Pn**	**13 07 19.4**	**+1.3**
ALN	**Alexandroupoli**	**5.54**	**47**	P	**Pn**	**13 07 18.8**	**+0.4**
ALN	**Alexandroupoli**	**5.54**	**47**	*e*P	**Pn**	**13 07 20.3**	**+1.9**
ALN	**Alexandroupoli**	**5.54**	**47**		**Pn**	**13 07 18.6**	**+0.2**
ALN	**Alexandroupoli**	**5.54**	**47**	⇑P	**Pn**	**13 07 19.6**	**+1.2**
ALN	**Alexandroupoli**	**5.54**	**47**	P	**Pn**	**13 07 18.6**	**+0.2**
DAT	**Datca**	**5.56**	**93**	*e*P	**Pn**	**13 07 21.5**	**+2.7**
BARS	**Barje**	**5.61**	**9**	*e*Pn	**Pn**	**13 07 20.0**	**+0.6**
BARS				*e*Sn	**Sn**	**13 08 22.1**	**-1.2**
IVA	**Berane**	**5.63**	**354**	*e*Pn	**Pn**	**13 07 20.0**	**+0.3**
IVA				*i* Sn	**Sn**	**13 08 21.2**	**-2.6**
KOME	**Kolasin**	**5.65**	**351**	*e*Pn	**Pn**	**13 07 20.5**	**+0.6**
KOME				*i* Sn	**Sn**	**13 08 21.4**	**-2.9**
NKME	**Niksic**	**5.65**	**347**	*e*Pn	**Pn**	**13 07 20.1**	**+0.2**
NKME				*i* Sn	**Sn**	**13 08 21.4**	**-2.8**
KDZ	**Kurdzhali**	**5.67**	**38**	*e*P	**Pn**	**13 07 22.0**	**+1.9**
KDZ	**Kurdzhali**	**5.67**	**38**	P	**Pn**	**13 07 21.0**	**+0.9**
ERIK	**Erikli-Kesan**	**5.69**	**52**	*e*P	**Pn**	**13 07 22.3**	**+1.9**
VTS	**Vitosha**	**5.70**	**20**	P	**Pn**	**13 07 21.6**	**+0.9**
VTS	**Vitosha**	**5.70**	**20**	*e*Pn	**Pn**	**13 07 21.9**	**+1.2**
VTS				*e*Sn	**Sn**	**13 07 24.4**	**+1.7**
CANM	**Can-anakkale**	**5.71**	**59**	*e*P	**Pn**	**13 07 22.9**	**+2.2**
TREB	**Trebinje**	**5.72**	**343**	*e*Pn	**Pn**	**13 07 19.6**	**-1.3**
AYDB	**Zeytinkoy-Aydi**	**5.78**	**81**	*e*P	**Pn**	**13 07 24.4**	**+2.5**
PLD	**Plovdiv**	**5.80**	**32**	*e*P	**Pn**	**13 07 24.0**	**+2.0**
PLD	**Plovdiv**	**5.80**	**32**	*e*Pn	**Pn**	**13 07 23.4**	**+1.4**
BRY	**Bratogost**	**5.86**	**345**	*e*Pn	**Pn**	**13 07 22.2**	**-0.7**
BRY	**Bratogost**	**5.86**	**345**	*e*Pn	**Pn**	**13 07 22.3**	**-0.7**
BRY				*i* Sn	**Sn**	**13 08 26.3**	**-3.3**
PGB	**Panagyurishte**	**5.90**	**26**	P	**Pn**	**13 07 24.6**	**+1.3**
CLTB	**Caltabellotta**	**5.93**	**275**	⇑P	**Pn**	**13 07 24.4**	**+0.6**
SELS	**Selova**	**5.96**	**3**	*e*Pn	**Pn**	**13 07 24.6**	**+0.4**
SELS				*e*Sn	**Sn**	**13 08 29.9**	**-1.9**
SJES	**Sjenica**	**6.01**	**355**	*e*Pn	**Pn**	**13 07 25.9**	**+0.9**
SJES	**Sjenica**	**6.01**	**355**	*e*Pn	**Pn**	**13 07 25.5**	**+0.5**
UKOP	**Uzunkopru-Edir**	**6.03**	**48**	*e*P	**Pn**	**13 07 27.3**	**+2.2**
STON	**Ston**	**6.04**	**339**	*e*Pn	**Pn**	**13 07 24.0**	**-1.2**
PAOL	**Paolisi**	**6.04**	**310**	Pn	**Pn**	**13 07 25.6**	**+0.2**
KRBG	**Karabiga-Canak**	**6.05**	**57**	*e*P	**Pn**	**13 07 27.3**	**+1.9**
UPM	**Unac-Piva**	**6.08**	**348**	*e*Pn	**Pn**	**13 07 25.4**	**-0.6**
UPM	**Unac-Piva**	**6.08**	**348**	*e*Pn	**Pn**	**13 07 26.3**	**+0.3**
UPM				*i* Sn	**Sn**	**13 08 31.8**	**-3.3**
ARG	**Arkhangelos**	**6.09**	**98**	*e*P	**Pn**	**13 07 28.2**	**+2.3**
ARG	**Arkhangelos**	**6.09**	**98**	⇓P	**Pn**	**13 07 27.0**	**+1.1**
ARG	**Arkhangelos**	**6.09**	**98**	⇓P	**Pn**	**13 07 28.0**	**+2.1**
ARG	**Arkhangelos**	**6.09**	**98**	P	**Pn**	**13 07 27.0**	**+1.1**
YER	**Yerkesik**	**6.09**	**89**	*e*P	**Pn**	**13 07 28.5**	**+2.5**
DIM	**Dimitrovgrad**	**6.10**	**37**	P	**Pn**	**13 07 27.3**	**+1.3**
NAZL	**Nazilli-Aydin**	**6.10**	**81**	*e*P	**Pn**	**13 07 28.5**	**+2.4**
RKY	**Sarkoy-Tekirda**	**6.12**	**54**	*e*P	**Pn**	**13 07 28.5**	**+2.1**
PLE	**Pljevlja**	**6.13**	**351**	⇑*i*Pn	**Pn**	**13 07 27.1**	**+0.4**
PLE				*i* Sn	**Sn**	**13 08 33.1**	**-3.2**
GORD	**Gordes-Manisa**	**6.15**	**72**	*e*P	**Pn**	**13 07 29.0**	**+2.1**
GONE	**Gonen-Balikesi**	**6.16**	**61**	*e*P	**Pn**	**13 07 29.0**	**+2.1**
ZAPS	**Zavoj**	**6.19**	**14**	*e*Pn	**Pn**	**13 07 28.8**	**+1.5**
IVAS	**Ivanjica**	**6.32**	**357**	*e*Pn	**Pn**	**13 07 28.9**	**-0.2**
IVAS				*e*Sn	**Sn**	**13 08 38.5**	**-2.2**
MRMT	**Marmara Adasi**	**6.35**	**56**	*e*P	**Pn**	**13 07 31.7**	**+2.1**
DALY	**Dalyan (Mula)**	**6.41**	**92**	*e*P	**Pn**	**13 07 33.1**	**+2.8**
BOVS	**Bovan**	**6.41**	**7**	*e*Pn	**Pn**	**13 07 29.7**	**-0.7**
BOVS				*e*Sn	**Sn**	**13 08 40.0**	**-3.0**
BOVS	**Bovan**	**6.41**	**7**	⇓P	**Pn**	**13 07 30.7**	**+0.4**
EDC	**Edincik**	**6.41**	**59**	*e*P	**Pn**	**13 07 32.8**	**+2.4**
RUDO	**Rudo**	**6.42**	**352**	*e*Pn	**Pn**	**13 07 30.3**	**-0.2**
KULA	**Kula-Manisa**	**6.45**	**76**	*e*P	**Pn**	**13 07 33.1**	**+2.1**
MPEP	**Malo Peshtene**	**6.52**	**20**	P	**Pn**	**13 07 32.8**	**+0.9**
BLKB	**Belogradchik**	**6.53**	**13**	*e*Pn	**Pn**	**13 07 33.0**	**+0.9**
BLKB				*e*Sn	**Sn**	**13 08 43.3**	**-2.7**
EDRB	**Edirne**	**6.56**	**44**	*e*P	**Pn**	**13 07 34.9**	**+2.5**
BAND	**Balkesir-Ban**	**6.58**	**60**	⇑P	**Pn**	**13 07 36.1**	**+3.4**
ZAGS	**Zajecar**	**6.65**	**10**	*e*Pn	**Pn**	**13 07 33.4**	**-0.2**
BBLS	**Lazi&#263i**	**6.66**	**352**	*e*Pn	**Pn**	**13 07 33.9**	**0.0**
BBLS				*e*Sn	**Sn**	**13 08 45.9**	**-3.3**
BBLS	**Lazi&#263i**	**6.66**	**352**	*e*Pn	**Pn**	**13 07 33.5**	**-0.4**
KCTX	**Karacabey (Bur**	**6.72**	**61**	*e*P	**Pn**	**13 07 36.9**	**+2.3**
FETY	**Fethiye**	**6.78**	**93**	*e*P	**Pn**	**13 07 38.1**	**+2.7**
SIMA	**Simav-Kutahya**	**6.80**	**72**	*e*P	**Pn**	**13 07 38.1**	**+2.3**
DIVS	**Divibare**	**6.84**	**356**	*e*Pn	**Pn**	**13 07 36.3**	**-0.1**
DIVS

VRI Vrincioaia 9.72 26 P **Pn 13 08 18.7 +3.0**
comp=E,287nm,1.2s,comp=E,3μm
ODBI Odobesti 9.75 27 ⇑P **Pn 13 08 18.3 +2.2**
ODBI Odobesti 9.75 27 P **Pn 13 08 19.1 +3.0**
comp=E,70nm,0.8s,comp=E,2μm
ANTO Ankara 9.85 71 P **Pn 13 08 20.8 +3.2**
comp=E,27nm,1.6s,comp=E,621nm
TLCR 10.01 35 ⇓P **Pn 13 08 21.2 +1.4**
TLCR 10.01 35 P **Pn 13 08 21.1 +1.4**
ARCR ARCALIA 10.19 14 ⇑P **Pn 13 08 24.4 +2.2**
TESR Tescani 10.26 24 ⇑P **Pn 13 08 25.0 +1.9**
SOKA Soboth 10.29 338 *i* Pn **Pn 13 08 22.7 -0.9**
comp=E,46nm,0.6s,SNR=25
SOKA *e*Sn **Sn 13 10 13.0 -5.4**
comp=E,33nm,0.6s
OBKA Obir 10.29 336 *i* Pn **Pn 13 08 23.4 -0.3**
comp=E,8.4nm,0.2s,SNR=12
OBKA *i* Sn **Sn 13 10 13.0 -5.5**
comp=E,233nm,0.7s
OBKA Obir 10.29 336 *e*Pn **Pn 13 08 23.1 -0.6**
OBKA Obir 10.29 336 *e*Pn **Pn 13 08 24.3 +0.6**
OBKA *e*Sn **Sn 13 10 13.1 -5.4**
PGF Pioggiola 10.39 304 ⇑P **Pn 13 08 26.8 +1.7**
VLC Villacollemand 10.40 315 P **Pn 13 08 26.9 +1.9**
BR105 Keskin Array S 10.45 72 P **Pn 13 08 29.0 +3.1**
comp=E,40nm,0.8s,comp=E,370nm
BR106 Keskin Array S 10.45 72 P **Pn 13 08 29.2 +3.3**
comp=E,36nm,0.9s,comp=E,309nm
BR104 Keskin Array S 10.47 73 P **Pn 13 08 29.4 +3.3**
comp=E,42nm,0.8s,comp=E,381nm
BR131 Keskin Array S 10.47 72 Pn **Pn 13 08 27.2 +1.1**
BR131 Keskin Array S 10.47 72 P **Pn 13 08 30.0 +3.9**
SNR=14
BR131 Keskin Array S 10.47 72*d i*P **Pn 13 08 29.8 +3.6**
BRTR Keskin Array B 10.47 72 Pn **Pn 13 08 26.9 +0.8**
BRTR Keskin Array B 10.47 72 Pn **Pn 13 08 29.0 +2.9**
comp=E,0.9nm,0.3s,baz=257,slow=13,SNR=38
BRTR LR LR 13 12 42.2
comp=E,4μm,19.4s,baz=258,slow=39
comp=E,13nm,0.8s
BRTR Keskin Array B 10.47 72 *i* P **Pn 13 08 29.7 +3.6**
BRTR pmax pmax
comp=Z,14nm,0.7s
CSS Mathiatis 10.51 99 **Pn 13 08 25.4 -1.1**
CSS Mathiatis 10.51 99 P **Pn 13 08 27.0 +0.4**
CSS Mathiatis 10.51 99 ⇑P **Pn 13 08 29.8 +3.2**
CSS Mathiatis 10.51 99 P Pn 13 08 21.0 -5.6
CSS Mathiatis 10.51 99 S **Sn 13 10 18.8 -4.9**
CSS Mathiatis 10.51 99 P **Pn 13 08 29.6 +3.0**
comp=Z,71nm,0.9s,comp=Z,936nm
CIDE Kastamonu/Cide 10.54 60 ⇑P **Pn 13 08 29.1 +2.1**
KIRS Kirsehir-Merke 10.60 76 ⇓P **Pn 13 08 30.5 +2.5**
BMR Baia Mare 10.61 10 ⇑P **Pn 13 08 29.7 +1.8**
BMR Baia Mare 10.61 10 P **Pn 13 08 29.6 +1.8**
PSZ Piszkesteto 10.66 357 Pn **Pn 13 08 27.3 -1.3**
PSZ Piszkesteto 10.66 357 *e*P **Pn 13 08 30.1 +1.5**
PSZ Piszkesteto 10.66 357 ⇑P **Pn 13 08 29.5 +0.8**
PSZ Piszkesteto 10.66 357 ⇑P **Pn 13 08 28.4 -0.3**
PSZ Piszkesteto 10.66 357 P **Pn 13 08 29.4 +0.8**
ARSA Arzberg 10.68 341 *i* Pn **Pn 13 08 28.8 0.0**
comp=Z,15nm,0.6s,SNR=4.8
ARSA *i* Sn **Sn 13 10 20.5 -7.2**
comp=Z,15nm,0.6s
ARSA Arzberg 10.68 341 *e*Pn **Pn 13 08 28.8 0.0**
MYKA Terra Mystica 10.71 333 *i* Pn **Pn 13 08 29.6 +0.2**
comp=Z,13nm,0.6s
MYKA *i* Sn **Sn 13 10 23.1 -5.6**
comp=Z,46nm,0.9s
BURAR Bucovina Array 10.87 17 **Pn 13 08 31.7 +0.1**
BURAR Bucovina Array 10.87 17 ⇓P **Pn 13 08 34.0 +2.4**
BURAR Bucovina Array 10.87 17 P **Pn 13 08 34.0 +2.4**
RONA Rosalia, Austr 10.91 344 *i* Pn **Pn 13 08 31.1 -0.9**
comp=Z,6.5nm,0.5s
RONA *i* Sn **Sn 13 10 28.5 -5.0**
comp=Z,25nm,1.1s
KBA Koelnbreinsper 11.20 333 *i* Pn **Pn 13 08 36.4 +0.3**
comp=Z,32nm,0.7s,SNR=16
KBA *e*Sn **Sn 13 10 33.7 -7.2**
comp=Z,50nm,0.7s
KBA Koelnbreinsper 11.20 333 ⇑P **Pn 13 08 36.8 +0.7**
KBA Koelnbreinsper 11.20 333 *e*Pn **Pn 13 08 37.3 +1.1**
KBA *e*Sn **Sn 13 10 33.2 -7.7**
KECS Kecovo 11.21 359 *e*P **Pn 13 08 36.7 +0.6**
KECS *e* 13 10 37.1
KECS Kecovo 11.21 359 *e*PN **Pn 13 08 36.7 +0.6**
KECS Kecovo 11.21 359 *e*SN **Sn 13 10 37.1 -3.7**
CONA Conrad Observa 11.22 343 *i* Pn **Pn 13 08 36.2 -0.2**
comp=Z,2.5nm,0.3s
ABTA Abfaltersbach 11.24 330 *e*Pn **Pn 13 08 36.2 -0.4**
comp=Z,17nm,0.6s,SNR=5.8
ABTA *i* Sn **Sn 13 10 36.6 -5.1**
comp=Z,140nm,0.8s
NSLU Nyzhne Selyshc 11.28 13 P **Pn 13 08 36.0 -1.0**
VYHS Vyhne 11.30 354 *e*P **Pn 13 08 37.1 -0.3**
VYHS *e* 13 10 39.2
VYHS Vyhne 11.30 354 *e*PN **Pn 13 08 37.1 -0.3**
VYHS Vyhne 11.30 354 *e*SN **Sn 13 10 39.2 -3.8**
MODS Modra-Piesok 11.37 348 *e*P **Pn 13 08 38.4 0.0**
MODS Modra-Piesok 11.37 348 *e*PN **Pn 13 08 38.4 0.0**
MILM Milestii Mici 11.38 30 ⇑P **Pn 13 08 39.8 +1.4**
MILM Milestii Mici 11.38 30 P **Pn 13 08 39.8 +1.4**
MEZ Mezhgor'ye 11.43 10 P **Pn 13 08 40.8 +1.6**
KSV Kosov 11.51 15 P **Pn 13 08 42.4 +2.2**
MOA Molln 11.57 338 *i* Pn **Pn 13 08 41.1 -0.1**
comp=Z,20nm,0.4s,SNR=29
MOA *i* Sn **Sn 13 10 43.8 -6.0**
comp=Z,30nm,0.6s
MOA Molln 11.57 338 *e*Pn **Pn 13 08 40.9 -0.2**
BIOA Bad Ischl, Aus 11.63 336 *i* Pn **Pn 13 08 43.1 +1.2**
comp=Z,16nm,0.4s,SNR=13
BIOA *i* Sn **Sn 13 10 46.2 -5.0**
comp=Z,57nm,0.5s
KOLS Kolonicke sedl 11.72 5 *e*P **Pn 13 08 44.1 +1.0**
KOLS Kolonicke sedl 11.72 5 *e*PN **Pn 13 08 44.1 +1.0**
LESA Schwarzleotal 11.74 332 *i* Pn **Pn 13 08 44.8 +1.4**
comp=Z,28nm,0.7s
LESA *i* Sn **Sn 13 10 47.7 -6.1**
comp=Z,60nm,0.6s
STNU Starunia 11.78 13 P **Pn 13 08 46.7 +2.8**
JAVC Velka Javorina 11.79 350 *e*PN **Pn 13 08 43.8 -0.3**
LANS Liptovska Anna 11.91 356 *e*P **Pn 13 08 48.9 +3.2**
LANS Liptovska Anna 11.91 356 *e*PN **Pn 13 08 48.9 +3.2**
RJOB Jochberg 11.96 334 *e*Pn **Pn 13 08 47.8 +1.4**
WTTA Wattenberg 12.01 329 *i* Pn **Pn 13 08 48.3 +1.1**
comp=Z,7.7nm,0.4s
WTTA *i* Sn **Sn 13 10 55.8 -4.8**
comp=Z,195nm,0.8s
WTTA Wattenberg 12.01 329 *e*Pn **Pn 13 08 48.1 +0.9**
KMPD K-Podol'skiy 12.06 19 P **Pn 13 08 50.7 +3.0**
comp=Z,12μm,1.2s
BNN Bunyan 12.08 78 ⇑P **Pn 13 08 51.6 +3.4**
WATA Walderalm 12.09 329 *i* Pn **Pn 13 08 49.2 +0.8**
comp=Z,41nm,0.7s,SNR=11
WATA *e*Sn **Sn 13 10 58.0 -4.6**
comp=Z,112nm,0.9s
FUORN Ofenpass-Fuorn 12.12 324 Pn **Pn 13 08 49.5 +0.6**
NIE Niedzica 12.15 359 *e*P **Pn 13 08 50.9 +1.8**
NIE Niedzica 12.15 359 P **Pn 13 08 50.8 +1.8**
comp=Z,26nm,1.2s
STHS Stebnicka Huta 12.15 2 *e*P **Pn 13 08 49.7 +0.7**
STHS Stebnicka Huta 12.15 2 *e*PN **Pn 13 08 49.7 +0.7**
SQTA Sankt Quirin 12.15 328 *e*Pn **Pn 13 08 50.3 +1.1**
comp=Z,6.2nm,0.3s,SNR=5.6
SQTA *i* Sn **Sn 13 11 01.4 -2.7**
comp=Z,80nm,0.6s
KRUC Moravsky 12.19 347 *e*PN **Pn 13 08 48.9 -0.6**
FETA Feichten 12.21 326 *i* Pn **Pn 13 08 50.9 +1.0**
comp=Z,6.3nm,0.5s
FETA *e*Sn **Sn 13 10 59.1 -6.4**
comp=Z,42nm,0.8s
SORM Soroca 12.24 25 ⇓P **Pn 13 08 51.6 +1.4**
SORM Soroca 12.24 25 P **Pn 13 08 51.6 +1.4**
SORM Soroca 12.24 25 P **Pn 13 08 52.9 +2.7**
comp=Z,21nm,1.0s,comp=Z,8μm
MAUC Maruska 12.27 351 *e*PN **Pn 13 08 50.6 0.0**
SET Setif 12.29 270 P **Pn 13 08 55.0 +4.0**
MOTA Moosalm 12.30 328 *e*Pn **Pn 13 08 52.4 +1.3**
comp=Z,10nm,0.5s
MOTA *e*Sn **Sn 13 11 05.2 -2.4**
comp=Z,66nm,0.8s
NDNU Novodnistrovsk 12.34 21 P **Pn 13 08 53.8 +2.3**
DAVOX Davos/Dischmat 12.42 323 Pn **Pn 13 08 55.0 +2.1**
comp=Z,1.7nm,0.3s,baz=144,slow=16,SNR=20
DAVOX Sn Sn 13 10 59.9 -11
comp=Z,1.1nm,0.3s,baz=116,slow=21,SNR=1.2
DAVOX Lg Lg 13 12 36.1
baz=275,slow=20
DAVOX LR LR 13 14 30.7
comp=Z,2μm,21.4s,baz=118,slow=42
CKRC Cesky Krumlov 12.44 340 *e*Pn **Pn 13 08 52.1 -0.8**
CKRC AMS AMS 13 14 20.0
comp=Z,7μm,9.8s
CKRC Cesky Krumlov 12.44 340 *e*P **Pn 13 08 52.1 -0.8**
CKRC MLR MLR
comp=Z,7μm,9.8s
KWP Kalwaria Pacla 12.45 6 *e*P **Pn 13 08 55.0 +2.0**
KWP Kalwaria Pacla 12.45 6 P **Pn 13 08 54.9 +1.8**
comp=Z,68nm,1.2s
TUE Stuetta 12.46 321 Pn **Pn 13 08 53.7 +0.2**
TUE Stuetta 12.46 321 P **Pn 13 08 54.4 +0.9**
comp=Z,231nm,1.2s
RETA Reutte 12.55 328 *i* Sn **Sn 13 11 12.2 -1.5**
comp=Z,22nm,0.4s
HNTI Hanita 12.59 105 P Pn 13 08 49.6 -5.4
HNTI Hanita 12.59 105 S **Sn 13 11 09.7 -4.9**
TREC Trest 12.60 344 AMS AMS 13 15 30.0
comp=Z,5μm,12.6s
OFRI `Ofer 12.63 107 P **Pn 13 08 56.8 +1.1**
OFRI `Ofer 12.63 107 S **Sn 13 11 11.7 -4.1**
OFRI `Ofer 12.63 107 P Pn 13 08 50.6 -5.0
GEC2 GERESS Array S 12.63 339 *e*Pn **Pn 13 08 55.6 0.0**
GERES GERESS Array B 12.63 339 Pn **Pn 13 08 54.9 -0.8**
comp=Z,1.2nm,0.3s,baz=162,slow=16,SNR=12
GERES Sn Sn 13 11 03.7 -12
comp=Z,0.5nm,0.3s,baz=144,slow=27,SNR=1.2
GERES LR LR 13 15 13.5
comp=Z,2μm,18.9s,baz=138,slow=45
comp=Z,4.5nm,0.4s
OKC Ostrava-Krasne 12.70 353 AMS AMS 13 15 00.0
comp=Z,6μm,11.4s
MORC Moravsky Berou 12.71 351 *e*PN **Pn 13 08 55.5 -1.1**
MORC Moravsky Berou 12.71 351 ⇑P **Pn 13 08 56.8 +0.2**
SIM Simferopol' 12.71 49 *e*P **Pn 13 08 57.9 +1.2**
SIM S **Sn 13 11 23.0 +5.4**
SIM pmax pmax
comp=Z,22nm,0.9s
SIM pmax pmax
comp=Z,70nm,5.2s
SIM MLR MLR
comp=Z,3μm,15.0s
MMA0B Mount Meron ar 12.79 105 P Pn 13 08 52.8 -5.1
MMA0B Mount Meron ar 12.79 105 S **Sn 13 11 14.7 -5.0**
MMAI Mount Meron Ar 12.79 105 Pn **Pn 13 08 54.1 -3.8**
comp=Z,6.3nm,0.3s,baz=302,slow=12,SNR=14
MMAI Sn Sn 13 11 07.9 -12
comp=Z,6.4nm,0.3s,baz=313,slow=18,SNR=2.4
DAVA Damuels 12.79 325 *e*Pn **Pn 13 08 58.1 +0.2**
comp=Z,31nm,0.7s,SNR=14
DAVA *e*Sn **Sn 13 11 11.6 -8.1**
comp=Z,119nm,0.6s
DAVA Damuels 12.79 325 ⇑P **Pn 13 09 00.7 +2.8**
DAVA Damuels 12.79 325 *e*Pn **Pn 13 08 59.6 +1.7**
QRWL Qaraoun 12.80 102 *e*P **Pn 13 08 56.6 -1.4**
SLTI Sal'it 12.84 109 P **Pn 13 08 58.7 +0.2**
SLTI Sal'it 12.84 109 S **Sn 13 11 15.3 -5.6**
SLTI Sal'it 12.84 109 P Pn 13 08 53.5 -5.0
PLONS Plons/SG 12.85 323 *e*Pn **Pn 13 09 00.9 +2.2**
PLONS *e*Sn **Sn 13 11 16.7 -4.4**
BEIL Beino 12.88 98 *e*P **Pn 13 08 55.5 -3.5**
GEM Giv'at Ha'Em 12.91 104 P **Pn 13 08 58.6 -0.9**
GEM Giv'at Ha'Em 12.91 104 ⇓P **Pn 13 08 58.1 -1.4**
GEM Giv'at Ha'Em 12.91 104 S **Sn 13 11 17.5 -5.1**
GEM Giv'at Ha'Em 12.91 104 P Pn 13 08 53.8 -5.7
SHBL Chebaa 12.93 103 *e*P **Pn 13 08 58.2 -1.6**
KHC Kasperske Hory 12.93 339 *e*PN **Pn 13 09 00.3 +0.7**
KHC *e*SN **Sn 13 11 15.4 -7.4**
KHC AMS AMS 13 14 30.0
comp=Z,5μm,11.1s
KHC Kasperske Hory 12.93 339 ⇑P **Pn 13 08 59.6 0.0**
KHC Kasperske Hory 12.93 339*d i*P **Pn 13 08 58.2 -1.4**
KHC pmax pmax
comp=Z,49nm,1.3s
RCY Rachaya 12.94 102 *e*P **Pn 13 08 57.1 -3.0**
NATI Neve Ativ 12.95 103 P **Pn 13 08 59.2 -0.8**
NATI Neve Ativ 12.95 103 S **Sn 13 11 19.2 -4.3**
NATI Neve Ativ 12.95 103 P Pn 13 08 54.7 -5.2
OJC Ojcow 12.96 358 *e*P **Pn 13 08 59.5 -0.6**
KZIT Kziot 13.03 115 P **Pn 13 08 57.3 -3.8**
KZIT Kziot 13.03 115 P Pn 13 08 54.9 -6.2
KZIT Kziot 13.03 115 S **Sn 13 11 20.3 -5.2**
SALP Salfit 13.03 109 P **Pn 13 08 59.1 -2.1**
SALP Salfit 13.03 109 ⇑P **Pn 13 08 59.0 -2.1**
SALP Salfit 13.03 109 P Pn 13 08 56.1 -5.1
SALP Salfit 13.03 109 S **Sn 13 11 20.6 -5.0**
ZVC Zvikov 13.04 341 *e*PN **Pn 13 09 00.9 -0.2**
ZVC AMS AMS 13 16 40.0
comp=Z,6μm,8.6s
MMLI Mount Malkishu 13.04 107 S **Sn 13 11 21.1 -4.7**
MMLI Mount Malkishu 13.04 107 P Pn 13 08 56.1 -5.1
BNI Bardonecchia 13.08 311 Pn **Pn 13 09 02.3 +0.5**
BNI Bardonecchia 13.08 311 ⇓P **Pn 13 09 05.4 +3.6**
BNI Bardonecchia 13.08 311 P **Pn 13 09 02.3 +0.5**
AMAZ Amatzia 13.08 112 P **Pn 13 09 00.8 -1.0**
FKH Fakeheh 13.14 99 *e*P **Pn 13 08 59.8 -3.0**
WET Wettzell 13.15 337 *e*Pn **Pn 13 09 01.7 -0.9**
SHMJ Saham 13.18 106 P **Pn 13 09 03.8 +0.6**
GAZ Gaziantep 13.20 85 Pn **Pn 13 09 04.3 +0.9**
HMDT Nahal Hemdat 13.20 108 P **Pn 13 09 00.4 -3.0**
QRNJ Al-Qirein 13.21 107 P **Pn 13 09 01.3 -2.1**
UJAP Al Uja 13.29 109 P **Pn 13 09 02.5 -2.1**
YTIR Yattir 13.32 112 P **Pn 13 09 03.6 -1.5**
YTIR Yattir 13.32 112 P Pn 13 08 59.3 -5.8
YTIR Yattir 13.32 112 S **Sn 13 11 28.3 -4.2**
GOPC GO Pecny, Ondr 13.33 343 *e*PN **Pn 13 09 05.2 +0.1**
GOPC AMS AMS 13 16 00.0
comp=Z,4μm,13.1s
GOPC GO Pecny, Ondr 13.33 343 *e*P **Pn 13 09 05.2 +0.1**
GOPC MLR MLR
comp=Z,4μm,13.1s
DSI Dead Sea 13.41 111 P **Pn 13 09 04.1 -2.2**
DSI Dead Sea 13.41 111 P Pn 13 09 00.7 -5.6
DSI Dead Sea 13.41 111 S **Sn 13 11 29.7 -5.0**
DPC Dobruska-Polom 13.45 348 *e*PN **Pn 13 09 07.4 +0.7**
DPC AMS AMS 13 15 30.0
comp=Z,6μm,13.6s
DPC Dobruska-Polom 13.45 348 *e*P **Pn 13 09 07.4 +0.7**
DPC MLR MLR
comp=Z,6μm,13.6s
PRU Pruhonice 13.46 343 *e*PN **Pn 13 09 06.1 -0.7**
PRU AMS AMS 13 16 00.0
comp=Z,4μm,10.2s
PRU Pruhonice 13.46 343 *e*P **Pn 13 09 06.1 -0.7**
PRU MLR MLR
comp=Z,4μm,10.2s
SENIN Lac Senin/Sane 13.47 317 Pn **Pn 13 09 06.9 -0.3**
MDBI Mazsada 13.52 112 P Pn 13 09 02.3 -5.5
MDBI Mazsada 13.52 112 S **Sn 13 11 32.8 -4.6**
MSBI Mazada 13.52 112 P **Pn 13 09 07.5 -0.2**
MSBI Mazada 13.52 112 ⇑P **Pn 13 09 07.6 -0.1**
MSBI Mazada 13.52 112 P Pn 13 09 02.5 -5.2
MSBI Mazada 13.52 112 S **Sn 13 11 32.0 -5.4**
LISJ El Lisan 13.65 112 P **Pn 13 09 08.5 -0.9**
UPC Upice 13.65 347 AMS AMS 13 15 40.0
comp=Z,6μm,10.3s
OSTC Ostas 13.66 348 *e*PN **Pn 13 09 10.0 +0.4**
OSTC Ostas 13.66 348 *e*P **Pn 13 09 10.0 +0.4**
GHAJ Ghor Haditha 13.68 111 **Pn 13 09 09.9 0.0**
GHAJ Ghor Haditha 13.68 111 P **Pn 13 09 10.5 +0.6**
KRMI Paran Flat 13.70 117 P Pn 13 09 04.9 -5.4
KRMI Paran Flat 13.70 117 S **Sn 13 11 36.4 -5.5**
PRNI Paran 13.77 116 P **Pn 13 09 09.2 -2.0**
PRNI Paran 13.77 116 P Pn 13 09 05.9 -5.3
PRNI Paran 13.77 116 S **Sn 13 11 38.9 -4.7**
ZFRI Zfri 13.78 115 P **Pn 13 09 09.4 -1.9**
ZFRI Zfri 13.78 115 P Pn 13 09 05.4 -5.9
ZFRI Zfri 13.78 115 S **Sn 13 11 39.2 -4.6**
KSP Ksiaz 13.93 348 *e*P **Pn 13 09 12.9 -0.3**
HRFI Mount Harif 13.97 117 P Pn 13 09 08.5 -5.4
HRFI Mount Harif 13.97 117 S **Sn 13 11 43.6 -4.8**
MBRI Mt Berech 14.02 118 P **Pn 13 09 13.0 -1.7**
MBRI Mt Berech 14.02 118 P Pn 13 09 09.0 -5.7
MBRI Mt Berech 14.02 118 S **Sn 13 11 44.7 -5.1**
SWQJ Swaqa 14.08 111 P **Pn 13 09 14.5 -1.0**
RICC Richard 14.08 343 AMS AMS 13 16 20.0
comp=Z,3μm,16.8s
EIL Elat 14.12 118 Pn **Pn 13 09 12.4 -3.6**
comp=Z,3.3nm,0.3s,baz=317,slow=11,SNR=28
EIL Sn Sn 13 11 38.4 -14
comp=Z,3.3nm,0.3s,baz=114,slow=23,SNR=3.0
EIL Elat 14.12 118 P **Pn 13 09 14.0 -2.0**
EIL Elat 14.12 118 ⇑P **Pn 13 09 12.7 -3.3**
EIL Elat 14.12 118 P Pn 13 09 10.6 -5.4
EIL Elat 14.12 118 S **Sn 13 11 47.0 -5.2**
AQBJ Aqaba 14.16 118 P **Pn 13 09 15.3 -1.2**
GRFO Grafenberg 14.17 334 P **P 13 09 23.8 -0.1**
GRFO Grafenberg 14.17 334 P **P 13 09 23.8 -0.1**
ETOS Mallorca 14.19 286 P **Pn 13 09 18.6 +1.7**
STU Stuttgart 14.21 328 *e*P **P 13 09 25.5 +1.1**
NKC Novy Kostel 14.24 338 AMS AMS 13 15 20.0
comp=Z,5μm,12.3s
BFO Black Forest 14.27 325 Pn **Pn 13 09 18.0 +0.1**
BFO Black Forest 14.27 325 ⇑P **Pn 13 09 19.5 +1.6**
BFO Black Forest 14.27 325 P **Pn 13 09 18.0 +0.1**
BFO Black Forest 14.27 325 *e*Pn **Pn 13 09 18.9 +0.9**
ASF Jabal al Asfar 14.29 106 Pn **Pn 13 09 17.4 -0.9**
comp=Z,1.0nm,0.3s,baz=42,slow=0.1,SNR=6.3
ASF Sn Sn 13 11 43.1 -13
comp=Z,1.0nm,0.3s,baz=218,slow=0.0,SNR=7.9
comp=Z,7.2nm,0.6s
ASF Jabal al Asfar 14.29 106 P **Pn 13 09 18.5 +0.2**
HSKC Hora Svate Kat 14.31 341 AMS AMS 13 15 40.0
comp=Z,3μm,12.9s
HSNJ Maan 14.31 115 P **Pn 13 09 19.0 +0.3**
BRG Berggiesshubel 14.43 343 *e*P **Pn 13 09 19.1 -1.0**
BRG Amp 13 09 20.5
comp=Z,4.1nm,0.8s
BRG Berggiesshubel 14.43 343 P **P 13 09 29.2 +2.5**
BRG Amp 13 09 29.5
comp=Z,30nm,1.2s
BRG Berggiesshubel 14.43 343 *e*P **Pn 13 09 19.0 -1.0**
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG pmax pmax
comp=Z,30nm,1.2s
BRG MLR MLR
comp=N,3μm,9.5s
BRG MLR MLR
comp=E,2μm,12.5s
BRG MLR MLR
comp=Z,4μm,9.8s
RNPP5 Staryi Chortor 14.45 13 P **Pn 13 09 22.2 +1.9**
SSB Saint Sauveur 14.51 309 Pn **Pn 13 09 21.7 +0.5**
SSB Saint Sauveur 14.51 309 P **Pn 13 09 21.7 +0.5**
ANN Anapa 14.71 54 *e*P **Pn 13 09 22.1 -1.8**
ANN *e*S **Sn 13 12 06.6 +0.3**
ANN pmax pmax
comp=Z,49nm,0.9s
ANN MLR MLR
comp=N,2μm,11.0s
ANN MLR MLR
comp=Z,2μm,10.0s
ANN MLR MLR
comp=E,977nm,11.0s
KIEV Kiev 14.75 22 **Pn 13 09 23.8 -0.6**
KIEV Kiev 14.75 22 *i* P **Pn 13 09 24.1 -0.3**
SNR=30
KIEV Kiev 14.75 22 ⇑P **Pn 13 09 25.5 +1.0**
KIEV Kiev 14.75 22 ⇑P **Pn 13 09 24.3 -0.2**
KIEV Kiev 14.75 22 P **Pn 13 09 23.8 -0.6**
AKASG Malin Array Be 14.76 22 Pn **Pn 13 09 23.3 -1.3**
AKASG Malin Array Be 14.76 22 Pn **Pn 13 09 23.0 -1.6**
comp=E,3.1nm,0.3s,baz=210,slow=12,SNR=31
AKASG Sn **S 13 12 19.6 -6.2**
baz=214,slow=20
AKASG LR LR 13 15 14.9
comp=E,3μm,20.5s,baz=204,slow=38
comp=E,17nm,0.7s
AKBB Malin Array Si 14.76 22 **Pn 13 09 23.8 -0.8**
AKBB Malin Array Si 14.76 22⇑*e*P **Pn 13 09 24.3 -0.3**
AKBB Malin Array Si 14.76 22 P **Pn 13 09 24.3 -0.3**
MOX Moxa 14.86 337 *e*Pn **Pn 13 09 26.2 +0.3**
CLL Collm 15.06 341 IAmb IAmb 13 09 36.6
comp=Z,93nm,1.4s
CLL Collm 15.06 341 *i* P **Pn 13 09 29.2 +0.6**
CLL pmax pmax
comp=Z,12nm,1.0s
CLL Collm 15.06 341 *i* P **Pn 13 09 29.2 +0.6**
comp=Z,12nm,1.0s
CLL *i* PP **P 13 09 35.5 +1.7**
comp=Z,173nm,1.5s
CLL *i* sPP 13 09 41.9
CLL *i* x x 13 09 50.3
CLL *e*SS **S 13 12 30.0 -1.9**
CLL AMS AMS 13 17 00.0
KTUT Trabzon 15.29 70 ⇑P **Pn 13 09 33.8 +2.2**
TNS Taunus Mts 15.64 330 *e*Pn **Pn 13 09 38.2 +1.9**
CEST Esterri de Car 15.80 296 IAmb IAmb 13 09 46.5
comp=Z,58nm,1.2s
SOC Sochi 15.81 61 *e*P **Pn 13 09 36.2 -2.3**
SOC *e* 13 12 33.1
SOC pmax pmax
comp=Z,39nm,1.0s
SOC MLR MLR
comp=Z,1μm,13.0s
LOR Lormes 15.92 314 ⇑P **Pn 13 09 41.1 +1.2**
RUE Ruedersdorf 15.96 345 *e*P **P 13 09 45.5 +1.8**
VSLR Vesyoloye 16.00 61⇓*e*P **P 13 09 44.4 +0.1**
GKP Gorka Klasztor 16.18 353 *e*P **P 13 09 49.3 +3.1**
GKP Gorka Klasztor 16.18 353 *e*P **P 13 09 47.3 +1.1**
WLF Walferdange 16.23 324 P **P 13 09 49.9 +3.2**
WLF Walferdange 16.23 324 *e*Pn **P 13 09 49.1 +2.4**
WLF Walferdange 16.23 324 *d*P **P 13 09 48.0 +1.2**
comp=Z,94nm,1.1s
BATM Batumi 16.81 69 ⇓P **P 13 09 53.1 -0.1**
BATM Batumi 16.81 69 P **P 13 09 53.1 -0.1**
LABN Labinsk 16.83 58 *e*P **Pn 13 09 49.2 -2.2**
LABN *e*S **Sn 13 12 56.8 -1.0**
LABN pmax pmax
comp=Z,64nm,0.6s
LABN MLR MLR
comp=Z,4μm,10.0s
LABN MLR MLR
comp=N,4μm,11.0s
LABN MLR MLR
comp=E,4μm,10.0s
SUW Suwalki 16.84 5 *e*P **Pn 13 09 51.5 +0.1**
SUW Suwalki 16.84 5 *e*P **P 13 09 52.9 -0.5**
SUW Suwalki 16.84 5 ⇓P **Pn 13 09 51.1 -0.4**
MEM Membach 16.96 326 *d*P **P 13 09 58.5 +3.6**
comp=Z,34nm,0.9s
ERBR Yeremizino-Bor 17.05 54 *e*P **Pn 13 09 54.5 +0.3**
ERBR *e*S **Sn 13 13 07.9 +4.7**
ERBR pmax pmax
comp=Z,357nm,1.2s
ECHE Chera 17.10 284 P **Pn 13 09 53.8 -1.1**
DOU Dourbes 17.26 323 *d*P **P 13 09 60.0 +1.8**
comp=Z,45nm,1.2s
EMUR La Murta 17.37 279 P **Pn 13 09 56.2 -2.1**
KARS Kars 17.75 72 ⇑P **P 13 10 04.9 +1.1**
UCC Uccle 17.84 324 *d*P **P 13 10 05.7 +1.1**
comp=Z,44nm,0.9s
SHA1 Shidzhatmaz 17.91 62*c i*P **P 13 10 06.5 +0.8**
MNK Minsk 17.94 14 *i* P **Pn 13 10 01.7 -3.4**
comp=E,113nm,1.0s
MNK *i* P **Pn 13 10 01.7 -3.4**
comp=N,14nm,0.6s
MNK *i* P **Pn 13 10 01.7 -3.4**
comp=Z,73nm,0.8s,baz=200
MNK *i* PP **sP 13 10 11.9 -0.8**
MNK *i* PPP PPP 13 10 19.7
MNK *i* S **Sn 13 13 21.8 -2.7**
MNK *i* SS **SnSn 13 13 36.4 -1.8**
MNK *i* SSS SSS 13 13 49.0
MNK *i* LQ LQ 13 15 18.9
MNK *i* LR LR 13 16 39.6
MNK *i* LRM MLR 13 18 26.9
comp=Z,3μm,12.0s
MNK *i* LRM MLR 13 18 28.4
comp=E,2μm,12.5s
MNK *i* LRM MLR 13 18 36.1
comp=N,1μm,13.9s
MNK Minsk 17.94 14 *i* P **Pn 13 10 01.7 -3.4**
MNK *i* S **Sn 13 13 21.8 -2.7**
MNK pmax pmax
comp=N,14nm,0.6s
MNK pmax pmax
comp=Z,73nm,0.8s
MNK pmax pmax
comp=E,113nm,1.0s
MNK MLR MLR
comp=Z,3μm,12.0s

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MNK                                  MLR   MLR
        comp=E,2μm,13.0s
MNK                                  MLR   MLR
        comp=N,1μm,14.0s
KIV     Kislovodsk     17.98  61     P     Pn    13 10 06.2 +0.2
KIV     Kislovodsk     17.98  61  i  P     Pn    13 10 06.1 +0.2
        SNR=18
KIV     Kislovodsk     17.98  61     P     P     13 10 07.1 +0.8
KIV                                  P     P     13 10 07.1 +0.8
KIV     Kislovodsk     17.98  61 ⇑P        P     13 10 06.4  0.0
KIV     Kislovodsk     17.98  61  eP        P     13 10 06.6 +0.3
KIV                                 eS     S     13 13 30.1 -1.8
KIV                                 pmax   pmax
        comp=Z,98nm,1.1s
KIV                                  MLR   MLR
        comp=Z,562nm,14.0s
KVAR    Kislovodsk Arr 17.99  61     P     P     13 10 10.1 +3.7
        comp=Z,12nm,0.8s,baz=283,slow=19,SNR=4.1
MFF     Saint Martin d 18.03 308 ⇓P        P     13 10 07.0 +0.3
KBZ     Khabaz         18.08  62     P     P     13 10 07.7 +0.5
        comp=Z,1.5nm,0.3s,baz=270,slow=9.3,SNR=62
KBZ                                  S     S     13 13 34.5 +1.0
        comp=Z,7.3nm,0.9s,baz=114,slow=20,SNR=1.5
KBZ                                  LR    LR    13 17 50.3
        comp=Z,271nm,19.2s,baz=244,slow=40
        comp=Z,54nm,0.9s
KBZ     Khabaz         18.08  62c i P     P     13 10 08.0 +0.8
NACGM   Naroch         18.13  11  eP     Pn    13 10 05.2 -2.4
        comp=E,4μm,1.0s
ENIJ    Nijar          18.23 276     P     Pn    13 10 08.5 -0.5
BSD     Bornholm Skovb 18.28 349  i  P     Pn    13 10 08.0 -1.3
BSD                                 IAmb  IAmb  13 10 13.6
        comp=Z,63nm,0.8s
PABE    Paberze        18.38   6  eP     P     13 10 10.2 -0.3
NCK     Nalchik        18.52  63⇓eP     Pn    13 10 14.4 +2.0
GOF     Gofitskoye     18.53  58ceP     P     13 10 12.0 -0.2
VSVD    Vaisvydziai    18.85   6  eP     P     13 10 16.0 +0.4
UCM     Universidad Co 18.87 287     P     P     13 10 15.8 -0.3
GNI     Garni          19.00  74           P     13 10 17.8 +0.1
GNI                                 IAmb  IAmb  13 10 23.6
        comp=Z,104nm,0.9s
GNI     Garni          19.00  74     P     P     13 10 17.1 -0.5
GNI     Garni          19.00  74     P     P     13 10 17.5 -0.1
        comp=Z,4.2nm,0.3s,baz=276,slow=2.6,SNR=42
GNI                                  S     S     13 13 52.8 +0.2
        comp=Z,4.6nm,0.3s,baz=292,slow=22,SNR=1.3
GNI                                  LR    LR    13 17 57.8
        comp=Z,2μm,20.5s,baz=280,slow=38
        comp=Z,48nm,0.8s
GNI     Garni          19.00  74     P     Pn    13 10 19.4 +1.0
GNI     Garni          19.00  74 ⇑P        P     13 10 18.1 +0.5
GNI     Garni          19.00  74c i P     P     13 10 18.0 +0.4
GNI                                 pmax  pmax
        comp=Z,157nm,1.3s
LUNU    Lund           19.01 347  i  P     P     13 10 17.2 -0.2
VORD    Divnogorie     19.07  38  eP     P     13 10 18.6 +0.5
VORD                                eS     Sn    13 13 52.4 +0.5
VORD                                pmax  pmax
        comp=Z,60nm,0.6s
VORD                                smax  smax
        comp=E,100nm,4.5s
VORD                                 MLR   MLR
        comp=Z,3μm,10.0s
VSR     Storozhevoye   19.17  37  eP     P     13 10 18.0 -1.2
VSR                                 eS     Sn    13 13 43.8 -10
VSR                                 pmax  pmax
        comp=Z,40nm,0.6s
VSR                                 smax  smax
        comp=N,1μm,12.5s
VSR                                  MLR   MLR
        comp=Z,6μm,11.0s
COP     Copenhagen     19.25 346  i  P     Pn    13 10 21.6 +0.6
COP                                 IAmb  IAmb  13 10 22.8
        comp=Z,212nm,1.0s
BLEU    Blekinge       19.32 352  i  P     P     13 10 18.7 -2.1
ESDC    Sonseca Array  19.41 285     P     P     13 10 21.7 -0.3
ESDC    Sonseca Array  19.41 285     P     P     13 10 22.4 +0.3
        comp=Z,1.0nm,0.3s,baz=101,slow=6.2,SNR=37
ESDC                                 ScP   ScP   13 18 17.8 -0.1
        comp=Z,2.4nm,1.1s,baz=79,slow=3.9,SNR=4.9
        comp=Z,36nm,1.1s
TAM     Tamanrasset    19.45 226     P     P     13 10 23.1 +0.5
TAM     Tamanrasset    19.45 226     P     P     13 10 23.1 +0.5
TAM                                 pmax  pmax
        comp=Z,66nm,1.1s
VORR    Voronezh       19.48  36  eP     P     13 10 20.9 -1.7
VORR                                eS     Sn    13 14 00.0 -1.8
VORR                                pmax  pmax
        comp=Z,100nm,0.4s
VORR                                smax  smax
        comp=N,40nm,3.4s
VORR                                 MLR   MLR
        comp=Z,2μm,9.0s
SSRD    Sdr. Stenderup 19.70 341  i  P     Pn    13 10 31.7 +5.3
SSRD                                IAmb  IAmb  13 10 35.6
        comp=Z,260nm,1.0s
PAB     San Pablo      19.71 284     P     P     13 10 25.5 +0.1
PAB     San Pablo      19.71 284 ⇑P        P     13 10 26.2 +0.9
PAB     San Pablo      19.71 284     P     P     13 10 25.5 +0.1
PAB                                 pmax  pmax
        comp=Z,74nm,1.2s
DEL     Delary         19.75 349  i  P     P     13 10 26.1 +0.6
LPSR    Galich'ya Gora 19.97  34  eP     P     13 10 27.1 -0.8
LPSR                                eS     S     13 14 03.8 -7.7
LPSR                                pmax  pmax
        comp=Z,460nm,1.0s
LPSR                                smax  smax
        comp=N,1μm,13.6s
LPSR                                 MLR   MLR
        comp=Z,4μm,11.0s
ELMS    Elmsett, Ipswi 20.28 323  eP     P     13 10 32.3 +1.0
SLIT    Slitere, Latvi 20.40   3  eP     P     13 10 33.0 +0.5
SLIT    Slitere, Latvi 20.40   3 ⇑P        P     13 10 32.4 -0.2
VRH     Novokhopyorsk  20.44  40  eP     P     13 10 32.2 -0.8
VRH                                eS     S     13 14 13.3 -7.6
VRH                                pmax  pmax
        comp=Z,90nm,0.6s
VRH                                smax  smax
        comp=N,790nm,8.6s
VRH                                 MLR   MLR
        comp=Z,4μm,10.0s
FABU    Falkenberg     20.44 348  i  P     P     13 10 33.3 +0.3
MUD     Monsted U'grnd 20.69 342 ⇓P        P     13 10 37.0 +1.3
MUD     Monsted U'grnd 20.69 342  i  P     P     13 10 36.7 +1.1
MUD                                 IAmb  IAmb  13 10 43.5
        comp=Z,126nm,1.1s
OBN     Obninsk        20.89  26     P     P     13 10 37.1 -0.7
OBN     Obninsk        20.89  26     P     P     13 10 36.5 -1.3
        comp=Z,149nm,0.8s,baz=220,slow=7.9,SNR=41
OBN                                  S     S     13 14 27.2 -2.5
        comp=Z,13nm,0.4s,baz=191,slow=22,SNR=1.7
OBN                                  LR    LR    13 18 41.0
        comp=Z,1μm,21.9s,baz=218,slow=37
        comp=Z,149nm,0.8s
OBN     Obninsk        20.89  26 ⇑P        P     13 10 37.5 -0.2
OBN     Obninsk        20.89  26ceP        P     13 10 37.6 -0.2
OBN                                 ePPP  PPP   13 11 05.0
OBN                                 eS     S     13 14 31.8 +2.2
OBN                                 e            13 14 44.9
OBN                                 eSS    SnSn  13 14 50.6 +0.2
OBN                                 pmax  pmax
        comp=Z,285nm,1.0s
OBN                                  MLR   MLR
        comp=Z,3μm,14.0s
ONAU    Onsala         20.96 347  i  P     P     13 10 39.3 +0.8
BORU    Boraas         21.04 348  i  P     P     13 10 39.9 +0.5
MDT     Midelt         21.14 265     P     P     13 10 41.0 +0.1
        comp=Z,96nm,0.9s,baz=88,slow=12,SNR=59
MDT                                  S     S     13 14 37.5 +2.3
        comp=Z,4.9nm,1.0s,baz=222,slow=9.6,SNR=1.8
MDT                                  LR    LR    13 19 52.7
        comp=Z,872nm,21.8s,baz=88,slow=40
        comp=Z,96nm,0.9s
MAK     Makhachkala    21.26  66  eP     P     13 10 41.2 -0.7
MAK                                eS     S     13 14 37.9 +0.6
MAK                                pmax  pmax
        comp=Z,740nm,0.9s
MAK                                 MLR   MLR
        comp=Z,2μm,17.0s
AKT     Akhty          21.31  70  eP     P     13 10 43.0 +0.3
AKT                                e            13 11 03.9
AKT                                 ePPP  PPP   13 11 11.9
AKT                                eS     S     13 14 41.4 +2.8
AKT                                 pmax  pmax
        comp=Z,182nm,1.3s
AKT                                 MLR   MLR
        comp=Z,2μm,11.0s
MTSE    Matsula        21.56   4  eP     P     13 10 45.6 +0.6
PBRG    Braganca       21.57 291  eP     P     13 10 45.6 +0.2
PBRG                                A     A     13 10 50.7
        comp=Z,204nm,1.3s
VSU     Vasula         21.58   9 ⇑P        P     13 10 45.4 +0.2
VSU     Vasula         21.58   9c i P     P     13 10 45.0 -0.2
VSU                                 pmax  pmax
        comp=Z,331nm,0.9s
TJOU    Tjoern         21.61 347  i  P     P     13 10 46.4 +0.9
STRD    Stroud         21.67 319  eP     P     13 10 47.8 +1.4
STRD                                IAmb  IAmb  13 10 56.9
        comp=Z,451nm,1.6s
MOS     Moscow         21.75  26  eP     P     13 10 44.8 -2.3
MOS                                eS     S     13 14 41.3 -5.4
MOS                                 pmax  pmax
        comp=Z,357nm,0.9s
MOS                                 pmax  pmax
        comp=N,115nm,0.8s
MOS                                 pmax  pmax
        comp=E,134nm,0.9s
MOS                                 pmax  pmax
        comp=Z,500nm,1.1s
MOS                                 MLR   MLR
        comp=N,3μm,12.0s
MOS                                 MLR   MLR
        comp=E,3μm,12.0s
MOS                                 MLR   MLR
        comp=Z,4μm,12.0s
MVO     Moncorvo       21.76 289  eP     P     13 10 47.5  0.0
MVO                                A     A     13 10 48.5
        comp=Z,249nm,1.1s
MVO                                eS     S     13 14 50.0 +2.6
MVO                                A     A     13 20 21.4
        comp=Z,948nm,18.0s
OLDB    Oldbury-Upon-S 21.81 319  eP     P     13 10 48.6 +0.8
OLDB                                IAmb  IAmb  13 10 52.2
        comp=Z,57nm,0.8s
PBAR    Barrancos      21.90 281  eP     P     13 10 48.4 -0.5
PBAR                                A     A     13 11 14.1
        comp=Z,125nm,1.6s
MONM    Monmouth       22.04 319  eP     P     13 10 51.0 +0.7
MONM                                IAmb  IAmb  13 11 01.8
        comp=Z,90nm,1.0s
PMRV    Marv??o        22.07 284  eP     P     13 10 50.0 -0.8
PMRV                                A     A     13 10 51.1
        comp=Z,122nm,1.2s
PMRV                                eS     S     13 14 56.0 +2.7
PMRV                                A     A     13 19 45.3
        comp=Z,818nm,22.0s
PCBR    Castelo Branco 22.12 285  eP     P     13 10 50.6 -0.6
PCBR                                A     A     13 10 53.2
        comp=Z,114nm,1.7s
MTE     Manteigas      22.15 287     P     P     13 10 48.9 -2.8
MTE                                 IAmb  IAmb  13 10 56.5
        comp=Z,82nm,0.9s
MTE     Manteigas      22.15 287  eP     P     13 10 51.1 -0.6
MTE                                A     A     13 10 52.1
        comp=Z,124nm,1.5s
MTE                                eS     S     13 14 56.8 +1.9
MTE                                A     A     13 20 33.2
        comp=Z,1μm,20.0s
MTE     Manteigas      22.15 287  eP     P     13 10 51.8 +0.1
MTE     Manteigas      22.15 287 ⇓P        P     13 10 49.8 -1.9
PESTR   Estremoz       22.27 283     P     P     13 10 50.9 -1.9
PESTR                               IAmb  IAmb  13 10 55.1
        comp=Z,77nm,1.0s
PESTR   Estremoz       22.27 283  eP     P     13 10 51.8 -1.0
PESTR                               A     A     13 11 00.9
        comp=Z,118nm,1.3s
PESTR   Estremoz       22.27 283 ⇑P        P     13 10 51.5 -1.4
PVRL    Vila Real      22.28 289  eP     P     13 10 52.6 -0.5
PVRL                                A     A     13 10 55.1
        comp=Z,91nm,1.4s
POLO    Lamas de Olo   22.34 289  eP     P     13 10 53.4 -0.4
POLO                                A     A     13 10 54.8
        comp=Z,39nm,1.8s
PVIS    Viseu          22.42 288  eP     P     13 10 53.9 -0.6
HLM1    Long Mynd      22.45 320  eP     P     13 10 54.6  0.0
HLM1                                IAmb  IAmb  13 11 02.7
        comp=Z,130nm,1.4s
ARBE    Arbavere       22.45   7  eP     P     13 10 54.8 +0.2
PCAB    Cabril         22.53 290  eP     P     13 10 54.9 -0.8
PCAB                                A     A     13 11 10.8
        comp=Z,163nm,1.7s
HTL     Hartland       22.53 316  eP     P     13 10 56.1 +0.6
HTL                                 IAmb  IAmb  13 11 03.6
        comp=Z,132nm,1.0s
PVAQ    Vaqueiros      22.53 279     P     P     13 10 54.0 -1.7
PVAQ                                IAmb  IAmb  13 10 58.1
        comp=Z,96nm,1.6s
PVAQ    Vaqueiros      22.53 279  eP     P     13 10 55.3 -0.4
PVAQ                                A     A     13 10 59.0
        comp=Z,127nm,1.7s
PVAQ                                eS     S     13 15 02.7 +0.9
PVAQ                                A     A     13 23 41.2
        comp=Z,541nm,20.0s
PVAQ    Vaqueiros      22.53 279 ⇑P        P     13 10 54.9 -0.8
PBEJ    Beja           22.57 281  eP     P     13 10 55.3 -0.8
PBEJ                                A     A     13 11 03.5
        comp=Z,79nm,1.3s
EVO     Evora          22.63 282  eP     P     13 10 56.9 +0.2
EVO                                 A     A     13 11 02.0
        comp=Z,104nm,1.5s
STRU    Stroemstad     22.64 347  i  P     P     13 10 55.0 -1.6
PGAV    Gavieira, Arco 22.72 291  eP     P     13 10 57.2 -0.5
PGAV                                A     A     13 11 10.8
        comp=Z,130nm,1.9s
PGAV                                A     A     13 24 08.6
        comp=Z,805nm,18.0s
PBDV    Barranco-do-Ve 22.73 279  eP     P     13 10 56.3 -1.5
PBDV                                A     A     13 11 00.3
        comp=Z,190nm,1.6s
PMTG    Montargil      22.74 283  eP     P     13 10 56.6 -1.3
PMTG                                A     A     13 10 58.2
        comp=Z,106nm,1.3s
PCVE    Castro Verde   22.75 280  eP     P     13 10 57.0 -1.0
FOEL    Foel Wylfa     22.82 321  eP     P     13 10 58.3 -0.3
FOEL                                IAmb  IAmb  13 11 04.0
        comp=Z,150nm,0.9s
COI     Coimbra        22.82 286  eP     P     13 10 58.9 +0.2
COI                                 A     A     13 11 14.0
        comp=Z,245nm,1.4s
SNART   Snartemo       22.85 342  i  P     P     13 10 59.0 +0.2
MESJ    Messejana      22.87 280  eP     P     13 10 58.0 -1.2
MESJ                                A     A     13 11 00.8
        comp=Z,101nm,1.7s
MESJ    Messejana      22.87 280 ⇓P        P     13 10 58.5 -0.8
PCAS    Casmilo, Conde 22.89 286  eP     P     13 10 58.4 -1.1
PCAS                                A     A     13 11 00.7
        comp=Z,96nm,2.1s
PTO     Porto          22.95 289  eP     P     13 11 00.2 +0.2
PTO                                 A     A     13 11 01.7
        comp=Z,190nm,1.2s
MEF     Metsahovi      23.09   5  eP     P     13 11 00.5 -0.8
RSBS    Rosebush, Pemb 23.13 317  eP     P     13 11 01.6 -0.2
PSBE    So Bento       23.15 285  eP     P     13 11 01.3 -0.9
AVE     Averroes       23.22 269     P     P     13 11 02.8  0.0
PTEO    Sao Teotonio   23.30 280  eP     P     13 11 03.0 -0.7
PTEO                                A     A     13 11 48.0
        comp=Z,126nm,1.4s
HFS     Hagfors        23.32 351     P     P     13 11 02.2 -1.3
        comp=Z,109nm,0.8s,baz=157,slow=12,SNR=109
HFS                                  S     S     13 15 14.1 -0.8
        comp=Z,21nm,1.0s,baz=159,slow=22,SNR=5.7
HFS                                  LR    LR    13 20 31.4
        comp=Z,2μm,21.7s,baz=169,slow=38
        comp=Z,109nm,0.8s
PUL     Pulkovo        23.37  12deP     P     13 11 03.5 -0.5
PUL                                 pmax  pmax
        comp=Z,221nm,0.7s
EDMD    Edmundbyers    23.39 326  eP     P     13 11 04.0 -0.3
EDMD                                IAmb  IAmb  13 11 08.8
        comp=Z,68nm,1.2s
LIS     Lisbon         23.49 283  eP     P     13 11 06.0 +0.5
LIS                                 A     A     13 11 29.4
        comp=Z,247nm,1.2s
KONO    Kongsberg      23.51 346     P     P     13 11 03.7 -1.7
KONO    Kongsberg      23.51 346     P     P     13 11 03.7 -1.7
KONO                                pmax  pmax
        comp=Z,53nm,1.3s
OSL     Oslo           23.57 347  eP     P     13 11 04.5 -1.5
WPS     Cemaes, Angles 23.75 321  eP     P     13 11 09.2 +1.3
KESW    Keswick, Cumbr 23.76 324  eP     P     13 11 09.2 +1.3
KESW                                IAmb  IAmb  13 11 12.0
        comp=Z,124nm,1.1s
RAF     Rauma          23.79   1  eP     P     13 11 07.9 -0.3
BLS5    Blasjo         24.00 342  eP     P     13 11 11.1 +0.9
KMY     Karmoy         24.12 340  eP     P     13 11 11.5 +0.3
BELG    Belogornoye    24.19  43     LR    LR    13 22 18.4
        comp=Z,2μm,18.6s,baz=244,slow=41
BELG    Belogornoye    24.19  43d i P     P     13 11 11.6 -0.4
BELG                                pmax  pmax
        comp=Z,90nm,1.0s
NC602   NORSAR Array S 24.19 349  eP     P     13 11 11.9  0.0
EKA     Eskdalemuir Ar 24.24 326     P     P     13 11 13.3 +0.8
        comp=Z,52nm,0.8s,baz=125,slow=12,SNR=34
        comp=Z,52nm,0.8s
ESK     Eskdalemuir    24.25 326     P     P     13 11 12.3 -0.2
ESK     Eskdalemuir    24.25 326  eP     P     13 11 12.9 +0.4
ESK     Eskdalemuir    24.25 326 ⇓P        P     13 11 13.4 +0.9
ESK     Eskdalemuir    24.25 326     P     P     13 11 12.3 -0.2
ESK                                 pmax  pmax
        comp=Z,323nm,2.0s
IOMK    Kirk Michael   24.26 323  eP     P     13 11 14.0 +1.3
ODD1    Odda           24.39 343  eP     P     13 11 16.1 +2.3
FINES   FINESS Array B 24.44   6     P     P     13 11 13.3 -0.8
FINES   FINESS Array B 24.44   6     P     P     13 11 13.5 -0.7
        comp=Z,35nm,0.8s,baz=161,slow=8.8,SNR=47
FINES                                S     S     13 15 30.1 -2.8
        comp=Z,1.8nm,0.6s,baz=312,slow=27,SNR=2.6
FINES                                LR    LR    13 21 56.9
        comp=Z,4μm,18.3s,baz=190,slow=40
        comp=Z,35nm,0.8s
FINES   FINESS Array B 24.44   6  i P     P     13 11 12.6 -1.6
FINES                               pmax  pmax
        comp=Z,35nm,0.8s
FIA1    FINESS Array S 24.44   6     P     P     13 11 13.6 -0.6
NC405   NORSAR Array S 24.53 350     IAmb  IAmb  13 11 26.6
        comp=Z,73nm,0.9s
NB2     NORSAR Subarra 24.53 349     P     P     13 11 14.7 -0.4
        comp=Z,53nm,0.8s,baz=158,slow=9.3
NB2     NORSAR Subarra 24.53 349     P     P     13 11 14.7 -0.4
        baz=158,slow=9.3
NOA     NORSAR Array B 24.53 349     P     P     13 11 14.6 -0.4
        comp=Z,36nm,0.8s,baz=157,slow=9.0,SNR=108
NOA                                  LR    LR    13 21 49.8
        comp=Z,1μm,19.1s,baz=165,slow=39
        comp=Z,36nm,0.8s
EDI     Edinburgh      24.62 327  eP     P     13 11 17.1 +1.2
EDI                                 IAmb  IAmb  13 11 20.7
        comp=Z,98nm,0.9s
DSB     Dublin         24.64 319     P     P     13 11 16.9 +0.8
GAL1    Galloway       24.68 324  eP     P     13 11 18.1 +1.7
SKAR    Skarslia       24.71 345  eP     P     13 11 17.4 +0.7
KEF     Keuruu         25.06   5  eP     P     13 11 20.9 +1.1
BER     Bergen         25.11 342  eP     P     13 11 21.7 +1.4
RAYN    Ar Rayn        25.34 116     P     P     13 11 23.7 +0.9
RAYN                                IAmb  IAmb  13 11 32.9
        comp=Z,33nm,0.8s
RAYN    Ar Rayn        25.34 116  i  P     P     13 11 23.0 +0.3
        SNR=36
RAYN    Ar Rayn        25.34 116     P     P     13 11 24.3 +1.5
RAYN    Ar Rayn        25.34 116 ⇑P        P     13 11 23.7 +0.9
RAYN    Ar Rayn        25.34 116     P     P     13 11 23.7 +0.9
RAYN                                pmax  pmax
        comp=Z,33nm,0.9s
LAWE    Loch Awe, Argy 25.81 326  eP     P     13 11 28.2 +1.6
DOMB    Dombas         25.83 347  eP     P     13 11 27.6 +0.8
VAF     Ylistaro       25.84   2  eP     P     13 11 28.1 +1.3
SUE     Sulen          25.84 342  eP     P     13 11 27.2 +0.4
AKN     Aaknes         26.34 346  eP     P     13 11 32.4 +1.0
KLMR    Klimovskoe     26.45  21d i P     P     13 11 32.5 +0.1
KLMR                                 S     S     13 16 10.9 +6.0
KLMR                                pmax  pmax
        comp=Z,191nm,1.3s
KLMR                                 MLR   MLR
        comp=Z,4μm,10.0s
JOF     Joensuu        26.50  11  eP     P     13 11 33.1 +0.3
KPL     Plockton       26.57 327  eP     P     13 11 33.5  0.0
KPL                                 IAmb  IAmb  13 11 43.9
        comp=Z,27nm,0.7s
LRW     Lerwick        26.80 336  eP     P     13 11 35.4 -0.1
LRW     Lerwick        26.80 336 ⇑P        P     13 11 36.2 +0.7
LINV    Loch Inver, As 26.89 329  eP     P     13 11 37.0 +0.6
SAKB    Bahrain        27.71 105     P     P     13 11 45.6 +1.6
NSS     Namsos         27.79 352  eP     P     13 11 44.5 +0.2
SHMA    Al-Shehemyia   28.10 105     P     P     13 11 48.3 +0.8
KIRV    Kirov          28.36  32     LR    LR    13 23 40.5
        comp=Z,1μm,18.6s,baz=230,slow=38
KIRV    Kirov          28.36  32ceP     P     13 11 48.2 -1.4
SMRA    Abu-Samra      28.58 107     P     P     13 11 53.1 +1.2
TRNA    Turayna        28.88 107     P     P     13 11 54.4 -0.1
MOR8    Moi Rana       29.17 355  eP     P     13 11 57.3 +0.5
TORD    Torodi Ar. Bea 29.40 220     P     P     13 11 58.8 -0.3
TORD    Torodi Ar. Bea 29.40 220     P     P     13 11 59.0 -0.2
        comp=Z,13nm,0.6s,baz=28,slow=9.9,SNR=70
TORD                                 LR    LR    13 25 17.2
        comp=Z,601nm,19.2s,baz=30,slow=39
        comp=Z,13nm,0.6s
STOK    Stokkvaagen    29.45 354  eP     P     13 11 59.0 -0.1
SLWR    Sila           29.61 108     P     P     13 12 01.8 +0.8
AKTO    Aktyubinsk     29.65  52     LR    LR    13 26 09.1
        comp=Z,2μm,20.2s,baz=322,slow=41
AKTO    Aktyubinsk     29.65  52     P     P     13 12 00.1 -1.0
JRN     Qarnain Island 30.03 105     P     P     13 12 04.7  0.0
FAUS    Fauske         30.32 356  eP     P     13 12 06.9 +0.1
GHWR    Ruwais         30.57 106     P     P     13 12 10.3 +0.8
AB31    Akbulak array  30.68  54  eP     P     13 12 09.7 -0.5
ABKAR   Akbulak array  30.68  54     P     P     13 12 09.6 -0.6
ABKAR   Akbulak array  30.68  54     IAmb  IAmb  13 13 17.5
        comp=Z,27nm,1.1s
ABKAR   Akbulak array  30.68  54 ⇑P        P     13 12 09.5 -0.6
STEI    Steigen        30.87 356  eP     P     13 12 12.0 +0.4
PMAR    Madeira        30.98 273  eP     P     13 12 13.6 +0.4
PMAR                                A     A     13 12 55.5
        comp=Z,322nm,1.6s
APA     Apatity        31.20   9 ⇓i P     P     13 12 14.5 -0.1
APA                                 i            13 13 15.8
APA                                 i            13 15 12.0
APA                                 i S     S     13 17 20.0 +0.6
APA                                 i SS    ScP   13 18 59.0 +8.3
APA                                 pmax  pmax
        comp=Z,16nm,0.8s
APA                                  MLR   MLR
        comp=Z,5μm,12.0s
MZWR    Madinat Zayed  31.45 106     P     P     13 12 18.1 +0.8
MZR     Muzera         31.57 107  i  P     P     13 12 18.3  0.0
        SNR=6.6
MZR     Muzera         31.57 107     P     P     13 12 18.3  0.0
ARTI    Arti           31.57  41     P     P     13 12 16.7 -1.3
ARTI    Arti           31.57  41     LR    LR    13 25 56.9
        comp=Z,923nm,18.5s,baz=256,slow=38
ARTI    Arti           31.57  41 ⇑P        P     13 12 16.5 -1.5
ARTI    Arti           31.57  41c i P     P     13 12 16.5 -1.5
ARTI                                             13 13 15.7
ARTI                                             13 15 04.7
ARTI                                 S     S     13 17 26.4 +1.0
ARTI                                 SS    SnSn  13 19 06.5 -4.6
ARTI                                pmax  pmax
        comp=Z,143nm,1.0s
ARTI                                 MLR   MLR
        comp=Z,3μm,13.0s
KTK1    Kautokeino     31.83   2  eP     P     13 12 20.0 -0.2
AJN     Ajban          31.88 104     P     P     13 12 21.4 +0.4
AJN     Ajban          31.88 104     P     P     13 12 21.8 +0.8
SHME    Shamm          32.03 100  i  P     P     13 12 22.2 -0.2
        SNR=17
SHME    Shamm          32.03 100     P     P     13 12 23.1 +0.7
        SNR=7.6
SHME                                 S     S     13 17 32.5 -0.8
ASUD    Al Ashush, Dub 32.11 103     P     P     13 12 23.4 +0.3
ASUD    Al Ashush, Dub 32.11 103     P     P     13 12 23.6 +0.5
NAZ     Nazwa, Dubai   32.19 102  i  P     P     13 12 23.7  0.0
        SNR=9.5
NAZ     Nazwa, Dubai   32.19 102     P     P     13 12 23.9 +0.2
BANOM   Banah          32.22 100  i  P     P     13 12 23.7 -0.3
        SNR=15
BANOM   Banah          32.22 100     P     P     13 12 24.1  0.0
BANOM                                S     S     13 17 33.9 -2.4
FAQ     Al Faqa, Dubai 32.26 103     P     P     13 12 24.4  0.0
MASF    Masafi         32.38 101     P     P     13 12 25.2 -0.3
MASF                                 S     S     13 17 36.8 -2.0
MSFE    Esma-Masafi    32.39 101  i  P     P     13 12 25.6  0.0
        SNR=6.3
ARCES   ARCESS Array B 32.44   3     P     P     13 12 24.5 -0.9
        comp=Z,9.0nm,0.6s,baz=184,slow=8.1,SNR=26
ARCES                                LR    LR    13 25 50.0
```

comp=Z,1μm,20.9s,baz=183,slow=37
comp=Z,9.0nm,0.6s
ATD Arta Tunnel 32.46 136 P **P 13 12 28.3 +2.1**
MDH Madha 32.53 101 P **P 13 12 26.5 -0.2**
MDH Madha 32.53 101 P **P 13 12 26.6 -0.2**
MDH S **S 13 17 39.8 -1.2**
UOSS Minazif 32.63 102 P **P 13 12 27.2 -0.4**
UOSS Minazif 32.63 102 *i* P **P 13 12 27.4 -0.2**
UOSS Minazif 32.63 102 P **P 13 12 27.6 0.0**
UOSS S **S 13 17 38.6 -4.1**
UOSS Minazif 32.63 102 ⇑P **P 13 12 27.3 -0.4**
HATD Hatta, Dubai 32.64 102 *i* P **P 13 12 28.0 +0.3**
SNR=18
HATD Hatta, Dubai 32.64 102 P **P 13 12 27.4 -0.3**
SNR=13
HATD P **P 13 12 27.4 -0.3**
SNR=13
HATD S **S 13 17 41.3 -1.4**
HATD S **S 13 17 41.3 -1.4**
ASHO Ashiyiah 32.65 102 *i* P **P 13 12 27.8 -0.1**
SNR=22
ASHO Ashiyiah 32.65 102 P **P 13 12 27.4 -0.5**
SNR=10
ASHO S **S 13 17 41.5 -1.5**
ALNE Al Ain 32.74 104 *i* P **P 13 12 28.4 -0.2**
SNR=15
ALNE Al Ain 32.74 104 P **P 13 12 28.7 +0.1**
SNR=9.9
SVE Sverdlovsk 32.89 41 *de*P **P 13 12 29.1 -0.4**
SVE *e*S **S 13 17 47.1 +1.1**
SVE pmax pmax
comp=Z,198nm,1.2s
SVE MLR MLR
comp=Z,4μm,13.0s
UMZA Um Al Zommool 33.01 106 P **P 13 12 31.3 +0.3**
VADS Vadso 33.25 5 *e*P **P 13 12 33.2 +0.7**
SOHO SOHO 33.31 103 *i* P **P 13 12 33.1 -0.5**
SNR=25
SOHO SOHO 33.31 103 P **P 13 12 33.4 -0.1**
SOHO S **S 13 17 51.1 -2.0**
HRA Herat 33.65 82 IAmb IAmb 13 12 44.9
comp=Z,28nm,1.3s
ARQ Araqi 33.72 104 P **P 13 12 37.0 -0.2**
SNR=13
ARQ S **S 13 17 55.9 -3.7**
HOQ Hoqain 34.20 103 P **P 13 12 41.2 -0.2**
SNR=8.0
BSY Bisya 34.56 104 P **P 13 12 44.1 -0.4**
SNR=8.6
DOK Doka 34.67 113 P **P 13 12 45.1 -0.3**
SNR=7.5
WHFO Wadi Hawf 34.85 114 P **P 13 12 46.9 -0.2**
BIDO Bidbid 34.87 102 P **P 13 12 46.7 -0.4**
ABTO Aybut 34.88 116 P **P 13 12 47.8 +0.5**
SMDO Samad 35.05 103 P **P 13 12 48.1 -0.8**
SNR=12
WSAR Wadi Sarin 35.41 102 P **P 13 12 51.4 -0.4**
RBK Rabkut 35.44 115 P **P 13 12 51.7 -0.4**
SNR=7.4
RBK P **P 13 12 51.7 -0.4**
SNR=7.4
JMDO Jabal Madar 35.47 104 P **P 13 12 51.6 -0.7**
SNR=5.5
DMTO DMTO 35.84 114 P **P 13 12 55.4 -0.2**
WBK Wadi Bani Khal 36.01 103 P **P 13 12 57.2 +0.2**
SNR=5.7
MHTO MHTO 36.13 106 P **P 13 12 58.1 +0.1**
SNR=15
LODK Lodwar 36.29 155 P **P 13 13 00.4 +1.0**
LODK Lodwar 36.29 155 P **P 13 13 01.3 +1.9**
SNR=5.4
NGCH Negor - Chabah 36.31 97 P **P 13 13 00.6 +1.2**
JLN Jalan Bani Buh 36.60 103 P **P 13 13 01.9 0.0**
SNR=10.0
BORG Borgarnes 36.96 331 LR LR 13 29 36.6
comp=Z,411nm,19.3s,baz=127,slow=39
BRVK Borovoye 37.56 49 P **P 13 13 09.0 -0.9**
BRVK IAmb IAmb 13 13 33.1
comp=Z,63nm,1.4s
BRVK Borovoye 37.56 49 P **P 13 13 09.6 -0.3**
BRVK Borovoye 37.56 49 ⇑P **P 13 13 09.6 -0.3**
BRVK Borovoye 37.56 49 *c i* P **P 13 13 08.8 -1.0**
BRVK pmax pmax
comp=Z,19nm,0.7s
BRLS Borolday 37.59 65 *e*P **P 13 13 09.1 -1.2**
BRLS Borolday 37.59 65 *e*P **P 13 13 09.0 -1.2**
BVA0 Borovoye Array 37.63 49 *i* P **P 13 13 09.9 -0.5**
BVAR Borovoye Array 37.63 49 P **P 13 13 08.6 -1.8**
comp=Z,13nm,0.7s,baz=262,slow=5.6,SNR=61
BVAR LR LR 13 30 33.1
comp=Z,597nm,18.1s,baz=268,slow=39
comp=Z,13nm,0.7s
SIMJ Simiganj 37.80 73 P **P 13 13 11.4 -0.8**
SIMJ IAmb IAmb 13 13 14.2
comp=Z,46nm,0.9s
IUG Iuzhnay 37.87 67 *e*P **P 13 13 12.2 -0.5**
comp=Z,24nm,0.9s
IUG Iuzhnay 37.87 67 *e*P **P 13 13 12.2 -0.5**
IUG pmax pmax
comp=Z,24nm,0.9s
KK31 Karatay Array 38.07 65 *i* P **P 13 13 13.4 -0.9**
KKAR Karatay Array 38.07 65 P **P 13 13 13.0 -1.3**
KKAR Karatay Array 38.07 65 IAmb IAmb 13 13 15.4
comp=Z,12nm,0.6s
KKAR Karatay Array 38.07 65 ⇑P **P 13 13 13.0 -1.3**
KKAR Karatay Array 38.07 65 P **P 13 13 13.0 -1.3**
DBIC Dimbokro 38.30 224 P **P 13 13 16.3 -0.1**
comp=Z,26nm,1.0s,baz=27,slow=8.6,SNR=25
DBIC LR LR 13 31 39.0
comp=Z,538nm,18.0s,baz=18,slow=40
comp=Z,26nm,1.0s
DZA Taraz 38.70 65 *e*P **P 13 13 19.0 -0.6**
DZA Taraz 38.70 65 *e*P **P 13 13 19.0 -0.6**
MBAR Mbarara 38.82 164 LR LR 13 30 42.7
comp=Z,1μm,19.9s,baz=352,slow=38
BTK Batken 38.85 70 IAmb IAmb 13 13 22.1
comp=Z,44nm,1.1s
KBL Kabul 38.95 79 P **P 13 13 22.0 0.0**
KBL Kabul 38.95 79 P **P 13 13 22.2 +0.2**
SNR=7.8
KBL Kabul 38.95 79 P **P 13 13 22.0 0.0**
KBL pmax pmax
comp=Z,21nm,1.3s
KBU Kabul Universi 39.03 79 P **P 13 13 24.5 +1.8**
DRK Karamyk 39.72 71 IAmb IAmb 13 13 31.1
comp=Z,43nm,1.2s
BBTS Babate 39.94 246 LR LR 13 32 34.1
comp=Z,2μm,18.3s,baz=296,slow=40
SCO Scoresbysund 40.08 339 P **P 13 13 32.3 +1.7**
SCO IAmb IAmb 13 13 33.9
comp=Z,45nm,1.1s
SCO Scoresbysund 40.08 339 ⇑P **P 13 13 33.0 +2.3**
SCO Scoresbysund 40.08 339 P **P 13 13 32.3 +1.7**
SCO pmax pmax
comp=Z,45nm,1.1s
SCO Scoresbysund 40.08 339 *i* P **P 13 13 32.1 +1.5**
SCO IAmb IAmb 13 13 33.7
comp=Z,47nm,1.1s
BTLS Baital 40.31 62 *e*P **P 13 13 32.6 -0.3**
BTLS Baital 40.31 62 *e*P **P 13 13 32.6 -0.3**
EKS2 Erkin-Say 40.51 65 P **P 13 13 35.7 +0.9**
SNR=32
AML Almayashu 40.55 66 P **P 13 13 37.7 +2.2**
SNR=6.2
USP Ospenovka 40.92 64 P **P 13 13 37.7 -0.3**
SNR=10
AAK Ala-Archa 41.03 65 P **P 13 13 40.0 +0.8**
SNR=28
AAK Ala-Archa 41.03 65 P **P 13 13 39.3 +0.2**
AAK IAmb IAmb 13 13 42.1
comp=Z,34nm,0.9s
AAK Ala-Archa 41.03 65 *i* P **P 13 13 39.2 0.0**
SNR=35
AAK Ala-Archa 41.03 65 LR LR 13 32 45.2
comp=Z,485nm,19.3s,baz=291,slow=39
AAK Ala-Archa 41.03 65 P **P 13 13 39.4 +0.2**
AAK Ala-Archa 41.03 65 ⇑P **P 13 13 38.8 -0.3**
AAK Ala-Archa 41.03 65 *c i* P **P 13 13 39.2 0.0**
AAK pmax pmax
comp=Z,39nm,1.0s
SPITS Spitsbergen Ar 41.06 359 P **P 13 13 39.4 +0.7**
comp=Z,13nm,0.7s,baz=152,slow=13,SNR=9.0
SPITS LR LR 13 31 39.5
comp=Z,2μm,21.2s,baz=140,slow=38
comp=Z,13nm,0.7s

FRU1 Bishkek 41.10 65 IAmb IAmb 13 13 42.7
comp=Z,45nm,1.0s
CHMS Chumysh 41.15 65 P **P 13 13 40.4 +0.4**
SNR=10
KMBO Kilima Mbogo 41.18 154 P **P 13 13 42.1 +1.5**
KMBO Kilima Mbogo 41.18 154 P **P 13 13 43.5 +2.9**
KMBO Kilima Mbogo 41.18 154 P **P 13 13 42.3 +1.7**
comp=Z,1.9nm,0.3s,baz=335,slow=6.1,SNR=7.8
KMBO LR LR 13 31 41.3
comp=Z,446nm,20.7s,baz=297,slow=37
comp=Z,1.9nm,0.3s
KMBO Kilima Mbogo 41.18 154 P **P 13 13 43.2 +2.6**
KMBO Kilima Mbogo 41.18 154 *i* P **P 13 13 43.0 +2.4**
KMBO pmax pmax
comp=Z,2.0nm,0.3s
KBK Karagaybulak 41.36 65 P **P 13 13 42.7 +0.9**
SNR=18
TKM2 Tokmak 2 41.77 64 P **P 13 13 44.6 -0.7**
SNR=5.7
TKM2 Tokmak 2 41.77 64 *i* P **P 13 13 44.9 -0.4**
TKM2 pmax pmax
comp=Z,16nm,1.0s
KUU Kurty 42.12 63 *e*P **P 13 13 47.3 -0.6**
KUU Kurty 42.12 63 *e*P **P 13 13 47.3 -0.6**
NIL Nilore 42.54 79 P **P 13 13 50.2 -1.2**
NIL Nilore 42.54 79 P **P 13 13 51.8 +0.4**
NIL Nilore 42.54 79 P **P 13 13 50.2 -1.2**
NIL pmax pmax
comp=Z,85nm,1.1s
CHKK Chushkaly 42.59 63 *e*P **P 13 13 51.2 -0.5**
CHKK Chushkaly 42.59 63 *e*P **P 13 13 51.2 -0.5**
KIBK Kibwezi 42.59 154 P **P 13 13 52.9 +1.0**
AAA Alma-Ata 42.66 64 *e*P **P 13 13 51.9 -0.5**
comp=Z,30nm,0.9s
AAA Alma-Ata 42.66 64 *e*P **P 13 13 51.9 -0.5**
AAA pmax pmax
comp=Z,30nm,0.9s
KURBB Kurchatov Arra 42.69 53 P **P 13 13 51.2 -1.2**
comp=Z,40nm,0.7s,baz=282,slow=8.6,SNR=214
KURBB PP **PP 13 15 32.0 +0.7**
comp=Z,7.6nm,0.7s,baz=272,slow=12,SNR=5.0
KURBB LR LR 13 34 37.6
comp=Z,1μm,18.8s,baz=300,slow=40
comp=Z,40nm,0.7s
TNSS Tian-Shan 42.72 64 *e*P **P 13 13 52.2 -1.0**
TNSS Tian-Shan 42.72 64 *e*P **P 13 13 52.2 -1.0**
KURK Kurchatov 42.74 53 P **P 13 13 51.4 -1.3**
KURK IAmb IAmb 13 13 55.5
comp=Z,42nm,0.8s
KURK Kurchatov 42.74 53 P **P 13 13 51.9 -0.8**
KURK Kurchatov 42.74 53 ⇑P **P 13 13 51.8 -1.0**
KURK Kurchatov 42.74 53 *c i* P **P 13 13 51.9 -0.8**
KURK pmax pmax
comp=Z,50nm,0.9s
MDOK Medeo 42.77 64 *e*P **P 13 13 52.7 -0.6**
MDOK Medeo 42.77 64 P **P 13 13 52.7 -0.6**
KSH Kashi 42.84 69 P **P 13 13 52.1 -1.8**
KSH sP pP 13 13 59.4 -0.1
KSH S **S 13 20 16.6 -0.7**
KSH ScS **ScS 13 23 49.3 -4.6**
KSH pmax pmax
comp=Z,23nm,1.4s
KSH LR LR
comp=Z,880nm,12.4s
KSH LR LR
comp=Z,510nm,14.4s
KSH LR LR
comp=Z,620nm,13.1s
ARXS Arharly 43.11 62 *e*P **P 13 13 55.6 -0.4**
DAG Danmarks Havn 43.21 348 *i* P **P 13 13 56.0 -0.2**
DAG IAmb IAmb 13 13 57.8
comp=Z,7.7nm,0.9s
TDK Taldyqorghan 43.37 61 *e*P **P 13 13 57.5 -0.5**
TDK Taldyqorghan 43.37 61 *e*P **P 13 13 57.5 -0.5**
ZHN Zhinishke 43.76 63 *e*P **P 13 14 00.8 -0.5**
ZHN Zhinishke 43.76 63 *e*P **P 13 14 00.8 -0.5**
SEM Semipalatinsk 43.80 53 *e*P **P 13 14 01.0 -0.6**
comp=Z,16nm,0.7s
SEM Semipalatinsk 43.80 53 *e*P **P 13 14 01.0 -0.6**
SEM pmax pmax
comp=Z,16nm,0.7s
KPKS Kokpek 43.87 63 *e*P **P 13 14 01.5 -0.7**
KPKS Kokpek 43.87 63 *e*P **P 13 14 01.4 -0.7**
UZB Uzynbulak 44.18 63 *e*P **P 13 14 04.0 -0.8**
UZB Uzynbulak 44.18 63 *e*P **P 13 14 03.9 -0.8**
SHLS Shalkode 44.49 63 *e*P **P 13 14 09.1 +1.9**
SHLS Shalkode 44.49 63 *e*P **P 13 14 09.0 +1.9**
WUS Wushi 44.79 66 IAmb IAmb 13 14 10.9
comp=Z,33nm,0.9s
ICESG Greenland Ices 45.20 334 *i* P **P 13 14 12.4 -0.2**
ICESG IAmb IAmb 13 14 17.6
comp=Z,18nm,0.9s
MAKZ Makanchi 45.48 58 P **P 13 14 13.8 -1.0**
MAKZ Makanchi 45.48 58 ⇑P **P 13 14 14.2 -0.6**
MAKZ Makanchi 45.48 58 P **P 13 14 13.8 -1.0**
MAKZ pmax pmax
comp=Z,12nm,0.9s
MK31 Makanchi Array 45.69 58 *de*P **P 13 14 15.4 -1.1**
MKAR Makanchi Array 45.69 58 P **P 13 14 15.1 -1.4**
MKAR Makanchi Array 45.69 58 P **P 13 14 15.0 -1.5**
comp=Z,15nm,0.7s,baz=280,slow=6.9,SNR=113
MKAR LR LR 13 36 01.2
comp=Z,575nm,20.5s,baz=270,slow=40
comp=Z,15nm,0.7s
MKAR Makanchi Array 45.69 58 *i* P **P 13 14 15.3 -1.2**
MKAR pmax pmax
comp=Z,15nm,0.7s
SUMG Summit 45.71 339 P **P 13 14 18.1 +1.4**
SUMG IAmb IAmb 13 14 25.4
comp=Z,30nm,1.1s
SUMG Summit 45.71 339 ⇑P **P 13 14 18.6 +1.9**
SUMG Summit 45.71 339 P **P 13 14 18.1 +1.4**
SUMG pmax pmax
comp=Z,30nm,1.1s
SUMG Summit 45.71 339 *i* P **P 13 14 17.3 +0.6**
SUMG IAmb IAmb 13 14 24.6
comp=Z,24nm,1.0s
ZALV Zalesovo Beam 46.22 47 P **P 13 14 19.0 -1.6**
ZALV Zalesovo Beam 46.22 47 P **P 13 14 19.3 -1.3**
comp=Z,28nm,0.7s,baz=274,slow=8.4,SNR=107
ZALV LR LR 13 36 28.9
comp=Z,1μm,18.7s,baz=284,slow=40
comp=Z,28nm,0.7s
NOR Nord 46.40 353 *i* P **P 13 14 21.2 -0.3**
NOR IAmb IAmb 13 14 23.1
comp=Z,37nm,1.2s
ZSN Zaisan 47.28 56 *e*P **P 13 14 28.5 -0.5**
comp=Z,26nm,1.6s
ZSN Zaisan 47.28 56 *e*P **P 13 14 28.5 -0.5**
ZSN pmax pmax
comp=Z,26nm,1.6s
DY2G Dye2 47.33 330 *i* P **P 13 14 30.0 +0.7**
DY2G IAmb IAmb 13 14 32.3
comp=Z,39nm,1.3s
NRIK Noril'sk 47.56 26 P **P 13 14 31.3 +0.5**
NRIK IAmb IAmb 13 14 45.2
comp=Z,26nm,1.1s
NRIK Noril'sk 47.56 26 P **P 13 14 30.0 -0.8**
comp=Z,9.1nm,0.7s,baz=227,slow=3.8,SNR=19
NRIK LR LR 13 35 24.2
comp=Z,1μm,19.6s,baz=264,slow=37
comp=Z,9.1nm,0.7s
NRIK Noril'sk 47.56 26 *c i* P **P 13 14 31.8 +1.0**
NRIK pmax pmax
comp=Z,26nm,1.3s
SFJD Kangerlussuaq 49.08 330 LR LR 13 37 40.2
comp=Z,560nm,19.0s,baz=86,slow=39
NEEM North Greenlan 49.98 344 *i* P **P 13 14 49.7 +0.1**
NEEM IAmb IAmb 13 15 01.2
comp=Z,22nm,0.8s
WMQ Urumqi 50.11 60 *e*P **P 13 14 52.0 +1.2**
WMQ sP pwP 13 15 03.3 +3.5
WMQ pmax pmax
comp=Z,26nm,0.7s
WMQ pmax pmax
comp=Z,200nm,5.1s
WMQ LR LR
comp=Z,1μm,14.1s
WMQ LR LR
comp=Z,1μm,11.5s
WMQ LR LR
comp=Z,560nm,21.1s
KULLO Kullorsuaq 51.26 340 *i* P **P 13 14 59.5 +0.5**
KULLO IAmb IAmb 13 15 06.7
comp=Z,23nm,1.1s

MSEY Mahe Island 52.84 134 P **P 13 15 12.6 +1.1**
HYB Hyderabad 54.26 95 *e*P **P 13 15 21.1 -0.8**
HYB IVmB_BB 13 15 21.4
comp=Z,449nm,1.0s
TSUM Tsumeb 56.24 183 LR LR 13 41 54.8
comp=Z,2μm,19.8s,baz=336,slow=38
EUNU Eureka 56.42 348 P **P 13 15 38.2 +1.5**
FRB Frobisher Bay 56.98 328 LR LR 13 41 42.6
comp=Z,379nm,19.5s,baz=82,slow=38
GOMU GeErMu 57.95 67 P **P 13 15 47.8 -0.7**
GOMU pP pP 13 15 51.5 -2.5
GOMU sP sP 13 15 55.8 -0.2
GOMU S **S 13 23 45.1 -2.9**
GOMU pmax pmax
comp=Z,13nm,0.8s
GOMU LR LR
comp=Z,660nm,18.8s
GOMU LR LR
comp=Z,720nm,18.1s
GOMU LR LR
comp=Z,1μm,18.7s
IRK Irkutsk 57.99 46 *e*P P 13 15 42.8 -5.3
IRK pmax pmax
comp=Z,58nm,1.5s
LSA Lhasa 58.06 75 P **P 13 15 49.3 -0.2**
SCHQ Schefferville 59.20 318 P **P 13 15 56.4 -0.2**
comp=Z,6.7nm,0.8s,baz=60,slow=6.1,SNR=14
SCHQ LR LR 13 41 47.7
comp=Z,262nm,18.2s,baz=62,slow=36
comp=Z,6.7nm,0.8s
GTA Gaotai 60.16 61 *e*P **P 13 16 03.6 0.0**
GTA pP sP 13 16 10.6 -0.4
GTA PP **PP 13 18 14.4 -1.6**
GTA S **S 13 24 15.6 -0.6**
GTA pmax pmax
comp=Z,18nm,0.9s
GTA pmax pmax
comp=Z,110nm,7.2s
GTA LR LR
comp=Z,330nm,15.5s
GTA LR LR
comp=Z,440nm,19.5s
GTA LR LR
comp=Z,590nm,16.3s
TIXI Tiksi 60.47 20 P **P 13 16 05.1 +0.2**
TIXI IAmb IAmb 13 16 06.8
comp=Z,20nm,0.9s
TIXI Tiksi 60.47 20 ⇓*i* P **P 13 16 06.0 +1.1**
TIXI pmax pmax
comp=Z,25nm,1.0s
SHL Shillong 60.61 79 P **P 13 16 05.6 -1.3**
SNR=28
RES Resolute Bay 60.67 344 IAmb IAmb 13 16 14.3
comp=Z,14nm,1.1s
RES Resolute Bay 60.67 344 LR LR 13 43 18.3
comp=Z,408nm,19.5s,baz=32,slow=37
SONM Songino Array 60.95 50 P **P 13 16 07.4 -1.4**
SONM IAmb IAmb 13 16 39.7
comp=Z,16nm,1.2s
SONM Songino Array 60.95 50 P **P 13 16 08.1 -0.8**
comp=Z,4.9nm,0.9s,baz=280,slow=9.4,SNR=20
SONM LR LR 13 45 54.9
comp=Z,975nm,19.1s,baz=290,slow=40
comp=Z,4.9nm,0.9s
SONM Songino Array 60.95 50 P **P 13 16 07.4 -1.4**
SONM pmax pmax
comp=Z,16nm,1.2s
BOD Bodaibo 61.03 38 *e*P **P 13 16 08.0 -0.9**
BOD pmax pmax
comp=Z,46nm,0.8s
MALK Mahakanadarawa 61.08 102 P **P 13 16 07.9 -2.0**
ULN Ulaanbaatar 61.34 50 P **P 13 16 10.8 -0.7**
ULN IAmb IAmb 13 16 56.2
comp=Z,14nm,1.1s
ULN Ulaanbaatar 61.34 50 ⇑*e*P **P 13 16 11.6 +0.1**
ULN pmax pmax
comp=Z,30nm,2.4s
LBTB Lobatse 62.12 175 P **P 13 16 18.0 +1.3**
LBTB Lobatse 62.12 175 LR LR 13 47 55.3
comp=Z,416nm,18.9s,baz=2.0,slow=40
LBTB Lobatse 62.12 175 P **P 13 16 18.0 +1.3**
LBTB pmax pmax
comp=Z,65nm,1.8s
LZH Lanzhou 64.52 63 *e*P **P 13 16 32.9 +0.1**
LZH pP sP 13 16 40.6 +0.3
LZH S **S 13 25 12.3 +1.2**
LZH pmax pmax
comp=Z,42nm,1.2s
LZH pmax pmax
comp=Z,250nm,6.7s
LZH LR LR
comp=Z,810nm,16.5s
LZH LR LR
comp=Z,680nm,16.5s
LZH LR LR
comp=Z,700nm,19.2s
BOSA Boshof 65.67 176 P **P 13 16 41.0 +0.9**
comp=Z,2.9nm,0.5s,baz=5.3,slow=9.1,SNR=4.4
BOSA LR LR 13 50 13.5
comp=Z,782nm,18.0s,baz=5.5,slow=40
comp=Z,2.9nm,0.5s
YAK Yakutsk 65.85 29 P **P 13 16 40.1 -0.7**
YAK Yakutsk 65.85 29 LR LR 13 49 03.6
comp=Z,1μm,18.3s,baz=311,slow=39
YAK Yakutsk 65.85 29 *e*P **P 13 16 40.8 +0.1**
YAK *e**PP **pP 13 16 44.3 -2.0**
YAK *e* 13 17 10.8
YAK *e* 13 19 02.4
YAK *e*PPP PPP 13 20 40.4
YAK *e*S **S 13 25 28.6 +2.3**
YAK *e* 13 26 38.2
YAK *e*SS **SS 13 29 37.5 -2.7**
YAK pmax pmax
comp=Z,54nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,27nm,1.5s
YAK pmax pmax
comp=Z,798nm,4.8s
YAK pmax pmax
comp=N,515nm,4.4s
YAK pmax pmax
comp=E,338nm,4.1s
YAK smax smax
comp=E,469nm,6.7s
YAK smax smax
comp=N,303nm,5.3s
YAK MLR MLR
comp=Z,807nm,24.0s
YAK MLR MLR
comp=N,686nm,13.0s
YAK MLR MLR
comp=E,704nm,12.0s
TNCH TengChong 66.05 76 ⇑P **P 13 16 43.1 +0.2**
TNCH pP pP 13 16 46.5 -2.0
TNCH sP sP 13 16 48.5 -1.9
TNCH S **S 13 25 29.3 -1.0**
TNCH sS sS 13 25 39.0 -0.4
TNCH pmax pmax
comp=E,76nm,0.9s
TNCH pmax pmax
comp=E,190nm,2.0s
TNCH LR LR
comp=E,140nm,6.7s
TNCH LR LR
comp=E,150nm,4.6s
TNCH LR LR
comp=E,96nm,8.3s
BTO Baotou 66.57 56 *e*P **P 13 16 45.4 -0.5**
BTO pP **pP 13 16 50.3 -1.2**
BTO sP **sP 13 16 52.5 -0.9**
BTO PP **PP 13 19 13.6 +1.4**
BTO S **S 13 25 33.8 -2.2**
BTO SS **SS 13 29 50.9 -1.8**
BTO pmax pmax
comp=E,37nm,1.4s
BTO pmax pmax
comp=E,650nm,5.8s
BTO LR LR
comp=E,2μm,16.3s
BTO LR LR
comp=E,970nm,18.0s
BTO LR LR
comp=E,2μm,19.0s
CD2 Chengdu 67.01 68 P **P 13 16 49.0 +0.2**

CD2				pP	pP	13 16 51.8	-2.5
CD2				S	**S**	**13 25 40.9**	**-0.6**
CD2				SKS	**SKSac**	**13 26 46.3**	**+1.1**
CD2				pmax	pmax		
	comp=E,110nm,0.8s						
CD2				pmax	pmax		
	comp=E,270nm,2.9s						
CD2				LR	LR		
	comp=E,390nm,15.2s						
CD2				LR	LR		
	comp=E,390nm,12.1s						
CD2				LR	LR		
	comp=E,400nm,14.0s						
WES	**Weston**	**67.39**	**307**	IAmb	IAmb	13 16 54.1	
	comp=Z,17nm,0.8s						
HHC	**Hu-ho-hao-te**	**67.46**	**55**	*e*P	**P**	**13 16 50.6**	**-1.0**
HHC				S	**S**	**13 25 45.0**	**-1.8**
HHC				ScS	**ScS**	**13 26 49.3**	**+0.4**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,250nm,6.1s						
HHC				LR	LR		
	comp=Z,490nm,14.1s						
HHC				LR	LR		
	comp=Z,490nm,15.7s						
HHC				LR	LR		
	comp=Z,670nm,16.2s						
PZH	**PanZhiHua**	**67.76**	**73**	P	**P**	**13 16 53.0**	**-0.7**
PZH				pP	**pP**	**13 16 56.0**	**-3.3**
PZH				S	**S**	**13 25 48.0**	**-2.8**
PZH				pmax	pmax		
	comp=Z,100nm,0.9s						
PZH				pmax	pmax		
	comp=Z,240nm,4.2s						
PZH				LR	LR		
	comp=Z,250nm,18.6s						
PZH				LR	LR		
	comp=Z,280nm,20.4s						
PZH				LR	LR		
	comp=Z,290nm,16.1s						
RCBR	**Riachuelo**	**67.88**	**244**	LR	LR	13 46 36.2	
	comp=Z,375nm,19.9s,baz=57,slow=36						
HIA	**Hailar**	**68.09**	**44**	P	**P**	**13 16 56.1**	**+0.8**
L61B	**Northampton**	**68.22**	**307**	P	**P**	**13 16 56.6**	**+0.4**
	baz=59						
ACCN	**Adirondack Com**	**68.36**	**309**	IAmb	IAmb	13 17 16.7	
	comp=Z,34nm,1.4s						
A36M	**Sachs Harbour**	**68.44**	**349**	P	**P**	**13 16 57.9**	**+0.9**
	baz=29						
XLT	**XiLinHaoTe**	**68.77**	**51**	*e*P	**P**	**13 17 00.3**	**+0.6**
XLT				sP	sP	13 17 06.6	-0.6
XLT				PcP	**PcP**	**13 17 26.4**	**+2.1**
XLT				S	**S**	**13 26 01.4**	**-0.8**
XLT				pmax	pmax		
	comp=Z,15nm,0.9s						
XLT				pmax	pmax		
	comp=Z,71nm,5.2s						
XLT				LR	LR		
	comp=Z,1μm,12.8s						
XLT				LR	LR		
	comp=Z,1μm,12.3s						
XAN	**Xi'an**	**69.14**	**63**	⇓P	**P**	**13 17 03.3**	**+1.1**
XAN				sP	sP	13 17 09.8	+0.1
XAN				S	**S**	**13 26 07.8**	**+0.9**
XAN				pmax	pmax		
	comp=Z,53nm,1.4s						
XAN				pmax	pmax		
	comp=Z,410nm,4.7s						
XAN				LR	LR		
	comp=Z,910nm,15.2s						
XAN				LR	LR		
	comp=Z,770nm,16.6s						
XAN				LR	LR		
	comp=Z,640nm,15.5s						
KMI	**Kunming**	**69.25**	**74**	⇑P	**P**	**13 17 02.5**	**-0.7**
KMI				S	**S**	**13 26 06.3**	**-2.5**
KMI				pmax	pmax		
	comp=Z,41nm,1.0s						
KMI				pmax	pmax		
	comp=Z,260nm,4.6s						
KMI				LR	LR		
	comp=Z,220nm,15.7s						
KMI				LR	LR		
	comp=Z,280nm,13.2s						
KMI				LR	LR		
	comp=Z,360nm,21.3s						
SUR	**Sutherland**	**69.29**	**180**	LR	LR	13 51 25.5	
	comp=Z,387nm,18.4s,baz=353,slow=39						
ZEA	**Zeya**	**69.53**	**37**	*e*P	**P**	**13 17 05.8**	**+1.7**
ZEA				*e*S	**S**	**13 26 16.3**	**+5.6**
ZEA				pmax	pmax		
	comp=N,10.0nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,20nm,1.4s						
ZEA				pmax	pmax		
	comp=Z,300nm,3.5s						
ZEA				smax	smax		
	comp=E,200nm,9.9s						
ZEA				MLR	MLR		
	comp=E,700nm,12.0s						
ZEA				MLR	MLR		
	comp=N,500nm,14.0s						
ZEA				MLR	MLR		
	comp=Z,1μm,12.0s						
CHTO	**Chiang Mai**	**69.71**	**81**	P	**P**	**13 17 05.0**	**-0.8**
CHTO	**Chiang Mai**	**69.71**	**81**	P	**P**	**13 17 05.0**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,33nm,1.0s						
CM31	**Chiang Mai Arr**	**69.91**	**82**	P	**P**	**13 17 06.3**	**-0.7**
	SNR=20						
CMAR	**Chiang Mai Arr**	**69.91**	**82**	P	**P**	**13 17 06.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**69.91**	**82**	P	**P**	**13 17 06.6**	**-0.5**
	comp=Z,19nm,0.9s,baz=303,slow=7.8,SNR=114						
CMAR				LR	LR	13 52 33.8	
	comp=Z,154nm,21.3s,baz=290,slow=40						
	comp=Z,19nm,0.9s						
CMAR	**Chiang Mai Arr**	**69.91**	**82**	*i* P	**P**	**13 17 06.5**	**-0.5**
CMAR				pmax	pmax		
	comp=Z,21nm,0.9s						
C36M	**Paulatuk**	**70.57**	**347**	IAmb	IAmb	13 17 12.2	
	comp=Z,36nm,1.4s						
C36M	**Paulatuk**	**70.57**	**347**	P	**P**	**13 17 11.4**	**+1.2**
	baz=29,SNR=7.5						
BJI	**Beijing**	**70.88**	**54**	P	**P**	**13 17 13.1**	**+0.4**
BJI				S	**S**	**13 26 26.0**	**-0.9**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.2s						
BJI				pmax	pmax		
	comp=Z,130nm,4.7s						
BJI				LR	LR		
	comp=Z,370nm,14.5s						
BJI				LR	LR		
	comp=Z,230nm,12.6s						
BJI				LR	LR		
	comp=Z,550nm,13.3s						
SADO	**Sadowa**	**70.95**	**312**	LR	LR	13 49 03.2	
	comp=Z,286nm,18.7s,baz=60,slow=36						
HNS	**HongShan**	**71.35**	**57**	⇓P	**P**	**13 17 16.3**	**+0.8**
HNS				S	**S**	**13 26 34.8**	**+2.4**
HNS				SKS	**SKSac**	**13 27 18.0**	**+0.4**
HNS				pmax	pmax		
	comp=Z,18nm,1.4s						
HNS				pmax	pmax		
	comp=Z,270nm,4.7s						
HNS				LR	LR		
	comp=Z,650nm,17.6s						
HNS				LR	LR		
	comp=Z,540nm,16.3s						
HNS				LR	LR		
	comp=Z,690nm,15.7s						
LYN	**LuoYang**	**71.36**	**61**	P	**P**	**13 17 16.8**	**+1.1**
LYN				pP	pP	13 17 19.5	-1.7
LYN				sP	sP	13 17 23.3	+0.1
LYN				S	**S**	**13 26 33.6**	**+0.9**
LYN				sS	sS	13 26 42.8	+0.9
LYN				SKS	**SKSac**	**13 27 16.6**	**-1.3**
LYN				pmax	pmax		
	comp=Z,22nm,0.9s						
LYN				pmax	pmax		
	comp=Z,190nm,5.1s						
LYN				LR	LR		
	comp=Z,650nm,10.0s						
LYN				LR	LR		
	comp=Z,680nm,12.4s						
LYN				LR	LR		
	comp=Z,940nm,13.1s						
GYA	**Guiyang**	**71.52**	**71**	⇓P	**P**	**13 17 17.3**	**+0.4**
GYA				S	**S**	**13 26 31.8**	**-3.2**
GYA				pmax	pmax		
	comp=Z,52nm,1.1s						
GYA				LR	LR		
	comp=Z,340nm,24.4s						
ENH	**Enshi**	**71.55**	**66**	P	**P**	**13 17 17.3**	**+0.4**
M57A	**Sunshine Farm,**	**71.62**	**308**	IAmb	IAmb	13 17 34.7	
	comp=Z,16nm,1.0s						
HEH	**HeiHe**	**71.66**	**40**	*e*P	**P**	**13 17 17.6**	**+0.4**
HEH				sP	**pwP**	**13 17 25.3**	**-0.9**
HEH				S	**S**	**13 26 35.5**	**-0.1**
HEH				pmax	pmax		
	comp=Z,71nm,1.2s						
HEH				pmax	pmax		
	comp=Z,250nm,4.0s						
HEH				LR	LR		
	comp=Z,1μm,14.1s						
HEH				LR	LR		
	comp=Z,1μm,15.7s						
HEH				LR	LR		
	comp=Z,2μm,13.7s						
BILL	**Bilibino**	**71.88**	**13**	⇓*i* P	**P**	**13 17 19.0**	**+0.8**
BILL				pmax	pmax		
	comp=Z,26nm,1.5s						
A22K	**Sinclair Lake**	**71.99**	**358**	P	**P**	**13 17 19.8**	**+1.0**
	baz=3.7						
SLVN	**Son La**	**72.21**	**76**	P	**P**	**13 17 20.5**	**-0.6**
SLVN				IAmb	IAmb	13 17 22.6	
	comp=Z,28nm,1.0s						
SLVN	**Son La**	**72.21**	**76**	P	**P**	**13 17 21.2**	**+0.2**
SSPA	**Standing Stone**	**72.49**	**308**	P	**P**	**13 17 23.9**	**+1.5**
C26K	**Camden Bay**	**72.61**	**355**	P	**P**	**13 17 23.5**	**+1.1**
	baz=12						
B22K	**Teshekpuk Lake**	**72.61**	**358**	P	**P**	**13 17 23.4**	**+0.9**
	baz=5.0						
D28M	**Stokes Point**	**72.63**	**352**	P	**P**	**13 17 24.0**	**+1.4**
	baz=17						
C27K	**Jago River**	**72.80**	**354**	IAmb	IAmb	13 17 50.2	
	comp=Z,24nm,1.1s						
C27K	**Jago River**	**72.80**	**354**	P	**P**	**13 17 24.5**	**+0.8**
	baz=13						
A19K	**Wainwright**	**72.83**	**1**	P	**P**	**13 17 24.7**	**+0.9**
	baz=359						
D27M	**Malcolm River**	**72.94**	**353**	IAmb	IAmb	13 18 01.5	
	comp=Z,19nm,1.1s						
D27M	**Malcolm River**	**72.94**	**353**	P	**P**	**13 17 25.4**	**+0.8**
	baz=15						
SEY	**Seymchan**	**72.95**	**21**	LR	LR	13 53 46.1	
	comp=Z,341nm,18.5s,baz=328,slow=40						
SEY	**Seymchan**	**72.95**	**21**	⇓*e*P	**P**	**13 17 26.3**	**+1.7**
SEY				pmax	pmax		
	comp=Z,124nm,4.4s						
INK	**Inuvik**	**72.98**	**350**	LR	LR	13 51 32.0	
	comp=Z,282nm,21.1s,baz=26,slow=38						
INK	**Inuvik**	**72.98**	**350**	P	**P**	**13 17 25.4**	**+0.7**
	baz=21						
C23K	**Itkillik River**	**73.02**	**357**	IAmb	IAmb	13 17 55.4	
	comp=Z,26nm,1.1s						
C23K	**Itkillik River**	**73.02**	**357**	P	**P**	**13 17 25.6**	**+0.7**
	baz=7.3						
B20K	**Meade River**	**73.02**	**359**	P	**P**	**13 17 26.4**	**+1.4**
	baz=1.9						
C24K	**Franklin Bluff**	**73.04**	**356**	P	**P**	**13 17 26.1**	**+1.1**
	baz=8.9						
P57A	**Homestead Farm**	**73.22**	**307**	IAmb	IAmb	13 17 34.1	
	comp=Z,22nm,1.2s						
D25K	**Kavik River**	**73.29**	**355**	IAmb	IAmb	13 18 20.6	
	comp=Z,14nm,1.0s						
D25K	**Kavik River**	**73.29**	**355**	P	**P**	**13 17 27.2**	**+0.5**
	baz=11						
B21K	**Ikpikpuk River**	**73.37**	**358**	IAmb	IAmb	13 17 57.6	
	comp=Z,20nm,1.1s						
B21K	**Ikpikpuk River**	**73.37**	**358**	P	**P**	**13 17 27.8**	**+0.8**
	baz=4.0						
E28M	**Babbage River**	**73.41**	**353**	IAmb	IAmb	13 18 11.2	
	comp=Z,17nm,1.1s						
E28M	**Babbage River**	**73.41**	**353**	P	**P**	**13 17 28.3**	**+1.0**
	baz=16						
E29M	**Blow River**	**73.44**	**352**	IAmb	IAmb	13 17 59.9	
	comp=Z,25nm,0.9s						
E29M	**Blow River**	**73.44**	**352**	P	**P**	**13 17 28.5**	**+1.0**
	baz=18						
D24K	**Happy Valley**	**73.61**	**356**	P	**P**	**13 17 29.6**	**+1.1**
	baz=8.8						
TIA	**Tai'an**	**73.62**	**57**	P	**P**	**13 17 29.3**	**+0.2**
TIA				sP	**sP**	**13 17 36.5**	**-0.1**
TIA				S	**S**	**13 26 59.3**	**+0.8**
TIA				pmax	pmax		
	comp=Z,21nm,1.2s						
TIA				pmax	pmax		
	comp=Z,300nm,4.9s						
TIA				LR	LR		
	comp=Z,820nm,19.8s						
TIA				LR	LR		
	comp=Z,710nm,17.3s						
TIA				LR	LR		
	comp=Z,1μm,16.1s						
MDP	**Montagnes des**	**73.64**	**264**	LR	LR	13 49 54.0	
	comp=Z,158nm,18.8s,baz=98,slow=36						
B18K	**Kokolik River**	**73.67**	**1**	P	**P**	**13 17 29.9**	**+1.2**
	baz=358						
F31M	**Tsiigehtchic**	**73.82**	**350**	P	**P**	**13 17 30.3**	**+0.6**
	baz=21,SNR=16						
C21K	**Knifeblade Rid**	**73.84**	**358**	P	**P**	**13 17 30.9**	**+1.1**
	baz=3.8						
D23K	**Nanushuk River**	**73.89**	**357**	IAmb	IAmb	13 18 01.0	
	comp=Z,22nm,1.1s						
D23K	**Nanushuk River**	**73.89**	**357**	P	**P**	**13 17 30.8**	**+0.7**
	baz=7.2						
F30M	**Barrier River**	**73.93**	**351**	P	**P**	**13 17 31.6**	**+1.2**
	baz=19						
C19K	**Lookout Ridge**	**73.94**	**0**	P	**P**	**13 17 31.3**	**+0.8**
	baz=360						
R58B	**Mineral**	**73.99**	**306**	IAmb	IAmb	13 17 38.3	
	comp=Z,16nm,1.0s						
E27K	**Coleen River**	**74.02**	**353**	IAmb	IAmb	13 18 23.5	
	comp=Z,16nm,1.1s						
E27K	**Coleen River**	**74.02**	**353**	P	**P**	**13 17 32.3**	**+1.4**
	baz=15						
D22K	**Ayikyak River**	**74.05**	**357**	IAmb	IAmb	13 17 52.7	
	comp=Z,26nm,1.2s						
D22K	**Ayikyak River**	**74.05**	**357**	P	**P**	**13 17 32.5**	**+1.4**
	baz=5.6						
TOLK	**Toolik Lake Re**	**74.16**	**356**	IAmb	IAmb	13 18 15.0	
	comp=Z,30nm,1.4s						
TOLK	**Toolik Lake Re**	**74.16**	**356**	P	**P**	**13 17 32.6**	**+0.8**
	baz=8.1						
N53A	**Lisbon**	**74.23**	**309**	IAmb	IAmb	13 19 01.9	
	comp=Z,36nm,1.4s						
MCWV	**Mont Chateau**	**74.28**	**308**	IAmb	IAmb	13 17 35.4	
	comp=Z,20nm,0.8s						
YKA	**Yellowknife Ar**	**74.28**	**340**	P	**P**	**13 17 33.6**	**+1.1**
	comp=Z,5.2nm,1.0s,baz=34,slow=6.2,SNR=7.8						
YKA				LR	LR	13 53 12.8	
	comp=Z,306nm,18.3s,baz=44,slow=38						
	comp=Z,5.2nm,1.0s						
D20K	**Etivluk River**	**74.32**	**359**	P	**P**	**13 17 33.4**	**+0.8**
	baz=2.3						
T59A	**Double "B" Far**	**74.35**	**305**	IAmb	IAmb	13 17 52.3	
	comp=Z,20nm,1.2s						
BNX	**BinXian**	**74.37**	**44**	⇓P	**P**	**13 17 34.0**	**+0.7**
BNX				pmax	pmax		
	comp=Z,40nm,1.2s						
G31M	**Satah River**	**74.38**	**350**	P	**P**	**13 17 34.0**	**+1.0**
	baz=21,SNR=7.0						
C18K	**Utukok River**	**74.39**	**1**	P	**P**	**13 17 33.8**	**+0.7**
	baz=358						
F28M	**Old Crow**	**74.41**	**352**	P	**P**	**13 17 34.3**	**+1.2**
	baz=16,SNR=10						
CN2	**Changchun**	**74.43**	**47**	*e*P	**P**	**13 17 34.3**	**+0.6**
CN2				*es*P	sP	13 17 41.3	+0.1
CN2				*e*S	**S**	**13 27 04.4**	**-2.9**
CN2				pmax	pmax		
	comp=Z,50nm,1.2s						
CN2				LR	LR		
	comp=Z,380nm,13.0s						
CN2				LR	LR		
	comp=Z,440nm,13.0s						
CN2				LR	LR		
	comp=Z,650nm,14.0s						
BSI	**Banda Aceh**	**74.47**	**95**	P	**P**	**13 17 33.8**	**-0.6**
	comp=Z,35nm,1.1s						
KLR	**Kul'dur**	**74.51**	**39**	LR	LR	13 54 52.1	
	comp=Z,670nm,18.2s,baz=327,slow=40						
KLR	**Kul'dur**	**74.51**	**39**	*c i*P	**P**	**13 17 34.5**	**+0.5**
KLR				pmax	pmax		
	comp=Z,52nm,1.4s						
E21K	**Killik River**	**74.53**	**358**	P	**P**	**13 17 35.1**	**+1.2**
	baz=4.5						
C17K	**DeLong Mountai**	**74.54**	**1**	P	**P**	**13 17 35.4**	**+1.5**
	baz=357						
D19K	**Kuna River**	**74.55**	**360**	IAmb	IAmb	13 17 52.7	
	comp=Z,22nm,1.1s						
D19K	**Kuna River**	**74.55**	**360**	P	**P**	**13 17 35.3**	**+1.3**
	baz=1.1						
G30M	**tAoh Zraii Nji**	**74.58**	**351**	IAmb	IAmb	13 17 52.6	
	comp=Z,49nm,1.6s						
G30M	**tAoh Zraii Nji**	**74.58**	**351**	P	**P**	**13 17 35.4**	**+1.1**
	baz=19,SNR=5.6						
E24K	**Your Creek**	**74.66**	**356**	P	**P**	**13 17 36.4**	**+1.7**
	baz=9.0						
C16K	**Lisburne Hills**	**74.68**	**2**	P	**P**	**13 17 36.5**	**+1.9**
	baz=355						
F26K	**Sheenjek River**	**74.73**	**354**	P	**P**	**13 17 36.9**	**+1.8**
	baz=13						
E23K	**Chandalar**	**74.74**	**356**	IAmb	IAmb	13 18 06.1	
	comp=Z,17nm,1.0s						
E23K	**Chandalar**	**74.74**	**356**	P	**P**	**13 17 35.8**	**+0.7**
	baz=8.1						
E22K	**Anaktuvuk Pass**	**74.77**	**357**	IAmb	IAmb	13 18 06.1	
	comp=Z,15nm,0.9s						
E22K	**Anaktuvuk Pass**	**74.77**	**357**	P	**P**	**13 17 36.2**	**+0.9**
	baz=6.2						
E20K	**Nigu River**	**74.77**	**359**	P	**P**	**13 17 36.8**	**+1.5**
	baz=2.6						
G29M	**Pine Creek**	**74.87**	**351**	IAmb	IAmb	13 18 09.8	
	comp=Z,23nm,0.8s						
G29M	**Pine Creek**	**74.87**	**351**	P	**P**	**13 17 36.5**	**+0.6**
	baz=18,SNR=9.6						
WHN	**Wuhan**	**74.90**	**63**	P	**P**	**13 17 37.0**	**+0.4**
WHN				sP	**sP**	**13 17 44.3**	**+0.2**
WHN				S	**S**	**13 27 11.5**	**-1.4**
WHN				LR	LR		
	comp=Z,2μm,16.7s						
F25K	**Christian Rive**	**74.95**	**355**	P	**P**	**13 17 37.4**	**+1.0**
	baz=11						
RDOG	**Red Dog Mine**	**74.97**	**1**	P	**P**	**13 17 37.6**	**+1.2**
	baz=357						
BMAR	**Burnt Mountain**	**75.03**	**354**	P	**P**	**13 17 38.0**	**+1.2**
MA2	**Magadan**	**75.08**	**24**	LR	LR	13 52 53.8	
	comp=Z,521nm,20.0s,baz=320,slow=38						
F24K	**Squaw Lake**	**75.17**	**355**	P	**P**	**13 17 38.9**	**+1.3**
	baz=9.5						
CNSH	**ChangSha**	**75.21**	**66**	P	**P**	**13 17 38.3**	**-0.1**
CNSH				S	**S**	**13 27 19.0**	**+2.5**
CNSH				pmax	pmax		
	comp=Z,34nm,1.2s						
CNSH				LR	LR		
	comp=Z,380nm,13.7s						
CNSH				LR	LR		
	comp=Z,210nm,7.1s						
CNSH				LR	LR		
	comp=Z,320nm,18.4s						
EPYK	**Eagle Plains**	**75.23**	**351**	P	**P**	**13 17 39.2**	**+1.2**
	baz=18,SNR=5.9						
O52A	**Adamsville**	**75.25**	**309**	IAmb	IAmb	13 17 43.5	
	comp=Z,15nm,0.8s						
R55A	**Marlinton**	**75.25**	**307**	IAmb	IAmb	13 17 43.5	
	comp=Z,22nm,1.1s						
Q54A	**Coxs Mills**	**75.29**	**308**	IAmb	IAmb	13 17 40.8	
	comp=Z,14nm,0.9s						
D17K	**Noatak River**	**75.32**	**1**	P	**P**	**13 17 39.3**	**+0.9**
	baz=357						
P53A	**Whipple**	**75.34**	**309**	IAmb	IAmb	13 18 46.7	
	comp=Z,53nm,1.7s						
G27K	**Doyon Strip**	**75.37**	**353**	P	**P**	**13 17 39.9**	**+1.2**
	baz=14						
F22K	**John River**	**75.41**	**357**	P	**P**	**13 17 40.0**	**+1.1**
	baz=5.9						
G26K	**Porcupine Rive**	**75.43**	**354**	P	**P**	**13 17 40.3**	**+1.2**
	baz=13						
H31M	**Peel River**	**75.44**	**350**	IAmb	IAmb	13 18 12.7	
	comp=Z,17nm,1.1s						
H31M	**Peel River**	**75.44**	**350**	P	**P**	**13 17 39.7**	**+0.5**
	baz=20						
H29M	**Whitestone**	**75.58**	**351**	P	**P**	**13 17 40.8**	**+0.8**
	baz=17						
E19K	**Redstone River**	**75.59**	**359**	IAmb	IAmb	13 17 58.5	
	comp=Z,24nm,0.8s						
E19K	**Redstone River**	**75.59**	**359**	P	**P**	**13 17 40.8**	**+0.9**
	baz=1.8						
COLD	**Coldfoot**	**75.60**	**356**	P	**P**	**13 17 41.7**	**+1.7**
	baz=7.5,SNR=7.5						
E18K	**Tukpahlearik C**	**75.63**	**1**	IAmb	IAmb	13 18 14.3	
	comp=Z,19nm,1.1s						
E18K	**Tukpahlearik C**	**75.63**	**1**	P	**P**	**13 17 41.4**	**+1.2**
	baz=359						
F21K	**Alatna River**	**75.74**	**358**	IAmb	IAmb	13 17 59.8	
	comp=Z,18nm,1.1s						
F21K	**Alatna River**	**75.74**	**358**	P	**P**	**13 17 41.6**	**+0.7**
	baz=4.8						
GRNR	**Gornyy**	**75.78**	**36**	⇓*i* P	**P**	**13 17 41.9**	**+0.5**
GRNR				pmax	pmax		
	comp=Z,30nm,1.3s						
GRNR				MLR	MLR		
	comp=E,490nm,12.0s						
GRNR				MLR	MLR		
	comp=N,440nm,10.0s						
GRNR				MLR	MLR		
	comp=Z,530nm,11.0s						
G25K	**Bearman Lake**	**75.80**	**355**	P	**P**	**13 17 42.6**	**+1.5**
	baz=11						
WRGLY	**Wrigley**	**75.83**	**344**	P	**P**	**13 17 42.7**	**+1.3**
	baz=29						
ACSO	**Alum Creek Sta**	**75.89**	**310**	IAmb	IAmb	13 17 45.8	
	comp=Z,12nm,0.8s						
H27K	**Steamboat Moun**	**75.92**	**353**	P	**P**	**13 17 43.5**	**+1.6**
	baz=15						
E17K	**Hotham Inlet**	**75.96**	**1**	P	**P**	**13 17 43.1**	**+1.0**
	baz=358						
G24K	**Hadweenzic Riv**	**75.96**	**355**	P	**P**	**13 17 43.6**	**+1.5**
	baz=9.8						
G22K	**Bettles**	**75.96**	**357**	P	**P**	**13 17 43.3**	**+1.2**
	baz=6.5						
F20K	**Avaraart Lake**	**75.97**	**359**	IAmb	IAmb	13 18 33.6	
	comp=Z,38nm,1.8s						
F20K	**Avaraart Lake**	**75.97**	**359**	P	**P**	**13 17 42.7**	**+0.6**
	baz=3.0						
G23K	**Bananza Creek**	**76.10**	**356**	IAmb	IAmb	13 18 29.2	
	comp=Z,25nm,1.5s						
G23K	**Bananza Creek**	**76.10**	**356**	P	**P**	**13 17 44.0**	**+1.0**
	baz=7.7						
Q52A	**Bidwell**	**76.20**	**309**	IAmb	IAmb	13 18 09.5	
	comp=Z,34nm,1.3s						
F19K	**Shaleruckik Mo**	**76.22**	**359**	IAmb	IAmb	13 18 04.6	
	comp=Z,12nm,0.8s						
F19K	**Shaleruckik Mo**	**76.22**	**359**	P	**P**	**13 17 44.3**	**+0.8**
	baz=1.3,SNR=6.3						
H25L	**Birch Creek**	**76.27**	**354**	P	**P**	**13 17 45.1**	**+1.2**
	baz=11						
I30M	**Mount Dempster**	**76.28**	**350**	IAmb	IAmb	13 18 05.7	
	comp=Z,19nm,1.0s						
I30M	**Mount Dempster**	**76.28**	**350**	P	**P**	**13 17 45.0**	**+0.9**
	baz=19,SNR=12						
MDJ	**Mudanjiang**	**76.28**	**44**	IAmb	IAmb	13 17 47.2	
	comp=Z,15nm,1.1s						
MDJ	**Mudanjiang**	**76.28**	**44**	P	**P**	**13 17 43.1**	**-1.2**
MDJ				PP	**PP**	**13 20 35.1**	**-0.1**
MDJ				S	**S**	**13 27 29.6**	**+1.8**
MDJ				sS	pS	13 27 34.0	-0.9
MDJ				SS	**SS**	**13 32 24.4**	**+3.5**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MDJ				LR	LR		
	comp=Z,660nm,13.1s						
MDJ				LR	LR		
	comp=Z,1μm,12.0s						
MDJ				LR	LR		
	comp=Z,2μm,15.8s						
I29M	**Ogilvie Camp,**	**76.39**	**351**	P	**P**	**13 17 45.4**	**+0.8**
	baz=17						
G21K	**Allakaket**	**76.45**	**358**	IAmb	IAmb	13 18 06.3	
	comp=Z,17nm,1.0s						
G21K	**Allakaket**	**76.45**	**358**	P	**P**	**13 17 46.1**	**+1.2**
	baz=4.8						
F18K	**Selawik**	**76.46**	**0**	P	**P**	**13 17 46.4**	**+1.5**
	baz=360						
ULM	**Lac du Bonnet**	**76.50**	**324**	P	**P**	**13 17 47.0**	**+1.6**
	comp=Z,5.9nm,1.0s,baz=17,slow=8.2,SNR=3.2						
ULM				LR	LR	13 54 02.6	
	comp=Z,240nm,18.6s,baz=40,slow=38						
	comp=Z,5.9nm,1.0s						
I28M	**Miner Creek**	**76.50**	**352**	P	**P**	**13 17 45.9**	**+0.6**

baz=16
I27K **Kandik River** 76.54 353 P P 13 17 46.2 +0.8
baz=14
F17K **Baldwin Pennin** 76.61 1 P P 13 17 46.7 +0.9
baz=358
SJG **San Juan** 76.79 283 LR LR 13 46 20.6
comp=Z,104nm,21.8s,baz=100,slow=32
H24K **Noodor Dome** 76.84 355 P P 13 17 48.2 +1.0
baz=9.4
J30M **Hart River** 76.89 350 P P 13 17 48.2 +0.7
baz=19
G19K **Purcell Mounta** 76.90 359 IAmb IAmb 13 18 13.9
comp=Z,18nm,1.1s
G19K **Purcell Mounta** 76.90 359 P P 13 17 48.4 +1.0
baz=1.9
H23K **Yukon River** 76.96 356 P P 13 17 48.9 +1.0
baz=8.0,SNR=8.2
I26K **Coal Creek Min** 76.98 353 P P 13 17 49.1 +1.2
baz=13
PRP **Porcupine Dome** 76.98 354 P P 13 17 49.2 +1.1
baz=11
H22K **Ishtalitna Cre** 76.98 357 P P 13 17 49.5 +1.5
baz=6.5
IMAR **Indian Mountai** 76.99 358 P P 13 17 49.3 +1.3
G18K **Tagagawik** 77.17 360 IAmb IAmb 13 18 10.7
comp=Z,22nm,1.1s
G18K **Tagagawik** 77.17 360 P P 13 17 50.4 +1.4
baz=0.6
NJ2 **Nanjing** 77.18 60 *e*P P 13 17 50.1 +0.5
NJ2 pmax pmax
comp=Z,17nm,0.7s
O48B **Farmland** 77.19 311 P P 13 17 50.5 +1.0
baz=52
F15K **North Star Dit** 77.27 2 P P 13 17 51.0 +1.4
baz=356
H21K **Melozitna Rive** 77.28 357 IAmb IAmb 13 18 20.9
comp=Z,24nm,1.0s
H21K **Melozitna Rive** 77.28 357 P P 13 17 51.0 +1.4
baz=5.4
TNA **Tin City** 77.29 4 P P 13 17 50.8 +1.3
baz=353
EGAK **Eagle** 77.29 352 P P 13 17 50.8 +1.2
baz=15
P49A **Miami Univ. Ec** 77.37 310 P P 13 17 51.3 +0.8
baz=52
U54A **Nelsons Funny** 77.39 306 IAmb IAmb 13 17 57.7
comp=Z,24nm,1.1s
F14K **Arctic Creek** 77.45 3 P P 13 17 51.6 +1.1
baz=354
H19K **Roundabout Mou** 77.51 359 P P 13 17 52.1 +1.2
baz=2.4
H20K **Anotleneega Mo** 77.51 358 P P 13 17 52.2 +1.3
baz=3.7
POKR **Poker Plat Res** 77.52 355 P P 13 17 52.4 +1.4
baz=9.7
G17K **Kiwalik Mounta** 77.56 1 P P 13 17 52.5 +1.3
baz=359
L44A **Lake County Fo** 77.61 314 P P 13 17 53.2 +1.3
baz=51
I23K **Minto, Yukon-K** 77.62 356 P P 13 17 52.6 +1.1
baz=8.2
G16K **Koyuk River** 77.64 1 IAmb IAmb 13 17 54.2
comp=Z,26nm,1.3s
G16K **Koyuk River** 77.64 1 P P 13 17 53.0 +1.4
baz=356
I21K **Tanana** 77.72 357 P P 13 17 53.4 +1.3
baz=6.0
K29M **Barlow Dome** 77.75 350 IAmb IAmb 13 18 12.3
comp=Z,30nm,1.6s
K29M **Barlow Dome** 77.75 350 P P 13 17 53.5 +1.1
baz=18
MAYO **Mayo, Yukon** 77.75 350 P P 13 17 53.8 +1.5
baz=19
DAWY **Dawson** 77.77 351 P P 13 17 53.7 +1.2
baz=16,SNR=8.4
COLA **College** 77.79 355 P P 13 17 53.8 +1.4
baz=9.4
J26L **Joseph Creek** 77.81 353 IAmb IAmb 13 18 04.0
comp=Z,40nm,1.8s
J26L **Joseph Creek** 77.81 353 P P 13 17 53.7 +1.0
baz=13,SNR=5.7
MLY **Manley** 77.81 356 P P 13 17 53.9 +1.2
baz=7.0
ILAR **Eielson Array** 77.83 355 P P 13 17 53.0 +0.3
ILAR **Eielson Array** 77.83 355 P P 13 17 53.2 +0.5
comp=Z,2.7nm,1.0s,baz=350,slow=4.0,SNR=16
ILAR LR LR 13 54 45.4
comp=Z,336nm,19.9s,baz=3.5,slow=38
comp=Z,2.7nm,1.0s
J25K **Salcha River,** 77.86 354 P P 13 17 54.2 +1.3
baz=11
USRK **Ussuriysk Ar.** 77.87 43 P P 13 17 52.6 -0.6
USRK **Ussuriysk Ar.** 77.87 43 P P 13 17 53.1 -0.1
comp=Z,12nm,0.7s,baz=289,slow=5.8,SNR=21
USRK LR LR 13 56 14.4
comp=Z,1µm,18.3s,baz=327,slow=39
comp=Z,12nm,0.7s
KMSC **Kings Mountain** 77.90 305 IAmb IAmb 13 17 57.5
comp=Z,33nm,1.6s
H18K **Honhosa River** 77.91 360 P P 13 17 54.4 +1.3
baz=0.8
G15K **Niukluk** 78.01 2 P P 13 17 55.1 +1.5
baz=356
QIZ **Qiongzhong** 78.10 75 P P 13 17 55.6 +0.6
QIZ S S 13 27 49.3 +0.9
QIZ pmax pmax
comp=Z,32nm,1.4s
QIZ LR LR
comp=Z,230nm,14.7s
QIZ LR LR
comp=Z,360nm,16.1s
QIZ LR LR
comp=Z,280nm,17.7s
K27K **Chicken** 78.12 352 P P 13 17 55.4 +1.2
baz=14
H17K **Granite Mounta** 78.13 0 P P 13 17 55.8 +1.4
baz=360
NEA2 **Nenana** 78.15 355 IAmb IAmb 13 17 56.6
comp=Z,23nm,1.5s
NEA2 **Nenana** 78.15 355 P P 13 17 56.1 +1.6
baz=8.4
HDA **Harding Lake** 78.19 355 IAmb IAmb 13 18 19.6
comp=Z,16nm,1.0s
HDA **Harding Lake** 78.19 355 P P 13 17 55.8 +1.2
baz=10,SNR=6.2
I20K **Naaghedeneel** 78.20 358 P P 13 17 55.7 +1.0
baz=4.0
SFIN **Lafayette** 78.27 312 IAmb IAmb 13 18 29.5
comp=Z,23nm,1.3s
GCSA **Galena City Sc** 78.30 359 P P 13 17 56.7 +1.5
baz=2.0
SCRK **Sand Creek** 78.36 353 IAmb IAmb 13 18 08.5
comp=Z,36nm,1.6s
SCRK **Sand Creek** 78.36 353 P P 13 17 56.7 +0.9
baz=12
ANM **Nome** 78.39 3 P P 13 17 57.0 +1.2
baz=355
H16K **Elim** 78.41 1 P P 13 17 56.9 +1.1
baz=358
PAULI **Pauline** 78.41 305 IAmb IAmb 13 18 03.5
comp=Z,17nm,1.2s
VLA **Vladivostok** 78.51 44 ‖ *i*P P 13 17 57.2 +0.4
VLA pmax pmax
comp=Z,57nm,1.5s
L29M **L29M** 78.53 350 P P 13 17 57.7 +1.1
baz=17
V53A **Saluda** 78.54 306 IAmb IAmb 13 18 03.3
comp=Z,26nm,1.7s
FARO **Faro, Yukon** 78.65 348 IAmb IAmb 13 18 10.6
comp=Z,21nm,1.1s
FARO **Faro, Yukon** 78.65 348 P P 13 17 58.7 +1.4
baz=21
RIDG **Independent Ri** 78.67 353 P P 13 17 58.9 +1.4
baz=12
K24K **Donnelly Dome** 78.69 354 P P 13 17 59.2 +1.7
baz=11
KOTAN **Kotaneelee Air** 78.70 343 P P 13 17 59.7 +2.1
baz=28
BPAW **Bear Paw Mtn.** 78.75 356 IAmb IAmb 13 18 40.8
comp=Z,27nm,1.5s
BPAW **Bear Paw Mtn.** 78.75 356 P P 13 17 59.5 +1.7
baz=6.8
J20K **Nowinta River** 78.81 358 IAmb IAmb 13 20 22.5
comp=Z,44nm,1.9s
J20K **Nowinta River** 78.81 358 P P 13 17 59.5 +1.4
baz=4.3
M31M **Drury Creek, Y** 78.84 348 IAmb IAmb 13 18 18.0
comp=Z,23nm,1.3s
M31M **Drury Creek, Y** 78.84 348 P P 13 18 00.0 +1.7
baz=20
M30M **Minto, Yukon** 78.86 350 P P 13 17 59.6 +1.2
baz=18
PSI **Prapat** 78.97 95 P P 13 18 00.3 +0.4
MCK **McKinley** 79.00 355 P P 13 18 01.0 +1.8
baz=8.5
BCAR **Beaver Creek A** 79.02 352 P P 13 17 59.9 +0.5
L27K **Beaver Creek,** 79.03 352 P P 13 18 00.6 +1.2
baz=14
RPSI **Rantau Prapat** 79.03 95 IAmb IAmb 13 18 01.2
comp=Z,32nm,1.1s
CHUM **Lake Minchumin** 79.03 357 P P 13 18 01.0 +1.7
baz=5.7,SNR=7.1
J19K **Poorman** 79.03 358 P P 13 18 01.2 +1.9
baz=3.1,SNR=5.5
TKL **Tuckaleechee C** 79.16 307 LR LR 13 53 22.1
comp=Z,265nm,19.4s,baz=48,slow=36
I17K **Unalakleet** 79.18 1 P P 13 18 01.9 +1.8
baz=359
M29M **Somme Creek** 79.22 350 IAmb IAmb 13 18 33.0
comp=Z,14nm,0.8s
M29M **Somme Creek** 79.22 350 P P 13 18 02.2 +1.7
baz=17
L26K **Log Cabin Wild** 79.23 353 IAmb IAmb 13 18 36.1
comp=Z,30nm,1.6s
L26K **Log Cabin Wild** 79.23 353 P P 13 18 02.5 +2.0
baz=13
SSE **Sheshan** 79.35 59 P P 13 18 02.1 +0.5
SSE S S 13 27 56.8 -4.6
SSE pmax pmax
comp=Z,13nm,1.0s
SSE LR LR
comp=Z,140nm,12.6s
SSE LR LR
comp=Z,210nm,17.6s
TRF **Thorofare Moun** 79.36 356 P P 13 18 02.9 +1.5
baz=7.4
I37A **Lemond, Waseca** 79.47 318 IAmb IAmb 13 18 09.2
comp=Z,37nm,1.2s
CAST **Castle Rocks** 79.49 357 IAmb IAmb 13 18 17.6
comp=Z,44nm,1.9s
CAST **Castle Rocks** 79.49 357 P P 13 18 03.4 +1.6
baz=5.9
PAX **Paxson** 79.49 354 P P 13 18 03.5 +1.6
baz=11
DHY **Denali Highway** 79.54 354 P P 13 18 03.6 +1.3
baz=9.7
BVCY **Beaver Creek** 79.55 351 P P 13 18 04.0 +1.8
baz=15
J18K **Innoko River** 79.59 359 P P 13 18 04.2 +1.8
baz=2.2
N32M **Quiet Lake** 79.61 347 P P 13 18 03.9 +1.3
baz=21
K20K **Telida** 79.63 358 IAmb IAmb 13 19 05.7
comp=Z,24nm,1.4s
K20K **Telida** 79.63 358 P P 13 18 04.3 +1.7
baz=4.3
J17K **VABM Dome** 79.68 360 IAmb IAmb 13 18 31.9
comp=Z,20nm,1.1s
J17K **VABM Dome** 79.68 360 P P 13 18 04.5 +1.6
baz=0.2
M27K **Edge Creek, AK** 79.72 352 IAmb IAmb 13 18 15.7
comp=Z,32nm,1.4s
M27K **Edge Creek, AK** 79.72 352 P P 13 18 04.4 +1.1
baz=14
KS19 **Wonju Array Si** 79.76 51 IAmb IAmb 13 18 05.8
comp=Z,41nm,1.2s
WTLY **Watson Lake, Y** 79.76 345 IAmb IAmb 13 18 22.5
comp=Z,17nm,0.9s
WTLY **Watson Lake, Y** 79.76 345 P P 13 18 04.8 +1.4
baz=24
CPCT **Cooper Cave** 79.77 307 IAmb IAmb 13 18 23.1
comp=Z,41nm,1.7s
J16K **Anvik River** 79.78 1 P P 13 18 05.0 +1.5
baz=359
KSAR **Wonju Array Be** 79.81 51 P P 13 18 03.3 -0.7
KSAR **Wonju Array Be** 79.81 51 P P 13 18 03.3 -0.7
LIRD **Liard River Hi** 79.81 343 P P 13 18 05.0 +1.3
baz=26
KSRS **Korea Array** 79.82 51 P P 13 18 04.2 +0.1
comp=Z,14nm,0.8s,baz=310,slow=5.0,SNR=44
KSRS LR LR 13 57 32.8
comp=Z,390nm,18.6s,baz=320,slow=39
comp=Z,14nm,0.8s
U49A **Red Boiling Sp** 79.90 308 IAmb IAmb 13 18 11.6
comp=Z,28nm,1.2s
N30M **Aishikik Lake** 79.97 349 P P 13 18 05.6 +1.0
baz=18
PPLA **Purkeypile** 80.01 357 P P 13 18 05.7 +0.9
baz=5.8
HARP **HAARP** 80.02 353 P P 13 18 05.9 +1.1
baz=12
WAT6 **Susitna Watana** 80.06 355 P P 13 18 06.0 +0.8
baz=9.4
TTA **Tatalina** 80.11 358 P P 13 18 06.2 +0.9
baz=2.7
TOAD **Toad River Com** 80.11 343 P P 13 18 06.5 +1.2
baz=27
YUK3 **Moose Creek** 80.12 351 P P 13 18 06.4 +0.8
baz=15
YUK4 **Talbot Arm** 80.30 350 P P 13 18 06.8 +0.3
baz=17
K17K **Iditarod** 80.36 360 IAmb IAmb 13 18 16.1
comp=Z,55nm,1.6s
K17K **Iditarod** 80.36 360 P P 13 18 07.9 +1.4
baz=0.9
WHY **Whitehorse** 80.38 348 P P 13 18 07.5 +0.6
baz=20
M24K **Tolsona, Glenn** 80.40 354 P P 13 18 07.7 +0.8
baz=11
T47A **Sharon Grove** 80.43 309 IAmb IAmb 13 18 12.6
comp=Z,28nm,0.8s
W50A **Signal Mountai** 80.43 307 IAmb IAmb 13 18 12.6
comp=Z,16nm,0.8s
P33M **Teslin, Yukon** 80.45 347 IAmb IAmb 13 18 16.1
comp=Z,26nm,1.5s
P33M **Teslin, Yukon** 80.45 347 P P 13 18 08.2 +1.0
baz=21
Y52A **Lilburn** 80.46 305 IAmb IAmb 13 18 10.3
comp=Z,15nm,0.9s
O30N **Mendenhall** 80.47 349 P P 13 18 08.5 +1.3
baz=19
L20K **Farewell, AK** 80.50 357 P P 13 18 08.7 +1.3
baz=4.5
HYT **Haines Junctio** 80.63 349 P P 13 18 09.4 +1.2
baz=18
YUK6 **Outpost Mounta** 80.64 350 P P 13 18 09.8 +1.4
baz=17
N25K **Chitina, Valde** 80.75 353 P P 13 18 09.9 +1.1
baz=12
SCM **Sheep Creek Mo** 80.77 354 P P 13 18 09.8 +0.9
baz=9.7
K15K **Wolf Creek Mou** 80.77 1 P P 13 18 09.8 +1.1
baz=358
MCARA **McCarthy VSAT** 80.80 352 P P 13 18 09.6 +0.7
baz=13
L19K **White Mountain** 80.83 358 IAmb IAmb 13 18 18.7
comp=Z,32nm,1.3s
L19K **White Mountain** 80.83 358 P P 13 18 09.9 +0.8
baz=3.7
L18K **Granite Mounta** 80.84 359 IAmb IAmb 13 18 20.5
comp=Z,22nm,1.1s
L18K **Granite Mounta** 80.84 359 P P 13 18 09.9 +0.8
baz=2.2
M23K **Glacier View** 80.84 354 P P 13 18 09.8 +0.6
baz=9.4
R33M **Jennings River** 80.86 346 IAmb IAmb 13 18 13.2
comp=Z,23nm,1.1s
R33M **Jennings River** 80.86 346 P P 13 18 10.0 +0.6
baz=23
SML **Sawmill** 80.87 355 P P 13 18 10.0 +0.6
baz=8.9
SKT **Skwentna** 80.90 356 P P 13 18 10.0 +0.5
baz=6.3
L17K **Donlin** 80.94 360 P P 13 18 10.6 +0.9
baz=0.9
KLU **Klutina** 80.98 354 P P 13 18 10.7 +0.7
baz=11
CTG **Chitna Glacier** 81.02 351 P P 13 18 10.9 +0.6
baz=14
M22K **Willow** 81.04 356 P P 13 18 10.9 +0.7
baz=7.5
K13K **Kusilvak Mount** 81.05 3 P P 13 18 11.3 +1.1
baz=356
O28M **Mount Upton** 81.06 351 P P 13 18 11.0 +0.3
baz=15
M20K **Styx River** 81.07 357 P P 13 18 11.2 +0.7
baz=5.0
M19K **Big River Lodg** 81.09 358 P P 13 18 11.2 +0.7
baz=4.0
PMR **Palmer** 81.14 355 P P 13 18 11.0 +0.3
baz=8.3
P32M **Atlin** 81.19 347 P P 13 18 12.4 +1.3
baz=20
P30M **Million Dollar** 81.22 349 P P 13 18 11.9 +0.6
baz=18
KNK **Knik Glacier** 81.27 355 P P 13 18 12.2 +0.8
baz=8.8
S44A **Carbondale** 81.28 311 IAmb IAmb 13 18 16.4
comp=Z,17nm,0.9s
O29M **Mount Kennedy** 81.29 350 P P 13 18 12.1 +0.4
baz=17
SUA **Susitna One** 81.37 356 P P 13 18 13.0 +0.9
baz=7.0
BMRM **Bremner River** 81.37 353 P P 13 18 12.9 +0.8
baz=12
L15K **Ungalak Mounta** 81.39 1 P P 13 18 12.6 +0.6
baz=358
WVT **Waverly** 81.42 309 P P 13 18 12.7 0.0
WVT **Waverly** 81.42 309 P P 13 18 12.7 0.0
WVT pmax pmax
comp=Z,9.0nm,0.9s
YSS **Yuzh-Sakhalins** 81.44 36 P P 13 18 13.1 +0.5
YSS **Yuzh-Sakhalins** 81.44 36 P P 13 18 14.0 +1.4
YSS **Yuzh-Sakhalins** 81.44 36 ‖ *e*P P 13 18 13.6 +1.0
YSS *e* 13 21 14.5
YSS *e*S S 13 28 22.4 -0.4
YSS *e* 13 28 33.0
YSS pmax pmax
comp=Z,60nm,1.2s
YSS pmax pmax
comp=Z,300nm,5.7s
YSS smax smax
comp=E,300nm,6.5s
YSS MLR MLR
comp=Z,600nm,18.0s
YSS MLR MLR
comp=N,400nm,16.0s
YSS MLR MLR
comp=E,800nm,16.0s
Q32M **Nakina River** 81.51 346 P P 13 18 13.6 +0.6
baz=22
M18K **Stony River** 81.55 358 P P 13 18 14.1 +1.2
baz=2.9
M17K **Holitna River** 81.67 359 IAmb IAmb 13 18 53.0
comp=Z,34nm,1.1s
M17K **Holitna River** 81.67 359 P P 13 18 15.0 +1.5
baz=1.6
RC01 **Rabbit Creek A** 81.68 355 P P 13 18 14.6 +1.0
baz=7.8
N20K **Mount Spurr** 81.71 357 P P 13 18 14.6 +0.7
baz=5.8
X48A **Hartselle** 82.01 307 IAmb IAmb 13 18 20.6
comp=Z,24nm,1.0s
M16K **Timber Creek** 82.06 360 P P 13 18 16.5 +0.9
baz=0.3
N19K **Bonanza Creek** 82.19 358 P P 13 18 16.6 +0.2
baz=3.9
CCM **Cathedral Cave** 82.23 312 P P 13 18 15.8 -1.2
CCM IAmb IAmb 13 18 23.7
comp=Z,18nm,1.2s
CCM **Cathedral Cave** 82.23 312 P P 13 18 15.8 -1.2
CCM pmax pmax
comp=Z,18nm,1.3s
S34M **Telegraph Cree** 82.26 345 P P 13 18 17.5 +0.8
baz=22
M14K **Bethel** 82.31 1 P P 13 18 18.2 +1.3
baz=358
PLAL **Pickwick Lake** 82.31 308 IAmb IAmb 13 18 22.1
comp=Z,14nm,1.0s
N18K **Kilae Creek** 82.36 358 P P 13 18 18.7 +1.4
baz=2.8
M15K **Kasigluk River** 82.38 1 P P 13 18 19.2 +1.9
baz=359
PDSI **Padang** 82.43 97 P P 13 18 20.0 +1.6
comp=Z,36nm,0.9s,comp=Z,6µm
N17K **Nushagak Hills** 82.54 359 P P 13 18 19.6 +1.5
baz=1.8
PETK **Petropavlovsk-** 82.58 24 LR LR 13 59 27.0
comp=Z,560nm,18.5s,baz=330,slow=39
N16K **Nishlik Lake** 82.61 360 P P 13 18 20.1 +1.6
baz=0.5
SEW **Seward** 82.64 355 P P 13 18 20.6 +2.0
baz=8.0
R40A **Maddies Statio** 82.67 313 IAmb IAmb 13 18 24.3
comp=Z,12nm,0.9s
LRAL **Lakeview Retre** 82.88 306 IAmb IAmb 13 18 25.2
comp=Z,17nm,0.9s
PET **Petropavlovsk** 82.97 24 *e*P P 13 18 21.9 +1.4
PET *e* 13 21 34.3
PET *e*S S 13 28 36.7 -1.5
PET *e*PS PnS 13 29 37.2 +7.8
PET pmax pmax
comp=Z,100nm,11.9s
PET pmax pmax
comp=Z,100nm,11.7s
PET MLR MLR
comp=Z,500nm,16.0s
S31K **Pelican** 83.17 348 P P 13 18 22.6 +1.3
baz=18
O18K **Koktuh Hills** 83.17 358 P P 13 18 23.6 +2.1
baz=3.4
BDFB **Brasilia** 83.22 245 P P 13 18 24.3 +1.9
comp=Z,6.0nm,0.8s,baz=42,slow=11,SNR=5.0
BDFB LR LR 13 54 30.6
comp=Z,563nm,21.6s,baz=64,slow=35
comp=Z,6.0nm,0.8s
O17K **Koliganek Bris** 83.30 359 P P 13 18 24.1 +2.1
baz=1.8
ASAJ **Asahikawa** 83.44 38 LR LR 13 59 23.3
comp=Z,455nm,19.1s,baz=348,slow=38
MYKOM **Kota Tinggi** 83.50 93 IAmb IAmb 13 18 25.4
comp=Z,19nm,1.2s
MYKOM **Kota Tinggi** 83.50 93 P P 13 18 25.2 +1.4
LAO **LASA Array** 83.82 326 IAmb IAmb 13 18 45.8
comp=Z,18nm,1.1s
FCAR **Ozark Folk Cen** 84.20 311 IAmb IAmb 13 18 33.4
comp=Z,11nm,1.0s
JNU **Nakatsue** 84.46 52 LR LR 13 59 48.4
comp=Z,436nm,19.8s,baz=320,slow=38
HHAR **Hobbs** 85.01 312 IAmb IAmb 13 19 08.7
comp=Z,25nm,1.5s
KDAK **Kodiak Island** 85.14 356 LR LR 13 59 53.5
comp=Z,166nm,19.1s,baz=209,slow=38
U38A **Gravette** 85.17 313 IAmb IAmb 13 19 09.5
comp=Z,31nm,1.5s
X40A **Basin Creek Fa** 85.58 311 IAmb IAmb 13 18 39.4
comp=Z,11nm,0.9s
SDV **Santo Domingo** 85.71 278 LR LR 13 52 52.3
comp=Z,141nm,21.4s,baz=65,slow=33
SDV **Santo Domingo** 85.71 278 *e*P P 13 18 36.2 +0.9
RLO **Rose Lookout** 85.73 313 IAmb IAmb 13 18 39.2
comp=Z,16nm,1.1s
MIAR **Mount Ida** 85.98 311 IAmb IAmb 13 18 41.6
comp=Z,12nm,0.9s
MAJO **Matsushiro** 86.54 46 P P 13 18 40.2 +1.3
MJAR **Matsushiro Arr** 86.55 46 P P 13 18 39.0 +0.1
comp=Z,11nm,0.8s,baz=323,slow=4.8,SNR=21
MJAR LR LR 14 02 14.4
comp=Z,323nm,18.9s,baz=324,slow=39
comp=Z,11nm,0.8s
MJAR **Matsushiro Arr** 86.55 46 P P 13 18 39.0 +0.1
BBB **Bella Bella** 86.84 341 LR LR 14 01 04.4
comp=Z,289nm,18.7s,baz=19,slow=38
JOW **Kunigami** 86.85 59 LR LR 14 05 27.6
comp=Z,329nm,18.0s,baz=50,slow=41
NEW **Newport** 86.92 333 IAmb IAmb 13 19 17.0
comp=Z,17nm,1.1s
NEW **Newport** 86.92 333 LR LR 13 59 10.7
comp=Z,236nm,18.8s,baz=20,slow=37
SHEM **Shemya Is, Ala** 87.44 16 LR LR 14 01 36.1
comp=Z,234nm,18.0s,baz=328,slow=38
YMR **Madison River** 87.46 328 IAmb IAmb 13 19 21.0
comp=Z,22nm,1.3s
DLMT **Dillon** 87.58 329 IAmb IAmb 13 19 21.5
comp=Z,22nm,1.4s
MOOW **Moose Ponds** 88.10 327 IAmb IAmb 13 19 14.6
comp=Z,21nm,1.9s
PDAR **Pinedale Array** 88.36 326 P P 13 18 47.8 -0.1
comp=Z,1.1nm,0.8s,baz=75,slow=4.8,SNR=9.2
PDAR LR LR 13 59 08.0
comp=Z,204nm,21.0s,baz=28,slow=36
comp=Z,1.1nm,0.8s
E09A **Wood Farm, Sta** 88.77 333 IAmb IAmb 13 19 27.8
comp=Z,24nm,1.7s

WMOK	**Wichita Mounta**	**88.91 314**	IAmb	IAmb	13 19 07.9
	comp=Z,11nm,1.2s				
TPI	**Tanjungpandan**	**89.26 94**	P	**P**	**13 18 53.8 +1.7**
	comp=Z,33nm,1.1s				
HAWA	**Hanford**	**89.37 334**	IAmb	IAmb	13 19 28.2
	comp=Z,12nm,1.2s				
SBUM	**Sibu**	**89.78 87**	P	**P**	**13 18 56.9 +2.3**
O20A	**White River Ci**	**89.83 323**	IAmb	IAmb	13 19 22.4
	comp=Z,19nm,1.4s				
JHJ	**Hachijo jima 2**	**89.88 47**	LR	LR	14 02 35.7
	comp=Z,341nm,18.6s,baz=328,slow=38				
PLPT	**Palo Pinto**	**90.02 313**	IAmb	IAmb	13 19 32.8
	comp=Z,24nm,1.2s				
RDMU	**Red Mountain**	**90.11 324**	IAmb	IAmb	13 19 32.7
	comp=Z,22nm,1.2s				
HWUT	**Hardware Ranch**	**90.18 326**	IAmb	IAmb	13 19 33.2
	comp=Z,18nm,1.2s				
SAML	**Samuel**	**90.49 259**	P	**P**	**13 18 57.5 -0.3**
SAML			IAmb	IAmb	13 19 18.2
	comp=Z,16nm,1.6s				
SAML	**Samuel**	**90.49 259**	P	**P**	**13 18 57.5 -0.3**
SAML			pmax	pmax	
	comp=Z,16nm,1.7s				
SAML	**Samuel**	**90.49 259**	*eP*	**P**	**13 18 58.4 +0.5**
MFID	**Camas Ranch**	**90.50 330**	IAmb	IAmb	13 19 35.0
	comp=Z,11nm,1.1s				
VILB	**Vilhena**	**90.61 254**	*eP*	**P**	**13 19 00.3 +1.9**
JLU	**Jordanelle**	**90.94 326**	IAmb	IAmb	13 19 36.9
	comp=Z,19nm,1.5s				
ROSC	**El Rosal**	**91.06 277**	LR	LR	13 58 15.7
	comp=Z,186nm,19.9s,baz=74,slow=34				
P18A	**Preston Nutter**	**91.17 324**	IAmb	IAmb	13 19 27.0
	comp=Z,8.6nm,1.1s				
PTLB	**Pontes e Lacer**	**91.34 252**	P	**P**	**13 19 03.1 +1.4**
PTLB			IAmb	IAmb	13 19 04.4
	comp=Z,11nm,1.0s				
PTLB	**Pontes e Lacer**	**91.34 252**	*eP*	**P**	**13 19 03.4 +1.8**
I07A	**Izee**	**91.35 332**	IAmb	IAmb	13 19 56.7
	comp=Z,15nm,1.6s				
BGU	**Big Grassy Mou**	**91.38 327**	IAmb	IAmb	13 19 29.1
	comp=Z,15nm,1.4s				
VBST	**Vila Bela da S**	**91.44 253**	*eP*	**P**	**13 19 03.8 +1.6**
BRDY	**Brady**	**91.51 312**	IAmb	IAmb	13 19 40.7
	comp=Z,15nm,1.3s				
LEM	**Lembang**	**91.67 97**	LR	LR	14 05 09.6
	comp=Z,144nm,19.0s,baz=328,slow=39				
SRU	**San Rafael Swe**	**91.71 324**	IAmb	IAmb	13 19 28.7
	comp=Z,12nm,1.1s				
WVOR	**Wild Horse Val**	**92.43 331**	IAmb	IAmb	13 19 43.9
	comp=Z,18nm,1.8s				
ELK	**Elko**	**92.48 328**	LR	LR	14 01 44.5
	comp=Z,251nm,21.5s,baz=34,slow=36				
J05D	**Fort Rock, OR**	**92.67 333**	IAmb	IAmb	13 19 45.0
	comp=Z,8.8nm,1.2s				
HMU	**Henry Mountain**	**92.75 324**	IAmb	IAmb	13 19 33.8
	comp=Z,7.0nm,0.9s				
ANMO	**Albuquerque**	**92.96 319**	LR	LR	14 01 29.8
	comp=Z,193nm,19.0s,baz=208,slow=36				
MTPU	**Mount Pierson**	**93.34 325**	IAmb	IAmb	13 20 08.5
	comp=Z,17nm,1.6s				
BBSD	**Serra de San D**	**93.52 251**	*eP*	**P**	**13 19 12.8 +1.0**
SPR3	**Spring Creek 3**	**93.53 326**	IAmb	IAmb	13 19 38.5
	comp=Z,16nm,1.8s				
DRIO	**Del Rio**	**93.82 312**	IAmb	IAmb	13 19 37.7
	comp=Z,13nm,1.1s				
YBH	**Yreka Blue Hor**	**94.55 333**	LR	LR	14 06 01.8
	comp=Z,286nm,18.1s,baz=12,slow=38				
TXAR	**Lajitas Array**	**95.68 314**	P	**P**	**13 19 22.7 +0.9**
	comp=Z,1.1nm,0.8s,baz=69,slow=4.9,SNR=13				
TXAR			LR	LR	14 02 12.1
	comp=Z,130nm,18.4s,baz=24,slow=35				
	comp=Z,1.1nm,0.8s				
TX31	**Lajitas Ar. Si**	**95.68 314**	IAmb	IAmb	13 20 31.4
	comp=Z,15nm,1.6s				
NVAR	**Mina Array Bea**	**95.70 329**	P	**P**	**13 19 22.6 +0.8**
	comp=Z,0.4nm,0.7s,baz=52,slow=5.8,SNR=4.6				
NVAR			LR	LR	14 04 07.0
	comp=Z,363nm,19.2s,baz=32,slow=37				
	comp=Z,0.4nm,0.7s				
JTS	**Las Juntas de**	**95.98 288**	LR	LR	13 58 34.2
	comp=Z,145nm,19.1s,baz=46,slow=33				
CPUP	**Villa Florida**	**96.72 242**	LR	LR	14 03 04.4
	comp=Z,540nm,21.5s,baz=51,slow=35				
LPAZ	**La Paz**	**98.73 256**	LR	LR	14 06 29.1
	comp=Z,166nm,19.2s,baz=68,slow=37				
CMIG	**Matias Romero**	**98.79 299**	LR	LR	14 00 36.0
	comp=Z,93nm,22.0s,baz=38,slow=33				
PFO	**Pinyon Flats O**	**98.95 325**	LR	LR	14 05 40.8
	comp=Z,313nm,21.1s,baz=27,slow=36				
PLCA	**Paso Flores**	**113.87 236**	*eP*	**Pdif**	**13 20 44.2 +1.8**
WRA	**Warramunga Arr**	**120.39 93**		**PKiKP**	**13 24 47.7 +0.2**
WRA	**Warramunga Arr**	**120.39 93**	PKP	**PKPdf**	**13 24 47.1 -0.2**
	comp=Z,1.5nm,0.6s,baz=325,slow=1.8,SNR=11				
WRA			PP	**PP**	**13 26 13.7 -0.4**
	comp=Z,2.8nm,1.1s,baz=311,slow=4.9,SNR=6.8				
WRA	**Warramunga Arr**	**120.39 93**	PKIKP	**PKiKP**	**13 24 47.7 +0.2**
ASAR	**Alice Springs**	**121.96 97**	PKP	**PKPdf**	**13 24 50.5 +0.1**
	comp=Z,2.1nm,0.9s,baz=319,slow=1.7,SNR=15				
ASAR			PP	**PP**	**13 26 22.8 -2.1**
	comp=Z,0.8nm,0.8s,baz=298,slow=5.8,SNR=4.7				
COEN	**Coen**	**124.11 81**	P	**PKPdf**	**13 24 53.9 -0.7**
COEN			P	**PKiKP**	**13 24 54.8 -0.1**
QIS	**Mount Isa**	**124.91 90**	P	**PKiKP**	**13 24 58.0 +1.6**
QSPA	**South Pole Qui**	**127.12 180**		**PKiKP**	**13 24 59.8 +0.4**
QSPA	**South Pole Qui**	**127.12 180**	PKP	**PKiKP**	**13 25 00.4 +1.0**
	comp=Z,3.4nm,1.0s,baz=243,slow=3.3,SNR=8.4				
STKA	**Stephens Creek**	**131.74 102**	PKP	**PKiKP**	**13 25 10.6 +0.9**
	comp=Z,3.7nm,0.8s,baz=322,slow=6.1,SNR=3.9				
TAOE	**Nuku Hiva Isla**	**146.80 324**	*eLR*	LR	14 13 55.6
	comp=Z,195nm,24.9s				
DZM	**Mont Dzumac**	**146.85 73**	*eLR*	LR	14 14 01.6
	comp=Z,267nm,24.1s				
PPT2	**Papeete2**	**158.59 334**	*eLR*	LR	14 19 14.6
	comp=Z,219nm,22.8s				
PPT2			*eLR*	LR	14 19 22.9
	comp=Z,205nm,23.8s				
TBI	**Tubuai**	**163.73 326**	*eLR*	LR	14 21 38.0
	comp=Z,1μm,28.2s				
TBI			*eLR*	LR	14 21 39.6
	comp=Z,996nm,24.8s				

SNET 19 13:21:16.0±0.7, 12°.97N×88°.82W, h49km, ML3.9, 1C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.57**	**3**	*eP*	Pn	13 21 28.3	+0.2
TECO				*eS*	Sn	13 21 37.9	+1.1
TECA	**Tecapa**	**0.61**	**30⇓**	*eP*	Pn	13 21 29.3	+0.5
TECA			⇓	*eP*		13 21 29.3	
TECA				*eS*	Sn	13 21 39.1	+1.2
SNVI	**San Vicente**	**0.64**	**358**	*eP*	Pn	13 21 29.2	+0.1
COEG	**Centro de Oper**	**0.65**	**354**	*eP*	Pn	13 21 29.3	+0.1
COEG				*eS*	Sn	13 21 39.8	+1.0
UESV	**Universidad de**	**0.67**	**2**	*eP*	Pn	13 21 29.8	+0.4
RANC	**El Ranchito**	**0.69**	**48⇑**	*eP*	Pn	13 21 30.3	+0.5
LFRS	**El Faro**	**0.70**	**340**	*eP*	Pn	13 21 29.8	0.0
LFRS				*eS*	Sn	13 21 40.5	+0.8
PQSS	**Presa 15 de Se**	**0.70**	**21**	*eP*	Pn	13 21 30.2	+0.5
PQSS				*eS*	Sn	13 21 40.5	+0.8
VSM	**San Miguel**	**0.70**	**49**	*eP*	Pn	13 21 30.3	+0.3
LALI	**Alcalda de L**	**0.71**	**317**	*eP*	Pn	13 21 29.8	-0.1
LALI				*eS*	Sn	13 21 40.4	+0.4
SCLA	**Alcaldia de Sa**	**0.74**	**7**	*eP*	Pn	13 21 30.9	+0.6
SCLA				*eS*	Sn	13 21 42.4	+1.8
PAVA	**Las Pavas**	**0.75**	**351⇓**	*eP*	Pn	13 21 31.0	+0.4
PAVA				*eS*	Sn	13 21 41.9	+0.9
LOMA	**Loma Larga**	**0.76**	**333**	*eP*	Pn	13 21 30.7	0.0
LOMA				*eS*	Sn	13 21 41.8	+0.6
UDBS	**Universidad Do**	**0.81**	**336**	*eP*	Pn	13 21 31.4	+0.1
IGN	**Direccin Gen**	**0.82**	**335**	*eP*	Pn	13 21 31.6	+0.2
LFU	**La Fuente**	**0.83**	**340**	*eP*	Pn	13 21 31.8	+0.2
PIC2	**El Picacho**	**0.89**	**331**	*eP*	Pn	13 21 32.7	+0.3
PMON	**Piamonte**	**0.89**	**327**	*eP*	Pn	13 21 32.4	+0.1
PMON				*eS*	Sn	13 21 45.2	+1.0
BOQS	**Boqueron**	**0.89**	**329**	*eP*	Pn	13 21 32.7	+0.3
BOQS				*eS*	Sn	13 21 45.9	+1.5
JAYA	**Jayaque - finc**	**0.92**	**318**	*eP*	Pn	13 21 32.8	0.0
JAYA				*eS*	Sn	13 21 45.5	+0.4
LCND	**La Caada**	**0.96**	**69**	*eP*	Pn	13 21 33.1	-0.1
LCND				*eP*		13 21 33.3	
LCND				*eS*	Sn	13 21 46.9	+1.0
LCND				*eS*	Sn	13 21 46.9	+1.0
CNCH	**Conchagua**	**1.00**	**72**	*eP*	Pn	13 21 33.7	-0.2
CNCH				*eS*	Sn	13 21 48.1	+1.1
CEVE	**Cerro Verde**	**1.16**	**318**	*eP*	Pn	13 21 36.8	+0.6
CEVE				*eS*	Sn	13 21 53.0	+1.9
SNJE	**San Jose**	**1.18**	**320**	*eP*	Pn	13 21 36.5	+0.2
LLGN	**La Laguna**	**1.20**	**354**	*eP*	Pn	13 21 36.9	+0.4
RTR	**El Retiro**	**1.23**	**319**	*eP*	Pn	13 21 37.4	+0.4
RTR				*eS*	Sn	13 21 53.9	+1.3
NUBE	**Las Nubes**	**1.32**	**315**	*eP*	Pn	13 21 38.3	+0.1
NUBE				*eS*	Sn	13 21 54.7	-0.1
MTO3	**Montecristo**	**1.52**	**340**	*eP*	Pn	13 21 41.2	+0.2

*GII **19** 13:25:03.5±0.2, 34°.21N±0°.02×36°.82E±0°.01, h0km, confirmed*
*GRAL **19** 13:25:09.7±0.3, 33°.65N×37°.15E, h13km±18km, MD3.2*
ISC 19 13:25:04.1±2.3, 33°.62N±0°.05×37°.3E±0°.1, h0km, n23, σ1§04/26, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKH	**Fakeheh**	**0.96**	**311**	*eP*	**Pn**	**13 25 24.6**	**-0.4**
RCY	**Rachaya**	**1.22**	**265**	*eP*	**Pn**	**13 25 28.8**	**+0.2**
HWQ	**Hawqa**	**1.29**	**301**	*eP*	**Pn**	**13 25 30.1**	**+0.5**
BEIL	**Beino**	**1.30**	**315**	*eP*	**Pn**	**13 25 30.2**	**+0.6**
BEIL				*eS*	**Sb**	**13 25 45.5**	**-1.2**
SHBL	**Chebaa**	**1.32**	**259**	*eP*	**Pb**	**13 25 30.6**	**+0.7**
SHBL				*eS*	**Sg**	**13 25 46.0**	**-0.4**
QRWL	**Qaraoun**	**1.34**	**267**	*eP*	**Pb**	**13 25 30.9**	**+0.6**
NATI	**Neve Ativ**	**1.34**	**255**	P	**Pg**	**13 25 29.3**	**-0.6**
NATI	**Neve Ativ**	**1.34**	**255**	S	**Sg**	**13 25 48.1**	**+0.7**
KSHT	**Keshet**	**1.39**	**243**	P	**Pb**	**13 25 31.3**	**+0.3**
KSHT	**Keshet**	**1.39**	**243**	S	**Sn**	**13 25 52.8**	**+2.8**
GEM	**Giv'at Ha'Em**	**1.42**	**254**	P	**Pn**	**13 25 30.3**	**-0.9**
GEM	**Giv'at Ha'Em**	**1.42**	**254**	S	**Sg**	**13 25 50.3**	**+0.6**
DQRL	**Deir Qamar**	**1.43**	**274**	*eP*	**Pb**	**13 25 32.3**	**+0.5**
DQRL				*eS*	**Sg**	**13 25 48.9**	**-1.3**
MMA0B	**Mount Meron ar**	**1.69**	**250**	P	**Pn**	**13 25 33.8**	**-1.2**
MMA0B	**Mount Meron ar**	**1.69**	**250**	S	**Sn**	**13 25 57.8**	**+0.5**
HNTI	**Hanita**	**1.85**	**254**	P	**Pn**	**13 25 35.3**	**-1.8**
HNTI	**Hanita**	**1.85**	**254**	S	**Sn**	**13 26 00.3**	**-0.8**
MMLI	**Mount Malkishu**	**1.96**	**234**	P	**Pb**	**13 25 40.6**	**-0.2**
MMLI	**Mount Malkishu**	**1.96**	**234**	S	**Sg**	**13 26 08.6**	**+1.4**
OFRI	**`Ofer**	**2.17**	**243**	P	**Pn**	**13 25 41.6**	**0.0**
OFRI	**`Ofer**	**2.17**	**243**	S	**Sn**	**13 26 10.6**	**+1.3**
DSI	**Dead Sea**	**2.60**	**219**	P	**Pb**	**13 25 51.6**	**-0.1**
DSI	**Dead Sea**	**2.60**	**219**	S	**Sg**	**13 26 27.9**	**+0.1**

*ISK **19** 13:33:26.6, 38°.85N×43°.71E, h18km, ML2.5/9*
*AFAD **19** 13:33:29.2±0.0, 38°.84N×43°.48E, h8km±5km, ML2.3*
ISC 19 13:33:27.2±1.5, 38°.85N±0°.03×43°.66E±0°.06, h16km±10km, n15, σ0§63/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.15**	**333**	P	**Pb**	**13 33 32.3**	**+0.4**
VMUR				*i* AML	AML	13 33 36.0	
	comp=E,2μm,0.3s						
VMUR				S	**Sb**	**13 33 36.2**	**+1.3**
VMUR				*i* AML	AML	13 33 37.0	
	comp=N,2μm,0.3s						
ERCV	**ERCIS-VAN**	**0.30**	**304**	Pg	**Pb**	**13 33 34.2**	**-0.2**
VANB	**Van**	**0.33**	**220**	Pg	**Pb**	**13 33 35.6**	**+0.7**
TVAN	**Van**	**0.38**	**212**	P	**Pg**	**13 33 35.4**	**+0.3**
TVAN				S	**Sb**	**13 33 41.8**	**+0.3**
TVAN				*i* AML	AML	13 33 42.0	
	comp=N,522nm,0.5s						
TVAN				*i* AML	AML	13 33 42.0	
	comp=E,660nm,0.6s						
GEVA	**Gevas**	**0.72**	**221**	P	**Pg**	**13 33 41.1**	**-0.2**
GEVA				S	**Sb**	**13 33 52.3**	**+1.1**
ADCV	**BITLIS_Adilcev**	**0.73**	**267**	P	**Pg**	**13 33 41.3**	**-0.3**
ADCV				S	**Sn**	**13 33 53.3**	**-0.7**
ADCV				*i* AML	AML	13 33 54.0	
	comp=N,107nm,0.3s						
AKDM	**Akdamar-Van**	**0.75**	**226**	Pg	**Pg**	**13 33 41.7**	**-0.2**
DORK	**Agr/Tutak/Do**	**0.87**	**308**	P	**Pg**	**13 33 44.1**	**0.0**
DORK				S	**Sb**	**13 33 55.7**	**+0.2**
DORK				*i* AML	AML	13 33 58.0	
	comp=N,80nm,0.2s						
DORK				*i* AML	AML	13 33 58.0	
	comp=E,87nm,0.3s						
AGRB	**Hanur-Agry**	**0.89**	**324**	Pg	**Pb**	**13 33 44.9**	**+0.5**
AGRB				Sg	**Sn**	**13 33 57.7**	**-0.3**
MLAZ	**Malazgirt-MUS**	**0.91**	**289**	Pg	**Pn**	**13 33 45.7**	**+0.1**
BLIS	**Bitlis-Merkez**	**1.29**	**251**	P	**Pn**	**13 33 50.3**	**-0.4**
BLIS				S	**Sb**	**13 34 06.8**	**-0.8**
BLIS				*i* AML	AML	13 34 09.0	
	comp=N,103nm,0.5s						
BLIS				*i* AML	AML	13 34 11.0	
	comp=E,59nm,0.5s						
GURO	**Guroymak-BITLI**	**1.31**	**257**	Pn	**Pn**	**13 33 50.9**	**-0.1**
GURO				Sn	**Sg**	**13 34 09.0**	**-0.6**
GNI	**Garni**	**1.54**	**32**	Pn	**Pn**	**13 33 53.3**	**-0.9**
CUKT	**Cukurca**	**1.60**	**182**	Pn	**Pn**	**13 33 54.9**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.80**	**310**	Pn	**Pn**	**13 33 58.7**	**+0.9**

IDC 19 13:35:12.7±319.0, 64°.34N×23°.58E, h0km, Error ellipse: s-maj=134.9km s-min=91.2km az=178.0, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	**I37NO**	**5.15**	**340**	I	I	14 07 50.0	
	baz=157,slow=325,SNR=1.1						
I43RU	**DUBNA INFRASONI**	**10.15**	**132**	I	I	14 37 50.0	
	baz=327,slow=324,SNR=0.9						
I31KZ	**AKTYUBINSK INF**	**22.85**	**111**	I	I	15 53 13.5	
	baz=320,slow=322						

AUST 19 13:35:49.0±0.7, 31°.S±4°.×11°.4E±°., h10km, mb3.8/1, ML2.6/8, Error ellipse: s-maj=12.2km s-min=8.9km az=99.6, West of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUN	**Mundaring**	**2.14**	**108**	P	Pb	13 36 26.6	-1.3
MUN	**Mundaring**	**2.14**	**108**	S	Sn	13 36 51.7	+0.3
MORW	**Morawa**	**2.97**	**41**	P	Pn	13 36 36.5	+0.4
MORW	**Morawa**	**2.97**	**41**	S	Sn	13 37 10.7	-1.1
KLBR	**Kellerberrin**	**3.38**	**95**	P	Pn	13 36 42.6	+0.8
KLBR	**Kellerberrin**	**3.38**	**95**	S	Sn	13 37 22.6	+0.6
LM05	**Lake Muir 05**	**3.71**	**146**	P	Pn	13 36 45.9	-0.4
LM05				S	Sn	13 37 27.1	-3.0
LM04	**Lake Muir 04**	**3.83**	**142**	P	Pn	13 36 47.9	-0.1
LM04				S	Sn	13 37 31.9	-1.3
LM02	**Lake Muir 02**	**3.95**	**144**	P	Pn	13 36 49.5	-0.2
LM02				S	Sn	13 37 35.1	-1.0
LM01	**Lskr Muir 01**	**3.95**	**141**	P	Pn	13 36 49.7	0.0
LM01				S	Sn	13 37 34.4	-1.7
LM03	**Lake Muir 03**	**4.01**	**140**	P	Pn	13 36 49.7	-0.7
LM03				S	Sn	13 37 35.5	-1.9
RKGY	**Rocky Gully**	**4.21**	**142**	P	Pn	13 36 53.3	0.0
RKGY	**Rocky Gully**	**4.21**	**142**	S	Sn	13 37 41.1	-1.4
MEEK	**Meekatharra**	**6.29**	**43**	P	Pn	13 37 20.5	-1.3
	comp=Z,0.1nmcomp=Z,17nm,2.1s						
MEEK	**Meekatharra**	**6.29**	**43**	S	Sn	13 38 28.2	-5.5

*IDC **19** 13:39:27.8±1.7, 2°.35S×121°.43E, h0km, mb3.2/3, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=54.4km s-min=28.4km az=64.0*
*DJA **19** 13:39:30.5±0.3, 2°.S±.3°.×12°.1E±°., h10km, M3.9/12, MLv3.9/12*
ISC 19 13:39:30.7±0.9, 2°.37S±0°.04×121°.31E±0°.06, h22km, n14, σ1§16/15, mb3.4/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.49**	**13**	P	**Pb**	**13 39 58.2**	**+0.5**
TTSI	**Tana Toraja**	**1.63**	**246**	P	**Pn**	**13 39 56.0**	**-2.2**
LUWI	**Luwuk**	**1.97**	**48**	P	**Pb**	**13 40 04.3**	**-1.6**
KDI	**Kendari**	**2.05**	**140**	P	**Pb**	**13 40 07.3**	**+0.1**
PCI	**Palu**	**2.07**	**315**	P	**Pn**	**13 40 04.8**	**+0.6**
SPSI	**Sidrap Palu**	**2.21**	**224**	P	**Pn**	**13 40 04.9**	**-1.2**
BNSI	**Bone**	**2.35**	**211**	P	**Pn**	**13 40 09.6**	**+1.6**
MRSI	**Marisa**	**2.90**	**13**	P	**Pn**	**13 40 16.0**	**+0.4**
KAPI	**Kappang**	**3.05**	**211**	Pn	**Pn**	**13 40 18.3**	**+0.6**
	5.7nm,0.3s,baz=37,slow=15,SNR=2.6						
KAPI				Sn	**Sn**	**13 40 53.1**	**-0.5**
	6.9nm,0.3s,baz=66,slow=20,SNR=6.2						
	14nm,0.3s						
BKSI	**Bulukumba**	**3.16**	**202**	P	**Pn**	**13 40 20.1**	**+0.9**
SANI	**Sanana**	**4.68**	**86**	P	**Pn**	**13 40 39.9**	**-0.3**
WRA	**Warramunga Arr**	**21.61**	**145**	P	**P**	**13 44 18.2**	**-1.2**
	0.7nm,0.8s,baz=324,slow=11,SNR=4.8						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**24.43**	**151**	P	**P**	**13 44 48.7**	**+0.7**
	0.8nm,0.8s,baz=325,slow=8.3,SNR=7.2						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**59.77**	**330**	P	**P**	**13 49 35.0**	**+0.9**
	0.2nm,0.5s,baz=132,slow=8.9,SNR=2.5						
	0.2nm,0.5s						

IDC 19 13:43:15.4±298.0, 64°.73N×23°.12E, h0km, Error ellipse: s-maj=125.0km s-min=92.0km az=177.0, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	**I37NO**	**4.71**	**340**	I	I	14 13 30.0	
	baz=157,slow=324,SNR=1.1						
I43RU	**DUBNA INFRASONI**	**10.56**	**133**	I	I	14 46 30.0	
	baz=328,slow=325,SNR=2.1						
I31KZ	**AKTYUBINSK INF**	**23.18**	**111**	I	I	16 04 46.6	
	baz=321,slow=328,SNR=4.2						

*IDC **19** 13:48:10.3±0.8, 57°.25S×26°.02W, h0km, mb4.2/4, mbtmp4.1/5, ML3.9/1, Error ellipse: s-maj=42.9km s-min=24.1km az=74.0*
*NEIC **19** 13:48:15.2±1.4, 57°.3S±0°.1×25°.9W±0°.2, h35km±11km, mb4.4/10, Error ellipse: s-maj=21.9km s-min=13.4km az=223.0*
ISC 19 13:48:18.1±0.6, 57°.3S±0°.1×26°.1W±0°.1, h65km, n29, σ1§19/25, mb4.3/6, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.59**	**293**	Pn	**Pn**	**13 49 50.2**	**-1.9**
VNA1	**Neumayer--Stat**	**15.40**	**157**	⇑P	**Pn**	**13 51 50.1**	**-1.0**
	comp=Z,0.2nm,0.2s						
VNA3	**Neumayer Olymp**	**15.60**	**160**	⇑P	**Pn**	**13 51 51.3**	**-2.3**
	comp=Z,0.1nm,0.2s						
VNA2	**Neumayer--Watz**	**15.80**	**157**	⇑P	**Pn**	**13 51 55.9**	**-0.2**
	comp=Z,0.5nm,0.2s,baz=310,slow=13						
SNAA	**Sanae**	**17.35**	**155**		**Pn**	**13 52 14.5**	**-1.0**
SNAA	**Sanae**	**17.35**	**155**	⇑P	**Pn**	**13 52 15.5**	**0.0**
	comp=Z,188μm,0.1s						
SNAA	**Sanae**	**17.35**	**155**	P	**Pn**	**13 52 15.3**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=315,slow=16,SNR=10.0						
	comp=Z,0.9nm,0.4s						
BELA	**Belgrano 2**	**20.87**	**185**	P	**P**	**13 52 54.0**	**-0.3**
PLTB	**Pedras Altas**	**31.78**	**312**	P	**P**	**13 54 36.1**	**0.0**
QSPA	**South Pole Qui**	**32.94**	**180**	P	**P**	**13 54 47.1**	**+1.1**
QSPA				IAmb	IAmb	13 54 48.1	
	comp=Z,4.0nm,0.7s						
QSPA	**South Pole Qui**	**32.94**	**180**	P	**P**	**13 54 47.0**	**+0.9**
	comp=Z,3.3nm,0.6s,baz=198,slow=3.2,SNR=60						
QSPA				PcP	**PcP**	**13 57 29.8**	**+1.2**
	comp=Z,1.1nm,0.9s,baz=207,slow=2.8,SNR=2.5						
	comp=Z,3.3nm,0.6s						
SUR	**Sutherland**	**40.43**	**72**	P	**P**	**13 55 48.2**	**-1.8**
CRZF	**Crozet Islands**	**46.78**	**112**	P	**P**	**13 56 39.8**	**-0.8**
H10S2	**ASCENSION HYDR**	**49.05**	**15**	T	T	14 50 47.5	
	baz=32,slow=74,SNR=5.7						
H10S3	**ASCENSION HYDR**	**49.05**	**15**	T	T	14 50 46.8	
	baz=188,slow=74,SNR=6.1						
H10N1	**ASCENSION HYDR**	**50.17**	**15**	T	T	14 51 43.1	
	baz=191						
H10N3	**ASCENSION HYDR**	**50.17**	**15**	T	T	14 52 12.4	
	baz=191						
H10N2	**ASCENSION HYDR**	**50.19**	**15**	T	T	14 51 49.6	
	baz=191						
LPAZ	**La Paz**	**51.59**	**305**	P	**P**	**13 57 19.1**	**+0.7**
LPAZ				IAmb	IAmb	13 57 25.4	
	comp=Z,2.0nm,0.6s						
LPAZ	**La Paz**	**51.59**	**305**	P	**P**	**13 57 19.4**	**+1.1**
	comp=Z,2.0nm,0.5s,baz=98,slow=4.2,SNR=7.4						
	comp=Z,2.0nm,0.5s						
SAML	**Samuel**	**56.11**	**314**	P	**P**	**13 57 50.9**	**+0.2**
SAML				IAmb	IAmb	13 57 53.4	
	comp=Z,2.6nm,0.8s						
BOAV	**Boa Vista**	**65.64**	**322**	P	**P**	**13 58 54.4**	**-0.9**
BOAV				IAmb	IAmb	13 58 57.4	
	comp=Z,3.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.88**	**28**	P	**P**	**13 59 47.5**	**+1.7**
TORD				IAmb	IAmb	14 00 07.0	
	comp=Z,5.2nm,1.5s						
TORD	**Torodi Ar. Bea**	**73.88**	**28**	P	**P**	**13 59 46.8**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=200,slow=5.6,SNR=7.6						
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**97.61**	**162**	P	**P**	**14 01 45.5**	**+0.2**
	comp=Z,0.4nm,1.0s,baz=181,slow=3.7,SNR=2.3						
	comp=Z,0.4nm,1.0s						
NVAR	**Mina Array Bea**	**122.42**	**292**	PKP	**PKiKP**	**14 07 07.9**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=123,slow=4.5,SNR=4.3						
INK	**Inuv

L14K	Kuka Creek	7.91	3		Pn	Pn	13 57 51.3	+2.6
G21K	Allakaket	13.99	17	Pn	Pn	Pn	13 59 14.1	+2.2
ILAR	Eielson Array	14.14	30	Pn	Pn	Pn	13 59 10.7	-3.2
	baz=223,slow=12,SNR=2.1 comp=E,0.2nm,0.5s							
SCRK	Sand Creek	14.56	36	Pn	Pn	Pn	13 59 20.6	+0.8
J26L	Joseph Creek	15.03	35		Pn	Pn	13 59 28.0	+1.9
J26L				IAmb	IAmb	IAmb	13 59 51.3	
	comp=Z,4.6nm,0.9s							
M29M	Somme Creek	15.96	46	Pn	Pn	Pn	13 59 38.7	+0.3
M29M				IAmb	IAmb	IAmb	14 00 02.9	
	comp=Z,14nm,1.1s							
DAWY	Dawson	16.30	40		P	P	13 59 45.3	-0.4
L29M	L29M	16.37	44	Pn	Pn	Pn	13 59 44.2	+0.7
L29M				IAmb	IAmb	IAmb	13 59 50.6	
	comp=Z,11nm,0.8s							
I30M	Mount Dempster	18.00	39	P	P	P	14 00 05.6	+1.1
I30M				IAmb	IAmb	IAmb	14 00 09.8	
	comp=Z,5.3nm,0.7s							
FARO	Faro, Yukon	18.15	49	P	Pn	Pn	14 00 05.9	0.0
H31M	Peel River	19.02	38	P	Pn	Pn	14 00 15.9	-0.4
H31M				IAmb	IAmb	IAmb	14 00 20.2	
	comp=Z,7.7nm,1.0s							
INK	Inuvik	20.52	32	P	P	P	14 00 29.0	-2.8
	comp=Z,0.7nm,0.7s,baz=243,slow=11,SNR=1.4 comp=Z,0.7nm,0.7s							
PETK	Petropavlovsk-	22.97	285	P	P	P	14 00 58.2	0.0
	comp=Z,3.3nm,0.7s,baz=84,slow=14,SNR=20 comp=Z,3.3nm,0.7s							
A36M	Sachs Harbour	24.80	27	P	P	P	14 01 16.4	+0.8
H11N2	WAKE ISLAND Hy	40.63	225	T	T		14 47 12.2	
	baz=26,slow=76,SNR=41							
H11N3	WAKE ISLAND Hy	40.63	225	T	T		14 47 13.1	
	baz=26,slow=76,SNR=51							
H11N1	WAKE ISLAND Hy	40.64	225	T	T		14 47 12.2	
	baz=26,slow=76,SNR=54							
H11S1	WAKE ISLAND Hy	41.80	225	T	T		14 48 40.8	
	baz=26,slow=76,SNR=48							
H11S2	WAKE ISLAND Hy	41.81	225	T	T		14 48 39.7	
	baz=26,slow=76,SNR=46							
H11S3	WAKE ISLAND Hy	41.81	225	T	T		14 48 39.9	
	baz=26,slow=76,SNR=44							
NRIK	Noril'sk	47.09	333	P	P		14 04 25.5	+0.1
	comp=Z,1.5nm,0.6s,baz=98,slow=7.1,SNR=3.6 comp=Z,1.5nm,0.6s							
KSRS	Korea Array	48.72	280	P	P		14 04 38.7	+0.3
	comp=Z,2.0nm,0.8s,baz=56,slow=7.2,SNR=7.8 comp=Z,2.0nm,0.8s							
TXAR	Lajitas Array	49.27	95	P	P		14 04 45.9	+3.1
	comp=Z,0.1nm,0.4s,baz=302,slow=5.2,SNR=4.5 comp=Z,0.1nm,0.4s							
SONM	Songino Array	53.69	303	P	P		14 05 15.8	0.0
	comp=Z,2.4nm,0.8s,baz=48,slow=7.1,SNR=13 comp=Z,2.4nm,0.8s							
ZALV	Zalesovo Beam	58.90	320	P	P		14 05 51.9	-0.7
	comp=Z,0.9nm,0.5s,baz=53,slow=7.4,SNR=4.5							
ZALV				PcP	PcP		14 06 41.8	0.0
	comp=Z,0.4nm,0.5s,baz=22,slow=4.7,SNR=3.5 comp=Z,0.9nm,0.5s							
KURBB	Kurchatov Arra	63.91	321	P	P		14 06 26.0	-0.5
	comp=Z,1.7nm,0.9s,baz=45,slow=6.8,SNR=9.2 comp=Z,1.7nm,0.9s							
BVAR	Borovoye Array	64.76	327	P	P		14 06 32.2	+0.1
	comp=Z,2.8nm,0.7s,baz=41,slow=7.7,SNR=14 comp=Z,2.8nm,0.7s							
BRVK	Borovoye	64.77	327	P	P		14 06 32.2	0.0
FINES	FINESS Array B	65.17	355	P	P		14 06 34.3	-0.3
	comp=Z,5.5nm,1.0s,baz=34,slow=5.2,SNR=4.8 comp=Z,5.5nm,1.0s							
ARTI	Arti	65.23	336	P	P		14 06 34.4	-0.7
	comp=Z,4.0nm,0.8s,baz=11,slow=5.2,SNR=5.9 comp=Z,4.0nm,0.8s							
MKAR	Makanchi Array	65.51	316	P	P		14 06 36.3	-0.8
	comp=Z,1.0nm,0.8s,baz=43,slow=6.2,SNR=7.6 comp=Z,1.0nm,0.8s							
NOA	NORSAR Array B	65.76	3	P	P		14 06 38.4	-0.2
	comp=Z,1.6nm,0.8s,baz=359,slow=6.2,SNR=4.6 comp=Z,1.6nm,0.8s							
HFS	Hagfors	66.72	1	P	P		14 06 43.2	-1.5
	comp=Z,1.7nm,0.6s,baz=345,slow=4.5,SNR=6.7 comp=Z,1.7nm,0.6s							
EKA	Eskdalemuir Ar	70.36	12	P	P		14 07 07.0	-0.4
	comp=Z,0.8nm,0.6s,baz=342,slow=9.0,SNR=2.2 comp=Z,0.8nm,0.6s							
AKTO	Aktyubinsk	70.71	333	P	P		14 07 10.1	+0.4
	comp=Z,3.6nm,0.8s,baz=34,slow=5.2,SNR=11 comp=Z,3.6nm,0.8s							
AAK	Ala-Archa	72.08	319	P	P		14 07 19.0	+0.7
	comp=Z,1.2nm,0.6s,baz=149,slow=2.9,SNR=4.3 comp=Z,1.2nm,0.6s							
AKASG	Malin Array Be	75.64	352	P	P		14 07 37.7	-1.0
	comp=Z,1.2nm,0.5s,baz=12,slow=5.6,SNR=4.3 comp=Z,1.2nm,0.5s							
CMAR	Chiang Mai Arr	79.73	287	P	P		14 08 01.9	-0.2
	comp=Z,0.7nm,0.4s,baz=20,slow=4.5,SNR=6.7 comp=Z,0.7nm,0.4s							
KBZ	Khabaz	80.55	341	P	P		14 08 08.1	+2.0
	comp=Z,1.4nm,0.8s,baz=359,slow=14,SNR=3.5 comp=Z,1.4nm,0.8s							

*IDC **19** 13:56:48.2±1.4, 35°.12N×89°.33E, h0km, mb3.5/3, mbtmp3.6/9, ML3.1/5, MS3.5/3, Error ellipse: s-maj=52.0km s-min=18.8km az=60.0*

ISC 19 13:56:53.2±1.1, 35°.3N±0°.1×89°.3E±0°.2, h35km, n11, σ1s07/9, mb3.5/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	12.69	337	Pn	Pn	13 59 49.2	-2.0
	0.1nm,0.3s,baz=149,slow=12,SNR=5.1 0.7nm,0.8s						
AAK	Ala-Archa	13.69	307	Pn	Pn	14 00 04.6	-0.4
	baz=183,slow=6.9,SNR=2.6 0.4nm,0.4s						
KURBB	Kurchatov Arra	17.25	336	P	Pn	14 00 51.2	0.0
	0.3nm,0.3s,baz=147,slow=12,SNR=16 3.8nm,0.6s						
SONM	Songino Array	17.88	40	P	Pn	14 00 59.9	+0.8
	0.1nm,0.3s,baz=222,slow=14,SNR=8.2						
SONM				LR	LR	14 08 30.6	
	comp=Z,277nm,18.3s,baz=310,slow=39 0.6nm,0.7s						
CMAR	Chiang Mai Arr	18.77	150	P	P	14 01 09.7	+0.2
	0.6nm,0.3s,baz=315,slow=10,SNR=2.2						
ZALV	Zalesovo Beam	18.97	352	P	Pn	14 01 12.8	+0.6
	0.3nm,0.3s,baz=171,slow=12,SNR=21 5.0nm,0.7s						
BVAR	Borovoye Array	22.26	329	P	P	14 01 47.9	+0.9
	2.0nm,0.9s,baz=133,slow=11,SNR=6.2 2.0nm,0.9s						
WSAR	Wadi Sarin	29.22	254	LR	LR	14 15 49.0	
	comp=Z,43nm,18.9s,baz=240,slow=39						
MBAR	Mbarara	65.13	250	LR	LR	14 38 02.2	
	comp=Z,46nm,19.4s,baz=22,slow=38						
WRA	Warramunga Arr	69.54	135	P	P	14 07 57.6	-0.9
	0.4nm,0.9s,baz=328,slow=6.1,SNR=2.8 0.4nm,0.9s						
ASAR	Alice Springs	72.22	137	P	P	14 08 14.6	-0.2
	0.3nm,0.8s,baz=321,slow=6.9,SNR=2.5 0.3nm,0.8s						

*IDC **19** 14:13:35.2±1.2, 37°.27N×20°.42E, h0km, mb3.6/9, mbtmp3.6/13, ML2.6/3, MS3.4/10, Error ellipse: s-maj=23.9km s-min=19.2km az=155.0*
*ATH **19** 14:13:35.7, 37°.18N×20°.54E, h6km±3km, ML3.7/9, Error ellipse: s-maj=3.2km s-min=1.2km az=220.0*
*NAO **19** 14:13:39.7, 37°.40N×20°.49E, h10km, mb4.1*

ISC 19 14:13:34.9±1.6, 37°.19N±0°.05×20°.51E±0°.04, h1km±11km, n32, σ1s14/35, mb3.8/9, MS3.2/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.58	27	P	Pb	14 13 47.6	-0.4
LTHK				S	Sg	14 13 54.8	+1.1
LTHK				AML	AML	14 13 56.2	
	comp=E,17806μm,0.2s						
LTHK				AML	AML	14 14 01.9	
	comp=N,21767μm,0.3s						
PSDA	Pessada-Kefalo	0.93	4	P	Pg	14 13 52.5	-0.3
PSDA				S	Sb	14 14 05.7	-1.0
PYL	PYLOS	1.03	106	P	Pg	14 13 54.2	-0.5
PYL				S	Sg	14 14 08.5	+0.4
DMLN	Damoulianata-K	1.06	354	P	Pb	14 13 55.4	-0.6
ITM	Ithomi	1.13	90	P	Pg	14 13 56.5	-0.1
ITM				S	Sg	14 14 11.0	-0.3
ITM				AML	AML	14 14 15.8	
	comp=N,7647μm,0.6s						
ITM				AML	AML	14 14 21.6	
	comp=E,7116μm,0.6s						
DRO	Drossia	1.23	51	P	Pg	14 13 58.3	-0.1
DRO				S	Sg	14 14 15.0	+0.7
DRO				AML	AML	14 14 19.0	
	comp=N,9036μm,0.5s						
DRO				AML	AML	14 14 26.7	
	comp=E,12513μm,0.5s						
FSK	Fiskardo	1.27	2	P	Pn	14 13 59.7	-0.2
FSK				AML	AML	14 14 22.3	
	comp=E,4893μm,0.2s						
FSK				AML	AML	14 14 29.8	
	comp=N,4106μm,1.0s						
LKD2	Lefkada island	1.60	4	P	Pb	14 14 05.2	-0.3
LKD2				AML	AML	14 14 40.3	
	comp=N,3342μm,0.7s						
LKD2				AML	AML	14 14 42.6	
	comp=E,4293μm,0.7s						
GUR	Goura	1.64	62	P	Pn	14 14 05.1	+0.1
GUR				S	Sn	14 14 26.2	-0.6
GUR				AML	AML	14 14 37.1	
	comp=N,5006μm,0.6s						
GUR				AML	AML	14 14 37.8	
	comp=E,4345μm,0.5s						
TSLK	Tsoukalades, L	1.64	4	P	Pg	14 14 06.0	-0.4
TSLK				AML	AML	14 14 38.5	
	comp=N,4070μm,0.5s						
TSLK				AML	AML	14 14 38.6	
	comp=E,2654μm,0.6s						
EFP	Efpalio	1.66	41	P	Pn	14 14 05.5	+0.3
EFP				AML	AML	14 14 39.6	
	comp=N,2018μm,1.1s						
EFP				AML	AML	14 14 41.4	
	comp=E,2228μm,0.9s						
ANX	Ano Chora	1.80	38	P	Pb	14 14 08.2	-0.5
ANX				AML	AML	14 14 41.5	
	comp=E,4406μm,0.7s						
ANX				AML	AML	14 14 48.5	
	comp=N,3616μm,0.5s						
OHR	Ohrid	3.93	3	*i* Pn	Pn	14 14 39.0	+2.5
IDI	Anoyia	4.02	117	Pn	Pn	14 14 39.0	+1.3
	comp=N,2.3nm,0.3s,baz=270,slow=18,SNR=2.3						
IDI				Sn	Sn	14 15 24.4	-1.1
	comp=N,3.5nm,0.3s,baz=274,slow=16,SNR=6.3 comp=N,4.2nm,0.2s						
VAE	Valguarnera	4.87	275	Pn	Pn	14 14 48.4	-1.0
	comp=N,3.3nm,0.3s,baz=77,slow=19,SNR=2.3						
VAE				Sn	Sn	14 15 47.3	+0.9
	comp=N,2.8nm,0.3s,baz=45,slow=14,SNR=1.9 comp=N,11nm,0.5s						
MLR	Muntele Rosu	9.25	25	Pn	Pn	14 15 51.5	+1.9
	comp=N,0.1nm,0.3s,baz=165,slow=16,SNR=2.0						
MLR				LR	LR	14 20 20.9	
	comp=N,307nm,18.5s,baz=208,slow=44 comp=N,2.3nm,0.7s						
DAVOX	Davos/Dischmat	12.41	324	LR	LR	14 22 30.6	
	comp=N,146nm,19.1s,baz=78,slow=44						
AKASG	Malin Array Be	14.88	22	Pn	Pn	14 17 06.6	+0.1
	comp=N,0.2nm,0.3s,baz=212,slow=10,SNR=1.8						
AKASG				LR	LR	14 23 51.5	
	comp=N,142nm,19.4s,baz=216,slow=42						
GNI	Garni	19.14	74	LR	LR	14 25 37.8	
	comp=N,61nm,20.1s,baz=286,slow=38						
HFS	Hagfors	23.38	351	P	P	14 18 43.2	-1.6
	comp=N,1.3nm,0.5s,baz=156,slow=11,SNR=4.8						
HFS				LR	LR	14 30 23.3	
	comp=N,78nm,21.5s,baz=18,slow=43 comp=N,1.3nm,0.5s						
EKA	Eskdalemuir Ar	24.24	326	P	P	14 18 51.6	-1.6
	comp=N,4.8nm,1.2s,baz=118,slow=8.9,SNR=2.2 comp=N,4.8nm,1.2s						
BELG	Belogornoye	24.33	43	LR	LR	14 30 26.7	
	comp=N,66nm,19.0s,baz=283,slow=42						
FINES	FINESS Array B	24.53	6	P	P	14 18 53.9	-1.9
	comp=N,1.9nm,0.9s,baz=182,slow=11,SNR=3.8 comp=N,1.9nm,0.9s						
NB2	NORSAR Subarra	24.59	349	P	P	14 18 58.0	+1.6
	comp=Z,3.7nm,0.9s,baz=162,slow=9.3						
NOA	NORSAR Array B	24.59	349	P	P	14 18 57.8	+1.4
	comp=Z,0.6nm,0.6s,baz=158,slow=9.0,SNR=4.5						
NOA				LR	LR	14 29 28.5	
	comp=Z,66nm,18.1s,baz=5.0,slow=39 comp=Z,0.6nm,0.6s						
KIRV	Kirov	28.50	32	LR	LR	14 30 32.8	
	comp=Z,64nm,20.7s,baz=1.4,slow=36						
TORD	Torodi Ar. Bea	29.26	220	P	P	14 19 40.2	+1.5
	comp=Z,0.3nm,0.6s,baz=41,slow=5.9,SNR=2.1						
TORD				LR	LR	14 32 42.3	
	comp=Z,103nm,18.1s,baz=317,slow=39 comp=Z,0.3nm,0.6s						
BVAR	Borovoye Array	37.77	49	P	P	14 20 54.2	+1.7
	comp=Z,0.5nm,0.7s,baz=261,slow=7.2,SNR=2.3 comp=Z,0.5nm,0.7s						
KURBB	Kurchatov Arra	42.83	53	P	P	14 21 33.8	-0.6
	comp=Z,0.3nm,0.5s,baz=282,slow=8.8,SNR=2.1 comp=Z,0.3nm,0.5s						
MKAR	Makanchi Array	45.84	58	P	P	14 21 57.3	-1.2
	comp=Z,0.2nm,0.4s,baz=291,slow=8.5,SNR=2.5 comp=Z,0.2nm,0.4s						
ZALV	Zalesovo Beam	46.37	47	P	P	14 22 02.9	+0.4
	comp=Z,0.3nm,0.3s,baz=268,slow=8.7,SNR=2.7 comp=Z,0.3nm,0.3s						
LBTB	Lobatse	62.05	175	LR	LR	14 54 00.4	
	comp=Z,31nm,18.0s,baz=352,slow=39						

NOU 19 14:21:02.1, 22°.01S×169°.66E, h0km, ML3.6/9, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	1.60	289	P	Pn	14 21 30.7	-1.0
PINNC	Pines Island,	2.14	253	P	Pn	14 21 38.4	-0.6
YATNC	Mamie plateau,	2.57	268	P	Pn	14 21 44.5	-0.5
OUENC	Ouen Island, N	2.64	261	P	Pn	14 21 46.3	+0.3
ONTNC	Ouen Toro	2.99	264	P	Pn	14 21 51.0	+0.3
NOUC	Port Laguerre	3.12	268	P	Pn	14 21 52.2	-0.3
KOUNC	Koumac, New Ca	5.22	285	P	Pn	14 22 22.0	+0.6

*ATH **19** 14:22:31.0, 37°.42N×20°.73E, h10km±2km, ML3.1/8, Error ellipse: s-maj=2.4km s-min=0.9km az=230.0*
*THE **19** 14:22:31.4, 37°.42N×20°.75E, h8km±1km, ML2.8/8, Error ellipse: s-maj=2.0km s-min=0.9km az=52.0*

ISC 19 14:22:30.8±1.5, 37°.41N±0°.05×20°.74E±0°.05, h9km±9km, n26, σ0s58/44, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.26	13	P	Pg	14 22 36.2	+0.2
KRI1				S	Sg	14 22 40.1	+0.6
	4μm,0.6s						
LTHK	Lithakia	0.31	14	P	Pg	14 22 37.1	+0.2
LTHK				S	Sg	14 22 41.8	+0.8
	2μm,0.4s						
LTHK	Lithakia	0.31	14	P	Pg	14 22 37.0	0.0
LTHK				S	Sg	14 22 40.9	-0.1
RTZL	Ratzakli, Kefa	0.66	2	P	Pg	14 22 43.5	-0.2
RTZL				S	Sb	14 22 54.4	+0.5
	695nm,0.6s						
PSDA	Pessada-Kefalo	0.71	350	P	Pg	14 22 44.1	-0.5
PSDA				S	Sb	14 22 54.8	-0.5
	1μm,0.4s						
PSDA	Pessada-Kefalo	0.71	350	P	Pg	14 22 44.1	-0.5
PSDA				S	Sg	14 22 54.0	+0.1
RLS	Riolos of Patr	0.86	41	P	Pg	14 22 46.6	-0.9
DMLN	Damoulianata-K	0.88	341	P	Pg	14 22 47.2	-0.5
DMLN				S	Sb	14 23 01.1	+1.1
	2μm,0.5s						
DMLN	Damoulianata-K	0.88	341	P	Pg	14 22 47.3	-0.5
DMLN				S	Sg	14 22 59.3	+0.1
DRO	Drossia	0.94	55	P	Pg	14 22 48.5	-0.4
DRO				S	Sb	14 23 02.3	+0.5
	832nm,0.5s						
DRO	Drossia	0.94	55	P	Pg	14 22 48.1	-0.8
DRO				S	Sb	14 23 02.1	+0.4
DRO				AML	AML	14 23 04.2	
	comp=E,1812μm,0.5s						
DRO				AML	AML	14 23 08.8	
	comp=N,1506μm,0.5s						
PYL	PYLOS	0.95	123	P	Pg	14 22 49.0	-0.1
PYL				S	Sn	14 23 04.0	+0.1
PYL	PYLOS	0.95	123	P	Pg	14 22 49.0	-0.1
PYL				S	Sb	14 23 02.7	+0.6
ITM	Ithomi	0.97	103	P	Pg	14 22 49.0	-0.4
ITM				S	Sb	14 23 03.2	+0.5
ITM				AML	AML	14 23 08.4	
	comp=E,1256μm,1.0s						
ITM				AML	AML	14 23 08.7	
	comp=N,1060μm,0.8s						
FSK	Fiskardo	1.06	352	P	Pg	14 22 50.2	-1.0
FSK				S	Sb	14 23 05.5	+0.3
FSK				AML	AML	14 23 09.5	
	comp=N,2936μm,0.5s						
FSK				AML	AML	14 23 09.7	
	comp=E,2826μm,0.7s						
EVGI	Lefkada island	1.21	357	P	Pb	14 22 53.3	-0.5
KLV	Kalavryta, Ach	1.28	60	P	Pn	14 22 55.0	0.0
KLV				S	Sb	14 23 12.1	+0.4
NYDR	Nydri-Lefkada	1.30	358	P	Pn	14 22 55.0	-0.1
NYDR				S	Sn	14 23 14.2	+1.6
	comp=E,368nm,1.0s						
NYDR	Nydri-Lefkada	1.30	358	P	Pn	14 22 55.0	-0.1
EFP	Efpalio	1.37	42	P	Pn	14 22 55.2	-0.8
EFP				AML	AML	14 23 22.9	
	comp=N,409μm,0.8s						
EFP				AML	AML	14 23 23.3	
	comp=E,406μm,0.6s						
GUR	Goura	1.37	67	P	Pn	14 22 55.1	-1.1
GUR				S	Sb	14 23 14.3	-0.1
	comp=E,418nm,0.6s						
GUR	Goura	1.37	67	P	Pn	14 22 56.1	-0.1
GUR				AML	AML	14 23 22.8	
	comp=E,741μm,0.6s						
GUR				AML	AML	14 23 28.9	
	comp=N,871μm,0.6s						
LKD2	Lefkada island	1.38	357	P	Pn	14 22 55.9	-0.4
LKD2				AML	AML	14 23 20.6	
	comp=E,2248μm,0.8s						
LKD2				AML	AML	14 23 21.3	
	comp=N,2416μm,0.6s						
TSLK	Tsoukalades, L	1.41	357	P	Pn	14 22 57.1	+0.4
TSLK				S	Sb	14 23 14.5	-0.9
TSLK				AML	AML	14 23 20.5	
	comp=E,1684μm,0.8s						
TSLK				AML	AML	14 23 23.1	
	comp=N,2292μm,0.6s						
ANX	Ano Chora	1.50	38	P	Pn	14 22 58.1	+0.1
ANX				AML	AML	14 23 25.8	
	comp=E,1015μm,0.6s						
ANX				AML	AML	14 23 27.5	
	comp=N,1252μm,0.7s						
EVR	Evrytania	1.72	29	P	Pb	14 23 02.5	-0.1

*LJU **19** 14:23:45.4, 46°.14N×13°.44E, h16km, ML2.3*
*VIE **19** 14:23:45.4±0.1, 46°.15N×13°.45E, h15km, mb2.4/13, ml2.9/20, Error ellipse: s-maj=1.4km s-min=0.9km az=53.0*
*ROM **19** 14:23:45.8±0.1, 46°.189N±0°.007×13°.460E±0°.009, h11km, ML2.8/82, Error ellipse: s-maj=0.9km s-min=0.2km az=29.0*
*PRU **19** 14:23:48.0, 46°.21N×13°.48E, h10km*

ISC 19 14:23:45.7±0.8, 46°.14N±0°.01×13°.44E±0°.01, h16km±4km, n119, σ0s77/199, 10C-10D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLI	Coloredo	0.04	257	↑*e*Pg	Pg	14 23 48.7	0.0
COLI				*e*Sg	Sg	14 23 50.8	+0.1
ROBS	Robic	0.11	27	↑*i*Pg	Pb	14 23 49.1	-0.4
ROBS				*i* Sg	Sg	14 23 51.5	-0.2
ROBS				IAML		14 23 52.0	
	comp=Z,330nm,0.1s						
DRE	Drenchia	0.15	78	↑*e*Pg	Pb	14 23 49.8	-0.3
DRE				*e*Sg	Sb	14 23 52.8	-0.2
DRE	Drenchia	0.15	78	P	Pb	14 23 49.8	-0.3
DRE				S	Sb	14 23 52.8	-0.2
VINO	Villanova	0.16	317	↓*e*Pg	Pg	14 23 49.6	-0.3
VINO				*e*Sg	Sg	14 23 52.4	-0.2
VINO	Villanova	0.16	317	↓P	Pg	14 23 49.6	-0.3
VINO				S	Sg	14 23 52.5	-0.2
VINO				AML	AML		
	comp=N,4090μm,0.5s						
VINO				AML	AML		
	comp=E,3335μm,0.3s						
BAD	Bernadia	0.16	305	↓*e*Pg	Pg	14 23 49.7	-0.3
BAD				*e*Sg	Sg	14 23 52.7	-0.1
BAD	Bernadia	0.16	305	P	Pg	14 23 49.7	-0.3
BAD				S	Sg	14 23 52.8	-0.1
SABO	M.te Sabotino	0.20	145	↑*e*Pg	Pb	14 23 50.9	-0.1
SABO				*e*Sg	Sb	14 23 54.7	+0.2
SABO	M.te Sabotino	0.20	145	↑P	Pb	14 23 50.9	-0.1
SABO				S	Sb	14 23 54.9	+0.4
SABO				AML	AML		
	comp=N,4760μm,0.6s						
SABO				AML	AML		
	comp=N,15700μm,0.6s						
SABO				AML	AML		
	comp=E,23850μm,0.3s						
SABO				AML	AML		
	comp=E,5625μm,0.2s						
SABO				AML	AML		
	comp=N,4755μm,0.6s						
CADS	Cadrg	0.23	68	↑*i*Pg	Pg	14 23 50.8	-0.1
CADS				*i* Sg	Sb	14 23 54.6	-0.7
CADS				IAML		14 23 55.0	
	comp=Z,358nm,0.1s						
BUA	Buia	0.23	289	↓*e*Pg	Pb	14 23 50.9	-0.5
BUA				*e*Sg	Sb	14 23 55.7	+0.4
GEPF	Gemona	0.24	303	P	Pg	14 23 50.9	-0.2
GEPF				S	Sb	14 23 55.0	-0.7
GEPF				AML	AML		
	comp=E,2750μm,0.3s						
GEPF				AML	AML		
	comp=N,4855μm,0.5s						
PTCC	Patocco-Chiusa	0.27	348	↓P	Pg	14 23 51.2	-0.4
PTCC				S	Sg	14 23 55.3	-0.4
PTCC				AML	AML		
	comp=E,1058μm,0.2s						
PTCC				AML	AML		
	comp=N,1175μm,1.5s						
PTCC				AML	AML		
	comp=N,1175μm,0.5s						
BOO	Bordano	0.29	307	↓*e*Pg	Pg	14 23 51.6	-0.4
BOO				*e*Sg	Sg	14 23 56.2	-0.1
BOO	Bordano	0.29	307	P	Pg	14 23 51.6	-0.4
BOO				S	Sg	14 23 56.2	-0.1
PRED	Cave del Predi	0.31	17	P	Pg	14 23 50.2	-2.2
PRED				S	Sg	14 23 55.0	-1.9
TLI	Talmassons	0.32	227	*e*Pg	Pb	14 23 52.9	-0.1
MPRI	Monte Prat	0.33	288	↑*e*Pg	Pg	14 23 52.5	-0.1
MPRI				*e*Sg	Sb	14 23 57.8	-0.4
MPRI	Monte Prat	0.33	288	P	Pg	14 23 52.5	-0.1
MPRI				S	Sb	14 23 58.2	+0.1
MPRI				AML	AML		
	comp=E,906μm,0.4s						
MPRI				AML	AML		
	comp=E,906μm,0.4s						
MPRI				AML	AML		
	comp=N,2270μm,0.5s						
MPRI				AML	AML		
	comp=N,1760μm,0.6s						
MPRI				AML	AML		
	comp=E,1165μm,0.9s						
MPRI				AML	AML		
	comp=E,906μm,1.6s						
MPRI				AML	AML		
	comp=E,1165μm,1.1s						
VOJS	Vojsko	0.33	110	↑*i*Pg	Pg	14 23 52.6	0.0
VOJS				*i* Sg	Sb	14 23 58.3	-0.1
VOJS				IAML		14 23 59.4	
	comp=Z,65nm,0.1s						
LSR	Lussari	0.34	11	↑*e*Pg	Pg	14 23 52.9	0.0
LSR				*e*Sg

ACOM				S	Sb	14 24 00.3	-0.4
ACOM				AML	AML		
	comp=N,1615μm,1.0s						
ACOM				AML	AML		
	comp=E,2420μm,0.6s						
ACOM				AML	AML		
	comp=E,2375μm,0.6s						
ACOM				AML	AML		
	comp=N,1740μm,1.0s						
GORS	**Gorjuse**	**0.42**	**66**⇑	*i* Pg	**Pg**	**14 23 53.9**	**-0.4**
GORS				*i* Sg	**Sb**	**14 24 01.5**	**+0.4**
GORS				IAML		14 24 02.7	
	comp=Z,44nm,0.1s						
PLRO	**Paularo**	**0.45**	**334**⇓	*e*Pg	**Pg**	**14 23 54.5**	**-0.5**
PLRO				*e*Sg	**Sb**	**14 24 01.4**	**-0.5**
PLRO	**Paularo**	**0.45**	**334**	P	**Pg**	**14 23 54.4**	**-0.5**
PLRO				S	**Sb**	**14 24 01.4**	**-0.5**
TRI	**Trieste**	**0.49**	**152**	P	**Pg**	**14 23 54.3**	**-1.2**
TRI				S	**Sg**	**14 24 01.9**	**-0.2**
TRI				AML	AML		
	comp=N,658μm,0.8s						
TRI				AML	AML		
	comp=E,688μm,0.5s						
CLUD	**Cludinico**	**0.50**	**309**	*e*Pg	**Pg**	**14 23 55.1**	**-0.5**
CLUD				*e*Sg	**Sg**	**14 24 02.3**	**-0.1**
CLUD	**Cludinico**	**0.50**	**309**	P	**Pg**	**14 23 54.9**	**-0.7**
CLUD				S	**Sg**	**14 24 02.3**	**-0.1**
CLUD				AML	AML		
	comp=N,364μm,1.5s						
CLUD				AML	AML		
	comp=N,385μm,0.5s						
CLUD				AML	AML		
	comp=E,452μm,0.6s						
CLUD				AML	AML		
	comp=E,466μm,0.6s						
CLUD				AML	AML		
	comp=E,452μm,1.4s						
CLUD				AML	AML		
	comp=N,364μm,0.5s						
CLUD				AML	AML		
	comp=E,466μm,1.4s						
JAVS	**Javornik**	**0.50**	**119**⇓	*i* Pg	**Pg**	**14 23 55.6**	**-0.2**
JAVS				*e*Sg	**Sb**	**14 24 03.3**	**0.0**
JAVS				IAML		14 24 05.5	
	comp=Z,39nm,0.1s						
MYKA	**Terra Mystica**	**0.51**	**16**	*i* Pg	**Pg**	**14 23 55.6**	**-0.2**
	comp=Z,14nm,0.2s,SNR=16						
MYKA				*i* Sg	**Sb**	**14 24 03.1**	**-0.3**
	comp=Z,89nm,0.2s						
ZOU	**Zoufplan**	**0.52**	**322**	*e*Pg	**Pg**	**14 23 55.8**	**-0.4**
ZOU	**Zoufplan**	**0.52**	**322**	P	**Pg**	**14 23 55.7**	**-0.5**
ZOU				S	**Sb**	**14 24 03.5**	**-0.5**
ZOU				AML	AML		
	comp=E,582μm,1.0s						
ZOU				AML	AML		
	comp=N,504μm,1.3s						
ZOU				AML	AML		
	comp=E,568μm,1.0s						
ZOU				AML	AML		
	comp=N,478μm,1.3s						
ZOU				AML	AML		
	comp=N,504μm,1.3s						
ZOU				AML	AML		
	comp=E,582μm,1.0s						
ZOU				AML	AML		
	comp=N,478μm,0.7s						
ZOU				AML	AML		
	comp=N,504μm,0.7s						
MLNI	**Malnisio**	**0.57**	**271**	*e*Pg	**Pb**	**14 23 57.2**	**-0.1**
CRNS	**Crni Vrh**	**0.58**	**96**	*i* Pg	**Pg**	**14 23 56.5**	**-0.6**
CRNS				*i* Sg	**Sb**	**14 24 05.6**	**+0.2**
CRNS				IAML		14 24 09.1	
	comp=Z,39nm,0.1s						
CSMI	**Casera Mimoias**	**0.66**	**304**	*e*Pg	**Pg**	**14 23 58.4**	**-0.3**
CAE	**Caneva**	**0.71**	**259**	*e*Pg	**Pb**	**14 23 59.8**	**+0.1**
CIMO	**Cimolais**	**0.71**	**284**	*e*Pg	**Pg**	**14 23 59.4**	**-0.3**
CIMO	**Cimolais**	**0.71**	**284**	P	**Pg**	**14 23 59.1**	**-0.6**
CIMO				AML	AML		
	comp=N,204μm,0.5s						
CIMO				AML	AML		
	comp=E,150μm,0.7s						
CIMO				AML	AML		
	comp=N,216μm,1.3s						
CIMO				AML	AML		
	comp=N,216μm,0.7s						
CIMO				AML	AML		
	comp=E,138μm,0.7s						
MOZS	**Mozjanca**	**0.71**	**77**	*i* Pg	**Pb**	**14 23 59.5**	**-0.2**
MOZS				*i* Sg	**Sn**	**14 24 11.0**	**-0.8**
MOZS				IAML		14 24 14.1	
	comp=Z,47nm,0.2s						
SKDS	**Skadanscina**	**0.72**	**146**	*i* Pg	**Pg**	**14 23 59.1**	**-0.7**
SKDS				*i* Sg	**Sb**	**14 24 10.1**	**+0.6**
SKDS				IAML		14 24 16.2	
	comp=Z,74nm,0.1s						
GBAS	**Gorenja Brezov**	**0.73**	**106**	*e*Pg	**Pg**	**14 23 59.4**	**-0.6**
GBAS				*i* Sg	**Sb**	**14 24 10.6**	**+0.8**
GBAS				IAML		14 24 13.5	
	comp=Z,74nm,0.2s						
APGO	**Alpago**	**0.75**	**271**	*e*Pg	**Pb**	**14 24 00.3**	**0.0**
FRE8	**Fregona**	**0.76**	**261**	P	**Pb**	**14 24 00.8**	**+0.3**
FRE8				S	**Sn**	**14 24 12.8**	**-0.2**
LJU	**Ljubljana**	**0.77**	**97**	*i* Sg	**Sn**	**14 24 11.9**	**-1.0**
LJU				IAML		14 24 14.6	
	comp=Z,46nm,0.1s						
LJU	**Ljubljana**	**0.77**	**97**	P	**Pg**	**14 24 00.3**	**-0.4**
LJU				S	**Sn**	**14 24 11.9**	**-1.0**
LJU				AML	AML		
	comp=E,2255μm,1.2s						
LJU				AML	AML		
	comp=N,4350μm,0.6s						
LJU				AML	AML		
	comp=E,2255μm,0.8s						
CEY	**Cerknica**	**0.80**	**120**	*i* Pg	**Pb**	**14 24 00.5**	**-0.7**
CEY				*i* Sg	**Sn**	**14 24 12.8**	**-1.1**
CEY				IAML		14 24 18.8	
	comp=Z,20nm,0.1s						
OBKA	**Obir**	**0.85**	**64**	*i* Pg	**Pb**	**14 24 01.9**	**-0.2**
	comp=Z,2.7nm,0.1s,SNR=5.7						
OBKA				*e*Sg	**Sn**	**14 24 14.3**	**-1.0**
	comp=Z,49nm,0.3s,SNR=8.5						
ABTA	**Abfaltersbach**	**0.88**	**314**	*e*Pg	**Pg**	**14 24 02.5**	**-0.3**
	comp=Z,20nm,0.2s,SNR=25						
ABTA				*e*Sg	**Sn**	**14 24 14.9**	**-1.0**
	comp=Z,42nm,0.2s						
VNDS	**Vrh nad Dolski**	**0.88**	**92**	*i* Pg	**Pb**	**14 24 02.4**	**-0.2**
VNDS				*i* Sg	**Sg**	**14 24 14.8**	**+0.4**
VNDS				IAML		14 24 18.7	
	comp=Z,38nm,0.1s						
ED06	**Collalto TV**	**0.90**	**252**	*e*Pg	**Pn**	**14 24 03.7**	**0.0**
KNDS	**Knezji Dol**	**0.90**	**133**	*i* Pg	**Pn**	**14 24 03.9**	**+0.1**
KBA	**Koelnbreinsper**	**0.94**	**356**	*e*Pg	**Pg**	**14 24 03.8**	**-0.1**
	comp=Z,8.4nm,0.2s,SNR=11						
KBA				*e*Sg	**Sg**	**14 24 16.4**	**+0.1**
	comp=Z,20nm,0.2s						
VARN	**Col Varnada, M**	**0.94**	**261**	P	**Pg**	**14 24 03.6**	**-0.3**
VARN				AML	AML		
	comp=E,1118μm,0.2s						
VARN				AML	AML		
	comp=N,894μm,0.3s						
VARN				AML	AML		
	comp=E,1160μm,0.2s						
VARN				AML	AML		
	comp=N,898μm,0.3s						
VARN				AML	AML		
	comp=E,1117μm,0.2s						
AGOR	**Agordo**	**0.97**	**279**	P	**Pn**	**14 24 05.2**	**+0.5**
VISS	**Visnje**	**1.04**	**109**	*i* Pg	**Pg**	**14 24 05.6**	**-0.2**
VISS				*e*Sg	**Sn**	**14 24 19.7**	**+0.1**
VISS				IAML		14 24 24.6	
	comp=Z,54nm,0.2s						
PDKS	**Podkum**	**1.09**	**94**	*i* Pg	**Pn**	**14 24 06.1**	**-0.2**
PDKS				*i* Sg	**Sn**	**14 24 21.9**	**+0.9**
PDKS				IAML		14 24 24.5	
	comp=Z,49nm,0.2s						
RIY	**Rijeka**	**1.10**	**138**	*e*Pg	**Pg**	**14 24 07.4**	**+0.5**
RIY				Sg	**Sg**	**14 24 22.5**	**+1.3**
GBRS	**Gornja Briga**	**1.14**	**122**	*e*Pg	**Pg**	**14 24 07.3**	**-0.4**
GBRS				IAML		14 24 27.3	
	comp=Z,24nm,0.1s						
CGRP	**Cima Grappa**	**1.17**	**258**	P	**Pg**	**14 24 08.0**	**-0.4**
CGRP				AML	AML		
	comp=E,440μm,0.6s						
CGRP				AML	AML		
	comp=N,344μm,0.8s						
CGRP				AML	AML		
	comp=N,301μm,0.4s						
CGRP				AML	AML		
	comp=N,344μm,0.8s						
CGRP				AML	AML		
	comp=E,364μm,1.1s						
CGRP				AML	AML		
	comp=E,440μm,1.4s						
SOKA	**Soboth**	**1.23**	**64**	*i* Pg	**Pg**	**14 24 08.8**	**-0.6**
	comp=E,1.5nm,0.1s,SNR=6.6						
SOKA				*e*Sg	**Sn**	**14 24 24.7**	**+0.2**
	comp=E,8.0nm,0.2s						
CTI	**Castel Tesino**	**1.25**	**266**	P	**Pg**	**14 24 09.4**	**-0.4**
CTI				S	**Sg**	**14 24 27.1**	**+1.1**
CTI				AML	AML		
	comp=E,910μm,1.0s						
CTI				AML	AML		
	comp=N,799μm,0.3s						
CTI				AML	AML		
	comp=N,799μm,1.7s						
BRJN	**Brijuni**	**1.26**	**170**	*e*Pg	**Pg**	**14 24 09.4**	**-0.5**
BRJN				Sg	**Sg**	**14 24 26.2**	**-0.1**
BRJN	**Brijuni**	**1.26**	**170**	P	**Pg**	**14 24 09.6**	**-0.3**
BRJN				S	**Sg**	**14 24 27.0**	**+0.7**
PERS	**Pernice**	**1.26**	**66**	*i* Pg	**Pb**	**14 24 09.0**	**-0.1**
PERS				*i* Sg	**Sb**	**14 24 25.0**	**-0.1**
PERS				IAML		14 24 30.0	
	comp=Z,36nm,0.3s						
ZIAN	**Ziano**	**1.31**	**277**	P	**Pg**	**14 24 10.9**	**0.0**
ZIAN				AML	AML		
	comp=N,339μm,0.3s						
ZIAN				AML	AML		
	comp=N,303μm,0.3s						
ZIAN				AML	AML		
	comp=E,312μm,0.3s						
ZIAN				AML	AML		
	comp=E,340μm,0.3s						
LEGS	**Legarje**	**1.32**	**98**	*i* Pg	**Pg**	**14 24 10.9**	**-0.3**
LEGS				*i* Sg	**Sg**	**14 24 28.7**	**+0.2**
LESA	**Schwarzleotal**	**1.38**	**338**	*e*Pg	**Pg**	**14 24 11.7**	**-0.6**
	comp=E,13nm,0.1s						
LESA				*e*Sg	**Sg**	**14 24 30.0**	**-0.4**
	comp=E,84nm,0.4s						
DOBS	**Dobrina**	**1.41**	**89**	*i* Pg	**Pb**	**14 24 11.6**	**0.0**
DOBS				IAML		14 24 35.4	
	comp=Z,24nm,0.2s						
BOJS	**Bojanci**	**1.42**	**116**	*i* Pg	**Pg**	**14 24 12.8**	**-0.3**
BOJS				*i* Sg	**Sg**	**14 24 32.1**	**+0.5**
BOJS				IAML		14 24 35.2	
	comp=Z,32nm,0.2s						
CRES	**Cresnjevec Ost**	**1.44**	**102**	*i* Pg	**Pb**	**14 24 12.6**	**+0.4**
CRES				*e*Sg	**Sg**	**14 24 31.6**	**-0.7**
CRES				IAML		14 24 33.7	
	comp=Z,22nm,0.2s						
KOSI	**Kohlern**	**1.46**	**283**	P	**Pg**	**14 24 13.2**	**-0.7**
KOSI				AML	AML		
	comp=N,402μm,0.4s						
KOSI				AML	AML		
	comp=E,532μm,0.5s						
PANI	**Panarotta**	**1.47**	**267**	P	**Pb**	**14 24 12.6**	**0.0**
PANI				AML	AML		
	comp=E,200μm,0.7s						
PANI				AML	AML		
	comp=N,438μm,1.5s						
PANI				AML	AML		
	comp=E,200μm,1.3s						
OZLJ	**Ozalj**	**1.51**	**110**	*e*Pn	**Pg**	**14 24 14.0**	**-0.8**
OZLJ				Sg	**Sg**	**14 24 34.5**	**0.0**
GOLS	**Golise**	**1.53**	**94**	*i* Pn	**Pb**	**14 24 14.1**	**+0.4**
GOLS				*i* Sn	**Sg**	**14 24 35.8**	**+0.8**
GOLS				IAML		14 24 40.3	
	comp=Z,40nm,0.3s						
GCIS	**Gornji Cirnik**	**1.55**	**99**	*i* Pn	**Pg**	**14 24 14.6**	**-0.9**
GCIS				*i* Sn	**Sg**	**14 24 36.0**	**+0.3**
GCIS				IAML		14 24 40.0	
	comp=Z,26nm,0.2s						
BIOA	**Bad Ischl, Aus**	**1.56**	**5**	*e*Pg	**Pg**	**14 24 15.4**	**-0.2**
	comp=Z,15nm,0.3s,SNR=7.0						
BIOA				*e*Sg	**Sg**	**14 24 37.5**	**+1.7**
	comp=Z,50nm,0.4s						
APPI	**Appiano**	**1.57**	**283**	P	**Pb**	**14 24 14.6**	**+0.2**
APPI				AML	AML		
	comp=N,424μm,0.3s						
APPI				AML	AML		
	comp=E,205μm,1.2s						
APPI				AML	AML		
	comp=E,205μm,0.8s						
DOSS	**Dosso del Somm**	**1.59**	**261**	P	**Pb**	**14 24 14.0**	**-0.7**
DOSS				AML	AML		
	comp=N,482μm,0.5s						
DOSS				AML	AML		
	comp=E,484μm,0.5s						
DOSS				AML	AML		
	comp=E,390μm,1.1s						
DOSS				AML	AML		
	comp=N,386μm,0.3s						
DOSS				AML	AML		
	comp=E,390μm,0.9s						
DOSS				AML	AML		
	comp=N,482μm,1.5s						
DOSS				AML	AML		
	comp=E,484μm,1.5s						
ROSI	**Rosskopf**	**1.60**	**300**	P	**Pg**	**14 24 16.1**	**-0.4**
ROSI				AML	AML		
	comp=E,396μm,1.5s						
ROSI				AML	AML		
	comp=N,560μm,1.5s						
ROSI				AML	AML		
	comp=E,396μm,0.5s						
ROSI				AML	AML		
	comp=N,560μm,0.5s						
WTTA	**Wattenberg**	**1.67**	**313**	*e*Pg	**Pg**	**14 24 17.3**	**-0.6**
	comp=N,24nm,0.2s,SNR=31						
WTTA				*e*Sg	**Sg**	**14 24 39.6**	**0.0**
	comp=N,42nm,0.4s,SNR=7.6						
WTTA	**Wattenberg**	**1.67**	**313**	P	**Pg**	**14 24 16.8**	**-1.0**
WTTA				AML	AML		
	comp=E,190μm,1.5s						
WTTA				AML	AML		
	comp=E,190μm,1.5s						
WTTA				AML	AML		
	comp=N,216μm,1.0s						
WTTA				AML	AML		
	comp=E,190μm,0.5s						
WTTA				AML	AML		
	comp=N,216μm,1.0s						
OZOL	**Ozolo**	**1.67**	**280**	P	**Pb**	**14 24 15.8**	**-0.3**
OZOL				AML	AML		
	comp=E,847μm,0.4s						
OZOL				AML	AML		
	comp=N,617μm,1.2s						
RABC	**Rab**	**1.68**	**145**	*e*Pn	**Pb**	**14 24 16.2**	**0.0**
RABC				Sn	**Sg**	**14 24 38.7**	**-1.2**
GAGG	**Gaggia**	**1.72**	**269**	P	**Pb**	**14 24 16.2**	**-0.8**
GAGG				AML	AML		
	comp=E,164μm,0.6s						
GAGG				AML	AML		
	comp=E,234μm,0.7s						
GAGG				AML	AML		
	comp=E,251μm,0.5s						
GAGG				AML	AML		
	comp=N,166μm,0.6s						
GAGG				AML	AML		
	comp=N,235μm,0.7s						
GAGG				AML	AML		
	comp=E,164μm,1.4s						
LUSI	**Trento, Gardas**	**1.75**	**265**	P	**Pb**	**14 24 16.2**	**-1.1**
LUSI				AML	AML		
	comp=E,249μm,0.2s						
LUSI				AML	AML		
	comp=N,437μm,1.1s						
WATA	**Walderalm**	**1.75**	**314**	*e*Pg	**Pg**	**14 24 18.2**	**-1.1**
	comp=N,7.5nm,0.2s,SNR=8.6						
WATA				*e*Sg	**Sg**	**14 24 42.7**	**+0.6**
	comp=N,21nm,0.2s						
PTJ	**Puntijarka**	**1.78**	**97**	*e*Pn	**Pb**	**14 24 18.6**	**+0.7**
PTJ				Sn	**Sg**	**14 24 42.6**	**-0.4**
MOA	**Molln**	**1.80**	**18**	*e*Pg	**Pb**	**14 24 18.9**	**+0.6**
	comp=N,1.0nm,0.1s						
MOA				Sg	**Sg**	**14 24 42.0**	**-1.7**
	comp=N,11nm,0.4s						
VARA	**Varagna**	**1.80**	**261**	P	**Pb**	**14 24 17.0**	**-1.3**
VARA				AML	AML		
	comp=N,322μm,0.7s						
VARA				AML	AML		
	comp=E,374μm,0.2s						
ARSA	**Arzberg**	**1.81**	**52**	*e*Pg	**Pb**	**14 24 19.0**	**+0.5**
	comp=E,2.4nm,0.2s						
ARSA				*e*Sg	**Sb**	**14 24 42.0**	**+1.1**
	comp=E,3.8nm,0.3s						
ARSA	**Arzberg**	**1.81**	**52**	P	**Pb**	**14 24 19.0**	**+0.5**
LOBO	**Lobor**	**1.83**	**89**	*e*Pn	**Pb**	**14 24 18.6**	**-0.2**
LOBO				Sn	**Sb**	**14 24 42.6**	**+1.2**
SQTA	**Sankt Quirin**	**1.87**	**306**	*e*Pg	**Pb**	**14 24 20.3**	**+0.8**
	comp=E,16nm,0.3s						
SQTA				*e*Sg	**Sg**	**14 24 45.4**	**-0.6**
	comp=E,61nm,0.4s,SNR=7.5						
NVLJ	**Novalja**	**1.88**	**147**	*e*Pn	**Pb**	**14 24 19.3**	**-0.2**
NVLJ				Sn	**Sb**	**14 24 43.9**	**+1.2**
CARE	**Lago del Cares**	**1.92**	**279**	P	**Pn**	**14 24 18.9**	**+1.0**
CARE				AML	AML		
	comp=N,112μm,0.5s						
CARE				AML	AML		
	comp=E,99μm,1.5s						
RONC	**Roncone**	**1.97**	**266**	P	**Pn**	**14 24 19.5**	**+1.0**
RONC				AML	AML		
	comp=N,402μm,1.1s						
RONC				AML	AML		
	comp=N,402μm,0.9s						
RONC				AML	AML		
	comp=E,305μm,0.2s						
PLIT	**Plitvice**	**1.99**	**129**	*e*Pn	**Pb**	**14 24 21.0**	**-0.5**
PLIT				Sn	**Sb**	**14 24 46.8**	**+0.8**
MAGA	**Magasa**	**1.99**	**260**	P	**Pn**	**14 24 19.7**	**+0.9**
MAGA				AML	AML		
	comp=N,282μm,0.4s						
MAGA				AML	AML		
	comp=E,462μm,0.4s						
MOTA	**Moosalm**	**2.00**	**308**	*e*Pn	**Pb**	**14 24 21.9**	**+0.1**
	comp=E,6.0nm,0.3s						
MOTA				*e*Sg	**Sg**	**14 24 50.4**	**+0.2**
	comp=E,31nm,0.5s						
MOSI	**Grossmontoni**	**2.05**	**284**	AML	AML		
	comp=E,396μm,1.2s						
MOSI				AML	AML		
	comp=E,396μm,0.8s						
MOSI				AML	AML		
	comp=N,460μm,0.4s						
FETA	**Feichten**	**2.06**	**296**	*e*Pg	**Pb**	**14 24 23.4**	**+0.6**
	comp=N,4.9nm,0.3s						
FETA				*e*Sg	**Sg**	**14 24 51.0**	**-1.1**
	comp=N,12nm,0.4s,SNR=5.9						
VIRC	**Vir**	**2.17**	**148**	*e*Pn	**Pn**	**14 24 22.5**	**+1.4**
VIRC				Sn	**Sb**	**14 24 50.3**	**-1.0**
RETA	**Reutte**	**2.28**	**307**	*i* Pg	**Pb**	**14 24 27.3**	**+1.0**
	comp=N,4.5nm,0.2s						
RETA				*e*Sg	**Sb**	**14 24 56.2**	**+1.9**
	comp=N,18nm,0.3s,SNR=5.4						
UDBI	**Udbina**	**2.30**	**134**	*e*Pn	**Pb**	**14 24 25.9**	**-0.9**
UDBI				Sn	**Sb**	**14 24 55.1**	**+0.1**
MOSL	**Moslavina**	**2.38**	**102**	*e*Pn	**Pn**	**14 24 25.8**	**+1.8**
MOSL				Sn	**Sb**	**14 24 55.8**	**-1.4**
CONA	**Conrad Observa**	**2.44**	**42**	*e*Pg	**Pg**	**14 24 32.7**	**+0.3**
	comp=N,0.6nm,0.1s						
RONA	**Rosalia, Austr**	**2.50**	**50**	*e*Pn	**Pn**	**14 24 27.5**	**+1.8**
	comp=N,1.0nm,0.2s						
RONA				*e*Sg	**Sg**	**14 25 07.6**	**+1.4**
	comp=N,1.8nm,0.2s						
CKRC	**Cesky Krumlov**	**2.74**	**12**	*e*SG	**Sg**	**14 25 13.0**	**-0.8**
MORI	**Morici**	**2.79**	**144**	*e*Pn	**Pb**	**14 24 32.4**	**-2.7**
MORI				Sn	**Sb**	**14 25 06.7**	**-2.3**
KHC	**Kasperske Hory**	**2.99**	**2**	*e*PG	**Pg**	**14 24 41.0**	**-2.0**
KHC				*e*SN	**Sn**	**14 25 10.3**	**+2.4**
	comp=N,7.2nm,0.5s						
PRU	**Pruhonice**	**3.92**	**10**	*e*SG	**Sg**	**14 25 49.5**	**-1.9**
BRG	**Berggiesshubel**	**4.75**	**4**	*e*r		14 25 13.6	
BRG				Amp		14 25 15.9	
	comp=Z,2.3nm,0.6s						
BRG				r		14 25 50.4	
BRG				Amp		14 25 52.2	
	comp=Z,2.0nm,0.5s						
BRG				r		14 26 17.4	
BRG				Amp		14 26 21.0	
	comp=Z,5.9nm,1.0s						
CHVC	**Chvalec**	**4.78**	**20**	*e*SG	**Sg**	**14 26 17.1**	**-1.9**
CLL	**Collm**	**5.18**	**357**	*e*Pn	**Pn**	**14 25 04.0**	**+1.6**
CLL				*e*Sg	**Sg**	**14 26 31.0**	**-0.7**

IDC 19 14:29:50.9±1.4, 26°.32N×101°.95E, h0km, mb3.3/5, mbtmp3.3/5, Error ellipse: s-maj=83.0km s-min=22.1km az=63.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**21.76**	**8**	P	P	14 34 44.7	+0.5
	0.3nm,0.5s,baz=195,slow=10,SNR=2.0						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**25.70**	**328**	P	P	14 35 22.5	-0.1
	0.3nm,0.7s,baz=139,slow=9.4,SNR=3.2						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**30.17**	**330**	P	P	14 36 02.3	-0.3
	0.2nm,0.3s,baz=134,slow=10,SNR=1.5						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**55.70**	**142**	P	P	14 39 28.6	-0.8
	0.2nm,0.5s,baz=334,slow=8.3,SNR=5.6						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**58.52**	**145**	P	P	14 39 49.9	+0.7
	0.4nm,0.9s,baz=328,slow=7.1,SNR=4.3						
	0.4nm,0.9s						

BJI ***19*** *14:40:14.5, 24°.31N×122°.02E, h21km, mb3.9/7, mB4.4/2, ML3.9/8, Ms4.1/15, Ms7 4.0/15*

NIED ***19*** *14:40:15.4, 24°.27N×121°.91E, h35km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr2.79; Mθθ-2.39; Mφφ-0.40; Mrθ0.19; Mθφ-0.73; Mφr3.07; Fault plane solution: M0 3.86000×10^15 NP1:φs33.00000°, δ68.00000°, λ64.00000°. NP2:φs265.00000°, δ33.00000°, λ138.00000°.*

TAP ***19*** *14:40:15.2, 24°.35N×121°.94E, h26km, ML4.5, B*

ASIES ***19*** *14:40:15.2, 24°.35N×121°.94E, h26km, ML4.5, Mw4.3, Moment Tensor Solution. Moment tensor: Scale 10^22Nm; Mrr0.02; Mθθ0.29; Mφφ-0.31; Mrθ0.60; Mθφ-0.65; Mφr3.43; Fault plane solution: M0 3.56025×10^22 NP1:φs8.50000°, δ87.98000°, λ81.36000°. NP2:φs265.43000°, δ8.88000°, λ166.78000°. Principal axes: T Plg46.3520°, Azm269.6360°; N Plg8.6430°, Azm8.8050°; P Plg42.3510°, Azm106.7690°;*

JMA ***19*** *14:40:15.4±0.1, 24°.3N±0°.3×121°.9E±0°.3, h35km±1km, MD4.3/17, MV3.9/17, TAIWAN REGION*

IDC ***19*** *14:40:30.6±6.5, 24°.34N×121°.97E, h190km±68km, mb3.2/9, mbtmp3.7/10, MS3.5/14, Error ellipse: s-maj=29.2km s-min=16.5km az=72.0*

ISC 19 14:40:15.3±0.7, 24°.33N±0°.01×121°.96E±0°.02, h24km±5km, n193, σ1 s17/291, mb3.7/10, MS3.5/10, 16C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.20**	**266**	*e*P	**Pb**	**14 40 20.9**	**0.0**
EHP				S	**Sb**	**14 40 25.6**	**+0.8**
EAHA	**Aohua**	**0.20**	**271**⇓	*i*P	**Pb**	**14 40 20.9**	**-0.1**
EAHA				S	**Sb**	**14 40 26.0**	**+1.2**
EWUT	**Wuta**	**0.21**	**305**⇓	*i*P	**Pb**	**14 40 20.9**	**-0.1**
EWUT				S	**Sb**	**14 40 24.9**	**0.0**
EOS2	**EOS2**	**0.26**	**69**⇑	*e*P	**Pn**	**14 40 22.9**	**-0.6**
ESAO	**Su ao**	**0.27**	**336**⇑	P	**Pb**	**14 40 21.7**	**-0.2**
ESAO				*i* S	**Sb**	**14 40 25.9**	**-0.5**
TWC	**Suao**	**0.30**	**340**⇑	*i*P	**Pb**	**14 40 22.1**	**-0.2**
TWC				*i* S	**Sb**	**14 40 26.6**	**-0.5**
EOS3	**EOS3**	**0.33**	**97**⇑	*e*P	**Pn**	**14 40 24.1**	**-0.3**
ETL	**Fush Village**	**0.35**	**242**	*e*P	**Pb**	**14 40 23.2**	**+0.1**
ETL				S	**Sn**	**14 40 29.6**	**-1.6**
NACB	**Ninganchiao**	**0.37**	**246**	P	**Pb**	**14 40 23.6**	**+0.2**
NACB	**Ninganchiao**	**0.37**	**246**⇓	P	**Pb**	**14 40 23.3**	**0.0**
NACB				*i* S	**Sb**	**14 40 29.7**	**+0.8**
NDS	**Dongshan**	**0.38**	**324**⇓	*i*P	**Pb**	**14 40 23.5**	**0.0**
NDS				S	**Sb**	**14 40 29.2**	**0.0**
EOS4	**EOS4**	**0.38**	**122**	*e*P	**Pn**	**14 40 24.5**	**-0.4**
TWD	**Chiawan**	**0.41**	**234**	*e*P	**Pb**	**14 40 24.2**	**+0.1**
TWD				*e*S	**Sn**	**14 40 31.8**	**-0.9**
LATG	**Datong**	**0.45**	**298**⇓	*i*P	**Pb**	**14 40 24.5**	**-0.2**
LATG				S	**Sb**	**14 40 31.5**	**+0.3**
ETLH	**Xiulin Townshi**	**0.46**	**255**⇓	P	**Pb**	**14 40 24.8**	**0.

TWE S **Sb** **14 40 31.6 -0.2**
ENTT Nioudou 0.48 311 ⇓*i*P **Pb** **14 40 25.0 -0.1**
ENTT S **Sb** **14 40 31.7 -0.2**
ILA Ilan 0.48 336 ⇓P **Pb** **14 40 25.4 +0.2**
ILA S **Sn** **14 40 32.8 -1.5**
EGS 0.52 357 ⇑P **Pb** **14 40 26.0 +0.1**
EGS *e*S **Sb** **14 40 32.8 -0.2**
NNSB Datong 0.54 281 ⇓*i*P **Pb** **14 40 26.1 -0.1**
NNSB *e*S **Sb** **14 40 33.5 -0.1**
NTC Toucheng 0.54 347 *e*P **Pn** **14 40 26.6 -0.9**
NTC *e*S **Sn** **14 40 34.5 -1.3**
NNS Nan Shan 0.55 282 ⇓*i*P **Pb** **14 40 26.3 -0.2**
NNS *e*S **Sb** **14 40 33.9 -0.1**
FUSB Fushanzhiwuyua 0.55 322 ⇓*i*P **Pb** **14 40 26.4 0.0**
FUSB S **Sn** **14 40 34.2 +1.9**
ETM Tongmen 0.56 230 *e*P **Pb** **14 40 26.5 0.0**
ETM *e*S **Sn** **14 40 35.8 -0.4**
TEYL Yanliau Villag 0.56 216 *e*P **Pn** **14 40 27.6 -0.2**
TEYL S **Sn** **14 40 35.9 -0.4**
LXIB Xiulin Townshi 0.59 239 P **Pb** **14 40 26.8 -0.3**
LXIB *e*S **Sn** **14 40 36.5 -0.6**
NWLT Wulai 0.61 317 *e*P **Pn** **14 40 27.7 -0.9**
NWLT S **Sn** **14 40 36.0 -1.7**
YHNB Yeheng 0.64 303 P **Pn** **14 40 28.1 -0.8**
YHNB Yeheng 0.64 303 ⇓*i*P **Pb** **14 40 27.6 -0.2**
YHNB S **Sn** **14 40 36.5 -1.8**
SHUL Shoufeng 0.65 214 *e*P **Pn** **14 40 28.8 -0.2**
SHUL S **Sn** **14 40 40.2 +1.8**
NSK Sanguang 0.65 302 ⇓*i*P **Pb** **14 40 27.8 -0.3**
NSK S **Sn** **14 40 37.2 -1.5**
TIPB Shuangxi 0.66 349 P **Pb** **14 40 28.2 0.0**
TIPB *e*S **Sb** **14 40 37.0 0.0**
FUSS Fushou 0.66 263 ⇑*i*P **Pb** **14 40 28.5 -0.9**
FUSS *e*S **Sn** **14 40 38.1 -1.0**
WHF Hehuan Shan 0.66 254 P **Pb** **14 40 28.4 -0.2**
WHF S **Sn** **14 40 38.6 -0.8**
TWB1 Santiao Chiao 0.68 2 ⇑*i*P **Pn** **14 40 28.8 -0.6**
TWB1 *e*S **Sb** **14 40 37.6 +0.1**
ESL Shilin 0.70 224 *e*P **Pb** **14 40 28.7 -0.2**
ESL *e*S **Sn** **14 40 39.9 +0.1**
TWT Tachien 0.72 264 *e*P **Pn** **14 40 29.6 -0.5**
TWT *e*S **Sn** **14 40 39.5 -1.0**
TEGC Jichi Village 0.72 212 *e*P **Pn** **14 40 30.1 +0.1**
TDCB Techi 0.74 265 ⇑P **Pn** **14 40 29.6 -0.7**
TDCB S **Sn** **14 40 39.9 -0.9**
NWF Wu-fen Shan 0.76 347 *i*P **Pn** **14 40 30.4 -0.2**
NWF *i*S **Sn** **14 40 41.3 -0.1**
WFSB Wu-fen Shan 0.76 347 ⇑P **Pn** **14 40 30.5 0.0**
WFSB *e*S **Sn** **14 40 40.8 -0.4**
SXI1 Grass Mountain 0.77 354 P **Pn** **14 40 30.5 -0.2**
TATO Taipei 0.78 326 P **Pn** **14 40 30.7 -0.1**
NHY Taipei 0.80 333 *e*P **Pn** **14 40 31.5 +0.5**
NHY *e*S **Sn** **14 40 42.4 +0.3**
WARBT Fenglin Townsh 0.80 221 *e*P **Pb** **14 40 30.0 -0.6**
OWD Renai 0.81 243 *e*P **Pb** **14 40 30.7 -0.1**
OWD *e*S **Sn** **14 40 43.0 +0.4**
EGFH Guangfu 0.82 217 *e*P **Pb** **14 40 30.9 +0.1**
TAP Taipei 0.82 330 *e*P **Pn** **14 40 31.9 +0.5**
TAP *i*S **Sn** **14 40 43.3 +0.5**
NFF Wufeng Townshi 0.83 292 *i*P **Pn** **14 40 31.3 -0.2**
NFF *e*S **Sn** **14 40 42.7 -0.3**
WUSB Renai 0.84 247 ⇑*i*P **Pb** **14 40 31.1 -0.2**
WUSB *e*S **Sn** **14 40 43.3 0.0**
KSHI Guanxi Townshi 0.85 302 *e*P **Pn** **14 40 32.1 +0.4**
KSHI *e*S **Sn** **14 40 44.1 +0.8**
YM01 YM01 0.89 336 ⇑P **Pn** **14 40 32.5 +0.1**
YM01 *e*S **Sn** **14 40 44.7 +0.1**
JYNG Yonagunijimaku 0.90 82 *i*P **Pb** **14 40 33.0 +0.6**
JYNG Yonagunijimaku 0.90 82 A A 14 40 33.0
comp=E,14nm,1.4s,comp=N,15nm,2.3s
ZUZH Zhuzihu 0.92 336 ⇑P **Pn** **14 40 32.8 +0.1**
ZUZH S **Sn** **14 40 45.8 +0.6**
TWS1 Kuangyinshan 0.92 327 P **Pn** **14 40 32.3 -0.4**
TWS1 *i*S **Sn** **14 40 45.9 +0.8**
LIOB Emei 0.92 290 *e*P **Pn** **14 40 33.4 +0.6**
LIOB S **Sn** **14 40 45.9 +0.7**
YM08 YM08 0.92 338 ⇑*e*P **Pn** **14 40 32.5 -0.3**
YM08 *e*S **Sn** **14 40 45.2 -0.1**
NSTT Nanjuang 0.93 289 *e*P **Pn** **14 40 33.1 +0.3**
NSTT *e*S **Sn** **14 40 45.4 0.0**
WHP Taichung City 0.93 267 *e*P **Pn** **14 40 33.2 +0.3**
WHP S **Sn** **14 40 46.1 +0.6**
VWDT VWDT 0.94 233 ⇑*i*P **Pn** **14 40 32.6 -0.4**
VWDT *e*S **Sn** **14 40 45.8 +0.1**
ANP Anpu 0.95 335 P **Pn** **14 40 33.2 0.0**
ANP *e*S **Sn** **14 40 45.8 -0.2**
NCUH Zhongli 0.95 312 *e*P **Pb** **14 40 33.7 +0.5**
NCUH *i*S **Sn** **14 40 47.9 +1.9**
NTST Danshui 0.96 331 *e*P **Pb** **14 40 33.7 +0.5**
NTST *i*S **Sn** **14 40 48.3 +2.3**
HGSD Ruisui 0.96 211 *e*P **Pb** **14 40 33.3 -0.1**
HGSD S **Sn** **14 40 46.8 +0.5**
YOJ Yonaguni jima 0.96 82 P **Pb** **14 40 34.0 +0.6**
YOJ Yonaguni jima 0.96 82 P **Pb** **14 40 33.6 +0.3**
YOJ S **Sn** **14 40 47.2 +1.0**
YOJ Yonaguni jima 0.96 82 A A 14 40 33.6
comp=E,16nm,2.0s,comp=N,11nm,1.7s
YOJ Yonaguni jima 0.96 82 ⇓*i*P **Pn** **14 40 33.4 +0.1**
YOJ S **Sn** **14 40 47.3 +1.0**
WCS Beigang Elemen 1.00 255 *e*P **Pb** **14 40 34.2 +0.3**
WCS *e*S **Sn** **14 40 48.6 +1.5**
EHYH Wanrong 1.00 214 *e*P **Pn** **14 40 33.0 -0.8**
TWY Chenhua 1.00 341 *e*P **Pb** **14 40 34.8 +0.8**
TWY S **Sn** **14 40 48.6 +1.4**
EHY Hungye 1.00 216 *e*P **Pn** **14 40 32.3 -1.6**
SBCB Hsinchu 1.00 298 P **Pb** **14 40 34.8 +0.7**
SBCB *e*S **Sn** **14 40 49.9 +2.7**
HSN Hsinchu 1.02 298 *e*P **Pb** **14 40 34.3 0.0**
HSN *i*S **Sn** **14 40 49.2 +1.6**
SMLT Sun Moon Lake 1.07 246 P **Pn** **14 40 33.7 -1.1**
SSLB Suanglung 1.07 240 P **Pb** **14 40 34.7 -0.4**
SSLB Suanglung 1.07 240 ⇑P **Pn** **14 40 34.4 -0.4**
SSLB S **Sn** **14 40 48.6 -0.2**
TWQ1 Liyutan 1.09 271 ⇑P **Pb** **14 40 36.2 +0.8**
TWQ1 *e*S **Sn** **14 40 51.2 +2.0**
NMLH Miaoli 1.09 281 P **Pb** **14 40 36.4 +0.9**
NMLH *e*S **Sn** **14 40 51.6 +2.2**
TYC Yuchr 1.09 248 P **Pb** **14 40 35.4 -0.1**
TYC *e*S **Sb** **14 40 51.0 +1.6**
NSY Sanyi 1.10 275 *e*P **Pb** **14 40 36.8 +1.1**
NSY *i*S **Sb** **14 40 52.5 +2.8**
ECBN Changbin 1.11 205 *e*P **Pn** **14 40 34.8 -0.5**
YULB Yu-li 1.11 213 P **Pn** **14 40 35.0 -0.4**
YULB Yu-li 1.11 213 *e*P **Pn** **14 40 34.5 -0.9**
EYUL Yuli 1.14 211 *e*P **Pn** **14 40 35.2 -0.5**
TWF1 Yuli 1.15 212 *e*P **Pn** **14 40 34.6 -1.2**
WHYT Xinyi Township 1.19 239 *i*P **Pb** **14 40 37.2 0.0**
WHYT *e*S **Sb** **14 40 53.6 +1.3**
WDJ Dajia District 1.21 271 *e*P **Pb** **14 40 38.1 +0.6**
WDJ *e*S **Sb** **14 40 54.2 +1.5**
WJS Zhushan 1.23 246 *e*P **Pb** **14 40 38.4 +0.4**
WJS *i*S **Sb** **14 40 55.8 +2.3**
CHKH Chenggong 1.24 205 *e*P **Pb** **14 40 38.1 0.0**
WNT Mingjian 1.25 249 *e*P **Pb** **14 40 38.9 +0.6**
WNT *e*S **Sb** **14 40 56.8 +2.9**
FULB Fuli 1.28 209 *e*P **Pb** **14 40 38.6 -0.1**
FULB *e*S **Sb** **14 40 55.9 +1.2**
PCYT Pengchaiyu 1.30 4 *e*P **Pn** **14 40 38.0 +0.1**
WCHH Zhanghua 1.31 259 *e*P **Pb** **14 40 39.6 +0.5**
WCHH *e*S **Sb** **14 40 58.1 +2.6**
WCH1 Changhua City 1.32 259 *e*P **Pb** **14 40 39.2 -0.2**
WCH1 *e*S **Sb** **14 40 56.9 +1.0**
ALS Alishan 1.33 233 P **Pb** **14 40 39.7 -0.1**
ALS *e*S **Sb** **14 40 57.7 +1.1**
CHKT Chengkung 1.34 204 *e*P **Pn** **14 40 37.5 -0.9**
EHD Haiduan 1.36 211 *e*P **Pn** **14 40 39.1 +0.3**
ECS Chishang 1.40 209 *e*P **Pn** **14 40 39.7 +0.4**
ELDTW Lidau 1.43 218 *e*P **Pn** **14 40 39.8 +0.1**
WGK Gukeng 1.43 244 *e*P **Pb** **14 40 42.0 +0.7**
WGK S **Sb** **14 41 01.8 +2.7**
WDL Douliou City 1.44 245 *e*P **Pb** **14 40 42.0 +0.5**
WDL *e*S **Sb** **14 41 00.7 +1.4**
WDLH Douliu 1.45 244 *e*P **Pb** **14 40 41.8 +0.2**
WDLH S **Sb** **14 41 01.6 +2.0**
EDH Donghe 1.48 204 *e*P **Pn** **14 40 39.8 -0.6**
EDH S **Sn** **14 40 58.3 -0.6**
WRL Guolierlin Hig 1.51 254 *e*P **Pb** **14 40 42.3 -0.4**
WRL *e*S **Sb** **14 41 02.9 +1.5**
WCKO Fanlu 1.52 235 *i*P **Pb** **14 40 43.2 +0.3**

WCKO *e*S **Sb** **14 41 03.8 +2.0**
CHN2 Minshiung 1.57 240 *e*P **Pb** **14 40 44.1 +0.4**
WTK Tuku 1.57 247 P **Pb** **14 40 43.6 -0.2**
WTK *i*S **Sb** **14 41 05.3 +2.0**
STYH Taoyuan 1.58 224 *e*P **Pb** **14 40 43.1 -0.8**
STYH *e*S **Sb** **14 41 02.6 -0.9**
CHN4 Tsaushan 1.59 233 ⇓*e*P **Pb** **14 40 44.0 0.0**
CHN4 *e*S **Sb** **14 41 05.0 +1.4**
TPUB Ta-pu 1.59 230 P **Pb** **14 40 44.3 +0.2**
TPUB Ta-pu 1.59 230 *e*P **Pb** **14 40 43.8 -0.2**
TPUB *e*S **Sb** **14 41 04.4 +0.6**
LONT Longtian 1.61 209 *e*P **Pn** **14 40 41.8 -0.4**
IRIF Iriomote-Funau 1.61 89 P **Pn** **14 40 42.4 +0.2**
IRIF *e*S **Sn** **14 41 03.4 +1.2**
IRIF Iriomote-Funau 1.61 89 A A 14 40 42.4
comp=E,6.0nm,2.1s,comp=N,6.0nm,1.4s
CHY Chiayi 1.63 240 *e*P **Pb** **14 40 44.9 +0.2**
CHY S **Sb** **14 41 07.7 +2.8**
WTP Ta-pu 1.64 229 P **Pb** **14 40 44.7 -0.1**
WTP *e*S **Sb** **14 41 06.4 +1.3**
HATJ Hateruma jima 1.70 99 P **Pn** **14 40 44.5 +1.1**
LDUT Ludao 1.71 196 *e*P **Pn** **14 40 42.3 -1.2**
LDUT *e*S **Sn** **14 41 02.3 -2.2**
TWG Pinlang 1.71 209 P **Pn** **14 40 43.1 -0.5**
TWGBT Beinan 1.71 209 P **Pb** **14 40 45.7 -0.3**
TWGBT Beinan 1.71 209 *e*P **Pn** **14 40 42.5 -1.0**
TWGBT *e*S **Sb** **14 41 05.9 -1.1**
TWK Hsinying 1.71 232 *e*P **Pb** **14 40 45.5 -0.6**
TWK S **Sb** **14 41 09.2 +1.8**
WSF Szhu 1.73 247 *e*P **Pb** **14 40 45.5 -0.9**
WSF *e*S **Sb** **14 41 09.6 +1.8**
TTN Taitung 1.73 206 *e*P **Pn** **14 40 44.3 +0.4**
SNST Tainan City 1.74 231 P **Pb** **14 40 46.4 -0.1**
SNST *e*S **Sb** **14 41 09.8 +1.9**
CHN1 Nanshi 1.74 229 *e*P **Pb** **14 40 46.2 -0.4**
CHN1 *e*S **Sb** **14 41 08.8 +0.9**
SGST Jiashian 1.77 226 *i*P **Pn** **14 40 45.3 +0.9**
SGST S **Sb** **14 41 10.0 +1.1**
WSL Shuilin Townsh 1.78 244 *e*P **Pb** **14 40 47.0 -0.3**
WSL *e*S **Sb** **14 41 11.8 +2.7**
ICHU Yijhu 1.82 238 *e*P **Pb** **14 40 47.3 -0.6**
ICHU S **Sb** **14 41 11.6 +1.4**
JKRS Kuro-shima 1.87 92 P **Pn** **14 40 46.5 +0.7**
JKRS S **Sb** **14 41 10.8 -0.9**
JKRS Kuro-shima 1.87 92 A A 14 40 46.5
comp=E,13nm,4.2s,comp=N,13nm,2.3s
CHN8 Yiju 1.88 239 *e*P **Pb** **14 40 48.3 -0.6**
CHN8 *i*S **Sb** **14 41 13.6 +1.6**
CHN3 Shinhua 1.92 230 *e*P **Pb** **14 40 49.5 -0.1**
CHN3 *e*S **Sb** **14 41 14.1 +0.8**
ECL Taimali 1.95 209 *e*P **Pn** **14 40 46.5 -0.5**
SCST Cishan 1.97 224 *e*P **Pb** **14 40 50.0 -0.5**
SCST S **Sb** **14 41 16.9 +2.4**
SCLT Jiali 1.98 235 *e*P **Pn** **14 40 47.9 +0.5**
SCLT *e*S **Sb** **14 41 15.8 +0.8**
JIJ Ishigaki jima 1.99 88 P **Pn** **14 40 47.6 +0.2**
JIJ *e*S **Sn** **14 41 12.8 +1.3**
TSMG Majia 2.02 217 *e*P **Pb** **14 40 50.3 -1.0**
TWM1 Shoushan 2.06 224 *e*P **Pb** **14 40 51.6 -0.4**
TSCK Chigu Township 2.08 236 *e*P **Pb** **14 40 50.4 -2.0**
MASBT Mashibuluo 2.10 216 *e*P **Pb** **14 40 51.1 -1.6**
JISG Ishigakijimahi 2.15 83 P **Pn** **14 40 49.9 +0.2**
JISG *e*S **Sn** **14 41 16.9 +1.2**
EAST Anshuo 2.19 208 *e*P **Pn** **14 40 49.8 -0.4**
TAW Tawu 2.19 207 *e*P **Pn** **14 40 50.2 0.0**
TAW *e*S **Sn** **14 41 16.5 0.0**
TAWH Dawu Township 2.21 207 *e*P **Pn** **14 40 51.9 +1.4**
TAWH *e*S **Sn** **14 41 18.2 +1.3**
SCZT Fangliau 2.30 213 *e*P **Pb** **14 40 53.9 -2.2**
LAY Lan-yu 2.31 190 *e*P **Pn** **14 40 51.8 0.0**
LAY *e*S **Sn** **14 41 18.3 -1.2**
PNG Penghu 2.33 252 *e*P **Pn** **14 40 52.4 +0.4**
PHUB P'eng-hu 2.33 250 *e*P **Pn** **14 40 52.6 +0.5**
LYUB Lan-yu 2.34 189 *e*P **Pn** **14 40 50.0 -2.2**
SLIU Shizi 2.36 207 *e*P **Pn** **14 40 53.2 +0.7**
WDGT Dungji 2.36 244 *e*P **Pn** **14 40 53.8 +1.2**
JTJ Tarama 2.52 82 P **Pn** **14 40 55.8 +1.2**
JTJ *e*S **Sn** **14 41 26.4 +1.9**
VCHM Qimei 2.57 245 *e*P **Pn** **14 40 55.0 -0.5**
MATB Ma-tsu 2.58 315 *e*P **Pn** **14 40 55.2 -0.3**
TWK1 Hengchun 2.60 204 *e*P **Pn** **14 40 56.8 +1.0**
TWKBT Hengchun 2.60 204 *e*P **Pn** **14 40 56.2 +0.4**
TSEB Hengchuen, Pin 2.60 202 *e*P **Pn** **14 40 55.8 -0.1**
PTMZ Houxiangcun 2.68 286 *e*P **Pn** **14 40 56.5 -0.4**
JIRB Irabujima 2.96 80 P **Pn** **14 41 01.6 +0.8**
XPSS Dashiqiu 3.05 329 *e*P **Pn** **14 41 01.4 -0.6**
JMJ2 Miyako jima3 3.09 82 P **Pn** **14 41 04.3 +1.7**
QZH Quanzhou 3.13 282 Pn **Pn** **14 41 02.5 -0.6**
QZH Sn **Sn** **14 41 37.3 -2.4**
QZH smax smax
comp=N,630nm,1.3s
QZH smax smax
comp=N,270nm,0.8s
QZH LR LR
comp=N,2μm,7.4s
QZH LR LR
comp=N,2μm,12.4s
MHZQ Yeshan 3.19 304 *e*P **Pn** **14 41 03.5 -0.5**
KNM Kinmen 3.22 272 *e*P **Pn** **14 41 05.1 +0.8**
KNMB Chin-men Tao 3.26 273 *e*P **Pn** **14 41 04.1 -0.8**
JOW Kunigami 6.22 65 LR LR 14 44 23.0
comp=N,443nm,19.7s,baz=285,slow=38
SSE Sheshan 6.78 354 Pn **Pn** **14 41 53.1 -0.2**
SSE Sn **Sn** **14 43 09.8 +0.1**
SSE smax smax
comp=N,15nm,0.8s
SSE smax smax
comp=N,26nm,1.0s
SSE LR LR
comp=N,120nm,4.7s
SSE LR LR
comp=N,340nm,5.4s
JNU Nakatsue 11.74 40 LR LR 14 49 04.0
comp=N,234nm,18.1s,baz=216,slow=44
QIZ Qiongzhong 12.44 247 P **Pn** **14 43 12.6 +1.7**
QIZ S **Sn** **14 45 31.5 +2.8**
QIZ LR LR
comp=N,310nm,9.3s
QIZ LR LR
comp=N,310nm,12.6s
QIZ LR LR
comp=N,340nm,14.2s
KSRS Korea Array 14.05 20 P **P** **14 43 41.2 +0.9**
comp=N,1.6nm,0.8s,baz=286,slow=147,SNR=8.0
KSRS LR LR 14 49 42.3
comp=N,129nm,18.1s,baz=200,slow=39
HNS HongShan 14.44 336 *e*P **P** **14 43 43.3 -1.4**
HNS LR LR
comp=N,460nm,14.7s
HNS LR LR
comp=N,370nm,12.4s
HNS LR LR
comp=N,520nm,12.9s
XAN Xi'an 14.93 313 P **P** **14 43 48.8 -1.5**
XAN S **Sn** **14 46 37.3 +7.7**
XAN LR LR
comp=N,410nm,7.9s
XAN LR LR
comp=N,670nm,10.7s
XAN LR LR
comp=N,830nm,14.4s
JHJ Hachijo jima 2 17.90 57 LR LR 14 51 06.5
comp=N,131nm,19.7s,baz=243,slow=36
MJAR Matsushiro Arr 18.53 45 LR LR 14 52 13.4
comp=N,170nm,21.4s,baz=222,slow=38
TNCH TengChong 21.31 277 P **P** **14 45 02.8 +2.1**
TNCH pP pP 14 45 07.8 +0.4
TNCH sP sP 14 45 10.8 +0.2
TNCH S **S** **14 48 51.8 -4.7**
TNCH sS Sn 14 49 03.9 -0.4
TNCH pmax pmax
comp=N,11nm,1.3s
TNCH LR LR
comp=N,480nm,4.8s
TNCH LR LR
comp=N,140nm,5.1s
TNCH LR LR
comp=N,560nm,13.8s
USRK Ussuriysk Ar. 21.45 20 LR LR 14 54 42.8
comp=N,70nm,19.8s,baz=186,slow=40
CMAR Chiang Mai Arr 22.20 259 P **P** **14 45 11.6 +1.5**
comp=N,0.3nm,0.4s,baz=62,slow=8.5,SNR=5.5
CMAR LR LR 14 54 28.4

comp=N,165nm,19.5s,baz=70,slow=38
comp=N,0.3nm,0.4s
GUMO Guam 24.11 112 LR LR 14 54 55.9
comp=N,101nm,19.6s,baz=330,slow=36
ASAJ Asahikawa 25.96 35 LR LR 14 56 40.3
comp=N,144nm,19.4s,baz=185,slow=37
KLR Kul'dur 26.02 15 LR LR 14 56 41.1
comp=N,90nm,18.5s,baz=224,slow=37
SONM Songino Array 26.52 336 P **P** **14 45 50.5 -0.6**
comp=N,1.8nm,0.9s,baz=151,slow=9.1,SNR=8.7
comp=N,1.8nm,0.9s
MKAR Makanchi Array 38.73 315 P **P** **14 47 36.5 -1.0**
comp=N,1.1nm,0.7s,baz=104,slow=10,SNR=8.6
MKAR LR LR 15 05 05.7
comp=N,106nm,18.6s,baz=57,slow=38
comp=N,1.1nm,0.7s
ZALV Zalesovo Beam 40.52 327 P **P** **14 47 50.1 -2.1**
comp=N,1.0nm,0.6s,baz=101,slow=8.0,SNR=5.8
ZALV LR LR 15 06 17.3
comp=N,61nm,19.1s,baz=106,slow=38
comp=N,1.0nm,0.6s
KURBB Kurchatov Arra 42.46 320 P **P** **14 48 06.7 -1.5**
comp=N,0.4nm,0.5s,baz=114,slow=10.0,SNR=5.0
comp=N,0.4nm,0.5s
AAK Ala-Archa 42.99 307 LR LR 15 08 45.3
comp=N,103nm,18.8s,baz=88,slow=39
WRA Warramunga Arr 45.62 164 P **P** **14 48 31.4 -2.4**
comp=N,0.5nm,0.9s,baz=344,slow=8.6,SNR=2.7
comp=N,0.5nm,0.9s
TIXI Tiksi 47.52 3 P **P** **14 48 45.6 -2.5**
comp=N,2.5nm,0.3s,baz=213,slow=2.6,SNR=5.2
TIXI LR LR 15 11 29.4
comp=N,78nm,18.4s,baz=312,slow=39
comp=N,2.5nm,0.3s
BVAR Borovoye Array 48.02 320 P **P** **14 48 50.5 -1.8**
comp=N,0.8nm,0.6s,baz=99,slow=9.5,SNR=4.9
comp=N,0.8nm,0.6s
ASAR Alice Springs 49.09 165 P **P** **14 48 59.7 -1.2**
comp=N,0.4nm,0.7s,baz=335,slow=6.3,SNR=2.7
comp=N,0.4nm,0.7s

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*IDC **19** 14:58:01.8±2.9, 23°.13S×112°.82W, h0km, mb3.3/3, mbtmp3.3/3, MS3.6/4, Error ellipse: s-maj=215.0km s-min=46.1km az=110.0*
ISC 19 14:58:02.6±2.9, 23°.3S±0°.6×11°3W±°, h10km, n21, ₙ0°12/8, mb3.3/3, MS3.6/4, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**31.41**	**116**	T	T	15 38 40.4	
baz=285,slow=75							
H03N3	**Juan Fernandez**	**31.42**	**116**	T	T	15 38 39.7	
baz=285,slow=75							
H03N1	**Juan Fernandez**	**31.43**	**116**	T	T	15 38 44.4	
baz=285,slow=75							
CMIG	**Matias Romero**	**43.77**	**25**	LR	LR	15 20 01.2	
comp=Z,52nm,18.1s,baz=168,slow=30							
LPIG	**La Paz**	**47.13**	**3**	LR	LR	15 22 06.8	
comp=Z,70nm,18.2s,baz=208,slow=31							
TXAR	**Lajitas Array**	**53.02**	**10**	P	**P**	**15 07 19.8**	**0.0**
0.3nm,0.9s,baz=208,slow=3.1,SNR=1.5							
0.3nm,0.9s							
PFO	**Pinyon Flats O**	**56.65**	**356**	LR	LR	15 26 03.3	
comp=Z,48nm,20.6s,baz=235,slow=30							
ANMO	**Albuquerque**	**58.19**	**6**	LR	LR	15 27 07.4	
comp=Z,50nm,19.1s,baz=352,slow=30							
NVAR	**Mina Array Bea**	**61.56**	**355**	P	**P**	**15 08 20.3**	**0.0**
0.5nm,0.7s,baz=167,slow=7.3,SNR=3.4							
0.5nm,0.7s							
PDAR	**Pinedale Array**	**65.75**	**3**	P	**P**	**15 08 47.8**	**0.0**
0.1nm,0.5s,baz=183,slow=7.2,SNR=1.6							
0.1nm,0.5s							
H11S2	**WAKE ISLAND Hy**	**88.78**	**291**	T	T	16 47 55.1	
baz=116,slow=75,SNR=36							
H11S1	**WAKE ISLAND Hy**	**88.80**	**291**	T	T	16 47 58.4	
baz=116,slow=75,SNR=37							
H11S3	**WAKE ISLAND Hy**	**88.80**	**291**	T	T	16 47 59.7	
baz=116,slow=75,SNR=30							
H11N3	**WAKE ISLAND Hy**	**89.12**	**292**	T	T	16 48 17.9	
baz=117,slow=75,SNR=89							
H11N1	**WAKE ISLAND Hy**	**89.14**	**292**	T	T	16 48 19.0	
baz=117,slow=75,SNR=30							
H11N2	**WAKE ISLAND Hy**	**89.14**	**292**	T	T	16 48 19.9	
baz=117,slow=75,SNR=108							
ZALV	**Zalesovo Beam**	**146.57**	**341**	PKPbc	**PKPbc**	**15 17 44.0**	**0.0**
1.2nm,0.7s,baz=336,slow=3.2,SNR=5.1							
CMAR	**Chiang Mai Arr**	**149.94**	**267**	PKPbc	**PKiKP**	**15 17 55.0**	**0.0**
0.9nm,0.3s,baz=74,slow=1.2,SNR=12							
BVAR	**Borovoye Array**	**150.16**	**356**	PKPbc	**PKiKP**	**15 17 54.5**	**+0.1**
1.8nm,0.5s,baz=13,slow=2.2,SNR=9.3							
KURBB	**Kurchatov Arra**	**151.27**	**345**	PKPbc	**PKPbc**	**15 17 56.1**	**0.0**
2.0nm,0.7s,baz=29,slow=1.9,SNR=17							
MKAR	**Makanchi Array**	**153.53**	**336**	PKPbc	**PKPbc**	**15 18 01.2**	**-0.2**
1.5nm,0.8s,baz=46,slow=4.2,SNR=9.2							

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*NIC **19** 15:09:34.6, 35°.52N×31°.08E, h11km±4km, Ml3.1/7*
*ISK **19** 15:09:34.6, 35°.63N×31°.12E, h86km, ML3.4/39*
*IDC **19** 15:09:36.4±1.3, 35°.58N×31°.06E, h58km±19km, mb3.4/4, mbtmp3.7/9, ML3.8/4, MS2.6/2, Error ellipse: s-maj=13.3km s-min=11.0km az=36.0*
*AFAD **19** 15:09:37.0±0.0, 36°.01N×30°.95E, h7km±5km, MW3.7*
ISC 19 15:09:37.1±0.9, 35°.64N±0°.03×31°.13E±0°.03, h62km±12km, n81, ₙ0°77/109, mb3.6/4, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.93**	**317**	P	**Pn**	**15 09 53.3**	**-0.9**
AKUM				S	**Sn**	**15 10 09.7**	**+2.7**
AKMS	**Akamas**	**1.17**	**122**	P	**Pn**	**15 09 55.5**	**-1.9**
AKMS				S	**Sn**	**15 10 12.9**	**+0.4**
AKMS				AML	AML	15 10 20.4	
1.5nm,0.3s							
AKMS				AML	AML	15 10 21.1	
2.6nm,0.3s							
ALAN	**Alanya-ANTALYA**	**1.17**	**39**	Pn	**Pn**	**15 09 54.2**	**-3.3**
ALFC	**Alefka**	**1.30**	**111**	P	**Pn**	**15 09 57.3**	**-1.9**
ALFC				S	**Sn**	**15 10 14.3**	**-1.3**
ALFC				AML	AML	15 10 23.6	
1.3nm,0.4s							
ALFC				AML	AML	15 10 25.1	
1.7nm,0.4s							
ANTB	**Antalya**	**1.31**	**343**	Pn	**Pn**	**15 09 57.3**	**-2.0**
NATA	**Nata**	**1.46**	**126**	P	**Pn**	**15 10 01.2**	**-0.1**
NATA				S	**Sn**	**15 10 24.3**	**+4.7**
NATA				AML	AML	15 10 36.5	
2.5nm,0.4s							
NATA				AML	AML	15 10 41.7	
3.5nm,0.7s							
ELL	**Elmali**	**1.48**	**319**	Pn	**Pn**	**15 10 01.9**	**+0.2**
ELL	**Elmali**	**1.48**	**319**	P	**Pn**	**15 10 03.3**	**+1.6**
ELL				S	Sn	15 10 36.9	+17
KORT	**Korkueli**	**1.50**	**335**	P	**Pn**	**15 10 01.0**	**-0.9**
KORT				S	**Sn**	**15 10 27.8**	**+7.3**
AKDN	**Akdeniz- Kıbrı**	**1.54**	**102**	Pn	**Pn**	**15 10 02.1**	**-0.3**
AKDN				Sn	**Sn**	**15 10 21.3**	**-0.1**
BOZY	**Bozyazi-Mersin**	**1.57**	**72**	Pn	**Pn**	**15 10 01.6**	**-1.2**
TROD	**Troodos**	**1.58**	**115**	P	**Pn**	**15 10 02.4**	**-0.7**
TROD				S	**Sn**	**15 10 25.0**	**+2.3**
TROD				AML	AML	15 10 38.6	
0.6nm,0.7s							
TROD				AML	AML	15 10 42.1	
0.5nm,0.5s							
TEKE	**Tekeli-Mersin**	**1.69**	**72**	Pn	**Pn**	**15 10 03.1**	**-1.3**
HDMB	**Hadim**	**1.72**	**39**	Pn	**Pn**	**15 10 02.6**	**-2.4**
IZZE	**Mula-Seydike**	**1.73**	**298**	P	**Pn**	**15 10 04.5**	**-0.5**
IZZE				S	**Sn**	**15 10 25.3**	**-0.8**
IZZE				*i* AML	AML	15 10 39.0	
comp=E,100nm,0.4s							
IZZE				*i* AML	AML	15 10 43.0	
comp=N,186nm,0.5s							
KNIK	**Mula-Seydike**	**1.74**	**314**	P	**Pn**	**15 10 05.4**	**+0.2**
KNIK				S	**Sn**	**15 10 27.8**	**+1.4**
KNIK				*i* AML	AML	15 10 41.0	
comp=N,110nm,0.9s							
KNIK				*i* AML	AML	15 10 44.0	
comp=E,152nm,1.3s							
BUCA	**Burdur, Bucak-**	**1.74**	**345**	P	**Pn**	**15 10 04.3**	**-0.9**
BUCA				*i* AML	AML	15 10 35.0	
comp=E,199nm,0.4s							
BUCA				*i* AML	AML	15 10 40.0	
comp=N,188nm,1.2s							
BERE	**Bereket-Mersin**	**1.84**	**67**	Pn	**Pn**	**15 10 04.5**	**-2.1**
SEYD	**Seydisehir-KON**	**1.85**	**18**	Pn	**Pn**	**15 10 05.6**	**-1.1**
SEYD				Sn	**Sn**	**15 10 28.9**	**-0.2**

BCK	Bucak	1.87	347	Pn	Pn	15 10 05.8	-1.1
SEDI	Konya, Seydise	1.88	15	P	Pn	15 10 05.8	-1.3
SEDI				S	Sn	15 10 28.8	-0.9
SEDI				*i* AML	AML	15 10 31.0	
	comp=E,410nm,0.9s						
SEDI				*i* AML	AML	15 10 32.0	
	comp=N,295nm,0.5s						
YORU	Yoruktepe-Mers	1.92	74	Pn	Pn	15 10 07.0	-0.5
CSS	Mathiatis	1.93	110	Pn	Pn	15 10 06.3	-1.3
CSS	Mathiatis	1.93	110	P	Pn	15 10 09.7	+2.1
CSS	Mathiatis	1.93	110	P	Pn	15 10 06.6	-1.0
CSS				S	Sn	15 10 32.2	+1.4
CSS				AML	AML	15 10 49.4	
	0.5nm,0.9s						
CSS				AML	AML	15 10 49.9	
	0.4nm,1.0s						
FETY	Fethiye	1.93	302	P	Pn	15 10 09.0	+1.4
FETY				S	Sn	15 10 31.6	+0.7
FETY	Fethiye	1.93	302	Pn	Pn	15 10 07.4	-0.2
FETY				Sn	Sn	15 10 30.9	+0.1
ASGA	Asgata	1.94	116	P	Pn	15 10 08.6	+0.9
ASGA				S	Sn	15 10 33.9	+2.9
ASGA				AML	AML	15 10 46.7	
	0.7nm,0.7s						
ASGA				AML	AML	15 10 47.4	
	0.6nm,0.7s						
CAME	Cameli-Denizli	1.96	312	Pn	Pn	15 10 07.6	-0.6
OREN	Orenkoy-Mersin	1.98	73	Pn	Pn	15 10 07.9	-0.3
AKIN	Akıncılar- Kıb	2.01	107	Pn	Pn	15 10 08.3	-0.5
AKK1	Akkuyu-Mersin	2.02	75	Pn	Pn	15 10 08.6	-0.3
AKK1				Sn	Sn	15 10 33.6	+0.5
AKKU	Akkuyu-Mersin	2.04	75	Pn	Pn	15 10 08.5	-0.6
AKKU				Sn	Sn	15 10 33.1	-0.3
TEVE	Tevekalti-Mers	2.04	66	Pn	Pn	15 10 08.9	-0.3
TEVE				Sn	Sn	15 10 33.9	+0.3
TEPK	Tepekoy-MERSIN	2.05	73	Pn	Pn	15 10 08.9	-0.4
SABU	Mula-Dalaman	2.10	305	P	Pn	15 10 09.5	-0.5
SABU				S	Sn	15 10 34.9	-0.3
SABU				*i* AML	AML	15 10 57.0	
	comp=E,62nm,0.8s						
SABU				*i* AML	AML	15 11 00.0	
	comp=N,104nm,0.8s						
YESI	Yesilovacik-Me	2.12	74	Pn	Pn	15 10 09.9	-0.2
TISA	Tisan-Mersin	2.14	75	Pn	Pn	15 10 10.2	-0.2
MVOU	Mavrovouni	2.14	106	P	Pn	15 10 08.3	-2.2
MVOU				S	Sn	15 10 37.8	+1.8
MVOU				AML	AML	15 10 51.3	
	0.3nm,0.3s						
MVOU				AML	AML	15 10 51.6	
	0.5nm,0.5s						
IKL	Isikli	2.16	73	Pn	Pn	15 10 10.3	-0.5
KARG	Kargicak-Mersi	2.17	74	Pn	Pn	15 10 10.5	-0.4
ISP	Isparta	2.23	348	Pn	Pn	15 10 11.5	-0.3
KEBE	Keben-Mersin	2.25	68	Pn	Pn	15 10 11.8	-0.2
KRMN	Karaman	2.31	48	Pn	Pn	15 10 12.2	-0.6
DALY	Dalyan (Mula)	2.32	301	Pn	Pn	15 10 12.5	-0.4
APMY	Acipayam-Deniz	2.34	322	Pn	Pn	15 10 12.9	-0.4
SILI	Silifke-Mersin	2.38	71	Pn	Pn	15 10 13.7	-0.1
SLFK	Silifke-Mersin	2.41	71	Pn	Pn	15 10 13.9	-0.2
BASM	Basmaki-Afyon	2.43	340	Pn	Pn	15 10 14.2	-0.3
PARAL	Paralimni	2.47	104	P	Pn	15 10 20.1	+5.1
PARAL				S	Sn	15 10 50.8	+6.8
EREN	Erenkoy	2.48	92	Pn	Pn	15 10 14.8	-0.3
DOGA	KONYA_Doganhis	2.50	10	P	Pn	15 10 15.4	-0.1
DOGA				S	Sn	15 10 46.7	+1.8
DOGA				*i* AML	AML	15 10 49.0	
	comp=E,189nm,0.5s						
DOGA				*i* AML	AML	15 10 53.0	
	comp=N,172nm,1.1s						
ARG	Arkhangelos	2.50	284	Pn	Pn	15 10 14.7	-0.7
ARG	Arkhangelos	2.50	284	P	Pn	15 10 14.7	-0.7
ARG				S	Sn	15 10 42.9	-1.8
KONT	Konya--Tatoy	2.50	23	Pn	Pn	15 10 15.1	-0.4
TAVA	DENIZLI_Tavas	2.55	316	P	Pn	15 10 16.6	+0.5
TAVA				*i* AML	AML	15 11 05.0	
	comp=N,118nm,1.1s						
TAVA				*i* AML	AML	15 11 05.0	
	comp=E,154nm,0.7s						
AFYN	Afyon-Dinar-K	2.67	349	P	Pn	15 10 18.4	+0.6
AFYN				S	Sn	15 10 53.0	+3.9
AFYN				*i* AML	AML	15 10 59.0	
	comp=E,140nm,1.3s						
AFYN				*i* AML	AML	15 11 09.0	
	comp=N,80nm,1.4s						
KZIL	AFYON_Kizioren	2.73	344	P	Pn	15 10 19.6	+1.0
KZIL				S	Sn	15 10 58.1	+7.6
KZIL				*i* AML	AML	15 11 00.0	
	comp=N,39nm,0.4s						
KZIL				*i* AML	AML	15 11 03.0	
	comp=E,45nm,0.4s						
YER	Yerkesik	2.73	304	Pn	Pn	15 10 18.2	-0.4
YESY	Yesilyurt	3.00	44	Pn	Pn	15 10 21.7	-0.6
MERS	Mersin	3.01	65	Pn	Pn	15 10 21.7	-0.7
DAT	Datca	3.07	292	Pn	Pn	15 10 22.7	-0.5
KARP	Karpathos	3.23	269	P	Pn	15 10 25.6	+0.2
KARP				S	Sn	15 11 03.3	+0.6
AYDB	Zeytinkoy-Aydi	3.47	313	Pn	Pn	15 10 28.0	-0.7
MMAI	Mount Meron Ar	4.40	125	P	Pn	15 10 40.4	-1.1
	7.5nm,0.3s,baz=311,slow=13,SNR=17						
MMAI				S	Sn	15 11 32.6	+1.1
	3.2nm,0.4s,baz=316,slow=31,SNR=1.6						
	4.5nm,0.3s						
BRTR	Keskin Array B	4.54	25	P	Pn	15 10 43.0	-0.4
	1.8nm,0.3s,baz=190,slow=15,SNR=34						
BRTR				S	Sn	15 11 36.9	+2.0
	3.8nm,0.4s,baz=198,slow=24,SNR=6.1						
BRTR				LR	LR	15 13 02.0	
	comp=Z,52nm,18.8s,baz=286,slow=44						
	2.0nm,0.3s						
QRNJ	Al-Qirein	4.95	130	P	Pn	15 10 49.1	+0.2
HMDT	Nahal Hemdat	4.98	131	P	Pn	15 10 49.5	+0.2
IDI	Anoyia	5.10	268	P	Pn	15 10 51.2	+0.2
	11nm,0.6s,baz=77,slow=15,SNR=9.5						
IDI				S	Sn	15 11 46.4	-2.2
	13nm,0.3s,baz=255,slow=19,SNR=6.6						
LISJ	El Lisan	5.70	139	P	Pn	15 10 59.7	+0.6
SWQJ	Swaqa	6.02	135	P	Pn	15 11 03.1	-0.5
MBRI	Mt Berech	6.65	150	P	Pn	15 11 12.4	+0.2
AQBJ	Aqaba	6.76	150	P	Pn	15 11 13.5	-0.2
EIL	Elat	6.77	150	P	Pn	15 11 13.6	-0.3
	2.1nm,0.3s,baz=342,slow=16,SNR=16						
EIL				S	Sn	15 12 27.1	-2.5
	7.3nm,0.3s,baz=328,slow=13,SNR=7.2						
	12nm,0.6s						
EIL	Elat	6.77	150	P	Pn	15 11 13.2	-0.7
GNI	Garni	11.66	63	LR	LR	15 17 36.0	
	comp=Z,43nm,19.9s,baz=340,slow=41						
AKASG	Malin Array Be	15.12	355	P	P	15 13 08.4	-2.3
	0.4nm,0.3s,baz=184,slow=11,SNR=3.1						
	0.6nm,0.5s						
FINES	FINESS Array B	26.02	354	P	P	15 15 03.6	-0.5
	2.6nm,1.0s,baz=170,slow=8.5,SNR=4.7						
	2.6nm,1.0s						
KURBB	Kurchatov Arra	37.03	51	P	P	15 16 40.8	+0.1
	0.3nm,0.3s,baz=284,slow=10,SNR=2.8						
	0.3nm,0.3s						
MKAR	Makanchi Array	39.43	57	P	P	15 17 02.4	+1.4
	0.5nm,0.7s,baz=261,slow=7.2,SNR=4.5						
	0.5nm,0.7s						
ZALV	Zalesovo Beam	41.15	46	P	P	15 17 14.5	-0.6
	0.3nm,0.3s,baz=269,slow=7.2,SNR=2.0						
	0.3nm,0.3s						

*GUC **19** 15:16:11.8±0.7,29°.17S×69°.65W,h129km±5km,ML2.8*
*SJA **19** 15:16:11.0±0.6,29°.13S×69°.41W,h104km±9km,ML3.4,*
MW3.2

ISC 19 15:16:09.9±1.9,**29°.16S**±0°.05×**69°.50W**±0°.06,
h130km±17km,**n15**,σ0s**86**/24,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO01	Juntas del Tor	0.97	212	*e*P	Pn	15 16 33.2	+0.4
CO01				*e*S	Sn	15 16 49.6	-0.6
AROD	Rodeo	1.01	179	*e*P	Pn	15 16 33.8	+0.6
AROD				*e*S	Sn	15 16 50.3	-0.7
LCO	Las Campanas	1.06	277	*e*P	Pn	15 16 33.8	+0.1
LCO				*e*S	Sn	15 16 50.5	-1.2
ACDV	Cuesta del Vie	1.06	162	*e*P	Pn	15 16 34.0	+0.4
ACDV				*e*S	Sn	15 16 51.9	+0.2
ACCO	Cerro Coronel	1.48	165	*e*P	Pn	15 16 38.9	+0.8
ACCO				*e*S	Sn	15 17 00.0	+0.4
GO04	Tololo Observa	1.52	228	*e*P	Pn	15 16 38.6	+0.2
GO04				*e*S	Sn	15 16 59.2	-1.1
AC04	Llanos de Chal	1.68	304	*i* P	Pn	15 16 40.7	+0.7
AC04				IAML		15 17 09.5	
	comp=E,119nm,0.1s						
GO03	Copiapo	1.69	337	*e*P	Pn	15 16 41.1	+0.9
GO03				*e*S	Sn	15 17 03.2	-0.2
GO03				IAML		15 17 05.2	
	comp=N,104nm,0.4s						
AC06	Mina Casimiro	1.94	337	*e*P	Pn	15 16 44.0	+0.7
AC06				IAML		15 17 10.4	
	comp=E,36nm,0.2s						
CO03	El Pedregal	1.97	211	*e*P	Pn	15 16 44.3	+0.7
CO03				IAML		15 17 12.4	
	comp=E,147nm,0.4s						
AVFE	Valle Fertil	2.32	131	*e*P	Pn	15 16 48.8	+0.9
AVFE				*e*S	Sn	15 17 16.5	-0.7
AVFE				IAML		15 17 17.2	
	comp=Z,191nm,0.5s						
RTLL	Cerro Villicun	2.34	158	*e*P	Pn	15 16 49.4	+1.3
RTLL				*e*S	Sn	15 17 17.8	+0.3
CO06	Fray Jorge	2.39	230	*e*P	Pn	15 16 48.4	-0.3
CO06				IAML		15 17 21.3	
	comp=N,63nm,0.2s						
APLL	PUNTA DE LOS L	2.86	116	*e*P	Pn	15 16 52.7	-2.1
ACHE	Chepes	3.17	130	*e*S	Sn	15 17 36.6	0.0

*IDC **19** 15:28:23.5±7.1,7°.74S×128°.13E,h145km±79km,mb3.1/2,*
mbtmp3.3/5,Error ellipse: s-maj=70.3km s-min=24.6km
az=38.0
*DJA **19** 15:28:23.2±0.7,8°.S±7°.×12°.8E±°,h136km±23km,M4.2/7,*
mb4.4/2,MLv4.1/7

ISC 19 15:28:23.2±0.9,**7°.82S**±0°.09×**128°.20E**±0°.06,**h150**km,**n10**,
σ1s**92**/15,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	3.07	93	P	Pn	15 29 13.2	+1.7
SAUI				S	Sn	15 29 50.1	+1.2
SOEI	Soe	4.34	243	P	Pn	15 29 28.8	+0.8
SOEI				S	Sn	15 30 19.1	+0.6
BATI	Baumata	5.07	242	P	Pn	15 29 38.6	+0.9
	70nm,0.5s,baz=62,slow=3.9,SNR=18						
BATI				S	Sn	15 30 35.3	-0.4
	17nm,0.3s,baz=40,slow=22,SNR=7.1						
BATI	Baumata	5.07	242	P	Pn	15 29 38.1	+0.5
	87nm,0.6s,0.3nm						
BATI				S	Sn	15 30 35.2	-0.4
	87nm,0.6s,0.3nm						
FAKI	Fak Fak	6.32	40	P	Pn	15 29 52.0	-2.3
FITZ	Fitzroy Crossi	10.51	193	P	Pn	15 30 50.5	+0.5
	1.4nm,0.9s,baz=1.2,slow=11,SNR=1.5						
FITZ				S	Sn	15 32 40.4	-6.0
	2.7nm,0.4s,baz=300,slow=19,SNR=7.0						
WRA	Warramunga Arr	13.43	154	P	Pn	15 31 28.4	+0.4
	0.1nm,0.4s,baz=332,slow=13,SNR=11						
WRA				S	Sn	15 33 50.6	-6.2
	1.3nm,0.4s,baz=330,slow=22,SNR=12						
ASAR	Alice Springs	16.68	161	P	Pn	15 32 11.4	+3.1
	0.4nm,0.8s,baz=335,slow=11,SNR=8.4						
ASAR				S	S	15 35 09.1	-4.6
	0.2nm,0.6s,baz=258,slow=12,SNR=3.8						
SONM	Songino Array	58.68	343	P	P	15 38 04.4	-0.6
	0.4nm,0.6s,baz=142,slow=5.4,SNR=2.6						
	0.4nm,0.6s						
MKAR	Makanchi Array	67.95	328	P	P	15 39 06.6	+0.6
	0.2nm,0.4s,baz=118,slow=8.2,SNR=1.9						
	0.2nm,0.4s						

*IDC **19** 15:53:30.0±0.9,69°.66N×145°.32W,h0km,mb3.6/7,*
mbtmp3.7/11,ML3.7/4,Error ellipse: s-maj=23.9km
s-min=14.9km az=69.0
*NEIC **19** 15:53:30.7±0.6,69°.56N±0°.02×145°.09W±0°.03,h10km±1km,*
Error ellipse: s-maj=3.1km s-min=2.4km az=345.0
*AEIC **19** 15:53:30.3±2.0,69°.61N±0°.03×145°.15W±0°.09,h21km±8km,*
ML3.5,mb3.8/2(NEIC),ML3.7/112(NEIC),Error ellipse:
s-maj=5.7km s-min=3.2km az=137.0

ISC 19 15:53:29.3±1.2,**69°.64N**±0°.03×**145°.00W**±0°.03,**h2**km±9km,
n168,σ0s**96**/157,**mb3.5**/7,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C26K	Camden Bay	0.28	6		Pb	15 53 37.6	+0.4
C26K					Sb	15 53 42.9	+0.5
C26K	Camden Bay	0.28	6	IAML		15 53 43.5	
	comp=N,6μm,0.5s						
C26K				IAML		15 53 44.1	
	comp=E,8μm,0.5s						
C26K	Camden Bay	0.28	6	P	Pb	15 53 37.6	+0.4
	baz=195						
C26K				S	Sb	15 53 42.9	+0.5
	baz=195						
C27K	Jago River	0.45	91		Pb	15 53 40.3	+0.3
C27K					Sb	15 53 46.8	-0.4
C27K	Jago River	0.45	91	IAML		15 53 48.4	
	comp=N,7μm,0.5s						
C27K				IAML		15 53 49.4	
	comp=E,4μm,0.5s						
C27K	Jago River	0.45	91	P	Pb	15 53 40.3	+0.3
	baz=269						
C27K				S	Sb	15 53 46.8	-0.4
	baz=269						
D25K	Kavik River	0.58	238		Pg	15 53 40.5	+0.1
D25K					Sg	15 53 47.6	-0.3
D25K	Kavik River	0.58	238	IAML		15 53 48.6	
	comp=N,2μm,0.7s						
D25K				IAML		15 53 50.4	
	comp=E,3μm,0.6s						
D25K	Kavik River	0.58	238	P	Pg	15 53 40.5	+0.1
	baz=55						
D25K				S	Sg	15 53 47.6	-0.3
	baz=55						
C24K	Franklin Bluff	1.29	275		Pn	15 53 54.0	-0.4
C24K				IAML		15 54 13.4	
	comp=N,2μm,0.4s						
C24K	Franklin Bluff	1.29	275		Sg	15 54 11.9	+1.0
C24K	Franklin Bluff	1.29	275	P	Pn	15 53 54.3	-0.1
	baz=93						
C24K				S	Sg	15 54 11.9	+1.0
	baz=93						
D24K	Happy Valley	1.44	252		Sb	15 54 16.2	+0.7
D24K	Happy Valley	1.44	252	Pn	Pn	15 53 56.2	-0.1
D24K	Happy Valley	1.44	252	P	Pn	15 53 56.9	+0.5
	baz=69						
D27M	Malcolm River	1.48	104		Pg	15 53 58.1	+0.4
D27M	Malcolm River	1.48	104	IAML		15 54 21.3	
	comp=N,898nm,0.8s						
D27M				IAML		15 54 23.7	
	comp=E,905nm,0.7s						
D27M	Malcolm River	1.48	104	P	Pg	15 53 58.1	+0.4
	baz=286						
E27K	Coleen River	1.91	138		Pb	15 54 04.2	-0.7
E27K	Coleen River	1.91	138	IAML		15 54 36.6	
	comp=E,486nm,0.7s						
E27K	Coleen River	1.91	138	P	Pb	15 54 04.1	-0.7
	baz=320						
TOLK	Toolik Lake Re	1.92	241		Pn	15 54 02.9	-0.1
TOLK				IAML		15 54 34.9	
	comp=E,632nm,0.6s						
TOLK				IAML		15 54 37.7	
	comp=N,580nm,0.7s						
TOLK	Toolik Lake Re	1.92	241	P	Pn	15 54 03.0	0.0
	baz=56						
C23K	Itkillik River	1.96	278		Pn	15 54 03.5	-0.1
F26K	Sheenjek River	1.98	170		Pn	15 54 05.0	+1.1
F26K					Sn	15 54 29.2	+0.1
F26K	Sheenjek River	1.98	170	IAML		15 54 36.6	
	comp=N,512nm,0.6s						
E24K	Your Creek	2.02	220		Pn	15 54 04.7	+0.4
E24K				IAML		15 54 38.9	
	comp=E,444nm,0.7s						
E24K	Your Creek	2.02	220	P	Pn	15 54 05.0	+0.7
	baz=36						
F25K	Christian Rive	2.07	187		Pn	15 54 06.0	+0.9
F25K	Christian Rive	2.07	187	IAML		15 54 36.5	
	comp=E,656nm,0.5s						
F25K				IAML		15 54 40.7	
	comp=N,568nm,1.1s						
F25K	Christian Rive	2.07	187	P	Pn	15 54 06.0	+0.9
	baz=4.8						
D23K	Nanushuk River	2.13	254		Pn	15 54 06.3	+0.4
D23K				IAML		15 54 40.0	
	comp=E,553nm,0.8s						
D23K				IAML		15 54 41.8	
	comp=N,489nm,0.8s						
BMAR	Burnt Mountain	2.22	176		Pn	15 54 08.2	+1.0
D28M	Stokes Point	2.23	95	P	Pb	15 54 09.4	-0.9
	baz=280						
E23K	Chandalar	2.31	229		Pn	15 54 08.6	+0.2
E23K				IAML		15 54 46.5	
	comp=N,383nm,0.6s						
E23K				IAML		15 54 48.8	
	comp=E,350nm,0.7s						
E23K	Chandalar	2.31	229	P	Pn	15 54 08.8	+0.4
	baz=44						
F24K	Squaw Lake	2.38	208		Pn	15 54 09.8	+0.5
F28M	Old Crow	2.77	135		Pn	15 54 15.6	+0.9
F28M				IAML		15 55 06.6	
	comp=N,202nm,0.6s						
F28M	Old Crow	2.77	135	P	Pn	15 54 15.7	+1.1
	baz=318						
D22K	Ayikyak River	2.84	258		Pn	15 54 15.9	+0.2
D22K				IAML		15 55 14.6	
	comp=E,283nm,1.0s						
D22K	Ayikyak River	2.84	258	P	Pn	15 54 15.7	+0.1
	baz=71						
E29M	Blow River	2.85	113		Pn	15 54 16.7	+1.0
E29M				IAML		15 55 08.6	
	comp=E,215nm,0.7s						
E29M				IAML		15 55 08.8	
	comp=N,301nm,1.0s						
E22K	Anaktuvuk Pass	2.89	242		Pn	15 54 16.1	-0.3
E22K	Anaktuvuk Pass	2.89	242	P	Pn	15 54 16.1	-0.3
	baz=55						
G25K	Bearman Lake	2.91	189		Pn	15 54 17.5	+0.9
B22K	Teshekpuk Lake	2.98	288		Pn	15 54 17.4	-0.1
FYU	Fort Yukon	3.09	182	Pn	Pn	15 54 19.7	+0.7
COLD	Coldfoot	3.09	221	P	Pn	15 54 19.6	+0.5
	baz=36						
G24K	Hadweenzic Riv	3.09	199		Pn	15 54 19.4	+0.2
G24K	Hadweenzic Riv	3.09	199	IAML		15 55 12.8	
	comp=E,227nm,0.6s						
G27K	Doyon Strip	3.10	155		Pn	15 54 19.9	+0.6
G27K	Doyon Strip	3.10	155	P	Pn	15 54 20.0	+0.7
	baz=337						
B21K	Ikpikpuk River	3.36	274		Pn	15 54 22.9	+0.2
B21K	Ikpikpuk River	3.36	274	IAML		15 55 23.2	
	comp=N,186nm,1.0s						
B21K				IAML		15 55 29.6	
	comp=E,177nm,0.8s						
F22K	John River	3.39	234		Pn	15 54 23.7	+0.4
E21K	Killik River	3.44	254		Pn	15 54 23.7	-0.2
E21K	Killik River	3.44	254	IAML		15 55 29.0	
	comp=N,163nm,0.9s						
E21K				IAML		15 55 29.4	
	comp=E,200nm,0.9s						
G23K	Bananza Creek	3.49	215	IAML		15 55 25.4	
	comp=N,130nm,0.6s						
G23K				IAML		15 55 30.1	
	comp=E,158nm,0.8s						
C21K	Knifeblade Rid	3.49	267	P	Pn	15 54 25.0	+0.4
	baz=78						
A22K	Sinclair Lake	3.64	297	P	Pn	15 54 27.1	+0.5
	baz=108						
H27K	Steamboat Moun	3.66	157		Pn	15 54 28.5	+1.5
H27K	Steamboat Moun	3.66	157	P	Pn	15 54 29.4	+2.4
	baz=340						
F21K	Alatna River	3.96	236		Pn	15 54 31.0	-0.1
F21K	Alatna River	3.96	236	IAML		15 55 39.6	
	comp=N,96nm,0.8s						
F21K				IAML		15 55 40.2	
	comp=E,92nm,1.0s						
H24K	Noodor Dome	3.97	197	Pn	Pn	15 54 31.4	+0.2
PRP	Porcupine Dome	4.14	183	Pn	Pn	15 54 34.4	+0.8
PRP				IAML		15 55 24.7	
	comp=E,103nm,0.3s						
PRP				IAML		15 55 26.9	
	comp=N,112nm,0.3s						
PRP	Porcupine Dome	4.14	183	P	Pn	15 54 34.5	+0.9
	baz=1.8						
H23K	Yukon River	4.20	206		Pn	15 54 33.6	-0.7
H23K	Yukon River	4.20	206	IAML		15 55 46.8	
	comp=N,89nm,0.8s						
H23K				IAML		15 55 51.1	
	comp=E,94nm,1.1s						
G30M	tAoh Zraii Nji	4.21	125		Pn	15 54 35.7	+1.2
B20K	Meade River	4.23	281		Pn	15 54 35.0	+0.3
A21K	Barrow	4.25	299	P	Pn	15 54 35.6	+0.7
	baz=108						
D20K	Etivluk River	4.25	263		Pn	15 54 35.8	+0.8
I27K	Kandik River	4.25	161		Pn	15 54 36.3	+1.2
E20K	Nigu River	4.27	256		Pn	15 54 35.3	0.0
INK	Inuvik	4.34	102	Pn	Pn	15 54 36.8	+0.5
INK	Inuvik	4.34	102	Pn	Pn	15 54 37.1	+0.8
	comp=E,2.5nm,0.3s,baz=272,slow=12,SNR=185						
INK				Sn	Sn	15 55 25.8	-1.6
	comp=E,2.5nm,0.3s,baz=171,slow=19,SNR=2.2						
	comp=E,8.8nm,0.2s						
INK	Inuvik	4.34	102	P	Pn	15 54 37.3	+1.0
	baz=293						
G21K	Allakaket	4.47	230		Pn	15 54 37.4	-0.6
G21K				IAML		15 55 59.4	
	comp=E,63nm,0.5s						
G21K				IAML		15 56 03.6	
	comp=N,90nm,1.1s						
G21K	Allakaket	4.47	230	P	Pn	15 54 37.6	-0.4
	baz=41						
H22K	Ishtalitna Cre	4.47	216		Pn	15 54 38.5	+0.4
EPYK	Eagle Plains	4.52	133	Pn	Pn	15 54 39.4	+0.6
EPYK	Eagle Plains	4.52	133	P	Pn	15 54 39.9	+1.2
	baz=320						
I28M	Miner Creek	4.63	153		Pn	15 54 42.0	+1.7
I28M	Miner Creek	4.63	153	IAML		15 55 37.0	
	comp=E,50nm,0.6s						
I28M				IAML		15 55 38.1	
	comp=N,78nm,0.5s						
POKR	Poker Plat Res	4.64	193		Pn	15 54 41.0	+0.6
POKR				IAML		15 55 35.9	
	comp=E,69nm,0.6s						
POKR				IAML		15 55 36.7	
	comp=N,52nm,0.5s						
POKR	Poker Plat Res	4.64	193	P	Pn	15 54 41.2	+0.9
	baz=10.0						
F31M	Tsiigehtchic	4.69	113		Pn	15 54 41.5	+0.5
F31M				IAML		15 56 08.1	
	comp=N,45nm,0.8s						
F31M	Tsiigehtchic	4.69	113	P	Pn	15 54 42.2	+1.3
	baz=303						
F20K	Avaraart Lake	4.75	242		Pn	15 54 42.0	+0.3
I23K	Minto, Yukon-K	4.81	203		Pn	15 54 42.8	+0.1
I23K				IAML		15 56 08.9	
	comp=E,48nm,1.0s						
I23K				IAML		15 56 22.1	
	comp=N,48nm,1.1s						
I23K	Minto, Yukon-K	4.81	203	P	Pn	15 54 42.9	+0.2
	baz=18						
G31M	Satah River	4.83	119		Pn	15 54 43.6	+0.7
G31M				IAML		15 56 05.8	
	comp=N,54nm,0.8s						
G31M				IAML		15 56 07.7	
	comp=E,65nm,1.1s						
G31M	Satah River	4.83	119	P	Pn	15 54 43.8	+1.0
	baz=309						
D19K	Kuna River	4.84	262		Pn	15 54 43.4	+0.3
D19K	Kuna River	4.84	262	IAML		15 56 12.4	

J25K	Salcha River,	5.05	182		Pn	15 54 46.9	+0.8
J25K	Salcha River,	5.05	182	IAML		15 55 54.4	
	comp=N,39nm,0.6s						
J25K				IAML		15 56 17.1	
	comp=E,54nm,1.1s						
EGAK	Eagle	5.10	161	Pn	Pn	15 54 47.5	+0.8
EGAK				IAML		15 56 23.1	
	comp=E,39nm,1.2s						
EGAK	Eagle	5.10	161	P	Pn	15 54 48.2	+1.5
	baz=344						
MLY	Manley	5.13	208	Pn	Pn	15 54 47.0	-0.1
MLY	Manley	5.13	208	P	Pn	15 54 47.6	+0.5
	baz=23						
CCB	Clear Creek Bu	5.13	194	Pn	Pn	15 54 47.2	+0.2
CCB				IAML		15 55 47.8	
	comp=E,45nm,0.5s						
C19K	Lookout Ridge	5.18	271		Pn	15 54 47.9	0.0
C19K	Lookout Ridge	5.18	271	IAML		15 56 36.0	
	comp=N,34nm,0.8s						
I21K	Tanana	5.22	214		Pn	15 54 48.7	+0.4
HDA	Harding Lake	5.31	189	IAML		15 56 25.1	
	comp=N,48nm,1.1s						
HDA	Harding Lake	5.31	189	P	Pn	15 54 50.5	+1.0
	baz=6.8						
NEA2	Nenana	5.31	199		Pn	15 54 49.5	-0.1
NEA2	Nenana	5.31	199	P	Pn	15 54 50.2	+0.6
	baz=15						
F19K	Shaleruckik Mo	5.52	245		Pn	15 54 52.8	+0.4
I30M	Mount Dempster	5.54	139		Pn	15 54 53.8	+1.1
A19K	Wainwright	5.56	283	P	Pn	15 54 53.5	+0.5
	baz=89						
H31M	Peel River	5.58	128		Pn	15 54 53.4	+0.1
H20K	Anotleneega Mo	5.62	227		Pn	15 54 53.1	-0.7
SCRK	Sand Creek	5.70	175	P	Pn	15 54 56.4	+1.4
	baz=356						
K27K	Chicken	5.75	167		Pn	15 54 56.8	+1.2
C18K	Utukok River	5.87	268		Pn	15 54 57.3	0.0
K24K	Donnelly Dome	5.87	183	P	Pn	15 54 58.6	+1.4
	baz=2.1						
DAWY	Dawson	6.01	156	Pn	Pn	15 55 00.0	+0.8
BPAW	Bear Paw Mtn.	6.04	206		Pn	15 54 59.6	0.0
J30M	Hart River	6.10	142		Pn	15 55 01.5	+1.0
E18K	Tukpahlearik C	6.14	256		Pn	15 55 01.1	+0.2
G18K	Tagagawik	6.39	241		Pn	15 55 04.2	-0.1
RDOG	Red Dog Mine	6.67	265		Pn	15 55 07.0	-1.1
BCAR	Beaver Creek A	6.72	167		Pn	15 55 10.1	+1.1
H18K	Honhosa River	6.83	235		Pn	15 55 10.3	-0.1
A36M	Sachs Harbour	6.91	61		Pn	15 55 11.2	-0.2
G17K	Kiwalik Mounta	7.27	243		Pn	15 55 15.7	-0.7
C36M	Paulatuk	7.35	82		Pn	15 55 16.8	-0.7
PPLA	Purkeypile	7.36	207		Pn	15 55 18.4	+0.6
H17K	Granite Mounta	7.44	238		Pn	15 55 19.2	+0.5
BVCY	Beaver Creek	7.45	165		Pn	15 55 22.0	+3.1
M29M	Somme Creek	7.69	157		Pn	15 55 23.6	+1.3
M30M	Minto, Yukon	7.83	151		Pn	15 55 24.7	+0.6
YUK2	White River	8.06	166		Pn	15 55 29.6	+2.2
YUK3	Moose Creek	8.11	165		Pn	15 55 30.1	+2.0
H16K	Elim	8.35	241		Pn	15 55 30.8	-0.5
KNK	Knik Glacier	8.38	191		Pn	15 55 32.2	+0.6
J17K	VABM Dome	8.39	229		Pn	15 55 31.0	-0.8
F15K	North Star Dit	8.43	252		Pn	15 55 31.4	-0.9
L19K	White Mountain	8.49	213		Pn	15 55 33.0	-0.2
K17K	Iditarod	8.77	224		Pn	15 55 37.0	+0.1
L18K	Granite Mounta	8.83	218		Pn	15 55 37.9	+0.2
CTGM	Chitina Glacie	8.84	168		Pn	15 55 40.8	+2.7
J16K	Anvik River	8.89	232		Pn	15 55 38.2	-0.5
DLBC	Dease Lake	12.95	143	Pn	Pn	15 56 33.2	-1.0
	comp=N,0.1nm,0.3s,baz=15,slow=12,SNR=1.6						
	comp=N,0.6nm,0.3s						
YKA	Yellowknife Ar	14.11	105	Pn	Pn	15 56 46.9	-3.0
	comp=N,0.7nm,0.3s,baz=314,slow=13,SNR=15						
YKA				Sn	Sn	15 59 15.3	-12
	comp=N,0.4nm,0.3s,baz=315,slow=23,SNR=4.5						
	comp=N,2.1nm,0.6s						
RES	Resolute Bay	15.69	49	P	Pn	15 57 08.9	-2.2
RES				IAmb	IAmb	15 57 29.7	
	comp=Z,3.5nm,0.9s						
RES	Resolute Bay	15.69	49	Pn	Pn	15 57 08.1	-3.0
	comp=Z,0.4nm,0.3s,baz=257,slow=15,SNR=11						
RES				Sn	Sn	15 59 54.1	-11
	comp=Z,0.3nm,0.3s,baz=344,slow=18,SNR=9.7						
PD31	Pinedale Array	32.46	127	P	P	16 00 01.7	+0.8
PD31				IAmb	IAmb	16 00 04.4	
	comp=Z,1.8nm,0.8s						
PDAR	Pinedale Array	32.46	127	P	P	16 00 01.6	+0.6
PDAR	Pinedale Array	32.46	127	P	P	16 00 03.1	+2.2
	comp=Z,1.3nm,0.6s,baz=8.9,slow=6.4,SNR=9.7						
	comp=Z,1.3nm,0.6s						
NVAR	Mina Array Bea	34.37	141	P	P	16 00 20.5	+2.9
	comp=Z,0.5nm,0.7s,baz=319,slow=7.2,SNR=4.5						
	comp=Z,0.5nm,0.7s						
TXAR	Lajitas Array	46.68	128	P	P	16 02 00.5	+1.2
	comp=Z,0.3nm,0.7s,baz=337,slow=9.1,SNR=3.7						
	comp=Z,0.3nm,0.7s						
HFS	Hagfors	49.63	14	P	P	16 02 21.6	+0.1
	comp=Z,0.9nm,0.6s,baz=339,slow=7.7,SNR=1.6						
	comp=Z,0.9nm,0.6s						
KURBB	Kurchatov Arra	55.91	328	P	P	16 03 09.5	+1.5
	comp=Z,0.4nm,0.2s,baz=7.8,slow=2.1,SNR=2.7						
	comp=Z,0.4nm,0.2s						
MKAR	Makanchi Array	58.84	324	P	P	16 03 28.3	-0.5
	comp=Z,0.2nm,0.6s,baz=338,slow=3.4,SNR=1.9						
	comp=Z,0.2nm,0.6s						
CMAR	Chiang Mai Arr	81.44	300	P	P	16 05 47.6	-0.1
	comp=Z,0.5nm,1.0s,baz=1.6,slow=6.3,SNR=2.6						
	comp=Z,0.5nm,1.0s						

IDC 19 15:56:49.7±1.6, 5°27'N×126°43'E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=154.2km s-min=21.7km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.24	163	P	P	16 02 27.4	+0.8
	1.1nm,0.5s,baz=342,slow=10,SNR=27						
	1.1nm,0.5s						
ASAR	Alice Springs	29.67	166	P	P	16 02 57.3	-0.1
	0.4nm,0.9s,baz=345,slow=7.0,SNR=5.0						
ASAR				PcP	PcP	16 06 00.1	-1.9
	0.2nm,0.7s,baz=350,slow=2.5,SNR=4.2						
	0.4nm,0.9s						
MKAR	Makanchi Array	56.13	325	P	P	16 06 31.4	+0.3
	0.3nm,0.4s,baz=120,slow=7.7,SNR=5.7						
	0.3nm,0.4s						
KURBB	Kurchatov Arra	60.29	327	P	P	16 07 00.1	+0.1
	0.3nm,0.4s,baz=124,slow=7.0,SNR=5.9						
	0.3nm,0.4s						

NOU 19 16:13:59.6, 16°48S×167°58E, h0km, mb3.9/11, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	0.40	338	P	Pg	16 14 07.5	+0.2
LIFNC	LIFOU	4.29	184	P	Pn	16 15 06.5	+0.4
KOUNC	Koumac, New Ca	5.11	217	P	Pn	16 15 17.8	+0.3
YATNC	Mamie plateau,	5.59	187	P	Pn	16 15 23.1	-0.9
DZM	Mont Dzumac	5.66	191	P	Pn	16 15 24.8	-0.4
NOUC	Port Laguerre	5.72	192	P	Pn	16 15 26.1	+0.3
ONTNC	Ouen Toro	5.89	190	P	Pn	16 15 28.4	+0.2
OUENC	Ouen Island, N	5.95	187	P	Pn	16 15 29.2	+0.2

*NAO **19** 16:16:11.8, 34°20N×23°36E, h10km, mb4.1*
*IDC **19** 16:16:40.9±0.7, 37°33N×20°68E, h0km, mb3.9/14, mbtmp3.8/27, ML3.7/10, MS3.5/21, Error ellipse: s-maj=14.7km s-min=12.6km az=0.0*
*ATH **19** 16:16:41.9, 37°15N×20°60E, h10km±1km, ML3.9/15, Error ellipse: s-maj=2.1km s-min=1.1km az=46.0*
*THE **19** 16:16:41.9, 37°17N×20°57E, h0km±2km, ML4.0/6, Error ellipse: s-maj=2.9km s-min=0.8km az=227.0*
*NEIC **19** 16:16:42.4±1.5, 37°13N±0°07×20°77E±0°06, h10km±1km, mb4.5/15, Error ellipse: s-maj=12.2km s-min=6.4km az=200.0*

ISC 19 16:16:42.7±1.3, 37°19N±0°03×20°68E±0°03, h14km±8km, n150, σ1§47/161, mb4.0/20, MS3.5/16, 8C-4D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.48	13	P	Pg	16 16 52.2	-0.1
KRI1				S	Sb	16 17 00.0	-0.1
	31μm,0.4s						
LTHK	Lithakia	0.54	13	P	Pg	16 16 52.9	-0.4
LTHK				S	Sb	16 17 01.2	-0.3
	38μm,0.4s						
LTHK	Lithakia	0.54	13	P	Pg	16 16 52.8	-0.4
LTHK				S	Sg	16 17 00.6	+0.3
LTHK				AML	AML	16 17 01.6	
LTHK				AML	AML	16 17 02.3	
	comp=E,42052μm,0.4s						
AMT	Artemida-Makis	0.89	67	P	Pb	16 16 59.9	-0.1
AMT				S	Sb	16 17 13.8	+2.1
AMT				AML	AML	16 17 19.6	
	comp=N,68720μm,0.4s						
AMT				AML	AML	16 17 23.9	
	comp=E,73443μm,0.5s						
RTZL	Ratzakli, Kefa	0.89	5	P	Pg	16 16 58.8	-1.1
RTZL				S	Sb	16 17 13.0	+1.3
	comp=E,5μm,0.2s						
PYL	PYLOS	0.90	109	P	Pb	16 17 00.1	0.0
PYL				S	Sn	16 17 15.4	+1.6
PYL	PYLOS	0.90	109	P	Pb	16 16 59.9	-0.2
PYL				S	Sb	16 17 12.9	+1.0
PSDA	Pessada-Kefalo	0.93	355	P	Pg	16 16 59.6	-1.0
PSDA				S	Sb	16 17 14.2	+1.4
	comp=E,11μm,0.4s						
PSDA	Pessada-Kefalo	0.93	355	P	Pg	16 17 00.0	-0.6
PSDA				S	Sb	16 17 13.5	+0.7
ITM	Ithomi	0.99	90	Pn	Pg	16 17 01.5	-0.5
ITM	Ithomi	0.99	90	P	Pb	16 17 01.9	+0.1
ITM				S	Sn	16 17 18.2	+2.0
	comp=E,6μm,0.6s						
ITM	Ithomi	0.99	90	P	Pb	16 17 01.8	0.0
ITM				S	Sb	16 17 16.7	+1.9
ITM				AML	AML	16 17 20.2	
	comp=N,9675μm,0.5s						
ITM				AML	AML	16 17 25.4	
	comp=E,12434μm,0.6s						
RLS	Riolos of Patr	1.07	35	P	Pg	16 17 02.4	-0.9
RLS				S	Sn	16 17 19.7	+1.7
	comp=E,3μm,0.9s						
RLS	Riolos of Patr	1.07	35	P	Pg	16 17 02.2	-1.1
RLS				S	Sb	16 17 18.3	+1.4
RLS				AML	AML	16 17 26.1	
	comp=N,5446μm,0.7s						
RLS				AML	AML	16 17 29.1	
	comp=E,6421μm,0.8s						
DMLN	Damoulianata-K	1.08	347	P	Pg	16 17 02.7	-0.7
DMLN	Damoulianata-K	1.08	347	P	Pg	16 17 02.8	-0.7
DRO	Drossia	1.12	47	P	Pg	16 17 03.6	-0.7
DRO	Drossia	1.12	47	P	Pg	16 17 03.3	-1.0
DRO				S	Sb	16 17 19.5	+1.2
DRO				AML	AML	16 17 26.2	
	comp=N,12614μm,0.6s						
DRO				AML	AML	16 17 28.5	
	comp=E,14448μm,0.7s						
VSK1	VASILIKIADES	1.22	356	P	Pg	16 17 04.7	-1.5
VSK1				S	Sn	16 17 23.3	+1.5
FSK	Fiskardo	1.27	356	P	Pg	16 17 06.0	-1.2
FSK				S	Sb	16 17 23.5	+0.8
FSK				AML	AML	16 17 27.6	
	comp=N,12291μm,0.2s						
FSK				AML	AML	16 17 29.1	
	comp=E,11923μm,0.4s						
EVGI	Lefkada island	1.43	359	P	Pn	16 17 08.5	+0.2
KLV	Kalavryta, Ach	1.45	53	P	Pn	16 17 09.3	+0.7
KLV				AML	AML	16 17 45.5	
	comp=E,2630μm,0.6s						
KLV				AML	AML	16 17 46.1	
	comp=N,2143μm,0.9s						
DRAG	Dragano-Lefkad	1.50	357	P	Pn	16 17 09.7	+0.5
GUR	Goura	1.52	60	P	Pn	16 17 10.2	+0.6
GUR				AML	AML	16 17 39.0	
	comp=N,7045μm,0.5s						
GUR				AML	AML	16 17 44.4	
	comp=E,5873μm,0.6s						
NYDR	Nydri-Lefkada	1.52	1	P	Pn	16 17 10.4	+0.8
EFP	Efpalio	1.57	38	P	Pn	16 17 11.4	+1.1
EFP				AML	AML	16 17 46.1	
	comp=E,3894μm,0.7s						
EFP				AML	AML	16 17 52.9	
	comp=N,2655μm,0.5s						
LKD2	Lefkada island	1.60	359	P	Pn	16 17 11.7	+1.0
LKD2				S	Sb	16 17 33.2	+1.0
LKD2				AML	AML	16 17 46.0	
	comp=N,7329μm,0.7s						
LKD2				AML	AML	16 17 50.5	
	comp=E,5337μm,0.7s						
TSLK	Tsoukalades, L	1.63	359	P	Pb	16 17 12.4	-0.3
TSLK				S	Sb	16 17 34.4	+1.3
TSLK				AML	AML	16 17 46.5	
	comp=N,9748μm,0.5s						
TSLK				AML	AML	16 17 49.8	
	comp=E,6537μm,0.9s						
KALE	Kalithea	1.67	43	P	Pb	16 17 13.3	+0.1
KALE				AML	AML	16 17 50.6	
	comp=N,3590μm,0.7s						
KALE				AML	AML	16 17 50.7	
	comp=E,2984μm,0.5s						
ANX	Ano Chora	1.71	35	P	Pb	16 17 13.7	-0.3
ANX				AML	AML	16 17 45.1	
	comp=E,5720μm,0.6s						
ANX				AML	AML	16 17 53.9	
	comp=N,6650μm,0.6s						
EVR	Evrytania	1.94	27	P	Pb	16 17 18.4	+0.5
MAKR	Makrakomi, Fth	2.15	32	P	Pb	16 17 21.3	-0.2
AGG	Agios Georgios	2.25	35	Pn	Pn	16 17 21.8	+2.2
IGT	Igoumenitsa	2.36	353	P	Pn	16 17 23.1	+2.0
IGT				AML	AML	16 18 12.8	
	comp=N,998μm,0.7s						
IGT				AML	AML	16 18 14.9	
	comp=E,1668μm,0.7s						
KEK	Kerkira	2.61	345	Pn	Pn	16 17 26.0	+1.4
LIT	Litokhoron	3.23	25		Pn	16 17 34.3	+1.2
SCTE	Santa Cesarea	3.36	330	Pn	Pn	16 17 35.6	+0.8
TIP	Timpagrande	3.67	304		Pn	16 17 40.6	+1.4
APE	Apeiranthos	3.88	90	⇓P	Pb	16 17 48.6	-2.4
IDI	Anoyia	3.90	118	Pn	Pn	16 17 42.1	-0.1
IDI	Anoyia	3.90	118	Pn	Pn	16 17 43.2	+1.0
	comp=E,4.5nm,0.8s,baz=298,slow=15,SNR=2.3						
IDI				Sn	Sn	16 18 29.7	+1.9
	comp=E,4.5nm,0.3s,baz=324,slow=19,SNR=3.7						
OHR	Ohrid	3.92	1	*i* Pn	Pn	16 17 44.8	+2.2
CEL	Celeste	3.94	287		Pn	16 17 44.2	+1.3
TIR	Tirane	4.20	352	Pn	Pn	16 17 47.0	+0.6
VAY	Valandovo	4.38	19	*i* Pn	Pn	16 17 50.4	+1.6
PUK	Puka	4.89	353	Pn	Pn	16 17 56.2	+0.4
MMB	Musomishta	4.96	28	P	Pn	16 17 58.6	+1.7
VAE	Valguarnera	5.00	275	Pn	Pn	16 17 57.9	+0.5
	comp=E,35nm,0.6s,baz=98,slow=7.6,SNR=2.2						
VAE				Sn	Sn	16 18 56.5	+1.3
	comp=E,8.6nm,0.3s,baz=14,slow=17,SNR=1.7						
KKB	Krupnik	5.02	21	P	Pn	16 17 59.4	+1.8
RAFF	Raffo Rosso	5.04	272		Pn	16 17 58.8	+0.8
PDG	Podgorica	5.35	349	*e*Pn	Pn	16 18 00.4	-1.7
RDO	Rodhopi	5.46	42		Pn	16 18 03.7	0.0
ALN	Alexandroupoli	5.58	47	Pn	Pn	16 18 05.6	+0.3
PLNA	Plana	5.69	21	P	Pn	16 18 10.3	+3.4
VTS	Vitosha	5.77	19	P	Pn	16 18 09.4	+1.4
TREB	Trebinje	5.80	343	*e*Pn	Pn	16 18 06.8	-1.6
SJES	Sjenica	6.09	355	*e*Pn	Pn	16 18 12.8	+0.4
PAOL	Paolisi	6.11	311		Pn	16 18 13.3	+0.6
BOVS	Bovan	6.49	7	⇓P	Pn	16 18 17.0	-0.8
RUDO	Rudo	6.50	352	*e*Pn	Pn	16 18 12.5	-5.5
BBLS	Lazi&#263i	6.74	352	*e*Pn	Pn	16 18 20.6	-0.7
ELND	Elena	6.98	33	⇑P	Pn	16 18 26.5	+2.0
HAPS	Han Pijesak,Bl	7.01	350	*e*Pn	Pn	16 18 24.4	-0.7
INTR	Introdacqua	7.11	315	Pn	Pn	16 18 28.0	+1.6
TEKS	Tekeris	7.41	354	*e*Pn	Pn	16 18 28.7	-1.7
HERR	Herculane	7.80	9	⇑P	Pn	16 18 35.1	-0.7
A050A	Klekovaca	7.93	338	*e*Pn	Pn	16 18 38.2	+0.5
BLY	Banja Luka	8.00	342	*e*Pn	Pn	16 18 40.5	+1.9
NRCA	Norcia	8.09	317	Pn	Pn	16 18 41.9	+2.0
FDMO	Fiordimonte	8.24	317	Pn	Pn	16 18 44.0	+2.1
A051A	Mrakovica	8.32	341	*e*Pn	Pn	16 18 41.6	-1.4
GZR	Gura Zlata	8.35	10	⇓P	Pn	16 18 43.9	+0.6
BZS	Buzias	8.45	4	⇓P	Pn	16 18 47.0	+2.3
ARR	Arges	8.70	19	⇑P	Pn	16 18 49.8	+1.7
VOIR		8.87	20	⇑P	Pn	16 18 51.9	+1.4
SIRR	Siria	9.10	4	⇑P	Pn	16 18 54.7	+1.0
VSL	Villasalto	9.17	288	Pn	Pn	16 18 56.1	+1.4
MLR	Muntele Rosu	9.19	24	Pn	Pn	16 18 53.5	-1.5
	comp=E,0.2nm,0.3s,baz=193,slow=4.9,SNR=3.6						
MLR				LR	LR	16 23 19.6	
	comp=E,291nm,19.2s,baz=207,slow=44						
	comp=E,1.0nm,0.4s						
MLR	Muntele Rosu	9.19	24	⇑P	Pn	16 19 01.6	+6.6
KEST	Kesra	9.25	264	Pn	Pn	16 18 56.0	+0.2
	comp=E,0.4nm,0.3s,baz=72,slow=8.9,SNR=3.9						
KEST				Sn	Sn	16 20 38.9	-0.8
	comp=E,0.1nm,0.3s,baz=84,slow=18,SNR=1.3						
	comp=E,5.1nm,0.6s						
CRES	Cresnjevec Ost	9.47	337	*e*Pn	Pn	16 18 58.1	-0.7
PLOR	Plostina	9.74	25	⇑P	Pn	16 19 05.7	+3.3
CEY	Cerknica	9.74	333	*e*Pn	Pn	16 19 03.1	+0.6
VRI	Vrincioaia	9.78	26	⇑P	Pn	16 19 07.2	+4.3
SOKA	Soboth	10.37	338	*i* Pn	Pn	16 19 10.6	-0.5
	comp=E,1.3nm,0.4s						
OBKA	Obir	10.37	336	*i* Pn	Pn	16 19 12.1	+1.0
	comp=E,1.9nm,0.5s						
OBKA				*i* Sn	Sn	16 21 04.5	-2.7
	comp=E,1.9nm,0.4s						
OBKA	Obir	10.37	336	*e*Pn	Pn	16 19 11.7	+0.6
BRTR	Keskin Array B	10.47	72	Pn	Pn	16 19 15.0	+2.4
	comp=E,0.5nm,0.6s,baz=271,slow=10,SNR=2.2						
PSZ	Piszkesteto	10.74	357	Pn	Pn	16 19 16.5	+0.4
ABTA	Abfaltersbach	11.31	330	*i* Sn	Sn	16 21 22.0	-8.3
	comp=E,2.7nm,0.3s						
VYHS	Vyhne	11.38	354	*e*PN	Pn	16 19 27.3	+2.5
MODS	Modra-Piesok	11.45	349	*e*PN	Pn	16 19 29.4	+3.6
LESA	Schwarzleotal	11.81	332	*i* Pn	Pn	16 19 31.9	+1.0
	comp=E,2.8nm,0.6s						
LESA				*e*Sn	Sn	16 21 41.6	-0.9
	comp=E,2.6nm,0.5s						
VRAC	Vranov	12.47	348	LR	LR	16 24 40.9	
	comp=E,161nm,19.2s,baz=170,slow=39						
DAVOX	Davos/Dischmat	12.49	323	Pn	Pn	16 19 36.5	-3.8
	comp=E,0.1nm,0.3s,baz=145,slow=16,SNR=1.6						
DAVOX				Sn	Sn	16 21 57.8	-1.5
	comp=E,0.3nm,0.3s,baz=98,slow=7.1,SNR=2.7						
DAVOX				LR	LR	16 25 04.3	
	comp=E,196nm,18.0s,baz=86,slow=41						
	comp=E,0.9nm,0.5s						
GERES	GERESS Array B	12.71	339	Pn	Pn	16 19 41.8	-1.3
	comp=E,0.2nm,0.3s,baz=164,slow=11,SNR=2.0						
	comp=E,0.6nm,0.5s						
MMAI	Mount Meron Ar	12.75	105	Pn	Pn	16 19 42.5	-1.3
	comp=E,0.4nm,0.3s,baz=293,slow=12,SNR=1.7						
MMAI				Sn	Sn	16 22 01.3	-4.2
	comp=E,1.2nm,0.3s,baz=302,slow=30,SNR=1.6						
	comp=E,0.6nm,0.4s						
EIL	Elat	14.07	118	Pn	Pn	16 20 00.4	-1.3
	comp=E,0.3nm,0.3s,baz=315,slow=5.7,SNR=2.3						
EIL				Sn	Sn	16 22 34.7	-3.0
	comp=E,0.3nm,0.3s,baz=300,slow=20,SNR=2.5						
	comp=E,1.8nm,0.5s						
AKASG	Malin Array Be	14.83	22	Pn	Pn	16 20 10.8	-1.1
	comp=E,0.4nm,0.3s,baz=209,slow=9.1,SNR=1.7						
AKASG				LR	LR	16 27 15.9	
	comp=E,104nm,19.9s,baz=232,slow=43						
	comp=E,0.3nm,0.4s						
CLL	Collm	15.14	341	*e*PP	P	16 20 26.0	+4.9
CLL				*es*PP		16 20 33.0	
KBZ	Khabaz	18.10	62	P	P	16 20 54.6	+0.7
	comp=E,0.1nm,0.3s,baz=225,slow=2.9,SNR=2.7						
KBZ				S	Sn	16 24 12.4	-2.9
	comp=E,0.6nm,0.3s,baz=292,slow=5.4,SNR=2.1						
	comp=E,2.5nm,1.1s						
NACGM	Naroch	18.20	11	*e*P	P	16 20 58.6	+3.5
	comp=Z,16nm,0.9s,baz=196						
PABE	Paberze	18.46	6	P	P	16 20 57.4	-0.5
PABE				IAmb	IAmb	16 21 07.6	
	comp=Z,20nm,0.9s						
GNI	Garni	19.01	74	P	Pn	16 21 05.5	+0.6
	comp=Z,0.6nm,0.3s,baz=307,slow=20,SNR=1.7						
GNI				LR	LR	16 29 32.2	
	comp=Z,76nm,20.9s,baz=289,slow=41						
	comp=Z,2.9nm,0.4s						
ESDC	Sonseca Array	19.45	285	P	P	16 21 08.7	-0.2
	comp=Z,0.1nm,0.3s,baz=89,slow=10.0,SNR=3.2						
	comp=Z,1.0nm,0.8s						
HFS	Hagfors	23.39	351	P	P	16 21 49.7	-1.2
	comp=Z,5.4nm,0.8s,baz=169,slow=10,SNR=13						
	comp=Z,5.4nm,0.8s						
BELG	Belogornoye	24.23	43	LR	LR	16 33 21.1	
	comp=Z,88nm,18.4s,baz=278,slow=41						
NC602	NORSAR Array S	24.27	349	P	P	16 22 00.2	+1.0
NC602				IAmb	IAmb	16 22 23.7	
	comp=Z,25nm,1.4s						
EKA	Eskdalemuir Ar	24.31	326	P	P	16 21 59.0	-0.6
	comp=Z,3.2nm,0.8s,baz=128,slow=9.1,SNR=5.7						
	comp=Z,3.2nm,0.8s						
FINES	FINESS Array B	24.51	6	P	P	16 22 01.2	-0.2
FINES	FINESS Array B	24.51	6	P	P	16 22 00.4	-1.0
	comp=Z,0.8nm,0.4s,baz=178,slow=11,SNR=10						
FINES				LR	LR	16 32 45.7	
	comp=Z,82nm,19.2s,baz=184,slow=40						
	comp=Z,0.8nm,0.4s						
FIA1	FINESS Array S	24.52	6	P	P	16 22 01.3	-0.2
NB201	NORSAR Array S	24.61	349	P	P	16 22 01.8	-0.6
NB2	NORSAR Subarra	24.61	349	P	P	16 22 01.9	-0.5
	comp=Z,1.7nm,0.6s,baz=158,slow=9.3						
NOA	NORSAR Array B	24.61	349	P	P	16 22 01.4	-1.1
	comp=Z,1.2nm,0.7s,baz=157,slow=9.0,SNR=8.6						
NOA				LR	LR	16 31 51.7	
	comp=Z,93nm,18.8s,baz=15,slow=37						
	comp=Z,1.2nm,0.7s						
NBO00	NORSAR Array S	24.67	348	P	P	16 22 02.8	-0.1
NBO00				IAmb	IAmb	16 22 16.7	
	comp=Z,16nm,1.1s						
NC303	NORSAR Array S	24.77	349

comp=Z,4.9nm,1.3s
USRK Ussuriysk Ar. 77.91 43 P **P 16 28 40.6 +0.5**
comp=Z,1.0nm,0.7s,baz=311,slow=3.3,SNR=3.2
comp=Z,1.0nm,0.7s
KSRS Korea Array 79.86 51 P **P 16 28 51.0 0.0**
comp=Z,0.8nm,0.6s,baz=316,slow=5.1,SNR=4.1
KSRS LR LR 17 08 01.8
comp=Z,29nm,18.3s,baz=330,slow=39
comp=Z,0.8nm,0.6s
ASAJ Asahikawa 83.49 38 LR LR 17 11 07.4
comp=Z,38nm,19.4s,baz=296,slow=39
WRA Warramunga Arr 120.37 93 PKP **PKiKP 16 35 35.0 +0.8**
comp=Z,0.3nm,0.8s,baz=305,slow=2.0,SNR=2.3
ASAR Alice Springs 121.94 97 PKP **PKiKP 16 35 37.9 +0.8**
comp=Z,0.2nm,0.8s,baz=304,slow=1.6,SNR=2.1

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*NOU **19** 16:20:49.5, 25°.58S×179°.90E, h544km, mb4.3/16, South of Fiji Islands*
*NEIC **19** 16:20:51.0±1.3, 25°.7S±0°.1×179°.62E±0°.07, h518km±8km, mb4.5/21, Error ellipse: s-maj=17.4km s-min=7.8km az=162.0*
*IDC **19** 16:20:51.4±1.8, 25°.66S×179°.56E, h521km±20km, mb3.2/15, mbtmp4.1/18, Error ellipse: s-maj=16.9km s-min=15.3km az=159.0*
ISC 19 16:20:49.8±0.5, 25°.71S±0°.07×179°.67E±0°.09, h507km, n79, σ1§24/76, mb3.8/24, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.13**	**149**	P	**P**	**16 22 11.7**	**+2.1**
RAO	**Raoul Island**	**4.13**	**149**	P	**P**	**16 22 12.4**	**+2.8**
383nm,0.7s,baz=308,slow=19,SNR=1.8							
MSVF	**Nonsavu**	**8.08**	**349**	P	**P**	**16 22 46.7**	**-0.7**
MSVF	**Nonsavu**	**8.08**	**349**	P	**P**	**16 22 47.2**	**-0.2**
OUZ	**Omahuta**	**10.82**	**207**	P	**P**	**16 23 18.6**	**+2.9**
KUZ	**Kuaotunu**	**11.51**	**196**	P	**P**	**16 23 25.6**	**+2.7**
PININC	**Pines Island,**	**11.57**	**283**	P	**P**	**16 23 24.6**	**+0.7**
MXZ	**Matakaoa Point**	**11.87**	**185**	P	**P**	**16 23 29.1**	**+2.3**
MXZ	**Matakaoa Point**	**11.87**	**185**	P	**P**	**16 23 29.3**	**+2.5**
YATNC	**Mamie plateau,**	**12.24**	**285**	P	**P**	**16 23 32.1**	**+1.2**
TOZ	**Tahuroa Road**	**12.49**	**195**	P	**P**	**16 23 34.0**	**+0.6**
DZM	**Mont Dzumac**	**12.63**	**284**	P	**P**	**16 23 34.6**	**-0.5**
DZM	**Mont Dzumac**	**12.63**	**284**	P	**P**	**16 23 37.3**	**+2.2**
14nm,0.8s,baz=106,slow=15,SNR=7.2							
URZ	**Urewera**	**12.70**	**189**	P	**P**	**16 23 34.3**	**-1.1**
28nm,0.6s,baz=14,slow=2.9,SNR=26							
URZ				S	**S**	**16 25 49.2**	**-2.9**
18nm,0.7s,baz=338,slow=19,SNR=10							
URZ	**Urewera**	**12.70**	**189**	P	**P**	**16 23 34.8**	**-0.7**
NOUC	**Port Laguerre**	**12.74**	**284**	P	**P**	**16 23 37.6**	**+1.4**
HIZ	**Hauiti**	**13.40**	**196**	P	**P**	**16 23 44.1**	**+1.2**
BKZ	**Black Stump Fm**	**13.68**	**190**	P	**P**	**16 23 45.7**	**-0.2**
AFI	**Afiamalu**	**14.23**	**36**	P	**P**	**16 23 52.2**	**+0.2**
KOUNC	**Koumac, New Ca**	**15.05**	**287**	P	**P**	**16 24 01.3**	**+0.8**
BFZ	**Birch Farm**	**15.20**	**190**	P	**P**	**16 23 59.3**	**-2.5**
BFZ	**Birch Farm**	**15.20**	**190**	P	**P**	**16 24 02.7**	**+0.9**
TCW	**Tory Channel**	**16.09**	**195**	P	**P**	**16 24 08.8**	**-2.2**
SNZO	**South Karori**	**16.09**	**194**	P	**P**	**16 24 10.7**	**-0.3**
QRZ	**Quartz Range**	**16.20**	**200**	P	**P**	**16 24 12.1**	**-0.1**
THZ	**Tophouse**	**16.96**	**198**	P	**P**	**16 24 19.5**	**-0.4**
THZ				IAmb	IAmb	16 24 28.7	
comp=Z,36nm,1.2s							
KHZ	**Kahutara**	**17.41**	**195**		**P**	**16 24 23.4**	**-0.7**
KHZ	**Kahutara**	**17.41**	**195**	P	**P**	**16 24 23.5**	**-0.7**
RPZ	**Rata Peaks**	**19.29**	**199**	P	**P**	**16 24 40.8**	**-0.6**
comp=Z,13nm,0.8s,baz=24,slow=10.0,SNR=2.5							
RPZ	**Rata Peaks**	**19.29**	**199**		**P**	**16 24 41.7**	**+0.4**
FOZ	**Fox Glacier**	**19.51**	**202**	P	**P**	**16 24 43.1**	**-0.3**
STKA	**Stephens Creek**	**33.80**	**251**	P	**P**	**16 26 49.5**	**+0.3**
STKA	**Stephens Creek**	**33.80**	**251**	P	**P**	**16 26 49.7**	**+0.5**
comp=Z,1.0nm,0.5s,baz=69,slow=19,SNR=2.9							
comp=Z,1.0nm,0.5s							
AS31	**Alice Springs**	**41.47**	**263**	P	**P**	**16 27 52.0**	**-0.2**
ASAR	**Alice Springs**	**41.47**	**263**	P	**P**	**16 27 51.9**	**-0.3**
ASAR	**Alice Springs**	**41.47**	**263**	P	**P**	**16 27 52.0**	**-0.2**
comp=Z,0.9nm,0.5s,baz=98,slow=7.3,SNR=40							
comp=Z,0.9nm,0.5s							
WR0	**Warramunga Arr**	**41.83**	**268**	P	**P**	**16 27 54.5**	**-0.5**
WB2	**Warramunga Arr**	**42.01**	**268**	P	**P**	**16 27 55.8**	**-0.6**
WB2				IAmb	IAmb	16 28 21.3	
comp=Z,8.6nm,1.5s							
WRAB	**Tennant Creek**	**42.01**	**268**	P	**P**	**16 27 55.7**	**-0.7**
WRA	**Warramunga Arr**	**42.02**	**268**	P	**P**	**16 27 55.4**	**-1.1**
comp=Z,1.1nm,0.7s,baz=102,slow=8.2,SNR=10							
comp=Z,1.1nm,0.7s							
WB0	**Warramunga Arr**	**42.02**	**269**	P	**P**	**16 27 55.9**	**-0.6**
WB0				IAmb	IAmb	16 28 23.4	
comp=Z,7.3nm,1.3s							
KNRA	**Kununurra**	**48.40**	**272**	P	**P**	**16 28 45.6**	**+0.1**
KNRA				IAmb	IAmb	16 28 46.8	
comp=Z,14nm,1.2s							
FITZ	**Fitzroy Crossi**	**50.41**	**267**	P	**P**	**16 29 00.1**	**-0.2**
SOEI	**Soe**	**54.72**	**276**	P	**P**	**16 29 30.2**	**-1.2**
SOEI				IAmb	IAmb	16 29 51.9	
comp=Z,26nm,1.2s							
MBWA	**Marble Bar**	**54.78**	**261**	P	**P**	**16 29 31.1**	**-0.6**
MBWA				IAmb	IAmb	16 29 32.9	
comp=Z,47nm,1.5s							
QSPA	**South Pole Qui**	**64.38**	**180**	P	**P**	**16 30 36.8**	**+1.5**
QSPA	**South Pole Qui**	**64.38**	**180**	P	**P**	**16 30 36.7**	**+1.5**
comp=Z,2.1nm,0.6s,baz=15,slow=0.5,SNR=19							
comp=Z,2.1nm,0.6s							
MJAR	**Matsushiro Arr**	**73.22**	**326**	P	**P**	**16 31 28.6**	**-0.2**
comp=Z,1.9nm,0.9s,baz=181,slow=6.8,SNR=3.1							
comp=Z,1.9nm,0.9s							
KSRS	**Korea Array**	**79.44**	**321**	P	**P**	**16 32 02.7**	**-0.3**
comp=Z,0.9nm,0.8s,baz=128,slow=7.2,SNR=3.6							
comp=Z,0.9nm,0.8s							
PETK	**Petropavlovsk-**	**80.78**	**347**	P	**P**	**16 32 10.2**	**+0.4**
comp=Z,2.7nm,0.8s,baz=134,slow=54,SNR=2.4							
comp=Z,2.7nm,0.8s							
USRK	**Ussuriysk Ar.**	**82.12**	**328**	P	**P**	**16 32 17.3**	**+0.5**
comp=Z,0.9nm,0.7s,baz=141,slow=8.1,SNR=2.4							
comp=Z,0.9nm,0.7s							
PAF	**Port-aux-Franc**	**82.53**	**218**	P	**P**	**16 32 17.6**	**-1.4**
PFO	**Pinyon Flats O**	**84.62**	**49**	P	**P**	**16 32 30.7**	**+1.0**
comp=Z,1.3nm,0.6s,baz=236,slow=3.6,SNR=1.9							
comp=Z,1.3nm,0.6s							
YBH	**Yreka Blue Hor**	**85.67**	**39**	P	**P**	**16 32 36.0**	**+1.4**
comp=Z,1.0nm,0.6s,baz=238,slow=10.0,SNR=5.1							
comp=Z,1.0nm,0.6s							
NVAR	**Mina Array Bea**	**86.26**	**44**	P	**P**	**16 32 38.2**	**+0.5**
comp=Z,1.4nm,0.8s,baz=220,slow=8.3,SNR=10							
comp=Z,1.4nm,0.8s							
PINE	**Pine Mountain**	**87.99**	**39**		**P**	**16 32 44.7**	**-0.9**
PINE				IAmb	IAmb	16 32 48.2	
comp=Z,9.0nm,0.9s							
M17K	**Holitna River**	**88.76**	**11**	P	**P**	**16 32 48.9**	**+0.4**
M17K				IAmb	IAmb	16 33 33.0	
comp=Z,32nm,1.4s							
I07A	**Izee**	**88.98**	**39**	P	**P**	**16 32 50.1**	**0.0**
I07A				IAmb	IAmb	16 32 52.5	
comp=Z,4.6nm,0.9s							
ELK	**Elko**	**89.53**	**44**	P	**P**	**16 32 53.8**	**+0.9**
comp=Z,1.3nm,0.9s,baz=210,slow=8.1,SNR=2.7							
comp=Z,1.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**89.87**	**290**	P	**P**	**16 32 56.2**	**+1.5**
comp=Z,0.2nm,0.3s,baz=130,slow=3.9,SNR=1.7							
comp=Z,0.2nm,0.3s							
TXAR	**Lajitas Array**	**91.64**	**58**	P	**P**	**16 33 03.8**	**+1.0**
comp=Z,0.9nm,0.8s,baz=230,slow=5.6,SNR=7.2							
comp=Z,0.9nm,0.8s							
HVU	**Hansel Valley**	**91.65**	**44**		**P**	**16 33 02.4**	**-0.2**
HVU				IAmb	IAmb	16 33 04.0	
comp=Z,4.1nm,1.0s							
ILAR	**Eielson Array**	**93.85**	**14**	P	**P**	**16 33 10.6**	**-1.4**
comp=Z,0.3nm,0.7s,baz=220,slow=5.3,SNR=5.3							
comp=Z,0.3nm,0.7s							
MKAR	**Makanchi Array**	**113.15**	**312**	PKiKP	**PKiKP**	**16 38 28.1**	**-1.1**
comp=Z,0.5nm,0.8s,baz=70,slow=1.7,SNR=3.2							
KURBB	**Kurchatov Arra**	**116.33**	**316**	PKP	**PKPdf**	**16 38 34.4**	**-0.7**
comp=Z,0.4nm,0.7s,baz=117,slow=1.6,SNR=7.2							
BVAR	**Borovoye Array**	**121.58**	**318**	PKP	**PKPdf**	**16 38 44.7**	**-0.5**
comp=Z,0.9nm,0.6s,baz=100,slow=1.6,SNR=5.4							
ARCES	**ARCESS Array B**	**133.59**	**348**	PKP	**PKPdf**	**16 39 07.5**	**-0.1**
comp=Z,7.7nm,1.1s,baz=8.1,slow=1.3,SNR=1.5							
FINES	**FINESS Array B**	**140.05**	**341**	PKP	**PKPdf**	**16 39 20.4**	**+0.8**
comp=Z,1.1nm,0.8s,baz=31,slow=3.2,SNR=3.5							
NC303	**NORSAR Array S**	**143.61**	**350**		PKPab	16 39 23.6	-1.0
NB2	**NORSAR Subarra**	**143.81**	**351**	PKP	PKPab	16 39 24.5	-0.9
comp=Z,3.8nm,0.8s,baz=18,slow=3.3							
NOA	**NORSAR Array B**	**143.81**	**351**	PKP	PKPab	16 39 24.3	-1.1
comp=Z,5.2nm,0.8s,baz=22,slow=3.8,SNR=20							
HFS	**Hagfors**	**144.25**	**348**		PKPbc	16 39 26.0	-0.7
HFS	**Hagfors**	**144.25**	**348**	PKP	PKPbc	16 39 26.0	-0.7
comp=Z,4.4nm,0.5s,baz=20,slow=4.6,SNR=24							
AKASG	**Malin Array Be**	**146.31**	**326**	PKPbc	**PKPbc**	**16 39 31.9**	**-1.2**
comp=Z,0.6nm,0.4s,baz=43,slow=4.1,SNR=9.5							
MMAI	**Mount Meron Ar**	**148.13**	**292**	PKPbc	**PKiKP**	**16 39 39.0**	**-0.9**
comp=Z,3.2nm,0.5s,baz=83,slow=4.8,SNR=8.7							
BRTR	**Keskin Array B**	**148.39**	**305**	PKPbc	**PKPbc**	**16 39 38.9**	**-0.2**
comp=Z,0.7nm,0.6s,baz=100,slow=0.4,SNR=2.9							
EKA	**Eskdalemuir Ar**	**150.33**	**3**	PKPbc	**PKPbc**	**16 39 42.6**	**-0.5**
comp=Z,0.6nm,0.4s,baz=338,slow=1.7,SNR=4.5							
ESDC	**Sonseca Array**	**165.75**	**11**	PKPab	**PKPab**	**16 40 57.1**	**-1.8**
comp=Z,0.9nm,0.9s,baz=309,slow=8.1,SNR=2.3							
TORD	**Torodi Ar. Bea**	**167.36**	**189**	PKP	**PKPdf**	**16 39 55.7**	**-2.4**
comp=Z,0.7nm,1.0s,baz=207,slow=3.5,SNR=2.8							
TORD				PKPab	**PKPab**	**16 41 06.6**	**+0.2**
comp=Z,0.3nm,0.6s,baz=163,slow=1.5,SNR=2.1							

DJA 19 16:25:26.9±1.5, 0°.S±2°.×12°.0E±°, h26km±16km, M3.9/13, mb4.1/2, MLv3.8/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**1.07**	**218**	P	Pb	16 25 46.6	-0.2
PCI				S	Sb	16 26 01.3	+0.9
APSI	**Ampana**	**1.44**	**126**	P	Pb	16 25 52.8	-0.3
MRSI	**Marisa**	**1.54**	**70**	P	Pn	16 25 52.7	0.0
MRSI				S	Sn	16 26 12.6	+0.7
LUWI	**Luwuk**	**2.48**	**113**	P	Pn	16 26 06.1	+0.4
TTSI	**Tana Toraja**	**3.05**	**193**	P	Pn	16 26 13.6	+0.1
KMSI	**Cibinong**	**3.54**	**80**	P	Pn	16 26 21.3	+1.0
KMSI				S	Sn	16 27 02.4	+1.0
BKB	**Balikpapan**	**3.79**	**251**	P	Pn	16 26 21.9	-1.8
SPSI	**Sidrap Palu**	**3.96**	**190**	P	Pn	16 26 24.2	-1.7
BNSI	**Bone**	**4.34**	**185**	P	Pn	16 26 31.2	0.0
KDI	**Kendari**	**4.43**	**151**	P	Pn	16 26 31.4	-1.0
BKSI	**Bulukumba**	**5.25**	**184**	P	Pn	16 26 43.9	+0.1
12nm,0.9s,0.1nm							

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*MOS **19** 16:31:31.3±1.5, 24°.38N×122°.12E, h33km, mb4.4/12, Error ellipse: s-maj=14.1km s-min=8.0km az=107.8*
*NEIC **19** 16:31:33.1±1.7, 24°.39N±0°.04×121°.98E±0°.03, h26km±5km, mb4.9/18, Error ellipse: s-maj=5.6km s-min=3.5km az=165.0*
*TAP **19** 16:31:34.3, 24°.41N×121°.92E, h39km, ML4.7, B*
*ASIES **19** 16:31:34.3, 24°.41N×121°.92E, h39km, ML4.7, Mw4.0, Moment Tensor Solution. Moment tensor: Scale 10^21^Nm; Mrr-2.25; Mθθ3.52; Mφφ-1.27; Mrθ6.30; Mθφ2.10; Mφr7.72; Fault plane solution: M0 10.64150×10^21^ NP1: φs219.92000°, δ83.01000°, λ-104.82000°. NP2: φs105.22000°, δ16.36000°, λ-25.60000°. Principal axes: T Plg36.3290°, Azm322.8900°; N Plg14.7160°, Azm221.7550°; P Plg49.8660°, Azm113.6040°;*
*BJI **19** 16:31:34.0, 24°.47N×121°.91E, h30km, mb4.2/32, mB4.4/7, ML4.0/9, Ms3.8/5, Ms7 3.5/8*
*JMA **19** 16:31:34.2±0.1, 24°.3N±0°.5×121°.9E±0°.5, h47km±2km, MV3.9/15, TAIWAN REGION*
*NIED **19** 16:31:34.2, 24°.33N×121°.91E, h47km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^15^Nm; Mrr0.76; Mθθ-1.21; Mφφ0.45; Mrθ-0.40; Mθφ0.46; Mφr1.35; Fault plane solution: M0 1.80000×10^15^ NP1: φs323.00000°, δ75.00000°, λ125.00000°. NP2: φs74.00000°, δ37.00000°, λ25.00000°.*
*IDC **19** 16:31:36.8±3.4, 24°.46N×122°.13E, h75km±33km, mb3.5/15, mbtmp3.9/16, MS3.5/11 Error ellipse: s-maj=22.6km s-min=14.9km az=67.0*
ISC 19 16:31:34.2±0.7, 24°.39N±0°.02×121°.94E±0°.02, h34km±2km, n250, σ1§26/330, mb4.2/36, MS3.4/9, 33C-39D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.15**	**292**	*i* P	**Pb**	**16 31 41.3**	**+0.9**
EWUT				*e*S	**Sb**	**16 31 46.4**	**+1.7**
ENA	**Nanau**	**0.18**	**283**	⇓*i*P	**Pb**	**16 31 41.5**	**+0.8**
ENA				*e*S	**Sb**	**16 31 46.7**	**+1.6**
EAHA	**Aohua**	**0.19**	**253**	⇓*i*P	**Pb**	**16 31 41.7**	**+1.0**
EAHA				*i* S	**Sb**	**16 31 47.4**	**+2.2**
EHP	**Heping Village**	**0.19**	**247**	⇓*i*P	**Pb**	**16 31 41.8**	**+1.0**
EHP				*e*S	**Sb**	**16 31 47.6**	**+2.3**
ESAO	**Su ao**	**0.21**	**336**	⇓*i*P	**Pb**	**16 31 41.7**	**+0.8**
ESAO				*i* S	**Sb**	**16 31 46.8**	**+1.3**
TWC	**Suao**	**0.24**	**340**	⇓*i*P	**Pb**	**16 31 41.9**	**+0.7**
TWC				S	**Sb**	**16 31 47.4**	**+1.3**
EOS2	**EOS2**	**0.27**	**83**	⇑*e*P	**Pb**	**16 31 43.3**	**+1.7**
NDS	**Dongshan**	**0.32**	**321**	⇓*i*P	**Pn**	**16 31 42.9**	**+0.4**
NDS				*e*S	**Sb**	**16 31 48.8**	**+1.0**
EOS3	**EOS3**	**0.36**	**106**	⇑*e*P	**Pn**	**16 31 44.3**	**+1.3**
ETL	**Fush Village**	**0.36**	**232**	*e*P	**Pb**	**16 31 43.2**	**+0.3**
NACB	**Ninganchiao**	**0.38**	**236**		**Pb**	**16 31 42.8**	**-0.2**
NACB				Sg	**Sb**	**16 31 49.4**	**+0.3**
NACB	**Ninganchiao**	**0.38**	**236**	P	**Pb**	**16 31 43.3**	**+0.2**
NACB	**Ninganchiao**	**0.38**	**236**	⇓*i*P	**Pb**	**16 31 43.2**	**+0.2**
LATG	**Datong**	**0.40**	**292**	⇓*i*P	**Pb**	**16 31 43.9**	**+0.4**
LATG				S	**Sb**	**16 31 50.5**	**+0.7**
TWE	**Neicheng**	**0.41**	**324**	⇓*i*P	**Pn**	**16 31 44.1**	**+0.2**
TWE				*i* S	**Sn**	**16 31 51.0**	**+0.7**
ILA	**Ilan**	**0.41**	**336**	⇓*i*P	**Pn**	**16 31 44.2**	**+0.3**
ILA				S	**Sn**	**16 31 51.6**	**+1.3**
ENTT	**Nioudou**	**0.42**	**307**	⇓*i*P	**Pb**	**16 31 44.2**	**+0.5**
ENTT				*i* S	**Sn**	**16 31 51.1**	**+0.5**
TWD	**Chiawan**	**0.43**	**226**	⇓*i*P	**Pb**	**16 31 44.1**	**+0.3**
TWD				*e*S	**Sn**	**16 31 52.0**	**+1.2**
EOS4	**EOS4**	**0.44**	**127**	*e*P	**Pn**	**16 31 44.8**	**+0.9**
ETLH	**Xiulin Townshi**	**0.45**	**247**	⇓*i*P	**Pb**	**16 31 44.6**	**+0.4**
ETLH				*e*S	**Sn**	**16 31 52.6**	**+1.2**
EGS		**0.46**	**360**	⇓*i*P	**Pn**	**16 31 44.8**	**+0.3**
EGS				*e*S	**Sn**	**16 31 52.1**	**+0.7**
NTC	**Toucheng**	**0.48**	**348**	*e*P	**Pn**	**16 31 45.1**	**+0.4**
NTC				*i* S	**Sn**	**16 31 53.1**	**+1.2**
FUSB	**Fushanzhiwuyua**	**0.49**	**320**	⇓*i*P	**Pb**	**16 31 45.1**	**+0.4**
FUSB				*e*S	**Sn**	**16 31 53.4**	**+1.0**
NNSB	**Datong**	**0.51**	**275**	⇓*i*P	**Pn**	**16 31 45.4**	**+0.2**
NNSB				*e*S	**Sb**	**16 31 53.0**	**+0.6**
HWA	**Hwalien**	**0.51**	**217**	*e*P	**Pb**	**16 31 45.8**	**+0.9**
NNS	**Nan Shan**	**0.52**	**276**	⇓*i*P	**Pn**	**16 31 45.4**	**+0.1**
NNS				*i* S	**Sn**	**16 31 53.7**	**+0.7**
NWLT	**Wulai**	**0.55**	**315**	⇓*i*P	**Pn**	**16 31 46.1**	**+0.3**
NWLT				*e*S	**Sn**	**16 31 54.2**	**+0.3**
ETM	**Tongmen**	**0.58**	**224**	*e*P	**Pn**	**16 31 46.1**	**0.0**
YHNB	**Yeheng**	**0.58**	**299**		**Pn**	**16 31 46.3**	**+0.1**
YHNB				Sn	**Sn**	**16 31 54.7**	**+0.1**
YHNB	**Yeheng**	**0.58**	**299**	P	**Pn**	**16 31 46.4**	**+0.3**
YHNB	**Yeheng**	**0.58**	**299**	⇓*i*P	**Pn**	**16 31 46.5**	**+0.3**
YHNB				*e*S	**Sn**	**16 31 54.9**	**+0.3**
TIPB	**Shuangxi**	**0.59**	**350**	⇓*i*P	**Pb**	**16 31 46.9**	**+0.5**
TIPB				*i* S	**Sb**	**16 31 55.4**	**+0.8**
LXIB	**Xiulin Townshi**	**0.60**	**233**	⇓*i*P	**Pn**	**16 31 46.3**	**-0.2**
NSK	**Sanguang**	**0.60**	**299**	⇓*i*P	**Pn**	**16 31 46.7**	**+0.3**
NSK				*i* S	**Sn**	**16 31 55.3**	**+0.3**
TEYL	**Yanliau Villag**	**0.60**	**211**	*e*P	**Pb**	**16 31 47.6**	**+1.2**
TWB1	**Santiao Chiao**	**0.62**	**4**	⇑*i*P	**Pb**	**16 31 47.1**	**+0.3**
TWB1				*e*S	**Sb**	**16 31 55.9**	**+0.5**
FUSS	**Fushou**	**0.65**	**258**	⇓*i*P	**Pn**	**16 31 47.6**	**+0.4**
FUSS				*e*S	**Sb**	**16 31 57.3**	**+0.9**
WHF	**Hehuan Shan**	**0.66**	**249**	⇑*i*P	**Pn**	**16 31 47.8**	**+0.3**
WHF				*i* S	**Sb**	**16 31 57.9**	**+0.6**
SHUL	**Shoufeng**	**0.69**	**210**	*e*P	**Pb**	**16 31 48.7**	**+0.8**
SHUL				*e*S	**Sb**	**16 31 59.6**	**+2.4**
NWF	**Wu-fen Shan**	**0.70**	**348**	⇑*i*P	**Pb**	**16 31 48.7**	**+0.6**
NWF				*i* S	**Sb**	**16 31 58.7**	**+1.2**
WFSB	**Wu-fen Shan**	**0.70**	**348**	⇑*i*P	**Pb**	**16 31 48.7**	**+0.7**
WFSB				*e*S	**Sb**	**16 31 58.3**	**+0.8**
TWT	**Tachien**	**0.71**	**259**	⇓*i*P	**Pb**	**16 31 48.8**	**+0.5**
TWT				*i* S	**Sb**	**16 31 58.9**	**+1.0**
SXI1	**Grass Mountain**	**0.71**	**356**	⇑*i*P	**Pb**	**16 31 48.5**	**+0.2**
SXI1				*e*S	**Sb**	**16 31 58.4**	**+0.5**
TATO	**Taipei**	**0.71**	**325**		**Pn**	**16 31 48.2**	**+0.3**
TATO				Sn	**Sb**	**16 31 58.1**	**+0.1**
TATO	**Taipei**	**0.71**	**325**	P	**Pb**	**16 31 48.7**	**+0.4**
TDCB	**Techi**	**0.72**	**260**	⇓*i*P	**Pn**	**16 31 48.8**	**+0.6**
TDCB				S	**Sn**	**16 31 58.9**	**+0.8**
NHY	**Taipei**	**0.73**	**333**	⇑*i*P	**Pb**	**16 31 49.1**	**+0.5**
NHY				*i* S	**Sb**	**16 32 00.1**	**+1.8**
ESL	**Shilin**	**0.73**	**219**	⇓P	**Pb**	**16 31 47.9**	**-0.3**
TEGC	**Jichi Village**	**0.77**	**208**	*e*P	**Pb**	**16 31 50.5**	**+1.3**
NFF	**Wufeng Townshi**	**0.78**	**288**	⇑P	**Pn**	**16 31 49.7**	**+0.7**
NFF				*e*S	**Sn**	**16 31 59.9**	**+0.3**
KSHI	**Guanxi Townshi**	**0.79**	**299**	⇑*i*P	**Pb**	**16 31 50.2**	**+0.6**
KSHI				*e*S	**Sb**	**16 32 01.1**	**+1.0**
OWD	**Renai**	**0.82**	**238**	⇓P	**Pn**	**16 31 49.9**	**+0.4**
OWD				*e*S	**Sn**	**16 32 01.3**	**+0.9**
YM01	**YM01**	**0.83**	**336**	⇑*i*P	**Pn**	**16 31 50.0**	**+0.5**
YM01				*e*S	**Sb**	**16 32 01.7**	**+0.5**
WARBT	**Fenglin Townsh**	**0.83**	**217**	⇓*e*P	**Pn**	**16 31 49.0**	**-0.6**
WUSB	**Renai**	**0.84**	**242**	⇓*i*P	**Pn**	**16 31 50.5**	**+0.6**
WUSB				S	**Sn**	**16 32 01.8**	**+0.6**
ZUZH	**Zhuzihu**	**0.85**	**335**	⇑*i*P	**Pn**	**16 31 50.4**	**+0.5**
ZUZH				*e*S	**Sb**	**16 32 02.0**	**+0.2**
EGFH	**Guangfu**	**0.85**	**213**	*e*P	**Pn**	**16 31 50.7**	**+0.8**
TWS1	**Kuangyinshan**	**0.85**	**327**	⇑*i*P	**Pn**	**16 31 49.5**	**-0.4**
TWS1				S	**Sb**	**16 32 01.8**	**0.0**
YM08	**YM08**	**0.86**	**339**	⇑*i*P	**Pn**	**16 31 50.2**	**+0.2**
YM08				*e*S	**Sb**	**16 32 02.3**	**+0.3**
LIOB	**Emei**	**0.88**	**287**	⇑*i*P	**Pb**	**16 31 51.3**	**+0.2**
LIOB				S	**Sb**	**16 32 03.5**	**+0.9**
ANP	**Anpu**	**0.88**	**335**	⇑*i*P	**Pn**	**16 31 50.5**	**+0.2**
ANP				*e*S	**Sb**	**16 32 02.7**	**-0.1**
NSTT	**Nanjuang**	**0.89**	**286**	⇑*i*P	**Pb**	**16 31 51.4**	**+0.2**
NSTT				*i* S	**Sb**	**16 32 03.4**	**+0.7**
NTST	**Danshui**	**0.89**	**330**	⇑*e*P	**Pb**	**16 31 51.1**	**-0.2**
NTST				S	**Sb**	**16 32 03.7**	**+0.8**
NCUH	**Zhongli**	**0.90**	**310**	⇑*i*P	**Pn**	**16 31 51.0**	**+0.6**
NCUH				S	**Sb**	**16 32 03.9**	**+0.9**
WHP	**Taichung City**	**0.91**	**263**	⇓*e*P	**Pb**	**16 31 52.0**	**+0.4**
WHP				*e*S	**Sb**	**16 32 03.9**	**+0.4**
JYNG	**Yonagunijimaku**	**0.92**	**86**	P	**Pb**	**16 31 51.5**	**-0.3**
JYNG				*e*S	**Sb**	**16 32 04.4**	**+0.7**
TWY	**Chenhua**	**0.94**	**341**	*e*P	**Pb**	**16 31 52.0**	**-0.1**
TWY				*e*S	**Sb**	**16 32 04.1**	**-0.1**
SBCB	**Hsinchu**	**0.95**	**295**	⇑P	**Pn**	**16 31 52.2**	**+1.0**
SBCB				*e*S	**Sb**	**16 32 05.8**	**+1.1**
VWDT	**VWDT**	**0.96**	**229**	⇓P	**Pn**	**16 31 51.9**	**+0.6**
VWDT				*e*S	**Sn**	**16 32 04.8**	**+0.9**
HSN	**Hsinchu**	**0.97**	**295**	⇑P	**Pn**	**16 31 52.1**	**+0.6**
HSN				S	**Sb**	**16 32 05.3**	**+0.2**
YOJ	**Yonaguni jima**	**0.98**	**85**		**Pn**	**16 31 51.8**	**+0.2**
YOJ	**Yonaguni jima**	**0.98**	**85**	P	**Pb**	**16 31 52.6**	**-0.2**
YOJ	**Yonaguni jima**	**0.98**	**85**	P	**Pn**	**16 31 51.8**	**+0.2**
YOJ	**Yonaguni jima**	**0.98**	**85**	*i* P	**Pn**	**16 31 52.4**	**+0.7**
YOJ				S	**Sb**	**16 32 05.5**	**0.0**
YOJ	**Yonaguni jima**	**0.98**	**85**	⇓*i*P	**Pn**	**16 31 52.3**	**+0.7**
YOJ				S	**Sb**	**16 32 05.5**	**0.0**
WCS	**Beigang Elemen**	**0.99**	**251**	⇓*e*P	**Pn**	**16 31 52.9**	**+1.1**
HGSD	**Ruisui**	**1.01**	**208**	*e*P	**Pn**	**16 31 52.5**	**+0.5**
EHYH	**W

comp=N,340nm,0.8s
QZH smax smax
comp=E,210nm,0.7s
QZH LR LR
comp=Z,620nm,11.0s
KNMB Chin-men Tao 3.23 272 Pn 16 32 22.0 -0.6
JOW Kunigami 6.22 66 P **Pn 16 33 03.6 0.0**
10nm,0.3s,baz=245,slow=17,SNR=17
JOW Kunigami 6.22 66 P **Pn 16 33 03.9 +0.2**
NJ2 Nanjing 8.11 341 *e*P **Pn 16 33 28.8 -0.7**
NJ2 S **Sn 16 35 00.3 +0.3**
NJ2 pmax pmax
comp=Z,23nm,0.5s
NJ2 smax smax
comp=N,40nm,0.6s
NJ2 smax smax
comp=E,51nm,0.9s
CNSH ChangSha 8.92 297 P **Pn 16 33 39.3 -1.4**
CNSH S **Sn 16 35 18.5 -1.6**
CNSH smax smax
comp=N,120nm,0.9s
CNSH smax smax
comp=E,130nm,1.1s
KSRS Korea Array 14.00 20 P **P 16 34 54.2 -3.4**
1.4nm,0.5s,baz=205,slow=13,SNR=3.5
HNS HongShan 14.37 336 ⇑P **P 16 35 03.9 +2.1**
HNS pmax pmax
comp=Z,15nm,0.9s
XAN Xi'an 14.88 313 P **Pn 16 35 04.6 +2.5**
XAN S **Sn 16 37 50.6 +4.8**
XAN pmax pmax
comp=Z,14nm,0.8s
XAN LR LR
comp=Z,330nm,6.3s
XAN LR LR
comp=Z,220nm,7.2s
XAN LR LR
comp=Z,260nm,12.4s
CD2 Chengdu 17.36 296 P **P 16 35 37.4 +2.3**
CD2 pmax pmax
comp=Z,20nm,0.4s
JHJ Hachijo jima 2 17.89 57 LR LR 16 42 12.2
comp=Z,46nm,19.3s,baz=270,slow=36
PZH PanZhiHua 18.36 281 P **Pn 16 35 47.6 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.8s
MJAR Matsushiro Arr 18.50 45 LR LR 16 42 40.0
comp=Z,69nm,19.8s,baz=209,slow=36
HHC Hu-ho-hao-te 18.57 335 *e*P **Pn 16 35 50.4 +1.6**
HHC pmax pmax
comp=Z,6.0nm,0.5s
HHC pmax pmax
comp=Z,84nm,3.6s
HHC LR LR
comp=Z,94nm,10.2s
HHC LR LR
comp=Z,100nm,11.2s
HHC LR LR
comp=Z,190nm,14.9s
LZH Lanzhou 19.47 311 *e*P P 16 35 51.5 -6.8
LZH pP Pn 16 36 00.8 +1.1
LZH sP pP 16 36 04.5 -2.8
LZH pmax pmax
comp=Z,17nm,1.1s
LZH LR LR
comp=E,180nm,18.9s
LZH LR LR
comp=Z,300nm,16.5s
CN2 Changchun 19.58 8 *e*P **P 16 35 56.3 -3.0**
TNCH TengChong 21.28 277 *e*P **P 16 36 20.5 +2.4**
TNCH sP sP 16 36 31.3 +0.6
TNCH pmax pmax
comp=Z,76nm,2.9s
USA0B Ussuriysk Arra 21.41 20⇓*e*P **P 16 36 16.7 -2.4**
USRK Ussuriysk Ar. 21.41 20 P **P 16 36 17.3 -1.8**
comp=Z,0.5nm,0.5s,baz=201,slow=7.7,SNR=2.5
USRK LR LR 16 43 41.4
comp=Z,53nm,22.0s,baz=138,slow=34
comp=Z,0.5nm,0.5s
CHTO Chiang Mai 22.07 260 P **P 16 36 26.0 -0.5**
CHTO Chiang Mai 22.07 260 P **P 16 36 26.0 -0.5**
CHTO pmax pmax
comp=Z,8.0nm,1.2s
CMAR Chiang Mai Arr 22.19 259 P **P 16 36 29.1 +1.4**
comp=Z,2.2nm,0.9s,baz=61,slow=7.7,SNR=18
CMAR LR LR 16 45 17.9
comp=Z,38nm,19.1s,baz=60,slow=37
comp=Z,2.2nm,0.9s
CMAR Chiang Mai Arr 22.19 259 *i*P **P 16 36 30.2 +2.5**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
SBUM Sibu 23.74 205 P **P 16 36 40.9 -2.7**
GTA Gaotai 23.93 314 *e*P **P 16 36 45.9 +0.5**
GTA pP pP 16 36 51.8 -3.3
GTA pmax pmax
comp=Z,7.0nm,1.0s
GUMO Guam 24.16 112 LR LR 16 45 43.8
comp=Z,42nm,19.4s,baz=318,slow=35
KLR Kul'dur 25.97 15⇑*e*P **P 16 37 04.5 +0.9**
KLR pmax pmax
comp=Z,12nm,2.0s
ULN Ulaanbaatar 26.24 337⇑*i*P **P 16 37 06.7 +0.4**
ULN pmax pmax
comp=Z,4.0nm,0.7s
SONM Songino Array 26.45 336 P **P 16 37 07.4 -0.8**
comp=Z,2.8nm,0.8s,baz=154,slow=8.7,SNR=9.9
SONM LR LR 16 48 40.3
comp=Z,105nm,18.8s,baz=66,slow=39
comp=Z,2.8nm,0.8s
ZEA Zeya 29.58 6 *e*P **P 16 37 37.7 +1.8**
KNGR Kungurtug, Tuv 32.28 330⇓*e*P **P 16 37 59.7 -0.1**
WMQ Urumqi 34.01 313 *e*P **P 16 38 16.3 +1.3**
MK31 Makanchi Array 38.67 315 **P 16 38 54.4 -0.3**
MK31 Makanchi Array 38.67 315 P **P 16 38 54.4 -0.3**
MK31 pmax pmax
comp=Z,3.0nm,1.2s
MKAR Makanchi Array 38.67 315 P **P 16 38 54.4 -0.4**
comp=Z,1.8nm,0.7s,baz=111,slow=15,SNR=20
MKAR LR LR 16 56 07.9
comp=Z,63nm,19.7s,baz=310,slow=38
comp=Z,1.8nm,0.7s
MKAR Makanchi Array 38.67 315*c e*P **P 16 38 55.0 +0.3**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 40.45 327 P **P 16 39 07.8 -1.6**
ZALV Zalesovo Beam 40.45 327 P **P 16 39 06.2 -3.1**
comp=Z,1.2nm,0.5s,baz=116,slow=9.8,SNR=6.8
comp=Z,1.2nm,0.5s
KSH Kashi 41.37 303 P **P 16 39 20.9 +3.6**
KURK Kurchatov 42.38 320⇑*e*P **P 16 39 25.0 -0.2**
KURK pmax pmax
comp=Z,8.0nm,2.2s
KURBB Kurchatov Arra 42.40 320 P **P 16 39 23.9 -1.4**
comp=Z,0.5nm,0.3s,baz=112,slow=9.6,SNR=8.5
comp=Z,0.5nm,0.3s
SEY Seymchan 43.55 20⇓*e*P **P 16 39 32.1 -2.5**
SEY pmax pmax
comp=Z,78nm,2.7s
WRA Warramunga Arr 45.69 164 P **P 16 39 49.8 -2.3**
comp=Z,0.9nm,0.8s,baz=346,slow=8.8,SNR=10
comp=Z,0.9nm,0.8s
GAR Garm 45.70 301 P **P 16 39 52.3 +0.1**
GAR IAmb IAmb 16 39 53.3
comp=Z,6.5nm,0.8s
TIXI Tiksi 47.46 3⇓*e*P **P 16 40 06.2 +0.9**
TIXI pmax pmax
comp=Z,24nm,3.9s
BVAR Borovoye Array 47.95 320 P **P 16 40 07.9 -1.5**
comp=Z,1.1nm,0.5s,baz=98,slow=8.8,SNR=8.7
comp=Z,1.1nm,0.5s
BRVK Borovoye 48.02 320⇑*e*P **P 16 40 09.0 -1.0**
BRVK pmax pmax
comp=Z,11nm,3.3s
ASAR Alice Springs 49.16 165 P **P 16 40 17.9 -1.2**
comp=Z,0.5nm,0.8s,baz=346,slow=7.6,SNR=12
comp=Z,0.5nm,0.8s
ABKAR Akbulak array 53.79 314 P **P 16 40 52.7 -0.7**
ABKAR IAmb IAmb 16 40 55.4
comp=Z,18nm,1.9s
ARTI Arti 55.45 323*c i*P P 16 41 12.5 +7.1
ARTI 16 43 12.6
ARTI S S 16 49 03.5 +16
ARTI pmax pmax
comp=Z,6.0nm,1.1s

EIDS Eidsvold 56.94 148 P **P 16 41 15.9 -0.4**
EIDS IAmb IAmb 16 43 07.2
comp=Z,42nm,1.8s
KIRV Kirov 60.45 325 LR LR 17 09 08.2
comp=Z,68nm,18.8s,baz=5.9,slow=37
KIRV Kirov 60.45 325⇑*e*P **P 16 41 41.1 +0.8**
MAK Makhachkala 62.71 307*d i*P **P 16 41 55.0 -0.9**
MAK *e*PPP PPP 16 45 42.8
MAK *e*S **S 16 50 20.9 -1.4**
MAK *e*SS **SS 16 54 33.5 +6.5**
MAK pmax pmax
comp=Z,75nm,1.0s
AKT Akhty 62.78 306 *e*P **P 16 41 56.4 -0.2**
AKT *e* 16 42 34.4
AKT pmax pmax
comp=Z,8.0nm,1.4s
ONTNC Ouen Toro 63.44 133 P **P 16 42 00.0 -0.9**
J17K VABM Dome 63.57 30 P **P 16 42 01.0 -0.3**
CAN Canberra 64.68 156 P **P 16 42 08.2 -0.7**
CAN Canberra 64.68 156 P **P 16 42 08.2 -0.7**
CAN pmax pmax
comp=Z,81nm,1.9s
O18K Koktuh Hills 65.69 33 P **P 16 42 14.4 -0.7**
KIV Kislovodsk 65.99 309 *e*P **P 16 42 15.1 -2.4**
KIV pmax pmax
comp=Z,5.0nm,1.1s
OBN Obninsk 67.77 322 *e*P **P 16 42 31.0 +2.6**
OBN *e* 16 42 53.6
OBN *e* 16 44 57.8
OBN *e*PPP PPP 16 46 37.5
OBN pmax pmax
comp=Z,3.0nm,0.9s
RND Reindeer 68.14 29 P **P 16 42 29.3 -1.5**
RND IAmb IAmb 16 43 19.4
comp=Z,44nm,1.9s
RND Reindeer 68.14 29 P **P 16 42 29.3 -1.5**
RND pmax pmax
comp=Z,44nm,1.9s
ILAR Eielson Array 68.72 27 P **P 16 42 30.9 -3.3**
comp=Z,0.2nm,0.6s,baz=300,slow=8.2,SNR=4.1
comp=Z,0.2nm,0.6s
ILAR Eielson Array 68.72 27 P **P 16 42 31.0 -3.3**
BMAR Burnt Mountain 69.06 24 P **P 16 42 36.0 -0.4**
SCM Sheep Creek Mo 69.15 31 P **P 16 42 36.1 -1.0**
SCM Sheep Creek Mo 69.15 31 P **P 16 42 36.1 -1.0**
SCM pmax pmax
comp=Z,74nm,1.6s
M24K Tolsona, Glenn 69.62 30 P **P 16 42 39.6 -0.4**
N25K Chitina, Valde 70.47 30 P **P 16 42 44.5 -0.8**
MENT Mentasta 70.52 29 P **P 16 42 44.3 -1.1**
MENT IAmb IAmb 16 43 27.6
comp=Z,43nm,2.0s
BCAR Beaver Creek A 71.33 29 P **P 16 42 49.9 -0.5**
FINES FINESS Array B 71.62 330 P **P 16 42 50.1 -1.9**
comp=Z,0.9nm,0.4s,baz=80,slow=7.6,SNR=8.8
FINES LR LR 17 19 53.6
comp=Z,113nm,18.6s,baz=336,slow=40
comp=Z,0.9nm,0.4s
FINES FINESS Array B 71.62 330 *i*P **P 16 42 51.0 -1.0**
FINES pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 72.78 22 P **P 16 42 56.6 -2.2**
INK IAmb IAmb 16 43 46.7
comp=Z,21nm,1.9s
INK Inuvik 72.78 22 P **P 16 42 56.6 -2.2**
INK pmax pmax
comp=Z,21nm,1.9s
AKBB Malin Array Si 73.17 318⇑*e*P **P 16 42 59.8 -1.7**
BR131 Keskin Array S 73.60 307⇑*e*P **P 16 43 04.1 -0.4**
BRTR Keskin Array B 73.61 307 P **P 16 43 03.0 -1.5**
comp=Z,0.6nm,0.6s,baz=85,slow=3.8,SNR=4.1
comp=Z,0.6nm,0.6s
BRTR Keskin Array B 73.61 307*c e*P **P 16 43 06.5 +2.0**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
HFS Hagfors 77.72 331 P **P 16 43 26.8 -0.7**
comp=Z,1.7nm,0.8s,baz=123,slow=7.1,SNR=1.7
HFS LR LR 17 24 04.0
comp=Z,88nm,18.6s,baz=358,slow=40
comp=Z,1.7nm,0.8s
NB2 NORSAR Subarra 78.37 332 P **P 16 43 33.0 +1.9**
comp=Z,0.6nm,0.7s,baz=54,slow=5.6
NOA NORSAR Array B 78.37 332 P **P 16 43 27.9 -3.2**
comp=Z,0.3nm,0.5s,baz=58,slow=5.6,SNR=1.8
NOA LR LR 17 20 24.4
comp=Z,50nm,21.1s,baz=250,slow=37
comp=Z,0.3nm,0.5s
CLL Collm 82.30 323 *e*P **P 16 43 54.0 +1.6**
CLL Collm 82.30 323 *e*P **P 16 43 54.0 +1.6**
EKA Eskdalemuir Ar 87.86 332 P **P 16 44 18.9 -1.3**
comp=Z,3.6nm,1.0s,baz=42,slow=6.6,SNR=3.1
comp=Z,3.6nm,1.0s

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*IDC **19** 16:42:58.9±2.0, 37.°97N×21.°00E, h0km, mb3.3/5, mbtmp3.4/8, ML1.6/2, Error ellipse: s-maj=34.3km s-min=27.6km az=36.0*
*ATH **19** 16:42:59.1, 37.°37N×20.°57E, h9km±1km, ML3.3/17, Manual Solution by S.Liakopoulos This location: 2020/09/18 13:56:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*THE **19** 16:42:59.9, 37.°39N×20.°61E, h0km±3km, ML3.2/10, Error ellipse: s-maj=3.5km s-min=0.8km az=232.0*
ISC 19 16:42:58.4±1.7, 37.°37N±0.°04×20.°63E±0.°04, h14km±11km, n53, σ1°45/79, mb3.2/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.33**	**28**	P	**Pb**	**16 43 06.0**	**0.0**
KRI1				S	**Sb**	**16 43 10.8**	**-0.3**
8μm,0.5s							
KRI1	**kERI**	**0.33**	**28**	P	**Pb**	**16 43 06.2**	**+0.2**
KRI1				S	**Sb**	**16 43 10.8**	**-0.3**
LTHK	**Lithakia**	**0.38**	**27**	P	**Pb**	**16 43 06.8**	**0.0**
LTHK				S	**Sb**	**16 43 12.1**	**-0.5**
8μm,0.6s							
LTHK	**Lithakia**	**0.38**	**27**	P	**Pb**	**16 43 07.1**	**+0.2**
LTHK				S	**Sb**	**16 43 12.0**	**-0.5**
RTZL	**Ratzakli, Kefa**	**0.71**	**9**	P	**Pb**	**16 43 12.6**	**0.0**
RTZL				S	**Sb**	**16 43 23.1**	**+0.9**
2μm,0.4s							
PSDA	**Pessada-Kefalo**	**0.74**	**357**	P	**Pb**	**16 43 13.2**	**+0.1**
PSDA				S	**Sb**	**16 43 24.3**	**+1.3**
2μm,0.6s							
PSDA	**Pessada-Kefalo**	**0.74**	**357**	P	**Pb**	**16 43 13.5**	**+0.5**
PSDA				S	**Sb**	**16 43 23.7**	**+0.7**
ARG2	**Argostoli**	**0.81**	**352**	P	**Pb**	**16 43 15.1**	**+0.9**
ARG2				S	**Sb**	**16 43 26.1**	**+1.0**
AMT	**Artemida-Makis**	**0.88**	**79**	P	**Pn**	**16 43 16.8**	**+0.5**
AMT				S	**Sn**	**16 43 28.9**	**0.0**
SMHA	**Samh**	**0.88**	**1**	P	**Pn**	**16 43 16.9**	**+0.6**
SMHA				S	**Sb**	**16 43 27.3**	**+0.3**
DMLN	**Damoulianata-K**	**0.89**	**347**	P	**Pb**	**16 43 15.9**	**+0.3**
DMLN				S	**Sn**	**16 43 29.9**	**+0.8**
3μm,0.6s							
DMLN	**Damoulianata-K**	**0.89**	**347**	P	**Pb**	**16 43 16.1**	**+0.5**
DMLN				S	**Sb**	**16 43 27.5**	**+0.3**
RLS	**Riolos of Patr**	**0.95**	**44**	P	**Pb**	**16 43 17.0**	**+0.3**
RLS				S	**Sb**	**16 43 30.7**	**+1.5**
812nm,0.6s							
RLS	**Riolos of Patr**	**0.95**	**44**	P	**Pb**	**16 43 17.3**	**+0.6**
RLS				S	**Sb**	**16 43 30.8**	**+1.5**
PYL1	**Pylos**	**0.97**	**118**	P	**Pn**	**16 43 18.3**	**+0.7**
PYL1				S	**Sn**	**16 43 31.6**	**+0.5**
PYL	**PYLOS**	**1.01**	**118**	P	**Pn**	**16 43 19.1**	**+1.0**
PYL				S	**Sn**	**16 43 34.9**	**+2.7**
PYL	**PYLOS**	**1.01**	**118**	P	**Pn**	**16 43 19.1**	**+1.0**
PYL				S	**Sn**	**16 43 33.5**	**+1.3**
AXS	**Araxos**	**1.01**	**36**	P	**Pb**	**16 43 18.2**	**+0.5**
AXS				S	**Sn**	**16 43 32.7**	**+0.5**
DRO	**Drossia**	**1.04**	**56**	P	**Pn**	**16 43 18.9**	**+0.4**
DRO				S	**Sn**	**16 43 35.2**	**+2.4**
1μm,0.5s							
DRO	**Drossia**	**1.04**	**56**	P	**Pn**	**16 43 18.9**	**+0.4**
DRO				S	**Sn**	**16 43 33.3**	**+0.5**
ITM	**Ithomi**	**1.06**	**100**	P	**Pn**	**16 43 20.8**	**+2.0**
ITM				S	**Sn**	**16 43 35.5**	**+2.2**
462nm,0.6s							
ITM	**Ithomi**	**1.06**	**100**	P	**Pn**	**16 43 19.8**	**+1.0**
ITM				S	**Sn**	**16 43 35.1**	**+1.8**
FSK	**Fiskardo**	**1.08**	**357**	P	**Pg**	**16 43 18.9**	**-0.5**
FSK				S	**Sn**	**16 43 35.8**	**+1.8**
1μm,0.8s							
FSK	**Fiskardo**	**1.08**	**357**	P	**Pb**	**16 43 19.1**	**+0.2**
FSK				S	**Sb**	**16 43 34.2**	**+1.2**
EVGI	**Lefkada island**	**1.25**	**1**	P	**Pn**	**16 43 22.4**	**+1.0**
EVGI				S	**Sn**	**16 43 41.0**	**+3.0**
725nm,0.5s							
EVGI	**Lefkada island**	**1.25**	**1**	P	**Pn**	**16 43 22.3**	**+0.9**
EVGI				S	**Sn**	**16 43 39.5**	**+1.6**
UPR	**University Cam**	**1.29**	**45**	P	**Pn**	**16 43 24.6**	**+2.6**
PDO	**Prodromos**	**1.30**	**20**	P	**Pn**	**16 43 23.6**	**+1.4**
DRAG	**Dragano-Lefkad**	**1.31**	**358**	P	**Pb**	**16 43 24.7**	**+2.0**
NYDR	**Nydri-Lefkada**	**1.34**	**2**	P	**Pb**	**16 43 24.9**	**+1.6**
NYDR	**Nydri-Lefkada**	**1.34**	**2**	P	**Pb**	**16 43 24.0**	**+0.7**
KLV	**Kalavryta, Ach**	**1.38**	**61**	P	**Pb**	**16 43 25.2**	**+1.1**
KLV				S	**Sn**	**16 43 45.4**	**+4.0**
KLV	**Kalavryta, Ach**	**1.38**	**61**	P	**Pb**	**16 43 25.1**	**+1.1**
VVK	**Vomvokou**	**1.41**	**42**	P	**Pg**	**16 43 25.1**	**-0.3**
LKD2	**Lefkada island**	**1.41**	**1**	P	**Pg**	**16 43 25.3**	**-0.3**
TSLK	**Tsoukalades, L**	**1.45**	**1**	P	**Pg**	**16 43 27.2**	**+0.9**
TSLK	**Tsoukalades, L**	**1.45**	**1**	P	**Pg**	**16 43 26.1**	**-0.2**
EFP	**Efpalio**	**1.46**	**44**	P	**Pg**	**16 43 26.3**	**-0.2**
EFP	**Efpalio**	**1.46**	**44**	P	**Pg**	**16 43 26.3**	**-0.2**
GUR	**Goura**	**1.47**	**67**	P	**Pb**	**16 43 25.9**	**+0.3**
KALE	**Kalithea**	**1.57**	**49**	P	**Pg**	**16 43 28.0**	**-0.6**
ANX	**Ano Chora**	**1.59**	**40**	P	**Pg**	**16 43 28.1**	**-0.8**
EVR	**Evrytania**	**1.80**	**31**	P	**Pb**	**16 43 31.3**	**+0.1**
IGT	**Igoumenitsa**	**2.17**	**354**	P	**Pn**	**16 43 36.2**	**+2.2**
VIL2	**Platees**	**2.25**	**67**	P	**Pb**	**16 43 38.0**	**-0.9**
IDI	**Anoyia**	**4.02**	**120**	Pn	**Pn**	**16 44 02.5**	**+2.9**
IDI				Sn	**Sn**	**16 44 49.1**	**+2.5**
0.6nm,0.3s,baz=309,slow=13,SNR=2.1							
0.8nm,0.3s,baz=304,slow=18,SNR=1.9							
5.3nm,0.9s							
VAE	**Valguarnera**	**4.95**	**273**	Pn	Pb	16 44 19.7	-5.1
2.7nm,0.3s,baz=48,slow=8.7,SNR=2.4							
9.3nm,0.4s							
AKASG	**Malin Array Be**	**14.67**	**22**	Pn	Pn	16 46 18.5	-7.0
0.1nm,0.3s,baz=212,slow=9.4,SNR=1.9							
HFS	**Hagfors**	**23.21**	**351**	P	**P**	**16 48 02.0**	**-2.6**
3.1nm,0.9s,baz=162,slow=15,SNR=2.6							
3.1nm,0.9s							
FINES	**FINESS Array B**	**24.34**	**6**	P	**P**	**16 48 11.3**	**-4.2**
1.4nm,0.8s,baz=230,slow=20,SNR=2.9							
1.4nm,0.8s							
NOA	**NORSAR Array B**	**24.42**	**349**	P	**P**	**16 48 13.5**	**-2.8**
0.4nm,0.7s,baz=156,slow=8.9,SNR=1.3							
0.4nm,0.7s							
KURBB	**Kurchatov Arra**	**42.65**	**53**	P	**P**	**16 50 51.7**	**-2.5**
0.2nm,0.5s,baz=279,slow=8.5,SNR=2.9							
0.2nm,0.5s							
MKAR	**Makanchi Array**	**45.66**	**58**	P	**P**	**16 51 17.4**	**-1.1**
0.1nm,0.4s,baz=280,slow=6.4,SNR=2.1							
0.1nm,0.4s							

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*SSNC **19** 17:02:34.4±1.3, 19.°17N×73.°69W, h20km±12km, MD2.8, ML2.2, MW2.9*
*SDD **19** 17:02:42.1±0.9, 19.°22N×73.°22W, h20km±190km, MD2.8, ML2.4, MW2.5*
ISC 19 17:02:31.8±1.3, 19.°2N±0.°1×73.°80W±0.°08, h10km, n7, σ2°12/12, 4C, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASC	**Masc**	**1.08**	**338**	*e*P	**Pb**	**17 02 52.5**	**0.0**
MASC				*e*S	**Sg**	**17 03 06.0**	**-0.6**
MASC				IAML		17 03 09.0	
comp=N,32nm,0.2s							
MASC				IAML		17 03 09.8	
comp=E,41nm,0.2s							
QMBU	**Quimbuelo**	**1.40**	**317**	*e*P	**Pn**	**17 02 58.1**	**+0.7**
QMBU				*e*S	**Sn**	**17 03 14.0**	**-2.0**
QMBU				*e*Sg	**Sb**	**17 03 18.0**	**+2.0**
QMBU				IAML		17 03 18.9	
comp=E,42nm,0.2s							
QMBU				IAML		17 03 19.0	
comp=N,36nm,0.2s							
GTBY	**Guantanamo Bay**	**1.45**	**301**	*e*P	**Pn**	**17 02 58.9**	**+0.8**
GTBY				IAML		17 03 21.4	
comp=N,24nm,0.3s							
GTBY				IAML		17 03 21.5	
comp=N,42nm,0.4s							
PAPH	**Port-au-Prince**	**1.56**	**114**⇑	*e*Pg	**Pb**	**17 03 01.8**	**+1.0**
PAPH			⇑	*e*Sg	**Sn**	**17 03 15.8**	**-4.2**
PAPH				IAML		17 03 16.5	
comp=E,189nm,0.2s							
PAPH				IAML		17 03 19.1	
comp=N,153nm,0.2s							
MARVS	**Santiago de Cu**	**2.15**	**293**	*e*P	**Pn**	**17 03 07.8**	**+0.1**
PINC	**Pinares de May**	**2.29**	**305**	*e*P	**Pn**	**17 03 10.5**	**+0.9**
SDDR	**Presa de Saban**	**2.38**	**94**⇑	*e*Pg	**Pn**	**17 03 13.2**	**+2.1**
SDDR				IAML		17 03 37.5	
comp=E,22nm,2.6s							
SDDR			⇑	*e*Sg	**Sn**	**17 03 37.6**	**-2.7**
SDDR				IAML		17 03 43.3	
comp=N,16nm,1.6s							

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*IDC **19** 17:24:00.7±1.5, 17.°03S×75.°06W, h0km, mb3.4/3, mbtmp3.7/6, ML4.0/3, MS3.3/3, Error ellipse: s-maj=42.5km s-min=22.8km az=37.0*
ISC 19 17:24:05.4±1.2, 17.°1S±0.°1×75.°2W±0.°1, h35km, n17, σ1°50/12, mb3.2/3, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**5.36**	**342**	Pn	**Pn**	**17 25 21.8**	**-1.2**
9.6nm,0.3s,baz=137,slow=14,SNR=13							
NNA				Sn	**Sn**	**17 26 24.5**	**+0.9**
26nm,0.3s,baz=206,slow=0.0,SNR=7.7							
16nm,0.6s							
LPAZ	**La Paz**	**6.79**	**84**	Pn	**Pn**	**17 25 42.8**	**-0.4**
2.7nm,0.3s,baz=274,slow=7.5,SNR=34							
LPAZ				Sn	**Sn**	**17 27 00.9**	**+1.2**
baz=260,slow=6.1							
LPAZ				LR	LR	17 28 26.2	
comp=Z,244nm,20.2s,baz=263,slow=40							
11nm,0.5s							
ATAH	**Atahualpa**	**10.42**	**342**	Pn	**Pn**	**17 26 30.6**	**-2.2**
0.4nm,0.3s,baz=156,slow=20,SNR=1.6							
ATAH				Sn	**Sn**	**17 28 30.3**	**+1.7**
0.7nm,0.3s,baz=131,slow=19,SNR=1.7							
ATAH				LR	LR	17 31 00.7	
comp=Z,118nm,19.3s,baz=241,slow=40							
2.4nm,0.6s							
SIV	**San Ignacio**	**13.56**	**87**	Pn	Pn	17 27 10.2	-5.2
baz=272,slow=12,SNR=5.6							
H03N1	**Juan Fernandez**	**16.59**	**191**	T	T	17 46 34.8	
baz=15,slow=74,SNR=1428							
H03N2	**Juan Fernandez**	**16.59**	**191**	T	T	17 46 34.8	
baz=15,slow=74,SNR=1092							
H03N3	**Juan Fernandez**	**16.61**	**191**	T	T	17 46 34.8	
baz=15,slow=74,SNR=1639							
RCBR	**Riachuelo**	**40.00**	**78**	LR	LR	17 50 05.4	
comp=Z,64nm,19.6s,baz=343,slow=39							
TXAR	**Lajitas Array**	**53.76**	**329**	P	**P**	**17 33 23.8**	**-0.8**
0.1nm,0.4s,baz=134,slow=7.7,SNR=2.0							
0.1nm,0.4s							
NVAR	**Mina Array Bea**	**68.48**	**325**	P	**P**	**17 35 06.3**	**+2.0**
0.1nm,0.4s,baz=130,slow=6.3,SNR=1.6							
0.1nm,0.4s							
TORD	**Torodi Ar. Bea**	**81.63**	**74**	P	**P**	**17 36 19.1**	**-1.4**
0.9nm,0.8s,baz=261,slow=4.5,SNR=5.5							
0.9nm,0.8s							
H11S2	**WAKE ISLAND Hyl**	**21.34**	**282**	T	T	19 56 40.6	
baz=99,slow=75,SNR=5.5							
H11S1	**WAKE ISLAND Hyl**	**21.34**	**282**	T	T	19 56 40.0	
baz=99,slow=75,SNR=3.3							
H11S3	**WAKE ISLAND Hyl**	**21.35**	**282**	T	T	19 56 39.9	
baz=99,slow=75,SNR=3.5							
WRA	**Warramunga Arr**	**133.13**	**219**	PKP	**PKiKP**	**17 43 20.7**	**+1.2**
0.3nm,0.9s,baz=127,slow=1.9,SNR=2.4							
MKAR	**Makanchi Array**	**145.03**	**27**	PKP	**PKPdf**	**17 43 39.9**	**+0.8**
0.3nm,0.7s,baz=347,slow=3.1,SNR=1.7							
SONM	**Songino Array**	**149.35**	**358**	PKPbc	**PKPbc**	**17 43 50.5**	**-0.3**
0.8nm,0.8s,baz=343,slow=1.5,SNR=5.2							

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*IDC **19** 17:39:15.9±1.7, 8.°56S×128.°07E, h0km, mb4.6/1, mbtmp3.8/6, ML3.4/5, Error ellipse: s-maj=28.7km s-min=23.2km az=79.0*
ISC 19 17:39:20.3±1.3, 8.°49S±0.°09×128.°09E±0.°10, h35km, n6, σ1°60/10, Timor Sea

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

BATI Baumata 4.69 248 Pn **Pn 17 40 26.9 -1.8**
2.1nm,0.3s,baz=107,slow=20,SNR=2.0
BATI Sn **Sn 17 41 23.2 +1.2**
1.9nm,0.3s,baz=90,slow=18,SNR=1.3
24nm,0.9s
KAPI Kappang 8.97 292 Pn **Pn 17 41 27.0 -0.5**
0.9nm,0.3s,baz=98,slow=15,SNR=1.3
2.5nm,0.3s
FITZ Fitzroy Crossi 9.85 194 Pn **Pn 17 41 39.0 -0.5**
0.2nm,0.3s,baz=23,slow=13,SNR=2.1
FITZ Sn **Sn 17 43 31.0 +2.2**
0.2nm,0.3s,baz=22,slow=19,SNR=1.6
2.3nm,1.0s
WRA Warramunga Arr 12.89 153 Pn **Pn 17 42 19.7 -1.5**
0.2nm,0.3s,baz=326,slow=14,SNR=17
WRA Sn **Sn 17 44 43.8 +0.2**
0.1nm,0.3s,baz=330,slow=22,SNR=5.0
0.6nm,0.5s
ASAR Alice Springs 16.09 160 Pn **Pn 17 43 02.4 -1.6**
0.1nm,0.3s,baz=342,slow=11,SNR=9.9
ASAR Sn **Sn 17 46 02.4 +1.0**
baz=326,slow=22,SNR=2.7
0.2nm,0.4s
PETK Petropavlovsk- 66.33 19 P **P 17 50 06.7 +1.5**
7.4nm,1.1s,baz=225,slow=5.9,SNR=2.9
7.4nm,1.1s

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*UCR **19** 17:52:49.3±1.3, 10°.47N×86°.28W, h0km±16km, MW3.8*
*CATAC **19** 17:52:52.9±1.3, 10°.68N×86°.38W, h2km±8km, ML3.3*
ISC 19 17:52:50.4±2.5, 10°.49N±0°.08×86°.33W±0°.09, h7km±14km, n23, σ1§14/29, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	**La Cruz**	**0.90**	**50**	*eP*	**Pb**	**17 53 08.3**	**+0.1**
VRLE	**La Escondida,**	**0.99**	**73**	*eP*	**Pg**	**17 53 08.7**	**-0.7**
GPS2	**Hotel Rincn d**	**0.99**	**75**	*eP*	**Pg**	**17 53 08.8**	**-0.6**
VORI	**VORI**	**1.01**	**71**	*eP*	**Pg**	**17 53 09.7**	**-0.2**
CARN	**Rivas**	**1.05**	**49**	*i P*	**Pg**	**17 53 10.8**	**+0.3**
CARN				IAML		17 53 30.4	
	comp=Z,1μm,1.0s						
ARIN	**Rivas**	**1.07**	**27**	*i P*	**Pb**	**17 53 11.4**	**+0.2**
ARIN				IAML		17 54 07.1	
	comp=Z,4μm,1.0s						
COLC	**Colonia**	**1.11**	**81**	*eP*	**Pg**	**17 53 10.4**	**-1.4**
HORNC	**Hornillas**	**1.15**	**79**	*eP*	**Pg**	**17 53 11.1**	**-1.4**
HORNC				*eS*	**Sg**	**17 53 26.9**	**-0.5**
CUI	**Cuipilapa**	**1.15**	**82**	*eP*	**Pg**	**17 53 11.1**	**-1.5**
JAPN	**AI SSO del Vol**	**1.21**	**32**	*i P*	**Pn**	**17 53 14.0**	**+0.3**
JAPN				IAML		17 53 21.3	
	comp=Z,420nm,1.0s						
CONN	**Concepcion**	**1.27**	**33**	*i P*	**Pg**	**17 53 14.2**	**-0.5**
CONN				IAML		17 53 21.5	
	comp=Z,4μm,1.0s						
JTS	**Las Juntas de**	**1.36**	**98**	*eP*	**Pn**	**17 53 13.2**	**-2.6**
COPN	**Copaltepe**	**1.70**	**351**	*i P*	**Pn**	**17 53 20.8**	**+0.4**
COPN				IAML		17 53 50.5	
	comp=Z,150nm,1.0s						
ACON	**Acoyapa**	**1.85**	**38**	*i P*	**Pn**	**17 53 22.0**	**-0.5**
ACON				IAML		17 53 29.2	
	comp=Z,230nm,1.0s						
ACON				*i S*	**Sb**	**17 53 47.2**	**-0.7**
ACON	**Acoyapa**	**1.85**	**38**	*eP*	**Pn**	**17 53 22.0**	**-0.5**
MOMN	**Momotombo**	**1.91**	**354**	*i P*	**Pn**	**17 53 23.5**	**0.0**
MOMN				IAML		17 53 33.6	
	comp=Z,6.1nm,1.0s						
MOMN				*i S*	**Sn**	**17 53 47.0**	**-0.8**
MOM2	**El Cardon**	**1.94**	**355**	*i P*	**Pn**	**17 53 24.0**	**+0.3**
MOM2				IAML		17 53 34.4	
	comp=Z,180nm,1.0s						
MACN	**El Madrono**	**1.99**	**350**	*i P*	**Pn**	**17 53 24.6**	**+0.1**
MACN				IAML		17 53 35.1	
	comp=Z,82nm,1.0s						
CNGA	**AI SSO del Vol**	**2.02**	**350**	*i P*	**Pn**	**17 53 25.3**	**+0.4**
CNGA				IAML		17 53 30.6	
	comp=Z,160nm,1.0s						
HDC	**Heredia**	**2.23**	**102**	*i P*	**Pn**	**17 53 30.1**	**+2.2**
HDC				*i S*	**Sg**	**17 54 04.3**	**+2.2**
HDC				IAML		17 54 07.5	
	comp=Z,240nm,1.0s						
PKGN	**Cerro Pekin**	**2.25**	**344**	*i P*	**Pn**	**17 53 28.6**	**+0.5**
PKGN				*i S*	**Sn**	**17 53 55.6**	**-0.5**
PKGN				IAML		17 54 01.4	
	comp=Z,260nm,1.0s						
TRT2	**Tortugero**	**2.55**	**88**	*i P*	**Pb**	**17 53 37.0**	**+0.6**
TRT2				*i S*	**Sb**	**17 54 08.5**	**+0.5**
TRT2				IAML		17 54 34.6	
	comp=Z,200nm,1.0s						
ESPN	**Las Esperanzas**	**2.61**	**49**	*i P*	**Pn**	**17 53 35.2**	**+2.3**
ESPN				IAML		17 54 07.5	
	comp=Z,190nm,1.0s						

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*IDC **19** 17:53:05.8±3.7, 36°.26N×26°.31E, h78km±44km, mb3.3/6, mbtmp3.6/9, ML3.9/3, Error ellipse: s-maj=24.0km s-min=22.6km az=28.0*
*AFAD **19** 17:53:09.4±0.0, 36°.05N×26°.26E, h52km±6km, ML2.3*
*ISK **19** 17:53:09.3, 36°.28N×26°.24E, h102km±2km, ML2.8/20*
*GII **19** 17:53:10.9±0.5, 35°.977N±0°.004×26°.772E±0°.001, h16km, Mws4.0, confirmed*
*THE **19** 17:53:11.0, 36°.26N×26°.25E, h104km±4km, ML3.2/6, Error ellipse: s-maj=4.3km s-min=0.9km az=321.0*
*HLW **19** 17:53:15.7, 35°.67N×26°.57E, h31km±39km, Md4.2, Ml4.3*
ISC 19 17:53:08.3±0.7, 36°.14N±0°.04×26°.38E±0°.05, h118km±6km, n122, σ1§81/144, mb3.4/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.77**	**52**	P	**Pn**	**17 53 28.6**	**+0.7**
NISR				S	**Sn**	**17 53 41.3**	**-1.5**
	615nm,0.8s						
THR8	**Santorini-Mono**	**0.77**	**290**	P	**Pn**	**17 53 26.7**	**-1.3**
THR2	**Thira Island,**	**0.82**	**292**	P	**Pn**	**17 53 27.2**	**-1.2**
THR6	**Thira Island,**	**0.82**	**286**	P	**Pn**	**17 53 27.4**	**-1.0**
THR3	**Thira Island,**	**0.83**	**289**	P	**Pn**	**17 53 27.3**	**-1.2**
CMBO	**Columbo, Santo**	**0.85**	**293**	P	**Pn**	**17 53 27.4**	**-1.3**
CMBO				S	**Sn**	**17 53 40.3**	**-3.8**
	1μm,0.7s						
KARP	**Karpathos**	**0.87**	**133**	Pg	**Pn**	**17 53 30.9**	**+1.9**
KARP	**Karpathos**	**0.87**	**133**	P	**Pn**	**17 53 30.9**	**+1.9**
KARP				S	**Sn**	**17 53 45.3**	**+0.8**
	2μm,0.1s						
THR5	**Thira Island,**	**0.88**	**289**	P	**Pn**	**17 53 27.9**	**-1.0**
YAZI	**Mula-Dat§a-**	**1.02**	**58**	P	**Pn**	**17 53 31.2**	**+0.8**
YAZI				*i* AML	AML	17 53 47.0	
	comp=E,41nm,0.4s						
YAZI				S	**Sn**	**17 53 47.2**	**+0.1**
YAZI				*i* AML	AML	17 53 48.0	
	comp=N,44nm,0.4s						
ZKR	**Zakros**	**1.03**	**187**	Pn	**Pn**	**17 53 32.5**	**+2.0**
ZKR				Sn	**Sn**	**17 53 49.4**	**+2.2**
ZKR	**Zakros**	**1.03**	**187**	P	**Pn**	**17 53 32.4**	**+2.0**
ZKR				S	**Sn**	**17 53 48.8**	**+1.6**
	460nm,0.2s						
DAT	**Datca**	**1.13**	**58**	P	**Pn**	**17 53 32.8**	**+1.1**
DAT				S	**Sn**	**17 53 49.9**	**+0.6**
DAT				*i* AML	AML	17 53 51.0	
	comp=E,58nm,0.5s						
DAT				*i* AML	AML	17 54 07.0	
	comp=N,40nm,0.7s						
DAT	**Datca**	**1.13**	**58**	Pn	**Pn**	**17 53 32.7**	**+1.1**
DAT	**Datca**	**1.13**	**58**	P	**Pn**	**17 53 32.6**	**+1.0**
APE	**Apeiranthos**	**1.15**	**324**	Pg	**Pn**	**17 53 29.8**	**-1.9**
APE	**Apeiranthos**	**1.15**	**324**	P	**Pn**	**17 53 30.0**	**-1.7**
APE				S	**Sn**	**17 53 45.0**	**-4.5**
	288nm,0.5s						
APE	**Apeiranthos**	**1.15**	**324**	P	**Pn**	**17 53 30.3**	**-1.4**
BODT	**Bodrum**	**1.19**	**39**	Pn	**Pn**	**17 53 32.5**	**+0.4**
BODT	**Bodrum**	**1.19**	**39**	P	**Pn**	**17 53 32.4**	**+0.4**
BODT				S	**Sn**	**17 53 49.7**	**-0.4**
BDRM	**Kayabasi**	**1.26**	**43**	P	**Pn**	**17 53 33.5**	**+0.6**
BDRM				S	**Sn**	**17 53 51.7**	**+0.1**
BDRM				*i* AML	AML	17 53 52.0	
	comp=E,86nm,0.5s						
ARG	**Arkhangelos**	**1.42**	**86**	Pn	**Pn**	**17 53 36.4**	**+1.8**
ARG	**Arkhangelos**	**1.42**	**86**	P	**Pn**	**17 53 36.7**	**+2.1**
ARG				S	**Sn**	**17 53 56.2**	**+1.6**
	628nm,0.2s						
IDI	**Anoyia**	**1.48**	**235**	Pn	**Pn**	**17 53 36.2**	**+0.8**
IDI	**Anoyia**	**1.48**	**235**	P	**Pn**	**17 53 34.7**	**-0.7**
DDIM	**Aydin, Didim**	**1.49**	**28**	P	**Pn**	**17 53 35.7**	**+0.3**
DDIM				*i* AML	AML	17 54 03.0	
	comp=E,113nm,1.2s						
DDIM				*i* AML	AML	17 54 20.0	
	comp=N,117nm,2.4s						
SMG	**Samos**	**1.61**	**13**	P	**Pn**	**17 53 36.2**	**-0.7**
TURN	**Turunc**	**1.64**	**67**	P	**Pn**	**17 53 39.0**	**+1.8**
TURN				S	**Sn**	**17 54 00.7**	**+1.6**
TURN				*i* AML	AML	17 54 01.0	
	comp=N,322nm,1.8s						
TURN				*i* AML	AML	17 54 01.0	
	comp=E,148nm,0.6s						
TURN	**Turunc**	**1.64**	**67**	Pn	**Pn**	**17 53 39.2**	**+2.1**
GCAM	**G?zelcaml?**	**1.70**	**24**	Pn	**Pn**	**17 53 37.9**	**0.0**
YER	**Yerkesik**	**1.83**	**57**	Pn	**Pn**	**17 53 41.3**	**+1.8**
MULA	**Mugla, Merkez-**	**1.92**	**54**	P	**Pn**	**17 53 43.6**	**+2.9**
MULA				S	**Sn**	**17 54 07.4**	**+1.9**
MULA				*i* AML	AML	17 54 11.0	
	comp=N,26nm,0.6s						
MULA				*i* AML	AML	17 54 11.0	
	comp=E,38nm,0.3s						
DALY	**Dalyan (Mula)**	**1.96**	**69**	Pn	**Pn**	**17 53 43.3**	**+2.3**
IMMV	**Iera Moni Meta**	**2.06**	**251**	Pn	**Pn**	**17 53 43.3**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**2.17**	**33**	Pn	**Pn**	**17 53 44.4**	**+0.5**
SABU	**Mula-Dalaman**	**2.20**	**71**	P	**Pn**	**17 53 46.9**	**+2.7**
SABU				S	**Sn**	**17 54 13.7**	**+2.1**
SABU				*i* AML	AML	17 54 16.0	
	comp=N,64nm,0.5s						
SABU				*i* AML	AML	17 54 17.0	
	comp=E,38nm,0.4s						
FETY	**Fethiye**	**2.24**	**76**	Pn	**Pn**	**17 53 46.7**	**+2.0**
GVD	**Gavdhos**	**2.27**	**236**	Pn	**Pn**	**17 53 46.5**	**+1.4**
ESEN	**Aydn-Nazilli**	**2.29**	**43**	P	**Pn**	**17 53 46.8**	**+1.5**
ESEN				*i* AML	AML	17 54 20.0	
	comp=E,7.5nm,0.6s						
ESEN				*i* AML	AML	17 54 29.0	
	comp=N,9.0nm,1.3s						
IZZE	**Mula-Seydike**	**2.32**	**82**	P	**Pn**	**17 53 47.5**	**+1.8**
IZZE				S	**Sn**	**17 54 15.9**	**+1.5**
IZZE				*i* AML	AML	17 54 17.0	
	comp=N,87nm,0.3s						
IZZE				*i* AML	AML	17 54 21.0	
	comp=E,80nm,0.4s						
IZMR	**zmir-demi**	**2.36**	**32**	P	**Pn**	**17 53 47.1**	**+1.0**
IZMR				S	**Sn**	**17 54 15.2**	**0.0**
IZMR				*i* AML	AML	17 54 16.0	
	comp=E,14nm,0.8s						
IZMR				*i* AML	AML	17 54 49.0	
	comp=N,9.9nm,2.0s						
NAZL	**Nazilli-Aydin**	**2.38**	**40**	Pn	**Pn**	**17 53 47.5**	**+1.0**
DNZT	**Denizli-Tavas-**	**2.41**	**61**	P	**Pn**	**17 53 49.7**	**+2.7**
DNZT				S	**Sn**	**17 54 19.1**	**+2.5**
DNZT				*i* AML	AML	17 54 20.0	
	comp=N,13nm,0.5s						
DNZT				*i* AML	AML	17 54 22.0	
	comp=E,10nm,0.6s						
TAVA	**DENIZLI_Tavas**	**2.43**	**56**	P	**Pn**	**17 53 49.9**	**+2.8**
TAVA				S	**Sn**	**17 54 18.6**	**+1.7**
TAVA				*i* AML	AML	17 54 22.0	
	comp=N,7.6nm,0.3s						
TAVA				*i* AML	AML	17 54 25.0	
	comp=E,6.5nm,0.4s						
CAME	**Cameli-Denizli**	**2.49**	**70**	Pn	**Pn**	**17 53 49.9**	**+1.9**
APMY	**Acipayam-Deniz**	**2.70**	**60**	Pn	**Pn**	**17 53 52.7**	**+2.1**
KULA	**Kula-Manisa**	**2.99**	**37**	Pn	**Pn**	**17 53 55.7**	**+1.3**
SIGR	**SIGRI**	**3.09**	**352**	P	**Pn**	**17 53 54.8**	**-0.9**
GORD	**Gordes-Manisa**	**3.11**	**27**	Pn	**Pn**	**17 53 56.9**	**+0.9**
SLUM	**Salum**	**4.74**	**192**	P	**Pn**	**17 54 19.0**	**+1.3**
SLUM				S	**Sn**	**17 55 04.7**	**-6.9**
MATC	**Matruh**	**4.83**	**171**	P	**Pn**	**17 54 21.0**	**+2.0**
DB3	**El Dabaa**	**5.40**	**160**	P	**Pn**	**17 54 28.3**	**+1.7**
CSS	**Mathiatis**	**5.79**	**100**	P	**Pn**	**17 54 31.2**	**-0.6**
CSS				S	**Sn**	**17 55 29.5**	**-7.6**
CSS	**Mathiatis**	**5.79**	**100**	P	**Pn**	**17 54 31.3**	**-0.6**
SWA2		**6.92**	**187**	P	**Pn**	**17 54 48.5**	**+1.3**
SWA2				S	**Sn**	**17 55 57.8**	**-6.7**
HMYD	**Mayadein**	**7.34**	**148**	P	**Pn**	**17 54 54.9**	**+2.0**
HNAT	**Natroun**	**7.40**	**150**	P	**Pn**	**17 54 56.4**	**+2.7**
KOT	**Kottamia**	**7.70**	**142**	P	**Pn**	**17 54 58.8**	**+1.0**
RYAN	**Fayoum**	**7.77**	**154**	P	**Pn**	**17 54 59.9**	**+1.3**
OFRI	**`Ofer**	**7.94**	**114**	P	**Pn**	**17 54 59.3**	**-1.6**
OFRI	**`Ofer**	**7.94**	**114**	S	**Sn**	**17 56 30.2**	**+1.1**
MMA0	**Mount Meron ar**	**8.07**	**110**	P	**Pn**	**17 55 02.7**	**-0.1**
MMA0B	**Mount Meron ar**	**8.07**	**110**	P	**Pn**	**17 55 01.6**	**-1.2**
MMA0B	**Mount Meron ar**	**8.07**	**110**	S	**Sn**	**17 56 32.8**	**+0.4**
MMAI	**Mount Meron Ar**	**8.07**	**110**	P	**Pn**	**17 55 02.8**	**0.0**
	2.8nm,0.3s,baz=302,slow=12,SNR=15						
MMAI				S	**Sn**	**17 56 30.6**	**-1.8**
	1.7nm,0.3s,baz=300,slow=23,SNR=10						
	1.3nm,0.3s						
GEM	**Giv'at Ha'Em**	**8.19**	**108**	P	**Pn**	**17 55 03.7**	**-0.6**
GEM	**Giv'at Ha'Em**	**8.19**	**108**	S	**Sn**	**17 56 32.9**	**-2.2**
GEM	**Giv'at Ha'Em**	**8.19**	**108**	P	**Pn**	**17 55 05.2**	**+0.8**
NATI	**Neve Ativ**	**8.23**	**108**	P	**Pn**	**17 55 04.6**	**-0.2**
NATI	**Neve Ativ**	**8.23**	**108**	S	**Sn**	**17 56 34.2**	**-1.8**
NATI	**Neve Ativ**	**8.23**	**108**	P	**Pn**	**17 55 04.5**	**-0.2**
MMLI	**Mount Malkishu**	**8.35**	**114**	S	**Sn**	**17 56 36.2**	**-2.9**
MMLI	**Mount Malkishu**	**8.35**	**114**	P	**Pn**	**17 55 06.9**	**+0.4**
SALP	**Salfit**	**8.36**	**117**	P	**Pn**	**17 55 06.1**	**-0.6**
SALP	**Salfit**	**8.36**	**117**	S	**Sn**	**17 56 40.2**	**+0.8**
KSHT	**Keshet**	**8.40**	**109**	P	**Pn**	**17 55 09.3**	**-1.6**
KSHT	**Keshet**	**8.40**	**109**	S	**Sn**	**17 56 40.2**	**-0.1**
KZIT	**Kziot**	**8.49**	**126**	P	**Pn**	**17 55 09.9**	**+1.5**
KZIT	**Kziot**	**8.49**	**126**	S	**Sn**	**17 56 40.2**	**-2.3**
KZIT	**Kziot**	**8.49**	**126**	P	**Pn**	**17 55 08.9**	**+0.5**
HMDT	**Nahal Hemdat**	**8.51**	**114**	P	**Pn**	**17 55 08.5**	**-0.2**
HMDT	**Nahal Hemdat**	**8.51**	**114**	P	**Pn**	**17 55 09.6**	**+0.9**
HMDT	**Nahal Hemdat**	**8.51**	**114**	S	**Sn**	**17 56 41.4**	**-1.6**
NBNS	**Bani Suef**	**8.57**	**150**	P	**Pn**	**17 55 10.0**	**+0.5**
BALJ	**Balqa**	**8.68**	**115**	P	**Pn**	**17 55 12.0**	**+1.0**
YTIR	**Yattir**	**8.70**	**121**	P	**Pn**	**17 55 11.8**	**+0.5**
YTIR	**Yattir**	**8.70**	**121**	P	**Pn**	**17 55 11.2**	**-0.1**
YTIR	**Yattir**	**8.70**	**121**	S	**Sn**	**17 56 45.2**	**-2.5**
DSI	**Dead Sea**	**8.77**	**119**	P	**Pn**	**17 55 13.1**	**+1.0**
DSI	**Dead Sea**	**8.77**	**119**	P	**Pn**	**17 55 13.1**	**+1.0**
DSI	**Dead Sea**	**8.77**	**119**	S	**Sn**	**17 56 47.7**	**-1.5**
MDBI	**Mazsada**	**8.89**	**120**	P	**Pn**	**17 55 12.6**	**-1.2**
MDBI	**Mazsada**	**8.89**	**120**	S	**Sn**	**17 56 52.5**	**+0.2**
MSBI	**Mazada**	**8.89**	**120**	P	**Pn**	**17 55 15.5**	**+1.7**
MSBI	**Mazada**	**8.89**	**120**	P	**Pn**	**17 55 13.6**	**-0.2**
MSBI	**Mazada**	**8.89**	**120**	S	**Sn**	**17 56 51.2**	**-1.0**
LISJ	**El Lisan**	**9.02**	**120**	P	**Pn**	**17 55 17.4**	**+1.9**
GHAJ	**Ghor Haditha**	**9.05**	**120**	P	**Pn**	**17 55 15.4**	**-0.5**
GHAJ	**Ghor Haditha**	**9.05**	**120**	S	**Sn**	**17 56 56.5**	**+0.5**
KRMI	**Paran Flat**	**9.22**	**128**	P	**Pn**	**17 55 17.6**	**-0.7**
KRMI	**Paran Flat**	**9.22**	**128**	P	**Pn**	**17 55 18.5**	**+0.2**
KRMI	**Paran Flat**	**9.22**	**128**	S	**Sn**	**17 56 58.2**	**-2.1**
PRNI	**Paran**	**9.25**	**126**	P	**Pn**	**17 55 18.1**	**-0.5**
PRNI	**Paran**	**9.25**	**126**	P	**Pn**	**17 55 17.4**	**-1.3**
PRNI	**Paran**	**9.25**	**126**	S	**Sn**	**17 57 01.0**	**+0.1**
HRFI	**Mount Harif**	**9.48**	**128**	P	**Pn**	**17 55 21.6**	**-0.1**
HRFI	**Mount Harif**	**9.48**	**128**	P	**Pn**	**17 55 22.6**	**+0.9**
HRFI	**Mount Harif**	**9.48**	**128**	S	**Sn**	**17 57 04.5**	**-2.0**
MBRI	**Mt Berech**	**9.56**	**129**	P	**Pn**	**17 55 24.5**	**+1.5**
MBRI	**Mt Berech**	**9.56**	**129**	P	**Pn**	**17 55 24.1**	**+1.1**
MBRI	**Mt Berech**	**9.56**	**129**	S	**Sn**	**17 57 07.5**	**-1.2**
EIL	**Elat**	**9.67**	**129**	P	**Pn**	**17 55 23.4**	**-1.0**
EIL	**Elat**	**9.67**	**129**	S	**Sn**	**17 57 11.2**	**+0.1**
AQBJ	**Aqaba**	**9.69**	**129**	P	**Pn**	**17 55 24.5**	**-0.1**
AKASG	**Malin Array Be**	**14.70**	**7**	P	**Pn**	**17 56 29.4**	**-0.8**
	0.8nm,0.3s,baz=198,slow=10,SNR=5.5						
	0.2nm,0.3s						
GERES	**GERESS Array B**	**15.74**	**328**	P	**Pn**	**17 56 41.6**	**-1.7**
	0.1nm,0.3s,baz=146,slow=18,SNR=3.0						
	0.9nm,0.6s						
ESDC	**Sonseca Array**	**24.14**	**288**	P	**P**	**17 58 12.6**	**-0.8**
	1.3nm,0.8s,baz=84,slow=10.0,SNR=5.8						
	1.3nm,0.8s						
FINES	**FINESS Array B**	**25.32**	**360**	P	**P**	**17 58 22.7**	**-1.0**
	2.9nm,0.9s,baz=171,slow=9.8,SNR=2.7						
	2.9nm,0.9s						
HFS	**Hagfors**	**25.36**	**345**	P	**P**	**17 58 23.6**	**-0.6**
	2.0nm,0.8s,baz=140,slow=9.1,SNR=1.2						
	2.0nm,0.8s						
EKA	**Eskdalemuir Ar**	**27.83**	**323**	P	**P**	**17 58 47.6**	**+1.3**
	0.2nm,0.3s,baz=119,slow=9.9,SNR=1.7						
	0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**31.88**	**230**	P	**P**	**17 59 24.4**	**+1.9**
	0.2nm,0.3s,baz=35,slow=8.5,SNR=5.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**42.41**	**58**	P	**P**	**18 00 53.2**	**+2.1**
	0.2nm,0.5s,baz=272,slow=7.3,SNR=1.8						
	0.2nm,0.5s						

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*DJA **19** 17:57:06.5±0.3, 9°.S±5°×11°.8E±°, h123km±6km, M3.9/13,*
mb4.1/4, MLv3.9/13
*IDC **19** 17:57:11.9±4.2, 9°.21S×118°.56E, h107km±30km, mb3.1/2, mbtmp3.6/5, MS3.0/1, Error ellipse: s-maj=52.4km s-min=32.6km az=10.0*
ISC 19 17:57:06.9±0.9, 8.73S±0°.07×118°.42E±0°.05, h100km, n25, σ2§53/29, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.64**	**261**	P	**Pn**	**17 57 26.7**	**+2.9**
PLAI	**Plampang**	**0.64**	**261**	P	**Pn**	**17 57 26.7**	**+2.9**
PLAI				S	**Sn**	**17 57 41.2**	**+4.8**
WBSI	**Waikabubak, Su**	**1.32**	**133**	P	**Pn**	**17 57 33.4**	**+2.4**
WBSI				S	**Sn**	**17 57 54.6**	**+5.3**
WSI	**Waingapu**	**2.08**	**117**	P	**Pn**	**17 57 42.7**	**+2.2**
BASI	**Baing, Sumba**	**2.59**	**125**	P	**Pn**	**17 57 49.2**	**+2.0**
SRBI	**Singaraja**	**3.23**	**281**	P	**Pn**	**17 57 55.8**	**0.0**
BSSI	**Bau Bau, Buton**	**3.29**	**39**	P	**Pn**	**17 57 56.9**	**+0.3**
MMRI	**Maumere**	**3.78**	**89**	P	**Pn**	**17 58 05.6**	**+2.5**
MMRI	**Maumere**	**3.78**	**89**	P	**Pn**	**17 58 04.2**	**+1.1**
BKSI	**Bulukumba**	**3.79**	**27**	P	**Pn**	**17 58 03.5**	**+0.3**
JAGI	**Jajag, Banyuwa**	**4.22**	**273**	P	**Pn**	**17 58 07.7**	**-1.4**
JAGI	**Jajag, Banyuwa**	**4.22**	**273**	P	**Pn**	**17 58 07.7**	**-1.4**
GMJI	**Gumukmas**	**4.94**	**275**	P	**Pn**	**17 58 17.1**	**-1.7**
BATI	**Baumata**	**5.38**	**106**	P	**Pn**	**17 58 25.7**	**+0.9**
	23nm,0.4s,baz=289,slow=5.5,SNR=16						
BATI				S	**Sn**	**17 59 25.6**	**+0.1**
	18nm,0.6s,baz=292,slow=19,SNR=1.8						
BATI	**Baumata**	**5.38**	**106**	P	**Pn**	**17 58 26.3**	**+1.5**
	23nm,0.5s,0.2nm						
SOEI	**Soe**	**5.86**	**100**	P	**Pn**	**17 58 32.5**	**+1.0**
SOEI	**Soe**	**5.86**	**100**	P	**Pn**	**17 58 32.1**	**+0.6**
	24nm,0.7s,0.1nm						
PCJI	**Pacitan**	**7.18**	**274**	P	**Pn**	**17 58 47.1**	**-2.2**
FITZ	**Fitzroy Crossi**	**11.66**	**144**	P	**Pn**	**17 59 49.7**	**-0.5**
	2.8nm,0.9s,baz=318,slow=12,SNR=2.1						
FITZ				S	**Sn**	**18 01 52.4**	**-6.0**
	1.0nm,0.3s,baz=319,slow=20,SNR=2.3						
MTN	**Manton Dam**	**13.14**	**109**	P	**Pn**	**18 00 07.7**	**-2.0**
FAKI	**Fak Fak**	**14.92**	**68**	P	**Pn**	**18 00 34.8**	**+2.1**
	17nm,1.9s						
DAV	**Davao City (W)**	**17.24**	**25**	LR	LR	18 08 47.4	
	comp=Z,50nm,19.7s,baz=343,slow=40						
WRA	**Warramunga Arr**	**19.01**	**128**	P	**P**	**18 01 19.6**	**-1.3**
	0.2nm,0.4s,baz=300,slow=12,SNR=9.0						
WRA				S	**S**	**18 04 48.6**	**-3.1**
	0.4nm,0.7s,baz=308,slow=22,SNR=2.6						
ASAR	**Alice Springs**	**20.98**	**137**	P	**P**	**18 01 41.4**	**-0.9**
	0.3nm,0.5s,baz=312,slow=8.9,SNR=6.9						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**31.53**	**140**	P	**P**	**18 03 21.3**	**+1.7**
	1.8nm,0.8s,baz=308,slow=18,SNR=1.9						
	1.8nm,0.8s						

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*NEIC **19** 18:12:55.3±1.4, 35°.027N±0°.009×97°.62W±0°.02, h9km±8km, mb_Lg2.4/35, ML2.5/40, ML3.0/19, Error ellipse: s-maj=2.1km s-min=1.3km az=100.0*
NEIC 19 18:12:55.0±1.5, 35°.03N±0°.01×97°.62W±0°.01, h8km±4km, Error ellipse: s-maj=1.9km s-min=1.1km az=132.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.29**	**38**		Pg	18 13 01.5	+0.7
FNO				Sg	Sb	18 13 06.2	-1.4
FNO				IAML		18 13 09.6	
	comp=E,627nm,0.8s						
X34A	**Smith Ranch, M**	**0.46**	**203**		Pb	18 13 04.7	-0.7
X34A					Sb	18 13 11.9	-0.5
X34A				IAML		18 13 15.7	
	comp=E,315nm,0.6s						
X34A				IAML		18 13 15.7	
	comp=N,335nm,0.5s						
W35A	**Tecumseh**	**0.62**	**78**		Pg	18 13 07.2	+0.1
BCOK	**Bluff Creek, N**	**0.63**	**1**		Pg	18 13 07.3	+0.2
BCOK					Sg	18 13 16.2	+0.8
OK029	**Liberty Lake**	**0.78**	**10**		Pg	18 13 09.9	-0.1
OK029					Sg	18 13 20.8	+0.7
OK029				IAML		18 13 24.4	
	comp=N,185nm,0.5s						
WMOK	**Wichita Mounta**	**1.00**	**254**		Pg	18 13 12.9	-1.3
WMOK					Sb	18 13 27.9	-0.1
**CSTR

comp=Z,45nm,19.3s,baz=153,slow=34
JHJ Hachijo jima 2 12.60 341 LR LR 18 21 04.9
comp=Z,26nm,19.8s,baz=52,slow=34
H11N1 WAKE ISLAND Hy 20.99 90 T T 18 40 38.5
baz=279,slow=75,SNR=12
H11N2 WAKE ISLAND Hy 21.00 90 T T 18 40 36.3
baz=279,slow=75,SNR=16
H11S3 WAKE ISLAND Hy 21.00 93 T T 18 40 39.8
baz=281,slow=75,SNR=11
H11N3 WAKE ISLAND Hy 21.01 90 T T 18 40 39.4
baz=279,slow=75,SNR=9.1
H11S1 WAKE ISLAND Hy 21.01 93 T T 18 40 38.3
baz=281,slow=75,SNR=18
H11S2 WAKE ISLAND Hy 21.02 93 T T 18 40 41.3
baz=281,slow=75,SNR=12
KSRS Korea Array 21.68 322 LR LR 18 26 14.1
comp=Z,11nm,18.7s,baz=235,slow=34
ASAJ Asahikawa 22.91 356 LR LR 18 27 34.5
comp=Z,27nm,21.8s,baz=214,slow=36
PETK Petropavlovsk- 33.42 14 LR LR 18 38 11.5
comp=Z,15nm,18.0s,baz=1.1,slow=44
WRA Warramunga Arr 42.09 194 P **P** **18 21 49.8 +0.2**
1.1nm,0.9s,baz=14,slow=8.8,SNR=5.6
1.1nm,0.9s
ASAR Alice Springs 45.78 194 P **P** **18 22 18.5 -0.6**
0.2nm,0.7s,baz=7.8,slow=7.5,SNR=1.9
0.2nm,0.7s
MKAR Makanchi Array 55.96 313 P **P** **18 23 36.7 +1.4**
0.2nm,0.6s,baz=86,slow=9.2,SNR=1.1
0.2nm,0.6s
ILAR Eielson Array 61.91 27 P **P** **18 24 14.9 -1.1**
0.5nm,0.8s,baz=272,slow=6.2,SNR=2.3
0.5nm,0.8s
BVAR Borovoye Array 63.87 320 P **P** **18 24 28.0 -1.2**
0.2nm,0.4s,baz=92,slow=12,SNR=1.7
0.2nm,0.4s
NVAR Mina Array Bea 82.46 52 P **P** **18 26 20.4 +1.2**
0.1nm,0.4s,baz=265,slow=5.4,SNR=1.7
0.1nm,0.4s

*SJA **19** 18:21:38.5±0.7, 19°.75S×69°.19W, h105km±3km, ML3.7, MW3.7*
*GUC **19** 18:21:39.7±0.8, 19°.76S×69°.27W, h99km±4km, ML3.4*
*IDC **19** 18:21:42.1±5.6, 18°.96S×65°.98W, h0km, mb4.0/2, mbtmp3.8/3, ML2.9/1, Error ellipse: s-maj=179.0km s-min=31.8km az=34.0*
ISC 19 18:21:41.2±1.3, 19°.77S±0°.03×69°.26W±0°.05, h94km±8km, n22, σ0°85/37, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.12**	**34**	*eP*	**Pn**	**18 21 54.5**	**-0.6**
GO01				*eS*	**Sn**	**18 22 05.8**	**+0.4**
GO01	**Chusmiza**	**0.12**	**34**	*eP*	**Pn**	**18 21 54.5**	**-0.6**
GO01				*eS*	**Sn**	**18 22 06.0**	**+0.7**
HMBC	**Humberstone**	**0.78**	**229**	*eP*	**Pn**	**18 21 58.5**	**-0.5**
HMBC				*eS*	**Sn**	**18 22 13.8**	**+1.6**
HMBC				IAML		18 22 15.7	
	comp=Z,2μm,0.2s						
TA02	**Huaiquique**	**0.96**	**238⇑**	*eP*	**Pn**	**18 22 00.1**	**-0.6**
TA02				*eS*	**Sn**	**18 22 16.2**	**+0.9**
TA02	**Huaiquique**	**0.96**	**238**	*eP*	**Pn**	**18 22 00.4**	**-0.3**
TA02				*eS*	**Sn**	**18 22 16.6**	**+1.2**
TA02				IAML		18 22 21.4	
	comp=Z,2μm,0.1s						
TA01	**Diego Aracena**	**1.17**	**227⇑**	*iP*	**Pn**	**18 22 02.4**	**-0.7**
TA01				*eS*	**Sn**	**18 22 19.8**	**+0.1**
TA01				IAML		18 22 21.1	
	comp=E,795nm,0.4s						
TA01	**Diego Aracena**	**1.17**	**227**	*eP*	**Pn**	**18 22 02.5**	**-0.6**
TA01				*eS*	**Sn**	**18 22 20.9**	**+1.2**
TA01				IAML		18 22 25.9	
	comp=Z,455nm,0.6s						
PX02	**IPOC Station P**	**1.19**	**312**	*eP*	**Pn**	**18 22 02.2**	**-1.3**
PX02				*eS*	**Sn**	**18 22 19.9**	**-0.3**
PX02				IAML		18 22 24.3	
	comp=E,537nm,0.2s						
PB01	**IPOC Station P**	**1.29**	**189**	*eP*	**Pn**	**18 22 04.0**	**-0.7**
PB01				*eS*	**Sn**	**18 22 22.4**	**0.0**
PB01	**IPOC Station P**	**1.29**	**189**	*eP*	**Pn**	**18 22 03.4**	**-1.2**
PB01				*eS*	**Sn**	**18 22 22.7**	**+0.3**
PB01				IAML		18 22 23.4	
	comp=Z,821nm,0.5s						
PB12	**IPOC Station P**	**1.52**	**319⇑**	*iP*	**Pn**	**18 22 06.6**	**-1.0**
PB12				*eS*	**Sn**	**18 22 27.1**	**-0.4**
PB12				IAML		18 22 29.9	
	comp=E,594nm,0.2s						
PB12	**IPOC Station P**	**1.52**	**319**	*eP*	**Pn**	**18 22 06.6**	**-1.0**
PB12				*eS*	**Sn**	**18 22 28.2**	**+0.7**
PB12				IAML		18 22 31.0	
	comp=Z,329nm,0.3s						
PB09	**IPOC Station P**	**2.02**	**179**	*eP*	**Pn**	**18 22 13.6**	**-0.4**
PB09				*eS*	**Sn**	**18 22 39.2**	**+0.2**
PB09				IAML		18 22 44.0	
	comp=N,430nm,0.3s						
PB09	**IPOC Station P**	**2.02**	**179**	*eP*	**Pn**	**18 22 13.9**	**-0.1**
PB09				IAML		18 22 43.5	
	comp=Z,529nm,0.5s						
PB04	**IPOC Station P**	**2.69**	**198**	*eP*	**Pn**	**18 22 23.2**	**+0.4**
PB04				*eS*	**Sn**	**18 22 55.0**	**+0.3**
PB04				IAML		18 23 10.6	
	comp=Z,182nm,0.3s						
PB06	**IPOC Station P**	**2.94**	**186**	*eP*	**Pn**	**18 22 26.0**	**-0.2**
PB06				*eS*	**Sn**	**18 23 00.1**	**-0.7**
PB06				IAML		18 23 09.3	
	comp=Z,233nm,0.4s						
PB15	**IPOC Station P**	**3.43**	**183**	*eP*	**Pn**	**18 22 33.5**	**+0.7**
PB15				*eS*	Sn	18 23 23.6	+11
PB15				IAML		18 23 29.7	
	comp=Z,300nm,0.2s						
LPAZ	**La Paz**	**3.62**	**17**	Pn	**Pn**	**18 22 36.2**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=144,slow=18,SNR=19						
LPAZ				Sn	**Sn**	**18 23 18.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=356,slow=20,SNR=1.7						
	comp=Z,4.7nm,0.6s						
LPAZ	**La Paz**	**3.62**	**17**	*eP*	**Pn**	**18 22 36.8**	**+1.0**
YJA	**Yavi**	**4.25**	**125**	*eP*	**Pn**	**18 22 44.5**	**+0.5**
YJA				*eS*	**Sn**	**18 23 30.4**	**-2.3**
ULM	**Lac du Bonnet**	**73.57**	**343**	P	P	18 33 18.4	+15
	comp=Z,2.1nm,0.5s,baz=166,slow=4.2,SNR=3.0						
	comp=Z,2.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.09**	**71**	P	P	18 33 19.6	-5.3
	comp=Z,0.2nm,0.3s,baz=250,slow=6.3,SNR=4.7						
	comp=Z,0.2nm,0.3s						

*IDC **19** 18:51:12.7±3.2, 31°.28S×113°.61E, h0km, mb3.6/4, mbtmp3.7/5, ML4.1/1, MS2.9/2, Error ellipse: s-maj=95.3km s-min=31.7km az=13.0*
*NOU **19** 18:51:15.2, 31°.21S×113°.85E, h0km, mb4.2/16, West of Australia*
*AUST **19** 18:51:18.8±0.6, 31°.5±2°.×11°.4E±°., h10km, ML3.4/10, Error ellipse: s-maj=11.3km s-min=4.4km az=89.0*
ISC 19 18:51:15.4±1.0, 31°.17S±0°.04×114°.03E±0°.07, h10km, n61, σ2°75/64, mb3.5/4, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTKN	**Mount Kenneth**	**1.67**	**118**	P	**Pg**	**18 51 50.6**	**+3.1**
AUMAZ	**Mazenod Senior**	**1.91**	**117**	P	**Pg**	**18 51 52.8**	**+0.8**
MUN	**Mundaring**	**2.02**	**114**	P	**Pb**	**18 51 53.3**	**+1.0**
MUN	**Mundaring**	**2.02**	**114**	P	**Pb**	**18 51 53.6**	**+1.3**
AUHAR	**St Anne's Scho**	**2.48**	**141**	P	**Pn**	**18 51 58.3**	**+2.4**
MORW	**Morawa**	**2.72**	**40**	P	**Pb**	**18 52 04.3**	**+0.2**
MORW	**Morawa**	**2.72**	**40**	S	**Sb**	**18 52 38.7**	**+1.1**
MORW	**Morawa**	**2.72**	**40**	P	**Pb**	**18 52 03.6**	**-0.6**
KLBR	**Kellerberrin**	**3.21**	**99**	P	**Pb**	**18 52 10.9**	**-1.7**
KLBR	**Kellerberrin**	**3.21**	**99**	S	**Sb**	**18 52 50.8**	**-0.9**
NWAO	**Narrogin (SRO)**	**3.24**	**124**	P	**Pn**	**18 52 09.2**	**+2.9**
NWAO	**Narrogin (SRO)**	**3.24**	**124**	S	**Sn**	**18 52 47.5**	**+2.6**
NWAO	**Narrogin (SRO)**	**3.24**	**124**	LR	LR	18 53 39.9	
	comp=Z,90nm,18.6s,baz=270,slow=42						
NWAO	**Narrogin (SRO)**	**3.24**	**124**	P	**Pn**	**18 52 09.2**	**+2.9**
NWAO	**Narrogin (SRO)**	**3.24**	**124**	P	**Pn**	**18 52 09.3**	**+2.9**
LM05	**Lake Muir 05**	**3.74**	**150**	P	**Pn**	**18 52 13.3**	**0.0**
LM05				S	**Sn**	**18 52 55.8**	**-1.6**
LM04	**Lake Muir 04**	**3.85**	**146**	P	**Pn**	**18 52 15.9**	**+1.1**
LM04				S	**Sn**	**18 52 59.1**	**-1.0**
LM01	**Lskr Muir 01**	**3.97**	**145**	P	**Pn**	**18 52 17.3**	**+0.9**
LM01				S	**Sn**	**18 53 01.2**	**-1.8**
LM02	**Lake Muir 02**	**3.98**	**147**	P	**Pn**	**18 52 17.5**	**+1.0**
LM02				S	**Sn**	**18 53 02.1**	**-1.1**
LM03	**Lake Muir 03**	**4.02**	**143**	P	**Pn**	**18 52 17.8**	**+0.8**
LM03				S	**Sn**	**18 53 03.0**	**-1.2**
RKGY	**Rocky Gully**	**4.23**	**145**	P	**Pn**	**18 52 21.0**	**+1.0**
RKGY	**Rocky Gully**	**4.23**	**145**	S	**Sn**	**18 53 08.0**	**-1.5**
RKGY	**Rocky Gully**	**4.23**	**145**	P	**Pn**	**18 52 21.0**	**+1.0**
AUALB	**St Joseph's Co**	**5.01**	**141**	P	**Pn**	**18 52 32.2**	**+1.5**
AUALB	**St Joseph's Co**	**5.01**	**141**	S	**Sn**	**18 53 29.6**	**+0.9**
MEEK	**Meekatharra**	**6.04**	**43**	P	**Pn**	**18 52 48.5**	**+3.6**
MEEK	**Meekatharra**	**6.04**	**43**	S	**Sn**	**18 53 56.1**	**+2.0**
MEEK	**Meekatharra**	**6.04**	**43**	P	**Pn**	**18 52 48.6**	**+3.7**
KMBL	**Kambalda**	**6.72**	**94**	P	**Pn**	**18 52 57.4**	**+3.1**
KMBL	**Kambalda**	**6.72**	**94**	S	**Sn**	**18 54 12.8**	**+1.9**
KMBL	**Kambalda**	**6.72**	**94**	P	**Pn**	**18 52 57.3**	**+3.1**
GIRL	**Giralia**	**8.49**	**1**	P	**Pn**	**18 53 19.1**	**+0.6**
GIRL	**Giralia**	**8.49**	**1**	P	**Pn**	**18 53 19.4**	**+0.9**
PSA00	**Pilbara Seismi**	**10.88**	**30**	S	**Sn**	**18 55 47.8**	**-5.3**
PSA00	**Pilbara Seismi**	**10.88**	**30**	P	**Pn**	**18 53 54.8**	**+3.5**
PSAC1	**Pilbara Seismi**	**10.90**	**30**	P	Pn	18 54 01.4	+10
MBWA	**Marble Bar**	**11.20**	**28**	P	**Pn**	**18 53 57.3**	**+1.7**
MBWA				S	**Sn**	**18 55 55.5**	**-5.4**
MBWA	**Marble Bar**	**11.20**	**28**	P	**Pn**	**18 53 58.7**	**+3.1**
FORT	**Forrest**	**12.04**	**92**	P	**Pn**	**18 54 09.7**	**+2.5**
FORT	**Forrest**	**12.04**	**92**	S	**Sn**	**18 56 19.3**	**-2.3**
FORT	**Forrest**	**12.04**	**92**	P	**Pn**	**18 54 09.9**	**+2.7**
WRKA	**Warakurna**	**13.98**	**68**	P	**Pn**	**18 54 35.0**	**+1.3**
WRKA	**Warakurna**	**13.98**	**68**	S	**Sn**	**18 57 07.1**	**-2.1**
WRKA	**Warakurna**	**13.98**	**68**	P	**Pn**	**18 54 35.0**	**+1.3**
FITZ	**Fitzroy Crossi**	**16.73**	**42**	P	**Pn**	**18 55 10.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**16.73**	**42**	P	**Pn**	**18 55 11.1**	**+1.1**
MULG	**Mulgathing**	**17.24**	**92**	S	**Sn**	**18 58 22.5**	**-5.8**
MULG	**Mulgathing**	**17.24**	**92**	P	**Pn**	**18 55 17.5**	**+1.1**
MULG	**Mulgathing**	**17.24**	**92**	P	**Pn**	**18 55 17.7**	**+1.3**
BBOO	**Buckleboo**	**18.75**	**101**	P	**Pn**	**18 55 38.5**	**+3.5**
BBOO	**Buckleboo**	**18.75**	**101**	P	**Pn**	**18 55 38.2**	**+3.2**
ASAR	**Alice Springs**	**19.14**	**72**	P	**P**	**18 55 40.5**	**+1.6**
	0.5nm,0.3s,baz=241,slow=10,SNR=62						
ASAR				S	**Sn**	**18 59 05.1**	**-9.3**
	1.4nm,0.6s,baz=246,slow=20,SNR=4.9						
	1.8nm,0.5s						
OOD	**Oodnadatta**	**19.15**	**85**	P	**P**	**18 55 40.5**	**+1.6**
OOD	**Oodnadatta**	**19.15**	**85**	P	**Pn**	**18 55 40.7**	**+0.9**
WRA	**Warramunga Arr**	**21.42**	**63**	P	**P**	**18 56 07.3**	**+3.6**
	0.9nm,0.4s,baz=235,slow=11,SNR=28						
WRA				S	**S**	**18 59 54.8**	**-6.7**
	0.2nm,0.5s,baz=236,slow=14,SNR=1.2						
WRA				LR	LR	19 03 59.9	
	comp=Z,57nm,18.5s,baz=134,slow=35						
	0.9nm,0.4s						
STKA	**Stephens Creek**	**23.49**	**99**	P	**P**	**18 56 27.8**	**+2.4**
	1.0nm,0.7s,baz=270,slow=13,SNR=1.8						
	1.0nm,0.7s						
H08S2	**Diego Garcia H**	**45.25**	**292**	T	T	19 48 47.1	
	baz=127,slow=74						
H08S1	**Diego Carcia H**	**45.26**	**292**	T	T	19 48 46.5	
	baz=127						
H08S3	**Diego Garcia H**	**45.27**	**292**	T	T	19 48 48.6	
	baz=127,slow=74						
MKAR	**Makanchi Array**	**82.72**	**339**	P	**P**	**19 03 37.7**	**-1.4**
	0.2nm,0.5s,baz=145,slow=5.3,SNR=1.9						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**87.28**	**338**	P	**P**	**19 04 00.9**	**-1.0**
	0.3nm,0.3s,baz=133,slow=3.9,SNR=1.9						
	0.3nm,0.3s						

*TEH **19** 18:56:25.1, 38°.78N×43°.58E, h6km±123km, ML2.2*
*ISK **19** 18:56:26.1, 38°.83N×43°.54E, h5km, ML2.5/13*
*AFAD **19** 18:56:26.7±0.0, 38°.83N×43°.62E, h7km±5km, ML2.1*
ISC 19 18:56:27.1±1.0, 38°.84N±0°.02×43°.57E±0°.02, h10km±7km, n27, σ1°10/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.15**	**1**	P	**Pg**	**18 56 30.0**	**-0.6**
VMUR				S	**Sg**	**18 56 34.4**	**+1.2**
VMUR				*i* AML	AML	18 56 36.0	
	comp=N,1μm,0.5s						
VMUR				*i* AML	AML	18 56 36.0	
	comp=E,1μm,0.4s						
ERCV	**ERCIS-VAN**	**0.26**	**316**	Pg	**Pg**	**18 56 32.5**	**+0.1**
VANB	**Van**	**0.28**	**210**	Pg	**Pb**	**18 56 33.8**	**-0.4**
VANB				Sg	**Sb**	**18 56 39.9**	**+0.9**
TVAN	**Van**	**0.33**	**202**	P	**Pg**	**18 56 33.7**	**-0.1**
TVAN				S	**Sb**	**18 56 40.4**	**-0.2**
TVAN				*i* AML	AML	18 56 44.0	
	comp=N,558nm,0.4s						
TVAN				*i* AML	AML	18 56 46.0	
	comp=E,858nm,0.6s						
OZAP	**Van, Ozalp-Mer**	**0.38**	**118**	P	**Pg**	**18 56 34.0**	**-0.6**
OZAP				S	**Sb**	**18 56 43.4**	**+1.5**
OZAP				*i* AML	AML	18 56 46.0	
	comp=N,271nm,0.6s						
OZAP				*i* AML	AML	18 56 49.0	
	comp=E,313nm,0.8s						
GEVA	**Gevas**	**0.66**	**217**	P	**Pg**	**18 56 39.1**	**-0.7**
GEVA				*i* AML	AML	18 57 01.0	
	comp=E,86nm,0.6s						
GEVA				*i* AML	AML	18 57 05.0	
	comp=N,72nm,0.5s						
ADCV	**BITLIS_Adilcev**	**0.66**	**268**	P	**Pg**	**18 56 39.7**	**-0.2**
ADCV				S	**Sn**	**18 56 51.5**	**-1.6**
ADCV				*i* AML	AML	18 56 52.0	
	comp=N,126nm,0.5s						
ADCV				*i* AML	AML	18 56 52.0	
	comp=E,167nm,0.4s						
AKDM	**Akdamar-Van**	**0.69**	**222**	Pg	**Pg**	**18 56 39.9**	**-0.4**
DORK	**Agr/Tutak/Do**	**0.82**	**312**	P	**Pg**	**18 56 42.1**	**-0.9**
DORK				S	**Sn**	**18 56 56.2**	**-1.0**
DORK				*i* AML	AML	18 57 01.0	
	comp=N,92nm,0.5s						
DORK				*i* AML	AML	18 57 07.0	
	comp=E,63nm,0.5s						
MLAZ	**Malazgirt-MUS**	**0.85**	**291**	Pg	**Pg**	**18 56 43.4**	**-0.1**
MLAZ				Sg	**Sb**	**18 56 55.8**	**+0.3**
AGRB	**Hanur-Agry**	**0.86**	**329**	Pg	**Pg**	**18 56 43.4**	**-0.3**
AGRB				Sg	**Sb**	**18 56 56.2**	**+0.3**
KOTA	**Agri, Merkez-K**	**1.00**	**344**	P	**Pg**	**18 56 45.3**	**-1.1**
KOTA				*i* AML	AML	18 57 04.0	
	comp=N,16nm,0.6s						
KOTA				*i* AML	AML	18 57 08.0	
	comp=E,22nm,0.8s						
MAKU	**Maku**	**1.01**	**59**	Pg	**Pg**	**18 56 44.6**	**-1.9**
MAKU				Sg	**Sg**	**18 56 59.2**	**-0.5**
IGDI	**IGDIR**	**1.10**	**21**	P	**Pb**	**18 56 47.5**	**-0.8**
IGDI				S	**Sn**	**18 57 05.3**	**+1.3**
IGDI				*i* AML	AML	18 57 07.0	
	comp=E,34nm,0.5s						
IGDI				*i* AML	AML	18 57 09.0	
	comp=N,27nm,0.8s						
GURO	**Guroymak-BITLI**	**1.23**	**257**	Pn	**Pn**	**18 56 49.4**	**-1.1**
TASB	**TASBURUN-IGDIR**	**1.26**	**24**	Pn	**Pg**	**18 56 51.2**	**0.0**
EATA	**Eleskirt**	**1.32**	**321**	P	**Pn**	**18 56 51.4**	**-0.4**
EATA				S	**Sn**	**18 57 13.9**	**+4.3**
EATA				*i* AML	AML	18 57 15.0	
	comp=N,39nm,0.3s						
EATA				*i* AML	AML	18 57 19.0	
	comp=E,25nm,0.6s						
CUKT	**Cukurca**	**1.59**	**179**	Pn	**Pb**	**18 56 56.2**	**-0.3**
GNI	**Garni**	**1.59**	**34**	Pn	**Pb**	**18 56 56.8**	**+0.1**
IMRD	**Marand**	**1.67**	**94**	Pg	**Pn**	**18 56 56.2**	**-0.4**
VRTB	**Varto-Mus**	**1.68**	**282**	Pn	**Pb**	**18 56 57.8**	**-0.3**
ISHB	**Shabestar**	**1.70**	**108**	Pg	**Pn**	**18 56 56.3**	**-0.7**
KOPR	**Koprukoy-ERZUR**	**1.76**	**312**	Pn	**Pb**	**18 56 58.9**	**-0.6**
SENK	**Senkaya-Erzuru**	**1.96**	**332**	Pn	**Pb**	**18 57 01.9**	**-1.1**
IAZR	**Azarshahr**	**2.22**	**121**	Pn	**Pb**	**18 57 08.0**	**+0.5**
BNGB	**Bingl**	**2.26**	**275**	Pn	**Pn**	**18 57 05.2**	**+0.7**
IHRS	**Heris**	**2.77**	**100**	Pn	**Pn**	**18 57 12.1**	**+0.4**

*IDC **19** 19:03:05.0±0.8, 23°.58N×94°.29E, h0km, mb3.9/12, mbtmp3.9/14, ML4.1/2, MS3.1/1, Error ellipse: s-maj=26.4km s-min=13.3km az=55.0*
*BJI **19** 19:03:05.2, 23°.25N×94°.07E, h14km, mb4.2/15, mB4.8/5*
*NEIC **19** 19:03:06.3±1.7, 23°.38N±0°.02×94°.32E±0°.08, h10km±1km, mb4.3/16, Error ellipse: s-maj=12.3km s-min=3.0km az=85.0*
*NDI **19** 19:03:07.7±2.6, 23°.45N×94°.41E, h10km, ML3.3, MW3.3*
ISC 19 19:03:06.8±0.6, 23°.41N±0°.05×94°.27E±0°.04, h10km, n50, σ1°82/58, mb4.1/23, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.44**	**348**	*eP*	**Pb**	**19 03 34.5**	**+0.7**
IMP				*i* Sg	**Sg**	**19 03 55.6**	**+2.3**
IMP				IAML		19 04 01.5	
	comp=E,222nm,0.6s						
IMP				IAML		19 04 03.4	
	comp=E,622nm,0.2s						
AZL	**Aizawl**	**1.48**	**283**	*eP*	**Pn**	**19 03 35.4**	**+1.7**
AZL				*eS*	**Sg**	**19 04 00.0**	**+5.4**
SILR	**SILCHAR**	**1.91**	**316**	*ex*	Sn	19 04 20.2	+17
SILR				IAML		19 04 24.4	
	comp=N,1μm,0.0s						
SILR				IAML		19 04 24.4	
	comp=E,748nm,0.0s						
KOHI	**KOHIMA**	**2.30**	**356**	*eP*	**Pn**	**19 03 47.2**	**+2.2**
KOHI				*eS*	**Sn**	**19 04 15.0**	**+1.5**
KOHI				IAML		19 04 16.8	
	comp=E,158nm,0.2s						
KOHI				IAML		19 04 17.6	
	comp=N,155nm,0.6s						
BRDH	**Bariadhala**	**2.53**	**254**	Pn	**Pn**	**19 03 50.3**	**+2.3**
	comp=N,142nm,0.3s,baz=250,slow=17,SNR=2.6						
BRDH				Sn	**Sn**	**19 04 21.5**	**+2.7**
	comp=N,59nm,0.3s,baz=229,slow=20,SNR=1.6						
	comp=N,278nm,0.3s						
SHL	**Shillong**	**3.05**	**315**	Pn	**Pn**	**19 03 56.4**	**+1.1**
SHL	**Shillong**	**3.05**	**315**	*eP*	**Pn**	**19 03 55.4**	**+0.1**
SHL				*eS*	**Sn**	**19 04 30.2**	**-1.9**
SHL				IAML		19 04 32.6	
	comp=N,94nm,0.2s						
SHL				IAML		19 04 32.7	
	comp=E,67nm,0.3s						
ZIRO	**ZIRO**	**4.11**	**355**	*eP*	**Pn**	**19 04 10.4**	**+0.5**
ZIRO				IAML		19 04 56.3	
	comp=E,89nm,0.6s						
ZIRO				IAML		19 04 57.5	
	comp=N,108nm,0.2s						
TNCH	**TengChong**	**4.20**	**67**	Pn	**Pn**	**19 04 14.6**	**+3.4**
TNCH				Pg	**Pg**	**19 04 27.6**	**+0.2**
TNCH				Sn	**Sn**	**19 05 02.5**	**+2.0**
TNCH				Sg	**Sg**	**19 05 23.6**	**+1.7**
CHTO	**Chiang Mai**	**6.33**	**135**		**Pn**	**19 04 39.8**	**-0.5**
GTK	**Tadong**	**6.43**	**308**	*eP*	**Pn**	**19 04 42.9**	**+1.1**
GTK				*eS*	**Sn**	**19 05 53.5**	**-1.8**
CM31	**Chiang Mai Arr**	**6.59**	**138**	Pn	**Pn**	**19 04 45.9**	**+2.0**
CMAR	**Chiang Mai Arr**	**6.59**	**138**	Pn	**Pn**	**19 04 42.5**	**-1.3**
CMAR	**Chiang Mai Arr**	**6.59**	**138**	Pn	**Pn**	**19 04 45.7**	**+1.8**
	comp=N,0.3nm,0.3s,baz=310,slow=14,SNR=8.9						
CMAR				Lg	Lg	19 06 38.3	
	comp=N,0.1nm,0.3s,baz=301,slow=33,SNR=1.2						
	comp=N,0.7nm,0.4s						
LSA	**Lhasa**	**6.85**	**337**	Pn	**Pn**	**19 04 48.2**	**+0.3**
PHRA	**Phrae**	**7.41**	**130**	Pn	**Pn**	**19 04 53.5**	**-1.7**
PZH	**PanZhiHua**	**7.45**	**64**	Pn	**Pn**	**19 04 59.1**	**+3.4**
WMQ	**Urumqi**	**21.06**	**347**	*eP*	**P**	**19 07 54.0**	**+2.8**
WUS	**Wushi**	**21.77**	**328**	P	**P**	**19 07 59.0**	**+0.2**
KSH	**Kashi**	**22.32**	**320**	P	**P**	**19 08 06.3**	**+1.5**
KSH				pmax	pmax		
	comp=N,8.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**22.66**	**36**	*eP*	**P**	**19 08 09.5**	**+1.1**
HHC				pmax	pmax		
	comp=N,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=N,160nm,4.3s						
TARG	**Taragay, Kyrgy**	**22.86**	**327**	P	**P**	**19 08 09.7**	**-1.1**
DRK	**Karamyk**	**24.88**	**315**	P	**P**	**19 08 29.1**	**-1.0**
DRK				IAmb	IAmb	19 08 31.3	
	comp=Z,5.4nm,0.6s						
AAK	**Ala-Archa**	**25.23**	**324**	P	**P**	**19 08 33.1**	**0.0**
AAK				IAmb	IAmb	19 08 36.0	
	comp=Z,3.5nm,0.9s						
MK31	**Makanchi Array**	**25.24**	**340**	P	**P**	**19 08 32.2**	**-0.8**
MK31				IAmb	IAmb	19 08 34.0	
	comp=Z,3.2nm,0.7s						
MKAR	**Makanchi Array**	**25.24**	**340**	P	**P**	**19 08 32.6**	**-0.4**
MKAR	**Makanchi Array**	**25.24**	**340**	P	**P**	**19 08 31.8**	**-1.2**
	comp=Z,4.5nm,0.7s,baz=150,slow=9.7,SNR=30						
	comp=Z,4.5nm,0.7s						
MAKZ	**Makanchi**	**25.35**	**340**	P	**P**	**19 08 31.7**	**-2.3**
MAKZ				IAmb	IAmb	19 08 35.8	
	comp=Z,4.3nm,0.6s						
GAR	**Garm**	**25.60**	**313**	P	**P**	**19 08 35.6**	**-0.8**
BTK	**Batken**	**25.83**	**315**	P	**P**	**19 08 38.0**	**-0.5**
BTK				IAmb	IAmb	19 08 39.8	
	comp=Z,4.6nm,0.7s						
SONM	**Songino Array**	**26.22**	**19**	P	**P**	**19 08 39.7**	**-2.3**
SONM	**Songino Array**	**26.22**	**19**	P	**P**	**19 08 40.3**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=205,slow=9.0,SNR=1.3						
SONM				LR	LR	19 18 58.2	
	comp=Z,45nm,20.5s,baz=301,slow=37						
	comp=Z,0.3nm,0.3s						
SIMJ	**Simiganj**	**26.33**	**311**	P	**P**	**19 08 41.4**	**-1.7**
XLT	**XiLinHaoTe**	**27.19**	**36**	*eP*	**P**	**19 08 54.6**	**+3.9**
XLT				pP	sP	19 08 58.8	+3.7
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KURBB	**Kurchatov Arra**	**29.80**	**340**	P	**P**	**19 09 13.2**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=155,slow=8.0,SNR=17						
	comp=Z,2.5nm,0.8s						
KURK	**Kurchatov**	**29.85**	**340**	P	**P**	**19 09 14.0**	**-0.2**
KURK				IAmb	IAmb	19 09 16.0	
	comp=Z,3.1nm,0.9s						
ZALV	**Zalesovo Beam**	**31.31**	**349**	P	**P**	**19 09 26.1**	**-1.0**
ZALV	**Z

KDI	**Kendari**	**4.78**	**197**	P	**Pn**	**19 07 55.7 +1.3**
NLAI	**Namlea**	**4.96**	**141**	P	**Pn**	**19 07 57.4 +0.6**
TTSI	**Tana Toraja**	**5.55**	**229**	P	**Pn**	**19 08 04.8 +0.4**
	23nm,0.8s,0.1nm					
AAI	**Ambon**	**6.02**	**136**	P	**Pn**	**19 08 08.8 -1.7**
	15nm,0.6s,0.1nm					
SPSI	**Sidrap Palu**	**6.23**	**223**	P	**Pn**	**19 08 13.2 0.0**
	16nm,0.8s,0.1nm					
BBSI	**Bau Bau**	**6.26**	**193**	P	**Pn**	**19 08 13.4 -0.2**
BNSI	**Bone**	**6.34**	**218**	P	**Pn**	**19 08 14.8 +0.2**
KAPI	**Kappang**	**7.04**	**217**	Pn	**Pn**	**19 08 24.9 +1.2**
KAPI	**Kappang**	**7.04**	**217**	P	**Pn**	**19 08 25.6 +1.9**
	12nm,0.8s,baz=17,slow=12,SNR=4.6					
KAPI				S	**Sn**	**19 09 42.9 -0.7**
	2.4nm,0.6s,baz=217,slow=20,SNR=0.9					
BATI	**Baumata**	**10.79**	**182**	P	**Pn**	**19 09 15.1 +2.4**
	35nm,0.9s,baz=7.1,slow=8.1,SNR=2.3					
MTN	**Manton Dam**	**15.17**	**152**	Pn	**Pn**	**19 10 06.2 -1.4**
MTN				IAmb	IAmb	19 10 32.2
	comp=Z,17nm,1.4s					
KNRA	**Kununurra**	**16.90**	**164**	P	**P**	**19 10 27.8 +0.6**
KNRA				IAmb	IAmb	19 10 29.2
	comp=Z,11nm,0.7s					
FITZ	**Fitzroy Crossi**	**18.70**	**175**	P	**P**	**19 10 47.4 +0.5**
FITZ	**Fitzroy Crossi**	**18.70**	**175**	P	**P**	**19 10 47.5 +0.5**
	comp=Z,2.6nm,0.3s,baz=360,slow=6.3,SNR=35					
MBWA	**Marble Bar**	**22.07**	**191**	P	**P**	**19 11 22.0 -0.5**
PSA00	**Pilbara Seismi**	**22.46**	**190**	P	**P**	**19 11 26.1 0.0**
PSA00				IAmb	IAmb	19 11 49.3
	comp=Z,14nm,1.0s					
WB0	**Warramunga Arr**	**22.71**	**154**	P	**P**	**19 11 28.5 0.0**
WB0				IAmb	IAmb	19 11 30.2
	comp=Z,8.4nm,0.7s					
WRA	**Warramunga Arr**	**22.84**	**154**	P	**P**	**19 11 29.2 -0.4**
WRA	**Warramunga Arr**	**22.84**	**154**	P	**P**	**19 11 30.3 +0.7**
	comp=Z,6.8nm,0.6s,baz=334,slow=10,SNR=48					
	comp=Z,6.8nm,0.6s					
WB2	**Warramunga Arr**	**22.85**	**154**	P	**P**	**19 11 29.8 +0.2**
WB2				IAmb	IAmb	19 11 32.0
	comp=Z,9.6nm,0.7s					
WR0	**Warramunga Arr**	**22.95**	**154**	P	**P**	**19 11 30.8 +0.3**
WR0				IAmb	IAmb	19 11 32.5
	comp=Z,6.2nm,0.7s					
AS31	**Alice Springs**	**26.02**	**159**	P	**P**	**19 11 57.1 -1.3**
ASAR	**Alice Springs**	**26.02**	**159**	P	**P**	**19 11 56.6 -1.8**
ASAR	**Alice Springs**	**26.02**	**159**	P	**P**	**19 11 59.1 +0.8**
	comp=Z,0.5nm,0.5s,baz=337,slow=7.2,SNR=13					
	comp=Z,0.5nm,0.5s					
CMAR	**Chiang Mai Arr**	**30.30**	**307**	P	**P**	**19 12 36.9 +0.5**
	comp=Z,0.2nm,0.3s,baz=151,slow=7.9,SNR=2.1					
	comp=Z,0.2nm,0.3s					
FORT	**Forrest**	**31.50**	**173**	P	**P**	**19 12 47.3 +0.6**
STKA	**Stephens Creek**	**36.40**	**154**	P	**P**	**19 13 29.3 +0.4**
STKA	**Stephens Creek**	**36.40**	**154**	P	**P**	**19 13 29.5 +0.6**
	comp=Z,1.4nm,0.4s,baz=334,slow=10,SNR=5.5					
	comp=Z,1.4nm,0.4s					
KSRS	**Korea Array**	**36.80**	**5**	LR	LR	19 31 13.6
	comp=Z,10nm,19.1s,baz=5.0,slow=40					
USRK	**Ussuriysk Ar.**	**43.94**	**8**	P	**P**	**19 14 31.8 +1.1**
	comp=Z,1.6nm,0.5s,baz=198,slow=6.2,SNR=6.2					
	comp=Z,1.6nm,0.5s					
SONM	**Songino Array**	**49.42**	**344**	P	**P**	**19 15 13.5 +0.2**
	comp=Z,0.4nm,0.5s,baz=139,slow=9.2,SNR=3.6					
	comp=Z,0.4nm,0.5s					
MK31	**Makanchi Array**	**58.59**	**328**	P	**P**	**19 16 19.6 +0.1**
MKAR	**Makanchi Array**	**58.59**	**328**	P	**P**	**19 16 19.4 -0.1**
MKAR	**Makanchi Array**	**58.59**	**328**	P	**P**	**19 16 19.0 -0.5**
	comp=Z,1.1nm,0.5s,baz=123,slow=8.2,SNR=14					
	comp=Z,1.1nm,0.5s					
PETK	**Petropavlovsk-**	**59.30**	**23**	P	**P**	**19 16 22.9 -1.3**
	comp=Z,8.4nm,1.1s,baz=257,slow=12,SNR=3.6					
	comp=Z,8.4nm,1.1s					
YAK	**Yakutsk**	**61.38**	**3**	P	**P**	**19 16 37.2 -0.9**
ZALV	**Zalesovo Beam**	**62.14**	**335**	P	**P**	**19 16 43.5 +0.2**
	comp=Z,0.5nm,0.4s,baz=125,slow=5.6,SNR=2.9					
	comp=Z,0.5nm,0.4s					
KURBB	**Kurchatov Arra**	**62.90**	**329**	P	**P**	**19 16 48.0 -0.5**
	comp=Z,0.6nm,0.4s,baz=127,slow=6.3,SNR=8.8					
	comp=Z,0.6nm,0.4s					
KURK	**Kurchatov**	**62.91**	**329**	P	**P**	**19 16 48.2 -0.4**
KURK				IAmb	IAmb	19 16 50.4
	comp=Z,3.0nm,0.8s					
BVAR	**Borovoye Array**	**68.44**	**328**	P	**P**	**19 17 23.5 -0.4**
	comp=Z,0.3nm,0.4s,baz=142,slow=8.3,SNR=6.2					
	comp=Z,0.3nm,0.4s					
TIXI	**Tiksi**	**70.95**	**2**	P	**P**	**19 17 38.7 -0.1**
ABKAR	**Akbulak array**	**72.83**	**322**	P	**P**	**19 17 48.7 -1.7**
L16K	**Owhat River**	**83.06**	**28**	P	**P**	**19 18 48.5 +2.0**
L16K				IAmb	IAmb	19 19 04.3
	comp=Z,17nm,1.4s					
H17K	**Granite Mounta**	**83.54**	**25**	P	**P**	**19 18 51.1 +2.1**
H17K				IAmb	IAmb	19 19 00.0
	comp=Z,6.3nm,1.2s					
C18K	**Utukok River**	**83.89**	**21**	P	**P**	**19 18 52.3 +1.6**
J18K	**Innoko River**	**84.63**	**26**	P	**P**	**19 18 56.5 +2.0**
J18K				IAmb	IAmb	19 19 28.9
	comp=Z,10nm,1.4s					
D19K	**Kuna River**	**84.96**	**21**	P	**P**	**19 18 57.4 +1.3**
D19K				IAmb	IAmb	19 19 15.4
	comp=Z,18nm,1.5s					
IMAR	**Indian Mountai**	**86.25**	**24**	P	**P**	**19 19 03.8 +1.3**

*IDC **19** 19:18:34.3±1.1,56°.53S×25°.56W,h0km,mb4.0/4, mbtmp3.9/5,ML3.6/1,Error ellipse: s-maj=37.8km s-min=27.7km az=74.0*

ISC 19 19:18:38.7±1.0,56°.6S±0°.1×25°.6W±0°.2,h29km,n10, σ0s88/10,mb4.1/4,4C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.00**	**159**	⇑P	**Pn**	**19 22 21.5**	**+0.2**
	comp=Z,0.3nm,0.2s						
VNA3	**Neumayer Olymp**	**16.22**	**161**	⇑P	**Pn**	**19 22 24.6**	**+0.4**
	comp=Z,0.4nm,0.2s						
VNA2	**Neumayer--Watz**	**16.39**	**159**	⇑P	**Pn**	**19 22 26.1**	**-0.2**
	comp=Z,0.3nm,0.2s,baz=328,slow=16						
SNAA	**Sanae**	**17.92**	**157**	⇑P	**P**	**19 22 45.8**	**-0.1**
	comp=Z,2.2nm,0.2s						
SNAA	**Sanae**	**17.92**	**157**	P	**Pn**	**19 22 45.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=317,slow=16,SNR=8.4						
	comp=Z,0.4nm,0.4s						
QSPA	**South Pole Qui**	**33.69**	**180**	P	**P**	**19 25 16.9**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=166,slow=8.3,SNR=4.3						
	comp=Z,1.1nm,0.4s						
LPAZ	**La Paz**	**51.39**	**304**	P	**P**	**19 27 41.8**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=142,slow=5.8,SNR=8.4						
	comp=Z,1.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.08**	**28**	P	**P**	**19 30 05.1**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=203,slow=6.7,SNR=4.6						
	comp=Z,0.3nm,0.5s						
KMBO	**Kilima Mbogo**	**74.41**	**67**	P	**P**	**19 30 15.5**	**+1.4**
	comp=Z,1.1nm,0.5s,baz=230,slow=13,SNR=4.2						
	comp=Z,1.1nm,0.5s						
SONM	**Songino Array**	**149.88**	**86**	PKPbc	**PKPbc**	**19 38 23.6**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=219,slow=1.8,SNR=3.6						

NNC 19 19:23:00.5±5.1,36°.72N×71°.05E,h112km±77km,mb3.0, mpv3.6,3C-3D,Error ellipse: s-maj=46.3km s-min=36.8km az=158.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.39**	**356**	⇑P	Pn	19 24 32.1	0.0
	1.4nm,0.2s,baz=175,slow=12,SNR=41						
KK31				⇓S	Sn	19 25 44.3	+0.7
	1.4nm,0.2s,baz=189,slow=22,SNR=8.1						
TKM2	**Tokmak 2**	**7.11**	**28**	⇑P	Pn	19 24 42.2	+0.1
	1.8nm,0.5s						
TKM2				⇓S	Sn	19 26 01.9	+0.5
	1.9nm,0.7s						
AB31	**Akbulak array**	**14.91**	**331**	⇓P	Pn	19 26 23.6	-1.7
	0.2nm,0.3s,baz=161,slow=9.3,SNR=19						
AKTO	**Aktyubinsk**	**16.61**	**330**	⇑P	P	19 26 47.8	+0.8
	1.7nm,0.7s						

*IDC **19** 19:34:16.9±4.6,36°.57N×71°.15E,h202km±41km,mb3.4/7, mbtmp3.8/13,MS2.6/1,Error ellipse: s-maj=36.4km s-min=16.6km az=34.0*
*NNC **19** 19:34:18.2±5.6,36°.80N×70°.77E,h151km±79km,mb3.2, mpv4.2,Error ellipse: s-maj=51.3km s-min=37.9km az=3.0*

ISC 19 19:34:15.9±1.2,36°.59N±0°.10×71°.0E±0°.1,h188km,n25, σ1s15/29,mb3.5/7,3C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.91**	**20**	P	**Pn**	**19 35 42.9**	**+0.8**
	SNR=125						
EKS2	**Erkin-Say**	**6.42**	**18**	P	**Pn**	**19 35 49.6**	**+1.0**
	SNR=16						
KK31	**Karatay Array**	**6.52**	**357**	P	**Pn**	**19 35 49.5**	**-0.2**
	4.9nm,0.3s,baz=188,slow=13,SNR=81						
KK31				⇑S	**Sn**	**19 36 59.7**	**-4.2**
	2.0nm,0.3s,baz=159,slow=16,SNR=8.1						
AAK	**Ala-Archa**	**6.60**	**23**	P	**Pn**	**19 35 52.2**	**+1.1**
	SNR=23						
AAK	**Ala-Archa**	**6.60**	**23**	P	**Pn**	**19 35 52.1**	**+1.1**
	11nm,0.3s,baz=176,slow=6.1,SNR=75						
AAK				S	**Sn**	**19 37 05.4**	**-0.7**
	4.7nm,0.7s,baz=120,slow=20,SNR=6.6						
KBK	**Karagaybulak**	**6.77**	**25**	P	**Pn**	**19 35 54.5**	**+1.3**
	SNR=12						
CHMS	**Chumysh**	**7.01**	**23**	P	**Pn**	**19 35 57.3**	**+1.1**
	SNR=12						
USP	**Ospenovka**	**7.18**	**21**	P	**Pn**	**19 35 59.0**	**+0.6**
	SNR=18						
TKM2	**Tokmak 2**	**7.23**	**28**	P	**Pn**	**19 36 00.4**	**+1.1**
	SNR=5.6						
TKM2	**Tokmak 2**	**7.23**	**28**	⇓P	**Pn**	**19 35 59.6**	**+0.3**
	19nm,0.7s						
TKM2				⇑S	**Sn**	**19 37 21.6**	**+0.5**
	2.0nm,0.7s						
MKAR	**Makanchi Array**	**13.20**	**36**	P	**Pn**	**19 37 16.1**	**-0.2**
	0.6nm,0.8s,baz=217,slow=12,SNR=3.2						
MKAR				LR	LR	19 42 53.5	
	comp=Z,25nm,21.4s,baz=6.0,slow=39						
AB31	**Akbulak array**	**15.02**	**331**	P	**Pn**	**19 37 39.9**	**+1.2**
	0.5nm,0.5s,baz=146,slow=12,SNR=22						
KURBB	**Kurchatov Arra**	**15.03**	**19**	P	**Pn**	**19 37 38.1**	**-0.7**
	0.2nm,0.3s,baz=211,slow=11,SNR=2.1						
BVAR	**Borovoye Array**	**16.44**	**359**	P	**P**	**19 37 56.2**	**+1.0**
	0.9nm,0.5s,baz=164,slow=10,SNR=11						
BVAR				S	**S**	**19 40 57.1**	**0.0**
	0.7nm,0.7s,baz=170,slow=27,SNR=3.5						
AKTO	**Aktyubinsk**	**16.71**	**330**	⇑P	**P**	**19 37 59.1**	**+0.8**
	1.5nm,0.8s						
AKTO	**Aktyubinsk**	**16.71**	**330**	P	**P**	**19 37 58.8**	**+0.5**
	1.9nm,0.6s,baz=128,slow=9.4,SNR=5.8						
ZALV	**Zalesovo Beam**	**19.82**	**25**	P	**P**	**19 38 31.6**	**-0.4**
	1.4nm,0.6s,baz=223,slow=7.9,SNR=8.3						
AKASG	**Malin Array Be**	**32.91**	**309**	P	**P**	**19 40 32.0**	**-0.1**
	0.5nm,0.5s,baz=82,slow=7.3,SNR=6.0						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**37.42**	**326**	P	**P**	**19 41 10.9**	**+0.4**
	1.5nm,0.7s,baz=124,slow=9.0,SNR=7.8						
	1.5nm,0.7s						
ARCES	**ARCESS Array B**	**41.07**	**338**	P	**P**	**19 41 40.6**	**-0.1**
	1.6nm,0.5s,baz=113,slow=9.1,SNR=6.3						
	1.6nm,0.5s						
HFS	**Hagfors**	**43.01**	**322**	P	**P**	**19 41 56.6**	**+0.2**
	1.9nm,0.5s,baz=98,slow=11,SNR=11						
	1.9nm,0.5s						
NB2	**NORSAR Subarra**	**44.32**	**323**	P	**P**	**19 42 07.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.32**	**323**	P	**P**	**19 42 07.2**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=96,slow=7.7,SNR=6.8						
	comp=Z,0.9nm,0.5s						
WRA	**Warramunga Arr**	**82.02**	**122**	P	**P**	**19 46 14.0**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=324,slow=5.0,SNR=6.9						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**84.29**	**125**	P	**P**	**19 46 25.6**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=305,slow=5.0,SNR=7.9						
	comp=Z,0.5nm,0.6s						

*IDC **19** 19:42:32.8±9.3,2°.53N×128°.27E,h284km±93km,mb3.1/8, mbtmp3.7/8,Error ellipse: s-maj=75.8km s-min=14.5km az=59.0*

ISC 19 19:42:34.2±1.4,2°.5N±0°.2×128°.4E±0°.4,h300km,n8, σ0s89/9,mb3.5/7,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.67**	**187**	P	**P**	**19 46 50.8**	**-1.1**
	0.6nm,0.4s,baz=16,slow=7.4,SNR=1.2						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**23.09**	**166**	P	**P**	**19 47 14.2**	**0.0**
	0.7nm,0.4s,baz=343,slow=10.0,SNR=17						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**26.59**	**169**	P	**P**	**19 47 45.9**	**+0.2**
	0.8nm,0.4s,baz=350,slow=7.3,SNR=23						
ASAR				PcP	**PcP**	**19 51 02.6**	**+1.1**
	0.2nm,0.5s,baz=350,slow=2.1,SNR=5.5						
	0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**32.88**	**301**	P	**P**	**19 48 41.9**	**+0.9**
	0.5nm,0.6s,baz=118,slow=7.2,SNR=6.7						
	0.5nm,0.6s						
STKA	**Stephens Creek**	**36.45**	**161**	P	**P**	**19 49 11.4**	**+0.3**
	1.6nm,0.6s,baz=5.2,slow=7.4,SNR=7.2						
	1.6nm,0.6s						
MKAR	**Makanchi Array**	**59.47**	**325**	P	**P**	**19 52 05.5**	**-0.6**
	0.3nm,0.4s,baz=116,slow=7.6,SNR=5.6						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.62**	**327**	P	**P**	**19 52 32.9**	**-0.7**
	0.7nm,0.5s,baz=127,slow=6.2,SNR=7.9						
	0.7nm,0.5s						
BVAR	**Borovoye Array**	**69.21**	**327**	P	**P**	**19 53 08.2**	**-0.6**
	0.3nm,0.5s,baz=144,slow=8.2,SNR=2.9						
	0.3nm,0.5s						

*IDC **19** 19:43:04.3±1.3,37°.50N×20°.70E,h0km,mb3.7/7, mbtmp3.6/8,ML4.1/1,MS2.5/1,Error ellipse: s-maj=36.9km s-min=22.9km az=144.0*
*ATH **19** 19:43:07.0,37°.57N×20°.40E,h8km±4km,ML3.4/8,Error ellipse: s-maj=4.4km s-min=1.2km az=38.0*
*THE **19** 19:43:07.2,37°.56N×20°.41E,h3km±20km,ML3.5/9,Error ellipse: s-maj=20.4km s-min=0.6km az=54.0*

ISC 19 19:43:07.1±1.4,37°.57N±0°.04×20°.42E±0°.05,h16km±8km, n37,σ0s92/51,mb3.7/7,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.33**	**74**	P	**Pg**	**19 43 14.0**	**0.0**
KRI1				S	**Sg**	**19 43 18.6**	**-0.2**
	27μm,0.5s						
LTHK	**Lithakia**	**0.36**	**67**	P	**Pg**	**19 43 14.2**	**-0.4**
LTHK				S	**Sg**	**19 43 19.5**	**-0.1**
	18μm,0.4s						
LTHK	**Lithakia**	**0.36**	**67**	P	**Pg**	**19 43 14.2**	**-0.4**
LTHK				S	**Sg**	**19 43 19.2**	**-0.4**
LTHK				AML	AML	19 43 20.2	
	comp=E,43971μm,0.4s						
LTHK				AML	AML	19 43 20.3	
	comp=N,30310μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.56**	**14**	P	**Pg**	**19 43 18.0**	**-0.2**
PSDA				S	**Sg**	**19 43 26.0**	**+0.3**
	comp=N,5μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.56**	**14**	P	**Pg**	**19 43 17.6**	**-0.6**
PSDA				S	**Sg**	**19 43 26.2**	**+0.5**
RTZL	**Ratzakli, Kefa**	**0.58**	**29**	P	**Pg**	**19 43 18.0**	**-0.5**
RTZL				S	**Sg**	**19 43 26.7**	**+0.4**
	comp=N,4μm,0.2s						
LXR1	**Lixouri, Cepha**	**0.63**	**2**	P	**Pg**	**19 43 19.5**	**0.0**
LXR1				S	**Sb**	**19 43 29.0**	**+0.7**
	comp=N,13μm,0.4s						
DMLN	**Damoulianata-K**	**0.67**	**357**	P	**Pg**	**19 43 19.9**	**-0.3**
DMLN				S	**Sb**	**19 43 30.0**	**+0.6**
	comp=N,6μm,0.6s						
DMLN	**Damoulianata-K**	**0.67**	**357**	P	**Pg**	**19 43 19.5**	**-0.7**
DMLN				S	**Sg**	**19 43 29.6**	**+0.5**
SMHA	**Samh**	**0.70**	**15**	P	**Pg**	**19 43 19.8**	**-1.1**
SMHA				S	**Sg**	**19 43 29.4**	**-0.8**
VSK1	**VASILIKIADES**	**0.84**	**8**	P	**Pg**	**19 43 22.7**	**-0.9**
VSK1				S	**Sg**	**19 43 35.3**	**+0.6**
	comp=N,5μm,0.5s						
FSK	**Fiskardo**	**0.89**	**7**	P	**Pg**	**19 43 23.6**	**-0.9**
FSK				S	**Sb**	**19 43 37.7**	**+1.8**
	comp=N,2μm,0.5s						
FSK	**Fiskardo**	**0.89**	**7**	P	**Pg**	**19 43 23.2**	**-1.3**
FSK				AML	AML	19 43 43.1	
	comp=E,3757μm,0.2s						
FSK				AML	AML	19 43 45.3	
	comp=N,2921μm,0.7s						
RLS	**Riolos of Patr**	**0.96**	**59**	P	**Pg**	**19 43 25.1**	**-0.7**
RLS				S	**Sb**	**19 43 39.5**	**+1.6**
	comp=N,1μm,0.6s						
RLS	**Riolos of Patr**	**0.96**	**59**	P	**Pg**	**19 43 25.3**	**-0.5**
RLS				S	**Sg**	**19 43 38.3**	**-0.1**
RLS				AML	AML	19 43 43.8	
	comp=N,2887μm,0.4s						
RLS				AML	AML	19 43 44.1	
	comp=E,2647μm,0.8s						
AMT	**Artemida-Makis**	**1.03**	**92**	P	**Pg**	**19 43 26.9**	**-0.2**
EVGI	**Lefkada island**	**1.06**	**10**	P	**Pg**	**19 43 26.7**	**-1.0**
DRO	**Drossia**	**1.09**	**69**	P	**Pg**	**19 43 27.7**	**-0.6**
DRO	**Drossia**	**1.09**	**69**	P	**Pg**	**19 43 28.0**	**-0.3**
DRO				AML	AML	19 43 52.7	
	comp=E,5401μm,0.5s						
DRO				AML	AML	19 43 56.7	
	comp=N,6073μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.16**	**11**	P	**Pg**	**19 43 28.3**	**-1.2**
LKD2	**Lefkada island**	**1.23**	**9**	P	**Pg**	**19 43 30.5**	**-0.4**
LKD2				AML	AML	19 43 54.1	
	comp=E,4655μm,0.6s						
LKD2				AML	AML	19 43 55.4	
	comp=N,2777μm,0.5s						
PYL	**PYLOS**	**1.25**	**122**	P	**Pg**	**19 43 30.7**	**-0.6**
PYL	**PYLOS**	**1.25**	**122**	P	**Pg**	**19 43 30.7**	**-0.6**
ITM	**Ithomi**	**1.27**	**108**	P	**Pg**	**19 43 31.1**	**-0.4**
ITM				AML	AML	19 43 59.5	
	comp=N,1935μm,0.8s						
ITM				AML	AML	19 44 04.6	
	comp=E,1531μm,0.6s						
TSLK	**Tsoukalades, L**	**1.27**	**8**	P	**Pg**	**19 43 30.5**	**-1.1**
KLV	**Kalavryta, Ach**	**1.45**	**71**	P	**Pn**	**19 43 33.6**	**+0.8**
EFP	**Efpalio**	**1.45**	**54**	P	**Pn**	**19 43 33.4**	**+0.7**
EFP				AML	AML	19 44 00.4	
	comp=N,2604μm,0.6s						
EFP				AML	AML	19 44 04.1	
	comp=E,1771μm,0.7s						
GUR	**Goura**	**1.57**	**76**	P	**Pn**	**19 43 35.7**	**+1.2**
GUR				AML	AML	19 44 13.1	
	comp=N,2557μm,0.7s						
GUR				AML	AML	19 44 13.3	
	comp=E,2938μm,0.7s						
MMAI	**Mount Meron Ar**	**13.06**	**106**	Pn	**Pn**	**19 46 11.5**	**-0.5**
	comp=E,0.5nm,0.3s,baz=316,slow=12,SNR=1.5						
MMAI				LR	LR	19 51 39.5	
	comp=E,22nm,21.5s,baz=138,slow=40						
ESDC	**Sonseca Array**	**19.15**	**284**	P	**Pn**	**19 47 32.4**	**+1.7**
	comp=E,0.1nm,0.3s,baz=84,slow=11,SNR=1.1						
	comp=E,0.3nm,0.7s						
HFS	**Hagfors**	**22.99**	**351**	P	**P**	**19 48 11.4**	**+0.7**
	comp=E,3.5nm,1.0s,baz=171,slow=14,SNR=2.0						
	comp=E,3.5nm,1.0s						
FINES	**FINESS Array B**	**24.16**	**7**	P	**P**	**19 48 21.7**	**-0.5**
	comp=E,8.0nm,1.2s,baz=188,slow=9.5,SNR=6.2						
	comp=E,8.0nm,1.2s						
TORD	**Torodi Ar. Bea**	**29.51**	**219**	P	**P**	**19 49 10.9**	**+0.2**
	comp=E,0.7nm,0.8s,baz=34,slow=9.2,SNR=4.1						
	comp=E,0.7nm,0.8s						
BVAR	**Borovoye Array**	**37.57**	**49**	P	**P**	**19 50 19.3**	**-1.2**
	comp=E,0.3nm,0.7s,baz=298,slow=6.4,SNR=1.5						
	comp=E,0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**42.66**	**53**	P	**P**	**19 51 02.7**	**0.0**
	comp=E,0.4nm,0.2s,baz=276,slow=8.9,SNR=4.1						
	comp=E,0.4nm,0.2s						
MKAR	**Makanchi Array**	**45.69**	**58**	P	**P**	**19 51 25.2**	**-1.9**
	comp=E,0.5nm,0.5s,baz=289,slow=7.6,SNR=5.7						
	comp=E,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**46.16**	**48**	P	**P**	**19 51 27.9**	**-2.8**
	comp=E,0.5nm,0.5s,baz=282,slow=8.0,SNR=3.7						
	comp=E,0.5nm,0.5s						

*DRS **19** 19:57:23.3,43°.33N×44°.89E,h60km*
*NORS **19** 19:57:23.9,43°.29N×44°.93E,h16km,MPVA4.1*

MOS 19 19:57:23.9,43°.29N×44°.90E,h19km,MPVA3.9,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMGR	**Komgaron**	**0.23**	**186**	*i* Pg	Pg	19 57 30.1	+0.6
KMGR				*e*Sg	Sg	19 57 35.3	+2.1
BTKR	**Batakoyurt**	**0.28**	**288**	*e*Pg	Pb	19 57 30.6	+0.5
BTKR				*e*Sg	Sg	19 57 35.5	+1.1
VLKR	**Vladikavkaz**	**0.29**	**214**	*e*Pg	Pb	19 57 31.6	+1.1
VLKR				*e*Sg	Sb	19 57 36.1	+1.3
TRKR	**Terskaya**	**0.45**	**344**	*e*Pg	Pb	19 57 34.1	+0.7
TRKR				*e*Sg	Sn	19 57 42.1	-0.9
ARNR	**Ardon**	**0.46**	**257**	*e*Pg	Pn	19 57 34.8	-0.7
ARNR				*e*Sg	Sn	19 57 44.3	+1.1
STDR	**Stavd-Durt**	**0.62**	**278**	*i* Pg	Pn	19 57 38.2	+0.6
STDR				*e*Sg	Sn	19 57 49.9	+2.9
LACR	**Lac**	**0.64**	**224**	*e*Pg	Pn	19 57 38.1	0.0
LACR				*e*Sg	Sn	19 57 50.8	+3.1
KORR	**Kora**	**0.64**	**252**	*e*Pg	Pn	19 57 38.7	+0.7
KORR				*e*Sg	Sn	19 57 49.8	+2.2
PRTR	**Priterechnaya**	**0.65**	**316**	*e*Pg	Pn	19 57 37.8	-0.3
PRTR				*e*Sg	Sn	19 57 49.4	+1.7
LSNR	**Lesken**	**0.78**	**270**	*e*Pg	Pn	19 57 40.7	+0.7
LSNR				*e*Sg	Sn	19 57 52.9	+1.6
GUDG	**Gudauri**	**0.88**	**201**	*e*Pg	Pn	19 57 42.4	+0.9
GUDG				*e*Sg	Sn	19 57 55.5	+1.7
NCK	**Nalchik**	**0.97**	**283**	*e*Pg	Pg	19 57 44.1

*NEIC **19** 20:18:41.3±2.3, 32°.16N±0°.01×115°.14W±0°.07, h10km±1km, mb4.6/58, ML4.9/52, Mww4.9/34, Mwr4.8/6(PAS), Error ellipse: s-maj=10.4km s-min=2.9km az=279.0*
*ECX **19** 20:18:41.0±0.6, 32°.22N×115°.27W, h12km±3km, MD4.7, ML4.9*
*PAS **19** 20:18:42.5±2.5, 32°.2N±0°.1×115°.3W±0°.2, h11km±2km, Error ellipse: s-maj=26.2km s-min=19.9km az=216.0*
*NEIC **19** 20:18:42.5, 32°.21N×115°.25W, h12km*
*NEIC **19** 20:18:42.5, 32°.11N×115°.37W, h12km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^16Nm; Mrr=0.45; Mθθ=1.71; Mφφ=2.16; Mrθ=0.29; Mrφ=1.29; Mθφ=0.80; Fault plane solution: M0=2.44000×10^16 NP1:φs=62.68000°, δ=80.85000°, λ=11.86000°. NP2:φs=330.76000°, δ=78.29000°, λ=170.66000°. Principal axes: T 2.7757, Plg15.0000°, Azm287.0000°; N -0.6755, Plg75.0000°, Azm100.0000°; P -2.1002, Plg2.0000°, Azm196.0000°;*
*MEX **19** 20:18:43.3±1.1, 32°.28N×115°.22W, h21km±54km, MD4.9*
*GCMT **19** 20:18:44.3±0.2, 32°.21N±0°.02×115°.22W±0°.01, h13km±1km, MW4.9/111, Moment Tensor Solution. s29,c33; s111,c165; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.51±.09; Mθθ=2.02±.07; Mφφ=2.52±.09; Mrθ=0.26±.19; Mrφ=1.28±.06; Mθφ=0.04±.16; Best double couple: M0=2.62500×10^16 NP1:φs=59.00000°, δ=85.00000°, λ=-6.00000°. NP2:φs=150.00000°, δ=84.00000°, λ=-175.00000°. Principal axes: T 2.8560, Plg0.0000°, Azm105.0000°; N -0.4690, Plg82.0000°, Azm198.0000°; P -2.3930, Plg8.0000°, Azm15.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 20:18:42.6±0.7, 32°.18N±0°.02×115°.29W±0°.02, h16km±4km, n356, σ1§72/329, mb4.5/31, MS4.2/59, 12C-7D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RHX	**Rio Hardy**	**0.04**	**174**	⇓*eP*		**Pg**		**20 18 44.6**	**-0.8**
RHX						IAML		20 18 47.3	
	comp=N,259μm,0.2s								
RHX				⇑*e*				20 18 47.3	
RHX						IAML		20 18 47.5	
	comp=E,164μm,0.2s								
RHX				⇑*e*				20 18 47.5	
AGSX	**Ej. Aguas Cali**	**0.14**	**51**	⇑*iP*		**Pg**		**20 18 45.4**	**-1.1**
AGSX				*eS*		**Sg**		**20 18 48.1**	**-0.9**
CPBX	**Cerro Prieto**	**0.24**	**357**	Pg		**Pg**		**20 18 47.3**	**-0.7**
CPBX	**Cerro Prieto**	**0.24**	**357**			**Sg**		**20 18 52.3**	**+0.6**
CPBX	**Cerro Prieto**	**0.24**	**357**	IAML				20 18 54.4	
	comp=E,661μm,0.5s								
CPBX				IAML				20 18 54.8	
	comp=N,526μm,0.6s								
CPBX	**Cerro Prieto**	**0.24**	**357**	⇓*eP*		**Pg**		**20 18 47.6**	**-0.4**
CPBX				*eS*		**Sg**		**20 18 51.3**	**-0.4**
CPBX				IAML				20 18 53.7	
	comp=E,621μm,0.6s								
MBIG	**Mexicali**	**0.24**	**19**	*eP*		**Pg**		**20 18 47.7**	**-0.2**
MBIG				*eS*		**Sg**		**20 18 50.2**	**-1.4**
RITX	**Riito Sonora**	**0.28**	**92**	*iP*		**Pg**		**20 18 48.4**	**-0.2**
RITX				*eS*		**Sg**		**20 18 53.5**	**+0.8**
CTLX	**Tlaxcala, TLX**	**0.32**	**22**	⇓*eP*		**Pg**		**20 18 48.6**	**-0.6**
CTLX				*eS*		**Sg**		**20 18 53.9**	**+0.1**
CTLX				⇑*e*				20 18 55.0	
CTLX				IAML				20 18 55.0	
	comp=N,315μm,0.8s								
PESCX	**Ej. Pescaderos**	**0.37**	**47**			**Pg**		**20 18 49.5**	**-0.8**
PESCX						**Sb**		**20 18 55.4**	**-1.0**
PESCX	**Ej. Pescaderos**	**0.37**	**47**	⇓*eP*		**Pg**		**20 18 49.5**	**-0.8**
ALAMX	**Rancho Alamar**	**0.39**	**244**	⇑*eP*		**Pg**		**20 18 51.2**	**+0.6**
ALAMX				*eS*		**Sg**		**20 18 57.6**	**+1.5**
JARAX	**Ej. Heriberto**	**0.43**	**325**	⇑*eP*		**Pg**		**20 18 50.8**	**-0.5**
JARAX				*eS*		**Sg**		**20 18 57.5**	**+0.2**
YUCAX	**Ej. Yucatɲ**	**0.46**	**21**	⇓*eP*		**Pg**		**20 18 51.4**	**-0.4**
YUCAX				*eS*		**Sg**		**20 18 59.0**	**+1.0**
UABX	**UABC, Campus M**	**0.47**	**344**			**Pg**		**20 18 52.0**	**-0.1**
UABX						**Sg**		**20 18 59.8**	**+1.4**
UABX	**UABC, Campus M**	**0.47**	**344**	*eP*		**Pg**		**20 18 51.9**	**-0.1**
ICBC	**Inst. de Cultu**	**0.51**	**342**	⇓*eP*		**Pg**		**20 18 52.6**	**-0.1**
EDOMX	**El Doctor, EDO**	**0.51**	**115**	⇑*iP*		**Pb**		**20 18 52.6**	**-0.5**
EDOMX				*iS*		**Sb**		**20 19 00.5**	**+0.3**
EDOMX				*eS*		**Sg**		**20 19 00.9**	**+1.3**
5054	**Holtville Bond**	**0.52**	**355**			**Pg**		**20 18 52.5**	**-0.3**
5054						**Sg**		**20 19 00.8**	**+1.0**
5053	**Calexico**	**0.52**	**341**			**Pg**		**20 18 52.7**	**-0.2**
5053						**Sg**		**20 19 00.9**	**+1.1**
SLRCX	**San Luis Rio C**	**0.57**	**60**			**Pg**		**20 18 53.0**	**-0.8**
SLRCX						**Sb**		**20 19 01.2**	**-0.8**
CEA0	**Mexicali**	**0.57**	**326**	*eP*		**Pg**		**20 18 53.4**	**-0.5**
ESJX	**Sierra Juarez**	**0.58**	**253**	Pg		**Pg**		**20 18 54.4**	**+0.1**
ESJX	**Sierra Juarez**	**0.58**	**253**			**Sg**		**20 19 02.8**	**+0.7**
EMSC	**East Mesa**	**0.61**	**25**			**Pg**		**20 18 53.6**	**-1.1**
EMSC						**Sg**		**20 19 03.2**	**+0.3**
EMSC	**East Mesa**	**0.61**	**25**	⇓*iP*		**Pg**		**20 18 53.6**	**-1.1**
DREC	**Desert Rsrch C**	**0.64**	**348**			**Pg**		**20 18 54.5**	**-0.6**
DREC						**Sg**		**20 19 05.2**	**+1.6**
WESC	**Westside Schoo**	**0.69**	**327**			**Pg**		**20 18 55.4**	**-0.7**
WESC						**Sg**		**20 19 05.8**	**+0.5**
WESC	**Westside Schoo**	**0.69**	**327**	*eP*		**Pg**		**20 18 55.4**	**-0.7**
SNR	**Schaffner Ranc**	**0.69**	**350**			**Pg**		**20 18 55.1**	**-1.0**
SNR						**Sg**		**20 19 06.5**	**+1.2**
COA	**Coachella**	**0.70**	**12**			**Pg**		**20 18 54.8**	**-1.5**
COA						**Sg**		**20 19 04.1**	**-1.4**
COA	**Coachella**	**0.70**	**12**	*eS*		**Sg**		**20 19 04.1**	**-1.4**
SJX	**San Joaquin**	**0.70**	**234**	⇑*eP*		**Pg**		**20 18 54.4**	**-1.9**
YUH2	**Yuha Desert**	**0.71**	**311**	⇑*eP*		**Pg**		**20 18 55.6**	**-0.9**
YUH2				*iS*		**Sg**		**20 19 05.2**	**-0.7**
YUH2				*eS*		**Sb**		**20 19 05.8**	**-0.3**
YUH	**Yuha Desert**	**0.71**	**311**	Pg		**Pg**		**20 18 55.3**	**-1.2**
YUH	**Yuha Desert**	**0.71**	**311**			**Sg**		**20 19 05.2**	**-0.7**
YUH	**Yuha Desert**	**0.71**	**311**	IAML				20 19 06.8	
	comp=N,33μm,0.9s								
YUH				IAML				20 19 06.9	
	comp=E,39μm,0.6s								
ECBX	**El Chinero**	**0.73**	**164**	*eP*		**Pb**		**20 18 56.2**	**-0.7**
ECBX				*eS*		**Sb**		**20 19 06.1**	**-0.5**
IMPE	**Imperial**	**0.76**	**342**			**Pg**		**20 18 56.2**	**-1.2**
IMPE						**Sg**		**20 19 06.9**	**-0.4**
COK2	**Cook Ranch 2**	**0.77**	**331**			**Pg**		**20 18 56.1**	**-1.4**
COK2						**Sg**		**20 19 07.5**	**-0.1**
RMX	**La Rumorosa**	**0.79**	**303**			**Pg**		**20 18 56.2**	**-1.8**
RMX						**Sg**		**20 19 06.4**	**-2.1**
RMX	**La Rumorosa**	**0.79**	**303**	⇑*iP*		**Pg**		**20 18 56.2**	**-1.8**
IKP	**In-Ko-Pah, Jac**	**0.84**	**304**			**Pg**		**20 18 57.8**	**-1.1**
IKP						**Sg**		**20 19 09.3**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.84**	**304**	⇑*iP*		**Pg**		**20 18 57.8**	**-1.1**
SWSC	**Sam W. Stewart**	**0.88**	**331**			**Pg**		**20 18 57.4**	**-2.2**
SWSC						**Sg**		**20 19 08.8**	**-2.4**
VTX	**Valle De La Tr**	**0.89**	**208**			**Pg**		**20 18 59.3**	**-0.6**
VTX				Sg		**Sb**		**20 19 12.0**	**+0.7**
VTX				IAML				20 19 13.4	
	comp=N,42μm,0.7s								
WEMD	**Westmorland, C**	**0.89**	**344**			**Pg**		**20 18 57.9**	**-2.0**
WEMD						**Sg**		**20 19 10.6**	**-1.1**
SUP	**Superstition M**	**0.90**	**330**			**Pg**		**20 18 57.8**	**-2.2**
SUP						**Sg**		**20 19 11.3**	**-0.5**
CRR	**Carrizo Plain**	**0.91**	**321**			**Pg**		**20 18 58.4**	**-1.9**
CRR						**Sg**		**20 19 11.8**	**-0.4**
GLA	**Glamis**	**0.95**	**24**	IAML				20 19 18.6	
	comp=E,28μm,0.9s								
GLA				IAML				20 19 22.6	
	comp=N,31μm,0.6s								
ERRC	**Elmore Ranch**	**1.04**	**334**			**Pg**		**20 19 00.4**	**-2.2**
ERRC						**Sg**		**20 19 14.3**	**-2.0**
SPIG	**San Pedro Mart**	**1.14**	**188**	*eP*		**Pg**		**20 19 03.2**	**-1.5**
SPIG				*eS*		**Sb**		**20 19 18.3**	**-0.4**
CBX	**Cerro Bola**	**1.17**	**277**	Pn		**Pb**		**20 19 03.5**	**-1.0**
TKX	**Tecate**	**1.18**	**290**			**Pn**		**20 19 03.2**	**-1.3**
TKX				IAML				20 19 20.8	
	comp=N,21μm,0.5s								
TKX				IAML				20 19 21.3	
	comp=E,18μm,0.4s								
SFX	**San Felipe**	**1.20**	**162**	Pg		**Pg**		**20 19 02.6**	**-3.1**
SFX				IAML				20 19 24.5	
	comp=E,39μm,0.8s								
SFX				IAML				20 19 25.6	
	comp=N,27μm,0.8s								
TJIG	**Tijuana**	**1.20**	**283**	*eP*		**Pn**		**20 19 03.6**	**-1.1**
TJIG				*eS*		**Sb**		**20 19 18.2**	**-2.0**
BAR	**Barrett**	**1.27**	**294**	⇑*eP*		**Pn**		**20 19 04.5**	**-1.1**
TJX	**Tijuana**	**1.53**	**283**			**Pn**		**20 19 08.9**	**-0.3**
PIX	**Pinacate**	**1.67**	**111**	Pn		**Pn**		**20 19 07.7**	**-3.4**
PIX				IAML				20 19 39.8	
	comp=N,11μm,1.1s								
PIX				IAML				20 19 44.4	
	comp=E,10μm,0.9s								
CPE	**Camp Elliot**	**1.69**	**295**	IAML				20 19 37.0	
	comp=N,12μm,0.2s								
CPE				IAML				20 19 38.5	
	comp=E,12μm,0.3s								
BLYC	**Blythe**	**1.69**	**22**			**Pn**		**20 19 09.2**	**-2.3**
PFO	**Pinyon Flats O**	**1.74**	**326**			**Pn**		**20 19 09.9**	**-2.2**
PFO	**Pinyon Flats O**	**1.74**	**326**	Pg		**Pn**		**20 19 10.8**	**-1.3**
	comp=E,56nm,0.3s,baz=139,slow=13,SNR=404								
PFO					Lg	Lg		20 19 36.2	
	comp=E,396nm,0.3s,baz=100,slow=18,SNR=7.6								
ELS	**Elsinore Mount**	**2.32**	**310**	Pn		**Pn**		**20 19 18.7**	**-1.5**
ELS				IAML				20 19 59.2	
	comp=E,5μm,1.2s								
Y14A	**Wickenburg**	**2.60**	**47**	Pn		**Pn**		**20 19 22.3**	**-1.6**
LAPR	**La Primavera**	**3.04**	**123**	*eP*		**Pn**		**20 19 27.4**	**-2.6**
PASC	**Pasadena Art C**	**3.14**	**310**			**Pn**		**20 19 30.7**	**-0.6**
PASC				IAML				20 20 21.1	
	comp=N,2μm,1.4s								
PASC				IAML				20 20 30.6	
	comp=E,2μm,2.7s								
GSC	**Goldstone, Bar**	**3.36**	**338**			**Pn**		**20 19 32.9**	**-1.6**
GSC				IAML				20 20 46.6	
	comp=E,2μm,1.6s								
BAHB	**Baha de los**	**3.55**	**155**	*eP*		**Pb**		**20 19 42.0**	**-2.9**
V12A	**Nelson**	**3.56**	**6**			**Pn**		**20 19 35.3**	**-1.8**
SNCC	**San Nicolas Is**	**3.73**	**288**			**Pn**		**20 19 38.2**	**-1.2**
CCAC	**Calif City Air**	**3.74**	**323**			**Pn**		**20 19 37.5**	**-2.1**
CCAC				IAML				20 20 52.5	
	comp=N,3μm,1.5s								
CCAC				IAML				20 21 01.2	
	comp=E,2μm,1.7s								
X16A	**Lo Mia Camp, P**	**3.92**	**54**	Pn		**Pn**		**20 19 41.3**	**-1.0**
GWY	**Greenwater Val**	**4.16**	**344**			**Pn**		**20 19 45.0**	**-0.5**
SHPR	**Sheep Range**	**4.32**	**1**	Pn		**Pn**		**20 19 47.5**	**-0.2**
ISA	**Isabella, Lake**	**4.37**	**324**	IAML				20 21 11.7	
	comp=E,720nm,2.1s								
WUAZ	**Wupatki**	**4.66**	**43**			**Pn**		**20 19 52.8**	**+0.4**
WCT	**Wildcat Mounta**	**4.73**	**347**			**Pn**		**20 19 53.3**	**0.0**
CPY	**CP-1**	**4.78**	**353**			**Pn**		**20 19 54.8**	**+0.7**
TPNV	**Topopah Spring**	**4.82**	**351**			**Pn**		**20 19 54.1**	**-0.5**
TPNV				IAML				20 21 49.5	
	comp=E,660nm,2.4s								
TPNV				IAML				20 21 51.2	
	comp=E,878nm,1.9s								
HSIG		**4.89**	**129**	Pn		**Pn**		**20 19 54.2**	**-1.2**
HSIG		**4.89**	**129**	*eP*		**Pn**		**20 19 57.0**	**+1.6**
GRAC	**Grapevine Rang**	**5.10**	**341**	IAML				20 21 51.3	
	comp=E,802nm,2.5s								
GRAC				IAML				20 22 36.3	
	comp=N,587nm,2.5s								
NZIG	**Nacozari, Sono**	**5.23**	**109**			**Pn**		**20 20 00.5**	**+0.3**
NZIG	**Nacozari, Sono**	**5.23**	**109**	*iP*		**Pn**		**20 20 00.5**	**+0.3**
DSP	**Deep Springs**	**5.63**	**338**	Pn		**Pn**		**20 20 05.8**	**+0.3**
GUYB	**Guaymas**	**5.73**	**137**	*eP*		**Pn**		**20 20 07.6**	**+0.7**
PKCU	**Pink Cliffs**	**5.80**	**24**	Pn		**Pn**		**20 20 08.7**	**+0.5**
R11B	**Troy Canyon, C**	**6.16**	**358**	P		**Pn**		**20 20 13.1**	**0.0**
	baz=177,SNR=18								
121A	**Cookes Peak, D**	**6.36**	**85**	P		**Pn**		**20 20 15.1**	**-0.7**
	baz=268,SNR=70								
121A				S		**Sn**		**20 21 24.6**	**-3.5**
	baz=268								
BBGB	**Big Mountain B**	**6.47**	**314**	Pn		**Pn**		**20 20 16.8**	**-0.3**
NVAR	**Mina Array Bea**	**6.71**	**339**	Pn		**Pn**		**20 20 21.4**	**+0.9**
	comp=N,0.2nm,0.3s,baz=170,slow=15,SNR=4.8								
NVAR					Lg	Lg		20 22 12.6	
	baz=124,slow=15								
NVAR				LR		LR		20 22 49.0	
	comp=N,463nm,21.4s,baz=151,slow=38								
SAO	**San Andreas Ge**	**6.84**	**314**	Pn		**Pn**		**20 20 23.4**	**+1.3**
Q12A	**Willow Creek R**	**6.86**	**3**	Pn		**Pn**		**20 20 21.5**	**-1.1**
CRNM	**Carthage**	**7.40**	**74**	Pn		**Pn**		**20 20 29.1**	**-0.8**
MVCO	**Mesa Verde**	**7.51**	**46**	Pn		**Pn**		**20 20 33.2**	**+1.5**
BNM	**Barren Site**	**7.52**	**73**	Pn		**Pn**		**20 20 31.6**	**-0.2**
ANMO	**Albuquerque**	**7.87**	**67**	Pn		**Pn**		**20 20 37.3**	**+0.7**
ANMO	**Albuquerque**	**7.87**	**67**	Pn		**Pn**		**20 20 37.0**	**+0.5**
	comp=N,1.1nm,0.3s,baz=56,slow=12,SNR=15								
ANMO					Lg	Lg		20 22 49.1	
	comp=N,0.9nm,0.3s,baz=172,slow=19,SNR=3.5								
ANMO				LR		LR		20 23 28.2	
	comp=N,1μm,18.4s,baz=54,slow=37								
	comp=N,10.0nm,0.7s								
SRU	**San Rafael Swe**	**7.93**	**28**	Pn		**Pn**		**20 20 38.5**	**+1.2**
PV17	**East Wray Mesa**	**7.99**	**39**	Pn		**Pn**		**20 20 40.8**	**+2.6**
P18A	**Preston Nutter**	**8.48**	**27**	Pn		**Pn**		**20 20 46.9**	**+1.9**
ELK	**Elko**	**8.55**	**0**	Pn		**Pn**		**20 20 46.4**	**+0.6**
	comp=N,0.6nm,0.3s,baz=164,slow=11,SNR=12								
ELK					Lg	Lg		20 23 10.5	
	comp=N,0.3nm,0.3s,baz=127,slow=5.1,SNR=2.4								
ELK				LR		LR		20 23 50.7	
	comp=N,792nm,20.9s,baz=184,slow=37								
	comp=N,3.3nm,0.6s								
VHRN	**Van Horn**	**8.91**	**96**	Pn		**Pn**		**20 20 52.0**	**+1.3**
CTU	**Camp Tracy**	**8.96**	**18**	Pn		**Pn**		**20 20 53.1**	**+1.7**
LPIG	**La Paz**	**9.17**	**150**	Pn		**Pn**		**20 20 56.0**	**+1.9**
	comp=N,2.6nm,0.3s,baz=117,slow=5.1,SNR=0.9								
LPIG					Lg	Lg		20 23 35.7	
	comp=N,3.5nm,0.3s,baz=199,slow=5.3,SNR=1.1								
LPIG				LR		LR		20 24 32.9	
	comp=N,1μm,18.4s,baz=336,slow=38								
	comp=N,17nm,0.4s								
RDMU	**Red Mountain**	**9.56**	**27**	Pn		**Pn**		**20 21 00.5**	**+0.8**
BCIG	**La Boquilla**	**9.74**	**116**			**Pn**		**20 21 03.6**	**+1.6**
BCIG	**La Boquilla**	**9.74**	**116**	*eP*		**Pn**		**20 21 03.6**	**+1.6**
T25A	**Trinidad**	**10.23**	**58**	P		**Pn**		**20 21 09.6**	**+0.7**
	baz=244,SNR=13								
TXAR	**Lajitas Array**	**10.39**	**103**	Pn		**Pn**		**20 21 12.0**	**+1.0**
	comp=N,10.0nm,0.3s,baz=286,slow=13,SNR=246								
TXAR					Lg	Lg		20 24 06.5	
	comp=N,0.5nm,0.3s,baz=275,slow=25,SNR=2.3								
TXAR				LR		LR		20 25 14.0	
	comp=N,940nm,21.6s,baz=231,slow=38								
Q24A	**Divide**	**10.67**	**48**	P		**Pn**		**20 21 16.2**	**+1.1**
	baz=233,SNR=6.5								
YBH	**Yreka Blue Hor**	**11.23**	**330**	Pn		**Pn**		**20 21 25.3**	**+2.9**
	comp=N,0.2nm,0.3s,baz=150,slow=7.8,SNR=19								
YBH					Lg	Lg		20 24 34.6	
	comp=N,0.2nm,0.3s,baz=35,slow=17,SNR=1.7								
YBH				LR		LR		20 25 21.0	
	comp=N,791nm,18.1s,baz=222,slow=36								
	comp=N,13nm,1.1s								
N23A	**Red Feather La**	**11.49**	**38**	P		**Pn**		**20 21 27.6**	**+1.5**
	baz=223								
PDAR	**Pinedale Array**	**11.50**	**22**	Pn		**Pn**		**20 21 28.4**	**+2.1**
	comp=N,0.2nm,0.3s,baz=233,slow=9.1,SNR=22								
PDAR					Lg	Lg		20 24 42.2	
	comp=N,0.2nm,0.3s,baz=180,slow=29,SNR=1.6								
PDAR				LR		LR		20 25 40.0	
	comp=N,502nm,20.1s,baz=195,slow=37								
	comp=N,6.2nm,1.1s								
K22A	**Casper**	**12.55**	**31**	Pn		**Pn**		**20 21 41.6**	**+1.0**
WMOK	**Wichita Mounta**	**14.02**	**75**	Pn		**Pn**		**20 21 58.2**	**-2.3**
D08A	**Wollman Farm,**	**15.12**	**350**	Pn		**Pn**		**20 22 13.1**	**-2.3**
D08A				IAmb		IAmb		20 22 19.8	
	comp=Z,66nm,1.9s								
WHTX	**Lake Whitney,**	**15.12**	**86**	Pn		**Pn**		**20 22 12.7**	**-2.8**
BLOK	**Blackwell**	**15.59**	**68**	P		**Pn**		**20 22 21.8**	**+0.2**
LTY	**Liberty**	**15.61**	**346**	P		**Pn**		**20 22 25.2**	**+3.3**
W35A	**Tecumseh**	**15.62**	**74**	IAmb		IAmb		20 22 25.1	
	comp=Z,43nm,1.6s								
LAO	**LASA Array**	**16.08**	**23**	P		**Pn**		**20 22 29.1**	**+1.2**
NEW	**Newport**	**16.13**	**356**	P		**Pn**		**20 22 31.5**	**+3.0**
NEW				IAmb		IAmb		20 22 32.8	
	comp=Z,70nm,1.3s								
NEW	**Newport**	**16.13**	**356**	Pn		**Pn**		**20 22 29.7**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=174,slow=13,SNR=32								
NEW					Lg	Lg		20 27 08.0	
	comp=Z,0.2nm,0.3s,baz=54,slow=8.7,SNR=1.4								
NEW				LR		LR		20 29 09.1	
	comp=Z,172nm,19.3s,baz=180,slow=39								
	comp=Z,25nm,1.1s								
T35A	**Sooner Cattle**	**16.17**	**68**	Pn		**Pn**		**20 22 28.9**	**-0.2**
EGMT	**Eagleton**	**16.38**	**13**	P		**P**		**20 22 34.6**	**+0.1**
EGMT				IAmb		IAmb		20 22 36.1	
	comp=Z,102nm,1.4s								
GNW	**Green Mountain**	**16.41**	**342**	P		**P**		**20 22 37.9**	**+3.2**
HKT	**Hockley**	**16.82**	**92**	P		**Pn**		**20 22 36.6**	**-0.7**
HKT				IAmb		IAmb		20 22 41.7	
	comp=Z,68nm,1.4s								
B04A	**Port Angeles**	**17.04**	**341**	Pn		**Pn**		**20 22 38.2**	**-1.8**
B04A				IAmb		IAmb		20 22 48.7	
	comp=Z,68nm,1.4s								
E28A	**Huff**	**18.23**	**34**	P		**P**		**20 22 56.4**	**+1.4**
DGMT	**Dagmar**	**18.31**	**24**			**P**		**20 22 57.0**	**+1.2**
DGMT				IAmb		IAmb		20 23 00.9	
	comp=Z,78nm,1.1s								
ECSD	**EROS Data Cent**	**18.66**	**47**	P		**Pn**		**20 23 00.8**	**+0.7**
WHAR	**Wooly Hollow**	**19.37**	**75**	P		**P**		**20 23 06.5**	**-1.0**
WHAR				IAmb		IAmb		20 23 17.7	
	comp=Z,81nm,2.0s								
F33A	**5 Mile Ranch,**	**20.03**	**42**	IAmb		IAmb		20 23 19.8	
	comp=Z,62nm,1.2s								
CCM	**Cathedral Cave**	**20.50**	**67**	P		**P**		**20 23 17.8**	**-2.0**
PBMO	**Poplar Bluff**	**20.98**	**71**	P		**P**		**20 23 21.3**	**-3.7**
PBMO				IAmb		IAmb		20 23 30.2	
	comp=Z,23nm,1.2s								
FVM	**French Village**	**21.13**	**67**	P		**P**		**20 23 25.0**	**-1.6**
FVM				IAmb		IAmb		20 23 39.4	
	comp=Z,27nm,1.3s								
CGM3	**Cape Girardeau**	**21.64**	**69**	P		**P**		**20 23 29.2**	**-3.0**
CGM3				IAmb		IAmb		20 23 45.5	
	comp=Z,26nm,1.1s								
SPMN	**Marine on St.**	**21.77**	**47**	P		**P**		**20 23 33.4**	**0.0**
SPMN				IAmb		IAmb		20 23 40.4	
	comp=Z,42nm,1.0s								
AGMN	**Agassiz Nation**	**21.79**	**37**	P		**P**		**20 23 30.2**	**-3.5**
S44A	**Carbondale**	**22.01**	**68**	P		**P**		**20 23 32.8**	**-3.3**
S44A				IAmb		IAmb		20 23 38.2	
	comp=Z,26nm,1.1s								
SIUC	**Southern Illin**	**22.04**	**68**	P		**P**		**20 23 33.3**	**-3.1**
SIUC				IAmb		IAmb		20 23 38.3	
	comp=Z,20nm,0.8s								
BBB	**Bella Bella**	**22.07**	**339**	LR		LR		20 31 47.3	
	comp=Z,567nm,18.7s,baz=162,slow=36								
HDIL	**Hopedale**	**22.48**	**61**	P		**P**		**20 23 38.7**	**-2.4**
OLIL	**Olney**	**23.04**	**66**	P		**P**		**20 23 45.6**	**-1.4**
OLIL				IAmb		IAmb		20 23 50.0	
	comp=Z,33nm,1.1s								
ULM	**Lac du Bonnet**	**23.10**	**33**	P		**P**		**20 23 47.7**	**+0.2**
	comp=Z,16nm,0.9s,baz=232,slow=9.1,SNR=13								
ULM				LR		LR		20 33 08.7	
	comp=Z,371nm,20.1s,baz=226,slow=38								
	comp=Z,16nm,0.9s								
E38A	**The Farm, Brul**	**23.21**	**45**	P		**P**		**20 23 45.7**	**-2.9**
CMIG	**Matias Romero**	**23.80**	**124**	P		**P**		**20 23 56.5**	**+1.8**
	comp=Z,5.1nm,0.9s,baz=347,slow=18,SNR=2.5								
CMIG				LR		LR		20 32 24.3	
	comp=Z,627nm,19.9s,baz=277,slow=35								
	comp=Z,5.1nm,0.9s								
LRAL	**Lakeview Retre**	**23.82**	**80**	P		**P**		**20 23 53.9**	**-0.9**
LRAL				IAmb		IAmb		20 24 05.1	
	comp=Z,28nm,1.4s								
V48A	**Smith Brothers**	**23.84**	**74**	IAmb		IAmb		20 23 57.3	
	comp=Z,17nm,1.2s								
Y49A	**Blount Mountai**	**24.24**	**78**	P		**P**		**20 23 56.9**	**-1.8**
Y49A				IAmb		IAmb		20 24 25.9	
	comp=Z,17nm,1.3s								
CLTN	**Cedars of Leba**	**24.24**	**73**	P		**P**		**20 23 57.1**	**-1.7**
CLTN				IAmb		IAmb		20 24 08.0	
	comp=Z,24nm,1.2s								
RUBB	**Prince Rupert**	**24.57**	**339**	P		**P**		**20 24 00.0**	**-1.5**
RUBB				IAmb		IAmb		20 24 06.7	
	comp=Z,18nm,1.1s				

comp=Z,353nm,18.9s,baz=140,slow=36
comp=Z,2.1nm,0.7s
G27K Doyon Strip 38.04 343 P P 20 26 01.6 +1.8
baz=142
PRP Porcupine Dome 38.09 340 P P 20 26 01.2 +0.8
baz=136
TRF Thorofare Moun 38.22 335 P P 20 26 03.2 +1.7
baz=128
F28M Old Crow 38.28 345 P P 20 26 02.8 +1.0
baz=145,SNR=5.8
N19K Bonanza Creek 38.36 330 P P 20 26 03.5 +0.8
baz=120
M20K Styx River 38.37 332 P P 20 26 04.4 +1.7
baz=123
E29M Blow River 38.53 347 P P 20 26 05.0 +1.1
baz=148
G26K Porcupine Rive 38.68 343 P P 20 26 06.7 +1.6
baz=140
H25L Birch Creek 38.71 341 P P 20 26 07.3 +1.9
baz=136
CAST Castle Rocks 38.85 335 P P 20 26 08.0 +1.4
baz=126
BPAW Bear Paw Mtn. 38.87 336 P P 20 26 08.2 +1.4
baz=128
M19K Big River Lodg 38.89 332 P P 20 26 08.5 +1.6
baz=122
L20K Farewell, AK 38.99 333 P P 20 26 09.3 +1.4
baz=123
I23K Minto, Yukon-K 38.99 338 P P 20 26 07.8 +0.1
I23K IAmb IAmb 20 26 22.4
comp=Z,33nm,1.7s
I23K Minto, Yukon-K 38.99 338 P P 20 26 09.4 +1.7
baz=131
H24K Noodor Dome 39.00 339 P P 20 26 09.4 +1.5
baz=134
E28M Babbage River 39.04 346 P P 20 26 09.6 +1.5
E28M IAmb IAmb 20 26 11.8
comp=Z,11nm,1.0s
E28M Babbage River 39.04 346 P P 20 26 09.8 +1.7
baz=146
E27K Coleen River 39.13 345 P P 20 26 10.2 +1.3
baz=144
G25K Bearman Lake 39.15 341 P P 20 26 10.8 +1.7
baz=137
CHUM Lake Minchumin 39.20 335 P P 20 26 11.9 +2.3
baz=126
L19K White Mountain 39.22 332 P P 20 26 11.5 +1.8
baz=121
BMAR Burnt Mountain 39.25 343 P P 20 26 09.8 -0.2
M18K Stony River 39.27 330 P P 20 26 11.8 +1.7
baz=120
F26K Sheenjek River 39.34 343 P P 20 26 12.7 +2.0
baz=140
MLY Manley 39.37 337 P P 20 26 13.0 +2.0
baz=129
H23K Yukon River 39.50 339 P P 20 26 14.2 +2.2
baz=131
K20K Telida 39.55 334 P P 20 26 14.5 +2.0
baz=124
F25K Christian Rive 39.64 342 P P 20 26 15.2 +1.9
baz=138
D27M Malcolm River 39.86 346 P P 20 26 17.3 +2.3
baz=145
I21K Tanana 39.87 337 P P 20 26 17.7 +2.7
baz=128
M17K Holitna River 39.90 330 P P 20 26 16.7 +1.3
baz=118
L18K Granite Mounta 39.98 331 P P 20 26 17.7 +1.7
baz=119
J20K Nowinta River 40.03 335 P P 20 26 18.7 +2.3
baz=124
TTA Tatalina 40.07 332 P P 20 26 17.8 +0.9
baz=121
H22K Ishtalitna Cre 40.12 338 P P 20 26 18.4 +1.2
baz=129,SNR=8.5
F24K Squaw Lake 40.18 341 P P 20 26 19.1 +1.3
baz=135
A36M Sachs Harbour 40.22 355 P P 20 26 19.6 +1.7
A36M IAmb IAmb 20 26 22.8
comp=Z,12nm,1.0s
A36M Sachs Harbour 40.22 355 P P 20 26 19.4 +1.5
baz=167,SNR=6.1
G23K Bananza Creek 40.24 339 P P 20 26 19.6 +1.4
baz=132
M16K Timber Creek 40.39 329 P P 20 26 21.3 +1.8
baz=115
H21K Melozitna Rive 40.44 337 P P 20 26 22.1 +2.3
baz=127
J19K Poorman 40.48 334 P P 20 26 22.5 +2.4
baz=122
I20K Naaghedeneel 40.50 335 P P 20 26 20.8 +0.5
I20K Naaghedeneel 40.50 335 P P 20 26 22.7 +2.4
baz=124
L17K Donlin 40.60 330 P P 20 26 23.3 +2.1
baz=117
J18K Innoko River 40.61 333 P P 20 26 23.6 +2.3
baz=120
COLD Coldfoot 40.63 340 P P 20 26 24.3 +2.9
baz=132
E24K Your Creek 40.74 342 P P 20 26 25.5 +3.1
baz=135
SCHQ Schefferville 40.74 42 LR LR 20 43 03.8
comp=Z,127nm,20.6s,baz=272,slow=36
C27K Jago River 40.75 345 P P 20 26 24.8 +2.5
baz=142
G22K Bettles 40.82 339 P P 20 26 25.4 +2.5
baz=130
K17K Iditarod 40.88 331 P P 20 26 26.0 +2.6
baz=118
L16K Owhat River 40.91 330 P P 20 26 25.3 +1.5
baz=116
IMAR Indian Mountai 40.94 337 P P 20 26 26.2 +2.2
E23K Chandalar 41.03 341 P P 20 26 26.5 +1.7
baz=133
H20K Anotleneega Mo 41.04 336 P P 20 26 27.5 +2.7
baz=125
D25K Kavik River 41.12 344 P P 20 26 27.8 +2.3
baz=138
G21K Allakaket 41.19 338 P P 20 26 27.8 +1.8
baz=127
N14K Kuskokwak Cree 41.20 326 P P 20 26 28.5 +2.5
baz=111
C26K Camden Bay 41.24 345 P P 20 26 29.0 +2.7
baz=140
GCSA Galena City Sc 41.34 334 P P 20 26 30.4 +3.2
baz=122
F22K John River 41.40 340 P P 20 26 30.6 +2.9
baz=130
TOLK Toolik Lake Re 41.42 342 P P 20 26 30.3 +2.3
baz=134
J17K VABM Dome 41.51 332 P P 20 26 31.0 +2.3
baz=118
D24K Happy Valley 41.59 343 P P 20 26 31.4 +2.2
baz=135
H19K Roundabout Mou 41.60 336 P P 20 26 31.8 +2.5
baz=123
F21K Alatna River 41.61 339 P P 20 26 32.0 +2.6
baz=128
M14K Bethel 41.63 327 P P 20 26 32.3 +2.7
baz=112
E22K Anaktuvuk Pass 41.70 340 P P 20 26 32.5 +2.3
baz=131
D23K Nanushuk River 41.94 342 P P 20 26 34.5 +2.4
baz=133
C24K Franklin Bluff 41.97 343 P P 20 26 34.9 +2.6
baz=136
G19K Purcell Mounta 42.16 336 P P 20 26 35.9 +2.0
baz=123
D22K Ayikyak River 42.43 341 P P 20 26 37.8 +1.7
D22K IAmb IAmb 20 27 54.8
comp=Z,30nm,1.6s
D22K Ayikyak River 42.43 341 P P 20 26 38.2 +2.1
baz=130
E21K Killik River 42.51 340 P P 20 26 39.5 +2.6
baz=128
C23K Itkillik River 42.52 343 P P 20 26 39.4 +2.6
baz=134
H17K Granite Mounta 42.56 334 P P 20 26 39.9 +2.8
baz=118
G18K Tagagawik 42.57 335 P P 20 26 39.7 +2.4
baz=121
F19K Shaleruckik Mo 42.76 337 P P 20 26 41.5 +2.7
baz=122
FRB Frobisher Bay 42.85 28 LR LR 20 44 51.8
comp=Z,585nm,18.7s,baz=252,slow=37
E19K Redstone River 42.93 338 P P 20 26 42.6 +2.4
baz=124
E20K Nigu River 43.06 339 P P 20 26 43.4 +2.1
baz=126
J14K Nanvaranak Lak 43.08 330 P P 20 26 43.5 +2.1
baz=112
G17K Kiwalik Mounta 43.10 334 P P 20 26 43.6 +2.1
baz=118
C21K Knifeblade Rid 43.19 341 P P 20 26 43.7 +1.4
baz=128
B21K Ikpikpuk River 43.43 341 P P 20 26 46.0 +1.8
baz=129
B22K Teshekpuk Lake 43.58 342 P P 20 26 47.8 +2.5
baz=131
D19K Kuna River 43.78 339 P P 20 26 48.8 +1.7
baz=124
G15K Niukluk 44.16 333 P P 20 26 52.2 +2.1
baz=114
B20K Meade River 44.37 341 P P 20 26 54.4 +2.7
baz=126
C18K Utukok River 44.82 338 P P 20 26 57.8 +2.3
baz=120
SJG San Juan 46.26 95 LR LR 20 49 37.5
comp=Z,75nm,18.8s,baz=345,slow=40
ROSC El Rosal 46.96 117 LR LR 20 48 55.8
comp=Z,233nm,18.6s,baz=336,slow=39
OTAV Otavalo 47.09 125 P P 20 27 14.6 +0.2
TAOE Nuku Hiva Isla 47.21 214 *e*LR LR 20 40 31.6
comp=Z,242nm,24.4s
SDV Santo Domingo 47.36 109 LR LR 20 50 33.5
comp=Z,290nm,18.4s,baz=246,slow=40
SFJD Kangerlussuaq 50.95 27 LR LR 20 50 02.9
comp=Z,392nm,20.1s,baz=257,slow=37
PCRV Puerto La Cruz 51.51 103 LR LR 20 53 52.9
comp=Z,91nm,18.1s,slow=41
SHEM Shemya Is, Ala 53.71 315 LR LR 20 50 30.3
comp=Z,29nm,18.3s,baz=114,slow=36
PPT Papeete 59.38 219 LR LR 20 47 12.7
comp=Z,84nm,20.9s,baz=8.0,slow=29
PPT2 Paete2 59.40 219 *e*S **S 20 36 53.0 +0.1**
PPT2 comp=Z,83nm,26.2s
PPT2 *e*LR LR 20 46 14.6
comp=Z,141nm,27.8s
PPT2 *e*LR LR 20 46 17.1
comp=Z,203nm,25.0s
ETMB Extrema 62.76 123 P P 20 29 06.9 -0.4
BORG Borgarnes 63.02 29 LR LR 20 58 22.3
comp=Z,209nm,19.7s,baz=296,slow=38
PETK Petropavlovsk- 63.29 318 LR LR 20 53 35.0
comp=Z,61nm,21.9s,baz=66,slow=33
TBI Tubuai 64.15 215 *e*LR LR 20 48 21.8
comp=Z,526nm,25.2s
MDP Montagnes des 64.22 101 LR LR 21 01 15.0
comp=Z,136nm,18.8s,baz=265,slow=40
MA2 Magadan 64.75 326 LR LR 20 55 28.3
comp=Z,140nm,20.6s,baz=14,slow=34
JMIC Jan Mayen 65.14 20 LR LR 20 57 23.6
comp=Z,149nm,19.1s,baz=333,slow=36
SPITS Spitsbergen Ar 66.27 10 LR LR 20 58 45.9
comp=Z,284nm,19.1s,baz=284,slow=36
TIXI Tiksi 67.32 342 LR LR 21 03 48.1
comp=Z,118nm,19.3s,baz=62,slow=40
RAR Rarotonga 68.05 225 LR LR 20 53 06.5
comp=Z,58nm,21.6s,baz=113,slow=30
SIV San Ignacio 70.62 124 LR LR 21 02 01.2
comp=Z,102nm,18.0s,baz=296,slow=37
YAK Yakutsk 72.65 333 LR LR 21 02 17.9
comp=Z,118nm,19.5s,baz=32,slow=36
ARCES ARCESS Array B 74.63 13 LR LR 21 06 02.6
comp=Z,182nm,18.1s,baz=341,slow=38
ASAJ Asahikawa 76.14 314 LR LR 21 02 10.5
comp=Z,26nm,18.9s,baz=32,slow=34
NB2 NORSAR Subarra 77.44 24 P P 20 30 38.2 +1.5
comp=Z,0.6nm,0.7s,baz=315,slow=5.6
NOA NORSAR Array B 77.44 24 P P 20 30 37.4 +0.6
comp=Z,1.8nm,1.0s,baz=316,slow=5.6,SNR=4.1
NOA LR LR 21 04 57.1
comp=Z,85nm,18.8s,baz=325,slow=36
comp=Z,1.8nm,1.0s
HFS Hagfors 78.94 23 P P 20 30 45.1 +0.1
comp=Z,3.8nm,0.8s,baz=352,slow=3.0,SNR=4.1
HFS LR LR 21 07 28.6
comp=Z,160nm,18.4s,baz=314,slow=37
comp=Z,3.8nm,0.8s
FINES FINESS Array B 81.58 18 P P 20 30 59.2 0.0
comp=Z,2.9nm,0.9s,baz=322,slow=8.8,SNR=4.0
FINES LR LR 21 07 17.9
comp=Z,126nm,19.5s,baz=326,slow=36
comp=Z,2.9nm,0.9s
MJAR Matsushiro Arr 83.10 309 LR LR 21 01 40.4
comp=Z,70nm,21.1s,baz=64,slow=31
JHJ Hachijo jima 2 83.98 305 LR LR 21 02 41.6
comp=Z,35nm,19.1s,baz=241,slow=32
RCBR Riauhulo 84.15 101 LR LR 21 12 27.0
comp=Z,44nm,19.2s,baz=337,slow=38
ESDC Sonseca Array 84.32 46 P P 20 31 14.6 +0.6
comp=Z,2.1nm,1.1s,baz=306,slow=5.3,SNR=4.5
comp=Z,2.1nm,1.1s
MDT Midelt 88.07 52 LR LR 21 09 56.6
comp=Z,168nm,18.1s,baz=334,slow=35
VRAC Vranov 88.27 29 LR LR 21 12 03.5
comp=Z,95nm,18.2s,baz=310,slow=36
KIRV Kirov 88.68 8 LR LR 21 12 20.7
comp=Z,112nm,21.9s,baz=349,slow=36
KSRS Korea Array 89.04 315 LR LR 21 06 09.0
comp=Z,30nm,21.9s,baz=50,slow=32
BBTS Babate 89.52 73 LR LR 21 08 20.9
comp=Z,119nm,18.1s,baz=160,slow=33
OBN Obninsk 89.76 16 LR LR 21 12 02.3
comp=Z,63nm,20.4s,baz=351,slow=36
JNU Nakatsue 89.96 310 LR LR 21 04 30.6
comp=Z,42nm,19.8s,baz=110,slow=31
HNR Honiara 90.57 259 LR LR 21 03 49.9
comp=Z,136nm,21.9s,baz=52,slow=30
GUMO Guam 90.99 287 LR LR 21 04 37.9
comp=Z,93nm,21.9s,baz=88,slow=30
ARTI Arti 91.62 4 LR LR 21 18 59.5
comp=Z,108nm,18.5s,baz=358,slow=40
AKASG Malin Array Be 91.72 22 P P 20 31 48.8 -0.3
comp=Z,0.1nm,0.2s,baz=341,slow=4.0,SNR=1.9
AKASG LR LR 21 14 11.9
comp=Z,153nm,18.5s,baz=352,slow=36
comp=Z,0.1nm,0.2s
SONM Songino Array 92.01 333 P P 20 31 51.5 +0.8
comp=Z,0.1nm,0.6s,baz=0.0,slow=3.2,SNR=1.4
comp=Z,0.1nm,0.6s
DZM Mont Dzumac 92.18 245 *e*LR LR 21 01 20.0
comp=Z,62nm,24.4s
DZM Mont Dzumac 92.18 245 LR LR 21 06 04.5
comp=Z,45nm,18.1s,baz=256,slow=31
ZALV Zalesovo Beam 92.48 348 P P 20 31 52.5 0.0
comp=Z,0.2nm,0.3s,baz=322,slow=9.1,SNR=1.4
comp=Z,0.2nm,0.3s
URZ Urewera 94.15 227 LR LR 21 03 50.1
comp=Z,34nm,20.9s,baz=132,slow=29
BELG Belogornoye 94.47 10 LR LR 21 16 20.9
comp=Z,94nm,18.6s,baz=350,slow=37
BVAR Bovoye Array 95.01 357 LR LR 21 21 01.5
comp=Z,86nm,18.9s,baz=12,slow=39
MLR Muntele Rosu 95.07 26 LR LR 21 16 24.2
comp=Z,246nm,18.7s,baz=316,slow=36
HHC Hu-ho-hao-te 95.43 326 *e*P **P 20 32 04.5 -2.1**
HHC pmax pmax
comp=Z,4.0nm,0.6s
HHC pmax pmax
comp=Z,100nm,5.1s
JOW Kunigami 95.70 306 LR LR 21 09 19.7
comp=Z,44nm,20.6s,baz=107,slow=32
KURBB Kurchatov Arra 96.66 351 LR LR 21 22 44.3
comp=Z,58nm,18.1s,baz=180,slow=40
AKTO Aktyubinsk 97.53 4 LR LR 21 19 22.0
comp=Z,123nm,20.3s,baz=300,slow=37
MKAR Makanchi Array 99.81 348 LR LR 21 25 11.8
comp=Z,42nm,18.1s,baz=33,slow=40
WMQ Urumqi 101.50 343 *e*P **Pdif 20 32 33.9 +0.2**
WMQ LR LR
comp=E,390nm,22.5s
WMQ LR LR
comp=Z,120nm,23.7s
PZH PanZhiHua 111.80 324 PKP **PKiKP 20 37 14.5 -2.7**
MAW Mawson 144.52 179 PKP PKPbc 20 38 17.2 +1.4
comp=Z,1.8nm,0.6s,baz=316,slow=16,SNR=3.6
BOSA Boshof 145.91 95 PKPbc **PKPab 20 38 23.8 +1.6**
comp=Z,7.2nm,1.0s,baz=235,slow=6.6,SNR=5.2

*IDC **19** 20:21:41.0±2.8, 32°.45S×178°.97W, h0km, mb3.9/2, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=64.6km s-min=43.9km az=120.0*
ISC 19 20:21:42.9±2.5, 32°.4S±0°.1×179°.1W±0°.4, h10km, n21,

σ2§03/14, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.74**	**200**	P	**Pn**	**20 23 09.6**	**+1.4**
HAZ	**Te Kaha**	**5.89**	**205**	P	**Pn**	**20 23 11.9**	**+1.8**
PUZ	**Puketiti**	**6.02**	**200**	P	**Pn**	**20 23 12.3**	**+0.3**
RUGZ	**Raukumara Rang**	**6.11**	**205**	P	**Pn**	**20 23 14.8**	**+1.4**
CNGZ	**Carnagh Statio**	**6.42**	**199**	P	**Pn**	**20 23 18.4**	**+0.9**
MWZ	**Matawai**	**6.50**	**204**	P	**Pn**	**20 23 21.1**	**+2.5**
URZ	**Urewera**	**6.58**	**207**	Pn	**Pn**	**20 23 19.6**	**-0.1**
	1.3nm,0.3s,baz=341,slow=3.9,SNR=12						
URZ				Sn	**Sn**	**20 24 31.7**	**-3.0**
	1.8nm,0.3s,baz=287,slow=23,SNR=8.8						
	2.5nm,0.3s						
URZ	**Urewera**	**6.58**	**207**	P	**Pn**	**20 23 21.6**	**+1.9**
RAGZ	**Rawiri**	**6.68**	**204**	P	**Pn**	**20 23 24.1**	**+3.0**
TOZ	**Tahuroa Road**	**6.89**	**219**	P	Pb	20 23 34.6	-8.1
PRGZ	**Paritu Road**	**6.92**	**200**	P	Pn	20 23 29.8	+5.4
MTHZ	**Maungataniwha**	**7.20**	**206**	P	**Pn**	**20 23 30.4**	**+2.1**
ASAR	**Alice Springs**	**42.12**	**270**	P	**P**	**20 29 35.9**	**+0.4**
	0.5nm,0.4s,baz=109,slow=7.8,SNR=15						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**43.29**	**275**	P	**P**	**20 29 45.3**	**+0.3**
	1.0nm,0.3s,baz=116,slow=7.9,SNR=36						
	1.0nm,0.3s						
H03S2	**Juan Fernandez**	**80.11**	**124**	T	T	22 02 19.4	
	baz=236,slow=74						
H03S1	**Juan Fernandez**	**80.12**	**124**	T	T	22 02 20.3	
	baz=236,slow=74						
H03S3	**Juan Fernandez**	**80.13**	**124**	T	T	22 02 21.0	
	baz=236,slow=74						
H03N3	**Juan Fernandez**	**80.32**	**123**	T	T	22 02 29.5	
	baz=240,slow=72						
H03N2	**Juan Fernandez**	**80.32**	**123**	T	T	22 02 27.7	
	baz=240,slow=72						
H03N1	**Juan Fernandez**	**80.34**	**123**	T	T	22 02 26.5	
	baz=240,slow=72						
FINES	**FINESS Array B**	**146.71**	**338**	PKPbc	**PKPab**	**20 41 23.2**	**-2.1**
	1.1nm,0.5s,baz=31,slow=5.1,SNR=11						

*ECX **19** 20:24:59.5±0.5, 32°.21N×115°.29W, h10km±3km, MD3.1, ML3.3*
*NEIC **19** 20:25:00.6±1.3, 32°.18N±0°.02×115°.28W±0°.01, h10km±2km, Error ellipse: s-maj=3.1km s-min=3.0km az=325.0*
*PAS **19** 20:25:01.3±1.8, 32°.23N±0°.03×115°.25W±0°.02, h21km±7km, ML3.2/81, Md4.2/6(MEX), ML3.1/24(NEIC), Error ellipse: s-maj=4.9km s-min=2.2km az=187.0*
*MEX **19** 20:25:02.2±0.3, 32°.27N×115°.16W, h27km±7km, MD4.2*
ISC 19 20:25:00.3±0.8, 32°.20N±0°.02×115°.31W±0°.02, h17km±5km, n56, σ1§12/78, 5C-3D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHX	**Rio Hardy**	**0.06**	**164**	⇓*i*P	**Pg**	**20 25 03.6**	**0.0**
RHX				*i*S	**Sg**	**20 25 05.4**	**-0.4**
AGSX	**Ej. Aguas Cali**	**0.14**	**60**	⇑*i*P	**Pb**	**20 25 04.1**	**-0.4**
AGSX				*e*S	**Sg**	**20 25 07.0**	**-0.1**
AGSX				IAML		20 25 07.2	
	comp=N,19μm,0.1s						
CPBX	**Cerro Prieto**	**0.22**	**0**		**Pb**	**20 25 06.0**	**+0.1**
CPBX					**Sb**	**20 25 09.8**	**+0.1**
CPBX	**Cerro Prieto**	**0.22**	**0**	IAML		20 25 13.6	
	comp=E,11μm,0.3s						
CPBX				IAML		20 25 15.2	
	comp=N,7μm,0.3s						
CPBX	**Cerro Prieto**	**0.22**	**0**	*e*P	**Pb**	**20 25 05.9**	**-0.1**
CPBX				*e*S	**Sb**	**20 25 10.1**	**+0.4**
CPBX				⇓*e*		20 25 13.7	
CPBX				IAML		20 25 13.7	
	comp=E,11μm,0.4s						
CPBX				IAML		20 25 15.5	
	comp=N,7μm,0.3s						
CPBX				*e*		20 25 15.5	
MBIG	**Mexicali**	**0.23**	**23**	*e*P	**Pb**	**20 25 06.3**	**+0.2**
MBIG				*e*S	**Sb**	**20 25 17.2**	**+7.3**
RITX	**Riito Sonora**	**0.29**	**96**	*e*P	**Pb**	**20 25 07.2**	**0.0**
RITX				*e*S	**Sb**	**20 25 12.2**	**+0.5**
RITX				*e*		20 25 12.6	
RITX				IAML		20 25 12.6	
	comp=N,10μm,0.1s						
RITX				*e*		20 25 12.6	
RITX				IAML		20 25 12.6	
	comp=E,11μm,0.3s						
CTLX	**Tlaxcala, TLX**	**0.31**	**26**	*e*P	**Pg**	**20 25 07.2**	**+0.3**
CTLX				*e*S	**Sb**	**20 25 12.7**	**+0.5**
CTLX				⇑*e*		20 25 13.1	
CTLX				IAML		20 25 13.1	
	comp=N,7μm,0.5s						
CTLX				IAML		20 25 13.9	
	comp=E,5μm,0.2s						
CTLX				*e*		20 25 13.9	
PESCX	**Ej. Pescaderos**	**0.37**	**51**		**Pg**	**20 25 08.2**	**+0.1**
PESCX					**Sb**	**20 25 14.1**	**+0.1**
ALAMX	**Rancho Alamar**	**0.39**	**241**	*e*P	**Pb**	**20 25 09.6**	**+0.8**
JARAX	**Ej. Heriberto**	**0.41**	**326**	*e*P	**Pb**	**20 25 09.1**	**0.0**
JARAX				*e*S	**Sb**	**20 25 16.1**	**+0.9**
YUCAX	**Ej. Yucatɲ**	**0.45**	**24**	*e*P	**Pb**	**20 25 09.9**	**+0.2**
YUCAX				*e*S	**Sb**	**20 25 17.3**	**+1.2**
UABX	**UABC, Campus M**	**0.45**	**345**		**Pb**	**20 25 10.3**	**+0.5**
UABX					**Sb**	**20 25 17.9**	**+1.7**
5054	**Holtville Bond**	**0.50**	**357**		**Pg**	**20 25 10.6**	**+0.3**
5054					**Sn**	**20 25 19.3**	**-1.5**
5053	**Calexico**	**0.50**	**341**		**Pg**	**20 25 10.5**	**+0.2**
5053					**Sb**	**20 25 17.7**	**+0.1**
EDOMX	**El Doctor, EDO**	**0.53**	**116**	*e*P	**Pb**	**20 25 11.4**	**+0.2**
EDOMX				*e*S	**Sb**	**20 25 19.7**	**+1.2**
EDOMX				*e*		20 25 20.4	
EDOMX				IAML		20 25 20.4	
	comp=E,3μm,0.2s						
EDOMX				*e*		20 25 20.7	
EDOMX				IAML		20 25 20.7	
	comp=N,3μm,0.3s						
CEA0	**Mexicali**	**0.55**	**326**	*e*P	**Pb**	**20 25 11.8**	**+0.4**
CEA0				*e*S	**Sb**	**20 25 20.3**	**+1.3**
SLRCX	**San Luis Rio C**	**0.57**	**63**		**Pg**	**20 25 11.5**	**-0.2**
SLRCX					**Sg**	**20 25 19.5**	**+0.1**
ESJX	**Sierra Juarez**	**0.58**	**251**	IAML		20 25 21.4	
	comp=E,2μm,0.2s						
ESJX	**Sierra Juarez**	**0.58**	**251**		**Pb**	**20 25 13.0**	**+0.9**
ESJX					**Sb**	**20 25 21.2**	**+1.1**
EMSC	**East Mesa**	**0.60**	**26**		**Pg**	**20 25 12.1**	**-0.3**
EMSC					**Sb**	**20 25 20.8**	**+0.1**
EMSC	**East Mesa**	**0.60**	**26**	⇓*e*P	**Pg**	**20 25 12.1**	**-0.3**
DREC	**Desert Rsrch C**	**0.62**	**349**		**Pg**	**20 25 12.8**	**+0.2**
DREC					**Sn**	**20 25 23.0**	**-0.8**
WESC	**Westside Schoo**	**0.67**	**327**		**Sn**	**20 25 24.2**	**-0.8**
COA	**Coachella**	**0.68**	**13**		**Pb**	**20 25 13.2**	**-0.6**
COA					**Sn**	**20 25 24.4**	**-1.0**
YUH2	**Yuha Desert**	**0.69**	**311**	⇑*i*P	**Pg**	**20 25 14.0**	**+0.1**
YUH	**Yuha Desert**	**0.69**	**311**	Pg	**Pg**	**20 25 14.0**	**+0.1**
YUH				IAML		20 25 24.1	
	comp=E,555nm,0.5s						
YUH	**Yuha Desert**	**0.69**	**311**		**Sg**	**20 25 23.5**	**+0.4**
SJX	**San Joaquin**	**0.70**	**232**	⇑*e*P	**Pb**	**20 25 13.0**	**-1.1**
COK2	**Cook Ranch 2**	**0.74**	**331**		**Pg**	**20 25 15.0**	**0.0**
COK2					**Sg**	**20 25 25.8**	**+1.0**
ECBX	**El Chinero**	**0.75**	**163**	*e*P	**Pg**	**20 25 15.4**	**+0.3**
RMX	**La Rumorosa**	**0.77**	**302**		**Pb**	**20 25 14.6**	**-0.8**
RMX					**Sb**	**20 25 24.5**	**-1.1**
RMX	**La Rumorosa**	**0.77**	**302**	⇑*i*P	**Pb**	**20 25 14.6**	**-0.8**
IKP	**In-Ko-Pah, Jac**	**0.82**	**304**		**Pg**	**20 25 16.5**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**0.82**	**304**	*e*P	**Pg**	**20 25 16.3**	**0.0**
SWSC	**Sam W. Stewart**	**0.86**	**331**		**Sb**	**20 25 26.9**	**-1.0**
SWSC	**Sam W. Stewart**	**0.86**	**331**	*e*P	**Pb**	**20 25 15.7**	**-1.1**
CRR	**Carrizo Plain**	**0.89**	**321**		**Pg**	**20 25 17.7**	**0.0**
CRR					**Sn**	**20 25 30.1**	**-0.4**
VTX	**Valle De La Tr**	**0.90**	**207**		**Pg**	**20 25 18.0**	**+0.2**
VTX	**Valle De La Tr**	**0.90**	**207**	IAML		20 25 32.2	
	comp=N,652nm,0.3s						
GLA	**Glamis**	**0.94**	**25**		**Pb**	**20 25 16.9**	**-1.4**
GLA	**Glamis**	**0.94**	**25**		**Sb**	**20 25 28.5**	**-2.0**
GLA	**Glamis**	**0.94**	**25**		**Pb**	**20 25 16.8**	**-1.5**
GLA				IAML		20 25 34.0	
	comp=E,358nm,2.4s						
GLA				IAML		20 25 44.6	
	comp=N,342nm,1.6s						
SPIG	**San Pedro Mart**	**1.16**	**187**	*e*P	**Pn**	**20 25 21.7**	**-0.3**
SPIG				*e*S	**Sb**	**20 25 37.0**	**+0.1**
CBX	**Cerro Bola**	**1.16**	**276**		**Pb**	**20 25 21.9**	**0.0**
CBX				IAML		20 25 38.8	

comp=N,492nm,0.5s
CBX IAML 20 25 39.0
comp=E,596nm,0.6s
TKX Tecate 1.16 289 Pn **Pn 20 25 21.9 0.0**
TKX IAML 20 25 38.9
comp=E,546nm,0.2s
TKX IAML 20 25 39.7
comp=N,588nm,0.5s
TJIG Tijuana 1.18 282 *e*P **Pn 20 25 22.1 0.0**
TJIG *e*S **Sn 20 25 37.5 -0.3**
SFX San Felipe 1.22 161 Pn **Pg 20 25 23.6 -0.3**
SFX IAML 20 25 41.1
comp=N,343nm,0.2s
SFX IAML 20 25 41.3
comp=E,355nm,0.2s
PIX Pinacate 1.69 112 Pn **Pn 20 25 28.4 -0.7**
PIX IAML 20 25 49.6
comp=E,168nm,2.9s
PIX IAML 20 25 54.3
comp=N,200nm,3.3s
PFO Pinyon Flats O 1.71 326 Pn **Pn 20 25 28.5 -1.0**
ELS Elsinore Mount 2.30 310 Pn **Pb 20 25 41.6 +0.2**
ELS IAML 20 26 11.6
comp=E,74nm,3.5s
W13A Hualapai Mount 3.13 22 Pn **Pn 20 25 49.8 +0.8**
X16A Lo Mia Camp, P 3.92 55 Pn **Pn 20 26 00.4 +0.5**
WUAZ Wupatki 4.66 44 Pn **Pn 20 26 11.4 +1.4**
U15A North Rim 4.90 30 Pn **Pn 20 26 13.3 -0.2**
121A Cookes Peak, D 6.37 85 Pn **Pn 20 26 34.0 +0.4**

*SKHL **19** 20:26:42.9±0.9, 46°.10N×151°.40E, h39km±5km, mb5.2/3*
*NEIC **19** 20:26:44.0±0.8, 47°.4N±0°.3×149°.6E±0°.4, h239km±17km, mb4.3/21, Error ellipse: s-maj=60.2km s-min=2.5km az=133.0*
*IDC **19** 20:26:45.2±1.7, 47°.49N×149°.55E, h264km±19km, mb3.1/6, mbtmp3.8/10, Error ellipse: s-maj=26.2km s-min=13.9km az=133.0*
*JMA **19** 20:26:45.6±0.9, 46°.N±5°×15°.0E±°, h276km, MV4.0/11, KURILE ISLANDS REGION*
ISC 19 20:26:43.2±0.7, 47°.2N±0°.1×149°.8E±0°.1, h250km, n58, σ1§85/67, mb4.2/18, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.35**	**216**	*e*P	Pn	20 27 23.8	-5.2
KUR				*e*S	S	20 27 54.5	-11
SHO	**Shikotan**	**3.90**	**214**	*i* P	**Pn**	**20 27 46.5**	**+0.7**
SHO				AMB	AMB	20 27 47.3
	300nm,0.3s					
SHO				*e*S	**S**	**20 28 33.8**	**-1.7**
SHO				A	A	20 28 36.1
	90nm,0.3s					
SHO				A	A	20 28 36.1
	170nm,0.3s					
YUK	**Yuzh-Kuril'sk**	**4.17**	**223**	*e*P	**Pn**	**20 27 51.5**	**+2.5**
YUK				AMB	AMB	20 27 52.4
	310nm,0.3s					
YUK				*e*S	**S**	**20 28 42.3**	**+1.0**
YUK				A	A	20 28 44.9
	240nm,0.2s					
YUK				A	A	20 28 44.9
	240nm,0.2s					
JRA	**Rausu**	**4.60**	**227**	*e*P	**Pn**	**20 27 56.3**	**+2.2**
NEM2	**Nemuro 2**	**4.75**	**219**	*e*P	**Pn**	**20 27 56.0**	**0.0**
NEM2				*e*S	**S**	**20 28 50.9**	**-3.0**
NMR	**Nemuro--Hokkai**	**4.76**	**219**	*i* P	**Pn**	**20 27 55.9**	**-0.1**
NMR				*i* S	**S**	**20 28 49.7**	**-4.3**
YSS	**Yuzh-Sakhalins**	**4.83**	**270**	*e*P	Pn	20 28 09.5	+13
JTKR	**Abashiri--Toko**	**5.23**	**235**	*e*P	**Pn**	**20 28 04.0**	**+2.3**
AKK	**Akkeshi**	**5.43**	**222**	*i* P	**Pn**	**20 28 04.6**	**+0.3**
AKK				*e*S	**S**	**20 29 06.5**	**-2.4**
SKR	**Severo-Kuril's**	**5.45**	**47**	*e*P	**Pn**	**20 28 04.7**	**+0.3**
SKR				AMB	AMB	20 28 06.5
	40nm,0.3s					
SKR				*e*S	**S**	**20 29 06.3**	**-2.9**
SKR				A	A	20 29 08.8
SKR				A	A	20 29 08.8
SKR				AMS	AMS	20 29 55.8
	700nm,16.0s					
JAK	**Akkeshi**	**5.51**	**223**	*e*P	**Pn**	**20 28 05.3**	**+0.1**
JAK				*e*S	**S**	**20 29 07.7**	**-3.1**
JAR	**Ashorobuto**	**5.75**	**230**	*e*P	**Pn**	**20 28 10.7**	**+2.4**
JKA	**Kamikawa-asahi**	**5.90**	**242**		**Pn**	**20 28 12.8**	**+2.8**
ASAJ	**Asahikawa**	**5.90**	**242**	P	**Pn**	**20 28 12.9**	**+2.9**
	24nm,0.5s,baz=67,slow=15,SNR=43					
JKK2	**Kamakawa 2**	**5.95**	**239**	P	**Pn**	**20 28 14.0**	**+3.3**
JOB	**Onbets**	**6.00**	**227**	*e*P	**Pn**	**20 28 12.2**	**+0.9**
JOB				*e*S	**S**	**20 29 19.8**	**-1.9**
PAU	**Pauzhetka**	**6.29**	**44**	*e*P	**Pn**	**20 28 14.9**	**+0.1**
PAU				*e*S	**S**	**20 29 26.4**	**-1.7**
PAU				A	A	20 29 26.5
	40nm,0.2s					
PAU				A	A	20 29 26.5
	50nm,0.2s					
JCH	**Churui**	**6.45**	**228**	P	**Pn**	**20 28 16.9**	**-0.1**
JCH				*e*S	**S**	**20 29 27.6**	**-4.4**
ERM	**Erimo**	**7.00**	**225**	Pn	**Pn**	**20 28 23.9**	**+0.2**
JNBK	**Urakawa-nobuka**	**7.00**	**228**	*e*P	**Pn**	**20 28 22.6**	**-1.2**
JNBK				*e*S	**S**	**20 29 38.7**	**-5.9**
PEA0B	**Petropavlovsk-**	**7.82**	**37**	Pn	**Pn**	**20 28 31.8**	**-2.2**
PETK	**Petropavlovsk-**	**7.82**	**37**	Pn	**Pn**	**20 28 33.0**	**-1.0**
PETK	**Petropavlovsk-**	**7.82**	**37**	P	**Pn**	**20 28 33.1**	**-0.9**
	2.9nm,0.5s,baz=211,slow=7.7,SNR=15					
PETK				S	**S**	**20 30 03.3**	**+0.1**
	0.7nm,0.4s,baz=108,slow=21,SNR=1.1					
JANG	**Nango**	**9.05**	**224**	P	**Pn**	**20 28 48.1**	**-1.6**
JANG				*e*S	S	20 30 22.4	-10
JMM	**Marumori**	**11.41**	**219**	Pn	**Pn**	**20 29 20.0**	**+0.6**
USRK	**Ussuriysk Ar.**	**12.81**	**263**	P	**Pn**	**20 29 36.5**	**-0.2**
	2.2nm,0.7s,baz=66,slow=12,SNR=2.6					
MJAR	**Matsushiro Arr**	**13.67**	**223**	P	**P**	**20 29 51.5**	**+3.2**
	1.1nm,0.7s,baz=21,slow=13,SNR=2.1					
NJ2	**Nanjing**	**27.99**	**249**	*e*P	P	20 32 16.6	+5.6
NJ2				pmax	pmax	
	comp=Z,6.0nm,0.5s					
F17K	**Baldwin Pennin**	**31.85**	**35**	P	**P**	**20 32 45.0**	**+0.6**
F17K				IAmb	IAmb	20 32 56.2
	comp=Z,17nm,1.4s					
C18K	**Utukok River**	**32.42**	**31**	P	**P**	**20 32 49.5**	**-0.1**
G18K	**Tagagawik**	**32.78**	**36**	P	**P**	**20 32 53.1**	**+0.5**
G18K				IAmb	IAmb	20 33 35.6
	comp=Z,8.2nm,1.4s					
H18K	**Honhosa River**	**32.79**	**38**	P	**P**	**20 32 53.1**	**+0.5**
H18K				IAmb	IAmb	20 33 30.7
	comp=Z,19nm,1.5s					
H19K	**Roundabout Mou**	**33.63**	**37**	P	**P**	**20 33 00.7**	**+0.9**
H19K				IAmb	IAmb	20 33 40.4
	comp=Z,12nm,1.5s					
B20K	**Meade River**	**34.16**	**29**	P	**P**	**20 33 04.3**	**0.0**
IMAR	**Indian Mountai**	**34.78**	**37**	P	**P**	**20 33 10.1**	**+0.3**
CAST	**Castle Rocks**	**35.41**	**41**	P	**P**	**20 33 15.9**	**+0.7**
CAST				IAmb	IAmb	20 33 21.7
	comp=Z,8.7nm,1.4s					
D22K	**Ayikyak River**	**35.50**	**32**	P	**P**	**20 33 16.2**	**+0.4**
D22K				IAmb	IAmb	20 33 20.7
	comp=Z,16nm,1.5s					
BPAW	**Bear Paw Mtn.**	**35.89**	**40**	P	**P**	**20 33 20.0**	**+0.7**
KTH	**Kantishna Hill**	**35.93**	**41**	P	**P**	**20 33 20.0**	**+0.4**
KTH				IAmb	IAmb	20 33 46.6
	comp=Z,13nm,1.4s					
CNPM	**China Poot**	**36.08**	**48**	P	**P**	**20 33 21.7**	**+0.9**
SUA	**Susitna One**	**36.12**	**45**	P	**P**	**20 33 22.1**	**+0.7**
C23K	**Itkillik River**	**36.35**	**30**	P	**P**	**20 33 22.9**	**0.0**
C23K				IAmb	IAmb	20 33 57.5
	comp=Z,10nm,1.4s					
E23K	**Chandalar**	**36.55**	**33**	P	**P**	**20 33 25.4**	**+0.6**
TOLK	**Toolik Lake Re**	**36.60**	**32**	P	**P**	**20 33 25.2**	**0.0**
TOLK				IAmb	IAmb	20 33 53.4
	comp=Z,7.4nm,1.5s					
C24K	**Franklin Bluff**	**37.00**	**31**	P	**P**	**20 33 28.7**	**+0.3**
C24K				IAmb	IAmb	20 33 29.7
	comp=Z,9.1nm,1.1s					
SML	**Sawmill**	**37.24**	**44**	P	**P**	**20 33 31.2**	**+0.5**
SML				IAmb	IAmb	20 33 34.2
	comp=Z,20nm,1.2s					
ILAR	**Eielson Array**	**37.65**	**39**	P	**P**	**20 33 33.9**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=272,slow=6.2,SNR=6.2					
	comp=Z,0.6nm,0.7s					
BMAR	**Burnt Mountain**	**38.46**	**34**	P	**P**	**20 33 41.6**	**+0.9**
BCAR	**Beaver Creek A**	**40.08**	**41**	P	**P**	**20 33 55.4**	**+1.2**
I28M	**Miner Creek**	**40.50**	**37**	P	**P**	**20 33 57.8**	**+0.2**
LOGN	**Logan Glacier**	**40.89**	**44**	P	**P**	**20 34 02.4**	**+1.5**
I30M	**Mount Dempster**	**42.01**	**37**	P	**P**	**20 34 10.9**	**+1.1**
INK	**Inuvik**	**42.52**	**32**	P	**P**	**20 34 13.7**	**0.0**
MKAR	**Makanchi Array**	**44.73**	**296**	P	**P**	**20 34 29.7**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=57,slow=7.3,SNR=2.2					
	comp=Z,0.5nm,0.7s					
KURBB	**Kurchatov Arra**	**45.33**	**302**	P	**P**	**20 34 34.3**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=74,slow=8.5,SNR=4.1					
	comp=Z,0.5nm,0.6s					
WRA	**Warramunga Arr**	**68.23**	**196**	P	**P**	**20 37 18.3**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=14,slow=6.9,SNR=2.9					
	comp=Z,0.6nm,0.6s					
FITZ	**Fitzroy Crossi**	**68.50**	**205**	P	**P**	**20 37 20.9**	**+2.4**
	comp=Z,1.5nm,0.6s,baz=217,slow=22,SNR=2.1					
	comp=Z,1.5nm,0.6s					
ASAR	**Alice Springs**	**71.94**	**195**	P	**P**	**20 37 41.6**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=10,slow=5.6,SNR=4.1					
	comp=Z,0.5nm,0.6s					

*NEIC **19** 20:27:59.9±1.1, 6°.4S±0°.2×148°.8E±0°.2, h46km±11km, mb4.5/16, Error ellipse: s-maj=33.8km s-min=10.7km az=130.0*
*IDC **19** 20:28:00.8±4.2, 6°.41S×148°.91E, h66km±36km, mb3.6/7, mbtmp4.0/9, ML4.2/1, MS3.2/3, Error ellipse: s-maj=51.3km s-min=22.6km az=103.0*
ISC 19 20:27:59.5±0.7, 6°.4S±0°.1×148°.8E±0°.1, h53km, n34, σ2§29/34, mb4.3/14, MS3.2/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.42**	**208**		**Pn**	**20 28 51.8**	**+1.5**
PMG	**Port Moresby**	**3.42**	**208**	P	**Pn**	**20 28 52.5**	**+2.2**
	99nm,0.3s,baz=31,slow=6.3,SNR=66						
PMG				S	**Sn**	**20 29 32.2**	**+2.7**
	273nm,0.4s,baz=284,slow=22,SNR=16						
RABL	**Rabaul**	**4.02**	**58**	Pn	**Pn**	**20 28 57.7**	**-0.8**
COEN	**Coen**	**9.34**	**216**	Pn	**Pn**	**20 30 12.0**	**+0.5**
CTA	**Charters Tower**	**13.86**	**190**	LR	LR	20 35 49.5
	comp=Z,7.4nm,19.4s,baz=12,slow=34					
MTN	**Manton Dam**	**18.53**	**248**	P	**P**	**20 32 11.9**	**+0.1**
WRAB	**Tennant Creek**	**19.44**	**225**	P	**P**	**20 32 21.7**	**-0.1**
WRAB				IAmb	IAmb	20 32 41.1
	comp=Z,7.5nm,0.7s					
WB2	**Warramunga Arr**	**19.45**	**225**	P	**P**	**20 32 22.5**	**+0.6**
WRA	**Warramunga Arr**	**19.45**	**225**	P	**P**	**20 32 22.8**	**+0.8**
WRA	**Warramunga Arr**	**19.45**	**225**	P	**P**	**20 32 23.1**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=50,slow=11,SNR=31						
WRA				S	**S**	**20 35 50.9**	**-8.3**
	comp=Z,0.8nm,0.9s,baz=51,slow=21,SNR=1.1						
	comp=Z,2.5nm,0.5s						
GUMO	**Guam**	**20.19**	**349**	LR	LR	20 39 21.7
	comp=Z,30nm,19.9s,baz=112,slow=34						
KNRA	**Kununurra**	**21.68**	**243**	P	**P**	**20 32 45.8**	**-0.2**
KNRA				IAmb	IAmb	20 33 04.2
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**22.36**	**218**	P	**P**	**20 32 53.7**	**+0.3**
ASAR	**Alice Springs**	**22.36**	**218**	P	**P**	**20 32 52.9**	**-0.5**
ASAR	**Alice Springs**	**22.36**	**218**	P	**P**	**20 32 54.0**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=57,slow=9.8,SNR=31						
ASAR				S	**S**	**20 36 48.7**	**-7.3**
	comp=Z,0.3nm,0.8s,baz=39,slow=23,SNR=1.6						
	comp=Z,3.0nm,0.7s						
ARMA	**Armidale**	**24.08**	**174**	P	**P**	**20 33 10.5**	**+0.3**
ARMA				IAmb	IAmb	20 33 36.6
	comp=Z,18nm,1.4s						
FITZ	**Fitzroy Crossi**	**25.39**	**241**	P	**P**	**20 33 23.2**	**+1.1**
FITZ	**Fitzroy Crossi**	**25.39**	**241**	LR	LR	20 43 02.2
	comp=Z,68nm,18.8s,baz=40,slow=35						
STKA	**Stephens Creek**	**26.25**	**194**	P	**P**	**20 33 29.6**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=34,slow=2.6,SNR=2.9						
STKA				LR	LR	20 44 15.4
	comp=Z,80nm,18.4s,baz=24,slow=37						
	comp=Z,2.4nm,0.8s						
PETK	**Petropavlovsk-**	**59.73**	**6**	P	**P**	**20 38 00.2**	**+1.6**
PETK	**Petropavlovsk-**	**59.73**	**6**	P	**P**	**20 37 60.0**	**+1.3**
	comp=Z,1.9nm,0.6s,baz=154,slow=6.1,SNR=4.4						
	comp=Z,1.9nm,0.6s						
SONM	**Songino Array**	**65.58**	**330**	P	**P**	**20 38 37.2**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=62,slow=3.4,SNR=2.3						
	comp=Z,0.3nm,0.8s						
J17K	**VABM Dome**	**79.85**	**21**	P	**P**	**20 40 04.1**	**+2.0**
J17K				IAmb	IAmb	20 40 17.6
	comp=Z,17nm,1.4s						
ZALV	**Zalesovo Beam**	**80.25**	**327**	P	**P**	**20 40 05.3**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=115,slow=6.2,SNR=2.4						
	comp=Z,0.3nm,0.4s						
CAST	**Castle Rocks**	**82.47**	**23**	P	**P**	**20 40 16.6**	**+0.6**
CAST				IAmb	IAmb	20 40 26.2
	comp=Z,9.8nm,1.4s						
D19K	**Kuna River**	**83.25**	**17**	P	**P**	**20 40 21.0**	**+1.1**
QSPA	**South Pole Qui**	**83.61**	**180**	P	**P**	**20 40 21.8**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=57,slow=1.4,SNR=4.2						
	comp=Z,1.4nm,0.7s						
D22K	**Ayikyak River**	**85.11**	**18**	P	**P**	**20 40 30.8**	**+1.4**
ILAR	**Eielson Array**	**85.13**	**23**	P	**P**	**20 40 28.2**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=257,slow=3.7,SNR=8.2						
	comp=Z,0.6nm,0.6s						
J25K	**Salcha River,**	**85.65**	**23**	P	**P**	**20 40 32.5**	**+0.3**
J25K				IAmb	IAmb	20 40 53.0
	comp=Z,4.7nm,1.3s						
D23K	**Nanushuk River**	**85.77**	**18**	P	**P**	**20 40 33.8**	**+1.1**
D23K				IAmb	IAmb	20 41 10.6
	comp=Z,5.5nm,1.4s						
F24K	**Squaw Lake**	**86.00**	**20**	P	**P**	**20 40 34.9**	**+1.1**
F24K				IAmb	IAmb	20 40 45.2
	comp=Z,9.0nm,1.5s						
C23K	**Itkillik River**	**86.23**	**18**	P	**P**	**20 40 36.7**	**+1.8**
TORD	**Torodi Ar. Bea**	**146.88**	**284**	PKPbc	**PKPbc**	**20 47 37.0**	**0.0**
	comp=Z,1.1nm,0.4s,baz=58,slow=3.3,SNR=24						

*IDC **19** 20:35:33.5±1.7, 2°.74S×120°.12E, h0km, mb3.0/3, mbtmp3.1/4, ML3.6/1, Error ellipse: s-maj=54.1km s-min=24.8km az=76.0*
*JDA **19** 20:35:37.1±0.4, 3°.S±3°×12°.0E±°, h10km, M3.7/7, MLv3.7/7*
ISC 19 20:35:35.7±1.1, 2°.95S±0°.05×119°.45E±0°.08, h10km, n10, σ1§77/13, mb2.9/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.38**	**104**	P	**Pg**	**20 35 42.7**	**-0.6**
TTSI				S	**Sg**	**20 35 48.2**	**-0.2**
SPSI	**Sidrap Palu**	**1.05**	**162**	P	**Pg**	**20 35 55.7**	**-0.3**
SPSI				S	**Sb**	**20 36 10.3**	**+0.4**
BNSI	**Bone**	**1.58**	**155**	P	**Pb**	**20 36 05.3**	**+0.2**
KAPI	**Kappang**	**2.07**	**172**	Pn	**Pb**	**20 36 13.5**	**+0.1**
	15nm,0.3s,baz=348,slow=11,SNR=9.5						
KAPI				Sn	**Sb**	**20 36 41.0**	**+1.8**
	34nm,0.3s,baz=258,slow=22,SNR=16						
	81nm,0.5s						
PCI	**Palu**	**2.07**	**11**	P	**Pn**	**20 36 11.4**	**+0.8**
BKSI	**Bulukumba**	**2.45**	**164**	P	**Pn**	**20 36 17.4**	**+1.7**
APSI	**Ampana**	**2.99**	**47**	P	**Pn**	**20 36 25.8**	**+2.5**
WRA	**Warramunga Arr**	**22.28**	**140**	P	**P**	**20 40 30.1**	**-3.3**
	0.3nm,0.8s,baz=314,slow=12,SNR=2.1						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**24.89**	**147**	P	**P**	**20 40 56.3**	**-2.7**
	0.3nm,1.0s,baz=338,slow=9.2,SNR=4.5						
	0.3nm,1.0s						
MKAR	**Makanchi Array**	**59.36**	**331**	P	**P**	**20 45 38.4**	**+0.2**
	0.2nm,0.6s,baz=120,slow=8.5,SNR=1.6						
	0.2nm,0.6s						

*IDC **19** 20:57:01.8±2.1, 31°.82N×140°.32E, h0km, mb3.8/8, mbtmp3.8/9, ML2.5/1, Error ellipse: s-maj=83.2km s-min=14.9km az=77.0*
*NEIC **19** 20:57:03.8±1.3, 32°.26N±0°.09×141°.40E±0°.07, h36km±11km, mb4.2/5, Error ellipse: s-maj=14.7km s-min=4.7km az=211.0*
*JMA **19** 20:57:04.9±0.2, 32°.4N±0°.6×14°1E±°, h61km, MV3.7/46, E OFF HACHIJOJIMA ISLAND*
ISC 19 20:57:02.5±0.8, 32°.25N±0°.05×141°.43E±0°.07, h31km, n42, σ1§87/60, mb3.9/11, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.43**	**279**	P	**Pb**	**20 57 27.0**	**-1.5**
JHCJ	**Hachijojimakas**	**1.60**	**301**	P	**Pb**	**20 57 29.0**	**-2.4**
JHCJ				*e*S	**Sn**	**20 57 46.3**	**-2.0**
JHJ2	**Mitsune**	**1.61**	**303**	Pn	**Pb**	**20 57 29.3**	**-2.2**
JHJ2	**Mitsune**	**1.61**	**303**	P	**Pb**	**20 57 29.3**	**-2.2**
JHJ2				*e*S	**Sn**	**20 57 47.3**	**-1.1**
JHJ	**Hachijo jima 2**	**1.64**	**302**	Pn	**Pn**	**20 57 29.1**	**0.0**
	103nm,0.3s,baz=358,slow=20,SNR=85						
JHJ				Sn	**Sn**	**20 57 48.0**	**-1.0**
	86nm,0.3s,baz=237,slow=24,SNR=7.0						
JMKN	**Mikurajimanish**	**2.25**	**317**	*e*P	**Pn**	**20 57 38.4**	**+0.9**
BSO1	**Boso 1**	**2.42**	**351**	*e*P	**Pn**	**20 57 41.7**	**+2.3**
BSO1				*e*S	**Sn**	**20 58 09.5**	**+1.7**
BSO3	**Boso 3**	**2.66**	**343**	*e*P	**Pn**	**20 57 44.8**	**+1.9**
BSO3				*e*S	**Sn**	**20 58 15.0**	**+1.2**
BSO4	**Boso 4**	**2.88**	**342**	*e*P	**Pn**	**20 57 48.0**	**+1.9**
BSO4				*e*S	**Sn**	**20 58 19.3**	**-0.3**
JIM2	**Oshima 3**	**2.97**	**326**	*e*P	**Pn**	**20 57 48.5**	**+1.0**
JIM2				*e*S	**Sn**	**20 58 20.8**	**-1.3**
JOD2	**Odawara 2**	**3.58**	**328**	*e*P	**Pn**	**20 57 57.0**	**+1.2**
JOD2				*e*S	**Sn**	**20 58 35.3**	**-1.8**
JYN	**Shimob**	**4.03**	**324**	*e*P	**Pn**	**20 58 04.7**	**+2.6**
JRY	**Ryogami san**	**4.30**	**331**	*e*P	**Pn**	**20 58 08.3**	**+2.5**
JRY				*e*S	**Sn**	**20 58 52.9**	**-1.9**
JHO	**Hitachi**	**4.40**	**351**	*e*P	**Pn**	**20 58 08.7**	**+1.5**
JHO				*e*S	**Sn**	**20 58 55.7**	**-1.7**
JAG	**Ashikaga**	**4.47**	**339**	*e*P	**Pn**	**20 58 09.9**	**+1.8**
JAG				*e*S	**Sn**	**20 58 59.8**	**+0.8**
JIE	**Ise**	**4.49**	**300**	*e*P	**Pn**	**20 58 09.9**	**+1.5**
JGF	**Kuroka**	**4.75**	**316**	Pn	**Pn**	**20 58 15.0**	**+3.0**
MJAR	**Matsushiro Arr**	**5.04**	**329**	Pn	**Pn**	**20 58 18.5**	**+2.6**
	0.2nm,0.3s,baz=164,slow=13,SNR=8.8						
MJAR				Sn	**Sn**	**20 59 15.1**	**+2.0**
	0.1nm,0.3s,baz=70,slow=22,SNR=2.2						
	2.1nm,0.4s						
MAJO	**Matsushiro**	**5.04**	**329**	Pn	**Pn**	**20 58 15.8**	**-0.2**
JFK	**Kawauchi**	**5.12**	**355**	*e*P	**Pn**	**20 58 18.1**	**+1.0**
JFK				*e*S	**Sn**	**20 59 11.3**	**-3.8**
CBIJ	**Chichi jima**	**5.18**	**173**	*e*P	**Pn**	**20 58 18.9**	**+1.0**
CBIJ				*e*S	**Sn**	**20 59 13.7**	**-2.9**
JCJ	**Chichijima**	**5.18**	**173**		**Pn**	**20 58 18.3**	**+0.4**
JCJ				Sn	**Sn**	**20 59 14.4**	**-2.2**
JOTO	**OTAMA OYAMA**	**5.37**	**351**	*e*P	**Pn**	**20 58 21.9**	**+1.4**
JOTO				*e*S	**Sn**	**20 59 18.5**	**-2.7**
JMM	**Marumori**	**5.62**	**355**		**Pn**	**20 58 24.9**	**+1.0**
JMM					**Sn**	**20 59 24.0**	**-3.4**
ERM	**Erimo**	**9.84**	**8**	Pn	**Pn**	**20 59 21.9**	**+0.2**
ERM				Sn	**Sn**	**21 01 05.8**	**-5.3**
JKA	**Kamikawa-asahi**	**11.88**	**4**	Pn	**Pn**	**20 59 50.0**	**+0.4**
SONM	**Songino Array**	**30.70**	**311**	P	**P**	**21 03 15.4**	**+0.9**
	0.5nm,0.5s,baz=108,slow=8.2,SNR=3.8						
	0.5nm,0.5s						
LSA	**Lhasa**	**42.87**	**280**	P	**P**	**21 04 56.1**	**-2.4**
LSA				IAmb	IAmb	21 05 23.5
	comp=Z,1.8nm,0.9s						
MK31	**Makanchi Array**	**46.80**	**306**	P	**P**	**21 05 29.4**	**+0.2**
MK31				IAmb	IAmb	21 06 07.2
	comp=Z,6.4nm,1.5s						
MKAR	**Makanchi Array**	**46.80**	**306**	P	**P**	**21 05 29.3**	**+0.1**
MKAR	**Makanchi Array**	**46.80**	**306**	P	**P**	**21 05 29.0**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=86,slow=9.1,SNR=26						
	comp=Z,0.8nm,0.3s						
MAKZ	**Makanchi**	**47.02**	**306**	P	**P**	**21 05 31.3**	**+0.5**
KURBB	**Kurchatov Arra**	**49.06**	**311**	P	**P**	**21 05 46.8**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=90,slow=6.9,SNR=7.2						
	comp=Z,0.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.30**	**199**	P	**P**	**21 06 09.8**	**-1.5**
	comp=Z,2.5nm,1.2s,baz=32,slow=15,SNR=1.3						
	comp=Z,2.5nm,1.2s						
WB2	**Warramunga Arr**	**52.34**	**188**	P	**P**	**21 06 11.6**	**+0.1**
WB2				IAmb	IAmb	21 06 48.3
	comp=Z,7.9nm,1.4s						
WRA	**Warramunga Arr**	**52.34**	**188**	P	**P**	**21 06 11.6**	**0.0**
WRA	**Warramunga Arr**	**52.34**	**188**	P	**P**	**21 06 11.5**	**0.0**
	comp=Z,1.0nm,0.4s,baz=3.8,slow=7.5,SNR=38						
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**53.88**	**315**	P	**P**	**21 06 23.9**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=109,slow=8.7,SNR=4.7						
	comp=Z,0.3nm,0.4s						
KKAR	**Karatay Array**	**55.63**	**303**	P	**P**	**21 06 36.4**	**+1.0**
ASAR	**Alice Springs**	**56.07**	**188**	P	**P**	**21 06 39.0**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=22,slow=12,SNR=5.0						
	comp=Z,0.2nm,0.4s						
ABKAR	**Akbulak array**	**61.09**	**312**	P	**P**	**21 07 14.1**	**+0.7**
FINES	**FINESS Array B**	**73.06**	**333**	P	**P**	**21 08 32.2**	**+3.1**
	comp=Z,0.5nm,0.5s,baz=38,slow=7.0,SNR=4.1						
	comp=Z,0.5nm,0.5s						

*ECX **19** 20:57:17.7±0.6, 32°.20N×115°.28W, h13km±2km, MD2.5, ML2.7*
*NEIC **19** 20:57:19.1±1.8, 32°.21N±0°.02×115°.29W±0°.02, h10km±2km, Error ellipse: s-maj=3.9km s-min=3.1km az=330.0*
*PAS **19** 20:57:19.5±1.7, 32°.24N±0°.02×115°.25W±0°.02, h20km±5km, ML2.6/50, ML2.4/20(NEIC), Error ellipse: s-maj=3.3km s-min=1.8km az=146.0*
ISC 19 20:57:19.1±0.8, 32°.20N±0°.03×115°.30W±0°.02, h17km±5km, n42, σ1§03/53, 7C-4D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHX	**Rio Hardy**	**0.06**	**166**	⇓*i*P	**Pg**	**20 57 21.9**	**-0.4**
RHX				*e*S	**Sg**	**20 57 23.7**	**-0.6**
AGSX	**Ej. Aguas Cali**	**0.14**	**60**	⇑*i*P	**Pg**	**20 57 22.3**	**-0.7**
AGSX				*

comp=N,162nm,0.5s
VTX IAML 20 57 50.3
comp=E,193nm,0.4s
GLA Glamis 0.94 25 Pg 20 57 34.6 -2.8
GLA Glamis 0.94 25 IAML 20 57 56.4
comp=E,119nm,0.6s
GLA IAML 20 58 06.2
comp=N,65nm,0.6s
GLA Glamis 0.94 25 Pg 20 57 34.8 -2.6
GLA **Sg 20 57 47.7 -2.1**
CBX Cerro Bola 1.16 276 Pb 20 57 40.0 -0.8
CBX IAML 20 57 58.8
comp=N,128nm,0.4s
BAR Barrett 1.25 293 Pn 20 57 42.3 +0.5
DUZA Dulzura 1.31 289 Pn 20 57 43.4 +0.7
BLYC Blythe 1.68 23 Pg 20 57 52.8 +1.4
BLYC IAML 20 58 18.4
comp=E,23nm,0.9s
BLYC IAML 20 58 21.7
comp=N,24nm,0.7s
PIX Pinacate 1.69 112 Pn 20 57 49.0 +1.2
PFO Pinyon Flats O 1.71 326 Pb 20 57 50.8 +0.5
ELS Elsinore Mount 2.30 310 Pn 20 57 56.9 +0.6
ELS IAML 20 58 35.4
comp=E,13nm,0.6s

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*SJA **19** 20:58:05.9±1.0, 18°.65S×67°.26W, h317km±13km, ML3.8, MW3.5*
*SCB **19** 20:58:06.6±1.4, 18°.83S×67°.01W, h280km±12km, ML3.2/2, MW3.7, Error ellipse: s-maj=10.4km s-min=6.1km az=2.0*
ISC 19 20:58:04.4±1.4, 18°.71S±0°.07×67°.04W±0°.08, h300km, n23, σ2§08/29, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEO	**Opoqueri**	**0.82**	**280**	Pg	**Pn**	**20 58 45.5**	**+0.9**
SOEO				Sg	**S**	**20 59 14.2**	**-2.3**
SOEO				IAML		20 59 14.4	
37nm,0.6s							
SOET	**ToroToro**	**1.31**	**63**	Pg	**Pn**	**20 58 47.0**	**+0.2**
SOET	**ToroToro**	**1.31**	**63**	Pg	**Pn**	**20 58 47.1**	**+0.2**
AOEA	**Aiquile**	**1.79**	**73**	Pg	**Pn**	**20 58 50.8**	**+0.9**
GO01	**Chusmiza**	**2.25**	**245**	*e*P	**Pn**	**20 58 55.0**	**+1.3**
GO01	**Chusmiza**	**2.25**	**245**	Pg	**Pn**	**20 58 55.4**	**+1.7**
PB08	**IPOC Station P**	**2.45**	**234**	*e*P	**Pn**	**20 58 56.9**	**+1.5**
PB08				*e*S	**S**	**20 59 35.9**	**-0.1**
PB08	**IPOC Station P**	**2.45**	**234**	Pg	**Pn**	**20 58 56.9**	**+1.5**
BBOD	**La Paz, Gloria**	**2.54**	**324**	Pg	**Pn**	**20 58 59.2**	**+2.8**
LPAZ	**La Paz**	**2.62**	**336**	*e*P	**Pn**	**20 58 59.7**	**+2.4**
LPAZ				*e*S	**S**	**20 59 38.2**	**-1.2**
LPAZ	**La Paz**	**2.62**	**336**	Pg	**Pn**	**20 58 59.5**	**+2.2**
HMBC	**Humberstone**	**3.11**	**239**	*e*P	**Pn**	**20 59 02.5**	**+1.2**
HMBC				IAML		20 59 46.7	
comp=Z,152nm,0.3s							
PB12	**IPOC Station P**	**3.12**	**271**	*e*P	**Pn**	**20 59 02.6**	**+1.2**
PB12				*e*S	**S**	**20 59 43.9**	**-3.1**
PB12				IAML		20 59 45.6	
comp=Z,85nm,0.1s							
PB12	**IPOC Station P**	**3.12**	**271**	Pg	**Pn**	**20 59 02.7**	**+1.3**
PB01	**IPOC Station P**	**3.27**	**224**	*e*P	**Pn**	**20 59 04.4**	**+1.4**
PB01				IAML		20 59 48.9	
comp=Z,79nm,0.2s							
PB01	**IPOC Station P**	**3.27**	**224**	P	**Pn**	**20 59 04.2**	**+1.3**
PB01	**IPOC Station P**	**3.27**	**224**	Pg	**Pn**	**20 59 04.5**	**+1.6**
PB01				Sg	**S**	**20 59 46.3**	**-3.4**
PB01				IAML		20 59 50.4	
comp=Z,71nm,0.2s							
TA02	**Huaiquique**	**3.31**	**241**	*e*P	**Pn**	**20 59 04.6**	**+1.4**
TA02				*e*S	**S**	**20 59 46.4**	**-3.8**
TA02				IAML		20 59 47.0	
comp=Z,143nm,0.1s							
TA01	**Diego Aracena**	**3.49**	**238**	*e*P	**Pn**	**20 59 05.9**	**+0.8**
PB09	**IPOC Station P**	**3.70**	**214**	*e*P	**Pn**	**20 59 10.6**	**+3.1**
PB06	**IPOC Station P**	**4.63**	**210**	*e*P	**Pn**	**20 59 20.0**	**+2.2**
PB06				IAML		21 00 17.1	
comp=Z,29nm,0.5s							
PB04	**IPOC Station P**	**4.64**	**218**	*e*P	**Pn**	**20 59 20.2**	**+2.3**
PB04				IAML		21 00 18.6	
comp=Z,40nm,0.2s							
PB15	**IPOC Station P**	**5.02**	**206**	*e*P	**Pn**	**20 59 25.2**	**+2.9**
PB15				IAML		21 00 28.5	
comp=Z,146nm,0.1s							

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*SJA **19** 21:01:11.7±0.6, 23°.11S×66°.73W, h226km±9km, ML3.4, MW3.4*
*GUC **19** 21:01:14.6±0.7, 23°.04S×66°.79W, h202km±9km, ML3.4*
*IDC **19** 21:01:18.1±9.9, 22°.60S×66°.46W, h235km±69km, mb2.9/1, mbtmp3.6/4, MS3.4/1, Error ellipse: s-maj=114.7km s-min=39.1km az=24.0*
ISC 19 21:01:12.7±1.0, 23°.06S±0°.05×66°.77W±0°.06, h200km, n24, σ1§45/36, 5C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.46**	**53**	‖*e*P	**Pn**	**21 01 48.1**	**+1.5**
YJA	**Yavi**	**1.46**	**53**	*e*P	**Pn**	**21 01 48.7**	**+2.1**
PB15	**IPOC Station P**	**2.49**	**266**	‖*e*P	**Pn**	**21 01 58.1**	**+1.4**
PB15				*e*S	**Sn**	**21 02 31.8**	**+0.8**
PB15	**IPOC Station P**	**2.49**	**266**	*e*P	**Pn**	**21 01 58.4**	**+1.6**
PB15				IAML		21 02 36.1	
comp=Z,227nm,0.2s							
PB06	**IPOC Station P**	**2.61**	**277**	*e*P	**Pn**	**21 01 59.4**	**+1.4**
PB06				*e*S	**Sn**	**21 02 33.2**	**0.0**
PB06				IAML		21 02 36.4	
comp=E,70nm,0.2s							
PB06	**IPOC Station P**	**2.61**	**277**	*e*P	**Pn**	**21 01 59.6**	**+1.6**
PB06				*e*S	**Sn**	**21 02 34.9**	**+1.7**
PB06				IAML		21 02 37.3	
comp=Z,70nm,0.2s							
PB09	**IPOC Station P**	**2.61**	**298**	‖*e*P	**Pn**	**21 01 59.8**	**+1.7**
PB09				*e*S	**Sn**	**21 02 35.4**	**+2.0**
PB09				IAML		21 02 38.7	
comp=N,69nm,0.4s							
PB09	**IPOC Station P**	**2.61**	**298**	*e*P	**Pn**	**21 01 59.8**	**+1.7**
PB09				IAML		21 02 38.3	
comp=Z,57nm,0.4s							
FSA	**Cafayete**	**3.12**	**167**	*e*P	**Pn**	**21 02 05.9**	**+2.0**
PB04	**IPOC Station P**	**3.21**	**282**	‖*e*P	**Pn**	**21 02 05.7**	**+0.7**
PB04				*e*S	**Sn**	**21 02 45.1**	**-0.6**
PB04	**IPOC Station P**	**3.21**	**282**	*e*P	**Pn**	**21 02 05.9**	**+1.0**
PB04				*e*S	**Sn**	**21 02 46.5**	**+0.7**
PB04				IAML		21 02 49.3	
comp=Z,52nm,0.2s							
PB01	**IPOC Station P**	**3.22**	**308**	‖*e*P	**Pn**	**21 02 05.9**	**+0.8**
PB01				*e*S	**Sn**	**21 02 45.6**	**-0.5**
PB01	**IPOC Station P**	**3.22**	**308**	*e*P	**Pn**	**21 02 06.2**	**+1.0**
PB01				*e*S	**Sn**	**21 02 46.8**	**+0.7**
PB01				IAML		21 02 48.1	
comp=Z,70nm,0.2s							
GO02	**Mina Guanaco**	**3.32**	**230**	‖*e*P	**Pn**	**21 02 07.8**	**+1.3**
GO02				*e*S	**Sn**	**21 02 48.8**	**+0.3**
GO02	**Mina Guanaco**	**3.32**	**230**	*e*P	**Pn**	**21 02 07.3**	**+0.9**
PB08	**IPOC Station P**	**3.66**	**322**	*e*P	**Pn**	**21 02 12.4**	**+1.7**
PB08				*e*S	**Sn**	**21 02 56.9**	**+0.9**
PB08				IAML		21 02 59.8	
comp=Z,34nm,0.4s							
PB14	**IPOC Station P**	**3.67**	**244**	*e*P	**Pn**	**21 02 11.1**	**+0.3**
PB14				IAML		21 02 59.3	
comp=Z,43nm,0.3s							
TA01	**Diego Aracena**	**4.03**	**307**	*e*P	**Pn**	**21 02 14.8**	**0.0**
TA01				*e*S	**Sn**	**21 03 02.5**	**-1.1**
TA01				IAML		21 03 04.2	
comp=Z,29nm,0.3s							
AC01	**Pan de Azucar**	**4.65**	**228**	*e*P	**Pn**	**21 02 21.9**	**-0.7**
AC01				*e*S	**Sn**	**21 03 14.5**	**-3.2**
AC01				IAML		21 03 46.8	
comp=Z,33nm,4.1s							
LPAZ	**La Paz**	**6.86**	**349**	P	**Pn**	**21 02 52.8**	**+1.1**
comp=Z,2.3nm,0.3s,baz=173,slow=8.5,SNR=8.2							
LPAZ				S	**Sn**	**21 04 08.8**	**-1.4**
comp=Z,1.2nm,0.7s,baz=3.1,slow=16,SNR=1.7							
SIV	**San Ignacio**	**8.85**	**38**	P	**Pn**	**21 03 14.2**	**-2.9**
comp=Z,1.0nm,0.5s,baz=224,slow=18,SNR=4.4							
BDFB	**Brasilia**	**19.16**	**71**	P	**P**	**21 05 20.9**	**-0.5**
comp=Z,2.6nm,0.7s,baz=216,slow=6.7,SNR=3.7							
ATAH	**Atahualpa**	**19.39**	**323**	LR	LR	21 13 17.4	
comp=Z,98nm,18.9s,baz=58,slow=38							
TORD	**Torodi Ar. Bea**	**76.04**	**69**	P	**P**	**21 12 37.5**	**-1.0**
comp=Z,0.2nm,0.4s,baz=259,slow=5.7,SNR=5.1							
comp=Z,0.2nm,0.4s							
comp=Z,0.5nm,0.9s							
DBIC	**Dimbokro**	**53.62**	**288**	LR	LR	21 54 57.9	
comp=Z,52nm,18.0s,baz=274,slow=35							
BUR08	**Bucovina Ar. S**	**62.94**	**345**	P	**P**	**21 34 25.9**	**-2.2**
ABKAR	**Akbulak array**	**63.22**	**11**	P	**P**	**21 34 29.9**	**+0.2**
ASAR	**Alice Springs**	**83.54**	**113**	P	**P**	**21 36 32.3**	**+2.0**
comp=Z,0.6nm,0.7s,baz=272,slow=4.6,SNR=7.2							
comp=Z,0.6nm,0.7s							
WRA	**Warramunga Arr**	**84.68**	**109**	P	**P**	**21 36 38.0**	**+1.9**
comp=Z,1.1nm,0.8s,baz=257,slow=3.5,SNR=7.6							
comp=Z,1.1nm,0.8s							

IDC 19 21:30:10.7±1.3, 48°.55N×37°.37E, h0km, mb2.9/1, mbtmp3.2/4, ML2.9/3, Error ellipse: s-maj=30.6km s-min=12.2km az=31.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**5.71**	**295**	Pn	Pn	21 31 35.8	-0.8
1.7nm,0.3s,baz=107,slow=12,SNR=8.5							
AKASG				Sn	Sn	21 32 41.3	-1.6
2.5nm,0.3s,baz=110,slow=23,SNR=7.0							
AKASG				Lg	Lg	21 33 09.9	
3.4nm,0.3s,baz=109,slow=29,SNR=5.8							
1.6nm,0.4s							
KVAR	**Kislovodsk Arr**	**5.90**	**139**	Lg	Lg	21 33 10.1	
baz=280,slow=11							
KBZ	**Khabaz**	**6.17**	**139**	Pn	Pn	21 31 43.0	+0.1
0.1nm,0.3s,baz=325,slow=12,SNR=2.3							
KBZ				Lg	Lg	21 33 21.8	
0.2nm,0.3s,baz=346,slow=19,SNR=4.2							
1.5nm,1.0s							
FINES	**FINESS Array B**	**14.42**	**338**	Pn	Pn	21 33 30.1	-5.6
0.1nm,0.3s,baz=153,slow=12,SNR=5.1							
1.6nm,1.0s							
BVAR	**Borovoye Array**	**21.23**	**65**	P	P	21 34 56.6	-1.3
0.3nm,0.5s,baz=267,slow=19,SNR=2.6							
0.3nm,0.5s							

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*TEH **19** 21:31:12.6, 26°.73N×56°.53E, h9km±22km, ML3.3*
*OMAN **19** 21:31:16.7±1.0, 26°.68N×56°.62E, h10km, mb4.3/2, ml3.2/22, Error ellipse: s-maj=9.5km s-min=4.9km az=144.0*
*DSN **19** 21:31:17.5±2.8, 26°.47N×56°.80E, h10km, ML3.1/10, Error ellipse: s-maj=39.3km s-min=7.3km az=163.0*
ISC 19 21:31:14.5±1.2, 26°.79N±0°.03×56°.57E±0°.04, h10km±10km, n59, σ1§06/76, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.66**	**358**	Pg	**Pg**	**21 31 26.7**	**-0.6**
GENO	**Geno**	**0.70**	**330**	Pg	**Pg**	**21 31 27.3**	**-0.8**
SHME	**Shamm**	**0.83**	**208**	*e*P	**Pg**	**21 31 30.3**	**-0.1**
SHME=106							
SHME				S	**Sg**	**21 31 42.0**	**+0.7**
SHME	**Shamm**	**0.83**	**208**	P	**Pg**	**21 31 30.5**	**+0.1**
SHME=325							
SHME				S	**Sg**	**21 31 42.0**	**+0.7**
BANOM	**Banah**	**0.90**	**196**	*e*P	**Pg**	**21 31 31.2**	**-0.5**
SHME=567							
BANOM	**Banah**	**0.90**	**196**	P	**Pg**	**21 31 31.6**	**-0.1**
BANOM				S	**Sb**	**21 31 43.5**	**-0.7**
MASF	**Masafi**	**1.46**	**195**	P	**Pn**	**21 31 41.6**	**+0.6**
SHME=51							
MASF				S	**Sg**	**21 32 01.5**	**+0.1**
MSFE	**Esma-Masafi**	**1.47**	**195**	*e*P	**Pn**	**21 31 41.3**	**+0.2**
SHME=51							
JASK	**Jask - Hormozg**	**1.48**	**128**	Pg	**Pn**	**21 31 40.8**	**-0.4**
JASK	**Jask - Hormozg**	**1.48**	**128**	P	**Pn**	**21 31 41.1**	**-0.1**
SHME=104							
JASK				S	**Sg**	**21 32 03.6**	**+1.5**
UMQ	**Umm Al-Quwin**	**1.50**	**213**	P	**Pn**	**21 31 42.3**	**+0.8**
UMQ				S	**Sg**	**21 32 03.8**	**+1.1**
MDH	**Madha**	**1.50**	**189**	*e*P	**Pn**	**21 31 39.5**	**-2.0**
SHME=12							
MDH	**Madha**	**1.50**	**189**	P	**Pn**	**21 31 39.9**	**-1.6**
SHME=22							
MDH				S	**Sn**	**21 32 00.5**	**-0.7**
KHNJ	**Kahnooj**	**1.53**	**41**	Pg	**Pn**	**21 31 41.6**	**-0.4**
UOSS	**Minazif**	**1.86**	**190**	*e*P	**Pn**	**21 31 45.0**	**-1.4**
SHME=18							
UOSS	**Minazif**	**1.86**	**190**	Pn	**Pn**	**21 31 45.2**	**-1.3**
UOSS	**Minazif**	**1.86**	**190**	P	**Pn**	**21 31 45.1**	**-1.4**
UOSS				S	**Sg**	**21 32 13.7**	**-0.8**
NAZ	**Nazwa, Dubai**	**1.97**	**205**	P	**Pn**	**21 31 50.0**	**+2.0**
NAZ	**Nazwa, Dubai**	**1.97**	**205**	P	**Pn**	**21 31 49.5**	**+1.5**
NAZ				S	**Sg**	**21 32 17.7**	**-0.1**
HATD	**Hatta, Dubai**	**1.99**	**192**	*e*P	**Pn**	**21 31 48.2**	**-0.1**
SHME=18							
HATD	**Hatta, Dubai**	**1.99**	**192**	P	**Pb**	**21 31 50.9**	**+0.1**
SHME=18							
HATD				S	**Sn**	**21 32 12.4**	**-1.0**
LAR1	**LAR**	**2.14**	**295**	Pn	**Pn**	**21 31 50.3**	**-0.1**
ASHO	**Ashiyiah**	**2.15**	**193**	*e*P	**Pn**	**21 31 50.6**	**+0.2**
SHME=21							
ASHO	**Ashiyiah**	**2.15**	**193**	P	**Pn**	**21 31 51.7**	**+1.3**
SHME=21							
ASHO				S	**Sg**	**21 32 21.3**	**-2.2**
FAQ	**Al Faqa, Dubai**	**2.22**	**204**	*e*P	**Pn**	**21 31 51.4**	**+0.1**
SHME=10							
FAQ	**Al Faqa, Dubai**	**2.22**	**204**	P	**Pn**	**21 31 52.2**	**+0.9**
SHME=10							
ASUD	**Al Ashush, Dub**	**2.43**	**208**	*e*P	**Pn**	**21 31 55.4**	**+1.2**
SHME=34							
ASUD	**Al Ashush, Dub**	**2.43**	**208**	P	**Pn**	**21 31 55.4**	**+1.2**
SHME=34							
AJN	**Ajban**	**2.64**	**213**	P	**Pn**	**21 31 57.8**	**+0.7**
AJN				S	**Sn**	**21 32 28.9**	**-0.3**
SOHO	**SOHO**	**2.64**	**181**	P	**Pn**	**21 31 57.0**	**-0.2**
ALNE	**Al Ain**	**2.82**	**195**	*e*P	**Pn**	**21 32 00.4**	**+0.7**
SHME=10.0							
ALNE	**Al Ain**	**2.82**	**195**	P	**Pn**	**21 32 00.7**	**+1.0**
SHME=10.0							
NGRK	**Negar Kerman**	**2.85**	**3**	Pn	**Pn**	**21 32 00.2**	**-0.2**
KBAM	**BAM**	**2.87**	**35**	Pn	**Pn**	**21 32 01.3**	**+0.9**
CHMN	**Cheshme madani**	**3.18**	**15**	Pn	**Pn**	**21 32 06.0**	**+1.1**
TVBK	**TV Kerman**	**3.19**	**3**	Pn	**Pn**	**21 32 05.6**	**+0.5**
HOQ	**Hoqain**	**3.26**	**168**	Pn	**Pn**	**21 32 05.4**	**-0.4**
HOQ	**Hoqain**	**3.26**	**168**	P	**Pn**	**21 32 06.0**	**+0.2**
SHME=14							
HOQ				S	**Sn**	**21 32 46.1**	**+1.4**
ARQ	**Araqi**	**3.44**	**181**	P	**Pn**	**21 32 10.0**	**+1.8**
SHME=17							
ARQ				S	**Sn**	**21 32 50.9**	**+1.9**
BIDO	**Bidbid**	**3.54**	**156**	P	**Pn**	**21 32 10.0**	**+0.3**
KHGB	**Koh Gabri**	**3.58**	**359**	Pn	**Pn**	**21 32 10.6**	**+0.4**
CHBR	**Chabahar**	**3.71**	**108**	Pn	**Pn**	**21 32 12.9**	**+1.0**
KRM1	**Kerman Provinc**	**3.75**	**9**	Pn	**Pn**	**21 32 13.3**	**+0.6**
SMDO	**Samad**	**3.95**	**160**	P	**Pn**	**21 32 17.0**	**+1.7**
SMDO				S	**Sn**	**21 33 00.1**	**-1.6**
WSAR	**Wadi Sarin**	**4.00**	**152**	P	**Pn**	**21 32 16.6**	**+0.7**
WSAR				S	**Sn**	**21 33 00.7**	**-2.1**
BSY	**Bisya**	**4.07**	**172**	P	**Pn**	**21 32 19.1**	**+2.2**
SHME=8.3							
NGCH	**Negor - Chabah**	**4.35**	**108**	Pn	**Pn**	**21 32 21.2**	**+0.6**
NGCH	**Negor - Chabah**	**4.35**	**108**	P	**Pn**	**21 32 22.3**	**+1.7**
SHME=7.2							
ZHDN	**Zahedan**	**4.56**	**54**	Pn	**Pn**	**21 32 24.7**	**+1.0**
JMDO	**Jabal Madar**	**4.62**	**162**	P	**Pn**	**21 32 26.0**	**+1.6**
SHME=15							
JMDO				S	**Sn**	**21 33 18.9**	**+0.8**
WBK	**Wadi Bani Khal**	**4.70**	**152**	P	**Pn**	**21 32 27.0**	**+1.5**
SHME=7.5							
IMEH	**Mehriz**	**4.89**	**340**	Pn	**Pn**	**21 32 28.6**	**+0.2**
JLN	**Jalan Bani Buh**	**5.29**	**150**	P	**Pn**	**21 32 33.3**	**-0.3**
SHME=10							
NHDN	**Nehbandan**	**5.51**	**33**	Pn	**Pn**	**21 32 37.8**	**+1.1**
MHTO	**MHTO**	**5.92**	**167**	P	**Pn**	**21 32 42.9**	**+0.7**
KLNJ	**Kolanjah**	**6.06**	**315**	Pn	**Pn**	**21 32 44.5**	**-0.1**
DOK	**Doka**	**8.44**	**196**	P	**Pn**	**21 33 16.4**	**-0.4**
DMTO	**DMTO**	**9.15**	**190**	P	**Pn**	**21 33 26.0**	**-0.7**
WHFO	**Wadi Hawf**	**9.20**	**197**	P	**Pn**	**21 33 27.3**	**0.0**
SHME=7.8							

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*IDC **19** 21:39:51.7±0.7, 69°.08N×16°.80W, h0km, mb3.9/16, mbtmp3.9/20, ML3.4/4, MS3.3/18, Error ellipse: s-maj=19.6km s-min=13.7km az=33.0*
*REY **19** 21:39:54.6, 68°.81N×16°.45W, h10km*
*NEIC **19** 21:39:54.6±2.0, 69°.13N±0°.04×16°.9W±0°.3, h10km±1km,*

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*ISN **19** 21:09:53.4±0.6, 34°.61N×46°.23E, h6km±6km, ML3.0*
*TEH **19** 21:09:54.6, 34°.59N×46°.24E, h5km, ML2.9*
ISC 19 21:09:55.8±0.9, 34°.60N±0°.03×46°.21E±0°.03, h10km, n20, σ1§22/24, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.18**	**55**	Pg	**Pg**	**21 09 58.0**	**-1.8**
IGHG	**Ghaleghazi**	**0.40**	**132**	Pg	**Pg**	**21 10 03.3**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**0.52**	**260**	Pg	**Pg**	**21 10 05.3**	**-0.7**
GLG1	**Gilan-e-Gharb**	**0.54**	**207**	Pg	**Pg**	**21 10 06.3**	**-0.1**
ILIN	**Lien**	**0.70**	**62**	Pg	**Pg**	**21 10 07.8**	**-1.5**
KCHF	**Cheshme Sefid,**	**0.76**	**115**	Pg	**Pg**	**21 10 09.0**	**-1.5**
ILBA	**Ilam Banvizeh**	**0.97**	**180**	Pg	**Pb**	**21 10 14.4**	**-0.4**
SNQR	**Sonqor, Kerman**	**1.20**	**77**	Pg	**Pb**	**21 10 18.5**	**-0.3**
IBDR	**Badra**	**1.50**	**189**	*e*Pn	**Pb**	**21 10 23.0**	**-0.8**
IBDR				*e*Sn	**Sg**	**21 10 44.0**	**-0.1**
IBDR				AML	AML	21 10 55.8	
comp=E,171nm,0.7s							
IBDR				AML	AML	21 11 04.0	
comp=N,166nm,0.6s							
IKFM	**Kafar-mosalman**	**1.73**	**128**	Pg	**Pg**	**21 10 28.3**	**-0.7**
IKRK	**Kirkuk**	**1.73**	**298**	*e*Pn	**Pn**	**21 10 26.0**	**0.0**
IKRK				*e*Sn	**Sb**	**21 10 50.0**	**+0.4**
IKRK				AML	AML	21 10 56.6	
comp=N,328nm,0.5s							
IKRK				AML	AML	21 10 57.6	
comp=E,234nm,0.4s							
HSAM	**Samen**	**2.02**	**100**	Pn	**Pb**	**21 10 32.2**	**-0.5**
BHD	**Baghdad**	**2.02**	**229**	*e*Pn	**Pn**	**21 10 30.0**	**+0.1**
BHD				*e*Sn	**Sb**	**21 10 57.0**	**-0.7**
MAHB	**Mahabad**	**2.20**	**349**	Pn	**Pb**	**21 10 34.8**	**-1.1**
HAGD	**Aghdareh**	**2.42**	**84**	Pn	**Pn**	**21 10 37.0**	**+1.3**
RAFI	**Al-Rafai**	**2.87**	**182**	*e*Pn	**Pn**	**21 10 42.0**	**+0.4**
RAFI				*e*Sn	**Sn**	**21 11 17.5**	**+1.3**
ISRB	**Sarab**	**3.43**	**20**	Pn	**Pn**	**21 10 51.0**	**+1.4**
ISHB	**Shabestar**	**3.71**	**353**	Pn	**Pn**	**21 10 55.9**	**+2.5**
IHRS	**Heris**	**3.77**	**10**	Pn	**Pn**	**21 10 56.6**	**+2.3**
QAMS	**Qamsar**	**4.38**	**100**	Pn	**Pn**	**21 11 04.2**	**+1.5**

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*NEIC **19** 21:24:00.9±1.4, 12°.77S±0°.05×45°.5E±0°.1, h10km±1km, mb4.3/5, Error ellipse: s-maj=23.6km s-min=8.1km az=92.0*
*IDC **19** 21:24:01.5±1.4, 12°.96S×45°.39E, h0km, mb3.8/4, mbtmp3.8/4, MS3.6/1, Error ellipse: s-maj=55.4km s-min=31.3km az=3.0*
ISC 19 21:24:01.3±0.8, 12°.93S±0°.08×45°.4E±0°.1, h10km, n15, σ1§97/15, mb4.0/5, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**6.30**	**164**	Pn	**Pn**	**21 25 35.9**	**+1.4**
ABPO				Sn	**Sn**	**21 26 42.0**	**-4.7**
VOI	**Vohitsoka**	**9.03**	**172**	Pn	**Pn**	**21 26 12.7**	**+0.8**
FOMA	**Nahampoana Res**	**12.08**	**173**	Pn	**Pn**	**21 26 54.0**	**+0.5**
KIBK	**Kibwezi**	**12.80**	**325**	Pn	**Pn**	**21 27 01.6**	**-2.1**
RER	**Riviere de l'E**	**12.82**	**131**	Pn	**Pn**	**21 27 04.2**	**+0.3**
LSZ	**Lusaka**	**16.88**	**260**	Pn	**Pn**	**21 27 58.3**	**+0.2**
LBTB	**Lobatse**	**22.24**	**234**	P	**P**	**21 28 59.0**	**+0.4**
LBTB				IAMB	IAMB	21 29 21.1	
comp=Z,7.0nm,1.1s							
BOSA	**Boshof**	**24.42**	**227**	P	**P**	**21 29 21.3**	**+0.9**
BOSA				IAMB	IAMB	21 29 48.1	
comp=Z,18nm,1.4s							
BOSA	**Boshof**	**24.42**	**227**	P	**P**	**21 29 21.6**	**+1.2**
comp=Z,1.7nm,0.5s,baz=47,slow=8.9,SNR=7.0							
comp=Z,1.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**50.50**	**299**	P	**P**	**21 33 01.7**	**+1.6**
comp=Z,0.5nm,0.9s,baz=104,slow=8.9,SNR=3.1							

mb4.3/40, Error ellipse: s-maj=19.8km s-min=2.9km az=72.0
DNK 19 21:40:16.1±2.0, 70°.66N×19°.76W, h0km, ML2.6, Presumed Glacial event

ISC 19 21:39:53.2±0.5, 68°.96N±0°.05×16°.83W±0°.07, h10km, n99, σ1°23/95, mb4.2/38, MS3.2/14, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	Scoresbysund	2.35 313		Pn	Pn	21 40 29.9	-1.8
SCO	Scoresbysund	2.35 313		*i* P	Pn	21 40 29.8	-2.0
SCO				*i* S	Sn	21 40 39.5	-21
SCO				IAML		21 41 19.5	
	comp=Z,137nm,0.7s						
IGRI	Grimsey	2.47 191		P	Pn	21 40 32.6	-0.8
IGRI				S	Sn	21 41 01.6	-2.1
ILEI	Leirhofn	2.57 177		P	Pn	21 40 33.4	-1.4
ILEI				S	Sn	21 41 03.5	-2.6
IHED	Heoinshofoi	2.90 184		P	Pn	21 40 38.6	-0.7
IHED				S	Sn	21 41 11.9	-2.3
IGIL	Gilhagi	2.91 176		P	Pn	21 40 38.3	-1.1
IGIL				S	Sn	21 41 12.9	-1.5
ISIG	Siglufjorour	2.96 197		P	Pn	21 40 39.5	-0.6
IDIM	Dimmadalss	3.02 181		P	Pn	21 40 40.0	-0.9
IDIM				S	Sn	21 41 15.6	-1.5
IHLA	Hella	3.09 192		P	Pn	21 40 41.7	-0.3
IHLA				S	Sn	21 41 18.0	-0.9
ISKI	Skildingahlsh	3.11 182		P	Pn	21 40 41.2	-1.0
IGHA	Grjothals	3.13 179		P	Pn	21 40 41.6	-1.0
IGHA				S	Sn	21 41 18.6	-1.4
IKVO	Krokottuvotn	3.27 180		P	Pn	21 40 43.7	-0.7
IREN	Reynihlio	3.33 181		P	Pn	21 40 44.7	-0.5
IGRS	Grímsstaoir	3.35 175		P	Pn	21 40 44.5	-1.1
BORG	Borgarnes	4.59 205		Pn	Pn	21 41 04.7	+2.2
BORG	Borgarnes	4.59 205		Pn	Pn	21 41 04.1	+1.6
	comp=Z,4.7nm,0.3s,baz=33,slow=6.5,SNR=17						
	comp=Z,55nm,0.7s						
DBG	Daneborg	5.48 350		*i* P	Pn	21 41 14.9	+0.3
DAG	Danmarks Havn	7.87 357		*i* P	Pn	21 41 45.6	-1.9
SUMG	Summit	7.97 307		Pn	Pn	21 41 47.7	-1.6
SFJD	Kangerlussuaq	12.73 277		LR	LR	21 47 26.0	
	comp=Z,242nm,20.0s,baz=98,slow=36						
NOA	NORSAR Array B	14.13 110		LR	LR	21 47 12.9	
	comp=Z,55nm,20.6s,baz=5.0,slow=31						
EKA	Eskdalemuir Ar	15.03 149		Pn	Pn	21 43 25.7	+0.4
	baz=12,slow=8.0						
	comp=Z,1.7nm,0.8s						
HFS	Hagfors	15.63 109		Pn	Pn	21 43 31.7	-1.5
	comp=Z,0.1nm,0.3s,baz=353,slow=7.3,SNR=2.8						
HFS				LR	LR	21 48 07.7	
	comp=Z,105nm,19.1s,baz=269,slow=32						
	comp=Z,0.9nm,0.7s						
FIA1	FINESS Array S	19.11 92		P	Pn	21 44 15.7	-0.8
FINES	FINESS Array B	19.11 92		P	Pn	21 44 16.1	-0.4
FINES	FINESS Array B	19.11 92		P	Pn	21 44 15.4	-1.1
	comp=Z,0.3nm,0.3s,baz=315,slow=10,SNR=15						
FINES				LR	LR	21 51 01.2	
	comp=Z,76nm,18.8s,baz=336,slow=35						
	comp=Z,3.7nm,0.6s						
FRB	Frobisher Bay	20.82 281		LR	LR	21 52 02.3	
	comp=Z,117nm,20.1s,baz=96,slow=35						
CLL	Collm	22.70 126		P	P	21 44 54.8	+0.2
RES	Resolute Bay	23.24 319		LR	LR	21 53 47.7	
	comp=Z,58nm,20.1s,baz=9.0,slow=36						
BRG	Berggiesshubel	23.36 125		*e*P	P	21 45 03.7	+2.4
BRG				Amp		21 45 04.1	
	comp=Z,3.6nm,0.9s						
GEC2	GERESS Array S	25.10 128		P	P	21 45 19.4	+1.6
GEC2				IAmb	IAmb	21 45 20.5	
	comp=Z,7.7nm,1.0s						
GERES	GERESS Array B	25.10 128		P	P	21 45 18.4	+0.6
	comp=Z,5.4nm,1.1s,baz=337,slow=12,SNR=4.8						
	comp=Z,5.4nm,1.1s						
MORC	Moravsky Berou	25.41 121		P	P	21 45 21.4	+0.9
MORC				IAmb	IAmb	21 45 23.7	
	comp=Z,8.6nm,0.9s						
VRAC	Vranov	25.54 123		LR	LR	21 57 23.7	
	comp=Z,56nm,18.4s,baz=288,slow=41						
WATA	Walderalm	25.89 132		*i* P	P	21 45 26.3	+1.3
	comp=Z,8.4nm,0.9s						
SQTA	Sankt Quirin	25.90 133		*i* P	P	21 45 25.6	+0.6
	comp=Z,7.3nm,1.3s						
DAVOX	Davos/Dischmat	25.96 135		P	P	21 45 26.5	+0.8
	comp=Z,2.5nm,0.8s,baz=212,slow=6.1,SNR=4.9						
DAVOX				LR	LR	21 55 26.9	
	comp=Z,50nm,19.9s,baz=261,slow=36						
	comp=Z,2.5nm,0.8s						
TUE	Stuetta	26.11 136		P	P	21 45 28.2	+1.1
TUE				IAmb	IAmb	21 45 38.4	
	comp=Z,6.4nm,1.1s						
ABTA	Abfaltersbach	26.68 131		*e*P	P	21 45 35.0	+2.9
	comp=Z,19nm,1.8s						
RONA	Rosalia, Austr	26.89 125		*e*P	P	21 45 35.4	+1.5
	comp=Z,9.4nm,1.5s						
PRED	Cave del Predi	27.25 130		P	P	21 45 41.6	+4.4
AKASG	Malin Array Be	28.47 106		P	P	21 45 47.2	-0.8
	comp=Z,2.0nm,0.8s,baz=330,slow=9.1,SNR=7.5						
AKASG				LR	LR	21 56 48.6	
	comp=Z,72nm,18.2s,baz=248,slow=36						
	comp=Z,2.0nm,0.8s						
ESDC	Sonseca Array	30.16 160		P	P	21 46 03.7	+0.6
	comp=Z,0.9nm,0.8s,baz=356,slow=8.3,SNR=3.7						
ESDC				LR	LR	21 57 50.0	
	comp=Z,50nm,18.1s,baz=268,slow=36						
	comp=Z,0.9nm,0.8s						
MLR	Muntele Rosu	31.87 115		LR	LR	22 00 09.7	
	comp=Z,27nm,20.4s,baz=256,slow=38						
ARTI	Arti	34.28 73		P	P	21 46 39.3	+0.3
ARTI				IAmb	IAmb	21 46 41.5	
	comp=Z,3.6nm,0.8s						
ARTI	Arti	34.28 73		LR	LR	21 59 30.8	
	comp=Z,74nm,19.9s,baz=334,slow=34						
RDO	Rodhopi	35.64 119		P	P	21 46 51.6	+0.8
INK	Inuvik	36.35 326		P	P	21 46 57.1	+0.5
INK				IAmb	IAmb	21 46 57.2	
	comp=Z,8.3nm,1.5s						
YKA	Yellowknife Ar	36.56 309		P	P	21 46 57.9	-0.6
	comp=Z,3.0nm,0.9s,baz=39,slow=8.5,SNR=6.3						
	comp=Z,3.0nm,0.9s						
D27M	Malcolm River	36.96 331		P	P	21 47 02.2	+0.3
C27K	Jago River	37.10 332		P	P	21 47 03.5	+0.5
E29M	Blow River	37.14 328		P	P	21 47 03.8	+0.4
E29M				IAmb	IAmb	21 47 04.6	
	comp=Z,5.3nm,1.1s						
E28M	Babbage River	37.26 329		P	P	21 47 04.8	+0.4
G31M	Satah River	37.68 325		P	P	21 47 07.1	-0.9
G31M				IAmb	IAmb	21 47 12.6	
	comp=Z,7.8nm,1.1s						
C23K	Itkillik River	38.00 336		P	P	21 47 11.6	+1.0
G29M	Pine Creek	38.45 327		P	P	21 47 13.5	-1.0
D23K	Nanushuk River	38.80 335		P	P	21 47 18.4	+1.0
D23K				IAmb	IAmb	21 47 19.6	
	comp=Z,9.1nm,1.1s						
H29M	Whitestone	39.12 327		P	P	21 47 20.0	-0.1
BMAR	Burnt Mountain	39.20 331		P	P	21 47 21.3	+0.4
KBZ	Khabaz	39.26 98		P	P	21 47 22.7	+1.3
	comp=Z,2.0nm,0.8s,baz=313,slow=13,SNR=4.8						
	comp=Z,2.0nm,0.8s						
E23K	Chandalar	39.47 334		P	P	21 47 23.3	+0.2
E23K				IAmb	IAmb	21 47 26.9	
	comp=Z,8.9nm,1.4s						
BRTR	Keskin Array B	39.57 111		P	P	21 47 25.5	+1.2
BRTR	Keskin Array B	39.57 111		P	P	21 47 25.3	+1.0
	comp=Z,0.9nm,0.7s,baz=349,slow=6.4,SNR=4.2						
	comp=Z,0.9nm,0.7s						
E22K	Anaktuvuk Pass	39.73 336		P	P	21 47 25.6	+0.4
E22K				IAmb	IAmb	21 47 29.2	
	comp=Z,9.9nm,1.4s						
I28M	Miner Creek	40.11 327		P	P	21 47 28.1	-0.4
G24K	Hadweenzic Riv	40.36 332		P	P	21 47 31.7	+1.3
G24K				IAmb	IAmb	21 47 32.3	
	comp=Z,8.2nm,1.1s						
ULM	Lac du Bonnet	40.62 285		LR	LR	22 04 23.3	
	comp=Z,88nm,19.6s,baz=110,slow=36						
F21K	Alatna River	40.83 336		P	P	21 47 34.8	+0.5
BVAR	Borovoye Array	41.08 67		P	P	21 47 35.8	-0.7
	comp=Z,1.0nm,0.7s,baz=309,slow=9.4,SNR=6.9						
	comp=Z,1.0nm,0.7s						
E19K	Redstone River	41.14 338		P	P	21 47 36.9	+0.1
E19K				IAmb	IAmb	21 47 47.7	
	comp=Z,11nm,1.4s						
F20K	Avaraart Lake	41.31 337		P	P	21 47 38.5	+0.3
K27K	Chicken	41.80 327		P	P	21 47 42.8	+0.6
ILAR	Eielson Array	42.02 331		P	P	21 47 43.5	-0.5
	comp=Z,1.1nm,0.9s,baz=23,slow=6.7,SNR=9.8						
ILAR				LR	LR	22 09 01.5	
	comp=Z,34nm,19.6s,baz=38,slow=42						
	comp=Z,1.1nm,0.9s						
IMAR	Indian Mountai	42.02 335		P	P	21 47 44.9	+0.9
H21K	Melozitna Rive	42.18 335		P	P	21 47 46.8	+1.4
GNI	Garni	43.06 99		LR	LR	22 07 12.8	
	comp=Z,26nm,18.0s,baz=313,slow=38						
R33M	Jennings River	43.48 317		P	P	21 47 57.8	+1.7
R33M				IAmb	IAmb	21 48 01.2	
	comp=Z,12nm,1.3s						
J20K	Nowinta River	43.77 335		P	P	21 47 58.2	0.0
J20K				IAmb	IAmb	21 48 11.7	
	comp=Z,7.7nm,1.4s						
J19K	Poorman	44.17 335		P	P	21 48 03.0	+1.6
K20K	Telida	44.53 334		P	P	21 48 05.0	+0.6
K20K				IAmb	IAmb	21 48 48.8	
	comp=Z,8.7nm,1.4s						
M20K	Styx River	45.77 333		P	P	21 48 13.9	-0.4
KURBB	Kurchatov Arra	45.78 62		P	P	21 48 13.7	-0.6
	comp=Z,1.2nm,0.8s,baz=325,slow=7.6,SNR=7.7						
	comp=Z,1.2nm,0.8s						
KDAK	Kodiak Island	49.54 331		LR	LR	22 15 11.0	
	comp=Z,28nm,18.9s,baz=260,slow=43						
MKAR	Makanchi Array	50.34 62		P	P	21 48 48.4	-1.3
	comp=Z,1.5nm,1.0s,baz=258,slow=6.1,SNR=4.7						
	comp=Z,1.5nm,1.0s						
PDAR	Pinedale Array	51.81 291		P	P	21 49 01.3	+0.2
PDAR	Pinedale Array	51.81 291		P	P	21 49 00.3	-0.8
	comp=Z,1.5nm,1.0s,baz=54,slow=6.0,SNR=5.0						
	comp=Z,1.5nm,1.0s						
SONM	Songino Array	56.23 43		P	P	21 49 32.4	-0.7
	comp=Z,0.6nm,0.9s,baz=329,slow=10,SNR=3.6						
	comp=Z,0.6nm,0.9s						
MSU	Marysvale	56.50 291		P	P	21 49 35.3	0.0
SPR3	Spring Creek 3	56.79 293		P	P	21 49 39.2	+1.7
SPR3				IAmb	IAmb	21 49 41.2	
	comp=Z,3.8nm,0.9s						
TORD	Torodi Ar. Bea	57.02 158		P	P	21 49 39.5	+0.6
	comp=Z,1.0nm,0.9s,baz=351,slow=8.3,SNR=4.4						
	comp=Z,1.0nm,0.9s						
PSUT	Pine Spring	57.05 292		P	P	21 49 41.1	+1.9
PSUT				IAmb	IAmb	21 49 44.2	
	comp=Z,4.4nm,1.1s						
R11B	Troy Canyon, C	57.79 293		P	P	21 49 45.2	+0.8
R11B				IAmb	IAmb	21 49 46.2	
	comp=Z,2.3nm,0.8s						
KVN	Kaiserville	57.98 296		P	P	21 49 45.5	-0.2
KVN				IAmb	IAmb	21 49 47.4	
	comp=Z,3.4nm,0.9s						
YERR	Yerington	58.41 297		P	P	21 49 49.9	+1.1
NVAR	Mina Array Bea	58.61 296		P	P	21 49 50.1	-0.1
	comp=Z,0.2nm,0.3s,baz=30,slow=6.8,SNR=4.1						
NVAR				LR	LR	22 15 50.9	
	comp=Z,55nm,21.2s,baz=84,slow=37						
	comp=Z,0.2nm,0.3s						
X16A	Lo Mia Camp, P	59.96 288		P	P	21 50 00.5	+1.0
CMAR	Chiang Mai Arr	81.69 60		P	P	21 52 12.5	+0.9
CMAR	Chiang Mai Arr	81.69 60		P	P	21 52 11.6	+0.1
	comp=Z,1.0nm,0.3s,baz=315,slow=6.0,SNR=9.2						
	comp=Z,1.0nm,0.3s						
LBTB	Lobatse	98.65 142		LR	LR	22 43 27.7	
	comp=Z,27nm,18.2s,baz=284,slow=39						

KRSC 19 21:56:58.6±1.0, 53°.85N×168°.53E, h16km±37km, Ml3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.01 313		*e*P	Pn	21 57 32.9	+1.1
BKI				*e*S	Sb	21 57 59.1	-0.4
SPN	Mys Shipunski	5.14 265		*e*P	Pn	21 58 19.1	+4.4
SPN				*e*S	Sn	21 59 18.6	+5.0
SDLR	Sedlovina	5.78 268		*e*P	Pn	21 58 27.9	+4.2
UGLR	Uglovaya	5.82 268		*e*P	Pn	21 58 28.9	+4.6
AVH	Avacha	5.87 268		*e*P	Pn	21 58 29.5	+4.6
KRX	Arik	5.90 269		*e*P	Pn	21 58 30.0	+4.6
KOK	Koryaka	5.92 269		*e*P	Pn	21 58 29.6	+4.0
RUS	Russkaya	6.19 261		*e*P	Pn	21 58 34.2	+5.0
GNL	Ganaly	6.28 273		*e*P	Pn	21 58 35.1	+4.6
GRL	Gorelyy	6.42 263		*e*P	Pn	21 58 37.9	+5.5
ASAK	Asacha	6.57 261		*e*P	Pn	21 58 39.0	+4.6
KDTR	Khodutka, Kamc	6.66 256		*e*S	Sn	21 59 55.5	+4.6

IDC 19 22:01:09.7±0.9, 27°.79N×102°.36E, h0km, mb3.6/8, mbtmp3.7/9, ML3.7/1, MS3.2/1, Error ellipse: s-maj=29.0km s-min=16.4km az=75.0

ISC 19 22:01:11.1±0.9, 27°.8N±0°.1×102°.4E±0°.2, h10km, n9, σ0°82/9, mb4.1/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.82 199		Pn	Pn	22 03 32.2	-0.2
	0.2nm,0.3s,baz=11,slow=12,SNR=10.0						
CMAR				Pg		22 04 09.3	
	baz=297,slow=30						
CMAR				Lg	Lg	22 06 20.1	
	0.4nm,0.3s,baz=88,slow=37,SNR=2.3						
	0.7nm,0.3s						
SONM	Songino Array	20.25 8		P	P	22 05 46.6	0.0
	0.3nm,0.5s,baz=192,slow=11,SNR=3.0						
	0.3nm,0.5s						
KSRS	Korea Array	23.52 59		P	P	22 06 21.1	-0.2
	0.6nm,0.4s,baz=251,slow=11,SNR=1.5						
	0.6nm,0.4s						
MKAR	Makanchi Array	24.66 326		P	P	22 06 32.2	+0.1
	0.6nm,0.7s,baz=132,slow=10,SNR=1.8						
MKAR				LR	LR	22 17 05.8	
	comp=Z,46nm,18.7s,baz=31,slow=39						
	0.6nm,0.7s						
KURBB	Kurchatov Arra	29.10 328		P	P	22 07 10.6	-1.2
	0.2nm,0.5s,baz=138,slow=9.2,SNR=2.0						
	0.2nm,0.5s						
WRA	Warramunga Arr	56.66 143		P	P	22 10 54.7	-0.1
	1.9nm,0.6s,baz=334,slow=8.0,SNR=25						
	1.9nm,0.6s						
FINES	FINESS Array B	59.48 327		P	P	22 11 14.2	+0.2
	2.1nm,0.9s,baz=82,slow=10.0,SNR=1.6						
	2.1nm,0.9s						
ASAR	Alice Springs	59.53 146		P	P	22 11 15.1	+0.2
	1.1nm,0.5s,baz=326,slow=6.8,SNR=26						
	1.1nm,0.5s						
NOA	NORSAR Array B	66.63 328		P	P	22 12 03.1	+1.5
	1.1nm,0.8s,baz=79,slow=4.4,SNR=4.1						
	1.1nm,0.8s						

AUST 19 22:16:31.0±0.7, 31°S±2°×11°4E±°, h10km, mb4.0/4, ML2.7/10, Error ellipse: s-maj=12.1km s-min=4.5km az=88.8, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUN	Mundaring	1.89 110		P	Pb	22 17 05.0	-0.6
MUN	Mundaring	1.89 110		S	Sg	22 17 32.1	+0.2
MORW	Morawa	2.82 37		P	Pn	22 17 16.3	+0.1
MORW	Morawa	2.82 37		S	Sn	22 17 50.7	+0.4
NWAO	Narrogin (SRO)	3.08 122		P	Pn	22 17 21.1	+1.4
NWAO	Narrogin (SRO)	3.08 122		S	Sn	22 17 59.2	+2.6
KLBR	Kellerberrin	3.12 95		P	Pn	22 17 22.7	+2.4
KLBR	Kellerberrin	3.12 95		S	Sb	22 18 02.5	-2.2
LM05	Lake Muir 05	3.55 149		P	Pn	22 17 25.9	-0.3
LM05				S	Sn	22 18 07.8	-0.5
LM04	Lake Muir 04	3.66 145		P	Pn	22 17 27.8	+0.1
LM04				S	Sn	22 18 11.4	+0.4
LM01	Lskr Muir 01	3.78 144		P	Pn	22 17 29.6	+0.2
LM01				S	Sn	22 18 13.6	-0.3
LM02	Lake Muir 02	3.78 147		S	Sn	22 18 14.8	+0.7
LM03	Lake Muir 03	3.83 143		P	Pn	22 17 30.1	+0.1
LM03				S	Sn	22 18 15.2	+0.1
RKGY	Rocky Gully	4.04 144		P	Pn	22 17 33.9	+0.9
RKGY	Rocky Gully	4.04 144		S	Sn	22 18 21.1	+0.7
MEEK	Meekatharra	6.13 41		P	Pn	22 18 00.2	-1.6
	comp=Z,0.1nmcomp=Z,25nm,2.5s						
MEEK	Meekatharra	6.13 41		S	Sn	22 19 08.2	-3.8
KMBL	Kambalda	6.64 92		P	Pn	22 18 09.1	+0.4
	comp=Z,0.1nmcomp=Z,29nm,2.3s						
KMBL	Kambalda	6.64 92		S	Sn	22 19 24.6	+0.1
FORT	Forrest	11.97 91		P	Pn	22 19 21.7	-0.1
	comp=Z,41nm,1.3s						
FORT	Forrest	11.97 91		S	Sn	22 21 31.9	-3.5
WRKA	Warakurna	13.99 67		P	Pn	22 19 47.7	-1.8
	comp=Z,11nm,1.6s						

OSPL 19 22:23:45.3±0.6, 18°.29N×71°.89W, h52km±7km, ML2.1

SDD 19 22:23:48.2±1.9, 18°.31N×71°.93W, h12km±48km, MD2.7, ML2.2, MW2.9

ISC 19 22:23:46.7±1.1, 18°.31N±0°.04×71°.90W±0°.03, h16km±8km, n9, σ0°69/16, 6C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIDR	Jimani	0.19	13	⇑*e*Pg	Pb	22 23 51.0	-0.8
JIDR				⇑*e*Sg	Sg	22 23 55.1	+0.8
JIDR				IAML		22 23 55.7	
	comp=N,460nm,0.4s						
LODU1	El Espartillar	0.40	84	*i* P	Pg	22 23 54.5	-0.4
LODU1				*e*S	Sb	22 24 02.2	+0.9
LODU1				IAML		22 24 04.1	
	comp=Z,186nm,0.2s						
PAPH	Port-au-Prince	0.44	299	*e*Pg	Pg	22 23 55.4	-0.2
PAPH				⇓*e*Sg	Sb	22 24 02.5	+0.2
PAPH				IAML		22 24 03.3	
	comp=N,163nm,0.4s						
PAPH				IAML		22 24 03.4	
	comp=E,211nm,0.7s						
PAPH	Port-au-Prince	0.44	299	*i* P	Pg	22 23 55.7	+0.1
PAPH				*e*S	Sb	22 24 02.9	+0.5
NEDR	Neiba UASD	0.49	69	⇑*e*Sg	Sb	22 24 04.3	+0.5
NEDR				IAML		22 24 05.3	
	comp=E,130nm,0.2s						
NEDR				IAML		22 24 05.3	
	comp=N,159nm,0.3s						
LOBH	Bahia de las A	0.51	151	*i* P	Pg	22 23 56.0	-0.8
LOBH				*e*S	Sg	22 24 03.6	0.0
LOBH				IAML		22 24 10.4	
	comp=Z,79nm,2.1s						
LONE3	El Aguacate, B	0.51	55	*i* P	Pg	22 23 56.3	-0.7
LONE3				*e*S	Sb	22 24 04.7	+0.1
LONE3				IAML		22 24 09.4	
	comp=Z,47nm,0.4s						
PODR	Polo	0.60	103	⇑*e*Pg	Pb	22 23 59.3	+0.3
PODR				⇑*e*Sg	Sb	22 24 08.5	+1.3
PODR				IAML		22 24 15.4	
	comp=E,65nm,0.4s						
PODR				IAML		22 24 15.7	
	comp=N,81nm,0.8s						
LOBA2	Hotel Casa Bon	0.80	106	⇑*e*Sg	Sn	22 24 14.5	-0.2
LOBA2				IAML		22 24 18.6	
	comp=E,645nm,0.8s						

IDC 19 22:37:40.3±0.9, 34°.58N×45°.95E, h0km, mb4.0/16, mbtmp4.0/26, ML3.4/9, MS3.1/11, Error ellipse: s-maj=18.1km s-min=11.1km az=160.0
ISN 19 22:37:41.0±0.5, 34°.56N×46°.14E, h7km±5km, ML4.1
MOS 19 22:37:41.3±2.3, 34°.53N×45°.92E, h10km, mb4.5/22, Error ellipse: s-maj=8.3km s-min=4.1km az=109.3
TEH 19 22:37:41.5, 34°.57N×46°.15E, h8km±3.33km, ML4.0
GII 19 22:37:43.2±0.7, 34°.55N×46°.15E, h10km, Mws4.5, confirmed
NEIC 19 22:37:44.0±1.9, 34°.61N±0°.05×46°.06E±0°.07, h10km±1km, mb4.4/42, Error ellipse: s-maj=11.4km s-min=6.0km az=230.0
NAO 19 22:37:55.2, 35°.48N×45°.04E, h33km, mb4.0

ISC 19 22:37:42.4±1.0, 34°.52N±0°.03×46°.15E±0°.02, h10km±6km, n303, σ2°.04/323, mb4.3/52, MS3.0/8, 27C-16D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.26	47	Pg	Pg	22 37 46.6	-1.3
IGHG	Ghaleghazi	0.39	119	Pg	Pg	22 37 50.3	0.0
GLG1	Gilan-e-Gharb	0.45	206	Pg	Pg	22 37 50.9	-0.4
KGS1	Ghasr-e-Shirin	0.47	268	Pg	Pg	22 37 50.8	-0.7
KGS1				Sg	Sg	22 37 57.9	+0.2
KCHF	Cheshme Sefid,	0.77	108	Pg	Pg	22 37 56.8	-0.6
ILIN	Lien	0.78	59	Pg	Pg	22 37 56.2	-1.3
ILIN				Sg	Sg	22 38 07.4	-0.3
ILBA	Ilam Banvizeh	0.89	177	Pg	Pg	22 37 59.3	-0.4
SNQR	Sonqor, Kerman	1.26	74	Pg	Pn	22 38 06.5	+0.1
IBDR	Badra	1.42	188	*e*Pn	Pn	22 38 09.5	+1.3
IBDR				*e*Sn	Sg	22 38 30.0	+1.9
IBDR				AML	AML	22 38 38.2	
	comp=N,2μm,0.7s						
IBDR				AML	AML	22 38 43.4	
	comp=E,2μm,0.2s						
SDS1	Sardasht. Az.	1.71	342	Pg	Pn	22 38 12.3	-0.2
IKFM	Kafar-mosalman	1.72	125	Pg	Pn	22 38 14.4	+2.0
IKRK	Kirkuk	1.73	301	*e*Pn	Pn	22 38 13.0	+0.5
IKRK				*e*Sn	Sb	22 38 36.0	0.0
IKRK				AML	AML	22 38 44.2	
	comp=N,4μm,0.6s						
IKRK				AML	AML	22 38 46.2	
	comp=E,3μm,0.5s						
IDOB	Doab	1.83	113	Pn	Pb	22 38 16.5	+0.4
BHD	Baghdad	1.93	230	*e*Pn	Pn	22 38 16.0	+0.7
BHD				*e*Sn	Sn	22 38 42.0	+2.4
BHD				AML	AML	22 38 49.1	
	comp=E,3μm,0.9s						
HSAM	Samen	2.05	98	Pn	Pn	22 38 19.3	+2.1
MAHB	Mahabad	2.27	351	Pn	Pn	22 38 21.3	+1.1
BDRS	Dareh Seyedi	2.33	103	Pn	Pn	22 38 23.3	+2.2
RAFI	Al-Rafai	2.79	181	*e*Pn	Pn	22 38 28.5	+1.4
RAFI				*e*Sn	Sn	22 39 03.5	+2.7
IHSH	Hashtrud	2.92	18	Pn	Pn	22 38 30.4	+1.1
IAZR	Azarshahr	3.15	358	Pn	Pn	22 38 33.8	+1.4
ISRB	Sarab	3.52	20	Pn	Pn	22 38 39.3	+1.9
ISHB	Shabestar	3.78	354	Pn	Pn	22 38 42.1	+1.2
IHRS	Heris	3.86	10	Pn	Pn	22 38 43.3	+1.2
IQOM	Qom	4.07	84	Pn	Pn	22 38 47.2	+2.3
IPIR	Pirpir	4.36	114	Pn	Pn	22 38 51.3	+2.3
JHBN	Jahan bin	4.41	120	Pn	Pn	22 38 52.1	+2.4
QAMS	Qamsar	4.42	99	Pn	Pn	22 38 52.2	+2.4
GRMI	Germi	4.50	18	Pn	Pn	22 38 52.6	+1.8
GEVA	Gevas	4.53	328	Pn	Pn	22 38 51.2	0.0
ZNGN	Zangian	4.61	120	Pn	Pn	22 38 54.7	+2.3
IVRN	Varamin	4.62	83	Pn	Pn	22 38 54.5	+2.2
IKLH	Kolahrood	4.67	103	Pn	Pn	22

MMAI Mount Meron Ar 9.07 263 Pn Pn 22 39 50.2 -3.3
comp=Z,1.6nm,0.3s,baz=76,slow=18,SNR=16
MMAI Sn **Sn** 22 41 33.5 -2.3
comp=Z,0.2nm,0.3s,baz=79,slow=15,SNR=3.5
MMAI Lg Lg 22 42 23.7
comp=Z,1.1nm,0.3s,baz=79,slow=24,SNR=2.1
comp=Z,3.6nm,0.6s
BNN Bunyan 9.34 301 Pn Pn 22 39 57.4 +0.3
GHAJ Ghor Haditha 9.46 253 Pn Pn 22 39 58.6 -0.1
GHAJ Ghor Haditha 9.46 253 P Pn 22 39 59.5 +0.9
DSI Dead Sea 9.51 255 P Pn 22 40 01.3 +1.9
KBZ Khabaz 9.54 346 Pn Pn 22 39 59.1 -0.6
baz=166,slow=8.5,SNR=1.2
comp=Z,0.9nm,0.7s
KBZ Khabaz 9.54 346⇓ *e*P Pn 22 40 02.8 +3.1
KIV Kislovodsk 9.80 345 *e*P Pn 22 40 05.8 +2.4
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,31nm,12.0s
KIV Kislovodsk 9.80 345 P Pn 22 40 02.1 -1.3
comp=Z,5.3nm,1.1s
SOC Sochi 10.34 333 *e*P Pn 22 40 06.6 -4.1
SOC *e*SS **Sn** 22 42 07.1 +0.5
SOC MLR MLR
comp=Z,66nm,13.0s
HRFI Mount Harif 10.41 248 P Pn 22 40 13.3 +1.5
EIL Elat 10.66 246 Pn Pn 22 40 12.9 -2.2
comp=Z,0.5nm,0.3s,baz=24,slow=16,SNR=1.9
EIL Lg Lg 22 43 13.3
comp=Z,0.8nm,0.3s,baz=297,slow=6.8,SNR=1.7
comp=Z,1.5nm,0.4s
RAYN Ar Rayn 10.97 183 Pn Pn 22 40 18.3 -1.2
RAYN Ar Rayn 10.97 183 *i* Pn Pn 22 40 17.5 -2.1
SNR=19
RAYN Ar Rayn 10.97 183 P Pn 22 40 18.3 -1.2
DIKM Dikmen 11.14 313 P Pn 22 40 20.5 -1.3
comp=Z,53nm,1.7s
BR131 Keskin Array S 11.26 301⇓ *e*P Pn 22 40 22.4 -1.0
BRTR Keskin Array B 11.26 301 Pn Pn 22 40 23.3 -0.1
baz=122,slow=13,SNR=3.1
comp=Z,0.7nm,0.8s
GHWR Ruwais 12.04 149 P Pn 22 40 35.7 +1.6
GHWR S **Sn** 22 42 43.8 -4.7
SHME Shamm 12.07 132 Pn Pn 22 40 33.0 -1.4
SHME Shamm 12.07 132 P Pn 22 40 33.9 -0.5
SHME S **Sn** 22 42 44.0 -5.1
BANOM Banah 12.26 132 Pn Pn 22 40 35.9 -1.2
BANOM Banah 12.26 132 P Pn 22 40 36.2 -0.9
BANOM S Sn 22 42 46.2 -7.6
ANN Anapa 12.26 329 *e*P Pn 22 40 34.6 -2.4
ANN *e*S **Sn** 22 42 49.1 -4.5
ANN pmax pmax
comp=Z,38nm,0.7s
AJN Ajban 12.55 140 P Pn 22 40 42.2 +1.2
MASF Masafi 12.58 134 P Pn 22 40 40.2 -1.3
SNR=7.9
NAZ Nazwa, Dubai 12.58 136 *i* Pn Pn 22 40 41.3 -0.2
SNR=14
NAZ Nazwa, Dubai 12.58 136 P Pn 22 40 41.7 +0.3
SNR=14
NAZ S Sn 22 42 54.2 -7.5
MSFE Esma-Masafi 12.59 134 *i* Pn Pn 22 40 41.1 -0.5
SNR=7.9
ASUD Al Ashush, Dub 12.68 139 *i* Pn Pn 22 40 42.7 -0.1
SNR=27
ASUD Al Ashush, Dub 12.68 139 P Pn 22 40 43.4 +0.5
ASUD P **Pn** 22 40 43.4 +0.5
ASUD S **Sn** 22 43 00.3 -3.8
ASUD S **Sn** 22 43 00.3 -3.8
MDH Madha 12.72 134 Pn Pn 22 40 42.6 -0.7
MDH Madha 12.72 134 P Pn 22 40 42.6 -0.7
SNR=5.3
MDH S Sn 22 42 57.5 -7.5
FAQ Al Faqa, Dubai 12.73 137 Pn Pn 22 40 43.2 -0.3
FAQ Al Faqa, Dubai 12.73 137 P Pn 22 40 44.5 +0.9
FAQ S **Sn** 22 42 58.2 -7.2
UOSS Minazif 12.93 135 Pn Pn 22 40 44.6 -1.6
UOSS Minazif 12.93 135 *i* Pn Pn 22 40 44.9 -1.3
SNR=9.5
UOSS Minazif 12.93 135 P Pn 22 40 45.2 -1.1
UOSS S Sn 22 43 01.1 -9.1
HATD Hatta, Dubai 12.98 135 *i* Pn Pn 22 40 45.5 -1.4
SNR=10
HATD Hatta, Dubai 12.98 135 P Pn 22 40 46.9 0.0
SNR=5.6
HATD S Sn 22 43 02.5 -8.8
ASHO Ashiyiah 13.04 136 *i* Pn Pn 22 40 46.8 -1.0
SNR=46
ASHO Sn **Sn** 22 43 06.5 -6.5
ASHO Ashiyiah 13.04 136 P Pn 22 40 47.2 -0.6
SNR=8.3
ASHO S **Sn** 22 43 07.6 -5.5
MZR Muzera 13.15 149 *i* Pn Pn 22 40 46.8 -2.4
SNR=22
MZR Muzera 13.15 149 P Pn 22 40 49.0 -0.3
MZR S **Sn** 22 43 10.9 -4.6
JASK Jask - Hormozg 13.29 127 P Pn 22 40 49.8 -1.4
ALNE Al Ain 13.37 139 P Pn 22 40 51.8 -0.5
SNR=16
ALNE S Sn 22 43 12.5 -8.4
SOHO SOHO 13.74 136 *i* Pn Pn 22 40 54.5 -2.8
SNR=7.1
SOHO SOHO 13.74 136 P Pn 22 40 55.0 -2.3
SOHO P **Pn** 22 40 55.0 -2.3
SOHO S **Sn** 22 43 23.7 -6.4
SOHO S **Sn** 22 43 23.7 -6.4
UMZA Um Al Zommool 14.16 144 P Pn 22 41 03.1 -0.1
UMZA S **Sn** 22 43 33.4 -7.0
ARQ Araqi 14.36 138 P Pn 22 41 06.0 +0.1
SNR=9.7
HOQ Hoqain 14.62 135 P Pn 22 41 09.4 +0.1
HOQ S **Sn** 22 43 47.1 -4.4
BIDO Bidbid 15.14 133 P Pn 22 41 14.8 -1.6
BIDO S **Sn** 22 43 57.1 -7.2
BSY Bisya 15.21 138 S Sn 22 43 59.3 -6.5
SMDO Samad 15.45 135 P Pn 22 41 20.1 -0.5
WSAR Wadi Sarin 15.66 133 Pn Pn 22 41 22.0 -1.2
comp=Z,3.5nm,0.3s,baz=333,slow=12,SNR=55
WSAR Sn **Sn** 22 44 09.8 -7.1
comp=Z,0.4nm,0.3s,baz=60,slow=20,SNR=2.1
WSAR Wadi Sarin 15.66 133 P Pn 22 41 23.0 -0.3
SNR=7.5
WSAR S **Sn** 22 44 08.9 -7.9
JMDO Jabal Madar 16.01 136 P Pn 22 41 27.1 -0.7
SNR=9.1
WBK Wadi Bani Khal 16.34 133 P Pn 22 41 31.4 -0.6
NE56 Odesa 16.75 321 P Pn 22 41 36.0 -0.9
JLN Jalan Bani Buh 16.95 133 P Pn 22 41 39.1 -0.6
VRH Novokhopyorsk 16.98 350 *e*P Pn 22 41 39.8 -0.1
VRH pmax pmax
comp=Z,20nm,0.9s
VORD Divnogorie 17.18 345 *e*P Pn 22 41 41.1 -1.3
VORD pmax pmax
comp=Z,20nm,0.9s
HARR Harsova 17.29 311 ⇓P Pn 22 41 43.0 -0.8
VSR Storozhevoye 17.44 345 *e*P Pn 22 41 43.6 -2.0
VSR pmax pmax
comp=Z,10.0nm,0.8s
IDI Anoyia 17.46 279 P 22 41 48.0 +0.7
IDI IAmb IAmb 22 41 52.8
comp=Z,32nm,1.3s
IDI Anoyia 17.46 279 P Pn 22 41 42.5 -3.5
comp=Z,2.6nm,0.8s,baz=77,slow=14,SNR=1.2
RDO Rodhopi 17.56 298 P 22 41 49.1 +0.9
VORR Voronezh 17.86 346 *e*P Pn 22 41 48.5 -2.4
VORR pmax pmax
comp=Z,10.0nm,0.8s
BELG Belogornoye 17.90 3 P Pn 22 41 50.0 -1.2
comp=Z,0.3nm,0.3s,baz=89,slow=2.1,SNR=6.3
BELG LR LR 22 50 19.7
comp=Z,52nm,21.2s,baz=30,slow=43
comp=Z,12nm,1.0s
BELG Belogornoye 17.90 3⇑ *e*P P 22 41 51.9 0.0
BELG pmax pmax
comp=Z,4.0nm,1.0s
ABKAR Akbulak array 17.91 31 P 22 41 52.2 +0.2
AKTO Aktyubinsk 18.11 25 P Pn 22 41 54.3 +0.3
comp=Z,0.3nm,0.3s,baz=216,slow=9.0,SNR=10
AKTO LR LR 22 51 13.7
comp=Z,39nm,19.2s,baz=224,slow=45
comp=Z,2.9nm,0.7s
ISR Istrita 18.36 311 P Pn 22 41 56.5 -0.7
comp=Z,48nm,3.0s
BISRR Bisoca 18.47 312 P P 22 41 57.7 -0.7
comp=Z,49nm,2.3s
VRI Vrincioaia 18.62 313 ⇑P P 22 41 56.0 -3.9
PLOR5 Plostina Array 18.65 313 P P 22 41 59.7 -0.6
comp=Z,16nm,2.2s
PLOR Plostina 18.66 313 ⇑P Pn 22 42 03.2 +2.5
PLOR Plostina 18.66 313 ⇑P Pn 22 42 03.2 +2.5
LPSR Galich'ya Gora 18.80 346 *e*P P 22 41 59.6 -2.2
LPSR pmax pmax
comp=Z,40nm,0.8s
MLR Muntele Rosu 18.91 311 P P 22 42 00.7 -2.6
comp=Z,0.1nm,0.3s,baz=195,slow=12,SNR=1.9
comp=Z,4.4nm,1.2s
COVR Voineasa-Covas 18.93 313 ⇓P Pn 22 42 05.6 +1.7
TESR Tescani 19.00 315 ⇑P P 22 42 04.6 +0.5
SORM Soroca 19.01 321 P P 22 42 03.8 -0.4
TURR Turia 19.14 313 ⇓P Pn 22 42 06.7 +0.1
OZUR 19.30 313 ⇑P Pn 22 42 08.7 +0.2
VOIR 19.45 310 ⇓P Pn 22 42 11.5 +1.2
VOIR 19.45 310 ⇓P Pn 22 42 11.5 +1.2
DOPR Dopca 19.48 312 ⇑P Pn 22 42 10.8 +0.1
AGG Agios Georgios 19.59 290 Pn 22 42 12.6 +0.6
AGG Agios Georgios 19.59 290 P Pn 22 42 12.6 +0.6
AGG pmax pmax
comp=Z,14nm,1.2s
ARR Arges 19.68 310 ⇑P P 22 42 12.2 +0.5
ITM Ithomi 19.80 285 P P 22 42 12.6 -0.4
ITM IAmb IAmb 22 42 54.3
comp=Z,47nm,1.5s
AK07 Malin Array Si 20.23 327 P P 22 42 16.1 -1.4
AK09 Malin Array Si 20.25 328 P P 22 42 16.2 -1.5
LOT Lotru 20.26 309 ⇓P P 22 42 18.0 -0.1
AK06 Malin Array Si 20.26 328 P P 22 42 16.3 -1.5
KMPD K-Podol'skiy 20.27 320 P P 22 42 17.0 -0.9
AK08 Malin Array Si 20.27 328 P P 22 42 16.2 -1.7
AK05 Malin Array Si 20.29 328 P Pn 22 42 19.8 -0.3
AK05 IAmb IAmb 22 42 21.4
comp=Z,16nm,1.0s
AK05 Malin Array Si 20.29 328 P P 22 42 16.3 -1.8
SRE Strehaia 20.32 307 ⇑P P 22 42 18.3 -0.2
SRE Strehaia 20.32 307 ⇑P P 22 42 18.3 -0.2
AKASG Malin Array Be 20.34 328 P P 22 42 16.7 -1.9
comp=Z,5.2nm,0.7s,baz=138,slow=10,SNR=20
comp=Z,5.2nm,0.7s
AKASG Malin Array Be 20.34 328 *c*eP P 22 42 17.2 -1.4
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 20.34 328 P 22 42 18.6 0.0
AKBB IAmb IAmb 22 42 22.4
comp=Z,9.8nm,0.7s
AKBB Malin Array Si 20.34 328⇑ *e*P P 22 42 17.1 -1.5
AKBB pmax pmax
comp=Z,58nm,3.0s
AKBB Malin Array Si 20.34 328 P P 22 42 17.2 -1.4
KIEV Kiev 20.34 328 P P 22 42 18.6 0.0
KIEV IAmb IAmb 22 42 22.4
comp=Z,8.8nm,0.7s
KIEV Kiev 20.34 328 ⇑P P 22 42 17.5 -1.1
KIEV Kiev 20.34 328 ⇑P P 22 42 17.5 -1.1
AK04 Malin Array Si 20.38 328 P P 22 42 17.6 -1.5
CHRU Chernivtsi 20.40 319 P P 22 42 19.3 -0.1
comp=Z,23nm,1.0s
BURAR Bucovina Array 20.42 316 ⇑P P 22 42 20.4 +0.7
BURAR Bucovina Array 20.42 316 ⇑P P 22 42 20.4 +0.7
BUR08 Bucovina Ar. S 20.44 316 P P 22 42 19.9 -0.1
LUBAR Lubar, Ukraine 20.47 324 P P 22 42 18.7 -1.4
ARCR ARCALIA 20.65 314 ⇓P P 22 42 21.8 -0.4
KKAR Karatay Array 20.77 58 P P 22 42 24.5 +1.0
KKAR Karatay Array 20.77 58 P P 22 42 24.5 +1.0
GZR Gura Zlata 20.88 308 ⇑P P 22 42 25.2 +0.5
KSV Kosov 20.89 318 P P 22 42 23.4 -1.2
HERR Herculane 20.92 307 ⇓P P 22 42 25.5 +0.5
CJR Cluj-Napoca 20.93 312 ⇑P P 22 42 25.5 +0.4
BOVS Bovan 20.99 303 ⇑P P 22 42 25.9 +0.1
MI28 Mi28,Pidlybu 21.20 326 P P 22 42 26.6 -1.3
MARR Marisel-Cluj 21.20 312 ⇑P P 22 42 27.9 -0.3
STNU Starunia 21.42 318 P P 22 42 30.0 -0.4
DRGR 21.51 312 ⇑P P 22 42 31.4 0.0
DRGR 21.51 312 ⇑P P 22 42 31.4 0.0
OBN Obninsk 21.65 345 P P 22 42 33.4 +0.7
OBN IAmb IAmb 22 42 55.0
comp=Z,14nm,1.1s
OBN Obninsk 21.65 345 *e*P P 22 42 32.9 +0.2
OBN *e* 22 46 32.6
OBN pmax pmax
comp=Z,11nm,0.9s
SIRR Siria 21.94 310 ⇓P P 22 42 39.0 +2.9
BRIU Brid 22.06 316 P P 22 42 36.5 -0.7
BERU Beregovo 22.22 315 P P 22 42 37.9 -1.1
RNPP5 Staryi Chortor 22.23 325 P P 22 42 37.7 -1.3
RNPP8 Varash 22.31 325 P P 22 42 38.6 -1.3
RNPP9 Sopachiv 22.35 325 P P 22 42 40.0 -0.3
NIL Nilore 22.44 85 P P 22 42 44.3 +2.8
NIL Nilore 22.44 85 P P 22 42 44.3 +2.8
NIL pmax pmax
comp=Z,7.0nm,1.1s
HOLU Holmets 22.52 316 P P 22 42 42.0 -0.1
KOLS Kolonicke sedl 22.79 316 *e*P P 22 42 47.8 +2.8
KOLS pmax pmax
comp=Z,9.0nm,0.8s
KOLS Kolonicke sedl 22.79 316 *e*P P 22 42 47.8 +2.8
KWP Kalwaria Pacla 22.91 318 P P 22 42 46.9 +0.6
KWP IAmb IAmb 22 42 54.8
comp=Z,24nm,1.1s
KWP Kalwaria Pacla 22.91 318 P P 22 42 46.9 +0.6
KWP pmax pmax
comp=Z,24nm,1.1s
KWP Kalwaria Pacla 22.91 318 P P 22 42 46.0 -0.3
comp=Z,22nm,1.0s
ARTI Arti 23.42 17 P P 22 42 51.2 -0.2
comp=Z,0.9nm,0.4s,baz=206,slow=15,SNR=2.3
comp=Z,0.9nm,0.4s
ARTI Arti 23.42 17 P P 22 42 54.3 +2.9
ARTI 22 43 17.1
ARTI S **S** 22 47 07.6 +3.1
AAK Ala-Archa 23.51 61 LR LR 22 53 44.9
comp=Z,34nm,20.3s,baz=270,slow=41
KECS Kecovo 23.61 314 *e*P P 22 42 55.0 +1.6
KECS pmax pmax
comp=Z,15nm,0.9s
KECS Kecovo 23.61 314 *e*P P 22 42 55.0 +1.6
PSZ Piszkesteto 23.72 312 ⇑P P 22 42 56.1 +1.5
PSZ Piszkesteto 23.72 312 ⇑P P 22 42 56.1 +1.5
MORH Mrgy, Hungar 23.87 308 ⇑P P 22 42 56.4 +0.5
MORH Mrgy, Hungar 23.87 308 P P 22 42 56.1 +0.2
comp=Z,5.2nm,1.1s
KIRV Kirov 24.17 4⇓ *e*P P 22 43 00.0 +1.4
KSH Kashi 24.27 69 P P 22 43 02.0 +2.1
KSH pmax pmax
comp=Z,3.0nm,1.0s
LANS Liptovska Anna 24.51 315 *e*P P 22 43 02.0 +0.1
LANS pmax pmax
comp=Z,2.0nm,0.8s
LANS Liptovska Anna 24.51 315 *e*P P 22 43 02.0 +0.1
VYHS Vyhne 24.60 313 *e*P P 22 43 02.9 +0.2
VYHS Vyhne 24.60 313 *e*P P 22 43 02.9 +0.2
OJC Ojcow 24.82 317 P P 22 43 03.7 -0.9
OJC IAmb IAmb 22 43 12.0
comp=Z,11nm,1.0s
OJC Ojcow 24.82 317 P P 22 43 03.7 -0.9
OJC pmax pmax
comp=Z,11nm,1.0s
OJC Ojcow 24.82 317 P P 22 43 04.5 -0.1
comp=Z,12nm,1.0s
MPLH Magyarpolny 24.91 309 P P 22 43 06.2 +0.8
comp=Z,34nm,1.1s
BRVK Borovoye 25.23 35 P P 22 43 09.0 +0.7
BRVK Borovoye 25.23 35 *de*P P 22 43 12.3 +4.0
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BVAR Borovoye Array 25.26 36 P P 22 43 09.4 +0.8
comp=Z,4.0nm,0.7s,baz=233,slow=8.8,SNR=22
comp=Z,4.0nm,0.7s
SUW Suwalki 25.30 327 P P 22 43 08.7 -0.2
SUW Suwalki 25.30 327 P P 22 43 08.7 -0.2
SUW pmax pmax
comp=Z,44nm,0.9s
JAVC Velka Javorina 25.46 313 *e*P P 22 43 11.6 +1.1
SMOL Smolenice 25.47 312 *e*P P 22 43 13.1 +2.6
SMOL pmax pmax
comp=Z,6.0nm,1.0s
MODS Modra-Piesok 25.51 312 *e*P P 22 43 11.4 +0.5
MODS pmax pmax
comp=Z,19nm,1.3s
MODS Modra-Piesok 25.51 312 *e*P P 22 43 11.4 +0.5
MORC Moravsky Berou 25.91 315 *e*P P 22 43 16.3 +1.7
VRAC Vranov 26.29 313 P P 22 43 15.9 -2.0
comp=Z,4.5nm,0.9s,baz=110,slow=12,SNR=3.3
VRAC LR LR 22 54 16.8
comp=Z,40nm,18.3s,baz=116,slow=38
comp=Z,4.5nm,0.9s
VRAC Vranov 26.29 313 *e*P P 22 43 19.9 +2.0
KRUC Moravsky 26.31 313 *e*P P 22 43 20.5 +2.4
KLMR Klimovskoe 26.70 353 *e*P P 22 43 18.2 -3.2
KLMR pmax pmax
comp=Z,34nm,1.9s
KURBB Kurchatov Arra 28.47 46 P P 22 43 37.9 +0.4
comp=Z,1.4nm,0.7s,baz=253,slow=9.1,SNR=12
comp=Z,1.4nm,0.7s
KURK Kurchatov 28.56 46⇓ *e*P P 22 43 41.5 +3.2
KURK pmax pmax
comp=Z,5.0nm,1.8s
GRA1 Grafenberg Arr 29.70 311 P P 22 43 48.9 +0.4
GRF Grafenberg Arr 29.70 311 P P 22 43 48.9 +0.4
GRF pmax pmax
comp=Z,10.0nm,0.8s
MKAR Makanchi Array 29.77 55 P P 22 43 50.5 +1.4
MKAR Makanchi Array 29.77 55 P P 22 43 49.9 +0.8
comp=Z,1.2nm,0.8s,baz=249,slow=9.0,SNR=2.9
MKAR LR LR 22 57 03.2
comp=Z,44nm,20.2s,baz=279,slow=39
comp=Z,1.2nm,0.8s
MKAR Makanchi Array 29.77 55 *i* P P 22 43 53.5 +4.4
MKAR pmax pmax
comp=Z,1.0nm,0.8s
FIA1 FINESS Array S 29.85 341 P P 22 43 50.5 +1.0
FINES FINESS Array B 29.85 341 P P 22 43 49.3 -0.3
FINES FINESS Array B 29.85 341 P P 22 43 47.4 -2.1
comp=Z,1.4nm,0.5s,baz=148,slow=9.2,SNR=8.5
comp=Z,1.4nm,0.5s
FINES FINESS Array B 29.85 341 *i* P P 22 43 48.0 -1.5
FINES pmax pmax
comp=Z,1.0nm,0.5s
DAVOX Davos/Dischmat 29.86 305 P P 22 43 46.9 -3.2
comp=Z,2.2nm,0.9s,baz=126,slow=11,SNR=2.1
comp=Z,2.2nm,0.9s
BNI Bardonecchia 31.82 301 P P 22 44 06.8 -0.5
BNI Bardonecchia 31.82 301 P P 22 44 06.8 -0.5
BNI pmax pmax
comp=Z,14nm,1.0s
HFS Hagfors 33.17 331 P P 22 44 16.9 -1.9
comp=Z,6.0nm,0.6s,baz=128,slow=9.6,SNR=13
comp=Z,6.0nm,0.6s
WMQ Urumqi 33.22 61 *e*P P 22 44 25.0 +5.4
ZAA0 Zalesovo Array 33.27 42 P P 22 44 21.8 +2.1
ZALV Zalesovo Beam 33.27 42 P P 22 44 21.4 +1.6
ZALV Zalesovo Beam 33.27 42 P P 22 44 20.2 +0.5
comp=Z,1.3nm,0.6s,baz=246,slow=11,SNR=7.0
comp=Z,1.3nm,0.6s
ZALV Zalesovo Beam 33.27 42 *i* P P 22 44 22.5 +2.7
ZALV pmax pmax
comp=Z,2.0nm,0.8s
NC602 NORSAR Array S 34.39 330 P P 22 44 29.9 +0.4
NB2 NORSAR Subarra 34.69 331 P P 22 44 30.3 -1.8
comp=Z,2.1nm,0.8s,baz=124,slow=9.3
NOA NORSAR Array B 34.69 331 P P 22 44 29.9 -2.2
comp=Z,0.9nm,0.6s,baz=125,slow=8.7,SNR=6.4
NOA LR LR 23 01 59.3
comp=Z,20nm,20.5s,baz=15,slow=42
comp=Z,0.9nm,0.6s
NC303 NORSAR Array S 34.73 331 P P 22 44 32.4 0.0
KMBO Kilima Mbogo 36.43 195 LR LR 22 59 41.7
comp=Z,56nm,18.5s,baz=79,slow=36
TAM Tamanrasset 37.29 263 P P 22 44 55.6 +0.7
TAM Tamanrasset 37.29 263 P P 22 44 55.6 +0.7
TAM pmax pmax
comp=Z,3.0nm,1.0s
EKA Eskdalemuir Ar 39.60 317 P P 22 45 11.5 -2.2
comp=Z,2.3nm,0.6s,baz=104,slow=8.6,SNR=6.6
comp=Z,2.3nm,0.6s
ESDC Sonseca Array 39.88 293 P P 22 45 14.3 -2.1
comp=Z,1.6nm,1.0s,baz=84,slow=8.1,SNR=5.0
comp=Z,1.6nm,1.0s
NRIK Noril'sk 41.65 21⇑ *e*P P 22 45 33.5 +3.0
NRIK pmax pmax
comp=Z,9.0nm,1.5s
TORD Torodi Ar. Bea 45.44 253 P P 22 46 03.1 +1.3
TORD Torodi Ar. Bea 45.44 253 P P 22 46 01.0 -0.7
comp=Z,1.8nm,0.8s,baz=40,slow=8.3,SNR=9.4
comp=Z,1.8nm,0.8s
LZH Lanzhou 46.51 71 *e*P P 22 46 10.5 +0.3
LZH sP sP 22 46 17.6 +2.2
LZH pmax pmax
comp=Z,12nm,1.0s
CMAR Chiang Mai Arr 49.35 95 P P 22 46 31.4 -0.8
comp=Z,1.2nm,0.3s,baz=298,slow=8.2,SNR=8.4
CMAR LR LR 23 09 01.9
comp=Z,14nm,18.1s,baz=300,slow=38
comp=Z,1.2nm,0.3s
CMAR Chiang Mai Arr 49.35 95 *i* P P 22 46 34.0 +1.8
CMAR pmax pmax
comp=Z,1.0nm,0.3s
HHC Hu-ho-hao-te 51.09 62 *e*P P 22 46 47.8 +2.6
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,51nm,5.6s
TIXI Tiksi 55.37 22⇓ *e*P P 22 47 17.5 +1.4
TIXI pmax pmax
comp=Z,11nm,2.0s
SUMG Summit 55.85 339 P P 22 47 21.1 +1.1
SUMG IAmb IAmb 22 47 45.5
comp=Z,4.1nm,0.8s
SUMG Summit 55.85 339 P P 22 47 21.2 +1.1
SUMG pmax pmax
comp=Z,4.0nm,0.8s
YAK Yakutsk 57.23 34⇑ *e*P P 22 47 30.6 +1.1
YAK pmax pmax
comp=Z,8.0nm,0.5s
KLR Kul'dur 62.13 48 LR LR 23 18 11.5
comp=Z,32nm,18.2s,baz=339,slow=39
PETK Petropavlovsk- 74.50 36 LR LR 23 26 29.8
comp=Z,36nm,18.7s,baz=349,slow=39
TOLK Toolik Lake Re 76.48 6 P P 22 49 33.3 +1.2
TOLK IAmb IAmb 22 49 35.5
comp=Z,3.4nm,0.8s
E19K Redstone River 76.81 9 P P 22 49 33.6 -0.2
E19K IAmb IAmb 22 50 16.9
comp=Z,7.4nm,1.3s
E28M Babbage River 77.10 2 P P 22 49 36.3 +0.8
E28M IAmb IAmb 22 49 43.8
comp=Z,3.0nm,1.0s
E29M Blow River 77.36 2 P P 22 49 37.1 +0.2
E29M IAmb IAmb 22 49 40.6
comp=Z,3.5nm,0.8s
E27K Coleen River 77.44 3 P P 22 49 37.7 +0.2
E27K IAmb IAmb 22 49 40.8
comp=Z,2.2nm,0.7s
F24K Squaw Lake 77.72 5 P P 22 49 40.7 +1.6
F24K IAmb IAmb 22 49 42.8
comp=Z,1.9nm,0.8s
BMAR Burnt Mountain 78.04 4 P P 22 49 41.8 +0.9
G19K Purcell Mounta 78.07 9 P P 22 49 40.7 -0.2
G19K IAmb IAmb 22 49 44.8
comp=Z,2.5nm,0.9s
F28M Old Crow 78.08 2 P P 22 49 42.7 +1.7
F31M Tsiigehtchic 78.36 360 P P 22 49 41.8 -0.6
IMAR Indian Mountai 78.64 8 P P 22 49 43.8 -0.4
G30M tAoh Zraii Nji 78.80 1 P P 22 49 44.6 -0.5
G31M Satah River 78.88 0 P P 22 49 46.5 +1.1
H29M Whitestone 79.52 2 P P 22 49 49.0 +0.1
H29M IAmb IAmb 22 49 52.4
comp=Z,3.6nm,0.8s
H31M Peel River 80.00 0 P P 22 49 52.7 +1.2
H31M IAmb IAmb 22 50 03.0
comp=Z,8.3nm,1.4s
I28M Miner Creek 80.24 3 P P 22 49 54.4 +1.4
I28M IAmb IAmb 22 49 58.4
comp=Z,9.4nm,1.3s
ILAR Eielson Array 80.51 6 P P 22 49 53.0 -1.3
comp=Z,0.7nm,0.9s,baz=328,slow=3.9,SNR=5.5
comp=Z,0.7nm,0.9s
I30M Mount Dempster 80.56 1 P P 22 49 54.4 -0.3
I30M IAmb IAmb 22 50 28.2
comp=Z,7.8nm,1.5s
K27K Chicken 81.57 4 P P 22 50 01.7 +1.8
K27K IAmb IAmb 22 50 15.7
comp=Z,6.4nm,1.4s
BCAR Beaver Creek A 82.54 4 P P 22 50 05.2 0.0

IDC 19 22:46:12.2±11.0, 5°.38S×129°.49E, h359km±145km, mb2.9/1, mbtmp3.4/3, Error ellipse: s-maj=171.8km s-min=53.6km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.22**	**162**	P	P	22 49 27.6	-1.3
	0.1nm,0.3s,baz=350,slow=11,SNR=5.5						
WRA				S	S	22 52 11.8	-0.2
	0.3nm,0.9s,baz=335,slow=22,SNR=1.9						
ASAR	**Alice Springs**	**18.67**	**167**	P	P	22 50 06.7	+0.8
	0.5nm,0.3s,baz=347,slow=10,SNR=6.2						
MKAR	**Makanchi Array**	**66.60**	**327**	P	P	22 56 25.0	0.0
	0.4nm,0.7s,baz=118,slow=7.3,SNR=2.0						
	0.4nm,0.7s						

*THE **19** 22:59:21.4, 37°.34N×20°.57E, h3km±1km, ML3.5/11, Error ellipse: s-maj=1.8km s-min=0.5km az=64.0*
*ATH **19** 22:59:21.8, 37°.36N×20°.60E, h14km±1km, ML3.3/15, Error ellipse: s-maj=2.6km s-min=1.0km az=39.0*

ISC 19 22:59:20.9±1.7, 37°.33N±0°.05×20°.56E±0°.05, h8km±9km, n38, σ0s64/56, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.39**	**31**	P	**Pg**	**22 59 28.8**	**+0.3**
KRI1				S	**Sg**	**22 59 34.4**	**+0.7**
	16μm,0.4s						
LTHK	**Lithakia**	**0.44**	**30**	P	**Pg**	**22 59 29.6**	**+0.2**
LTHK				S	**Sg**	**22 59 35.2**	**0.0**
	13μm,0.3s						
LTHK	**Lithakia**	**0.44**	**30**	P	**Pg**	**22 59 29.4**	**-0.1**
LTHK				S	**Sg**	**22 59 35.4**	**+0.2**
LTHK				AML	AML	22 59 35.8	
	comp=E,14375μm,0.3s						
LTHK				AML	AML	22 59 36.0	
	comp=N,34294μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.76**	**12**	P	**Pg**	**22 59 35.6**	**0.0**
RTZL				S	**Sb**	**22 59 46.4**	**-0.7**
	comp=N,3μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.78**	**1**	P	**Pg**	**22 59 36.2**	**+0.2**
PSDA				S	**Sb**	**22 59 47.3**	**-0.4**
	comp=N,5μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.78**	**1**	P	**Pg**	**22 59 36.3**	**+0.2**
PSDA				S	**Sb**	**22 59 47.2**	**-0.4**
DMLN	**Damoulianata-K**	**0.92**	**351**	P	**Pg**	**22 59 38.8**	**+0.2**
DMLN				S	**Sb**	**22 59 52.4**	**+0.8**
	comp=N,7μm,0.7s						
DMLN	**Damoulianata-K**	**0.92**	**351**	P	**Pg**	**22 59 38.7**	**+0.1**
DMLN				S	**Sg**	**22 59 51.1**	**+0.5**
SMHA	**Samh**	**0.92**	**4**	P	**Pg**	**22 59 37.2**	**-1.5**
SMHA				S	**Sg**	**22 59 51.1**	**+0.4**
AMT	**Artemida-Makis**	**0.93**	**77**	P	**Pg**	**22 59 38.8**	**0.0**
AMT				S	**Sg**	**22 59 50.8**	**-0.2**
AMT				AML	AML	23 00 00.6	
	comp=E,10628μm,0.4s						
AMT				AML	AML	23 00 00.6	
	comp=N,10026μm,0.4s						
RLS	**Riolos of Patr**	**1.02**	**44**	P	**Pg**	**22 59 39.8**	**-0.8**
RLS				S	**Sb**	**22 59 54.7**	**+0.2**
	comp=N,865nm,0.5s						
RLS	**Riolos of Patr**	**1.02**	**44**	P	**Pg**	**22 59 39.7**	**-0.8**
RLS				AML	AML	22 59 55.5	
	comp=E,1606μm,0.5s						
RLS				AML	AML	22 59 55.8	
	comp=N,1848μm,0.5s						
PYL	**PYLOS**	**1.04**	**114**	P	**Pg**	**22 59 40.5**	**-0.3**
PYL				S	**Sn**	**22 59 56.3**	**-0.2**
PYL	**PYLOS**	**1.04**	**114**	P	**Pg**	**22 59 40.6**	**-0.3**
VSK1	**VASILIKIADES**	**1.08**	**0**	P	**Pg**	**22 59 41.1**	**-0.5**
VSK1				S	**Sn**	**22 59 57.2**	**-0.4**
	comp=N,3μm,0.4s						
ITM	**Ithomi**	**1.10**	**97**	P	**Pg**	**22 59 42.0**	**0.0**
ITM				S	**Sn**	**22 59 58.1**	**0.0**
	comp=N,890nm,0.7s						
ITM	**Ithomi**	**1.10**	**97**	P	**Pg**	**22 59 41.8**	**-0.2**
ITM				S	**Sg**	**22 59 55.8**	**-0.5**
ITM				AML	AML	23 00 06.0	
	comp=N,1923μm,0.9s						
ITM				AML	AML	23 00 09.6	
	comp=E,1450μm,1.0s						
DRO	**Drossia**	**1.10**	**55**	P	**Pg**	**22 59 41.3**	**-0.8**
DRO				S	**Sn**	**22 59 58.3**	**+0.1**
	comp=E,2μm,0.6s						
DRO	**Drossia**	**1.10**	**55**	P	**Pg**	**22 59 40.9**	**-1.2**
DRO				AML	AML	23 00 02.9	
	comp=E,4562μm,0.4s						
DRO				AML	AML	23 00 08.3	
	comp=N,3237μm,0.8s						
FSK	**Fiskardo**	**1.13**	**360**	P	**Pg**	**22 59 42.2**	**-0.4**
FSK				S	**Sn**	**22 59 59.0**	**+0.2**
	comp=N,2μm,0.5s						
FSK	**Fiskardo**	**1.13**	**360**	P	**Pg**	**22 59 41.9**	**-0.7**
FSK				AML	AML	23 00 00.2	
	comp=E,3808μm,0.2s						
FSK				AML	AML	23 00 02.4	
	comp=N,3366μm,0.5s						
EVGI	**Lefkada island**	**1.29**	**3**	P	**Pn**	**22 59 45.0**	**-0.3**
EVGI				S	**Sn**	**23 00 04.1**	**+1.3**
	comp=N,2μm,0.4s						
EVGI	**Lefkada island**	**1.29**	**3**	P	**Pn**	**22 59 44.5**	**-0.8**
UPR	**University Cam**	**1.36**	**45**	P	**Pb**	**22 59 46.9**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.39**	**4**	P	**Pn**	**22 59 46.4**	**-0.2**
KLV	**Kalavryta, Ach**	**1.45**	**60**	P	**Pn**	**22 59 46.9**	**-0.7**
KLV				AML	AML	23 00 23.5	
	comp=N,700μm,0.8s						
KLV				AML	AML	23 00 28.9	
	comp=E,841μm,0.8s						
LKD2	**Lefkada island**	**1.46**	**3**	P	**Pb**	**22 59 48.7**	**+0.3**
TSLK	**Tsoukalades, L**	**1.50**	**3**	P	**Pn**	**22 59 48.3**	**+0.2**
EFP	**Efpalio**	**1.53**	**44**	P	**Pn**	**22 59 48.5**	**-0.1**
EFP				AML	AML	23 00 20.5	
	comp=E,1303μm,0.6s						
EFP				AML	AML	23 00 24.4	
	comp=N,1880μm,0.7s						
GUR	**Goura**	**1.54**	**66**	P	**Pn**	**22 59 49.3**	**+0.5**
GUR				AML	AML	23 00 18.4	
	comp=N,1941μm,0.4s						
GUR				AML	AML	23 00 23.3	
	comp=E,1598μm,0.8s						
KALE	**Kalithea**	**1.64**	**49**	P	**Pn**	**22 59 50.5**	**+0.3**
KALE				AML	AML	23 00 26.2	
	comp=E,1500μm,0.9s						
KALE				AML	AML	23 00 30.2	
	comp=N,1123μm,0.7s						
ANX	**Ano Chora**	**1.66**	**40**	P	**Pn**	**22 59 51.0**	**+0.6**
ANX				AML	AML	23 00 19.8	
	comp=E,2340μm,0.6s						
ANX				AML	AML	23 00 22.6	
	comp=N,2265μm,0.9s						
EVR	**Evrytania**	**1.86**	**31**	P	**Pb**	**22 59 55.5**	**+0.1**
EVR				AML	AML	23 00 25.6	
	comp=E,913μm,0.6s						
EVR				AML	AML	23 00 32.3	
	comp=N,1130μm,1.3s						
VLI	**Veliai**	**2.00**	**107**	P	**Pb**	**22 59 57.9**	**+0.4**
VLI				AML	AML	23 00 49.0	
	comp=E,466μm,1.3s						
VLI				AML	AML	23 00 58.3	
	comp=N,480μm,1.0s						
MAKR	**Makrakomi, Fth**	**2.09**	**36**	P	**Pb**	**22 59 59.1**	**+0.1**
MAKR				AML	AML	23 00 31.6	
	comp=E,2438μm,0.9s						
MAKR				AML	AML	23 00 35.8	
	comp=N,2116μm,1.0s						
IGT	**Igoumenitsa**	**2.21**	**355**	P	**Pb**	**22 59 60.0**	**-1.1**
THL	**Klokotos Trika**	**2.51**	**27**	P	**Pn**	**23 00 04.3**	**+2.3**
THL				AML	AML	23 00 54.3	
	comp=E,580μm,0.8s						
THL				AML	AML	23 00 59.4	
	comp=N,272μm,1.0s						
KPRO	**Kipourio**	**2.70**	**13**	P	**Pb**	**23 00 08.2**	**-1.3**

*NEIC **19** 23:04:43.2±2.1, 58°.32N±0°.06×137°.52W±0°.10, h6km±8km, ML2.6/40, Error ellipse: s-maj=9.8km s-min=4.8km az=219.0*
*PGC **19** 23:04:45.6±3.3, 58°.47N×137°.21W, h1km, ML2.2, ML2.5/10, 134km Wsw of Haines, Ak Southeastern Alaska*

ISC 19 23:04:44.1±1.0, 58°.48N±0°.03×137°.16W±0°.04, h10km, n37, σ1s40/51, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S31K	**Pelican**	**0.71**	**136**		**Pg**	**23 04 57.5**	**-0.3**
S31K	**Pelican**	**0.71**	**136**	P	**Pb**	**23 04 58.5**	**-0.1**
S31K				S	**Sb**	**23 05 09.0**	**+0.7**
PLBC	**Pleasant Camp**	**1.07**	**22**	P	**Pn**	**23 05 05.1**	**+0.1**
P29M	**Windy Craggy**	**1.20**	**346**	Pn	**Pg**	**23 05 07.1**	**+0.1**
P29M	**Windy Craggy**	**1.20**	**346**	P	**Pb**	**23 05 06.6**	**-0.2**
SKAG	**Skagway**	**1.37**	**43**	Pn	**Pg**	**23 05 11.3**	**+1.0**
SKAG				IAML		23 05 35.2	
	comp=E,76nm,0.7s						
R32K	**Eaglecrest**	**1.41**	**97**	Pn	**Pg**	**23 05 11.2**	**+0.2**
R32K				IAML		23 05 34.0	
	comp=E,49nm,0.8s						
R32K				IAML		23 05 36.2	
	comp=N,68nm,0.8s						
R32K	**Eaglecrest**	**1.41**	**97**	Pn	**Pg**	**23 05 11.1**	**+0.1**
R32K				Sg	**Sg**	**23 05 30.2**	**+1.0**
P30M	**Million Dollar**	**1.65**	**3**	Pn	**Pg**	**23 05 15.2**	**-0.5**
P30M				Sg	**Sg**	**23 05 37.5**	**+0.3**
S32K	**Killisnoo**	**1.71**	**125**	Pn	**Pn**	**23 05 14.0**	**+0.2**
S32K				Pg	**Pg**	**23 05 16.7**	**0.0**
S32K	**Killisnoo**	**1.71**	**125**	Pn	**Pb**	**23 05 14.6**	**-0.8**
S32K				Sg	**Sg**	**23 05 38.0**	**-0.9**
SIT	**Sitka**	**1.73**	**145**	Pn	**Pn**	**23 05 14.4**	**+0.3**
O29M	**Mount Kennedy**	**1.97**	**339**	Pn	**Pb**	**23 05 20.5**	**+0.5**
O29M				IAML		23 05 54.2	
	comp=N,48nm,0.8s						
O29M	**Mount Kennedy**	**1.97**	**339**	Pn	**Pb**	**23 05 19.9**	**-0.2**
P32M	**Atlin**	**2.10**	**56**	Pn	**Pb**	**23 05 21.6**	**-0.6**
P32M				IAML		23 05 53.4	
	comp=N,37nm,0.7s						
P32M				IAML		23 05 54.0	
	comp=E,22nm,0.9s						
P32M	**Atlin**	**2.10**	**56**	Pg	**Pb**	**23 05 23.0**	**+0.8**
P32M				Sg	**Sg**	**23 05 50.8**	**-0.8**
YUK7	**Dusty Glacier**	**2.12**	**347**	Pn	**Pb**	**23 05 22.8**	**+0.1**
HYT	**Haines Junctio**	**2.36**	**356**	Pn	**Pb**	**23 05 26.4**	**-0.4**
HYT				IAML		23 06 03.7	
	comp=N,27nm,0.8s						
HYT				IAML		23 06 04.0	
	comp=E,22nm,0.8s						
HYT	**Haines Junctio**	**2.36**	**356**	Pg	**Pb**	**23 05 26.8**	**0.0**
HYT				Sg	**Sg**	**23 06 00.2**	**+0.3**
O30N	**Mendenhall**	**2.36**	**13**	Pn	**Pb**	**23 05 27.3**	**+0.6**
O30N				IAML		23 06 07.0	
	comp=N,37nm,0.7s						
O30N	**Mendenhall**	**2.36**	**13**	Pg	**Pb**	**23 05 27.3**	**+0.6**
O30N				Sg	**Sg**	**23 05 59.6**	**-0.4**
WHY	**Whitehorse**	**2.48**	**27**	Pn	**Pb**	**23 05 27.7**	**-1.0**
WHY				IAML		23 06 05.8	
	comp=N,34nm,0.8s						
WHY	**Whitehorse**	**2.48**	**27**	Pg	**Pg**	**23 05 30.4**	**-1.1**
WHY				Sg	**Sg**	**23 06 03.2**	**-0.4**
Q32M	**Nakina River**	**2.60**	**77**	Pg	**Pg**	**23 05 33.7**	**-0.1**
Q32M				IAML		23 06 15.5	
	comp=N,29nm,1.1s						
Q32M	**Nakina River**	**2.60**	**77**	Pg	**Pg**	**23 05 32.9**	**-0.9**
Q32M				Sg	**Sg**	**23 06 07.2**	**-0.2**
P33M	**Teslin, Yukon**	**2.82**	**50**		**Pg**	**23 05 38.0**	**-0.1**
P33M				IAML		23 06 20.2	
	comp=N,11nm,0.8s						
P33M				IAML		23 06 22.2	
	comp=E,12nm,0.8s						
P33M	**Teslin, Yukon**	**2.82**	**50**	Pg	**Pg**	**23 05 37.2**	**-0.9**
MESA	**MESA**	**2.99**	**307**	Pn	**Pn**	**23 05 31.4**	**-0.3**
MESA				IAML		23 06 20.7	
	comp=N,24nm,1.2s						
N30M	**Aishikik Lake**	**2.99**	**1**	Pn	**Pn**	**23 05 34.0**	**+2.4**
N30M				IAML		23 06 23.9	
	comp=E,13nm,1.1s						
N30M				IAML		23 06 24.6	
	comp=N,10nm,0.7s						
N30M	**Aishikik Lake**	**2.99**	**1**	Pg	**Pb**	**23 05 39.2**	**+1.7**
N30M				Sg	**Sg**	**23 06 19.8**	**-0.3**
N31M	**Braeburn, Yuko**	**3.10**	**12**	Pn	**Pg**	**23 05 41.2**	**-2.2**
N31M	**Braeburn, Yuko**	**3.10**	**12**	Pg	**Pg**	**23 05 41.4**	**-2.0**
N31M				Sg	**Sg**	**23 06 22.9**	**-0.6**
R33M	**Jennings River**	**3.34**	**71**	Pn	**Pn**	**23 05 39.0**	**+2.6**
R33M				IAML		23 06 40.4	
	comp=N,15nm,0.7s						
R33M				IAML		23 06 41.1	
	comp=E,11nm,0.7s						
R33M	**Jennings River**	**3.34**	**71**	Pn	**Pn**	**23 05 39.0**	**+2.6**
R33M				Pg	**Pg**	**23 05 45.6**	**-2.3**
R33M				Sg	**Sg**	**23 06 29.3**	**-1.8**
M31M	**Drury Creek, Y**	**3.98**	**19**	Pn	**Pb**	**23 05 51.6**	**-2.6**
M29M	**Somme Creek**	**4.03**	**351**	Pn	**Pn**	**23 05 49.8**	**+3.9**
M29M				IAML		23 07 00.5	
	comp=N,5.1nm,1.0s						
M30M	**Minto, Yukon**	**4.12**	**2**	Pn	**Pb**	**23 05 52.0**	**-4.5**
M30M				IAML		23 07 13.5	
	comp=N,6.0nm,0.8s						

*JMA **19** 23:07:10.5±0.2, 31°.N±2°×13°.9E±°, h417km, MV3.6/51, NEAR TORISHIMA IS*
*NEIC **19** 23:07:10.8±2.0, 30°.90N±0°.08×139°.1E±0°.1, h388km±8km, mb4.1/23, Error ellipse: s-maj=14.2km s-min=10.6km az=70.0*
*IDC **19** 23:07:11.5±0.9, 30°.94N×138°.78E, h383km±10km, mb3.1/11, mbtmp3.8/16, Error ellipse: s-maj=24.4km s-min=12.1km az=73.0*

ISC 19 23:07:10.5±0.5, 30°.94N±0°.06×138°.98E±0°.06, h384km, n67, σ1s61/79, mb3.8/21, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.66**	**23**	*eP*	**Pn**	**23 08 06.3**	**+3.4**
JHCJ	**Hachijojimakas**	**2.24**	**18**	*eP*	**Pn**	**23 08 09.5**	**+3.0**
JHJ	**Hachijo jima 2**	**2.28**	**17**	P	**Pn**	**23 08 08.5**	**+1.7**
	130nm,0.7s,baz=278,slow=14,SNR=1.5						
JHJ				S	**S**	**23 08 54.0**	**+1.8**
	171nm,0.6s,baz=52,slow=19,SNR=1.9						
JHJ2	**Mitsune**	**2.28**	**18**	Pn	**Pn**	**23 08 07.5**	**+0.8**
JHJ2	**Mitsune**	**2.28**	**18**	*eP*	**Pn**	**23 08 10.8**	**+4.0**
JIE	**Ise**	**3.95**	**331**	P	**Pn**	**23 08 23.7**	**+2.8**
JKN2	**Miekihoku**	**4.01**	**326**	P	**Pn**	**23 08 23.8**	**+2.3**
JTNC	**Tanabenakahech**	**4.05**	**316**	P	**Pn**	**23 08 23.7**	**+1.7**
BSO3	**Boso 3**	**4.06**	**18**	*eS*	**S**	**23 09 21.0**	**+1.4**
BSO1	**Boso 1**	**4.07**	**24**	*eP*	**Pn**	**23 08 23.9**	**+2.4**
BSO1				*eS*	**S**	**23 09 20.7**	**+1.5**
BSO4	**Boso 4**	**4.20**	**15**	*eP*	**Pn**	**23 08 25.3**	**+2.0**
BSO4				*eS*	**S**	**23 09 24.7**	**+2.3**
JAO	**Obara**	**4.56**	**342**	*eP*	**Pn**	**23 08 30.0**	**+3.0**
JAO				*eS*	**S**	**23 09 30.3**	**+1.1**
INU	**Inuyama**	**4.70**	**340**		**Pn**	**23 08 29.7**	**+1.2**
JEG	**Eigenji**	**4.72**	**333**	P	**Pn**	**23 08 31.7**	**+3.0**
CBIJ	**Chichi jima**	**4.74**	**143**	P	**Pn**	**23 08 30.6**	**+1.5**
CBIJ				*eS*	**S**	**23 09 31.6**	**-1.2**
JCJ	**Chichijima**	**4.74**	**143**	Pn	**Pn**	**23 08 27.9**	**-1.2**
JCJ					**S**	**23 09 31.9**	**-0.9**
JGF	**Kuroka**	**4.85**	**344**		**Pn**	**23 08 31.7**	**+1.6**
JRY	**Ryogami san**	**5.07**	**359**	P	**Pn**	**23 08 34.2**	**+1.9**
JRY				*eS*	**S**	**23 09 39.5**	**+0.7**
JMN	**Monobe**	**5.14**	**304**		**Pn**	**23 08 34.5**	**+1.4**
JAG	**Ashikaga**	**5.49**	**4**	P	**Pn**	**23 08 37.4**	**+0.6**
JAG				*eS*	**S**	**23 09 43.2**	**-3.8**
JTO	**Tosashimizu**	**5.60**	**292**	P	**Pn**	**23 08 38.9**	**+0.9**
MJAR	**Matsushiro Arr**	**5.63**	**354**	P	**Pn**	**23 08 38.3**	**-0.1**
	2.0nm,0.4s,baz=169,slow=11,SNR=8.2						
MJAR				S	**S**	**23 09 50.6**	**+0.7**
	3.3nm,0.8s,baz=142,slow=19,SNR=4.5						
MAJO	**Matsushiro**	**5.63**	**354**	Pn	**Pn**	**23 08 40.3**	**+1.9**
MJB9	**Matsu-Tunnel**	**5.63**	**354**	Pn	**Pn**	**23 08 40.4**	**+2.0**
JHO	**Hitachi**	**5.81**	**13**	P	**Pn**	**23 08 41.2**	**+0.9**
JHO				*eS*	**S**	**23 09 50.6**	**-2.9**
JHS	**Saijyo**	**6.38**	**311**	*eP*	**Pn**	**23 08 48.5**	**+1.8**
JMM	**Marumori**	**7.07**	**12**	Pn	**P**	**23 08 55.8**	**+0.5**
JOI	**OKI**	**7.17**	**320**	P	**P**	**23 08 57.1**	**+0.8**
JNU	**Nakatsue**	**7.22**	**290**	P	**Pn**	**23 08 55.5**	**-0.7**
	13nm,0.8s,baz=164,slow=12,SNR=5.2						
JMK	**Ichinoseki**	**8.21**	**12**	*eS*	**S**	**23 10 40.6**	**-2.6**
KSRS	**Korea Array**	**11.23**	**308**	P	**P**	**23 09 42.0**	**+0.1**
	1.3nm,0.6s,baz=129,slow=10,SNR=5.2						
USRK	**Ussuriysk Ar.**	**14.35**	**339**	P	**Pn**	**23 10 18.3**	**-0.4**
	1.1nm,0.6s,baz=154,slow=11,SNR=2.0						
NACB	**Ninganchiao**	**16.82**	**251**	P	**P**	**23 10 41.9**	**-1.3**
NACB				IAmb	IAmb	23 10 43.8	
	comp=Z,43nm,1.3s						
YULB	**Yu-li**	**17.43**	**249**	P	**P**	**23 10 47.7**	**-2.0**
SSLB	**Suanglung**	**17.52**	**250**	P	**P**	**23 10 48.5**	**-2.2**
SSLB				IAmb	IAmb	23 10 49.5	
	comp=Z,50nm,1.5s						
PEA0B	**Petropavlovsk-**	**26.00**	**26**	P	**P**	**23 12 07.5**	**-2.4**
PETK	**Petropavlovsk-**	**26.00**	**26**	P	**P**	**23 12 09.9**	**0.0**
SONM	**Songino Array**	**30.03**	**314**	P	**P**	**23 12 45.7**	**+0.1**
	comp=Z,1.1nm,1.0s,baz=120,slow=8.5,SNR=5.1						
	comp=Z,1.1nm,1.0s						
PHRA	**Phrae**	**37.13**	**260**	P	**P**	**23 13 46.2**	**-0.2**
CHTO	**Chiang Mai**	**38.08**	**261**	P	**P**	**23 13 53.9**	**-0.4**
CHTO				IAmb	IAmb	23 13 54.5	
	comp=Z,4.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.24**	**261**	P	**P**	**23 13 55.0**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=53,slow=6.7,SNR=17						
	comp=Z,1.6nm,0.7s						
ZALV	**Zalesovo Beam**	**44.77**	**317**	P	**P**	**23 14 47.0**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=91,slow=8.3,SNR=2.9						
ZALV				PcP	**PcP**	**23 16 21.6**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=106,slow=3.6,SNR=4.5						
	comp=Z,0.6nm,0.5s						
MK31	**Makanchi Array**	**45.90**	**307**	P	**P**	**23 14 56.7**	**+0.4**
MKAR	**Makanchi Array**	**45.90**	**307**	P	**P**	**23 14 56.9**	**+0.5**
MKAR	**Makanchi Array**	**45.90**	**307**	P	**P**	**23 14 56.0**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=92,slow=7.1,SNR=9.1						
	comp=Z,1.5nm,0.8s						
SMRI	**Semarang**	**46.62**	**221**	P	**P**	**23 15 02.9**	**+0.8**
SMRI				IAmb	IAmb	23 15 40.9	
	comp=Z,29nm,0.9s						
KURBB	**Kurchatov Arra**	**48.38**	**312**	P	**P**	**23 15 14.9**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=92,slow=6.8,SNR=10						
	comp=Z,0.8nm,0.5s						
GSI	**Gunungsitoli**	**49.02**	**241**	P	**P**	**23 15 20.0**	**-0.3**
GSI				IAmb	IAmb	23 15 21.1	
	comp=Z,9.9nm,0.9s						
WB0	**Warramunga Arr**	**50.60**	**186**	P	**P**	**23 15 32.6**	**+0.6**
WB0				IAmb	IAmb	23 15 55.4	
	comp=Z,9.3nm,1.5s						
WB2	**Warramunga Arr**	**50.78**	**186**	P	**P**	**23 15 34.4**	**+1.1**
WR0	**Warramunga Arr**	**50.78**	**185**	P	**P**	**23 15 33.8**	**+0.5**
WR0				IAmb	IAmb	23 16 17.9	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**50.78**	**186**	P	**P**	**23 15 34.0**	**+0.7**
WRA	**Warramunga Arr**	**50.78**	**186**	P	**P**	**23 15 34.3**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=2.8,slow=7.7,SNR=13						
	comp=Z,0.9nm,0.6s						
M19K	**Big River Lodg**	**52.27**	**33**	P	**P**	**23 15 41.9**	**-1.8**
M19K				IAmb	IAmb	23 15 53.0	
	comp=Z,13nm,1.4s						
BVAR	**Borovoye Array**	**53.34**	**315**	P	**P**	**23 15 51.6**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=91,slow=8.8,SNR=17						
BVAR				PcP	**PcP**	**23 16 54.5**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=95,slow=4.6,SNR=4.8						
	comp=Z,2.6nm,0.6s						
ASAR	**Alice Springs**	**54.51**	**186**	P	**P**	**23 16 01.3**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=12,slow=12,SNR=7.0						
	comp=Z,0.4nm,0.5s						
SIMJ	**Simiganj**	**56.73**	**298**	P	**P**	**23 16 14.7**	**-1.3**
SIMJ				IAmb	IAmb	23 16 16.9	
	comp=Z,4.2nm,0.9s						
E28M	**Babbage River**	**58.50**	**25**	P	**P**	**23 16 28.4**	**+0.9**
E28M				IAmb	IAmb	23 16 50.1	
	comp=Z,10nm,1.4s						
TABL	**Table Mountain**	**58.73**	**35**	P	**P**	**23 16 29.0**	**-0.3**
ARTI	**Arti**	**59.79**	**321**	P	**P**	**23 16 36.8**	**+0.5**
ARTI				IAmb	IAmb	23 16 37.5	
	comp=Z,13nm,1.5s						
ABKAR	**Akbulak array**	**60.43**	**312**	P	**P**	**23 16 41.2**	**+0.5**
ABKAR	**Akbulak array**	**60.43**	**312**	P	**P**	**23 16 41.1**	**+0.3**
ABKAR				IAmb	IAmb	23 16 41.8	
	comp=Z,1.4nm,0.8s						
FINES	**FINESS Array B**	**73.27**	**332**	P	**P**	**23 18 01.4**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=43,slow=8.6,SNR=8.7						
	comp=Z,0.5nm,0.5s						
KBZ	**Khabaz**	**73.36**	**311**	P	**P**	**23 18 01.8**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=100,slow=2.1,SNR=4.4						
	comp=Z,1.6nm,0.8s						
BMN	**Battle Mountai**	**79.98**	**49**	P	**P**	**23 18 35.7**	**-2.7**
RAYN	**Ar Rayn**	**81.08**	**292**	P	**P**	**23 18 44.6**	**+0.3**
RAYN				IAmb	IAmb	23 18 45.6	
	comp=Z,2.3nm,0.8s						
BRTR	**Keskin Array B**	**81.36**	**311**	P	**P**	**23 18 45.8**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=62,slow=3.4,SNR=3.6						
	comp=Z,0.7nm,0.8s						

*IDC **19** 23:07:13.6±1.2, 37°.78N×20°.50E, h0km, mb3.7/8, mbtmp3.7/10, ML1.8/2, Error ellipse: s-maj=23.5km s-min=22.8km az=53.0*
*ATH **19** 23:07:14.6, 37°.63N×20°.30E, h9km±2km, ML3.5/13, Manual Solution by A.Moschou This location: 2020/09/11 05:18:49 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **19** 23:07:15.5, 37°.65N×20°.35E, h0km×3km, ML3.4/11, Error ellipse: s-maj=4.1km s-min=0.8km az=231.0*

ISC 19 23:07:15.7±1.2, 37°.69N±0°.03×20°.37E±0°.04, h14km±7km, n47, σ0s79/73, mb3.8/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.36**	**95**	P	**Pg**	**23 07 22.9**	**-0.1**
KRI1				S	**Sg**	**23 07 27.9**	**0.0**
	21μm,0.5s						
LTHK	**Lithakia**	**0.37**	**87**	P	**Pg**	**23 07 23.1**	**-0.1**
LTHK				S	**Sg**	**23 07 28.5**	**+0.2**
	17μm,0.3s						
LTHK	**Lithakia**	**0.37**	**87**	P	**Pg**	**23 07 23.2**	**-0.1**
LTHK				S	**Sg**	**23 07 28.3**	**0.0**
PSDA	**Pessada-Kefalo**	**0.45**	**22**	P	**Pb**	**23 07 25.0**	**-0.6**
PSDA				S	**Sb**	**23

UPR	University Cam	1.27	62	P		Pg	23 07 40.9 +0.8
ITM	Ithomi	1.34	112	P		Pg	23 07 41.5 0.0
PYL	PYLOS	1.35	126	P		Pn	23 07 40.3 +0.1
PYL	PYLOS	1.35	126	P		Pn	23 07 40.4 +0.1
PYL				S		Sb	23 07 56.9 -1.2
EFP	Efpalio	1.42	58	P		Pb	23 07 42.1 +0.1
EFP	Efpalio	1.42	58	P		Pb	23 07 42.0 0.0
KLV	Kalavryta, Ach	1.45	76	P		Pn	23 07 42.1 +0.4
IDI	Anoyia	4.36	122	Pn		Pn	23 08 22.3 +0.6
	0.3nm,0.3s,baz=271,slow=14,SNR=1.7						
IDI				Sn		Sn	23 09 13.8 +1.4
	2.3nm,0.3s,baz=324,slow=23,SNR=7.7						
	3.8nm,0.8s						
KEST	Kesra	9.06	261	Pn		Pn	23 09 27.9 +1.6
	0.1nm,0.3s,baz=63,slow=11,SNR=2.2						
	5.7nm,1.1s						
HFS	Hagfors	22.86	351	P		P	23 12 18.0 -0.4
	6.0nm,1.1s,baz=166,slow=15,SNR=1.6						
	6.0nm,1.1s						
FINES	FINESS Array B	24.04	7	P		P	23 12 29.5 -0.6
	1.7nm,0.5s,baz=170,slow=10,SNR=19						
	1.7nm,0.5s						
NOA	NORSAR Array B	24.07	349	P		P	23 12 30.3 -0.2
	0.5nm,0.7s,baz=163,slow=9.7,SNR=1.5						
	0.5nm,0.7s						
TORD	Torodi Ar. Bea	29.58	219	P		P	23 13 21.0 +0.6
	0.2nm,0.5s,baz=27,slow=8.6,SNR=2.6						
	0.2nm,0.5s						
MKAR	Makanchi Array	45.66	58	P		P	23 15 34.1 -1.8
	0.7nm,0.8s,baz=266,slow=7.6,SNR=6.1						
	0.7nm,0.8s						
ZALV	Zalesovo Beam	46.10	48	P		P	23 15 37.6 -1.6
	1.3nm,0.5s,baz=274,slow=8.5,SNR=7.2						
	1.3nm,0.5s						
SONM	Songino Array	60.86	50	P		P	23 17 26.7 -1.1
	0.4nm,0.8s,baz=305,slow=5.1,SNR=2.6						
	0.4nm,0.8s						
CMAR	Chiang Mai Arr	70.08	82	P		P	23 18 27.4 -0.3
	0.5nm,0.4s,baz=282,slow=4.4,SNR=1.8						
	0.5nm,0.4s						

*OSPL **19** 23:08:32.4±3.3, 20.°02N×70.°13W, h16km±16km, ML2.7*
*SDD **19** 23:08:33.0±2.3, 19.°67N×70.°07W, h20km±13km, MD3.2, ML2.8, MW3.3*

ISC 19 23:08:30.8±1.2, **19.°78N**±0.°06×**70.°03W**±0.°03, **h26**km±7km, **n21**, σ1°**49**/35, **18C-1D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CADR	Cabrera	0.14	145	⇑eP	Pb	23 08 36.7	+0.7
CADR				IAML		23 08 40.5	
	comp=E,4μm,0.3s						
CADR				⇑eSg	Sb	23 08 40.6	+1.1
CADR				IAML		23 08 42.8	
	comp=N,2μm,0.7s						
LONA1	Toro Cenizo, N	0.43	159	iP	Pb	23 08 37.5	-2.4
LONA1				eS	Sb	23 08 43.3	-2.8
SC01	Santiago de lo	0.75	242	iP	Pb	23 08 46.3	+1.0
SC01				eS	Sn	23 08 57.3	+1.1
SC01				IAML		23 09 04.2	
	comp=Z,231nm,0.5s						
DR08	Loma La Naviza	0.81	180	⇑eP	Pb	23 08 45.1	-1.3
DR08				⇑eSg	Sb	23 08 54.0	-3.1
DR08				IAML		23 08 55.2	
	comp=E,3μm,0.2s						
DR08				IAML		23 08 55.6	
	comp=N,3μm,0.1s						
ABDR	Alto Bandera	1.12	211	ePg	Pn	23 08 50.0	-1.1
ABDR				IAML		23 09 04.4	
	comp=N,261nm,0.7s						
ABDR				IAML		23 09 04.4	
	comp=E,305nm,0.3s						
HATOM	Hato Mayor del	1.16	148	⇑ePg	Pn	23 08 51.1	-0.2
HATOM				⇑eSg	Sn	23 09 05.2	-1.2
HATOM				IAML		23 09 07.0	
	comp=N,78nm,0.3s						
HATOM				IAML		23 09 11.8	
	comp=E,65nm,0.3s						
MIDR	Miches	1.22	131	⇑ePg	Pn	23 08 53.2	+1.1
MIDR				⇑eSg	Sb	23 09 09.8	+1.3
MIDR				IAML		23 09 10.2	
	comp=N,49nm,0.8s						
MIDR				IAML		23 09 10.3	
	comp=N,49nm,0.6s						
MIDR				IAML		23 09 13.7	
	comp=E,46nm,0.4s						
SDD	Santo Domingo	1.32	175	⇑eSg	Sn	23 09 09.6	-0.7
SDD				IAML		23 09 30.2	
	comp=N,38nm,1.6s						
BANI	BANI	1.42	193	⇑ePg	Pn	23 08 54.4	-0.6
BANI				⇑eSg	Sn	23 09 13.2	+0.3
BANI				IAML		23 09 13.7	
	comp=N,460nm,0.5s						
BANI				IAML		23 09 15.4	
	comp=E,442nm,0.3s						
SDDR	Presa de Saban	1.43	236	⇑ePg	Pn	23 08 55.3	+0.1
SDDR				⇓eSg	Sn	23 09 14.1	+0.9
SDDR				IAML		23 09 15.2	
	comp=N,93nm,0.3s						
SDDR				IAML		23 09 16.2	
	comp=E,141nm,0.5s						
SDDR	Presa de Saban	1.43	236	iP	Pn	23 08 56.1	+0.9
SDDR				eS	Sn	23 09 14.1	+0.9
SDDR				IAML		23 09 18.1	
	comp=Z,73nm,0.8s						
LONE3	El Aguacate, B	1.79	229	iP	Pb	23 09 02.8	-0.2
LONE3				eS	Sb	23 09 25.6	+0.5
LONE3				IAML		23 09 25.8	
	comp=Z,39nm,0.7s						
LOBA2	Hotel Casa Bon	1.97	211	⇑ePg	Pb	23 09 05.5	-0.5
LOBA2				IAML		23 09 35.3	
	comp=E,15nm,4.8s						
LOBA2				IAML		23 09 36.0	
	comp=N,18nm,2.9s						
LODU1	El Espartillar	1.98	224	iP	Pb	23 09 06.4	+0.3
LODU1				IAML		23 09 32.4	
	comp=Z,71nm,0.7s						
PODR	Polo	2.00	217	⇑ePg	Pb	23 09 06.1	-0.5
PODR				⇑eSg	Sn	23 09 29.8	+2.5
PODR				IAML		23 09 35.7	
	comp=N,100nm,0.5s						
PODR				IAML		23 09 35.7	
	comp=E,88nm,0.3s						
PODR	Polo	2.00	217	iP	Pb	23 09 06.1	-0.5
PODR				eS	Sb	23 09 32.7	+1.5
PODR				IAML		23 09 38.4	
	comp=Z,58nm,0.5s						
PCDR	Punta Cana, DR	2.00	129	⇑ePg	Pb	23 09 06.9	+0.4
PCDR				⇑eSg	Sb	23 09 33.7	+2.6
PCDR				IAML		23 10 06.1	
	comp=N,162nm,1.6s						
PCDR	Punta Cana, DR	2.00	129	iP	Pb	23 09 06.9	+0.4
PCDR				eS	Sb	23 09 33.0	+2.0
PCDR				IAML		23 09 36.7	
	comp=Z,131nm,1.9s						
GRTK	Grand Turk	2.01	329	iP	Pn	23 08 60.0	-3.1
GRTK				IAML		23 09 40.4	
	comp=Z,28nm,1.5s						
JIDR	Jimani	2.15	234	⇑ePg	Pb	23 09 08.9	-0.2
JIDR				IAML		23 09 38.5	
	comp=E,154nm,0.5s						
JIDR				IAML		23 09 38.6	
	comp=N,174nm,0.5s						
LOBH	Bahia de las A	2.45	219	iP	Pb	23 09 13.4	-0.7
LOBH				IAML		23 09 46.6	
	comp=Z,59nm,2.4s						

ATH 19 23:12:28.9, 37.°30N×22.°82E, h9km±1km, **ML2.0**/13, **Error ellipse: s-maj=1.9km s-min=0.8km az=229.0, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YDRA	Hydra	0.52	84	P	Pg	23 12 38.3	-0.7
YDRA				S	Sg	23 12 46.2	+0.4
YDRA				AML	AML	23 12 49.4	
	comp=E,410μm,0.2s						
YDRA				AML	AML	23 12 49.7	
	comp=N,419μm,0.3s						
VLI	Veliai	0.59	171	P	Pg	23 12 39.8	-0.5
VLI				S	Sg	23 12 47.4	-0.6
VLI				AML	AML	23 12 49.6	
	comp=N,390μm,0.3s						
VLI				AML	AML	23 12 50.4	
	comp=E,397μm,0.3s						
MNVA	Monemvasia	0.64	164	P	Pg	23 12 41.5	+0.3
MNVA				S	Sg	23 12 49.3	-0.1
ITM	Ithomi	0.72	261	P	Pg	23 12 42.4	-0.5
ITM				S	Sg	23 12 51.9	-0.3
ITM				AML	AML	23 12 55.8	
	comp=N,204μm,0.5s						
ITM				AML	AML	23 12 56.1	
	comp=E,184μm,0.4s						
GUR	Goura	0.74	329	P	Pg	23 12 43.1	-0.1
GUR				S	Sg	23 12 52.5	-0.4
GUR				AML	AML	23 12 55.6	
	comp=N,543μm,0.4s						
GUR				AML	AML	23 12 56.0	
	comp=E,481μm,0.3s						
AMT	Artemida-Makis	0.91	285	P	Pg	23 12 46.2	-0.3
AMT				S	Sb	23 12 59.1	-0.2
AMT				AML	AML	23 13 03.2	
	comp=N,395μm,0.2s						
AMT				AML	AML	23 13 10.7	
	comp=E,438μm,0.5s						
KLV	Kalavryta, Ach	0.91	325	P	Pg	23 12 45.9	-0.6
KLV				S	Sg	23 12 58.0	-0.4
KLV				AML	AML	23 13 01.2	
	comp=N,98μm,0.5s						
KLV				AML	AML	23 13 02.4	
	comp=E,108μm,0.4s						
PYL	PYLOS	0.95	245	P	Pg	23 12 47.0	-0.2
VLY	Voula,Athens	0.95	54	P	Pg	23 12 46.5	-0.7
VLY				S	Sb	23 13 00.0	-0.4
VLY				AML	AML	23 13 02.1	
	comp=E,212μm,0.5s						
VLY				AML	AML	23 13 02.9	
	comp=N,158μm,0.3s						
VIL2	Platees	0.98	21	P	Pg	23 12 46.7	-1.0
VIL2				S	Sg	23 13 00.6	+0.1
VIL2				AML	AML	23 13 05.2	
	comp=N,71μm,0.6s						
VIL2				AML	AML	23 13 06.2	
	comp=E,96μm,0.4s						
ATHU	Athens Univers	1.02	49	P	Pg	23 12 48.2	-0.3
DRO	Drossia	1.10	307	P	Pg	23 12 49.3	-0.7
PTL	Penteli	1.12	48	P	Pg	23 12 48.9	-1.5
PTL				S	Sg	23 13 04.4	-0.5
PTL				AML	AML	23 13 07.0	
	comp=N,74μm,0.6s						
PTL				AML	AML	23 13 09.4	
	comp=E,61μm,0.3s						
DION	Dionisos Attik	1.18	48	P	Pb	23 12 50.8	-0.7
DION				S	Sg	23 13 06.0	-0.9
DION				AML	AML	23 13 12.2	
	comp=N,118μm,0.6s						
DION				AML	AML	23 13 16.3	
	comp=E,121μm,0.6s						
KALE	Kalithea	1.22	334	P	Pb	23 12 52.0	-0.2
KALE				AML	AML	23 13 12.6	
	comp=E,113μm,0.6s						
KALE				AML	AML	23 13 12.7	
	comp=N,94μm,0.4s						
EFP	Efpalio	1.34	328	P	Pn	23 12 53.5	-0.4
MHLO	Agia Marina, M	1.41	115	P	Pn	23 12 54.5	-0.3
AXAR	Agios Charalam	1.47	355	P	Pn	23 12 55.1	-0.6
AXAR				AML	AML	23 13 20.2	
	comp=E,180μm,0.4s						
AXAR				AML	AML	23 13 27.6	
	comp=N,188μm,0.6s						
ANX	Ano Chora	1.48	332	P	Pn	23 12 54.7	-1.2
ANX				S	Sn	23 13 13.7	-1.6
ANX				AML	AML	23 13 20.0	
	comp=E,79μm,0.4s						
ANX				AML	AML	23 13 23.3	
	comp=N,86μm,0.4s						
ANKY	Antikythira Is	1.48	165	P	Pn	23 12 55.4	-0.4

*ATH **19** 23:13:26.3, 37.°13N×20.°54E, h6km±1km, ML2.6/12, Manual Solution by G.Panopoulou This location: 2020/08/13 18:52:53 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **19** 23:13:27.6, 37.°17N×20.°58E, h0km±3km, ML2.5/6, Error ellipse: s-maj=4.0km s-min=0.7km az=229.0*

ISC 19 23:13:26.9±1.9, **37.°16N**±0.°05×**20.°58E**±0.°06, **h2**km±11km, **n34**, σ0°**59**/50, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.54	21	P	Pg	23 13 37.6	+0.3
KRI1				S	Sg	23 13 45.3	+0.9
	1μm,0.3s						
KRI1	kERI	0.54	21	P	Pg	23 13 37.7	+0.3
KRI1				S	Sg	23 13 44.6	+0.2
LTHK	Lithakia	0.59	20	P	Pg	23 13 38.3	0.0
LTHK	Lithakia	0.59	20	P	Pg	23 13 38.5	+0.2
LTHK				S	Sg	23 13 46.6	+0.6
PYL1	Pylos	0.93	105	P	Pg	23 13 44.6	-0.1
PYL1				S	Sg	23 13 56.9	+0.2
RTZL	Ratzakli, Kefa	0.93	10	P	Pg	23 13 44.5	-0.3
RTZL				S	Sb	23 13 58.8	+0.1
	130nm,0.3s						
PYL	PYLOS	0.97	105	P	Pg	23 13 45.6	+0.1
PYL				S	Sb	23 14 00.4	+0.7
PYL	PYLOS	0.97	105	P	Pg	23 13 45.3	-0.2
PYL				S	Sg	23 13 57.9	-0.1
AMT	Artemida-Makis	0.98	67	P	Pg	23 13 45.9	+0.2
ITM	Ithomi	1.08	88	P	Pg	23 13 47.5	-0.1
ITM				S	Sb	23 14 03.8	+0.9
	198nm,0.3s						
ITM	Ithomi	1.08	88	P	Pg	23 13 47.0	-0.6
ITM				S	Sg	23 14 02.2	+0.6
DMLN	Damoulianata-K	1.09	352	P	Pg	23 13 48.2	+0.3
DMLN				S	Sb	23 14 04.0	+0.7
	332nm,0.6s						
DMLN	Damoulianata-K	1.09	352	P	Pg	23 13 47.5	-0.4
RLS	Riolos of Patr	1.15	38	P	Pg	23 13 48.3	-0.6
RLS				S	Sg	23 14 03.6	-0.2
DRO	Drossia	1.20	48	P	Pg	23 13 49.2	-0.7
DRO				S	Sb	23 14 06.6	+0.1
	398nm,0.5s						
DRO	Drossia	1.20	48	P	Pg	23 13 49.3	-0.7
DRO				S	Sb	23 14 06.5	+0.1
AXS	Araxos	1.22	31	P	Pg	23 13 49.8	-0.5
FSK	Fiskardo	1.30	360	P	Pg	23 13 51.6	-0.3
FSK				S	Sn	23 14 10.8	+0.7
	145nm,0.9s						
FSK	Fiskardo	1.30	360	P	Pg	23 13 50.6	-1.3
FSK				S	Sg	23 14 08.8	+0.1
EVGI	Lefkada island	1.47	2	P	Pn	23 13 54.1	-0.3
EVGI	Lefkada island	1.47	2	P	Pn	23 13 53.1	-1.3
PDO	Prodromos	1.52	18	P	Pn	23 13 54.8	-0.3
KLV	Kalavryta, Ach	1.53	54	P	Pn	23 13 54.9	-0.5
NYDR	Nydri-Lefkada	1.56	4	P	Pn	23 13 55.6	0.0
VVK	Vomvokou	1.60	37	P	Pn	23 13 55.1	-1.2
GUR	Goura	1.61	60	P	Pn	23 13 55.8	-0.6
LKD2	Lefkada island	1.63	2	P	Pn	23 13 56.0	-0.7
EFP	Efpalio	1.65	39	P	Pn	23 13 57.1	+0.2
EFP	Efpalio	1.65	39	P	Pn	23 13 56.7	-0.2
EFP				S	Sn	23 14 18.4	-0.3
TSLK	Tsoukalades, L	1.67	2	P	Pn	23 13 57.3	+0.1
SERG	Sergoula	1.72	43	P	Pn	23 13 57.7	-0.2
KALE	Kalithea	1.75	45	P	Pn	23 13 57.0	-1.3
ANX	Ano Chora	1.79	36	P	Pn	23 13 58.3	-0.6
EVR	Evrytania	2.01	29	P	Pn	23 14 02.8	+0.8

*JMA **19** 23:17:44.3±0.3, 24.°8N×1.°0×122.°2E±0.°5, h96km±2km, MV2.3/13, TAIWAN REGION*
*TAP **19** 23:17:44.1, 24.°79N×122.°16E, h98km, ML3.2, C*

ISC 19 23:17:44.2±1.5, **24.°78N**±0.°04×**122.°17E**±0.°03, **h99**km±8km, **n70**, σ0°**74**/126, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.22	286	eP	Pn	23 17 58.9	+0.6
EGS				eS	Sn	23 18 08.3	-0.6
TWB1	Santiao Chiao	0.28	324	P	Pn	23 17 58.6	0.0
TWB1				S	Sn	23 18 08.8	-0.5
TWC	Suao	0.34	239	eP	Pn	23 17 58.8	-0.1
TWC				eS	Sn	23 18 08.9	-0.9
ESAO	Su ao	0.36	235	eS	Sn	23 18 09.5	-0.5
TIPB	Shuangxi	0.36	301	P	Pn	23 17 59.0	-0.1
TIPB				S	Sn	23 18 09.7	-0.5
EOS2	EOS2	0.37	171	eP	Pn	23 17 59.5	+0.6
EOS2				S	Sn	23 18 11.3	+1.4
ILA	Ilan	0.38	267	eS	Sn	23 18 10.2	-0.1
SXI1	Grass Mountain	0.41	319	P	Pn	23 17 59.2	-0.2
SXI1				eS	Sn	23 18 10.4	-0.4
NDS	Dongshan	0.44	250	eP	Pn	23 17 59.5	0.0
NDS				eS	Sn	23 18 10.5	-0.4
NWF	Wu-fen Shan	0.45	309	eP	Pn	23 17 59.5	-0.2
NWF				eS	Sn	23 18 10.8	-0.4
WFSB	Wu-fen Shan	0.45	309	eP	Pn	23 17 59.5	-0.1
WFSB				eS	Sn	23 18 10.8	-0.2
TWE	Neicheng	0.46	262	eP	Pn	23 17 59.7	+0.1
TWE				eS	Sn	23 18 11.0	-0.1
EWUT	Wuta	0.49	227	eP	Pn	23 18 00.2	+0.4
EWUT				eS	Sn	23 18 11.6	+0.1
EOS3	EOS3	0.51	165	eP	Pn	23 18 00.5	+0.7
EOS3				eS	Sn	23 18 13.2	+1.7
ENA	Nanau	0.53	228	eP	Pn	23 18 00.3	+0.2
ENA				eS	Sn	23 18 11.9	-0.1
FUSB	Fushanzhiwuyua	0.53	268	P	Pn	23 18 00.1	-0.1
FUSB				S	Sn	23 18 11.5	-0.7
ENTT	Nioudou	0.57	255	eP	Pn	23 18 00.8	+0.3
ENTT				eS	Sn	23 18 13.6	+1.0
EAHA	Aohua	0.60	221	eS	Sn	23 18 13.4	+0.4
NWLT	Wulai	0.60	270	iP	Pn	23 18 00.7	-0.1
NWLT				eS	Sn	23 18 12.8	-0.3
LATG	Datong	0.64	247	iP	Pn	23 18 01.8	+0.6
LATG				iS	Sn	23 18 14.8	+1.1
YM01	YM01	0.65	304	P	Pn	23 18 01.0	-0.1
YM01				eS	Sn	23 18 13.1	-0.8
EOS4	EOS4	0.67	168	P	Pn	23 18 01.1	+0.2
EOS4				eS	Sn	23 18 14.0	+0.6
ZUZH	Zhuzihu	0.68	304	eP	Pn	23 18 01.2	-0.2
TWY	Chenhua	0.71	314	eP	Pn	23 18 01.6	0.0
YHNB	Yeheng	0.73	261	P	Pn	23 18 01.9	0.0
YHNB				S	Sn	23 18 14.8	-0.4
NSK	Sanguang	0.74	262	P	Pn	23 18 02.1	+0.1
NSK				S	Sn	23 18 15.0	-0.4
TWS1	Kuangyinshan	0.75	295	eP	Pn	23 18 01.1	-0.9
TWS1				eS	Sn	23 18 16.4	+1.1
JYNG	Yonagunijimaku	0.78	115	P	Pn	23 18 02.4	+0.1
ETL	Fush Village	0.80	219	eP	Pn	23 18 02.3	-0.2
ETL				eS	Sn	23 18 16.3	+0.1
NNSB	Datong	0.80	244	P	Pn	23 18 03.0	+0.4
NNSB				S	Sn	23 18 16.7	+0.3
NACB	Ninganchiao	0.80	221	P	Pn	23 18 02.2	-0.4
NACB				S	Sn	23 18 15.6	-0.6
NNS	Nan Shan	0.80	245	P	Pn	23 18 03.0	+0.3
NNS				eS	Sn	23 18 16.6	+0.2
YOJ	Yonaguni jima	0.83	113	P	Pn	23 18 02.9	+0.1
YOJ	Yonaguni jima	0.83	113	eP	Pn	23 18 02.6	-0.2
PCYT	Pengchaiyu	0.85	354	eP	Pn	23 18 03.2	+0.2
ETLH	Xiulin Townshi	0.85	228	P	Pn	23 18 02.9	-0.2
ETLH				eS	Sn	23 18 16.7	-0.5
TWD	Chiawan	0.87	217	P	Pn	23 18 03.1	-0.2
TWD				S	Sn	23 18 17.1	-0.4
KSHI	Guanxi Townshi	0.90	270	eP	Pn	23 18 03.8	+0.3
KSHI				eS	Sn	23 18 18.5	+0.4
NFF	Wufeng Townshi	0.97	261	eP	Pn	23 18 04.0	-0.3
NFF				eS	Sn	23 18 18.8	-0.6
FUSS	Fushou	1.00	238	eP	Pn	23 18 05.4	+0.5
FUSS				eS	Sn	23 18 20.5	+0.2
ETM	Tongmen	1.02	217	eP	Pn	23 18 04.0	-0.8
ETM				eS	Sn	23 18 19.0	-1.3
LXIB	Xiulin Townshi	1.02	222	P	Pn	23 18 04.3	-0.8
LXIB				eS	Sn	23 18 20.1	-0.6
WHF	Hehuan Shan	1.04	232	eP	Pn	23 18 05.7	+0.2
WHF				eS	Sn	23 18 20.9	-0.5
TWT	Tachien	1.05	240	eP	Pn	23 18 06.0	+0.8
TWT				S	Sn	23 18 21.6	+0.4
LIOB	Emei	1.06	263	eP	Pn	23 18 05.1	-0.1
LIOB				eS	Sn	23 18 20.6	-0.4
TDCB	Techi	1.06	240	eP	Pn	23 18 06.0	+0.6
TDCB				eS	Sn	23 18 21.0	-0.3
NSTT	Nanjuang	1.07	262	eP	Pn	23 18 05.2	-0.2
NSTT				eS	Sn	23 18 21.0	-0.4
SHUL	Shoufeng	1.14	209	eP	Pn	23 18 05.8	-0.3
SHUL				eS	Sn	23 18 22.4	-0.1
ESL	Shilin	1.18	215	eP	Pn	23 18 05.5	-1.1
WHP	Taichung City	1.22	246	P	Pn	23 18 07.6	+0.4
WHP				eS	Sn	23 18 24.5	0.0
OWD	Renai	1.23	228	P	Pn	23 18 07.3	0.0
OWD				eS	Sn	23 18 24.0	-0.7
WUSB	Renai	1.24	231	P	Pn	23 18 07.9	+0.4
WUSB				eS	Sn	23 18 24.8	-0.1
WARBT	Fenglin Townsh	1.28	214	eP	Pn	23 18 06.8	-1.0
WARBT				eS	Sn	23 18 23.0	-2.6
WCS	Beigang Elemen	1.35	238	eP	Pn	23 18 08.8	+0.1
WCS				eS	Sn	23 18 27.5	+0.3
VWDT	VWDT	1.39	223	eP	Pn	23 18 09.1	0.0
VWDT				eS	Sn	23 18 28.1	+0.2
HGSD	Ruisui	1.46	208	eP	Pn	23 18 09.9	0.0
HGSD				eS	Sn	23 18 28.6	-0.7
SMLT	Sun Moon Lake	1.46	232	eP	Pn	23 18 09.9	-0.2
SMLT				eS	Sn	23 18 30.4	+0.7
TYC	Yuchr	1.48	234	eP	Pn	23 18 10.9	+0.7
TYC				eS	Sn	23 18 30.7	+0.8
SSLB	Suanglung	1.49	228	eP	Pn	23 18 11.1	+0.8
SSLB				eS	Sn	23 18 31.1	+1.0
IRIF	Iriomote-Funau	1.49	107	eP	Pn	23 18 10.5	+0.2
YULB	Yu-li	1.60	210	eP	Pn	23 18 10.2	-1.5
YULB				eS	Sn	23 18 29.8	-2.7
WHYT	Xinyi Township	1.62	228	eP	Pn	23 18 12.2	+0.2
WHYT				eS	Sn	23 18 34.7	+1.7
JKRS	Kuro-shima	1.76	108	eP	Pn	23 18 14.2	+0.5
JKRS				eS	Sn	23 18 36.2	+0.1
FULB	Fuli	1.77	207	eP	Pn	23 18 13.6	-0.2
FULB				eS	Sn	23 18 36.2	-0.2
ALS	Alishan	1.78	225	eP	Pn	23 18 14.5	+0.2
ALS				eS	Sn	23 18 38.6	+1.6
JIJ	Ishigaki jima	1.85	103	P	Pn	23 18 14.8	0.0
JIJ				eS	Sn	23 18 37.3	-0.7
JISG	Ishigakijimahi	1.96	95	eS	Sn	23 18 39.9	-0.7
EDH	Donghe	1.97	204	eS	Sn	23 18 39.0	-1.9
CHN4	Tsaushan	2.03	226	eP	Pn	23 18 17.5	+0.4
CHN4				eS	Sn	23 18 45.4	+3.2
JTJ	Tarama	2.31	93	eS	Sn	23 18 49.2	+0.5

*ECX **19** 23:49:13.7±0.5, 32.°20N×115.°27W, h11km±2km, MD3.4, ML3.6*
*NEIC **19** 23:49:14.1±3.5, 32.°18N±0.°02×115.°26W±0.°03, h10km±2km, Error ellipse: s-maj=4.0km s-min=3.1km az=304.0*
*MEX **19** 23:49:14.7±0.3, 32.°21N×115.°23W, h8km±4km, MD4.4*
*PAS **19** 23:49:15.2±2.4, 32.°21N±0.°02×115.°23W±0.°03, h19km±7km, ML3.5/226, ML3.4/42(NEIC), Error ellipse: s-maj=3.3km s-min=2.6km az=123.0*

ISC 19 23:49:14.4±0.8, **32.°18N**±0.°02×**115.°31W**±0.°02, **h18**km±2km, **n82**, σ0°**88**/115, **6C-10D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHX	Rio Hardy	0.05	148	⇓iP	Pg	23 49 17.6	-0.1
RHX				iS	Sg	23 49 19.4	-0.5
RHX				⇑e		23 49 19.9	
RHX				IAML		23 49 19.9	
	comp=N,13

σ1§32/200, mb4.1/36, 3C-2D, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.79**	**301**	*eP*	**Pn**		**23 51 29.9**	**-2.9**
BKI				*eS*	**Sn**		**23 51 51.7**	**-3.1**
BKI	**Bering**	**1.79**	**301**	PN	**Pn**		**23 51 29.9**	**-2.9**
BKI				S	**Sn**		**23 51 51.7**	**-3.1**
SHEM	**Shemya Is, Ala**	**3.62**	**114**	Pn	**Pn**		**23 51 56.5**	**-1.3**
	34nm,0.3s,baz=60,slow=2.1,SNR=5.1							
SHEM				Sn	**Sn**		**23 52 39.1**	**-0.6**
	9.0nm,0.3s,baz=286,slow=19,SNR=2.1							
	78nm,0.3s							
KBTR	**Krutoberegovo**	**3.84**	**302**	*eP*	**Pn**		**23 51 59.1**	**-1.8**
KBTR				*eS*	**Sn**		**23 52 42.0**	**-3.3**
KBTR	**Krutoberegovo**	**3.84**	**302**	PN	**Pn**		**23 51 59.1**	**-1.8**
KBG	**Krutoberegovo**	**3.92**	**302**	*eS*	**Sn**		**23 52 44.2**	**-3.0**
SMKR	**Semkarok**	**4.68**	**302**	*eP*	**Pn**		**23 52 13.2**	**+0.6**
SMKR				*eS*	**Sn**		**23 53 04.5**	**-1.6**
SMKR	**Semkarok**	**4.68**	**302**	PN	**Pn**		**23 52 13.1**	**+0.6**
BDR	**Baidarnaya**	**4.81**	**301**	*eS*	**Sn**		**23 53 09.0**	**-0.2**
BZGR	**Bezymyannyi-Gr**	**4.85**	**293**	*eP*	**Pn**		**23 52 15.6**	**+0.7**
BZGR				*eS*	**Sn**		**23 53 09.0**	**-1.3**
BZGR	**Bezymyannyi-Gr**	**4.85**	**293**	PN	**Pn**		**23 52 15.6**	**+0.7**
SRKR	**Sorokina**	**4.86**	**302**	*eS*	**Sn**		**23 53 12.7**	**+2.2**
CIRR	**Tsirk**	**4.88**	**295**	*eS*	**Sn**		**23 53 11.3**	**+0.3**
LGNR	**Loginova**	**4.90**	**295**	*eS*	**Sn**		**23 53 13.0**	**+1.4**
BZP	**Bezymyannyi-Pe**	**4.93**	**292**	*eP*	**Pn**		**23 52 17.8**	**+1.8**
BZMR	**Bezymyannaya**	**4.96**	**293**	*eP*	**Pn**		**23 52 18.1**	**+1.7**
BZMR				*eS*	**Sn**		**23 53 13.3**	**+0.3**
BZMR	**Bezymyannaya**	**4.96**	**293**	PN	**Pn**		**23 52 18.1**	**+1.7**
KRSR	**Krestovskiy**	**5.00**	**296**	*eP*	**Pn**		**23 52 18.1**	**+1.0**
KRSR				*eS*	**Sn**		**23 53 13.5**	**-0.6**
KRSR	**Krestovskiy**	**5.00**	**296**	PN	**Pn**		**23 52 18.0**	**+1.0**
TUMR	**Tumrok**	**5.02**	**285**	*eP*	**Pn**		**23 52 18.1**	**+0.9**
TUMR				*eS*	**Sn**		**23 53 14.2**	**-0.2**
TUMR	**Tumrok**	**5.02**	**285**	PN	**Pn**		**23 52 18.1**	**+0.9**
KIRR	**Kirishev**	**5.04**	**292**	*eP*	**Pn**		**23 52 19.6**	**+2.0**
KIRR				*eS*	**Sn**		**23 53 15.4**	**+0.2**
KIRR	**Kirishev**	**5.04**	**292**	PN	**Pn**		**23 52 19.6**	**+2.0**
KMNR	**Kamenistaya**	**5.05**	**290**	*eP*	**Pn**		**23 52 19.0**	**+1.3**
KMNR				*eS*	**Sn**		**23 53 15.2**	**-0.1**
KMNR	**Kamenistaya**	**5.05**	**290**	PN	**Pn**		**23 52 18.9**	**+1.3**
KPT	**Kopyto**	**5.11**	**292**	*eP*	**Pn**		**23 52 19.9**	**+1.4**
KPT				*eS*	**Sn**		**23 53 17.6**	**+0.8**
KPT	**Kopyto**	**5.11**	**292**	PN	**Pn**		**23 52 19.9**	**+1.4**
SPN	**Mys Shipunski**	**5.27**	**260**	*eS*	**Sn**		**23 53 16.3**	**-4.1**
KII	**Karymskiy**	**5.41**	**271**	*eP*	**Pn**		**23 52 23.3**	**+0.6**
KII	**Karymskiy**	**5.41**	**271**	PN	**Pn**		**23 52 23.2**	**+0.6**
NLC	**Nalytchevo**	**5.64**	**262**	*eP*	**Pn**		**23 52 26.3**	**+0.6**
NLC				*eS*	**Sn**		**23 53 27.1**	**-2.4**
NLC	**Nalytchevo**	**5.64**	**262**	PN	**Pn**		**23 52 26.2**	**+0.6**
SDLR	**Sedlovina**	**5.88**	**264**	*eP*	**Pn**		**23 52 29.6**	**+0.6**
SDLR	**Sedlovina**	**5.88**	**264**	PN	**Pn**		**23 52 29.6**	**+0.6**
SMAR	**Somma**	**5.93**	**264**	*eP*	**Pn**		**23 52 30.4**	**+0.5**
SMAR				*eS*	**Sn**		**23 53 35.0**	**-2.1**
SMAR	**Somma**	**5.93**	**264**	PN	**Pn**		**23 52 30.3**	**+0.5**
UGLR	**Uglovaya**	**5.93**	**263**	*eP*	**Pn**		**23 52 30.6**	**+0.8**
UGLR				*eS*	**Sn**		**23 53 35.6**	**-1.4**
UGLR	**Uglovaya**	**5.93**	**263**	PN	**Pn**		**23 52 30.5**	**+0.8**
ESO	**Esso**	**5.94**	**290**	*eP*	**Pn**		**23 52 31.2**	**+1.4**
ESO	**Esso**	**5.94**	**290**	PN	**Pn**		**23 52 31.1**	**+1.4**
KRER	**Koryakskii**	**5.95**	**264**	*eP*	**Pn**		**23 52 30.9**	**+0.7**
KRER				*eS*	**Sn**		**23 53 34.8**	**-2.7**
KRER	**Koryakskii**	**5.95**	**264**	PN	**Pn**		**23 52 30.8**	**+0.7**
AVH	**Avacha**	**5.97**	**264**	*eP*	**Pn**		**23 52 31.0**	**+0.8**
AVH				*eS*	**Sn**		**23 53 35.9**	**-1.9**
AVH	**Avacha**	**5.97**	**264**	PN	**Pn**		**23 52 31.0**	**+0.8**
KRX	**Arik**	**6.00**	**265**	*eP*	**Pn**		**23 52 31.3**	**+0.5**
KRX				*eS*	**Sn**		**23 53 36.7**	**-2.0**
KRX	**Arik**	**6.00**	**265**	PN	**Pn**		**23 52 31.2**	**+0.5**
DALK	**Dalny**	**6.02**	**262**	*eP*	**Pn**		**23 52 31.5**	**+0.7**
DALK	**Dalny**	**6.02**	**262**	PN	**Pn**		**23 52 31.5**	**+0.7**
KOK	**Koryaka**	**6.02**	**264**	*eP*	**Pn**		**23 52 31.6**	**+0.6**
KOK	**Koryaka**	**6.02**	**264**	PN	**Pn**		**23 52 31.5**	**+0.6**
PET	**Petropavlovsk**	**6.08**	**262**		**Pn**		**23 52 31.9**	**+0.3**
PET	**Petropavlovsk**	**6.08**	**262**	*eP*	**Pn**		**23 52 32.2**	**+0.5**
PET				*eS*	**Sn**		**23 53 38.1**	**-2.3**
PET	**Petropavlovsk**	**6.08**	**262**	*c i* PN	**Pn**		**23 52 32.3**	**+0.6**
GNL	**Ganaly**	**6.34**	**269**	*eP*	**Pn**		**23 52 36.7**	**+1.3**
GNL				*eS*	**Sn**		**23 53 46.6**	**-0.5**
GNL	**Ganaly**	**6.34**	**269**	PN	**Pn**		**23 52 36.7**	**+1.3**
RUS	**Russkaya**	**6.35**	**257**	*eP*	**Pn**		**23 52 35.5**	**0.0**
RUS	**Russkaya**	**6.35**	**257**	PN	**Pn**		**23 52 35.4**	**0.0**
KRMR	**Karymshinskiy**	**6.44**	**261**	*eP*	**Pn**		**23 52 37.6**	**+1.0**
KRMR				*eS*	**Sn**		**23 53 46.5**	**-2.7**
KRMR	**Karymshinskiy**	**6.44**	**261**	PN	**Pn**		**23 52 37.6**	**+1.0**
MTVR	**Mutnovka**	**6.52**	**258**	*eP*	**Pn**		**23 52 38.6**	**+0.6**
MTVR				*eS*	**Sn**		**23 53 48.1**	**-3.4**
MTVR	**Mutnovka**	**6.52**	**258**	PN	**Pn**		**23 52 38.5**	**+0.6**
GRL	**Gorelyy**	**6.56**	**259**	*eP*	**Pn**		**23 52 39.8**	**+1.4**
GRL				*eS*	**Sn**		**23 53 49.8**	**-2.7**
GRL	**Gorelyy**	**6.56**	**259**	PN	**Pn**		**23 52 39.8**	**+1.4**
PEA0B	**Petropavlovsk-**	**6.61**	**264**	Pn	**Pn**		**23 52 40.3**	**+1.3**
PEA0B	**Petropavlovsk-**	**6.61**	**264**	PN	**Pn**		**23 52 40.6**	**+1.6**
PETK	**Petropavlovsk-**	**6.61**	**264**	Pn	**Pn**		**23 52 39.9**	**+0.9**
PETK	**Petropavlovsk-**	**6.61**	**264**	Pn	**Pn**		**23 52 40.4**	**+1.4**
	3.7nm,0.3s,baz=89,slow=20,SNR=30							
PETK				Sn	**Sn**		**23 53 54.1**	**+0.6**
	1.6nm,0.3s,baz=75,slow=19,SNR=2.8							
PETK				LR	LR		23 55 21.3	
	comp=Z,35nm,21.3s,baz=56,slow=39							
	4.4nm,0.3s							
ASAK	**Asacha**	**6.72**	**258**	*eP*	**Pn**		**23 52 41.7**	**+1.1**
ASAK				*eS*	**Sn**		**23 53 53.8**	**-2.5**
ASAK	**Asacha**	**6.72**	**258**	PN	**Pn**		**23 52 41.6**	**+1.1**
KDTR	**Khodutka, Kamc**	**6.85**	**253**	*eP*	**Pn**		**23 52 42.4**	**+0.2**
KDTR				*eS*	**Sn**		**23 53 54.6**	**-4.7**
KDTR	**Khodutka, Kamc**	**6.85**	**253**	PN	**Pn**		**23 52 42.3**	**+0.2**
APC	**Apacha**	**6.98**	**263**	*eP*	**Pn**		**23 52 45.9**	**+1.9**
APC	**Apacha**	**6.98**	**263**	PN	**Pn**		**23 52 45.9**	**+1.9**
PAU	**Pauzhetka**	**7.71**	**253**	*eP*	**Pn**		**23 52 55.9**	**+1.9**
PAU	**Pauzhetka**	**7.71**	**253**	PN	**Pn**		**23 52 55.8**	**+1.9**
SKR	**Severo-Kuril's**	**8.46**	**250**	*eP*	**Pn**		**23 53 05.8**	**+1.5**
SKR	**Severo-Kuril's**	**8.46**	**250**	*‖e* PN	**Pn**		**23 53 06.0**	**+1.7**
ADK	**Adak**	**9.15**	**99**	Pn	**Pn**		**23 53 13.1**	**-0.7**
ATKA	**Atka Island**	**10.49**	**95**	Pn	**Pn**		**23 53 32.2**	**0.0**
LVA	**Lava Point**	**14.78**	**80**	Pn	**Pn**		**23 54 29.6**	**-1.1**
K13K	**Kusilvak Mount**	**15.94**	**51**	Pn	**Pn**		**23 54 46.0**	**+0.2**
K13K				IAmb	IAmb		23 55 06.4	
	comp=Z,25nm,1.5s							
M13K	**Dall Lake**	**16.21**	**57**		**P**		**23 54 50.9**	**-1.3**
L14K	**Kuka Creek**	**16.71**	**54**	P	**P**		**23 54 57.6**	**-0.1**
M14K	**Bethel**	**16.94**	**56**	P	**P**		**23 55 00.8**	**+0.5**
M14K				IAmb	IAmb		23 55 14.1	
	comp=Z,26nm,1.3s							
O14K	**Tigyukauivet M**	**17.12**	**61**	P	**P**		**23 55 03.0**	**+0.7**
N15K	**Kwethluk River**	**17.79**	**58**		**P**		**23 55 11.3**	**+1.7**
N15K				IAmb	IAmb		23 55 13.3	
	comp=Z,34nm,1.4s							
J16K	**Anvik River**	**18.11**	**48**		**P**		**23 55 13.3**	**0.0**
L16K	**Owhat River**	**18.29**	**53**	P	**P**		**23 55 16.4**	**+1.3**
M16K	**Timber Creek**	**18.43**	**56**		**Pn**		**23 55 17.6**	**+0.6**
M16K				IAmb	IAmb		23 55 45.3	
	comp=Z,29nm,1.4s							
C16K	**Lisburne Hills**	**18.54**	**31**	P	**P**		**23 55 16.4**	**-1.5**
O16K	**Kokwok River B**	**18.76**	**60**	P	**P**		**23 55 19.5**	**-0.8**
O16K				IAmb	IAmb		23 55 39.3	
	comp=Z,32nm,1.4s							
J17K	**VABM Dome**	**18.81**	**48**	P	**Pn**		**23 55 21.7**	**+0.2**
J17K				IAmb	IAmb		23 55 28.7	
	comp=Z,16nm,1.3s							
H17K	**Granite Mounta**	**18.90**	**43**	P	**P**		**23 55 20.2**	**-1.7**
K17K	**Iditarod**	**19.01**	**51**	P	**Pn**		**23 55 23.6**	**-0.2**
K17K				IAmb	IAmb		23 55 47.4	
	comp=Z,23nm,1.4s							
M17K	**Holitna River**	**19.21**	**55**	P	**Pn**		**23 55 25.3**	**-1.0**
N17K	**Nushagak Hills**	**19.25**	**57**	P	**Pn**		**23 55 26.3**	**-0.5**
N17K				IAmb	IAmb		23 55 45.1	
	comp=Z,18nm,1.4s							
H18K	**Honhosa River**	**19.59**	**43**	P	**Pn**		**23 55 30.4**	**-0.5**
H18K				IAmb	IAmb		23 56 00.2	
	comp=Z,19nm,1.4s							
G18K	**Tagagawik**	**19.72**	**41**	P	**Pn**		**23 55 31.1**	**-1.4**
PLK4	**Peulik 4**	**19.73**	**66**	P	**P**		**23 55 29.1**	**-2.0**
J18K	**Innoko River**	**19.86**	**49**		**Pn**		**23 55 33.9**	**-0.2**
J18K				IAmb	IAmb		23 55 34.6	
	comp=Z,6.8nm,0.8s							
N18K	**Kilae Creek**	**19.90**	**57**	P	**P**		**23 55 32.3**	**-0.6**
N18K				IAmb	IAmb		23 55 34.8	
	comp=Z,16nm,1.4s							
C18K	**Utukok River**	**20.02**	**33**	P	**P**		**23 55 33.8**	**-0.4**
ACHA	**Angle Creek He**	**20.23**	**64**	P	**P**		**23 55 36.4**	**-0.1**
ACHA				IAmb	IAmb		23 55 56.6	
	comp=Z,18nm,1.5s							
F19K	**Shaleruckik Mo**	**20.39**	**39**	P	**P**		**23 55 37.7**	**-0.3**
F19K				IAmb	IAmb		23 56 02.0	
	comp=Z,12nm,1.4s							
J19K	**Poorman**	**20.44**	**47**	P	Pn		23 55 39.2	-1.7
J19K				IAmb	IAmb		23 55 43.3	
	comp=Z,17nm,1.5s							
H19K	**Roundabout Mou**	**20.47**	**43**	P	Pn		23 55 39.3	-1.8
L19K	**White Mountain**	**20.51**	**53**	P	Pn		23 55 40.4	-1.3
L19K				IAmb	IAmb		23 55 53.9	
	comp=Z,25nm,1.4s							
N19K	**Bonanza Creek**	**20.60**	**57**	P	**P**		**23 55 40.6**	**+0.1**
N19K				IAmb	IAmb		23 56 08.2	
	comp=Z,25nm,1.4s							
M19K	**Big River Lodg**	**20.70**	**54**	P	Pn		23 55 42.2	-1.7
M19K				IAmb	IAmb		23 56 18.1	
	comp=Z,13nm,1.4s							
C19K	**Lookout Ridge**	**20.76**	**32**	P	Pn		23 55 42.8	-1.7
C19K				IAmb	IAmb		23 56 18.6	
	comp=Z,22nm,1.4s							
E19K	**Redstone River**	**20.82**	**37**	Pn	Pn		23 55 45.7	+0.4
D19K	**Kuna River**	**20.95**	**34**	P	Pn		23 55 45.8	-1.0
D19K				IAmb	IAmb		23 56 07.6	
	comp=Z,20nm,1.4s							
K20K	**Telida**	**21.02**	**50**	P	**P**		**23 55 45.2**	**+0.3**
J20K	**Nowinta River**	**21.11**	**47**	P	**P**		**23 55 46.0**	**+0.1**
M20K	**Styx River**	**21.30**	**54**	P	**P**		**23 55 48.0**	**0.0**
M20K				IAmb	IAmb		23 56 04.0	
	comp=Z,14nm,1.2s							
OHAK	**Old Harbor**	**21.42**	**67**	P	**P**		**23 55 48.5**	**-0.8**
IMAR	**Indian Mountai**	**21.67**	**43**	P	**P**		**23 55 52.8**	**+0.9**
KDAK	**Kodiak Island**	**21.72**	**65**	P	**P**		**23 55 51.2**	**-1.3**
KDAK	**Kodiak Island**	**21.72**	**65**	P	**P**		**23 55 50.5**	**-2.0**
	comp=Z,4.8nm,0.5s,baz=82,slow=7.1,SNR=6.3							
	comp=Z,4.8nm,0.5s							
KDAK	**Kodiak Island**	**21.72**	**65**	P	**P**		**23 55 51.2**	**-1.3**
KDAK				pmax	pmax			
	comp=Z,21nm,1.2s							
SYI	**Shuyak Island**	**21.73**	**63**	P	**P**		**23 55 51.6**	**-0.9**
G21K	**Allakaket**	**21.90**	**41**	P	**P**		**23 55 54.5**	**+0.2**
G21K				IAmb	IAmb		23 56 16.1	
	comp=Z,8.1nm,1.2s							
B20K	**Meade River**	**21.94**	**31**	P	**P**		**23 55 54.2**	**-0.6**
H21K	**Melozitna Rive**	**21.97**	**44**	P	**P**		**23 55 56.0**	**+0.9**
F21K	**Alatna River**	**22.11**	**39**	P	**P**		**23 55 56.6**	**0.0**
CNPM	**China Poot**	**22.25**	**60**	P	**P**		**23 55 57.9**	**-0.3**
E21K	**Killik River**	**22.33**	**36**	P	**P**		**23 56 00.0**	**+1.1**
SUA	**Susitna One**	**22.42**	**55**	P	**P**		**23 55 59.2**	**-1.0**
D22K	**Ayikyak River**	**22.92**	**36**	P	**P**		**23 56 05.0**	**-0.3**
D22K				IAmb	IAmb		23 56 30.9	
	comp=Z,15nm,1.4s							
E22K	**Anaktuvuk Pass**	**22.99**	**38**	P	**P**		**23 56 05.5**	**-0.5**
E22K				IAmb	IAmb		23 56 16.1	
	comp=Z,8.2nm,1.4s							
KLR	**Kul'dur**	**23.20**	**273**	LR	LR		00 04 47.1	
	comp=Z,23nm,19.8s,baz=8.5,slow=36							
B22K	**Teshekpuk Lake**	**23.23**	**32**	P	**P**		**23 56 07.4**	**-0.9**
B22K				IAmb	IAmb		23 56 34.3	
	comp=Z,5.6nm,0.9s							
I23K	**Minto, Yukon-K**	**23.30**	**46**	P	**P**		**23 56 08.5**	**-0.5**
I23K				IAmb	IAmb		23 56 20.2	
	comp=Z,6.9nm,1.2s							
H23K	**Yukon River**	**23.32**	**44**	P	**P**		**23 56 09.5**	**+0.2**
SML	**Sawmill**	**23.57**	**54**	P	**P**		**23 56 11.0**	**-0.8**
D23K	**Nanushuk River**	**23.64**	**36**	P	**P**		**23 56 11.9**	**-0.4**
D23K				IAmb	IAmb		23 56 48.0	
	comp=Z,10.0nm,1.5s							
WRH	**Wood River Hil**	**23.77**	**47**	P	**P**		**23 56 13.2**	**-0.4**
WRH				IAmb	IAmb		23 56 17.5	
	comp=Z,10nm,1.5s							
CCB	**Clear Creek Bu**	**23.91**	**47**	P	**P**		**23 56 14.4**	**-0.5**
TOLK	**Toolik Lake Re**	**23.93**	**37**	P	**P**		**23 56 15.5**	**+0.3**
TOLK				IAmb	IAmb		23 56 36.3	
	comp=Z,5.4nm,1.1s							
C23K	**Itkillik River**	**23.94**	**34**	P	**P**		**23 56 15.2**	**0.0**
H24K	**Noodor Dome**	**24.00**	**44**	P	**P**		**23 56 16.2**	**+0.3**
H24K				IAmb	IAmb		23 56 53.0	
	comp=Z,8.0nm,1.4s							
SCM	**Sheep Creek Mo**	**24.05**	**54**	P	**P**		**23 56 16.0**	**-0.4**
SCM	**Sheep Creek Mo**	**24.05**	**54**	P	**P**		**23 56 16.0**	**-0.4**
SCM				pmax	pmax			
	comp=Z,38nm,1.4s							
E24K	**Your Creek**	**24.18**	**39**	P	**P**		**23 56 17.3**	**-0.1**
E24K				IAmb	IAmb		23 56 36.7	
	comp=Z,8.5nm,1.4s							
F24K	**Squaw Lake**	**24.28**	**40**	P	**P**		**23 56 19.0**	**+0.5**
G24K	**Hadweenzic Riv**	**24.29**	**42**	P	**P**		**23 56 18.2**	**-0.3**
G24K				IAmb	IAmb		23 56 30.1	
	comp=Z,7.9nm,1.2s							
IL31		**24.31**	**47**	P	**P**		**23 56 18.2**	**-0.4**
IL31				IAmb	IAmb		23 56 35.1	
	comp=Z,4.4nm,0.9s							
ILAR	**Eielson Array**	**24.31**	**47**	P	**P**		**23 56 16.3**	**-2.4**
ILAR	**Eielson Array**	**24.31**	**47**	P	**P**		**23 56 16.6**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=254,slow=7.2,SNR=5.6							
	comp=Z,0.4nm,0.7s							
TIXI	**Tiksi**	**24.33**	**331**	*⇑i P*	**P**		**23 56 17.3**	**-1.4**
TIXI				pmax	pmax			
	comp=Z,22nm,3.5s							
M24K	**Tolsona, Glenn**	**24.58**	**53**	P	**P**		**23 56 21.4**	**+0.2**
KLU	**Klutina**	**24.73**	**55**	P	**P**		**23 56 22.4**	**-0.2**
D25K	**Kavik River**	**25.22**	**36**	P	**P**		**23 56 26.3**	**-0.6**
D25K				IAmb	IAmb		23 57 01.1	
	comp=Z,5.2nm,1.2s							
BMAR	**Burnt Mountain**	**25.52**	**41**	P	**P**		**23 56 30.1**	**+0.4**
J26L	**Joseph Creek**	**25.73**	**48**	P	**P**		**23 56 31.3**	**-0.3**
GLB	**Gilahina Butte**	**25.75**	**55**	P	**P**		**23 56 31.5**	**-0.3**
K27K	**Chicken**	**26.38**	**49**	P	**P**		**23 56 37.1**	**-0.3**
K27K				IAmb	IAmb		23 56 50.5	
	comp=Z,7.1nm,1.1s							
G29M	**Pine Creek**	**28.04**	**42**	P	**P**		**23 56 52.9**	**+0.6**
G29M				IAmb	IAmb		23 57 28.9	
	comp=Z,5.3nm,1.2s							
M29M	**Somme Creek**	**28.14**	**52**	P	**P**		**23 56 53.7**	**+0.3**
K29M	**Barlow Dome**	**28.40**	**49**	P	**P**		**23 56 56.8**	**+1.2**
K29M				IAmb	IAmb		23 57 10.8	
	comp=Z,7.3nm,1.4s							
N30M	**Aishikik Lake**	**28.94**	**54**	P	**P**		**23 57 00.6**	**+0.2**
N30M				IAmb	IAmb		23 57 22.0	
	comp=Z,5.3nm,1.1s							
G31M	**Satah River**	**29.52**	**42**	P	**P**		**23 57 05.7**	**+0.4**
G31M				IAmb	IAmb		23 57 35.6	
	comp=Z,5.1nm,1.4s							
H11N2	**WAKE ISLAND Hy**	**34.54**	**183**	T	T		00 34 32.9	
	baz=1.8,slow=76							
H11N3	**WAKE ISLAND Hy**	**34.55**	**183**	T	T		00 34 36.0	
	baz=1.8,slow=76							
H11N1	**WAKE ISLAND Hy**	**34.56**	**183**	T	T		00 34 36.4	
	baz=1.8,slow=76							
H11S1	**WAKE ISLAND Hy**	**35.76**	**183**	T	T		00 36 05.9	
	baz=1.9,slow=76							
H11S3	**WAKE ISLAND Hy**	**35.77**	**183**	T	T		00 36 06.7	
	baz=1.9,slow=76							
H11S2	**WAKE ISLAND Hy**	**35.78**	**183**	T	T		00 36 07.2	
	baz=1.9,slow=76							
NRIK	**Noril'sk**	**37.84**	**325**	*⇑i P*	**P**		**23 58 18.7**	**+1.2**
NRIK				pmax	pmax			
	comp=Z,14nm,2.6s							
SONM	**Songino Array**	**38.50**	**287**	P	**P**		**23 58 24.6**	**+1.1**
SONM	**Songino Array**	**38.50**	**287**	P	**P**		**23 58 24.3**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=65,slow=7.9,SNR=4.2							
	comp=Z,1.1nm,0.7s							
SONM	**Songino Array**	**38.50**	**287**	P	**P**		**23 58 24.6**	**+1.1**
SONM				pmax	pmax			
	comp=Z,3.0nm,1.5s							
NEW	**Newport**	**44.82**	**66**	LR	LR		00 18 25.8	
	comp=Z,36nm,18.3s,baz=34,slow=37							
NVAR	**Mina Array Bea**	**50.52**	**77**	P	**P**		**00 00 00.6**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=300,slow=7.2,SNR=1.5							
	comp=Z,0.2nm,0.5s							
KURK	**Kurchatov**	**51.30**	**305**	*‖e P*	**P**		**00 00 05.0**	**-0.1**
KURBB	**Kurchatov Arra**	**51.40**	**305**	P	**P**		**00 00 04.8**	**-1.0**
	comp=Z,0.4nm,0.2s,baz=55,slow=7.8,SNR=6.0							
	comp=Z,0.4nm,0.2s							
MKAR	**Makanchi Array**	**52.10**	**300**	P	**P**		**00 00 09.9**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=42,slow=6.4,SNR=1.8							
	comp=Z,0.5nm,0.7s							
MKAR	**Makanchi Array**	**52.10**	**300**	*i P*	**P**		**00 00 14.6**	**+3.4**
PDAR	**Pinedale Array**	**52.42**	**67**	P	**P**		**00 00 13.7**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=311,slow=3.5,SNR=2.7							
	comp=Z,0.5nm,0.9s							
BVAR	**Borovoye Array**	**53.50**	**312**	P	**P**		**00 00 20.7**	**-0.7**

IDC ***19*** *23:51:00.1±0.8, 54°.54N×168°.73E, h0km, mb3.6/14, mbtmp3.7/16, ML3.9/2, MS2.9/3, Error ellipse: s-maj=26.3km s-min=15.4km az=2.0*
MOS ***19*** *23:51:00.0±0.8, 54°.30N×168°.75E, h13km, mb4.1/5, Error ellipse: s-maj=10.4km s-min=6.2km az=4.5*
NEIC ***19*** *23:51:02.0±1.5, 54°.3N±0°.1×168°.7E±0°.1, h10km±2km, mb4.2/74, Error ellipse: s-maj=19.5km s-min=11.2km az=183.0*
KRSC ***19*** *23:51:02.8±2.1, 54°.24N×168°.13E, h16km±48km, Ml4.3*
ISC 19 23:51:03.4±0.5, 54°.31N±0°.06×168°.65E±0°.05, h24km, n189,

comp=Z,2.1nm,0.7s,baz=60,slow=8.8,SNR=12
comp=Z,2.1nm,0.7s
FINES FINESS Array B 60.86 340 P P 00 01 12.3 -0.9
comp=Z,2.1nm,0.9s,baz=24,slow=4.9,SNR=1.9
comp=Z,2.1nm,0.9s
NOA NORSAR Array B 63.61 348 P P 00 01 30.8 -0.9
comp=Z,0.3nm,0.5s,baz=16,slow=6.7,SNR=3.4
comp=Z,0.3nm,0.5s
NOA NORSAR Array B 63.61 348 eP P 00 01 32.9 +1.2
OBN Obninsk 64.05 332 eP P 00 01 35.2 +0.6
OBN e 00 02 09.9
OBN e 00 03 55.6
OBN pmax pmax
comp=Z,2.0nm,1.0s
TXAR Lajitas Array 65.44 74 P P 00 01 44.1 -0.2
comp=Z,0.3nm,0.5s,baz=303,slow=5.4,SNR=6.3
comp=Z,0.3nm,0.5s
TXAR Lajitas Array 65.44 74 eP P 00 01 45.2 +1.0
TXAR pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 69.98 334 P P 00 02 11.7 -0.7
comp=Z,0.1nm,0.3s,baz=29,slow=6.3,SNR=2.0
comp=Z,0.1nm,0.3s
WRA Warramunga Arr 79.59 213 P P 00 03 09.6 +1.4
comp=Z,0.3nm,0.7s,baz=24,slow=6.0,SNR=2.0
comp=Z,0.3nm,0.7s
ASAR Alice Springs 83.22 212 P P 00 03 29.5 +2.0
comp=Z,0.1nm,0.4s,baz=19,slow=6.0,SNR=1.5
comp=Z,0.1nm,0.4s

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*NEIC **19** 23:51:16.8±2.6, 32°.115N±0°.008×115°.24W±0°.02, h10km±2km, Error ellipse: s-maj=3.1km s-min=2.5km az=72.0*
*ECX **19** 23:51:17.2±0.5, 32°.19N×115°.27W, h12km±1km, MD3.3, ML3.5*
*PAS **19** 23:51:18.8±2.0, 32°.22N±0°.02×115°.23W±0°.02, h20km±4km, ML3.3/127, ML3.3/26(NEIC), Error ellipse: s-maj=3.2km s-min=2.7km az=128.0*
*MEX **19** 23:51:19.4±0.5, 32°.23N×115°.19W, h20km±999km, MD4.2*
ISC 19 23:51:18.3±0.9, 32°.19N±0°.02×115°.27W±0°.02, h18km±2km, n71, σ0§87/101, 9C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHX	**Rio Hardy**	**0.06**	**195**	⇑*i*P	**Pg**	**23 51 21.1**	**-0.5**
RHX				*e*S	**Sg**	**23 51 22.8**	**-1.1**
RHX				IAML		23 51 22.9	
	comp=N,11μm,0.2s						
RHX				⇓*e*		23 51 22.9	
RHX				IAML		23 51 23.0	
	comp=E,24μm,0.2s						
RHX				*e*		23 51 23.0	
AGSX	**Ej. Aguas Cali**	**0.12**	**50**	⇑*i*P	**Pg**	**23 51 21.7**	**-0.4**
MBIG	**Mexicali**	**0.23**	**15**	*e*P	**Pg**	**23 51 24.2**	**+0.5**
MBIG				*e*S	**Sg**	**23 51 29.1**	**+1.9**
MBIG	**Mexicali**	**0.23**	**15**	⇑*e*P	**Pg**	**23 51 24.1**	**+0.5**
MBIG				*e*S	**Sg**	**23 51 29.0**	**+1.8**
CPBX	**Cerro Prieto**	**0.23**	**352**		**Pb**	**23 51 23.8**	**0.0**
CPBX				Sg	**Sg**	**23 51 27.9**	**+0.5**
CPBX	**Cerro Prieto**	**0.23**	**352**	*e*P	**Pb**	**23 51 23.6**	**-0.2**
CPBX				IAML		23 51 31.4	
	comp=E,28μm,0.4s						
CPBX				⇑*e*		23 51 31.4	
CPBX				IAML		23 51 33.2	
	comp=N,20μm,0.2s						
CPBX				⇓*e*		23 51 33.2	
RITX	**Riito Sonora**	**0.26**	**95**	*e*P	**Pg**	**23 51 24.7**	**+0.5**
RITX				*i*S	**Sg**	**23 51 29.5**	**+1.3**
CTLX	**Tlaxcala, TLX**	**0.30**	**20**	⇑*i*P	**Pg**	**23 51 25.0**	**+0.2**
CTLX				*i*S	**Sg**	**23 51 30.7**	**+1.3**
CTLX				IAML		23 51 30.9	
	comp=N,7μm,0.2s						
CTLX				*e*		23 51 30.9	
CTLX				IAML		23 51 31.2	
	comp=E,12μm,0.3s						
CTLX				⇓*e*		23 51 31.2	
PESCX	**Ej. Pescaderos**	**0.35**	**46**		**Pb**	**23 51 25.9**	**-0.2**
PESCX					**Sb**	**23 51 31.9**	**+0.5**
PESCX	**Ej. Pescaderos**	**0.35**	**46**	⇑*i*P	**Pb**	**23 51 25.9**	**-0.2**
PESCX				*i*S	**Sb**	**23 51 31.9**	**+0.5**
ALAMX	**Rancho Alamar**	**0.42**	**244**	⇑*i*P	**Pg**	**23 51 27.4**	**+0.5**
ALAMX				*e*S	**Sb**	**23 51 34.7**	**+1.6**
JARAX	**Ej. Heriberto**	**0.44**	**323**	⇓*e*P	**Pg**	**23 51 27.2**	**0.0**
YUCAX	**Ej. Yucatjn**	**0.44**	**19**	*e*P	**Pg**	**23 51 27.1**	**-0.1**
YUCAX				*e*S	**Sn**	**23 51 35.1**	**-2.1**
UABX	**UABC, Campus M**	**0.47**	**342**		**Pb**	**23 51 28.2**	**+0.3**
UABX					**Sb**	**23 51 36.1**	**+1.6**
UABX	**UABC, Campus M**	**0.47**	**342**	*e*P	**Pg**	**23 51 28.0**	**+0.2**
UABX				*e*S	**Sb**	**23 51 35.9**	**+1.4**
EDOMX	**El Doctor, EDO**	**0.50**	**117**	*e*P	**Pg**	**23 51 28.7**	**+0.4**
EDOMX				*e*S	**Sn**	**23 51 37.1**	**-1.5**
ICBC	**Inst. de Cultu**	**0.50**	**340**	*e*P	**Pb**	**23 51 28.6**	**0.0**
5054	**Holtville Bond**	**0.51**	**353**		**Pg**	**23 51 28.8**	**+0.3**
5054					**Sn**	**23 51 37.1**	**-1.8**
5053	**Calexico**	**0.52**	**338**		**Pb**	**23 51 28.9**	**+0.1**
5053					**Sn**	**23 51 37.5**	**-1.5**
SLRCX	**San Luis Rio C**	**0.55**	**60**	⇑*e*P	**Pg**	**23 51 29.1**	**-0.1**
CEA0	**Mexicali**	**0.57**	**324**	*e*P	**Pb**	**23 51 29.5**	**-0.3**
CEA0				*e*S	**Sg**	**23 51 38.4**	**+0.9**
EMSC	**East Mesa**	**0.60**	**23**		**Pb**	**23 51 29.9**	**-0.3**
EMSC					**Sg**	**23 51 38.8**	**+0.6**
EMSC	**East Mesa**	**0.60**	**23**	*e*P	**Pb**	**23 51 29.9**	**-0.3**
ESJX	**Sierra Juarez**	**0.61**	**253**	Pg	**Pb**	**23 51 30.7**	**+0.3**
ESJX				Sg	**Sb**	**23 51 38.8**	**+0.2**
ESJX				IAML		23 51 40.3	
	comp=N,2μm,0.3s						
ESJX				IAML		23 51 40.4	
	comp=E,3μm,0.3s						
DREC	**Desert Rsrch C**	**0.63**	**346**		**Pb**	**23 51 30.4**	**-0.4**
DREC					**Sn**	**23 51 40.9**	**-1.0**
DREC	**Desert Rsrch C**	**0.63**	**346**	*e*P	**Pb**	**23 51 30.4**	**-0.4**
COA	**Coachella**	**0.68**	**10**		**Pb**	**23 51 31.1**	**-0.5**
COA	**Coachella**	**0.68**	**10**	*e*P	**Pb**	**23 51 31.1**	**-0.5**
SNR	**Schaffner Ranc**	**0.69**	**348**		**Pb**	**23 51 31.9**	**+0.2**
SNR					**Sn**	**23 51 42.6**	**-0.6**
WESC	**Westside Schoo**	**0.69**	**325**		**Pb**	**23 51 31.9**	**+0.1**
WESC					**Sg**	**23 51 42.4**	**+1.3**
WESC	**Westside Schoo**	**0.69**	**325**	*e*P	**Pb**	**23 51 31.6**	**-0.2**
YUH2	**Yuha Desert**	**0.72**	**310**	*e*P	**Pb**	**23 51 31.7**	**-0.5**
YUH	**Yuha Desert**	**0.72**	**310**		**Pb**	**23 51 32.0**	**-0.3**
YUH	**Yuha Desert**	**0.72**	**310**	Pg	**Pb**	**23 51 31.6**	**-0.6**
YUH	**Yuha Desert**	**0.72**	**310**	Sg	**Sb**	**23 51 41.3**	**-0.5**
YUH				IAML		23 51 42.3	
	comp=N,679nm,0.2s						
SJX	**San Joaquin**	**0.73**	**234**	⇑*i*P	**Pb**	**23 51 30.8**	**-1.6**
ECBX	**El Chinero**	**0.74**	**166**	*e*P	**Pb**	**23 51 32.0**	**-0.6**
ECBX				*e*S	**Sb**	**23 51 43.1**	**+0.8**
IMPE	**Imperial**	**0.75**	**341**		**Pb**	**23 51 32.5**	**-0.3**
IMPE					**Sn**	**23 51 44.6**	**-0.3**
COK2	**Cook Ranch 2**	**0.77**	**330**		**Pb**	**23 51 32.9**	**-0.2**
COK2					**Sn**	**23 51 44.9**	**-0.4**
COK2	**Cook Ranch 2**	**0.77**	**330**	*e*P	**Pb**	**23 51 32.9**	**-0.2**
RMX	**La Rumorosa**	**0.80**	**301**		**Pb**	**23 51 32.5**	**-1.3**
RMX					Pn	23 51 42.4	+7.6
RMX	**La Rumorosa**	**0.80**	**301**	⇓*i*P	**Pb**	**23 51 32.5**	**-1.3**
IKP	**In-Ko-Pah, Jac**	**0.85**	**303**		**Pb**	**23 51 34.0**	**-0.5**
IKP					Pn	23 51 45.6	+10
IKP	**In-Ko-Pah, Jac**	**0.85**	**303**	*e*P	**Pb**	**23 51 34.0**	**-0.5**
SWSC	**Sam W. Stewart**	**0.88**	**329**		**Pb**	**23 51 34.4**	**-0.6**
SWSC	**Sam W. Stewart**	**0.88**	**329**	*e*P	**Pb**	**23 51 34.0**	**-0.9**
SUP	**Superstition M**	**0.90**	**329**		**Pb**	**23 51 34.6**	**-0.7**
SUP					**Sg**	**23 51 47.9**	**+0.3**
VTX	**Valle De La Tr**	**0.91**	**209**	Pg	**Pb**	**23 51 35.8**	**+0.2**
VTX				Sg	**Sb**	**23 51 47.9**	**+0.6**
VTX				IAML		23 51 49.0	
	comp=N,747nm,0.1s						
VTX				IAML		23 51 49.1	
	comp=E,1μm,0.3s						
CRR	**Carrizo Plain**	**0.91**	**320**		**Pb**	**23 51 35.4**	**-0.2**
CRR					**Sb**	**23 51 48.0**	**+0.6**
GLA	**Glamis**	**0.94**	**23**		**Pb**	**23 51 34.6**	**-1.5**
GLA					**Sb**	**23 51 46.5**	**-1.6**
GLA	**Glamis**	**0.94**	**23**	IAML		23 51 48.3	
	comp=E,681nm,0.6s						
GLA				IAML		23 51 59.4	
	comp=N,657nm,0.5s						
SLVP	**Salvation Pass**	**1.05**	**358**		**Pb**	**23 51 36.1**	**-1.8**
SLVP					**Sb**	**23 51 49.1**	**-2.1**
SPIG	**San Pedro Mart**	**1.15**	**189**	*e*P	**Pn**	**23 51 39.2**	**-0.6**
SPIG				*e*S	**Sb**	**23 51 55.5**	**+0.9**
CBX	**Cerro Bola**	**1.19**	**276**	Pn	**Pn**	**23 51 40.4**	**+0.3**
CBX				IAML		23 51 58.8	
	comp=E,1μm,0.6s						
TKX	**Tecate**	**1.20**	**289**	Pn	**Pn**	**23 51 40.3**	**+0.2**
TKX				IAML		23 51 57.8	
	comp=E,1μm,0.2s						
SFX	**San Felipe**	**1.20**	**163**	Pn	**Pn**	**23 51 40.5**	**+0.3**
SFX				IAML		23 51 58.2	
	comp=N,348nm,0.5s						
SFX				IAML		23 52 03.5	
	comp=E,361nm,0.5s						
TJIG	**Tijuana**	**1.22**	**282**	*e*P	**Pn**	**23 51 39.6**	**-0.8**
TJIG				*e*S	**Sb**	**23 51 55.7**	**-0.4**
TJX	**Tijuana**	**1.55**	**282**	Pn	**Pn**	**23 51 45.4**	**+0.5**
PIX	**Pinacate**	**1.66**	**112**	Pn	**Pn**	**23 51 47.2**	**+0.7**
BLYC	**Blythe**	**1.68**	**22**	Pn	**Pn**	**23 51 47.2**	**+0.5**
BLYC				IAML		23 52 19.2	
	comp=E,191nm,0.7s						
PFO	**Pinyon Flats O**	**1.74**	**325**	Pn	**Pn**	**23 51 46.2**	**-1.5**
PLM	**Palomar**	**1.78**	**311**		**Pb**	**23 51 51.2**	**+0.8**
BACC	**Bachelor Mtn.**	**2.06**	**314**		**Pb**	**23 51 56.5**	**+1.4**
Y14A	**Wickenburg**	**2.58**	**47**	Pn	**Pn**	**23 51 59.1**	**-0.1**
W13A	**Hualapai Mount**	**3.12**	**21**	Pn	**Pn**	**23 52 06.7**	**-0.1**
V12A	**Nelson**	**3.54**	**5**	Pn	**Pn**	**23 52 12.9**	**+0.4**
X16A	**Lo Mia Camp, P**	**3.90**	**54**	Pn	**Pn**	**23 52 17.7**	**+0.3**
WUAZ	**Wupatki**	**4.64**	**43**	Pn	**Pn**	**23 52 28.8**	**+1.2**
WUAZ				IAML		23 53 04.0	
	comp=E,16nm,1.2s						
WUAZ				IAML		23 54 04.8	
	comp=E,20nm,1.5s						
U15A	**North Rim**	**4.89**	**29**	Pn	**Pn**	**23 52 32.3**	**+1.1**
X18A	**Snowflake**	**5.02**	**61**	Pn	**Pn**	**23 52 33.3**	**+0.4**
121A	**Cookes Peak, D**	**6.34**	**85**	Pn	**Pn**	**23 52 50.9**	**-0.1**

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*CATAC **20** 00:02:12.4±0.6, 13°.47N×91°.18W, h2km, ML3.8*
*SNET **20** 00:02:15.2±0.6, 13°.48N×91°.01W, h5km±8km, ML3.4*
*GCG **20** 00:02:24.5±1.1, 14°.55N×91°.13W, h65km±41km, MD3.5*
ISC 20 00:02:13.7±3.1, 13°.5N±0°.1×91°.2W±0°.1, h7km±13km, n28, σ1§16/26, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.92**	**335**	*e*P	Pn	00 02 37.0	+3.9
ESSG	**Sabana Grande**	**0.96**	**19**	*i*P	Pg	00 02 31.4	-0.8
ESSG				*i*S	**Sg**	**00 02 43.7**	**-1.1**
ESSG				IAML		00 02 49.0	
	comp=Z,870nm,1.0s						
FUG	**Fuego 3**	**1.02**	**17**	*e*P	**Pg**	**00 02 35.8**	**+2.5**
PCG	**Pacaya**	**1.06**	**30**	*e*P	**Pg**	**00 02 34.6**	**+0.4**
STG3	**Santiaguito 3,**	**1.30**	**342**	*e*P	Pg	00 02 36.5	-2.2
NBG	**Las Nubes**	**1.36**	**35**	*e*P	Pn	00 02 40.9	+1.5
SOKI	**Kika Raxquin**	**1.36**	**350**	*i*P	Pn	00 02 37.2	-2.4
SOKI				IAML		00 02 52.5	
	comp=Z,750nm,1.0s						
SOKI				*i*S	**Sg**	**00 02 54.6**	**-3.1**
NUBE	**Las Nubes**	**1.41**	**72**	*e*P	Pn	00 02 38.2	-1.8
NUBE	**Las Nubes**	**1.41**	**72**	*i*P	Pn	00 02 38.4	-1.5
NUBE				*i*S	**Sn**	**00 02 57.0**	**-1.8**
NUBE				IAML		00 03 03.5	
	comp=Z,570nm,1.0s						
CEVE	**Cerro Verde**	**1.53**	**76**	*e*P	**Pn**	**00 02 41.3**	**-0.5**
CEVE	**Cerro Verde**	**1.53**	**76**	*i*P	Pn	00 02 40.8	-1.0
CEVE				IAML		00 03 11.5	
	comp=Z,2μm,1.0s						
JAYA	**Jayaque - finc**	**1.67**	**83**	*e*P	Pn	00 02 42.2	-1.4
JAYA				IAML		00 03 08.2	
	comp=Z,1μm,0.3s						
JAYA	**Jayaque - finc**	**1.67**	**83**	*i*P	Pn	00 02 42.3	-1.3
JAYA				*i*S	**Sn**	**00 03 04.3**	**-1.1**
JAYA				IAML		00 03 10.2	
	comp=Z,2μm,1.0s						
PMON	**Piamonte**	**1.81**	**82**	*i*P	Pn	00 02 44.4	-1.0
PMON				*i*S	**Sn**	**00 03 08.9**	**+0.2**
PMON				IAML		00 03 17.3	
	comp=Z,1μm,1.0s						
QUIS	**Sacapulas**	**1.81**	**2**	*i*P	**Pn**	**00 02 45.7**	**+0.2**
QUIS				IAML		00 02 45.9	
	comp=Z,1μm,1.0s						
QUIS				*i*S	**Sn**	**00 03 08.9**	**0.0**
LOMA	**Loma Larga**	**1.94**	**85**	*e*P	**Pn**	**00 02 47.0**	**-0.2**
LOMA				*e*S	**Sn**	**00 03 11.7**	**-0.3**
LOMA				IAML		00 03 18.1	
	comp=Z,570nm,0.4s						
LOMA	**Loma Larga**	**1.94**	**85**	*i*P	Pn	00 02 45.3	-2.0
LOMA				*i*S	**Sn**	**00 03 12.2**	**+0.2**
LOMA				IAML		00 03 17.2	
	comp=Z,700nm,1.0s						
MTO3	**Montecristo**	**1.97**	**62**	*i*P	**Pn**	**00 02 47.4**	**-0.4**
MTO3				IAML		00 03 16.8	
	comp=Z,63nm,0.3s						
MTO3	**Montecristo**	**1.97**	**62**	*i*P	**Pn**	**00 02 47.4**	**-0.4**
MTO3				IAML		00 02 49.5	
	comp=Z,270nm,1.0s						
MTO3				*i*S	**Sn**	**00 03 14.5**	**+1.5**
LFRS	**El Faro**	**2.04**	**85**	*e*P	**Pn**	**00 02 48.6**	**-0.1**
LFRS				IAML		00 03 23.2	
	comp=Z,845nm,0.6s						
ESQI	**Esquipulas**	**2.07**	**58**	*e*P	**Pn**	**00 02 49.1**	**+0.1**
ESQI				IAML		00 03 20.0	
	comp=Z,173nm,0.5s						
ESQI	**Esquipulas**	**2.07**	**58**	*i*P	**Pn**	**00 02 48.8**	**-0.2**
ESQI				*i*S	**Sn**	**00 03 16.4**	**+1.2**
ESQI				IAML		00 03 19.5	
	comp=Z,510nm,1.0s						
MRL	**Marmol**	**2.15**	**42**	*e*P	Pn	00 02 51.3	+1.1
COEG	**Centro de Oper**	**2.22**	**86**	*e*P	**Pn**	**00 02 50.8**	**-0.3**
LCND	**La Caada**	**3.18**	**92**	*e*P	**Pn**	**00 03 03.6**	**-0.6**
LCND				IAML		00 03 48.7	
	comp=Z,131nm,0.6s						
LCND	**La Caada**	**3.18**	**92**	*i*P	**Pn**	**00 03 03.7**	**-0.6**
LCND				IAML		00 03 48.5	
	comp=Z,140nm,1.0s						
CNCH	**Conchagua**	**3.24**	**93**	*e*P	**Pn**	**00 03 04.8**	**-0.4**
CNCH	**Conchagua**	**3.24**	**93**	*i*P	**Pn**	**00 03 04.7**	**-0.4**
CNCH				*i*S	**Sn**	**00 03 45.6**	**+1.5**
CNCH				IAML		00 03 59.7	
	comp=Z,370nm,1.0s						

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*THE **20** 00:11:57.5, 37°.31N×20°.65E, h0km±1km, ML4.0/9, Error ellipse: s-maj=1.9km s-min=0.6km az=226.0*
*ATH **20** 00:11:57.2, 37°.29N×20°.64E, h13km±1km, ML3.9/19, Error ellipse: s-maj=2.8km s-min=1.1km az=48.0*
*MCSM **20** 00:11:58.0±0.5, 37°N±5°×2°1E±°, h10km, mB4.7, mb4.3, MLv4.1, Mw(mB)3.9*
*NEIC **20** 00:11:58.6±1.7, 37°.36N±0°.03×20°.73E±0°.06, h10km±1km, mb4.4/10, Error ellipse: s-maj=8.6km s-min=4.2km az=244.0*
*IDC **20** 00:11:58.7±1.1, 37°.89N×20°.91E, h0km, mb3.8/11, mbtmp3.7/24, ML3.4/10, MS3.3/9, Error ellipse: s-maj=21.3km s-min=13.2km az=22.0*
*BEO **20** 00:11:59.3±0.8, 37°.48N×20°.51E, h0km, ML3.8/12*
*NAO **20** 00:12:17.8, 39°.14N×19°.19E, h10km, mb3.6*
ISC 20 00:11:59.2±1.0, 37°.39N±0°.03×20°.69E±0°.03, h18km±6km, n235, σ1§43/271, mb3.9/17, MS3.2/7, 12C-15D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.29**	**20**	P	**Pg**	**00 12 05.1**	**-0.6**
KRI1				S	**Sg**	**00 12 10.3**	**+0.1**
	60μm,0.5s						
LTHK	**Lithakia**	**0.34**	**20**	P	**Pg**	**00 12 05.6**	**-1.0**
LTHK				S	**Sg**	**00 12 11.8**	**+0.3**
LTHK	**Lithakia**	**0.34**	**20**	P	**Pg**	**00 12 05.8**	**-0.8**
LTHK				S	**Sg**	**00 12 11.6**	**+0.1**
LTHK				AML	AML	00 12 12.1	
	comp=N,71804μm,0.4s						
LTHK				AML	AML	00 12 18.6	
	comp=E,65102μm,0.6s						
RTZL	**Ratzakli, Kefa**	**0.69**	**5**	P	**Pb**	**00 12 11.9**	**-0.8**
RTZL				S	**Sn**	**00 12 23.5**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.73**	**354**	P	**Pb**	**00 12 12.6**	**-0.8**
PSDA				S	**Sn**	**00 12 24.8**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.73**	**354**	P	**Pb**	**00 12 12.8**	**-0.6**
PSDA				S	**Sn**	**00 12 24.8**	**-0.5**
AMT	**Artemida-Makis**	**0.82**	**80**	P	**Pb**	**00 12 14.0**	**-1.1**
AMT				S	**Sg**	**00 12 26.6**	**+0.2**
AMT				AML	AML	00 12 32.0	
	comp=E,69730μm,0.6s						
AMT				AML	AML	00 12 35.1	
	comp=N,49571μm,0.7s						
LXR1	**Lixouri, Cepha**	**0.84**	**346**	P	**Pb**	**00 12 15.1**	**-0.1**
SMHA	**Samh**	**0.86**	**358**	P	**Pb**	**00 12 14.3**	**-1.3**
SMHA				S	**Sn**	**00 12 28.3**	**-0.2**
DMLN	**Damoulianata-K**	**0.89**	**344**	P	**Pb**	**00 12 15.9**	**-0.2**
DMLN				S	**Sn**	**00 12 30.2**	**+1.0**
DMLN	**Damoulianata-K**	**0.89**	**344**	P	**Pb**	**00 12 15.8**	**-0.2**
DMLN				S	**Sn**	**00 12 29.0**	**-0.2**
RLS	**Riolos of Patr**	**0.91**	**42**	P	**Pb**	**00 12 15.5**	**-1.0**
RLS				S	**Sn**	**00 12 30.4**	**+0.7**
	comp=N,4μm,0.5s						
RLS	**Riolos of Patr**	**0.91**	**42**	P	**Pb**	**00 12 15.5**	**-1.0**
RLS				S	**Sn**	**00 12 29.6**	**-0.1**
RLS				AML	AML	00 12 30.9	
	comp=N,7504μm,0.6s						
RLS				AML	AML	00 12 35.4	
	comp=E,7754μm,0.4s						
PYL	**PYLOS**	**0.97**	**120**	P	**Pb**	**00 12 15.8**	**-1.8**
PYL				S	**Sg**	**00 12 30.4**	**-0.6**
PYL	**PYLOS**	**0.97**	**120**	P	**Pb**	**00 12 15.6**	**-1.9**
DRO	**Drossia**	**0.99**	**55**	P	**Pb**	**00 12 16.9**	**-1.0**
DRO				S	**Sn**	**00 12 32.6**	**+0.9**
	comp=E,10μm,0.4s						
DRO	**Drossia**	**0.99**	**55**	P	**Pb**	**00 12 16.8**	**-1.0**
DRO				AML	AML	00 12 35.7	
	comp=N,15814μm,0.4s						
DRO				AML	AML	00 12 36.8	
	comp=E,24261μm,0.5s						
ITM	**Ithomi**	**1.01**	**101**		**Pb**	**00 12 16.7**	**-1.5**
ITM	**Ithomi**	**1.01**	**101**	P	**Pb**	**00 12 16.7**	**-1.5**
ITM				S	**Sn**	**00 12 32.1**	**-0.1**
	comp=E,6μm,0.6s						
ITM	**Ithomi**	**1.01**	**101**	P	**Pb**	**00 12 16.6**	**-1.6**
ITM				AML	AML	00 12 36.9	
	comp=E,9872μm,0.7s						
ITM				AML	AML	00 12 37.5	
	comp=N,12565μm,0.4s						
VSK1	**VASILIKIADES**	**1.02**	**355**	P	**Pb**	**00 12 17.8**	**-0.7**
VSK1				S	**Sg**	**00 12 33.4**	**+0.7**
	comp=N,11μm,0.5s						
FSK	**Fiskardo**	**1.08**	**355**	P	**Pb**	**00 12 18.7**	**-0.6**
FSK				S	**Sg**	**00 12 34.9**	**+0.7**
	comp=N,7μm,0.7s						
FSK	**Fiskardo**	**1.08**	**355**	P	**Pb**	**00 12 18.2**	**-1.1**
FSK				AML	AML	00 12 39.1	
	comp=N,14221μm,0.7s						
FSK				AML	AML	00 12 39.5	
	comp=E,13118μm,0.6s						
AST1	**Astakos**	**1.20**	**15**	P	**Pn**	**00 12 20.7**	**-0.3**
EVGI	**Lefkada island**	**1.23**	**359**	P	**Pn**	**00 12 21.4**	**-0.1**
EVGI	**Lefkada island**	**1.23**	**359**	P	**Pn**	**00 12 21.0**	**-0.5**
UPR	**University Cam**	**1.25**	**44**	P	**Pb**	**00 12 22.5**	**+0.3**
UPR				S	**Sg**	**00 12 42.0**	**+2.3**
UPR	**University Cam**	**1.25**	**44**	P	**Pn**	**00 12 22.0**	**+0.2**
DRAG	**Dragano-Lefkad**	**1.30**	**356**	P	**Pn**	**00 12 22.7**	**+0.2**
DRAG	**Dragano-Lefkad**	**1.30**	**356**	P	**Pn**	**00 12 22.0**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.32**	**0**	P	**Pn**	**00 12 22.9**	**+0.1**
NYDR				S	**Sg**	**00 12 43.6**	**+1.4**
	comp=E,3μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.32**	**0**	P	**Pn**	**00 12 22.6**	**-0.2**
KLV	**Kalavryta, Ach**	**1.33**	**60**	P	**Pn**	**00 12 22.7**	**-0.3**
KLV				S	**Sg**	**00 12 43.6**	**+1.2**
	comp=E,1μm,0.5s						
KLV	**Kalavryta, Ach**	**1.33**	**60**	P	**Pn**	**00 12 22.3**	**-0.7**
KLV				AML	AML	00 12 54.8	
	comp=N,3393μm,0.5s						
KLV				AML	AML	00 12 57.0	
	comp=E,2584μm,0.8s						
LKD2	**Lefkada island**	**1.40**	**359**	P	**Pb**	**00 12 24.9**	**0.0**
LKD2				S	**Sg**	**00 12 46.8**	**+2.2**
	comp=E,6μm,0.7s						
LKD2	**Lefkada island**	**1.40**	**359**	P	**Pb**	**00 12 25.5**	**+0.6**
LKD2				AML	AML	00 12 49.2	
	comp=E,14319μm,0.8s						
LKD2				AML	AML	00 12 50.2	
	comp=N,11190μm,0.7s						
EFP	**Efpalio**	**1.42**	**42**	P	**Pn**	**00 12 24.2**	**+0.1**
EFP	**Efpalio**	**1.42**	**42**	P	**Pn**	**00 12 24.1**	**+0.1**
EFP				AML	AML	00 12 50.5	
	comp=E,3692μm,0.9s						
EFP				AML	AML	00 12 51.2	
	comp=N,4751μm,0.5s						
GUR	**Goura**	**1.42**	**67**	P	**Pn**	**00 12 24.1**	**-0.2**
GUR	**Goura**	**1.42**	**67**	P	**Pn**	**00 12 24.0**	**-0.2**
GUR				AML	AML	00 12 55.6	
	comp=N,7719μm,0.5s						
GUR				AML	AML	00 12 59.3	
	comp=E,5193μm,0.4s						
TSLK	**Tsoukalades, L**	**1.44**	**359**	P	**Pn**	**00 12 24.8**	**+0.5**
TSLK				S	**Sg**	**00 12 46.7**	**+1.0**
TSLK	**Tsoukalades, L**	**1.44**	**359**	P	**Pb**	**00 12 25.1**	**-0.3**
KALE	**Kalithea**	**1.52**	**48**	P	**Pn**	**00 12 26.2**	**+0.6**
KALE	**Kalithea**	**1.52**	**48**	P	**Pn**	**00 12 26.0**	**+0.4**
KALE				AML	AML	00 12 55.8	
	comp=N,4502μm,0.4s						
KALE				AML	AML	00 12 57.2	
	comp=E,4566μm,0.6s						
ANX	**Ano Chora**	**1.55**	**39**	P	**Pb**	**00 12 26.8**	**-0.6**
ANX	**Ano Chora**	**1.55**	**39**	P	**Pb**	**00 12 26.8**	**-0.6**
ANX				AML	AML	00 12 54.6	
	comp=E,10935μm,0.7s						
ANX				AML	AML	00 12 55.9	
	comp=N,12181μm,0.6s						
EVR	**Evrytania**	**1.77**	**30**	P	**Pb**	**00 12 31.0**	**-0.1**
EVR				AML	AML	00 13 01.0	
	comp=E,4394μm,0.5s						
EVR				AML	AML	00 13 03.4	
	comp=N,4282μm,0.6s						

VAY	Valandovo	4.19	20	*i* Pn		Pn	00 13 04.4	+2.2
SRS	Serrai	4.35	30	*e*Pn		Pn	00 13 05.5	+1.0
MATE	Matera	4.50	318	⇓P		Pn	00 13 07.3	+0.9
MATE				⇑S		Sn	00 13 56.2	-2.0
PUK	Puka	4.69	353	Pn		Pn	00 13 09.4	+0.3
MMB	Musomishta	4.78	29	P		Pn	00 13 11.7	+1.3
KKB	Krupnik	4.83	22	P		Pn	00 13 13.0	+2.0
VAE	Valguarnera	5.00	273	Pn		Pn	00 13 16.9	+3.6
	comp=N,12nm,0.6s,baz=279,slow=21,SNR=2.9							
VAE				Sn		Sn	00 14 11.1	+0.4
	comp=N,2.9nm,0.3s,baz=163,slow=8.0,SNR=2.0							
RAFF	Raffo Rosso	5.05	270	Pn		Pn	00 13 14.2	+0.2
PDG	Podgorica	5.16	348	Pn		Pn	00 13 15.2	-0.2
PDG	Podgorica	5.16	348	*e*Pn		Pn	00 13 14.5	-0.9
PDG	Podgorica	5.16	348	⇓P		Pn	00 13 15.2	-0.2
PDG				⇑S		Sn	00 14 13.1	-1.3
BOSS	Bosilegrad	5.29	15	*e*Pn		Pn	00 13 18.0	+0.7
RDO	Rodhopi	5.32	44	Pn		Pn	00 13 17.8	+0.1
ALN	Alexandroupoli	5.44	48	Pn		Pn	00 13 20.2	+0.8
BARS	Barje	5.49	9	*e*Pn		Pn	00 13 20.6	+0.5
KARP	Karpathos	5.53	107	Pn		Pn	00 13 21.3	+0.6
KDZ	Kurdzhali	5.56	39	P		Pn	00 13 23.6	+2.6
VTS	Vitosha	5.58	20	P		Pn	00 13 23.2	+1.8
VTS	Vitosha	5.58	20	*e*Pn		Pn	00 13 22.7	+1.3
TREB	Trebinje	5.62	342	*e*Pn		Pn	00 13 20.0	-1.8
TRAN	Tran	5.65	15	P		Pn	00 13 23.8	+1.6
PLD	Plovdiv	5.69	32	*e*Pn		Pn	00 13 24.7	+1.9
BRY	Bratogost	5.75	344	*e*Pn		Pn	00 13 09.2	-15
PGB	Panagyurishte	5.78	27	P		Pn	00 13 08.0	-16
SELS	Selova	5.84	3	*e*Pn		Pn	00 13 24.8	0.0
SELS				*e*Sn		Sn	00 14 29.3	-1.9
SJES	Sjenica	5.89	355	*e*Pn		Pn	00 13 26.6	+0.9
SJES				*e*Sn		Sn	00 14 32.2	-0.6
SJES	Sjenica	5.89	355	*e*Pn		Pn	00 13 26.3	+0.6
STON	Ston	5.94	338	*e*Pn		Pn	00 13 24.9	-1.3
ZAPS	Zavoj	6.07	14	*e*Pn		Pn	00 13 29.0	+1.0
IVAS	Ivanjica	6.20	356	*e*Pn		Pn	00 13 29.4	-0.4
IVAS				*e*Sn		Sn	00 14 38.2	-2.0
BOVS	Bovan	6.29	7	*e*Pn		Pn	00 13 30.3	-0.7
BOVS	Bovan	6.29	7	⇓P		Pn	00 13 30.6	-0.4
RUDO	Rudo	6.30	351	*e*Pn		Pn	00 13 32.3	+1.1
MPEP	Malo Peshtene	6.40	20	P		Pn	00 13 34.7	+2.1
BLKB	Belogradchik	6.41	13	⇓S		Sn	00 14 44.0	-1.4
GRUS	Gruza	6.50	0	*e*Pn		Pn	00 13 33.8	0.0
GRUS				*e*Sn		Sn	00 14 45.3	-2.1
ZAGS	Zajecar	6.53	10	*e*Pn		Pn	00 13 34.4	+0.1
BBLS	Lazi&#263i	6.55	352	*e*Pn		Pn	00 13 35.7	+1.1
BBLS				*e*Sn		Sn	00 14 45.9	-2.9
BBLS	Lazi&#263i	6.55	352	*e*Pn		Pn	00 13 34.7	+0.1
DIVS	Divibare	6.73	356	*e*Pn		Pn	00 13 36.8	-0.3
DIVS				*e*Sn		Sn	00 14 49.9	-3.3
ELND	Elena	6.81	34	⇑P		Pn	00 13 39.5	+1.3
HAPS	Han Pijesak,BI	6.82	349	*e*Pn		Pn	00 13 38.0	-0.4
TRUS	Trudelj	6.83	358	*e*Pn		Pn	00 13 38.2	-0.3
INTR	Introdacqua	6.98	314	Pn		Pn	00 13 41.4	+0.9
KUBS	Kucevo	7.06	6	*e*Pn		Pn	00 13 40.2	-1.4
TEKS	Tekeris	7.21	353	*e*Pn		Pn	00 13 44.2	+0.5
TEKS				*e*Sn		Sn	00 15 01.6	-3.4
TEKS	Tekeris	7.21	353	*e*Pn		Pn	00 13 41.1	-2.6
MDVR	Moldovita	7.43	6	⇓P		Pn	00 13 47.5	+0.8
DOB	Doboj	7.59	346	*e*Pn		Pn	00 13 48.5	-0.4
HERR	Herculane	7.60	9	⇑P		Pn	00 13 49.1	+0.1
A050A	Klekovaca	7.75	337	*e*Pn		Pn	00 13 51.4	+0.2
FRGS	Fruska Gora	7.79	355	*e*Pn		Pn	00 13 49.5	-2.2
FRGS	Fruska Gora	7.79	355	*e*Pn		Pn	00 13 46.7	-5.0
BLY	Banja Luka	7.82	341	*e*Pn		Pn	00 13 52.6	+0.6
NRCA	Norcia	7.95	316	Pn		Pn	00 13 55.9	+2.0
GUMA	Gualdo di Mace	7.98	318	Pn		Pn	00 13 56.0	+1.7
FDMO	Fiordimonte	8.10	317	Pn		Pn	00 13 58.1	+2.2
A051A	Mrakovica	8.13	341	*e*Pn		Pn	00 13 54.0	-2.4
GZR	Gura Zlata	8.15	10	⇓P		Pn	00 13 57.0	+0.3
BZS	Buzias	8.25	5	⇓P		Pn	00 13 59.3	+1.3
ARR	Arges	8.51	19	⇑P		Pn	00 14 02.2	+0.8
VOIR		8.68	21	⇑P		Pn	00 14 05.6	+1.7
TNR	Turnu Rosu	8.68	17	⇓P		Pn	00 14 04.5	+0.6
MORH	Mrgy, Hungar	8.95	351	⇓P		Pn	00 14 07.5	0.0
MORH	Mrgy, Hungar	8.95	351	P		Pn	00 14 07.3	-0.2
	comp=N,5.3nm,0.6s							
MLR	Muntele Rosu	9.01	24	Pn		Pn	00 14 09.7	+1.2
MLR	Muntele Rosu	9.01	24	Pn		Pn	00 14 03.0	-5.4
	baz=230,slow=21,SNR=1.5							
	comp=N,4.7nm,1.2s							
MLR	Muntele Rosu	9.01	24	⇑P		Pn	00 14 10.9	+2.5
MLR	Muntele Rosu	9.01	24	P		Pn	00 14 07.8	-0.6
	comp=N,14nm,1.1s							
NEHR	Nehoiu	9.07	26	⇓P		Pn	00 14 10.6	+1.4
KEST	Kesra	9.27	263	Pn		Pn	00 14 16.0	+3.9
	comp=N,0.2nm,0.3s,baz=249,slow=6.5,SNR=5.5							
KEST				Sn		Sn	00 15 52.3	-3.6
	comp=N,0.1nm,0.3s,baz=259,slow=12,SNR=1.6							
	comp=N,2.8nm,0.7s							
CRES	Cresnjevec Ost	9.29	337	*e*Pn		Pn	00 14 10.5	-1.8
COVR	Voineasa-Covas	9.40	24	⇑P		Pn	00 14 15.4	+1.7
DRGR		9.52	8	⇑P		Pn	00 14 15.1	-0.2
PLOR5	Plostina Array	9.56	26	P		Pn	00 14 15.8	-0.1
	comp=N,17nm,2.2s							
PLOR	Plostina	9.56	26	⇓P		Pn	00 14 18.5	+2.5
PLOR3	Plostina Array	9.56	26	P		Pn	00 14 15.9	0.0
CEY	Cerknica	9.57	333	*e*Pn		Pn	00 14 13.6	-2.4
VRI	Vrincioaia	9.60	26	⇑P		Pn	00 14 18.7	+2.3
MPLH	Magyarpolny	10.05	348	P		Pn	00 14 22.7	+0.1
	comp=N,12nm,1.1s							
SABO	M.te Sabotino	10.09	331	Pn		Pn	00 14 21.8	-1.3
SOKA	Soboth	10.19	337	*i* Pn		Pn	00 14 23.6	-0.9
	comp=N,2.7nm,0.3s							
SOKA				*i* Sn		Sn	00 16 14.6	-3.7
	comp=N,3.2nm,0.6s							
OBKA	Obir	10.19	335	*i* Pn		Pn	00 14 25.2	+0.6
	comp=N,1.1nm,0.2s							
OBKA				*i* Sn		Sn	00 16 15.8	-2.6
	comp=N,11nm,0.7s							
OBKA	Obir	10.19	335	*e*Pn		Pn	00 14 23.5	-1.1
BR104	Keskin Array S	10.41	73	P		Pn	00 14 27.0	-0.6
	comp=N,2.7nm,1.2s							
BRTR	Keskin Array B	10.41	73	Pn		Pn	00 14 26.9	-0.8
	comp=N,0.3nm,0.5s,baz=191,slow=3.8,SNR=1.5							
PSZ	Piszkesteto	10.54	357	Pn		Pn	00 14 30.9	+1.5
PSZ	Piszkesteto	10.54	357	⇓P		Pn	00 14 29.6	+0.2
ARSA	Arzberg	10.57	340	*i* Pn		Pn	00 14 29.7	0.0
	comp=N,0.7nm,0.2s							
BURAR	Bucovina Array	10.75	17	Pn		Pn	00 14 32.6	+0.3
TRSU	Trosnyk	10.83	8	P		Pn	00 14 32.7	-0.5
VYHS	Vyhne	11.18	354	*e*PN		Pn	00 14 38.0	-0.1
HOLU	Holmets	11.20	6	P		Pn	00 14 38.3	0.0
UZHM	Uzhgorod	11.30	5	P		Pn	00 14 39.8	+0.2
MOA	Molln	11.47	338	*i* Pn		Pn	00 14 43.3	+1.3
	comp=N,2.7nm,0.3s							
MOA				*e*Sn		Sn	00 16 47.8	-1.8
	comp=N,1.2nm,0.5s							
BIOA	Bad Ischl, Aus	11.53	335	*i* Pn		Pn	00 14 44.2	+1.4
	comp=N,2.8nm,0.4s							
BIOA				*i* Sn		Sn	00 16 50.1	-1.0
	comp=N,1.9nm,0.4s							
LESA	Schwarzleotal	11.64	332	*e*Pn		Pn	00 14 44.9	+0.4
	comp=N,3.3nm,0.5s							
LESA				*i* Sn		Sn	00 16 50.8	-3.1
	comp=N,3.5nm,0.5s							
WTTA	Wattenberg	11.92	329	*i* Sn		Sn	00 16 58.9	-1.9
	comp=N,6.2nm,0.6s							
WATA	Walderalm	12.00	329	*i* Pn		Pn	00 14 51.9	+2.5
	comp=N,1.8nm,0.4s							
WATA				*i* Sn		Sn	00 17 00.3	-2.5
	comp=N,2.6nm,0.4s							
FUORN	Ofenpass-Fuorn	12.04	323	Pn		Pn	00 14 49.8	-0.3
SQTA	Sankt Quirin	12.06	328	*i* Pn		Pn	00 14 52.1	+1.9
	comp=N,1.4nm,0.4s							
SQTA				*i* Sn		Sn	00 17 00.2	-4.1
	comp=N,1.6nm,0.3s							
VRAC	Vranov	12.28	347	Pn		Pn	00 14 49.0	-4.0
	baz=44,slow=22,SNR=2.1							
VRAC				LR		LR	00 20 15.0	
	comp=N,90nm,21.5s,baz=168,slow=42							
	comp=N,1.2nm,0.7s							
DAVOX	Davos/Dischmat	12.34	323	Pn		Pn	00 14 51.6	-2.5
	comp=N,0.1nm,0.3s,baz=42,slow=12,SNR=2.9							
DAVOX				Sn		Sn	00 17 07.0	-4.1
	comp=N,0.1nm,0.3s,baz=144,slow=11,SNR=2.5							
	comp=N,0.8nm,0.6s							
TUE	Stuetta	12.39	321	Pn		Pn	00 14 55.5	+0.8
TUE	Stuetta	12.39	321	P		Pn	00 14 54.7	0.0
GEC2	GERESS Array S	12.53	338	Pn		Pn	00 14 57.1	+0.5
GERES	GERESS Array B	12.53	338	Pn		Pn	00 14 52.9	-3.7
	comp=N,0.3nm,0.3s,baz=228,slow=2.5,SNR=2.4							
GERES				Sn		Sn	00 17 03.7	-12
	baz=238,slow=38							
	comp=N,1.4nm,0.8s							
DAVA	Damuels	12.71	325	*i* Pn		Pn	00 15 01.1	+2.0
	comp=N,0.8nm,0.3s							
DAVA				*e*Sn		Sn	00 17 15.7	-4.4
	comp=N,3.9nm,0.5s							
MMAI	Mount Meron Ar	12.80	106	Pn		Pn	00 15 01.1	+0.8
	comp=N,0.4nm,0.3s,baz=292,slow=8.9,SNR=1.7							
MMAI				Sn		Sn	00 17 13.0	-9.3
	comp=N,1.0nm,0.3s,baz=302,slow=24,SNR=2.0							
	comp=N,0.3nm,0.3s							
KHC	Kasperske Hory	12.82	339	*e*PN		Pn	00 14 58.9	-1.6
LUBAR	Lubar, Ukraine	13.53	20	P		Pn	00 15 09.9	-0.1
EIL	Elat	14.16	119	Pn		Pn	00 15 21.2	+2.4
	comp=N,0.3nm,0.3s,baz=311,slow=20,SNR=1.8							
EIL				Sn		Sn	00 17 45.8	-10
	comp=N,0.7nm,0.3s,baz=64,slow=18,SNR=4.3							
	comp=N,1.2nm,0.4s							
RNPP5	Staryi Chortor	14.32	13	P		Pn	00 15 20.8	-0.2
AK14	Malin Array Si	14.54	22	P		Pn	00 15 23.8	-0.2
AK10	Malin Array Si	14.56	22	P		Pn	00 15 24.0	-0.2
AK17	Malin Array Si	14.58	22	P		Pn	00 15 24.3	-0.1
AK11	Malin Array Si	14.61	22	P		Pn	00 15 24.6	-0.2
AK15	Malin Array Si	14.61	22	P		Pn	00 15 24.7	-0.1
KIEV	Kiev	14.63	22	P		P	00 15 30.8	-0.6
AKASG	Malin Array Be	14.64	22	P		P	00 15 30.1	-1.4
AKASG	Malin Array Be	14.64	22	Pn		Pn	00 15 24.4	-0.9
	comp=N,0.4nm,0.3s,baz=212,slow=11,SNR=2.0							
AKBB	Malin Array Si	14.64	22	P		P	00 15 31.3	-0.2
AKBB	Malin Array Si	14.64	22	P		Pn	00 15 25.3	0.0
AK22	Malin Array Si	14.65	21	P		Pn	00 15 25.1	-0.3
CLL	Collm	14.95	341	*i* PP		P	00 15 37.3	+2.4
	comp=Z,16nm,1.4s							
SUW	Suwalki	16.72	5	Pn		Pn	00 15 52.0	-0.2
SUW				IAmb		IAmb	00 16 02.5	
	comp=Z,31nm,0.9s							
KBZ	Khabaz	18.00	62	P		Pn	00 16 07.5	-0.8
	baz=163,slow=11,SNR=1.9							
	comp=Z,1.2nm,0.9s							
PABE	Paberze	18.26	6	Pn		Pn	00 16 10.2	-1.2
PABE				IAmb		IAmb	00 16 10.8	
	comp=Z,19nm,0.7s							
GNI	Garni	18.95	74	P		P	00 16 18.4	-1.0
	comp=Z,0.3nm,0.3s,baz=257,slow=10,SNR=2.2							
GNI				LR		LR	00 23 44.9	
	comp=Z,44nm,20.2s,baz=279,slow=38							
	comp=Z,2.5nm,0.8s							
ESDC	Sonseca Array	19.41	284	P		Pn	00 16 26.8	+1.3
	comp=Z,0.1nm,0.3s,baz=113,slow=14,SNR=4.5							
	comp=Z,0.9nm,0.9s							
HFS	Hagfors	23.20	351	P		P	00 17 03.3	-1.5
	comp=Z,3.3nm,0.5s,baz=156,slow=12,SNR=9.1							
	comp=Z,3.3nm,0.5s							
NC602	NORSAR Array S	24.08	349	P		P	00 17 13.1	-0.2
NC602				IAmb		IAmb	00 17 48.2	
	comp=Z,23nm,1.4s							
BELG	Belogornoye	24.09	43	LR		LR	00 27 31.7	
	comp=Z,36nm,18.3s,baz=299,slow=40							
EKA	Eskdalemuir Ar	24.15	326	P		P	00 17 14.0	-0.1
	comp=Z,4.1nm,0.7s,baz=127,slow=6.9,SNR=8.5							
	comp=Z,4.1nm,0.7s							
FINES	FINESS Array B	24.32	6	P		P	00 17 14.2	-1.2
FINES	FINESS Array B	24.32	6	P		P	00 17 13.4	-2.0
	comp=Z,1.0nm,0.4s,baz=183,slow=9.5,SNR=16							
FINES				LR		LR	00 27 50.6	
	comp=Z,72nm,19.6s,baz=206,slow=40							
	comp=Z,1.0nm,0.4s							
FIA1	FINESS Array S	24.32	6	P		P	00 17 13.4	-2.1
NB2	NORSAR Subarra	24.42	349	P		P	00 17 16.3	-0.2
	comp=Z,2.6nm,0.9s,baz=164,slow=10							
NOA	NORSAR Array B	24.42	349	P		P	00 17 14.8	-1.6
	comp=Z,0.6nm,0.5s,baz=158,slow=9.0,SNR=7.8							
NOA				LR		LR	00 28 29.7	
	comp=Z,38nm,18.1s,baz=340,slow=41							
	comp=Z,0.6nm,0.5s							
TORD	Torodi Ar. Bea	29.50	220	P		P	00 18 03.1	+0.6
	comp=Z,0.7nm,0.8s,baz=31,slow=10.0,SNR=4.4							
ABKAR	Akbulak array	30.59	55	P		P	00 18 11.3	-0.4
ARTI	Arti	31.46	41	P		P	00 18 19.5	+0.1
ARTI				IAmb		IAmb	00 18 36.8	
	comp=Z,5.4nm,1.2s							
FURI	Furi	32.70	146	LR		LR	00 35 35.2	
	comp=Z,42nm,18.2s,baz=80,slow=43							
BVAR	Borovoye Array	37.53	49	P		P	00 19 09.9	-2.0
	comp=Z,0.2nm,0.3s,baz=261,slow=3.9,SNR=2.6							
	comp=Z,0.2nm,0.3s							
KKAR	Karatay Array	38.00	65	P		P	00 19 16.0	-0.1
KMBO	Kilima Mbogo	41.28	154	LR		LR	00 40 25.4	
	comp=Z,34nm,18.4s,baz=98,slow=41							
KURBB	Kurchatov Arra	42.60	53	P		P	00 19 52.5	-1.4
	comp=Z,0.5nm,0.6s,baz=279,slow=8.9,SNR=5.6							
	comp=Z,0.5nm,0.6s							
MK31	Makanchi Array	45.61	58	P		P	00 20 17.8	-0.4
MK31				IAmb		IAmb	00 20 57.5	
	comp=Z,7.4nm,1.4s							
MKAR	Makanchi Array	45.61	58	P		P	00 20 16.6	-1.7
MKAR	Makanchi Array	45.61	58	P		P	00 20 16.9	-1.3
	comp=Z,0.4nm,0.4s,baz=270,slow=7.5,SNR=11							
	comp=Z,0.4nm,0.4s							
ZALV	Zalesovo Beam	46.12	48	P		P	00 20 21.4	-0.8
ZALV	Zalesovo Beam	46.12	48	P		P	00 20 20.7	-1.5
	comp=Z,0.8nm,0.5s,baz=282,slow=10.0,SNR=4.8							
	comp=Z,0.8nm,0.5s							
TIXI	Tiksi	60.34	20	LR		LR	00 52 26.4	
	comp=Z,53nm,18.7s,baz=230,slow=41							
LZH	Lanzhou	64.44	63	*e*P		P	00 22 33.1	-1.6
LZH				sP		pP	00 22 39.6	-0.4
LZH				pmax		pmax		
	comp=Z,19nm,1.0s							
HHC	Hu-ho-hao-te	67.38	55	*e*P		P	00 22 53.1	-0.3
HHC				pP		pP	00 22 58.1	-0.3
HHC				sP		sP	00 22 59.9	-0.2
HHC				pmax		pmax		
	comp=Z,8.0nm,0.5s							
HHC				pmax		pmax		
	comp=Z,110nm,4.6s							
CMAR	Chiang Mai Arr	69.87	82	P		P	00 23 11.3	+2.1
	comp=Z,0.8nm,0.3s,baz=303,slow=8.0,SNR=4.3							
	comp=Z,0.8nm,0.3s							
INK	Inuvik	72.86	350	P		P	00 23 28.5	+2.0
YKA	Yellowknife Ar	74.18	340	P		P	00 23 35.6	+1.4
	comp=Z,0.7nm,0.7s,baz=64,slow=1.4,SNR=2.2							
	comp=Z,0.7nm,0.7s							
SIV	San Ignacio	93.19	252	LR		LR	01 09 28.1	
	comp=Z,53nm,18.1s,baz=100,slow=37							
TXAR	Lajitas Array	95.61	314	P		P	00 25 25.4	+1.6
	comp=Z,0.2nm,0.8s,baz=134,slow=6.4,SNR=1.8							
	comp=Z,0.2nm,0.8s							

IDC 20 00:21:08.4±5.9, 7°.64N×105°.15W, h0km, mb3.8/4, mbtmp3.8/4, MS3.3/5, Error ellipse: s-maj=223.9km s-min=25.2km az=65.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	13.73	46	LR	LR	00 27 49.5	
	comp=Z,112nm,21.8s,baz=216,slow=29						
LPIG	La Paz	17.10	344	LR	LR	00 30 01.1	
	comp=Z,101nm,20.0s,baz=185,slow=31						
TXAR	Lajitas Array	21.62	4	P	P	00 25 59.8	-0.6
	1.6nm,0.9s,baz=188,slow=13,SNR=5.4						
TXAR				LR	LR	00 33 31.6	
	comp=Z,110nm,19.4s,baz=208,slow=34						
	1.6nm,0.9s						
ANMO	Albuquerque	27.20	358	LR	LR	00 37 32.8	
	comp=Z,44nm,18.3s,baz=321,slow=36						
NVAR	Mina Array Bea	32.87	341	LR	LR	00 38 45.6	
	comp=Z,45nm,19.1s,baz=86,slow=32						
PDAR	Pinedale Array	35.20	354	P	P	00 28 05.0	+0.4
	0.8nm,0.9s,baz=167,slow=7.4,SNR=5.6						
	0.8nm,0.9s						
LPAZ	La Paz	43.68	123	P	P	00 29 16.2	+0.1
	2.2nm,0.9s,baz=283,slow=6.8,SNR=6.3						
	2.2nm,0.9s						
CPUP	Villa Florida	57.39	128	P	P	00 30 58.5	-0.5
	2.8nm,1.1s,baz=317,slow=5.1,SNR=3.4						
	2.8nm,1.1s						

*UPP **20** 00:21:14.5±0.0, 67°.84N×20°.21E, h0km, ML2.7, Unknown*
*IDC **20** 00:21:14.5±1.3, 67°.75N×20°.52E, h0km, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=22.3km s-min=9.8km az=117.0*
*HEL **20** 00:21:14.9±0.1, 67°.83N×20°.17E, h0km, ML1.7, Suspected explosion*

ISC 20 00:21:14.0±0.8, 67°.81N±0°.03×20°.27E±0°.03, h0km, n23, σ0°53/34, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	Kurravaara	0.15	10	P	Pg	00 21 17.1	+0.2
KUA				S	Sg	00 21 18.9	0.0
RATU	Laukkuluspa	0.26	275	P	Pg	00 21 19.2	+0.3
RATU				S	Sg	00 21 22.4	+0.2
KOVU	Salmi	0.42	355	P	Pg	00 21 22.0	-0.1
DUNU	Dundret	0.70	170	P	Pb	00 21 28.5	-0.5
LANU	Lannavaara	0.70	69	P	Pg	00 21 27.8	+0.4
LANU	Lannavaara	0.70	69	*e*P	Pg	00 21 27.8	+0.4
LANU				*e*S	Sg	00 21 37.2	+0.8
MASU	Masugnsbyn	0.75	117	P	Pb	00 21 29.2	-0.7
SALU	Saltoluokta	0.80	238	P	Pg	00 21 29.5	+0.2
KIF	Kilpisjarvi	1.22	9	*e*P	Pg	00 21 37.5	+0.1
KIF	Kilpisjarvi	1.22	9	*e*P	Pg	00 21 37.4	0.0
KIF				*e*S	Sg	00 21 53.3	+0.1
KIF				MSG		00 21 54.8	
	comp=Z,11nm,0.1s						
PAJU	Pajala	1.35	124	P	Pg	00 21 39.8	0.0
PAJU	Pajala	1.35	124	*e*P	Pg	00 21 39.9	0.0
PAJU				*e*S	Sb	00 21 58.0	+0.1
HEF	Hetta	1.41	63	*e*P	Pn	00 21 40.5	-0.4
HEF	Hetta	1.41	63	*e*P	Pn	00 21 40.4	-0.5
HEF				*e*S	Sg	00 21 58.9	-0.3
HEF				MSG		00 22 04.3	
	comp=Z,4.1nm,0.1s						
ERTU	Ertsjaerv	1.46	148	P	Pn	00 21 41.9	+0.2
ERTU	Ertsjaerv	1.46	148	*e*P	Pn	00 21 41.8	+0.2
ERTU				*e*S	Sn	00 22 02.4	+0.9
ERTU				MSG		00 22 05.8	
	comp=Z,8.2nm,0.1s						
KLF	Kolari	1.53	110	*e*P	Pn	00 21 43.0	+0.4
KLF				*e*S	Sg	00 22 04.1	+0.9
KTK1	Kautokeino	1.64	41	*e*P	Pn	00 21 44.1	+0.1
KTK1				*e*S	Sn	00 22 05.7	0.0
HARU	Harads	1.67	170	P	Pb	00 21 45.4	-0.2
TRO	Tromso	1.90	346	*e*P	Pn	00 21 47.8	+0.2
TRO				*e*S	Sn	00 22 12.8	+0.6
ARCES	ARCESS Array B	2.59	45	Pn	Pn	00 21 58.2	+1.2
	comp=Z,0.6nm,0.3s,baz=224,slow=15,SNR=15						
ARCES				Sn	Sn	00 22 28.1	-1.1
	comp=Z,1.7nm,0.3s,baz=225,slow=22,SNR=10						
	comp=Z,1.4nm,0.3s						
FINES	FINESS Array B	6.86	156	Pn	Pn	00 22 55.1	-0.5
	comp=Z,0.1nm,0.3s,baz=344,slow=13,SNR=6.0						
FINES				Lg	Lg	00 24 48.3	
	comp=Z,0.3nm,0.3s,baz=341,slow=27,SNR=5.9						
	comp=Z,1.1nm,0.8s						
NOA	NORSAR Array B	7.83	214	Pn	Pn	00 23 08.0	-1.1
	baz=24,slow=11,SNR=4.1						
NOA				Lg	Lg	00 25 17.7	
	baz=29,slow=21,SNR=1.7						
	comp=Z,0.4nm,0.8s						

*ATH **20** 00:27:47.3, 37°.16N×20°.51E, h12km±1km, ML2.7/6, Error ellipse: s-maj=2.1km s-min=0.9km az=42.0*
*THE **20** 00:27:49.1, 37°.22N×20°.68E, h2km±2km, ML2.7/4, Error ellipse: s-maj=2.6km s-min=0.6km az=49.0*

ISC 20 00:27:46.9±2.0, 37°.15N±0°.06×20°.53E±0°.07, h12km±12km, n22, σ0°48/38, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.56	24	P	Pg	00 27 57.9	0.0
KRI1				S	Sg	00 28 05.2	-0.1
	2μm,0.3s						
LTHK	Lithakia	0.61	24	P	Pg	00 27 58.7	-0.1
LTHK				S	Sg	00 28 05.6	-1.2
	2μm,0.3s						
LTHK	Lithakia	0.61	24	P	Pg	00 27 58.9	+0.1
LTHK			

PTPM *eS* **Sn** **00 39 47.6 +1.0**
BCO2 Palmira 0.64 95 *i* P **Pn** **00 39 36.2 -0.9**
BCO2 AMP 00 39 38.9
comp=Z,3μm,0.1s
BCO2 *eS* **Sn** **00 39 46.6 -0.3**
PTAR3 Potrerillos Ar 0.68 97 *eP* **Pn** **00 39 36.8 -0.8**
LNBQ3 Los Naranjos, 0.72 88 *eP* **Pn** **00 39 38.0 -0.3**
LNBQ3 *eS* **Sn** **00 39 48.1 -0.9**
BUS1 Rivas 0.96 324⇑ *i* P **Pb** **00 39 40.5 -0.7**
BUS1 *eS* **Sg** **00 39 53.7 -0.6**
VINA Juan Vinas 1.25 333 *eP* **Pb** **00 39 45.5 -0.4**
LCR2 La Lucha 2 1.27 320⇑ *i* P **Pn** **00 39 44.6 -1.2**
LCR2 *eS* **Sb** **00 40 00.8 -1.5**
ABE2 San Pablo 1.27 317 *eP* **Pn** **00 39 45.1 -0.7**
VTCV VTCV, Calle Va 1.32 336 *eP* **Pn** **00 39 46.3 -0.3**
CVTV Tajo 1.35 335 *eP* **Pb** **00 39 47.0 -0.7**

IDC ***20*** *00:46:26.0±0.5, 15°.21S×173°.46W, h0km, mb4.6/19, mbtmp4.6/19, MS4.3/5, Error ellipse: s-maj=21.6km s-min=13.9km az=129.0*
NEIC ***20*** *00:46:28.1±1.3, 15°.2S±0°.1×173°.41W±0°.09, h10km±1km, mb5.1/368, Error ellipse: s-maj=18.5km s-min=13.1km az=203.0*
BGR ***20*** *00:46:30.7, 16°.88S×179°.80W, h33km*
GCMT ***20*** *00:46:36.1±0.4, 15°.04S±0°.03×173°.22W±0°.03, h34km±1km, MW5.0/69, Moment Tensor Solution. s17,c22; s69,c84; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.29±.21; Mθθ0.84±.17; Mφφ-1.13±.14; Mrθ-2.07±.20; Mθφ2.50±.12; Mφr0.41±.14; Best double couple: M0 3.42400×10^16 NP1: φs190.00000°, δ52.00000°, λ176.00000°. NP2: φs282.00000°, δ87.00000°, λ38.00000°. Principal axes: T 3.3560, Plg29.0000°, Azm153.0000°; N 0.1400, Plg51.0000°, Azm286.0000°; P -3.4920, Plg24.0000°, Azm50.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 00:46:31.7±0.3, 15°.34S±0°.07×173°.37W±0°.06, h42km, n699, σ0°.73/686, mb5.0/196, MS4.1/4, 17C-20D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**4.71**	**282**	Pn	**Pn**	**00 47 36.9**	**-3.4**
NIUE	**Niue**	**4.96**	**139**	Pn	**Pn**	**00 47 41.8**	**-1.9**
MSVF	**Nonsavu**	**8.57**	**253**	Pn	Pn	00 48 40.3	+6.9
0.7nm,0.3s,baz=84,slow=14,SNR=20							
MSVF				LR	LR	00 51 21.4	
comp=Z,2μm,19.2s,baz=74,slow=35							
RAR	**Rarotonga**	**14.17**	**116**	Pn	**Pn**	**00 49 46.2**	**-3.6**
RAR	**Rarotonga**	**14.17**	**116**	Pn	**Pn**	**00 49 46.7**	**-3.1**
3.1nm,0.3s,baz=238,slow=9.1,SNR=7.4							
RAR				LR	LR	00 53 49.8	
comp=Z,94nm,18.2s,baz=290,slow=31							
RAO	**Raoul Island**	**14.47**	**196**	LR	LR	00 54 33.8	
comp=Z,836nm,20.7s,baz=348,slow=34							
DZM	**Mont Dzumac**	**20.25**	**248**	P	Pn	00 51 05.8	-0.1
DZM	**Mont Dzumac**	**20.25**	**248**	*eP*	**P**	**00 51 04.7**	**+1.0**
74nm,1.3s							
DZM				*e*LR	LR	00 55 54.9	
1μm,25.8s							
DZM	**Mont Dzumac**	**20.25**	**248**	P	**P**	**00 51 02.7**	**-1.0**
6.9nm,0.9s,baz=57,slow=21,SNR=2.5							
6.9nm,0.9s							
PPT	**Papeete**	**22.92**	**99**	LR	LR	00 57 56.1	
comp=Z,60nm,20.5s,baz=280,slow=30							
PPT2	**Papeete2**	**22.92**	**99**	*eP*	**P**	**00 51 33.8**	**+1.4**
43nm,28.0s							
PPT2				*e*S	**S**	**00 55 37.1**	**-2.5**
2μm,27.2s							
PPT2				*e*LR	LR	00 57 01.0	
211nm,24.2s							
PPT2				*e*LR	LR	00 57 01.2	
110nm,21.5s							
TBI	**Tubuai**	**23.90**	**113**	*e*S	**S**	**00 55 52.5**	**-2.8**
5μm,28.8s							
TBI				*e*LR	LR	00 57 14.2	
617nm,31.5s							
URZ	**Urewera**	**24.33**	**198**	P	**P**	**00 51 45.9**	**+0.4**
15nm,0.6s,baz=132,slow=3.7,SNR=15							
URZ				LR	LR	01 00 03.6	
comp=Z,1μm,18.8s,baz=96,slow=34							
15nm,0.6s							
RTZ	**Ruatahuna**	**24.70**	**198**	P	**P**	**00 51 50.1**	**+1.2**
BKZ	**Black Stump Fm**	**25.36**	**199**	P	**P**	**00 51 55.5**	**+0.7**
THZ	**Tophouse**	**28.88**	**202**	P	**P**	**00 52 27.4**	**+0.8**
THZ				IAmb	IAmb	00 52 33.8	
comp=Z,33nm,1.2s							
RPZ	**Rata Peaks**	**31.25**	**202**	P	**P**	**00 52 48.2**	**+0.8**
comp=Z,11nm,0.6s,baz=22,slow=16,SNR=2.1							
comp=Z,11nm,0.6s							
TAOE	**Nuku Hiva Isla**	**33.09**	**83**	*e*LR	LR	01 01 50.5	
comp=Z,408nm,23.3s							
WHZ	**Wether Hill Ro**	**34.27**	**203**	P	**P**	**00 53 14.8**	**+1.1**
ARMA	**Armidale**	**35.40**	**239**	P	**P**	**00 53 23.8**	**-0.1**
H11S2	**WAKE ISLAND Hy**	**38.92**	**329**	T	T	01 35 01.6	
baz=149,slow=76,SNR=25							
H11S3	**WAKE ISLAND Hy**	**38.94**	**329**	T	T	01 35 00.1	
baz=149,slow=76,SNR=19							
H11S1	**WAKE ISLAND Hy**	**38.94**	**329**	T	T	01 34 55.2	
baz=149,slow=76,SNR=30							
PMG	**Port Moresby**	**38.96**	**274**	P	**P**	**00 53 53.3**	**-0.8**
comp=Z,4.3nm,0.3s,baz=173,slow=6.6,SNR=1.5							
comp=Z,4.3nm,0.3s							
CAN	**Canberra**	**39.09**	**232**	P	**P**	**00 53 54.9**	**-0.2**
H11N3	**WAKE ISLAND Hy**	**39.87**	**330**	T	T	01 36 14.9	
baz=150,slow=76,SNR=32							
H11N1	**WAKE ISLAND Hy**	**39.88**	**330**	T	T	01 36 17.5	
baz=150,slow=76,SNR=56							
H11N2	**WAKE ISLAND Hy**	**39.89**	**330**	T	T	01 36 18.3	
baz=150,slow=76,SNR=28							
STKA	**Stephens Creek**	**44.09**	**240**	P	**P**	**00 54 36.3**	**+0.3**
STKA	**Stephens Creek**	**44.09**	**240**	P	**P**	**00 54 35.9**	**-0.1**
comp=Z,5.7nm,0.7s,baz=71,slow=9.8,SNR=9.2							
comp=Z,5.7nm,0.7s							
BBOO	**Buckleboo**	**48.87**	**240**	P	**P**	**00 55 13.2**	**-0.2**
BBOO				IAmb	IAmb	00 55 20.1	
comp=Z,30nm,1.5s							
WB0	**Warramunga Arr**	**49.85**	**257**	P	**P**	**00 55 19.7**	**-1.4**
WB2	**Warramunga Arr**	**49.88**	**257**	P	**P**	**00 55 20.4**	**-0.9**
WRA	**Warramunga Arr**	**49.89**	**257**	P	**P**	**00 55 19.7**	**-1.7**
WRA	**Warramunga Arr**	**49.89**	**257**	P	**P**	**00 55 19.9**	**-1.6**
comp=Z,5.0nm,0.8s,baz=91,slow=7.2,SNR=45							
comp=Z,5.0nm,0.8s							
AS31	**Alice Springs**	**50.16**	**252**	P	**P**	**00 55 22.9**	**-0.5**
ASAR	**Alice Springs**	**50.16**	**252**	P	**P**	**00 55 22.4**	**-1.1**
ASAR	**Alice Springs**	**50.16**	**252**	P	**P**	**00 55 22.9**	**-0.6**
comp=Z,20nm,0.6s,baz=86,slow=8.5,SNR=149							
comp=Z,20nm,0.6s							
FORT	**Forrest**	**55.47**	**243**	P	**P**	**00 56 01.3**	**-1.3**
RPN	**Rapa Nui**	**60.28**	**113**	LR	LR	01 16 24.4	
comp=Z,388nm,18.0s,baz=324,slow=30							
NIKH	**Nikolski High**	**68.14**	**3**	P	**P**	**00 57 26.1**	**-1.0**
baz=185							
MJAR	**Matsushiro Arr**	**68.91**	**320**	P	**P**	**00 57 33.1**	**+0.6**
comp=Z,2.0nm,0.8s,baz=152,slow=5.5,SNR=2.8							
comp=Z,2.0nm,0.8s							
UNV	**Unalaska Valle**	**69.15**	**4**	P	**P**	**00 57 32.9**	**-0.5**
baz=187							
CHNA	**Chernabura Isl**	**70.86**	**8**	P	**P**	**00 57 43.8**	**-0.1**
baz=194							
P08K	**Saint George I**	**71.73**	**2**	P	**P**	**00 57 47.6**	**-1.6**
baz=184							
KMPM	**Mount Pierce**	**71.87**	**37**	P	**P**	**00 57 52.3**	**+1.8**
KMPM				IAmb	IAmb	00 57 52.6	
comp=Z,19nm,1.1s							
KMRM	**Mail Ridge**	**71.99**	**38**	P	**P**	**00 57 52.1**	**+0.8**
CBX	**Cerro Bola**	**72.02**	**48**	P	**P**	**00 57 51.4**	**-0.3**
O02D	**Mt. Diablo Mer**	**72.51**	**38**	P	**P**	**00 57 54.6**	**+0.3**
O02D				IAmb	IAmb	00 57 57.4	
comp=Z,13nm,1.1s							
PETK	**Petropavlovsk-**	**72.58**	**342**	P	**P**	**00 57 53.9**	**-0.4**
comp=Z,7.3nm,1.0s,baz=119,slow=12,SNR=3.5							
comp=Z,7.3nm,1.0s							
KRMB	**Red Mountain**	**72.70**	**37**	P	**P**	**00 57 56.5**	**+1.0**
KRMB				IAmb	IAmb	00 57 58.4	
comp=Z,13nm,1.0s							
KSXB	**Camp Six Broad**	**72.92**	**36**	P	**P**	**00 57 57.2**	**+0.5**
KSXB				IAmb	IAmb	00 57 58.8	
comp=Z,20nm,1.5s							
L02F	**Cave Junction**	**73.28**	**36**	P	**P**	**00 57 59.0**	**+0.3**
OMMB	**Old Mammoth Mi**	**73.34**	**42**	P	**P**	**00 57 59.3**	**-0.3**
EMB	**Emerald Bay**	**73.43**	**41**	P	**P**	**00 57 59.7**	**-0.3**
GSC	**Goldstone, Bar**	**73.52**	**45**	P	**P**	**00 58 00.7**	**+0.3**
YBH	**Yreka Blue Hor**	**73.53**	**37**	P	**P**	**00 58 01.2**	**+0.9**
YBH				IAmb	IAmb	00 58 03.1	
comp=Z,13nm,1.0s							
WAKR	**Walker**	**73.58**	**41**	P	**P**	**00 58 01.2**	**+0.4**
K02D	**Willamette Mer**	**73.59**	**36**	P	**P**	**00 58 01.4**	**+0.7**
K02D				IAmb	IAmb	00 58 03.4	
comp=Z,15nm,1.2s							
MPK	**Martis Peak**	**73.67**	**40**	P	**P**	**00 58 01.5**	**+0.1**
MPK				IAmb	IAmb	00 58 04.4	
comp=Z,29nm,1.3s							
HATC	**Hat Creek Radi**	**73.70**	**38**	P	**P**	**00 58 02.6**	**+1.2**
HATC				IAmb	IAmb	00 58 03.9	
comp=Z,28nm,1.1s							
GLA	**Glamis**	**73.73**	**48**	P	**P**	**00 58 02.4**	**+0.8**
J01E	**Myrtle Point**	**73.74**	**35**	P	**P**	**00 58 02.0**	**+0.6**
J01E				IAmb	IAmb	00 58 03.3	
comp=Z,22nm,1.1s							
PNTR	**Pine Nut**	**73.81**	**41**	P	**P**	**00 58 02.3**	**+0.1**
PNTR				IAmb	IAmb	00 58 05.2	
comp=Z,11nm,0.9s							
DSP	**Deep Springs**	**73.88**	**43**	P	**P**	**00 58 02.7**	**+0.4**
HUMO	**Hull Mountain**	**73.94**	**36**	P	**P**	**00 58 03.2**	**+0.5**
HUMO				IAmb	IAmb	00 58 05.5	
comp=Z,13nm,1.1s							
PIX	**Pinacate**	**73.97**	**50**	P	**P**	**00 58 03.6**	**+0.6**
YERR	**Yerington**	**73.98**	**41**	P	**P**	**00 58 03.6**	**+0.4**
LHV	**Little Huntoon**	**74.03**	**42**	P	**P**	**00 58 04.1**	**+1.0**
LHV				IAmb	IAmb	00 58 05.3	
comp=Z,18nm,1.4s							
L04D	**Klamath Falls**	**74.07**	**37**	P	**P**	**00 58 03.8**	**+0.2**
L04D				IAmb	IAmb	00 58 06.0	
comp=Z,30nm,1.2s							
GRAC	**Grapevine Rang**	**74.07**	**44**	P	**P**	**00 58 04.1**	**+0.6**
GRAC				IAmb	IAmb	00 58 09.0	
comp=Z,16nm,1.3s							
GWY	**Greenwater Val**	**74.09**	**45**	P	**P**	**00 58 03.9**	**+0.1**
DBO	**Dodson Butte**	**74.10**	**36**	P	**P**	**00 58 03.4**	**-0.2**
DBO				IAmb	IAmb	00 58 06.3	
comp=Z,18nm,1.3s							
OHAK	**Old Harbor**	**74.19**	**11**	P	**P**	**00 58 02.0**	**-1.7**
baz=200							
NVAR	**Mina Array Bea**	**74.26**	**42**	P	**P**	**00 58 04.9**	**0.0**
NVAR	**Mina Array Bea**	**74.26**	**42**	P	**P**	**00 58 05.3**	**+0.4**
comp=Z,3.4nm,0.7s,baz=229,slow=9.4,SNR=24							
comp=Z,3.4nm,0.7s							
BLYC	**Blythe**	**74.30**	**48**	P	**P**	**00 58 05.5**	**+0.5**
R18K	**Karluk**	**74.31**	**10**	P	**P**	**00 58 04.0**	**-0.4**
baz=199							
GMN	**Gold Mountain**	**74.31**	**43**	P	**P**	**00 58 05.6**	**+0.4**
PAHR	**Pah Rah Range**	**74.31**	**40**	P	**P**	**00 58 05.3**	**+0.3**
PAHR				IAmb	IAmb	00 58 07.4	
comp=Z,16nm,1.3s							
NV11	**Mina Array Sit**	**74.36**	**42**	P	**P**	**00 58 05.6**	**+0.2**
NV11				IAmb	IAmb	00 58 07.0	
comp=Z,23nm,1.4s							
I02E	**Swisshome, OR**	**74.40**	**35**	P	**P**	**00 58 05.9**	**+0.7**
I02E				IAmb	IAmb	00 58 08.0	
comp=Z,23nm,1.2s							
MZP	**Montezuma Peak**	**74.45**	**43**	P	**P**	**00 58 05.6**	**-0.5**
WCT	**Wildcat Mounta**	**74.45**	**44**	P	**P**	**00 58 05.9**	**0.0**
K04D	**Chiloquin, OR**	**74.64**	**37**	P	**P**	**00 58 07.5**	**+0.6**
NACB	**Ninganchiao**	**74.64**	**301**	P	**P**	**00 58 06.5**	**-0.6**
NACB				IAmb	IAmb	00 58 32.6	
comp=Z,15nm,0.8s							
HSIG		**74.67**	**54**	P	**P**	**00 58 06.5**	**-0.6**
QSPA	**South Pole Qui**	**74.71**	**180**	P	**P**	**00 58 08.7**	**+1.7**
QSPA	**South Pole Qui**	**74.71**	**180**	P	**P**	**00 58 09.4**	**+2.5**
comp=Z,24nm,0.8s,baz=42,slow=1.5,SNR=66							
QSPA				LR	LR	01 26 14.0	
comp=Z,63nm,21.3s,baz=9.0,slow=32							
comp=Z,24nm,0.8s							
Q17K	**Contact Creek**	**74.73**	**9**	P	**P**	**00 58 06.3**	**-0.7**
baz=198							
KVN	**Kaiserville**	**74.75**	**42**	P	**P**	**00 58 07.8**	**+0.2**
KVN				IAmb	IAmb	00 58 09.8	
comp=Z,14nm,1.2s							
TPH	**Tonopah**	**74.76**	**43**	P	**P**	**00 58 08.3**	**+0.6**
TPNV	**Topopah Spring**	**74.79**	**44**	P	**P**	**00 58 08.1**	**+0.2**
J04A	**Umpqua Nationa**	**74.82**	**36**	P	**P**	**00 58 08.3**	**+0.3**
KDAK	**Kodiak Island**	**74.85**	**11**	P	**P**	**00 58 07.0**	**-0.5**
baz=201							
BUCK	**Buck Mountain**	**74.93**	**35**	P	**P**	**00 58 09.4**	**+0.9**
BUCK				IAmb	IAmb	00 58 10.4	
comp=Z,32nm,1.4s							
I04A	**Tendick Farm,**	**75.00**	**36**	P	**P**	**00 58 08.9**	**+0.1**
I04A				IAmb	IAmb	00 58 10.2	
comp=Z,12nm,1.0s							
COR	**Corvallis**	**75.01**	**35**	P	**P**	**00 58 10.2**	**+1.5**
COR				IAmb	IAmb	00 58 11.5	
comp=Z,22nm,1.1s							
O15K	**Ungalikthiuk R**	**75.07**	**7**	P	**P**	**00 58 08.8**	**+0.1**
baz=194							
V12A	**Nelson**	**75.09**	**46**	P	**P**	**00 58 10.3**	**+0.7**
P16K	**Nushagak River**	**75.16**	**8**	P	**P**	**00 58 08.1**	**-1.2**
baz=195							
HEBO	**Mount Hebo**	**75.17**	**34**	P	**P**	**00 58 10.3**	**+0.5**
HEBO				IAmb	IAmb	00 58 13.7	
comp=Z,31nm,1.2s							
Q09A	**Carvers**	**75.21**	**42**	P	**P**	**00 58 10.7**	**+0.3**
Q18K	**Katmai Hardscr**	**75.24**	**10**	P	**P**	**00 58 08.9**	**-1.0**
baz=198							
SHPR	**Sheep Range**	**75.29**	**45**	P	**P**	**00 58 10.9**	**+0.1**
J05D	**Fort Rock, OR**	**75.35**	**37**	P	**P**	**00 58 11.7**	**+0.7**
G03D	**McMinnville, O**	**75.43**	**34**	P	**P**	**00 58 12.2**	**+1.1**
G03D				IAmb	IAmb	00 58 14.2	
comp=Z,21nm,1.0s							
W13A	**Hualapai Mount**	**75.44**	**47**	P	**P**	**00 58 12.7**	**+0.9**
Y14A	**Wickenburg**	**75.49**	**48**	P	**P**	**00 58 12.4**	**+0.6**
P17K	**Kvichak River**	**75.54**	**9**	P	**P**	**00 58 10.6**	**-0.8**
baz=197							
H04A	**Detroit Lake**	**75.68**	**35**	P	**P**	**00 58 12.9**	**+0.2**
H04A				IAmb	IAmb	00 58 14.7	
comp=Z,14nm,0.9s							
O16K	**Kokwok River B**	**75.69**	**8**	P	**P**	**00 58 12.2**	**-0.2**
baz=195							
F03A	**Seaside**	**75.74**	**33**	P	**P**	**00 58 13.4**	**+0.5**
PINE	**Pine Mountain**	**75.83**	**36**	P	**P**	**00 58 14.4**	**+0.6**
PRN	**Pahroc Range**	**75.84**	**44**	P	**P**	**00 58 14.8**	**+0.9**
P18K	**Big Mountain,**	**75.92**	**9**	P	**P**	**00 58 13.1**	**-0.6**
baz=198							
M13K	**Dall Lake**	**75.92**	**5**	P	**P**	**00 58 13.6**	**0.0**
baz=190							
I05D	**Terrebonne, OR**	**75.94**	**36**	P	**P**	**00 58 14.6**	**+0.4**
I05D				IAmb	IAmb	00 58 16.0	
comp=Z,28nm,1.2s							
R11B	**Troy Canyon, C**	**75.99**	**43**	P	**P**	**00 58 14.8**	**0.0**
R11B	**Troy Canyon, C**	**75.99**	**43**	P	**P**	**00 58 13.9**	**-0.9**
baz=237							
O17K	**Koliganek Bris**	**76.00**	**8**	P	**P**	**00 58 14.4**	**+0.3**
baz=196							
BMN	**Battle Mountai**	**76.08**	**41**	P	**P**	**00 58 15.6**	**+0.4**
BMN				IAmb	IAmb	00 58 18.1	
comp=Z,11nm,0.9s							
F04A	**Amboy**	**76.35**	**34**	P	**P**	**00 58 16.2**	**-0.1**
O18K	**Koktuh Hills**	**76.36**	**9**	P	**P**	**00 58 16.0**	**-0.2**
baz=198							
WVOR	**Wild Horse Val**	**76.36**	**38**	P	**P**	**00 58 17.1**	**+0.3**
WVOR				IAmb	IAmb	00 58 19.1	
comp=Z,29nm,1.2s							
M14K	**Bethel**	**76.38**	**6**	P	**P**	**00 58 16.4**	**+0.3**
M14K	**Bethel**	**76.38**	**6**	P	**P**	**00 58 16.3**	**+0.1**
baz=191,SNR=10							
HOOD	**Mount Hood Mea**	**76.38**	**35**	P	**P**	**00 58 17.0**	**+0.2**
M15K	**Kasigluk River**	**76.45**	**6**	P	**P**	**00 58 16.9**	**+0.3**
baz=193							
N16K	**Nishlik Lake**	**76.46**	**7**	P	**P**	**00 58 17.2**	**+0.5**
baz=194							
P19K	**Oil Pt**	**76.49**	**10**	P	**P**	**00 58 16.9**	**0.0**
baz=200							
G05A	**Wamic**	**76.52**	**35**	P	**P**	**00 58 17.9**	**+0.5**
NLWA	**Neilton Lookou**	**76.53**	**32**	P	**P**	**00 58 17.8**	**+0.3**
NLWA				IAmb	IAmb	00 58 19.4	
comp=Z,17nm,1.4s							
N17K	**Nushagak Hills**	**76.72**	**8**	P	**P**	**00 58 18.1**	**-0.1**
N17K	**Nushagak Hills**	**76.72**	**8**	P	**P**	**00 58 18.0**	**-0.1**
baz=196							
HOM	**Homer**	**76.78**	**11**	P	**P**	**00 58 18.7**	**+0.1**
baz=202							
ILSW	**Iliamna Southw**	**76.82**	**10**	P	**P**	**00 58 18.7**	**-0.2**
O19K	**Port Alsworth**	**76.83**	**10**	P	**P**	**00 58 19.4**	**+0.7**
baz=199							
I07A	**Izee**	**76.83**	**37**	P	**P**	**00 58 19.4**	**+0.1**
I07A				IAmb	IAmb	00 58 21.8	
comp=Z,25nm,1.2s							
X16A	**Lo Mia Camp, P**	**76.85**	**49**	P	**P**	**00 58 20.6**	**+0.8**
X16A				IAmb	IAmb	00 58 22.6	
comp=Z,19nm,1.2s							
Q12A	**Willow Creek R**	**76.86**	**43**	P	**P**	**00 58 20.0**	**+0.3**
Q12A				IAmb	IAmb	00 58 37.5	
comp=Z,12nm,1.2s							
LCMT	**Little Creek M**	**76.87**	**45**	P	**P**	**00 58 20.1**	**+0.4**
G06A	**Carlson Farm,**	**76.89**	**35**	P	**P**	**00 58 19.0**	**-0.5**
G06A				IAmb	IAmb	00 58 21.6	
comp=Z,18nm,1.4s							
L14K	**Kuka Creek**	**76.89**	**5**	P	**P**	**00 58 19.5**	**+0.4**
L14K				IAmb	IAmb	00 58 20.8	
comp=Z,19nm,1.1s							
L14K	**Kuka Creek**	**76.89**	**5**	P	**P**	**00 58 20.3**	**+1.2**
baz=191							
M16K	**Timber Creek**	**76.97**	**7**	P	**P**	**00 58 19.9**	**+0.4**
baz=194							
J08A	**Circle Bar Ran**	**77.00**	**38**	P	**P**	**00 58 20.7**	**+0.4**
BRSE	**Bradley Lake S**	**77.03**	**12**	P	**P**	**00 58 20.3**	**+0.3**
baz=202							
N18K	**Kilae Creek**	**77.05**	**9**	P	**P**	**00 58 21.1**	**+1.0**
baz=197							
KNB	**Kanab**	**77.16**	**46**	P	**P**	**00 58 22.2**	**+0.8**
SPR3	**Spring Creek 3**	**77.17**	**43**	P	**P**	**00 58 21.6**	**-0.1**
GNW	**Green Mountain**	**77.18**	**32**	P	**P**	**00 58 20.9**	**-0.1**
GNW				IAmb	IAmb	00 58 22.6	
comp=Z,24nm,1.5s							
LON	**Longmire**	**77.19**	**34**	P	**P**	**00 58 21.1**	**-0.2**
U15A	**North Rim**	**77.23**	**46**	P	**P**	**00 58 22.4**	**+0.4**
U15A				IAmb	IAmb	00 58 25.1	
comp=Z,23nm,1.3s							
PSUT	**Pine Spring**	**77.24**	**44**	P	**P**	**00 58 22.3**	**+0.4**
K13K	**Kusilvak Mount**	**77.32**	**4**	P	**P**	**00 58 21.6**	**+0.1**
K13K	**Kusilvak Mount**	**77.32**	**4**	P	**P**	**00 58 22.3**	**+0.9**
baz=189							
L15K	**Unalak Mounta**	**77.33**	**6**	P	**P**	**00 58 22.4**	**+0.9**
baz=192							
CLRS	**Cowichan Lake**	**77.34**	**31**	P	**P**	**00 58 21.8**	**-0.1**
CLRS				IAmb	IAmb	00 58 22.9	
comp=Z,17nm,1.2s							
USRK	**Ussuriysk Ar.**	**77.35**	**323**	P	**P**	**00 58 22.3**	**+0.3**
D05A	**Enumclaw**	**77.38**	**33**	P	**P**	**00 58 22.4**	**+0.2**
N19K	**Bonanza Creek**	**77.39**	**9**	P	**P**	**00 58 21.1**	**-0.9**
N19K	**Bonanza Creek**	**77.39**	**9**	P	**P**	**00 58 22.2**	**+0.1**
baz=199							
WUAZ	**Wupatki**	**77.43**	**48**	P	**P**	**00 58 23.4**	**+0.4**
WUAZ				IAmb	IAmb	00 58 26.0	
comp=Z,17nm,1.3s							
ELK	**Elko**	**77.52**	**41**	P	**P**	**00 58 24.0**	**+0.6**
M17K	**Holitna River**	**77.53**	**8**	P	**P**	**00 58 23.4**	**+0.7**
baz=196							
CBB	**Campbell River**	**77.56**	**29**	P	**P**	**00 58 23.3**	**+0.2**
CBB				IAmb	IAmb	00 58 25.9	
comp=Z,20nm,1.1s							
PGC	**Sidney**	**77.57**	**31**	P	**P**	**00 58 23.2**	**+0.1**
PGC				IAmb	IAmb	00 58 24.5	
comp=Z,12nm,1.0s							
L16K	**Owhat River**	**77.58**	**7**	P	**P**	**00 58 23.0**	**0.0**
L16K				IAmb	IAmb	00 58 24.7	
comp=Z,21nm,1.1s							
L16K	**Owhat River**	**77.58**	**7**	P	**P**	**00 58 23.4**	**+0.5**
baz=194							
SEW	**Seward**	**77.62**	**12**	P	**P**	**00 58 23.3**	**+0.1**
baz=204							
F07A	**Phinny Hill Vi**	**77.69**	**35**	P	**P**	**00 58 24.3**	**+0.4**
F07A				IAmb	IAmb	00 58 26.0	
comp=Z,15nm,1.1s							
DUN6	**Lazy B Ranch**	**77.71**	**51**	P	**P**	**00 58 25.7**	**+1.1**
PKCU	**Pink Cliffs**	**77.73**	**45**	P	**P**	**00 58 26.3**	**+1.5**
PKCU				IAmb	IAmb	00 58 28.5	
comp=Z,24nm,1.1s							
BBB	**Bella Bella**	**77.81**	**27**	P	**P**	**00 58 25.4**	**+0.9**
M18K	**Stony River**	**77.83**	**9**	P	**P**	**00 58 25.4**	**+1.1**
baz=197							
G08A	**Pilot Rock**	**77.86**	**36**	P	**P**	**00 58 25.4**	**+0.4**
G08A				IAmb	IAmb	00 58 27.3	
comp=Z,25nm,1.2s							
MXC	**Moxie City**	**77.90**	**34**	P	**P**	**00 58 25.2**	**+0.1**
CAPN	**Captain Cook N**	**77.91**	**11**	P	**P**	**00 58 25.5**	**+0.7**
baz=202							
O22K	**Cooper Landing**	**77.92**	**12**	P	**P**	**00 58 24.6**	**-0.2**
K15K	**Wolf Creek Mou**	**77.94**	**6**	P	**P**	**00 58 25.6**	**+0.7**
K15K	**Wolf Creek Mou**	**77.94**	**6**	P	**P**	**00 58 25.9**	**+0.9**
baz=192							
HPIG		**77.97**	**58**	P	**P**	**00 58 27.2**	**+1.0**
X18A	**Snowflake**	**77.98**	**49**	P	**P**	**00 58 27.6**	**+1.5**
MTPU	**Mount Pierson**	**78.12**	**45**	P	**P**	**00 58 27.4**	**+0.5**
MTPU				IAmb	IAmb	00 58 30.5	
comp=Z,13nm,1.0s							
LTY	**Liberty**	**78.12**	**34**	P	**P**	**00 58 25.9**	**-0.5**
N20K	**Mount Spurr**	**78.13**	**10**	P	**P**	**00 58 26.3**	**+0.1**
baz=201							
SPCR	**Spurr Chakacha**	**78.13**	**10**	P	**P**	**00 58 26.3**	**+0.1**
baz=201							
L17K	**Donlin**	**78.13**	**7**	P	**P**	**00 58 26.6**	**+0.6**
baz=195							
E07A	**Sunnyside**	**78.13**	**35**	P	**P**	**00 58 26.8**	**+0.4**
E07A				IAmb	IAmb	00 58 27.9

comp=Z,15nm,1.2s
PMR Palmer 79.05 12 P P 00 58 30.9 -0.2
PMR IAmb IAmb 00 58 32.4
comp=Z,28nm,1.3s
HMU Henry Mountain 79.06 46 P P 00 58 31.7 -0.4
HMU IAmb IAmb 00 58 34.5
comp=Z,17nm,1.2s
L20K Farewell, AK 79.06 9 P P 00 58 31.2 0.0
baz=199
NLU North Lily Min 79.16 43 P P 00 58 32.4 -0.1
S31K Pelican 79.19 19 P P 00 58 31.9 0.0
baz=216
TTA Tatalina 79.19 8 P P 00 58 31.7 -0.3
TTA IAmb IAmb 00 58 34.7
comp=Z,20nm,1.1s
TTA Tatalina 79.19 8 P P 00 58 32.4 +0.5
baz=197,SNR=6.2
Q16A Castle Valley 79.24 45 P P 00 58 33.8 +0.9
F10A Beach Ranch, E 79.25 36 P P 00 58 32.4 -0.3
F10A IAmb IAmb 00 58 33.7
comp=Z,25nm,1.4s
GHO Glory Hole Cre 79.26 12 P P 00 58 32.2 -0.1
J17K VABM Dome 79.27 6 P P 00 58 32.8 +0.6
J17K IAmb IAmb 00 58 34.4
comp=Z,16nm,1.1s
J17K VABM Dome 79.27 6 P P 00 58 32.6 +0.3
baz=194
SML Sawmill 79.41 12 P P 00 58 33.2 +0.1
baz=205
TMUT Trail Mountain 79.41 44 P P 00 58 33.7 -0.2
WAX Waxell Ridge 79.41 15 P P 00 58 33.2 0.0
BMRM Bremner River 79.45 14 P P 00 58 33.9 +0.5
baz=208
PLID Pearl Lake 79.45 37 P P 00 58 34.1 +0.1
MPU Maple Canyon 79.48 43 P P 00 58 35.4 +1.1
HLID Hailey 79.56 39 P P 00 58 35.0 +0.5
I17K Unalakleet 79.58 6 P P 00 58 34.4 +0.5
baz=192
SPUT South Promonto 79.60 42 P P 00 58 35.2 +0.4
SPUT IAmb IAmb 00 58 37.1
comp=Z,15nm,1.0s
J18K Innoko River 79.61 8 P P 00 58 34.5 +0.4
J18K IAmb IAmb 00 58 35.7
comp=Z,15nm,0.9s
J18K Innoko River 79.61 8 P P 00 58 34.7 +0.5
baz=196
YAH Yahtse 79.61 15 P P 00 58 33.4 -1.1
YAH IAmb IAmb 00 58 35.8
comp=Z,24nm,1.0s
LLLB Lilloet 79.62 30 P P 00 58 34.2 -0.3
KLU Klutina 79.62 13 P P 00 58 34.6 +0.3
KLU IAmb IAmb 00 58 36.7
comp=Z,24nm,1.2s
KLU Klutina 79.62 13 P P 00 58 34.8 +0.5
baz=207
SCM Sheep Creek Mo 79.63 12 P P 00 58 34.8 +0.5
baz=206
HVU Hansel Valley 79.64 41 P P 00 58 35.2 +0.3
HVU IAmb IAmb 00 58 36.5
comp=Z,12nm,0.9s
PNL Peninsula 79.65 17 P P 00 58 35.4 +1.0
baz=213
ISLE Juniper Island 79.67 15 P P 00 58 34.2 -0.5
TGL Tana Glacier 79.68 15 P P 00 58 34.6 -0.1
PPLA Purkeypile 79.72 10 P P 00 58 35.5 +0.6
baz=201
C09A Chrisman Ranch 79.74 34 P P 00 58 35.3 +0.1
CTU Camp Tracy 79.74 43 P P 00 58 36.0 +0.4
SRU San Rafael Swe 79.78 45 P P 00 58 35.6 -0.2
SRU IAmb IAmb 00 58 38.4
comp=Z,20nm,1.2s
P17A Butcher Ranch, 79.81 44 P P 00 58 36.9 +0.9
P17A IAmb IAmb 00 58 39.4
comp=Z,23nm,1.2s
K20K Telida 79.87 9 P P 00 58 35.5 0.0
K20K IAmb IAmb 00 58 37.3
comp=Z,22nm,1.2s
K20K Telida 79.87 9 P P 00 58 36.9 +1.4
baz=199
ANM Nome 79.89 3 P P 00 58 36.6 +1.0
baz=188
JLU Jordanelle 79.90 43 P P 00 58 36.8 +0.3
JLU IAmb IAmb 00 58 38.7
comp=Z,30nm,1.5s
VRDI Verde Repeater 79.94 14 P P 00 58 35.4 -0.8
VRDI IAmb IAmb 00 58 37.6
comp=Z,43nm,1.4s
N25K Chitina, Valde 80.01 14 P P 00 58 36.3 -0.1
N25K IAmb IAmb 00 58 36.8
comp=Z,18nm,1.0s
N25K Chitina, Valde 80.01 14 P P 00 58 37.3 +0.9
baz=208
GLB Gilahina Butte 80.05 14 P P 00 58 35.9 -0.8
GLB IAmb IAmb 00 58 37.4
comp=Z,33nm,1.4s
P29M Windy Craggy 80.09 17 P P 00 58 37.1 +0.2
P29M IAmb IAmb 00 58 39.5
comp=Z,22nm,1.1s
P29M Windy Craggy 80.09 17 P P 00 58 37.7 +0.9
baz=215
VHRN Van Horn 80.09 54 P P 00 58 38.5 +0.8
M24K Tolsona, Glenn 80.12 13 P P 00 58 36.5 -0.5
M24K Tolsona, Glenn 80.12 13 P P 00 58 37.1 +0.1
baz=207
NJ2 Nanjing 80.15 307 *e*P **P 00 58 39.3 +1.6**
NJ2 pP **pP 00 58 49.0 -0.8**
NJ2 sP **pwP 00 58 52.0 -0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,130nm,3.5s
H16K Elim 80.18 5 P P 00 58 38.2 +1.0
baz=191
TCUT Toone Canyon 80.18 43 P P 00 58 38.6 +0.6
MCARA McCarthy VSAT 80.18 14 P P 00 58 37.8 +0.5
baz=210
LOGN Logan Glacier 80.20 15 P P 00 58 37.8 +0.2
LOGN IAmb IAmb 00 58 38.6
comp=Z,32nm,1.1s
P18A Preston Nutter 80.22 44 P P 00 58 39.5 +1.1
WAT6 Susitna Watana 80.23 12 P P 00 58 37.6 -0.1
baz=205,SNR=5.7
CAST Castle Rocks 80.23 10 P P 00 58 36.4 -1.1
CAST Castle Rocks 80.23 10 P P 00 58 36.8 -0.7
baz=201
CTG Chitna Glacier 80.23 15 P P 00 58 38.1 +0.4
baz=211
J19K Poorman 80.26 8 P P 00 58 37.9 +0.3
J19K Poorman 80.26 8 P P 00 58 37.8 +0.2
baz=197
MVCO Mesa Verde 80.28 47 P P 00 58 39.0 +0.4
WAT1 Susitna Watana 80.30 11 P P 00 58 37.8 -0.1
baz=204
BSUT Blindstream Ca 80.32 43 P P 00 58 39.4 +0.5
HWUT Hardware Ranch 80.33 42 P P 00 58 39.0 +0.2
PLBC Pleasant Camp 80.35 18 P P 00 58 38.4 +0.2
baz=216
O28M Mount Upton 80.37 16 P P 00 58 39.2 +0.5
baz=212
G15K Niukluk 80.40 4 P P 00 58 38.8 +0.4
baz=189
O29M Mount Kennedy 80.41 17 P P 00 58 38.9 +0.2
O29M IAmb IAmb 00 58 39.6
comp=Z,13nm,0.9s
O29M Mount Kennedy 80.41 17 P P 00 58 38.9 +0.2
baz=214
KTH Kantishna Hill 80.54 10 P P 00 58 38.5 -0.7
KTH IAmb IAmb 00 58 40.5
comp=Z,33nm,1.3s
TX31 Lajitas Ar. Si 80.55 56 P P 00 58 40.4 +0.3
TX31 IAmb IAmb 00 58 42.6
comp=Z,23nm,1.4s
TXAR Lajitas Array 80.55 56 P P 00 58 40.3 +0.2
TXAR Lajitas Array 80.55 56 P P 00 58 40.6 +0.5
comp=Z,10nm,1.1s,baz=212,slow=8.5,SNR=19
comp=Z,10nm,1.1s
TRF Thorofare Moun 80.56 10 P P 00 58 39.1 -0.4
baz=203,SNR=5.5
CHUM Lake Minchumin 80.63 9 P P 00 58 39.0 -0.5
baz=201,SNR=5.9
J20K Nowinta River 80.63 8 P P 00 58 39.5 -0.1
J20K IAmb IAmb 00 58 41.0
comp=Z,23nm,1.0s
J20K Nowinta River 80.63 8 P P 00 58 39.5 -0.1
baz=199
NEW Newport 80.64 34 P P 00 58 39.3 -0.8

SKAG Skagway 80.67 19 P P 00 58 40.7 +0.8
SKAG IAmb IAmb 00 58 51.2
comp=Z,18nm,1.1s
SKAG Skagway 80.67 19 P P 00 58 40.1 +0.2
baz=217
H17K Granite Mounta 80.68 6 P P 00 58 39.7 -0.2
baz=193
P30M Million Dollar 80.72 18 P P 00 58 40.7 +0.4
baz=216
ANMO Albuquerque 80.74 50 P P 00 58 41.5 +0.4
F14K Arctic Creek 80.74 3 P P 00 58 40.7 +0.5
baz=187
DHY Denali Highway 80.75 12 P P 00 58 39.7 -0.7
DHY IAmb IAmb 00 59 02.3
comp=Z,27nm,1.4s
DHY Denali Highway 80.75 12 P P 00 58 40.8 +0.4
baz=205
TNA Tin City 80.76 2 P P 00 58 40.3 +0.1
baz=185
RND Reindeer 80.77 11 P P 00 58 40.5 0.0
RND IAmb IAmb 00 58 41.3
comp=Z,29nm,1.2s
S34M Telegraph Cree 80.85 21 P P 00 58 40.2 -0.7
S34M IAmb IAmb 00 58 42.5
comp=Z,20nm,1.1s
S34M Telegraph Cree 80.85 21 P P 00 58 41.3 +0.4
baz=221
BNX BinXian 80.90 322 ⇑P **P 00 58 42.3 +0.8**
BNX pmax pmax
comp=Z,5.0nm,0.8s
YUK8 Steele Glacier 80.91 16 P P 00 58 41.7 +0.2
baz=213
G16K Koyuk River 80.92 5 P P 00 58 41.6 +0.6
baz=191
ALPN Alpine 80.99 55 P P 00 58 43.4 +0.9
ALPN IAmb IAmb 00 58 45.7
comp=Z,14nm,0.9s
YUK6 Outpost Mounta 81.00 16 P P 00 58 42.2 +0.2
baz=214
PAX Paxson 81.04 12 P P 00 58 41.7 -0.2
baz=207
BPAW Bear Paw Mtn. 81.04 10 P P 00 58 41.7 -0.1
baz=202
H18K Honhosa River 81.05 6 P P 00 58 42.1 +0.3
baz=195
MCK McKinley 81.05 11 P P 00 58 41.6 -0.4
baz=204,SNR=13
CN2 Changchun 81.06 320 *e*P **P 00 58 43.9 +1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
F15K North Star Dit 81.07 4 P P 00 58 42.4 +0.5
baz=189
M26K Nabesna, AK 81.08 14 P P 00 58 42.0 -0.2
M26K Nabesna, AK 81.08 14 P P 00 58 42.5 +0.4
baz=210
RDMU Red Mountain 81.13 44 P P 00 58 43.5 +0.4
HYT Haines Junctio 81.14 17 P P 00 58 43.5 +0.9
HYT Haines Junctio 81.14 17 P P 00 58 42.8 +0.2
baz=215,SNR=7.3
YUK3 Moose Creek 81.15 15 P P 00 58 42.5 -0.2
baz=212
G17K Kiwalik Mounta 81.17 5 P P 00 58 42.5 +0.1
baz=192
I20K Naaghedeneel 81.18 8 P P 00 58 43.0 +0.6
baz=198
PECS Pecos 81.21 54 P P 00 58 44.4 +0.9
AHID Auburn Hatcher 81.21 41 P P 00 58 43.6 +0.2
AHID IAmb IAmb 00 58 45.6
comp=Z,15nm,1.0s
YUK4 Talbot Arm 81.26 16 P P 00 58 43.7 +0.5
baz=214
Q32M Nakina River 81.26 20 P P 00 58 43.2 -0.1
baz=220
P32M Atlin 81.28 19 P P 00 58 43.2 0.0
baz=218
M27K Edge Creek, AK 81.30 14 P P 00 58 43.6 +0.2
M27K Edge Creek, AK 81.30 14 P P 00 58 43.2 -0.2
baz=211
BWN Browne 81.36 10 P P 00 58 43.1 -0.4
MENT Mentasta 81.38 13 P P 00 58 43.4 -0.3
MENT IAmb IAmb 00 58 44.8
comp=Z,17nm,1.1s
O30N Mendenhall 81.50 17 P P 00 58 44.2 -0.1
O30N IAmb IAmb 00 58 45.8
comp=Z,20nm,0.9s
O30N Mendenhall 81.50 17 P P 00 58 44.1 -0.2
baz=216,SNR=6.6
L26K Log Cabin Wild 81.54 13 P P 00 58 44.8 +0.2
L26K IAmb IAmb 00 58 45.7
comp=Z,16nm,1.1s
L26K Log Cabin Wild 81.54 13 P P 00 58 44.7 +0.2
baz=209,SNR=6.8
BVCY Beaver Creek 81.59 15 P P 00 58 44.9 +0.1
baz=212
MSO Missoula 81.61 37 P P 00 58 45.2 -0.1
MSO IAmb IAmb 00 58 46.8
comp=Z,22nm,1.2s
DLMT Dillon 81.62 38 P P 00 58 46.0 +0.5
DLMT IAmb IAmb 00 58 47.3
comp=Z,20nm,1.2s
H19K Roundabout Mou 81.63 7 P P 00 58 45.1 +0.2
H19K IAmb IAmb 00 58 46.6
comp=Z,15nm,1.1s
H19K Roundabout Mou 81.63 7 P P 00 58 45.5 +0.7
baz=196
DLBC Dease Lake 81.63 21 P P 00 58 45.0 -0.1
baz=222
TPAW Teton Pass 81.67 41 P P 00 58 46.5 +0.5
TPAW IAmb IAmb 00 58 48.9
comp=Z,21nm,0.9s
BPMT Black Pine Rid 81.69 37 P P 00 58 45.9 -0.1
FXWY Fox Creek 81.69 41 P P 00 58 46.6 +0.5
FXWY IAmb IAmb 00 58 48.6
comp=Z,17nm,1.1s
S22A 4UR Ranch, Cre 81.70 47 P P 00 58 47.1 +0.8
S22A IAmb IAmb 00 58 49.4
comp=Z,25nm,1.2s
S22A 4UR Ranch, Cre 81.70 47 P P 00 58 46.1 -0.2
baz=243
K24K Donnelly Dome 81.72 12 P P 00 58 45.5 +0.1
baz=207
G18K Tagagawik 81.74 6 IAmb IAmb 00 58 47.3
comp=Z,13nm,1.2s
G18K Tagagawik 81.74 6 P P 00 58 46.1 +0.6
baz=194
WHY Whitehorse 81.77 18 P P 00 58 46.1 +0.3
WHY IAmb IAmb 00 58 46.8
comp=Z,12nm,1.1s
WHY Whitehorse 81.77 18 P P 00 58 46.2 +0.3
baz=217
N30M Aishikik Lake 81.78 17 P P 00 58 45.7 -0.1
baz=215
SNOW Snow King Moun 81.78 41 P P 00 58 46.5 0.0
SNOW IAmb IAmb 00 58 48.3
comp=Z,21nm,0.9s
H20K Anotleneega Mo 81.79 8 P P 00 58 45.9 +0.1
baz=198
O20A White River Ci 81.81 45 P P 00 58 47.3 +0.6
NEA2 Nenana 81.82 10 P P 00 58 44.9 -1.1
NEA2 Nenana 81.82 10 P P 00 58 45.3 -0.6
baz=204,SNR=5.9
RIDG Independent Ri 81.85 12 P P 00 58 46.3 +0.1
RIDG IAmb IAmb 00 58 46.9
comp=Z,24nm,1.2s
RIDG Independent Ri 81.85 12 P P 00 58 46.0 -0.2
baz=208,SNR=6.1
WRH Wood River Hil 81.88 11 P P 00 58 45.9 -0.4
I21K Tanana 81.90 9 P P 00 58 46.4 +0.1
I21K Tanana 81.90 9 P P 00 58 46.9 +0.6
baz=201
L27K Beaver Creek, 81.92 14 P P 00 58 46.5 0.0
L27K Beaver Creek, 81.92 14 P P 00 58 47.0 +0.5
baz=211
MOOW Moose Ponds 81.93 41 P P 00 58 45.8 -1.5
BCAR Beaver Creek A 81.93 14 P P 00 58 45.9 -0.7
LOHW Long Hollow 81.95 41 P P 00 58 47.7 +0.3
LOHW IAmb IAmb 00 58 49.0
comp=Z,18nm,1.2s
MLY Manley 81.95 9 P P 00 58 45.9 -0.7
MLY IAmb IAmb 00 58 48.1
comp=Z,24nm,1.3s
MLY Manley 81.95 9 P P 00 58 46.3 -0.4
baz=202,SNR=12
R33M Jennings River 82.03 20 P P 00 58 47.2 0.0
R33M IAmb IAmb 00 58 49.4
comp=Z,14nm,1.2s

R33M Jennings River 82.03 20 P P 00 58 47.2 0.0
baz=221
SAND Sanderson 82.03 56 P P 00 58 48.7 +0.8
SAND IAmb IAmb 00 58 50.8
comp=Z,12nm,1.1s
HDA Harding Lake 82.04 11 P P 00 58 46.8 -0.2
HDA IAmb IAmb 00 58 48.2
comp=Z,16nm,1.0s
HDA Harding Lake 82.04 11 P P 00 58 47.6 +0.5
baz=206
F17K Baldwin Pennin 82.04 5 P P 00 58 47.2 +0.2
baz=192
P33M Teslin, Yukon 82.05 19 P P 00 58 47.2 -0.1
baz=219
MNHN Monahans 82.06 55 P P 00 58 48.4 +0.4
MNHN IAmb IAmb 00 58 49.6
comp=Z,11nm,0.8s
CCB Clear Creek Bu 82.09 11 P P 00 58 46.5 -0.8
FLWY Flagg Ranch 82.12 40 P P 00 58 48.6 +0.3
G19K Purcell Mounta 82.15 7 P P 00 58 48.3 +0.7
G19K IAmb IAmb 00 58 49.2
comp=Z,10nm,0.9s
G19K Purcell Mounta 82.15 7 P P 00 58 48.3 +0.7
baz=196
YHB Horse Butte 82.15 40 P P 00 58 49.4 +1.0
N31M Braeburn, Yuko 82.17 17 P P 00 58 47.7 -0.2
N31M IAmb IAmb 00 58 49.3
comp=Z,19nm,1.1s
N31M Braeburn, Yuko 82.17 17 P P 00 58 48.4 +0.5
baz=216
PD31 Pinedale Array 82.20 42 P P 00 58 48.6 -0.1
PD31 IAmb IAmb 00 58 49.9
comp=Z,18nm,1.3s
PDAR Pinedale Array 82.20 42 P P 00 58 48.5 -0.3
PDAR Pinedale Array 82.20 42 P P 00 58 48.8 +0.1
comp=Z,5.5nm,0.8s,baz=212,slow=3.3,SNR=48
comp=Z,5.5nm,0.8s
YHL Hebgen Lake 82.21 39 P P 00 58 49.2 +0.4
M29M Somme Creek 82.22 16 P P 00 58 48.2 0.0
M29M IAmb IAmb 00 58 49.8
comp=Z,14nm,1.1s
M29M Somme Creek 82.22 16 P P 00 58 48.8 +0.6
baz=214
YFT Old Faithful 82.22 40 P P 00 58 50.4 +1.5
YFT IAmb IAmb 00 58 53.0
comp=Z,11nm,0.9s
H21K Melozitna Rive 82.23 8 P P 00 58 47.7 -0.4
H21K IAmb IAmb 00 58 49.7
comp=Z,14nm,1.1s
H21K Melozitna Rive 82.23 8 P P 00 58 48.5 +0.5
baz=200
SCRK Sand Creek 82.24 13 P P 00 58 48.5 +0.2
SCRK IAmb IAmb 00 58 49.3
comp=Z,12nm,1.0s
SCRK Sand Creek 82.24 13 P P 00 58 48.5 +0.2
baz=209,SNR=8.1
YMR Madison River 82.25 40 P P 00 58 49.0 0.0
I23K Minto, Yukon-K 82.28 10 P P 00 58 48.4 +0.1
OVMT Ovando 82.28 37 P P 00 58 48.6 -0.3
COLA College 82.29 11 P P 00 58 47.3 -1.0
COLA College 82.29 11 P P 00 58 48.7 +0.4
baz=205
BOZ Bozeman (W) 82.32 39 P P 00 58 49.6 +0.4
BOZ IAmb IAmb 00 58 51.6
comp=Z,14nm,1.1s
F18K Selawik 82.33 5 P P 00 58 47.8 -0.7
baz=193
H17A Grant Village 82.36 40 P P 00 58 50.6 +1.1
H17A IAmb IAmb 00 58 52.4
comp=Z,9.0nm,0.8s
IL31 82.38 11 P P 00 58 47.8 -1.0
IL31 IAmb IAmb 00 58 50.1
comp=Z,23nm,1.4s
ILAR Eielson Array 82.38 11 P P 00 58 47.9 -1.0
ILAR Eielson Array 82.38 11 P P 00 58 48.2 -0.6
comp=Z,5.4nm,1.0s,baz=211,slow=5.2,SNR=21
comp=Z,5.4nm,1.0s
YHH Holmes Hill 82.38 40 P P 00 58 51.1 +1.3
IMAR Indian Mountai 82.41 8 P P 00 58 49.3 +0.4
YNM Yellowstone No 82.44 40 P P 00 58 51.9 +1.9
YNR Norris Junctio 82.45 40 P P 00 58 50.6 +0.5
YNR IAmb IAmb 00 58 54.3
comp=Z,19nm,1.2s
J25K Salcha River, 82.53 12 P P 00 58 49.4 -0.3
J25K IAmb IAmb 00 58 50.6
comp=Z,17nm,1.0s
J25K Salcha River, 82.53 12 P P 00 58 49.1 -0.6
baz=207,SNR=9.9
ODSA Odessa 82.53 54 P P 00 58 51.4 +0.9
ODSA IAmb IAmb 00 58 53.3
comp=Z,18nm,0.9s
LKWY Lake 82.55 40 P P 00 58 50.6 0.0
POKR Poker Plat Res 82.59 11 P P 00 58 49.7 -0.2
POKR Poker Plat Res 82.59 11 P P 00 58 49.8 -0.1
baz=205,SNR=9.0
E17K Hotham Inlet 82.62 5 P P 00 58 50.7 +0.6
baz=191
LYMT Lyon Mountain 82.64 37 P P 00 58 51.3 +0.4
SDCO Great Sand Dun 82.65 48 P P 00 58 51.5 +0.3
SDCO IAmb IAmb 00 58 53.2
comp=Z,14nm,1.4s
H22K Ishtalitna Cre 82.66 9 P P 00 58 50.4 +0.1
baz=201
K27K Chicken 82.70 13 P P 00 58 51.0 +0.5
K27K IAmb IAmb 00 58 53.6
comp=Z,16nm,1.4s
K27K Chicken 82.70 13 P P 00 58 50.7 +0.2
baz=210
F19K Shaleruckik Mo 82.74 6 P P 00 58 50.9 +0.2
F19K IAmb IAmb 00 58 52.0
comp=Z,13nm,0.9s
F19K Shaleruckik Mo 82.74 6 P P 00 58 50.6 -0.1
baz=195
M30M Minto, Yukon 82.77 16 P P 00 58 50.9 -0.2
M30M Minto, Yukon 82.77 16 P P 00 58 51.3 +0.3
baz=215,SNR=5.8
YMP Mirror Lake Pl 82.79 40 P P 00 58 52.2 +0.4
YMP IAmb IAmb 00 59 06.5
comp=Z,22nm,1.3s
J26L Joseph Creek 82.79 13 P P 00 58 50.9 -0.2
J26L IAmb IAmb 00 58 52.8
comp=Z,15nm,1.0s
J26L Joseph Creek 82.79 13 P P 00 58 51.8 +0.6
baz=209
L29M L29M 82.86 15 P P 00 58 51.4 0.0
L29M L29M 82.86 15 P P 00 58 52.0 +0.5
baz=214
H23K Yukon River 82.88 10 P P 00 58 51.9 +0.5
baz=203
G21K Allakaket 82.94 8 P P 00 58 52.2 +0.5
G21K IAmb IAmb 00 58 53.3
comp=Z,14nm,1.1s
G21K Allakaket 82.94 8 P P 00 58 52.1 +0.3
baz=199,SNR=5.3
YNE Yellowstone No 83.01 40 P P 00 58 53.1 +0.2
YNE IAmb IAmb 00 58 57.5
comp=Z,16nm,1.0s
DRIO Del Rio 83.04 57 P P 00 58 53.6 +0.5
DRIO IAmb IAmb 00 58 54.7
comp=Z,13nm,0.8s
E18K Tukpahlearik C 83.05 5 P P 00 58 52.7 +0.5
E18K IAmb IAmb 00 58 54.0
comp=Z,9.5nm,0.9s
E18K Tukpahlearik C 83.05 5 P P 00 58 52.8 +0.5
baz=192
MSTX Muleshoe 83.09 52 P P 00 58 54.3 +0.9
M31M Drury Creek, Y 83.14 17 P P 00 58 52.3 -0.5
M31M IAmb IAmb 00 58 53.6
comp=Z,11nm,1.2s
M31M Drury Creek, Y 83.14 17 P P 00 58 53.3 +0.4
baz=218
D17K Noatak River 83.14 4 P P 00 58 53.2 +0.5
baz=190
T25A Trinidad 83.17 49 P P 00 58 54.3 +0.4
T25A Trinidad 83.17 49 P P 00 58 53.3 -0.6
baz=245
F20K Avaraart Lake 83.18 7 P P 00 58 53.1 +0.2
F20K Avaraart Lake 83.18 7 P P 00 58 53.1 +0.2
baz=197
OZNA Ozona 83.19 56 P P 00 58 54.4 +0.5
OZNA IAmb IAmb 00 58 55.5
comp=Z,12nm,1.2s
PRP Porcupine Dome 83.30 11 P P 00 58 53.6 -0.2
PRP IAmb IAmb 00 58 54.9
comp=Z,19nm,1.0s
PRP Porcupine Dome 83.30 11 P P 00 58 54.3 +0.5

baz=207,SNR=5.7
DAWY Dawson 83.35 14 P **P 00 58 54.2 +0.2**
DAWY IAmb IAmb 00 58 55.3
comp=Z,17nm,1.1s
DAWY Dawson 83.35 14 P **P 00 58 53.9 0.0**
baz=213,SNR=12
E19K Redstone River 83.40 6 P **P 00 58 53.9 -0.2**
E19K IAmb IAmb 00 58 56.3
comp=Z,20nm,1.1s
E19K Redstone River 83.40 6 P **P 00 58 54.6 +0.4**
baz=196
Q24A Divide 83.42 47 P **P 00 58 55.3 0.0**
Q24A Divide 83.42 47 P **P 00 58 54.5 -0.8**
baz=244
RDOG Red Dog Mine 83.51 4 P **P 00 58 55.4 +0.7**
RDOG IAmb IAmb 00 59 01.8
comp=Z,10.0nm,0.6s
RLMT Red Lodge 83.53 40 P **P 00 58 56.0 +0.5**
RLMT IAmb IAmb 00 58 57.5
comp=Z,16nm,1.0s
EGAK Eagle 83.55 13 P **P 00 58 54.9 0.0**
EGAK IAmb IAmb 00 58 56.1
comp=Z,10nm,1.0s
EGAK Eagle 83.55 13 P **P 00 58 55.5 +0.6**
baz=211,SNR=5.4
SGCY Sterling City 83.57 55 P **P 00 58 56.0 +0.1**
SGCY IAmb IAmb 00 58 58.0
comp=Z,13nm,0.9s
I26K Coal Creek Min 83.58 12 P **P 00 58 55.0 -0.1**
I26K IAmb IAmb 00 58 56.6
comp=Z,13nm,1.1s
I26K Coal Creek Min 83.58 12 P **P 00 58 55.1 +0.1**
baz=209
G22K Bettles 83.60 8 P **P 00 58 55.2 +0.1**
baz=201
F21K Alatna River 83.61 8 P **P 00 58 54.6 -0.6**
F21K Alatna River 83.61 8 P **P 00 58 55.3 +0.1**
baz=199
G23K Bananza Creek 83.62 9 P **P 00 58 55.6 +0.3**
G23K IAmb IAmb 00 58 56.7
comp=Z,11nm,1.1s
G23K Bananza Creek 83.62 9 P **P 00 58 56.2 +0.9**
baz=203
K29M Barlow Dome 83.62 15 P **P 00 58 56.1 +0.6**
K29M IAmb IAmb 00 58 57.0
comp=Z,12nm,1.0s
K29M Barlow Dome 83.62 15 P **P 00 58 55.3 -0.1**
baz=215
833A Chaparral WMA, 83.64 58 P **P 00 58 55.2 -1.0**
833A IAmb IAmb 00 58 59.5
comp=Z,13nm,1.0s
833A Chaparral WMA, 83.64 58 P **P 00 58 54.9 -1.3**
baz=249
TOAD Toad River Com 83.67 23 P **P 00 58 55.9 +0.2**
baz=226,SNR=14
POST Post 83.72 53 P **P 00 58 56.9 +0.3**
N23A Red Feather La 83.72 45 P **P 00 58 56.5 -0.2**
N23A IAmb IAmb 00 58 58.7
comp=Z,17nm,1.1s
N23A Red Feather La 83.72 45 P **P 00 58 56.3 -0.3**
baz=244
MAYO Mayo, Yukon 83.84 16 P **P 00 58 56.5 0.0**
C17K DeLong Mountai 83.91 4 P **P 00 58 57.3 +0.6**
baz=190
J29N Klondike Camp 83.96 15 P **P 00 58 57.7 +0.6**
J29N Klondike Camp 83.96 15 P **P 00 58 57.8 +0.7**
baz=214
BELA Belgrano 2 84.06 172 P **P 00 58 58.7 +1.2**
BELA IAmb IAmb 00 59 00.1
comp=Z,12nm,0.9s
F22K John River 84.06 8 P **P 00 58 57.6 +0.2**
baz=201
COLD Coldfoot 84.08 9 P **P 00 58 58.0 +0.5**
baz=202
JCT Junction City 84.09 56 P **P 00 58 58.2 -0.3**
JCT IAmb IAmb 00 59 06.6
comp=Z,6.4nm,0.8s
RTBA Rita Blanca 84.11 50 P **P 00 58 58.8 +0.2**
RTBA IAmb IAmb 00 59 00.8
comp=Z,12nm,1.1s
K22A Casper 84.12 43 P **P 00 58 59.0 +0.4**
K22A IAmb IAmb 00 59 01.2
comp=Z,20nm,1.2s
SN05 Snyder 5 84.12 54 P **P 00 58 58.6 0.0**
I27K Kandik River 84.16 13 P **P 00 58 58.5 +0.4**
baz=211
HNDO Hondo 84.16 57 P **P 00 59 00.1 +1.2**
SN07 Snyder 07 84.20 54 P **P 00 58 59.2 +0.1**
SN07 IAmb IAmb 00 59 00.1
comp=Z,12nm,0.9s
C18K Utukok River 84.21 4 P **P 00 58 59.6 +1.3**
C18K IAmb IAmb 00 59 01.8
comp=Z,22nm,1.5s
C18K Utukok River 84.21 4 P **P 00 58 59.1 +0.8**
baz=192
AMTX Amarillo 84.28 52 P **P 00 58 59.4 0.0**
E20K Nigu River 84.29 6 P **P 00 58 59.4 +0.7**
baz=197
G25K Bearman Lake 84.32 11 P **P 00 58 59.4 +0.7**
baz=206
D19K Kuna River 84.32 6 P **P 00 58 59.3 +0.4**
D19K Kuna River 84.32 6 P **P 00 58 59.2 +0.4**
baz=195
DKNS Dickens 84.39 53 P **P 00 59 00.4 +0.4**
DKNS IAmb IAmb 00 59 02.1
comp=Z,13nm,0.9s
I28M Miner Creek 84.40 13 P **P 00 58 59.9 +0.5**
I28M Miner Creek 84.40 13 P **P 00 58 59.6 +0.3**
baz=212,SNR=5.1
J30M Hart River 84.53 15 P **P 00 59 00.2 +0.1**
J30M Hart River 84.53 15 P **P 00 59 00.3 +0.3**
baz=216
EGMT Eagleton 84.66 37 P **P 00 59 01.2 +0.2**
EGMT IAmb IAmb 00 59 02.4
comp=Z,14nm,1.1s
D20K Etivluk River 84.68 6 P **P 00 59 00.7 0.0**
baz=196
E22K Anaktuvuk Pass 84.69 8 P **P 00 59 00.9 +0.2**
E22K IAmb IAmb 00 59 02.2
comp=Z,15nm,1.1s
E22K Anaktuvuk Pass 84.69 8 P **P 00 59 00.4 -0.3**
baz=201
F24K Squaw Lake 84.70 10 P **P 00 59 00.9 +0.2**
F24K Squaw Lake 84.70 10 P **P 00 59 01.8 +1.0**
baz=205
E21K Killik River 84.71 7 P **P 00 59 00.3 -0.5**
E21K Killik River 84.71 7 P **P 00 59 01.2 +0.4**
baz=199
H27K Steamboat Moun 84.72 12 P **P 00 59 00.8 -0.2**
baz=211,SNR=6.4
C19K Lookout Ridge 84.79 5 P **P 00 59 01.6 +0.5**
baz=193
APMT Aspermont 84.89 54 P **P 00 59 02.6 +0.1**
G26K Porcupine Rive 84.91 11 P **P 00 59 02.0 +0.3**
baz=209
E23K Chandalar 84.93 9 P **P 00 59 02.4 +0.4**
E23K IAmb IAmb 00 59 04.8
comp=Z,14nm,1.2s
E23K Chandalar 84.93 9 P **P 00 59 01.8 -0.2**
baz=203
KOTAN Kotaneelee Air 84.99 22 P **P 00 59 02.3 0.0**
baz=227
ABTX Abilene, Hawle 85.00 54 P **P 00 59 03.5 +0.5**
BRDY Brady 85.02 56 P **P 00 59 03.6 +0.4**
BRDY IAmb IAmb 00 59 06.0
comp=Z,12nm,1.2s
I30M Mount Dempster 85.04 15 P **P 00 59 02.0 -0.6**
I30M IAmb IAmb 00 59 03.8
comp=Z,17nm,1.2s
I30M Mount Dempster 85.04 15 P **P 00 59 02.2 -0.4**
baz=216
E24K Your Creek 85.12 9 P **P 00 59 03.3 +0.5**
E24K Your Creek 85.12 9 P **P 00 59 02.0 -0.8**
baz=204
F25K Christian Rive 85.14 10 P **P 00 59 03.5 +0.4**
F25K Christian Rive 85.14 10 P **P 00 59 02.6 -0.4**
baz=207
BMAR Burnt Mountain 85.18 11 P **P 00 59 03.7 +0.5**
G27K Doyon Strip 85.20 12 P **P 00 59 02.5 -0.8**
G27K Doyon Strip 85.20 12 P **P 00 59 03.6 +0.3**
baz=211
H03S2 Juan Fernandez 85.21 124 T T 02 33 36.1
baz=252,slow=75,SNR=14
H03S1 Juan Fernandez 85.23 124 T T 02 33 42.7
baz=252,slow=75,SNR=14
H03S3 Juan Fernandez 85.23 124 T T 02 33 33.4
baz=252,slow=75,SNR=13
D22K Ayikyak River 85.28 7 P **P 00 59 04.2 +0.5**
D22K IAmb IAmb 00 59 05.5
comp=Z,16nm,1.0s
D22K Ayikyak River 85.28 7 P **P 00 59 03.9 +0.3**
baz=200
C21K Knifeblade Rid 85.30 7 P **P 00 59 04.2 +0.5**
baz=198
H29M Whitestone 85.40 13 P **P 00 59 04.3 0.0**
H29M IAmb IAmb 00 59 05.5
comp=Z,19nm,1.1s
H29M Whitestone 85.40 13 P **P 00 59 03.8 -0.5**
baz=214
HNS HongShan 85.44 311 ⇑P **P 00 59 07.3 +2.2**
HNS pmax pmax
comp=Z,12nm,1.2s
SMWD Samnorwood 85.46 52 P **P 00 59 05.0 -0.3**
TOLK Toolik Lake Re 85.48 9 P **P 00 59 04.2 -0.5**
baz=203
F26K Sheenjek River 85.50 11 P **P 00 59 05.6 +0.9**
F26K IAmb IAmb 00 59 06.9
comp=Z,15nm,1.3s
F26K Sheenjek River 85.50 11 P **P 00 59 05.1 +0.3**
baz=208
D23K Nanushuk River 85.62 8 P **P 00 59 05.8 +0.5**
D23K IAmb IAmb 00 59 07.2
comp=Z,16nm,1.1s
D23K Nanushuk River 85.62 8 P **P 00 59 05.2 -0.1**
baz=202
B21K Ikpikpuk River 85.77 6 P **P 00 59 06.0 +0.1**
baz=198
EPYK Eagle Plains 85.90 14 P **P 00 59 06.4 -0.3**
EPYK IAmb IAmb 00 59 18.3
comp=Z,22nm,1.5s
EPYK Eagle Plains 85.90 14 P **P 00 59 06.3 -0.5**
baz=215
435B Jarrell 85.98 57 P **P 00 59 08.1 +0.2**
435B Jarrell 85.98 57 P **P 00 59 06.1 -1.9**
baz=250
H31M Peel River 86.02 15 P **P 00 59 06.9 -0.4**
baz=218
G29M Pine Creek 86.05 13 P **P 00 59 07.4 0.0**
baz=214
D24K Happy Valley 86.06 9 P **P 00 59 08.3 +0.8**
D24K Happy Valley 86.06 9 P **P 00 59 07.5 0.0**
baz=204
PLPT Palo Pinto 86.11 55 P **P 00 59 09.1 +0.5**
LAO LASA Array 86.14 39 P **P 00 59 09.4 +1.0**
LAO IAmb IAmb 00 59 10.6
comp=Z,14nm,0.9s
F28M Old Crow 86.25 12 P **P 00 59 08.7 +0.2**
F28M Old Crow 86.25 12 P **P 00 59 08.4 0.0**
baz=212
WTFS Witchita Falls 86.33 54 P **P 00 59 09.9 +0.3**
FW03 Perrin-Whitt E 86.39 54 P **P 00 59 10.4 +0.5**
RSSD Black Hills 86.39 42 P **P 00 59 10.2 +0.2**
RSSD IAmb IAmb 00 59 11.6
comp=Z,18nm,1.3s
E27K Coleen River 86.40 11 P **P 00 59 09.3 +0.1**
E27K Coleen River 86.40 11 P **P 00 59 09.6 +0.4**
baz=211
WMOK Wichita Mounta 86.44 53 P **P 00 59 09.4 -0.8**
C23K Itkillik River 86.44 8 P **P 00 59 09.5 +0.2**
baz=202
FW07 Weatherford 86.49 55 P **P 00 59 10.8 +0.4**
WHTX Lake Whitney, 86.50 56 P **P 00 59 10.7 +0.2**
G30M tAoh Zraii Nji 86.51 14 P **P 00 59 09.7 -0.1**
G30M IAmb IAmb 00 59 10.7
comp=Z,15nm,1.2s
G30M tAoh Zraii Nji 86.51 14 P **P 00 59 09.7 -0.1**
baz=216
GO07 Milladeo Hill, 86.57 134 P **P 00 59 12.7 +2.1**
D25K Kavik River 86.58 9 P **P 00 59 10.4 +0.4**
baz=206
C24K Franklin Bluff 86.60 8 P **P 00 59 10.3 +0.3**
C24K IAmb IAmb 00 59 22.7
comp=Z,13nm,1.2s
C24K Franklin Bluff 86.60 8 P **P 00 59 10.5 +0.5**
baz=204
FW13 Cleburne 86.65 55 P **P 00 59 12.4 +1.3**
FW06 Azle 86.76 55 P **P 00 59 11.8 0.0**
CSTR Hydro, Custer 86.84 52 P **P 00 59 12.2 +0.2**
G31M Satah River 86.92 14 P **P 00 59 11.6 -0.1**
G31M IAmb IAmb 00 59 12.6
comp=Z,20nm,1.3s
G31M Satah River 86.92 14 P **P 00 59 11.7 0.0**
baz=218
X34A Smith Ranch, M 87.12 53 P **P 00 59 15.6 +2.1**
F30M Barrier River 87.13 14 P **P 00 59 12.9 +0.2**
baz=216
Z35A Perchaven, San 87.13 54 P **P 00 59 14.0 +0.5**
E29M Blow River 87.31 12 P **P 00 59 13.6 +0.1**
baz=214
C26K Camden Bay 87.34 9 P **P 00 59 14.1 +0.5**
baz=207
D27M Malcolm River 87.43 11 P **P 00 59 14.3 0.0**
D27M Malcolm River 87.43 11 P **P 00 59 14.2 0.0**
baz=211
F31M Tsiigehtchic 87.46 14 P **P 00 59 14.1 -0.2**
F31M Tsiigehtchic 87.46 14 P **P 00 59 14.4 +0.1**
baz=218
HNVL Huntsville, TX 87.69 57 P **P 00 59 17.9 +1.6**
237A Washetta, Mont 87.82 56 P **P 00 59 17.5 +0.6**
R32A Long Quarter, 87.83 49 P **P 00 59 17.6 +0.8**
R32A IAmb IAmb 00 59 19.2
comp=Z,11nm,0.9s
MAW Mawson 87.86 199 P **P 00 59 17.8 +1.4**
comp=Z,4.3nm,0.7s,baz=138,slow=9.9,SNR=12
comp=Z,4.3nm,0.7s
DGMT Dagmar 88.16 38 P **P 00 59 18.6 +0.5**
INK Inuvik 88.20 14 P **P 00 59 17.7 0.0**
baz=218
HHC Hu-ho-hao-te 89.01 313 *e*P **P 00 59 23.4 +1.0**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,110nm,6.1s
YKA Yellowknife Ar 90.03 23 P **P 00 59 26.3 -0.2**
comp=Z,2.3nm,0.8s,baz=242,slow=4.1,SNR=5.7
comp=Z,2.3nm,0.8s
C36M Paulatuk 91.29 16 P **P 00 59 32.5 +0.3**
baz=227
ELIB Princess Elisa 92.20 185 *d*P **P 00 59 38.0 +1.1**
comp=Z,5.8nm,0.8s
PZH PanZhiHua 92.27 297 P **P 00 59 38.8 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.1s
CMAR Chiang Mai Arr 92.62 288 P **P 00 59 39.8 +0.2**
comp=Z,0.7nm,0.3s,baz=116,slow=2.1,SNR=1.6
comp=Z,0.7nm,0.3s
TROLL Troll, Antarti 92.82 179 ⇑P **P 00 59 41.8 +2.1**
comp=Z,22nm,0.3s
A36M Sachs Harbour 92.83 13 P **P 00 59 39.4 +0.2**
A36M IAmb IAmb 00 59 40.3
comp=Z,8.9nm,0.9s
A36M Sachs Harbour 92.83 13 P **P 00 59 39.5 +0.2**
baz=226
VNA3 Neumayer Olymp 92.92 175 ⇑P **P 00 59 42.1 +2.1**
comp=Z,10nm,0.8s
SNAA Sanae 92.97 177 ⇑P **P 00 59 42.2 +1.9**
comp=Z,71nm,0.9s
SNAA Sanae 92.97 177 P **P 00 59 40.3 0.0**
comp=Z,3.1nm,0.9s,baz=166,slow=1.9,SNR=6.7
comp=Z,3.1nm,0.9s
LZH Lanzhou 93.21 306 *e*P **P 00 59 39.8 -2.3**
LZH pP pP 00 59 50.3 -4.0
LZH pmax pmax
comp=Z,12nm,1.0s
VNA2 Neumayer--Watz 93.41 175 ⇑P **P 00 59 44.4 +2.2**
comp=Z,6.9nm,0.7s,baz=176,slow=1.7
VNA1 Neumayer--Stat 93.61 175 ⇑P **P 00 59 45.6 +2.4**
comp=Z,11nm,0.9s
SONM Songino Array 94.82 318 P **P 00 59 48.5 -0.7**
comp=Z,0.3nm,0.6s,baz=60,slow=5.7,SNR=1.9
comp=Z,0.3nm,0.6s
WMQ Urumqi 106.85 312 Pdif **Pdif 01 00 45.0 +1.9**
KURBB Kurchatov Arra 113.18 319 PKiKP **PKiKP 01 05 04.1 -0.4**
comp=Z,0.3nm,0.7s,baz=107,slow=2.3,SNR=4.5
BVAR Borovoye Array 117.85 322 PKP **PKiKP 01 05 13.8 +0.3**
comp=Z,0.7nm,0.6s,baz=349,slow=1.5,SNR=4.4
ARCES ARCESS Array B 124.55 352 PKP **PKiKP 01 05 26.0 -0.2**
comp=Z,5.8nm,0.8s,baz=343,slow=2.8,SNR=4.6
FINES FINESS Array B 131.89 348 PKP **PKPdf 01 05 39.6 -0.4**
comp=Z,2.1nm,0.7s,baz=29,slow=4.4,SNR=4.5
NOA NORSAR Array B 134.24 357 PKP **PKiKP 01 05 45.2 -0.7**
comp=Z,1.2nm,0.9s,baz=14,slow=3.6,SNR=3.4
HFS Hagfors 134.97 355 PKP **PKPdf 01 05 46.4 +0.5**
comp=Z,2.0nm,0.9s,baz=132,slow=2.1,SNR=2.8
AKASG Malin Array Be 140.29 338 PKP **PKPdf 01 05 56.0 0.0**
comp=Z,1.7nm,0.9s,baz=32,slow=1.3,SNR=5.8
AK16 Malin Array Si 140.36 338 PKP **PKPdf 01 05 54.8 -1.3**
AK12 Malin Array Si 140.36 338 PKP **PKPdf 01 05 54.9 -1.2**
RNPP8 Varash 140.91 341 PKP **PKPdf 01 05 56.1 -1.0**
DPC Dobruska-Polom 144.20 349 *e*PKP **PKPdf 01 06 02.5 -0.6**
KIBK Kibwezi 144.30 243 PKPdf **PKPdf 01 06 03.5 -0.9**
MORC Moravsky Berou 144.52 348 *e*PKP **PKPdf 01 06 02.9 -0.7**
LANS Liptovska Anna 144.68 345 *e*PKP **PKiKP 01 06 05.8 -1.8**
PRU Pruhonice 144.84 351 *e*PKP **PKPdf 01 06 05.0 +0.9**
BMR Baia Mare 144.86 340 ⇓P **PKPdf 01 06 04.3 +0.1**
KECS Kecovo 145.03 344 *e*PKP **PKPdf 01 06 05.1 +0.6**
BMRD Maredsous 145.09 2 *d*Pdif 01 03 32.4
VRAC Vranov 145.15 349 *e*PKP **PKPab 01 06 04.1 -0.2**
VRAC Vranov 145.15 349 ⇑P **PKPbc 01 06 02.6 -1.6**
CFR Carcaliu 145.16 333 ⇑P **PKiKP 01 06 06.6 -2.0**
VRI Vrincioaia 145.20 335 ⇑P **PKPbc 01 06 03.3 -1.2**
PLOR Plostina 145.24 335 ⇓P **PKPdf 01 06 05.0 0.0**
TURR Turia 145.33 336 ⇓P **PKPdf 01 06 05.6 +0.5**
JAVC Velka Javorina 145.36 347 *e*PKP **PKPab 01 06 06.8 +1.6**
OZUR 145.38 336 ⇑P **PKPab 01 06 05.3 0.0**
COVR Voineasa-Covas 145.43 336 ⇑P **PKiKP 01 06 11.6 +2.3**
KRUC Moravsky 145.43 349 *e*PKP **PKPab 01 06 05.5 +0.2**
ZVC Zvikov 145.43 351 *e*PKP **PKPab 01 06 05.9 +0.6**
VYHS Vyhne 145.44 346 *e*PKP **PKPab 01 06 06.1 +0.7**
VYHS *e* 01 06 18.8
GRF Grafenberg Arr 145.53 355 *e*PKPbc **PKPab 01 06 06.5 +0.8**
baz=13,slow=2.9
KMBO Kilima Mbogo 145.59 244 PKPbc **PKPab 01 06 08.1 +0.8**
comp=Z,0.5nm,0.3s,baz=44,slow=2.4,SNR=4.9
HARR Harsova 145.63 333 ⇑P **PKPbc 01 06 05.6 -0.3**
DOPR Dopca 145.65 337 ⇓P **PKPab 01 06 07.6 +1.3**
CJR Cluj-Napoca 145.66 339 ⇓P **PKPab 01 06 06.6 +0.3**
PSZ Piszkesteto 145.71 344 **PKPab 01 06 06.4 -0.1**
PSZ Piszkesteto 145.71 344 ⇑P **PKPab 01 06 06.6 +0.1**
WLF Walferdange 145.76 1 PKPdf **PKPbc 01 06 06.1 0.0**
KHC Kasperske Hory 145.82 352 *e*PKP **PKPab 01 06 07.2 +0.4**
MLR Muntele Rosu 145.82 336 **PKPab 01 06 07.3 +0.2**
MLR Muntele Rosu 145.82 336 ⇑P **PKPab 01 06 06.9 -0.2**
MARR Marisel-Cluj 145.86 340 ⇓P **PKPbc 01 06 06.3 -0.4**
ISR Istrita 145.88 335 ⇓P **PKPab 01 06 06.9 -0.3**
DRGR 145.89 340 ⇓P **PKPab 01 06 07.6 +0.4**
MODS Modra-Piesok 145.91 347 *e*PKP **PKPab 01 06 08.0 +0.8**
MANR Mangalia 146.01 331 ⇓P **PKPab 01 06 07.6 0.0**
CKRC Cesky Krumlov 146.02 351 *e*PKP **PKPab 01 06 07.6 0.0**
GERES GERESS Array B 146.08 352 PKPbc **PKPab 01 06 07.7 -0.2**
comp=Z,4.3nm,0.8s,baz=7.6,slow=4.0,SNR=8.7
BRTR Keskin Array B 146.13 321 PKPbc **PKPab 01 06 08.7 +0.2**
comp=Z,12nm,0.7s,baz=103,slow=2.6,SNR=61
VOIR 146.22 336 ⇓P **PKPab 01 06 09.3 +0.7**
KIRS Kirsehir-Merke 146.32 320 ⇑P **PKPab 01 06 08.9 -0.2**
ARR Arges 146.44 337 ⇓P **PKiKP 01 06 10.6 -0.8**
ANTO Ankara 146.54 322 ⇑P **PKPab 01 06 10.3 +0.3**
CONA Conrad Observa 146.62 349 *i* PKP **PKPab 01 06 09.9 -0.1**
comp=Z,6.3nm,0.8s
DEV Deva 146.62 339 ⇓P **PKPab 01 06 09.6 -0.4**
SIRR Siria 146.69 341 ⇓P **PKPab 01 06 09.6 -0.7**
RONA Rosalia, Austr 146.75 348 *e*PKP **PKPab 01 06 10.2 -0.3**
comp=Z,11nm,0.9s,SNR=5.3
MOA Molln 146.97 351 *i* PKP **PKPab 01 06 10.5 -0.8**
comp=Z,11nm,1.0s
SURR Surduc 147.00 340 ⇓P **PKPab 01 06 10.9 -0.5**
BFO Black Forest 147.07 358 **PKPbc 01 06 10.4 +0.3**
GZR Gura Zlata 147.09 339 ⇓P **PKPdf 01 06 08.9 +0.7**
BIOA Bad Ischl, Aus 147.22 351 *i* PKP **PKPab 01 06 11.7 -0.6**
comp=Z,13nm,1.3s
BZS Buzias 147.28 340 ⇓P **PKPbc 01 06 10.6 -0.2**
ARSA Arzberg 147.33 349 *i* PKP **PKPab 01 06 12.4 -0.3**
comp=Z,8.1nm,1.1s
LESA Schwarzleotal 147.61 352 *i* PKP **PKiKP 01 06 13.0 -0.8**
comp=Z,12nm,1.7s
HERR Herculane 147.66 339 ⇓P **PKPbc 01 06 11.6 -0.2**
RETA Reutte 147.76 355 *e*PKP **PKiKP 01 06 13.3 -0.8**
comp=Z,9nm,1.2s
WATA Walderalm 147.83 354 *e*PKP **PKPbc 01 06 12.9 +0.5**
comp=Z,4.0nm,0.5s
KBA Koelnbreinsper 147.86 351 *i* PKP **PKiKP 01 06 13.3 -1.1**
comp=Z,6.5nm,0.7s
MOTA Moosalm 147.87 354 *i* PKP **PKiKP 01 06 13.6 -0.8**
comp=Z,8.4nm,0.9s
WTTA Wattenberg 147.90 354 *i* PKP **PKPbc 01 06 13.0 +0.4**
comp=Z,8.6nm,0.7s
SOKA Soboth 147.97 349 *i* PKiKP **PKiKP 01 06 13.5 -1.1**
comp=Z,10nm,1.0s,SNR=4.8
SQTA Sankt Quirin 147.98 354 *i* PKiKP **PKiKP 01 06 13.9 -0.7**
comp=Z,9.8nm,0.9s
DAVA Damuels 148.03 356 *e*PKiKP **PKiKP 01 06 13.8 -1.0**
comp=Z,13nm,0.9s,SNR=5.7
OBKA Obir 148.22 350 *e*PKiKP **PKiKP 01 06 14.5 -0.5**
comp=Z,14nm,1.1s
FETA Feichten 148.22 355 *e*PKiKP **PKiKP 01 06 14.8 -0.4**
comp=Z,5.7nm,0.9s
MYKA Terra Mystica 148.25 351 *i* PKP **PKPbc 01 06 13.1 -0.4**
comp=Z,9.8nm,0.8s
ABTA Abfaltersbach 148.30 352 *e*PKP **PKPbc 01 06 13.4 -0.2**
comp=Z,10nm,0.9s
MMAI Mount Meron Ar 148.55 309 PKPbc **PKPbc 01 06 14.9 +0.2**
comp=Z,2.5nm,0.7s,baz=57,slow=3.1,SNR=7.3
BOVS Bovan 149.00 338 ⇓P **PKPbc 01 06 14.2 -1.1**
ESDC Sonseca Array 154.04 19 PKPbc **PKiKP 01 06 28.1 +0.8**
comp=Z,0.5nm,0.9s,baz=312,slow=1.4,SNR=4.0
TORD Torodi Ar. Bea 174.74 114 PKP **PKPdf 01 06 38.6 +0.7**
comp=Z,0.6nm,1.0s,baz=90,slow=0.1,SNR=2.0
TORD PKPab **PKPab 01 08 12.2 +0.1**
comp=Z,0.7nm,0.8s,baz=280,slow=4.8,SNR=3.7

GII ***20*** *00:52:30.0±0.3,36°.15N±0°.02×28°.628E±0°.008,h40km, Mws3.0,confirmed*
ATH ***20*** *00:52:32.5,36°.32N×28°.25E,h70km±1km,ML2.5/6, Error ellipse: s-maj=2.9km s-min=1.5km az=94.0*
NIC ***20*** *00:52:33.6,36°.02N×28°.73E,h33km±28km,Ml2.8/9*
ISK ***20*** *00:52:33.5,36°.22N×28°.67E,h30km,ML2.7/19*
AFAD ***20*** *00:52:34.5±0.0,36°.24N×28°.67E,h7km±7km,ML2.5*
THE ***20*** *00:52:34.8,36°.19N×28°.50E,h57km±2km,ML2.7/3, Error ellipse: s-maj=2.5km s-min=1.3km az=168.0*
ISC 20 00:52:32.4±1.1,36°.16N±0°.03×28°.66E±0°.03,h58km±9km, n114,σ1$30/155,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.43**	**278**	Pg	**Pn**	**00 52 44.1**	**+0.5**
ARG				Sg	**Sn**	**00 52 51.0**	**-0.6**
ARG	**Arkhangelos**	**0.43**	**278**	P	**Pn**	**00 52 44.1**	**+0.5**
ARG				S	**Sn**	**00 52 51.5**	**-0.2**
	475nm,0.3s						
ARG	**Arkhangelos**	**0.43**	**278**	P	**Pn**	**00 52 44.1**	**+0.5**
ARG				AML	AML	00 52 52.1	
	0.7nm,0.3s						
ARG				S	**S**	**00 52 52.1**	**+0.5**
ARG				AML	AML	00 52 53.0	
	1.2nm,0.3s						
ARG	**Arkhangelos**	**0.43**	**278**	P	**Pn**	**00 52 44.0**	**+0.5**
ARG				S	**Sn**	**00 52 51.5**	**-0.2**
ARG				AML	AML	00 52 52.4	
	comp=N,678μm,0.3s						
ARG				AML	AML	00 52 53.3	
	comp=E,1216μm,0.3s						
IZZE	**Mula-Seydike**	**0.54**	**59**	P	**Pn**	**00 52 45.0**	**+0.4**
IZZE				*i* AML	AML	00 52 54.0	
	comp=E,695nm,0.2s						
IZZE				S	**Sn**	**00 52 54.1**	**+0.5**
IZZE				*i* AML	AML	00 52 56.0	
	comp=E,766nm,0.3s						
FETY	**Fethiye**	**0.59**	**36**	P	**Pn**	**00 52 46.0**	**+0.7**
FETY				S	**Sn**	**00 52 55.1**	**+0.5**
FETY	**Fethiye**	**0.59**	**36**	Pg	**Pn**	**00 52 45.2**	**-0.1**
FETY				Sg	**Sn**	**00 52 53.8**	**-0.8**
DALY	**Dalyan (Mula)**	**0.66**	**360**	Pg	**Pn**	**00 52 46.1**	**0.0**
DALY				Sg	**Sn**	**00 52 55.4**	**-0.6**
MRSB	**Marmaris-Mugla**	**0.67**	**326**	Pg	**Pn**	**00 52 46.5**	**+0.2**
MRSB				Sg	**Sn**	**00 52 56.2**	**-0.1**
TURN	**Turunc**	**0.70**	**332**	P	**Pn**	**00 52 47.0**	**+0.4**
TURN				S	**Sn**	**00 52 56.9**	**0.0**
TURN				*i* AML	AML	00 52 57.0	
	comp=E,346nm,0.2s						
TURN				*i* AML	AML	00 52 57.0	
	comp=E,477nm,0.3s						
TURN	**Turunc**	**0.70**	**332**	Pg	**Pn**	**00 52 46.9**	**+0.4**

TURN			Sg	Sn	00 52 56.7	-0.2
SABU	**Mula-Dalaman**	**0.71 21**	P	Pn	00 52 46.9	+0.2
SABU			S	Sn	00 52 56.9	-0.3
SABU			*i* AML	AML	00 52 59.0	
	comp=E,385nm,0.3s					
SABU			*i* AML	AML	00 52 59.0	
	comp=E,262nm,0.3s					
AKAS	**Kas**	**0.77 84**	P	Pn	00 52 48.6	+1.0
AKAS			*i* AML	AML	00 53 00.0	
	comp=E,340nm,0.3s					
AKAS			*i* AML	AML	00 53 00.0	
	comp=E,197nm,0.3s					
AKAS			S	Sn	00 53 00.1	+1.4
AKAS	**Kas**	**0.77 84**	Pg	Pn	00 52 48.3	+0.7
AKAS			Sg	Sn	00 52 59.3	+0.6
CAME	**Cameli-Denizli**	**0.94 33**	Pg	Pn	00 52 50.2	+0.4
CAME			Sg	Sn	00 53 02.5	-0.1
KNIK	**Mula-Seydike**	**1.01 47**	P	Pn	00 52 51.7	+1.0
KNIK			*i* AML	AML	00 53 05.0	
	comp=E,153nm,0.4s					
KNIK			S	Sn	00 53 05.6	+1.5
KNIK			*i* AML	AML	00 53 06.0	
	comp=E,109nm,0.3s					
DEMR	**Demre-Antalya**	**1.01 85**	Pg	Pn	00 52 51.5	+0.9
YER	**Yerkesik**	**1.02 343**	Pg	Pn	00 52 51.5	+0.7
YER	**Yerkesik**	**1.02 343**	P	Pn	00 52 51.4	+0.7
DAT	**Datca**	**1.04 304**	Pg	Pn	00 52 51.4	+0.4
DAT	**Datca**	**1.04 304**	P	Pn	00 52 51.3	+0.3
DAT			S	Sn	00 53 04.0	-0.8
CAEL	**Denizli, Camel**	**1.10 29**	P	Pn	00 52 53.0	+1.1
CAEL			*i* AML	AML	00 53 08.0	
	comp=E,298nm,0.7s					
CAEL			S	Sn	00 53 08.1	+1.7
CAEL			*i* AML	AML	00 53 14.0	
	comp=E,253nm,0.5s					
MULA	**Mugla, Merkez-**	**1.13 346**	P	Pn	00 52 53.2	+1.0
MULA			S	Sn	00 53 07.8	+0.9
MULA			*i* AML	AML	00 53 08.0	
	comp=E,154nm,0.2s					
MULA			*i* AML	AML	00 53 09.0	
	comp=E,82nm,0.3s					
DNZT	**Denizli-Tavas-**	**1.16 15**	P	Pn	00 52 53.2	+0.6
DNZT			S	Sn	00 53 08.8	+1.2
DNZT			*i* AML	AML	00 53 09.0	
	comp=E,71nm,0.3s					
DNZT			*i* AML	AML	00 53 09.0	
	comp=E,91nm,0.3s					
ELL	**Elmali**	**1.17 59**	Pn	Pn	00 52 53.7	+0.9
ELL	**Elmali**	**1.17 59**	P	Pn	00 52 54.3	+1.6
ELL			S	Sn	00 53 09.7	+1.9
ELL			AML	AML	00 53 11.7	
	comp=E,1.5nm,0.6s					
ELL			AML	AML	00 53 11.8	
	comp=E,1.3nm,0.8s					
NISR	**Nisiros**	**1.31 291**	P	Pn	00 52 52.4	-2.1
NISR			S	Sn	00 53 06.8	-4.3
TAVA	**DENIZLI_Tavas**	**1.32 9**	P	Pn	00 52 55.3	+0.5
KARP	**Karpathos**	**1.36 244**	P	Pn	00 52 56.2	+1.0
KARP			S	Sn	00 53 11.3	-1.0
	comp=E,275nm,0.2s					
KARP	**Karpathos**	**1.36 244**	P	Pn	00 52 55.6	+0.4
KARP			S	Sn	00 53 13.7	+1.4
KARP	**Karpathos**	**1.36 244**	P	Pn	00 52 56.7	+1.5
KARP			S	Sn	00 53 13.6	+1.3
KARP			AML	AML	00 53 14.8	
	comp=E,0.6nm,0.3s					
KARP			AML	AML	00 53 16.5	
	comp=E,0.6nm,0.4s					
KARP	**Karpathos**	**1.36 244**	P	Pn	00 52 55.9	+0.6
KARP			S	Sn	00 53 12.6	+0.3
KARP			AML	AML	00 53 15.2	
	comp=E,586μm,0.3s					
KARP			AML	AML	00 53 16.9	
	comp=N,580μm,0.4s					
AKUM	**Antalya-Kumluc**	**1.37 83**	P	Pn	00 52 56.6	+1.2
AKUM			S	Sn	00 53 14.4	+1.9
APMY	**Acipayam-Deniz**	**1.41 21**	Pn	Pn	00 52 56.3	+0.3
BODT	**Bodrum**	**1.41 310**	Pn	Pn	00 52 55.8	-0.1
DNIZ	**Denizli-Tavas-**	**1.50 12**	P	Pn	00 52 57.6	+0.5
DNIZ			S	Sn	00 53 15.7	0.0
KORT	**Korkueli**	**1.60 58**	P	Pn	00 53 00.6	+2.0
KORT			S	Sn	00 53 21.9	+3.7
KORT	**Korkueli**	**1.60 58**	Pn	Pn	00 52 59.9	+1.3
ANTB	**Antalya**	**1.77 65**	Pn	Pn	00 53 02.3	+1.6
NAZL	**Nazilli-Aydin**	**1.83 351**	Pn	Pn	00 53 01.5	0.0
AYDB	**Zeytinkoy-Aydi**	**1.89 341**	Pn	Pn	00 53 02.0	-0.5
BASM	**Basmaki-Afyon**	**2.08 32**	Pn	Pn	00 53 04.6	-0.4
SMG	**Samos**	**2.13 317**	P	Pn	00 53 05.4	-0.2
SMG	**Samos**	**2.13 317**	P	Pn	00 53 05.4	-0.2
SMG			S	Sn	00 53 28.4	-2.4
SMG			AML	AML	00 53 30.4	
	comp=N,286μm,0.3s					
SMG			AML	AML	00 53 31.4	
	comp=E,222μm,0.4s					
ZKR	**Zakros**	**2.24 243**	P	Pn	00 53 09.0	+1.8
ZKR			S	Sn	00 53 35.3	+1.5
ZKR			AML	AML	00 53 35.8	
	comp=E,0.2nm,0.5s					
ZKR			AML	AML	00 53 36.4	
	comp=E,0.1nm,0.5s					
ZKR	**Zakros**	**2.24 243**	P	Pn	00 53 09.0	+1.8
ZKR			S	Sn	00 53 35.9	+2.2
ZKR			AML	AML	00 53 36.9	
	comp=E,224μm,0.4s					
ZKR			AML	AML	00 53 37.6	
	comp=N,101μm,0.5s					
THR8	**Santorini-Mono**	**2.58 276**	P	Pn	00 53 12.2	+0.4
THR2	**Thira Island,**	**2.62 277**	P	Pn	00 53 12.6	+0.3
THR6	**Thira Island,**	**2.64 275**	P	Pn	00 53 13.5	+0.9
THR3	**Thira Island,**	**2.64 276**	P	Pn	00 53 13.3	+0.7
SNT5	**Nea Kammeni, S**	**2.65 276**	P	Pn	00 53 13.1	+0.4
APE	**Apeiranthos**	**2.67 291**	P	Pn	00 53 10.3	-2.8
APE	**Apeiranthos**	**2.67 291**	S	Sn	00 53 41.5	-2.9
APE	**Apeiranthos**	**2.67 291**	P	Pn	00 53 13.5	+0.3
APE			S	Sn	00 53 44.3	0.0
APE			AML	AML	00 53 44.9	
	comp=N,38μm,0.4s					
APE			AML	AML	00 53 46.6	
	comp=E,31μm,0.5s					
THR5	**Thira Island,**	**2.69 277**	P	Pn	00 53 14.0	+0.8
IDI	**Anoyia**	**3.19 255**	P	Pn	00 53 24.5	+4.4
IDI			S	Sn	00 54 00.7	+3.8
IDI			AML	AML	00 54 02.6	
	comp=E,55μm,0.2s					
IDI			AML	AML	00 54 03.4	
	comp=N,36μm,0.3s					
AKMS	**Akamas**	**3.21 110**	P	Pn	00 53 20.8	+0.5
AKMS			S	Sn	00 53 57.3	-0.1
AKMS			AML	AML	00 53 58.5	
	comp=N,0.1nm,0.3s					
AKMS			AML	AML	00 54 00.5	
	comp=N,0.1nm,0.2s					
ALFC	**Alefka**	**3.36 106**	P	Pn	00 53 22.4	-0.1
ALFC			S	Sn	00 54 00.9	-0.3
ALFC			AML	AML	00 54 01.5	
	comp=N,0.1nm,0.1s					
ALFC			AML	AML	00 54 03.4	
	comp=N,0.1nm,0.2s					
NATA	**Nata**	**3.48 112**	P	Pn	00 53 24.7	+0.6
NATA			S	Sn	00 54 04.1	+0.1
NATA			AML	AML	00 54 05.5	
	comp=N,0.2nm,0.5s					
NATA			AML	AML	00 54 11.6	
	comp=N,0.2nm,0.6s					
TROD	**Troodos**	**3.64 108**	P	Pn	00 53 26.4	0.0
TROD			S	Sn	00 54 08.9	+0.7
TROD			AML	AML	00 54 14.2	
TROD			AML	AML	00 54 15.0	
	comp=N,0.1nm,0.4s					
APOL	**The Sanctuary**	**3.74 112**	P	Pn	00 53 28.2	+0.6
APOL			S	Sn	00 54 10.1	-0.4
APOL			AML	AML	00 54 11.5	
	comp=N,0.1nm,0.1s					
APOL			AML	AML	00 54 15.0	
	comp=N,0.1nm,0.2s					
ASGA	**Asgata**	**3.99 109**	P	Pn	00 53 31.7	+0.6
ASGA			S	Sn	00 54 16.8	+0.2
CSS	**Mathiatis**	**3.99 106**	P	Pn	00 53 30.8	-0.3
CSS	**Mathiatis**	**3.99 106**	P	Pn	00 53 29.3	-1.8
CSS	**Mathiatis**	**3.99 106**	S	Sn	00 54 15.3	-1.3
CSS	**Mathiatis**	**3.99 106**	P	Pn	00 53 30.7	-0.3
CSS			S	Sn	00 54 16.2	-0.4
HNTI	**Hanita**	**6.19 118**	P	Pn	00 53 59.6	-1.6
HNTI	**Hanita**	**6.19 118**	S	Sn	00 55 09.3	-1.2
OFRI	**`Ofer**	**6.31 122**	P	Pn	00 54 01.4	-1.5
OFRI	**`Ofer**	**6.31 122**	S	Sn	00 55 12.3	-1.3
MMA0	**Mount Meron ar**	**6.38 117**	P	Pn	00 54 04.5	+0.5
MMA0B	**Mount Meron ar**	**6.38 117**	S	Sn	00 55 14.8	-0.7
MMA0B	**Mount Meron ar**	**6.38 117**	P	Pn	00 54 02.5	-1.5
GEM	**Giv'at Ha'Em**	**6.48 115**	P	Pn	00 54 04.8	-0.3
GEM	**Giv'at Ha'Em**	**6.48 115**	P	Pn	00 54 03.8	-1.4
GEM	**Giv'at Ha'Em**	**6.48 115**	S	Sn	00 55 16.8	-0.9
NATI	**Neve Ativ**	**6.51 114**	P	Pn	00 54 04.6	-0.9
NATI	**Neve Ativ**	**6.51 114**	P	Pn	00 54 03.8	-1.8
NATI	**Neve Ativ**	**6.51 114**	S	Sn	00 55 17.5	-0.8
KSHT	**Keshet**	**6.70 116**	P	Pn	00 54 07.4	-0.8
KSHT	**Keshet**	**6.70 116**	S	Sn	00 55 21.6	-1.5
MMLI	**Mount Malkishu**	**6.71 122**	S	Sn	00 55 22.9	-0.6
MMLI	**Mount Malkishu**	**6.71 122**	P	Pn	00 54 07.2	-1.2
QRNJ	**Al-Qirein**	**6.88 122**	P	Pn	00 54 11.5	+0.9
HMDT	**Nahal Hemdat**	**6.89 122**	P	Pn	00 54 09.6	-1.3
HMDT	**Nahal Hemdat**	**6.89 122**	S	Sn	00 55 27.1	-0.8
AMAZ	**Amatzia**	**6.96 130**	S	Sn	00 55 28.4	-1.1
AMAZ	**Amatzia**	**6.96 130**	P	Pn	00 54 09.9	-1.8
UJAP	**Al Uja**	**7.04 125**	P	Pn	00 54 11.2	-1.6
UJAP	**Al Uja**	**7.04 125**	S	Sn	00 55 29.8	-1.5
KZIT	**Kziot**	**7.10 136**	P	Pn	00 54 12.5	-1.2
KZIT	**Kziot**	**7.10 136**	S	Sn	00 55 31.2	-1.7
YTIR	**Yattir**	**7.20 130**	P	Pn	00 54 13.7	-1.3
YTIR	**Yattir**	**7.20 130**	S	Sn	00 55 34.2	-1.3
DSI	**Dead Sea**	**7.22 127**	P	Pn	00 54 14.1	-1.3
DSI	**Dead Sea**	**7.22 127**	S	Sn	00 55 34.5	-1.5
MSBI	**Mazada**	**7.38 129**	P	Pn	00 54 15.7	-1.8
MSBI	**Mazada**	**7.38 129**	S	Sn	00 55 38.5	-1.3
LISJ	**El Lisan**	**7.51 129**	P	Pn	00 54 20.8	+1.6
GHAJ	**Ghor Haditha**	**7.52 128**	P	Pn	00 54 17.9	-1.5
GHAJ	**Ghor Haditha**	**7.52 128**	S	Sn	00 55 42.3	-0.9
PRNI	**Paran**	**7.86 136**	P	Pn	00 54 22.4	-1.7
PRNI	**Paran**	**7.86 136**	S	Sn	00 55 50.4	-1.2
KRMI	**Paran Flat**	**7.88 138**	P	Pn	00 54 22.8	-1.7
KRMI	**Paran Flat**	**7.88 138**	S	Sn	00 55 51.0	-1.3
HRFI	**Mount Harif**	**8.12 137**	P	Pn	00 54 29.0	+1.4
HRFI	**Mount Harif**	**8.12 137**	P	Pn	00 54 26.4	-1.2
HRFI	**Mount Harif**	**8.12 137**	S	Sn	00 55 56.6	-1.3
MBRI	**Mt Berech**	**8.24 139**	P	Pn	00 54 31.9	+2.6
MBRI	**Mt Berech**	**8.24 139**	P	Pn	00 54 28.2	-1.1
MBRI	**Mt Berech**	**8.24 139**	S	Sn	00 56 00.6	-0.4
EIL	**Elat**	**8.36 139**	P	Pn	00 54 32.3	+1.4
EIL	**Elat**	**8.36 139**	P	Pn	00 54 29.1	-1.7
EIL	**Elat**	**8.36 139**	S	Sn	00 56 02.4	-1.3

IDC ***20*** *00:55:14.8±0.4, 6°.14S×151°.21E, h0km, mb4.6/21, mbtmp4.7/23, ML4.2/2, MS4.4/31, Error ellipse: s-maj=14.6km s-min=10.4km az=110.0*

BJI ***20*** *00:55:14.9, 5°.99S×151°.78E, h22km, mb4.9/59, mB5.1/21, Ms4.8/40, Ms7 4.5/40*

MOS ***20*** *00:55:16.1±1.0, 5°.99S×151°.20E, h14km, mb5.2/34, Error ellipse: s-maj=8.3km s-min=6.3km az=121.8*

NEIC ***20*** *00:55:17.7, 6°.27S×151°.23E, h22km, Moment Tensor Solution. Duration: 2s0 Moment tensor: Scale 10^16^Nm; Mrr1.89; Mθθ-0.23; Mφφ-1.66; Mrθ-0.53; Mθφ-1.75; Mφr5.80; Fault plane solution: M0 6.33000×10^16^ NP1: φs358.75000°, δ81.60000°, λ73.33000°. NP2: φs242.74000°, δ18.61000°, λ152.75000°. Principal axes: T 6.5043, Plg51.0000°, Azm250.0000°; N -0.3482, Plg16.0000°, Azm1.0000°; P -6.1560, Plg35.0000°, Azm103.0000°;*

NEIC ***20*** *00:55:17.6±1.4, 6°.06S±0°.07×151°.32E±0°.07, h10km±1km, mb5.3/276, Mww5.1/11 Error ellipse: s-maj=13.5km s-min=9.6km az=135.0*

NEIC ***20*** *00:55:17.7, 6°.07S×151°.33E, h22km*

GCMT ***20*** *00:55:22.6±0.2, 6°.27S±0°.01×151°.42E±0°.01, h40km±1km, MW5.2/117, Moment Tensor Solution. s72, c97; s117, c184; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr1.75±.20; Mθθ-1.18±.14; Mφφ-0.56±.17; Mrθ0.66±.16; Mθφ-4.81±.14; Mφr5.05±.21; Best double couple: M0 7.10300×10^16^ NP1:φs9.00000°, δ81.00000°, λ49.00000°. NP2:φs269.00000°, δ42.00000°, λ166.00000°. Principal axes: T 6.6950, Plg40.0000°, Azm242.0000°; N 0.8190, Plg40.0000°, Azm16.0000°; P -7.5110, Plg25.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***20*** *00:55:26.4±1.5, 6°.5S±5°.5×15°.1E±°, h91km±13km, M5.6/54, mB6.0/24, mb5.5/54, Mw(mB)5.6/24, MwMwp5.0/3, Mwp5.3/3*

ISC 20 00:55:22.1±0.8, **6°.10S**±0°.04×**151°.33E**±0°.04, **h50**km±6km, **n842**, σ1§**30**/797, **mb5.2**/229, **MS4.5**/45, **24C-20D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BULU	**Kimbe**	**1.16**	**299**	P	Pn		00 55 42.6	+0.6
I40PG	**Keravat**	**1.92**	**21**	Pn	Pn		00 55 51.8	-0.5
	baz=132,slow=12							
I40PG				Sn	**Sn**		**00 56 17.3**	**+2.1**
	baz=261,slow=63							
I40PG				I	I		01 00 00.0	
	61nm,0.4s,baz=220,slow=314,SNR=0.5							
RABL	**Rabaul**	**2.07**	**24**	Pn	Pn		00 55 51.8	-2.6
PMG	**Port Moresby**	**5.28**	**231**	Pn	Pn		00 56 36.5	-2.0
PMG				Sn	**Sn**		**00 57 39.2**	**+1.2**
PMG	**Port Moresby**	**5.28**	**231**	Pn	**Pn**		**00 56 38.2**	**-0.3**
	176nm,0.3s,baz=44,slow=8.5,SNR=148							
PMG				Sn	**Sn**		**00 57 38.2**	**+0.2**
	439nm,0.3s,baz=338,slow=22,SNR=25							
PMG	**Port Moresby**	**5.28**	**231**	P	**Pn**		**00 56 40.6**	**+2.1**
PMG	**Port Moresby**	**5.28**	**231**	P	**Pn**		**00 56 39.9**	**+1.4**
PMG	**Port Moresby**	**5.28**	**231**	*c iP*	**Pn**		**00 56 38.9**	**+0.4**
MANU	**Manus Island**	**5.65**	**315**	Pn	**Pn**		**00 56 46.8**	**+3.2**
TATA	**Tatamba Isabel**	**8.71**	**106**	P	Pn		00 57 25.7	+0.2
HNR	**Honiara**	**9.15**	**112**	Pn	Pn		00 57 31.0	-0.6
	16nm,0.3s,baz=209,slow=4.3,SNR=1.5							
HNR				Sn	**Sn**		**00 59 16.4**	**+3.1**
	7.3nm,0.3s,baz=298,slow=1.5,SNR=7.4							
	73nm,0.3s							
ALEG	**Aligegeo Malai**	**9.65**	**106**	P	Pn		00 57 38.4	0.0
JAY	**Jayapura**	**11.18**	**288**	Pn	Pn		00 57 55.6	-3.7
	0.2nm,0.3s,baz=342,slow=22,SNR=1.4							
JAY				LR	LR		01 01 50.3	
	comp=Z,3μm,20.2s,baz=81,slow=36							
	3.8nm,0.6s							
COEN	**Coen**	**11.20**	**225**	Pn	**Pn**		**00 57 58.0**	**-1.6**
COEN	**Coen**	**11.20**	**225**	P	**Pn**		**00 57 59.4**	**-0.2**
COEN	**Coen**	**11.20**	**225**	S	**Sn**		**01 00 01.5**	**-1.9**
COEN	**Coen**	**11.20**	**225**	P	**Pn**		**00 57 59.3**	**-0.2**
HURO	**Huro Makira**	**11.32**	**113**	P	**Pn**		**00 58 03.4**	**+2.1**
MTSU	**Mount Surprise**	**13.78**	**209**	P	**Pn**		**00 58 35.3**	**+0.4**
MTSU	**Mount Surprise**	**13.78**	**209**	P	**Pn**		**00 58 34.4**	**-0.5**
TV1H	**Townsville Har**	**13.80**	**198**	P	**Pn**		**00 58 36.0**	**+0.8**
CTA	**Charters Tower**	**14.75**	**199**	LR	LR		01 04 15.7	
	comp=Z,102nm,18.7s,baz=24,slow=37							
CTAO	**Charters Tower**	**14.75**	**199**	Pn	**Pn**		**00 58 46.5**	**-1.3**
CTAO	**Charters Tower**	**14.75**	**199**	P	**Pn**		**00 58 46.5**	**-1.3**
LUES	**Luesalemba Tem**	**15.12**	**108**	P	**Pn**		**00 58 54.5**	**+1.9**
QIS	**Mount Isa**	**18.33**	**217**	P	**P**		**00 59 32.3**	**-0.1**
	comp=Z,0.0nmcomp=Z,114nm,1.4s							
QIS	**Mount Isa**	**18.33**	**217**	P	**P**		**00 59 32.8**	**+0.4**
EIDS	**Eidsvold**	**19.16**	**181**		**P**		**00 59 41.0**	**-0.5**
EIDS	**Eidsvold**	**19.16**	**181**	P	**P**		**00 59 41.6**	**+0.2**
	comp=Z,0.0nmcomp=Z,45nm,1.1s							
FAKI	**Fak Fak**	**19.28**	**279**	Pn	**P**		**00 59 43.4**	**+0.4**
FAKI	**Fak Fak**	**19.28**	**279**	P	**Pn**		**00 59 44.8**	**+0.4**
FAKI	**Fak Fak**	**19.28**	**279**	P	**Pn**		**00 59 47.9**	**+3.5**
KDU	**Kakadu**	**19.71**	**249**	P	**P**		**00 59 47.6**	**-0.1**
	comp=Z,0.0nmcomp=Z,181nm,0.9s							
KDU	**Kakadu**	**19.71**	**249**	S	**S**		**01 03 26.4**	**-1.0**
KDU	**Kakadu**	**19.71**	**249**	P	**P**		**00 59 47.8**	**+0.2**
SAUI	**Saumlaki**	**19.97**	**263**	Pn	**P**		**00 59 51.3**	**+0.9**
SAUI	**Saumlaki**	**19.97**	**263**	P	**Pn**		**00 59 53.0**	**+0.5**
SAUI	**Saumlaki**	**19.97**	**263**	P	**Pn**		**00 59 51.9**	**-0.6**
	comp=Z,364nm,1.0s,comp=Z,20μm							
GUMO	**Guam**	**20.59**	**342**	P	**P**		**00 59 55.9**	**-1.1**
	comp=Z,219nm,1.0s,baz=24,slow=23,SNR=2.2							
GUMO				LR	LR		01 09 00.3	
	comp=Z,287nm,18.1s,baz=140,slow=40							
	comp=Z,219nm,1.0s							
SWI	**Sorong**	**20.70**	**284**	P	**P**		**00 59 58.2**	**-0.1**
	comp=Z,112nm,0.6s,comp=Z,2μm							
MTN	**Manton Dam**	**21.01**	**250**	P	**P**		**01 00 01.4**	**-0.3**
MTN				IAmb	IAmb		01 00 06.5	
	comp=Z,116nm,0.6s							
MTN	**Manton Dam**	**21.01**	**250**	P	**P**		**01 00 01.6**	**-0.1**
	comp=Z,0.0nmcomp=Z,156nm,0.6s							
MTN	**Manton Dam**	**21.01**	**250**	S	**S**		**01 03 50.2**	**-3.0**
MTN	**Manton Dam**	**21.01**	**250**	P	**P**		**01 00 01.9**	**+0.2**
DRS	**Darwin Rock St**	**21.11**	**251**	P	**P**		**01 00 03.7**	**+0.9**
WB0	**Warramunga Arr**	**21.35**	**229**	P	**P**		**01 00 04.7**	**-0.6**
WB0				IAmb	IAmb		01 00 20.9	
	comp=Z,149nm,1.0s							
WR0	**Warramunga Arr**	**21.35**	**228**	P	**P**		**01 00 04.6**	**-0.7**
WR0				IAmb	IAmb		01 00 21.1	
	comp=Z,147nm,0.9s							
BNDI	**Bandanaira**	**21.39**	**273**	P	**P**		**01 00 06.8**	**+1.0**
BNDI	**Bandanaira**	**21.39**	**273**	P	**P**		**01 00 07.0**	**+1.2**
	comp=Z,385nm,0.9s,comp=Z,2μm							
QLP	**Quilpie**	**21.46**	**198**	P	**P**		**01 00 07.2**	**+0.8**
	comp=Z,257nm,0.9s							
WRAB	**Tennant Creek**	**21.48**	**229**	P	**P**		**01 00 05.9**	**-0.8**
WRAB				IAmb	IAmb		01 00 22.3	
	comp=Z,127nm,0.8s							
WRAB	**Tennant Creek**	**21.48**	**229**	*c iP*	**P**		**01 00 06.1**	**-0.6**
WRAB				pmax	pmax			
	comp=Z,79nm,0.8s							
WB2	**Warramunga Arr**	**21.48**	**229**	P	**P**		**01 00 05.8**	**-1.0**
WB2				IAmb	IAmb		01 00 22.5	
	comp=Z,108nm,0.9s							
WRA	**Warramunga Arr**	**21.49**	**229**	P	**P**		**01 00 06.2**	**-0.6**
WRA	**Warramunga Arr**	**21.49**	**229**	P	**P**		**01 00 05.0**	**-1.8**
	comp=Z,40nm,0.7s,baz=54,slow=10,SNR=78							
WRA				S	**S**		**01 04 01.7**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=55,slow=21,SNR=5.4							
WRA				ScP	**ScP**		**01 07 47.9**	**+6.4**
	comp=Z,4.2nm,0.9s,baz=49,slow=2.3,SNR=6.0							
WRA				LR	LR		01 08 29.0	
	comp=Z,1μm,20.3s,baz=54,slow=37							
	comp=Z,40nm,0.7s							
DZM	**Mont Dzumac**	**21.57**	**139**	P	**P**		**01 00 06.0**	**-1.8**
DZM	**Mont Dzumac**	**21.57**	**139**	*e*P	**P**		**01 00 05.6**	**-2.1**
	comp=Z,103nm,1.3s							
DZM				*e*S	**S**		**01 04 01.6**	**-2.7**
	comp=Z,908nm,24.4s							
DZM				*e*LR	LR		01 05 18.4	
	comp=Z,5μm,24.1s							
DZM	**Mont Dzumac**	**21.57**	**139**	P	**P**		**01 00 06.8**	**-0.9**
	comp=Z,17nm,0.8s,baz=319,slow=9.7,SNR=15							
DZM				LR	LR		01 07 14.7	
	comp=Z,3μm,21.2s,baz=304,slow=33							
	comp=Z,17nm,0.8s							
MSAI	**Masohi**	**22.49**	**276**	P	**P**		**01 00 17.7**	**+0.1**
	comp=Z,75nm,0.4s,comp=Z,8μm							
AAI	**Ambon**	**23.18**	**275**	P	**P**		**01 00 24.1**	**-0.6**
	comp=Z,67nm,0.6s							
INKA	**Innaminka**	**23.75**	**204**	P	**P**		**01 00 31.9**	**+1.9**
KNRA	**Kununurra**	**24.09**	**245**	P	**P**		**01 00 32.5**	**-0.7**
KNRA	**Kununurra**	**24.09**	**245**	P	**P**		**01 00 33.0**	**-0.2**
	comp=Z,168nm,0.7s							
ARMA	**Armidale**	**24.19**	**179**	P	**P**		**01 00 32.2**	**-1.9**
ARMA	**Armidale**	**24.19**	**179**	P	**P**		**01 00 38.2**	**+4.2**
AS31	**Alice Springs**	**24.21**	**222**	P	**P**		**01 00 33.6**	**-0.7**
ASAR	**Alice Springs**	**24.21**	**222**	P	**P**		**01 00 33.7**	**-0.5**
ASAR	**Alice Springs**	**24.21**	**222**	P	**P**		**01 00 34.0**	**-0.3**
	comp=Z,72nm,0.7s,baz=54,slow=9.5,SNR=291							
ASAR				S	**S**		**01 04 53.4**	**+4.0**
	comp=Z,0.9nm,0.6s,baz=43,slow=19,SNR=1.2							
ASAR				ScP	**ScP**		**01 07 54.0**	**+5.4**
	comp=Z,3.6nm,0.9s,baz=55,slow=3.2,SNR=8.9							
ASAR				LR	LR		01 10 01.2	
	comp=Z,895nm,20.9s,baz=58,slow=37							
	comp=Z,72nm,0.7s							
SANI	**Sanana**	**25.59**	**278**	P	**P**		**01 00 46.5**	**-0.4**
SANI	**Sanana**	**25.59**	**278**	P	**P**		**01 00 45.7**	**-1.2**
	comp=Z,66nm,0.9s							
CMSA	**Cobar Meteorol**	**25.85**	**191**	P	**P**		**01 00 45.5**	**-3.6**
OOD	**Oodnadatta**	**26.19**	**213**	P	**P**		**01 00 51.9**	**-0.3**
SOEI	**Soe**	**27.05**	**261**	P	**P**		**01 01 00.4**	**+0.3**
SOEI	**Soe**	**27.05**	**261**	P	**P**		**01 01 00.7**	**+0.5**
SOEI	**Soe**	**27.05**	**261**	P	**P**		**01 01 00.5**	**+0.3**
	comp=Z,164nm,0.7s,comp=Z,2μm							
LCRK	**Leigh Creek**	**27.18**	**205**	P	**P**		**01 01 01.0**	**0.0**
STKA	**Stephens Creek**	**27.21**	**198**	P	**P**		**01 00 59.6**	**-1.7**
STKA	**Stephens Creek**	**27.21**	**198**	P	**P**		**01 01 00.7**	**-0.6**
	comp=Z,8.4nm,0.8s							
STKA	**Stephens Creek**	**27.21**	**198**	P	**P**		**01 01 00.1**	**-1.2**
	comp=Z,14nm,0.7s,baz=5.4,slow=11,SNR=16							
	comp=Z,14nm,0.7s							
STKA	**Stephens Creek**	**27.21**	**198**	P	**P**		**01 01 03.0**	**+1.7**
STKA	**Stephens Creek**	**27.21**	**198**	*c iP*	**P**		**01 01 02.4**	**+1.1**
BATI	**Baumata**	**27.68**	**260**	LR	LR		01 13 48.3	
	comp=Z,2μm,21.9s,baz=97,slow=40							
BATI	**Baumata**	**27.68**	**260**	P	**P**		**01 01 07.3**	**+1.5**
FITZ	**Fitzroy Crossi**	**27.76

comp=Z,100nm,1.4s
MEEK Meekatharra 37.26 233 P **P 01 02 29.0 -0.3**
KMBL Kambalda 37.31 224 P **P 01 02 28.8 -0.8**
comp=Z,38nm,1.5s
KMBL Kambalda 37.31 224 P **P 01 02 29.7 +0.1**
BLJI Banyuglugur 37.49 265 P **P 01 02 30.5 -0.9**
comp=Z,54nm,0.6s
GMJI Gumukmas 37.64 264 P **P 01 02 30.8 -1.9**
comp=Z,57nm,1.0s
PWJI Pagerwojo 39.27 265 P **P 01 02 45.3 -1.0**
comp=Z,168nm,0.8s,comp=Z,2µm
GIRL Giralia 39.36 241 P **P 01 02 47.0 0.0**
GIRL Giralia 39.36 241 P **P 01 02 47.9 +0.9**
comp=Z,353nm,1.1s
GIRL Giralia 39.36 241 P **P 01 02 47.8 +0.8**
NGJI Ngawi 39.61 266 P **P 01 02 50.7 +1.5**
URZ Urewera 39.64 148 LR LR 01 17 50.3
comp=Z,645nm,18.4s,baz=46,slow=34
PCJI Pacitan 39.89 265 P **P 01 02 50.8 -0.7**
SBUM Sibu 39.97 281 P **P 01 02 51.4 -0.8**
SBUM Sibu 39.97 281 P **P 01 02 53.2 +1.0**
KLBR Kellerberrin 40.35 227 P **P 01 02 56.9 +1.7**
MORW Morawa 40.40 231 P **P 01 02 54.5 -1.0**
MORW IAmb IAmb 01 02 56.2
comp=Z,157nm,1.5s
MORW Morawa 40.40 231 P **P 01 02 55.2 -0.3**
comp=Z,70nm,2.1s
MORW Morawa 40.40 231 P **P 01 02 55.2 -0.3**
TCW Tory Channel 40.52 153 P **P 01 02 55.5 -0.8**
JHJ Hachijo jima 2 40.52 345 LR LR 01 16 41.2
comp=Z,293nm,20.9s,baz=256,slow=32
UGM Wanagama 40.53 265 P **P 01 02 57.0 +0.1**
TUWZ Tuamarina 40.54 154 P **P 01 02 56.7 +0.2**
RPZ Rata Peaks 41.28 158 LR LR 01 17 52.5
comp=Z,997nm,21.3s,baz=316,slow=33
MUN Mundaring 41.68 227 P **P 01 03 05.1 -1.0**
NACB Ninganchiao 41.79 317 P **P 01 03 06.4 -0.6**
NACB IAmb IAmb 01 03 08.8
comp=Z,67nm,1.0s
NACB Ninganchiao 41.79 317 P **P 01 03 08.5 +1.5**
SSLB Suanglung 41.97 316 P **P 01 03 08.1 -0.4**
SSLB Suanglung 41.97 316 P **P 01 03 09.8 +1.3**
KPJI Karang Pucung 42.12 266 P **P 01 03 10.7 +0.8**
YHNB Yeheng 42.27 318 P **P 01 03 10.1 -0.9**
YHNB Yeheng 42.27 318 P **P 01 03 11.8 +0.8**
CMJI Cimerak 42.59 265 P **P 01 03 12.7 -1.0**
BBJI Bungbulang 43.39 266 P **P 01 03 20.4 +0.2**
LEM Lembang 43.43 267 LR LR 01 23 36.5
comp=Z,383nm,22.0s,baz=110,slow=39
JNU Nakatsue 43.58 335 LR LR 01 18 33.8
comp=Z,154nm,20.9s,baz=168,slow=32
TPI Tanjungpandan 43.66 272 P **P 01 03 23.2 +0.8**
comp=Z,65nm,1.1s,comp=Z,966nm
CNJI Cibinong 43.91 266 P **P 01 03 23.6 -0.7**
comp=Z,186nm,1.1s,comp=Z,2µm
MJAR Matsushiro Arr 44.17 345 P **P 01 03 25.6 -0.5**
comp=Z,0.7nm,0.3s,baz=202,slow=9.2,SNR=2.0
MJAR PcP **PcP 01 05 10.1 -0.2**
comp=Z,2.9nm,0.9s,baz=166,slow=2.6,SNR=4.5
MJAR ScP **ScP 01 09 01.3 +3.0**
comp=Z,4.9nm,1.0s,baz=158,slow=4.7,SNR=5.7
comp=Z,0.7nm,0.3s
SKJI Sukabumi 44.48 266 P **P 01 03 28.1 -0.8**
PPBI Pangkal Pinang 45.23 273 P **P 01 03 34.9 -0.1**
KASI Kota Agung 46.59 268 P **P 01 03 42.7 -2.9**
LWLI Liwa 47.05 269 P **P 01 03 47.6 -1.8**
comp=Z,142nm,0.7s
TPRI Tanjung Pinang 47.24 277 P **P 01 03 52.5 +1.8**
QIZ Qiongzhong 47.90 302 P **P 01 03 55.8 +0.1**
QIZ S S 01 10 54.8 +5.0
QIZ LR LR
comp=Z,270nm,22.6s
QIZ LR LR
comp=Z,400nm,24.5s
QIZ LR LR
comp=Z,800nm,21.1s
KSRS Korea Array 48.53 335 P **P 01 04 00.1 -0.2**
comp=Z,2.6nm,0.7s,baz=154,slow=8.9,SNR=7.6
comp=Z,2.6nm,0.7s
RAR Rarotonga 49.61 113 LR LR 01 21 07.6
comp=Z,188nm,21.3s,baz=287,slow=31
WHN Wuhan 50.81 318 P **P 01 04 20.8 +3.1**
WHN LR LR
comp=Z,1µm,20.5s
PPI Padang Panjang 51.13 274 P **P 01 04 19.1 -1.4**
comp=Z,77nm,1.1s
IPM Ipoh 51.32 281 P **P 01 04 23.4 +1.5**
SISI Saibi 52.33 273 P **P 01 04 28.0 -1.4**
comp=Z,46nm,0.7s
USRK Ussuriysk Ar. 53.02 343 P **P 01 04 33.8 -0.2**
comp=Z,3.8nm,0.8s,baz=173,slow=8.0,SNR=5.7
comp=Z,3.8nm,0.8s
USA0B Ussuriysk Arra 53.02 343⇓*e*P **P 01 04 33.8 -0.2**
RPSI Rantau Prapat 53.06 278 P **P 01 04 33.1 -1.7**
PSI Prapat 53.08 278 P **P 01 04 36.5 +1.4**
PSI Prapat 53.08 278 P **P 01 04 33.1 -2.0**
PSI pmax pmax
comp=Z,22nm,1.2s
ENH Enshi 53.99 314 P **P 01 04 40.6 -0.8**
ENH IAmb IAmb 01 04 42.6
comp=Z,63nm,1.3s
ENH Enshi 53.99 314 P **P 01 04 41.5 +0.1**
MDJ Mudanjiang 54.14 341 P **P 01 04 41.9 -0.3**
MDJ S S 01 12 23.6 +8.2
MDJ pmax pmax
comp=Z,8.0nm,0.5s
MDJ pmax pmax
comp=Z,110nm,4.5s
MDJ LR LR
comp=Z,220nm,18.5s
MDJ LR LR
comp=Z,210nm,22.0s
MDJ LR LR
comp=Z,290nm,18.6s
GSI Gunungsitoli 54.17 276 P **P 01 04 40.9 -2.1**
GSI Gunungsitoli 54.17 276 P **P 01 04 43.6 +0.6**
GSI Gunungsitoli 54.17 276 P **P 01 04 41.3 -1.7**
comp=Z,62nm,1.0s
LYN LuoYang 54.59 321 P **P 01 04 45.8 +0.2**
LYN sP pP 01 04 56.8 -1.9
LYN S **S 01 12 19.0 -2.7**
LYN sS sS 01 12 37.6 -6.8
LYN pmax pmax
comp=Z,24nm,0.9s
LYN LR LR
comp=Z,450nm,22.7s
LYN LR LR
comp=Z,390nm,22.7s
LYN LR LR
comp=Z,780nm,23.0s
CN2 Changchun 54.91 337 *e*P **P 01 04 50.9 +3.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
HNS HongShan 55.13 325 ⇑P **P 01 04 49.4 -0.1**
HNS PcP **PcP 01 05 51.3 +1.0**
HNS *e*S S 01 12 34.3 +5.4
HNS pmax pmax
comp=Z,17nm,1.3s
HNS LR LR
comp=Z,440nm,18.6s
HNS LR LR
comp=Z,310nm,20.2s
HNS LR LR
comp=Z,430nm,19.8s
SRDT SRDT 55.63 292 P **P 01 04 54.7 +1.3**
MLSI Meulaboh, Aceh 55.80 279 P **P 01 04 53.0 -1.8**
comp=Z,58nm,1.2s
BNX BinXian 55.86 340 ⇑P **P 01 04 53.8 -0.8**
BNX pmax pmax
comp=Z,18nm,1.0s
PHRA Phrae 56.00 297 P **P 01 04 55.7 -0.3**
KMI Kunming 56.52 305 ⇓P **P 01 05 00.8 +0.8**
KMI S **S 01 12 51.3 +3.0**
KMI pmax pmax
comp=Z,17nm,0.9s
KMI LR LR
comp=Z,170nm,18.4s
KMI LR LR
comp=Z,230nm,19.5s
KMI LR LR
comp=Z,410nm,37.5s
XAN Xi'an 56.58 318 ⇑P **P 01 04 59.8 -0.2**
XAN S S 01 12 54.1 +5.7
XAN SS **SS 01 16 43.5 +6.7**
XAN pmax pmax
comp=Z,38nm,1.1s
XAN LR LR
comp=Z,440nm,21.0s
XAN LR LR
comp=Z,410nm,19.4s
XAN LR LR
comp=Z,700nm,18.5s
BSI Banda Aceh 57.11 281 P **P 01 05 01.4 -2.7**
CMAR Chiang Mai Arr 57.12 296 P **P 01 05 03.6 -0.4**
comp=Z,1.6nm,0.3s,baz=118,slow=4.8,SNR=17
CMAR PcP **PcP 01 05 59.3 +0.8**
comp=Z,1.5nm,0.4s,baz=101,slow=2.7,SNR=6.3
CMAR ScP **ScP 01 09 57.9 +3.7**
comp=Z,0.8nm,0.3s,baz=140,slow=2.8,SNR=5.0
CMAR LR LR 01 29 41.3
comp=Z,112nm,19.3s,baz=95,slow=36
comp=Z,1.6nm,0.3s
CHTO Chiang Mai 57.25 297 P **P 01 05 05.0 0.0**
CHTO PcP **PcP 01 05 58.3 -0.6**
CHTO Chiang Mai 57.25 297 P **P 01 05 05.0 0.0**
CHTO 01 05 58.3
CHTO pmax pmax
comp=Z,6.0nm,1.0s
KLR Kul'dur 57.70 345⇓*i*P **P 01 05 06.8 -0.7**
KLR pmax pmax
comp=Z,12nm,1.2s
PZH PanZhiHua 57.94 306 P **P 01 05 12.6 +2.8**
PZH S **S 01 13 10.9 +4.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,6.3s
PZH LR LR
comp=Z,200nm,20.2s
PZH LR LR
comp=Z,230nm,17.3s
PZH LR LR
comp=Z,360nm,18.2s
CD2 Chengdu 58.49 312 P **P 01 05 13.4 -0.1**
CD2 S **S 01 13 13.0 -0.7**
CD2 SS **SS 01 17 11.4 +4.4**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 LR LR
comp=Z,390nm,16.5s
CD2 LR LR
comp=Z,460nm,17.1s
CD2 LR LR
comp=Z,640nm,20.3s
PPT Papeete 58.74 107 LR LR 01 26 24.4
comp=Z,76nm,20.4s,baz=284,slow=32
PPT2 Papeete2 58.74 107 *e*S **S 01 13 16.1 -1.2**
comp=Z,112nm,24.8s
PPT2 *e*LQ LQ 01 20 03.4
comp=Z,168nm,23.8s
PPT2 *e*LR LR 01 22 26.7
comp=Z,192nm,35.2s
PPT2 *e*LR LR 01 22 32.8
comp=Z,310nm,31.2s
XLT XiLinHaoTe 59.07 331 *e*P **P 01 05 16.0 -1.3**
XLT pmax pmax
comp=Z,12nm,1.2s
XLT LR LR
comp=Z,17nm,15.2s
XLT LR LR
comp=Z,140nm,19.0s
XLT LR LR
comp=Z,290nm,20.0s
PET Petropavlovsk 59.23 5 *e*P **P 01 05 17.6 -0.5**
PET *e*S **S 01 13 24.7 +2.5**
PET MLR MLR
comp=Z,300nm,12.0s
PET MLR MLR
comp=Z,300nm,15.0s
PETK Petropavlovsk- 59.23 4 P **P 01 05 19.6 +1.5**
comp=Z,1.9nm,0.5s,baz=158,slow=6.9,SNR=5.8
comp=Z,1.9nm,0.5s
HHC Hu-ho-hao-te 59.27 326 *e*P **P 01 05 21.5 +2.7**
HHC pP pP 01 05 25.8 -6.3
HHC sP sP 01 05 28.3 -9.3
HHC PcP **PcP 01 06 05.5 -1.1**
HHC *e*S S 01 13 30.0 +6.5
HHC sS pS 01 13 41.4 +1.6
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,88nm,4.7s
HHC LR LR
comp=Z,260nm,17.1s
HHC LR LR
comp=Z,180nm,17.1s
HHC LR LR
comp=Z,390nm,18.1s
TBI Tubuai 59.37 113 *e*SS SS 01 17 26.5 +5.7
comp=Z,786nm,31.5s
TBI *e*LQ LQ 01 20 15.4
comp=Z,1µm,29.5s
TBI *e*LR LR 01 22 46.2
comp=Z,5µm,36.2s
HEH HeiHe 59.83 342 *e*P **P 01 05 21.3 -1.0**
HEH pmax pmax
comp=Z,10.0nm,0.8s
LZH Lanzhou 61.16 317 P **P 01 05 32.4 +0.5**
LZH sP pP 01 05 40.1 -5.2
LZH S S 01 13 53.3 +5.2
LZH pmax pmax
comp=Z,33nm,1.0s
LZH LR LR
comp=Z,290nm,18.5s
LZH LR LR
comp=Z,280nm,17.2s
LZH LR LR
comp=Z,390nm,19.6s
ZEA Zeya 62.98 344 *e*P **P 01 05 43.3 -0.2**
GTA Gaotai 65.63 318 *e*P **P 01 06 01.8 +0.4**
GTA sP pP 01 06 09.0 -6.0
GTA PP **PP 01 08 23.8 -2.6**
GTA pmax pmax
comp=Z,10.0nm,1.3s
GTA LR LR
comp=Z,110nm,16.3s
GTA LR LR
comp=Z,200nm,19.1s
GTA LR LR
comp=Z,190nm,21.1s
SHL Shillong 65.72 301 P **P 01 06 02.1 -0.1**
SHL IAmb IAmb 01 06 02.6
comp=Z,35nm,1.1s
SHL Shillong 65.72 301 P **P 01 06 02.1 -0.1**
SHL pmax pmax
comp=Z,35nm,1.1s
ULN Ulaanbaatar 66.34 329 P **P 01 06 04.8 -1.0**
ULN Ulaanbaatar 66.34 329*c i*P **P 01 06 06.0 +0.2**
ULN pmax pmax
comp=Z,9.0nm,1.1s
SONM Songino Array 66.66 329 P **P 01 06 08.0 +0.3**
comp=Z,3.7nm,0.5s,baz=147,slow=5.1,SNR=20
SONM LR LR 01 34 44.3
comp=Z,288nm,20.4s,baz=141,slow=36
comp=Z,3.7nm,0.5s
NIKH Nikolski High 67.80 25 P **P 01 06 15.8 +1.1**
baz=223
TAOE Nuku Hiva Isla 67.91 97 *e*LR LR 01 26 40.5
comp=Z,310nm,22.2s
UNV Unalaska Valle 69.41 25 P **P 01 06 25.4 +0.7**
baz=225
YAK Yakutsk 69.97 349 *e*P **P 01 06 26.6 -1.3**
YAK pmax pmax
comp=Z,22nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.7s
YAK pmax pmax
comp=E,3.0nm,1.1s
KNGR Kungurtug, Tuv 72.98 327⇑*i*P **P 01 06 47.6 +1.0**
CNBA Chernabura Isl 73.09 27 P **P 01 06 47.6 +0.6**
BILL Bilibino 74.72 6⇓*e*P **P 01 06 57.6 +1.4**
BILL pmax pmax
comp=Z,18nm,1.7s
M13K Dall Lake 75.21 21 P **P 01 07 00.5 +1.3**
baz=227
O14K Tigyukauivet M 75.22 23 P **P 01 07 01.0 +1.7**
baz=229
N14K Kuskokwak Cree 75.50 22 P **P 01 07 02.9 +2.1**
baz=229
WMQ Urumqi 75.72 318 *e*P P 01 07 07.5 +4.9
WMQ pmax pmax
comp=Z,15nm,1.5s
O15K Ungalikthiuk R 75.73 24 P **P 01 07 03.6 +1.4**
baz=230
K13K Kusilvak Mount 75.81 20 P **P 01 07 04.0 +1.4**
K13K IAmb IAmb 01 07 12.5
comp=Z,43nm,1.4s
K13K Kusilvak Mount 75.81 20 P **P 01 07 04.4 +1.8**
baz=225
M14K Bethel 75.94 22 P **P 01 07 04.2 +0.9**
M14K IAmb IAmb 01 07 06.6
comp=Z,53nm,1.1s
M14K Bethel 75.94 22 P **P 01 07 05.3 +2.0**
baz=228
L14K Kuka Creek 76.08 21 P **P 01 07 05.0 +0.9**
L14K Kuka Creek 76.08 21 P **P 01 07 05.9 +1.8**
baz=227
R17L Mt. Peulik Vol 76.23 26 P **P 01 07 06.7 +1.6**
baz=234
PLK4 Peulik 4 76.23 26 P **P 01 07 06.3 +1.1**
N15K Kwethluk River 76.26 23 P **P 01 07 06.3 +1.1**
N15K IAmb IAmb 01 07 08.5
comp=Z,51nm,1.2s
N15K Kwethluk River 76.26 23 P **P 01 07 06.8 +1.6**
baz=230
M15K Kasigluk River 76.38 22 P **P 01 07 07.5 +1.7**
baz=229
SII Sitkinak Islan 76.59 28 P **P 01 07 08.4 +1.2**
baz=236
O16K Kokwok River B 76.69 24 P **P 01 07 08.6 +1.0**
baz=232
Q16K King Salmon 76.72 25 P **P 01 07 08.9 +1.1**
baz=234
L15K Ungalak Mounta 76.73 21 P **P 01 07 09.3 +1.5**
baz=228
J14K Nanvaranak Lak 76.75 20 P **P 01 07 09.1 +1.3**
J14K IAmb IAmb 01 07 10.9
comp=Z,38nm,1.0s
J14K Nanvaranak Lak 76.75 20 P **P 01 07 09.8 +2.0**
baz=226,SNR=6.8
Q17K Contact Creek 76.81 26 P **P 01 07 09.1 +0.6**
baz=234,SNR=6.6
N16K Nishlik Lake 76.97 23 P **P 01 07 10.5 +1.3**
baz=231
ACHA Angle Creek He 77.02 26 P **P 01 07 09.9 +0.3**
ACHA IAmb IAmb 01 07 11.8
comp=Z,22nm,1.0s
K15K Wolf Creek Mou 77.13 21 P **P 01 07 11.1 +1.0**
K15K Wolf Creek Mou 77.13 21 P **P 01 07 11.4 +1.3**
baz=228
O17K Koliganek Bris 77.20 24 P **P 01 07 11.7 +1.2**
baz=233
M16K Timber Creek 77.24 22 P **P 01 07 11.3 +0.6**
M16K Timber Creek 77.24 22 P **P 01 07 12.1 +1.4**
baz=231
OHAK Old Harbor 77.37 27 P **P 01 07 12.8 +1.3**
baz=237
Q18K Katmai Hardscr 77.40 26 P **P 01 07 12.7 +0.8**
baz=235,SNR=5.8
ANM Nome 77.45 18 P **P 01 07 13.5 +1.7**
baz=224
L16K Owhat River 77.48 22 P **P 01 07 13.0 +1.0**
L16K IAmb IAmb 01 07 14.3
comp=Z,32nm,1.1s
L16K Owhat River 77.48 22 P **P 01 07 13.4 +1.3**
baz=230
N17K Nushagak Hills 77.62 23 P **P 01 07 14.6 +1.8**
N17K IAmb IAmb 01 07 15.2
comp=Z,23nm,0.9s
N17K Nushagak Hills 77.62 23 P **P 01 07 13.9 +1.0**
baz=233
KDAK Kodiak Island 77.99 27 P **P 01 07 15.9 +1.0**
KDAK Kodiak Island 77.99 27 LR LR 01 37 42.1
comp=Z,84nm,20.0s,baz=73,slow=33
KDAK Kodiak Island 77.99 27 P **P 01 07 16.5 +1.6**
baz=238
KDAK Kodiak Island 77.99 27 P **P 01 07 15.9 +1.0**
KDAK pmax pmax
comp=Z,147nm,1.5s
O18K Koktuh Hills 78.02 24 P **P 01 07 16.9 +1.8**
baz=235
M17K Holitna River 78.05 23 P **P 01 07 16.8 +1.6**
M17K IAmb IAmb 01 07 18.3
comp=Z,25nm,0.9s
M17K Holitna River 78.05 23 P **P 01 07 17.3 +2.1**
baz=232
J16K Anvik River 78.10 20 P **P 01 07 16.4 +0.9**
J16K Anvik River 78.10 20 P **P 01 07 17.4 +2.0**
baz=229
Q19K Cape Douglas, 78.15 26 P **P 01 07 16.0 +0.1**
Q19K Cape Douglas, 78.15 26 P **P 01 07 16.5 +0.6**
baz=236,SNR=5.1
G15K Niukluk 78.16 18 P **P 01 07 17.5 +1.7**
baz=226
L17K Donlin 78.18 22 P **P 01 07 18.0 +2.0**
baz=231
N18K Kilae Creek 78.22 24 P **P 01 07 16.9 +0.7**
N18K IAmb IAmb 01 07 19.2
comp=Z,26nm,1.1s
N18K Kilae Creek 78.22 24 P **P 01 07 17.9 +1.7**
baz=234
KAAM Kaadhehdhoo 78.46 272 **P 01 07 17.8 -0.7**
I17K Unalakleet 78.47 20 P **P 01 07 18.0 +0.6**
I17K IAmb IAmb 01 07 20.5
comp=Z,45nm,1.1s
I17K Unalakleet 78.47 20 P **P 01 07 19.3 +1.8**
baz=229
H16K Elim 78.47 19 P **P 01 07 19.2 +1.7**
baz=227
F15K North Star Dit 78.48 17 P **P 01 07 17.8 +0.3**
F15K IAmb IAmb 01 07 19.9
comp=Z,44nm,1.2s
F15K North Star Dit 78.48 17 P **P 01 07 19.5 +2.0**
baz=225
K17K Iditarod 78.55 21 P **P 01 07 17.9 0.0**
K17K Iditarod 78.55 21 P **P 01 07 20.0 +2.1**
baz=231,SNR=17
J17K VABM Dome 78.70 20 P **P 01 07 19.6 +0.8**
J17K IAmb IAmb 01 07 21.7
comp=Z,48nm,1.1s
J17K VABM Dome 78.70 20 P **P 01 07 20.4 +1.7**
baz=230,SNR=9.2
M18K Stony River 78.73 23 P **P 01 07 20.2 +1.3**
baz=234
P19K Oil Pt 78.73 25 P **P 01 07 19.7 +0.6**
baz=237
L18K Granite Mounta 78.83 22 P **P 01 07 20.5 +1.0**
L18K IAmb IAmb 01 07 22.5
comp=Z,55nm,1.2s
L18K Granite Mounta 78.83 22 P **P 01 07 20.9 +1.4**
baz=233
N19K Bonanza Creek 78.86 24 P **P 01 07 21.3 +1.5**
baz=235
ZSN Zaisan 78.94 321 *e*P **P 01 07 19.4 -1.1**
ZSN Zaisan 78.94 321 *e*P **P 01 07 19.3 -1.1**
G16K Koyuk River 78.95 18 P **P 01 07 21.2 +1.1**
G16K IAmb IAmb 01 07 22.6
comp=Z,45nm,1.2s
G16K Koyuk River 78.95 18 P **P 01 07 21.8 +1.7**
baz=227
TIXI Tiksi 79.00 353 P **P 01 07 20.6 +0.4**
TIXI Tiksi 79.00 353*ce*P **P 01 07 20.8 +0.6**
TIXI pmax pmax
comp=Z,6.0nm,1.1s
HOM Homer 79.41 26 P **P 01 07 21.8 -0.9**
HOM Homer 79.41 26 P **P 01 07 23.5 +0.8**
baz=238
H17K Granite Mounta 79.42 19 P **P 01 07 22.9 +0.3**
H17K IAmb IAmb 01 07 25.8
comp=Z,28nm,1.1s
H17K Granite Mounta 79.42 19 P **P 01 07 23.8 +1.2**
baz=230
L19K White Mountain 79.50 23 P **P 01 07 24.1 +0.9**
L19K IAmb IAmb 01 07 25.8
comp=Z,35nm,1.0s
L19K White Mountain 79.50 23 P **P 01 07 24.3 +1.1**
baz=235
TTA Tatalina 79.51 22 P **P 01 07 23.7 +0.4**
TTA IAmb IAmb 01 07 25.6
comp=Z,35nm,1.3s
TTA Tatalina 79.51 22 P **P 01 07 24.8 +1.4**
baz=234,SNR=5.7
TTA Tatalina 79.51 22 P **P 01 07 25.5 +2.2**
TTA Tatalina 79.51 22 P **P 01 07 23.7 +0.4**
TTA pmax pmax
comp=Z,35nm,1.3s
CNPM China Poot 79.52 26 P **P 01 07 22.9 -0.4**
M19K Big River Lodg 79.52 23 P **P 01 07 22.7 -0.6**

M19K IAmb IAmb 01 07 26.1
comp=Z,37nm,1.3s
M19K Big River Lodg 79.52 23 P P 01 07 24.7 +1.3
baz=235
G17K Kiwalik Mounta 79.55 18 P P 01 07 24.5 +1.1
baz=229
J18K Innoko River 79.58 21 P P 01 07 24.2 +0.6
J18K Innoko River 79.58 21 P P 01 07 24.8 +1.3
baz=233
BRSE Bradley Lake S 79.84 26 P P 01 07 26.0 +0.9
baz=239
F17K Baldwin Pennin 79.99 17 P P 01 07 26.8 +1.1
F17K IAmb IAmb 01 07 28.1
comp=Z,32nm,1.1s
F17K Baldwin Pennin 79.99 17 P P 01 07 26.9 +1.2
baz=228
N20K Mount Spurr 80.00 24 P P 01 07 26.2 +0.2
baz=237
SPCR Spurr Chakacha 80.00 24 P P 01 07 26.4 +0.4
baz=237
M20K Styx River 80.00 23 P P 01 07 26.4 +0.4
M20K IAmb IAmb 01 07 28.2
comp=Z,28nm,1.1s
M20K Styx River 80.00 23 P P 01 07 26.9 +0.9
baz=236
L20K Farewell, AK 80.05 23 P P 01 07 27.5 +1.3
baz=236
H18K Honhosa River 80.06 19 P P 01 07 27.5 +1.4
baz=231
E17K Hotham Inlet 80.26 17 P P 01 07 28.5 +1.4
baz=227
J19K Poorman 80.28 21 P P 01 07 28.3 +0.9
J19K IAmb IAmb 01 07 29.9
comp=Z,42nm,1.4s
J19K Poorman 80.28 21 P P 01 07 28.7 +1.3
baz=234
GCSA Galena City Sc 80.30 20 P P 01 07 28.5 +1.1
baz=232
D17K Noatak River 80.33 16 P P 01 07 28.4 +0.9
baz=226
MK31 Makanchi Array 80.35 319|| eP P 01 07 28.2 0.0
MKAR Makanchi Array 80.35 319 P P 01 07 27.6 -0.6
MKAR Makanchi Array 80.35 319 P P 01 07 27.8 -0.4
comp=Z,1.1nm,0.5s,baz=96,slow=8.9,SNR=11
MKAR PP **PP 01 10 26.8 -4.9**
comp=Z,2.2nm,1.0s,baz=51,slow=10.0,SNR=4.1
MKAR LR LR 01 41 22.9
comp=Z,171nm,21.7s,baz=86,slow=34
comp=Z,1.1nm,0.5s
MKAR Makanchi Array 80.35 319 i P P 01 07 28.1 -0.1
MKAR pmax pmax
comp=Z,2.0nm,0.7s
G18K Tagagawik 80.44 19 P P 01 07 29.5 +1.3
baz=231
K20K Telida 80.48 22 P P 01 07 29.2 +0.8
K20K IAmb IAmb 01 07 31.0
comp=Z,35nm,1.1s
K20K Telida 80.48 22 P P 01 07 29.9 +1.5
baz=235
MAKZ Makanchi 80.56 319 P P 01 07 28.7 -0.6
MAKZ Makanchi 80.56 319 P P 01 07 28.7 -0.6
MAKZ pmax pmax
comp=Z,14nm,1.3s
F18K Selawik 80.58 18 P P 01 07 30.0 +1.2
baz=230
SEW Seward 80.59 26 P P 01 07 30.0 +1.0
baz=240
RDOG Red Dog Mine 80.62 16 P P 01 07 30.6 +1.4
baz=226
O22K Cooper Landing 80.66 25 P P 01 07 30.5 +1.1
baz=240
SKT Skwentna 80.69 24 P P 01 07 30.9 +1.3
baz=238
SUA Susitna One 80.74 24 P P 01 07 31.1 +1.1
baz=239
E18K Tukpahlearik C 80.84 17 P P 01 07 31.7 +1.4
baz=228
J20K Nowinta River 80.92 21 IAmb IAmb 01 07 33.4
comp=Z,50nm,1.1s
J20K Nowinta River 80.92 21 P P 01 07 32.2 +1.5
baz=235,SNR=14
H19K Roundabout Mou 80.92 19 IAmb IAmb 01 07 33.1
comp=Z,38nm,1.1s
H19K Roundabout Mou 80.92 19 P P 01 07 32.1 +1.4
baz=233
PPLA Purkeypile 80.93 23 P P 01 07 32.1 +1.1
baz=237
RC01 Rabbit Creek A 80.96 25 P P 01 07 32.0 +0.9
RC01 IAmb IAmb 01 07 32.6
comp=Z,51nm,1.1s
RC01 Rabbit Creek A 80.96 25 P P 01 07 31.9 +0.9
baz=240
G19K Purcell Mounta 81.09 19 P P 01 07 32.4 +0.8
G19K IAmb IAmb 01 07 34.1
comp=Z,38nm,1.2s
G19K Purcell Mounta 81.09 19 P P 01 07 33.2 +1.5
baz=232
SHLS Shalkode 81.12 315 eP P 01 07 29.6 -2.8
SHLS Shalkode 81.12 315 eP P 01 07 29.6 -2.8
M22K Willow 81.14 24 IAmb IAmb 01 07 33.6
comp=Z,62nm,1.1s
M22K Willow 81.14 24 P P 01 07 33.0 +1.0
baz=239
I20K Naaghedeneel 81.16 21 P P 01 07 32.6 +0.6
I20K IAmb IAmb 01 07 35.2
comp=Z,60nm,1.1s
I20K Naaghedeneel 81.16 21 P P 01 07 33.2 +1.3
baz=235
CAST Castle Rocks 81.25 22 IAmb IAmb 01 07 33.9
comp=Z,40nm,1.1s
CAST Castle Rocks 81.25 22 P P 01 07 33.0 +0.4
baz=237,SNR=14
F19K Shaleruckik Mo 81.31 18 P P 01 07 33.9 +1.1
baz=231
UZB Uzynbulak 81.42 315 eP P 01 07 32.7 -1.5
UZB Uzynbulak 81.42 315 eP P 01 07 32.6 -1.5
CHUM Lake Minchumin 81.42 22 P P 01 07 34.7 +1.3
baz=237,SNR=12
H20K Anotleneega Mo 81.43 20 P P 01 07 34.8 +1.3
baz=234
ZAA0 Zalesovo Array 81.43 327 P P 01 07 32.7 -0.9
ZALV Zalesovo Beam 81.43 327 P P 01 07 31.9 -1.7
ZALV Zalesovo Beam 81.43 327 P P 01 07 32.4 -1.3
comp=Z,1.6nm,0.5s,baz=110,slow=5.8,SNR=10
comp=Z,1.6nm,0.5s
P23K Montague Islan 81.43 26 P P 01 07 34.2 +0.6
baz=242
PWL Port Wells 81.44 25 P P 01 07 34.0 +0.3
PWL Port Wells 81.44 25 P P 01 07 34.5 +0.8
baz=241,SNR=6.4
PMR Palmer 81.47 25 P P 01 07 34.7 +1.0
baz=240
PMR Palmer 81.47 25 P P 01 07 35.0 +1.3
Q23K Middleton Isla 81.64 27 P P 01 07 34.8 +0.1
Q23K Middleton Isla 81.64 27 P P 01 07 35.5 +0.8
baz=243
GHO Glory Hole Cre 81.64 25 P P 01 07 35.2 +0.4
GHO IAmb IAmb 01 07 36.3
comp=Z,38nm,1.1s
KNK Knik Glacier 81.66 25 IAmb IAmb 01 07 49.5
comp=Z,52nm,1.4s
KNK Knik Glacier 81.66 25 P P 01 07 36.1 +1.3
baz=241
PRZ Przheval'sk 81.67 314 P P 01 07 35.9 +0.4
PRZ IAmb IAmb 01 07 37.6
comp=Z,36nm,1.3s
PRZ Przheval'sk 81.67 314 P P 01 07 35.9 +0.4
PRZ pmax pmax
comp=Z,36nm,1.3s
KPKS Kokpek 81.75 315 eP P 01 07 34.4 -1.4
KPKS Kokpek 81.75 315 eP P 01 07 34.4 -1.4
KTH Kantishna Hill 81.77 22 IAmb IAmb 01 07 36.2
comp=Z,31nm,1.0s
B18K Kokolik River 81.82 15 P P 01 07 36.8 +1.4
baz=227
SATY Saty 81.83 315 eP P 01 07 35.2 -1.1
SATY Saty 81.83 315 eP P 01 07 35.1 -1.1
E19K Redstone River 81.86 18 IAmb IAmb 01 07 38.1
comp=Z,30nm,0.9s
E19K Redstone River 81.86 18 P P 01 07 37.4 +1.7
baz=232
TARG Taragay, Kyrgy 81.89 314 P P 01 07 36.2 -0.8
TARG Taragay, Kyrgy 81.89 314 P P 01 07 36.2 -0.8
TARG pmax pmax
comp=Z,9.0nm,1.2s
SML Sawmill 81.91 25 P P 01 07 36.7 +0.6
SML Sawmill 81.91 25 P P 01 07 37.3 +1.2
baz=241,SNR=8.5
TRF Thorofare Moun 81.95 23 P P 01 07 37.2 +0.7
baz=239
GLI Glacier Island 81.98 26 P P 01 07 37.1 +0.6
GLI Glacier Island 81.98 26 P P 01 07 37.1 +0.6
baz=242
BPAW Bear Paw Mtn. 82.03 22 IAmb IAmb 01 07 37.7
comp=Z,26nm,1.1s
BPAW Bear Paw Mtn. 82.03 22 P P 01 07 37.1 +0.4
baz=238,SNR=6.0
F20K Avaraart Lake 82.08 18 IAmb IAmb 01 07 39.3
comp=Z,38nm,1.4s
F20K Avaraart Lake 82.08 18 P P 01 07 37.7 +0.9
baz=233
IMAR Indian Mountai 82.09 20 P P 01 07 37.9 +0.9
M23K Glacier View 82.15 25 P P 01 07 38.0 +0.7
baz=241
H21K Melozitna Rive 82.23 20 P P 01 07 38.3 +0.6
H21K IAmb IAmb 01 07 39.8
comp=Z,24nm,1.2s
H21K Melozitna Rive 82.23 20 P P 01 07 38.9 +1.2
baz=236,SNR=7.6
C19K Lookout Ridge 82.24 16 P P 01 07 38.7 +1.0
C19K IAmb IAmb 01 07 40.0
comp=Z,38nm,1.2s
C19K Lookout Ridge 82.24 16 P P 01 07 38.9 +1.2
baz=229
D19K Kuna River 82.25 17 P P 01 07 38.1 +0.3
D19K IAmb IAmb 01 07 39.6
comp=Z,25nm,1.3s
D19K Kuna River 82.25 17 P P 01 07 38.5 +0.7
baz=231
I21K Tanana 82.25 21 P P 01 07 37.8 +0.1
I21K IAmb IAmb 01 07 40.1
comp=Z,38nm,1.1s
I21K Tanana 82.25 21 P P 01 07 38.9 +1.1
baz=237
WAT1 Susitna Watana 82.32 24 P P 01 07 38.5 +0.3
baz=240
SCM Sheep Creek Mo 82.34 25 P P 01 07 39.2 +0.8
SCM Sheep Creek Mo 82.34 25 P P 01 07 39.0 +0.6
baz=242
SCM Sheep Creek Mo 82.34 25 P P 01 07 39.2 +0.8
SCM pmax pmax
comp=Z,52nm,1.1s
TDK Taldyqorghan 82.38 317 eP P 01 07 37.8 -1.2
comp=Z,6.9nm,0.6s
TDK Taldyqorghan 82.38 317 eP P 01 07 37.7 -1.2
TDK pmax pmax
comp=Z,7.0nm,0.6s
KDJ Kajisay 82.45 314 P P 01 07 39.8 +0.2
KDJ Kajisay 82.45 314 P P 01 07 39.8 +0.2
KDJ pmax pmax
comp=Z,15nm,1.1s
G21K Allakaket 82.48 19 IAmb IAmb 01 07 40.9
comp=Z,23nm,1.2s
G21K Allakaket 82.48 19 P P 01 07 39.7 +0.7
baz=235
WAT6 Susitna Watana 82.53 24 P P 01 07 40.0 +0.5
baz=241,SNR=6.2
A19K Wainwright 82.58 15 P P 01 07 40.3 +0.9
baz=228
MLY Manley 82.62 21 P P 01 07 40.2 +0.4
baz=238,SNR=26
MCK McKinley 82.62 23 P P 01 07 39.8 0.0
baz=240,SNR=26
BWN Browne 82.64 22 P P 01 07 40.5 +0.6
E20K Nigu River 82.67 17 P P 01 07 41.1 +1.1
baz=233
KSH Kashi 82.68 311 P P 01 07 42.1 +1.4
KSH sP PcP 01 07 49.8 +4.2
KSH pmax pmax
comp=Z,8.0nm,1.7s
KLU Klutina 82.77 25 P P 01 07 41.6 +1.0
KLU Klutina 82.77 25 P P 01 07 41.6 +1.0
baz=243,SNR=8.0
MDOK Medeo 82.81 315 eP P 01 07 40.2 -1.2
MDOK Medeo 82.81 315 eP P 01 07 40.2 -1.2
D20K Etivluk River 82.82 17 P P 01 07 41.8 +1.0
baz=232
H22K Ishtalitna Cre 82.85 20 P P 01 07 41.9 +1.0
baz=237
TNSS Tian-Shan 82.85 315 eP P 01 07 40.5 -1.4
TNSS Tian-Shan 82.85 315 eP P 01 07 40.5 -1.4
F21K Alatna River 82.89 19 P P 01 07 42.0 +0.9
F21K IAmb IAmb 01 07 43.0
comp=Z,22nm,1.4s
F21K Alatna River 82.89 19 P P 01 07 41.9 +0.8
baz=235
DHY Denali Highway 82.91 24 P P 01 07 41.3 -0.2
DHY IAmb IAmb 01 07 43.1
comp=Z,26nm,1.0s
DHY Denali Highway 82.91 24 P P 01 07 42.1 +0.7
baz=242,SNR=7.6
AAA Alma-Ata 82.92 315 eP P 01 07 40.7 -1.1
AAA Alma-Ata 82.92 315 eP P 01 07 40.7 -1.1
M24K Tolsona, Glenn 82.95 25 P P 01 07 42.1 +0.6
M24K Tolsona, Glenn 82.95 25 P P 01 07 42.6 +1.0
baz=243
HMT Hamilton 82.99 27 P P 01 07 42.6 +0.9
NEA2 Nenana 83.00 22 IAmb IAmb 01 07 42.4
comp=Z,41nm,1.1s
NEA2 Nenana 83.00 22 P P 01 07 41.9 +0.2
baz=240,SNR=19
BMRM Bremner River 83.11 26 P P 01 07 42.8 +0.4
baz=244
I23K Minto, Yukon-K 83.18 21 IAmb IAmb 01 08 01.7
comp=Z,20nm,1.4s
I23K Minto, Yukon-K 83.18 21 P P 01 07 43.2 +0.7
baz=239,SNR=7.6
BERG Berg Lake 83.27 27 P P 01 07 43.6 +0.5
WRH Wood River Hil 83.31 22 IAmb IAmb 01 07 44.1
comp=Z,33nm,1.0s
G22K Bettles 83.37 19 P P 01 07 44.5 +1.0
baz=237
N25K Chitina, Valde 83.39 26 P P 01 07 44.6 +0.7
N25K IAmb IAmb 01 07 54.0
comp=Z,25nm,1.1s
N25K Chitina, Valde 83.39 26 P P 01 07 44.5 +0.7
baz=244
E21K Killik River 83.44 18 IAmb IAmb 01 07 46.0
comp=Z,35nm,1.2s
E21K Killik River 83.44 18 P P 01 07 44.9 +1.0
baz=235
H23K Yukon River 83.46 21 P P 01 07 44.6 +0.6
H23K IAmb IAmb 01 07 46.1
comp=Z,48nm,1.4s
H23K Yukon River 83.46 21 P P 01 07 45.0 +0.9
baz=239
F22K John River 83.47 19 P P 01 07 45.1 +1.0
baz=236
B20K Meade River 83.47 16 P P 01 07 44.9 +0.9
baz=232
KUU Kurty 83.50 315 eP P 01 07 43.7 -1.1
KUU Kurty 83.50 315 eP P 01 07 43.7 -1.1
CCB Clear Creek Bu 83.50 22 P P 01 07 43.8 -0.5
CCB IAmb IAmb 01 07 44.8
comp=Z,29nm,1.0s
HARP HAARP 83.50 25 P P 01 07 45.2 +0.9
baz=244
NIL Nilore 83.51 305 P P 01 07 44.7 -0.4
NIL Nilore 83.51 305 P P 01 07 44.7 -0.4
NIL pmax pmax
comp=Z,78nm,1.5s
COLA College 83.60 22 P P 01 07 44.8 +0.1
COLA College 83.60 22 P P 01 07 45.2 +0.5
baz=241
COLA College 83.60 22 P P 01 07 46.8 +2.1
COLA College 83.60 22 c i P P 01 07 44.2 -0.5
COLA pmax pmax
comp=Z,49nm,0.9s
C21K Knifeblade Rid 83.62 17 P P 01 07 45.8 +1.0
baz=234
PAX Paxson 83.63 24 P P 01 07 45.6 +0.5
baz=243,SNR=5.1
GLB Gilahina Butte 83.66 26 P P 01 07 45.7 +0.4
WAX Waxell Ridge 83.67 27 P 01 07 45.9 +0.5
CRQE Cirque 83.69 27 P P 01 07 46.2 +0.7
baz=246,SNR=5.1
HDA Harding Lake 83.71 23 P P 01 07 45.3 -0.1
HDA IAmb IAmb 01 07 47.8
comp=Z,12nm,0.8s
HDA Harding Lake 83.71 23 P P 01 07 45.4 0.0
baz=242,SNR=6.6
VRDI Verde Repeater 83.73 26 P P 01 07 46.6 +0.8
VRDI IAmb IAmb 01 07 48.8
comp=Z,30nm,1.2s
G23K Bananza Creek 83.75 20 IAmb IAmb 01 07 47.6
comp=Z,36nm,1.2s
G23K Bananza Creek 83.75 20 P P 01 07 46.1 +0.5
baz=239
TGL Tana Glacier 83.81 27 P P 01 07 46.3 +0.2
TGL IAmb IAmb 01 07 48.2
comp=Z,33nm,1.1s
MAW Mawson 83.81 203 P P 01 07 45.4 -0.4
comp=Z,2.9nm,0.5s,baz=103,slow=6.7,SNR=9.0
comp=Z,2.9nm,0.5s
QSPA South Pole Qui 83.86 180 P P 01 07 46.0 -0.3
QSPA IAmb IAmb 01 08 04.6
comp=Z,16nm,0.9s
QSPA South Pole Qui 83.86 180 P P 01 07 46.0 -0.3
comp=Z,4.5nm,0.6s,baz=315,slow=0.9,SNR=15
comp=Z,4.5nm,0.6s
POKR Poker Plat Res 83.87 22 P P 01 07 45.2 -0.9
POKR IAmb IAmb 01 07 46.5
comp=Z,11nm,0.7s
POKR Poker Plat Res 83.87 22 P P 01 07 46.2 0.0
baz=241
K24K Donnelly Dome 83.89 23 P P 01 07 46.8 +0.5
baz=243
KURK Kurchatov 83.90 322 P P 01 07 45.7 -0.8
KURK Kurchatov 83.90 322 c i P P 01 07 45.8 -0.8
KURK pmax pmax
comp=Z,27nm,1.7s
IL31 83.91 22 IAmb IAmb 01 07 46.6
comp=Z,23nm,0.9s
ILAR Eielson Array 83.91 22 P P 01 07 45.8 -0.6
comp=Z,16nm,0.8s,baz=255,slow=5.2,SNR=115
ILAR LR LR 01 40 47.7
comp=Z,152nm,20.8s,baz=231,slow=32
comp=Z,16nm,0.8s
KURBB Kurchatov Arra 83.92 322 P P 01 07 45.9 -0.8
comp=Z,3.3nm,0.9s,baz=110,slow=4.0,SNR=17
comp=Z,3.3nm,0.9s
E22K Anaktuvuk Pass 83.93 18 P P 01 07 47.1 +0.6
E22K IAmb IAmb 01 07 48.6
comp=Z,26nm,1.1s
E22K Anaktuvuk Pass 83.93 18 P P 01 07 47.2 +0.8
baz=237
B21K Ikpikpuk River 83.94 17 P P 01 07 47.3 +0.9
baz=234
COLD Coldfoot 83.96 19 P P 01 07 47.4 +0.8
baz=238
ISLE Juniper Island 83.97 27 P P 01 07 46.5 -0.4
ISLE IAmb IAmb 01 07 48.9
comp=Z,40nm,1.1s
MCARA McCarthy VSAT 83.98 26 IAmb IAmb 01 07 49.0
comp=Z,27nm,1.0s
MCARA McCarthy VSAT 83.98 26 P P 01 07 47.9 +1.1
baz=246
H24K Noodor Dome 84.06 21 IAmb IAmb 01 07 49.6
comp=Z,25nm,1.4s
H24K Noodor Dome 84.06 21 P P 01 07 48.0 +0.9
baz=241
D22K Ayikyak River 84.08 18 P P 01 07 48.1 +0.9
D22K Ayikyak River 84.08 18 P P 01 07 48.5 +1.3
baz=236
RIDG Independent Ri 84.23 24 IAmb IAmb 01 07 49.7
comp=Z,36nm,1.1s
RIDG Independent Ri 84.23 24 P P 01 07 48.6 +0.5
baz=244,SNR=6.9
MENT Mentasta 84.34 25 IAmb IAmb 01 07 50.5
comp=Z,18nm,1.0s
MENT Mentasta 84.34 25 P P 01 07 50.6 +2.0
J25K Salcha River, 84.41 23 P P 01 07 49.5 +0.5
baz=243
M26K Nabesna, AK 84.41 25 P P 01 07 50.0 +0.9
M26K Nabesna, AK 84.41 25 P P 01 07 49.8 +0.8
baz=246,SNR=5.0
FRU1 Bishkek 84.44 314 P P 01 07 50.6 +0.9
FRU1 IAmb IAmb 01 07 51.2
comp=Z,33nm,1.5s
FRU1 Bishkek 84.44 314 P P 01 07 50.6 +0.9
FRU1 pmax pmax
comp=Z,33nm,1.5s
AAK Ala-Archa 84.50 314 P P 01 07 50.3 +0.2
AAK IAmb IAmb 01 07 51.7
comp=Z,18nm,1.4s
AAK Ala-Archa 84.50 314 c i P P 01 07 49.8 -0.3
AAK pmax pmax
comp=Z,13nm,1.2s
L26K Log Cabin Wild 84.53 25 P P 01 07 50.8 +1.2
L26K IAmb IAmb 01 07 51.5
comp=Z,20nm,1.0s
L26K Log Cabin Wild 84.53 25 P P 01 07 50.4 +0.8
baz=245,SNR=7.7
CTG Chitna Glacier 84.56 27 P P 01 07 51.2 +1.3
baz=247,SNR=6.4
CTGM Chitina Glacie 84.56 27 P P 01 07 50.5 +0.6
E23K Chandalar 84.59 19 P P 01 07 51.0 +1.1
E23K IAmb IAmb 01 07 52.2
comp=Z,42nm,1.2s
E23K Chandalar 84.59 19 P P 01 07 50.8 +1.0
baz=239
SGDS Sogindy 84.60 315 eP P 01 07 49.1 -1.3
SGDS Sogindy 84.60 315 eP P 01 07 49.1 -1.3
G24K Hadweenzic Riv 84.62 20 IAmb IAmb 01 07 52.0
comp=Z,24nm,1.1s
G24K Hadweenzic Riv 84.62 20 P P 01 07 51.2 +1.3
baz=241
A22K Sinclair Lake 84.66 15 P P 01 07 50.8 +0.8
baz=234
SCRK Sand Creek 84.67 24 P P 01 07 50.8 +0.4
SCRK IAmb IAmb 01 07 52.1
comp=Z,20nm,1.1s
SCRK Sand Creek 84.67 24 P P 01 07 51.0 +0.5
baz=244,SNR=9.4
B22K Teshekpuk Lake 84.69 16 IAmb IAmb 01 07 53.5
comp=Z,28nm,1.4s
B22K Teshekpuk Lake 84.69 16 P P 01 07 51.5 +1.3
baz=235
D23K Nanushuk River 84.73 18 P P 01 07 52.1 +1.6
baz=238
M27K Edge Creek, AK 84.87 25 P P 01 07 52.8 +1.3
baz=246
F24K Squaw Lake 84.88 20 IAmb IAmb 01 07 53.8
comp=Z,35nm,1.1s
F24K Squaw Lake 84.88 20 P P 01 07 52.8 +1.5
baz=241
TOLK Toolik Lake Re 84.90 18 IAmb IAmb 01 07 53.5
comp=Z,27nm,1.1s
TOLK Toolik Lake Re 84.90 18 P P 01 07 52.5 +1.1
baz=239
E24K Your Creek 84.96 19 P P 01 07 52.5 +0.8
baz=240
PNL Peninsula 84.97 28 P P 01 07 53.3 +1.4
baz=249
H25L Birch Creek 85.00 21 P P 01 07 53.4 +1.5
baz=243
O28M Mount Upton 85.01 27 P P 01 07 53.4 +1.0
baz=248
J26L Joseph Creek 85.07 23 IAmb IAmb 01 07 54.2
comp=Z,13nm,1.0s
J26L Joseph Creek 85.07 23 P P 01 07 53.4 +1.1
baz=245
G25K Bearman Lake 85.13 21 P P 01 07 53.8 +1.3
baz=242
L27K Beaver Creek, 85.17 25 P P 01 07 53.6 +0.8
L27K IAmb IAmb 01 07 55.2
comp=Z,21nm,1.1s
L27K Beaver Creek, 85.17 25 P P 01 07 54.0 +1.1
baz=246
BCAR Beaver Creek A 85.19 25 P P 01 07 53.9 +0.9
C23K Itkillik River 85.22 17 IAmb IAmb 01 07 55.2
comp=Z,38nm,1.1s
C23K Itkillik River 85.22 17 P P 01 07 54.1 +1.3
baz=238
YUK3 Moose Creek 85.26 26 P P 01 07 54.6 +1.1
baz=248,SNR=8.2
BVCY Beaver Creek 85.33 26 P P 01 07 55.3 +1.6
baz=248,SNR=6.7
FYU Fort Yukon 85.35 21 IAmb IAmb 01 07 55.7
comp=Z,39nm,1.1s
YUK8 Steele Glacier 85.39 27 P P 01 07 55.7 +1.4
baz=248,SNR=5.4
D24K Happy Valley 85.40 18 P P 01 07 55.1 +1.3
D24K IAmb IAmb 01 07 56.3
comp=Z,33nm,1.2s
D24K Happy Valley 85.40 18 P P 01 07 55.1 +1.3
baz=240
K27K Chicken 85.46 24 P P 01 07 55.5 +1.3
K27K IAmb IAmb 01 07 57.0
comp=Z,33nm,1.1s

K27K	Chicken	85.46	24	P	P	01 07 55.6	+1.4
	baz=246,SNR=18						
I26K	Coal Creek Min	85.57	23	IAmb	IAmb	01 07 56.2	
	comp=Z,16nm,1.1s						
I26K	Coal Creek Min	85.57	23	P	P	01 07 55.2	+0.5
	baz=245,SNR=7.5						
O29M	Mount Kennedy	85.58	28	P	P	01 07 56.1	+1.0
O29M				IAmb	IAmb	01 07 58.6	
	comp=Z,56nm,1.5s						
O29M	Mount Kennedy	85.58	28	P	P	01 07 56.4	+1.4
	baz=250						
F25K	Christian Rive	85.68	20	IAmb	IAmb	01 07 57.8	
	comp=Z,20nm,1.2s						
F25K	Christian Rive	85.68	20	P	P	01 07 56.4	+1.2
	baz=243						
C24K	Franklin Bluff	85.72	18	P	P	01 07 56.5	+1.2
	baz=240						
P29M	Windy Craggy	85.75	29	P	P	01 07 57.4	+1.6
	baz=250						
DRK	Karamyk	85.82	310	P	P	01 07 56.5	-0.3
DRK				IAmb	IAmb	01 07 58.1	
	comp=Z,21nm,1.3s						
DRK	Karamyk	85.82	310	P	P	01 07 56.6	-0.3
DRK				pmax	pmax		
	comp=Z,21nm,1.3s						
YUK6	Outpost Mounta	85.90	27	P	P	01 07 58.2	+1.4
	baz=250						
YUK4	Talbot Arm	85.92	27	P	P	01 07 58.6	+1.9
	baz=250,SNR=5.5						
S31K	Pelican	85.95	31	P	P	01 07 58.4	+1.7
	baz=252						
BMAR	Burnt Mountain	85.97	20	P	P	01 07 57.7	+1.0
G26K	Porcupine Rive	86.04	21	P	P	01 07 58.4	+1.5
	baz=244						
EGAK	Eagle	86.13	23	P	P	01 07 58.6	+1.2
	baz=247,SNR=27						
SIT	Sitka	86.14	32	P	P	01 07 59.4	+1.7
	baz=253						
F26K	Sheenjek River	86.23	20	P	P	01 07 59.5	+1.5
F26K				IAmb	IAmb	01 08 00.7	
	comp=Z,28nm,1.1s						
F26K	Sheenjek River	86.23	20	P	P	01 07 59.6	+1.5
	baz=244						
D25K	Kavik River	86.24	18	IAmb	IAmb	01 07 59.8	
	comp=Z,30nm,1.2s						
D25K	Kavik River	86.24	18	P	P	01 07 59.0	+1.0
	baz=242						
HYT	Haines Junctio	86.26	28	P	P	01 07 59.8	+1.4
HYT	Haines Junctio	86.26	28	P	P	01 08 00.1	+1.7
	baz=251,SNR=18						
I27K	Kandik River	86.28	23	P	P	01 07 59.6	+1.3
	baz=247						
P30M	Million Dollar	86.28	28	P	P	01 08 00.1	+1.6
	baz=251,SNR=5.0						
PLBC	Pleasant Camp	86.35	29	P	P	01 08 00.0	+1.4
	baz=252						
M29M	Somme Creek	86.38	26	IAmb	IAmb	01 08 01.5	
	comp=Z,28nm,1.0s						
M29M	Somme Creek	86.38	26	P	P	01 08 00.2	+1.3
	baz=250,SNR=14						
H27K	Steamboat Moun	86.56	22	P	P	01 08 01.1	+1.4
	baz=247						
DAWY	Dawson	86.57	24	P	P	01 08 01.2	+1.5
	baz=249,SNR=22						
DIB	Dawson Inlet,	86.65	36	P	P	01 07 59.1	-1.1
DIB				IAmb	IAmb	01 08 06.2	
	comp=Z,47nm,1.3s						
S32K	Killisnoo	86.65	31	P	P	01 07 59.6	-0.5
S32K				IAmb	IAmb	01 08 03.6	
	comp=Z,35nm,1.2s						
S32K	Killisnoo	86.65	31	P	P	01 08 01.6	+1.4
	baz=253						
N30M	Aishikik Lake	86.66	27	P	P	01 08 00.7	+0.4
N30M				IAmb	IAmb	01 08 03.0	
	comp=Z,21nm,1.1s						
N30M	Aishikik Lake	86.66	27	P	P	01 08 01.9	+1.6
	baz=251						
BTK	Batken	86.67	311	P	P	01 08 00.5	-0.4
BTK	Batken	86.67	311	P	P	01 08 00.5	-0.4
BTK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NRIK	Noril'sk	86.72	341	P	P	01 07 59.2	-1.1
	comp=Z,4.0nm,0.6s,baz=167,slow=4.3,SNR=9.0						
	comp=Z,4.0nm,0.6s						
NRIK	Noril'sk	86.72	341⇑	eP	P	01 07 59.0	-1.3
NRIK				pmax	pmax		
	comp=Z,15nm,1.4s						
G27K	Doyon Strip	86.74	21	IAmb	IAmb	01 08 03.0	
	comp=Z,22nm,1.2s						
G27K	Doyon Strip	86.74	21	P	P	01 08 02.1	+1.6
	baz=246						
L29M	L29M	86.76	25	P	P	01 08 02.1	+1.5
	baz=250						
DZA	Taraz	86.83	314	eP	P	01 08 00.7	-0.9
	comp=Z,12nm,1.1s						
DZA	Taraz	86.83	314	eP	P	01 08 00.6	-0.9
DZA				pmax	pmax		
	comp=Z,12nm,1.1s						
GAR	Garm	86.86	310	IAmb	IAmb	01 08 02.4	
	comp=Z,15nm,1.1s						
SKAG	Skagway	86.86	29	P	P	01 08 02.5	+1.4
SKAG				IAmb	IAmb	01 08 04.0	
	comp=Z,28nm,1.3s						
SKAG	Skagway	86.86	29	P	P	01 08 02.7	+1.6
	baz=252						
SKAG	Skagway	86.86	29	P	P	01 08 03.3	+2.2
I28M	Miner Creek	86.86	23	IAmb	IAmb	01 08 03.2	
	comp=Z,34nm,1.2s						
I28M	Miner Creek	86.86	23	P	P	01 08 02.2	+1.0
	baz=248						
O30N	Mendenhall	86.90	28	IAmb	IAmb	01 08 04.1	
	comp=Z,40nm,1.1s						
O30N	Mendenhall	86.90	28	P	P	01 08 02.9	+1.5
	baz=252,SNR=13						
C26K	Camden Bay	86.97	18	P	P	01 08 03.1	+1.6
	baz=243						
KBL	Kabul	87.10	305	P	P	01 08 01.9	-1.3
KBL	Kabul	87.10	305	P	P	01 08 01.9	-1.3
KBL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
M30M	Minto, Yukon	87.16	26	P	P	01 08 04.1	+1.4
	baz=251,SNR=16						
J29N	Klondike Camp	87.19	24	P	P	01 08 04.7	+2.0
	baz=250						
C27K	Jago River	87.22	19	P	P	01 08 03.3	+0.6
C27K	Jago River	87.22	19	P	P	01 08 04.2	+1.4
	baz=244						
K29M	Barlow Dome	87.26	25	P	P	01 08 04.8	+1.6
	baz=250						
N31M	Braeburn, Yuko	87.26	27	P	P	01 08 04.1	+0.9
N31M	Braeburn, Yuko	87.26	27	P	P	01 08 04.8	+1.7
	baz=252,SNR=8.7						
E27K	Coleen River	87.32	20	P	P	01 08 04.6	+1.4
	baz=246						
WHY	Whitehorse	87.43	28	P	P	01 08 03.6	-0.5
WHY				IAmb	IAmb	01 08 06.6	
	comp=Z,20nm,0.9s						
WHY	Whitehorse	87.43	28	P	P	01 08 05.4	+1.3
	baz=253,SNR=7.7						
KKAR	Karatay Array	87.46	314	P	P	01 08 02.8	-1.7
KKAR	Karatay Array	87.46	314	P	P	01 08 02.1	-2.3
KKAR				IAmb	IAmb	01 08 05.4	
	comp=Z,13nm,1.2s						
KKAR	Karatay Array	87.46	314	P	P	01 08 02.2	-2.3
KKAR				pmax	pmax		
	comp=Z,13nm,1.2s						
WRAK	Wrangell Islan	87.54	33	P	P	01 08 05.1	+0.6
WRAK	Wrangell Islan	87.54	33	P	P	01 08 06.4	+1.9
	baz=255						
IUG	Iuzhnay	87.64	313	eP	P	01 08 04.5	-1.1
	comp=Z,6.2nm,0.9s						
IUG	Iuzhnay	87.64	313	eP	P	01 08 04.4	-1.1
IUG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
V35K	Ketchikan	87.67	34	P	P	01 08 06.9	+1.8
	baz=256						
P32M	Atlin	87.68	29	P	P	01 08 06.5	+1.3
P32M				IAmb	IAmb	01 08 07.8	
	comp=Z,30nm,1.1s						
P32M	Atlin	87.68	29	P	P	01 08 06.7	+1.5
	baz=254						
F28M	Old Crow	87.69	21	IAmb	IAmb	01 08 07.4	
	comp=Z,24nm,1.1s						
F28M	Old Crow	87.69	21	P	P	01 08 06.4	+1.3
	baz=248,SNR=16						
H29M	Whitestone	87.74	22	IAmb	IAmb	01 08 17.0	
	comp=Z,26nm,1.4s						
H29M	Whitestone	87.74	22	P	P	01 08 06.4	+1.1
	baz=250						
SIMJ	Simiganj	87.81	309	P	P	01 08 05.7	-0.7
MAYO	Mayo, Yukon	87.87	25	P	P	01 08 07.4	+1.4
MAYO	Mayo, Yukon	87.87	25	P	P	01 08 07.7	+1.7
	baz=252,SNR=7.0						
BRLS	Borolday	87.94	313	eP	P	01 08 06.3	-0.6
BRLS	Borolday	87.94	313	eP	P	01 08 06.2	-0.6
D27M	Malcolm River	87.95	19	IAmb	IAmb	01 08 08.9	
	comp=Z,26nm,1.1s						
D27M	Malcolm River	87.95	19	P	P	01 08 07.7	+1.4
	baz=247						
CHM	Chimkent	87.98	313	eP	P	01 08 05.9	-1.2
CHM	Chimkent	87.98	313	eP	P	01 08 05.8	-1.2
J30M	Hart River	88.00	24	P	P	01 08 07.5	+0.7
J30M	Hart River	88.00	24	P	P	01 08 08.3	+1.5
	baz=251						
M31M	Drury Creek, Y	88.11	27	P	P	01 08 08.1	+1.0
	baz=253,SNR=10						
G29M	Pine Creek	88.11	22	P	P	01 08 08.1	+1.0
G29M	Pine Creek	88.11	22	P	P	01 08 08.2	+1.1
	baz=250						
E28M	Babbage River	88.18	20	P	P	01 08 08.6	+1.2
	baz=248						
I30M	Mount Dempster	88.18	24	IAmb	IAmb	01 08 09.6	
	comp=Z,26nm,1.1s						
I30M	Mount Dempster	88.18	24	P	P	01 08 08.4	+0.8
	baz=251						
Q32M	Nakina River	88.23	30	P	P	01 08 09.7	+1.6
	baz=255						
P33M	Teslin, Yukon	88.29	29	IAmb	IAmb	01 08 13.2	
	comp=Z,19nm,1.2s						
P33M	Teslin, Yukon	88.29	29	P	P	01 08 09.4	+1.2
	baz=255						
N32M	Quiet Lake	88.41	28	P	P	01 08 10.3	+1.6
N32M	Quiet Lake	88.41	28	P	P	01 08 10.1	+1.5
	baz=254						
EPYK	Eagle Plains	88.42	23	P	P	01 08 09.6	+1.0
	baz=251,SNR=13						
S34M	Telegraph Cree	88.55	31	P	P	01 08 10.9	+1.6
S34M				IAmb	IAmb	01 08 12.6	
	comp=Z,15nm,0.9s						
S34M	Telegraph Cree	88.55	31	P	P	01 08 12.0	+2.7
	baz=256						
FARO	Faro, Yukon	88.58	27	IAmb	IAmb	01 08 12.2	
	comp=Z,32nm,1.1s						
FARO	Faro, Yukon	88.58	27	P	P	01 08 10.5	+1.1
	baz=254,SNR=10						
E29M	Blow River	88.67	20	IAmb	IAmb	01 08 20.3	
	comp=Z,22nm,1.4s						
E29M	Blow River	88.67	20	P	P	01 08 10.3	+0.6
	baz=250,SNR=8.6						
D28M	Stokes Point	88.71	19	P	P	01 08 10.9	+1.1
	baz=249						
T35M	Bob Quinn	88.80	32	P	P	01 08 11.3	+0.8
T35M				IAmb	IAmb	01 08 21.3	
	comp=Z,30nm,1.4s						
G30M	tAoh Zraii Nji	88.81	22	P	P	01 08 11.5	+1.1
	baz=252						
R33M	Jennings River	88.99	30	P	P	01 08 12.7	+1.2
R33M				IAmb	IAmb	01 08 14.6	
	comp=Z,27nm,1.2s						
R33M	Jennings River	88.99	30	P	P	01 08 13.1	+1.5
	baz=256,SNR=6.1						
BBB	Bella Bella	89.01	37	LR	LR	01 44 19.7	
	comp=Z,124nm,18.7s,baz=256,slow=33						
F30M	Barrier River	89.17	21	P	P	01 08 13.0	+1.0
	baz=252						
H31M	Peel River	89.17	23	IAmb	IAmb	01 08 14.0	
	comp=Z,31nm,1.4s						
H31M	Peel River	89.17	23	P	P	01 08 13.1	+1.0
	baz=253						
DLBC	Dease Lake	89.24	31	P	P	01 08 13.9	+1.2
DLBC				IAmb	IAmb	01 08 23.3	
	comp=Z,29nm,1.4s						
DLBC	Dease Lake	89.24	31	LR	LR	01 45 52.9	
	comp=Z,319nm,18.3s,baz=274,slow=34						
DLBC	Dease Lake	89.24	31	P	P	01 08 14.2	+1.6
	baz=257						
BVAR	Borovoye Array	89.41	323	P	P	01 08 12.0	-1.4
	comp=Z,4.2nm,0.9s,baz=122,slow=5.4,SNR=14						
	comp=Z,4.2nm,0.9s						
BRVK	Borovoye	89.47	323	P	P	01 08 13.4	-0.3
BRVK	Borovoye	89.47	323	⇓iP	P	01 08 12.4	-1.3
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
G31M	Satah River	89.52	22	IAmb	IAmb	01 08 15.4	
	comp=Z,32nm,1.1s						
G31M	Satah River	89.52	22	P	P	01 08 14.2	+0.5
	baz=253,SNR=11						
F31M	Tsiigehtchic	89.86	22	P	P	01 08 15.6	+0.4
F31M				IAmb	IAmb	01 08 16.8	
	comp=Z,40nm,1.4s						
F31M	Tsiigehtchic	89.86	22	P	P	01 08 15.7	+0.4
	baz=254,SNR=7.4						
KRMB	Red Mountain	90.09	48	P	P	01 08 18.1	+1.0
KHMM	Horse Mountain	90.13	49	P	P	01 08 17.8	+0.4
INK	Inuvik	90.19	21	IAmb	IAmb	01 08 18.1	
	comp=Z,32nm,1.2s						
INK	Inuvik	90.19	21	P	P	01 08 16.9	+0.2
	baz=254,SNR=18						
L02F	Cave Junction	90.42	48	P	P	01 08 18.6	+0.1
K02D	Willamette Mer	90.43	47	P	P	01 08 18.3	-0.3
HUMO	Hull Mountain	90.94	47	P	P	01 08 20.8	0.0
YBH	Yreka Blue Hor	91.01	48	P	P	01 08 22.1	+0.8
YBH	Yreka Blue Hor	91.01	48	LR	LR	01 42 21.4	
	comp=Z,473nm,21.4s,baz=300,slow=31						
YBH	Yreka Blue Hor	91.01	48	P	P	01 08 22.1	+0.8
YBH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BUCK	Buck Mountain	91.12	46	P	P	01 08 22.3	+0.6
BUCK				IAmb	IAmb	01 08 46.0	
	comp=Z,16nm,1.2s						
LIRD	Liard River Hi	91.43	30	P	P	01 08 23.7	+1.0
	baz=260						
J04A	Umpqua Nationa	91.63	47	P	P	01 08 25.1	+0.8
J04A				IAmb	IAmb	01 08 34.5	
	comp=Z,15nm,0.8s						
BBGB	Big Mountain B	91.69	54	P	P	01 08 25.4	+0.8
BBGB				IAmb	IAmb	01 08 32.6	
	comp=Z,17nm,1.4s						
TOAD	Toad River Com	91.78	31	P	P	01 08 25.5	+1.1
	baz=261						
AFDM	Forest Hills D	92.00	51	P	P	01 08 27.2	+1.3
J05D	Fort Rock, OR	92.27	47	P	P	01 08 28.0	+0.8
J05D				IAmb	IAmb	01 08 46.9	
	comp=Z,12nm,0.9s						
CMB	Columbia Colle	92.36	52	P	P	01 08 27.4	-0.2
CMB	Columbia Colle	92.36	52	P	P	01 08 27.4	-0.2
CMB				pmax	pmax		
	comp=Z,6.0nm,1.3s						
G05A	Wamic	92.42	45	P	P	01 08 28.2	+0.5
PINE	Pine Mountain	92.54	46	P	P	01 08 29.4	+1.0
PINE				IAmb	IAmb	01 08 48.1	
	comp=Z,9.1nm,0.9s						
KOTAN	Kotaneelee Air	92.56	30	P	P	01 08 28.8	+0.9
	baz=262						
HRA	Herat	92.65	304	P	P	01 08 27.5	-1.8
EMB	Emerald Bay	92.68	51	P	P	01 08 28.6	-0.7
MPK	Martis Peak	92.77	51	P	P	01 08 30.6	+0.9
MPK				IAmb	IAmb	01 08 40.4	
	comp=Z,17nm,1.2s						
BCW	Bitter Crk WRg	92.84	55	P	P	01 08 31.1	+1.2
BCW				IAmb	IAmb	01 08 53.7	
	comp=Z,8.1nm,0.8s						
PNTR	Pine Nut	93.08	51	P	P	01 08 32.0	+0.8
WAKR	Walker	93.15	52	P	P	01 08 30.8	-0.7
MXC	Moxie City	93.27	44	P	P	01 08 33.2	+1.7
PAHR	Pah Rah Range	93.30	51	P	P	01 08 32.4	+0.4
YERR	Yerington	93.35	51	P	P	01 08 32.0	-0.4
OMMB	Old Mammoth Mi	93.42	53	P	P	01 08 33.0	+0.1
I07A	Izee	93.60	46	P	P	01 08 33.5	+0.3
A36M	Sachs Harbour	93.72	18	P	P	01 08 32.7	-0.3
A36M				IAmb	IAmb	01 08 34.0	
	comp=Z,14nm,0.9s						
A36M	Sachs Harbour	93.72	18	P	P	01 08 33.1	+0.1
	baz=262,SNR=10.0						
C36M	Paulatuk	93.76	21	P	P	01 08 32.0	-1.2
C36M				IAmb	IAmb	01 08 34.1	
	comp=Z,18nm,1.1s						
C36M	Paulatuk	93.76	21	P	P	01 08 33.1	-0.1
	baz=263,SNR=11						
HAWA	Hanford	93.78	44	P	P	01 08 32.0	-1.8
LHV	Little Huntoon	93.86	52	P	P	01 08 35.1	+0.7
LHV				IAmb	IAmb	01 08 55.2	
	comp=Z,12nm,1.1s						
PNT	Penticton	93.96	41	P	P	01 08 32.0	-2.7
PNT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NVAR	Mina Array Bea	94.03	52	P	P	01 08 36.4	+0.8
NVAR	Mina Array Bea	94.03	52	P	P	01 08 36.6	+1.0
	comp=Z,1.6nm,0.8s,baz=260,slow=5.9,SNR=12						
NVAR				LR	LR	01 43 47.4	
	comp=Z,437nm,21.8s,baz=278,slow=31						
	comp=Z,1.6nm,0.8s						
G08A	Pilot Rock	94.08	45	P	P	01 08 36.3	+0.8
NV11	Mina Array Sit	94.15	52	P	P	01 08 36.9	+0.9
DSP	Deep Springs	94.21	53	P	P	01 08 37.3	+1.3
KVN	Kaiserville	94.24	51	P	P	01 08 37.5	+1.1
KVN	Kaiserville	94.24	51	P	P	01 08 37.5	+1.1
KVN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TPH	Tonopah	94.86	52	P	P	01 08 40.9	+1.6
TPH	Tonopah	94.86	52	P	P	01 08 40.9	+1.6
TPH				pmax	pmax		
	comp=Z,56nm,1.5s						
PFO	Pinyon Flats O	95.17	57	LR	LR	01 48 50.3	
	comp=Z,143nm,18.2s,baz=275,slow=34						
ELIB	Princess Elisa	95.19	194	dP	P	01 08 39.0	-1.1
	comp=Z,2.5nm,1.3s						
BMO	Blue Mountains	95.22	46	P	P	01 08 40.7	0.0
BMO	Blue Mountains	95.22	46	P	P	01 08 40.7	0.0
BMO				pmax	pmax		
	comp=Z,7.0nm,1.5s						
WCT	Wildcat Mounta	95.25	54	P	P	01 08 40.5	-0.4
ABKAR	Akbulak array	95.48	319	P	P	01 08 40.1	-1.5
ABKAR	Akbulak array	95.48	319	P	P	01 08 40.8	-0.8
RPN	Rapa Nui	95.50	118	LR	LR	01 44 13.3	
	comp=Z,110nm,21.1s,baz=282,slow=31						
NEW	Newport	95.54	42	LR	LR	01 50 11.7	
	comp=Z,174nm,18.0s,baz=266,slow=34						
TPNV	Topopah Spring	95.56	54	P	P	01 08 42.8	+0.4
TPNV				IAmb	IAmb	01 09 06.1	
	comp=Z,9.5nm,1.2s						
TPNV	Topopah Spring	95.56	54	P	P	01 08 42.8	+0.4
TPNV				pmax	pmax		
	comp=Z,10.0nm,1.3s						
VTX	Valle De La Tr	95.60	59	P	P	01 08 43.6	+1.0
R11B	Troy Canyon, C	96.16	52	P	P	01 08 45.4	+0.2
R11B	Troy Canyon, C	96.16	52	P	P	01 08 45.1	-0.1
	baz=267						
PRN	Pahroc Range	96.54	53	P	P	01 08 47.6	+0.7
ELK	Elko	96.54	50	LR	LR	01 46 41.4	
	comp=Z,413nm,20.4s,baz=292,slow=32						
V12A	Nelson	96.62	55	P	P	01 08 47.3	+0.1
V12A				IAmb	IAmb	01 08 57.5	
	comp=Z,11nm,1.5s						
SPR3	Spring Creek 3	97.17	52		P	01 08 48.7	-1.2
YKA	Yellowknife Ar	97.25	28	P	P	01 08 50.0	+0.7
	comp=Z,1.6nm,0.9s,baz=269,slow=4.8,SNR=3.5						
	comp=Z,1.6nm,0.9s						
PDAR	Pinedale Array	100.80	48	P	Pdif	01 09 06.2	+0.2
	comp=Z,1.1nm,0.9s,baz=225,slow=1.3,SNR=4.1						
TXAR	Lajitas Array	106.03	61	PKiKP	PKiKP	01 13 41.4	0.0
	comp=Z,0.4nm,1.0s,baz=53,slow=0.4,SNR=2.6						
FINES	FINESS Array B	111.62	335	PKiKP	PKiKP	01 13 50.7	-0.1
	comp=Z,1.7nm,0.8s,baz=114,slow=3.4,SNR=2.0						
MNK	Minsk	113.92	328	iP	Pdif	01 10 00.6	-3.1
	comp=E,19nm,1.0s						
MNK				iP	Pdif	01 10 00.6	-3.1
	comp=N,6.0nm,0.7s						
MNK				iP	Pdif	01 10 00.6	-3.1
	comp=Z,4.0nm,0.5s,baz=65						
MNK				iPP	PP	01 14 46.2	-3.1
MNK				iPPP	PPP	01 17 10.5	
MNK				iSKS	SKSdf	01 21 02.2	-1.2
MNK				iPS	PS	01 24 23.7	-3.5
MNK				iSS	SS	01 30 34.5	-0.4
MNK				iSSS	SSS	01 34 48.6	
MNK				iLQ	LQ	01 55 20.0	
MNK				iLR	LR	01 59 16.4	
MNK				iLRM	MLR	02 02 38.4	
	comp=Z,195nm,20.2s						
MNK				iLRM	MLR	02 02 53.9	
	comp=E,269nm,27.9s						
MNK				iLRM	MLR	02 03 40.4	
	comp=N,192nm,24.9s						
MNK	Minsk	113.92	328	iP	Pdif	01 10 00.6	-3.1
MNK				i		01 14 46.2	
MNK				iPPP	PPP	01 17 10.5	
MNK				i		01 21 02.1	
MNK				iPS	PS	01 24 23.6	-3.5
MNK				iSS	SS	01 30 34.4	-0.4
MNK				iSSS	SSS	01 34 48.6	
MNK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MNK				pmax	pmax		
	comp=N,6.0nm,0.7s						
MNK				pmax	pmax		
	comp=E,19nm,1.0s						
MNK				MLR	MLR		
	comp=Z,195nm,20.0s						
MNK				MLR	MLR		
	comp=E,269nm,28.0s						
MNK				MLR	MLR		
	comp=N,192nm,25.0s						
AKASG	Malin Array Be	114.69	324	PKP	PKPdf	01 13 57.1	+0.2
	comp=N,0.7nm,0.4s,baz=70,slow=2.1,SNR=4.5						
BR131	Keskin Array S	115.06	311	iPKIKP	PKiKP	01 13 58.1	-0.2
BRTR	Keskin Array B	115.06	311	PKP	PKiKP	01 13 56.9	-1.4
	comp=N,0.9nm,0.7s,baz=113,slow=1.1,SNR=5.0						
HFS	Hagfors	117.33	338	PKP	PKPdf	01 14 00.9	-0.9
	comp=N,3.0nm,0.9s,baz=11,slow=1.5,SNR=2.4						
NB2	NORSAR Subarra	117.62	339	PKPdf	PKPdf	01 14 01.4	-1.0
	comp=Z,8.0nm,1.7s,baz=44,slow=1.9						
NB2	NORSAR Subarra	117.62	339	PKPdf	PKPdf	01 14 01.4	-1.0
	baz=44,slow=1.9						
NOA	NORSAR Array B	117.62	339	PKP	PKPdf	01 14 02.1	-0.4
	comp=Z,1.6nm,0.9s,baz=47,slow=1.8,SNR=4.7						
MLR	Muntele Rosu	118.69	319	⇑P	PKPdf	01 14 04.2	-0.9
MLR	Muntele Rosu	118.69	319	⇑PKIKP	PKPdf	01 14 04.2	-0.9
P48A	Milroy	119.27	48		PKPdf	01 14 06.4	+0.2
VOIR		119.30	319	⇑P	PKiKP	01 14 06.5	+0.3
VOIR		119.30	319	⇑PKIKP	PKiKP	01 14 06.5	+0.3
KOLS	Kolonicke sedl	119.51	324	ePKIKP	PKiKP	01 14 06.7	+0.3
KOLS	Kolonicke sedl	119.51	324	ePKP	PKiKP	01 14 06.7	+0.3
ARR	Arges	119.59	319	⇓P	PKiKP	01 14 06.9	+0.1
ELND	Elena	119.69	316	⇓P	PKPdf	01 14 06.2	-0.7
HUMR	Humele	119.70	318	⇓P	PKPdf	01 14 06.2	-0.6
LSZ	Lusaka	119.81	249		PKiKP	01 14 08.5	+0.4
LSZ	Lusaka	119.81	249	PKIKP	PKiKP	01 14 08.5	+0.4
DRGR		120.21	322	⇓P	PKPdf	01 14 06.2	-1.7
GZR	Gura Zlata	120.78	320	⇑P	PKPdf	01 14 08.5	-0.5
GZR	Gura Zlata	120.78	320	⇑PKIKP	PKPdf	01 14 08.5	-0.5
LANS	Liptovska Anna	121.02	325	ePKIKP	PKiKP	01 14 10.6	+1.2
LANS	Liptovska Anna	121.02	325	ePKP	PKiKP	01 14 10.6	+1.2
SURR	Surduc	121.03	321	⇑P	PKPdf	01 14 07.9	-1.5
SIRR	Siria	121.09	321

ZVC	**Zvikov**	**123.77**	**328**	*e*PKPDF	**PKiKP**	**01 14 15.1**	**+0.3**
CKRC	**Cesky Krumlov**	**124.06**	**327**	*e*PKPDF	**PKiKP**	**01 14 15.5**	**+0.1**
CKRC				*ex*	x	01 14 20.7	
KHC	**Kasperske Hory**	**124.28**	**328**	PKPdf	**PKiKP**	**01 14 16.1**	**+0.2**
KHC	**Kasperske Hory**	**124.28**	**328**	*e*PKPDF	**PKiKP**	**01 14 16.1**	**+0.2**
KHC				*ep*PKP	**PKPdf**	**01 14 21.3**	**+5.7**
KHC	**Kasperske Hory**	**124.28**	**328**	⇓*i*PKIKP	**PKPdf**	**01 14 15.3**	**-0.3**
GERES	**GERESS Array B**	**124.38**	**327**	PKP	**PKiKP**	**01 14 16.0**	**-0.1**
	comp=Z,3.0nm,0.8s,baz=48,slow=2.0,SNR=4.7						
LESA	**Schwarzleotal**	**125.77**	**326**	*i* PKP	**PKPdf**	**01 14 18.5**	**-0.1**
	comp=Z,1.1nm,0.4s						
ABTA	**Abfaltersbach**	**126.25**	**326**	*i* PKP	**PKPdf**	**01 14 19.3**	**-0.2**
	comp=Z,5.2nm,1.0s						
WATA	**Walderalm**	**126.42**	**327**	*i* PKP	**PKiKP**	**01 14 20.1**	**-0.3**
	comp=Z,2.8nm,0.5s						
WTTA	**Wattenberg**	**126.43**	**327**	*i* PKP	**PKiKP**	**01 14 20.3**	**-0.1**
	comp=Z,6.3nm,0.8s						
MOTA	**Moosalm**	**126.67**	**327**	*e*PKP	**PKiKP**	**01 14 20.7**	**-0.2**
	comp=Z,3.7nm,0.6s						
SQTA	**Sankt Quirin**	**126.69**	**327**	*i* PKP	**PKPdf**	**01 14 20.3**	**-0.1**
	comp=Z,2.9nm,0.5s						
EKA	**Eskdalemuir Ar**	**126.83**	**342**	PKP	**PKiKP**	**01 14 20.8**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=12,slow=2.7,SNR=9.2						
MEM	**Membach**	**127.05**	**333**	*d*PKPdf	**PKiKP**	**01 14 21.2**	**-0.1**
FETA	**Feichten**	**127.07**	**327**	*i* PKP	**PKiKP**	**01 14 21.8**	**+0.1**
	comp=Z,4.4nm,0.8s						
DAVA	**Damuels**	**127.36**	**328**	*i* PKP	**PKiKP**	**01 14 22.1**	**-0.1**
	comp=Z,3.3nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**127.57**	**327**	PKPdf	**PKiKP**	**01 14 23.2**	**+0.4**
BMRD	**Maredsous**	**127.82**	**333**	*d*PKPdf	**PKiKP**	**01 14 22.8**	**0.0**
DOU	**Dourbes**	**128.05**	**333**	*d*PKPdf	**PKiKP**	**01 14 23.1**	**-0.1**
TUE	**Stuetta**	**128.16**	**327**	PKPdf	**PKiKP**	**01 14 23.9**	**0.0**
KEST	**Kesra**	**134.33**	**316**	PKP	**PKPdf**	**01 14 35.1**	**0.0**
	comp=Z,2.2nm,0.7s,baz=83,slow=7.1,SNR=4.0						
LPAZ	**La Paz**	**135.06**	**120**	PKP	**PKPdf**	**01 14 38.4**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=124,slow=3.6,SNR=2.3						
SDDR	**Presa de Saban**	**136.60**	**69**	PKPdf	**PKPdf**	**01 14 38.3**	**-1.5**
CPUP	**Villa Florida**	**137.43**	**140**	PKP	**PKPdf**	**01 14 41.5**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=240,slow=0.6,SNR=4.9						
SDV	**Santo Domingo**	**138.32**	**84**	PKPdf	**PKPdf**	**01 14 43.6**	**+0.4**
ETMB	**Extrema**	**139.39**	**113**	PKPdf	**PKPdf**	**01 14 45.4**	**+0.4**
ESDC	**Sonseca Array**	**139.85**	**330**	PKP	**PKPdf**	**01 14 44.9**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=68,slow=2.3,SNR=2.4						
TAM	**Tamanrasset**	**143.11**	**300**	PKPdf	**PKPdf**	**01 14 49.5**	**-2.1**
TAM	**Tamanrasset**	**143.11**	**300**	PKIKP	**PKPdf**	**01 14 49.5**	**-2.1**
BOAV	**Boa Vista**	**148.03**	**95**		**PKPbc**	**01 15 03.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**149.28**	**285**	PKPdf	**PKPdf**	**01 15 02.4**	**+0.3**
TORD				PKPbc	**PKPbc**	**01 15 06.4**	**0.0**
TORD					**PKPab**	**01 15 11.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**149.28**	**285**	PKPbc	**PKPbc**	**01 15 05.9**	**-0.5**
	comp=Z,14nm,0.7s,baz=55,slow=2.9,SNR=62						
BDFB	**Brasilia**	**151.12**	**139**		**PKPbc**	**01 15 11.1**	**+0.1**
BDFB	**Brasilia**	**151.12**	**139**	PKPbc	**PKPbc**	**01 15 10.9**	**0.0**
	comp=Z,11nm,0.6s,baz=290,slow=0.9,SNR=28						
BDFB				PKPab	**PKPab**	**01 15 17.1**	**-1.6**
	comp=Z,9.9nm,0.6s,baz=331,slow=0.6,SNR=12						
BDFB	**Brasilia**	**151.12**	**139**	PKIKP	**PKPbc**	**01 15 11.1**	**+0.1**
ACRG	**Accra**	**151.69**	**271**		**PKiKP**	**01 15 12.4**	**-0.2**
DBIC	**Dimbokro**	**156.33**	**273**	PKPbc	PKPdf	01 15 22.2	+10
	comp=Z,7.2nm,1.1s,baz=357,slow=3.7,SNR=3.8						
DBIC				PKPab	**PKPab**	**01 15 40.4**	**-0.4**

IDC 20 01:11:31.1±1.2, 28°.25N×143°.36E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=50.4km s-min=29.8km az=102.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.70**	**191**	P	P	01 20 17.2	-0.1
	1.3nm,0.7s,baz=12,slow=8.4,SNR=14						
	1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**52.98**	**314**	P	P	01 20 49.3	-0.1
	0.3nm,0.3s,baz=92,slow=7.5,SNR=4.2						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**56.20**	**29**	P	P	01 21 12.2	-0.3
	0.3nm,0.6s,baz=264,slow=6.2,SNR=4.0						
	0.3nm,0.6s						
TXAR	**Lajitas Array**	**94.08**	**54**	P	P	01 24 52.1	+0.2
	0.3nm,0.8s,baz=258,slow=3.6,SNR=4.3						
	0.3nm,0.8s						

*ATH **20** 01:16:27.5, 37°.15N×20°.48E, h9km±1km, ML3.6/8, Error ellipse: s-maj=2.0km s-min=1.0km az=55.0*
*THE **20** 01:16:28.3, 37°.19N×20°.53E, h0km±1km, ML3.6/7, Error ellipse: s-maj=1.6km s-min=0.6km az=235.0*

ISC 20 01:16:27.1±1.7, 37°.15N±0°.05×20°.48E±0°.05, h4km±11km, n59, σ0s44/97, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.57**	**28**	P	**Pg**	**01 16 38.5**	**+0.4**
KRI1				S	**Sg**	**01 16 46.5**	**+0.9**
	11μm,0.6s						
LTHK	**Lithakia**	**0.62**	**27**	P	**Pg**	**01 16 39.2**	**+0.1**
LTHK				S	**Sg**	**01 16 47.8**	**+0.6**
LTHK	**Lithakia**	**0.62**	**27**	P	**Pg**	**01 16 39.4**	**+0.3**
LTHK				S	**Sg**	**01 16 47.1**	**0.0**
LTHK				AML	AML	01 16 48.1	
	comp=N,33246μm,0.3s						
LTHK				AML	AML	01 16 49.0	
	comp=E,14255μm,0.2s						
LTHK	**Lithakia**	**0.62**	**27**	P	**Pg**	**01 16 39.2**	**+0.1**
LTHK				S	**Sg**	**01 16 47.9**	**+0.6**
LTHK				AML	AML	01 16 48.1	
	comp=N,33246μm,0.3s						
LTHK				AML	AML	01 16 49.0	
	comp=E,14255μm,0.2s						
RTZL	**Ratzakli, Kefa**	**0.95**	**14**	P	**Pg**	**01 16 45.3**	**0.0**
RTZL				S	**Sb**	**01 16 58.4**	**-0.6**
PSDA	**Pessada-Kefalo**	**0.96**	**5**	P	**Pb**	**01 16 46.2**	**-0.1**
PSDA				S	**Sb**	**01 16 59.2**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.96**	**5**	P	**Pg**	**01 16 45.2**	**-0.3**
PSDA				S	**Sb**	**01 16 58.8**	**-0.6**
PYL	**PYLOS**	**1.04**	**104**	P	**Pg**	**01 16 47.3**	**+0.2**
PYL	**PYLOS**	**1.04**	**104**	P	**Pg**	**01 16 46.9**	**-0.1**
PYL				S	**Sb**	**01 17 01.3**	**-0.3**
PYL	**PYLOS**	**1.04**	**104**	P	**Pg**	**01 16 47.1**	**0.0**
PYL				S	**Sb**	**01 17 01.3**	**-0.3**
AMT	**Artemida-Makis**	**1.05**	**69**	P	**Pg**	**01 16 47.2**	**0.0**
AMT				S	**Sb**	**01 17 01.8**	**-0.1**
AMT				AML	AML	01 17 08.7	
	comp=E,15495μm,0.4s						
AMT				AML	AML	01 17 12.1	
	comp=N,25687μm,0.5s						
AMT	**Artemida-Makis**	**1.05**	**69**	P	**Pg**	**01 16 47.3**	**0.0**
AMT				S	**Sb**	**01 17 02.4**	**+0.4**
AMT				AML	AML	01 17 08.7	
	comp=E,15495μm,0.4s						
AMT				AML	AML	01 17 12.1	
	comp=N,25687μm,0.5s						
DMLN	**Damoulianata-K**	**1.09**	**356**	P	**Pb**	**01 16 48.6**	**+0.2**
DMLN				S	**Sb**	**01 17 03.5**	**+0.5**
	comp=N,5μm,0.7s						
DMLN	**Damoulianata-K**	**1.09**	**356**	P	**Pb**	**01 16 48.5**	**+0.1**
DMLN				S	**Sb**	**01 17 03.0**	**0.0**
DMLN	**Damoulianata-K**	**1.09**	**356**	P	**Pg**	**01 16 47.4**	**-0.6**
DMLN				S	**Sg**	**01 17 02.0**	**-0.1**
SMHA	**Samh**	**1.10**	**7**	P	**Pg**	**01 16 47.7**	**-0.6**
SMHA				S	**Sg**	**01 17 02.9**	**+0.3**
SMHA				AML	AML	01 17 09.7	
	comp=N,12402μm,0.4s						
SMHA				AML	AML	01 17 13.6	
	comp=E,9625μm,0.5s						
SMHA	**Samh**	**1.10**	**7**	P	**Pg**	**01 16 47.4**	**-0.8**
SMHA				S	**Sg**	**01 17 02.6**	**0.0**
SMHA				AML	AML	01 17 09.7	
	comp=N,12401μm,0.4s						
SMHA				AML	AML	01 17 13.6	
	comp=E,9625μm,0.5s						
ITM	**Ithomi**	**1.16**	**88**	P	**Pg**	**01 16 49.0**	**-0.3**
ITM				S	**Sb**	**01 17 05.2**	**+0.2**
	comp=E,2μm,0.4s						
ITM	**Ithomi**	**1.16**	**88**	P	**Pg**	**01 16 49.2**	**0.0**
ITM				S	**Sb**	**01 17 04.7**	**-0.3**
ITM				AML	AML	01 17 12.9	
	comp=N,3478μm,0.6s						
ITM				AML	AML	01 17 13.2	
	comp=E,4866μm,0.5s						
ITM	**Ithomi**	**1.16**	**88**	P	**Pg**	**01 16 49.0**	**-0.3**
ITM				S	**Sb**	**01 17 04.8**	**-0.1**
ITM				AML	AML	01 17 07.1	
	comp=N,3463μm,0.3s						
ITM				AML	AML	01 17 13.2	
	comp=E,4866μm,0.5s						
RLS	**Riolos of Patr**	**1.20**	**41**	P	**Pg**	**01 16 49.5**	**-0.5**
RLS				S	**Sb**	**01 17 06.3**	**+0.2**
	comp=E,725nm,0.5s						
RLS	**Riolos of Patr**	**1.20**	**41**	P	**Pg**	**01 16 49.4**	**-0.7**
RLS				S	**Sg**	**01 17 05.5**	**0.0**
RLS				AML	AML	01 17 10.3	
	comp=E,1514μm,0.4s						
RLS				AML	AML	01 17 14.8	
	comp=N,1415μm,0.6s						
RLS	**Riolos of Patr**	**1.20**	**41**	P	**Pg**	**01 16 49.4**	**-0.7**
RLS				S	**Sg**	**01 17 05.5**	**0.0**
RLS				AML	AML	01 17 10.3	
	comp=E,1514μm,0.4s						
RLS				AML	AML	01 17 14.8	
	comp=N,1415μm,0.6s						
VSK1	**VASILIKIADES**	**1.26**	**3**	P	**Pg**	**01 16 50.9**	**-0.3**
DRO	**Drossia**	**1.26**	**50**	P	**Pg**	**01 16 50.5**	**-0.8**
DRO				S	**Sn**	**01 17 09.1**	**+0.2**
	comp=N,3μm,0.4s						
DRO	**Drossia**	**1.26**	**50**	P	**Pg**	**01 16 50.7**	**-0.6**
DRO				S	**Sb**	**01 17 08.2**	**+0.2**
DRO				AML	AML	01 17 11.2	
	comp=N,5846μm,0.4s						
DRO				AML	AML	01 17 13.0	
	comp=E,4814μm,0.4s						
DRO	**Drossia**	**1.26**	**50**	P	**Pg**	**01 16 50.3**	**-1.0**
DRO				S	**Sb**	**01 17 08.2**	**+0.2**
DRO				AML	AML	01 17 11.2	
	comp=N,5846μm,0.4s						
DRO				AML	AML	01 17 13.0	
	comp=E,4814μm,0.4s						
FSK	**Fiskardo**	**1.31**	**3**	P	**Pn**	**01 16 52.0**	**-0.1**
FSK	**Fiskardo**	**1.31**	**3**	P	**Pg**	**01 16 52.2**	**+0.1**
FSK				S	**Sb**	**01 17 09.3**	**0.0**
FSK				AML	AML	01 17 18.1	
	comp=N,2294μm,1.3s						
FSK				AML	AML	01 17 19.2	
	comp=E,2902μm,0.7s						
FSK	**Fiskardo**	**1.31**	**3**	P	**Pn**	**01 16 51.9**	**-0.2**
FSK				S	**Sb**	**01 17 09.2**	**0.0**
FSK				AML	AML	01 17 16.9	
	comp=E,3154μm,0.8s						
FSK				AML	AML	01 17 21.1	
	comp=N,1660μm,0.5s						
AST1	**Astakos**	**1.47**	**19**	P	**Pn**	**01 16 54.1**	**-0.2**
AST1				S	**Sg**	**01 17 15.2**	**+0.9**
EVGI	**Lefkada island**	**1.47**	**5**	P	**Pn**	**01 16 54.7**	**+0.3**
EVGI	**Lefkada island**	**1.47**	**5**	P	**Pn**	**01 16 54.3**	**0.0**
EVGI				S	**Sb**	**01 17 13.8**	**-0.2**
EVGI	**Lefkada island**	**1.47**	**5**	P	**Pn**	**01 16 53.9**	**-0.4**
EVGI				S	**Sb**	**01 17 13.9**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.57**	**6**	P	**Pn**	**01 16 56.2**	**+0.6**
NYDR	**Nydri-Lefkada**	**1.57**	**6**	P	**Pn**	**01 16 56.0**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.57**	**6**	P	**Pn**	**01 16 55.6**	**0.0**
NYDR				S	**Sb**	**01 17 16.9**	**+0.2**
KLV	**Kalavryta, Ach**	**1.60**	**56**	P	**Pn**	**01 16 56.0**	**-0.1**
KLV	**Kalavryta, Ach**	**1.60**	**56**	P	**Pn**	**01 16 56.1**	**0.0**
KLV				S	**Sb**	**01 17 17.6**	**-0.2**
KLV				AML	AML	01 17 22.1	
	comp=E,601μm,0.6s						
KLV				AML	AML	01 17 28.5	
	comp=N,706μm,0.8s						
KLV	**Kalavryta, Ach**	**1.60**	**56**	P	**Pn**	**01 16 55.9**	**-0.3**
KLV				S	**Sb**	**01 17 17.7**	**0.0**
KLV				AML	AML	01 17 26.8	
	comp=E,546μm,0.6s						
KLV				AML	AML	01 17 33.3	
	comp=N,765μm,0.6s						
LKD2	**Lefkada island**	**1.64**	**5**	P	**Pn**	**01 16 57.1**	**+0.4**
LKD2	**Lefkada island**	**1.64**	**5**	P	**Pn**	**01 16 56.1**	**-0.6**
GUR	**Goura**	**1.68**	**62**	P	**Pn**	**01 16 57.5**	**+0.3**
GUR				S	**Sg**	**01 17 20.6**	**-0.3**
	comp=N,1μm,0.6s						
GUR	**Goura**	**1.68**	**62**	P	**Pn**	**01 16 57.3**	**+0.1**
GUR				S	**Sb**	**01 17 20.2**	**+0.2**
GUR	**Goura**	**1.68**	**62**	P	**Pn**	**01 16 57.5**	**+0.3**
GUR				S	**Sb**	**01 17 19.9**	**-0.1**
GUR				AML	AML	01 17 23.8	
	comp=N,2554μm,0.4s						
GUR				AML	AML	01 17 28.8	
	comp=E,2894μm,0.7s						
TSLK	**Tsoukalades, L**	**1.68**	**5**	P	**Pb**	**01 16 57.9**	**-0.5**
TSLK	**Tsoukalades, L**	**1.68**	**5**	P	**Pn**	**01 16 57.7**	**+0.5**
EFP	**Efpalio**	**1.70**	**41**	P	**Pn**	**01 16 57.9**	**+0.4**
EFP				S	**Sb**	**01 17 20.2**	**-0.4**
EFP	**Efpalio**	**1.70**	**41**	P	**Pn**	**01 16 58.0**	**+0.5**
EFP	**Efpalio**	**1.70**	**41**	P	**Pn**	**01 16 58.0**	**+0.5**
ANX	**Ano Chora**	**1.84**	**38**	P	**Pn**	**01 16 59.7**	**+0.3**
ANX	**Ano Chora**	**1.84**	**38**	P	**Pn**	**01 17 00.2**	**+0.7**
ANX	**Ano Chora**	**1.84**	**38**	P	**Pn**	**01 17 00.1**	**+0.7**
VLI	**Veliai**	**2.02**	**102**	P	**Pn**	**01 17 03.1**	**+1.3**
VLI				S	**Sb**	**01 17 29.7**	**0.0**
	comp=E,385nm,0.9s						
VLI	**Veliai**	**2.02**	**102**	P	**Pb**	**01 17 03.6**	**-0.7**
VLI	**Veliai**	**2.02**	**102**	P	**Pb**	**01 17 03.5**	**-0.8**
EVR	**Evrytania**	**2.05**	**30**	P	**Pn**	**01 17 03.4**	**+1.0**
MAKR	**Makrakomi, Fth**	**2.27**	**35**	P	**Pn**	**01 17 05.3**	**0.0**
THL	**Klokotos Trika**	**2.69**	**26**	P	**Pn**	**01 17 12.0**	**+0.9**

IDC 20 01:20:49.0±6.7, 15°.07S×175°.29W, h583km±36km, mb2.7/2, mbtmp3.7/3, Error ellipse: s-maj=324.6km s-min=41.1km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.92**	**247**	P	P	01 22 37.7	0.0
	4.5nm,0.8s,baz=352,slow=14,SNR=6.4						
WRA	**Warramunga Arr**	**48.15**	**257**	P	P	01 28 37.7	+0.1
	0.2nm,0.5s,baz=90,slow=7.0,SNR=7.7						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**48.48**	**252**	P	P	01 28 39.7	-0.3
	1.1nm,0.5s,baz=88,slow=8.2,SNR=16						
	1.1nm,0.5s						
GERES	**GERESS Array B**	**145.52**	**349**	PKPbc	PKPdf	01 39 22.2	+0.6
	3.3nm,0.6s,baz=359,slow=5.2,SNR=7.8						

IDC 20 01:28:57.7±3.7, 6°.16S×149°.04E, h0km, mb3.5/1, mbtmp3.8/3, ML3.4/2, Error ellipse: s-maj=126.1km s-min=40.3km az=110.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.73**	**210**	Pn	Pn	01 29 58.4	+1.9
	25nm,0.3s,baz=352,slow=7.8,SNR=23						
PMG				Sn	Sn	01 30 39.2	-1.9
	47nm,0.3s,baz=334,slow=21,SNR=14						
	48nm,0.3s						
WRA	**Warramunga Arr**	**19.79**	**225**	P	P	01 33 29.3	-0.6
	0.4nm,0.3s,baz=52,slow=11,SNR=14						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**22.69**	**218**	P	P	01 34 00.6	-0.5
	1.3nm,0.8s,baz=49,slow=9.6,SNR=11						
ASAR				S	S	01 38 02.3	-8.4
	1.4nm,1.0s,baz=36,slow=22,SNR=5.1						
	1.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**147.09**	**285**	PKPbc	PKPbc	01 48 43.0	-0.7
	0.4nm,0.3s,baz=62,slow=3.0,SNR=9.6						

*ECX **20** 01:37:38.1±0.4, 32°.22N×115°.28W, h13km±1km, MD3.3, ML3.5*
*NEIC **20** 01:37:38.7±2.2, 32°.23N±0°.02×115°.25W±0°.02, h29km±7km, ML3.4/28, ML3.5/22(PAS), Error ellipse: s-maj=3.5km s-min=2.2km az=189.0*
*PAS **20** 01:37:39.4±2.8, 32°.22N±0°.03×115°.23W±0°.02, h23km±7km, Error ellipse: s-maj=3.8km s-min=2.2km az=186.0*
*MEX **20** 01:37:40.9±0.4, 32°.15N×115°.28W, h21km±606km, MD3.9*

ISC 20 01:37:38.9±0.8, 32°.21N±0°.02×115°.28W±0°.02, h18km±3km, n104, σ0s76/127, 20C-19D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RHX	**Rio Hardy**	**0.07**	**185**	⇓*iP*	**Pg**	**01 37 42.0**	**-0.3**
RHX				*eS*	**Sg**	**01 37 43.9**	**-0.7**
AGSX	**Ej. Aguas Cali**	**0.12**	**58**	⇑*iP*	**Pg**	**01 37 42.5**	**-0.2**
AGSX				*eS*	**Sg**	**01 37 45.5**	**+0.3**
MBIG	**Mexicali**	**0.21**	**18**	*eP*	**Pg**	**01 37 44.7**	**+0.7**
MBIG				*eS*	**Sg**	**01 37 49.2**	**+1.7**
MBIG	**Mexicali**	**0.21**	**18**	⇓*iP*	**Pg**	**01 37 44.7**	**+0.7**
CPBX	**Cerro Prieto**	**0.21**	**354**		**Pg**	**01 37 44.1**	**0.0**
CPBX				Sg	**Sg**	**01 37 48.5**	**+0.9**
CPBX	**Cerro Prieto**	**0.21**	**354**	⇓*iP*	**Pg**	**01 37 44.3**	**+0.2**
CPBX				*eS*	**Sg**	**01 37 48.6**	**+0.9**
CPBX				IAML		01 37 49.4	
	comp=N,14μm,0.2s						
CPBX				IAML		01 37 52.4	
	comp=E,26μm,0.4s						
CPBX				⇓*e*		01 37 52.4	
RITX	**Riito Sonora**	**0.27**	**98**	⇑*iP*	**Pb**	**01 37 45.6**	**+0.4**
CTLX	**Tlaxcala, TLX**	**0.29**	**23**	⇑*eP*	**Pb**	**01 37 45.6**	**0.0**
CTLX				IAML		01 37 51.4	
	comp=N,16μm,0.3s						
CTLX				⇑*e*		01 37 51.4	
CTLX				⇓*e*		01 37 52.0	
CTLX				IAML		01 37 52.0	
	comp=E,14μm,0.2s						
PESCX	**Ej. Pescaderos**	**0.35**	**49**		**Pg**	**01 37 46.5**	**+0.2**
PESCX	**Ej. Pescaderos**	**0.35**	**49**	⇑*iP*	**Pg**	**01 37 46.5**	**+0.2**
PESCX				*eS*	**Sb**	**01 37 52.4**	**+0.6**
ALAMX	**Rancho Alamar**	**0.41**	**242**	⇑*iP*	**Pb**	**01 37 48.1**	**+0.3**
ALAMX				*eS*	**Sb**	**01 37 54.2**	**+0.4**
JARAX	**Ej. Heriberto**	**0.42**	**322**	⇑*iP*	**Pg**	**01 37 47.7**	**+0.1**
YUCAX	**Ej. Yucatµn**	**0.43**	**21**	⇓*iP*	**Pb**	**01 37 48.3**	**+0.3**
UABX	**UABC, Campus M**	**0.45**	**342**		**Pb**	**01 37 48.7**	**+0.4**
UABX	**UABC, Campus M**	**0.45**	**342**	⇓*iP*	**Pb**	**01 37 48.7**	**+0.4**
5054	**Holtville Bond**	**0.49**	**354**		**Pb**	**01 37 49.3**	**+0.3**
5054					**Sn**	**01 37 57.8**	**-1.4**
5053	**Calexico**	**0.50**	**339**		**Pb**	**01 37 49.5**	**+0.3**
5053					**Sn**	**01 37 57.7**	**-1.6**
EDOMX	**El Doctor, EDO**	**0.51**	**118**	⇑*iP*	**Pb**	**01 37 49.8**	**+0.4**
EDOMX				*eS*	**Sn**	**01 37 58.0**	**-1.7**
SLRCX	**San Luis Rio C**	**0.55**	**62**		**Sb**	**01 37 58.1**	**+0.6**
SLRCX	**San Luis Rio C**	**0.55**	**62**	⇑*iP*	**Pb**	**01 37 49.9**	**-0.1**
CEA0	**Mexicali**	**0.56**	**323**	*eP*	**Pb**	**01 37 50.1**	**0.0**
EMSC	**East Mesa**	**0.59**	**25**		**Pb**	**01 37 50.5**	**-0.2**
EMSC					**Sg**	**01 37 59.2**	**+0.7**
EMSC	**East Mesa**	**0.59**	**25**	⇓*iP*	**Pb**	**01 37 50.5**	**-0.2**
ESJX	**Sierra Juarez**	**0.60**	**251**		**Pg**	**01 37 51.4**	**+0.4**
ESJX				Sg	**Sg**	**01 37 59.7**	**+0.6**
ESJX				IAML		01 37 59.9	
	comp=E,3μm,0.2s						
ESJX				IAML		01 38 01.6	
	comp=N,3μm,0.2s						
DREC	**Desert Rsrch C**	**0.62**	**347**		**Pg**	**01 37 51.3**	**+0.2**
DREC	**Desert Rsrch C**	**0.62**	**347**	⇓*iP*	**Pg**	**01 37 51.3**	**+0.2**
SNR	**Schaffner Ranc**	**0.67**	**348**		**Pb**	**01 37 51.8**	**-0.2**
COA	**Coachella**	**0.67**	**11**		**Pb**	**01 37 51.6**	**-0.5**
WESC	**Westside Schoo**	**0.67**	**325**		**Pg**	**01 37 52.4**	**+0.2**
WESC					**Sn**	**01 38 02.7**	**-0.9**
WESC	**Westside Schoo**	**0.67**	**325**	⇓*iP*	**Pg**	**01 37 52.4**	**+0.2**
YUH	**Yuha Desert**	**0.70**	**309**		**Pb**	**01 37 52.2**	**-0.5**
YUH					Pn	01 38 01.8	+7.8
YUH	**Yuha Desert**	**0.70**	**309**		**Sg**	**01 38 02.6**	**+0.5**
YUH2	**Yuha Desert**	**0.70**	**309**	⇓*iP*	**Pb**	**01 37 52.2**	**-0.5**
SJX	**San Joaquin**	**0.73**	**233**	⇑*iP*	**Pb**	**01 37 51.4**	**-1.6**
IMPE	**Imperial**	**0.73**	**341**		**Pb**	**01 37 53.0**	**-0.2**
IMPE					**Sn**	**01 38 04.8**	**-0.3**
ECBX	**El Chinero**	**0.76**	**165**	⇓*iP*	**Pg**	**01 37 53.9**	**+0.2**
ECBX				⇓*e*		01 38 05.6	
ECBX				IAML		01 38 05.6	
	comp=E,3μm,0.3s						
RMX	**La Rumorosa**	**0.79**	**301**		**Pb**	**01 37 53.0**	**-1.1**
RMX					**Sb**	**01 38 03.1**	**-1.5**
RMX	**La Rumorosa**	**0.79**	**301**	⇑*iP*	**Pb**	**01 37 53.0**	**-1.1**
IKP	**In-Ko-Pah, Jac**	**0.83**	**302**		**Pb**	**01 37 54.5**	**-0.4**
IKP					**Sb**	**01 38 06.0**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**0.83**	**302**	⇓*iP*	**Pb**	**01 37 54.5**	**-0.4**
SWSC	**Sam W. Stewart**	**0.86**	**329**	⇓*eP*	**Pb**	**01 37 54.1**	**-1.2**
CRR	**Carrizo Plain**	**0.90**	**320**		**Pb**	**01 37 55.0**	**-1.0**
CRR					**Sg**	**01 38 08.5**	**+0.3**
VTX	**Valle De La Tr**	**0.92**	**208**		**Pb**	**01 37 56.4**	**+0.1**
VTX				IAML		01 38 10.2	
	comp=E,2μm,0.2s						
VTX				IAML		01 38 10.7	
	comp=N,2μm,0.3s						
VTX	**Valle De La Tr**	**0.92**	**208**	⇑*iP*	**Pb**	**01 37 56.5**	**+0.1**
GLA	**Glamis**	**0.93**	**24**		**Pb**	**01 37 55.1**	**-1.4**
GLA				IAML		01 38 09.3	
	comp=E,833nm,0.5s						
GLA				IAML		01 38 09.3	
	comp=N,809nm,0.3s						
GLA	**Glamis**	**0.93**	**24**		**Sb**	**01 38 07.0**	**-1.5**
GLA	**Glamis**	**0.93**	**24**	⇓*iP*	**Pb**	**01 37 55.1**	**-1.4**
**SLVP

WUAZ	Wupatki	4.63	43			Pn	01 38 49.1	+0.9
U15A	North Rim	4.88	30			Pn	01 38 53.1	+1.4
LCMT	Little Creek M	5.08	19			Pn	01 38 55.0	+0.7
KNB	Kanab	5.21	22	Pn		Pn	01 38 57.5	+1.3
DUN6	Lazy B Ranch	5.25	85	Pn		Pn	01 38 56.5	-0.1
121A	Cookes Peak, D	6.35	85			Pn	01 39 12.2	+0.5

*IDC **20** 01:38:13.0±0.8, 2°.87S×119°.55E, h0km, mb3.8/8, mbtmp3.9/11, ML3.6/3, MS3.4/15, Error ellipse: s-maj=59.3km s-min=13.5km az=66.0*
*NEIC **20** 01:38:14.9±1.4, 2°.99S±0°.05×119°.47E±0°.06, h10km±1km, mb4.5/10, Error ellipse: s-maj=11.6km s-min=5.2km az=52.0*
*DJA **20** 01:38:15.6±0.3, 3°.S±2°.×12°.0E±°, h10km, M4.4/13, MLv4.4/13*
ISC 20 01:38:14.6±0.6, 2°.96S±0°.04×119°.48E±0°.05, h10km, n47, σ1°03/40, mb4.0/12, MS3.4/12, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.35	104	P	Pg	01 38 21.1	-0.5
TTSI				S	Sg	01 38 27.7	+1.5
SPSI	Sidrap Palu	1.04	164	P	Pg	01 38 34.3	-0.3
SPSI				S	Sn	01 38 50.7	+0.8
BNSI	Bone	1.56	156	P	Pb	01 38 43.7	+0.1
KAPI	Kappang	2.06	172		Pn	01 38 49.2	-0.1
KAPI	Kappang	2.06	172	Pn	Pn	01 38 50.0	+0.7
	58nm,0.3s,baz=332,slow=13,SNR=134						
KAPI				Sn	Sb	01 39 17.6	-0.2
	80nm,0.3s,baz=80,slow=18,SNR=9.2						
	417nm,0.6s						
PCI	Palu	2.07	10	P	Pn	01 38 50.5	+1.1
BKSI	Bulukumba	2.44	165	P	Pn	01 38 56.2	+1.8
APSI	Ampana	2.97	47	P	Pn	01 39 01.7	-0.1
BKB	Balikpapan	3.08	303	Pn	Pn	01 39 04.3	+1.0
BKB	Balikpapan	3.08	303	P	Pn	01 39 05.6	+2.3
KDI	Kendari	3.29	108	P	Pn	01 39 08.4	+2.2
SMKI	Samarinda	3.37	318	P	Pg	01 39 18.5	-0.8
LUWI	Luwuk	3.80	60		Pn	01 39 12.5	-0.7
LUWI	Luwuk	3.80	60	P	Pn	01 39 12.3	-1.0
TOLI2	Tolitoli	4.25	18		Pn	01 39 21.1	+1.7
JAGI	Jajag, Banyuwa	7.62	224	Pn	Pn	01 40 04.7	-1.1
MYLDM	Lahad Datu	8.14	353	Pn	Pn	01 40 13.2	+0.3
BATI	Baumata	8.31	150	Pn	Pn	01 40 17.4	+2.1
	2.1nm,0.3s,baz=252,slow=18,SNR=1.1						
BATI				LR	LR	01 44 07.4	
	comp=Z,313nm,18.9s,baz=269,slow=42						
	11nm,0.3s						
DAV	Davao City (W)	11.68	31	LR	LR	01 46 18.3	
	comp=Z,252nm,19.0s,baz=272,slow=42						
FITZ	Fitzroy Crossi	16.21	159	Pn	Pn	01 42 02.5	-0.1
	baz=299,slow=6.0,SNR=2.1						
FITZ				LR	LR	01 50 12.3	
	comp=Z,181nm,18.6s,baz=330,slow=44						
	1.7nm,0.8s						
RPSI	Rantau Prapat	21.30	285	P	P	01 43 01.8	+0.1
RPSI				IAmb	IAmb	01 43 06.8	
	comp=Z,40nm,1.2s						
WB0	Warramunga Arr	22.16	140	P	P	01 43 11.0	0.0
WB0				IAmb	IAmb	01 43 28.8	
	comp=Z,9.1nm,1.2s						
WRA	Warramunga Arr	22.26	140	P	P	01 43 11.1	-0.8
	comp=Z,2.4nm,1.0s,baz=314,slow=11,SNR=8.8						
WRA				LR	LR	01 53 22.5	
	comp=Z,172nm,18.5s,baz=259,slow=41						
	comp=Z,2.4nm,1.0s						
WB2	Warramunga Arr	22.27	140	P	P	01 43 11.3	-0.7
WR0	Warramunga Arr	22.40	140	P	P	01 43 12.5	-0.9
WR0				IAmb	IAmb	01 43 41.0	
	comp=Z,6.6nm,0.9s						
ASAR	Alice Springs	24.87	147	P	P	01 43 38.2	+0.6
	comp=Z,1.5nm,0.9s,baz=327,slow=9.2,SNR=12						
ASAR				LR	LR	01 53 53.2	
	comp=Z,108nm,19.2s,baz=303,slow=38						
	comp=Z,1.5nm,0.9s						
SSLB	Suanglung	26.62	3	P	P	01 43 54.0	+0.6
SSLB				IAmb	IAmb	01 44 10.2	
	comp=Z,24nm,1.0s						
CMAR	Chiang Mai Arr	29.36	317	P	P	01 44 18.3	+0.3
	comp=Z,0.7nm,0.3s,baz=146,slow=6.6,SNR=4.9						
CMAR				LR	LR	01 58 23.6	
	comp=Z,96nm,18.9s,baz=135,slow=41						
	comp=Z,0.7nm,0.3s						
NWAO	Narrogin (SRO)	29.89	184	LR	LR	01 56 49.9	
	comp=Z,78nm,22.0s,baz=19,slow=37						
CTA	Charters Tower	31.18	125	LR	LR	01 57 50.6	
	comp=Z,7.7nm,18.1s,baz=300,slow=38						
STKA	Stephens Creek	35.51	147	LR	LR	02 01 27.2	
	comp=Z,56nm,19.0s,baz=19,slow=39						
JNU	Nakatsue	37.47	16	LR	LR	02 01 18.3	
	comp=Z,21nm,18.7s,baz=345,slow=37						
KSRS	Korea Array	40.97	10	LR	LR	02 03 32.5	
	comp=Z,49nm,21.4s,baz=205,slow=37						
MJAR	Matsushiro Arr	43.10	22	LR	LR	02 01 26.5	
	comp=Z,38nm,21.3s,baz=208,slow=32						
DZM	Mont Dzumac	49.36	117	LR	LR	02 07 35.2	
	comp=Z,55nm,21.9s,baz=146,slow=36						
SONM	Songino Array	51.87	349	P	P	01 47 23.0	-0.2
	comp=Z,0.3nm,0.4s,baz=173,slow=10,SNR=7.4						
	comp=Z,0.3nm,0.4s						
MKAR	Makanchi Array	59.38	331	P	P	01 48 17.1	0.0
MKAR	Makanchi Array	59.38	331	P	P	01 48 17.4	+0.3
	comp=Z,1.8nm,0.7s,baz=134,slow=7.5,SNR=9.8						
	comp=Z,1.8nm,0.7s						
URZ	Urewera	63.10	132	LR	LR	02 17 31.8	
	comp=Z,43nm,18.2s,baz=6.0,slow=37						
ZALV	Zalesovo Beam	63.63	338	P	P	01 48 45.2	-0.4
	comp=Z,0.5nm,0.5s,baz=131,slow=4.1,SNR=4.3						
	comp=Z,0.5nm,0.5s						
KURBB	Kurchatov Arra	63.84	332	P	P	01 48 46.8	-0.3
	comp=Z,0.6nm,0.7s,baz=135,slow=6.1,SNR=5.8						
	comp=Z,0.6nm,0.7s						
BVAR	Borovoye Array	69.25	331	P	P	01 49 20.1	-1.7
	comp=Z,0.2nm,0.4s,baz=104,slow=9.1,SNR=2.5						
	comp=Z,0.2nm,0.4s						
ABKAR	Abkulak array	72.96	324	P	P	01 49 42.9	-1.4
ABKAR	Abkulak array	72.96	324	P	P	01 49 43.2	-1.1
ABKAR				IAmb	IAmb	01 49 43.5	
	comp=Z,1.2nm,0.9s						
UWE	Uwekahuna	86.48	70	P	P	01 50 58.4	-0.1
CNBA	Chernabura Isl	87.17	35	P	P	01 51 00.6	-0.3
SNAA	Sanae	96.91	196	LR	LR	02 29 23.2	
	comp=Z,54nm,20.6s,baz=12,slow=32						

*SJA **20** 01:41:17.0, 21°.38S×67°.41W, h219km, ML3.5*
*SCB **20** 01:41:18.4±1.1, 21°.35S×67°.20W, h188km±10km, ML3.6/2, MW3.9, Error ellipse: s-maj=6.7km s-min=3.5km az=0.0*
*IDC **20** 01:41:21.4±2.8, 21°.10S×66°.85W, h210km±21km, mb3.2/2, mbtmp3.8/5, MS3.8/1, Error ellipse: s-maj=34.6km s-min=18.2km az=37.0*
ISC 20 01:41:17.9±0.9, 21°.32S±0°.06×67°.18W±0°.05, h207km, n32, σ1°68/35, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	Mochara	1.44	87	Pg	Pn	01 41 52.1	-0.2
MOCB				Sg	S	01 42 16.7	-1.9
MOCB				IAML		01 42 21.5	
	285nm,0.2s						
YJA	Yavi	1.77	119	*i* P	Pn	01 41 55.4	+0.2
PB09	IPOC Station P	1.97	256	*i* P	Pn	01 41 56.0	-0.9
PB09	IPOC Station P	1.97	256	Pg	Pn	01 41 56.8	-0.1
PB01	IPOC Station P	2.17	277	*i* P	Pn	01 41 57.5	-1.3
PB01	IPOC Station P	2.17	277	Pg	Pn	01 41 58.2	-0.6
PB01				Sg	S	01 42 28.1	-2.1
PB01				IAML		01 42 29.6	
	315nm,0.2s						
PB08	IPOC Station P	2.19	302	*i* P	Pn	01 41 58.8	-0.6
PB08	IPOC Station P	2.19	302	Pg	Pn	01 41 59.5	+0.1
GO01	Chusmiza	2.50	311	*i* P	Pn	01 42 02.3	-0.6
GO01	Chusmiza	2.50	311	Pg	Pn	01 42 03.0	+0.1
PB06	IPOC Station P	2.61	238	*i* P	Pn	01 42 02.1	-1.5
PB15	IPOC Station P	2.83	228	*i* P	Pn	01 42 05.1	-1.1
PB15	IPOC Station P	2.83	228	Pg	Pn	01 42 05.7	-0.5
TA01	Diego Aracena	2.90	285	*i* P	Pn	01 42 04.6	-2.2
PB04	IPOC Station P	2.93	249	*i* P	Pn	01 42 06.5	-0.9
TA02	Huaiquique	2.95	290	*i* P	Pn	01 42 05.6	-1.7
SOET	ToroToro	3.44	22	Pg	Pn	01 42 14.0	+0.4
SOTI	Planta Incahua	3.62	66	Pg	Pn	01 42 15.9	+0.4
AOEA	Aiquile	3.63	31	Pg	Pn	01 42 15.8	0.0
PB12	IPOC Station P	4.00	312	*i* P	Pn	01 42 17.7	-2.5
GO02	Mina Guanaco	4.42	210	*i* P	Pn	01 42 24.0	-1.4
PB14	IPOC Station P	4.43	221	*i* P	Pn	01 42 24.3	-1.3
FSA	Cafayete	4.89	167	*i* P	Pn	01 42 33.3	+1.9
LPAZ	La Paz	5.09	350	P	Pn	01 42 35.7	+1.4
	4.8nm,0.5s,baz=155,slow=6.6,SNR=25						
LPAZ				S	S	01 43 35.9	+1.8
	8.0nm,0.7s,baz=163,slow=19,SNR=8.7						
LPAZ	La Paz	5.09	350	*i* P	Pn	01 42 35.9	+1.6
LPAZ	La Paz	5.09	350	Pg	Pn	01 42 35.6	+1.3
SIV	San Ignacio	7.85	49	P	Pn	01 43 07.7	-1.7
	7.1nm,0.3s,baz=229,slow=11,SNR=67						
SIV				S	S	01 44 32.7	-5.5
	6.1nm,0.6s,baz=236,slow=11,SNR=8.8						
CPUP	Villa Florida	10.30	121	P	Pn	01 43 42.5	+1.5
	1.6nm,0.3s,baz=300,slow=9.8,SNR=11						
SJG	San Juan	39.20	2	LR	LR	02 06 51.0	
	comp=Z,152nm,21.2s,baz=280,slow=39						
PDAR	Pinedale Array	74.77	329	P	P	01 52 37.6	+2.1
	0.1nm,0.3s,baz=209,slow=7.2,SNR=2.5						
	0.1nm,0.3s						
TORD	Torodi Ar. Bea	75.78	70	P	P	01 52 42.9	+1.3
	1.2nm,0.5s,baz=257,slow=5.3,SNR=20						
	1.2nm,0.5s						
MKAR	Makanchi Array	144.54	37	PKP	PKiKP	02 00 32.0	-1.4
	1.1nm,1.0s,baz=290,slow=3.6,SNR=3.6						

*IDC **20** 01:48:46.1±7.9, 18°.46N×147°.75E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=307.6km s-min=24.6km az=82.0*
ISC 20 01:48:52.9±10.0, 18°.4N±0°.4×14°7E±°, h35km, n6, σ0°25/6, mb3.9/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.15	199	P	P	01 56 25.8	+0.1
	0.5nm,0.5s,baz=21,slow=8.9,SNR=6.4						
	0.5nm,0.5s						
ASAR	Alice Springs	43.78	198	P	P	01 56 55.3	-0.1
	0.3nm,0.3s,baz=37,slow=9.5,SNR=2.6						
	0.3nm,0.3s						
ZALV	Zalesovo Beam	59.19	322	P	P	01 58 50.1	-0.2
	0.5nm,0.5s,baz=91,slow=10,SNR=2.1						
	0.5nm,0.5s						
MKAR	Makanchi Array	59.77	314	P	P	01 58 54.6	+0.2
	0.5nm,0.6s,baz=80,slow=7.9,SNR=2.4						
	0.5nm,0.6s						
KURBB	Kurchatov Arra	62.56	318	P	P	01 59 13.1	-0.2
	0.4nm,0.4s,baz=92,slow=7.5,SNR=1.9						
	0.4nm,0.4s						
BVAR	Borovoye Array	67.68	321	P	P	01 59 46.8	+0.3
	1.0nm,0.5s,baz=101,slow=8.7,SNR=7.0						
	1.0nm,0.5s						

AUST 20 01:53:40.8±1.7, 31°S±5°×11°3E±1°7, h10km, mb3.9/2, ML2.8/4, Error ellipse: s-maj=37.4km s-min=9.6km az=95.1, West of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUN	Mundaring	2.44	107	P	Pn	01 54 21.9	+1.2
MUN	Mundaring	2.44	107	S	Sn	01 54 47.3	-3.3
MORW	Morawa	3.14	46	P	Pn	01 54 31.5	+1.1
MORW	Morawa	3.14	46	S	Sn	01 55 05.9	-2.1
NWAO	Narrogin (SRO)	3.59	118	P	Pn	01 54 36.3	-0.3
NWAO	Narrogin (SRO)	3.59	118	S	Sn	01 55 14.2	-4.8
KLBR	Kellerberrin	3.68	96	P	Pn	01 54 37.7	-0.1
LM05	Lake Muir 05	3.91	143	P	Pn	01 54 40.8	-0.2
LM05				S	Sn	01 55 22.9	-4.1
LM04	Lake Muir 04	4.05	139	P	Pn	01 54 43.1	+0.2
LM04				S	Sn	01 55 25.4	-4.9
LM02	Lake Muir 02	4.16	141	P	Pn	01 54 44.6	+0.2
LM01	Lskr Muir 01	4.17	139	P	Pn	01 54 44.3	-0.3
LM03	Lake Muir 03	4.23	137	P	Pn	01 54 45.2	-0.2
MEEK	Meekatharra	6.47	45	P	Pn	01 55 15.1	-1.0
	comp=Z,0.1nmcomp=Z,28nm,2.6s						
KMBL	Kambalda	7.20	93	P	Pn	01 55 25.3	-0.9
	comp=Z,0.1nmcomp=Z,23nm,2.6s						
KMBL	Kambalda	7.20	93	S	Sn	01 56 40.4	-7.7
GIRL	Giralia	8.64	5	P	Pn	01 55 46.6	+0.6
FORT	Forrest	12.53	91	S	Sn	01 58 46.8	-12

*SJA **20** 01:56:53.4±0.8, 29°.92S×71°.38W, h51km±7km, ML4.4, MW4.3*
*VAO **20** 01:56:54.9±1.8, 30°.12S×71°.48W, h69km±12km, mb4.2*
*GUC **20** 01:56:54.7±0.7, 29°.87S×71°.36W, h49km±1km, ML4.2*
*NEIC **20** 01:56:55.3±1.5, 29°.86S±0°.05×71°.38W±0°.07, h38km±12km, mb4.2/6, Error ellipse: s-maj=9.1km s-min=5.6km az=123.0*
*IDC **20** 01:56:56.7±4.4, 29°.92S×71°.20W, h57km±37km, mb3.9/8, mbtmp4.2/11, ML4.1/3, MS3.6/1, Error ellipse: s-maj=26.9km s-min=20.7km az=75.0*
ISC 20 01:56:51.6±1.1, 29°.80S±0°.02×71°.50W±0°.03, h13km±7km, n141, σ1°75/177, mb4.3/8, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.26	118		Pn	01 57 01.8	+0.7
CO05					Sb	01 57 06.9	+4.4
CO05	La Serena	0.26	118	⇓*i* P	Pn	01 57 02.0	+0.9
CO05				*e*S	Sb	01 57 07.2	+4.7
GO04	Tololo Observa	0.72	122		Pb	01 57 06.7	+0.6
GO04					Sb	01 57 15.9	+0.1
GO04	Tololo Observa	0.72	122	⇓*i* P	Pb	01 57 07.0	+0.9
GO04				*e*S	Sb	01 57 16.0	+0.1
GO04	Tololo Observa	0.72	122	*e*P	Pb	01 57 06.8	+0.7
GO04				*e*S	Sb	01 57 16.3	+0.4
CO06	Fray Jorge	0.88	187		Pb	01 57 09.8	+1.0
CO06				Sn	Sb	01 57 21.7	+1.3
CO06	Fray Jorge	0.88	187	*e*P	Pb	01 57 09.8	+1.0
CO06				*e*S	Sb	01 57 22.5	+2.1
CO06				IAML		01 57 25.6	
	comp=N,7μm,0.3s						
LCO	Las Campanas	1.05	42		Pn	01 57 13.0	+0.7
LCO	Las Campanas	1.05	42	*i* P	Pn	01 57 13.3	+1.0
LCO				*e*S	Sn	01 57 27.1	+0.2
LCO	Las Campanas	1.05	42	*e*P	Pn	01 57 12.9	+0.7
LCO				*e*S	Sn	01 57 27.4	+0.5
LCO				IAML		01 57 27.7	
	comp=Z,25μm,0.2s						
CO01	Juntas del Tor	1.24	99		Pg	01 57 14.8	-0.7
CO01	Juntas del Tor	1.24	99	*i* P	Pg	01 57 15.1	-0.4
CO01				*e*S	Sg	01 57 29.4	-2.2
CO01				IAML		01 57 30.0	
	comp=E,16μm,0.3s						
CO01	Juntas del Tor	1.24	99	*e*P	Pg	01 57 14.8	-0.7
CO01				*e*S	Sg	01 57 29.7	-1.9
CO01				IAML		01 57 29.7	
	comp=Z,17μm,0.2s						
CO03	El Pedregal	1.25	146		Pg	01 57 14.3	-1.5
CO03	El Pedregal	1.25	146	⇓*i* P	Pg	01 57 14.3	-1.5
CO03				*e*S	Sg	01 57 28.9	-3.2
CO03				IAML		01 57 29.5	
	comp=E,8μm,0.1s						
CO03	El Pedregal	1.25	146	*e*P	Pg	01 57 14.0	-1.8
CO03				*e*S	Sg	01 57 29.2	-3.0
CO03				IAML		01 57 30.2	
	comp=Z,4μm,0.6s						
AC05	El Transito	1.44	49		Pg	01 57 18.8	-0.5
AC04	Llanos de Chal	1.63	13		Pg	01 57 22.5	-0.4
AC04	Llanos de Chal	1.63	13	*i* P	Pg	01 57 22.3	-0.6
AC04				*e*S	Sg	01 57 44.2	+0.1
AC04				IAML		01 57 48.9	
	comp=N,5μm,0.3s						
AC04	Llanos de Chal	1.63	13	*e*P	Pb	01 57 21.6	+0.1
AC04				*e*S	Sg	01 57 45.5	+1.3
AC04				IAML		01 57 49.1	
	comp=Z,3μm,0.7s						
ACCO	Cerro Coronel	2.25	111	*e*P	Pb	01 57 31.3	-1.0
ACCO				*e*S	Sn	01 57 54.7	-2.0
CO04	Los Peladeros	2.28	169	*e*P	Pn	01 57 29.7	+0.5
CO04				*e*S	Sn	01 57 56.2	-1.1
DOCA	Reserva Natura	2.39	119	*e*P	Pn	01 57 32.2	+1.5
DOCA				*e*S	Sn	01 57 57.0	-3.0
GO03	Copiapo	2.46	27	Pn	Pn	01 57 33.7	+2.2
GO03	Copiapo	2.46	27	*e*P	Pn	01 57 33.3	+1.8
GO03	Copiapo	2.46	27	*e*P	Pb	01 57 34.0	-1.8
GO03				*e*S	Sb	01 58 06.2	+0.2
AC06	Mina Casimiro	2.63	23		Pn	01 57 35.9	+2.1
AC06	Mina Casimiro	2.63	23	*i* P	Pn	01 57 36.0	+2.2
RTLS	Leoncito	2.75	137	*e*P	Pn	01 57 37.9	+2.2
RTLS				*e*S	Sn	01 58 09.2	+0.2
RTLS				IAML		01 58 22.2	
	comp=Z,3μm,0.7s						
VA06	Catapilco	2.76	176		Pn	01 57 36.5	+1.0
VA06	Catapilco	2.76	176	*e*P	Pn	01 57 36.4	+0.9
VA06				*e*S	Sn	01 58 11.4	+2.8
ZON	Zonda	2.99	126	Pn	Pn	01 57 40.2	+1.5
ZON	Zonda	2.99	126	*e*P	Pn	01 57 42.2	+3.4
ZON				*e*S	Sg	01 58 25.2	-2.6
ZON				IAML		01 58 27.2	
	comp=Z,462nm,0.3s						
RTLL	Cerro Villicun	3.03	121	*e*P	Pn	01 57 38.1	-1.1
RTLL				*e*S	Sn	01 58 14.9	-0.4
VA03	San Esteban	3.07	165		Pn	01 57 40.2	+0.4
VA03	San Esteban	3.07	165	*e*P	Pn	01 57 40.6	+0.8
VA03				*e*S	Sn	01 58 17.7	+1.2
VA03	San Esteban	3.07	165	*e*P	Pn	01 57 40.8	+1.0
VA03				*e*S	Sn	01 58 13.3	-3.2
VA03				IAML		01 58 30.1	
	comp=Z,1μm,0.6s						
ROCH	El Roble	3.19	173	*e*P	Pn	01 57 42.8	+1.1
ROCH				*e*S	Sb	01 58 25.5	-1.6
ROC1	El Roble	3.19	173	*e*P	Pn	01 57 37.4	-4.3
VA01	Torpederas	3.22	182		Pn	01 57 41.4	-0.3
VA01	Torpederas	3.22	182	*e*P	Pn	01 57 36.8	-5.0
VA01				*e*S	Sb	01 58 29.7	+2.1
VA01				IAML		01 58 31.2	
	comp=Z,688nm,0.8s						
RTCV	Cerro Valdivia	3.28	130	*e*P	Pn	01 57 46.4	+3.7
RTCV				*e*S	Sb	01 58 31.7	+2.3
PEL	Peldehue	3.41	168		Pn	01 57 44.5	0.0
PEL	Peldehue	3.41	168	*e*P	Pn	01 57 45.5	+1.0
PEL	Peldehue	3.41	168	*e*P	Pn	01 57 44.2	-0.3
PEL				*e*S	Sn	01 58 21.6	-3.2
MT02	Curacav	3.46	175		Pn	01 57 45.6	+0.4
MT02	Curacav	3.46	175	*e*P	Pn	01 57 45.8	+0.6
MT02				*e*S	Sn	01 58 25.2	-0.9
MT02	Curacav	3.46	175	*e*P	Pn	01 57 45.6	+0.4
MT02				*e*S	Sn	01 58 20.2	-5.9
MT02				IAML		01 58 39.5	
	comp=Z,796nm,0.6s						
AVFE	Valle Fertil	3.61	105	*e*P	Pn	01 57 48.8	+1.6
AVFE				*e*S	Sn	01 58 27.4	-2.3
AVFE				IAML		01 58 40.1	
	comp=Z,590nm,0.3s						
MT05	Renca	3.64	170		Pn	01 57 48.6	+0.9
MT05	Renca	3.64	170	*e*P	Pn	01 57 49.1	+1.4
MT05				*e*S	Sn	01 58 32.8	+2.3
MT05				IAML		01 58 45.9	
	comp=Z,822nm,1.0s						
FCH	Farellones	3.67	164	*e*P	Pn	01 57 50.0	+1.7
MT14	Cerro Cal¡n	3.68	167	*e*P	Pn	01 57 50.7	+2.5
MT16	CCHEN	3.71	167		Pn	01 57 49.4	+0.7
MT16	CCHEN	3.71	167	*e*P	Pn	01 57 50.7	+2.0
MT16				*e*S	Sn	01 58 33.8	+1.4
AC01	Pan de Azucar	3.72	13	Pn	Pn	01 57 49.5	+0.7
AC01	Pan de Azucar	3.72	13	*e*P	Pn	01 57 49.4	+0.7
AC01				*e*S	Sb	01 58 38.5	-3.7
AC01				IAML		01 58 54.1	
	comp=Z,388nm,1.2s						
MT03	Universidad Ad	3.78	167		Pn	01 57 49.8	+0.2
MT03	Universidad Ad	3.78	167	*e*P	Pn	01 57 51.5	+1.9
MT03				*e*S	Sn	01 58 32.8	-1.2
MT03				IAML		01 58 54.4	
	comp=Z,669nm,1.1s						
VA05	Santo Domingo	3.85	181	Pn	Pn	01 57 50.2	-0.2
VA05	Santo Domingo	3.85	181	*e*P	Pn	01 57 50.1	-0.4
MT08	Bocatoma Ro	3.85	161	Pn	Pn	01 57 52.7	+1.9
MT08	Bocatoma Ro	3.85	161	*e*P	Pn	01 57 53.5	+2.8
MT08				*e*S	Sn	01 58 35.0	-0.9
MT08				IAML		01 58 50.2	
	comp=Z,823nm,0.6s						
MT15	Las Vizcachas	3.88	168	⇑*i* P	Pn	01 57 52.9	+1.9
MT15				*e*S	Sn	01 58 38.2	+1.7
ACLC	CERRO LA CRUZ	3.98	86	*e*P	Pn	01 57 54.0	+1.6
ACLC				*e*S	Sn	01 58 37.0	-2.1
ACLC				IAML		01 58 53.3	
	comp=Z,546nm,0.3s						
MT09	Talagante	3.99	174		Pn	01 57 53.1	+0.5
MT01	Popeta	4.06	177		Pn	01 57 53.5	+0.1
MT01	Popeta	4.06	177	*e*P	Pn	01 57 53.7	+0.4
MT01	Popeta	4.06	177	*e*P	Pn	01 57 53.8	+0.4
MT01				*e*S	Sn	01 58 41.8	+1.1
MT01				IAML		01 58 52.0	
	comp=Z,773nm,0.7s						
MT13	San Alfonso	4.07	166		Pn	01 57 54.8	+1.2
MT13	San Alfonso	4.07	166	*e*P	Pn	01 57 55.7	+2.1
MT13				*e*S	Sn	01 58 40.2	-1.0
MT13				IAML		01 58 59.6	
	comp=Z,484nm,0.6s						
LMEL	Las Melosas	4.19	165		Pn	01 57 56.7	+1.4
LMEL	Las Melosas	4.19	165	⇓*i* P	Pn	01 57 57.7	+2.5
LMEL	Las Melosas	4.19	165	*e*P	Pn	01 57 52.8	-2.5
LMEL				*e*S	Sn	01 58 43.1	-1.0
BO04	La Punta	4.25	170		Pn	01 57 56.6	+0.6
BO04	La Punta	4.25	170	⇑*i* P	Pn	01 57 56.9	+0.9
ACHE	Chepes	4.39	109	*e*P	Pn	01 57 59.7	+1.6
BO01	Tunca	4.59	176	Pn	Pn	01 58 01.0	+0.3
BO01	Tunca	4.59	176	*e*P	Pn	01 58 01.2	+0.5
BO01	Tunca	4.59	176	*e*P	Pn	01 58 01.2	+0.5
BO01				*e*S	Sn	01 58 48.8	-5.1
BO01

PTLB	Pontes e Lacer	18.26	41	eP		Pn	02 01 03.9	-0.8
VILB	Vilhena	19.77	34	P		P	02 01 20.4	-1.1
VILB				IAmb		IAmb	02 01 26.7	
comp=Z,10nm,0.6s								
VILB	Vilhena	19.77	34	eP		P	02 01 21.3	-0.2
SALV	Santo Antonio	20.06	50	eP		P	02 01 23.7	-0.9
ETMB	Extrema	20.49	15	P		Pn	02 01 31.4	0.0
ETMB				IAmb		IAmb	02 01 34.8	
comp=Z,6.4nm,0.7s								
ETMB	Extrema	20.49	15	eP		P	02 01 30.9	+1.7
ITRB	Iturama	21.64	67	eP		P	02 01 41.9	+0.2
CZSB	Cruzeiro do Su	21.98	357	eP		P	02 01 47.1	+1.7
SAML	Samuel	22.16	22	P		P	02 01 47.0	-0.3
PDRB	Porto dos Gac	22.72	40	eP		P	02 01 53.5	+0.2
BDFB	Brasilia	25.77	62	P		P	02 02 20.7	-1.7
comp=Z,4.1nm,0.6s;baz=240,slow=7.0,SNR=12								
comp=Z,4.1nm,0.6s								
SNDB	Serra Nova Dou	25.83	51	eP		P	02 02 20.9	-1.8
RCBR	Riachuelo	41.15	62	LR		LR	02 23 38.9	
comp=Z,74nm,20.5s,baz=306,slow=39								
SOCE	Pocosol	41.90	340	P		P	02 04 43.0	+1.1
SOCE				IAmb		IAmb	02 05 14.6	
comp=Z,19nm,1.2s								
SNAA	Sanae	55.31	159	P		P	02 06 23.0	-1.5
SNAA				IAmb		IAmb	02 06 24.4	
comp=Z,8.1nm,1.2s								
SNAA	Sanae	55.31	159	P		P	02 06 22.9	-1.6
comp=Z,4.5nm,0.9s,baz=271,slow=9.8,SNR=9.1								
comp=Z,4.5nm,0.9s								
QSPA	South Pole Qui	60.43	180	P		P	02 06 59.4	-1.2
comp=Z,1.5nm,0.7s,baz=88,slow=1.9,SNR=5.1								
comp=Z,1.5nm,0.7s								
TXAR	Lajitas Array	66.33	330	P		P	02 07 41.2	+1.2
comp=Z,0.3nm,0.5s,baz=149,slow=8.0,SNR=6.9								
comp=Z,0.3nm,0.5s								
DBIC	Dimbokro	73.43	72	P		P	02 08 21.9	-2.0
comp=Z,5.5nm,0.8s,baz=237,slow=7.9,SNR=5.0								
comp=Z,5.5nm,0.8s								
PDAR	Pinedale Array	80.24	333	P		P	02 09 02.2	+0.2
comp=Z,0.2nm,0.5s,baz=120,slow=8.8,SNR=2.5								
comp=Z,0.2nm,0.5s								
BOSA	Boshof	81.63	118	P		P	02 09 07.5	-2.3
comp=Z,3.3nm,0.9s,baz=208,slow=1.9,SNR=5.7								
comp=Z,3.3nm,0.9s								
TORD	Torodi Ar. Bea	82.36	70	P		P	02 09 12.2	-1.4
comp=Z,2.8nm,0.9s,baz=282,slow=5.1,SNR=20								
comp=Z,2.8nm,0.9s								
WRA	Warramunga Arr	124.63	210	PKP		PKPdf	02 15 49.5	-2.0
comp=Z,0.4nm,0.5s,baz=158,slow=1.8,SNR=9.5								
H11S2	WAKE ISLAND Hyl	26.19	272	T		T	04 35 06.7	
baz=115,slow=75,SNR=35								
H11S1	WAKE ISLAND Hyl	26.20	272	T		T	04 35 03.7	
baz=115,slow=75,SNR=38								
H11S3	WAKE ISLAND Hyl	26.20	272	T		T	04 35 05.8	
baz=115,slow=75,SNR=30								
BVAR	Borovoye Array	143.82	39	PKP		PKPab	02 16 23.7	+0.6
comp=Z,0.4nm,0.4s,baz=336,slow=3.3,SNR=2.4								
ZALV	Zalesovo Beam	150.38	29	PKPbc		PKPbc	02 16 41.4	-0.9
comp=Z,3.9nm,0.5s,baz=300,slow=3.0,SNR=19								
PZH	PanZhiHua	173.19	117	PKP		PKPdf	02 17 00.3	-0.8

*IDC **20** 01:58:17.9±0.9, 13°.74N×121°.28E, h164km±4km, mb3.4/7, mbtmp4.0/8, Error ellipse: s-maj=73.9km s-min=12.4km az=68.0*

*NEIC **20** 01:58:17.9±1.0, 13°.69N±0°.08×121°.09E±0°.10, h165km±8km, mb4.5/20, Error ellipse: s-maj=15.8km s-min=9.1km az=127.0*

ISC 20 01:58:17.6±0.6, 13°.64N±0°.07×121°.1E±0°.2, h165km, n35, σ0°91/36, mb4.2/16, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.47	345	P	Pn	01 58 41.9	+1.3
966nm,0.3s,baz=247,slow=1.1,SNR=21							
TGY				S	Sn	01 58 59.5	+1.2
925nm,0.4s,baz=316,slow=23,SNR=8.0							
TOLI2	Tolitoli	12.45	181	Pn	Pn	02 01 09.7	+0.3
SBUM	Sibu	14.15	219		P	02 01 34.9	+1.5
KAPI	Kappang	18.58	184	P	P	02 02 21.0	-1.2
KAPI				IAmb	IAmb	02 02 26.3	
comp=Z,11nm,0.7s							
KAPI	Kappang	18.58	184	P	Pn	02 02 24.4	-0.1
comp=Z,9.3nm,0.6s,baz=292,slow=16,SNR=6.5							
KSAR	Wonju Array Be	24.47	13	P	P	02 03 21.0	-0.3
KNRA	Kununurra	30.11	165	P	P	02 04 12.9	+1.1
KNRA				IAmb	IAmb	02 04 16.0	
comp=Z,23nm,1.5s							
MBWA	Marble Bar	34.61	182	P	P	02 04 50.7	-0.3
PSA00	Pilbara Seismi	35.02	182	P	P	02 04 54.5	0.0
PSA00				IAmb	IAmb	02 05 31.4	
comp=Z,38nm,1.5s							
WB0	Warramunga Arr	35.70	158	P	P	02 05 00.3	0.0
WB0				IAmb	IAmb	02 05 04.2	
comp=Z,10nm,1.5s							
WRA	Warramunga Arr	35.84	158	P	P	02 05 01.7	+0.1
comp=Z,0.7nm,0.4s,baz=342,slow=9.0,SNR=19							
comp=Z,0.7nm,0.4s							
WB2	Warramunga Arr	35.84	158	P	P	02 05 01.9	+0.3
WB2				IAmb	IAmb	02 05 08.0	
comp=Z,6.2nm,1.3s							
WR0	Warramunga Arr	35.93	158	P	P	02 05 03.3	+1.0
WR0				IAmb	IAmb	02 05 28.4	
comp=Z,7.2nm,1.5s							
SONM	Songino Array	36.21	343	P	P	02 05 05.5	+0.9
comp=Z,0.5nm,0.5s,baz=164,slow=11,SNR=4.7							
comp=Z,0.5nm,0.5s							
AS31	Alice Springs	39.15	161	P	P	02 05 30.3	+0.9
ASAR	Alice Springs	39.15	161	P	P	02 05 29.8	+0.4
comp=Z,0.7nm,0.4s,baz=333,slow=6.4,SNR=8.8							
comp=Z,0.7nm,0.4s							
MK31	Makanchi Array	46.29	323	P	P	02 06 27.1	+0.5
MK31				IAmb	IAmb	02 06 47.8	
comp=Z,9.5nm,1.4s							
MKAR	Makanchi Array	46.29	323	P	P	02 06 27.3	+0.7
MKAR	Makanchi Array	46.29	323	P	P	02 06 27.1	+0.5
comp=Z,0.6nm,0.5s,baz=113,slow=8.0,SNR=6.4							
comp=Z,0.6nm,0.5s							
NWAO	Narrogin (SRO)	46.45	184	P	P	02 06 27.9	-0.1
MAKZ	Makanchi	46.48	323	P	P	02 06 26.1	-2.0
MAKZ				IAmb	IAmb	02 06 39.5	
comp=Z,13nm,1.2s							
BBOO	Buckleboo	48.36	163	P	P	02 06 42.8	+0.1
BBOO				IAmb	IAmb	02 07 04.6	
comp=Z,22nm,1.3s							
ZAA0	Zalesovo Array	49.27	333	P	P	02 06 49.4	+0.1
ZALV	Zalesovo Beam	49.27	333	P	P	02 06 49.2	-0.2
comp=Z,1.1nm,0.3s,baz=122,slow=7.0,SNR=6.4							
comp=Z,1.1nm,0.3s							
KURBB	Kurchatov Arra	50.43	326	P	P	02 06 58.8	+0.6
comp=Z,0.8nm,0.2s,baz=130,slow=7.3,SNR=6.8							
comp=Z,0.8nm,0.2s							
KURK	Kurchatov	50.43	326	P	P	02 06 55.8	-2.4
KKAR	Karatay Array	52.27	314	P	P	02 07 11.7	-0.3
BVAR	Borovoye Array	56.02	326	P	P	02 07 39.4	+0.4
comp=Z,0.4nm,0.6s,baz=111,slow=7.9,SNR=1.8							
comp=Z,0.4nm,0.6s							
ABKAR	Akbulak array	61.01	319	P	P	02 08 13.3	-0.2
ABKAR	Akbulak array	61.01	319	P	P	02 08 13.2	-0.4
ABKAR				IAmb	IAmb	02 08 13.6	
comp=Z,4.6nm,1.5s							
MSEY	Mahe Island	67.57	259	P	P	02 08 55.3	-1.6
M13K	Dall Lake	71.12	31	P	P	02 09 17.1	-0.7
C18K	Utukok River	72.92	22	P	P	02 09 28.5	0.0
C18K				IAmb	IAmb	02 10 11.6	
comp=Z,34nm,1.4s							
BSWZ	Blackbirch Sta	73.47	142	P	P	02 09 32.0	0.0
RTZ	Ruatahuna	73.67	137	P	P	02 09 32.0	-1.3

*JSN **20** 01:59:05.9±0.3, 18°.05N×76°.62W, h1km±2km, MD2.6*

*SSNC **20** 01:59:06.6±1.4, 18°.18N×76°.66W, h7km±11km, MD3.0, ML1.9*

ISC 20 01:59:04.6±1.4, 18°.20N±0°.08×76°.66W±0°.06, h17km±11km, n13, σ0°96/21, 1C, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	Greenwich	0.14	207	⇑P	Pb	01 59 08.5	-0.4
STH	Stony Hill	0.19	229	eP	Pb	01 59 09.6	0.0
STH				eS	Sg	01 59 12.6	+0.1
HOJ	Hope	0.21	203	i P	Pb	01 59 08.7	-1.4
MTDJ	Mount Denham	0.83	272	i P	Pn	01 59 22.3	+0.6
MTDJ	Mount Denham	0.83	272	eP	Pn	01 59 22.2	+0.5
MTDJ				eS	Sn	01 59 34.6	+1.0
MTDJ				IAML		01 59 40.1	
comp=Z,72nm,0.2s							
MTDJ				IAML		01 59 40.2	
72nm,0.1s							
CHIV	Chivirico	1.78	8	eP	Pn	01 59 35.7	+1.0
CHIV				eS	Sn	01 59 56.4	-0.6
CHIV				IAML		01 59 59.5	
comp=E,3.3nm,0.1s							
CHIV				IAML		02 00 00.2	
comp=N,3.5nm,0.2s							
LMGC	Las Mercedes	1.88	350	eP	Pn	01 59 36.7	+0.7
LMGC				eS	Sn	01 59 58.4	-1.0
LMGC				IAML		02 00 01.8	
comp=N,48nm,0.1s							
LMGC				IAML		02 00 01.9	
comp=E,37nm,0.1s							
MARVS	Santiago de Cu	1.93	22	eP	Pn	01 59 37.7	+1.0
MARVS				eS	Sn	02 00 00.6	0.0
MARVS				IAML		02 00 03.4	
comp=E,7.5nm,0.2s							
MARVS				IAML		02 00 03.5	
comp=N,10nm,0.2s							
RCC	Rio Carpintero	2.01	27	eP	Pn	01 59 38.7	+0.9
RCC				eS	Sn	02 00 02.9	+0.4
RCC				eSg	Sb	02 00 04.0	-1.4
GTBY	Guantanamo Bay	2.26	40	eP	Pn	01 59 42.4	+1.1
GTBY				eS	Sn	02 00 08.5	-0.3
GTBY				IAML		02 00 13.7	
comp=N,3.3nm,0.1s							
GTBY				IAML		02 00 13.9	
comp=N,4.1nm,0.1s							
PINC	Pinares de May	2.42	20	eP	Pn	01 59 44.4	+1.0
QMBU	Quimbuelo	2.65	41	eP	Pn	01 59 47.1	+0.5
MASC	Masc	3.02	49	eP	Pn	01 59 53.4	+1.7

*IDC **20** 02:20:14.1±1.4, 33°.38N×75°.70E, h0km, mb3.7/7, mbtmp3.8/10, ML3.5/3, Error ellipse: s-maj=28.1km s-min=21.7km az=66.0*

ISC 20 02:20:15.9±1.2, 33°.4N±0°.1×75°.8E±0°.1, h10km, n12, σ1°59/13, mb3.8/6, 1C-3D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	9.27	354	Pn	Pn	02 22 31.9	+2.1
0.8nm,0.3s,baz=196,slow=7.4,SNR=9.1							
AAK				Sn	Sn	02 24 15.2	+1.0
0.1nm,0.3s,baz=237,slow=18,SNR=1.4							
0.9nm,0.4s							
TKM2	Tokmak 2	9.49	359	⇑P	Pn	02 22 37.4	+4.5
1.4nm,0.6s							
TKM2				⇓S	Sn	02 24 29.2	+9.4
1.2nm,0.7s							
KK31	Karatay Array	10.54	338	⇓P	Pn	02 22 49.4	+2.3
0.7nm,0.3s,baz=159,slow=12,SNR=29							
KK31				⇓S	Sn	02 24 44.0	-1.2
1.7nm,0.5s,baz=162,slow=23,SNR=3.5							
MKAR	Makanchi Array	14.24	18	Pn	Pn	02 23 38.2	+0.6
0.2nm,0.3s,baz=199,slow=13,SNR=6.8							
MKAR				Sn	Sn	02 26 13.0	-2.6
0.2nm,0.3s,baz=193,slow=23,SNR=3.1							
0.3nm,0.3s							
KURBB	Kurchatov Arra	17.31	6	P	Pn	02 24 16.9	-0.6
0.1nm,0.3s,baz=191,slow=12,SNR=1.8							
2.6nm,0.2s							
BVAR	Borovoye Array	19.99	350	P	Pn	02 24 47.6	-2.5
0.9nm,0.3s,baz=162,slow=12,SNR=14							
0.9nm,0.3s							
AKTO	Aktyubinsk	21.47	328	P	P	02 25 05.5	+1.0
7.3nm,0.7s,baz=127,slow=8.2,SNR=26							
7.3nm,0.7s							
ZALV	Zalesovo Beam	21.50	15	P	P	02 25 04.6	-0.1
0.6nm,0.3s,baz=212,slow=14,SNR=4.1							
0.6nm,0.3s							
CMAR	Chiang Mai Arr	25.48	120	P	P	02 25 45.2	+0.8
1.0nm,0.3s,baz=310,slow=12,SNR=4.8							
1.0nm,0.3s							
SONM	Songino Array	27.09	49	P	P	02 25 59.4	+0.6
0.3nm,0.4s,baz=248,slow=7.6,SNR=2.1							
0.3nm,0.4s							
FINES	FINESS Array B	42.24	327	P	P	02 28 07.9	-1.1
2.6nm,1.0s,baz=108,slow=12,SNR=4.4							
2.6nm,1.0s							
TORD	Torodi Ar. Bea	69.73	273	P	P	02 31 24.9	-1.5
0.4nm,0.8s,baz=43,slow=5.8,SNR=2.8							
0.4nm,0.8s							

*PRU **20** 02:20:34.9, 49°.81N×18°.29E, h0km, Mining Induced Event Csa, E=9.0e+04*

IPEC 20 02:20:32.1±0.2, 49°.85N×18°.48E, h1km, ML2.0/4, Error ellipse: s-maj=1.7km s-min=1.1km az=163.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.21	267	ePg	Pg	02 20 36.9	+0.7
OKC				eSG	Sg	02 20 39.7	+0.8
comp=Z,194nm,0.4s							
MORC	Moravsky Berou	0.61	263	ePg	Pg	02 20 43.7	-0.1
baz=83							
MORC				eSg	Sg	02 20 51.2	-0.4
30nm,0.3s,baz=83							
OJC	Ojcow	0.93	66	ePg	Pg	02 20 49.9	0.0
OJC				eSg	Sg	02 21 02.9	+0.9
LANS	Liptovska Anna	0.95	137	ePG	Pb	02 20 51.1	-0.3
LANS				eSG	Sn	02 21 07.0	+0.1
LANS				eLG	Lg	02 21 09.6	
KRLC	Kraliky	1.12	282	ePG	Pg	02 20 52.4	-1.1
KRLC				eSG	Sg	02 21 07.6	-0.3
comp=Z,31nm,0.4s							
JAVC	Velka Javorina	1.12	208	ePg	Pb	02 20 54.0	-0.3
baz=28							
NIE	Niedzica	1.26	109	ePg	Pn	02 20 57.5	+0.6
NIE				eSg	Sn	02 21 16.2	+1.6
VRAC	Vranov	1.34	247	ePg	Pg	02 20 57.1	-0.7
baz=65							
VRAC				eSg	Sg	02 21 14.0	-1.1
16nm,0.4s,baz=65							
VRAC	Vranov	1.34	247	ePG	Pg	02 20 57.2	-0.6
VRAC				eSG	Sg	02 21 14.1	-1.0
VYHS	Vyhne	1.38	170	ePG	Pn	02 20 58.1	-0.4
VYHS				eSG	Sn	02 21 17.7	+0.4
DPC	Dobruska-Polom	1.47	291	ePG	Pn	02 20 59.6	-0.2
DPC				eSG	Sg	02 21 19.0	-0.4
comp=Z,13nm,0.5s							
KRUC	Moravsky	1.57	241	ePg	Pn	02 21 00.6	-0.5
baz=59							
KRUC				eSg	Sn	02 21 21.0	-1.1
14nm,0.4s,baz=59							
KRUC	Moravsky	1.57	241	ePG	Pn	02 21 00.7	-0.4
KRUC				eSG	Sn	02 21 21.1	-1.0
OSTC	Ostas	1.61	297	ePG	Pn	02 21 02.1	+0.3
OSTC				eSG	Sn	02 21 23.4	+0.2
MODS	Modra-Piesok	1.68	208	ePG	Pn	02 21 02.6	0.0
MODS				eSG	Sn	02 21 24.4	-0.3
UPC	Upice	1.71	293	ePG	Pb	02 21 04.0	-0.4
UPC				eSG	Sn	02 21 26.0	+0.3
comp=Z,14nm,0.5s							
CHVC	Chvalec	1.72	296	ePG	Pb	02 21 04.2	-0.3
STHS	Stebnicka Huta	1.85	103	ePN	Pg	02 21 07.3	-0.3
STHS				eSN	Sg	02 21 31.6	+0.1
STHS				eLG	Lg	02 21 39.9	
TREC	Trest	2.02	255	eSG	Sb	02 21 34.4	-0.9
GOPC	GO Pecny, Ondr	2.39	273	eSG	Sb	02 21 45.3	-0.5
KOLS	Kolonicke sedl	2.65	109	ePG	Pg	02 21 24.1	+1.3
KOLS				eLG	Lg	02 22 12.0	
CKRC	Cesky Krumlov	2.91	251	eSG	Sb	02 22 02.5	+1.6
BRG	Berggiesshubel	3.08	291	Pg	Pg	02 21 30.2	-0.9
BRG				Sg	Sg	02 22 09.0	-1.9
BRG				Amp		02 22 14.8	
comp=Z,3.2nm,0.4s							
KHC	Kasperske Hory	3.27	259	ePG	Pb	02 21 31.1	+0.1
KHC				eSG	Sb	02 22 13.4	+2.1

*IDC **20** 02:28:54.2±0.3, 2°.75N×126°.78E, h0km, mb5.1/36, mbtmp5.1/36, MS4.3/44, Error ellipse: s-maj=13.3km s-min=7.6km az=89.0*

*MOS **20** 02:28:55.9±0.9, 2°.73N×126°.70E, h24km, mb5.5/64, Error ellipse: s-maj=7.9km s-min=4.3km az=113.3*

*BJI **20** 02:28:57.4, 2°.37N×126°.88E, h60km, mb5.0/78, mB5.3/47, Ms4.8/78, Ms7 4.7/77*

*NEIC **20** 02:28:58.0±1.6, 2°.70N±0°.06×126°.83E±0°.07, h20km±3km, mb5.4/243, Mww5.2/23, Error ellipse: s-maj=10.8km s-min=7.5km az=63.0*

*NEIC **20** 02:29:01.1, 2°.89N×126°.92E, h24km, Moment Tensor Solution. Duration: 2±0 Moment tensor: Scale 10^{16}Nm; M_{rr}8.00; $M_{\theta\theta}$-0.99; $M_{\phi\phi}$-7.01; $M_{r\theta}$0.11; $M_{\theta\phi}$-2.88; $M_{\phi r}$-1.78; Fault plane solution: $M_0$8.28000×10^{16} NP1: ϕ_s196.47000°, δ50.88000°, λ83.13000°. NP2:ϕ_s27.28000°, δ39.62000°, λ98.37000°. Principal axes: T 8.2327, Plg82.0000°, Azm68.0000°; N 0.0945, Plg5.0000°, Azm201.0000°; P -8.3272, Plg6.0000°, Azm291.0000°;*

*NEIC **20** 02:29:01.1, 2°.69N×126°.82E, h24km*

*GCMT **20** 02:29:02.0±0.1, 2°.93N±0°.01×126°.84E±0°.01, h28km, MW5.3/123, Moment Tensor Solution. s123, c189; s121, c191; Duration: 1±1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.99±.02; $M_{\theta\theta}$-0.16±.01; $M_{\phi\phi}$-0.82±.02; $M_{r\theta}$0.08±.03; $M_{\theta\phi}$-0.53±.01; $M_{\phi r}$-0.50±.03; Best double couple: $M_0$1.17400×10^{17} NP1:ϕ_s193.00000°, δ58.00000°, λ71.00000°. NP2:ϕ_s45.00000°, δ37.00000°, λ117.00000°. Principal axes: T 1.1560, Plg71.0000°, Azm59.0000°; N 0.0370, Plg16.0000°, Azm203.0000°; P -1.1920, Plg11.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **20** 02:29:02.8±0.3, 3°N±2°×12°7E±°, h64km±3km, M5.1/58, mb5.3/58, mB5.5/40, MLv5.3/18, Mw(mB)5.0/40, MwMwp5.1/19, Mwp5.3/19*

ISC 20 02:29:00.9±0.4, 2.75N±0°.03×126°.85E±0°.04, h48km±2km, h48km:pP-P, n661, σ1°76/630, mb5.3/233, MS4.5/71, 40C-25D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.03	165	Pn	Pn	02 29 32.9	+0.2
TNTI	Ternate	2.03	165	P	Pn	02 29 34.2	+1.6
TNTI	Ternate	2.03	165	P	Pn	02 29 33.4	+0.8
LBMI	Labuha	3.42	169	P	Pn	02 29 54.7	+2.9
KMSI	Cibinong	3.59	233	P	Pn	02 29 56.6	+2.6
DAV	Davao City (W)	4.48	344	Pn	Pn	02 30 08.0	+1.6
DAV	Davao City (W)	4.48	344	Pn	Pn	02 30 06.4	+0.1
150nm,0.3s,baz=198,slow=19,SNR=2.0							
DAV				Sn	Sn	02 31 07.8	+11
46nm,0.3s,baz=315,slow=14,SNR=3.6							
DAV	Davao City (W)	4.48	344	P	Pn	02 30 10.1	+3.8
DAV	Davao City (W)	4.48	344	P	Pn	02 30 12.0	+5.7
SANI	Sanana	4.84	190	P	Pn	02 30 12.2	+0.9
SANI	Sanana	4.84	190	P	Pn	02 30 10.5	-0.8
LUWI	Luwuk	5.55	227	Pn	Pn	02 30 20.1	-0.9
LUWI	Luwuk	5.55	227	P	Pn	02 30 25.3	+4.3
LUWI	Luwuk	5.55	227	P	Pn	02 30 25.1	+4.1
SWI	Sorong	5.68	129	P	Pn	02 30 24.3	+1.5
307nm,0.9s,3μm0.8nm							
NLAI	Namlea	5.95	178	P	Pn	02 30 29.6	+3.1
225nm,0.9s,3μm8μm1.1nm							
TOLI2	Tolitoli	6.28	255	Pn	Pn	02 30 30.5	-0.5
TOLI2	Tolitoli	6.28	255	P	Pn	02 30 31.7	+0.7
APSI	Ampana	6.34	235	P	Pn	02 30 36.7	+4.8
MSAI	Masohi	6.40	161	P	Pn	02 30 36.7	+4.0
397nm,1.3s,5μm1.4nm							
AAI	Ambon	6.53	168	P	Pn	02 30 38.4	+3.9
287nm,1.3s,3μm9μm1.0nm							
FAKI	Fak Fak	7.80	136	Pn	Pn	02 30 51.3	-0.6
FAKI	Fak Fak	7.80	136	P	Pn	02 30 54.2	+2.3
FAKI	Fak Fak	7.80	136	P	Pn	02 30 53.5	+1.6
142nm,1.0s,11μm0.5nm							
KDI	Kendari	7.89	212	P	Pn	02 30 53.2	+0.1
185nm,0.6s,3μm4μm0.7nm							
PCI	Palu	7.89	243	P	Pn	02 30 56.7	+3.5
257nm,0.8s,8μm1.2nm							
MYLDM	Lahad Datu	8.67	286	Pn	Pn	02 31 03.6	-0.2
MYLDM	Lahad Datu	8.67	286	P	Pn	02 31 07.9	+4.0
TTSI	Tana Toraja	9.08	231	P	Pn	02 31 12.7	+3.3
273nm,1.0s,4μm5μm							
SPSI	Sidrap Palu	9.72	227	P	Pn	02 31 21.9	+3.7
121nm,0.8s							
BNSI	Bone	9.79	224	P	Pn	02 31 21.8	+2.7
127nm,0.9s,1μm4μm							
BKSI	Bulukumba	10.46	220	P	Pn	02 31 30.3	+2.0
KAPI	Kappang	10.47	223	Pn	Pn	02 31 27.6	-0.9
KAPI	Kappang	10.47	223	Pn	Pn	02 31 28.8	+0.3
5.9nm,0.3s,baz=74,slow=14,SNR=11							
KAPI				Sn	Sn	02 33 29.2	+4.7
1.2nm,0.3s,baz=203,slow=22,SNR=1.3							
KAPI	Kappang	10.47	223	P	Pn	02 31 31.2	+2.7
KAPI	Kappang	10.47	223	P	Pn	02 31 27.6	-0.9
BKB	Balikpapan	10.72	248	Pn	Pn	02 31 28.7	-3.2
BSSI	Bau Bau, Buton	10.87	216	P	Pn	02 31 36.6	+2.6
249nm,0.7s,3μm							
KKM	Kota Kinabalu	11.10	288	Pn	Pn	02 31 36.7	-0.5
KKM	Kota Kinabalu	11.10	288	P	Pn	02 31 40.6	+3.4
SAUI	Saumlaki	11.54	157	Pn	Pn	02 31 44.3	+1.1
MTKI	Muara Teweh, K	12.50	253	P	Pn	02 31 59.7	+3.5
126nm,1.3s,5μm							
SOEI	Soe	12.68	192	P	Pn	02 32 02.3	+3.5
BATI	Baumata	13.25	194	Pn	Pn	02 32 07.8	+1.3
3.2nm,0.3s,baz=0.0,slow=4.0,SNR=1.4							
BATI	Baumata	13.25	194	P	Pn	02 32 09.1	+2.6
75nm,0.8s,2μm							
WSI	Waingapu	13.95	208	P	Pn	02 32 18.7	+2.6
GENI	Genyem	14.33	112	P	Pn	02 32 22.7	+1.5
GENI	Genyem	14.33	112	P	P	02 32 24.4	-2.7
194nm,1.4s,3μm5μm							
WBSI	Waikabubak, Su	14.37	211	P	Pn	02 32 23.3	+1.5
309nm,0.9s,2μm							
SBUM	Sibu	14.62	269	Pn	Pn	02 32 26.4	+1.5
SBUM	Sibu	14.62	269	P	P	02 32 28.9	-1.4
PLAI	Plampang	14.63	218	P	P	02 32 28.9	-1.5
PLAI	Plampang	14.63	218	P	P	02 32 28.6	-1.8
JAY	Jayapura	14.80	111	Pn	Pn	02 32 29.8	+2.4
0.5nm,0.3s,baz=263,slow=11,SNR=5.1							
JAY	Jayapura	14.80	111	P	P	02 32 31.4

comp=Z,12nm,0.9s,baz=194,slow=16,SNR=3.3
comp=Z,53nm,0.8s
GUMO Guam 20.82 58 P P 02 33 39.4 +0.9
comp=Z,42nm,0.3s,baz=248,slow=16,SNR=1.4
GUMO LR LR 02 40 42.7
comp=Z,2μm,21.5s,baz=233,slow=34
comp=Z,42nm,0.3s
LEM Lembang 21.42 244 P P 02 33 43.1 -2.1
comp=Z,20nm,0.6s,baz=84,slow=10,SNR=1.5
LEM S Sn 02 37 45.5 -5.0
comp=Z,13nm,0.5s,baz=297,slow=23,SNR=0.8
comp=Z,20nm,0.6s
LEM Lembang 21.42 244 P P 02 33 47.1 +1.8
comp=Z,119nm,1.1s,comp=Z,2μm
BBJI Bungbulang 21.68 242 P P 02 33 49.9 +2.0
CNJI Cibinong 22.07 243 P P 02 33 53.4 +1.4
SKJI Sukabumi 22.45 244 P P 02 33 57.7 +1.6
comp=Z,326nm,1.1s,comp=Z,3μm
BTDF Bukit Timah Da 23.10 267 P P 02 34 05.1 +2.2
COEN Coen 23.18 136 P P 02 34 01.7 -2.0
COEN Coen 23.18 136 P P 02 34 03.3 -0.4
comp=Z,34nm,1.2s
COEN Coen 23.18 136 P P 02 34 03.3 -0.4
QIZ Qiongzhong 23.21 315 P P 02 34 05.3 +1.4
QIZ sP **sP 02 34 22.8 +2.0**
QIZ S **S 02 38 10.3 -2.2**
QIZ sS Sn 02 38 35.0 +2.0
QIZ pmax pmax
comp=Z,21nm,0.9s
QIZ pmax pmax
comp=Z,220nm,3.5s
QIZ LR LR
comp=Z,610nm,15.3s
QIZ LR LR
comp=Z,580nm,14.9s
QIZ LR LR
comp=Z,1μm,17.5s
QIZ Qiongzhong 23.21 315 P P 02 34 04.8 +0.9
PMG Port Moresby 23.56 121 P P 02 34 05.2 -2.1
PMG Port Moresby 23.56 121 LR LR 02 46 10.8
comp=Z,1μm,18.7s,baz=317,slow=44
PMG Port Moresby 23.56 121 P P 02 34 08.6 +1.2
PMG Port Moresby 23.56 121 P P 02 34 08.4 +1.0
PMG Port Moresby 23.56 121⇑ *e*P **P 02 34 05.6 -1.8**
WB0 Warramunga Arr 23.57 162 P P 02 34 05.8 -1.6
WB0 IAmb IAmb 02 34 09.8
comp=Z,165nm,0.8s
WRAB Tennant Creek 23.71 162 P P 02 34 07.7 -1.0
WRAB IAmb IAmb 02 34 17.6
comp=Z,145nm,0.8s
WRAB Tennant Creek 23.71 162 *c i*P **P 02 34 07.5 -1.2**
WRAB pmax pmax
comp=Z,146nm,0.7s
WRA Warramunga Arr 23.72 162 P P 02 34 07.7 -1.0
comp=Z,129nm,0.7s,baz=341,slow=11,SNR=466
WRA PcP **PcP 02 37 53.0 +1.0**
comp=Z,2.4nm,0.6s,baz=326,slow=3.0,SNR=2.7
WRA S **S 02 38 18.2 -2.4**
comp=Z,2.9nm,1.0s,baz=354,slow=13,SNR=2.0
WRA ScP **ScP 02 41 32.7 +6.1**
comp=Z,1.3nm,0.9s,baz=358,slow=3.6,SNR=3.2
comp=Z,129nm,0.7s
WB2 Warramunga Arr 23.72 162 P P 02 34 07.3 -1.4
WB2 IAmb IAmb 02 34 11.4
comp=Z,168nm,0.8s
WR0 Warramunga Arr 23.79 162 IAmb IAmb 02 34 12.1
comp=Z,114nm,0.8s
JOW Kunigami 23.99 3 P P 02 34 11.4 +0.3
JOW IAmb IAmb 02 34 16.5
comp=Z,161nm,1.1s
JOW Kunigami 23.99 3 P P 02 34 12.9 +1.7
MBWA Marble Bar 24.76 196 P P 02 34 17.4 -0.8
MBWA IAmb IAmb 02 34 19.5
comp=Z,84nm,0.9s
MBWA Marble Bar 24.76 196 P P 02 34 18.0 -0.2
comp=Z,108nm,1.1s
MBWA Marble Bar 24.76 196 P P 02 34 18.1 -0.2
PSAC1 Pilbara Seismi 25.09 196 P P 02 34 21.5 +0.2
comp=Z,167nm,1.1s
PSA00 Pilbara Seismi 25.12 196 P P 02 34 20.6 -0.9
PSA00 Pilbara Seismi 25.12 196 P P 02 34 21.8 +0.3
comp=Z,166nm,1.1s
PSA00 Pilbara Seismi 25.12 196 P P 02 34 21.8 +0.3
IPM Ipoh 25.83 275 P P 02 34 27.3 -0.8
IPM Ipoh 25.83 275 P P 02 34 28.8 +0.7
BKNI Bangkinang 25.91 265 P P 02 34 28.7 -0.1
BKNI IAmb IAmb 02 35 03.0
comp=Z,124nm,1.1s
QIS Mount Isa 26.32 152 P P 02 34 32.0 -0.4
comp=Z,83nm,1.1s
QIS Mount Isa 26.32 152 P P 02 34 32.2 -0.2
MTSU Mount Surprise 26.96 141 P P 02 34 38.9 +0.7
ASAR Alice Springs 27.14 166 P P 02 34 38.6 -1.1
ASAR Alice Springs 27.14 166 P P 02 34 38.9 -0.9
comp=Z,11nm,0.5s,baz=348,slow=7.2,SNR=129
ASAR PcP **PcP 02 37 59.9 +0.2**
comp=Z,6.2nm,0.7s,baz=345,slow=2.0,SNR=5.6
ASAR S **S 02 39 23.7 +8.7**
comp=Z,3.9nm,0.7s,baz=334,slow=15,SNR=5.9
ASAR ScP **ScP 02 41 39.3 +3.0**
comp=Z,1.3nm,0.8s,baz=336,slow=2.0,SNR=2.6
comp=Z,11nm,0.5s
PPSI Pulau Pagai 27.38 259 P P 02 34 43.8 +1.7
comp=Z,77nm,1.3s
WRKA Warakurna 27.65 177 P P 02 34 44.5 +0.1
NAYO Nakonayok 27.70 296 P P 02 34 44.5 -0.4
PSI Prapat 27.89 271 P P 02 34 45.7 -1.1
PSI Prapat 27.89 271 P P 02 34 45.3 -1.5
PSI pmax pmax
comp=Z,28nm,1.0s
RPSI Rantau Prapat 27.89 271 P P 02 34 45.3 -1.3
SISI Saibi 28.04 262 P P 02 34 48.1 +0.1
comp=Z,33nm,1.2s
CNSH ChangSha 28.57 334 P P 02 34 52.3 -0.2
CNSH S **S 02 39 38.8 +1.3**
CNSH pmax pmax
comp=Z,18nm,1.6s
CNSH LR LR
comp=Z,2μm,26.1s
CNSH LR LR
comp=Z,600nm,19.2s
CNSH LR LR
comp=Z,2μm,26.1s
SSE Sheshan 28.70 350 P P 02 34 54.6 +1.0
SSE S **S 02 39 40.9 +1.5**
SSE pmax pmax
comp=Z,16nm,0.9s
SSE pmax pmax
comp=Z,96nm,5.5s
SSE LR LR
comp=Z,340nm,22.9s
SSE LR LR
comp=Z,200nm,23.5s
SLVN Son La 28.98 311 P P 02 34 56.2 -0.1
GSI Gunungsitoli 29.29 268 P P 02 34 56.2 -2.9
GSI Gunungsitoli 29.29 268 P P 02 34 58.5 -0.6
comp=Z,36nm,0.6s
TV1H Townsville Har 29.37 139 P P 02 35 00.3 +0.6
CTA Charters Tower 29.63 141 LR LR 02 48 05.1
comp=Z,124nm,20.7s,baz=326,slow=39
CTAO Charters Tower 29.63 141 P P 02 34 60.0 -2.0
CTAO Charters Tower 29.63 141 P P 02 35 03.0 +1.0
CTAO Charters Tower 29.63 141 P P 02 35 00.0 -2.0
CTAO pmax pmax
comp=Z,16nm,0.9s
SRDT SRDT 29.70 294 P P 02 35 02.7 0.0
WHN Wuhan 30.07 338 P P 02 35 08.9 +3.1
WHN S **S 02 39 56.0 -5.0**
WHN LR LR
comp=Z,12μm,29.0s
WHN LR LR
comp=Z,2μm,11.8s
WHN LR LR
comp=Z,12μm,28.8s
MEEK Meekatharra 30.27 195 P P 02 35 08.0 +0.4
JNU Nakatsue 30.45 7 IAmb IAmb 02 35 11.4
comp=Z,136nm,1.4s
JNU Nakatsue 30.45 7 P P 02 35 09.9 +0.7
CMAR Chiang Mai Arr 31.48 302 P P 02 35 17.4 -0.9
comp=Z,9.6nm,0.8s,baz=122,slow=6.9,SNR=38
CMAR PcP **PcP 02 38 12.5 +1.7**
comp=Z,1.8nm,0.3s,baz=146,slow=1.0,SNR=5.4
CMAR ScP **ScP 02 41 55.8 +5.6**
comp=Z,2.2nm,0.3s,baz=190,slow=1.9,SNR=5.1
CMAR LR LR 02 49 48.5
comp=Z,420nm,20.1s,baz=105,slow=40
comp=Z,9.6nm,0.8s
JMN Monobe 31.52 11 IAmb IAmb 02 35 20.7
comp=Z,98nm,1.2s
JMN Monobe 31.52 11 P P 02 35 20.0 +1.5
OOD Oodnadatta 31.53 165 P P 02 35 18.3 -0.4
CHTO Chiang Mai 31.64 302 P P 02 35 18.8 -1.0
CHTO IAmb IAmb 02 35 21.6
comp=Z,58nm,1.4s
CHTO Chiang Mai 31.64 302 P P 02 35 18.8 -1.0
CHTO pmax pmax
comp=Z,58nm,1.5s
ENH Enshi 31.94 331 P P 02 35 21.1 -1.2
ENH IAmb IAmb 02 35 23.3
comp=Z,50nm,1.1s
ENH Enshi 31.94 331 P P 02 35 22.1 -0.2
KMI Kunming 32.16 316 ⇓P **P 02 35 24.8 +0.3**
KMI PP **PP 02 36 35.4 -2.5**
KMI S **S 02 40 33.6 -0.7**
KMI pmax pmax
comp=Z,21nm,1.3s
KMI pmax pmax
comp=Z,180nm,5.6s
KMI LR LR
comp=Z,2μm,27.7s
JHJ Hachijo jima 2 32.56 20 LR LR 02 47 29.4
comp=Z,1μm,20.9s,baz=252,slow=34
INKA Innaminka 33.13 157 P P 02 35 32.6 -0.1
MORW Morawa 33.29 197 P P 02 35 32.0 -2.0
MORW IAmb IAmb 02 36 00.5
comp=Z,94nm,1.5s
MORW Morawa 33.29 197 P P 02 35 33.4 -0.7
FORT Forrest 33.36 178 P P 02 35 33.8 -0.8
FORT Forrest 33.36 178 P P 02 35 34.5 -0.1
TJN Taejon 33.47 1 P P 02 35 35.8 +0.2
TJN Taejon 33.47 1 P P 02 35 36.6 +1.1
TJN Taejon 33.47 1 *c i*P **P 02 35 36.0 +0.5**
MULG Mulgathing 33.56 169 P P 02 35 36.6 +0.2
QLP Quilpie 33.65 151 P P 02 35 37.1 -0.1
PZH PanZhiHua 33.73 317 P P 02 35 37.0 -1.2
PZH S **S 02 40 56.9 -1.6**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,130nm,6.4s
PZH LR LR
comp=Z,810nm,20.6s
PZH LR LR
comp=Z,600nm,22.4s
PZH LR LR
comp=Z,1μm,21.0s
INU Inuyama 33.79 15 P P 02 35 37.7 -0.6
INU IAmb IAmb 02 35 42.2
comp=Z,84nm,1.1s
INU Inuyama 33.79 15 P P 02 35 38.8 +0.5
JGF Kuroka 34.11 15 IAmb IAmb 02 35 43.4
comp=Z,126nm,1.7s
JGF Kuroka 34.11 15 P P 02 35 41.6 +0.4
KMBL Kambalda 34.25 188 P P 02 35 42.7 +0.3
LYN LuoYang 34.36 339 P P 02 35 46.0 +2.7
LYN pP sP 02 36 02.1 +1.2
LYN sP pwP 02 36 08.4 +11
LYN PP **PnPn 02 36 58.8 -0.4**
LYN S **S 02 41 12.8 +5.0**
LYN SS **SnSn 02 43 25.6 +4.3**
LYN pmax pmax
comp=Z,30nm,0.8s
LYN pmax pmax
comp=Z,240nm,9.3s
LYN LR LR
comp=Z,2μm,24.7s
LYN LR LR
comp=Z,1μm,22.3s
LYN LR LR
comp=Z,4μm,27.1s
TIA Tai'an 34.49 346 P P 02 35 44.4 -0.1
TIA PP **PnPn 02 36 58.0 -2.8**
TIA PcP **PcP 02 38 21.0 +2.2**
TIA S **S 02 41 09.4 -0.4**
TIA pmax pmax
comp=Z,16nm,0.8s
TIA pmax pmax
comp=Z,190nm,3.5s
TIA LR LR
comp=Z,860nm,20.3s
TIA LR LR
comp=Z,120nm,18.6s
TIA LR LR
comp=Z,2μm,25.0s
KSAR Wonju Array Be 34.54 1 P P 02 35 45.2 +0.4
KSAR **PcP 02 38 20.3 +1.3**
KSAR Wonju Array Be 34.54 1 P P 02 35 45.2 +0.4
KSAR 02 38 20.3
KSRS Korea Array 34.56 2 P P 02 35 45.2 +0.3
comp=Z,17nm,0.6s,baz=176,slow=10.0,SNR=54
KSRS PcP **PcP 02 38 20.4 +1.5**
comp=Z,4.6nm,0.9s,baz=189,slow=3.0,SNR=5.6
comp=Z,17nm,0.6s
KS19 Wonju Array Si 34.60 1 P P 02 35 45.3 -0.1
LCRK Leigh Creek 34.74 163 P P 02 35 46.7 0.0
TNCH TengChong 35.15 312 *e*P **P 02 35 52.5 +2.0**
TNCH pP pwP 02 36 06.3 +1.4
TNCH PP **PP 02 37 09.1 -1.9**
TNCH pmax pmax
comp=Z,170nm,4.1s
KLBR Kellerberrin 35.23 194 P P 02 35 51.2 +0.4
MJAR Matsushiro Arr 35.23 16 P P 02 35 49.4 -1.4
comp=Z,9.1nm,0.7s,baz=194,slow=9.4,SNR=22
MJAR PcP **PcP 02 38 22.4 +1.4**
comp=Z,3.3nm,0.6s,baz=180,slow=2.8,SNR=4.1
MJAR LR LR 02 48 52.4
comp=Z,2μm,21.8s,baz=210,slow=34
comp=Z,9.1nm,0.7s
MAJO Matsushiro 35.23 16 P P 02 35 49.9 -1.0
MAJO IAmb IAmb 02 35 51.4
comp=Z,156nm,1.6s
MAJO Matsushiro 35.23 16 P P 02 35 50.6 -0.2
MAJO Matsushiro 35.23 16 ⇓*i*P **P 02 35 50.0 -0.8**
MAJO pmax pmax
comp=Z,151nm,2.2s
MJB9 Matsu-Tunnel 35.23 16 IAmb IAmb 02 35 51.3
comp=Z,146nm,1.6s
XAN Xi'an 35.34 334 P P 02 35 50.8 -1.1
XAN pP pwP 02 36 05.6 -0.8
XAN PP **PP 02 37 13.3 +0.4**
XAN S **S 02 41 22.8 -0.2**
XAN pmax pmax
comp=Z,43nm,0.9s
XAN pmax pmax
comp=Z,220nm,4.5s
XAN LR LR
comp=Z,1μm,22.4s
XAN LR LR
comp=Z,1μm,23.7s
XAN LR LR
comp=Z,2μm,24.0s
CD2 Chengdu 35.51 325 P P 02 35 52.3 -1.0
CD2 S **S 02 41 22.9 -2.7**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 LR LR
comp=Z,720nm,16.5s
CD2 LR LR
comp=Z,820nm,17.8s
CD2 LR LR
comp=Z,1μm,20.3s
MUN Mundaring 35.98 195 P P 02 35 57.9 +0.6
HNS HongShan 36.25 344 ⇓P **P 02 35 59.8 +0.3**
HNS S **S 02 41 35.8 -0.8**
HNS pmax pmax
comp=Z,26nm,1.1s
HNS LR LR
comp=Z,1μm,21.2s
HNS LR LR
comp=Z,2μm,23.9s
HNS LR LR
comp=Z,2μm,23.9s
DL2 Dalian 36.31 353 P P 02 36 02.1 +2.2
DL2 S **S 02 41 39.1 +1.6**
DL2 pmax pmax
comp=Z,140nm,1.2s
DL2 pmax pmax
comp=Z,250nm,7.3s
DL2 LR LR
comp=Z,1μm,26.7s
DL2 LR LR
comp=Z,2μm,27.3s
DL2 LR LR
comp=Z,1μm,23.1s
BBOO Buckleboo 36.42 167 P P 02 36 00.2 -0.8
BBOO IAmb IAmb 02 36 03.3
comp=Z,54nm,0.9s
BBOO Buckleboo 36.42 167 P P 02 36 00.6 -0.4
EIDS Eidsvold 36.51 141 P P 02 36 01.2 -0.6
EIDS Eidsvold 36.51 141 P P 02 36 01.3 -0.6
NWAO Narrogin (SRO) 36.63 194 P P 02 36 01.9 -0.9
NWAO IAmb IAmb 02 36 24.6
comp=Z,45nm,1.0s
NWAO Narrogin (SRO) 36.63 194 P P 02 36 01.9 -0.9
NWAO pmax pmax
comp=Z,45nm,1.0s
JSD Sado 36.65 15 P P 02 36 02.2 -0.7
JSD IAmb IAmb 02 36 06.7
comp=Z,33nm,0.8s
JSD Sado 36.65 15 P P 02 36 02.8 -0.1
WHYH Whyalla 37.00 165 P P 02 36 06.4 +0.4
STKA Stephens Creek 37.17 159 P P 02 36 06.6 -0.8
STKA Stephens Creek 37.17 159 P P 02 36 07.0 -0.5
comp=Z,78nm,0.8s,baz=337,slow=8.5,SNR=56
comp=Z,78nm,0.8s
STKA Stephens Creek 37.17 159 P P 02 36 07.1 -0.4
STKA Stephens Creek 37.17 159 P P 02 36 06.6 -0.8
STKA pmax pmax
comp=Z,16nm,0.8s
JMM Marumori 37.22 18 P P 02 36 08.6 +0.8
HTT Hallett 37.74 163 P P 02 36 12.8 +0.5
RKGY Rocky Gully 38.30 193 P P 02 36 18.7 +1.8
BJT Baijiatuau 38.35 347 P P 02 36 17.6 +0.3
BJT IAmb IAmb 02 36 24.9
comp=Z,77nm,1.1s
BJT Baijiatuau 38.35 347 P P 02 36 18.3 +1.0
BJT Baijiatuau 38.35 347 P P 02 36 17.6 +0.3
BJT pmax pmax
comp=Z,77nm,1.1s
BJI Beijing 38.37 347 P P 02 36 17.8 +0.4
BJI pP **pP 02 36 30.3 +0.7**
BJI sP **sP 02 36 38.4 +3.4**
BJI S **S 02 42 08.8 +0.1**
BJI pmax pmax
comp=Z,34nm,1.0s
BJI pmax pmax
comp=Z,150nm,3.2s
BJI LR LR
comp=Z,290nm,26.3s
BJI LR LR
comp=Z,160nm,23.3s
BJI LR LR
comp=Z,550nm,26.8s
CMSA Cobar Meteorol 38.52 154 P P 02 36 18.8 0.0
TW1H Toowoomba 1 Ha 38.64 143 P P 02 36 20.4 +0.5
SNY Shenyang 39.02 356 ⇑P **P 02 36 23.8 +0.9**
SNY S **S 02 42 19.8 +1.2**
SNY pmax pmax
comp=Z,65nm,0.9s
SNY pmax pmax
comp=Z,170nm,3.5s
SNY LR LR
comp=Z,390nm,17.9s
SNY LR LR
comp=Z,450nm,21.6s
SNY LR LR
comp=Z,890nm,20.1s
LZH Lanzhou 39.41 330 *e*P **P 02 36 26.1 -0.3**
LZH pP pP 02 36 38.5 -0.2
LZH sP sP 02 36 46.6 +2.5
LZH PcP **PcP 02 38 29.1 -4.9**
LZH S **S 02 42 20.1 -4.9**
LZH pmax pmax
comp=Z,59nm,1.5s
LZH LR LR
comp=Z,2μm,21.0s
LZH LR LR
comp=Z,2μm,21.3s
LZH LR LR
comp=Z,4μm,21.0s
MSHR Mys Shultsa 39.85 5 *c i*P **P 02 36 30.8 +1.1**
MSHR pmax pmax
comp=Z,100nm,1.4s
PSTR Posyet 39.89 5 *d i*P **P 02 36 32.0 +1.9**
HHC Hu-ho-hao-te 40.37 342 *e*P **P 02 36 36.0 +1.8**
HHC pP sP 02 36 51.3 -0.6
HHC sP pwP 02 37 00.0 +11
HHC PP **PnPn 02 38 10.8 -1.1**
HHC S **S 02 42 40.0 +1.0**
HHC sS sS 02 43 10.8 +11
HHC pmax pmax
comp=Z,22nm,1.1s
HHC pmax pmax
comp=Z,190nm,3.8s
HHC LR LR
comp=Z,1μm,22.9s
HHC LR LR
comp=Z,470nm,17.5s
HHC LR LR
comp=Z,2μm,23.5s
VLA Vladivostok 40.45 6 *de*P **P 02 36 36.3 +1.6**
VLA pmax pmax
comp=Z,125nm,1.7s
SHL Shillong 40.56 307 P P 02 36 34.1 -2.0
SHL IAmb IAmb 02 36 40.9
comp=Z,86nm,0.6s
SHL Shillong 40.56 307 P P 02 36 35.1 -1.0
SNR=24
SHL Shillong 40.56 307 P P 02 36 34.1 -2.0
SHL pmax pmax
comp=Z,86nm,0.6s
ARMA Armidale 40.59 146 P P 02 36 35.9 -0.3
ARMA Armidale 40.59 146 P P 02 36 36.7 +0.5
BTO Baotou 40.64 340 *e*P P 02 36 42.3 +5.8
BTO pP sP 02 36 57.8 +3.5
BTO sP pwP 02 37 04.8 +14
BTO PP **PnPn 02 38 20.4 +5.2**
BTO S **S 02 42 49.3 +6.1**
BTO sS sS 02 43 16.8 +13
BTO SS **SnSn 02 45 49.6 -3.4**
BTO pmax pmax
comp=Z,28nm,0.9s
BTO pmax pmax
comp=Z,220nm,5.7s
BTO LR LR
comp=N,3μm,23.5s
BTO LR LR
comp=E,2μm,24.1s
BTO LR LR
comp=Z,4μm,23.3s
CN2 Changchun 40.90 358 ⇑P **P 02 36 38.9 +0.4**
CN2 *e*pP pwP 02 36 54.3 +1.2
CN2 *e*S **S 02 42 47.1 +0.4**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,200nm,5.0s
USA0B Ussuriysk Arra 41.53 6 P P 02 36 43.9 +0.3
USA0B IAmb IAmb 02 36 46.1
comp=Z,87nm,1.4s
USA0B Ussuriysk Arra 41.53 6 P P 02 36 43.9 +0.3
USA0B pmax pmax
comp=Z,87nm,1.5s
USRK Ussuriysk Ar. 41.53 6 P P 02 36 43.9 +0.4
USRK Ussuriysk Ar. 41.53 6 P P 02 36 44.0 +0.4
comp=Z,17nm,0.7s,baz=191,slow=7.2,SNR=29
USRK PcP **PcP 02 38 40.4 0.0**
comp=Z,3.4nm,0.8s,baz=196,slow=4.0,SNR=1.5
USRK PKP2bc 03 09 23.6
comp=Z,2.1nm,0.7s,baz=90,slow=5.7,SNR=4.6
comp=Z,17nm,0.7s
ARPS Mount Arapiles 41.72 162 P P 02 36 46.1 +0.8
MDJ Mudanjiang 41.77 3 P P 02 36 46.6 +1.1
MDJ IAmb IAmb 02 36 48.9
comp=Z,171nm,1.3s
MDJ Mudanjiang 41.77 3 P P 02 36 46.8 +1.3
MDJ PP **PnPn 02 38 26.0 -2.1**
MDJ ScP **ScP 02 42 23.9 -3.8**
MDJ S **S 02 43 04.1 +4.6**
MDJ ScS **ScS 02 46 43.0 -1.5**
MDJ pmax pmax
comp=Z,110nm,1.1s
MDJ pmax pmax
comp=Z,260nm,4.8s
MDJ LR LR
comp=Z,730nm,22.7s

MDJ LR LR
comp=Z,480nm,23.7s
MDJ LR LR
comp=Z,1μm,22.7s
MDJ Mudanjiang 41.77 3 P **P 02 36 47.2 +1.7**
H11S3 WAKE ISLAND Hy 42.02 65 T T 03 21 37.1
baz=253,slow=75,SNR=59
H11S1 WAKE ISLAND Hy 42.04 65 T T 03 21 39.4
baz=253,slow=75,SNR=39
H11S2 WAKE ISLAND Hy 42.04 65 T T 03 21 40.7
baz=253,slow=75,SNR=77
YNG Young 42.06 153 P **P 02 36 49.1 +1.0**
XLT XiLinHaoTe 42.08 348 *e*P **P 02 36 48.3 +0.1**
XLT S **S 02 43 03.4 -0.9**
XLT pmax pmax
comp=Z,57nm,1.3s
XLT pmax pmax
comp=Z,290nm,3.7s
XLT LR LR
comp=Z,420nm,17.2s
XLT LR LR
comp=Z,580nm,23.7s
H11N1 WAKE ISLAND Hy 42.58 64 T T 03 22 34.8
baz=250,slow=75,SNR=10
H11N2 WAKE ISLAND Hy 42.59 64 T T 03 22 45.5
baz=250,slow=75,SNR=5.0
H11N3 WAKE ISLAND Hy 42.59 64 T T 03 22 35.9
baz=250,slow=75,SNR=8.4
BNX BinXian 42.82 1 ⇓P **P 02 36 54.6 +0.5**
BNX pP **sP 02 37 11.3 -0.6**
BNX S **S 02 43 15.8 +0.8**
BNX pmax pmax
comp=Z,32nm,1.5s
BNX pmax pmax
comp=Z,220nm,7.7s
BNX LR LR
comp=Z,600nm,22.8s
BNX LR LR
comp=Z,420nm,21.1s
BNX LR LR
comp=Z,890nm,23.5s
TEY Ternei 42.98 10 *e*P **P 02 36 56.5 +1.1**
BRAT Ballarat 43.11 160 P **P 02 36 57.6 +1.1**
LSA Lhasa 43.18 312 P **P 02 36 57.4 -0.4**
LSA Lhasa 43.18 312 P **P 02 36 57.4 -0.4**
LSA pmax pmax
comp=Z,36nm,0.9s
CAN Canberra 43.18 153 P **P 02 36 57.1 -0.2**
CAN IAmb IAmb 02 36 59.3
comp=Z,114nm,1.5s
CAN Canberra 43.18 153 P **P 02 36 58.4 +1.1**
CAN Canberra 43.18 153 P **P 02 36 57.1 -0.2**
CAN pmax pmax
comp=Z,113nm,1.5s
CNB Canberra Magne 43.34 153 P **P 02 36 59.5 +0.9**
ASAJ Asahikawa 43.49 16 P **P 02 37 00.9 +1.4**
comp=Z,24nm,0.6s,baz=223,slow=12,SNR=11
ASAJ LR LR 02 53 54.4
comp=Z,950nm,21.2s,baz=221,slow=34
comp=Z,24nm,0.6s
ASAJ Asahikawa 43.49 16 P **P 02 36 59.4 -0.2**
ASAJ pmax pmax
comp=Z,316nm,1.9s
JKA Kamikawa-asahi 43.49 17 P **P 02 36 59.4 -0.2**
TOO Toolangi 43.69 158 P **P 02 37 02.0 +0.8**
TOO Toolangi 43.69 158 P **P 02 37 02.0 +0.8**
TOO pmax pmax
comp=Z,14nm,1.3s
GTA Gaotai 44.00 330 *e*P **P 02 37 03.6 -0.3**
GTA PP **PcP 02 38 50.8 +1.8**
GTA S **S 02 43 33.8 +1.1**
GTA pmax pmax
comp=Z,11nm,1.0s
GTA LR LR
comp=Z,1μm,23.5s
GTA LR LR
comp=Z,1μm,24.1s
GTA LR LR
comp=Z,2μm,24.3s
GOMU GeErMu 44.53 322 P **P 02 37 09.0 +0.5**
GOMU S **S 02 43 40.6 -0.4**
GOMU pmax pmax
comp=Z,40nm,1.2s
GOMU LR LR
comp=Z,710nm,18.0s
GOMU LR LR
comp=Z,780nm,18.2s
GOMU LR LR
comp=Z,2μm,17.9s
DZM Mont Dzumac 45.88 125 *e*P **P 02 37 17.3 -1.7**
comp=Z,39nm,1.3s
DZM Mont Dzumac 45.88 125 *e*PP **PP 02 39 07.3 0.0**
comp=Z,130nm,32.6s
DZM *e*S **S 02 43 57.3 -3.0**
comp=Z,693nm,32.1s
DZM *e*SS **SS 02 47 23.7 -2.0**
comp=Z,470nm,30.1s
DZM *e*LR LR 02 50 17.1
comp=Z,2μm,29.2s
DZM Mont Dzumac 45.88 125 LR LR 02 57 26.2
comp=Z,527nm,19.6s,baz=286,slow=37
YSS Yuzh-Sakhalins 46.16 15 P **P 02 37 20.6 0.0**
YSS IAmb IAmb 02 37 24.7
comp=Z,52nm,1.0s
YSS Yuzh-Sakhalins 46.16 15 P **P 02 37 22.1 +1.4**
YSS Yuzh-Sakhalins 46.16 15 *e*P **P 02 37 22.7 +2.0**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS pmax pmax
comp=Z,200nm,4.0s
KLR Kul'dur 46.50 4 P **P 02 37 24.1 +0.7**
comp=Z,29nm,0.8s,baz=196,slow=5.2,SNR=37
comp=Z,29nm,0.8s
KLR Kul'dur 46.50 4*c i*P **P 02 37 23.5 +0.1**
KLR pmax pmax
comp=Z,106nm,1.7s
HIA Hailar 46.75 354 P **P 02 37 25.8 +0.4**
HIA IAmb IAmb 02 37 30.7
comp=Z,29nm,1.0s
HIA Hailar 46.75 354 P **P 02 37 26.6 +1.2**
HIA Hailar 46.75 354 P **P 02 37 25.8 +0.4**
HIA pmax pmax
comp=Z,29nm,1.0s
HEH HeiHe 47.34 0 *e*P **P 02 37 30.4 +0.5**
HEH S **S 02 44 17.9 -2.3**
HEH pmax pmax
comp=Z,82nm,1.4s
HEH pmax pmax
comp=Z,210nm,4.4s
HEH LR LR
comp=Z,630nm,20.6s
HEH LR LR
comp=Z,380nm,21.6s
HEH LR LR
comp=Z,1μm,22.9s
ULN Ulaanbaatar 48.09 342 P **P 02 37 35.8 -0.2**
ULN IAmb IAmb 02 37 58.0
comp=Z,43nm,1.1s
ULN Ulaanbaatar 48.09 342 P **P 02 37 36.5 +0.5**
ULN Ulaanbaatar 48.09 342*c i*P **P 02 37 36.1 +0.1**
ULN pmax pmax
comp=Z,29nm,1.0s
SONM Songino Array 48.26 342 P **P 02 37 36.5 -0.7**
SONM IAmb IAmb 02 37 41.9
comp=Z,37nm,1.3s
SONM Songino Array 48.26 342 P **P 02 37 37.8 +0.5**
comp=Z,18nm,0.9s,baz=154,slow=8.4,SNR=30
SONM LR LR 02 58 51.7
comp=Z,490nm,20.0s,baz=158,slow=37
comp=Z,18nm,0.9s
SONM Songino Array 48.26 342 P **P 02 37 36.6 -0.7**
SONM pmax pmax
comp=Z,37nm,1.3s
GRNR Gornyy 48.53 8⇑*i*P **P 02 37 40.6 +1.4**
GRNR pmax pmax
comp=Z,20nm,1.1s
HYB Hyderabad 49.56 291 *e*P **P 02 37 47.0 -0.7**
HYB IVmB_BB 02 37 47.5
comp=Z,710nm,1.2s
HYB IVMs_BB IVMs_BB 02 56 25.1
comp=Z,317nm,32.3s
TYV Tymovskoe 49.77 13 *e*P **P 02 37 52.8 +4.2**
TYV pmax pmax
comp=Z,22nm,0.9s
TYV pmax pmax
comp=Z,400nm,4.7s

CIT Chita 50.35 349 *e*P **P 02 37 54.0 +1.0**
CIT *e* 02 38 07.6
CIT *e* 02 39 13.2
CIT pmax pmax
comp=Z,137nm,1.4s
ZEA Zeya 50.83 0 *e*P **P 02 37 57.6 +1.1**
ZEA *e* 02 45 16.1
ZEA pmax pmax
comp=Z,10.0nm,1.0s
MOY Mondy 53.34 340 *e*P **P 02 38 16.8 +1.4**
MOY pmax pmax
comp=Z,49nm,1.6s
WMQ Urumqi 53.60 325 *e*P **P 02 38 17.6 +0.2**
WMQ sP sP 02 38 44.6 +9.2
WMQ pmax pmax
comp=Z,25nm,0.7s
WMQ pmax pmax
comp=Z,150nm,3.7s
WMQ LR LR
comp=Z,840nm,16.1s
WMQ LR LR
comp=Z,940nm,21.7s
WMQ LR LR
comp=Z,1μm,20.7s
KNGR Kungurtug, Tuv 53.73 337⇑*e*P **P 02 38 19.3 +1.0**
KNGR pmax pmax
comp=Z,48nm,1.3s
MSVF Nonsavu 54.40 114 P **P 02 38 24.2 +0.5**
MSVF IAmb IAmb 02 38 32.6
comp=Z,30nm,0.9s
MSVF Nonsavu 54.40 114 LR LR 02 58 33.7
comp=Z,390nm,21.4s,baz=322,slow=33
MSVF Nonsavu 54.40 114⇑*i*P **P 02 38 24.9 +1.2**
MSVF pmax pmax
comp=Z,43nm,1.2s
BOD Bodaibo 55.85 352 *e*P **P 02 38 34.1 +0.8**
BOD pmax pmax
comp=Z,62nm,1.5s
PETK Petropavlovsk- 56.29 22 P **P 02 38 36.5 -0.2**
comp=Z,10nm,0.5s,baz=195,slow=5.2,SNR=46
PETK LR LR 02 59 52.8
comp=Z,243nm,21.4s,baz=210,slow=33
comp=Z,10nm,0.5s
PET Petropavlovsk 56.59 22*c i*P **P 02 38 39.8 +1.2**
PET pmax pmax
comp=Z,86nm,1.7s
PET Petropavlovsk 56.59 22 P **P 02 38 39.6 +1.0**
comp=Z,33nm,1.6s
WUS Wushi 57.37 319 IAmb IAmb 02 38 46.5
comp=Z,47nm,1.4s
SHLS Shalkode 58.18 321 *e*P **P 02 38 47.9 -2.4**
comp=Z,15nm,1.0s
SHLS Shalkode 58.18 321 *e*P **P 02 38 47.9 -2.4**
SHLS pmax pmax
comp=Z,15nm,1.0s
MK31 Makanchi Array 58.43 326*ce*P **P 02 38 51.2 -0.6**
MKAR Makanchi Array 58.43 326 P **P 02 38 51.6 -0.2**
comp=Z,10nm,0.4s,baz=120,slow=7.8,SNR=162
comp=Z,10nm,0.4s
UZB Uzynbulak 58.45 320 *e*P **P 02 38 51.6 -0.6**
comp=Z,7.8nm,0.8s
UZB Uzynbulak 58.45 320 *e*P **P 02 38 51.6 -0.6**
UZB pmax pmax
comp=Z,8.0nm,0.8s
PRZ Przheval'sk 58.53 320 IAmb IAmb 02 38 59.0
comp=Z,20nm,0.8s
MAKZ Makanchi 58.61 325 P **P 02 38 52.9 -0.2**
MAKZ IAmb IAmb 02 38 59.1
comp=Z,21nm,0.8s
MAKZ Makanchi 58.61 325 P **P 02 38 52.9 -0.2**
MAKZ pmax pmax
comp=Z,21nm,0.8s
NIL Nilore 58.62 308 P **P 02 38 52.6 -0.8**
NIL IAmb IAmb 02 38 54.7
comp=Z,62nm,1.2s
NIL Nilore 58.62 308 P **P 02 38 52.6 -0.8**
NIL pmax pmax
comp=Z,62nm,1.2s
SATY Saty 58.80 320 *e*P **P 02 38 54.2 -0.5**
comp=Z,21nm,0.9s
SATY Saty 58.80 320 *e*P **P 02 38 54.1 -0.5**
SATY pmax pmax
comp=Z,21nm,0.9s
KSH Kashi 58.82 315 P **P 02 38 55.9 +1.1**
KSH pP pwP 02 39 11.3 +1.2
KSH pmax pmax
comp=Z,26nm,1.4s
KSH LR LR
comp=Z,310nm,16.8s
KSH LR LR
comp=Z,520nm,18.5s
KSH LR LR
comp=Z,990nm,19.9s
KPKS Kokpek 58.82 321 *e*P **P 02 38 54.1 -0.6**
comp=Z,12nm,1.0s
KPKS Kokpek 58.82 321 *e*P **P 02 38 54.1 -0.6**
KPKS pmax pmax
comp=Z,12nm,1.0s
ZHN Zhinishke 58.84 320 *e*P **P 02 38 54.2 -0.6**
ZHN Zhinishke 58.84 320 *e*P **P 02 38 54.2 -0.6**
KDJ Kajisay 59.16 319 P **P 02 38 56.6 -0.6**
KDJ IAmb IAmb 02 39 02.6
comp=Z,22nm,0.8s
KDJ Kajisay 59.16 319 P **P 02 38 56.6 -0.6**
KDJ pmax pmax
comp=Z,22nm,0.8s
YAK Yakutsk 59.18 2 P **P 02 38 57.5 +0.8**
YAK Yakutsk 59.18 2 P **P 02 38 56.7 +0.1**
comp=Z,57nm,0.6s,baz=136,slow=3.6,SNR=12
comp=Z,57nm,0.6s
YAK Yakutsk 59.18 2 *e*P **P 02 38 57.3 +0.6**
YAK *e* 02 39 45.3
YAK *e* 02 41 08.2
YAK *e*S **S 02 47 01.3 +0.6**
YAK *e* 02 48 41.7
YAK *e*SS **SS 02 51 05.5 +10**
YAK pmax pmax
comp=Z,53nm,0.9s
YAK pmax pmax
comp=N,50nm,1.3s
YAK pmax pmax
comp=E,15nm,1.4s
YAK pmax pmax
comp=Z,178nm,4.4s
YAK pmax pmax
comp=N,161nm,2.1s
YAK pmax pmax
comp=E,224nm,3.0s
YAK smax smax
comp=N,343nm,3.9s
YAK smax smax
comp=E,270nm,4.8s
MA2 Magadan 59.63 14 P **P 02 39 00.3 +0.5**
comp=E,25nm,0.8s,baz=182,slow=14,SNR=4.9
MA2 LR LR 03 04 01.6
comp=E,274nm,21.9s,baz=209,slow=35
comp=E,25nm,0.8s
MA2 Magadan 59.63 14⇓*e*P **P 02 39 01.3 +1.5**
MA2 pmax pmax
comp=Z,141nm,1.6s
MDOK Medeo 59.72 320 *e*P **P 02 39 00.4 -0.7**
MDOK Medeo 59.72 320 P **P 02 39 00.7 -0.3**
TNSS Tian-Shan 59.73 320 *e*P **P 02 39 00.5 -1.0**
TNSS Tian-Shan 59.73 320 *e*P **P 02 39 00.4 -1.0**
TDK Taldyqorghan 59.76 322 *e*P **P 02 39 00.6 -0.5**
comp=Z,11nm,0.6s
TDK Taldyqorghan 59.76 322 *e*P **P 02 39 00.6 -0.5**
TDK pmax pmax
comp=Z,11nm,0.6s
AAA Alma-Ata 59.83 320 *e*P **P 02 39 01.3 -0.4**
AAA Alma-Ata 59.83 320 *e*P **P 02 39 01.3 -0.4**
CHKK Chushkaly 60.09 320 *e*P **P 02 39 02.8 -0.6**
CHKK Chushkaly 60.09 320 *e*P **P 02 39 02.8 -0.6**
KUU Kurty 60.52 320 *e*P **P 02 39 05.8 -0.6**
comp=Z,10.0nm,0.6s
KUU Kurty 60.52 320 *e*P **P 02 39 05.7 -0.6**
KUU pmax pmax
comp=Z,10.0nm,0.6s
TKM2 Tokmak 2 60.56 319 P **P 02 39 05.8 -1.0**
LBZ Lake Benmore 60.81 146 P **P 02 39 08.2 0.0**
RPZ Rata Peaks 60.89 145 LR LR 03 06 51.2
comp=Z,652nm,19.2s,baz=302,slow=37
AAK Ala-Archa 61.16 318 P **P 02 39 10.6 -0.3**
AAK Ala-Archa 61.16 318*c i*P **P 02 39 09.3 -1.6**
AAK pmax pmax
comp=Z,15nm,1.7s

SGDS Sogindy 61.43 319 *e*P **P 02 39 12.1 -0.4**
SGDS Sogindy 61.43 319 *e*P **P 02 39 12.1 -0.4**
ZALV Zalesovo Beam 61.51 333 P **P 02 39 11.8 -1.0**
comp=Z,6.8nm,0.5s,baz=124,slow=6.2,SNR=24
ZALV PKP2bc 03 08 33.4
comp=Z,0.6nm,0.5s,baz=290,slow=4.3,SNR=4.7
ZALV LR LR 03 09 04.7
comp=Z,220nm,20.1s,baz=132,slow=39
comp=Z,6.8nm,0.5s
SEM Semipalatinsk 61.59 328 *e*P **P 02 39 13.4 -0.4**
SEM Semipalatinsk 61.59 328 *e*P **P 02 39 13.3 -0.4**
RAO Raoul Island 61.66 125 LR LR 03 05 59.3
comp=Z,220nm,19.4s,baz=336,slow=36
URZ Urewera 61.75 137 LR LR 03 08 00.2
comp=Z,849nm,18.2s,baz=41,slow=38
DRK Karamyk 61.77 314 IAmb IAmb 02 39 20.1
comp=Z,28nm,0.7s
RTZ Ruatahuna 61.83 137 P **P 02 39 14.0 -1.4**
RTZ IAmb IAmb 02 39 17.5
comp=Z,49nm,1.1s
KBL Kabul 62.21 308 P **P 02 39 18.0 -0.2**
KBL IAmb IAmb 02 39 23.9
comp=Z,15nm,0.8s
KBL Kabul 62.21 308 P **P 02 39 17.7 -0.5**
SNR=12
KBL Kabul 62.21 308 P **P 02 39 18.0 -0.2**
KBL pmax pmax
comp=Z,15nm,0.8s
BTLS Baital 62.51 320 *e*P **P 02 39 18.9 -0.7**
BTLS Baital 62.51 320 *e*P **P 02 39 18.8 -0.8**
KURBB Kurchatov Arra 62.63 328 P **P 02 39 19.8 -0.5**
comp=Z,33nm,0.9s,baz=131,slow=6.4,SNR=55
KURBB PKP2bc 03 08 29.1
comp=Z,0.9nm,0.9s,baz=296,slow=3.6,SNR=4.5
comp=Z,33nm,0.9s
KURK Kurchatov 62.63 328 P **P 02 39 19.8 -0.5**
KURK Kurchatov 62.63 328 P **P 02 39 20.1 -0.3**
KURK Kurchatov 62.63 328 P **P 02 39 19.8 -0.5**
BTK Batken 62.69 314 IAmb IAmb 02 39 52.7
comp=Z,32nm,1.1s
SEY Seymchan 62.96 13 P **P 02 39 22.6 +0.4**
comp=Z,26nm,1.1s,baz=204,slow=6.9,SNR=8.8
SEY PcP **PcP 02 39 57.6 -2.3**
comp=Z,17nm,1.1s,baz=185,slow=3.7,SNR=3.9
comp=Z,26nm,1.1s
SEY Seymchan 62.96 13⇓*i*P **P 02 39 22.9 +0.6**
SEY pmax pmax
comp=Z,97nm,1.5s
SHEM Shemya Is, Ala 63.25 30 LR LR 03 02 14.3
comp=Z,452nm,21.9s,baz=280,slow=32
DZA Taraz 63.39 317 *e*P **P 02 39 24.9 -0.7**
comp=Z,6.8nm,0.5s
DZA Taraz 63.39 317 *e*P **P 02 39 24.9 -0.7**
DZA pmax pmax
comp=Z,7.0nm,0.5s
SIMJ Simiganj 63.52 312 P **P 02 39 26.2 -0.6**
SIMJ IAmb IAmb 02 39 31.5
comp=Z,20nm,0.9s
IUG Iuzhnay 64.00 316 *e*P **P 02 39 29.2 -0.6**
comp=Z,18nm,0.7s
IUG Iuzhnay 64.00 316 *e*P **P 02 39 29.1 -0.6**
IUG pmax pmax
comp=Z,18nm,0.7s
KK31 Karatay Array 64.03 317 *i*P **P 02 39 29.0 -0.8**
KKAR Karatay Array 64.03 317 P **P 02 39 29.0 -0.8**
KKAR Karatay Array 64.03 317 P **P 02 39 29.1 -0.7**
KKAR IAmb IAmb 02 39 33.8
comp=Z,13nm,0.8s
KKAR Karatay Array 64.03 317 P **P 02 39 29.1 -0.7**
KKAR pmax pmax
comp=Z,13nm,0.9s
BRLS Borolday 64.46 317 *e*P **P 02 39 32.1 -0.5**
BRLS Borolday 64.46 317 *e*P **P 02 39 32.1 -0.5**
JLN Jalan Bani Buh 68.09 293 P **P 02 39 54.1 -2.1**
BVA0 Borovoye Array 68.21 327 P **P 02 39 55.7 -0.7**
BVAR Borovoye Array 68.21 327 P **P 02 39 56.0 -0.4**
comp=Z,9.7nm,0.5s,baz=125,slow=7.6,SNR=56
BVAR PcP **PcP 02 40 20.3 -1.6**
comp=Z,19nm,0.9s,baz=116,slow=6.8,SNR=6.5
BVAR LR LR 03 10 13.4
comp=Z,232nm,21.7s,baz=116,slow=36
comp=Z,9.7nm,0.5s
BRVK Borovoye 68.28 327 P **P 02 39 56.4 -0.4**
BRVK IAmb IAmb 02 40 23.8
comp=Z,30nm,1.0s
BRVK Borovoye 68.28 327 P **P 02 39 56.9 0.0**
BRVK Borovoye 68.28 327*c i*P **P 02 39 56.4 -0.4**
BRVK pmax pmax
comp=Z,40nm,1.3s
WBK Wadi Bani Khal 68.55 293 P **P 02 39 59.4 +0.3**
TIXI Tiksi 68.82 1 P **P 02 40 00.0 +0.2**
TIXI Tiksi 68.82 1 P **P 02 40 00.0 +0.2**
TIXI pmax pmax
comp=Z,102nm,1.6s
WSAR Wadi Sarin 68.92 294 LR LR 03 13 05.1
comp=Z,79nm,21.3s,baz=103,slow=38
WSAR Wadi Sarin 68.92 294 P **P 02 39 59.9 -1.5**
MHTO MHTO 69.31 291 P **P 02 40 02.6 -1.2**
SNR=5.0
JMDO Jabal Madar 69.32 293 P **P 02 40 03.1 -0.8**
SNR=5.1
BIDO Bidbid 69.42 294 P **P 02 40 03.9 -0.6**
SMDO Samad 69.44 293 P **P 02 40 03.1 -1.7**
HOQ Hoqain 70.17 294 P **P 02 40 09.4 +0.2**
BSY Bisya 70.19 293 P **P 02 40 08.9 -0.4**
BILL Bilibino 70.47 15⇑*e*P **P 02 40 10.6 +0.5**
BILL pmax pmax
comp=Z,44nm,1.8s
ARQ Araqi 70.86 294 P **P 02 40 13.0 -0.4**
SOHO SOHO 70.93 294 P **P 02 40 14.8 +1.0**
MDH Madha 71.26 296 P **P 02 40 15.6 -0.2**
UOSS Minazif 71.31 295 P **P 02 40 15.6 -0.5**
UOSS Minazif 71.31 295 P **P 02 40 15.4 -0.6**
BANOM Banah 71.32 296 P **P 02 40 16.3 +0.2**
HATD Hatta, Dubai 71.36 295 P **P 02 40 16.6 +0.2**
MASF Masafi 71.39 296 P **P 02 40 18.3 +1.7**
NRIK Noril'sk 71.41 346 P **P 02 40 15.7 0.0**
comp=Z,19nm,0.9s,baz=134,slow=7.2,SNR=20
comp=Z,19nm,0.9s
NRIK Noril'sk 71.41 346*c i*P **P 02 40 16.0 +0.3**
NRIK pmax pmax
comp=Z,46nm,1.4s
ASHO Ashiyiah 71.41 295 P **P 02 40 17.1 +0.3**
ALNE Al Ain 71.63 294 P **P 02 40 18.6 +0.6**
FAQ Al Faqa, Dubai 71.84 295 P **P 02 40 19.9 +0.7**
DMTO DMTO 71.93 288 P **P 02 40 18.9 -1.0**
ASUD Al Ashush, Dub 72.07 295 P **P 02 40 21.0 +0.4**
DOK Doka 72.75 289 P **P 02 40 23.6 -1.2**
SNR=5.9
AB31 Akbulak array 72.98 321 P **P 02 40 24.9 -0.7**
ABKAR Akbulak array 72.98 321 P **P 02 40 25.2 -0.3**
ABKAR Akbulak array 72.98 321 P **P 02 40 24.9 -0.7**
WHFO Wadi Hawf 73.06 288 P **P 02 40 25.0 -1.7**
ABTO Aybut 73.49 287 P **P 02 40 27.9 -1.3**
MZR Muzera 73.63 293 P **P 02 40 29.5 -0.4**
JRN Qarnain Island 74.34 295 P **P 02 40 34.1 +0.1**
AKTO Aktyubinsk 74.50 322 P **P 02 40 34.0 -0.4**
SVE Sverdlovsk 74.86 329*d i*P **P 02 40 36.4 +0.1**
SVE pmax pmax
comp=Z,83nm,0.9s
RAR Rarotonga 75.55 113 LR LR 03 10 31.2
comp=Z,177nm,21.9s,baz=278,slow=33
TRNA Turayna 75.81 295 P **P 02 40 42.3 -0.2**
ARTI Arti 75.91 328 P **P 02 40 42.1 -0.3**
ARTI Arti 75.91 328*c i*P **P 02 40 41.7 -0.7**
ARTI 02 40 57.4
ARTI S **S 02 50 21.8 +0.4**
ARTI pmax pmax
comp=Z,92nm,1.3s
SMRA Abu-Samra 76.16 295 P **P 02 40 44.2 -0.3**
L14K Kuka Creek 78.31 28 IAmb IAmb 02 41 00.9
comp=Z,44nm,1.1s
M14K Bethel 78.49 28 IAmb IAmb 02 41 01.7
comp=Z,40nm,0.8s
F15K North Star Dit 78.77 23 IAmb IAmb 02 41 01.4
comp=Z,116nm,1.9s
K15K Wolf Creek Mou 79.09 27 IAmb IAmb 02 41 03.4
comp=Z,52nm,1.2s
J16K Anvik River 79.76 26 IAmb IAmb 02 41 09.4
comp=Z,26nm,0.9s
I17K Unalakleet 79.87 25 P **P 02 41 05.2 +1.0**
I17K IAmb IAmb 02 41 07.8
comp=Z,96nm,1.6s
L16K Owhat River 79.89 28 P **P 02 41 05.6 +1.2**
L16K IAmb IAmb 02 41 09.3

comp=Z,33nm,0.9s
M16K Timber Creek 79.98 28 IAmb IAmb 02 41 18.1
comp=Z,45nm,1.2s
AKT Akhty 80.03 311 *e*P **P 02 41 06.4 +0.6**
AKT *e* 02 44 11.7
AKT *e*S **S 02 51 08.0 +1.3**
AKT pmax pmax
comp=Z,36nm,1.1s
O16K Kokwok River B 80.10 30 IAmb IAmb 02 41 10.3
comp=Z,27nm,0.9s
RDOG Red Dog Mine 80.15 21 IAmb IAmb 02 41 09.0
comp=Z,78nm,1.6s
MAK Makhachkala 80.33 313*c i*P **P 02 41 05.0 -2.2**
MAK *e* 02 44 08.1
MAK *e*PPP PPP 02 45 59.0
MAK *e*S **S 02 51 07.9 -1.6**
MAK *e*SS **SS 02 56 24.8 +3.1**
MAK *e*SSS SSS 02 59 50.9
MAK pmax pmax
comp=Z,100nm,1.1s
J17K VABM Dome 80.45 26 IAmb IAmb 02 41 12.1
comp=Z,134nm,1.9s
H17K Granite Mounta 80.46 24 IAmb IAmb 02 41 10.9
comp=Z,74nm,1.5s
K17K Iditarod 80.65 27 IAmb IAmb 02 41 12.1
comp=Z,79nm,1.3s
N17K Nushagak Hills 80.73 29 IAmb IAmb 02 41 12.5
comp=Z,82nm,1.8s
M17K Holitna River 80.78 28 IAmb IAmb 02 41 15.2
comp=Z,94nm,1.9s
E18K Tukpahlearik C 80.82 22 IAmb IAmb 02 41 12.6
comp=Z,61nm,1.4s
RAYN Ar Rayn 80.98 293 P **P 02 41 08.9 -2.2**
RAYN IAmb IAmb 02 41 13.7
comp=Z,26nm,1.0s
RAYN Ar Rayn 80.98 293 P **P 02 41 11.1 -0.1**
RAYN Ar Rayn 80.98 293 P **P 02 41 08.9 -2.2**
RAYN pmax pmax
comp=Z,26nm,1.0s
OPO Ambohidratompo 81.08 251 P **P 02 41 12.2 +0.3**
comp=Z,13nm,0.8s,baz=82,slow=5.1,SNR=8.4
comp=Z,13nm,0.8s
ABPO Ambohimpanom 81.09 250 P **P 02 41 12.9 +1.0**
ABPO IAmb IAmb 02 41 17.9
comp=Z,20nm,0.8s
ABPO Ambohimpanom 81.09 250 P **P 02 41 12.9 +1.0**
ABPO pmax pmax
comp=Z,20nm,0.8s
KIRV Kirov 81.12 329*c i*P **P 02 41 11.0 0.0**
H18K Honhosa River 81.15 24 IAmb IAmb 02 41 14.2
comp=Z,81nm,1.8s
BELG Belogornoye 81.25 322*d i*P **P 02 41 10.8 -1.1**
BELG pmax pmax
comp=Z,26nm,1.0s
L18K Granite Mounta 81.28 27 IAmb IAmb 02 41 15.3
comp=Z,40nm,1.3s
O18K Koktuh Hills 81.58 30 IAmb IAmb 02 41 17.7
comp=Z,36nm,1.1s
C19K Lookout Ridge 81.62 20 IAmb IAmb 02 41 36.8
comp=Z,34nm,0.9s
TTA Tatalina 81.72 27 IAmb IAmb 02 41 16.7
comp=Z,32nm,1.2s
VOI Vohitsoka 81.81 248 P **P 02 41 16.1 +0.5**
VOI IAmb IAmb 02 41 18.0
comp=Z,49nm,1.2s
G19K Purcell Mounta 81.88 24 IAmb IAmb 02 41 17.5
comp=Z,29nm,1.1s
D19K Kuna River 81.99 21 IAmb IAmb 02 41 19.0
comp=Z,40nm,1.1s
J19K Poorman 82.08 26 IAmb IAmb 02 41 19.4
comp=Z,102nm,1.6s
GNI Garni 82.20 310 LR LR 03 22 51.7
comp=Z,91nm,21.6s,baz=83,slow=39
GNI Garni 82.20 310 P **P 02 41 19.6 +2.2**
GNI Garni 82.20 310*c i*P **P 02 41 18.4 +1.0**
GNI pmax pmax
comp=Z,53nm,1.8s
GNI Garni 82.20 310 P **P 02 41 18.3 +0.9**
comp=Z,30nm,1.6s,comp=Z,510nm
OHAK Old Harbor 82.21 33 P **P 02 41 17.4 +0.6**
KDAK Kodiak Island 82.65 32 LR LR 03 13 01.1
comp=Z,180nm,21.1s,baz=95,slow=32
B20K Meade River 82.66 20 IAmb IAmb 02 41 48.2
comp=Z,104nm,1.8s
J20K Nowinta River 82.75 26 IAmb IAmb 02 41 24.9
comp=Z,45nm,0.9s
MAW Mawson 82.88 200 P **P 02 41 20.4 +0.4**
comp=Z,24nm,1.0s,baz=68,slow=6.5,SNR=27
MAW LR LR 03 16 29.7
comp=Z,117nm,18.3s,baz=59,slow=34
comp=Z,24nm,1.0s
M20K Styx River 82.88 28 IAmb IAmb 02 41 23.7
comp=Z,57nm,1.1s
IMAR Indian Mountai 83.19 24 P **P 02 41 23.4 +1.6**
NCK Nalchik 83.22 313⇓*i*P **P 02 41 23.0 +0.5**
NCK pmax pmax
comp=Z,32nm,1.2s
H21K Melozitna Rive 83.53 24 IAmb IAmb 02 41 28.7
comp=Z,43nm,1.0s
SKT Skwentna 83.65 28 IAmb IAmb 02 41 25.9
comp=Z,47nm,1.0s
KBZ Khabaz 83.74 314 P **P 02 41 25.2 +0.2**
comp=Z,12nm,1.1s,baz=125,slow=9.7,SNR=12
KBZ LR LR 03 24 15.6
comp=Z,177nm,21.4s,baz=64,slow=40
comp=Z,12nm,1.1s
KBZ Khabaz 83.74 314*c i*P **P 02 41 25.0 0.0**
KBZ pmax pmax
comp=Z,23nm,1.4s
I21K Tanana 83.81 25 IAmb IAmb 02 41 30.2
comp=Z,47nm,1.1s
KVAR Kislovodsk Arr 83.89 314 LR LR 03 24 50.7
comp=Z,80nm,20.1s,baz=252,slow=40
KIV Kislovodsk 83.90 314 *e*P **P 02 41 26.1 +0.1**
KIV pmax pmax
comp=Z,19nm,1.1s
SHA1 Shidzhatmaz 83.91 314⇓*i*P **P 02 41 28.2 +1.9**
GURO Guroymak-BITLI 84.25 308 IAmb IAmb 02 41 32.2
comp=Z,32nm,0.8s
MLY Manley 84.31 25 P **P 02 41 29.2 +1.6**
RC01 Rabbit Creek A 84.42 29 IAmb IAmb 02 41 30.0
comp=Z,41nm,0.9s
PPT Papeete 84.70 108 LR LR 03 15 24.8
comp=Z,197nm,21.4s,baz=284,slow=33
PPT2 Papeete2 84.70 108 *e*P **P 02 41 25.9 -4.6**
comp=Z,100nm,25.2s
PPT2 Papeete2 84.70 108 *e*PP **PP 02 44 43.2 -3.9**
comp=Z,37nm,24.0s
PPT2 *e*S **SKSac 02 51 52.6 +1.1**
comp=Z,188nm,27.2s
PPT2 Papeete2 84.70 108 *e*LR LR 03 08 15.6
comp=Z,482nm,29.0s
PPT2 *e*LR LR 03 08 19.1
comp=Z,632nm,26.2s
G23K Bananza Creek 84.77 23 IAmb IAmb 02 41 33.3
comp=Z,48nm,1.1s
VRH Novokhopyorsk 84.82 321 *e*P **P 02 41 27.5 -2.8**
VRH pmax pmax
comp=Z,100nm,1.1s
GHO Glory Hole Cre 84.86 28 IAmb IAmb 02 41 34.5
comp=Z,46nm,1.0s
H23K Yukon River 84.89 24 IAmb IAmb 02 41 33.7
comp=Z,20nm,0.9s
NEA2 Nenana 84.99 26 IAmb IAmb 02 41 53.8
comp=Z,19nm,1.1s
E23K Chandalar 85.05 22 IAmb IAmb 02 41 37.2
comp=Z,28nm,0.8s
TBI Tubuai 85.29 114 *e*S **SKSac 02 51 57.0 +2.2**
comp=Z,1µm,39.0s
TBI Tubuai 85.29 114 *e*LR LR 03 08 30.8
comp=Z,2µm,26.0s
LABN Labinsk 85.33 314 *e*P **P 02 41 30.6 -2.5**
LABN *e**PP **pP 02 41 42.7 -3.9**
LABN *e*S **SKSac 02 51 51.6 -2.7**
LABN *e* 02 51 57.4
LABN pmax pmax
comp=Z,80nm,1.2s
WRH Wood River Hil 85.40 26 P **P 02 41 33.6 +0.6**
WRH IAmb IAmb 02 41 53.8
comp=Z,30nm,1.3s
D24K Happy Valley 85.43 21 IAmb IAmb 02 41 36.5
comp=Z,40nm,0.9s
E24K Your Creek 85.47 22 IAmb IAmb 02 41 36.6
comp=Z,26nm,1.4s
ERBR Yeremizino-Bor 85.51 315 *e*P **P 02 41 33.8 -0.1**
ERBR *e**PP **pP 02 41 44.5 -3.0**
ERBR *e*S **SKSac 02 51 50.3 -5.1**
ERBR *e* 02 52 02.7
ERBR pmax pmax
comp=Z,131nm,1.3s
CCB Clear Creek Bu 85.54 25 IAmb IAmb 02 41 35.2
comp=Z,88nm,1.9s
H24K Noodor Dome 85.57 24 IAmb IAmb 02 41 38.9
comp=Z,23nm,1.1s
VSLR Vesyoloye 85.81 313*c i*P **P 02 41 35.8 +0.3**
HDA Harding Lake 85.90 26 IAmb IAmb 02 42 25.2
comp=Z,28nm,1.6s
IL31 85.94 25 IAmb IAmb 02 44 55.8
comp=Z,37nm,1.8s
ILAR Eielson Array 85.94 25 P **P 02 41 33.2 -2.5**
ILAR Eielson Array 85.94 25 P **P 02 41 34.8 -0.9**
comp=Z,1.3nm,0.6s,baz=251,slow=5.0,SNR=17
ILAR PP **PP 02 44 53.4 -2.4**
comp=Z,7.5nm,1.4s,baz=252,slow=5.9,SNR=6.4
ILAR LR LR 03 20 43.5
comp=Z,116nm,19.5s,baz=248,slow=36
comp=Z,1.3nm,0.6s
ILAR Eielson Array 85.94 25 P **P 02 41 33.2 -2.5**
KTUT Trabzon 86.01 311⇑P **P 02 41 35.1 -1.4**
SOC Sochi 86.04 313 *e*P **P 02 41 34.7 -1.9**
SOC *e* 02 44 52.1
SOC *e*PPP PPP 02 46 47.5
SOC *e*S **SKSac 02 51 56.2 -2.7**
SOC *e*SS **SS 02 57 43.9 -2.3**
SOC *e*SSS SSS 03 01 19.8
SOC pmax pmax
comp=Z,40nm,0.7s
D25K Kavik River 86.31 21 IAmb IAmb 02 42 34.7
comp=Z,11nm,0.6s
KLMR Klimovskoe 86.32 331 *e*P **P 02 41 35.9 -1.7**
KLMR pmax pmax
comp=Z,54nm,1.4s
VORD Divnogorie 86.34 321 *e*P **P 02 41 35.9 -2.0**
VORD pmax pmax
comp=Z,100nm,1.0s
VSR Storozhevoye 86.42 321 *e*P **P 02 41 36.3 -2.0**
VSR pmax pmax
comp=Z,70nm,1.0s
LPSR Galich'ya Gora 86.57 322 *e*P **P 02 41 37.7 -1.3**
LPSR pmax pmax
comp=Z,100nm,1.0s
J25K Salcha River, 86.58 26 IAmb IAmb 02 42 51.7
comp=Z,32nm,1.9s
RIDG Independent Ri 86.80 26 IAmb IAmb 02 41 49.8
comp=Z,21nm,1.1s
BMAR Burnt Mountain 86.93 23 P **P 02 41 41.9 +1.3**
F26K Sheenjek River 87.10 22 IAmb IAmb 02 41 46.4
comp=Z,27nm,1.6s
C27K Jago River 87.25 21 IAmb IAmb 02 41 44.3
comp=Z,13nm,0.8s
GLB Gilahina Butte 87.29 29 IAmb IAmb 02 42 05.1
comp=Z,37nm,1.4s
MOS Moscow 87.31 326 *e*P **P 02 41 42.5 0.0**
MOS pmax pmax
comp=Z,84nm,1.1s
ANN Anapa 87.67 315 *e*P **P 02 41 44.0 -0.5**
ANN *e**PP **pP 02 41 54.6 -3.5**
ANN *e*S **SKSac 02 52 05.5 -3.3**
ANN *e* 02 52 18.5
ANN pmax pmax
comp=Z,121nm,1.0s
FURI Furi 87.78 279 LR LR 03 20 44.6
comp=Z,242nm,20.3s,baz=92,slow=36
OBN Obninsk 87.93 325 P **P 02 41 43.7 -1.7**
OBN Obninsk 87.93 325⇓P **P 02 41 44.7 -0.8**
OBN Obninsk 87.93 325 *i* P **P 02 41 44.5 -1.0**
OBN *i* 02 41 51.1
OBN *i* 02 45 12.2
OBN pmax pmax
comp=Z,108nm,1.3s
OBN MLR MLR
comp=Z,342nm,26.0s
K27K Chicken 88.03 26 IAmb IAmb 02 41 51.2
comp=Z,16nm,0.9s
E27K Coleen River 88.05 22 IAmb IAmb 02 42 00.3
comp=Z,15nm,1.0s
BCAR Beaver Creek A 88.19 27 P **P 02 41 47.1 +0.4**
E28M Babbage River 88.79 21 IAmb IAmb 02 41 51.8
comp=Z,16nm,1.1s
I28M Miner Creek 88.86 25 IAmb IAmb 02 41 54.2
comp=Z,12nm,0.8s
KIBK Kibwezi 88.92 268 IAmb IAmb 02 41 54.6
comp=Z,50nm,1.3s
KIBK Kibwezi 88.92 268 P **P 02 41 53.2 +2.0**
SNR=21
E29M Blow River 89.41 22 IAmb IAmb 02 41 54.3
comp=Z,30nm,1.7s
H29M Whitestone 89.44 24 IAmb IAmb 02 43 48.2
comp=Z,41nm,1.9s
KMBO Kilima Mbogo 89.65 269 P **P 02 41 54.6 -0.3**
KMBO IAmb IAmb 02 42 01.1
comp=Z,44nm,1.4s
KMBO Kilima Mbogo 89.65 269 P **P 02 41 55.5 +0.7**
comp=Z,16nm,1.1s,baz=59,slow=4.1,SNR=21
KMBO LR LR 03 19 18.1
comp=Z,134nm,21.9s,baz=94,slow=34
comp=Z,16nm,1.1s
KMBO Kilima Mbogo 89.65 269 P **P 02 41 56.3 +1.5**
KMBO Kilima Mbogo 89.65 269 P **P 02 41 54.6 -0.3**
KMBO pmax pmax
comp=Z,44nm,1.5s
MMAI Mount Meron Ar 89.73 303 P **P 02 41 55.3 +0.7**
comp=Z,51nm,1.2s,baz=87,slow=6.0,SNR=28
MMAI LR LR 03 27 03.5
comp=Z,102nm,20.8s,baz=28,slow=39
comp=Z,51nm,1.2s
L29M L29M 89.85 27 IAmb IAmb 02 41 57.5
comp=Z,22nm,1.1s
K29M Barlow Dome 90.05 26 IAmb IAmb 02 41 57.8
comp=Z,38nm,1.9s
EPYK Eagle Plains 90.09 24 IAmb IAmb 02 41 59.0
comp=Z,52nm,1.7s
EIL Elat 90.31 300 LR LR 03 29 27.9
comp=Z,89nm,18.7s,baz=74,slow=40
J30M Hart River 90.48 25 IAmb IAmb 02 42 09.0
comp=Z,34nm,2.0s
KIRS Kirsehir-Merke 90.56 309⇑P **P 02 41 57.9 -0.5**
BR131 Keskin Array S 90.74 310 P **P 02 41 59.5 +0.2**
BR131 Keskin Array S 90.74 310⇑*e*P **P 02 41 58.8 -0.4**
BRTR Keskin Array B 90.74 310 P **P 02 41 58.9 -0.4**
BRTR Keskin Array B 90.74 310 P **P 02 41 57.7 -1.6**
comp=Z,9.7nm,1.1s,baz=122,slow=3.9,SNR=19
BRTR LR LR 03 30 21.8
comp=Z,75nm,19.3s,baz=88,slow=41
comp=Z,9.7nm,1.1s
BRTR Keskin Array B 90.74 310 P **P 02 41 58.9 -0.4**
G31M Satah River 90.98 23 IAmb IAmb 02 42 02.8
comp=Z,32nm,1.5s
INK Inuvik 91.03 22 IAmb IAmb 02 42 01.5
comp=Z,41nm,1.7s
INK Inuvik 91.03 22 LR LR 03 24 03.1
comp=Z,189nm,21.2s,baz=240,slow=36
H31M Peel River 91.13 24 IAmb IAmb 02 45 20.6
comp=Z,36nm,1.9s
LODK Lodwar 91.32 273 P **P 02 42 02.2 -0.2**
LODK IAmb IAmb 02 42 21.2
comp=Z,20nm,1.6s
CSS Mathiatis 91.33 305 IAmb IAmb 02 42 03.1
comp=Z,44nm,1.3s
CSS Mathiatis 91.33 305 P **P 02 42 01.8 -0.2**
comp=Z,26nm,1.2s
ANTO Ankara 91.38 310 P **P 02 42 03.0 +0.9**
ARCES ARCESS Array B 91.41 340 P **P 02 42 00.4 -1.2**
comp=Z,6.7nm,0.7s,baz=73,slow=5.3,SNR=6.0
comp=Z,6.7nm,0.7s
M31M Drury Creek, Y 91.68 28 IAmb IAmb 02 42 07.0
comp=Z,17nm,1.4s
FARO Faro, Yukon 92.16 28 IAmb IAmb 02 42 07.6
comp=Z,21nm,0.9s
QSPA South Pole Qui 92.66 180 P **P 02 42 06.5 -0.9**
QSPA IAmb IAmb 02 42 09.9
comp=Z,18nm,1.2s
QSPA South Pole Qui 92.66 180 P **P 02 42 06.6 -0.9**
comp=Z,8.7nm,1.1s,baz=319,slow=2.6,SNR=13
QSPA LR LR 03 24 48.0
comp=Z,149nm,21.5s,baz=1.0,slow=36
comp=Z,8.7nm,1.1s
AKASG Malin Array Be 92.73 321 P **P 02 42 07.0 -1.0**
AKASG Malin Array Be 92.73 321 P **P 02 42 06.5 -1.5**
comp=Z,0.6nm,0.4s,baz=76,slow=3.5,SNR=13
AKASG LR LR 03 27 45.8
comp=Z,149nm,21.3s,baz=65,slow=38
comp=Z,0.6nm,0.4s
AKASG Malin Array Be 92.73 321 P **P 02 42 07.0 -1.0**
AKASG pmax pmax
comp=Z,12nm,1.4s
AKBB Malin Array Si 92.73 321⇓*e*P **P 02 42 05.8 -2.2**
AKBB pmax pmax
comp=Z,14nm,1.3s
KIEV Kiev 92.74 321⇑P **P 02 42 04.9 -3.2**
KIEV Kiev 92.74 321⇑P **P 02 42 04.9 -3.2**
FINES FINESS Array B 92.75 332 P **P 02 42 06.4 -1.5**
comp=Z,3.1nm,0.8s,baz=42,slow=5.1,SNR=11
FINES LR LR 03 27 29.9
comp=Z,277nm,20.8s,baz=78,slow=38
comp=Z,3.1nm,0.8s
A36M Sachs Harbour 92.89 17 IAmb IAmb 02 42 10.1
comp=Z,16nm,1.4s
MNK Minsk 92.99 325 *i* P **P 02 42 07.4 -1.7**
comp=E,10.0nm,0.8s
MNK *i* P **P 02 42 07.4 -1.7**
comp=N,15nm,1.2s
MNK *i* P **P 02 42 07.4 -1.7**
comp=Z,9.0nm,1.0s,baz=81
MNK *i* pP **pP 02 42 18.2 -4.5**
MNK *i* PP **PP 02 45 49.1 -3.1**
MNK *i* PPP PPP 02 47 50.6
MNK *i* S **SKSac 02 52 37.6 -1.5**
MNK *i* sS **SKKSac 02 52 59.4 +1.6**
MNK *i* SS **SS 02 59 23.5 -2.7**
MNK *i* SSS SSS 03 03 07.5
MNK *i* LQ LQ 03 18 45.0
MNK *i* LR LR 03 24 01.0
MNK *i* LRM MLR 03 24 50.8
comp=E,304nm,22.9s
MNK *i* LRM MLR 03 25 08.0
comp=N,334nm,22.0s
MNK *i* LRM MLR 03 25 40.5
comp=Z,425nm,24.0s
MNK Minsk 92.99 325 *i* P **P 02 42 07.4 -1.7**
MNK *i* *PP **pP 02 42 18.2 -4.5**
MNK *i* 02 45 49.0
MNK *i* PPP PPP 02 47 50.6
MNK *i* S **SKSac 02 52 37.6 -1.5**
MNK *i* SS **SS 02 59 23.5 -2.7**
MNK *i* SSS SSS 03 03 07.5
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK pmax pmax
comp=Z,9.0nm,1.0s
MNK pmax pmax
comp=N,15nm,1.2s
MNK MLR MLR
comp=E,304nm,23.0s
MNK MLR MLR
comp=N,334nm,22.0s
MNK MLR MLR
comp=Z,425nm,24.0s
TAOE Nuku Hiva Isla 93.38 99 *e*S **S 02 53 14.6 -2.2**
comp=Z,138nm,28.6s
TAOE Nuku Hiva Isla 93.38 99 *e*LR LR 03 12 19.4
comp=Z,1µm,24.2s
NACGM Naroch 93.55 325 *e*P P 02 42 05.8 -6.0
comp=Z,9.0nm,0.9s,baz=80
SORM Soroca 93.64 318⇑P **P 02 42 11.2 -1.1**
SORM Soroca 93.64 318⇑P **P 02 42 11.2 -1.1**
C36M Paulatuk 94.09 20 IAmb IAmb 02 42 14.9
comp=Z,20nm,1.1s
VLDR Vladesti 94.15 316⇓P **P 02 42 16.5 +1.8**
DLBC Dease Lake 94.52 31 LR LR 03 19 24.2
comp=Z,311nm,21.6s,baz=288,slow=32
WTLY Watson Lake, Y 94.75 29 IAmb IAmb 02 42 20.1
comp=Z,38nm,1.3s
TESR Tescani 95.03 317⇓P **P 02 42 18.1 -0.6**
VRI Vrincioaia 95.08 316⇑P **P 02 42 22.1 +3.1**
VRI Vrincioaia 95.08 316⇑P **P 02 42 22.1 +3.1**
VRI Vrincioaia 95.08 316 P **P 02 42 19.3 +0.3**
comp=Z,29nm,1.6s
VRI pP **sP 02 42 38.8 +1.1**
comp=Z,29nm,1.6s
PLOR5 Plostina Array 95.13 316 P **P 02 42 19.6 +0.3**
BISRR Bisoca 95.15 316⇓P **P 02 42 19.4 +0.1**
NEHR Nehoiu 95.45 316⇓P **P 02 42 19.8 -1.0**
TURR Turia 95.54 317⇓P **P 02 42 21.4 +0.3**
MLR Muntele Rosu 95.69 316 IAmb IAmb 02 42 53.0
comp=Z,24nm,1.2s
MLR Muntele Rosu 95.69 316 LR LR 03 32 46.7
comp=Z,253nm,20.7s,baz=72,slow=40
MLR Muntele Rosu 95.69 316⇑P **P 02 42 20.8 -1.2**
BURAR Bucovina Array 95.81 318 P **P 02 42 22.1 -0.3**
BURAR IAmb IAmb 02 42 28.4
comp=Z,16nm,1.1s
BUR08 Bucovina Ar. S 95.82 318 IAmb IAmb 02 42 34.0
comp=Z,11nm,0.9s
DOPR Dopca 95.99 317⇑P **P 02 42 21.7 -1.4**
MBAR Mbarara 96.13 270 P **P 02 42 24.0 -0.7**
comp=Z,2.4nm,0.2s,baz=126,slow=17,SNR=3.8
MBAR LR LR 03 23 09.3
comp=Z,160nm,22.0s,baz=70,slow=34
comp=Z,2.4nm,0.2s
MBAR Mbarara 96.13 270 P **P 02 42 24.0 -0.7**
ELND Elena 96.16 314⇑P **P 02 42 20.8 -3.2**
ARR Arges 96.62 316⇑P **P 02 42 26.4 +0.3**
ELIB Princess Elisa 96.77 198 *d*P **P 02 42 28.1 +1.8**
comp=Z,8.5nm,0.9s
BBB Bella Bella 97.01 37 LR LR 03 18 26.4
comp=Z,198nm,21.6s,baz=280,slow=31
CJR Cluj-Napoca 97.07 318⇓P Pdif 02 42 29.4 +1.2
CJR Cluj-Napoca 97.07 318⇓P Pdif 02 42 29.4 +1.3
CBBR Cluj-Babes-Bol 97.09 318⇓P Pdif 02 42 30.7 +2.5
MARR Marisel-Cluj 97.40 318⇓P **P 02 42 28.7 -0.9**
KOLS Kolonicke sedl 97.47 320 *i* P Pdif 02 42 35.8 +6.0
KOLS Kolonicke sedl 97.47 320 *e*PDIFF Pdif 02 42 35.8 +6.0
DRGR 97.65 318⇑P **P 02 42 30.3 -0.4**
DRGR 97.65 318⇑P **P 02 42 30.3 -0.4**
GZR Gura Zlata 97.90 316⇑P Pdif 02 42 34.0 +2.1
GZR Gura Zlata 97.90 316⇑P Pdif 02 42 34.0 +2.1
IDI Anoyia 98.16 306 LR LR 03 33 30.7
comp=Z,82nm,21.7s,baz=86,slow=40
SIRR Siria 98.47 317⇓P Pdif 02 42 34.6 +0.3
RES Resolute Bay 98.75 10 IAmb IAmb 02 45 48.9
comp=Z,32nm,2.0s
RES Resolute Bay 98.75 10 LR LR 03 32 14.4
comp=Z,59nm,19.8s,baz=346,slow=38
HFS Hagfors 98.94 332 P **P 02 42 35.2 -0.9**
comp=Z,1.5nm,0.7s,baz=88,slow=9.2,SNR=1.7
HFS LR LR 03 31 40.3
comp=Z,332nm,19.3s,baz=70,slow=38
comp=Z,1.5nm,0.7s
NB2 NORSAR Subarra 99.72 334 P **Pdif 02 42 38.0 -1.6**
comp=Z,18nm,1.7s,baz=67,slow=4.6
NB2 NORSAR Subarra 99.72 334 P **Pdif 02 42 38.0 -1.6**
baz=67,slow=4.6
NOA NORSAR Array B 99.72 334 P **Pdif 02 42 38.1 -1.4**
comp=Z,1.0nm,0.6s,baz=66,slow=4.6,SNR=5.3
NOA LR LR 03 32 58.2
comp=Z,301nm,20.4s,baz=55,slow=39
comp=Z,1.0nm,0.6s
VYHS Vyhne 99.78 320 *i* P **Pdif 02 42 45.1 +5.0**
VYHS Vyhne 99.78 320 *e*PDIFF **Pdif 02 42 45.1 +5.0**
MODS Modra-Piesok 100.82 320 *i* P **Pdif 02 42 49.8 +5.1**
MODS Modra-Piesok 100.82 320 *e*PDIFF **Pdif 02 42 49.8 +5.1**
BRG Berggiesshubel 102.09 323 *e*P **Pdif 02 42 57.3 +7.0**
BRG Amp 02 42 59.2
comp=Z,5.1nm,0.9s
BRG Berggiesshubel 102.09 323 *e*P **Pdif 02 42 57.3 +7.0**
BRG pmax pmax
comp=Z,5.0nm,0.9s
NVAR Mina Array Bea 107.47 48 PKKPbc PKKPbc 02 58 40.0 +0.7
comp=Z,0.2nm,0.3s,baz=111,slow=4.1,SNR=3.8
NVAR PKKP **PKKPab 02 58 53.7 +0.2**
comp=Z,1.2nm,0.9s,baz=143,slow=5.3,SNR=5.0
PDAR Pinedale Array 112.01 41 PKiKP **PKiKP 02 47 35.0 +3.5**
comp=Z,0.5nm,0.6s,baz=172,slow=2.5,SNR=5.9
PDAR PKKPbc **PKKPbc 02 58 24.1 -0.8**
comp=Z,0.8nm,0.8s,baz=108,slow=4.8,SNR=5.6
ECSD EROS Data Cent 119.52 35 PKPdf **PKPdf 02 47 43.9 -1.8**
SCHQ Schefferville 121.51 9 PKP **PKiKP 02 47 49.9 +0.6**
comp=Z,5.6nm,0.9s,baz=340,slow=3.2,SNR=3.9
TXAR Lajitas Array 122.10 53 PKP **PKiKP 02 47 52.0 +0.6**
comp=Z,1.4nm,0.8s,baz=218,slow=1.2,SNR=13
TXAR Lajitas Array 122.10 53 PKIKP **PKiKP 02 47 52.0 +0.6**
TORD Torodi Ar. Bea 123.33 288 PKP **PKiKP 02 47 54.0 0.0**
comp=Z,1.9nm,0.7s,baz=67,slow=2.0,SNR=17
TORD PKKPab **PKKPab 02 57 44.7 +1.2**
comp=Z,1.0nm,0.8s,baz=269,slow=3.7,SNR=6.6
P38A Dawn 123.88 37 PKPdf **PKPdf 02 47 54.0 -0.2**
HHAR Hobbs 125.67 41 PKPdf **PKPdf 02 47 56.2 -1.5**
CCM Cathedral Cave 126.25 37 **PKPdf 02 47 58.3 -0.4**

CCM	Cathedral Cave	126.25	37	PKIKP	PKPdf	02 47 58.3	-0.4
WVT	Waverly	129.57	37	PKPdf	PKPdf	02 48 04.4	-0.7
WVT	Waverly	129.57	37	PKIKP	PKPdf	02 48 04.4	-0.7
BI02	San Fabin de	142.34	156	PKPdf	PKPdf	02 48 27.7	-1.2
TRQA	Tornquist	143.94	168	PKPdf	PKPbc	02 48 29.8	+0.3
TRQA	Tornquist	143.94	168	PKIKP	PKPbc	02 48 29.8	+0.4
CHIV	Chivirico	147.88	44	PKPdf	PKPdf	02 48 38.1	-0.6
NMDO	Nuevo Mundo	148.46	42		PKiKP	02 48 45.4	+0.5
LCO	Las Campanas	149.00	149	PKPab	PKiKP	02 48 46.3	+0.2
LCO	Las Campanas	149.00	149	PKP2	PKiKP	02 48 46.3	+0.2
AC04	Llanos de Chal	149.45	148	PKPdf	PKPdf	02 48 40.1	-1.0
PLTB	Pedras Altas	151.13	179	*e*P	PKPdf	02 48 44.5	+0.8
PSAL	Palomas, Salto	151.50	172	*e*P	PKPdf	02 48 44.9	+0.7
CPSB	Cacapava Do Su	152.49	179	*e*P	PKPdf	02 48 45.8	0.0
ITQB	Itaqui	153.02	173	*e*P	PKPdf	02 48 47.2	+0.7
ATAH	Atahualpa	154.48	101	PKP	PKPdf	02 48 50.7	+1.2
	comp=Z,2.6nm,0.6s,baz=252,slow=3.2,SNR=2.2						
OTAV	Otavalo	154.54	84	*e*P	PKPdf	02 48 49.8	+0.1
CPUP	Villa Florida	156.21	171	PKP	PKPdf	02 48 52.0	+1.0
	comp=Z,2.4nm,1.0s,baz=135,slow=2.9,SNR=4.2						
CPUP				PKPab	PKPab	02 49 20.4	+1.7
	comp=Z,6.6nm,0.9s,baz=199,slow=3.9,SNR=5.9						
CPUP	Villa Florida	156.21	171	PKIKP	PKPdf	02 48 52.0	+1.0
AUA1	Aruba	157.42	48	PKPdf	PKPdf	02 48 51.4	-1.5
SLP01	Ubatuba-SP	158.12	200	*e*P	PKPdf	02 48 54.9	+1.3
SDV	Santo Domingo	159.09	56	*e*P	PKPdf	02 48 55.8	+0.6
CZSB	Cruzeiro do Su	159.91	105	*e*P	PKPdf	02 48 58.1	+2.2
LPAZ	La Paz	160.04	133	PKP	PKPdf	02 48 57.9	+1.2
	comp=Z,3.9nm,1.0s,baz=243,slow=4.4,SNR=7.7						
LPAZ				PKPab	PKPab	02 49 36.9	+0.4
	comp=Z,4.9nm,0.8s,baz=198,slow=4.9,SNR=6.8						
LPAZ	La Paz	160.04	133	*e*P	PKPdf	02 48 57.0	+0.2
TBTG	Tabatinga, AM	163.21	95	*e*P	PKPdf	02 49 00.7	+1.3
BBSD	Serra de San D	163.89	153	*e*P	PKPdf	02 49 01.2	+1.4
SIV	San Ignacio	164.70	150	PKP	PKPdf	02 49 01.1	+0.4
	comp=Z,2.5nm,0.9s,baz=250,slow=4.5,SNR=8.6						
SIV				PKPab	PKPab	02 49 56.1	+0.1
	comp=Z,6.7nm,0.8s,baz=192,slow=4.6,SNR=16						
BDFB	Brasília	166.22	201	PKP	PKPdf	02 49 03.2	+1.2
	comp=Z,4.5nm,1.0s,baz=164,slow=6.1,SNR=4.0						
BDFB				PKPab	PKPab	02 50 01.6	-1.1
	comp=Z,3.8nm,0.9s,baz=145,slow=7.1,SNR=4.6						
BOAV	Boa Vista	171.03	55	*e*P	PKPdf	02 49 05.8	+0.7

*IDC **20** 02:35:06.9±1.3, 12°.75S×45°.37E, h0km, mb4.0/3, mbtmp3.9/6, ML3.7/3, MS4.3/1, Error ellipse: s-maj=35.9km s-min=29.1km az=2.0*

ISC 20 02:35:07.0±1.0, 12°.81S±0°.09×45°.2E±0°.1, h10km, n8, σ3°58/10, mb4.2/3, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	6.04	162	Pn	Pn	02 36 37.8	+1.0
	1.1nm,0.3s,baz=334,slow=12,SNR=81						
OPO				Sn	Sn	02 37 40.3	-5.8
	6.6nm,0.3s,baz=35,slow=18,SNR=41						
OPO				LR	LR	02 38 31.3	
	comp=Z,41nm,21.8s,baz=148,slow=34						
	34nm,0.5s						
KMBO	Kilima Mbogo	14.01	325	Pn	Pn	02 38 27.1	+1.1
	0.1nm,0.3s,baz=87,slow=17,SNR=1.9						
KMBO				Sn	Sn	02 40 56.5	-5.4
	0.2nm,0.3s,baz=227,slow=22,SNR=1.6						
	0.5nm,0.5s						
MATP	Matopo	17.67	242	P	P	02 39 17.9	+3.4
	0.1nm,0.3s,baz=75,slow=16,SNR=6.1						
MATP				S	Sn	02 42 29.2	-1.4
	1.4nm,0.8s,baz=82,slow=13,SNR=3.2						
	1.2nm,0.9s						
BOSA	Boshof	24.31	227	P	P	02 40 28.1	+3.0
	3.0nm,0.9s,baz=48,slow=9.5,SNR=5.3						
	3.0nm,0.9s						
ASAR	Alice Springs	83.82	113	P	P	02 47 38.5	+1.1
	1.0nm,0.6s,baz=265,slow=4.9,SNR=9.4						
	1.0nm,0.6s						
WRA	Warramunga Arr	84.95	109	P	P	02 47 43.5	+0.3
	1.6nm,1.0s,baz=260,slow=4.3,SNR=6.2						
	1.6nm,1.0s						
JMIC	Jan Mayen	91.08	345	LR	LR	03 32 02.3	
	comp=Z,140nm,20.6s,baz=60,slow=38						
TXAR	Lajitas Array	146.74	305	PKPbc	PKPab	02 54 51.6	+0.3
	0.4nm,0.7s,baz=101,slow=1.9,SNR=3.8						

*THE **20** 02:37:54.0, 37°.59N×20°.47E, h4km±1km, ML3.7/13, Error ellipse: s-maj=1.2km s-min=0.5km az=42.0*
*ATH **20** 02:37:54.7, 37°.63N×20°.51E, h13km±1km, ML3.7/9, Error ellipse: s-maj=1.9km s-min=0.8km az=53.0*

ISC 20 02:37:53.9±1.5, 37°.60N±0°.04×20°.47E±0°.05, h9km±8km, n48, σ0°63/84, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.29	77	P	Pg	02 38 00.1	+0.5
KRI1				S	Sg	02 38 03.9	+0.4
	23μm,0.3s						
LTHK	Lithakia	0.32	69	P	Pg	02 38 00.4	+0.3
LTHK				S	Sg	02 38 04.9	+0.5
	19μm,0.3s						
LTHK	Lithakia	0.32	69	P	Pg	02 38 00.4	+0.3
LTHK				S	Sg	02 38 04.3	-0.1
LTHK				AML	AML	02 38 06.3	
	comp=E,31074μm,0.2s						
LTHK				AML	AML	02 38 06.4	
	comp=N,42605μm,0.4s						
PSDA	Pessada-Kefalo	0.52	10	P	Pg	02 38 04.2	+0.1
PSDA				S	Sb	02 38 12.0	-0.9
PSDA	Pessada-Kefalo	0.52	10	P	Pg	02 38 04.4	+0.3
PSDA				S	Sg	02 38 11.0	+0.1
RTZL	Ratzakli, Kefa	0.54	27	P	Pg	02 38 04.3	0.0
RTZL				S	Sg	02 38 12.1	+0.8
LXR1	Lixouri, Cepha	0.60	358	P	Pg	02 38 06.1	+0.6
LXR1				S	Sb	02 38 15.3	+0.2
DMLN	Damoulianata-K	0.64	354	P	Pg	02 38 06.7	+0.4
DMLN				S	Sb	02 38 16.2	-0.2
	comp=N,13μm,0.6s						
DMLN	Damoulianata-K	0.64	354	P	Pg	02 38 06.6	+0.2
DMLN				S	Sg	02 38 14.9	+0.1
SMHA	Samh	0.67	12	P	Pg	02 38 06.2	-0.6
SMHA				S	Sg	02 38 15.5	-0.1
VSK1	VASILIKIADES	0.81	5	P	Pg	02 38 09.6	0.0
VSK1				S	Sb	02 38 22.0	+0.8
FSK	Fiskardo	0.86	5	P	Pg	02 38 10.2	-0.3
FSK				S	Sb	02 38 23.2	+0.6
	comp=N,5μm,0.2s						
FSK	Fiskardo	0.86	5	P	Pg	02 38 10.2	-0.3
FSK				S	Sg	02 38 21.4	-0.4
FSK				AML	AML	02 38 23.4	
	comp=N,7259μm,0.3s						
FSK				AML	AML	02 38 24.1	
	comp=E,14432μm,0.3s						
RLS	Riolos of Patr	0.92	60	P	Pg	02 38 11.1	-0.5
RLS				S	Sb	02 38 24.6	+0.4
	comp=E,5μm,0.5s						
RLS	Riolos of Patr	0.92	60	P	Pg	02 38 11.0	-0.5
RLS				S	Sg	02 38 22.6	-0.9
RLS				AML	AML	02 38 25.3	
	comp=E,9657μm,0.5s						
RLS				AML	AML	02 38 25.5	
	comp=N,8940μm,0.4s						
AMT	Artemida-Makis	0.99	93	P	Pg	02 38 12.6	-0.3
AMT				S	Sg	02 38 25.5	-0.4
AMT				AML	AML	02 38 32.2	
	comp=E,17914μm,0.3s						
AMT				AML	AML	02 38 32.7	
	comp=N,22879μm,0.5s						
EVGI	Lefkada island	1.03	8	P	Pg	02 38 13.3	-0.4
EVGI				S	Sb	02 38 28.0	+0.5
	comp=N,7μm,0.3s						
EVGI	Lefkada island	1.03	8	P	Pg	02 38 13.2	-0.5
EVGI				S	Sg	02 38 26.0	-1.2
DRO	Drossia	1.05	70	P	Pg	02 38 13.6	-0.4
DRO				S	Sb	02 38 28.8	+0.8
	comp=N,5μm,0.5s						
DRO	Drossia	1.05	70	P	Pg	02 38 13.4	-0.6
DRO				S	Sg	02 38 26.6	-1.1
DRO				AML	AML	02 38 31.0	
	comp=E,9550μm,0.4s						
DRO				AML	AML	02 38 35.0	
	comp=N,8445μm,0.5s						
AST1	Astakos	1.06	27	P	Pg	02 38 13.8	-0.5
AST1				S	Sn	02 38 29.5	-0.3
	comp=N,5μm,0.8s						

DRAG	Dragano-Lefkad	1.09	5	P	Pg	02 38 14.1	-0.7
DRAG				S	Sn	02 38 30.8	+0.4
DRAG	Dragano-Lefkad	1.09	5	P	Pg	02 38 13.9	-0.9
DRAG				S	Sg	02 38 28.9	-0.1
NYDR	Nydri-Lefkada	1.13	9	P	Pg	02 38 14.9	-0.7
NYDR				S	Sn	02 38 31.9	+0.5
	comp=N,2μm,0.8s						
NYDR	Nydri-Lefkada	1.13	9	P	Pg	02 38 14.8	-0.8
NYDR				S	Sg	02 38 29.9	-0.3
LKD2	Lefkada island	1.20	7	P	Pn	02 38 17.4	+0.6
LKD2				S	Sn	02 38 35.2	+2.0
	comp=N,3μm,0.6s						
LKD2	Lefkada island	1.20	7	P	Pb	02 38 16.5	-0.2
LKD2				S	Sg	02 38 32.0	-0.5
LKD2				AML	AML	02 38 42.4	
	comp=E,6227μm,0.4s						
LKD2				AML	AML	02 38 45.9	
	comp=N,6118μm,0.6s						
TSLK	Tsoukalades, L	1.23	7	P	Pb	02 38 16.8	-0.6
TSLK				S	Sn	02 38 35.2	+1.2
	comp=N,3μm,0.7s						
TSLK	Tsoukalades, L	1.23	7	P	Pb	02 38 16.7	-0.6
TSLK				S	Sb	02 38 33.1	-0.2
ITM	Ithomi	1.24	109	P	Pb	02 38 17.3	-0.1
ITM				S	Sn	02 38 35.5	+1.4
ITM	Ithomi	1.24	109	P	Pb	02 38 17.3	-0.1
ITM				S	Sn	02 38 34.1	0.0
ITM				AML	AML	02 38 45.0	
	comp=E,1818μm,1.2s						
ITM				AML	AML	02 38 47.1	
	comp=N,2929μm,0.7s						
PYL	PYLOS	1.24	124	P	Pn	02 38 16.4	-0.9
PYL	PYLOS	1.24	124	P	Pn	02 38 16.7	-0.6
PYL				S	Sb	02 38 33.5	+0.1
EFP	Efpalio	1.41	54	P	Pn	02 38 19.5	-0.1
EFP				S	Sg	02 38 40.4	+1.3
	comp=N,1μm,0.7s						
EFP	Efpalio	1.41	54	P	Pn	02 38 19.4	-0.3
EFP				S	Sb	02 38 36.5	-1.8
EFP				AML	AML	02 38 46.6	
	comp=N,2828μm,0.7s						
EFP				AML	AML	02 38 52.9	
	comp=E,2597μm,0.7s						
KLV	Kalavryta, Ach	1.41	71	P	Pn	02 38 19.3	-0.4
KLV	Kalavryta, Ach	1.41	71	P	Pn	02 38 19.2	-0.4
ANX	Ano Chora	1.52	49	P	Pn	02 38 21.5	+0.2
ANX				S	Sn	02 38 41.5	+0.3
ANX				AML	AML	02 38 49.0	
	comp=N,6981μm,0.5s						
ANX				AML	AML	02 38 54.7	
	comp=E,5985μm,0.8s						
GUR	Goura	1.52	77	P	Pn	02 38 21.4	0.0
GUR				S	Sg	02 38 43.2	+0.2
	comp=E,2μm,0.6s						
GUR	Goura	1.52	77	P	Pn	02 38 21.5	+0.2
KALE	Kalithea	1.54	59	P	Pn	02 38 21.5	-0.1
KALE	Kalithea	1.54	59	P	Pn	02 38 21.5	-0.1
EVR	Evrytania	1.69	38	P	Pb	02 38 25.1	0.0
IGT	Igoumenitsa	1.93	357	P	Pn	02 38 27.5	+0.6
VLI	Veliai	2.16	113	P	Pb	02 38 33.2	+0.1
VILL	Villia	2.32	75	P	Pn	02 38 33.0	+0.7
OHR	Ohrid	3.52	4	*i* Pn	Pb	02 38 54.9	-1.4
VAY	Valandovo	4.06	23	*i* Pn	Pg	02 39 12.0	+0.4

KRSC 20 03:09:13.8±1.1, 53°.89N×168°.61E, h40km±22km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	2.02	312	*e*P	Pn	03 09 47.1	+1.7
BKI				*e*S	Sn	03 10 12.4	+3.0
KBTR	Krutoberegovo	4.06	307	*e*P	Pn	03 10 17.3	+4.0
SMKR	Semkarok	4.90	306	*e*P	Pn	03 10 28.8	+3.9
KMNR	Kamenistaya	5.19	294	*e*P	Pn	03 10 33.8	+4.8
KMNR				*e*S	Sn	03 11 32.8	+5.3
SPN	Mys Shipunski	5.19	265	*e*P	Pn	03 10 33.1	+4.3
SPN				*e*S	Sn	03 11 31.5	+4.2
KII	Karymskiy	5.41	275	*e*P	Pn	03 10 36.9	+4.9
NLC	Nalytchevo	5.57	266	*e*P	Pn	03 10 38.4	+4.2
SDLR	Sedlovina	5.83	268	*e*P	Pn	03 10 42.3	+4.6
UGLR	Uglovaya	5.88	267	*e*P	Pn	03 10 43.4	+5.1
SMAR	Somma	5.88	268	*e*P	Pn	03 10 43.4	+4.9
KRER	Koryakskii	5.90	268	*e*P	Pn	03 10 43.8	+4.9
AVH	Avacha	5.92	268	*e*P	Pn	03 10 43.8	+4.9
KRX	Arik	5.95	269	*e*P	Pn	03 10 43.9	+4.5
KOK	Koryaka	5.97	268	*e*P	Pn	03 10 44.8	+5.2
RUS	Russkaya	6.25	261	*e*P	Pn	03 10 47.7	+4.3
RUS				*e*S	Sn	03 11 57.8	+4.4
GNL	Ganaly	6.33	273	*e*P	Pn	03 10 50.0	+5.5
KRMR	Karymshinskiy	6.37	265	*e*S	Sn	03 12 01.2	+5.0
MTVR	Mutnovka	6.42	262	*e*P	Pn	03 10 50.8	+4.8
GRL	Gorelyy	6.47	262	*e*P	Pn	03 10 52.4	+5.9
ASAK	Asacha	6.62	261	*e*P	Pn	03 10 53.6	+5.0
KDTR	Khodutka, Kamc	6.71	256	*e*P	Pn	03 10 54.2	+4.5
KDTR				*e*S	Sn	03 12 09.3	+4.5

*NEIC **20** 03:13:16±2.2, 21°.11S±0°.03×68°.69W±0°.10, h144km±9km, mb4.1/3, Error ellipse: s-maj=12.9km s-min=4.1km az=88.0*
*SJA **20** 03:13:17.0, 21°.13S×68°.83W, h135km, ML3.4*
*GUC **20** 03:13:17.1±0.7, 21°.12S×68°.55W, h132km±4km, ML3.4*

ISC 20 03:13:15.1±0.8, 21°.11S±0°.04×68°.66W±0°.08, h148km±8km, n53, σ1°09/66, 1C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	IPOC Station P	0.78	275		Pn	03 13 38.4	+0.3
PB01				Sn	Sn	03 13 54.7	-0.9
PB01	IPOC Station P	0.78	275	‖ *i* P	Pn	03 13 38.2	+0.1
PB01				*i* S	Sn	03 13 55.2	-0.4
PB01				IAML		03 13 57.7	
	comp=E,1μm,0.3s						
PB01	IPOC Station P	0.78	275	*i* P	Pn	03 13 37.9	-0.2
PB09	IPOC Station P	0.87	218		Pn	03 13 39.1	+0.2
PB09				Sn	Sn	03 13 56.7	-0.4
PB09	IPOC Station P	0.87	218	*e*P	Pn	03 13 39.7	+0.8
PB09				*i* S	Sn	03 13 57.0	-0.1
PB09				IAML		03 13 58.7	
	comp=N,785nm,0.2s						
PB09	IPOC Station P	0.87	218	*i* P	Pn	03 13 39.3	+0.4
PB08	IPOC Station P	1.07	334		Pn	03 13 41.5	+0.6
PB08				Sn	Sn	03 13 60.0	-0.4
PB08	IPOC Station P	1.07	334	*e*P	Pn	03 13 41.3	+0.5
PB08				*i* S	Sn	03 13 60.0	-0.4
PB08				IAML		03 14 01.2	
	comp=N,832nm,0.1s						
PB08	IPOC Station P	1.07	334	*i* P	Pn	03 13 40.8	0.0
HMBC	Humberstone	1.42	306		Pn	03 13 44.4	+0.5
PATCX	Punta Patache	1.43	281		Pn	03 13 44.7	+0.8
GO01	Chusmiza	1.52	341		Pn	03 13 46.0	+0.6
GO01	Chusmiza	1.52	341	*e*P	Pn	03 13 45.9	+0.5
GO01				*e*S	Sn	03 14 08.7	+0.3
GO01	Chusmiza	1.52	341	*i* P	Pn	03 13 45.5	+0.2
TA01	Diego Aracena	1.52	291		Pn	03 13 45.7	+0.9
TA01	Diego Aracena	1.52	291	*e*P	Pn	03 13 45.5	+0.7
TA01				*i* S	Sn	03 14 08.0	+0.4
TA01				IAML		03 14 10.1	
	comp=N,319nm,0.4s						
TA01	Diego Aracena	1.52	291	*i* P	Pn	03 13 45.0	+0.2
TA02	Huaiquique	1.61	301		Pn	03 13 46.3	+0.6
TA02	Huaiquique	1.61	301	*e*P	Pn	03 13 47.0	+1.2
TA02				*i* S	Sn	03 14 09.7	+0.4
TA02	Huaiquique	1.61	301	*i* P	Pn	03 13 46.4	+0.6
PB06	IPOC Station P	1.80	208		Pn	03 13 49.1	+1.0
PB06	IPOC Station P	1.80	208	⇑ *i* P	Pn	03 13 49.0	+1.0
PB06				*i* S	Sn	03 14 13.4	+0.1
PB06				IAML		03 14 14.9	
	comp=E,461nm,0.2s						
PB06	IPOC Station P	1.80	208	*i* P	Pn	03 13 48.6	+0.6
PB04	IPOC Station P	1.84	228		Pn	03 13 49.6	+1.1
PB04	IPOC Station P	1.84	228	*e*P	Pn	03 13 49.9	+1.3
PB04				*e*S	Sn	03 14 14.2	0.0
PB04				IAML		03 14 19.6	
	comp=N,479nm,0.3s						
AF01	San Pedro de A	1.88	166		Pn	03 13 50.1	+1.0
AF01	San Pedro de A	1.88	166	*i* P	Pn	03 13 50.5	+1.3
PB15	IPOC Station P	2.22	200		Pn	03 13 54.3	+1.4
PB15	IPOC Station P	2.22	200	*e*P	Pn	03 13 54.0	+1.0
PB15				*i* S	Sn	03 14 22.7	+0.6
PB15	IPOC Station P	2.22	200	*i* P	Pn	03 13 54.4	+1.4
PB12	IPOC Station P	2.94	327	Pn	Pn	03 14 01.7	-0.1
PB12	IPOC Station P	2.94	327	*e*P	Pn	03 14 01.3	-0.5
PB12				*e*S	Sn	03 14 36.4	-1.5
PB12	IPOC Station P	2.94	327	*i* P	Pn	03 14 01.3	-0.5
PB18	Visviri	3.59	347	Pn	Pn	03 14 12.3	+1.8
PB14	IPOC Station P	3.85	204	Pn	Pn	03 14 13.7	0.0
PB14	IPOC Station P	3.85	204	*i* P	Pn	03 14 13.7	0.0
GO02	Mina Guanaco	4.12	192	Pn	Pn	03 14 17.8	+0.6
GO02	Mina Guanaco	4.12	192	*i* P	Pn	03 14 17.4	+0.2
LPAZ	La Paz	4.83	6	Pn	Pn	03 14 28.8	+1.9
LPAZ	La Paz	4.83	6	*i* P	Pn	03 14 29.2	+2.3
AC01	Pan de Azucar	5.32	199	Pn	Pn	03 14 31.9	-0.9
AC06	Mina Casimiro	6.41	194		Pn	03 14 45.8	-1.5
GO03	Copiapo	6.61	192	Pn	Pn	03 14 48.5	-1.5
AC04	Llanos de Chal	7.39	197	Pn	Pn	03 14 57.7	-2.7
AC05	El Transito	7.83	190		Pn	03 15 04.8	-1.6
LCO	Las Campanas	8.08	193	Pn	Pn	03 15 07.2	-2.6
CO01	Juntas del Tor	8.92	188	Pn	Pn	03 15 20.0	-1.1
GO04	Tololo Observa	9.23	192	Pn	Pn	03 15 22.3	-2.8
PTLB	Pontes e Lacer	10.65	60	Pn	Pn	03 15 42.7	-1.2
ITQB	Itaqui	13.81	131	Pn	Pn	03 16 25.8	+1.1
ITAB	Concordia	16.26	115		Pn	03 16 55.0	-0.1
ITAB				IAmb	IAmb	03 17 12.8	
	comp=Z,16nm,1.3s						
MACA	Manacapuru-AM	19.46	25	P	P	03 17 29.9	-0.6
MACA				IAmb	IAmb	03 17 33.8	
	comp=Z,8.8nm,0.8s						
TORD	Torodi Ar. Bea	77.01	70	P	P	03 24 53.6	+1.6
TORD				IAmb	IAmb	03 24 55.1	
	comp=Z,1.1nm,1.0s						

*ATH **20** 03:13:33.1, 37°.52N×20°.70E, h11km±4km, ML2.5/6, Error ellipse: s-maj=5.2km s-min=1.0km az=22.0*
*THE **20** 03:13:34.4, 37°.63N×20°.74E, h8km, ML2.5/3, Error ellipse: s-maj=1.3km s-min=0.5km az=133.0*

ISC 20 03:13:32.9±1.4, 37°.54N±0°.04×20°.71E±0°.05, h10km±8km, n20, σ0°43/33, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.14	36	P	Pg	03 13 36.3	+0.1
KRI1				S	Sg	03 13 37.9	-0.5
	13μm,0.3s						
LTHK	Lithakia	0.19	31	P	Pg	03 13 36.9	0.0
LTHK				S	Sg	03 13 38.9	-0.8
LTHK	Lithakia	0.19	31	P	Pg	03 13 37.0	0.0
LTHK				S	Sg	03 13 40.9	+1.2
LTHK				AML	AML	03 13 43.7	
	comp=N,10962μm,0.5s						
LTHK				AML	AML	03 13 46.1	
	comp=E,13426μm,0.3s						
PSDA	Pessada-Kefalo	0.58	350	P	Pb	03 13 45.2	+0.1
PSDA				S	Sb	03 13 53.7	+0.2
DMLN	Damoulianata-K	0.74	339	P	Pg	03 13 47.1	+0.1
DMLN	Damoulianata-K	0.74	339	P	Pg	03 13 47.5	+0.2
DMLN				S	Sb	03 13 58.3	+0.1
RLS	Riolos of Patr	0.79	49	P	Pg	03 13 47.4	-0.7
RLS				S	Sg	03 13 58.4	0.0
	comp=E,272nm,0.3s						
RLS	Riolos of Patr	0.79	49	P	Pg	03 13 48.4	+0.3
RLS				S	Sg	03 13 58.7	+0.3
RLS				AML	AML	03 13 59.9	
	comp=N,359μm,0.3s						
RLS				AML	AML	03 14 00.5	
	comp=E,733μm,0.4s						
AMT	Artemida-Makis	0.79	91	P	Pg	03 13 48.2	0.0
AMT				S	Sb	03 13 59.8	+0.1
AMT				AML	AML	03 14 03.0	
	comp=E,2750μm,0.3s						
AMT				AML	AML	03 14 03.5	
	comp=N,2128μm,0.3s						
DRO	Drossia	0.89	63	P	Pg	03 13 49.4	-0.7
DRO				S	Sb	03 14 02.6	+0.1
	comp=N,260nm,0.3s						
DRO	Drossia	0.89	63	P	Pg	03 13 49.9	-0.2
DRO				S	Sb	03 14 03.4	+0.9
DRO				AML	AML	03 14 06.1	
	comp=E,536μm,0.5s						
DRO				AML	AML	03 14 06.8	
	comp=N,497μm,0.3s						
FSK	Fiskardo	0.92	353	P	Pg	03 13 50.2	-0.4
FSK	Fiskardo	0.92	353	P	Pg	03 13 50.5	-0.1
FSK				S	Sb	03 14 03.5	+0.2
FSK				AML	AML	03 14 08.6	
	comp=N,132μm,0.3s						
FSK				AML	AML	03 14 09.0	
	comp=E,291μm,0.7s						
ITM	Ithomi	1.04	110	P	Pn	03 13 53.5	0.0
ITM	Ithomi	1.04	110	P	Pg	03 13 52.9	+0.1
ITM				S	Sg	03 14 06.5	+0.3
ITM				AML	AML	03 14 15.1	
	comp=N,158μm,0.4s						
ITM				AML	AML	03 14 15.2	
	comp=E,238μm,0.4s						
PYL	PYLOS	1.05	128	P	Pg	03 13 52.7	-0.3
PYL				S	Sg	03 14 06.8	+0.2
KLV	Kalavryta, Ach	1.25	66	P	Pn	03 13 56.2	-0.3
KLV	Kalavryta, Ach	1.25	66	P	Pn	03 13 56.2	-0.3
EFP	Efpalio	1.29	47	P	Pn	03 13 57.0	0.0
GUR	Goura	1.35	73	P	Pn	03 13 57.4	-0.6

*IDC **20** 03:19:48.0±3.9, 6°.41S×128°.21E, h326km±38km, mb3.2/2, mbtmp3.8/6, Error ellipse: s-maj=49.5km s-min=12.0km az=66.0*
*NEIC **20** 03:19:48.6±0.9, 6°.3S±0°.1×128°.2E±0°.1, h334km±22km, mb4.0/3, Error ellipse: s-maj=19.5km s-min=15.1km az=137.0*

ISC 20 03:19:48.9±1.0, 6°.37S±0°.08×128°.15E±0°.08, h353km, n17, σ1°67/21, mb3.6/3, Banda Sea

| Code | Station Name | Δ

σ1$43/52, mb4.3/25, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.90	189	Pn	Pn	03 28 27.9	-3.5
GUMO	Guam	4.90	189	P	Pn	03 28 34.2	+2.8
	77nm,0.3s,baz=124,slow=14,SNR=4.7						
GUMO				S	Sn	03 29 28.6	-0.6
	80nm,0.3s,baz=8.1,slow=23,SNR=2.1						
JCJ	Chichijima	9.16	340	Pn	Pn	03 29 25.3	-1.2
JHJ2	Mitsune	15.49	341	Pn	Pn	03 30 44.9	-1.6
JMN	Monobe	18.48	328	P	P	03 31 18.8	-0.5
MJAR	Matsushiro Arr	19.16	342	P	Pn	03 31 28.8	-1.1
	1.0nm,0.4s,baz=166,slow=9.1,SNR=4.7						
MANU	Manus Island	20.45	175	P	P	03 31 41.0	+0.4
TPUB	Ta-pu	23.84	286	P	P	03 32 11.9	-1.5
TPUB				IAmb	IAmb	03 32 12.4	
	comp=Z,32nm,1.0s						
KSRS	Korea Array	24.47	324	P	P	03 32 20.9	+2.0
	comp=Z,0.5nm,0.4s,baz=145,slow=8.7,SNR=1.6						
	comp=Z,0.5nm,0.4s						
FAKI	Fak Fak	25.01	213	P	P	03 32 25.6	+1.6
SSE	Sheshan	25.45	304	P	P	03 32 29.1	+1.4
SSE				IAmb	IAmb	03 32 32.5	
	comp=Z,22nm,0.6s						
COEN	Coen	32.31	184	P	P	03 33 28.5	-0.1
COEN				IAmb	IAmb	03 33 29.9	
	comp=Z,8.6nm,0.5s						
MTN	Manton Dam	34.24	206	P	P	03 33 45.7	+0.4
MTN				IAmb	IAmb	03 33 46.0	
	comp=Z,16nm,0.6s						
PETK	Petropavlovsk-	35.83	12	P	P	03 34 00.2	+1.7
PETK	Petropavlovsk-	35.83	12	P	P	03 33 60.0	+1.5
	comp=Z,2.8nm,0.7s,baz=225,slow=5.9,SNR=2.8						
	comp=Z,2.8nm,0.7s						
SBUM	Sibu	36.40	248	P	P	03 34 05.5	+1.7
KNRA	Kununurra	37.78	207	P	P	03 34 15.9	+0.6
KNRA				IAmb	IAmb	03 34 16.5	
	comp=Z,10nm,0.7s						
CTAO	Charters Tower	38.32	179	P	P	03 34 20.2	+0.4
CTAO				IAmb	IAmb	03 34 51.6	
	comp=Z,21nm,1.5s						
WB0	Warramunga Arr	39.56	197	P	P	03 34 30.6	+0.4
WB0				IAmb	IAmb	03 34 32.7	
	comp=Z,5.0nm,0.6s						
WR0	Warramunga Arr	39.71	196	P	P	03 34 31.5	+0.2
WRAB	Tennant Creek	39.73	197	P	P	03 34 32.1	+0.5
WRAB				IAmb	IAmb	03 34 34.2	
	comp=Z,15nm,1.1s						
WB2	Warramunga Arr	39.74	197	P	P	03 34 31.9	+0.3
WB2				IAmb	IAmb	03 34 35.0	
	comp=Z,7.3nm,0.8s						
WRA	Warramunga Arr	39.75	197	P	P	03 34 32.0	+0.3
WRA	Warramunga Arr	39.75	197	P	P	03 34 31.9	+0.3
	comp=Z,4.9nm,0.4s,baz=12,slow=8.5,SNR=57						
WRA				PcP	PcP	03 36 32.8	-1.2
	comp=Z,0.3nm,0.4s,baz=23,slow=4.5,SNR=1.9						
WRA				ScP	ScP	03 40 00.1	-3.8
	comp=Z,0.4nm,0.8s,baz=17,slow=4.2,SNR=2.3						
	comp=Z,4.9nm,0.4s						
FITZ	Fitzroy Crossi	41.31	210	P	P	03 34 45.1	+0.6
SONM	Songino Array	43.29	322	P	P	03 35 00.7	+0.4
	comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=1.5						
	comp=Z,0.3nm,0.5s						
AS31	Alice Springs	43.41	196	P	P	03 35 01.9	+0.5
ASAR	Alice Springs	43.41	196	P	P	03 35 02.0	+0.6
ASAR	Alice Springs	43.41	196	P	P	03 35 01.4	0.0
	comp=Z,1.2nm,0.4s,baz=12,slow=6.7,SNR=24						
ASAR				ScP	ScP	03 40 14.9	-3.5
	comp=Z,0.2nm,0.5s,baz=19,slow=4.7,SNR=4.1						
	comp=Z,1.2nm,0.4s						
KIWB	Kanaga Island	44.29	32	P	P	03 35 08.6	+0.6
MBWA	Marble Bar	46.85	214	P	P	03 35 28.7	+0.3
MBWA				IAmb	IAmb	03 35 58.6	
	comp=Z,44nm,1.6s						
STKA	Stephens Creek	50.20	184	P	P	03 35 53.0	-0.8
	comp=Z,1.9nm,0.7s,baz=1.5,slow=11,SNR=4.4						
	comp=Z,1.9nm,0.7s						
UNV	Unalaska Valle	50.88	34	P	P	03 35 59.0	+0.4
BBOO	Buckleboo	51.80	190	P	P	03 36 06.9	+1.2
BBOO				IAmb	IAmb	03 36 55.9	
	comp=Z,56nm,1.5s						
FALS	False Pass	52.94	34	P	P	03 36 14.2	+0.5
S12K	Black Hills	53.98	34	P	P	03 36 21.3	-0.1
M11K	Mekoryuk	54.01	27	P	P	03 36 23.4	+1.9
MORW	Morawa	55.23	212	P	P	03 36 30.7	+0.1
MORW				IAmb	IAmb	03 37 19.6	
	comp=Z,102nm,1.9s						
M13K	Dall Lake	55.27	28	P	P	03 36 32.6	+2.1
K13K	Kusilvak Mount	55.41	26	P	P	03 36 33.2	+1.7
K13K				IAmb	IAmb	03 37 54.4	
	comp=Z,46nm,1.6s						
O14K	Tigyukauivet M	55.74	30	P	P	03 36 34.1	+0.2
KURBB	Kurchatov Arra	61.45	318	P	P	03 37 14.4	+0.9
	comp=Z,0.3nm,0.4s,baz=96,slow=7.0,SNR=5.5						
	comp=Z,0.3nm,0.4s						
ILAR	Eielson Array	63.88	26	P	P	03 37 28.4	-0.9
	comp=Z,1.5nm,0.7s,baz=250,slow=5.1,SNR=19						
	comp=Z,1.5nm,0.7s						
BVAR	Borovoye Array	66.62	320	P	P	03 37 47.1	+0.1
	comp=Z,0.9nm,0.4s,baz=106,slow=7.5,SNR=7.1						
	comp=Z,0.9nm,0.4s						
NVAR	Mina Array Bea	83.33	52	P	P	03 39 24.1	+0.8
	comp=Z,2.0nm,0.5s,baz=265,slow=6.1,SNR=29						
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	87.07	335	P	P	03 39 38.6	-2.4
	comp=Z,0.4nm,0.3s,baz=50,slow=4.3,SNR=5.9						
PDAR	Pinedale Array	88.03	45	P	P	03 39 46.1	-0.2
	comp=Z,0.5nm,0.4s,baz=207,slow=1.2,SNR=14						
	comp=Z,0.5nm,0.4s						
LPAZ	La Paz	147.73	91	PKPbc	PKiKP	03 46 41.3	-1.5
	comp=Z,0.9nm,0.4s,baz=325,slow=2.8,SNR=4.7						

*CRAAG **20** 03:51:46.8, 35°.66N×0°.34W, Ml2.6, Algerie 09km SE Ben-Freha*
*CNRM **20** 03:51:47.9, 35°.92N×0°.62W, h93km*
*MDD **20** 03:51:48.2±0.8, 35°.83N×0°.43W, h27km±12km, mb_Lg3.2/18, Error ellipse: s-maj=9.0km s-min=4.3km az=150.0*
ISC 20 03:51:46.3±1.1, 35°.84N±0°.04×0°.43W±0°.04, h28km±10km, n48, σ1$25/75, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	Oran	0.14	224	P	Pb	03 51 52.0	+0.3
ODJA	Bouhanifia	0.55	156	P	Pb	03 51 58.0	+0.5
OJBR	Djebel Berber	0.68	112	P	Pb	03 51 59.0	-0.6
CHAS	Isla Isabel II	1.76	249	Pn	Pn	03 52 15.3	+0.4
CART	Cartagena	1.81	345	Pn	Pn	03 52 16.2	+0.7
CART				Sn	Sn	03 52 36.4	-1.1
CART	Cartagena	1.81	345	P	Pn	03 52 16.1	+0.6
CART	Cartagena	1.81	345	S	Sn	03 52 38.4	+0.9
ENIJ	Nijar	1.83	309	Pn	Pn	03 52 16.6	+0.7
ENIJ				Sn	Sn	03 52 37.7	-0.4
ENIJ	Nijar	1.83	309	Pn	Pn	03 52 17.1	+1.2
ENIJ				Sn	Sn	03 52 38.2	0.0
ENIJ				*i* Vmb_Lg		03 52 42.9	
EXMAZ	Mazarron	1.89	338	Pn	Pn	03 52 17.6	+0.8
EXMAZ				Sn	Sn	03 52 40.4	+0.8
TAF	Taforalt	1.92	238	P	Pn	03 52 18.0	+0.8
TAF	Taforalt	1.92	238	S	Sb	03 52 41.8	-2.4
EXTPC	Torre Pacheco	1.95	348	Pn	Pn	03 52 18.0	+0.5
EXTPC				Sn	Sn	03 52 41.9	+0.8
TLOR	Lorca, Murcia	2.08	331	Pn	Pn	03 52 20.0	+0.6
TLOR				Sn	Sn	03 52 44.0	-0.3
TLOR	Lorca, Murcia	2.08	331	Pn	Pn	03 52 19.9	+0.6
TLOR				Sn	Sn	03 52 44.6	+0.3
TLOR	Lorca, Murcia	2.08	331	Pn	Pn	03 52 20.0	+0.6
TLOR				Sn	Sn	03 52 44.4	+0.1
ELOR	Lorca, Murcia	2.09	330	Pn	Pn	03 52 19.6	+0.2
ELOR				Sn	Sn	03 52 44.3	-0.2
ELOR				*i* Vmb_Lg		03 52 47.0	
EMUR	La Murta	2.11	342	Pn	Pn	03 52 20.4	+0.6
EMUR				Sn	Sn	03 52 44.9	-0.1
EMUR	La Murta	2.11	342	Pn	Pn	03 52 20.2	+0.5
EMUR				Sn	Sn	03 52 44.7	-0.3
EMUR				*i* Vmb_Lg		03 52 50.4	
EALB	Alboran	2.12	274	Sn	Sn	03 52 46.4	+1.1
EMLI	Melilla	2.12	256	Sn	Sn	03 52 46.3	+0.9
EMEL	Melilla	2.13	256	Sn	Sn	03 52 45.2	-0.3
GOG	Mont Gurugu	2.18	254	P	Pn	03 52 21.8	+1.0
GOG	Mont Gurugu	2.18	254	S	Sn	03 52 46.9	0.0
ETRV	Los Montesinos	2.20	353	Pn	Pn	03 52 21.8	+0.9
ETRV				*i* Vmb_Lg		03 52 36.2	
ETRV				Sn	Sn	03 52 46.9	-0.2
EZAR	Zarzadilla de	2.27	334	Pn	Pn	03 52 23.4	+1.3
EZAR				Sn	Sn	03 52 47.6	-1.6
EZAR				*i* Vmb_Lg		03 52 55.3	
EXBUL	Bullas, Murcia	2.42	336	Pn	Pn	03 52 25.2	+1.2
ELGU	Los Guajares,	2.78	293	Pn	Pn	03 52 29.9	+0.9
ELGU				Sn	Sn	03 53 01.7	0.0
ELGU	Los Guajares,	2.78	293	Pn	Pn	03 52 29.4	+0.4
ELGU				Sn	Sn	03 53 01.0	-0.7
ELGU				*i* Vmb_Lg		03 53 04.6	
EQTA	Presa de Quent	2.79	300	Pn	Pn	03 52 31.7	+2.5
EQTA				Sn	Sn	03 53 03.8	+1.9
EBEN2	Beniarda presa	2.84	4	Pn	Pn	03 52 30.1	+0.3
EBEN2				Sn	Sn	03 53 02.8	-0.3
EBEN2				*i* Vmb_Lg		03 54 28.8	
AKLM	AKL	3.11	246	P	Pn	03 52 33.1	-0.5
EGOR	Sierra Gorda,	3.23	294	Pn	Pn	03 52 37.5	+2.3
EGOR	Sierra Gorda,	3.23	294	Pn	Pn	03 52 35.5	+0.2
EGOR				*i* Vmb_Lg		03 53 24.9	
EMAL	Malaga-Limoner	3.36	287	Pn	Pn	03 52 37.6	+0.7
EMAL				Sn	Sn	03 53 14.5	-1.4
EVIV	Cofrentes, Val	3.47	351	Pn	Pn	03 52 39.4	+0.9
EVIV				Sn	Sn	03 53 17.2	-1.4
EVIV				*i* Vmb_Lg		03 53 21.0	
EIBI	Ibiza	3.48	23	Pn	Pn	03 52 40.6	+2.0
EIBI				Sn	Sn	03 53 18.3	-0.6
EIBI	Ibiza	3.48	23	Pn	Pn	03 52 39.3	+0.7
EIBI				*i* Vmb_Lg		03 52 40.4	
EIBI				Sn	Sn	03 53 17.4	-1.5
FIGM	Figuig	3.76	191	P	Pn	03 52 44.7	+2.2
EADA	Adamuz	4.06	306	Pn	Pn	03 52 46.9	+0.4
EADA				Sn	Sn	03 53 33.7	+0.6
EADA	Adamuz	4.06	306	Pn	Pn	03 52 48.2	+1.7
EADA				Sn	Sn	03 53 31.4	-1.7
EADA				*i* Vmb_Lg		03 54 06.6	
EMOS	Mosqueruela	4.52	360	Pn	Pn	03 52 55.1	+2.0
EMOS				Sn	Sn	03 53 43.1	-1.6
EMOS				*i* Vmb_Lg		03 55 45.4	
ECAB	El Cabril	4.58	301	Pn	Pn	03 52 55.2	+1.5
ECAB				*i* Vmb_Lg		03 53 43.8	
ECAB				Sn	Sn	03 53 44.2	-1.9
MD31	MD31	4.65	232	P	Pn	03 52 55.9	+1.2
ETOS	Mallorca	4.69	32	Pn	Pn	03 52 56.5	+1.3
ETOS				*i* Vmb_Lg		03 55 25.3	
PAB	San Pablo	4.84	321	Pn	Pn	03 53 00.1	+2.8
PAB				Sn	Sn	03 53 49.9	-2.4
PAB				*i* Vmb_Lg		03 56 04.4	
EPOB	Poblet	5.63	12	Pn	Pn	03 53 09.7	+1.5
EPOB				*i* Vmb_Lg		03 56 35.5	
EBAD	Badajoz	6.00	301	Pn	Pn	03 53 14.9	+1.7
EBAD				Sn	Sn	03 54 17.8	-3.2
EBAD				*i* Vmb_Lg		03 54 32.8	

*IDC **20** 04:08:23.2±1.1, 37°.33N×20°.54E, h0km, mb3.5/8, mbtmp3.5/15, ML3.6/4, MS3.0/1, Error ellipse: s-maj=20.7km s-min=15.8km az=172.0*
*ATH **20** 04:08:25.6, 37°.19N×20°.58E, h13km±2km, ML3.6/7, Error ellipse: s-maj=2.6km s-min=1.1km az=50.0*
*THE **20** 04:08:25.9, 37°.21N×20°.61E, h1km±1km, ML3.5/6, Error ellipse: s-maj=2.0km s-min=0.4km az=234.0*
*NAO **20** 04:08:30.8, 37°.21N×20°.61E, h10km, mb3.5*
ISC 20 04:08:24.9±1.2, 37°.19N±0°.04×20°.55E±0°.03, h10km±8km, n54, σ0$86/79, mb3.4/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.57	24	P	Pg	04 08 36.1	+0.1
LTHK				S	Sg	04 08 43.2	-0.3
	13μm,0.4s						
LTHK	Lithakia	0.57	24	P	Pg	04 08 36.2	+0.2
LTHK				S	Sg	04 08 43.5	0.0
LTHK				AML	AML	04 08 45.2	
	comp=N,28825μm,0.4s						
LTHK				AML	AML	04 08 46.1	
	comp=E,19942μm,0.3s						
RTZL	Ratzakli, Kefa	0.91	11	P	Pg	04 08 42.2	-0.1
RTZL				S	Sb	04 08 55.0	+0.2
PSDA	Pessada-Kefalo	0.93	2	P	Pg	04 08 42.3	-0.4
PSDA				S	Sb	04 08 55.9	+0.5
PSDA	Pessada-Kefalo	0.93	2	P	Pg	04 08 42.3	-0.4
PSDA				S	Sb	04 08 55.8	+0.3
AMT	Artemida-Makis	0.99	69	P	Pb	04 08 44.2	+0.1
AMT				S	Sn	04 08 58.4	-0.5
AMT				AML	AML	04 09 06.0	
	comp=E,22279μm,0.4s						
AMT				AML	AML	04 09 07.5	
	comp=N,21103μm,0.3s						
PYL	PYLOS	1.00	107	P	Pg	04 08 43.5	-0.6
PYL				S	Sg	04 08 57.5	+0.4
PYL	PYLOS	1.00	107	P	Pg	04 08 43.6	-0.5
PYL				S	Sg	04 08 57.2	+0.1
DMLN	Damoulianata-K	1.06	353	P	Pn	04 08 46.0	+0.1
DMLN				S	Sb	04 08 59.6	+0.3
SMHA	Samh	1.07	4	P	Pg	04 08 45.0	-0.4
SMHA				S	Sb	04 08 59.9	+0.4
ITM	Ithomi	1.10	90	P	Pg	04 08 45.9	-0.2
ITM				S	Sg	04 09 00.2	-0.2
	comp=N,2μm,0.6s						
ITM	Ithomi	1.10	90	P	Pg	04 08 46.1	0.0
ITM				S	Sg	04 08 59.8	-0.6
ITM				AML	AML	04 09 04.2	
	comp=N,4189μm,0.4s						
ITM				AML	AML	04 09 11.1	
	comp=E,3970μm,0.5s						
RLS	Riolos of Patr	1.14	40	P	Pg	04 08 46.1	-0.6
RLS				S	Sn	04 09 02.4	-0.1
	comp=E,1μm,0.6s						
RLS	Riolos of Patr	1.14	40	P	Pg	04 08 45.7	-1.0
RLS				S	Sn	04 09 02.6	+0.1
RLS				AML	AML	04 09 09.3	
	comp=N,2426μm,0.7s						
RLS				AML	AML	04 09 09.8	
	comp=E,2598μm,0.8s						
DRO	Drossia	1.20	50	P	Pb	04 08 47.4	-0.3
DRO				S	Sn	04 09 04.2	+0.1
	comp=E,3μm,0.5s						
DRO	Drossia	1.20	50	P	Pb	04 08 47.3	-0.4
DRO				S	Sg	04 09 03.7	+0.2
DRO				AML	AML	04 09 09.2	
	comp=N,5366μm,0.4s						
DRO				AML	AML	04 09 09.6	
	comp=E,6349μm,0.5s						
VSK1	VASILIKIADES	1.22	1	P	Pg	04 08 48.5	+0.2
VSK1				S	Sn	04 09 05.6	+1.0
	comp=E,2μm,0.7s						
FSK	Fiskardo	1.27	1	P	Pb	04 08 48.8	-0.1
FSK				S	Sn	04 09 07.2	+1.4
	comp=E,2μm,1.1s						
FSK	Fiskardo	1.27	1	P	Pb	04 08 48.9	-0.1
FSK				S	Sn	04 09 06.8	+1.0
FSK				AML	AML	04 09 16.1	
	comp=E,3266μm,1.0s						
FSK				AML	AML	04 09 18.0	
	comp=N,3005μm,0.6s						
EVGI	Lefkada island	1.44	3	P	Pb	04 08 51.7	0.0
EVGI	Lefkada island	1.44	3	P	Pb	04 08 51.7	0.0
EVGI				S	Sn	04 09 09.7	-0.2
NYDR	Nydri-Lefkada	1.53	4	P	Pb	04 08 53.3	0.0
NYDR	Nydri-Lefkada	1.53	4	P	Pg	04 08 53.8	-0.4
KLV	Kalavryta, Ach	1.53	56	P	Pb	04 08 53.1	-0.4
LKD2	Lefkada island	1.60	3	P	Pb	04 08 54.1	-0.5
GUR	Goura	1.61	62	P	Pn	04 08 54.0	+0.5
GUR	Goura	1.61	62	P	Pn	04 08 54.0	+0.5
GUR				S	Sn	04 09 14.7	+0.4
GUR				AML	AML	04 09 26.0	
	comp=E,3781μm,0.5s						
GUR				AML	AML	04 09 27.2	
	comp=N,2571μm,0.4s						
EFP	Efpalio	1.64	41	P	Pn	04 08 54.1	+0.3
EFP	Efpalio	1.64	41	P	Pn	04 08 54.3	+0.5
KALE	Kalithea	1.74	46	P	Pn	04 08 55.8	+0.5
KALE				S	Sn	04 09 17.2	-0.4
VLI	Veliai	1.97	103	P	Pn	04 08 59.5	+1.2
VLI				S	Sb	04 09 25.3	-0.2
VLI	Veliai	1.97	103	P	Pb	04 09 00.1	-0.7
VILL	Villia	2.40	65	P	Pn	04 09 04.8	+0.5
THL	Klokotos Trika	2.64	25	P	Pn	04 09 08.6	+1.1
TYRN	Tyrnavos	2.85	27	P	Pn	04 09 11.5	+1.1
OHR	Ohrid	3.92	3	*i* Pn	Pn	04 09 28.4	+3.2
IDI	Anoyia	3.99	117	Pn	Pn	04 09 28.4	+2.3
	comp=N,4.6nm,0.6s,baz=271,slow=5.7,SNR=11						
IDI				Sn	Sn	04 10 15.0	+2.0
	comp=N,4.4nm,0.3s,baz=299,slow=13,SNR=6.3						
VAE	Valguarnera	4.90	275	Pn	Pn	04 09 36.8	-1.9
	comp=N,14nm,0.3s,baz=242,slow=22,SNR=1.8						
VAE				Sn	Sn	04 10 34.6	-0.8
	comp=N,0.1nm,0.3s,baz=204,slow=5.0,SNR=2.1						
NVLJ	Novalja	8.53	332	*e*Pg	Pg	04 11 08.8	+0.7
NVLJ				Sg	Pg	04 11 09.8	+1.7
KEST	Kesra	9.14	264	Pn	Pn	04 10 37.9	+1.0
	comp=N,0.1nm,0.3s,baz=100,slow=18,SNR=1.0						
	comp=N,2.9nm,0.9s						
MLR	Muntele Rosu	9.23	24	Pn	Pn	04 10 36.5	-1.7
	comp=N,3.7nm,1.1s,baz=190,slow=18						
BRTR	Keskin Array B	10.58	72	Pn	Pn	04 10 57.0	+0.4
	comp=N,0.1nm,0.3s,baz=246,slow=11,SNR=2.5						
	comp=N,0.4nm,0.6s						
GERES	GERESS Array B	12.68	339	Pn	Pn	04 11 24.8	-0.5
	comp=N,0.3nm,0.3s,baz=161,slow=16,SNR=2.1						
	comp=N,0.6nm,0.3s						
KBZ	Khabaz	18.19	62	LR	LR	04 21 22.6	
	comp=N,45nm,19.5s,baz=19,slow=43						
ESDC	Sonseca Array	19.35	285	P	P	04 12 49.8	-0.7
	comp=N,0.1nm,0.3s,baz=99,slow=18,SNR=1.7						
	comp=N,0.2nm,0.5s						
HFS	Hagfors	23.38	351	P	P	04 13 33.7	+0.3
	comp=N,2.4nm,0.9s,baz=132,slow=12,SNR=1.3						
	comp=N,2.4nm,0.9s						
FINES	FINESS Array B	24.53	6	P	P	04 13 43.1	-1.2
	comp=N,3.7nm,1.1s,baz=191,slow=14,SNR=3.5						
	comp=N,3.7nm,1.1s						
NB2	NORSAR Subarra	24.59	349	P	P	04 13 45.0	0.0
	comp=Z,0.9nm,0.9s,baz=162,slow=9.3						
NOA	NORSAR Array B	24.59	349	P	P	04 13 43.3	-1.6
	comp=Z,0.5nm,0.8s,baz=169,slow=4.7,SNR=1.8						
	comp=Z,0.5nm,0.8s						
TORD	Torodi Ar. Bea	29.28	220	P	P	04 14 28.0	+0.6
	comp=Z,0.4nm,0.8s,baz=26,slow=11,SNR=1.7						
	comp=Z,0.4nm,0.8s						
BVAR	Borovoye Array	37.75	49	P	P	04 15 39.3	-1.4
	comp=Z,0.2nm,0.3s,baz=267,slow=8.7,SNR=1.6						
	comp=Z,0.2nm,0.3s						
KURBB	Kurchatov Arra	42.81	53	P	P	04 16 21.9	-0.8
	comp=Z,0.2nm,0.3s,baz=276,slow=8.9,SNR=2.3						
	comp=Z,0.2nm,0.3s						
MKAR	Makanchi Array	45.81	58	P	P	04 16 46.4	-0.4
	comp=Z,0.4nm,0.7s,baz=275,slow=5.2,SNR=2.2						
	comp=Z,0.4nm,0.7s						
ZALV	Zalesovo Beam	46.34	47	P	P	04 16 49.6	-1.2
	comp=Z,0.6nm,0.3s,baz=258,slow=5.7,SNR=1.3						
	comp=Z,0.6nm,0.3s						

*JMA **20** 04:10:52.6±0.3, 24°.N±1°.×122°.5E±0°.5, h17km±3km, MV3.1/15, NW OFF ISHIGAKIJIMA IS*
*TAP **20** 04:10:52.7, 24°.06N×122°.47E, h23km, ML3.3, C*
ISC 20 04:10:51.1±1.0, 23°.98N±0°.02×122°.52E±0°.01, h18km±8km, n140, σ0$71/262, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	EOS4	0.23	308	*i* P	Pb	04 10 57.4	+0.7
EOS4				*i* S	Sb	04 11 00.9	+0.5
EOS3	EOS3	0.36	329	P	Pb	04 10 60.0	+1.0
EOS3				S	Sb	04 11 05.2	+1.0
EOS2	EOS2	0.52	329	*e*P	Pn	04 11 03.0	-0.5
EOS2				*e*S	Sn	04 11 10.4	-1.4
JYNG	Yonagunijimaku	0.61	39	*e*P	Pn	04 11 04.1	-0.9
JYNG				*e*S	Sb	04 11 12.1	+0.5
YOJ	Yonaguni jima	0.66	43	P	Pn	04 11 05.5	-0.1
YOJ	Yonaguni jima	0.66	43	*e*P	Pn	04 11 05.4	-0.1
YOJ				*e*S	Sb	04 11 13.8	+0.8
YOJ	Yonaguni jima	0.66	43	*e*P	Pn	04 11 05.6	+0.1
YOJ				*e*S	Sn	04 11 14.2	-1.3
EHP	Heping Village	0.79	295	*e*P	Pn	04 11 06.9	-0.5
EAHA	Aohua	0.80	296	*e*P	Pg	04 11 06.8	+0.2
EAHA				*e*S	Sb	04 11 16.9	0.0
EWUT	Wuta	0.82	305	*i* P	Pg	04 11 07.0	-0.2
EWUT				*e*S	Sb	04 11 16.8	-0.9
HWA	Hwalien	0.84	270	*e*P	Pn	04 11 08.5	+0.5
HWA				*e*S	Sn	04 11 20.6	+0.7
ETL	Fush Village	0.84	283	*e*P	Pn	04 11 08.6	+0.5
ETL				*e*S	Sn	04 11 20.2	+0.2
ENA	Nanau	0.84	303	*e*P	Pb	04 11 07.2	0.0
ENA				*i* S	Sg	04 11 18.3	-0.4
TEYL	Yanliau Villag	0.85	263	*e*P	Pn	04 11 09.2	+1.0
TEYL				*e*S	Sn	04 11 21.9	+1.7
TWD	Chiawan	0.85	277	P	Pg	04 11 07.6	-0.1
TWD				*e*S	Sg	04 11 19.2	+0.3
ESAO	Su ao	0.86	314	*e*P	Pg	04 11 07.6	-0.2
ESAO				*e*S	Sb	04 11 18.3	-0.4
NACB	Ninganchiao	0.87	283	P	Pg	04 11 08.0	0.0
NACB	Ninganchiao	0.87	283	*e*P	Pg	04 11 08.2	+0.2
NACB				*e*S	Sn	04 11 21.4	+0.7
TWC	Suao	0.88	316	*i* P	Pb	04 11 07.8	-0.1
TWC				*e*S	Sb	04 11 18.2	-1.1
SHUL	Shoufeng	0.90	258	*e*P	Pg	04 11 08.7	+0.2
SHUL				*e*S	Sn	04 11 21.4	+0.1
TEGC	Jichi Village	0.94	254	*e*P	Pn	04 11 10.7	+1.3
TEGC				*e*S	Sn	04 11 22.4	0.0
ETM	Tongmen	0.94	270	P	Pb	04 11 08.9	0.0
ETM				S	Sg	04 11 21.5

YULB	**Yu-li**	**1.26 243**	*i* P	**Pn**	**04 11 13.9**	**0.0**
YULB			*e*S	**Sb**	**04 11 29.4**	**-0.9**
EYUL	**Yuli**	**1.27 241**	P	**Pb**	**04 11 14.6**	**+0.2**
EYUL			*e*S	**Sb**	**04 11 30.3**	**-0.1**
NSK	**Sanguang**	**1.27 304**	*e*P	**Pg**	**04 11 15.1**	**-0.5**
NSK			*i* S	**Sb**	**04 11 30.3**	**-0.3**
TDCB	**Techi**	**1.27 283**	*e*P	**Pg**	**04 11 15.2**	**-0.6**
TDCB			*e*S	**Sn**	**04 11 31.4**	**+0.5**
TWF1	**Yuli**	**1.28 241**	*e*P	**Pn**	**04 11 14.2**	**0.0**
TWF1			S	**Sb**	**04 11 31.2**	**+0.3**
VWDT	**VWDT**	**1.28 260**	P	**Pn**	**04 11 14.5**	**+0.4**
VWDT			S	**Sb**	**04 11 30.6**	**-0.2**
NWF	**Wu-fen Shan**	**1.28 328**	*e*P	**Pg**	**04 11 15.7**	**-0.2**
NWF			S	**Sn**	**04 11 31.0**	**-0.1**
WFSB	**Wu-fen Shan**	**1.28 328**	*e*P	**Pg**	**04 11 15.8**	**-0.1**
WFSB			*i* S	**Sn**	**04 11 31.3**	**+0.4**
WUSB	**Renai**	**1.28 271**	*e*P	**Pg**	**04 11 15.9**	**+0.1**
WUSB			S	**Sn**	**04 11 31.6**	**+0.5**
CHKH	**Chenggong**	**1.29 233**	P	**Pb**	**04 11 15.2**	**+0.3**
CHKH			*e*S	**Sb**	**04 11 28.8**	**-2.4**
TWA	**Mucha**	**1.31 320**	*e*P	**Pn**	**04 11 13.3**	**-1.3**
TWA			*e*S	**Sb**	**04 11 29.9**	**-2.0**
FULB	**Fuli**	**1.36 236**	*e*P	**Pn**	**04 11 14.3**	**-1.0**
FULB			*e*S	**Sn**	**04 11 31.6**	**-1.4**
TATO	**Taipei**	**1.37 317**	P	**Pg**	**04 11 17.8**	**+0.3**
TATO	**Taipei**	**1.37 317**	*e*P	**Pg**	**04 11 17.8**	**+0.3**
TATO			*e*S	**Sb**	**04 11 33.7**	**+0.3**
CHKT	**Chengkung**	**1.37 231**	*e*P	**Pn**	**04 11 15.4**	**+0.1**
CHKT			*e*S	**Sn**	**04 11 31.6**	**-1.5**
JKRS	**Kuro-shima**	**1.39 79**	*e*P	**Pg**	**04 11 18.6**	**+0.7**
JKRS			*e*S	**Sg**	**04 11 36.5**	**+0.6**
NFF	**Wufeng Townshi**	**1.44 297**	*e*P	**Pg**	**04 11 18.5**	**-0.3**
NFF			*e*S	**Sg**	**04 11 38.3**	**+0.7**
SSLB	**Suanglung**	**1.45 263**	P	**Pb**	**04 11 17.5**	**0.0**
SSLB	**Suanglung**	**1.45 263**	*e*P	**Pb**	**04 11 17.3**	**-0.2**
SSLB			S	**Sn**	**04 11 34.7**	**-0.3**
NWRT	**Kuosheng**	**1.45 328**	P	**Pn**	**04 11 16.8**	**+0.3**
NWRT			*e*S	**Sn**	**04 11 34.2**	**-0.8**
YM01	**YM01**	**1.45 324**	*e*P	**Pg**	**04 11 19.5**	**+0.4**
YM01			*e*S	**Sg**	**04 11 36.7**	**-1.4**
DPDB	**Guoxing**	**1.46 273**	P	**Pb**	**04 11 17.4**	**-0.4**
DPDB			*e*S	**Sb**	**04 11 37.2**	**+1.2**
KSHI	**Guanxi Townshi**	**1.46 303**	*e*P	**Pg**	**04 11 19.3**	**0.0**
KSHI			*e*S	**Sb**	**04 11 36.7**	**+0.6**
WHP	**Taichung City**	**1.47 282**	*e*P	**Pg**	**04 11 19.2**	**-0.2**
WHP			S	**Sb**	**04 11 36.5**	**+0.2**
WCS	**Beigang Elemen**	**1.47 274**	*e*P	**Pb**	**04 11 18.0**	**0.0**
WCS			*e*S	**Sg**	**04 11 38.1**	**-0.6**
YM08	**YM08**	**1.48 325**	*e*P	**Pg**	**04 11 19.6**	**+0.1**
YM08			*e*S	**Sb**	**04 11 36.8**	**+0.3**
ZUZH	**Zhuzihu**	**1.48 323**	*e*P	**Pg**	**04 11 18.5**	**+0.4**
ZUZH			*e*S	**Sb**	**04 11 36.6**	**0.0**
ECS	**Chishang**	**1.48 234**	P	**Pb**	**04 11 18.4**	**+0.3**
ECS			S	**Sn**	**04 11 36.5**	**+0.7**
SMLT	**Sun Moon Lake**	**1.48 267**	*e*P	**Pn**	**04 11 16.8**	**-0.2**
SMLT			S	**Sb**	**04 11 37.0**	**+0.2**
EDH	**Donghe**	**1.50 228**	*e*P	**Pn**	**04 11 17.2**	**+0.1**
EDH			*e*S	**Sn**	**04 11 34.6**	**-1.6**
TWS1	**Kuangyinshan**	**1.50 318**	P	**Pn**	**04 11 17.6**	**+0.4**
TWS1			*e*S	**Sb**	**04 11 37.3**	**0.0**
ANP	**Anpu**	**1.51 323**	*e*P	**Pn**	**04 11 17.5**	**+0.1**
ANP			*e*S	**Sn**	**04 11 35.0**	**-1.7**
TYC	**Yuchr**	**1.52 268**	P	**Pn**	**04 11 18.1**	**+0.7**
TYC			*e*S	**Sb**	**04 11 38.0**	**+0.2**
LIOB	**Emei**	**1.53 296**	*e*P	**Pg**	**04 11 20.0**	**-0.5**
LIOB			S	**Sn**	**04 11 37.0**	**0.0**
JIJ	**Ishigaki jima**	**1.53 75**	*e*P	**Pg**	**04 11 20.0**	**-0.6**
JIJ			*e*S	**Sg**	**04 11 39.8**	**-0.8**
NSTT	**Nanjuang**	**1.53 296**	*e*P	**Pg**	**04 11 19.8**	**-0.8**
NSTT			*e*S	**Sb**	**04 11 39.0**	**+0.8**
NTST	**Danshui**	**1.53 321**	P	**Pn**	**04 11 18.2**	**+0.6**
NTST			*e*S	**Sb**	**04 11 39.0**	**+0.9**
TWY	**Chenhua**	**1.54 327**	*e*S	**Sb**	**04 11 38.5**	**+0.1**
WHYT	**Xinyi Township**	**1.55 260**	*e*P	**Pb**	**04 11 19.1**	**-0.3**
NCUH	**Zhongli**	**1.57 309**	P	**Pb**	**04 11 19.0**	**-0.6**
NCUH			*e*S	**Sg**	**04 11 42.5**	**+0.8**
ELDTW	**Lidau**	**1.58 241**	*e*P	**Pn**	**04 11 18.9**	**+0.4**
ELDTW			*e*S	**Sn**	**04 11 37.2**	**-1.3**
LDUT	**Ludao**	**1.62 217**	*e*P	**Pn**	**04 11 18.2**	**-0.5**
ALS	**Alishan**	**1.64 254**	P	**Pn**	**04 11 20.1**	**+0.8**
ALS			S	**Sn**	**04 11 40.7**	**+0.6**
TWQ1	**Liyutan**	**1.64 283**	P	**Pb**	**04 11 20.6**	**-0.2**
TWQ1			*e*S	**Sn**	**04 11 40.5**	**+0.8**
WJS	**Zhushan**	**1.65 265**	*e*P	**Pg**	**04 11 22.4**	**-0.4**
WJS			S	**Sb**	**04 11 41.3**	**-0.2**
LONT	**Longtian**	**1.66 230**	*e*P	**Pn**	**04 11 18.9**	**-0.5**
LONT			*e*S	**Sn**	**04 11 40.1**	**-0.2**
WWF	**Wufeng**	**1.67 273**	*e*P	**Pb**	**04 11 21.5**	**+0.2**
WWF			*e*S	**Sb**	**04 11 41.8**	**-0.2**
WNT	**Mingjian**	**1.68 267**	P	**Pb**	**04 11 21.3**	**-0.2**
WNT			*e*S	**Sb**	**04 11 42.3**	**-0.2**
WNT1	**Nantou City**	**1.69 268**	P	**Pb**	**04 11 21.2**	**-0.4**
WNT1			*e*S	**Sg**	**04 11 46.8**	**+1.3**
PCYT	**Pengchaiyu**	**1.70 346**	*e*P	**Pb**	**04 11 21.6**	**-0.2**
PCYT			*e*S	**Sn**	**04 11 40.3**	**-0.8**
JISG	**Ishigakijimahi**	**1.74 69**	*e*P	**Pb**	**04 11 23.1**	**+0.5**
JISG			*e*S	**Sb**	**04 11 44.0**	**-0.2**
TWGBT	**Beinan**	**1.75 229**	P	**Pb**	**04 11 22.1**	**-0.7**
TWGBT	**Beinan**	**1.75 229**	*e*P	**Pn**	**04 11 21.9**	**+1.2**
TWGBT			*e*S	**Sn**	**04 11 41.6**	**-0.9**
TWG	**Pinlang**	**1.76 229**	*e*P	**Pn**	**04 11 21.1**	**+0.4**
TWG			*e*S	**Sn**	**04 11 41.6**	**-1.0**
STYH	**Taoyuan**	**1.79 244**	*e*P	**Pb**	**04 11 23.1**	**-0.2**
STYH			*i* S	**Sn**	**04 11 43.7**	**+0.3**
WGK	**Gukeng**	**1.82 261**	P	**Pn**	**04 11 22.7**	**+1.2**
WGK			*e*S	**Sg**	**04 11 49.1**	**-0.5**
WCKO	**Fanlu**	**1.83 253**	*e*P	**Pb**	**04 11 24.8**	**+0.6**
WCKO			*e*S	**Sb**	**04 11 47.0**	**+0.2**
WDLH	**Douliu**	**1.84 261**	P	**Pn**	**04 11 23.0**	**+1.2**
WDLH			*e*S	**Sb**	**04 11 48.0**	**+1.1**
TPUB	**Ta-pu**	**1.86 249**	P	**Pb**	**04 11 23.9**	**-0.7**
TPUB	**Ta-pu**	**1.86 249**	*e*P	**Pb**	**04 11 24.6**	**0.0**
TPUB			*e*S	**Sb**	**04 11 47.3**	**-0.2**
CHN4	**Tsaushan**	**1.87 251**	*e*P	**Pb**	**04 11 24.7**	**-0.1**
CHN4			*e*S	**Sb**	**04 11 48.5**	**+0.6**
WTP	**Ta-pu**	**1.89 248**	*e*P	**Pb**	**04 11 25.7**	**+0.5**
WTP			*e*S	**Sb**	**04 11 49.3**	**+0.7**
WTK	**Tuku**	**1.97 262**	*e*P	**Pb**	**04 11 26.7**	**+0.2**
WTK			*e*S	**Sb**	**04 11 51.2**	**+0.4**
RLNB	**Erlin**	**1.98 268**	P	**Pb**	**04 11 25.7**	**-0.9**
RLNB			*e*S	**Sn**	**04 11 48.9**	**+0.8**
SGST	**Jiashian**	**1.99 244**	*e*P	**Pb**	**04 11 26.7**	**-0.1**
SGST			*e*S	**Sb**	**04 11 50.6**	**-0.7**
CHN1	**Nanshi**	**1.99 247**	*e*S	**Sb**	**04 11 52.2**	**+0.9**
TWK	**Hsinying**	**1.99 250**	*e*P	**Pb**	**04 11 26.1**	**-0.7**
TWK			*e*S	**Sb**	**04 11 52.1**	**+0.7**
SNST	**Tainan City**	**2.00 248**	*e*P	**Pb**	**04 11 27.0**	**0.0**
SNST			*e*S	**Sb**	**04 11 51.2**	**-0.4**
JTJ	**Tarama**	**2.10 71**	*e*P	**Pb**	**04 11 28.2**	**-0.5**
JTJ			*e*S	**Sb**	**04 11 54.5**	**+0.1**
SSD	**Sandimen**	**2.12 235**	*e*P	**Pb**	**04 11 28.9**	**-0.2**
SSD			*e*S	**Sb**	**04 11 54.9**	**-0.2**
TSMG	**Majia**	**2.14 234**	*e*P	**Pb**	**04 11 30.2**	**+0.9**
TSMG			*e*S	**Sb**	**04 11 56.0**	**+0.5**
LYUB	**Lan-yu**	**2.15 204**	*e*P	**Pn**	**04 11 25.6**	**-0.4**
MASBT	**Mashibuluo**	**2.20 232**	P	**Pn**	**04 11 28.7**	**+1.9**
MASBT			*e*S	**Sb**	**04 11 57.6**	**+0.2**
EAST	**Anshuo**	**2.21 224**	*e*P	**Pb**	**04 11 29.6**	**-0.9**
TAWH	**Dawu Township**	**2.21 223**	P	**Pn**	**04 11 28.7**	**+1.7**
TAWH			*e*S	**Sn**	**04 11 52.9**	**-1.0**
SLIU	**Shizi**	**2.36 222**	*e*P	**Pb**	**04 11 32.4**	**-0.7**
SLIU			*e*S	**Sb**	**04 12 00.7**	**-1.3**
SCZT	**Fangliau**	**2.37 228**	*e*P	**Pb**	**04 11 33.0**	**-0.2**
SCZT			*e*S	**Sb**	**04 12 01.7**	**-0.4**
TSCK	**Chigu Township**	**2.38 250**	*e*P	**Pb**	**04 11 31.9**	**-1.5**
TSCK			*e*S	**Sn**	**04 11 59.1**	**+1.1**
TWKBT	**Hengchun**	**2.56 218**	P	**Pb**	**04 11 34.5**	**-2.1**
TWKBT			*e*S	**Sn**	**04 12 03.2**	**+0.6**
PHUB	**P'eng-hu**	**2.74 261**	P	**Pn**	**04 11 35.5**	**+1.3**
PHUB			S	**Sn**	**04 12 07.6**	**+0.7**
PNG	**Penghu**	**2.75 262**	P	**Pn**	**04 11 36.0**	**+1.7**
PNG			S	**Sn**	**04 12 08.2**	**+1.1**
VWUC	**VWUC**	**2.98 291**	*e*P	**Pn**	**04 11 38.1**	**+0.7**
VWUC			*e*S	**Sn**	**04 12 11.9**	**-0.8**
MATB	**Ma-tsu**	**3.19 313**	*e*S	**Sn**	**04 12 16.9**	**-1.0**
PTMZ	**Houxiangcun**	**3.27 290**	*e*P	**Pn**	**04 11 42.8**	**+1.3**
PTMZ			*e*S	**Sn**	**04 12 18.9**	**-1.2**
XPSS	**Dashiqiu**	**3.62 325**	*e*P	**Pn**	**04 11 47.4**	**+1.2**
XPSS			S	**Sn**	**04 12 28.6**	**+0.1**
MHZQ	**Yeshan**	**3.81 304**	*e*S	**Sn**	**04 12 31.3**	**-1.9**

*NOU **20** 04:22:17.2, 36.′95S×178.′77E, h180km, mb4.0/8, Off E. Coast of N. Island, N.Z.*
*WEL **20** 04:22:31.9±0.7, 37.°S±4.′×17.°8E±.′, h53km±8km, M3.1/18, ML3.3/20, MLv3.1/18, Error ellipse: s-maj=5.8km s-min=3.7km az=45.4, confirmed*
ISC 20 04:22:30.7±1.9, 37.′26S±0.′07×177.′81E±0.′05, h83km±11km, n91, σ0.′97/109, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.50**	**182**	P	**Pn**	**04 22 44.1**	**-0.6**
HAZ				S	**Sn**	**04 22 54.4**	**-0.7**
MXZ	**Matakaoa Point**	**0.50**	**127**	P	**Pn**	**04 22 44.2**	**-0.5**
MXZ				S	**Sn**	**04 22 56.2**	**+1.0**
MXZ	**Matakaoa Point**	**0.50**	**127**	P	**Pn**	**04 22 44.0**	**-0.8**
WIZ	**White Island**	**0.56**	**241**	P	**Pn**	**04 22 44.6**	**-0.6**
WSRZ	**White Island S**	**0.56**	**243**	P	**Pn**	**04 22 44.7**	**-0.7**
WSRZ				S	**Sn**	**04 22 55.6**	**-0.6**
RUGZ	**Raukumara Rang**	**0.71**	**188**	P	**Pn**	**04 22 46.2**	**-0.7**
RUGZ				S	**Sn**	**04 22 58.1**	**-0.8**
WMGZ	**Waiomatatini S**	**0.74**	**139**	P	**Pn**	**04 22 47.6**	**+0.6**
WMGZ				S	**Sn**	**04 23 00.9**	**+1.8**
PUZ	**Puketiti**	**0.89**	**156**	P	**Pn**	**04 22 49.3**	**+0.6**
PUZ				S	**Sn**	**04 23 02.7**	**+0.7**
WHRZ	**Whale Island**	**0.89**	**228**	P	**Pn**	**04 22 49.0**	**+0.3**
TWGZ	**Tauwhareparae**	**0.93**	**172**	P	**Pn**	**04 22 50.1**	**+1.0**
TWGZ				S	**Sn**	**04 23 05.5**	**+2.5**
MWZ	**Matawai**	**1.10**	**192**	P	**Pn**	**04 22 51.3**	**+0.1**
MWZ				S	**Sn**	**04 23 06.1**	**-0.3**
URZ	**Urewera**	**1.14**	**209**	P	**Pn**	**04 22 51.7**	**0.0**
URZ				S	**Sn**	**04 23 07.2**	**-0.1**
URZ	**Urewera**	**1.14**	**209**	P	**Pn**	**04 22 51.5**	**-0.1**
OPRZ	**Ohinepanea**	**1.15**	**239**	P	**Pn**	**04 22 51.7**	**-0.1**
OPRZ				S	**Sn**	**04 23 07.9**	**+0.3**
TKGZ	**Te Karaka**	**1.18**	**178**	P	**Pn**	**04 22 52.5**	**+0.4**
EDRZ	**Edgecumbe**	**1.20**	**225**	P	**Pn**	**04 22 52.5**	**+0.1**
CNGZ	**Carnagh Statio**	**1.26**	**166**	P	**Pn**	**04 22 53.7**	**+0.6**
RAGZ	**Rawiri**	**1.27**	**194**	P	**Pn**	**04 22 54.1**	**+0.7**
RAGZ				S	**Sn**	**04 23 12.1**	**+1.7**
TGRZ	**Tauranga**	**1.32**	**249**	P	**Pn**	**04 22 54.7**	**+0.9**
TGRZ				S	**Sn**	**04 23 11.4**	**+0.2**
LIRZ	**Lichensteins R**	**1.35**	**236**	P	**Pn**	**04 22 54.6**	**+0.3**
MKRZ	**Makatiti**	**1.38**	**230**	P	**Pn**	**04 22 55.6**	**+1.0**
OMRZ	**Omania**	**1.42**	**233**	P	**Pn**	**04 22 55.4**	**+0.3**
TARZ	**Mount Tarawera**	**1.42**	**226**	P	**Pn**	**04 22 55.8**	**+0.6**
RIGZ	**Rimuhau**	**1.45**	**181**	P	**Pn**	**04 22 55.5**	**0.0**
RIGZ				S	**Sn**	**04 23 14.2**	**0.0**
KARZ	**Kaharoa**	**1.46**	**238**	P	**Pn**	**04 22 55.7**	**+0.1**
MUGZ	**Murupara**	**1.47**	**214**	P	**Pn**	**04 22 55.9**	**+0.2**
MUGZ				S	**Sn**	**04 23 14.6**	**-0.1**
RRRZ	**Republican Roa**	**1.49**	**223**	P	**Pn**	**04 22 56.4**	**+0.3**
RTZ	**Ruatahuna**	**1.50**	**206**	P	**Pn**	**04 22 56.4**	**+0.1**
HLRZ	**Highlands Stat**	**1.52**	**229**	P	**Pn**	**04 22 55.6**	**-0.9**
SNGZ	**Shannon Statio**	**1.56**	**194**	P	**Pn**	**04 22 57.3**	**+0.3**
HSRZ	**Hossack Road**	**1.62**	**229**	P	**Pn**	**04 22 59.0**	**+1.3**
PRGZ	**Paritu Road**	**1.66**	**178**	P	**Pn**	**04 22 57.9**	**-0.4**
PRGZ				S	**Sn**	**04 23 19.0**	**-0.2**
PRRZ	**Plateau Road**	**1.67**	**222**	P	**Pn**	**04 22 58.7**	**+0.4**
ALRZ	**Allen Road**	**1.74**	**221**	P	**Pn**	**04 22 59.9**	**+0.5**
KUZ	**Kuaotunu**	**1.75**	**286**	P	**Pn**	**04 22 59.1**	**-0.2**
KUZ				S	**Sn**	**04 23 20.1**	**-1.0**
KUZ	**Kuaotunu**	**1.75**	**286**	P	**Pn**	**04 22 59.2**	**-0.2**
RAHZ	**Arahi**	**1.75**	**199**	P	**Pn**	**04 22 59.8**	**+0.4**
KNZ	**Kokohu**	**1.76**	**183**	P	**Pn**	**04 22 58.9**	**-0.6**
KNZ				S	**Sn**	**04 22 21.2**	**-0.2**
MTHZ	**Maungataniwha**	**1.76**	**205**	P	**Pn**	**04 22 60.0**	**+0.3**
WPRZ	**Whakapapatarin**	**1.81**	**225**	P	**Pn**	**04 23 01.2**	**+1.0**
WHHZ	**Waihua**	**1.87**	**194**	P	**Pn**	**04 23 01.1**	**+0.1**
MHGZ	**Mahia Peninsul**	**1.89**	**178**	P	**Pn**	**04 23 00.9**	**-0.4**
MHGZ				S	**Sn**	**04 23 24.2**	**-0.3**
TOZ	**Tahuroa Road**	**1.89**	**255**	P	**Pn**	**04 23 01.5**	**+0.2**
TOZ				S	**Sn**	**04 23 23.4**	**-1.1**
MRHZ	**Matea Rd**	**1.92**	**214**	P	**Pn**	**04 23 02.0**	**+0.3**
NMHZ	**Naumai**	**2.00**	**203**	P	**Pn**	**04 23 03.3**	**+0.5**
TLZ	**Tolley Road**	**2.09**	**239**	P	**Pn**	**04 23 04.2**	**+0.3**
ARHZ	**Aropaoanui**	**2.10**	**197**	P	**Pn**	**04 23 03.8**	**-0.2**
MKAZ	**Moumakai**	**2.12**	**273**	P	**Pn**	**04 23 04.5**	**+0.2**
MKAZ				S	**Sn**	**04 23 29.2**	**-0.6**
GRZ	**Great Barrier**	**2.14**	**297**	P	**Pn**	**04 23 04.7**	**+0.1**
BKZ	**Black Stump Fm**	**2.17**	**208**	P	**Pn**	**04 23 04.8**	**-0.2**
BKZ	**Black Stump Fm**	**2.17**	**208**	P	**Pn**	**04 23 04.8**	**-0.2**
WATZ	**Wairara**	**2.19**	**228**	P	**Pn**	**04 23 06.1**	**+0.9**
WIAZ	**Waiheke Island**	**2.19**	**281**	P	**Pn**	**04 23 05.5**	**+0.3**
RATZ	**Rangitukua**	**2.27**	**224**	P	**Pn**	**04 23 07.3**	**+0.9**
RITZ	**Rihia Road**	**2.30**	**221**	P	**Pn**	**04 23 07.9**	**+1.1**
ETAZ	**East Tamaki Re**	**2.32**	**277**	P	**Pn**	**04 23 07.6**	**+0.6**
MCHZ	**McNeill Hill**	**2.35**	**201**	P	**Pn**	**04 23 07.0**	**-0.3**
MBAZ	**Motutapu North**	**2.38**	**281**	P	**Pn**	**04 23 08.3**	**+0.6**
KATZ	**Kakaramea**	**2.39**	**224**	P	**Pn**	**04 23 09.3**	**+1.3**
KWHZ	**Kaweka Forest**	**2.42**	**206**	P	**Pn**	**04 23 07.9**	**-0.4**
CKHZ	**Cape Kidnapper**	**2.46**	**193**	P	**Pn**	**04 23 06.8**	**-2.1**
TMVZ	**Te Maari**	**2.49**	**221**	P	**Pn**	**04 23 09.9**	**+0.6**
NTVZ	**North Tongarir**	**2.49**	**222**	P	**Pn**	**04 23 10.1**	**+0.7**
ETVZ	**East Tongariro**	**2.50**	**221**	P	**Pn**	**04 23 10.0**	**+0.5**
KRVZ	**Karewarewa**	**2.50**	**222**	P	**Pn**	**04 23 10.4**	**+0.9**
OTVZ	**Oturere**	**2.54**	**221**	P	**Pn**	**04 23 10.6**	**+0.5**
NNVZ	**North Ngauruho**	**2.54**	**222**	P	**Pn**	**04 23 11.0**	**+0.9**
WTVZ	**West Tongariro**	**2.55**	**223**	P	**Pn**	**04 23 11.0**	**+0.8**
SNVZ	**South Ngauruho**	**2.57**	**221**	P	**Pn**	**04 23 11.1**	**+0.6**
NGZ	**Ngauruhoe**	**2.58**	**222**	P	**Pn**	**04 23 11.3**	**+0.7**
TWVZ	**Taurewa**	**2.60**	**225**	P	**Pn**	**04 23 11.6**	**+0.8**
TUVZ	**Tukino**	**2.63**	**220**	P	**Pn**	**04 23 11.4**	**+0.3**
COVZ	**Chateau Observ**	**2.63**	**222**	P	**Pn**	**04 23 12.0**	**+0.7**
KRHZ	**Kereru**	**2.63**	**205**	P	**Pn**	**04 23 10.0**	**-1.2**
KAHZ	**Kahuranaki**	**2.63**	**196**	P	**Pn**	**04 23 10.0**	**-1.3**
HIZ	**Hauiti**	**2.65**	**241**	P	**Pn**	**04 23 12.7**	**+1.3**
HIZ	**Hauiti**	**2.65**	**241**	P	**Pn**	**04 23 12.7**	**+1.3**
FWVZ	**Far West T-bar**	**2.67**	**221**	P	**Pn**	**04 23 12.2**	**+0.3**
WHVZ	**Whangaehu Hut**	**2.67**	**220**	P	**Pn**	**04 23 12.0**	**+0.2**
MOVZ	**Moawhango**	**2.69**	**216**	P	**Pn**	**04 23 11.4**	**-0.5**
WNVZ	**Wahianoa**	**2.70**	**219**	P	**Pn**	**04 23 12.2**	**0.0**
TRVZ	**Turoa**	**2.70**	**220**	P	**Pn**	**04 23 12.5**	**+0.1**
PXZ	**Pawanui**	**2.87**	**195**	P	**Pn**	**04 23 12.1**	**-2.1**
WPHZ	**Waipukurau**	**3.00**	**200**	P	**Pn**	**04 23 14.1**	**-2.0**
PRHZ	**Porangahau**	**3.14**	**197**	P	**Pn**	**04 23 15.7**	**-2.3**
PKE	**Pukeiti**	**3.58**	**236**	P	**Pn**	**04 23 27.2**	**+3.3**
KHEZ	**Kahui Hut**	**3.61**	**235**	P	**Pn**	**04 23 27.9**	**+3.4**
BFZ	**Birch Farm**	**3.63**	**195**	P	**Pn**	**04 23 21.3**	**-3.3**
SNZO	**South Karori**	**4.71**	**210**	P	**Pn**	**04 23 35.5**	**-3.7**
QRZ	**Quartz Range**	**5.44**	**227**	P	**Pn**	**04 23 46.6**	**-2.6**
CTZ	**Chatham Island**	**7.74**	**148**	P	**Pn**	**04 24 21.6**	**+1.1**

KRSC 20 04:25:11.2±2.1, 52.°21N×168.′90E, h41km±27km, MI3.8, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**5.48**	**283**	*e*P	Pn	04 26 34.4	+4.2
KII	**Karymskiy**	**5.98**	**292**	*e*P	Pn	04 26 41.3	+4.2
SMKR	**Semkarok**	**6.16**	**318**	*e*P	Pn	04 26 44.8	+5.1
SDLR	**Sedlovina**	**6.18**	**284**	*e*P	Pn	04 26 44.4	+4.5
UGLR	**Uglovaya**	**6.21**	**283**	*e*P	Pn	04 26 44.9	+4.7
KMNR	**Kamenistaya**	**6.22**	**308**	*e*P	Pn	04 26 43.9	+3.4
SMAR	**Somma**	**6.22**	**284**	*e*P	Pn	04 26 46.1	+5.5
KRER	**Koryakskii**	**6.26**	**284**	*e*P	Pn	04 26 46.5	+5.4
AVH	**Avacha**	**6.26**	**284**	*e*P	Pn	04 26 46.2	+5.2
KOK	**Koryaka**	**6.33**	**284**	*e*P	Pn	04 26 46.8	+4.9
RUS	**Russkaya**	**6.37**	**276**	*e*P	Pn	04 26 47.0	+4.6
MTVR	**Mutnovka**	**6.57**	**277**	*e*P	Pn	04 26 50.1	+4.8
MTVR				*e*S	Sn	04 28 03.8	+4.8
KRMR	**Karymshinskiy**	**6.60**	**280**	*e*P	Pn	04 26 50.8	+5.2
GRL	**Gorelyy**	**6.64**	**277**	*e*P	Pn	04 26 52.0	+5.8
KDTR	**Khodutka, Kamc**	**6.70**	**271**	*e*P	Pn	04 26 51.1	+4.2
KDTR				*e*S	Sn	04 28 06.4	+4.6
ASAK	**Asacha**	**6.75**	**276**	*e*P	Pn	04 26 53.4	+5.7
GNL	**Ganaly**	**6.79**	**287**	*e*P	Pn	04 26 53.3	+5.0

KRSC 20 04:35:21.2±1.1, 53.°81N×161.′84E, h40km±23km, MI3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.30**	**237**	*e*P	Pn	04 35 43.9	+1.1
SPN				*e*S	Sn	04 35 59.0	0.0
KII	**Karymskiy**	**1.43**	**280**	*e*P	Pn	04 35 45.0	+0.3
NLC	**Nalytchevo**	**1.62**	**248**	*e*P	Pn	04 35 48.2	+1.0
NLC				*e*S	Sn	04 36 07.0	+0.1
TUMR	**Tumrok**	**1.77**	**327**	*e*P	Pn	04 35 50.7	+1.2
SDLR	**Sedlovina**	**1.84**	**254**	*e*P	Pn	04 35 51.7	+1.3
SMAR	**Somma**	**1.90**	**254**	*e*P	Pn	04 35 52.9	+1.7
SMAR				*e*S	Sn	04 36 17.5	+3.6
UGLR	**Uglovaya**	**1.90**	**253**	*e*P	Pn	04 35 53.0	+1.8
KRER	**Koryakskii**	**1.91**	**256**	*e*P	Pn	04 35 53.0	+1.6
AVH	**Avacha**	**1.93**	**255**	*e*P	Pn	04 35 53.7	+2.1
KRX	**Arik**	**1.96**	**258**	*e*P	Pn	04 35 53.5	+1.5
KOK	**Koryaka**	**1.98**	**256**	*e*P	Pn	04 35 53.9	+1.7
DALK	**Dalny**	**2.01**	**248**	*e*P	Pn	04 35 56.1	+3.6
PET	**Petropavlovsk**	**2.06**	**249**	*e*P	Pn	04 35 55.2	+2.0
KMNR	**Kamenistaya**	**2.16**	**335**	*e*P	Pn	04 35 57.2	+2.5
BZGR	**Bezymyannyi-Gr**	**2.23**	**343**	*e*P	Pn	04 35 57.8	+2.1
BZP	**Bezymyannyi-Pe**	**2.23**	**341**	*e*P	Pn	04 35 59.6	+3.8
BZMR	**Bezymyannaya**	**2.27**	**340**	*e*P	Pn	04 35 59.2	+3.0
ZLN	**Zelenaya**	**2.29**	**345**	*e*P	Pn	04 36 00.0	+3.5
KIRR	**Kirishev**	**2.31**	**339**	*e*P	Pn	04 35 59.6	+2.7
GNL	**Ganaly**	**2.32**	**269**	*e*P	Pn	04 35 59.0	+2.1
KPT	**Kopyto**	**2.35**	**337**	*e*P	Pn	04 36 00.2	+2.9
CIRR	**Tsirk**	**2.39**	**345**	*e*P	Pn	04 36 01.4	+3.5
KRMR	**Karymshinskiy**	**2.43**	**248**	*e*P	Pn	04 36 01.7	+3.4
RUS	**Russkaya**	**2.44**	**237**	*e*P	Pn	04 36 00.6	+2.2
KBTR	**Krutoberegovo**	**2.47 13**		*e*P	Pn	04 36 02.1	+3.3
KBG	**Krutoberegovo**	**2.50 11**		*e*P	Pn	04 36 02.0	+2.8
KRSR	**Krestovskiy**	**2.52**	**344**	*e*P	Pn	04 36 01.6	+2.0
MTVR	**Mutnovka**	**2.57**	**240**	*e*P	Pn	04 36 05.0	+4.6
MTVR				*e*S	Sn	04 36 34.6	+4.1
GRL	**Gorelyy**	**2.59**	**242**	*e*P	Pn	04 36 04.6	+3.9
KLY	**Kly

SSY	**Sortino**	**0.58 168**	P	Pb	04 58 41.2	+0.1
SSY			S	Sn	04 58 50.1	-0.4
HMDC	**Modica**	**0.77 188**	P	Pn	04 58 44.7	+0.2
HMDC			S	Sn	04 58 55.4	+0.2

ROM 20 04:59:11.5±0.2, 37°.722N±0°.008×14°.93E±0°.02, h28km±1km, ML2.4/26, 2C-3D, Error ellipse: s-maj=1.1km s-min=1.1km az=66.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.04**	**130**	⇓P	Pb	04 59 15.9	-0.7
ESLN				S	Sb	04 59 19.5	-0.5
ESLN	comp=E,1755μm,0.4s			AML	AML		
ESLN	comp=N,1730μm,0.2s			AML	AML		
ESLN	comp=N,1731μm,0.2s			AML	AML		
ESLN	comp=E,1759μm,0.4s			AML	AML		
EMCN	**Etna Monte Con**	**0.11**	**50**	P	Pb	04 59 16.9	0.0
ESML	**S. M. di Licod**	**0.11**	**202**	P	Pb	04 59 16.4	-0.3
ESML				S	Sb	04 59 21.5	+1.3
ESML	comp=E,1370μm,0.2s			AML	AML		
ESML	comp=N,1270μm,0.5s			AML	AML		
ESML	comp=N,1268μm,0.5s			AML	AML		
ESML	comp=E,1372μm,0.2s			AML	AML		
ESML	comp=N,1268μm,1.5s			AML	AML		
EPZF	**Pizzo Felice**	**0.12**	**330**	⇑P	Pb	04 59 16.1	-0.8
EPZF				S	Sb	04 59 20.9	+0.4
EPZF	comp=E,5000μm,0.6s			AML	AML		
EPZF	comp=N,2250μm,0.4s			AML	AML		
EPZF	comp=E,5002μm,0.6s			AML	AML		
EPZF	comp=N,2246μm,0.4s			AML	AML		
MNO	**Monte Soro**	**0.28**	**319**	P	Pb	04 59 18.4	-0.3
MNO				S	Sb	04 59 24.1	+0.4
MNO	comp=N,562μm,0.7s			AML	AML		
MNO	comp=E,1084μm,0.5s			AML	AML		
MNO	comp=N,528μm,0.2s			AML	AML		
MNO	comp=E,1084μm,0.5s			AML	AML		
GALF	**Gagliano Caste**	**0.29**	**268**	AML	AML		
GALF	comp=N,528μm,0.3s			AML	AML		
GALF	comp=E,278μm,0.4s			AML	AML		
GALF	comp=N,270μm,1.1s			AML	AML		
GALF	comp=E,934μm,0.4s			AML	AML		
GALF	comp=N,270μm,1.1s			AML	AML		
GALF	comp=N,528μm,0.3s			AML	AML		
GALF	comp=N,214μm,0.4s			AML	AML		
GALF	comp=E,279μm,0.4s			AML	AML		
GALF	comp=E,933μm,0.4s			AML	AML		
AIO	**Antillo**	**0.34**	**44**	⇑P	Pb	04 59 19.9	+0.3
AIO				S	Sn	04 59 26.3	-0.6
AIO	comp=E,742μm,0.3s			AML	AML		
AIO	comp=N,373μm,0.5s			AML	AML		
AIO	comp=N,350μm,0.2s			AML	AML		
AIO	comp=E,742μm,0.3s			AML	AML		
AIO	comp=N,350μm,1.8s			AML	AML		
CAGR	**Agira**	**0.36**	**254**	P	Pn	04 59 20.4	-0.5
HLNI	**Lentini**	**0.38**	**187**	P	Pb	04 59 19.7	-0.2
HLNI				S	Sb	04 59 26.1	+0.5
HLNI	comp=N,608μm,0.4s			AML	AML		
HLNI	comp=E,672μm,1.3s			AML	AML		
HLNI	comp=N,582μm,0.2s			AML	AML		
HLNI	comp=E,455μm,0.2s			AML	AML		
HAGA	**Augusta**	**0.47**	**158**	⇓P	Pb	04 59 21.3	-0.1
HAGA				S	Sb	04 59 28.9	+0.8
HAGA	comp=E,352μm,1.5s			AML	AML		
HAGA	comp=N,390μm,1.5s			AML	AML		
HAGA	comp=E,324μm,0.3s			AML	AML		
HAGA	comp=N,373μm,0.4s			AML	AML		
AGST	**Augusta-Monte**	**0.52**	**153**	⇓P	Pb	04 59 22.0	-0.2
AGST				S	Sn	04 59 30.5	-0.5
AGST	comp=E,582μm,0.7s			AML	AML		
AGST	comp=N,626μm,0.7s			AML	AML		
AGST	comp=N,422μm,0.4s			AML	AML		
AGST	comp=E,467μm,0.2s			AML	AML		
RAFF	**Raffo Rosso**	**0.67**	**222**	P	Pb	04 59 24.9	+0.2
RAFF	comp=E,149μm,0.4s			AML	AML		
RAFF	comp=N,141μm,0.9s			AML	AML		
HMDC	**Modica**	**0.77**	**189**	P	Pb	04 59 26.0	-0.5
HMDC				S	Sn	04 59 37.7	+0.4
HMDC	comp=E,674μm,0.3s			AML	AML		
HMDC	comp=N,504μm,1.4s			AML	AML		
HMDC	comp=N,387μm,0.2s			AML	AML		
HMDC	comp=E,674μm,0.3s			AML	AML		
CROCE	**Santa Croce Ca**	**0.94**	**200**	P	Pn	04 59 28.6	-0.3
CROCE				S	Sn	04 59 42.4	+1.0
CROCE	comp=E,294μm,0.8s			AML	AML		
CROCE	comp=N,336μm,1.3s			AML	AML		
CROCE	comp=E,225μm,0.4s			AML	AML		
CROCE	comp=N,326μm,0.3s			AML	AML		
HPAC	**Pachino**	**1.03**	**172**	P	Pb	04 59 31.4	+0.6
HPAC				S	Sb	04 59 45.1	+1.1
MFNL	**Monte Finestre**	**1.59**	**273**	AML	AML		
MFNL	comp=E,296μm,0.1s			AML	AML		
MFNL	comp=N,365μm,0.1s			AML	AML		

*IDC **20** 04:59:23.9±6.1, 39°.11N×142°.85E, h73km±46km, mb3.4/4, mbtmp3.6/6, ML2.8/2, Error ellipse: s-maj=51.1km s-min=24.1km az=89.0*
*JMA **20** 04:59:29.0±0.1, 38°.9N±0°.4×142°.1E±0°.9, h88km±1km, MV3.9/38, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .
ISC 20 04:59:26.7±1.5, 38°.93N±0°.05×142°.4E±0°.1, h84km±9km, n27, σ1°.73/33, mb3.7/4, 18D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.57**	**286**	⇓*i*P	**Pn**	**04 59 43.0**	**+1.6**
OFUJ				⇓*e*S	**Sn**	**04 59 53.0**	**+0.7**
JKMT	**Kesennumamotoy**	**0.71**	**261**	⇓*i*P	**Pn**	**04 59 43.9**	**+1.2**
JKMT				⇓*e*S	**Sn**	**04 59 54.6**	**-0.1**
JMK	**Ichinoseki**	**0.90**	**272**	⇓*i*P	**Pn**	**04 59 45.6**	**+0.8**
JMK				⇓*e*S	**Sn**	**04 59 57.9**	**-0.4**
JIO	**Ouri**	**0.93**	**240**	⇓*i*P	**Pn**	**04 59 45.9**	**+0.8**
JIO				⇓S	**Sn**	**04 59 58.0**	**-0.8**
JOM	**Ohasama**	**1.00**	**303**	⇓*i*P	**Pn**	**04 59 47.1**	**+1.1**
JOM				⇓*e*S	**Sn**	**05 00 00.4**	**-0.1**
JRG	**Rokugo**	**1.43**	**290**	⇓*i*P	**Pn**	**04 59 51.7**	**+0.5**
JRG				⇓*e*S	**Sn**	**05 00 08.7**	**-1.1**
JOU	**Okura**	**1.45**	**248**	⇓*i*P	**Pn**	**04 59 51.8**	**+0.3**
JOU				⇓*e*S	**Sn**	**05 00 08.9**	**-1.3**
JYK	**Kaneyama**	**1.57**	**270**	⇓*i*P	**Pn**	**04 59 53.3**	**+0.3**
JYK				⇓*e*S	**Sn**	**05 00 12.0**	**-1.0**
JANG	**Nango**	**1.59**	**336**	P	**Pn**	**04 59 54.6**	**+1.2**
JANG				*e*S	**Sn**	**05 00 13.6**	**+0.1**
JMM	**Marumori**	**1.63**	**230**	⇓*i*P	**Pn**	**04 59 53.8**	**0.0**
JMM				⇓*e*S	**Sn**	**05 00 12.3**	**-2.0**
JAH	**Hinai**	**1.84**	**314**	*e*P	**Pn**	**04 59 57.6**	**+1.0**
JYS	**Shirataka**	**1.94**	**249**	P	**Pn**	**04 59 58.1**	**+0.2**
JFK	**Kawauchi**	**1.95**	**218**	*i* P	**Pn**	**04 59 58.5**	**+0.4**
JFK				*e*S	**Sn**	**05 00 20.2**	**-1.8**
JYA	**Atsumi**	**2.10**	**262**	*e*P	**Pn**	**05 00 00.2**	**+0.1**
JOTO	**OTAMA OYAMA**	**2.10**	**230**	*e*P	**Pn**	**05 00 00.5**	**+0.4**
MJAR	**Matsushiro Arr**	**4.07**	**235**	P	**Pn**	**05 00 28.4**	**+1.8**
	0.1nm,0.3s,baz=36,slow=16,SNR=2.3						
MJAR				S	**Sn**	**05 01 20.7**	**+7.7**
	1.6nm,0.4s,baz=345,slow=32,SNR=4.1						
	0.9nm,0.4s						
KLR	**Kul'dur**	**12.81**	**327**	P	**Pn**	**05 02 24.1**	**-1.3**
	0.1nm,0.3s,baz=144,slow=17,SNR=3.8						
	1.2nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.54**	**125**	T	T	05 35 54.2	
	baz=317,slow=75,SNR=115						
H11N1	**WAKE ISLAND Hy**	**28.55**	**125**	T	T	05 35 55.0	
	baz=317,slow=75,SNR=156						
H11N3	**WAKE ISLAND Hy**	**28.56**	**125**	T	T	05 35 55.6	
	baz=317,slow=75,SNR=106						
H11S1	**WAKE ISLAND Hy**	**29.32**	**127**	T	T	05 36 45.9	
	baz=318,slow=76,SNR=76						
H11S3	**WAKE ISLAND Hy**	**29.32**	**127**	T	T	05 36 46.0	
	baz=318,slow=76,SNR=97						
H11S2	**WAKE ISLAND Hy**	**29.34**	**127**	T	T	05 36 47.1	
	baz=318,slow=76,SNR=67						
ZALV	**Zalesovo Beam**	**41.23**	**311**	P	**P**	**05 07 02.9**	**-0.2**
	0.7nm,0.4s,baz=93,slow=8.9,SNR=2.7						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**43.78**	**301**	P	**P**	**05 07 23.8**	**-0.1**
	0.7nm,0.7s,baz=84,slow=11,SNR=4.3						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**45.46**	**307**	P	**P**	**05 07 37.1**	**-0.1**
	2.1nm,0.6s,baz=82,slow=8.1,SNR=17						
	2.1nm,0.6s						
WRA	**Warramunga Arr**	**59.04**	**189**	P	**P**	**05 09 17.6**	**-0.3**
	0.3nm,0.8s,baz=8.4,slow=7.0,SNR=1.4						
	0.3nm,0.8s						

ROM 20 05:06:21.1±0.1, 37°.711N±0°.005×14°.92E±0°.01, h24km±1km, ML3.0/20, Error ellipse: s-maj=0.9km s-min=0.2km az=256.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.04**	**114**	P	Pb	05 06 25.0	-0.5
ESLN				S	Sb	05 06 28.2	-0.3
ESLN	comp=N,7965μm,1.5s			AML	AML		
ESLN	comp=E,7720μm,0.3s			AML	AML		
ESLN	comp=N,5718μm,0.5s			AML	AML		
ESLN	comp=E,2474μm,0.3s			AML	AML		
ESML	**S. M. di Licod**	**0.10**	**201**	P	Pb	05 06 25.4	-0.2
ESML				S	Sb	05 06 28.9	+0.3
ESML	comp=E,3770μm,0.2s			AML	AML		
ESML	comp=N,3590μm,0.4s			AML	AML		
EMCN	**Etna Monte Con**	**0.12**	**48**	P	Pb	05 06 26.4	+0.3
EPZF	**Pizzo Felice**	**0.12**	**335**	P	Pb	05 06 25.1	-0.8
EPZF				S	Sb	05 06 29.7	+0.5
EPZF	comp=N,11600μm,1.0s			AML	AML		
EPZF	comp=E,27350μm,0.6s			AML	AML		
EPOZ	**Pozzillo**	**0.23**	**147**	P	Pb	05 06 27.0	0.0
GALF	**Gagliano Caste**	**0.28**	**270**	P	Pb	05 06 27.3	-0.5
GALF				S	Sb	05 06 33.4	+1.0
GALF	comp=N,2785μm,0.8s			AML	AML		
GALF	comp=N,817μm,0.8s			AML	AML		
GALF	comp=E,1225μm,0.4s			AML	AML		
GALF	comp=N,2785μm,1.2s			AML	AML		
GALF	comp=N,817μm,1.2s			AML	AML		
GALF	comp=N,1643μm,0.6s			AML	AML		
GALF	comp=N,686μm,0.4s			AML	AML		
GALF	comp=N,1643μm,1.4s			AML	AML		
GALF	comp=E,3915μm,0.4s			AML	AML		
MNO	**Monte Soro**	**0.29**	**321**	P	Pb	05 06 27.4	-0.6
MNO				S	Sb	05 06 32.7	0.0
MUCR	**Ucria**	**0.33**	**353**	P	Pb	05 06 27.9	-0.7
MUCR				S	Sb	05 06 34.0	+0.2
AIO	**Antillo**	**0.36**	**43**	P	Pb	05 06 29.1	+0.1
AIO				S	Sb	05 06 35.0	+0.7
AIO	comp=E,5005μm,0.4s			AML	AML		
AIO	comp=N,2160μm,0.5s			AML	AML		
AIO	comp=N,2160μm,1.5s			AML	AML		
AIO	comp=N,1923μm,0.4s			AML	AML		
AIO	comp=N,1923μm,1.6s			AML	AML		
HLNI	**Lentini**	**0.36**	**186**	P	Pb	05 06 28.7	-0.3
HLNI				S	Sb	05 06 35.1	+0.8
HLNI	comp=E,2270μm,1.3s			AML	AML		
HLNI	comp=N,2830μm,0.5s			AML	AML		
HLNI	comp=E,2270μm,0.7s			AML	AML		
HAGA	**Augusta**	**0.46**	**156**	P	Pb	05 06 30.4	-0.2
HAGA				S	Sb	05 06 38.1	+1.0
HAGA	comp=N,1720μm,0.4s			AML	AML		
HAGA	comp=E,1755μm,0.5s			AML	AML		
VAE	**Valguarnera**	**0.47**	**240**	P	Pn	05 06 32.2	-0.2
VAE				AML	AML		
VAE	comp=E,350μm,1.1s			AML	AML		
VAE	comp=N,654μm,0.5s			AML	AML		
AGST	**Augusta-Monte**	**0.51**	**152**	P	Pb	05 06 31.1	-0.3
AGST				S	Sb	05 06 39.4	+0.8
AGST	comp=N,3655μm,0.9s			AML	AML		
AGST	comp=E,2685μm,0.5s			AML	AML		
AGST	comp=N,3660μm,0.9s			AML	AML		
AGST	comp=E,2351μm,1.3s			AML	AML		
AGST	comp=E,2685μm,1.5s			AML	AML		
SSY	**Sortino**	**0.57**	**168**	P	Pb	05 06 32.1	-0.3
SSY				S	Sb	05 06 41.2	+1.1
SSY	comp=E,6100μm,0.6s			AML	AML		
SSY	comp=N,11040μm,0.3s			AML	AML		
SSY	comp=N,6026μm,0.5s			AML	AML		
RAFF	**Raffo Rosso**	**0.66**	**223**	P	Pb	05 06 33.9	-0.1
RAFF				AML	AML		
RAFF	comp=E,882μm,1.6s			AML	AML		
RAFF	comp=N,635μm,0.8s			AML	AML		
VPL	**Vulcano Piano**	**0.67**	**4**	P	Pb	05 06 33.9	-0.2
VPL				AML	AML		
VPL	comp=E,1555μm,0.5s			AML	AML		
VPL	comp=N,1630μm,0.4s			AML	AML		
PLLN	**Pollina**	**0.68**	**295**	P	Pn	05 06 35.1	-0.2
PLLN				AML	AML		
PLLN	comp=E,2400μm,0.7s			AML	AML		
PLLN	comp=N,2540μm,0.7s			AML	AML		
MSRU	**Castanea**	**0.72**	**40**	P	Pn	05 06 35.6	-0.1
MSRU				S	Sn	05 06 46.0	-0.1
MSRU	comp=E,999μm,0.3s			AML	AML		
MSRU	comp=N,1002μm,1.3s			AML	AML		
LLI	**Lipari**	**0.73**	**2**	P	Pn	05 06 36.6	+0.6
LLI				AML	AML		
LLI	comp=E,5610μm,0.5s			AML	AML		
LLI	comp=N,9340μm,0.7s			AML	AML		
HMDC	**Modica**	**0.76**	**189**	P	Pb	05 06 35.8	+0.2
CEL	**Celeste**	**0.94**	**54**	AML	AML		
CEL	comp=E,498μm,1.6s			AML	AML		
CEL	comp=N,720μm,0.6s			AML	AML		
CEL	comp=N,872μm,0.6s			AML	AML		
CEL	comp=E,409μm,1.6s			AML	AML		
CLTA	**Licata**	**0.94**	**234**	P	Pn	05 06 39.2	+0.4
CLTA				AML	AML		
CLTA	comp=E,434μm,1.6s			AML	AML		
CLTA	comp=N,518μm,1.4s			AML	AML		
CAR1	**CAROLEI**	**1.84**	**33**	P	Pn	05 06 51.6	+0.4
CAR1				AML	AML		
CAR1	comp=E,582μm,0.3s			AML	AML		
CAR1	comp=N,535μm,0.5s			AML	AML		
CAR1	comp=E,554μm,0.9s			AML	AML		
CAR1	comp=N,554μm,0.5s			AML	AML		

ROM 20 05:06:36.0±0.1, 37°.709N±0°.004×14°.897E±0°.009, h23km, ML3.2/30, Error ellipse: s-maj=0.6km s-min=0.5km az=107.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.06**	**104**	P	Pb	05 06 40.3	-0.2
ESLN				S	Sb	05 06 43.4	-0.1
ESLN	comp=E,16200μm,0.3s			AML	AML		
ESLN	comp=N,14000μm,0.3s			AML	AML		
ESML	**S. M. di Licod**	**0.09**	**190**	P	Pb	05 06 40.4	-0.1
ESML				S	Sb	05 06 43.9	+0.6
EPZF	**Pizzo Felice**	**0.12**	**345**	P	Pb	05 06 40.3	-0.5
EPZF				S	Sb	05 06 45.0	+1.1
EPZF	comp=E,57800μm,0.6s			AML	AML		
EPZF	comp=N,28750μm,0.4s			AML	AML		
EMCN	**Etna Monte Con**	**0.14**	**53**	P	Pb	05 06 40.9	-0.1
EPOZ	**Pozzillo**	**0.24**	**143**	P	Pb	05 06 42.2	+0.1
GALF	**Gagliano Caste**	**0.26**	**271**	P	Pb	05 06 42.5	+0.1
GALF	comp=N,2040μm,0.7s			AML	AML		
GALF	comp=E,9695μm,0.5s			AML	AML		
GALF	comp=N,6300μm,0.4s			AML	AML		
GALF	comp=N,6300μm,1.6s			AML	AML		
GALF	comp=E,2980μm,0.5s			AML	AML		
GALF	comp=N,2040μm,1.3s			AML	AML		
MNO	**Monte Soro**	**0.28**	**325**	P	Pb	05 06 42.3	-0.5
MNO				S	Sb	05 06 47.8	+0.5
MNO	comp=E,14285μm,0.6s			AML	AML		
MNO	comp=N,9905μm,0.4s			AML	AML		
MUCR	**Ucria**	**0.33**	**357**	P	Pb	05 06 43.0	-0.5
MUCR				S	Sb	05 06 49.2	+0.6
MUCR	comp=N,3610μm,1.0s			AML	AML		
MUCR	comp=E,3880μm,0.7s			AML	AML		
MUCR	comp=E,3880μm,1.3s			AML	AML		
HLNI	**Lentini**	**0.36**	**183**	P	Pb	05 06 43.6	-0.2
HLNI				S	Sb	05 06 50.2	+1.0
NOV	**Novara**	**0.37**	**31**	P	Pb	05 06 43.8	-0.4
NOV				S	Sb	05 06 50.1	+0.5
AIO	**Antillo**	**0.37**	**45**	P	Pb	05 06 44.0	-0.1
AIO				S	Sb	05 06 50.2	+0.5
AIO	comp=N,5355μm,0.4s			AML	AML		
AIO	comp=E,14150μm,0.4s			AML	AML		
AIO	comp=N,5355μm,1.6s			AML	AML		
AIO	comp=E,14150μm,1.6s			AML	AML		
HAGA	**Augusta**	**0.47**	**154**	P	Pb	05 06 45.6	-0.1
HAGA				S	Sb	05 06 53.1	+0.8
HAGA	comp=E,4910μm,0.4s			AML	AML		
HAGA	comp=N,3865μm,0.3s			AML	AML		
AGST	**Augusta-Monte**	**0.52**	**150**	P	Pb	05 06 46.2	-0.4
AGST				S	Sb	05 06 54.4	+0.7
AGST	comp=N,8250μm,0.9s			AML	AML		
AGST	comp=E,5315μm,0.8s			AML	AML		
SSY	**Sortino**	**0.57**	**166**	P	Pb	05 06 47.0	-0.4
SSY				S	Sn	05 06 56.4	-1.1
SSY	comp=E,17250μm,0.6s			AML	AML		
SSY	comp=N,21950μm,0.3s			AML	AML		
RAFF	**Raffo Rosso**	**0.65**	**221**	P	Pb	05 06 49.0	+0.3
VPL	**Vulcano Piano**	**0.67**	**6**	P	Pb	05 06 49.1	-0.1
IVGP	**Vulcano Grotta**	**0.69**	**4**	P	Pb	05 06 49.0	-0.5
MTTG	**Motta San Giov**	**0.70**	**65**	P	Pb	05 06 50.0	+0.4
MTTG				AML	AML		
MTTG	comp=N,1260μm,0.5s			AML	AML		
MTTG	comp=E,1435μm,0.5s			AML	AML		
MTTG	comp=E,1435μm,1.5s			AML	AML		
MSRU	**Castanea**	**0.73**	**41**	P	Pn	05 06 50.9	-0.1
MSRU				S	Sn	05 07 01.1	-0.5
LLI	**Lipari**	**0.74**	**3**	P	Pb	05 06 50.3	+0.1
HMDC	**Modica**	**0.76**	**187**	P	Pb	05 06 50.0	-0.6
CROCE	**Santa Croce Ca**	**0.92**	**198**	P	Pn	05 06 53.9	+0.4
CROCE				S	Sn	05 07 06.7	+0.6
CROCE	comp=E,1375μm,1.1s			AML	AML		
CROCE	comp=N,2900μm,0.3s			AML	AML		
CROCE	comp=E,1375μm,0.9s			AML	AML		
CLTA	**Licata**	**0.93**	**234**	P	Pn	05 06 53.5	-0.1
CLTA				AML	AML		
CLTA	comp=E,724μm,0.6s			AML	AML		
CLTA	comp=N,581μm,0.8s			AML	AML		
CEL	**Celeste**	**0.96**	**55**	P	Pb	05 06 53.7	-0.4
CEL				AML	AML		
CEL	comp=N,720μm,0.6s			AML	AML		
CEL	comp=E,792μm,0.4s			AML	AML		
CEL	comp=N,872μm,0.6s			AML	AML		
CEL	comp=E,638μm,0.4s			AML	AML		
JOPP	**Joppolo**	**1.19**	**41**	P	Pb	05 06 58.6	+0.7
JOPP				AML	AML		
JOPP	comp=E,654μm,0.3s			AML	AML		

JOPP			AML	AML		
	comp=N,492μm,1.0s					
JOPP			AML	AML		
	comp=E,654μm,1.7s					
JOPP			AML	AML		
	comp=N,492μm,1.0s					
MBFT	**Monte Bonifato**	**1.56 279**	P	Pb	05 07 03.6	-0.6
LINA	**Linosa Island**	**2.46 222**	P	Pn	05 07 15.2	+0.6
LTRZ	**Laterza**	**3.25 27**	P	Pn	05 07 27.1	+1.4

ROM 20 05:13:39.6±0.2, 37°.713N±0°.007×14°.92E±0°.01, h26km±1km, ML2.2/19, 2C, Error ellipse: s-maj=1.0km s-min=0.3km az=82.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.05**	**113**	P	Pb	05 13 43.9	-0.5
ESLN				S	Sb	05 13 47.1	-0.5
ESLN				AML	AML		
	comp=E,1163μm,0.5s						
ESLN				AML	AML		
	comp=N,1520μm,0.2s						
ESLN				AML	AML		
	comp=E,1008μm,0.7s						
ESML	**S. M. di Licod**	**0.10**	**199**	P	Pb	05 13 44.2	-0.3
ESML				S	Sb	05 13 48.6	+0.9
ESML				AML	AML		
	comp=E,1030μm,1.6s						
ESML				AML	AML		
	comp=N,881μm,0.5s						
ESML				AML	AML		
	comp=E,1030μm,0.4s						
EMCN	**Etna Monte Con**	**0.12**	**49**	P	Pb	05 13 44.6	-0.3
EPZF	**Pizzo Felice**	**0.12**	**337**	⇑P	Pb	05 13 44.1	-0.7
EPZF				S	Sb	05 13 49.0	+0.8
EPZF				AML	AML		
	comp=E,2265μm,0.6s						
EPZF				AML	AML		
	comp=N,1260μm,1.4s						
EPZF				AML	AML		
	comp=N,1260μm,0.6s						
EVRN	**Santa Venerina**	**0.17**	**98**	P	Pb	05 13 44.8	-0.3
GALF	**Gagliano Caste**	**0.28**	**270**	P	Pb	05 13 46.2	-0.3
GALF				S	Sb	05 13 52.3	+1.2
MUCR	**Ucria**	**0.33**	**354**	P	Pb	05 13 47.5	+0.2
MUCR				S	Sb	05 13 53.0	+0.5
CAGR	**Agira**	**0.34**	**255**	P	Pn	05 13 48.5	-0.5
AIO	**Antillo**	**0.36**	**44**	P	Pb	05 13 47.9	+0.2
AIO				S	Sn	05 13 54.4	-1.2
AIO				AML	AML		
	comp=N,198μm,0.3s						
AIO				AML	AML		
	comp=E,358μm,0.3s						
HLNI	**Lentini**	**0.37**	**186**	⇑P	Pb	05 13 47.7	0.0
HLNI				S	Sb	05 13 54.0	+0.8
HLNI				AML	AML		
	comp=E,257μm,0.4s						
HLNI				AML	AML		
	comp=N,292μm,0.3s						
HAGA	**Augusta**	**0.47**	**156**	P	Pb	05 13 49.2	-0.2
HAGA				S	Sn	05 13 57.0	-1.0
HAGA				AML	AML		
	comp=E,132μm,0.1s						
HAGA				AML	AML		
	comp=N,184μm,0.1s						
AGST	**Augusta-Monte**	**0.52**	**152**	P	Pb	05 13 50.0	-0.2
AGST				S	Sn	05 13 58.4	-0.9
AGST				AML	AML		
	comp=E,352μm,0.2s						
SSY	**Sortino**	**0.57**	**168**	P	Pb	05 13 51.0	-0.1
SSY				S	Sn	05 14 00.1	-0.6
SSY				AML	AML		
	comp=N,1475μm,1.0s						
SSY				AML	AML		
	comp=E,858μm,1.4s						
SSY				AML	AML		
	comp=E,858μm,0.6s						

ROM 20 05:14:16.2±0.1, 37°.714N±0°.004×14°.902E±0°.008, h23km±1km, ML2.6/40, 3C-4D, Error ellipse: s-maj=0.7km s-min=0.2km az=278.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.06**	**109**	⇓P	Pb	05 14 20.2	-0.3
ESLN				S	Sb	05 14 23.5	0.0
ESLN				AML	AML		
	comp=E,3010μm,0.3s						
ESLN				AML	AML		
	comp=N,2620μm,1.4s						
ESLN				AML	AML		
	comp=N,2620μm,0.6s						
ESLN				AML	AML		
	comp=E,3010μm,1.7s						
ESML	**S. M. di Licod**	**0.10**	**192**	⇑P	Pb	05 14 20.5	-0.1
ESML				S	Sb	05 14 23.9	+0.4
ESML				AML	AML		
	comp=E,2805μm,1.1s						
ESML				AML	AML		
	comp=E,2805μm,0.9s						
ESML				AML	AML		
	comp=N,2210μm,0.5s						
EPZF	**Pizzo Felice**	**0.12**	**342**	P	Pb	05 14 20.4	-0.4
EPZF				S	Sb	05 14 23.9	-0.1
EPZF				AML	AML		
	comp=E,12500μm,0.6s						
EPZF				AML	AML		
	comp=N,7565μm,0.4s						
EMCN	**Etna Monte Con**	**0.13**	**53**	P	Pb	05 14 21.1	+0.1
EPOZ	**Pozzillo**	**0.25**	**144**	P	Pb	05 14 22.6	+0.3
GALF	**Gagliano Caste**	**0.27**	**269**	⇓P	Pb	05 14 22.6	0.0
GALF				S	Sn	05 14 28.6	-1.5
GALF				AML	AML		
	comp=N,1310μm,0.4s						
GALF				AML	AML		
	comp=E,647μm,0.5s						
GALF				AML	AML		
	comp=N,398μm,0.7s						
GALF				AML	AML		
	comp=E,1995μm,0.4s						
GALF				AML	AML		
	comp=N,398μm,1.3s						
MNO	**Monte Soro**	**0.27**	**323**	P	Pb	05 14 22.6	-0.2
MNO				AML	AML		
	comp=E,3620μm,1.1s						
MNO				AML	AML		
	comp=E,3620μm,0.9s						
MNO				AML	AML		
	comp=N,2305μm,0.4s						
MUCR	**Ucria**	**0.33**	**356**	P	Pb	05 14 23.2	-0.4
MUCR				S	Sb	05 14 29.4	+0.7
MUCR				AML	AML		
	comp=E,854μm,0.7s						
MUCR				AML	AML		
	comp=N,918μm,1.6s						
MUCR				AML	AML		
	comp=N,918μm,0.4s						
HLNI	**Lentini**	**0.37**	**184**	⇑P	Pb	05 14 23.8	-0.3
HLNI				S	Sb	05 14 30.7	+1.3
HLNI				AML	AML		
	comp=E,770μm,0.9s						
HLNI				AML	AML		
	comp=N,807μm,0.4s						
HLNI				AML	AML		
	comp=N,807μm,1.6s						
HLNI				AML	AML		
	comp=E,770μm,1.1s						
AIO	**Antillo**	**0.37**	**45**	P	Pb	05 14 24.1	0.0
AIO				S	Sb	05 14 30.2	+0.6
AIO				AML	AML		
	comp=E,4095μm,0.4s						
AIO				AML	AML		
	comp=N,1690μm,0.5s						
VAE	**Valguarnera**	**0.46**	**239**	P	Pn	05 14 27.4	+0.1
HAGA	**Augusta**	**0.47**	**155**	⇓P	Pb	05 14 25.6	-0.2
HAGA				S	Sb	05 14 33.3	+0.9
HAGA				AML	AML		
	comp=N,806μm,0.6s						
HAGA				AML	AML		
	comp=E,1120μm,0.5s						
AGST	**Augusta-Monte**	**0.53**	**150**	⇓P	Pb	05 14 26.4	-0.3
AGST				S	Sb	05 14 34.6	+0.7
AGST				AML	AML		
	comp=E,1188μm,0.5s						
AGST				AML	AML		
	comp=N,1710μm,0.9s						
SSY	**Sortino**	**0.57**	**166**	⇑P	Pb	05 14 27.5	-0.2
SSY				S	Sb	05 14 36.5	+1.1
SSY				AML	AML		
	comp=E,2480μm,0.8s						
SSY				AML	AML		
	comp=N,3615μm,0.6s						
SSY				AML	AML		
	comp=E,2480μm,1.2s						
RAFF	**Raffo Rosso**	**0.65**	**221**	P	Pb	05 14 29.0	+0.1
RAFF				AML	AML		
	comp=E,342μm,1.6s						
RAFF				AML	AML		
	comp=N,393μm,1.6s						
RAFF				AML	AML		
	comp=E,342μm,0.4s						
RAFF				AML	AML		
	comp=N,393μm,0.4s						
PLLN	**Pollina**	**0.66**	**295**	P	Pb	05 14 29.5	+0.4
PLLN				AML	AML		
	comp=E,943μm,1.0s						
PLLN				AML	AML		
	comp=E,943μm,1.0s						
PLLN				AML	AML		
	comp=N,1100μm,0.5s						
VPL	**Vulcano Piano**	**0.67**	**6**	P	Pb	05 14 29.3	+0.1
VPL				AML	AML		
	comp=E,922μm,1.3s						
VPL				AML	AML		
	comp=N,830μm,1.5s						
VPL				AML	AML		
	comp=E,922μm,0.7s						
IVGP	**Vulcano Grotta**	**0.68**	**4**	P	Pb	05 14 29.2	-0.2
MTTG	**Motta San Giov**	**0.69**	**65**	P	Pb	05 14 29.8	+0.2
MTTG				S	Sn	05 14 41.2	+0.6
CSLB	**Castelbuono**	**0.70**	**289**	P	Pb	05 14 29.6	-0.2
CSLB				AML	AML		
	comp=N,212μm,0.8s						
CSLB				AML	AML		
	comp=N,212μm,1.2s						
CSLB				AML	AML		
	comp=E,203μm,0.5s						
MSRU	**Castanea**	**0.73**	**41**	P	Pb	05 14 30.3	+0.1
MSRU				AML	AML		
	comp=E,835μm,0.3s						
MSRU				AML	AML		
	comp=N,738μm,0.3s						
MSRU				AML	AML		
	comp=E,835μm,1.7s						
HMDC	**Modica**	**0.76**	**187**	P	Pb	05 14 30.3	-0.4
HMDC				S	Sn	05 14 42.0	-0.3
HMDC				AML	AML		
	comp=N,948μm,0.8s						
HMDC				AML	AML		
	comp=E,1505μm,0.4s						
SICLA	**Scilla**	**0.84**	**50**	P	Pb	05 14 32.1	+0.1
CEL	**Celeste**	**0.95**	**55**	P	Pn	05 14 34.3	+0.1
CEL				AML	AML		
	comp=E,204μm,0.4s						
CEL				AML	AML		
	comp=N,204μm,0.6s						
CEL				AML	AML		
	comp=N,262μm,0.8s						
CEL				AML	AML		
	comp=E,232μm,0.4s						
HPAC	**Pachino**	**1.03**	**171**	P	Pn	05 14 34.6	-0.5
CAR1	**CAROLEI**	**1.85**	**33**	P	Pn	05 14 47.0	+0.5
CAR1				AML	AML		
	comp=N,155μm,1.6s						
CAR1				AML	AML		
	comp=N,155μm,0.4s						
CAR1				AML	AML		
	comp=E,182μm,1.2s						

ROM 20 05:21:05.1±0.2, 37°.717N±0°.007×14°.91E±0°.01, h26km±1km, ML1.7/6, 1D, Error ellipse: s-maj=1.2km s-min=0.5km az=65.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.06**	**115**	P	Pb	05 21 09.3	-0.6
ESLN				S	Sb	05 21 12.8	-0.4
ESML	**S. M. di Licod**	**0.10**	**196**	P	Pb	05 21 10.3	+0.3
EPZF	**Pizzo Felice**	**0.12**	**338**	P	Pb	05 21 09.5	-0.7
EPZF				S	Sb	05 21 14.0	+0.3
EPOZ	**Pozzillo**	**0.24**	**146**	P	Pb	05 21 12.2	+0.7
GALF	**Gagliano Caste**	**0.27**	**269**	⇓P	Pb	05 21 11.8	-0.1
GALF				S	Sn	05 21 17.9	-1.0
GALF				AML	AML		
	comp=E,235μm,0.4s						
GALF				AML	AML		
	comp=N,156μm,0.4s						
GALF				AML	AML		
	comp=E,235μm,1.6s						
GALF				AML	AML		
	comp=E,235μm,0.4s						
MUCR	**Ucria**	**0.33**	**355**	P	Pb	05 21 13.1	+0.3
MUCR				S	Sb	05 21 18.6	+0.6
AIO	**Antillo**	**0.36**	**45**	P	Pb	05 21 13.4	+0.2
AIO				S	Sb	05 21 19.6	+0.9
AIO				AML	AML		
	comp=E,132μm,0.3s						
AIO				AML	AML		
	comp=N,93μm,0.5s						
HLNI	**Lentini**	**0.37**	**185**	P	Pb	05 21 13.1	-0.1
HLNI				S	Sb	05 21 19.5	+0.7
HLNI				AML	AML		
	comp=E,160μm,1.5s						
HLNI				AML	AML		
	comp=N,173μm,0.3s						
HLNI				AML	AML		
	comp=E,160μm,0.5s						
HAGA	**Augusta**	**0.47**	**156**	P	Pb	05 21 14.7	-0.2
HAGA				S	Sb	05 21 22.4	+0.9
AGST	**Augusta-Monte**	**0.52**	**151**	P	Pb	05 21 15.5	-0.2
AGST				S	Sn	05 21 23.9	-0.9
SSY	**Sortino**	**0.58**	**167**	P	Pb	05 21 16.5	-0.2
SSY				S	Sn	05 21 25.6	-0.6
SSY				AML	AML		
	comp=E,600μm,1.5s						
SSY				AML	AML		
	comp=N,998μm,1.4s						
SSY				AML	AML		
	comp=E,600μm,0.5s						

ROM 20 05:21:38.2±0.3, 37°.721N±0°.008×14°.92E±0°.01, h27km±1km, ML2.0/4, 1C-1D, Error ellipse: s-maj=1.1km s-min=0.5km az=100.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.05**	**123**	P	Pb	05 21 42.5	-0.6
ESLN				S	Sb	05 21 46.5	0.0
ESML	**S. M. di Licod**	**0.11**	**199**	P	Pb	05 21 43.6	+0.4
ESML				S	Sb	05 21 47.3	+0.6
EPZF	**Pizzo Felice**	**0.12**	**333**	P	Pb	05 21 42.7	-0.7
EPZF				S	Sb	05 21 47.4	+0.4
EVRN	**Santa Venerina**	**0.17**	**101**	P	Pb	05 21 43.1	-0.7
EPOZ	**Pozzillo**	**0.24**	**148**	P	Pb	05 21 44.7	+0.1
GALF	**Gagliano Caste**	**0.28**	**268**	⇓P	Pb	05 21 44.9	-0.3
GALF				S	Sn	05 21 51.1	-1.0
GALF				AML	AML		
	comp=E,318μm,0.4s						
GALF				AML	AML		
	comp=E,318μm,1.6s						
GALF				AML	AML		
	comp=N,218μm,0.6s						
MUCR	**Ucria**	**0.32**	**353**	P	Pb	05 21 45.8	-0.1
MUCR				S	Sb	05 21 51.5	+0.4
CAGR	**Agira**	**0.35**	**254**	P	Pn	05 21 47.3	-0.2
AIO	**Antillo**	**0.35**	**44**	⇑P	Pb	05 21 46.6	+0.3
AIO				S	Sn	05 21 53.1	-0.6
AIO				AML	AML		
	comp=N,230μm,0.2s						
AIO				AML	AML		
	comp=E,447μm,0.4s						
HLNI	**Lentini**	**0.37**	**186**	P	Pb	05 21 46.2	-0.2
HLNI				S	Sb	05 21 52.6	+0.5
AGST	**Augusta-Monte**	**0.52**	**152**	P	Pb	05 21 48.7	-0.2
AGST				S	Sn	05 21 57.1	-0.7
SSY	**Sortino**	**0.58**	**168**	P	Pb	05 21 49.8	-0.1
SSY				S	Sn	05 21 58.8	-0.5

ROM 20 05:39:51.7±0.2, 37°.720N±0°.006×14°.90E±0°.01, h26km±1km, ML2.1/8, Error ellipse: s-maj=1.0km s-min=0.9km az=286.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.06**	**115**	P	Pb	05 39 56.0	-0.6
ESLN				S	Sb	05 39 59.3	-0.7
ESML	**S. M. di Licod**	**0.10**	**192**	P	Pb	05 39 57.0	+0.4
ESML				S	Sb	05 40 00.5	+0.6
ESML				AML	AML		
	comp=E,499μm,0.4s						
ESML				AML	AML		
	comp=N,570μm,0.6s						
ESML				AML	AML		
	comp=N,570μm,1.4s						
EPZF	**Pizzo Felice**	**0.11**	**341**	P	Pb	05 39 56.1	-0.7
EPZF				S	Sb	05 40 00.9	+0.7
EPZF				AML	AML		
	comp=E,3115μm,0.5s						
EPZF				AML	AML		
	comp=N,2130μm,0.3s						
EMCN	**Etna Monte Con**	**0.12**	**55**	P	Pb	05 39 57.1	+0.1
EMCN				S	Sb	05 40 00.8	+0.1
EPOZ	**Pozzillo**	**0.25**	**145**	P	Pb	05 39 58.1	0.0
GALF	**Gagliano Caste**	**0.27**	**268**	P	Pb	05 39 58.2	-0.2
GALF				S	Sn	05 40 04.3	-1.0
GALF				AML	AML		
	comp=E,418μm,0.4s						
GALF				AML	AML		
	comp=N,236μm,1.3s						
GALF				AML	AML		
	comp=N,236μm,1.3s						
GALF				AML	AML		
	comp=N,236μm,0.7s						
MNO	**Monte Soro**	**0.27**	**322**	P	Pb	05 39 58.4	-0.3
MUCR	**Ucria**	**0.32**	**356**	P	Pb	05 39 59.0	-0.3
MUCR				S	Sb	05 40 05.2	+0.7
AIO	**Antillo**	**0.36**	**46**	P	Pb	05 39 59.9	+0.1
AIO				S	Sn	05 40 06.5	-1.1
HLNI	**Lentini**	**0.37**	**184**	P	Pb	05 39 59.6	-0.3
HLNI				S	Sb	05 40 06.0	+0.5
HLNI				AML	AML		
	comp=N,342μm,0.3s						
HLNI				AML	AML		
	comp=E,262μm,0.3s						
SSY	**Sortino**	**0.58**	**167**	P	Pb	05 40 03.5	+0.2
SSY				S	Sn	05 40 12.1	-0.8
HMDC	**Modica**	**0.77**	**187**	P	Pn	05 40 06.7	-0.1
HMDC				S	Sn	05 40 17.6	+0.1

ROM 20 05:40:26.9±0.2, 37°.711N±0°.008×14°.91E±0°.01, h29km±1km, ML2.2/6, Error ellipse: s-maj=1.1km s-min=0.6km az=249.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.05**	**110**	P	Pb	05 40 31.5	-0.5
ESLN				S	Sb	05 40 35.5	-0.1
ESML	**S. M. di Licod**	**0.10**	**196**	P	Pb	05 40 31.9	-0.1
ESML				S	Sb	05 40 36.0	+0.5
EPZF	**Pizzo Felice**	**0.12**	**339**	P	Pb	05 40 31.8	-0.6
EPZF				S	Sb	05 40 36.7	+0.6
EPZF				AML	AML		
	comp=E,2780μm,0.5s						
EPZF				AML	AML		
	comp=N,1600μm,0.2s						
EPZF				AML	AML		
	comp=E,2780μm,1.5s						
GALF	**Gagliano Caste**	**0.27**	**270**	P	Pb	05 40 34.0	0.0
GALF				S	Sn	05 40 39.9	-0.4
MUCR	**Ucria**	**0.33**	**355**	P	Pb	05 40 34.8	0.0
MUCR				S	Sb	05 40 40.7	+0.6
AIO	**Antillo**	**0.36**	**44**	P	Pb	05 40 35.5	+0.3
AIO				S	Sn	05 40 42.2	-0.3
AIO				AML	AML		
	comp=N,178μm,0.4s						
AIO				AML	AML		
	comp=E,332μm,0.3s						
HLNI	**Lentini**	**0.36**	**185**	P	Pb	05 40 35.2	0.0
HLNI				S	Sn	05 40 41.8	-0.6
HLNI				AML	AML		
	comp=E,278μm,1.3s						
HLNI				AML	AML		
	comp=N,340μm,0.3s						
HAGA	**Augusta**	**0.47**	**155**	P	Pb	05 40 37.0	+0.2
HAGA				S	Sn	05 40 44.5	-0.5

*IDC **20** 05:42:23.9±0.6, 54°.50N×161°.52W, h0km, mb4.5/28, mbtmp4.5/31, ML4.0/3, MS3.5/25, Error ellipse: s-maj=18.5km s-min=11.0km az=174.0*
*MOS **20** 05:42:28.4±1.0, 54°.64N×161°.53W, h35km, mb5.2/32, Error ellipse: s-maj=13.2km s-min=5.9km az=98.1*
*NEIC **20** 05:42:29.3±2.6, 54°.31N±0°.05×161°.25W±0°.06, h35km±2km, mb4.7/114, ML4.3(AEIC), Error ellipse: s-maj=9.4km s-min=5.4km az=169.0*
*AEIC **20** 05:42:31.0±2.4, 54°.35N±0°.05×161°.27W±0°.06, h35km±6km, Error ellipse: s-maj=8.1km s-min=4.9km az=166.0*
*BGR **20** 05:42:32.7, 54°.94N×163°.89W, h33km, mb4.5*
ISC 20 05:42:29.5±0.8, 54°.38N±0°.05×161°.29W±0°.03, h45km±6km, n500, σ1$23/462, mb4.8/132, MS3.5/24, 27C-32D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAG	**Hague Volcano**	**1.00**	**340**		**Pn**	**05 42 47.9**	**+0.7**
HAG					**Sn**	**05 43 02.8**	**+2.6**
PS4A	**Pavlof South-4**	**1.02**	**342**		**Pn**	**05 42 48.0**	**+0.6**
PS4A					**Sn**	**05 43 02.2**	**+1.6**
PVV	**Pavlof Volcano**	**1.04**	**344**		**Pn**	**05 42 48.3**	**+0.7**
PVV					**Sn**	**05 43 02.6**	**+1.6**
PS1A	**Pavlof South-1**	**1.07**	**346**		**Pn**	**05 42 49.0**	**+0.8**
PS1A					**Sn**	**05 43 03.4**	**+1.5**
CNBA	**Chernabura Isl**	**1.09**	**65**		**Sn**	**05 43 02.5**	**+0.4**
CNBA	**Chernabura Isl**	**1.09**	**65**	Pn	**Pn**	**05 42 48.4**	**+0.2**
CHNA	**Chernabura Isl**	**1.09**	**65**	P	**Pn**	**05 42 48.5**	**+0.2**
	baz=244						
CHNA				S	**Sn**	**05 43 02.5**	**+0.3**
	baz=244						
CHNA	**Chernabura Isl**	**1.09**	**65**	P	**Pn**	**05 42 48.6**	**+0.3**
PN7A	**Pavlof North-7**	**1.13**	**339**		**Pn**	**05 42 49.9**	**+0.9**
PN7A					**Sn**	**05 43 05.4**	**+2.0**
FALS	**False Pass**	**1.32**	**292**		**Pn**	**05 42 52.1**	**+0.6**
FALS					**Sn**	**05 43 08.8**	**+0.8**
FALS	**False Pass**	**1.32**	**292**	P	**Pn**	**05 42 52.1**	**+0.6**
	baz=112						
FALS				S	**Sn**	**05 43 08.8**	**+0.8**
	baz=112						
FALS	**False Pass**	**1.32**	**292**	P	**Pn**	**05 42 52.3**	**+0.8**
S12K	**Black Hills**	**1.40**	**342**	Pn	**Pn**	**05 42 52.4**	**-0.1**
S12K	**Black Hills**	**1.40**	**342**	P	**Pn**	**05 42 53.7**	**+1.1**
	baz=161						
ISLZ	**Isanotski Laza**	**1.45**	**285**		**Pn**	**05 42 54.1**	**+0.8**
ISLZ					**Sn**	**05 43 12.8**	**+1.6**
ISNN	**Isanotski Nort**	**1.52**	**288**		**Pn**	**05 42 55.8**	**+1.6**
ISNN					**Sn**	**05 43 16.0**	**+3.3**
WESE	**West Dahl East**	**1.93**	**274**		**Pn**	**05 43 01.1**	**+1.2**
VNKR	**Veniaminof 5**	**1.99**	**33**		**Pn**	**05 43 02.4**	**+1.7**
WEBT	**Westdahl Beart**	**2.03**	**277**		**Pn**	**05 43 02.5**	**+1.3**
S14K	**Fog Glacier**	**2.15**	**27**	P	**Pn**	**05 43 05.5**	**+2.5**
	baz=207						
VNFG	**Fog Glacier, M**	**2.15**	**27**		**Pn**	**05 43 05.5**	**+2.5**
VNFG	**Fog Glacier, M**	**2.15**	**27**		**Pn**	**05 43 05.5**	**+2.5**
VNFG	**Fog Glacier, M**	**2.15**	**27**	P	**Pn**	**05 43 06.1**	**+3.1**
	baz=207						
VNHG	**Veniaminof 1**	**2.21**	**33**		**Pn**	**05 43 05.6**	**+1.8**
CHGN	**Chignik**	**2.53**	**39**		**Sn**	**05 43 39.4**	**+1.8**
CHGN	**Chignik**	**2.53**	**39**	Pn	**Pn**	**05 43 09.3**	**+1.2**
CHGN	**Chignik**	**2.53**	**39**	P	**Pn**	**05 43 09.6**	**+1.5**
	baz=221						
CHGN				S	**Sn**	**05 43 39.4**	**+1.8**
	baz=221						
AHB	**Akutan Harbor**	**2.67**	**266**		**Pn**	**05 43 11.3**	**+1.4**
AKBBA	**Akutan Broad B**	**2.74**	**266**		**Pn**	**05 43 12.1**	**+1.2**
AKV	**Akutan Volcano**	**2.75**	**267**		**Pn**	**05 43 12.4**	**+1.2**
ZRO	**Akutan Zero**	**2.77**	**266**		**Pn**	**05 43 12.5**	**+1.2**
AKMO	**Akutan Morgan**	**2.78**	**266**		**Pn**	**05 43 12.8**	**+1.3**
LVA	**Lava Point**	**2.79**	**267**	Pn	**Pn**	**05 43 12.7**	**+1.1**
UNV	**Unalaska Valle**	**3.11**	**262**		**Pn**	**05 43 16.6**	**+0.6**

UNV Unalaska Valle 3.11 262 P Pn 05 43 16.6 +0.6
baz=79
UNV Unalaska Valle 3.11 262 P Pn 05 43 16.8 +0.8
ANNE Aniakchak Nort 3.13 35 Pn 05 43 17.9 +1.5
MREP Makushin Rep't 3.26 262 Pn 05 43 19.0 +0.8
MGOD Makushin Gods 3.34 262 Pn 05 43 20.1 +0.9
CHIR Chirikof Islan 3.56 64 Pn Pn 05 43 22.5 +0.3
CHIR Chirikof Islan 3.56 64 P Pn 05 43 22.7 +0.5
baz=248
CHIR Chirikof Islan 3.56 64 P Pn 05 43 23.0 +0.8
R16K Pilot Point 3.82 32 Pn Pn 05 43 27.5 +1.8
R16K Pilot Point 3.82 32 P Pn 05 43 27.4 +1.7
baz=214
OKTU Okmok Mt. Tuli 4.12 259 Pn 05 43 31.3 +1.4
PLBL Peulik Blue Cr 4.17 35 Pn 05 43 32.1 +1.6
OKCE Okmok Cone E 4.17 260 Pn 05 43 32.1 +1.5
OKWE Okmok W'ng Wal 4.21 260 Pn 05 43 32.3 +1.2
R17L Mt. Peulik Vol 4.28 38 P Pn 05 43 34.0 +2.0
baz=222
PLK4 Peulik 4 4.28 38 Pn Pn 05 43 33.9 +1.8
PLK5 Peulik 5 4.38 32 Pn 05 43 35.4 +1.9
SII Sitkinak Islan 4.60 59 Pn Pn 05 43 36.9 +0.4
SII Sitkinak Islan 4.60 59 P Pn 05 43 37.0 +0.6
baz=244
SII Sitkinak Islan 4.60 59 P Pn 05 43 37.1 +0.7
NIKH Nikolski High 4.71 256 P Pn 05 43 38.4 +0.4
KJL Kejulik 4.87 39 Pn 05 43 41.6 +1.4
O15K Ungalikthiuk R 4.88 9 Pn 05 43 40.9 +0.7
O14K Tigyukauivet M 4.89 0 Pn Pn 05 43 41.4 +1.0
Q17K Contact Creek 4.92 36 P Pn 05 43 42.2 +1.2
baz=220
R18K Karluk 5.00 47 Pn 05 43 42.7 +0.9
P16K Nushagak River 5.01 20 P Pn 05 43 43.4 +1.4
baz=202
Q16K King Salmon 5.01 29 P Pn 05 43 43.9 +1.8
baz=212
ACHA Angle Creek He 5.08 38 Pn Pn 05 43 44.2 +1.1
OHAK Old Harbor 5.34 55 Pn Pn 05 43 46.5 -0.1
OHAK Old Harbor 5.34 55 P Pn 05 43 46.5 -0.1
O16K Kokwok River B 5.51 17 Pn Pn 05 43 50.4 +1.4
Q18K Katmai Hardscr 5.51 37 P Pn 05 43 50.4 +1.3
baz=221
P17K Kvichak River 5.51 27 P Pn 05 43 51.1 +2.1
baz=211
N14K Kuskokwak Cree 5.56 358 Pn 05 43 50.9 +1.2
SPIA Saint Paul Isl 5.78 303 Pn 05 43 54.6 +2.0
SPIA Saint Paul Isl 5.78 303 P Pn 05 43 54.9 +2.3
N15K Kwethluk River 5.84 6 Pn Pn 05 43 55.0 +1.6
O17K Koliganek Bris 5.87 21 Pn 05 43 54.9 +1.1
KDAK Kodiak Island 5.95 52 Pn Pn 05 43 54.2 -0.7
22nm,0.3s,baz=54,slow=4.3,SNR=390
KDAK Sn Sn 05 44 58.1 -3.6
6.9nm,0.3s,baz=359,slow=22,SNR=6.8
35nm,0.3s
KDAK Kodiak Island 5.95 52*d* *i*P Pn 05 43 54.6 -0.3
P18K Big Mountain, 6.02 31 Pn Pn 05 43 56.6 +0.6
P18K Big Mountain, 6.02 31 P Pn 05 43 57.7 +1.7
baz=216
M13K Dall Lake 6.15 350 Pn Pn 05 43 59.0 +1.3
M13K Dall Lake 6.15 350 P Pn 05 43 59.5 +1.9
baz=169
Q19K Cape Douglas, 6.21 40 Pn Pn 05 43 58.9 +0.4
Q19K Cape Douglas, 6.21 40 P Pn 05 43 59.6 +1.1
baz=226
N16K Nishlik Lake 6.26 12 Pn 05 44 00.7 +1.4
M15K Kasigluk River 6.34 3 Pn 05 44 01.1 +0.8
M14K Bethel 6.40 357 Pn Pn 05 44 01.4 +0.3
O18K Koktuh Hills 6.41 29 Pn Pn 05 44 02.8 +1.6
O18K Koktuh Hills 6.41 29 P Pn 05 44 03.2 +1.9
baz=213
SYI Shuyak Island 6.50 46 Pn Pn 05 44 02.6 +0.1
N17K Nushagak Hills 6.55 18 Pn Pn 05 44 04.0 +0.9
M11K Mekoryuk 6.58 338 Pn Pn 05 44 04.4 +0.9
AUCH Augustine Cone 6.59 38 Pn 05 44 05.5 +1.7
M16K Timber Creek 6.78 10 Pn 05 44 07.5 +1.2
P19K Oil Pt 6.88 37 Pn Pn 05 44 09.2 +1.5
N18K Kilae Creek 6.95 23 Pn Pn 05 44 10.2 +1.5
L14K Kuka Creek 7.02 355 Pn 05 44 10.2 +0.7
ILSW Iliamna Southw 7.15 35 Pn 05 44 12.7 +1.2
ILS Iliamna Low So 7.16 35 Pn 05 44 12.9 +1.3
IVE Iliamna Volcan 7.22 35 Pn 05 44 13.5 +1.1
M17K Holitna River 7.33 15 Pn 05 44 14.9 +1.0
O20K Slope Mountain 7.40 36 Pn 05 44 16.4 +1.5
N19K Bonanza Creek 7.41 27 Pn 05 44 17.1 +2.0
HOM Homer 7.46 41 Pn 05 44 16.9 +1.3
CNPM China Poot 7.54 43 Pn 05 44 17.2 +0.5
RDWB Redoubt West 7.63 33 Pn 05 44 19.9 +1.8
M18K Stony River 7.70 20 Pn 05 44 20.0 +1.1
K13K Kusilvak Mount 7.78 348 Pn 05 44 21.1 +1.1
BRLK Bradley Lake 7.82 42 Pn 05 44 20.1 -0.5
RDT Redoubt 7.84 34 Pn 05 44 22.1 +1.3
BRSE Bradley Lake S 7.87 43 Pn 05 44 20.8 -0.4
L17K Donlin 7.94 10 Pn 05 44 22.8 +0.7
K15K Wolf Creek Mou 7.94 359 Pn 05 44 22.7 +0.5
KOFP Korovin Flat P 7.95 260 Pn 05 44 24.0 +1.5
KOWE Korovin West 8.01 261 Pn 05 44 24.9 +1.6
ATKA Atka Island 8.03 260 Pn Pn 05 44 24.3 +0.8
ATKA Atka Island 8.03 260 P Pn 05 44 24.5 +1.0
L18K Granite Mounta 8.22 15 Pn 05 44 26.9 +0.8
M19K Big River Lodg 8.38 23 Pn 05 44 29.6 +1.4
SPU Mount Spurr 8.41 32 Pn 05 44 29.9 +1.2
SPCP Crater Peak Br 8.45 32 Pn 05 44 30.8 +1.5
J14K Nanvaranak Lak 8.48 353 Pn 05 44 30.2 +0.7
K17K Iditarod 8.51 9 Pn 05 44 30.8 +0.9
SPCG Spurr Capps Gl 8.51 32 Pn 05 44 31.4 +1.3
L19K White Mountain 8.52 21 Pn 05 44 30.7 +0.5
SEW Seward 8.60 43 Pn 05 44 30.8 -0.5
J16K Anvik River 8.94 2 Pn 05 44 36.8 +0.9
TTA Tatalina 9.00 16 Pn 05 44 36.7 -0.1
TTA Tatalina 9.00 16 P Pn 05 44 38.0 +1.2
J17K VABM Dome 9.12 6 Pn 05 44 38.5 +0.2
RC01 Rabbit Creek A 9.12 38 Pn 05 44 38.4 0.0
GSTR Great Sitkin T 9.15 262 Pn Pn 05 44 39.4 +0.6
GSMY Great Sitkin M 9.16 261 Pn 05 44 39.8 +0.7
SKT Skwentna 9.19 30 Pn 05 44 40.7 +1.3
J18K Innoko River 9.41 13 Pn 05 44 43.2 +0.9
PWL Port Wells 9.50 42 Pn 05 44 42.7 -0.9
ADK Adak 9.58 261 Pn Pn 05 44 45.2 +0.5
ADK Adak 9.58 261 P Pn 05 44 45.4 +0.7
MID Middleton Isla 9.61 52 P Pn 05 44 45.3 +0.3
PMR Palmer 9.68 37 Pn 05 44 44.1 -1.8
PMR Palmer 9.68 37 P Pn 05 44 45.0 -1.0
K20K Telida 9.74 20 Pn 05 44 47.5 +0.7
KIWB Kanaga Island 9.86 262 Pn 05 44 49.1 +0.6
CAST Castle Rocks 10.23 34 Pn Pn 05 44 54.0 +0.5
KAIM Kayak Island 10.70 52 Pn Pn 05 45 00.5 +0.5
SUCK Suckling Hills 11.06 52 Pn Pn 05 45 05.5 +0.6
BPAW Bear Paw Mtn. 11.06 24 Pn Pn 05 45 05.4 +0.4
N25K Chitina, Valde 11.41 44 Pn Pn 05 45 08.8 -0.9
F15K North Star Dit 11.49 353 Pn 05 45 11.5 +0.9
GLB Gilahina Butte 11.65 46 Pn Pn 05 45 12.1 -0.9
MLY Manley 11.91 22 Pn Pn 05 45 15.3 -1.3
IMAR Indian Mountai 12.22 15 Pn Pn 05 45 21.8 +1.1
M26K Nabesna, AK 12.48 43 Pn Pn 05 45 23.7 -0.5
ILAR Eielson Array 12.68 29 Pn Pn 05 45 23.3 -3.7
0.6nm,0.3s,baz=224,slow=13,SNR=29
ILAR LR LR 05 50 47.0
comp=Z,180nm,21.6s,baz=254,slow=40
F20K Avaraart Lake 12.99 10 Pn Pn 05 45 31.5 +0.3
SCRK Sand Creek 13.04 36 Pn Pn 05 45 30.2 -1.7
H24K Noodor Dome 13.25 25 Pn 05 45 31.5 -3.3
BCAR Beaver Creek A 13.30 41 Pn Pn 05 45 34.1 -1.5
P29M Windy Craggy 13.83 58 Pn Pn 05 45 43.4 +0.7
HYT Haines Junctio 14.24 53 Pn Pn 05 45 48.6 +0.3
SHEM Shemya Is, Ala 14.70 274 LR LR 05 51 43.8
comp=Z,34nm,21.1s,baz=106,slow=38
DAWY Dawson 14.74 40 Pn Pn 05 45 53.6 -1.3
E24K Your Creek 15.01 19 IAmb IAmb 05 46 04.5
comp=Z,16nm,0.6s
SKAG Skagway 15.01 60 IAmb IAmb 05 46 11.2
comp=Z,46nm,0.6s
D22K Ayilyak River 15.09 12 IAmb IAmb 05 46 05.3
comp=Z,22nm,0.8s
N31M Braeburn, Yuko 15.23 52 IAmb IAmb 05 46 41.2
comp=Z,35nm,0.6s
S32K Killisnoo 15.25 67 IAmb IAmb 05 46 05.1
comp=Z,78nm,1.4s
R32K Eaglecrest 15.30 64 IAmb IAmb 05 46 15.1
comp=Z,43nm,0.9s
TOLK Toolik Lake Re 15.31 16 IAmb IAmb 05 46 08.4
comp=Z,16nm,0.6s
I28M Miner Creek 15.31 35 IAmb IAmb 05 46 08.5
comp=Z,9.5nm,0.5s
K29M Barlow Dome 15.36 42 IAmb IAmb 05 46 17.0
comp=Z,15nm,0.7s
J29N Klondike Camp 15.38 40 IAmb IAmb 05 46 21.9
comp=Z,44nm,0.5s
D23K Nanushuk River 15.44 14 IAmb IAmb 05 46 09.2
comp=Z,27nm,1.3s
B21K Ikpikpuk River 15.60 9 IAmb IAmb 05 46 10.5
comp=Z,34nm,0.8s
B20K Meade River 15.80 5 IAmb IAmb 05 46 12.9
comp=Z,65nm,1.1s
P32M Atlin 15.84 60 IAmb IAmb 05 46 31.6
comp=Z,26nm,0.7s
MAYO Mayo, Yukon 15.90 44 IAmb IAmb 05 46 53.5
comp=Z,56nm,0.8s
J30M Hart River 16.15 41 IAmb IAmb 05 46 38.1
comp=Z,20nm,0.7s
C23K Itkillik River 16.25 13 IAmb IAmb 05 46 18.0
comp=Z,40nm,1.2s
P33M Teslin, Yukon 16.37 58 IAmb IAmb 05 46 44.3
comp=Z,59nm,0.6s
B22K Teshekpuk Lake 16.40 9 IAmb IAmb 05 46 19.0
comp=Z,28nm,0.6s
N32M Quiet Lake 16.41 54 IAmb IAmb 05 46 52.7
comp=Z,53nm,0.6s
I30M Mount Dempster 16.45 39 IAmb IAmb 05 46 31.9
comp=Z,44nm,1.0s
WRAK Wrangell Islan 16.51 71 IAmb IAmb 05 46 22.0
comp=Z,45nm,1.0s
Q32M Nakina River 16.52 62 IAmb IAmb 05 46 21.1
comp=Z,25nm,0.9s
EPYK Eagle Plains 16.93 35 IAmb IAmb 05 46 32.5
comp=Z,20nm,0.7s
H31M Peel River 17.47 38 IAmb IAmb 05 46 42.8
comp=Z,29nm,0.9s
DLBC Dease Lake 17.68 64 P P 05 46 34.1 +1.5
DLBC Dease Lake 17.68 64 P Pn 05 46 31.8 -0.4
comp=Z,0.1nm,0.3s,baz=272,slow=15,SNR=4.4
comp=Z,3.5nm,0.8s
INK Inuvik 19.03 32 P P 05 46 45.9 -1.4
comp=Z,0.6nm,0.3s,baz=228,slow=12,SNR=21
INK S Sn 05 50 14.1 -6.2
comp=Z,2.0nm,0.6s,baz=240,slow=32,SNR=6.2
comp=Z,3.0nm,0.6s
BBB Bella Bella 19.86 83 LR LR 05 53 14.1
comp=Z,84nm,19.4s,baz=273,slow=32
BILL Bilibino 20.41 325⇑ *e*P P 05 46 57.6 -4.8
BILL pmax pmax
comp=Z,26nm,1.8s
C36M Paulatuk 22.55 34 P P 05 47 24.0 -1.3
A36M Sachs Harbour 23.37 27 P P 05 47 31.6 -2.0
A36M IAmb IAmb 05 47 45.9
comp=Z,9.5nm,0.8s
PET Petropavlovsk 23.53 283 P P 05 47 34.8 -0.6
PET IAmb IAmb 05 47 36.0
comp=Z,30nm,0.9s
PET Petropavlovsk 23.53 283 *e*P P 05 47 35.3 0.0
PET *e*S S 05 51 39.1 -6.7
PET pmax pmax
comp=Z,42nm,0.9s
PET MLR MLR
comp=Z,100nm,16.0s
PET Petropavlovsk 23.53 283 P P 05 47 34.5 -0.8
comp=Z,43nm,1.1s
PEA0B Petropavlovsk- 24.05 284 P P 05 47 39.8 -0.4
PEA0B IAmb IAmb 05 47 40.9
comp=Z,31nm,0.6s
PEA0B Petropavlovsk- 24.05 284*d* *i*P P 05 47 40.4 +0.3
PETK Petropavlovsk- 24.05 284 P P 05 47 39.2 -0.9
comp=Z,29nm,0.6s,baz=82,slow=14,SNR=24
PETK LR LR 05 57 09.7
comp=Z,60nm,21.2s,baz=80,slow=37
comp=Z,29nm,0.6s
SEY Seymchan 25.04 309⇓ *e*P P 05 47 47.4 -1.7
SEY pmax pmax
comp=Z,20nm,1.5s
YKA Yellowknife Ar 25.23 52 P P 05 47 52.5 +1.7
comp=Z,0.8nm,0.4s,baz=256,slow=15,SNR=7.5
comp=Z,0.8nm,0.4s
MA2 Magadan 26.16 301 LR LR 05 58 05.5
comp=Z,63nm,19.6s,baz=89,slow=36
DBO Dodson Butte 27.17 99 P P 05 48 11.4 +2.8
HAWA Hanford 27.45 90 P P 05 48 13.4 +2.4
HAWA IAmb IAmb 05 48 14.7
comp=Z,5.2nm,0.6s
NEW Newport 27.90 84 LR LR 05 56 56.9
comp=Z,87nm,21.8s,baz=272,slow=31
YBH Yreka Blue Hor 28.34 101 LR LR 05 56 58.1
comp=Z,131nm,21.8s,baz=327,slow=31
MFID Camas Ranch 31.31 92 P P 05 48 47.3 +2.0
RES Resolute Bay 32.42 27 LR LR 06 03 23.8
comp=Z,75nm,18.9s,baz=353,slow=39
NVAR Mina Array Bea 33.06 101 P P 05 49 03.7 +2.8
comp=Z,1.0nm,0.9s,baz=283,slow=9.7,SNR=4.8
NVAR PcP PcP 05 51 44.7 +1.3
comp=Z,0.6nm,0.7s,baz=279,slow=2.1,SNR=4.6
NVAR LR LR 05 59 42.5
comp=Z,112nm,21.6s,baz=328,slow=31
comp=Z,1.0nm,0.9s
ELK Elko 33.30 95 P P 05 49 05.6 +2.6
TIXI Tiksi 33.58 327 LR LR 06 02 03.6
comp=Z,72nm,20.6s,baz=154,slow=35
TIXI Tiksi 33.58 327⇓ *e*P P 05 49 01.8 -2.9
TIXI pmax pmax
comp=Z,17nm,3.0s
PDAR Pinedale Array 35.36 87 P P 05 49 22.7 +1.9
comp=Z,0.2nm,0.5s,baz=322,slow=4.8,SNR=3.9
PDAR LR LR 06 01 52.3
comp=Z,22nm,18.9s,baz=13,slow=33
YAK Yakutsk 35.51 311 P P 05 49 19.5 -2.0
YAK Yakutsk 35.51 311 LR LR 06 04 49.3
comp=Z,92nm,19.9s,baz=82,slow=38
YAK Yakutsk 35.51 311*d* *i*P P 05 49 20.2 -1.3
YAK pmax pmax
comp=Z,32nm,0.6s
PFO Pinyon Flats O 37.53 105 LR LR 06 01 59.3
comp=Z,65nm,18.6s,baz=312,slow=31
O20A White River Ci 37.78 90 IAmb IAmb 05 49 59.3
comp=Z,9.9nm,1.0s
ULM Lac du Bonnet 38.92 68 P P 05 49 52.4 +1.9
comp=Z,1.8nm,0.4s,baz=283,slow=12,SNR=2.5
ULM LR LR 06 05 20.8
comp=Z,53nm,19.3s,baz=53,slow=35
comp=Z,1.8nm,0.4s
ZEA Zeya 40.28 299 *e*P P 05 50 01.1 -0.7
ZEA pmax pmax
comp=Z,10.0nm,0.5s
KLR Kul'dur 40.31 291 P P 05 50 01.7 -0.4
comp=Z,5.1nm,0.7s,baz=64,slow=9.2,SNR=8.3
comp=Z,5.1nm,0.7s
KLR Kul'dur 40.31 291 *e*P P 05 50 00.4 -1.7
KLR pmax pmax
comp=Z,12nm,1.2s
NEEM North Greenlan 41.66 18 *i*P P 05 50 12.9 -0.3
NEEM IAmb IAmb 05 50 15.6
comp=Z,12nm,1.0s
KULLO Kullorsuaq 41.98 23 *i*P P 05 50 16.0 +0.5
KULLO IAmb IAmb 05 50 18.8
comp=Z,12nm,1.2s
HEH HeiHe 42.07 295 *e*P P 05 50 15.3 -1.2
HEH pmax pmax
comp=Z,12nm,0.8s
H11N2 WAKE ISLAND Hy 42.23 228 T T 06 35 10.4
baz=27,slow=76,SNR=52
H11N3 WAKE ISLAND Hy 42.23 228 T T 06 35 10.8
baz=27,slow=76,SNR=29
H11N1 WAKE ISLAND Hy 42.24 228 T T 06 35 12.2
baz=27,slow=76,SNR=25
ANMO Albuquerque 42.33 94 LR LR 06 06 43.7
comp=Z,29nm,18.1s,baz=159,slow=34
NOR Nord 42.94 7 *i*P P 05 50 22.6 -0.6
NOR IAmb IAmb 05 50 24.7
comp=Z,7.0nm,0.9s
USRK Ussuriysk Ar. 43.13 285 P P 05 50 23.9 -1.3
comp=Z,0.7nm,0.4s,baz=46,slow=10,SNR=2.6
comp=Z,0.7nm,0.4s
H11S1 WAKE ISLAND Hy 43.40 227 T T 06 36 47.6
baz=27,slow=76,SNR=27
H11S2 WAKE ISLAND Hy 43.41 227 T T 06 36 48.7
baz=27,slow=76,SNR=26
H11S3 WAKE ISLAND Hy 43.41 227 T T 06 36 42.4
baz=27,slow=76,SNR=22
MDJ Mudanjiang 44.22 287 P P 05 50 34.5 +0.5
MDJ pmax pmax
comp=Z,9.0nm,1.2s
FRB Frobisher Bay 44.44 39 LR LR 06 10 16.3
comp=Z,128nm,18.2s,baz=288,slow=38
MJAR Matsushiro Arr 44.54 272 P P 05 50 36.6 0.0
comp=Z,5.1nm,0.8s,baz=47,slow=7.8,SNR=8.3
comp=Z,5.1nm,0.8s
MJB9 Matsu-Tunnel 44.54 272 P P 05 50 37.4 +0.7
MJB9 IAmb IAmb 05 50 37.9
comp=Z,14nm,1.0s
MAJO Matsushiro 44.54 272 P P 05 50 37.1 +0.5
MAJO IAmb IAmb 05 50 37.9
comp=Z,15nm,1.0s
MAJO Matsushiro 44.54 272*d* *i*P P 05 50 37.3 +0.7
MAJO pmax pmax
comp=Z,20nm,1.2s
MSHR Mys Shultsa 44.62 284*d* *i*P P 05 50 37.5 +0.3
MSHR pmax pmax
comp=Z,38nm,0.9s
BNX BinXian 44.74 290 ⇓P P 05 50 37.4 -0.7
BNX pmax pmax
comp=Z,13nm,1.0s
PSTR Posyet 44.78 284⇑ *e*P P 05 50 39.1 +0.7
DAG Danmarks Havn 46.99 11 *i*P P 05 50 55.0 -0.4
DAG IAmb IAmb 05 50 56.0
comp=Z,15nm,0.6s
SUMG Summit 47.33 20 *i*P P 05 50 58.5 -0.1
SUMG IAmb IAmb 05 51 05.4
comp=Z,25nm,1.3s
SPITS Spitsbergen Ar 47.70 1 P P 05 51 00.1 -0.9
comp=Z,5.1nm,0.6s,baz=12,slow=4.4,SNR=9.6
SPITS PcP PcP 05 52 29.7 +0.2
comp=Z,8.7nm,0.9s,baz=349,slow=1.7,SNR=4.4
comp=Z,5.1nm,0.6s
TX31 Lajitas Ar. Si 48.02 97 P P 05 51 04.8 +0.7
TX31 IAmb IAmb 05 51 24.7
comp=Z,5.7nm,1.4s
TXAR Lajitas Array 48.02 97 P P 05 51 06.1 +1.9
comp=Z,0.5nm,0.7s,baz=312,slow=6.5,SNR=5.0
TXAR PcP PcP 05 52 32.6 +1.0
comp=Z,0.7nm,0.5s,baz=244,slow=0.9,SNR=10.0
SFJD Kangerlussuaq 48.35 29 *i*P P 05 51 06.7 +0.7
HDIL Hopedale 48.47 75 P P 05 51 07.7 +0.3
ICESG Greenland Ices 49.70 24 *i*P P 05 51 17.4 +0.6
ICESG IAmb IAmb 05 51 19.7
comp=Z,29nm,1.0s
KSRS Korea Array 49.88 281 P P 05 51 18.8 +0.6
comp=Z,7.4nm,0.8s,baz=50,slow=7.2,SNR=21
comp=Z,7.4nm,0.8s
DY2G Dye2 49.95 28 *i*P P 05 51 18.4 -0.2
DY2G IAmb IAmb 05 51 32.1
comp=Z,42nm,1.4s
SCHQ Schefferville 50.57 48 P P 05 51 23.6 +0.5
comp=Z,2.1nm,0.7s,baz=345,slow=2.5,SNR=1.8
comp=Z,2.1nm,0.7s
TJN Taejon 50.95 280*de*P P 05 51 27.2 +0.9
SCO Scoresbysund 52.07 16 *i*P P 05 51 34.7 +0.6
XLT XiLinHaoTe 52.07 295 *e*P P 05 51 32.8 -1.9
XLT pmax pmax
comp=Z,21nm,1.3s
WVT Waverly 52.34 79 P P 05 51 37.4 +0.8
WVT IAmb IAmb 05 51 50.8
comp=Z,6.0nm,0.7s
ULN Ulaanbaatar 53.97 304 P P 05 51 48.3 -0.3
ULN IAmb IAmb 05 51 49.4
comp=Z,12nm,1.1s
ULN Ulaanbaatar 53.97 304 ⇓ *i*P P 05 51 47.9 -0.8
ULN pmax pmax
comp=Z,12nm,1.0s
NRS Narsarsuaq 54.16 33 *i*P P 05 51 44.5 -5.1
SONM Songino Array 54.31 304 P P 05 51 51.5 +0.4
comp=Z,7.0nm,0.7s,baz=46,slow=7.0,SNR=38
SONM PcP PcP 05 52 55.0 +0.3
comp=Z,2.7nm,0.6s,baz=80,slow=2.1,SNR=7.6
comp=Z,7.0nm,0.7s
TKL Tuckaleeche C 54.99 76 LR LR 06 14 12.7
comp=Z,75nm,19.3s,baz=14,slow=35
ARCES ARCESS Array B 56.29 357 P P 05 52 04.1 -0.8
comp=Z,1.6nm,0.4s,baz=28,slow=7.6,SNR=12
comp=Z,1.6nm,0.4s
KNGR Kungurtug, Tuv 56.45 311⇓ *e*P P 05 52 07.2 +0.8
KNGR pmax pmax
comp=Z,15nm,0.9s
TIA Tai'an 56.89 287 P P 05 52 10.1 +0.5
TIA pmax pmax
comp=Z,9.0nm,1.4s
BORG Borgarnes 57.28 19 LR LR 06 19 22.3
comp=Z,41nm,18.1s,baz=273,slow=39
ZAA0 Zalesovo Array 59.06 321 P P 05 52 23.5 -1.1
ZAA0 IAmb IAmb 05 52 25.2
comp=Z,6.8nm,1.2s
ZALV Zalesovo Beam 59.06 321 P P 05 52 24.2 -0.3
comp=Z,1.2nm,0.3s,baz=27,slow=5.9,SNR=8.0
ZALV LR LR 06 20 17.3
comp=Z,59nm,18.8s,baz=70,slow=39
comp=Z,1.2nm,0.3s
ZALV Zalesovo Beam 59.06 321 *i*P P 05 52 24.5 0.0
ZALV pmax pmax
comp=Z,1.0nm,0.3s
JOF Joensuu 62.62 354 *e*P P 05 52 48.1 -0.4
XAN Xi'an 63.02 291 P P 05 52 51.8 +0.1
XAN pP pP 05 53 02.0 -2.5
XAN pmax pmax
comp=Z,11nm,1.1s
KEF Keuruu 63.69 357 *e*P P 05 52 55.5 -0.1
GTA Gaotai 63.72 301 *e*P P 05 52 56.3 -0.1
GTA pP pP 05 53 03.0 -6.2
GTA pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 63.92 322 P P 05 52 56.3 -1.1
KURK IAmb IAmb 05 52 58.2
comp=Z,15nm,1.1s
KURK Kurchatov 63.92 322*d* *i*P P 05 52 57.5 +0.1
KURK pmax pmax
comp=Z,23nm,1.7s
KURBB Kurchatov Arra 64.03 322 P P 05 52 57.9 -0.2
comp=Z,3.8nm,0.7s,baz=29,slow=6.6,SNR=16
comp=Z,3.8nm,0.7s
LZH Lanzhou 64.19 296 *e*P P 05 53 00.0 +0.4
LZH sP pP 05 53 12.8 +0.4
LZH pmax pmax
comp=Z,33nm,1.1s
FINES FINESS Array B 64.37 356 P P 05 52 59.8 -0.3
comp=Z,9.1nm,0.4s,baz=16,slow=7.5,SNR=110
comp=Z,9.1nm,0.4s
NC204 NORSAR Array S 64.52 4 P P 05 53 00.8 -0.4
NC303 NORSAR Array S 64.59 4 P P 05 53 01.7 +0.1
KIRV Kirov 64.69 343 LR LR 06 24 33.6
comp=Z,29nm,18.6s,baz=350,slow=39
KIRV Kirov 64.69 343*ce*P P 05 53 02.3 0.0
BVAR Borovoye Array 64.71 328 P P 05 53 02.7 +0.2
comp=Z,34nm,0.6s,baz=39,slow=6.8,SNR=148
BRVK Borovoye 64.71 328 P P 05 53 01.8 -0.7
BRVK Borovoye 64.71 328*c* *i*P P 05 53 02.5 0.0
BRVK pmax pmax
comp=Z,23nm,0.7s
NC405 NORSAR Array S 64.72 4 P P 05 53 01.8 -0.6
NB2 NORSAR Subarra 64.77 4 P P 05 53 02.9 +0.1
comp=Z,9.4nm,0.8s,baz=357,slow=6.5
NOA NORSAR Array B 64.77 4 P P 05 53 03.0 +0.1
comp=Z,7.6nm,0.8s,baz=356,slow=6.6,SNR=25
comp=Z,7.6nm,0.8s
NOA NORSAR Array B 64.77 4 P P 05 53 03.0 +0.1
ARTI Arti 64.94 337 P P 05 53 02.6 -1.3
ARTI Arti 64.94 337 LR LR 06 27 18.2
comp=Z,39nm,18.6s,baz=0.5,slow=42
ARTI Arti 64.94 337*c* *i*P P 05 53 03.3 -0.6
ARTI 05 53 33.6
ARTI 05 55 23.5
ARTI S S 06 01 43.7 +1.9
ARTI SS SS 06 05 52.6 -0.3
ARTI pmax pmax
comp=Z,27nm,0.9s
TAOE Nuku Hiva Isla 65.47 157 *e*LR LR 06 12 48.6
comp=Z,49nm,24.6s
MEF Metsahovi 65.66 357 *e*P P 05 53 08.6 +0.1
HFS Hagfors 65.77 3 P P 05 53 09.1 -0.1
comp=Z,12nm,0.4s,baz=26,slow=3.8,SNR=65
comp=Z,12nm,0.4s
MK31 Makanchi Array 65.77 318*d* *i*P P 05 53 08.8 -0.7
MKAR Makanchi Array 65.77 318 P P 05 53 08.8 -0.7
comp=Z,1.8nm,0.5s,baz=43,slow=4.2,SNR=21
comp=Z,1.8nm,0.5s
PUL Pulkovo 65.82 354 *i*P P 05 53 07.8 -1.7
PUL pmax pmax
comp=Z,55nm,1.0s
WMQ Urumqi 65.94 312 *e*P P 05 53 10.8 +0.1
WMQ pmax pmax
comp=Z,22nm,0.9s
ARBE Arbavere 66.38 356 *e*P P 05 53 12.2 -0.9
MTSE Matsula 67.18 357 *e*P P 05 53 18.4 +0.1

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VSU  Vasula        67.33 355⇓eP      P     05 53 19.4 +0.2
VSU                          pmax    pmax
     comp=Z,29nm,1.3s
TJOU Tjoern        67.80   4 iP      P     05 53 22.3 +0.1
BORU Boraas        68.24   3 iP      P     05 53 24.7 -0.2
SLIT Slitere, Latvi 68.31 358 eP     P     05 53 25.4  0.0
OVD  Ostervraa, Den 68.45   5 iP      P     05 53 21.0 -5.2
OVD                          IAmb    IAmb  05 53 23.3
     comp=Z,126nm,1.0s
EKA  Eskdalemuir Ar 69.18  13 P       P     05 53 31.6 +0.7
     comp=Z,4.2nm,0.5s,baz=338,slow=4.6,SNR=23
     comp=Z,4.2nm,0.5s
MUD  Monsted U'grnd 69.25   6 iP      P     05 53 29.3 -1.9
MUD                          IAmb    IAmb  05 53 34.1
     comp=Z,11nm,0.5s
DEL  Delary        69.44   3 iP      P     05 53 30.7 -1.7
BLEU Blekinge      69.65   2 iP      P     05 53 33.0 -0.7
OBN  Obninsk       69.88 349⇓iP      P     05 53 32.9 -2.2
OBN                          i             05 53 58.5
OBN                          pmax    pmax
     comp=Z,26nm,1.3s
LUNU Lund          70.27   3 iP      P     05 53 36.9 -0.6
PABE Paberze       70.39 357 eP      P     05 53 38.7 +0.5
AKTO Aktyubinsk    70.48 335 LR      LR    06 27 49.8
     comp=Z,39nm,18.8s,baz=60,slow=39
NACGM Naroch       70.88 355⇑iP      P     05 53 40.9 -0.4
     comp=Z,16nm,0.7s,baz=5.6
BELG Belogornoye   70.91 342 LR      LR    06 28 17.2
     comp=Z,41nm,18.9s,baz=41,slow=39
BELG Belogornoye   70.91 342diP      P     05 53 41.2 -0.2
BELG                         pmax    pmax
     comp=Z,5.0nm,1.3s
ABKAR Akbulak array 71.07 333 IAmb   IAmb  05 53 43.8
     comp=Z,15nm,0.9s
MNK  Minsk         71.22 354 iP      P     05 53 42.6 -0.7
     comp=E,30nm,0.8s
MNK                          iP      P     05 53 42.6 -0.7
     comp=N,17nm,0.7s
MNK                          iP      P     05 53 42.6 -0.7
     comp=Z,24nm,0.7s,baz=5.7
MNK                          iPcP    PcP   05 54 02.3 -0.7
MNK                          iPP     PP    05 56 20.4 -0.5
MNK                          iPPP    PPP   05 58 03.8
MNK                          iS      S     06 02 57.7 +1.0
MNK                          iScS    ScS   06 03 44.2 +0.5
MNK                          iSS     SS    06 07 32.6 +2.8
MNK                          iSSS    SSS   06 10 52.1
MNK                          iLQ     LQ    06 14 58.2
MNK                          iLR     LR    06 27 47.5
MNK                          iLRM    MLR   06 29 50.8
     comp=Z,41nm,13.2s
MNK                          iLRM    MLR   06 29 57.5
     comp=N,299nm,21.4s
MNK                          iLRM    MLR   06 30 07.8
     comp=E,222nm,23.4s
MNK  Minsk         71.22 354 iP      P     05 53 42.6 -0.7
MNK                          i             05 54 02.3
MNK                          i             05 56 20.3
MNK                          iPPP    PPP   05 58 03.7
MNK                          iS      S     06 02 57.7 +1.0
MNK                          i             06 03 44.1
MNK                          iSS     SS    06 07 32.6 +2.8
MNK                          pmax    pmax
     comp=Z,24nm,0.7s
MNK                          pmax    pmax
     comp=N,17nm,0.7s
MNK                          pmax    pmax
     comp=E,30nm,0.8s
MNK                          MLR     MLR
     comp=Z,41nm,13.0s
MNK                          MLR     MLR
     comp=N,299nm,21.0s
MNK                          MLR     MLR
     comp=E,222nm,23.0s
TKM2 Tokmak 2      71.60 320 P       P     05 53 46.9 +0.8
     SNR=7.3
WUS  Wushi         71.65 316 IAmb    IAmb  05 53 47.7
     comp=Z,14nm,0.9s
KDJ  Kajisay       71.67 318 P       P     05 53 45.7 -0.8
KDJ                          IAmb    IAmb  05 53 48.1
     comp=Z,14nm,1.1s
USP  Ospenovka     71.72 320 P       P     05 53 47.4 +0.7
     SNR=10
TARG Taragay, Kyrgy 71.76 317 IAmb   IAmb  05 53 49.4
     comp=Z,5.4nm,0.5s
CHMS Chumysh       71.86 320 P       P     05 53 48.7 +1.2
     SNR=7.0
LPSR Galich'ya Gora 72.07 347 eP     P     05 53 46.7 -1.7
LPSR                         pmax    pmax
     comp=Z,10.0nm,0.7s
KBK  Karagaybulak  72.08 320 P       P     05 53 49.8 +0.9
     SNR=12
AAK  Ala-Archa     72.26 320 P       P     05 53 51.2 +1.2
     SNR=16
AAK  Ala-Archa     72.26 320 P       P     05 53 49.3 -0.8
AAK                          IAmb    IAmb  05 53 51.7
     comp=Z,16nm,0.8s
AAK  Ala-Archa     72.26 320 P       P     05 53 50.3 +0.2
     comp=Z,21nm,1.0s,baz=72,slow=6.0,SNR=35
AAK                          LR      LR    06 26 26.5
     comp=Z,62nm,19.6s,baz=24,slow=37
     comp=Z,21nm,1.0s
AAK  Ala-Archa     72.26 320⇓iP      P     05 53 50.1 +0.1
AAK                          pmax    pmax
     comp=Z,15nm,0.7s
PPT2 Papeete2      72.38 168 eLR     LR    06 15 54.3
     comp=Z,43nm,23.0s
PPT2                         eLR     LR    06 15 57.7
     comp=Z,113nm,31.8s
EKS2 Erkin-Say     72.51 321 P       P     05 53 52.4 +0.9
     SNR=8.8
PZH  PanZhiHua     72.76 291 P       P     05 53 53.4 +0.2
PZH                          pmax    pmax
     comp=Z,10.0nm,0.7s
PZH                          pmax    pmax
     comp=Z,110nm,4.7s
AML  Almayashu     73.00 320 P       P     05 53 55.6 +0.9
     SNR=13
VRH  Novokhopyorsk 73.04 345 eP      P     05 53 52.7 -1.5
VRH                          pmax    pmax
     comp=Z,10.0nm,0.7s
NRDL Niedersach Rie 73.25   5 eP      P     05 53 56.6 +1.2
     comp=Z,7.5nm,0.9s,baz=357,slow=5.8
KMI  Kunming       73.30 290 ⇑P      P     05 53 56.4 -0.1
KMI                          pmax    pmax
     comp=Z,16nm,0.8s
KKAR Karatay Array 73.31 323 IAmb    IAmb  05 53 57.0
     comp=Z,9.4nm,0.8s
VSR  Storozhevoye  73.39 347 eP      P     05 53 54.7 -1.6
VSR                          pmax    pmax
     comp=Z,10.0nm,0.4s
FLTG Flechtingen   73.48   5 eP      P     05 53 57.2 +0.4
     comp=Z,4.7nm,0.8s,baz=357,slow=5.8
VORD Divnogorie    73.62 347 eP      P     05 53 56.1 -1.6
VORD                         pmax    pmax
     comp=Z,10.0nm,0.6s
CLZ  Clausthal     73.92   5 eP      P     05 54 00.2 +0.7
     baz=357,slow=5.8
GTTG Gottingen     74.19   6 eP      P     05 54 01.7 +0.7
     comp=Z,24nm,1.2s,baz=357,slow=5.8
KSH  Kashi         74.38 317 P       P     05 54 06.3 +3.8
KSH                          pmax    pmax
     comp=Z,35nm,0.9s
RNPP9 Sopachiv     74.41 355 P       P     05 54 02.3  0.0
KASTN Kahler Asten 74.44   7 eP      P     05 54 03.4 +0.9
     comp=Z,2.6nm,0.8s,baz=357,slow=5.8
RNPP8 Varash       74.48 355 P       P     05 54 02.1 -0.6
CLL  Collm         74.58   4 eP      P     05 54 04.0 +0.8
CLL                          eS      SKiKP 06 03 25.0 +0.4
CLL                          pmax    pmax
     comp=Z,7.0nm,0.9s
CLL  Collm         74.58   4 eP      P     05 54 03.9 +0.7
     comp=Z,5.2nm,0.9s,baz=357,slow=5.8
CLL  Collm         74.58   4 eP      P     05 54 04.0 +0.8
     comp=Z,7.0nm,0.9s
RNPP5 Staryi Chortor 74.59 355 P     P     05 54 03.0 -0.3
MI28 Mi28,Pidlybu  74.79 354 P       P     05 54 04.2 -0.3
     comp=Z,138nm,1.2s
AK21 Malin Array Si 74.86 353 P      P     05 54 04.2 -0.7
AK23 Malin Array Si 74.87 353 P      P     05 54 04.5 -0.4
AK22 Malin Array Si 74.87 353 P      P     05 54 04.5 -0.5
BTNL Ternell       74.88   8 dP      P     05 54 05.5 +0.5
     comp=Z,9.8nm,1.0s
UBBA Unterbreizbach 74.92   6 eP      P     05 54 05.7 +0.5
     baz=357,slow=5.8
AKASG Malin Array Be 74.92 353 P     P     05 54 04.8 -0.4
     comp=Z,16nm,0.5s,baz=11,slow=5.9,SNR=116
     comp=Z,16nm,0.5s
AKBB Malin Array Si 74.92 353c iP    P     05 54 04.7 -0.5
AKBB                         pmax    pmax
     comp=Z,24nm,0.6s
AKBB Malin Array Si 74.92 353 P      P     05 54 04.6 -0.6
KIEV Kiev          74.93 353 P       P     05 54 04.0 -1.3
KIEV Kiev          74.93 353 ⇑P      P     05 54 05.1 -0.2
KIEV Kiev          74.93 353 P       P     05 54 05.1 -0.2
KIEV Kiev          74.93 353 P       P     05 54 04.1 -1.2
     comp=Z,160nm,0.6s
BGES Gesves        74.98   9 dP      P     05 54 06.2 +0.5
BRG  Berggiesshubel 75.04  3 eP      P     05 54 06.7 +0.8
BRG                          Amp           05 54 07.6
     comp=Z,9.3nm,1.0s
BRG  Berggiesshubel 75.04  3 eP      P     05 54 06.7 +0.8
BRG                          pmax    pmax
     comp=Z,9.0nm,1.0s
BRG  Berggiesshubel 75.04  3 eP      P     05 54 06.2 +0.3
     comp=Z,5.7nm,0.9s,baz=357,slow=5.8
KSP  Ksiaz         75.13   2 P       P     05 54 06.7 +0.2
     comp=Z,13nm,0.8s
MOX  Moxa          75.18   5 eP      P     05 54 07.3 +0.6
     comp=Z,3.2nm,0.7s,baz=357,slow=5.8
HSKC Hora Svate Kat 75.29  3 eP      P     05 54 08.0 +0.6
CHVC Chvalec       75.38   2 eP      P     05 54 08.6 +0.6
CHVC Chvalec       75.38   2 eP      P     05 54 08.6 +0.6
PVCC Panska Ves    75.41   3 eP      P     05 54 09.4 +1.3
PVCC Panska Ves    75.41   3 eP      P     05 54 09.4 +1.3
DPC  Dobruska-Polom 75.62  2 eP      P     05 54 10.5 +1.1
DPC  Dobruska-Polom 75.62  2 eP      P     05 54 10.5 +1.1
DPC  Dobruska-Polom 75.62  2 P       P     05 54 10.0 +0.6
     comp=Z,17nm,1.3s
SLVN Son La        75.66 286 P       P     05 54 09.5 -0.5
SLVN                         IAmb    IAmb  05 54 11.5
     comp=Z,7.1nm,0.9s
OJC  Ojcow         75.77 359 IAmb    IAmb  05 54 12.3
     comp=Z,5.5nm,0.7s
LUBAR Lubar, Ukraine 75.79 354 P     P     05 54 08.9 -1.4
BTK  Batken        75.87 321 IAmb    IAmb  05 54 12.3
     comp=Z,14nm,1.0s
BTK  Batken        75.87 321 P       P     05 54 11.1 +0.1
KRLC Kraliky       75.90   1 eP      P     05 54 11.9 +0.9
KRLC Kraliky       75.90   1 eP      P     05 54 11.9 +0.9
ROTZ Rotzenmuhle   76.08   4 eP      P     05 54 12.6 +0.6
     comp=Z,0.5nm,0.8s,baz=357,slow=5.8
MORC Moravsky Berou 76.21  1 IAmb    IAmb  05 54 14.1
     comp=Z,7.1nm,0.9s
MORC Moravsky Berou 76.21  1 eP      P     05 54 13.0 +0.2
MORC Moravsky Berou 76.21  1 ⇑P      P     05 54 13.0 +0.2
MORC Moravsky Berou 76.21  1 P       P     05 54 12.9 +0.2
KWP  Kalwaria Pacla 76.31 357 P      P     05 54 13.9 +0.7
     comp=Z,26nm,1.0s
STHS Stebnicka Huta 76.55 358 eP     P     05 54 15.2 +0.5
STHS                         pmax    pmax
     comp=Z,14nm,0.7s
STHS Stebnicka Huta 76.55 358 eP     P     05 54 15.2 +0.5
HORU Horodok       76.58 355 P       P     05 54 14.4 -0.3
MAUC Maruska       76.62   1 eP      P     05 54 15.9 +0.8
VRAC Vranov        76.67   1 eP      P     05 54 16.1 +0.8
VRAC Vranov        76.67   1 ⇑P      P     05 54 16.3 +1.0
VRAC Vranov        76.67   1 P       P     05 54 16.3 +1.0
MORS Morshin       76.77 357 P       P     05 54 14.3 -1.5
KHC  Kasperske Hory 76.77  3 IAmb    IAmb  05 54 25.3
     comp=Z,3.4nm,0.9s
KHC  Kasperske Hory 76.77  3 eP      P     05 54 16.2 +0.3
KHC  Kasperske Hory 76.77  3⇓iP      P     05 54 17.3 +1.4
KHC                          pmax    pmax
     comp=Z,34nm,1.7s
KHC  Kasperske Hory 76.77  3 P       P     05 54 16.8 +0.9
     comp=Z,17nm,3.0s
LANS Liptovska Anna 76.84 359 eP     P     05 54 17.7 +1.4
LANS                         pmax    pmax
     comp=Z,5.0nm,0.7s
LANS Liptovska Anna 76.84 359 eP     P     05 54 17.7 +1.4
KRUC Moravsky      76.91   2 eP      P     05 54 16.9 +0.2
KOLS Kolonicke sedl 77.02 358 eP     P     05 54 18.6 +1.3
KOLS                         pmax    pmax
     comp=Z,8.0nm,0.7s
KOLS Kolonicke sedl 77.02 358 eP     P     05 54 18.6 +1.3
GEC2 GERESS Array S 77.06   3 eP      P     05 54 18.3 +0.7
     comp=Z,2.7nm,0.8s,baz=357,slow=5.8
GERES GERESS Array B 77.06  3 P       P     05 54 16.9 -0.6
     comp=Z,2.0nm,0.6s,baz=352,slow=5.1,SNR=5.4
     comp=Z,2.0nm,0.6s
GERES GERESS Array B 77.06  3 P       P     05 54 17.0 -0.6
JAVC Velka Javorina 77.13   1 eP      P     05 54 19.7 +1.7
STNU Starunia      77.17 356 P       P     05 54 18.2 +0.1
VYHS Vyhne         77.50 360 eP      P     05 54 21.0 +1.0
VYHS                         pmax    pmax
     comp=Z,11nm,1.0s
VYHS Vyhne         77.50 360 eP      P     05 54 20.9 +1.0
SORM Soroca        77.53 353 ⇓P      P     05 54 20.2  0.0
SORM Soroca        77.53 353 P       P     05 54 20.1  0.0
SORM Soroca        77.53 353 P       P     05 54 19.8 -0.3
MODS Modra-Piesok  77.61   1 eP      P     05 54 22.0 +1.4
MODS                         pmax    pmax
     comp=Z,38nm,1.3s
MODS Modra-Piesok  77.61   1 eP      P     05 54 22.0 +1.4
NSLU Nyzhne Selyshc 77.68 356 P      P     05 54 21.9 +0.9
DZET Dzherino      77.69 322 P       P     05 54 21.6 +0.2
BERU Beregovo      77.71 357 P       P     05 54 22.3 +1.2
SIMJ Simiganj      77.76 322 P       P     05 54 21.3 -0.5
CONA Conrad Observa 78.04  2 iP      P     05 54 24.2 +1.2
     comp=Z,2.7nm,0.3s
PSZ  Piszkesteto   78.07 359 IAmb    IAmb  05 54 25.5
     comp=Z,8.8nm,1.0s
PSZ  Piszkesteto   78.07 359 ⇓P      P     05 54 24.8 +1.5
PSZ  Piszkesteto   78.07 359 P       P     05 54 24.7 +1.5
MOA  Molln         78.08   3 iP      P     05 54 24.1 +0.9
     comp=Z,0.7nm,0.3s
TBI  Tubuai        78.08 169 eLR     LR    06 18 37.9
     comp=Z,309nm,28.2s
BUR08 Bucovina Ar. S 78.20 356 IAmb  IAmb  05 54 25.1
     comp=Z,7.5nm,0.5s
BURAR Bucovina Array 78.23 356 ⇓P    P     05 54 25.0 +0.8
BURAR Bucovina Array 78.23 356 P     P     05 54 24.9 +0.8
BMR  Baia Mare     78.24 357 ⇑P      P     05 54 25.6 +1.5
BMR  Baia Mare     78.24 357 P       P     05 54 25.5 +1.5
RONA Rosalia, Austr 78.27  2 iP      P     05 54 25.7 +1.3
     comp=Z,2.9nm,0.5s
DAVA Damuels       78.43   6 iP      P     05 54 26.6 +1.2
     comp=Z,1.5nm,0.4s
LESA Schwarzleotal 78.44   4 iP      P     05 54 26.1 +0.8
     comp=Z,3.1nm,0.4s
MOTA Moosalm       78.44   5 iP      P     05 54 26.1 +0.7
     comp=Z,2.3nm,0.5s
WATA Walderalm     78.48   5 iP      P     05 54 26.3 +0.8
     comp=Z,4.1nm,0.5s
WTTA Wattenberg    78.55   5 iP      P     05 54 27.0 +0.9
     comp=Z,4.4nm,0.4s
ARSA Arzberg       78.71   2 iP      P     05 54 27.8 +1.1
     comp=Z,1.2nm,0.4s
FETA Feichten      78.75   6 iP      P     05 54 27.0 -0.1
     comp=Z,2.6nm,0.6s
GOF  Gofitskoye    78.79 343cePP     P     05 54 28.1 +0.9
BIZ  Bicaz         78.86 355 ⇑P      P     05 54 27.9 +0.4
ABTA Abfaltersbach 79.11   4 iP      P     05 54 28.8 -0.2
     comp=Z,2.1nm,0.7s
FUORN Ofenpass-Fuorn 79.12  6 IAmb   IAmb  05 54 31.2
     comp=Z,4.7nm,1.1s
DRGR               79.15 357 ⇑P      P     05 54 29.7 +0.5
DRGR               79.15 357 P       P     05 54 29.6 +0.5
MARR Marisel-Cluj  79.25 357 ⇓P      P     05 54 30.5 +0.8
TESR Tescani       79.26 354 ⇓P      P     05 54 30.1 +0.4
SOKA Soboth        79.27   3 iP      P     05 54 31.1 +1.2
     comp=Z,4.8nm,0.5s
OBKA Obir          79.42   3 iP      P     05 54 31.8 +1.1
     comp=Z,16nm,0.4s
ONER Baraj Valea Uz 79.45 355 ⇑P     P     05 54 31.7 +0.9
SIRR Siria         79.70 358 ⇓P      P     05 54 33.2 +1.1
TURR Turia         79.75 355 ⇑P      P     05 54 33.9 +1.5
DOPR Dopca         79.87 355 ⇑P      P     05 54 34.4 +1.3
VRI  Vrincioaia    79.90 354 ⇓P      P     05 54 34.0 +0.7
VRI  Vrincioaia    79.90 354 P       P     05 54 33.9 +0.7
KIV  Kislovodsk    79.92 343 P       P     05 54 32.6 -0.9
KIV                          IAmb    IAmb  05 54 35.1
     comp=Z,16nm,0.8s
KIV  Kislovodsk    79.92 343 ⇓P      P     05 54 34.6 +1.2
KIV  Kislovodsk    79.92 343 eP      P     05 54 34.1 +0.6
KIV                          pmax    pmax
     comp=Z,17nm,1.1s
KBZ  Khabaz        80.11 342 P       P     05 54 34.0 -0.3
     comp=Z,11nm,0.9s,baz=350,slow=3.5,SNR=18
     comp=Z,11nm,0.9s
KBZ  Khabaz        80.11 342c iP     P     05 54 34.7 +0.4
KBZ                          pmax    pmax
     comp=Z,12nm,0.9s
SHA1 Shidzhatmaz   80.14 343d iP     P     05 54 35.8 +1.0
SURR Surduc        80.20 358 ⇑P      P     05 54 35.7 +0.9
MLR  Muntele Rosu  80.31 355 ⇑P      P     05 54 36.3 +0.6
MLR  Muntele Rosu  80.31 355 P       P     05 54 36.2 +0.6
BZS  Buzias        80.35 358 ⇑P      P     05 54 36.3 +0.7
BZS  Buzias        80.35 358 P       P     05 54 36.3 +0.7
VOIR               80.41 355 ⇑P      P     05 54 36.6 +0.6
VOIR               80.41 355 P       P     05 54 36.6 +0.6
CFR  Carcaliu      80.49 353 ⇓P      P     05 54 36.9 +0.6
CFR  Carcaliu      80.49 353 P       P     05 54 36.9 +0.6
ARR  Arges         80.50 356 ⇑P      P     05 54 37.7 +1.2
GZR  Gura Zlata    80.54 357 ⇑P      P     05 54 37.4 +0.7
GZR  Gura Zlata    80.54 357 P       P     05 54 37.4 +0.7
NIL  Nilore        80.55 316 P       P     05 54 37.0 +0.1
CMAR Chiang Mai Arr 80.73 289 P      P     05 54 37.5 -0.5
     comp=Z,6.1nm,0.8s,baz=18,slow=5.5,SNR=31
     comp=Z,6.1nm,0.8s
CMAR Chiang Mai Arr 80.73 289 iP     P     05 54 38.4 +0.3
CMAR                         pmax    pmax
     comp=Z,6.0nm,0.8s
SOC  Sochi         80.78 345 eP      P     05 54 36.9 -1.0
SOC                          e             05 57 40.1
SOC                          ePPP    PPP   05 59 29.6
SOC                          eS      S     06 04 42.2  0.0
SOC                          eSS     SS    06 09 55.9 +1.3
SOC                          eSSS    SSS   06 13 22.8
DZM  Mont Dzumac   81.03 210 eLR     LR    06 19 50.0
     comp=Z,55nm,26.3s
KBL  Kabul         81.40 320 P       P     05 54 40.5 -1.2
BOVS Bovan         82.33 358 ⇑P      P     05 54 46.7 +0.6
GNI  Garni         83.22 340 LR      LR    06 35 39.7
     comp=Z,27nm,20.5s,baz=5.5,slow=38
GNI  Garni         83.22 340⇓eP      P     05 54 53.0 +1.9
GNI                          pmax    pmax
     comp=Z,11nm,0.9s
HRA  Herat         83.96 325 IAmb    IAmb  05 54 56.2
     comp=Z,8.4nm,1.1s
ESDC Sonseca Array 84.31  17 P       P     05 54 56.8 +0.3
     comp=Z,4.1nm,1.0s,baz=341,slow=5.1,SNR=14
     comp=Z,4.1nm,1.0s
BR131 Keskin Array S 85.39 348 IAmb  IAmb  05 55 03.7
     comp=Z,7.9nm,0.9s
BR131 Keskin Array S 85.39 348⇑iP    P     05 55 02.4 +0.4
BRTR Keskin Array B 85.39 348 P      P     05 55 01.6 -0.4
BRTR Keskin Array B 85.39 348 P      P     05 55 02.4 +0.4
     comp=Z,4.4nm,0.8s,baz=19,slow=2.4,SNR=17
     comp=Z,4.4nm,0.8s
BRTR Keskin Array B 85.39 348 iP     P     05 55 02.9 +0.9
BRTR                         pmax    pmax
     comp=Z,4.0nm,0.8s
KIRS Kirsehir-Merke 85.94 348 ⇓P     P     05 55 06.2 +1.5
EIDS Eidsvold      89.36 222 P       P     05 55 19.5 -1.4
EIDS                         IAmb    IAmb  05 55 22.6
     comp=Z,4.2nm,0.9s
WRA  Warramunga Arr 92.11 238 P      P     05 55 33.1 -0.7
     comp=Z,1.2nm,0.8s,baz=40,slow=5.2,SNR=8.1
     comp=Z,1.2nm,0.8s
ASAR Alice Springs 95.47 236 P       P     05 55 49.4 +0.1
     comp=Z,1.0nm,0.8s,baz=49,slow=3.3,SNR=7.7
     comp=Z,1.0nm,0.8s
RAYN Ar Rayn       99.06 335 P       Pdif  05 56 05.4 -0.3
RAYN                         IAmb    IAmb  05 56 08.0
     comp=Z,3.5nm,0.8s
QSPA South Pole Qui 144.15 180 PKP   PKPbc 06 01 57.2 +0.1
     comp=Z,4.8nm,0.6s,baz=96,slow=1.7,SNR=28
```

ROM 20 05:43:58.5±0.2, 37.711N±0.007×14.91E±0.01, h25km±1km, ML2.3/10, 1C-1D, Error ellipse: s-maj=0.9km s-min=0.8km az=103.0, Sicily

```
Code Station Name   Δ°  AZ°  Phase ID      Time      Res
                                Op   ISC   h m s     ISC
ESLN Serra La Nave  0.05 110  P    Pb    05 44 02.4 -0.7
ESLN                          S    Sb    05 44 06.2  0.0
ESML S. M. di Licod 0.10 196  P    Pb    05 44 03.8 +0.7
EPZF Pizzo Felice   0.12 339  P    Pb    05 44 02.8 -0.7
EPZF                          S    Sb    05 44 07.3 +0.5
EPZF                          AML  AML
     comp=N,2165μm,0.2s
EPZF                          AML  AML
     comp=E,3380μm,0.6s
EPZF                          AML  AML
     comp=E,3380μm,1.4s
EPZF                          AML  AML
     comp=N,2165μm,1.8s
EMCN Etna Monte Con 0.12  50  P    Pb    05 44 03.5 -0.2
GALF Gagliano Caste 0.27 270  ⇓P   Pb    05 44 04.9 -0.3
GALF                          S    Sb    05 44 10.9 +1.2
GALF                          AML  AML
     comp=N,271μm,0.3s
GALF                          AML  AML
     comp=E,484μm,0.4s
MUCR Ucria          0.33 355  P    Pb    05 44 06.1  0.0
MUCR                          S    Sb    05 44 11.8 +0.5
AIO  Antillo        0.36  44  ⇑P   Pb    05 44 06.6 +0.1
AIO                           S    Sb    05 44 13.2 +1.2
AIO                           AML  AML
     comp=E,418μm,0.3s
AIO                           AML  AML
     comp=N,196μm,0.4s
HLNI Lentini        0.36 185  P    Pb    05 44 06.2 -0.3
HLNI                          S    Sb    05 44 12.7 +0.8
HLNI                          AML  AML
     comp=E,384μm,0.3s
HLNI                          AML  AML
     comp=N,448μm,0.3s
AGST Augusta-Monte  0.52 151  P    Pb    05 44 08.7 -0.4
AGST                          S    Sb    05 44 16.9 +0.7
MPNC Port Mandanici 0.56  39  P    Pb    05 44 09.7  0.0
MPNC                          S    Sn    05 44 18.4 -0.9
SSY  Sortino        0.57 167  P    Pb    05 44 09.7 -0.3
SSY                           S    Sn    05 44 18.8 -1.0
SSY                           AML  AML
     comp=E,665μm,0.4s
SSY                           AML  AML
     comp=N,1365μm,1.6s
SSY                           AML  AML
     comp=N,1365μm,0.4s
HMDC Modica         0.76 188  P    Pn    05 44 13.6 -0.1
HMDC                          S    Sn    05 44 24.2 -0.2
```

ROM 20 05:44:40.0±0.3, 37.720N±0.006×14.90E±0.01, h29km±1km, ML2.4/18, 2C-1D, Error ellipse: s-maj=1.0km s-min=0.4km az=92.0, Sicily

```
Code Station Name   Δ°  AZ°  Phase ID      Time      Res
                                Op   ISC   h m s     ISC
ESLN Serra La Nave  0.07 113  P    Pb    05 44 44.7 -0.6
ESML S. M. di Licod 0.10 189  P    Pb    05 44 44.7 -0.5
ESML                          S    Sb    05 44 49.0 +0.2
ESML                          AML  AML
     comp=E,1375μm,0.6s
ESML                          AML  AML
     comp=N,1095μm,0.4s
EPZF Pizzo Felice   0.11 343  ⇑P   Pb    05 44 44.8 -0.6
EPZF                          S    Sb    05 44 49.5 +0.4
EPZF                          AML  AML
     comp=E,6930μm,0.5s
EPZF                          AML  AML
     comp=N,4040μm,0.3s
EPZF                          AML  AML
     comp=E,6930μm,1.5s
EPZF                          AML  AML
     comp=N,4040μm,1.7s
GALF Gagliano Caste 0.26 268  ⇓P   Pb    05 44 46.9  0.0
GALF                          S    Sn    05 44 52.9 -0.2
GALF                          AML  AML
     comp=E,1060μm,0.4s
GALF                          AML  AML
     comp=N,494μm,0.3s
GALF                          AML  AML
     comp=E,1060μm,1.6s
MNO  Monte Soro     0.27 323  P    Pb    05 44 46.9 -0.2
MNO                           S    Sb    05 44 52.4 +0.5
MNO                           AML  AML
     comp=E,921μm,1.2s
MNO                           AML  AML
     comp=N,493μm,0.4s
MNO                           AML  AML
```

	comp=E,921μm,0.8s					
MNO				AML	AML	
	comp=N,493μm,1.6s					
MUCR	**Ucria**	**0.32 357**	P	Pb	05 44 47.7	0.0
MUCR			S	Sb	05 44 53.6	+0.6
AIO	**Antillo**	**0.37 47**	⇑P	Pb	05 44 48.5	+0.2
AIO			S	Sn	05 44 55.0	-0.6
AIO			AML	AML		
	comp=E,645μm,0.3s					
AIO			AML	AML		
	comp=N,303μm,0.5s					
HLNI	**Lentini**	**0.37 183**	P	Pb	05 44 48.1	-0.3
HLNI			S	Sb	05 44 54.8	+0.8
HLNI			AML	AML		
	comp=E,632μm,0.4s					
HLNI			AML	AML		
	comp=N,774μm,0.3s					
HAGA	**Augusta**	**0.48 155**	P	Pb	05 44 49.9	-0.1
HAGA			S	Sb	05 44 57.5	+0.6
HAGA			AML	AML		
	comp=N,284μm,0.8s					
HAGA			AML	AML		
	comp=E,298μm,0.4s					
HAGA			AML	AML		
	comp=N,284μm,1.2s					
MPNC	**Port Mandanici**	**0.56 40**	P	Pb	05 44 51.3	0.0
MPNC			S	Sn	05 45 00.4	+0.1
MPNC			AML	AML		
	comp=N,361μm,1.5s					
MPNC			AML	AML		
	comp=E,280μm,0.5s					
MPNC			AML	AML		
	comp=N,361μm,0.5s					
SSY	**Sortino**	**0.58 166**	P	Pb	05 44 51.6	-0.1
SSY			S	Sn	05 45 00.8	-0.1
SSY			AML	AML		
	comp=N,1695μm,1.5s					
SSY			AML	AML		
	comp=E,1020μm,0.6s					
SSY			AML	AML		
	comp=N,1695μm,0.5s					
SSY			AML	AML		
	comp=E,1020μm,1.4s					
HMDC	**Modica**	**0.77 187**	P	Pn	05 44 55.6	+0.7
HMDC			S	Sn	05 45 06.6	+1.1
HMDC			AML	AML		
	comp=N,476μm,0.7s					
HMDC			AML	AML		
	comp=E,646μm,0.3s					
HMDC			AML	AML		
	comp=N,476μm,1.3s					

ROM 20 05:53:42.4±0.1, 37°.711N±0°.004×14°.919E±0°.008, h23km, ML3.1/48, 5C-6D, Error ellipse: s-maj=0.7km s-min=0.0km az=111.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.05**	**111**	⇓P	Pb	05 53 46.4	-0.3
ESLN				S	Sb	05 53 49.8	+0.2
ESLN				AML	AML		
	comp=E,16100μm,0.7s						
ESLN				AML	AML		
	comp=N,11500μm,0.9s						
ESLN				AML	AML		
	comp=E,12950μm,1.2s						
ESML	**S. M. di Licod**	**0.10**	**200**	P	Pb	05 53 46.6	-0.1
ESML				S	Sb	05 53 50.4	+0.7
ESML				AML	AML		
	comp=N,13500μm,0.5s						
ESML				AML	AML		
	comp=E,11850μm,0.2s						
EMCN	**Etna Monte Con**	**0.12**	**49**	P	Pb	05 53 46.9	-0.3
EPZF	**Pizzo Felice**	**0.12**	**337**	⇑P	Pb	05 53 46.6	-0.5
EPZF				S	Sb	05 53 51.3	+1.1
EPZF				AML	AML		
	comp=E,60700μm,0.6s						
EPZF				AML	AML		
	comp=N,24200μm,0.5s						
EPZF				AML	AML		
	comp=E,60700μm,1.4s						
EPZF				AML	AML		
	comp=N,24200μm,1.5s						
EPOZ	**Pozzillo**	**0.24**	**147**	⇓P	Pb	05 53 48.5	+0.3
GALF	**Gagliano Caste**	**0.28**	**270**	⇓P	Pb	05 53 48.8	-0.2
GALF				S	Sb	05 53 54.9	+1.5
MNO	**Monte Soro**	**0.28**	**321**	⇓P	Pb	05 53 48.9	-0.3
MNO				S	Sb	05 53 54.2	+0.4
MNO				AML	AML		
	comp=E,11370μm,1.2s						
MNO				AML	AML		
	comp=N,6310μm,0.4s						
MNO				AML	AML		
	comp=E,11370μm,0.8s						
MUCR	**Ucria**	**0.33**	**354**	P	Pb	05 53 49.4	-0.5
MUCR				S	Sb	05 53 55.6	+0.6
AIO	**Antillo**	**0.36**	**44**	P	Pb	05 53 50.3	+0.1
AIO				S	Sb	05 53 56.6	+1.0
NOV	**Novara**	**0.36**	**29**	P	Pb	05 53 50.4	+0.1
NOV				S	Sb	05 53 56.8	+1.2
HLNI	**Lentini**	**0.36**	**186**	⇑P	Pb	05 53 50.0	-0.2
HLNI				S	Sb	05 53 56.4	+0.9
HLNI				AML	AML		
	comp=E,6135μm,1.3s						
HLNI				AML	AML		
	comp=N,7775μm,0.3s						
HAGA	**Augusta**	**0.47**	**156**	⇓P	Pb	05 53 51.8	-0.2
HAGA				S	Sb	05 53 59.2	+0.8
HAGA				AML	AML		
	comp=N,3815μm,0.4s						
HAGA				AML	AML		
	comp=E,3810μm,0.5s						
VAE	**Valguarnera**	**0.47**	**240**	P	Pn	05 53 53.9	+0.2
VAE				AML	AML		
	comp=E,1525μm,1.0s						
VAE				AML	AML		
	comp=N,1725μm,0.6s						
AGST	**Augusta-Monte**	**0.52**	**151**	⇓P	Pb	05 53 52.5	-0.2
AGST				S	Sb	05 54 00.8	+1.0
AGST				AML	AML		
	comp=E,5090μm,0.4s						
AGST				AML	AML		
	comp=N,7215μm,0.9s						
AGST				AML	AML		
	comp=N,7220μm,0.9s						
MPNC	**Port Mandanici**	**0.55**	**38**	P	Pb	05 53 53.3	-0.1
MPNC				S	Sb	05 54 01.9	+1.0
MPNC				AML	AML		
	comp=E,3330μm,0.4s						
MPNC				AML	AML		
	comp=N,3890μm,0.6s						
MPNC				AML	AML		
	comp=N,3890μm,1.4s						
SSY	**Sortino**	**0.57**	**168**	⇑P	Pb	05 53 53.5	-0.2
SSY				S	Sn	05 54 02.6	-1.2
SSY				AML	AML		
	comp=N,18900μm,0.4s						
SSY				AML	AML		
	comp=E,12650μm,0.6s						
SSY				AML	AML		
	comp=E,12650μm,1.4s						
RAFF	**Raffo Rosso**	**0.66**	**222**	P	Pb	05 53 55.1	-0.1
RAFF				AML	AML		
	comp=N,1580μm,0.2s						
RAFF				AML	AML		
	comp=E,1700μm,0.5s						
VPL	**Vulcano Piano**	**0.67**	**4**	P	Pb	05 53 55.4	0.0
PLLN	**Pollina**	**0.68**	**295**	P	Pb	05 53 55.0	-0.5
PLLN				AML	AML		
	comp=E,5505μm,0.6s						
PLLN				AML	AML		
	comp=N,5335μm,0.6s						
PLLN				AML	AML		
	comp=N,5335μm,1.4s						
PLLN				AML	AML		
	comp=E,5505μm,1.4s						
MTTG	**Motta San Giov**	**0.68**	**64**	P	Pb	05 53 55.8	+0.2
MTTG				AML	AML		
	comp=N,890μm,0.5s						
MTTG				AML	AML		
	comp=E,928μm,0.6s						
MTTG				AML	AML		
	comp=N,890μm,1.5s						
IVGP	**Vulcano Grotta**	**0.69**	**3**	P	Pb	05 53 55.6	-0.1
CSLB	**Castelbuono**	**0.72**	**289**	P	Pb	05 53 55.6	-0.7
CSLB				AML	AML		
	comp=N,1255μm,0.9s						
CSLB				AML	AML		
	comp=E,952μm,0.5s						
CSLB				AML	AML		
	comp=N,1255μm,1.1s						
MSRU	**Castanea**	**0.72**	**40**	P	Pb	05 53 56.3	0.0
MSRU				S	Sn	05 54 07.1	-0.5
MSRU				AML	AML		
	comp=E,1520μm,1.0s						
MSRU				AML	AML		
	comp=N,1310μm,1.2s						
MSRU				AML	AML		
	comp=E,1520μm,1.0s						
MSRU				AML	AML		
	comp=N,1310μm,0.8s						
HMDC	**Modica**	**0.76**	**188**	P	Pb	05 53 56.4	-0.6
HMDC				S	Sn	05 54 08.1	-0.4
HMDC				AML	AML		
	comp=E,6705μm,0.4s						
HMDC				AML	AML		
	comp=N,3945μm,1.1s						
HMDC				AML	AML		
	comp=N,3945μm,0.9s						
IFIL	**Filicudi I Eol**	**0.90**	**342**	P	Pb	05 53 58.7	-0.5
CROCE	**Santa Croce Ca**	**0.93**	**199**	⇑P	Pb	05 53 59.1	-0.7
CROCE				S	Sn	05 54 12.8	+0.2
CROCE				AML	AML		
	comp=N,2485μm,0.5s						
CROCE				AML	AML		
	comp=E,2305μm,0.7s						
IACL	**Alicudi**	**0.93**	**332**	P	Pb	05 53 59.3	-0.6
CLTA	**Licata**	**0.94**	**234**	⇑P	Pn	05 54 00.5	+0.3
CLTA				AML	AML		
	comp=E,809μm,1.3s						
CLTA				AML	AML		
	comp=N,722μm,0.4s						
CLTA				AML	AML		
	comp=E,809μm,0.7s						
CEL	**Celeste**	**0.94**	**54**	P	Pb	05 54 00.1	0.0
CEL				AML	AML		
	comp=E,451μm,0.5s						
CEL				AML	AML		
	comp=E,361μm,0.5s						
CEL				AML	AML		
	comp=N,528μm,0.6s						
CEL				AML	AML		
	comp=N,634μm,0.6s						
CEL				AML	AML		
	comp=E,361μm,1.5s						
CEL				AML	AML		
	comp=E,451μm,1.5s						
SOI	**Samo**	**0.97**	**68**	P	Pb	05 54 00.5	0.0
SOI				AML	AML		
	comp=E,518μm,0.5s						
SOI				AML	AML		
	comp=N,404μm,0.6s						
SOI				AML	AML		
	comp=N,404μm,1.4s						
HPAC	**Pachino**	**1.02**	**171**	P	Pn	05 54 00.7	-0.6
JOPP	**Joppolo**	**1.18**	**40**	P	Pn	05 54 03.4	0.0
JOPP				AML	AML		
	comp=N,340μm,0.6s						
JOPP				AML	AML		
	comp=E,316μm,0.9s						
JOPP				AML	AML		
	comp=E,316μm,1.1s						
CORL	**Corleone**	**1.29**	**279**	P	Pb	05 54 06.9	+0.9
CORL				AML	AML		
	comp=E,1420μm,0.5s						
CORL				AML	AML		
	comp=N,936μm,0.6s						
PLAC	**Placanica**	**1.41**	**58**	P	Pb	05 54 08.2	+0.2
PLAC				AML	AML		
	comp=N,542μm,0.9s						
PLAC				AML	AML		
	comp=E,346μm,0.6s						
PLAC				AML	AML		
	comp=E,346μm,1.4s						
CRJA	**Costa Raja**	**1.52**	**274**	P	Pb	05 54 10.5	+0.6
MBFT	**Monte Bonifato**	**1.57**	**279**	P	Pb	05 54 10.4	-0.4
CAR1	**CAROLEI**	**1.84**	**33**	P	Pn	05 54 12.4	-0.3
CAR1				AML	AML		
	comp=E,366μm,0.6s						
CAR1				AML	AML		
	comp=N,314μm,0.6s						

ROM 20 05:54:22.0±0.2, 37°.712N±0°.005×14°.90E±0°.01, h27km±1km, ML2.8/9, Error ellipse: s-maj=0.9km s-min=0.5km az=75.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESLN	**Serra La Nave**	**0.06**	**107**	P	Pb	05 54 26.4	-0.6
ESLN				S	Sb	05 54 30.0	-0.4
ESLN				AML	AML		
	comp=N,4807μm,0.4s						
ESML	**S. M. di Licod**	**0.10**	**190**	P	Pb	05 54 26.7	-0.2
ESML				S	Sb	05 54 31.3	+1.0
ESML				AML	AML		
	comp=N,2157μm,0.5s						
EPZF	**Pizzo Felice**	**0.12**	**344**	P	Pb	05 54 26.7	-0.6
EPZF				S	Sb	05 54 31.1	+0.3
EPZF				AML	AML		
	comp=N,5454μm,0.4s						
EPZF				AML	AML		
	comp=E,12084μm,0.5s						
EMCN	**Etna Monte Con**	**0.13**	**54**	P	Pb	05 54 27.2	-0.2
EPOZ	**Pozzillo**	**0.25**	**143**	P	Pb	05 54 28.9	+0.4
GALF	**Gagliano Caste**	**0.26**	**270**	P	Pb	05 54 28.9	+0.2
GALF				AML	AML		
	comp=E,422μm,0.4s						
MNO	**Monte Soro**	**0.27**	**324**	P	Pb	05 54 28.9	-0.1
MNO				S	Sb	05 54 34.3	+0.5
MNO				AML	AML		
	comp=E,1678μm,0.5s						
MUCR	**Ucria**	**0.33**	**357**	P	Pb	05 54 29.7	0.0
MUCR				S	Sb	05 54 35.6	+0.6
AIO	**Antillo**	**0.37**	**46**	P	Pb	05 54 30.4	+0.1
AIO				S	Sb	05 54 36.9	+0.9
AIO				AML	AML		
	comp=E,2087μm,0.3s						
AIO				AML	AML		
	comp=N,743μm,0.2s						
HAGA	**Augusta**	**0.47**	**154**	P	Pb	05 54 31.6	-0.2
HAGA				S	Sb	05 54 39.4	+0.8
AGST	**Augusta-Monte**	**0.53**	**150**	P	Pb	05 54 32.5	-0.2
AGST				S	Sn	05 54 40.9	-0.8
AGST				AML	AML		
	comp=E,962μm,0.2s						
AGST				AML	AML		
	comp=N,1024μm,0.5s						
SSY	**Sortino**	**0.57**	**166**	P	Pb	05 54 33.8	+0.2
SSY				S	Sn	05 54 42.6	-0.4
SSY				AML	AML		
	comp=N,4241μm,0.2s						
SSY				AML	AML		
	comp=E,1667μm,0.4s						

IDC 20 05:55:45.0±6.9, 19°.73S×178°.12E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=306.0km s-min=36.4km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.10**	**262**	P	P	06 03 31.0	+0.1
	0.4nm,0.5s,baz=96,slow=7.5,SNR=6.9						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**41.15**	**256**	P	P	06 03 30.9	-0.4
	0.6nm,0.5s,baz=97,slow=7.5,SNR=8.2						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**88.42**	**14**	P	P	06 08 38.5	0.0
	0.4nm,0.6s,baz=249,slow=5.6,SNR=8.7						
	0.4nm,0.6s						

*JMA **20** 06:10:08.2±0.1, 41°.5N±0°.3×141°.9E±0°.5, h28km±1km, MD4.1/40, MV4.3/40, E OFF AOMORI PREF*
JMA Felt III J1 at E OFF AOMORI PREF.
*NIED **20** 06:10:08.2, 41°.47N×141°.86E, h28km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.56; $M_{\theta\theta}$-1.11; $M_{\phi\phi}$0.56; $M_{r\theta}$0.31; $M_{\theta\phi}$0.49; $M_{\phi r}$0.55; Fault plane solution: $M_0$1.25000×10^{15} NP1:ϕ_s69.00000°, δ66.00000°, λ37.00000°. NP2:ϕ_s322.00000°, δ57.00000°, λ151.00000°.*
*NEIC **20** 06:10:10.5±2.1, 41°.48N±0°.07×141°.88E±0°.09, h37km±8km, mb4.5/16 Error ellipse: s-maj=12.0km s-min=6.4km az=136.0*
*IDC **20** 06:10:11.2±1.4, 41°.54N×141°.80E, h45km±12km, mb4.0/24, mbtmp4.2/30, ML3.9/6, MS3.1/9, Error ellipse: s-maj=14.6km s-min=10.0km az=112.0*

ISC 20 06:10:07.3±1.1, 41°.47N±0°.03×141°.88E±0°.03, h17km±7km, n110, σ1$21/90, mb4.5/32, MS3.5/4, 6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.46**	**243**	⇓iP	**Pn**	**06 10 17.6**	**-1.5**
JAHD				⇓S	**Sb**	**06 10 24.4**	**+1.0**
JAHD	**Aomorihigashid**	**0.46**	**243**	A	A	06 10 17.6	
	comp=E,116nm,0.7s,comp=N,147nm,0.6s						
JARK	**Aomorirokkasho**	**0.60**	**220**	⇓P	**Pn**	**06 10 19.6**	**-1.5**
JARK				⇓eS	**Sb**	**06 10 27.7**	**0.0**
JARK	**Aomorirokkasho**	**0.60**	**220**	A	A	06 10 19.6	
	comp=E,15nm,1.3s,comp=N,11nm,1.6s						
JOT	**Ohata**	**0.63**	**262**	P	**Pb**	**06 10 20.0**	**+0.1**
JOT				eS	**Sb**	**06 10 28.5**	**+0.1**
JOT	**Ohata**	**0.63**	**262**	A	A	06 10 20.0	
	comp=E,10.0nm,1.6s,comp=N,17nm,0.4s						
JKB	**Kayabe**	**0.76**	**303**	P	**Pb**	**06 10 21.9**	**-0.1**
JKB				eS	**Sg**	**06 10 31.6**	**-0.5**
JKB	**Kayabe**	**0.76**	**303**	A	A	06 10 21.9	
	comp=E,12nm,1.2s,comp=N,7.0nm,1.5s						
JTM	**Tenmabayashi**	**0.92**	**222**	Pn	**Pn**	**06 10 25.0**	**-0.5**
JTM	**Tenmabayashi**	**0.92**	**222**	⇓P	**Pn**	**06 10 24.9**	**-0.6**
JTM				⇓eS	**Sn**	**06 10 37.2**	**-1.0**
JTM	**Tenmabayashi**	**0.92**	**222**	A	A	06 10 24.9	
	comp=E,12nm,1.1s,comp=N,6.0nm,2.2s						
JSHD	**Hidakashinhida**	**1.03**	**25**	P	**Pn**	**06 10 27.6**	**+0.6**
JSHD	**Hidakashinhida**	**1.03**	**25**	A	A	06 10 27.6	
	comp=E,10.0nm,0.9s,comp=N,12nm,2.1s						
JNBK	**Urakawa-nobuka**	**1.04**	**39**	eP	**Pb**	**06 10 26.6**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.04**	**39**	A	A	06 10 26.6	
	comp=E,5.0nm,1.0s,comp=N,7.0nm,2.8s						
JSR	**Shiriuchi**	**1.10**	**273**	P	**Pb**	**06 10 27.6**	**-0.2**
JSR	**Shiriuchi**	**1.10**	**273**	A	A	06 10 27.6	
	comp=E,5.0nm,0.3s,comp=N,4.0nm,1.7s						
ERM	**Erimo**	**1.10**	**60**	Pn	**Pg**	**06 10 28.3**	**-0.3**
JEM	**Erimo**	**1.10**	**60**	eP	**Pg**	**06 10 27.8**	**-0.8**
JEM				eS	**Sg**	**06 10 42.5**	**-0.5**
JANG	**Nango**	**1.13**	**194**	P	**Pg**	**06 10 27.7**	**-1.6**
JIAM	**Iburiatsuma**	**1.15**	**2**	eP	**Pg**	**06 10 29.5**	**0.0**
JIAM	**Iburiatsuma**	**1.15**	**2**	A	A	06 10 29.5	
	comp=E,12nm,0.3s,comp=N,13nm,0.5s						
JNB	**Noboribetsu**	**1.17**	**328**	eP	**Pn**	**06 10 28.0**	**-1.0**
JNB				eS	**Sb**	**06 10 42.8**	**-1.2**
JNB	**Noboribetsu**	**1.17**	**328**	A	A	06 10 28.0	
	comp=E,7.0nm,0.4s,comp=N,7.0nm,0.5s						
JSI2	**Shiura 2**	**1.18**	**250**	A	A	06 10 28.9	
	comp=E,14nm,1.1s,comp=N,9.0nm,0.7s						
JKEN	**Kujiedanarisaw**	**1.27**	**186**	A	A	06 10 30.4	
	comp=E,16nm,0.3s,comp=N,19nm,0.3s						
JYM2	**Yakumo 2**	**1.30**	**300**	P	**Pn**	**06 10 30.9**	**+0.2**
JYM2	**Yakumo 2**	**1.30**	**300**	A	A	06 10 30.9	
	comp=E,6.0nm,1.0s,comp=N,6.0nm,0.8s						
JBT2	**Biratori 2**	**1.35**	**15**	P	**Pn**	**06 10 31.7**	**+0.3**
JEW	**Eniwo**	**1.40**	**347**	P	**Pn**	**06 10 32.2**	**+0.1**
JEW				eS	**Sn**	**06 10 50.2**	**+0.1**
JEW	**Eniwo**	**1.40**	**347**	A	A	06 10 32.2	
	comp=E,7.0nm,1.1s,comp=N,7.0nm,1.3s						
JOMM	**Oshimamatsumae**	**1.41**	**273**	P	**Pn**	**06 10 31.8**	**-0.4**
JOMM	**Oshimamatsumae**	**1.41**	**273**	A	A	06 10 31.8	
	comp=E,6.0nm,0.4s,comp=N,3.0nm,0.7s						
JHHS	**Hirosakihyakuz**	**1.41**	**235**	A	A	06 10 32.4	
	comp=E,23nm,1.3s,comp=N,23nm,0.5s						
JIW	**Iwasaki**	**1.67**	**239**	A	A	06 10 36.2	
	comp=E,6.0nm,0.5s,comp=N,6.0nm,0.7s						
JNTW	**Noshirotokiwa**	**1.77**	**228**	A	A	06 10 37.7	
	comp=E,11nm,2.9s,comp=N,10.0nm,3.2s						
JAB	**Ashibetsu**	**2.04**	**7**	A	A	06 10 41.9	
	comp=E,3.0nm,2.0s,comp=N,5.0nm,2.9s						
JOM	**Ohasama**	**2.05**	**193**	A	A	06 10 41.8	
	comp=E,4.0nm,2.3s,comp=N,4.0nm,0.2s						
ASAJ	**Asahikawa**	**2.69**	**11**	P	**Pn**	**06 10 51.3**	**+1.5**
	comp=N,85nm,0.3s,baz=226,slow=8.9,SNR=154						
ASAJ				S	**Sn**	**06 11 21.8**	**-0.2**
	comp=N,159nm,0.6s,baz=178,slow=26,SNR=3.9						
ASAJ				LR	LR	06 12 21.0	
	comp=N,101nm,20.6s,baz=83,slow=49						
	comp=N,180nm,0.4s						
JKA	**Kamikawa-asahi**	**2.69**	**11**		**Pn**	**06 10 51.3**	**+1.5**
JMM	**Marumori**	**3.70**	**193**		**Pn**	**06 11 04.5**	**+0.8**
JSD	**Sado**	**4.42**	**220**		**Pn**	**06 11 16.1**	**+2.5**
YSS	**Yuzh-Sakhalins**	**5.51**	**6**		**Pn**	**06 11 30.2**	**+1.6**
MJB9	**Matsu-Tunnel**	**5.69**	**211**		**Pn**	**06 11 34.8**	**+3.7**
MAJO	**Matsushiro**	**5.69**	**211**	Pn	**Pn**	**06 11 33.8**	**+2.7**
MJAR	**Matsushiro Arr**	**5.69**	**211**	P	**Pn**	**06 11 34.9**	**+3.8**
	comp=N,0.6nm,0.3s,baz=22,slow=14,SNR=22						
	comp=N,16nm,0.7s						
JGF	**Kuroka**	**6.85**	**213**		**Pn**	**06 11 50.6**	**+3.6**
USA0B	**Ussuriysk Arra**	**7.76**	**294**	Pn	**Pn**	**06 12 00.2**	**+0.7**
USRK	**Ussuriysk Ar.**	**7.76**	**294**	P	**Pn**	**06 12 02.0**	**+2.6**
	comp=N,0.3nm,0.3s,baz=93,slow=14,SNR=5.2						
USRK				LR	LR	06 14 50.9	
	comp=N,114nm,18.7s,baz=22,slow=36						
	comp=N,2.4nm,0.6s						
JHJ	**Hachijo jima 2**	**8.51**	**192**	P	**Pn**	**06 12 12.9**	**+3.2**
	comp=N,12nm,0.3s,baz=58,slow=13,SNR=3.0						
	comp=N,441nm,0.9s						
KLR	**Kul'dur**	**10.53**	**321**	P	**Pn**	**06 12 39.3**	**+2.0**
	comp=N,0.1nm,0.3s,baz=148,slow=19,SNR=2.0						
	comp=N,0.9nm,0.5s						
KSRS	**Korea Array**	**11.51**	**254**	P	**Pn**	**06 12 53.8**	**+3.1**
	comp=N,0.7nm,0.3s,baz=64,slow=15,SNR=4.8						
KSRS				LR	LR	06 16 48.6	
	comp=N,111nm,18.8s,baz=65,slow=34						
	comp=N,1.9nm,0.4s						
PETK	**Petropavlovsk-**	**15.79**	**37**	LR	LR	06 21 01.8	
	comp=N,49nm,18.5s,baz=144,slow=41						
JOW	**Kunigami**	**18.41**	**222**	LR	LR	06 21 36.7	
	comp=N,63nm,19.3s,baz=26,slow=37						
MA2	**Magadan**	**18.95**	**14**	LR	LR	06 23 04.7	
	comp=N,36nm,18.1s,baz=104,slow=41						
SONM	**Songino Array**	**25.86**	**296**	P	**P**	**06 15 37.2**	**-0.8**
	comp=N,0.4nm,0.4s,baz=72,slow=7.8,SNR=2.8						
SONM				LR	LR	06 26 37.7	
	comp=N,93nm,18.4s,baz=54,slow=38						
	comp=N,0.4nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**30.36**	**128**	T	T	06 48 32.2	
	baz=321,slow=76,SNR=174						
H11N1	**WAKE ISLAND Hy**	**30.37**	**128**	T	T	06 48 33.4	
	baz=321,slow=76,SNR=192						
H11N3	**WAKE ISLAND Hy**	**30.38**	**128**	T	T	06 48 37.5	
	baz=321,slow=76,SNR=119						
H11S1	**WAKE ISLAND Hy**	**31.20**	**130**	T	T	06 49 34.1	
	baz=323,slow=76,SNR=56						
H11S3	**WAKE ISLAND Hy**	**31.20**	**130**	T	T	06 49 34.5	
	baz=323,slow=76,SNR=50						
H11S2	**WAKE ISLAND Hy**	**31.22**	**130**	T	T	06 49 35.6	
	baz=323,slow=76,SNR=46						
ZAA0	**Zalesovo Array**	**39.31**	**308**	P	**P**	**06 17 35.3**	**+0.2**
ZAA0				IAmb	IAmb	06 17 36.4	
	comp=Z,5.9nm,0.6s						
ZALV	**Zalesovo Beam**	**39.31**	**308**	P	**P**	**06 17 34.4**	**-0.7**
	comp=Z,6.2nm,0.5s,baz=92,slow=9.1,SNR=23						
ZALV				PcP	**PcP**	**06 19 43.4**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=125,slow=2.2,SNR=8.4						
	comp=Z,6.2nm,0.5s						
G18K	**Tagagawik**	**40.68**	**33**	P	**P**	**06 17 46.6**	**+0.2**
G18K				IAmb	IAmb	06 18 07.6	
	comp=Z,13nm,1.4s						
M17K	**Holitna River**	**40.94**	**40**	P	**P**	**06 17 48.4**	**-0.1**
M17K				IAmb	IAmb	06 18 04.5	
	comp=Z,12nm,1.1s						
L18K	**Granite Mounta**	**41.30**	**39**	P	**P**	**06 17 52.7**	**+1.2**
MK31	**Makanchi Array**	**42.20**	**298**	P	**P**	**06 17 58.4**	**-0.7**
MKAR	**Makanchi Array**	**42.20**	**298**	P	**P**	**06 17 58.5**	**-0.6**
MKAR	**Makanchi Array**	**42.20**	**298**	P	**P**	**06 17 58.2**	**-0.9**
	comp=Z,1.8nm,0.6s,baz=85,slow=10,SNR=16						
MKAR				PcP	**PcP**	**06 19 53.0**	**0.0**
	comp=Z,0.6nm,0.4s,baz=65,slow=4.5,SNR=9.5						
MKAR				LR	LR	06 36 43.9	
	comp=Z,67nm,18.3s,baz=7.5,slow=38						
	comp=Z,1.8nm,0.6s						
J20K	**Nowinta River**	**42.48**	**36**	P	**P**	**06 18 02.2**	**+1.2**
J20K				IAmb	IAmb	06 18 06.1	
	comp=Z,11nm,1.4s						
IMAR	**Indian Mountai**	**42.69**	**33**	P	**P**	**06 18 02.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**43.13**	**251**	P	**P**	**06 18 07.1**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=41,slow=8.4,SNR=1.9						

CMAR				LR	LR	06 36 48.3		
	comp=Z,29nm,18.6s,baz=50,slow=37							
	comp=Z,1.9nm,0.3s							
E22K	**Anaktuvuk Pass**	**43.54**	**30**	P	**P**	**06 18 09.0**	**-0.7**	
E22K				IAmb	IAmb	06 18 23.1		
	comp=Z,11nm,1.5s							
KDAK	**Kodiak Island**	**43.63**	**45**	P	**P**	**06 18 10.8**	**+0.3**	
	comp=Z,3.9nm,0.7s,baz=174,slow=7.0,SNR=4.6							
	comp=Z,3.9nm,0.7s							
KURBB	**Kurchatov Arra**	**43.67**	**304**	P	**P**	**06 18 10.0**	**-0.9**	
	comp=Z,4.4nm,0.4s,baz=78,slow=8.9,SNR=24							
KURBB				PcP	**PcP**	**06 19 57.5**	**-0.4**	
	comp=Z,1.1nm,0.5s,baz=81,slow=3.2,SNR=7.0							
	comp=Z,4.4nm,0.4s							
H23K	**Yukon River**	**44.42**	**33**	P	**P**	**06 18 17.8**	**+1.0**	
SML	**Sawmill**	**45.26**	**39**	P	**P**	**06 18 23.4**	**-0.1**	
D25K	**Kavik River**	**45.54**	**28**	P	**P**	**06 18 24.6**	**-1.1**	
D25K				IAmb	IAmb	06 18 29.8		
	comp=Z,5.3nm,0.9s							
ILAR	**Eielson Array**	**45.60**	**35**	P	**P**	**06 18 26.4**	**+0.3**	
	comp=Z,0.5nm,0.5s,baz=258,slow=5.5,SNR=24							
	comp=Z,0.5nm,0.5s							
HDA	**Harding Lake**	**45.60**	**35**	P	**P**	**06 18 26.3**	**+0.1**	
HDA				IAmb	IAmb	06 19 00.9		
	comp=Z,7.8nm,1.4s							
TARG	**Taragay, Kyrgy**	**46.89**	**293**	P	**P**	**06 18 37.4**	**+0.3**	
SCRK	**Sand Creek**	**46.94**	**36**	P	**P**	**06 18 36.7**	**-0.2**	
SCRK				IAmb	IAmb	06 18 37.7		
	comp=Z,5.0nm,1.0s							
K27K	**Chicken**	**47.77**	**35**	P	**P**	**06 18 44.1**	**+1.0**	
BOOM	**Boomskoye usch**	**47.88**	**294**	P	**P**	**06 18 44.3**	**-0.2**	
BVAR	**Borovoye Array**	**47.94**	**310**	P	**P**	**06 18 44.1**	**-0.4**	
	comp=Z,1.8nm,0.3s,baz=79,slow=9.9,SNR=16							
BVAR				PcP	**PcP**	**06 20 12.8**	**+0.1**	
	comp=Z,2.8nm,0.5s,baz=55,slow=2.0,SNR=8.3							
	comp=Z,1.8nm,0.3s							
BCAR	**Beaver Creek A**	**48.07**	**36**	P	**P**	**06 18 45.1**	**-0.4**	
INK	**Inuvik**	**50.30**	**29**	P	**P**	**06 19 02.1**	**-0.2**	
	comp=Z,0.9nm,0.3s,baz=301,slow=8.7,SNR=7.8							
	comp=Z,0.9nm,0.3s							
ARTI	**Arti**	**53.44**	**317**	P	**P**	**06 19 25.3**	**-0.7**	
	comp=Z,3.0nm,0.6s,baz=45,slow=4.3,SNR=4.1							
	comp=Z,3.0nm,0.6s							
SPITS	**Spitsbergen Ar**	**56.25**	**348**	P	**P**	**06 19 45.7**	**-0.4**	
	comp=Z,22nm,1.1s,baz=68,slow=5.0,SNR=1.5							
	comp=Z,22nm,1.1s							
ARCES	**ARCESS Array B**	**59.98**	**339**	P	**P**	**06 20 11.4**	**-0.9**	
	comp=Z,5.0nm,0.8s,baz=52,slow=4.7,SNR=6.9							
	comp=Z,5.0nm,0.8s							
WRA	**Warramunga Arr**	**61.50**	**188**	P	**P**	**06 20 22.1**	**-1.0**	
	comp=Z,1.6nm,0.4s,baz=6.2,slow=7.1,SNR=32							
	comp=Z,1.6nm,0.4s							
FINES	**FINESS Array B**	**65.07**	**332**	P	**P**	**06 20 45.9**	**-0.4**	
	comp=Z,8.7nm,0.6s,baz=30,slow=9.8,SNR=25							
	comp=Z,8.7nm,0.6s							
ASAR	**Alice Springs**	**65.23**	**188**	P	**P**	**06 20 47.4**	**-0.4**	
	comp=Z,1.0nm,0.6s,baz=7.9,slow=7.1,SNR=15							
	comp=Z,1.0nm,0.6s							
KBZ	**Khabaz**	**68.32**	**310**	P	**P**	**06 21 07.3**	**0.0**	
	comp=Z,3.9nm,0.9s,baz=80,slow=6.6,SNR=4.6							
	comp=Z,3.9nm,0.9s							
HFS	**Hagfors**	**70.20**	**335**	P	**P**	**06 21 18.3**	**-0.5**	
	comp=Z,2.5nm,0.3s,baz=33,slow=5.5,SNR=10							
	comp=Z,2.5nm,0.3s							
NB2	**NORSAR Subarra**	**70.24**	**337**	P	**P**	**06 21 18.2**	**-0.9**	
	comp=Z,2.7nm,0.6s,baz=35,slow=6.2							
NOA	**NORSAR Array B**	**70.24**	**337**	P	**P**	**06 21 18.5**	**-0.5**	
	comp=Z,1.6nm,0.6s,baz=39,slow=5.8,SNR=5.1							
	comp=Z,1.6nm,0.6s							
AKASG	**Malin Array Be**	**71.03**	**322**	P	**P**	**06 21 23.0**	**-0.9**	
	comp=Z,2.3nm,0.4s,baz=45,slow=6.4,SNR=5.4							
	comp=Z,2.3nm,0.4s							
NVAR	**Mina Array Bea**	**72.08**	**54**	P	**P**	**06 21 31.9**	**+1.1**	
	comp=Z,0.3nm,0.6s,baz=306,slow=6.7,SNR=2.9							
	comp=Z,0.3nm,0.6s							
PDAR	**Pinedale Array**	**74.32**	**46**	P	**P**	**06 21 45.0**	**+0.9**	
	comp=Z,0.3nm,0.4s,baz=270,slow=3.4,SNR=4.6							
	comp=Z,0.3nm,0.4s							
BRTR	**Keskin Array B**	**76.19**	**311**	P	**P**	**06 21 54.7**	**0.0**	
	comp=Z,0.7nm,0.5s,baz=97,slow=5.1,SNR=3.7							
	comp=Z,0.7nm,0.5s							
EKA	**Eskdalemuir Ar**	**79.07**	**341**	P	**P**	**06 22 10.1**	**-0.2**	
	comp=Z,0.5nm,0.4s,baz=23,slow=5.6,SNR=1.6							
	comp=Z,0.5nm,0.4s							
MMAI	**Mount Meron Ar**	**79.70**	**305**	P	**P**	**06 22 14.0**	**-0.2**	
	comp=Z,0.5nm,0.3s,baz=18,slow=6.2,SNR=1.5							
	comp=Z,0.5nm,0.3s							
TKL	**Tuckaleechee C**	**92.57**	**36**	LR	LR	07 07 18.4		
	comp=Z,207nm,20.7s,baz=166,slow=37							
SNAA	**Sanae**	**145.08**	**199**	PKPbc	**PKPdf**	**06 29 42.1**	**-0.4**	
	comp=Z,1.4nm,0.5s,baz=186,slow=9.2,SNR=10							
H03N2	**Juan Fernandez**	**146.87**	**89**	T	T	09 14 28.0		
	baz=299,slow=77,SNR=12							
H03N3	**Juan Fernandez**	**146.89**	**89**	T	T	09 14 29.0		
	baz=299,slow=77,SNR=13							
H03N1	**Juan Fernandez**	**146.89**	**89**	T	T	09 14 27.3		
	baz=299,slow=77,SNR=13							
SIV	**San Ignacio**	**147.80**	**45**	PKPbc	**PKPbc**	**06 29 50.9**	**-0.7**	
	comp=Z,1.8nm,0.5s,baz=287,slow=3.1,SNR=15							

NNC 20 06:15:18.2±4.1, 38°.25N×69°.67E, h0km, mb3.5, mpv3.1, 3C-3D, Error ellipse: s-maj=36.8km s-min=34.2km az=144.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.89**	**7**	⇓Pn	Pn	06 16 32.4	-0.5
	0.2nm,0.2s,baz=203,slow=15,SNR=9.2						
KK31				⇑Pg	Pb	06 16 47.8	+3.1
	1.7nm,0.3s,baz=188,slow=15,SNR=15						
KK31				Lg	Lg	06 17 55.0	
	47nm,1.0s,baz=189,slow=29,SNR=8.5						
CHMS	**Chumysh**	**6.12**	**38**	⇓Pg	Pb	06 17 07.1	+1.5
	2.1nm,0.5s						
CHMS				⇑Lg	Lg	06 18 32.6	
	9.8nm,1.1s						
TKM2	**Tokmak 2**	**6.49**	**42**	⇓Pn	Pn	06 16 56.6	+1.5
	1.0nm,0.4s						
TKM2				⇑Lg	Lg	06 18 44.4	
	3.8nm,0.9s						

*LDG **20** 06:15:53.7±0.4, 51°.61N×16°.20E, h1km, Md1.7/1, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0, Suspected Mining induced.*
*MCSM **20** 06:15:55.8±0.3, 52°.N±4°×1°.6E±°, h0km, mb4.4, MLv4.3*
*DNK **20** 06:15:55.9±2.1, 51°.45N×16°.48E, h27km±49km, ML2.6*
*NAO **20** 06:15:55.2, 51°.61N×16°.20E, h0km, mb2.8*
*IDC **20** 06:15:56.6±0.6, 51°.50N×16°.00E, h0km, mb3.9/7, mbtmp3.8/15, ML3.3/8, Error ellipse: s-maj=9.6km s-min=6.5km az=97.0*
*IPEC **20** 06:15:56.0±0.2, 51°.52N×16°.19E, h1km, ML3.6/5, Error ellipse: s-maj=1.5km s-min=1.0km az=33.0*
*BGR **20** 06:15:57.2±0.4, 51°.49N×16°.17E, h1km, ML3.8/14, Error ellipse: s-maj=4.4km s-min=2.2km az=14.0*
*UPP **20** 06:15:58.7±3.1, 51°.63N×15°.65E, h0km, ML3.1*
*PRU **20** 06:15:59.2, 51°.41N×16°.14E, h0km*
*VIE **20** 06:15:60.0±0.5, 51°.25N×15°.91E, h0km, mb3.3/19, ml3.4/17, ms3.9/2, Error ellipse: s-maj=3.9km s-min=3.3km az=1.0, Suspected Mining induced.*

ISC 20 06:15:55.2±0.5, 51°.55N±0°.02×16°.16E±0°.02, h0km, n174, σ19°52/261, mb3.6/7, 14C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**173**	*e*Pg	**Pg**	**06 16 09.4**	**+0.5**
KSP				*e*Sg	**Sg**	**06 16 18.6**	**+0.5**
KSP	**Ksiaz**	**0.72**	**173**	*e*Pg	**Pg**	**06 16 09.4**	**+0.5**
KSP				*e*Sg	**Sg**	**06 16 18.4**	**+0.3**
KSP	**Ksiaz**	**0.72**	**173**	P	**Pg**	**06 16 09.7**	**+0.8**
CHVC	**Chvalec**	**0.97**	**184**	*e*PG	**Pb**	**06 16 14.6**	**-0.3**
CHVC				*e*SG	**Sg**	**06 16 26.5**	**+0.2**
OSTC	**Ostas**	**1.00**	**178**	*e*PG	**Pb**	**06 16 15.1**	**-0.3**
OSTC				*e*SG	**Sg**	**06 16 27.0**	**-0.2**
UPC	**Upice**	**1.05**	**185**	*e*PG	**Pg**	**06 16 15.7**	**+0.4**
UPC				*e*SG	**Sg**	**06 16 28.8**	**-0.1**
	comp=Z,959nm,0.5s						
DPC	**Dobruska-Polom**	**1.21**	**175**	*e*PG	**Pg**	**06 16 18.5**	**+0.2**
DPC				*e*SG	**Sg**	**06 16 33.4**	**-0.6**
	comp=Z,685nm,0.8s						
DPC	**Dobruska-Polom**	**1.21**	**175**	*e*Pg	**Pg**	**06 16 18.3**	**-0.1**
DPC	**Dobruska-Polom**	**1.21**	**175**	P	**Pg**	**06 16 18.1**	**-0.2**
PIVO	**Bartosovice**	**1.39**	**170**	*e*Pg	**Pg**	**06 16 21.6**	**-0.2**
	baz=351						
PVCC	**Panska Ves**	**1.44**	**225**	*e*PG	**Pb**	**06 16 23.0**	**+0.2**
KRLC	**Kraliky**	**1.53**	**165**	*e*PG	**Pb**	**06 16 24.5**	**0.0**
KRLC				*e*SG	**Sg**	**06 16 43.5**	**-0.8**
	comp=Z,496nm,0.4s						
BRG	**Berggiesshubel**	**1.55**	**245**	Pn	**Pn**	**06 16 23.9**	**-0.1**
BRG				Pg	**Pg**	**06 16 26.1**	**+1.1**
BRG				Sg	**Sg**	**06 16 46.2**	**+1.2**
BRG				Amp		06 16 48.7	
	comp=Z,436nm,0.6s						
BRG	**Berggiesshubel**	**1.55**	**245**	*e*Pn	**Pn**	**06 16 23.9**	**-0.1**
BRG				*e*Pg	**Pg**	**06 16 25.6**	**+0.7**
BRG				*e*Sg	**Sg**	**06 16 46.2**	**+1.2**
RICC	**Richard**	**1.65**	**233**	*e*SG	**Sg**	**06 16 48.7**	**+0.6**
	comp=Z,768nm,0.5s						
RUE	**Ruedersdorf**	**1.74**	**303**	*e*P	**Pn**	**06 16 27.2**	**+0.6**
GKP	**Gorka Klasztor**	**1.84**	**21**	*e*P	Pn	06 16 20.9	-7.2
GOPC	**GO Pecny, Ondr**	**1.86**	**209**	*e*PN	**Pn**	**06 16 28.3**	**0.0**
GOPC				*e*PG	**Pb**	**06 16 30.4**	**+0.4**
FBE	**Freiberg**	**1.87**	**251**	*e*Pn	**Pn**	**06 16 29.5**	**+1.0**
FBE				*e*Sg	**Sg**	**06 16 55.7**	**+0.3**
PRU	**Pruhonice**	**1.87**	**214**	*e*PN	**Pn**	**06 16 28.5**	**0.0**
PRU				*e*PG	**Pb**	**06 16 30.6**	**+0.3**
PRU				*e*SG	**Sg**	**06 16 55.2**	**-0.1**
	comp=Z,552nm,0.5s						
HSKC	**Hora Svate Kat**	**1.96**	**242**	*e*PN	**Pn**	**06 16 29.5**	**-0.3**
HSKC				*e*PG	**Pb**	**06 16 32.3**	**+0.5**
HSKC				*e*SG	**Sb**	**06 16 57.3**	**+0.4**
	comp=Z,316nm,0.4s						
MORC	**Moravsky Berou**	**1.98**	**153**	*e*Pn	**Pn**	**06 16 29.9**	**-0.1**
	baz=334						
MORC				*e*Sg	**Sb**	**06 16 57.1**	**-0.3**
	comp=Z,299nm,0.8s,baz=334						
MORC	**Moravsky Berou**	**1.98**	**153**	⇑P	**Pn**	**06 16 30.5**	**+0.4**
MORC	**Moravsky Berou**	**1.98**	**153**	*e*Pn	**Pn**	**06 16 30.0**	**-0.1**
MORC				*e*Sg	**Sb**	**06 16 58.0**	**+0.5**
CLL	**Collm**	**1.99**	**264**	*e*Pn	**Pn**	**06 16 30.3**	**+0.1**
CLL				*e*Sg	**Sg**	**06 17 00.2**	**+1.0**
CLL	**Collm**	**1.99**	**264**	*i* Pn	**Pn**	**06 16 30.2**	**+0.1**
	comp=Z,31nm,0.6s						
CLL				*i* Pg	**Pg**	**06 16 33.7**	**+0.4**
CLL				*i* x	x	06 16 37.9	
CLL				*i* Sg	**Sg**	**06 17 00.9**	**+1.8**
	comp=Z,209nm,0.6s						
CLL	**Collm**	**1.99**	**264**	P	**Pn**	**06 16 30.2**	**+0.1**
OKC	**Ostrava-Krasne**	**2.13**	**143**	*e*PG	**Pg**	**06 16 36.2**	**+0.2**
OKC				*e*SG	**Sb**	**06 17 02.5**	**+0.8**
OKC	**Ostrava-Krasne**	**2.13**	**143**	*e*Pn	**Pn**	**06 16 31.9**	**-0.2**
OKC				*e*Pg	**Pg**	**06 16 36.8**	**+0.8**
VRAC	**Vranov**	**2.26**	**173**	Pn	**Pn**	**06 16 34.7**	**+0.8**
	comp=Z,9.5nm,0.3s,baz=340,slow=15,SNR=31						
VRAC				Lg	Lg	06 17 06.2	
	comp=Z,44nm,0.3s,baz=263,slow=22,SNR=13						
	comp=Z,35nm,0.2s						
VRAC	**Vranov**	**2.26**	**173**	*e*Pn	**Pn**	**06 16 34.1**	**+0.2**
	baz=354						
VRAC				*e*Sg	**Sb**	**06 17 06.1**	**+0.6**
	comp=Z,280nm,0.5s,baz=354						
VRAC	**Vranov**	**2.26**	**173**	⇓P	**Pn**	**06 16 34.6**	**+0.7**
TREC	**Trest**	**2.30**	**191**	*e*SG	**Sb**	**06 17 07.0**	**+0.4**
	comp=Z,142nm,0.3s						
KRUC	**Moravsky**	**2.50**	**176**	*e*Pn	**Pn**	**06 16 37.5**	**+0.4**
	baz=357						
KRUC	**Moravsky**	**2.50**	**176**	*e*Pg	**Pb**	**06 16 41.2**	**+0.3**
	baz=357						
KRUC				*e*Sg	**Sb**	**06 17 13.4**	**+1.2**
	comp=Z,346nm,1.1s,baz=357						
TANN	**Tannenbergstha**	**2.60**	**245**	*e*Pn	**Pn**	**06 16 39.1**	**+0.6**
TANN				*e*Pg	**Pg**	**06 16 45.3**	**+0.3**
OJC	**Ojcow**	**2.66**	**119**	*e*Pn	**Pn**	**06 16 38.3**	**-1.0**
OJC				*e*Pg	**Pg**	**06 16 46.8**	**+0.6**
OJC				*e*Sg	**Sg**	**06 17 21.1**	**+0.4**
OJC	**Ojcow**	**2.66**	**119**	*e*Pn	**Pn**	**06 16 38.3**	**-1.0**
OJC				*e*Pg	**Pg**	**06 16 46.9**	**+0.7**
OJC				*e*Sg	**Sg**	**06 17 21.9**	**+1.2**
OJC	**Ojcow**	**2.66**	**119**	P	**Pn**	**06 16 40.3**	**+0.9**
WERD	**Werda**	**2.67**	**247**	*e*Pn	**Pn**	**06 16 40.1**	**+0.5**
WERD				*e*Pg	**Pg**	**06 16 46.8**	**+0.3**
NKC	**Novy Kostel**	**2.70**	**242**	*e*SG	**Sg**	**06 17 22.3**	**+0.5**
	comp=Z,552nm,0.5s						
JAVC	**Velka Javorina**	**2.87**	**160**	*e*Pn	**Pn**	**06 16 42.3**	**+0.1**
	baz=341						
JAVC				*e*Sg	**Sb**	**06 17 24.8**	**+2.0**
	comp=Z,259nm,1.0s,baz=341						
KHC	**Kasperske Hory**	**2.94**	**215**	*e*PN	**Pn**	**06 16 43.4**	**+0.3**
KHC				*e*PG	**Pb**	**06 16 49.5**	**+1.1**
KHC				*e*SN	**Sn**	**06 17 18.1**	**-1.0**
KHC				*e*SG	**Sg**	**06 17 28.1**	**-1.3**
	comp=Z,188nm,0.5s						
KHC	**Kasperske Hory**	**2.94**	**215**	P	**Pn**	**06 16 43.1**	**0.0**
CKRC	**Cesky Krumlov**	**2.98**	**204**	*e*PN	**Pn**	**06 16 44.4**	**+0.6**
CKRC				*e*PG	**Pb**	**06 16 50.6**	**+1.4**
CKRC				*e*SG	**Sb**	**06 17 27.9**	**+1.7**
MOX	**Moxa**	**3.00**	**254**	*e*Pn	**Pn**	**06 16 44.7**	**+0.7**
MOX				*e*Pg	**Pg**	**06 16 52.9**	**+0.1**
MOX				*e*Sg	**Sg**	**06 17 33.0**	**+1.3**
MANZ	**Manzenberg**	**3.01**	**240**	*e*Pn	**Pn**	**06 16 45.0**	**+0.8**
MANZ				*e*Pg	**Pg**	**06 16 53.7**	**+0.8**
ROTZ	**Rotzenmuhle**	**3.09**	**236**	*e*Pn	**Pn**	**06 16 45.7**	**+0.6**
GEC2	**GERESS Array S**	**3.14**	**211**	*e*Pn	**Pn**	**06 16 46.4**	**+0.4**
GEC2				*e*Sg	**Sg**	**06 17 35.2**	**-0.7**
GERES	**GERESS Array B**	**3.14**	**211**	Pn	**Pn**	**06 16 46.2**	**+0.3**
	comp=Z,4.8nm,0.3s,baz=32,slow=13,SNR=23						
GERES				Lg	Lg	06 17 32.1	
	comp=Z,30nm,0.3s,baz=21,slow=32,SNR=8.4						
	comp=Z,11nm,0.5s						
WET	**Wettzell**	**3.20**	**222**	*e*Pn	**Pn**	**06 16 47.1**	**+0.3**
LANS	**Liptovska Anna**	**3.21**	**137**	*e*PN	**Pn**	**06 16 47.8**	**+1.0**
LANS				*e*PG	**Pg**	**06 16 55.6**	**-1.0**
LANS				*e*SG	**Sg**	**06 17 36.7**	**-1.4**
MODS	**Modra-Piesok**	**3.26**	**167**	*e*PN	**Pn**	**06 16 48.6**	**+1.0**
MODS				*e*PG	**Pg**	**06 16 57.8**	**+0.1**
MODS				*e*SG	**Sg**	**06 17 41.2**	**+1.2**
NIE	**Niedzica**	**3.40**	**127**	*e*Pn	**Pn**	**06 16 51.4**	**+1.9**
NIE				*e*Pg	**Pg**	**06 17 00.9**	**+0.6**
NIE				*e*Sg	**Sg**	**06 17 45.4**	**+1.0**
NIE	**Niedzica**	**3.40**	**127**	P	**Pb**	**06 16 55.4**	**-0.9**
VYHS	**Vyhne**	**3.51**	**150**	*e*PN	**Pn**	**06 16 51.4**	**+0.3**
VYHS				*e*PG	**Pg**	**06 17 02.8**	**+0.3**
VYHS				*e*SG	**Sg**	**06 17 48.8**	**+0.8**
CLZ	**Clausthal**	**3.61**	**277**	*e*Pn	**Pn**	**06 16 54.2**	**+1.8**
CONA	**Conrad Observa**	**3.63**	**183**	*e*Pn	**Pn**	**06 16 53.5**	**+0.7**
	comp=Z,9.3nm,0.3s,SNR=18						
CONA				*e*Sg	**Sg**	**06 17 49.4**	**-2.5**
	comp=Z,136nm,0.5s						
BSD	**Bornholm Skovb**	**3.65**	**349**	*e*P	Pn	06 16 47.6	-5.2
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* P	**Pn**	**06 16 53.2**	**+0.4**
BSD				*i* S	**Sn**	**06 17 33.9**	**-2.6**
BSD				IAML		06 17 40.2	
	comp=Z,4.5nm,0.2s						
GRF	**Grafenberg Arr**	**3.65**	**241**	*e*Pn	**Pn**	**06 16 53.9**	**+0.9**
GRF				*e*Sg	**Sg**	**06 17 52.4**	**-0.2**
RONA	**Rosalia, Austr**	**3.86**	**179**	*i* Pn	**Pn**	**06 16 56.1**	**+0.3**
	comp=Z,3.6nm,0.3s,SNR=6.2						
RONA				Sg	**Sg**	**06 17 56.4**	**-2.7**
	comp=Z,2μm,0.0s						
STHS	**Stebnicka Huta**	**3.89**	**121**	*e*PN	**Pn**	**06 16 56.4**	**+0.2**
STHS				*e*PG	**Pg**	**06 17 08.8**	**-0.9**
STHS				*e*SG	**Sg**	**06 18 04.3**	**+4.3**
MOA	**Molln**	**3.91**	**199**	*i* Pn	**Pn**	**06 16 57.0**	**+0.5**
	comp=Z,7.8nm,0.3s,SNR=7.0						
MOA				*e*Sg	**Sg**	**06 17 57.7**	**-2.9**
	comp=Z,148nm,0.5s						
KECS	**Kecovo**	**4.15**	**136**	*e*PN	**Pn**	**06 16 59.8**	**0.0**
KECS				*e*PG	**Pg**	**06 17 13.1**	**-1.6**
KECS				*e*SG	**Sg**	**06 18 07.7**	**-0.7**
BIOA	**Bad Ischl, Aus**	**4.20**	**204**	*i* Pn	**Pn**	**06 17 01.0**	**+0.5**
	comp=Z,13nm,0.3s,SNR=6.5						
BIOA				Sg	**Sg**	**06 18 09.4**	**-0.6**
	comp=Z,117nm,0.4s						
ARSA	**Arzberg**	**4.33**	**186**	*i* Pn	**Pn**	**06 17 04.1**	**+1.9**
	comp=Z,5.7nm,0.3s,SNR=8.8						
ARSA				Sg	**Sg**	**06 18 12.8**	**-1.3**
	comp=Z,169nm,0.6s						
PSZ	**Piszkesteto**	**4.37**	**145**	*e*P	**Pn**	**06 17 03.9**	**+1.0**
PSZ	**Piszkesteto**	**4.37**	**145**	⇑P	**Pn**	**06 17 03.7**	**+0.8**
LUNU	**Lund**	**4.39**	**339**	P	**Pn**	**06 17 03.4**	**+0.3**
LUNU				S	**Sn**	**06 17 54.1**	**-0.8**
LUNU	**Lund**	**4.39**	**339**	*i* P	**Pn**	**06 17 03.0**	**-0.1**
LUNU				P	Pb	06 17 03.4	-10
LUNU				S	**Sn**	**06 17 54.1**	**-0.8**
LUNU				*i* S	Sb	06 17 54.2	-13
MPLH	**Magyarpolny**	**4.48**	**168**	P	**Pn**	**06 17 05.3**	**+1.0**
LESA	**Schwarzleotal**	**4.71**	**210**	*i* Pn	**Pn**	**06 17 08.2**	**+0.6**
	comp=Z,3.8nm,0.3s						
LESA				*e*Sg	**Sg**	**06 18 23.2**	**-3.4**
	comp=Z,35nm,0.6s						
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*PN	**Pn**	**06 17 07.9**	**+0.3**
KOLS				*e*PG	**Pg**	**06 17 26.2**	**+0.6**
KOLS				*e*SN	**Sn**	**06 18 02.4**	**-0.6**
KOLS				*e*SG	**Sg**	**06 18 24.8**	**-1.9**
BLEU	**Blekinge**	**4.77**	**358**	*i* P	**Pn**	**06 17 08.7**	**+0.5**
BLEU				*i* S	**Sn**	**06 18 01.7**	**-2.3**
KBA	**Koelnbreinsper**	**4.84**	**203**	*e*Pn	**Pn**	**06 17 10.4**	**+0.9**
	comp=Z,11nm,0.4s,SNR=5.3						
KBA				Sg	**Sg**	**06 18 29.7**	**-0.9**
	comp=Z,33nm,0.4s						
SUW	**Suwalki**	**4.92**	**57**	*e*P	Pn	06 17 03.2	-7.1
SOKA	**Soboth**	**4.94**	**189**	*i* Pn	**Pn**	**06 17 12.0**	**+1.4**
	comp=Z,2.0nm,0.3s						
SOKA				Sg	**Sg**	**06 18 31.7**	**-1.9**
	comp=Z,30nm,0.6s						
DEL	**Delary**	**5.11**	**346**	P	**Pn**	**06 17 13.1**	**+0.2**
DEL				S	**Sn**	**06 18 09.1**	**-3.4**
DEL	**Delary**	**5.11**	**346**	*i* P	**Pn**	**06 17 12.9**	**-0.1**
DEL				P	**Pn**	**06 17 13.1**	**+0.2**
DEL				*i* S	**Sn**	**06 18 07.9**	**-4.7**
DEL				S	**Sn**	**06 18 09.1**	**-3.4**
OBKA	**Obir**	**5.16**	**192**	*i* Pn	**Pn**	**06 17 15.0**	**+1.3**
	comp=Z,2.7nm,0.4s						
OBKA				Sg	**Sg**	**06 18 39.0**	**-1.8**
	comp=Z,64nm,0.6s						
WATA	**Walderalm**	**5.17**	**217**	*e*Pn	**Pn**	**06 17 15.2**	**+1.2**
	comp=Z,11nm,0.3s,SNR=7.4						
WATA				*i* Sn	**Sn**	**06 18 10.5**	**-3.8**
	comp=Z,11nm,0.3s						
WATA				*e*Sg	**Sg**	**06 18 40.2**	**-1.0**
	comp=Z,42nm,0.6s						
MYKA	**Terra Mystica**	**5.20**	**200**	*e*Sg	**Sg**	**06 18 40.8**	**-1.3**
	comp=Z,38nm,0.5s						
WTTA	**Wattenberg**	**5.21**	**216**	*e*Pn	**Pn**	**06 17 15.9**	**+1.4**
	comp=Z,6.1nm,0.2s,SNR=6.7						
WTTA				Sg	**Sg**	**06 18 42.0**	**-0.4**
	comp=Z,100nm,1.0s						
MOTA	**Moosalm**	**5.35**	**220**	*i* Pn	**Pn**	**06 17 17.0**	**+0.6**
	comp=Z,9.8nm,0.4s						
MOTA				*i* Sn	**Sn**	**06 18 17.2**	**-1.5**
	comp=Z,13nm,0.5s						
MOTA				*e*Sg	**Sg**	**06 18 47.0**	**+0.1**
	comp=Z,57nm,0.6s						
ABTA	**Abfaltersbach**	**5.37**	**208**	Sg	**Sg**	**06 18 45.7**	**-2.0**
	comp=Z,61nm,0.7s						
SQTA	**Sankt Quirin**	**5.41**	**219**	*e*Pn	**Pn**	**06 17 18.5**	**+1.3**
	comp=Z,7.7nm,0.3s,SNR=8.1						
SQTA				*e*Sg	**Sg**	**06 18 47.7**	**-1.1**
	comp=Z,14nm,0.4s						
MORS	**Morshin**	**5.51**	**113**	P	**Pn**	**06 17 19.3**	**+0.8**
SSRD	**Sdr. Stenderup**	**5.54**	**318**	*i* S	**Sn**	**06 18 20.3**	**-2.7**
MORH	**Mrgy, Hungar**	**5.59**	**162**	⇑P	**Pn**	**06 17 20.1**	**+0.6**
MORH	**Mrgy, Hungar**	**5.59**	**162**	P	**Pn**	**06 17 21.1**	**+1.6**
	comp=Z,11nm,0.7s,comp=Z,0.1nm						
LTVH	**Ltavrtes, Hu**	**5.60**	**136**	⇑P	**Pn**	**06 17 19.8**	**+0.1**
MEZ	**Mezhgor'ye**	**5.63**	**120**	P	Pn	06 17 25.2	+5.1
FETA	**Feichten**	**5.76**	**220**	*e*Pn	**Pn**	**06 17 22.8**	**+0.7**
	comp=Z,4.3nm,0.4s,SNR=4.3						
FETA				*e*Sg	**Sg**	**06 18 55.3**	**-4.8**
	comp=Z,11nm,0.5s						
**

comp=N,0.3nm,0.3s,baz=157,slow=31,SNR=2.3
comp=N,1.8nm,0.5s
LOR Lormes 9.09 247 *e*Pn **Pn 06 18 05.4 -2.2**
MBDF Montbardon 9.27 226 *e*P **Pn 06 18 12.3 +2.1**
BAL3X Bal3x, Balta 9.42 107 P Pn 06 17 55.3 -17
ORIF Oris-en-Rattie 9.54 230 *e*P **Pn 06 18 14.0 +0.2**
SBF Sospel 9.68 221 *e*P **Pn 06 18 15.8 +0.1**
NB2 NORSAR Subarra 9.90 346 Pn **Pn 06 18 17.7 -0.9**
comp=Z,0.8nm,0.7s,baz=162,slow=14
NOA NORSAR Array B 9.90 346 Pn **Pn 06 18 16.6 -2.0**
baz=162,slow=12,SNR=6.8
NOA Sn **Sn 06 20 03.2 -7.1**
baz=141,slow=5.5,SNR=1.4
comp=Z,0.6nm,0.7s
BGF Bois d'Agland 10.06 245 *e*P **Pn 06 18 19.0 -1.9**
LMR La Mourre 10.49 222 *e*P **Pn 06 18 27.0 +0.2**
LASF Ste Croix 11.14 233 *e*P **Pn 06 18 34.8 -0.9**
FINES FINESS Array B 11.31 25 Pn **Pn 06 18 36.9 -1.0**
comp=Z,0.5nm,0.3s,baz=203,slow=10,SNR=14
comp=Z,1nm,0.4s
EKA Eskdalemuir Ar 12.12 296 Pn **Pn 06 18 45.9 -3.0**
baz=101,slow=14
ROSF Rostrenen 12.92 263 *e*P **Pn 06 19 02.2 +2.3**
ARCES ARCESS Array B 18.57 10 P **Pn 06 20 16.7 +3.2**
comp=Z,0.2nm,0.3s,baz=195,slow=10,SNR=1.3
comp=Z,2.6nm,0.9s
ARTI Arti 25.00 62 P **P 06 21 23.8 +3.5**
comp=Z,3.1nm,0.6s,baz=297,slow=4.5,SNR=3.3
comp=Z,3.1nm,0.6s
BVAR Borovoye Array 32.54 66 P **P 06 22 29.8 +2.2**
comp=Z,1.3nm,0.5s,baz=287,slow=7.2,SNR=6.0
comp=Z,1.3nm,0.5s
KURBB Kurchatov Arra 38.13 66 P **P 06 23 17.0 +1.4**
comp=Z,0.4nm,0.3s,baz=297,slow=9.2,SNR=3.4
comp=Z,0.4nm,0.3s
TORD Torodi Ar. Bea 40.05 202 P **P 06 23 32.5 +0.5**
comp=Z,1.0nm,0.8s,baz=7.6,slow=9.5,SNR=5.0
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 71.32 84 P **P 06 27 18.4 +1.7**
comp=Z,1.6nm,0.3s,baz=313,slow=8.5,SNR=5.1
comp=Z,1.6nm,0.3s
PDAR Pinedale Array 74.93 322 P **P 06 27 39.4 +1.3**
comp=Z,0.3nm,0.6s,baz=52,slow=6.2,SNR=4.4
comp=Z,0.3nm,0.6s
TXAR Lajitas Array 83.71 310 P **P 06 28 27.6 +1.5**
comp=Z,0.2nm,0.5s,baz=46,slow=3.9,SNR=2.5
comp=Z,0.2nm,0.5s

UCR ***20*** *06:37:26.0±2.2, 12.6°S×75.3°±36W, h15km±999km, MW5.0*
VAO ***20*** *06:38:00.7±0.4, 9.80°S×78.60°W, h10km, mb5.4*
MOS ***20*** *06:38:04.2±1.1, 9.73°S×78.63°W, h46km, mb5.6/35, Error ellipse: s-maj=12.8km s-min=6.3km az=109.2*
NEIC ***20*** *06:38:06.9, 9.84°S×78.58°W, h60km*
NEIC ***20*** *06:38:06.9±2.5, 9.85°S±0.06°×78.58°W±0.04, h57km±4km, mb5.5/732, Mwb5.5/32, Mww5.4/32, Error ellipse: s-maj=9.5km s-min=4.7km az=196.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-2.11; $M_{\theta\theta}$0.54; $M_{\phi\phi}$1.56; $M_{r\theta}$0.12; $M_{\theta\phi}$-0.87; $M_{\phi r}$-0.09; Fault plane solution: $M_0$2.09000×10^{17} NP1:ϕ_s328.61000°, δ46.89000°, λ-92.06000°. NP2:ϕ_s151.62000°, δ43.15000°, λ-87.81000°. Principal axes: T 2.0672, Plg2.0000°, Azm60.0000°; N 0.0451, Plg2.0000°, Azm330.0000°; P -2.1124, Plg88.0000°, Azm201.0000°;*
NEIC ***20*** *06:38:06.9, 9.84°S×78.58°W, h60km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.64; $M_{\theta\theta}$0.19; $M_{\phi\phi}$1.46; $M_{r\theta}$-0.16; $M_{\theta\phi}$-0.63; $M_{\phi r}$0.34; Fault plane solution: $M_0$1.72000×10^{17} NP1: ϕ_s156.74000°, δ51.34000°, λ-90.97000°. NP2: ϕ_s338.30000°, δ38.68000°, λ-88.79000°. Principal axes: T 1.7618, Plg6.0000°, Azm247.0000°; N -0.0759, Plg1.0000°, Azm157.0000°; P -1.6859, Plg84.0000°, Azm61.0000°;*
NEIC ***20*** *06:38:07, 9.83°S×78.54°W, h50km*
IDC ***20*** *06:38:07.1±0.3, 9.86°S×78.66°W, h64km±2km, mb4.9/30, mbtmp5.2/34, MS4.6/57, Error ellipse: s-maj=12.8km s-min=5.7km az=61.0*
GCMT ***20*** *06:38:08.9±0.1, 9.82°S±0.01°×78.79°W±0.01, h78km, MW5.4/148, Moment Tensor Solution. s148, c221; s135, c243; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.49±.02; $M_{\theta\theta}$-0.17±.02; $M_{\phi\phi}$1.66±.03; $M_{r\theta}$-0.19±.02; $M_{\theta\phi}$-0.65±.02; $M_{\phi r}$0.55±.02; Best double couple: $M_0$1.77800×10^{17} NP1:ϕ_s162.00000°, δ55.00000°, λ-91.00000°. NP2:ϕ_s343.00000°, δ35.00000°, λ-89.00000°. Principal axes: T 1.9670, Plg10.0000°, Azm252.0000°; N -0.3770, Plg1.0000°, Azm162.0000°; P -1.5890, Plg80.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 20 06:38:07.1±0.3, 9.84S±0.04×78.59W±0.05, h64km±2km, h64km:pP-P,n1105,c1°12/795, mb5.5/375, 10C-13D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.69**	**4**	P	**Pn**	**06 38 50.2**	**+1.8**
	935nm,0.3s,baz=178,slow=2.7,SNR=674						
ATAH				S	**Sn**	**06 39 23.3**	**+3.2**
	5μm,0.5s,baz=30,slow=21,SNR=6.1						
ATAH				LR	LR	06 40 07.9	
	comp=Z,16μm,21.0s,baz=183,slow=44						
NNA	**Nana**	**2.74**	**141**	P	**Pn**	**06 38 49.6**	**+0.8**
	2μm,0.3s,baz=324,slow=4.2,SNR=534						
NNA				S	**Sn**	**06 39 22.8**	**+2.0**
	7μm,0.3s,baz=233,slow=20,SNR=19						
NNA				LR	LR	06 39 29.2	
	comp=Z,5μm,18.6s,baz=344,slow=30						
NNA	**Nana**	**2.74**	**141**	*de*P	**Pn**	**06 38 49.7**	**+0.9**
NNA				pmax	pmax		
	comp=Z,5μm,1.3s						
CZSB	**Cruzeiro do Su**	**6.18**	**71**	Pn	**Pn**	**06 39 36.1**	**+0.3**
CZSB	**Cruzeiro do Su**	**6.18**	**71**	*e*P	**Pn**	**06 39 32.8**	**-3.0**
COHC	**Cochancay**	**7.35**	**355**		**Pn**	**06 39 53.0**	**+1.1**
PILA	**PATRICIA PILAR**	**9.09**	**354**	*e*P		06 42 27.0	
TBTG	**Tabatinga, AM**	**10.28**	**57**		**Pn**	**06 40 31.3**	**-0.6**
TBTG	**Tabatinga, AM**	**10.28**	**57**	*e*P	**Pn**	**06 40 29.1**	**-2.8**
PB18	**Visviri**	**11.73**	**132**	Pn	**Pn**	**06 40 52.9**	**+0.7**
PB12	**IPOC Station P**	**11.84**	**138**	Pn	**Pn**	**06 40 51.9**	**-1.3**
LPAZ	**La Paz**	**12.03**	**123**	Pn	**Pn**	**06 40 55.1**	**-1.4**
LPAZ	**La Paz**	**12.03**	**123**	P	**Pn**	**06 40 57.1**	**+0.7**
	comp=Z,11nm,0.6s,baz=333,slow=9.9,SNR=25						
LPAZ				S	**Sn**	**06 43 18.1**	**+8.8**
	comp=Z,19nm,0.6s,baz=164,slow=5.3,SNR=1.4						
LPAZ	**La Paz**	**12.03**	**123**	*e*P	**Pn**	**06 40 52.8**	**-3.6**
ETMB	**Extrema**	**12.19**	**91**	Pn	**Pn**	**06 40 54.2**	**-3.8**
ETMB	**Extrema**	**12.19**	**91**	*e*P	**Pn**	**06 40 54.2**	**-3.8**
TA02	**Huaiquique**	**13.20**	**143**		**Pn**	**06 41 10.3**	**-1.4**
GO01	**Chusmiza**	**13.34**	**138**		**Pn**	**06 41 12.3**	**-1.8**
HMBC	**Humberstone**	**13.35**	**142**		**Pn**	**06 41 11.0**	**-2.8**
TA01	**Diego Aracena**	**13.39**	**144**	Pn	**Pn**	**06 41 12.4**	**-2.0**
PATCX	**Punta Patache**	**13.61**	**144**		**Pn**	**06 41 15.8**	**-1.6**
PB08	**IPOC Station P**	**13.70**	**139**		**Pn**	**06 41 17.4**	**-1.5**
PB01	**IPOC Station P**	**14.17**	**143**		**Pn**	**06 41 23.9**	**-0.9**
PB04	**IPOC Station P**	**14.83**	**148**	Pn	**Pn**	**06 41 33.1**	**-0.3**
PB09	**IPOC Station P**	**14.90**	**144**		**Pn**	**06 41 33.3**	**-1.0**
ROSC	**El Rosal**	**15.19**	**16**		**P**	**06 41 41.2**	**-0.9**
ROSC	**El Rosal**	**15.19**	**16**	P	**Pn**	**06 41 39.4**	**+1.1**
	comp=Z,3.6nm,0.4s,baz=192,slow=23,SNR=1.8						
ROSC				S	**S**	**06 44 39.0**	**-0.4**
	comp=Z,50nm,0.7s,baz=164,slow=20,SNR=1.9						
ROSC				LR	LR	06 48 48.4	
	comp=Z,10μm,18.5s,baz=210,slow=42						
ROSC	**El Rosal**	**15.19**	**16**	P	**P**	**06 41 41.2**	**-0.9**
ROSC				pmax	pmax		
	comp=Z,282nm,1.6s						
PB06	**IPOC Station P**	**15.44**	**147**	P	**Pn**	**06 41 41.9**	**+0.7**
PB14	**IPOC Station P**	**16.64**	**153**		**Pn**	**06 41 57.2**	**+0.6**
AZU	**Azuero**	**17.59**	**354**	*e*P	**P**	**06 42 08.3**	**+0.1**
GMAL	**Guarumal, Vera**	**17.68**	**351**	*e*P	**P**	**06 42 10.6**	**+1.4**
SIV	**San Ignacio**	**18.13**	**112**	P	**P**	**06 42 13.6**	**-0.6**
	comp=Z,152nm,1.1s,baz=289,slow=12,SNR=206						
SIV				LR	LR	06 49 44.5	
	comp=Z,6μm,18.2s,slow=38						
VILB	**Vilhena**	**18.29**	**101**	P	**P**	**06 42 14.9**	**-1.1**
VILB				IAmb	IAmb	06 42 17.4	
	comp=Z,732nm,1.5s						
VILB	**Vilhena**	**18.29**	**101**	*e*P	**P**	**06 42 15.8**	**-0.2**
ZANG	**Zanguenga, Cho**	**18.71**	**356**	*e*P	**Pn**	**06 42 24.2**	**+2.6**
PIRO	**Carate, Puerto**	**18.73**	**345**	*e*P	**Pn**	**06 42 23.5**	**+1.7**
NELY	**Ciudad Neily**	**18.87**	**347**	*e*P	**Pn**	**06 42 23.1**	**-0.4**
BBSD	**Serra de San D**	**18.93**	**115**	*e*P	**P**	**06 42 22.2**	**-0.8**
BRU2	**Volcan**	**18.95**	**347**	P	**Pn**	**06 42 24.8**	**+0.1**
BRU2	**Volcan**	**18.95**	**347**	*e*P	**Pn**	**06 42 25.6**	**+0.9**
MACA	**Manacapuru-AM**	**18.98**	**71**	P	**P**	**06 42 22.1**	**-1.5**
MACA				IAmb	IAmb	06 42 25.7	
	comp=Z,275nm,0.7s						
MACA	**Manacapuru-AM**	**18.98**	**71**	*e*P	**P**	**06 42 22.2**	**-1.3**
AC06	**Mina Casimiro**	**19.08**	**157**	IAmb	IAmb	06 42 30.4	
	comp=Z,235nm,0.9s						
GO03	**Copiapo**	**19.34**	**157**	IAmb	IAmb	06 42 32.7	
	comp=Z,414nm,1.6s						
BURE	**Buenos Aires**	**19.47**	**346**	*e*P	**Pn**	**06 42 31.9**	**+1.3**
AC04	**Llanos de Chal**	**19.59**	**160**	P	**P**	**06 42 31.1**	**+0.9**
ZELE	**Perez Zeledon**	**19.75**	**345**	*e*P	**Pn**	**06 42 35.1**	**+1.0**
PTLB	**Pontes e Lacer**	**19.77**	**108**	P	**P**	**06 42 32.5**	**+0.3**
PTLB	**Pontes e Lacer**	**19.77**	**108**	*e*P	**P**	**06 42 32.7**	**+0.5**
BUS1	**Rivas**	**19.94**	**345**	*e*P	**P**	**06 42 35.5**	**+1.0**
LLNJ	**Naranjito**	**19.95**	**344**	*e*P	**Pn**	**06 42 36.5**	**+0.2**
RAZU	**San Marcos de**	**20.11**	**344**	*e*P	Pn	06 42 39.0	+0.6
ABE2	**San Pablo**	**20.16**	**344**	*e*P	Pn	06 42 38.3	-0.8
LCR2	**La Lucha 2**	**20.18**	**344**	*e*P	Pn	06 42 38.5	-0.8
SDV	**Santo Domingo**	**20.21**	**23**	P	**P**	**06 42 37.7**	**+0.5**
SDV	**Santo Domingo**	**20.21**	**23**	P	**P**	**06 42 38.4**	**+1.2**
	comp=Z,43nm,0.9s,baz=209,slow=8.9,SNR=14						
SDV				LR	LR	06 52 08.5	
	comp=Z,4μm,18.3s,baz=203,slow=42						
	comp=Z,43nm,0.9s						
SDV	**Santo Domingo**	**20.21**	**23**	*e*P	**P**	**06 42 37.3**	**+0.1**
REPA	**Paraso**	**20.23**	**345**	*e*P	Pn	06 42 39.2	-0.6
VINA	**Juan Vinas**	**20.26**	**345**	*e*P	**P**	**06 42 31.2**	**-6.4**
PCAYA	**Pacayas**	**20.30**	**345**	*e*P	Pn	06 42 39.9	-0.8
TRIO	**Tres Rios**	**20.34**	**345**	*e*P	**P**	**06 42 39.7**	**+1.2**
VTCV	**VTCV, Calle Va**	**20.34**	**345**	*e*P	**P**	**06 42 39.7**	**+1.1**
AMPA	**Desamparados**	**20.35**	**344**	*e*P	Pn	06 42 40.6	-0.5
VICA	**Volcano Irazu**	**20.37**	**345**	*e*P	**P**	**06 42 39.9**	**+0.7**
VTLA	**Turrialba Volc**	**20.37**	**345**	*e*P	Pn	06 42 41.1	-0.6
SJS3	**Mercedes San J**	**20.38**	**344**	*e*P	Pn	06 42 41.5	-0.1
SJS	**Escuela Geolog**	**20.39**	**344**	*e*P	Pn	06 42 41.3	-0.3
DOMI	**Santo Domingo**	**20.44**	**344**	*e*P	Pn	06 42 42.7	+0.5
CVIMO	**Finca Echandi**	**20.44**	**345**	*e*P	Pn	06 42 41.5	-0.8
BELE	**Belen**	**20.46**	**344**	*e*P	Pn	06 42 42.1	-0.2
LCO	**Las Campanas**	**20.46**	**160**	P	Pn	06 42 41.4	-1.1
LCO	**Las Campanas**	**20.46**	**160**	P	Pn	06 42 41.4	-1.1
LCO				pmax	pmax		
	comp=Z,219nm,1.3s						
HDC	**Heredia**	**20.46**	**344**	*e*P	**P**	**06 42 39.7**	**-0.1**
SRA1	**San Ramn**	**20.64**	**343**	*e*P	Pn	06 42 43.7	-0.8
SOCE	**Pocosol**	**20.96**	**343**	P	Pn	06 42 47.5	-0.8
SOCE				IAmb	IAmb	06 42 49.3	
	comp=Z,134nm,1.2s						
SOCE	**Pocosol**	**20.96**	**343**	*e*P	Pn	06 42 47.6	-0.7
JUNT	**Juntas**	**20.97**	**342**	*e*P	**P**	**06 42 44.5**	**-0.7**
JTS	**Las Juntas de**	**20.97**	**342**	P	Pn	06 42 47.1	-1.3
JTS	**Las Juntas de**	**20.97**	**342**	P	**P**	**06 42 45.7**	**+0.5**
	comp=Z,12nm,0.8s,baz=174,slow=5.6,SNR=8.2						
JTS				LR	LR	06 50 10.7	
	comp=Z,1μm,19.5s,baz=152,slow=34						
	comp=Z,12nm,0.8s						
JTS	**Las Juntas de**	**20.97**	**342**	*i* P	**P**	**06 42 44.8**	**-0.4**
JTS				pmax	pmax		
	comp=Z,111nm,2.0s						
NICO	**Nicoya**	**20.98**	**341**	*e*P	**P**	**06 42 46.6**	**+1.3**
TUNA	**La Fortuna**	**21.05**	**343**	*e*P	**P**	**06 42 48.8**	**+2.8**
VACR	**Volcan Arenal**	**21.07**	**343**	*e*P	**P**	**06 42 43.2**	**-3.0**
DELF	**Filadelfia**	**21.31**	**341**	*e*P	**P**	**06 42 51.1**	**+2.4**
CUI	**Cuipilapa**	**21.39**	**342**	*e*P	**P**	**06 42 51.3**	**+1.7**
BAUV	**El Baul**	**21.41**	**30**	P	**P**	**06 42 50.5**	**+0.6**
BAUV	**El Baul**	**21.41**	**30**	*e*P	**P**	**06 42 49.2**	**-0.6**
GO04	**Tololo Observa**	**21.50**	**161**	IAmb	IAmb	06 42 53.6	
	comp=Z,244nm,1.1s						
PDRB	**Porto dos Gac**	**21.55**	**97**	*e*P	**P**	**06 42 50.8**	**-0.6**
VRLE	**La Escondida,**	**21.57**	**342**	*e*P	**P**	**06 42 51.3**	**-0.3**
BOAV	**Boa Vista**	**21.71**	**57**	P	**P**	**06 42 52.6**	**-0.5**
BOAV	**Boa Vista**	**21.71**	**57**	*e*P	**P**	**06 42 52.0**	**-1.1**
CO06	**Fray Jorge**	**21.72**	**164**	IAmb	IAmb	06 42 57.2	
	comp=Z,426nm,1.4s						
FDPY	**Filadelfia**	**21.74**	**127**	*e*P	**P**	**06 42 53.6**	**+0.3**
CLDB	**Colider**	**22.44**	**95**	*e*P	**P**	**06 43 00.5**	**-0.5**
SALV	**Santo Antonio**	**23.11**	**107**	*e*P	**P**	**06 43 06.9**	**-1.0**
MGAN	**Managua**	**23.13**	**341**	*e*P	P	06 42 31.6	-36
NPGB	**Novo Progresso**	**23.14**	**85**	*e*P	**P**	**06 43 06.5**	**-1.7**
ITTB	**Itaituba**	**23.31**	**78**	*e*P	**P**	**06 43 08.6**	**-1.2**
MURT	**Porto Murtinho**	**23.33**	**123**	*e*P	**P**	**06 43 10.3**	**+0.4**
H03N2	**Juan Fernandez**	**23.49**	**181**	T	T	07 07 11.1	
	baz=0.7,slow=75,SNR=1945						
H03N1	**Juan Fernandez**	**23.49**	**181**	T	T	07 07 23.4	
	baz=0.7,slow=75,SNR=1388						
H03N3	**Juan Fernandez**	**23.51**	**181**	T	T	07 07 11.2	
	baz=0.7,slow=75,SNR=1230						
BDQN	**Bodoquena, MS**	**23.54**	**119**	*e*P	**P**	**06 43 10.5**	**-1.4**
VA06	**Catapilco**	**23.60**	**164**	IAmb	IAmb	06 43 14.8	
	comp=Z,202nm,1.2s						
VA04	**Juan Fernndez**	**23.69**	**181**	IAmb	IAmb	06 43 16.2	
	comp=Z,147nm,1.1s						
CRIN	**San Cristobal**	**23.92**	**339**	IAmb	IAmb	06 43 19.1	
	comp=Z,128nm,0.8s						
VA03	**San Esteban**	**23.99**	**163**	IAmb	IAmb	06 43 19.2	
	comp=Z,120nm,0.8s						
PAPY	**Pozo Azul**	**24.03**	**129**	*e*P	**P**	**06 43 18.0**	**+1.7**
PCRV	**Puerto La Cruz**	**24.25**	**35**	LR	LR	06 53 41.4	
	comp=Z,3μm,21.3s,slow=38						
PCRV	**Puerto La Cruz**	**24.25**	**35**	*e*P	**P**	**06 43 19.5**	**+1.2**
MT02	**Curacav**	**24.30**	**165**	IAmb	IAmb	06 43 23.1	
	comp=Z,132nm,0.9s						
PEL	**Peldehue**	**24.31**	**164**	P	**P**	**06 43 19.1**	**+0.4**
PEL				IAmb	IAmb	06 43 22.3	
	comp=Z,133nm,0.8s						
PEL	**Peldehue**	**24.31**	**164**	P	**P**	**06 43 19.2**	**+0.4**
PEL				pmax	pmax		
	comp=Z,133nm,0.8s						
AQDB	**Aquidauana**	**24.46**	**118**	P	**P**	**06 43 18.9**	**-1.3**
AQDB	**Aquidauana**	**24.46**	**118**	*e*P	**P**	**06 43 19.4**	**-0.9**
VA05	**Santo Domingo**	**24.56**	**166**	IAmb	IAmb	06 43 24.3	
	comp=Z,194nm,1.3s						
MT16	**CCHEN**	**24.62**	**164**	IAmb	IAmb	06 43 39.4	
	comp=Z,382nm,1.8s						
MT03	**Universidad Ad**	**24.69**	**164**	IAmb	IAmb	06 43 39.7	
	comp=Z,298nm,1.7s						
MT08	**Bocatoma Ro**	**24.79**	**163**	IAmb	IAmb	06 43 29.2	
	comp=Z,260nm,1.4s						
MT09	**Talagante**	**24.83**	**165**	IAmb	IAmb	06 43 27.5	
	comp=Z,198nm,1.2s						
MT13	**San Alfonso**	**24.99**	**163**	IAmb	IAmb	06 43 29.7	
	comp=Z,297nm,1.5s						
LMEL	**Las Melosas**	**25.11**	**163**	IAmb	IAmb	06 43 31.8	
	comp=Z,195nm,1.3s						
TGUH	**Tegucigalpa,Un**	**25.25**	**340**	P	**P**	**06 43 28.3**	**+0.7**
CPUP	**Villa Florida**	**25.96**	**132**	P	**P**	**06 43 33.1**	**-0.6**
CPUP	**Villa Florida**	**25.96**	**132**	P	**P**	**06 43 32.7**	**-1.1**
	comp=Z,30nm,0.6s,baz=316,slow=9.8,SNR=67						
CPUP				PcP	**PcP**	**06 47 01.7**	**+0.6**
	comp=Z,7.9nm,0.6s,baz=338,slow=2.3,SNR=5.8						
CPUP				LR	LR	06 55 34.5	
	comp=Z,2μm,19.9s,baz=324,slow=40						
	comp=Z,30nm,0.6s						
CPUP	**Villa Florida**	**25.96**	**132**	P	**P**	**06 43 33.2**	**-0.6**
CPUP				pmax	pmax		
	comp=Z,50nm,0.9s						
RPRD	**Ribas do Rio P**	**26.21**	**117**	*e*P	**P**	**06 43 37.4**	**+1.2**
C2SB	**Chapadao do Su**	**26.45**	**112**	*e*P	**P**	**06 43 39.5**	**+1.2**
ESQI	**Esquipulas**	**26.48**	**336**	IAmb	IAmb	06 43 42.1	
	comp=Z,223nm,1.7s						
TRN	**Trinidad (W)**	**26.58**	**40**	*e*P	**P**	**06 43 37.5**	**-1.9**
ML02	**Panimavida**	**26.62**	**167**	IAmb	IAmb	06 44 07.3	
	comp=Z,90nm,0.8s						
ARAG	**Araguaiana, MT**	**26.74**	**105**	*e*P	**P**	**06 43 40.9**	**-0.1**
SNDB	**Serra Nova Dou**	**26.88**	**97**	*e*P	**P**	**06 43 42.7**	**+0.4**
BI02	**San Fabin de**	**27.52**	**167**	IAmb	IAmb	06 43 49.9	
	comp=Z,210nm,1.9s						
GRGR	**Grenville**	**27.56**	**38**	*e*	P	06 43 34.0	-14
GCMP	**Grenada, Carri**	**27.97**	**38**	*e*	P	06 43 38.6	-13
ITQB	**Itaqui**	**28.48**	**137**	P	**P**	**06 43 55.8**	**-0.5**
ITQB				IAmb	IAmb	06 43 57.9	
	comp=Z,154nm,1.2s						
ITQB	**Itaqui**	**28.48**	**137**	*e*P	**P**	**06 43 56.9**	**+0.5**
SVB	**Belmont**	**28.69**	**37**	*e*P	P	06 43 47.9	-10
PRPB	**Parauapebas**	**28.72**	**85**	*e*P	**P**	**06 43 58.2**	**-0.5**
PSAL	**Palomas, Salto**	**28.76**	**140**	*e*P	**P**	**06 43 59.2**	**+0.4**
ITRB	**Iturama**	**28.96**	**113**	*e*P	**P**	**06 44 00.8**	**0.0**
PTGB	**Pitanga**	**29.25**	**124**	*e*P	**P**	**06 44 04.1**	**+0.7**
LDASE	**Londrina, Braz**	**29.50**	**121**	*e*P	**P**	**06 44 06.1**	**+0.6**
CHIV	**Chivirico**	**29.70**	**4**	IAmb	IAmb	06 44 09.0	
	comp=Z,24nm,1.0s						
GTBY	**Guantanamo Bay**	**29.77**	**7**	IAmb	IAmb	06 44 11.2	
	comp=Z,98nm,1.1s						
MDP	**Montagnes des**	**29.81**	**61**	LR	LR	06 56 52.9	
	comp=Z,5μm,18.1s,baz=242,slow=38						
MLPR	**Magueyes Islan**	**29.89**	**22**	P	**P**	**06 44 10.0**	**+1.1**
OBIP	**Obispado Ponce**	**30.12**	**23**	IAmb	IAmb	06 44 12.8	
	comp=Z,105nm,1.2s						
CELP	**Cerrillos**	**30.16**	**23**	P	**P**	**06 44 12.1**	**+0.8**
CELP				IAmb	IAmb	06 44 13.1	
	comp=Z,164nm,1.4s						
UUPR	**Utuado, UPR, P**	**30.27**	**23**	IAmb	IAmb	06 44 14.0	
	comp=Z,112nm,1.1s						
GO06	**Curarrehue**	**30.30**	**169**	IAmb	IAmb	06 44 14.5	
	comp=Z,143nm,1.8s						
BDFB	**Brasilia**	**30.35**	**104**	P	**P**	**06 44 13.1**	**-0.1**
BDFB	**Brasilia**	**30.35**	**104**	P	**P**	**06 44 13.2**	**-0.1**
	comp=Z,20nm,0.9s,baz=271,slow=12,SNR=22						
BDFB				LR	LR	06 57 04.6	
	comp=Z,4μm,20.6s,baz=285,slow=37						
	comp=Z,20nm,0.9s						
BDFB	**Brasilia**	**30.35**	**104**	P	**P**	**06 44 13.1**	**-0.1**
BDFB				pmax	pmax		
	comp=Z,43nm,1.1s						
ITAB	**Concordia**	**30.36**	**128**	P	**P**	**06 44 12.3**	**-0.8**
ITAB				IAmb	IAmb	06 44 14.4	
	comp=Z,125nm,1.2s						
ITAB	**Concordia**	**30.36**	**128**	*e*P	**P**	**06 44 13.3**	**+0.2**
SJG	**San Juan**	**30.36**	**24**	P	**P**	**06 44 12.4**	**-0.7**
SJG				IAmb	IAmb	06 44 14.5	
	comp=Z,100nm,1.1s						
SJG	**San Juan**	**30.36**	**24**	LR	LR	06 58 15.0	
	comp=Z,2μm,20.5s,baz=190,slow=40						
SJG	**San Juan**	**30.36**	**24**	P	**P**	**06 44 12.4**	**-0.7**
SJG				pmax	pmax		
	comp=Z,100nm,1.2s						
SJG	**San Juan**	**30.36**	**24**	P	**P**	**06 44 13.2**	**+0.1**
IPMB	**Ipameri, GO**	**30.54**	**109**	*e*P	**P**	**06 44 14.3**	**-0.5**
SMTB	**Santa Maria do**	**30.60**	**91**	*e*P	**P**	**06 44 15.4**	**+0.1**
FRTB	**Fartura**	**30.81**	**119**	*e*P	**P**	**06 44 17.0**	**-0.1**
LR05	**Currie**	**30.83**	**170**	P	**P**	**06 44 17.8**	**+0.8**
LR05				IAmb	IAmb	06 44 19.0	
	comp=Z,95nm,1.1s						
BB19B	**Bebedouro**	**30.99**	**115**	*e*P	**P**	**06 44 18.1**	**-0.6**
CPSB	**Cacapava Do Su**	**31.11**	**135**	*e*P	**P**	**06 44 19.3**	**-0.4**
TMAB	**Tom-Au,PA,Br**	**31.19**	**78**	*e*P	**P**	**06 44 21.0**	**+0.5**
CMIG	**Matias Romero**	**31.23**	**329**	P	**P**	**06 44 21.1**	**+0.3**
	comp=Z,10nm,0.6s,baz=141,slow=6.8,SNR=21						
CMIG				pP	**pP**	**06 44 37.7**	**+1.3**
	comp=Z,4.7nm,0.7s,baz=184,slow=6.7,SNR=3.9						
CMIG				PcP	**PcP**	**06 47 14.4**	**+0.1**
	comp=Z,5.7nm,0.7s,baz=143,slow=3.5,SNR=4.6						
CMIG				LR	LR	06 54 53.7	
	comp=Z,761nm,21.4s,baz=159,slow=32						
	comp=Z,10nm,0.6s						
TEIG	**Tepich**	**31.36**	**342**	P	**P**	**06 44 21.4**	**-0.4**
TEIG	**Tepich**	**31.36**	**342**	P	**P**	**06 44 22.0**	**+0.2**
PLCA	**Paso Flores**	**31.58**	**168**	P	**P**	**06 44 23.9**	**+0.1**
PLCA				IAmb	IAmb	06 44 26.0	
	comp=Z,101nm,1.2s						
PLCA	**Paso Flores**	**31.58**	**168**	P	**P**	**06 44 23.9**	**+0.1**
PLCA				pmax	pmax		
	comp=Z,101nm,1.3s						
PLCA	**Paso Flores**	**31.58**	**168**	*e*P	**P**	**06 44 24.5**	**+0.7**
PLCA	**Paso Flores**	**31.58**	**168**	P	**P**	**06 44 24.2**	**+0.4**
PLCA				pP	**pP**	**06 44 39.6**	**+0.2**
PLCA				sP	**sP**	**06 44 46.9**	**+0.1**
PLCA				PcP	**PcP**	**06 47 15.8**	**+0.8**
SMRT	**St. Maarten**	**31.66**	**29**	IAmb	IAmb	06 44 25.1	
	comp=Z,99nm,0.7s						
PLTB	**Pedras Altas**	**31.81**	**137**	P	**P**	**06 44

435B **Jarrell** 44.32 336 P **P** **06 46 11.8 +0.9**
baz=153
DRIO **Del Rio** 44.44 332 IAmb IAmb 06 46 14.4
comp=Z,71nm,1.2s
X51A **Calhoun** 44.56 353 IAmb IAmb 06 46 13.6
comp=Z,178nm,1.8s
W57A **Gilead** 44.76 358 IAmb IAmb 06 46 15.3
comp=Z,130nm,1.7s
EFI **East Falkland** 44.97 162 *i* P **P** **06 46 17.2 +1.4**
EFI pmax pmax
comp=Z,23nm,1.1s
HPIG 45.02 325 P **P** **06 46 17.2 +0.4**
W50A **Signal Mountai** 45.24 352 IAmb IAmb 06 46 18.9
comp=Z,53nm,0.9s
SLBS **Sierra La Lagu** 45.28 318 P **P** **06 46 18.1 -0.7**
SLBS **Sierra La Lagu** 45.28 318 P **P** **06 46 19.8 +1.1**
SLBS pP **pP** **06 46 36.0 +1.1**
WHTX **Lake Whitney,** 45.34 337 IAmb IAmb 06 46 21.1
comp=Z,68nm,0.8s
SWET **Sewanee** 45.34 352 IAmb IAmb 06 46 19.5
comp=Z,52nm,0.8s
V58A **Windy Hill, Pi** 45.39 359 IAmb IAmb 06 46 20.1
comp=Z,138nm,2.0s
PLAL **Pickwick Lake** 45.47 349 IAmb IAmb 06 46 20.4
comp=Z,66nm,1.1s
TREL **Terrell** 45.51 339 P **P** **06 46 20.7 +0.4**
TKL **Tuckaleechee C** 45.51 354 IAmb IAmb 06 46 21.0
comp=Z,62nm,1.1s
TKL **Tuckaleechee C** 45.51 354 P **P** **06 46 18.7 -1.6**
comp=Z,29nm,1.0s,baz=163,slow=9.0,SNR=28
comp=Z,29nm,1.0s
LPIG **La Paz** 45.80 318 LR LR 07 01 35.6
comp=Z,274nm,21.9s,baz=132,slow=31
TXAR **Lajitas Array** 45.84 329 P **P** **06 46 23.4 +0.2**
comp=Z,11nm,0.7s,baz=150,slow=8.6,SNR=83
TXAR LR LR 07 04 25.0
comp=Z,255nm,18.6s,baz=133,slow=34
comp=Z,11nm,0.7s
OZNA **Ozona** 45.94 333 IAmb IAmb 06 46 25.8
comp=Z,63nm,1.1s
U56A **King** 45.97 358 IAmb IAmb 06 46 25.1
comp=Z,132nm,1.8s
V48A **Smith Brothers** 45.99 351 IAmb IAmb 06 46 24.7
comp=Z,92nm,0.9s
U54A **Nelsons Funny** 46.21 356 IAmb IAmb 06 46 26.7
comp=Z,60nm,1.2s
TZTN **Tazewell** 46.37 354 IAmb IAmb 06 46 27.6
comp=Z,49nm,1.1s
MIAR **Mount Ida** 46.37 343 P **P** **06 46 26.9 -0.2**
MIAR IAmb IAmb 06 46 29.1
comp=Z,73nm,1.1s
MIAR **Mount Ida** 46.37 343 P **P** **06 46 26.9 -0.2**
MIAR pmax pmax
comp=Z,73nm,1.1s
FW03 **Perrin-Whitt E** 46.51 337 IAmb IAmb 06 46 31.2
comp=Z,66nm,0.7s
WVT **Waverly** 46.54 350 P **P** **06 46 26.7 -1.7**
WVT IAmb IAmb 06 46 28.2
comp=Z,49nm,0.9s
WVT **Waverly** 46.54 350 P **P** **06 46 26.7 -1.7**
WVT pmax pmax
comp=Z,49nm,0.9s
WVT **Waverly** 46.54 350 P **P** **06 46 26.6 -1.8**
WVT pP **pP** **06 46 43.2 -1.4**
WVT sP **sP** **06 46 51.2 -0.8**
WVT PcP **PcP** **06 48 01.1 -0.7**
T59A **Double "B" Far** 46.57 1 IAmb IAmb 06 46 29.8
comp=Z,155nm,1.8s
T57A **Hurt** 46.59 359 IAmb IAmb 06 46 29.6
comp=Z,178nm,1.9s
U49A **Red Boiling Sp** 46.60 352 IAmb IAmb 06 46 29.3
comp=Z,126nm,1.8s
HALT **Halls** 46.62 348 IAmb IAmb 06 46 29.4
comp=Z,70nm,1.0s
ALPN **Alpine** 46.67 330 IAmb IAmb 06 46 31.9
comp=Z,62nm,1.3s
BLA **Blacksburg** 46.83 358 IAmb IAmb 06 46 32.0
comp=Z,154nm,1.9s
T50A **Nancy** 46.98 353 IAmb IAmb 06 46 32.0
comp=Z,140nm,1.9s
LCAR **Lake Charles** 47.17 346 P **P** **06 46 32.4 -0.9**
FCAR **Ozark Folk Cen** 47.24 345 IAmb IAmb 06 46 35.2
comp=Z,87nm,1.0s
T47A **Sharon Grove** 47.26 351 IAmb IAmb 06 46 34.0
comp=Z,52nm,0.9s
S57A **Dark Hollow, R** 47.35 360 IAmb IAmb 06 46 35.7
comp=Z,76nm,1.5s
S54A **Dingess, Beckl** 47.45 357 IAmb IAmb 06 46 36.3
comp=Z,64nm,1.3s
S51A **Beattyville** 47.46 355 IAmb IAmb 06 46 36.0
comp=Z,45nm,0.9s
SN05 **Snyder 5** 47.50 334 IAmb IAmb 06 46 37.9
comp=Z,54nm,0.7s
R58B **Mineral** 47.55 1 IAmb IAmb 06 46 37.8
comp=Z,47nm,1.0s
PECS **Pecos** 47.60 330 IAmb IAmb 06 46 39.1
comp=Z,73nm,1.4s
PBMO **Poplar Bluff** 47.69 347 IAmb IAmb 06 46 38.1
comp=Z,70nm,0.9s
SN07 **Snyder 07** 47.69 334 IAmb IAmb 06 46 39.2
comp=Z,53nm,0.9s
CBN **Corbin Frederi** 47.80 1 IAmb IAmb 06 46 39.0
comp=Z,30nm,0.8s
POST **Post** 47.93 334 P **P** **06 46 39.4 +0.1**
W35A **Tecumseh** 47.97 340 IAmb IAmb 06 46 40.7
comp=Z,86nm,1.0s
CGM3 **Cape Girardeau** 48.02 348 IAmb IAmb 06 46 40.6
comp=Z,76nm,0.9s
HHAR **Hobbs** 48.10 343 IAmb IAmb 06 46 42.2
comp=Z,98nm,1.3s
R50A **Paris** 48.17 354 IAmb IAmb 06 46 41.5
comp=Z,131nm,1.6s
R49A **Shelbyville** 48.27 353 IAmb IAmb 06 46 42.1
comp=Z,74nm,1.3s
WMOK **Wichita Mounta** 48.28 338 IAmb IAmb 06 46 43.3
comp=Z,51nm,0.9s
RLO **Rose Lookout** 48.31 342 IAmb IAmb 06 46 43.9
comp=Z,49nm,0.8s
WCI **Wyandotte Cave** 48.35 352 P **P** **06 46 40.9 -1.5**
WCI IAmb IAmb 06 46 42.5
comp=Z,44nm,0.9s
WCI **Wyandotte Cave** 48.35 352 P **P** **06 46 40.9 -1.5**
WCI pmax pmax
comp=Z,44nm,1.0s
WCI **Wyandotte Cave** 48.35 352 P **P** **06 46 41.0 -1.5**
WCI pP **pP** **06 46 57.6 -1.2**
WCI PcP **PcP** **06 48 07.3 -0.9**
U38A **Gravette** 48.37 343 IAmb IAmb 06 46 44.3
comp=Z,68nm,1.0s
SSFO **Shawnee State** 48.47 355 IAmb IAmb 06 46 43.9
comp=Z,48nm,1.2s
OK031 **S. Brethren Rd** 48.69 340 IAmb IAmb 06 46 47.0
comp=Z,50nm,0.9s
OK052 **Battle Ridge R** 48.71 340 IAmb IAmb 06 46 47.1
comp=Z,44nm,0.7s
OK029 **Liberty Lake** 48.76 340 IAmb IAmb 06 46 46.6
comp=Z,80nm,0.9s
FVM **French Village** 48.84 348 IAmb IAmb 06 46 47.1
comp=Z,69nm,0.9s
QUOK **Quay** 48.84 340 IAmb IAmb 06 46 47.6
comp=Z,53nm,1.1s
P57A **Homestead Farm** 49.07 1 IAmb IAmb 06 46 50.0
comp=Z,92nm,1.8s
CCM **Cathedral Cave** 49.09 347 P **P** **06 46 47.1 -1.0**
CCM IAmb IAmb 06 46 49.0
comp=Z,52nm,0.8s
CCM **Cathedral Cave** 49.09 347 P **P** **06 46 47.1 -1.0**
CCM pmax pmax
comp=Z,52nm,0.8s
CCM **Cathedral Cave** 49.09 347 P **P** **06 46 47.7 -0.4**
CCM pP **pP** **06 47 05.0 +0.5**
CCM PcP **PcP** **06 48 09.5 -1.4**
P53A **Whipple** 49.14 357 IAmb IAmb 06 46 50.3
comp=Z,96nm,1.7s
OK048 **Pawnee Station** 49.15 340 IAmb IAmb 06 46 49.9
comp=Z,58nm,0.9s
BLO **Bloomington** 49.31 352 P **P** **06 46 48.3 -1.5**
BLO IAmb IAmb 06 46 49.4
comp=Z,37nm,0.7s
BLO **Bloomington** 49.31 352 P **P** **06 46 48.3 -1.5**
BLO pmax pmax
comp=Z,37nm,0.7s
P49A **Miami Univ. Ec** 49.45 354 IAmb IAmb 06 46 50.7
comp=Z,60nm,0.9s
P49A **Miami Univ. Ec** 49.45 354 P **P** **06 46 49.4 -1.3**
baz=172,SNR=16
P48A **Milroy** 49.45 353 IAmb IAmb 06 46 50.7
comp=Z,57nm,0.9s
AMTX **Amarillo** 49.56 335 IAmb IAmb 06 46 53.3
comp=Z,58nm,0.8s
CROK **Carrier** 49.58 339 IAmb IAmb 06 46 52.9
comp=Z,59nm,0.9s
MVL **Millersville** 49.62 2 IAmb IAmb 06 46 54.0
comp=Z,86nm,1.4s
HSIG 49.67 322 IAmb IAmb 06 46 54.7
comp=Z,68nm,1.9s
ELIS **Ellis County** 49.70 338 P **P** **06 46 52.9 +0.1**
KAN13 **South Haven SW** 49.87 340 IAmb IAmb 06 46 55.3
comp=Z,57nm,0.9s
KAN14 **Manchester OK** 49.98 340 IAmb IAmb 06 46 56.0
comp=Z,46nm,1.2s
ACSO **Alum Creek Sta** 49.98 356 IAmb IAmb 06 46 56.4
comp=Z,48nm,0.9s
KAN17 **Caldwell West** 49.99 340 IAmb IAmb 06 46 56.3
comp=Z,34nm,0.8s
KAN09 **Caldwell North** 50.02 340 IAmb IAmb 06 46 56.0
comp=Z,30nm,0.7s
O49A **Covington** 50.05 354 IAmb IAmb 06 46 55.7
comp=Z,84nm,1.1s
KAN01 **Argonia South** 50.09 340 IAmb IAmb 06 46 57.2
comp=Z,120nm,1.6s
O48B **Farmland** 50.21 353 P **P** **06 46 55.2 -1.4**
baz=172,SNR=50
SSPA **Standing Stone** 50.22 1 P **P** **06 46 56.1 -0.5**
SSPA **Standing Stone** 50.22 1 P **P** **06 46 56.0 -0.6**
SSPA pP **pP** **06 47 12.1 -1.0**
SSPA sP **sP** **06 47 18.8 -1.5**
SSPA PcP **PcP** **06 48 13.6 -1.4**
LUPA **Lehigh Univers** 50.27 3 IAmb IAmb 06 46 58.9
comp=Z,90nm,1.2s
121A **Cookes Peak, D** 50.52 328 IAmb IAmb 06 47 02.0
comp=Z,76nm,1.2s
121A **Cookes Peak, D** 50.52 328 P **P** **06 47 00.3 +1.1**
baz=142
N51A **Ashland** 50.62 356 IAmb IAmb 06 46 59.7
comp=Z,30nm,0.7s
P40A **Paris** 50.68 347 IAmb IAmb 06 47 01.0
comp=Z,65nm,0.9s
TRNY **Table Rock, Ra** 50.89 4 IAmb IAmb 06 47 03.2
comp=Z,52nm,1.2s
M57A **Sunshine Farm,** 50.94 1 P **P** **06 47 02.4 +0.4**
M50A **Fremont** 51.15 356 IAmb IAmb 06 47 04.9
comp=Z,71nm,1.0s
Y22D **IRIS PASSCAL I** 51.29 330 P **P** **06 47 06.3 +1.3**
baz=143
M63A **Gales Ferry** 51.34 6 IAmb IAmb 06 47 07.1
comp=Z,68nm,1.1s
M65A **Busby, Falmout** 51.66 8 P **P** **06 47 07.6 +0.2**
baz=190
L56A **Greenwood** 51.73 1 IAmb IAmb 06 47 09.1
comp=Z,148nm,1.8s
ANMO **Albuquerque** 51.77 331 P **P** **06 47 09.0 +0.4**
ANMO IAmb IAmb 06 47 10.8
comp=Z,61nm,0.8s
ANMO **Albuquerque** 51.77 331 P **P** **06 47 09.2 +0.6**
comp=Z,42nm,0.7s,baz=307,slow=8.5,SNR=229
ANMO LR LR 07 07 44.1
comp=Z,281nm,20.3s,baz=294,slow=34
comp=Z,42nm,0.7s
ANMO **Albuquerque** 51.77 331 *de*P **P** **06 47 08.2 -0.4**
ANMO pmax pmax
comp=Z,36nm,0.9s
ANMO **Albuquerque** 51.77 331 P **P** **06 47 09.1 +0.5**
ANMO PcP **PcP** **06 48 20.6 -0.5**
L64A **Middleborough** 52.01 7 IAmb IAmb 06 47 11.6
comp=Z,53nm,1.1s
L61B **Northampton** 52.31 6 P **P** **06 47 12.6 +0.3**
baz=187
L44A **Lake County Fo** 52.46 351 P **P** **06 47 11.5 -1.9**
baz=168
HRV **Adam Dziewonsk** 52.48 7 P **P** **06 47 14.2 +0.7**
HRV **Adam Dziewonsk** 52.48 7 P **P** **06 47 14.2 +0.7**
HRV pmax pmax
comp=Z,220nm,2.0s
HRV **Adam Dziewonsk** 52.48 7 P **P** **06 47 14.1 +0.5**
K50A **Casco** 52.48 356 IAmb IAmb 06 47 14.3
comp=Z,88nm,1.2s
L42A **Oliver, Polo** 52.58 350 IAmb IAmb 06 47 14.2
comp=Z,82nm,1.2s
T25A **Trinidad** 52.64 334 IAmb IAmb 06 47 17.3
comp=Z,57nm,0.9s
T25A **Trinidad** 52.64 334 P **P** **06 47 15.6 +0.6**
baz=147,SNR=48
J47A **Sunmer** 53.12 354 IAmb IAmb 06 47 35.5
comp=Z,39nm,0.8s
J59A **Pico** 53.17 4 IAmb IAmb 06 47 20.0
comp=Z,79nm,1.3s
X18A **Snowflake** 53.20 328 IAmb IAmb 06 47 21.8
comp=Z,53nm,1.2s
J61A **Chester** 53.21 5 IAmb IAmb 06 47 21.1
comp=Z,64nm,1.2s
SFX **San Felipe** 53.49 321 IAmb IAmb 06 47 23.4
comp=Z,42nm,0.8s
KSCO **Kaye Sheclock'** 53.50 337 IAmb IAmb 06 47 22.9
comp=Z,60nm,0.9s
PECO **Prince Edward** 53.53 1 IAmb IAmb 06 47 21.9
comp=Z,78nm,1.2s
JFWS **Jewell Farm** 53.57 349 IAmb IAmb 06 47 21.1
comp=Z,34nm,0.7s
HNH **Hanover** 53.59 6 IAmb IAmb 06 47 23.9
comp=Z,107nm,1.4s
SDCO **Great Sand Dun** 53.62 334 IAmb IAmb 06 47 24.3
comp=Z,59nm,0.9s
NCB **Newcomb** 53.70 4 IAmb IAmb 06 47 23.8
comp=Z,60nm,1.1s
BGNE **Belgrade** 54.08 342 P **P** **06 47 24.7 -0.6**
DELO **Deloro Mine** 54.10 1 IAmb IAmb 06 47 25.8
comp=Z,62nm,1.1s
LONY **Lake Ozonia** 54.32 4 IAmb IAmb 06 47 28.2
comp=Z,106nm,1.4s
SADO **Sadowa** 54.35 360 IAmb IAmb 06 47 27.2
comp=Z,50nm,1.1s
SADO **Sadowa** 54.35 360 LR LR 07 14 20.6
comp=Z,126nm,18.7s,baz=216,slow=40
Y14A **Wickenburg** 54.44 325 IAmb IAmb 06 47 30.3
comp=Z,121nm,1.9s
Q24A **Divide** 54.49 335 IAmb IAmb 06 47 30.5
comp=Z,44nm,1.1s
Q24A **Divide** 54.49 335 P **P** **06 47 28.8 +0.1**
baz=147,SNR=13
I40A **Norwalk** 54.58 349 IAmb IAmb 06 47 29.1
comp=Z,51nm,0.8s
WBO **Williamsburg** 54.66 3 IAmb IAmb 06 47 30.3
comp=Z,68nm,0.9s
WUAZ **Wupatki** 54.71 327 IAmb IAmb 06 47 32.9
comp=Z,65nm,0.9s
OGNE **Ogallala** 54.97 338 IAmb IAmb 06 47 33.3
comp=Z,40nm,0.9s
I37A **Lemond, Waseca** 55.26 347 IAmb IAmb 06 47 34.0
comp=Z,65nm,0.9s
MNTQ **Montreal, Queb** 55.26 4 IAmb IAmb 06 47 35.0
comp=Z,73nm,1.0s
G62A **West of Eustis** 55.28 7 IAmb IAmb 06 47 36.3
comp=Z,70nm,1.0s
ISCO **Idaho Springs** 55.38 335 IAmb IAmb 06 48 34.0
comp=Z,40nm,0.8s
CBX **Cerro Bola** 55.49 321 IAmb IAmb 06 47 38.4
comp=Z,105nm,1.7s
HOPE **Hope Point** 55.51 152 *i* P **P** **06 47 34.2 -1.3**
TKX **Tecate** 55.62 321 IAmb IAmb 06 49 39.3
comp=Z,45nm,0.8s
G65A **Princeton** 55.68 9 IAmb IAmb 06 47 39.0
comp=Z,81nm,1.0s
ECSD **EROS Data Cent** 55.78 344 IAmb IAmb 06 47 37.5
comp=Z,30nm,0.7s
W13A **Hualapai Mount** 55.78 325 IAmb IAmb 06 47 40.7
comp=Z,38nm,1.0s
PMSA **Palmer Station** 55.80 173 LR LR 07 09 34.2
comp=Z,190nm,18.1s,baz=288,slow=34
TRQ **Mont Tremblant** 55.92 3 IAmb IAmb 06 47 39.3
comp=Z,114nm,1.5s
E46A **Sault Ste Mari** 56.18 355 IAmb IAmb 06 47 40.1
comp=Z,108nm,1.5s
F64A **Sherman** 56.20 9 IAmb IAmb 06 47 42.7
comp=Z,83nm,1.1s
HMU **Henry Mountain** 56.24 330 IAmb IAmb 06 47 43.7
comp=Z,64nm,0.8s
PFO **Pinyon Flats O** 56.24 322 P **P** **06 47 41.5 +0.2**
PFO **Pinyon Flats O** 56.24 322 P **P** **06 47 41.8 +0.7**
comp=Z,12nm,0.7s,baz=127,slow=5.9,SNR=49
PFO pP **pP** **06 47 59.0 +1.1**
comp=Z,7.7nm,0.7s,baz=156,slow=3.7,SNR=7.7
PFO LR LR 07 07 49.7
comp=Z,250nm,20.3s,baz=133,slow=32
comp=Z,12nm,0.7s
PFO **Pinyon Flats O** 56.24 322 *de*P **P** **06 47 41.4 +0.2**
PFO pmax pmax
comp=Z,23nm,0.8s
PFO **Pinyon Flats O** 56.24 322 P **P** **06 47 41.6 +0.4**
PFO pP **pP** **06 47 58.7 +0.8**
PFO sP **sP** **06 48 05.6 +0.5**
PFO PcP **PcP** **06 48 38.5 +0.4**
N23A **Red Feather La** 56.44 335 P **P** **06 47 42.6 0.0**
baz=147,SNR=13
KNB **Kanab** 56.61 327 IAmb IAmb 06 47 46.6
comp=Z,74nm,1.0s
V12A **Nelson** 56.78 325 IAmb IAmb 06 47 47.3
comp=Z,43nm,1.0s
O20A **White River Ci** 56.80 333 IAmb IAmb 06 47 47.0
comp=Z,52nm,0.9s
LMN **Caledonia Moun** 56.80 11 IAmb IAmb 06 47 46.5
comp=Z,64nm,1.1s
LCMT **Little Creek M** 56.83 327 IAmb IAmb 06 47 47.9
comp=Z,36nm,1.0s
SRU **San Rafael Swe** 57.04 331 IAmb IAmb 06 47 48.7
comp=Z,54nm,1.1s
MTPU **Mount Pierson** 57.05 329 IAmb IAmb 06 47 49.4
comp=Z,108nm,1.9s
Q16A **Castle Valley** 57.21 330 IAmb IAmb 06 47 51.3
comp=Z,50nm,1.1s
P18A **Preston Nutter** 57.31 331 IAmb IAmb 06 47 51.0
comp=Z,33nm,1.0s
E38A **The Farm, Brul** 57.37 349 IAmb IAmb 06 47 49.3
comp=Z,35nm,1.0s
MVU **Marysvale** 57.41 329 P **P** **06 47 49.5 -0.1**
P17A **Butcher Ranch,** 57.43 331 IAmb IAmb 06 47 51.5
comp=Z,60nm,1.0s
TMUT **Trail Mountain** 57.52 330 IAmb IAmb 06 47 52.3
comp=Z,126nm,1.9s
TCRU **Three Creeks R** 57.61 329 IAmb IAmb 06 47 53.4
comp=Z,44nm,0.9s
GSC **Goldstone, Bar** 57.61 323 IAmb IAmb 06 47 53.4
comp=Z,27nm,0.9s
F33A **5 Mile Ranch,** 57.66 345 IAmb IAmb 06 47 51.2
comp=Z,49nm,0.8s
VLDQ **Val d'Or** 57.70 1 IAmb IAmb 06 47 51.6
comp=Z,81nm,1.4s
RDMU **Red Mountain** 57.75 332 IAmb IAmb 06 47 53.4
comp=Z,49nm,0.8s
K22A **Casper** 58.15 336 IAmb IAmb 06 47 56.0
comp=Z,48nm,1.0s
CCAC **Calif City Air** 58.23 322 IAmb IAmb 06 47 57.4
comp=Z,55nm,0.8s
BSUT **Blindstream Ca** 58.27 332 IAmb IAmb 06 47 57.8
comp=Z,43nm,0.8s
PSUT **Pine Spring** 58.28 328 IAmb IAmb 06 47 58.1
comp=Z,30nm,1.0s
TPNV **Topopah Spring** 58.44 325 IAmb IAmb 06 47 59.4
comp=Z,28nm,1.0s
RSSD **Black Hills** 58.46 339 P **P** **06 47 55.9 -0.8**
RSSD IAmb IAmb 06 47 58.4
comp=Z,66nm,1.2s
RSSD **Black Hills** 58.46 339 P **P** **06 47 55.9 -0.8**
RSSD pmax pmax
comp=Z,66nm,1.2s
RSSD **Black Hills** 58.46 339 P **P** **06 47 56.6 -0.1**
RSSD pP **pP** **06 48 13.3 -0.2**
RSSD PcP **PcP** **06 48 45.6 -1.1**
WCT **Wildcat Mounta** 58.55 325 IAmb IAmb 06 47 60.0
comp=Z,31nm,0.8s
JLU **Jordanelle** 58.65 331 IAmb IAmb 06 48 00.3
comp=Z,44nm,1.0s
S11A **Rachel** 58.65 326 IAmb IAmb 06 48 01.0
comp=Z,45nm,0.9s
EYMN **Ely** 58.66 350 IAmb IAmb 06 47 58.1
comp=Z,35nm,0.9s
SPR3 **Spring Creek 3** 58.88 328 IAmb IAmb 06 48 01.8
comp=Z,31nm,0.9s
BCW **Bitter Crk WRg** 58.94 321 IAmb IAmb 06 48 21.3
comp=Z,63nm,1.2s
DUG **Dugway, Tooele** 59.00 330 IAmb IAmb 06 48 02.9
comp=Z,54nm,0.8s
TCUT **Toone Canyon** 59.03 331 IAmb IAmb 06 48 02.8
comp=Z,62nm,1.0s
R11B **Troy Canyon, C** 59.07 327 P **P** **06 48 02.1 +1.1**
baz=136
Q12A **Willow Creek R** 59.17 328 IAmb IAmb 06 48 04.0
comp=Z,45nm,0.8s
PD31 **Pinedale Array** 59.51 334 IAmb IAmb 06 48 05.1
comp=Z,39nm,1.3s
PDAR **Pinedale Array** 59.51 334 P **P** **06 48 03.2 -0.8**
comp=Z,16nm,0.9s,baz=124,slow=7.4,SNR=69
PDAR pP **pP** **06 48 19.5 -1.4**
comp=Z,5.7nm,0.6s,baz=128,slow=8.6,SNR=7.7
PDAR LR LR 07 13 38.0
comp=Z,212nm,21.8s,baz=138,slow=36
comp=Z,16nm,0.9s
SPUT **South Promonto** 59.68 331 IAmb IAmb 06 48 06.9
comp=Z,32nm,0.9s
ICQ **Pointe Anglais** 59.93 8 P **P** **06 48 07.1 +0.6**
AHID **Auburn Hatcher** 60.19 333 IAmb IAmb 06 48 09.9
comp=Z,26nm,0.8s
HVU **Hansel Valley** 60.20 331 IAmb IAmb 06 48 10.1
comp=Z,35nm,0.9s
OMMB **Old Mammoth Mi** 60.48 324 IAmb IAmb 06 48 13.6
comp=Z,41nm,0.9s
NV11 **Mina Array Sit** 60.56 325 IAmb IAmb 06 48 13.6
comp=Z,27nm,0.9s
PMPB **Monarch Peak** 60.63 321 IAmb IAmb 06 48 14.0
comp=Z,31nm,1.0s
ELK **Elko** 60.64 329 IAmb IAmb 06 48 13.8
comp=Z,26nm,0.8s
ELK **Elko** 60.64 329 P **P** **06 48 12.1 +0.3**
comp=Z,16nm,0.7s,baz=133,slow=4.3,SNR=84
ELK pP **pP** **06 48 28.6 0.0**
comp=Z,12nm,0.7s,baz=133,slow=4.1,SNR=10
ELK LR LR 07 12 33.4
comp=Z,832nm,21.6s,baz=136,slow=34
comp=Z,16nm,0.7s
NVAR **Mina Array Bea** 60.64 325 P **P** **06 48 12.5 +0.7**
comp=Z,27nm,0.7s,baz=136,slow=6.6,SNR=201
NVAR pP **pP** **06 48 28.7 0.0**
comp=Z,12nm,0.6s,baz=138,slow=7.7,SNR=9.9
NVAR LR LR 07 13 18.1
comp=Z,211nm,19.1s,baz=132,slow=35
NVAR PKP2bc 07 17 36.7
comp=Z,1.8nm,0.9s,baz=277,slow=3.2,SNR=4.0
comp=Z,27nm,0.7s
LOHW **Long Hollow** 60.64 334 IAmb IAmb 06 48 13.1
comp=Z,104nm,1.9s
TAOE **Nuku Hiva Isla** 60.68 265 *e*LR LR 07 06 09.4
comp=Z,1μm,27.7s
FXWY **Fox Creek** 60.85 334 IAmb IAmb 06 48 14.6
comp=Z,60nm,1.9s
BBGB **Big Mountain B** 61.01 322 IAmb IAmb 06 48 36.5
comp=Z,28nm,0.8s
FLWY **Flagg Ranch** 61.06 334 IAmb IAmb 06 48 16.6
comp=Z,50nm,0.9s
H17A **Grant Village** 61.26 334 IAmb IAmb 06 48 23.0
comp=Z,81nm,1.8s
RLMT **Red Lodge** 61.30 336 IAmb IAmb 06 48 17.6
comp=Z,126nm,1.9s
WAKR **Walker** 61.34 324 P **P** **06 48 17.6 +1.0**
WAKR IAmb IAmb 06 48 19.2
comp=Z,35nm,0.9s
BMN **Battle Mountai** 61.45 327 IAmb IAmb 06 48 19.2
comp=Z,22nm,0.8s
YNE **Yellowstone No** 61.51 335 IAmb IAmb 06 48 19.1
comp=Z,73nm,1.4s
YERR **Yerington** 61.55 325 IAmb IAmb 06 48 20.3
comp=Z,36nm,0.8s
ULM **Lac du Bonnet** 61.71 347 P **P** **06 48 17.5 -1.1**
comp=Z,61nm,0.7s,baz=160,slow=7.0,SNR=75
ULM pP **pP** **06 48 34.2 -1.3**
comp=Z,26nm,0.6s,baz=154,slow=6.4,SNR=5.9
comp=Z,61nm,0.7s
YHB **Horse Butte** 61.81 334 IAmb IAmb 06 48 21.9
comp=Z,28nm,0.9s
PNTR **Pine Nut** 61.83 325 IAmb IAmb 06 48 22.4
comp=Z,41nm,0.8s
EMB **Emerald Bay** 62.04 324 IAmb IAmb 06 48 23.9
comp=Z,84nm,1.8s
PAHR **Pah Rah Range** 62.13 325 IAmb IAmb 06 48 24.4
comp=Z,46nm,0.8s
MPK **Martis Peak** 62.21 325 P **P** **06 48 23.4 +0.9**
MPK IAmb IAmb 06 48 25.2
comp=Z,108nm,1.8s
DGMT **Dagmar** 62.31 341 IAmb IAmb 06 48 24.3
comp=Z,54nm,0.8s
DLMT **Dillon** 62.90 334 P **P** **06 48 25.7 -1.1**
DLMT IAmb IAmb 06 48 28.6
comp=Z,72nm,1.6s
MFID **Camas Ranch** 62.91 330 IAmb IAmb 06 48 29.1

comp=Z,57nm,1.0s
MCCM Marconi Confer 63.14 322 IAmb IAmb 06 48 30.6
comp=Z,31nm,0.8s
HOPS Hopland Field 63.80 323 IAmb IAmb 06 48 54.3
comp=Z,80nm,1.6s
EGMT Eagleton 63.88 337 IAmb IAmb 06 48 34.5
comp=Z,40nm,0.9s
HATC Hat Creek Radi 64.05 325 IAmb IAmb 06 48 36.4
comp=Z,52nm,1.1s
KCPM Cahto Peak 64.54 323 IAmb IAmb 06 48 40.5
comp=Z,39nm,0.9s
KMRM Mail Ridge 64.96 323 IAmb IAmb 06 49 01.9
comp=Z,53nm,1.1s
SCHQ Schefferville 65.18 7 P **P** **06 48 40.8 -0.6**
SCHQ IAmb IAmb 06 48 42.5
comp=Z,52nm,0.8s
SCHQ Schefferville 65.18 7 P **P** **06 48 40.4 -1.0**
comp=Z,42nm,0.8s,baz=200,slow=4.6,SNR=27
SCHQ pP **pP** **06 48 58.1 -0.4**
comp=Z,21nm,0.9s,baz=208,slow=2.4,SNR=4.5
SCHQ LR LR 07 17 40.9
comp=Z,327nm,21.8s,baz=252,slow=36
comp=Z,42nm,0.8s
I07A Izee 65.23 329 IAmb IAmb 06 48 44.4
comp=Z,40nm,0.9s
KMPM Mount Pierce 65.33 323 IAmb IAmb 06 48 45.4
comp=Z,142nm,1.7s
YBH Yreka Blue Hor 65.36 325 P **P** **06 48 42.0 -0.9**
comp=Z,18nm,0.8s,baz=93,slow=2.5,SNR=83
YBH pP **pP** **06 48 58.8 -1.2**
comp=Z,22nm,0.8s,baz=76,slow=7.5,SNR=13
YBH LR LR 07 16 04.2
comp=Z,306nm,20.9s,baz=133,slow=35
comp=Z,18nm,0.8s
KHMM Horse Mountain 65.39 324 IAmb IAmb 06 48 45.8
comp=Z,44nm,1.0s
L04D Klamath Falls 65.45 326 IAmb IAmb 06 48 45.0
comp=Z,34nm,0.8s
F10A Beach Ranch, E 65.47 331 P **P** **06 48 43.5 -0.1**
F10A IAmb IAmb 06 49 07.8
comp=Z,46nm,1.1s
JCC Jacoby Creek, 65.53 324 IAmb IAmb 06 49 04.7
comp=Z,54nm,1.0s
KRPM Rodgers 65.74 324 IAmb IAmb 06 48 48.1
comp=Z,62nm,1.0s
PINE Pine Mountain 65.77 328 IAmb IAmb 06 49 07.8
comp=Z,45nm,0.8s
KRMB Red Mountain 65.91 324 IAmb IAmb 06 49 07.3
comp=Z,54nm,1.1s
J04A Umpqua Nationa 66.03 327 IAmb IAmb 06 49 07.6
comp=Z,60nm,0.8s
KSXB Camp Six Broad 66.09 324 IAmb IAmb 06 48 50.1
comp=Z,59nm,1.0s
L02F Cave Junction 66.10 325 P **P** **06 48 47.4 -0.2**
L02F IAmb IAmb 06 49 08.7
comp=Z,96nm,1.7s
BBTS Babate 66.15 69 LR LR 07 17 13.9
comp=Z,576nm,19.1s,baz=139,slow=35
I05D Terrebonne, OR 66.36 328 IAmb IAmb 06 48 51.6
comp=Z,45nm,0.8s
K02D Willamette Mer 66.52 325 IAmb IAmb 06 49 11.0
comp=Z,50nm,0.9s
G06A Carlson Farm, 66.61 329 P **P** **06 48 51.7 +0.9**
G06A IAmb IAmb 06 49 11.8
comp=Z,75nm,1.9s
G05A Wamic 66.96 329 IAmb IAmb 06 49 14.1
comp=Z,43nm,1.0s
J01E Myrtle Point 66.97 326 IAmb IAmb 06 49 14.9
comp=Z,48nm,1.1s
NEW Newport 67.12 333 P **P** **06 48 53.9 -0.1**
comp=Z,14nm,0.7s,baz=135,slow=7.7,SNR=42
NEW pP **pP** **06 49 10.1 -1.1**
comp=Z,17nm,0.8s,baz=131,slow=8.9,SNR=13
NEW LR LR 07 19 47.4
comp=Z,211nm,19.0s,baz=142,slow=37
comp=Z,14nm,0.7s
BUCK Buck Mountain 67.14 327 P **P** **06 48 54.3 0.0**
BUCK IAmb IAmb 06 49 14.2
comp=Z,50nm,0.9s
E07A Sunnyside 67.15 330 IAmb IAmb 06 48 56.6
comp=Z,37nm,0.9s
HOOD Mount Hood Mea 67.19 328 IAmb IAmb 06 49 19.9
comp=Z,43nm,0.9s
FFC Flin Flon 67.27 346 P **P** **06 48 53.5 -1.2**
FFC Flin Flon 67.27 346 P **P** **06 48 53.5 -1.2**
FFC pmax pmax
comp=Z,17nm,0.8s
FFC Flin Flon 67.27 346 P **P** **06 48 54.0 -0.7**
FFC pP **pP** **06 49 11.4 -0.5**
I02E Swisshome, OR 67.54 326 IAmb IAmb 06 49 17.4
comp=Z,77nm,1.4s
COR Corvallis 67.56 327 P **P** **06 48 57.3 +0.5**
COR IAmb IAmb 06 48 59.3
comp=Z,58nm,0.9s
COR Corvallis 67.56 327 P **P** **06 48 57.3 +0.5**
COR pmax pmax
comp=Z,58nm,1.0s
COR Corvallis 67.56 327 P **P** **06 48 57.5 +0.6**
COR pP **pP** **06 49 14.7 +0.7**
F04A Amboy 68.00 329 IAmb IAmb 06 49 01.3
comp=Z,34nm,0.8s
LTY Liberty 68.04 331 IAmb IAmb 06 49 20.4
comp=Z,145nm,1.9s
B08A Colville Reser 68.19 332 P **P** **06 49 00.4 -0.4**
B08A IAmb IAmb 06 49 02.4
comp=Z,106nm,1.9s
HEBO Mount Hebo 68.22 327 IAmb IAmb 06 49 03.6
comp=Z,57nm,0.9s
D05A Enumclaw 68.64 330 IAmb IAmb 06 49 05.3
comp=Z,38nm,0.8s
TBI Tubuai 68.67 249 *e*PKP2 **P** **06 49 04.9 +0.6**
TBI comp=Z,670nm,34.2s *e*S **S** **06 58 05.5 +2.7**
TBI comp=Z,1μm,26.8s *e*LQ LQ 07 06 44.0
TBI comp=Z,2μm,37.2s *e*LR LR 07 09 56.7
TBI comp=Z,8μm,30.0s *e*LR LR 07 09 59.4
comp=Z,2μm,31.5s
PPT2 Papeete2 69.07 255 *e*P **P** **06 49 09.9 +3.0**
PPT2 comp=Z,212nm,41.0s *e*S **S** **06 58 10.7 +2.8**
comp=Z,345nm,27.0s
PPT2 Papeete2 69.07 255 *e*LR LR 07 10 03.9
PPT2 comp=Z,2μm,29.2s *e*LR LR 07 10 05.1
comp=Z,2μm,26.2s
PPT Papeete 69.07 255 LR LR 07 13 46.9
comp=Z,426nm,18.1s,baz=104,slow=31
FCC Fort Churchill 69.51 351 IAmb IAmb 06 49 09.6
comp=Z,76nm,0.9s
NLWA Neilton Lookou 69.72 329 IAmb IAmb 06 49 12.8
comp=Z,98nm,1.5s
MACI Morro de la Ar 70.90 56 P **P** **06 49 19.2 +1.1**
BELA Belgrano 2 71.59 171 P **P** **06 49 21.1 -0.1**
BELA IAmb IAmb 06 49 23.5
comp=Z,88nm,1.3s
PMOZ Porto Moniz, M 72.19 51 P **P** **06 49 26.6 +0.9**
PMAR Madeira 72.37 51 *e*P **P** **06 49 30.8 +4.0**
FRB Frobisher Bay 73.77 5 LR LR 07 24 58.0
comp=Z,352nm,18.8s,baz=194,slow=38
VNA3 Neumayer Olymp 74.02 162 ⇓P **P** **06 49 36.0 +0.4**
comp=Z,16nm,0.6s
VNA1 Neumayer--Stat 74.30 161 ⇓P **P** **06 49 38.2 +0.9**
comp=Z,38nm,0.9s
VNA2 Neumayer--Watz 74.65 161 ⇓P **P** **06 49 39.7 +0.4**
comp=Z,43nm,0.6s,baz=294,slow=5.4
IVI Ivigtut 74.75 15 P **P** **06 49 39.5 -0.4**
BBB Bella Bella 74.92 331 LR LR 07 23 52.9
comp=Z,135nm,19.2s,baz=163,slow=37
DBIC Dimbokro 75.25 80 P **P** **06 49 44.4 +0.6**
DBIC Dimbokro 75.25 80 P **P** **06 49 44.2 +0.5**
comp=Z,60nm,0.7s,baz=248,slow=4.8,SNR=76
DBIC pP **pP** **06 50 00.9 -0.3**
comp=Z,10nm,0.5s,baz=215,slow=4.0,SNR=3.3
DBIC LR LR 07 21 13.5
comp=Z,587nm,19.3s,baz=242,slow=34
comp=Z,60nm,0.7s
DBIC Dimbokro 75.25 80 P **P** **06 49 44.4 +0.6**
DBIC pmax pmax
comp=Z,148nm,1.2s
NRS Narsarsuaq 75.43 16 *i* P **P** **06 49 43.0 -0.8**
NRS IAmb IAmb 06 49 44.6
comp=Z,31nm,0.9s
SNAA Sanae 76.25 162 P **P** **06 49 48.5 -0.1**
SNAA Sanae 76.25 162 ⇓P **P** **06 49 48.9 +0.3**
comp=Z,417nm,0.5s
SNAA Sanae 76.25 162 P **P** **06 49 48.8 +0.3**
comp=Z,30nm,0.5s,baz=270,slow=5.8,SNR=219
SNAA pP **pP** **06 50 06.1 +0.1**
comp=Z,19nm,0.6s,baz=282,slow=7.8,SNR=8.3
comp=Z,30nm,0.5s
SNAA Sanae 76.25 162 *i* P **P** **06 49 48.4 -0.1**
SNAA pmax pmax
comp=Z,32nm,1.0s
NUUK Nuuk 76.56 12 *i* P **P** **06 49 50.2 +0.1**
NUUK IAmb IAmb 06 49 51.6
comp=Z,205nm,1.7s
YKA Yellowknife Ar 77.31 344 P **P** **06 49 53.6 -0.8**
comp=Z,16nm,0.7s,baz=142,slow=5.7,SNR=38
YKA pP **pP** **06 50 11.1 -0.8**
comp=Z,2.8nm,0.6s,baz=141,slow=5.6,SNR=4.6
YKA LR LR 07 24 51.1
comp=Z,198nm,20.2s,baz=104,slow=36
comp=Z,16nm,0.7s
TROLL Troll, Antarti 77.96 162 ⇓P **P** **06 49 58.8 +0.6**
comp=Z,2μm,1.1s
TOAD Toad River Com 78.07 337 P **P** **06 49 57.6 -1.3**
baz=133,SNR=18
U35K Hyder 78.14 333 P **P** **06 49 59.0 -0.1**
baz=128
RAR Rarotonga 78.35 250 LR LR 07 16 19.8
comp=Z,255nm,20.5s,baz=114,slow=29
V35K Ketchikan 78.50 332 P **P** **06 50 01.8 +0.7**
baz=126
KOTAN Kotaneelee Air 78.52 339 P **P** **06 50 01.4 +0.1**
baz=134,SNR=11
LIRD Liard River Hi 78.78 337 P **P** **06 50 02.2 -0.5**
baz=132,SNR=13
T35M Bob Quinn 78.89 334 P **P** **06 50 04.0 +0.6**
baz=128
CRAG Craig 79.28 332 P **P** **06 50 04.7 -0.7**
baz=125
SFJD Kangerlussuaq 79.28 11 P **P** **06 50 04.9 -0.3**
SFJD IAmb IAmb 06 50 05.9
comp=Z,80nm,1.2s
SFJD Kangerlussuaq 79.28 11 LR LR 07 24 32.7
comp=Z,244nm,21.7s,baz=202,slow=35
SFJD Kangerlussuaq 79.28 11 P **P** **06 50 04.9 -0.3**
SFJD pmax pmax
comp=Z,80nm,1.3s
SFJD Kangerlussuaq 79.28 11 *i* P **P** **06 50 03.6 -1.6**
SFJD IAmb IAmb 06 50 05.5
comp=Z,83nm,1.3s
TIO Tiouine 79.38 56 P **P** **06 50 08.2 +1.4**
WRAK Wrangell Islan 79.48 333 P **P** **06 50 06.8 +0.3**
baz=126
U33K Whale Pass 79.65 332 P **P** **06 50 07.8 +0.4**
baz=125
DY2G Dye2 79.70 13 *i* P **P** **06 50 06.7 -1.1**
DY2G IAmb IAmb 06 50 08.6
comp=Z,221nm,1.0s
DLBC Dease Lake 79.70 335 LR LR 07 27 33.9
comp=Z,229nm,18.2s,baz=77,slow=37
DLBC Dease Lake 79.70 335 P **P** **06 50 08.4 +0.5**
baz=128
S34M Telegraph Cree 79.84 335 P **P** **06 50 09.1 +0.6**
baz=127
AVE Averroes 80.00 54 P **P** **06 50 11.6 +1.7**
PFVI Vila Bisbo 80.19 50 *e*P **P** **06 50 13.3 +2.5**
PFVI Vila Bisbo 80.19 50 P **P** **06 50 13.2 +2.3**
WTLY Watson Lake, Y 80.27 337 P **P** **06 50 11.0 +0.1**
baz=130
QSPA South Pole Qui 80.28 180 P **P** **06 50 12.1 +1.1**
QSPA South Pole Qui 80.28 180 P **P** **06 50 12.0 +1.1**
comp=Z,40nm,0.7s,baz=156,slow=2.9,SNR=194
comp=Z,40nm,0.7s
MORF Marmelete 80.38 49 IAmb IAmb 06 50 15.2
comp=Z,131nm,1.0s
MORF Marmelete 80.38 49 *e*P **P** **06 50 13.9 +2.0**
MORF A A 06 50 15.4
comp=Z,123nm,1.1s
MORF Marmelete 80.38 49 *e*P **P** **06 50 13.4 +1.5**
MORF IAmb IAmb 06 50 15.3
comp=Z,109nm,0.9s
MORF Marmelete 80.38 49 *e*P **P** **06 50 13.4 +1.5**
PTEO Sao Teotonio 80.41 49 *e*P **P** **06 50 14.0 +2.0**
PTEO A A 06 50 15.3
comp=Z,186nm,1.2s
PMAFR Mafra 80.49 48 P **P** **06 50 14.3 +1.9**
WRGLY Wrigley 80.51 341 P **P** **06 50 11.9 0.0**
baz=135
R33M Jennings River 80.68 336 P **P** **06 50 13.6 +0.4**
baz=128
MESJ Messejana 80.88 49 *e*P **P** **06 50 16.0 +1.4**
MESJ Messejana 80.88 49 *e*P **P** **06 50 15.9 +1.4**
MESJ IAmb IAmb 06 50 17.1
comp=Z,36nm,1.1s
MESJ Messejana 80.88 49 *e*P **P** **06 50 15.9 +1.4**
PBDV Barranco-do-Ve 80.90 50 *e*P **P** **06 50 13.4 -1.3**
Q32M Nakina River 80.95 335 P **P** **06 50 14.4 -0.2**
baz=126
PSBE So Bento 81.04 47 *e*P **P** **06 50 16.8 +1.4**
PSBE A A 06 50 21.4
comp=Z,109nm,2.1s
S32K Killisnoo 81.08 333 P **P** **06 50 15.7 +0.6**
baz=124
PVAQ Vaqueiros 81.11 50 *e*P **P** **06 50 17.6 +1.8**
PVAQ A A 06 50 20.9
comp=Z,120nm,1.9s
PVAQ Vaqueiros 81.11 50 P **P** **06 50 17.4 +1.7**
SIT Sitka 81.19 332 P **P** **06 50 15.9 +0.2**
baz=124
PBEJ Beja 81.21 49 *e*P **P** **06 50 17.8 +1.5**
PBEJ A A 06 50 18.7
comp=Z,69nm,1.0s
EVO Evora 81.27 48 *e*P **P** **06 50 17.7 +1.1**
EVO A A 06 50 21.1
comp=Z,54nm,1.6s
EVO Evora 81.27 48 P **P** **06 50 17.7 +1.1**
PMTG Montargil 81.30 48 *e*P **P** **06 50 17.6 +0.9**
PMTG A A 06 50 22.0
comp=Z,74nm,1.9s
PCAS Casmilo, Conde 81.44 47 *e*P **P** **06 50 18.5 +1.0**
PCAS A A 06 50 20.1
comp=Z,80nm,1.8s
R32K Eaglecrest 81.51 334 P **P** **06 50 17.5 +0.1**
baz=124
COI Coimbra 81.56 47 *e*P **P** **06 50 20.1 +2.1**
COI A A 06 50 21.4
comp=Z,186nm,0.9s
PESTR Estremoz 81.69 48 P **P** **06 50 19.7 +0.9**
PESTR IAmb IAmb 06 50 21.5
comp=Z,62nm,1.0s
PESTR Estremoz 81.69 48 *e*P **P** **06 50 20.0 +1.2**
PESTR A A 06 50 22.3
comp=Z,106nm,1.7s
PESTR Estremoz 81.69 48 P **P** **06 50 19.7 +0.9**
PTO Porto 81.75 46 *e*P **P** **06 50 20.1 +1.1**
PBAR Barrancos 81.87 49 *e*P **P** **06 50 20.5 +0.7**
PBAR A A 06 50 26.3
comp=Z,55nm,1.6s
PBAR Barrancos 81.87 49 P **P** **06 50 20.4 +0.6**
IFR Ifrane 81.89 54 P **P** **06 50 21.2 +1.1**
P33M Teslin, Yukon 81.92 336 P **P** **06 50 19.2 -0.4**
baz=126,SNR=9.3
P32M Atlin 81.92 335 P **P** **06 50 20.0 +0.4**
baz=125
EMIN Mina Concepcio 82.01 50 P **P** **06 50 22.1 +1.6**
PMRV Marv??o 82.03 48 *e*P **P** **06 50 20.9 +0.3**
PMRV A A 06 50 23.3
comp=Z,41nm,1.9s
EBAD Badajoz 82.08 48 P **P** **06 50 21.0 +0.1**
S31K Pelican 82.09 333 P **P** **06 50 20.7 +0.2**
baz=123
MDT Midelt 82.10 55 LR LR 07 23 43.9
comp=Z,459nm,21.8s,baz=322,slow=33
PVIS Viseu 82.10 46 *e*P **P** **06 50 21.5 +0.5**
PCBR Castelo Branco 82.11 47 *e*P **P** **06 50 21.6 +0.7**
MTE Manteigas 82.25 47 IAmb IAmb 06 50 23.1
comp=Z,26nm,0.7s
MTE Manteigas 82.25 47 *e*P **P** **06 50 22.3 +0.5**
MTE A A 06 50 25.7
comp=Z,61nm,1.5s
PGAV Gavieira, Arco 82.27 45 *e*P **P** **06 50 22.6 +0.7**
PGAV A A 06 50 24.8
comp=Z,69nm,1.8s
UMMG Uummannaq 82.32 9 *i* P **P** **06 50 20.6 -0.7**
UMMG IAmb IAmb 06 50 34.6
comp=Z,343nm,1.7s
ESPR Espera 82.34 51 P **P** **06 50 23.7 +1.4**
PCAB Cabril 82.35 45 *e*P **P** **06 50 23.0 +0.7**
POLO Lamas de Olo 82.40 46 *e*P **P** **06 50 23.0 +0.4**
POLO A A 06 50 27.4
comp=Z,38nm,1.7s
ECEU Ceuta 82.41 52 P **P** **06 50 24.6 +2.0**
CEU Ceuta 82.42 52 P **P** **06 50 24.8 +2.2**
PVRL Vila Real 82.42 46 *e*P **P** **06 50 23.4 +0.8**
SKAG Skagway 82.53 334 P **P** **06 50 23.1 +0.5**
baz=124
N32M Quiet Lake 82.58 337 P **P** **06 50 23.2 +0.2**
baz=126
MVO Moncorvo 82.87 46 *e*P **P** **06 50 25.6 +0.6**
MVO A A 06 50 28.1
comp=Z,78nm,1.6s
TORD Torodi Ar. Bea 82.89 75 P **P** **06 50 25.4 -0.2**
comp=Z,33nm,0.8s,baz=288,slow=5.0,SNR=125
TORD pP **pP** **06 50 43.7 +0.5**
comp=Z,8.4nm,0.7s,baz=296,slow=4.9,SNR=3.9
TORD PKKPbc **PKKPbc** **07 08 48.5 +0.2**
comp=Z,0.8nm,0.7s,baz=58,slow=3.2,SNR=4.9
TORD LR LR 07 25 49.4
comp=Z,780nm,20.9s,baz=254,slow=34
comp=Z,33nm,0.8s
NUUG Nuugaatsiaq 82.95 8 *i* P **P** **06 50 24.4 -0.2**
NUUG IAmb IAmb 06 50 25.6
comp=Z,253nm,1.8s
PLBC Pleasant Camp 82.97 334 P **P** **06 50 25.3 +0.3**
baz=123
WHY Whitehorse 83.01 336 P **P** **06 50 24.8 -0.5**
baz=124
PVLZ Pen de Vlez 83.03 53 P **P** **06 50 26.2 +0.4**
PBRG Braganca 83.29 46 *e*P **P** **06 50 27.9 +0.8**
PBRG A A 06 50 31.1
comp=Z,134nm,1.9s
ICESG Greenland Ices 83.29 13 *i* P **P** **06 50 25.6 -1.3**
ICESG IAmb IAmb 06 50 27.6
comp=Z,78nm,0.9s
FARO Faro, Yukon 83.32 337 P **P** **06 50 26.4 -0.4**
baz=126,SNR=9.2
O30N Mendenhall 83.57 335 P **P** **06 50 28.5 +0.3**
baz=123
P30M Million Dollar 83.58 335 P **P** **06 50 28.5 +0.3**
baz=122
P29M Windy Craggy 83.65 334 P **P** **06 50 29.8 +1.2**
baz=122
M31M Drury Creek, Y 83.70 337 P **P** **06 50 28.9 +0.2**
baz=125,SNR=11
N31M Braeburn, Yuko 83.84 336 IAmb IAmb 06 50 31.2
comp=Z,38nm,1.0s
N31M Braeburn, Yuko 83.84 336 P **P** **06 50 29.4 -0.1**
baz=124,SNR=5.3
HYT Haines Junctio 84.18 335 P **P** **06 50 31.8 +0.4**
baz=122
PAB San Pablo 84.30 48 P **P** **06 50 33.0 +0.6**
PAB IAmb IAmb 06 50 35.4
comp=Z,60nm,1.0s
PAB San Pablo 84.30 48 P **P** **06 50 33.0 +0.6**
PAB pmax pmax
comp=Z,60nm,1.0s
N30M Aishikik Lake 84.35 336 P **P** **06 50 32.4 +0.3**
baz=122
O29M Mount Kennedy 84.36 334 P **P** **06 50 32.8 +0.5**
baz=121
ELIB Princess Elisa 84.39 162 *d*P **P** **06 50 32.1 -0.3**
ELIB *d*pP **pP** **06 50 49.8 -0.2**
PNL Peninsula 84.39 334 P **P** **06 50 32.4 +0.1**
baz=120
YUK6 Outpost Mounta 84.60 335 P **P** **06 50 33.9 +0.3**
baz=121
ESDC Sonseca Array 84.62 48 P **P** **06 50 34.4 +0.5**
comp=Z,16nm,0.6s,baz=255,slow=5.5,SNR=86
ESDC pP **pP** **06 50 53.0 +1.3**
comp=Z,3.5nm,0.6s,baz=250,slow=5.6,SNR=3.2
ESDC LR LR 07 25 55.9
comp=Z,433nm,20.3s,baz=239,slow=34
comp=Z,16nm,0.6s
ESBB Sonseca Array 84.62 48 IAmb IAmb 06 50 36.4
comp=Z,58nm,1.1s
VAL Valentia 84.73 35 P **P** **06 50 35.1 +1.0**
VAL Valentia 84.73 35 P **P** **06 50 34.7 +0.6**
M30M Minto, Yukon 84.84 337 P **P** **06 50 34.2 -0.4**
baz=123
YUK4 Talbot Arm 84.93 335 P **P** **06 50 35.3 +0.1**
baz=121,SNR=7.3
RES Resolute Bay 84.97 356 LR LR 07 30 36.6
comp=Z,184nm,19.9s,baz=176,slow=37
PINM Pinnacle 84.98 334 P **P** **06 50 35.4 +0.1**
baz=119
C36M Paulatuk 85.04 345 P **P** **06 50 36.1 +0.8**
baz=135
MAYO Mayo, Yukon 85.06 338 P **P** **06 50 35.6 0.0**
baz=124
O28M Mount Upton 85.29 334 P **P** **06 50 37.0 -0.2**
baz=120
KULLO Kullorsuaq 85.30 6 *i* P **P** **06 50 35.7 -0.8**
KULLO IAmb IAmb 06 50 37.6
comp=Z,74nm,1.0s
YUK8 Steele Glacier 85.36 335 P **P** **06 50 37.7 +0.2**
baz=120
M29M Somme Creek 85.42 336 IAmb IAmb 06 50 39.2
comp=Z,36nm,0.8s
M29M Somme Creek 85.42 336 P **P** **06 50 37.9 +0.3**
baz=121
L29M L29M 85.64 337 IAmb IAmb 06 50 40.0
comp=Z,50nm,0.8s
L29M L29M 85.64 337 P **P** **06 50 38.4 -0.1**
baz=122,SNR=29
BORG Borgarnes 85.68 21 LR LR 07 27 05.5
comp=Z,92nm,21.6s,baz=234,slow=34
J30M Hart River 85.76 339 IAmb IAmb 06 50 40.8
comp=Z,22nm,0.8s
J30M Hart River 85.76 339 P **P** **06 50 39.5 +0.4**
baz=123,SNR=18
H31M Peel River 85.76 340 IAmb IAmb 06 50 57.9
comp=Z,51nm,1.4s
H31M Peel River 85.76 340 P **P** **06 50 38.9 -0.1**
baz=125
MESA MESA 85.77 333 P **P** **06 50 39.6 +0.3**
baz=118
IGLA Glengowla, Co 85.79 34 P **P** **06 50 40.1 +0.7**
K29M Barlow Dome 85.80 338 IAmb IAmb 06 50 40.6
comp=Z,28nm,0.9s
K29M Barlow Dome 85.80 338 P **P** **06 50 39.0 -0.4**
baz=122
CTG Chitna Glacier 85.87 334 P **P** **06 50 39.2 -0.7**
baz=116
YUK3 Moose Creek 85.90 335 P **P** **06 50 39.7 -0.3**
baz=119,SNR=8.7
I30M Mount Dempster 86.13 339 P **P** **06 50 40.3 -0.7**
baz=123
SUMG Summit 86.27 11 *i* P **P** **06 50 41.8 -0.1**
SUMG IAmb IAmb 06 50 43.4
comp=Z,157nm,0.9s
BVCY Beaver Creek 86.38 336 P **P** **06 50 41.8 -0.3**
baz=119,SNR=8.1
J29N Klondike Camp 86.38 338 P **P** **06 50 41.9 -0.3**
baz=122,SNR=9.4
G31M Satah River 86.39 341 IAmb IAmb 06 50 43.0
comp=Z,41nm,0.8s
G31M Satah River 86.39 341 P **P** **06 50 41.5 -0.5**
baz=125,SNR=25
TULEG Thule 86.41 2 *i* P **P** **06 50 42.2 +0.2**
TULEG IAmb IAmb 06 50 44.2
comp=Z,64nm,0.9s
TGL Tana Glacier 86.42 334 IAmb IAmb 06 50 43.8
comp=Z,90nm,1.6s
F31M Tsiigehtchic 86.52 342 IAmb IAmb 06 50 43.6
comp=Z,39nm,1.0s
F31M Tsiigehtchic 86.52 342 P **P** **06 50 42.1 -0.6**
baz=126,SNR=19
CRQE Cirque 86.53 334 P **P** **06 50 41.8 -1.3**
baz=117
DAWY Dawson 86.62 337 P **P** **06 50 42.8 -0.5**
DAWY IAmb IAmb 06 50 44.2
comp=Z,23nm,0.9s
DAWY Dawson 86.62 337 P **P** **06 50 42.2 -1.1**
baz=120,SNR=20
KAIM Kayak Island 86.76 333 P **P** **06 50 44.0 0.0**
baz=116
M27K Edge Creek, AK 86.76 335 IAmb IAmb 06 50 45.6
comp=Z,35nm,0.8s
M27K Edge Creek, AK 86.76 335 P **P** **06 50 43.6 -0.6**
baz=118
MCARA McCarthy VSAT 86.79 334 IAmb IAmb 06 50 45.7
comp=Z,46nm,0.8s
MCARA McCarthy VSAT 86.79 334 P **P** **06 50 43.6 -0.5**
baz=117,SNR=8.9
IWEX Carrickbyrne, 86.88 36 P **P** **06 50 45.4 +0.7**

EPYK	Eagle Plains	86.88 340	IAmb	IAmb	06 50 45.7	
	comp=Z,30nm,1.0s					
EPYK	Eagle Plains	86.88 340	P	P	06 50 44.0	-0.5
	baz=123,SNR=12					
I29M	Ogilvie Camp,	86.89 339	P	P	06 50 44.1	-0.5
	baz=122,SNR=17					
VRDI	Verde Repeater	86.91 334	P	P	06 50 44.8	-0.2
VRDI			IAmb	IAmb	06 50 46.1	
	comp=Z,38nm,0.9s					
INK	Inuvik	86.97 342	IAmb	IAmb	06 50 46.0	
	comp=Z,46nm,1.1s					
INK	Inuvik	86.97 342	LR	LR	07 33 05.7	
	comp=Z,238nm,18.9s,baz=79,slow=38					
INK	Inuvik	86.97 342	P	P	06 50 44.3	-0.5
	baz=126,SNR=31					
G30M	tAoh Zraii Nji	87.05 341	IAmb	IAmb	06 51 02.4	
	comp=Z,48nm,2.0s					
G30M	tAoh Zraii Nji	87.05 341	P	P	06 50 44.2	-1.2
	baz=124					
BCAR	Beaver Creek A	87.06 336	P	P	06 50 45.8	+0.3
L27K	Beaver Creek,	87.08 336	IAmb	IAmb	06 50 47.0	
	comp=Z,42nm,0.8s					
L27K	Beaver Creek,	87.08 336	P	P	06 50 45.5	-0.1
	baz=118,SNR=32					
A36M	Sachs Harbour	87.19 347	P	P	06 50 44.7	-1.1
A36M			IAmb	IAmb	06 50 46.1	
	comp=Z,44nm,0.8s					
A36M	Sachs Harbour	87.19 347	P	P	06 50 44.9	-0.9
	baz=134					
M26K	Nabesna, AK	87.25 335	P	P	06 50 44.8	-1.6
	baz=117					
F30M	Barrier River	87.26 341	P	P	06 50 45.1	-1.2
	baz=124,SNR=16					
BMRM	Bremner River	87.29 334	P	P	06 50 45.9	-0.8
	baz=116					
H29M	Whitestone	87.36 339	IAmb	IAmb	06 50 48.0	
	comp=Z,27nm,0.8s					
H29M	Whitestone	87.36 339	P	P	06 50 45.9	-0.9
	baz=122,SNR=14					
DSB	Dublin	87.41 35	P	P	06 50 48.0	+0.7
IDGL	Inch Island, C	87.42 33	P	P	06 50 48.0	+0.7
Q23K	Middleton Isla	87.44 332	P	P	06 50 46.6	-0.7
	baz=114					
I28M	Miner Creek	87.52 338	IAmb	IAmb	06 50 48.8	
	comp=Z,36nm,0.9s					
I28M	Miner Creek	87.52 338	P	P	06 50 47.3	-0.5
	baz=120,SNR=28					
N25K	Chitina, Valde	87.57 334	P	P	06 50 47.7	-0.3
	baz=116					
G29M	Pine Creek	87.61 340	IAmb	IAmb	06 50 49.0	
	comp=Z,47nm,0.8s					
G29M	Pine Creek	87.61 340	P	P	06 50 47.1	-1.0
	baz=122					
EYAK	Cordova Ski Ar	87.62 333	P	P	06 50 47.8	-0.3
	baz=115					
K27K	Chicken	87.63 337	P	P	06 50 47.4	-0.8
	baz=118					
EGAK	Eagle	87.64 338	P	P	06 50 48.0	-0.2
EGAK	Eagle	87.64 338	P	P	06 50 47.3	-0.8
	baz=119,SNR=28					
L26K	Log Cabin Wild	87.67 336	P	P	06 50 47.8	-0.6
	baz=117,SNR=13					
ILTH	Belurgan, Co L	87.70 34	P	P	06 50 50.1	+1.5
MENT	Mentasta	87.79 335	IAmb	IAmb	06 50 49.8	
	comp=Z,72nm,1.8s					
KLU	Klutina	88.09 334	IAmb	IAmb	06 50 51.4	
	comp=Z,37nm,0.8s					
KLU	Klutina	88.09 334	P	P	06 50 49.9	-0.6
	baz=114,SNR=12					
HARP	HAARP	88.15 335	P	P	06 50 49.5	-1.2
	baz=115					
P23K	Montague Islan	88.15 332	P	P	06 50 50.2	-0.5
	baz=113					
I27K	Kandik River	88.21 338	P	P	06 50 50.2	-0.7
	baz=118					
E29M	Blow River	88.36 341	P	P	06 50 50.6	-0.9
	baz=122					
SCRK	Sand Creek	88.36 336	IAmb	IAmb	06 50 52.7	
	comp=Z,24nm,0.8s					
SCRK	Sand Creek	88.36 336	P	P	06 50 51.1	-0.6
	baz=116,SNR=17					
GLI	Glacier Island	88.36 333	P	P	06 50 50.5	-1.2
	baz=113					
J26L	Joseph Creek	88.43 337	P	P	06 50 51.5	-0.5
	baz=117,SNR=36					
M24K	Tolsona, Glenn	88.46 334	P	P	06 50 51.6	-0.6
	baz=114,SNR=7.2					
H27K	Steamboat Moun	88.48 339	P	P	06 50 51.5	-0.7
	baz=119,SNR=21					
PAX	Paxson	88.52 335	P	P	06 50 51.5	-1.0
	baz=115,SNR=22					
NEEM	North Greenlan	88.53 6	*i* P	P	06 50 52.7	+0.2
NEEM			IAmb	IAmb	06 50 54.5	
	comp=Z,249nm,0.9s					
RIDG	Independent Ri	88.60 336	IAmb	IAmb	06 50 53.8	
	comp=Z,41nm,0.9s					
RIDG	Independent Ri	88.60 336	P	P	06 50 52.3	-0.5
	baz=116,SNR=15					
I26K	Coal Creek Min	88.64 338	P	P	06 50 52.0	-0.8
	baz=117,SNR=16					
SCO	Scoresbysund	88.72 16	IAmb	IAmb	06 50 54.8	
	comp=Z,24nm,0.9s					
SCO	Scoresbysund	88.72 16	*i* P	P	06 50 53.0	-0.1
SCO			IAmb	IAmb	06 50 54.6	
	comp=Z,75nm,1.6s					
G27K	Doyon Strip	88.80 339	IAmb	IAmb	06 50 54.3	
	comp=Z,15nm,0.8s					
G27K	Doyon Strip	88.80 339	P	P	06 50 52.9	-0.8
	baz=118					
SCM	Sheep Creek Mo	88.85 334	IAmb	IAmb	06 50 55.0	
	comp=Z,50nm,1.2s					
SCM	Sheep Creek Mo	88.85 334	P	P	06 50 53.1	-1.0
	baz=113					
E28M	Babbage River	88.98 341	P	P	06 50 53.3	-1.2
	baz=120					
K24K	Donnelly Dome	89.00 336	P	P	06 50 54.5	-0.2
	baz=115					
M23K	Glacier View	89.00 334	P	P	06 50 54.4	-0.3
	baz=113					
D28M	Stokes Point	89.11 342	P	P	06 50 54.2	-0.8
	baz=121					
SEW	Seward	89.14 332	P	P	06 50 54.6	-0.7
	baz=111					
J25K	Salcha River,	89.18 337	IAmb	IAmb	06 50 56.5	
	comp=Z,26nm,0.8s					
J25K	Salcha River,	89.18 337	P	P	06 50 55.1	-0.4
	baz=115,SNR=23					
KNK	Knik Glacier	89.18 333	P	P	06 50 55.0	-0.6
	baz=112					
SML	Sawmill	89.28 334	IAmb	IAmb	06 50 56.8	
	comp=Z,32nm,0.9s					
SML	Sawmill	89.28 334	P	P	06 50 55.6	-0.4
	baz=112,SNR=5.8					
WAT6	Susitna Watana	89.32 334	P	P	06 50 55.5	-0.9
	baz=113,SNR=20					
DHY	Denali Highway	89.36 335	IAmb	IAmb	06 50 57.2	
	comp=Z,29nm,1.2s					
DHY	Denali Highway	89.36 335	P	P	06 50 54.9	-1.6
	baz=113,SNR=8.0					
E27K	Coleen River	89.44 341	IAmb	IAmb	06 50 57.8	
	comp=Z,79nm,1.9s					
E27K	Coleen River	89.44 341	P	P	06 50 56.2	-0.5
	baz=118,SNR=10					
PMR	Palmer	89.55 333	P	P	06 50 57.6	+0.4
	baz=112					
G26K	Porcupine Rive	89.61 339	P	P	06 50 57.0	-0.4
	baz=116					
BRSE	Bradley Lake S	89.62 331	P	P	06 50 58.2	+0.5
	baz=110					
PRP	Porcupine Dome	89.62 337	P	P	06 50 57.4	-0.3
	baz=115,SNR=6.7					
RC01	Rabbit Creek A	89.63 333	P	P	06 50 57.1	-0.5
	baz=111					
HDA	Harding Lake	89.72 336	IAmb	IAmb	06 51 16.0	
	comp=Z,27nm,1.2s					
HDA	Harding Lake	89.72 336	P	P	06 50 57.3	-0.7
	baz=114,SNR=7.8					
D27M	Malcolm River	89.75 342	IAmb	IAmb	06 50 59.4	
	comp=Z,27nm,0.8s					
D27M	Malcolm River	89.75 342	P	P	06 50 57.8	-0.4
	baz=119					
WAT1	Susitna Watana	89.76 334	P	P	06 50 56.8	-1.5
	baz=112					
ILAR	Eielson Array	89.84 337	P	P	06 50 57.4	-1.2
	comp=Z,6.3nm,0.8s,baz=146,slow=4.0,SNR=56					
ILAR			pP	pP	06 51 15.7	-0.7
	comp=Z,8.9nm,1.1s,baz=163,slow=3.7,SNR=7.5					
ILAR			PP	PP	06 54 33.4	+1.5
	comp=Z,1.2nm,0.8s,baz=116,slow=7.0,SNR=5.4					
ILAR			LR	LR	07 32 41.7	
	comp=Z,181nm,20.5s,baz=96,slow=36					
	comp=Z,6.3nm,0.8s					
EKA	Eskdalemuir Ar	89.86 34	P	P	06 50 58.6	-0.2
	comp=Z,12nm,0.9s,baz=243,slow=4.8,SNR=9.8					
EKA			pP	pP	06 51 18.2	+1.5
	comp=Z,1.3nm,0.6s,baz=224,slow=5.0,SNR=2.0					
	comp=Z,12nm,0.9s					
KDAK	Kodiak Island	89.87 329	LR	LR	07 32 13.9	
	comp=Z,74nm,18.6s,baz=301,slow=36					
HOM	Homer	90.02 331	P	P	06 50 59.4	-0.1
	baz=110					
Q20K	Shuyak Island	90.04 330	P	P	06 50 59.6	0.0
	baz=109					
H25L	Birch Creek	90.05 338	P	P	06 50 59.5	0.0
	baz=115,SNR=19					
F26K	Sheenjek River	90.07 340	IAmb	IAmb	06 51 01.2	
	comp=Z,70nm,1.9s					
F26K	Sheenjek River	90.07 340	P	P	06 50 59.7	+0.1
	baz=116,SNR=16					
BMAR	Burnt Mountain	90.10 339	P	P	06 50 59.8	+0.1
CCB	Clear Creek Bu	90.15 336	IAmb	IAmb	06 51 00.7	
	comp=Z,16nm,0.8s					
CAPN	Captain Cook N	90.17 332	P	P	06 51 00.1	0.0
	baz=110					
POKR	Poker Plat Res	90.19 337	IAmb	IAmb	06 51 01.3	
	comp=Z,30nm,1.0s					
POKR	Poker Plat Res	90.19 337	P	P	06 50 59.1	-1.1
	baz=113,SNR=6.0					
WRH	Wood River Hil	90.20 336	IAmb	IAmb	06 51 01.0	
	comp=Z,20nm,0.8s					
SUA	Susitna One	90.22 333	P	P	06 50 59.9	-0.6
	baz=110					
COLA	College	90.26 336	P	P	06 51 00.3	-0.2
COLA			IAmb	IAmb	06 51 01.3	
	comp=Z,27nm,0.8s					
COLA	College	90.26 336	P	P	06 50 59.4	-1.0
	baz=113					
COLA	College	90.26 336	*i* P	P	06 51 00.6	+0.2
COLA			pmax	pmax		
	comp=Z,42nm,1.0s					
MCK	McKinley	90.26 335	P	P	06 50 59.7	-0.9
	baz=112,SNR=5.7					
G25K	Bearman Lake	90.36 338	P	P	06 50 59.9	-1.0
	baz=114					
F25K	Christian Rive	90.54 339	P	P	06 51 02.3	+0.5
	baz=115					
NEA2	Nenana	90.64 336	IAmb	IAmb	06 51 03.0	
	comp=Z,34nm,0.9s					
NEA2	Nenana	90.64 336	P	P	06 51 01.3	-1.0
	baz=112,SNR=20					
H24K	Noodor Dome	90.64 337	IAmb	IAmb	06 51 03.5	
	comp=Z,22nm,0.8s					
H24K	Noodor Dome	90.64 337	P	P	06 51 01.1	-1.2
	baz=113					
TRF	Thorofare Moun	90.72 335	P	P	06 51 02.6	-0.3
	baz=111,SNR=10					
SKT	Skwentna	90.75 333	IAmb	IAmb	06 51 03.6	
	comp=Z,29nm,0.8s					
SKT	Skwentna	90.75 333	P	P	06 51 01.7	-1.2
	baz=110,SNR=10					
R18K	Karluk	90.76 328	P	P	06 51 02.1	-0.8
	baz=107					
C27K	Jago River	90.79 341	IAmb	IAmb	06 51 04.4	
	comp=Z,20nm,0.9s					
C27K	Jago River	90.79 341	P	P	06 51 02.9	0.0
	baz=117					
N20K	Mount Spurr	90.80 332	P	P	06 51 03.4	+0.2
	baz=109					
G24K	Hadweenzic Riv	90.83 338	IAmb	IAmb	06 51 04.8	
	comp=Z,26nm,0.8s					
G24K	Hadweenzic Riv	90.83 338	P	P	06 51 02.9	-0.3
	baz=113					
CHIR	Chirikof Islan	90.88 327	P	P	06 51 03.4	-0.1
	baz=106					
I23K	Minto, Yukon-K	90.96 336	IAmb	IAmb	06 51 04.4	
	comp=Z,21nm,0.8s					
I23K	Minto, Yukon-K	90.96 336	P	P	06 51 02.6	-1.0
	baz=111,SNR=16					
KTH	Kantishna Hill	91.02 335	IAmb	IAmb	06 51 04.8	
	comp=Z,20nm,0.9s					
BPAW	Bear Paw Mtn.	91.24 335	P	P	06 51 04.1	-1.0
BPAW	Bear Paw Mtn.	91.24 335	P	P	06 51 04.1	-1.0
	baz=110,SNR=18					
H23K	Yukon River	91.28 337	IAmb	IAmb	06 51 05.4	
	comp=Z,44nm,2.0s					
H23K	Yukon River	91.28 337	P	P	06 51 04.8	-0.4
	baz=111					
C26K	Camden Bay	91.30 342	P	P	06 51 05.2	0.0
	baz=115					
F24K	Squaw Lake	91.30 339	IAmb	IAmb	06 51 07.1	
	comp=Z,13nm,0.8s					
F24K	Squaw Lake	91.30 339	P	P	06 51 05.5	+0.1
	baz=113					
PPLA	Purkeypile	91.34 334	P	P	06 51 04.9	-0.9
	baz=109					
Q18K	Katmai Hardscr	91.36 329	P	P	06 51 06.2	+0.3
	baz=107					
M20K	Styx River	91.44 333	P	P	06 51 05.1	-1.1
	baz=108					
MLY	Manley	91.46 336	IAmb	IAmb	06 51 06.6	
	comp=Z,21nm,0.8s					
MLY	Manley	91.46 336	P	P	06 51 04.7	-1.4
	baz=110,SNR=16					
CAST	Castle Rocks	91.47 334	P	P	06 51 05.0	-1.2
CAST	Castle Rocks	91.47 334	P	P	06 51 04.7	-1.5
	baz=109,SNR=32					
O19K	Port Alsworth	91.47 331	P	P	06 51 06.4	+0.2
	baz=107					
D25K	Kavik River	91.51 341	IAmb	IAmb	06 51 07.4	
	comp=Z,16nm,0.8s					
D25K	Kavik River	91.51 341	P	P	06 51 06.1	-0.2
	baz=114					
P18K	Big Mountain,	91.68 330	P	P	06 51 05.9	-1.4
	baz=106					
Q17K	Contact Creek	91.69 329	P	P	06 51 06.2	-1.3
	baz=106					
CHUM	Lake Minchumin	91.72 335	P	P	06 51 06.1	-1.2
	baz=109,SNR=5.4					
E24K	Your Creek	91.73 339	P	P	06 51 07.4	+0.1
	baz=112					
R17L	Mt. Peulik Vol	91.77 328	P	P	06 51 07.5	-0.2
	baz=106					
G23K	Bananza Creek	91.78 338	IAmb	IAmb	06 51 09.1	
	comp=Z,17nm,1.0s					
G23K	Bananza Creek	91.78 338	P	P	06 51 07.0	-0.6
	baz=111					
O18K	Koktuh Hills	91.80 331	P	P	06 51 07.6	-0.2
	baz=106					
L20K	Farewell, AK	91.95 333	P	P	06 51 07.2	-1.2
	baz=108					
H22K	Ishtalitna Cre	92.01 337	P	P	06 51 07.4	-1.3
	baz=110					
I21K	Tanana	92.01 336	P	P	06 51 07.1	-1.4
	baz=109					
M19K	Big River Lodg	92.01 333	P	P	06 51 08.7	0.0
	baz=107					
COLD	Coldfoot	92.03 338	P	P	06 51 08.4	-0.3
	baz=111,SNR=5.8					
E23K	Chandalar	92.11 339	IAmb	IAmb	06 51 18.2	
	comp=Z,34nm,1.8s					
E23K	Chandalar	92.11 339	P	P	06 51 09.0	-0.2
	baz=111					
Q16K	King Salmon	92.19 329	P	P	06 51 10.4	+0.8
	baz=105					
P17K	Kvichak River	92.22 330	P	P	06 51 09.8	+0.2
	baz=105					
D24K	Happy Valley	92.25 340	P	P	06 51 09.8	+0.2
	baz=112					
K20K	Telida	92.30 334	IAmb	IAmb	06 51 10.3	
	comp=Z,20nm,1.0s					
K20K	Telida	92.30 334	P	P	06 51 09.3	-0.8
	baz=107					
L19K	White Mountain	92.30 333	P	P	06 51 09.0	-1.0
	baz=107					
TOLK	Toolik Lake Re	92.31 340	P	P	06 51 09.9	-0.1
	baz=111					
N18K	Kilae Creek	92.36 331	P	P	06 51 09.2	-1.2
	baz=106					
G22K	Bettles	92.40 338	P	P	06 51 09.8	-0.5
	baz=109					
C24K	Franklin Bluff	92.42 341	P	P	06 51 10.5	+0.1
	baz=112					
H21K	Melozitna Rive	92.48 336	P	P	06 51 10.8	0.0
	baz=108					
CHGN	Chignik	92.52 327	P	P	06 51 10.1	-0.9
	baz=104					
M18K	Stony River	92.55 332	P	P	06 51 11.4	+0.3
	baz=106					
TSUM	Tsumeb	92.56 110	P	P	06 51 12.9	+0.5
TSUM	Tsumeb	92.56 110	LR	LR	07 31 14.2	
	comp=Z,496nm,18.0s,baz=322,slow=34					
J20K	Nowinta River	92.58 335	IAmb	IAmb	06 51 11.3	
	comp=Z,38nm,1.7s					
J20K	Nowinta River	92.58 335	P	P	06 51 10.6	-0.6
	baz=107					
SUR	Sutherland	92.62 123	LR	LR	07 30 02.1	
	comp=Z,508nm,20.4s,baz=260,slow=34					
O17K	Koliganek Bris	92.70 330	P	P	06 51 11.2	-0.7
	baz=105					
D23K	Nanushuk River	92.80 340	P	P	06 51 12.7	+0.5
	baz=110					
CHNA	Chernabura Isl	92.82 325	P	P	06 51 13.3	+0.7
	baz=103					
F22K	John River	92.84 338	P	P	06 51 11.7	-0.7
	baz=109					
JMIC	Jan Mayen	92.88 18	LR	LR	07 32 45.1	
	comp=Z,75nm,19.3s,baz=241,slow=35					
E22K	Anaktuvuk Pass	92.91 339	P	P	06 51 12.9	+0.1
	baz=109					
N17K	Nushagak Hills	92.93 331	P	P	06 51 13.0	0.0
	baz=105					
DAG	Danmarks Havn	92.95 12	*i* P	P	06 51 11.8	-0.9
DAG			IAmb	IAmb	06 51 13.2	
	comp=Z,17nm,0.8s					
IMAR	Indian Mountai	92.96 337	P	P	06 51 12.1	-0.9
P16K	Nushagak River	92.96 329	P	P	06 51 13.2	+0.1
	baz=104					
G21K	Allakaket	93.02 337	P	P	06 51 13.3	0.0
	baz=108					
C23K	Itkillik River	93.08 341	IAmb	IAmb	06 51 14.7	
	comp=Z,22nm,1.1s					
C23K	Itkillik River	93.08 341	P	P	06 51 14.1	+0.6
	baz=110					
DOU	Dourbes	93.12 40	*d* P	P	06 51 14.1	0.0
J19K	Poorman	93.14 335	P	P	06 51 13.8	-0.1
	baz=106					
F21K	Alatna River	93.23 338	P	P	06 51 13.5	-0.7
	baz=108					
H20K	Anotleneega Mo	93.26 336	P	P	06 51 13.7	-0.7
	baz=106,SNR=10					
M17K	Holitna River	93.27 332	P	P	06 51 14.3	-0.2
	baz=104					
RAO	Raoul Island	93.27 240	LR	LR	07 22 34.6	
	comp=Z,131nm,21.8s,baz=116,slow=29					
D22K	Ayikyak River	93.46 340	P	P	06 51 15.0	-0.2
	baz=108					
J18K	Innoko River	93.47 334	P	P	06 51 15.1	-0.3
	baz=105					
N16K	Nishlik Lake	93.68 331	P	P	06 51 16.2	-0.3
	baz=103					
E21K	Killik River	93.77 339	P	P	06 51 16.4	-0.3
	baz=107					
L17K	Donlin	93.85 332	P	P	06 51 17.0	-0.1
	baz=104					
GCSA	Galena City Sc	93.87 335	P	P	06 51 17.1	-0.1
	baz=105,SNR=9.5					
H19K	Roundabout Mou	93.90 336	IAmb	IAmb	06 51 18.6	
	comp=Z,19nm,1.2s					
H19K	Roundabout Mou	93.90 336	P	P	06 51 17.1	-0.1
	baz=105					
M16K	Timber Creek	93.90 331	P	P	06 51 17.3	-0.2
	baz=103					
O15K	Ungalikthiuk R	93.91 329	P	P	06 51 17.4	-0.1
	baz=102					
K17K	Iditarod	93.99 333	IAmb	IAmb	06 51 18.8	
	comp=Z,46nm,1.6s					
K17K	Iditarod	93.99 333	P	P	06 51 16.9	-0.9
	baz=104					
KEST	Kesra	94.00 55	P	P	06 51 19.3	+0.7
	comp=Z,9.8nm,1.0s,baz=248,slow=1.9,SNR=5.3					
KEST			LR	LR	07 32 23.8	
	comp=Z,429nm,20.9s,baz=251,slow=35					
	comp=Z,9.8nm,1.0s					
F20K	Avaraart Lake	94.02 337	P	P	06 51 16.7	-1.1
	baz=106					
B22K	Teshekpuk Lake	94.16 341	IAmb	IAmb	06 51 19.3	
	comp=Z,22nm,0.8s					
B22K	Teshekpuk Lake	94.16 341	P	P	06 51 17.6	-0.7
	baz=108					
C21K	Knifeblade Rid	94.26 340	P	P	06 51 17.6	-1.3
	baz=106					
L16K	Owhat River	94.29 332	P	P	06 51 18.8	-0.4
	baz=103					
G19K	Purcell Mounta	94.31 336	P	P	06 51 18.3	-0.9
	baz=104					
B21K	Ikpikpuk River	94.34 340	P	P	06 51 19.0	-0.2
	baz=106					
S12K	Black Hills	94.39 326	P	P	06 51 18.8	-1.0
	baz=101					
J17K	VABM Dome	94.49 334	P	P	06 51 20.2	+0.1
	baz=103					
E20K	Nigu River	94.51 339	P	P	06 51 20.4	+0.2
	baz=105					
H18K	Honhosa River	94.58 335	IAmb	IAmb	06 51 22.3	
	comp=Z,16nm,0.9s					
H18K	Honhosa River	94.58 335	P	P	06 51 20.5	0.0
	baz=103					
M15K	Kasigluk River	94.65 331	P	P	06 51 19.5	-1.3
	baz=102					
E19K	Redstone River	94.69 338	P	P	06 51 19.7	-1.2
	baz=104					
F19K	Shaleruckik Mo	94.75 337	P	P	06 51 20.9	-0.3
	baz=104					
D20K	Etivluk River	94.78 339	P	P	06 51 21.0	-0.3
	baz=105					
A22K	Sinclair Lake	94.84 341	P	P	06 51 20.9	-0.5
	baz=106					
G18K	Tagagawik	94.87 336	IAmb	IAmb	06 51 23.1	
	comp=Z,12nm,0.8s					
G18K	Tagagawik	94.87 336	P	P	06 51 21.5	-0.2
	baz=103					
N14K	Kuskokwak Cree	94.99 330	P	P	06 51 22.9	+0.5
	baz=101					
URZ	Urewera	94.99 230	LR	LR	07 24 52.4	
	comp=Z,486nm,21.4s,baz=220,slow=30					
J16K	Anvik River	95.14 333	P	P	06 51 23.0	-0.1
	baz=102					
H17K	Granite Mounta	95.18 335	P	P	06 51 23.0	-0.2
	baz=102					
L15K	Ungalak Mounta	95.23 332	P	P	06 51 23.8	+0.4
	baz=101					
D19K	Kuna River	95.26 339	P	P	06 51 24.0	+0.4
	baz=103					
M14K	Bethel	95.28 331	P	P	06 51 23.4	-0.3
	baz=100					
B20K	Meade River	95.29 340	P	P	06 51 23.1	-0.5
	baz=104					
I17K	Unalakleet	95.30 334	P	P	06 51 24.0	+0.3
	baz=101					
K15K	Wolf Creek Mou	95.36 332	P	P	06 51 24.6	+0.5
	baz=101					
F18K	Selawik	95.42 337	P	P	06 51 24.0	-0.2
	baz=102					
G17K	Kiwalik Mounta	95.60 335	P	P	06 51 25.2	+0.1
	baz=101					
TUE	Stuetta	95.63 44	P	P	06 51 26.2	+0.2
	comp=Z,58nm,2.9s					
NOR	Nord	95.72 7	*i* P	P	06 51 25.6	+0.3
NOR			IAmb	IAmb	06 51 27.2	
	comp=Z,172nm,2.8s					
L14K	Kuka Creek	95.73 331	P	P	06 51 25.5	-0.2
	baz=100					
E18K	Tukpahlearik C	95.95 337	P	P	06 51 25.4	-1.3
	baz=101					
F17K	Baldwin Pennin	96.02 336	P	P	06 51 26.6	-0.3
	baz=101					
DAVOX	Davos/Dischmat	96.04 44	LR	LR	07 33 33.2	
	comp=Z,285nm,18.4s,baz=268,slow=35					
H16K	Elim	96.10 335	P	P	06 51 27.1	-0.3
	baz=100					
G16K	Koyuk River	96.28 335	P	P	06 51 28.6	+0.4
	baz=100					
E17K	Hotham Inlet	96.36 337	P	P	06 51 28.2	-0.3
	baz=100					
J14K	Nanvaranak Lak	96.37 333	P	P	06 51 27.8	-0.8
	baz=99					
A19K	Wainwright	96.64 340	P	P	06 51 29.0	-0.7
	baz=100					
B18K	Kokolik River	96.74 339	P	P	06 51 29.9	-0.3
	baz=100					
K13K	Kusilvak Mount	96.75 332	P	P	06 51 30.3	0.0
	baz=98					
G15K	Niukluk	96.92 335	P	P	06 51 31.0	-0.1
	baz=98					

BOSA Boshof 97.26 121 P **P** **06 51 33.3 -0.4**
comp=Z,6.2nm,0.7s,baz=262,slow=3.9,SNR=12
BOSA LR LR 07 33 33.6
comp=Z,392nm,20.4s,baz=215,slow=34
comp=Z,6.2nm,0.7s
KONO Kongsberg 97.49 31 *i* P Pdif 06 51 34.7 +0.9
KONO pmax pmax
comp=Z,45nm,1.7s
C16K Lisburne Hills 97.86 338 P **P** **06 51 34.3 -0.9**
baz=97
F14K Arctic Creek 97.93 335 P **P** **06 51 35.5 -0.2**
baz=96
MAW Mawson 97.97 166 P Pdif 06 51 36.6 +0.7
comp=Z,3.3nm,0.6s,baz=175,slow=6.6,SNR=14
comp=Z,3.3nm,0.6s
VAE Valguarnera 98.27 53 LR LR 07 37 03.2
comp=Z,502nm,18.8s,baz=296,slow=36
NB2 NORSAR Subarra 98.43 29 P Pdif 06 51 38.2 +0.1
comp=Z,29nm,1.7s,baz=265,slow=4.8
NB2 NORSAR Subarra 98.43 29 P Pdif 06 51 38.2 +0.1
baz=265,slow=4.8
NOA NORSAR Array B 98.43 29 P **P** **06 51 37.4 -0.7**
comp=Z,2.3nm,0.9s,baz=268,slow=4.7,SNR=4.1
NOA LR LR 07 34 37.4
comp=Z,145nm,20.0s,baz=270,slow=34
comp=Z,2.3nm,0.9s
LBTB Lobatse 98.50 117 IAmb IAmb 06 51 40.8
comp=Z,15nm,0.9s
LBTB Lobatse 98.50 117 LR LR 07 33 16.5
comp=Z,203nm,20.8s,baz=266,slow=34
CLL Collm 98.59 39 *e*P Pdif 06 51 39.0 +0.1
CLL Collm 98.59 39 *e*Pdif Pdif 06 51 39.0 +0.1
CLL *e*SP SP 07 04 30.0 +2.3
CLL *e*PPS PPS 07 05 26.0
CLL *ex* x 07 19 24.0
CLL Collm 98.59 39 P Pdif 06 51 39.3 +0.4
comp=Z,11nm,0.7s
TNA Tin City 98.60 335 P Pdif 06 51 39.2 +0.6
baz=95
P08K Saint George I 98.66 326 P **P** **06 51 38.9 -0.1**
baz=95
KHC Kasperske Hory 98.77 42 *i* P Pdif 06 51 40.8 +0.9
KHC pmax pmax
comp=Z,7.0nm,1.2s
KHC Kasperske Hory 98.77 42 P **P** **06 51 38.1 -1.7**
comp=Z,8.3nm,2.9s
GERES GERESS Array B 98.83 42 P Pdif 06 51 40.9 +0.7
comp=Z,1.6nm,0.8s,baz=205,slow=4.3,SNR=3.0
GERES LR LR 07 34 55.0
comp=Z,168nm,18.0s,baz=269,slow=34
comp=Z,1.6nm,0.8s
BRG Berggiesshubel 99.14 40 *e*P **Pdif** **06 51 42.3 +0.9**
BRG Amp 06 51 43.4
comp=Z,5.1nm,0.8s
BRG Berggiesshubel 99.14 40 *e*P **Pdif** **06 51 42.3 +0.9**
BRG pmax pmax
comp=Z,5.0nm,0.8s
BRG pmax pmax
comp=Z,4.0nm,0.9s
MSVF Nonsavu 99.54 250 LR LR 07 26 45.6
comp=Z,182nm,21.9s,baz=137,slow=29
HFS Hagfors 99.59 30 P **Pdif** **06 51 43.2 0.0**
comp=Z,3.4nm,0.7s,baz=255,slow=5.7,SNR=4.1
HFS LR LR 07 34 23.1
comp=Z,356nm,21.4s,baz=258,slow=34
comp=Z,3.4nm,0.7s
DPC Dobruska-Polom 100.62 40 P **Pdif** **06 51 46.6 -1.5**
comp=Z,4.4nm,2.4s
OJC Ojcow 102.85 41 P **Pdif** **06 51 58.9 +1.0**
FINES FINESS Array B 105.59 29 PKKPbc PKKPbc 07 07 47.6 -2.1
comp=Z,2.0nm,0.6s,baz=80,slow=2.1,SNR=8.1
NACGM Naroch 106.82 36 *e*Pdif **Pdif** **06 52 20.0 +4.5**
comp=Z,7.0nm,1.1s,baz=277
MNK Minsk 107.51 36 *i* P **Pdif** **06 52 21.0 +2.5**
comp=E,9.0nm,0.7s
MNK *i* P **Pdif** **06 52 21.0 +2.5**
comp=N,22nm,0.8s
MNK *i* P **Pdif** **06 52 21.0 +2.5**
comp=Z,7.0nm,0.6s,baz=278
MNK *i* pP **pPdif** **06 52 38.0 +1.6**
MNK *i* PP **PP** **06 56 49.4 +2.6**
MNK *i* PPP PPP 06 59 05.6
MNK *i* SKS **SKSdf** **07 03 35.8 +2.9**
MNK *i* PS **PS** **07 06 12.9 +3.1**
MNK *i* SS **SS** **07 11 56.3 +4.4**
MNK *i* SSS SSS 07 15 58.9
MNK *i* LQ LQ 07 33 58.5
MNK *i* LR LR 07 36 53.4
MNK *i* LRM MLR 07 38 37.7
comp=N,286nm,22.1s
MNK *i* LRM MLR 07 38 49.1
comp=E,143nm,19.1s
MNK *i* LRM MLR 07 39 12.1
comp=Z,314nm,20.3s
MNK Minsk 107.51 36 *i* P **Pdif** **06 52 21.0 +2.5**
MNK *i* 06 56 49.4
MNK *i* PPP PPP 06 59 05.5
MNK *i* 07 03 35.7
MNK *i* PS **PS** **07 06 12.9 +3.1**
MNK *i* SS SS 07 11 56.3 +4.4
MNK *i* SSS SSS 07 15 58.8
MNK pmax pmax
comp=E,9.0nm,0.7s
MNK pmax pmax
comp=N,22nm,0.8s
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK MLR MLR
comp=N,286nm,22.0s
MNK MLR MLR
comp=E,143nm,19.0s
MNK MLR MLR
comp=Z,314nm,20.0s
PLOR3 Plostina Array 107.60 45 P **Pdif** **06 52 19.4 +0.2**
PLOR5 Plostina Array 107.61 45 P **Pdif** **06 52 18.6 -0.7**
DZM Mont Dzumac 108.81 243 *e*PP **PP** **06 56 53.8 -3.5**
comp=Z,71nm,31.4s
DZM Mont Dzumac 108.81 243 *e*SS SS 07 12 09.7 -1.3
comp=Z,828nm,33.8s
DZM Mont Dzumac 108.81 243 *e*LR LR 07 28 35.4
comp=Z,536nm,24.9s
AKASG Malin Array Be 108.83 40 PKiKP **PKiKP** **06 56 27.1 -2.0**
comp=Z,0.7nm,0.5s,baz=275,slow=3.0,SNR=6.9
OBN Obninsk 112.31 34 *i* PKIKP **PKiKP** **06 56 35.0 -0.5**
OBN *i* 06 56 52.2
OBN *i* 06 57 18.3
OBN pmax pmax
comp=Z,8.0nm,1.1s
OBN MLR MLR
comp=Z,133nm,18.0s
BRTR Keskin Array B 113.30 51 PKiKP **PKiKP** **06 56 38.0 -0.1**
comp=Z,1.9nm,0.9s,baz=180,slow=2.5,SNR=6.9
LPSR Galich'ya Gora 114.34 36 *e*PKIKP PKPdf 06 56 36.5 -3.0
LPSR pmax pmax
comp=Z,9.0nm,0.8s
ANN Anapa 115.28 45 *i* PKIKP **PKiKP** **06 56 41.3 -0.2**
ANN pmax pmax
comp=Z,101nm,1.1s
MMAI Mount Meron Ar 115.38 58 PKP **PKiKP** **06 56 42.4 +0.1**
comp=Z,1.0nm,0.3s,baz=270,slow=1.4,SNR=6.0
SEY Seymchan 115.78 337 *c i* PKIKP **PKiKP** **06 56 41.9 -0.1**
SEY pmax pmax
comp=Z,17nm,1.0s
H11N3 WAKE ISLAND Hy 116.23 287 T T 09 03 20.2
baz=93,slow=74,SNR=273
H11N2 WAKE ISLAND Hy 116.24 287 T T 09 03 21.2
baz=93,slow=74,SNR=302
H11N1 WAKE ISLAND Hy 116.25 287 T T 09 03 21.5
baz=93,slow=74,SNR=157
H11S2 WAKE ISLAND Hy 116.39 286 T T 09 03 39.6
baz=94,slow=75,SNR=182
H11S1 WAKE ISLAND Hy 116.39 286 T T 09 03 39.1
baz=94,slow=75,SNR=117
H11S3 WAKE ISLAND Hy 116.40 286 T T 09 03 40.1
baz=94,slow=75,SNR=171
VRH Novokhopyorsk 116.41 37 *e*PKIKP **PKPdf** **06 56 40.5 -3.0**
VRH pmax pmax
comp=Z,7.0nm,0.8s
KIRV Kirov 117.54 28 *c i* PKIKP **PKiKP** **06 56 46.4 +0.9**
KIV Kislovodsk 119.14 45 *i* PKIKP **PKiKP** **06 56 49.4 +0.2**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,83nm,22.0s
KBZ Khabaz 119.34 45 PKP **PKiKP** **06 56 49.6 +0.1**
comp=Z,12nm,0.8s,baz=324,slow=2.2,SNR=24
KBZ Khabaz 119.34 45 *c i* PKIKP **PKPdf** **06 56 49.0 -0.4**

GNI Garni 121.60 49 *c i* PKIKP **PKPdf** **06 56 53.5 -0.6**
GNI pmax pmax
comp=Z,11nm,1.3s
ARTI Arti 122.80 27 PKPdf **PKPdf** **06 56 54.9 -0.8**
ARTI Arti 122.80 27 *i* PKIKP **PKiKP** **06 56 55.8 -0.1**
ARTI 06 58 38.7
ARTI 07 04 02.0
STKA Stephens Creek 123.46 221 PKP **PKiKP** **06 56 58.2 +0.2**
comp=Z,7.6nm,0.5s,baz=122,slow=3.4,SNR=22
STKA pPKP **pPKPdf** **06 57 16.6 +0.3**
comp=Z,6.7nm,0.5s,baz=42,slow=1.7,SNR=7.9
YAK Yakutsk 123.98 344 *c i* PKIKP **PKiKP** **06 56 58.1 +0.1**
YAK pmax pmax
comp=Z,41nm,2.5s
RAYN Ar Rayn 125.06 68 PKPdf **PKPdf** **06 57 01.0 -0.1**
RAYN Ar Rayn 125.06 68 PKIKP **PKPdf** **06 57 01.0 -0.1**
CTAO Charters Tower 126.79 236 PKPdf **PKPdf** **06 57 04.2 -0.3**
CTAO Charters Tower 126.79 236 PKIKP **PKPdf** **06 57 04.2 -0.3**
BRVK Borovoye 130.13 24 PKPdf **PKPdf** **06 57 09.6 -0.2**
BRVK Borovoye 130.13 24 *c i* PKIKP **PKiKP** **06 57 10.8 +0.2**
BRVK pmax pmax
comp=Z,33nm,2.5s
BVAR Borovoye Array 130.19 24 PKP **PKiKP** **06 57 10.4 -0.4**
comp=Z,14nm,0.7s,baz=285,slow=1.8,SNR=52
BVAR pPKP **pPKPdf** **06 57 28.1 -0.4**
comp=Z,6.8nm,0.7s,baz=273,slow=1.9,SNR=7.7
PMG Port Moresby 130.62 249 *c i* PKIKP **PKiKP** **06 57 12.5 -0.2**
PMG pmax pmax
comp=Z,8.0nm,1.0s
COEN Coen 132.30 241 PKPdf **PKPdf** **06 57 14.6 -0.4**
ABTO Aybut 132.74 75 P **PKPdf** **06 57 16.4 +0.6**
WHFO Wadi Hawf 133.16 75 P **PKPdf** **06 57 16.8 +0.2**
KLR Kul'dur 133.29 333 PKP **PKPdf** **06 57 15.8 -0.1**
comp=Z,4.3nm,0.6s,baz=68,slow=3.3,SNR=10
KLR Kul'dur 133.29 333 *c i* PKIKP **PKiKP** **06 57 17.0 -0.1**
KLR pmax pmax
comp=Z,12nm,1.7s
DOK Doka 133.46 74 P **PKPdf** **06 57 17.0 -0.1**
ASUD Al Ashush, Dub 133.82 65 P **PKiKP** **06 57 18.4 -0.5**
ASAR Alice Springs 133.98 223 PKhKP PKPpre 06 57 01.0
ASAR PKP **PKPdf** **06 57 17.6 -0.4**
comp=Z,11nm,0.6s,baz=121,slow=2.0,SNR=53
ASAR pPKP pPKPdf 06 57 36.6 +0.1
comp=Z,10.0nm,0.6s,baz=123,slow=2.2,SNR=12
UMZA Um Al Zommool 133.98 68 P **PKiKP** **06 57 18.8 -0.5**
ZALV Zalesovo Beam 134.04 14 PKhKP PKPpre 06 57 02.0
comp=Z,0.8nm,0.6s,baz=274,slow=2.2,SNR=4.0
ZALV PKP **PKPdf** **06 57 16.5 -0.6**
comp=Z,13nm,0.6s,baz=327,slow=0.9,SNR=10
ZALV pPKP pPKPdf 06 57 36.5 +0.8
comp=Z,7.2nm,0.7s,baz=247,slow=5.0,SNR=4.0
SHME Shamm 134.27 63 P **PKPdf** **06 57 17.9 -0.5**
DMTO DMTO 134.29 75 P **PKPdf** **06 57 18.9 +0.2**
HEH HeiHe 134.33 337 *e*PKP **PKPdf** **06 57 15.4 -2.4**
MASF Masafi 134.42 64 P **PKPdf** **06 57 19.1 +0.3**
BANOM Banah 134.43 63 P **PKPdf** **06 57 18.7 -0.1**
ASHO Ashiyiah 134.46 65 P **PKPdf** **06 57 18.0 -0.9**
MDH Madha 134.56 64 P **PKPdf** **06 57 19.2 +0.2**
SOHO SOHO 134.99 66 P **PKPdf** **06 57 19.6 -0.2**
KURK Kurchatov 135.12 20 PKPdf **PKPdf** **06 57 19.1 -0.2**
KURK Kurchatov 135.12 20 P **PKPdf** **06 57 19.8 +0.5**
KURK Kurchatov 135.12 20 *c i* PKIKP **PKPdf** **06 57 19.8 +0.5**
KURK pmax pmax
comp=Z,27nm,0.7s
KURBB Kurchatov Arra 135.17 21 PKP **PKPdf** **06 57 19.9 +0.5**
comp=Z,19nm,0.7s,baz=324,slow=2.3,SNR=82
KURBB pPKP **pPKPdf** **06 57 37.9 0.0**
comp=Z,10nm,0.6s,baz=319,slow=2.4,SNR=7.3
HOQ Hoqain 135.79 66 P **PKPdf** **06 57 20.8 -0.6**
BSY Bisya 135.83 68 P **PKPdf** **06 57 20.8 -0.6**
SEM Semipalatinsk 135.93 19 *e*PKiKP **PKiKP** **06 57 22.2 -0.5**
SEM Semipalatinsk 135.93 19 *i* PKIKP **PKiKP** **06 57 22.2 -0.5**
WRA Warramunga Arr 136.11 228 PKhKP PKPpre 06 57 09.9
comp=Z,1.0nm,0.6s,baz=140,slow=2.2,SNR=19
WRA PKP **PKPdf** **06 57 21.9 -0.1**
comp=Z,18nm,0.6s,baz=124,slow=2.0,SNR=80
WRA pPKP pPKPdf 06 57 40.1 -0.5
comp=Z,22nm,0.5s,baz=125,slow=2.1,SNR=13
BIDO Bidbid 136.54 66 P **PKPdf** **06 57 22.9 +0.2**
SNR=5.9
SMDO Samad 136.55 67 P **PKPdf** **06 57 22.2 -0.7**
SNR=11
USRK Ussuriysk Ar. 136.73 328 PKhKP PKPpre 06 57 11.0
comp=Z,0.5nm,0.5s,baz=196,slow=30,SNR=2.1
USRK PKP **PKPdf** **06 57 22.4 -0.1**
comp=Z,2.0nm,0.8s,baz=108,slow=4.7,SNR=7.0
MHTO MHTO 136.81 70 P **PKPdf** **06 57 23.2 -0.1**
BRLS Borolday 136.97 34 *e*PKiKP **PKiKP** **06 57 24.6 -0.2**
BRLS Borolday 136.97 34 *i* PKIKP **PKiKP** **06 57 24.6 -0.2**
WSAR Wadi Sarin 137.04 66 P **PKPdf** **06 57 23.6 -0.1**
CHM Chimkent 137.30 35 *e*PKiKP **PKiKP** **06 57 25.2 -0.4**
CHM Chimkent 137.30 35 *i* PKIKP **PKiKP** **06 57 25.1 -0.4**
MJAR Matsushiro Arr 137.41 315 PKP **PKPdf** **06 57 21.9 -2.1**
comp=Z,3.7nm,0.7s,baz=96,slow=1.6,SNR=7.0
WBK Wadi Bani Khal 137.47 67 P **PKPdf** **06 57 25.2 +0.7**
IUG Iuzhnay 137.66 35 *e*PKiKP **PKiKP** **06 57 25.8 -0.6**
IUG Iuzhnay 137.66 35 *i* PKIKP **PKiKP** **06 57 25.8 -0.6**
MDJ Mudanjiang 137.66 330 PKP **PKPdf** **06 57 24.4 +0.2**
MDJ AMB AMB
comp=Z,120nm,4.8s
BTLS Baital 137.75 29 *e*PKiKP **PKiKP** **06 57 26.0 -0.3**
BTLS Baital 137.75 29 *i* PKIKP **PKiKP** **06 57 26.0 -0.3**
BNX BinXian 137.86 333 ||P PKiKP 06 57 41.5 +15
BNX pmax pmax
comp=Z,10.0nm,1.2s
DZA Taraz 137.88 33 *e*PKiKP **PKiKP** **06 57 26.2 -0.5**
DZA Taraz 137.88 33 *i* PKIKP **PKiKP** **06 57 26.2 -0.5**
JLN Jalan Bani Buh 137.95 68 P **PKPdf** **06 57 25.7 +0.3**
SNR=5.4
SIMJ Simiganj 139.20 40 PKPdf **PKPdf** **06 57 26.6 -0.8**
USP Ospenovka 139.27 30 P **PKPdf** **06 57 28.0 +0.8**
SNR=8.3
EKS2 Erkin-Say 139.34 32 P **PKPdf** **06 57 28.6 +1.1**
SNR=8.6
MAKZ Makanchi 139.61 21 **PKPdf** **06 57 27.6 -0.2**
MAKZ Makanchi 139.61 21 PKIKP **PKPdf** **06 57 27.6 -0.2**
AML Almayashu 139.67 32 P **PKPdf** **06 57 29.5 +1.0**
SNR=9.6
AAK Ala-Archa 139.73 31 P **PKiKP** **06 57 30.1 -0.5**
SNR=7.1
MK31 Makanchi Array 139.74 20 *c i* PKIKP **PKPdf** **06 57 28.6 +0.6**
MKAR Makanchi Array 139.74 20 PKhKP PKPpre 06 57 18.9
comp=Z,1.9nm,0.8s,baz=18,slow=3.3,SNR=6.1
MKAR PKP **PKPdf** **06 57 27.0 -1.0**
comp=Z,5.6nm,0.7s,baz=330,slow=1.6,SNR=15
MKAR Makanchi Array 139.74 20 PKIKP **PKPdf** **06 57 27.0 -1.0**
TKM2 Tokmak 2 140.07 30 P **PKPdf** **06 57 29.7 +0.8**
SNR=6.2
CN2 Changchun 140.24 333 *e*PKP **PKiKP** **06 57 30.5 -0.9**
MDOK Medeo 140.58 28 *e*PKP **PKPdf** **06 57 28.9 -0.9**
MDOK *e*PP **PP** **07 00 29.3 +0.5**
MDOK Medeo 140.58 28 *e*PKIKP **PKPdf** **06 57 28.9 -0.9**
MDOK *e* 07 00 29.3
TNSS Tian-Shan 140.63 29 *e*PKP **PKPdf** **06 57 29.1 -1.2**
TNSS Tian-Shan 140.63 29 *e*PKIKP **PKPdf** **06 57 29.0 -1.2**
ULHL Ulahol 140.89 30 P **PKiKP** **06 57 32.5 -0.6**
SNR=8.2
KPKS Kokpek 141.09 27 *e*PKP **PKPdf** **06 57 29.9 -0.8**
KPKS Kokpek 141.09 27 *e*PKIKP **PKPdf** **06 57 29.8 -0.8**
SATY Saty 141.29 27 *e*PKP **PKPdf** **06 57 30.2 -0.8**
SATY Saty 141.29 27 *e*PKIKP **PKPdf** **06 57 30.2 -0.8**
UZB Uzynbulak 141.50 27 *e*PKP **PKPdf** **06 57 30.6 -0.9**
UZB Uzynbulak 141.50 27 *e*PKIKP **PKPdf** **06 57 30.5 -0.9**
KBL Kabul 141.53 45 PKPdf **PKPdf** **06 57 31.7 -0.1**
KBL Kabul 141.53 45 PKIKP **PKPdf** **06 57 31.7 -0.1**
SHLS Shalkode 141.68 26 *e*PKP **PKPdf** **06 57 31.2 -0.6**
SHLS Shalkode 141.68 26 *e*PKIKP **PKPdf** **06 57 31.1 -0.6**
ULN Ulaanbaatar 141.80 354 PKPdf PKPpre 06 57 26.8
ULN Ulaanbaatar 141.80 354 PKHKP PKPpre 06 57 26.8
SONM Songino Array 141.90 355 PKhKP PKPpre 06 57 24.8
comp=Z,6.0nm,0.6s,baz=336,slow=1.4,SNR=24
KSH Kashi 142.75 33 PKP **PKPdf** **06 57 31.5 -2.3**
KSRS Korea Array 143.57 323 PKhKP PKPpre 06 57 31.8
comp=Z,19nm,0.9s,baz=48,slow=3.1,SNR=48
XLT XiLinHaoTe 143.75 342 *e*PKP PKPab 06 57 32.3 +0.1
WMQ Urumqi 144.10 17 *e*PKP PKPbc 06 57 33.8 -0.2
WMQ LR LR
comp=Z,200nm,23.3s
MBWA Marble Bar 144.32 210 PKPdf **PKPab** **06 57 34.2 -0.7**
JNU Nakatsue 144.33 315 PKPdf **PKPab** **06 57 32.9 -1.8**
JNU Nakatsue 144.33 315 PKP **PKPab** **06 57 33.5 -1.2**
comp=Z,24nm,0.8s,baz=25,slow=6.2,SNR=10
NIL Nilore 144.92 43 **PKPab** **06 57 36.2 -0.7**

NIL Nilore 144.92 43 P **PKPab** **06 57 36.6 -0.2**
NIL Nilore 144.92 43 PKIKP **PKPab** **06 57 36.2 -0.7**
DL2 Dalian 145.87 331 PKPbc **PKPdf** **06 57 37.9 -1.1**
DL2 PKPab **PKPab** **06 57 41.5 +1.4**
DL2 SKKS 07 07 51.8
FAKI Fak Fak 146.77 249 PKPdf **PKPdf** **06 57 41.8 +0.5**
BJI Beijing 147.18 339 PKPbc **PKPbc** **06 57 42.3 -1.1**
BJI sPKP 06 58 00.0
BTO Baotou 148.42 347 *e*PKPbc **PKPdf** **06 57 44.1 +0.7**
BTO PP **PP** **07 01 19.0 +3.9**
BTO AMB AMB
comp=Z,1μm,5.3s
SOEI Soe 150.06 230 PKP **PKPdf** **06 57 46.2 -0.5**
TIA Tai'an 150.12 334 PKPbc **PKPdf** **06 57 45.9 -0.2**
GTA Gaotai 150.52 3 PKPbc **PKPdf** **06 57 47.9 +1.1**
GTA LR LR
comp=Z,140nm,23.1s
GTA LR LR
comp=Z,160nm,22.7s
GTA LR LR
comp=Z,150nm,23.6s
HMDM Hanimaadhoo 151.91 94 **PKPbc** **06 57 55.5 -0.5**
SANI Sanana 152.83 246 PKP **PKPdf** **06 57 47.0 -3.9**
GOMU GeErMu 153.08 12 PKPbc **PKPdf** **06 57 51.3 +0.2**
GOMU SS SS 07 21 12.4 +2.5
GOMU LR LR
comp=Z,190nm,19.2s
GOMU LR LR
comp=Z,200nm,19.5s
GOMU LR LR
comp=Z,320nm,19.5s
LYN LuoYang 153.40 339 PKPbc **PKPbc** **06 57 58.4 -0.3**
LYN pPKP PKPab 06 58 10.3 -0.5
LZH Lanzhou 153.78 356 *e*PKPbc **PKPdf** **06 57 53.3 +1.5**
LZH pPKP PKiKP 06 58 00.4 +0.6
LZH LR LR
comp=Z,200nm,17.5s
LZH LR LR
comp=Z,240nm,14.8s
LZH LR LR
comp=Z,260nm,20.3s
XAN Xi'an 154.94 345 PKPbc **PKPdf** **06 57 53.9 +0.6**
XAN LR LR
comp=Z,290nm,23.4s
XAN LR LR
comp=Z,200nm,22.7s
XAN LR LR
comp=Z,340nm,24.1s
LUWI Luwuk 156.15 244 PKP **PKPdf** **06 57 53.5 -2.0**
HYB Hyderabad 156.56 69 *e*PKPdf **PKPdf** **06 57 55.1 -0.8**
GYA Guiyang 162.74 344 PKP **PKPdf** **06 58 03.5 +0.7**
GYA PP **PP** **07 02 33.1 -1.7**
PZH PanZhiHua 163.42 359 PKP **PKPdf** **06 58 03.5 0.0**
TNCH TengChong 164.64 10 PKP **PKPdf** **06 58 04.6 -0.1**
TNCH sPKP 06 58 22.1
TNCH PKPab **PKPab** **06 58 59.4 -0.5**
KMI Kunming 164.74 355 ||PKP **PKPdf** **06 58 05.1 +0.2**
QIZ Qiongzhong 167.75 319 PKP **PKPdf** **06 58 07.0 -0.1**
QIZ PP **PP** **07 03 03.4 +1.7**
QIZ SS SS 07 23 48.6 +3.6
QIZ LR LR
comp=Z,100nm,10.2s
QIZ LR LR
comp=Z,160nm,12.4s
QIZ LR LR
comp=Z,220nm,15.7s
BKNI Bangkinang 170.54 178 PKP **PKPdf** **06 58 01.4 -7.5**
CHTO Chiang Mai 170.76 15 **PKPdf** **06 58 09.3 +0.3**
CHTO PKPab **PKPab** **06 59 24.9 -2.0**
CHTO Chiang Mai 170.76 15 PKIKP **PKPdf** **06 58 09.3 +0.3**
CHTO 06 59 24.9
CMAR Chiang Mai Arr 171.10 15 PKP **PKPdf** **06 58 08.6 -0.6**
comp=Z,6.7nm,0.8s,baz=295,slow=1.8,SNR=36
CMAR pPKP **pPKPdf** **06 58 27.2 -0.6**
comp=Z,1.2nm,0.3s,baz=300,slow=2.1,SNR=2.0
CMAR PKPab **PKPab** **06 59 27.6 -0.8**
comp=Z,8.7nm,0.7s,baz=327,slow=5.4,SNR=19
RPSI Rantau Prapat 172.49 161 **PKPdf** **06 58 08.4 -1.5**
PSI Prapat 172.59 160 PKIKP **PKPdf** **06 58 08.5 -1.6**

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*IDC **20** 06:51:23.0±0.8,28°.93N×142°.94E,h0km,mb3.9/11,*
mbtmp3.9/13,ML3.2/2,MS3.9/9,Error ellipse:
s-maj=26.4km s-min=19.1km az=83.0
*JMA **20** 06:51:26.6±0.2,29°.0N±0°.4×14°.3E±°,h67km,MV4.2/21,*
NEAR CHICHIJIMA ISLAND
ISC 20 06:51:27.9±0.7,28°.90N±0°.04×142°.7E±0°.1,h35km,n39,
σ1§56/31,mb4.0/11,MS4.3/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.85**	**193**	*e*P	**Pn**	**06 51 57.2**	**+0.1**
CBIJ				*e*S	**Sn**	**06 52 19.9**	**+0.6**
JCJ	**Chichijima**	**1.85**	**193**	Pn	Pn	06 51 52.3	-4.9
JCJ				Sn	**Sn**	**06 52 14.8**	**-4.5**
JHH2	**Haha-jima-NKT2**	**2.30**	**191**	*e*P	**Pn**	**06 52 03.5**	**+0.1**
JHH2				*e*S	**Sn**	**06 52 30.6**	**+0.1**
BSO1	**Boso 1**	**5.91**	**346**	*e*P	**Pn**	**06 52 51.3**	**-1.1**
BSO1				*e*S	**Sn**	**06 53 56.6**	**-1.9**
BSO3	**Boso 3**	**6.16**	**343**	*e*P	**Pn**	**06 52 55.7**	**-0.4**
BSO3				*e*S	**Sn**	**06 54 04.6**	**-0.5**
BSO4	**Boso 4**	**6.38**	**343**	*e*P	**Pn**	**06 52 59.9**	**+0.6**
BSO4				*e*S	**Sn**	**06 54 10.5**	**-0.3**
JOD2	**Odawara 2**	**7.03**	**335**	*e*P	**Pn**	**06 53 08.3**	**0.0**
JRY	**Ryogami san**	**7.77**	**337**	*e*P	**Pn**	**06 53 18.8**	**+0.3**
JAG	**Ashikaga**	**7.97**	**341**	*e*P	**Pn**	**06 53 20.9**	**-0.4**
JAG				*e*S	**Sn**	**06 54 46.3**	**-3.9**
JNG	**Nsakai**	**8.41**	**334**	*e*P	**Pn**	**06 53 25.1**	**-2.2**
MJAR	**Matsushiro Arr**	**8.48**	**335**	Pn	**Pn**	**06 53 28.0**	**-0.4**
	0.3nm,0.3s,baz=160,slow=12,SNR=3.4						
MJAR				Sn	**Sn**	**06 55 01.9**	**-1.0**
	0.1nm,0.3s,baz=158,slow=18,SNR=5.4						
	2.2nm,0.5s						
JNU	**Nakatsue**	**10.94**	**296**	LR	LR	06 58 53.4	
	comp=Z,148nm,18.1s,baz=162,slow=40						
JOW	**Kunigami**	**12.89**	**264**	LR	LR	06 59 15.6	
	comp=Z,76nm,19.6s,baz=160,slow=36						
USRK	**Ussuriysk Ar.**	**17.48**	**334**	P	**Pn**	**06 55 27.9**	**-0.9**
	0.1nm,0.3s,baz=146,slow=35,SNR=2.0						
	1.1nm,0.7s						
KLR	**Kul'dur**	**21.95**	**341**	P	**P**	**06 56 19.2**	**+0.8**
	1.7nm,0.8s,baz=148,slow=1.2,SNR=2.5						
	1.7nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**23.87**	**107**	T	T	07 22 22.6	
	baz=297,slow=75,SNR=7.3						
H11N1	**WAKE ISLAND Hy**	**23.87**	**107**	T	T	07 22 09.0	
	baz=297,slow=75,SNR=5.7						
H11N3	**WAKE ISLAND Hy**	**23.88**	**107**	T	T	07 22 24.4	
	baz=297,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**24.28**	**110**	T	T	07 22 17.1	
	baz=276,slow=75,SNR=5.9						
H11S1	**WAKE ISLAND Hy**	**24.28**	**110**	T	T	07 22 19.4	
	baz=276,slow=75,SNR=5.0						
H11S2	**WAKE ISLAND Hy**	**24.29**	**110**	T	T	07 22 14.1	
	baz=276,slow=75,SNR=6.6						
WRA	**Warramunga Arr**	**49.22**	**190**	P	**P**	**07 00 13.3**	**+0.4**
	3.7nm,0.8s,baz=9.5,slow=8.6,SNR=20						
	3.7nm,0.8s						
MKAR	**Makanchi Array**	**49.66**	**308**	P	**P**	**07 00 18.4**	**+2.2**
	1.8nm,1.0s,baz=95,slow=7.2,SNR=2.6						
	1.8nm,1.0s						
KURBB	**Kurchatov Arra**	**52.09**	**313**	P	**P**	**07 00 36.8**	**+2.5**
	1.2nm,0.5s,baz=89,slow=7.1,SNR=4.4						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**52.94**	**190**	P	**P**	**07 00 42.0**	**+1.1**
	0.7nm,0.7s,baz=11,slow=6.8,SNR=4.7						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**55.93**	**29**	P	**P**	**07 01 00.5**	**-1.7**
	1.3nm,0.8s,baz=261,slow=6.6,SNR=13						
	1.3nm,0.8s						
ARCES	**ARCESS Array B**	**71.97**	**341**	LR	LR	07 40 34.0	
	comp=Z,103nm,18.7s,baz=304,slow=41						
FINES	**FINESS Array B**	**76.51**	**334**	LR	LR	07 38 32.0	
	comp=Z,155nm,20.6s,baz=268,slow=37						
KBZ	**Khabaz**	**77.09**	**313**	P	**P**	**07 03 18.3**	**+0.7**
	1.9nm,1.0s,baz=40,slow=5.0,SNR=2.1						
	1.9nm,1.0s						
NVAR	**Mina Array Bea**	**79.08**	**52**	P	**P**	**07 03 29.6**	**+0.5**
	1.2nm,0.7s,baz=279,slow=6.2,SNR=9.0						
	1.2nm,0.7s						
AKASG	**Malin Array Be**	**81.41**	**324**	LR	LR	07 41 46.7	
	comp=Z,378nm,20.0s,baz=270,slow=37						
NOA	**NORSAR Array B**	**82.09**	**338**	P	**P**	**07 03 45.2**	**+0.6**
	0.9nm,0.8s,baz=42,slow=5.2,SNR=3.5						
	0.9nm,0.8s						

PDAR Pinedale Array 82.64 45 P **P 07 03 47.5 -0.6**
0.8nm,0.9s,baz=0.0,slow=1.5,SNR=5.2
0.8nm,0.9s

BRTR Keskin Array B 85.08 313 LR LR 07 46 46.2
comp=Z,112nm,19.2s,baz=275,slow=39

MMAI Mount Meron Ar 87.58 307 LR LR 07 47 49.3
comp=Z,82nm,20.3s,baz=224,slow=39

EIL Elat 89.73 304 LR LR 07 46 59.4
comp=Z,265nm,20.9s,baz=254,slow=37

ATD Arta Tunnel 92.92 285 LR LR 07 49 37.2
comp=Z,7.2nm,20.6s,baz=297,slow=38

TXAR Lajitas Array 94.19 53 P **P 07 04 44.7 +1.0**
0.4nm,0.7s,baz=334,slow=6.0,SNR=3.7
0.4nm,0.7s

LPAZ La Paz 149.03 73 PKPbc **PKPbc 07 11 12.4 -1.3**
2.6nm,0.9s,baz=311,slow=2.7,SNR=8.2

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*IDC **20** 07:17:39.5±2.0, 36°.34N×136°.68E, h264km±18km, mb3.1/2, mbtmp4.0/3, Error ellipse: s-maj=62.6km s-min=28.6km az=99.0*
*JMA **20** 07:17:41.2±0.3, 36°.2N±1°.0×137°.2E±0°.9, h273km±2km, MV3.0/28, NORTHERN GIFU PREF*
ISC 20 07:17:40.9±1.2, 36°.2N±0°.1×137°.16E±0°.09, h274km±9km, n15, σ0°66/20, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	Niukaw	0.13	89	P	Pn	07 18 16.1	+0.1
JKG	Kaga	0.67	275	P	Pn	07 18 17.4	+0.4
JYTA	Yamagatataniai	0.71	209	P	Pn	07 18 17.2	0.0
JYTA				S	S	07 18 45.2	-0.7
MAT	Matsushiro	0.91	69	P	Pn	07 18 18.4	+0.5
MAT				eS	S	07 18 47.5	+0.2
MJAR	Matsushiro Arr	0.91	69	P	Pn	07 18 18.5	+0.6
MJAR	26nm,0.5s,baz=249,slow=6.6,SNR=58			S	S	07 18 47.9	+0.6
	7.9nm,0.9s,baz=258,slow=12,SNR=7.8						
JYN	Shimob	1.34	122	P	Pn	07 18 20.5	0.0
JRY	Ryogami san	1.43	98	eP	Pn	07 18 21.9	+0.9
JRY				eS	S	07 18 52.6	-0.1
JHG	Hegura jima	1.64	353	eP	Pn	07 18 23.0	+0.7
JWT	Wachi	1.71	237	P	Pn	07 18 22.9	-0.1
JOD2	Odawara 2	1.84	121	P	Pn	07 18 24.6	+0.5
JAG	Ashikaga	1.87	83	P	Pn	07 18 24.4	+0.2
JAG				S	S	07 18 57.3	-1.3
JTNC	Tanabenakahech	2.71	208	eP	Pn	07 18 32.0	0.0
ASAJ	Asahikawa	8.91	26	P	Pn	07 19 44.1	-1.4
ASAJ	9.3nm,0.3s,baz=225,slow=14,SNR=7.4						
WRA	Warramunga Arr	55.92	183	P	P	07 26 51.0	+0.1
WRA	0.7nm,0.3s,baz=360,slow=7.5,SNR=21						
	0.7nm,0.3s						
ASAR	Alice Springs	59.64	183	P	P	07 27 16.7	+0.2
ASAR	0.2nm,0.3s,baz=359,slow=6.4,SNR=7.9						
	0.2nm,0.3s						

IDC 20 07:24:40.0±1.9, 5°.05N×126°.35E, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=173.6km s-min=21.8km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.05	163	P	P	07 30 15.7	+0.3
	1.1nm,0.5s,baz=342,slow=10,SNR=16						
	1.1nm,0.5s						
ASAR	Alice Springs	29.48	166	P	P	07 30 45.5	-0.5
	0.4nm,0.9s,baz=348,slow=7.6,SNR=2.4						
	0.4nm,0.9s						
MKAR	Makanchi Array	56.26	325	P	P	07 34 22.7	+0.4
	0.7nm,0.5s,baz=123,slow=7.3,SNR=8.2						
	0.7nm,0.5s						
KURBB	Kurchatov Arra	60.43	327	P	P	07 34 50.8	-0.5
	1.0nm,0.2s,baz=121,slow=6.7,SNR=6.8						
	1.0nm,0.2s						

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*NOU **20** 07:25:37.8, 39°.49S×178°.90W, h17km, ML4.5/10, East of North Island, N.Z.*
*WEL **20** 07:25:45.9±0.7, 39°.5±6°.×178°.0W±°, h33km, M3.8/18, ML4.2/25, MLv3.8/18, Error ellipse: s-maj=9.3km s-min=5.3km az=34.3, confirmed*
ISC 20 07:25:39.4±1.5, 39°.40S±0°.05×179°.41W±0°.07, h10km, n69, σ2°71/90, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	2.25	305	P	Pn	07 26 18.3	+1.5
PUZ				S	Sn	07 26 43.5	-1.1
RIGZ	Rimuhau	2.31	287	P	Pb	07 26 20.1	-1.0
RIGZ				S	Sn	07 26 46.3	+0.3
WMGZ	Waiomatatini S	2.32	312	P	Pn	07 26 19.1	+1.5
TKGZ	Te Karaka	2.34	293	P	Pb	07 26 20.5	-1.2
TKGZ				S	Sn	07 26 47.2	+0.4
TWGZ	Tauwhareparae	2.37	300	P	Pb	07 26 20.9	-1.4
TWGZ				S	Sn	07 26 48.3	+0.6
PKGZ	Pakihiroa	2.49	307	P	Pn	07 26 21.6	+1.5
PKGZ				S	Sn	07 26 49.3	-1.1
MXZ	Matakaoa Point	2.56	315	P	Pb	07 26 23.2	-2.3
SNGZ	Shannon Statio	2.60	283	P	Pb	07 26 24.4	-1.7
SNGZ				S	Sn	07 26 54.3	+1.1
MWZ	Matawai	2.61	293	P	Pn	07 26 24.0	+2.2
MWZ				S	Sn	07 26 52.5	-1.1
WHHZ	Waihua	2.62	276	P	Pb	07 26 24.5	-2.0
WHHZ				S	Sb	07 26 56.6	-2.2
RAGZ	Rawiri	2.63	289	P	Pn	07 26 24.2	+2.2
RAGZ				S	Sn	07 26 54.2	+0.2
RUGZ	Raukumara Rang	2.69	301	P	Pn	07 26 24.9	+2.0
RUGZ				S	Sn	07 26 56.0	+0.5
HAZ	Te Kaha	2.74	306	P	Pn	07 26 25.0	+1.6
RAHZ	Arahi	2.76	279	P	Pb	07 26 26.9	-2.1
RAHZ				S	Sn	07 26 57.6	+0.3
RTZ	Ruatahuna	2.92	284	P	Pb	07 26 29.0	-2.6
URZ	Urewera	2.94	292	P	Pn	07 26 28.9	+2.7
URZ				S	Sn	07 27 02.2	+0.6
URZ	Urewera	2.94	292	P	Pb	07 26 29.5	-2.5
NMHZ	Naumai	2.95	275	P	Pn	07 26 29.5	+3.0
MTHZ	Maungataniwha	2.96	279	P	Pn	07 26 29.5	+2.9
MTHZ				S	Sn	07 27 03.2	+1.0
MUGZ	Murupara	3.11	286	P	Pn	07 26 31.7	+3.0
BKZ	Black Stump Fm	3.19	273	P	Pn	07 26 32.4	+2.7
BKZ				S	Sn	07 27 08.2	+0.5
BKZ	Black Stump Fm	3.19	273	P	Pn	07 26 32.4	+2.7
EDRZ	Edgecumbe	3.27	292	P	Pn	07 26 34.2	+3.4
MRHZ	Matea Rd	3.29	279	S	Sn	07 27 10.2	-0.2
RRRZ	Republican Roa	3.35	287	P	Pb	07 26 36.9	-2.0
PRRZ	Plateau Road	3.39	284	P	Pn	07 26 35.8	+3.4
TARZ	Mount Tarawera	3.39	289	P	Pb	07 26 36.4	-3.3
ALRZ	Allen Road	3.41	283	P	Pn	07 26 36.2	+3.5
HRRZ	Handcock Road	3.50	285	P	Pn	07 26 37.3	+3.3
BFZ	Birch Farm	3.57	248	P	Pn	07 26 37.2	+2.3
MOVZ	Moawhango	3.74	268	P	Pn	07 26 40.8	+3.4
MOVZ				S	Sn	07 27 21.0	-0.6
TGRZ	Tauranga	3.78	295	P	Pn	07 26 40.3	+2.6
ETVZ	East Tongariro	3.79	272	P	Pn	07 26 41.6	+3.5
TMVZ	Te Maari	3.80	273	P	Pn	07 26 41.5	+3.4
TMVZ				S	Sn	07 27 21.1	-1.9
KUTZ	Kaahu Road	3.82	282	P	Pn	07 26 41.7	+3.3
KATZ	Kakaramea	3.82	275	P	Pn	07 26 41.9	+3.4
NTVZ	North Tongarir	3.82	273	P	Pn	07 26 41.8	+3.3
NTVZ				S	Sn	07 27 24.4	+0.8
OTVZ	Oturere	3.83	272	P	Pn	07 26 41.9	+3.3
OTVZ				S	Sn	07 27 23.6	-0.1
TUVZ	Tukino	3.83	270	P	Pn	07 26 42.1	+3.5
SNVZ	South Ngauruho	3.84	272	P	Pn	07 26 42.1	+3.3
SNVZ				S	Sn	07 27 23.9	-0.2
KRVZ	Karewarewa	3.85	273	P	Pn	07 26 42.4	+3.6
KRVZ				S	Sn	07 27 25.4	+1.2
WNVZ	Wahianoa	3.87	269	P	Pn	07 26 42.4	+3.3
NNVZ	North Ngauruho	3.87	272	P	Pn	07 26 43.0	+3.9
NGZ	Ngauruhoe	3.88	272	P	Pn	07 26 42.6	+3.4
WHVZ	Whangaehu Hut	3.88	270	P	Pn	07 26 42.8	+3.5
WTVZ	West Tongariro	3.89	273	P	Pn	07 26 43.1	+3.7
MAVZ	Matarangi	3.90	270	P	Pn	07 26 43.2	+3.5
FWVZ	Far West T-bar	3.91	270	P	Pn	07 26 42.8	+3.1
TRVZ	Turoa	3.91	270	P	Pn	07 26 43.0	+3.3
COVZ	Chateau Observ	3.92	271	P	Pn	07 26 43.1	+3.3
WAZ	Wanganui	4.34	264	P	Pn	07 26 50.3	+4.8
VRZ	Vera Road	4.53	272	P	Pn	07 26 51.8	+3.7
HIZ	Hauiti	4.55	279	P	Pn	07 26 53.0	+4.6
HIZ	Hauiti	4.55	279	P	Pn	07 26 51.7	+3.3
KUZ	Kuaotunu	4.66	303	P	Pn	07 26 51.6	+1.8
KUZ	Kuaotunu	4.66	303	P	Pn	07 26 52.8	+2.9
CTZ	Chatham Island	4.81	155	P	Pn	07 26 56.2	+4.2
CTZ				S	Sn	07 27 47.6	-0.2
MKAZ	Moumakai	4.84	296	P	Pn	07 26 55.1	+2.7
SNZO	South Karori	4.88	245	P	Pn	07 26 55.2	+2.3
WIAZ	Waiheke Island	5.03	299	P	Pn	07 26 58.3	+3.4
NEZ	North Egmont	5.03	269	P	Pn	07 26 59.6	+4.5
ETAZ	East Tamaki Re	5.08	297	P	Pn	07 26 59.6	+4.0
KHEZ	Kahui Hut	5.10	269	P	Pn	07 26 59.0	+3.1
PKE	Pukeiti	5.12	270	P	Pn	07 27 00.7	+4.4
GRZ	Great Barrier	5.13	306	P	Pn	07 26 59.0	+2.6
WCZ	Waipu Caves	6.04	303	P	Pn	07 27 11.2	+2.5
QRZ	Quartz Range	6.34	254	P	Pn	07 27 15.0	+2.1
OUZ	Omahuta	6.96	305	P	Pn	07 27 24.4	+3.0
MQZ	McQueen's Vall	7.34	232	P	Pn	07 27 28.8	+2.1
MQZ				S	Sn	07 28 45.2	-4.8

NNC 20 07:26:04.3±6.7, 36°.78N×71°.46E, h0km, mb3.7, mpv3.4, 4C-2D, Error ellipse: s-maj=54.6km s-min=50.6km az=123.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.36	354	⇓P	Pn	07 27 37.8	-1.4
	1.1nm,0.4s,baz=182,slow=13,SNR=10						
KK31				⇑S	Sn	07 28 54.1	+1.6
	2.4nm,0.5s,baz=175,slow=17,SNR=3.6						
CHMS	Chumysh	6.70	21	⇑P	Pn	07 27 45.1	+1.1
	2.4nm,0.4s						
CHMS				⇑S	Sn	07 29 04.4	+3.2
	3.6nm,0.8s						
TKM2	Tokmak 2	6.91	26	⇓P	Pn	07 27 47.5	+0.5
	0.5nm,0.4s						
TKM2				⇑S	Sn	07 29 04.8	-1.5
	1.1nm,0.6s						

IDC 20 07:27:24.0±4.6, 6°.39S×129°.65E, h250km±45km, mb3.0/1, mbtmp3.9/4, Error ellipse: s-maj=47.5km s-min=17.9km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	7.03	237	P	Pn	07 29 05.5	+0.4
	21nm,0.3s,baz=113,slow=8.9,SNR=2.0						
BATI				S	S	07 30 26.9	+0.6
	20nm,0.4s,baz=95,slow=23,SNR=1.8						
WRA	Warramunga Arr	14.22	162	P	Pn	07 30 34.6	-0.4
	1.2nm,0.6s,baz=341,slow=13,SNR=2.5						
WRA				S	S	07 33 05.1	-7.4
	0.5nm,0.4s,baz=335,slow=21,SNR=5.7						
ASAR	Alice Springs	17.66	167	P	P	07 31 13.6	+0.5
	1.7nm,0.8s,baz=348,slow=9.8,SNR=13						
ASAR				S	S	07 34 23.6	+0.2
	1.3nm,0.9s,baz=351,slow=22,SNR=6.4						
MKAR	Makanchi Array	67.52	327	P	P	07 37 53.3	-0.1
	0.3nm,0.5s,baz=116,slow=7.7,SNR=5.2						
	0.3nm,0.5s						

IDC 20 07:38:48.7±5.8, 12°.43S×168°.70E, h586km±91km, mb2.8/4, mbtmp3.9/5, Error ellipse: s-maj=91.7km s-min=34.5km az=155.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.83	192	P	P	07 41 05.8	+0.2
	5.3nm,1.0s,baz=74,slow=18,SNR=1.6						
STKA	Stephens Creek	31.55	228	P	P	07 44 23.9	-0.5
	0.9nm,0.3s,baz=38,slow=6.4,SNR=4.6						
	0.9nm,0.3s						
WRA	Warramunga Arr	33.79	253	P	P	07 44 43.5	0.0
	0.6nm,0.3s,baz=84,slow=8.6,SNR=20						
	0.6nm,0.3s						
ASAR	Alice Springs	34.83	246	P	P	07 44 52.0	-0.1
	1.7nm,0.5s,baz=74,slow=9.8,SNR=39						
	1.7nm,0.5s						
ILAR	Eielson Array	83.92	18	P	P	07 50 17.3	-0.1
	0.1nm,0.5s,baz=229,slow=5.4,SNR=1.5						
	0.1nm,0.5s						

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*JMA **20** 07:40:27.5±0.2, 44°.6N±0°.7×145°.7E±1°.0, h17km±1km, MV2.8/29, NEAR KUNASHIRI ISLAND*
*SKHL **20** 07:40:27.8±0.6, 44°.70N×145°.70E, h34km±4km, mb4.2/3*
ISC 20 07:40:24.7±2.0, 44°.67N±0°.07×145°.73E±0°.06, h7km±12km, n12, σ0°85/20, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	0.64	172	i P	Pb	07 40 38.8	+0.5
YUK				AMB	AMB	07 40 39.2	
	250nm,0.2s						
YUK				i S	Sg	07 40 46.4	+1.0
YUK				A	A	07 40 46.6	
	720nm,0.3s						
YUK				A	A	07 40 46.6	
	460nm,0.3s						
JRA	Rausu	0.85	211	P	Pb	07 40 42.2	+0.4
JRA				eS	Sg	07 40 52.8	+0.6
JNSB	Nemuroshibetsu	1.04	210	P	Pb	07 40 45.4	+0.5
JNSB				eS	Sg	07 40 58.5	+0.5
SHO	Shikotan	1.12	135	i P	Pn	07 40 47.7	+0.8
SHO				AMB	AMB	07 40 48.0	
	120nm,0.4s						
SHO				i S	Sn	07 41 02.6	0.0
SHO				A	A	07 41 02.9	
	1μm,0.4s						
SHO				A	A	07 41 02.9	
	510nm,0.4s						
NMR	Nemuro--Hokkai	1.30	180	i P	Pg	07 40 49.1	-0.6
NMR				i S	Sg	07 41 05.1	-1.4
NEM2	Nemuro 2	1.31	180	P	Pg	07 40 49.0	-0.7
NEM2				S	Sg	07 41 05.1	-1.6
JNK	Nakash	1.31	214	eP	Pg	07 40 50.0	+0.3
JTKR	Abashiri--Toko	1.48	242	eP	Pb	07 40 52.9	+0.3
JTKR				S	Sn	07 41 11.7	+0.3
JKHN	Kushirohamanak	1.64	195	eP	Pn	07 40 54.5	+0.5
AKK	Akkeshi	1.77	202	eP	Pn	07 40 55.9	+0.1
AKK				eS	Sn	07 41 17.0	-1.6
JAK	Akkeshi	1.83	204	eP	Pn	07 40 57.0	+0.4
YSS	Yuzh-Sakhalins	3.09	319	eP	Pn	07 41 13.5	-0.4
YSS				AMB	AMB	07 41 13.8	
	10.0nm,0.3s						

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*IDC **20** 07:56:11.7±0.5, 9°.89S×78°.71W, h66km±5km, mb3.8/9, mbtmp4.1/13, MS3.4/5, Error ellipse: s-maj=16.6km s-min=6.7km az=68.0*
*NEIC **20** 07:56:12.6±1.8, 9°.86S±0°.08×78°.5W±0°.1, h64km±8km, mb4.5/41, Error ellipse: s-maj=17.9km s-min=11.1km az=69.0*
*VAO **20** 07:56:18.4±0.9, 9°.58S×78°.13W, h97km±7km, mb4.5*
ISC 20 07:56:11.4±0.5, 9°.83S±0°.06×78°.56W±0°.08, h55km, n103, σ1°32/99, mb4.5/28, MS3.5/3, 1C, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	2.69	4	P	Pn	07 56 55.0	+2.5
	200nm,0.5s,baz=175,slow=6.6,SNR=153						
ATAH				S	Sn	07 57 27.8	+3.7
	329nm,0.6s,baz=315,slow=19,SNR=11						
ATAH				LR	LR	07 58 06.9	
	comp=Z,242nm,21.3s,baz=185,slow=42						
NNA	Nana	2.73	142	Pn	Pn	07 56 54.5	+1.7
NNA	Nana	2.73	142	P	Pn	07 56 54.0	+1.2
	174nm,0.3s,baz=278,slow=12,SNR=109						
NNA				S	Sn	07 57 26.9	+2.3
	1μm,0.4s,baz=204,slow=20,SNR=17						
CZSB	Cruzeiro do Su	6.16	71	Pn	Pn	07 57 41.1	+1.3
CZSB	Cruzeiro do Su	6.16	71	eP	Pn	07 57 41.0	+1.2
COHC	Cochancay	7.35	355	Pn	Pn	07 57 57.9	+1.8
OTAV	Otavalo	10.01	1	Pn	Pn	07 58 35.9	+3.0
OTAV	Otavalo	10.01	1	eP	Pn	07 58 35.0	+2.1
TBTG	Tabatinga, AM	10.26	57	Pn	Pn	07 58 35.3	-0.7
TBTG	Tabatinga, AM	10.26	57	eP	Pn	07 58 36.9	+0.9
LPAZ	La Paz	12.02	123	Pn	Pn	07 59 03.0	+2.4
LPAZ	La Paz	12.02	123	P	Pn	07 59 02.5	+1.9
	1.4nm,0.7s,baz=312,slow=11,SNR=7.6						
LPAZ	La Paz	12.02	123	eP	Pn	07 59 02.5	+1.9
ETMB	Extrema	12.17	91	P	Pn	07 58 59.8	-2.3
ETMB	Extrema	12.17	91	eP	Pn	07 59 01.4	-0.7
ROSC	El Rosal	15.18	16	LR	LR	08 06 48.1	
	comp=Z,282nm,18.1s,baz=230,slow=42						
SAML	Samuel	15.20	88		Pn	07 59 39.8	-3.0
SAML	Samuel	15.20	88	eP	Pn	07 59 42.0	-0.7
SIV	San Ignacio	18.11	112	P	P	08 00 18.7	-0.3
	3.5nm,0.7s,baz=287,slow=11,SNR=21						
VILB	Vilhena	18.27	102		P	08 00 19.2	-1.5
VILB	Vilhena	18.27	102	eP	P	08 00 20.1	-0.6
BBSD	Serra de San D	18.91	115	eP	Pn	08 00 29.0	+0.1
MACA	Manacapuru-AM	18.95	71	P	P	08 00 27.6	-0.6
MACA	Manacapuru-AM	18.95	71	eP	P	08 00 25.9	-2.3
PTLB	Pontes e Lacer	19.75	108	P	P	08 00 37.4	+0.4
PTLB	Pontes e Lacer	19.75	108	eP	Pn	08 00 37.6	-1.3
BAUV	El Baul	21.39	30	P	P	08 00 55.0	+0.4
PDRB	Porto dos Gac	21.52	97	eP	P	08 00 56.1	-0.1
BOAV	Boa Vista	21.69	57	P	P	08 00 58.5	+0.7
SALV	Santo Antonio	23.09	108	eP	P	08 01 12.8	+0.2
NPGB	Novo Progresso	23.12	85	eP	P	08 01 11.4	-1.5
ITTB	Itaituba	23.29	78	eP	P	08 01 13.7	-1.0
MURT	Porto Murtinho	23.31	123	eP	P	08 01 14.9	+0.2
H03N2	Juan Fernandez	23.50	181	T	T	08 25 15.5	
	baz=0.6,slow=75,SNR=120						
H03N1	Juan Fernandez	23.50	181	T	T	08 25 19.8	
	baz=0.6,slow=75,SNR=151						
H03N3	Juan Fernandez	23.51	181	T	T	08 25 31.8	
	baz=0.6,slow=75,SNR=102						
PCRV	Puerto La Cruz	24.23	35	LR	LR	08 12 11.9	
	comp=Z,143nm,19.0s,slow=39						
MT02	Curacav	24.30	165	P	P	08 01 25.4	+1.7
MT02				IAmb	IAmb	08 01 26.9	
	comp=Z,13nm,0.8s						
AMBA	Amambai (Brazi	26.04	123	eP	P	08 01 40.0	+0.3
SNDB	Serra Nova Dou	26.86	97	eP	P	08 01 47.4	+0.3
MDP	Montagnes des	29.78	61	LR	LR	08 15 01.2	
	comp=Z,108nm,19.1s,baz=144,slow=38						
CMIG	Matias Romero	31.24	329	LR	LR	08 12 47.3	
	comp=Z,57nm,18.4s,baz=41,slow=32						
GUA01	Guaratinga, BA	38.27	104	eP	P	08 03 27.4	+0.6
TXAR	Lajitas Array	45.85	329	P	P	08 04 28.0	-0.4
	comp=Z,0.9nm,0.7s,baz=150,slow=11,SNR=9.4						
TXAR				pP	pP	08 04 44.3	+1.5
	comp=Z,1.2nm,1.0s,baz=140,slow=6.6,SNR=5.2						
TXAR				PcP	PcP	08 06 04.1	-0.9
	comp=Z,0.1nm,0.7s,baz=145,slow=3.3,SNR=1.4						
	comp=Z,0.9nm,0.7s						
TX31	Lajitas Ar. Si	45.85	329	P	P	08 04 28.4	0.0
APMT	Aspermont	47.58	335	P	P	08 04 41.7	0.0
VHRN	Van Horn	47.69	329	P	P	08 04 43.1	+0.3
DKNS	Dickens	48.20	335	P	P	08 04 46.9	+0.3
SMWD	Samnorwood	49.17	336	P	P	08 04 53.9	-0.2
RTBA	Rita Blanca	51.34	335	P	P	08 05 09.9	-0.6
RTBA				IAmb	IAmb	08 05 11.2	
	comp=Z,3.0nm,0.7s						
ANMO	Albuquerque	51.77	331	P	P	08 05 13.9	+0.1
ANMO				IAmb	IAmb	08 05 14.5	
	comp=Z,3.2nm,0.7s						
SDCO	Great Sand Dun	53.63	334	P	P	08 05 26.5	-1.1
SDCO				IAmb	IAmb	08 05 28.3	
	comp=Z,5.4nm,1.1s						
ESJX	Sierra Juarez	54.84	321	P	P	08 05 36.1	-0.3
PMSA	Palmer Station	55.80	173	eP	P	08 05 48.0	+5.4
PKCU	Pink Cliffs	56.67	328	P	P	08 05 49.4	-0.2
SHPR	Sheep Range	57.52	325	P	P	08 05 55.1	-0.3
RDMU	Red Mountain	57.76	332	P	P	08 05 56.5	-0.6
RDMU				IAmb	IAmb	08 06 13.9	
	comp=Z,4.4nm,0.8s						
BSUT	Blindstream Ca	58.28	331	P	P	08 06 00.8	-0.2
BSUT				IAmb	IAmb	08 06 01.4	
	comp=Z,2.3nm,0.8s						
DUG	Dugway, Tooele	59.01	330		P	08 06 06.3	+0.5
DUG				IAmb	IAmb	08 06 06.9	
	comp=Z,2.9nm,0.7s						
R11B	Troy Canyon, C	59.08	327	P	P	08 06 06.2	-0.1
PDAR	Pinedale Array	59.52	334	P	P	08 06 07.0	-2.3
	comp=Z,0.7nm,0.7s,baz=135,slow=10,SNR=7.0						
PDAR				pP	pP	08 06 24.2	0.0
	comp=Z,0.8nm,0.8s,baz=139,slow=7.0,SNR=3.5						
PDAR				PcP	PcP	08 06 53.7	-2.6
	comp=Z,0.2nm,0.4s,baz=148,slow=7.0,SNR=2.0						
	comp=Z,0.7nm,0.7s						
DSP	Deep Springs	59.73	324	P	P	08 06 10.7	+0.2
OMMB	Old Mammoth Mi	60.49	324	P	P	08 06 15.9	-0.3
OMMB				IAmb	IAmb	08 06 17.1	
	comp=Z,4.7nm,1.0s						
NV11	Mina Array Sit	60.57	325	P	P	08 06 16.2	-0.3
NV11				IAmb	IAmb	08 06 17.6	
	comp=Z,2.8nm,0.9s						
LHV	Little Huntoon	60.64	325	P	P	08 06 17.5	+0.7
NVAR	Mina Array Bea	60.65	325	P	P	08 06 16.9	-0.2
	comp=Z,2.3nm,0.7s,baz=135,slow=6.9,SNR=23						
NVAR				pP	pP	08 06 33.4	+1.3
	comp=Z,1.0nm,0.7s,baz=141,slow=6.4,SNR=7.1						
	comp=Z,2.3nm,0.7s						
WAKR	Walker	61.35	324		P	08 06 22.0	+0.2
WAKR				IAmb	IAmb	08 06 23.2	
	comp=Z,2.7nm,0.8s						
YERR	Yerington	61.56	325	P	P	08 06 23.1	-0.2
YERR				IAmb	IAmb	08 06 23.9	
	comp=Z,2.6nm,0.6s						
ULM	Lac du Bonnet	61.71	347	P	P	08 06 21.9	-1.8
	comp=Z,4.0nm,0.7s,baz=131,slow=6.4,SNR=4.8						
	comp=Z,4.0nm,0.7s						
PNTR	Pine Nut	61.84	325	P	P	08 06 25.2	0.0
PNTR				IAmb	IAmb	08 06 42.9	
	comp=Z,2.7nm,0.8s						
YHL	Hebgen Lake	61.89	334	P	P	08 06 26.2	+0.7
PAHR	Pah Rah Range	62.14	325	P	P	08 06 27.8	+0.7
PAHR				IAmb	IAmb	08 06 28.3	
	comp=Z,3.4nm,0.8s						
K02D	Willamette Mer	66.53	325	P	P	08 06 56.4	+0.7
K02D				IAmb	IAmb	08 07 13.8	
	comp=Z,7.3nm,1.0s						
SNAA	Sanae	76.24	162	P	P	08 07 53.4	-0.4
SNAA				IAmb	IAmb	08 08 22.0	
	comp=Z,9.4nm,1.4s						
SNAA	Sanae	76.24	162	⇑P	P	08 07 52.3	-1.5
	comp=Z,38nm,0.6s						
SNAA	Sanae	76.24	162

baz=94,slow=75,SNR=4.8
H11S3 WAKE ISLAND Hyl 16.42 286 T T 10 21 41.3
baz=94,slow=75,SNR=4.8
ASAR Alice Springs 134.00 223 PKP **PKPdf** **08 15 22.1 -1.4**
comp=Z,1.0nm,0.8s,baz=124,slow=1.9,SNR=10
ASAR pPKP **pPKPdf** **08 15 40.8 +1.0**
comp=Z,1.1nm,0.7s,baz=133,slow=2.2,SNR=5.2
ZALV Zalesovo Beam 134.03 14 PKP **PKPdf** **08 15 20.6 -1.9**
comp=Z,0.7nm,0.4s,baz=273,slow=2.7,SNR=3.5
KURBB Kurchatov Arra 135.16 21 PKP **PKPdf** **08 15 23.7 -1.0**
comp=Z,0.9nm,0.3s,baz=319,slow=2.1,SNR=5.0
WRA Warramunga Arr 136.13 228 PKP **PKPdf** **08 15 26.3 -1.2**
comp=Z,1.4nm,0.5s,baz=124,slow=1.9,SNR=20
WRA pPKP **pPKPdf** **08 15 45.2 +1.4**
comp=Z,2.1nm,0.7s,baz=124,slow=2.0,SNR=8.5
MKAR Makanchi Array 139.72 20 PKP **PKPdf** **08 15 32.0 -1.3**
comp=Z,0.9nm,0.9s,baz=334,slow=2.0,SNR=3.3
KSRS Korea Array 143.58 323 PKP PKPab 08 15 36.6 -0.4
comp=Z,1.3nm,0.8s,baz=68,slow=3.1,SNR=4.2
TIA Tai'an 150.12 334 PKPbc **PKPab** **08 16 04.9 +2.4**
PZH PanZhiHua 163.42 359 PKP **PKPdf** **08 16 07.6 -1.3**

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*IDC **20** 07:57:02.0±1.4, 10.°40S×119.°97E, h0km, mb3.9/3, mbtmp4.1/7, ML4.1/4, Error ellipse: s-maj=51.6km s-min=22.3km az=44.0*
*DJA **20** 07:57:07.3±0.7, 10.°S±5.°×12.°0E±.°, h12km±4km, M4.5/12, mb4.7/5, mB4.9/1, MLv4.4/12, Mw(mB)4.2/1*
ISC 20 07:57:05.5±0.8, 10.°55S±0.°06×120.°07E±0.°04, h30km, n19, σ1§74/25, mb3.9/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.60**	**57**	P	**Pb**	**07 57 17.4**	**-0.2**
BASI				S	**Sb**	**07 57 23.2**	**-2.6**
WSI	**Waingapu**	**0.91**	**14**	P	**Pb**	**07 57 22.5**	**-0.2**
WSI				S	**Sb**	**07 57 34.4**	**-0.1**
WBSI	**Waikabubak, Su**	**1.12**	**324**	P	**Pb**	**07 57 27.3**	**+0.9**
WBSI				S	**Sb**	**07 57 42.4**	**+1.7**
PLAI	**Plampang**	**2.84**	**307**	P	**Pb**	**07 57 53.1**	**-2.4**
MMRI	**Maumere**	**2.86**	**49**	P	**Pn**	**07 57 49.8**	**+0.6**
BATI	**Baumata**	**3.55**	**85**	Pn	**Pn**	**07 57 59.6**	**+0.9**
	14nm,0.3s,baz=347,slow=6.2,SNR=2.8						
BATI				Sn	**Sn**	**07 58 41.7**	**+2.0**
	21nm,0.3s,baz=294,slow=18,SNR=2.1						
	46nm,0.3s						
BATI	**Baumata**	**3.55**	**85**	P	**Pn**	**07 58 00.3**	**+1.6**
BSSI	**Bau Bau, Buton**	**4.40**	**5**	P	**Pn**	**07 58 11.2**	**+0.9**
BKSI	**Bulukumba**	**5.20**	**1**	P	**Pn**	**07 58 23.5**	**+2.2**
	72nm,0.5s,1μm0.3nm						
KAPI	**Kappang**	**5.51**	**357**	Pn	**Pn**	**07 58 26.9**	**+1.3**
	4.6nm,0.3s,baz=189,slow=6.4,SNR=17						
KAPI				Sn	**Sn**	**07 59 26.1**	**-1.9**
	9.1nm,0.3s,baz=93,slow=20,SNR=6.0						
BNSI	**Bone**	**6.11**	**0**	P	**Pn**	**07 58 35.8**	**+1.9**
JAGI	**Jajag, Banyuwa**	**6.19**	**289**	P	**Pn**	**07 58 35.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**9.24**	**145**	Pn	**Pn**	**07 59 18.8**	**+2.0**
	1.1nm,0.3s,baz=332,slow=8.4,SNR=20						
FITZ				Sn	**Sn**	**08 00 56.3**	**-3.5**
	2.5nm,0.3s,baz=183,slow=22,SNR=11						
	2.5nm,0.3s						
LEM	**Lembang**	**12.85**	**286**	Pn	**Pn**	**08 00 04.6**	**-1.9**
	3.9nm,0.3s,baz=353,slow=19,SNR=1.6						
	11nm,0.4s						
WRA	**Warramunga Arr**	**16.62**	**126**	Pn	**Pn**	**08 00 55.8**	**-0.7**
	0.3nm,0.3s,baz=296,slow=13,SNR=15						
WRA				Sn	Sn	08 03 47.9	-12
	0.2nm,0.3s,baz=300,slow=25,SNR=3.9						
ASAR	**Alice Springs**	**18.55**	**136**	P	**Pn**	**08 01 22.9**	**+2.5**
	0.4nm,0.3s,baz=314,slow=12,SNR=37						
ASAR				S	Sn	08 04 36.7	-10
	0.8nm,0.8s,baz=315,slow=23,SNR=4.0						
	3.8nm,0.7s						
SONM	**Songino Array**	**59.38**	**349**	P	**P**	**08 07 05.7**	**+0.5**
	0.7nm,0.8s,baz=162,slow=6.1,SNR=3.1						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**66.31**	**333**	P	**P**	**08 07 51.3**	**+0.1**
	0.4nm,0.4s,baz=149,slow=6.2,SNR=5.5						
	0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**70.86**	**339**	P	**P**	**08 08 18.9**	**-0.5**
	0.6nm,0.3s,baz=144,slow=5.7,SNR=2.9						
	0.6nm,0.3s						

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*ROM **20** 07:57:15.1±0.4, 45.°95N±0.°02×14.°28E±0.°04, h5km±3km, ML3.2/71, Error ellipse: s-maj=3.1km s-min=1.6km az=86.0*
*PRU **20** 07:57:15.6, 45.°88N×14.°26E, h1km*
*LJU **20** 07:57:16.2, 45.°96N×14.°20E, h15km, ML2.8*
*RHSSO **20** 07:57:16.6±0.5, 45.°97N×14.°16E, h7km±2km, ML3.0/8*
*VIE **20** 07:57:16.4±0.1, 45.°97N×14.°21E, h15km, mb2.6/12, ml3.1/18, Error ellipse: s-maj=1.0km s-min=0.8km az=28.0*
ISC 20 07:57:16.9±0.8, 45.°96N±0.°01×14.°20E±0.°01, h14km±4km, n122, σ0§94/216, 13C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVS	**Javornik**	**0.12**	**235**	⇑*i*Pg	**Pg**	**07 57 20.0**	**-0.4**
JAVS				*i* Sg	**Sg**	**07 57 22.3**	**-0.4**
JAVS				IAML		07 57 22.5	
	comp=Z,3μm,0.1s						
CRNS	**Crni Vrh**	**0.13**	**19**	⇓*i*Pg	**Pg**	**07 57 20.2**	**-0.3**
CRNS				*i* Sg	**Sg**	**07 57 22.7**	**-0.2**
CRNS				IAML		07 57 23.8	
	comp=Z,1μm,0.1s						
GBAS	**Gorenja Brezov**	**0.17**	**98**	⇑*i*Pg	**Pg**	**07 57 20.8**	**-0.3**
GBAS				*e*Sg	**Sg**	**07 57 23.8**	**-0.1**
GBAS				IAML		07 57 24.4	
	comp=Z,722nm,0.1s						
VOJS	**Vojsko**	**0.23**	**288**	⇑*i*Pg	**Pg**	**07 57 21.6**	**-0.5**
VOJS				*e*Sg	**Sg**	**07 57 25.4**	**-0.2**
VOJS				IAML		07 57 25.9	
	comp=Z,1μm,0.1s						
LJU	**Ljubljana**	**0.24**	**70**	*i* Pg	**Pg**	**07 57 22.3**	**+0.1**
LJU				*i* Sg	**Sg**	**07 57 26.3**	**+0.5**
LJU				IAML		07 57 27.7	
	comp=Z,909nm,0.1s						
LJU	**Ljubljana**	**0.24**	**70**	AML	AML		
	comp=E,43700μm,0.2s						
LJU				AML	AML		
	comp=N,62000μm,0.2s						
CEY	**Cerknica**	**0.27**	**144**	⇓*i*Pg	**Pg**	**07 57 22.3**	**-0.3**
CEY				*i* Sg	**Sb**	**07 57 26.8**	**-1.2**
CEY				IAML		07 57 27.8	
	comp=Z,479nm,0.1s						
CEY	**Cerknica**	**0.27**	**144**	⇓*i*Pg	**Pg**	**07 57 22.1**	**-0.6**
CEY				*e*Sg	**Sb**	**07 57 27.0**	**-1.0**
MOZS	**Mozjanca**	**0.38**	**27**	⇓*i*Pg	**Pb**	**07 57 24.9**	**-0.5**
MOZS				*e*Sg	**Sb**	**07 57 30.6**	**-0.4**
MOZS				IAML		07 57 31.8	
	comp=Z,408nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.38**	**68**	⇑*i*Pg	**Pb**	**07 57 24.7**	**-0.6**
VNDS				*e*Sg	**Sb**	**07 57 29.9**	**-1.1**
VNDS				IAML		07 57 31.4	
	comp=Z,352nm,0.1s						
GORS	**Gorjuse**	**0.39**	**338**	⇓*i*Pg	**Pg**	**07 57 24.1**	**-0.6**
GORS				*e*Sg	**Sg**	**07 57 30.0**	**-0.1**
GORS				IAML		07 57 31.7	
	comp=Z,181nm,0.1s						
TRI	**Trieste**	**0.40**	**231**	⇑*e*Pg	**Pg**	**07 57 24.1**	**-0.7**
TRI				*e*Sg	**Sg**	**07 57 29.9**	**-0.3**
TRI	**Trieste**	**0.40**	**231**	P	**Pg**	**07 57 24.2**	**-0.7**
TRI				S	**Sg**	**07 57 30.3**	**0.0**
TRI				AML	AML		
	comp=E,3450μm,0.9s						
TRI				AML	AML		
	comp=N,1810μm,1.4s						
CADS	**Cadrg**	**0.42**	**310**	⇓*i*Pg	**Pg**	**07 57 24.7**	**-0.7**
CADS				*e*Sg	**Sg**	**07 57 31.1**	**0.0**
CADS				IAML		07 57 32.2	
	comp=Z,980nm,0.1s						
SABO	**M.te Sabotino**	**0.42**	**273**	⇑*e*Pg	**Pg**	**07 57 24.4**	**-0.9**
SABO				*e*Sg	**Sg**	**07 57 30.4**	**-0.6**
SABO	**M.te Sabotino**	**0.42**	**273**	P	**Pg**	**07 57 24.4**	**-0.9**
SABO				S	**Sg**	**07 57 31.1**	**0.0**
SABO				AML	AML		
	comp=E,25350μm,1.3s						
SABO				AML	AML		
	comp=N,4795μm,0.8s						
SABO				AML	AML		
	comp=E,6425μm,1.3s						
SABO				AML	AML		
	comp=N,17600μm,0.8s						
SABO				AML	AML		
	comp=E,6425μm,0.7s						
SABO				AML	AML		
	comp=E,25350μm,0.7s						
SKDS	**Skadanscina**	**0.43**	**198**	⇓*i*Pg	**Pg**	**07 57 24.8**	**-0.8**
SKDS				*i* Sg	**Sg**	**07 57 31.4**	**-0.1**
SKDS				IAML		07 57 32.3	
	comp=Z,606nm,0.1s						
SKDS	**Skadanscina**	**0.43**	**198**	*e*Pg	**Pg**	**07 57 24.5**	**-1.1**
SKDS				*e*Sg	**Sg**	**07 57 31.4**	**-0.1**
DRE	**Drenchia**	**0.44**	**299**	⇑*e*Pg	**Pg**	**07 57 25.1**	**-0.7**
DRE				*e*Sg	**Sb**	**07 57 32.0**	**-1.0**
DRE	**Drenchia**	**0.44**	**299**	P	**Pg**	**07 57 25.1**	**-0.7**
DRE				S	**Sb**	**07 57 32.1**	**-1.0**
KNDS	**Knezji Dol**	**0.45**	**164**	*i* Pg	**Pg**	**07 57 25.2**	**-0.7**
KNDS				*i* Sg	**Sb**	**07 57 32.3**	**-0.9**
KNDS				IAML		07 57 34.0	
	comp=Z,241nm,0.1s						
VISS	**Visnje**	**0.47**	**109**	⇑*i*Pg	**Pb**	**07 57 26.2**	**-0.7**
VISS				*e*Sg	**Sb**	**07 57 33.0**	**-0.8**
VISS				IAML		07 57 33.8	
	comp=Z,210nm,0.1s						
ROBS	**Robic**	**0.56**	**301**	*i* Pg	**Pg**	**07 57 27.0**	**-1.0**
ROBS				*e*Sg	**Sb**	**07 57 35.7**	**-0.6**
ROBS				IAML		07 57 37.0	
	comp=Z,438nm,0.2s						
PDKS	**Podkum**	**0.56**	**79**	⇑*i*Pg	**Pb**	**07 57 28.1**	**-0.5**
PDKS				*e*Sg	**Sb**	**07 57 36.0**	**-0.5**
PDKS				IAML		07 57 38.9	
	comp=Z,141nm,0.1s						
COLI	**Coloredo**	**0.60**	**287**	⇓*e*Pg	**Pg**	**07 57 28.1**	**-0.6**
COLI				*e*Sg	**Sb**	**07 57 37.5**	**+0.1**
OBKA	**Obir**	**0.60**	**24**	*e*Pg	**Pb**	**07 57 28.5**	**-0.7**
	comp=Z,102nm,0.3s,SNR=105						
OBKA				*i* Sg	**Sb**	**07 57 37.2**	**-0.4**
	comp=Z,743nm,0.3s						
OBKA	**Obir**	**0.60**	**24**	⇓*i*Pg	**Pg**	**07 57 28.1**	**-0.6**
OBKA				*e*Sg	**Sb**	**07 57 36.8**	**-0.8**
GBRS	**Gornja Briga**	**0.60**	**135**	*i* Pg	**Pb**	**07 57 28.6**	**-0.7**
GBRS				*e*Sg	**Sb**	**07 57 37.4**	**-0.2**
GBRS				IAML		07 57 41.2	
	comp=Z,114nm,0.1s						
PRED	**Cave del Predi**	**0.66**	**318**	P	**Pg**	**07 57 27.6**	**-2.1**
PRED				S	**Sg**	**07 57 37.2**	**-1.2**
RIY	**Rijeka**	**0.67**	**163**	*e*Pg	**Pg**	**07 57 28.7**	**-1.2**
LSR	**Lussari**	**0.70**	**318**	*e*Pg	**Pg**	**07 57 30.0**	**-0.6**
VINO	**Villanova**	**0.71**	**295**	*e*Pg	**Pg**	**07 57 30.1**	**-0.5**
VINO	**Villanova**	**0.71**	**295**	P	**Pg**	**07 57 29.7**	**-1.0**
VINO				S	**Sb**	**07 57 40.6**	**+0.1**
VINO				AML	AML		
	comp=E,2215μm,0.3s						
VINO				AML	AML		
	comp=N,3450μm,0.7s						
BAD	**Bernadia**	**0.72**	**293**	*e*Pg	**Pg**	**07 57 30.1**	**-0.9**
BAD	**Bernadia**	**0.72**	**293**	P	**Pg**	**07 57 30.1**	**-0.9**
BAD				S	**Sb**	**07 57 41.2**	**+0.2**
PTCC	**Patocco-Chiusa**	**0.74**	**307**	P	**Pg**	**07 57 30.1**	**-1.2**
PTCC				S	**Sb**	**07 57 42.2**	**+0.7**
PTCC				AML	AML		
	comp=N,854μm,0.4s						
PTCC				AML	AML		
	comp=E,906μm,0.3s						
PTCC				AML	AML		
	comp=N,854μm,0.4s						
ZAVS	**Zavodnje**	**0.74**	**50**	*i* Pg	**Pg**	**07 57 30.8**	**-0.6**
ZAVS				*i* Sg	**Sb**	**07 57 41.3**	**-0.3**
ZAVS				IAML		07 57 43.4	
	comp=Z,486nm,0.1s						
ACOM	**Acomizza, Ital**	**0.76**	**321**	*e*Pg	**Pg**	**07 57 31.3**	**-0.4**
ACOM	**Acomizza, Ital**	**0.76**	**321**	P	**Pg**	**07 57 31.3**	**-0.4**
ACOM				S	**Sb**	**07 57 42.8**	**+0.6**
ACOM				AML	AML		
	comp=E,1865μm,0.2s						
ACOM				AML	AML		
	comp=E,1905μm,0.2s						
ACOM				AML	AML		
	comp=N,1560μm,1.1s						
ACOM				AML	AML		
	comp=N,1520μm,1.2s						
TLI	**Talmassons**	**0.77**	**268**	*e*Pg	**Pg**	**07 57 31.1**	**-0.7**
MYKA	**Terra Mystica**	**0.78**	**330**	*e*Pg	**Pb**	**07 57 31.6**	**-0.6**
	comp=N,31nm,0.2s,SNR=36						
MYKA				*i* Sg	**Sb**	**07 57 42.3**	**-0.3**
	comp=N,79nm,0.2s						
LEGS	**Legarje**	**0.78**	**90**	⇑*i*Pg	**Pb**	**07 57 31.8**	**-0.4**
LEGS				*e*Sg	**Sb**	**07 57 42.4**	**-0.2**
BUA	**Buia**	**0.79**	**289**	*e*Pg	**Pg**	**07 57 31.7**	**-0.6**
GEPF	**Gemona**	**0.80**	**293**	P	**Pg**	**07 57 31.4**	**-1.1**
GEPF				S	**Sb**	**07 57 44.0**	**+0.7**
GEPF				AML	AML		
	comp=E,1120μm,0.7s						
GEPF				AML	AML		
	comp=N,1880μm,0.6s						
BOO	**Bordano**	**0.85**	**296**	P	**Pg**	**07 57 32.1**	**-1.2**
BOO				S	**Sb**	**07 57 45.4**	**+0.8**
BOJS	**Bojanci**	**0.86**	**121**	*i* Pg	**Pb**	**07 57 33.1**	**-0.5**
BOJS				*e*Sg	**Sb**	**07 57 45.1**	**0.0**
BOJS				IAML		07 57 46.2	
	comp=Z,113nm,0.1s						
CESS	**Cesta pri Krsk**	**0.88**	**89**	*i* Pg	**Pb**	**07 57 33.8**	**-0.2**
CESS				*e*Sg	**Sb**	**07 57 45.5**	**-0.1**
CESS				IAML		07 57 49.2	
	comp=Z,128nm,0.2s						
CRES	**Cresnjevec Ost**	**0.89**	**98**	*i* Pg	**Pb**	**07 57 33.8**	**-0.2**
CRES				*e*Sg	**Sb**	**07 57 46.4**	**+0.6**
CRES				IAML		07 57 47.6	
	comp=Z,213nm,0.3s						
CRES	**Cresnjevec Ost**	**0.89**	**98**	⇓*i*Pg	**Pg**	**07 57 33.5**	**-0.6**
CRES				*e*Sg	**Sb**	**07 57 46.3**	**+0.6**
MPRI	**Monte Prat**	**0.89**	**289**	*e*Pg	**Pg**	**07 57 33.5**	**-0.7**
MPRI	**Monte Prat**	**0.89**	**289**	P	**Pg**	**07 57 33.4**	**-0.7**
MPRI				S	**Sb**	**07 57 47.3**	**+1.4**
MPRI				AML	AML		
	comp=E,1605μm,0.5s						
MPRI				AML	AML		
	comp=N,2030μm,0.9s						
MPRI				AML	AML		
	comp=N,1555μm,0.9s						
MPRI				AML	AML		
	comp=E,2085μm,0.5s						
DOBS	**Dobrina**	**0.90**	**77**	*i* Pg	**Pg**	**07 57 33.8**	**-0.6**
DOBS				IAML		07 57 50.5	
	comp=Z,96nm,0.1s						
SOKA	**Soboth**	**0.92**	**38**	*i* Pg	**Pg**	**07 57 34.1**	**-0.7**
	comp=Z,2.2nm,0.1s,SNR=11						
SOKA				*e*Sg	**Sg**	**07 57 46.1**	**-0.7**
	comp=Z,183nm,0.3s						
PERS	**Pernice**	**0.93**	**43**	*i* Pg	**Pg**	**07 57 34.1**	**-0.8**
PERS				*e*Sg	**Sg**	**07 57 46.2**	**-0.9**
PERS				IAML		07 57 47.9	
	comp=Z,98nm,0.1s						
DST2	**Trieste**	**0.93**	**288**	⇓P	**Pg**	**07 57 34.0**	**-0.9**
DST2				S	**Sn**	**07 57 48.7**	**0.0**
DST2				AML	AML		
	comp=E,2645μm,0.5s						
DST2				AML	AML		
	comp=N,2120μm,0.5s						
PLRO	**Paularo**	**0.94**	**309**	P	**Pg**	**07 57 34.5**	**-0.6**
PLRO				S	**Sn**	**07 57 49.5**	**+0.4**
OZLJ	**Ozalj**	**0.95**	**111**	*e*Pg	**Pb**	**07 57 34.9**	**-0.2**
OZLJ				Sg	**Sg**	**07 57 47.1**	**-0.6**
GOLS	**Golise**	**0.99**	**87**	*i* Pg	**Pb**	**07 57 35.7**	**-0.2**
GOLS				IAML		07 57 54.0	
	comp=Z,174nm,0.3s						
GCIS	**Gornji Cirnik**	**1.00**	**95**	*i* Pg	**Pb**	**07 57 36.0**	**0.0**
GCIS				*e*Sg	**Sn**	**07 57 50.5**	**+0.1**
GCIS				IAML		07 57 52.4	
	comp=Z,99nm,0.2s						
GROS	**Grobnik**	**1.03**	**60**	*i* Pg	**Pg**	**07 57 36.0**	**-0.9**
GROS				IAML		07 57 53.5	
	comp=Z,68nm,0.1s						
ZOU	**Zoufplan**	**1.04**	**305**	P	**Pg**	**07 57 35.9**	**-1.1**
ZOU				S	**Sn**	**07 57 52.3**	**+0.7**
ZOU				AML	AML		
	comp=E,644μm,0.9s						
ZOU				AML	AML		
	comp=N,642μm,0.5s						
ZOU				AML	AML		
	comp=E,641μm,0.9s						
ZOU				AML	AML		
	comp=N,658μm,0.3s						
ZOU				AML	AML		
	comp=E,641μm,1.1s						
ZOU				AML	AML		
	comp=N,642μm,0.5s						
ZOU				AML	AML		
	comp=E,644μm,1.1s						
BRJN	**Brijuni**	**1.10**	**197**	*e*Pg	**Pg**	**07 57 37.3**	**-0.8**
BRJN				Sg	**Sb**	**07 57 52.4**	**+0.6**
POLC	**Polcenigo**	**1.19**	**274**	⇑P	**Pn**	**07 57 40.2**	**+1.1**
POLC				S	**Sn**	**07 57 57.2**	**+2.3**
CAE	**Caneva**	**1.23**	**273**	⇑P	**Pn**	**07 57 40.7**	**+0.9**
CAE				S	**Sn**	**07 57 57.7**	**+1.6**
PTJ	**Puntijarka**	**1.23**	**92**	*e*Pg	**Pn**	**07 57 40.2**	**+0.5**
PTJ				Sg	**Sn**	**07 57 56.6**	**+0.3**
KBA	**Koelnbreinsper**	**1.27**	**332**	*e*Pg	**Pn**	**07 57 40.4**	**+0.1**
	comp=E,7.5nm,0.1s,SNR=16						
KBA				*e*Sg	**Sn**	**07 57 57.6**	**+0.4**
	comp=E,112nm,0.6s						
CIMO	**Cimolais**	**1.27**	**287**	P	**Pg**	**07 57 40.8**	**-0.6**
CIMO				S	**Sn**	**07 57 58.9**	**+1.7**
CIMO				AML	AML		
	comp=E,264μm,0.5s						
CIMO				AML	AML		
	comp=E,272μm,0.5s						
CIMO				AML	AML		
	comp=E,272μm,1.5s						
CIMO				AML	AML		
	comp=E,264μm,1.5s						
CIMO				AML	AML		
	comp=N,282μm,0.5s						
CIMO				AML	AML		
	comp=N,276μm,0.5s						
RABC	**Rab**	**1.28**	**161**	*e*Pg	**Pg**	**07 57 41.1**	**-0.4**
RABC				Sg	**Sn**	**07 57 58.7**	**+1.6**
LOBO	**Lobor**	**1.31**	**81**	*i* Pg	**Pn**	**07 57 40.6**	**-0.2**
ABTA	**Abfaltersbach**	**1.41**	**305**	*e*Pg	**Pg**	**07 57 44.1**	**0.0**
	comp=N,20nm,0.3s,SNR=14						
ABTA				*i* Sg	**Sg**	**07 58 03.0**	**+0.5**
	comp=N,87nm,0.3s						
VARN	**Col Varnada, M**	**1.46**	**272**	P	**Pn**	**07 57 43.4**	**+0.5**
VARN				S	**Sg**	**07 58 04.0**	**0.0**
VARN				AML	AML		
	comp=E,1355μm,1.2s						
VARN				AML	AML		
	comp=N,1470μm,0.3s						
VARN				AML	AML		
	comp=N,1495μm,0.3s						
VARN				AML	AML		
	comp=E,1380μm,0.2s						
VARN				AML	AML		
	comp=E,1355μm,0.8s						
PLIT	**Plitvice**	**1.47**	**137**	*e*Pn	**Pg**	**07 57 44.4**	**-0.8**
NVLJ	**Novalja**	**1.47**	**161**	*e*Pn	**Pg**	**07 57 44.4**	**-0.8**
KOGS	**Kog**	**1.50**	**70**	*i* Pg	**Pn**	**07 57 43.7**	**+0.3**
KOGS				Sg	**Sg**	**07 58 05.1**	**-0.3**
KOGS				IAML		07 58 13.7	
	comp=Z,65nm,0.2s						
KALN	**Kalnik**	**1.58**	**83**	*e*Pn	**Pb**	**07 57 46.0**	**+0.1**
ARSA	**Arzberg**	**1.58**	**35**	*i* Pg	**Pb**	**07 57 45.3**	**-0.6**
	comp=Z,4.2nm,0.2s						
ARSA				*e*Sg	**Sb**	**07 58 05.8**	**+0.1**
	comp=Z,23nm,0.3s,SNR=7.1						
ARSA	**Arzberg**	**1.58**	**35**	*e*Pn	**Pn**	**07 57 44.8**	**+0.3**
ARSA				*e*Sn	**Sn**	**07 58 05.6**	**+0.9**
ARSA	**Arzberg**	**1.58**	**35**	AML	AML		
	comp=E,115μm,0.8s						
ARSA				AML	AML		
	comp=E,115μm,1.2s						
ARSA				AML	AML		
	comp=N,104μm,0.6s						
ARSA				AML	AML		
	comp=N,104μm,1.4s						
ASOL	**Asolo**	**1.61**	**265**	P	**Pb**	**07 57 46.1**	**-0.3**
ASOL				S	**Sg**	**07 58 08.2**	**-0.7**
CGRP	**Cima Grappa**	**1.68**	**268**	P	**Pn**	**07 57 46.5**	**+0.6**
CGRP				S	**Sb**	**07 58 08.9**	**+0.2**
CGRP				AML	AML		
	comp=N,656μm,1.0s						
CGRP				AML	AML		
	comp=E,506μm,0.6s						
CGRP				AML	AML		
	comp=E,538μm,0.6s						
CGRP				AML	AML		
	comp=N,632μm,0.9s						
VIRC	**Vir**	**1.77**	**160**	*e*Pn	**Pb**	**07 57 48.5**	**-0.6**
VIRC				Sn	**Sg**	**07 58 12.4**	**-1.5**
BIOA	**Bad Ischl, Aus**	**1.77**	**348**	*i* Pn	**Pb**	**07 57 48.5**	**-0.7**
	comp=N,2.1nm,0.1s						
BIOA				*e*Pg	**Pg**	**07 57 50.2**	**-0.8**
	comp=N,12nm,0.3s						
BIOA				*e*Sn	**Sb**	**07 58 11.2**	**-0.1**
	comp=N,56nm,0.4s						
CTI	**Castel Tesino**	**1.78**	**274**	P	**Pn**	**07 57 46.6**	**-0.7**
CTI				S	**Sb**	**07 58 11.9**	**+0.4**
CTI				AML	AML		
	comp=N,752μm,0.2s						
CTI				AML	AML		
	comp=E,571μm,0.2s						
LESA	**Schwarzleotal**	**1.80**	**325**	*i* Pg	**Pg**	**07 57 50.8**	**-0.7**
	comp=E,18nm,0.3s						
LESA				*e*Sg	**Sg**	**07 58 14.7**	**-0.3**
	comp=E,43nm,0.4s						
UDBI	**Udbina**	**1.81**	**142**	*e*Pn	**Pb**	**07 57 50.1**	**+0.3**
UDBI				Sn	**Sg**	**07 58 14.3**	**-0.7**
BEHE	**Becsehely**	**1.86**	**73**	*e*Pn	**Pn**	**07 57 49.2**	**+0.9**
BEHE				*e*Sn	**Sn**	**07 58 12.7**	**+1.2**
ZIAN	**Ziano**	**1.86**	**281**	P	**Pb**	**07 57 49.7**	**-1.0**
ZIAN				S	**Sb**	**07 58 14.1**	**+0.2**
ZIAN				AML	AML		
	comp=E,300μm,0.5s						
ZIAN				AML	AML		
	comp=N,494μm,1.6s						
ZIAN				AML	AML		
	comp=E,477μm,0.7s						
ZIAN				AML	AML		
	comp=N,307μm,0.5s						
ZIAN				AML	AML		
	comp=N,494μm,0.4s						
BRES	**Bressanone**	**1.86**	**294**	P	**Pb**	**07 57 50.8**	**0.0**
BRES				S	**Sb**	**07 58 14.1**	**0.0**
TEOL	**Teolo**	**1.87**	**252**	P	**Pn**	**07 57 48.9**	**+0.4**
MOA	**Molln**	**1.89**	**1**	*i* Pn	**Pb**	**07 57 50.4**	**-0.8**
	comp=N,2.6nm,0.2s,SNR=8.9						
MOA				*e*Sn	**Sn**	**07 58 13.7**	**+1.3**
	comp=N,8.4nm,0.3s						
PANI	**Panarotta**	**2.00**	**274**	⇓P	**Pn**	**07 57 51.2**	**+0.8**
PANI				AML	AML		
	comp=E,194μm,1.2s						
PANI				AML	AML		
	comp=N,432μm,1.5s						
PANI				AML	AML		
	comp=N,432μm,0.5s						
KOSI	**Kohlern**	**2.02**	**285**	P	**Pn**	**07 57 52.1**	**+1.4**
KOSI				S	**Sg**	**07 58 20.8**	**-1.2**
KOSI				AML	AML		
	comp=E,443μm,0.4s						
KOSI				AML	AML		
	comp=N,620μm,0.

comp=N,200µm,0.5s
WTTA AML AML
comp=E,182µm,1.5s
A050A Klekovaca 2.21 131⇑ *i*Pn **Pn 07 57 54.9 +1.7**
A050A *e*Sn **Sn 07 58 21.9 +1.6**
OZOL Ozolo 2.23 283 P **Pn 07 57 54.6 +1.1**
OZOL S **Sn 07 58 23.2 +2.3**
OZOL AML AML
comp=E,704µm,0.5s
OZOL AML AML
comp=N,518µm,0.5s
OZOL AML AML
comp=N,518µm,1.5s
RONA Rosalia, Austr 2.26 39 *e*Pn **Pn 07 57 54.1 +0.3**
comp=N,0.7nm,0.1s
RONA *e*Sn **Sn 07 58 21.6 +0.2**
comp=N,1.7nm,0.2s
RONA *e*Sg **Sg 07 58 29.6 +0.2**
comp=N,12nm,0.3s
GAGG Gaggia 2.26 274 P **Pn 07 57 54.9 +0.9**
GAGG AML AML
comp=E,325µm,1.2s
GAGG AML AML
comp=N,238µm,0.8s
GAGG AML AML
comp=N,238µm,1.2s
GAGG AML AML
comp=E,325µm,0.8s
LUSI Trento, Gardas 2.27 271 P **Pn 07 57 54.6 +0.6**
LUSI S **Sn 07 58 22.7 +0.9**
LUSI AML AML
comp=E,286µm,0.6s
LUSI AML AML
comp=N,438µm,0.2s
WATA Walderalm 2.27 308 *e*Pn **Pn 07 57 54.3 +0.2**
comp=N,1.6nm,0.3s
WATA Sn **Sb 07 58 24.6 -1.2**
comp=N,14nm,0.2s
CONA Conrad Observa 2.27 29 *e*Pn **Pn 07 57 54.8 +0.7**
comp=N,0.4nm,0.1s
CONA *e*Sg **Sg 07 58 29.2 -0.8**
comp=N,26nm,0.6s
VARA Varagna 2.31 268⇓ P **Pn 07 57 55.3 +0.6**
VARA AML AML
comp=E,389µm,0.3s
VARA AML AML
comp=N,462µm,0.8s
VARA AML AML
comp=E,474µm,0.8s
VARA AML AML
comp=N,396µm,0.3s
VARA AML AML
comp=E,474µm,1.2s
VARA AML AML
comp=E,389µm,1.7s
VARA AML AML
comp=N,396µm,1.7s
VARA AML AML
comp=N,462µm,1.2s
MORI Morici 2.35 152 *e*Pn **Pn 07 57 56.8 +1.8**
MORI Sn **Sb 07 58 26.6 -1.2**
MBAL Monte Baldo - 2.35 265 AML AML
comp=N,276µm,0.4s
MBAL AML AML
comp=E,435µm,1.6s
MBAL AML AML
comp=N,331µm,1.6s
MBAL AML AML
comp=E,292µm,0.7s
MBAL AML AML
comp=N,331µm,0.4s
MBAL AML AML
comp=N,276µm,1.6s
SQTA Sankt Quirin 2.42 303 *e*Pg **Pg 07 58 01.7 -1.6**
comp=N,9.6nm,0.3s
SQTA *e*Sn **Sn 07 58 26.2 +0.6**
comp=N,4.3nm,0.2s
BLY Banja Luka 2.43 119 *e*Pn **Pn 07 57 57.1 +1.0**
BLY *e*Sn **Sn 07 58 27.8 +2.3**
KIJV Kijevo 2.50 141 *e*Pn **Pb 07 57 59.8 -1.8**
KIJV Sn **Sb 07 58 31.3 -0.9**
ZIRJ Zirje 2.52 155 *e*Pn **Pn 07 57 59.0 +1.7**
ZIRJ Sn **Sb 07 58 30.9 -1.9**
MOTA Moosalm 2.54 304 *e*Pn **Pb 07 58 00.3 -2.1**
comp=N,2.1nm,0.2s
MOTA *e*Sn **Sn 07 58 30.8 +2.1**
comp=N,14nm,0.4s
FETA Feichten 2.62 295 *e*Pn **Pb 07 58 01.9 -1.9**
comp=N,4.8nm,0.2s
FETA *e*Sn **Sn 07 58 33.2 +2.6**
comp=N,6.1nm,0.3s
EL6 Elcito 2.75 197 P **Pn 07 58 00.9 +0.4**
MORH Mrgy, Hungar 3.10 84 *e*Pn **Pn 07 58 05.9 +0.6**
MORH *e*Sn **Sn 07 58 43.7 +1.6**
MODS Modra-Piesok 3.20 40 *e*PN **Pn 07 58 09.3 +2.6**
MODS *e*SG **Sg 07 58 59.3 -0.3**
KHC Kasperske Hory 3.20 353 *e*PN **Pn 07 58 07.5 +0.7**
KHC *e*PG **Pb 07 58 15.2 +1.7**
KHC *e*SG **Sg 07 58 59.7 0.0**
comp=N,12nm,0.8s
KRUC Moravsky 3.44 25 *e*PN **Pn 07 58 11.2 +1.2**
KRUC *e*SG **Sg 07 59 04.2 -3.2**
STON Ston 3.98 140 *e*Sn **Sn 07 59 04.2 +0.5**
KRLC Kraliky 4.47 22 *e*SG **Sg 07 59 39.7 -0.6**
DPC Dobruska-Polom 4.62 17 *e*SG **Sg 07 59 44.4 -0.7**

JMA 20 08:08:46.2±0.1, 40°.8N±0°.5×142°.8E±0°.9, h27km, MV3.5/35, E OFF AOMORI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**1.01**	**235**	*i* P	Pn	08 09 04.3	-0.3
JKEN				*e*S	Sn	08 09 17.3	-0.6
JANG	**Nango**	**1.06**	**247**	*i* P	Pn	08 09 05.3	+0.1
JANG				*e*S	Sn	08 09 19.1	0.0
JARK	**Aomorirokkasho**	**1.10**	**282**	P	Pn	08 09 05.6	-0.2
JTH	**Tanohata**	**1.11**	**220**	P	Pn	08 09 06.0	0.0
JEM	**Erimo**	**1.25**	**13**	P	Pn	08 09 08.2	+0.3
JTM	**Tenmabayashi**	**1.30**	**270**	*i* P	Pn	08 09 09.2	+0.5
JTM				S	Sn	08 09 25.7	+0.5
JOT	**Ohata**	**1.44**	**295**	*i* P	Pn	08 09 10.6	+0.2
JOT				S	Sn	08 09 27.7	-0.7
JNBK	**Urakawa-nobuka**	**1.48**	**359**	*e*P	Pb	08 09 12.6	-0.5
JKB	**Kayabe**	**1.71**	**310**	*e*P	Pn	08 09 14.5	+0.3
JKB				*e*S	Sn	08 09 34.9	-0.3
JAH	**Hinai**	**1.75**	**250**	*i* P	Pb	08 09 16.5	-1.1
JAH				S	Sb	08 09 38.4	-0.7
JOM	**Ohasama**	**1.75**	**221**	P	Pn	08 09 15.9	+1.2
JCH	**Churui**	**1.87**	**13**	*e*P	Pn	08 09 16.6	+0.3
JCH				S	Sn	08 09 38.7	-0.3
JSR	**Shiriuchi**	**1.93**	**293**	*e*P	Pn	08 09 18.6	+1.3
JSR				S	Sn	08 09 41.8	+1.2
JMK	**Ichinoseki**	**2.20**	**214**	P	Pn	08 09 22.6	+1.6

DJA 20 08:13:35.0±0.3, 3°S±2°×12°0E±°, h10km, M3.8/8, MLv3.8/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.35**	**116**	P	Pg	08 13 41.7	-0.3
TTSI				S	Sb	08 13 48.6	-0.4
SPSI	**Sidrap Palu**	**1.10**	**166**	P	Pb	08 13 54.2	-2.0
SPSI				S	Sn	08 14 11.5	-0.3
BNSI	**Bone**	**1.62**	**158**	P	Pn	08 14 03.8	+0.2
BNSI				S	Sg	08 14 29.1	+2.0
PCI	**Palu**	**2.00**	**10**	P	Pn	08 14 09.9	+1.0
PCI				S	Sn	08 14 35.1	+1.1
BKSI	**Bulukumba**	**2.49**	**166**	P	Pn	08 14 16.1	+0.4
BKSI				S	Sb	08 14 50.6	-0.1
APSI	**Ampana**	**2.91**	**48**	P	Pg	08 14 40.9	+10
BSSI	**Bau Bau, Buton**	**3.38**	**163**	P	Pn	08 14 29.3	+1.4
BKNI	**Bangkinang**	**18.73**	**280**	P	Pn	08 18 00.6	+6.1

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*DNK **20** 08:21:15.9±1.8, 51°.63N×16°.43E, h0km±46km, ML2.3*
*IPEC **20** 08:21:16.3±0.2, 51°.51N×16°.19E, h1km, ML3.4/5, Error ellipse: s-maj=1.6km s-min=1.0km az=29.0*
*BGR **20** 08:21:17.8±0.4, 51°.49N×16°.13E, h1km, ML3.6/13, Error ellipse: s-maj=5.6km s-min=3.3km az=13.0*
*MOS **20** 08:21:17.6±0.8, 51°.50N×16°.13E, h21km, mb4.4/8, Error ellipse: s-maj=8.1km s-min=4.3km az=86.9*
*PRU **20** 08:21:17.4, 51°.49N×16°.14E, h0km*
*MCSM **20** 08:21:17.9±0.7, 52°N±5°×1°6E±°, h19km±5km, mb4.9, MLv3.7*
*IDC **20** 08:21:17.0±0.6, 51°.48N×16°.10E, h0km, mb3.8/9, mbtmp3.8/18, ML2.8/7, Error ellipse: s-maj=10.0km s-min=6.1km az=114.0*
*VIE **20** 08:21:18.1±1.1, 51°.41N×16°.05E, h0km, mb3.1/16, ml3.3/16, ms3.6/1, Error ellipse: s-maj=13.2km s-min=4.1km az=48.0, Suspected Mining induced.*
*UPP **20** 08:21:18.7±3.1, 51°.63N×15°.71E, h0km, ML2.7*
ISC 20 08:21:15.4±0.4, 51°.55N±0°.02×16°.15E±0°.02, h0km, n169, σ1°66/249, mb3.9/14, 8C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**173**	*e*Pg	**Pg**	**08 21 29.6**	**+0.5**
KSP				*e*Sg	**Sg**	**08 21 38.5**	**+0.1**
KSP	**Ksiaz**	**0.72**	**173**	*e*Pg	**Pg**	**08 21 29.6**	**+0.5**
KSP	**Ksiaz**	**0.72**	**173**	P	**Pg**	**08 21 29.7**	**+0.5**
KSP	**Ksiaz**	**0.72**	**173**	P	**Pg**	**08 21 29.6**	**+0.5**
CHVC	**Chvalec**	**0.97**	**183**	*e*PG	**Pb**	**08 21 34.6**	**-0.4**
CHVC				*e*SG	**Sg**	**08 21 46.8**	**+0.4**
CHVC	**Chvalec**	**0.97**	**183**	*e*P	**Pb**	**08 21 34.6**	**-0.4**
CHVC				*e*		08 21 46.8	
OSTC	**Ostas**	**1.00**	**177**	*e*PG	**Pg**	**08 21 35.0**	**+0.5**
OSTC				*e*SG	**Sg**	**08 21 48.0**	**+0.6**
OSTC	**Ostas**	**1.00**	**177**	*e*P	**Pg**	**08 21 35.0**	**+0.5**
OSTC				*e*		08 21 48.0	
UPC	**Upice**	**1.05**	**185**	*e*PG	**Pg**	**08 21 35.8**	**+0.3**
UPC				*e*SG	**Sg**	**08 21 49.0**	**-0.1**
	comp=Z,505nm,0.6s						
UPC	**Upice**	**1.05**	**185**	*e*P	**Pg**	**08 21 35.8**	**+0.3**
UPC				*e*		08 21 49.0	
UPC				smax	smax		
	comp=N,505nm,0.6s						
DPC	**Dobruska-Polom**	**1.21**	**175**	*e*PG	**Pg**	**08 21 38.4**	**-0.1**
DPC				*e*SG	**Sg**	**08 21 53.4**	**-0.8**
	comp=N,255nm,0.8s						
DPC	**Dobruska-Polom**	**1.21**	**175**	*e*Pg	**Pg**	**08 21 38.4**	**-0.1**
DPC				*e*Sg	**Sb**	**08 21 55.7**	**+0.3**
DPC	**Dobruska-Polom**	**1.21**	**175**	*e*P	**Pg**	**08 21 38.4**	**-0.1**
DPC				*e*		08 21 53.4	
DPC				smax	smax		
	comp=N,255nm,0.8s						
DPC	**Dobruska-Polom**	**1.21**	**175**	P	**Pg**	**08 21 38.8**	**+0.3**
PIVO	**Bartosovice**	**1.39**	**169**	*e*Pg	**Pg**	**08 21 41.7**	**-0.3**
	baz=350						
PIVO				*e*Sg	**Sg**	**08 21 58.5**	**-1.6**
	comp=N,352nm,0.5s,baz=350						
PVCC	**Panska Ves**	**1.43**	**225**	*e*PG	**Pn**	**08 21 42.7**	**+0.1**
PVCC				*e*SG	**Sn**	**08 22 02.1**	**0.0**
	comp=N,634nm,0.7s						
PVCC	**Panska Ves**	**1.43**	**225**	*e*P	**Pn**	**08 21 42.7**	**+0.1**
PVCC				*e*		08 22 02.1	
PVCC				smax	smax		
	comp=N,634nm,0.7s						
KRLC	**Kraliky**	**1.54**	**165**	*e*PG	**Pn**	**08 21 44.1**	**+0.1**
KRLC				*e*SG	**Sg**	**08 22 03.9**	**-0.7**
	comp=N,619nm,1.1s						
KRLC	**Kraliky**	**1.54**	**165**	*e*P	**Pn**	**08 21 44.1**	**+0.1**
KRLC				*e*		08 22 03.9	
KRLC				smax	smax		
	comp=N,619nm,1.1s						
BRG	**Berggiesshubel**	**1.54**	**245**	Pn	**Pn**	**08 21 44.2**	**+0.1**
BRG				Pg	**Pg**	**08 21 46.1**	**+1.2**
BRG				Sg	**Sn**	**08 22 06.2**	**+1.3**
BRG				Amp		08 22 08.3	
	comp=Z,262nm,0.6s						
BRG	**Berggiesshubel**	**1.54**	**245**	*e*Pn	**Pn**	**08 21 44.3**	**+0.1**
BRG				*e*Pg	**Pg**	**08 21 46.1**	**+1.2**
BRG				*e*Sg	**Sn**	**08 22 06.0**	**+1.1**
BRG	**Berggiesshubel**	**1.54**	**245**	P	**Pn**	**08 21 44.2**	**+0.1**
BRG						08 22 06.1	
BRG				smax	smax		
	comp=Z,262nm,0.6s						
FBE	**Freiberg**	**1.87**	**251**	*e*Pg	**Pg**	**08 21 51.8**	**+0.7**
PRU	**Pruhonice**	**1.87**	**214**	*e*PN	**Pn**	**08 21 48.3**	**-0.3**
PRU				*e*PG	**Pb**	**08 21 50.5**	**+0.1**
PRU				*e*SG	**Sg**	**08 22 15.0**	**-0.4**
	comp=Z,275nm,0.7s						
PRU	**Pruhonice**	**1.87**	**214**	*e*P	**Pn**	**08 21 48.3**	**-0.3**
PRU				*e*		08 22 15.0	
PRU				smax	smax		
	comp=N,275nm,0.7s						
HSKC	**Hora Svate Kat**	**1.96**	**242**	*e*PN	**Pn**	**08 21 50.4**	**+0.6**
HSKC				*e*PG	**Pg**	**08 21 52.6**	**-0.2**
HSKC				*e*SG	**Sg**	**08 22 17.5**	**-0.7**
	comp=N,430nm,0.8s						
CLL	**Collm**	**1.98**	**264**	*e*Pn	**Pn**	**08 21 50.4**	**+0.3**
CLL				*e*Sg	**Sg**	**08 22 20.5**	**+1.5**
CLL	**Collm**	**1.98**	**264**	*e*P	**Pn**	**08 21 50.0**	**-0.1**
CLL				*i*		08 22 20.4	
CLL				pmax	pmax		
	comp=Z,19nm,0.7s						
CLL	**Collm**	**1.98**	**264**	*e*Pn	**Pn**	**08 21 50.0**	**-0.1**
	comp=Z,19nm,0.7s						
CLL				*i* Pg	**Pg**	**08 21 53.7**	**+0.4**
CLL				*i* x	x	08 21 57.6	
CLL				*i* Sg	**Sg**	**08 22 20.4**	**+1.4**
	comp=Z,226nm,0.6s						
CLL	**Collm**	**1.98**	**264**	P	**Pn**	**08 21 50.2**	**+0.1**
MORC	**Moravsky Berou**	**1.99**	**153**	*e*Pn	**Pn**	**08 21 50.0**	**-0.2**
	baz=334						
MORC				*e*Sg	**Sn**	**08 22 16.8**	**+0.9**
	comp=Z,284nm,1.2s,baz=334						
MORC	**Moravsky Berou**	**1.99**	**153**	*e*Pn	**Pn**	**08 21 50.1**	**-0.2**
MORC	**Moravsky Berou**	**1.99**	**153**	P	**Pn**	**08 21 50.2**	**-0.1**
OKC	**Ostrava-Krasne**	**2.14**	**143**	*e*PG	**Pg**	**08 21 55.9**	**-0.4**
OKC	**Ostrava-Krasne**	**2.14**	**143**	*e*Pn	**Pn**	**08 21 52.1**	**-0.2**
OKC	**Ostrava-Krasne**	**2.14**	**143**	*e*P	**Pg**	**08 21 55.9**	**-0.4**
VRAC	**Vranov**	**2.27**	**173**	Pn	**Pn**	**08 21 55.0**	**+0.9**
	comp=Z,4.1nm,0.3s,baz=352,slow=14,SNR=18						
VRAC				Lg	Lg	08 22 26.0	
	comp=Z,14nm,0.3s,baz=66,slow=19,SNR=11						
	comp=Z,18nm,0.4s						
VRAC	**Vranov**	**2.27**	**173**	*e*Pn	**Pn**	**08 21 54.2**	**+0.1**
	baz=354						
VRAC				*e*Sg	**Sb**	**08 22 25.5**	**-0.2**
	comp=Z,247nm,0.9s,baz=354						
VRAC	**Vranov**	**2.27**	**173**	P	**Pn**	**08 21 54.7**	**+0.6**
TREC	**Trest**	**2.30**	**191**	P	**Pn**	**08 21 54.4**	**-0.1**
KRUC	**Moravsky**	**2.50**	**176**	*e*Pn	**Pn**	**08 21 57.6**	**+0.3**
	baz=357						
KRUC				*e*Sg	**Sb**	**08 22 33.2**	**+0.8**
	comp=Z,249nm,0.9s,baz=357						
KRUC	**Moravsky**	**2.50**	**176**	P	**Pn**	**08 21 57.9**	**+0.6**
TANN	**Tannenbergstha**	**2.59**	**245**	*e*Pn	**Pn**	**08 21 59.5**	**+0.9**
TANN				*e*Pg	**Pg**	**08 22 05.5**	**+0.5**
WERD	**Werda**	**2.67**	**247**	*e*Pn	**Pn**	**08 22 00.6**	**+1.0**
WERD				*e*Pg	**Pg**	**08 22 06.9**	**+0.5**
OJC	**Ojcow**	**2.67**	**119**	*e*Pg	**Pg**	**08 22 06.9**	**+0.4**
OJC				*e*Sg	**Sg**	**08 22 41.3**	**+0.2**
OJC	**Ojcow**	**2.67**	**119**	*e*Pg	**Pg**	**08 22 07.1**	**+0.5**
OJC				*e*Sg	**Sg**	**08 22 42.9**	**+1.8**
OJC	**Ojcow**	**2.67**	**119**	Pn	**Pn**	**08 21 59.7**	**+0.1**
JAVC	**Velka Javorina**	**2.87**	**159**	*e*Pn	**Pn**	**08 22 02.5**	**+0.1**
	baz=341						
JAVC	**Velka Javorina**	**2.87**	**159**	*e*PN	**Pn**	**08 22 02.6**	**+0.1**
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**08 22 03.5**	**+0.3**
KHC				*e*PG	**Pb**	**08 22 09.4**	**+0.9**
KHC				*e*SN	**Sn**	**08 22 38.2**	**-0.9**
KHC				*e*SG	**Sg**	**08 22 48.9**	**-0.6**
	comp=Z,152nm,0.7s						
KHC	**Kasperske Hory**	**2.93**	**215**	*e*P	**Pn**	**08 22 03.5**	**+0.3**
KHC				*e*		08 22 38.2	
KHC				smax	smax		
	comp=N,152nm,0.7s						
KHC	**Kasperske Hory**	**2.93**	**215**	P	**Pn**	**08 22 03.8**	**+0.6**
CKRC	**Cesky Krumlov**	**2.98**	**204**	*e*PN	**Pn**	**08 22 04.4**	**+0.5**
CKRC				*e*PG	**Pb**	**08 22 10.8**	**+1.5**
CKRC				*e*SG	**Sg**	**08 22 49.1**	**-2.0**
CKRC	**Cesky Krumlov**	**2.98**	**204**	*e*P	**Pn**	**08 22 04.4**	**+0.5**
CKRC				*e*		08 22 49.1	
MOX	**Moxa**	**3.00**	**254**	*e*Pn	**Pn**	**08 22 05.5**	**+1.4**
MOX				*e*Pg	**Pg**	**08 22 13.3**	**+0.5**
MOX				*e*Sg	**Sg**	**08 22 52.9**	**+1.3**
MOX	**Moxa**	**3.00**	**254**	P	**Pn**	**08 22 04.8**	**+0.7**
MANZ	**Manzenberg**	**3.01**	**240**	*e*Pn	**Pn**	**08 22 05.3**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.08**	**236**	*e*Pn	**Pn**	**08 22 05.9**	**+0.7**
GEC2	**GERESS Array S**	**3.13**	**211**	*e*Pn	**Pn**	**08 22 07.5**	**+1.4**
GEC2				*e*Sg	**Sg**	**08 22 54.7**	**-1.3**
GERES	**GERESS Array B**	**3.13**	**211**	Pn	**Pn**	**08 22 06.3**	**+0.3**
	comp=N,1.5nm,0.3s,baz=26,slow=13,SNR=9.7						
GERES				Pg	**Pb**	**08 22 13.0**	**+1.0**
	comp=N,8.0nm,0.3s,baz=32,slow=16,SNR=36						
GERES				Lg	Lg	08 22 53.9	
	comp=N,11nm,0.3s,baz=27,slow=32,SNR=9.9						
	comp=N,2.6nm,0.3s						
SMOL	**Smolenice**	**3.15**	**164**	*e*P	**Pg**	**08 22 15.6**	**-0.2**
WET	**Wettzell**	**3.19**	**222**	*e*Pn	**Pn**	**08 22 07.4**	**+0.6**
WET	**Wettzell**	**3.19**	**222**	P	**Pn**	**08 22 07.3**	**+0.5**
LANS	**Liptovska Anna**	**3.21**	**137**	*e*P	**Pn**	**08 22 07.9**	**+0.8**
LANS	**Liptovska Anna**	**3.21**	**137**	*e*PN	**Pn**	**08 22 07.9**	**+0.8**
LANS				*e*PG	**Pg**	**08 22 15.8**	**-1.1**
LANS				*e*SG	**Sg**	**08 22 58.2**	**-0.3**
MODS	**Modra-Piesok**	**3.27**	**167**	*e*P	**Pn**	**08 22 09.7**	**+1.9**
MODS	**Modra-Piesok**	**3.27**	**167**	*e*PN	**Pn**	**08 22 09.7**	**+1.9**
MODS				*e*PG	**Pg**	**08 22 17.7**	**-0.2**
MODS				*e*SG	**Sg**	**08 22 59.6**	**-0.6**
NIE	**Niedzica**	**3.41**	**127**	*e*Pg	**Pg**	**08 22 21.1**	**+0.4**
NIE				*e*Sg	**Sg**	**08 23 07.0**	**+2.3**
VYHS	**Vyhne**	**3.52**	**149**	*e*P	**Pn**	**08 22 11.1**	**-0.2**
VYHS	**Vyhne**	**3.52**	**149**	*e*PN	**Pn**	**08 22 11.1**	**-0.2**
VYHS				*e*PG	**Pg**	**08 22 22.5**	**-0.3**
VYHS				*e*SG	**Sg**	**08 23 10.7**	**+2.3**
CLZ	**Clausthal**	**3.60**	**277**	*e*Pn	**Pn**	**08 22 14.7**	**+2.3**
CONA	**Conrad Observa**	**3.63**	**183**	*i* Pn	**Pn**	**08 22 13.6**	**+0.7**
	comp=N,3.2nm,0.2s						
CONA				Sg	**Sg**	**08 23 08.3**	**-3.7**
	comp=N,53nm,0.5s						
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* P	**Pn**	**08 22 13.4**	**+0.5**
BSD				*i* S	**Sn**	**08 22 54.7**	**-1.9**
BSD				IAML		08 23 02.1	
	comp=Z,3.1nm,0.1s						
GRF	**Grafenberg Arr**	**3.65**	**241**	*e*Sg	**Sg**	**08 23 11.8**	**-0.7**
GRFO	**Grafenberg**	**3.65**	**241**	P	**Pn**	**08 22 13.8**	**+0.7**
RONA	**Rosalia, Austr**	**3.86**	**178**	Sg	**Sg**	**08 23 17.2**	**-2.1**
	comp=Z,58nm,0.6s						
SOP	**Sopron**	**3.88**	**176**	P	**Pn**	**08 22 18.2**	**+1.9**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*P	**Pn**	**08 22 16.0**	**-0.4**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PN	**Pn**	**08 22 16.0**	**-0.4**
STHS				*e*PG	**Pg**	**08 22 29.4**	**-0.6**
STHS				*e*SG	**Sg**	**08 23 24.4**	**+4.0**
MOA	**Molln**	**3.90**	**199**	*i* Pn	**Pn**	**08 22 14.4**	**-2.2**
	comp=Z,12nm,0.6s						
MOA				Sg	**Sg**	**08 23 18.5**	**-2.2**
	comp=Z,117nm,0.8s						
KECS	**Kecovo**	**4.16**	**136**	*e*P	**Pn**	**08 22 20.5**	**+0.5**
KECS	**Kecovo**	**4.16**	**136**	*e*PN	**Pn**	**08 22 20.5**	**+0.5**
KECS				*e*PG	**Pg**	**08 22 36.3**	**+1.3**
KECS				*e*SG	**Sg**	**08 23 27.6**	**-1.2**
BIOA	**Bad Ischl, Aus**	**4.20**	**204**	*e*Pn	**Pn**	**08 22 21.9**	**+1.3**
	comp=Z,7.7nm,0.3s						
BIOA				*e*Sg	**Sg**	**08 23 26.5**	**-3.6**
	comp=Z,145nm,0.9s						
ARSA	**Arzberg**	**4.33**	**186**	*i* Pn	**Pn**	**08 22 24.0**	**+1.7**
	comp=Z,2.2nm,0.3s						
ARSA				*e*Sg	**Sg**	**08 23 31.8**	**-2.5**
	comp=Z,92nm,1.0s						
PSZ	**Piszkesteto**	**4.38**	**145**	P	**Pn**	**08 22 24.0**	**+0.9**
PSZ	**Piszkesteto**	**4.38**	**145**	P	**Pn**	**08 22 23.7**	**+0.6**
LUNU	**Lund**	**4.39**	**340**	P	**Pn**	**08 22 23.6**	**+0.4**
LUNU				S	**Sn**	**08 23 13.9**	**-1.1**
LUNU	**Lund**	**4.39**	**340**	*i* P	**Pn**	**08 22 23.1**	**-0.1**
LUNU				P	**Pn**	**08 22 23.6**	**+0.4**
LUNU				S	**Sn**	**08 23 13.9**	**-1.1**
LUNU				*i* S	**Sn**	**08 23 13.9**	**-1.1**
KWP	**Kalwaria Pacla**	**4.60**	**112**	Pn	**Pn**	**08 22 26.5**	**+0.4**
LESA	**Schwarzleotal**	**4.71**	**210**	*i* Pn	**Pn**	**08 22 28.3**	**+0.6**
	comp=Z,3.2nm,0.5s						
LESA				Sg	**Sg**	**08 23 43.4**	**-3.2**
	comp=Z,32nm,0.6s						
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*P	**Pn**	**08 22 28.8**	**+0.9**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*PN	**Pn**	**08 22 28.8**	**+0.9**
KOLS				*e*PG	**Pg**	**08 22 44.7**	**-1.2**
KOLS				*e*SG	**Sg**	**08 23 45.8**	**-1.3**
BLEU	**Blekinge**	**4.76**	**358**	*i* P	**Pn**	**08 22 28.9**	**+0.6**
BLEU				*i* S	**Sn**	**08 23 21.1**	**-3.1**
KBA	**Koelnbreinsper**	**4.84**	**203**	*i* Pn	**Pn**	**08 22 30.6**	**+1.1**
	comp=Z,3.7nm,0.4s						
KBA				Sg	**Sg**	**08 23 48.5**	**-2.2**
	comp=Z,43nm,0.7s						
SOKA	**Soboth**	**4.94**	**189**	*i* Pn	**Pn**	**08 22 32.0**	**+1.2**
	comp=Z,1.4nm,0.4s						
SOKA				Sg	**Sg**	**08 23 51.4**	**-2.4**
	comp=Z,43nm,1.0s						
HOLU	**Holmets**	**5.03**	**125**	P	**Pn**	**08 22 33.0**	**+1.0**
TNS	**Taunus Mts**	**5.05**	**258**	P	**Pn**	**08 22 33.4**	**+1.0**
DEL	**Delary**	**5.11**	**346**	P	**Pn**	**08 22 33.3**	**+0.3**
DEL				S	**Sn**	**08 23 30.1**	**-2.4**
DEL	**Delary**	**5.11**	**346**	*i* P	**Pn**	**08 22 33.0**	**0.0**
DEL				P	**Pn**	**08 22 33.3**	**+0.3**
DEL				*i* S	**Sn**	**08 23 28.7**	**-3.9**
DEL				S	**Sn**	**08 23 30.1**	**-2.4**
OBKA	**Obir**	**5.16**	**192**	Pg	**Pg**	**08 22 52.8**	**-1.4**
	comp=Z,8.5nm,0.5s						
OBKA				Sg	**Sg**	**08 24 00.9**	**0.0**
	comp=Z,71nm,0.9s						
WATA	**Walderalm**	**5.17**	**217**	*e*Pn	**Pn**	**08 22 34.7**	**+0.6**
	comp=Z,6.3nm,0.3s						
MYKA	**Terra Mystica**	**5.20**	**199**	*e*Sg	**Sg**	**08 24 01.7**	**-0.5**
	comp=Z,68nm,1.0s						
WTTA	**Wattenberg**	**5.21**	**216**	*i* Pn	**Pn**	**08 22 34.1**	**-0.5**
	comp=Z,3.7nm,0.3s						
WTTA				Sg	**Sg**	**08 24 01.9**	**-0.6**
	comp=Z,52nm,0.7s						
MOTA	**Moosalm**	**5.34**	**220**	*i* Pn	**Pn**	**08 22 37.5**	**+1.1**
	comp=Z,1.6nm,0.1s						
ABTA	**Abfaltersbach**	**5.37**	**208**	*i* Pn	**Pn**	**08 22 38.1**	**+1.4**
	comp=Z,11nm,0.9s						
ABTA				Sg	**Sg**	**08 24 06.4**	**-1.3**
	comp=Z,43nm,0.8s						
RETA	**Reutte**	**5.37**	**223**	*i* Pn	**Pn**	**08 22 36.7**	**-0.1**
	comp=Z,1.6nm,0.2s						
RETA				Sg	**Sg**	**08 24 05.1**	**-2.7**
	comp=Z,37nm,0.7s						
SQTA	**Sankt Quirin**	**5.40**	**219**	*e*Pn	**Pn**	**08 22 38.9**	**+1.6**
	comp=Z,8.5nm,0.4s						
SQTA				*e*Sg	**Sg**	**08 24 08.0**	**-0.9**
	comp=Z,9.3nm,0.3s						
BRIU	**Brid**	**5.48**	**123**	P	**Pn**	**08 22 36.9**	**-1.3**
MORS	**Morshin**	**5.52**	**113**	P	**Pn**	**08 22 38.6**	**-0.1**
FETA	**Feichten**	**5.76**	**220**	*i* Pn	**Pn**	**08 22 43.5**	**+1.3**
	comp=Z,1.7nm,0.4s						
FABU	**Falkenberg**	**5.81**	**341**	P	**Pn**	**08 22 43.3**	**+0.6**
FABU	**Falkenberg**	**5.81**	**341**	P	**Pn**	**08 22 43.3**	**+0.6**
FABU				*i* P	**Pn**	**08 22 43.5**	**+0.8

MNK MLR MLR
comp=E,128nm,1.0s
MNK MLR MLR
comp=Z,41nm,1.0s
MNK MLR MLR
comp=N,143nm,1.0s
HOMB Homborsund 8.04 330 *i* S **Sn 08 24 38.1 -6.6**
AK20 Malin Array Si 8.13 91 P **Pn 08 23 13.4 -1.1**
AK19 Malin Array Si 8.14 91 P **Pn 08 23 13.8 -0.8**
AK21 Malin Array Si 8.15 90 P **Pn 08 23 14.7 0.0**
AK22 Malin Array Si 8.17 91 P **Pn 08 23 15.0 0.0**
AK23 Malin Array Si 8.20 90 P **Pn 08 23 16.6 +1.1**
AK16 Malin Array Si 8.21 91 P **Pn 08 23 14.2 -1.4**
AK15 Malin Array Si 8.21 91 P **Pn 08 23 15.6 0.0**
AK04 Malin Array Si 8.23 91 P **Pn 08 23 17.4 +1.5**
KIEV Kiev 8.27 91 P **Pn 08 23 17.8 +1.4**
KIEV Kiev 8.27 91 P **Pn 08 23 17.8 +1.4**
comp=N,70nm,0.9s
AKASG Malin Array Be 8.27 91 Pn **Pn 08 23 15.6 -0.9**
comp=N,1.4nm,0.4s,baz=281,slow=12,SNR=13
AKASG Sn **Sn 08 24 45.0 -5.5**
comp=N,1.4nm,0.3s,baz=268,slow=25,SNR=4.4
AKASG Lg Lg 08 25 40.2
comp=N,0.6nm,0.3s,baz=280,slow=28,SNR=3.5
AKBB Malin Array Si 8.27 91 *ce*P **Pn 08 23 18.1 +1.6**
AKBB Malin Array Si 8.27 91 P **Pn 08 23 17.8 +1.3**
AK07 Malin Array Si 8.29 92 P **Pn 08 23 15.8 -0.9**
AK08 Malin Array Si 8.31 91 P **Pn 08 23 15.8 -1.1**
AK10 Malin Array Si 8.31 91 P **Pn 08 23 16.2 -0.8**
HFS Hagfors 8.71 352 Pn **Pn 08 23 22.8 +0.4**
comp=N,0.1nm,0.3s,baz=155,slow=18,SNR=1.3
HFS Sn **Sn 08 24 57.9 -3.3**
comp=N,0.3nm,0.3s,baz=177,slow=28,SNR=1.7
comp=N,1.0nm,0.5s
VSU Vasula 9.21 37 *ce*P **Pn 08 23 31.9 +2.7**
VSU pmax pmax
comp=Z,31nm,1.3s
NOA NORSAR Array B 9.89 346 Pn **Pn 08 23 38.8 +0.2**
baz=163,slow=12,SNR=2.2
comp=Z,0.3nm,0.6s
FINES FINESS Array B 11.31 25 Pn **Pn 08 23 57.7 -0.4**
comp=Z,0.2nm,0.3s,baz=202,slow=10,SNR=5.9
FINES Sn **Sn 08 25 57.9 -7.2**
comp=Z,0.3nm,0.3s,baz=204,slow=21,SNR=2.4
comp=Z,2.2nm,0.7s
EKA Eskdalemuir Ar 12.11 296 Pn **Pn 08 24 06.3 -2.7**
baz=99,slow=14
OBN Obninsk 12.70 66 *i* P **Pn 08 24 14.1 -3.0**
OBN pmax pmax
comp=Z,11nm,0.5s
OBN Obninsk 12.70 66 P **Pn 08 24 17.7 +0.6**
comp=Z,29nm,0.5s
MOS Moscow 13.39 63 *e*P Pn 08 24 21.6 -4.9
BZK Bozkurt 15.51 121 P **Pn 08 24 53.8 -1.5**
BZK pP **P 08 25 00.6 +0.8**
ANN Anapa 15.69 107 *e*P **Pn 08 24 54.4 -3.2**
ANN *e*S **Sn 08 27 48.7 -3.3**
ANN pmax pmax
comp=Z,128nm,0.9s
ARCES ARCESS Array B 18.57 10 Pn **P 08 25 30.8 -2.7**
comp=Z,0.1nm,0.3s,baz=191,slow=13,SNR=2.0
comp=Z,8.0nm,1.1s
KIV Kislovodsk 19.32 103 *e*P **P 08 25 40.4 -1.6**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,20nm,14.0s
BELG Belogornoye 19.34 75 P **Pn 08 25 43.6 +0.6**
comp=Z,8.5nm,0.7s,baz=17,slow=11,SNR=4.3
SHA1 Shidzhatmaz 19.42 103 *ce*P **Pn 08 25 45.6 +1.3**
MMAI Mount Meron Ar 23.25 135 P **P 08 26 25.3 +1.1**
comp=Z,0.5nm,0.3s,baz=347,slow=12,SNR=1.5
comp=Z,0.5nm,0.3s
ARTI Arti 25.00 62 P **P 08 26 41.4 +0.9**
comp=Z,1.6nm,0.5s,baz=290,slow=10,SNR=4.5
comp=Z,1.6nm,0.5s
ARTI Arti 25.00 62 *d i*P **P 08 26 42.5 +2.0**
ARTI 08 27 12.5
ARTI S **S 08 31 11.5 +6.3**
ARTI SS **SnSn 08 31 55.9 +3.2**
ARTI pmax pmax
comp=Z,10.0nm,1.4s
AKTO Aktyubinsk 26.12 76 P **P 08 26 52.1 +1.3**
comp=Z,1.9nm,0.7s,baz=279,slow=10,SNR=5.9
comp=Z,1.9nm,0.7s
BRVK Borovoye 32.48 66 *ce*P **P 08 27 49.6 +2.4**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BVAR Borovoye Array 32.55 66 P **P 08 27 50.0 +2.2**
comp=Z,0.8nm,0.6s,baz=312,slow=8.7,SNR=3.2
comp=Z,0.8nm,0.6s
KURBB Kurchatov Arra 38.14 66 P **P 08 28 36.6 +0.8**
comp=Z,0.7nm,0.7s,baz=298,slow=9.0,SNR=4.9
comp=Z,0.7nm,0.7s
KURK Kurchatov 38.15 66 *i* P **P 08 28 37.9 +1.9**
KURK pmax pmax
comp=Z,11nm,3.5s
AAK Ala-Archa 39.74 79 *ce*P **P 08 28 51.6 +2.0**
AAK pmax pmax
comp=Z,4.0nm,1.2s
TORD Torodi Ar. Bea 40.05 202 P **P 08 28 52.4 +0.2**
comp=Z,1.5nm,1.1s,baz=9.7,slow=10,SNR=5.1
comp=Z,1.5nm,1.1s
ZALV Zalesovo Beam 40.16 59 P **P 08 28 55.1 +2.4**
comp=Z,0.9nm,0.7s,baz=287,slow=12,SNR=3.9
comp=Z,0.9nm,0.7s
YAK Yakutsk 55.15 32 *i* P **P 08 30 51.2 +2.2**
YAK pmax pmax
comp=Z,14nm,0.6s
ULN Ulaanbaatar 55.19 55 *ce*P **P 08 30 51.4 +1.7**
ULN pmax pmax
comp=Z,2.0nm,0.8s
BILL Bilibino 58.66 13 *i* P **P 08 31 14.2 +0.4**
BILL pmax pmax
comp=Z,3.0nm,1.0s
CMAR Chiang Mai Arr 71.33 84 P **P 08 32 39.0 +2.0**
comp=Z,1.4nm,0.3s,baz=316,slow=7.6,SNR=4.8
comp=Z,1.4nm,0.3s
CMAR Chiang Mai Arr 71.33 84 *ce*P **P 08 32 39.2 +2.3**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
PDAR Pinedale Array 74.92 322 P **P 08 32 59.5 +1.4**
comp=Z,0.5nm,0.7s,baz=34,slow=3.7,SNR=3.7
comp=Z,0.5nm,0.7s
ANMO Albuquerque 80.27 315 *ce*P **P 08 33 30.1 +2.0**
ANMO pmax pmax
comp=Z,2.0nm,1.6s

*IDC **20** 08:34:52.4±0.7, 4°.65N×125°.38E, h0km, mb4.1/14, mbtmp4.1/15, ML4.1/1, MS3.1/5, Error ellipse: s-maj=30.1km s-min=14.0km az=76.0*
*NEIC **20** 08:34:57.1±1.0, 4°.67N±0°.06×125°.30E±0°.09, h24km±6km, mb4.7/53, Error ellipse: s-maj=12.8km s-min=9.3km az=91.0*
ISC 20 08:34:54.6±0.5, **4°.72N**±0°.05×**125°.31E**±0°.09, **h10**km, **n82**, σ0**s90**/80, **mb4.6**/41, **MS3.1**/5, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.35**	**6**	Pn	**Pn**	**08 35 33.3**	**-0.1**
	41nm,0.3s,baz=223,slow=19,SNR=1.3						
DAV				Sn	**Sn**	**08 36 04.1**	**+1.8**
	28nm,0.3s,baz=296,slow=19,SNR=1.9						
	159nm,0.4s						
TOLI2	**Tolitoli**	**5.77**	**232**	Pn	Pn	08 36 16.6	-3.9
LUWI	**Luwuk**	**6.26**	**204**	Pn	**Pn**	**08 36 28.2**	**+1.0**
MYLDM	**Lahad Datu**	**6.80**	**274**	Pn	**Pn**	**08 36 35.5**	**+0.8**
FAKI	**Fak Fak**	**10.28**	**137**	Pn	**Pn**	**08 37 26.5**	**+4.2**
FITZ	**Fitzroy Crossi**	**22.68**	**179**	P	**P**	**08 39 56.1**	**-0.3**
COEN	**Coen**	**25.66**	**137**	P	**P**	**08 40 23.4**	**-1.5**
WB0	**Warramunga Arr**	**25.92**	**160**	P	**P**	**08 40 26.2**	**-1.1**
WRA	**Warramunga Arr**	**26.07**	**160**	P	**P**	**08 40 27.0**	**-1.5**
WRA	**Warramunga Arr**	**26.07**	**160**	P	**P**	**08 40 26.8**	**-1.8**
	4.3nm,0.7s,baz=343,slow=10,SNR=40						
	4.3nm,0.7s						
WB2	**Warramunga Arr**	**26.07**	**160**	P	**P**	**08 40 27.5**	**-1.1**
WB2				IAmb	IAmb	08 40 41.4	
	comp=Z,15nm,1.0s						
WR0	**Warramunga Arr**	**26.15**	**160**	P	**P**	**08 40 28.6**	**-0.6**
PSI	**Prapat**	**26.40**	**267**	LR	LR	08 52 04.5	
	comp=Z,108nm,19.5s,baz=36,slow=39						
CMAR	**Chiang Mai Arr**	**29.16**	**300**	P	**P**	**08 40 57.8**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=125,slow=7.8,SNR=1.5						
CMAR				LR	LR	08 52 21.0	
	comp=Z,26nm,21.3s,baz=195,slow=36						
	comp=Z,1.0nm,0.3s						
ASAR	**Alice Springs**	**29.43**	**164**	P	**P**	**08 40 57.1**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=356,slow=9.9,SNR=1.5						
	comp=Z,0.5nm,0.5s						
JMN	**Monobe**	**29.94**	**14**	P	**P**	**08 41 02.7**	**-0.4**
KSRS	**Korea Array**	**32.67**	**4**	P	**P**	**08 41 26.9**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=178,slow=10,SNR=5.5						
KSRS				LR	LR	08 55 16.5	
	comp=Z,18nm,20.1s,baz=185,slow=37						
	comp=Z,1.4nm,0.7s						
MJAR	**Matsushiro Arr**	**33.81**	**19**	P	**P**	**08 41 36.2**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=194,slow=9.0,SNR=2.9						
MJAR				LR	LR	08 54 46.4	
	comp=Z,36nm,20.4s,baz=228,slow=35						
	comp=Z,2.1nm,0.7s						
JMM	**Marumori**	**35.89**	**21**	P	**P**	**08 41 55.6**	**+0.6**
SHL	**Shillong**	**38.16**	**306**	P	**P**	**08 42 14.2**	**-0.4**
SHL				IAmb	IAmb	08 42 19.4	
	comp=Z,8.1nm,0.7s						
BBOO	**Buckleboo**	**38.69**	**165**	P	**P**	**08 42 17.5**	**-1.3**
EIDS	**Eidsvold**	**39.00**	**141**	P	**P**	**08 42 20.4**	**-1.1**
STKA	**Stephens Creek**	**39.56**	**158**	P	**P**	**08 42 25.6**	**-0.5**
STKA	**Stephens Creek**	**39.56**	**158**	P	**P**	**08 42 25.1**	**-1.0**
	comp=Z,2.6nm,0.8s,baz=359,slow=7.6,SNR=6.7						
	comp=Z,2.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**39.76**	**8**	P	**P**	**08 42 27.6**	**0.0**
	comp=Z,4.2nm,0.8s,baz=184,slow=6.6,SNR=6.8						
	comp=Z,4.2nm,0.8s						
JKA	**Kamikawa-asahi**	**42.09**	**19**	P	**P**	**08 42 47.9**	**+1.1**
JKA				IAmb	IAmb	08 43 25.4	
	comp=Z,26nm,1.3s						
SONM	**Songino Array**	**45.92**	**342**	P	**P**	**08 43 17.7**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=168,slow=7.4,SNR=2.3						
	comp=Z,0.4nm,0.4s						
PEA0B	**Petropavlovsk-**	**55.06**	**23**	P	**P**	**08 44 26.5**	**-0.1**
PETK	**Petropavlovsk-**	**55.06**	**23**	P	**P**	**08 44 26.7**	**+0.1**
PETK	**Petropavlovsk-**	**55.06**	**23**	P	**P**	**08 44 27.1**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=195,slow=6.0,SNR=5.4						
	comp=Z,3.4nm,0.9s						
MK31	**Makanchi Array**	**55.94**	**326**	P	**P**	**08 44 33.4**	**+0.3**
MK31				IAmb	IAmb	08 44 34.6	
	comp=Z,4.8nm,0.9s						
MKAR	**Makanchi Array**	**55.94**	**326**	P	**P**	**08 44 33.2**	**+0.1**
MKAR	**Makanchi Array**	**55.94**	**326**	P	**P**	**08 44 33.8**	**+0.7**
	comp=Z,3.3nm,0.6s,baz=125,slow=8.1,SNR=18						
	comp=Z,3.3nm,0.6s						
ZALV	**Zalesovo Beam**	**59.07**	**333**	P	**P**	**08 44 53.2**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=122,slow=5.4,SNR=2.3						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**60.15**	**328**	P	**P**	**08 45 02.0**	**-0.5**
	comp=Z,4.4nm,0.9s,baz=126,slow=6.2,SNR=28						
	comp=Z,4.4nm,0.9s						
KURK	**Kurchatov**	**60.15**	**328**	P	**P**	**08 45 01.9**	**-0.6**
KURK				IAmb	IAmb	08 45 03.5	
	comp=Z,6.3nm,0.8s						
GAR	**Garm**	**60.22**	**313**	P	**P**	**08 45 03.0**	**-0.3**
GAR				IAmb	IAmb	08 45 05.8	
	comp=Z,8.7nm,0.9s						
BTK	**Batken**	**60.22**	**314**	P	**P**	**08 45 03.3**	**0.0**
KKAR	**Karatay Array**	**61.55**	**317**	P	**P**	**08 45 12.4**	**+0.2**
BVAR	**Borovoye Array**	**65.73**	**327**	P	**P**	**08 45 38.9**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=114,slow=5.4,SNR=6.4						
	comp=Z,0.9nm,0.5s						
ATKA	**Atka Island**	**68.50**	**35**	P	**P**	**08 45 56.6**	**-0.5**
ABKAR	**Akbulak array**	**70.50**	**321**	P	**P**	**08 46 09.1**	**-0.5**
M14K	**Bethel**	**77.49**	**29**	P	**P**	**08 46 50.5**	**+0.2**
L16K	**Owhat River**	**78.87**	**28**	P	**P**	**08 46 58.1**	**+0.2**
L16K				IAmb	IAmb	08 47 29.5	
	comp=Z,13nm,1.2s						
M16K	**Timber Creek**	**78.98**	**29**	P	**P**	**08 46 59.2**	**+0.6**
M16K				IAmb	IAmb	08 47 17.6	
	comp=Z,12nm,1.4s						
C18K	**Utukok River**	**79.64**	**21**	P	**P**	**08 47 01.8**	**-0.3**
GNI	**Garni**	**79.77**	**310**	LR	LR	09 26 36.5	
	comp=Z,11nm,20.4s,baz=304,slow=39						
L18K	**Granite Mounta**	**80.25**	**28**	P	**P**	**08 47 05.6**	**+0.2**
L18K				IAmb	IAmb	08 47 25.1	
	comp=Z,8.5nm,1.4s						
C19K	**Lookout Ridge**	**80.31**	**21**	P	**P**	**08 47 05.7**	**0.0**
C19K				IAmb	IAmb	08 47 07.9	
	comp=Z,10nm,1.1s						
O18K	**Koktuh Hills**	**80.65**	**30**	P	**P**	**08 47 07.8**	**+0.1**
TTA	**Tatalina**	**80.66**	**27**	P	**P**	**08 47 08.3**	**+0.5**
D19K	**Kuna River**	**80.72**	**21**	P	**P**	**08 47 08.3**	**+0.4**
D19K				IAmb	IAmb	08 47 22.6	
	comp=Z,17nm,1.4s						
E19K	**Redstone River**	**80.86**	**22**	P	**P**	**08 47 09.0**	**+0.4**
E19K				IAmb	IAmb	08 47 11.4	
	comp=Z,6.0nm,0.9s						
L19K	**White Mountain**	**81.10**	**28**	P	**P**	**08 47 09.7**	**-0.3**
B20K	**Meade River**	**81.33**	**20**	P	**P**	**08 47 10.6**	**-0.4**
F20K	**Avaraart Lake**	**81.37**	**23**	P	**P**	**08 47 11.3**	**0.0**
J20K	**Nowinta River**	**81.65**	**26**	P	**P**	**08 47 13.1**	**+0.2**
J20K				IAmb	IAmb	08 47 25.6	
	comp=Z,7.8nm,1.4s						
M20K	**Styx River**	**81.87**	**28**	P	**P**	**08 47 14.9**	**+0.7**
IMAR	**Indian Mountai**	**82.02**	**24**	P	**P**	**08 47 15.4**	**+0.7**
E21K	**Killik River**	**82.22**	**22**	P	**P**	**08 47 16.0**	**+0.2**
E21K				IAmb	IAmb	08 47 18.3	
	comp=Z,8.6nm,1.1s						
I21K	**Tanana**	**82.67**	**25**	P	**P**	**08 47 19.1**	**+0.9**
I21K				IAmb	IAmb	08 47 20.5	
	comp=Z,5.7nm,0.9s						
D22K	**Ayikyak River**	**82.74**	**21**	P	**P**	**08 47 18.7**	**+0.2**
D22K				IAmb	IAmb	08 47 20.4	
	comp=Z,6.2nm,1.1s						
C23K	**Itkillik River**	**83.55**	**20**	P	**P**	**08 47 23.1**	**+0.5**
C23K				IAmb	IAmb	08 47 27.7	
	comp=Z,5.4nm,1.0s						
H23K	**Yukon River**	**83.73**	**24**	P	**P**	**08 47 24.5**	**+0.8**
H23K				IAmb	IAmb	08 47 25.5	
	comp=Z,6.0nm,0.9s						
I23K	**Minto, Yukon-K**	**83.78**	**25**	P	**P**	**08 47 24.3**	**+0.5**
I23K				IAmb	IAmb	08 47 25.5	
	comp=Z,9.9nm,1.2s						
TOLK	**Toolik Lake Re**	**83.85**	**22**	P	**P**	**08 47 24.7**	**+0.4**
PWL	**Port Wells**	**84.13**	**29**	P	**P**	**08 47 25.7**	**-0.1**
D24K	**Happy Valley**	**84.14**	**21**	P	**P**	**08 47 26.2**	**+0.5**
D24K				IAmb	IAmb	08 47 28.6	
	comp=Z,5.1nm,0.9s						
H24K	**Noodor Dome**	**84.41**	**24**	P	**P**	**08 47 27.6**	**+0.4**
H24K				IAmb	IAmb	08 47 30.0	
	comp=Z,6.7nm,1.2s						
G24K	**Hadweenzic Riv**	**84.59**	**24**	P	**P**	**08 47 28.7**	**+0.6**
G24K				IAmb	IAmb	08 47 29.7	
	comp=Z,4.5nm,0.9s						
ILAR	**Eielson Array**	**84.82**	**25**	P	**P**	**08 47 28.1**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=249,slow=5.2,SNR=13						
	comp=Z,1.0nm,0.8s						
F25K	**Christian Rive**	**85.30**	**23**	P	**P**	**08 47 31.1**	**-0.5**
F25K				IAmb	IAmb	08 48 01.1	
	comp=Z,7.8nm,1.5s						
BMAR	**Burnt Mountain**	**85.72**	**23**	P	**P**	**08 47 34.8**	**+1.0**
C27K	**Jago River**	**85.95**	**21**	P	**P**	**08 47 35.2**	**+0.5**
C27K				IAmb	IAmb	08 47 59.7	
	comp=Z,4.9nm,1.5s						
K27K	**Chicken**	**86.94**	**26**	P	**P**	**08 47 40.3**	**+0.6**
K27K				IAmb	IAmb	08 48 17.2	
	comp=Z,7.1nm,1.4s						
D27M	**Malcolm River**	**86.94**	**21**	P	**P**	**08 47 39.6**	**-0.2**
BCAR	**Beaver Creek A**	**87.14**	**27**	P	**P**	**08 47 40.2**	**-0.6**
I28M	**Miner Creek**	**87.72**	**25**	P	**P**	**08 47 43.9**	**+0.3**
I28M				IAmb	IAmb	08 47 45.6	
	comp=Z,2.8nm,0.8s						
G29M	**Pine Creek**	**88.31**	**23**	P	**P**	**08 47 45.6**	**-0.7**
G29M				IAmb	IAmb	08 48 17.5	
	comp=Z,5.0nm,1.4s						
HYT	**Haines Junctio**	**89.41**	**29**	P	**P**	**08 47 51.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**121.27**	**288**	PKP	**PKPdf**	**08 53 47.4**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=111,slow=1.9,SNR=2.3						
TXAR	**Lajitas Array**	**122.09**	**51**	PKP	**PKPdf**	**08 53 50.5**	**0.0**
	comp=Z,0.3nm,0.6s,baz=191,slow=1.3,SNR=4.7						

*IDC **20** 08:40:22.5±2.2, 20°.15S×178°.05W, h560km±23km, mb3.1/5, mbtmp4.1/7, Error ellipse: s-maj=31.7km s-min=23.1km az=59.0*
ISC 20 08:40:22.8±1.4, **20°.2S**±0°.2×**178°.0W**±0°.2, **h569**km, **n7**, σ1**s20**/7, **mb3.5**/5, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.41**	**302**	P	**P**	**08 41 48.8**	**-0.5**
	17nm,0.5s,baz=144,slow=8.7,SNR=46						
URZ	**Urewera**	**18.53**	**192**	P	**P**	**08 44 02.8**	**-1.6**
	1.8nm,0.3s,baz=17,slow=4.3,SNR=7.3						
JAY	**Jayapura**	**43.90**	**288**	P	**P**	**08 47 40.9**	**+0.8**
	12nm,0.8s,baz=204,slow=5.7,SNR=4.2						
	12nm,0.8s						
ASAR	**Alice Springs**	**44.56**	**256**	P	**P**	**08 47 45.5**	**+0.3**
	1.1nm,0.7s,baz=96,slow=7.5,SNR=6.2						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**44.61**	**262**	P	**P**	**08 47 45.1**	**-0.4**
	1.0nm,0.3s,baz=96,slow=7.6,SNR=51						
	1.0nm,0.3s						
QSPA	**South Pole Qui**	**69.92**	**180**	P	**P**	**08 50 38.5**	**+1.3**
	1.1nm,0.7s,baz=27,slow=2.3,SNR=8.2						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**87.98**	**13**	P	**P**	**08 52 11.9**	**-0.4**
	0.2nm,0.4s,baz=214,slow=5.2,SNR=4.3						
	0.2nm,0.4s						

*IDC **20** 09:14:38.4±0.9, 33°.12N×39°.50W, h0km, mb3.9/10, mbtmp3.9/10, MS3.6/22, Error ellipse: s-maj=33.5km s-min=18.8km az=173.0*
ISC 20 09:14:39.6±0.9, **33°.1N**±0°.2×**39°.5W**±0°.1, **h8**km, **n34**, σ0**s50**/10, **mb3.9**/10, **MS3.6**/22, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**28.99**	**327**	LR	LR	09 30 54.3	
	comp=Z,114nm,19.1s,baz=267,slow=34						
MDT	**Midelt**	**29.19**	**81**	LR	LR	09 29 45.1	
	comp=Z,80nm,19.9s,baz=344,slow=31						
ESDC	**Sonseca Array**	**29.20**	**67**	P	**P**	**09 20 41.8**	**+0.1**
	1.7nm,1.1s,baz=260,slow=6.6,SNR=3.0						
	1.7nm,1.1s						
SADO	**Sadowa**	**32.66**	**303**	LR	LR	09 31 57.7	
	comp=Z,76nm,21.0s,baz=118,slow=32						
BORG	**Borgarnes**	**33.57**	**14**	LR	LR	09 32 03.0	
	comp=Z,63nm,18.4s,baz=247,slow=31						
SFJD	**Kangerlussuaq**	**34.56**	**352**	LR	LR	09 32 10.1	
	comp=Z,81nm,21.9s,baz=109,slow=30						
FRB	**Frobisher Bay**	**35.59**	**338**	LR	LR	09 34 51.4	
	comp=Z,37nm,18.3s,baz=68,slow=34						
TKL	**Tuckaleechee C**	**36.41**	**287**	LR	LR	09 34 15.8	
	comp=Z,140nm,18.5s,baz=77,slow=32						
TORD	**Torodi Ar. Bea**	**42.42**	**108**	P	**P**	**09 22 34.5**	**-0.5**
	2.0nm,1.0s,baz=300,slow=5.3,SNR=6.3						
	2.0nm,1.0s						
ULM	**Lac du Bonnet**	**44.35**	**310**	LR	LR	09 41 38.4	
	comp=Z,128nm,18.3s,baz=87,slow=36						
H10N2	**ASCENSION HYDR**	**47.15**	**145**	T	T	10 13 40.5	
	baz=331,slow=75,SNR=85						
H10N3	**ASCENSION HYDR**	**47.15**	**145**	T	T	10 13 37.7	
	baz=331,slow=75,SNR=61						
H10N1	**ASCENSION HYDR**	**47.16**	**145**	T	T	10 13 42.0	
	baz=331,slow=75,SNR=93						
H10S3	**ASCENSION HYDR**	**48.04**	**146**	T	T	10 14 40.2	
	baz=331,slow=74,SNR=37						
H10S2	**ASCENSION HYDR**	**48.06**	**146**	T	T	10 14 44.4	
	baz=249,slow=74,SNR=26						
CMIG	**Matias Romero**	**52.08**	**266**	LR	LR	09 47 09.1	
	comp=Z,26nm,18.1s,baz=14,slow=38						
AKASG	**Malin Array Be**	**52.17**	**49**	P	**P**	**09 23 50.3**	**-0.2**
	2.8nm,0.8s,baz=274,slow=6.8,SNR=14						
	2.8nm,0.8s						
TXAR	**Lajitas Array**	**54.26**	**284**	P	**P**	**09 24 06.5**	**+0.1**
	0.5nm,0.9s,baz=83,slow=7.4,SNR=3.9						
TXAR				LR	LR	09 44 42.0	
	comp=Z,41nm,20.5s,baz=27,slow=33						
	0.5nm,0.9s						
YKA	**Yellowknife Ar**	**54.44**	**327**	LR	LR	09 46 56.3	
	comp=Z,66nm,18.0s,baz=42,slow=36						
ANMO	**Albuquerque**	**54.57**	**292**	LR	LR	09 45 14.1	
	comp=Z,47nm,21.6s,baz=231,slow=34						
PDAR	**Pinedale Array**	**54.66**	**302**	P	**P**	**09 24 08.6**	**-0.7**
	1.0nm,0.8s,baz=82,slow=6.5,SNR=8.9						
PDAR				LR	LR	09 47 56.9	
	comp=Z,34nm,18.1s,baz=52,slow=37						
	1.0nm,0.8s						
LPAZ	**La Paz**	**56.23**	**214**	P	**P**	**09 24 21.6**	**+0.4**
	0.9nm,0.8s,baz=7.1,slow=10,SNR=3.5						
	0.9nm,0.8s						
BRTR	**Keskin Array B**	**57.73**	**61**	P	**P**	**09 24 31.3**	**+0.1**
	2.1nm,0.9s,baz=289,slow=4.4,SNR=6.5						
	2.1nm,0.9s						
NEW	**Newport**	**58.36**	**310**	LR	LR	09 48 36.8	
	comp=Z,66nm,20.0s,baz=68,slow=35						
ELK	**Elko**	**59.31**	**301**	LR	LR	09 49 00.5	
	comp=Z,60nm,18.9s,baz=66,slow=35						
NVAR	**Mina Array Bea**	**62.33**	**300**	P	**P**	**09 25 02.7**	**-0.2**
	0.4nm,0.8s,baz=81,slow=5.8,SNR=3.8						
NVAR				LR	LR	09 50 33.8	
	comp=Z,65nm,20.5s,baz=72,slow=35						
	0.4nm,0.8s						
PFO	**Pinyon Flats O**	**62.78**	**294**	LR	LR	09 51 18.7	
	comp=Z,51nm,18.8s,baz=64,slow=35						
BBB	**Bella Bella**	**63.85**	**317**	LR	LR	09 53 02.0	
	comp=Z,45nm,18.2s,baz=52,slow=36						
YBH	**Yreka Blue Hor**	**64.24**	**304**	LR	LR	09 52 35.2	
	comp=Z,24nm,20.6s,baz=38,slow=36						
KDAK	**Kodiak Island**	**73.58**	**329**	LR	LR	09 57 00.9	
	comp=Z,33nm,20.9s,baz=260,slow=35						
BVAR	**Borovoye Array**	**74.88**	**36**	P	**P**	**09 26 21.5**	**+0.8**
	1.0nm,0.8s,baz=291,slow=4.3,SNR=4.6						
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**80.33**	**35**	P	**P**	**09 26 51.3**	**+0.1**
	1.8nm,0.8s,baz=310,slow=5.8,SNR=15						
	1.8nm,0.8s						
LBTB	**Lobatse**	**84.71**	**124**	LR	LR	10 01 21.0	
	comp=Z,58nm,19.5s,baz=282,slow=33						
BOSA	**Boshof**	**86.80**	**127**	LR	LR	10 04 42.3	
	comp=Z,30nm,18.5s,baz=208,slow=35						

*SJA **20** 09:17:22.1±0.6, 30°.69S×71°.90W, h15km±2km, ML3.8, MW3.8*
*GUC **20** 09:17:26.3±0.8, 30°.70S×71°.71W, h34km±2km, ML3.9*
ISC 20 09:17:23.6±1.3, **30°.66S**±0°.02×**71°.87W**±0°.05, **h13**km±8km, **n40**, σ1**s75**/71, **1C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.21**	**95**	*i* P	**Pb**	**09 17 31.4**	**+2.1**
CO06				*e*S	**Sg**	**09 17 34.9**	**+3.6**
CO05	**La Serena**	**0.92**	**37**	⇓*i* P	**Pg**	**09 17 42.2**	**+0.8**
CO05				*e*S	**Sb**	**09 17 54.4**	**+0.9**
CO05				IAML		09 17 55.6	
	comp=N,6μm,0.3s						
CO03	**El Pedregal**

ROC1 eS **Sb** **09 18 37.8 +0.5**
RTLS Leoncito 2.48 118 eP **Pb** **09 18 06.8 -1.5**
RTLS eS **Sb** **09 18 38.6 -0.4**
RTLS IAML 09 18 41.3
comp=Z,1μm,0.7s
AC04 Llanos de Chal 2.54 16 eP **Pn** **09 18 05.3 +0.7**
AC04 eS **Sb** **09 18 40.3 +0.1**
AC04 IAML 09 18 49.6
comp=Z,284nm,0.7s
MT02 Curacav 2.67 167 eP **Pn** **09 18 06.7 +0.3**
MT02 eS **Sb** **09 18 45.8 +1.8**
MT02 IAML 09 18 51.1
comp=Z,343nm,0.7s
PEL Peldehue 2.68 158 eP **Pn** **09 18 07.8 +1.2**
PEL eS **Sn** **09 18 37.2 -1.7**
ZON Zonda 2.88 109 eP **Pn** **09 18 11.9 +2.6**
ZON eS **Sb** **09 18 48.8 -1.4**
ZON IAML 09 19 02.7
comp=Z,129nm,0.5s
MT05 Renca 2.89 161 eP **Pn** **09 18 11.2 +1.7**
MT05 eS **Sn** **09 18 44.4 +0.2**
MT05 IAML 09 18 58.9
comp=Z,364nm,1.6s
FCH Farellones 2.98 154 eP **Pn** **09 18 12.5 +1.5**
RTLL Cerro Villicun 3.00 104 eP **Pn** **09 18 13.6 +2.7**
RTLL eS **Sn** **09 18 48.7 +2.0**
MT03 Universidad Ad 3.06 158 eP **Pn** **09 18 13.5 +1.7**
MT03 eS **Sb** **09 18 53.5 -1.8**
MT03 IAML 09 19 01.8
comp=Z,466nm,0.3s
RTCV Cerro Valdivia 3.10 114 eP **Pb** **09 18 16.2 -2.4**
RTCV eS **Sb** **09 18 56.7 +0.3**
MT08 Bocatoma Ro 3.20 151 eP **Pn** **09 18 17.1 +3.3**
MT08 eS **Sn** **09 18 51.0 -0.9**
MT08 IAML 09 19 03.2
comp=Z,188nm,0.6s
MT01 Popeta 3.24 171 eP **Pn** **09 18 14.8 +0.5**
MT01 eS **Sn** **09 18 57.2 +4.4**
MT01 IAML 09 19 13.3
comp=Z,195nm,0.5s
MT13 San Alfonso 3.36 157 eP **Pn** **09 18 18.0 +2.0**
MT13 eS **Sn** **09 18 57.0 +1.2**
MT13 IAML 09 19 11.1
comp=Z,188nm,0.2s
GO03 Copiapo 3.37 26 eP **Pn** **09 18 17.8 +1.7**
GO03 eS **Sb** **09 19 02.2 -2.1**
LMEL Las Melosas 3.48 156 eP **Pn** **09 18 19.8 +2.1**
LMEL eS **Sn** **09 19 00.5 +1.6**
BO01 Tunca 3.79 170 eP **Pn** **09 18 22.7 +1.0**
BO01 eS **Sb** **09 19 13.7 -2.4**
BO01 IAML 09 19 28.9
comp=Z,89nm,0.9s
AVFE Valle Fertil 3.81 91 eP **Pn** **09 18 23.9 +1.8**
AVFE eS **Sn** **09 19 09.8 +3.0**
AVFE IAML 09 19 25.8
comp=Z,176nm,0.7s
BO02 Sierra Bellavi 4.23 168 eS **Sb** **09 19 30.7 +1.8**
BO02 IAML 09 19 37.8
comp=Z,174nm,0.5s
GO05 Hualane 4.34 181 eP Pn 09 18 25.4 -4.0
ACLC CERRO LA CRUZ 4.44 75 eP **Pn** **09 18 33.5 +2.6**
ACLC IAML 09 19 45.8
comp=Z,90nm,0.7s
ACHE Chepes 4.50 98 eP **Pn** **09 18 33.6 +1.8**
AC01 Pan de Azucar 4.63 14 eP **Pn** **09 18 32.8 -0.5**
AC01 eS **Sg** **09 19 49.8 -2.6**
RFA San Rafael 5.01 146 eP **Pn** **09 18 40.5 +1.9**
RFA IAML 09 20 02.9
comp=Z,46nm,1.2s

NEIC ***20*** *09:24:39.3±1.4, 0°.65S±0°.10×128°.8E±0°.1, h10km±1km, mb4.3/12, Error ellipse: s-maj=23.7km s-min=3.4km az=47.0*
DJA ***20*** *09:24:41.5±0.8, 0°S±5°×12°9E±°, h109km±16km, M3.9/9, MLv3.9/9*
IDC ***20*** *09:24:42.0±1.7, 0°.89S×127°.96E, h0km, mb4.0/5, mbtmp4.0/6, ML3.7/1, MS3.0/4, Error ellipse: s-maj=177.4km s-min=19.6km az=66.0*
ISC 20 09:24:39.5±0.7, 0°.65S±0°.06×128°.79E±0°.08, h10km, n34, σ1§83/29, mb4.3/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**1.29**	**270**	P	Pg	09 25 14.8	+11
LBMI				S	Sn	09 25 39.1	+18
TNTI	**Ternate**	**2.00**	**315**	Pn	**Pn**	**09 25 12.4**	**-0.9**
TNTI	**Ternate**	**2.00**	**315**	P	**Pg**	**09 25 17.3**	**-0.6**
SWI	**Sorong**	**2.48**	**95**	P	Pn	09 25 14.1	-5.9
MSAI	**Masohi**	**2.69**	**177**	P	**Pg**	**09 25 30.6**	**-0.4**
AAI	**Ambon**	**3.08**	**191**	P	**Pg**	**09 25 39.0**	**+0.4**
SANI	**Sanana**	**3.13**	**243**	P	**Pg**	**09 25 39.2**	**-0.3**
FAKI	**Fak Fak**	**4.13**	**123**	Pn	**Pn**	**09 25 42.0**	**-0.8**
FAKI	**Fak Fak**	**4.13**	**123**	P	**Pn**	**09 25 41.7**	**-1.0**
DAV	**Davao City (W)**	**8.30**	**337**	LR	LR	09 30 31.2	
	comp=Z,211nm,19.8s,baz=48,slow=42						
SOEI	**Soe**	**10.11**	**206**	Pn	**Pn**	**09 27 03.6**	**-1.3**
MTN	**Manton Dam**	**12.34**	**169**		**Pn**	**09 27 34.2**	**-1.2**
KNRA	**Kununurra**	**14.94**	**180**	Pn	**Pn**	**09 28 10.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**17.62**	**190**	LR	LR	09 35 01.2	
	comp=Z,33nm,20.7s,baz=52,slow=36						
WB0	**Warramunga Arr**	**19.78**	**164**	P	**P**	**09 29 08.8**	**-1.3**
WB0				IAmb	IAmb	09 29 21.6	
	comp=Z,11nm,1.5s						
WRAB	**Tennant Creek**	**19.93**	**164**	P	**P**	**09 29 11.6**	**0.0**
WRAB				IAmb	IAmb	09 29 30.0	
	comp=Z,9.3nm,1.3s						
WRA	**Warramunga Arr**	**19.93**	**165**	P	**Pn**	**09 29 14.2**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=342,slow=13,SNR=11						
WRA				S	**S**	**09 32 54.0**	**-2.2**
	comp=Z,0.2nm,0.7s,baz=334,slow=23,SNR=1.3						
	comp=Z,2.0nm,0.9s						
WB2	**Warramunga Arr**	**19.94**	**164**	P	**P**	**09 29 11.6**	**-0.2**
AS31	**Alice Springs**	**23.42**	**168**	P	**P**	**09 29 48.1**	**-0.8**
ASAR	**Alice Springs**	**23.42**	**168**	P	**P**	**09 29 53.8**	**+4.8**
	comp=Z,2.8nm,0.6s,baz=352,slow=9.9,SNR=35						
	comp=Z,2.8nm,0.6s						
EIDS	**Eidsvold**	**32.67**	**141**	P	**P**	**09 31 11.2**	**-1.0**
STKA	**Stephens Creek**	**33.34**	**160**	P	**P**	**09 31 17.2**	**-0.6**
STKA	**Stephens Creek**	**33.34**	**160**	P	**P**	**09 31 21.9**	**+4.1**
	comp=Z,1.7nm,0.5s,baz=330,slow=8.4,SNR=5.3						
	comp=Z,1.7nm,0.5s						
JNU	**Nakatsue**	**33.64**	**3**	LR	LR	09 46 34.5	
	comp=Z,21nm,18.1s,baz=262,slow=39						
MJAR	**Matsushiro Arr**	**38.02**	**12**	LR	LR	09 44 51.5	
	comp=Z,21nm,21.3s,baz=192,slow=32						
MK31	**Makanchi Array**	**62.30**	**326**	P	**P**	**09 35 00.6**	**-1.4**
MKAR	**Makanchi Array**	**62.30**	**326**	P	**P**	**09 35 04.8**	**+2.8**
	comp=Z,1.1nm,0.7s,baz=124,slow=7.2,SNR=2.1						
	comp=Z,1.1nm,0.7s						
ZAA0	**Zalesovo Array**	**65.39**	**333**	P	**P**	**09 35 21.2**	**-0.9**
KURBB	**Kurchatov Arra**	**66.51**	**328**	P	**P**	**09 35 30.7**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=121,slow=5.8,SNR=4.8						
	comp=Z,1.4nm,0.6s						
KURK	**Kurchatov**	**66.51**	**328**	P	**P**	**09 35 29.6**	**+0.2**
KURK				IAmb	IAmb	09 35 34.7	
	comp=Z,4.6nm,1.1s						
KKAR	**Karatay Array**	**67.82**	**318**	P	**P**	**09 35 37.6**	**-0.4**
KKAR				IAmb	IAmb	09 35 45.2	
	comp=Z,2.1nm,0.9s						
ABKAR	**Akbulak array**	**76.82**	**321**	P	**P**	**09 36 29.8**	**-1.8**
ABKAR				IAmb	IAmb	09 36 37.8	
	comp=Z,5.5nm,1.4s						
AKTO	**Aktyubinsk**	**78.35**	**322**	P	**P**	**09 36 44.1**	**+4.0**
	comp=Z,0.9nm,0.5s,baz=90,slow=5.1,SNR=2.6						
	comp=Z,0.9nm,0.5s						
QSPA	**South Pole Qui**	**89.29**	**180**	P	**P**	**09 37 36.0**	**+0.1**
QSPA				IAmb	IAmb	09 37 42.6	
	comp=Z,3.7nm,1.3s						

SJA ***20*** *09:27:20.0, 30°.63S×71°.99W, h10km, ML3.6*
GUC ***20*** *09:27:24.0±0.7, 30°.70S×71°.68W, h33km±2km, ML3.3*
ISC 20 09:27:19.5±1.4, 30°.77S±0°.03×71°.92W±0°.07, h17km±9km, n36, σ1§81/51, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.26**	**69**	*i* P	**Pb**	**09 27 28.9**	**+3.1**
CO06				*e*S	**Sg**	**09 27 32.3**	**+2.9**
CO05	**La Serena**	**1.03**	**35**	*e*P	**Pg**	**09 27 39.4**	**-0.1**
CO05				*e*S	**Sg**	**09 27 51.3**	**-1.7**
CO05				IAML		09 27 52.7	
	comp=N,2μm,0.4s						
CO03	**El Pedregal**	**1.06**	**94**	⇓*i*P	**Pn**	**09 27 39.8**	**+0.1**
CO03				*e*S	**Sg**	**09 27 51.5**	**-2.6**
CO03				IAML		09 27 52.0	
	comp=E,2μm,0.3s						
CO03	**El Pedregal**	**1.06**	**94**	*i* P	**Pg**	**09 27 39.0**	**-1.1**
CO03				IAML		09 27 53.4	
	comp=Z,574nm,0.3s						
GO04	**Tololo Observa**	**1.13**	**59**	*i* P	**Pb**	**09 27 41.0**	**+0.2**
GO04				*e*S	**Sg**	**09 27 54.3**	**-2.1**
GO04	**Tololo Observa**	**1.13**	**59**	*i* P	**Pg**	**09 27 40.2**	**-1.3**
CO04	**Los Peladeros**	**1.51**	**148**	*e*P	**Pg**	**09 27 48.8**	**+0.2**
CO04				*i* S	**Sg**	**09 28 09.1**	**+0.8**
CO04				IAML		09 28 12.7	
	comp=E,899nm,0.4s						
CO01	**Juntas del Tor**	**1.76**	**64**	⇓*i*P	**Pb**	**09 27 51.0**	**-0.5**
CO01				*e*S	**Sn**	**09 28 11.7**	**+0.1**
CO01				IAML		09 28 14.3	
	comp=N,370nm,0.4s						
CO01	**Juntas del Tor**	**1.76**	**64**	*i* P	**Pn**	**09 27 50.5**	**+1.0**
CO01				IAML		09 28 14.4	
	comp=Z,228nm,0.6s						
VA06	**Catapilco**	**1.86**	**164**	*e*P	**Pg**	**09 27 54.6**	**-0.8**
VA06				*e*S	**Sg**	**09 28 17.8**	**-1.8**
LCO	**Las Campanas**	**2.04**	**31**	*e*P	**Pn**	**09 27 54.9**	**+1.5**
LCO	**Las Campanas**	**2.04**	**31**	*i* P	**Pn**	**09 27 54.1**	**+0.7**
LCO				IAML		09 28 26.4	
	comp=Z,700nm,0.4s						
VA03	**San Esteban**	**2.31**	**150**	*e*P	**Pb**	**09 28 01.7**	**+1.0**
VA03	**San Esteban**	**2.31**	**150**	*i* P	**Pb**	**09 28 00.9**	**+0.2**
VA03				IAML		09 28 40.7	
	comp=Z,244nm,0.9s						
ROCH	**El Roble**	**2.33**	**161**	*e*P	**Pb**	**09 28 01.2**	**0.0**
ACCO	**Cerro Coronel**	**2.46**	**87**	*i* P	**Pb**	**09 28 03.8**	**+0.2**
ACCO				IAML		09 28 38.7	
	comp=Z,15nm,1.8s						
RTLS	**Leoncito**	**2.47**	**115**	*i* P	**Pb**	**09 28 04.3**	**+0.7**
RTLS				IAML		09 28 45.5	
	comp=Z,726nm,0.6s						
MT02	**Curacav**	**2.57**	**165**	*i* P	**Pb**	**09 28 04.0**	**-1.2**
MT02				IAML		09 28 48.7	
	comp=Z,152nm,0.6s						
PEL	**Peldehue**	**2.59**	**156**	*e*P	**Pb**	**09 28 05.8**	**+0.3**
PEL				*i* S	**Sb**	**09 28 37.2**	**0.0**
PEL				IAML		09 28 52.5	
	comp=N,179nm,0.5s						
AC04	**Llanos de Chal**	**2.66**	**16**	*i* P	**Pn**	**09 28 02.1**	**+0.5**
AC04				IAML		09 28 48.4	
	comp=Z,100nm,1.1s						
MT10	**Hacienda Santa**	**2.76**	**155**	*e*P	**Pb**	**09 28 07.8**	**-0.7**
MT10				*i* S	**Sb**	**09 28 40.9**	**-1.2**
MT05	**Renca**	**2.80**	**159**	*e*P	**Pb**	**09 28 10.6**	**+1.4**
MT05				*i* S	**Sb**	**09 28 42.8**	**-0.4**
MT14	**Cerro Cal¡n**	**2.87**	**156**	*e*P	**Pb**	**09 28 11.3**	**+0.9**
MT14				*i* S	**Sb**	**09 28 44.0**	**-1.2**
FCH	**Farellones**	**2.90**	**152**	*e*P	**Pb**	**09 28 11.2**	**+0.2**
FCH				*i* S	**Sb**	**09 28 45.0**	**-1.4**
FCH				IAML		09 29 01.0	
	comp=E,108nm,0.5s						
MT03	**Universidad Ad**	**2.97**	**157**	*e*P	**Pb**	**09 28 11.6**	**-0.4**
MT03				*i* S	**Sb**	**09 28 46.0**	**-2.1**
MT03	**Universidad Ad**	**2.97**	**157**	*i* P	**Pb**	**09 28 11.3**	**-0.7**
MT03				IAML		09 29 01.2	
	comp=Z,130nm,0.4s						
RTLL	**Cerro Villicun**	**3.01**	**102**	*i* P	**Pb**	**09 28 10.2**	**-2.5**
MT15	**Las Vizcachas**	**3.07**	**157**	*i* S	**Sb**	**09 28 48.5**	**-2.3**
MT08	**Bocatoma Ro**	**3.12**	**149**	*e*P	**Pb**	**09 28 14.5**	**-0.2**
MT08				*i* S	**Sb**	**09 28 52.8**	**+0.3**
MT08				IAML		09 29 00.9	
	comp=E,103nm,0.6s						
MT01	**Popeta**	**3.14**	**170**	*i* P	**Pn**	**09 28 11.7**	**+3.5**
MT01				IAML		09 29 29.1	
	comp=Z,144nm,1.4s						
MT12	**Pirque**	**3.18**	**159**	*i* S	**Sb**	**09 28 51.1**	**-2.9**
LMEL	**Las Melosas**	**3.40**	**155**	*e*P	**Pb**	**09 28 18.5**	**-0.9**
LMEL				*i* S	**Sb**	**09 28 56.5**	**-3.9**
LMEL				IAML		09 29 14.6	
	comp=N,116nm,0.4s						
GO03	**Copiapo**	**3.49**	**25**	*i* P	**Pn**	**09 28 14.5**	**+1.4**
AVFE	**Valle Fertil**	**3.85**	**90**	*i* P	**Pn**	**09 28 21.8**	**+3.8**
AVFE				IAML		09 29 22.6	
	comp=Z,64nm,0.5s						
ACLC	**CERRO LA CRUZ**	**4.51**	**74**	*i* P	**Pn**	**09 28 30.8**	**+3.7**
ACLC				IAML		09 29 34.0	
	comp=Z,55nm,0.4s						
ACHE	**Chepes**	**4.53**	**96**	*i* P	**Pn**	**09 28 31.4**	**+3.9**

IDC ***20*** *09:27:47.6±3.1, 53°.62N×90°.71E, h0km, mbtmp3.6/3, ML3.0/3, Error ellipse: s-maj=26.9km s-min=22.4km az=52.0*
NNC ***20*** *09:27:53.0±3.8, 53°.47N×90°.49E, h12km±20km, mb3.5, mpv3.3, Error ellipse: s-maj=23.2km s-min=20.7km az=84.0, Suspected Mining explosion.*
ISC 20 09:27:48.4±3.9, 53°.7N±0°.1×90°.5E±0°.2, h0km, n11, σ1§52/15, 8C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.36**	**277**	I	I	09 50 00.0	
	0.1nm,1.0s,baz=97,slow=337,SNR=11						
ZAA0	**Zalesovo Array**	**3.36**	**277**	⇓Pn	**Pb**	**09 28 47.5**	**-1.3**
	0.6nm,0.4s						
ZAA0				⇓Lg	Lg	09 29 40.3	
	17nm,0.8s						
ZALV	**Zalesovo Beam**	**3.36**	**277**	Pn	**Pn**	**09 28 44.2**	**+2.1**
	1.8nm,0.3s,baz=95,slow=17,SNR=7.5						
ZALV				Lg	Lg	09 29 38.4	
	4.8nm,0.3s,baz=88,slow=27,SNR=6.5						
	8.1nm,0.5s						
KURK	**Kurchatov**	**7.87**	**253**	⇑Pn	**Pn**	**09 29 45.0**	**+1.0**
	1.1nm,0.5s						
KURK				⇓Sn	**Sn**	**09 31 15.2**	**+1.6**
	3.3nm,0.6s						
KURK				⇑Lg	Lg	09 32 03.2	
	49nm,1.2s						
KURBB	**Kurchatov Arra**	**7.96**	**252**	⇑Pn	**Pn**	**09 29 45.7**	**+0.5**
	1.6nm,0.3s						
KURBB				⇑Sn	**Sn**	**09 31 17.1**	**+1.2**
	24nm,0.8s						
KURBB				⇑Lg	Lg	09 32 05.8	
	101nm,1.0s						
KURBB	**Kurchatov Arra**	**7.96**	**252**	Pn	**Pn**	**09 29 45.7**	**+0.5**
	0.3nm,0.3s,baz=67,slow=15,SNR=9.9						
KURBB				Sn	**Sn**	**09 31 16.1**	**+0.2**
	0.1nm,0.3s,baz=67,slow=26,SNR=5.3						
KURBB				Lg	Lg	09 32 04.3	
	0.1nm,0.3s,baz=61,slow=31,SNR=6.9						
	3.9nm,0.6s						
MK31	**Makanchi Array**	**8.66**	**220**	⇑Pn	**Pn**	**09 29 55.8**	**+0.9**
	0.5nm,0.4s,baz=32,slow=13,SNR=13						
MK31				⇓Sn	**Sn**	**09 31 35.9**	**+2.6**
	4.2nm,0.7s,baz=37,slow=22,SNR=2.8						
MK31				⇑Lg	Lg	09 32 27.1	
	24nm,0.9s,baz=42,slow=36,SNR=4.4						
MKAR	**Makanchi Array**	**8.66**	**220**	Pn	**Pn**	**09 29 55.2**	**+0.3**
	0.6nm,0.3s,baz=36,slow=13,SNR=18						
MKAR				Sn	**Sn**	**09 31 33.7**	**+0.5**
	0.2nm,0.3s,baz=29,slow=12,SNR=2.6						
MKAR				Lg	Lg	09 32 21.5	
	0.2nm,0.3s,baz=39,slow=28,SNR=5.6						
	1.9nm,0.5s						
MAKZ	**Makanchi**	**8.77**	**222**	⇑Pn	**Pn**	**09 29 55.9**	**-0.6**
	0.9nm,0.5s						
MAKZ				⇓Sn	**Sn**	**09 31 35.4**	**-0.6**
	2.7nm,0.6s						
MAKZ				⇓Lg	Lg	09 32 28.9	
	38nm,1.1s						
SONM	**Songino Array**	**11.65**	**114**	Lg	Lg	09 33 38.3	
	0.3nm,0.3s,baz=307,slow=29,SNR=3.9						
BVAR	**Borovoye Array**	**12.02**	**275**	Sn	**Sn**	**09 32 52.8**	**-2.7**
	baz=71,slow=22,SNR=2.5						

IDC ***20*** *09:31:58.3±0.6, 0°.70N×26°.25W, h0km, mb4.2/16, mbtmp4.2/17, ML3.4/1, MS3.8/30, Error ellipse: s-maj=25.8km s-min=13.6km az=141.0*
ISC 20 09:31:59.7±0.5, 0°.7N±0°.1×26°.2W±0°.1, h10km, n76, σ1§07/51, mb4.3/22, MS3.8/28, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**11.67**	**236**	Pn	**Pn**	**09 34 46.4**	**-0.1**
	0.2nm,0.3s,baz=353,slow=18,SNR=1.9						
RCBR				Sn	Sn	09 36 41.3	-16
	0.2nm,0.3s,baz=302,slow=23,SNR=1.4						
RCBR				LR	LR	09 38 12.8	
	comp=Z,175nm,19.1s,baz=69,slow=32						
	7.0nm,1.1s						
H10N3	**ASCENSION HYDR**	**14.46**	**126**	T	T	09 50 30.6	
	baz=305,slow=74,SNR=22						
H10N2	**ASCENSION HYDR**	**14.46**	**126**	T	T	09 50 30.6	
	baz=305,slow=74,SNR=36						
H10N1	**ASCENSION HYDR**	**14.48**	**126**	T	T	09 50 31.8	
	baz=305,slow=74,SNR=26						
H10S3	**ASCENSION HYDR**	**15.01**	**130**	T	T	09 51 01.6	
	baz=288						
H10S2	**ASCENSION HYDR**	**15.02**	**130**	T	T	09 51 02.3	
	baz=292						
BBTS	**Babate**	**16.82**	**34**	LR	LR	09 41 16.3	
	comp=Z,292nm,19.0s,baz=120,slow=33						
GUA01	**Guaratinga, BA**	**21.82**	**217**	*e*P	**P**	**09 36 54.0**	**+1.6**
TMAB	**Tom-Au,PA,Br**	**22.09**	**262**	*e*P	**P**	**09 36 55.7**	**+0.3**
DBIC	**Dimbokro**	**22.11**	**74**	P	**P**	**09 36 55.5**	**0.0**
	10nm,0.8s,baz=253,slow=10,SNR=8.1						
DBIC				LR	LR	09 43 36.6	
	comp=Z,276nm,21.7s,baz=251,slow=32						
	10nm,0.8s						
SDBA	**SAO DESIDERIO**	**22.69**	**234**	*e*P	**P**	**09 37 01.5**	**-0.3**
SJMB	**Sao Joao De Ma**	**24.29**	**217**	*e*P	**P**	**09 37 18.6**	**+1.2**
DIAM	**Diamantina, MG**	**25.55**	**221**	*e*P	**P**	**09 37 30.9**	**+1.8**
MDP	**Montagnes des**	**26.74**	**280**	LR	LR	09 46 38.2	
	comp=Z,147nm,18.6s,baz=96,slow=33						
BDFB	**Brasilia**	**27.00**	**232**	P	**P**	**09 37 40.6**	**-1.7**
	6.5nm,1.0s,baz=62,slow=12,SNR=4.5						
BDFB				LR	LR	09 47 03.5	
	comp=Z,342nm,21.6s,baz=70,slow=34						
	6.5nm,1.0s						
ITTB	**Itaituba**	**29.93**	**260**	*e*P	**P**	**09 38 07.3**	**-1.0**
TORD	**Torodi Ar. Bea**	**30.27**	**65**	P	**P**	**09 38 11.4**	**+0.1**
	3.3nm,0.9s,baz=262,slow=8.7,SNR=18						
TORD				LR	LR	09 48 38.7	
	comp=Z,216nm,20.8s,baz=278,slow=33						
	3.3nm,0.9s						
PDRB	**Porto dos Gac**	**32.70**	**247**	*e*P	**P**	**09 38 32.0**	**-0.8**
BOAV	**Boa Vista**	**34.33**	**273**	*e*P	**P**	**09 38 47.2**	**+0.2**
BDQN	**Bodoquena, MS**	**36.56**	**233**	*e*P	**P**	**09 39 07.6**	**+1.5**
MDT	**Midelt**	**37.84**	**30**	LR	LR	09 54 00.9	
	comp=Z,168nm,19.7s,baz=342,slow=35						
SIV	**San Ignacio**	**38.22**	**243**	LR	LR	09 54 29.0	
	comp=Z,244nm,18.6s,baz=94,slow=35						
BBSD	**Serra de San D**	**38.28**	**241**	*e*P	**P**	**09 39 21.1**	**+0.3**
CPUP	**Villa Florida**	**40.31**	**226**	P	**P**	**09 39 38.2**	**+0.7**
	3.1nm,1.0s,baz=53,slow=12,SNR=4.1						
CPUP				LR	LR	09 55 54.4	
	comp=Z,166nm,19.3s,baz=55,slow=36						
	3.1nm,1.0s						
ESDC	**Sonseca Array**	**43.75**	**25**	P	**P**	**09 40 06.3**	**+0.8**
	4.3nm,0.9s,baz=226,slow=7.9,SNR=15						
ESDC				LR	LR	09 57 06.9	
	comp=Z,79nm,19.7s,baz=280,slow=34						
	4.3nm,0.9s						
LPAZ	**La Paz**	**44.68**	**246**	P	**P**	**09 40 14.1**	**+0.1**
	2.5nm,0.9s,baz=126,slow=2.6,SNR=12						
LPAZ				LR	LR	09 58 24.9	
	comp=Z,345nm,18.5s,baz=66,slow=36						
	2.5nm,0.9s						
LPAZ	**La Paz**	**44.68**	**246**	*e*P	**P**	**09 40 13.3**	**-0.7**
SDV	**Santo Domingo**	**44.95**	**282**	LR	LR	09 58 53.4	
	comp=Z,99nm,18.1s,baz=64,slow=36						
KEST	**Kesra**	**47.99**	**40**	LR	LR	10 01 48.1	
	comp=Z,148nm,18.1s,baz=214,slow=37						
ROSC	**El Rosal**	**48.21**	**276**	LR	LR	09 59 12.7	
	comp=Z,146nm,19.8s,baz=250,slow=34						
VAE	**Valguarnera**	**52.30**	**41**	LR	LR	10 05 17.7	
	comp=Z,331nm,18.2s,baz=284,slow=38						
ATAH	**Atahualpa**	**52.64**	**260**	LR	LR	10 02 45.6	
	comp=Z,124nm,19.8s,baz=93,slow=35						
SUR	**Sutherland**	**55.26**	**131**	LR	LR	10 01 35.3	
	comp=Z,54nm,18.9s,baz=289,slow=32						
DAVOX	**Davos/Dischmat**	**55.63**	**29**	LR	LR	10 05 54.1	
	comp=Z,56nm,18.6s,baz=258,slow=37						
MBAR	**Mbarara**	**56.97**	**91**	LR	LR	10 02 42.5	
	comp=Z,48nm,20.3s,baz=236,slow=32						
GERES	**GERESS Array B**	**58.92**	**30**	P	**P**	**09 41 59.5**	**+0.3**
	0.7nm,0.4s,baz=208,slow=12,SNR=2.4						
	0.7nm,0.4s						
VOIR		**63.28**	**38**	P	**P**	**09 42 28.5**	**-0.4**
	6.3nm,1.8s						
SCHQ	**Schefferville**	**63.28**	**335**	LR	LR	10 07 04.9	
	comp=Z,66nm,18.4s,baz=276,slow=33						
HOLU	**Holmets**	**63.31**	**34**	P	**P**	**09 42 27.6**	**-1.3**
MLR	**Muntele Rosu**	**63.86**	**38**	LR	LR	10 12 30.7	
	comp=Z,103nm,18.2s,baz=214,slow=38						
EIL	**Elat**	**64.79**	**57**	LR	LR	10 11 35.3	
	comp=Z,73nm,18.1s,baz=248,slow=37						
CHRU	**Chernivtsi**	**65.20**	**36**	P	**P**	**09 42 40.1**	**-1.2**
KMPD	**K-Podol'skiy**	**65.65**	**35**	P	**pP**	**09 42 43.8**	**-2.4**
KMPD				P	**P**	**09 42 43.0**	**-1.2**
	4μm,1.6s						
MMAI	**Mount Meron Ar**	**66.03**	**54**	LR	LR	10 12 51.5	
	comp=Z,38nm,19.8s,baz=224,slow=37						
NOA	**NORSAR Array B**	**66.57**	**19**	P	**P**	**09 42 52.0**	**+2.1**
	1.5nm,0.9s,baz=222,slow=6.2,SNR=3.9						
NOA				LR	LR	10 08 54.2	
	comp=Z,34nm,19.3s,baz=245,slow=33						
	1.5nm,0.9s						
BR105	**Keskin Array S**	**66.69**	**47**	P	**P**	**09 42 51.9**	**+0.6**
	4.6nm,0.9s						
BR106	**Keskin Array S**	**66.69**	**47**	P	**P**	**09 42 50.5**	**-0.8**
	4.0nm,0.9s						
BR104	**Keskin Array S**	**66.70**	**47**	P	**P**	**09 42 51.9**	**+0.6**
	5.3nm,0.8s						
BRTR	**Keskin Array B**	**66.71**	**47**	P	**P**	**09 42 51.7**	**+0.4**
	2.9nm,0.7s,baz=229,slow=5.4,SNR=11						
	2.9nm,0.7s						
HFS	**Hagfors**	**66.73**	**20**	LR	LR	10 10 46.2	
	comp=Z,59nm,18.8s,baz=251,slow=35						
RNPP9	**Sopachiv**	**66.76**	**33**	P	**P**	**09 42 50.1**	**-1.1**
LUBAR	**Lubar, Ukraine**	**67.05**	**35**	P	**P**	**09 42 51.8**	**-1.3**
MI28	**Mi28,Pidlybu**	**67.49**	**34**	P	**P**	**09 42 54.5**	**-1.4**
	94nm,1.8s						
**A

mbtmp3.5/4, MS3.7/2, Error ellipse: s-maj=510.0km s-min=24.5km az=54.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**19.78**	**142**	LR	LR	09 45 20.6	
	comp=Z,145nm,21.9s,baz=110,slow=36						
MKAR	**Makanchi Array**	**26.12**	**317**	P	P	09 39 05.4	-0.3
	1.1nm,0.6s,baz=129,slow=11,SNR=5.5						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**30.21**	**321**	P	P	09 39 42.4	+0.3
	0.5nm,0.6s,baz=136,slow=9.1,SNR=3.0						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**55.79**	**150**	P	P	09 43 09.8	+0.7
	0.2nm,0.6s,baz=337,slow=8.1,SNR=1.9						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**58.93**	**153**	P	P	09 43 30.3	-0.8
	0.2nm,0.5s,baz=338,slow=7.0,SNR=2.0						
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**59.55**	**336**	LR	LR	10 11 26.2	
	comp=Z,96nm,18.1s,baz=280,slow=38						

*DNK **20** 09:34:37.1±4.5, 70°.89N×10°.21W, h37km±94km, ML1.5*
*BER **20** 09:34:41.5±0.6, 71°.27N×9.22W, h0km±85km, ML2.7, Confirmed Earthquake*

ISC 20 09:34:29.4±0.9, 71°.69N±0°.09×10°.0W±0°.1, h10km, n8, σ2°.9 09/14, 4C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.84**	**141**	⇑*i*P	**Pn**	**09 34 49.5**	**+2.3**
JNW				*e*S	**Sb**	**09 34 55.5**	**-1.8**
JNW				IAML		09 34 56.4	
	comp=Z,508nm,0.2s						
JMIC	**Jan Mayen**	**0.86**	**144**	⇑*i*P	**Pn**	**09 34 49.6**	**+2.1**
JMIC				*e*S	**Sg**	**09 34 55.5**	**-1.5**
JMIC				IAML		09 34 56.8	
	comp=Z,319nm,0.2s						
JMIC	**Jan Mayen**	**0.86**	**144**	*i*P	**Pn**	**09 34 49.6**	**+2.1**
JMIC				*i*S	**Sg**	**09 34 55.5**	**-1.5**
JMI	**Jan Mayen**	**0.87**	**151**	⇑*i*P	**Pn**	**09 34 49.9**	**+2.2**
JNE	**Jan Mayen East**	**0.89**	**141**	⇑*i*P	**Pn**	**09 34 50.2**	**+2.2**
JNE				*e*S	**Sg**	**09 34 56.6**	**-1.6**
JNE				IAML		09 34 58.0	
	comp=Z,651nm,0.1s						
DBG	**Daneborg**	**3.98**	**316**	*i*P	**Pg**	**09 35 43.9**	**-1.7**
DBG				*i*S	**Sb**	**09 36 28.5**	**+0.8**
DBG				IAML		09 36 44.1	
	comp=Z,3.6nm,0.4s						
SCO	**Scoresbysund**	**4.06**	**258**	*i*P	**Pn**	**09 35 32.7**	**+1.2**
DAG	**Danmarks Havn**	**5.62**	**339**	*i*P	**Pb**	**09 36 08.8**	**+1.4**
DAG				*i*S	**Sb**	**09 37 12.1**	**-2.6**
DAG				IAML		09 37 17.4	
	comp=Z,1.0nm,0.2s						

*NOU **20** 09:35:32.2, 38°.72S×178°.33E, h23km, MLv3.7/8, Off E. Coast of N. Island, N.Z.*
*WEL **20** 09:35:34.8±0.4, 39°.5±2°.×17°.8E±°., h25km±2km, M3.6/29, ML3.9/30, MLv3.6/29, Error ellipse: s-maj=4.7km s-min=2.4km az=115.6, confirmed*

ISC 20 09:35:34.1±1.2, 38°.64S±0°.03×178°.24E±0°.04, h34km±2km, n105, σ1°.11/123, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**0.16**	**351**	P	**Pb**	**09 35 40.9**	**+0.5**
CNGZ				S	**Sb**	**09 35 46.9**	**+2.2**
TKGZ	**Te Karaka**	**0.37**	**304**	P	**Pb**	**09 35 41.8**	**-1.1**
TKGZ				S	**Sb**	**09 35 47.4**	**-1.3**
RIGZ	**Rimuhau**	**0.38**	**260**	P	**Pb**	**09 35 42.6**	**-0.4**
RIGZ				S	**Sb**	**09 35 49.2**	**+0.1**
PRGZ	**Paritu Road**	**0.39**	**225**	P	**Pb**	**09 35 43.8**	**+0.6**
PRGZ				S	**Sn**	**09 35 52.4**	**+2.7**
TWGZ	**Tauwhareparae**	**0.51**	**336**	P	**Pb**	**09 35 44.6**	**-0.3**
TWGZ				S	**Sb**	**09 35 52.8**	**+0.4**
MHGZ	**Mahia Peninsul**	**0.57**	**207**	P	**Pb**	**09 35 46.9**	**+1.0**
PUZ	**Puketiti**	**0.57**	**1**	P	**Pn**	**09 35 45.9**	**+0.1**
PUZ				S	**Sn**	**09 35 55.0**	**+0.8**
KNZ	**Kokohu**	**0.58**	**229**	P	**Pn**	**09 35 46.0**	**0.0**
KNZ				S	**Sn**	**09 35 55.1**	**+0.8**
MWZ	**Matawai**	**0.64**	**299**	P	**Pn**	**09 35 45.7**	**-1.1**
MWZ				S	**Sn**	**09 35 54.2**	**-1.6**
RAGZ	**Rawiri**	**0.66**	**283**	P	**Pn**	**09 35 46.3**	**-0.9**
RAGZ				S	**Sn**	**09 35 55.3**	**-1.2**
SNGZ	**Shannon Statio**	**0.72**	**259**	P	**Pn**	**09 35 47.5**	**-0.4**
SNGZ				S	**Sn**	**09 35 57.4**	**-0.4**
RUGZ	**Raukumara Rang**	**0.81**	**327**	P	**Pn**	**09 35 48.4**	**-0.8**
RUGZ				S	**Sn**	**09 35 58.9**	**-1.3**
WMGZ	**Waiomatatini S**	**0.83**	**10**	P	**Pn**	**09 35 50.0**	**+0.5**
WMGZ				S	**Sb**	**09 36 02.6**	**+1.4**
WHHZ	**Waihua**	**0.90**	**241**	P	**Pn**	**09 35 50.3**	**0.0**
WHHZ				S	**Sn**	**09 36 02.9**	**+0.8**
RAHZ	**Arahi**	**0.94**	**253**	P	**Pn**	**09 35 50.7**	**-0.3**
HAZ	**Te Kaha**	**0.96**	**338**	P	**Pn**	**09 35 50.9**	**-0.3**
HAZ				S	**Sn**	**09 36 03.0**	**-0.6**
URZ	**Urewera**	**0.97**	**293**	P	**Pn**	**09 35 50.4**	**-0.9**
URZ				S	**Sn**	**09 36 02.8**	**-1.1**
URZ	**Urewera**	**0.97**	**293**	P	**Pn**	**09 35 50.8**	**-0.5**
RTZ	**Ruatahuna**	**0.99**	**271**	P	**Pn**	**09 35 51.0**	**-0.6**
MXZ	**Matakaoa Point**	**1.08**	**3**	P	**Pn**	**09 35 53.4**	**+0.5**
MXZ				S	**Sn**	**09 36 08.0**	**+1.3**
MXZ	**Matakaoa Point**	**1.08**	**3**	P	**Pn**	**09 35 53.5**	**+0.6**
MTHZ	**Maungataniwha**	**1.11**	**259**	P	**Pn**	**09 35 52.8**	**-0.5**
ARHZ	**Aropaoanui**	**1.15**	**237**	P	**Pn**	**09 35 53.9**	**+0.1**
MUGZ	**Murupara**	**1.16**	**278**	P	**Pn**	**09 35 53.7**	**-0.4**
NMHZ	**Naumai**	**1.21**	**248**	P	**Pn**	**09 35 54.8**	**+0.1**
WHRZ	**Whale Island**	**1.27**	**308**	P	**Pn**	**09 35 55.8**	**+0.3**
EDRZ	**Edgecumbe**	**1.29**	**294**	P	**Pn**	**09 35 55.9**	**0.0**
CKHZ	**Cape Kidnapper**	**1.36**	**221**	P	**Pn**	**09 35 56.5**	**-0.2**
CKHZ				S	**Sn**	**09 36 14.7**	**+1.1**
RRRZ	**Republican Roa**	**1.39**	**282**	P	**Pn**	**09 35 57.6**	**+0.4**
WIZ	**White Island**	**1.39**	**323**	P	**Pn**	**09 35 56.8**	**-0.3**
WSRZ	**White Island S**	**1.40**	**323**	P	**Pn**	**09 35 58.5**	**+1.2**
TARZ	**Mount Tarawera**	**1.42**	**286**	P	**Pn**	**09 35 57.8**	**+0.1**
MRHZ	**Matea Rd**	**1.44**	**262**	P	**Pn**	**09 35 57.9**	**0.0**
MCHZ	**McNeill Hill**	**1.44**	**236**	P	**Pn**	**09 35 57.8**	**-0.1**
PRRZ	**Plateau Road**	**1.46**	**275**	P	**Pn**	**09 35 58.8**	**+0.7**
BKZ	**Black Stump Fm**	**1.46**	**249**	P	**Pn**	**09 35 57.8**	**-0.3**
BKZ	**Black Stump Fm**	**1.46**	**249**	P	**Pn**	**09 35 58.4**	**+0.2**
MKRZ	**Makatiti**	**1.48**	**289**	P	**Pn**	**09 35 59.3**	**+0.8**
ALRZ	**Allen Road**	**1.49**	**273**	P	**Pn**	**09 35 58.4**	**-0.1**
HLRZ	**Highlands Stat**	**1.53**	**284**	P	**Pn**	**09 35 59.3**	**+0.2**
OPRZ	**Ohinepanea**	**1.55**	**301**	P	**Pn**	**09 35 58.4**	**-0.9**
HRRZ	**Handcock Road**	**1.56**	**279**	P	**Pn**	**09 35 59.8**	**+0.4**
KAHZ	**Kahuranaki**	**1.56**	**222**	P	**Pn**	**09 35 59.1**	**-0.4**
OMRZ	**Omania**	**1.56**	**290**	P	**Pn**	**09 35 59.2**	**-0.3**
LIRZ	**Lichensteins R**	**1.59**	**293**	P	**Pn**	**09 35 59.7**	**-0.3**
HSRZ	**Hossack Road**	**1.60**	**281**	P	**Pn**	**09 36 00.6**	**+0.5**
KWHZ	**Kaweka Forest**	**1.61**	**241**	P	**Pn**	**09 35 60.0**	**-0.3**
WPRZ	**Whakapapatarin**	**1.63**	**274**	P	**Pn**	**09 36 01.4**	**+0.9**
UTU	**Utuhina**	**1.67**	**286**	P	**Pn**	**09 36 01.8**	**+0.8**
KARZ	**Kaharoa**	**1.69**	**291**	P	**Pn**	**09 36 00.8**	**-0.5**
GRRZ	**Galatos Road**	**1.70**	**279**	P	**Pn**	**09 36 02.0**	**+0.6**
NGRZ	**Ngongotaha**	**1.70**	**288**	P	**Pn**	**09 36 01.7**	**+0.2**
PXZ	**Pawanui**	**1.75**	**217**	P	**Pn**	**09 36 01.1**	**-1.0**
KRHZ	**Kereru**	**1.76**	**235**	P	**Pn**	**09 36 01.6**	**-0.7**
TGRZ	**Tauranga**	**1.81**	**300**	P	**Pn**	**09 36 02.4**	**-0.5**
RITZ	**Rihia Road**	**1.89**	**259**	P	**Pn**	**09 36 06.4**	**+2.4**
KUTZ	**Kaahu Road**	**1.90**	**274**	P	**Pn**	**09 36 04.8**	**+0.7**
RATZ	**Rangitukua**	**1.94**	**263**	P	**Pn**	**09 36 06.7**	**+1.9**
KMRZ	**Kaimai**	**1.98**	**293**	P	**Pn**	**09 36 04.6**	**-0.7**
WPHZ	**Waipukurau**	**1.99**	**224**	P	**Pn**	**09 36 04.6**	**-0.9**
KATZ	**Kakaramea**	**2.02**	**260**	P	**Pn**	**09 36 08.0**	**+2.1**
ETVZ	**East Tongariro**	**2.03**	**255**	P	**Pn**	**09 36 07.1**	**+1.0**
TMVZ	**Te Maari**	**2.03**	**256**	P	**Pn**	**09 36 06.9**	**+0.8**
PRHZ	**Porangahau**	**2.04**	**217**	P	**Pn**	**09 36 04.9**	**-1.2**
NTVZ	**North Tongarir**	**2.05**	**256**	P	**Pn**	**09 36 07.3**	**+0.9**
OTVZ	**Oturere**	**2.07**	**255**	P	**Pn**	**09 36 07.5**	**+0.7**
KRVZ	**Karewarewa**	**2.08**	**257**	P	**Pn**	**09 36 07.2**	**+0.5**
MOVZ	**Moawhango**	**2.08**	**248**	P	**Pn**	**09 36 07.6**	**+0.9**
MYRZ	**Mayor Island**	**2.08**	**310**	P	**Pn**	**09 36 06.2**	**-0.5**
SNVZ	**South Ngauruho**	**2.10**	**254**	P	**Pn**	**09 36 07.6**	**+0.6**
NNVZ	**North Ngauruho**	**2.10**	**256**	P	**Pn**	**09 36 08.8**	**+1.7**
TUVZ	**Tukino**	**2.11**	**252**	P	**Pn**	**09 36 08.3**	**+1.1**
WTVZ	**West Tongariro**	**2.12**	**256**	P	**Pn**	**09 36 09.5**	**+2.2**
NGZ	**Ngauruhoe**	**2.12**	**255**	P	**Pn**	**09 36 08.4**	**+1.0**
TLZ	**Tolley Road**	**2.14**	**278**	P	**Pn**	**09 36 06.9**	**-0.7**
WHVZ	**Whangaehu Hut**	**2.16**	**252**	P	**Pn**	**09 36 09.2**	**+1.2**
WNVZ	**Wahianoa**	**2.17**	**251**	P	**Pn**	**09 36 08.2**	**+0.1**
COVZ	**Chateau Observ**	**2.18**	**254**	P	**Pb**	**09 36 13.3**	**+0.4**
MAVZ	**Matarangi**	**2.18**	**253**	P	**Pb**	**09 36 12.9**	**-0.2**
FWVZ	**Far West T-bar**	**2.18**	**253**	P	**Pn**	**09 36 09.3**	**+1.0**
TRVZ	**Turoa**	**2.20**	**252**	P	**Pn**	**09 36 10.3**	**+1.8**
TWVZ	**Taurewa**	**2.23**	**258**	P	**Pb**	**09 36 13.5**	**-0.3**
ANWZ	**Angora Road**	**2.27**	**216**	P	**Pn**	**09 36 07.6**	**-1.7**
DVHZ	**Dannevirke**	**2.30**	**223**	P	**Pn**	**09 36 08.4**	**-1.3**
TOZ	**Tahuroa Road**	**2.34**	**292**	P	**Pn**	**09 36 09.5**	**-0.7**
PKVZ	**Pokaka**	**2.34**	**253**	P	**Pn**	**09 36 12.5**	**+2.2**
BFZ	**Birch Farm**	**2.55**	**216**	P	**Pn**	**09 36 11.2**	**-1.9**
BFZ	**Birch Farm**	**2.55**	**216**	P	**Pn**	**09 36 11.3**	**-1.9**
POWZ	**Post Office Ro**	**2.59**	**227**	P	**Pn**	**09 36 12.7**	**-1.0**
PRWZ	**Pori Road**	**2.59**	**222**	P	**Pn**	**09 36 12.5**	**-1.2**
HIZ	**Hauiti**	**2.66**	**272**	P	**Pn**	**09 36 15.5**	**+0.9**
HIZ	**Hauiti**	**2.66**	**272**	P	**Pn**	**09 36 15.5**	**+0.9**
KUZ	**Kuaotunu**	**2.75**	**313**	P	**Pn**	**09 36 14.8**	**-1.1**
KUZ	**Kuaotunu**	**2.75**	**313**	P	**Pn**	**09 36 15.5**	**-0.4**
WAZ	**Wanganui**	**2.76**	**245**	P	**Pn**	**09 36 17.1**	**+1.1**
MKAZ	**Moumakai**	**2.88**	**301**	P	**Pn**	**09 36 17.1**	**-0.5**
LREZ	**Lake Rotokare**	**3.10**	**254**	P	**Pn**	**09 36 22.5**	**+1.9**
PREZ	**Palmer Road**	**3.25**	**256**	P	**Pn**	**09 36 25.1**	**+2.3**
NEZ	**North Egmont**	**3.29**	**258**	P	**Pn**	**09 36 25.0**	**+1.6**
KHEZ	**Kahui Hut**	**3.36**	**258**	P	**Pn**	**09 36 26.0**	**+1.7**
KHEZ	**Kahui Hut**	**3.36**	**258**	P	**Pn**	**09 36 24.8**	**+0.5**
PKE	**Pukeiti**	**3.36**	**259**	P	**Pn**	**09 36 25.7**	**+1.4**
WCZ	**Waipu Caves**	**4.12**	**310**	P	**Pn**	**09 36 34.2**	**-0.4**
QRZ	**Quartz Range**	**4.91**	**242**	P	**Pn**	**09 36 44.3**	**-1.3**
CTZ	**Chatham Island**	**6.40**	**144**	P	**Pn**	**09 37 08.1**	**+2.2**
CTZ				S	**Sn**	**09 38 13.6**	**-4.1**

*UPP **20** 10:00:05.5±2.8, 64°.45N×30°.83E, h0km, ML2.0*
*IDC **20** 10:00:06.1±3.0, 64°.69N×31°.44E, h0km, mbtmp3.0/4, ML2.0/4, Error ellipse: s-maj=43.4km s-min=11.0km az=101.0*
*KOLA **20** 10:00:06.9, 64°.64N×31°.14E, h0km, ML2.3, Error ellipse: s-maj=51.1km s-min=16.5km az=100.0, Karelia*
*HEL **20** 10:00:06.7±0.1, 64°.75N×30°.62E, h0km, ML2.0, Explosion*

ISC 20 10:00:06.9±1.0, 64°.78N±0°.03×30°.63E±0°.04, h0km, n49, σ1°.51/68, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.64**	**209**	PG	**Pg**	**10 00 17.7**	**-1.4**
	baz=32						
RMF				MSG		10 00 26.2	
	comp=Z,27nm,0.2s						
KU6	**Riekki**	**1.29**	**346**	PG	**Pg**	**10 00 30.2**	**-1.5**
	baz=163						
KU6				MSG		10 00 46.6	
	comp=Z,10.0nm,0.2s						
KU6				SG	**Sg**	**10 00 49.2**	**+0.8**
OLKF	**Oulanka, Finla**	**1.64**	**342**	PG	**Pn**	**10 00 36.3**	**-0.6**
OLKF				MSG		10 00 56.2	
	comp=Z,7.4nm,0.2s						
OLKF				SN	**Sb**	**10 00 59.8**	**+0.8**
NIF	**Nilsia**	**1.86**	**223**	PG	**Pn**	**10 00 39.8**	**-0.2**
JOF	**Joensuu**	**1.89**	**170**	*e*P	**Pn**	**10 00 40.4**	**0.0**
JOF	**Joensuu**	**1.89**	**170**	PG	**Pn**	**10 00 39.9**	**-0.5**
	baz=352						
JOF				SG	**Sn**	**10 01 05.6**	**+0.8**
RANF	**Ranua**	**2.03**	**309**	PG	**Pn**	**10 00 43.2**	**+0.9**
	baz=122						
RANF				SG	**Sb**	**10 01 10.7**	**+0.2**
OUL	**Oulu**	**2.04**	**281**	PG	**Pn**	**10 00 43.1**	**+0.6**
	baz=94						
OUL				SG	**Sb**	**10 01 10.9**	**+0.2**
OBF4	**Vikkela, Lumij**	**2.37**	**273**	PG	**Pn**	**10 00 48.6**	**+1.6**
	baz=94						
OBF4				MSG		10 01 16.7	
	comp=Z,17nm,0.2s						
OBF4				SG	**Sb**	**10 01 22.0**	**+1.9**
OUF	**Merijarvi**	**2.58**	**264**	PN	**Pn**	**10 00 50.4**	**+0.6**
OUF				MSG		10 01 22.6	
	comp=Z,11nm,0.2s						
OUF				SG	**Sb**	**10 01 25.9**	**-0.3**
RNF	**Rovaniemi**	**2.65**	**316**	PB	**Pn**	**10 00 52.7**	**+1.8**
RNF				SG	**Sb**	**10 01 28.7**	**+0.4**
OBF0	**Syolatti, Pyha**	**2.77**	**267**	PN	**Pn**	**10 00 53.2**	**+0.7**
OBF0				MSG		10 01 28.1	
	comp=Z,7.4nm,0.2s						
OBF0				SG	**Sb**	**10 01 33.2**	**+1.6**
SUF	**Sumiainen**	**2.87**	**226**	PB	**Pn**	**10 00 55.9**	**+2.1**
SUF				MSG		10 01 30.4	
	comp=Z,3.7nm,0.2s						
TOF	**Tornio**	**2.94**	**299**	PB	**Pn**	**10 00 56.4**	**+1.5**
TOF				MSG		10 01 33.5	
	comp=Z,2.5nm,0.2s						
TOF				SG	**Sb**	**10 01 36.6**	**0.0**
APA0	**Apatity Array**	**3.00**	**18**	P	**Pn**	**10 00 55.5**	**-0.2**
APA0				S	**Sn**	**10 01 34.0**	**+1.7**
VRF	**Varrio**	**3.02**	**353**	PN	**Pn**	**10 00 56.6**	**+0.7**
VRF				MSG		10 01 36.1	
	comp=Z,3.3nm,0.2s						
VRF				SG	**Sb**	**10 01 41.2**	**+2.5**
APA	**Apatity**	**3.02**	**21**	S	**Sn**	**10 01 31.8**	**-1.0**
KALU	**Kalix**	**3.24**	**293**	PB	**Pn**	**10 01 01.8**	**+2.9**
KALU				SG	**Sb**	**10 01 46.2**	**+1.0**
KAF	**Kangasniemi**	**3.30**	**218**	PB	**Pn**	**10 01 02.5**	**+2.7**
	baz=39						
RUF	**Ruokolahti**	**3.45**	**194**	PN	**Pn**	**10 01 03.2**	**+1.4**
LVZ	**Lovozero**	**3.53**	**26**	S	**Sn**	**10 01 44.8**	**-0.6**
KLF	**Kolari**	**3.68**	**315**	PN	**Pn**	**10 01 06.4**	**+1.4**
KLF				SG	**Sg**	**10 02 03.4**	**-1.5**
KEF	**Keuruu**	**3.68**	**227**	*e*P	**Pn**	**10 01 06.8**	**+1.8**
KEF	**Keuruu**	**3.68**	**227**	PB	**Pn**	**10 01 07.8**	**+2.8**
PAJU	**Pajala**	**3.82**	**310**	P	**Pn**	**10 01 07.6**	**+0.6**
PAJU	**Pajala**	**3.82**	**310**	PN	**Pn**	**10 01 08.3**	**+1.3**
PAJU				SG	**Sb**	**10 02 05.9**	**+4.0**
RAJF	**Raja-Jooseppi**	**3.83**	**347**	PN	**Pn**	**10 01 07.6**	**+0.6**
SJUU	**Sjulsmark**	**3.88**	**285**	P	**Pn**	**10 01 08.4**	**+0.6**
SJUU				S	**Sn**	**10 01 56.1**	**+2.2**
VAF	**Ylistaro**	**3.92**	**247**	*e*P	**Pn**	**10 01 08.7**	**+0.4**
VAF	**Ylistaro**	**3.92**	**247**	PN	**Pn**	**10 01 09.7**	**+1.4**
ERTU	**Ertsjaerv**	**3.92**	**301**	PN	**Pn**	**10 01 10.1**	**+1.7**
	baz=116						
FIA0	**FINESS Array S**	**3.93**	**214**	PN	**Pn**	**10 01 09.8**	**+1.4**
	baz=28						
FINES	**FINESS Array B**	**3.93**	**214**	Pn	**Pn**	**10 01 08.3**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=34,slow=13,SNR=6.1						
FINES				Sn	**Sn**	**10 01 54.4**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=36,slow=21,SNR=2.1						
FINES				Lg	Lg	10 02 08.8	
	comp=Z,0.9nm,0.3s,baz=35,slow=27,SNR=8.3						
	comp=Z,1.8nm,0.8s						
HARU	**Harads**	**4.26**	**293**	P	**Pn**	**10 01 14.5**	**+1.5**
HARU				S	**Sn**	**10 02 05.1**	**+1.8**
ODEU	**Stanfors**	**4.29**	**270**	P	**Pn**	**10 01 11.8**	**-1.5**
MASU	**Masugnsbyn**	**4.42**	**311**	P	**Pn**	**10 01 17.7**	**+2.5**
UMAU	**Umeaa**	**4.42**	**263**	P	**Pn**	**10 01 14.1**	**-1.1**
UMAU	**Umeaa**	**4.42**	**263**	PN	**Pn**	**10 01 15.3**	**+0.1**
UMAU				SN	**Sn**	**10 02 06.4**	**-0.9**
HEF	**Hetta**	**4.58**	**326**	PN	**Pn**	**10 01 18.9**	**+1.4**
HEF				SG	**Sg**	**10 02 30.3**	**-3.7**
LILU	**Lilltraesk**	**4.60**	**281**	P	**Pn**	**10 01 17.3**	**-0.3**
KMNF	**Kaamanen**	**4.62**	**344**	PN	**Pn**	**10 01 17.5**	**-0.4**
DUNU	**Dundret**	**4.74**	**304**	P	**Pn**	**10 01 21.8**	**+2.1**
SVAU	**Svanoeiden**	**4.77**	**272**	P	**Pn**	**10 01 19.9**	**0.0**
ARCES	**ARCESS Array B**	**5.18**	**340**	Pn	**Pn**	**10 01 25.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=150,slow=13,SNR=21						
ARCES				Sn	**Sn**	**10 02 23.1**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=158,slow=25,SNR=1.4						
ARCES				Lg	Lg	10 02 45.5	
	comp=Z,0.4nm,0.3s,baz=159,slow=31,SNR=6.0						
	comp=Z,0.6nm,0.3s						
VADS	**Vadso**	**5.39**	**355**	S	**Sn**	**10 02 30.3**	**-0.9**
I43RU	**DUBNA INFRASON**	**8.69**	**155**	I	I	10 50 20.0	
	baz=345,slow=320,SNR=1.6						
HFS	**Hagfors**	**9.11**	**247**	Pn	**Pn**	**10 02 19.7**	**+0.3**
	baz=58,slow=14,SNR=1.5						
	comp=Z,0.9nm,0.7s						
NOA	**NORSAR Array B**	**9.60**	**256**	Pn	**Pn**	**10 02 26.3**	**+0.1**
	baz=58,slow=12,SNR=1.7						
	comp=Z,0.3nm,0.7s						
I31KZ	**AKTYUBINSK INF**	**20.32**	**122**	I	I	11 59 50.0	
	baz=324,slow=321,SNR=2.2						

*JMA **20** 10:01:52.5±0.1, 36°.3N±0°.3×140°.6E±0°.7, h87km, MV3.2/39, NORTHERN IBARAKI PREF*
*IDC **20** 10:01:55.0±6.3, 36°.09N×140°.25E, h108km±40km, mbtmp3.7/6, MS2.3/1, Error ellipse: s-maj=86.0km s-min=20.7km az=64.0*

ISC 20 10:01:52.1±0.9, 36°.31N±0°.04×140°.67E±0°.06, h92km, 6km, n37, σ0°.83/42, mb3.6/6, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.07**	**299**	*i*P	**Pn**	**10 02 04.8**	**-0.1**
JHYU				S	**Sn**	**10 02 13.9**	**-0.5**
JHO	**Hitachi**	**0.32**	**345**	⇓*i*P	**Pn**	**10 02 05.7**	**0.0**
JHO				⇓S	**Sn**	**10 02 15.4**	**-0.6**
JIHU	**Itakohorinouch**	**0.36**	**199**	P	**Pn**	**10 02 06.6**	**+0.7**
JIHU				S	**Sn**	**10 02 17.6**	**+1.3**
JYT	**Yasato**	**0.39**	**259**	⇓*i*P	**Pn**	**10 02 06.0**	**-0.1**
JYT				⇓S	**Sn**	**10 02 16.4**	**-0.3**
JAG	**Ashikaga**	**0.99**	**277**	*i*P	**Pn**	**10 02 12.0**	**+0.3**
JAG				S	**Sn**	**10 02 26.8**	**+0.3**
JFK	**Kawauchi**	**1.07**	**9**	*i*P	**Pn**	**10 02 12.6**	**-0.1**
JFK				S	**Sn**	**10 02 27.6**	**-0.6**
JKT	**Katashina**	**1.23**	**292**	*i*P	**Pn**	**10 02 15.3**	**+0.7**
JKT				S	**Sn**	**10 02 32.7**	**+1.0**
JOTO	**OTAMA OYAMA**	**1.28**	**348**	*i*P	**Pn**	**10 02 15.7**	**+0.5**
JOTO				S	**Sn**	**10 02 33.5**	**+0.9**
JFY	**Yanaizu**	**1.34**	**325**	*i*P	**Pn**	**10 02 16.3**	**+0.4**
JRY	**Ryogami san**	**1.46**	**259**	*i*P	**Pn**	**10 02 17.5**	**+0.1**
BSO3	**Boso 3**	**1.50**	**185**	P	**Pn**	**10 02 17.7**	**+0.1**
BSO3				S	**Sn**	**10 02 38.5**	**+1.4**
JMM	**Marumori**	**1.56**	**4**	P	**Pn**	**10 02 18.9**	**+0.3**
JMM	**Marumori**	**1.56**	**4**	⇓*i*P	**Pn**	**10 02 18.9**	**+0.3**
JMM				⇓S	**Sn**	**10 02 39.0**	**+0.3**
JUON	**Uonuma**	**1.58**	**305**	P	**Pn**	**10 02 19.3**	**+0.5**
JOD2	**Odawara 2**	**1.65**	**231**	*i*P	**Pn**	**10 02 19.5**	**-0.3**
JOD2				S	**Sn**	**10 02 39.4**	**-1.5**
MJAR	**Matsushiro Arr**	**2.00**	**278**	P	**Pn**	**10 02 23.8**	**-0.5**
	6.3nm,0.3s,baz=90,slow=15,SNR=58						
MJAR				S	**Sn**	**10 02 45.9**	**-2.9**
	11nm,0.4s,baz=49,slow=16,SNR=4.5						
MAJO	**Matsushiro**	**2.00**	**278**	P	**Pn**	**10 02 25.5**	**+1.2**
JSD	**Sado**	**2.58**	**313**	P	**Pn**	**10 02 32.6**	**+0.6**
JGF	**Kuroka**	**2.78**	**256**	P	**Pn**	**10 02 36.0**	**+1.4**
INU	**Inuyama**	**3.12**	**253**	P	**Pn**	**10 02 39.9**	**+0.8**
JHJ2	**Mitsune**	**3.26**	**193**	P	**Pn**	**10 02 40.8**	**-0.3**
JTM	**Tenmabayashi**	**4.49**	**4**	P	**Pn**	**10 02 57.7**	**+0.1**
ERM	**Erimo**	**6.02**	**18**	P	**Pn**	**10 03 17.7**	**-0.8**
JMN	**Monobe**	**6.13**	**247**	P	**Pn**	**10 03 20.9**	**+0.8**
KSRS	**Korea Array**	**10.28**	**280**	LR	LR	10 08 00.4	
	comp=Z,15nm,18.2s,baz=5.0,slow=36						
SONM	**Songino Array**	**27.70**	**305**	P	**P**	**10 07 31.8**	**+0.1**
	0.4nm,0.5s,baz=103,slow=8.8,SNR=2.8						
	0.4nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.31**	**119**	T	T	10 37 37.9	
	baz=313						
H11N1	**WAKE ISLAND Hy**	**28.32**	**119**	T	T	10 37 25.2	
	baz=313						
H11N3	**WAKE ISLAND Hy**	**28.33**	**119**	T	T	10 37 39.5	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**28.99**	**121**	T	T	10 38 38.5	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**28.99**	**121**	T	T	10 38 31.1	
	baz

NYDR S **Sg** **10 17 36.5 +2.2**
comp=E,2μm,0.6s
NYDR Nydri-Lefkada 1.36 4 P **Pb** **10 17 15.6 +0.3**
KLV Kalavryta, Ach 1.42 61 P **Pb** **10 17 16.5 0.0**
KLV Kalavryta, Ach 1.42 61 P **Pb** **10 17 16.6 +0.2**
KLV S **Sb** **10 17 34.5 +0.1**
KLV AML AML 10 17 49.7
comp=E,3961μm,0.6s
KLV AML AML 10 17 51.2
comp=N,5149μm,1.3s
LKD2 Lefkada island 1.43 3 P **Pg** **10 17 17.4 -0.5**
LKD2 S **Sg** **10 17 38.5 +1.9**
comp=N,3μm,0.7s
LKD2 Lefkada island 1.43 3 P **Pg** **10 17 17.3 -0.6**
LKD2 AML AML 10 17 51.2
comp=N,7387μm,0.8s
LKD2 AML AML 10 17 52.1
comp=E,5818μm,0.8s
TSLK Tsoukalades, L 1.47 2 P **Pg** **10 17 17.8 -0.8**
TSLK Tsoukalades, L 1.47 2 P **Pg** **10 17 18.1 -0.5**
EFP Efpalio 1.50 44 P **Pb** **10 17 17.9 +0.2**
EFP Efpalio 1.50 44 P **Pb** **10 17 17.7 0.0**
GUR Goura 1.52 67 P **Pb** **10 17 18.3 +0.2**
KALE Kalithea 1.61 50 AML AML 10 17 56.3
comp=E,5078μm,0.9s
KALE AML AML 10 17 59.2
comp=N,3890μm,0.5s
ANX Ano Chora 1.63 40 P **Pb** **10 17 20.1 +0.1**
ANX Ano Chora 1.63 40 P **Pb** **10 17 20.1 +0.1**
EVR Evrytania 1.84 32 P **Pb** **10 17 23.3 -0.2**
EVR AML AML 10 18 01.4
comp=E,2818μm,0.7s
EVR AML AML 10 18 06.7
comp=N,5235μm,0.7s
VLI Veliai 1.99 108 P **Pb** **10 17 25.1 -1.0**
VLI Veliai 1.99 108 P **Pb** **10 17 25.7 -0.4**
VLI AML AML 10 18 15.3
comp=E,2611μm,0.9s
VLI AML AML 10 18 18.3
comp=N,2175μm,0.7s
MAKR Makrakomi, Fth 2.06 36 P **Pb** **10 17 26.8 -0.5**
AXAR Agios Charalam 2.16 49 P **Pb** **10 17 27.8 -1.3**
IGT Igoumenitsa 2.18 355 P **Pb** **10 17 27.9 -1.5**
VILL Villia 2.31 69 P **Pn** **10 17 28.8 +1.1**
KEK Kerkira 2.43 346 Pn **Pb** **10 17 31.8 -1.8**
THL Klokotos Trika 2.48 27 P **Pb** **10 17 32.6 -1.8**
VLY Voula,Athens 2.60 78 P **Pn** **10 17 33.0 +1.4**
KPRO Kipourio 2.67 13 P **Pn** **10 17 34.9 +2.3**
LIT Litokhoron 3.12 28 Pn **Pn** **10 17 40.6 +1.8**
TIP Timpagrande 3.51 302 Pn **Pn** **10 17 45.7 +1.5**
OHR Ohrid 3.75 3 *i* Pn **Pn** **10 17 50.5 +3.0**
CEL Celeste 3.82 285 Pn **Pn** **10 17 48.0 -0.4**
APE Apeiranthos 3.96 93 ⇑P **Pn** **10 17 48.2 -2.2**
TIR Tirane 4.03 352 Pn **Pn** **10 17 53.9 +2.7**
TIR Tirane 4.03 352 ⇑P Pn 10 17 46.3 -4.8
IDI Anoyia 4.05 119 Pn **Pn** **10 17 49.6 -1.9**
IDI Anoyia 4.05 119 Pn **Pn** **10 17 51.5 0.0**
comp=N,4.5nm,0.4s,baz=315,slow=10.0,SNR=2.0
IDI Sn **Sn** **10 18 39.1 +0.5**
comp=N,5.4nm,0.3s,baz=319,slow=23,SNR=2.0
VAY Valandovo 4.25 21 *i* Pn **Pn** **10 17 57.2 +2.9**
MATE Matera 4.46 319 ⇑P Pn 10 17 44.8 -12
VAE Valguarnera 4.91 273 Pn **Pn** **10 18 06.6 +3.2**
comp=N,56nm,0.8s,baz=140,slow=17,SNR=8.7
VAE Sn **Sn** **10 19 00.8 +0.9**
comp=N,5.7nm,0.3s,baz=151,slow=19,SNR=1.4
RAFF Raffo Rosso 4.96 270 **Pn** **10 18 04.3 +0.3**
WDD Wied Dalam 5.10 255 **Pn** **10 18 07.3 +1.3**
PDG Podgorica 5.17 349 Pn **Pn** **10 18 07.0 +0.1**
PDG Podgorica 5.17 349 ⇑P Pn 10 18 01.7 -5.2
RDO Rodhopi 5.40 44 Pn **Pn** **10 18 11.0 +1.0**
ALN Alexandroupoli 5.53 49 Pn **Pn** **10 18 13.9 +2.1**
KARP Karpathos 5.61 107 Pn **Pn** **10 18 12.0 -1.0**
PAOL Paolisi 5.94 310 Pn **Pn** **10 18 19.1 +1.6**
BOVS Bovan 6.33 7 ⇑P **Pn** **10 18 20.7 -2.1**
ELND Elena 6.89 34 ⇑P **Pn** **10 18 31.1 +0.6**
INTR Introdacqua 6.94 314 Pn **Pn** **10 18 33.7 +2.4**
ELL Elmali 7.49 92 Pn **Pn** **10 18 37.2 -1.7**
NRCA Norcia 7.91 316 Pn **Pn** **10 18 47.0 +2.4**
GUMA Gualdo di Mace 7.95 318 Pn **Pn** **10 18 47.7 +2.6**
CESX Cesi 8.07 313 Pn **Pn** **10 18 48.6 +1.8**
BORA Eskisehir 8.13 69 Pn **Pn** **10 18 47.7 0.0**
GZR Gura Zlata 8.20 11 ⇑P **Pn** **10 18 47.0 -1.6**
BZS Buzias 8.29 5 ⇓P **Pn** **10 18 46.9 -2.8**
VOIR 8.74 21 ⇓P **Pn** **10 18 55.2 -0.8**
MORH Mrgy, Hungar 8.97 351 ⇑P Pn 10 18 53.8 -5.3
VSL Villasalto 9.05 287 Pn **Pn** **10 19 01.1 +1.0**
MLR Muntele Rosu 9.07 25 Pn **Pn** **10 19 01.6 +1.1**
MLR Muntele Rosu 9.07 25 Pn Pn 10 19 06.5 +5.9
comp=N,0.6nm,0.3s,baz=214,slow=7.3,SNR=5.7
MLR Muntele Rosu 9.07 25 ⇑P **Pn** **10 19 00.1 -0.4**
KEST Kesra 9.18 263 Pn **Pn** **10 19 03.7 +1.6**
comp=N,0.6nm,0.3s,baz=28,slow=9.4,SNR=6.5
KEST Sn **Sn** **10 20 42.6 -2.4**
baz=120,slow=20
comp=N,9.1nm,0.8s
PLOR Plostina 9.63 26 ⇓P **Pn** **10 19 08.2 +0.1**
VRI Vrincioaia 9.67 26 ⇑P **Pn** **10 19 08.7 +0.1**
SABO M.te Sabotino 10.07 331 Pn **Pn** **10 19 15.8 +1.6**
SOKA Soboth 10.19 338 *e*Pn **Pn** **10 19 15.8 0.0**
comp=N,8.2nm,0.7s
OBKA Obir 10.19 336 *e*Pn **Pn** **10 19 17.6 +1.8**
comp=N,2.1nm,0.4s
OBKA *e*Sn **Sn** **10 21 07.2 -2.5**
comp=N,9.0nm,1.0s
PRED Cave del Predi 10.47 332 Pn **Pn** **10 19 21.4 +1.7**
BRTR Keskin Array B 10.50 73 Pn **Pn** **10 19 22.4 +2.2**
comp=N,0.1nm,0.3s,baz=258,slow=13,SNR=3.0
comp=N,1.3nm,0.8s
BURAR Bucovina Array 10.81 17 Pn **Pn** **10 19 26.8 +2.5**
CTI Castel Tesino 10.95 325 Pn **Pn** **10 19 27.4 +1.2**
VYHS Vyhne 11.21 354 *e*PN **Pn** **10 19 33.4 +3.7**
FUORN Ofenpass-Fuorn 12.01 324 Pn **Pn** **10 19 43.1 +2.1**
DAVOX Davos/Dischmat 12.31 323 Pn **Pn** **10 19 45.7 +0.7**
comp=N,0.2nm,0.3s,baz=191,slow=14,SNR=2.8
DAVOX Sn **Sn** **10 22 00.0 -1.8**
comp=N,0.1nm,0.3s,baz=7.4,slow=21,SNR=1.5
DAVOX LR LR 10 26 04.0
comp=N,57nm,19.1s,baz=168,slow=45
comp=N,2.8nm,0.6s
TUE Stuetta 12.36 321 Pn **Pn** **10 19 47.7 +2.1**
GERES GERESS Array B 12.53 339 Pn **Pn** **10 19 48.0 +0.2**
comp=N,0.4nm,0.3s,baz=164,slow=11,SNR=2.5
comp=N,1.6nm,0.6s
SENIN Lac Senin/Sanne 13.36 317 Pn **Pn** **10 20 02.3 +3.0**
GHAJ Ghor Haditha 13.77 112 Pn **Pn** **10 20 02.5 -2.3**
EIL Elat 14.22 118 Pn **Pn** **10 20 09.1 -1.8**
comp=N,0.8nm,0.3s,baz=348,slow=13,SNR=3.9
comp=N,4.2nm,0.5s
SSB Saint Sauveur 14.40 308 Pn **Pn** **10 20 14.3 +0.9**
ECH Echery 14.63 322 Pn **Pn** **10 20 18.3 +1.8**
KIEV Kiev 14.69 22 Pn **Pn** **10 20 19.4 +2.1**
AKBB Malin Array Si 14.71 22 Pn **Pn** **10 20 19.2 +1.8**
CLL Collm 14.95 341 Pn **Pn** **10 20 22.1 +1.3**
CLL Collm 14.95 341 *i* PP **P** **10 20 28.9 +2.6**
CLL AMS AMS 11 33 00.0
comp=Z,800nm,21.8s
WLF Walferdange 16.12 324 *d*P **P** **10 20 39.1 -0.1**
MEM Membach 16.85 326 *d*P **P** **10 20 48.2 +0.9**
MNK Minsk 17.87 14 *i* P **Pn** **10 20 54.5 -3.5**
comp=E,20nm,0.8s
MNK *i* P **Pn** **10 20 54.5 -3.5**
comp=N,15nm,0.9s
MNK *i* P **Pn** **10 20 54.5 -3.5**
comp=Z,10.0nm,0.7s,baz=199
MNK *i* PP **pwP** **10 21 06.1 -0.7**
MNK *i* PPP PPP 10 21 14.2
MNK *i* S **Sn** **10 24 14.4 -2.2**
MNK *i* SS **SnSn** **10 24 29.4 -0.8**
MNK *i* SSS SSS 10 24 42.2
MNK *i* LQ LQ 10 26 13.2
MNK *i* LR LR 10 26 49.8
MNK *i* LRM MLR 10 27 34.8
MNK *i* LRM MLR 10 27 54.8
comp=N,73nm,14.2s
MNK *i* LRM MLR 10 28 40.7
comp=Z,75nm,17.4s
NACGM Naroch 18.06 12 *e*P **P** **10 21 02.4 +1.8**
comp=Z,7.0nm,0.8s,baz=196
KBZ Khabaz 18.09 62 Pn **P** **10 21 01.7 +0.7**
comp=Z,0.2nm,0.3s,baz=282,slow=17,SNR=3.0
comp=Z,2.3nm,1.0s
PABE Paberze 18.30 6 P **P** **10 21 04.7 +1.4**
PABE IAmb IAmb 10 21 05.8
comp=Z,38nm,1.1s
GNI Garni 19.04 74 LR LR 10 30 18.9
comp=Z,41nm,20.8s,baz=286,slow=43
ESDC Sonseca Array 19.33 284 P **Pn** **10 21 15.9 0.0**
comp=Z,0.1nm,0.3s,baz=81,slow=9.6,SNR=14
comp=Z,3.0nm,0.8s
MDT Midelt 21.08 265 P **P** **10 21 35.0 +1.1**
comp=Z,5.9nm,0.8s,baz=87,slow=11,SNR=6.8
MDT LR LR 10 30 10.6
comp=Z,70nm,19.0s,baz=343,slow=38
comp=Z,5.9nm,0.8s
HFS Hagfors 23.22 351 P **P** **10 21 56.1 -0.2**
comp=Z,3.6nm,0.7s,baz=153,slow=16,SNR=1.9
comp=Z,3.6nm,0.7s
NC602 NORSAR Array S 24.09 349 P **P** **10 22 06.2 +1.5**
NC602 IAmb IAmb 10 22 38.3
comp=Z,14nm,1.2s
EKA Eskdalemuir Ar 24.13 326 P **P** **10 22 05.1 0.0**
comp=Z,3.7nm,0.7s,baz=133,slow=7.3,SNR=6.4
comp=Z,3.7nm,0.7s
NAO01 NORSAR Array S 24.30 348 P **P** **10 22 08.1 +1.5**
NAO01 IAmb IAmb 10 22 31.1
comp=Z,18nm,1.1s
FINES FINESS Array B 24.36 6 P **P** **10 22 07.4 +0.3**
FINES FINESS Array B 24.36 6 P **P** **10 22 06.6 -0.6**
comp=Z,2.2nm,0.7s,baz=171,slow=9.8,SNR=6.3
comp=Z,2.2nm,0.7s
FIA1 FINESS Array S 24.36 6 P **P** **10 22 08.4 +1.2**
NC405 NORSAR Array S 24.43 350 P **P** **10 22 09.0 +1.1**
NC405 IAmb IAmb 10 22 25.8
comp=Z,9.0nm,0.8s
NB201 NORSAR Array S 24.43 349 P **P** **10 22 08.1 +0.3**
NB2 NORSAR Subarra 24.43 349 P **P** **10 22 08.0 +0.1**
comp=Z,3.7nm,1.0s,baz=158,slow=9.3
NOA NORSAR Array B 24.43 349 P **P** **10 22 07.4 -0.5**
comp=Z,1.2nm,0.7s,baz=159,slow=8.6,SNR=3.1
comp=Z,1.2nm,0.7s
NBO00 NORSAR Array S 24.49 348 P **P** **10 22 09.6 +1.2**
NBO00 IAmb IAmb 10 22 36.2
comp=Z,24nm,1.5s
NC303 NORSAR Array S 24.59 349 P **P** **10 22 10.8 +1.5**
NC303 IAmb IAmb 10 22 21.2
comp=Z,26nm,1.5s
NC204 NORSAR Array S 24.73 349 P **P** **10 22 10.9 +0.3**
NC204 IAmb IAmb 10 22 28.7
comp=Z,26nm,1.3s
TORD Torodi Ar. Bea 29.42 220 P **P** **10 22 54.3 +1.2**
comp=Z,0.7nm,0.8s,baz=32,slow=9.5,SNR=4.0
comp=Z,0.7nm,0.8s
ABKAR Akbulak array 30.68 55 P **P** **10 23 04.0 +0.1**
BVAR Borovoye Array 37.62 49 P **P** **10 24 02.8 -1.2**
comp=Z,0.8nm,0.5s,baz=279,slow=3.6,SNR=4.3
comp=Z,0.8nm,0.5s
KKAR Karatay Array 38.09 65 P **P** **10 24 07.8 -0.3**
KURBB Kurchatov Arra 42.69 53 P **P** **10 24 45.2 -0.9**
comp=Z,2.2nm,0.2s,baz=280,slow=8.8,SNR=5.4
comp=Z,2.2nm,0.2s
KURK Kurchatov 42.73 53 P **P** **10 24 46.8 +0.4**
MK31 Makanchi Array 45.70 58 **P** **10 25 09.9 -0.4**
MK31 IAmb IAmb 10 25 36.8
comp=Z,8.5nm,1.4s
MKAR Makanchi Array 45.70 58 P **P** **10 25 09.6 -0.7**
MKAR Makanchi Array 45.70 58 P **P** **10 25 09.3 -0.9**
comp=Z,0.9nm,0.5s,baz=281,slow=7.0,SNR=11
comp=Z,0.9nm,0.5s
ZAA0 Zalesovo Array 46.21 48 P **P** **10 25 13.5 -0.6**
ZALV Zalesovo Beam 46.21 48 P **P** **10 25 13.7 -0.4**
ZALV Zalesovo Beam 46.21 48 P **P** **10 25 13.3 -0.9**
comp=Z,1.6nm,0.6s,baz=277,slow=9.6,SNR=7.6
comp=Z,1.6nm,0.6s
SONM Songino Array 60.95 50 P **P** **10 27 02.3 -0.2**
comp=Z,0.4nm,0.3s,baz=277,slow=11,SNR=1.8
comp=Z,0.4nm,0.3s
LZH Lanzhou 64.53 63 *e*P **P** **10 27 25.8 -0.8**
LZH sP sP 10 27 32.4 -0.3
LZH pmax pmax
comp=Z,24nm,1.0s
LZH LR LR
comp=N,400nm,19.9s
LZH LR LR
comp=E,620nm,19.6s
LZH LR LR
comp=Z,1μm,22.0s
PZH PanZhiHua 67.80 73 P **P** **10 27 48.6 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.7s
CMAR Chiang Mai Arr 69.96 82 P **P** **10 28 01.0 -0.1**
comp=Z,0.7nm,0.5s,baz=306,slow=7.7,SNR=5.7
comp=Z,0.7nm,0.5s
HEH HeiHe 71.63 40 *e*P **P** **10 28 11.6 +0.9**
HEH pmax pmax
comp=Z,7.0nm,1.0s
HEH LR LR
comp=N,650nm,14.8s
HEH LR LR
comp=E,460nm,15.6s
HEH LR LR
comp=Z,890nm,16.6s
USRK Ussuriysk Ar. 77.85 43 P **P** **10 28 46.6 -0.2**
comp=Z,1.1nm,0.7s,baz=270,slow=5.8,SNR=5.3
comp=Z,1.1nm,0.7s
KSRS Korea Array 79.82 51 P **P** **10 28 57.8 0.0**
comp=Z,0.9nm,0.6s,baz=310,slow=6.1,SNR=3.0
comp=Z,0.9nm,0.6s

BJI ***20*** *10:21:45.7, 6°.44S×149°.51E, h32km, mb4.8/40, mB5.3/27, Ms5.0/45, Ms7 4.9/46*
MOS ***20*** *10:21:47.5±1.0, 6°.29S×149°.22E, h33km, mb5.3/14, Error ellipse: s-maj=11.6km s-min=6.9km az=93.1*
IDC ***20*** *10:21:48.8±1.8, 6°.30S×149°.27E, h37km±12km, mb4.3/17, mbtmp4.6/18, ML5.0/1, MS4.6/36, Error ellipse: s-maj=23.0km s-min=10.7km az=103.0*
NEIC ***20*** *10:21:49.3±1.4, 6°.29S±0°.06×149°.27E±0°.07, h29km±1km, mb5.1/105, Mww5.3/24, Error ellipse: s-maj=12.7km s-min=10.2km az=119.0*
NEIC ***20*** *10:21:50.2, 6°.29S×149°.27E, h30km*
NEIC ***20*** *10:21:50.2, 6°.29S×149°.27E, h30km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^17^Nm; Mrr1.00; Mθθ-1.32; Mφφ0.31; Mrθ0.23; Mθφ0.15; Mrφ0.14; Fault plane solution: M0 1.21000×10^17^ NP1:φs83.70000°, δ51.45000°, λ74.22000°. NP2:φs288.10000°, δ41.18000°, λ108.85000°. Principal axes: T 1.0588, Plg77.0000°, Azm298.0000°; N 0.2926, Plg12.0000°, Azm94.0000°; P -1.3514, Plg5.0000°, Azm185.0000°;*
GCMT ***20*** *10:21:52.3±0.1, 6°.54S±0°.01×149°.31E±0°.01, h32km, MW5.4/129, Moment Tensor Solution. s127,c224; s129,c219; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; Mrr1.29±.02; Mθθ-1.49±.01; Mφφ0.20±.02; Mrθ0.58±.02; Mθφ0.15±.01; Mφr0.04±.03; Best double couple: M0 1.51300×10^17^ NP1:φs91.00000°, δ56.00000°, λ85.00000°. NP2:φs280.00000°, δ34.00000°, λ97.00000°. Principal axes: T 1.4100, Plg78.0000°, Azm344.0000°; N 0.2080, Plg4.0000°, Azm94.0000°; P -1.6170, Plg11.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***20*** *10:21:56.9±1.6, 7°.5S±9°.14×149°.9E±1°.2, h71km±9km, M5.1/14, mB5.5/9, mb4.8/14, MLv5.4/1, Mw(mB)4.9/9, MwMwp5.0/8, Mwp5.3/8*

ISC 20 10:21:50.4±0.5, 6°.44S±0°.04×149°.36E±0°.04, h45km±4km, h46km:pP-P, n354, σ1s75/338, mb5.0/108, MS4.8/50, 10C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
BULU	**Kimbe**	**1.30**	**47**	P		**Pn**	**10 22 11.6**	**-0.6**
I40PG	**Keravat**	**3.39**	**51**	Pn		**Pn**	**10 22 39.5**	**-1.2**
baz=202,slow=22								
I40PG				Sn		**Sn**	**10 23 22.8**	**+3.1**
baz=191,slow=4.2								
I40PG				I		I	10 33 10.0	
70nm,0.5s,baz=234,slow=314,SNR=2.2								
RABL	**Rabaul**	**3.57**	**51**			**Pn**	**10 22 42.8**	**-0.5**
PMG	**Port Moresby**	**3.67**	**216**			**Pn**	**10 22 46.1**	**+1.4**
PMG	**Port Moresby**	**3.67**	**216**	Pn		**Pn**	**10 22 45.8**	**+1.2**
199nm,0.3s,baz=32,slow=12,SNR=199								
PMG				Sn		**Sn**	**10 23 27.1**	**+0.4**
196nm,0.3s,baz=128,slow=19,SNR=10								
PMG				LR		LR	10 23 27.6	
comp=Z,3μm,21.7s,baz=346,slow=26								
PMG	**Port Moresby**	**3.67**	**216**	P		**Pn**	**10 22 46.8**	**+2.1**
PMG	**Port Moresby**	**3.67**	**216**	P		**Pn**	**10 22 46.6**	**+1.9**
PMG	**Port Moresby**	**3.67**	**216**	*ce*P		**Pn**	**10 22 45.6**	**+0.9**
PMG				pmax		pmax		
comp=Z,1μm,1.0s								
MANU	**Manus Island**	**4.80**	**335**	Pn		**Pn**	**10 22 57.1**	**-3.1**
JAY	**Jayapura**	**9.47**	**294**	Pn		**Pn**	**10 24 08.2**	**+3.9**
comp=Z,2.0nm,0.3s,baz=129,slow=8.2,SNR=8.2								
JAY				LR		LR	10 27 22.4	
comp=Z,3μm,20.2s,baz=98,slow=36								
COEN	**Coen**	**9.64**	**219**	Pn		**Pn**	**10 24 06.0**	**-0.6**
COEN	**Coen**	**9.64**	**219**	P		**Pn**	**10 24 07.5**	**+0.9**
comp=Z,0.0nmcomp=Z,21nm,0.5s								
COEN	**Coen**	**9.64**	**219**	P		**Pn**	**10 24 07.2**	**+0.6**
GENI	**Genyem**	**9.93**	**292**	P		**Pn**	**10 24 12.7**	**+2.1**
comp=Z,100nm,1.9s,comp=Z,3μmcomp=Z,3μm								
TATA	**Tatamba Isabel**	**10.54**	**101**	P		Pn	10 24 24.0	+5.1
HNR	**Honiara**	**10.90**	**107**	LR		LR	10 27 05.0	
comp=Z,974nm,21.1s,baz=288,slow=29								
MTSU	**Mount Surprise**	**12.63**	**202**	P		**Pn**	**10 24 48.8**	**+1.4**
comp=Z,34nm,1.0s								
MTSU	**Mount Surprise**	**12.63**	**202**	P		**Pn**	**10 24 49.5**	**+2.0**
CTA	**Charters Tower**	**13.90**	**192**	LR		LR	10 30 05.5	
comp=Z,281nm,21.6s,baz=17,slow=35								
CTAO	**Charters Tower**	**13.90**	**192**	Pn		**Pn**	**10 25 06.7**	**+1.8**
CTAO	**Charters Tower**	**13.90**	**192**	P		**Pn**	**10 25 08.5**	**+3.6**
CTAO	**Charters Tower**	**13.90**	**192**	P		**Pn**	**10 25 06.7**	**+1.8**
QIS	**Mount Isa**	**16.93**	**213**	P		**Pn**	**10 25 43.7**	**-0.5**
comp=Z,0.0nmcomp=Z,51nm,0.8s								
QIS	**Mount Isa**	**16.93**	**213**	P		**Pn**	**10 25 44.3**	**+0.1**
FAKI	**Fak Fak**	**17.41**	**281**	P		**P**	**10 25 49.8**	**-1.2**
FAKI	**Fak Fak**	**17.41**	**281**	P		**Pn**	**10 25 46.4**	**-3.8**
FAKI	**Fak Fak**	**17.41**	**281**	P		**P**	**10 25 51.0**	**0.0**
comp=Z,40nm,1.7s,comp=Z,2μm								
KDU	**Kakadu**	**17.77**	**248**	P		**Pn**	**10 25 53.4**	**-1.2**
comp=Z,0.0nmcomp=Z,71nm,1.3s								
KDU	**Kakadu**	**17.77**	**248**	P		**Pn**	**10 25 52.8**	**-1.8**
SAUI	**Saumlaki**	**17.99**	**264**	P		**Pn**	**10 25 57.0**	**-0.2**
EIDS	**Eidsvold**	**18.90**	**175**			**P**	**10 26 09.1**	**+1.8**
EIDS	**Eidsvold**	**18.90**	**175**	P		**P**	**10 26 08.6**	**+1.4**
comp=Z,0.0nmcomp=Z,83nm,2.5s								
EIDS	**Eidsvold**	**18.90**	**175**	P		**Pn**	**10 26 11.9**	**+3.7**
MTN	**Manton Dam**	**19.06**	**249**			**P**	**10 26 08.6**	**-0.5**
MTN	**Manton Dam**	**19.06**	**249**	P		**P**	**10 26 08.8**	**-0.3**
comp=Z,0.0nmcomp=Z,60nm,0.9s								
MTN	**Manton Dam**	**19.06**	**249**	P		**P**	**10 26 08.8**	**-0.3**
DRS	**Darwin Rock St**	**19.16**	**251**	P		**P**	**10 26 09.6**	**-0.6**
WB0	**Warramunga Arr**	**19.68**	**226**	P		**P**	**10 26 16.5**	**+0.7**
WB0				IAmb		IAmb	10 26 24.1	
comp=Z,187nm,1.5s								
WR0	**Warramunga Arr**	**19.70**	**226**	P		**P**	**10 26 16.7**	**+0.7**
WRAB	**Tennant Creek**	**19.81**	**226**	P		**P**	**10 26 17.6**	**+0.2**
WRAB				IAmb		IAmb	10 26 32.2	
comp=Z,78nm,1.0s								
WRAB	**Tennant Creek**	**19.81**	**226**	*i* P		**P**	**10 26 17.0**	**-0.4**
WRAB				pmax		pmax		
comp=Z,41nm,0.8s								
WB2	**Warramunga Arr**	**19.82**	**226**	P		**P**	**10 26 17.5**	**+0.1**
WB2				IAmb		IAmb	10 26 24.9	
comp=Z,73nm,0.8s								
WB2	**Warramunga Arr**	**19.82**	**226**	P		**P**	**10 26 17.4**	**0.0**
WRA	**Warramunga Arr**	**19.83**	**226**	P		**P**	**10 26 17.2**	**-0.3**
comp=Z,4.5nm,0.3s,baz=49,slow=10,SNR=160								
WRA				S		**S**	**10 29 49.9**	**-8.7**
comp=Z,8.1nm,0.9s,baz=46,slow=21,SNR=2.8								
WRA				PcP		**PcP**	**10 30 34.8**	**+0.7**
comp=Z,6.4nm,0.9s,baz=29,slow=1.7,SNR=4.0								
WRA				ScP		**ScP**	**10 34 06.8**	**-0.1**
comp=Z,14nm,1.0s,baz=33,slow=2.2,SNR=10								
WRA				LR		LR	10 35 01.7	
comp=Z,4μm,18.6s,baz=40,slow=40								
comp=Z,48nm,0.8s								
WRA	**Warramunga Arr**	**19.83**	**226**	*ce*P		**P**	**10 26 17.6**	**+0.1**
WRA				pmax		pmax		
comp=Z,49nm,0.8s								
GUMO	**Guam**	**20.39**	**347**	P		**P**	**10 26 22.4**	**-1.1**
GUMO	**Guam**	**20.39**	**347**	P		**P**	**10 26 22.7**	**-0.8**
comp=Z,231nm,1.1s,baz=151,slow=16,SNR=4.4								
GUMO				LR		LR	10 33 23.8	
comp=Z,2μm,19.3s,baz=144,slow=34								
comp=Z,231nm,1.1s								
GUMO	**Guam**	**20.39**	**347**	P		**P**	**10 26 22.4**	**-1.1**
GUMO				pmax		pmax		
comp=Z,288nm,1.1s								
QLP	**Quilpie**	**20.62**	**193**	P		**P**	**10 26 27.7**	**+1.7**
comp=Z,301nm,0.9s								
QLP	**Quilpie**	**20.62**	**193**	P		Pn	10 26 29.8	+1.1
KNRA	**Kununurra**	**22.18**	**244**	P		**P**	**10 26 42.0**	**-0.9**
KNRA				IAmb		IAmb	10 27 06.0	
comp=Z,78nm,1.1s								
KNRA	**Kununurra**	**22.18**	**244**	P		**P**	**10 26 42.0**	**-0.9**
comp=Z,82nm,1.2s								
NOUC	**Port Laguerre**	**22.59**	**135**	P		**P**	**10 26 52.6**	**+5.4**
DZM	**Mont Dzumac**	**22.67**	**135**	P		**P**	**10 26 49.6**	**+1.4**
DZM				IAmb		IAmb	10 26 58.0	
comp=Z,71nm,1.1s								
DZM	**Mont Dzumac**	**22.67**	**135**	*e*P		**P**	**10 26 48.2**	**+0.1**
comp=Z,123nm,1.1s								
DZM				*e*S		**S**	**10 30 46.9**	**-6.5**
comp=Z,2μm,23.9s								
DZM				*e*LR		LR	10 32 19.6	
comp=Z,8μm,22.4s								
DZM	**Mont Dzumac**	**22.67**	**135**	LR		LR	10 33 05.8	
comp=Z,815nm,21.4s,baz=312,slow=30								
AS31	**Alice Springs**	**22.68**	**219**	P		**P**	**10 26 48.5**	**+0.3**
ASAR	**Alice Springs**	**22.68**	**219**	P		**P**	**10 26 48.0**	**-0.2**
comp=Z,7.2nm,0.5s,baz=56,slow=9.0,SNR=220								
ASAR				S		**S**	**10 30 54.0**	**+0.5**
comp=Z,5.6nm,0.9s,baz=28,slow=18,SNR=1.7								
ASAR				ScP		**ScP**	**10 34 14.8**	**+0.9**
comp=Z,7.6nm,1.1s,baz=58,slow=3.5,SNR=5.5								
ASAR				LR		LR	10 36 08.5	
comp=Z,3μm,19.7s,baz=22,slow=38								
comp=Z,7.2nm,0.5s								
INKA	**Innaminka**	**22.71**	**200**	P		**P**	**10 26 51.3**	**+2.9**
comp=Z,135nm,1.0s								
YATNC	**Mamie plateau,**	**22.98**	**134**	P		**P**	**10 26 56.9**	**+5.7**
PINNC	**Pines Island,**	**23.72**	**135**	P		**P**	**10 27 00.3**	**+1.8**
PINNC				IAmb		IAmb	10 27 26.1	
comp=Z,70nm,1.2s								
ARMA	**Armidale**	**23.95**	**175**	P		**P**	**10 27 01.4**	**+0.8**
ARMA				IAmb		IAmb	10 27 21.9	
comp=Z,64nm,1.4s								
ARMA	**Armidale**	**23.95**	**175**	P		**P**	**10 27 02.5**	**+1.8**
comp=Z,36nm,2.7s								
ARMA	**Armidale**	**23.95**	**175**	P		**P**	**10 27 03.3**	**+2.7**
OOD	**Oodnadatta**	**24.89**	**210**	P		**P**	**10 27 10.7**	**+1.6**
SOEI	**Soe**	**25.06**	**261**	P		**P**	**10 27 10.5**	**-0.4**
SOEI	**Soe**	**25.06**	**261**	P		**P**	**10 27 11.3**	**+0.4**
comp=Z,103nm,1.3s,comp=Z,3μmcomp=Z,2μm								
CMSA	**Cobar Meteorol**	**25.21**	**187**	P		**P**	**10 27 12.7**	**+0.7**
comp=Z,48nm,0.9s								
CMSA	**Cobar Meteorol**	**25.21**	**187**	P		**P**	**10 27 15.4**	**+3.5**
BATI	**Baumata**	**25.70**	**260**	P		**P**	**10 27 15.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**25.88**	**241**	P		**P**	**10 27 18.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**25.88**	**241**	P		**P**	**10 27 17.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**25.88**	**241**	LR		LR	10 38 13.6	
comp=Z,2μm,20.7s,baz=58,slow=38								
LCRK	**Leigh Creek**	**26.08**	**202**	P		**P**	**10 27 22.5**	**+2.6**
STKA	**Stephens Creek**	**26.33**	**195**	P		**P**	**10 27 22.9**	**+0.8**
STKA	**Stephens Creek**	**26.33**	**195**	P		**P**	**10 27 24.2**	**+2.1**
comp=Z,8.5nm,1.1s								
STKA	**Stephens Creek**	**26.33**	**195**	P		**P**	**10 27 22.6**	**+0.5**
comp=Z,13nm,0.8s,baz=8.8

KAPI	**Kappang**	**29.50 271**	LR	LR	10 42 47.7	
	comp=Z,1µm,19.6s,baz=84,slow=43					
MSVF	**Nonsavu**	**30.16 114**	LR	LR	10 38 03.8	
	comp=Z,1µm,20.9s,baz=276,slow=32					
MSVF	**Nonsavu**	**30.16 114**	P	P	10 28 02.0	+5.4
MSVF	**Nonsavu**	**30.16 114**	*i* P	**P**	**10 27 56.5**	**-0.1**
MSVF			pmax	pmax		
	comp=Z,50nm,1.2s					
MSVF	**Nonsavu**	**30.16 114**	P	P	10 28 03.5	+6.9
ARPS	**Mount Arapiles**	**30.97 192**	P	**P**	**10 28 05.1**	**+1.8**
	comp=Z,47nm,0.9s					
ARPS	**Mount Arapiles**	**30.97 192**	P	**P**	**10 28 05.7**	**+2.4**
TOO	**Toolangi**	**31.19 186**	P	**P**	**10 28 06.5**	**+1.1**
	comp=Z,12nm,2.5s					
PLAI	**Plampang**	**31.39 264**	P	**P**	**10 28 05.0**	**-2.4**
FORT	**Forrest**	**31.40 217**	P	**P**	**10 28 05.5**	**-1.7**
FORT	**Forrest**	**31.40 217**	P	**P**	**10 28 07.4**	**+0.2**
	comp=Z,56nm,0.8s					
FORT	**Forrest**	**31.40 217**	P	**P**	**10 28 08.6**	**+1.4**
MBWA	**Marble Bar**	**32.20 240**	P	**P**	**10 28 13.9**	**-0.5**
MBWA	**Marble Bar**	**32.20 240**	P	**P**	**10 28 14.1**	**-0.2**
	comp=Z,37nm,1.0s					
MBWA	**Marble Bar**	**32.20 240**	P	**P**	**10 28 14.3**	**-0.1**
MBWA	**Marble Bar**	**32.20 240**	P	**P**	**10 28 13.8**	**-0.6**
MBWA			pP	**pP**	**10 28 20.5**	**-4.6**
PSA00	**Pilbara Seismi**	**32.26 239**	P	**P**	**10 28 14.4**	**-0.4**
PSA00			IAmb	IAmb	10 28 16.8	
	comp=Z,32nm,1.1s					
PSA00	**Pilbara Seismi**	**32.26 239**	P	**P**	**10 28 14.5**	**-0.4**
	comp=Z,27nm,0.9s					
PSA00	**Pilbara Seismi**	**32.26 239**	P	**P**	**10 28 15.5**	**+0.6**
PSAC1	**Pilbara Seismi**	**32.27 239**	P	**P**	**10 28 15.2**	**+0.1**
FUTU	**Fugatoga**	**32.89 106**	P	**P**	**10 28 21.1**	**+0.6**
JCJ	**Chichijima**	**34.05 349**	LR	LR	10 40 25.8	
	comp=Z,923nm,21.9s,baz=135,slow=33					
TGY	**Tagaytay City**	**34.81 306**	LR	LR	10 43 58.7	
	comp=Z,482nm,18.5s,baz=114,slow=38					
MEEK	**Meekatharra**	**35.50 232**	P	**P**	**10 28 42.7**	**-0.4**
	comp=Z,50nm,1.2s					
MEEK	**Meekatharra**	**35.50 232**	P	**P**	**10 28 43.7**	**+0.6**
KMBL	**Kambalda**	**35.72 223**	P	**P**	**10 28 44.3**	**-0.6**
	comp=Z,49nm,1.3s					
KMBL	**Kambalda**	**35.72 223**	P	**P**	**10 28 45.9**	**+1.0**
MOO	**Moorlands**	**35.91 183**	P	**P**	**10 28 49.8**	**+3.5**
GIRL	**Giralia**	**37.49 241**	P	**P**	**10 29 00.3**	**+0.3**
	comp=Z,240nm,1.6s					
SMRI	**Semarang**	**38.65 267**	P	**P**	**10 29 10.2**	**+0.3**
KLBR	**Kellerberrin**	**38.71 226**	P	**P**	**10 29 09.8**	**-0.5**
	comp=Z,85nm,1.0s					
KLBR	**Kellerberrin**	**38.71 226**	P	**P**	**10 29 10.3**	**+0.1**
JOW	**Kunigami**	**38.87 329**	LR	LR	10 42 01.2	
	comp=Z,2µm,21.6s,baz=138,slow=31					
AFI	**Afiamalu**	**38.92 104**	P	**P**	**10 29 13.4**	**+1.1**
AFI			IAmb	IAmb	10 29 14.3	
	comp=Z,63nm,1.1s					
AFI	**Afiamalu**	**38.92 104**	P	**P**	**10 29 13.4**	**+1.1**
AFI			pmax	pmax		
	comp=Z,63nm,1.1s					
AFI	**Afiamalu**	**38.92 104**	P	**P**	**10 29 13.0**	**+0.8**
AFI			sP	**pP**	**10 29 23.3**	**-0.6**
BLDU	**Ballidu**	**38.94 228**	P	**P**	**10 29 12.9**	**+0.7**
NWAO	**Narrogin (SRO)**	**39.82 224**	LR	LR	10 47 14.2	
	comp=Z,4µm,19.0s,baz=15,slow=38					
QRZ	**Quartz Range**	**40.02 152**	P	**P**	**10 29 25.0**	**+4.0**
	comp=Z,40nm,1.4s					
JHJ	**Hachijo jima 2**	**40.38 348**	LR	LR	10 46 14.5	
	comp=Z,1µm,18.2s,baz=144,slow=36					
YULB	**Yu-li**	**40.38 318**	P	**P**	**10 29 24.7**	**+0.5**
YULB			IAmb	IAmb	10 29 54.1	
	comp=Z,100nm,1.8s					
URZ	**Urewera**	**40.44 146**	LR	LR	10 44 12.0	
	comp=Z,1µm,20.5s,baz=39,slow=33					
TPUB	**Ta-pu**	**40.77 317**	P	**P**	**10 29 28.5**	**+1.1**
THZ	**Tophouse**	**40.93 153**	P	**P**	**10 29 29.9**	**+1.3**
BBJI	**Bungbulang**	**41.41 266**	P	**P**	**10 29 31.6**	**-1.3**
BFZ	**Birch Farm**	**41.72 149**	P	**P**	**10 29 36.7**	**+1.7**
RPZ	**Rata Peaks**	**41.73 156**	LR	LR	10 45 20.8	
	comp=Z,2µm,19.2s,baz=323,slow=34					
JMN	**Monobe**	**42.56 341**	P	**P**	**10 29 42.7**	**+0.8**
JMN			IAmb	IAmb	10 29 57.0	
	comp=Z,38nm,1.1s					
KNMB	**Chin-men Tao**	**43.06 317**	P	**P**	**10 29 44.7**	**-1.3**
KNMB			IAmb	IAmb	10 30 25.7	
	comp=Z,48nm,0.9s					
JNU	**Nakatsue**	**43.08 337**	P	**P**	**10 29 45.6**	**-0.5**
JNU	**Nakatsue**	**43.08 337**	LR	LR	10 46 49.9	
	comp=Z,560nm,18.4s,baz=142,slow=35					
INU	**Inuyama**	**43.16 345**	P	**P**	**10 29 45.5**	**-1.2**
JGF	**Kuroka**	**43.31 346**	P	**P**	**10 29 46.4**	**-1.6**
MJAR	**Matsushiro Arr**	**44.01 347**	P	**P**	**10 29 50.4**	**-3.2**
	comp=Z,6.6nm,1.0s,baz=173,slow=8.4,SNR=9.8					
MJAR			ScP	**ScP**	**10 35 25.1**	**-1.8**
	comp=Z,6.1nm,1.1s,baz=170,slow=3.5,SNR=7.1					
MJAR			LR	LR	10 46 55.2	
	comp=Z,976nm,18.6s,baz=172,slow=34					
	comp=Z,6.6nm,1.0s					
MAJO	**Matsushiro**	**44.01 347**	*i* P	**P**	**10 29 53.9**	**+0.3**
MAJO			pmax	pmax		
	comp=Z,50nm,1.3s					
MAJO	**Matsushiro**	**44.01 347**	P	**P**	**10 29 51.0**	**-2.6**
MAJO			pP	pP	10 29 58.2	-7.5
MJB9	**Matsu-Tunnel**	**44.02 347**	P	**P**	**10 29 50.8**	**-2.8**
MJB9			IAmb	IAmb	10 30 09.1	
	comp=Z,49nm,1.2s					
SSE	**Sheshan**	**46.03 326**	P	**P**	**10 30 09.9**	**+0.2**
SSE			S	**S**	**10 36 53.5**	**+1.6**
SSE			pmax	pmax		
	comp=Z,8.0nm,0.7s					
SSE			pmax	pmax		
	comp=Z,110nm,3.6s					
SSE			LR	LR		
	comp=Z,470nm,23.2s					
SSE			LR	LR		
	comp=Z,590nm,22.8s					
QIZ	**Qiongzhong**	**46.44 304**	P	**P**	**10 30 13.8**	**+0.7**
QIZ			sP	**pP**	**10 30 25.1**	**+0.2**
QIZ			S	**S**	**10 37 01.4**	**+3.2**
QIZ			sS	**sS**	**10 37 16.8**	**-0.3**
QIZ			LR	LR		
	comp=Z,340nm,14.7s					
QIZ			LR	LR		
	comp=Z,330nm,17.7s					
QIZ			LR	LR		
	comp=Z,470nm,16.2s					
TJN	**Taejon**	**47.32 336**	P	**P**	**10 30 18.1**	**-1.6**
TJN	**Taejon**	**47.32 336**	P	**P**	**10 30 18.1**	**-1.6**
TJN			pmax	pmax		
	comp=Z,127nm,1.2s					
KSRS	**Korea Array**	**48.03 337**	P	**P**	**10 30 22.7**	**-2.5**
	comp=Z,7.2nm,0.7s,baz=153,slow=8.3,SNR=20					
KSRS			LR	LR	10 49 18.4	
	comp=Z,1µm,19.8s,baz=145,slow=34					
	comp=Z,7.2nm,0.7s					
KS19	**Wonju Array Si**	**48.10 337**	P	**P**	**10 30 24.8**	**-0.9**
JKA	**Kamikawa-asahi**	**50.69 354**	P	**P**	**10 30 45.5**	**+0.2**
ASAJ	**Asahikawa**	**50.69 354**	LR	LR	10 52 43.3	
	comp=Z,558nm,19.0s,baz=179,slow=37					
ASAJ	**Asahikawa**	**50.69 354**	P	**P**	**10 30 45.5**	**+0.2**
ASAJ			pmax	pmax		
	comp=Z,52nm,1.2s					
RPSI	**Rantau Prapat**	**51.17 279**	P	**P**	**10 30 48.1**	**-1.4**
PSI	**Prapat**	**51.19 279**	P	**P**	**10 30 48.1**	**-1.7**
PSI			pmax	pmax		
	comp=Z,12nm,1.2s					
RAR	**Rarotonga**	**51.30 112**	LR	LR	10 52 41.3	
	comp=Z,112nm,18.1s,baz=282,slow=36					
DL2	**Dalian**	**51.93 333**	P	P	10 31 01.8	+7.1
DL2			S	S	10 38 30.4	+16
DL2			pmax	pmax		
	comp=Z,100nm,1.8s					
DL2			pmax	pmax		
	comp=Z,410nm,3.7s					
DL2			LR	LR		
	comp=N,2µm,20.0s					
DL2			LR	LR		
	comp=E,1µm,17.9s					
DL2			LR	LR		
	comp=Z,2µm,21.6s					
TIA	**Tai'an**	**52.10 327**	P	**P**	**10 30 51.6**	**-4.5**
TIA			S	**S**	**10 38 21.9**	**+4.8**
TIA			pmax	pmax		
	comp=Z,9.0nm,1.6s					
TIA			pmax	pmax		
	comp=Z,150nm,6.9s					
TIA			LR	LR		
	comp=Z,930nm,20.3s					
TIA			LR	LR		
	comp=Z,1µm,16.8s					
TIA			LR	LR		
	comp=Z,2µm,18.9s					
USA0B	**Ussuriysk Arra**	**52.78 344**	P	**P**	**10 31 01.1**	**+0.1**
USA0B			IAmb	IAmb	10 31 17.7	
	comp=Z,37nm,1.4s					
USA0B	**Ussuriysk Arra**	**52.78 344**	P	**P**	**10 31 01.1**	**+0.1**
USA0B			pmax	pmax		
	comp=Z,37nm,1.4s					
USRK	**Ussuriysk Ar.**	**52.78 344**	P	**P**	**10 31 01.0**	**0.0**
	comp=Z,9.8nm,0.8s,baz=175,slow=8.5,SNR=20					
USRK			LR	LR	10 51 11.5	
	comp=Z,1µm,20.7s,baz=152,slow=34					
	comp=Z,9.8nm,0.8s					
USRK	**Ussuriysk Ar.**	**52.78 344**	P	**P**	**10 31 01.0**	**0.0**
YSS	**Yuzh-Sakhalins**	**53.48 354**	*e*P	**P**	**10 31 05.6**	**-0.4**
YSS			*e*S	**S**	**10 38 33.4**	**-2.0**
YSS			pmax	pmax		
	comp=Z,30nm,1.2s					
YSS			pmax	pmax		
	comp=Z,200nm,4.2s					
YSS			MLR	MLR		
	comp=Z,500nm,16.0s					
YSS			MLR	MLR		
	comp=N,400nm,17.0s					
YSS			MLR	MLR		
	comp=E,300nm,17.0s					
SNY	**Shenyang**	**53.50 336**	⇓P	**P**	**10 31 02.6**	**-3.7**
SNY			pmax	pmax		
	comp=E,6.0nm,0.5s					
SNY			pmax	pmax		
	comp=E,150nm,5.0s					
SNY			LR	LR		
	comp=E,610nm,15.0s					
SNY			LR	LR		
	comp=E,590nm,17.0s					
SNY			LR	LR		
	comp=E,950nm,16.9s					
MDJ	**Mudanjiang**	**53.85 343**	P	**P**	**10 31 11.8**	**+3.0**
MDJ			pP	pP	10 31 22.9	+1.6
MDJ			PP	**PP**	**10 33 14.3**	**+3.9**
MDJ			pmax	pmax		
	comp=E,13nm,1.2s					
MDJ			pmax	pmax		
	comp=E,170nm,5.5s					
MDJ			LR	LR		
	comp=E,980nm,18.5s					
MDJ			LR	LR		
	comp=E,590nm,22.7s					
MDJ			LR	LR		
	comp=E,2µm,19.2s					
HNS	**HongShan**	**54.29 326**	⇑P	**P**	**10 31 11.4**	**-0.7**
HNS			S	S	10 38 55.1	+8.3
HNS			pmax	pmax		
	comp=E,18nm,1.1s					
HNS			LR	LR		
	comp=E,700nm,21.1s					
HNS			LR	LR		
	comp=E,1µm,22.3s					
HNS			LR	LR		
	comp=E,2µm,22.3s					
CN2	**Changchun**	**54.48 339**	*e*P	**P**	**10 31 17.0**	**+3.6**
CN2			*e*pP	pP	10 31 27.0	+1.7
CN2			*e*S	**S**	**10 38 52.8**	**+3.7**
CN2			pmax	pmax		
	comp=E,10.0nm,0.6s					
CN2			pmax	pmax		
	comp=E,200nm,4.0s					
CN2			LR	LR		
	comp=E,300nm,12.0s					
CN2			LR	LR		
	comp=E,200nm,12.0s					
CN2			LR	LR		
	comp=E,300nm,14.0s					
KMI	**Kunming**	**55.13 307**	⇓P	**P**	**10 31 18.3**	**-0.5**
KMI			pmax	pmax		
	comp=E,100nm,8.4s					
KMI			LR	LR		
	comp=E,390nm,22.9s					
KMI			LR	LR		
	comp=E,250nm,18.9s					
KMI			LR	LR		
	comp=E,310nm,30.3s					
BJT	**Baijiatuau**	**55.44 329**	P	**P**	**10 31 19.2**	**-1.1**
BJT	**Baijiatuau**	**55.44 329**	P	**P**	**10 31 19.3**	**-1.1**
BJT			pmax	pmax		
	comp=Z,86nm,2.0s					
XAN	**Xi'an**	**55.53 319**	P	**P**	**10 31 20.8**	**-0.5**
XAN			sP	pP	10 31 35.3	+2.1
XAN			S	**S**	**10 39 06.8**	**+3.2**
XAN			pmax	pmax		
	comp=Z,28nm,1.6s					
XAN			LR	LR		
	comp=Z,710nm,17.4s					
XAN			LR	LR		
	comp=Z,540nm,18.7s					
XAN			LR	LR		
	comp=Z,1µm,20.6s					
BNX	**BinXian**	**55.53 341**	⇑P	**P**	**10 31 20.8**	**-0.1**
BNX			sP	**pP**	**10 31 35.4**	**+2.6**
BNX			S	**S**	**10 39 03.3**	**+0.2**
BNX			pmax	pmax		
	comp=Z,18nm,1.1s					
BNX			pmax	pmax		
	comp=Z,300nm,7.4s					
BNX			LR	LR		
	comp=Z,590nm,17.9s					
BNX			LR	LR		
	comp=Z,490nm,17.3s					
BNX			LR	LR		
	comp=Z,690nm,18.4s					
CMAR	**Chiang Mai Arr**	**55.53 297**	P	**P**	**10 31 20.4**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=124,slow=5.5,SNR=5.2					
	comp=Z,0.4nm,0.3s					
CMAR	**Chiang Mai Arr**	**55.53 297**	*i* P	**P**	**10 31 24.2**	**+2.7**
CMAR			pmax	pmax		
	comp=Z,1.0nm,0.5s					
CHTO	**Chiang Mai**	**55.66 298**	P	**P**	**10 31 20.9**	**-1.4**
CHTO	**Chiang Mai**	**55.66 298**	P	**P**	**10 31 21.0**	**-1.4**
CHTO			pmax	pmax		
	comp=Z,7.0nm,1.1s					
PZH	**PanZhiHua**	**56.58 308**	P	**P**	**10 31 31.8**	**+2.8**
PZH			pmax	pmax		
	comp=Z,7.0nm,0.8s					
PZH			pmax	pmax		
	comp=Z,100nm,4.6s					
KLR	**Kul'dur**	**57.53 346**	*ce*P	**P**	**10 31 35.0**	**-0.1**
KLR			pmax	pmax		
	comp=Z,36nm,1.7s					
HEH	**HeiHe**	**59.58 344**	*e*P	**P**	**10 31 48.9**	**-0.5**
HEH			pmax	pmax		
	comp=Z,11nm,0.8s					
HEH			LR	LR		
	comp=Z,550nm,16.7s					
HEH			LR	LR		
	comp=Z,330nm,15.5s					
HEH			LR	LR		
	comp=Z,660nm,14.5s					
PEA0B	**Petropavlovsk-**	**59.74 6**	P	**P**	**10 31 50.3**	**-0.1**
PEA0B	**Petropavlovsk-**	**59.74 6**	*ce*P	**P**	**10 31 50.5**	**+0.1**
PETK	**Petropavlovsk-**	**59.74 6**	P	**P**	**10 31 49.6**	**-0.8**
	comp=Z,13nm,0.5s,baz=175,slow=6.2,SNR=24					
PETK			LR	LR	10 53 08.8	
	comp=Z,895nm,21.7s,baz=203,slow=32					
	comp=Z,13nm,0.5s					
PET	**Petropavlovsk**	**59.76 6**	P	**P**	**10 31 50.3**	**-0.2**
PET	**Petropavlovsk**	**59.76 6**	*e*P	**P**	**10 31 49.8**	**-0.7**
PET			*e*S	**S**	**10 40 04.0**	**+5.8**
PET			pmax	pmax		
	comp=Z,200nm,5.8s					
PET			MLR	MLR		
	comp=Z,400nm,17.0s					
PET			MLR	MLR		
	comp=Z,500nm,18.0s					
LZH	**Lanzhou**	**60.08 318**	*e*P	**P**	**10 31 50.0**	**-3.4**
LZH			sP	pP	10 32 06.1	+0.6
LZH			SS	SS	10 44 00.4	-0.8
LZH			pmax	pmax		
	comp=Z,17nm,1.1s					
LZH			pmax	pmax		
	comp=Z,200nm,9.2s					
LZH			LR	LR		
	comp=Z,410nm,21.0s					
LZH			LR	LR		
	comp=Z,540nm,19.2s					
LZH			LR	LR		
	comp=Z,930nm,21.0s					
DRV	**Dumont d'Urvil**	**60.48 184**	P	**P**	**10 31 57.5**	**+2.2**
PPT	**Papeete**	**60.52 106**	LR	LR	10 53 41.9	
	comp=Z,217nm,20.5s,baz=271,slow=32					
PPT2	**Papeete2**	**60.52 106**	*e*P	**P**	**10 31 54.6**	**-2.0**
	comp=Z,140nm,24.2s					
PPT2	**Papeete2**	**60.52 106**	*e*PP	**PP**	**10 34 05.7**	**-4.7**
	comp=Z,78nm,24.5s					
PPT2			*e*S	**S**	**10 40 06.0**	**-3.5**
	comp=Z,241nm,27.0s					
PPT2			*e*SS	**SS**	**10 44 08.2**	**-0.1**
	comp=Z,160nm,26.2s					
PPT2			*e*LQ	LQ	10 47 16.4	
	comp=Z,2µm,34.0s					
PPT2			*e*LR	LR	10 49 49.1	
	comp=Z,738nm,25.0s					
PPT2			*e*LR	LR	10 49 50.0	
	comp=Z,571nm,25.8s					
TBI	**Tubuai**	**61.04 113**	*e*P	P	10 31 56.2	-3.7
	comp=Z,516nm,26.0s					
TBI	**Tubuai**	**61.04 113**	*e*PP	PP	10 33 49.5	-25
	comp=Z,366nm,28.0s					
TBI			*e*S	**S**	**10 40 14.8**	**-1.0**
	comp=Z,681nm,25.0s					
TBI			*e*SS	**SS**	**10 44 17.8**	**+1.7**
	comp=Z,986nm,29.5s					
TBI			*e*LQ	LQ	10 47 29.7	
	comp=Z,3µm,35.5s					
TBI			*e*LR	LR	10 50 00.1	
	comp=Z,2µm,31.5s					
HIA	**Hailar**	**61.20 338**	P	**P**	**10 32 00.1**	**-0.4**
HIA			IAmb	IAmb	10 32 16.7	
	comp=Z,26nm,1.2s					
HIA	**Hailar**	**61.20 338**	P	**P**	**10 32 00.1**	**-0.4**
HIA			pmax	pmax		
	comp=Z,26nm,1.2s					
HIA	**Hailar**	**61.20 338**	P	**P**	**10 32 00.4**	**-0.1**
HIA			pP	pP	10 32 07.3	-5.3
SHEM	**Shemya Is, Ala**	**62.58 17**	LR	LR	10 54 29.4	
	comp=Z,1µm,21.9s,baz=188,slow=31					
ZEA	**Zeya**	**62.78 345**	*e*P	**P**	**10 32 11.3**	**+0.3**
ZEA			*e*		10 40 52.6	
ZEA			pmax	pmax		
	comp=N,200nm,3.0s					
ZEA			pmax	pmax		
	comp=Z,200nm,3.2s					
ZEA			pmax	pmax		
	comp=N,30nm,1.4s					
ZEA			pmax	pmax		
	comp=Z,40nm,1.2s					
GTA	**Gaotai**	**64.59 319**	*e*P	**P**	**10 32 24.3**	**+0.9**
GTA			sP	pP	10 32 39.4	+3.7
GTA			pmax	pmax		
	comp=Z,4.0nm,1.0s					
GTA			LR	LR		
	comp=Z,240nm,21.9s					
GTA			LR	LR		
	comp=Z,320nm,21.1s					
GTA			LR	LR		
	comp=Z,460nm,22.3s					
ULN	**Ulaanbaatar**	**65.64 330**	P	**P**	**10 32 28.3**	**-1.7**
ULN			IAmb	IAmb	10 32 58.1	
	comp=Z,15nm,1.3s					
ULN	**Ulaanbaatar**	**65.64 330**	*ce*P	**P**	**10 32 30.0**	**0.0**
ULN			pmax	pmax		
	comp=Z,14nm,2.5s					
SONM	**Songino Array**	**65.94 330**	P	**P**	**10 32 30.9**	**-1.1**
	comp=Z,2.2nm,0.7s,baz=148,slow=4.1,SNR=9.8					
SONM			LR	LR	11 00 38.4	
	comp=Z,773nm,20.6s,baz=134,slow=35					
SONM			PKP2bc		11 01 14.0	
	comp=Z,2.3nm,1.0s,baz=318,slow=1.9,SNR=8.5					
	comp=Z,2.2nm,0.7s					
SEY	**Seymchan**	**69.21 1**	LR	LR	11 04 18.9	
	comp=Z,276nm,18.9s,baz=154,slow=37					
SEY	**Seymchan**	**69.21 1**	*i* P	**P**	**10 32 53.6**	**+1.5**
SEY			pmax	pmax		
	comp=Z,9.0nm,1.0s					
TAOE	**Nuku Hiva Isla**	**69.82 97**	*e*P	P	10 32 51.8	-5.2
	comp=Z,113nm,22.3s					
TAOE			*e*S	**S**	**10 42 04.1**	**+0.3**
	comp=Z,242nm,25.4s					
TAOE	**Nuku Hiva Isla**	**69.82 97**	*e*LR	LR	10 54 05.7	
	comp=Z,315nm,24.0s					
YAK	**Yakutsk**	**69.94 350**	LR	LR	11 07 55.7	
	comp=Z,181nm,18.3s,baz=146,slow=40					
YAK	**Yakutsk**	**69.94 350**	*e*P	**P**	**10 32 55.8**	**-0.8**
YAK			pmax	pmax		
	comp=Z,9.0nm,1.3s					
YAK			pmax	pmax		
	comp=N,8.0nm,1.2s					
YAK			pmax	pmax		
	comp=E,7.0nm,1.2s					
CCD	**Concordia, Ant**	**70.22 187**	P	**P**	**10 32 59.4**	**+0.7**
HYB	**Hyderabad**	**73.81 290**	*e*P	**P**	**10 33 20.7**	**-0.1**
WMQ	**Urumqi**	**74.66 319**	*e*P	**P**	**10 33 27.8**	**+2.5**
WMQ			LR	LR		
	comp=E,290nm,24.0s					
BILL	**Bilibino**	**75.26 6**	*i* P	**P**	**10 33 28.9**	**+0.8**
BILL			pmax	pmax		
	comp=Z,5.0nm,1.0s					
L14K	**Kuka Creek**	**77.10 22**	P	**P**	**10 33 38.6**	**0.0**
L14K			IAmb	IAmb	10 33 43.4	
	comp=Z,18nm,0.7s					
K15K	**Wolf Creek Mou**	**78.13 21**	P	**P**	**10 33 44.7**	**+0.2**
M16K	**Timber Creek**	**78.30 23**	P	**P**	**10 33 45.8**	**+0.3**
M16K			IAmb	IAmb	10 33 49.3	
	comp=Z,45nm,1.6s					
TIXI	**Tiksi**	**79.09 354**	P	**P**	**10 33 49.6**	**0.0**
TIXI	**Tiksi**	**79.09 354**	P	**P**	**10 33 49.6**	**0.0**
TIXI			pmax	pmax		
	comp=Z,21nm,1.8s					
KDAK	**Kodiak Island**	**79.18 28**	LR	LR	11 06 34.2	
	comp=Z,402nm,19.2s,baz=98,slow=34					
MK31	**Makanchi Array**	**79.33 320**	P	**P**	**10 33 51.2**	**-0.3**
MK31	**Makanchi Array**	**79.33 320**	P	**P**	**10 33 51.2**	**-0.3**
MK31			pmax	pmax		
	comp=Z,8.0nm,1.2s					
MKAR	**Makanchi Array**	**79.33 320**	P	**P**	**10 33 50.0**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=100,slow=9.0,SNR=7.9					
	comp=Z,0.8nm,0.6s					
MKAR	**Makanchi Array**	**79.33 320**	*i* P	**P**	**10 33 52.2**	**+0.7**
MKAR			pmax	pmax		
	comp=Z,1.0nm,0.6s					
K17K	**Iditarod**	**79.57 22**	P	**P**	**10 33 52.8**	**+0.5**
J17K	**VABM Dome**	**79.70 21**	P	**P**	**10 33 53.5**	**+0.5**
J17K			IAmb	IAmb	10 36 12.2	
	comp=Z,50nm,1.9s					
P19K	**Oil Pt**	**79.87 26**	P	**P**	**10 33 54.1**	**0.0**
L18K	**Granite Mounta**	**79.88 23**	P	**P**	**10 33 53.5**	**-0.6**
L19K	**White Mountain**	**80.57 23**	P	**P**	**10 33 57.6**	**-0.2**
L19K			IAmb	IAmb	10 34 31.1	
	comp=Z,27nm,1.6s					
J18K	**Innoko River**	**80.60 22**	P	**P**	**10 33 57.5**	**-0.5**
J18K			IAmb	IAmb	10 34 06.2	
	comp=Z,34nm,1.9s					
ZAA0	**Zalesovo Array**	**80.64 327**	P	**P**	**10 33 56.9**	**-1.4**
ZALV	**Zalesovo Beam**	**80.64 327**	P	**P**	**10 33 56.1**	**-2.2**
	comp=Z,3.0nm,0.7s,baz=98,slow=3.9,SNR=9.4					
	comp=Z,3.0nm,0.7s					
M20K	**Styx River**	**81.09 24**	P	**P**	**10 34 00.6**	**0.0**
M20K			IAmb	IAmb	10 34 27.0	
	comp=Z,26nm,1.4s					
J19K	**Poorman**	**81.30 21**	P	**P**	**10 34 01.7**	**+0.1**
J19K			IAmb	IAmb	10 35 12.9	
	comp=Z,34nm,1.9s					
G18K	**Tagagawik**	**81.38 19**	P	**P**	**10 34 01.8**	**-0.3**
K20K	**Telida**	**81.52 22**	P	**P**	**10 34 03.1**	**+0.3**
K20K			IAmb	IAmb	10 34 03.7	
	comp=Z,48nm,2.0s					
SKT	**Skwentna**	**81.79 24**	P	**P**	**10 34 05.0**	**+0.8**
SKT			IAmb	IAmb	10 34 09.0	
	comp=Z,50nm,2.0s					
H19K	**Roundabout Mou**	**81.89 20**	IAmb	IAmb	10 36 05.3	
	comp=Z,46nm,1.9s					
J20K	**Nowinta River**	**81.94 22**	IAmb	IAmb	10 34 32.2	
	comp=Z,31nm,1.7s					
MAW	**Mawson**	**82.75 203**	P	**P**	**10 34 08.5**	**-0.7**
	comp=Z,5.3nm,1.1s,baz=87,slow=11,SNR=6.0					
	comp=Z,5.3nm,1.1s					
KURK	**Kurchatov**	**82.97 323**	*ce*P	**P**	**10 34 10.1**	**-0.5**
KURK			pmax	pmax		
	comp=Z,9.0nm,1.5s					
KURBB	**Kurchatov Arra**	**82.99 323**	P	**P**	**10 34 08.4**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=92,slow=3.7,SNR=7.2					
	comp=Z,0.4nm,0.3s					

IMAR	Indian Mountai	83.07	20	P	P	10 34 10.2	-0.7
C19K	Lookout Ridge	83.10	16	P	P	10 34 11.1	+0.1
D19K	Kuna River	83.14	17	P	P	10 34 11.2	0.0
D19K				IAmb	IAmb	10 35 00.8	
	comp=Z,33nm,1.6s						
AAK	Ala-Archa	83.32	314	P	P	10 34 12.6	-0.3
AAK	Ala-Archa	83.32	314	LR	LR	11 11 01.5	
	comp=Z,311nm,21.0s,baz=96,slow=36						
AAK	Ala-Archa	83.32	314	*ce*P	P	10 34 11.4	-1.5
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
QSPA	South Pole Qui	83.53	180	P	P	10 34 13.8	+0.3
QSPA	South Pole Qui	83.53	180	P	P	10 34 12.9	-0.6
	comp=Z,12nm,1.0s,baz=1.6,slow=3.1,SNR=36						
	comp=Z,12nm,1.0s						
MLY	Manley	83.64	22	P	P	10 34 13.0	-0.8
G23K	Bananza Creek	84.74	20	IAmb	IAmb	10 34 47.4	
	comp=Z,15nm,1.5s						
E22K	Anaktuvuk Pass	84.87	19	IAmb	IAmb	10 34 22.1	
	comp=Z,16nm,1.6s						
IL31		84.97	23	P	P	10 34 18.4	-2.1
IL31				IAmb	IAmb	10 34 22.6	
	comp=Z,33nm,1.7s						
ILAR	Eielson Array	84.97	23	P	P	10 34 18.0	-2.5
	comp=Z,3.7nm,0.7s,baz=256,slow=5.3,SNR=25						
	comp=Z,3.7nm,0.7s						
J25K	Salcha River,	85.48	23	IAmb	IAmb	10 34 37.7	
	comp=Z,10nm,0.8s						
E23K	Chandalar	85.54	19	IAmb	IAmb	10 35 11.1	
	comp=Z,37nm,1.9s						
D23K	Nanushuk River	85.65	18	IAmb	IAmb	10 35 02.3	
	comp=Z,12nm,1.1s						
TOLK	Toolik Lake Re	85.84	19	P	P	10 34 24.8	0.0
TOLK				IAmb	IAmb	10 37 11.8	
	comp=Z,32nm,1.9s						
F24K	Squaw Lake	85.86	20	P	P	10 34 25.4	+0.4
J26L	Joseph Creek	86.15	24	IAmb	IAmb	10 34 59.9	
	comp=Z,24nm,1.8s						
KKAR	Karatay Array	86.28	314	P	P	10 34 25.6	-2.0
KKAR	Karatay Array	86.28	314	P	P	10 34 25.6	-2.0
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.2s						
L27K	Beaver Creek,	86.30	25	IAmb	IAmb	10 34 27.9	
	comp=Z,16nm,1.4s						
BCAR	Beaver Creek A	86.32	25	P	P	10 34 27.4	0.0
SIMJ	Simiganj	86.50	309	P	P	10 34 25.9	-3.0
C24K	Franklin Bluff	86.64	18	IAmb	IAmb	10 34 48.4	
	comp=Z,18nm,1.3s						
BMAR	Burnt Mountain	86.96	21	P	P	10 34 30.8	+0.4
EGAK	Eagle	87.21	24	P	P	10 34 31.2	-0.4
EGAK				IAmb	IAmb	10 34 59.7	
	comp=Z,9.1nm,0.9s						
DAWY	Dawson	87.68	25	P	P	10 34 33.1	-0.8
DAWY				IAmb	IAmb	10 35 21.2	
	comp=Z,15nm,1.2s						
L29M	L29M	87.90	26	IAmb	IAmb	10 34 42.0	
	comp=Z,15nm,1.2s						
I28M	Miner Creek	87.93	23	IAmb	IAmb	10 36 13.6	
	comp=Z,24nm,1.7s						
C27K	Jago River	88.16	19	IAmb	IAmb	10 34 59.9	
	comp=Z,7.5nm,0.9s						
E27K	Coleen River	88.31	20	IAmb	IAmb	10 34 55.3	
	comp=Z,11nm,1.4s						
K29M	Barlow Dome	88.39	25	P	P	10 34 37.3	-0.1
K29M				IAmb	IAmb	10 35 24.2	
	comp=Z,14nm,1.0s						
BVAR	Borovoye Array	88.51	324	P	P	10 34 35.0	-3.1
	comp=Z,2.1nm,0.8s,baz=114,slow=6.5,SNR=6.2						
	comp=Z,2.1nm,0.8s						
BVAR	Borovoye Array	88.51	324	P	P	10 34 35.0	-3.1
I29M	Ogilvie Camp,	88.55	24	IAmb	IAmb	10 34 48.7	
	comp=Z,7.9nm,1.1s						
BRVK	Borovoye	88.58	324	*i* P	P	10 34 39.6	+1.2
F28M	Old Crow	88.71	21	IAmb	IAmb	10 36 36.2	
	comp=Z,19nm,1.9s						
D27M	Malcolm River	88.91	20	IAmb	IAmb	10 35 23.5	
	comp=Z,24nm,1.9s						
BBB	Bella Bella	90.47	38	LR	LR	11 09 33.4	
	comp=Z,657nm,19.6s,baz=264,slow=32						
DLBC	Dease Lake	90.54	31	LR	LR	11 09 11.8	
	comp=Z,659nm,20.6s,baz=288,slow=31						
HUMO	Hull Mountain	92.60	48	P	P	10 34 58.0	+0.5
J05D	Fort Rock, OR	93.93	47	P	P	10 35 03.7	0.0
J05D				IAmb	IAmb	10 35 04.9	
	comp=Z,6.9nm,1.2s						
ELIB	Princess Elisa	94.38	195	*d*P	P	10 35 01.5	-3.7
ELIB				*dp*P	PcP	10 35 12.7	+7.1
A36M	Sachs Harbour	94.64	18	IAmb	IAmb	10 35 08.2	
	comp=Z,6.2nm,0.9s						
NVAR	Mina Array Bea	95.78	52	P	P	10 35 11.6	-0.8
	comp=Z,1.6nm,1.0s,baz=262,slow=6.3,SNR=6.3						
	comp=Z,1.6nm,1.0s						
BELA	Belgrano 2	95.78	179	P	P	10 35 11.2	-0.1
BELA				IAmb	IAmb	10 35 37.2	
	comp=Z,17nm,1.6s						
WCT	Wildcat Mounta	97.02	54	P	P	10 35 18.4	+0.5
NEW	Newport	97.10	42	LR	LR	11 12 06.2	
	comp=Z,312nm,21.2s,baz=272,slow=31						
SNAA	Sanae	99.93	189	*i* P	Pdif	10 35 29.4	-0.8
SNAA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
PDAR	Pinedale Array	102.47	48	Pdiff	Pdif	10 35 41.9	-0.4
	comp=Z,0.3nm,0.7s,baz=242,slow=1.9,SNR=2.5						
MAK	Makhachkala	103.03	312	*i* P	Pdif	10 35 40.6	-3.8
MAK				*e*		10 39 58.4	
MAK				*e*PPP	PPP	10 42 08.3	
MAK				*e*		10 47 04.2	
MAK				*e*PS	PS	10 49 08.8	+0.2
MAK				*e*SS	SS	10 54 37.5	-0.7
MAK				*e*SSS	SSS	10 58 35.9	
MAK				pmax	pmax		
	comp=Z,139nm,1.1s						
TXAR	Lajitas Array	107.91	61	PKiKP	PKiKP	10 40 12.3	-1.5
	comp=Z,1.0nm,1.0s,baz=318,slow=1.2,SNR=5.6						
MNK	Minsk	113.15	327	*i* P	Pdif	10 36 28.4	-0.8
	comp=E,22nm,0.9s						
MNK				*i* P	Pdif	10 36 28.4	-0.8
	comp=N,20nm,0.6s						
MNK				*i* P	Pdif	10 36 28.4	-0.8
	comp=Z,22nm,0.8s,baz=67						
MNK				*i* PP	PP	10 41 12.4	-0.2
MNK				*i* PPP	PPP	10 43 36.0	
MNK				*i* SKS	SKSdf	10 47 31.4	+0.2
MNK				*i* PS	PS	10 50 48.7	-0.2
MNK				*i* SS	SS	10 56 57.1	+3.2
MNK				*i* SSS	SSS	11 01 10.2	
MNK				*i* LQ	LQ	11 18 12.4	
MNK				*i* LR	LR	11 22 47.5	
MNK				*i* LRM	MLR	11 27 44.5	
	comp=E,419nm,22.9s						
MNK				*i* LRM	MLR	11 28 29.2	
	comp=N,602nm,20.1s						
MNK				*i* LRM	MLR	11 28 33.9	
	comp=Z,794nm,21.5s						
MNK	Minsk	113.15	327	*i* P	Pdif	10 36 28.3	-0.8
MNK				*i*		10 41 12.4	
MNK				*i* PPP	PPP	10 43 36.0	
MNK				*i*		10 47 31.4	
MNK				*i* PS	PS	10 50 48.6	-0.2
MNK				*i* SS	SS	10 56 57.0	+3.1
MNK				*i* SSS	SSS	11 01 10.2	
MNK				pmax	pmax		
	comp=E,22nm,0.9s						
MNK				pmax	pmax		
	comp=Z,22nm,0.8s						
MNK				pmax	pmax		
	comp=N,20nm,0.6s						
MNK				MLR	MLR		
	comp=E,419nm,23.0s						
MNK				MLR	MLR		
	comp=N,602nm,20.0s						
MNK				MLR	MLR		
	comp=Z,794nm,22.0s						
S39A	Bolivar	115.44	51		PKiKP	10 40 26.5	-1.2
LCAR	Lake Charles	117.49	53	PKPdf	PKPdf	10 40 30.7	-1.0
FVM	French Village	117.61	50	PKPdf	PKPdf	10 40 30.9	-1.0
FVM	French Village	117.61	50	PKIKP	PKPdf	10 40 30.9	-1.0
K43A	Burlington	117.82	45	PKPdf	PKiKP	10 40 32.6	+0.4
T47A	Sharon Grove	120.42	51		PKPdf	10 40 36.1	-1.2
WCI	Wyandotte Cave	120.67	49	PKPdf	PKPdf	10 40 36.8	-1.0
WCI	Wyandotte Cave	120.67	49	PKIKP	PKPdf	10 40 36.8	-1.0
V48A	Smith Brothers	120.98	52		PKPdf	10 40 36.8	-1.6
PETF	Flores	121.26	74		PKPdf	10 40 38.2	-1.2
CLTN	Cedars of Leba	121.26	52		PKPdf	10 40 37.6	-1.4
N49A	Columbus Grove	121.34	46	PKPdf	PKPdf	10 40 38.6	-0.4
O49A	Covington	121.49	46	PKPdf	PKPdf	10 40 37.8	-1.5
LRAL	Lakeview Retre	121.52	55		PKPdf	10 40 38.5	-1.0
U49A	Red Boiling Sp	121.57	51	PKPdf	PKPdf	10 40 38.8	-0.8
SWET	Sewanee	121.82	52	PKPdf	PKPdf	10 40 38.8	-1.3
T50A	Nancy	122.14	50	PKPdf	PKPdf	10 40 39.7	-0.9
W50A	Signal Mountai	122.31	52		PKPdf	10 40 39.4	-1.7
S51A	Beattyville	122.89	49		PKPdf	10 40 41.4	-0.7
TKL	Tuckaleechee C	123.38	51		PKPdf	10 40 42.3	-0.8
TKL	Tuckaleechee C	123.38	51	PKIKP	PKPdf	10 40 42.3	-0.8
W52A	Murphy	123.43	52		PKPdf	10 40 42.0	-1.2
152A	Waverly Hall	123.47	55		PKPdf	10 40 42.4	-0.9
KHC	Kasperske Hory	123.49	327	*i* PKIKP	PKPdf	10 40 41.5	-1.4
Y52A	Lilburn	123.68	53	PKPdf	PKPdf	10 40 42.5	-1.2
P53A	Whipple	123.85	46	PKPdf	PKPdf	10 40 43.4	-0.5
V53A	Saluda	124.12	51		PKPdf	10 40 44.3	-0.2
BLA	Blacksburg	125.40	48	PKPdf	PKPdf	10 40 46.3	-0.7
BLA	Blacksburg	125.40	48	PKIKP	PKPdf	10 40 46.3	-0.7
TSUM	Tsumeb	126.11	241		PKiKP	10 40 48.9	-0.5
JTS	Las Juntas de	126.17	82		PKPdf	10 40 48.4	-0.6
JTS	Las Juntas de	126.17	82	PKIKP	PKPdf	10 40 48.4	-0.6
LCO	Las Campanas	127.77	135		PKPdf	10 40 52.2	+0.2
LCO	Las Campanas	127.77	135	PKIKP	PKPdf	10 40 52.2	+0.2
PB14	IPOC Station P	130.47	130	PKPdf	PKPdf	10 40 56.5	-0.9
NNA	Nana	130.54	112	*c i* PKIKP	PKPdf	10 40 56.8	-0.6
NNA				pmax	pmax		
	comp=Z,40nm,1.3s						
COHC	Cochancay	130.66	99	PKPdf	PKPdf	10 40 57.4	-0.2
GO02	Mina Guanaco	130.79	131	PKPdf	PKPdf	10 40 57.7	-0.3
OTAV	Otavalo	131.90	95	PKPdf	PKPdf	10 41 00.5	0.0
OTAV	Otavalo	131.90	95	PKIKP	PKPdf	10 41 00.5	0.0
ROSC	El Rosal	136.51	90	PKP	PKPdf	10 41 09.2	+0.1
	comp=Z,16nm,0.6s,baz=246,slow=19,SNR=4.8						
ROSC				SKP		10 44 41.5	
	comp=Z,4.8nm,0.3s,baz=261,slow=19,SNR=6.1						
LPAZ	La Paz	136.57	122	PKhKP	PKPpre	10 41 01.0	
	comp=Z,0.7nm,0.6s,baz=250,slow=4.8,SNR=4.7						
LPAZ				PKP	PKPdf	10 41 09.7	+0.3
	comp=Z,7.6nm,1.0s,baz=335,slow=3.1,SNR=13						
LPAZ				SKP		10 44 40.9	
	comp=Z,5.6nm,1.2s,baz=279,slow=2.0,SNR=5.0						
CPUP	Villa Florida	138.39	143	PKP	PKPdf	10 41 11.7	0.0
	comp=Z,2.3nm,0.7s,baz=346,slow=4.2,SNR=6.1						
SDV	Santo Domingo	140.30	84	PKPdf	PKPdf	10 41 15.2	-0.6
AQDB	Aquidauana	143.64	138	PKPdf	PKPdf	10 41 20.7	-0.6
HUMP	Col San Antoni	143.76	68		PKPbc	10 41 19.6	+0.4
SAML	Samuel	144.14	115		PKPab	10 41 20.0	0.0
SAML	Samuel	144.14	115	PKIKP	PKPab	10 41 20.0	0.0
PTLB	Pontes e Lacer	144.36	128	PKPdf	PKPbc	10 41 21.4	+0.4
VILB	Vilhena	144.87	123		PKPbc	10 41 22.9	+0.1
TORD	Torodi Ar. Bea	147.47	284	PKPbc	PKPbc	10 41 28.9	-1.6
	comp=Z,7.3nm,0.6s,baz=35,slow=3.0,SNR=33						
GDHS	Morne Mazeau,	148.00	70		PKPbc	10 41 31.5	-0.5
CBE	Ff, Capester	148.20	70		PKPdf	10 41 31.0	+1.9
GDSD	La Dsirade Is	148.64	69		PKPbc	10 41 32.4	-1.2
FDF	Fort de France	148.93	72	PKPbc	PKPbc	10 41 34.7	+0.3
FDF	Fort de France	148.93	72	PKP2	PKPbc	10 41 34.7	+0.3
BOAV	Boa Vista	149.94	96	PKPbc	PKPbc	10 41 36.7	-0.2
BDFB	Brasilia	152.12	142		PKPbc	10 41 42.1	0.0
BDFB	Brasilia	152.12	142	PKP	PKPdf	10 41 35.7	+0.2
BDFB				PKPbc	PKPbc	10 41 41.9	-0.2
	comp=Z,8.3nm,0.9s,baz=182,slow=1.4,SNR=6.7						
	comp=Z,14nm,0.5s,baz=199,slow=2.2,SNR=20						
DBIC	Dimbokro	154.39	272	PKP	PKPdf	10 41 36.8	-1.8
	comp=Z,6.0nm,1.0s,baz=124,slow=3.2,SNR=4.2						
DBIC				PKPbc	PKPbc	10 41 45.4	-1.6
	comp=Z,7.9nm,1.0s,baz=77,slow=3.6,SNR=5.4						

*IDC **20** 10:24:00.9±3.0, 6°.35S±149°.45E, h36km±21km, mb4.2/13, mbtmp4.5/15, ML4.0/2, Error ellipse: s-maj=34.0km s-min=15.8km az=100.0*
*NEIC **20** 10:24:03.8±1.3, 6°.26S±0°.09×149°.2E±0°.1, h48km±5km, mb4.7/61, Error ellipse: s-maj=17.8km s-min=9.6km az=126.0*
ISC 20 10:24:02.8±0.4, **6°.33S**±0°.07×**149°.26E**±0°.09, **h49**km, **n120**, σ0**.83**/125, **mb4.7**/38, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	3.58	54	Pn	Pn	10 24 57.5	+1.6
PMG	Port Moresby	3.70	214	Pn	Pn	10 24 59.0	+1.5
PMG				Sn	Sn	10 25 41.6	+1.7
PMG	Port Moresby	3.70	214	Pn	Pn	10 24 58.3	+0.8
	81nm,0.3s,baz=24,slow=10.0,SNR=2.7						
PMG				Sn	Sn	10 25 40.5	+0.6
	102nm,0.3s,baz=68,slow=19,SNR=5.9						
	1μm,0.7s						
EIDS	Eidsvold	19.02	175	P	P	10 28 20.7	0.0
EIDS				IAmb	IAmb	10 28 23.8	
	comp=Z,30nm,0.8s						
WB0	Warramunga Arr	19.68	226	P	P	10 28 27.8	-0.2
WB0				IAmb	IAmb	10 28 38.0	
	comp=Z,45nm,0.9s						
WR0	Warramunga Arr	19.70	225	P	P	10 28 27.6	-0.6
WR0				IAmb	IAmb	10 28 35.9	
	comp=Z,33nm,0.8s						
WRAB	Tennant Creek	19.82	226	P	P	10 28 29.6	+0.1
WRAB				IAmb	IAmb	10 28 31.0	
	comp=Z,44nm,0.8s						
WB2	Warramunga Arr	19.82	226	P	P	10 28 27.9	-1.7
WB2				IAmb	IAmb	10 28 40.1	
	comp=Z,38nm,0.8s						
WRA	Warramunga Arr	19.83	226	P	P	10 28 29.7	0.0
WRA	Warramunga Arr	19.83	226	P	P	10 28 29.9	+0.2
	comp=Z,1.8nm,0.3s,baz=48,slow=10,SNR=6.6						
WRA				ScP	ScP	10 36 19.2	+0.8
	comp=Z,3.6nm,0.9s,baz=37,slow=2.4,SNR=5.4						
	comp=Z,30nm,0.7s						
KNRA	Kununurra	22.14	243	P	P	10 28 54.1	-0.4
KNRA				IAmb	IAmb	10 29 21.3	
	comp=Z,23nm,0.7s						
AS31	Alice Springs	22.70	219	P	P	10 29 00.8	+0.2
ASAR	Alice Springs	22.70	219	P	P	10 29 00.7	+0.1
	comp=Z,7.1nm,0.6s,baz=51,slow=9.7,SNR=2.2						
ASAR				S	S	10 33 05.2	-0.5
	comp=Z,8.1nm,1.0s,baz=37,slow=22,SNR=5.5						
ASAR				ScP	ScP	10 36 27.6	+2.1
	comp=Z,1.4nm,0.9s,baz=35,slow=3.4,SNR=5.0						
	comp=Z,7.1nm,0.6s						
DZM	Mont Dzumac	22.82	135	P	P	10 29 02.0	+0.2
DZM				IAmb	IAmb	10 29 25.3	
	comp=Z,31nm,1.0s						
ARMA	Armidale	24.07	175	P	P	10 29 14.4	+0.7
ARMA				IAmb	IAmb	10 29 30.6	
	comp=Z,31nm,1.2s						
FITZ	Fitzroy Crossi	25.84	241	P	P	10 29 30.2	+0.3
FORT	Forrest	31.43	217	P	P	10 30 19.2	-0.3
MBWA	Marble Bar	32.16	240	P	P	10 30 25.5	-0.6
MBWA				IAmb	IAmb	10 30 42.8	
	comp=Z,22nm,1.2s						
JNU	Nakatsue	42.94	337	P	P	10 31 57.4	+0.4
JNU				IAmb	IAmb	10 31 59.2	
	comp=Z,18nm,0.8s						
JNU	Nakatsue	42.94	337	P	P	10 31 57.5	+0.4
	comp=Z,16nm,0.8s,baz=117,slow=3.8,SNR=7.9						
	comp=Z,16nm,0.8s						
MJAR	Matsushiro Arr	43.88	347	P	P	10 32 02.9	-1.6
	comp=Z,4.0nm,0.9s,baz=162,slow=8.7,SNR=2.9						
	comp=Z,4.0nm,0.9s						
JTM	Tenmabayashi	47.48	352	P	P	10 32 33.4	+0.6
KSRS	Korea Array	47.89	337	P	P	10 32 37.1	+1.1
	comp=Z,6.4nm,0.7s,baz=155,slow=8.0,SNR=7.8						
	comp=Z,6.4nm,0.7s						
KS19	Wonju Array Si	47.95	337	P	P	10 32 36.5	-0.2
JKA	Kamikawa-asahi	50.57	354	P	P	10 32 57.5	+1.1
USRK	Ussuriysk Ar.	52.65	344	P	P	10 33 13.2	+1.2
	comp=Z,6.1nm,0.7s,baz=179,slow=6.5,SNR=8.0						
	comp=Z,6.1nm,0.7s						
USA0B	Ussuriysk Arra	52.65	344	P	P	10 33 11.1	-0.9
PEA0B	Petropavlovsk-	59.64	6	P	P	10 34 02.5	+0.8
PETK	Petropavlovsk-	59.64	6	P	P	10 34 02.2	+0.5
PETK	Petropavlovsk-	59.64	6	P	P	10 34 01.9	+0.2
	comp=Z,9.6nm,0.6s,baz=171,slow=7.1,SNR=6.5						
	comp=Z,9.6nm,0.6s						
SONM	Songino Array	65.80	330	P	P	10 34 43.1	0.0
SONM	Songino Array	65.80	330	P	P	10 34 44.5	+1.5
	comp=Z,1.9nm,0.7s,baz=148,slow=5.1,SNR=3.2						
	comp=Z,1.9nm,0.7s						
L14K	Kuka Creek	77.03	22	P	P	10 35 51.1	+0.8
L14K				IAmb	IAmb	10 35 53.9	
	comp=Z,10.0nm,0.9s						
K15K	Wolf Creek Mou	78.07	21	P	P	10 35 57.9	+1.8
L16K	Owhat River	78.46	22	P	P	10 35 59.4	+1.2
L16K				IAmb	IAmb	10 36 13.9	
	comp=Z,14nm,1.4s						
M17K	Holitna River	79.05	23	P	P	10 36 03.4	+1.8
M17K				IAmb	IAmb	10 36 29.7	
	comp=Z,21nm,1.4s						
MK31	Makanchi Array	79.18	320	P	P	10 36 03.2	+0.6
MKAR	Makanchi Array	79.18	320	P	P	10 36 02.4	-0.2
	comp=Z,1.4nm,0.9s,baz=94,slow=4.3,SNR=1.8						
	comp=Z,1.4nm,0.9s						
J17K	VABM Dome	79.64	21	P	P	10 36 05.5	+0.8
J17K				IAmb	IAmb	10 36 27.4	
	comp=Z,14nm,1.2s						
L18K	Granite Mounta	79.82	23	P	P	10 36 07.2	+1.5
ZAA0	Zalesovo Array	80.49	327	P	P	10 36 08.5	-1.0
ZALV	Zalesovo Beam	80.49	327	P	P	10 36 08.5	-1.0
	comp=Z,1.9nm,0.6s,baz=116,slow=6.0,SNR=3.9						
	comp=Z,1.9nm,0.6s						
L19K	White Mountain	80.51	23	P	P	10 36 10.0	+0.6
M19K	Big River Lodg	80.54	24	P	P	10 36 10.4	+0.9
M19K				IAmb	IAmb	10 36 33.2	
	comp=Z,14nm,1.4s						
G18K	Tagagawik	81.31	19	P	P	10 36 14.0	+0.4
K20K	Telida	81.46	22	P	P	10 36 15.6	+1.1
K20K				IAmb	IAmb	10 36 37.0	
	comp=Z,9.2nm,1.4s						
J20K	Nowinta River	81.88	22	P	P	10 36 17.4	+0.8
PWL	Port Wells	82.53	26	P	P	10 36 20.5	+0.3
GHO	Glory Hole Cre	82.71	25	P	P	10 36 21.7	+0.6
GHO				IAmb	IAmb	10 36 47.4	
	comp=Z,13nm,1.2s						
IMAR	Indian Mountai	83.00	20	P	P	10 36 22.5	0.0
C19K	Lookout Ridge	83.02	16	P	P	10 36 23.3	+0.8
MLY	Manley	83.58	22	P	P	10 36 25.4	-0.1
QSPA	South Pole Qui	83.64	180	P	P	10 36 26.1	+0.1
QSPA	South Pole Qui	83.64	180	P	P	10 36 25.7	-0.3
	comp=Z,2.9nm,0.6s,baz=41,slow=3.6,SNR=2.5						
	comp=Z,2.9nm,0.6s						
M24K	Tolsona, Glenn	84.02	25	P	P	10 36 28.9	+1.0
G23K	Bananza Creek	84.67	20	P	P	10 36 31.4	+0.3
E22K	Anaktuvuk Pass	84.80	19	P	P	10 36 32.6	+0.9
ILAR	Eielson Array	84.90	23	P	P	10 36 30.1	-2.0
	comp=Z,1.8nm,0.7s,baz=254,slow=5.1,SNR=3.3						
	comp=Z,1.8nm,0.7s						
D22K	Ayikyak River	84.92	18	P	P	10 36 31.9	-0.3
D22K				IAmb	IAmb	10 36 35.9	
	comp=Z,12nm,1.4s						
E23K	Chandalar	85.47	19	P	P	10 36 36.0	+0.9
E23K				IAmb	IAmb	10 36 38.9	
	comp=Z,4.6nm,1.1s						
G24K	Hadweenzic Riv	85.56	21	P	P	10 36 35.7	+0.3
D23K	Nanushuk River	85.58	18	P	P	10 36 36.6	+1.1
D23K				IAmb	IAmb	10 36 52.5	
	comp=Z,5.7nm,1.1s						
L26K	Log Cabin Wild	85.59	25	P	P	10 36 36.8	+1.1
L26K				IAmb	IAmb	10 36 39.3	
	comp=Z,4.3nm,1.1s						
CTGM	Chitina Glacie	85.70	27	P	P	10 36 37.4	+0.9
TOLK	Toolik Lake Re	85.77	19	P	P	10 36 37.0	+0.5
TOLK				IAmb	IAmb	10 37 02.1	
	comp=Z,6.6nm,1.2s						
M27K	Edge Creek, AK	85.96	26	P	P	10 36 38.8	+1.1
M27K				IAmb	IAmb	10 36 52.5	
	comp=Z,8.1nm,1.1s						
C23K	Itkillik River	86.04	18	P	P	10 36 38.4	+0.7
L27K	Beaver Creek,	86.25	25	P	P	10 36 39.7	+0.8
L27K				IAmb	IAmb	10 37 08.4	
	comp=Z,4.9nm,1.2s						
BCAR	Beaver Creek A	86.27	25	P	P	10 36 39.9	+0.8
K27K	Chicken	86.50	24	P	P	10 36 41.0	+0.9
K27K				IAmb	IAmb	10 37 06.4	
	comp=Z,11nm,1.4s						
C24K	Franklin Bluff	86.56	18	P	P	10 36 41.0	+0.8
D25K	Kavik River	87.11	19	P	P	10 36 43.1	+0.1
D25K				IAmb	IAmb	10 37 08.2	
	comp=Z,5.5nm,1.4s						
EGAK	Eagle	87.15	24	P	P	10 36 43.9	+0.6
EGAK				IAmb	IAmb	10 36 47.1	
	comp=Z,8.0nm,1.1s						
L29M	L29M	87.84	26	P	P	10 36 47.8	+1.1
L29M				IAmb	IAmb	10 37 05.6	
	comp=Z,5.8nm,1.1s						
I28M	Miner Creek	87.87	23	P	P	10 36 47.2	+0.4
I28M				IAmb	IAmb	10 36 47.4	
	comp=Z,3.1nm,0.8s						
C27K	Jago River	88.09	19	P	P	10 36 48.0	+0.3
C27K				IAmb	IAmb	10 36 49.5	
	comp=Z,3.5nm,1.1s						
E27K	Coleen River	88.24	20	P	P	10 36 48.7	+0.2
K29M	Barlow Dome	88.33	25	P	P	10 36 49.3	+0.2
K29M				IAmb	IAmb	10 36 52.2	
	comp=Z,7.0nm,1.2s						
BVAR	Borovoye Array	88.36	324	P	P	10 36 47.8	-1.6
	comp=Z,1.5nm,0.7s,baz=90,slow=5.8,SNR=2.4						
	comp=Z,1.5nm,0.7s						
H31M	Peel River	90.19	24	P	P	10 36 57.4	-0.3
NVAR	Mina Array Bea	95.79	52	P	P	10 37 23.9	-0.4
	comp=Z,0.4nm,0.7s,baz=248,slow=4.8,SNR=2.7

JTAJ	**Takarajima**	**0.61**	**256**	A		A	10 35 05.4
	comp=E,11nm,2.7s,comp=N,14nm,2.1s						
JAM	**Amami Oshima**	**0.92**	**195**	*i* P		**Pn**	**10 35 09.5 0.0**
JAM				*e*S		**Sn**	**10 35 22.7 +0.3**
JAM	**Amami Oshima**	**0.92**	**195**	A		A	10 35 09.5
	comp=E,8.0nm,1.8s,comp=N,7.0nm,1.6s						
JZK	**Kikaishima**	**0.99**	**175**	P		**Pn**	**10 35 12.6 +2.2**
JZK				*e*S		**Sn**	**10 35 29.0 +5.1**
JYAK	**Yakushimahirau**	**1.08**	**30**	*i* P		**Pn**	**10 35 11.5 -0.1**
JYAK				*e*S		**Sn**	**10 35 25.8 -0.3**
JYAK	**Yakushimahirau**	**1.08**	**30**	A		A	10 35 11.5
	comp=E,6.0nm,0.6s,comp=N,6.0nm,0.5s						
JKC	**Kuchinoerabu**	**1.19**	**13**	*i* P		**Pn**	**10 35 12.9 -0.1**
JKC				*e*S		**Sn**	**10 35 28.0 -0.5**
JKC	**Kuchinoerabu**	**1.19**	**13**	A		A	10 35 12.9
	comp=E,6.0nm,2.6s,comp=N,4.0nm,1.8s						
JAMN	**Amaminishikomi**	**1.22**	**211**	*i* P		**Pn**	**10 35 13.2 -0.1**
JAMN	**Amaminishikomi**	**1.22**	**211**	A		A	10 35 13.2
	comp=E,8.0nm,0.2s,comp=N,6.0nm,0.2s						
JMTN	**Minamitane**	**1.41**	**39**	P		**Pn**	**10 35 16.3 +0.5**
JMTN				*e*S		**Sn**	**10 35 35.1 +1.5**
JMTN	**Minamitane**	**1.41**	**39**	A		A	10 35 16.3
	comp=E,17nm,1.3s,comp=N,6.0nm,1.6s						
JTN	**Tanegashima 3**	**1.65**	**35**	*i* P		**Pn**	**10 35 19.7 +0.7**
JTN	**Tanegashima 3**	**1.65**	**35**	A		A	10 35 19.7
	comp=E,7.0nm,0.9s,comp=N,7.0nm,2.0s						
JTK	**Tokunoshima**	**1.72**	**209**	P		**Pn**	**10 35 20.4 +0.4**
JOKE	**Okinoerabujima**	**2.25**	**211**	P		**Pn**	**10 35 28.5 +1.3**
JYRO	**Yoronjima**	**2.60**	**209**	P		**Pn**	**10 35 32.6 +0.8**
JYRO				*e*S		**Sn**	**10 36 02.7 +0.4**
JIH	**Iheya**	**2.82**	**217**	P		**Pn**	**10 35 35.9 +1.1**
JIH				*e*S		**Sn**	**10 36 08.9 +1.2**
JOW	**Kunigami**	**2.84**	**210**			**Pn**	**10 35 35.8 +0.6**
JOW	**Kunigami**	**2.84**	**210**	P		**Pn**	**10 35 35.7 +0.5**
	comp=N,257nm,0.4s,baz=42,slow=8.8,SNR=78						
JOW				S		**Sn**	**10 36 07.7 -0.6**
	comp=N,119nm,0.3s,baz=144,slow=19,SNR=2.3						
JOW	**Kunigami**	**2.84**	**210**	P		**Pn**	**10 35 35.5 +0.3**
JOW	**Kunigami**	**2.84**	**210**	P		**Pn**	**10 35 35.8 +0.6**
JOW				*e*S		**Sn**	**10 36 09.0 +0.8**
JNTH	**Nagotoyohara**	**3.22**	**211**	P		**Pn**	**10 35 41.2 +0.9**
JKDJ	**Kitadaitoujima**	**3.57**	**159**	P		**Pn**	**10 35 45.6 +0.5**
JKDJ				*e*S		**Sn**	**10 36 23.9 -2.0**
JAGN	**Aguni-jima**	**3.57**	**221**	P		**Pn**	**10 35 47.0 +1.9**
JJT3	**Tamagusuku3**	**3.65**	**211**	*e*P		**Pn**	**10 35 47.1 +0.8**
JJT3				*e*S		**Sn**	**10 36 30.0 +1.8**
JMZ	**Minamidaito 2**	**3.67**	**161**			**Sn**	**10 36 26.3 -2.2**
JMZ	**Minamidaito 2**	**3.67**	**161**	P		**Pn**	**10 35 48.3 +1.9**
JMZ	**Minamidaito 2**	**3.67**	**161**	P		**Pn**	**10 35 47.1 +0.7**
JMZ				*e*S		**Sn**	**10 36 27.5 -0.9**
JNU	**Nakatsue**	**3.90**	**12**			**Pn**	**10 35 52.1 +2.4**
JNU	**Nakatsue**	**3.90**	**12**	P		**Pn**	**10 35 52.0 +2.3**
	comp=N,91nm,0.5s,baz=190,slow=7.7,SNR=126						
JNU				S		**Sn**	**10 36 35.6 +1.4**
	comp=N,54nm,0.4s,baz=319,slow=19,SNR=5.9						
JNU	**Nakatsue**	**3.90**	**12**	P		**Pn**	**10 35 51.8 +2.1**
JKE	**Kume jima 2**	**4.04**	**224**	P		**Pn**	**10 35 52.1 +0.6**
JTU	**Tsushima**	**5.22**	**356**	P		**Pn**	**10 36 09.6 +1.9**
JMN	**Monobe**	**5.58**	**37**			**Pn**	**10 36 12.9 +0.3**
JMN	**Monobe**	**5.58**	**37**	P		**Pn**	**10 36 13.4 +0.8**
TJN	**Taejon**	**7.37**	**344**	Pn		**Pn**	**10 36 37.2 +0.3**
KSAR	**Wonju Array Be**	**8.29**	**349**	Pn		**Pn**	**10 36 49.3 -0.2**
KSRS	**Korea Array**	**8.29**	**349**	P		**Pn**	**10 36 52.8 +3.2**
	comp=N,5.9nm,0.9s,baz=165,slow=15,SNR=10						
KS19	**Wonju Array Si**	**8.35**	**349**	Pn		**Pn**	**10 36 49.6 -0.8**
INU	**Inuyama**	**8.53**	**43**			**Pn**	**10 36 51.7 -1.2**
JGF	**Kuroka**	**8.90**	**43**	Pn		**Pn**	**10 36 58.4 +0.4**
YULB	**Yu-li**	**9.69**	**235**	Pn		**Pn**	**10 37 06.8 -2.0**
YULB	**Yu-li**	**9.69**	**235**	P		**Pn**	**10 37 06.6 -2.2**
SSLB	**Suanglung**	**9.70**	**238**	P		**Pn**	**10 37 09.3 +0.4**
MJAR	**Matsushiro Arr**	**10.05**	**42**	P		**Pn**	**10 37 15.4 +1.8**
	comp=N,2.0nm,0.5s,baz=240,slow=14,SNR=5.6						
ASAJ	**Asahikawa**	**17.93**	**31**	P		**P**	**10 38 55.9 -0.5**
	comp=N,15nm,0.8s,baz=223,slow=6.1,SNR=5.5						
JKA	**Kamikawa-asahi**	**17.93**	**31**	P		**P**	**10 38 56.4 0.0**
SONM	**Songino Array**	**25.90**	**322**	P		**P**	**10 40 19.2 +1.4**
SONM	**Songino Array**	**25.90**	**322**	P		**P**	**10 40 16.8 -1.0**
	comp=N,1.5nm,0.4s,baz=139,slow=11,SNR=13						
	comp=N,1.5nm,0.4s						
UBPT	**Khong Chiam**	**26.48**	**243**	P		**P**	**10 40 23.8 +0.7**
MKAR	**Makanchi Array**	**40.67**	**309**	P		**P**	**10 42 24.3 -1.3**
	comp=N,0.4nm,0.4s,baz=91,slow=9.2,SNR=4.3						
MKAR				PcP		**PcP**	**10 44 27.2 +1.0**
	comp=N,0.7nm,0.6s,baz=74,slow=3.6,SNR=7.1						
	comp=N,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**40.76**	**320**	P		**P**	**10 42 25.4 -0.9**
	comp=N,0.8nm,0.4s,baz=95,slow=6.4,SNR=5.2						
ZALV				PcP		**PcP**	**10 44 26.6 +0.3**
	comp=N,0.6nm,0.4s,baz=115,slow=9.7,SNR=2.6						
	comp=N,0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**43.71**	**314**	P		**P**	**10 42 49.0 -1.3**
	comp=N,1.7nm,0.2s,baz=93,slow=8.6,SNR=1.5						
	comp=N,1.7nm,0.2s						
KNRA	**Kununurra**	**44.73**	**182**	P		**P**	**10 42 59.4 +0.7**
FITZ	**Fitzroy Crossi**	**47.30**	**185**	P		**P**	**10 43 18.8 -0.1**
KKAR	**Karatay Array**	**48.90**	**303**	P		**P**	**10 43 33.0 +1.9**
WB0	**Warramunga Arr**	**48.98**	**174**	P		**P**	**10 43 32.5 +0.7**
WB0				IAmb		IAmb	10 43 33.1
	comp=Z,5.4nm,1.0s						
BVAR	**Borovoye Array**	**49.01**	**316**	P		**P**	**10 43 31.6 -0.2**
	comp=Z,1.3nm,0.4s,baz=76,slow=12,SNR=4.7						
BVAR				pP		**pP**	**10 43 48.8 -0.2**
	comp=Z,2.0nm,0.7s,baz=99,slow=9.8,SNR=2.9						
BVAR				PcP		**PcP**	**10 44 55.2 +0.4**
	comp=Z,1.0nm,0.5s,baz=101,slow=4.6,SNR=2.4						
	comp=Z,1.3nm,0.4s						
WRAB	**Tennant Creek**	**49.14**	**174**	P		**P**	**10 43 32.0 -1.0**
WRAB				IAmb		IAmb	10 43 34.4
	comp=Z,5.9nm,0.9s						
WRA	**Warramunga Arr**	**49.15**	**174**	P		**P**	**10 43 32.8 -0.3**
WRA	**Warramunga Arr**	**49.15**	**174**	P		**P**	**10 43 33.5 +0.4**
	comp=Z,4.8nm,0.9s,baz=355,slow=8.2,SNR=23						
	comp=Z,4.8nm,0.9s						
WB2	**Warramunga Arr**	**49.15**	**174**	P		**P**	**10 43 32.9 -0.2**
WB2				IAmb		IAmb	10 43 34.5
	comp=Z,7.1nm,0.9s						
WR0	**Warramunga Arr**	**49.18**	**174**	P		**P**	**10 43 33.8 +0.4**
WR0				IAmb		IAmb	10 43 34.9
	comp=Z,8.9nm,1.0s						
KBL	**Kabul**	**51.23**	**292**	P		**P**	**10 43 49.6 +0.4**
KBL				IAmb		IAmb	10 43 50.4
	comp=Z,7.1nm,1.3s						
PSA00	**Pilbara Seismi**	**51.49**	**192**	P		**P**	**10 43 48.7 -2.1**
ASAR	**Alice Springs**	**52.80**	**175**	P		**P**	**10 44 00.9 +0.3**
	comp=Z,2.2nm,0.8s,baz=7.8,slow=7.5,SNR=16						
	comp=Z,2.2nm,0.8s						
L14K	**Kuka Creek**	**53.97**	**33**	P		**P**	**10 44 10.4 +1.7**
L14K				IAmb		IAmb	10 44 13.4
	comp=Z,12nm,1.2s						
K15K	**Wolf Creek Mou**	**54.59**	**32**	P		**P**	**10 44 15.2 +2.0**
K15K				IAmb		IAmb	10 44 33.4
	comp=Z,11nm,1.3s						
N15K	**Kwethluk River**	**55.19**	**35**	P		**P**	**10 44 18.4 +0.8**
C18K	**Utukok River**	**55.38**	**25**	P		**P**	**10 44 18.8 -0.1**
ABKAR	**Akbulak array**	**55.66**	**312**	P		**P**	**10 44 20.4 -0.7**
J17K	**VABM Dome**	**55.77**	**31**	P		**P**	**10 44 22.9 +1.2**
K17K	**Iditarod**	**56.10**	**32**	P		**P**	**10 44 24.1 0.0**
D19K	**Kuna River**	**56.49**	**25**	P		**P**	**10 44 27.2 +0.4**
D19K				IAmb		IAmb	10 44 33.5
	comp=Z,12nm,1.5s						
L18K	**Granite Mounta**	**56.85**	**32**	P		**P**	**10 44 30.6 +1.2**
L18K				IAmb		IAmb	10 44 34.8
	comp=Z,5.3nm,1.4s						
ILAR	**Eielson Array**	**61.05**	**29**	P		**P**	**10 44 57.9 -0.5**
	comp=Z,0.5nm,0.8s,baz=268,slow=6.9,SNR=5.1						
	comp=Z,0.5nm,0.8s						
F26K	**Sheenjek River**	**61.74**	**26**	P		**P**	**10 45 04.9 +1.9**
F26K				IAmb		IAmb	10 45 05.5
	comp=Z,9.3nm,1.2s						
J26L	**Joseph Creek**	**62.51**	**29**	P		**P**	**10 45 09.3 +1.0**
J26L				IAmb		IAmb	10 45 10.3
	comp=Z,3.0nm,1.0s						
M26K	**Nabesna, AK**	**63.17**	**31**	P		**P**	**10 45 13.8 +1.1**
M26K				IAmb		IAmb	10 45 17.4
	comp=Z,7.1nm,1.1s						
G31M	**Satah River**	**65.64**	**25**	P		**P**	**10 45 29.0 +0.4**
F31M	**Tsiigehtchic**	**65.68**	**25**	P		**P**	**10 45 29.4 +0.5**
F31M				IAmb		IAmb	10 45 31.2
	comp=Z,11nm,1.4s						
A36M	**Sachs Harbour**	**66.86**	**19**	P		**P**	**10 45 37.0 +0.7**
A36M				IAmb		IAmb	10 45 39.1
	comp=Z,7.5nm,0.9s						
KEV	**Kevo**	**67.13**	**338**	P		**P**	**10 45 38.0 0.0**
FARO	**Faro, Yukon**	**67.55**	**30**	P		**P**	**10 45 42.4 +1.4**
C36M	**Paulatuk**	**68.31**	**22**	P		**P**	**10 45 46.2 +0.7**
C36M				IAmb		IAmb	10 45 48.1
	comp=Z,6.1nm,0.9s						
EUNU	**Eureka**	**69.08**	**6**	P		**P**	**10 45 50.9 +0.6**
FINES	**FINESS Array B**	**70.92**	**330**	P		**P**	**10 46 02.5 +0.7**
FINES	**FINESS Array B**	**70.92**	**330**	P		**P**	**10 45 59.8 -2.0**
	comp=Z,1.1nm,0.5s,baz=55,slow=7.3,SNR=6.0						
	comp=Z,1.1nm,0.5s						
AKASG	**Malin Array Be**	**74.15**	**319**	P		**P**	**10 46 18.9 -2.3**
	comp=Z,0.3nm,0.4s,baz=70,slow=6.7,SNR=2.6						
	comp=Z,0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**114.58**	**303**	Pdif		**Pdif**	**10 49 33.5 -1.7**
QSPA	**South Pole Qui**	**119.07**	**180**	PKPdf		**PKPdf**	**10 53 32.1 -0.2**
QSPA	**South Pole Qui**	**119.07**	**180**	PKP		**PKPdf**	**10 53 31.7 -0.6**
	comp=Z,0.6nm,0.7s,baz=3.8,slow=2.9,SNR=1.8						
SOR	**Soroa**	**119.30**	**35**	PKPdf		**PKPdf**	**10 53 32.9 -1.2**

*IDC **20** 11:01:02.0±3.5, 37°.33N×20°.63E, h0km, mb3.8/5, mbtmp3.7/6, ML4.5/1, Error ellipse: s-maj=80.8km s-min=32.0km az=0.0*
*ATH **20** 11:01:03.6, 37°.31N×20°.42E, h13km±4km, ML3.6/6, Manual Solution by I.Dede This location: 2020/09/16 06:56:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **20** 11:01:06.3, 37°.35N×20°.61E, h4km, ML3.3/7, Error ellipse: s-maj=1.0km s-min=0.4km az=56.0*
ISC 20 11:01:03.9±1.8, 37°.32N±0°.05×20°.58E±0°.05, h9km±11km, n35, σ0.98/46, mb3.8/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.39**	**29**	P	**Pb**	**11 01 13.3**	**+0.3**
KRI1				S	**Sb**	**11 01 18.3**	**-0.8**
LTHK	**Lithakia**	**0.44**	**28**	P	**Pb**	**11 01 14.0**	**+0.1**
LTHK				S	**Sb**	**11 01 19.7**	**-0.8**
	12μm,0.3s						
LTHK	**Lithakia**	**0.44**	**28**	P	**Pb**	**11 01 14.0**	**+0.1**
LTHK				S	**Sb**	**11 01 20.5**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.77**	**12**	P	**Pb**	**11 01 20.2**	**+0.7**
AMT	**Artemida-Makis**	**0.93**	**77**	P	**Pn**	**11 01 23.8**	**+0.6**
AMT				S	**Sn**	**11 01 37.3**	**+0.8**
DMLN	**Damoulianata-K**	**0.93**	**350**	P	**Pn**	**11 01 22.9**	**-0.3**
DMLN				S	**Sn**	**11 01 36.5**	**-0.1**
	3μm,0.4s						
DMLN	**Damoulianata-K**	**0.93**	**350**	P	**Pg**	**11 01 21.5**	**-0.3**
RLS	**Riolos of Patr**	**1.02**	**44**	P	**Pn**	**11 01 24.3**	**-0.1**
RLS				S	**Sn**	**11 01 39.1**	**+0.3**
	1μm,0.2s						
RLS	**Riolos of Patr**	**1.02**	**44**	P	**Pn**	**11 01 24.1**	**-0.3**
PYL	**PYLOS**	**1.02**	**114**	P	**Pn**	**11 01 24.9**	**+0.5**
PYL	**PYLOS**	**1.02**	**114**	P	**Pn**	**11 01 25.1**	**+0.6**
PYL				S	**Sn**	**11 01 39.8**	**+0.9**
ITM	**Ithomi**	**1.09**	**97**	P	**Pn**	**11 01 26.3**	**+1.0**
ITM				S	**Sn**	**11 01 41.5**	**+1.0**
	2μm,0.4s						
ITM	**Ithomi**	**1.09**	**97**	P	**Pn**	**11 01 26.5**	**+1.2**
ITM				S	**Sn**	**11 01 43.4**	**+2.9**
DRO	**Drossia**	**1.10**	**55**	P	**Pn**	**11 01 26.1**	**+0.7**
DRO				S	**Sn**	**11 01 41.5**	**+0.7**
	6μm,0.4s						
DRO	**Drossia**	**1.10**	**55**	P	**Pn**	**11 01 26.2**	**+0.7**
FSK	**Fiskardo**	**1.14**	**359**	P	**Pn**	**11 01 26.4**	**+0.4**
FSK				S	**Sn**	**11 01 43.1**	**+1.5**
	1μm,0.5s						
FSK	**Fiskardo**	**1.14**	**359**	P	**Pb**	**11 01 25.4**	**-0.3**
EVGI	**Lefkada island**	**1.30**	**3**	P	**Pb**	**11 01 30.2**	**+1.7**
UPR	**University Cam**	**1.36**	**45**	P	**Pb**	**11 01 31.3**	**+1.8**
NYDR	**Nydri-Lefkada**	**1.39**	**4**	P	**Pg**	**11 01 31.6**	**+0.9**
NYDR				S	**Sn**	**11 01 50.3**	**+2.3**
	522nm,0.5s						
KLV	**Kalavryta, Ach**	**1.44**	**60**	P	**Pg**	**11 01 31.9**	**+0.3**
KLV	**Kalavryta, Ach**	**1.44**	**60**	P	**Pg**	**11 01 32.0**	**+0.3**
EFP	**Efpalio**	**1.52**	**43**	P	**Pg**	**11 01 33.0**	**-0.2**
GUR	**Goura**	**1.53**	**66**	P	**Pg**	**11 01 32.9**	**-0.4**
KALE	**Kalithea**	**1.63**	**49**	P	**Pg**	**11 01 35.2**	**-0.1**
VLI	**Veliai**	**1.98**	**107**	P	**Pb**	**11 01 40.3**	**+0.1**
LOUT	**Loutraki**	**2.02**	**70**	P	**Pb**	**11 01 40.2**	**-0.5**
VILL	**Villia**	**2.33**	**68**	P	**Pb**	**11 01 44.1**	**-1.9**
ESDC	**Sonseca Array**	**19.34**	**285**	P	**P**	**11 05 29.5**	**0.0**
	0.3nm,0.3s,baz=86,slow=12,SNR=2.4						
	0.5nm,0.7s						
HFS	**Hagfors**	**23.25**	**351**	P	**P**	**11 06 10.7**	**-0.6**
	3.7nm,1.1s,baz=170,slow=8.8,SNR=3.1						
	3.7nm,1.1s						
BELG	**Belogornoye**	**24.19**	**43**	P	**P**	**11 06 19.6**	**-0.8**
	7.0nm,0.6s,baz=270,slow=20,SNR=2.0						
	7.0nm,0.6s						
KEF	**Keuruu**	**25.01**	**5**	*e*P	P	11 06 18.5	-9.3
KURBB	**Kurchatov Array**	**42.71**	**53**	P	**P**	**11 08 60.0**	**-1.0**
	0.4nm,0.5s,baz=278,slow=8.6,SNR=2.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**45.72**	**58**	P	**P**	**11 09 24.4**	**-0.8**
	0.3nm,0.5s,baz=266,slow=7.3,SNR=4.2						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.23**	**47**	P	**P**	**11 09 28.4**	**-0.8**
	0.4nm,0.4s,baz=278,slow=8.2,SNR=2.0						
	0.4nm,0.4s						

*NEIC **20** 11:02:21.8±1.2, 18°.2N±0°.1×68°.32W±0°.02, h170km±7km, mb3.9/2, ML4.0/40, Md3.9/21(RSPR), Error ellipse: s-maj=15.1km s-min=1.5km az=190.0*
*RSPR **20** 11:02:21.8±1.3, 18°.1N±0°.1×68°.34W±0°.06, h167km±5km, Error ellipse: s-maj=16.4km s-min=7.4km az=188.0*
*SDD **20** 11:02:21.7±1.8, 18°.07N×68°.36W, h183km±10km, MD3.8, ML3.9, MW3.8*
*OSPL **20** 11:02:22.5±2.5, 18°.15N×68°.31W, h184km±13km, ML3.7*
ISC 20 11:02:20.8±0.9, 18°.18N±0°.07×68°.36W±0°.03, h174km±7km, n68, σ1.76/113, 23C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.34**	**357**		**Pn**	**11 02 45.0**	**+0.7**
PCDR				Sn	**Sn**	**11 03 02.1**	**-0.5**
PCDR				IAML		11 03 06.7	
	comp=N,1μm,0.5s						
PCDR	**Punta Cana, DR**	**0.34**	**357**	⇑*e*Pg	**Pn**	**11 02 45.2**	**+0.9**
PCDR				⇓*e*Sg	**Sn**	**11 03 04.0**	**+1.4**
PCDR				IAML		11 03 06.0	
	comp=E,532nm,0.4s						
PCDR				IAML		11 03 06.5	
	comp=N,1μm,0.6s						
PCDR				IAML		11 03 06.5	
	comp=N,1μm,0.6s						
PCDR	**Punta Cana, DR**	**0.34**	**357**	*i* P	**Pn**	**11 02 45.0**	**+0.7**
PCDR				*e*S	**Sn**	**11 03 03.5**	**+0.9**
PCDR				IAML		11 03 05.9	
	comp=Z,466nm,0.2s						
SADR	**Isla Saona**	**0.40**	**273**	⇑*e*Pg	**Pn**	**11 02 44.6**	**+0.1**
SADR				⇑*e*Sg	**Sn**	**11 03 02.3**	**-0.4**
SADR				IAML		11 03 02.7	
	comp=N,4μm,0.4s						
SADR				IAML		11 03 03.8	
	comp=E,2μm,0.5s						
HIDR	**Higuey Centro**	**0.54**	**321**	⇑*e*Pg	**Pn**	**11 02 45.3**	**+0.3**
HIDR				⇑*e*Sg	**Sn**	**11 03 03.4**	**-0.5**
HIDR				IAML		11 03 04.6	
	comp=N,3μm,0.4s						
HIDR				IAML		11 03 04.7	
	comp=N,3μm,0.4s						
HIDR				IAML		11 03 05.7	
	comp=E,5μm,0.2s						
IDE	**Isla Desecheo**	**0.87**	**76**		**Pn**	**11 02 47.8**	**+0.8**
IDE					**Sn**	**11 03 08.0**	**+0.9**
MIDR	**Miches**	**1.04**	**321**	⇑*e*Pg	**Pn**	**11 02 49.1**	**+0.9**
MIDR				⇓*e*Sg	**Sn**	**11 03 09.5**	**+0.1**
MIDR				IAML		11 03 10.4	
	comp=E,273nm,0.3s						
MIDR				IAML		11 03 10.9	
	comp=N,462nm,0.5s						
HATOM	**Hato Mayor del**	**1.15**	**302**	⇑*e*Pg	**Pn**	**11 02 50.0**	**+0.8**
HATOM				⇑*e*Sg	**Sn**	**11 03 10.0**	**-1.0**
HATOM				IAML		11 03 13.7	
	comp=N,900nm,0.2s						
HATOM				IAML		11 03 13.7	
	comp=N,900nm,0.2s						
HATOM				IAML		11 03 17.0	
	comp=E,808nm,0.2s						
PRSN	**Puerto Rico Se**	**1.16**	**88**		**Pn**	**11 02 48.8**	**-0.3**
PRSN					**Sn**	**11 03 10.8**	**-0.2**
PRSN				IAML		11 03 20.0	
	comp=E,1μm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.20**	**98**		**Pn**	**11 02 49.6**	**+0.1**
CRPR					**Sn**	**11 03 11.3**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.20**	**98**	⇑*e*Pg	**Pn**	**11 02 49.6**	**+0.1**
CRPR				⇓*e*Sg	**Sn**	**11 03 10.2**	**-1.4**
CRPR				IAML		11 03 17.6	
	comp=E,562nm,0.2s						
CRPR				IAML		11 03 17.6	
	comp=N,713nm,0.3s						
CRPR				IAML		11 03 17.6	
	comp=N,713nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.20**	**98**	*i* P	**Pn**	**11 02 50.0**	**+0.5**
CRPR				*e*S	**Sn**	**11 03 11.4**	**-0.2**
CRPR				IAML		11 03 16.7	
	comp=Z,524nm,0.3s						
LSP	**Las Mesas**	**1.21**	**90**		**Pn**	**11 02 49.9**	**+0.2**
LSP					**Sn**	**11 03 12.0**	**+0.1**
AGPR	**Aguadilla, PR**	**1.22**	**76**		**Pn**	**11 02 50.3**	**+0.6**
AGPR					**Sn**	**11 03 12.4**	**+0.4**
AGPR				IAML		11 03 15.6	
	comp=N,2μm,0.3s						
AGPR				IAML		11 03 16.4	
	comp=E,2μm,0.3s						
AGPR	**Aguadilla, PR**	**1.22**	**76**	⇑*e*Pg	**Pn**	**11 02 50.4**	**+0.7**
AGPR				⇑*e*Sg	**Sn**	**11 03 12.5**	**+0.4**
AGPR				IAML		11 03 13.7	
	comp=E,1μm,0.3s						
AGPR				IAML		11 03 15.5	
	comp=N,2μm,0.3s						
AGPR				IAML		11 03 15.5	
	comp=N,2μm,0.3s						
AGPR	**Aguadilla, PR**	**1.22**	**76**	*i* P	**Pn**	**11 02 50.6**	**+0.9**
AGPR				*e*S	**Sn**	**11 03 12.4**	**+0.4**
AGPR				IAML		11 03 16.8	
	comp=Z,687nm,0.3s						
MLPR	**Magueyes Islan**	**1.27**	**99**		**Pn**	**11 02 50.2**	**+0.2**
MLPR					**Sn**	**11 03 11.7**	**-1.0**
MLPR	**Magueyes Islan**	**1.27**	**99**	⇑*e*Pg	**Pn**	**11 02 50.3**	**+0.2**
MLPR				⇑*e*Sg	**Sn**	**11 03 12.3**	**-0.4**
MLPR				IAML		11 03 16.5	
	comp=N,478nm,0.3s						
MLPR				IAML		11 03 16.5	
	comp=N,478nm,0.3s						
MLPR				IAML		11 03 17.5	
	comp=E,480nm,0.5s						
GBPR	**Guanica, Bosqu**	**1.42**	**98**		**Pn**	**11 02 52.2**	**+0.7**
GBPR					**Sn**	**11 03 15.2**	**0.0**
SDD	**Santo Domingo**	**1.50**	**281**		**Pn**	**11 02 52.9**	**+0.6**
SDD					**Sn**	**11 03 15.1**	**-1.5**
SDD				IAML		11 03 17.4	
	comp=N,815nm,0.3s						
SDD				IAML		11 03 23.0	
	comp=E,871nm,0.3s						
SDD	**Santo Domingo**	**1.50**	**281**	⇑*e*Pg	**Pn**	**11 02 51.8**	**-0.5**
SDD				⇑*e*Sg	**Sn**	**11 03 15.2**	**-1.3**
SDD				IAML		11 03 20.6	
	comp=N,74nm,0.2s						
SDD				IAML		11 03 20.6	
	comp=N,74nm,0.2s						
SDD				IAML		11 03 22.9	
	comp=E,93nm,0.3s						
SDD	**Santo Domingo**	**1.50**	**281**	*i* P	**Pn**	**11 02 52.8**	**+0.5**
SDD				*e*S	**Sn**	**11 03 15.1**	**-1.5**
AOPR	**Arecibo Observ**	**1.54**	**83**		**Pn**	**11 02 52.7**	**+0.1**
AOPR					**Sn**	**11 03 16.8**	**-0.5**
AOPR	**Arecibo Observ**	**1.54**	**83**	⇑*e*Pg	**Pn**	**11 02 52.7**	**+0.1**
AOPR				⇑*e*Sg	**Sn**	**11 03 16.4**	**-0.8**
AOPR				IAML		11 03 20.6	
	comp=N,4μm,0.3s						
AOPR				IAML		11 03 20.6	
	comp=E,9μm,0.3s						
AOPR				IAML		11 03 20.6	
	comp=N,4μm,0.3s						
UUPR	**Utuado, UPR, P**	**1.56**	**87**		**Pn**	**11 02 53.2**	**+0.4**
UUPR					**Sn**	**11 03 17.4**	**-0.3**
OBIP	**Obispado Ponce**	**1.67**	**94**		**Pn**	**11 02 54.4**	**+0.4**
OBIP					**Sn**	**11 03 19.1**	**-0.6**
CELP	**Cerrillos**	**1.70**	**93**		**Pn**	**11 02 54.7**	**+0.4**
CELP					**Sn**	**11 03 19.5**	**-0.6**
CELP				IAML		11 03 23.6	
	comp=E,697nm,0.3s						
CELP				IAML		11 03 23.8	
	comp=N,1μm,0.5s						
CELP	**Cerrillos**	**1.70**	**93**	⇑*

LOBH	**Bahia de las A**	**3.13 265**	*i* P	**Pn**	**11 03 11.5**	**+0.7**
LOBH			*e*S	**Sn**	**11 03 48.6**	**-1.1**
LOBH			IAML		11 03 57.0	
	comp=Z,139nm,0.3s					
PAPH	**Port-au-Prince**	**3.76 276**	Pn	**Pn**	**11 03 19.8**	**+1.2**
PAPH			IAML		11 04 10.2	
	comp=N,148nm,0.6s					
PAPH			IAML		11 04 13.9	
	comp=E,172nm,0.4s					
PAPH	**Port-au-Prince**	**3.76 276**	*i* P	**Pn**	**11 03 19.6**	**+0.9**
PAPH			*i* S	**Sn**	**11 04 04.8**	**+1.0**
PAPH	**Port-au-Prince**	**3.76 276**	*i* P	**Pn**	**11 03 19.8**	**+1.2**
PAPH			IAML		11 04 12.5	
	comp=Z,39nm,0.3s					
GRTK	**Grand Turk**	**4.22 322**	Pn	**Pn**	**11 03 24.0**	**-0.6**
GRTK	**Grand Turk**	**4.22 322**	*i* P	**Pn**	**11 03 23.7**	**-0.9**
GRTK			*e*S	**Sn**	**11 04 10.6**	**-3.9**
GRTK			IAML		11 04 22.6	
	comp=Z,48nm,1.0s					
SMRT	**St. Maarten**	**5.03 91**	Pn	**Pn**	**11 03 34.0**	**-1.1**
MASC	**Masc**	**5.89 291**	*i* P	**Pn**	**11 03 44.1**	**-2.2**
MASC			IAmb	IAmb	11 03 52.3	
	comp=Z,22nm,1.2s					
MASC			*i* S	**Sn**	**11 04 49.3**	**-4.3**
HATO	**Hato, Curacao**	**5.99 186**	Pn	**Pn**	**11 03 46.4**	**-1.2**
ANWB	**Willy Bob**	**6.28 94**	Pn	**Pn**	**11 03 51.0**	**-0.5**
ANWB	**Willy Bob**	**6.28 94**	*e*P	**Pn**	**11 03 49.1**	**-2.3**
ANWB	**Willy Bob**	**6.28 94**	*e*S	**Sn**	**11 04 58.0**	**-4.8**
ANBD	**Bethesda, Anti**	**6.39 99**	*e*P	**Pn**	**11 03 51.8**	**-1.1**
ANBD	**Bethesda, Anti**	**6.39 99**	*e*S	**Sn**	**11 05 00.4**	**-4.9**
QMBU	**Quimbuelo**	**6.42 289**	*i* P	**Pn**	**11 03 51.2**	**-2.1**
QMBU			IAmb	IAmb	11 03 55.0	
	comp=Z,14nm,1.0s					
QMBU			*i* S	**Sn**	**11 05 00.5**	**-5.7**
GTBY	**Guantanamo Bay**	**6.62 286**	*i* S	Sn	11 04 57.6	-13
NMDO	**Nuevo Mundo**	**6.69 292**	*e*S	**Sn**	**11 05 06.0**	**-6.4**
MOAC	**Moa**	**6.70 293**	*i* S	**Sn**	**11 05 06.8**	**-5.9**
RCC	**Rio Carpintero**	**7.17 286**	*e*P	**Pn**	**11 04 02.8**	**-0.4**
RCC			IAmb	IAmb	11 04 19.0	
	comp=Z,10.0nm,2.2s					
RCC			*i* S	**Sn**	**11 05 18.8**	**-5.1**
PINC	**Pinares de May**	**7.38 289**	IAmb	IAmb	11 04 00.5	
	comp=Z,7.5nm,1.4s					
PINC			*i* P	**Pn**	**11 04 05.4**	**-0.6**
PINC			*i* S	Sn	11 05 21.4	-7.6
BAUV	**El Baul**	**9.18 178**	Pn	**Pn**	**11 04 28.4**	**-1.4**
WMOK	**Wichita Mounta**	**31.68 307**	P	**P**	**11 08 30.1**	**+2.2**
WMOK			IAmb	IAmb	11 08 44.2	
	comp=Z,2.7nm,1.4s					
DAWY	**Dawson**	**65.52 333**	P	**P**	**11 12 47.8**	**+2.5**
DAWY			IAmb	IAmb	11 13 28.2	
	comp=Z,3.7nm,1.3s					

*UPP **20** 11:03:43.8±0.0, 67°.84N×20°.21E, h0km, ML2.5, Confirmed Induced event*
*IDC **20** 11:03:44.7±1.1, 67°.76N×20°.94E, h0km, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=18.4km s-min=6.9km az=118.0*
*HEL **20** 11:03:44.4±0.0, 67°.85N×20°.19E, h1km, ML2.2, ML2.5(UPP), Confirmed Induced event*
*BER **20** 11:03:47.4±2.9, 67°.90N×20°.36E, h0km, ML2.2, Confirmed Induced event*

ISC 20 11:03:43.5±0.7, 67°.82N±0°.02×20°.26E±0°.02, h0km, n47, σ1°01/67, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**12**	P	**Pg**	**11 03 46.3**	**+0.1**
KUA				S	**Sg**	**11 03 47.9**	**-0.1**
KUA	**Kurravaara**	**0.14**	**12**	*i* P	**Pg**	**11 03 46.3**	**+0.1**
KUA				*i* S	**Sg**	**11 03 47.9**	**-0.1**
RATU	**Laukkuluspa**	**0.25**	**272**	P	**Pg**	**11 03 48.5**	**+0.1**
RATU	**Laukkuluspa**	**0.25**	**272**	*i* P	**Pg**	**11 03 48.5**	**+0.1**
KOVU	**Salmi**	**0.41**	**355**	P	**Pg**	**11 03 51.1**	**-0.2**
KOVU				S	**Sg**	**11 03 56.2**	**-0.4**
KOVU	**Salmi**	**0.41**	**355**	*i* P	**Pg**	**11 03 51.1**	**-0.2**
KOVU				*i* S	**Sg**	**11 03 56.2**	**-0.4**
LANU	**Lannavaara**	**0.69**	**70**	P	**Pg**	**11 03 57.1**	**+0.3**
LANU	**Lannavaara**	**0.69**	**70**	*e*P	**Pg**	**11 03 57.1**	**+0.3**
LANU				*e*S	**Sg**	**11 04 06.4**	**+0.6**
DUNU	**Dundret**	**0.71**	**170**	P	**Pg**	**11 03 57.5**	**+0.5**
DUNU				S	**Sb**	**11 04 08.2**	**-0.9**
DUNU	**Dundret**	**0.71**	**170**	*i* P	**Pg**	**11 03 57.5**	**+0.5**
DUNU				*i* S	**Sb**	**11 04 08.2**	**-0.9**
MASU	**Masugnsbyn**	**0.76**	**118**	P	**Pg**	**11 03 58.8**	**+0.7**
MASU	**Masugnsbyn**	**0.76**	**118**	*i* P	**Pg**	**11 03 58.8**	**+0.7**
SALU	**Saltoluokta**	**0.80**	**238**	P	**Pg**	**11 03 58.9**	**0.0**
SALU	**Saltoluokta**	**0.80**	**238**	*i* P	**Pg**	**11 03 58.9**	**0.0**
KIF	**Kilpisjarvi**	**1.21**	**9**	*e*P	**Pg**	**11 04 06.7**	**0.0**
KIF				*e*S	**Sg**	**11 04 22.3**	**-0.1**
KIF	**Kilpisjarvi**	**1.21**	**9**	*e*P	**Pg**	**11 04 06.8**	**+0.1**
KIF				*e*S	**Sg**	**11 04 21.7**	**-0.6**
PAJU	**Pajala**	**1.36**	**125**	P	**Pg**	**11 04 09.3**	**-0.3**
PAJU	**Pajala**	**1.36**	**125**	*e*P	**Pg**	**11 04 09.2**	**-0.3**
PAJU				*e*S	**Sg**	**11 04 27.1**	**0.0**
HEF	**Hetta**	**1.41**	**63**	*e*P	**Pn**	**11 04 09.9**	**-0.5**
HEF				*e*S	**Sg**	**11 04 28.1**	**-0.5**
HEF	**Hetta**	**1.41**	**63**	*e*P	**Pn**	**11 04 09.9**	**-0.5**
HEF				*e*S	**Sg**	**11 04 28.1**	**-0.5**
ERTU	**Ertsjaerv**	**1.48**	**148**	P	**Pn**	**11 04 11.2**	**-0.1**
ERTU	**Ertsjaerv**	**1.48**	**148**	*e*P	**Pn**	**11 04 11.2**	**-0.1**
ERTU				*e*S	**Sn**	**11 04 31.7**	**+0.4**
KLF	**Kolari**	**1.54**	**111**	*e*P	**Pn**	**11 04 12.6**	**+0.4**
KLF				*e*S	**Sg**	**11 04 33.8**	**+0.9**
KTK1	**Kautokeino**	**1.63**	**41**	*e*P	**Pn**	**11 04 13.6**	**+0.2**
KTK1				*e*S	**Sb**	**11 04 35.5**	**0.0**
KTK1				IAML		11 04 37.7	
	comp=Z,28nm,0.2s						
KTK1	**Kautokeino**	**1.63**	**41**	*e*P	**Pn**	**11 04 13.3**	**-0.1**
KTK1				*e*S	**Sn**	**11 04 34.4**	**-0.7**
HARU	**Harads**	**1.69**	**170**	P	**Pn**	**11 04 14.6**	**+0.4**
HARU	**Harads**	**1.69**	**170**	*e*P	**Pn**	**11 04 14.6**	**+0.4**
JETT	**Jettan, Norway**	**1.75**	**2**	*e*P	**Pn**	**11 04 15.2**	**+0.1**
JETT				*e*S	**Sn**	**11 04 37.0**	**-1.1**
JETT				IAML		11 04 40.6	
	comp=Z,131nm,0.5s						
TRO	**Tromso**	**1.89**	**346**	*e*S	**Sn**	**11 04 41.6**	**+0.2**
STEI	**Steigen**	**1.90**	**276**	*e*P	**Pb**	**11 04 18.6**	**-0.5**
STEI				*e*S	**Sg**	**11 04 44.1**	**-0.5**
STEI				IAML		11 04 50.8	
	comp=Z,46nm,0.9s						
FAUS	**Fauske**	**1.96**	**259**	*e*P	**Pb**	**11 04 19.6**	**-0.4**
FAUS				*e*S	**Sg**	**11 04 45.8**	**-0.4**
FAUS				IAML		11 04 49.6	
	comp=Z,42nm,0.8s						
KALU	**Kalix**	**2.32**	**147**	*e*P	**Pn**	**11 04 24.5**	**+1.7**
KALU				*e*SB	**Sb**	**11 04 55.6**	**+0.4**
RNF	**Rovaniemi**	**2.55**	**116**	MSG		11 05 04.1	
	comp=Z,21nm,0.3s						
LOF	**Lofoten**	**2.55**	**280**	*e*P	**Pb**	**11 04 28.8**	**-1.3**
ARA0	**ARCESS Array S**	**2.58**	**46**	*e*P	**Pn**	**11 04 28.2**	**+1.7**
ARA0				*e*S	**Sn**	**11 05 00.6**	**+2.0**
ARA0				IAML		11 05 07.2	
	comp=Z,21nm,0.5s						
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**11 04 27.2**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=224,slow=16,SNR=16						
ARCES				Lg	Lg	11 05 00.2	
	comp=Z,2.4nm,0.3s,baz=228,slow=23,SNR=17						
	comp=Z,1.5nm,0.3s						
MOR8	**Moi Rana**	**2.82**	**237**	*e*P	**Pn**	**11 04 31.0**	**+1.2**
MOR8				*e*S	**Sn**	**11 05 07.0**	**+2.5**
MOR8				IAML		11 05 12.8	
	comp=Z,25nm,0.6s						
KONS	**Konsvik**	**3.08**	**248**	*e*P	**Pn**	**11 04 35.6**	**+2.2**
KONS				IAML		11 05 30.5	
	comp=Z,13nm,0.4s						
KEV	**Kevo**	**3.13**	**48**	*e*P	**Pn**	**11 04 34.7**	**+0.7**
KEV				*e*S	**Sn**	**11 05 13.1**	**+1.0**
VRF	**Varrio**	**3.55**	**87**	MSG		11 05 35.2	
	comp=Z,6.2nm,0.2s						
OUL	**Oulu**	**3.56**	**138**	MSG		11 05 36.4	
	comp=Z,6.1nm,0.3s						
OUF	**Merijarvi**	**3.91**	**150**	MSG		11 05 49.7	
	comp=Z,2.4nm,0.3s						
VADS	**Vadso**	**4.01**	**51**	*e*P	**Pn**	**11 04 46.5**	**+0.4**
FINES	**FINESS Array B**	**6.87**	**156**	Pn	**Pn**	**11 05 26.0**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=339,slow=11,SNR=3.7						
FINES				Sn	**Sn**	**11 06 39.0**	**-5.1**
	comp=Z,0.2nm,0.3s,baz=318,slow=9.7,SNR=3.5						
FINES				Lg	Lg	11 07 16.2	
	comp=Z,0.6nm,0.3s,baz=349,slow=27,SNR=8.7						
	comp=Z,2.2nm,0.8s						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**11 05 40.2**	**+1.5**
	baz=24,slow=11,SNR=2.2						
NOA				Lg	Lg	11 07 50.7	
	baz=38,slow=24,SNR=4.8						
	comp=Z,0.1nm,0.3s						
MEF	**Metsahovi**	**7.84**	**165**	*e*P	**Pg**	**11 06 14.2**	**+0.7**
HFS	**Hagfors**	**8.23**	**204**	Pn	**Pn**	**11 05 43.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=12,slow=15,SNR=1.6						
HFS				Lg	Lg	11 08 02.2	
	comp=Z,0.4nm,0.3s,baz=28,slow=34,SNR=3.8						
	comp=Z,0.7nm,0.6s						

IDC 20 11:13:46.7±1.6, 3°.47N×126°.77E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=145.2km s-min=26.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.43**	**163**	P	P	11 19 07.5	+0.1
	1.2nm,0.9s,baz=342,slow=11,SNR=6.8						
	1.2nm,0.9s						
SONM	**Songino Array**	**47.55**	**341**	P	P	11 22 24.0	-0.2
	0.2nm,0.3s,baz=143,slow=8.8,SNR=1.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**57.79**	**325**	P	P	11 23 40.4	+0.5
	0.5nm,0.6s,baz=121,slow=8.7,SNR=2.0						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**61.98**	**327**	P	P	11 24 08.1	-0.5
	0.3nm,0.5s,baz=129,slow=6.6,SNR=4.5						
	0.3nm,0.5s						

*IDC **20** 11:16:10.0±0.8, 6°.12S×149°.37E, h0km, mb4.1/12, mbtmp4.1/13, ML2.6/1, MS3.7/22, Error ellipse: s-maj=33.6km s-min=16.4km az=110.0*
*NEIC **20** 11:16:18.5±2.6, 6°.11S±0°.06×149°.12E±0°.08, h50km±6km, mb4.4/19, Error ellipse: s-maj=12.0km s-min=9.3km az=90.0*

ISC 20 11:16:17.5±0.5, 6°.16S±0°.06×149°.11E±0°.08, h50km, n59, σ1°53/49, mb4.2/16, MS3.6/18, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I40PG	**Keravat**	**3.43**	**58**	I	I	11 31 10.0	
	49nm,0.4s,baz=227,slow=321,SNR=0.5						
RABL	**Rabaul**	**3.62**	**57**	Pn	**Pn**	**11 17 12.3**	**+1.2**
PMG	**Port Moresby**	**3.76**	**211**	P	**Pn**	**11 17 14.8**	**+1.8**
PMG				Sn	**Sn**	**11 17 56.0**	**0.0**
PMG	**Port Moresby**	**3.76**	**211**	Pn	**Pn**	**11 17 13.4**	**+0.4**
	30nm,0.3s,baz=17,slow=4.4,SNR=90						
PMG				Sn	**Sn**	**11 17 56.0**	**0.0**
	40nm,0.3s,baz=128,slow=19,SNR=12						
PMG				LR	LR	11 18 35.8	
	comp=Z,318nm,20.0s,baz=334,slow=37						
	127nm,0.4s						
MANU	**Manus Island**	**4.44**	**337**	Pn	**Pn**	**11 17 22.5**	**+0.1**
JAY	**Jayapura**	**9.13**	**293**	LR	LR	11 21 50.5	
	comp=Z,222nm,20.1s,baz=24,slow=36						
COEN	**Coen**	**9.70**	**217**	Pn	**Pn**	**11 18 35.7**	**+1.2**
HNR	**Honiara**	**11.22**	**108**	LR	LR	11 21 56.9	
	comp=Z,179nm,22.0s,baz=289,slow=32						
CTA	**Charters Tower**	**14.12**	**191**	LR	LR	11 24 33.0	
	comp=Z,18nm,20.0s,baz=0,slow=35						
CTAO	**Charters Tower**	**14.12**	**191**	Pn	**Pn**	**11 19 35.0**	**+0.1**
MTN	**Manton Dam**	**18.93**	**248**	P	**P**	**11 20 34.2**	**-0.2**
MTN				IAmb	IAmb	11 20 47.0	
	comp=Z,30nm,1.4s						
EIDS	**Eidsvold**	**19.19**	**175**	P	**P**	**11 20 36.7**	**-0.5**
WB0	**Warramunga Arr**	**19.69**	**225**	P	**P**	**11 20 44.5**	**+1.8**
WB0				IAmb	IAmb	11 21 09.3	
	comp=Z,20nm,1.1s						
WRAB	**Tennant Creek**	**19.83**	**225**	P	**P**	**11 20 45.8**	**+1.5**
WRAB				IAmb	IAmb	11 21 02.4	
	comp=Z,12nm,0.7s						
WB2	**Warramunga Arr**	**19.83**	**225**	P	**P**	**11 20 45.5**	**+1.3**
WB2				IAmb	IAmb	11 20 47.5	
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**19.84**	**225**	P	**P**	**11 20 45.4**	**+1.0**
	comp=Z,8.4nm,0.7s,baz=51,slow=11,SNR=63						
WRA				S	**S**	**11 24 19.2**	**-6.1**
	comp=Z,2.0nm,1.1s,baz=43,slow=24,SNR=4.5						
WRA				PcP	**PcP**	**11 25 00.1**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=48,slow=1.5,SNR=5.2						
WRA				ScP	**ScP**	**11 28 36.0**	**+3.1**
	comp=Z,1.6nm,1.0s,baz=33,slow=2.4,SNR=6.1						
WRA				LR	LR	11 29 00.3	
	comp=Z,253nm,19.6s,baz=24,slow=38						
	comp=Z,8.4nm,0.7s						
GUMO	**Guam**	**20.07**	**348**	LR	LR	11 27 52.1	
	comp=Z,126nm,19.4s,baz=141,slow=35						
KNRA	**Kununurra**	**22.08**	**243**	P	**P**	**11 21 09.9**	**+1.3**
KNRA				IAmb	IAmb	11 21 39.4	
	comp=Z,15nm,1.0s						
AS31	**Alice Springs**	**22.73**	**218**	P	**P**	**11 21 17.1**	**+1.5**
ASAR	**Alice Springs**	**22.74**	**218**	P	**P**	**11 21 16.2**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=55,slow=8.9,SNR=37						
ASAR				PcP	**PcP**	**11 25 06.2**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=67,slow=3.3,SNR=4.3						
ASAR				S	**S**	**11 25 21.8**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=32,slow=23,SNR=5.9						
ASAR				ScP	**ScP**	**11 28 44.1**	**+4.1**
	comp=Z,0.7nm,0.9s,baz=36,slow=9.2,SNR=3.0						
ASAR				LR	LR	11 30 03.1	
	comp=Z,190nm,20.3s,baz=14,slow=36						
	comp=Z,1.5nm,0.6s						
DZM	**Mont Dzumac**	**23.04**	**135**	P	**P**	**11 21 17.9**	**-0.8**
ARMA	**Armidale**	**24.25**	**175**	P	**P**	**11 21 28.9**	**-1.1**
ARMA				IAmb	IAmb	11 22 11.8	
	comp=Z,26nm,1.4s						
FITZ	**Fitzroy Crossi**	**25.79**	**241**	P	**P**	**11 21 46.3**	**+2.2**
FITZ	**Fitzroy Crossi**	**25.79**	**241**	P	**P**	**11 21 45.6**	**+1.6**
	comp=Z,21nm,1.0s,baz=62,slow=4.1,SNR=18						
FITZ				LR	LR	11 32 30.4	
	comp=Z,186nm,19.4s,baz=46,slow=38						
	comp=Z,21nm,1.0s						
STKA	**Stephens Creek**	**26.53**	**194**	P	**P**	**11 21 50.8**	**+0.2**
STKA	**Stephens Creek**	**26.53**	**194**	P	**P**	**11 21 50.5**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=357,slow=12,SNR=3.1						
STKA				LR	LR	11 32 14.3	
	comp=Z,204nm,19.5s,baz=32,slow=36						
	comp=Z,2.5nm,0.7s						
MSVF	**Nonsavu**	**30.50**	**115**	P	**P**	**11 22 23.8**	**-2.4**
MSVF				IAmb	IAmb	11 22 32.7	
	comp=Z,8.1nm,0.9s						
MSVF	**Nonsavu**	**30.50**	**115**	LR	LR	11 33 52.4	
	comp=Z,123nm,19.1s,baz=303,slow=35						
MBWA	**Marble Bar**	**32.12**	**239**	P	**P**	**11 22 40.4**	**+0.1**
PSA00	**Pilbara Seismi**	**32.18**	**239**	P	**P**	**11 22 40.5**	**-0.4**
BKB	**Balikpapan**	**32.50**	**277**	P	**P**	**11 22 43.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**39.84**	**224**	LR	LR	11 41 31.7	
	comp=Z,190nm,18.8s,baz=14,slow=38						
JHJ	**Hachijo jima 2**	**40.05**	**348**	LR	LR	11 38 34.2	
	comp=Z,77nm,20.1s,baz=88,slow=34						
URZ	**Urewera**	**40.81**	**146**	LR	LR	11 38 40.4	
	comp=Z,138nm,19.1s,baz=26,slow=33						
JNU	**Nakatsue**	**42.73**	**337**	LR	LR	11 39 33.5	
	comp=Z,57nm,20.4s,baz=140,slow=33						
MJAR	**Matsushiro Arr**	**43.69**	**347**	LR	LR	11 40 37.4	
	comp=Z,76nm,18.0s,baz=156,slow=34						
KSRS	**Korea Array**	**47.68**	**337**	P	**P**	**11 24 49.2**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=151,slow=8.0,SNR=4.8						
	comp=Z,1.5nm,0.6s						
PETK	**Petropavlovsk-**	**59.49**	**6**	P	**P**	**11 26 15.4**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=155,slow=7.2,SNR=3.9						
PETK				LR	LR	11 50 07.7	
	comp=Z,44nm,19.4s,baz=247,slow=34						
	comp=Z,3.4nm,0.6s						
SHEM	**Shemya Is, Ala**	**62.39**	**17**	LR	LR	11 49 09.3	
	comp=Z,68nm,20.5s,baz=322,slow=32						
MA2	**Magadan**	**65.54**	**1**	LR	LR	11 55 48.9	
	comp=Z,30nm,18.9s,baz=200,slow=36						
SONM	**Songino Array**	**65.58**	**330**	P	**P**	**11 26 55.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=116,slow=3.4,SNR=2.5						
	comp=Z,0.3nm,0.4s						
MK31	**Makanchi Array**	**78.96**	**320**	P	**P**	**11 28 14.6**	**-1.4**
KDAK	**Kodiak Island**	**79.06**	**28**	LR	LR	11 55 32.6	
	comp=Z,32nm,21.8s,baz=199,slow=30						
ZALV	**Zalesovo Beam**	**80.27**	**327**	P	**P**	**11 28 22.6**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=117,slow=8.3,SNR=1.7						
	comp=Z,0.6nm,0.4s						
MAW	**Mawson**	**82.91**	**203**	LR	LR	12 03 12.1	
	comp=Z,72nm,19.7s,baz=106,slow=34						
RND	**Reindeer**	**83.42**	**24**	P	**P**	**11 28 40.0**	**+0.7**
RND				IAmb	IAmb	11 29 11.6	
	comp=Z,9.9nm,1.3s						
QSPA	**South Pole Qui**	**83.81**	**180**	P	**P**	**11 28 41.8**	**+0.4**
QSPA				IAmb	IAmb	11 29 00.7	
	comp=Z,7.1nm,1.1s						
QSPA	**South Pole Qui**	**83.81**	**180**	P	**P**	**11 28 41.3**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=27,slow=2.9,SNR=7.9						
	comp=Z,1.4nm,0.9s						
ILAR	**Eielson Array**	**84.81**	**23**	P	**P**	**11 28 45.9**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=245,slow=5.7,SNR=4.4						
	comp=Z,0.8nm,0.7s						
J25K	**Salcha River,**	**85.33**	**23**	P	**P**	**11 28 49.8**	**+0.8**
J25K				IAmb	IAmb	11 29 11.4	
	comp=Z,4.0nm,1.1s						
BVAR	**Borovoye Array**	**88.14**	**324**	P	**P**	**11 29 02.6**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=90,slow=13,SNR=2.2						
	comp=Z,0.6nm,0.7s						
G31M	**Satah River**	**90.42**	**23**	P	**P**	**11 29 14.3**	**+1.1**
YBH	**Yreka Blue Hor**	**92.70**	**48**	LR	LR	12 04 52.7	
	comp=Z,59nm,19.6s,baz=102,slow=32						
ARTI	**Arti**	**95.49**	**326**	LR	LR	12 16 30.7	
	comp=Z,86nm,18.0s,baz=82,slow=38						
NVAR	**Mina Array Bea**	**95.81**	**52**	P	**P**	**11 29 38.7**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=191,slow=2.8,SNR=2.8						
	comp=Z,0.2nm,0.5s						
PFO	**Pinyon Flats O**	**97.06**	**57**	LR	LR	12 05 10.4	
	comp=Z,38nm,21.3s,baz=38,slow=30						
TORD	**Torodi Ar. Bea**	**147.16**	**285**	PKPbc	**PKPbc**	**11 35 57.4**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=46,slow=3.2,SNR=9.9						
BDFB	**Brasilia**	**152.49**	**142**	PKPbc	**PKPbc**	**11 36 09.3**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=180,slow=1.0,SNR=4.3						
DBIC	**Dimbokro**	**154.12**	**273**	PKPbc	**PKPbc**	**11 36 12.9**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=219,slow=9.7,SNR=2.5						

*HEL **20** 11:29:18.4±0.4, 58°.80N×18°.12E, h0km, ML2.1, Explosion*
*DNK **20** 11:29:20.6±1.2, 58°.99N×18°.23E, h0km, ML2.2, ML2.5(UPP), Explosion*
*UPP **20** 11:29:20.3±0.1, 58°.99N×18°.21E, h0km, ML2.5, Unknown*

ISC 20 11:29:20.1±0.9, 58°.98N±0°.02×18°.24E±0°.03, h0km, n48, σ0°78/64, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NYNU	**Nynaeshamn**	**0.12**	**282**	P	**Pg**	**11 29 22.6**	**+0.2**
NYNU				S	**Sg**	**11 29 24.0**	**0.0**
NYNU	**Nynaeshamn**	**0.12**	**282**	P	**Pg**	**11 29 22.6**	**+0.2**
NYNU				S	**Sg**	**11 29 24.0**	**0.0**
NRTU	**Norrtaelje**	**0.73**	**16**	P	**Pg**	**11 29 33.8**	**-0.3**
NRTU				S	**Sg**	**11 29 43.0**	**-0.5**
NRTU	**Norrtaelje**	**0.73**	**16**	P	**Pg**	**11 29 33.8**	**-0.3**
NRTU				S	**Sg**	**11 29 43.0**	**-0.5**
VIKU	**Vikbolandet**	**0.93**	**240**	P	**Pg**	**11 29 37.7**	**-0.3**
VIKU	**Vikbolandet**	**0.93**	**240**	P	**Pg**	**11 29 37.7**	**-0.3**
UPP	**Uppsala**	**0.94**	**341**	P	**Pg**	**11 29 37.7**	**-0.4**
UPP	**Uppsala**	**0.94**	**341**	P	**Pg**	**11 29 37.7**	**-0.4**
ESKU	**Eskilstuna**	**0.98**	**286**	P	**Pg**	**11 29 38.1**	**-0.8**
ESKU	**Eskilstuna**	**0.98**	**286**	P	**Pg**	**11 29 38.1**	**-0.8**
FIBU	**Brunna**	**1.03**	**334**	P	**Pg**	**11 29 39.2**	**-0.6**
FIBU	**Brunna**	**1.03**	**334**	P	**Pg**	**11 29 39.2**	**-0.6**
BACU	**Backbrunna**	**1.05**	**327**	P	**Pg**	**11 29 39.5**	**-0.8**
BACU	**Backbrunna**	**1.05**	**327**	P	**Pg**	**11 29 39.5**	**-0.8**
GOTU	**Gotland**	**1.31**	**172**	P	**Pg**	**11 29 44.6**	**-0.6**
GOTU	**Gotland**	**1.31**	**172**	P	**Pg**	**11 29 44.6**	**-0.6**
GRAU	**Graesoe**	**1.37**	**6**	P	**Pg**	**11 29 45.6**	**-0.8**
GRAU	**Graesoe**	**1.37**	**6**	P	**Pg**	**11 29 45.6**	**-0.8**
OSTU	**Oestervaala**	**1.37**	**336**	P	**Pg**	**11 29 45.4**	**-1.1**
OSTU	**Oestervaala**	**1.37**	**336**	P	**Pg**	**11 29 45.4**	**-1.1**
FORU	**Forsmark**	**1.41**	**359**	P	**Pn**	**11 29 46.3**	**-0.8**
FORU	**Forsmark**	**1.41**	**359**	P	**Pn**	**11 29 46.3**	**-0.8**
AAL	**Aland**	**1.50**	**36**	P	**Pn**	**11 29 47.9**	**-0.3**
AAL	**Aland**	**1.50**	**36**	P	**Pn**	**11 29 47.9**	**-0.3**
AAL	**Aland**	**1.50**	**36**	*e*P	**Pn**	**11 29 48.0**	**-0.3**
AAL				*e*S	**Sg**	**11 30 07.3**	**-1.0**
AAL				MSG		11 30 08.5	
	comp=Z,18nm,0.1s						
NRAU	**Nora**	**1.74**	**291**	P	**Pn**	**11 29 51.9**	**+0.3**
NRAU	**Nora**	**1.74**	**291**	P	**Pn**	**11 29 51.9**	**+0.3**
ASKU	**Askersund**	**1

EKS2	**Erkin-Say**	**3.27**	**358**	⇓*i*P	**Pn**	**11 42 47.9 +1.7**
EKS2				⇓*i*S	**Sn**	**11 43 26.9 +1.2**
MNAS	**Manas**	**3.29**	**341**	⇓*i*P	**Pn**	**11 42 48.1 +1.7**
MNAS				⇓*i*S	**Sn**	**11 43 27.2 +1.1**
ULHL	**Ulahol**	**3.34**	**30**	P	**Pb**	**11 42 56.3 +2.5**
	SNR=5.0					
ULHL	**Ulahol**	**3.34**	**30**	⇑*i*P	**Pn**	**11 42 48.9 +1.8**
ULHL				⇑*i*S	**Sn**	**11 43 28.3 +0.9**
KBK	**Karagaybulak**	**3.35**	**12**	P	**Pb**	**11 42 52.3 -1.7**
	SNR=40					
KBK	**Karagaybulak**	**3.35**	**12**	⇑*i*P	**Pn**	**11 42 49.2 +1.9**
KBK				⇑*i*S	**Sn**	**11 43 28.6 +1.0**
MRKS	**Merke**	**3.40**	**351**	*e*P	**Pb**	**11 42 51.6 -3.2**
	2.9nm,0.1s					
MRKS				*e*S	**Sg**	**11 43 46.1 +2.9**
	114nm,0.7s					
BOOM	**Boomskoye usch**	**3.44**	**25**	⇓*i*P	**Pn**	**11 42 50.2 +1.7**
BOOM				⇓*i*S	**Sn**	**11 43 30.6 +0.7**
FRU1	**Bishkek**	**3.46**	**8**	⇑*i*P	**Pn**	**11 42 50.8 +2.2**
FRU1				⇑*i*S	**Sn**	**11 43 31.5 +1.4**
CHMS	**Chumysh**	**3.66**	**9**	P	**Pb**	**11 42 56.6 -2.6**
	SNR=5.0					
CHMS	**Chumysh**	**3.66**	**9**	⇓Pn	**Pb**	**11 42 55.9 -3.2**
	12nm,0.4s					
CHMS				⇓Lg	Lg	11 43 50.4
	42nm,0.7s					
CHMS	**Chumysh**	**3.66**	**9**	⇑*i*P	**Pn**	**11 42 53.0 +1.6**
CHMS				⇑*i*S	**Sn**	**11 43 35.8 +0.8**
KDJ	**Kajisay**	**3.67**	**41**	⇑*i*P	**Pn**	**11 42 53.4 +1.7**
KDJ				⇑*i*S	**Sn**	**11 43 36.1 +0.6**
TKM2	**Tokmak 2**	**3.74**	**19**	P	**Pb**	**11 42 57.3 -3.3**
	SNR=14					
TKM2	**Tokmak 2**	**3.74**	**19**	⇓Pn	**Pb**	**11 42 57.6 -3.0**
	9.9nm,0.4s					
TKM2				⇑Lg	Lg	11 43 54.5
	36nm,0.8s					
TKM2	**Tokmak 2**	**3.74**	**19**	⇓*i*P	**Pn**	**11 42 54.5 +1.8**
TKM2				⇓*i*S	**Sn**	**11 43 37.9 +0.6**
USP	**Ospenovka**	**3.90**	**6**	P	**Pb**	**11 42 59.2 -4.1**
	SNR=6.4					
USP	**Ospenovka**	**3.90**	**6**	⇑*e*P	**Pn**	**11 42 56.6 +1.9**
USP				⇑*e*S	**Sn**	**11 43 41.5 +0.5**
KST	**Kastek**	**3.95**	**22**	*e*P	**Pb**	**11 43 00.7 -3.5**
	2.3nm,0.1s					
KST				*e*S	**Sg**	**11 44 01.7 +0.9**
	88nm,0.3s					
IUG	**Iuzhnay**	**4.07**	**314**	*e*P	**Pn**	**11 43 00.4 +3.4**
	63nm,0.3s					
IUG				*e*S	**Sg**	**11 44 01.3 -3.2**
	170nm,0.7s					
TNSS	**Tian-Shan**	**4.28**	**31**	*e*P	**Pb**	**11 43 06.5 -3.6**
	4.8nm,0.1s					
TNSS				*e*S	**Sg**	**11 44 11.8 +0.3**
	16nm,0.4s					
MDOK	**Medeo**	**4.43**	**31**	Pg	**Pg**	**11 43 17.2 -1.5**
	15nm,0.5s					
MDOK				Lg	Lg	11 44 17.3
	77nm,1.0s					
KK31	**Karatay Array**	**4.54**	**326**	Pn	**Pn**	**11 43 07.0 +3.6**
	9.8nm,0.6s,baz=132,slow=12,SNR=87					
KK31				⇑Sn	**Sb**	**11 44 03.6 -5.6**
	10nm,0.4s,baz=157,slow=30,SNR=3.7					
KK31				⇑Lg	Lg	11 44 21.7
	26nm,0.6s,baz=137,slow=26					
KKAR	**Karatay Array**	**4.54**	**326**	⇑*i*P	**Pn**	**11 43 05.5 +2.1**
KKAR				⇑*i*S	**Sn**	**11 43 57.1 +0.5**
PRZ	**Przheval'sk**	**4.56**	**46**	⇑*e*P	**Pn**	**11 43 05.8 +1.8**
PRZ				⇑*i*S	**Sn**	**11 43 57.7 +0.1**
BRLS	**Borolday**	**4.79**	**321**	*e*P	Pn	11 43 12.5 +5.5
	3.3nm,0.1s					
BRLS				*e*S	**Sb**	**11 44 21.5 +5.0**
	39nm,0.4s					
PDGK	**Podgornoye**	**5.72**	**45**	⇓Pg	**Pb**	**11 43 36.9 +2.5**
	12nm,0.6s					
PDGK				⇓Lg	Lg	11 44 57.7
	24nm,1.1s					
MKAR	**Makanchi Array**	**9.58**	**37**	Pn	**Pn**	**11 44 14.2 +1.5**
	baz=217,slow=14,SNR=0.9					
	0.2nm,0.6s					
KURBB	**Kurchatov Arra**	**11.69**	**14**	Pn	**Pn**	**11 44 42.4 +1.0**
	0.1nm,0.3s,baz=194,slow=11,SNR=1.7					
BVAR	**Borovoye Array**	**13.86**	**351**	Pn	**Pn**	**11 45 10.9 -0.2**
	baz=163,slow=12,SNR=8.9					
	2.2nm,0.7s					
ZALV	**Zalesovo Beam**	**16.33**	**23**	Pn	**Pn**	**11 45 43.9 -0.1**
	0.1nm,0.3s,baz=213,slow=10,SNR=1.9					
	0.5nm,0.6s					
FINES	**FINESS Array B**	**36.49**	**323**	P	**P**	**11 49 00.9 +1.0**
	0.7nm,0.4s,baz=111,slow=7.6,SNR=6.2					
	0.7nm,0.4s					
ARCES	**ARCESS Array B**	**39.43**	**336**	P	**P**	**11 49 24.5 -0.2**
	4.1nm,0.9s,baz=120,slow=8.4,SNR=1.8					
	4.1nm,0.9s					
HFS	**Hagfors**	**42.31**	**320**	P	**P**	**11 49 46.7 -1.8**
	1.4nm,0.7s,baz=91,slow=10,SNR=1.8					
	1.4nm,0.7s					
TORD	**Torodi Ar. Bea**	**68.12**	**269**	P	**P**	**11 52 53.2 -2.2**
	0.3nm,0.6s,baz=37,slow=7.3,SNR=1.7					
	0.3nm,0.6s					

*SCB **20** 11:52:11.3±1.2,20°.27S×68°.10W,h177km±13km,ML3.2/2,*
MW3.7,Error ellipse: s-maj=4.6km s-min=3.4km az=0.0
*SJA **20** 11:52:12.0,20°.32S×68°.25W,h178km,ML3.4*

ISC 20 11:52:12.0±1.3,20°.28S±0°.05×68°.12W±0°.05,h172km,n26,
σ0s66/28,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.98**	**278**	*i*P	**Pn**	**11 52 39.3**	**+0.1**
PB08	**IPOC Station P**	**0.98**	**278**	Pg	**Pn**	**11 52 39.9**	**+0.8**
GO01	**Chusmiza**	**1.18**	**301**	*i*P	**Pn**	**11 52 40.7**	**-0.1**
GO01	**Chusmiza**	**1.18**	**301**	Pg	**Pn**	**11 52 41.4**	**+0.5**
PB01	**IPOC Station P**	**1.49**	**239**	*i*P	**Pn**	**11 52 43.0**	**-0.2**
PB01	**IPOC Station P**	**1.49**	**239**	Pg	**Pn**	**11 52 43.5**	**+0.3**
PB01				Sg	**Sn**	**11 53 07.8**	**+0.4**
PB01				IAML		11 53 12.1	
	191nm,0.3s						
SOEO	**Opoqueri**	**1.72**	**7**	Pg	**Pn**	**11 52 46.6**	**+0.6**
PB09	**IPOC Station P**	**1.84**	**214**	*i*P	**Pn**	**11 52 47.6**	**+0.7**
PB09	**IPOC Station P**	**1.84**	**214**	Pg	**Pn**	**11 52 47.9**	**+1.0**
TA02	**Huaiquique**	**1.89**	**270**	*i*P	**Pn**	**11 52 47.3**	**+0.1**
TA01	**Diego Aracena**	**1.95**	**261**	*i*P	**Pn**	**11 52 47.4**	**-0.6**
MOCB	**Mochara**	**2.52**	**113**	Pg	**Pn**	**11 52 55.0**	**+0.1**
MOCB				Sg	**Sn**	**11 53 27.5**	**-0.6**
MOCB				IAML		11 53 32.0	
	66nm,0.6s						
PB12	**IPOC Station P**	**2.66**	**308**	*i*P	**Pn**	**11 52 55.3**	**-0.9**
PB12	**IPOC Station P**	**2.66**	**308**	Pg	**Pn**	**11 52 55.8**	**-0.4**
PB06	**IPOC Station P**	**2.77**	**209**	*i*P	**Pn**	**11 52 57.4**	**-0.2**
PB04	**IPOC Station P**	**2.79**	**222**	*i*P	**Pn**	**11 52 57.7**	**-0.1**
SOET	**ToroToro**	**3.06**	**46**	Pg	**Pn**	**11 53 01.0**	**-0.4**
YJA	**Yavi**	**3.08**	**128**	*i*P	**Pn**	**11 53 02.0**	**+0.3**
PB15	**IPOC Station P**	**3.17**	**203**	*i*P	**Pn**	**11 53 02.9**	**+0.4**
PB15	**IPOC Station P**	**3.17**	**203**	Pg	**Pn**	**11 53 03.0**	**+0.4**
AOEA	**Aiquile**	**3.44**	**53**	Pg	**Pn**	**11 53 05.1**	**-0.9**
BBOD	**La Paz, Gloria**	**3.65**	**353**	Pg	**Pn**	**11 53 09.1**	**+0.2**
LPAZ	**La Paz**	**3.97**	**360**	*i*P	**Pn**	**11 53 14.4**	**+1.4**
LPAZ	**La Paz**	**3.97**	**360**	Pg	**Pn**	**11 53 13.6**	**+0.5**
SLA	**San Lorenzo**	**5.04**	**152**	*i*P	**Pn**	**11 53 27.4**	**+0.9**
GO02	**Mina Guanaco**	**5.05**	**195**	*i*P	**Pn**	**11 53 25.4**	**-1.3**

*BJI **20** 11:55:55.0,32°.70N×90°.11E,h10km,mb4.3/10,mB4.3/1,*
ML3.8/3,Ms3.9/13,Ms7 3.6/11
*IDC **20** 11:55:57.6±4.7,32°.70N×90°.22E,h49km±46km,mb3.4/6,*
mbtmp3.6/10,ML3.6/4,MS3.6/19,Error ellipse:
s-maj=38.8km s-min=20.1km az=61.0

ISC 20 11:55:57.5±0.8,32°.86N±0°.07×90°.22E±0°.10,h35km,n29,
σ2s16/16,mb3.7/6,MS3.5/16,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.25**	**166**	Pn	**Pn**	**11 56 47.6**	**+1.2**
LSA				Sn	**Sn**	**11 57 28.3**	**+4.3**
LSA				LR	LR		
	comp=N,2μm,9.3s						
LSA				LR	LR		
	comp=Z,1μm,5.8s						
GTA	**Gaotai**	**10.14**	**47**	*e*P	**Pn**	**11 58 23.3**	**+2.7**
GTA				pP		11 58 28.6	
GTA				LR	LR		
	comp=N,930nm,12.3s						
GTA				LR	LR		
	comp=E,750nm,13.5s						
GTA				LR	LR		
	comp=Z,280nm,11.6s						
MKAR	**Makanchi Array**	**15.18**	**339**	P	**Pn**	**11 59 28.9**	**-0.3**
	0.1nm,0.3s,baz=142,slow=14,SNR=6.2						
MKAR				LR	LR	12 05 54.5	
	comp=Z,149nm,20.0s,baz=161,slow=39						
	0.8nm,0.7s						
XAN	**Xi'an**	**15.65**	**81**	P	**Pn**	**11 59 33.9**	**-1.6**
XAN				sP	P	11 59 39.3	+0.1
XAN				S	**Sn**	**12 02 28.0**	**+0.2**
XAN				pmax	pmax		
	comp=Z,23nm,1.1s						
XAN				LR	LR		
	comp=N,640nm,11.2s						
XAN				LR	LR		
	comp=E,490nm,12.3s						
XAN				LR	LR		
	comp=Z,390nm,10.0s						
AAK	**Ala-Archa**	**15.79**	**313**	P	**P**	**11 59 42.8**	**+2.0**
	comp=Z,2.0nm,0.7s,baz=153,slow=9.0,SNR=5.2						
AAK				LR	LR	12 07 02.0	
	comp=Z,102nm,19.2s,baz=124,slow=42						
CMAR	**Chiang Mai Arr**	**16.34**	**149**	P	**Pn**	**11 59 40.5**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=323,slow=14,SNR=7.1						
	comp=Z,0.7nm,0.4s						
SONM	**Songino Array**	**19.32**	**35**	P	**Pn**	**12 00 21.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=232,slow=11,SNR=6.1						
SONM				LR	LR	12 08 44.3	
	comp=Z,199nm,21.7s,baz=256,slow=39						
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**19.73**	**338**	P	**P**	**12 00 24.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=148,slow=12,SNR=10						
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**21.43**	**351**	P	**P**	**12 00 42.9**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=174,slow=11,SNR=7.1						
ZALV				LR	LR	12 09 10.4	
	comp=Z,122nm,18.8s,baz=206,slow=37						
	comp=Z,1.3nm,0.5s						
BVAR	**Borovoye Array**	**24.69**	**331**	P	**P**	**12 01 16.1**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=134,slow=8.3,SNR=7.2						
	comp=Z,1.1nm,0.6s						
JNU	**Nakatsue**	**33.95**	**78**	LR	LR	12 17 56.0	
	comp=Z,74nm,19.5s,baz=334,slow=39						
USRK	**Ussuriysk Ar.**	**34.24**	**58**	LR	LR	12 17 20.6	
	comp=Z,105nm,20.6s,baz=273,slow=37						
KLR	**Kul'dur**	**34.83**	**50**	LR	LR	12 17 36.5	
	comp=Z,62nm,21.4s,baz=255,slow=37						
BELG	**Belogornoye**	**36.26**	**315**	LR	LR	12 19 24.1	
	comp=Z,88nm,19.8s,baz=254,slow=39						
YAK	**Yakutsk**	**38.50**	**29**	LR	LR	12 20 18.8	
	comp=Z,116nm,20.0s,baz=245,slow=38						
MJAR	**Matsushiro Arr**	**39.30**	**71**	LR	LR	12 18 55.2	
	comp=Z,37nm,19.0s,baz=262,slow=35						
JHJ	**Hachijo jima 2**	**41.25**	**76**	LR	LR	12 21 38.2	
	comp=Z,124nm,18.5s,baz=288,slow=37						
DAV	**Davao City (W)**	**41.64**	**120**	LR	LR	12 21 59.1	
	comp=Z,53nm,18.0s,baz=354,slow=38						
ASAJ	**Asahikawa**	**41.87**	**59**	LR	LR	12 21 34.4	
	comp=Z,58nm,19.7s,baz=346,slow=37						
KAPI	**Kappang**	**46.95**	**138**	LR	LR	12 25 22.3	
	comp=Z,42nm,18.2s,baz=288,slow=38						
MA2	**Magadan**	**47.51**	**37**	LR	LR	12 25 49.1	
	comp=Z,84nm,18.9s,baz=267,slow=38						
MLR	**Muntele Rosu**	**50.15**	**304**	LR	LR	12 29 41.2	
	comp=Z,103nm,21.2s,baz=254,slow=40						
ARCES	**ARCESS Array B**	**50.81**	**336**	LR	LR	12 27 57.0	
	comp=Z,86nm,18.3s,baz=256,slow=38						
PETK	**Petropavlovsk-**	**51.30**	**46**	LR	LR	12 30 14.9	
	comp=Z,40nm,18.3s,baz=314,slow=40						
WRA	**Warramunga Arr**	**67.33**	**135**	P	**P**	**12 06 46.8**	**-2.3**
	comp=Z,0.7nm,1.0s,baz=327,slow=6.5,SNR=3.1						
	comp=Z,0.7nm,1.0s						
ASAR	**Alice Springs**	**69.97**	**138**	P	**P**	**12 07 04.6**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=316,slow=6.5,SNR=2.8						
	comp=Z,0.6nm,0.8s						
RES	**Resolute Bay**	**72.67**	**1**	LR	LR	12 40 59.8	
	comp=Z,126nm,18.3s,baz=20,slow=37						
ILAR	**Eielson Array**	**73.02**	**22**	P	**P**	**12 07 21.8**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=301,slow=5.3,SNR=9.1						
	comp=Z,0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.77**	**280**	P	**P**	**12 08 11.7**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=55,slow=3.5,SNR=2.7						
	comp=Z,0.8nm,0.9s						

*GUC **20** 11:56:28.2±0.9,32°.37S×71°.47W,h49km±2km,ML2.9*
*SJA **20** 11:56:57.2±1.0,30°.49S×69°.17W,h108km±11km,ML2.0,*
MW2.1

ISC 20 11:56:28.3±1.3,32°.35S±0°.03×71°.54W±0°.06,h33km±4km,
n24,σ0s71/41,6C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA06	**Catapilco**	**0.29**	**135**	⇑*e*P	**Pb**	**11 56 36.1**	**+0.2**
VA06				*i*S	**Sb**	**11 56 41.9**	**+0.7**
VA06				IAML		11 56 42.2	
	comp=N,5μm,0.2s						
CO04	**Los Peladeros**	**0.57**	**58**	⇓*e*P	**Pb**	**11 56 39.3**	**-0.9**
CO04				*e*S	**Sb**	**11 56 47.6**	**-0.7**
CO04				IAML		11 56 48.4	
	comp=N,3μm,0.2s						
VA01	**Torpederas**	**0.68**	**188**	*e*P	**Pb**	**11 56 41.5**	**-0.2**
VA01				*i*S	**Sb**	**11 56 51.2**	**+0.3**
VA01				IAML		11 56 52.0	
	comp=E,1μm,0.1s						
VA03	**San Esteban**	**0.93**	**116**	⇓*e*P	**Pn**	**11 56 44.5**	**-0.7**
VA03				*e*S	**Sn**	**11 56 56.5**	**-0.9**
VA03				IAML		11 56 58.8	
	comp=E,1μm,0.1s						
MT02	**Curacav**	**0.97**	**160**	*e*P	**Pn**	**11 56 44.7**	**-0.8**
MT02				*e*S	**Sn**	**11 56 57.2**	**-1.0**
PEL	**Peldehue**	**1.07**	**138**	*e*P	**Pn**	**11 56 46.8**	**-0.3**
PEL				*e*S	**Sn**	**11 57 00.2**	**-0.6**
PEL				IAML		11 57 02.1	
	comp=E,338nm,0.3s						
MT05	**Renca**	**1.24**	**147**	*e*S	**Sn**	**11 57 04.6**	**-0.4**
MT05				IAML		11 57 07.7	
	comp=N,266nm,0.3s						
MT05				IAML		11 57 08.3	
	comp=E,318nm,0.3s						
MT10	**Hacienda Santa**	**1.25**	**138**	⇑*e*P	**Pn**	**11 56 49.5**	**-0.1**
MT10				*e*S	**Sn**	**11 57 05.1**	**-0.3**
MT10				IAML		11 57 07.3	
	comp=N,532nm,0.3s						
VA05	**Santo Domingo**	**1.30**	**183**	⇑*e*P	**Pn**	**11 56 50.3**	**+0.1**
VA05				*e*S	**Sn**	**11 57 07.0**	**+0.5**
VA05				IAML		11 57 10.6	
	comp=E,447nm,0.3s						
MT14	**Cerro Calan**	**1.34**	**141**	⇑*i*P	**Pn**	**11 56 51.0**	**+0.2**
MT14				*e*S	**Sn**	**11 57 07.9**	**+0.4**
MT14				IAML		11 57 10.6	
	comp=N,279nm,0.2s						
MT16	**CCHEN**	**1.38**	**142**	*e*P	**Pn**	**11 56 51.5**	**+0.3**
MT16				*e*S	**Sn**	**11 57 08.3**	**0.0**
MT03	**Universidad Ad**	**1.43**	**143**	⇑*i*P	**Pn**	**11 56 52.1**	**0.0**
MT03				*i*S	**Sn**	**11 57 09.8**	**0.0**
MT03				IAML		11 57 11.9	
	comp=E,643nm,0.2s						
FCH	**Farellones**	**1.44**	**133**	*i*P	**Pn**	**11 56 52.0**	**-0.3**
FCH				*e*S	**Sn**	**11 57 10.2**	**0.0**
FCH				IAML		11 57 11.6	
	comp=E,179nm,0.1s						
MT09	**Talagante**	**1.50**	**162**	*e*P	**Pn**	**11 56 53.5**	**+0.6**
MT09				*e*S	**Sn**	**11 57 11.8**	**+0.3**
MT09				IAML		11 57 17.9	
	comp=N,279nm,0.1s						
MT15	**Las Vizcachas**	**1.52**	**145**	*e*S	**Sn**	**11 57 11.8**	**-0.1**
MT15				IAML		11 57 15.8	
	comp=E,267nm,0.2s						
MT01	**Popeta**	**1.53**	**171**	*e*P	**Pn**	**11 56 53.5**	**+0.2**
MT01				*e*S	**Sn**	**11 57 12.2**	**+0.2**
MT01				IAML		11 57 18.9	
	comp=E,158nm,0.3s						
MT12	**Pirque**	**1.61**	**149**	⇑*e*P	**Pn**	**11 56 55.0**	**+0.5**
MT12				*e*S	**Sn**	**11 57 14.2**	**0.0**
MT12				IAML		11 57 21.0	
	comp=E,239nm,0.3s						
CO03	**El Pedregal**	**1.67**	**26**	⇓*e*P	**Pn**	**11 56 55.7**	**+0.3**
CO03				*e*S	**Sn**	**11 57 16.3**	**+0.6**
CO03				IAML		11 57 20.5	
	comp=E,309nm,0.1s						
CO06	**Fray Jorge**	**1.67**	**357**	*e*P	**Pn**	**11 56 54.5**	**-0.8**
CO06				*e*S	**Sn**	**11 57 15.4**	**-0.2**
CO06				IAML		11 57 20.9	
	comp=E,121nm,0.3s						
LMEL	**Las Melosas**	**1.87**	**143**	*e*P	**Pn**	**11 56 58.7**	**+0.6**
LMEL				*e*S	**Sn**	**11 57 20.9**	**+0.2**
LMEL				IAML		11 57 27.3	
	comp=N,198nm,0.2s						
ACCO	**Cerro Coronel**	**2.75**	**51**	⇓*i*P	**Pn**	**11 57 13.3**	**+2.9**
ACCO				*i*S	Sn	11 57 26.4	-16
ACCO				IAML		11 57 49.5	
	comp=Z,11nm,3.9s						
AROD	**Rodeo**	**2.81**	**40**	*i*S	Sn	11 57 27.9	-16
AVFE	**Valle Fertil**	**3.88**	**65**	*i*P	**Pn**	**11 57 25.4**	**-0.2**
AVFE				*i*S	Sn	11 57 45.1	-25
AVFE				IAML		11 58 23.5	
	comp=Z,14nm,0.3s						
ACHE	**Chepes**	**4.32**	**75**	*i*P	**Pn**	**11 57 33.0**	**+1.2**

HEL 20 12:05:37.1±0.2,67°.78N×33°.67E,h0km,ML1.4,
Explosion,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.39**	**71**	PG	Pg	12 05 43.9	-0.7
LVZ				SG	Sg	12 05 49.1	-0.5
VRF	**Varrio**	**1.55**	**271**	PG	Pn	12 06 04.6	-1.3
VRF				MSG		12 06 23.5	
	comp=Z,2.8nm,0.2s						
VRF				SG	Sn	12 06 24.0	-2.6
RAJF	**Raja-Jooseppi**	**2.13**	**292**	SB	Sn	12 06 41.1	+0.2
OLKF	**Oulanka, Finla**	**2.22**	**231**	PN	Pn	12 06 14.6	-0.6
OLKF				MSG		12 06 42.9	
	comp=Z,1.6nm,0.2s						
OLKF				SB	Sn	12 06 43.8	+0.6
KU6	**Riekki**	**2.31**	**222**	MSG		12 06 45.2	
	comp=Z,1.0nm,0.2s						
KU6				SN	Sn	12 06 45.4	+0.1
KMNF	**Kaamanen**	**2.82**	**302**	SG	Sb	12 07 03.9	+0.6

HEL 20 12:06:49.5±0.1,66°.47N×25°.67E,h0km,ML1.1,
Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNF	**Rovaniemi**	**0.20**	**43**	PG	Pg	12 06 53.0	-0.3
	baz=218						
RNF				SG	Sg	12 06 55.9	0.0
RANF	**Ranua**	**0.64**	**135**	SN	Sg	12 07 09.2	-0.7
RANF	**Ranua**	**0.64**	**135**	PG	Pg	12 07 00.8	-0.9
RANF				SG	Sg	12 07 09.2	-0.7
TOF	**Tornio**	**0.67**	**235**	PB	Pg	12 07 02.0	-0.2
TOF				SG	Sg	12 07 09.3	-1.6
TOF				MSG		12 07 10.5	
	comp=Z,1.0nm,0.2s						
KLF	**Kolari**	**1.03**	**320**	SN	Sg	12 07 22.0	-0.4
KLF	**Kolari**	**1.03**	**320**	PB	Pg	12 07 08.2	-1.0
	baz=142						
KLF				MSG		12 07 20.9	
	comp=Z,0.9nm,0.2s						
KLF				SB	Sg	12 07 22.0	-0.4
KALU	**Kalix**	**1.12**	**238**	SN	Sn	12 07 29.5	+1.0
PAJU	**Pajala**	**1.16**	**300**	SN	Sg	12 07 26.0	-0.7
PAJU	**Pajala**	**1.16**	**300**	PG	Pg	12 07 10.4	-1.4
	baz=122						
PAJU				SB	Sg	12 07 26.0	-0.7
OUL	**Oulu**	**1.39**	**176**	SG	Sg	12 07 32.4	-1.6
ERTU	**Ertsjaerv**	**1.40**	**275**	SN	Sn	12 07 37.4	+2.0
ERTU	**Ertsjaerv**	**1.40**	**275**	PG	Pn	12 07 14.7	-1.5
ERTU				SB	Sg	12 07 33.5	-0.9
OLKF	**Oulanka, Finla**	**1.51**	**94**	MSG		12 07 34.9	
	comp=Z,1.7nm,0.2s						
OLKF				SN	Sn	12 07 38.4	+0.4
KU6	**Riekki**	**1.76**	**103**	MSG		12 07 42.1	
	comp=Z,1.0nm,0.2s						
KU6				SN	Sb	12 07 45.6	+0.3
HEF	**Hetta**	**2.10**	**339**	SN	Sn	12 07 21.3	-31
HEF	**Hetta**	**2.10**	**339**	MSG		12 07 51.7	
	comp=Z,0.8nm,0.2s						
HEF				SG	Sb	12 07 54.0	-1.1
LANU	**Lannavaara**	**2.14**	**320**	PG	Pn	12 07 27.3	+0.9
LANU				SG	Sb	12 07 57.0	+0.9
OUF	**Merijarvi**	**2.14**	**191**	MSG		12 07 53.0	
	comp=Z,1.0nm,0.2s						
OUF				SG	Sb	12 07 57.0	+0.8
RAJF	**Raja-Jooseppi**	**2.26**	**26**	SG	Sn	12 07 58.0	+1.4

*ISN **20** 12:23:25.8±0.5,34°.47N×45°.72E,h14km±113km,ML2.7*
*TEH **20** 12:23:26.4,34°.47N×45°.74E,h8km±77km,ML2.6*

ISC 20 12:23:26.2±1.1,34°.48N±0°.04×45°.72E±0°.04,h12km±10km,
n11,σ0s56/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.11**	**285**	Pg	**Pg**	**12 23 29.1**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.40**	**157**	Pg	**Pg**	**12 23 34.2**	**0.0**
IDHR	**Dehrash**	**0.59**	**68**	Pg	**Pg**	**12 23 37.6**	**-0.3**
IGHG	**Ghaleghazi**	**0.71**	**102**	Pg	**Pb**	**12 23 40.2**	**-0.5**
ILIN	**Lien**	**1.11**	**66**	Pg	**Pn**	**12 23 47.8**	**0.0**
IBDR	**Badra**	**1.38**	**173**	*e*Pg	**Pg**	**12 23 52.0**	**-0.7**
IBDR				*e*Sg	**Sg**	**12 24 11.0**	**+0.5**
IKRK	**Kirkuk**	**1.46**	**309**	*e*Pn	**Pg**	**12 23 54.0**	**-0.3**
IKRK				*e*Sn	**Sg**	**12 24 14.0**	**+0.7**
IKRK				AML	AML	12 24 18.6	
	comp=E,108nm,0.3s						
IKRK				AML	AML	12 24 26.4	
	comp=N,126nm,0.9s						
SNQR	**Sonqor, Kerman**	**1.62**	**76**	Pg	**Pg**	**12 23 57.0**	**-0.3**
BHD	**Baghdad**	**1.64**	**223**	*e*Pn	**Pb**	**12

RLS	Riolos of Patr	0.91	40	P	Pg	12 30 06.4	-0.3
PYL	PYLOS	0.94	119	P	Pg	12 30 07.5	+0.3
ITM	Ithomi	0.98	100	P	Pn	12 30 08.3	-0.2
DRO	Drossia	0.98	53	P	Pb	12 30 07.0	-0.9

IDC 20 12:34:15.4±999.0, 29°.42N×39°.26E, h0km, Error ellipse: s-maj=960.9km s-min=237.5km az=21.0, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	AKTYUBINSK INF	25.29	29	I	I	15 07 10.9	
	baz=221,slow=324,SNR=2.7						
I43RU	DUBNA INFRASON	27.33	358	I	I	15 21 50.0	
	baz=176,slow=332,SNR=1.5						
I46RU	ZALESOVO INFRA	40.95	40	I	I	16 46 20.0	
	baz=251,slow=324,SNR=1.0						
I34MN	SONGINO INFRAS	53.89	50	I	I	18 04 35.1	
	baz=275,slow=328,SNR=1.2						

TAP 20 12:36:44.0, 24°.50N×121°.69E, h34km, ML1.3, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	Nanau	0.09	150	eP	Pb	12 36 50.4	+0.5
ESAO	Su ao	0.15	62	eP	Pb	12 36 50.4	+0.1
LATG	Datong	0.15	282	P	Pb	12 36 50.7	+0.2
LATG				S	Sb	12 36 55.6	+0.7
TWC	Suao	0.18	53	eP	Pb	12 36 50.7	+0.1
TWC				eS	Sb	12 36 55.6	+0.6
ENTT	Nioudou	0.18	320	P	Pb	12 36 50.9	+0.3
TWE	Neicheng	0.22	354	eP	Pb	12 36 51.3	+0.3
FUSB	Fushanzhiwuyua	0.27	339	P	Pb	12 36 51.8	+0.1
NNSB	Datong	0.29	255	P	Pb	12 36 52.2	+0.3
NNSH	Datong	0.29	255	eP	Pb	12 36 52.2	+0.3
NNS	Nan Shan	0.30	258	eP	Pb	12 36 52.2	+0.2
NWLT	Wulai	0.32	328	P	Pn	12 36 52.4	0.0
YHNB	Yeheng	0.33	300	i P	Pn	12 36 53.0	+0.4
NACB	Ninganchiao	0.34	195	eP	Pb	12 36 52.1	-0.3
NSK	Sanguang	0.35	300	eP	Pn	12 36 53.0	+0.2
ETLH	Xiulin Townshi	0.35	213	eP	Pn	12 36 53.8	+0.9
TWD	Chiawan	0.43	192	eP	Pn	12 36 54.5	+0.6
TIPB	Shuangxi	0.48	14	eP	Pn	12 36 54.9	+0.3
TWA	Mucha	0.49	348	eP	Pn	12 36 54.6	0.0
WHF	Hehuan Shan	0.53	228	eP	Pb	12 36 55.2	-0.3
LXIB	Xiulin Townshi	0.54	208	eP	Pn	12 36 55.3	-0.1
SXI1	Grass Mountain	0.61	16	eP	Pb	12 36 56.6	+0.1

*IDC **20** 12:37:43.7±0.9, 11°.37N×70°.65W, h0km, mb3.5/4, mbtmp3.8/7, ML4.0/3, MS3.2/2, Error ellipse: s-maj=27.5km s-min=13.9km az=83.0*
*FUNV **20** 12:37:45.6, 11°.50N×70°.67W, h5km, MW4.3*
*NEIC **20** 12:37:45.6±1.4, 11°.26N±0°.05×70°.59W±0°.04, h10km±1km, mb4.4/41, Error ellipse: s-maj=10.0km s-min=3.6km az=139.0*
*RSNC **20** 12:37:47.8±0.0, 11°N±6°×7°1W±°, h0km±6km, M4.1, mb4.7, mB5.0, ML4.3, Mw(mB)4.3*
ISC 20 12:37:45.9±2.0, 11°.31N±0°.04×70°.62W±0°.03, h16km±13km, n113, σ1°60/143, mb4.3/24, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUA1	Aruba	1.33	27	Pn	Pn	12 38 10.1	+0.2
URIC	Uribia, Colomb	1.40	286	P	Pn	12 38 10.2	-1.7
URIC				S	Sb	12 38 26.6	-2.9
JACV	Jacura	1.77	97	eP	Pn	12 38 17.1	+1.1
JACV				eS	Sb	12 38 41.1	+1.1
HATO	Hato, Curacao	1.84	62		Pn	12 38 16.8	-0.2
TEPV	Terepaima	1.94	133	eS	Sg	12 38 47.6	-0.7
CRJC	Cerrejon, Guaj	2.24	263	P	Pn	12 38 21.7	-0.8
CRJC				S	Sn	12 38 50.0	+0.1
MCQV	Machiques	2.26	237	eP	Pn	12 38 23.1	+0.4
MCQV				eS	Sb	12 38 52.5	-1.7
SDV	Santo Domingo	2.41	180		Pn	12 38 24.3	-0.6
SDV	Santo Domingo	2.41	180	Pn	Pn	12 38 25.8	+0.9
	58nm,0.3s,baz=13,slow=9.5,SNR=46						
SDV				Pg	Pb	12 38 29.5	+0.5
	58nm,0.3s,baz=26,slow=7.3,SNR=44						
SDV				Lg	Lg	12 39 01.9	
	70nm,0.3s,baz=320,slow=18,SNR=6.8						
	119nm,0.3s						
SDV	Santo Domingo	2.41	180	P	Pn	12 38 26.0	+1.1
SDV				S	Sb	12 39 00.1	+1.5
MAPV	Macapo	2.58	124	eP	Pn	12 38 28.5	+1.3
MAPV				eS	Sb	12 39 01.9	-1.7
TURV	Turiamo	2.86	107	eS	Sn	12 39 06.7	+1.6
SOCV	Socops	3.01	184	eP	Pn	12 38 34.4	+1.3
SOCV				eS	Sb	12 39 12.6	-3.4
BENV	Beln	3.26	114	eP	Pn	12 38 38.0	+1.6
BENV				eS	Sn	12 39 16.8	+1.8
BAUV	El Baul	3.46	133		Pn	12 38 38.8	-0.4
BAUV	El Baul	3.46	133	eP	Pn	12 38 40.8	+1.6
BAUV				eS	Sn	12 39 22.5	+2.6
TACV	Tcata	3.72	108	eP	Pn	12 38 43.5	+0.7
TACV				eS	Sn	12 39 28.1	+1.8
CAPV	Capacho	3.81	206	eP	Pn	12 38 45.2	+1.0
CAPV				eS	Sn	12 39 30.6	+1.7
FUNV	FUNVISIS	3.83	102	eP	Pn	12 38 44.9	+0.4
FUNV				eS	Sn	12 39 29.6	+0.3
ARGC	Ariguani, Magd	3.85	248	P	Pn	12 38 45.7	+1.1
OCAC	Ocana	4.05	221	P	Pn	12 38 47.9	+0.4
OCAC				S	Sn	12 39 35.2	+0.5
PAMC	Pamplona, Colo	4.45	208	P	Pn	12 38 54.5	+1.3
PAMC				S	Sn	12 39 45.1	+0.1
SJCC	San Jacinto, C	4.70	253	P	Pn	12 38 56.9	+0.6
SJCC				S	Sn	12 39 51.2	+0.6
MERV	Las Mercedes	4.72	115	eP	Pn	12 38 57.5	+0.9
MERV				eS	Sn	12 39 51.4	+0.4
TAMC	Tame, Arauca	4.98	194	P	Pn	12 39 00.8	+0.6
TAMC				S	Sn	12 39 59.3	+1.8
BARC	Barichara	5.33	209	P	Pn	12 39 06.9	+1.8
CACV	CAICARA DEL OR	5.48	132	eS	Sb	12 40 19.6	-7.3
ZARC	Zaragoza, Cauc	5.65	228	P	Pn	12 39 10.0	+0.7
	92nm,0.6s,1μm						
ZARC				S	Sn	12 40 14.7	+0.8
	92nm,0.6s,1μm						
RUSC	La Rusia	5.91	205	Pn	Pn	12 39 12.4	-0.9
RUSC	La Rusia	5.91	205	P	Pn	12 39 14.2	+0.9
	38nm,0.5s,741nm						
RUSC				S	Sn	12 40 24.0	+3.0
	38nm,0.5s,741nm						
PCRV	Puerto La Cruz	5.99	100	eP	Pn	12 39 15.6	+1.6
PCRV				eS	Sn	12 40 21.3	-1.0
PCRV	Puerto La Cruz	5.99	100	Pn	Pn	12 39 15.9	+1.9
	12nm,0.3s,baz=291,slow=3.8,SNR=78						
PCRV				Sn	Sn	12 40 21.4	-1.0
	baz=276,slow=14						
	26nm,0.3s						
PTBC	PUERTO BERRIO,	6.07	219	P	Pn	12 39 15.0	-0.1
	28nm,0.4s,664nm						
PTBC				S	Sn	12 40 27.4	+3.1
	28nm,0.4s,664nm						
SPBC	San Pablo de B	6.58	212	P	Pn	12 39 23.5	+1.3
	47nm,0.6s,970nm						
SPBC				S	Sn	12 40 39.4	+2.4
	47nm,0.6s,970nm						
APAC	Apartado, Choc	6.78	241	P	Pn	12 39 27.9	+3.0
	35nm,0.9s						
HELC	Santa Helena	7.03	224	P	Pn	12 39 30.9	+2.3
	31nm,0.5s,654nm						
HELC				S	Sn	12 40 48.5	0.0
	31nm,0.5s,654nm						
NORC	Norcasia	7.09	217	P	Pn	12 39 29.6	+0.4
NORC				S	Sn	12 40 48.9	-0.7
CAPC	Capurgana	7.14	249	P	Pn	12 39 29.5	-0.4
	47nm,1.4s						
CAPC				S	Sn	12 40 46.5	-4.3
	47nm,1.4s						
PTGC	Puerto Gaitan,	7.22	192	P	Pn	12 39 32.6	+1.6
CHIC	Chingaza	7.32	205	P	Pn	12 39 33.6	+1.0
CHIC				S	Sn	12 40 55.6	-0.1
PAPH	Port-au-Prince	7.35	347	Pn	Pn	12 39 33.0	+0.2
MLPR	Magueyes Islan	7.47	27	Pn	Pn	12 39 34.4	0.0
CRPR	Cabo Rojo, PR	7.47	27	Pn	Pn	12 39 35.1	+0.7
GUY2C	Guyana, Caldas	7.66	218	P	Pn	12 39 39.2	+1.9
GUY2C				S	Sn	12 41 04.5	+0.4
SDDR	Presa de Saban	7.66	355	Pn	Pn	12 39 39.5	+2.5
SDDR	Presa de Saban	7.66	355	P	Pn	12 39 40.1	+3.1
SDDR				S	Sn	12 41 07.4	+3.9

OBIP	Obispado Ponce	7.74	30	Pn	Pn	12 39 37.6	-0.5
VILC	Villavicencio,	7.77	203	P	Pn	12 39 31.9	-6.7
VILC				P	Pn	12 39 32.0	-6.6
VILC				P	Pn	12 39 32.4	-6.2
CELP	Cerrillos	7.78	30	Pn	Pn	12 39 37.7	-0.9
AOPR	Arecibo Observ	7.93	28	Pn	Pn	12 39 41.2	+0.5
SJG	San Juan	8.03	32	Pn	Pn	12 39 41.7	-0.3
	4.2nm,0.3s,baz=260,slow=14,SNR=1.8						
SJG				Sn	Sn	12 41 04.8	-7.7
	4.1nm,0.3s,baz=24,slow=21,SNR=1.8						
	9.5nm,0.3s						
EMPR	Esperanza - Ma	8.15	29	Pn	Pn	12 39 44.8	+1.2
PRAC	Prado	8.65	210	P	Pn	12 39 51.1	+0.5
PRAC				S	Sn	12 41 28.1	+0.1
URMC	La Uribe, Meta	8.83	205	P	Pn	12 39 54.0	+0.8
URMC				S	Sn	12 41 33.1	+0.5
BCIP	Isla Barro Col	9.32	258	Pn	Pn	12 39 59.2	-0.5
MTDJ	Mount Denham	9.59	317	Pn	Pn	12 40 04.5	+0.9
GTBY	Guantanamo Bay	9.60	334	Pn	Pn	12 40 04.6	+1.0
NMDO	Nuevo Mundo	10.11	336	Pn	Pn	12 40 11.3	+0.7
GRTK	Grand Turk	10.16	357	Pn	Pn	12 40 12.5	+1.3
CHIV	Chivirico	10.27	328	Pn	Pn	12 40 13.0	+0.3
BOAV	Boa Vista	13.37	131	Pn	Pn	12 40 54.1	-1.1
JTS	Las Juntas de	14.12	267	LR	LR	12 47 40.1	
	comp=Z,52nm,18.6s,baz=66,slow=42						
MTO3	Montecristo	18.53	282	P	P	12 42 02.0	-0.2
CZSB	Cruzeiro do Su	19.03	186	P	P	12 42 06.2	-1.3
CZSB				IAmb	IAmb	12 42 14.8	
	comp=Z,35nm,1.0s						
ATAH	Atahualpa	19.89	203	LR	LR	12 50 28.8	
	comp=Z,112nm,19.9s,baz=51,slow=38						
ETMB	Extrema	21.44	168	P	P	12 42 32.9	-0.7
SAML	Samuel	21.44	160	P	P	12 42 32.8	-0.9
553A	Crawfordville	22.76	328	P	P	12 42 47.3	-0.4
JSC	Jenkinsville	24.85	339	P	P	12 43 06.5	-1.3
JSC				IAmb	IAmb	12 43 09.6	
	comp=Z,11nm,0.9s						
VILB	Vilhena	26.23	156	P	P	12 43 20.1	-0.4
VILB				IAmb	IAmb	12 43 20.7	
	comp=Z,6.5nm,0.5s						
LCAR	Lake Charles	30.87	326	P	P	12 44 02.8	+1.1
WHAR	Wooly Hollow	30.94	324	P	P	12 44 02.8	+0.5
WHAR				IAmb	IAmb	12 44 31.1	
	comp=Z,9.6nm,1.4s						
WMOK	Wichita Mounta	34.65	317	P	P	12 44 35.5	+0.7
SDCO	Great Sand Dun	40.84	316	P	P	12 45 26.9	-0.5
P18A	Preston Nutter	44.99	316	P	P	12 46 02.6	+1.5
P18A				IAmb	IAmb	12 46 17.1	
	comp=Z,3.1nm,1.0s						
MTPU	Mount Pierson	45.65	313	P	P	12 46 08.3	+1.8
BSUT	Blindstream Ca	45.77	317	P	P	12 46 06.8	-0.6
BSUT				IAmb	IAmb	12 46 20.5	
	comp=Z,8.1nm,1.4s						
PDAR	Pinedale Array	46.08	320	P	P	12 46 09.8	+0.2
	comp=Z,0.2nm,0.5s,baz=126,slow=9.2,SNR=4.4						
	comp=Z,0.2nm,0.5s						
HWUT	Hardware Ranch	46.81	318	P	P	12 46 16.3	+1.1
HWUT				IAmb	IAmb	12 46 20.6	
	comp=Z,2.9nm,0.7s						
NVAR	Mina Array Bea	50.27	311	P	P	12 46 40.9	-1.1
NVAR	Mina Array Bea	50.27	311	P	P	12 46 42.3	+0.2
	comp=Z,0.5nm,0.6s,baz=112,slow=7.1,SNR=5.8						
	comp=Z,0.5nm,0.6s						
FCC	Fort Churchill	50.57	344	P	P	12 46 43.8	+0.1
H04A	Detroit Lake	55.15	317	P	P	12 47 18.2	+0.4
H04A				IAmb	IAmb	12 47 19.3	
	comp=Z,1.9nm,0.5s						
CLRS	Cowichan Lake	57.88	321	P	P	12 47 36.5	-0.6
BORG	Borgarnes	63.23	21	P	P	12 48 14.7	+1.4
H31M	Peel River	69.12	337	P	P	12 48 52.6	+1.4
M30M	Minto, Yukon	69.14	333	P	P	12 48 49.6	-1.7
M30M				IAmb	IAmb	12 49 15.4	
	comp=Z,4.9nm,1.2s						
F31M	Tsiigehtchic	69.46	338	P	P	12 48 53.3	+0.1
F31M				IAmb	IAmb	12 49 14.1	
	comp=Z,3.3nm,1.3s						
G31M	Satah River	69.47	338	P	P	12 48 54.0	+0.7
INK	Inuvik	69.70	339	P	P	12 48 55.1	+0.4
INK				IAmb	IAmb	12 49 05.5	
	comp=Z,3.6nm,1.4s						
G30M	tAoh Zraii Nji	70.22	338	P	P	12 48 58.7	+0.7
TORD	Torodi Ar. Bea	70.47	80	P	P	12 49 00.5	+0.1
	comp=Z,0.3nm,0.4s,baz=290,slow=7.5,SNR=2.5						
	comp=Z,0.3nm,0.4s						
DAWY	Dawson	70.66	334	P	P	12 49 01.5	+0.8
DAWY				IAmb	IAmb	12 49 24.1	
	comp=Z,5.2nm,1.4s						
H29M	Whitestone	70.81	337	P	P	12 49 02.9	+1.3
G29M	Pine Creek	70.87	337	P	P	12 49 03.0	+1.0
G29M				IAmb	IAmb	12 49 03.8	
	comp=Z,3.6nm,0.8s						
I28M	Miner Creek	71.23	336	P	P	12 49 05.5	+1.2
I28M				IAmb	IAmb	12 49 25.2	
	comp=Z,4.8nm,1.4s						
E29M	Blow River	71.26	339	P	P	12 49 05.1	+0.9
E29M				IAmb	IAmb	12 49 14.2	
	comp=Z,3.4nm,1.1s						
M27K	Edge Creek, AK	71.38	332	P	P	12 49 06.5	+1.3
BCAR	Beaver Creek A	71.48	333	P	P	12 49 06.7	+1.0
F28M	Old Crow	71.76	338	P	P	12 49 08.1	+0.8
F28M				IAmb	IAmb	12 49 08.8	
	comp=Z,2.3nm,0.9s						
E28M	Babbage River	71.90	339	P	P	12 49 08.2	+0.1
E28M				IAmb	IAmb	12 49 08.5	
	comp=Z,1.6nm,0.7s						
E27K	Coleen River	72.53	338	P	P	12 49 12.6	+0.7
E27K				IAmb	IAmb	12 49 22.1	
	comp=Z,3.9nm,1.4s						
BMAR	Burnt Mountain	73.48	337	P	P	12 49 18.7	+1.1
ILAR	Eielson Array	73.99	334	P	P	12 49 20.1	-0.4
	comp=Z,0.3nm,0.5s,baz=93,slow=4.9,SNR=5.2						
	comp=Z,0.3nm,0.5s						
D25K	Kavik River	74.46	339	P	P	12 49 24.1	+0.8
F24K	Squaw Lake	74.75	337	P	P	12 49 26.4	+1.4
I23K	Minto, Yukon-K	75.08	335	P	P	12 49 27.5	+0.6
I23K				IAmb	IAmb	12 49 52.1	
	comp=Z,3.7nm,1.4s						
TOLK	Toolik Lake Re	75.52	338	P	P	12 49 30.2	+0.8
TOLK				IAmb	IAmb	12 49 32.4	
	comp=Z,7.2nm,1.5s						
M20K	Styx River	76.58	331	P	P	12 49 36.4	+0.8
M20K				IAmb	IAmb	12 50 02.7	
	comp=Z,3.5nm,1.1s						
IMAR	Indian Mountai	76.95	335	P	P	12 49 38.1	+0.6
E21K	Killik River	77.11	338	P	P	12 49 38.7	+0.3
ASAR	Alice Springs	153.63	239	PKPbc	PKiKP	12 57 46.3	+1.3
	comp=Z,0.9nm,1.3s,baz=120,slow=2.8,SNR=1.3						
WRA	Warramunga Arr	154.51	247	PKPbc	PKPbc	12 57 44.9	-2.0
	comp=Z,0.3nm,0.7s,baz=101,slow=4.7,SNR=1.3						

*ATH **20** 13:11:10.8, 37°.15N×20°.47E, h10km±3km, ML3.9/2, Error ellipse: s-maj=3.4km s-min=1.4km az=35.0*
*THE **20** 13:11:11.9, 37°.19N×20°.58E, h10km±1km, ML3.5/7, Error ellipse: s-maj=2.0km s-min=0.8km az=236.0*
ISC 20 13:11:11.1±2.0, 37°.17N±0°.06×20°.54E±0°.07, h10km±10km, n18, σ0°58/31, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.54	24	P	Pg	13 11 21.7	0.0
KRI1				S	Sg	13 11 29.3	+0.5
	9μm,0.3s						
LTHK	Lithakia	0.59	23	P	Pg	13 11 22.3	-0.3
LTHK				S	Sg	13 11 30.7	+0.3
	11μm,0.4s						
LTHK	Lithakia	0.59	23	P	Pg	13 11 22.3	-0.3
LTHK				S	Sg	13 11 30.8	+0.3
LTHK				AML	AML	13 11 31.2	
	comp=N,26514μm,0.4s						
LTHK				AML	AML	13 11 31.4	
	comp=E,14921μm,0.4s						
RTZL	Ratzakli, Kefa	0.93	11	P	Pg	13 11 28.4	-0.6
RTZL				S	Sg	13 11 41.5	+0.4
	comp=E,1μm,0.8s						
PSDA	Pessada-Kefalo	0.95	2	P	Pg	13 11 29.5	+0.1
PSDA				S	Sn	13 11 43.6	-0.4
	comp=E,3μm,0.6s						
PYL	PYLOS	1.00	105	P	Pg	13 11 29.5	-0.8
PYL				S	Sb	13 11 44.9	+1.3
PYL	PYLOS	1.00	105	P	Pg	13 11 30.1	-0.2
PYL				S	Sn	13 11 45.2	-0.1
AMT	Artemida-Makis	1.00	68	P	Pg	13 11 30.8	+0.5
AMT				S	Sn	13 11 45.4	+0.1
AMT				AML	AML	13 11 49.8	
	comp=E,12542μm,0.4s						
AMT				AML	AML	13 11 51.6	
	comp=N,18488μm,0.4s						
DMLN	Damoulianata-K	1.08	353	P	Pb	13 11 32.2	+0.3
DMLN				S	Sn	13 11 47.2	-0.1
	comp=N,5μm,0.6s						
DMLN	Damoulianata-K	1.08	353	P	Pg	13 11 31.8	0.0
ITM	Ithomi	1.11	89	P	Pb	13 11 32.2	-0.1
ITM				S	Sb	13 11 47.9	+1.1
	comp=N,1μm,0.5s						
ITM	Ithomi	1.11	89	P	Pb	13 11 32.1	-0.2
ITM				S	Sn	13 11 48.1	+0.2
RLS	Riolos of Patr	1.15	39	P	Pb	13 11 32.2	-0.9
RLS	Riolos of Patr	1.15	39	P	Pb	13 11 32.3	-0.9
DRO	Drossia	1.22	49	P	Pn	13 11 33.2	-1.0
DRO				S	Sb	13 11 49.7	-0.3
	comp=N,3μm,0.4s						
DRO	Drossia	1.22	49	P	Pn	13 11 33.4	-0.8
FSK	Fiskardo	1.29	1	P	Pn	13 11 35.3	+0.2
KLV	Kalavryta, Ach	1.55	55	P	Pn	13 11 38.9	+0.1
KLV				S	Sn	13 11 59.7	+0.7

*IDC **20** 13:24:40.6±1.1, 7°.03S×125°.70E, h506km±18km, mb3.1/9, mbtmp4.0/15, Error ellipse: s-maj=26.8km s-min=16.4km az=54.0*
*NEIC **20** 13:24:41.1±1.5, 6°.92S±0°.08×125°.7E±0°.2, h504km±13km, mb4.0/11, Error ellipse: s-maj=29.8km s-min=11.3km az=85.0*
ISC 20 13:24:40.9±0.6, 7°.05S±0°.07×125°.7E±0°.1, h511km, n34, σ0°91/37, mb3.5/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	Soe	3.04	208	P	P	13 25 53.8	+0.6
SOEI				S	S	13 26 50.2	-1.8
BATI	Baumata	3.73	212	P	P	13 25 59.0	+1.0
	50nm,0.4s,baz=16,slow=1.7,SNR=7.3						
BATI				S	S	13 26 58.4	-2.4
	34nm,0.4s,baz=72,slow=9.6,SNR=2.6						
KAPI	Kappang	6.25	289	P	P	13 26 21.5	+1.3
	7.3nm,0.4s,baz=198,slow=16,SNR=4.5						
MTN	Manton Dam	7.87	138	P	P	13 26 37.0	+0.7
KNRA	Kununurra	9.09	161	P	P	13 26 50.1	+1.3
FITZ	Fitzroy Crossi	10.99	180	P	P	13 27 09.8	+1.1
FITZ	Fitzroy Crossi	10.99	180	P	P	13 27 09.2	+0.5
	4.0nm,0.4s,baz=16,slow=13,SNR=29						
FITZ				S	S	13 29 09.3	-1.1
	2.7nm,0.8s,baz=167,slow=12,SNR=2.3						
WB0	Warramunga Arr	15.21	147	P	P	13 27 53.0	-0.2
WB0				IAmb	IAmb	13 27 56.2	
	comp=Z,3.4nm,0.9s						
WRAB	Tennant Creek	15.32	148	P	P	13 27 54.1	-0.2
WRAB				IAmb	IAmb	13 28 36.5	
	comp=Z,9.4nm,1.4s						
WRA	Warramunga Arr	15.32	148	P	P	13 27 53.6	-0.8
WRA	Warramunga Arr	15.32	148	P	P	13 27 54.0	-0.3
	comp=Z,2.4nm,1.0s,baz=337,slow=9.0,SNR=38						
JAY	Jayapura	15.62	74	P	P	13 27 57.4	-0.1
	comp=Z,26nm,1.2s,baz=212,slow=15,SNR=2.6						
AS31	Alice Springs	18.31	155	P	P	13 28 23.2	-0.5
AS31				IAmb	IAmb	13 28 40.9	
	comp=Z,2.8nm,1.4s						
ASAR	Alice Springs	18.31	155	P	P	13 28 23.9	+0.3
ASAR	Alice Springs	18.31	155	P	P	13 28 24.8	+1.1
	comp=Z,0.4nm,0.5s,baz=344,slow=12,SNR=12						
COEN	Coen	18.50	113	P	P	13 28 25.7	+0.3
COEN				IAmb	IAmb	13 28 53.6	
	comp=Z,16nm,1.4s						
STKA	Stephens Creek	28.82	151	P	P	13 29 57.7	+0.4
TWG	Pinlang	30.02	351	P	P	13 30 06.3	-1.6
TPUB	Ta-pu	30.56	351	P	P	13 30 11.6	-1.0
CMAR	Chiang Mai Arr	36.59	314	P	P	13 31 04.5	+1.0
	comp=Z,0.4nm,0.4s,baz=150,slow=7.3,SNR=1.4						
	comp=Z,0.4nm,0.4s						
MJAR	Matsushiro Arr	44.92	14	P	P	13 32 09.1	-0.6
	comp=Z,1.1nm,0.6s,baz=186,slow=9.8,SNR=2.6						
	comp=Z,1.1nm,0.6s						
USRK	Ussuriysk Ar.	51.32	6	P	P	13 32 56.6	-0.8
	comp=Z,0.9nm,0.6s,baz=187,slow=7.5,SNR=1.9						
	comp=Z,0.9nm,0.6s						
SONM	Songino Array	57.24	345	P	P	13 33 40.1	+0.8
	comp=Z,0.4nm,0.4s,baz=120,slow=8.5,SNR=2.2						
	comp=Z,0.4nm,0.4s						
PETK	Petropavlovsk-	65.78	21	P	P	13 34 36.1	+1.2
PETK	Petropavlovsk-	65.78	21	P	P	13 34 35.1	+0.3
	comp=Z,2.6nm,0.9s,baz=226,slow=3.3,SNR=5.0						
	comp=Z,2.6nm,0.9s						
MK31	Makanchi Array	65.99	329	P	P	13 34 36.7	+0.3
MK31				IAmb	IAmb	13 34 52.7	
	comp=Z,7.9nm,1.2s						
MKAR	Makanchi Array	65.99	329	P	P	13 34 36.8	+0.4
MKAR	Makanchi Array	65.99	329	P	P	13 34 36.5	+0.1
	comp=Z,0.4nm,0.4s,baz=119,slow=7.9,SNR=8.2						
	comp=Z,0.4nm,0.4s						
ZAA0	Zalesovo Array	69.80	336	P	P	13 34 59.0	-0.4
ZAA0				IAmb	IAmb	13 35 00.0	
	comp=Z,2.3nm,0.8s						
ZALV	Zalesovo Beam	69.80	336	P	P	13 34 58.9	-0.5
ZALV	Zalesovo Beam	69.80	336	P	P	13 34 59.1	-0.3
	comp=Z,1.4nm,0.4s,baz=137,slow=5.0,SNR=8.0						
	comp=Z,1.4nm,0.4s						
KURBB	Kurchatov Arra	70.37	330	P	P	13 35 02.8	-0.1
	comp=Z,0.4nm,0.3s,baz=147,slow=4.9,SNR=6.0						
	comp=Z,0.4nm,0.3s						
BVAR	Borovoye Array	75.87	329	P	P	13 35 34.2	-0.2
	comp=Z,0.5nm,0.4s,baz=126,slow=7.4,SNR=3.6						
	comp=Z,0.5nm,0.4s						
TIXI	Tiksi	78.56	1	P	P	13 35 48.7	+0

KK31				Pg	**Pb**	**13 43 05.5**	**-0.3**
	2.6nm,0.3s,baz=195,slow=18,SNR=9.0						
KK31				Lg	Lg	13 43 43.3	
	34nm,0.5s,baz=185,slow=26,SNR=21						
KKAR	**Karatay Array**	**3.00**	**5**	⇑*i*P	**Pn**	**13 43 00.0**	**+1.0**
KKAR				⇑*i*S	**Sn**	**13 43 34.4**	**+0.2**
AML	**Almayashu**	**3.35**	**52**	⇓*i*P	**Pn**	**13 43 04.4**	**+0.3**
AML				⇓*i*S	**Sn**	**13 43 42.2**	**-1.1**
MRKS	**Merke**	**3.50**	**40**	Pg	**Pb**	**13 43 14.2**	**-0.1**
	3.6nm,0.3s						
MRKS				Lg	Lg	13 44 00.3	
	18nm,0.3s						
MRKS	**Merke**	**3.50**	**40**	*e*P	**Pb**	**13 43 14.2**	**-0.1**
	0.8nm,0.1s						
MRKS				*e*S	**Sb**	**13 44 00.3**	**+3.9**
	18nm,0.3s						
ARLS	**Aral**	**3.60**	**60**	⇓*i*P	**Pn**	**13 43 07.7**	**+0.3**
ARLS				⇓*i*S	**Sn**	**13 43 47.8**	**-1.5**
EKS2	**Erkin-Say**	**3.73**	**46**	⇑*i*P	**Pn**	**13 43 09.7**	**+0.6**
EKS2				⇑*i*S	**Sn**	**13 43 51.1**	**-1.2**
AAK	**Ala-Archa**	**4.12**	**51**	⇓*i*P	**Pn**	**13 43 15.0**	**+0.4**
AAK				⇓*i*S	**Sn**	**13 44 00.4**	**-1.7**
FRU1	**Bishkek**	**4.31**	**50**	⇑*i*P	**Pn**	**13 43 17.6**	**+0.6**
FRU1				⇑*i*S	**Sn**	**13 44 05.0**	**-1.5**
KBK	**Karagaybulak**	**4.41**	**53**	⇑*i*P	**Pn**	**13 43 19.1**	**+0.6**
KBK				⇑*i*S	**Sn**	**13 44 07.5**	**-1.7**
CHMS	**Chumysh**	**4.49**	**49**	⇑Pg	**Pb**	**13 43 34.8**	**+3.7**
	2.9nm,0.5s						
CHMS				⇑Lg	Lg	13 44 32.8	
	7.6nm,0.7s						
USP	**Ospenovka**	**4.53**	**44**	⇑*i*P	**Pn**	**13 43 20.7**	**+0.7**
USP				⇑*i*S	**Sn**	**13 44 10.2**	**-1.7**
TKM2	**Tokmak 2**	**4.95**	**54**	⇑Pg	Pb	13 43 46.7	+7.6
	1.2nm,0.3s						
TKM2				⇑Lg	Lg	13 44 50.9	
	4.6nm,0.8s						
TKM2	**Tokmak 2**	**4.95**	**54**	⇑*i*P	**Pn**	**13 43 26.6**	**+0.6**
TKM2				⇑*i*S	**Sn**	**13 44 20.3**	**-2.3**
BOOM	**Boomskoye usch**	**4.96**	**60**	⇑*i*P	**Pn**	**13 43 26.6**	**+0.5**
BOOM				⇑*i*S	**Sn**	**13 44 20.4**	**-2.3**
ULHL	**Ulahol**	**5.06**	**63**	⇑*e*P	**Pn**	**13 43 27.9**	**+0.4**
ULHL				⇑*i*S	**Sn**	**13 44 22.9**	**-2.4**
KST	**Kastek**	**5.25**	**54**	*e*P	**Pb**	**13 43 47.0**	**+2.9**
	0.3nm,0.1s						
KST				*e*S	Sb	13 44 57.1	+10
	7.7nm,0.3s						

ISU 20 13:42:58.6, 40°.20N×70°.04E, h15km, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MINT	**Mingtut**	**0.76**	**69**	P	Pg	13 43 13.3	-0.2
MINT				S	Sb	13 43 23.9	+0.1
YNGY	**Yangiyul**	**1.19**	**320**	P	Pn	13 43 20.7	0.0
YNGY				S	Sg	13 43 37.0	0.0
KUMR	**Kumaryk**	**1.20**	**331**	P	Pn	13 43 20.8	0.0
KUMR				S	Sg	13 43 37.1	-0.2
TAS	**Tashkent**	**1.26**	**333**	P	Pb	13 43 22.2	+0.1
TAS				S	Sg	13 43 39.6	+0.3
TGS	**TashGRES**	**1.28**	**342**	P	Pb	13 43 22.9	+0.4
TGS				S	Sg	13 43 40.9	+0.8
FRG	**Fergana**	**1.34**	**82**	P	Pb	13 43 23.8	+0.2
FRG				S	Sg	13 43 42.3	+0.3
NAM	**Namangan**	**1.46**	**57**	P	Pb	13 43 25.5	-0.1
NAM				S	Sg	13 43 45.4	-0.4
KSNS	**Kasansay**	**1.48**	**49**	P	Pb	13 43 25.8	0.0
KSNS				S	Sg	13 43 45.8	-0.5
BXML	**Bakhmal**	**1.63**	**252**	P	Pg	13 43 31.9	+2.0
BXML				S	Sg	13 43 56.2	+5.1
DZI	**Dzhizak**	**1.70**	**268**	P	Pb	13 43 29.6	0.0
DZI				S	Sg	13 43 52.5	-0.9
PSK	**Pskem**	**1.74**	**8**	P	Pb	13 43 30.5	+0.1
PSK				S	Sg	13 43 54.1	-0.7
AGL	**Agalyk**	**2.53**	**255**	P	Pb	13 43 42.7	-1.0
AGL				S	Sb	13 44 16.7	+2.1
NUT	**Nurota**	**3.35**	**277**	P	Pb	13 43 54.5	-3.2
NUT				S	Sb	13 44 38.2	-0.1

*ATH **20** 13:58:57.3, 37°.53N×20°.50E, h16km±2km, ML2.9/4, Error ellipse: s-maj=3.3km s-min=1.1km az=27.0*
*THE **20** 13:58:59.4, 37°.53N×20°.70E, h15km±2km, ML3.0/4, Error ellipse: s-maj=5.2km s-min=1.1km az=70.0*
ISC 20 13:58:58.1±1.8, 37°.53N±0°.06×20°.59E±0°.07, h15km±8km, n13, σ0§51/24, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.22**	**54**	P	**Pg**	**13 59 02.9**	**-0.2**
KRI1				S	**Sg**	**13 59 06.8**	**+0.3**
LTHK	**Lithakia**	**0.27**	**47**	P	**Pg**	**13 59 03.4**	**-0.4**
LTHK				S	**Sg**	**13 59 08.1**	**+0.4**
	9μm,0.3s						
LTHK	**Lithakia**	**0.27**	**47**	P	**Pg**	**13 59 03.8**	**0.0**
LTHK				S	**Sb**	**13 59 08.4**	**-0.5**
LTHK				AML	AML	13 59 08.6	
	comp=E,17459μm,0.1s						
LTHK				AML	AML	13 59 08.7	
	comp=N,14409μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.56**	**15**	P	**Pb**	**13 59 10.3**	**+0.6**
RTZL				S	**Sb**	**13 59 17.7**	**+0.2**
	comp=N,802nm,0.4s						
PSDA	**Pessada-Kefalo**	**0.58**	**360**	P	**Pn**	**13 59 11.3**	**-0.5**
PSDA				S	**Sb**	**13 59 19.2**	**+1.1**
	comp=N,2μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.58**	**360**	P	**Pg**	**13 59 08.8**	**-0.8**
PSDA				S	**Sg**	**13 59 16.9**	**-0.4**
DMLN	**Damoulianata-K**	**0.73**	**346**	P	**Pn**	**13 59 13.7**	**-0.1**
DMLN				S	**Sn**	**13 59 25.0**	**+0.3**
	comp=N,3μm,0.5s						
RLS	**Riolos of Patr**	**0.87**	**53**	P	**Pb**	**13 59 14.1**	**-0.8**
RLS				S	**Sg**	**13 59 27.2**	**+0.8**
RLS				AML	AML	13 59 30.1	
	comp=E,549μm,0.3s						
RLS				AML	AML	13 59 32.1	
	comp=N,556μm,0.3s						
AMT	**Artemida-Makis**	**0.89**	**89**	P	**Pg**	**13 59 15.4**	**+0.1**
AMT				S	**Sn**	**13 59 28.6**	**-0.1**
AMT				AML	AML	13 59 33.5	
	comp=N,3538μm,0.3s						
AMT				AML	AML	13 59 36.0	
	comp=E,5404μm,0.4s						
DRO	**Drossia**	**0.98**	**64**	P	**Pb**	**13 59 16.4**	**-0.4**
PYL	**PYLOS**	**1.12**	**124**	P	**Pb**	**13 59 19.0**	**-0.1**
PYL				S	**Sn**	**13 59 34.4**	**+0.2**
ITM	**Ithomi**	**1.12**	**108**	P	**Pn**	**13 59 19.4**	**+0.2**
ITM				S	**Sb**	**13 59 33.4**	**-0.1**
ITM				AML	AML	13 59 41.3	
	comp=E,486μm,0.4s						
ITM				AML	AML	13 59 44.9	
	comp=N,378μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.19**	**4**	P	**Pb**	**13 59 20.6**	**+0.4**

*GRAL **20** 14:11:33.1±0.3, 33°.34N×35°.27E, h3km±4km, MD2.7*
*GII **20** 14:11:33.7±0.3, 33°.37N±0°.02×35°.37E±0°.01, h0km, confirmed*
ISC 20 14:11:32.5±1.3, 33°.41N±0°.03×35°.40E±0°.06, h0km, n17, σ0§48/20, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRWL	**Qaraoun**	**0.28**	**60**	*e*P	**Pb**	**14 11 40.4**	**-0.1**
QRWL				*e*S	**Sb**	**14 11 45.8**	**+0.1**
SHBL	**Chebaa**	**0.30**	**102**	*e*P	**Pb**	**14 11 40.4**	**-0.5**
SHBL				*e*S	**Sb**	**14 11 45.6**	**-0.8**
GEM	**Giv'at Ha'Em**	**0.30**	**131**	P	**Pb**	**14 11 40.4**	**-0.4**
GEM	**Giv'at Ha'Em**	**0.30**	**131**	S	**Sb**	**14 11 45.9**	**-0.4**
NATI	**Neve Ativ**	**0.32**	**117**	P	**Pb**	**14 11 41.1**	**-0.1**
NATI	**Neve Ativ**	**0.32**	**117**	S	**Sb**	**14 11 47.1**	**+0.2**
DQRL	**Deir Qamar**	**0.33**	**26**	*e*P	**Pb**	**14 11 41.2**	**-0.2**
DQRL				*e*S	**Sb**	**14 11 47.1**	**-0.2**
RCY	**Rachaya**	**0.38**	**77**	*e*P	**Pb**	**14 11 42.0**	**-0.2**
MMA0B	**Mount Meron ar**	**0.39**	**179**	P	**Pb**	**14 11 41.9**	**-0.6**
MMA0B	**Mount Meron ar**	**0.39**	**179**	S	**Sb**	**14 11 48.2**	**-0.8**
KSHT	**Keshet**	**0.55**	**141**	P	**Pb**	**14 11 46.0**	**+0.8**
KSHT	**Keshet**	**0.55**	**141**	S	**Sb**	**14 11 54.2**	**+0.6**
MMLI	**Mount Malkishu**	**0.97**	**179**	P	**Pb**	**14 11 52.2**	**0.0**
MMLI	**Mount Malkishu**	**0.97**	**179**	S	**Sb**	**14 12 05.9**	**+0.3**
HWQ	**Hawqa**	**0.98**	**28**	*e*P	**Pb**	**14 11 52.8**	**+0.3**
HMDT	**Nahal Hemdat**	**1.16**	**174**	P	**Pn**	**14 11 56.0**	**0.0**
HMDT	**Nahal Hemdat**	**1.16**	**174**	S	**Sn**	**14 12 13.0**	**+0.5**

*SOME **20** 14:28:50.7, 42°.20N×78°.55E, h0km*
NNC 20 14:28:51.3±1.1, 42°.16N×78°.69E, h19km±11km, mb3.9, mpv2.5, Error ellipse: s-maj=11.2km s-min=8.7km az=64.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.92**	**347**	P	Pb	14 29 08.8	+0.1
	0.7nm,0.2s						
SATY				S	Sn	14 29 22.0	-0.2
	5.7nm,0.1s						
SATY	**Saty**	**0.92**	**347**	*e*P	Pb	14 29 08.8	+0.1
	0.3nm,0.1s						
SATY				*e*S	Sn	14 29 22.0	-0.2
	8.7nm,0.1s						
UZB	**Uzynbulak**	**1.02**	**14**	P	Pb	14 29 10.4	+0.1
	4.7nm,0.3s						
UZB				S	Sg	14 29 24.5	0.0
	1.0nm,0.1s						
UZB	**Uzynbulak**	**1.02**	**14**	*e*P	Pb	14 29 10.4	0.0
	0.9nm,0.1s						
UZB				*e*S	Sg	14 29 24.5	0.0
	0.9nm,0.1s						
KPKS	**Kokpek**	**1.31**	**360**	P	Pn	14 29 14.4	-0.3
	1.7nm,0.4s						
KPKS				S	Sn	14 29 31.2	-0.4
	1.6nm,0.4s						
KPKS	**Kokpek**	**1.31**	**360**	*e*P	Pn	14 29 14.3	-0.3
	0.1nm,0.0s						
KPKS				*e*S	Sn	14 29 31.3	-0.3
	1.7nm,0.1s						

*THE **20** 14:36:03.2, 37°.50N×20°.58E, h15km±2km, ML2.9/5, Error ellipse: s-maj=2.9km s-min=1.2km az=68.0*
*ATH **20** 14:36:04.0, 37°.53N×20°.57E, h6km±2km, ML2.8/15, Error ellipse: s-maj=2.1km s-min=1.2km az=31.0*
ISC 20 14:36:03.7±2.1, 37°.53N±0°.08×20°.57E±0°.06, h13km±8km, n25, σ0§59/46, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.24**	**56**	P	**Pg**	**14 36 08.5**	**-0.3**
KRI1				S	**Sg**	**14 36 12.8**	**+0.5**
LTHK	**Lithakia**	**0.28**	**49**	P	**Pg**	**14 36 09.1**	**-0.4**
LTHK				S	**Sg**	**14 36 13.8**	**+0.4**
	4μm,0.5s						
LTHK	**Lithakia**	**0.28**	**49**	P	**Pg**	**14 36 09.2**	**-0.3**
LTHK				S	**Sg**	**14 36 13.7**	**+0.2**
LTHK				AML	AML	14 36 14.2	
	comp=E,7645μm,0.4s						
LTHK				AML	AML	14 36 14.3	
	comp=N,7245μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.57**	**16**	P	**Pg**	**14 36 14.4**	**-0.5**
RTZL				S	**Sb**	**14 36 24.1**	**+0.6**
	comp=N,728nm,0.3s						
PSDA	**Pessada-Kefalo**	**0.58**	**1**	P	**Pg**	**14 36 14.8**	**-0.4**
PSDA				S	**Sg**	**14 36 23.4**	**+0.5**
	comp=N,1μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.58**	**1**	P	**Pg**	**14 36 14.9**	**-0.3**
PSDA				S	**Sg**	**14 36 23.6**	**+0.6**
DMLN	**Damoulianata-K**	**0.73**	**348**	P	**Pg**	**14 36 18.2**	**+0.4**
DMLN				S	**Sb**	**14 36 28.9**	**+0.8**
	comp=N,3μm,0.4s						
DMLN	**Damoulianata-K**	**0.73**	**348**	P	**Pg**	**14 36 16.6**	**-1.2**
DMLN				S	**Sg**	**14 36 27.4**	**0.0**
RLS	**Riolos of Patr**	**0.88**	**53**	P	**Pg**	**14 36 19.8**	**-1.0**
RLS				S	**Sg**	**14 36 31.4**	**-1.0**
RLS				AML	AML	14 36 39.4	
	comp=E,445μm,0.6s						
RLS				AML	AML	14 36 45.4	
	comp=N,491μm,0.5s						
AMT	**Artemida-Makis**	**0.90**	**89**	P	**Pn**	**14 36 22.1**	**0.0**
AMT				S	**Sb**	**14 36 33.4**	**+0.2**
AMT				AML	AML	14 36 41.8	
	comp=E,1750μm,0.5s						
AMT				AML	AML	14 36 44.3	
	comp=N,1601μm,0.6s						
FSK	**Fiskardo**	**0.93**	**360**	P	**Pg**	**14 36 20.4**	**-1.3**
FSK				S	**Sb**	**14 36 34.3**	**+0.4**
	comp=N,718nm,0.5s						
FSK	**Fiskardo**	**0.93**	**360**	P	**Pg**	**14 36 20.5**	**-1.2**
FSK				S	**Sb**	**14 36 34.5**	**+0.6**
FSK				AML	AML	14 36 39.2	
	comp=E,1306μm,0.3s						
FSK				AML	AML	14 36 39.7	
	comp=N,1092μm,0.4s						
DRO	**Drossia**	**1.00**	**65**	P	**Pg**	**14 36 22.4**	**-0.6**
DRO				S	**Sb**	**14 36 36.1**	**+0.2**
DRO				AML	AML	14 36 47.3	
	comp=E,845μm,0.5s						
DRO				AML	AML	14 36 48.3	
	comp=N,858μm,0.6s						
EVGI	**Lefkada island**	**1.09**	**3**	P	**Pb**	**14 36 23.4**	**-1.0**
EVGI				S	**Sn**	**14 36 39.6**	**0.0**
NYDR	**Nydri-Lefkada**	**1.19**	**5**	P	**Pg**	**14 36 26.7**	**+0.4**
NYDR				S	**Sg**	**14 36 42.1**	**+0.1**
LKD2	**Lefkada island**	**1.26**	**3**	P	**Pb**	**14 36 27.7**	**+0.4**
LKD2				S	**Sg**	**14 36 44.8**	**+0.4**
LKD2				AML	AML	14 36 50.1	
	comp=N,1015μm,0.6s						
LKD2				AML	AML	14 36 51.2	
	comp=E,1578μm,0.7s						
TSLK	**Tsoukalades, L**	**1.30**	**3**	P	**Pn**	**14 36 27.3**	**-0.2**
TSLK				S	**Sg**	**14 36 45.3**	**-0.2**
TSLK				AML	AML	14 36 50.1	
	comp=E,1375μm,1.1s						
TSLK				AML	AML	14 36 50.9	
	comp=N,1695μm,0.5s						
KLV	**Kalavryta, Ach**	**1.35**	**67**	P	**Pb**	**14 36 29.4**	**+0.4**
KLV				AML	AML	14 36 54.6	
	comp=E,152μm,1.1s						
KLV				AML	AML	14 37 04.7	
	comp=N,151μm,0.5s						
EFP	**Efpalio**	**1.38**	**49**	P	**Pb**	**14 36 29.9**	**+0.5**
EFP				S	**Sg**	**14 36 48.4**	**+0.1**
EFP				AML	AML	14 37 03.5	
	comp=N,235μm,0.4s						
EFP				AML	AML	14 37 04.9	
	comp=E,288μm,0.7s						
GUR	**Goura**	**1.46**	**73**	P	**Pg**	**14 36 31.8**	**0.0**
ANX	**Ano Chora**	**1.50**	**45**	P	**Pb**	**14 36 31.9**	**+0.4**
ANX				S	**Sg**	**14 36 51.3**	**-0.9**
ANX				AML	AML	14 37 02.8	
	comp=N,1054μm,0.6s						
ANX				AML	AML	14 37 04.2	
	comp=E,784μm,0.6s						
KALE	**Kalithea**	**1.51**	**55**	P	**Pb**	**14 36 31.4**	**-0.2**
KALE				S	**Sb**	**14 36 51.1**	**+0.5**
KALE				AML	AML	14 37 04.4	
	comp=N,343μm,0.5s						
KALE				AML	AML	14 37 07.0	
	comp=E,210μm,0.5s						
EVR	**Evrytania**	**1.69**	**35**	P	**Pb**	**14 36 35.6**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.92**	**39**	P	**Pb**	**14 36 38.6**	**-0.1**
MAKR				S	**Sb**	**14 37 02.8**	**+0.2**
MAKR				AML	AML	14 37 11.8	
	comp=E,554μm,1.0s						
MAKR				AML	AML	14 37 11.8	
	comp=N,358μm,1.1s						
THL	**Klokotos Trika**	**2.33**	**29**	P	**Pb**	**14 36 45.9**	**+0.4**

*VIE **20** 15:01:37.8±0.7, 49°.81N×19°.22E, h0km, mb2.6/1, ml2.1/1, Error ellipse: s-maj=8.7km s-min=3.0km az=152.0, Suspected Mining induced.*
*IPEC **20** 15:01:38.5±0.2, 50°.22N×18°.98E, h1km, ML2.1/4, Error ellipse: s-maj=2.5km s-min=1.1km az=166.0*
*PRU **20** 15:01:39.1, 50°.22N×18°.95E, h0km*
ISC 20 15:01:38.0±0.8, 50°.15N±0°.04×18°.93E±0°.02, h0km, n24, σ0§79/44, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.56**	**82**	*e*Pg	**Pg**	**15 01 48.7**	**-0.1**
OJC				*e*Sg	**Sg**	**15 01 55.9**	**-0.1**
OKC	**Ostrava-Krasne**	**0.59**	**239**	*e*PG	**Pb**	**15 01 51.8**	**+0.5**
OKC				*e*SG	**Sb**	**15 01 59.8**	**-0.4**
MORC	**Moravsky Berou**	**0.97**	**248**	*e*Pg	**Pb**	**15 01 58.4**	**+0.7**
	baz=64						
MORC				*e*Sg	**Sb**	**15 02 11.0**	**-0.1**
	45nm,0.4s,baz=64						
LANS	**Liptovska Anna**	**1.06**	**161**	*e*PG	**Pn**	**15 02 00.3**	**+0.2**
LANS				*e*SG	**Sn**	**15 02 15.4**	**-0.1**
LANS				*e*LG	Lg	15 02 19.0	
MAUC	**Maruska**	**1.06**	**223**	*e*PG	**Pn**	**15 02 00.2**	**0.0**
NIE	**Niedzica**	**1.15**	**129**	*e*Pg	**Pn**	**15 02 02.1**	**+0.8**
NIE				*e*Sg	**Sn**	**15 02 19.1**	**+1.3**
KRLC	**Kraliky**	**1.39**	**268**	*e*PG	**Pg**	**15 02 04.4**	**-0.1**
KRLC				*e*SG	**Sn**	**15 02 23.7**	**0.0**
	comp=Z,16nm,0.3s						
VYHS	**Vyhne**	**1.66**	**182**	*e*PN	**Pb**	**15 02 09.2**	**-0.2**
VYHS				*e*SN	**Sg**	**15 02 32.1**	**+0.9**
STHS	**Stebnicka Huta**	**1.67**	**115**	*e*PN	**Pn**	**15 02 08.6**	**+0.1**
STHS				*e*SN	**Sg**	**15 02 31.7**	**+0.2**
STHS				*e*LG	Lg	15 02 38.5	
DPC	**Dobruska-Polom**	**1.69**	**278**	*e*PG	**Pn**	**15 02 09.4**	**+0.6**
DPC				*e*SG	**Sg**	**15 02 33.0**	**+0.8**
	comp=Z,14nm,0.3s						
VRAC	**Vranov**	**1.73**	**242**	*e*Pn	**Pb**	**15 02 10.6**	**-0.1**
	baz=59						
VRAC				*e*Sg	**Sg**	**15 02 34.9**	**+1.3**
	11nm,0.3s,baz=59						
VRAC	**Vranov**	**1.73**	**242**	*e*PN	**Pb**	**15 02 10.7**	**0.0**
VRAC				*e*SG	**Sg**	**15 02 35.0**	**+1.3**
OSTC	**Ostas**	**1.79**	**284**	*e*PG	**Pn**	**15 02 10.6**	**+0.5**
OSTC				*e*SG	**Sg**	**15 02 36.4**	**+1.0**
KSP	**Ksiaz**	**1.82**	**293**	*e*Pg	**Pg**	**15 02 13.2**	**+0.2**
KSP				*e*Sg	**Sg**	**15 02 37.8**	**+1.3**
KECS	**Kecovo**	**1.95**	**148**	*e*SG	**Sg**	**15 02 42.5**	**+1.9**
KECS				*e*LG	Lg	15 02 49.5	
KRUC	**Moravsky**	**1.98**	**238**	*e*Pn	**Pb**	**15 02 14.0**	**-0.8**
	baz=54						
KRUC				*e*Sg	**Sg**	**15 02 42.1**	**+0.7**
	8.6nm,0.4s,baz=54						
KRUC	**Moravsky**	**1.98**	**238**	*e*PN	**Pb**	**15 02 14.1**	**-0.8**
KRUC				*e*SG	**Sg**	**15 02 42.2**	**+0.8**
KOLS	**Kolonicke sedl**	**2.49**	**118**	*e*PG	**Pb**	**15 02 22.7**	**-0.9**
KOLS				*e*SN	**Sn**	**15 02 50.2**	**-0.7**
KOLS				*e*LG	Lg	15 03 00.2	
GOPC	**GO Pecny, Ondr**	**2.68**	**267**	*e*SG	**Sg**	**15 03 03.5**	**-0.6**
PRU	**Pruhonice**	**2.83**	**268**	*e*SG	**Sg**	**15 03 08.0**	**-1.0**
CONA	**Conrad Observa**	**3.00**	**223**	*i* Pn	**Pn**	**15 02 25.5**	**-1.3**
	0.7nm,0.3s						
CONA				*e*Sn	**Sn**	**15 03 02.0**	**-1.6**
	0.9nm,0.2s						
BRG	**Berggiesshubel**	**3.27**	**285**	Pg	**Pg**	**15 02 40.4**	**-0.2**
BRG				Sg	**Sg**	**15 03 22.7**	**-0.2**
BRG				Amp		15 03 29.1	
	comp=Z,4.1nm,0.5s						
CKRC	**Cesky Krumlov**	**3.29**	**248**	*e*SG	**Sg**	**15 03 23.5**	**-0.3**
KHC	**Kasperske Hory**	**3.62**	**256**	*e*PN	**Pn**	**15 02 35.0**	**-0.4**
KHC				*e*PG	**Pb**	**15 02 43.0**	**+0.1**
KHC				*e*SG	**Sg**	**15 03 35.3**	**+0.9**

NNC 20 15:13:20.3±3.0, 37°.04N×71°.40E, h0km, mb3.6, mpv3.2, 5C-1D, Error ellipse: s-maj=23.6km s-min=22.2km az=145.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.10**	**354**	⇑P	Pn	15 14 51.6	-0.1
	1.1nm,0.3s,baz=184,slow=14,SNR=20						
KK31				⇑S	Sn	15 16 03.5	+1.4
	2.5nm,0.6s,baz=178,slow=24,SNR=6.5						
CHMS	**Chumysh**	**6.49**	**22**	⇑P	Pn	15 14 57.2	+0.1
	1.0nm,0.5s						
CHMS				⇑S	Sn	15 16 13.3	+1.5
	3.0nm,0.6s						
TKM2	**Tokmak 2**	**6.70**	**27**	⇑P	Pn	15 15 00.3	+0.1
	0.6nm,0.5s						
TKM2				⇓S	Sn	15 16 18.0	+0.6
	1.8nm,0.9s						

*IDC **20** 15:24:12.7±1.1, 12°.38S×41°.39E, h0km, mb3.8/5, mbtmp3.9/6, ML4.6/1, MS2.7/4, Error ellipse: s-maj=35.3km s-min=25.8km az=68.0*
*NEIC **20** 15:24:13.1±1.9, 12°.24S±0°.07×41°.3E±0°.1, h10km±1km, mb4.6/7, Error ellipse: s-maj=17.7km s-min=12.1km az=82.0*
ISC 20 15:24:12.8±0.6, 12°.30S±0°.07×41°.28E±0°.08, h10km, n23, σ1§54/22, mb3.9/5, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**8.44**	**138**	Pn	**Pn**	**15 26 15.7**	**+0.2**
	0.8nm,0.3s,baz=295,slow=15,SNR=61						
OPO				Sn	**Sn**	**15 27 48.0**	**-2.9**
	0.5nm,0.3s,baz=222,slow=12,SNR=3.8						
OPO				LR	LR	15 28 50.7	
	comp=Z,52nm,20.3s,baz=8.5,slow=33						
	16nm,0.3s						
ABPO	**Ambohimpanom**	**8.80**	**140**	Pn	**Pn**	**15 26 21.9**	**+1.6**
KIBK	**Kibwezi**	**10.40**	**342**	Pn	**Pn**	**15 26 40.3**	**-2.0**
VOI	**Vohitsoka**	**10.91**	**152**		Pn	15 26 40.5	-8.8
KMBO	**Kilima Mbogo**	**11.80**	**340**	Pn	**Pn**	**15 26 59.6**	**-1.9**
KMBO	**Kilima Mbogo**	**11.80**	**340**	Pn	**Pn**	**15 26 59.3**	**-2.2**
	0.3nm,0.3s,baz=169,slow=11,SNR=2.1						
KMBO				Sn	Sn	15 29 02.4	-11
	0.4nm,0.3s,baz=71,slow=22,SNR=2.5						
KMBO				LR	LR	15 31 23.8	
	comp=Z,38nm,18.9s,baz=104,slow=36						
LSZ	**Lusaka**	**13.05**	**255**	Pn	**Pn**	**15 27 18.3**	**-0.3**
FOMA	**Nahampoana Res**	**13.71**	**158**	Pn	**Pn**	**15 27 27.2**	**-0.1**
MATP	**Matopo**	**14.67**	**235**	Pn	**P**	**15 27 46.4**	**-0.7**
	0.1nm,0.3s,baz=50,slow=12,SNR=1.7						
RER	**Riviere de l'E**	**16.41**	**124**	P	**P**	**15 28 05.3**	**-0.9**
RER				IAmb	IAmb	15 28 30.6	
	comp=Z,69nm,1.1s						
LBTB	**Lobatse**	**19.48**	**227**	Pn	**Pn**	**15 28 41.8**	**+0.4**
FURI	**Furi**	**21.22**	**353**	LR	LR	15 38 19.7	
	comp=Z,22nm,18.9s,baz=100,slow=40						
BOSA	**Boshof**	**22.06**	**220**	P	**P**	**15 29 09.2**	**+1.1**
BOSA				IAmb	IAmb	15 29 23.2	
	comp=Z,31nm,1.5s						
BOSA	**Boshof**	**22.06**	**220**	P	**P**	**15 29 09.2**	**+1.1**
	comp=Z,4.8nm,1.0s,baz=44,slow=13,SNR=2.5						
BOSA				LR	LR	15 38 12.4	
	comp=Z,17nm,19.4s,baz=28,slow=38

ERM	**Erimo**	**0.43**	**94**	Pn	**Pn**	**15 38 42.7**	**-0.3**
ERM				Sn	**Sn**	**15 38 51.3**	**-0.2**
JEM	**Erimo**	**0.43**	**94**	P	**Pn**	**15 38 42.9**	**-0.2**
JEM				eS	**Sn**	**15 38 51.8**	**+0.2**
JTHR	**Tokachihiroo**	**0.59**	**65**	P	**Pn**	**15 38 44.5**	**-0.2**
JTHR				eS	**Sn**	**15 38 54.6**	**+0.2**
JBT2	**Biratori 2**	**0.75**	**348**	⇓P	**Pn**	**15 38 46.0**	**-0.5**
JBT2				⇓eS	**Sn**	**15 38 57.4**	**-0.3**
JIAM	**Iburiatsuma**	**0.76**	**320**	⇓P	**Pn**	**15 38 46.9**	**+0.4**
JIAM				⇓eS	**Sn**	**15 38 58.2**	**+0.5**
JCH	**Churui**	**0.81**	**45**	eP	**Pn**	**15 38 47.0**	**-0.2**
JCH				eS	**Sn**	**15 38 59.0**	**0.0**
JFR	**Furan**	**1.12**	**1**	eP	**Pn**	**15 38 50.8**	**-0.4**
JEW	**Eniwo**	**1.15**	**314**	⇓eP	**Pn**	**15 38 51.5**	**-0.1**
JEW				⇓eS	**Sn**	**15 39 07.7**	**+1.0**
JKB	**Kayabe**	**1.16**	**263**	⇓eP	**Pn**	**15 38 51.0**	**-0.7**
JKB				⇓S	**Sn**	**15 39 05.9**	**-1.0**
JNB	**Noboribetsu**	**1.22**	**291**	eP	**Pn**	**15 38 51.4**	**-1.1**
JOB	**Onbets**	**1.27**	**47**	eP	**Pn**	**15 38 53.9**	**+0.9**
JOB				eS	**Sn**	**15 39 11.0**	**+1.7**
JTM	**Tenmabayashi**	**1.69**	**223**		**Pn**	**15 38 59.0**	**+0.2**
JTM				Sn	**Sn**	**15 39 20.5**	**+1.0**
JKA	**Kamikawa-asahi**	**2.07**	**0**		**Pn**	**15 39 04.6**	**+0.7**
JMM	**Marumori**	**4.39**	**199**	Pn	**Pn**	**15 39 35.1**	**-0.4**
YSS	**Yuzh-Sakhalins**	**4.91**	**1**	Pn	**Pn**	**15 39 42.6**	**0.0**
JSD	**Sado**	**5.20**	**221**	Pn	**Pn**	**15 39 47.9**	**+1.4**
MJAR	**Matsushiro Arr**	**6.46**	**213**	Pn	**Pn**	**15 40 05.4**	**+1.6**
	baz=48,slow=11,SNR=2.2						
	0.8nm,0.5s						
USRK	**Ussuriysk Ar.**	**8.04**	**289**	Pn	**Pn**	**15 40 27.2**	**+1.8**
	0.1nm,0.3s,baz=91,slow=12,SNR=4.1						
	2.8nm,0.7s						
KSRS	**Korea Array**	**12.17**	**253**	Pn	**Pn**	**15 41 25.5**	**+3.6**
	0.1nm,0.3s,baz=67,slow=13,SNR=3.3						
KSRS				LR	LR	15 45 35.6	
	comp=Z,11nm,19.9s,baz=70,slow=34						
	1.3nm,0.6s						
JOW	**Kunigami**	**19.18**	**222**	P	**P**	**15 42 49.0**	**-0.8**
TATO	**Taipei**	**24.37**	**232**	P	**P**	**15 43 43.0**	**-0.4**
SONM	**Songino Array**	**26.09**	**295**	P	**P**	**15 43 58.4**	**-0.6**
	0.2nm,0.4s,baz=81,slow=10,SNR=2.4						
	0.2nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**30.31**	**130**	T	T	16 16 02.3	
	baz=324,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**30.32**	**130**	T	T	16 16 13.7	
	baz=324,slow=75,SNR=28						
H11N3	**WAKE ISLAND Hy**	**30.33**	**130**	T	T	16 16 12.6	
	baz=324,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**31.17**	**131**	T	T	16 17 19.2	
	baz=325,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy**	**31.18**	**132**	T	T	16 17 19.8	
	baz=325,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**31.19**	**131**	T	T	16 17 24.0	
	baz=325,slow=76,SNR=28						
ZALV	**Zalesovo Beam**	**39.37**	**308**	P	**P**	**15 45 54.1**	**-0.1**
	1.3nm,0.6s,baz=76,slow=6.3,SNR=7.6						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**42.40**	**298**	P	**P**	**15 46 19.6**	**+0.2**
	1.3nm,0.9s,baz=81,slow=7.3,SNR=2.9						
	1.3nm,0.9s						
MAKZ	**Makanchi**	**42.60**	**298**	P	**P**	**15 46 21.2**	**+0.2**
MAKZ				IAmb	IAmb	15 46 32.4	
	comp=Z,17nm,1.2s						
KURK	**Kurchatov**	**43.70**	**304**	P	**P**	**15 46 29.6**	**-0.2**
KURBB	**Kurchatov Arra**	**43.78**	**304**	P	**P**	**15 46 30.2**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=77,slow=8.8,SNR=9.3						
	comp=Z,1.2nm,0.4s						
BVAR	**Borovoye Array**	**47.98**	**309**	P	**P**	**15 47 03.7**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=72,slow=10,SNR=6.7						
	comp=Z,0.9nm,0.3s						
KKAR	**Karatay Array**	**51.52**	**297**	P	**P**	**15 47 29.9**	**-0.5**
ABKAR	**Akbulak array**	**55.48**	**308**	P	**P**	**15 47 59.0**	**-0.3**
WRA	**Warramunga Arr**	**62.14**	**189**	P	**P**	**15 48 45.1**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=6.7,slow=6.9,SNR=2.3						
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**15 49 01.9**	**-1.0**
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**15 49 02.2**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=46,slow=8.0,SNR=5.8						
	comp=Z,0.8nm,0.5s						
HFS	**Hagfors**	**69.90**	**335**	P	**P**	**15 49 34.1**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=60,slow=5.8,SNR=5.1						
	comp=Z,0.5nm,0.3s						

IDC 20 15:44:03.3±392.0, 42°.54N×4°.81E, h0km, Error ellipse: s-maj=162.0km s-min=130.4km az=100.0, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**7.58**	**151**	I	I	16 25 20.0	
	baz=339,slow=316,SNR=2.4						
I26DE	**FREYUNG INFRAS**	**8.87**	**42**	I	I	16 35 00.0	
	baz=233,slow=331,SNR=0.6						
I43RU	**DUBNA INFRASON**	**25.04**	**44**	I	I	18 21 20.0	
	baz=248,slow=328,SNR=1.9						

*IDC **20** 15:44:23.9±1.1, 52°.39N×170°.26W, h0km, mb3.8/9, mbtmp3.8/11, ML3.2/2, MS3.0/1, Error ellipse: s-maj=34.5km s-min=19.7km az=4.0*
*AEIC **20** 15:44:28.7±2.5, 52°.17N±0°.09×170°.04W±0°.06, h34km±7km, Error ellipse: s-maj=14.6km s-min=1.4km az=159.0*
*NEIC **20** 15:44:30.2±2.4, 52°.20N±0°.08×170°.07W±0°.09, h35km±2km, mb3.8/30, ML3.9/8, ML3.4(AEIC), Error ellipse: s-maj=15.4km s-min=6.2km az=329.0*

ISC 20 15:44:29.2±1.4, 52°.1N±0°.1×169°.90W±0°.05, h46km±13km, n102, σ1§83/99, mb3.9/13, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.69**	**9**		**Pn**	**15 44 41.4**	**-1.2**
CLCO					**Sn**	**15 44 51.1**	**-1.3**
NIKH	**Nikolski High**	**1.08**	**36**		**Pn**	**15 44 47.0**	**-0.9**
NIKH					**Sn**	**15 45 00.9**	**-0.7**
OKWR	**Okmok West Rim**	**1.69**	**37**		**Pn**	**15 44 57.0**	**+0.8**
OKCE	**Okmok Cone E**	**1.69**	**38**		**Pn**	**15 44 57.1**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**1.71**	**41**		**Pn**	**15 44 57.0**	**+0.4**
OKTU					**Sn**	**15 45 17.5**	**+0.3**
OKNC	**Okmok New Cone**	**1.73**	**38**		**Pn**	**15 44 58.0**	**+1.1**
OKFG	**Magazine Ridge**	**1.78**	**42**		**Pn**	**15 44 57.9**	**+0.4**
OKFG					**Sn**	**15 45 19.7**	**+0.9**
MAPS	**Pakushin South**	**2.47**	**45**		**Pn**	**15 45 07.6**	**+0.6**
KOFP	**Korovin Flat P**	**2.59**	**275**		**Pn**	**15 45 08.3**	**-0.3**
MSW	**Makushin Switc**	**2.62**	**45**		**Pn**	**15 45 09.9**	**+1.0**
ATKA	**Atka Island**	**2.65**	**274**	Pn	**Pn**	**15 45 07.6**	**-1.7**
ATKA	**Atka Island**	**2.65**	**274**		**Sn**	**15 45 38.0**	**-2.2**
UNV	**Unalaska Valle**	**2.69**	**48**		**Pn**	**15 45 10.9**	**+0.9**
UNV					**Sn**	**15 45 41.5**	**+0.3**
AKRB	**Akutan Reef Bi**	**3.07**	**47**		**Pn**	**15 45 15.7**	**+0.5**
AKMO	**Akutan Morgan**	**3.08**	**48**		**Pn**	**15 45 16.4**	**+1.2**
ZRO	**Akutan Zero**	**3.09**	**48**		**Pn**	**15 45 17.9**	**+2.5**
LVA	**Lava Point**	**3.11**	**47**	Pn	**Pn**	**15 45 18.1**	**+2.4**
LVA				IAML		15 46 08.8	
	comp=E,333nm,0.6s						
AKBBA	**Akutan Broad B**	**3.12**	**49**		**Pn**	**15 45 17.8**	**+2.1**
AHB	**Akutan Harbor**	**3.18**	**49**		**Pn**	**15 45 18.5**	**+1.8**
GSTR	**Great Sitkin T**	**3.80**	**272**	Pn	**Pn**	**15 45 24.4**	**-0.8**
ADK	**Adak**	**4.20**	**270**	Pn	**Pn**	**15 45 30.2**	**-0.4**
ADK				IAML		15 46 31.5	
	comp=E,115nm,0.3s						
ADK				IAML		15 46 33.3	
	comp=E,132nm,1.1s						
KIWB	**Kanaga Island**	**4.49**	**270**	Pn	**Pn**	**15 45 34.4**	**-0.2**
P08K	**Saint George I**	**4.51**	**2**	Pn	**Pn**	**15 45 36.2**	**+1.4**
P08K				IAML		15 46 56.6	
	comp=E,107nm,1.2s						
TASE	**Tanaga Southea**	**5.04**	**270**		**Pn**	**15 45 43.1**	**+0.9**
GANE	**Gareloi Northe**	**5.50**	**271**		**Pn**	**15 45 48.7**	**+0.3**
CNBA	**Chernabura Isl**	**6.73**	**62**	Pn	**Pn**	**15 46 07.5**	**+2.2**
M11K	**Mekoryuk**	**8.55**	**12**	Pn	**Pn**	**15 46 32.9**	**+2.7**
O14K	**Tigyukauivet M**	**8.66**	**31**	Pn	**Pn**	**15 46 34.6**	**+2.9**
M13K	**Dall Lake**	**9.09**	**21**	Pn	**Pn**	**15 46 39.3**	**+1.8**
CHIR	**Chirikof Islan**	**9.20**	**61**	Pn	**Pn**	**15 46 40.2**	**+1.1**
PLK4	**Peulik 4**	**9.56**	**49**	Pn	**Pn**	**15 46 43.9**	**-0.2**
M14K	**Bethel**	**9.71**	**24**	Pn	**Pn**	**15 46 48.4**	**+2.3**
N15K	**Kwethluk River**	**9.75**	**30**	Pn	**Pn**	**15 46 49.5**	**+2.8**
O16K	**Kokwok River B**	**10.01**	**37**	Pn	**Pn**	**15 46 53.2**	**+3.1**
L14K	**Kuka Creek**	**10.07**	**20**	Pn	**Pn**	**15 46 53.2**	**+2.3**
OHAK	**Old Harbor**	**10.89**	**55**	Pn	**Pn**	**15 47 01.1**	**-1.0**
K15K	**Wolf Creek Mou**	**11.17**	**21**	Pn	**Pn**	**15 47 08.7**	**+2.7**
L16K	**Owhat River**	**11.17**	**26**	Pn	**Pn**	**15 47 09.1**	**+3.0**
KDAK	**Kodiak Island**	**11.45**	**53**	Pn	**Pn**	**15 47 08.6**	**-1.3**
	comp=E,0.3nm,0.3s,baz=322,slow=1.6,SNR=10.0						
KDAK				Sn	**Sn**	**15 49 09.6**	**-6.6**
	comp=E,0.1nm,0.3s,baz=342,slow=16,SNR=1.8						
K17K	**Iditarod**	**12.31**	**26**	Pn	**Pn**	**15 47 24.6**	**+3.0**
J17K	**VABM Dome**	**12.69**	**23**	Pn	**Pn**	**15 47 29.7**	**+3.0**
CNPM	**China Poot**	**12.83**	**47**	Pn	**Pn**	**15 47 28.7**	**0.0**
J18K	**Innoko River**	**13.35**	**26**	Pn	**Pn**	**15 47 38.7**	**+3.0**
G16K	**Koyuk River**	**13.88**	**13**	Pn	**Pn**	**15 47 45.6**	**+2.7**
SKT	**Skwentna**	**14.01**	**38**	Pn	**Pn**	**15 47 47.8**	**+3.1**
SUA	**Susitna One**	**14.02**	**41**	Pn	**Pn**	**15 47 46.4**	**+1.4**
K20K	**Telida**	**14.04**	**30**	Pn	**Pn**	**15 47 48.4**	**+3.2**
J19K	**Poorman**	**14.07**	**27**	Pn	**Pn**	**15 47 48.4**	**+2.9**
J20K	**Nowinta River**	**14.62**	**28**	Pn	**Pn**	**15 47 55.7**	**+2.8**
CAST	**Castle Rocks**	**14.73**	**33**	Pn	**Pn**	**15 47 57.0**	**+2.7**
HIN	**Hinchinbrook I**	**15.35**	**48**	Pn	**Pn**	**15 48 01.7**	**-0.8**
FID	**Port Fidalgo**	**15.50**	**47**	Pn	**Pn**	**15 48 02.2**	**-2.2**
SCM	**Sheep Creek Mo**	**15.61**	**43**	Pn	**Pn**	**15 48 04.0**	**-1.9**
SCM				IAmb	IAmb	15 48 44.6	
	comp=Z,18nm,1.2s						
KLU	**Klutina**	**16.05**	**45**	Pn	**Pn**	**15 48 09.8**	**-1.8**
KLU				IAmb	IAmb	15 48 31.6	
	comp=Z,4.8nm,0.9s						
IMAR	**Indian Mountai**	**16.13**	**24**	Pn	**Pn**	**15 48 11.2**	**-1.2**
RAGM	**Ragged Mountai**	**16.20**	**49**	Pn	**Pn**	**15 48 12.1**	**-1.2**
M24K	**Tolsona, Glenn**	**16.22**	**43**	Pn	**Pn**	**15 48 12.2**	**-1.4**
DHY	**Denali Highway**	**16.22**	**39**	Pn	**Pn**	**15 48 14.7**	**+1.0**
DHY				IAmb	IAmb	15 48 31.4	
	comp=Z,8.0nm,1.3s						
G21K	**Allakaket**	**16.61**	**23**	P	**P**	**15 48 23.0**	**+2.7**
I23K	**Minto, Yukon-K**	**16.77**	**31**	Pn	**P**	**15 48 21.5**	**-0.6**
F21K	**Alatna River**	**17.18**	**22**	P	**P**	**15 48 27.7**	**+1.0**
ILAR	**Eielson Array**	**17.36**	**34**	P	**Pn**	**15 48 25.5**	**-2.2**
	baz=230,slow=9.7,SNR=1.8						
	comp=Z,0.3nm,0.6s						
G23K	**Bananza Creek**	**17.66**	**26**	P	**P**	**15 48 34.1**	**+2.1**
GRNC	**Granite Creek**	**17.68**	**50**		**P**	**15 48 33.4**	**+1.0**
GRNC				IAmb	IAmb	15 49 15.9	
	comp=Z,18nm,1.2s						
TABL	**Table Mountain**	**17.89**	**51**	P	**P**	**15 48 36.7**	**+1.9**
J26L	**Joseph Creek**	**18.41**	**37**	P	**P**	**15 48 39.5**	**-0.8**
J26L				IAmb	IAmb	15 48 46.4	
	comp=Z,3.3nm,0.6s						
D22K	**Ayikyak River**	**18.71**	**20**	P	**Pn**	**15 48 45.2**	**+0.9**
D22K				IAmb	IAmb	15 49 18.3	
	comp=Z,10nm,1.3s						
B21K	**Ikpikpuk River**	**18.98**	**16**	P	**Pn**	**15 48 47.1**	**-0.2**
B21K				IAmb	IAmb	15 48 59.1	
	comp=Z,6.3nm,1.2s						
D23K	**Nanushuk River**	**19.21**	**21**	P	**Pn**	**15 48 50.3**	**+0.1**
EGAK	**Eagle**	**19.45**	**38**	P	**P**	**15 48 51.9**	**+0.3**
EGAK				IAmb	IAmb	15 48 58.3	
	comp=Z,4.0nm,0.9s						
PEA0B	**Petropavlovsk-**	**19.62**	**286**	P	**P**	**15 48 52.9**	**-0.6**
PETK	**Petropavlovsk-**	**19.62**	**286**	P	**P**	**15 48 52.0**	**-1.5**
PETK	**Petropavlovsk-**	**19.62**	**286**	P	**P**	**15 48 52.2**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=85,slow=13,SNR=32						
	comp=Z,2.1nm,0.4s						
M29M	**Somme Creek**	**19.68**	**46**	P	**P**	**15 48 55.3**	**+1.0**
M29M				IAmb	IAmb	15 49 26.8	
	comp=Z,9.0nm,1.5s						
BMAR	**Burnt Mountain**	**19.72**	**29**	P	**P**	**15 48 55.2**	**+0.6**
C23K	**Itkillik River**	**19.92**	**20**	P	**P**	**15 48 56.6**	**-0.1**
C23K				IAmb	IAmb	15 49 02.8	
	comp=Z,5.7nm,1.5s						
I28M	**Miner Creek**	**20.22**	**37**	P	**P**	**15 48 59.1**	**-0.9**
I28M				IAmb	IAmb	15 49 01.3	
	comp=Z,6.8nm,1.4s						
K29M	**Barlow Dome**	**20.54**	**43**	P	**P**	**15 49 03.8**	**+0.3**
K29M				IAmb	IAmb	15 49 26.3	
	comp=Z,7.4nm,1.5s						
SKAG	**Skagway**	**20.59**	**55**	P	Pn	15 49 06.3	-0.3
H29M	**Whitestone**	**21.14**	**36**	P	**P**	**15 49 09.5**	**-0.3**
H29M				IAmb	IAmb	15 49 14.8	
	comp=Z,6.3nm,0.9s						
F28M	**Old Crow**	**21.31**	**32**	P	**P**	**15 49 12.7**	**+1.0**
F28M				IAmb	IAmb	15 49 46.7	
	comp=Z,4.2nm,1.4s						
D27M	**Malcolm River**	**21.90**	**28**	P	**P**	**15 49 19.0**	**+1.0**
E28M	**Babbage River**	**21.95**	**30**	P	**P**	**15 49 20.3**	**+1.8**
H31M	**Peel River**	**22.49**	**39**	P	**P**	**15 49 25.6**	**+1.3**
H31M				IAmb	IAmb	15 49 53.0	
	comp=Z,8.8nm,1.4s						
INK	**Inuvik**	**23.75**	**33**	P	**P**	**15 49 37.1**	**+0.4**
INK				IAmb	IAmb	15 49 37.9	
	comp=Z,7.3nm,1.4s						
BBB	**Bella Bella**	**25.39**	**73**	LR	LR	15 59 20.8	
	comp=Z,30nm,18.1s,baz=10.0,slow=35						
H11N2	**WAKE ISLAND Hy**	**37.04**	**218**	T	T	16 30 58.7	
	baz=22,slow=76						
H11N3	**WAKE ISLAND Hy**	**37.05**	**218**	T	T	16 30 54.2	
	baz=22,slow=76,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**37.06**	**218**	T	T	16 30 57.3	
	baz=22,slow=76						
H11S1	**WAKE ISLAND Hy**	**38.23**	**218**	T	T	16 32 38.3	
	baz=22,slow=76,SNR=66						
H11S2	**WAKE ISLAND Hy**	**38.25**	**217**	T	T	16 32 25.8	
	baz=22,slow=76,SNR=67						
H11S3	**WAKE ISLAND Hy**	**38.25**	**218**	T	T	16 32 37.3	
	baz=22,slow=76,SNR=43						
PDAR	**Pinedale Array**	**40.77**	**78**	P	**P**	**15 52 08.6**	**+2.6**
	comp=Z,0.8nm,0.6s,baz=296,slow=3.1,SNR=9.9						
	comp=Z,0.8nm,0.6s						
TXAR	**Lajitas Array**	**53.08**	**88**	P	**P**	**15 53 44.6**	**+2.7**
	comp=Z,0.6nm,0.5s,baz=308,slow=6.8,SNR=7.9						
	comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**62.46**	**318**	P	**P**	**15 54 46.0**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=38,slow=6.5,SNR=4.1						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**63.73**	**324**	P	**P**	**15 54 54.6**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=36,slow=8.3,SNR=5.4						
	comp=Z,1.7nm,0.8s						
MKAR	**Makanchi Array**	**63.75**	**313**	P	**P**	**15 54 54.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=46,slow=6.7,SNR=4.9						
	comp=Z,0.2nm,0.3s						
FINES	**FINESS Array B**	**66.09**	**352**	P	**P**	**15 55 09.8**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=8.9,slow=14,SNR=3.6						
	comp=Z,1.5nm,0.8s						
HFS	**Hagfors**	**68.08**	**358**	P	**P**	**15 55 22.7**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=56,slow=3.7,SNR=7.0						
	comp=Z,0.6nm,0.3s						
CMAR	**Chiang Mai Arr**	**76.36**	**282**	P	**P**	**15 56 13.8**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=22,slow=6.5,SNR=8.4						
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**89.97**	**230**	P	**P**	**15 57 24.2**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=23,slow=4.8,SNR=6.3						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**141.87**	**180**	PKhKP	PKPpre	16 03 50.6	
	comp=Z,1.2nm,1.0s,baz=10.0,slow=0.4,SNR=2.7						

IDC 20 16:19:38.5±2.2, 1°.61N×126°.03E, h0km, mb3.4/3, mbtmp3.4/3, MS2.6/1, Error ellipse: s-maj=180.3km s-min=28.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.91**	**160**	P	P	16 24 43.6	-0.7
	0.6nm,0.5s,baz=338,slow=11,SNR=7.6						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**26.26**	**164**	P	P	16 25 16.4	+0.6
	0.5nm,0.8s,baz=339,slow=7.2,SNR=5.6						
	0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.41**	**304**	LR	LR	16 38 36.3	
	comp=Z,10nm,18.1s,baz=175,slow=36						
MKAR	**Makanchi Array**	**58.91**	**326**	P	P	16 29 39.4	-0.1
	0.3nm,0.4s,baz=123,slow=8.1,SNR=1.6						
	0.3nm,0.4s						

*IDC **20** 16:30:15.6±0.8, 55°.83N×157°.98W, h0km, mb3.9/12, mbtmp3.9/16, ML3.5/4, MS3.0/6, Error ellipse: s-maj=18.8km s-min=14.0km az=171.0*
*NEIC **20** 16:30:20.1±1.0, 55°.78N±0°.05×157°.47W±0°.04, h10km±1km, Error ellipse: s-maj=8.5km s-min=3.9km az=190.0*
*AEIC **20** 16:30:21.9±1.2, 55°.80N±0°.05×157°.50W±0°.04, h9km±6km, ML3.6, mb4.0/5(NEIC), ML3.8/50(NEIC), Error ellipse: s-maj=7.0km s-min=2.9km az=180.0*

ISC 20 16:30:18.1±0.6, 55°.72N±0°.05×157°.49W±0°.03, h10km, n150, σ1§53/147, mb4.0/13, MS3.0/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.78**	**319**		**Pg**	**16 30 34.5**	**+1.4**
CHGN				IAML		16 30 45.8	
	comp=E,5μm,0.1s						
CHGN				IAML		16 30 48.5	
	comp=N,3μm,0.1s						
CHGN	**Chignik**	**0.78**	**319**		**Sg**	**16 30 44.7**	**+1.4**
CHGN	**Chignik**	**0.78**	**319**	P	**Pg**	**16 30 34.7**	**+1.6**
	baz=134						
VNSG	**Veniaminof 6**	**0.99**	**295**		**Sb**	**16 30 51.8**	**+1.5**
CHIR	**Chirikof Islan**	**1.06**	**84**	Pn	**Pb**	**16 30 40.4**	**+1.9**
CHIR	**Chirikof Islan**	**1.06**	**84**		**Sn**	**16 30 55.7**	**+1.9**
CHIR	**Chirikof Islan**	**1.06**	**84**	P	**Pn**	**16 30 40.6**	**+1.6**
	baz=269						
CHIR				S	**Sn**	**16 30 54.8**	**+1.0**
	baz=269						
VNHG	**Veniaminof 1**	**1.07**	**299**		**Pg**	**16 30 40.1**	**+1.5**
VNKR	**Veniaminof 5**	**1.10**	**287**		**Sg**	**16 30 55.2**	**+1.6**
ANPB	**Aniakchak Plen**	**1.17**	**338**		**Pb**	**16 30 40.9**	**+0.5**
VNWF	**Veniaminof 8**	**1.24**	**291**		**Sb**	**16 30 58.8**	**+1.0**
AZAC	**Aniakchak**	**1.25**	**341**		**Pb**	**16 30 42.4**	**+0.6**
ANON	**Aniakchak**	**1.26**	**343**		**Pb**	**16 30 42.8**	**+0.8**
VNFG	**Fog Glacier, M**	**1.29**	**297**		**Pb**	**16 30 44.1**	**+1.7**
VNFG					**Sn**	**16 31 01.4**	**+1.8**
VNFG	**Fog Glacier, M**	**1.29**	**297**	P	**Pb**	**16 30 44.1**	**+1.7**
	baz=112						
CNBA	**Chernabura Isl**	**1.50**	**234**		**Pn**	**16 30 46.8**	**+1.8**
R16K	**Pilot Point**	**1.85**	**359**		**Pn**	**16 30 51.0**	**+1.1**
R16K				IAML		16 31 17.0	
	comp=E,934nm,0.9s						
R16K				IAML		16 31 24.6	
	comp=N,906nm,0.9s						
R16K	**Pilot Point**	**1.85**	**359**		**Sn**	**16 31 13.1**	**-0.3**
R16K	**Pilot Point**	**1.85**	**359**	P	**Pn**	**16 30 51.3**	**+1.4**
	baz=179						
R16K				S	**Sn**	**16 31 13.0**	**-0.3**
	baz=179						
R16K				S	**Sn**	**16 31 13.0**	**-0.3**
	baz=179						
R17L	**Mt. Peulik Vol**	**2.02**	**18**	P	**Pn**	**16 30 54.0**	**+1.9**
	baz=199						
R17L				S	**Sn**	**16 31 18.5**	**+1.1**
	baz=199						
PLK4	**Peulik 4**	**2.02**	**18**		**Pn**	**16 30 54.1**	**+1.9**
PLK4	**Peulik 4**	**2.02**	**18**		**Sn**	**16 31 18.5**	**+1.0**
PLBL	**Peulik Blue Cr**	**2.02**	**10**		**Pn**	**16 30 53.9**	**+1.7**
SII	**Sitkinak Islan**	**2.03**	**64**		**Pn**	**16 30 53.6**	**+1.2**
SII	**Sitkinak Islan**	**2.03**	**64**	P	**Pn**	**16 30 53.6**	**+1.2**
	baz=249						
PLK3	**Peulik 3**	**2.09**	**18**		**Pn**	**16 30 55.0**	**+1.9**
PLK1	**Peulik 1**	**2.14**	**13**		**Pn**	**16 30 55.5**	**+1.6**
PLK5	**Peulik 5**	**2.31**	**8**		**Pn**	**16 30 57.8**	**+1.7**
PS1A	**Pavlof South-1**	**2.43**	**265**		**Pn**	**16 31 00.3**	**+2.4**
R18K	**Karluk**	**2.50**	**41**		**Pn**	**16 31 00.0**	**+1.3**
R18K	**Karluk**	**2.50**	**41**	IAML		16 31 46.6	
	comp=N,556nm,0.5s						
R18K				IAML		16 31 48.5	
	comp=E,608nm,0.5s						
PS4A	**Pavlof South-4**	**2.51**	**263**		**Pn**	**16 31 02.6**	**+3.7**
PN7A	**Pavlof North-7**	**2.58**	**265**		**Pn**	**16 31 01.9**	**+2.1**
Q17K	**Contact Creek**	**2.70**	**18**	P	**Pn**	**16 31 02.8**	**+1.2**
	baz=200						
ACHA	**Angle Creek He**	**2.77**	**24**	Pn	**Pn**	**16 31 03.5**	**+1.0**
OHAK	**Old Harbor**	**2.78**	**55**	Pn	**Pn**	**16 31 03.2**	**+0.7**
OHAK				IAML		16 31 57.5	
	comp=N,248nm,0.8s						
OHAK	**Old Harbor**	**2.78**	**55**	P	**Pn**	**16 31 03.2**	**+0.7**
	baz=240						
Q16K	**King Salmon**	**3.00**	**8**		**Pn**	**16 31 07.1**	**+1.4**
Q16K	**King Salmon**	**3.00**	**8**	P	**Pn**	**16 31 08.2**	**+2.6**
	baz=189						
KAHG	**Katmai Hook Gl**	**3.21**	**29**		**Pn**	**16 31 09.8**	**+1.2**
Q18K	**Katmai Hardscr**	**3.23**	**24**	P	**Pn**	**16 31 10.1**	**+1.2**
	baz=206			

L20K	Farewell, AK	7.03	14		Pn	16 32 03.4	+2.4
K17K	Iditarod	7.03	357		Pn	16 32 02.1	+1.1
K13K	Kusilvak Mount	7.25	332		Pn	16 32 04.9	+0.9
HIN	Hinchinbrook I	7.48	47		Pn	16 32 07.9	+0.8
J14K	Nanvaranak Lak	7.70	339		Pn	16 32 10.8	+0.7
J16K	Anvik River	7.75	350		Pn	16 32 11.4	+0.6
J18K	Innoko River	7.78	3		Pn	16 32 12.3	+1.1
K20K	Telida	7.86	11		Pn	16 32 13.6	+1.3
EYAK	Cordova Ski Ar	7.87	47		Pn	16 32 13.2	+0.7
SCM	Sheep Creek Mo	8.08	37		Pn	16 32 16.0	+0.5
CAST	Castle Rocks	8.19	17		Pn	16 32 18.9	+2.0
GOAT	Goat Mountain	8.32	49		Pn	16 32 18.9	+0.3
I17K	Unalakleet	8.35	350		Pn	16 32 20.3	+1.3
KTH	Kantishna Hill	8.53	20		Pn	16 32 22.2	+0.7
TRF	Thorofare Moun	8.57	22		Pn	16 32 23.1	+0.9
BMRM	Bremner River	8.57	47		Pn	16 32 22.6	+0.5
J20K	Nowinta River	8.65	10		Pn	16 32 24.6	+1.5
M24K	Tolsona, Glenn	8.67	38		Pn	16 32 24.7	+1.2
RND	Reindeer	8.86	26		Pn	16 32 27.4	+1.3
DHY	Denali Highway	8.99	31		Pn	16 32 28.6	+0.6
CRQM	Cirque	9.09	50		Pn	16 32 30.8	+1.4
ISLE	Juniper Island	9.38	52		Pn	16 32 34.7	+1.5
BAGL	Bagley Icefiel	9.44	53		Pn	16 32 35.9	+1.9
KIAG	Kiagna River	9.51	51		Pn	16 32 35.8	+0.8
PTPK	Patty Peak	9.58	49		Pn	16 32 37.2	+1.1
GRNC	Granite Creek	9.69	52		Pn	16 32 38.4	+0.8
G15K	Niukluk	9.85	344		Pn	16 32 40.7	+1.2
I21K	Tanana	9.87	14		Pn	16 32 40.9	+1.1
H20K	Anotleneega Mo	9.89	6		Pn	16 32 41.6	+1.5
WRH	Wood River Hil	9.94	24		Pn	16 32 41.6	+0.8
G16K	Koyuk River	9.99	348		Pn	16 32 42.9	+1.4
CCB	Clear Creek Bu	10.16	24		Pn	16 32 42.5	-1.3
G18K	Tagagawik	10.23	357		Pn	16 32 45.6	+0.9
RIDG	Independent Ri	10.25	33		Pn	16 32 46.1	+1.0
IL31		10.48	26		Pn	16 32 47.1	-1.0
ILAR	Eielson Array	10.48	26	Pn	Pn	16 32 42.7	-5.5
	comp=N,0.1nm,0.3s,baz=323,slow=32,SNR=3.3						
ILAR				Sn	Sn	16 34 34.4	-11
	comp=N,0.2nm,0.3s,baz=94,slow=22,SNR=2.2						
ILAR				LR	LR	16 37 12.9	
	comp=N,33nm,18.1s,baz=36,slow=40						
	comp=N,0.5nm,0.9s						
O29M	Mount Kennedy	11.02	58		Pn	16 32 56.5	+0.8
J30M	Hart River	13.71	41		Pn	16 33 33.9	+1.6
I30M	Mount Dempster	14.03	39	Pn	Pn	16 33 38.6	+1.9
G30M	tAoh Zraii Nji	15.11	33	P	P	16 33 58.2	+1.6
G30M				IAmb	IAmb	16 34 16.6	
	comp=Z,7.2nm,1.0s						
DLBC	Dease Lake	15.13	68	Pn	Pn	16 33 52.7	+1.0
	comp=Z,0.1nm,0.3s,baz=281,slow=10,SNR=1.3						
	comp=Z,1.3nm,0.5s						
G31M	Satah River	15.69	35	Pn	Pn	16 34 00.6	+1.8
G31M				IAmb	IAmb	16 34 04.6	
	comp=Z,6.9nm,0.8s						
INK	Inuvik	16.73	32	Pn	Pn	16 34 13.9	+1.7
INK	Inuvik	16.73	32	Pn	Pn	16 34 11.8	-0.4
	comp=Z,0.5nm,0.3s,baz=222,slow=13,SNR=14						
INK				Sn	Sn	16 37 19.1	+1.3
	baz=50,slow=28,SNR=7.4						
	comp=Z,5.1nm,0.7s						
SHEM	Shemya Is, Ala	16.82	272	LR	LR	16 39 33.9	
	comp=Z,32nm,21.2s,baz=326,slow=34						
B08A	Colville Reser	24.34	92	P	P	16 35 36.8	+0.9
B08A				IAmb	IAmb	16 35 40.0	
	comp=Z,3.4nm,0.9s						
PETK	Petropavlovsk-	25.86	283	P	P	16 35 44.8	-4.7
	comp=Z,4.9nm,1.2s,baz=79,slow=12,SNR=1.2						
PETK				LR	LR	16 45 25.8	
	comp=Z,30nm,20.5s,baz=58,slow=36						
	comp=Z,4.9nm,1.2s						
LYMT	Lyon Mountain	29.09	88	P	P	16 36 20.2	+1.4
YMR	Madison River	31.19	91	P	P	16 36 39.6	+2.3
NVAR	Mina Array Bea	31.26	107	P	P	16 36 40.0	+1.9
	comp=Z,0.7nm,0.6s,baz=306,slow=9.8,SNR=5.9						
	comp=Z,0.7nm,0.6s						
ELK	Elko	31.32	101	LR	LR	16 47 33.3	
	comp=Z,31nm,18.9s,baz=31,slow=33						
PDAR	Pinedale Array	33.17	93	P	P	16 36 56.2	+1.4
	comp=Z,0.6nm,0.5s,baz=327,slow=4.1,SNR=10.0						
	comp=Z,0.6nm,0.5s						
TXAR	Lajitas Array	46.09	102	P	P	16 38 43.7	+1.5
	comp=Z,1.5nm,0.8s,baz=311,slow=6.1,SNR=14						
	comp=Z,1.5nm,0.8s						
SONM	Songino Array	55.34	305	P	P	16 39 49.5	-2.3
	comp=Z,0.9nm,0.7s,baz=45,slow=6.5,SNR=5.6						
	comp=Z,0.9nm,0.7s						
FINES	FINESS Array B	63.14	358	P	P	16 40 42.7	-2.7
	comp=Z,7.1nm,1.1s,baz=276,slow=5.6,SNR=3.2						
	comp=Z,7.1nm,1.1s						
KURBB	Kurchatov Arra	64.27	324	P	P	16 40 50.9	-2.1
	comp=Z,0.4nm,0.5s,baz=27,slow=6.2,SNR=5.3						
	comp=Z,0.4nm,0.5s						
BVAR	Borovoye Array	64.67	330	P	P	16 40 53.6	-2.0
	comp=Z,1.6nm,0.8s,baz=44,slow=6.6,SNR=5.6						
	comp=Z,1.6nm,0.8s						
MKAR	Makanchi Array	66.21	320	P	P	16 41 03.1	-2.6
	comp=Z,0.2nm,0.6s,baz=47,slow=5.7,SNR=1.2						
	comp=Z,0.2nm,0.6s						
EKA	Eskdalemuir Ar	67.34	16	P	P	16 41 12.0	-0.7
	comp=Z,1.7nm,0.7s,baz=335,slow=4.9,SNR=2.3						
	comp=Z,1.7nm,0.7s						
AKASG	Malin Array Be	73.80	356	P	P	16 41 49.5	-2.7
	comp=Z,0.5nm,0.4s,baz=8.2,slow=6.0,SNR=5.0						
	comp=Z,0.5nm,0.4s						
SDV	Santo Domingo	80.96	88	LR	LR	17 19 01.6	
	comp=Z,73nm,20.9s,baz=236,slow=36						
CMAR	Chiang Mai Arr	82.33	291	P	P	16 42 37.7	-2.3
	comp=Z,0.5nm,0.3s,baz=4.1,slow=3.8,SNR=2.2						
	comp=Z,0.5nm,0.3s						
QSPA	South Pole Qui	145.50	180	PKPbc	PKPdf	16 49 53.9	-0.9
	comp=Z,3.9nm,1.0s,baz=25,slow=0.5,SNR=12						

DJA 20 16:30:39.0±0.5, 3°S±3°×11°9E±°, h10km, M3.5/7, MLv3.5/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	0.38	112	P	Pg	16 30 46.0	-0.5
TTSI				S	Sb	16 30 53.0	-0.7
SPSI	Sidrap Palu	1.10	164	P	Pb	16 30 58.1	-2.0
SPSI				S	Sn	16 31 15.2	-0.5
BNSI	Bone	1.62	157	P	Pn	16 31 08.2	+0.6
PCI	Palu	2.02	10	P	Pb	16 31 14.5	-1.3
BKSI	Bulukumba	2.49	165	P	Pn	16 31 20.4	+0.7
BKSI				S	Sb	16 31 54.8	+0.1
TNG	Tangerang	13.19	255	P	Pn	16 33 32.5	-14

*IDC **20** 16:36:37.7±1.4, 5°51S×148°02E, h0km, mb3.9/6, mbtmp3.9/9, ML3.6/2, MS3.1/7, Error ellipse: s-maj=39.6km s-min=20.1km az=103.0*
*NEIC **20** 16:36:44.3±0.7, 5°53S±0°08×147°95E±0°04, h54km±11km, mb4.1/8, Error ellipse: s-maj=12.1km s-min=4.4km az=199.0*
ISC 20 16:36:44.4±0.7, 5°54S±0°08×147°9E±0°1, h50km, n30, σ1°00/24, mb3.7/7, MS3.1/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.91	191		Pn	16 37 41.7	-0.3
PMG	Port Moresby	3.91	191	Pn	Pn	16 37 41.9	-0.1
	16nm,0.4s,baz=342,slow=6.4,SNR=12						
PMG				Sn	Sn	16 38 28.9	+2.2
	2.9nm,0.3s,baz=215,slow=23,SNR=6.5						
RABL	Rabaul	4.43	73	Pn	Pn	16 37 48.7	-0.4
JAY	Jayapura	7.80	292	Pn	Pn	16 38 35.4	0.0
	0.3nm,0.3s,baz=175,slow=19,SNR=1.4						
	7.4nm,1.0s						
COEN	Coen	9.58	209	Pn	Pn	16 38 59.2	-0.5
COEN				Sn	Sn	16 40 43.8	-2.3
HNR	Honiara	12.53	109	LR	LR	16 43 48.6	
	comp=Z,47nm,21.8s,baz=228,slow=35						
GUMO	Guam	19.25	351	LR	LR	16 47 50.6	
	comp=Z,34nm,18.4s,baz=68,slow=35						
WB0	Warramunga Arr	19.32	222	P	P	16 41 04.5	-1.1
WB0				IAmb	IAmb	16 41 29.3	
	comp=Z,9.5nm,1.2s						
WR0	Warramunga Arr	19.36	221	P	P	16 41 05.1	-0.9
WR0				IAmb	IAmb	16 41 08.3	
	comp=Z,14nm,1.4s						
WB2	Warramunga Arr	19.47	221	P	P	16 41 06.4	-0.8
WB2				IAmb	IAmb	16 41 27.6	
	comp=Z,4.9nm,0.9s						
WRA	Warramunga Arr	19.48	221	P	P	16 41 06.5	-0.8
WRA	Warramunga Arr	19.48	221	P	P	16 41 06.3	-1.1
	comp=Z,0.3nm,0.3s,baz=39,slow=12,SNR=17						
WRA				LR	LR	16 49 30.4	
	comp=Z,61nm,18.5s,baz=76,slow=40						
	comp=Z,1.2nm,0.5s						
AS31	Alice Springs	22.52	215	P	P	16 41 40.2	+0.1
ASAR	Alice Springs	22.52	215	P	P	16 41 40.3	+0.1
ASAR	Alice Springs	22.52	215	P	P	16 41 39.9	-0.2
	comp=Z,2.7nm,0.8s,baz=49,slow=8.9,SNR=35						
	comp=Z,2.7nm,0.8s						
DZM	Mont Dzumac	24.31	134	LR	LR	16 49 55.4	
	comp=Z,71nm,19.4s,baz=312,slow=33						
FITZ	Fitzroy Crossi	25.09	238	P	P	16 42 04.6	+0.1
FITZ	Fitzroy Crossi	25.09	238	P	P	16 42 04.7	+0.1
	comp=Z,6.8nm,0.5s,baz=60,slow=7.6,SNR=18						
FITZ				LR	LR	16 53 40.8	
	comp=Z,91nm,19.4s,baz=38,slow=41						
	comp=Z,6.8nm,0.5s						
H11S3	WAKE ISLAND Hy	30.21	37	T	T	17 14 39.9	
	baz=220,slow=74,SNR=16						
H11S2	WAKE ISLAND Hy	30.22	37	T	T	17 14 41.0	
	baz=220,slow=74,SNR=6.6						
H11S1	WAKE ISLAND Hy	30.23	37	T	T	17 14 35.5	
	baz=220,slow=74,SNR=7.3						
URZ	Urewera	41.99	145	LR	LR	17 00 08.4	
	comp=Z,26nm,19.0s,baz=337,slow=34						
KSRS	Korea Array	46.66	338	LR	LR	17 03 14.3	
	comp=Z,9.3nm,19.0s,baz=35,slow=34						
SONM	Songino Array	64.46	330	P	P	16 47 16.8	+1.0
	comp=Z,0.2nm,0.3s,baz=141,slow=4.8,SNR=2.0						
	comp=Z,0.2nm,0.3s						
SBA	Scott Base	72.94	176	P	P	16 48 07.6	-0.5
SBA				IAmb	IAmb	16 48 20.7	
	comp=Z,14nm,1.4s						
ZALV	Zalesovo Beam	79.12	328	P	P	16 48 44.3	+0.7
	comp=Z,0.3nm,0.3s,baz=114,slow=7.5,SNR=2.5						
	comp=Z,0.3nm,0.3s						
B20K	Meade River	83.88	16	P	P	16 49 07.6	-0.7
QSPA	South Pole Qui	84.42	180	P	P	16 49 12.4	+1.0
	comp=Z,1.4nm,1.1s,baz=11,slow=7.4,SNR=1.3						
	comp=Z,1.4nm,1.1s						
ILAR	Eielson Array	84.70	23	P	P	16 49 11.1	-1.6
ILAR	Eielson Array	84.70	23	P	P	16 49 12.5	-0.2
	comp=Z,0.4nm,0.9s,baz=242,slow=5.6,SNR=1.8						
	comp=Z,0.4nm,0.9s						

*NEIC **20** 16:43:32.3±2.3, 18°7S±0°1×169°49E±0°10, h238km±10km, mb4.4/19, Error ellipse: s-maj=15.9km s-min=13.6km az=181.0*
*IDC **20** 16:43:33.0±4.0, 18°65S×169°35E, h236km±46km, mb3.5/6, mbtmp4.1/6, Error ellipse: s-maj=89.6km s-min=24.8km az=158.0*
*NOU **20** 16:44:14.7, 21°10S×167°66E, h0km, MLv2.0/7, Loyalty Islands*
ISC 20 16:43:31.9±0.6, 18°6S±0°1×169°42E±0°09, h240km, n36, σ1°21/36, mb4.3/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	2.96	224	P	Pn	16 44 23.5	+0.2
MARNC	Mare, Loyalty	3.12	205	P	Pn	16 44 24.7	-0.3
YATNC	Mamie plateau,	4.16	214	P	Pn	16 44 37.3	+0.2
PINNC	Pines Island,	4.37	205	Pn	Pn	16 44 40.0	+0.4
PINNC	Pines Island,	4.37	205	P	Pn	16 44 42.6	+3.0
DZM	Mont Dzumac	4.42	219	P	Pn	16 44 40.6	+0.3
	5.4nm,0.7s,baz=39,slow=12,SNR=12						
DZM	Mont Dzumac	4.42	219	P	Pn	16 44 41.1	+0.8
OUENC	Ouen Island, N	4.48	212	P	Pn	16 44 42.0	+1.1
ONTNC	Ouen Toro	4.59	217	Pn	Pn	16 44 42.7	+0.3
KOUNC	Koumac, New Ca	5.20	248	Pn	Pn	16 44 48.2	-1.6
RAO	Raoul Island	15.66	135	P	P	16 46 57.8	-1.7
EIDS	Eidsvold	18.27	245	P	Pn	16 47 30.3	-0.8
EIDS				IAmb	IAmb	16 48 02.5	
	comp=Z,18nm,1.4s						
TARA	Tarawa	20.16	10	P	P	16 47 48.7	+0.3
KHZ	Kahutara	23.97	172	P	P	16 48 22.5	-1.9
TOO	Toolangi	28.18	223	P	P	16 49 02.2	-0.1
STKA	Stephens Creek	28.32	237	P	P	16 49 04.7	+1.2
	comp=Z,1.3nm,0.3s,baz=52,slow=12,SNR=3.0						
	comp=Z,1.3nm,0.3s						
WR0	Warramunga Arr	32.91	262	P	P	16 49 44.3	+0.3
WB0	Warramunga Arr	33.06	262	P	P	16 49 45.3	0.0
WB2	Warramunga Arr	33.09	262	P	P	16 49 45.8	+0.3
WB2				IAmb	IAmb	16 50 14.0	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	33.10	262	P	P	16 49 45.8	+0.1
	comp=Z,0.7nm,0.4s,baz=96,slow=8.4,SNR=21						
	comp=Z,0.7nm,0.4s						
AS31	Alice Springs	33.44	255	P	P	16 49 49.0	+0.4
ASAR	Alice Springs	33.45	255	P	P	16 49 48.7	+0.1
ASAR	Alice Springs	33.45	255	P	P	16 49 49.2	+0.6
	comp=Z,5.3nm,0.4s,baz=81,slow=8.8,SNR=204						
	comp=Z,5.3nm,0.4s						
MTN	Manton Dam	37.25	273	P	P	16 50 22.2	+1.3
MTN				IAmb	IAmb	16 50 25.0	
	comp=Z,18nm,1.2s						
KNRA	Kununurra	38.90	268	P	P	16 50 35.8	+1.0
KNRA				IAmb	IAmb	16 50 48.5	
	comp=Z,22nm,1.4s						
PPTF	Pamatai, Papee	38.94	95	P	P	16 50 35.8	+0.7
FITZ	Fitzroy Crossi	41.48	264	P	P	16 50 57.7	+1.9
FITZ	Fitzroy Crossi	41.48	264	P	P	16 50 57.7	+1.9
	comp=Z,2.0nm,0.6s,baz=101,slow=6.2,SNR=7.5						
	comp=Z,2.0nm,0.6s						
PSA00	Pilbara Seismi	46.49	258	P	P	16 51 36.6	+1.0
PSA00				IAmb	IAmb	16 51 59.1	
	comp=Z,41nm,1.4s						
MBWA	Marble Bar	46.64	258	P	P	16 51 37.9	+1.2
MBWA				IAmb	IAmb	16 51 59.1	
	comp=Z,29nm,1.4s						
MYLDM	Lahad Datu	55.47	290	P	P	16 52 40.5	-1.8
PTCN	Pitcairn Islan	56.12	108	P	P	16 52 45.3	-1.5
KBO	Bosley Butte	85.99	43	P	P	16 55 44.6	-0.7
KBO				IAmb	IAmb	16 56 20.9	
	comp=Z,9.4nm,1.1s						
KSXB	Camp Six Broad	86.03	43	P	P	16 55 44.7	-0.8
KSXB				IAmb	IAmb	16 55 52.9	
	comp=Z,6.8nm,1.4s						
NVAR	Mina Array Bea	88.27	48	P	P	16 55 58.2	+1.7
	comp=Z,0.6nm,0.8s,baz=242,slow=4.9,SNR=2.4						
	comp=Z,0.6nm,0.8s						
ILAR	Eielson Array	89.60	17	P	P	16 56 03.5	+1.6
	comp=Z,0.2nm,0.6s,baz=230,slow=3.9,SNR=4.1						
	comp=Z,0.2nm,0.6s						

*VAO **20** 16:55:17.1±2.5, 6°67N×73°36W, h121km±13km, mb4.3*
*IDC **20** 16:55:21.3±0.6, 6°79N×72°97W, h157km±6km, mb3.6/7, mbtmp4.1/11, Error ellipse: s-maj=15.9km s-min=6.9km az=133.0*
*RSNC **20** 16:55:22.0±0.0, 7°N±1°×7°3W±°, h149km±2km, M3.8, mB5.3, mb3.9, ML3.5, Mw(mB)4.7*
*NEIC **20** 16:55:22.1±1.1, 6°73N±0°08×72°91W±0°09, h165km±8km, mb4.1/22, Error ellipse: s-maj=13.3km s-min=10.8km az=115.0*
ISC 20 16:55:20.6±0.6, 6°84N±0°03×73°07W±0°03, h152km±5km, n95, σ1°45/138, mb4.1/17, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.27	205	P	Pn	16 55 41.9	+0.2
BARC				S	Sn	16 55 56.7	-1.0
PAMC	Pamplona, Colo	0.62	36	P	Pn	16 55 44.8	+1.3
PAMC				S	Sn	16 56 02.0	+1.1
BRJC	Barrancabermej	0.69	282	P	Pn	16 55 43.7	+0.4
BRJC				S	Sn	16 56 01.0	+0.5
RUSC	La Rusia	0.94	181	P	Pn	16 55 45.8	+0.1
RUSC				S	Sn	16 56 04.2	-0.6
TAMC	Tame, Arauca	1.33	107	P	Pn	16 55 50.2	+1.5
TAMC				S	Sn	16 56 11.6	+1.5
PTBC	PUERTO BERRIO,	1.41	258	P	Pn	16 55 48.5	-1.0
PTBC				S	Sn	16 56 09.3	-2.2
OCAC	Ocana	1.42	350	P	Pn	16 55 50.3	+0.6
OCAC				S	Sn	16 56 11.9	-0.1
SPBC	San Pablo de B	1.54	220	P	Pn	16 55 50.8	-0.1
SPBC				S	Sn	16 56 13.1	-1.1
ZARC	Zaragoza, Cauc	1.89	290	P	Pn	16 55 55.2	+0.5
ZARC				S	Sn	16 56 20.8	0.0
NORC	Norcasia	2.19	235	P	Pn	16 55 57.9	-0.3
NORC				S	Sn	16 56 26.0	-1.2
CHIC	Chingaza	2.29	197	P	Pn	16 56 00.1	+0.4
CHIC				S	Sn	16 56 29.3	-0.5
ROSC	El Rosal	2.34	212	Pn	Pn	16 56 01.8	+1.4
ROSC	El Rosal	2.34	212	P	Pn	16 56 01.9	+1.6
	71nm,0.3s,baz=126,slow=22,SNR=46						
ROSC				S	Sn	16 56 32.5	+1.6
	422nm,0.4s,baz=114,slow=20,SNR=18						
ROSC	El Rosal	2.34	212	P	Pn	16 56 01.9	+1.6
ROSC				S	Sn	16 56 33.4	+2.5
CVER	Cruz Verde, Cu	2.51	204	P	Pn	16 56 03.5	+1.1
CVER				S	Sn	16 56 33.7	-1.0
HELC	Santa Helena	2.53	255	P	Pn	16 56 03.3	+0.7
HELC				S	Sn	16 56 33.0	-1.9
UREC	San Jos de Ur	2.61	291	P	Pn	16 56 02.5	-0.7
UREC				S	Sn	16 56 34.3	-1.8
VILC	Villavicencio,	2.78	193	P	Pn	16 56 05.9	+0.5
VILC				S	Sn	16 56 39.7	-0.4
PTGC	Puerto Gaitan,	2.78	160	P	Pn	16 56 05.0	-0.3
PTGC				S	Sn	16 56 38.1	-1.8
GUY2C	Guyana, Caldas	2.79	235	P	Pn	16 56 06.7	+0.8
GUY2C				S	Sn	16 56 41.9	+1.1
RECRC	Villamaria, Ca	2.94	231	P	Pn	16 56 10.2	+2.3
RECRC				S	Sn	16 56 46.0	+1.7
CBOC	Ciudad Bolivar	3.08	252	P	Pn	16 56 10.2	+0.9
CBOC				S	Sn	16 56 45.7	-1.2
DBBC	Dabeiba	3.12	274	P	Pn	16 56 10.2	+0.4
DBBC				S	Sn	16 56 46.4	-1.4
SDV	Santo Domingo	3.16	50	Pn	Pn	16 56 11.3	+1.1
SDV	Santo Domingo	3.16	50	P	Pn	16 56 11.7	+1.5
	88nm,0.3s,baz=172,slow=2.7,SNR=37						
SDV				S	Sn	16 56 48.7	0.0
	220nm,0.6s,baz=246,slow=20,SNR=20						
SDV	Santo Domingo	3.16	50	P	Pn	16 56 11.7	+1.5
SDV				S	Sn	16 56 48.2	-0.5
SDV	Santo Domingo	3.16	50	eP	Pn	16 56 09.9	-0.4
ARGC	Ariguani, Magd	3.22	339	P	Pn	16 56 13.4	+2.5
ARGC				S	Sn	16 56 50.9	+1.0
PRAC	Prado	3.59	210	P	Pn	16 56 15.8	+0.1
PRAC				S	Sn	16 56 58.1	-0.4
ORTC	Ortega, Tolima	3.63	217	P	Pn	16 56 16.8	+0.6
ORTC				S	Sn	16 57 00.0	+0.7
APAC	Apartado, Choc	3.64	287	P	Pn	16 56 16.4	+0.1
APAC				S	Sn	16 56 59.5	0.0
SJCC	San Jacinto, C	3.69	326	P	Pn	16 56 16.3	-0.7
SJCC				S	Sn	16 56 57.7	-3.1
PLMC	San Jos del P	3.73	239	P	Pn	16 56 17.9	+0.4
PLMC				S	Sn	16 56 59.6	-2.1
URMC	La Uribe, Meta	3.80	200	P	Pn	16 56 18.9	+0.5
URMC				S	Sn	16 57 03.0	-0.3
CRJC	Cerrejon, Guaj	4.16	3	P	Pn	16 56 22.7	-0.5
CRJC				S	Sn	16 57 09.0	-2.9
GUVC	San Jose del G	4.29	174	P	Pn	16 56 24.9	+0.2
GUVC				S	Sn	16 57 13.4	-1.2
YOTC	Yotoco, Valle	4.32	229	P	Pn	16 56 25.2	-0.1
YOTC				S	Sn	16 57 16.1	+0.5
CAPC	Capurgana	4.61	293	P	Pn	16 56 28.2	-0.7
CAPC				S	Sn	16 57 19.3	-2.8
PIZC	Pizarro, Choco	4.66	247	P	Pn	16 56 31.4	+1.8
PIZC				S	Sn	16 57 23.7	+0.4
PTAC	Punta Ardita,	4.72	274	P	Pn	16 56 29.9	-0.5
PTAC				S	Sn	16 57 21.3	-3.4
MACC	Macarena, Meta	4.72	190	P	Pn	16 56 29.1	-1.4
MACC				S	Sn	16 57 21.5	-3.5
URIC	Uribia, Colomb	4.95	12	P	Pn	16 56 32.7	-0.7
URIC				S	Sn	16 57 23.3	-7.0
JAMC	Jamundi, Valle	5.08	225	P	Pn	16 56 35.5	+0.1
MALC	Bahia Malaga	5.09	237	P	Pn	16 56 36.9	+1.6
MALC				S	Sn	16 57 33.2	-0.4
BAUV	El Baul	5.40	67		Pn	16 56 38.1	-1.3
FLOC	Florencia	5.82	206	P	Pn	16 56 44.9	-0.1
BBAC	Balboa, Cauca	6.34	221	P	Pn	16 56 53.8	+1.6
BBAC				S	Sn	16 58 03.6	-0.2
GR1C	Gorgona, Isla	6.35	233	P	Pn	16 56 50.5	-1.5
GR1C				S	Sn	16 58 01.5	-2.1
PCRV	Puerto La Cruz	8.97	68	P	Pn	16 57 28.6	+1.5
	4.3nm,0.3s,baz=281,slow=2.4,SNR=17						
PCRV				S	Sn	16 59 05.7	-1.2
	5.8nm,0.5s,baz=168,slow=19,SNR=1.9						
LCR2	La Lucha 2	11.20	286	Pn	Pn	16 57 59.1	+2.4
MTDJ	Mount Denham	12.13	339	Pn	Pn	16 58 11.8	+3.1
JTS	Las Juntas de	12.24	287	P	Pn	16 58 13.5	+3.4
	8.8nm,0.8s,baz=112,slow=5.7,SNR=3.9						
BOAV	Boa Vista	13.26	109	Pn	Pn	16 58 21.7	-1.4
GRTK	Grand Turk	14.71	7	P	P	16 58 43.5	0.0
ETMB	Extrema	17.90	157	P	P	16 59 17.2	-1.5
ETMB				IAmb	IAmb	16 59 19.3	
	comp=Z,6.2nm,0.6s						
ETMB	Extrema	17.90	157	eP	P	16 59 17.7	-1.0
SAML	Samuel	18.52	148	P	P	16 59 24.0	-1.5
SAML				IAmb	IAmb	16 59 26.5	
	comp=Z,6.8nm,0.8s						
SAML	Samuel	18.52	148	eP	P	16 59 24.5	-1.0
ITTB	Itaituba	20.57	122	eP	P	16 59 49.1	+1.5
NPGB	Novo Progresso	22.41	128	eP	P	17 00 06.9	0.0
VILB	Vilhena	23.45	147	eP	P	17 00 15.8	-0.7
LPAZ	La Paz	23.49

comp=Z,1.7nm,0.4s,baz=107,slow=2.6,SNR=4.6
CMAR Chiang Mai Arr 153.66 17 PKPbc **PKPbc 17 15 02.9 +0.5**
comp=Z,0.9nm,0.6s,baz=320,slow=3.3,SNR=6.7

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*NEIC **20** 16:59:14.0±1.2, 9.86N±0.10×125.9E±0.3, h88km±9km, mb4.4/11, Error ellipse: s-maj=38.0km s-min=13.0km az=81.0*
*IDC **20** 16:59:16.9±2.8, 9.88N×126.05E, h121km±27km, mb3.6/17, mbtmp4.0/18, MS3.1/9, Error ellipse: s-maj=31.6km s-min=14.3km az=73.0*
ISC 20 16:59:14.5±0.6, 9.83N±0.07×125.9E±0.2, h100km, n46, σ0.95/35, mb4.2/24, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.75**	**186**	Pn	**Pn**	**16 59 56.1**	**-1.0**
DAV	**Davao City (W)**	**2.75**	**186**	P	Pn	17 00 01.8	+4.7
DAV	134nm,0.4s,baz=31,slow=5.5,SNR=4.7			LR	LR	17 01 29.7	
	comp=Z,436nm,18.3s,baz=14,slow=47						
TGY	**Tagaytay City**	**6.43**	**312**	LR	LR	17 03 38.6	
	comp=Z,329nm,18.6s,baz=120,slow=40						
LUWI	**Luwuk**	**11.23**	**196**	Pn	**Pn**	**17 01 49.8**	**-2.1**
YULB	**Yu-li**	**14.18**	**343**	P	**P**	**17 02 35.0**	**-0.2**
TPUB	**Ta-pu**	**14.30**	**340**		**P**	**17 02 34.4**	**-2.2**
GUMO	**Guam**	**18.98**	**77**	LR	LR	17 09 14.7	
	comp=Z,69nm,20.9s,baz=12,slow=32						
JAY	**Jayapura**	**19.20**	**129**	LR	LR	17 10 36.6	
	comp=Z,37nm,18.7s,baz=2.0,slow=36						
BATI	**Baumata**	**20.02**	**186**	P	**P**	**17 03 39.7**	**+0.1**
	8.0nm,0.7s,baz=31,slow=12,SNR=1.0						
	8.0nm,0.7s						
JNU	**Nakatsue**	**23.64**	**11**	LR	LR	17 14 36.9	
	comp=Z,17nm,18.0s,baz=214,slow=39						
KNRA	**Kununurra**	**25.50**	**174**	P	**P**	**17 04 34.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**27.45**	**291**	P	**P**	**17 04 53.5**	**+2.1**
	0.7nm,0.7s,baz=94,slow=7.0,SNR=7.2						
CMAR				LR	LR	17 16 11.6	
	comp=Z,26nm,19.1s,baz=115,slow=37						
	0.7nm,0.7s						
XAN	**Xi'an**	**28.68**	**330**	P	**P**	**17 05 01.3**	**-0.8**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MJAR	**Matsushiro Arr**	**28.86**	**21**	LR	LR	17 17 49.5	
	comp=Z,30nm,18.0s,baz=232,slow=39						
WRA	**Warramunga Arr**	**30.74**	**164**	P	**P**	**17 05 21.4**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=348,slow=9.4,SNR=4.7						
	comp=Z,0.7nm,0.9s						
ASAR	**Alice Springs**	**34.20**	**167**	P	**P**	**17 05 50.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=349,slow=7.3,SNR=11						
	comp=Z,0.4nm,0.6s						
USRK	**Ussuriysk Ar.**	**34.66**	**8**	P	**P**	**17 05 52.4**	**-1.9**
	comp=Z,1.2nm,0.7s,baz=180,slow=8.4,SNR=2.3						
	comp=Z,1.2nm,0.7s						
ASAJ	**Asahikawa**	**37.12**	**20**	LR	LR	17 21 42.5	
	comp=Z,24nm,20.2s,baz=156,slow=36						
HNR	**Honiara**	**38.95**	**118**	LR	LR	17 24 24.7	
	comp=Z,20nm,18.1s,baz=244,slow=39						
H11N1	**WAKE ISLAND Hy**	**40.77**	**71**	T	T	17 50 07.5	
	baz=265,slow=74,SNR=62						
H11N2	**WAKE ISLAND Hy**	**40.78**	**71**	T	T	17 50 07.0	
	baz=265,slow=74,SNR=46						
H11N3	**WAKE ISLAND Hy**	**40.79**	**71**	T	T	17 50 02.2	
	baz=265,slow=74,SNR=69						
SONM	**Songino Array**	**41.30**	**340**	P	**P**	**17 06 50.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=149,slow=8.2,SNR=3.5						
	comp=Z,0.5nm,0.5s						
BBOO	**Buckleboo**	**43.50**	**167**	P	**P**	**17 07 08.2**	**+0.1**
PETK	**Petropavlovsk-**	**50.20**	**24**	P	**P**	**17 08 00.4**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=212,slow=7.6,SNR=2.1						
	comp=Z,2.6nm,0.8s						
MK31	**Makanchi Array**	**52.14**	**323**	P	**P**	**17 08 14.9**	**+0.2**
MK31				IAmb	IAmb	17 08 15.9	
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**52.14**	**323**	P	**P**	**17 08 14.8**	**+0.1**
MKAR	**Makanchi Array**	**52.14**	**323**	P	**P**	**17 08 15.1**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=124,slow=9.2,SNR=11						
	comp=Z,1.8nm,0.7s						
MAKZ	**Makanchi**	**52.33**	**323**	P	**P**	**17 08 16.0**	**-0.1**
MAKZ				IAmb	IAmb	17 08 18.2	
	comp=Z,5.7nm,1.1s						
ZALV	**Zalesovo Beam**	**54.82**	**332**	P	**P**	**17 08 33.7**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=137,slow=7.7,SNR=4.2						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**56.21**	**326**	P	**P**	**17 08 44.6**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=126,slow=6.7,SNR=7.8						
	comp=Z,1.1nm,0.5s						
TIXI	**Tiksi**	**61.80**	**1**	P	**P**	**17 09 22.3**	**-0.1**
TIXI				IAmb	IAmb	17 09 33.8	
	comp=Z,4.6nm,1.1s						
BVAR	**Borovoye Array**	**61.80**	**326**	P	**P**	**17 09 22.9**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=131,slow=6.1,SNR=3.6						
	comp=Z,0.6nm,0.6s						
D24K	**Happy Valley**	**79.21**	**21**	P	**P**	**17 11 09.4**	**+1.1**
D24K				IAmb	IAmb	17 11 10.8	
	comp=Z,3.0nm,0.6s						
E24K	**Your Creek**	**79.33**	**22**	P	**P**	**17 11 09.5**	**+0.5**
E24K				IAmb	IAmb	17 11 40.2	
	comp=Z,6.9nm,1.4s						
F24K	**Squaw Lake**	**79.55**	**23**	P	**P**	**17 11 11.6**	**+1.4**
F24K				IAmb	IAmb	17 11 28.5	
	comp=Z,5.4nm,1.3s						
D25K	**Kavik River**	**80.09**	**21**	P	**P**	**17 11 13.8**	**+0.7**
I28M	**Miner Creek**	**82.88**	**25**	P	**P**	**17 11 27.2**	**-0.7**
I28M				IAmb	IAmb	17 11 44.9	
	comp=Z,6.3nm,1.4s						
G29M	**Pine Creek**	**83.43**	**23**	P	**P**	**17 11 31.4**	**+0.8**
ARCES	**ARCESS Array B**	**84.47**	**340**	P	**P**	**17 11 36.1**	**+0.3**
	comp=Z,4.5nm,0.9s,baz=54,slow=4.6,SNR=3.6						
	comp=Z,4.5nm,0.9s						
BRTR	**Keskin Array B**	**85.50**	**309**	P	**P**	**17 11 42.4**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=64,slow=4.4,SNR=3.6						
	comp=Z,0.9nm,0.8s						
FINES	**FINESS Array B**	**86.09**	**332**	P	**P**	**17 11 44.2**	**+0.2**
FINES	**FINESS Array B**	**86.09**	**332**	P	**P**	**17 11 44.5**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=72,slow=4.9,SNR=11						
	comp=Z,0.6nm,0.4s						
AKASG	**Malin Array Be**	**86.65**	**321**	P	**P**	**17 11 47.2**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=66,slow=4.9,SNR=3.0						
	comp=Z,0.5nm,0.6s						
MAW	**Mawson**	**89.15**	**200**	P	**P**	**17 11 59.4**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=50,slow=7.9,SNR=2.2						
	comp=Z,1.2nm,0.7s						
HFS	**Hagfors**	**92.25**	**332**	P	**P**	**17 12 12.8**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=90,slow=5.8,SNR=4.1						
	comp=Z,1.1nm,0.6s						

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*NEIC **20** 17:02:39.5±1.6, 16.42S±0.06×74.08W±0.09, h8km±4km, mb4.4/28, Error ellipse: s-maj=12.9km s-min=7.8km az=60.0*
*VAO **20** 17:02:42.6±0.5, 16.32S×73.82W, h10km, mb4.7*
*IDC **20** 17:02:48.0±2.4, 16.33S×73.73W, h62km±21km, mb4.2/7, mbtmp4.5/11, ML4.2/4, MS3.6/20, Error ellipse: s-maj=23.7km s-min=13.4km az=39.0*
ISC 20 17:02:41.9±0.5, 16.43S±0.05×74.10W±0.06, h30km, n139, σ1.9/75/124, mb4.4/12, MS3.6/16, 2C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**4.07**	**119**		**Pn**	**17 03 41.6**	**-0.6**
AP01				Sn	**Sn**	**17 04 28.8**	**0.0**
PB12	**IPOC Station P**	**4.20**	**122**	Pn	**Pn**	**17 03 43.6**	**-0.4**
PB18	**Visviri**	**4.57**	**105**	Pn	**Pn**	**17 03 49.5**	**+0.1**
NNA	**Nana**	**5.15**	**329**	Pn	**Pn**	**17 03 56.4**	**-0.7**
NNA				Sn	**Sn**	**17 04 56.4**	**+0.8**
NNA	**Nana**	**5.15**	**329**	P	Pn	17 04 02.4	+5.3
	10nm,0.3s,baz=170,slow=11,SNR=7.5						
NNA				S	**Sb**	**17 05 06.1**	**-6.8**
	169nm,0.3s,baz=230,slow=14,SNR=4.6						
	72nm,0.3s						
TA02	**Huaiquique**	**5.37**	**136**		**Pn**	**17 03 58.8**	**-1.2**
TA02				Sn	**Sn**	**17 04 57.4**	**-3.4**
TA01	**Diego Aracena**	**5.54**	**139**	Pn	**Pn**	**17 04 03.4**	**+1.0**
TA01				Sn	**Sn**	**17 04 59.5**	**-5.7**
GO01	**Chusmiza**	**5.67**	**125**		**Pn**	**17 04 06.1**	**+1.5**
LPAZ	**La Paz**	**5.73**	**89**	Pn	**Pn**	**17 04 07.0**	**+1.5**
LPAZ	**La Paz**	**5.73**	**89**	P	**Pn**	**17 04 09.8**	**+4.3**
	78nm,0.4s,baz=278,slow=8.7,SNR=157						
LPAZ				S	**Sn**	**17 05 13.2**	**+2.6**
	28nm,0.8s,baz=277,slow=11,SNR=0.9						
LPAZ				LR	LR	17 06 23.4	
	comp=Z,546nm,18.3s,baz=272,slow=40						
LPAZ	**La Paz**	**5.73**	**89**	*eP*	**Pn**	**17 04 06.3**	**+0.8**
PB08	**IPOC Station P**	**5.97**	**129**		**Pn**	**17 04 09.4**	**+0.8**
PB01	**IPOC Station P**	**6.34**	**137**		**Pn**	**17 04 14.1**	**+0.8**
PB01				Sn	**Sn**	**17 05 19.7**	**-5.1**
PB04	**IPOC Station P**	**6.96**	**148**	Pn	**Pn**	**17 04 21.6**	**-0.4**
PB09	**IPOC Station P**	**7.04**	**140**		**Pn**	**17 04 24.4**	**+1.2**
PB06	**IPOC Station P**	**7.56**	**146**		**Pn**	**17 04 30.3**	**+0.1**
PB15	**IPOC Station P**	**8.03**	**148**	Pn	**Pn**	**17 04 36.6**	**-0.1**
AF01	**San Pedro de A**	**8.55**	**140**	Pn	**Pn**	**17 04 44.5**	**+0.5**
CZSB	**Cruzeiro do Su**	**8.75**	**9**	Pn	**Pn**	**17 04 46.6**	**+0.1**
CZSB	**Cruzeiro do Su**	**8.75**	**9**	*eP*	**Pn**	**17 04 47.6**	**+1.1**
PB14	**IPOC Station P**	**8.86**	**158**	Pn	**Pn**	**17 04 47.4**	**-0.8**
GO02	**Mina Guanaco**	**9.66**	**155**		**Pn**	**17 04 59.5**	**+0.4**
ETMB	**Extrema**	**10.10**	**50**	Pn	**Pn**	**17 05 04.5**	**-0.5**
ETMB	**Extrema**	**10.10**	**50**	*eP*	**Pn**	**17 05 05.3**	**+0.3**
ATAH	**Atahualpa**	**10.15**	**335**	P	Pn	17 05 12.6	+6.6
	0.8nm,0.3s,baz=105,slow=20,SNR=4.4						
ATAH				S	Sn	17 07 16.2	+17
	11nm,0.7s,baz=240,slow=22,SNR=1.8						
ATAH				LR	LR	17 09 28.9	
	comp=Z,156nm,20.1s,baz=176,slow=39						
	4.3nm,0.5s						
AC01	**Pan de Azucar**	**10.21**	**162**	Pn	**Pn**	**17 05 03.3**	**-3.1**
AC06	**Mina Casimiro**	**11.42**	**163**		**Pn**	**17 05 22.4**	**-0.5**
SIV	**San Ignacio**	**12.52**	**90**	P	**Pn**	**17 05 37.9**	**-0.2**
	0.7nm,0.3s,baz=265,slow=14,SNR=36						
SIV				S	**Sn**	**17 07 53.9**	**-2.8**
	4.3nm,0.9s,baz=351,slow=19,SNR=1.6						
SIV				LR	LR	17 10 55.5	
	comp=Z,492nm,19.8s,baz=282,slow=40						
	23nm,0.6s						
TBTG	**Tabatinga, AM**	**12.84**	**19**	*eP*	**Pn**	**17 05 43.9**	**+1.4**
LCO	**Las Campanas**	**12.91**	**167**	Pn	**Pn**	**17 05 41.8**	**-1.8**
BBSD	**Serra de San D**	**12.94**	**95**	*eP*	**Pn**	**17 05 42.6**	**-1.3**
SAML	**Samuel**	**12.98**	**56**	Pn	**Pn**	**17 05 42.1**	**-2.3**
SAML	**Samuel**	**12.98**	**56**	*eP*	**Pn**	**17 05 43.0**	**-1.4**
VILB	**Vilhena**	**13.88**	**77**	Pn	**Pn**	**17 05 53.6**	**-3.1**
VILB	**Vilhena**	**13.88**	**77**	*eP*	**Pn**	**17 05 55.9**	**-0.8**
CO01	**Juntas del Tor**	**13.98**	**165**	Pn	Pn	17 05 53.8	-4.4
GO04	**Tololo Observa**	**14.01**	**168**		**Pn**	**17 05 55.1**	**-3.5**
PTLB	**Pontes e Lacer**	**14.42**	**88**		**Pn**	**17 06 03.0**	**-1.0**
PTLB	**Pontes e Lacer**	**14.42**	**88**	*eP*	**Pn**	**17 06 03.5**	**-0.6**
FDPY	**Filadelfia**	**14.56**	**116**	*eP*	**Pn**	**17 06 05.2**	**-0.8**
CO03	**El Pedregal**	**14.68**	**168**	Pn	**Pn**	**17 06 06.8**	**-0.8**
COHC	**Cochancay**	**14.77**	**339**	Pn	**Pn**	**17 06 07.0**	**-1.9**
ZON	**Zonda**	**15.84**	**163**		**Pn**	**17 06 20.2**	**-2.6**
ZON				IAmb	IAmb	17 06 31.8	
	comp=Z,19nm,1.0s						
PAPY	**Pozo Azul**	**16.71**	**120**	*eP*	**Pn**	**17 06 34.4**	**+0.5**
PANT	**Pantanal (Braz**	**16.85**	**101**	*eP*	**Pn**	**17 06 34.9**	**-0.8**
BDQN	**Bodoquena, MS**	**16.94**	**106**	*eP*	**Pn**	**17 06 34.8**	**-2.0**
OTAV	**Otavalo**	**17.11**	**345**	P	**Pn**	**17 06 36.4**	**-2.9**
MT08	**Bocatoma Ro**	**17.34**	**168**	P	**P**	**17 06 43.6**	**+0.4**
H03N1	**Juan Fernandez**	**17.49**	**194**	T	T	17 25 11.8	
	baz=16,slow=74						
H03N2	**Juan Fernandez**	**17.49**	**194**	T	T	17 25 13.2	
	baz=16,slow=74						
H03N3	**Juan Fernandez**	**17.51**	**194**	T	T	17 25 12.3	
	baz=16,slow=74						
MT01	**Popeta**	**17.55**	**172**	Pn	**Pn**	**17 06 43.1**	**-1.2**
MT13	**San Alfonso**	**17.58**	**169**	Pn	**Pn**	**17 06 42.9**	**-1.9**
MT13				IAmb	IAmb	17 07 22.3	
	comp=Z,27nm,1.4s						
SALV	**Santo Antonio**	**17.69**	**91**	*eP*	**Pn**	**17 06 45.0**	**-1.1**
AQDB	**Aquidauana**	**17.91**	**106**		**P**	**17 06 49.5**	**+0.2**
AQDB	**Aquidauana**	**17.91**	**106**	*eP*	**P**	**17 06 50.9**	**+1.6**
CPUP	**Villa Florida**	**18.45**	**125**	P	**P**	**17 06 54.8**	**-0.3**
CPUP	**Villa Florida**	**18.45**	**125**	P	**Pn**	**17 06 55.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=318,slow=13,SNR=6.3						
CPUP				LR	LR	17 15 13.2	
	comp=Z,169nm,18.8s,baz=302,slow=41						
	comp=Z,3.3nm,0.7s						
CPUP	**Villa Florida**	**18.45**	**125**	*eP*	**Pn**	**17 06 57.0**	**+1.6**
BO02	**Sierra Bellavi**	**18.53**	**171**	P	**P**	**17 06 55.7**	**-0.4**
MACA	**Manacapuru-AM**	**18.65**	**46**	P	**P**	**17 06 55.9**	**-1.6**
MACA				IAmb	IAmb	17 07 16.5	
	comp=Z,34nm,0.6s						
MACA	**Manacapuru-AM**	**18.65**	**46**	*eP*	**P**	**17 06 57.3**	**-0.1**
AMBA	**Amambai (Brazi**	**19.11**	**113**	*eP*	**Pn**	**17 07 04.5**	**+1.0**
RPRD	**Ribas do Rio P**	**19.76**	**105**	*eP*	**Pn**	**17 07 12.8**	**+1.6**
BI05	**Punta Hualpn**	**20.26**	**178**	P	**P**	**17 07 13.7**	**-1.1**
BI05				IAmb	IAmb	17 07 45.0	
	comp=Z,27nm,0.9s						
BI02	**San Fabin de**	**20.31**	**173**		**P**	**17 07 15.2**	**-0.4**
BI02				IAmb	IAmb	17 07 24.7	
	comp=Z,11nm,0.9s						
NPGB	**Novo Progresso**	**20.56**	**65**	*eP*	**P**	**17 07 17.1**	**-1.3**
ITQB	**Itaqui**	**20.75**	**132**		**P**	**17 07 20.2**	**-0.1**
ITQB				IAmb	IAmb	17 07 24.1	
	comp=Z,40nm,1.0s						
ITQB	**Itaqui**	**20.75**	**132**	*eP*	Pn	17 07 23.1	+0.3
PSAL	**Palomas, Salto**	**20.95**	**137**	*eP*	Pn	17 07 25.9	+0.8
ROSC	**El Rosal**	**21.13**	**359**	P	**P**	**17 07 27.8**	**+2.9**
	comp=Z,6.0nm,0.4s,baz=189,slow=19,SNR=1.4						
ROSC				LR	LR	17 17 37.4	
	comp=Z,229nm,18.1s,baz=274,slow=42						
	comp=Z,6.0nm,0.4s						
ARAG	**Araguaiana, MT**	**21.43**	**91**	*eP*	**P**	**17 07 27.6**	**-0.1**
ITTB	**Itaituba**	**21.65**	**58**	*eP*	**P**	**17 07 29.0**	**-1.0**
PTGB	**Pitanga**	**22.19**	**115**	*eP*	**P**	**17 07 37.9**	**+1.9**
RUSC	**La Rusia**	**22.20**	**3**	P	**P**	**17 07 34.4**	**-2.1**
SNDB	**Serra Nova Dou**	**22.54**	**82**	*eP*	**P**	**17 07 38.9**	**-0.8**
LDASE	**Londrina, Braz**	**22.67**	**111**	*eP*	**P**	**17 07 43.3**	**+2.2**
ITRB	**Iturama**	**22.80**	**102**	*eP*	**P**	**17 07 44.8**	**+2.5**
BOAV	**Boa Vista**	**23.01**	**37**	P	**P**	**17 07 43.5**	**-1.1**
BOAV				IAmb	IAmb	17 07 52.2	
	comp=Z,11nm,0.8s						
BOAV	**Boa Vista**	**23.01**	**37**	*eP*	**P**	**17 07 45.7**	**+1.1**
ITAB	**Concordia**	**23.02**	**122**	P	**P**	**17 07 44.4**	**-0.1**
ITAB				IAmb	IAmb	17 08 07.9	
	comp=Z,16nm,0.8s						
CPSB	**Cacapava Do Su**	**23.46**	**130**	*eP*	**P**	**17 07 50.1**	**+1.2**
TRQA	**Tornquist**	**24.04**	**156**	P	**P**	**17 07 53.6**	**-0.8**
TRQA				IAmb	IAmb	17 08 37.2	
	comp=Z,6.8nm,1.0s						
FRTB	**Fartura**	**24.05**	**111**	*eP*	**P**	**17 07 56.0**	**+1.4**
PLTB	**Pedras Altas**	**24.08**	**133**	P	**P**	**17 07 55.1**	**+0.3**
PLTB				IAmb	IAmb	17 08 05.5	
	comp=Z,18nm,1.3s						
PLTB	**Pedras Altas**	**24.08**	**133**	*eP*	**P**	**17 07 56.9**	**+2.1**
PLCA	**Paso Flores**	**24.41**	**173**	P	**P**	**17 07 58.3**	**+0.5**
PLCA				IAmb	IAmb	17 08 03.2	
	comp=Z,14nm,1.1s						
PLCA	**Paso Flores**	**24.41**	**173**	*eP*	**P**	**17 08 01.1**	**+3.3**
BB19B	**Bebedouro**	**24.64**	**105**	*eP*	**P**	**17 08 01.3**	**+1.2**
IPMB	**Ipameri, GO**	**24.77**	**97**	*eP*	**P**	**17 08 01.8**	**+0.5**
CNLB	**Canela**	**24.90**	**125**	*eP*	**P**	**17 08 03.9**	**+1.5**
BDFB	**Brasilia**	**25.08**	**92**	P	**P**	**17 08 04.0**	**-0.2**
BDFB				IAmb	IAmb	17 08 05.8	
	comp=Z,12nm,0.9s						
BDFB	**Brasilia**	**25.08**	**92**	P	**P**	**17 08 04.1**	**0.0**
	comp=Z,6.4nm,0.6s,baz=259,slow=10,SNR=9.6						
	comp=Z,6.4nm,0.6s						
RCLB	**Rio Claro- Sao**	**25.73**	**108**	*eP*	**P**	**17 08 11.6**	**+1.6**
PRPB	**Paraiapebas**	**25.87**	**70**	*eP*	**P**	**17 08 12.0**	**+0.8**
BAUV	**El Baul**	**25.91**	**14**	P	**P**	**17 08 10.6**	**-0.9**
SMTB	**Santa Maria do**	**26.91**	**77**	*eP*	**P**	**17 08 21.7**	**+1.0**
JTS	**Las Juntas de**	**28.64**	**337**	LR	LR	17 19 36.3	
	comp=Z,170nm,20.9s,baz=140,slow=35						
JANB	**Januaria**	**28.69**	**91**	*eP*	**P**	**17 08 37.6**	**+1.0**
GDU01	**Guandu, BA**	**33.42**	**90**	*eP*	**P**	**17 09 19.1**	**+0.9**
RPN	**Rapa Nui**	**34.30**	**246**	LR	LR	17 19 40.0	
	comp=Z,231nm,20.9s,baz=355,slow=29						
NBPB	**Pedra_Branca-C**	**35.50**	**76**	*eP*	**P**	**17 09 35.9**	**-0.4**
NBLA	**Lagarto - SE**	**35.65**	**86**	*eP*	**P**	**17 09 37.3**	**-0.2**
NBAN	**Anadia - AL**	**37.41**	**84**	*eP*	**P**	**17 09 52.9**	**+0.3**
MG03	**Isla Dawson**	**37.45**	**176**	P	**P**	**17 09 52.2**	**-0.2**
NBCA	**Caruaru-PE**	**38.03**	**82**	*eP*	**P**	**17 09 58.7**	**+0.8**
RCBR	**Riachuelo**	**38.85**	**79**	LR	LR	17 27 01.8	
	comp=Z,98nm,20.6s,baz=266,slow=38						
CMIG	**Matias Romero**	**39.10**	**327**	LR	LR	17 25 07.6	
	comp=Z,61nm,18.4s,baz=192,slow=34						
Y45A	**Yeager Farm, C**	**52.13**	**344**	P	**P**	**17 11 49.6**	**+0.1**
TKL	**Tuckaleechee C**	**52.60**	**350**	LR	LR	17 35 59.4	
	comp=Z,37nm,18.3s,baz=173,slow=38						
TXAR	**Lajitas Array**	**53.71**	**328**	P	**P**	**17 12 03.0**	**+1.6**
	comp=Z,0.4nm,0.4s,baz=156,slow=11,SNR=4.4						
TXAR				LR	LR	17 34 04.6	
	comp=Z,42nm,18.9s,baz=87,slow=35						
	comp=Z,0.4nm,0.4s						
SADO	**Sadowa**	**61.07**	**356**	LR	LR	17 44 06.6	
	comp=Z,68nm,18.2s,baz=80,slow=41						
PFO	**Pinyon Flats O**	**64.09**	**321**	LR	LR	17 37 03.8	
	comp=Z,28nm,20.1s,baz=102,slow=32						
PDAR	**Pinedale Array**	**67.33**	**332**	LR	LR	17 43 14.7	
	comp=Z,19nm,21.2s,baz=74,slow=36						
SNAA	**Sanae**	**68.64**	**161**	P	**P**	**17 13 44.2**	**+2.3**
SNAA	**Sanae**	**68.64**	**161**	⇑P	**P**	**17 13 44.8**	**+2.8**
	comp=Z,113nm,0.5s						
SNAA	**Sanae**	**68.64**	**161**	P	**P**	**17 13 44.6**	**+2.6**
	comp=Z,5.9nm,0.6s,baz=276,slow=8.6,SNR=28						
	comp=Z,5.9nm,0.6s						
TROLL	**Troll, Antarti**	**70.36**	**161**	⇑P	**P**	**17 13 55.0**	**+2.3**
	comp=Z,75nm,0.5s						
PPT	**Papeete**	**71.71**	**257**	LR	LR	17 37 54.2	
	comp=Z,46nm,20.8s,baz=105,slow=29						
DBIC	**Dimbokro**	**72.21**	**77**	P	**P**	**17 14 04.9**	**+0.2**
	comp=Z,5.1nm,0.5s,baz=243,slow=6.5,SNR=10						
DBIC				LR	LR	17 45 16.9	
	comp=Z,87nm,18.1s,baz=219,slow=36						
	comp=Z,5.1nm,0.5s						
QSPA	**South Pole Qui**	**73.73**	**180**	P	**P**	**17 14 14.4**	**+1.4**
QSPA				IAmb	IAmb	17 14 27.6	
	comp=Z,2.9nm,0.8s						
QSPA	**South Pole Qui**	**73.73**	**180**	P	**P**	**17 14 16.2**	**+3.3**
	comp=Z,2.7nm,0.5s,baz=294,slow=0.6,SNR=34						
QSPA				LR	LR	17 45 53.9	
	comp=Z,20nm,18.0s,baz=190,slow=35						
	comp=Z,2.7nm,0.5s						
NEW	**Newport**	**74.95**	**332**	LR	LR	17 48 59.1	
	comp=Z,43nm,19.1s,baz=72,slow=37						
TORD	**Torodi Ar. Bea**	**80.45**	**73**	P	**P**	**17 14 51.4**	**0.0**
TORD	**Torodi Ar. Bea**	**80.45**	**73**	P	**P**	**17 14 52.0**	**+0.6**
	comp=Z,7.4nm,0.7s,baz=265,slow=5.2,SNR=39						
TORD				LR	LR	17 49 46.5	
	comp=Z,52nm,18.4s,baz=275,slow=35						
	comp=Z,7.4nm,0.7s						
TAM	**Tamanrasset**	**87.06**	**65**		**P**	**17 15 25.8**	**+0.5**
BOSA	**Boshof**	**90.19**	**120**	LR	LR	17 53 23.3	
	comp=Z,38nm,19.4s,baz=212,slow=34						
H11S2	**WAKE ISLAND Hy**	**122.20**	**282**	T	T	19 35 37.5	
	baz=98,slow=75,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**122.21**	**282**	T	T	19 35 31.2	
	baz=98,slow=75,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**122.22**	**282**	T	T	19 35 40.4	
	baz=98,slow=75,SNR=8.8						
PETK	**Petropavlovsk-**	**125.60**	**324**	PKP	**PKiKP**	**17 21 42.5**	**+2.0**
	comp=Z,3.2nm,0.9s,baz=29,slow=3.3,SNR=2.0						
ASAR	**Alice Springs**	**131.66**	**215**	PKP	**PKiKP**	**17 21 54.2**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=138,slow=1.6,SNR=4.7						
WRA	**Warramunga Arr**	**134.32**	**219**	PKP	**PKiKP**	**17 21 59.7**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=139,slow=1.7,SNR=10						
ZALV	**Zalesovo Beam**	**139.11**	**19**	PKP	**PKiKP**	**17 22 07.5**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=325,slow=2.3,SNR=7.3						
MKAR	**Makanchi Array**	**143.94**	**28**	PKP	PKPbc	17 22 13.9	+1.6
	comp=Z,1.0nm,0.7s,baz=329,slow=4.2,SNR=5.9						
MJAR	**Matsushiro Arr**	**145.07**	**311**	PKPbc	**PKPab**	**17 22 17.1**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=64,slow=4.7,SNR=3.8						
SONM	**Songino Array**	**148.68**	**359**	PKPbc	**PKiKP**	**17 22 28.2**	**+0.4**
	comp=Z,4.2nm,0.7s,baz=339,slow=2.0,SNR=21						
KSRS	**Korea Array**	**151.43**	**321**	PKPbc	**PKiKP**	**17 22 35.8**	**+2

comp=Z,14nm,0.8s
DKNS Dickens 3.54 237 Pn 17 23 11.2 -1.8
DKNS IAmb_Lg 17 24 12.3
comp=Z,18nm,1.1s
ABTX Abilene, Hawle 3.57 212 Pn Pn 17 23 13.4 0.0
ABTX IAmb_Lg 17 24 13.5
comp=Z,14nm,0.9s
AMTX Amarillo 3.61 259 Pn Pn 17 23 14.7 +0.7
AMTX IAmb_Lg 17 24 20.1
comp=Z,13nm,0.9s
CBKS Cedar Bluff 3.66 330 Pn 17 23 13.5 -1.2
CBKS IAmb_Lg 17 24 17.2
comp=Z,15nm,0.8s
S39A Bolivar 3.83 57 Pn 17 23 16.3 -0.7
SN07 Snyder 07 3.88 230 Pn 17 23 15.6 -2.1
SN07 IAmb_Lg 17 24 25.3
comp=Z,13nm,0.8s
X40A Basin Creek Fa 3.91 106 Pn Pn 17 23 15.6 -2.4
SN05 Snyder 5 4.02 227 Pn 17 23 17.9 -1.8
SN05 IAmb_Lg 17 24 27.9
comp=Z,13nm,0.8s
WHAR Wooly Hollow 4.17 94 Pn 17 23 19.8 -1.8
WHAR IAmb_Lg 17 24 39.4
comp=Z,12nm,0.7s
UALR University of 4.22 101 Pn 17 23 19.2 -3.0
UALR IAmb_Lg 17 24 34.8
comp=Z,16nm,0.7s
FCAR Ozark Folk Cen 4.28 85 Pn Pn 17 23 21.6 -1.4
MGMO Mountain Grove 4.38 69 Pn Pn 17 23 22.7 -1.8
MGMO IAmb_Lg 17 24 38.5
comp=Z,11nm,0.8s
RTBA Rita Blanca 4.41 282 Pn Pn 17 23 22.9 -2.2
RTBA IAmb_Lg 17 24 43.9
comp=Z,12nm,0.8s
BRDY Brady 4.57 198 Pn Pn 17 23 25.0 -2.2
BRDY IAmb_Lg 17 24 45.6
comp=Z,17nm,0.9s
MSTX Muleshoe 4.75 251 Pn 17 23 28.6 -1.1
R40A Maddies Statio 4.86 56 Pn Pn 17 23 29.5 -1.6
R40A IAmb_Lg 17 25 01.5
comp=Z,9.6nm,0.9s
SGCY Sterling City 4.87 221 IAmb_Lg 17 25 05.0
comp=Z,14nm,0.8s
P38A Dawn 4.99 37 Pn Pn 17 23 30.7 -2.2
LCAR Lake Charles 5.07 84 Pn Pn 17 23 31.9 -2.1
LCAR IAmb_Lg 17 25 00.2
comp=Z,11nm,1.0s
T42A Van Buren 5.25 73 IAmb_Lg 17 25 09.1
comp=Z,8.6nm,0.9s
CCM Cathedral Cave 5.46 62 Pn 17 23 38.0 -1.4
CCM IAmb_Lg 17 25 16.2
comp=Z,14nm,0.9s
P40A Paris 5.72 46 Pn Pn 17 23 41.5 -1.4
PBMO Poplar Bluff 5.72 77 Pn Pn 17 23 41.2 -1.8
PBMO IAmb_Lg 17 25 22.3
comp=Z,13nm,0.8s
T25A Trinidad 5.86 287 Pn Pn 17 23 43.0 -2.0
FVM French Village 6.04 65 Pn Pn 17 23 44.3 -3.0
FVM IAmb_Lg 17 25 38.4
comp=Z,8.5nm,0.8s
DRIO Del Rio 6.80 205 IAmb_Lg 17 26 00.6
comp=Z,6.4nm,0.8s
SDCO Great Sand Dun 6.85 290 IAmb_Lg 17 25 58.1
comp=Z,5.8nm,1.0s

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*NEIC **20** 17:23:27.8±0.7, 35°.670N±0°.009×97°.40W±0°.01, h7km±2km, ML2.2/46, ML2.7/17, Error ellipse: s-maj=1.5km s-min=1.3km az=107.0*

NEIC 20 17:23:27.8±0.8, 35°.665N±0°.008×97°.39W±0°.01, h6km±1km, Error ellipse: s-maj=1.4km s-min=1.1km az=54.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.02**	**128**		Pg	17 23 29.3	+0.3
ADOK				Sg	Sg	17 23 30.5	+0.6
OK029	**Liberty Lake**	**0.14**	**338**		Pg	17 23 31.1	+0.3
OK029				Sg	Sg	17 23 33.3	+0.5
OK029				IAML		17 23 33.6	
991nm,0.3s							
OK004	**Okla Sci Mus**	**0.16**	**206**		Pg	17 23 31.4	+0.4
BCOK	**Bluff Creek, N**	**0.18**	**268**		Pg	17 23 31.6	+0.2
FNO	**Franklin**	**0.41**	**181**	Pg	Pg	17 23 35.7	0.0
FNO					Sg	17 23 42.0	+1.0
FNO				IAML		17 23 42.2	
comp=E,310nm,0.4s							
OK031	**S. Brethren Rd**	**0.53**	**57**		Pg	17 23 38.4	+0.3
OK031					Sg	17 23 45.9	+0.8
OK031				IAML		17 23 46.3	
comp=E,196nm,0.1s							
OK052	**Battle Ridge R**	**0.58**	**55**		Pg	17 23 39.1	+0.2
OK052					Sg	17 23 47.5	+1.0
OK052				IAML		17 23 48.1	
comp=E,143nm,0.2s							
OK052				IAML		17 23 48.5	
comp=E,99nm,0.1s							
W35A	**Tecumseh**	**0.66**	**140**		Pg	17 23 40.5	-0.1
W35A					Sg	17 23 49.5	+0.3
W35A				IAML		17 23 50.3	
comp=E,87nm,0.5s							
DEOK	**Depew**	**0.75**	**76**		Pg	17 23 41.4	-0.8
DEOK					Sg	17 23 52.5	+0.6
DEOK				IAML		17 23 53.9	
comp=E,70nm,0.2s							
DEOK				IAML		17 23 55.4	
comp=N,92nm,0.3s							
QUOK	**Quay**	**0.75**	**47**		Pg	17 23 41.9	-0.3
QUOK					Sg	17 23 52.6	+0.6
QUOK				IAML		17 23 53.4	
comp=E,127nm,0.2s							
OK048	**Pawnee Station**	**0.83**	**26**		Pg	17 23 43.6	-0.3
OK048					Sg	17 23 54.9	+0.2
OK048				IAML		17 23 55.0	
comp=E,130nm,0.2s							
OK048				IAML		17 23 55.2	
comp=E,90nm,0.1s							
OK051	**E0350 and S346**	**0.95**	**28**	Pg	Pg	17 23 45.8	-0.3
CROK	**Carrier**	**0.97**	**330**		Pg	17 23 46.0	-0.4
CROK				IAML		17 24 10.6	
comp=E,102nm,0.3s							
CSTR	**Hydro, Custer**	**1.06**	**269**	Pg	Pg	17 23 47.3	-0.8
BLOK	**Blackwell**	**1.10**	**7**	Pg	Pg	17 23 47.8	-1.2
X34A	**Smith Ranch, M**	**1.12**	**199**	Pg	Pg	17 23 48.3	-1.0
X34A					Sn	17 24 05.2	-0.6
X34A				IAML		17 24 08.3	
comp=E,63nm,0.5s							
X34A				IAML		17 24 08.3	
comp=N,63nm,0.5s							
GC02	**Grant County #**	**1.24**	**342**		Pg	17 23 50.0	-1.7
GC02					Sg	17 24 07.4	-0.4
TUL3	**Leonard**	**1.32**	**79**		Pn	17 23 51.5	-1.3
TUL3				IAML		17 24 11.1	
comp=E,41nm,0.3s							
TUL3				IAML		17 24 13.1	
comp=N,39nm,0.6s							
OK038	**West end E0370**	**1.36**	**307**		Pn	17 23 52.5	-0.8
KAN14	**Manchester OK**	**1.37**	**340**		Pn	17 23 51.5	-1.9
KAN17	**Caldwell West**	**1.41**	**348**		Pn	17 23 52.0	-2.0
WMOK	**Wichita Mounta**	**1.47**	**231**		Pn	17 23 53.8	-1.0
KAN01	**Argonia South**	**1.52**	**349**		Pn	17 23 53.8	-1.6
KAN08	**Anthony NE Sta**	**1.63**	**343**		Pn	17 23 56.3	-0.7
RLO	**Rose Lookout**	**1.99**	**75**	Pn	Pn	17 24 01.2	-0.7
T25A	**Trinidad**	**5.85**	**287**		Pn	17 24 53.1	-2.1

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*NEIC **20** 17:26:00.2±0.8, 35°.669N±0°.010×97°.40W±0°.01, h7km±2km, mb_Lg2.1/10, ML2.7/23, ML2.2/45, Error ellipse: s-maj=1.5km s-min=1.2km az=142.0*

NEIC 20 17:26:00.3±0.8, 35°.669N±0°.009×97°.41W±0°.01, h8km±5km, Error ellipse: s-maj=1.5km s-min=1.3km az=105.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.04**	**117**	Pg	Pg	17 26 01.8	-0.1
ADOK				Sg	Sg	17 26 02.4	-0.7
OK009	**Oakdale Elemen**	**0.09**	**186**		Pg	17 26 02.6	+0.1
OK029	**Liberty Lake**	**0.13**	**345**		Pg	17 26 03.5	+0.3
OK029					Sg	17 26 05.9	+0.6
OK029				IAML		17 26 06.0	
1μm,0.3s							
OK004	**Okla Sci Mus**	**0.15**	**200**		Pg	17 26 03.9	+0.3
OK004					Sg	17 26 06.5	+0.7
BCOK	**Bluff Creek, N**	**0.16**	**266**		Pg	17 26 04.0	+0.3
BCOK					Sg	17 26 06.8	+0.8
FNO	**Franklin**	**0.41**	**179**		Pg	17 26 08.2	-0.1
FNO					Sg	17 26 14.5	+0.8
FNO				IAML		17 26 14.8	
comp=N,166nm,0.3s							
OK031	**S. Brethren Rd**	**0.55**	**58**		Pg	17 26 10.8	-0.1
OK031					Sg	17 26 18.2	+0.3
OK031				IAML		17 26 19.0	
comp=N,114nm,0.1s							
OK052	**Battle Ridge R**	**0.59**	**57**		Pg	17 26 11.4	-0.3
OK052					Sg	17 26 19.7	+0.3
OK052				IAML		17 26 20.2	
comp=N,153nm,0.1s							
OK052				IAML		17 26 20.3	
comp=N,101nm,0.3s							
W35A	**Tecumseh**	**0.68**	**139**		Pg	17 26 13.1	-0.2
W35A					Sg	17 26 22.4	+0.2
W35A				IAML		17 26 22.6	
comp=E,94nm,0.6s							
QUOK	**Quay**	**0.76**	**48**		Pg	17 26 14.6	-0.3
QUOK					Sg	17 26 25.0	+0.1
QUOK				IAML		17 26 26.1	
comp=E,115nm,0.2s							
DEOK	**Depew**	**0.76**	**77**		Pg	17 26 14.6	-0.3
DEOK					Sg	17 26 24.9	0.0
DEOK				IAML		17 26 25.2	
comp=N,110nm,0.2s							
DEOK				IAML		17 26 25.3	
comp=E,70nm,0.3s							
OK048	**Pawnee Station**	**0.84**	**27**		Pg	17 26 16.2	-0.2
OK048					Sg	17 26 27.4	+0.1
OK048				IAML		17 26 27.5	
comp=E,125nm,0.2s							
CROK	**Carrier**	**0.95**	**331**		Pg	17 26 18.1	-0.5
CROK				IAML		17 26 42.1	
comp=N,92nm,0.3s							
CROK				IAML		17 26 43.0	
comp=E,83nm,0.3s							
OK051	**E0350 and S346**	**0.96**	**29**		Pg	17 26 18.4	-0.3
OK051					Sg	17 26 31.0	-0.1
CSTR	**Hydro, Custer**	**1.04**	**269**	Pn	Pn	17 26 21.4	+0.2
X34A	**Smith Ranch, M**	**1.12**	**198**		Pb	17 26 21.9	0.0
X34A					Sn	17 26 37.4	-0.5
X34A				IAML		17 26 40.8	
comp=E,66nm,0.5s							
X34A				IAML		17 26 40.9	
comp=N,79nm,0.5s							
GC02	**Grant County #**	**1.23**	**343**		Pn	17 26 22.7	-1.2
GC02					Sg	17 26 40.2	+0.2
TUL3	**Leonard**	**1.34**	**79**		Pn	17 26 23.9	-1.3
TUL3				IAML		17 26 43.6	
comp=E,52nm,0.3s							
TUL3				IAML		17 26 43.8	
comp=N,41nm,0.3s							
KAN13	**South Haven SW**	**1.34**	**358**		Pn	17 26 25.1	-0.2
OK038	**West end E0370**	**1.35**	**307**		Pn	17 26 24.8	-0.6
KAN14	**Manchester OK**	**1.36**	**341**		Pn	17 26 24.6	-1.0
KAN17	**Caldwell West**	**1.40**	**348**		Pn	17 26 25.5	-0.6
T35A	**Sooner Cattle**	**1.44**	**30**		Pn	17 26 26.2	-0.5
WMOK	**Wichita Mounta**	**1.46**	**231**		Pn	17 26 26.5	-0.3
KAN09	**Caldwell North**	**1.47**	**354**		Pn	17 26 26.6	-0.6
KAN01	**Argonia South**	**1.51**	**349**		Pn	17 26 27.4	-0.2
KAN08	**Anthony NE Sta**	**1.62**	**344**		Pn	17 26 29.4	+0.2
ELIS	**Ellis County**	**1.68**	**284**		Pn	17 26 27.6	-2.3
LOOK	**Love County**	**1.68**	**173**		Pn	17 26 30.6	+0.6
RLO	**Rose Lookout**	**2.00**	**75**		Pn	17 26 33.8	-0.6
RLO					Sg	17 27 03.4	-1.2
SMWD	**Samnorwood**	**2.38**	**257**		Pn	17 26 39.4	-0.2
SMWD				IAmb_Lg		17 27 15.6	
comp=Z,6.4nm,0.8s							
U38A	**Gravette**	**2.57**	**72**	Pn	Pn	17 26 41.7	-0.5
R32A	**Long Quarter,**	**2.94**	**340**	Pn	Pn	17 26 46.2	-1.1
MIAR	**Mount Ida**	**3.34**	**109**	Pn	Pn	17 26 52.5	-0.2
DKNS	**Dickens**	**3.52**	**236**	IAmb_Lg		17 27 52.4	
comp=Z,4.6nm,1.1s							
WHTX	**Lake Whitney,**	**3.67**	**181**	Pn	Pn	17 26 55.2	-2.1
SN07	**Snyder 07**	**3.86**	**229**	Pn	Pn	17 26 58.1	-1.9
SN07				IAmb_Lg		17 28 10.5	
comp=Z,6.8nm,0.8s							
X40A	**Basin Creek Fa**	**3.93**	**106**		Pn	17 26 59.0	-1.9
SN05	**Snyder 5**	**4.00**	**227**	IAmb_Lg		17 28 14.5	
comp=Z,5.3nm,0.8s							
FCAR	**Ozark Folk Cen**	**4.30**	**86**	IAmb_Lg		17 28 22.2	
comp=Z,3.1nm,0.8s							
BRDY	**Brady**	**4.57**	**197**	IAmb_Lg		17 28 30.4	
comp=Z,4.8nm,0.8s							

IDC 20 17:27:00.6±6.0, 15°.45S×176°.99W, h398km±30km, mb3.0/3, mbtmp3.8/4, Error ellipse: s-maj=265.7km s-min=34.5km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.28**	**244**	P	Pn	17 28 25.6	+0.1
21nm,0.8s,baz=58,slow=11,SNR=16							
WRA	**Warramunga Arr**	**46.47**	**257**	P	P	17 34 49.9	-0.2
0.2nm,0.3s,baz=94,slow=8.9,SNR=12							
0.2nm,0.3s							
ASAR	**Alice Springs**	**46.81**	**252**	P	P	17 34 52.7	0.0
2.6nm,0.4s,baz=84,slow=8.3,SNR=26							
2.6nm,0.4s							
ILAR	**Eielson Array**	**83.20**	**13**	P	P	17 38 43.0	0.0
0.2nm,0.6s,baz=211,slow=5.8,SNR=4.1							
0.2nm,0.6s							

IDC 20 17:37:35.9±563.0, 27°.24N×4°.30W, h0km, Error ellipse: s-maj=296.0km s-min=187.6km az=101.0, Southern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I48TN	**KESRA INFRASON**	**14.41**	**50**	I	I	19 01 21.0	
0.1nm,0.7s,baz=233,slow=311,SNR=3.0							
I17CI	**DIMBOKRO INFRA**	**20.46**	**182**	I	I	19 36 00.0	
0.2nm,2.3s,baz=359,slow=314,SNR=17							
I35NA	**TSUMEB INFRASO**	**50.79**	**153**	I	I	22 52 55.2	
baz=332,slow=304,SNR=2.7							

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*NEIC **20** 17:38:15.3±2.6, 3°.91N±0°.08×126°.76E±0°.06, h45km±8km, mb4.6/43, Error ellipse: s-maj=11.6km s-min=8.6km az=194.0*

*DJA **20** 17:38:16.0±0.5, 4°N±4°×12°7E±°, h10km, M4.6/10, mB5.1/3, mb4.9/5, MLv4.5/10, Mw(mB)4.5/3*

*IDC **20** 17:38:17.1±2.1, 3°.73N×126°.42E, h50km±20km, mb3.8/19, mbtmp4.1/22, ML4.2/2, MS3.1/11, Error ellipse: s-maj=27.8km s-min=9.9km az=75.0*

ISC 20 17:38:15.7±0.4, 3°.83N±0°.05×126°.64E±0°.07, h45km, n95, σ1§59/84, mb4.4/37, MS2.9/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.12**	**166**		**Pn**	**17 39 03.2**	**+0.7**
TNTI	**Ternate**	**3.12**	**166**	P	**Pn**	**17 39 04.6**	**+2.1**
DAV	**Davao City (W)**	**3.39**	**342**	P	**Pn**	**17 39 07.5**	**+1.4**
151nm,0.3s,baz=187,slow=8.1,SNR=0.8							
DAV				S	**Sn**	**17 39 47.4**	**+2.2**
94nm,0.3s,baz=233,slow=20,SNR=1.3							
KMSI	**Cibinong**	**4.18**	**219**	P	**Pn**	**17 39 21.2**	**+4.2**
MRSI	**Marisa**	**5.75**	**235**	P	**Pn**	**17 39 41.8**	**+3.2**
SANI	**Sanana**	**5.87**	**186**	P	**Pn**	**17 39 39.3**	**-1.0**
LUWI	**Luwuk**	**6.19**	**219**		Pn	17 39 50.2	+5.5
LUWI	**Luwuk**	**6.19**	**219**	P	**Pn**	**17 39 49.0**	**+4.4**
152nm,1.0s,2μm0.7nm							
TOLI2	**Tolitoli**	**6.44**	**245**		**Pn**	**17 39 47.6**	**-0.5**
SWI	**Sorong**	**6.56**	**135**	P	**Pn**	**17 39 50.7**	**+0.9**
APSI	**Ampana**	**6.86**	**227**	P	Pn	17 40 03.1	+9.3
MYLDM	**Lahad Datu**	**8.22**	**280**		**Pn**	**17 40 13.3**	**+0.8**
KDI	**Kendari**	**8.71**	**207**	P	Pn	17 40 33.4	+14
TTSI	**Tana Toraja**	**9.64**	**225**	P	Pn	17 40 43.3	+11
KKM	**Kota Kinabalu**	**10.61**	**282**	Pn	**Pn**	**17 40 45.5**	**0.0**
KAPI	**Kappang**	**11.15**	**218**	LR	LR	17 45 33.9	
comp=Z,113nm,21.0s,baz=51,slow=40							
TGY	**Tagaytay City**	**11.65**	**332**	LR	LR	17 46 00.4	
comp=Z,122nm,18.4s,baz=134,slow=40							
SOEI	**Soe**	**13.70**	**190**	Pn	**Pn**	**17 41 26.7**	**-0.9**
BATI	**Baumata**	**14.25**	**192**	P	**Pn**	**17 41 35.7**	**+0.7**
0.6nm,0.3s,baz=162,slow=6.4,SNR=1.8							
12nm,0.7s							
SBUM	**Sibu**	**14.46**	**265**		**Pn**	**17 41 40.7**	**+3.0**
GENI	**Genyem**	**14.95**	**115**	P	**P**	**17 41 51.3**	**+2.2**
JAY	**Jayapura**	**15.41**	**114**	P	**P**	**17 41 54.5**	**+0.3**
1.5nm,0.3s,baz=284,slow=4.4,SNR=8.7							
18nm,1.0s							
MTN	**Manton Dam**	**17.15**	**165**		**Pn**	**17 42 09.9**	**-2.4**
JAGI	**Jajag, Banyuwa**	**17.44**	**226**	P	**Pn**	**17 42 16.7**	**+0.7**
JAGI				IAmb	IAmb	17 42 52.0	
comp=Z,68nm,1.5s							
KNRA	**Kununurra**	**19.49**	**174**	P	**P**	**17 42 37.6**	**-1.6**
KNRA				IAmb	IAmb	17 42 41.9	
comp=Z,13nm,0.6s							
TWG	**Pinlang**	**19.64**	**345**	P	**P**	**17 42 37.5**	**-3.2**
TWG				IAmb	IAmb	17 42 38.0	
comp=Z,63nm,1.5s							
YULB	**Yu-li**	**20.12**	**346**	P	**P**	**17 42 43.1**	**-3.0**
YULB				IAmb	IAmb	17 42 51.7	
comp=Z,28nm,1.3s							
TPUB	**Ta-pu**	**20.21**	**344**	P	**P**	**17 42 46.0**	**-1.1**
GUMO	**Guam**	**20.45**	**61**	LR	LR	17 49 32.8	
comp=Z,33nm,21.7s,baz=256,slow=33							
SSLB	**Suanglung**	**20.59**	**345**	P	**P**	**17 42 49.7**	**-1.4**
SSLB				IAmb	IAmb	17 43 02.7	
comp=Z,31nm,1.5s							
YOJ	**Yonaguni jima**	**20.81**	**351**	P	**P**	**17 42 52.6**	**-0.8**
YHNB	**Yeheng**	**21.33**	**347**	P	**P**	**17 42 58.7**	**-0.4**
YHNB				IAmb	IAmb	17 43 36.2	
comp=Z,61nm,1.5s							
FITZ	**Fitzroy Crossi**	**21.81**	**183**	P	**P**	**17 43 02.5**	**-1.7**
FITZ	**Fitzroy Crossi**	**21.81**	**183**	P	**P**	**17 43 04.7**	**+0.5**
comp=Z,4.1nm,0.6s,baz=14,slow=9.1,SNR=14							
comp=Z,4.1nm,0.6s							
WB0	**Warramunga Arr**	**24.66**	**162**		**P**	**17 43 31.2**	**-1.2**
WRA	**Warramunga Arr**	**24.80**	**163**		**P**	**17 43 31.6**	**-2.2**
WRA	**Warramunga Arr**	**24.80**	**163**	P	**P**	**17 43 33.5**	**-0.2**
comp=Z,2.1nm,0.4s,baz=341,slow=9.9,SNR=27							
comp=Z,2.1nm,0.4s							
WB2	**Warramunga Arr**	**24.81**	**162**		**P**	**17 43 33.0**	**-0.9**
WR0	**Warramunga Arr**	**24.88**	**162**	P	**P**	**17 43 33.4**	**-1.1**
MBWA	**Marble Bar**	**25.74**	**195**	P	**P**	**17 43 42.0**	**-0.2**
MBWA				IAmb	IAmb	17 43 45.0	
comp=Z,32nm,1.4s							
PSA00	**Pilbara Seismi**	**26.11**	**194**	P	**P**	**17 43 45.5**	**-0.1**
PSA00				IAmb	IAmb	17 43 47.9	
comp=Z,24nm,1.1s							
ASAR	**Alice Springs**	**28.23**	**166**	P	**P**	**17 44 04.5**	**-0.2**
comp=Z,0.8nm,0.5s,baz=345,slow=7.7,SNR=9.6							
comp=Z,0.8nm,0.5s							
JNU	**Nakatsue**	**29.41**	**7**	LR	LR	17 54 44.9	
comp=Z,22nm,21.8s,baz=172,slow=33							
PHRA	**Phrae**	**29.66**	**301**	P	**P**	**17 44 17.7**	**+0.3**
SNSI	**Sinabang, Aceh**	**30.30**	**268**	P	**P**	**17 44 21.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**30.74**	**300**	P	**P**	**17 44 28.0**	**+1.0**
comp=Z,0.4nm,0.4s,baz=113,slow=7.0,SNR=2.4							
CMAR				LR	LR	17 56 35.1	
comp=Z,21nm,21.3s,baz=285,slow=36							
comp=Z,0.4nm,0.4s							
KSRS	**Korea Array**	**33.49**	**2**	P	**P**	**17 44 52.7**	**+2.0**
comp=Z,0.6nm,0.6s,baz=184,slow=9.8,SNR=1.6							
KSRS				LR	LR	17 59 21.0	
comp=Z,18nm,19.1s,baz=185,slow=38							
comp=Z,0.6nm,0.6s							
MORW	**Morawa**	**34.25**	**197**	P	**P**	**17 44 57.1**	**-0.5**
MJAR	**Matsushiro Arr**	**34.26**	**17**	P	**P**	**17 45 01.7**	**+4.1**
comp=Z,0.8nm,0.7s,baz=200,slow=11,SNR=1.3							
comp=Z,0.8nm,0.7s							
HNR	**Honiara**	**35.71**	**112**	LR	LR	17 59 12.3	
comp=Z,38nm,20.4s,baz=228,slow=35							
EIDS	**Eidsvold**	**37.48**	**142**	P	**P**	**17 45 24.4**	**-0.9**
EIDS				IAmb	IAmb	17 45 41.2	
comp=Z,7.7nm,1.1s							
BBOO	**Buckleboo**	**37.52**	**167**	P	**P**	**17 45 26.1**	**+0.6**
NWAO	**Narrogin (SRO)**	**37.62**	**193**	P	**P**	**17 45 27.4**	**+1.1**
STKA	**Stephens Creek**	**38.25**	**159**	P	**P**	**17 45 32.4**	**+0.7**
STKA	**Stephens Creek**	**38.25**	**159**	P	**P**	**17 45 32.5**	**+0.8**
comp=Z,6.4nm,0.8s,baz=334,slow=8.8,SNR=7.7							
comp=Z,6.4nm,0.8s							
ARMA	**Armidale**	**41.60**	**147**	P	**P**	**17 45 58.1**	**-1.6**
ARMA				IAmb	IAmb	17 46 05.7	
comp=Z,21nm,1.5s							
ASAJ	**Asahikawa**	**42.53**	**17**	LR	LR	18 05 17.7	
comp=Z,21nm,19.8s,baz=189,slow=38							
JKA	**Kamikawa-asahi**	**42.53**	**17**	P	**P**	**17 46 07.3**	**+0.4**
CAN	**Canberra**	**44.24**	**154**	P	**P**	**17 46 21.5**	**+0.6**
CAN				IAmb	IAmb	17 47 04.8	
comp=Z,14nm,1.1s							
SONM	**Songino Array**	**47.18**	**341**	P	**P**	**17 46 42.4**	**-1.6**
SONM	**Songino Array**	**47.18**	**341**	P	**P**	**17 46 44.7**	**+0.7**
comp=Z,0.6nm,0.6s,baz=161,slow=9.2,SNR=4.0							
comp=Z,0.6nm,0.6s							
PEA0B	**Petropavlovsk-**	**55.38**	**22**	P	**P**	**17 47 43.5**	**-1.7**
PETK	**Petropavlovsk-**	**55.38**	**22**	P	**P**	**17 47 42.9**	**-2.3**
PETK	**Petropavlovsk-**	**55.38**	**22**	P	**P**	**17 47 46.5**	**+1.3**
comp=Z,2.1nm,0.7s,baz=164,slow=6.0,SNR=4.4							
comp=Z,2.1nm,0.7s							
MK31	**Makanchi Array**	**57.42**	**325**	P	**P**	**17 47 58.3**	**-1.7**
MK31				IAmb	IAmb	17 48 23.4	
comp=Z,8.4nm,1.5s							
MKAR	**Makanchi Array**	**57.42**	**325**	P	**P**	**17 47 58.0**	**-1.9**
MKAR	**Makanchi Array**	**57.42**	**325**	P	**P**	**17 48 00.3**	**+0.4**
comp=Z,0.8nm,0.4s,baz=119,slow=7.4,SNR=16							
MKAR				LR	LR	18 14 01.4	
comp=Z,53nm,18.2s,baz=34,slow=37							
comp=Z,0.8nm,0.4s							
MAKZ	**Makanchi**	**57.61**	**325**	P	**P**	**17 47 60.0**	**-1.3**
MAKZ				IAmb	IAmb	17 48 22.6	
comp=Z,11nm,1.4s							
MA2	**Magadan**	**58.63**	**14**	LR	LR	18 15 06.1	
comp=Z,9.0nm,19.3s,baz=102,slow=38							
AAK	**Ala-Archa**	**60.22**	**318**	LR	LR	18 16 05.8	
comp=Z,74nm,19.4s,baz=75,slow=38							
ZALV	**Zalesovo Beam**	**60.46**	**333**	P	**P**	**17 48 21.6**	**+0.8**
comp=Z,0.7nm,0.6s,baz=116,slow=6.6,SNR=2.9							
comp=Z,0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**61.61**	**327**	P	**P**	**17 48 29.3**	**+0.7**
comp=Z,1.3nm,0.6s,baz=126,slow=6.2,SNR=15							
comp=Z,1.3nm,0.6s							
GAR	**Garm**	**61.79**	**313**	P	**P**	**17 48 30.2**	**-0.1**
GAR				IAmb	IAmb	17 48 31.8	
comp=Z,7.0nm,0.9s							
KKAR	**Karatay Array**	**63.10**	**317**	P	**P**	**17 48 37.7**	**-1.1**
KKAR	**Karatay Array**	**63.10**	**317**	P	**P**	**17 48 38.1**	**-0.7**
KKAR				IAmb	IAmb	17 48 41.9	
comp=Z,1.0nm,0.7s							
BVAR	**Borovoye Array**	**67.19**	**327**	P	**P**	**17 49 06.3**	**+1.2**
comp=Z,3.1nm,0.9s,baz=130,slow=8.0,SNR=11							
comp=Z,3.1nm,0.9s							
BRVK	**Borovoye**	**67.26**	**327**	P	**P**	**17 49 03.7**	**-1.8**
BRVK				IAmb	IAmb	17 49 08.7	
comp=Z,4.4nm,1.1s							
ABKAR	**Akbulak array**	**72.02**	**321**	P	**P**	**17 49 33.2**	**-1.7**
ABKAR	**Akbulak array**	**72.02**

AKASG	**Malin Array Be**	91.76	321	P	P	17 51 18.0	-0.7
	comp=Z,0.3nm,0.3s,baz=69,slow=5.1,SNR=3.3						
	comp=Z,0.3nm,0.3s						
NOA	**NORSAR Array B**	98.66	334	P	P	17 51 49.7	-0.3
	comp=Z,0.4nm,0.7s,baz=67,slow=4.5,SNR=2.1						
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	122.80	288	PKP	PKPdf	17 57 07.4	-0.5
	comp=Z,0.3nm,0.7s,baz=78,slow=3.6,SNR=2.5						

*UPP **20** 17:38:42.6±0.5, 67°.82N×20°.40E, h0km, ML2.8, Confirmed Induced event*
*HEL **20** 17:38:45.2±0.3, 67°.85N×20°.40E, h0km, ML1.4, Suspected explosion*
ISC 20 17:38:43.9±0.9, **67°.87N**±0°.03×**20°.49E**±0°.04, **h0**km, **n18**, σ1§**46**/28, **Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.10**	**325**	P	**Pg**	**17 38 45.1**	**-0.7**
KUA				S	**Sg**	**17 38 47.0**	**-0.1**
KOVU	**Salmi**	**0.37**	**341**	P	**Pg**	**17 38 50.4**	**-0.6**
KOVU	**Salmi**	**0.37**	**341**	P	**Pg**	**17 38 50.4**	**-0.6**
LANU	**Lannavaara**	**0.59**	**72**	PG	**Pb**	**17 38 56.8**	**-0.4**
LANU				SG	**Sb**	**17 39 06.0**	**-0.1**
KIF	**Kilpisjarvi**	**1.14**	**6**	*e*P	**Pb**	**17 39 06.2**	**-0.2**
HEF	**Hetta**	**1.30**	**64**	*e*P	**Pb**	**17 39 08.9**	**-0.4**
HEF	**Hetta**	**1.30**	**64**	PG	**Pn**	**17 39 09.3**	**0.0**
HEF				SG	**Sg**	**17 39 24.2**	**-1.5**
HEF				MSG		17 39 25.9	
	comp=Z,2.5nm,0.2s						
KLF	**Kolari**	**1.48**	**114**	PG	**Pg**	**17 39 12.2**	**0.0**
KLF				MSG		17 39 30.3	
	comp=Z,3.1nm,0.2s						
KLF				SN	**Sn**	**17 39 33.8**	**+2.0**
ERTU	**Ertsjaerv**	**1.48**	**153**	PG	**Pn**	**17 39 11.8**	**+0.1**
ERTU				SN	**Sn**	**17 39 33.9**	**+2.1**
KTK1	**Kautokeino**	**1.53**	**40**	PG	**Pg**	**17 39 13.7**	**+0.5**
KTK1				SN	**Sn**	**17 39 36.9**	**+3.9**
KALU	**Kalix**	**2.32**	**149**	PN	**Pn**	**17 39 24.3**	**+1.1**
	baz=331						
KALU				SG	**Sb**	**17 39 56.8**	**+1.2**
TOF	**Tornio**	**2.35**	**138**	PB	**Pb**	**17 39 25.6**	**-1.5**
TOF				MSG		17 39 54.9	
	comp=Z,1.3nm,0.2s						
TOF				SG	**Sb**	**17 39 57.3**	**+0.8**
RNF	**Rovaniemi**	**2.50**	**118**	PB	**Pb**	**17 39 28.4**	**-1.1**
RNF				SG	**Sg**	**17 40 02.5**	**-1.4**
KMNF	**Kaamanen**	**2.72**	**59**	PB	**Pb**	**17 39 32.5**	**-0.8**
KMNF				SB	**Sb**	**17 40 07.2**	**+0.1**
RAJF	**Raja-Jooseppi**	**2.98**	**75**	SG	**Sg**	**17 40 18.2**	**-1.4**
KEV	**Kevo**	**3.03**	**48**	MSG		17 40 15.4	
	comp=Z,0.8nm,0.2s						
KEV				SG	**Sg**	**17 40 18.3**	**-2.8**
RANF	**Ranua**	**3.10**	**124**	SG	**Sb**	**17 40 20.3**	**+2.1**
OBF4	**Vikkela, Lumij**	**3.59**	**147**	SN	**Sn**	**17 40 22.2**	**-1.5**

*IDC **20** 17:49:14.8±0.9, 20°.37N×93°.60E, h0km, mb3.9/14, mbtmp3.9/15, ML3.8/1, Error ellipse: s-maj=33.0km s-min=16.1km az=48.0*
*NEIC **20** 17:49:19.9±1.9, 20°.24N±0°.06×93°.65E±0°.06, h45km±6km, mb4.5/30, Error ellipse: s-maj=10.4km s-min=6.0km az=212.0*
*NDI **20** 17:49:19.7±3.5, 20°.47N×94°.23E, h10km, ML4.0, MW3.4, mb4.5(NEIC)*
*BKK **20** 17:50:00.7±1.5, 20°N±5°×97°E±1°1, h2km, M2.7/12, Mjma2.5/12, ML3.0/4, MLv2.6/12*
ISC 20 17:49:19.4±0.5, **20°.38N**±0°.05×**93°.72E**±0°.06, **h35**km, **n74**, σ1§**65**/78, **mb4.3**/30, **Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZL	**Aizawl**	**3.47**	**344**	*e*P	**Pn**	**17 50 14.7**	**+3.7**
AZL				*e*S	**Sn**	**17 50 53.5**	**+2.5**
IMP	**Imphal**	**4.43**	**3**	*e*P	**Pn**	**17 50 27.5**	**+3.2**
MHMT	**Maesarieng**	**4.55**	**118**	Pg	Pn	17 50 31.4	+5.6
CHTO	**Chiang Mai**	**5.17**	**107**	Pn	**Pn**	**17 50 36.0**	**+1.6**
CHTO				Sn	**Sn**	**17 51 31.8**	**-1.0**
CM31	**Chiang Mai Arr**	**5.29**	**110**	Pn	**Pn**	**17 50 36.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**5.29**	**110**	Pn	**Pn**	**17 50 36.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**5.29**	**110**	Pn	**Pn**	**17 50 38.0**	**+1.9**
	0.8nm,0.3s,baz=284,slow=14,SNR=12						
CMAR				Sn	**Sn**	**17 51 37.7**	**+1.9**
	1.1nm,0.3s,baz=305,slow=16,SNR=5.7						
CMAR				Lg	Lg	17 51 57.1	
	0.9nm,0.3s,baz=292,slow=31,SNR=4.8						
	2.0nm,0.5s						
CM02	**Chiang Mai Arr**	**5.30**	**111**	Pg	**Pn**	**17 50 40.3**	**+4.1**
CM05	**Chiang Mai Arr**	**5.32**	**111**	Pg	**Pn**	**17 50 40.5**	**+4.2**
CM01	**Chiang Mai Arr**	**5.32**	**111**	Pg	**Pn**	**17 50 40.7**	**+4.3**
KOHI	**KOHIMA**	**5.33**	**4**	*e*P	**Pn**	**17 50 35.9**	**-0.7**
KOHI				*e*S	**Sn**	**17 51 36.0**	**-0.8**
KOHI				IAML		17 51 39.3	
	154nm,0.6s						
KOHI				IAML		17 51 39.6	
	comp=E,163nm,0.4s						
CM09	**Chiang Mai Arr**	**5.34**	**110**	Pg	**Pn**	**17 50 41.2**	**+4.5**
CM04	**Chiang Mai Arr**	**5.35**	**111**	Pg	**Pn**	**17 50 40.7**	**+3.9**
SHL	**Shillong**	**5.43**	**342**	Pn	**Pn**	**17 50 39.5**	**+1.4**
SHL					**Sn**	**17 51 38.6**	**-0.8**
SHL	**Shillong**	**5.43**	**342**	*e*P	**Pn**	**17 50 39.8**	**+1.7**
SHL				*ex*	x	17 51 36.5	
SHL				IAML		17 51 41.2	
	comp=E,176nm,0.2s						
SHL				IAML		17 51 41.8	
	comp=N,159nm,0.2s						
PAYA	**Payao**	**5.88**	**99**	P	**Pn**	**17 50 43.9**	**-0.2**
PHRA	**Phrae**	**6.43**	**106**	Pn	**Pn**	**17 50 54.2**	**+2.6**
PHRA	**Phrae**	**6.43**	**106**	P	**Pn**	**17 50 52.4**	**+0.8**
ZIRO	**ZIRO**	**7.11**	**1**	*e*P	**Pn**	**17 51 00.5**	**-0.7**
ZIRO				*i x*	x	17 51 02.0	
ZIRO				*e*S	**Sn**	**17 52 19.4**	**-1.5**
ZIRO				IAML		17 52 23.2	
	comp=E,154nm,0.3s						
ZIRO				IAML		17 52 25.1	
	comp=E,210nm,0.3s						
GTK	**Tadong**	**8.34**	**327**	*e*S	**Sn**	**17 52 54.2**	**+3.2**
GTK				IAML		17 52 56.2	
	comp=E,135nm,0.2s						
GTK				IAML		17 52 59.0	
	comp=E,137nm,0.6s						
PBA	**Port Blair**	**8.73**	**186**	Pn	**Pn**	**17 51 21.2**	**-2.0**
PBA	**Port Blair**	**8.73**	**186**	*e*S	**Sn**	**17 53 01.5**	**+1.1**
PBA				IAML		17 53 04.5	
	comp=E,148nm,0.3s						
PBA				IAML		17 53 04.6	
	comp=N,128nm,0.0s						
PZH	**PanZhiHua**	**9.56**	**49**	P	Pn	17 51 40.3	+5.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
LSA	**Lhasa**	**9.56**	**346**	Pn	**Pn**	**17 51 35.8**	**+0.7**
LZH	**Lanzhou**	**17.99**	**27**	*e*P	**P**	**17 53 27.9**	**+0.7**
LZH				sP	sP	17 53 44.3	+3.1
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
NIL	**Nilore**	**22.46**	**310**	P	**P**	**17 54 15.6**	**0.0**
NIL				IAmb	IAmb	17 54 19.6	
	comp=Z,9.1nm,0.9s						
WMQ	**Urumqi**	**23.91**	**349**	*e*P	**P**	**17 54 31.3**	**+1.3**
WUS	**Wushi**	**24.13**	**332**	P	**P**	**17 54 32.9**	**+0.7**
WUS				IAmb	IAmb	17 54 35.0	
	comp=Z,5.6nm,0.7s						
PRZ	**Przheval'sk**	**25.54**	**333**	P	**P**	**17 54 45.7**	**+0.7**
PRZ				IAmb	IAmb	17 54 49.8	
	comp=Z,5.4nm,0.6s						
BTK	**Batken**	**27.72**	**320**	P	**P**	**17 55 03.7**	**-0.9**
MK31	**Makanchi Array**	**27.95**	**343**	P	**P**	**17 55 06.5**	**0.0**
MKAR	**Makanchi Array**	**27.95**	**343**	P	**P**	**17 55 06.2**	**-0.3**
MKAR	**Makanchi Array**	**27.95**	**343**	P	**P**	**17 55 07.8**	**+1.3**
	comp=Z,1.3nm,0.5s,baz=148,slow=10,SNR=24						
	comp=Z,1.3nm,0.5s						
SONM	**Songino Array**	**29.25**	**18**	P	**P**	**17 55 18.8**	**+0.6**
SONM	**Songino Array**	**29.25**	**18**	P	**P**	**17 55 18.8**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=196,slow=9.7,SNR=11						
	comp=Z,1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**32.48**	**342**	P	**P**	**17 55 47.6**	**+1.2**
	comp=Z,2.7nm,0.6s,baz=155,slow=8.2,SNR=18						
	comp=Z,2.7nm,0.6s						
KURK	**Kurchatov**	**32.53**	**342**	P	**P**	**17 55 47.5**	**+0.6**
KURK				IAmb	IAmb	17 55 48.6	
	comp=Z,4.1nm,0.8s						
ZAA0	**Zalesovo Array**	**34.19**	**351**	P	**P**	**17 56 00.9**	**-0.5**
ZAA0				IAmb	IAmb	17 56 02.7	
	comp=Z,3.3nm,1.0s						
ZALV	**Zalesovo Beam**	**34.19**	**351**	P	**P**	**17 56 00.2**	**-1.1**
ZALV	**Zalesovo Beam**	**34.19**	**351**	P	**P**	**17 56 02.1**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=169,slow=9.5,SNR=9.5						
	comp=Z,2.1nm,0.6s						
JMZ	**Minamidaito 2**	**34.84**	**74**	P	**P**	**17 56 07.3**	**0.0**
BVAR	**Borovoye Array**	**37.22**	**337**	P	**P**	**17 56 26.4**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=119,slow=5.8,SNR=5.7						
	comp=Z,1.1nm,0.4s						
BRVK	**Borovoye**	**37.29**	**337**	P	**P**	**17 56 28.5**	**+0.6**
ABKAR	**Akbulak array**	**39.42**	**325**	P	**P**	**17 56 44.8**	**-1.0**
ABKAR	**Akbulak array**	**39.42**	**325**	P	**P**	**17 56 45.2**	**-0.7**
USRK	**Ussuriysk Ar.**	**39.62**	**44**	P	**P**	**17 56 47.7**	**0.0**
	comp=Z,0.9nm,0.6s,baz=250,slow=7.1,SNR=2.0						
	comp=Z,0.9nm,0.6s						
ARTI	**Arti**	**44.49**	**333**	P	**P**	**17 57 27.5**	**+0.4**
ARTI				IAmb	IAmb	17 57 28.9	
	comp=Z,6.5nm,1.0s						
YAK	**Yakutsk**	**48.45**	**22**	P	**P**	**17 57 57.3**	**-0.8**
YAK				IAmb	IAmb	17 57 58.4	
	comp=Z,9.5nm,0.7s						
MORW	**Morawa**	**53.67**	**156**	P	**P**	**17 58 35.1**	**-2.6**
BRTR	**Keskin Array B**	**54.46**	**305**	P	**P**	**17 58 42.4**	**-1.3**
BRTR	**Keskin Array B**	**54.46**	**305**	P	**P**	**17 58 44.0**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=130,slow=6.4,SNR=2.4						
	comp=Z,0.5nm,0.8s						
MA2	**Magadan**	**56.10**	**31**	P	**P**	**17 58 54.0**	**-1.0**
WRA	**Warramunga Arr**	**56.46**	**133**	P	**P**	**17 58 58.6**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=318,slow=7.7,SNR=7.2						
	comp=Z,0.4nm,0.5s						
WR0	**Warramunga Arr**	**56.61**	**133**	P	**P**	**17 58 57.3**	**-1.9**
WR0				IAmb	IAmb	17 59 11.1	
	comp=Z,5.8nm,1.4s						
AKASG	**Malin Array Be**	**58.39**	**318**	P	**P**	**17 59 11.6**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=82,slow=6.7,SNR=6.6						
	comp=Z,0.4nm,0.5s						
AKBB	**Malin Array Si**	**58.39**	**318**	P	**P**	**17 59 09.6**	**-1.7**
AKBB				IAmb	IAmb	17 59 15.8	
	comp=Z,9.2nm,1.4s						
KIEV	**Kiev**	**58.40**	**318**	P	**P**	**17 59 09.7**	**-1.6**
KIEV				IAmb	IAmb	17 59 15.8	
	comp=Z,8.2nm,1.4s						
ASAR	**Alice Springs**	**58.74**	**136**	P	**P**	**17 59 15.8**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=317,slow=6.8,SNR=5.0						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**61.63**	**330**	P	**P**	**17 59 33.1**	**-0.2**
FINES	**FINESS Array B**	**61.63**	**330**	P	**P**	**17 59 33.6**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=141,slow=6.4,SNR=5.5						
	comp=Z,1.8nm,0.8s						
PABE	**Paberze**	**62.00**	**323**	P	**P**	**17 59 36.3**	**+0.4**
ARCES	**ARCESS Array B**	**63.47**	**339**	P	**P**	**17 59 45.5**	**-0.1**
	comp=Z,12nm,1.1s,baz=61,slow=7.3,SNR=2.6						
HFS	**Hagfors**	**67.60**	**328**	P	**P**	**18 00 12.8**	**+0.5**
	comp=Z,1.5nm,0.4s,baz=101,slow=6.2,SNR=12						
	comp=Z,1.5nm,0.4s						
CEL	**Celeste**	**68.33**	**304**	P	**P**	**18 00 17.5**	**+0.1**
GERES	**GERESS Array B**	**68.44**	**316**	P	**P**	**18 00 17.9**	**-0.1**
GERES	**GERESS Array B**	**68.44**	**316**	P	**P**	**18 00 18.1**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=66,slow=6.6,SNR=5.6						
	comp=Z,1.1nm,0.6s						
NC303	**NORSAR Array S**	**68.69**	**329**	P	**P**	**18 00 18.9**	**-0.2**
NOA	**NORSAR Array B**	**68.77**	**329**	P	**P**	**18 00 19.1**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=86,slow=6.2,SNR=3.4						
	comp=Z,0.5nm,0.5s						
NC204	**NORSAR Array S**	**68.98**	**329**	P	**P**	**18 00 20.0**	**-1.0**
NC204				IAmb	IAmb	18 00 54.0	
	comp=Z,19nm,1.4s						
MAHO	**Mahon**	**76.81**	**308**	P	**P**	**18 01 07.0**	**-0.7**
C19K	**Lookout Ridge**	**76.91**	**21**	P	**P**	**18 01 08.7**	**+0.9**
C19K				IAmb	IAmb	18 01 13.9	
	comp=Z,14nm,1.3s						
B22K	**Teshekpuk Lake**	**78.32**	**19**	P	**P**	**18 01 16.0**	**+0.4**
B22K				IAmb	IAmb	18 01 35.3	
	comp=Z,14nm,1.4s						
H21K	**Melozitna Rive**	**80.78**	**23**	P	**P**	**18 01 29.7**	**+0.6**
H21K				IAmb	IAmb	18 01 55.2	
	comp=Z,5.7nm,1.4s						
CAST	**Castle Rocks**	**82.17**	**24**	P	**P**	**18 01 37.2**	**+0.7**
CAST				IAmb	IAmb	18 02 04.7	
	comp=Z,5.0nm,1.3s						

*TRN **20** 18:09:41.8, 10°.98N×62°.39W, h113km, MD3.2, North of the Paria peninsula.*
*FUNV **20** 18:09:41.7, 10°.92N×62°.28W, h132km, MW3.6*
ISC 20 18:09:39.8±1.9, **10°.97N**±0°.05×**62°.39W**±0°.06, **h130**km±18km, **n20**, σ1§**42**/37, **Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.89**	**109**	*e*P	**Pn**	**18 10 02.4**	**+0.6**
PSMG				*e*S	**Sn**	**18 10 17.1**	**-1.2**
PSKH	**Kent House, Po**	**0.90**	**109**	*e*P	**Pn**	**18 10 02.7**	**+1.0**
PSKH				*e*S	**Sn**	**18 10 17.0**	**-1.4**
TRN	**Trinidad (W)**	**1.02**	**108**	*e*P	**Pn**	**18 10 04.1**	**+1.2**
TRN				*e*S	**Sn**	**18 10 18.5**	**-1.8**
TRN	**Trinidad (W)**	**1.02**	**108**	*e*	Pn	18 10 13.7	+11
TRN				*e*S	**Sn**	**18 10 18.5**	**-1.8**
GRFF	**Grenada Fort F**	**1.25**	**31**	*e*P	**Pn**	**18 10 05.5**	**+0.4**
GRFF				*e*S	**Sn**	**18 10 23.6**	**-0.8**
GRGR	**Grenville**	**1.36**	**32**	*e*P	**Pn**	**18 10 07.0**	**+0.6**
GRGR				*e*S	**Sn**	**18 10 25.7**	**-0.9**
GRW	**Mount Saint Ca**	**1.38**	**31**	*e*P	**Pn**	**18 10 07.3**	**+0.7**
GRW				*e*S	**Sn**	**18 10 26.1**	**-1.0**
TBH	**Brigand Hill**	**1.39**	**110**	*e*P	**Pn**	**18 10 08.4**	**+1.8**
TBH				*e*S	**Sn**	**18 10 26.7**	**-0.4**
GRHS	**Sauteurs**	**1.44**	**30**	*e*P	**Pn**	**18 10 08.0**	**+0.7**
GRHS				*e*S	**Sn**	**18 10 27.1**	**-1.1**
GRSS	**Sisters**	**1.52**	**30**	*e*P	**Pn**	**18 10 09.2**	**+1.1**
GRSS				*e*S	**Sn**	**18 10 29.7**	**-0.1**
GCMP	**Grenada, Carri**	**1.77**	**32**	*e*P	**Pn**	**18 10 11.7**	**+0.6**
GCMP				*e*S	**Sn**	**18 10 34.5**	**-0.5**
TOSP	**Speyside**	**1.85**	**80**	*e*P	**Pn**	**18 10 12.8**	**+0.9**
TOSP				*e*S	**Sn**	**18 10 35.8**	**-0.7**
PCRV	**Puerto La Cruz**	**2.35**	**250**	*e*P	**Pn**	**18 10 19.8**	**+1.6**
PCRV				*e*S	**Sn**	**18 10 48.0**	**+0.5**
PCRV	**Puerto La Cruz**	**2.35**	**250**	*e*P	**Pn**	**18 10 20.5**	**+2.4**
PCRV				*e*S	**Sn**	**18 10 47.4**	**-0.2**
MERV	**Las Mercedes**	**4.21**	**246**	*e*P	**Pn**	**18 10 43.6**	**+1.2**
MERV				*e*S	**Sn**	**18 11 29.6**	**-1.4**
TACV	**Tcata**	**4.63**	**260**	*e*P	**Pn**	**18 10 49.6**	**+1.5**
TACV				*e*S	**Sn**	**18 11 38.9**	**-2.3**
BENV	**Beln**	**5.22**	**259**	*e*P	**Pn**	**18 10 58.0**	**+2.1**
BENV				*e*S	**Sn**	**18 11 54.0**	**-1.3**
CACV	**CAICARA DEL OR**	**5.32**	**231**	*e*P	Pn	18 10 53.2	-4.0
CACV				*e*S	Sn	18 11 45.8	-12
BAUV	**El Baul**	**5.92**	**251**	*e*P	**Pn**	**18 11 05.4**	**0.0**
BAUV				*e*S	**Sn**	**18 12 09.0**	**-3.1**
BAUV	**El Baul**	**5.92**	**251**	*e*P	**Pn**	**18 11 06.1**	**+0.7**
BAUV				*e*S	**Sn**	**18 12 09.4**	**-2.6**

IDC 20 18:24:25.2±9.1, **11°.86S×66°.64E, h0**km, **mb3.8**/2, **mbtmp3.8**/2, **Error ellipse: s-maj=641.8km s-min=54.2km az=37.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**7.11**	**54**	T	T	18 34 32.9	
	baz=231,slow=76,SNR=85						
H08S2	**Diego Garcia H**	**7.12**	**55**	T	T	18 34 33.3	
	baz=231,slow=76,SNR=101						
H08S3	**Diego Garcia H**	**7.13**	**54**	T	T	18 34 40.9	
	baz=231,slow=76,SNR=71						
H04N2	**CROZET ISLANDS**	**36.44**	**197**	T	T	19 09 05.8	
	baz=26						
H04N1	**CROZET ISLANDS**	**36.45**	**197**	T	T	19 09 08.0	
	baz=26						
H04N3	**CROZET ISLANDS**	**36.46**	**197**	T	T	19 09 02.1	
	baz=26						
ASAR	**Alice Springs**	**64.63**	**111**	P	P	18 35 05.2	-0.1
	0.9nm,0.7s,baz=270,slow=5.9,SNR=11						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**65.25**	**107**	P	P	18 35 09.4	+0.1
	0.6nm,0.7s,baz=271,slow=5.8,SNR=5.3						
	0.6nm,0.7s						
PDAR	**Pinedale Array**	**149.03**	**355**	PKPbc	PKPbc	18 44 15.4	-0.5
	0.3nm,0.6s,baz=20,slow=2.9,SNR=3.8						

*SJA **20** 18:26:28.8±0.6, 27°.72S×69°.16W, h110km, ML2.4, MW3.0*
*GUC **20** 18:26:30.5±0.7, 27°.82S×69°.29W, h115km±7km, ML3.0*
ISC 20 18:26:31.2±1.6, **27°.81S**±0°.04×**69°.20W**±0°.05, **h96**km±20km, **n18**, σ0§**99**/32, **1C, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiapo**	**0.94**	**283**	*e*P	**Pn**	**18 26 50.6**	**-0.2**
GO03				*i* S	**Sn**	**18 27 05.9**	**+0.4**
GO03				IAML		18 27 07.2	
	comp=E,486nm,0.1s						
GO03	**Copiapo**	**0.94**	**283**	*e*P	**Pn**	**18 26 50.8**	**-0.1**
GO03				*e*S	**Sn**	**18 27 06.0**	**+0.5**
AC06	**Mina Casimiro**	**1.12**	**294**	*e*P	**Pn**	**18 26 52.8**	**0.0**
AC06				*i* S	**Sn**	**18 27 08.3**	**-0.7**
AC04	**Llanos de Chal**	**1.70**	**256**	*e*P	**Pn**	**18 26 59.4**	**-0.4**
AC04				*i* S	**Sn**	**18 27 20.4**	**-1.1**
AC04				IAML		18 27 21.8	
	comp=N,138nm,0.2s						
LCO	**Las Campanas**	**1.78**	**227**	*e*P	**Pn**	**18 27 00.6**	**-0.5**
LCO				*i* S	**Sn**	**18 27 23.2**	**-0.7**
AC01	**Pan de Azucar**	**2.07**	**323**	*e*P	**Pn**	**18 27 04.5**	**-0.1**
AC01				IAML		18 27 32.2	
	comp=E,88nm,0.2s						
CO01	**Juntas del Tor**	**2.30**	**200**	*e*P	**Pn**	**18 27 09.0**	**+1.1**
CO01				*i* S	**Sn**	**18 27 36.2**	**+0.5**
AROD	**Rodeo**	**2.36**	**186**	*e*P	**Pn**	**18 27 10.0**	**+1.3**
AROD				*e*S	**Sn**	**18 27 39.8**	**+2.4**
ACLC	**CERRO LA CRUZ**	**2.55**	**130**	*e*P	**Pn**	**18 27 10.7**	**-0.4**
ACLC				*e*S	**Sn**	**18 27 41.6**	**0.0**
ACLC				IAML		18 27 41.8	
	comp=Z,17nm,0.4s						
GO02	**Mina Guanaco**	**2.66**	**352**	*e*P	**Pn**	**18 27 13.2**	**+0.6**
GO02				*i* S	**Sn**	**18 27 45.8**	**+1.4**
GO02				IAML		18 27 51.9	
	comp=N,47nm,0.6s						
GO04	**Tololo Observa**	**2.74**	**210**	*e*P	**Pn**	**18 27 12.8**	**-0.8**
GO04				*i* S	**Sn**	**18 27 45.5**	**-0.7**
ACCO	**Cerro Coronel**	**2.77**	**178**	*e*P	**Pn**	**18 27 14.9**	**+0.8**
ACCO				*e*S	**Sn**	**18 27 49.2**	**+2.1**
CYA	**Choya**	**3.07**	**103**	↑*i*P	**Pn**	**18 27 17.0**	**-0.9**
CYA				IAML		18 27 52.4	
	comp=N,26nm,0.5s						
CYA	**Choya**	**3.07**	**103**	*e*P	**Pn**	**18 27 17.0**	**-0.9**
CYA				*e*S	**Sn**	**18 27 52.2**	**-1.6**
CYA				IAML		18 27 52.3	
	comp=Z,12nm,0.4s						
AVFE	**Valle Fertil**	**3.23**	**152**	*e*P	**Pn**	**18 27 19.5**	**-0.5**
AVFE				*e*S	**Sn**	**18 27 57.0**	**-0.6**
CO03	**El Pedregal**	**3.29**	**203**	*e*P	**Pn**	**18 27 20.4**	**-0.4**
CO03				*i* S	**Sn**	**18 27 57.8**	**-1.3**
CO03				IAML		18 28 01.1	
	comp=E,44nm,0.2s						
AHML	**Horco Molle**	**3.59**	**74**	*e*P	**Pn**	**18 27 25.4**	**+0.5**
AHML				IAML		18 28 10.3	
	comp=Z,5.8nm,2.1s						
ACHE	**Chepes**	**4.01**	**147**	*e*P	**Pn**	**18 27 31.0**	**+0.4**

*NOU **20** 18:33:37.7, 39°.74S×174°.37E, h124km, MLv3.9/13, North Island, New Zealand*
*WEL **20** 18:33:39.0±0.6, 40°.5±4°.4×17°.4E±°, h111km±5km, M3.4/44, ML3.6/31, MLv3.4/44, Error ellipse: s-maj=5.0km s-min=3.4km az=153.3, confirmed*
ISC 20 18:33:35.4±1.5, **39°.69S**±0°.04×**174°.34E**±0°.04, **h145**km±8km, **n137**, σ1§**26**/160, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.24**	**11**	P	**Pn**	**18 33 56.0**	**+0.8**
LREZ				S	**Sn**	**18 34 09.4**	**-0.8**
PREZ	**Palmer Road**	**0.38**	**338**	P	**Pn**	**18 33 56.4**	**+0.7**
PREZ				S	**Sn**	**18 34 10.3**	**-0.9**
NEZ	**North Egmont**	**0.46**	**335**	P	**Pn**	**18 33 56.8**	**+0.6**
NEZ				S	**Sn**	**18 34 10.9**	**-1.0**
KHEZ	**Kahui Hut**	**0.47**	**327**	P	**Pn**	**18 33 57.0**	**+0.8**
KHEZ				S	**Sn**	**18 34 10.9**	**-1.0**
KHEZ	**Kahui Hut**	**0.47**	**327**	P	**Pn**	**18 33 57.0**	**+0.8**
WAZ	**Wanganui**	**0.50**	**97**	P	**Pn**	**18 33 57.4**	**+1.2**
WAZ				S	**Sn**	**18 34 11.8**	**-0.2**
DREZ	**Durham Road**	**0.52**	**348**	P	**Pn**	**18 33 57.2**	**+0.9**
DREZ				S	**Sn**	**18 34 10.9**	**-1.3**
NBEZ	**Newall Road No**	**0.56**	**319**	P	**Pn**	**18 33 57.6**	**+1.0**
NBEZ				S	**Sn**	**18 34 12.6**	**0.0**
PKE	**Pukeiti**	**0.57**	**331**	P	**Pn**	**18 33 57.4**	**+0.8**
MHEZ	**Mangahewa**	**0.62**	**358**	P	**Pn**	**18 33 58.1**	**+1.3**
MHEZ				S	**Sn**	**18 34 12.7**	**-0.4**
VRZ	**Vera Road**	**0.65**	**30**	P	**Pn**	**18 33 57.7**	**+0.6**
VRZ				S	**Sn**	**18 34 12.0**	**-1.5**
PKVZ	**Pokaka**	**0.87**	**63**	P	**Pn**	**18 33 59.1**	**+0.3**
PKVZ				S	**Sn**	**18 34 15.1**	**-1.4

WPRZ	Whakapapatarin	1.84	51	P	Pn	18 34 10.1	+1.8
TMWZ	Te Maipa	1.84	141	P	Pn	18 34 09.7	+1.3
PRHZ	Porangahau	1.85	109	P	Pn	18 34 09.9	+1.5
MSWZ	Moikau Station	1.85	158	P	Pn	18 34 09.8	+1.3
CPWZ	Castlepoint	1.87	131	P	Pn	18 34 10.6	+1.9
PAWZ	Paruwai Farm	1.88	154	P	Pn	18 34 10.1	+1.3
ALRZ	Allen Road	1.92	55	P	Pn	18 34 10.5	+1.2
KAHZ	Kahuranaki	1.96	94	P	Pn	18 34 11.1	+1.4
PXZ	Pawanui	1.97	101	P	Pn	18 34 11.1	+1.3
TRWZ	Traveller	1.99	149	P	Pn	18 34 11.3	+1.2
PLWZ	Palliser	2.00	160	P	Pn	18 34 11.3	+1.1
NMHZ	Naumai	2.00	73	P	Pn	18 34 12.2	+1.9
BSWZ	Blackbirch Sta	2.05	190	P	Pn	18 34 12.4	+1.6
CMWZ	Cape Campbell	2.06	183	P	Pn	18 34 12.8	+2.0
MRNZ	Matariki Terra	2.09	215	P	Pn	18 34 12.6	+1.3
ARHZ	Aropaoanui	2.10	79	P	Pn	18 34 12.8	+1.5
CKHZ	Cape Kidnapper	2.11	90	P	Pn	18 34 13.1	+1.6
MTHZ	Maungataniwha	2.11	67	P	Pn	18 34 12.5	+0.9
NGRZ	Ngongotaha	2.14	43	P	Pn	18 34 14.2	+2.2
TOZ	Tahuroa Road	2.16	25	P	Pn	18 34 12.9	+0.8
MUGZ	Murupara	2.25	58	P	Pn	18 34 13.8	+0.7
RAHZ	Arahi	2.26	71	P	Pn	18 34 14.7	+1.3
RTZ	Ruatahuna	2.31	63	P	Pn	18 34 14.6	+0.6
THZ	Tophouse	2.34	207	P	Pn	18 34 15.6	+1.3
SNGZ	Shannon Statio	2.50	70	P	Pn	18 34 17.5	+1.2
URZ	Urewera	2.59	57	P	Pn	18 34 17.8	+0.5
URZ	Urewera	2.59	57	P	Pn	18 34 17.8	+0.5
AWAZ	Awhitu Peninsu	2.63	5	P	Pn	18 34 20.1	+2.2
MKAZ	Moumakai	2.66	14	P	Pn	18 34 20.2	+1.9
KNZ	Kokohu	2.67	77	P	Pn	18 34 18.9	+0.6
KHZ	Kahutara	2.79	192	P	Pn	18 34 21.2	+1.4
KHZ	Kahutara	2.79	192	P	Pn	18 34 21.2	+1.4
MHGZ	Mahia Peninsul	2.81	80	P	Pn	18 34 21.0	+0.8
DSZ	Denniston Nort	2.82	222	P	Pn	18 34 21.4	+1.2
MWZ	Matawai	2.83	62	P	Pn	18 34 20.8	+0.4
RIGZ	Rimuhau	2.83	71	P	Pn	18 34 21.2	+0.7
PRGZ	Paritu Road	2.85	75	P	Pn	18 34 21.3	+0.6
RUGZ	Raukumara Rang	3.12	58	P	Pn	18 34 24.2	0.0
TWGZ	Tauwhareparae	3.21	63	P	Pn	18 34 26.7	+1.3
CNGZ	Carnagh Statio	3.24	69	P	Pn	18 34 26.6	+1.0
HAZ	Te Kaha	3.31	55	P	Pn	18 34 26.4	-0.2
GVZ	Greta Valley S	3.42	196	P	Pn	18 34 28.4	+0.6
PUZ	Puketiti	3.46	63	P	Pn	18 34 28.7	+0.3
LTZ	Lake Taylor	3.46	206	P	Pn	18 34 28.9	+0.4
WMGZ	Waiomatatini S	3.69	61	P	Pn	18 34 31.4	0.0
AMCZ	Amberley	3.71	200	P	Pn	18 34 32.0	+0.4
WCZ	Waipu Caves	3.75	0	P	Pn	18 34 33.3	+1.1
MXZ	Matakaoa Point	3.76	57	P	Pn	18 34 32.9	+0.6
MXZ	Matakaoa Point	3.76	57	P	Pn	18 34 33.7	+1.3
OXZ	Oxford	4.02	205	P	Pn	18 34 35.3	-0.4
OKCZ	Okains Bay	4.14	193	P	Pn	18 34 37.2	-0.1
MQZ	McQueen's Vall	4.21	197	P	Pn	18 34 37.2	-0.9
AKCZ	Akaroa Harbour	4.31	194	P	Pn	18 34 39.4	-0.2
RACZ	Rakaia	4.36	202	P	Pn	18 34 39.7	-0.4
MHCZ	Mount Hutt	4.36	208	P	Pn	18 34 39.9	-0.3
OUZ	Omahuta	4.50	352	P	Pn	18 34 46.0	+3.8
WACZ	Wakanui South	4.64	203	P	Pn	18 34 43.6	-0.2
GCSZ	Gaunt Creek Bo	4.71	219	P	Pn	18 34 45.2	+0.3
RPZ	Rata Peaks	4.71	210	P	Pn	18 34 45.8	+0.9
RPZ	Rata Peaks	4.71	210	P	Pn	18 34 46.1	+1.2
ARCZ	Arundel	4.87	208	P	Pn	18 34 47.2	+0.3
FOZ	Fox Glacier	5.12	220	P	Pn	18 34 50.4	+0.2
TMZ	Timaru	5.30	207	P	Pn	18 34 52.1	-0.7
ODZ	Otahua Downs	6.01	206	P	Pn	18 35 02.4	+0.4
ODZ	Otahua Downs	6.01	206	P	Pn	18 35 02.4	+0.4
CTZ	Chatham Island	7.87	124	P	Pn	18 35 31.2	+4.2
CTZ	Chatham Island	7.87	124	P	Pn	18 35 29.6	+2.6

BGR ***20*** *19:09:37.0, 31.°01N×131.°56E, h140km±1km, mb5.6*
BJI ***20*** *19:09:46.7, 30.°27N×130.°26E, h137km, mb5.4/91, mB5.6/67*
IPGP ***20*** *19:09:48.0, 30.°41N×130.°07E, h124km, Mw5.5, Fault plane solution: NP1:*ϕ_s*14.00000°,* δ*74.00000°,* λ*94.00000°. NP2:*ϕ_s*179.00000°,* δ*16.00000°,* λ*75.00000°.*
NEIC ***20*** *19:09:48.8±1.8, 30.°42N±0.°05×130.°07E±0.°07, h123km±1km, mb5.4/544, Mwb5.5/42, Mww5.5/54, Error ellipse: s-maj=11.0km s-min=7.6km az=106.0, Moment Tensor Solution. Moment tensor: Scale 10*^{17}*Nm; Mrr0.92; Mθθ0.02; Mφφ-0.95; Mrθ0.42; Mθφ-0.88; Mφr2.27; Fault plane solution: M*$_0$*2.64000×10*^{17} *NP1:* ϕ_s*239.88000°,* δ*18.51000°,* λ*137.49000°. NP2:* ϕ_s*10.88000°,* δ*77.62000°,* λ*76.14000°. Principal axes: T 2.4521, Plg55.0000°, Azm264.0000°; N 0.3435, Plg14.0000°, Azm14.0000°; P -2.7956, Plg31.0000°, Azm112.0000°;*
NEIC ***20*** *19:09:48.8, 30.°39N×130.°10E, h123km*
NEIC ***20*** *19:09:48.3, 30.°51N×130.°07E, h130km, Moment Tensor Solution. Duration: 2*^{s}*8 Moment tensor: Scale 10*^{17}*Nm; Mrr0.52; Mθθ-0.31; Mφφ-0.21; Mrθ0.36; Mθφ-0.11; Mφr2.13; Fault plane solution: M*$_0$*2.20000×10*^{17} *NP1:* ϕ_s*10.35000°,* δ*84.90000°,* λ*86.84000°. NP2:* ϕ_s*222.20000°,* δ*6.00000°,* λ*121.71000°. Principal axes: T 2.3357, Plg50.0000°, Azm277.0000°; N -0.2721, Plg3.0000°, Azm11.0000°; P -2.0636, Plg40.0000°, Azm103.0000°;*
NEIC ***20*** *19:09:48.3, 30.°41N×130.°07E, h130km*
JMA ***20*** *19:09:50.0±0.1, 30.°4N±0.°3×130.°2E±0.°5, h123km, MD5.2/39, MW5.5/39, NEAR TANEGASHIMA ISLAND*
JMA Felt III J1 at NEAR TANEGASHIMA ISLAND .
MOS ***20*** *19:09:49.1±1.1, 30.°42N×129.°99E, h140km, mb5.3/95, MS4.4/8, Error ellipse: s-maj=5.6km s-min=3.3km az=112.9*
NIED ***20*** *19:09:50.0, 30.°40N×130.°15E, h123km, MW5.5, Moment Tensor Solution. s3 Moment tensor: Scale 10*^{17}*Nm; Mrr0.73; Mθθ0.03; Mφφ-0.76; Mrθ0.33; Mθφ-0.34; Mφr2.17; Fault plane solution: M*$_0$*2.34000×10*^{17} *NP1:* ϕ_s*9.00000°,* δ*80.00000°,* λ*85.00000°. NP2:* ϕ_s*215.00000°,* δ*11.00000°,* λ*116.00000°.*
IDC ***20*** *19:09:49.6±0.4, 30.°52N×129.°99E, h131km±3km, mb4.9/33, mbtmp5.3/40, MS4.1/58 Error ellipse: s-maj=9.7km s-min=7.5km az=92.0*
GCMT ***20*** *19:09:50.8±0.1, 30.°43N±0.°01×130.°11E±0.°01, h129km, MW5.5/159, Moment Tensor Solution. s131,c234; s159,c320; Duration: 1*^{s}*4 Moment tensor: Scale 10*^{17}*Nm; Mrr0.83±.03; Mθθ-0.23±.03; Mφφ-0.60±.04; Mrθ0.40±.02; Mθφ-0.30±.03; Mφr2.47±.02; Best double couple: M*$_0$*2.62500×10*^{17} *NP1:* ϕ_s*10.00000°,* δ*81.00000°,* λ*85.00000°. NP2:* ϕ_s*220.00000°,* δ*10.00000°,* λ*119.00000°. Principal axes: T 2.6930, Plg53.0000°, Azm275.0000°; N -0.1340, Plg5.0000°, Azm11.0000°; P -2.5580, Plg36.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 19:09:49.5±0.2, 30.°46N±0.°02×130.°08E±0.°03, h133km±1km, h133km:pP-P, n1655, σ**1**$\$$**52**/1653**, mb5.3**/484**, 133C-25D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKC	**Kuchinoerabu**	**0.10**	**89**	*i* P	**Pn**	**19 10 07.0**	**-0.5**
JKC				S	**Sn**	**19 10 20.4**	**-0.7**
JKC	**Kuchinoerabu**	**0.10**	**89**	A	A	19 10 07.0	
comp=E,344nm,3.1s,comp=N,302nm,1.8s							
JYAK	**Yakushimahirau**	**0.43**	**121**	*i* P	**Pn**	**19 10 07.3**	**-1.2**
JYAK				S	**Sn**	**19 10 20.9**	**-2.0**
JYAK	**Yakushimahirau**	**0.43**	**121**	A	A	19 10 07.3	
comp=E,142nm,1.5s,comp=N,144nm,2.3s							
JNN	**Nakanoshima**	**0.64**	**196**	P	**Pn**	**19 10 09.0**	**-0.8**
JNN	**Nakanoshima**	**0.64**	**196**	A	A	19 10 09.0	
comp=E,226nm,5.4s,comp=N,101nm,1.9s							
JMTN	**Minamitane**	**0.71**	**95**	*i* P	**Pn**	**19 10 09.3**	**-0.9**
JMTN	**Minamitane**	**0.71**	**95**	A	A	19 10 09.3	
comp=E,147nm,4.7s,comp=N,118nm,3.1s							
JTN	**Tanegashima 3**	**0.80**	**76**	P	**Pn**	**19 10 10.4**	**-0.6**
JTN				*e*S	**Sn**	**19 10 26.4**	**-0.8**
JTN	**Tanegashima 3**	**0.80**	**76**	A	A	19 10 10.4	
comp=E,214nm,0.9s,comp=N,162nm,3.3s							
JTSR	**Tashiro 2**	**1.01**	**46**	P	**Pn**	**19 10 12.5**	**-0.3**
JTSR				*e*S	**Sn**	**19 10 29.2**	**-1.3**
JTSR	**Tashiro 2**	**1.01**	**46**	A	A	19 10 12.5	
comp=E,116nm,1.3s,comp=N,225nm,2.5s							
JSU	**Suzuyama**	**1.09**	**17**	P	**Pn**	**19 10 13.8**	**+0.2**
JSU				*e*S	**Sn**	**19 10 31.9**	**0.0**
JSU	**Suzuyama**	**1.09**	**17**	A	A	19 10 13.8	
comp=E,224nm,3.3s,comp=N,172nm,2.3s							
JSJ	**Shimokoshiki**	**1.25**	**346**	⇓*i*P	**Pn**	**19 10 15.3**	**+0.1**
JSJ				⇓S	**Sn**	**19 10 34.6**	**-0.1**
JSJ	**Shimokoshiki**	**1.25**	**346**	A	A	19 10 15.3	
comp=E,208nm,2.8s,comp=N,47nm,1.1s							
JNAR	**Kushima--Naru**	**1.47**	**44**	*i* P	**Pn**	**19 10 17.8**	**+0.2**
JNAR				S	**Sn**	**19 10 38.6**	**-0.3**
JNAR	**Kushima--Naru**	**1.47**	**44**	A	A	19 10 17.8	
comp=E,111nm,2.6s,comp=N,214nm,4.3s							
JTAJ	**Takarajima**	**1.51**	**211**	⇓*i*P	**Pn**	**19 10 17.9**	**-0.1**
JTAJ	**Takarajima**	**1.51**	**211**	A	A	19 10 17.9	
comp=E,76nm,3.7s,comp=N,56nm,2.9s							
JNKG	**Nichinankitago**	**1.63**	**43**	A	A	19 10 19.5	
comp=E,174nm,1.7s,comp=N,115nm,1.3s							
JTZ	**Takazaki**	**1.68**	**31**	*i* P	**Pn**	**19 10 20.2**	**+0.4**
JTZ				*e*S	**Sn**	**19 10 42.4**	**-0.6**
JTZ	**Takazaki**	**1.68**	**31**	A	A	19 10 20.2	
comp=E,139nm,2.6s,comp=N,87nm,6.7s							
JZO	**Okuchi**	**1.73**	**15**	A	A	19 10 21.2	
comp=E,86nm,3.0s,comp=N,101nm,4.0s							
JHD	**Hondo**	**2.00**	**1**	A	A	19 10 24.7	
comp=E,115nm,4.5s,comp=N,74nm,2.2s							
JAM	**Amami Oshima**	**2.08**	**192**	*i* P	**Pn**	**19 10 24.2**	**-0.5**
JAM				S	**Sn**	**19 10 50.4**	**-1.2**
JAM	**Amami Oshima**	**2.08**	**192**	A	A	19 10 24.2	
comp=E,34nm,3.2s,comp=N,30nm,3.6s							
JZK	**Kikaishima**	**2.14**	**183**	*i* P	**Pn**	**19 10 25.8**	**+0.4**
JZK	**Kikaishima**	**2.14**	**183**	A	A	19 10 25.8	
comp=E,96nm,1.1s,comp=N,111nm,1.6s							
JTSN	**Tsuno**	**2.16**	**34**	A	A	19 10 26.2	
comp=E,76nm,2.4s,comp=N,48nm,1.0s							
JIU3	**Izumi3**	**2.17**	**17**	A	A	19 10 26.7	
comp=E,40nm,1.8s,comp=N,104nm,1.7s							
NGSJ	**Nagasakinomoza**	**2.18**	**354**	A	A	19 10 27.1	
comp=E,78nm,3.0s,comp=N,29nm,3.8s							
JAMN	**Amaminishikomi**	**2.35**	**200**	A	A	19 10 28.0	
comp=E,44nm,1.6s,comp=N,32nm,1.3s							
JHHC	**Hyugahichiya**	**2.38**	**34**	A	A	19 10 29.1	
comp=E,38nm,1.4s,comp=N,43nm,3.0s							
JKIT	**Kitakata**	**2.46**	**28**	A	A	19 10 30.2	
comp=E,45nm,0.5s,comp=N,66nm,0.4s							
JFU	**Fukue jima 2**	**2.47**	**333**	A	A	19 10 31.0	
comp=E,40nm,2.7s,comp=N,21nm,2.2s							
JTA	**Tamana**	**2.52**	**9**	A	A	19 10 31.4	
comp=E,27nm,5.4s,comp=N,22nm,3.7s							
JUR	**Ureshino**	**2.63**	**358**	A	A	19 10 32.9	
comp=E,46nm,3.0s,comp=N,27nm,3.8s							
JNU	**Nakatsue**	**2.74**	**14**		**Pn**	**19 10 33.6**	**+0.7**
JNU				Sn	**Sn**	**19 11 07.0**	**+0.7**
JNU	**Nakatsue**	**2.74**	**14**	P	**Pn**	**19 10 34.2**	**+1.3**
comp=N,13μm,0.9s,baz=193,slow=5.4,SNR=2379							
JNU				S	**Sn**	**19 11 07.5**	**+1.2**
comp=N,4μm,0.5s,baz=144,slow=21,SNR=15							
JNU				LR	LR	19 11 31.7	
comp=N,5μm,18.6s,baz=140,slow=38							
JNU	**Nakatsue**	**2.74**	**14**	P	**Pn**	**19 10 34.2**	**+1.3**
JNU	**Nakatsue**	**2.74**	**14**	A	A	19 10 34.1	
comp=E,35nm,1.6s,comp=N,50nm,4.2s							
JSKE	**Saikikamae**	**2.80**	**33**	A	A	19 10 34.6	
comp=E,28nm,1.1s,comp=N,29nm,1.0s							
JTK	**Tokunoshima**	**2.84**	**201**	A	A	19 10 34.4	
comp=E,21nm,2.7s,comp=N,13nm,4.6s							
JUS	**Usuki**	**2.96**	**28**	A	A	19 10 36.8	
comp=E,46nm,2.2s,comp=N,40nm,2.2s							
JFI	**Itaya**	**2.97**	**5**	A	A	19 10 37.3	
comp=E,19nm,3.3s,comp=N,18nm,5.1s							
JBEP	**Beppuamama**	**3.08**	**21**	A	A	19 10 38.5	
comp=E,34nm,2.8s,comp=N,49nm,3.3s							
JFA	**Akaike**	**3.30**	**10**	A	A	19 10 41.6	
comp=E,16nm,4.3s,comp=N,16nm,4.6s							
JTO	**Tosashimizu**	**3.33**	**43**	A	A	19 10 41.5	
comp=E,31nm,0.8s,comp=N,44nm,0.9s							
JII	**Iki**	**3.34**	**355**	A	A	19 10 42.4	
comp=E,27nm,3.1s,comp=N,17nm,3.7s							
JOKE	**Okinoerabujima**	**3.36**	**204**	A	A	19 10 41.4	
comp=E,10.0nm,5.0s,comp=N,10.0nm,4.9s							
JKI	**Kunimi**	**3.41**	**21**	A	A	19 10 42.9	
comp=E,29nm,3.1s,comp=N,18nm,1.9s							
UWA2	**Uwa jima 2**	**3.50**	**38**	A	A	19 10 43.8	
comp=E,15nm,1.9s,comp=N,18nm,1.2s							
JNA	**Nagahama**	**3.70**	**33**	A	A	19 10 46.6	
comp=E,12nm,0.7s,comp=N,12nm,5.5s							
JYRO	**Yoronjima**	**3.71**	**203**	A	A	19 10 46.1	
comp=E,6.0nm,3.5s,comp=N,10.0nm,4.6s							
JKU	**Kubokawa**	**3.81**	**41**	A	A	19 10 47.9	
comp=E,14nm,0.5s,comp=N,16nm,0.8s							
JTY	**Toyota**	**3.88**	**12**	A	A	19 10 49.5	
comp=E,14nm,4.3s,comp=N,11nm,3.8s							
JIH	**Iheya**	**3.88**	**209**	A	A	19 10 48.5	
comp=E,8.0nm,3.1s,comp=N,15nm,3.9s							
JKD	**Kudamatsu**	**3.89**	**22**	A	A	19 10 49.4	
comp=E,16nm,3.4s,comp=N,10.0nm,2.7s							
JTSM	**Tsushimamitsus**	**3.91**	**352**	A	A	19 10 50.1	
comp=E,14nm,3.6s,comp=N,8.0nm,3.9s							
JOW	**Kunigami**	**3.95**	**204**		**Pn**	**19 10 47.6**	**-1.1**
JOW				Sn	**Sn**	**19 11 29.7**	**-4.8**
JOW	**Kunigami**	**3.95**	**204**	P	**Pn**	**19 10 48.0**	**-0.7**
comp=N,889nm,0.3s,baz=84,slow=16,SNR=767							
JOW				S	**Sn**	**19 11 31.8**	**-2.8**
comp=N,796nm,0.3s,baz=84,slow=28,SNR=13							
JOW	**Kunigami**	**3.95**	**204**	P	**Pn**	**19 10 48.9**	**+0.2**
JOW	**Kunigami**	**3.95**	**204**	A	A	19 10 49.3	
comp=E,5.0nm,3.3s,comp=N,8.0nm,6.5s							
JTU	**Tsushima**	**4.09**	**352**	P	**Pn**	**19 10 52.3**	**+1.8**
JTU	**Tsushima**	**4.09**	**352**	A	A	19 10 52.6	
comp=E,11nm,4.0s,comp=N,7.0nm,4.1s							
JET	**Tanbara**	**4.16**	**36**	A	A	19 10 52.7	
comp=E,9.0nm,0.7s,comp=N,12nm,1.7s							
JKHR	**Kochiharuno**	**4.20**	**43**	A	A	19 10 53.2	
comp=E,20nm,1.1s,comp=N,34nm,0.8s							
JHIK	**Hikimi**	**4.35**	**21**	A	A	19 10 55.7	
comp=E,10.0nm,3.3s,comp=N,9.0nm,5.2s							
JHGM	**Hagimishima**	**4.40**	**11**	A	A	19 10 56.5	
comp=E,15nm,4.6s,comp=N,10.0nm,1.9s							
MRT2	**Murotomisaki 2**	**4.52**	**49**	A	A	19 10 57.4	
comp=E,17nm,2.0s,comp=N,21nm,0.8s							
JMN	**Monobe**	**4.58**	**44**		**Pn**	**19 10 56.8**	**-0.2**
JMN				Sn	**Sn**	**19 11 45.1**	**-4.5**
JMN	**Monobe**	**4.58**	**44**	P	**Pn**	**19 10 57.4**	**+0.3**
JMN	**Monobe**	**4.58**	**44**	A	A	19 10 58.4	
comp=E,23nm,0.8s,comp=N,31nm,0.9s							
JAGN	**Aguni-jima**	**4.59**	**214**	A	A	19 10 58.2	
comp=E,5.0nm,5.3s,comp=N,6.0nm,5.5s							
JKDJ	**Kitadaitoujima**	**4.62**	**166**	A	A	19 10 57.9	
comp=E,21nm,3.2s,comp=N,13nm,1.9s							
JHT	**Toyohira**	**4.63**	**25**	A	A	19 10 59.4	
comp=E,5.0nm,7.0s,comp=N,6.0nm,1.4s							
JMZ	**Minamidaito 2**	**4.73**	**167**	Pn	**Pn**	**19 10 57.1**	**-2.0**
JMZ				Sn	**Sn**	**19 11 46.7**	**-6.5**
JMZ	**Minamidaito 2**	**4.73**	**167**	P	**Pn**	**19 10 58.5**	**-0.6**
JMZ	**Minamidaito 2**	**4.73**	**167**	A	A	19 10 59.4	
comp=E,19nm,7.1s,comp=N,21nm,3.0s							
JJT3	**Tamagusuku3**	**4.75**	**206**	A	A	19 11 00.3	
comp=E,17nm,5.3s,comp=N,22nm,3.8s							
JMAF	**Mimaanabuki**	**4.96**	**43**	A	A	19 11 03.6	
comp=E,20nm,0.6s,comp=N,13nm,1.0s							
JAI	**Aioi**	**4.98**	**47**	A	A	19 11 03.7	
comp=E,21nm,0.9s,comp=N,21nm,1.2s							
JJS	**Sakaide**	**5.08**	**39**	A	A	19 11 05.2	
comp=E,12nm,0.6s,comp=N,10.0nm,2.0s							
JISK	**Izumosakaura**	**5.54**	**24**	A	A	19 11 11.7	
comp=E,8.0nm,3.2s,comp=N,6.0nm,3.6s							
JWM	**Minabe**	**5.60**	**52**	A	A	19 11 12.1	
comp=E,15nm,0.6s,comp=N,28nm,0.7s							
JWKM	**Wakayamakushim**	**5.67**	**57**	A	A	19 11 12.9	
comp=E,13nm,2.9s,comp=N,12nm,2.3s							
JTNC	**Tanabenakahech**	**5.76**	**53**	A	A	19 11 14.2	
comp=E,12nm,1.0s,comp=N,16nm,0.6s							
JMIK	**Miki**	**6.03**	**43**	A	A	19 11 18.0	
comp=E,7.0nm,1.1s,comp=N,8.0nm,0.8s							
JNTK	**Naratenkawa**	**6.21**	**51**	A	A	19 11 20.3	
comp=E,10.0nm,0.9s,comp=N,9.0nm,0.4s							
TJN	**Taejon**	**6.32**	**340**		**Pn**	**19 11 21.7**	**+1.4**
TJN	**Taejon**	**6.32**	**340**	P	**Pn**	**19 11 22.7**	**+2.4**
TJN	**Taejon**	**6.32**	**340**	*ce*P	**Pn**	**19 11 22.2**	**+1.9**
JKN2	**Miekihoku**	**6.45**	**53**	A	A	19 11 23.6	
comp=E,9.0nm,1.2s,comp=N,8.0nm,1.1s							
JKY	**Yasaka**	**6.66**	**38**	A	A	19 11 26.7	
comp=E,5.0nm,1.2s,comp=N,6.0nm,5.0s							
JIE	**Ise**	**6.83**	**53**	A	A	19 11 28.7	
comp=E,9.0nm,0.7s,comp=N,8.0nm,1.4s							
JEG	**Eigenji**	**7.07**	**47**	A	A	19 11 32.0	
comp=E,6.0nm,1.6s,comp=N,5.0nm,1.2s							
JFM	**Mihama**	**7.08**	**43**	A	A	19 11 32.2	
comp=E,5.0nm,1.9s,comp=N,4.0nm,0.8s							
KSAR	**Wonju Array Be**	**7.20**	**346**	Pn	**Pn**	**19 11 34.3**	**+2.2**
KSAR	**Wonju Array Be**	**7.20**	**346**	P	**Pn**	**19 11 34.3**	**+2.2**
KSRS	**Korea Array**	**7.20**	**346**	P	**Pn**	**19 11 34.4**	**+2.3**
comp=N,384nm,1.1s,baz=170,slow=14,SNR=322							
KSRS				LR	LR	19 14 47.7	
comp=N,1μm,18.8s,baz=165,slow=42							
KSRS				ScP	**ScP**	**19 21 26.9**	**+1.8**
comp=N,5.4nm,1.0s,baz=201,slow=1.2,SNR=12							
KS19	**Wonju Array Si**	**7.26**	**346**		**Pn**	**19 11 34.3**	**+1.3**
JAA	**Atsumi**	**7.27**	**53**	A	A	19 11 34.6	
comp=E,4.0nm,3.1s,comp=N,4.0nm,3.4s							
INCN	**Inchon**	**7.57**	**339**	Pn	**Pn**	**19 11 38.2**	**+1.1**
INCN	**Inchon**	**7.57**	**339**	P	**Pn**	**19 11 39.1**	**+2.0**
INCN	**Inchon**	**7.57**	**339**	P	**Pn**	**19 11 38.2**	**+1.1**
JYTA	**Yamagatataniai**	**7.58**	**46**	A	A	19 11 38.9	
comp=E,15nm,0.8s,comp=N,13nm,1.0s							
INU	**Inuyama**	**7.60**	**48**	Pn	**Pn**	**19 11 37.8**	**+0.3**
INU	**Inuyama**	**7.60**	**48**	P	**Pn**	**19 11 38.6**	**+1.1**
SSE	**Sheshan**	**7.68**	**277**	P	**Pn**	**19 11 39.6**	**+1.0**
SSE				S	**Sn**	**19 13 05.0**	**+0.9**
SSE				smax	smax		
comp=N,120nm,1.4s							
SSE				smax	smax		
comp=N,58nm,1.3s							
SSE				LR	LR		
comp=N,3μm,5.8s							
SSE				LR	LR		
comp=N,1μm,4.3s							
JAO	**Obara**	**7.71**	**50**	A	A	19 11 40.6	
comp=E,10.0nm,1.2s,comp=N,13nm,1.4s							
JGF	**Kuroka**	**7.97**	**48**	Pn	**Pn**	**19 11 42.6**	**0.0**
JGF	**Kuroka**	**7.97**	**48**	P	**Pn**	**19 11 43.2**	**+0.6**
JSG	**Sagara**	**8.03**	**56**		**Pn**	**19 11 43.4**	**+0.2**
JNY	**Yasuok**	**8.16**	**51**	A	A	19 11 46.7	
comp=E,5.0nm,1.1s,comp=N,7.0nm,2.6s							
YOJ	**Yonaguni jima**	**8.67**	**228**		**Pn**	**19 11 48.6**	**-3.3**
YOJ	**Yonaguni jima**	**8.67**	**228**	P	**Pn**	**19 11 49.4**	**-2.5**
YOJ	**Yonaguni jima**	**8.67**	**228**	P	**Pn**	**19 11 48.6**	**-3.3**
JHJ	**Hachijo jima 2**	**8.67**	**70**	P	**Pn**	**19 11 53.7**	**+1.7**
comp=N,501nm,0.3s,baz=248,slow=19,SNR=34							
JHJ				S	**Sn**	**19 13 27.8**	**-0.3**
comp=N,1μm,0.7s,baz=221,slow=13,SNR=5.4							
JHJ				LR	LR	19 14 06.7	
comp=N,2μm,19.6s,baz=270,slow=29							
JHJ2	**Mitsune**	**8.70**	**70**	Pn	**Pn**	**19 11 52.8**	**+0.5**
JHJ2	**Mitsune**	**8.70**	**70**	P	**Pn**	**19 11 54.9**	**+2.6**
JIM2	**Oshima 3**	**8.96**	**59**	A	A	19 11 57.2	
comp=E,11nm,2.1s,comp=N,12nm,1.7s							
MAJO	**Matsushiro**	**9.10**	**46**	Pn	**Pn**	**19 11 57.8**	**+0.1**
MAJO	**Matsushiro**	**9.10**	**46**	P	**Pn**	**19 11 58.4**	**+0.8**
MAJO	**Matsushiro**	**9.10**	**46**	*d*iP	**Pn**	**19 11 58.5**	**+0.8**
MJB9	**Matsu-Tunnel**	**9.10**	**46**	Pn	**Pn**	**19 11 58.4**	**+0.8**
MJAR	**Matsushiro Arr**	**9.10**	**46**	P	**Pn**	**19 11 58.5**	**+0.8**
comp=N,131nm,0.8s,baz=238,slow=14,SNR=309							
MJAR				S	Sn	19 13 25.1	-13
comp=N,43nm,0.7s,baz=207,slow=14,SNR=1.5							
TATO	**Taipei**	**9.37**	**236**		**Pn**	**19 12 02.5**	**+1.1**
TATO	**Taipei**	**9.37**	**236**	P	**Pn**	**19 12 04.1**	**+2.7**
YHNB	**Yeheng**	**9.64**	**235**	Pn	**Pn**	**19 12 04.3**	**-0.8**
YHNB	**Yeheng**	**9.64**	**235**	P	**Pn**	**19 12 06.9**	**+1.8**
NACB	**Ninganchiao**	**9.80**	**232**		**Pn**

HNS				LR	LR	
	comp=Z,1μm,12.9s					
HNS				LR	LR	
	comp=Z,1μm,12.7s					
HNS				LR	LR	
	comp=Z,2μm,12.6s					
BJT	**Baijiatuau**	**14.82**	**314**		**Pn**	**19 13 13.5 +1.1**
BJT	**Baijiatuau**	**14.82**	**314**	P	**Pn**	**19 13 13.5 +1.1**
BJI	**Beijing**	**14.83**	**314**	P	**P**	**19 13 14.3 -0.6**
BJI				S	**S**	**19 16 01.4 -4.1**
BJI				pmax	pmax	
	comp=Z,370nm,1.1s					
BJI				pmax	pmax	
	comp=Z,1μm,5.6s					
BJI				LR	LR	
	comp=Z,610nm,10.3s					
BJI				LR	LR	
	comp=Z,1μm,10.5s					
BJI				LR	LR	
	comp=Z,980nm,10.8s					
CNSH	**ChangSha**	**15.13**	**266**	P	**Pn**	**19 13 17.3 +0.9**
CNSH				S	**Sn**	**19 16 05.8 +1.6**
CNSH				pmax	pmax	
	comp=Z,220nm,1.6s					
CNSH				LR	LR	
	comp=Z,4μm,5.4s					
CNSH				LR	LR	
	comp=Z,2μm,4.0s					
CNSH				LR	LR	
	comp=Z,2μm,9.7s					
BNX	**BinXian**	**15.40**	**353**	⇑P	**P**	**19 13 21.9 +0.8**
BNX				S	**Sn**	**19 16 12.9 +2.7**
BNX				pmax	pmax	
	comp=Z,95nm,1.3s					
BNX				pmax	pmax	
	comp=Z,1μm,6.9s					
LYN	**LuoYang**	**15.41**	**290**	⇑*i*P	**P**	**19 13 21.0 -0.4**
LYN				S	**S**	**19 16 14.4 -1.8**
LYN				ScP	**ScP**	**19 21 37.9 +1.4**
LYN				ScS	**ScS**	**19 25 15.8 +0.9**
LYN				pmax	pmax	
	comp=Z,750nm,1.9s					
LYN				pmax	pmax	
	comp=Z,4μm,7.2s					
TEY	**Ternei**	**15.43**	**18**	*e*P	**P**	**19 13 24.9 +3.4**
TEY				*e*		19 16 06.2
SZP	**Santa**	**15.56**	**216**	P	**P**	**19 13 23.1 -0.1**
ERM	**Erimo**	**15.61**	**39**	Pn	**Pn**	**19 13 20.1 -2.0**
ERM	**Erimo**	**15.61**	**39**	P	**Pn**	**19 13 21.4 -0.7**
ERM	**Erimo**	**15.61**	**39**	*i* P	**Pn**	**19 13 20.6 -1.5**
TIY	**Taiyuan**	**16.30**	**301**	*e*P	**P**	**19 13 33.1 +1.8**
TIY				S	**Sn**	**19 16 27.1 -5.0**
TIY				pmax	pmax	
	comp=Z,240nm,1.0s					
HKPS	**Hong Kong Po S**	**16.43**	**244**		**P**	**19 13 32.8 -0.1**
HKPS	**Hong Kong Po S**	**16.43**	**244**		**Pn**	**19 13 32.4 -0.1**
GZH	**Guangzhou**	**16.64**	**248**	P	**Pn**	**19 13 29.6 -5.4**
GZH				S	**Sn**	**19 16 29.8 -11**
GZH				pmax	pmax	
	comp=Z,160nm,1.9s					
ASAJ	**Asahikawa**	**16.85**	**33**	P	**P**	**19 13 35.7 -1.5**
	comp=Z,159nm,0.8s,baz=230,slow=13,SNR=87					
ASAJ				S	**Sn**	**19 16 38.5 -6.7**
	comp=Z,24nm,1.0s,baz=282,slow=16,SNR=7.9					
JKA	**Kamikawa-asahi**	**16.85**	**33**	P	**P**	**19 13 35.8 -1.4**
XLT	**XiLinHaoTe**	**17.41**	**324**	*e*P	**Pn**	**19 13 45.8 +1.5**
XLT				S	**S**	**19 16 57.4 -0.6**
XLT				pmax	pmax	
	comp=Z,1μm,1.0s					
XLT				pmax	pmax	
	comp=Z,2μm,3.6s					
XLT				LR	LR	
	comp=Z,1μm,9.8s					
XLT				LR	LR	
	comp=Z,1μm,14.9s					
ENH	**Enshi**	**17.78**	**275**		**P**	**19 13 46.2 -1.3**
GULI	**GuiLin**	**18.17**	**258**	P	**Pn**	**19 13 52.8 -0.5**
GULI				S	**Sn**	**19 17 15.8 -1.3**
GULI				pmax	pmax	
	comp=Z,410nm,1.4s					
GULI				LR	LR	
	comp=Z,4μm,6.9s					
GULI				LR	LR	
	comp=Z,1μm,7.9s					
GULI				LR	LR	
	comp=Z,2μm,10.4s					
HHC	**Hu-ho-hao-te**	**18.24**	**310**	⇑*i*P	**Pn**	**19 13 54.8 +0.7**
HHC				S	**S**	**19 17 06.3 -8.2**
HHC				pmax	pmax	
	comp=Z,260nm,1.1s					
HHC				pmax	pmax	
	comp=Z,2μm,5.1s					
XAN	**Xi'an**	**18.25**	**287**	⇑P	**Pn**	**19 13 54.0 -0.2**
XAN				sP	sP	19 14 32.6 -0.2
XAN				S	**Sn**	**19 17 18.3 -0.6**
XAN				pmax	pmax	
	comp=Z,1μm,1.3s					
XAN				pmax	pmax	
	comp=Z,4μm,4.1s					
XAN				LR	LR	
	comp=Z,2μm,12.4s					
XAN				LR	LR	
	comp=Z,1μm,12.4s					
XAN				LR	LR	
	comp=Z,3μm,10.9s					
TGY	**Tagaytay City**	**18.33**	**209**	P	**Pn**	**19 13 55.7 +0.3**
	comp=Z,986nm,0.9s,baz=359,slow=3.9,SNR=22					
YUK	**Yuzh-Kuril'sk**	**18.43**	**38**	*i* P	**Pn**	**19 13 56.9 +0.7**
KLR	**Kul'dur**	**18.79**	**3**	P	**P**	**19 13 58.6 +0.2**
	comp=Z,20nm,0.9s,baz=176,slow=6.6,SNR=44					
KLR				S	**S**	**19 17 23.6 -1.5**
	comp=Z,2.8nm,0.7s,baz=149,slow=19,SNR=1.3					
KLR				ScP	**ScP**	**19 21 42.6 -0.5**
	comp=Z,0.8nm,0.3s,baz=104,slow=4.6,SNR=4.4					
KLR	**Kul'dur**	**18.79**	**3**	*ce*P	**P**	**19 13 58.4 0.0**
KLR				pmax	pmax	
	comp=Z,22nm,0.7s					
YSS	**Yuzh-Sakhalins**	**19.17**	**27**	P	**P**	**19 14 02.4 -0.1**
YSS	**Yuzh-Sakhalins**	**19.17**	**27**	P	**Pn**	**19 14 05.2 +0.4**
YSS	**Yuzh-Sakhalins**	**19.17**	**27**	*e*P	**P**	**19 14 03.3 +0.8**
YSS				*e*S	**S**	**19 17 27.5 -5.1**
YSS				pmax	pmax	
	comp=Z,200nm,4.6s					
YSS				pmax	pmax	
	comp=Z,60nm,0.8s					
YSS				smax	smax	
	comp=N,3μm,7.0s					
YSS				smax	smax	
	comp=E,1μm,6.6s					
YSS				MLR	MLR	
	comp=Z,400nm,17.0s					
YSS				MLR	MLR	
	comp=N,400nm,18.0s					
BTO	**Baotou**	**19.17**	**307**	⇑*i*P	**Pn**	**19 14 05.5 +0.4**
BTO				pP	**pP**	**19 14 28.5 +2.2**
BTO				sP	**sP**	**19 14 47.1 +4.1**
BTO				S	**S**	**19 17 31.4 -1.6**
BTO				pmax	pmax	
	comp=N,380nm,2.2s					
BTO				pmax	pmax	
	comp=N,3μm,4.0s					
BTO				LR	LR	
	comp=N,3μm,8.9s					
BTO				LR	LR	
	comp=N,2μm,9.3s					
BTO				LR	LR	
	comp=N,3μm,12.4s					
HEH	**HeiHe**	**19.87**	**355**	*e*P	**P**	**19 14 10.4 +0.3**
HEH				PP	**pP**	**19 14 39.0 +5.0**
HEH				S	**S**	**19 17 44.8 -1.7**
HEH				pmax	pmax	
	comp=N,73nm,0.9s					
KUR	**Kuril'sk**	**20.30**	**38**	*e*P	Pn	19 14 16.5 -1.6
KUR				*e*S	**S**	**19 17 59.2 +4.2**
KUR				pmax	pmax	
	comp=E,389nm,1.0s					
KUR				pmax	pmax	
	comp=Z,1μm,1.0s					
KUR				smax	smax	
	comp=N,6μm,10.9s					
KUR				smax	smax	
	comp=E,5μm,8.4s					
HIA	**Hailar**	**20.36**	**340**	P	**P**	**19 14 14.4 -1.0**
HIA	**Hailar**	**20.36**	**340**	P	**P**	**19 14 14.4 -1.0**
GRNR	**Gornyy**	**20.84**	**11**	⇑*i*P	Pn	19 14 23.1 -1.3
GRNR				pmax	pmax	
	comp=N,20nm,0.7s					
GRNR				pmax	pmax	
	comp=Z,40nm,0.8s					
GRNR				MLR	MLR	
	comp=E,550nm,13.0s					
GRNR				MLR	MLR	
	comp=N,450nm,17.0s					
GRNR				MLR	MLR	
	comp=Z,540nm,11.0s					
QIZ	**Qiongzhong**	**21.58**	**243**	P	**P**	**19 14 28.0 -0.7**
QIZ				pmax	pmax	
	comp=Z,17nm,1.0s					
QIZ				pmax	pmax	
	comp=Z,580nm,4.7s					
QIZ				LR	LR	
	comp=Z,450nm,9.0s					
QIZ				LR	LR	
	comp=Z,710nm,12.4s					
QIZ				LR	LR	
	comp=Z,1μm,8.8s					
GUMO	**Guam**	**21.63**	**138**	P	**P**	**19 14 30.2 +0.9**
GUMO	**Guam**	**21.63**	**138**	P	**P**	**19 14 30.8 +1.5**
	comp=Z,164nm,0.9s,baz=250,slow=12,SNR=4.3					
	comp=Z,164nm,0.9s					
TYV	**Tymovskoe**	**22.44**	**21**	*e*P	**P**	**19 14 37.9 +0.7**
TYV				*e*S	**S**	**19 18 37.4 +3.6**
TYV				pmax	pmax	
	comp=Z,400nm,3.4s					
TYV				pmax	pmax	
	comp=Z,49nm,1.3s					
TYV				smax	smax	
	comp=N,14nm,1.7s					
TYV				smax	smax	
	comp=E,15nm,1.7s					
TYV				smax	smax	
	comp=N,900nm,6.1s					
LZH	**Lanzhou**	**22.61**	**291**	⇑*i*P	**P**	**19 14 39.4 +0.1**
LZH				pP	pP	19 15 02.4 -1.6
LZH				sP	sP	19 15 22.1 +1.7
LZH				ScP	**ScP**	**19 21 54.6 +1.7**
LZH				pmax	pmax	
	comp=N,400nm,1.3s					
LZH				pmax	pmax	
	comp=N,3μm,6.5s					
CD2	**Chengdu**	**22.63**	**278**	P	**P**	**19 14 39.3 -0.1**
CD2				pP	pP	19 15 02.4 -1.7
CD2				S	**S**	**19 18 39.6 +2.3**
CD2				pmax	pmax	
	comp=N,90nm,1.4s					
CD2				pmax	pmax	
	comp=N,3μm,3.5s					
CD2				LR	LR	
	comp=N,4μm,7.3s					
CD2				LR	LR	
	comp=N,2μm,9.5s					
CD2				LR	LR	
	comp=N,2μm,7.6s					
ZEA	**Zeya**	**23.35**	**356**	*e*P	**P**	**19 14 45.2 -0.6**
ZEA				*e*		19 15 16.7
ZEA				*e**SP	**sP**	**19 15 28.7 +0.4**
ZEA				*e*S	**S**	**19 18 40.3 -8.0**
ZEA				pmax	pmax	
	comp=N,200nm,6.2s					
ZEA				pmax	pmax	
	comp=Z,200nm,2.5s					
ZEA				pmax	pmax	
	comp=Z,40nm,0.7s					
ZEA				smax	smax	
	comp=N,500nm,10.3s					
ZEA				smax	smax	
	comp=E,500nm,9.4s					
ZEA				MLR	MLR	
	comp=N,500nm,9.0s					
ZEA				MLR	MLR	
	comp=Z,400nm,9.0s					
KMI	**Kunming**	**24.73**	**264**	⇑P	**P**	**19 14 57.8 -1.1**
KMI				pP	pP	19 15 27.3 +0.6
KMI				S	**S**	**19 19 07.3 -4.2**
KMI				pmax	pmax	
	comp=Z,790nm,7.2s					
KMI				LR	LR	
	comp=Z,840nm,8.5s					
KMI				LR	LR	
	comp=Z,870nm,10.6s					
KMI				LR	LR	
	comp=Z,1μm,10.9s					
CIT	**Chita**	**24.76**	**335**	*e*P	**P**	**19 14 59.4 +0.8**
CIT				*e*		19 15 28.0
CIT				*e*		19 15 40.6
CIT				*e*		19 18 32.8
CIT				pmax	pmax	
	comp=Z,276nm,1.3s					
ULN	**Ulaanbaatar**	**24.77**	**321**	P	**P**	**19 14 59.3 +0.5**
ULN	**Ulaanbaatar**	**24.77**	**321**	P	**P**	**19 15 00.0 +1.1**
ULN				P	**P**	**19 15 00.0 +1.1**
ULN	**Ulaanbaatar**	**24.77**	**321**	*ce*P	**P**	**19 14 59.4 +0.5**
ULN				pmax	pmax	
	comp=Z,254nm,1.2s					
SONM	**Songino Array**	**25.11**	**320**	P	**P**	**19 15 02.2 +0.2**
SONM				IAmb	IAmb	19 15 03.8
	comp=Z,185nm,1.0s					
SONM	**Songino Array**	**25.11**	**320**	P	**P**	**19 15 02.4 +0.5**
	comp=Z,104nm,0.7s,baz=139,slow=10,SNR=546					
SONM				ScP	**ScP**	**19 21 59.9 +0.4**
	comp=Z,14nm,1.0s,baz=109,slow=2.3,SNR=26					
SONM				LR	LR	19 26 26.2
	comp=Z,591nm,21.3s,baz=126,slow=40					
	comp=Z,104nm,0.7s					
SONM	**Songino Array**	**25.11**	**320**	P	**P**	**19 15 02.2 +0.2**
SONM				pmax	pmax	
	comp=Z,185nm,1.0s					
PZH	**PanZhiHua**	**25.19**	**268**	P	**P**	**19 15 04.0 +1.1**
PZH				pP	**pP**	**19 15 32.4 +1.5**
PZH				sP	**sP**	**19 15 42.8 -3.4**
PZH				S	**S**	**19 19 17.3 -1.2**
PZH				pmax	pmax	
	comp=Z,50nm,1.6s					
PZH				pmax	pmax	
	comp=Z,1μm,5.9s					
PZH				LR	LR	
	comp=Z,1μm,11.9s					
PZH				LR	LR	
	comp=Z,950nm,12.8s					
PZH				LR	LR	
	comp=Z,1μm,11.8s					
SLVN	**Son La**	**25.19**	**255**	P	**P**	**19 15 03.3 +0.4**
SLVN	**Son La**	**25.19**	**255**	P	**P**	**19 15 06.6 +3.7**
GTA	**Gaotai**	**26.27**	**298**	*e*P	**P**	**19 15 12.0 -0.6**
GTA				S	**S**	**19 19 38.8 +3.4**
GTA				sS	sS	19 20 23.8 -1.2
GTA				SS	**SnSn**	**19 20 59.6 +8.5**
GTA				ScP	**ScP**	**19 22 04.4 +1.4**
GTA				PcS	**PcS**	**19 22 16.8 +0.1**
GTA				ScS	**ScS**	**19 25 52.3 -1.0**
GTA				pmax	pmax	
	comp=Z,690nm,11.1s					
GTA				LR	LR	
	comp=Z,370nm,13.1s					
GTA				LR	LR	
	comp=Z,530nm,11.1s					
GTA				LR	LR	
	comp=Z,890nm,13.5s					
DLV	**Lat**	**27.20**	**232**	P	**P**	**19 15 20.4 -0.7**
DLV				IAmb	IAmb	19 15 23.8
	comp=Z,130nm,1.5s					
DLV	**Lat**	**27.20**	**232**	P	**P**	**19 15 23.0 +1.9**
MYLDM	**Lahad Datu**	**27.41**	**206**	P	**P**	**19 15 21.3 -1.5**
MYLDM				IAmb	IAmb	19 16 19.7
	comp=Z,67nm,1.1s					
MYLDM	**Lahad Datu**	**27.41**	**206**	P	**P**	**19 15 26.2 +3.4**
KKM	**Kota Kinabalu**	**27.57**	**211**	P	**P**	**19 15 23.3 -1.0**
KKM	**Kota Kinabalu**	**27.57**	**211**	P	**P**	**19 15 27.0 +2.7**
SKR	**Severo-Kuril's**	**28.02**	**36**	*e*P	**P**	**19 15 26.5 -1.4**
SKR				*e*		19 16 21.6
SKR				*e*S	**S**	**19 20 00.9 -1.5**
SKR				pmax	pmax	
	comp=Z,100nm,4.1s					
SKR				MLR	MLR	
	comp=Z,800nm,16.0s					
TNCH	**TengChong**	**28.40**	**267**	⇓P	**P**	**19 15 32.8 +1.1**
TNCH				pP	pP	19 16 01.4 +1.4
TNCH				sP	sP	19 16 16.9 +1.6
TNCH				PcP	**PcP**	**19 18 42.6 +1.7**
TNCH				S	**S**	**19 20 07.6 -1.6**
TNCH				sS	sS	19 21 01.5 +2.6
TNCH				SS	**SnSn**	**19 21 40.0 -2.9**
TNCH				pmax	pmax	
	comp=Z,19nm,1.3s					
TNCH				pmax	pmax	
	comp=Z,330nm,6.3s					
TNCH				LR	LR	
	comp=Z,1μm,9.0s					
TNCH				LR	LR	
	comp=Z,690nm,8.2s					
TNCH				LR	LR	
	comp=Z,890nm,14.0s					
IRK	**Irkutsk**	**28.87**	**326**	*e*P	**P**	**19 15 31.1 -4.3**
IRK				*e*S	**S**	**19 20 10.9 -4.8**
IRK				pmax	pmax	
	comp=Z,143nm,1.5s					
BOD	**Bodaibo**	**29.53**	**342**	*e*P	**P**	**19 15 40.3 -0.8**
BOD				pmax	pmax	
	comp=Z,38nm,1.4s					
PHRA	**Phrae**	**29.57**	**253**	P	**P**	**19 15 41.1 -0.9**
PHRA					**PcP**	**19 18 43.3 -0.4**
TNTI	**Ternate**	**29.64**	**185**	P	**P**	**19 15 40.9 -1.6**
TNTI				IAmb	IAmb	19 16 23.1
	comp=Z,90nm,1.5s					
TNTI	**Ternate**	**29.64**	**185**	P	**P**	**19 15 45.6 +3.1**
TNTI	**Ternate**	**29.64**	**185**	P	**P**	**19 15 44.0 +1.5**
	comp=Z,29nm,0.8s,comp=Z,648nm					
GOMU	**GeErMu**	**29.91**	**290**	P	**P**	**19 15 45.0 -0.2**
GOMU				PcP	**PcP**	**19 18 45.5 +0.7**
GOMU				pmax	pmax	
	comp=Z,60nm,1.1s					
GOMU				LR	LR	
	comp=Z,440nm,7.5s					
GOMU				LR	LR	
	comp=Z,420nm,7.9s					
GOMU				LR	LR	
	comp=Z,680nm,9.8s					
MOY	**Mondy**	**30.16**	**323**	*e*P	**P**	**19 15 46.7 -0.3**
MOY				pmax	pmax	
	comp=Z,78nm,1.3s					
PEA0B	**Petropavlovsk-**	**30.27**	**34**	P	**P**	**19 15 47.7 0.0**
PEA0B				IAmb	IAmb	19 15 51.5
	comp=Z,111nm,1.3s					
PEA0B	**Petropavlovsk-**	**30.27**	**34**	P	**P**	**19 15 47.7 0.0**
PEA0B				pmax	pmax	
	comp=Z,111nm,1.3s					
PETK	**Petropavlovsk-**	**30.27**	**34**	P	**P**	**19 15 48.3 +0.6**
PETK	**Petropavlovsk-**	**30.27**	**34**	P	**P**	**19 15 48.5 +0.7**
	comp=Z,32nm,0.9s,baz=212,slow=5.3,SNR=23					
PETK				pP	**pP**	**19 16 15.8 -0.6**
	comp=Z,27nm,1.1s,baz=274,slow=5.8,SNR=3.3					
PETK				LR	LR	19 28 19.7
	comp=Z,304nm,20.5s,baz=231,slow=37					
	comp=Z,32nm,0.9s					
CHTO	**Chiang Mai**	**30.49**	**255**	P	**P**	**19 15 49.8 -0.2**
CHTO					**PcP**	**19 18 46.2 +0.1**
CHTO	**Chiang Mai**	**30.49**	**255**	P	**P**	**19 15 49.8 -0.2**
CHTO						19 18 46.3
CHTO				pmax	pmax	
	comp=Z,22nm,1.1s					
TOLI2	**Tolitoli**	**30.50**	**199**	P	**P**	**19 15 48.9 -1.2**
TOLI2	**Tolitoli**	**30.50**	**199**	P	**P**	**19 15 51.7 +1.6**
CM31	**Chiang Mai Arr**	**30.66**	**254**	P	**P**	**19 15 50.3 -1.2**
CM31					**PcP**	**19 18 47.2 +0.6**
CM31	**Chiang Mai Arr**	**30.66**	**254**	P	**P**	**19 15 53.8 +2.3**
	SNR=5.0					
CMAR	**Chiang Mai Arr**	**30.66**	**254**	P	**P**	**19 15 50.2 -1.4**
CMAR					**PcP**	**19 18 46.6 0.0**
CMAR	**Chiang Mai Arr**	**30.66**	**254**	P	**P**	**19 15 51.9 +0.4**
	comp=Z,3.2nm,0.8s,baz=49,slow=7.1,SNR=21					
CMAR				PcP	**PcP**	**19 18 48.0 +1.4**
	comp=Z,11nm,1.0s,baz=26,slow=1.3,SNR=15					
CMAR				ScP	**ScP**	**19 22 17.8 +0.9**
	comp=Z,2.7nm,0.8s,baz=293,slow=0.1,SNR=12					
	comp=Z,3.2nm,0.8s					
PET	**Petropavlovsk**	**30.68**	**34**	P	**P**	**19 15 51.1 -0.1**
PET				IAmb	IAmb	19 15 55.1
	comp=Z,118nm,1.0s					
PET	**Petropavlovsk**	**30.68**	**34**	P	**P**	**19 15 53.6 +2.3**
PET	**Petropavlovsk**	**30.68**	**34**	*e*P	**P**	**19 15 52.3 +1.0**
PET				*e**PP	**pP**	**19 16 21.5 +1.6**
PET				*e*S	**S**	**19 20 45.1 +1.2**
PET				pmax	pmax	
	comp=Z,131nm,0.8s					
PET				MLR	MLR	
	comp=Z,600nm,13.0s					
PET				MLR	MLR	
	comp=Z,500nm,14.0s					
PET	**Petropavlovsk**	**30.68**	**34**	P	**P**	**19 15 53.1 +1.8**
	comp=Z,123nm,1.2s					
PET	**Petropavlovsk**	**30.68**	**34**	P	**P**	**19 15 53.7 +2.3**
PET				pP	**pP**	**19 16 21.6 +1.6**
MRSI	**Marisa**	**30.81**	**196**	P	**P**	**19 15 55.8 +3.0**
	comp=Z,20nm,1.0s,comp=Z,586nm					
SWI	**Sorong**	**31.17**	**178**	P	**P**	**19 15 57.6 +1.6**
	comp=Z,30nm,0.8s					
YAK	**Yakutsk**	**31.58**	**360**	P	**P**	**19 15 58.0 -1.1**
YAK				IAmb	IAmb	19 16 01.8
	comp=Z,44nm,0.8s					
YAK	**Yakutsk**	**31.58**	**360**	*e*P	**P**	**19 16 00.3 +1.2**
YAK				*e**PP	**pP**	**19 16 28.3 +0.6**
YAK				*e*		19 17 07.4
YAK				*e*		19 18 48.6
YAK				*e*S	**S**	**19 20 58.2 +0.4**
YAK				*e**SS	**sS**	**19 21 50.4 +2.7**
YAK				*e*SS	**SnSn**	**19 22 55.1 -4.0**
YAK				*e*		19 26 21.0
YAK				pmax	pmax	
	comp=Z,51nm,1.2s					
YAK				pmax	pmax	
	comp=N,38nm,1.4s					
YAK				pmax	pmax	
	comp=E,16nm,1.5s					
YAK				pmax	pmax	
	comp=Z,273nm,4.3s					
YAK				pmax	pmax	
	comp=N,644nm,4.6s					
YAK				pmax	pmax	
	comp=E,184nm,2.5s					
YAK				smax	smax	
	comp=N,155nm,2.5s					
YAK				smax	smax	
	comp=E,375nm,3.9s					
YAK	**Yakutsk**	**31.58**	**360**	P	**P**	**19 15 59.1 0.0**
YAK				pP	**pP**	**19 16 26.1 -1.6**
YAK				ScP	**ScP**	**19 22 19.5 +0.4**
MA2	**Magadan**	**32.29**	**20**	P	**P**	**19 16 05.8 +0.4**
MA2				IAmb	IAmb	19 16 09.6
	comp=Z,51nm,1.0s					
MA2	**Magadan**	**32.29**	**20**	P	**P**	**19 16 05.3 -0.1**
	comp=Z,20nm,0.7s,baz=225,slow=10,SNR=8.1					
	comp=Z,20nm,0.7s					
MA2	**Magadan**	**32.29**	**20**	P	**P**	**19 16 05.8 +0.4**
MA2				pmax	pmax	
	comp=Z,51nm,1.0s					
MA2	**Magadan**	**32.29**	**20**	P	**P**	**19 16 06.0 +0.5**
MA2				ScP	**ScP**	**19 22 21.6 0.0**
SANI	**Sanana**	**32.56**	**188**	P	**P**	**19 16 09.0 +0.8**
SANI	**Sanana**	**32.56**	**188**	P	**P**	**19 16 08.0 -0.2**
	comp=Z,43nm,0.6s,comp=Z,788nm					
SBUM	**Sibu**	**32.59**	**215**	P	**P**	**19 16 08.6 +0.1**
SBUM	**Sibu**	**32.59**	**215**	P	**P**	**19 16 10.6 +2.1**
SRDT	**SRDT**	**32.66**	**247**	P	**P**	**19 16 11.6 +2.5**
SMKI	**Samarinda**	**33.09**	**204**	P	**P**	**19 16 16.9 +4.1**
LSA	**Lhasa**	**33.59**	**279**	P	**P**	**19 16 17.8 +0.2**
LSA	**Lhasa**	**33.59**	**279**	*i* P	**P**	**19 16 18.1 +0.5**
	SNR=8.8					
LSA	**Lhasa**	**33.59**	**279**	P	**P**	**19 16 17.8 +0.2**
LSA				pmax	pmax	
	comp=Z,19nm,1.0s					
SHL	**Shillong**	**33.96**	**271**	P	**P**	**19 16 19.8 -0.8**
SHL				IAmb	IAmb	19 16 25.1
	comp=Z,64nm,1.1s					
SHL	**Shillong**	**33.96**	**271**	P	**P**	**19 16 22.1 +1.6**
	SNR=22					
SHL	**Shillong**	**33.96**	**271**	P	**P**	**19 16 19.8 -0.8**
SHL				pmax	pmax	
	comp=Z,64nm,1.1s					
GENI	**Genyem**	**34.25**	**162**	P	**P**	**19 16 25.6 +2.8**
KSM	**Kuching**	**34.39**	**217**	P	**P**	**19 16 23.3 -0.8**
KSM				IAmb	IAmb	19 16 27.7
	comp=Z,41nm,1.0s					
KSM	**Kuching**	**34.39**	**217**	P	**P**	**19 16 25.6 +1.5**
MTKI	**Muara Teweh, K**	**34.41**	**208**	P	**P**	**19 16 26.4 +2.1**
	comp=Z,126nm,1.0s,comp=Z,2μm					

WAKE	Wake Island	34.85	100	P	P	19 16 28.1	0.0
H11N2	WAKE ISLAND Hy	34.87	99	P	P	19 16 29.2	+1.2
	baz=274,slow=10,SNR=8.4						
H11N2				T	T	19 53 04.3	
	baz=296,slow=75,SNR=44						
H11N1	WAKE ISLAND Hy	34.87	99	P	P	19 16 29.2	+1.2
	baz=274,slow=10,SNR=11						
H11N1				T	T	19 53 01.1	
	baz=296,slow=75,SNR=18						
H11N3	WAKE ISLAND Hy	34.89	99	P	P	19 16 29.4	+1.3
	baz=274,slow=10,SNR=5.1						
H11N3				T	T	19 53 02.4	
	baz=296,slow=75,SNR=30						
KDI	Kendari	34.96	193	P	P	19 16 31.1	+2.2
	comp=Z,34nm,1.2s						
STKI	Sintang	35.02	214	P	P	19 16 32.1	+2.6
H11S3	WAKE ISLAND Hy	35.23	101	T	T	19 53 54.3	
	baz=303,slow=74						
H11S1	WAKE ISLAND Hy	35.23	101	T	T	19 53 54.7	
	baz=303						
H11S2	WAKE ISLAND Hy	35.25	101	T	T	19 53 57.5	
	baz=303,slow=74						
SEY	Seymchan	35.51	17	P	P	19 16 32.6	-0.6
	comp=Z,22nm,0.7s,baz=217,slow=6.7,SNR=64						
SEY				PcP	PcP	19 19 00.6	+1.2
	comp=Z,11nm,0.9s,baz=215,slow=4.9,SNR=3.6						
SEY				S	S	19 21 58.4	-0.1
	comp=Z,1.7nm,0.7s,baz=280,slow=14,SNR=4.0						
SEY				ScP	ScP	19 22 32.6	-0.3
	comp=Z,14nm,0.8s,baz=210,slow=3.2,SNR=15						
	comp=Z,22nm,0.7s						
SEY	Seymchan	35.51	17	*ce*P	P	19 16 33.8	+0.6
SEY				pmax	pmax		
	comp=Z,47nm,1.7s						
SRIT	Nakonsritamara	35.83	239	P	P	19 16 36.7	+0.3
SRIT				IAmb	IAmb	19 16 39.5	
	comp=Z,109nm,1.4s						
SRIT	Nakonsritamara	35.83	239	P	P	19 16 38.9	+2.5
WMQ	Urumqi	35.94	304	⇑P	P	19 16 37.8	+0.6
WMQ				pP	pP	19 17 05.0	-1.0
WMQ				PP	PnPn	19 18 06.8	+4.5
WMQ				PcP	PcP	19 19 01.5	+0.4
WMQ				ScP	ScP	19 22 36.3	+1.3
WMQ				pmax	pmax		
	comp=Z,99nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,270nm,3.7s						
WMQ				LR	LR		
	comp=Z,650nm,15.7s						
WMQ				LR	LR		
	comp=Z,490nm,16.5s						
WMQ				LR	LR		
	comp=Z,850nm,23.5s						
WMQ	Urumqi	35.94	304	P	P	19 16 38.7	+1.5
KAPI	Kappang	36.63	197	P	P	19 16 43.1	-0.1
KAPI	Kappang	36.63	197	PcP	PcP	19 19 05.0	+1.5
	comp=Z,15nm,0.9s,baz=342,slow=1.9,SNR=4.2						
KAPI	Kappang	36.63	197	P	P	19 16 43.1	-0.1
KAPI				pmax	pmax		
	comp=Z,27nm,1.2s						
IPM	Ipoh	37.66	232	P	P	19 16 51.3	-0.6
IPM	Ipoh	37.66	232	P	P	19 16 52.7	+0.7
MYKOM	Kota Tinggi	37.83	226	P	P	19 16 53.4	0.0
MYKOM				IAmb	IAmb	19 16 56.4	
	comp=Z,48nm,1.3s						
MYKOM				PcP	PcP	19 19 08.6	+1.4
MYKOM	Kota Tinggi	37.83	226	P	P	19 16 55.6	+2.2
TPRI	Tanjung Pinang	38.10	224	P	P	19 16 57.2	+1.6
	comp=Z,81nm,1.3s,comp=Z,1µm						
BTDF	Bukit Timah Da	38.21	226	P	P	19 17 00.0	+3.4
SAUI	Saumlaki	38.24	178	P	P	19 16 57.3	+0.5
SAUI				IAmb	IAmb	19 16 59.7	
	comp=Z,80nm,0.8s						
SAUI	Saumlaki	38.24	178	P	P	19 16 58.8	+2.1
SAUI	Saumlaki	38.24	178	P	P	19 16 59.0	+2.3
	comp=Z,104nm,0.8s						
ZSN	Zaisan	38.44	309	*e*P	P	19 16 58.2	0.0
	comp=Z,26nm,1.2s						
ZSN	Zaisan	38.44	309	*e*P	P	19 16 58.2	0.0
ZSN				pmax	pmax		
	comp=Z,26nm,1.2s						
SHEM	Shemya Is, Ala	38.92	42	LR	LR	19 31 42.6	
	comp=Z,147nm,21.3s,baz=276,slow=34						
TPI	Tanjungpandan	39.36	217	P	P	19 17 07.8	+1.7
	comp=Z,48nm,1.2s,comp=Z,912nmcomp=Z,2µm						
MMRI	Maumere	39.59	192	P	P	19 17 07.1	-0.9
MMRI				IAmb	IAmb	19 17 45.4	
	comp=Z,71nm,1.2s						
PPBI	Pangkal Pinang	39.67	219	P	P	19 17 10.8	+2.1
	comp=Z,109nm,1.4s						
ZAA0	Zalesovo Array	39.99	319	P	P	19 17 10.4	-0.5
ZALV	Zalesovo Beam	39.99	319	P	P	19 17 09.8	-1.1
ZALV	Zalesovo Beam	39.99	319	P	P	19 17 09.7	-1.2
	comp=Z,19nm,0.9s,baz=104,slow=6.3,SNR=68						
ZALV				PcP	PcP	19 19 12.8	-0.6
	comp=Z,33nm,1.0s,baz=102,slow=4.6,SNR=14						
ZALV				ScP	ScP	19 22 49.2	-0.8
	comp=Z,34nm,1.0s,baz=114,slow=3.6,SNR=30						
ZALV				LR	LR	19 36 39.4	
	comp=Z,329nm,19.0s,baz=116,slow=40						
	comp=Z,19nm,0.9s						
ZALV	Zalesovo Beam	39.99	319	*i* P	P	19 17 11.1	+0.2
ZALV				pmax	pmax		
	comp=Z,20nm,0.9s						
MK31	Makanchi Array	40.09	308	P	P	19 17 11.2	-0.7
MK31				IAmb	IAmb	19 17 14.1	
	comp=Z,48nm,1.0s						
MK31				PP	PP	19 18 39.7	-6.9
MK31	Makanchi Array	40.09	308	P	P	19 17 11.2	-0.7
MK31				pmax	pmax		
	comp=Z,48nm,1.0s						
MKAR	Makanchi Array	40.09	308	P	P	19 17 11.0	-0.9
MKAR				PP	PP	19 18 40.7	-5.9
MKAR	Makanchi Array	40.09	308	P	P	19 17 11.3	-0.6
	comp=Z,47nm,0.9s,baz=96,slow=9.8,SNR=140						
MKAR				PP	PnPn	19 18 50.9	-0.5
	comp=Z,13nm,1.0s,baz=89,slow=11,SNR=3.9						
MKAR				PcP	PcP	19 19 13.8	-0.1
	comp=Z,23nm,0.9s,baz=88,slow=4.1,SNR=10.0						
MKAR				ScP	ScP	19 22 50.8	+0.1
	comp=Z,14nm,0.9s,baz=87,slow=5.5,SNR=20						
MKAR				LR	LR	19 35 17.8	
	comp=Z,407nm,18.4s,baz=100,slow=38						
	comp=Z,47nm,0.9s						
MAKZ	Makanchi	40.30	308	P	P	19 17 12.7	-0.9
MAKZ				IAmb	IAmb	19 17 15.5	
	comp=Z,49nm,1.0s						
MAKZ				PP	PP	19 18 44.7	-4.2
MAKZ	Makanchi	40.30	308	P	P	19 17 12.7	-0.9
MAKZ						19 18 44.7	
MAKZ				pmax	pmax		
	comp=Z,49nm,1.0s						
MAKZ	Makanchi	40.30	308	P	P	19 17 13.7	0.0
MAKZ				pP	pP	19 17 41.7	-1.3
MAKZ				PcP	PcP	19 19 14.6	0.0
MAKZ				ScP	ScP	19 22 51.5	+0.1
PSI	Prapat	40.31	233	LR	LR	19 33 00.6	
	comp=Z,141nm,21.2s,baz=30,slow=34						
PSI	Prapat	40.31	233	P	P	19 17 15.0	+0.8
PSI	Prapat	40.31	233	P	P	19 17 13.8	-0.4
PSI				pmax	pmax		
	comp=Z,56nm,1.1s						
SOEI	Soe	40.37	189	P	P	19 17 12.9	-1.7
SOEI				IAmb	IAmb	19 18 05.8	
	comp=Z,64nm,1.0s						
SOEI	Soe	40.37	189	P	P	19 17 15.0	+0.4
RPSI	Rantau Prapat	40.39	233	P	P	19 17 13.8	-0.9
RPSI				IAmb	IAmb	19 17 16.6	
	comp=Z,56nm,1.1s						
RABL	Rabaul	40.41	145	P	P	19 17 14.8	-0.1
RABL				IAmb	IAmb	19 17 46.5	
	comp=Z,55nm,1.0s						
BKNI	Bangkinang	40.73	228	P	P	19 17 15.2	-2.3
BKNI	Bangkinang	40.73	228	P	P	19 17 19.3	+1.8
BKNI	Bangkinang	40.73	228	P	P	19 17 19.1	+1.6
	comp=Z,84nm,1.0s,comp=Z,1µm						
PLAI	Plampang	40.81	199	P	P	19 17 21.0	+2.9
PLAI	Plampang	40.81	199	P	P	19 17 23.0	+4.9
BATI	Baumata	40.90	190	LR	LR	19 33 37.7	
	comp=Z,136nm,21.5s,baz=30,slow=35						
BATI	Baumata	40.90	190	P	P	19 17 18.8	0.0
	comp=Z,75nm,0.9s,comp=Z,679nm						
PMBI	Palembang	41.06	221	P	P	19 17 20.0	-0.1
PMBI	Palembang	41.06	221	P	P	19 17 22.9	+2.7
BSI	Banda Aceh	41.07	240	P	P	19 17 25.2	+4.9
MLSI	Meulaboh, Aceh	41.07	237	P	P	19 17 20.2	-0.1
	comp=Z,117nm,1.2s						
TIXI	Tiksi	41.25	359	P	P	19 17 20.0	-0.9
TIXI	Tiksi	41.25	359	P	P	19 17 20.0	-0.9
TIXI				pmax	pmax		
	comp=Z,25nm,1.1s						
TIXI	Tiksi	41.25	359	P	P	19 17 20.2	-0.8
TIXI				PcP	PcP	19 19 17.3	+0.2
TIXI				ScP	ScP	19 22 53.8	-0.9
MNSI	Mandailing Nat	41.34	230	P	P	19 17 23.1	+0.7
	comp=Z,21nm,0.4s						
PPI	Padang Panjang	41.74	228	P	P	19 17 26.7	+1.0
	comp=Z,59nm,1.4s,comp=Z,1µmcomp=Z,2µm						
SMRI	Semarang	41.78	210	P	P	19 17 24.9	-1.1
SMRI				IAmb	IAmb	19 17 29.9	
	comp=Z,87nm,0.8s						
SHLS	Shalkode	41.87	302	*e*P	P	19 17 23.8	-2.9
SHLS	Shalkode	41.87	302	*e*P	P	19 17 23.7	-2.9
SEM	Semipalatinsk	41.92	313	*e*P	P	19 17 26.8	-0.4
	comp=Z,43nm,1.2s						
SEM	Semipalatinsk	41.92	313	*e*P	P	19 17 26.7	-0.4
SEM				pmax	pmax		
	comp=Z,43nm,1.2s						
WUS	Wushi	42.08	299	P	P	19 17 27.4	-1.0
WUS				IAmb	IAmb	19 18 02.9	
	comp=Z,75nm,1.6s						
WUS				PP	PP	19 19 09.4	+1.1
UZB	Uzynbulak	42.19	302	*e*P	P	19 17 28.7	-0.6
	comp=Z,42nm,1.8s						
UZB	Uzynbulak	42.19	302	*e*P	P	19 17 28.7	-0.6
UZB				pmax	pmax		
	comp=Z,42nm,1.8s						
GSI	Gunungsitoli	42.32	233	P	P	19 17 29.8	-0.7
GSI	Gunungsitoli	42.32	233	P	P	19 17 30.8	+0.4
GSI	Gunungsitoli	42.32	233	P	P	19 17 30.2	-0.2
KPKS	Kokpek	42.44	303	*e*P	P	19 17 30.8	-0.5
	comp=Z,58nm,1.9s						
KPKS	Kokpek	42.44	303	*e*P	P	19 17 30.7	-0.5
KPKS				pmax	pmax		
	comp=Z,58nm,1.9s						
UGM	Wanagama	42.52	209	P	P	19 17 31.2	-0.9
UGM	Wanagama	42.52	209	P	P	19 17 33.4	+1.4
ZHN	Zhinishke	42.62	302	*e*P	P	19 17 32.2	-0.6
ZHN	Zhinishke	42.62	302	*e*P	P	19 17 32.1	-0.6
SATY	Saty	42.64	302	*e*P	P	19 17 32.4	-0.5
	comp=Z,23nm,1.1s						
SATY	Saty	42.64	302	*e*P	P	19 17 32.4	-0.5
SATY				pmax	pmax		
	comp=Z,23nm,1.1s						
DRS	Darwin Rock St	42.65	179	P	P	19 17 33.7	+0.7
PRZ	Przheval'sk	42.65	301	P	P	19 17 32.4	-0.7
PRZ				IAmb	IAmb	19 17 36.8	
	comp=Z,74nm,1.1s						
PRZ				PP	PP	19 19 13.2	-1.3
PRZ	Przheval'sk	42.65	301	P	P	19 17 32.4	-0.7
PRZ						19 19 13.2	
PRZ				pmax	pmax		
	comp=Z,74nm,1.1s						
TDK	Taldyqorghan	42.66	305	*e*P	P	19 17 32.7	-0.2
	comp=Z,58nm,1.1s						
TDK	Taldyqorghan	42.66	305	*e*P	P	19 17 32.7	-0.2
TDK				pmax	pmax		
	comp=Z,58nm,1.1s						
PMG	Port Moresby	42.90	155	P	P	19 17 33.1	-1.9
PMG	Port Moresby	42.90	155	LR	LR	19 33 05.5	
	comp=Z,341nm,20.8s,baz=324,slow=32						
PMG	Port Moresby	42.90	155	*ce*P	P	19 17 35.3	+0.3
PMG				pmax	pmax		
	comp=Z,23nm,1.3s						
KURK	Kurchatov	43.00	313	P	P	19 17 34.7	-0.8
KURK				IAmb	IAmb	19 17 37.6	
	comp=Z,59nm,0.9s						
KURK	Kurchatov	43.00	313	P	P	19 17 35.7	+0.2
KURK				P	P	19 17 35.7	+0.2
KURK	Kurchatov	43.00	313	P	P	19 17 34.7	-0.8
KURK				pmax	pmax		
	comp=Z,59nm,0.9s						
KURK	Kurchatov	43.00	313	P	P	19 17 35.2	-0.2
KURK				pP	pP	19 18 03.5	-1.8
KURK				PcP	PcP	19 19 23.6	+0.2
KURK				ScP	ScP	19 23 01.4	-0.7
KURBB	Kurchatov Arra	43.04	313	P	P	19 17 35.4	-0.4
	comp=Z,52nm,1.0s,baz=98,slow=8.7,SNR=116						
KURBB				PcP	PcP	19 19 21.2	-2.3
	comp=Z,13nm,0.8s,baz=99,slow=3.8,SNR=9.7						
KURBB				ScP	ScP	19 23 00.9	-1.3
	comp=Z,8.8nm,0.8s,baz=97,slow=4.1,SNR=20						
KURBB				LR	LR	19 37 55.5	
	comp=Z,666nm,18.2s,baz=158,slow=39						
	comp=Z,52nm,1.0s						
MTN	Manton Dam	43.06	178	P	P	19 17 34.4	-1.9
MTN				IAmb	IAmb	19 17 38.0	
	comp=Z,92nm,0.8s						
MTN	Manton Dam	43.06	178	P	P	19 17 36.6	+0.3
	comp=Z,134nm,0.9s						
MTN	Manton Dam	43.06	178	P	P	19 17 37.0	+0.7
TARG	Taragay, Kyrgy	43.12	300	P	P	19 17 35.3	-1.8
TARG				IAmb	IAmb	19 17 40.9	
	comp=Z,53nm,1.0s						
TARG				PP	PP	19 19 18.8	-0.9
BILL	Bilibino	43.16	19	P	P	19 17 36.2	-0.3
BILL				IAmb	IAmb	19 17 38.9	
	comp=Z,47nm,0.8s						
BILL	Bilibino	43.16	19	*ce*P	P	19 17 37.0	+0.5
BILL				pmax	pmax		
	comp=Z,47nm,0.9s						
BILL	Bilibino	43.16	19	P	P	19 17 37.1	+0.5
BILL				PcP	PcP	19 19 24.8	+1.2
BILL				ScP	ScP	19 23 03.1	+0.8
BBJI	Bungbulang	43.42	213	P	P	19 17 39.2	-0.1
KDJ	Kajisay	43.57	301	P	P	19 17 37.9	-2.5
KDJ				PP	PP	19 19 22.6	-1.7
KDJ	Kajisay	43.57	301	P	P	19 17 37.9	-2.5
KDJ						19 19 22.6	
KDJ				pmax	pmax		
	comp=Z,29nm,1.0s						
MDOK	Medeo	43.63	302	*e*P	P	19 17 40.7	-0.3
MDOK	Medeo	43.63	302	*e*P	P	19 17 40.6	-0.3
CHKK	Chushkaly	43.67	303	*e*P	P	19 17 41.0	-0.1
CHKK	Chushkaly	43.67	303	*e*P	P	19 17 40.9	-0.1
TNSS	Tian-Shan	43.71	302	*e*P	P	19 17 41.4	-0.5
TNSS	Tian-Shan	43.71	302	*e*P	P	19 17 41.3	-0.5
AAA	Alma-Ata	43.73	302	*e*P	P	19 17 41.5	-0.2
	comp=Z,59nm,1.1s						
AAA	Alma-Ata	43.73	302	*e*P	P	19 17 41.4	-0.2
AAA				pmax	pmax		
	comp=Z,59nm,1.1s						
KIWB	Kanaga Island	43.97	45	P	P	19 17 41.3	-1.9
KUU	Kurty	44.14	303	*e*P	P	19 17 44.3	-0.4
	comp=Z,28nm,1.0s						
KUU	Kurty	44.14	303	*e*P	P	19 17 44.3	-0.4
KUU				pmax	pmax		
	comp=Z,28nm,1.0s						
ADK	Adak	44.26	45	P	P	19 17 45.0	-0.5
ADK				IAmb	IAmb	19 18 16.7	
	comp=Z,63nm,1.1s						
ADK	Adak	44.26	45	P	P	19 17 45.0	-0.5
ADK				pmax	pmax		
	comp=Z,63nm,1.1s						
ADK	Adak	44.26	45	P	P	19 17 46.0	+0.4
ADK				pP	pP	19 18 15.2	-0.4
ULHL	Ulahol	44.26	301	P	P	19 17 47.8	+1.8
SNR=11							
KSH	Kashi	44.66	297	P	P	19 17 51.3	+2.2
KSH				pP	pP	19 18 25.9	+6.9
KSH				PP	PP	19 19 40.8	+4.9
KSH				sS	sS	19 25 13.6	+6.2
KSH				pmax	pmax		
	comp=Z,16nm,1.6s						
KSH				LR	LR		
	comp=Z,330nm,10.7s						
KSH				LR	LR		
	comp=Z,480nm,10.7s						
KSH				LR	LR		
	comp=Z,460nm,17.2s						
TKM2	Tokmak 2	44.71	302	P	P	19 17 50.0	+0.4
SNR=52							
KBK	Karagaybulak	45.20	301	P	P	19 17 53.9	+0.5
SNR=21							
CHMS	Chumysh	45.32	302	P	P	19 17 54.9	+0.8
SNR=21							
SGDS	Sogindy	45.39	303	*e*P	P	19 17 54.4	-0.4
SGDS	Sogindy	45.39	303	*e*P	P	19 17 54.3	-0.4
FRU1	Bishkek	45.42	302	P	P	19 17 54.5	-0.5
FRU1	Bishkek	45.42	302	P	P	19 17 54.5	-0.5
FRU1				pmax	pmax		
	comp=Z,51nm,1.2s						
USP	Ospenovka	45.49	302	P	P	19 17 55.6	+0.1
SNR=32							
AAK	Ala-Archa	45.53	301	P	P	19 17 56.2	+0.2
SNR=16							
AAK	Ala-Archa	45.53	301	P	P	19 17 55.6	-0.4
AAK	Ala-Archa	45.53	301	*i* P	P	19 17 56.3	+0.2
SNR=24							
AAK	Ala-Archa	45.53	301	LR	LR	19 37 01.4	
	comp=Z,341nm,18.1s,baz=88,slow=36						
AAK	Ala-Archa	45.53	301	P	P	19 17 56.6	+0.6
AAK	Ala-Archa	45.53	301	*ce*P	P	19 17 56.2	+0.2
AAK				pmax	pmax		
	comp=Z,11nm,0.9s						
AAK	Ala-Archa	45.53	301	P	P	19 17 56.4	+0.4
AAK				pP	pP	19 18 26.6	+0.6
AAK				PcP	PcP	19 19 32.9	+0.5
AAK				ScP	ScP	19 23 12.9	0.0
UCH	Uchtor	45.54	301	P	P	19 17 57.9	+1.5
SNR=10							
BTLS	Baital	45.75	305	*e*P	P	19 17 57.2	-0.4
BTLS	Baital	45.75	305	*e*P	P	19 17 57.1	-0.4
KNRA	Kununurra	45.89	182	P	P	19 17 58.4	-0.3
KNRA	Kununurra	45.89	182	P	P	19 17 59.5	+0.8
	comp=Z,142nm,0.9s						
COEN	Coen	45.92	162	P	P	19 17 57.6	-1.5
COEN	Coen	45.92	162	P	P	19 17 60.0	+0.9
	comp=Z,18nm,1.4s						
EKS2	Erkin-Say	46.06	302	P	P	19 18 00.7	+0.6
SNR=15							
AML	Almayashu	46.16	301	P	P	19 18 01.8	+0.7
SNR=9.6							
ARSB	Arslanbob	46.76	300	P	P	19 18 04.5	-1.1
ARSB	Arslanbob	46.76	300	P	P	19 18 04.5	-1.1
ARSB				pmax	pmax		
	comp=Z,12nm,1.2s						
NIL	Nilore	47.76	289	P	P	19 18 11.3	-2.0
NIL	Nilore	47.76	289	P	P	19 18 13.2	0.0
NIL	Nilore	47.76	289	P	P	19 18 11.3	-2.0
NIL				pmax	pmax		
	comp=Z,25nm,0.9s						
DZA	Taraz	47.84	302	*e*P	P	19 18 13.7	-0.1
DZA	Taraz	47.84	302	*e*P	P	19 18 13.6	-0.1
DRK	Karamyk	47.87	297	P	P	19 18 13.3	-1.1
DRK	Karamyk	47.87	297	P	P	19 18 13.3	-1.1
DRK				pmax	pmax		
	comp=Z,18nm,1.0s						
BVAR	Borovoye Array	48.30	316	P	P	19 18 17.1	0.0
	comp=Z,32nm,0.7s,baz=94,slow=8.2,SNR=108						
BVAR				pP	pP	19 18 46.9	-0.6
	comp=Z,59nm,1.0s,baz=88,slow=8.9,SNR=5.6						
BVAR				PcP	PcP	19 19 42.0	+0.2
	comp=Z,26nm,0.8s,baz=124,slow=2.7,SNR=7.1						
BVAR				ScP	ScP	19 23 23.7	-0.4
	comp=Z,21nm,0.8s,baz=96,slow=4.2,SNR=26						
BVAR				ScS	ScS	19 27 54.2	-1.9
	comp=Z,1.7nm,0.8s,baz=78,slow=11,SNR=5.3						
BVAR				LR	LR	19 39 57.9	
	comp=Z,352nm,18.7s,baz=93,slow=38						
	comp=Z,32nm,0.7s						
BRVK	Borovoye	48.37	316	P	P	19 18 17.3	-0.4
BRVK				IAmb	IAmb	19 18 20.4	
	comp=Z,123nm,1.2s						
BRVK	Borovoye	48.37	316	P	P	19 18 18.1	+0.4
BRVK				P	P	19 18 18.1	+0.4
BRVK	Borovoye	48.37	316	*ce*P	P	19 18 17.8	+0.2
BRVK				pmax	pmax		
	comp=Z,110nm,1.2s						
BRVK	Borovoye	48.37	316	P	P	19 18 18.0	+0.4
BRVK				pP	pP	19 18 48.1	+0.1
BRVK				ScP	ScP	19 23 24.0	-0.4
KKAR	Karatay Array	48.41	302	P	P	19 18 17.5	-0.7
KKAR				PcP	PcP	19 19 41.6	-0.9
KKAR	Karatay Array	48.41	302	P	P	19 18 17.6	-0.6
KKAR				PcP	PcP	19 19 41.9	-0.6
KKAR				PP	PP	19 20 11.4	-0.4
KKAR	Karatay Array	48.41	302	P	P	19 18 17.6	-0.6
KKAR						19 19 41.6	
KKAR				pmax	pmax		
	comp=Z,37nm,1.3s						
FITZ	Fitzroy Crossi	48.47	186	P	P	19 18 17.7	-1.0
FITZ	Fitzroy Crossi	48.47	186	P	P	19 18 20.2	+1.5
HYB	Hyderabad	48.48	267	*e*P	P	19 18 18.1	-0.9
HYB				*e*		19 18 51.2	
HYB				IVmB_BB		19 18 52.5	
	comp=Z,630nm,2.3s						
HYB				*e*PcP	PcP	19 19 42.9	-0.2
HYB				*e*ScP	ScP	19 23 24.1	-1.4
HYB				*e*PcS	PcS	19 23 38.8	-0.8
HYB				*e*sS	sS	19 25 58.8	-3.8
HYB				*e*ScS	ScS	19 27 58.7	+0.2
HYB				*e*SKiKP	SKiKP	19 29 52.1	-0.5
BTK	Batken	48.54	298	P	P	19 18 18.8	-0.5
BTK	Batken	48.54	298	P	P	19 18 18.8	-0.5
BTK				pmax	pmax		
	comp=Z,38nm,1.4s						
ALEG	Aligegeo Malai	48.83	138	P	P	19 18 23.6	+2.0
IUG	Iuzhnay	48.87	301	*e*P	P	19 18 21.7	-0.1
	comp=Z,26nm,1.2s						
IUG	Iuzhnay	48.87	301	*e*P	P	19 18 21.6	-0.1
IUG				pmax	pmax		
	comp=Z,26nm,1.2s						
BRLS	Borolday	48.91	302	*e*P	P	19 18 22.9	+0.9
	comp=Z,35nm,2.1s						
BRLS	Borolday	48.91	302	*e*P	P	19 18 22.9	+0.9
BRLS				pmax	pmax		
	comp=Z,35nm,2.1s						
HNR	Honiara	48.95	139	LR	LR	19 38 24.1	
	comp=Z,161nm,18.9s,baz=326,slow=35						
GAR	Garm	49.09	297	IAmb	IAmb	19 18 27.1	
	comp=Z,109nm,1.3s						
GAMB	Gambell	49.16	30	P	P	19 18 24.3	+0.9
baz=256							
WB0	Warramunga Arr	50.11	175	P	P	19 18 30.8	-0.4
WB0				IAmb	IAmb	19 18 33.3	
	comp=Z,23nm,0.7s						
SIMJ	Simiganj	50.15	297	P	P	19 18 31.0	-0.5
SIMJ				IAmb	IAmb	19 18 35.2	
	comp=Z,57nm,1.2s						
SIMJ	Simiganj	50.15	297	P	P	19 18 31.6	0.0
SIMJ				pP	pP	19 19 02.1	+0.1
SIMJ				PcP	PcP	19 19 49.4	+0.4
SIMJ				ScP	ScP	19 23 31.9	-0.6
MTSU	Mount Surprise	50.22	162	P	P	19 18 33.5	+1.4
	comp=Z,8.5nm,1.3s						
MTSU	Mount Surprise	50.22	162	P	P	19 18 34.5	+2.5
WRAB	Tennant Creek	50.27	175	P	P	19 18 31.9	-0.5
WRAB	Tennant Creek	50.27	175	*i* P	P	19 18 33.4	+1.0
WRAB				pmax	pmax		
	comp=Z,24nm,0.9s						
WRA	Warramunga Arr	50.28	175	P	P	19 18 31.5	-1.0
WRA	Warramunga Arr	50.28	175	P	P	19 18 32.7

baz=260,SNR=8.3
K13K Kusilvak Mount 52.02 33 P **P 19 18 44.2 -0.8**
K13K Kusilvak Mount 52.02 33 P **P 19 18 46.7 +1.7**
baz=264,SNR=8.4
ANM Nome 52.03 30 P **P 19 18 44.6 -0.4**
ANM IAmb IAmb 19 18 48.4
comp=Z,42nm,0.8s
ANM Nome 52.03 30 P **P 19 18 46.6 +1.5**
baz=261
ANM Nome 52.03 30 P **P 19 18 44.7 -0.4**
ANM pmax pmax
comp=Z,42nm,0.8s
MBWA Marble Bar 52.28 192 P **P 19 18 46.3 -1.0**
MBWA IAmb IAmb 19 18 49.5
comp=Z,54nm,1.4s
MBWA Marble Bar 52.28 192 P **P 19 18 47.8 +0.5**
comp=Z,33nm,1.3s
MBWA Marble Bar 52.28 192 P **P 19 18 48.4 +1.1**
MBWA Marble Bar 52.28 192 P **P 19 18 49.2 +1.9**
F15K North Star Dit 52.51 28 P **P 19 18 49.8 +1.2**
F15K IAmb IAmb 19 18 51.3
comp=Z,59nm,0.8s
F15K North Star Dit 52.51 28 P **P 19 18 50.2 +1.7**
baz=261,SNR=12
M13K Dall Lake 52.53 35 P **P 19 18 50.5 +1.7**
baz=266
PSAD1 Pilbara Seismi 52.55 192 P **P 19 18 50.0 +0.7**
comp=Z,82nm,1.0s
CTA Charters Tower 52.61 161 P **P 19 18 51.5 +1.7**
CTAO Charters Tower 52.61 161 P **P 19 18 48.7 -1.1**
CTAO IAmb IAmb 19 18 52.5
comp=Z,87nm,1.6s
CTAO Charters Tower 52.61 161 P **P 19 18 51.6 +1.7**
CTAO Charters Tower 52.61 161 P **P 19 18 48.7 -1.1**
CTAO pmax pmax
comp=Z,87nm,1.6s
CTAO Charters Tower 52.61 161 P **P 19 18 51.1 +1.3**
CTAO pP **pP 19 19 21.8 +1.1**
J14K Nanvaranak Lak 52.62 32 P **P 19 18 50.0 +0.6**
J14K IAmb IAmb 19 18 52.6
comp=Z,76nm,1.4s
J14K Nanvaranak Lak 52.62 32 P **P 19 18 50.8 +1.4**
baz=265,SNR=8.8
PSAC1 Pilbara Seismi 52.63 192 P **P 19 18 50.6 +0.7**
comp=Z,79nm,1.0s
PSAB2 Pilbara Seismi 52.64 192 P **P 19 18 50.6 +0.6**
comp=Z,68nm,1.0s
G15K Niukluk 52.66 29 P **P 19 18 51.3 +1.7**
baz=262
PSA00 Pilbara Seismi 52.66 192 P **P 19 18 49.4 -0.7**
PSA00 IAmb IAmb 19 18 53.4
comp=Z,52nm,0.9s
PSA00 Pilbara Seismi 52.66 192 P **P 19 18 49.8 -0.3**
PSA00 IAmb IAmb 19 18 52.9
comp=Z,32nm,1.0s
PSA00 Pilbara Seismi 52.66 192 P **P 19 18 50.8 +0.7**
comp=Z,64nm,1.0s
PSA00 Pilbara Seismi 52.66 192 P **P 19 18 51.9 +1.8**
C16K Lisburne Hills 52.69 25 P **P 19 18 50.8 +1.0**
baz=259,SNR=5.3
L14K Kuka Creek 52.91 34 P **P 19 18 53.2 +1.6**
L14K Kuka Creek 52.91 34 P **P 19 18 53.6 +2.0**
baz=266,SNR=24
M14K Bethel 53.23 35 P **P 19 18 54.3 +0.4**
M14K Bethel 53.23 35 P **P 19 18 55.6 +1.7**
baz=268,SNR=14
N14K Kuskokwak Cree 53.34 36 P **P 19 18 56.6 +1.9**
baz=268,SNR=6.8
H16K Elim 53.38 30 P **P 19 18 56.3 +1.3**
baz=264,SNR=13
G16K Koyuk River 53.41 29 IAmb IAmb 19 18 57.9
comp=Z,31nm,0.9s
G16K Koyuk River 53.41 29 P **P 19 18 56.4 +1.3**
baz=264
D17K Noatak River 53.42 26 P **P 19 18 56.6 +1.4**
baz=261,SNR=7.7
L15K Ungalak Mounta 53.51 33 P **P 19 18 57.4 +1.5**
baz=267
C17K DeLong Mountai 53.51 25 P **P 19 18 57.3 +1.4**
baz=261
K15K Wolf Creek Mou 53.52 33 IAmb IAmb 19 18 59.5
comp=Z,50nm,1.1s
K15K Wolf Creek Mou 53.52 33 P **P 19 18 57.5 +1.6**
baz=267,SNR=7.8
O14K Tigyukauivet M 53.54 37 IAmb IAmb 19 18 59.3
comp=Z,69nm,1.2s
O14K Tigyukauivet M 53.54 37 P **P 19 18 57.6 +1.4**
baz=269
RDOG Red Dog Mine 53.55 25 IAmb IAmb 19 18 58.1
comp=Z,24nm,0.7s
RDOG Red Dog Mine 53.55 25 P **P 19 18 57.1 +1.0**
baz=261
E17K Hotham Inlet 53.82 27 P **P 19 18 59.8 +1.7**
baz=263,SNR=14
M15K Kasigluk River 53.86 35 P **P 19 18 59.8 +1.3**
baz=269,SNR=12
ASAR Alice Springs 53.94 176 P **P 19 18 59.2 -0.3**
ASAR Alice Springs 53.94 176 P **P 19 00.2 +0.7**
comp=Z,17nm,0.8s,baz=8.2,slow=13,SNR=87
ASAR pP **pP 19 19 31.4 +0.9**
comp=Z,4.6nm,0.6s,baz=8.5,slow=14,SNR=3.3
ASAR ScP **ScP 19 23 50.8 +2.1**
comp=Z,1.0nm,1.1s,baz=339,slow=5.0,SNR=4.3
ASAR LR LR 19 43 32.0
comp=Z,88nm,18.9s,baz=352,slow=38
ASAR PKP2bc 19 49 29.5
comp=Z,1.0nm,0.9s,baz=145,slow=1.2,SNR=5.2
ASAR P4KPbc 19 56 21.5
comp=Z,1.0nm,0.9s,baz=359,slow=4.9,SNR=8.2
comp=Z,17nm,0.8s
F17K Baldwin Pennin 53.98 28 P **P 19 19 00.6 +1.4**
baz=264,SNR=34
SVE Sverdlovsk 53.98 320*de***P 19 19 00.1 +0.7**
SVE pmax pmax
comp=Z,85nm,1.4s
I17K Unalakleet 53.99 31 IAmb IAmb 19 19 02.8
comp=Z,70nm,1.0s
I17K Unalakleet 53.99 31 P **P 19 19 01.2 +1.8**
baz=266
J16K Anvik River 54.00 32 P **P 19 19 01.2 +1.8**
baz=267,SNR=9.3
G17K Kiwalik Mounta 54.13 29 P **P 19 19 01.9 +1.5**
baz=265,SNR=24
B18K Kokolik River 54.14 24 P **P 19 19 01.9 +1.4**
baz=261
N15K Kwethluk River 54.15 35 P **P 19 19 01.8 +1.2**
N15K Kwethluk River 54.15 35 P **P 19 19 02.1 +1.6**
baz=270
C18K Utukok River 54.26 25 IAmb IAmb 19 19 03.2
comp=Z,56nm,0.8s
C18K Utukok River 54.26 25 P **P 19 19 02.6 +1.2**
baz=262
O15K Ungalikthiuk R 54.28 37 P **P 19 19 03.3 +1.7**
baz=270,SNR=6.6
E18K Tukpahlearik C 54.33 26 IAmb IAmb 19 19 04.8
comp=Z,48nm,0.8s
E18K Tukpahlearik C 54.33 26 P **P 19 19 03.3 +1.5**
baz=264,SNR=17
H17K Granite Mounta 54.40 29 IAmb IAmb 19 19 05.6
comp=Z,64nm,1.2s
H17K Granite Mounta 54.40 29 P **P 19 19 03.7 +1.3**
baz=266,SNR=19
L16K Owhat River 54.47 33 IAmb IAmb 19 19 05.3
comp=Z,36nm,0.9s
L16K Owhat River 54.47 33 P **P 19 19 04.5 +1.6**
baz=269,SNR=16
A19K Wainwright 54.52 23 P **P 19 19 04.4 +1.3**
baz=261,SNR=6.6
CHNA Chernabura Isl 54.58 42 P **P 19 19 04.3 +0.6**
baz=274
F18K Selawik 54.63 27 P **P 19 19 05.1 +1.2**
baz=265,SNR=22
J17K VABM Dome 54.69 31 P **P 19 19 05.0 +0.6**
J17K VABM Dome 54.69 31 P **P 19 19 06.2 +1.7**
baz=268,SNR=37
M16K Timber Creek 54.71 34 IAmb IAmb 19 19 07.8
comp=Z,59nm,1.1s
M16K Timber Creek 54.71 34 P **P 19 19 06.2 +1.6**
baz=270,SNR=11
N16K Nishlik Lake 54.80 35 P **P 19 19 07.0 +1.6**
baz=270,SNR=21
C19K Lookout Ridge 54.89 24 IAmb IAmb 19 19 08.2
comp=Z,51nm,0.8s
C19K Lookout Ridge 54.89 24 P **P 19 19 07.3 +1.4**
baz=264
GIRL Giralia 54.95 198 P **P 19 19 09.0 +2.3**
comp=Z,238nm,1.3s
G18K Tagagawik 54.98 28 IAmb IAmb 19 19 09.9
comp=Z,51nm,0.9s
G18K Tagagawik 54.98 28 P **P 19 19 07.8 +1.2**
baz=267
ABKAR Akbulak array 55.02 311 P **P 19 19 06.2 -0.9**
ABKAR Akbulak array 55.02 311 IAmb IAmb 19 19 09.4
comp=Z,97nm,1.9s
L17K Donlin 55.03 33 P **P 19 19 09.0 +2.1**
baz=270,SNR=18
K17K Iditarod 55.03 32 IAmb IAmb 19 19 09.8
comp=Z,56nm,0.8s
K17K Iditarod 55.03 32 P **P 19 19 08.6 +1.7**
baz=269
H18K Honhosa River 55.07 29 IAmb IAmb 19 19 09.5
comp=Z,40nm,0.9s
H18K Honhosa River 55.07 29 P **P 19 19 08.4 +1.2**
baz=268
O16K Kokwok River B 55.16 36 IAmb IAmb 19 19 11.1
comp=Z,78nm,1.1s
O16K PcP **PcP 19 20 08.3 +0.9**
O16K Kokwok River B 55.16 36 P **P 19 19 09.3 +1.4**
baz=272,SNR=13
WRKA Warakurna 55.21 182 P **P 19 19 09.7 +1.1**
comp=Z,39nm,1.4s
WRKA Warakurna 55.21 182 P **P 19 19 10.3 +1.7**
ARTI Arti 55.25 320 P **P 19 19 07.9 -0.7**
ARTI IAmb IAmb 19 19 11.1
comp=Z,69nm,1.2s
ARTI PcP **PcP 19 20 05.9 -1.9**
ARTI Arti 55.25 320 LR LR 19 43 06.0
comp=Z,326nm,20.5s,baz=80,slow=36
ARTI Arti 55.25 320*c iP* **P 19 19 08.9 +0.3**
ARTI *PP **pP 19 19 40.3 +0.6**
ARTI 19 20 05.6
ARTI S **S 19 26 43.5 +1.8**
ARTI SS **SS 19 30 21.9 -5.5**
ARTI pmax pmax
comp=Z,59nm,1.1s
ARTI Arti 55.25 320 P **P 19 19 08.8 +0.3**
ARTI PcP **PcP 19 20 07.5 -0.3**
ARTI ScP **ScP 19 23 52.9 -1.2**
D19K Kuna River 55.37 25 P **P 19 19 10.5 +1.1**
baz=266
F19K Shaleruckik Mo 55.39 27 P **P 19 19 10.3 +0.9**
baz=267,SNR=19
M17K Holitna River 55.44 34 P **P 19 19 11.8 +1.9**
baz=271,SNR=24
N17K Nushagak Hills 55.59 35 P **P 19 19 12.8 +1.8**
baz=272
E19K Redstone River 55.63 26 IAmb IAmb 19 19 13.8
comp=Z,50nm,0.8s
E19K Redstone River 55.63 26 P **P 19 19 12.4 +1.3**
baz=267
G19K Purcell Mounta 55.63 28 P **P 19 19 09.7 -1.5**
G19K IAmb IAmb 19 19 13.8
comp=Z,38nm,1.1s
G19K PcP **PcP 19 20 10.3 +1.2**
G19K Purcell Mounta 55.63 28 P **P 19 19 12.2 +1.0**
baz=268,SNR=14
O17K Koliganek Bris 55.66 36 P **P 19 19 12.9 +1.4**
baz=272,SNR=5.1
GCSA Galena City Sc 55.69 30 P **P 19 19 12.3 +0.8**
baz=269
J18K Innoko River 55.75 31 IAmb IAmb 19 19 15.0
comp=Z,50nm,1.2s
J18K PcP **PcP 19 20 09.7 0.0**
J18K Innoko River 55.75 31 P **P 19 19 13.3 +1.2**
baz=270,SNR=14
L18K Granite Mounta 55.78 33 IAmb IAmb 19 19 15.8
comp=Z,50nm,1.0s
L18K Granite Mounta 55.78 33 P **P 19 19 14.2 +1.9**
baz=271
B20K Meade River 55.83 23 P **P 19 19 13.7 +1.2**
baz=265
H19K Roundabout Mou 55.88 29 PcP **PcP 19 20 11.4 +1.4**
H19K Roundabout Mou 55.88 29 P **P 19 19 14.7 +1.7**
baz=269,SNR=97
D20K Etivluk River 55.93 25 P **P 19 19 14.5 +1.2**
baz=267,SNR=42
Q16K King Salmon 55.94 37 P **P 19 19 15.0 +1.5**
baz=274,SNR=5.1
P17K Kvichak River 56.02 37 P **P 19 19 15.7 +1.6**
baz=273,SNR=6.0
E20K Nigu River 56.07 26 P **P 19 19 15.5 +1.1**
baz=268
TTA Tatalina 56.08 32 P **P 19 19 14.7 +0.2**
TTA IAmb IAmb 19 19 18.0
comp=Z,52nm,1.3s
TTA PcP **PcP 19 20 11.8 +0.8**
TTA Tatalina 56.08 32 P **P 19 19 16.0 +1.5**
baz=271,SNR=22
TTA Tatalina 56.08 32 P **P 19 19 16.0 +1.5**
AKTO Aktyubinsk 56.09 313 LR LR 19 45 21.1
comp=Z,720nm,18.2s,baz=83,slow=38
A21K Barrow 56.12 22 P **P 19 19 15.7 +1.1**
baz=265
R17L Mt. Peulik Vol 56.17 38 P **P 19 19 16.3 +1.1**
baz=274
F20K Avaraart Lake 56.20 27 IAmb IAmb 19 20 14.6
comp=Z,29nm,1.1s
F20K Avaraart Lake 56.20 27 P **P 19 19 16.4 +1.2**
baz=269
M18K Stony River 56.21 34 P **P 19 19 17.2 +1.9**
baz=272
N18K Kilae Creek 56.22 35 P **P 19 19 16.9 +1.4**
N18K IAmb IAmb 19 19 19.0
comp=Z,108nm,1.6s
N18K Kilae Creek 56.22 35 P **P 19 19 17.1 +1.6**
baz=273,SNR=11
J19K Poorman 56.24 31 P **P 19 19 17.1 +1.6**
baz=271,SNR=53
SVW2 Sparrevohn 56.35 34 IAmb IAmb 19 19 19.8
comp=Z,48nm,1.2s
SVW2 Sparrevohn 56.35 34 P **P 19 19 18.8 +2.4**
Q17K Contact Creek 56.38 38 P **P 19 19 17.8 +1.1**
baz=274
HRA Herat 56.43 293 IAmb IAmb 19 19 22.9
comp=Z,34nm,0.9s
H20K Anotleneega Mo 56.53 29 P **P 19 19 19.1 +1.4**
baz=270,SNR=24
O18K Koktuh Hills 56.61 36 P **P 19 19 18.8 +0.6**
O18K Koktuh Hills 56.61 36 P **P 19 19 20.0 +1.7**
baz=274,SNR=21
C21K Knifeblade Rid 56.61 24 P **P 19 19 19.5 +1.4**
baz=268,SNR=23
A22K Sinclair Lake 56.63 22 P **P 19 19 19.1 +1.0**
baz=267
P18K Big Mountain, 56.63 36 P **P 19 19 18.8 +0.3**
P18K Big Mountain, 56.63 36 P **P 19 19 19.6 +1.2**
baz=274,SNR=14
L19K White Mountain 56.64 33 IAmb IAmb 19 19 21.8
comp=Z,79nm,1.2s
L19K White Mountain 56.64 33 P **P 19 19 20.2 +1.8**
baz=273,SNR=25
ACHA Angle Creek He 56.67 38 IAmb IAmb 19 19 22.9
comp=Z,34nm,0.9s
B21K Ikpikpuk River 56.69 24 P **P 19 19 19.9 +1.3**
baz=268
I20K Naaghedeneel 56.72 30 P **P 19 19 19.4 +0.5**
I20K Naaghedeneel 56.72 30 P **P 19 19 20.9 +2.0**
baz=271,SNR=24
Q18K Katmai Hardscr 56.80 37 P **P 19 19 21.2 +1.4**
baz=275
M19K Big River Lodg 56.88 33 P **P 19 19 21.6 +1.5**
baz=273,SNR=9.9
J20K Nowinta River 56.88 30 P **P 19 19 21.5 +1.5**
baz=272,SNR=62
E21K Killik River 56.89 25 P **P 19 19 21.1 +0.9**
baz=269
N19K Bonanza Creek 56.90 34 P **P 19 19 20.5 +0.2**
N19K IAmb IAmb 19 19 23.1
comp=Z,26nm,0.9s
N19K pP **pP 19 19 49.3 -2.4**
N19K PcP **PcP 19 20 15.9 +1.6**
N19K Bonanza Creek 56.90 34 P **P 19 19 21.6 +1.2**
baz=274,SNR=8.9
K20K Telida 56.95 31 P **P 19 19 21.4 +0.8**
K20K Telida 56.95 31 P **P 19 19 22.3 +1.7**
baz=273,SNR=50
IMAR Indian Mountai 56.99 28 P **P 19 19 21.4 +0.5**
IMAR PcP **PcP 19 20 15.8 +1.4**
O19K Port Alsworth 57.03 35 P **P 19 19 22.9 +1.8**
baz=274,SNR=15
F21K Alatna River 57.08 27 IAmb IAmb 19 19 23.9
comp=Z,33nm,1.0s
F21K Alatna River 57.08 27 P **P 19 19 22.5 +1.0**
baz=271,SNR=20
L20K Farewell, AK 57.08 32 P **P 19 19 23.1 +1.6**
baz=273
G21K Allakaket 57.08 28 P **P 19 19 22.6 +1.2**
baz=271
B22K Teshekpuk Lake 57.12 23 P **P 19 19 22.2 +0.6**
B22K pP **pP 19 19 53.3 +0.3**
B22K Teshekpuk Lake 57.12 23 P **P 19 19 22.5 +0.9**
baz=269,SNR=26
R18K Karluk 57.20 38 P **P 19 19 23.0 +0.7**
baz=276
D22K Ayikyak River 57.37 25 P **P 19 19 24.9 +1.5**
baz=270
H21K Melozitna Rive 57.39 29 IAmb IAmb 19 19 26.9
comp=Z,58nm,1.1s
H21K Melozitna Rive 57.39 29 P **P 19 19 25.1 +1.4**
baz=272
SII Sitkinak Islan 57.46 40 P **P 19 19 25.8 +1.5**
baz=277
M20K Styx River 57.47 33 IAmb IAmb 19 19 27.4
comp=Z,29nm,0.9s
M20K Styx River 57.47 33 P **P 19 19 25.9 +1.5**
baz=274
Q19K Cape Douglas, 57.48 37 P **P 19 19 25.6 +1.2**
baz=276
F22K John River 57.58 26 P **P 19 19 26.6 +1.6**
baz=272
P19K Oil Pt 57.62 36 P **P 19 19 27.4 +2.0**
baz=276
CHUM Lake Minchumin 57.70 31 P **P 19 19 27.9 +2.1**
baz=274,SNR=39
E22K Anaktuvuk Pass 57.70 26 P **P 19 19 27.2 +1.4**
baz=272,SNR=62
I21K Tanana 57.76 29 P **P 19 19 27.9 +1.7**
baz=273,SNR=52
MEEK Meekatharra 57.83 192 P **P 19 19 27.8 +0.7**
comp=Z,47nm,0.8s
MEEK Meekatharra 57.83 192 P **P 19 19 28.3 +1.2**
PPLA Purkeypile 57.83 32 P **P 19 19 28.5 +1.6**
baz=275,SNR=18
CAST Castle Rocks 57.84 31 P **P 19 19 28.1 +1.3**
CAST IAmb IAmb 19 19 29.6
comp=Z,52nm,0.9s
CAST Castle Rocks 57.84 31 P **P 19 19 28.5 +1.7**
baz=274,SNR=38
G22K Bettles 57.86 27 P **P 19 19 27.9 +1.0**
baz=273
OHAK Old Harbor 57.87 39 P **P 19 19 28.3 +1.2**
baz=277
OHAK Old Harbor 57.87 39 P **P 19 19 28.4 +1.3**
O20K Slope Mountain 57.88 35 P **P 19 19 28.1 +0.9**
baz=276
H22K Ishtalitna Cre 57.97 28 P **P 19 19 29.7 +2.0**
baz=273
N20K Mount Spurr 57.97 34 P **P 19 19 29.3 +1.4**
baz=276,SNR=32
SPCR Spurr Chakacha 57.97 34 P **P 19 19 29.3 +1.5**
baz=276,SNR=27
SPU Mount Spurr 58.05 34 IAmb IAmb 19 19 31.3
comp=Z,59nm,1.1s
C23K Itkillik River 58.08 24 IAmb IAmb 19 19 30.5
comp=Z,32nm,1.0s
C23K Itkillik River 58.08 24 P **P 19 19 29.4 +1.1**
baz=272,SNR=17
D23K Nanushuk River 58.09 25 P **P 19 19 29.4 +0.9**
D23K IAmb IAmb 19 19 31.0
comp=Z,44nm,0.8s
D23K Nanushuk River 58.09 25 P **P 19 19 30.0 +1.6**
baz=272
Q20K Shuyak Island 58.17 37 P **P 19 19 29.8 +0.7**
baz=277
KDAK Kodiak Island 58.17 38 P **P 19 19 29.3 +0.1**
KDAK Kodiak Island 58.17 38 LR LR 19 41 38.4
comp=Z,99nm,21.8s,baz=98,slow=33
KDAK Kodiak Island 58.17 38 P **P 19 19 30.1 +0.9**
baz=277
KDAK Kodiak Island 58.17 38 P **P 19 19 29.3 +0.1**
KDAK pmax pmax
comp=Z,197nm,1.5s
KDAK Kodiak Island 58.17 38 P **P 19 19 29.9 +0.8**
KDAK pP **pP 19 20 00.6 -0.1**
KDAK sP **sP 19 20 13.7 -1.6**
OOD Oodnadatta 58.18 174 P **P 19 19 31.0 +1.5**
SKT Skwentna 58.22 33 IAmb IAmb 19 19 31.8
comp=Z,40nm,1.0s
SKT Skwentna 58.22 33 P **P 19 19 30.3 +0.8**
baz=276,SNR=15
BPAW Bear Paw Mtn. 58.27 30 IAmb IAmb 19 19 32.4
comp=Z,34nm,0.9s
BPAW Bear Paw Mtn. 58.27 30 P **P 19 19 31.1 +1.3**
baz=275,SNR=26
MLY Manley 58.30 29 P **P 19 19 31.1 +1.0**
MLY IAmb IAmb 19 19 32.7
comp=Z,39nm,0.8s
MLY Manley 58.30 29 P **P 19 19 31.6 +1.6**
baz=274,SNR=35
QLP Quilpie 58.31 165 P **P 19 19 31.6 +1.1**
comp=Z,28nm,1.4s
QLP Quilpie 58.31 165 P **P 19 19 31.8 +1.3**
COLD Coldfoot 58.36 27 P **P 19 19 31.6 +1.3**
baz=274,SNR=6.5
G23K Bananza Creek 58.46 27 IAmb IAmb 19 19 33.6
comp=Z,40nm,0.8s
G23K Bananza Creek 58.46 27 P **P 19 19 32.4 +1.3**
baz=274,SNR=46
TOLK Toolik Lake Re 58.51 25 IAmb IAmb 19 19 33.7
comp=Z,35nm,0.8s
TOLK Toolik Lake Re 58.51 25 P **P 19 19 32.6 +1.1**
baz=273,SNR=31
E23K Chandalar 58.53 26 P **P 19 19 33.1 +1.4**
baz=274,SNR=84
TRF Thorofare Moun 58.64 31 P **P 19 19 33.4 +0.8**
baz=276,SNR=14
SUA Susitna One 58.64 34 P **P 19 19 33.1 +0.6**
SUA Susitna One 58.64 34 P **P 19 19 33.1 +0.6**
baz=277,SNR=20
CNPM China Poot 58.65 36 P **P 19 19 33.4 +0.9**
H23K Yukon River 58.73 28 P **P 19 19 35.0 +2.0**
baz=275
D24K Happy Valley 58.75 24 P **P 19 19 34.3 +1.3**
baz=274
C24K Franklin Bluff 58.75 24 P **P 19 19 33.0 0.0**
C24K Franklin Bluff 58.75 24 P **P 19 19 33.9 +0.9**
baz=274
INKA Innaminka 58.77 169 P **P 19 19 35.9 +2.3**
BRSE Bradley Lake S 58.87 36 P **P 19 19 35.6 +1.6**
baz=278,SNR=6.1
I23K Minto, Yukon-K 58.87 29 P **P 19 19 34.5 +0.7**
I23K PcP **PcP 19 20 22.7 +0.9**
I23K IAmb IAmb 19 20 24.6
comp=Z,28nm,1.0s
I23K Minto, Yukon-K 58.87 29 P **P 19 19 34.9 +1.0**
baz=276,SNR=14
M22K Willow 58.91 33 P **P 19 19 34.4 +0.2**
M22K Willow 58.91 33 P **P 19 19 35.1 +0.9**
baz=277,SNR=20
BWN Browne 58.92 30 P **P 19 19 35.4 +1.1**
E24K Your Creek 58.95 26 IAmb IAmb 19 19 37.0
comp=Z,50nm,0.8s
E24K Your Creek 58.95 26 P **P 19 19 35.8 +1.3**
baz=275
EIDS Eidsvold 59.05 158 P **P 19 19 37.1 +1.5**
comp=Z,13nm,1.0s
NEA2 Nenana 59.05 30 P **P 19 19 36.4 +1.2**
baz=276,SNR=72
RC01 Rabbit Creek A 59.18 34 P **P 19 19 36.7 +0.6**
baz=278,SNR=16
MCK McKinley 59.21 31 P **P 19 19 37.1 +0.8**
baz=277,SNR=31
F24K Squaw Lake 59.23 26 P **P 19 19 37.5 +1.1**
F24K IAmb IAmb 19 19 38.9
comp=Z,41nm,0.8s
F24K Squaw Lake 59.23 26 P **P 19 19 38.0 +1.5**
baz=276,SNR=60
O22K Cooper Landing 59.27 35 P **P 19 19 37.8 +1.1**
baz=278
PMR Palmer 59.40 33 P **P 19 19 37.2 -0.4**
PMR Palmer 59.40 33 P **P 19 19 38.1 +0.5**
baz=278,SNR=19
PMR Palmer 59.40 33 P **P 19 19 38.3 +0.7**
PMR Palmer 59.40 33 P **P 19 19 37.2 -0.4**
H24K Noodor Dome 59.41 28 P **P 19 19 38.5 +0.8**
H24K IAmb IAmb 19 19 40.7
comp=Z,41nm,0.9s
H24K Noodor Dome 59.41 28 P **P 19 19 39.5 +1.8**
baz=277,SNR=38
SEW Seward 59.46 35 P **P 19 19 38.5 +0.5**
baz=279,SNR=7.8

GHO	Glory Hole Cre	59.47	33	IAmb	IAmb	19 19 41.5
	comp=Z,63nm,1.1s					
G24K	Hadweenzic Riv	59.47	27	IAmb	IAmb	19 19 41.0
	comp=Z,47nm,0.8s					
G24K	Hadweenzic Riv	59.47	27	P	P	19 19 39.8 +1.7
	baz=276,SNR=36					
WRH	Wood River Hil	59.48	30	IAmb	IAmb	19 19 41.8
	comp=Z,44nm,1.0s					
WAT1	Susitna Watana	59.49	32	P	P	19 19 38.9 +0.6
	baz=278					
COLA	College	59.53	29	P	P	19 19 40.1 +1.6
CCB	Clear Creek Bu	59.58	30	P	P	19 19 39.1 +0.3
CCB				IAmb	IAmb	19 19 42.2
	comp=Z,18nm,0.7s					
D25K	Kavik River	59.60	24	P	P	19 19 39.1 +0.1
D25K				IAmb	IAmb	19 19 41.0
	comp=Z,34nm,0.8s					
D25K					S	19 27 36.9 -1.4
D25K	Kavik River	59.60	24	P	P	19 19 40.1 +1.2
	baz=276					
POKR	Poker Plat Res	59.68	29	P	P	19 19 41.0 +1.5
	baz=277,SNR=33					
KNK	Knik Glacier	59.74	33	P	P	19 19 41.0 +1.0
	baz=279,SNR=22					
SML	Sawmill	59.74	33	P	P	19 19 40.9 +0.8
	baz=278,SNR=12					
KIRV	Kirov	59.80	323	LR	LR	19 47 19.5
	comp=Z,328nm,18.3s,baz=88,slow=38					
KIRV	Kirov	59.80	323	*c*eP	P	19 19 40.1 -0.2
PWL	Port Wells	59.89	34	P	P	19 19 41.6 +0.6
	baz=279,SNR=12					
WAT6	Susitna Watana	59.90	32	P	P	19 19 41.9 +0.6
	baz=279,SNR=19					
IL31		59.96	29	IAmb	IAmb	19 19 44.3
	comp=Z,24nm,0.7s					
ILAR	Eielson Array	59.96	29	P	P	19 19 41.0 -0.4
ILAR	Eielson Array	59.96	29	P	P	19 19 41.5 +0.1
	comp=Z,15nm,0.7s,baz=272,slow=5.5,SNR=84					
ILAR				pP	pP	19 20 11.8 -1.2
	comp=Z,5.4nm,0.7s,baz=278,slow=6.3,SNR=2.5					
ILAR				ScP	ScP	19 24 14.7 0.0
	comp=Z,0.1nm,0.4s,baz=241,slow=3.0,SNR=2.7					
ILAR				PKPPKP	P'P'df	19 49 07.2 -0.5
	comp=Z,4.1nm,1.3s,baz=141,slow=1.8,SNR=8.1					
	comp=Z,15nm,0.7s					
HDA	Harding Lake	59.98	30	P	P	19 19 41.2 -0.4
HDA	Harding Lake	59.98	30	P	P	19 19 41.8 +0.2
	baz=278,SNR=46					
DHY	Denali Highway	59.99	31	P	P	19 19 42.3 +0.5
DHY				IAmb	IAmb	19 19 44.2
	comp=Z,23nm,0.9s					
DHY					S	19 27 45.8 +2.1
DHY	Denali Highway	59.99	31	P	P	19 19 43.5 +1.6
	baz=279,SNR=12					
G25K	Bearman Lake	60.01	27	P	P	19 19 43.5 +1.9
	baz=278,SNR=30					
M23K	Glacier View	60.03	33	P	P	19 19 42.8 +0.9
	baz=279,SNR=8.9					
C26K	Camden Bay	60.04	23	P	P	19 19 43.9 +2.0
	baz=277,SNR=14					
F25K	Christian Rive	60.07	26	P	P	19 19 44.3 +2.1
	baz=278					
H25L	Birch Creek	60.19	28	P	P	19 19 45.1 +2.2
	baz=278					
SCM	Sheep Creek Mo	60.21	33	P	P	19 19 44.4 +1.2
	baz=279,SNR=10					
PRP	Porcupine Dome	60.42	28	P	P	19 19 44.5 -0.1
PRP				IAmb	IAmb	19 19 47.5
	comp=Z,36nm,0.8s					
PRP	Porcupine Dome	60.42	28	P	P	19 19 45.5 +0.9
	baz=279,SNR=28					
KOUNC	Koumac, New Ca	60.45	143	P	P	19 19 45.8 +0.5
KOUNC				IAmb	IAmb	19 19 48.5
	comp=Z,66nm,1.4s					
GLI	Glacier Island	60.48	34	IAmb	IAmb	19 19 46.8
	comp=Z,47nm,0.9s					
GLI	Glacier Island	60.48	34	P	P	19 19 45.7 +0.7
	baz=280,SNR=6.9					
P23K	Montague Islan	60.49	35	P	P	19 19 45.9 +0.9
	baz=280					
C27K	Jago River	60.50	24	IAmb	IAmb	19 19 47.6
	comp=Z,42nm,0.8s					
C27K	Jago River	60.50	24	P	P	19 19 46.3 +1.3
	baz=278,SNR=37					
BMAR	Burnt Mountain	60.50	26	P	P	19 19 46.6 +1.5
MULG	Mulgathing	60.52	176	P	P	19 19 47.6 +2.0
K24K	Donnelly Dome	60.59	30	P	P	19 19 46.1 +0.4
	baz=280,SNR=15					
F26K	Sheenjek River	60.63	26	P	P	19 19 47.9 +2.0
	baz=279,SNR=105					
J25K	Salcha River,	60.63	30	P	P	19 19 46.7 +0.7
	baz=280					
MORW	Morawa	60.69	194	P	P	19 19 47.2 +0.4
	comp=Z,73nm,1.0s					
MORW	Morawa	60.69	194	P	P	19 19 48.6 +1.8
M24K	Tolsona, Glenn	60.70	32	P	P	19 19 47.3 +0.7
M24K	Tolsona, Glenn	60.70	32	P	P	19 19 47.6 +1.0
	baz=280,SNR=11					
FID	Port Fidalgo	60.80	34	IAmb	IAmb	19 19 49.0
	comp=Z,50nm,0.9s					
PAX	Paxson	60.87	31	P	P	19 19 48.4 +0.7
	baz=280,SNR=15					
G26K	Porcupine Rive	60.88	27	P	P	19 19 49.7 +2.1
	baz=280					
KLU	Klutina	60.93	33	IAmb	IAmb	19 19 50.3
	comp=Z,28nm,1.0s					
KLU	Klutina	60.93	33	P	P	19 19 49.1 +0.9
	baz=281,SNR=9.2					
RIDG	Independent Ri	61.00	30	IAmb	IAmb	19 20 32.8
	comp=Z,36nm,1.0s					
RIDG	Independent Ri	61.00	30	P	P	19 19 48.8 +0.2
	baz=280,SNR=16					
LCRK	Leigh Creek	61.06	172	P	P	19 19 51.6 +2.4
HARP	HAARP	61.11	32	P	P	19 19 50.5 +1.2
	baz=281,SNR=10					
EYAK	Cordova Ski Ar	61.19	34	P	P	19 19 51.1 +1.3
	baz=281					
SCRK	Sand Creek	61.33	30	P	P	19 19 51.0 +0.1
SCRK				IAmb	IAmb	19 19 52.5
	comp=Z,53nm,0.9s					
SCRK	Sand Creek	61.33	30	P	P	19 19 51.5 +0.6
	baz=281,SNR=73					
J26L	Joseph Creek	61.41	29	IAmb	IAmb	19 19 53.1
	comp=Z,38nm,0.8s					
J26L	Joseph Creek	61.41	29	P	P	19 19 51.8 +0.4
	baz=281,SNR=47					
I26K	Coal Creek Min	61.43	29	P	P	19 19 51.8 +0.5
	baz=281,SNR=20					
E27K	Coleen River	61.49	25	IAmb	IAmb	19 19 54.5
	comp=Z,41nm,0.8s					
E27K	Coleen River	61.49	25	P	P	19 19 53.5 +1.8
	baz=281,SNR=57					
D27M	Malcolm River	61.52	24	P	P	19 19 53.1 +1.1
D27M				IAmb	IAmb	19 19 54.5
	comp=Z,35nm,0.8s					
D27M	Malcolm River	61.52	24	P	P	19 19 53.5 +1.5
	baz=281					
N25K	Chitina, Valde	61.53	33	IAmb	IAmb	19 19 55.5
	comp=Z,31nm,0.8s					
N25K	Chitina, Valde	61.53	33	P	P	19 19 53.4 +1.2
	baz=282,SNR=9.7					
BMRM	Bremner River	61.66	34	P	P	19 19 54.2 +1.2
	baz=282,SNR=9.6					
MENT	Mentasta	61.66	31	IAmb	IAmb	19 19 55.5
	comp=Z,55nm,0.8s					
MENT	Mentasta	61.66	31	P	P	19 19 55.0 +2.0
G27K	Doyon Strip	61.74	27	P	P	19 19 55.1 +1.6
	baz=282,SNR=29					
L26K	Log Cabin Wild	61.80	31	IAmb	IAmb	19 19 56.5
	comp=Z,38nm,0.9s					
L26K	Log Cabin Wild	61.80	31	P	P	19 19 55.5 +1.6
	baz=282,SNR=26					
H27K	Steamboat Moun	61.90	27	P	P	19 19 56.6 +2.0
	baz=282					
GLB	Gilahina Butte	61.93	33	IAmb	IAmb	19 19 57.7
	comp=Z,60nm,1.3s					
I27K	Kandik River	62.00	28	P	P	19 19 57.1 +1.9
	baz=282,SNR=80					
BLDU	Ballidu	62.06	193	P	P	19 19 57.7 +1.8
BELG	Belogornoye	62.09	317	LR	LR	19 51 28.6
	comp=Z,305nm,18.4s,baz=71,slow=40					
BELG	Belogornoye	62.09	317	*i* P	P	19 19 55.9 0.0
BELG				pmax	pmax	
	comp=Z,18nm,1.4s					
M26K	Nabesna, AK	62.10	32	P	P	19 19 57.6 +1.7
	baz=283,SNR=38					
VRDI	Verde Repeater	62.15	33	IAmb	IAmb	19 19 58.6
	comp=Z,36nm,0.8s					
E28M	Babbage River	62.15	25	IAmb	IAmb	19 19 58.8
	comp=Z,35nm,0.8s					
E28M	Babbage River	62.15	25	P	P	19 19 57.9 +1.7
	baz=282					
F28M	Old Crow	62.25	26	P	P	19 19 57.5 +0.7
F28M				IAmb	IAmb	19 20 00.2
	comp=Z,58nm,1.0s					
F28M	Old Crow	62.25	26	P	P	19 19 58.7 +1.9
	baz=283,SNR=61					
D28M	Stokes Point	62.28	24	P	P	19 19 58.5 +1.6
	baz=283					
MCARA	McCarthy VSAT	62.31	33	IAmb	IAmb	19 20 01.1
	comp=Z,47nm,0.9s					
MCARA	McCarthy VSAT	62.31	33	P	P	19 19 58.6 +1.2
	baz=283,SNR=13					
EGAK	Eagle	62.37	29	P	P	19 19 58.3 +0.7
	baz=283,SNR=19					
CRQM	Cirque	62.40	34	P	P	19 19 58.9 +0.7
CRQM				IAmb	IAmb	19 20 00.4
	comp=Z,49nm,0.9s					
CRQE	Cirque	62.43	34	P	P	19 19 59.4 +1.1
	baz=283,SNR=7.5					
L27K	Beaver Creek,	62.47	31	IAmb	IAmb	19 20 01.7
	comp=Z,61nm,1.2s					
L27K	Beaver Creek,	62.47	31	P	P	19 19 60.0 +1.6
	baz=283					
BCAR	Beaver Creek A	62.49	31	P	P	19 19 59.6 +1.0
TGL	Tana Glacier	62.55	34	IAmb	IAmb	19 20 01.1
	comp=Z,42nm,0.8s					
M27K	Edge Creek, AK	62.62	32	IAmb	IAmb	19 20 02.3
	comp=Z,37nm,0.8s					
M27K	Edge Creek, AK	62.62	32	P	P	19 20 00.8 +1.3
	baz=284,SNR=20					
I28M	Miner Creek	62.72	28	P	P	19 20 01.7 +1.6
	baz=284					
E29M	Blow River	62.79	25	IAmb	IAmb	19 20 03.5
	comp=Z,41nm,1.1s					
E29M	Blow River	62.79	25	P	P	19 20 01.9 +1.6
	baz=284,SNR=28					
KLBR	Kellerberrin	62.81	192	P	P	19 20 01.2 +0.3
KLBR	Kellerberrin	62.81	192	P	P	19 20 02.6 +1.7
ISLE	Juniper Island	62.82	34	IAmb	IAmb	19 20 07.4
	comp=Z,75nm,1.4s					
DZM	Mont Dzumac	62.84	142	IAmb	IAmb	19 20 04.6
	comp=Z,39nm,1.2s					
DZM	Mont Dzumac	62.84	142	*e*P	P	19 20 02.2 +0.8
	comp=Z,58nm,1.1s					
DZM				*e*pP	pP	19 20 30.8 -2.4
	comp=Z,78nm,1.4s					
DZM				*e*S	S	19 28 14.0 -6.4
	comp=Z,355nm,25.4s					
DZM				*e*SS	SS	19 32 24.6 -3.7
	comp=Z,152nm,25.3s					
DZM				*e*LQ	LQ	19 36 13.1
	comp=Z,2μm,37.4s					
DZM				*e*LR	LR	19 38 52.1
	comp=Z,472nm,25.9s					
DZM	Mont Dzumac	62.84	142	P	P	19 20 03.8 +2.4
DZM	Mont Dzumac	62.84	142	P	P	19 20 03.1 +1.7
DZM				pP	pP	19 20 33.3 +0.1
JASK	Jask - Hormozg	62.84	285	P	P	19 20 02.8 +1.4
STKA	Stephens Creek	62.95	169	P	P	19 20 02.9 +1.1
	comp=Z,6.8nm,0.7s					
STKA	Stephens Creek	62.95	169	P	P	19 20 02.1 +0.3
	comp=Z,14nm,0.6s,baz=342,slow=7.0,SNR=53					
STKA				pP	pP	19 20 33.0 -0.7
	comp=Z,11nm,0.7s,baz=348,slow=6.8,SNR=5.0					
STKA				LR	LR	19 47 31.1
	comp=Z,121nm,19.9s,baz=351,slow=36					
	comp=Z,14nm,0.6s					
STKA	Stephens Creek	62.95	169	P	P	19 20 04.1 +2.3
JLN	Jalan Bani Buh	63.00	281	P	P	19 20 02.5 0.0
	SNR=8.6					
BVCY	Beaver Creek	63.06	31	P	P	19 20 03.6 +1.3
	baz=284,SNR=10					
YATNC	Mannie plateau,	63.07	141	P	P	19 20 05.1 +2.3
G29M	Pine Creek	63.11	26	P	P	19 20 03.7 +1.1
G29M				IAmb	IAmb	19 20 05.4
	comp=Z,48nm,0.9s					
G29M	Pine Creek	63.11	26	P	P	19 20 04.3 +1.7
	baz=285,SNR=33					
MESA	MESA	63.12	34	P	P	19 20 04.2 +1.3
	baz=285					
H29M	Whitestone	63.15	27	P	P	19 20 03.6 +0.7
H29M				IAmb	IAmb	19 20 05.6
	comp=Z,42nm,0.8s					
H29M	Whitestone	63.15	27	P	P	19 20 03.7 +0.9
	baz=285,SNR=21					
BBOO	Buckleboo	63.18	174	P	P	19 20 04.0 +0.7
	comp=Z,26nm,1.7s					
WBK	Wadi Bani Khal	63.19	282	P	P	19 20 05.2 +1.5
	SNR=5.2					
CTG	Chitna Glacier	63.21	33	P	P	19 20 04.4 +1.0
	baz=285,SNR=7.9					
CTGM	Chitina Glacie	63.21	33	IAmb	IAmb	19 20 05.8
	comp=Z,31nm,0.9s					
WSAR	Wadi Sarin	63.22	282	LR	LR	19 50 18.5
	comp=Z,197nm,21.1s,baz=86,slow=38					
WSAR	Wadi Sarin	63.22	282	P	P	19 20 06.1 +2.1
	SNR=8.6					
DAWY	Dawson	63.29	29	P	P	19 20 04.4 +0.6
DAWY	Dawson	63.29	29	P	P	19 20 04.8 +1.0
	baz=285,SNR=22					
OUENC	Ouen Island, N	63.33	142	P	P	19 20 07.0 +2.5
I29M	Ogilvie Camp,	63.40	28	IAmb	IAmb	19 20 07.5
	comp=Z,42nm,0.9s					
I29M	Ogilvie Camp,	63.40	28	P	P	19 20 05.8 +1.3
	baz=285,SNR=20					
YUK3	Moose Creek	63.41	32	P	P	19 20 05.8 +1.0
	baz=285,SNR=15					
CMSA	Cobar Meteorol	63.41	165	P	P	19 20 07.1 +2.2
	comp=Z,29nm,0.9s					
CMSA	Cobar Meteorol	63.41	165	P	P	19 20 07.2 +2.3
MUN	Mundaring	63.48	193	P	P	19 20 06.7 +1.5
	comp=Z,30nm,1.2s					
MUN	Mundaring	63.48	193	P	P	19 20 07.3 +2.0
BIDO	Bidbid	63.53	283	P	P	19 20 08.0 +2.0
	SNR=5.5					
J29N	Klondike Camp	63.68	29	P	P	19 20 07.9 +1.5
	baz=286,SNR=23					
EPYK	Eagle Plains	63.76	27	P	P	19 20 08.2 +1.4
	baz=286,SNR=46					
F30M	Barrier River	63.76	25	P	P	19 20 08.3 +1.5
	baz=286					
G30M	tAoh Traii Nji	63.78	26	P	P	19 20 07.7 +0.8
	baz=286,SNR=72					
SMDO	Samad	63.78	282	P	P	19 20 09.5 +1.7
	SNR=8.5					
SMDO				P	P	19 20 09.5 +1.7
	SNR=8.5					
O28M	Mount Upton	63.80	33	P	P	19 20 08.9 +1.3
	baz=286,SNR=10					
YUK8	Steele Glacier	63.86	33	P	P	19 20 09.1 +1.2
	baz=286					
PINM	Pinnacle	63.96	34	P	P	19 20 09.6 +1.3
	baz=286					
JMDO	Jabal Madar	64.01	282	P	P	19 20 10.6 +1.3
JMDO				P	P	19 20 10.6 +1.3
L29M	L29M	64.09	30	IAmb	IAmb	19 20 12.3
	comp=Z,56nm,0.8s					
L29M	L29M	64.09	30	P	P	19 20 11.2 +2.1
	baz=286					
HTT	Hallett	64.09	172	P	P	19 20 11.1 +1.7
	comp=Z,14nm,1.3s					
BANOM	Banah	64.12	286	P	P	19 20 11.5 +1.6
M29M	Somme Creek	64.13	31	IAmb	IAmb	19 20 13.1
	comp=Z,67nm,1.4s					
M29M	Somme Creek	64.13	31	P	P	19 20 11.5 +2.1
	baz=286,SNR=23					
K29M	Barlow Dome	64.14	29	IAmb	IAmb	19 20 12.7
	comp=Z,46nm,1.1s					
K29M	Barlow Dome	64.14	29	P	P	19 20 11.1 +1.6
	baz=286					
LVZ	Lovozero	64.15	335	P	P	19 20 10.2 +0.8
LVZ	Lovozero	64.15	335	P	P	19 20 10.2 +0.8
	comp=Z,83nm,2.5s					
KLMR	Klimovskoe	64.17	327	*e*P	P	19 20 06.3 -3.2
KLMR				pmax	pmax	
	comp=Z,141nm,1.4s					
HOQ	Hoqain	64.19	283	P	P	19 20 12.0 +1.7
	SNR=8.3					
HOQ				P	P	19 20 12.0 +1.7
	SNR=8.3					
SHME	Shamm	64.20	286	P	P	19 20 11.1 +0.7
NWAO	Narrogin (SRO)	64.21	192	P	P	19 20 09.9 -0.1
NWAO	Narrogin (SRO)	64.21	192	P	P	19 20 11.7 +1.7
NWAO	Narrogin (SRO)	64.21	192	LR	LR	19 52 53.9
	comp=Z,46nm,18.4s,baz=321,slow=40					
NWAO	Narrogin (SRO)	64.21	192	P	P	19 20 10.7 +0.7
NWAO	Narrogin (SRO)	64.21	192	P	P	19 20 11.6 +1.6
NWAO	Narrogin (SRO)	64.21	192	P	P	19 20 09.9 -0.1
NWAO				pmax	pmax	
	comp=Z,96nm,1.2s					
NWAO	Narrogin (SRO)	64.21	192	P	P	19 20 10.2 +0.2
NWAO				pP	pP	19 20 41.0 -1.0
I30M	Mount Dempster	64.22	28	IAmb	IAmb	19 20 13.0
	comp=Z,65nm,1.1s					
I30M	Mount Dempster	64.22	28	P	P	19 20 11.5 +1.5
	baz=287,SNR=56					
YUK4	Talbot Arm	64.36	32	P	P	19 20 11.6 +0.5
	baz=287					
INK	Inuvik	64.37	24	P	P	19 20 10.9 +0.3
INK				IAmb	IAmb	19 20 12.7
	comp=Z,32nm,0.9s					
INK				pP	pP	19 20 41.0 -1.7
INK	Inuvik	64.37	24	LR	LR	19 50 59.1
	comp=Z,67nm,18.2s,baz=274,slow=38					
INK	Inuvik	64.37	24	P	P	19 20 11.6 +0.9
	baz=288,SNR=30					
INK	Inuvik	64.37	24	P	P	19 20 11.0 +0.3
INK				*PP	pP	19 20 41.0 -1.7
INK				pmax	pmax	
	comp=Z,32nm,1.0s					
J30M	Hart River	64.43	29	P	P	19 20 12.5 +1.2
	baz=287					
PNL	Peninsula	64.49	34	P	P	19 20 13.2 +1.5
	baz=287					
G31M	Satah River	64.53	26	IAmb	IAmb	19 20 13.3
	comp=Z,26nm,0.8s					
G31M	Satah River	64.53	26	P	P	19 20 12.2 +0.5
	baz=288,SNR=19					
F31M	Tsiigehtchic	64.56	25	IAmb	IAmb	19 20 14.2
	comp=Z,63nm,1.3s					
F31M	Tsiigehtchic	64.56	25	P	P	19 20 12.7 +0.7
	baz=288,SNR=24					
UOSS	Minazif	64.58	285	P	P	19 20 12.5 -0.3
YUK6	Outpost Mounta	64.61	33	P	P	19 20 14.6 +1.8
	baz=287					
BSY	Bisya	64.63	282	P	P	19 20 15.0 +1.8
	SNR=5.7					
SOHO	SOHO	64.63	284	*i* P	P	19 20 13.1 -0.1
	SNR=11					
SOHO	SOHO	64.63	284	P	P	19 20 14.7 +1.6
HATD	Hatta, Dubai	64.69	285	*i* P	P	19 20 13.9 +0.4
	SNR=5.2					
HATD	Hatta, Dubai	64.69	285	P	P	19 20 16.3 +2.7
HATD				P	P	19 20 16.3 +2.7
MHTO	MHTO	64.70	280	P	P	19 20 14.5 +0.9
	SNR=9.3					
MHTO				P	P	19 20 14.6 +1.0
O29M	Mount Kennedy	64.70	33	P	P	19 20 14.8 +1.6
	baz=287					
APA	Apatity	64.71	335	⇓*i*P	P	19 20 10.8 -2.1
APA				*i* *PP	PcP	19 20 47.2 +1.7
APA				*i*		19 20 58.6
APA				pmax	pmax	
	comp=Z,61nm,1.0s					
ASHO	Ashiyiah	64.81	285	*i* P	P	19 20 16.1 +1.8
	SNR=13					
ASHO	Ashiyiah	64.81	285	P	P	19 20 15.7 +1.3
	SNR=6.4					
M30M	Minto, Yukon	64.83	31	P	P	19 20 14.6 +0.7
	baz=288,SNR=18					
H31M	Peel River	64.85	27	IAmb	IAmb	19 20 16.0
	comp=Z,48nm,0.9s					
H31M	Peel River	64.85	27	P	P	19 20 15.1 +1.2
	baz=288,SNR=30					
MAK	Makhachkala	64.89	306	*d* *i*P	P	19 20 12.0 -2.5
MAK				*e**PP	pP	19 20 45.4 -1.1
MAK				*e**SP	sP	19 20 59.1 -1.8
MAK				*e*		19 22 40.1
MAK				*e*PPP	PPP	19 24 13.4
MAK				*e*S	S	19 28 42.0 -3.2
MAK				pmax	pmax	
	comp=Z,560nm,1.7s					
MAYO	Mayo, Yukon	64.91	30	P	P	19 20 15.8 +1.5
	baz=288					
ARQ	Araqi	64.96	283	P	P	19 20 17.0 +1.7
	SNR=5.4					
ARQ				P	P	19 20 17.0 +1.7
	SNR=5.4					
SPB2	Spitsbergen Ar	65.04	348	IAmb	IAmb	19 20 19.2
	comp=Z,62nm,1.0s					
SPA0	Spitsbergen Ar	65.04	348	*e*P	P	19 20 15.2 +0.2
SPITS	Spitsbergen Ar	65.04	348	P	P	19 20 13.9 -1.1
	comp=Z,24nm,0.7s,baz=76,slow=8.1,SNR=42					
SPITS				LR	LR	19 52 41.6
	comp=Z,123nm,19.9s,baz=14,slow=40					
	comp=Z,24nm,0.7s					
SPITS	Spitsbergen Ar	65.04	348	P	P	19 20 15.0 0.0
SPITS				pmax	pmax	
	comp=Z,142nm,1.4s					
N30M	Aishikik Lake	65.04	32	P	P	19 20 16.4 +1.1
N30M	Aishikik Lake	65.04	32	P	P	19 20 17.0 +1.7
	baz=288,SNR=8.9					
HYT	Haines Junctio	65.05	33	IAmb	IAmb	19 20 18.3
	comp=Z,31nm,0.9s					
HYT	Haines Junctio	65.05	33	P	P	19 20 17.1 +1.7
	baz=288,SNR=15					
FAQ	Al Faqa, Dubai	65.17	285	P	P	19 20 17.6 +0.9
AKT	Akhty	65.22	305	*e*P	P	19 20 16.8 0.0
AKT				*e**PP	pP	19 20 49.8 +1.0
AKT				*e*		19 22 42.3
AKT				pmax	pmax	
	comp=Z,40nm,1.3s					
VADS	Vadso	65.23	338	*e*P	P	19 20 16.6 +0.4
VADS				IAmb	IAmb	19 20 16.8
	comp=Z,418nm,1.8s					
VADS				*e*S	S	19 28 49.7 +1.2
P29M	Windy Craggy	65.31	34	IAmb	IAmb	19 20 20.1
	comp=Z,32nm,0.9s					
P29M	Windy Craggy	65.31	34	P	P	19 20 18.7 +1.7
	baz=288					
ALNE	Al Ain	65.31	284	*i* P	P	19 20 17.6 0.0
	SNR=13					
ALNE	Al Ain	65.31	284	P	P	19 20 18.5 +0.9
	SNR=5.4					
LKRN	Lenkeran, Azer	65.40	302	P	P	19 20 18.6 +0.7
KBS	Kingsbay	65.41	349	*e*P	P	19 20 17.7 +0.4
KBS	Kingsbay	65.41	349	*i* P	P	19 20 17.2 0.0
KBS	Kingsbay	65.41	349	P	P	19 20 17.4 +0.2
KBS				pP	PcP	19 20 48.0 -0.2
ASUD	Al Ashush, Dub	65.44	285	P	P	19 20 18.9 +0.6
P30M	Million Dollar	65.52	33	P	P	19 20 20.0 +1.6
	baz=289,SNR=6.3					
N31M	Braeburn, Yuko	65.63	32	IAmb	IAmb	19 20 22.5
	comp=Z,43nm,1.0s					
N31M	Braeburn, Yuko	65.63	32	P	P	19 20 20.9 +1.8
	baz=289,SNR=13					
SEKA	Sheki	65.69	305	P	P	19 20 20.8 +1.0
A36M	Sachs Harbour	65.71	19	P	P	19 20 20.6 +1.2
	baz=294,SNR=53					
O30N	Mendenhall	65.72	32	IAmb	IAmb	19 20 54.5
	comp=Z,54nm,1.6s					
O30N	Mendenhall	65.72	32	P	P	19 20 21.2 +1.5
	baz=289,SNR=7.5					
HSPB	Hornsund (broa	65.79	347	*e*P	P	19 20 20.4 +0.7
HSPB	Hornsund (broa	65.79	347	*e*P	P	19 20 20.2 +0.4
VRH	Novokhopyorsk	65.94	316	*e*P	P	19 20 20.2 -1.0
VRH				pmax	pmax	
	comp=Z,69nm,1.2s					
M31M	Drury Creek, Y	66.01	31	IAmb	IAmb	19 20 56.2
	comp=Z,46nm,1.5s					
M31M	Drury Creek, Y	66.01	31	P	P	19 20 22.7 +1.2
	baz=290,SNR=12					
PLBC	Pleasant Camp	66.03	34	P	P	19 20 23.3 +1.8
	baz=289,SNR=6.2					
KEV	Kevo	66.12	338	P	P	19 20 21.0 -0.9
KEV	Kevo	66.12	338	P	P	19 20 21.0 -0.9
KEV				pmax	pmax	
	comp=Z,99nm,1.2s					
KEV	Kevo	66.12	338	P	P

comp=Z,43nm,1.2s
SKAG Skagway 66.52 34 P P 19 20 26.6 +2.0
baz=290,SNR=9.5
SKAG Skagway 66.52 34 P P 19 20 27.1 +2.4
MSVF Nonsavu 66.53 129 P P 19 20 25.6 +0.2
MSVF IAmb IAmb 19 20 29.5
comp=Z,49nm,1.2s
MSVF Nonsavu 66.53 129 P P 19 20 28.6 +3.2
MSVF Nonsavu 66.53 129 P P 19 20 25.6 +0.2
MSVF pmax pmax
comp=Z,49nm,1.2s
ARA0 ARCESS Array S 66.69 338 *e*P **P 19 20 25.9 +0.2**
ARCES ARCESS Array B 66.69 338 P P 19 20 25.3 -0.3
ARCES ARCESS Array B 66.69 338 P P 19 20 25.5 -0.1
comp=Z,19nm,0.9s,baz=60,slow=7.4,SNR=15
ARCES LR LR 19 53 33.6
comp=Z,245nm,21.6s,baz=53,slow=39
comp=Z,19nm,0.9s
ARCES ARCESS Array B 66.69 338 P P 19 20 25.3 -0.3
ARCES pmax pmax
comp=Z,148nm,1.5s
YNG Young 66.69 164 P P 19 20 28.6 +2.6
comp=Z,77nm,1.2s
MOS Moscow 66.73 322 *e*P **P 19 20 24.1 -2.0**
MOS *e**PP **pP 19 20 58.6 +0.4**
MOS *e*S **S 19 29 02.0 -5.2**
MOS pmax pmax
comp=Z,201nm,1.3s
MOS pmax pmax
comp=N,78nm,1.1s
MOS pmax pmax
comp=E,63nm,1.1s
HAMF Hammerfest 66.78 340 *e*P **P 19 20 26.8 +0.7**
NOR Nord 66.88 355 *i* P **P 19 20 26.2 -0.4**
NOR IAmb IAmb 19 20 27.4
comp=Z,26nm,1.3s
N32M Quiet Lake 66.97 32 P P 19 20 29.0 +1.4
baz=291
ALE Alert 67.09 2 P P 19 20 28.5 +0.5
ALE pP **pP 19 21 00.3 +0.1**
LPSR Galich'ya Gora 67.10 319 *e*P **P 19 20 26.8 -1.7**
LPSR pmax pmax
comp=Z,120nm,1.3s
JOF Joensuu 67.16 331 *e*P **P 19 20 28.6 -0.1**
C36M Paulatuk 67.17 22 P P 19 20 29.7 +1.1
baz=296,SNR=41
GOF Gofitskoye 67.20 310 *ce*P **P 19 20 29.2 -0.1**
MMPY Sheldon Lake, 67.22 30 P P 19 20 30.8 +1.6
baz=292,SNR=15
P32M Atlin 67.24 33 P P 19 20 30.8 +1.4
baz=291
VORR Voronezh 67.26 318 *e*P **P 19 20 29.6 +0.1**
VORR pmax pmax
comp=Z,65nm,0.5s
R32K Eaglecrest 67.34 35 P P 19 20 31.7 +1.8
baz=291
SIT Sitka 67.38 36 P P 19 20 32.1 +2.0
baz=291
JIS Juneau Island 67.40 35 P P 19 20 33.0 +2.7
P33M Teslin, Yukon 67.44 32 P P 19 20 30.8 +0.1
P33M IAmb IAmb 19 20 33.9
comp=Z,41nm,1.1s
P33M pP **PcP 19 20 58.3 +1.2**
P33M Teslin, Yukon 67.44 32 P P 19 20 32.1 +1.5
baz=292,SNR=13
VSR Storozhevoye 67.45 317 *e*P **P 19 20 29.0 -1.7**
VSR pmax pmax
comp=Z,80nm,1.2s
OBN Obninsk 67.51 322 P P 19 20 30.3 -0.8
OBN Obninsk 67.51 322 LR LR 19 52 50.2
comp=Z,399nm,18.3s,baz=38,slow=38
OBN Obninsk 67.51 322 ⇑P **P 19 20 31.8 +0.8**
OBN Obninsk 67.51 322 *i* P **P 19 20 30.7 -0.3**
OBN *i* 19 21 02.5
OBN *i* S **S 19 29 12.0 -4.6**
OBN *i* SS **SS 19 33 45.7 +6.9**
OBN pmax pmax
comp=Z,167nm,1.6s
OBN MLR MLR
comp=Z,318nm,18.0s
OBN Obninsk 67.51 322 P P 19 20 30.5 -0.5
comp=Z,94nm,1.5s,comp=Z,2μm
S32K Killisnoo 67.60 36 P P 19 20 33.0 +1.4
baz=292
NAX Nakhchivan 67.62 303 P P 19 20 32.7 +0.5
KTK1 Kautokeino 67.64 338 *e*P **P 19 20 31.6 -0.1**
KTK1 IAmb IAmb 19 20 32.2
comp=Z,64nm,1.0s
MZR Muzera 67.64 284 *i* P **P 19 20 32.6 +0.2**
SNR=5.4
MZR Muzera 67.64 284 P P 19 20 33.4 +0.9
KBZ Khabaz 67.78 309 P P 19 20 32.6 -0.3
comp=Z,45nm,1.0s,baz=78,slow=6.0,SNR=25
KBZ LR LR 19 53 21.3
comp=Z,248nm,21.0s,baz=66,slow=39
comp=Z,45nm,1.0s
KBZ Khabaz 67.78 309 *ce*P **P 19 20 32.8 -0.1**
KBZ pmax pmax
comp=Z,52nm,1.1s
GNI Garni 67.81 304 P P 19 20 33.6 +0.2
GNI IAmb IAmb 19 20 36.5
comp=Z,160nm,1.9s
GNI Garni 67.81 304 P P 19 20 34.7 +1.3
GNI Garni 67.81 304 LR LR 19 54 20.7
comp=Z,101nm,19.0s,baz=69,slow=39
GNI Garni 67.81 304 P P 19 20 34.5 +1.1
GNI P **P 19 20 34.5 +1.1**
GNI Garni 67.81 304 *ce*P **P 19 20 34.5 +1.1**
GNI pmax pmax
comp=Z,67nm,1.7s
GNI Garni 67.81 304 P P 19 20 35.0 +1.6
comp=Z,36nm,2.5s,comp=Z,788nm
GNI Garni 67.81 304 P P 19 20 34.8 +1.4
KVAR Kislovodsk Arr 67.83 309 LR LR 19 54 36.3
comp=Z,177nm,19.2s,baz=274,slow=40
KIV Kislovodsk 67.84 309 P P 19 20 33.7 +0.2
KIV IAmb IAmb 19 20 39.2
comp=Z,97nm,1.1s
KIV Kislovodsk 67.84 309 *i* P **P 19 20 33.9 +0.4**
SNR=19
KIV Kislovodsk 67.84 309 P P 19 20 34.4 +1.0
KIV P **P 19 20 34.4 +1.0**
KIV Kislovodsk 67.84 309 ⇑P **P 19 20 35.0 +1.6**
KIV Kislovodsk 67.84 309 *e*P **P 19 20 33.7 +0.2**
KIV *e**PP **pP 19 21 07.7 +2.0**
KIV *e*S **S 19 29 21.1 0.0**
KIV *e*SS **SS 19 33 46.7 +2.1**
KIV pmax pmax
comp=Z,72nm,1.1s
KIV MLR MLR
comp=Z,133nm,17.0s
KIV Kislovodsk 67.84 309 P P 19 20 34.1 +0.7
SHA1 Shidzhatmaz 67.94 309 *ce*P **P 19 20 34.5 +0.3**
Q32M Nakina River 68.17 34 IAmb IAmb 19 21 09.9
comp=Z,89nm,1.9s
Q32M Nakina River 68.17 34 P P 19 20 36.4 +1.0
baz=293
JETT Jettan, Norway 68.28 339 *e*P **P 19 20 36.2 +0.5**
JETT IAmb IAmb 19 20 36.4
comp=Z,79nm,1.2s
R33M Jennings River 68.61 33 P P 19 20 39.4 +1.3
baz=294,SNR=5.8
ERBR Yeremizino-Bor 68.64 311 *e*P **P 19 20 38.3 0.0**
ERBR *e**PP **pP 19 21 09.8 -0.8**
ERBR *e* 19 23 12.1
ERBR *e*S **S 19 29 30.7 +0.3**
ERBR *e* 19 30 23.0
ERBR pmax pmax
comp=Z,153nm,1.6s
DMTO DMTO 68.67 279 P P 19 20 39.5 +0.6
SLWR Sila 68.69 286 P P 19 20 39.8 +0.9
TRO Tromso 68.69 339 *e*P **P 19 20 39.1 +0.9**
PUL Pulkovo 68.84 328 *ce*P **P 19 20 40.3 +1.1**
PUL pmax pmax
comp=Z,64nm,0.4s
U33K Whale Pass 68.86 37 P P 19 20 40.9 +1.5
baz=293
LABN Labinsk 68.89 310 *e*P **P 19 20 41.1 +1.2**
LABN pmax pmax
comp=Z,109nm,1.6s
DOK Doka 68.97 280 P P 19 20 41.1 +0.4
SNR=10
DOK P **P 19 20 41.1 +0.4**
SNR=10
CRAG Craig 69.12 37 P P 19 20 42.3 +1.3
baz=293
S34M Telegraph Cree 69.14 34 P P 19 20 42.7 +1.6
baz=294,SNR=6.2
WRAK Wrangell Islan 69.14 36 P P 19 20 42.9 +1.8
baz=294
TOO Toolangi 69.20 167 P P 19 20 44.3 +2.6
comp=Z,7.3nm,2.5s
BATM Batumi 69.40 307 ⇓P **P 19 20 45.6 +2.5**
BATM Batumi 69.40 307 P P 19 20 45.5 +2.5
RBK Rabkut 69.40 279 P P 19 20 44.0 +0.6
SNR=9.9
RBK P **P 19 20 44.0 +0.6**
SNR=9.9
DLBC Dease Lake 69.45 34 P P 19 20 45.2 +2.0
baz=295,SNR=5.4
BCA Borcka 69.51 307 ⇑P **P 19 20 45.4 +1.6**
WHFO Wadi Hawf 69.59 279 P P 19 20 44.7 +0.1
SNR=13
WHFO P **P 19 20 44.7 +0.1**
SNR=13
KHAM Kharkiv 69.63 317 P P 19 20 45.1 +0.7
VSLR Vesyoloye 69.81 309 *i* P **P 19 20 46.2 +0.7**
VSLR pmax pmax
comp=Z,89nm,1.1s
T35M Bob Quinn 69.96 35 P P 19 20 48.7 +2.5
baz=295
SOC Sochi 69.97 309 *e*P **P 19 20 45.3 -1.2**
SOC *e**PP **pP 19 21 19.0 +0.1**
SOC *e**SP **sP 19 21 33.9 +0.7**
SOC *e* 19 23 20.3
SOC *e*PPP PPP 19 25 05.3
SOC *e*S **S 19 29 43.7 -2.3**
SOC *e**SS **SKSac 19 30 29.9 -5.2**
SOC *e*SS **SS 19 34 13.0 -4.2**
SOC pmax pmax
comp=Z,63nm,1.2s
FINES FINESS Array B 70.00 330 P P 19 20 45.3 -1.0
comp=Z,23nm,0.8s,baz=67,slow=5.6,SNR=95
FINES pP **pP 19 21 18.1 -0.7**
comp=Z,9.2nm,0.7s,baz=72,slow=6.2,SNR=2.9
FINES LR LR 19 55 31.6
comp=Z,220nm,18.3s,baz=58,slow=39
comp=Z,23nm,0.8s
FINES FINESS Array B 70.00 330 *i* P **P 19 20 46.2 -0.1**
FINES pmax pmax
comp=Z,23nm,0.8s
KEF Keuruu 70.18 331 *e*P **P 19 20 46.8 -0.6**
ABTO Aybut 70.24 279 P P 19 20 49.2 +0.6
SNR=18
GURO Guroymak-BITLI 70.36 304 IAmb IAmb 19 20 51.9
comp=Z,65nm,1.5s
VAF Yilstaro 70.66 333 *e*P **P 19 20 50.3 0.0**
STEI Steigen 70.73 339 IAmb IAmb 19 20 50.4
comp=Z,81nm,1.0s
STEI *e*P **P 19 20 50.8 +0.2**
LIRD Liard River Hi 70.85 32 P P 19 20 53.6 +2.1
baz=298,SNR=8.9
ARBE Arbavere 70.97 328 *e*P **P 19 20 52.6 +0.3**
ANN Anapa 70.98 311 *e*P **P 19 20 52.1 -0.5**
ANN *e* 19 23 28.7
ANN *e*PPP PPP 19 25 14.1
ANN *e*S **S 19 29 57.9 +0.2**
ANN *e* 19 30 40.9
ANN pmax pmax
comp=Z,166nm,1.2s
FAUS Fauske 71.03 338 *e*P **P 19 20 52.0 -0.4**
FAUS IAmb IAmb 19 20 52.7
comp=Z,49nm,0.8s
VSU Vasula 71.07 327 *ce*P **P 19 20 52.7 -0.2**
VSU pmax pmax
comp=Z,177nm,1.0s
RES Resolute Bay 71.10 11 LR LR 19 52 55.5
comp=Z,103nm,21.0s,baz=344,slow=36
DAG Danmarks Havn 71.28 353 *i* P **P 19 20 52.0 -1.8**
DAG IAmb IAmb 19 20 54.6
comp=Z,82nm,1.2s
MEF Metsahovi 71.31 330 *e*P **P 19 20 54.1 -0.2**
KOTAN Kotaneelee Air 71.43 31 P P 19 20 56.8 +1.8
baz=299
TOAD Toad River Com 71.51 32 P P 19 20 56.9 +1.3
baz=298,SNR=7.1
MOR8 Moi Rana 72.00 337 *e*P **P 19 20 56.7 -1.6**
MOR8 IAmb IAmb 19 20 57.4
comp=Z,77nm,0.9s
RAF Rauma 72.04 331 *e*P **P 19 20 58.1 -0.5**
KONS Konsvik 72.24 338 *e*P **P 19 20 59.8 +0.1**
MTSE Matsula 72.30 328 *e*P **P 19 21 00.3 +0.1**
NEEM North Greenlan 72.34 0 *i* P **P 19 21 00.0 -0.6**
NEEM IAmb IAmb 19 21 01.9
comp=Z,68nm,0.8s
MNK Minsk 72.34 323 *i* P **P 19 21 01.3 +0.8**
comp=E,67nm,1.1s
MNK *i* P **P 19 21 01.3 +0.8**
comp=N,112nm,1.2s
MNK *i* P **P 19 21 01.3 +0.8**
comp=Z,132nm,1.0s,baz=62
MNK *i* pP **pP 19 21 35.6 +2.4**
MNK *i* PP **PP 19 23 44.0 +1.4**
MNK *i* PPP PPP 19 25 28.8
MNK *i* S **S 19 30 14.4 +1.4**
MNK *i* sS **sS 19 31 14.3 +5.2**
MNK *i* SS **SS 19 34 56.7 +3.7**
MNK *i* SSS SSS 19 38 17.7
MNK *i* LR LR 19 53 00.2
MNK *i* LRM MLR 19 54 43.5
comp=Z,283nm,18.1s
MNK *i* LRM MLR 19 54 45.4
comp=E,139nm,15.8s
MNK *i* LRM MLR 19 55 04.5
comp=N,222nm,19.1s
MNK Minsk 72.34 323 *i* P **P 19 21 01.3 +0.8**
MNK *i* 19 21 18.0
MNK *i* *PP **pP 19 21 35.6 +2.4**
MNK *i* 19 23 43.9
MNK *i* PPP PPP 19 25 28.7
MNK *i* S **S 19 30 14.3 +1.4**
MNK *i* 19 30 54.7
MNK *i* SS **SS 19 34 56.6 +3.7**
MNK pmax pmax
comp=Z,132nm,1.0s
MNK pmax pmax
comp=E,67nm,1.1s
MNK pmax pmax
comp=N,112nm,1.2s
MNK MLR MLR
comp=Z,283nm,18.0s
MNK MLR MLR
comp=E,139nm,16.0s
MNK MLR MLR
comp=N,222nm,19.0s
STOK Stokkvaagen 72.37 338 *e*P **P 19 21 00.1 -0.4**
TULEG Thule 72.60 5 IAmb IAmb 19 21 03.0
comp=Z,60nm,1.0s
NACGM Naroch 72.72 324 *e*P **P 19 21 03.0 +0.2**
comp=E,5μm,1.2s
ARPR Arapgir-MALATY 72.76 305 IAmb IAmb 19 21 06.4
comp=Z,86nm,1.4s
SIM Simferopol' 73.06 312 *e*P **P 19 21 05.2 +0.2**
SIM pmax pmax
comp=Z,70nm,1.1s
BBB Bella Bella 73.22 39 LR LR 19 52 33.3
comp=Z,37nm,20.6s,baz=299,slow=35
AK03 Malin Array Si 73.38 319 P **P 19 21 06.1 -0.6**
AKASG Malin Array Be 73.39 319 P **P 19 21 05.9 -0.9**
AKASG IAmb IAmb 19 21 07.6
comp=Z,96nm,1.1s
AKASG Malin Array Be 73.39 319 P **P 19 21 06.3 -0.5**
comp=Z,41nm,0.8s,baz=53,slow=6.2,SNR=134
AKASG pP **pP 19 21 40.2 +0.7**
comp=Z,4.2nm,0.6s,baz=57,slow=6.3,SNR=2.8
AKASG LR LR 19 55 19.9
comp=Z,234nm,20.3s,baz=58,slow=37
comp=Z,41nm,0.8s
AKASG Malin Array Be 73.39 319 P **P 19 21 05.9 -0.9**
AKASG pmax pmax
comp=Z,96nm,1.1s
AKBB Malin Array Si 73.39 319 IAmb IAmb 19 21 07.7
comp=Z,96nm,1.1s
AKBB Malin Array Si 73.39 319 *ce*P **P 19 21 05.6 -1.2**
AKBB pmax pmax
comp=Z,76nm,1.1s
AKBB Malin Array Si 73.39 319 P P 19 21 06.1 -0.7
KIEV Kiev 73.40 319 P P 19 21 05.7 -1.2
KIEV IAmb IAmb 19 21 07.7
comp=Z,87nm,1.1s
KIEV Kiev 73.40 319 *i* P **P 19 21 06.1 -0.8**
SNR=33
KIEV Kiev 73.40 319 ⇑P **P 19 21 06.5 -0.3**
KIEV Kiev 73.40 319 P P 19 21 05.7 -1.2
KIEV pmax pmax
comp=Z,87nm,1.1s
KIEV Kiev 73.40 319 P P 19 21 05.6 -1.2
comp=Z,357nm,1.1s,comp=Z,7μm
SLIT Slitere, Latvi 73.54 328 *e*P **P 19 21 07.6 0.0**
VSVD Vaisvydziai 73.61 326 *e*P **P 19 21 08.3 +0.4**
DBG Daneborg 73.67 352 *i* P **P 19 21 06.9 -1.1**
DBG IAmb IAmb 19 21 08.8
comp=Z,31nm,0.9s
NSS Namsos 73.81 337 *e*P **P 19 21 08.2 -0.7**
NSS IAmb IAmb 19 21 08.4
comp=Z,40nm,0.9s
PABE Paberze 73.83 325 *e*P **P 19 21 09.6 +0.3**
YKA Yellowknife Ar 74.02 26 P P 19 21 10.1 -0.2
YKA Yellowknife Ar 74.02 26 P P 19 21 10.5 +0.3
comp=Z,18nm,0.8s,baz=337,slow=4.2,SNR=31
YKA LR LR 19 57 40.0
comp=Z,63nm,18.1s,baz=240,slow=39
comp=Z,18nm,0.8s
RAYN Ar Rayn 74.03 288 P P 19 21 10.8 -0.3
RAYN IAmb IAmb 19 21 13.1
comp=Z,81nm,1.3s
RAYN Ar Rayn 74.03 288 *i* P **P 19 21 11.6 +0.4**
SNR=36
RAYN Ar Rayn 74.03 288 P P 19 21 12.1 +0.9
RAYN Ar Rayn 74.03 288 P P 19 21 10.8 -0.3
RAYN pmax pmax
comp=Z,81nm,1.3s
MI28 Mi28,Pidlybu 74.15 320 P P 19 21 11.1 -0.1
comp=Z,574nm,1.4s
GAZ Gaziantep 74.40 304 IAmb IAmb 19 21 15.4
comp=Z,82nm,1.2s
BAL3X Bal3x, Balta 74.47 317 P P 19 21 13.2 0.0
PBUR Paburge 74.55 326 *e*P **P 19 21 13.8 +0.4**
LUBAR Lubar, Ukraine 74.59 319 P P 19 21 13.4 -0.4
JNW Jan Mayen West 74.62 347 *e*P **P 19 21 14.7 +1.1**
JMIC Jan Mayen 74.67 347 LR LR 19 55 35.5
comp=Z,33nm,21.4s,baz=254,slow=37
RNPP9 Sopachiv 74.89 321 P P 19 21 15.8 +0.3
RNPP2 Kostyukhnivka 74.93 321 P P 19 21 16.1 +0.3
PURM Purcari 74.97 315 ⇑P **P 19 21 16.8 +0.8**
PURM Purcari 74.97 315 P P 19 21 16.5 +0.4
RNPP5 Staryi Chortor 74.98 321 P P 19 21 16.3 +0.3
SUW Suwalki 74.99 324 *e*P **P 19 21 16.2 +0.2**
SUW Suwalki 74.99 324 *e*P **P 19 21 17.1 +1.1**
SORM Soroca 75.11 317 ⇑P **P 19 21 17.3 +0.4**
SORM Soroca 75.11 317 P P 19 21 17.2 +0.4
SORM Soroca 75.11 317 P P 19 21 16.3 -0.5
comp=Z,87nm,1.2s,comp=Z,2μm
KULLO Kullorsuaq 75.11 2 *i* P **P 19 21 15.9 -0.5**
KULLO IAmb IAmb 19 21 17.2
comp=Z,46nm,0.8s
MILM Milestii Mici 75.43 316 ⇑P **P 19 21 19.0 +0.3**
MILM Milestii Mici 75.43 316 P P 19 21 19.0 +0.3
NDNU Novodnistrovsk 75.46 318 P P 19 21 19.0 +0.2
HORU Horodok 75.69 319 P P 19 21 20.4 +0.2
HORU Horodok 75.69 319 P P 19 21 20.4 +0.2
BR131 Keskin Array S 75.74 308 IAmb IAmb 19 21 23.1
comp=Z,101nm,1.1s
BR131 Keskin Array S 75.74 308 P P 19 21 21.3 +0.6
SNR=36
BR131 Keskin Array S 75.74 308 *i* P **P 19 21 20.5 -0.3**
BRTR Keskin Array B 75.74 308 P P 19 21 20.5 -0.3
BRTR pP **pP 19 21 53.4 -0.2**
BRTR Keskin Array B 75.74 308 P P 19 21 18.8 -2.0
comp=Z,71nm,1.1s,baz=96,slow=3.8,SNR=119
comp=Z,71nm,1.1s
BRTR Keskin Array B 75.74 308 *i* P **P 19 21 21.0 +0.2**
BRTR pmax pmax
comp=Z,71nm,1.1s
BR104 Keskin Array S 75.74 308 P P 19 21 21.6 +0.8
comp=Z,60nm,1.2s,comp=Z,501nm
BR106 Keskin Array S 75.75 308 P P 19 21 21.6 +0.8
comp=Z,57nm,1.2s,comp=Z,477nm
KIRS Kirsehir-Merke 75.82 307 ⇑P **P 19 21 22.3 +1.1**
HFS Hagfors 75.84 332 P P 19 21 20.1 -0.7
comp=Z,56nm,1.0s,baz=49,slow=4.5,SNR=34
HFS LR LR 19 57 56.9
comp=Z,220nm,19.0s,baz=59,slow=38
comp=Z,56nm,1.0s
KMPD K-Podol'skiy 76.00 318 P P 19 21 21.5 -0.4
KMPD P **P 19 21 20.2 -1.7**
comp=Z,18μm,1.2s,comp=Z,228μm
NC303 NORSAR Array S 76.07 334 IAmb IAmb 19 21 22.8
comp=Z,86nm,1.1s
NB201 NORSAR Array S 76.21 334 IAmb IAmb 19 21 23.4
comp=Z,83nm,0.9s
ANTO Ankara 76.25 308 P P 19 21 23.5 -0.1
ANTO IAmb IAmb 19 21 25.4
comp=Z,95nm,1.2s
ANTO Ankara 76.25 308 P P 19 21 24.3 +0.7
ANTO Ankara 76.25 308 ⇑P **P 19 21 24.9 +1.3**
ANTO Ankara 76.25 308 P P 19 21 23.5 -0.1
ANTO pmax pmax
comp=Z,95nm,1.3s
ANTO Ankara 76.25 308 P P 19 21 24.4 +0.8
comp=Z,31nm,1.3s,comp=Z,431nm
NB2 NORSAR Subarra 76.25 334 P P 19 21 22.2 -0.9
comp=Z,64nm,0.9s,baz=50,slow=5.9
NB2 pP **pP 19 21 56.8 +0.8**
comp=Z,3.3nm,0.7s,baz=47,slow=5.6
NB2 NORSAR Subarra 76.25 334 P P 19 21 22.2 -0.9
baz=50,slow=5.9
NOA NORSAR Array B 76.25 334 P P 19 21 22.1 -1.1
comp=Z,40nm,0.8s,baz=49,slow=5.5,SNR=89
NOA LR LR 19 56 17.7
comp=Z,109nm,21.9s,baz=40,slow=37
comp=Z,40nm,0.8s
NC204 NORSAR Array S 76.27 334 IAmb IAmb 19 21 23.9
comp=Z,65nm,0.9s
BR231 Keskin MP Arra 76.27 308 IAmb IAmb 19 21 25.6
comp=Z,51nm,1.1s
TLCR 76.27 314 ⇑P **P 19 21 24.2 +0.7**
TLCR 76.27 314 P P 19 21 24.2 +0.7
NC602 NORSAR Array S 76.31 334 IAmb IAmb 19 21 23.7
comp=Z,28nm,1.1s
NC602 NORSAR Array S 76.31 334 *e*P **P 19 21 22.8 -0.7**
NC602 IAmb IAmb 19 21 23.3
comp=Z,43nm,1.3s
VLDR Vladesti 76.40 315 ⇑P **P 19 21 25.6 +1.4**
DOMB Dombas 76.40 335 *e*P **P 19 21 23.1 -0.8**
NBO00 NORSAR Array S 76.42 334 IAmb IAmb 19 21 24.6
comp=Z,34nm,0.8s
JURR Jurilovca 76.44 314 ⇑P **P 19 21 25.5 +1.1**
NAO01 NORSAR Array S 76.49 334 P P 19 21 23.6 -0.8
VARL Varlezi 76.51 315 ⇑P **P 19 21 26.1 +1.3**
SCTR Scanteiesti 76.53 315 ⇑P **P 19 21 26.3 +1.3**
TATR Tatarca 76.54 315 ⇑P **P 19 21 26.1 +1.2**
MOL Molde 76.58 336 *e*P **P 19 21 25.2 +0.3**
MOL IAmb IAmb 19 21 26.6
comp=Z,57nm,0.8s
NEGRR Negrea 76.67 315 ⇑P **P 19 21 27.0 +1.2**
CFR Carcaliu 76.69 315 ⇑P **P 19 21 26.2 +0.4**
CFR Carcaliu 76.69 315 P P 19 21 26.2 +0.4
GHRR 76.69 316 ⇑P **P 19 21 27.5 +1.7**
GHRR 76.69 316 P P 19 21 26.6 +0.7
SLCR Slobozia Conac 76.71 315 ⇑P **P 19 21 27.5 +1.5**
SCHL Schela 76.72 315 ⇑P **P 19 21 27.3 +1.3**
LVV L'vov 76.72 320 P P 19 21 26.8 +0.8
LVV L'vov 76.72 320 P P 19 21 26.8 +0.8
SCHLR Schela 76.73 315 ⇑P **P 19 21 27.4 +1.4**
IZVR Izvorele 76.74 315 ⇑P **P 19 21 27.4 +1.3**
PRAR RASCA 76.74 317 ⇑P **P 19 21 26.6 +0.5**
TUDR 76.77 315 ⇑P **P 19 21 28.0 +1.7**
COSR Cosmesti PH 76.86 316 ⇑P **P 19 21 28.6 +1.9**
KSV Kosov 76.92 319 P P 19 21 25.7 -1.4
KSV Kosov 76.92 319 P P 19 21 25.7 -1.4
TESR Tescani 76.92 316 ⇑P **P 19 21 28.2 +1.1**
TESR Tescani 76.92 316 P P 19 21 27.3 +0.1
comp=Z,102nm,1.7s
EFOR EFORIE 76.93 314 ⇑P **P 19 21 28.6 +1.4**
SUMG Summit 76.94 356 IAmb IAmb 19 21 29.3
comp=Z,55nm,0.9s
SUMG Summit 76.94 356 *i* P **P 19 21 26.9 -0.4**
SUMG IAmb IAmb 19 21 28.5
comp=Z,58nm,0.9s
UPNV Upernavik 76.94 2 *i* P **P 19 21 26.0 -0.8**
MFTR Murfatlar 77.01 314 ⇑P **P 19 21 28.3 +0.6**
AKN Aaknes 77.04 336 *e*P **P 19 21 27.7 +0.2**
STNU Starunia 77.04 319 P P 19 21 27.9 +0.1

ODBI **Odobesti** 77.06 316 ⇑P P 19 21 30.0 +2.1
ODBI **Odobesti** 77.06 316 P P 19 21 29.4 +1.5
comp=Z,66nm,1.2s,comp=Z,643nm
HARR **Harsova** 77.06 314 ⇑P P 19 21 29.0 +1.0
HARR **Harsova** 77.06 314 P P 19 21 28.9 +1.0
TLBR **Topalu** 77.06 314 ⇑P P 19 21 29.1 +1.2
OSL **Oslo** 77.13 333 *e*P P 19 21 27.9 -0.1
MORS **Morshin** 77.16 320 P P 19 21 27.1 -1.3
MORS **Morshin** 77.16 320 P P 19 21 27.1 -1.3
ONER **Baraj Valea Uz** 77.17 316 ⇑P P 19 21 30.3 +1.8
BUR08 **Bucovina Ar. S** 77.19 318 IAmb IAmb 19 21 30.5
comp=Z,64nm,1.1s
BURAR **Bucovina Array** 77.20 318 ⇑P P 19 21 29.2 +0.4
BURAR **Bucovina Array** 77.20 318 P P 19 21 29.2 +0.4
VRI **Vrincioaia** 77.20 316 ⇑P P 19 21 30.4 +1.6
VRI **Vrincioaia** 77.20 316 P P 19 21 30.3 +1.6
VRI **Vrincioaia** 77.20 316 P P 19 21 29.8 +1.0
comp=Z,134nm,1.3s
PLOR5 **Plostina Array** 77.25 316 P P 19 21 31.1 +2.0
comp=Z,78nm,1.5s,comp=Z,1µm
PLOR **Plostina** 77.26 316 ⇑P P 19 21 30.5 +1.4
PLOR **Plostina** 77.26 316 P P 19 21 30.5 +1.4
PLOR3 **Plostina Array** 77.26 316 P P 19 21 29.7 +0.6
comp=Z,47nm,1.1s,comp=Z,1µm
GRER **77.30 315** ⇑P **P** 19 21 30.2 +1.0
SCO **Scoresbysund** 77.36 351 P P 19 21 29.2 +0.1
SCO IAmb IAmb 19 21 32.0
comp=Z,79nm,1.3s
SCO **pP** 19 22 01.4 -0.7
SCO **Scoresbysund** 77.36 351 *i* P P 19 21 28.7 -0.4
SCO IAmb IAmb 19 21 31.7
comp=Z,52nm,1.1s
BISRR **Bisoca** 77.38 316 ⇓P P 19 21 31.4 +1.6
BISRR **Bisoca** 77.38 316 P P 19 21 31.4 +1.6
ICOR **Ion Corvin** 77.43 314 ⇑P P 19 21 30.8 +0.8
AMRR **Amara** 77.47 314 ⇑P P 19 21 30.5 +0.2
AMRR **Amara** 77.47 314 P P 19 21 30.4 +0.2
JOSR **Joseni** 77.50 317 ⇑P P 19 21 32.3 +1.9
COVR **Voineasa-Covas** 77.53 316 ⇑P P 19 21 31.7 +1.1
TURR **Turia** 77.53 316 ⇑P P 19 21 31.9 +1.3
KWP **Kalwaria Pacla** 77.55 321 *e*P P 19 21 31.6 +1.0
KWP **Kalwaria Pacla** 77.55 321 P P 19 21 31.6 +1.0
comp=Z,222nm,1.2s,comp=Z,3µm
SKAR **Skarslia** 77.57 335 *e*P P 19 21 30.7 +0.2
RAKU **Rahkiv** 77.59 319 P P 19 21 30.9 0.0
MMAI **Mount Meron Ar** 77.62 301 P P 19 21 31.9 +0.5
comp=Z,45nm,1.1s,baz=64,slow=5.7,SNR=57
MMAI pP **pP** 19 22 05.6 +1.2
comp=Z,39nm,1.1s,baz=44,slow=6.2,SNR=5.4
comp=Z,45nm,1.1s
OZUR **77.65 316** ⇑P **P** 19 21 32.4 +1.1
NEHR **Nehoiu** 77.69 316 ⇑P P 19 21 33.0 +1.5
ISR **Istrita** 77.70 315 P P 19 21 33.0 +1.4
MEZ **Mezhgor'ye** 77.70 319 P P 19 21 32.1 +0.6
KONO **Kongsberg** 77.75 333 *e*P P 19 21 31.3 -0.3
B04A **Port Angeles** 77.86 41 P P 19 21 31.6 -0.7
LEHL **Lehliu** 77.86 315 ⇑P P 19 21 33.4 +1.1
MLR **Muntele Rosu** 77.87 316 IAmb IAmb 19 21 34.3
comp=Z,84nm,1.3s
MLR **Muntele Rosu** 77.87 316 LR LR 20 00 31.4
comp=Z,251nm,18.1s,baz=68,slow=39
MLR **Muntele Rosu** 77.87 316 ⇑P P 19 21 33.9 +1.2
MLR **Muntele Rosu** 77.87 316 P P 19 21 33.8 +1.2
MLR **Muntele Rosu** 77.87 316 P P 19 21 32.9 +0.3
comp=Z,55nm,1.2s
BALJ **Balqa** 77.88 300 P P 19 21 31.4 -1.4
BALJ IAmb IAmb 19 21 35.0
comp=Z,60nm,1.0s
DOPR **Dopca** 77.95 316 ⇑P P 19 21 34.7 +1.8
ARCR **ARCALIA** 77.98 318 ⇑P P 19 21 35.0 +2.0
DEL **Delary** 78.00 329 *i* P P 19 21 32.0 -0.9
HYA **Hoyanger** 78.01 336 *e*P P 19 21 33.1 +0.2
HYA IAmb IAmb 19 21 33.6
comp=Z,124nm,1.3s
BRIU **Brid** 78.07 319 P P 19 21 33.9 +0.4
KLYT **Kilyos** 78.07 311 P P 19 21 34.1 +0.5
comp=Z,68nm,1.1s
SULR **78.10 315** ⇑P **P** 19 21 35.4 +1.7
KORU **Korolevo** 78.11 319 P P 19 21 34.8 +1.1
FOO **Floro** 78.11 336 *e*P P 19 21 33.3 -0.1
FOO IAmb IAmb 19 21 34.0
comp=Z,134nm,1.5s
BMR **Baia Mare** 78.16 319 ⇑P P 19 21 35.6 +1.5
BMR **Baia Mare** 78.16 319 P P 19 21 35.5 +1.5
KOLS **Kolonicke sedl** 78.17 320 *e*P P 19 21 34.6 +0.6
KOLS pmax pmax
comp=Z,35nm,1.0s
KOLS **Kolonicke sedl** 78.17 320 *e*P P 19 21 34.6 +0.6
TGMR **Targu Mures** 78.17 317 ⇓P P 19 21 35.7 +1.6
MUKU **Mukachevo** 78.20 320 P P 19 21 35.3 +1.1
CSS **Mathiatis** 78.21 304 IAmb IAmb 19 21 35.9
comp=Z,50nm,1.2s
CSS **Mathiatis** 78.21 304 P P 19 21 34.8 +0.3
comp=Z,43nm,1.4s,comp=Z,842nm
TRSU **Trosnyk** 78.24 319 P P 19 21 35.8 +1.4
GHAJ **Ghor Haditha** 78.31 299 IAmb IAmb 19 21 37.3
comp=Z,117nm,1.2s
UZHM **Uzhgorod** 78.32 320 P P 19 21 35.7 +0.8
HOLU **Holmets** 78.33 320 P P 19 21 35.7 +0.8
BERU **Beregovo** 78.34 319 P P 19 21 35.7 +0.8
GKP **Gorka Klasztor** 78.35 326 *e*P P 19 21 36.0 +1.1
GKP **Gorka Klasztor** 78.35 326 *e*P P 19 21 35.9 +1.0
BSD **Bornholm Skovb** 78.35 328 *e*P P 19 21 35.1 +0.2
BSD **Bornholm Skovb** 78.35 328 *i* P P 19 21 34.3 -0.6
BSD IAmb IAmb 19 21 35.6
comp=Z,96nm,0.9s
VOIR **78.43 316** ⇑P **P** 19 21 36.8 +1.1
VOIR **78.43 316** P **P** 19 21 36.7 +1.1
VOIR **78.43 316** P **P** 19 21 35.5 -0.2
comp=Z,13nm,1.1s
CTYL **Yalikoy Yolu** 78.45 311 P P 19 21 35.8 +0.1
comp=Z,64nm,1.2s
STHS **Stebnicka Huta** 78.47 321 *e*P P 19 21 35.6 -0.1
STHS pmax pmax
comp=Z,51nm,1.2s
STHS **Stebnicka Huta** 78.47 321 *e*P P 19 21 35.6 -0.1
SUE **Sulen** 78.59 336 *e*P P 19 21 36.3 +0.2
CJR **Cluj-Napoca** 78.61 318 ⇑P P 19 21 38.5 +1.9
CJR **Cluj-Napoca** 78.61 318 P P 19 21 38.5 +1.9
LUNU **Lund** 78.70 329 *i* P P 19 21 36.0 -0.8
ODD1 **Odda** 78.70 335 *e*P P 19 21 36.9 +0.1
ODD1 IAmb IAmb 19 21 37.5
comp=Z,135nm,1.5s
ARR **Arges** 78.72 316 ⇑P P 19 21 38.9 +1.7
MESR **Meseseni** 78.75 318 ⇑P P 19 21 39.3 +2.0
ISP **Isparta** 78.79 307 *ce*P P 19 21 38.6 +0.8
ISP pmax pmax
comp=Z,51nm,1.7s
OJC **Ojcow** 78.80 322 *e*P P 19 21 38.4 +0.9
OJC **Ojcow** 78.80 322 P P 19 21 37.3 -0.2
OJC **Ojcow** 78.80 322 P P 19 21 37.3 -0.2
OJC pmax pmax
comp=Z,198nm,1.1s
OJC **Ojcow** 78.80 322 P P 19 21 38.1 +0.6
comp=Z,178nm,1.2s
ASK **Askoy** 78.83 336 *e*P P 19 21 37.5 +0.1
BER **Bergen** 78.85 335 *e*P P 19 21 37.7 +0.2
BER IAmb IAmb 19 21 38.1
comp=Z,116nm,1.6s
MARR **Marisel-Cluj** 78.91 318 ⇑P P 19 21 39.9 +1.6
HUMR **Humele** 78.95 315 ⇑P P 19 21 39.0 +0.6
NIE **Niedzica** 78.98 321 *e*P P 19 21 40.5 +2.0
NIE **Niedzica** 78.98 321 P P 19 21 40.5 +2.0
comp=Z,44nm,1.2s
OVD **Ostervraa, Den** 79.03 331 *i* P P 19 21 39.2 +0.7
OVD IAmb IAmb 19 21 40.2
comp=Z,100nm,0.6s
DRGR **79.08 318** ⇑P **P** 19 21 40.6 +1.4
DRGR **79.08 318** P **P** 19 21 40.6 +1.4
BLS5 **Blasjo** 79.10 334 *e*P P 19 21 39.2 +0.2
COP **Copenhagen** 79.12 329 *i* P P 19 21 38.9 -0.1
COP IAmb IAmb 19 21 40.2
comp=Z,307nm,0.9s
BAND **Balkesir-Ban** 79.14 310 ⇑P **P** 19 21 39.9 +0.3
MSEY **Mahe Island** 79.18 258 P **P** 19 21 40.0 -0.2
MSEY IAmb IAmb 19 21 42.3
comp=Z,89nm,1.4s
MSEY **Mahe Island** 79.18 258 P **P** 19 21 40.7 +0.5
MSEY **Mahe Island** 79.18 258 P **P** 19 21 41.6 +1.5
MSEY **Mahe Island** 79.18 258 P **P** 19 21 40.0 -0.2
MSEY pmax pmax
comp=Z,89nm,1.5s
LOT **Lotru** 79.19 317 ⇑P **P** 19 21 41.2 +1.4

ELND **Elena** 79.24 314 ⇑P P 19 21 40.8 +0.8
KECS **Kecovo** 79.40 320 *e*P P 19 21 41.9 +1.1
KECS pmax pmax
comp=Z,36nm,1.3s
KECS **Kecovo** 79.40 320 *e*P P 19 21 41.9 +1.1
SNART **Snartemo** 79.55 333 *e*P P 19 21 41.2 -0.1
SNART **Snartemo** 79.55 333 *i* P P 19 21 40.0 -1.4
EIL **Elat** 79.56 298 LR LR 20 02 28.0
comp=Z,129nm,19.4s,baz=66,slow=40
LANS **Liptovska Anna** 79.58 321 *e*P P 19 21 43.2 +1.4
LANS pmax pmax
comp=Z,62nm,1.8s
LANS **Liptovska Anna** 79.58 321 *e*P P 19 21 43.2 +1.4
GOET **G??ttrup** 79.62 332 *i* P P 19 21 41.2 -0.5
GOET IAmb IAmb 19 21 42.9
comp=Z,109nm,0.9s
KMY **Karmoy** 79.70 335 *e*P P 19 21 42.3 +0.1
GZR **Gura Zlata** 79.81 317 ⇑P P 19 21 43.3 +0.2
GZR **Gura Zlata** 79.81 317 P P 19 21 43.3 +0.2
COR **Corvallis** 79.84 44 P P 19 21 43.4 +0.2
COR IAmb IAmb 19 21 48.1
comp=Z,86nm,1.3s
COR **Corvallis** 79.84 44 P P 19 21 43.4 +0.2
COR pmax pmax
comp=Z,86nm,1.3s
SRE **Strehaia** 79.95 316 ⇑P P 19 21 45.4 +1.5
SRE **Strehaia** 79.95 316 P P 19 21 45.3 +1.5
SIRR **Siria** 79.98 318 ⇑P P 19 21 44.7 +0.7
SURR **Surduc** 79.99 317 ⇑P P 19 21 44.5 +0.5
MUD **Monsted U'grnd** 80.02 331 *i* P P 19 21 43.6 -0.2
MUD IAmb IAmb 19 21 44.2
comp=Z,93nm,1.1s
PSZ **Piszkesteto** 80.05 320 IAmb IAmb 19 21 46.5
comp=Z,132nm,1.4s
PSZ **Piszkesteto** 80.05 320 *e*P P 19 21 45.1 +0.7
PSZ **Piszkesteto** 80.05 320 ⇑P P 19 21 46.3 +1.8
PSZ **Piszkesteto** 80.05 320 P P 19 21 46.2 +1.8
ALN **Alexandroupoli** 80.20 312 IAmb IAmb 19 21 46.7
comp=Z,68nm,1.2s
BUCK **Buck Mountain** 80.24 44 P P 19 21 45.5 0.0
BUCK IAmb IAmb 19 21 50.3
comp=Z,65nm,1.2s
BUCK pP **pP** 19 22 17.4 -1.4
MORC **Moravsky Berou** 80.24 323 IAmb IAmb 19 21 47.5
comp=Z,103nm,1.3s
MORC **Moravsky Berou** 80.24 323 *e*P P 19 21 45.9 +0.6
MORC **Moravsky Berou** 80.24 323 ⇑P P 19 21 47.0 +1.7
MORC **Moravsky Berou** 80.24 323 P P 19 21 47.0 +1.7
KSP **Ksiaz** 80.25 324 *e*P P 19 21 46.3 +1.0
KSP **Ksiaz** 80.25 324 P P 19 21 46.1 +0.8
comp=Z,80nm,1.3s
VYHS **Vyhne** 80.30 321 *e*P P 19 21 46.7 +1.1
VYHS pmax pmax
comp=Z,130nm,1.3s
VYHS **Vyhne** 80.30 321 *e*P P 19 21 46.7 +1.1
HERR **Herculane** 80.30 317 ⇑P P 19 21 46.9 +1.2
PUNG **Punghina** 80.33 316 ⇑P P 19 21 47.5 +1.7
MAUC **Maruska** 80.33 322 *e*P P 19 21 46.8 +1.0
BZS **Buzias** 80.36 318 ⇑P P 19 21 46.0 0.0
BZS **Buzias** 80.36 318 P P 19 21 46.0 0.0
RDO **Rodhopi** 80.39 312 IAmb IAmb 19 21 47.8
comp=Z,79nm,1.2s
HOOD **Mount Hood Mea** 80.41 43 IAmb IAmb 19 21 50.6
comp=Z,66nm,1.4s
H04A **Detroit Lake** 80.45 44 P P 19 21 47.7 +1.1
H04A IAmb IAmb 19 21 49.7
comp=Z,67nm,1.6s
ICESG **Greenland Ices** 80.46 356 *i* P P 19 21 46.2 -0.3
ICESG IAmb IAmb 19 21 48.4
comp=Z,56nm,0.7s
KRLC **Kraliky** 80.46 323 *e*P P 19 21 47.3 +0.8
KRLC **Kraliky** 80.46 323 *e*P P 19 21 47.3 +0.8
OSTC **Ostas** 80.47 324 *e*P P 19 21 47.7 +1.2
OSTC **Ostas** 80.47 324 *e*P P 19 21 47.7 +1.2
RUE **Ruedersdorf** 80.50 326 *e*P P 19 21 47.8 +1.3
comp=Z,124nm,1.1s,baz=48,slow=5.2
CHVC **Chvalec** 80.53 324 *e*P P 19 21 47.8 +1.0
CHVC **Chvalec** 80.53 324 *e*P P 19 21 47.8 +1.0
DPC **Dobruska-Polom** 80.53 324 *e*P P 19 21 48.3 +1.4
DPC **Dobruska-Polom** 80.53 324 *e*P P 19 21 48.3 +1.4
DPC **Dobruska-Polom** 80.53 324 P P 19 21 48.1 +1.2
comp=Z,46nm,1.5s
UPC **Upice** 80.60 324 *e*P P 19 21 48.2 +1.0
UPC **Upice** 80.60 324 *e*P P 19 21 48.2 +1.0
G05A **Wamic** 80.65 43 IAmb IAmb 19 22 23.6
comp=Z,96nm,1.9s
JAVC **Velka Javorina** 80.71 322 *e*P P 19 21 49.6 +1.7
MDVR **Moldovita** 80.77 317 ⇑P P 19 21 49.4 +1.1
BANR **Banloc** 80.78 318 ⇑P P 19 21 49.9 +1.7
C09A **Chrisman Ranch** 80.92 39 P P 19 21 49.7 +0.7
C09A **pP** 19 22 20.3 -2.0
SRO **Srobarova** 80.98 321 *e*P P 19 21 50.7 +1.5
SRO pmax pmax
comp=Z,35nm,1.0s
SRO **Srobarova** 80.98 321 *e*P P 19 21 50.7 +1.5
D08A **Wollman Farm,** 80.99 40 P P 19 21 49.8 +0.4
D08A **pP** 19 22 21.2 -1.5
VRAC **Vranov** 81.02 323 LR LR 20 00 15.1
comp=Z,174nm,18.9s,baz=56,slow=37
VRAC **Vranov** 81.02 323 *e*P P 19 21 50.3 +0.9
VRAC **Vranov** 81.02 323 ⇑P P 19 21 50.8 +1.3
VRAC **Vranov** 81.02 323 P P 19 21 50.7 +1.3
HAWA **Hanford** 81.03 41 P P 19 21 50.0 +0.5
SMOL **Smolenice** 81.05 322 *e*P P 19 21 51.2 +1.6
SMOL pmax pmax
comp=Z,68nm,1.4s
G06A **Carlson Farm,** 81.06 42 IAmb IAmb 19 21 53.3
comp=Z,77nm,1.6s
BSEG **Bad Segeberg** 81.18 329 *e*P P 19 21 50.5 +0.4
comp=Z,51nm,1.0s,baz=48,slow=5.2
MODS **Modra-Piesok** 81.21 322 *e*P P 19 21 51.7 +1.2
MODS pmax pmax
comp=Z,243nm,1.2s
MODS **Modra-Piesok** 81.21 322 *e*P P 19 21 51.7 +1.2
E08A **Dider Farm, El** 81.24 41 P P 19 21 51.7 +1.1
KRUC **Moravsky** 81.27 322 *e*P P 19 21 51.3 +0.5
BRG **Berggiesshubel** 81.42 325 *i* P P 19 21 52.1 +0.5
BRG Amp 19 21 52.9
comp=Z,28nm,1.0s
BRG **Berggiesshubel** 81.42 325 *i* P P 19 21 52.0 +0.5
BRG S **S** 19 31 54.0 +2.4
BRG pmax pmax
comp=Z,28nm,1.0s
BRG **Berggiesshubel** 81.42 325 *e*P P 19 21 52.4 +0.9
comp=Z,15nm,0.9s,baz=48,slow=5.2
BOVS **Bovan** 81.42 316 ⇑P P 19 21 51.9 +0.2
GOPC **GO Pecny, Ondr** 81.58 324 *e*P P 19 21 53.6 +1.2
GOPC **GO Pecny, Ondr** 81.58 324 *e*P P 19 21 53.6 +1.2
KHMM **Horse Mountain** 81.59 47 P P 19 21 51.7 -1.1
CLL **Collm** 81.61 326 P P 19 21 51.6 -0.9
CLL IAmb IAmb 19 21 54.1
comp=Z,84nm,1.0s
CLL pP **pP** 19 22 24.5 -1.3
CLL **Collm** 81.61 326 ⇑*i*P P 19 21 52.9 +0.4
CLL *i* *PP **pP** 19 22 27.6 +1.8
CLL *e*S **S** 19 31 53.0 -0.5
CLL pmax pmax
comp=Z,87nm,1.0s
CLL MLR MLR
comp=Z,400nm,21.5s
CLL **Collm** 81.61 326 *e*P P 19 21 53.1 +0.7
comp=Z,49nm,0.9s,baz=48,slow=5.2
CLL **Collm** 81.61 326 ⇑*i*P P 19 21 52.9 +0.4
comp=Z,87nm,1.0s
CLL *i* PcP **PcP** 19 21 56.8 -1.2
CLL *e*pP **pP** 19 22 25.0 -0.8
comp=Z,24nm,1.0s
CLL *e*PP **PP** 19 24 58.0 -2.2
CLL *e*S **S** 19 31 53.0 -0.5
comp=N,100nm,28.4s
CLL *e*S **S** 19 31 53.0 -0.5
comp=E,300nm,21.7s
CLL *e*S **S** 19 31 53.0 -0.5
comp=Z,100nm,29.5s
CLL *e*sS **sS** 19 32 50.0 -0.9
CLL *e*SSSS 19 43 18.0
CLL AMS AMS 20 01 00.0
comp=Z,400nm,21.5s
CLL **Collm** 81.61 326 P P 19 21 52.9 +0.4
comp=Z,106nm,1.2s
PRU **Pruhonice** 81.66 324 *e*P P 19 21 53.8 +1.0
PRU **Pruhonice** 81.66 324 *e*P P 19 21 53.8 +1.0
FRGS **Fruska Gora** 81.67 318 ⇑*i*P P 19 21 52.4 -0.6
PINE **Pine Mountain** 81.69 44 IAmb IAmb 19 21 57.9

comp=Z,88nm,1.4s
PEHC **Pehcevo** 81.72 314 *i* P P 19 21 53.5 +0.2
MORH **Mrgy, Hungar** 81.73 319 ⇑P P 19 21 53.7 +0.5
MORH **Mrgy, Hungar** 81.73 319 P P 19 21 53.3 +0.1
comp=Z,64nm,1.2s,comp=Z,876nm
E09A **Wood Farm, Sta** 81.74 40 IAmb IAmb 19 21 57.5
comp=Z,78nm,1.4s
L04D **Klamath Falls** 81.74 46 IAmb IAmb 19 21 57.0
comp=Z,72nm,1.3s
MPLH **Magyarpolny** 81.78 320 P P 19 21 54.6 +1.1
comp=Z,243nm,1.2s,comp=Z,3µm
FLTG **Flechtingen** 81.80 327 *e*P P 19 21 53.9 +0.5
comp=Z,48nm,0.9s,baz=48,slow=5.2
J05D **Fort Rock, OR** 81.80 44 IAmb IAmb 19 21 57.5
comp=Z,77nm,1.5s
HSKC **Hora Svate Kat** 81.84 325 *e*P P 19 21 54.8 +1.0
ATD **Arta Tunnel** 81.89 279 IAmb IAmb 19 21 58.0
comp=Z,92nm,1.2s
ATD **Arta Tunnel** 81.89 279 P P 19 21 57.0 +2.3
SNR=13
ATD **Arta Tunnel** 81.89 279 *e*P P 19 21 56.6 +1.9
RONA **Rosalia, Austr** 82.14 321 *i* P P 19 21 56.4 +1.0
comp=Z,28nm,1.3s,SNR=11
VAY **Valandovo** 82.18 314 *i* P P 19 21 55.7 0.0
ZVC **Zvikov** 82.18 324 *e*P P 19 21 56.3 +0.8
TEKS **Tekeris** 82.19 317 *e*P P 19 21 54.5 -1.2
NRDL **Niedersach Rie** 82.22 328 *e*P P 19 21 56.1 +0.6
comp=Z,20nm,0.9s,baz=48,slow=5.2
CONA **Conrad Observa** 82.24 322 *i* P P 19 21 57.1 +1.1
comp=Z,18nm,0.8s,SNR=20
NEUB **Neuenburg** 82.27 326 *e*P P 19 21 56.5 +0.6
comp=Z,56nm,0.8s,baz=48,slow=5.2
KARP **Karpathos** 82.27 307 IAmb IAmb 19 21 59.7
comp=Z,101nm,1.0s
KARP **Karpathos** 82.27 307 *e*P P 19 21 58.6 +2.3
TANN **Tannenbergstha** 82.44 325 *e*P P 19 21 58.0 +1.1
comp=Z,27nm,1.1s,baz=48,slow=5.2
CKRC **Cesky Krumlov** 82.51 323 *e*P P 19 21 58.0 +0.7
CKRC **Cesky Krumlov** 82.51 323 *e*P P 19 21 58.0 +0.7
CLZ **Clausthal** 82.52 327 *e*P P 19 21 58.1 +0.8
comp=Z,137nm,1.1s,baz=48,slow=5.2
NKC **Novy Kostel** 82.56 325 *e*P P 19 21 58.5 +1.0
NKC **Novy Kostel** 82.56 325 *e*P P 19 21 58.5 +1.0
HARA **HARA** 82.62 276 *e*P P 19 22 04.6 +5.9
BBLS **Lazi&#263i** 82.66 317 ⇑*i*P P 19 21 57.3 -0.9
SJES **Sjenica** 82.67 316 P P 19 21 58.8 +0.5
KHC **Kasperske Hory** 82.69 324 P P 19 21 58.1 -0.2
KHC IAmb IAmb 19 22 00.4
comp=Z,99nm,1.4s
KHC **Kasperske Hory** 82.69 324 *e*P P 19 21 59.2 +1.0
KHC **Kasperske Hory** 82.69 324 *ce*P P 19 21 58.6 +0.4
KHC pmax pmax
comp=Z,153nm,1.3s
MOX **Moxa** 82.71 326 *e*P P 19 21 59.3 +1.0
comp=Z,51nm,1.2s,baz=48,slow=5.2
GEC2 **GERESS Array S** 82.81 323 IAmb IAmb 19 22 00.7
comp=Z,78nm,1.3s
GEC2 **GERESS Array S** 82.81 323 *e*P P 19 21 59.8 +0.8
comp=Z,52nm,1.2s,baz=48,slow=5.2
GERES **GERESS Array B** 82.81 323 P P 19 21 58.5 -0.3
GERES **GERESS Array B** 82.81 323 P P 19 21 57.9 -1.0
comp=Z,25nm,1.1s,baz=45,slow=4.0,SNR=54
GERES LR LR 20 04 53.7
comp=Z,242nm,19.7s,baz=60,slow=40
comp=Z,25nm,1.1s
GERES **GERESS Array B** 82.81 323 P P 19 21 58.6 -0.3
RUDO **Rudo** 82.82 317 ⇑*i*P P 19 21 58.7 -0.3
ARSA **Arzberg** 82.83 321 *i* P P 19 21 59.8 +0.8
comp=Z,15nm,0.9s,SNR=12
SFJD **Kangerlussuaq** 82.85 0 P P 19 21 58.8 +0.2
SFJD IAmb IAmb 19 21 59.8
comp=Z,61nm,0.9s
SFJD **Kangerlussuaq** 82.85 0 LR LR 20 00 54.6
comp=Z,118nm,18.2s,baz=352,slow=37
SFJD **Kangerlussuaq** 82.85 0 P P 19 21 58.8 +0.2
SFJD pmax pmax
comp=Z,61nm,1.0s
SFJD **Kangerlussuaq** 82.85 0 *i* P P 19 21 58.3 -0.3
SFJD IAmb IAmb 19 21 59.0
comp=Z,73nm,1.1s
MANZ **Manzenberg** 82.89 325 *e*P P 19 21 59.8 +0.5
comp=Z,14nm,1.2s,baz=48,slow=5.2
GTTG **Gottingen** 82.91 327 *e*P P 19 21 60.0 +0.7
comp=Z,58nm,1.0s,baz=48,slow=5.2
ROTZ **Rotzenmuhle** 82.98 325 *e*P P 19 22 01.1 +1.4
comp=Z,18nm,1.1s,baz=48,slow=5.2
WET **Wettzell** 83.04 324 *e*P P 19 22 01.1 +1.1
comp=Z,38nm,1.2s,baz=48,slow=5.2
MOA **Molln** 83.13 322 *i* P P 19 22 01.4 +0.8
comp=Z,15nm,0.7s,SNR=10
BMO **Blue Mountains** 83.20 41 IAmb IAmb 19 22 05.0
comp=Z,46nm,1.2s
DY2G **Dye2** 83.33 359 *i* P P 19 22 01.0 -0.5
DY2G IAmb IAmb 19 22 02.6
comp=Z,88nm,1.0s
TEND **Ethiopian Broa** 83.34 280 *e*P P 19 22 03.8 +1.7
UBBA **Unterbreizbach** 83.37 326 *e*P P 19 22 02.5 +1.0
comp=Z,20nm,0.9s,baz=48,slow=5.2
OHR **Ohrid** 83.40 314 *i* P P 19 22 02.2 +0.1
J08A **Circle Bar Ran** 83.41 43 IAmb IAmb 19 22 05.8
comp=Z,62nm,1.1s
IBBN **Ibbenburen** 83.42 329 *e*P P 19 22 02.5 +0.6
comp=Z,76nm,0.9s,baz=48,slow=5.2
A051A **Mrakovica** 83.42 319 ⇑*i*P P 19 22 02.2 +0.1
BLY **Banja Luka** 83.42 319 ⇑*i*P P 19 22 02.6 +0.6
PERS **Pernice** 83.43 321 *i* P P 19 22 02.7 +0.6
SOKA **Soboth** 83.45 321 *i* P P 19 22 02.9 +0.6
comp=Z,56nm,1.2s,SNR=45
GRF **Grafenberg Arr** 83.52 325 *e*P P 19 22 03.3 +0.8
comp=Z,155nm,1.1s,baz=48,slow=5.2
GRF *ep*P **pP** 19 22 38.6 +2.7
GRFO **Grafenberg** 83.52 325 P P 19 22 03.0 +0.5
GRFO **Grafenberg** 83.52 325 P P 19 22 03.0 +0.5
GRFO pmax pmax
comp=Z,273nm,1.3s
BIOA **Bad Ischl, Aus** 83.56 323 *i* P P 19 22 03.5 +0.8
comp=Z,123nm,1.3s,SNR=32
PDG **Podgorica** 83.58 316 ⇑*i*P P 19 22 02.9 0.0
PDG **Podgorica** 83.58 316 ⇑P P 19 22 04.0 +1.1
AGG **Agios Georgios** 83.61 312 IAmb IAmb 19 22 03.5
comp=Z,103nm,1.2s
BRY **Bratogost** 83.73 317 *e*P P 19 22 01.3 -2.5
CRES **Cresnjevec Ost** 83.74 320 ⇑*i*P P 19 22 03.6 -0.1
ANGG **Ammassalik, Gr** 83.76 355 *i* P P 19 22 03.0 -0.3
ANGG IAmb IAmb 19 22 04.2
comp=Z,78nm,1.0s
OBKA **Obir** 83.82 321 *i* P P 19 22 04.4 +0.3
comp=Z,16nm,0.8s,SNR=7.5
OBKA **Obir** 83.82 321 ⇑*i*P P 19 22 04.1 0.0
TIR **Tirane** 83.84 315 ⇑P P 19 22 05.4 +1.1
TIR **Tirane** 83.84 315 P P 19 22 05.3 +1.1
WVOR **Wild Horse Val** 83.85 44 IAmb IAmb 19 22 08.0
comp=Z,45nm,1.4s
MSO **Missoula** 83.86 38 P P 19 22 04.0 -0.3
MSO IAmb IAmb 19 22 07.3
comp=Z,39nm,1.1s
KASTN **Kahler Asten** 83.86 327 *e*P P 19 22 04.6 +0.4
comp=Z,52nm,1.1s,baz=48,slow=5.2
A050A **Klekovaca** 83.96 319 ⇑*i*P P 19 22 04.9 0.0
IDI **Anoyia** 83.97 307 IAmb IAmb 19 22 10.4
comp=Z,88nm,1.2s
RJOB **Jochberg** 83.97 323 *e*P P 19 22 05.7 +0.8
comp=Z,53nm,1.0s,baz=48,slow=5.2
RJOB *ep*P **pP** 19 22 40.9 +2.4
BOJS **Bojanci** 84.05 320 *i* P P 19 22 05.6 +0.3
FFC **Flin Flon** 84.09 27 P P 19 22 05.5 +0.3
FFC **Flin Flon** 84.09 27 P P 19 22 05.5 +0.3
FFC pmax pmax
comp=Z,90nm,0.9s
KBA **Koelnbreinsper** 84.10 322 *i* P P 19 22 06.2 +0.5
comp=Z,8.7nm,0.6s,SNR=8.7
LJU **Ljubljana** 84.12 321 *i* P P 19 22 05.8 +0.2
MYKA **Terra Mystica** 84.23 322 *i* P P 19 22 06.4 +0.3
comp=Z,13nm,0.7s,SNR=11
BUG **Bochum--Univer** 84.23 328 *e*P P 19 22 06.5 +0.5
comp=Z,92nm,1.2s,baz=48,slow=5.2
LESA **Schwarzleotal** 84.24 323 *i* P P 19 22 06.5 +0.3
comp=Z,25nm,0.9s
STON **Ston** 84.25 317 ⇑*i*P P 19 22 10.8 +4.6
CEY **Cerknica** 84.36 321 ⇑*i*P P 19 22 07.1 +0.3
PRED **Cave del Predi** 84.39 322 IAmb IAmb 19 22 13.6
comp=Z,46nm,1.3s
FUR **Furstenfeldbru** 84.48 324 *e*P P 19 22 08.2 +0.9
comp=Z,158nm,1.2s,baz=48,slow=5.2
FUR *ep*P **pP** 19 22 43.1 +2.2
TNS **Taunus Mts** 84.51 327 *e*P P 19 22 08.3 +0.8

comp=Z,42nm,0.9s,baz=48,slow=5.2
TNS *e*pP **pP** **19 22 43.5 +2.5**
LYMT Lyon Mountain 84.64 38 P **P** **19 22 09.1 +0.6**
RAR Rarotonga 84.71 118 LR LR 19 53 28.6
comp=Z,98nm,18.9s,baz=296,slow=31
ABTA Abfaltersbach 84.75 322 *i* P **P** **19 22 08.4 -0.4**
comp=Z,31nm,1.3s,SNR=13
MPK Martis Peak 84.82 47 IAmb IAmb 19 22 12.9
comp=Z,90nm,1.4s
DESE Dese 84.83 280 *e*P **P** **19 22 12.1 +2.0**
WATA Walderalm 84.87 323 *i* P **P** **19 22 09.8 +0.3**
comp=Z,6.3nm,0.8s,SNR=6.4
WTTA Wattenberg 84.88 323 *i* P **P** **19 22 09.7 +0.1**
comp=Z,59nm,1.4s,SNR=16
MFID Camas Ranch 84.92 42 IAmb IAmb 19 22 13.4
comp=Z,79nm,1.3s
EMB Emerald Bay 84.96 47 IAmb IAmb 19 22 13.4
comp=Z,39nm,1.0s
PAHR Pah Rah Range 84.99 46 P **P** **19 22 10.7 +0.4**
PAHR IAmb IAmb 19 22 13.4
comp=Z,32nm,1.0s
MOTA Moosalm 85.10 323 *i* P **P** **19 22 10.9 +0.3**
comp=Z,37nm,1.3s
STU Stuttgart 85.12 325 IAmb IAmb 19 22 12.2
comp=Z,108nm,1.3s
STU Stuttgart 85.12 325 *e*P **P** **19 22 10.9 +0.3**
STU Stuttgart 85.12 325 *e*P **P** **19 22 11.2 +0.7**
comp=Z,186nm,1.2s,baz=48,slow=5.2
STU *e*pP **pP** **19 22 46.4 +2.2**
SQTA Sankt Quirin 85.13 323 *i* P **P** **19 22 10.8 0.0**
comp=Z,4.0nm,0.6s,SNR=5.7
RETA Reutte 85.19 324 *i* P **P** **19 22 11.2 +0.2**
comp=Z,7.4nm,0.8s,SNR=8.8
PNTR Pine Nut 85.22 47 IAmb IAmb 19 22 14.9
comp=Z,129nm,1.8s
BTNL Ternell 85.34 328 *d*P **P** **19 22 11.5 -0.1**
comp=Z,19nm,1.0s
MEM Membach 85.38 328 *d*P **P** **19 22 11.8 0.0**
MEM *d*PcP **PcP** **19 22 14.3 -0.3**
MEM *d*pP **pP** **19 22 43.6 -1.8**
UBR Ueberruh 85.39 324 *e*P **P** **19 22 12.7 +0.7**
comp=Z,32nm,1.3s,baz=48,slow=5.2
UBR *e*pP **pP** **19 22 48.1 +2.5**
BEBN Eben Emael 85.40 328 *d*P **P** **19 22 12.1 +0.3**
YERR Yerington 85.50 47 P **P** **19 22 13.5 +0.6**
ANKE Ethiopia-Afar 85.51 278 *e*P **P** **19 22 15.6 +2.1**
FETA Feichten 85.51 323 *i* P **P** **19 22 11.5 -1.2**
comp=Z,4.6nm,0.9s,SNR=6.9
BHOU Houvegnez 85.56 328 *d*P **P** **19 22 13.2 +0.5**
comp=Z,20nm,1.4s
BSTI Sart Tilman 85.60 328 *d*P **P** **19 22 13.2 +0.4**
comp=Z,5.6nm,1.0s
HLID Hailey 85.63 41 IAmb IAmb 19 22 17.3
comp=Z,41nm,1.1s
EKA Eskdalemuir Ar 85.64 335 P **P** **19 22 12.1 -0.9**
comp=Z,23nm,0.9s,baz=46,slow=4.4,SNR=17
comp=Z,23nm,0.9s
WAKR Walker 85.66 47 IAmb IAmb 19 22 17.0
comp=Z,85nm,1.8s
CTI Castel Tesino 85.66 322 IAmb IAmb 19 22 15.0
comp=Z,106nm,1.4s
NUUK Nuuk 85.67 1 *i* P **P** **19 22 12.2 -0.7**
NUUK IAmb IAmb 19 22 14.9
comp=Z,57nm,0.8s
ESK Eskdalemuir 85.67 335 P **P** **19 22 12.6 -0.5**
ESK IAmb IAmb 19 22 13.8
comp=Z,55nm,1.1s
ESK Eskdalemuir 85.67 335 P **P** **19 22 12.6 -0.5**
ESK pmax pmax
comp=Z,55nm,1.1s
BBGB Big Mountain B 85.73 50 IAmb IAmb 19 22 17.2
comp=Z,36nm,1.0s
DAVA Damuels 85.77 324 *i* P **P** **19 22 14.0 0.0**
comp=Z,31nm,1.5s,SNR=10
BCLA Clavier 85.83 328 *d*P **P** **19 22 13.9 -0.1**
comp=Z,14nm,1.3s
BFO Black Forest 85.85 325 P **P** **19 22 13.9 -0.3**
BFO IAmb IAmb 19 22 15.6
comp=Z,96nm,1.5s
BFO pP **pP** **19 22 46.3 -1.5**
BFO Black Forest 85.85 325 P **P** **19 22 13.9 -0.3**
BFO *PP **pP** **19 22 46.3 -1.5**
BFO pmax pmax
comp=Z,97nm,1.5s
BFO Black Forest 85.85 325 *e*P **P** **19 22 14.9 +0.8**
comp=Z,29nm,1.1s,baz=48,slow=5.2
BOZ Bozeman (W) 85.88 38 IAmb IAmb 19 22 17.3
comp=Z,30nm,0.9s
BMN Battle Mountai 85.90 45 IAmb IAmb 19 22 19.2
comp=Z,52nm,1.3s
BGES Gesves 85.96 328 *d*P **P** **19 22 14.5 -0.2**
comp=Z,13nm,1.2s
WLF Walferdange 85.97 327 *e*P **P** **19 22 15.7 +1.0**
comp=Z,82nm,1.1s,baz=48,slow=5.2
WLF Walferdange 85.97 327 *d*P **P** **19 22 15.2 +0.5**
comp=Z,49nm,1.2s
UCC Uccle 85.99 329 *d*P **P** **19 22 14.0 -0.8**
FUORN Ofenpass-Fuorn 86.01 323 P **P** **19 22 15.1 -0.3**
RCHB Rochefort 86.05 328 *d*P **P** **19 22 14.5 -0.6**
comp=Z,30nm,1.0s
DAVOX Davos/Dischmat 86.11 323 LR LR 20 06 25.2
comp=Z,272nm,18.6s,baz=50,slow=40
BMRD Maredsous 86.16 328 *d*P **P** **19 22 15.8 +0.1**
comp=Z,21nm,1.2s
RYN Ryan 86.17 47 IAmb IAmb 19 22 19.5
comp=Z,66nm,1.6s
MATE Matera 86.18 316 *e*P **P** **19 22 16.1 +0.3**
MATE Matera 86.18 316 ⇑P **P** **19 22 16.7 +0.8**
KVN Kaiserville 86.18 46 IAmb IAmb 19 22 19.6
comp=Z,47nm,1.2s
DOU Dourbes 86.39 328 *d*P **P** **19 22 16.3 -0.4**
comp=Z,18nm,1.3s
LHV Little Huntoon 86.40 47 IAmb IAmb 19 22 21.9
comp=Z,49nm,1.2s
NVAR Mina Array Bea 86.42 47 P **P** **19 22 18.5 +1.1**
NVAR **pP** **19 22 49.4 -1.8**
NVAR Mina Array Bea 86.42 47 P **P** **19 22 18.8 +1.3**
comp=Z,8.8nm,0.8s,baz=289,slow=4.6,SNR=31
NVAR pP **pP** **19 22 51.5 +0.4**
comp=Z,4.5nm,0.7s,baz=302,slow=5.8,SNR=5.6
NVAR LR LR 19 53 24.5
comp=Z,93nm,21.4s,baz=274,slow=30
comp=Z,8.8nm,0.8s
OMMB Old Mammoth Mi 86.46 48 P **P** **19 22 18.4 +0.7**
OMMB pP **pP** **19 22 44.9 -6.7**
ECH Echery 86.50 326 IAmb IAmb 19 22 18.5
comp=Z,99nm,1.7s
TUE Stuetta 86.58 323 P **P** **19 22 18.0 -0.1**
comp=Z,110nm,1.2s
YHL Hebgen Lake 86.60 39 IAmb IAmb 19 22 22.1
comp=Z,86nm,1.3s
WLRA Wolmera 86.64 279 *e*P **P** **19 22 20.9 +1.9**
YHB Horse Butte 86.66 39 IAmb IAmb 19 22 22.3
comp=Z,53nm,0.9s
FDMO Fiordimonte 86.81 319 P **P** **19 22 19.1 +0.1**
YMR Madison River 86.84 39 IAmb IAmb 19 22 23.4
comp=Z,61nm,1.1s
ELK Elko 86.90 44 LR LR 19 55 39.1
comp=Z,34nm,21.7s,baz=300,slow=32
INTR Introdacqua 86.99 318 IAmb IAmb 19 22 22.3
comp=Z,44nm,1.1s
TIP Timpagrande 87.04 314 P **P** **19 22 20.0 -0.2**
TIP Timpagrande 87.04 314 ⇑P **P** **19 22 21.6 +1.4**
TIP Timpagrande 87.04 314 P **P** **19 22 21.5 +1.3**
comp=Z,56nm,1.8s
TPH Tonopah 87.31 47 P **P** **19 22 22.0 +0.2**
TPH Tonopah 87.31 47 P **P** **19 22 22.0 +0.2**
TPH pmax pmax
comp=Z,161nm,1.1s
FLWY Flagg Ranch 87.37 39 IAmb IAmb 19 22 26.3
comp=Z,55nm,0.8s
RLMT Red Lodge 87.44 38 IAmb IAmb 19 22 26.6
comp=Z,63nm,1.1s
FXWY Fox Creek 87.48 40 IAmb IAmb 19 22 26.5
comp=Z,41nm,1.2s
TPAW Teton Pass 87.62 40 IAmb IAmb 19 22 27.1
comp=Z,38nm,0.9s
DGMT Dagmar 87.65 33 P **P** **19 22 23.4 +0.5**
HVU Hansel Valley 87.70 42 IAmb IAmb 19 22 27.3
comp=Z,38nm,1.1s
SENIN Lac Senin/Sane 87.70 324 IAmb IAmb 19 22 27.4
comp=Z,41nm,0.9s
AHID Auburn Hatcher 88.01 40 P **P** **19 22 25.3 +0.3**
AHID IAmb IAmb 19 22 28.4
comp=Z,32nm,1.1s
AHID **pP** **19 22 54.5 -4.4**

BGU Big Grassy Mou 88.09 43 P **P** **19 22 25.2 -0.1**
BGU IAmb IAmb 19 22 29.3
comp=Z,47nm,1.6s
R11B Troy Canyon, C 88.17 46 P **P** **19 22 27.2 +1.4**
baz=308
SPUT South Promonto 88.19 42 IAmb IAmb 19 22 29.7
comp=Z,35nm,1.3s
Q12A Willow Creek R 88.21 45 IAmb IAmb 19 22 29.7
comp=Z,51nm,1.7s
DILA Dilla 88.32 276 *e*P **P** **19 22 28.9 +2.1**
HWUT Hardware Ranch 88.50 41 P **P** **19 22 28.1 +0.8**
DUG Dugway, Tooele 88.69 43 IAmb IAmb 19 22 32.0
comp=Z,58nm,1.4s
GRD1 Great Renaissa 88.71 282 *e*P **P** **19 22 28.9 +0.4**
PD31 Pinedale Array 88.86 39 IAmb IAmb 19 22 31.9
comp=Z,32nm,0.9s
PDAR Pinedale Array 88.86 39 P **P** **19 22 29.6 +0.5**
PDAR Pinedale Array 88.86 39 P **P** **19 22 29.4 +0.4**
comp=Z,21nm,0.8s,baz=324,slow=0.8,SNR=150
PDAR PKKPbc **PKKPbc** **19 40 07.5 +0.1**
comp=Z,0.5nm,0.5s,baz=116,slow=3.6,SNR=6.0
PDAR LR LR 20 04 01.1
comp=Z,27nm,19.6s,baz=314,slow=37
comp=Z,21nm,0.8s
TCUT Toone Canyon 88.91 42 IAmb IAmb 19 22 32.5
comp=Z,47nm,1.0s
CTU Camp Tracy 88.99 42 IAmb IAmb 19 22 33.2
comp=Z,35nm,1.2s
JLU Jordanelle 89.22 42 P **P** **19 22 31.1 +0.3**
NLU North Lily Min 89.28 43 IAmb IAmb 19 22 34.8
comp=Z,39nm,1.2s
MPU Maple Canyon 89.49 43 IAmb IAmb 19 22 36.5
comp=Z,50nm,1.2s
VAE Valguarnera 89.54 314 LR LR 20 09 39.3
comp=Z,172nm,18.1s,baz=51,slow=40
BSUT Blindstream Ca 89.66 42 P **P** **19 22 34.3 +1.3**
BSUT IAmb IAmb 19 22 37.7
comp=Z,40nm,1.2s
ULM Lac du Bonnet 89.92 27 P **P** **19 22 34.1 +0.6**
comp=Z,95nm,0.9s,baz=319,slow=4.8,SNR=83
ULM LR LR 20 05 08.4
comp=Z,63nm,19.0s,baz=5.0,slow=37
comp=Z,95nm,0.9s
MSU Marysvale 90.14 44 P **P** **19 22 36.6 +1.6**
MSU Marysvale 90.14 44 P **P** **19 22 36.7 +1.6**
TMUT Trail Mountain 90.21 43 IAmb IAmb 19 22 39.4
comp=Z,29nm,1.3s
RDMU Red Mountain 90.32 41 IAmb IAmb 19 22 38.9
comp=Z,35nm,1.0s
MTPU Mount Pierson 90.44 44 IAmb IAmb 19 22 41.1
comp=Z,44nm,1.5s
LCMT Little Creek M 90.45 46 IAmb IAmb 19 22 40.2
comp=Z,31nm,1.6s
Q16A Castle Valley 90.48 43 P **P** **19 22 38.6 +2.0**
PFO Pinyon Flats O 90.51 50 P **P** **19 22 37.6 +0.8**
PFO Pinyon Flats O 90.51 50 LR LR 19 55 30.2
comp=Z,120nm,20.8s,baz=304,slow=30
PFO Pinyon Flats O 90.51 50 P **P** **19 22 37.6 +0.8**
PFO pmax pmax
comp=Z,10.0nm,1.2s
KNB Kanab 90.71 45 IAmb IAmb 19 22 41.2
comp=Z,26nm,1.0s
SRU San Rafael Swe 90.73 43 P **P** **19 22 38.9 +1.1**
SRU IAmb IAmb 19 22 41.2
comp=Z,34nm,0.9s
SRU San Rafael Swe 90.73 43 P **P** **19 22 38.9 +1.1**
SRU pmax pmax
comp=Z,34nm,0.9s
PKCU Pink Cliffs 90.75 45 IAmb IAmb 19 22 42.4
comp=Z,30nm,1.3s
PPT Papeete 90.75 110 LR LR 19 58 02.7
comp=Z,104nm,20.0s,baz=360,slow=32
PPT2 Papeete2 90.76 110 *e*P **P** **19 22 38.8 +0.8**
comp=Z,142nm,26.5s
PPT2 Papeete2 90.76 110 *e*PP **PP** **19 26 16.7 +1.1**
comp=Z,76nm,27.2s
PPT2 *e*S **S** **19 33 23.0 -0.4**
comp=Z,354nm,26.2s
PPT2 Papeete2 90.76 110 *e*LQ LQ 19 47 44.4
comp=Z,1μm,43.0s
PPT2 *e*LR LR 19 51 21.1
comp=Z,286nm,27.5s
PPT2 *e*LR LR 19 51 22.3
comp=Z,231nm,45.0s
O20A White River Ci 91.36 41 IAmb IAmb 19 22 43.9
comp=Z,42nm,1.0s
U15A North Rim 91.42 46 IAmb IAmb 19 22 45.9
comp=Z,43nm,1.4s
YUH Yuha Desert 91.46 50 P **P** **19 22 42.1 +1.1**
AGMN Agassiz Nation 91.46 29 IAmb IAmb 19 22 43.0
comp=Z,53nm,1.4s
N23A Red Feather La 92.11 39 P **P** **19 22 46.2 +1.9**
baz=314
Y14A Wickenburg 92.56 48 IAmb IAmb 19 22 50.3
comp=Z,33nm,1.4s
WUAZ Wupatki 92.57 46 P **P** **19 22 46.9 +0.6**
WUAZ IAmb IAmb 19 22 50.8
comp=Z,40nm,1.2s
KIBK Kibwezi 92.93 269 P **P** **19 22 48.8 +0.6**
SNR=5.4
KMBO Kilima Mbogo 93.01 270 P **P** **19 22 48.3 -0.4**
KMBO Kilima Mbogo 93.01 270 P **P** **19 22 48.5 -0.3**
comp=Z,2.2nm,0.7s,baz=60,slow=6.5,SNR=10
comp=Z,2.2nm,0.7s
KMBO Kilima Mbogo 93.01 270 *i* P **P** **19 22 49.4 +0.7**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
X16A Lo Mia Camp, P 93.24 47 IAmb IAmb 19 22 53.4
comp=Z,16nm,1.1s
EYMN Ely 93.49 27 IAmb IAmb 19 22 52.1
comp=Z,26nm,0.9s
ABPO Ambohimpanom 93.54 250 P **P** **19 22 50.6 -0.3**
ABPO IAmb IAmb 19 22 52.0
comp=Z,42nm,1.4s
ABPO Ambohimpanom 93.54 250 P **P** **19 22 50.6 -0.3**
ABPO pmax pmax
comp=Z,42nm,1.5s
KEST Kesra 93.77 316 P **P** **19 22 51.2 -0.5**
comp=Z,11nm,1.0s,baz=337,slow=6.8,SNR=5.1
KEST LR LR 20 11 37.0
comp=Z,170nm,18.3s,baz=27,slow=40
comp=Z,11nm,1.0s
S22A 4UR Ranch, Cre 93.80 42 P **P** **19 22 53.8 +1.8**
baz=314
SCHQ Schefferville 93.81 10 P **P** **19 22 51.4 0.0**
comp=Z,12nm,1.0s,baz=11,slow=7.2,SNR=5.3
SCHQ LR LR 20 09 03.2
comp=Z,81nm,19.7s,baz=298,slow=38
comp=Z,12nm,1.0s
TBI Tubuai 93.86 115 *e*P **P** **19 22 52.0 0.0**
comp=Z,807nm,35.0s
TBI Tubuai 93.86 115 *e*PP **PP** **19 26 35.9 -3.8**
comp=Z,1μm,36.2s
TBI *e*S **S** **19 33 42.9 -7.7**
comp=Z,1μm,25.8s
TBI Tubuai 93.86 115 *e*LQ LQ 19 48 50.1
comp=Z,1μm,37.8s
TBI *e*LR LR 19 52 55.4
comp=Z,760nm,33.2s
TBI *e*LR LR 19 53 09.6
comp=Z,3μm,36.5s
Q24A Divide 93.90 40 P **P** **19 22 53.8 +1.3**
baz=315
K30B Basset 94.09 34 P **P** **19 22 53.1 +0.2**
X18A Snowflake 94.10 46 P **P** **19 22 53.2 -0.2**
ECSD EROS Data Cent 94.69 32 IAmb IAmb 19 22 58.9
comp=Z,12nm,0.9s
SPMN Marine on St. 95.18 29 P **P** **19 22 57.7 -0.2**
SPMN IAmb IAmb 19 22 59.7
comp=Z,20nm,0.8s
T25A Trinidad 95.60 41 P **P** **19 23 01.8 +1.6**
baz=315
ANMO Albuquerque 95.94 44 P **P** **19 23 02.2 +0.4**
ANMO Albuquerque 95.94 44 LR LR 20 11 24.2
comp=Z,32nm,18.2s,baz=118,slow=38
ANMO Albuquerque 95.94 44 *c*e*P* **P** **19 23 02.9 +1.1**
ANMO pmax pmax
comp=Z,1.0nm,1.0s
ESDC Sonseca Array 98.20 326 P **P** **19 23 09.8 -1.9**
ESDC Sonseca Array 98.20 326 P **P** **19 23 10.5 -1.2**
comp=Z,3.5nm,0.9s,baz=33,slow=3.6,SNR=9.4
ESDC PKiKP **PKiKP** **19 27 45.2 +1.4**
comp=Z,3.6nm,1.1s,baz=38,slow=6.1,SNR=6.5
ESDC LR LR 20 10 51.4
comp=Z,149nm,18.9s,baz=24,slow=37
comp=Z,3.5nm,0.9s
MBAR Mbarara 98.36 274 P **P** **19 23 11.7 -1.3**

MBAR IAmb IAmb 19 23 14.4
comp=Z,9.0nm,1.1s
MBAR Mbarara 98.36 274 LR LR 20 09 13.3
comp=Z,69nm,21.8s,baz=62,slow=36
MBAR Mbarara 98.36 274 P Pdif 19 23 13.7 +0.6
MBAR Mbarara 98.36 274 P **P** **19 23 11.7 -1.3**
MBAR pmax pmax
comp=Z,9.0nm,1.2s
TXAR Lajitas Array 101.54 46 Pdiff **Pdif** **19 23 28.0 +1.2**
comp=Z,1.4nm,0.9s,baz=314,slow=3.8,SNR=10.0
TXAR PP **PP** **19 27 32.8 -4.8**
comp=Z,0.3nm,0.8s,baz=279,slow=1.7,SNR=3.1
TXAR PKKPbc **PKKPbc** **19 39 33.1 -0.4**
comp=Z,0.5nm,0.8s,baz=159,slow=3.9,SNR=5.9
MAW Mawson 109.74 202 PKKPbc PKKPbc 19 39 07.6 -2.1
comp=Z,3.0nm,0.8s,baz=256,slow=4.2,SNR=6.5
TORD Torodi Ar. Bea 114.10 303 PKP PKPdf 19 28 13.1 -0.6
comp=Z,3.9nm,1.0s,baz=3.4,slow=4.9,SNR=13
TORD SKP 19 31 37.4
comp=Z,2.3nm,1.0s,baz=15,slow=3.8,SNR=5.4
TORD PKKPbc **PKKPbc** **19 38 55.5 +1.7**
comp=Z,0.5nm,0.6s,baz=186,slow=1.6,SNR=4.2
BOSA Boshof 115.76 251 PKP **PKPdf** **19 28 15.8 -0.9**
comp=Z,2.3nm,0.6s,baz=98,slow=1.4,SNR=5.3
QSPA South Pole Qui 120.22 180 PKPdf **PKiKP** **19 28 24.1 0.0**
QSPA South Pole Qui 120.22 180 PKP **PKPdf** **19 28 23.6 -0.3**
comp=Z,8.7nm,1.0s,baz=310,slow=1.6,SNR=10
DBIC Dimbokro 123.20 303 PKP **PKPdf** **19 28 30.6 -0.7**
comp=Z,18nm,1.0s,baz=14,slow=1.9,SNR=16
DBIC SKP 19 31 53.0
comp=Z,4.1nm,1.0s,baz=349,slow=10,SNR=3.0
ACON Acoyapa 125.88 44 **PKPdf** **19 28 34.8 -1.5**
PDPR Patillas Dam, 129.37 20 **PKPdf** **19 28 41.2 -1.7**
TROLL Troll, Antarti 130.01 199 ⇑PKPdf **PKiKP** **19 28 43.5 +0.1**
comp=Z,370nm,0.7s
TROLL ⇑SKPbc **SKPbc** **19 31 54.8 +1.7**
comp=Z,342nm,1.1s
SNAA Sanae 131.65 198 PKPdf **PKPdf** **19 28 45.7 0.0**
SNAA Sanae 131.65 198 ⇑PKPdf **PKPdf** **19 28 46.1 +0.4**
comp=Z,110nm,1.3s
SNAA ⇑SKPbc **SKPab** **19 32 00.3 +0.6**
comp=Z,102nm,0.9s
SNAA Sanae 131.65 198 PKP **PKPdf** **19 28 45.0 -0.7**
comp=Z,7.6nm,1.1s,baz=148,slow=4.6,SNR=5.8
SNAA SKPbc **SKPab** **19 31 60.0 +0.3**
comp=Z,9.5nm,0.9s,baz=122,slow=4.4,SNR=12
SNAA Sanae 131.65 198 PKIKP **PKPdf** **19 28 45.0 -0.7**
VNA2 Neumayer--Watz 133.28 198 ⇑PKPdf **PKiKP** **19 28 49.5 -0.4**
comp=Z,10nm,0.7s,baz=26,slow=5.2
VNA2 ⇑SKPbc **SKPbc** **19 32 05.6 +1.0**
comp=Z,16nm,0.8s,baz=292,slow=17
VNA3 Neumayer Olymp 133.67 197 ⇑PKPdf **PKPdf** **19 28 48.6 -0.8**
comp=Z,3.4nm,0.7s
VNA3 ⇑SKPbc **SKPbc** **19 32 05.6 -0.2**
comp=Z,8.4nm,0.9s
VNA1 Neumayer--Stat 133.68 198 ⇑SKPbc **SKPab** **19 32 07.7 -0.7**
comp=Z,21nm,1.0s
SDV Santo Domingo 136.11 30 PKPdf **PKPdf** **19 28 54.3 -1.7**
ROSC El Rosal 137.84 38 PKP **PKiKP** **19 29 00.5 -0.9**
comp=Z,11nm,0.4s,baz=260,slow=3.5,SNR=6.4
BOAV Boa Vista 145.80 19 PKPdf **PKPdf** **19 29 10.8 -2.4**
TBTG Tabatinga, AM 147.77 40 **PKPdf** **19 29 17.5 +1.1**
CZSB Cruzeiro do Su 148.91 48 **PKPdf** **19 29 18.5 +0.3**
NNA Nana 149.03 59 PKPdf **PKPdf** **19 29 15.8 -2.6**
NNA **PKPbc** **19 29 22.4 -0.2**
NNA Nana 149.03 59 PKIKP **PKPdf** **19 29 15.8 -2.6**
MAL2 Monte Alegre, 151.43 9 **PKPdf** **19 29 23.7 +1.5**
LPAZ La Paz 158.17 54 PKP **PKPdf** **19 29 32.8 +0.7**
comp=Z,3.2nm,0.9s,baz=351,slow=3.8,SNR=8.8
LPAZ PKPab **PKPab** **19 30 06.7 +0.2**
comp=Z,11nm,1.0s,baz=358,slow=6.5,SNR=9.4
PTLB Pontes e Lacer 162.83 32 **PKPdf** **19 29 36.5 +0.1**
PTLB **pPKPdf** **19 30 08.4 -3.6**
PTLB PKPab **PKPab** **19 30 25.8 -0.1**
BDFB Brasilia 165.15 353 **PKPdf** **19 29 38.5 -0.1**
BDFB **PKPab** **19 30 35.4 -0.8**
BDFB Brasilia 165.15 353 PKP **PKPdf** **19 29 38.6 -0.1**
comp=Z,9.5nm,1.1s,baz=307,slow=3.3,SNR=7.1
BDFB PKPab **PKPab** **19 30 36.1 -0.1**
comp=Z,9.4nm,0.7s,baz=20,slow=3.3,SNR=11
AQDB Aquidauana 168.77 29 **PKPdf** **19 29 41.2 +0.1**
AQDB PKPab **PKPab** **19 30 51.4 -0.7**
CPUP Villa Florida 172.29 60 PKP **PKPdf** **19 29 42.7 -0.2**
comp=Z,9.6nm,1.1s,baz=314,slow=2.3,SNR=8.3
CPUP PKPab **PKPab** **19 31 08.8 +1.2**
comp=Z,1.8nm,0.8s,baz=317,slow=7.3,SNR=2.6
CPUP PP **PP** **19 35 00.1 +1.0**
comp=Z,1.2nm,0.3s,baz=333,slow=4.2,SNR=3.3

RSNC ***20*** *19:15:27.2±1.5, 12°N±9°×7°1W±°, h1km±11km, M2.8, ML2.6*
FUNV ***20*** *19:15:31.3, 11°.13N×70°.52W, h5km, MW3.3*
ISC 20 19:15:27.7±2.2, 11°.39N±0°.06×70°.59W±0°.03, h15km±16km, n17, σ2°14/33, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**1.41**	**283**	P	**Pn**	**19 15 51.6**	**-1.3**
URIC				S	**Sn**	**19 16 09.1**	**-2.1**
JACV	**Jacura**	**1.75**	**100**	*e*P	**Pb**	**19 15 60.0**	**+0.3**
JACV				*e*S	**Sg**	**19 16 22.9**	**-1.4**
TEPV	**Terepaima**	**1.98**	**136**	*e*P	**Pn**	**19 16 01.5**	**+0.7**
TEPV				*e*S	**Sn**	**19 16 23.4**	**-1.9**
CRJC	**Cerrejon, Guaj**	**2.28**	**261**	P	**Pn**	**19 16 06.2**	**+1.3**
CRJC				S	**Sn**	**19 16 34.7**	**+1.9**
MCQV	**Machiques**	**2.33**	**235**	*e*P	**Pn**	**19 16 08.0**	**+2.4**
MCQV				*e*S	**Sn**	**19 16 36.6**	**+2.7**
SDV	**Santo Domingo**	**2.49**	**181**	P	**Pb**	**19 16 12.3**	**0.0**
SDV				S	**Sb**	**19 16 42.2**	**-0.7**
MAPV	**Macapo**	**2.61**	**126**	*e*P	**Pn**	**19 16 10.9**	**+1.5**
MAPV				*e*S	**Sn**	**19 16 39.5**	**-1.4**
TURV	**Turiamo**	**2.86**	**109**	*e*P	**Pn**	**19 16 13.2**	**+0.3**
TURV				*e*S	**Sn**	**19 16 47.0**	**0.0**
SOCV	**Socops**	**3.10**	**185**	*e*P	**Pn**	**19 16 16.8**	**+0.6**
SOCV				*e*S	**Sn**	**19 16 49.6**	**-3.4**
BENV	**Beln**	**3.27**	**116**	*e*P	**Pn**	**19 16 19.8**	**+1.3**
BENV				*e*S	**Sn**	**19 16 55.8**	**-1.4**
BAUV	**El Baul**	**3.50**	**134**	*e*P	**Pn**	**19 16 22.8**	**+1.2**
BAUV				*e*S	**Sn**	**19 16 59.8**	**-3.0**
TACV	**Tcata**	**3.72**	**109**	*e*P	**Pn**	**19 16 26.4**	**+1.7**
TACV				*e*S	**Sn**	**19 17 07.2**	**-1.1**
CAPV	**Capacho**	**3.90**	**206**	*e*P	**Pn**	**19 16 28.2**	**+0.8**
CAPV				*e*S	**Sn**	**19 17 10.6**	**-2.3**
ARGC	**Ariguani, Magd**	**3.90**	**247**	P	**Pn**	**19 16 28.5**	**+1.3**
ARGC				S	**Sn**	**19 17 09.0**	**-3.8**
PAMC	**Pamplona, Colo**	**4.53**	**208**	P	**Pn**	**19 16 39.6**	**+3.3**
PAMC				S	**Sn**	**19 17 27.4**	**-1.6**
CACV	**CAICARA DEL OR**	**5.52**	**133**	*e*P	Pn	19 16 55.0	+5.6
CACV				*e*S	**Sn**	**19 17 57.5**	**+4.9**
PCRV	**Puerto La Cruz**	**5.97**	**101**	*e*P	**Pn**	**19 16 57.8**	**+2.0**
PCRV				*e*S	**Sn**	**19 18 02.3**	**-1.7**

DJA ***20*** *19:19:45.9±0.7, 3°N±4°×12°8E±°, h10km, M4.5/12, mb4.7/7, mB4.9/6, MLv4.6/12, Mw(mB)4.2/6*
NEIC ***20*** *19:19:46.2±2.0, 3°.32N±0°.06×128°.16E±0°.10, h57km±7km, mb4.6/59, Error ellipse: s-maj=14.0km s-min=9.2km az=77.0*
IDC ***20*** *19:19:52.0±2.2, 3°.32N×128°.23E, h118km±20km, mb3.9/17, mbtmp4.3/18, Error ellipse: s-maj=23.2km s-min=9.8km az=76.0*
ISC 20 19:19:49.3±0.4, 3°.22N±0°.05×128°.11E±0°.08, h100km, n104, σ1°60/105, mb4.4/43, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.54**	**197**	Pn	**Pn**	**19 20 27.6**	**-1.3**
TNTI	**Ternate**	**2.54**	**197**	P	**Pn**	**19 20 28.4**	**-0.6**
DAV	**Davao City (W)**	**4.59**	**327**	Pn	**Pn**	**19 20 53.0**	**-3.5**
DAV	**Davao City (W)**	**4.59**	**327**	P	**Pn**	**19 20 59.5**	**+3.1**
	213nm,0.4s,baz=76,slow=19,SNR=3.6						
DAV				S	**Sn**	**19 21 52.6**	**+3.9**
	188nm,0.4s,baz=56,slow=7.3,SNR=2.2						
KMSI	**Cibinong**	**4.89**	**238**	P	**Pn**	**19 21 00.2**	**-0.4**
SANI	**Sanana**	**5.64**	**202**	P	**Pn**	**19 21 09.8**	**-1.0**
MRSI	**Marisa**	**6.74**	**246**	P	**Pn**	**19 21 25.4**	**-0.3**
LUWI	**Luwuk**	**6.81**	**232**		**Pn**	**19 21 25.6**	**-1.0**
LUWI	**Luwuk**	**6.81**	**232**	P	**Pn**	**19 21 28.0**	**+1.3**
	35nm,0.6s,873nm0.6nm						
TOLI2	**Tolitoli**	**7.62**	**254**	Pn	**Pn**	**19 21 35.0**	**-2.7**
APSI	**Ampana**	**7.65**	**238**	P	**Pn**	**19 21 39.1**	**+1.0**
	92nm,1.0s,0.3nm						
BNDI	**Bandanaira**	**7.89**	**167**	P	Pn	19 21 59.6	+18

KDI	Kendari	8.99	218	P	Pn	19 21 55.0	-1.4
MYLDM	Lahad Datu	9.78	282	Pn	Pn	19 22 04.9	-2.3
SAUI	Saumlaki	11.57	164	Pn	Pn	19 22 29.8	-1.5
KKM	Kota Kinabalu	12.19	284	Pn	Pn	19 22 37.6	-2.1
SOEI	Soe	13.44	197	Pn	Pn	19 22 54.7	-1.5
SBUM	Sibu	15.89	268	P	Pn	19 23 28.0	+0.6
MTN	Manton Dam	16.23	169		Pn	19 23 31.3	-0.3
MTN				IAmb	IAmb	19 23 42.3	
	comp=Z,13nm,0.4s						
KSM	Kuching	17.87	265	P	P	19 23 49.4	-1.6
KNRA	Kununurra	18.78	178		P	19 23 59.0	-1.8
MANU	Manus Island	19.94	105	P	P	19 24 10.1	-3.5
MANU				IAmb	IAmb	19 24 54.0	
	comp=Z,51nm,1.3s						
SMRI	Semarang	20.38	240	P	P	19 24 17.1	-1.1
TWG	Pinlang	20.65	341	P	P	19 24 17.5	-3.5
TWG				IAmb	IAmb	19 24 53.5	
	comp=Z,60nm,1.4s						
UGM	Wanagama	20.74	238	P	P	19 24 19.1	-3.0
YULB	Yu-li	21.11	342	P	P	19 24 21.5	-4.5
YULB				IAmb	IAmb	19 24 49.6	
	comp=Z,16nm,1.0s						
TPUB	Ta-pu	21.24	341	P	P	19 24 24.6	-2.8
TPUB				IAmb	IAmb	19 24 28.6	
	comp=Z,14nm,0.7s						
FITZ	Fitzroy Crossi	21.32	186	P	P	19 24 27.6	-0.7
FITZ	Fitzroy Crossi	21.32	186	P	P	19 24 29.0	+0.8
	comp=Z,1.5nm,0.6s,baz=71,slow=13,SNR=2.0						
	comp=Z,1.5nm,0.6s						
SSLB	Suanglung	21.59	342	P	P	19 24 28.7	-2.4
YHNB	Yeheng	22.30	344	P	P	19 24 35.8	-2.9
WB0	Warramunga Arr	23.66	165		P	19 24 51.3	-0.6
WB0				IAmb	IAmb	19 24 54.9	
	comp=Z,11nm,0.8s						
WRAB	Tennant Creek	23.81	165	P	P	19 24 53.1	0.0
WRA	Warramunga Arr	23.81	165	P	P	19 24 54.5	+1.4
	comp=Z,3.8nm,0.5s,baz=345,slow=9.8,SNR=20						
	comp=Z,3.8nm,0.5s						
WB2	Warramunga Arr	23.82	165		P	19 24 53.5	+0.2
WR0	Warramunga Arr	23.88	165	P	P	19 24 54.5	+0.7
AS31	Alice Springs	27.31	168	P	P	19 25 25.0	+0.2
ASAR	Alice Springs	27.31	168	P	P	19 25 25.4	+0.7
ASAR	Alice Springs	27.31	168	P	P	19 25 26.6	+1.9
	comp=Z,1.3nm,0.5s,baz=355,slow=8.0,SNR=30						
ASAR				PcP	PcP	19 28 43.5	+1.4
	comp=Z,0.6nm,0.5s,baz=344,slow=2.0,SNR=6.3						
	comp=Z,1.3nm,0.5s						
PHRA	Phrae	31.23	301	P	P	19 26 01.2	+1.6
CM31	Chiang Mai Arr	32.32	300	P	P	19 26 10.1	+0.9
CM31				IAmb	IAmb	19 26 11.9	
	comp=Z,4.3nm,0.8s						
CMAR	Chiang Mai Arr	32.32	300	P	P	19 26 10.1	+0.9
CMAR	Chiang Mai Arr	32.32	300	P	P	19 26 11.1	+1.9
	comp=Z,1.9nm,0.7s,baz=122,slow=7.2,SNR=19						
	comp=Z,1.9nm,0.7s						
CHTO	Chiang Mai	32.47	301	P	P	19 26 11.4	+0.9
CHTO				IAmb	IAmb	19 26 12.9	
	comp=Z,3.8nm,0.7s						
KSRS	Korea Array	34.08	360	P	P	19 26 22.8	-1.3
	comp=Z,1.1nm,0.6s,baz=181,slow=9.3,SNR=4.5						
	comp=Z,1.1nm,0.6s						
MORW	Morawa	34.13	199	P	P	19 26 25.2	+0.5
PZH	PanZhiHua	34.28	315	P	P	19 26 29.1	+2.9
PZH				pmax	pmax		
	comp=Z,6.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.6s						
MJAR	Matsushiro Arr	34.45	14	P	P	19 26 25.4	-2.0
	comp=Z,1.5nm,0.5s,baz=183,slow=9.8,SNR=8.1						
	comp=Z,1.5nm,0.5s						
MAJO	Matsushiro	34.45	14	P	P	19 26 25.6	-1.8
MAJO				IAmb	IAmb	19 26 27.8	
	comp=Z,8.6nm,0.9s						
MJB9	Matsu-Tunnel	34.45	14	P	P	19 26 25.9	-1.5
MJB9				IAmb	IAmb	19 26 27.7	
	comp=Z,8.0nm,0.9s						
XAN	Xi'an	35.51	332	eP	P	19 26 39.8	+3.2
JMM	Marumori	36.39	17	P	P	19 26 44.1	+0.1
BBOO	Buckleboo	36.61	169	P	P	19 26 47.3	+1.3
STKA	Stephens Creek	37.18	161	P	P	19 26 52.0	+1.2
STKA	Stephens Creek	37.18	161	P	P	19 26 52.6	+1.9
	comp=Z,3.7nm,0.5s,baz=346,slow=8.3,SNR=24						
	comp=Z,3.7nm,0.5s						
NWAO	Narrogin (SRO)	37.39	195	P	P	19 26 53.8	+1.2
JTM	Tenmabayashi	39.19	16	P	P	19 27 07.6	+0.1
LZH	Lanzhou	39.65	329	eP	P	19 27 08.8	-2.9
LZH				pP	pP	19 27 23.8	-10
LZH				pmax	pmax		
	comp=Z,12nm,1.2s						
USRK	Ussuriysk Ar.	40.96	4	P	P	19 27 22.0	-0.1
USRK	Ussuriysk Ar.	40.96	4	P	P	19 27 22.4	+0.4
	comp=Z,3.5nm,0.7s,baz=185,slow=8.7,SNR=5.8						
	comp=Z,3.5nm,0.7s						
SHL	Shillong	41.29	306	P	P	19 27 25.6	+0.2
SHL				IAmb	IAmb	19 27 27.8	
	comp=Z,12nm,0.6s						
MGBR	Mount Gambier	42.34	165	P	P	19 27 35.0	+1.5
ASAJ	Asahikawa	42.70	15	P	P	19 27 37.5	+1.2
	comp=Z,4.9nm,0.6s,baz=241,slow=8.4,SNR=9.1						
	comp=Z,4.9nm,0.6s						
JKA	Kamikawa-asahi	42.70	15	P	P	19 27 36.6	+0.3
JKA				IAmb	IAmb	19 27 38.1	
	comp=Z,22nm,1.1s						
KLR	Kul'dur	45.95	3	P	P	19 28 01.8	-0.3
	comp=Z,2.0nm,0.5s,baz=209,slow=8.4,SNR=9.2						
	comp=Z,2.0nm,0.5s						
SONM	Songino Array	48.23	340	P	P	19 28 20.0	-0.1
	comp=Z,0.5nm,0.5s,baz=157,slow=5.5,SNR=4.1						
	comp=Z,0.5nm,0.5s						
PETK	Petropavlovsk-	55.40	21	P	P	19 29 13.9	+0.9
	comp=Z,4.8nm,0.8s,baz=167,slow=5.0,SNR=4.6						
	comp=Z,4.8nm,0.8s						
MK31	Makanchi Array	58.77	325	P	P	19 29 37.5	+0.5
MK31				IAmb	IAmb	19 29 38.9	
	comp=Z,3.6nm,0.6s						
MKAR	Makanchi Array	58.77	325	P	P	19 29 38.0	+1.0
MKAR	Makanchi Array	58.77	325	P	P	19 29 37.8	+0.8
	comp=Z,5.0nm,0.5s,baz=116,slow=8.3,SNR=118						
	comp=Z,5.0nm,0.5s						
MAKZ	Makanchi	58.95	325	P	P	19 29 38.5	+0.2
PRZ	Przheval'sk	59.00	319	P	P	19 29 40.6	+1.8
KDJ	Kajisay	59.65	318	P	P	19 29 44.5	+1.2
KDJ				IAmb	IAmb	19 29 45.9	
	comp=Z,4.9nm,0.6s						
AAK	Ala-Archa	61.67	318	P	P	19 29 57.7	+0.7
ZALV	Zalesovo Beam	61.67	333	P	P	19 29 56.3	-0.3
	comp=Z,1.0nm,0.7s,baz=98,slow=9.1,SNR=4.0						
	comp=Z,1.0nm,0.7s						
ARSB	Arslanbob	62.19	316	P	P	19 30 01.7	+1.2
KURBB	Kurchatov Arra	62.92	327	P	P	19 30 05.4	+0.4
	comp=Z,4.3nm,0.7s,baz=126,slow=6.2,SNR=30						
	comp=Z,4.3nm,0.7s						
KURK	Kurchatov	62.92	327	P	P	19 30 05.4	+0.5
BTK	Batken	63.27	314	P	P	19 30 09.0	+1.4
BTK				IAmb	IAmb	19 30 09.6	
	comp=Z,2.5nm,0.6s						
GAR	Garm	63.29	312	P	P	19 30 08.0	+0.2
SIMJ	Simiganj	64.15	312	P	P	19 30 14.1	+0.6
SIMJ				IAmb	IAmb	19 30 54.1	
	comp=Z,8.1nm,1.5s						
KKAR	Karatay Array	64.55	317	P	P	19 30 16.0	+0.1
KKAR	Karatay Array	64.55	317	P	P	19 30 16.5	+0.6
BVAR	Borovoye Array	68.50	327	P	P	19 30 41.0	+0.2
	comp=Z,2.6nm,0.6s,baz=126,slow=7.5,SNR=10						
	comp=Z,2.6nm,0.6s						
BRVK	Borovoye	68.58	327	P	P	19 30 41.8	+0.5
BRVK				IAmb	IAmb	19 30 59.4	
	comp=Z,7.3nm,1.2s						
ABKAR	Akbulak array	73.42	321	P	P	19 31 10.8	+0.1
ABKAR	Akbulak array	73.42	321	P	P	19 31 10.7	+0.1
ARTI	Arti	76.19	328	P	P	19 31 26.2	-0.2
ARTI				IAmb	IAmb	19 31 35.6	
	comp=Z,4.1nm,1.0s						
N17K	Nushagak Hills	79.70	29	P	P	19 31 48.4	+2.6
C19K	Lookout Ridge	80.74	20	P	P	19 31 52.3	+0.9
C19K				IAmb	IAmb	19 32 03.0	
	comp=Z,16nm,1.4s						
D19K	Kuna River	81.10	21	P	P	19 31 54.3	+1.1
D19K				IAmb	IAmb	19 32 12.6	
	comp=Z,16nm,1.5s						
IMAR	Indian Mountai	82.25	24	P	P	19 31 59.5	+0.2
B22K	Teshekpuk Lake	83.11	20	P	P	19 32 05.5	+1.9
B22K				IAmb	IAmb	19 32 24.5	
	comp=Z,15nm,1.4s						
E22K	Anaktuvuk Pass	83.33	22	P	P	19 32 06.6	+1.7
E22K				IAmb	IAmb	19 32 07.0	
	comp=Z,6.2nm,1.4s						
MLY	Manley	83.36	25	P	P	19 32 05.7	+0.6
MLY				IAmb	IAmb	19 32 07.7	
	comp=Z,5.4nm,1.4s						
G23K	Bananza Creek	83.84	23	P	P	19 32 09.8	+2.3
C23K	Itkillik River	83.98	20	P	P	19 32 09.0	+0.9
C23K				IAmb	IAmb	19 32 11.1	
	comp=Z,6.3nm,1.2s						
C24K	Franklin Bluff	84.63	20	P	P	19 32 11.4	0.0
C24K				IAmb	IAmb	19 32 51.5	
	comp=Z,12nm,1.4s						
G24K	Hadweenzic Riv	84.85	23	P	P	19 32 14.3	+1.8
G24K				IAmb	IAmb	19 32 51.8	
	comp=Z,4.7nm,1.4s						
FYU	Fort Yukon	85.73	24	P	P	19 32 18.0	+1.1
FYU				IAmb	IAmb	19 32 35.9	
	comp=Z,2.8nm,1.1s						
FINES	FINESS Array B	92.93	332	P	P	19 32 50.7	-0.2
	comp=Z,1.9nm,0.9s,baz=71,slow=5.2,SNR=1.8						
	comp=Z,1.9nm,0.9s						
TORD	Torodi Ar. Bea	124.39	288	PKP	PKiKP	19 38 39.2	+1.2
	comp=Z,0.4nm,0.6s,baz=79,slow=1.9,SNR=2.6						
MT01	Popeta	144.56	152	PKPdf	PKPdf	19 39 15.4	+0.7
MT02	Curacav	145.11	151		PKPbc	19 39 15.1	-0.2

RSNC 20 19:25:44.2±0.0, 7°N±1°×7°3W±°, h142km±2km, M3.0, mb3.6, mB4.6, ML2.7, Mw(mB)3.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.21	189	P	Pn	19 26 03.4	-0.5
BARC				S	Sn	19 26 18.4	-0.4
BRJC	Barrancabermej	0.61	286	P	Pn	19 26 05.0	-0.3
BRJC				S	Sn	19 26 22.2	+0.9
PAMC	Pamplona, Colo	0.70	40	P	Pn	19 26 06.3	-0.1
PAMC				S	Sn	19 26 22.8	-0.5
RUSC	La Rusia	0.90	176	P	Pn	19 26 07.4	-0.6
RUSC				S	Sn	19 26 25.5	-0.5
PTBC	PUERTO BERRIO,	1.32	259	P	Pn	19 26 10.5	-0.8
PTBC				S	Sn	19 26 30.9	-1.1
TAMC	Tame, Arauca	1.40	105	P	Pn	19 26 11.8	-0.3
TAMC				S	Sn	19 26 32.9	-0.5
OCAC	Ocana	1.44	353	P	Pn	19 26 11.8	-0.9
OCAC				S	Sn	19 26 33.6	-0.9
SPBC	San Pablo de B	1.46	219	P	Pn	19 26 12.7	-0.2
SPBC				S	Sn	19 26 34.6	-0.2
ZARC	Zaragoza, Cauc	1.83	292	P	Pn	19 26 16.3	-0.6
ZARC				S	Sn	19 26 42.1	+0.2
NORC	Norcasia	2.10	234	P	Pn	19 26 20.2	0.0
NORC				S	Sn	19 26 47.5	-0.3
CHIC	Chingaza	2.23	195	P	Pn	19 26 22.3	+0.2
CHIC				S	Sn	19 26 50.7	-0.5
ROSC	El Rosal	2.27	211	P	Pn	19 26 24.2	+1.7
ROSC				S	Sn	19 26 53.5	+1.6
HELC	Santa Helena	2.44	256	P	Pn	19 26 25.5	+0.9
HELC				S	Sn	19 26 54.8	-0.7
CVER	Cruz Verde, Cu	2.44	202	P	Pn	19 26 26.1	+1.4
CVER				S	Sn	19 26 58.9	+3.0
UREC	San Jos de Ur	2.55	292	P	Pn	19 26 25.1	-0.4
UREC				S	Sn	19 26 55.7	-1.7
GUY2C	Guyana, Caldas	2.70	235	P	Pn	19 26 29.4	+1.4
GUY2C				S	Sn	19 27 01.7	+0.1
VILC	Villavicencio,	2.73	191	P	Pn	19 26 27.0	-0.9
VILC				S	Sn	19 27 00.4	-1.2
PTGC	Puerto Gaitan,	2.77	159	P	Pn	19 26 26.7	-1.7
PTGC				S	Sn	19 26 59.8	-2.8
RECRC	Villamaria, Ca	2.85	230	P	Pn	19 26 33.6	+3.7
RECRC				S	Sn	19 27 08.4	+3.3
CBOC	Ciudad Bolivar	2.99	252	P	Pn	19 26 31.6	+0.3
CBOC				S	Sn	19 27 07.4	-0.3
DBBC	Dabeiba	3.04	274	P	Pn	19 26 31.5	-0.4
DBBC				S	Sn	19 27 07.8	-1.0
ARGC	Ariguani, Magd	3.23	340	P	Pn	19 26 34.7	+0.5
ARGC				S	Sn	19 27 13.3	+0.4
SDV	Santo Domingo	3.24	50	P	Pn	19 26 33.2	-1.4
SDV				S	Sn	19 27 10.1	-3.4
PRAC	Prado	3.52	210	P	Pn	19 26 37.7	-0.4
PRAC				S	Sn	19 27 20.0	+0.2
ORTC	Ortega, Tolima	3.55	216	P	Pn	19 26 38.9	+0.5
ORTC				S	Sn	19 27 21.8	+1.3
APAC	Apartado, Choc	3.57	288	P	Pn	19 26 38.0	-0.7
APAC				S	Sn	19 27 21.3	+0.4
PLMC	San Jos del P	3.64	239	P	Pn	19 26 40.0	+0.4
PLMC				S	Sn	19 27 21.9	-0.7
SJCC	San Jacinto, C	3.67	327	P	Pn	19 26 37.8	-2.3
SJCC				S	Sn	19 27 19.5	-3.9
URMC	La Uribe, Meta	3.74	199	P	Pn	19 26 41.1	+0.2
URMC				S	Sn	19 27 25.2	+0.3
CRJC	Cerrejon, Guaj	4.20	4	P	Pn	19 26 44.0	-3.0
CRJC				S	Sn	19 27 31.0	-4.8
YOTC	Yotoco, Valle	4.24	229	P	Pn	19 26 47.3	-0.2
YOTC				S	Sn	19 27 36.2	-0.5
CAPC	Capurgana	4.55	294	P	Pn	19 26 49.3	-2.2
CAPC				S	Sn	19 27 39.7	-4.1
JAMC	Jamundi, Valle	5.00	225	P	Pn	19 26 58.6	+0.9
	4.3nm,0.8s,729nm						
JAMC				S	Sn	19 27 53.2	-1.8
	4.3nm,0.8s,729nm						
URIC	Uribia, Colomb	5.00	13	P	Pn	19 26 54.4	-3.1
URIC				S	Sn	19 27 50.8	-3.9
BBAC	Balboa, Cauca	6.26	221	P	Pn	19 27 15.4	+0.8
BBAC				S	Sn	19 28 25.2	0.0

*IDC **20** 19:33:21.9±0.7, 12°.31S×41°.25E, h0km, mb4.0/17, mbtmp4.0/20, ML3.9/3, MS3.1/1, Error ellipse: s-maj=20.8km s-min=16.6km az=94.0*
*NEIC **20** 19:33:23.0±2.7, 12°.34S±0°.04×41°.22E±0°.07, h10km±1km, mb4.5/31, Error ellipse: s-maj=13.4km s-min=3.2km az=116.0*

ISC 20 19:33:22.2±0.4, 12°.42S±0°.06×41°.29E±0°.07, h10km, n75, σ1§59/76, mb4.2/27, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	8.35	138	Pn	Pn	19 35 24.1	+0.6
	1.0nm,0.3s,baz=298,slow=14,SNR=88						
OPO				Sn	Sn	19 36 54.0	-4.0
	0.5nm,0.3s,baz=234,slow=21,SNR=3.8						
	62nm,0.7s						
ABPO	Ambohimpanom	8.70	140		Pn	19 35 29.5	+1.2
ABPO				Sn	Sn	19 37 01.1	-5.5
KIBK	Kibwezi	10.52	342	Pn	Pn	19 35 48.6	-4.6
KIBK				Sn	Sn	19 37 33.5	-18
VOI	Vohitsoka	10.80	152	Pn	Pn	19 35 57.5	+0.4
VOI				Sn	Sn	19 37 54.4	-3.7
KMBO	Kilima Mbogo	11.91	340	Pn	Pn	19 36 07.4	-5.0
	0.3nm,0.3s,baz=183,slow=14,SNR=3.9						
KMBO				Sn	Sn	19 38 09.3	-16
	0.3nm,0.3s,baz=254,slow=19,SNR=3.7						
LSZ	Lusaka	13.04	256		Pn	19 36 19.5	-8.2
FOMA	Nahampoana Res	13.60	158	Pn	Pn	19 36 32.1	-3.1
MATP	Matopo	14.62	235	Pn	Pn	19 36 49.9	+0.5
	0.1nm,0.3s,baz=59,slow=13,SNR=5.7						
MATP				Sn	Sn	19 39 29.1	-2.6
	0.2nm,0.3s,baz=62,slow=5.0,SNR=1.9						
MATP				Lg	Lg	19 40 55.4	
	0.7nm,0.3s,baz=127,slow=20,SNR=4.6						
	1.7nm,0.8s						
MBAR	Mbarara	15.73	317	Pn	Pn	19 37 00.9	-3.3
MBAR	Mbarara	15.73	317	Pn	Pn	19 37 00.9	-3.3
	0.8nm,0.3s,baz=127,slow=8.1,SNR=5.1						
MBAR				Sn	Sn	19 39 44.8	-14
	0.7nm,0.3s,baz=53,slow=20,SNR=1.6						
MBAR				LR	LR	19 42 34.7	
	comp=Z,62nm,19.0s,baz=101,slow=35						
MSEY	Mahe Island	15.99	62	Pn	Pn	19 37 07.2	-0.3
RER	Riviere de l'E	16.33	124	Pn	Pn	19 37 11.1	-0.7
RER				IAmb	IAmb	19 37 11.5	
	comp=Z,56nm,1.0s						
LODK	Lodwar	16.80	339		Pn	19 37 16.4	-1.4
POGA	Pongola	17.36	210	P	Pn	19 37 25.6	+1.0
POGA				IAmb	IAmb	19 37 55.4	
	comp=Z,26nm,1.1s						
LBTB	Lobatse	19.41	228	P	P	19 37 49.5	+0.7
LBTB				IAmb	IAmb	19 37 58.6	
	comp=Z,26nm,1.5s						
LBTB	Lobatse	19.41	228	P	P	19 37 50.0	+1.2
	comp=Z,0.3nm,0.3s,baz=57,slow=9.9,SNR=4.1						
LBTB				Lg	Lg	19 43 24.0	
	comp=Z,0.3nm,0.3s,baz=138,slow=15,SNR=2.4						
	comp=Z,2.3nm,0.6s						
BOSA	Boshof	21.98	220	P	P	19 38 16.3	-0.4
BOSA				IAmb	IAmb	19 38 34.3	
	comp=Z,18nm,1.4s						
BOSA	Boshof	21.98	220	P	P	19 38 18.8	+2.1
	comp=Z,2.9nm,0.7s,baz=53,slow=11,SNR=7.2						
	comp=Z,2.9nm,0.7s						
MMAI	Mount Meron Ar	45.53	353	P	P	19 41 43.2	+1.0
	comp=Z,0.2nm,0.2s,baz=160,slow=7.5,SNR=4.0						
	comp=Z,0.2nm,0.2s						
TORD	Torodi Ar. Bea	46.77	302	P	P	19 41 53.5	+1.4
	comp=Z,0.4nm,0.7s,baz=107,slow=5.9,SNR=3.3						
	comp=Z,0.4nm,0.7s						
KOPT	Kop Dagi	52.17	359	P	P	19 42 32.7	-0.7
BR131	Keskin Array S	52.36	353	P	P	19 42 33.8	-0.8
BRTR	Keskin Array B	52.36	353	P	P	19 42 34.0	-0.6
BRTR	Keskin Array B	52.36	353	P	P	19 42 35.6	+1.0
	comp=Z,1.8nm,0.8s,baz=165,slow=9.4,SNR=9.1						
	comp=Z,1.8nm,0.8s						
GNI	Garni	52.40	3	P	P	19 42 33.6	-1.3
GNI				IAmb	IAmb	19 42 57.7	
	comp=Z,14nm,1.3s						
MDUB	Mudurnu	53.45	350	P	P	19 42 41.8	-0.8
MAW	Mawson	56.94	170	P	P	19 43 08.6	+1.3
	comp=Z,1.7nm,0.8s,baz=317,slow=13,SNR=3.7						
	comp=Z,1.7nm,0.8s						
SIMJ	Simiganj	57.03	26	P	P	19 43 08.7	+0.1
SIMJ				IAmb	IAmb	19 43 16.7	
	comp=Z,5.6nm,1.4s						
GAR	Garm	57.88	27	P	P	19 43 14.5	0.0
GAR				IAmb	IAmb	19 43 17.4	
	comp=Z,8.1nm,1.1s						
VSL	Villasalto	59.58	332	P	P	19 43 23.4	-2.8
KKAR	Karatay Array	61.38	24	P	P	19 43 38.7	+0.3
KKAR	Karatay Array	61.38	24	P	P	19 43 38.5	0.0
KKAR				IAmb	IAmb	19 43 41.2	
	comp=Z,3.6nm,1.3s						
BUR08	Bucovina Ar. S	61.49	348	P	P	19 43 39.1	-0.1
BUR08				IAmb	IAmb	19 43 57.9	
	comp=Z,8.3nm,1.4s						
AAK	Ala-Archa	62.68	27	P	P	19 43 47.3	-0.1
MBO	M'Bour	63.55	293	P	P	19 43 52.5	-0.9
ABKAR	Akbulak array	63.58	14	P	P	19 43 52.8	-0.1
ABKAR				IAmb	IAmb	19 43 53.9	
	comp=Z,2.4nm,0.8s						
ABKAR	Akbulak array	63.58	14	P	P	19 43 52.6	-0.4
LSA	Lhasa	63.73	48	P	P	19 43 55.7	+0.7
LSA				IAmb	IAmb	19 43 57.5	
	comp=Z,4.1nm,1.1s						
AKASG	Malin Array Be	63.73	351	P	P	19 43 53.6	-0.4
	comp=Z,0.5nm,0.6s,baz=178,slow=6.1,SNR=5.1						
	comp=Z,0.5nm,0.6s						
CMAR	Chiang Mai Arr	64.60	63	P	P	19 44 00.8	+0.4
CMAR	Chiang Mai Arr	64.60	63	P	P	19 44 02.3	+2.0
	comp=Z,0.9nm,0.9s,baz=252,slow=8.7,SNR=7.3						
	comp=Z,0.9nm,0.9s						
TUE	Stuetta	65.26	336	P	P	19 44 03.6	-0.7
TUE				IAmb	IAmb	19 44 16.6	
	comp=Z,8.5nm,1.4s						
MORC	Moravsky Berou	65.36	343	P	P	19 44 03.9	-0.7
GEC2	GERESS Array S	65.70	340	P	P	19 44 06.1	-0.9
GEC2				IAmb	IAmb	19 44 16.1	
	comp=Z,10nm,1.4s						
GERES	GERESS Array B	65.70	340	P	P	19 44 05.7	-1.3
GERES	GERESS Array B	65.70	340	P	P	19 44 07.4	+0.4
	comp=Z,3.0nm,0.9s,baz=152,slow=6.0,SNR=9.2						
	comp=Z,3.0nm,0.9s						
PHRA	Phrae	65.74	63	P	P	19 44 07.8	+0.1
ESDC	Sonseca Array	66.74	323	P	P	19 44 14.5	+0.7
	comp=Z,3.8nm,0.9s,baz=135,slow=5.8,SNR=15						
	comp=Z,3.8nm,0.9s						
MAKZ	Makanchi	69.30	29	P	P	19 44 29.9	+0.2
MAKZ				IAmb	IAmb	19 44 35.2	
	comp=Z,8.2nm,1.4s						
MKAR	Makanchi Array	69.43	29	P	P	19 44 30.9	+0.4
	comp=Z,0.4nm,0.7s,baz=205,slow=8.8,SNR=2.6						
	comp=Z,0.4nm,0.7s						
BVAR	Borovoye Array	69.80	18	P	P	19 44 33.2	+0.6
	comp=Z,0.9nm,0.6s,baz=294,slow=11,SNR=4.1						
	comp=Z,0.9nm,0.6s						
KURBB	Kurchatov Arra	70.69	24	P	P	19 44 38.6	+0.5
	comp=Z,0.6nm,0.3s,baz=221,slow=7.1,SNR=8.3						
	comp=Z,0.6nm,0.3s						
KURK	Kurchatov	70.80	24	P	P	19 44 38.0	-0.8
KURK				IAmb	IAmb	19 44 40.3	
	comp=Z,2.4nm,0.9s						
FINES	FINESS Array B	74.60	352	P	P	19 45 02.2	+1.0
	comp=Z,1.9nm,0.9s,baz=151,slow=17,SNR=1.6						
	comp=Z,1.9nm,0.9s						
ZAA0	Zalesovo Array	75.74	25	P	P	19 45 07.0	-0.9
ZALV	Zalesovo Beam	75.74	25	P	P	19 45 06.7	-1.2
ZALV	Zalesovo Beam	75.74	25	P	P	19 45 08.0	+0.1
	comp=Z,1.7nm,0.8s,baz=224,slow=7.9,SNR=8.3						
	comp=Z,1.7nm,0.8s						
ARCES	ARCESS Array B	82.50	354	P	P	19 45 44.8	+0.2
	comp=Z,11nm,1.2s,baz=210,slow=5.2,SNR=4.8						
	comp=Z,11nm,1.2s						
ASAR	Alice Springs	87.45	114	P	P	19 46 13.7	+3.0
	comp=Z,0.5nm,0.9s,baz=263,slow=4.0,SNR=2.5						
	comp=

RUS	**Russkaya**	**4.16**	**20**	*e*P	Pn	20 16 41.7	+3.2
RUS				*e*S	Sn	20 17 30.7	+4.6
GRL	**Goreloyy**	**4.18**	**16**	*e*P	Pn	20 16 43.5	+4.5
GRL				*e*S	Sn	20 17 33.2	+6.3
APC	**Apacha**	**4.43**	**7**	*e*P	Pn	20 16 46.9	+4.7
KRMR	**Karymshinskiy**	**4.46**	**15**	*e*P	Pn	20 16 45.8	+3.2
KRMR				*e*S	Sn	20 17 38.4	+4.9
KOK	**Koryaka**	**4.99**	**17**	*e*P	Pn	20 16 55.7	+5.6
SMAR	**Somma**	**5.00**	**18**	*e*P	Pn	20 16 55.4	+5.1
KRER	**Koryakskii**	**5.03**	**18**	*e*P	Pn	20 16 55.5	+4.8
SDLR	**Sedlovina**	**5.03**	**18**	*e*P	Pn	20 16 55.1	+4.5
KRX	**Arik**	**5.06**	**17**	*e*P	Pn	20 16 56.4	+5.4
SPN	**Mys Shipunski**	**5.16**	**26**	*e*P	Pn	20 16 57.5	+5.3

BGR ***20*** *20:15:56.7, 44.°85N×147.°77E, h83km±2km, mb5.0*
BJI ***20*** *20:16:00.5, 44.°43N×148.°13E, h106km, mb5.1/73, mB5.0/25*
MOS ***20*** *20:16:01.6±0.9, 44.°47N×148.°05E, h105km, mb5.2/62, Error ellipse: s-maj=5.5km s-min=4.3km az=115.5*
MOS *Felt (III) at Burevestnik, Gornoye, Krabozavodskoye, Malokuril'skoye, Yuzhno-Kuril'sk.*
NEIC ***20*** *20:16:02.1, 44.°03N×148.°61E, h90km, Moment Tensor Solution. Duration: 1s1 Moment tensor: Scale 10^16^Nm; Mrr1.01; Mθθ-0.20; Mφφ-0.82; Mrθ0.68; Mθφ-0.73; Mφr0.31; Fault plane solution: M0 1.39000×10^16^ NP1:φs52.35000°, δ62.36000°, λ111.41000°. NP2:φs192.15000°, δ34.44000°, λ55.12000°. Principal axes: T 1.3163, Plg66.0000°, Azm1.0000°; N 0.1486, Plg19.0000°, Azm222.0000°; P -1.4649, Plg15.0000°, Azm127.0000°;*
NEIC ***20*** *20:16:02.8±2.2, 44.°45N±0.°07×148.°08E±0.°10, h101km±2km, mb5.1/424, Mww4.7/9 Error ellipse: s-maj=11.7km s-min=8.7km az=140.0*
NEIC ***20*** *20:16:02.1, 44.°43N×148.°05E, h90km*
IDC ***20*** *20:16:02.6±1.4, 44.°57N×147.°93E, h98km±12km, mb4.7/35, mbtmp5.0/43, MS3.5/33, Error ellipse: s-maj=11.2km s-min=9.1km az=142.0*
NIED ***20*** *20:16:03.8, 44.°17N×148.°03E, h96km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16^Nm; Mrr0.51; Mθθ-0.62; Mφφ0.11; Mrθ0.62; Mθφ-0.17; Mφr0.65; Fault plane solution: M0 1.08000×10^16^ NP1:φs50.00000°, δ75.00000°, λ71.00000°. NP2:φs283.00000°, δ24.00000°, λ141.00000°.*
SKHL ***20*** *20:16:03.7±0.4, 44.°40N×148.°00E, h96km±8km, mb5.4/11, mbv5.2/2, msh5.6/2, msha7.0/3*
JMA ***20*** *20:16:03.8±0.3, 44.°N±1.°×14.°8E±.°, h96km, MD4.5/39, MW4.7/39, SE OFF ETOROFU*
GCMT ***20*** *20:16:04.8±0.5, 44.°44N±0.°03×147.°95E±0.°05, h107km±6km, MW4.8/78, Moment Tensor Solution. s15,c16; s78,c94; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr1.02±.10; Mθθ-0.91±.13; Mφφ-0.11±.12; Mrθ1.13±.07; Mθφ-0.66±.12; Mφr0.75±.06; Best double couple: M0 1.77800×10^16^ NP1:φs57.00000°, δ70.00000°, λ87.00000°. NP2:φs246.00000°, δ20.00000°, λ98.00000°. Principal axes: T 1.6510, Plg65.0000°, Azm322.0000°; N 0.2510, Plg3.0000°, Azm58.0000°; P -1.9050, Plg25.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 20:16:02.1±0.4, 44.°36N±0.°04×148.°03E±0.°04, h104km±2km, h104km:pP-P, n1199, σ1§48/1113, mb5.1/379, 108C-27D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.88**	**352**	*i* P	**Pn**	**20 16 22.0**	**+0.5**
KUR				AMB	AMB	20 16 22.3	
	29μm,0.5s						
KUR				*i* S	**Sn**	**20 16 36.2**	**+0.1**
KUR				A	A	20 16 37.0	
	39μm,0.5s						
KUR				A	A	20 16 37.0	
	65μm,0.5s						
KUR	**Kuril'sk**	**0.88**	**352**	*d i* PN	**Pn**	**20 16 21.9**	**+0.5**
KUR				*i* S	**Sn**	**20 16 36.1**	**0.0**
SHO	**Shikotan**	**0.99**	**241**	*i* P	**Pn**	**20 16 23.1**	**+0.4**
SHO				AMB	AMB	20 16 23.4	
	4μm,0.4s						
SHO				*i* S	**Sn**	**20 16 37.4**	**-0.8**
SHO				A	A	20 16 38.4	
	42μm,0.5s						
SHO				A	A	20 16 38.4	
	48μm,0.5s						
SHO	**Shikotan**	**0.99**	**241**	⇑*i* PN	**Pn**	**20 16 23.1**	**+0.4**
SHO				*i* S	**Sn**	**20 16 37.3**	**-0.9**
SHO				pmax	pmax		
	comp=Z,3μm,0.4s						
SHO				pmax	pmax		
	comp=N,1μm,0.2s						
SHO				smax	smax		
	comp=N,32μm,0.5s						
SHO				smax	smax		
	comp=E,35μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.59**	**259**	*i* P	**Pn**	**20 16 30.8**	**+1.2**
YUK				AMB	AMB	20 16 31.6	
	comp=E,2μm,0.4s						
YUK				*i* S	**Sn**	**20 16 50.9**	**+0.3**
YUK				A	A	20 16 53.4	
	comp=E,48μm,0.6s						
YUK				A	A	20 16 53.4	
	comp=E,27μm,0.6s						
YUK				A	A	20 16 56.9	
	comp=E,26μm,1.0s						
YUK				A	A	20 16 56.9	
	comp=E,21μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**1.59**	**259**	*d i* PN	**Pn**	**20 16 30.6**	**+1.0**
YUK				*i* S	**Sn**	**20 16 50.6**	**0.0**
YUK				pmax	pmax		
	comp=Z,2μm,0.2s						
YUK				pmax	pmax		
	comp=E,462nm,0.1s						
YUK				smax	smax		
	comp=E,29μm,0.5s						
YUK				smax	smax		
	comp=N,8μm,0.3s						
YUK				smax	smax		
	comp=N,26μm,1.2s						
YUK				smax	smax		
	comp=E,21μm,0.6s						
NEM2	**Nemuro 2**	**1.93**	**240**	P	**Pn**	**20 16 34.3**	**+0.4**
NEM2				S	**Sn**	**20 16 57.2**	**-0.9**
NEM2	**Nemuro 2**	**1.93**	**240**	A	A	20 16 34.3	
	comp=E,7.0nm,1.2s,comp=N,5.0nm,1.6s						
NMR	**Nemuro--Hokkai**	**1.94**	**240**	*i* P	**Pn**	**20 16 34.2**	**+0.2**
NMR				*i* S	**Sn**	**20 16 57.2**	**-1.1**
NMR	**Nemuro--Hokkai**	**1.94**	**240**	⇑*i* PN	**Pn**	**20 16 34.2**	**+0.2**
NMR				*i* S	**Sn**	**20 16 57.2**	**-1.1**
RUSJ	**Misakicho**	**2.02**	**264**	⇓*i* PN	**Pn**	**20 16 36.3**	**+1.3**
RUSJ				*i* S	**Sn**	**20 17 03.6**	**+3.5**
JRA	**Rausu**	**2.14**	**260**	P	**Pn**	**20 16 38.1**	**+1.6**
JRA				*e*S	**Sn**	**20 17 04.4**	**+1.5**
JRA	**Rausu**	**2.14**	**260**	A	A	20 16 38.1	
	comp=E,10.0nm,3.7s,comp=N,12nm,2.1s						
JNSB	**Nemuroshibetsu**	**2.26**	**256**	P	**Pn**	**20 16 39.9**	**+1.8**
JNSB				*e*S	**Sn**	**20 17 06.8**	**+1.2**
JNSB	**Nemuroshibetsu**	**2.26**	**256**	A	A	20 16 39.9	
	comp=E,14nm,1.8s,comp=N,27nm,1.8s						
JKHN	**Kushirohamanak**	**2.44**	**239**	P	**Pn**	**20 16 41.2**	**+0.7**
JKHN				*e*S	**Sn**	**20 17 09.4**	**-0.6**
JNK	**Nakash**	**2.51**	**253**	P	**Pn**	**20 16 42.8**	**+1.4**
JNK				*e*S	**Sn**	**20 17 11.7**	**0.0**
AKK	**Akkeshi**	**2.67**	**241**	*e*P	**Pn**	**20 16 44.1**	**+0.5**
AKK				*e*S	**Sn**	**20 17 14.1**	**-1.4**
JAK	**Akkeshi**	**2.78**	**242**	P	**Pn**	**20 16 45.6**	**+0.7**
JAK				S	**Sn**	**20 17 17.0**	**-0.9**
JAK	**Akkeshi**	**2.78**	**242**	A	A	20 16 45.6	
	comp=E,6.0nm,0.9s,comp=N,5.0nm,2.3s						
JTKR	**Abashiri--Toko**	**2.99**	**264**	P	**Pn**	**20 16 49.5**	**+1.7**
JTKR				*e*S	**Sn**	**20 17 24.3**	**+1.3**
JAR	**Ashorobuto**	**3.26**	**252**	P	**Pn**	**20 16 53.5**	**+2.2**
JAR				S	**Sn**	**20 17 31.6**	**+2.2**
JAR	**Ashorobuto**	**3.26**	**252**	A	A	20 16 53.5	
	comp=E,4.0nm,0.4s,comp=N,5.0nm,1.9s						
JMP	**Maruseppu**	**3.38**	**266**	A	A	20 16 55.3	
	comp=E,2.0nm,1.3s,comp=N,2.0nm,4.5s						
JCH	**Churui**	**3.82**	**244**	P	**Pn**	**20 16 59.7**	**+0.8**
JCH				S	**Sn**	**20 17 42.0**	**-0.8**
JKK2	**Kamakawa 2**	**3.83**	**264**	P	**Pn**	**20 17 01.5**	**+2.4**
JKA	**Kamikawa-asahi**	**3.91**	**268**		**Pn**	**20 17 01.4**	**+1.4**
JKA				Sn	**Sn**	**20 17 47.2**	**+2.2**
ASAJ	**Asahikawa**	**3.91**	**268**	P	**Pn**	**20 17 00.9**	**+0.8**
	comp=N,55nm,0.3s,baz=95,slow=11,SNR=97						
ASAJ				S	**Sn**	**20 17 44.3**	**-0.7**
	comp=N,141nm,0.5s,baz=348,slow=17,SNR=4.8						
JSE	**Soyaes**	**3.93**	**281**	P	**Pn**	**20 17 02.1**	**+1.8**
ERM	**Erimo**	**4.27**	**238**	Pn	**Pn**	**20 17 05.8**	**+0.9**
ERM				Sn	**Sn**	**20 17 53.3**	**-0.3**
ERM	**Erimo**	**4.27**	**238**	P	**Pn**	**20 17 08.3**	**+3.4**
ERM	**Erimo**	**4.27**	**238**	*ce*PN	**Pn**	**20 17 07.6**	**+2.7**
ERM				pmax	pmax		
	comp=Z,68nm,0.5s						
JNBK	**Urakawa-nobuka**	**4.38**	**243**	P	**Pn**	**20 17 06.6**	**+0.3**
JNBK				*e*S	**Sn**	**20 17 56.6**	**+0.3**
JNBK	**Urakawa-nobuka**	**4.38**	**243**	A	A	20 17 06.6	
	comp=E,3.0nm,0.6s,comp=N,2.0nm,1.6s						
JWK2	**Keihoku**	**4.46**	**284**	P	**Pn**	**20 17 10.8**	**+3.3**
YSS	**Yuzh-Sakhalins**	**4.51**	**307**	Pn	**Pn**	**20 17 09.0**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.51**	**307**	*e*P	**Pn**	**20 17 09.8**	**+1.6**
YSS				AMB	AMB	20 17 10.2	
	comp=N,330nm,0.6s						
YSS				AMB	AMB	20 17 12.6	
	comp=N,400nm,3.6s						
YSS				*e*S	**Sn**	**20 17 58.9**	**-0.6**
YSS				A	A	20 18 00.0	
	comp=N,270nm,0.8s						
YSS				A	A	20 18 00.0	
	comp=N,30nm,0.8s						
YSS				A	A	20 18 03.5	
	comp=N,800nm,2.1s						
YSS				AMS	AMS	20 18 52.5	
	comp=N,500nm,17.0s						
YSS	**Yuzh-Sakhalins**	**4.51**	**307**	P	**Pn**	**20 17 09.0**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.51**	**307**	*ce*PN	**Pn**	**20 17 09.5**	**+1.3**
YSS				*e*S	**Sn**	**20 17 58.9**	**-0.6**
YSS				pmax	pmax		
	comp=Z,400nm,3.6s						
YSS				pmax	pmax		
	comp=N,300nm,4.6s						
YSS				pmax	pmax		
	comp=Z,280nm,0.6s						
YSS				smax	smax		
	comp=N,290nm,0.8s						
YSS				smax	smax		
	comp=E,330nm,0.8s						
YSS				smax	smax		
	comp=E,800nm,2.1s						
YSS				MLR	MLR		
	comp=Z,500nm,17.0s						
JHR	**Hokuryu**	**4.59**	**264**	P	**Pn**	**20 17 12.6**	**+3.4**
JEW	**Eniwo**	**5.01**	**255**	P	**Pn**	**20 17 15.0**	**0.0**
JRBN	**Rebuntou**	**5.06**	**285**	P	**Pn**	**20 17 17.6**	**+2.1**
JOT	**Ohata**	**5.93**	**242**	P	**Pn**	**20 17 27.2**	**-0.2**
JOT				*e*S	**Sn**	**20 18 30.2**	**-3.8**
UGL	**Uglegorsk**	**6.25**	**321**	*e*P	**Pn**	**20 17 33.7**	**+2.1**
UGL				AMB	AMB	20 17 34.3	
	comp=Z,220nm,0.9s						
UGL	**Uglegorsk**	**6.25**	**321**	⇓*e*PN	**Pn**	**20 17 33.0**	**+1.4**
UGL				*e*S	**Sn**	**20 18 45.2**	**+3.7**
UGL				pmax	pmax		
	comp=Z,223nm,0.9s						
UGL				smax	smax		
	comp=N,2μm,6.1s						
UGL				smax	smax		
	comp=E,800nm,3.9s						
JANG	**Nango**	**6.26**	**233**	*e*P	**Pn**	**20 17 31.2**	**-0.7**
JANG				S	**Sn**	**20 18 37.0**	**-5.0**
JTM	**Tenmabayashi**	**6.26**	**238**		**Pn**	**20 17 31.4**	**-0.4**
JTM				Sn	**Sn**	**20 18 35.2**	**-6.8**
JTM	**Tenmabayashi**	**6.26**	**238**	P	**Pn**	**20 17 32.3**	**+0.4**
JOMM	**Oshimamatsumae**	**6.54**	**247**	S	**Sn**	**20 18 45.4**	**-3.2**
JOSM	**Okushiri--Mats**	**6.65**	**253**	P	**Pn**	**20 17 38.0**	**+0.8**
JOSM				*e*S	**Sn**	**20 18 50.1**	**-1.3**
TYV	**Tymovskoe**	**7.45**	**333**	*e*P	**Pn**	**20 17 51.0**	**+3.1**
TYV				AMB	AMB	20 17 51.6	
	comp=E,400nm,3.8s						
TYV				AMB	AMB	20 17 51.8	
	comp=E,30nm,0.9s						
TYV	**Tymovskoe**	**7.45**	**333**	*e*PN	**Pn**	**20 17 51.5**	**+3.6**
TYV				*e*S	**Sn**	**20 19 15.2**	**+4.6**
TYV				pmax	pmax		
	comp=Z,400nm,3.8s						
TYV				pmax	pmax		
	comp=Z,29nm,0.9s						
TYV				smax	smax		
	comp=E,400nm,4.7s						
TYV				smax	smax		
	comp=N,300nm,4.7s						
TYV				smax	smax		
	comp=N,31nm,1.2s						
TYV				smax	smax		
	comp=E,24nm,1.2s						
TEY	**Ternei**	**8.17**	**279**	*e*PN	**Pn**	**20 18 01.1**	**+3.3**
TEY				*e*		20 19 29.7	
SKR	**Severo-Kuril's**	**8.36**	**38**	*e*P	**Pn**	**20 18 01.8**	**+1.5**
SKR				AMB	AMB	20 18 04.3	
	comp=E,60nm,0.5s						
SKR				*e*S	**Sn**	**20 19 30.0**	**-2.8**
SKR	**Severo-Kuril's**	**8.36**	**38**	*e*PN	**Pn**	**20 17 59.7**	**-0.6**
SKR				pmax	pmax		
	comp=Z,88nm,0.5s						
JMM	**Marumori**	**8.48**	**223**		**Pn**	**20 18 00.6**	**-1.4**
JMM				Sn	**Sn**	**20 19 29.5**	**-6.5**
PAU	**Pauzhetka**	**9.23**	**37**	*e*P	**Pn**	**20 18 13.4**	**+1.3**
JSD	**Sado**	**9.70**	**233**	Pn	**Pn**	**20 18 18.5**	**-0.1**
OKH	**Okha**	**9.78**	**342**	*e*P	**Pn**	**20 18 21.4**	**+1.8**
GRNR	**Gornyy**	**10.12**	**313**	*e*P	**Pn**	**20 18 26.4**	**+2.1**
GRNR				AMB	AMB	20 18 27.1	
	comp=Z,10.0nm,0.6s						
GRNR	**Gornyy**	**10.12**	**313**	⇑*i*PN	**Pn**	**20 18 26.1**	**+1.8**
GRNR				pmax	pmax		
	comp=E,10.0nm,0.7s						
GRNR				pmax	pmax		
	comp=N,10.0nm,0.8s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.7s						
GRNR				MLR	MLR		
	comp=E,390nm,14.0s						
GRNR				MLR	MLR		
	comp=N,250nm,18.0s						
MJAR	**Matsushiro Arr**	**10.81**	**227**	P	**Pn**	**20 18 33.6**	**-0.2**
	comp=N,5.6nm,0.7s,baz=25,slow=14,SNR=17						
MJB9	**Matsu-Tunnel**	**10.81**	**227**		**Pn**	**20 18 32.9**	**-0.9**
MAJO	**Matsushiro**	**10.81**	**227**	Pn	**Pn**	**20 18 32.9**	**-0.9**
MAJO	**Matsushiro**	**10.81**	**227**	P	**Pn**	**20 18 34.1**	**+0.4**
MAJO	**Matsushiro**	**10.81**	**227**	*i* PN	**Pn**	**20 18 33.7**	**0.0**
MAJO				pmax	pmax		
	comp=Z,28nm,0.9s						
PEA0B	**Petropavlovsk-**	**10.82**	**33**	Pn	**Pn**	**20 18 31.7**	**-2.0**
PEA0B	**Petropavlovsk-**	**10.82**	**33**	*i* PN	**Pn**	**20 18 33.0**	**-0.7**
PETK	**Petropavlovsk-**	**10.82**	**33**		**Pn**	**20 18 30.3**	**-3.4**
PETK	**Petropavlovsk-**	**10.82**	**33**	P	**Pn**	**20 18 31.9**	**-1.8**
	comp=Z,12nm,0.7s,baz=184,slow=9.1,SNR=12						
PETK				LR	LR	20 23 06.2	
	comp=Z,27nm,20.1s,baz=219,slow=40						
PETK	**Petropavlovsk-**	**10.82**	**33**	PN	**Pn**	**20 18 32.0**	**-1.8**
USA0B	**Ussuriysk Arra**	**11.50**	**275**		**Pn**	**20 18 42.6**	**-0.4**
USA0B	**Ussuriysk Arra**	**11.50**	**275**	*d i* PN	**Pn**	**20 18 43.7**	**+0.7**
USRK	**Ussuriysk Ar.**	**11.50**	**275**	Pn	**Pn**	**20 18 42.4**	**-0.6**
USRK	**Ussuriysk Ar.**	**11.50**	**275**	P	**Pn**	**20 18 43.5**	**+0.6**
	comp=Z,24nm,0.6s,baz=81,slow=14,SNR=43						
USRK				LR	LR	20 22 53.8	
	comp=Z,126nm,18.5s,baz=60,slow=36						
USRK	**Ussuriysk Ar.**	**11.50**	**275**	PN	**Pn**	**20 18 42.4**	**-0.6**
JGF	**Kuroka**	**11.97**	**227**	Pn	**Pn**	**20 18 48.8**	**-0.5**
KLR	**Kul'dur**	**12.17**	**299**	P	**Pn**	**20 18 51.5**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=80,slow=10,SNR=3.5						
KLR	**Kul'dur**	**12.17**	**299**	*e*P	**Pn**	**20 18 51.9**	**+0.2**
KLR	**Kul'dur**	**12.17**	**299**	*i* PN	**Pn**	**20 18 51.9**	**+0.2**
KLR				pmax	pmax		
	comp=Z,17nm,0.9s						
MSHR	**Mys Shultsa**	**12.39**	**268**	*i* PN	**Pn**	**20 18 56.2**	**+1.5**
MSHR				pmax	pmax		
	comp=Z,36nm,1.2s						
PSTR	**Posyet**	**12.63**	**268**	*i* PN	**Pn**	**20 18 59.3**	**+1.5**
JHJ	**Hachijo jima 2**	**12.93**	**213**	S	**Sn**	**20 21 16.6**	**-7.6**
	comp=Z,139nm,0.4s,baz=62,slow=17,SNR=6.8						
JHJ				LR	LR	20 23 54.8	
	comp=Z,58nm,21.8s,baz=262,slow=36						
MDJ	**Mudanjiang**	**13.17**	**278**	Pn	**Pn**	**20 19 03.3**	**-1.6**
MDJ	**Mudanjiang**	**13.17**	**278**	P	**Pn**	**20 19 04.0**	**-0.9**
MDJ				sP	P	20 19 30.8	+20
MDJ				S	**Sn**	**20 21 31.0**	**+1.3**
MDJ				PcP	**PcP**	**20 24 24.3**	**-3.2**
MDJ				ScS	**ScS**	**20 31 25.4**	**-2.2**
MDJ				pmax	pmax		
	comp=Z,13nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,260nm,3.6s						
MDJ	**Mudanjiang**	**13.17**	**278**	P	**Pn**	**20 19 06.3**	**+1.4**
BNX	**BinXian**	**14.64**	**283**	⇑P	**Pn**	**20 19 25.3**	**+1.4**
BNX				pmax	pmax		
	comp=Z,25nm,0.8s						
HEH	**HeiHe**	**15.15**	**300**	*e*P	**Pn**	**20 19 31.4**	**+1.0**
HEH				pmax	pmax		
	comp=Z,34nm,0.8s						
JMN	**Monobe**	**15.26**	**231**	Pn	**Pn**	**20 19 32.8**	**+0.9**
MA2	**Magadan**	**15.33**	**5**	P	**Pn**	**20 19 31.2**	**-1.2**
MA2				IAmb	IAmb	20 19 35.5	
	comp=Z,75nm,0.8s						
MA2	**Magadan**	**15.33**	**5**	P	**Pn**	**20 19 32.1**	**-0.4**
	comp=Z,50nm,0.7s,baz=191,slow=11,SNR=16						
MA2	**Magadan**	**15.33**	**5**	*e*P	**Pn**	**20 19 31.9**	**-0.5**
MA2	**Magadan**	**15.33**	**5**	P	**Pn**	**20 19 33.0**	**+0.6**
MA2	**Magadan**	**15.33**	**5**	P	**Pn**	**20 19 31.2**	**-1.2**
MA2				pmax	pmax		
	comp=Z,75nm,0.8s						
CN2	**Changchun**	**16.23**	**276**	*e*P	**Pn**	**20 19 43.9**	**0.0**
CN2				pmax	pmax		
	comp=Z,40nm,0.7s						
ZEA	**Zeya**	**16.48**	**312**	*e*P	**P**	**20 19 47.4**	**-0.3**
ZEA	**Zeya**	**16.48**	**312**	*e*P	**P**	**20 19 48.0**	**+0.3**
ZEA				*e*		20 22 52.4	
ZEA				pmax	pmax		
	comp=E,20nm,1.1s						
ZEA				pmax	pmax		
	comp=N,20nm,1.3s						
ZEA				pmax	pmax		
	comp=Z,30nm,1.3s						
KSRS	**Korea Array**	**16.67**	**252**	P	**P**	**20 19 51.2**	**+1.3**
	comp=Z,5.4nm,0.5s,baz=58,slow=11,SNR=21						
KSRS				LR	LR	20 26 22.7	
	comp=Z,47nm,18.4s,baz=55,slow=37						
KSAR	**Wonju Array Be**	**16.70**	**252**	P	**Pn**	**20 19 49.5**	**-0.2**
KSAR	**Wonju Array Be**	**16.70**	**252**	P	**Pn**	**20 19 49.5**	**-0.2**
JNU	**Nakatsue**	**17.43**	**236**		**Pn**	**20 19 58.9**	**+0.3**
JNU	**Nakatsue**	**17.43**	**236**	P	**Pn**	**20 20 01.2**	**+2.6**
	comp=Z,35nm,0.8s,baz=56,slow=8.6,SNR=23						
JNU	**Nakatsue**	**17.43**	**236**	P	**Pn**	**20 20 01.0**	**+2.4**
TJN	**Taejon**	**17.62**	**250**	P	**Pn**	**20 20 03.0**	**+2.1**
TJN	**Taejon**	**17.62**	**250**	*ce*P	**Pn**	**20 20 03.6**	**+2.7**
SEY	**Seymchan**	**18.77**	**6**	P	**P**	**20 20 10.9**	**-1.9**
	comp=Z,26nm,0.7s,baz=183,slow=8.4,SNR=55						
SEY	**Seymchan**	**18.77**	**6**	*ce*P	**P**	**20 20 11.1**	**-1.7**
SEY				pmax	pmax		
	comp=Z,58nm,1.3s						
HIA	**Hailar**	**19.91**	**294**	P	**P**	**20 20 22.0**	**-3.3**
HIA	**Hailar**	**19.91**	**294**	P	**P**	**20 20 25.6**	**+0.3**
HIA	**Hailar**	**19.91**	**294**	*i* P	**P**	**20 20 22.6**	**-2.7**
HIA				pmax	pmax		
	comp=Z,18nm,1.0s						
DL2	**Dalian**	**20.43**	**264**	P	**P**	**20 20 31.9**	**+1.0**
DL2				pmax	pmax		
	comp=Z,67nm,0.7s						
YAK	**Yakutsk**	**20.70**	**335**	P	**P**	**20 20 30.7**	**-2.8**
YAK	**Yakutsk**	**20.70**	**335**	P	**P**	**20 20 30.4**	**-3.2**
	comp=Z,444nm,0.7s,baz=134,slow=2.4,SNR=86						
YAK				S	**S**	**20 24 10.2**	**-8.4**
	comp=Z,19nm,0.7s,baz=150,slow=20,SNR=3.2						
	comp=Z,444nm,0.7s						
YAK	**Yakutsk**	**20.70**	**335**	*d i* P	**P**	**20 20 31.0**	**-2.5**
YAK				*e*S	**S**	**20 24 12.0**	**-6.6**
YAK				*e*		20 24 43.6	
YAK				*e*		20 31 50.6	
YAK				pmax	pmax		
	comp=Z,74nm,0.6s						
YAK				pmax	pmax		
	comp=N,10.0nm,0.6s						
YAK				pmax	pmax		
	comp=E,6.0nm,0.6s						
YAK				smax	smax		
	comp=N,357nm,2.5s						
YAK				smax	smax		
	comp=E,362nm,2.2s						
XLT	**XiLinHaoTe**	**22.86**	**280**	*e*P	**P**	**20 20 55.8**	**-0.8**
XLT				S	**S**	**20 25 03.3**	**+5.1**
XLT				pmax	pmax		
	comp=E,56nm,0.6s						
XLT				pmax	pmax		
	comp=E,180nm,4.3s						
BJI	**Beijing**	**23.90**	**271**	P	**P**	**20 21 07.0**	**+0.9**
BJI				S	**S**	**20 25 18.4**	**+3.6**
BJI				pmax	pmax		
	comp=E,24nm,0.8s						
BJT	**Baijiatuau**	**23.92**	**271**	P	**P**	**20 21 06.5**	**+0.2**
BJT				IAmb	IAmb	20 21 09.0	
	comp=Z,38nm,0.9s						
BJT	**Baijiatuau**	**23.92**	**271**	P	**P**	**20 21 07.1**	**+0.9**
BJT	**Baijiatuau**	**23.92**	**271**	P	**P**	**20 21 06.5**	**+0.2**
BJT				pmax	pmax		
	comp=Z,38nm,0.9s						
CIT	**Chita**	**24.05**	**301**	*e*P	**P**	**20 21 05.0**	**-2.4**
CIT				*e*		20 21 40.8	
CIT				pmax	pmax		
	comp=Z,59nm,2.9s						
ADK	**Adak**	**24.54**	**60**	P	**P**	**20 21 11.3**	**-0.4**
ADK				IAmb	IAmb	20 21 13.9	
	comp=Z,51nm,1.1s						
ADK	**Adak**	**24.54**	**60**	P	**P**	**20 21 11.3**	**-0.4**
ADK				pmax	pmax		
	comp=Z,51nm,1.2s						
TIA	**Tai'an**	**24.83**	**262**	P	**P**	**20 21 15.8**	**+1.2**
TIA				pmax	pmax		
	comp=Z,86nm,0.6s						
GSTR	**Great Sitkin T**	**24.93**	**59**	P	**P**	**20 21 15.1**	**-0.2**
BILL	**Bilibino**	**25.59**	**16**	P	**P**	**20 21 20.1**	**-1.1**
BILL	**Bilibino**	**25.59**	**16**	*e*P	**P**	**20 21 21.7**	**+0.5**
BILL	**Bilibino**	**25.59**	**16**	*ce*P	**P**	**20 21 21.6**	**+0.4**
BILL				*i* *PP	**pP**	**20 21 45.6**	**+1.7**
BILL				*i* *SP	**sP**	**20 21 58.1**	**+2.1**
BILL				*i*		20 22 03.9	
BILL				pmax	pmax		
	comp=Z,37nm,2.5s						
BILL				MLR	MLR		
	comp=Z,64nm,17.0s						
HNS	**HongShan**	**26.01**	**266**	⇑P	**P**	**20 21 26.3**	**+1.1**
HNS				S	**S**	**20 25 53.9**	**+5.7**
HNS				pmax	pmax		
	comp=Z,26nm,1.2s						
BTO	**Baotou**	**28.11**	**276**	*e*P	**P**	**20 21 46.3**

H11N3	WAKE ISLAND Hy	29.18	141	T	T	20 52 57.9	
	baz=332,slow=76,SNR=162						
NACB	Ninganchiao	29.50	236	P	P	20 21 57.5	+1.1
NACB				IAmb	IAmb	20 22 03.8	
	comp=Z,74nm,1.5s						
WHN	Wuhan	29.86	254	⇓P	P	20 22 00.8	+1.3
WHN				pmax	pmax		
	comp=Z,100nm,0.7s						
H11S1	WAKE ISLAND Hy	30.16	143	T	T	20 54 08.2	
	baz=332,slow=76,SNR=1406						
H11S3	WAKE ISLAND Hy	30.16	143	T	T	20 54 10.5	
	baz=332,slow=76,SNR=336						
H11S2	WAKE ISLAND Hy	30.17	143	T	T	20 54 07.4	
	baz=332,slow=76,SNR=983						
SSLB	Suanglung	30.17	236	P	P	20 22 03.1	+0.7
TPUB	Ta-pu	30.74	236	P	P	20 22 08.4	+1.1
TPUB				IAmb	IAmb	20 22 11.3	
	comp=Z,65nm,1.1s						
TWG	Pinlang	30.84	235	P	P	20 22 08.6	+0.3
TWG				IAmb	IAmb	20 22 17.6	
	comp=Z,24nm,1.0s						
M11K	Mekoryuk	31.43	43	P	P	20 22 14.3	+1.3
	baz=260						
XAN	Xi'an	31.74	265	⇑P	P	20 22 17.0	+0.8
XAN				pP	pP	20 22 42.9	+3.6
XAN				pmax	pmax		
	comp=Z,21nm,0.9s						
MIDW	Midway	31.92	109	P	P	20 22 14.9	-2.8
K13K	Kusilvak Mount	32.44	40	P	P	20 22 23.1	+1.2
	baz=259						
F14K	Arctic Creek	32.59	34	P	P	20 22 24.7	+1.5
	baz=252						
ANM	Nome	32.72	35	P	P	20 22 22.9	-1.4
ANM				IAmb	IAmb	20 22 41.5	
	comp=Z,36nm,1.2s						
ANM	Nome	32.72	35	P	P	20 22 22.9	-1.4
ANM				pmax	pmax		
	comp=Z,37nm,1.2s						
M13K	Dall Lake	32.83	43	P	P	20 22 26.9	+1.6
M13K	Dall Lake	32.83	43	P	P	20 22 27.3	+2.0
	baz=263						
J14K	Nanvaranak Lak	33.10	39	P	P	20 22 28.0	+0.4
J14K				IAmb	IAmb	20 22 30.1	
	comp=Z,24nm,0.6s						
J14K	Nanvaranak Lak	33.10	39	P	P	20 22 29.1	+1.5
	baz=259						
L14K	Kuka Creek	33.28	42	P	P	20 22 30.3	+1.1
L14K				IAmb	IAmb	20 22 32.3	
	comp=Z,36nm,1.0s						
L14K	Kuka Creek	33.28	42	P	P	20 22 30.8	+1.6
	baz=262						
G15K	Niukluk	33.38	35	P	P	20 22 31.5	+1.4
	baz=255						
ENH	Enshi	33.40	258	P	P	20 22 30.3	-0.4
ENH				IAmb	IAmb	20 22 32.0	
	comp=Z,22nm,1.1s						
ENH	Enshi	33.40	258	P	P	20 22 30.8	+0.1
M14K	Bethel	33.55	43	P	P	20 22 32.9	+1.3
M14K	Bethel	33.55	43	P	P	20 22 33.4	+1.8
	baz=264,SNR=8.7						
N14K	Kuskokwak Cree	33.61	44	P	P	20 22 33.8	+1.7
	baz=265						
O14K	Tigyukauivet M	33.78	46	P	P	20 22 35.0	+1.4
	baz=267						
L15K	Ungalak Mounta	33.89	41	P	P	20 22 35.8	+1.3
	baz=263						
C16K	Lisburne Hills	33.89	29	P	P	20 22 35.1	+0.7
	baz=249						
K15K	Wolf Creek Mou	33.95	40	P	P	20 22 36.2	+1.2
	baz=262						
H16K	Elim	34.05	36	P	P	20 22 37.0	+1.1
	baz=258						
G16K	Koyuk River	34.17	35	P	P	20 22 37.7	+0.8
	baz=257						
M15K	Kasigluk River	34.17	43	P	P	20 22 38.7	+1.8
	baz=265						
LZH	Lanzhou	34.39	272	⇑iP	P	20 22 41.0	+1.7
LZH				pP	pP	20 23 02.3	-0.3
LZH				sP	sP	20 23 12.1	-2.5
LZH				pmax	pmax		
	comp=Z,180nm,1.2s						
N15K	Kwethluk River	34.43	44	P	P	20 22 40.6	+1.4
N15K	Kwethluk River	34.43	44	P	P	20 22 41.0	+1.8
	baz=266,SNR=9.7						
D17K	Noatak River	34.51	31	P	P	20 22 40.6	+0.9
	baz=253						
O15K	Ungalikthiuk R	34.52	46	P	P	20 22 41.1	+1.2
	baz=268						
J16K	Anvik River	34.52	39	P	P	20 22 40.8	+0.9
J16K				IAmb	IAmb	20 22 42.2	
	comp=Z,15nm,0.9s						
J16K	Anvik River	34.52	39	P	P	20 22 41.3	+1.4
	baz=262						
I17K	Unalakleet	34.57	37	P	P	20 22 41.0	+0.6
I17K				IAmb	IAmb	20 22 43.0	
	comp=Z,22nm,0.8s						
I17K	Unalakleet	34.57	37	P	P	20 22 41.3	+1.0
	baz=260						
RDOG	Red Dog Mine	34.68	30	P	P	20 22 41.7	+0.4
	baz=252						
C17K	DeLong Mountai	34.71	29	P	P	20 22 41.9	+0.4
	baz=251						
CHNA	Chernabura Isl	34.75	54	P	P	20 22 42.5	+0.5
	baz=275						
E17K	Hotham Inlet	34.80	32	P	P	20 22 43.4	+1.2
	baz=255,SNR=7.3						
L16K	Owhat River	34.85	41	P	P	20 22 44.2	+1.4
L16K				IAmb	IAmb	20 22 45.2	
	comp=Z,24nm,0.8s						
L16K	Owhat River	34.85	41	P	P	20 22 44.3	+1.5
	baz=265,SNR=10						
F17K	Baldwin Pennin	34.86	33	IAmb	IAmb	20 22 45.6	
	comp=Z,24nm,0.8s						
F17K	Baldwin Pennin	34.86	33	P	P	20 22 44.1	+1.3
	baz=256						
G17K	Kiwalik Mounta	34.89	35	P	P	20 22 44.6	+1.5
	baz=258,SNR=14						
M16K	Timber Creek	35.04	43	P	P	20 22 44.7	+0.2
M16K	Timber Creek	35.04	43	P	P	20 22 46.1	+1.7
	baz=266,SNR=8.5						
H17K	Granite Mounta	35.09	36	IAmb	IAmb	20 22 47.4	
	comp=Z,15nm,0.7s						
H17K	Granite Mounta	35.09	36	P	P	20 22 46.7	+1.9
	baz=260						
N16K	Nishlik Lake	35.10	44	P	P	20 22 46.9	+1.9
	baz=267						
J17K	VABM Dome	35.21	39	P	P	20 22 47.5	+1.6
J17K	VABM Dome	35.21	39	P	P	20 22 47.8	+1.9
	baz=263,SNR=9.8						
E18K	Tukpahlearik C	35.34	31	P	P	20 22 47.9	+0.9
	baz=256						
O16K	Kokwok River B	35.41	45	P	P	20 22 49.2	+1.6
	baz=269						
L17K	Donlin	35.44	41	P	P	20 22 49.8	+2.0
	baz=265,SNR=9.6						
P16K	Nushagak River	35.46	46	P	P	20 22 49.8	+1.8
	baz=270						
C18K	Utukok River	35.46	29	P	P	20 22 48.6	+0.6
	baz=253,SNR=14						
B18K	Kokolik River	35.47	28	P	P	20 22 48.8	+0.7
	baz=252						
K17K	Iditarod	35.49	40	P	P	20 22 50.2	+1.9
	baz=264						
F18K	Selawik	35.52	33	P	P	20 22 49.8	+1.4
	baz=258,SNR=8.5						
H18K	Honhosa River	35.77	36	P	P	20 22 52.0	+1.4
	baz=261						
G18K	Tagagawik	35.78	34	P	P	20 22 50.6	-0.1
G18K	Tagagawik	35.78	34	P	P	20 22 51.9	+1.2
	baz=260						
M17K	Holitna River	35.80	42	P	P	20 22 52.9	+1.9
	baz=267						
GTA	Gaotai	35.82	279	P	P	20 22 53.0	+1.5
GTA				pP	pP	20 23 17.1	+2.1
GTA				PcP	PcP	20 25 19.0	+2.2
GTA				pmax	pmax		
	comp=Z,30nm,1.0s						
N17K	Nushagak Hills	35.89	44	IAmb	IAmb	20 22 54.8	
	comp=Z,26nm,0.8s						
N17K	Nushagak Hills	35.89	44	P	P	20 22 53.5	+1.8
	baz=269,SNR=6.7						
O17K	Koliganek Bris	35.92	45	P	P	20 22 53.6	+1.7
	baz=270,SNR=6.8						
A19K	Wainwright	35.98	27	P	P	20 22 52.6	+0.3
	baz=251						
C19K	Lookout Ridge	36.15	29	P	P	20 22 54.6	+0.7
	baz=254						
L18K	Granite Mounta	36.20	41	IAmb	IAmb	20 22 57.6	
	comp=Z,34nm,0.8s						
L18K	Granite Mounta	36.20	41	P	P	20 22 55.9	+1.6
	baz=267						
P17K	Kvichak River	36.26	46	P	P	20 22 55.9	+1.1
	baz=271						
J18K	Innoko River	36.28	39	P	P	20 22 55.4	+0.4
J18K				IAmb	IAmb	20 22 57.5	
	comp=Z,25nm,0.8s						
J18K	Innoko River	36.28	39	P	P	20 22 56.3	+1.3
	baz=265,SNR=15						
F19K	Shaleruckik Mo	36.30	33	IAmb	IAmb	20 23 01.2	
	comp=Z,18nm,0.6s						
F19K	Shaleruckik Mo	36.30	33	P	P	20 22 55.7	+0.7
	baz=259,SNR=15						
GCSA	Galena City Sc	36.34	36	P	P	20 22 56.2	+0.7
	baz=263,SNR=5.7						
G19K	Purcell Mounta	36.45	34	IAmb	IAmb	20 22 58.2	
	comp=Z,20nm,0.8s						
G19K	Purcell Mounta	36.45	34	P	P	20 22 57.1	+0.7
	baz=261						
D19K	Kuna River	36.52	30	P	P	20 22 57.8	+0.8
	baz=257						
N18K	Kilae Creek	36.53	43	P	P	20 22 59.4	+2.2
	baz=270,SNR=15						
TTA	Tatalina	36.55	40		P	20 22 58.5	+1.1
TTA				IAmb	IAmb	20 22 60.0	
	comp=Z,27nm,0.8s						
TTA	Tatalina	36.55	40	P	P	20 22 59.1	+1.7
	baz=266,SNR=16						
TTA	Tatalina	36.55	40	P	P	20 22 59.2	+1.7
TTA	Tatalina	36.55	40	P	P	20 22 58.5	+1.1
TTA				pmax	pmax		
	comp=Z,27nm,0.8s						
M18K	Stony River	36.58	42	P	P	20 22 59.5	+1.9
	baz=268						
Q17K	Contact Creek	36.58	47	P	P	20 22 59.5	+1.8
	baz=273						
H19K	Roundabout Mou	36.62	35	P	P	20 22 59.2	+1.4
	baz=262,SNR=48						
E19K	Redstone River	36.62	32	P	P	20 22 59.0	+1.2
	baz=259						
J19K	Poorman	36.81	38	P	P	20 23 00.9	+1.4
	baz=265,SNR=24						
O18K	Koktuh Hills	36.87	45	P	P	20 23 01.8	+1.7
O18K				IAmb	IAmb	20 23 03.2	
	comp=Z,24nm,0.9s						
O18K	Koktuh Hills	36.87	45	P	P	20 23 01.8	+1.7
	baz=271,SNR=5.8						
P18K	Big Mountain,	36.87	45	P	P	20 23 01.1	+0.9
P18K				IAmb	IAmb	20 23 03.0	
	comp=Z,37nm,1.0s						
P18K	Big Mountain,	36.87	45	P	P	20 23 01.8	+1.6
	baz=272,SNR=5.5						
CHIR	Chirikof Islan	36.91	51	P	P	20 23 01.0	+0.5
	baz=276						
Q18K	Katmai Hardscr	37.02	47	P	P	20 23 02.4	+0.9
	baz=273						
L19K	White Mountain	37.05	41	IAmb	IAmb	20 23 04.5	
	comp=Z,24nm,1.2s						
L19K	White Mountain	37.05	41	P	P	20 23 03.2	+1.6
	baz=268						
CD2	Chengdu	37.10	264	P	P	20 23 03.5	+1.1
CD2				pmax	pmax		
	comp=Z,110nm,0.4s						
F20K	Avaraart Lake	37.13	33	P	P	20 23 03.1	+1.0
	baz=261						
E20K	Nigu River	37.16	31	P	P	20 23 03.5	+1.0
	baz=259						
B20K	Meade River	37.21	28	P	P	20 23 02.9	+0.1
B20K	Meade River	37.21	28	P	P	20 23 03.4	+0.6
	baz=256						
N19K	Bonanza Creek	37.22	43	IAmb	IAmb	20 23 06.8	
	comp=Z,54nm,1.3s						
N19K	Bonanza Creek	37.22	43	P	P	20 23 04.9	+1.8
	baz=271,SNR=7.5						
H20K	Anotleneega Mo	37.26	35	P	P	20 23 04.8	+1.5
	baz=264,SNR=30						
M19K	Big River Lodg	37.27	41	IAmb	IAmb	20 23 06.5	
	comp=Z,20nm,1.0s						
M19K	Big River Lodg	37.27	41	P	P	20 23 05.1	+1.7
	baz=269						
O19K	Port Alsworth	37.31	44	P	P	20 23 05.5	+1.8
O19K				IAmb	IAmb	20 23 08.5	
	comp=Z,13nm,0.6s						
O19K	Port Alsworth	37.31	44	P	P	20 23 05.5	+1.8
	baz=272						
I20K	Naaghedeneel	37.37	37	P	P	20 23 04.9	+0.7
I20K				IAmb	IAmb	20 23 07.8	
	comp=Z,53nm,1.3s						
I20K	Naaghedeneel	37.37	37	P	P	20 23 05.9	+1.8
	baz=265						
K20K	Telida	37.46	39	IAmb	IAmb	20 23 08.4	
	comp=Z,26nm,1.1s						
K20K	Telida	37.46	39	P	P	20 23 06.9	+1.9
	baz=268,SNR=11						
J20K	Nowinta River	37.47	38	P	P	20 23 06.5	+1.5
J20K	Nowinta River	37.47	38	P	P	20 23 06.9	+1.9
	baz=266,SNR=31						
L20K	Farewell, AK	37.52	40	P	P	20 23 06.9	+1.3
	baz=269						
SII	Sitkinak Islan	37.63	50	P	P	20 23 07.2	+0.7
	baz=276						
GYA	Guiyang	37.69	256	⇑P	P	20 23 08.0	+0.5
GYA				pmax	pmax		
	comp=Z,28nm,0.8s						
Q19K	Cape Douglas,	37.71	46	P	P	20 23 08.1	+0.9
	baz=274						
A21K	Barrow	37.72	26	P	P	20 23 07.4	+0.4
	baz=255						
IMAR	Indian Mountai	37.78	35	P	P	20 23 08.5	+0.8
IMAR					PcP	20 25 23.5	+1.4
C21K	Knifeblade Rid	37.84	29	P	P	20 23 09.4	+1.2
	baz=259						
M20K	Styx River	37.86	41	IAmb	IAmb	20 23 11.8	
	comp=Z,21nm,0.7s						
M20K	Styx River	37.86	41	P	P	20 23 10.6	+2.1
	baz=270						
P19K	Oil Pt	37.88	45	P	P	20 23 10.2	+1.5
	baz=273						
G21K	Allakaket	37.93	34	P	P	20 23 10.3	+1.4
	baz=264,SNR=29						
B21K	Ikpikpuk River	37.98	29	P	P	20 23 10.1	+0.8
	baz=259						
E21K	Killik River	38.01	31	P	P	20 23 09.7	+0.2
E21K				IAmb	IAmb	20 23 11.8	
	comp=Z,24nm,0.8s						
E21K	Killik River	38.01	31	P	P	20 23 10.4	+0.8
	baz=261						
F21K	Alatna River	38.02	33	IAmb	IAmb	20 23 12.2	
	comp=Z,21nm,0.9s						
F21K	Alatna River	38.02	33	P	P	20 23 10.7	+1.0
	baz=263,SNR=16						
OHAK	Old Harbor	38.05	49	P	P	20 23 11.2	+1.2
	baz=276						
H21K	Melozitna Rive	38.14	35	IAmb	IAmb	20 23 13.1	
	comp=Z,21nm,0.7s						
H21K	Melozitna Rive	38.14	35	P	P	20 23 12.2	+1.5
	baz=266						
A22K	Sinclair Lake	38.16	26	P	P	20 23 11.0	+0.3
	baz=257						
O20K	Slope Mountain	38.16	44	P	P	20 23 12.1	+1.1
	baz=273						
CHUM	Lake Minchumin	38.26	38	P	P	20 23 13.7	+2.0
	baz=268,SNR=17						
PPLA	Purkeypile	38.30	40	P	P	20 23 14.5	+2.2
	baz=270,SNR=10						
N20K	Mount Spurr	38.32	42	P	P	20 23 14.3	+2.0
	baz=272,SNR=9.5						
SPCR	Spurr Chakacha	38.32	42	P	P	20 23 14.3	+2.0
	baz=272,SNR=6.5						
CAST	Castle Rocks	38.35	39	P	P	20 23 14.6	+2.0
	baz=269,SNR=32						
KDAK	Kodiak Island	38.37	48	LR	LR	20 40 01.6	
	comp=Z,30nm,20.4s,baz=110,slow=38						
Q20K	Shuyak Island	38.39	47	P	P	20 23 12.3	-0.5
	baz=275						
I21K	Tanana	38.45	36	IAmb	IAmb	20 23 15.6	
	comp=Z,18nm,0.7s						
I21K	Tanana	38.45	36	P	P	20 23 15.0	+1.7
	baz=267,SNR=12						
B22K	Teshekpuk Lake	38.52	28	IAmb	IAmb	20 23 15.0	
	comp=Z,33nm,0.7s						
B22K	Teshekpuk Lake	38.52	28	P	P	20 23 14.0	+0.2
	baz=259						
D22K	Ayikyak River	38.54	30	IAmb	IAmb	20 23 16.1	
	comp=Z,29nm,0.7s						
D22K	Ayikyak River	38.54	30	P	P	20 23 14.8	+0.8
	baz=262,SNR=19						
F22K	John River	38.55	32	P	P	20 23 15.6	+1.4
	baz=264						
SKT	Skwentna	38.62	41	P	P	20 23 15.8	+1.0
SKT	Skwentna	38.62	41	P	P	20 23 16.4	+1.6
	baz=272,SNR=5.4						
H22K	Ishtalitna Cre	38.74	35	P	P	20 23 17.3	+1.6
	baz=267						
E22K	Anaktuvuk Pass	38.76	31	IAmb	IAmb	20 23 18.6	
	comp=Z,27nm,0.6s						
E22K	Anaktuvuk Pass	38.76	31	P	P	20 23 16.9	+1.0
	baz=264						
G22K	Bettles	38.76	33	P	P	20 23 16.8	+0.9
	baz=265,SNR=38						
BPAW	Bear Paw Mtn.	38.85	38	IAmb	IAmb	20 23 19.3	
	comp=Z,24nm,1.0s						
BPAW	Bear Paw Mtn.	38.85	38	P	P	20 23 18.1	+1.4
	baz=270,SNR=16						
MLY	Manley	38.97	36	P	P	20 23 18.3	+0.6
MLY				IAmb	IAmb	20 23 20.4	
	comp=Z,14nm,0.6s						
MLY	Manley	38.97	36	P	P	20 23 19.2	+1.5
	baz=268,SNR=16						
SUA	Susitna One	39.01	42	IAmb	IAmb	20 23 22.1	
	comp=Z,16nm,0.7s						
SUA	Susitna One	39.01	42	P	P	20 23 18.8	+0.6
	baz=273,SNR=7.7						
BRSE	Bradley Lake S	39.13	45	P	P	20 23 20.3	+1.2
	baz=275						
TRF	Thorofare Moun	39.16	39	P	P	20 23 20.6	+1.2
	baz=271,SNR=11						
D23K	Nanushuk River	39.27	30	IAmb	IAmb	20 23 22.4	
	comp=Z,25nm,1.0s						
D23K	Nanushuk River	39.27	30	P	P	20 23 21.3	+1.2
	baz=264						
COLD	Coldfoot	39.29	33	P	P	20 23 21.5	+1.2
	baz=266,SNR=22						
G23K	Bananza Creek	39.33	34	IAmb	IAmb	20 23 22.8	
	comp=Z,22nm,0.8s						
G23K	Bananza Creek	39.33	34	P	P	20 23 21.9	+1.2
	baz=267,SNR=28						
C23K	Itkillik River	39.39	29	P	P	20 23 21.2	+0.1
C23K	Itkillik River	39.39	29	P	P	20 23 21.7	+0.6
	baz=263,SNR=32						
H23K	Yukon River	39.49	35	IAmb	IAmb	20 23 24.9	
	comp=Z,37nm,0.7s						
H23K	Yukon River	39.49	35	P	P	20 23 23.1	+1.1
	baz=269,SNR=31						
RC01	Rabbit Creek A	39.52	43	IAmb	IAmb	20 23 24.2	
	comp=Z,31nm,0.8s						
RC01	Rabbit Creek A	39.52	43	P	P	20 23 23.2	+1.0
	baz=274,SNR=7.3						
I23K	Minto, Yukon-K	39.56	36	P	P	20 23 23.7	+1.2
I23K				IAmb	IAmb	20 23 25.1	
	comp=Z,16nm,0.6s						
I23K	Minto, Yukon-K	39.56	36	P	P	20 23 23.7	+1.2
	baz=270,SNR=9.4						
E23K	Chandalar	39.57	32	IAmb	IAmb	20 23 26.1	
	comp=Z,28nm,0.7s						
E23K	Chandalar	39.57	32	P	P	20 23 23.8	+1.0
	baz=266						
O22K	Cooper Landing	39.58	43	P	P	20 23 23.2	+0.5
	baz=275						
TOLK	Toolik Lake Re	39.64	31	P	P	20 23 24.1	+0.9
TOLK				IAmb	IAmb	20 23 25.3	
	comp=Z,17nm,0.9s						
TOLK	Toolik Lake Re	39.64	31	P	P	20 23 24.1	+0.9
	baz=265,SNR=14						
NEA2	Nenana	39.68	37	P	P	20 23 25.2	+1.6
	baz=271,SNR=33						
SEW	Seward	39.75	44	P	P	20 23 24.9	+0.8
	baz=276						
MCK	McKinley	39.76	38	P	P	20 23 25.4	+1.1
	baz=272,SNR=21						
PMR	Palmer	39.78	42		P	20 23 24.7	+0.4
PMR				IAmb	IAmb	20 23 26.6	
	comp=Z,27nm,1.1s						
PMR	Palmer	39.78	42	P	P	20 23 25.3	+1.0
	baz=274						
PMR	Palmer	39.78	42	P	P	20 23 26.1	+1.8
PMR	Palmer	39.78	42	P	P	20 23 24.7	+0.4
PMR				pmax	pmax		
	comp=Z,27nm,1.1s						
RND	Reindeer	39.81	39	IAmb	IAmb	20 23 26.5	
	comp=Z,44nm,0.8s						
GHO	Glory Hole Cre	39.86	41	IAmb	IAmb	20 23 27.3	
	comp=Z,38nm,0.9s						
D24K	Happy Valley	39.95	30	P	P	20 23 26.6	+0.9
	baz=265						
E24K	Your Creek	40.00	32	IAmb	IAmb	20 23 29.2	
	comp=Z,24nm,0.6s						
E24K	Your Creek	40.00	32	P	P	20 23 27.4	+1.2
	baz=267						
C24K	Franklin Bluff	40.04	29	P	P	20 23 26.9	+0.5
	baz=265,SNR=55						
WRH	Wood River Hil	40.11	37	P	P	20 23 27.4	+0.3
WRH				IAmb	IAmb	20 23 35.4	
	comp=Z,14nm,0.7s						
KNK	Knik Glacier	40.11	42	IAmb	IAmb	20 23 30.1	
	comp=Z,40nm,0.8s						
KNK	Knik Glacier	40.11	42	P	P	20 23 28.2	+1.0
	baz=275,SNR=10						
SML	Sawmill	40.14	41	P	P	20 23 28.9	+1.5
	baz=275,SNR=28						
H24K	Noodor Dome	40.18	35	IAmb	IAmb	20 23 30.2	
	comp=Z,18nm,0.8s						
H24K	Noodor Dome	40.18	35	P	P	20 23 29.7	+2.0
	baz=270,SNR=20						
COLA	College	40.20	37	P	P	20 23 29.0	+1.1
COLA	College	40.20	37	P	P	20 23 29.3	+1.5
	baz=271						
COLA	College	40.20	37	P	P	20 23 30.0	+2.2
COLA	College	40.20	37	*c iP*	P	20 23 28.9	+1.1
COLA				pmax	pmax		
	comp=Z,61nm,0.9s						
F24K	Squaw Lake	40.20	32	IAmb	IAmb	20 23 30.6	
	comp=Z,15nm,0.6s						
F24K	Squaw Lake	40.20	32	P	P	20 23 29.0	+1.2
	baz=268						
PWL	Port Wells	40.22	43	IAmb	IAmb	20 23 30.3	
	comp=Z,22nm,0.8s						
PWL	Port Wells	40.22	43	P	P	20 23 29.8	+1.7
	baz=276,SNR=5.7						
CCB	Clear Creek Bu	40.23	37	P	P	20 23 28.4	+0.4
CCB				IAmb	IAmb	20 23 32.0	
	comp=Z,12nm,0.8s						
G24K	Hadweenzic Riv	40.34	34	IAmb	IAmb	20 23 31.8	
	comp=Z,33nm,0.8s						
G24K	Hadweenzic Riv	40.34	34	P	P	20 23 30.9	+1.9
	baz=270,SNR=28						
WAT6	Susitna Watana	40.36	40	P	P	20 23 30.4	+1.0
	baz=274,SNR=11						
POKR	Poker Plat Res	40.37	36	P	P	20 23 31.2	+2.0
	baz=271,SNR=19						
M23K	Glacier View	40.43	41	P	P	20 23 31.5	+1.7
	baz=275,SNR=6.9						
DHY	Denali Highway	40.49	39	P	P	20 23 31.6	+1.1
	baz=274,SNR=16						
HDA	Harding Lake	40.61	37	P	P	20 23 31.2	0.0
HDA				IAmb	IAmb	20 23 33.4	
	comp=Z,44nm,1.1s						
HDA	Harding Lake	40.61	37	P	P	20 23 31.8	+0.6
	baz=273,SNR=22						
SCM	Sheep Creek Mo	40.61	41	IAmb	IAmb	20 23 33.7	
	comp=Z,30nm,0.9s						
SCM	Sheep Creek Mo	40.61	41	P	P	20 23 32.5	+1.2
	baz=275,SNR=5.2						
IL31		40.62	37	P	P	20 23 31.9	+0.7
ILAR	Eielson Array	40.62	37	P	P	20 23 31.6	+0.3
ILAR	Eielson Array	40.62	37	P	P	20 23 31.9	+0.7
	comp=Z,16nm,0.6s,baz=272,slow=8.7,SNR=101						
ILAR				PcP	PcP	20 25 31.3	+0.1
	comp=Z,1.6nm,0.9s,baz=286,slow=3.5,SNR=3.4						
ILAR				ScP	ScP	20 29 10.6	-0.4
	comp=Z,0.8nm,0.8s,baz=267,slow=3.6,SNR=4.5						
ILAR				LR	LR	20 42 31.2	
	comp=Z,28nm,18.1s,baz=113,slow=39						
	comp=Z,16nm,0.6s						
GOMU	GeErMu	40.79	277	P	P	20 23 34.5	+1.0
GOMU				pmax	pmax		
	comp=

G25K Bearm Lake 40.89 34 P P 20 23 35.3 +1.8
baz=271,SNR=17
H25L Birch Creek 41.01 34 P P 20 23 36.5 +2.0
baz=272
F25K Christian Rive 41.06 32 P P 20 23 36.8 +1.8
baz=270,SNR=16
PZH PanZhiHua 41.11 260 P P 20 23 26.9 -9.0
PZH pmax pmax
comp=Z,40nm,0.8s
PZH pmax pmax
comp=Z,180nm,5.1s
M24K Tolsona, Glenn 41.13 41 P P 20 23 36.3 +0.7
M24K Tolsona, Glenn 41.13 41 P P 20 23 37.2 +1.7
baz=276,SNR=5.7
ZAA0 Zalesovo Array 41.14 307 P P 20 23 33.9 -1.7
ZAA0 IAmb IAmb 20 23 37.7
comp=Z,9.0nm,0.6s
ZAA0 **PcP 20 25 33.4 +0.4**
ZALV Zalesovo Beam 41.14 307 P P 20 23 33.8 -1.9
ZALV **PcP 20 25 33.4 +0.4**
ZALV Zalesovo Beam 41.14 307 P P 20 23 34.2 -1.4
comp=Z,8.6nm,0.5s,baz=72,slow=8.7,SNR=26
ZALV PcP **PcP 20 25 33.9 +0.9**
comp=Z,16nm,0.5s,baz=84,slow=3.3,SNR=29
ZALV ScP **ScP 20 29 14.6 +1.5**
comp=Z,0.6nm,0.5s,baz=98,slow=2.0,SNR=2.2
ZALV LR LR 20 40 45.9
comp=Z,75nm,18.1s,baz=71,slow=36
comp=Z,8.6nm,0.5s
ZALV Zalesovo Beam 41.14 307 *i* P **P 20 23 34.2 -1.4**
ZALV pmax pmax
comp=Z,8.0nm,0.5s
K24K Donnelly Dome 41.16 38 P P 20 23 36.4 +0.7
baz=274,SNR=9.4
PRP Porcupine Dome 41.16 35 IAmb IAmb 20 23 38.4
comp=Z,33nm,0.7s
PRP Porcupine Dome 41.16 35 P P 20 23 37.4 +1.5
baz=273,SNR=36
KMI Kunming 41.27 258 ⇑P **P 20 23 38.8 +1.4**
KMI pmax pmax
comp=Z,38nm,1.1s
J25K Salcha River, 41.28 37 P P 20 23 36.9 +0.1
baz=274,SNR=15
KLU Klutina 41.32 42 IAmb IAmb 20 23 40.3
comp=Z,41nm,0.8s
KLU Klutina 41.32 42 P P 20 23 38.6 +1.5
baz=277,SNR=13
PAX Paxson 41.37 39 P P 20 23 39.3 +1.7
baz=276,SNR=8.3
C26K Camden Bay 41.37 29 P P 20 23 39.0 +1.7
baz=268
Q23K Middleton Isla 41.39 45 P P 20 23 39.7 +2.0
baz=279
BMAR Burnt Mountain 41.48 33 P **P 20 23 39.5 +1.1**
BMAR PcP **PcP 20 25 35.6 +1.7**
EYAK Cordova Ski Ar 41.52 43 P P 20 23 40.0 +1.3
baz=278
HARP HAARP 41.57 40 P P 20 23 40.9 +1.8
baz=276,SNR=9.2
RIDG Independent Ri 41.57 38 IAmb IAmb 20 23 41.4
comp=Z,46nm,0.9s
RIDG Independent Ri 41.57 38 P P 20 23 39.9 +0.7
baz=275,SNR=17
F26K Sheenjek River 41.63 32 IAmb IAmb 20 23 42.6
comp=Z,21nm,0.8s
F26K Sheenjek River 41.63 32 P P 20 23 41.3 +1.6
baz=271,SNR=25
C27K Jago River 41.78 29 P P 20 23 41.9 +1.1
baz=270
G26K Porcupine Rive 41.80 33 P P 20 23 42.8 +1.9
baz=273
N25K Chitina, Valde 41.93 41 IAmb IAmb 20 23 44.4
comp=Z,20nm,1.1s
N25K Chitina, Valde 41.93 41 P P 20 23 43.5 +1.4
baz=278
SCRK Sand Creek 41.93 38 IAmb IAmb 20 23 43.8
comp=Z,37nm,1.0s
SCRK Sand Creek 41.93 38 P P 20 23 43.0 +0.8
baz=276,SNR=27
DAV Davao City (W) 42.00 215 LR LR 20 39 53.4
comp=Z,30nm,20.8s,baz=17,slow=34
BMRM Bremner River 42.02 42 P P 20 23 44.3 +1.5
baz=279,SNR=7.7
J26L Joseph Creek 42.06 37 P P 20 23 43.4 +0.1
baz=276,SNR=10
I26K Coal Creek Min 42.16 36 P P 20 23 44.9 +1.0
baz=275
MENT Mentasta 42.16 39 IAmb IAmb 20 23 46.8
comp=Z,22nm,0.6s
MENT Mentasta 42.16 39 P P 20 23 45.9 +1.9
comp=Z,35nm,0.7s
L26K Log Cabin Wild 42.32 39 P P 20 23 46.5 +1.3
L26K Log Cabin Wild 42.32 39 P P 20 23 47.3 +2.0
baz=277,SNR=27
WMQ Urumqi 42.46 291 ⇑P **P 20 23 48.1 +1.4**
WMQ pP pP 20 24 10.5 -0.3
WMQ pmax pmax
comp=Z,75nm,0.7s
WMQ pmax pmax
comp=Z,140nm,3.7s
VRDI Verde Repeater 42.53 42 IAmb IAmb 20 23 49.9
comp=Z,21nm,0.8s
M26K Nabesna, AK 42.57 40 P P 20 23 49.8 +2.5
baz=278,SNR=35
E27K Coleen River 42.58 31 IAmb IAmb 20 23 49.7
comp=Z,25nm,1.4s
E27K Coleen River 42.58 31 P P 20 23 48.9 +1.6
baz=273,SNR=14
G27K Doyon Strip 42.65 33 P P 20 23 49.3 +1.5
baz=275,SNR=12
MCARA McCarthy VSAT 42.71 41 P P 20 23 48.9 +0.5
MCARA IAmb IAmb 20 23 54.5
comp=Z,32nm,1.0s
MCARA McCarthy VSAT 42.71 41 P P 20 23 50.1 +1.8
baz=279
H27K Steamboat Moun 42.75 34 P P 20 23 50.8 +2.1
baz=275
D27M Malcolm River 42.76 30 IAmb IAmb 20 23 51.0
comp=Z,16nm,0.8s
D27M Malcolm River 42.76 30 P P 20 23 49.9 +1.2
baz=273
I27K Kandik River 42.78 35 P P 20 23 50.2 +1.2
baz=276
CRQE Cirque 42.78 42 P P 20 23 51.1 +2.0
baz=280,SNR=12
TGL Tana Glacier 42.91 42 IAmb IAmb 20 23 53.3
comp=Z,38nm,1.2s
SLVN Son La 42.94 252 P P 20 23 52.3 +1.5
ZSN Zaisan 42.99 297 *eP* **P 20 23 51.7 +0.9**
comp=Z,22nm,0.6s
ZSN Zaisan 42.99 297 *eP* **P 20 23 51.7 +0.9**
ZSN pmax pmax
comp=Z,22nm,0.6s
L27K Beaver Creek, 43.00 39 P P 20 23 53.1 +2.3
baz=279
BCAR Beaver Creek A 43.02 39 P P 20 23 52.5 +1.5
EGAK Eagle 43.06 36 P P 20 23 52.0 +0.9
baz=277,SNR=29
M27K Edge Creek, AK 43.09 40 P P 20 23 53.9 +2.3
baz=279
F28M Old Crow 43.27 32 IAmb IAmb 20 23 55.7
comp=Z,22nm,0.7s
F28M Old Crow 43.27 32 P P 20 23 54.7 +1.9
baz=275,SNR=30
E28M Babbage River 43.31 31 IAmb IAmb 20 23 56.2
comp=Z,15nm,0.6s
E28M Babbage River 43.31 31 P P 20 23 54.5 +1.4
baz=275,SNR=24
GRNC Granite Creek 43.43 42 P P 20 23 55.7 +1.3
MESA MESA 43.45 43 P P 20 23 56.5 +1.9
baz=282
I28M Miner Creek 43.49 35 P P 20 23 56.5 +1.8
baz=278
D28M Stokes Point 43.54 30 P P 20 23 56.6 +1.7
baz=275
BVCY Beaver Creek 43.55 40 P P 20 23 57.3 +2.1
baz=280,SNR=26
CTG Chitna Glacier 43.59 42 P P 20 23 57.6 +2.0
baz=281,SNR=13
CTGM Chitina Glacie 43.59 42 IAmb IAmb 20 23 59.1
comp=Z,62nm,1.2s
YUK3 Moose Creek 43.85 41 P P 20 23 59.4 +1.6
baz=281,SNR=12
DAWY Dawson 43.92 37 P P 20 23 59.3 +1.2
baz=280,SNR=11
E29M Blow River 43.93 31 IAmb IAmb 20 24 01.7
comp=Z,21nm,1.0s
E29M Blow River 43.93 31 P P 20 23 60.0 +1.9
baz=276,SNR=19
H29M Whitestone 44.02 34 P P 20 23 59.9 +1.0
H29M IAmb IAmb 20 24 01.9
comp=Z,33nm,1.1s
H29M Whitestone 44.02 34 P P 20 24 00.9 +2.1
baz=278,SNR=18
G29M Pine Creek 44.06 33 IAmb IAmb 20 24 02.5
comp=Z,41nm,0.9s
G29M Pine Creek 44.06 33 P P 20 24 01.4 +2.2
baz=278
I29M Ogilvie Camp, 44.18 35 P P 20 24 01.8 +1.7
baz=279,SNR=29
O28M Mount Upton 44.18 42 P P 20 24 01.9 +1.4
baz=282
YUK8 Steele Glacier 44.27 41 P P 20 24 02.6 +1.4
baz=282
PINM Pinnacle 44.29 43 P P 20 24 02.8 +1.7
baz=283
TNCH TengChong 44.30 261 ⇑P **P 20 24 03.3 +1.5**
TNCH pmax pmax
comp=Z,46nm,0.9s
TNCH pmax pmax
comp=Z,64nm,3.2s
BCPM Bancas Point 44.63 43 IAmb IAmb 20 24 10.6
comp=Z,33nm,1.0s
M29M Somme Creek 44.64 39 IAmb IAmb 20 24 07.1
comp=Z,11nm,0.7s
M29M Somme Creek 44.64 39 P P 20 24 06.0 +2.1
baz=282
L29M L29M 44.65 38 IAmb IAmb 20 24 07.6
comp=Z,50nm,1.1s
L29M L29M 44.65 38 P P 20 24 06.7 +2.8
baz=282,SNR=27
EPYK Eagle Plains 44.66 34 P P 20 24 05.5 +1.5
EPYK Eagle Plains 44.66 34 P P 20 24 05.8 +1.8
baz=279,SNR=45
G30M tAoh Zraii Nji 44.76 33 P P 20 24 06.1 +1.4
baz=279
K29M Barlow Dome 44.78 37 IAmb IAmb 20 24 08.1
comp=Z,34nm,1.1s
K29M Barlow Dome 44.78 37 P P 20 24 06.9 +1.9
baz=281
YUK4 Talbot Arm 44.79 41 P P 20 24 07.3 +2.0
baz=283
PNL Peninsula 44.81 43 P P 20 24 07.2 +2.0
baz=284
F30M Barrier River 44.82 32 P P 20 24 07.3 +2.1
baz=279,SNR=56
MK31 Makanchi Array 44.86 297 *ceP* **P 20 24 06.5 +0.7**
MKAR Makanchi Array 44.86 297 P P 20 24 06.1 +0.2
MKAR PcP **PcP 20 25 46.4 +0.7**
MKAR Makanchi Array 44.86 297 P P 20 24 06.3 +0.5
comp=Z,90nm,0.6s,baz=79,slow=9.1,SNR=750
MKAR PcP **PcP 20 25 46.8 +1.1**
comp=Z,7.8nm,0.6s,baz=60,slow=5.8,SNR=4.7
MKAR LR LR 20 44 52.6
comp=Z,69nm,18.1s,baz=36,slow=39
comp=Z,90nm,0.6s
MKAR Makanchi Array 44.86 297 P P 20 24 06.1 +0.2
MKAR 20 25 46.4
I30M Mount Dempster 45.00 35 P P 20 24 08.6 +1.8
baz=281,SNR=66
YUK6 Outpost Mounta 45.01 41 P P 20 24 09.1 +2.1
baz=284
MAKZ Makanchi 45.06 298 P P 20 24 07.7 +0.3
MAKZ Makanchi 45.06 298 P P 20 24 07.7 +0.3
MAKZ pmax pmax
comp=Z,99nm,0.7s
O29M Mount Kennedy 45.06 42 P P 20 24 09.2 +1.8
baz=284
J30M Hart River 45.14 36 IAmb IAmb 20 24 10.7
comp=Z,34nm,1.1s
J30M Hart River 45.14 36 P P 20 24 09.8 +1.8
baz=282,SNR=21
M30M Minto, Yukon 45.37 39 IAmb IAmb 20 24 13.1
comp=Z,21nm,0.9s
M30M Minto, Yukon 45.37 39 P P 20 24 12.2 +2.6
baz=283,SNR=15
HYT Haines Junctio 45.45 41 P P 20 24 13.1 +2.7
baz=284,SNR=32
N30M Aishikik Lake 45.49 41 P P 20 24 12.5 +1.8
baz=284
G31M Satah River 45.52 33 IAmb IAmb 20 24 12.9
comp=Z,28nm,0.6s
G31M Satah River 45.52 33 P P 20 24 12.1 +1.4
baz=281,SNR=24
MAYO Mayo, Yukon 45.54 37 P P 20 24 12.6 +1.7
baz=283,SNR=6.4
INK Inuvik 45.55 31 P P 20 24 11.5 +0.6
INK IAmb IAmb 20 24 13.9
comp=Z,19nm,0.6s
INK Inuvik 45.55 31 P P 20 24 12.2 +1.3
baz=280,SNR=25
INK Inuvik 45.55 31 P P 20 24 11.5 +0.6
INK pmax pmax
comp=Z,19nm,0.6s
F31M Tsiigehtchic 45.63 32 P P 20 24 12.7 +1.2
baz=281,SNR=6.8
P29M Windy Craggy 45.64 43 P P 20 24 14.0 +2.2
baz=285,SNR=19
KURK Kurchatov 45.71 304 P P 20 24 11.8 -0.6
KURK Kurchatov 45.71 304 P P 20 24 12.1 -0.3
KURK Kurchatov 45.71 304 *eP* **P 20 24 11.8 -0.6**
KURK Kurchatov 45.71 304 *ceP* **P 20 24 11.8 -0.6**
KURK pmax pmax
comp=Z,47nm,0.6s
H31M Peel River 45.72 34 P P 20 24 14.2 +1.9
baz=282,SNR=23
KURBB Kurchatov Arra 45.80 304 P P 20 24 12.8 -0.4
comp=Z,37nm,0.5s,baz=74,slow=8.5,SNR=231
KURBB PcP **PcP 20 25 49.2 +0.3**
comp=Z,12nm,0.7s,baz=73,slow=3.5,SNR=12
KURBB S **S 20 30 45.0 -3.8**
comp=Z,0.3nm,0.6s,baz=330,slow=11,SNR=3.8
comp=Z,37nm,0.5s
P30M Million Dollar 45.89 42 P P 20 24 16.2 +2.5
baz=285,SNR=11
N31M Braeburn, Yuko 46.09 40 IAmb IAmb 20 24 19.1
comp=Z,36nm,0.9s
N31M Braeburn, Yuko 46.09 40 P P 20 24 17.4 +2.1
baz=285
O30N Mendenhall 46.13 41 P P 20 24 13.3 -2.3
O30N Mendenhall 46.13 41 P P 20 24 17.8 +2.2
baz=285
PLBC Pleasant Camp 46.36 43 P P 20 24 19.8 +2.4
baz=286,SNR=9.2
M31M Drury Creek, Y 46.54 39 IAmb IAmb 20 24 22.1
comp=Z,28nm,0.9s
M31M Drury Creek, Y 46.54 39 P P 20 24 21.0 +2.2
baz=285,SNR=12
WHY Whitehorse 46.73 41 IAmb IAmb 20 24 24.0
comp=Z,19nm,1.2s
WHY Whitehorse 46.73 41 P P 20 24 22.5 +2.1
baz=286,SNR=8.7
LSA Lhasa 46.81 272 IAmb IAmb 20 24 24.7
comp=Z,14nm,0.7s
S31K Pelican 46.86 45 P P 20 24 22.3 +1.1
baz=288
SKAG Skagway 46.86 43 P P 20 24 23.6 +2.3
baz=287
FARO Faro, Yukon 47.01 39 IAmb IAmb 20 24 25.4
comp=Z,22nm,0.8s
FARO Faro, Yukon 47.01 39 P P 20 24 24.2 +1.8
baz=286,SNR=16
PHRA Phrae 47.39 253 P P 20 24 27.4 +1.5
N32M Quiet Lake 47.44 40 P P 20 24 27.2 +1.4
baz=287
A36M Sachs Harbour 47.55 25 IAmb IAmb 20 24 28.5
comp=Z,31nm,0.8s
A36M Sachs Harbour 47.55 25 P P 20 24 26.9 +0.5
baz=284,SNR=8.5
P32M Atlin 47.61 42 P P 20 24 29.3 +2.1
baz=288
SIT Sitka 47.61 46 P P 20 24 29.2 +2.1
baz=289
R32K Eaglecrest 47.63 44 P P 20 24 25.0 -2.3
R32K IAmb IAmb 20 24 31.2
comp=Z,22nm,0.8s
R32K Eaglecrest 47.63 44 P P 20 24 29.4 +2.1
baz=289
JIS Juneau Island 47.70 44 P P 20 24 30.6 +2.9
P33M Teslin, Yukon 47.85 41 IAmb IAmb 20 24 32.5
comp=Z,53nm,1.3s
P33M Teslin, Yukon 47.85 41 P P 20 24 31.3 +2.2
baz=288,SNR=14
S32K Killisnoo 47.86 45 P P 20 24 31.4 +2.4
baz=289
CHTO Chiang Mai 48.06 254 P P 20 24 31.6 +0.5
CHTO IAmb IAmb 20 24 33.7
comp=Z,13nm,0.8s
CHTO Chiang Mai 48.06 254 P P 20 24 31.6 +0.5
CHTO pmax pmax
comp=Z,13nm,0.8s
TDK Taldyqorghan 48.07 297 *eP* **P 20 24 32.0 +1.1**
TDK Taldyqorghan 48.07 297 *eP* **P 20 24 32.0 +1.1**
SHLS Shalkode 48.19 294 *eP* **P 20 24 30.6 -1.4**
comp=Z,9.2nm,0.4s
SHLS Shalkode 48.19 294 *eP* **P 20 24 30.5 -1.4**
SHLS pmax pmax
comp=Z,9.0nm,0.4s
CM31 Chiang Mai Arr 48.31 254 P P 20 24 35.1 +2.1
CMAR Chiang Mai Arr 48.31 254 P P 20 24 33.9 +0.9
CMAR Chiang Mai Arr 48.31 254 P P 20 24 34.8 +1.8
comp=Z,4.2nm,0.6s,baz=43,slow=7.2,SNR=51
comp=Z,4.2nm,0.6s
UZB Uzynbulak 48.48 294 *eP* **P 20 24 35.0 +0.7**
comp=Z,15nm,0.7s
UZB Uzynbulak 48.48 294 *eP* **P 20 24 34.9 +0.7**
UZB pmax pmax
comp=Z,15nm,0.7s
Q32M Nakina River 48.52 43 P P 20 24 36.6 +2.3
baz=290
KPKS Kokpek 48.56 295 *eP* **P 20 24 35.8 +1.0**
comp=Z,26nm,0.8s
KPKS Kokpek 48.56 295 *eP* **P 20 24 35.7 +1.0**
KPKS pmax pmax
comp=Z,26nm,0.8s
C36M Paulatuk 48.64 28 P P 20 24 35.9 +1.1
baz=287,SNR=22
SHL Shillong 48.70 267 P P 20 24 36.8 +0.7
SNR=10
ZHN Zhinishke 48.85 294 *eP* **P 20 24 38.0 +1.0**
comp=Z,22nm,0.8s
ZHN Zhinishke 48.85 294 *eP* **P 20 24 38.0 +1.0**
ZHN pmax pmax
comp=Z,22nm,0.8s
SATY Saty 48.92 294 *eP* **P 20 24 38.7 +1.0**
comp=Z,20nm,0.8s
SATY Saty 48.92 294 *eP* **P 20 24 38.6 +1.0**
SATY pmax pmax
comp=Z,20nm,0.8s
R33M Jennings River 49.00 42 P P 20 24 40.8 +2.8
baz=290
U33K Whale Pass 49.09 47 P P 20 24 41.2 +2.8
baz=292
CRAG Craig 49.32 47 P P 20 24 42.9 +2.6
baz=292
WRAK Wrangell Islan 49.38 46 P P 20 24 43.2 +2.6
baz=292
S34M Telegraph Cree 49.44 44 IAmb IAmb 20 24 44.9
comp=Z,10.0nm,0.8s
S34M Telegraph Cree 49.44 44 P P 20 24 43.9 +2.7
baz=291
CHKK Chushkaly 49.48 296 *eP* **P 20 24 42.3 +0.6**
CHKK Chushkaly 49.48 296 *eP* **P 20 24 42.3 +0.6**
TGTN Hyland Airport 49.51 39 P P 20 24 44.0 +2.3
baz=290,SNR=9.4
BVAR Borovoye Array 49.60 309 P P 20 24 41.5 -1.0
comp=Z,5.7nm,0.5s,baz=68,slow=7.1,SNR=42
BVAR PcP **PcP 20 26 03.3 +0.9**
comp=Z,6.2nm,0.5s,baz=64,slow=3.4,SNR=8.4
BVAR S **S 20 31 38.5 -4.1**
comp=Z,1.1nm,0.8s,baz=70,slow=13,SNR=3.6
comp=Z,5.7nm,0.5s
BRVK Borovoye 49.65 309 P P 20 24 41.9 -0.9
BRVK IAmb IAmb 20 24 45.1
comp=Z,14nm,1.0s
BRVK PcP **PcP 20 26 02.4 -0.2**
BRVK Borovoye 49.65 309 P P 20 24 42.6 -0.2
BRVK Borovoye 49.65 309 *eP* **P 20 24 42.4 -0.4**
BRVK Borovoye 49.65 309 *ceP* **P 20 24 42.4 -0.4**
BRVK pmax pmax
comp=Z,20nm,1.3s
MDOK Medeo 49.76 295 *eP* **P 20 24 45.0 +0.9**
MDOK Medeo 49.76 295 *eP* **P 20 24 44.9 +0.9**
DLBC Dease Lake 49.80 43 IAmb IAmb 20 24 47.2
comp=Z,10nm,0.7s
DLBC Dease Lake 49.80 43 P P 20 24 46.6 +2.6
baz=292,SNR=6.4
AAA Alma-Ata 49.83 295 *eP* **P 20 24 45.3 +0.9**
AAA Alma-Ata 49.83 295 *eP* **P 20 24 45.3 +0.9**
TNSS Tian-Shan 49.88 295 *eP* **P 20 24 45.8 +0.6**
TNSS Tian-Shan 49.88 295 *eP* **P 20 24 45.8 +0.6**
TARG Taragay, Kyrgy 49.93 293 IAmb IAmb 20 24 48.3
comp=Z,37nm,1.2s
V35K Ketchikan 50.17 47 P P 20 24 49.7 +3.0
baz=293
T35M Bob Quinn 50.23 45 IAmb IAmb 20 24 51.6
comp=Z,26nm,0.8s
T35M Bob Quinn 50.23 45 P P 20 24 50.4 +3.2
baz=293,SNR=7.1
ULHL Ulahol 50.71 294 P P 20 24 52.6 +1.3
SNR=39
TKM2 Tokmak 2 50.81 295 P P 20 24 53.3 +1.3
SNR=53
BTLS Baital 50.82 298 *eP* **P 20 24 52.3 +0.5**
comp=Z,16nm,1.1s
BTLS Baital 50.82 298 *eP* **P 20 24 52.3 +0.5**
BTLS pmax pmax
comp=Z,16nm,1.1s
SGDS Sogindy 51.19 296 *eP* **P 20 24 55.7 +1.0**
comp=Z,21nm,0.8s
SGDS Sogindy 51.19 296 *eP* **P 20 24 55.6 +1.0**
SGDS pmax pmax
comp=Z,21nm,0.8s
LIRD Liard River Hi 51.30 41 P P 20 24 58.0 +2.8
baz=294,SNR=8.5
CHMS Chumysh 51.33 296 P P 20 24 56.6 +1.0
SNR=8.8
USP Ospenovka 51.36 296 P P 20 24 57.1 +1.2
SNR=76
KBK Karagaybulak 51.36 295 P P 20 24 57.0 +0.9
SNR=52
AAK Ala-Archa 51.66 296 P P 20 24 58.2 -0.1
AAK IAmb IAmb 20 25 00.4
comp=Z,25nm,0.8s
AAK Ala-Archa 51.66 296 *i* P **P 20 24 59.3 +1.0**
SNR=48
AAK Ala-Archa 51.66 296 LR LR 20 46 15.7
comp=Z,53nm,21.0s,baz=30,slow=35
AAK Ala-Archa 51.66 296 P P 20 24 59.0 +0.8
AAK Ala-Archa 51.66 296 *eP* **P 20 24 59.1 +0.8**
AAK Ala-Archa 51.66 296 *ceP* **P 20 24 59.1 +0.8**
AAK pmax pmax
comp=Z,43nm,1.3s
KOTAN Kotaneelee Air 51.95 39 P P 20 25 01.8 +1.9
baz=295
EKS2 Erkin-Say 52.12 296 P P 20 25 02.8 +1.2
SNR=57
EUNU Eureka 52.14 10 IAmb IAmb 20 25 03.0
comp=Z,12nm,0.7s
KSH Kashi 52.23 291 P P 20 25 07.3 +4.8
KSH pmax pmax
comp=Z,16nm,1.1s
AML Almayashu 52.43 295 P P 20 25 05.8 +1.5
SNR=28
SVE Sverdlovsk 53.13 317 *deP* **P 20 25 07.9 -0.8**
SVE pmax pmax
comp=Z,41nm,0.8s
ARSB Arslanbob 53.29 295 IAmb IAmb 20 25 13.4
comp=Z,19nm,0.8s
BBB Bella Bella 53.39 50 LR LR 20 47 01.9
comp=Z,30nm,20.1s,baz=6.5,slow=35
DZA Taraz 53.57 297 *eP* **P 20 25 13.2 +1.0**
DZA Taraz 53.57 297 *eP* **P 20 25 13.1 +1.0**
KKAR Karatay Array 53.99 298 P P 20 25 15.3 +0.2
KKAR Karatay Array 53.99 298 IAmb IAmb 20 25 16.8
comp=Z,36nm,1.2s
KKAR Karatay Array 53.99 298 P P 20 25 15.4 +0.2
NOR Nord 54.02 357 *i* P P 20 25 09.9 -4.9
NOR IAmb IAmb 20 25 15.4
comp=Z,6.4nm,0.7s
SPITS Spitsbergen Ar 54.30 349 P P 20 25 15.4 -1.6
comp=Z,5.6nm,0.7s,baz=57,slow=9.2,SNR=8.1
SPITS PcP **PcP 20 26 20.8 +1.1**
comp=Z,4.9nm,0.7s,baz=97,slow=6.8,SNR=4.9
SPITS LR LR 20 49 30.1
comp=Z,50nm,19.6s,baz=48,slow=37
comp=Z,5.6nm,0.7s
ARTI Arti 54.44 317 P P 20 25 16.9 -1.3
ARTI Arti 54.44 317 LR LR 20 51 24.1
comp=Z,53nm,18.6s,baz=153,slow=39

ARTI Arti 54.44 317 *c i* P **P 20 25 17.0 -1.2**
ARTI *PP **pP 20 25 41.4 -1.9**
ARTI 20 26 17.6
ARTI S **S 20 32 47.6 -0.9**
ARTI SS **SS 20 36 27.5 -4.1**
ARTI pmax pmax
comp=Z,55nm,1.1s
BRLS Borolday 54.45 298 *e* P **P 20 25 20.8 +2.2**
BRLS Borolday 54.45 298 *e* P **P 20 25 20.7 +2.2**
HNR Honiara 54.62 166 LR LR 20 46 23.3
comp=Z,64nm,21.3s,baz=50,slow=33
IUG Iuzhnay 54.78 297 *e* P **P 20 25 22.1 +1.1**
comp=Z,16nm,0.5s
IUG Iuzhnay 54.78 297 *e* P **P 20 25 22.1 +1.1**
IUG pmax pmax
comp=Z,16nm,0.5s
YKA Yellowknife Ar 54.94 34 P **P 20 25 22.4 +0.6**
comp=Z,11nm,0.7s,baz=290,slow=13,SNR=20
comp=Z,11nm,0.7s
ABKAR Akbulak array 57.17 309 P **P 20 25 37.8 -0.1**
ABKAR Akbulak array 57.17 309 IAmb IAmb 20 25 39.1
comp=Z,51nm,0.5s
NIL Nilore 57.22 287 P **P 20 25 40.0 +1.5**
NIL Nilore 57.22 287 P **P 20 25 39.7 +1.3**
NIL Nilore 57.22 287 P **P 20 25 40.0 +1.5**
NIL pmax pmax
comp=Z,70nm,1.1s
SIMJ Simiganj 57.29 294 P **P 20 25 39.0 0.0**
PBA Port Blair 57.31 253 P **P 20 25 41.0 +1.7**
KIRV Kirov 57.50 322 LR LR 20 55 10.8
comp=Z,54nm,19.2s,baz=36,slow=41
KIRV Kirov 57.50 322 *ce* P **P 20 25 40.1 +0.2**
AKTO Aktyubinsk 57.62 311 LR LR 20 54 20.5
comp=Z,59nm,18.3s,baz=34,slow=40
NEEM North Greenlan 57.88 5 *i* P **P 20 25 40.4 -2.4**
NEEM IAmb IAmb 20 25 43.0
comp=Z,29nm,0.7s
DAG Danmarks Havn 58.85 356 *i* P **P 20 25 47.0 -2.1**
DAG IAmb IAmb 20 25 49.2
comp=Z,12nm,0.8s
ARA0 ARCESS Array S 58.89 340 *e* P **P 20 25 48.7 -0.8**
ARCES ARCESS Array B 58.89 340 P **P 20 25 48.5 -1.0**
comp=Z,4.1nm,0.4s,baz=46,slow=8.4,SNR=50
ARCES PcP **PcP 20 26 38.8 +1.1**
comp=Z,1.1nm,0.4s,baz=79,slow=6.3,SNR=1.4
ARCES LR LR 20 53 53.9
comp=Z,41nm,19.1s,baz=356,slow=39
comp=Z,4.1nm,0.4s
KBL Kabul 59.58 290 P **P 20 25 54.9 -0.2**
KBL IAmb IAmb 20 25 55.7
comp=Z,19nm,0.8s
KBL Kabul 59.58 290 P **P 20 25 54.9 -0.2**
SNR=13
KBL Kabul 59.58 290 P **P 20 25 54.9 -0.2**
KBL pmax pmax
comp=Z,19nm,0.8s
KTK1 Kautokeino 59.83 340 *e* P **P 20 25 55.3 -0.6**
JETT Jettan, Norway 60.10 341 *e* P **P 20 25 57.4 -0.4**
KULLO Kullorsuaq 60.14 8 *i* P **P 20 25 56.1 -1.9**
KULLO IAmb IAmb 20 25 59.5
comp=Z,15nm,0.6s
KLMR Klimovskoe 60.26 328 *e* P **P 20 25 56.5 -2.5**
KLMR *e* 20 26 40.7
KLMR pmax pmax
comp=Z,34nm,1.1s
TRO Tromso 60.37 342 *e* P **P 20 25 58.9 -0.7**
HOOD Mount Hood Mea 60.59 54 IAmb IAmb 20 26 04.9
comp=Z,27nm,1.2s
E07A Sunnyside 60.92 52 IAmb IAmb 20 26 06.2
comp=Z,5.9nm,0.6s
C09A Chrisman Ranch 61.09 50 P **P 20 26 05.1 +0.2**
C09A IAmb IAmb 20 26 08.0
comp=Z,8.1nm,0.8s
F07A Phinny Hill Vi 61.26 53 IAmb IAmb 20 26 09.1
comp=Z,10nm,0.7s
NEW Newport 61.45 49 IAmb IAmb 20 26 10.5
comp=Z,20nm,1.4s
JOF Joensuu 61.84 332 *e* P **P 20 26 08.8 -0.9**
BELG Belogornoye 61.88 317 LR LR 20 55 09.8
comp=Z,40nm,18.4s,baz=22,slow=38
BELG Belogornoye 61.88 317 *i* P **P 20 26 09.7 -0.4**
BELG pmax pmax
comp=Z,7.0nm,0.6s
E09A Wood Farm, Sta 61.91 51 IAmb IAmb 20 26 13.9
comp=Z,11nm,1.0s
L04D Klamath Falls 61.99 57 P **P 20 26 12.2 +1.0**
L04D IAmb IAmb 20 26 14.2
comp=Z,8.7nm,0.7s
STEI Steigen 62.55 342 *e* P **P 20 26 13.4 -0.8**
LOF Lofoten 62.76 343 *e* P **P 20 26 14.8 -0.9**
FAUS Fauske 62.98 341 *e* P **P 20 26 16.6 -0.6**
SUMG Summit 63.27 2 *i* P **P 20 26 19.0 -0.5**
SUMG IAmb IAmb 20 26 21.0
comp=Z,47nm,0.9s
J08A Circle Bar Ran 63.59 54 P **P 20 26 22.6 +0.8**
PLID Pearl Lake 63.96 52 IAmb IAmb 20 26 26.7
comp=Z,15nm,1.3s
MSO Missoula 64.04 49 IAmb IAmb 20 26 27.2
comp=Z,17nm,1.3s
MOR8 Moi Rana 64.16 341 *e* P **P 20 26 23.2 -1.8**
HRA Herat 64.19 294 P **P 20 26 25.9 -0.1**
HRA IAmb IAmb 20 26 27.6
comp=Z,11nm,0.8s
KONS Konsvik 64.20 342 *e* P **P 20 26 25.9 +0.7**
KEF Keuruu 64.46 334 *e* P **P 20 26 26.0 -1.0**
VAF Ylistaro 64.47 336 *e* P **P 20 26 26.4 -0.5**
FIA1 FINESS Array S 64.61 333 P **P 20 26 27.0 -0.9**
FINES FINESS Array B 64.61 333 P **P 20 26 26.9 -1.0**
FINES FINESS Array B 64.61 333 P **P 20 26 27.1 -0.8**
comp=Z,55nm,0.6s,baz=40,slow=7.7,SNR=299
FINES PcP **PcP 20 27 01.5 +0.5**
comp=Z,5.1nm,0.5s,baz=67,slow=3.3,SNR=1.9
FINES LR LR 20 55 33.1
comp=Z,24nm,19.7s,baz=4.5,slow=37
comp=Z,55nm,0.6s
FFC Flin Flon 64.83 37 P **P 20 26 30.4 +0.9**
FFC Flin Flon 64.83 37 P **P 20 26 30.4 +0.9**
FFC pmax pmax
comp=Z,45nm,0.9s
MPK Martis Peak 65.12 59 IAmb IAmb 20 26 34.8
comp=Z,21nm,1.4s
OBN Obninsk 65.19 324 P **P 20 26 30.9 -1.0**
OBN IAmb IAmb 20 26 32.7
comp=Z,26nm,0.8s
OBN Obninsk 65.19 324 P **P 20 26 30.8 -1.0**
comp=Z,22nm,0.5s,baz=318,slow=1.3,SNR=4.0
comp=Z,22nm,0.5s
OBN Obninsk 65.19 324 ⇓P **P 20 26 30.5 -1.3**
OBN Obninsk 65.19 324 *e* P **P 20 26 31.7 -0.1**
OBN Obninsk 65.19 324 *e* P **P 20 26 31.7 -0.1**
OBN *i* *PP **pP 20 26 59.1 +1.6**
OBN *i* 20 27 03.7
OBN *i* *SP **sP 20 27 10.9 +2.0**
OBN pmax pmax
comp=Z,25nm,0.7s
OBN MLR MLR
comp=Z,71nm,16.0s
OBN Obninsk 65.19 324 P **P 20 26 32.1 +0.3**
comp=Z,35nm,0.7s
WB2 Warramunga Arr 65.20 194 P **P 20 26 34.2 +2.0**
WRA Warramunga Arr 65.21 194 P **P 20 26 32.9 +0.6**
WRA Warramunga Arr 65.21 194 P **P 20 26 33.7 +1.4**
comp=Z,4.8nm,1.0s,baz=15,slow=6.7,SNR=13
WRA PcP **PcP 20 27 04.5 +0.5**
comp=Z,2.7nm,0.7s,baz=12,slow=6.8,SNR=3.2
comp=Z,4.8nm,1.0s
SCO Scoresbysund 65.23 356 *i* P **P 20 26 31.5 -0.3**
SCO IAmb IAmb 20 26 33.1
comp=Z,22nm,0.9s
VRH Novokhopyorsk 65.48 318 *e* P **P 20 26 33.3 -0.5**
VRH pmax pmax
comp=Z,51nm,0.7s
EGMT Eagleton 65.51 46 IAmb IAmb 20 26 36.6
comp=Z,41nm,1.3s
YERR Yerington 65.80 59 IAmb IAmb 20 26 39.1
comp=Z,13nm,1.2s
LPSR Galich'ya Gora 65.86 321 *e* P **P 20 26 33.8 -2.3**
LPSR pmax pmax
comp=Z,40nm,0.8s
ILULI Ilulissat 65.86 7 *i* P **P 20 26 35.0 -0.9**
ILULI IAmb IAmb 20 26 36.3
comp=Z,18nm,0.6s
WAKR Walker 65.97 59 P **P 20 26 38.1 +0.7**
BOZ Bozeman (W) 66.06 49 IAmb IAmb 20 26 40.0
comp=Z,9.1nm,0.6s

MEF Metsahovi 66.08 333 *e* P **P 20 26 36.7 -0.7**
NSS Namsos 66.11 341 *e* P **P 20 26 37.1 -0.5**
ARBE Arbavere 66.14 332 *e* P **P 20 26 37.9 +0.1**
RAF Rauma 66.30 335 *e* P **P 20 26 38.4 -0.4**
VORR Voronezh 66.35 320 *e* P **P 20 26 39.6 +0.3**
VORR pmax pmax
comp=Z,32nm,0.4s
VSU Vasula 66.61 331 *ce* P **P 20 26 40.7 -0.1**
VSU pmax pmax
comp=Z,17nm,0.6s
VSR Storozhevoye 66.68 320 *e* P **P 20 26 38.1 -3.3**
VSR pmax pmax
comp=Z,30nm,0.9s
LHV Little Huntoon 66.70 59 P **P 20 26 43.5 +1.7**
LHV IAmb IAmb 20 26 45.2
comp=Z,13nm,1.0s
NVAR Mina Array Bea 66.72 59 P **P 20 26 43.1 +0.9**
NVAR Mina Array Bea 66.72 59 P **P 20 26 43.6 +1.4**
comp=Z,3.7nm,0.6s,baz=296,slow=6.7,SNR=21
comp=Z,3.7nm,0.6s
ICESG Greenland Ices 66.72 3 *i* P **P 20 26 41.2 -0.7**
ICESG IAmb IAmb 20 26 43.2
comp=Z,96nm,0.9s
VORD Divnogorie 66.79 319 *e* P **P 20 26 39.9 -2.2**
VORD pmax pmax
comp=Z,50nm,1.0s
YHB Horse Butte 66.84 50 IAmb IAmb 20 27 13.6
comp=Z,8.9nm,0.8s
YNE Yellowstone No 67.31 49 P **P 20 26 47.0 +1.1**
MTSE Matsula 67.42 332 *e* P **P 20 26 46.3 +0.3**
TPH Tonopah 67.60 58 IAmb IAmb 20 26 50.3
comp=Z,27nm,0.8s
RLMT Red Lodge 67.64 48 IAmb IAmb 20 26 51.7
comp=Z,18nm,1.5s
TPAW Teton Pass 67.78 51 IAmb IAmb 20 26 52.3
comp=Z,11nm,0.9s
HVU Hansel Valley 67.86 53 P **P 20 26 50.1 +0.8**
HVU Hansel Valley 67.86 53 P **P 20 26 50.1 +0.8**
HVU pmax pmax
comp=Z,4.0nm,0.9s
SFJD Kangerlussuaq 68.06 8 LR LR 21 00 47.8
comp=Z,37nm,18.3s,baz=72,slow=40
SFJD Kangerlussuaq 68.06 8 *i* P **P 20 26 49.3 -0.6**
SFJD IAmb IAmb 20 26 51.4
comp=Z,16nm,0.9s
GMN Gold Mountain 68.07 59 pP 20 27 18.7 +2.0
LAO LASA Array 68.20 46 IAmb IAmb 20 26 54.1
comp=Z,32nm,1.2s
R11B Troy Canyon, C 68.42 57 P **P 20 26 54.4 +1.5**
baz=310
AKT Akhty 68.69 307 *e* P **P 20 26 55.2 +0.8**
AKT *e* *PP **pP 20 27 19.5 -0.8**
AKT *e* *SP **sP 20 27 30.1 -1.5**
AKT *e* 20 29 27.9
AKT pmax pmax
comp=Z,55nm,0.7s
SLIT Slitere, Latvi 68.78 332 *e* P **P 20 26 53.6 -0.8**
KHAM Kharkiv 68.87 320 P **P 20 26 55.7 +0.5**
GOF Gofitskoye 68.89 313 *ce* P **P 20 26 57.0 +1.6**
TPNV Topopah Spring 68.91 59 P **P 20 26 56.6 +0.8**
TPNV Topopah Spring 68.91 59 P **P 20 26 56.7 +0.8**
TPNV pmax pmax
comp=Z,5.0nm,0.9s
ASAR Alice Springs 68.92 194 P **P 20 26 58.0 +2.3**
comp=Z,1.8nm,0.8s,baz=8.3,slow=4.9,SNR=11
comp=Z,1.8nm,0.8s
DOMB Dombas 68.92 341 *e* P **P 20 26 55.6 +0.2**
DY2G Dye2 68.95 6 *i* P **P 20 26 55.4 -0.3**
DY2G IAmb IAmb 20 26 57.8
comp=Z,157nm,1.6s
PDAR Pinedale Array 69.03 50 P **P 20 26 57.0 +0.3**
PDAR Pinedale Array 69.03 50 P **P 20 26 57.7 +1.1**
comp=Z,3.6nm,0.7s,baz=272,slow=1.8,SNR=31
comp=Z,3.6nm,0.7s
NC303 NORSAR Array S 69.06 339 IAmb IAmb 20 27 00.6
comp=Z,37nm,1.4s
MNK Minsk 69.15 327 *i* P **P 20 26 57.6 +0.7**
comp=E,30nm,1.0s
MNK *i* P **P 20 26 57.6 +0.7**
comp=N,21nm,1.0s
MNK *i* P **P 20 26 57.6 +0.7**
comp=Z,55nm,0.9s,baz=42
MNK *i* pP **pP 20 27 25.0 +2.2**
MNK *i* PP **PP 20 29 31.3 +1.1**
MNK *i* PPP PPP 20 31 12.9
MNK *i* S **S 20 35 54.7 +0.7**
MNK *i* sS **SKSac 20 36 42.4 -4.4**
MNK *i* SS **SS 20 40 23.7 +2.7**
MNK *i* SSS SSS 20 43 41.5
MNK *i* LR LR 21 00 35.2
MNK *i* LRM MLR 21 02 35.7
comp=E,52nm,13.7s
MNK *i* LRM MLR 21 03 01.5
comp=N,105nm,15.5s
MNK *i* LRM MLR 21 03 08.2
comp=Z,69nm,13.5s
MNK Minsk 69.15 327 *i* P **P 20 26 57.5 +0.7**
MNK *i* *PP **pP 20 27 25.0 +2.2**
MNK *i* 20 29 31.3
MNK *i* PPP PPP 20 31 12.9
MNK *i* S **S 20 35 54.6 +0.7**
MNK *i* *SS **SKSac 20 36 42.4 -4.4**
MNK *i* SS **SS 20 40 23.6 +2.7**
MNK pmax pmax
comp=Z,55nm,0.9s
MNK pmax pmax
comp=E,30nm,1.0s
MNK pmax pmax
comp=N,21nm,1.0s
MNK MLR MLR
comp=E,52nm,14.0s
NC204 NORSAR Array S 69.17 339 P **P 20 26 56.8 -0.2**
NC204 IAmb IAmb 20 26 57.7
comp=Z,21nm,0.6s
NB201 NORSAR Array S 69.23 339 P **P 20 26 56.8 -0.5**
NB2 NORSAR Subarra 69.26 339 P **P 20 26 57.3 -0.2**
comp=Z,10nm,0.5s,baz=30,slow=6.5
NB2 NORSAR Subarra 69.26 339 P **P 20 26 57.3 -0.2**
baz=30,slow=6.5
NOA NORSAR Array B 69.26 339 P **P 20 26 56.3 -1.2**
comp=Z,12nm,0.5s,baz=31,slow=6.6,SNR=126
NOA LR LR 21 04 41.0
comp=Z,14nm,19.2s,baz=30,slow=42
comp=Z,12nm,0.5s
NACGM Naroch 69.27 328 *e* P **P 20 26 57.8 +0.2**
comp=E,1μm,1.2s
AKN Aaknes 69.28 342 *e* P **P 20 26 58.4 +0.8**
HFS Hagfors 69.37 338 P **P 20 26 57.2 -0.9**
comp=E,34nm,0.5s,baz=55,slow=5.6,SNR=185
HFS LR LR 21 02 47.5
comp=E,53nm,18.0s,baz=32,slow=41
comp=E,34nm,0.5s
NBO00 NORSAR Array S 69.38 339 IAmb IAmb 20 26 58.8
comp=Z,23nm,1.1s
NC602 NORSAR Array S 69.43 339 *e* P **P 20 26 58.3 -0.2**
VSVD Vaisvydziai 69.49 330 *e* P **P 20 26 58.9 0.0**
NAO01 NORSAR Array S 69.51 339 IAmb IAmb 20 26 59.5
comp=Z,17nm,0.8s
ERBR Yeremizino-Bor 69.78 315 *e* P **P 20 27 02.3 +1.4**
ERBR *e* *PP **pP 20 27 25.9 -1.0**
ERBR *e* S **S 20 35 59.8 -1.8**
ERBR pmax pmax
comp=Z,136nm,0.7s
KIV Kislovodsk 69.82 312 P **P 20 27 02.0 +0.7**
KIV Kislovodsk 69.82 312 *i* P **P 20 27 02.8 +1.5**
SNR=32
KIV Kislovodsk 69.82 312 P **P 20 27 02.8 +1.5**
KIV Kislovodsk 69.82 312 ⇑P **P 20 27 02.7 +1.5**
KIV Kislovodsk 69.82 312 *e* P **P 20 27 02.2 +0.9**
KIV pmax pmax
comp=Z,115nm,1.1s
KIV MLR MLR
comp=Z,45nm,17.0s
KIV Kislovodsk 69.82 312 P **P 20 27 02.9 +1.5**
comp=Z,125nm,0.7s,comp=Z,961nm
PABE Paberze 69.85 330 *e* P **P 20 27 00.8 -0.3**
KBZ Khabaz 69.86 312 P **P 20 27 02.1 +0.7**
comp=Z,26nm,0.6s,baz=58,slow=3.7,SNR=110
KBZ LR LR 21 00 15.1
comp=Z,66nm,18.2s,baz=26,slow=38
comp=Z,26nm,0.6s
KBZ Khabaz 69.86 312 *ce* P **P 20 27 03.0 +1.6**
KBZ pmax pmax
comp=Z,32nm,0.9s
PLTM Poltava 69.93 321 P **P 20 27 02.4 +0.7**

SHA1 Shidzhatmaz 69.99 312 *ce* P **P 20 27 03.8 +1.3**
PBUR Paburge 70.16 331 *e* P **P 20 27 03.0 -0.1**
SKAR Skarslia 70.29 340 *e* P **P 20 27 03.9 +0.1**
HYA Hoyanger 70.36 341 *e* P **P 20 27 04.5 +0.4**
LABN Labinsk 70.39 314 *e* P **P 20 27 05.9 +1.3**
LABN *e* *PP **pP 20 27 28.5 -2.2**
LABN *e* PPP PPP 20 31 24.2
LABN *e* S **S 20 36 06.3 -2.4**
LABN *e* 20 36 56.3
LABN pmax pmax
comp=Z,77nm,0.9s
RDMU Red Mountain 70.48 52 IAmb IAmb 20 27 08.3
comp=Z,18nm,0.9s
ULM Lac du Bonnet 70.63 38 IAmb IAmb 20 27 07.4
comp=Z,15nm,1.0s
ULM Lac du Bonnet 70.63 38 P **P 20 27 06.3 +0.4**
comp=Z,9.2nm,0.5s,baz=315,slow=6.4,SNR=14
comp=Z,9.2nm,0.5s
NUUK Nuuk 70.68 9 *i* P **P 20 27 05.7 -0.3**
NUUK IAmb IAmb 20 27 09.1
comp=Z,242nm,1.6s
K22A Casper 70.76 49 P **P 20 27 07.0 -0.2**
SUE Sulen 70.78 342 *e* P **P 20 27 07.4 +0.7**
E28A Huff 71.04 43 IAmb IAmb 20 27 10.7
comp=Z,21nm,0.8s
RSSD Black Hills 71.07 46 P **P 20 27 09.5 +0.4**
RSSD Black Hills 71.07 46 P **P 20 27 09.5 +0.4**
RSSD pmax pmax
comp=Z,8.0nm,0.9s
BER Bergen 71.25 341 *e* P **P 20 27 10.2 +0.7**
GNI Garni 71.27 308 P **P 20 27 11.3 +1.1**
GNI IAmb IAmb 20 27 27.1
comp=Z,25nm,0.8s
GNI Garni 71.27 308 P **P 20 27 12.5 +2.2**
GNI Garni 71.27 308 LR LR 21 03 47.0
comp=Z,15nm,18.4s,baz=14,slow=40
GNI Garni 71.27 308 *ce* P **P 20 27 12.2 +2.0**
GNI pmax pmax
comp=Z,32nm,1.3s
GNI Garni 71.27 308 P **P 20 27 12.3 +2.0**
comp=Z,32nm,0.9s
SUW Suwalki 71.30 329 *e* P **P 20 27 09.4 -0.5**
SUW Suwalki 71.30 329 *e* P **P 20 27 10.4 +0.5**
ODD1 Odda 71.37 341 *e* P **P 20 27 11.2 +0.9**
AK03 Malin Array Si 71.44 324 P **P 20 27 11.0 +0.2**
AK23 Malin Array Si 71.45 324 P **P 20 27 11.1 +0.2**
AKASG Malin Array Be 71.46 324 P **P 20 27 10.5 -0.5**
AKASG Malin Array Be 71.46 324 P **P 20 27 10.9 0.0**
comp=Z,68nm,0.8s,baz=39,slow=6.1,SNR=254
AKASG LR LR 21 04 45.2
comp=Z,42nm,18.6s,baz=348,slow=41
comp=Z,68nm,0.8s
AKASG Malin Array Be 71.46 324 P **P 20 27 10.5 -0.5**
AKASG pmax pmax
comp=Z,80nm,0.9s
AKBB Malin Array Si 71.46 324 *ce* P **P 20 27 10.9 -0.1**
AKBB pmax pmax
comp=Z,86nm,0.9s
KIEV Kiev 71.47 324 P **P 20 27 10.7 -0.3**
KIEV Kiev 71.47 324 *i* P **P 20 27 11.0 0.0**
SNR=48
KIEV Kiev 71.47 324 ⇓P **P 20 27 10.7 -0.3**
KIEV Kiev 71.47 324 ⇓P **P 20 27 10.7 -0.3**
SOC Sochi 71.64 313 *e* P **P 20 27 09.5 -2.7**
SOC *e* 20 29 50.2
SOC *e* PPP PPP 20 31 34.3
SOC *e* S **S 20 36 18.5 -4.8**
SOC *e* SS **SS 20 40 54.0 -5.7**
SOC *e* SSS SSS 20 44 13.7
SOC pmax pmax
comp=Z,56nm,0.7s
BLS5 Blasjo 71.84 340 *e* P **P 20 27 13.8 +0.6**
MI28 Mi28,Pidlybu 71.93 325 P **P 20 27 14.2 +0.4**
comp=Z,730nm,0.8s
ANN Anapa 71.96 316 *e* P **P 20 27 13.8 -0.2**
ANN *e* 20 29 51.9
ANN *e* PPP PPP 20 31 36.1
ANN *e* S **S 20 36 24.6 -2.2**
ANN *e* 20 37 02.6
ANN pmax pmax
comp=Z,187nm,1.5s
BATM Batumi 71.96 311 ⇑P **P 20 27 13.5 -0.7**
BATM Batumi 71.96 311 ⇑P **P 20 27 13.5 -0.7**
AGMN Agassiz Nation 72.06 39 P **P 20 27 14.4 -0.3**
AGMN IAmb IAmb 20 27 16.1
comp=Z,23nm,1.1s
BCA Borcka 72.11 311 ⇑P **P 20 27 15.5 +0.4**
N23A Red Feather La 72.28 50 P **P 20 27 18.0 +1.5**
baz=314
RNPP9 Sopachiv 72.29 326 P **P 20 27 16.3 +0.4**
RNPP8 Varash 72.36 326 P **P 20 27 16.6 +0.3**
DEL Delary 72.40 335 *i* P **P 20 27 15.2 -1.3**
RNPP5 Staryi Chortor 72.43 326 P **P 20 27 16.9 +0.2**
JASK Jask - Hormozg 72.51 289 P **P 20 27 19.7 +2.0**
SNART Snartemo 72.62 340 *e* P **P 20 27 18.6 +0.8**
SNART Snartemo 72.62 340 *i* P **P 20 27 17.1 -0.7**
LUBAR Lubar, Ukraine 72.67 324 P **P 20 27 17.5 -0.7**
BSD Bornholm Skovb 73.22 334 *i* P **P 20 27 20.5 -0.8**
LUNU Lund 73.24 335 *i* P **P 20 27 20.4 -1.0**
BAL3X Bal3x, Balta 73.37 322 P **P 20 27 23.0 +0.6**
SIM Simferopol' 73.49 317 *e* P **P 20 27 24.2 +1.1**
SIM pmax pmax
comp=Z,29nm,0.8s
X16A Lo Mia Camp, P 73.52 58 P **P 20 27 24.4 +0.7**
BANOM Banah 73.53 290 P **P 20 27 24.9 +1.2**
SHME Shamm 73.56 290 P **P 20 27 24.7 +0.9**
SHME Shamm 73.56 290 P **P 20 27 24.6 +0.8**
F33A 5 Mile Ranch, 73.68 41 IAmb IAmb 20 27 26.0
comp=Z,22nm,1.1s
WSAR Wadi Sarin 73.72 287 P **P 20 27 26.5 +1.7**
NE56 Odesa 73.73 320 P **P 20 27 23.5 -1.0**
HORU Horodok 73.76 324 P **P 20 27 25.2 +0.5**
SORM Soroca 73.77 323 ⇑P **P 20 27 24.6 -0.1**
SORM Soroca 73.77 323 ⇑P **P 20 27 24.6 -0.1**
SORM Soroca 73.77 323 P **P 20 27 24.7 0.0**
comp=Z,65nm,1.0s
NDNU Novodnistrovsk 73.84 324 P **P 20 27 25.3 +0.2**
BIDO Bidbid 73.88 287 P **P 20 27 27.7 +1.9**
GURO Guroymak-BITLI 73.89 308 IAmb IAmb 20 27 28.7
comp=Z,31nm,0.7s
JLN Jalan Bani Buh 73.90 285 P **P 20 27 27.5 +1.5**
SNR=5.7
WBK Wadi Bani Khal 73.90 286 P **P 20 27 27.9 +1.9**
S22A 4UR Ranch, Cre 73.96 53 P **P 20 27 28.1 +1.7**
baz=314
GKP Gorka Klasztor 74.00 332 *e* P **P 20 27 26.6 +0.7**
Q24A Divide 74.06 51 P **P 20 27 28.1 +1.1**
baz=315
SMDO Samad 74.24 287 P **P 20 27 28.5 +0.5**
UOSS Minazif 74.25 289 P **P 20 27 28.7 +0.9**
UOSS Minazif 74.25 289 P **P 20 27 28.8 +0.9**
KMPD K-Podol'skiy 74.25 324 P **P 20 27 27.9 +0.4**
KMPD P **P 20 27 27.5 0.0**
comp=Z,16μm,1.2s,comp=Z,164μm
LVV L'vov 74.27 326 P **P 20 27 28.3 +0.7**
PURM Purcari 74.31 321 ⇑P **P 20 27 27.6 -0.3**
PURM Purcari 74.31 321 P **P 20 27 27.9 0.0**
comp=Z,59nm,0.9s
K30B Basset 74.37 45 IAmb IAmb 20 27 30.5
comp=Z,33nm,0.8s
HATD Hatta, Dubai 74.37 289 P **P 20 27 29.9 +1.2**
HATD Hatta, Dubai 74.37 289 P **P 20 27 29.8 +1.2**
HOQ Hoqain 74.40 288 P **P 20 27 29.5 +0.7**
SNR=5.3
KIS Kishinev 74.43 322 P **P 20 27 29.2 +0.6**
comp=Z,69nm,0.5s
MILM Milestii Mici 74.49 322 ⇑P **P 20 27 28.8 -0.1**
MILM Milestii Mici 74.49 322 ⇑P **P 20 27 28.8 -0.1**
ASHO Ashiyiah 74.52 289 P **P 20 27 30.1 +0.6**
SOHO SOHO 74.56 289 *i* P **P 20 27 30.5 +0.8**
SNR=7.5
SOHO SOHO 74.56 289 P **P 20 27 30.4 +0.7**
JMDO Jabal Madar 74.66 286 P **P 20 27 31.3 +1.0**
CHRU Chernivtsi 74.69 324 P **P 20 27 29.4 -0.6**
comp=Z,34nm,0.5s
FAQ Al Faqa, Dubai 74.79 290 P **P 20 27 32.0 +0.9**
FAQ Al Faqa, Dubai 74.79 290 P **P 20 27 31.6 +0.6**
MORS Morshin 74.87 326 P **P 20 27 29.9 -1.1**
KWP Kalwaria Pacla 74.94 327 *e* P **P 20 27 32.6 +1.0**
KWP Kalwaria Pacla 74.94 327 P **P 20 27 31.9 +0.4**
KWP Kalwaria Pacla 74.94 327 P **P 20 27 31.9 +0.4**
KWP pmax pmax
comp=Z,141nm,1.2s

KWP **Kalwaria Pacla** 74.94 327 P P 20 27 32.5 +1.0
comp=Z,114nm,1.3s
STNU **Starunia** 74.95 325 P P 20 27 31.8 +0.2
KSV **Kosov** 75.03 325 P P 20 27 32.9 +0.9
BSY **Bisya** 75.03 287 P P 20 27 33.6 +1.1
SNR=5.8
ASUD **Al Ashush, Dub** 75.05 290 P P 20 27 33.6 +1.1
ASUD **Al Ashush, Dub** 75.05 290 P P 20 27 33.3 +0.8
ECSD **EROS Data Cent** 75.09 43 IAmb IAmb 20 27 34.2
comp=Z,21nm,1.0s
ARQ **Araqi** 75.10 288 P P 20 27 33.9 +1.0
ALNE **Al Ain** 75.14 289 *i* P P 20 27 34.0 +1.0
SNR=14
ALNE **Al Ain** 75.14 289 P P 20 27 34.1 +1.0
E38A **The Farm, Brul** 75.26 38 IAmb IAmb 20 27 34.6
comp=Z,32nm,0.7s
PRAR **RASCA** 75.28 323 ⇓P P 20 27 35.3 +1.8
AJN **Ajban** 75.32 290 P P 20 27 34.7 +0.6
DIKM **Dikmen** 75.33 314 ⇑P P 20 27 36.3 +2.5
DIKM **Dikmen** 75.33 314 P P 20 27 34.9 +1.1
comp=Z,44nm,1.2s
BUR08 **Bucovina Ar. S** 75.50 324 IAmb IAmb 20 27 36.1
comp=Z,23nm,0.6s
MEZ **Mezhgor'ye** 75.51 326 P P 20 27 35.7 +0.9
BURAR **Bucovina Array** 75.51 324 P P 20 27 35.3 +0.3
BURAR **Bucovina Array** 75.51 324 ⇑P P 20 27 35.5 +0.6
BURAR **Bucovina Array** 75.51 324 ⇑P P 20 27 35.5 +0.6
BIR **Birlad** 75.52 322 ⇑P P 20 27 36.5 +1.7
BIR **Birlad** 75.52 322 ⇑P P 20 27 36.5 +1.7
ARPR **Arapgir-MALATY** 75.55 311 IAmb IAmb 20 27 38.3
comp=Z,40nm,0.8s
OJC **Ojcow** 75.59 329 *eP* P 20 27 36.0 +0.8
OJC **Ojcow** 75.59 329 P P 20 27 35.8 +0.6
comp=Z,53nm,1.1s
BSEG **Bad Segeberg** 75.63 336 *eP* P 20 27 36.0 +0.7
comp=Z,31nm,0.8s,baz=31,slow=5.5
BSEG *ep*P **pP** 20 27 58.3 -3.3
RAKU **Rahkiv** 75.63 325 P P 20 27 36.1 +0.6
KOLS **Kolonicke sedl** 75.67 326 *eP* P 20 27 36.6 +0.9
KOLS pmax pmax
comp=Z,28nm,1.0s
KOLS **Kolonicke sedl** 75.67 326 *eP* P 20 27 36.6 +0.9
MHTO **MHTO** 75.68 285 P P 20 27 37.7 +1.6
SNR=8.8
STHS **Stebnicka Huta** 75.69 327 *eP* P 20 27 36.0 +0.2
STHS pmax pmax
comp=Z,34nm,1.4s
STHS **Stebnicka Huta** 75.69 327 *eP* P 20 27 36.0 +0.2
VARL **Varlezi** 75.70 321 ⇑P P 20 27 37.2 +1.3
BZK **Bozkurt** 75.74 315 ⇑P P 20 27 37.6 +1.5
BZK **Bozkurt** 75.74 315 P P 20 27 37.3 +1.2
comp=Z,72nm,0.7s
T25A **Trinidad** 75.76 52 P P 20 27 37.9 +1.2
baz=315
TESR **Tescani** 75.76 323 ⇓P P 20 27 36.9 +0.7
TESR **Tescani** 75.76 323 P P 20 27 37.0 +0.7
comp=Z,87nm,0.6s
GHRR 75.78 322 ⇑P P 20 27 38.4 +2.1
GHRR 75.78 322 P P 20 27 37.7 +1.4
RUE **Ruedersdorf** 75.81 333 *eP* P 20 27 37.4 +1.1
RUE **Ruedersdorf** 75.81 333 *eP* P 20 27 37.1 +0.7
comp=Z,29nm,0.8s,baz=31,slow=5.5
SCTR **Scanteiesti** 75.81 321 ⇑P P 20 27 37.8 +1.3
TLCR 75.81 320 ⇑P P 20 27 37.4 +0.9
TLCR 75.81 320 ⇑P P 20 27 37.4 +0.9
BRIU **Brid** 75.85 326 P P 20 27 36.5 -0.2
MUKU **Mukachevo** 75.89 326 P P 20 27 37.8 +0.9
UZHM **Uzhgorod** 75.91 326 P P 20 27 37.6 +0.6
KORU **Korolevo** 75.95 326 P P 20 27 38.7 +1.5
HOLU **Holmets** 75.95 326 P P 20 27 37.9 +0.6
SLCR **Slobozia Conac** 75.98 321 ⇑P P 20 27 37.7 +0.2
ONER **Baraj Valea Uz** 76.01 323 ⇑P P 20 27 38.4 +0.7
IZVR **Izvoarele** 76.01 321 ⇓P P 20 27 38.8 +1.2
NIE **Niedzica** 76.05 328 *eP* P 20 27 39.7 +1.9
NIE **Niedzica** 76.05 328 P P 20 27 39.5 +1.6
comp=Z,18nm,1.1s
TRSU **Trosnyk** 76.07 326 P P 20 27 39.3 +1.4
BERU **Beregovo** 76.08 326 P P 20 27 39.4 +1.4
STKA **Stephens Creek** 76.10 186 P P 20 27 41.0 +2.9
comp=Z,2.7nm,0.7s,baz=308,slow=3.1,SNR=5.2
STKA LR LR 20 56 48.9
comp=Z,16nm,21.9s,baz=28,slow=32
comp=Z,2.7nm,0.7s
JURR **Jurilovca** 76.11 320 ⇑P P 20 27 39.1 +0.9
CFR **Carcaliu** 76.13 321 ⇑P P 20 27 38.8 +0.5
CFR **Carcaliu** 76.13 321 ⇑P P 20 27 38.8 +0.5
ANMO **Albuquerque** 76.13 55 P P 20 27 39.4 +0.6
ANMO **Albuquerque** 76.13 55 *ce*P P 20 27 38.0 -0.8
ODBI **Odobesti** 76.16 322 ⇑P P 20 27 40.5 +2.0
ODBI **Odobesti** 76.16 322 P P 20 27 40.8 +2.3
comp=Z,82nm,0.7s,comp=Z,847nm
BMR **Baia Mare** 76.18 325 ⇑P P 20 27 39.9 +1.3
BMR **Baia Mare** 76.18 325 ⇑P P 20 27 39.9 +1.3
VRI **Vrincioaia** 76.23 322 ⇑P P 20 27 40.0 +1.1
VRI **Vrincioaia** 76.23 322 ⇑P P 20 27 40.0 +1.1
PLOR5 **Plostina Array** 76.27 322 P P 20 27 40.6 +1.4
comp=Z,18nm,0.5s
PLOR3 **Plostina Array** 76.27 322 P P 20 27 40.2 +1.0
comp=Z,19nm,0.6s
PLOR **Plostina** 76.27 322 ⇑P P 20 27 40.1 +0.9
PLOR **Plostina** 76.27 322 ⇑P P 20 27 40.1 +0.9
ARCR **ARCALIA** 76.29 324 ⇑P P 20 27 40.7 +1.4
KSP **Ksiaz** 76.34 331 *eP* P 20 27 40.4 +0.9
KSP **Ksiaz** 76.34 331 P P 20 27 40.1 +0.7
comp=Z,34nm,1.1s
TURR **Turia** 76.39 323 ⇑P P 20 27 42.3 +2.5
UMZA **Um Al Zommool** 76.44 288 P P 20 27 40.9 +0.4
OZUR 76.46 323 ⇑P P 20 27 41.9 +1.6
COVR **Voineasa-Covas** 76.47 322 ⇑P P 20 27 42.2 +1.9
JRN **Qarnain Island** 76.50 292 P P 20 27 40.6 -0.1
LANS **Liptovska Anna** 76.58 328 *eP* P 20 27 42.6 +1.7
LANS pmax pmax
comp=Z,25nm,1.3s
LANS **Liptovska Anna** 76.58 328 *eP* P 20 27 42.6 +1.7
HARR **Harsova** 76.60 321 ⇑P P 20 27 42.5 +1.5
HARR **Harsova** 76.60 321 ⇑P P 20 27 42.5 +1.5
CHVC **Chvalec** 76.64 331 *eP* P 20 27 42.1 +0.9
CHVC **Chvalec** 76.64 331 *eP* P 20 27 42.1 +0.9
TLBR **Topalu** 76.66 320 ⇑P P 20 27 42.3 +1.1
DOPR **Dopca** 76.73 323 ⇑P P 20 27 43.9 +2.1
KECS **Kecovo** 76.74 327 *eP* P 20 27 42.7 +1.0
KECS pmax pmax
comp=Z,12nm,0.8s
KECS **Kecovo** 76.74 327 *eP* P 20 27 42.7 +1.0
FLTG **Flechtingen** 76.74 334 *eP* P 20 27 42.0 +0.4
comp=Z,29nm,0.8s,baz=31,slow=5.5
DPC **Dobruska-Polom** 76.74 331 *eP* P 20 27 42.7 +0.9
DPC **Dobruska-Polom** 76.74 331 *eP* P 20 27 42.7 +0.9
DPC **Dobruska-Polom** 76.74 331 P P 20 27 43.0 +1.2
comp=Z,25nm,1.2s
MFTR **Murfatlar** 76.77 320 ⇑P P 20 27 41.8 -0.1
MORC **Moravsky Berou** 76.78 330 IAmb IAmb 20 27 44.7
comp=Z,43nm,1.2s
MORC **Moravsky Berou** 76.78 330 *eP* P 20 27 42.7 +0.7
KRLC **Kraliky** 76.81 330 *eP* P 20 27 43.0 +0.8
KRLC **Kraliky** 76.81 330 *eP* P 20 27 43.0 +0.8
CVDA **Cernavoda** 76.82 320 ⇑P P 20 27 43.4 +1.2
SCHQ **Schefferville** 76.83 20 P P 20 27 42.4 +0.2
comp=Z,12nm,0.7s,baz=274,slow=8.5,SNR=21
comp=Z,12nm,0.7s
MLR **Muntele Rosu** 76.86 322 IAmb IAmb 20 27 45.1
comp=Z,21nm,0.6s
MLR **Muntele Rosu** 76.86 322 P P 20 27 43.1 +0.4
comp=Z,21nm,0.6s,baz=354,slow=10,SNR=46
comp=Z,21nm,0.6s
MLR **Muntele Rosu** 76.86 322 ⇑P P 20 27 43.5 +0.9
MLR **Muntele Rosu** 76.86 322 P P 20 27 43.7 +1.1
comp=Z,36nm,1.1s
ISR **Istrita** 76.89 322 ⇓P P 20 27 43.5 +0.8
ISR **Istrita** 76.89 322 ⇓P P 20 27 43.5 +0.8
ISR **Istrita** 76.89 322 P P 20 27 43.6 +0.8
comp=Z,118nm,0.7s
AMRR **Amara** 76.93 321 ⇑P P 20 27 44.4 +1.6
AMRR **Amara** 76.93 321 ⇑P P 20 27 44.4 +1.6
NRDL **Niedersach Rie** 76.94 335 *eP* P 20 27 43.2 +0.5
comp=Z,7.6nm,0.8s,baz=31,slow=5.5
MAUC **Maruska** 77.02 329 *eP* P 20 27 44.5 +1.2
121A **Cookes Peak, D** 77.03 57 P P 20 27 45.6 +1.8
baz=315
CLL **Collm** 77.06 333 ⇑*iP* P 20 27 43.7 +0.3
CLL pmax pmax
comp=Z,64nm,1.1s
CLL **Collm** 77.06 333 *eP* P 20 27 43.7 +0.3
comp=Z,33nm,0.9s,baz=31,slow=5.5
CLL **Collm** 77.06 333 ⇑*iP* P 20 27 43.7 +0.3
comp=Z,64nm,1.1s
CLL *i* x x 20 27 59.2
CLL **Collm** 77.06 333 P P 20 27 43.8 +0.3
comp=Z,60nm,0.9s
BNN **Bunyan** 77.06 312 P P 20 27 44.4 +0.5
ICOR **Ion Corvin** 77.10 320 ⇑P P 20 27 45.4 +1.6
BRG **Berggiesshubel** 77.12 332 *iP* P 20 27 44.2 +0.4
BRG Amp 20 27 46.0
comp=Z,16nm,1.0s
BRG **Berggiesshubel** 77.12 332 *iP* P 20 27 44.2 +0.4
BRG pmax pmax
comp=Z,16nm,1.0s
BRG **Berggiesshubel** 77.12 332 *eP* P 20 27 44.1 +0.3
comp=Z,17nm,1.1s,baz=31,slow=5.5
SHMA **Al-Shehemyia** 77.13 293 P P 20 27 44.5 +0.3
MARR **Marisel-Cluj** 77.13 325 ⇑P P 20 27 44.9 +0.8
GHWR **Ruwais** 77.14 291 P P 20 27 43.4 -1.0
VOIR 77.30 323 ⇑P P 20 27 46.0 +1.0
VOIR 77.30 323 ⇑P P 20 27 46.0 +1.0
VOIR 77.30 323 P P 20 27 46.4 +1.4
comp=Z,33nm,1.4s
VYHS **Vyhne** 77.36 328 *eP* P 20 27 46.3 +1.1
VYHS pmax pmax
comp=Z,40nm,1.6s
VYHS **Vyhne** 77.36 328 *eP* P 20 27 46.3 +1.1
MZR **Muzera** 77.39 290 *iP* P 20 27 46.6 +0.8
SNR=11
PSZ **Piszkesteto** 77.43 327 IAmb IAmb 20 27 48.9
comp=Z,17nm,0.9s
PSZ **Piszkesteto** 77.43 327 *eP* P 20 27 47.3 +1.6
PSZ **Piszkesteto** 77.43 327 ⇑P P 20 27 47.7 +2.0
PSZ **Piszkesteto** 77.43 327 ⇑P P 20 27 47.7 +2.0
CLZ **Clausthal** 77.43 335 *eP* P 20 27 46.5 +0.9
comp=Z,20nm,0.8s,baz=31,slow=5.5
CLZ *ep*P **pP** 20 28 08.1 -4.0
JAVC **Velka Javorina** 77.50 329 *eP* P 20 27 47.6 +1.6
HSKC **Hora Svate Kat** 77.52 332 *eP* P 20 27 46.6 +0.5
VRAC **Vranov** 77.52 330 P P 20 27 47.0 +1.0
comp=Z,13nm,0.8s,baz=42,slow=5.1,SNR=13
VRAC LR LR 21 07 18.6
comp=Z,48nm,20.6s,baz=352,slow=40
comp=Z,13nm,0.8s
VRAC **Vranov** 77.52 330 *eP* P 20 27 46.7 +0.6
ARR **Arges** 77.53 323 ⇑P P 20 27 48.6 +2.3
NEUB **Neuenburg** 77.54 334 *eP* P 20 27 46.4 +0.2
comp=Z,35nm,1.0s,baz=31,slow=5.5
GAZ **Gaziantep** 77.55 310 IAmb IAmb 20 27 49.3
comp=Z,18nm,1.0s
BR131 **Keskin Array S** 77.58 314 IAmb IAmb 20 27 48.7
comp=Z,17nm,0.8s
BR131 **Keskin Array S** 77.58 314 P P 20 27 47.9 +1.2
SNR=7.4
BR131 **Keskin Array S** 77.58 314 *iP* P 20 27 46.7 -0.1
BRTR **Keskin Array B** 77.58 314 P P 20 27 47.1 +0.3
BRTR **Keskin Array B** 77.58 314 P P 20 27 47.8 +1.0
comp=Z,13nm,0.8s,baz=76,slow=2.8,SNR=53
BRTR PP **PP** 20 30 42.5 +0.1
comp=Z,0.3nm,0.3s,baz=90,slow=4.1,SNR=3.8
comp=Z,13nm,0.8s
BR106 **Keskin Array S** 77.58 314 P P 20 27 47.6 +0.8
comp=Z,15nm,0.8s,comp=Z,131nm
BR104 **Keskin Array S** 77.59 314 P P 20 27 47.9 +1.1
comp=Z,18nm,1.1s,comp=Z,155nm
BR105 **Keskin Array S** 77.59 314 P P 20 27 48.4 +1.5
comp=Z,18nm,1.0s,comp=Z,161nm
GOPC **GO Pecny, Ondr** 77.64 331 *eP* P 20 27 47.5 +0.7
GOPC **GO Pecny, Ondr** 77.64 331 *eP* P 20 27 47.5 +0.7
PRU **Pruhonice** 77.67 331 *eP* P 20 27 47.6 +0.7
PRU **Pruhonice** 77.67 331 *eP* P 20 27 47.6 +0.7
EKA **Eskdalemuir Ar** 77.72 344 P P 20 27 47.0 0.0
comp=Z,5.2nm,0.5s,baz=20,slow=5.3,SNR=20
comp=Z,5.2nm,0.5s
KRUC **Moravsky** 77.79 330 *eP* P 20 27 48.3 +0.7
IBBN **Ibbenburen** 77.80 336 *eP* P 20 27 48.2 +0.6
comp=Z,29nm,0.9s,baz=31,slow=5.5
GTTG **Gottingen** 77.81 335 *eP* P 20 27 48.2 +0.6
comp=Z,21nm,0.9s,baz=31,slow=5.5
DEV **Deva** 77.86 324 ⇑P P 20 27 49.7 +1.7
DEV **Deva** 77.86 324 ⇑P P 20 27 49.7 +1.7
KIRS **Kirsehir-Merke** 77.87 313 ⇑P P 20 27 48.9 +0.6
SMOL **Smolenice** 77.87 329 *eP* P 20 27 49.7 +1.6
SMOL pmax pmax
comp=Z,19nm,1.4s
ANTO **Ankara** 77.90 315 P P 20 27 49.3 +0.8
ANTO **Ankara** 77.90 315 ⇑P P 20 27 49.8 +1.4
ANTO **Ankara** 77.90 315 ⇑P P 20 27 49.8 +1.4
ANTO **Ankara** 77.90 315 P P 20 27 49.9 +1.4
comp=Z,39nm,0.7s,comp=Z,363nm
BR231 **Keskin MP Arra** 77.93 315 IAmb IAmb 20 27 51.0
comp=Z,33nm,0.8s
TANN **Tannenbergstha** 78.00 333 *eP* P 20 27 49.9 +1.1
baz=31,slow=5.5
MODS **Modra-Piesok** 78.05 329 *eP* P 20 27 50.5 +1.5
MODS **Modra-Piesok** 78.05 329 *eP* P 20 27 50.5 +1.5
SIRR **Siria** 78.06 325 ⇓P P 20 27 49.9 +0.7
MOX **Moxa** 78.08 333 *eP* P 20 27 49.9 +0.7
comp=Z,7.7nm,0.8s,baz=31,slow=5.5
MOX *ep*P **pP** 20 28 11.6 -4.1
SRO **Srobarova** 78.12 328 *eP* P 20 27 51.1 +1.7
SRO pmax pmax
comp=Z,33nm,1.4s
SRO **Srobarova** 78.12 328 *eP* P 20 27 51.1 +1.7
ZVC **Zvikov** 78.25 331 *eP* P 20 27 51.2 +1.1
SURR **Surduc** 78.29 325 ⇑P P 20 27 51.2 +0.9
GZR **Gura Zlata** 78.30 324 ⇑P P 20 27 51.2 +0.6
GZR **Gura Zlata** 78.30 324 ⇑P P 20 27 51.2 +0.6
UBBA **Unterbreizbach** 78.44 334 *eP* P 20 27 51.5 +0.5
baz=31,slow=5.5
MANZ **Manzenberg** 78.49 333 *eP* P 20 27 52.2 +0.7
comp=Z,4.0nm,1.2s,baz=31,slow=5.5
KASTN **Kahler Asten** 78.58 335 *eP* P 20 27 52.3 +0.3
comp=Z,7.9nm,0.9s,baz=31,slow=5.5
BZS **Buzias** 78.61 325 ⇑P P 20 27 52.5 +0.3
BZS **Buzias** 78.61 325 ⇑P P 20 27 52.5 +0.3
ROTZ **Rotzenmuhle** 78.64 333 *eP* P 20 27 53.3 +1.0
comp=Z,1.5nm,0.8s,baz=31,slow=5.5
BUG **Bochum--Univer** 78.71 336 *eP* P 20 27 53.4 +0.8
baz=31,slow=5.5
KHC **Kasperske Hory** 78.73 331 IAmb IAmb 20 27 54.6
comp=Z,22nm,0.6s
KHC **Kasperske Hory** 78.73 331 *eP* P 20 27 53.8 +1.0
KHC **Kasperske Hory** 78.73 331 *eP* P 20 27 53.8 +1.0
KHC **Kasperske Hory** 78.73 331 P P 20 27 54.1 +1.3
comp=Z,42nm,1.0s
CKRC **Cesky Krumlov** 78.74 331 *eP* P 20 27 53.7 +0.8
CKRC **Cesky Krumlov** 78.74 331 *eP* P 20 27 53.7 +0.8
HERR **Herculane** 78.87 324 ⇑P P 20 27 53.4 -0.2
ELND **Elena** 78.90 321 ⇑P P 20 27 55.1 +1.3
GEC2 **GERESS Array S** 78.93 331 *eP* P 20 27 54.4 +0.4
comp=Z,6.6nm,0.6s,baz=31,slow=5.5
GERES **GERESS Array B** 78.93 331 P P 20 27 53.7 -0.3
GERES **GERESS Array B** 78.93 331 P P 20 27 54.4 +0.4
comp=Z,6.0nm,0.5s,baz=38,slow=6.1,SNR=39
comp=Z,6.0nm,0.5s
CONA **Conrad Observa** 78.94 329 *iP* P 20 27 55.3 +1.2
comp=Z,12nm,0.6s
MPLH **Magyarpolny** 78.95 328 P P 20 27 55.0 +1.0
comp=Z,80nm,0.9s
WET **Wettzell** 78.95 332 *eP* P 20 27 54.8 +0.8
comp=Z,7.9nm,0.8s,baz=31,slow=5.5
RONA **Rosalia, Austr** 78.97 329 *iP* P 20 27 55.5 +1.3
comp=Z,16nm,0.8s,SNR=6.4
GRF **Grafenberg Arr** 79.03 333 *eP* P 20 27 55.1 +0.7
comp=Z,92nm,1.4s,baz=31,slow=5.5
GRFO **Grafenberg** 79.03 333 P P 20 27 55.0 +0.6
GRFO IAmb IAmb 20 27 56.5
comp=Z,73nm,1.4s
GRFO **Grafenberg** 79.03 333 P P 20 27 55.0 +0.6
GRFO pmax pmax
comp=Z,73nm,1.4s
PUNG **Punghina** 79.13 323 ⇑P P 20 27 55.0 -0.1
MORH **Mrgy, Hungar** 79.31 327 ⇑P P 20 27 55.8 -0.2
MORH **Mrgy, Hungar** 79.31 327 P P 20 27 55.5 -0.5
comp=Z,8.3nm,1.0s
TNS **Taunus Mts** 79.44 335 *eP* P 20 27 57.6 +0.9
comp=Z,6.0nm,0.7s,baz=31,slow=5.5
SMWD **Samnorwood** 79.56 51 IAmb IAmb 20 28 00.1
comp=Z,17nm,0.9s
MOA **Molln** 79.58 330 *iP* P 20 27 58.4 +1.0
comp=Z,5.9nm,0.7s
ARSA **Arzberg** 79.63 329 *iP* P 20 27 58.8 +1.1
comp=Z,9.0nm,1.1s
BTNL **Ternell** 79.80 336 *dP* P 20 27 58.8 +0.3
comp=Z,7.8nm,0.0s
MEM **Membach** 79.81 337 *dP* P 20 27 59.6 +1.0
BAND **Balkesir-Ban** 79.86 318 ⇑P P 20 28 00.9 +1.8
BIOA **Bad Ischl, Aus** 79.94 331 *iP* P 20 28 00.1 +0.8
comp=Z,13nm,0.8s
BSTI **Sart Tilman** 79.96 337 *dP* P 20 28 00.3 +0.8
comp=Z,5.6nm,0.5s
DMTO **DMTO** 79.98 285 P P 20 28 00.5 +0.5
N41A **Harden Midland** 80.16 41 P P 20 28 00.4 -0.3
N41A IAmb IAmb 20 28 02.3
comp=Z,29nm,1.0s
BOVS **Bovan** 80.17 324 ⇑P P 20 28 00.4 -0.3
BCLA **Clavier** 80.19 337 *dP* P 20 28 01.0 +0.4
comp=Z,10nm,0.6s
RJOB **Jochberg** 80.19 331 *eP* P 20 28 01.2 +0.4
comp=Z,9.2nm,0.8s,baz=31,slow=5.5
T35A **Sooner Cattle** 80.23 47 IAmb IAmb 20 28 03.1
comp=Z,31nm,1.1s
BGES **Gesves** 80.28 337 *dP* P 20 28 01.0 -0.1
SOKA **Soboth** 80.30 329 *iP* P 20 28 02.0 +0.6
comp=Z,22nm,0.8s,SNR=5.2
GROS **Grobnik** 80.31 329 *iP* P 20 28 01.7 +0.2
FUR **Furstenfeldbru** 80.34 332 *eP* P 20 28 02.0 +0.5
comp=Z,15nm,0.7s,baz=31,slow=5.5
OK051 **E0350 and S346** 80.37 48 IAmb IAmb 20 28 03.8
comp=Z,16nm,0.9s
ALN **Alexandroupoli** 80.42 319 IAmb IAmb 20 28 03.9
comp=Z,31nm,1.0s
BMRD **Maredsous** 80.44 337 *dP* P 20 28 02.4 +0.4
RCHB **Rochefort** 80.44 337 *dP* P 20 28 02.4 +0.4
comp=Z,6.4nm,1.3s
RDO **Rodhopi** 80.46 320 IAmb IAmb 20 28 04.3
comp=Z,37nm,0.8s
LESA **Schwarzleotal** 80.50 331 *iP* P 20 28 03.4 +0.9
comp=Z,21nm,0.8s
P40A **Paris** 80.50 43 P P 20 28 02.8 +0.3
P40A IAmb IAmb 20 28 04.4
comp=Z,32nm,1.2s
KBA **Koelnbreinsper** 80.56 330 *iP* P 20 28 04.2 +1.3
comp=Z,20nm,0.7s,SNR=8.6
OBKA **Obir** 80.62 329 *iP* P 20 28 03.9 +0.7
comp=Z,9.0nm,0.7s
WLF **Walferdange** 80.62 336 *dP* P 20 28 05.0 +2.1
RBK **Rabkut** 80.64 285 P P 20 28 04.1 +0.4
GOLS **Golise** 80.64 329 *iP* P 20 28 03.5 +0.3
WHFO **Wadi Hawf** 80.66 286 P P 20 28 04.0 +0.3
GCIS **Gornji Cirnik** 80.76 328 *iP* P 20 28 04.1 +0.3
OK052 **Battle Ridge R** 80.77 48 pP 20 28 33.6 +2.9
RAR **Rarotonga** 80.82 132 LR LR 20 58 06.1
comp=Z,42nm,20.9s,baz=22,slow=31
MYKA **Terra Mystica** 80.84 330 *iP* P 20 28 04.6 +0.3
comp=Z,11nm,0.8s
WATA **Walderalm** 80.95 332 *iP* P 20 28 05.8 +0.8
comp=Z,18nm,0.7s,SNR=5.4
WTTA **Wattenberg** 81.00 332 *iP* P 20 28 06.1 +0.9
comp=Z,25nm,0.7s,SNR=6.8
HDIL **Hopedale** 81.01 40 IAmb IAmb 20 28 06.9
comp=Z,30nm,0.7s
PRED **Cave del Predi** 81.03 330 IAmb IAmb 20 28 05.8
comp=Z,13nm,0.8s
RETA **Reutte** 81.10 332 *iP* P 20 28 06.5 +0.9
comp=Z,16nm,1.0s
MOTA **Moosalm** 81.11 332 *iP* P 20 28 06.4 +0.5
comp=Z,27nm,0.8s
EZN **Ezine** 81.13 318 P P 20 28 05.6 -0.2
comp=Z,28nm,1.1s,comp=Z,821nm
ABTA **Abfaltersbach** 81.14 331 *iP* P 20 28 06.3 +0.4
comp=Z,4.5nm,0.7s
BFO **Black Forest** 81.15 334 P P 20 28 05.8 -0.1
BFO **Black Forest** 81.15 334 P P 20 28 05.8 -0.1
BFO pmax pmax
comp=Z,8.0nm,0.8s
BFO **Black Forest** 81.15 334 *eP* P 20 28 06.4 +0.6
comp=Z,5.6nm,0.8s,baz=31,slow=5.5
UBR **Ueberruh** 81.15 333 *eP* P 20 28 06.5 +0.6
comp=Z,5.3nm,0.7s,baz=31,slow=5.5
SQTA **Sankt Quirin** 81.18 332 *iP* P 20 28 07.0 +0.8
comp=Z,21nm,0.7s,SNR=8.5
S39A **Bolivar** 81.29 45 IAmb IAmb 20 28 07.8
comp=Z,14nm,0.8s
CSS **Mathiatis** 81.30 311 IAmb IAmb 20 28 08.7
comp=Z,16nm,0.8s
CSS **Mathiatis** 81.30 311 P P 20 28 07.3 +0.4
comp=Z,22nm,0.8s
R40A **Maddies Statio** 81.35 44 IAmb IAmb 20 28 08.6
comp=Z,18nm,1.0s
ABTO **Aybut** 81.37 286 P P 20 28 07.8 +0.2
SGCY **Sterling City** 81.40 53 IAmb IAmb 20 28 10.0
comp=Z,23nm,1.4s
FETA **Feichten** 81.52 332 *iP* P 20 28 08.8 +0.8
comp=Z,12nm,0.8s,SNR=6.6
DAVA **Damuels** 81.57 333 *iP* P 20 28 08.8 +0.6
comp=Z,16nm,0.7s
RLO **Rose Lookout** 81.58 47 P P 20 28 08.3 0.0
RLO IAmb IAmb 20 28 10.2
comp=Z,27nm,1.4s
MMAI **Mount Meron Ar** 81.60 308 P P 20 28 09.6 +1.0
comp=Z,14nm,0.6s,baz=42,slow=6.7,SNR=62
MMAI LR LR 21 09 54.7
comp=Z,33nm,18.8s,baz=333,slow=40
comp=Z,14nm,0.6s
TXAR **Lajitas Array** 81.78 57 P P 20 28 10.8 +1.2
TXAR **Lajitas Array** 81.78 57 P P 20 28 10.6 +1.0
comp=Z,6.1nm,0.5s,baz=298,slow=4.0,SNR=87
comp=Z,6.1nm,0.5s
TXAR **Lajitas Array** 81.78 57 P P 20 28 10.8 +1.2
DAVOX **Davos/Dischmat** 82.01 332 P P 20 28 11.1 +0.5
comp=Z,11nm,0.8s,baz=6.8,slow=3.2,SNR=16
DAVOX LR LR 21 07 10.4
comp=Z,87nm,18.4s,baz=276,slow=38
comp=Z,11nm,0.8s
FUORN **Ofenpass-Fuorn** 82.02 332 IAmb IAmb 20 28 12.7
comp=Z,17nm,0.9s
CCM **Cathedral Cave** 82.04 43 P P 20 28 10.9 +0.2
CCM IAmb IAmb 20 28 47.0
comp=Z,50nm,1.0s
CCM **Cathedral Cave** 82.04 43 P P 20 28 10.9 +0.2
CCM pmax pmax
comp=Z,50nm,1.0s
CTI **Castel Tesino** 82.05 331 IAmb IAmb 20 28 11.0
comp=Z,13nm,0.8s
BALJ **Balqa** 82.16 308 IAmb IAmb 20 28 13.9
comp=Z,30nm,0.7s
PDG **Podgorica** 82.19 324 ⇑P P 20 28 11.2 -0.2
TRQ **Mont Tremblant** 82.25 28 IAmb IAmb 20 28 12.8
comp=Z,21nm,1.1s
RAYN **Ar Rayn** 82.31 295 P P 20 28 13.0 +0.6
RAYN **Ar Rayn** 82.31 295 *iP* P 20 28 13.6 +1.2
SNR=16
RAYN **Ar Rayn** 82.31 295 P P 20 28 13.5 +1.1
RAYN **Ar Rayn** 82.31 295 ⇑P P 20 28 13.7 +1.3
N47A **Urbana** 82.39 38 IAmb IAmb 20 28 13.7
comp=Z,48nm,1.2s
TUE **Stuetta** 82.46 333 IAmb IAmb 20 28 14.6
comp=Z,16nm,0.8s
TUE **Stuetta** 82.46 333 P P 20 28 13.4 +0.4
comp=Z,101nm,0.8s
OHR **Ohrid** 82.62 323 *iP* P 20 28 14.2 +0.4
TEOL **Teolo** 82.63 331 IAmb IAmb 20 28 15.0
comp=Z,23nm,0.7s
P46A **Rosedale** 82.72 40 IAmb IAmb 20 28 16.0
comp=Z,29nm,0.7s
GHAJ **Ghor Haditha** 82.78 307 IAmb IAmb 20 28 17.8
comp=Z,45nm,1.5s
TIR **Tirane** 82.83 323 ⇑P P 20 28 14.7 0.0
TIR **Tirane** 82.83 323 ⇑P P 20 28 14.7 0.0
TIR **Tirane** 82.83 323 P P 20 28 15.1 +0.4
comp=Z,109nm,1.4s
WBO **Williamsburg** 83.06 29 IAmb IAmb 20 28 17.8
comp=Z,19nm,1.0s
O48B **Farmland** 83.13 38 P P 20 28 16.7 +0.4
baz=325
D62A **Allapoint, All** 83.24 25 IAmb IAmb 20 28 18.1
comp=Z,13nm,0.6s
FCAR **Ozark Folk Cen** 83.29 45 IAmb IAmb 20 28 18.6
comp=Z,12nm,0.8s
PBMO **Poplar Bluff** 83.44 44 IAmb IAmb 20 28 59.5
comp=Z,22nm,1.1s
DRIO **Del Rio** 83.53 55 IAmb IAmb 20 28 20.7
comp=Z,25nm,1.2s
MIAR **Mount Ida** 83.58 47 P P 20 28 18.8 +0.1
MIAR IAmb IAmb 20 28 20.9
comp=Z,14nm,0.8s
MIAR **Mount Ida** 83.58 47 P P 20 28 18.8 +0.1
MIAR pmax pmax
comp=Z,14nm,0.9s
WHAR **Wooly Hollow** 83.67 46 IAmb IAmb 20 28 20.9
comp=Z,14nm,0.8s

PPT	Papeete	83.80	122	LR	LR	20 57 38.1	
	comp=Z,22nm,20.4s,baz=328,slow=30						
P49A	Miami Univ. Ec	83.92	38	IAmb	IAmb	20 28 21.8	
	comp=Z,18nm,0.9s						
P49A	Miami Univ. Ec	83.92	38	P	P	20 28 21.0	+0.7
	baz=325						
BATG	Bathurst New B	83.92	23	IAmb	IAmb	20 28 21.9	
	comp=Z,14nm,0.7s						
KARP	Karpathos	84.08	315	*e*P	P	20 28 21.5	+0.3
KARP	Karpathos	84.08	315	P	P	20 28 21.1	-0.2
	comp=Z,64nm,0.8s						
FDMO	Fiordimonte	84.12	329	IAmb	IAmb	20 28 24.2	
	comp=Z,29nm,0.8s						
WCI	Wyandotte Cave	84.26	40	P	P	20 28 22.6	+0.5
WCI				IAmb	IAmb	20 28 24.1	
	comp=Z,23nm,1.0s						
WCI	Wyandotte Cave	84.26	40	P	P	20 28 22.6	+0.5
WCI				pmax	pmax		
	comp=Z,23nm,1.0s						
VT1	Waterbury	84.52	28	IAmb	IAmb	20 28 25.0	
	comp=Z,20nm,0.9s						
BNI	Bardonecchia	84.58	334	IAmb	IAmb	20 28 25.9	
	comp=Z,22nm,1.3s						
INTR	Introdacqua	84.69	328	IAmb	IAmb	20 28 24.8	
	comp=Z,35nm,1.1s						
T47A	Sharon Grove	84.89	41	IAmb	IAmb	20 28 27.4	
	comp=Z,24nm,1.0s						
SSB	Saint Sauveur	85.04	335	IAmb	IAmb	20 28 29.4	
	comp=Z,10nm,0.9s						
833A	Chaparral WMA,	85.06	55	P	P	20 28 27.5	+1.2
	baz=319						
WVT	Waverly	85.23	42	P	P	20 28 27.5	+0.5
WVT				IAmb	IAmb	20 28 29.0	
	comp=Z,10nm,0.8s						
WVT	Waverly	85.23	42	P	P	20 28 27.5	+0.5
WVT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
O54A	Avella	85.24	35	IAmb	IAmb	20 28 29.0	
	comp=Z,16nm,0.8s						
IDI	Anoyia	85.41	317	P	P	20 28 27.8	-0.3
	comp=Z,13nm,0.5s,baz=75,slow=8.8,SNR=14						
	comp=Z,13nm,0.5s						
M57A	Sunshine Farm,	85.55	32	IAmb	IAmb	20 28 30.3	
	comp=Z,22nm,0.9s						
L59A	Walton	85.59	31	IAmb	IAmb	20 28 30.3	
	comp=Z,36nm,1.0s						
SSPA	Standing Stone	85.85	33	P	P	20 28 30.3	+0.2
SSPA				IAmb	IAmb	20 28 31.9	
	comp=Z,20nm,1.0s						
T50A	Nancy	85.92	40	IAmb	IAmb	20 28 32.3	
	comp=Z,16nm,0.8s						
TIP	Timpagrande	85.95	324	P	P	20 28 30.9	+0.3
	comp=Z,19nm,1.3s						
Q54A	Coxs Mills	86.05	36	IAmb	IAmb	20 28 32.7	
	comp=Z,17nm,0.7s						
L61B	Northampton	86.20	29	P	P	20 28 33.3	+1.6
	baz=332						
URZ	Urewera	86.34	157	LR	LR	21 08 01.5	
	comp=Z,36nm,18.4s,baz=63,slow=36						
SWET	Sewanee	86.88	42	IAmb	IAmb	20 28 36.7	
	comp=Z,18nm,0.9s						
R55A	Marlinton	86.94	36	IAmb	IAmb	20 28 37.6	
	comp=Z,19nm,0.9s						
CPCT	Cooper Cave	87.35	40	IAmb	IAmb	20 28 39.2	
	comp=Z,11nm,0.9s						
TKL	Tuckaleechee C	87.52	40	IAmb	IAmb	20 28 40.2	
	comp=Z,14nm,0.8s						
BG3	Lake Jocassee	88.46	40	IAmb	IAmb	20 28 45.0	
	comp=Z,13nm,0.8s						
KEST	Kesra	91.90	327	P	P	20 28 58.4	-0.4
	comp=Z,3.4nm,0.7s,baz=354,slow=2.9,SNR=10						
	comp=Z,3.4nm,0.7s						
ESDC	Sonseca Array	92.62	339	P	P	20 29 01.4	-0.7
ESDC	Sonseca Array	92.62	339	P	P	20 29 01.7	-0.3
	comp=Z,2.7nm,0.7s,baz=18,slow=4.5,SNR=19						
	comp=Z,2.7nm,0.7s						
FURI	Furi	97.34	290	LR	LR	21 18 21.5	
	comp=Z,28nm,18.5s,baz=150,slow=38						
TORD	Torodi Ar. Bea	115.09	323	PKP	PKiKP	20 34 31.0	-0.4
	comp=Z,1.1nm,0.4s,baz=15,slow=2.4,SNR=14						
DBIC	Dimbokro	123.63	327	PKP	PKPdf	20 34 47.4	-0.4
	comp=Z,3.5nm,0.5s,baz=326,slow=2.2,SNR=8.2						
DBIC				PP	PP	20 36 26.7	-3.3
	comp=Z,1.8nm,0.7s,baz=34,slow=11,SNR=3.3						
QSPA	South Pole Qui	134.10	180	PKP	PKPdf	20 35 05.9	-0.2
	comp=Z,1.1nm,0.3s,baz=357,slow=1.5,SNR=3.9						
LPAZ	La Paz	138.62	59	PKP	PKiKP	20 35 17.9	-1.0
	comp=Z,1.4nm,0.6s,baz=4.7,slow=1.9,SNR=5.7						
H03N2	Juan Fernandez	142.33	90	T	T	23 14 42.7	
	baz=304,slow=77,SNR=35						
H03N3	Juan Fernandez	142.34	90	T	T	23 14 43.8	
	baz=304,slow=77,SNR=33						
H03N1	Juan Fernandez	142.34	90	T	T	23 14 39.7	
	baz=304,slow=77,SNR=33						
NBCA	Caruaru-PE	143.83	7	*e*P	PKPbc	20 35 24.2	+0.8
TROLL	Troll, Antarti	147.78	199	⇑PKPdf	PKiKP	20 35 35.3	-0.2
	comp=Z,238nm,0.4s						
BDFB	Brasilia	148.30	30	PKPbc	PKiKP	20 35 37.7	-0.4
	comp=Z,14nm,0.7s,baz=328,slow=1.5,SNR=18						
SNAA	Sanae	149.23	198	⇑PKPdf	PKiKP	20 35 38.1	-0.3
	comp=Z,55nm,0.6s						
SNAA	Sanae	149.23	198	PKPbc	PKiKP	20 35 37.8	-0.5
	comp=Z,1.9nm,0.7s,baz=235,slow=4.1,SNR=8.7						
VNA2	Neumayer--Watz	150.75	196	⇑PKPdf	PKiKP	20 35 42.3	+0.9
	comp=Z,11nm,0.6s,baz=114,slow=2.3						
VNA3	Neumayer Olymp	150.93	195	⇑PKPdf	PKPbc	20 35 41.0	-0.2
	comp=Z,2.9nm,0.6s						
CPUP	Villa Florida	152.76	57	PKPbc	PKPbc	20 35 46.8	+0.1
	comp=Z,2.1nm,0.5s,baz=253,slow=1.9,SNR=7.0						
CPUP				PKPab	PKPab	20 35 58.7	+0.8
	comp=Z,3.4nm,0.6s,baz=324,slow=2.7,SNR=6.9						
SJMB	Sao Joao De Ma	153.27	20	*e*P	PKPdf	20 35 38.8	-1.7

VIE ***20*** *20:28:23.6±0.4, 49°.71N×18°.59E, h0km, mb2.4/1, ml2.5/2, Error ellipse: s-maj=4.8km s-min=2.5km az=164.0, Suspected Mining induced.*
IPEC ***20*** *20:28:24.1±0.3, 49°.84N×18°.57E, h1km, ML2.3/4, Error ellipse: s-maj=2.1km s-min=1.7km az=69.0*
PRU ***20*** *20:28:26.6, 49°.85N×18°.39E, h0km, Mining Induced Event Csm, E=9.6e+05, Felt In Karvina*
ISC 20 20:28:23.5±0.8, 49°.83N±0°.03×18°.48E±0°.02, h0km, n28, σ0s84/49, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.22	273	*e*PG	Pg	20 28 29.7	+2.0
OKC				*e*SG	Sg	20 28 32.9	+2.4
	comp=Z,100nm,0.2s						
MORC	Moravsky Berou	0.61	266	*e*Pg	Pb	20 28 36.9	-0.2
	baz=84						
MORC				*e*Sg	Sb	20 28 45.0	-1.3
	58nm,0.3s,baz=84						
LANS	Liptovska Anna	0.93	136	*e*PG	Pg	20 28 41.6	+0.2
LANS				*e*SG	Sb	20 28 55.1	-0.4
LANS				*e*LG	Lg	20 28 57.8	
OJC	Ojcow	0.94	65	*e*Pg	Pg	20 28 40.5	-1.0
OJC				*e*Sg	Sb	20 28 54.9	-0.7
JAVC	Velka Javorina	1.10	209	*e*Pg	Pn	20 28 46.2	-0.1
	baz=31						
KRLC	Kraliky	1.13	284	*e*PG	Pg	20 28 45.1	0.0
NIE	Niedzica	1.25	108	*e*Pg	Pb	20 28 47.8	-0.2
NIE				*e*Sg	Sn	20 29 07.4	+1.6
VRAC	Vranov	1.33	248	*e*Pg	Pb	20 28 49.8	+0.4
	baz=67						
VRAC				*e*Sg	Sn	20 29 07.7	-0.1
	38nm,0.4s,baz=67						
VRAC	Vranov	1.33	248	*e*PG	Pb	20 28 49.9	+0.5
VRAC				*e*SG	Sn	20 29 07.8	-0.1
VYHS	Vyhne	1.35	170	*e*PG	Pg	20 28 49.4	0.0
VYHS				*e*SG	Sn	20 29 08.0	-0.3
DPC	Dobruska-Polom	1.49	292	*e*PG	Pg	20 28 51.7	-0.3
DPC				*e*SG	Sn	20 29 12.0	+0.3
	comp=Z,35nm,0.4s						
KRUC	Moravsky	1.56	242	*e*Pg	Pg	20 28 53.4	0.0
	baz=60						
KRUC				*e*Sg	Sg	20 29 14.7	+1.0
	26nm,0.3s,baz=60						
OSTC	Ostas	1.63	298	*e*PG	Pg	20 28 54.7	-0.1
OSTC				*e*SG	Sg	20 29 16.8	+0.9
	comp=Z,39nm,0.7s						
MODS	Modra-Piesok	1.66	209	*e*PG	Pb	20 28 54.4	-0.5
MODS				*e*SG	Sg	20 29 16.6	0.0
UPC	Upice	1.73	294	*e*PG	Pb	20 28 56.2	0.0
UPC				*e*SG	Sg	20 29 19.0	-0.1
	comp=Z,34nm,0.6s						
KSP	Ksiaz	1.73	307	*e*Pg	Pn	20 28 55.3	+0.4
KSP				*e*Sg	Sg	20 29 19.4	+0.2
CHVC	Chvalec	1.74	297	*e*PG	Pg	20 28 56.7	-0.1
STHS	Stebnicka Huta	1.84	102	*e*PN	Pb	20 28 57.7	-0.4
STHS				*e*SG	Sg	20 29 24.9	+2.3
STHS				*e*LG	Lg	20 29 27.0	
KECS	Kecovo	1.88	135	*e*PN	Pn	20 28 57.0	+0.1
KECS				*e*SN	Sn	20 29 21.2	-0.1
KECS				*e*LG	Lg	20 29 28.1	
GOPC	GO Pecny, Ondr	2.39	274	*e*SG	Sg	20 29 39.8	-0.6
PRU	Pruhonice	2.55	275	*e*SG	Sb	20 29 43.6	+1.5
CONA	Conrad Observa	2.57	223	*e*Pn	Pn	20 29 06.3	-0.2
	1.1nm,0.3s						
CONA				*e*Sn	Sn	20 29 37.3	-1.1
	6.4nm,0.6s						
RONA	Rosalia, Austr	2.57	215	*i* Pn	Pn	20 29 07.2	+0.7
	2.6nm,0.2s						
RONA				*e*Sn	Sn	20 29 37.7	-0.8
	1.6nm,0.2s						
KOLS	Kolonicke sedl	2.63	108	*e*PG	Pb	20 29 11.4	-0.1
KOLS				*e*LG	Lg	20 29 54.1	
CKRC	Cesky Krumlov	2.91	251	*e*SG	Sg	20 29 56.3	-0.7
BRG	Berggiesshubel	3.09	292	Pg	Pg	20 29 21.8	-0.9
BRG				Sg	Sg	20 30 02.5	-0.3
BRG				Amp		20 30 06.7	
	comp=Z,9.3nm,0.5s						
KHC	Kasperske Hory	3.27	260	*e*PG	Pg	20 29 25.1	-1.1
KHC				*e*SG	Sg	20 30 08.2	-0.4
CLL	Collm	3.80	295	*e*Pg	Pg	20 29 36.0	-0.2
CLL				*i* (Sn)	Sn	20 29 58.7	-10
CLL				*i* Sg	Sg	20 30 24.4	-1.0
	comp=Z,13nm,0.8s						
CLL				AMS	AMS	22 18 00.0	
	comp=Z,200nm,20.6s						

IDC ***20*** *20:31:54.8±2.8, 23°.86N×94°.50E, h96km±37km, mb3.3/5, mbtmp3.5/7, MS3.5/1, Error ellipse: s-maj=30.6km s-min=19.2km az=37.0*
ISC 20 20:31:54.8±1.0, 23°.8N±0°.1×94°.50E±0°.09, h96km, n8, σ0s91/8, mb3.5/5, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	Bariadhala	2.87	247	P	Pn	20 32 38.1	-0.5
	81nm,0.3s,baz=214,slow=17,SNR=1.3						
BRDH				S	Sn	20 33 13.4	+0.9
	119nm,0.3s,baz=240,slow=19,SNR=7.1						
CMAR	Chiang Mai Arr	6.78	141	P	Pn	20 33 31.4	-0.3
	0.5nm,0.4s,baz=319,slow=14,SNR=6.7						
MKAR	Makanchi Array	24.91	340	P	P	20 37 08.3	-0.4
	1.7nm,0.5s,baz=152,slow=9.0,SNR=29						
	1.7nm,0.5s						
SONM	Songino Array	25.75	19	P	P	20 37 17.9	+1.4
	0.2nm,0.5s,baz=204,slow=10,SNR=2.2						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	29.47	339	P	P	20 37 48.8	-0.7
	0.6nm,0.6s,baz=157,slow=7.6,SNR=4.1						
	0.6nm,0.6s						
BVAR	Borovoye Array	34.39	334	P	P	20 38 32.1	-0.4
	0.4nm,0.4s,baz=134,slow=8.3,SNR=2.8						
	0.4nm,0.4s						
FITZ	Fitzroy Crossi	51.59	141	LR	LR	21 03 54.1	
	comp=Z,46nm,21.3s,baz=72,slow=37						
ASAR	Alice Springs	60.77	138	P	P	20 41 56.8	0.0
	0.2nm,0.4s,baz=328,slow=6.8,SNR=1.7						
	0.2nm,0.4s						

RSNC ***20*** *20:42:34.2±0.0, 7°.N±1°×7°.3W±°, h147km±2km, M3.0, ML2.7*
IDC ***20*** *20:42:35.6±6.9, 6°.44N×76°.12W, h111km±69km, mbtmp4.3/2, Error ellipse: s-maj=90.9km s-min=31.8km az=91.0*
ISC 20 20:42:32.6±1.1, 6°.88N±0°.03×73°.11W±0°.03, h153km±6km, n36, σ1s26/67, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.30	195	P	Pn	20 42 54.0	+0.1
BARC				S	Sn	20 43 08.6	-1.5
PAMC	Pamplona, Colo	0.61	41	P	Pn	20 42 56.9	+1.4
PAMC				S	Sn	20 43 13.8	+0.9
BRJC	Barrancabermej	0.64	278	P	Pn	20 42 55.7	+0.6
BRJC				S	Sn	20 43 11.9	-0.3
RUSC	La Rusia	0.98	179	P	Pn	20 42 57.9	-0.3
RUSC				S	Sn	20 43 16.0	-1.6
OCAC	Ocana	1.36	351	P	Pn	20 43 02.2	+0.9
OCAC				S	Sn	20 43 23.9	+0.7
TAMC	Tame, Arauca	1.38	109	P	Pn	20 43 02.4	+1.1
TAMC				S	Sn	20 43 23.7	+0.6
PTBC	PUERTO BERRIO,	1.38	256	P	Pn	20 43 00.7	-0.6
PTBC				S	Sn	20 43 21.3	-1.9
SPBC	San Pablo de B	1.55	218	P	Pn	20 43 02.9	-0.2
SPBC				S	Sn	20 43 24.9	-1.6
ZARC	Zaragoza, Cauc	1.84	289	P	Pn	20 43 07.0	+0.8
ZARC				S	Sn	20 43 32.8	+0.9
NORC	Norcasia	2.19	233	P	Pn	20 43 10.1	-0.2
NORC				S	Sn	20 43 37.7	-1.5
CHIC	Chingaza	2.32	196	P	Pn	20 43 12.5	+0.3
CHIC				S	Sn	20 43 41.4	-1.3
ROSC	El Rosal	2.36	211	P	Pn	20 43 14.4	+1.8
	22nm,0.3s,baz=304,slow=14,SNR=14						
ROSC				S	Sn	20 43 44.0	+0.6
	55nm,0.3s,baz=267,slow=19,SNR=10						
ROSC	El Rosal	2.36	211	P	Pn	20 43 14.7	+2.0
ROSC				S	Sn	20 43 43.8	+0.4
HELC	Santa Helena	2.50	254	P	Pn	20 43 14.4	+0.1
HELC				S	Sn	20 43 45.5	-0.9
CVER	Cruz Verde, Cu	2.54	202	P	Pn	20 43 16.4	+1.5
CVER				S	Sn	20 43 46.3	-1.1
UREC	San Jos de Ur	2.56	290	P	Pn	20 43 14.3	-0.4
UREC				S	Sn	20 43 46.1	-1.0
GUY2C	Guyana, Caldas	2.79	234	P	Pn	20 43 18.7	+0.8
GUY2C				S	Sn	20 43 55.9	+3.0
VILC	Villavicencio,	2.81	192	P	Pn	20 43 18.5	+0.5
VILC				S	Sn	20 43 51.2	-1.8
PTGC	Puerto Gaitan,	2.83	160	P	Pn	20 43 17.3	-0.8
PTGC				S	Sn	20 43 50.6	-2.7
RECRC	Villamaria, Ca	2.94	230	P	Pn	20 43 22.8	+2.9
RECRC				S	Sn	20 43 58.2	+1.8
CBOC	Ciudad Bolivar	3.06	251	P	Pn	20 43 22.0	+0.9
CBOC				S	Sn	20 43 57.9	-0.6
DBBC	Dabeiba	3.08	273	P	Pn	20 43 22.5	+1.2
DBBC				S	Sn	20 43 58.9	0.0
SDV	Santo Domingo	3.16	51	P	Pn	20 44 01.4	+39
	37nm,0.4s,baz=254,slow=20,SNR=25						
SDV	Santo Domingo	3.16	51	P	Pn	20 43 24.1	+1.8
SDV				S	Sn	20 44 00.6	-0.2
APAC	Apartado, Choc	3.59	287	P	Pn	20 43 28.5	+0.8
APAC				S	Sn	20 44 12.9	+2.5
PRAC	Prado	3.61	209	P	Pn	20 43 28.2	+0.2
PRAC				S	Sn	20 44 10.8	-0.2
SJCC	San Jacinto, C	3.63	326	P	Pn	20 43 28.5	+0.2
SJCC				S	Sn	20 44 10.1	-1.4
ORTC	Ortega, Tolima	3.64	216	P	Pn	20 43 29.4	+1.0
ORTC				S	Sn	20 44 12.4	+0.7
PLMC	San Jos del P	3.72	238	P	Pn	20 43 30.1	+0.6
PLMC				S	Sn	20 44 12.8	-0.8
URMC	La Uribe, Meta	3.83	199	P	Pn	20 43 32.1	+1.2
URMC				S	Sn	20 44 15.8	-0.3
CRJC	Cerrejon, Guaj	4.12	3	P	Pn	20 43 33.6	-1.0
CRJC				S	Sn	20 44 22.0	-0.9
YOTC	Yotoco, Valle	4.32	228	P	Pn	20 43 37.3	-0.1
CAPC	Capurgana	4.55	293	P	Pn	20 43 39.8	-0.5
CAPC				S	Sn	20 44 29.9	-3.1
URIC	Uribia, Colomb	4.91	13	P	Pn	20 43 45.1	+0.1
URIC				S	Sn	20 44 40.4	-1.1
ASAR	Alice Springs	149.16	234	PKPbc	PKPbc	21 02 04.1	+0.2
	0.4nm,0.9s,baz=116,slow=4.7,SNR=4.4						
WRA	Warramunga Arr	150.38	241	PKPbc	PKPbc	21 02 06.8	-0.1
	0.3nm,0.6s,baz=113,slow=2.5,SNR=1.2						

IDC ***20*** *20:50:22.2±7.0, 34°.02N×23°.50E, h0km, mb3.6/3, mbtmp3.4/5, ML3.9/2, Error ellipse: s-maj=128.6km s-min=46.5km az=35.0*
ISC 20 20:50:22.4±2.1, 33°.7N±0°.2×23°.5E±0°.1, h10km, n23, σ2s75/30, mb3.7/3, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	3.54	57	P	Pn	20 51 21.7	+4.2
CSS	Mathiatis	8.21	78	P	Pn	20 52 23.8	+2.2
KZIT	Kziot	9.60	104	P	Pn	20 52 42.7	+2.1
KZIT				S	Sn	20 54 25.7	-2.8
SLTI	Sal'it	9.77	95	P	Pn	20 52 46.1	+3.0
SLTI				S	Sn	20 54 29.8	-3.1
SALP	Salfit	9.93	96	P	Pn	20 52 48.2	+2.9
MMA0	Mount Meron ar	9.95	90	P	Pn	20 52 48.0	+2.4
MMAI	Mount Meron Ar	9.95	90	Pn	Pn	20 52 47.5	+1.9
	0.9nm,0.3s,baz=277,slow=12,SNR=2.3						
MMAI				Sn	Sn	20 54 40.0	+2.6
	2.6nm,0.3s,baz=277,slow=12,SNR=7.2						
	0.4nm,0.2s						
KRMI	Paran Flat	10.15	107	P	Pn	20 52 51.4	+3.2
GEM	Giv'at Ha'Em	10.15	89	P	Pn	20 52 50.2	+2.0
HMDT	Nahal Hemdat	10.17	95	P	Pn	20 52 50.9	+2.4
HMDT				S	Sn	20 54 40.2	-2.5
UJAP	Al Uja	10.19	96	P	Pn	20 52 50.7	+2.1
UJAP				S	Sn	20 54 41.1	-1.8
NATI	Neve Ativ	10.20	89	P	Pn	20 52 51.7	+2.8
DSI	Dead Sea	10.21	99	P	Pn	20 52 52.6	+3.6
DSI				S	Sn	20 54 40.9	-2.6
MSBI	Mazada	10.26	100	P	Pn	20 52 52.8	+3.2
PRNI	Paran	10.28	106	P	Pn	20 52 51.9	+1.9
SHMJ	Saham	10.29	92	P	Pn	20 52 53.3	+3.1
LISJ	El Lisan	10.38	100	P	Pn	20 52 54.1	+2.8
MBRI	Mt Berech	10.43	109	P	Pn	20 52 55.4	+3.3
GHAJ	Ghor Haditha	10.43	100	P	Pn	20 52 55.1	+3.1
GHAJ				S	Sn	20 54 47.2	-1.8
AKASG	Malin Array Be	17.54	12	P	Pn	20 54 23.9	-3.0
	0.5nm,0.3s,baz=208,slow=9.7,SNR=5.2						
	0.1nm,0.3s						
MKAR	Makanchi Array	45.73	55	P	P	20 58 43.7	-0.1
	0.5nm,0.5s,baz=269,slow=7.3,SNR=9.6						
	0.5nm,0.5s						
ZALV	Zalesovo Beam	47.02	45	P	P	20 58 52.6	-1.0
	0.4nm,0.3s,baz=269,slow=7.4,SNR=2.5						
	0.4nm,0.3s						
SONM	Songino Array	61.48	50	P	P	21 00 39.2	-0.2
	0.2nm,0.4s,baz=295,slow=7.0,SNR=1.7						
	0.2nm,0.4s						

IDC ***20*** *21:06:40.5±1.9, 43°.49N×105°.27W, h0km, mb3.9/5, mbtmp3.8/9, ML3.6/3, MS3.0/1, Error ellipse: s-maj=58.0km s-min=8.1km az=152.0*
NEIC ***20*** *21:06:42.1±2.3, 43°.81N±0°.05×105°.35W±0°.09, h0km±1km, ML3.4/54, Error ellipse: s-maj=10.9km s-min=9.3km az=264.0*
ISC 20 21:06:42.7±0.8, 43°.86N±0°.06×105°.31W±0°.05, h0km, n51, σ1s22/50, mb4.0/5, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.95	74	Pg	Pb	21 07 01.9	-0.3
K22A	Casper	1.50	217	P	Pn	21 07 08.5	-2.5
K22A				IAML		21 07 31.1	
	comp=E,412nm,0.5s						
K22A				IAML		21 07 38.0	
	comp=N,401nm,0.7s						
LAO	LASA Array	2.90	347		Pn	21 07 31.4	+1.2
N23A	Red Feather La	3.00	189		Pn	21 07 31.2	-0.5
N23A				IAML		21 08 20.1	
	comp=E,129nm,0.6s						
RLMT	Red Lodge	3.10	295	Pn	Pn	21 07 33.3	+0.2
RLMT				IAML		21 08 37.6	
	comp=E,73nm,0.7s						
PD31	Pinedale Array	3.29	252	Pn	Pn	21 07 36.1	+0.4
PDAR	Pinedale Array	3.29	252	Pn	Pn	21 07 35.5	-0.1
PDAR	Pinedale Array	3.29	252	Pn	Pn	21 07 35.7	0.0
	comp=E,7.4nm,0.3s,baz=72,slow=16,SNR=15						
PDAR				Pg	Pb	21 07 42.5	+0.4
	comp=E,7.9nm,0.3s,baz=75,slow=22,SNR=13						
PDAR				Lg	Lg	21 08 19.9	
	comp=E,4.7nm,0.3s,baz=74,slow=26,SNR=1.8						
	comp=E,9.2nm,0.4s						
BRIGG	Briggsdale	3.36	167	Pn	Pn	21 07 36.1	-0.4
YNE	Yellowstone No	3.56	290	Pn	Pn	21 07 39.9	+0.5
YNE				IAML		21 08 40.4	
	comp=E,71nm,0.7s						
YNE				IAML		21 08 44.6	
	comp=N,64nm,0.8s						
OGNE	Ogallala	3.79	139		Pn	21 07 44.1	+1.7
H17A	Grant Village	3.83	280		Pn	21 07 45.0	+1.8
H17A				IAML		21 08 46.5	
	comp=N,44nm,0.7s						
LOHW	Long Hollow	3.85	268	Pn	Pn	21 07 44.5	+1.1
FLWY	Flagg Ranch	3.90	275	Pn	Pn	21 07 45.1	+1.0
FLWY				IAML		21 08 53.0	
	comp=N,69nm,1.9s						
FLWY				IAML		21 09 26.4	
	comp=N,46nm,2.6s						
MOOW	Moose Ponds	3.94	270	Pn	Pn	21 07 46.0	+1.4
SNOW	Snow King Moun	3.97	266		Pn	21 07 45.9	+0.8
SNOW				IAML		21 09 01.9	
	comp=N,45nm,1.4s						
SNOW				IAML		21 09 06.6	
	comp=N,63nm,1.1s						
TPAW	Teton Pass	4.11	267		Pn	21 07 48.6	+1.6
TPAW				IAML		21 09 09.8	
	comp=N,34nm,1.2s						
TPAW				IAML		21 09 11.2	
	comp=N,52nm,0.8s						
FXWY	Fox Creek	4.15	269	Pn	Pn	21 07 49.2	+1.7
E28A	Huff	4.24	49	Pn	Pn	21 07 50.4	+1.8
O20A	White River Ci	4.32	211	Pn	Pn	21 07 50.2	+0.5
O20A				IAML		21 09 02.8	
	comp=E,54nm,1.1s						
O20A				IAML		21 09 11.3	
	comp=N,51nm,2.1s						
YHL	Hebgen Lake	4.33	285		Pn	21 07 52.4	+2.4
YHL				IAML		21 09 05.9	
	comp=N,37nm,1.2s						
YHL				IAML		21 09 13.7	
	comp=E,37nm,1.4s						
RDMU	Red Mountain	4.56	225		Pn	21 07 55.7	+2.6
RDMU				IAML		21 09 09.4	
	comp=N,41nm,1.3s						
RDMU				IAML		21 09 16.4	
	com

comp=E,0.8nm,0.6s

*IDC **20** 21:23:44.1±1.6,6.'19S×150.'96E,h0km,mb3.9/5, mbtmp4.0/6,ML2.0/1,MS2.6/3,Error ellipse: s-maj=63.9km s-min=22.7km az=113.0*
*NEIC **20** 21:23:46.0±2.1,6.'38S±0.'07×151.'1E±0.'1,h10km±1km, mb4.2/11,Error ellipse: s-maj=18.6km s-min=9.9km az=294.0*
ISC 20 21:23:49.1±0.7,**6.'40S**±0.'07×**151.'05E**±0.'08,**h36**km,**n26**, σ1°**42**/25,**mb4.0**/9,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.46**	**27**		**Pn**	**21 24 26.5**	**-0.3**
PMG	**Port Moresby**	**4.88**	**232**		**Pn**	**21 25 00.5**	**+0.5**
PMG	**Port Moresby**	**4.88**	**232**	Pn	**Pn**	**21 25 00.1**	**+0.1**
	4.5nm,0.3s,baz=53,slow=5.4,SNR=7.8						
PMG				Sn	**Sn**	**21 25 53.5**	**-1.7**
	6.1nm,0.3s,baz=333,slow=4.5,SNR=3.5						
	11nm,0.4s						
MANU	**Manus Island**	**5.68**	**320**	Pn	**Pn**	**21 25 11.1**	**+0.1**
COEN	**Coen**	**10.79**	**225**	Pn	**Pn**	**21 26 21.0**	**-0.2**
CTA	**Charters Tower**	**14.38**	**198**	LR	LR	21 32 32.8	
	comp=Z,4.6nm,18.1s,baz=60,slow=36						
MTN	**Manton Dam**	**20.64**	**250**	P	**P**	**21 28 24.4**	**-1.5**
MTN				IAmb	IAmb	21 28 42.5	
	comp=Z,15nm,1.2s						
WB0	**Warramunga Arr**	**20.94**	**229**	P	**P**	**21 28 27.5**	**-1.6**
WB0				IAmb	IAmb	21 28 30.1	
	comp=Z,7.9nm,0.9s						
WRA	**Warramunga Arr**	**21.09**	**229**	P	**P**	**21 28 28.5**	**-2.1**
WRA	**Warramunga Arr**	**21.09**	**229**	P	**P**	**21 28 30.0**	**-0.6**
	comp=Z,4.1nm,0.6s,baz=51,slow=10,SNR=24						
	comp=Z,4.1nm,0.6s						
DZM	**Mont Dzumac**	**21.54**	**138**	P	**P**	**21 28 35.2**	**-0.3**
DZM				IAmb	IAmb	21 28 40.8	
	comp=Z,7.1nm,0.9s						
KNRA	**Kununurra**	**23.71**	**245**	P	**P**	**21 28 56.7**	**-1.4**
KNRA				IAmb	IAmb	21 29 06.8	
	comp=Z,6.5nm,0.9s						
AS31	**Alice Springs**	**23.80**	**222**	P	**P**	**21 28 58.7**	**-0.1**
ASAR	**Alice Springs**	**23.80**	**222**	P	**P**	**21 28 58.5**	**-0.4**
ASAR	**Alice Springs**	**23.80**	**222**	P	**P**	**21 28 59.0**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=58,slow=8.8,SNR=30						
	comp=Z,3.4nm,0.8s						
STKA	**Stephens Creek**	**26.84**	**198**	P	**P**	**21 29 26.9**	**+0.5**
STKA				IAmb	IAmb	21 29 53.8	
	comp=Z,3.5nm,1.4s						
STKA	**Stephens Creek**	**26.84**	**198**	P	**P**	**21 29 29.8**	**+3.4**
	comp=Z,5.0nm,0.8s,baz=3.9,slow=9.1,SNR=5.7						
STKA				LR	LR	21 40 56.2	
	comp=Z,29nm,19.1s,baz=26,slow=38						
	comp=Z,5.0nm,0.8s						
MSVF	**Nonsavu**	**28.66**	**116**	P	**P**	**21 29 42.0**	**-0.9**
MSVF				IAmb	IAmb	21 29 49.0	
	comp=Z,11nm,1.2s						
KAPI	**Kappang**	**31.17**	**271**	LR	LR	21 43 20.8	
	comp=Z,20nm,18.9s,baz=282,slow=38						
RTZ	**Ruatahuna**	**39.73**	**148**	P	**P**	**21 31 20.2**	**+1.8**
RPZ	**Rata Peaks**	**41.11**	**158**	P	**P**	**21 31 29.0**	**-0.7**
SONM	**Songino Array**	**66.77**	**329**	P	**P**	**21 34 36.9**	**-0.1**
SONM				IAmb	IAmb	21 34 44.0	
	comp=Z,2.5nm,1.5s						
SONM	**Songino Array**	**66.77**	**329**	P	**P**	**21 34 37.6**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=138,slow=4.5,SNR=5.6						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**80.39**	**319**	P	**P**	**21 36 00.1**	**+3.1**
	comp=Z,0.2nm,0.5s,baz=119,slow=4.3,SNR=1.2						
ILAR	**Eielson Array**	**84.29**	**22**	P	**P**	**21 36 15.9**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=243,slow=6.0,SNR=3.1						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.09**	**285**	PKPbc	**PKPbc**	**21 43 33.2**	**-1.5**
	comp=Z,1.3nm,0.6s,baz=79,slow=2.8,SNR=17						

*DNK **20** 21:33:14.6±1.9,80.'09N×0.'62W,h20km±18km,ML1.8*
*BER **20** 21:33:17.0±2.3,80.'20N×1.'19W,h28km±27km,mb(Pn)3.1, Confirmed Earthquake*
ISC 20 21:33:08.2±1.0,**80.'13N**±0.'07×**0.'81W**±0.'04,**h10**km,**n14**, σ2°**80**/24,**North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.62**	**111**	*e*P	**Pb**	**21 33 56.0**	**+0.8**
KBS				*e*S	**Sb**	**21 34 25.0**	**-2.3**
KBS				IAML		21 34 32.0	
	comp=Z,6.9nm,0.6s						
KBS	**Kingsbay**	**2.62**	**111**	*i* P	**Pb**	**21 33 56.4**	**+1.3**
KBS				*i* S	**Sn**	**21 34 24.1**	**+1.8**
NOR	**Nord**	**2.92**	**308**	*e*P	**Pb**	**21 33 59.3**	**-1.0**
NOR				*e*S	**Sn**	**21 34 29.9**	**+0.1**
NOR	**Nord**	**2.92**	**308**	*i* P	**Pb**	**21 33 59.5**	**-0.9**
BRBB	**Barentsburg B**	**3.50**	**118**	*e*P	**Pb**	**21 34 10.1**	**0.0**
BRBB				*e*S	**Sb**	**21 34 48.5**	**-4.0**
BRBA	**Barentsburg A**	**3.52**	**118**	*e*P	**Pb**	**21 34 10.2**	**-0.3**
BRBA				IAML		21 34 50.2	
	comp=Z,4.9nm,0.3s						
BRBA				*e*S	**Sb**	**21 34 50.4**	**-2.8**
SPA0	**Spitsbergen Ar**	**3.78**	**112**	*e*P	**Pb**	**21 34 12.9**	**-2.0**
SPA0				*e*S	**Sn**	**21 34 54.2**	**+3.4**
SPA0				IAML		21 34 57.8	
	comp=Z,2.5nm,0.5s						
HSPB	**Hornsund (broa**	**4.50**	**126**	*e*P	**Pb**	**21 34 23.6**	**-3.5**
HSPB				*e*S	**Sn**	**21 35 11.7**	**+3.2**
HSPB				IAML		21 35 18.5	
	comp=Z,6.2nm,0.8s						
DAG	**Danmarks Havn**	**4.90**	**236**	*e*P	**Pn**	**21 34 26.4**	**+4.7**
DAG				*e*S	**Sn**	**21 35 17.8**	**-0.5**
DAG	**Danmarks Havn**	**4.90**	**236**	*i* P	**Pn**	**21 34 26.0**	**+4.3**
DAG				*i* S	**Sn**	**21 35 20.0**	**+1.7**
DAG				IAML		21 35 20.3	
	comp=Z,2.1nm,0.1s						
DBG	**Daneborg**	**7.20**	**226**	*e*S	**Sn**	**21 36 12.2**	**-2.8**
DBG	**Daneborg**	**7.20**	**226**	*i* S	**Sn**	**21 36 12.5**	**-2.5**
NEEM	**North Greenlan**	**9.85**	**280**	*i* P	**Pn**	**21 35 32.6**	**+2.8**
NEEM				*i* S	**Sn**	**21 37 15.4**	**-4.9**
NEEM				IAML		21 37 15.8	
	comp=Z,3.3nm,0.5s						
SUMG	**Summit**	**11.36**	**249**	*i* P	**Pn**	**21 35 51.9**	**+1.3**

*BJI **20** 21:44:48.9,33.'95N×84.'02E,h6km,mb4.2/12,mB4.9/4, Ms4.2/17,Ms7 4.0/17*
*NDI **20** 21:44:50.8±2.7,34.'45N×84.'33E,h10km,ML4.1,MW4.4, mb4.4(NEIC)*
*IDC **20** 21:44:51.4±0.7,33.'96N×83.'90E,h0km,mb4.0/15, mbtmp4.0/19,ML3.1/4,MS3.7/43,Error ellipse: s-maj=23.3km s-min=13.9km az=52.0*
*NEIC **20** 21:44:54.2±2.5,34.'06N±0.'08×83.'94E±0.'09,h10km±1km, mb4.4/24,Error ellipse: s-maj=14.8km s-min=11.6km az=42.0*
ISC 20 21:44:54.3±0.4,**34.'15N**±0.'05×**83.'91E**±0.'04,**h10**km,**n117**, σ2°**47**/94,**mb4.2**/22,**MS3.7**/42,**1D,Xizang**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KLP	**Kalpa**	**5.43**	**243**	*e*P	**Pn**	**21 46 18.3**	**+2.7**
KLP				IAML		21 46 43.7	
	comp=E,181nm,1.1s						
KLP				IAML		21 47 13.7	
	comp=N,158nm,1.4s						
KLP				*e*S	**Sn**	**21 47 21.3**	**+2.8**
KLP				*i* Lg	Lg	21 47 49.2	
LGTI	**Lohaghat**	**5.63**	**215**	*e*P	**Pn**	**21 46 21.5**	**+3.5**
LGTI				*e*S	**Sn**	**21 47 28.3**	**+5.5**
DDI	**Dehra Dun**	**6.26**	**234**	*e*P	**Pn**	**21 46 29.7**	**+2.9**
DDI				*e*S	**Sn**	**21 47 43.3**	**+4.9**
DDI				*i* x	x	21 48 24.1	
SMLA	**Simla**	**6.44**	**244**	*e*P	**Pn**	**21 46 30.8**	**+1.6**
SMLA				*e*S	**Sn**	**21 47 44.0**	**+1.3**
SMLA				IAML		21 47 48.4	
	comp=E,194nm,1.1s						
SMLA				IAML		21 47 52.1	
	comp=N,188nm,1.0s						
SMLA				*i* x	x	21 48 45.0	
DHRM	**DHARAMSHALA**	**6.66**	**256**	*e*P	**Pn**	**21 46 34.2**	**+1.8**
DHRM				IAML		21 48 07.4	
	comp=E,168nm,0.7s						
DHRM				IAML		21 48 09.6	
	comp=E,168nm,1.3s						
BHK	**Bhakra**	**6.88**	**249**	*e*x	x	21 46 41.8	
BHK				*e*x	x	21 47 58.8	
BHK				IAML		21 48 00.7	
	comp=N,174nm,1.3s						
BHK				IAML		21 48 04.0	
	comp=E,145nm,1.4s						
BHK				*i* x	x	21 49 05.9	
LSA	**Lhasa**	**7.58**	**124**	Pn	**Pn**	**21 46 44.5**	**-0.9**
LSA	**Lhasa**	**7.58**	**124**	P	**Pn**	**21 46 47.3**	**+2.0**
LSA				S	**Sg**	**21 49 04.1**	**+6.3**
LSA				pmax	pmax		
	comp=Z,17nm,1.3s						
LSA				LR	LR		
	comp=N,1μm,9.3s						
LSA				LR	LR		
	comp=Z,2μm,10.1s						
GTK	**Tadong**	**7.92**	**148**	*e*P	**Pn**	**21 46 46.2**	**-3.4**
GTK				*i* x	x	21 49 20.8	
WUS	**Wushi**	**7.96**	**334**	Pn	**Pn**	**21 46 51.6**	**+1.5**
KSH	**Kashi**	**8.31**	**312**	P	Pn	21 47 03.1	+8.1
KSH				S	Sb	21 48 47.5	-10
KSH				pmax	pmax		
	comp=Z,9.0nm,2.1s						
KSH				LR	LR		
	comp=N,1μm,9.5s						
KSH				LR	LR		
	comp=E,2μm,9.3s						
KSH				LR	LR		
	comp=Z,2μm,8.9s						
KUDL	**Kundal**	**8.73**	**229**	*e*P	**Pn**	**21 47 01.1**	**+0.5**
KUDL				*e*S	**Sn**	**21 48 39.5**	**+0.3**
KUDL				*i* x	x	21 49 43.0	
NIL	**Nilore**	**8.88**	**270**	Pn	**Pn**	**21 47 03.4**	**+0.7**
TARG	**Taragay, Kyrgy**	**8.97**	**329**		**Pn**	**21 47 06.0**	**+1.8**
PRZ	**Przheval'sk**	**9.37**	**334**	Pn	**Pn**	**21 47 10.5**	**+0.9**
KDJ	**Kajisay**	**9.56**	**328**	Pn	**Pn**	**21 47 14.5**	**+2.3**
WMQ	**Urumqi**	**10.09**	**16**	*e*P	**Pn**	**21 47 23.8**	**+4.5**
WMQ				PP	**PnPn**	**21 47 32.3**	**+5.2**
WMQ				pmax	pmax		
	comp=Z,40nm,0.7s						
WMQ				LR	LR		
	comp=Z,550nm,12.5s						
WMQ				LR	LR		
	comp=Z,400nm,8.9s						
WMQ				LR	LR		
	comp=Z,310nm,15.7s						
ZIRO	**ZIRO**	**10.79**	**125**	*i* x	x	21 51 05.8	
SHL	**Shillong**	**11.00**	**139**	Pn	**Pn**	**21 47 27.5**	**-4.4**
DRK	**Karamyk**	**11.06**	**302**	Pn	**Pn**	**21 47 33.7**	**+0.8**
AJM	**Ajmer**	**11.07**	**229**	*e*P	**Pn**	**21 47 34.2**	**+1.5**
AJM				*e*S	**Sn**	**21 49 35.6**	**-1.0**
AJM				IAML		21 49 42.7	
	comp=N,113nm,0.8s						
AJM				IAML		21 49 54.2	
	comp=E,123nm,0.8s						
AJM				*i* x	x	21 51 33.6	
AAK	**Ala-Archa**	**11.23**	**322**	Pn	**Pn**	**21 47 37.1**	**+2.1**
AAK	**Ala-Archa**	**11.23**	**322**	Pn	**Pn**	**21 47 37.4**	**+2.4**
	comp=E,0.1nm,0.3s,baz=126,slow=18,SNR=2.0						
AAK				Lg	Lg	21 50 51.3	
	baz=81,slow=23,SNR=1.7						
AAK				LR	LR	21 51 34.7	
	comp=E,174nm,19.1s,baz=134,slow=35						
	comp=E,0.6nm,0.7s						
FRU1	**Bishkek**	**11.29**	**323**		**Pn**	**21 47 37.5**	**+1.8**
GAR	**Garm**	**11.95**	**298**		**Pn**	**21 47 43.6**	**-1.2**
BTK	**Batken**	**12.00**	**303**	Pn	**Pn**	**21 47 44.7**	**-0.7**
SILR	**SILCHAR**	**12.13**	**138**	*i* x	x	21 52 29.5	
KOHI	**KOHIMA**	**12.19**	**131**	*e*x	x	21 47 45.2	
KOHI				*i* x	x	21 51 56.2	
KBL	**Kabul**	**12.30**	**276**		**Pn**	**21 47 48.8**	**-0.9**
LKP	**Lekhapani**	**12.30**	**120**	*i* x	x	21 52 06.4	
MK31	**Makanchi Array**	**12.69**	**355**		**Pn**	**21 47 54.4**	**-0.4**
MKAR	**Makanchi Array**	**12.69**	**355**	Pn	**Pn**	**21 47 53.9**	**-0.9**
	comp=E,0.2nm,0.3s,baz=167,slow=11,SNR=13						
MKAR				LR	LR	21 53 42.5	
	comp=E,319nm,21.2s,baz=174,slow=41						
	comp=E,1.2nm,0.6s						
IMP	**Imphal**	**12.75**	**134**	*i* x	x	21 51 59.6	
SIMJ	**Simiganj**	**12.82**	**295**		**Pn**	**21 47 56.9**	**+0.2**
AZL	**Aizawl**	**12.90**	**141**	*e*x	x	21 47 56.7	
AZL				*i* x	x	21 53 00.2	
KKAR	**Karatay Array**	**13.76**	**314**	Pn	**Pn**	**21 48 10.8**	**+1.4**
TNCH	**TengChong**	**15.61**	**122**	P	**P**	**21 48 38.6**	**-0.3**
TNCH				S	**Sn**	**21 51 32.8**	**+5.1**
TNCH				SS	**S**	**21 51 51.3**	**+8.1**
TNCH				pmax	pmax		
	comp=Z,20nm,1.7s						
TNCH				LR	LR		
	comp=N,490nm,11.6s						
TNCH				LR	LR		
	comp=E,380nm,11.4s						
TNCH				LR	LR		
	comp=Z,710nm,10.8s						
KURBB	**Kurchatov Arra**	**16.92**	**348**	P	**Pn**	**21 48 51.5**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=169,slow=10,SNR=30						
	comp=Z,4.9nm,1.1s						
KURK	**Kurchatov**	**17.00**	**348**		**Pn**	**21 48 53.0**	**+1.0**
PZH	**PanZhiHua**	**17.16**	**112**	P	**Pn**	**21 48 52.4**	**-2.0**
PZH				S	**Sn**	**21 51 57.3**	**-8.1**
PZH				pmax	pmax		
	comp=Z,40nm,2.7s						
PZH				pmax	pmax		
	comp=Z,230nm,6.2s						
PZH				LR	LR		
	comp=Z,360nm,15.5s						
PZH				LR	LR		
	comp=Z,620nm,12.8s						
PZH				LR	LR		
	comp=Z,770nm,12.4s						
HRA	**Herat**	**17.91**	**277**	P	**Pn**	**21 49 03.2**	**-0.5**
KMI	**Kunming**	**18.65**	**114**	P	**Pn**	**21 49 16.3**	**+3.4**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,90nm,4.4s						
KMI				LR	LR		
	comp=N,240nm,9.0s						
KMI				LR	LR		
	comp=E,370nm,11.0s						
KMI				LR	LR		
	comp=Z,430nm,11.6s						
ZAA0	**Zalesovo Array**	**19.80**	**2**	P	**P**	**21 49 24.1**	**-0.6**
ZALV	**Zalesovo Beam**	**19.80**	**2**	P	**P**	**21 49 23.6**	**-1.0**
ZALV	**Zalesovo Beam**	**19.80**	**2**	P	**P**	**21 49 24.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=184,slow=11,SNR=10.0						
ZALV				LR	LR	21 58 40.3	
	comp=Z,91nm,18.6s,baz=175,slow=41						
	comp=Z,2.6nm,0.7s						
CHTO	**Chiang Mai**	**20.32**	**135**	P	**P**	**21 49 28.5**	**-2.1**
CHTO				IAmb	IAmb	21 49 33.6	
	comp=Z,20nm,1.3s						
CM31	**Chiang Mai Arr**	**20.60**	**136**	P	**P**	**21 49 32.0**	**-1.6**
CM31				IAmb	IAmb	21 49 38.1	
	comp=Z,28nm,1.2s						
CMAR	**Chiang Mai Arr**	**20.60**	**136**	P	**P**	**21 49 32.0**	**-1.6**
CMAR	**Chiang Mai Arr**	**20.60**	**136**	P	**P**	**21 49 31.8**	**-1.8**
	comp=Z,4.1nm,1.0s,baz=317,slow=11,SNR=23						
	comp=Z,4.1nm,1.0s						
XAN	**Xi'an**	**20.70**	**83**	P	**P**	**21 49 35.0**	**+0.3**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.4s						
XAN				LR	LR		
	comp=Z,390nm,8.9s						
XAN				LR	LR		
	comp=Z,450nm,9.8s						
XAN				LR	LR		
	comp=Z,560nm,12.4s						
BVAR	**Borovoye Array**	**21.19**	**337**	P	**P**	**21 49 40.6**	**+0.9**
	comp=Z,8.6nm,0.8s,baz=148,slow=10,SNR=35						
BVAR				LR	LR	21 58 59.6	
	comp=Z,243nm,18.5s,baz=146,slow=40						
	comp=Z,8.6nm,0.8s						
BRVK	**Borovoye**	**21.25**	**337**	P	**P**	**21 49 39.6**	**-0.8**
BRVK				IAmb	IAmb	21 49 43.7	
	comp=Z,14nm,1.0s						
PHRA	**Phrae**	**21.33**	**133**	P	**P**	**21 49 39.1**	**-2.4**
SONM	**Songino Array**	**21.69**	**44**	P	**P**	**21 49 45.7**	**+0.4**
SONM	**Songino Array**	**21.69**	**44**	P	**P**	**21 49 45.6**	**+0.3**
	comp=Z,5.3nm,1.0s,baz=231,slow=10,SNR=23						
	comp=Z,5.3nm,1.0s						
SLVN	**Son La**	**21.77**	**121**	P	**P**	**21 49 46.8**	**+0.5**
SLVN				IAmb	IAmb	21 49 51.3	
	comp=Z,16nm,1.5s						
ULN	**Ulaanbaatar**	**22.09**	**45**	P	**P**	**21 49 49.7**	**0.0**
ABKAR	**Akbulak array**	**23.27**	**318**	P	**P**	**21 50 02.6**	**+0.8**
ABKAR				IAmb	IAmb	21 50 04.8	
	comp=Z,8.2nm,0.9s						
ABKAR	**Akbulak array**	**23.27**	**318**	P	**P**	**21 50 03.0**	**+1.2**
AKTO	**Aktyubinsk**	**24.95**	**319**	LR	LR	22 01 01.2	
	comp=Z,299nm,18.9s,baz=114,slow=39						
QIZ	**Qiongzhong**	**27.54**	**117**	P	**P**	**21 50 36.4**	**-5.0**
QIZ				S	**S**	**21 55 17.5**	**-5.1**
QIZ				LR	LR		
	comp=Z,140nm,8.4s						
QIZ				LR	LR		
	comp=Z,230nm,7.3s						
QIZ				LR	LR		
	comp=Z,250nm,7.8s						
ARTI	**Arti**	**28.28**	**330**	LR	LR	22 03 12.4	
	comp=Z,154nm,19.6s,baz=136,slow=39						
GNI	**Garni**	**31.60**	**292**	LR	LR	22 08 19.4	
	comp=Z,80nm,18.2s,baz=90,slow=44						
BELG	**Belogornoye**	**31.65**	**316**	LR	LR	22 05 29.7	
	comp=Z,264nm,18.1s,baz=85,slow=39						
KBZ	**Khabaz**	**33.01**	**299**	LR	LR	22 07 00.3	
	comp=Z,173nm,18.2s,baz=88,slow=40						
KIRV	**Kirov**	**33.49**	**327**	LR	LR	22 07 39.2	
	comp=Z,121nm,18.2s,baz=122,slow=41						
PSI	**Prapat**	**34.19**	**153**	LR	LR	22 08 22.1	
	comp=Z,70nm,19.4s,baz=328,slow=41						
KSRS	**Korea Array**	**35.61**	**72**	LR	LR	22 07 53.7	
	comp=Z,96nm,18.5s,baz=255,slow=39						
KLR	**Kul'dur**	**38.10**	**52**	LR	LR	22 07 28.5	
	comp=Z,34nm,20.1s,baz=262,slow=36						
USRK	**Ussuriysk Ar.**	**38.12**	**60**	LR	LR	22 08 20.0	
	comp=Z,39nm,18.5s,baz=337,slow=37						
JOW	**Kunigami**	**38.68**	**89**	LR	LR	22 09 57.0	
	comp=Z,258nm,18.1s,baz=174,slow=39						
OBN	**Obninsk**	**38.72**	**318**	LR	LR	22 09 48.7	
	comp=Z,118nm,19.2s,baz=172,slow=38						
YAK	**Yakutsk**	**40.05**	**32**	LR	LR	22 10 51.3	
	comp=Z,42nm,18.8s,baz=242,slow=39						
MMAI	**Mount Meron Ar**	**40.12**	**282**	LR	LR	22 11 23.9	
	comp=Z,91nm,20.1s,baz=8.5,slow=40						
BRTR	**Keskin Array B**	**40.14**	**293**	P	**P**	**21 52 30.9**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=124,slow=6.1,SNR=3.6						
	comp=Z,0.3nm,0.6s						
EIL	**Elat**	**41.49**	**278**	LR	LR	22 12 31.7	
	comp=Z,122nm,18.5s,baz=69,slow=40						
AKASG	**Malin Array Be**	**42.60**	**310**	P	**P**	**21 52 50.1**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=80,slow=6.1,SNR=9.2						
AKASG				LR	LR	22 12 50.9	
	comp=Z,212nm,20.0s,baz=79,slow=39						
	comp=Z,0.5nm,0.5s						
MNK	**Minsk**	**43.60**	**315**	*i* P	**P**	**21 52 56.9**	**-1.5**
	comp=E,16nm,1.1s						
MNK				*i* P	**P**	**21 52 56.9**	**-1.5**
	comp=N,13nm,1.0s						
MNK				*i* P	**P**	**21 52 56.9**	**-1.5**
	comp=Z,12nm,0.9s,baz=94						
MNK				*i* PP	**PP**	**21 54 38.7**	**-1.0**
MNK				*i* PPP	PPP	21 55 12.6	
MNK				*i* S	**S**	**21 59 27.6**	**0.0**
MNK				*i* SS	**SS**	**22 02 44.4**	**+2.3**
MNK				*i* SSS	SSS	22 03 22.1	
MNK				*i* LQ	LQ	22 06 59.3	
MNK				*i* LR	LR	22 11 31.8	
MNK				*i* LRM	MLR	22 12 44.5	
	comp=E,67nm,13.2s						
MNK				*i* LRM	MLR	22 12 56.9	
	comp=N,145nm,16.4s						
MNK				*i* LRM	MLR	22 13 03.8	
	comp=Z,136nm,14.9s						
ATD	**Arta Tunnel**	**43.63**	**249**	P	**P**	**21 52 59.2**	**0.0**
MJAR	**Matsushiro Arr**	**43.86**	**71**	LR	LR	22 12 12.4	
	comp=Z,67nm,20.2s,baz=296,slow=37						
MLR	**Muntele Rosu**	**45.04**	**303**	P	**P**	**21 53 11.2**	**+0.9**
FIA1	**FINESS Array S**	**45.39**	**325**	P	**P**	**21 53 12.7**	**0.0**
FIA1				IAmb	IAmb	21 53 13.8	
	comp=Z,6.6nm,0.8s						
FINES	**FINESS Array B**	**45.40**	**325**	P	**P**	**21 53 12.7**	**+0.1**
FINES	**FINESS Array B**	**45.40**	**325**	P	**P**	**21 53 13.1**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=99,slow=9.0,SNR=13						
FINES				LR	LR	22 14 57.1	
	comp=Z,117nm,18.7s,baz=118,slow=40						
	comp=Z,2.2nm,0.6s						
JHJ	**Hachijo jima 2**	**46.02**	**75**	LR	LR	22 16 06.8	
	comp=Z,59nm,19.4s,baz=3.0,slow=41						
ARCES	**ARCESS Array B**	**47.48**	**336**	P	**P**	**21 53 29.4**	**+0.5**
	comp=Z,3.5nm,0.8s,baz=56,slow=6.5,SNR=5.8						
ARCES				LR	LR	22 15 18.1	
	comp=Z,179nm,19.6s,baz=120,slow=38						
	comp=Z,3.5nm,0.8s						
FURI	**Furi**	**48.48**	**250**	LR	LR	22 15 18.3	
	comp=Z,38nm,19.3s,baz=30,slow=38						
MA2	**Magadan**	**49.69**	**38**	LR	LR	22 14 57.6	
	comp=Z,39nm,21.1s,baz=297,slow=36						
MODS	**Modra-Piesok**	**50.52**	**308**	*e*P	P	21 53 59.2	+6.6
VRAC	**Vranov**	**50.82**	**309**	LR	LR	22 18 50.8	
	comp=Z,163nm,18.1s,baz=78,slow=40						
HFS	**Hagfors**	**51.37**	**323**	P	**P**	**21 53 58.3**	**-0.5**
	comp=Z,3.5nm,0.7s,baz=106,slow=9.4,SNR=6.9						
HFS				LR	LR	22 17 02.7	
	comp=Z,138nm,18.8s,baz=48,slow=38						
	comp=Z,3.5nm,0.7s						
KAPI	**Kappang**	**51.59**	**132**	LR	LR	22 18 40.4	
	comp=Z,47nm,18.4s,baz=298,slow=39						
BRG	**Berggiesshubel**	**52.24**	**311**	*e*P	**P**	**21 54 07.1**	**+1.6**
BRG				Amp		21 54 07.4	
	comp=Z,4.7nm,0.8s						
SPITS	**Spitsbergen Ar**	**52.26**	**346**	LR	LR	22 22 17.6	
	comp=Z,74nm,18.6s,baz=118,slow=43						
NB2	**NORSAR Subarra**	**52.54**	**324**	P	**P**	**21 54 07.0**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=86,slow=7.4						
NOA	**NORSAR Array B**	**52.54**	**324**	P	**P**	**21 54 07.3**	**-0.2**
	comp=Z,3.9nm,0.8s,baz=86,slow=7.1,SNR=12						
NOA				LR	LR	22 18 08.0	
	comp=Z,77nm,20.8s,baz=95,slow=38						
	comp=Z,3.9nm,0.8s						
GERES	**GERESS Array B**	**52.77**	**309**	P	**P**	**21 54 09.4**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=72,slow=13,SNR=8.2						
GERES				LR	LR	22 19 04.1	
	comp=Z,136nm,19.6s,baz=88,slow=39						
	comp=Z,1.7nm,0.8s						
KMBO	**Kilima Mbogo**	**56.07**	**241**	P	**P**	**21 54 32.4**	**-1.7**
KMBO				IAmb	IAmb	21 54 34.4	
	comp=Z,7.3nm,1.4s						
KMBO	**Kilima Mbogo**	**56.07**	**241**	LR	LR	22 19 11.3	

*IDC **20** 21:53:17.1±3.3, 6°.55S×103°.87E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=144.4km s-min=23.0km az=51.0*

ISC 20 21:53:23.9±3.2, 6°.5S±0°.6×104°.0E±0°.7, h48km, n16, σ0°38/7, mb3.8/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**31.26**	**266**	T	T	22 32 09.7	
	baz=90,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**31.27**	**266**	T	T	22 32 09.5	
	baz=90,slow=75,SNR=13						
H08S1	**Diego Carcia H**	**31.27**	**266**	T	T	22 32 10.2	
	baz=90,slow=75,SNR=12						
WRA	**Warramunga Arr**	**32.36**	**117**	P	**P**	**21 59 48.9**	**-0.3**
	1.1nm,0.9s,baz=290,slow=10,SNR=4.9						
	1.1nm,0.9s						
ASAR	**Alice Springs**	**33.44**	**124**	P	**P**	**21 59 58.7**	**+0.1**
	0.8nm,1.0s,baz=310,slow=7.5,SNR=2.9						
	0.8nm,1.0s						
SONM	**Songino Array**	**54.15**	**2**	P	**P**	**22 02 44.5**	**+0.1**
	1.2nm,0.7s,baz=178,slow=8.4,SNR=9.2						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**56.45**	**342**	P	**P**	**22 03 00.9**	**0.0**
	0.4nm,0.7s,baz=145,slow=8.5,SNR=4.3						
	0.4nm,0.7s						
H04N2	**CROZET ISLANDS**	**59.70**	**219**	T	T	23 07 53.6	
	baz=65,slow=75,SNR=36						
H04N1	**CROZET ISLANDS**	**59.72**	**219**	T	T	23 07 51.8	
	baz=65,slow=75,SNR=33						
H04N3	**CROZET ISLANDS**	**59.72**	**219**	T	T	23 07 52.7	
	baz=65,slow=75,SNR=38						
H04S1	**CROZET ISLANDS**	**59.92**	**219**	T	T	23 08 07.6	
	baz=68						
H04S3	**CROZET ISLANDS**	**59.93**	**219**	T	T	23 08 06.7	
	baz=68						
H04S2	**CROZET ISLANDS**	**59.94**	**219**	T	T	23 08 06.7	
	baz=68						
ZALV	**Zalesovo Beam**	**62.35**	**347**	P	**P**	**22 03 40.9**	**-0.5**
	0.3nm,0.3s,baz=172,slow=5.1,SNR=2.4						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**65.78**	**339**	P	**P**	**22 04 03.9**	**0.0**
	0.6nm,0.4s,baz=131,slow=8.2,SNR=6.3						
	0.6nm,0.4s						
TXAR	**Lajitas Array**	**145.44**	**46**	PKPbc	**PKPab**	**22 12 58.3**	**+0.5**
	0.4nm,0.6s,baz=316,slow=2.5,SNR=3.8						

*OSPL **20** 22:02:16.7±1.3, 19°.53N×71°.42W, h26km±10km, ML1.9*
*SDD **20** 22:02:18.4±1.0, 19°.20N×70°.79W, h15km±539km, MD2.3, ML2.4, MW2.5*

ISC 20 22:02:16.6±3.4, 19°.12N±0°.06×70°.81W±0°.04, h6km±26km, n11, σ0°54/15, 5C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiage de lo**	**0.31**	**14**	*i* P	**Pn**	**22 02 28.1**	**+0.3**
SC01				*e*S	Sb	22 02 38.0	+8.0
ABDR	**Alto Bandera**	**0.35**	**151**	⇑*e*Pg	**Pb**	**22 02 26.2**	**+0.7**
ABDR				⇑*e*Sg	**Sb**	**22 02 31.8**	**+0.4**
ABDR				IAML		22 02 33.4	
	comp=N,165nm,0.3s						
ABDR				IAML		22 02 33.4	
	comp=E,184nm,0.2s						
SDDR	**Presa de Saban**	**0.48**	**253**	⇑*e*Pg	**Pb**	**22 02 27.5**	**+0.1**
SDDR				*e*Sg	**Sb**	**22 02 34.7**	**-0.1**
SDDR				IAML		22 02 36.9	
	comp=E,138nm,0.2s						
SDDR				IAML		22 02 37.8	
	comp=N,102nm,0.5s						
SDDR	**Presa de Saban**	**0.48**	**253**	*i* P	**Pb**	**22 02 27.7**	**+0.2**
SDDR				*e*S	**Sb**	**22 02 34.5**	**-0.3**
SDDR				IAML		22 02 38.7	
	comp=Z,91nm,0.2s						
DR08	**Loma La Naviza**	**0.76**	**102**	IAML		22 02 43.8	
	comp=N,2μm,0.1s						
DR08				IAML		22 02 45.6	
	comp=E,2μm,0.1s						
LONE3	**El Aguacate, B**	**0.81**	**230**	*i* P	**Pb**	**22 02 33.1**	**0.0**
LONE3				*e*S	**Sb**	**22 02 43.9**	**-0.4**
LONE3				IAML		22 02 46.0	
	comp=Z,33nm,0.4s						
BANI	**BANI**	**0.84**	**150**	⇑*e*Pg	**Pn**	**22 02 34.9**	**-0.2**
BANI				IAML		22 02 49.3	
	comp=N,89nm,1.1s						
PODR	**Polo**	**1.05**	**205**	IAML		22 02 58.5	
	comp=E,23nm,0.5s						
PODR				IAML		22 03 01.3	
	comp=N,35nm,1.4s						
PODR	**Polo**	**1.05**	**205**	*i* P	**Pn**	**22 02 37.5**	**-0.6**
PODR				*e*S	**Sn**	**22 02 54.1**	**+1.0**
JIDR	**Jimani**	**1.17**	**238**	⇑*e*Sg	**Sn**	**22 02 56.2**	**+0.3**
JIDR				IAML		22 02 57.3	
	comp=E,93nm,0.3s						
JIDR				IAML		22 02 57.5	
	comp=N,61nm,0.3s						
HATOM	**Hato Mayor del**	**1.39**	**104**	⇓*e*Pg	**Pb**	**22 02 42.8**	**-0.2**
HATOM				*e*Sg	**Sn**	**22 03 00.4**	**-0.8**
HATOM				IAML		22 03 00.7	
	comp=E,42nm,0.6s						
HATOM				IAML		22 03 00.8	
	comp=N,52nm,0.3s						

*IDC **20** 22:20:31.8±4.8, 36°.26N×71°.77E, h180km±46km, mb3.3/7, mbtmp3.7/12, Error ellipse: s-maj=55.3km s-min=32.3km az=133.0*
*NNC **20** 22:20:42.3±3.2, 37°.27N×71°.42E, h209km±34km, mb2.4, mpv3.5, Error ellipse: s-maj=28.5km s-min=20.7km az=25.0*

ISC 20 22:20:38.3±2.8, 37°.1N±0°.2×71°.4E±0°.1, h200km, n18, σ1°96/15, mb3.4/7, 5C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.04**	**22**	P	**Pn**	**22 22 07.6**	**+1.4**
	3.0nm,0.3s,baz=161,slow=3.8,SNR=20						
AAK				S	**Sn**	**22 23 14.1**	**-1.7**
	2.4nm,0.5s,baz=265,slow=3.3,SNR=5.6						
KK31	**Karatay Array**	**6.05**	**354**	⇓P	**Pn**	**22 22 07.7**	**+1.6**
	4.8nm,0.4s,baz=186,slow=14,SNR=42						
KK31				⇓S	**Sn**	**22 23 16.5**	**+0.9**
	5.5nm,0.5s,baz=175,slow=18,SNR=8.9						
CHMS	**Chumysh**	**6.45**	**23**	⇓P	**Pn**	**22 22 14.1**	**+2.7**
	1.3nm,0.3s						
CHMS				⇑S	**Sn**	**22 23 26.0**	**+0.9**
	4.4nm,0.7s						
TKM2	**Tokmak 2**	**6.67**	**28**	⇓P	**Pn**	**22 22 15.5**	**+1.1**
	1.1nm,0.5s						
TKM2				⇓S	**Sn**	**22 23 30.2**	**-0.4**
	2.6nm,0.7s						
MKAR	**Makanchi Array**	**12.64**	**36**	P	**P**	**22 23 32.5**	**-2.5**
	0.5nm,0.4s,baz=219,slow=12,SNR=3.8						
KURBB	**Kurchatov Arra**	**14.47**	**19**	P	**P**	**22 23 56.2**	**+1.1**
	0.2nm,0.4s,baz=204,slow=12,SNR=1.8						
AB31	**Akbulak array**	**14.72**	**329**	⇑P	P	22 23 59.3	+1.4
	0.3nm,0.4s						
AB31				⇑S	**Sn**	**22 26 39.1**	**-2.5**
	1.2nm,0.7s						
BVAR	**Borovoye Array**	**15.95**	**358**	P	**Pn**	**22 24 15.2**	**+3.4**
	0.2nm,0.3s,baz=178,slow=10,SNR=2.3						
AKTO	**Aktyubinsk**	**16.43**	**329**	⇑P	**Pn**	**22 24 17.8**	**+0.2**
	0.3nm,0.3s						
AKTO				⇑S	**Sn**	**22 27 20.6**	**-1.7**
	0.9nm,1.0s						
ZALV	**Zalesovo Beam**	**19.26**	**25**	P	**Pn**	**22 24 49.9**	**-1.1**
	0.7nm,0.3s,baz=210,slow=9.6,SNR=6.2						
BRTR	**Keskin Array B**	**29.54**	**287**	P	P	22 26 26.0	+1.7
	0.4nm,0.9s,baz=85,slow=12,SNR=1.7						
	0.4nm,0.9s						
AKASG	**Malin Array Be**	**32.81**	**308**	P	P	22 26 54.7	+2.0
	0.3nm,0.4s,baz=98,slow=8.8,SNR=1.6						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**37.17**	**326**	P	P	22 27 31.9	+2.3
	1.8nm,0.8s,baz=133,slow=9.4,SNR=9.0						
	1.8nm,0.8s						
ARCES	**ARCESS Array B**	**40.72**	**337**	P	P	22 28 01.6	+2.6
	5.0nm,0.9s,baz=114,slow=8.8,SNR=1.7						
	5.0nm,0.9s						
HFS	**Hagfors**	**42.79**	**321**	P	P	22 28 17.9	+1.9
	2.0nm,0.5s,baz=97,slow=8.4,SNR=13						
	2.0nm,0.5s						
NB2	**NORSAR Subarra**	**44.09**	**323**	P	P	22 28 27.9	+1.5
	comp=Z,0.4nm,0.4s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.09**	**323**	P	P	22 28 28.1	+1.7
	comp=Z,0.5nm,0.4s,baz=108,slow=7.0,SNR=4.9						
	comp=Z,0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**66.03**	**269**	P	P	22 31 01.0	-2.9
	comp=Z,0.4nm,0.5s,baz=46,slow=5.8,SNR=8.5						
	comp=Z,0.4nm,0.5s						

*IDC **20** 22:22:36.9±3.6, 16°.08S×176°.04W, h375km±28km, mb3.5/5, mbtmp4.2/6, Error ellipse: s-maj=81.7km s-min=22.1km az=142.0*

ISC 20 22:22:35.1±2.1, 16°.1S±0°.5×175°.9W±0°.4, h360km, n8, σ1°08/8, mb3.9/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.06**	**253**	P	**Pn**	**22 24 08.3**	**+1.3**
	64nm,0.7s,baz=91,slow=10,SNR=60						
WRA	**Warramunga Arr**	**47.39**	**258**	P	**P**	**22 30 33.5**	**-1.3**
	0.9nm,0.5s,baz=96,slow=6.8,SNR=20						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**47.65**	**252**	P	**P**	**22 30 35.5**	**-1.4**
	6.9nm,0.6s,baz=86,slow=8.0,SNR=95						
	6.9nm,0.6s						
PETK	**Petropavlovsk-**	**72.56**	**344**	P	**P**	**22 33 23.4**	**-0.1**
	3.0nm,0.7s,baz=141,slow=7.3,SNR=4.2						
	3.0nm,0.7s						
ILAR	**Eielson Array**	**83.56**	**12**	P	**P**	**22 34 22.9**	**-0.2**
	0.9nm,0.4s,baz=219,slow=5.6,SNR=26						
	0.9nm,0.4s						
PDAR	**Pinedale Array**	**84.34**	**43**	P	**P**	**22 34 28.4**	**+0.5**
	0.2nm,0.4s,baz=220,slow=5.2,SNR=7.8						
	0.2nm,0.4s						
BRTR	**Keskin Array B**	**145.12**	**318**	PKPbc	**PKPdf**	**22 41 30.7**	**+0.1**
	2.7nm,0.9s,baz=63,slow=3.2,SNR=11						
MMAI	**Mount Meron Ar**	**147.09**	**307**	PKPbc	**PKPbc**	**22 41 37.0**	**+0.3**
	1.5nm,0.6s,baz=77,slow=4.4,SNR=6.7						

*IDC **20** 22:28:47.3±0.9, 35°.78N×140°.95E, h0km, mb3.9/13, mbtmp3.9/17, ML3.5/4, MS3.1/11, Error ellipse: s-maj=23.7km s-min=14.6km az=81.0*
*NIED **20** 22:28:54.1, 35°.74N×140°.68E, h50km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr1.08; Mθθ-0.10; Mφφ-0.99; Mrθ-0.00; Mθφ-0.02; Mφr0.96; Fault plane solution: M0 1.41000×10^15^ NP1: φs0.00000°, δ66.00000°, λ89.00000°. NP2: φs182.00000°, δ24.00000°, λ91.00000°.*
*JMA **20** 22:28:54.1±0.2, 35°.7N±0°.6×140°.7E±0°.8, h50km±1km, MV3.7/39, NEAR CHOSHI CITY*
JMA Felt II J1 at NEAR CHOSHI CITY .
*NEIC **20** 22:28:55.2±1.9, 35°.74N±0°.05×140°.7E±0°.1, h47km±8km, mb4.5/18, Error ellipse: s-maj=12.3km s-min=7.2km az=105.0*

ISC 20 22:28:54.8±0.8, 35°.74N±0°.04×140°.73E±0°.06, h51km±6km, n71, σ1°14/67, mb4.1/22, MS3.2/6, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.24**	**247**	*i* P	**Pn**	**22 29 02.9**	**-0.6**
JSMT				S	**Sn**	**22 29 10.0**	**+0.3**
JIHU	**Itakohorinouch**	**0.28**	**325**	⇓*i* P	**Pn**	**22 29 03.5**	**-0.2**
JIHU				⇓S	**Sn**	**22 29 10.7**	**+0.5**
JCN	**Nagara**	**0.53**	**233**	⇓*i* P	**Pn**	**22 29 06.2**	**-0.2**
JYT	**Yasato**	**0.65**	**319**	⇓*i* P	**Pn**	**22 29 06.9**	**-1.0**
JYT				⇓S	**Sn**	**22 29 16.1**	**-1.4**
BSO4	**Boso 4**	**0.81**	**203**	P	**Pn**	**22 29 09.5**	**-0.4**
JHO	**Hitachi**	**0.88**	**352**	⇓*i* P	**Pn**	**22 29 10.6**	**-0.3**
BSO3	**Boso 3**	**0.95**	**191**	P	**Pn**	**22 29 10.9**	**-0.7**
BSO1	**Boso 1**	**1.10**	**169**	P	**Pn**	**22 29 13.1**	**-0.3**
JAG	**Ashikaga**	**1.24**	**304**	*i* P	**Pn**	**22 29 14.7**	**-1.1**
JOD2	**Odawara 2**	**1.42**	**251**	⇓*i* P	**Pn**	**22 29 17.3**	**-0.9**
JOD2				⇓S	**Sn**	**22 29 36.7**	**+1.0**
JMM	**Marumori**	**2.12**	**1**	Pn	**Pn**	**22 29 28.8**	**+1.0**
JMM				Sn	**Sn**	**22 29 53.0**	**0.0**
MJAR	**Matsushiro Arr**	**2.19**	**292**	Pn	**Pn**	**22 29 27.8**	**-0.9**
	5.5nm,0.3s,baz=108,slow=14,SNR=119						
MJAR				Sn	**Sn**	**22 29 56.4**	**+1.8**
	2.8nm,0.3s,baz=110,slow=23,SNR=6.4						
MJAR				LR	LR	22 30 04.7	
	comp=Z,100nm,20.5s,baz=120,slow=33						
	36nm,0.5s						
MAJO	**Matsushiro**	**2.19**	**292**		**Pn**	**22 29 29.4**	**+0.6**
MJB9	**Matsu-Tunnel**	**2.19**	**292**		**Pn**	**22 29 29.4**	**+0.6**
JHJ	**Hachijo jima 2**	**2.73**	**197**	Pn	**Pn**	**22 29 34.4**	**-1.7**
	32nm,0.3s,baz=330,slow=20,SNR=16						
JHJ				Sn	**Sn**	**22 30 08.2**	**+0.3**
	130nm,0.3s,baz=274,slow=23,SNR=9.1						
	157nm,0.6s						
JHJ2	**Mitsune**	**2.73**	**196**	Pn	**Pn**	**22 29 34.3**	**-1.7**
JGF	**Kuroka**	**2.75**	**268**		**Pn**	**22 29 37.6**	**+1.2**
JSD	**Sado**	**3.03**	**320**		**Pn**	**22 29 40.9**	**+0.7**
INU	**Inuyama**	**3.05**	**264**		**Pn**	**22 29 41.0**	**+0.6**
JTM	**Tennabayashi**	**5.05**	**3**	Pn	**Pn**	**22 30 08.5**	**+0.6**
JMN	**Monobe**	**5.98**	**252**	Pn	**Pn**	**22 30 22.0**	**+1.2**
ERM	**Erimo**	**6.55**	**16**	Pn	**Pn**	**22 30 27.2**	**-1.2**
ASAJ	**Asahikawa**	**8.49**	**9**	Pn	**Pn**	**22 30 51.0**	**-4.0**
	1.3nm,0.3s,baz=184,slow=25,SNR=4.7						
ASAJ				Sn	**Sn**	**22 32 26.7**	**-2.7**
	1.0nm,0.3s,baz=241,slow=28,SNR=1.1						
	2.7nm,0.3s						
JKA	**Kamikawa-asahi**	**8.49**	**9**	Pn	**Pn**	**22 30 53.8**	**-1.2**
JNU	**Nakatsue**	**8.54**	**255**	LR	LR	22 34 51.2	
	comp=Z,144nm,18.1s,baz=51,slow=42						
KSRS	**Korea Array**	**10.44**	**283**	Pn	**Pn**	**22 31 21.7**	**0.0**
	0.2nm,0.3s,baz=96,slow=14,SNR=1.6						
KSRS				LR	LR	22 35 15.5	
	comp=Z,84nm,22.0s,baz=90,slow=36						
	1.7nm,0.8s						
USRK	**Ussuriysk Ar.**	**10.78**	**324**	Pn	**Pn**	**22 31 29.2**	**+2.8**
	0.2nm,0.3s,baz=133,slow=13,SNR=5.4						
USRK				LR	LR	22 35 26.6	
	comp=Z,58nm,19.0s,baz=310,slow=37						
KLR	**Kul'dur**	**15.00**	**337**	LR	LR	22 37 41.9	
	comp=Z,35nm,20.1s,baz=196,slow=36						
MA2	**Magadan**	**24.73**	**12**	LR	LR	22 44 29.0	
	comp=Z,33nm,18.2s,baz=294,slow=38						
ENH	**Enshi**	**26.69**	**267**	P	**P**	**22 34 27.5**	**-1.7**
ENH				IAmb	IAmb	22 34 28.6	
	comp=Z,9.1nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.00**	**118**	T	T	23 04 01.0	
	baz=309,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**28.01**	**118**	T	T	23 04 03.7	
	baz=309,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**28.02**	**118**	T	T	23 03 58.8	
	baz=309,slow=75,SNR=16						
SONM	**Songino Array**	**28.07**	**306**	P	**P**	**22 34 41.8**	**+0.2**
SONM	**Songino Array**	**28.07**	**306**	P	**P**	**22 34 41.7**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=104,slow=9.4,SNR=5.5						
SONM				LR	LR	22 47 10.9	
	comp=Z,28nm,19.3s,baz=267,slow=39						
	comp=Z,0.5nm,0.4s						
H11S1	**WAKE ISLAND Hy**	**28.66**	**120**	T	T	23 04 32.0	
	baz=312,slow=75,SNR=24						
H11S3	**WAKE ISLAND Hy**	**28.66**	**120**	T	T	23 04 32.3	
	baz=312,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy**	**28.68**	**120**	T	T	23 04 42.8	
	baz=312,slow=75,SNR=24						
PHRA	**Phrae**	**39.60**	**255**	P	**P**	**22 36 20.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**40.64**	**256**	LR	LR	22 54 27.3	
	comp=Z,17nm,18.3s,baz=90,slow=38						
ZALV	**Zalesovo Beam**	**42.39**	**313**	P	**P**	**22 36 43.6**	**-0.4**
ZALV	**Zalesovo Beam**	**42.39**	**313**	P	**P**	**22 36 44.1**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=86,slow=6.1,SNR=6.5						
	comp=Z,0.7nm,0.5s						
MK31	**Makanchi Array**	**44.35**	**303**	P	**P**	**22 36 58.8**	**-1.2**
MKAR	**Makanchi Array**	**44.35**	**303**	P	**P**	**22 36 59.6**	**-0.3**
MKAR	**Makanchi Array**	**44.35**	**303**	P	**P**	**22 37 00.0**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=80,slow=8.8,SNR=16						
	comp=Z,1.5nm,0.6s						
MAKZ	**Makanchi**	**44.56**	**303**	P	**P**	**22 37 01.6**	**0.0**
MAKZ				IAmb	IAmb	22 37 30.5	
	comp=Z,8.4nm,1.4s						
C18K	**Utukok River**	**45.68**	**26**	P	**P**	**22 37 11.4**	**+1.2**
G18K	**Tagagawik**	**46.04**	**30**	P	**P**	**22 37 14.3**	**+1.2**
G18K				IAmb	IAmb	22 37 30.5	
	comp=Z,8.7nm,1.4s						
KURK	**Kurchatov**	**46.30**	**309**	P	**P**	**22 37 14.9**	**-0.4**
KURK				IAmb	IAmb	22 37 15.9	
	comp=Z,4.9nm,0.8s						
C19K	**Lookout Ridge**	**46.36**	**25**	P	**P**	**22 37 17.1**	**+1.5**
KURBB	**Kurchatov Arra**	**46.37**	**309**	P	**P**	**22 37 15.6**	**-0.2**
	comp=Z,1.6nm,0.4s,baz=83,slow=8.1,SNR=15						
	comp=Z,1.6nm,0.4s						
E19K	**Redstone River**	**46.88**	**28**	P	**P**	**22 37 20.8**	**+1.2**
E19K				IAmb	IAmb	22 37 46.5	
	comp=Z,6.4nm,1.3s						
B20K	**Meade River**	**47.40**	**24**	P	**P**	**22 37 25.1**	**+1.5**
B21K	**Ikpikpuk River**	**48.19**	**25**	P	**P**	**22 37 31.8**	**+2.1**
B21K				IAmb	IAmb	22 37 33.0	
	comp=Z,2.3nm,0.7s						
AAK	**Ala-Archa**	**50.62**	**299**	LR	LR	23 00 06.7	
	comp=Z,36nm,18.0s,baz=21,slow=37						
ILAR	**Eielson Array**	**50.88**	**32**	P	**P**	**22 37 49.5**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=281,slow=5.4,SNR=2.4						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**51.04**	**313**	P	**P**	**22 37 51.4**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=90,slow=7.2,SNR=4.4						
	comp=Z,1.2nm,0.6s						
KNRA	**Kununurra**	**52.38**	**195**	P	**P**	**22 38 01.7**	**-0.2**
KNRA				IAmb	IAmb	22 38 03.1	
	comp=Z,7.1nm,0.8s						
HYT	**Haines Junctio**	**55.67**	**36**	P	**P**	**22 38 27.1**	**+1.5**
HYT				IAmb	IAmb	22 38 45.3	
	comp=Z,8.3nm,1.2s						
WB2	**Warramunga Arr**	**55.70**	**187**	P	**P**	**22 38 25.5**	**-0.6**
WB2				IAmb	IAmb	22 38 46.6	
	comp=Z,3.6nm,0.8s						
WRA	**Warramunga Arr**	**55.71**	**187**	P	**P**	**22 38 25.6**	**-0.6**
WRA	**Warramunga Arr**	**55.71**	**187**	P	**P**	**22 38 25.4**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=1.1,slow=7.5,SNR=12						
	comp=Z,1.2nm,0.5s						
AS31	**Alice Springs**	**59.43**	**187**	P	**P**	**22 38 52.3**	**0.0**
ASAR	**Alice Springs**	**59.43**	**187**	P	**P**	**22 38 52.5**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=6.2,slow=11,SNR=14						
	comp=Z,0.6nm,0.5s						
FINES	**FINESS Array B**	**69.70**	**332**	P	**P**	**22 39 58.4**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=57,slow=7.0,SNR=5.6						
	comp=Z,2.2nm,0.8s						
AKASG	**Malin Array Be**	**74.98**	**322**	P	**P**	**22 40 30.5**	**0.0**
	comp=Z,0.8nm,0.5s,baz=49,slow=6.2,SNR=5.3						
AKASG				LR	LR	23 16 28.4	
	comp=Z,61nm,19.6s,baz=298,slow=38						
	comp=Z,0.8nm,0.5s						
HFS	**Hagfors**	**75.04**	**336**	P	**P**	**22 40 30.5**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=46,slow=5.9,SNR=4.6						
	comp=Z,1.1nm,0.6s						
NB2	**NORSAR Subarra**	**75.16**	**337**	P	**P**	**22 40 31.9**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.16**	**337**	P	**P**	**22 40 31.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=40,slow=5.7,SNR=3.9						
	comp=Z,0.7nm,0.6s						
BRTR	**Keskin Array B**	**79.29**	**311**	P	**P**	**22 40 55.7**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=53,slow=5.3,SNR=3.6						
	comp=Z,1.0nm,0.9s						
PPT	**Papeete**	**84.56**	**116**	LR	LR	23 16 33.0	
	comp=Z,30nm,18.2s,baz=108,slow=34						

*NEIC **20** 22:39:06.0±1.2, 45°.95N±0°.03×115°.78W±0°.04, h13km±7km, mb4.2/8, ML4.4/74, Mwr4.1/66, ML4.8/36(BUT), Error ellipse: s-maj=5.2km s-min=1.7km az=47.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr0.03; Mθθ-0.80; Mφφ0.77; Mrθ-0.75; Mθφ-1.65; Mφr0.52; Fault plane solution: M0 2.04000×10^15^ NP1: φs281.58000°, δ82.92000°, λ156.08000°. NP2: φs14.71000°, δ66.27000°, λ7.74000°. Principal axes: T 2.1472, Plg22.0000°, Azm236.0000°; N -0.2316, Plg65.0000°, Azm86.0000°; P -1.9156, Plg11.0000°, Azm330.0000°;*
*IDC **20** 22:39:06.8±0.6, 45°.99N×116°.06W, h0km, mb3.6/1, mbtmp3.4/7, ML3.6/7, MS3.2/8 Error ellipse: s-maj=12.4km s-min=5.7km az=78.0*
*NEIC **20** 22:39:06.1, 45°.96N×115°.79W, h14km*
*BUT **20** 22:39:07.0±1.4, 45°.95N±0°.03×115°.84W±0°.03, h18km±8km, Error ellipse: s-maj=4.2km s-min=2.5km az=155.0*

ISC 20 22:39:06.5±0.6, 45°.98N±0°.03×115°.83W±0°.03, h10km, n87, σ1°28/87, mb4.9/3, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLID	**Pearl Lake**	**0.90**	**188**		**Pg**	**22 39 23.0**	**-0.9**
PLID				Sg	**Sg**	**22 39 34.1**	**-1.6**
PLID				IAML		22 39 37.1	
	23μm,0.5s						
F10A	**Beach Ranch, E**	**0.97**	**270**	Pg	**Pg**	**22 39 24.9**	**-0.4**
F10A				Sg	**Sg**	**22 39 37.6**	**-0.2**
BMO	**Blue Mountains**	**1.54**	**223**	Pn	**Pn**	**22 39 33.5**	**-0.5**
BMO					**Sn**	**22 39 53.6**	**-0.5**
BMO				IAML		22 39 57.6	
	4μm,0.3s						
BMO				IAML		22 40 00.7	
	5μm,0.6s						
MSO	**Missoula**	**1.56**	**56**		**Pn**	**22 39 35.9**	**+1.5**
E09A	**Wood Farm, Sta**	**1.69**	**289**		**Pn**	**22 39 37.6**	**+1.5**
E09A				IAML		22 40 05.0	
	comp=N,3μm,0.9s						
LNOR	**Lincton Mounta**	**1.71**	**267**		**Pn**	**22 39 38.0**	**+1.5**
BPMT	**Black Pine Rid**	**1.72**	**74**		**Pn**	**22 39 36.6**	**-0.1**
OVMT	**Ovando**	**2.24**	**60**		**Pn**	**22 39 43.7**	**-0.1**
E08A	**Dider Farm, El**	**2.30**	**284**		**Pn**	**22 39 45.0**	**+0.5**
E08A				IAML		22 40 25.5	
	comp=N,2μm,1.4s						
G08A	**Pilot Rock**	**2.30**	**254**	Pn	**Pn**	**22 39 45.2**	**+0.6**
DLMT	**Dillon**	**2.35**	**104**		**Pn**	**22 39 45.5**	**+0.1**
D08A	**Wollman Farm,**	**2.39**	**298**	Pn	**Pn**	**22 39 45.9**	**+0.2**
BCYI	**Bear Canyon**	**2.40**	**133**		**Pn**	**22 39 45.6**	**-0.5**
OD2	**

LTY				IAML		22 41 07.4	
	comp=E,632nm,1.1s						
LTY				IAML		22 41 14.0	
	comp=N,703nm,1.3s						
YPWB	**West Boundary**	**3.61 111**			**Pn**	**22 40 04.3**	**+1.6**
YMC	**Maple Creek**	**3.62 108**			**Pn**	**22 40 03.9**	**+1.1**
YMR	**Madison River**	**3.68 109**			**Pn**	**22 40 05.1**	**+1.5**
HSPGA	**Hill Springs,**	**3.69 23**			**Pn**	**22 40 05.5**	**+1.9**
YHH	**Holmes Hill**	**3.71 107**			**Pn**	**22 40 05.0**	**+0.9**
YPM	**Purple Mountai**	**3.74 109**			**Pn**	**22 40 06.7**	**+2.1**
MCID	**Moose Creek**	**3.75 117**			**Pn**	**22 40 06.4**	**+1.8**
YNM	**Yellowstone No**	**3.83 107**			**Pn**	**22 40 06.6**	**+0.9**
YNM				IAML		22 41 07.4	
	comp=E,683nm,0.4s						
YNM				IAML		22 41 08.8	
	comp=N,530nm,0.4s						
YNR	**Norris Junctio**	**3.85 107**			**Pn**	**22 40 07.4**	**+1.4**
YNR				IAML		22 41 08.0	
	comp=N,803nm,0.4s						
YNR				IAML		22 41 15.0	
	comp=E,646nm,1.1s						
YFT	**Old Faithful**	**3.85 112**			**Pn**	**22 40 08.1**	**+2.1**
YFT				IAML		22 41 13.6	
	comp=E,569nm,2.2s						
YFT				IAML		22 41 21.4	
	comp=N,553nm,1.4s						
G05A	**Wamic**	**3.92 261**			**Pn**	**22 40 08.1**	**+1.3**
G05A				IAML		22 41 14.7	
	comp=E,766nm,1.0s						
H17A	**Grant Village**	**4.04 111**			**Pn**	**22 40 09.1**	**+0.5**
H17A				IAML		22 41 18.1	
	comp=E,342nm,2.1s						
WVOR	**Wild Horse Val**	**4.08 211**			**Pn**	**22 40 09.1**	**0.0**
WVOR				IAML		22 41 21.6	
	comp=E,735nm,1.2s						
WVOR				IAML		22 41 26.1	
	comp=E,448nm,1.4s						
HOOD	**Mount Hood Mea**	**4.13 263**			**Pn**	**22 40 10.3**	**+0.5**
HOOD				IAML		22 41 33.2	
	comp=E,757nm,0.9s						
FXWY	**Fox Creek**	**4.15 123**			**Pn**	**22 40 11.0**	**+0.9**
PINE	**Pine Mountain**	**4.24 241**		Pn	**Pn**	**22 40 12.8**	**+1.5**
EGMT	**Eagleton**	**4.63 62**		Pn	**Pn**	**22 40 16.0**	**-0.6**
EGMT				IAML		22 41 45.5	
	comp=E,542nm,1.0s						
EGMT				IAML		22 41 51.0	
	comp=E,448nm,0.8s						
RLMT	**Red Lodge**	**4.69 98**			**Pn**	**22 40 18.4**	**+0.9**
RLMT				IAML		22 41 35.1	
	comp=E,560nm,0.9s						
ELK	**Elko**	**5.25 175**			**Pn**	**22 40 26.9**	**+1.6**
ELK				IAML		22 41 52.5	
	comp=E,156nm,1.7s						
ELK				IAML		22 41 55.4	
	comp=E,150nm,0.8s						
ELK	**Elko**	**5.25 175**		Pn	**Pn**	**22 40 27.7**	**+2.4**
	comp=E,1.6nm,0.3s,baz=353,slow=16,SNR=14						
ELK				Pg	**Pb**	**22 40 39.4**	**+0.8**
	comp=E,6.1nm,0.3s,baz=346,slow=13,SNR=52						
ELK				Lg	Lg	22 41 46.1	
	comp=E,26nm,0.3s,baz=250,slow=22,SNR=15						
	comp=E,3.6nm,0.3s						
COR	**Corvallis**	**5.45 258**			**Pn**	**22 40 29.4**	**+1.6**
PDAR	**Pinedale Array**	**5.53 123**		Pn	Pn	22 40 35.0	+5.9
	comp=E,0.7nm,0.3s,baz=311,slow=9.6,SNR=7.1						
PDAR				Pg	**Pb**	**22 40 46.0**	**+2.8**
	comp=E,3.9nm,0.3s,baz=302,slow=10,SNR=12						
PDAR				Lg	Lg	22 41 57.7	
	comp=E,4.0nm,0.3s,baz=312,slow=28,SNR=7.8						
	comp=E,2.1nm,0.7s						
BMN	**Battle Mountai**	**5.64 191**		Pn	**Pn**	**22 40 32.0**	**+1.4**
PGC	**Sidney**	**5.83 300**		Pn	**Pn**	**22 40 33.6**	**+0.7**
DBO	**Dodson Butte**	**6.02 244**			**Pn**	**22 40 38.0**	**+2.3**
HUMO	**Hull Mountain**	**6.12 239**		Pn	**Pn**	**22 40 38.2**	**+1.1**
DUG	**Dugway, Tooele**	**6.19 158**			**Pn**	**22 40 38.9**	**+0.8**
YBH	**Yreka Blue Hor**	**6.54 232**		Pn	**Pn**	**22 40 45.4**	**+2.6**
	comp=E,0.6nm,0.3s,baz=53,slow=12,SNR=8.5						
YBH				Lg	Lg	22 42 30.1	
	comp=E,0.2nm,0.3s,baz=160,slow=23,SNR=0.7						
YBH				LR	LR	22 42 52.6	
	comp=E,75nm,21.7s,baz=28,slow=35						
	comp=E,3.1nm,0.6s						
LAO	**LASA Array**	**6.69 80**		Pn	**Pn**	**22 40 45.0**	**+0.1**
NVAR	**Mina Array Bea**	**7.77 195**		Pn	**Pn**	**22 41 03.7**	**+3.9**
	comp=E,0.5nm,0.3s,baz=10,slow=12,SNR=12						
NVAR				Lg	Lg	22 43 08.6	
	comp=E,3.7nm,0.3s,baz=16,slow=30,SNR=6.4						
NVAR				LR	LR	22 44 04.7	
	comp=E,149nm,18.7s,baz=344,slow=39						
	comp=E,1.9nm,0.8s						
PFO	**Pinyon Flats O**	**12.37 182**		LR	LR	22 47 34.7	
	comp=E,72nm,20.5s,baz=0.5,slow=41						
ULM	**Lac du Bonnet**	**13.99 65**		LR	LR	22 47 33.1	
	comp=E,130nm,18.5s,baz=304,slow=36						
121A	**Cookes Peak, D**	**14.80 152**			**Pn**	**22 42 34.1**	**-1.8**
319A	**Douglas**	**15.45 159**			**Pn**	**22 42 43.9**	**-0.6**
319A				IAmb	IAmb	22 43 18.0	
	comp=Z,18nm,1.4s						
N35A	**Tabor**	**15.53 102**			**Pn**	**22 42 47.2**	**+1.8**
N35A				IAmb	IAmb	22 43 00.1	
	comp=Z,26nm,1.1s						
MSTX	**Muleshoe**	**15.60 136**		Pn	**Pn**	**22 42 46.9**	**+0.3**
MSTX				IAmb	IAmb	22 42 59.5	
	comp=Z,15nm,1.3s						
HTMS	**Hat Mesa**	**16.45 141**			**Pn**	**22 42 58.2**	**+0.8**
YKA	**Yellowknife Ar**	**16.56 2**		Pn	**Pn**	**22 42 55.3**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=184,slow=18,SNR=1.6						
	comp=Z,1.0nm,0.8s						
POST	**Post**	**16.95 135**		Pn	**Pn**	**22 43 03.1**	**-0.7**
TXAR	**Lajitas Array**	**19.17 146**		P	**P**	**22 43 29.5**	**-0.7**
TXAR	**Lajitas Array**	**19.17 146**		P	**Pn**	**22 43 33.2**	**+2.1**
	baz=335,slow=11,SNR=1.8						
TXAR				LR	LR	22 50 44.2	
	comp=Z,39nm,18.8s,baz=26,slow=36						
	comp=Z,0.5nm,0.9s						
BRDY	**Brady**	**19.64 132**		P	**P**	**22 43 36.2**	**+0.9**
BCPM	**Bancas Point**	**19.87 323**		P	**P**	**22 43 38.0**	**+0.5**
UALR	**University of**	**21.03 114**		P	**P**	**22 43 49.8**	**-0.5**
ILAR	**Eielson Array**	**25.36 329**		P	**P**	**22 44 33.6**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=125,slow=9.1,SNR=9.9						
	comp=Z,1.2nm,0.9s						
IMAR	**Indian Mountai**	**28.46 328**		P	**P**	**22 45 02.9**	**+1.7**
DAVOX	**Davos/Dischmat**	**76.06 35**		LR	LR	23 27 02.9	
	comp=Z,80nm,20.3s,baz=263,slow=38						
SONM	**Songino Array**	**79.52 333**		LR	LR	23 30 56.4	
	comp=Z,38nm,19.2s,baz=178,slow=39						
HHC	**Hu-ho-hao-te**	**83.74 326**		*e*P	**P**	**22 51 34.3**	**-1.5**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,86nm,4.8s						
LZH	**Lanzhou**	**90.82 329**		*e*P	P	22 52 04.8	-5.4
LZH				sP	PcP	22 52 11.8	+0.5
LZH				pmax	pmax		
	comp=Z,8.0nm,1.1s						
PZH	**PanZhiHua**	**100.20 326**		P	**Pdif**	**22 52 51.8**	**-1.2**
PZH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,4.8s						

IDC 20 22:55:15.6±10.0, 6°.27S×129°.72E, h188km±108km, mb3.5/2, mbtmp3.8/5, Error ellipse: s-maj=103.1km s-min=32.4km az=53.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.41 198**		P	Pn	22 58 06.0	-0.1
	3.6nm,1.1s,baz=119,slow=2.0,SNR=3.2						
FITZ				S	Sn	23 00 14.3	-10
	5.0nm,1.1s,baz=68,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	**14.32 162**		P	Pn	22 58 30.1	0.0
	0.4nm,0.4s,baz=345,slow=12,SNR=12						
WRA				S	Sn	23 00 55.4	-15
	0.4nm,0.5s,baz=344,slow=23,SNR=2.4						
ASAR	**Alice Springs**	**17.76 167**		P	P	22 59 09.9	+0.2
	0.6nm,0.3s,baz=348,slow=12,SNR=9.1						
STKA	**Stephens Creek**	**27.80 158**		P	P	23 00 47.1	-0.1
	4.0nm,1.0s,baz=307,slow=10,SNR=2.1						
	4.0nm,1.0s						
MKAR	**Makanchi Array**	**67.46 327**		P	P	23 05 51.1	0.0
	0.3nm,0.4s,baz=132,slow=6.3,SNR=7.3						
	0.3nm,0.4s						

WEL 20 23:02:48.3±0.6, 39°.5S±5°.×18°.0W±°., h33km, M3.9/31, ML4.2/36, MLv3.9/31, Error ellipse: s-maj=6.0km s-min=5.1km az=24.5, confirmed, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**1.96 278**		P	Pn	23 03 18.8	-0.3
MHGZ				S	Sn	23 03 43.2	+0.7
CNGZ	**Carnagh Statio**	**1.96 299**		P	Pn	23 03 18.6	-0.6
PRGZ	**Paritu Road**	**2.02 284**		P	Pn	23 03 19.6	-0.5
PRGZ				S	Sn	23 03 44.0	-0.3
RIGZ	**Rimuhau**	**2.18 289**		P	Pn	23 03 22.6	+0.3
TKGZ	**Te Karaka**	**2.23 296**		P	Pn	23 03 22.1	-0.8
TWGZ	**Tauwhareparae**	**2.27 303**		P	Pn	23 03 22.6	-1.0
TWGZ				S	Sn	23 03 49.6	-0.9
SNGZ	**Shannon Statio**	**2.47 285**		P	Pn	23 03 26.6	+0.4
SNGZ				S	Sn	23 03 57.4	+2.1
MXZ	**Matakaoa Point**	**2.49 318**		P	Pn	23 03 25.6	-0.9
MWZ	**Matawai**	**2.50 295**		P	Pn	23 03 24.9	-1.7
MWZ				S	Sn	23 03 54.3	-1.7
RAHZ	**Arahi**	**2.63 280**		P	Pn	23 03 28.5	+0.1
RAHZ				S	Sn	23 03 58.6	-0.5
KAHZ	**Kahuranaki**	**2.74 262**		P	Pn	23 03 30.4	+0.4
PXZ	**Pawanui**	**2.79 257**		P	Pn	23 03 30.2	-0.3
PXZ				S	Sn	23 04 05.3	+2.2
NMHZ	**Naumai**	**2.81 276**		P	Pn	23 03 31.2	+0.2
NMHZ				S	Sn	23 04 04.5	+0.8
URZ	**Urewera**	**2.83 294**		P	Pn	23 03 31.2	+0.1
URZ				S	Sn	23 04 04.2	+0.3
MTHZ	**Maungataniwha**	**2.83 281**		P	Pn	23 03 31.4	+0.3
MTHZ				S	Sn	23 04 05.2	+1.1
MCHZ	**McNeill Hill**	**2.87 269**		P	Pn	23 03 32.3	+0.6
MCHZ				S	Sn	23 04 06.9	+1.9
MUGZ	**Murupara**	**2.99 288**		P	Pn	23 03 33.2	-0.2
MUGZ				S	Sn	23 04 08.7	+0.6
PRHZ	**Porangahau**	**3.01 253**		P	Pn	23 03 33.5	-0.1
PRHZ				S	Sn	23 04 07.6	-1.0
BKZ	**Black Stump Fm**	**3.04 274**		P	Pn	23 03 33.8	-0.4
KWHZ	**Kaweka Forest**	**3.08 269**		P	Pn	23 03 34.8	+0.2
KWHZ				S	Sn	23 04 10.5	+0.1
KRHZ	**Kereru**	**3.12 265**		P	Pn	23 03 35.1	-0.1
KRHZ				S	Sn	23 04 12.2	+0.8
TARZ	**Mount Tarawera**	**3.27 290**		P	Pn	23 03 38.3	+1.0
DVHZ	**Dannevirke**	**3.37 254**		P	Pn	23 03 39.0	+0.4
DVHZ				S	Sn	23 04 16.9	-0.5
BFZ	**Birch Farm**	**3.42 247**		P	Pn	23 03 38.3	-1.0
BFZ				S	Sn	23 04 18.9	+0.2
TSZ	**Takapari Road**	**3.48 258**		P	Pn	23 03 40.1	+0.1
TSZ				S	Sn	23 04 20.9	+0.8
PRWZ	**Pori Road**	**3.58 251**		P	Pn	23 03 41.2	-0.2
PRWZ				S	Sn	23 04 23.5	+1.0
MOVZ	**Moawhango**	**3.60 269**		P	Pn	23 03 42.6	+0.8
MOVZ				S	Sn	23 04 23.3	+0.2
ETVZ	**East Tongariro**	**3.65 273**		P	Pn	23 03 43.3	+0.7
TMVZ	**Te Maari**	**3.66 274**		P	Pn	23 03 43.3	+0.6
NTVZ	**North Tongarir**	**3.68 274**		P	Pn	23 03 44.1	+1.1
TUVZ	**Tukino**	**3.68 271**		P	Pn	23 03 44.6	+1.6
OTVZ	**Oturere**	**3.68 273**		P	Pn	23 03 43.7	+0.7
SNVZ	**South Ngauruho**	**3.70 272**		P	Pn	23 03 43.9	+0.6
WNVZ	**Wahianoa**	**3.72 270**		P	Pn	23 03 44.3	+0.7
NNVZ	**North Ngauruho**	**3.73 273**		P	Pn	23 03 45.6	+1.9
NGZ	**Ngauruhoe**	**3.73 273**		P	Pn	23 03 44.4	+0.8
WHVZ	**Whangaehu Hut**	**3.73 271**		P	Pn	23 03 44.4	+0.6
WTVZ	**West Tongariro**	**3.75 273**		P	Pn	23 03 44.8	+1.0
FWVZ	**Far West T-bar**	**3.76 271**		P	Pn	23 03 43.7	-0.5
TRVZ	**Turoa**	**3.76 271**		P	Pn	23 03 45.0	+0.8
MRZ	**Mangatainoka R**	**3.90 250**		P	Pn	23 03 45.3	-0.5
HOWZ	**Holdsworth Sta**	**4.01 247**		P	Pn	23 03 46.7	-0.7
MTW	**Mount Morrison**	**4.12 244**		P	Pn	23 03 48.3	-0.5
PAWZ	**Paruwai Farm**	**4.26 241**		P	Pn	23 03 49.7	-1.1
CTZ	**Chatham Island**	**4.84 153**		P	Pn	23 03 58.4	-0.3
CTZ				S	Sn	23 04 48.8	-4.7
NEZ	**North Egmont**	**4.89 270**		P	Pn	23 04 02.4	+2.9
KHEZ	**Kahui Hut**	**4.95 270**		P	Pn	23 04 03.4	+3.0
TCW	**Tory Channel**	**5.00 247**		P	Pn	23 04 00.2	-0.8
MRNZ	**Matariki Terra**	**6.15 249**		P	Pn	23 04 16.6	-0.2
QRZ	**Quartz Range**	**6.19 255**		P	Pn	23 04 16.4	-0.9
MQZ	**McQueen's Vall**	**7.20 231**		P	Pn	23 04 30.1	-1.0
MQZ				S	Sn	23 05 46.8	-5.0

*WEL **20** 23:14:59.4±0.7, 31°.S±9°.×17°.9W±2°.4, h290km±14km, M4.3/12, mB4.8/9, ML5.0/14, MLv4.7/12, Mw(mB)4.1/9, Error ellipse: s-maj=32.5km s-min=5.4km az=109.2, confirmed*

ISC 20 23:14:58.7±1.3, 31°.4S±0°.1×179°.5W±0°.2, h300km, n32, σ1°53/43, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.54 32**		P	**Pn**	**23 15 49.6**	**-0.5**
GLKZ				S	**S**	**23 16 31.5**	**+0.3**
MXZ	**Matakaoa Point**	**6.38 196**		P	**Pn**	**23 16 31.8**	**-0.7**
MXZ	**Matakaoa Point**	**6.38 196**		P	**Pn**	**23 16 36.1**	**+3.6**
WMGZ	**Waiomatatini S**	**6.60 195**		P	**Pn**	**23 16 37.1**	**+2.0**
HAZ	**Te Kaha**	**6.70 199**		P	**Pn**	**23 16 35.7**	**-0.6**
HAZ				S	**S**	**23 17 55.5**	**+0.4**
WCZ	**Waipu Caves**	**6.84 227**		P	**Pn**	**23 16 39.4**	**+1.4**
PUZ	**Puketiti**	**6.88 195**		P	**Pn**	**23 16 39.2**	**+0.7**
PUZ				S	**S**	**23 17 58.9**	**-0.3**
TWGZ	**Tauwhareparae**	**7.04 197**		P	**Pn**	**23 16 41.6**	**+1.0**
TWGZ				S	**S**	**23 18 04.5**	**+1.6**
CNGZ	**Carnagh Statio**	**7.29 195**		P	**Pn**	**23 16 43.1**	**-0.3**
MWZ	**Matawai**	**7.31 199**		P	**Pn**	**23 16 44.1**	**+0.3**
MWZ				S	**S**	**23 18 08.9**	**+0.1**
TKGZ	**Te Karaka**	**7.33 197**		P	**Pn**	**23 16 45.4**	**+1.5**
TKGZ				S	**S**	**23 18 09.4**	**+0.3**
URZ	**Urewera**	**7.37 202**		P	**Pn**	**23 16 42.6**	**-1.8**
URZ				S	**S**	**23 18 09.4**	**-0.5**
RIGZ	**Rimuhau**	**7.60 197**		P	**Pn**	**23 16 47.0**	**-0.3**
RIGZ				S	**S**	**23 18 12.8**	**-2.4**
MUGZ	**Murupara**	**7.67 203**		P	**Pn**	**23 16 47.5**	**-0.7**
RTZ	**Ruatahuna**	**7.73 201**		P	**Pn**	**23 16 49.9**	**+0.9**
PRGZ	**Paritu Road**	**7.78 196**		P	**Pn**	**23 16 52.7**	**+3.2**
PRGZ				S	**S**	**23 18 20.2**	**+1.0**
SNGZ	**Shannon Statio**	**7.78 199**		P	**Pn**	**23 16 51.2**	**+1.7**
SNGZ				S	**S**	**23 18 20.7**	**+1.4**
KNZ	**Kokohu**	**7.92 196**		P	**Pn**	**23 16 51.4**	**+0.3**
RAHZ	**Arahi**	**7.98 200**		P	**Pn**	**23 16 52.2**	**+0.2**
MTHZ	**Maungataniwha**	**7.99 201**		P	**Pn**	**23 16 52.9**	**+0.8**
MTHZ				S	**S**	**23 18 24.6**	**+0.5**
MRHZ	**Matea Rd**	**8.11 203**		P	**Pn**	**23 16 53.9**	**+0.3**
NMHZ	**Naumai**	**8.23 201**		P	**Pn**	**23 16 54.9**	**-0.1**
ARHZ	**Aropaoanui**	**8.33 199**		P	**Pn**	**23 16 55.8**	**-0.4**
BKZ	**Black Stump Fm**	**8.39 202**		P	**Pn**	**23 16 56.9**	**0.0**
BKZ	**Black Stump Fm**	**8.39 202**		P	**Pn**	**23 16 57.0**	**0.0**
HIZ	**Hauiti**	**8.46 212**		P	**Pn**	**23 17 01.7**	**+3.9**
KWHZ	**Kaweka Forest**	**8.65 202**		P	**Pn**	**23 17 00.1**	**-0.1**
SNVZ	**South Ngauruho**	**8.71 206**		P	**Pn**	**23 16 59.9**	**-1.1**
WHVZ	**Whangaehu Hut**	**8.81 206**		P	**Pn**	**23 17 01.9**	**-0.4**
BFZ	**Birch Farm**	**9.86 199**		P	**Pn**	**23 17 13.7**	**-1.2**
QRZ	**Quartz Range**	**11.38 212**		P	**Pn**	**23 17 31.1**	**-2.5**
KHZ	**Kahutara**	**12.30 205**		P	**Pn**	**23 17 40.9**	**-3.8**

IDC 20 23:17:11.6±1.2, 55°.34S×29°.08W, h0km, mb3.8/2, mbtmp3.7/3, ML3.6/1, MS3.1/2, Error ellipse: s-maj=54.5km s-min=34.6km az=52.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.83 156**		P	P	23 21 43.5	0.0
	0.2nm,0.3s,baz=268,slow=11,SNR=2.6						
SNAA				LR	LR	23 27 36.4	
	comp=Z,48nm,20.8s,baz=12,slow=32						
	1.6nm,0.7s						
SUR	**Sutherland**	**41.51 78**		LR	LR	23 39 32.0	
	comp=Z,32nm,19.1s,baz=310,slow=32						
LPAZ	**La Paz**	**49.09 307**		P	P	23 26 01.4	0.0
	1.1nm,0.6s,baz=133,slow=3.5,SNR=5.3						
	1.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**72.98 31**		P	P	23 28 42.9	0.0
	0.4nm,0.8s,baz=204,slow=6.1,SNR=5.0						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**148.85 313**		PKPbc	PKPbc	23 36 58.8	-0.8
	1.4nm,0.9s,baz=110,slow=1.7,SNR=11						
SONM	**Songino Array**	**151.75 87**		PKPbc	PKPbc	23 37 07.2	-0.1
	0.3nm,0.6s,baz=246,slow=2.0,SNR=2.0						

*STR **20** 23:18:51.5±1.1, 43°.N±8°.×°.±°., h14km±4km, MLv2.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=177.8, preliminary*
*LDG **20** 23:18:52.5±0.1, 43°.12N±2°.69W, h12km, Ml2.6/29, Error ellipse: s-maj=2.4km s-min=1.9km az=164.0*
*MDD **20** 23:18:52.7±0.2, 43°.09N±2°.70W, h13km±1km, mb_Lg2.9/38, Error ellipse: s-maj=1.5km s-min=1.2km az=173.0*
*INMG **20** 23:18:53.2±1.2, 43°.10N±2°.69W, h18km±3km, ML2.1, Error ellipse: s-maj=2.4km s-min=2.2km az=9.0*

ISC 20 23:18:50.1±1.1, 43°.16N±0°.02×2°.70W±0°.02, h13km±9km, n66, σ1°84/141, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELAN	**Lanestosa**	**0.54 278**		Pg	**Pn**	**23 19 03.5**	**-0.1**
ELAN				Sg	**Sb**	**23 19 10.9**	**+1.7**
ELAN				*i* Vmb_Lg		23 19 12.9	
EALK	**Alkurruntz**	**0.88 86**		Pg	**Pb**	**23 19 07.9**	**+0.6**
EALK				Sg	**Sb**	**23 19 18.9**	**0.0**
EALK	**Alkurruntz**	**0.88 86**		Sg	**Sb**	**23 19 20.1**	**+1.2**
EALK	**Alkurruntz**	**0.88 86**		Pg	**Pb**	**23 19 08.0**	**+0.7**
EARA	**Aranguren**	**0.91 115**		Pg	**Pn**	**23 19 09.0**	**+0.3**
EARA				Sg	**Sn**	**23 19 21.6**	**-0.1**
EARA				*i* Vmb_Lg		23 19 23.2	
EARA	**Aranguren**	**0.91 115**		Pg	**Pn**	**23 19 08.9**	**+0.3**
EORO	**Oroz-Betelu**	**1.06 104**		Pg	**Pn**	**23 19 11.5**	**+0.8**
EORO				Sg	**Sb**	**23 19 25.3**	**+1.2**
EORO				*i* Vmb_Lg		23 19 29.1	
OSSF	**Osses**	**1.06 84**		Pg	**Pn**	**23 19 11.0**	**+0.3**
OSSF				Sg	**Sb**	**23 19 24.9**	**+0.8**
SJPF	**Ste Jean**	**1.08 92**		*e*Pg	**Pn**	**23 19 11.5**	**+0.5**
SJPF				*e*Sg	**Sg**	**23 19 25.1**	**0.0**
	22nm,0.2s						
TERF	**Tercis-les-Bai**	**1.27 65**		Pg	**Pg**	**23 19 14.7**	**+0.1**
TERF				Sg	**Sn**	**23 19 32.2**	**+1.7**
ATE	**Arette**	**1.47 92**		Pn	**Pb**	**23 19 17.6**	**+0.2**
ATE				Sn	**Sg**	**23 19 37.1**	**-0.3**
ETSF	**Etsaut**	**1.59 99**		*e*Pn	**Pn**	**23 19 18.9**	**+0.8**
ETSF	**Etsaut**	**1.59 99**		*e*Pg	**Pg**	**23 19 21.0**	**+0.3**
ETSF				*e*Sg	**Sb**	**23 19 39.9**	**+0.3**
	17nm,0.2s						
CANF	**Canfranc**	**1.65 103**		Pn	**Pn**	**23 19 19.8**	**+0.9**
CANF				Sn	**Sn**	**23 19 40.8**	**+0.7**
EARI	**Arriondas**	**1.84 275**		Pn	**Pn**	**23 19 23.2**	**+1.7**
EARI				Sn	**Sn**	**23 19 46.6**	**+2.0**
EARI				Sg	**Sg**	**23 19 51.1**	**+1.8**
VIEF	**Viey**	**2.02 97**		Pn	**Pn**	**23 19 24.9**	**+1.0**
VIEF				Sn	**Sn**	**23 19 49.7**	**+0.6**
LABF	**Labassere**	**2.04 92**		Pn	**Pn**	**23 19 25.2**	**+1.0**
LABF				Sn	**Sn**	**23 19 50.3**	**+0.8**
ECHI	**Chisagues Biel**	**2.19 102**		Pn	**Pn**	**23 19 27.6**	**+1.3**
ECHI				Sn	**Sn**	**23 19 54.6**	**+1.3**
ECHI	**Chisagues Biel**	**2.19 102**		Pn	**Pn**	**23 19 26.9**	**+0.6**
ECHI				Sn	**Sn**	**23 19 53.7**	**+0.4**
ESAC	**San Caprasio**	**2.19 130**		Pn	**Pn**	**23 19 26.1**	**-0.2**
ESAC				Sn	**Sn**	**23 19 53.0**	**-0.3**
EPF	**Esparros**	**2.23 92**		*e*Pn	**Pn**	**23 19 26.6**	**-0.3**
EPF	**Esparros**	**2.23 92**		*e*Pg	**Pg**	**23 19 33.1**	**+0.2**
EPF				*e*Sg	**Sg**	**23 20 01.1**	**-0.8**
	4.5nm,0.2s						
ETOR	**Torete**	**2.39 168**		Pn	**Pn**	**23 19 29.7**	**+0.7**
ETOR				*i* Vmb_Lg		23 19 38.2	
ETOR				Sg	**Sb**	**23 20 02.7**	**+0.2**
MELF	**Melles**	**2.56 95**		Pn	**Pn**	**23 19 32.2**	**+0.8**
MELF				Sn	**Sn**	**23 20 03.3**	**+1.0**
CRAS	**Crastes**	**2.56 76**		Pn	**Pn**	**23 19 32.5**	**+1.2**
CRAS				Sn	**Sn**	**23 20 03.6**	**+1.2**
GUD	**Guadarrama**	**2.74 204**		Pn	**Pn**	**23 19 34.0**	**+0.1**
GUD				Sn	**Sn**	**23 20 05.3**	**-1.7**
GUD				Sg	**Sb**	**23 20 13.8**	**+1.2**
MLS	**Moulis**	**2.79 93**		Pn	**Pn**	**23 19 35.5**	**+1.0**
MLS				Sn	**Sn**	**23 20 09.0**	**+0.9**
SALF	**Salau**	**2.88 97**		Pn	**Pn**	**23 19 36.8**	**+0.9**
SALF				Sn	**Sn**	**23 20 11.4**	**+0.9**
LFF	**La Frestale**	**3.05 53**		*e*Pn	**Pn**	**23 19 39.9**	**+1.8**
LFF				*e*Sn	**Sn**	**23 20 13.2**	**-1.3**
	1.7nm,0.3s						
LFF				*e*Sg	**Sg**	**23 20 28.7**	**+0.5**
	8.5nm,0.4s						
MONQ	**Montcuq**	**3.07 66**		Pn	**Pn**	**23 19 39.9**	**+1.5**
ERTA	**Horta de San J**	**3.16 133**		Pn	**Pn**	**23 19 39.6**	**+0.1**
ERTA				Sn	**Sn**	**23 20 14.5**	**-2.6**
ERTA				Sg	**Sg**	**23 20 28.4**	**-3.1**
ERTA				*i* Vmb_Lg		23 20 41.2	

LASF	**Ste Croix**	**4.85**	**77**	*e*Pn	**Pn**	**23 20 03.9**	**+1.1**
LASF				*e*Sn	**Sn**	**23 20 56.1**	**-2.8**
1.6nm,0.2s							
SGMF	**Saint Gilles**	**5.10**	**1**	*e*P	Pn	23 20 11.3	+5.1
SGMF	**Saint Gilles**	**5.10**	**1**	*e*Pg	**Pg**	**23 20 26.3**	**-1.4**
SGMF				*e*Sn	**Sn**	**23 21 02.4**	**-2.4**
0.5nm,0.2s							
EADA	**Adamuz**	**5.19**	**197**	Pn	**Pn**	**23 20 07.7**	**+0.3**
EADA				Sn	**Sn**	**23 21 02.1**	**-5.1**
EADA				*i* Vmb_Lg		23 22 43.5	
ROSF	**Rostrenen**	**5.19**	**356**	*e*Pn	**Pn**	**23 20 08.2**	**+0.7**
ROSF				*e*Sn	**Sn**	**23 21 05.7**	**-1.5**
1.8nm,0.2s							
BGF	**Bois d'Agland**	**5.21**	**47**	*e*Pn	**Pn**	**23 20 09.2**	**+1.5**
BGF				*e*Sn	**Sn**	**23 21 04.5**	**-3.1**
1.3nm,0.2s							
BGF				*e*Sg	**Sg**	**23 21 35.8**	**-1.4**
1.8nm,0.2s							
GRR	**Gorron**	**5.39**	**13**	*e*Pn	**Pn**	**23 20 11.1**	**+1.0**
GRR				*e*Sn	**Sn**	**23 21 09.5**	**-2.5**
1.6nm,0.2s							
HYF	**Humbligny**	**5.58**	**41**	*e*Pn	**Pn**	**23 20 14.1**	**+1.3**
HYF				*e*Sn	**Sn**	**23 21 12.8**	**-4.0**
HYF				*e*Sg	**Sg**	**23 21 49.3**	**+0.2**
24nm,0.3s							
AVF	**Avril sur Loir**	**5.62**	**48**	*e*Pn	**Pn**	**23 20 14.4**	**+1.0**
AVF	**Avril sur Loir**	**5.62**	**48**	*e*Pg	**Pg**	**23 20 36.4**	**-1.4**
AVF				*e*Sn	**Sn**	**23 21 14.3**	**-3.5**
0.1nm,0.1s							
LDF	**La Druitiere**	**5.72**	**17**	*e*Pn	**Pn**	**23 20 15.3**	**+0.5**
LDF				*e*Sn	**Sn**	**23 21 16.5**	**-3.8**
2.0nm,0.3s							
FLN	**La Foliniere**	**5.81**	**15**	*e*Pn	**Pn**	**23 20 16.0**	**0.0**
FLN				*e*Sn	**Sn**	**23 21 19.5**	**-3.0**
1.2nm,0.2s							
SSF	**Saint Saulge**	**5.88**	**46**	*e*Pn	**Pn**	**23 20 16.6**	**-0.3**
SSF				*e*Sn	**Sn**	**23 21 20.8**	**-3.3**
0.4nm,0.2s							

OTT 20 23:26:32.5±0.3, 77°.66N×116°.52W, h18km, ML3.7/2, 175km northeast from Mould Bay, Nt, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**5.95**	**109**	PN	Pn	23 27 58.8	-0.7
RES				SN	Sn	23 29 03.3	-3.8
RES				Trac		23 29 22.4	
comp=Z,17nm,0.8s							
A36M	**Sachs Harbour**	**6.14**	**206**	PN	Pn	23 28 01.4	-0.7
A36M				SN	Sn	23 29 07.6	-4.1
A36M				Trac		23 29 08.5	
comp=Z,32nm,1.2s							
INK	**Inuvik**	**10.56**	**216**	PN	Pn	23 29 01.1	-1.7
INK				SN	Sn	23 30 52.7	-7.6
INK				Trac		23 31 00.5	
comp=Z,169nm,3.1s							

TRN 20 23:28:04.4, 17°.57N×61°.67W, h24km, MD3.5, Near East of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.15**	**312**	*e*P	Pn	23 28 10.3	-0.9
ANWB				*e*S	Sb	23 28 14.9	+2.2
ANBD	**Bethesda, Anti**	**0.52**	**190**	*e*P	Pn	23 28 16.6	+0.2
ANBD				*e*S	Sn	23 28 25.9	+1.4
MBWH		**0.96**	**212**	*e*P	Pn	23 28 23.6	+1.2
MBWH				*e*S	Sn	23 28 38.4	+3.0
MBFL	**Flemmings, Mon**	**0.97**	**213**	*e*P	Pn	23 28 23.9	+1.4
MBFL				*e*S	Sn	23 28 38.7	+3.2
SKI	**Saint Kitts**	**1.05**	**257**	*e*P	Pb	23 28 24.8	+0.9
SKI				*e*S	Sn	23 28 40.2	+2.6
DSLB	**Salisbury**	**2.13**	**174**	*e*P	Pb	23 28 41.0	-1.3

*NEIC **20** 23:37:48.2±0.8, 6°.87S±0°.05×126°.8E±0°.2, h413km±13km, mb4.0/6, Error ellipse: s-maj=22.8km s-min=4.5km az=75.0*
*IDC **20** 23:37:49.4±2.4, 7°.06S×126°.61E, h425km±26km, mb3.2/4, mbtmp4.0/8, Error ellipse: s-maj=42.9km s-min=12.8km az=59.0*
ISC 20 23:37:47.5±1.0, 6°.9S±0°.1×126°.83E±0°.10, h400km, n26, σ1§16/30, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.81**	**222**	P	**Pn**	**23 38 59.1**	**+1.2**
SOEI				S	**S**	**23 39 54.9**	**-0.1**
BATI	**Baumata**	**4.54**	**223**	P	**Pn**	**23 39 07.1**	**+2.3**
265nm,0.5s,baz=72,slow=3.2,SNR=32							
BATI				S	**S**	**23 40 06.8**	**-0.9**
51nm,0.7s,baz=37,slow=3.2,SNR=3.9							
MTN	**Manton Dam**	**7.27**	**145**	P	**P**	**23 39 35.9**	**+1.1**
KNRA	**Kununurra**	**8.93**	**168**	P	**P**	**23 39 53.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**11.19**	**186**	P	**P**	**23 40 18.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**11.19**	**186**	P	**P**	**23 40 17.6**	**-0.7**
2.8nm,0.8s,baz=192,slow=13,SNR=2.6							
WB0	**Warramunga Arr**	**14.75**	**151**	P	**P**	**23 40 57.4**	**+0.1**
WRAB	**Tennant Creek**	**14.87**	**151**	P	**P**	**23 40 59.1**	**+0.4**
WRA	**Warramunga Arr**	**14.87**	**151**	P	**P**	**23 40 57.8**	**-0.9**
WRA	**Warramunga Arr**	**14.87**	**151**	P	**P**	**23 40 59.0**	**+0.3**
0.7nm,0.6s,baz=329,slow=11,SNR=15							
WRA				S	**S**	**23 43 32.8**	**-4.1**
0.2nm,0.5s,baz=328,slow=19,SNR=4.8							
WB2	**Warramunga Arr**	**14.88**	**151**	P	**P**	**23 40 59.1**	**+0.3**
WR0	**Warramunga Arr**	**14.98**	**151**	P	**P**	**23 40 60.0**	**+0.1**
WR0				IAmb	IAmb	23 41 19.8	
comp=Z,6.3nm,1.1s							
MBWA	**Marble Bar**	**15.75**	**205**	P	**P**	**23 41 08.3**	**+0.1**
PSA00	**Pilbara Seismi**	**16.07**	**204**	P	**P**	**23 41 11.6**	**0.0**
PSA00				IAmb	IAmb	23 41 40.6	
comp=Z,18nm,1.1s							
COEN	**Coen**	**17.53**	**115**	P	**P**	**23 41 27.6**	**+0.4**
COEN				IAmb	IAmb	23 41 56.7	
comp=Z,12nm,1.3s							
AS31	**Alice Springs**	**18.00**	**159**	P	**P**	**23 41 32.8**	**+0.7**
AS31				IAmb	IAmb	23 41 35.5	
comp=Z,1.6nm,0.5s							
ASAR	**Alice Springs**	**18.00**	**159**	P	**P**	**23 41 32.4**	**+0.3**
ASAR	**Alice Springs**	**18.00**	**159**	P	**P**	**23 41 32.8**	**+0.7**
comp=Z,1.6nm,0.4s,baz=339,slow=10,SNR=28							
ASAR				S	**S**	**23 44 37.3**	**-0.7**
comp=Z,1.0nm,0.8s,baz=336,slow=18,SNR=5.1							
LEM	**Lembang**	**19.07**	**269**	P	**P**	**23 41 41.6**	**-2.0**
comp=Z,13nm,0.4s,baz=307,slow=23,SNR=1.6							
MKAR	**Makanchi Array**	**66.45**	**328**	P	**P**	**23 47 54.2**	**-1.3**
MKAR	**Makanchi Array**	**66.45**	**328**	P	**P**	**23 47 55.5**	**0.0**
comp=Z,0.3nm,0.4s,baz=130,slow=6.3,SNR=7.5							
comp=Z,0.3nm,0.4s							
ZAA0	**Zalesovo Array**	**70.14**	**335**	P	**P**	**23 48 17.1**	**-0.6**
ZALV	**Zalesovo Beam**	**70.14**	**335**	P	**P**	**23 48 17.1**	**-0.7**
ZALV	**Zalesovo Beam**	**70.14**	**335**	P	**P**	**23 48 17.2**	**-0.5**
comp=Z,0.9nm,0.5s,baz=131,slow=7.1,SNR=5.2							
comp=Z,0.9nm,0.5s							
KURBB	**Kurchatov Arra**	**70.81**	**330**	P	**P**	**23 48 21.6**	**-0.3**
comp=Z,0.9nm,0.3s,baz=131,slow=6.3,SNR=1.3							
comp=Z,0.9nm,0.3s							
BVAR	**Borovoye Array**	**76.33**	**329**	P	**P**	**23 48 53.4**	**-0.2**
comp=Z,0.3nm,0.4s,baz=121,slow=5.9,SNR=3.8							
comp=Z,0.3nm,0.4s							

*ISN **20** 23:52:24.2±0.5, 34°.67N×46°.35E, h11km±6km, ML2.9*
*TEH **20** 23:52:25.3, 34°.68N×46°.32E, h9km±18km, ML2.7*
ISC 20 23:52:24.2±0.9, 34°.68N±0°.04×46°.33E±0°.03, h16km±6km, n13, σ0§69/18, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.05**	**73**	Pg	**Pg**	**23 52 27.7**	**+0.2**
IDHR				Sg	**Sg**	**23 52 29.6**	**-0.2**
IGHG	**Ghaleghazi**	**0.41**	**150**	Pg	**Pb**	**23 52 33.4**	**+0.3**
ILIN	**Lien**	**0.57**	**66**	Pg	**Pn**	**23 52 36.7**	**-1.2**
KGS1	**Ghasr-e-Shirin**	**0.63**	**254**	Pg	**Pn**	**23 52 38.2**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.66**	**211**	Pg	**Pg**	**23 52 37.7**	**+0.4**
KCHF	**Cheshme Sefid,**	**0.72**	**124**	Pg	**Pg**	**23 52 38.8**	**+0.5**
KCHF				Sg	**Sg**	**23 52 50.1**	**-0.5**
SNQR	**Sonqor, Kerman**	**1.09**	**80**	Pg	**Pg**	**23 52 46.3**	**+1.0**
IBDR	**Badra**	**1.60**	**192**	*e*Pn	**Pb**	**23 52 54.0**	**+0.6**
IBDR				*e*Sn	**Sg**	**23 53 16.0**	**+0.1**
IBDR				AML	AML	23 53 21.7	
comp=E,327nm,0.6s							
IBDR				AML	AML	23 53 21.9	
comp=N,116nm,0.5s							
SDS1	**Sardasht. Az.**	**1.61**	**335**	Pg	**Pg**	**23 52 56.1**	**+0.8**
IKFM	**Kafar-mosalman**	**1.71**	**132**	Pg	**Pg**	**23 52 58.1**	**+1.0**
IDOB	**Doab**	**1.78**	**120**	Pg	**Pg**	**23 52 59.0**	**+0.6**
IKRK	**Kirkuk**	**1.78**	**294**	*e*Pn	**Pb**	**23 52 57.0**	**+0.6**
IKRK				*e*Sn	**Sg**	**23 53 21.2**	**-0.3**
IKRK				AML	AML	23 53 26.2	
comp=N,155nm,0.7s							
IKRK				AML	AML	23 53 27.7	
comp=E,143nm,0.8s							
BHD	**Baghdad**	**2.15**	**229**	*e*Pn	**Pb**	**23 53 02.0**	**-0.6**
BHD				*e*Sn	**Sb**	**23 53 29.0**	**0.0**

IDC 21 00:00:19.9±4.2, 58°.97S×144°.81W, h0km, mb3.9/3, mbtmp3.9/3, MS3.5/5, 1C, Error ellipse: s-maj=149.2km s-min=35.1km az=41.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**31.18**	**180**	LR	LR	00 18 14.5	
comp=Z,81nm,18.4s,baz=73,slow=34							
PPT	**Papeete**	**41.48**	**353**	LR	LR	00 20 13.1	
comp=Z,52nm,18.6s,baz=180,slow=29							
SNAA	**Sanae**	**46.98**	**165**	⇑P	P	00 08 51.8	-0.2
comp=Z,55nm,0.5s							
SNAA	**Sanae**	**46.98**	**165**	P	P	00 08 51.8	-0.2
comp=Z,1.9nm,0.5s,baz=215,slow=13,SNR=12							
comp=Z,1.9nm,0.5s							
STKA	**Stephens Creek**	**54.97**	**265**	LR	LR	00 30 29.7	
comp=Z,35nm,19.0s,baz=26,slow=33							
ASAR	**Alice Springs**	**65.58**	**264**	P	P	00 11 05.6	+0.3
comp=Z,0.7nm,0.7s,baz=139,slow=6.2,SNR=7.1							
comp=Z,0.7nm,0.7s							
WRA	**Warramunga Arr**	**68.44**	**267**	P	P	00 11 23.1	-0.4
comp=Z,0.6nm,0.7s,baz=149,slow=5.5,SNR=5.2							
comp=Z,0.6nm,0.7s							
FITZ	**Fitzroy Crossi**	**74.46**	**261**	LR	LR	00 41 26.5	
comp=Z,42nm,19.7s,baz=188,slow=33							
BOSA	**Boshof**	**92.36**	**171**	LR	LR	00 51 30.4	
comp=Z,21nm,18.3s,baz=203,slow=33							
H10S3	**ASCENSION HYDR**	**101.41**	**130**	T	T	02 07 35.7	
baz=13,slow=74,SNR=6.9							
H10S2	**ASCENSION HYDR**	**101.41**	**130**	T	T	02 07 33.9	
baz=207,slow=74,SNR=5.7							
H10N3	**ASCENSION HYDR**	**102.48**	**129**	T	T	02 08 53.2	
baz=206,slow=75,SNR=4.9							
H10N1	**ASCENSION HYDR**	**102.49**	**129**	T	T	02 09 06.5	
baz=206,slow=75,SNR=4.4							
H10N2	**ASCENSION HYDR**	**102.50**	**129**	T	T	02 08 55.4	
baz=206,slow=75,SNR=4.9							
MKAR	**Makanchi Array**	**149.75**	**267**	PKPbc	PKPbc	00 20 10.3	-0.2
comp=Z,0.6nm,0.8s,baz=124,slow=4.2,SNR=4.4							

*SJA **21** 00:06:49.0±0.7, 28°.88S×67°.34W, h138km±3km, ML4.1, MW4.1*
*NEIC **21** 00:06:49.9±1.5, 28°.86S±0°.07×67°.35W±0°.10, h117km±5km, mb4.6/45, Error ellipse: s-maj=12.5km s-min=9.6km az=85.0*
*VAO **21** 00:06:50.0±1.1, 28°.85S×67°.22W, h120km±7km, mb4.6*
*IDC **21** 00:06:51.7±0.6, 28°.89S×67°.23W, h136km±4km, mb3.8/9, mbtmp4.1/12, Error ellipse: s-maj=18.0km s-min=15.8km az=114.0*
ISC 21 00:06:49.9±0.5, 28°.86S±0°.03×67°.37W±0°.04, h128km±4km, n186, σ1§40/213, mb4.6/29, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**0.67**	**148**	*e*P	**Pn**	**00 07 10.8**	**+0.7**
ACLC				*e*S	**Sn**	**00 07 26.1**	**+0.7**
ACLC				IAML		00 07 27.3	
comp=Z,2μm,0.3s							
VCA	**Vinchina**	**0.75**	**279**	*e*P	**Pn**	**00 07 11.8**	**+1.2**
VCA				*e*S	**Sn**	**00 07 28.5**	**+2.3**
VCA				IAML		00 07 30.6	
comp=Z,4μm,0.4s							
CYA	**Choya**	**1.44**	**74**	*e*P	**Pn**	**00 07 18.1**	**+0.9**
CYA				*e*S	**Sn**	**00 07 38.2**	**+0.4**
CYA				IAML		00 07 39.6	
comp=Z,801nm,0.6s							
AVFE	**Valle Fertil**	**1.80**	**182**	*e*P	**Pn**	**00 07 21.7**	**+0.3**
AVFE				*e*S	**Sn**	**00 07 40.1**	**-5.4**
AVFE				IAML		00 07 47.3	
comp=Z,1μm,0.4s							
ACCO	**Cerro Coronel**	**2.27**	**220**	*e*P	**Pn**	**00 07 28.2**	**+0.8**
ACCO				*e*S	**Sn**	**00 07 52.3**	**-4.0**
ACHE	**Chepes**	**2.38**	**165**	*e*P	**Pn**	**00 07 29.4**	**+0.8**
GUSE	**Guasayan**	**2.42**	**67**	*e*P	**Pn**	**00 07 29.6**	**+0.5**
AC05	**El Transito**	**2.55**	**270**	Pn	**Pn**	**00 07 32.2**	**+1.4**
DOCA	**Reserva Natura**	**2.56**	**215**	*e*P	**Pn**	**00 07 31.5**	**+0.3**
DOCA				*e*S	**Sn**	**00 08 02.9**	**0.0**
CO01	**Juntas del Tor**	**2.63**	**244**	Pn	**Pn**	**00 07 33.7**	**+1.8**
CO01	**Juntas del Tor**	**2.63**	**244**	*e*P	**Pn**	**00 07 28.5**	**-3.4**
CO01				*e*S	Sn	00 07 53.0	-11
CO01				IAML		00 08 07.7	
comp=Z,385nm,0.7s							
RTLL	**Cerro Villicun**	**2.65**	**201**	*e*P	**Pn**	**00 07 32.4**	**+0.4**
RTLL				*e*S	**Sn**	**00 08 04.3**	**0.0**
AHML	**Horco Molle**	**2.74**	**42**	*e*P	**Pn**	**00 07 33.4**	**+0.3**
AHML				*e*S	**Sn**	**00 08 05.2**	**-1.1**
GO03	**Copiapo**	**2.83**	**296**	Pn	**Pn**	**00 07 34.8**	**+0.5**
GO03	**Copiapo**	**2.83**	**296**	*e*P	**Pn**	**00 07 35.0**	**+0.7**
GO03				*e*S	**Sn**	**00 08 08.0**	**-0.5**
ZON	**Zonda**	**2.91**	**203**	Pn	**Pn**	**00 07 35.6**	**+0.3**
ZON	**Zonda**	**2.91**	**203**	*e*P	**Pn**	**00 07 35.9**	**+0.6**
ZON				*e*S	**Sn**	**00 08 10.7**	**+0.3**
ZON				IAML		00 08 11.8	
comp=Z,606nm,0.5s							
LCO	**Las Campanas**	**2.93**	**266**	Pn	**Pn**	**00 07 35.8**	**+0.1**
LCO	**Las Campanas**	**2.93**	**266**	*e*P	**Pn**	**00 07 36.1**	**+0.3**
LCO				*e*S	**Sn**	**00 08 11.6**	**+0.5**
LCO				IAML		00 08 12.4	
comp=Z,658nm,0.5s							
FSA	**Cafayete**	**3.00**	**25**	*e*P	**Pn**	**00 07 38.4**	**+1.8**
FSA				*e*S	**Sn**	**00 08 15.7**	**+3.1**
AC06	**Mina Casimiro**	**3.03**	**299**	Pn	**Pn**	**00 07 37.1**	**+0.2**
RTCV	**Cerro Valdivia**	**3.16**	**198**	*e*P	**Pn**	**00 07 39.1**	**+0.5**
GO04	**Tololo Observa**	**3.27**	**245**	Pn	**Pn**	**00 07 40.2**	**+0.1**
GO04	**Tololo Observa**	**3.27**	**245**	*e*P	**Pn**	**00 07 39.8**	**-0.4**
GO04				*e*S	**Sn**	**00 08 20.5**	**+1.6**
AC04	**Llanos de Chal**	**3.33**	**280**	Pn	**Pn**	**00 07 40.3**	**-0.5**
AC04	**Llanos de Chal**	**3.33**	**280**	*e*P	**Pn**	**00 07 39.8**	**-0.9**
AC04				*e*S	**Sn**	**00 08 18.3**	**-1.7**
RTLS	**Leoncito**	**3.38**	**209**	*e*P	**Pn**	**00 07 42.3**	**+0.6**
RTLS				*e*S	**Sn**	**00 08 22.9**	**+1.3**
CO03	**El Pedregal**	**3.50**	**235**	Pn	**Pn**	**00 07 43.4**	**+0.3**
CO03	**El Pedregal**	**3.50**	**235**	*e*P	**Pn**	**00 07 43.6**	**+0.6**
CO03				*e*S	**Sn**	**00 08 25.5**	**+1.3**
CO03				IAML		00 08 27.5	
comp=Z,424nm,0.8s							
CO05	**La Serena**	**3.54**	**252**	Pn	**Pn**	**00 07 42.5**	**-1.1**
MRA	**San Martin**	**3.83**	**159**	*e*P	**Pn**	**00 07 47.4**	**0.0**
MRA				IAML		00 09 00.5	
comp=Z,230nm,0.6s							
AC01	**Pan de Azucar**	**3.94**	**312**	Pn	**Pn**	**00 07 49.2**	**+0.4**
AC01	**Pan de Azucar**	**3.94**	**312**	*e*P	**Pn**	**00 07 49.0**	**+0.1**
AC01				*e*S	**Sn**	**00 08 32.9**	**-1.6**
CO06	**Fray Jorge**	**4.13**	**243**	Pn	**Pn**	**00 07 49.4**	**-1.9**
GO02	**Mina Guanaco**	**4.18**	**331**	Pn	**Pn**	**00 07 53.2**	**+0.9**
GO02	**Mina Guanaco**	**4.18**	**331**	*e*P	**Pn**	**00 07 53.4**	**+1.1**
GO02				*e*S	**Sn**	**00 08 40.7**	**0.0**
SLA	**San Lorenzo**	**4.44**	**22**	*e*P	**Pn**	**00 07 57.9**	**+2.2**
VA03	**San Esteban**	**4.76**	**214**	Pn	**Pn**	**00 07 59.3**	**-0.6**
VA03	**San Esteban**	**4.76**	**214**	*e*P	**Pn**	**00 07 59.7**	**-0.1**
VA03				*e*S	**Sn**	**00 08 52.3**	**-1.9**
VA03				IAML		00 08 59.7	
comp=Z,192nm,0.5s							
VA06	**Catapilco**	**5.01**	**222**	Pn	**Pn**	**00 08 00.8**	**-2.2**
PB14	**IPOC Station P**	**5.01**	**326**	Pn	**Pn**	**00 08 03.5**	**+0.1**
PB14	**IPOC Station P**	**5.01**	**326**	*e*P	**Pn**	**00 08 03.4**	**-0.1**
PB14				*e*S	**Sn**	**00 08 55.0**	**-5.7**
PB14				IAML		00 09 04.7	
comp=Z,87nm,0.7s							
AZAP	**Zapla**	**5.05**	**25**	*e*P	**Pn**	**00 07 59.6**	**-4.3**
AZAP				IAML		00 09 04.6	
comp=Z,133nm,0.5s							
MT08	**Bocatoma Ro**	**5.11**	**206**	Pn	**Pn**	**00 08 05.1**	**+0.5**
PEL	**Peldehue**	**5.14**	**213**	Pn	**Pn**	**00 08 03.6**	**-1.3**
MT16	**CCHEN**	**5.30**	**210**	Pn	**Pn**	**00 08 06.2**	**-0.8**
MT03	**Universidad Ad**	**5.35**	**209**	Pn	**Pn**	**00 08 07.0**	**-0.7**
MT03	**Universidad Ad**	**5.35**	**209**	*e*P	**Pn**	**00 08 07.7**	**0.0**
MT03				*e*S	**Sn**	**00 09 10.0**	**+1.6**
MT03				IAML		00 09 17.8	
comp=Z,162nm,0.8s							
MT05	**Renca**	**5.37**	**212**	Pn	**Pn**	**00 08 07.0**	**-0.9**
MT05	**Renca**	**5.37**	**212**	*e*P	**Pn**	**00 08 07.5**	**-0.5**
MT05				IAML		00 09 10.6	
comp=Z,174nm,0.7s							
MT02	**Curacav**	**5.45**	**215**	Pn	**Pn**	**00 08 06.9**	**-2.1**
MT13	**San Alfonso**	**5.48**	**206**	Pn	**Pn**	**00 08 09.5**	**+0.1**
LMEL	**Las Melosas**	**5.54**	**205**	Pn	**Pn**	**00 08 10.3**	**0.0**
MT09	**Talagante**	**5.80**	**211**	Pn	**Pn**	**00 08 11.9**	**-1.9**
BO04	**La Punta**	**5.82**	**208**	Pn	**Pn**	**00 08 12.7**	**-1.3**
PB15	**IPOC Station P**	**5.93**	**341**	Pn	**Pn**	**00 08 15.8**	**0.0**
MT01	**Popeta**	**6.00**	**213**	Pn	**Pn**	**00 08 13.2**	**-3.1**
VA05	**Santo Domingo**	**6.01**	**216**	Pn	**Pn**	**00 08 14.1**	**-2.4**
BO01	**Tunca**	**6.37**	**209**	Pn	**Pn**	**00 08 18.4**	**-2.9**
PB06	**IPOC Station P**	**6.44**	**342**	Pn	**Pn**	**00 08 21.8**	**-0.7**
BO02	**Sierra Bellavi**	**6.59**	**205**	Pn	**Pn**	**00 08 22.8**	**-1.7**
PB04	**IPOC Station P**	**6.96**	**338**	Pn	**Pn**	**00 08 27.8**	**-1.8**
GO05	**Hualane**	**7.26**	**211**	Pn	**Pn**	**00 08 29.5**	**-3.8**
BI02	**San Fabin de**	**8.45**	**202**	Pn	**Pn**	**00 08 46.6**	**-2.8**
PSAL	**Palomas, Salto**	**8.75**	**107**	*e*P	**Pn**	**00 08 51.9**	**-1.5**
PB08	**IPOC Station P**	**8.83**	**349**	Pn	**Pn**	**00 08 54.7**	**-0.2**
CPUP	**Villa Florida**	**9.25**	**77**	Pn	**Pn**	**00 08 58.1**	**-2.1**
CPUP	**Villa Florida**	**9.25**	**77**	P	**Pn**	**00 08 59.0**	**-1.2**
comp=Z,2.9nm,0.6s,baz=249,slow=12,SNR=10							
CPUP				S	**Sn**	**00 10 42.5**	**-0.1**
comp=Z,5.7nm,0.6s,baz=207,slow=18,SNR=1.2							
CPUP	**Villa Florida**	**9.25**	**77**	*e*P	**Pn**	**00 08 58.2**	**-2.1**
GO01	**Chusmiza**	**9.30**	**349**	Pn	**Pn**	**00 08 59.7**	**-1.6**
FDPY	**Filadelfia**	**9.37**	**47**	*e*P	**Pn**	**00 09 01.9**	**+0.1**
ITQB	**Itaqui**	**9.42**	**98**	Pn	**Pn**	**00 09 01.1**	**-1.3**
ITQB	**Itaqui**	**9.42**	**98**	*e*P	**Pn**	**00 08 59.1**	**-3.3**
TRQA	**Tornquist**	**10.22**	**155**	Pn	**Pn**	**00 09 12.3**	**-0.9**
PB12	**IPOC Station P**	**10.55**	**344**	Pn	**Pn**	**00 09 15.7**	**-2.1**
GO06	**Curarrehue**	**11.23**	**197**	Pn	**Pn**	**00 09 24.0**	**-2.7**
PLCA	**Paso Flores**	**12.13**	**192**	Pn	**Pn**	**00 09 36.0**	**-2.6**
CPSB	**Cacapava Do Su**	**12.21**	**101**	*e*P	**Pn**	**00 09 38.8**	**-0.9**
PLTB	**Pedras Altas**	**12.24**	**107**	Pn	**Pn**	**00 09 38.1**	**-1.9**
PLTB	**Pedras Altas**	**12.24**	**107**	*e*P	**Pn**	**00 09 39.4**	**-0.6**
LPAZ	**La Paz**	**12.53**	**357**	P	**Pn**	**00 09 46.7**	**+2.3**
comp=Z,0.7nm,0.3s,baz=180,slow=10,SNR=2.5							
LPAZ	**La Paz**	**12.53**	**357**	*e*P	**Pn**	**00 09 43.7**	**-0.7**
AMBA	**Amambai (Brazi**	**12.60**	**65**	*e*P	**Pn**	**00 09 42.0**	**-2.8**
BDQN	**Bodoquena, MS**	**12.77**	**51**	*e*P	**Pn**	**00 09 45.5**	**-1.4**
BBSD	**Serra de San D**	**13.17**	**30**	*e*P	**Pn**	**00 09 51.5**	**-0.7**
ITAB	**Concordia**	**13.55**	**87**	Pn	**Pn**	**00 09 56.6**	**-0.4**
ITAB	**Concordia**	**13.55**	**87**	*e*P	**Pn**	**00 09 55.4**	**-1.6**
SIV	**San Ignacio**	**14.06**	**26**	P	**Pn**	**00 10 03.7**	**+0.1**
comp=Z,0.9nm,0.4s,baz=205,slow=6.3,SNR=6.8							
PTGB	**Pitanga**	**14.27**	**77**	*e*P	**Pn**	**00 10 04.4**	**-1.9**
CNLB	**Canela**	**14.45**	**96**	*e*P	**Pn**	**00 10 07.8**	**-0.7**
GO07	**Milladeo Hill,**	**15.11**	**198**	P	**P**	**00 10 18.9**	**+0.2**
PTLB	**Pontes e Lacer**	**15.36**	**31**	Pn	**Pn**	**00 10 19.6**	**-0.3**
PTLB	**Pontes e Lacer**	**15.36**	**31**	*e*P	**Pn**	**00 10 20.0**	**+0.1**
LDASE	**Londrina, Braz**	**15.57**	**73**	*e*P	**Pn**	**00 10 22.1**	**-0.4**
MAJ01	**Sao Joao Batis**	**16.26**	**89**	*e*P	**P**	**00 10 30.6**	**-1.0**
FRTB	**Fartura**	**16.90**	**75**	*e*P	**P**	**00 10 38.0**	**-0.8**
VILB	**Vilhena**	**17.17**	**24**	P	**P**	**00 10 40.6**	**-1.2**
VILB	**Vilhena**	**17.17**	**24**	*e*P	**P**	**00 10 40.9**	**-0.9**
BB19B	**Bebedouro**	**18.74**	**70**	*e*P	**P**	**00 10 58.7**	**-0.3**
ETMB	**Extrema**	**18.97**	**3**	P	**P**	**00 11 02.0**	**+0.5**
ETMB	**Extrema**	**18.97**	**3**	*e*P	**Pn**	**00 11 02.6**	**-0.9**
RCLB	**Rio Claro- Sao**	**18.99**	**75**	*e*P	**P**	**00 11 01.3**	**-0.4**
VAO	**Valinhos**	**19.24**	**77**	P	**P**	**00 11 04.4**	**-0.1**
VAO				IAmb	IAmb	00 11

comp=Z,28nm,1.5s
BATG Bathurst New B 75.79 1 P **P 00 18 22.2 +0.8**
BATG IAmb IAmb 00 18 34.4
comp=Z,26nm,1.4s
LDAQ Lac Daran 76.55 357 P **P 00 18 26.6 +0.8**
LDAQ IAmb IAmb 00 18 41.3
comp=Z,14nm,1.2s
MAW Mawson 76.92 163 P **P 00 18 27.6 0.0**
comp=Z,1.7nm,0.9s,baz=301,slow=5.9,SNR=4.0
comp=Z,1.7nm,0.9s
ECSD EROS Data Cent 77.05 339 P **P 00 18 29.3 +0.6**
SOE Somerset East 77.26 120 P **P 00 18 31.5 +1.0**
TORD Torodi Ar. Bea 78.65 68 P **P 00 18 38.4 +0.3**
TORD IAmb IAmb 00 18 39.4
comp=Z,10nm,0.7s
TORD Torodi Ar. Bea 78.65 68 P **P 00 18 38.5 +0.4**
comp=Z,10nm,0.7s,baz=278,slow=5.5,SNR=78
comp=Z,10nm,0.7s
BOSA Boshof 78.84 116 P **P 00 18 39.6 +0.3**
BOSA IAmb IAmb 00 18 56.6
comp=Z,23nm,1.5s
BOSA Boshof 78.84 116 P **P 00 18 39.8 +0.5**
comp=Z,2.0nm,0.3s,baz=259,slow=3.2,SNR=17
comp=Z,2.0nm,0.3s
LBTB Lobatse 80.75 113 P **P 00 18 49.6 0.0**
LBTB IAmb IAmb 00 19 31.8
comp=Z,19nm,1.4s
PDAR Pinedale Array 81.16 330 P **P 00 18 52.1 +0.8**
PDAR Pinedale Array 81.16 330 P **P 00 18 51.9 +0.6**
comp=Z,0.5nm,0.5s,baz=131,slow=6.7,SNR=6.0
PDAR pP **pP 00 19 26.9 +2.7**
comp=Z,0.3nm,0.7s,baz=106,slow=9.4,SNR=3.2
comp=Z,0.5nm,0.5s
AHID Auburn Hatcher 81.84 329 P **P 00 18 56.0 +1.1**
FLWY Flagg Ranch 82.71 330 P **P 00 19 00.6 +1.2**
YNE Yellowstone No 83.15 331 P **P 00 19 02.5 +0.8**
YHH Holmes Hill 83.33 330 P **P 00 19 04.3 +1.6**
PINE Pine Mountain 87.36 324 P **P 00 19 23.7 +1.1**
PINE IAmb IAmb 00 19 25.4
comp=Z,5.0nm,0.9s
RDOG Red Dog Mine 118.47 335 PKPdf **PKPdf 00 25 21.9 +0.3**
ASAR Alice Springs 123.91 204 PKhKP PKPpre 00 25 29.9
comp=Z,0.2nm,0.4s,baz=148,slow=1.8,SNR=3.6
ASAR PKP **PKPdf 00 25 33.1 -0.4**
comp=Z,0.4nm,0.4s,baz=143,slow=2.2,SNR=4.1
WB2 Warramunga Arr 127.15 206 PKPdf **PKPdf 00 25 39.5 -0.3**
WRA Warramunga Arr 127.15 206 PKP **PKPdf 00 25 39.5 -0.3**
comp=Z,1.0nm,0.5s,baz=167,slow=1.6,SNR=17
WRA pPKP **pPKPdf 00 26 15.8 +1.3**
comp=Z,0.6nm,0.6s,baz=164,slow=1.7,SNR=3.3
WB0 Warramunga Arr 127.29 206 PKPdf **PKPdf 00 25 39.6 -0.4**
GAR Garm 143.74 62 PKPpre PKPpre 00 26 07.1
ARSB Arslanbob 145.54 58 **PKPab 00 26 14.3 +0.3**
KURBB Kurchatov Arra 146.38 40 PKPbc **PKPbc 00 26 15.9 +0.4**
comp=Z,2.5nm,0.6s,baz=300,slow=3.4,SNR=30
KURBB pPKPbc pPKPab 00 26 51.5 +0.6
comp=Z,0.9nm,0.8s,baz=301,slow=3.4,SNR=3.0
KURK Kurchatov 146.39 40 PKPbc **PKPbc 00 26 16.4 +0.9**
AAK Ala-Archa 146.42 55 PKPbc **PKPbc 00 26 17.0 +0.9**
AAK Ala-Archa 146.42 55 PKPbc **PKPab 00 26 17.5 +0.2**
comp=Z,4.6nm,0.5s,baz=220,slow=1.3,SNR=19
AAK pPKPbc pPKPab 00 26 52.7 +1.1
comp=Z,2.2nm,0.6s,baz=264,slow=4.4,SNR=3.6
ZAA0 Zalesovo Array 147.76 31 PKPbc **PKPbc 00 26 20.1 +0.9**
ZALV Zalesovo Beam 147.76 31 PKPbc **PKPbc 00 26 20.2 +1.0**
comp=Z,3.7nm,0.4s,baz=311,slow=3.4,SNR=23
ZALV pPKPbc **pPKPab 00 26 54.8 -1.0**
comp=Z,1.1nm,0.4s,baz=304,slow=4.3,SNR=2.8
KSH Kashi 148.06 61 PKPbc **PKPbc 00 26 20.0 -0.7**
MAKZ Makanchi 150.14 45 PKPbc **PKPbc 00 26 26.1 +0.6**
MK31 Makanchi Array 150.34 45 PKPbc **PKPbc 00 26 26.1 +0.1**
MK31 PKPab **PKPab 00 26 33.3 +0.6**
MKAR Makanchi Array 150.34 45 PKPbc **PKPbc 00 26 26.5 +0.6**
MKAR PKPab **PKPab 00 26 33.5 +0.7**
MKAR Makanchi Array 150.34 45 PKPbc **PKPbc 00 26 26.6 +0.6**
comp=Z,2.7nm,0.8s,baz=309,slow=2.2,SNR=15
MKAR pPKPbc **pPKPab 00 27 02.2 -4.5**
comp=Z,1.6nm,0.8s,baz=304,slow=2.8,SNR=4.9
PZH PanZhiHua 170.06 101 PKP **PKPdf 00 26 42.5 -0.5**

*ISK **21** 00:19:09.9, 38.°52N×45.°80E, h7km, ML3.2/9*
*AFAD **21** 00:19:10.0±0.0, 38.°32N×45.°61E, h3km±1km, ML2.5*
*NSSP **21** 00:19:12.4, 38.°47N×45.°50E, h10km, Ms3.8*
*TEH **21** 00:19:12.3, 38.°38N×45.°35E, h6km±30km, ML3.0*
*AZER **21** 00:19:13.4, 38.°49N×45.°33E, h12km, ml3.5*
ISC 21 00:19:13.4±1.0, 38.°46N±0.°02×45.°38E±0.°02, h10km±9km, n63, σ1§97/107, 2D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.26**	**133**	Pg	**Pg**	**00 19 16.9**	**-1.7**
IMRD	**Marand**	**0.36**	**45**	Pg	**Pg**	**00 19 21.0**	**+0.4**
ITBZ	**Tabriz**	**0.64**	**110**	Pg	**Pg**	**00 19 24.1**	**-1.8**
ITBZ				Sg	**Sg**	**00 19 34.0**	**-0.4**
ORD	**Ordubad**	**0.67**	**45**	P	**Pb**	**00 19 27.5**	**+0.2**
ORD				S	**Sb**	**00 19 36.8**	**+0.2**
NAX	**Nakhchivan**	**0.72**	**7**	P	**Pn**	**00 19 28.3**	**-1.4**
NAX				S	**Sn**	**00 19 39.3**	**-1.5**
IAZR	**Azarshahr**	**0.91**	**148**	Pg	**Pg**	**00 19 29.3**	**-1.6**
SBZ	**Shahbuz**	**0.95**	**8**	P	**Pn**	**00 19 32.5**	**-0.4**
SBZ				S	**Sn**	**00 19 46.6**	**+0.2**
MAKU	**Maku**	**1.05**	**329**	Pg	**Pb**	**00 19 33.0**	**-0.7**
IHRS	**Heris**	**1.31**	**96**	Pg	**Pn**	**00 19 37.7**	**-0.3**
HYR	**Heyderabad**	**1.32**	**342**	P	**Pg**	**00 19 38.6**	**-0.3**
HYR				S	**Sg**	**00 19 58.3**	**+2.3**
CLDR	**Caldiran**	**1.33**	**301**	P	**Pg**	**00 19 38.5**	**-0.5**
CLDR				S	**Sg**	**00 19 59.0**	**+2.7**
CLDR	**Caldiran**	**1.33**	**301**	Pn	**Pg**	**00 19 39.2**	**+0.2**
CLDR				Sn	**Sg**	**00 20 00.7**	**+4.4**
VMUR	**Van-Muradiye**	**1.51**	**291**	P	**Pg**	**00 19 43.0**	**+0.6**
VMUR				S	**Sg**	**00 20 04.2**	**+2.2**
VMUR				*i* AML	AML	00 20 12.0	
	comp=N,80nm,0.8s						
VMUR				*i* AML	AML	00 20 17.0	
	comp=E,85nm,0.8s						
VANB	**Van**	**1.57**	**276**	Pn	**Pg**	**00 19 43.1**	**-0.3**
NRKZ	**NAREK**	**1.64**	**340**	*e*P	**Pb**	**00 19 43.3**	**-0.4**
NRKZ				*e*S	**Sg**	**00 20 06.6**	**+0.5**
DYDN	**Diyadin**	**1.71**	**310**	P	**Pg**	**00 19 46.4**	**+0.3**
DYDN				S	**Sg**	**00 20 13.3**	**+5.1**
MAHB	**Mahabad**	**1.71**	**171**	Pg	**Pn**	**00 19 42.8**	**-0.5**
GNI	**Garni**	**1.76**	**344**	‖ *i*P	**Pg**	**00 19 46.1**	**-1.1**
GNI				‖ *i*S	**Sg**	**00 20 10.2**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.76**	**330**	Pn	**Pn**	**00 19 43.6**	**-0.4**
QRD	**Qoradiz**	**1.82**	**56**	P	**Pg**	**00 19 48.4**	**+0.2**
QRD				S	**Sg**	**00 20 13.9**	**+2.2**
CUKT	**Cukurca**	**1.85**	**230**	Pn	**Pb**	**00 19 47.2**	**-0.1**
IHSH	**Hashtrud**	**1.88**	**127**	Pn	**Pn**	**00 19 46.7**	**+0.9**
AKDM	**Akdamar-Van**	**1.89**	**267**	Pn	**Pg**	**00 19 48.2**	**-1.4**
ISRB	**Sarab**	**1.91**	**109**	Pn	**Pb**	**00 19 48.0**	**-0.4**
KAPZ	**Kaputan**	**1.94**	**344**	*e*P	**Pg**	**00 19 49.5**	**-1.0**
KAPZ				*e*S	**Sg**	**00 20 17.3**	**+1.7**
METS	**Metsamor**	**1.97**	**330**	*e*P	**Pb**	**00 19 48.4**	**-0.9**
METS				*e*S	**Sg**	**00 20 15.6**	**-1.1**
GRMI	**Germi**	**2.00**	**79**	Pn	**Pb**	**00 19 49.0**	**-0.9**
VNNZ	**Vanand**	**2.04**	**324**	*e*P	**Pg**	**00 19 51.3**	**-1.2**
VNNZ				*e*S	**Sg**	**00 20 20.3**	**+1.4**
ARUZ	**Aruch**	**2.08**	**332**	*e*P	**Pb**	**00 19 50.2**	**-1.0**
ARUZ				*e*S	**Sg**	**00 20 18.7**	**-1.5**
ADCV	**BITLIS_Adilcev**	**2.11**	**280**	P	**Pb**	**00 19 51.2**	**-0.6**
ADCV				S	**Sg**	**00 20 23.5**	**+2.3**
ADCV				*i* AML	AML	00 20 27.0	
	comp=E,31nm,0.9s						
ADCV				*i* AML	AML	00 20 35.0	
	comp=N,24nm,0.7s						
AMBZ	**Amberd**	**2.11**	**336**	*e*P	**Pb**	**00 19 51.5**	**-0.4**
AMBZ				*e*S	**Sg**	**00 20 20.6**	**-0.8**
BLQ	**Beylaqan**	**2.11**	**53**	P	**Pb**	**00 19 51.6**	**-0.1**
BLQ				S	**Sg**	**00 20 20.9**	**-0.4**
AGDM	**Agdam**	**2.13**	**39**	P	**Pb**	**00 19 51.7**	**-0.3**
AGDM				S	**Sg**	**00 20 21.3**	**-0.4**
KOTA	**Agri, Merkez-K**	**2.16**	**309**	P	**Pg**	**00 19 53.7**	**-1.1**
KOTA				S	**Sg**	**00 20 25.5**	**+2.7**
KOTA				*i* AML	AML	00 20 28.0	
	comp=N,23nm,0.9s						
KOTA				*i* AML	AML	00 20 37.0	
	comp=E,33nm,0.8s						
AGRB	**Hanur-Agry**	**2.17**	**302**	Pn	**Pb**	**00 19 51.3**	**-1.5**
DORK	**Agr/Tutak/Do**	**2.23**	**295**	P	**Pg**	**00 19 54.4**	**-1.8**
DORK				S	**Sg**	**00 20 28.3**	**+3.2**
DORK				*i* AML	AML	00 20 34.0	
	comp=N,30nm,1.4s						
DORK				*i* AML	AML	00 20 39.0	
	comp=E,25nm,0.7s						
GDB	**GEDABAY**	**2.28**	**7**	P	**Pb**	**00 19 53.9**	**-0.7**
GDB				S	**Sg**	**00 20 25.6**	**-1.0**
BRDA	**Brd**	**2.28**	**37**	P	**Pb**	**00 19 54.3**	**-0.3**
BRDA				S	**Sg**	**00 20 26.8**	**+0.2**
YRD	**Yardimli**	**2.29**	**78**	P	**Pb**	**00 19 54.8**	**0.0**
YRD				S	**Sb**	**00 20 25.7**	**+2.6**
SDS1	**Sardasht. Az.**	**2.31**	**178**	Pn	**Pn**	**00 19 51.9**	**+0.3**
MLAZ	**Malazgirt-MUS**	**2.31**	**288**	Pn	**Pb**	**00 19 53.9**	**-1.4**
LRK	**Lerik**	**2.33**	**85**	P	**Pb**	**00 19 55.6**	**0.0**
LRK				S	**Sb**	**00 20 26.6**	**+2.2**
GLBA	**Clilabad**	**2.48**	**71**	P	**Pb**	**00 19 58.0**	**+0.1**
GLBA				S	**Sb**	**00 20 30.8**	**+2.2**
ZRD	**Zardab**	**2.55**	**44**	P	**Pb**	**00 19 58.0**	**-1.2**
ZRD				S	**Sb**	**00 20 32.3**	**+1.8**
QZX	**Qazax, Azerbai**	**2.60**	**360**	P	**Pb**	**00 19 58.5**	**-1.6**
QZX				S	**Sb**	**00 20 32.5**	**+0.5**
GURO	**Guroymak-BITLI**	**2.63**	**273**	Pn	**Pb**	**00 19 58.7**	**-1.9**
MNGR	**Mingechevir, A**	**2.66**	**29**	P	**Pb**	**00 20 00.0**	**-1.1**
MNGR				S	**Sb**	**00 20 35.3**	**+1.5**
LKRN	**Lenkeran, Azer**	**2.68**	**84**	P	**Pb**	**00 19 59.9**	**-1.4**
LKRN				S	**Sb**	**00 20 36.8**	**+2.6**
ASTR	**Astara**	**2.68**	**87**	P	**Pb**	**00 20 00.1**	**-1.3**
ASTR				S	**Sb**	**00 20 36.9**	**+2.6**
VSHL	**Vashlovani**	**2.88**	**16**	P	**Pg**	**00 20 07.4**	**-1.1**
VSHL				S	**Sg**	**00 20 49.4**	**+3.6**
SEKA	**Sheki**	**3.08**	**26**	P	**Pb**	**00 20 05.3**	**-3.1**
SEKA				S	**Sb**	**00 20 44.4**	**-1.7**
QBL	**Gabala**	**3.13**	**37**	P	**Pb**	**00 20 06.1**	**-2.9**
QBL				S	**Sb**	**00 20 44.8**	**-2.4**
VRTB	**Varto-Mus**	**3.14**	**284**	Pn	**Pb**	**00 20 05.6**	**-3.8**
IML	**Ismayilli**	**3.18**	**42**	P	**Pb**	**00 20 07.0**	**-3.0**
IML				S	**Sb**	**00 20 47.9**	**-0.9**
PQL	**Pirkuli**	**3.40**	**46**	P	**Pn**	**00 20 10.1**	**+3.5**
PQL				S	**Sb**	**00 20 53.7**	**-1.6**
LGD	**Lagodekhi**	**3.44**	**11**	P	**Pb**	**00 20 15.8**	**+1.5**
LGD				S	**Sg**	**00 21 05.1**	**+1.4**
XNQ	**Khinaliq**	**3.45**	**37**	P	**Pn**	**00 20 10.5**	**+3.2**
XNQ				S	**Sb**	**00 20 55.0**	**-1.6**
GBS	**Qobustan**	**3.45**	**52**	P	**Pn**	**00 20 10.7**	**+3.5**
GBS				S	**Sb**	**00 20 56.2**	**-0.3**
ATGJ	**Altiaghaj**	**3.65**	**48**	P	**Pn**	**00 20 13.4**	**+3.5**
ATGJ				S	**Sb**	**00 21 00.1**	**-2.2**
QUBA	**Quba, Azerbaij**	**3.76**	**39**	P	**Pn**	**00 20 15.0**	**+3.6**
QUBA				S	**Sb**	**00 21 01.4**	**-4.0**
SIZA	**Siyzn**	**3.77**	**45**	P	**Pn**	**00 20 15.2**	**+3.6**
SIZA				S	**Sb**	**00 21 02.7**	**-3.0**
QSAR	**Qusar**	**3.77**	**35**	P	**Pn**	**00 20 15.3**	**+3.7**
QSAR				S	**Sb**	**00 21 01.4**	**-4.4**
CHRG	**Chargali**	**3.88**	**355**	P	**Pg**	**00 20 25.0**	**-2.7**

HEL 21 00:26:56.8±0.2, 67.°72N×33.°68E, h0km, ML1.5,
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.41**	**63**	PG	Pg	00 27 04.2	-0.4
LVZ				SG	Sg	00 27 09.8	-0.1
VRF	**Varrio**	**1.55**	**273**	PG	Pn	00 27 25.1	-0.5
VRF				MSG		00 27 43.5	
	comp=Z,3.9nm,0.2s						
VRF				SG	Sn	00 27 45.3	-1.2
RAJF	**Raja-Jooseppi**	**2.15**	**293**	PG	Pn	00 27 34.9	+1.0
RAJF				SG	Sb	00 28 03.1	-0.7
OLKF	**Oulanka, Finla**	**2.19**	**232**	PG	Pb	00 27 36.0	-1.3
OLKF				MSG		00 28 01.6	
	comp=Z,1.9nm,0.2s						
OLKF				SG	Sb	00 28 04.5	-0.3
KU6	**Riekki**	**2.27**	**223**	PG	Pn	00 27 36.6	+1.1
KU6				MSG		00 28 03.9	
	comp=Z,1.7nm,0.2s						
KU6				SG	Sb	00 28 06.0	-1.1
KMNF	**Kaamanen**	**2.86**	**303**	SB	Sn	00 28 21.2	+2.6
KEV	**Kevo**	**3.18**	**313**	PN	Pn	00 27 49.3	+1.4
KEV				SN	Sn	00 28 27.8	+1.3
RNF	**Rovaniemi**	**3.19**	**253**	PN	Pn	00 27 48.2	+0.1
	baz=71						
RNF				SN	Sn	00 28 26.9	+0.1
RANF	**Ranua**	**3.21**	**241**	PB	Pb	00 27 52.1	-2.5
	baz=59						
RANF				SG	Sb	00 28 34.4	+0.1
KLF	**Kolari**	**3.77**	**267**	SG	Sb	00 28 53.8	+3.4
RMF	**Romuvaara**	**3.84**	**205**	PN	Pn	00 27 56.3	-0.7
	baz=24						
TOF	**Tornio**	**4.04**	**250**	PG	Pb	00 28 09.9	+1.2
PAJU	**Pajala**	**4.14**	**265**	PG	Pb	00 28 11.8	+1.2
	baz=80						
LANU	**Lannavaara**	**4.43**	**280**	PN	Pn	00 28 06.1	+0.9

*HEL **21** 00:28:33.5±0.3, 67.°75N×20.°18E, h0km, ML1.5, Explosion*
UPP 21 00:28:33.5±0.3, 67.°84N×20.°21E, h1km±1km, ML2.5,
Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**23**	P	Pg	00 28 36.1	+0.1
KUA				S	Sg	00 28 38.0	+0.3
RATU	**Laukkuluspa**	**0.23**	**267**	P	Pg	00 28 38.0	+0.1
RATU				S	Sg	00 28 41.2	+0.3
KOVU	**Salmi**	**0.39**	**358**	P	Pg	00 28 40.9	-0.1
KOVU				S	Sg	00 28 46.4	+0.4
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	00 28 46.7	-0.3
LANU				S	Sg	00 28 56.3	+0.1
LANU	**Lannavaara**	**0.71**	**72**	PG	Pg	00 28 46.6	-0.4
LANU	**Lannavaara**	**0.71**	**72**	SB	Sg	00 28 56.6	+0.4
DUNU	**Dundret**	**0.73**	**169**	P	Pg	00 28 47.0	-0.4
DUNU				S	Sg	00 28 57.2	+0.3
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 28 48.3	-0.2
MASU				S	Sg	00 28 58.9	+0.3
SALU	**Saltoluokta**	**0.80**	**236**	P	Pg	00 28 48.4	-0.3
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pb	00 28 56.7	-0.2
PAJU	**Pajala**	**1.39**	**125**	P	Pn	00 28 58.8	-1.2
PAJU				S	Sg	00 29 17.4	-0.6
PAJU	**Pajala**	**1.39**	**125**	PN	Pn	00 28 58.6	-1.4
	baz=304						
PAJU				SN	Sg	00 29 17.6	-0.4
PAJU	**Pajala**	**1.39**	**125**	SB	Pn	00 28 58.6	-1.4
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	00 28 59.6	-0.8
HEF	**Hetta**	**1.42**	**64**	PG	Pn	00 28 59.8	-0.6
HEF				MSG		00 29 17.6	
	comp=Z,4.7nm,0.2s						
HEF				SG	Sg	00 29 17.9	-1.0
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	00 29 01.0	-0.6
ERTU	**Ertsjaerv**	**1.50**	**148**	SN	Pn	00 29 00.8	-0.7
ERTU	**Ertsjaerv**	**1.50**	**148**	PN	Pn	00 29 00.8	-0.7
ERTU				SN	Sg	00 29 21.6	-0.1
KLF	**Kolari**	**1.57**	**111**	PN	Pn	00 29 02.3	-0.1
	baz=292						
KLF				MSG		00 29 19.9	
	comp=Z,2.6nm,0.2s						
KTK1	**Kautokeino**	**1.63**	**42**	SG	Pn	00 29 04.6	+1.3
KTK1	**Kautokeino**	**1.63**	**42**	PG	Pg	00 29 04.6	0.0
KTK1				SG	Sn	00 29 25.1	+0.2
HARU	**Harads**	**1.71**	**169**	P	Pn	00 29 04.5	+0.1
TRO	**Tromso**	**1.86**	**346**	PN	Pn	00 29 07.2	+0.7
TRO				SB	Sb	00 29 31.9	-0.2
KALU	**Kalix**	**2.34**	**146**	SG	Pn	00 29 14.2	+1.1
KALU	**Kalix**	**2.34**	**146**	PG	Pn	00 29 14.2	+1.1
TOF	**Tornio**	**2.40**	**136**	PG	Pb	00 29 16.0	-1.4
TOF				MSG		00 29 42.7	
	comp=Z,1.8nm,0.2s						
TOF				SG	Sb	00 29 46.2	-1.1
RNF	**Rovaniemi**	**2.57**	**116**	PG	Pb	00 29 18.7	-1.7
KEV	**Kevo**	**3.13**	**49**	SN	Sn	00 30 04.0	+2.1

*ISN **21** 00:31:57.8±0.4, 34.°61N×46.°05E, h4km±3km, ML3.2*
*TEH **21** 00:31:58.5, 34.°60N×46.°13E, h6km±276km, ML3.0*
ISC 21 00:31:58.6±0.9, 34.°62N±0.°03×46.°12E±0.°03, h10km, n22,
σ1§94/26, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.24**	**70**	Pg	**Pg**	**00 32 04.4**	**+0.8**
KGS1	**Ghasr-e-Shirin**	**0.45**	**256**	Pg	**Pb**	**00 32 08.4**	**-0.2**
IGHG	**Ghaleghazi**	**0.47**	**128**	Pg	**Pb**	**00 32 08.6**	**-0.6**
GLG1	**Gilan-e-Gharb**	**0.53**	**199**	Pg	**Pb**	**00 32 09.6**	**-0.6**
ILIN	**Lien**	**0.76**	**67**	Pg	**Pb**	**00 32 14.4**	**+0.3**
KCHF	**Cheshme Sefid,**	**0.84**	**114**	Pg	**Pb**	**00 32 15.6**	**+0.2**
SNQR	**Sonqor, Kerman**	**1.27**	**79**	Pg	**Pg**	**00 32 24.1**	**+1.1**
IBDR	**Badra**	**1.51**	**186**	*e*Pn	**Pg**	**00 32 27.2**	**-0.5**
IBDR				*e*Sn	**Sg**	**00 32 48.7**	**+1.4**
IBDR				AML	AML	00 33 01.9	
	comp=E,247nm,0.4s						
SDS1	**Sardasht. Az.**	**1.61**	**342**	Pg	**Pg**	**00 32 29.5**	**-0.1**
IKRK	**Kirkuk**	**1.65**	**299**	*e*Pn	**Pb**	**00 32 29.0**	**-0.2**
IKRK				*e*Sn	**Sg**	**00 32 51.5**	**-0.3**
IKRK				AML	AML	00 32 57.7	
	comp=N,694nm,0.3s						
IKRK				AML	AML	00 33 00.9	
	comp=E,340nm,0.4s						
IKFM	**Kafar-mosalman**	**1.80**	**127**	Pg	**Pg**	**00 32 33.0**	**-0.2**
BHD	**Baghdad**	**1.97**	**228**	*e*Pn	**Pn**	**00 32 33.0**	**+0.9**
BHD				*e*Sn	**Sb**	**00 32 59.0**	**-0.3**
HSAM	**Samen**	**2.09**	**100**	Pn	**Pg**	**00 32 37.7**	**-1.1**
MAHB	**Mahabad**	**2.17**	**351**	Pn	**Pb**	**00 32 39.3**	**+1.2**
BDRS	**Dareh Seyedi**	**2.38**	**105**	Pn	**Pb**	**00 32 41.6**	**-0.2**
HAGD	**Aghdareh**	**2.50**	**84**	Pn	**Pb**	**00 32 43.4**	**-0.4**
RAFI	**Al-Rafai**	**2.89**	**180**	*e*Pn	**Pn**	**00 32 46.5**	**+1.8**
RAFI				*e*Sn	**Sb**	**00 33 22.0**	**-3.6**
IRAZ	**Razeghan**	**3.23**	**75**	Pn	**Pb**	**00 32 53.2**	**-3.0**
ISRB	**Sarab**	**3.44**	**21**	Pn	**Pb**	**00 32 56.8**	**-2.9**
ITBZ	**Tabriz**	**3.61**	**0**	Pn	**Pb**	**00 32 59.1**	**-3.5**
ISHB	**Shabestar**	**3.68**	**354**	Pn	**Pn**	**00 32 59.8**	**+4.0**
IHRS	**Heris**	**3.77**	**11**	Pn	**Pb**	**00 33 01.4**	**-4.0**

*NSSP **21** 00:42:24.7, 38.°47N×45.°40E, h10km, Ms4.0*
*AFAD **21** 00:42:24.2±0.0, 38.°49N×45.°58E, h3km±2km, ML2.8*
*AZER **21** 00:42:25.5, 38.°50N×45.°41E, h2km, ml3.7*
*TIF **21** 00:42:25.7, 38.°40N×45.°42E, h5km±2km*
*TEH **21** 00:42:26.2, 38.°41N×45.°42E, h5km, ML3.3*
ISC 21 00:42:26.5±1.1, 38.°43N±0.°02×45.°43E±0.°02, h7km±9km,
n75, σ1§60/118, 1C-1D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.21**	**134**	Pg	**Pg**	**00 42 30.1**	**-0.7**
IMRD	**Marand**	**0.36**	**37**	Pg	**Pg**	**00 42 34.1**	**+0.5**
ITBZ	**Tabriz**	**0.60**	**109**	Pg	**Pg**	**00 42 37.6**	**-0.5**
ORD	**Ordubad**	**0.67**	**41**	P	**Pb**	**00 42 40.1**	**-0.4**
ORD				S	**Sb**	**00 42 50.4**	**+0.3**
NAX	**Nakhchivan**	**0.75**	**4**	P	**Pg**	**00 42 41.2**	**+0.3**
NAX				S	**Sg**	**00 42 51.3**	**+0.7**
IAZR	**Azarshahr**	**0.87**	**150**	Pg	**Pg**	**00 42 42.8**	**-0.4**
SBZ	**Shahbuz**	**0.97**	**6**	P	**Pg**	**00 42 45.3**	**+0.1**
SBZ				S	**Sn**	**00 42 59.8**	**-1.0**
MAKU	**Maku**	**1.09**	**328**	Pg	**Pg**	**00 42 46.0**	**-1.5**
IHRS	**Heris**	**1.27**	**94**	Pg	**Pn**	**00 42 50.9**	**-0.1**
HYR	**Heyderabad**	**1.36**	**341**	P	**Pn**	**00 42 51.5**	**-0.5**
HYR				S	**Sg**	**00 43 13.0**	**+2.5**
CLDR	**Caldiran**	**1.38**	**302**	P	**Pb**	**00 42 52.5**	**-0.3**
CLDR				S	**Sg**	**00 43 12.6**	**+1.6**
CLDR	**Caldiran**	**1.38**	**302**	Pg	**Pb**	**00 42 52.5**	**-0.3**
VMUR	**Van-Muradiye**	**1.56**	**292**	P	**Pb**	**00 42 55.2**	**-0.6**
VMUR				S	**Sn**	**00 43 15.1**	**-0.3**
VMUR				*i* AML	AML	00 43 20.0	
	comp=N,123nm,0.8s						
VMUR				*i* AML	AML	00 43 21.0	
	comp=E,202nm,1.1s						
VMUR	**Van-Muradiye**	**1.56**	**292**	Pg	**Pb**	**00 42 55.2**	**-0.6**
TVAN	**Van**	**1.59**	**274**	P	**Pb**	**00 42 56.5**	**+0.1**
TVAN				*i* AML	AML	00 43 30.0	
	comp=E,178nm,0.7s						
TVAN				*i* AML	AML	00 43 38.0	
	comp=N,155nm,1.0s						
TVAN	**Van**	**1.59**	**274**	Pg	**Pb**	**00 42 56.4**	**+0.1**
MAHB	**Mahabad**	**1.67**	**172**	Pg	**Pn**	**00 42 55.9**	**-0.4**
NRKZ	**NAREK**	**1.68**	**339**	*e*P	**Pn**	**00 42 56.5**	**+0.1**
NRKZ				*e*S	**Sb**	**00 43 19.7**	**+0.5**
IGDI	**IGDIR**	**1.78**	**324**	P	**Pn**	**00 42 58.0**	**+0.2**
IGDI				S	**Sg**	**00 43 23.9**	**+0.1**
IGDI				*i* AML	AML	00 43 29.0	
	comp=N,120nm,0.7s						
IGDI				*i* AML	AML	00 43 33.0	
	comp=E,176nm,0.6s						
IGDI	**IGDIR**	**1.78**	**324**	Pg	**Pn**	**00 42 58.0**	**+0.2**
GNI	**Garni**	**1.80**	**343**	‖ *i*P	**Pb**	**00 42 59.2**	**-0.7**
GNI				‖ *i*S	**Sg**	**00 43 24.4**	**0.0**
QRD	**Qoradiz**	**1.80**	**54**	P	**Pb**	**00 43 00.1**	**+0.3**
QRD				S	**Sg**	**00 43 25.0**	**+0.7**
IHSH	**Hashtrud**	**1.83**	**127**	Pn	**Pb**	**00 42 59.7**	**-0.8**
ISRB	**Sarab**	**1.86**	**108**	Pn	**Pb**	**00 43 00.8**	**-0.3**
GRMI	**Germi**	**1.97**	**78**	Pn	**Pb**	**00 43 02.3**	**-0.4**
KAPZ	**Kaputan**	**1.97**	**344**	*e*P

XNQ	Khinaliq	3.44	36	P	Pn	00 43 24.2	+3.4
XNQ				S	Sb	00 44 07.3	-2.8
LGD	Lagodekhi	3.46	10	P	Pb	00 43 30.1	+2.0
ATGJ	Altiaghaj	3.64	47	P	Pn	00 43 26.9	+3.5
ATGJ				S	Sb	00 44 12.7	-2.9
QUBA	Quba, Azerbaij	3.75	38	P	Pn	00 43 28.3	+3.4
SIZA	Siyzn	3.76	44	P	Pn	00 43 27.9	+2.9
SIZA				S	Sb	00 44 15.4	-3.7
QSAR	Qusar	3.77	34	P	Pn	00 43 28.1	+2.9
QSAR				S	Sb	00 44 15.7	-3.7
CHRG	Chargali	3.92	355	P	Pb	00 43 37.2	+1.3
KGS1	Ghasr-e-Shirin	3.92	178	Pn	Pn	00 43 29.7	+2.6
QABG	Abgarm-Qazvin	4.29	128	Pn	Pn	00 43 35.2	+2.8
GLG1	Gilan-e-Gharb	4.32	175	Pn	Pn	00 43 35.5	+2.8
IRAZ	Razeghan	4.70	129	Pn	Pn	00 43 40.0	+1.9
IKFM	Kafar-mosalman	5.27	157	Pn	Pn	00 43 48.3	+2.6
KOLS	Kolonicke sedl	19.69	310	ePN	P	00 46 55.1	-1.1
STHS	Stebnicka Huta	20.50	310	ePN	P	00 47 04.5	-0.5
LANS	Liptovska Anna	21.48	308	eP	P	00 47 16.0	+0.4

*TRN **21** 00:45:50.6, 10.°72N×62.°26W, h62km, MD2.6, North of the Paria peninsula.*
*FUNV **21** 00:45:50.3, 10.°66N×62.°22W, h77km, MW3.6*

ISC 21 00:45:47.4±1.7, 10.°63N±0.°05×62.°22W±0.°06, h103km±20km, n10, σ1§90/18, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.80	89	eP	Pn	00 46 07.1	+1.1
TRN				eS	Sn	00 46 18.8	-1.2
GRFF	Grenada Fort F	1.48	18	eP	Pn	00 46 14.2	+0.5
GRFF				eS	Sn	00 46 32.1	-1.5
GRGR	Grenville	1.59	20	eP	Pn	00 46 15.4	+0.5
GRGR				eS	Sn	00 46 34.8	-1.1
GRSS	Sisters	1.76	20	eP	Pn	00 46 18.6	+1.6
GRSS				eS	Sn	00 46 39.4	-0.2
GCMP	Grenada, Carri	2.00	23	eP	Pn	00 46 21.1	+1.0
GCMP				eS	Sn	00 46 43.9	-1.2
PCRV	Puerto La Cruz	2.42	259	eP	Pn	00 46 26.6	+0.9
PCRV				eS	Sn	00 46 53.5	-1.5
PCRV	Puerto La Cruz	2.42	259	eP	Pn	00 46 29.0	+3.3
PCRV				eS	Sn	00 46 54.5	-0.5
LUEV	Luepa	4.82	171	eP	Pn	00 46 59.7	+1.8
LUEV				eS	Sn	00 47 50.2	-2.4
CACV	CAICARA DEL OR	5.25	235	eP	Pn	00 47 00.0	-3.5
CACV				eS	Sn	00 47 50.8	-12
BAUV	El Baul	5.98	254	eP	Pn	00 47 14.5	+1.0
BAUV				eS	Sn	00 48 16.9	-3.8

IDC 21 00:51:45.9±2.8, 34.°50N×96.°50E, h0km, mb3.2/2, mbtmp3.5/5, ML3.4/3, Error ellipse: s-maj=73.7km s-min=36.0km az=75.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	15.25	26	Pn	Pn	00 55 21.7	-0.9
	0.1nm,0.3s,baz=214,slow=14,SNR=7.0 0.6nm,0.5s						
CMAR	Chiang Mai Arr	16.12	172	Pn	Pn	00 55 34.1	+0.1
	0.1nm,0.3s,baz=340,slow=10,SNR=6.5 0.8nm,0.3s						
MKAR	Makanchi Array	16.31	323	Pn	Pn	00 55 33.7	-2.6
	0.1nm,0.3s,baz=126,slow=14,SNR=2.3 0.3nm,0.7s						
KURBB	Kurchatov Arra	20.76	326	P	P	00 56 26.9	-1.3
	0.6nm,0.5s,baz=132,slow=11,SNR=5.7 0.6nm,0.5s						
ZALV	Zalesovo Beam	21.12	341	P	P	00 56 33.2	+1.2
	0.9nm,0.6s,baz=153,slow=10.0,SNR=7.0 0.9nm,0.6s						

IDC 21 00:58:39.3±2.2, 6.°54S×129.°16E, h0km, mb3.6/1, mbtmp3.7/3, ML3.8/2, MS2.9/1, Error ellipse: s-maj=109.0km s-min=33.0km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	6.55	236	LR	LR	01 02 58.7	
	comp=Z,90nm,18.6s,baz=154,slow=40						
WRA	Warramunga Arr	14.24	160	Pn	Pn	01 02 01.7	-0.8
	0.5nm,0.3s,baz=338,slow=13,SNR=25						
WRA				Sn	Sn	01 04 28.4	-13
	0.7nm,0.3s,baz=335,slow=22,SNR=3.4 0.9nm,0.3s						
ASAR	Alice Springs	17.63	166	P	Pn	01 02 47.0	+0.4
	0.3nm,0.3s,baz=345,slow=10,SNR=8.7						
ASAR				S	Sn	01 05 53.5	-10
	0.3nm,0.4s,baz=348,slow=29,SNR=1.8 0.9nm,0.4s						
MKAR	Makanchi Array	67.39	327	P	P	01 09 36.6	+0.1
	0.4nm,0.6s,baz=134,slow=6.2,SNR=2.4 0.4nm,0.6s						

*IDC **21** 01:09:36.3±2.4, 10.°78N×87.°02W, h142km±31km, mb3.6/1, mbtmp4.3/3, Error ellipse: s-maj=69.4km s-min=26.7km az=33.0*
*NEIC **21** 01:09:38.6±1.0, 11.°88N±0.°09×86.°47W±0.°08, h104km±8km, mb4.0/3, Error ellipse: s-maj=15.1km s-min=7.3km az=218.0*
*UCR **21** 01:09:38.9±1.8, 11.°85N×86.°43W, h103km±8km, MW4.2*
*SNET **21** 01:09:39.0±0.8, 12.°21N×86.°53W, h142km±74km, ML4.2*
*CATAC **21** 01:09:39.1±0.4, 11.°89N×86.°47W, h89km±4km, ML3.7*

ISC 21 01:09:37.9±0.8, 11.°90N±0.°04×86.°45W±0.°04, h103km±5km, n102, σ1§50/136, mb3.9/3, 3C-14D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RA5A7	El Crucero	0.17	55	iP	Pn	01 09 53.8	+1.3
RA5A7				IAML		01 09 54.1	
	comp=Z,52μm,1.0s						
CRUN	El Crucero	0.17	59	iP	Pn	01 09 46.9	-5.6
ABCN	Banco Central	0.26	31	iP	Pn	01 09 53.8	+1.1
ABCN				IAML		01 09 54.0	
	comp=Z,11μm,1.0s						
SAPS	Ciudad Sandino	0.28	9	iP	Pn	01 09 53.8	+1.0
SAPS				IAML		01 09 54.1	
	comp=Z,10μm,1.0s						
UNAN	Cigeo UNAN	0.28	39	iP	Pn	01 09 53.8	+1.0
UNAN				IAML		01 09 54.5	
	comp=Z,27μm,1.0s						
USIM	UNAN	0.28	38	iP	Pn	01 09 53.7	+0.9
USIM				IAML		01 09 54.0	
	comp=Z,16μm,1.0s						
MAS3	Al N del Volca	0.30	64	iP	Pn	01 09 53.6	+0.7
MAS3				iS	Sn	01 09 55.5	-8.5
MAS3				IAML		01 09 55.7	
	comp=Z,3μm,1.0s						
TISN	Laguna Tiscapa	0.30	36	iP	Pn	01 09 53.9	+1.0
TISN				IAML		01 09 54.1	
	comp=Z,1μm,1.0s						
MASN	Masaya	0.30	73	iP	Pn	01 09 53.9	+1.0
MASN				iS	Sn	01 09 57.0	-7.1
MASN				IAML		01 09 58.8	
	comp=Z,1μm,1.0s						
R0529	La Mascota	0.31	42	iP	Pn	01 09 53.9	+1.0
R0529				IAML		01 09 54.1	
	comp=Z,7μm,1.0s						
ALLN	Telcor Managua	0.31	34	iP	Pn	01 09 53.6	+0.7
ALLN				IAML		01 09 54.2	
	comp=Z,10μm,1.0s						
COPN	Copaltepe	0.32	334	iP	Pn	01 09 53.7	+0.8
COPN				IAML		01 09 54.0	
	comp=Z,3μm,1.0s						
MGAN	Managua	0.32	38	Pn	Pn	01 09 53.6	+0.7
MGAN	Managua	0.32	38	iP	Pn	01 09 53.9	+1.0
MGAN				IAML		01 09 54.2	
	comp=Z,7μm,1.0s						
MGAN	Managua	0.32	38	↑iP	Pn	01 09 53.9	+1.0
MGA1	Managua	0.32	38	iP	Pn	01 09 53.7	+0.8
MGA1				IAML		01 09 54.2	
	comp=Z,8μm,1.0s						
R4DEC	Barrio San Lui	0.32	38	iP	Pn	01 09 54.0	+1.1
R4DEC				IAML		01 09 54.2	
	comp=Z,7μm,1.0s						
APQ2	Apoyeque	0.32	22	iP	Pn	01 09 53.9	+0.9
APQ2				IAML		01 09 54.2	
	comp=Z,8μm,1.0s						
BC86	Nagarote	0.38	343	iP	Pn	01 10 01.6	+8.3
NADN	Granada	0.43	110	iP	Pn	01 09 54.2	+0.6
NADN				iS	Sn	01 10 07.0	+1.7
NADN				IAML		01 10 08.6	
	comp=Z,5μm,1.0s						
BC84	Volcan Momotom	0.50	350	iP	Pn	01 09 54.7	+0.6
BC84				IAML		01 10 16.4	
	comp=Z,4μm,1.0s						
MOMN	Momotombo	0.52	350	iP	Pn	01 09 54.9	+0.7
MOMN				IAML		01 09 55.0	
	comp=Z,180nm,1.0s						
MOMN				iS	Sn	01 10 07.9	+1.5
LEVN	Ruinas Leon Vi	0.53	342	iP	Pn	01 09 55.1	+0.9
LEVN				IAML		01 09 55.4	
	comp=Z,3μm,1.0s						
LEVN				iS	Sn	01 10 07.0	+0.6
MOM2	El Cardon	0.54	356	iP	Pn	01 09 55.2	+0.9
MOM2				IAML		01 09 55.8	
	comp=Z,4μm,1.0s						
MOM2				iS	Sn	01 10 08.7	+2.2
MACN	El Madrono	0.61	339	iP	Pn	01 09 55.7	+0.8
MACN				IAML		01 09 56.1	
	comp=Z,8μm,1.0s						
MACN				iS	Sn	01 10 09.3	+1.7
BC87	San Francisco	0.63	14	iP	Pn	01 09 55.7	+0.7
BC87				IAML		01 09 56.1	
	comp=Z,5μm,1.0s						
BC87				iS	Sn	01 10 09.4	+1.6
ILCN	San Idelfonso	0.72	340	iP	Pn	01 09 55.8	0.0
ILCN				IAML		01 09 56.6	
	comp=Z,810nm,1.0s						
ARIN	Rivas	0.74	126	iP	Pn	01 09 57.0	+1.0
ARIN				iS	Sn	01 10 10.9	+1.3
ARIN				IAML		01 10 17.5	
	comp=Z,5μm,1.0s						
PLRN	Geotermica Pol	0.75	336	iP	Pn	01 09 56.6	+0.5
PLRN				IAML		01 09 57.0	
	comp=Z,5μm,1.0s						
PLRN				iS	Sn	01 10 10.8	+1.1
BRAN	Las Pilas	0.82	7	iP	Pn	01 09 53.9	-2.9
BRAN				iS	Sn	01 09 55.0	-16
BRAN				IAML		01 09 55.2	
	comp=Z,14μm,1.0s						
JAPN	AI SSO del Vol	0.84	116	iP	Pn	01 09 58.3	+1.4
JAPN				IAML		01 10 18.9	
	comp=Z,3μm,1.0s						
CONN	Concepcion	0.87	112	iP	Pn	01 09 58.3	+1.1
CONN				iS	Sn	01 10 14.2	+2.4
CONN				IAML		01 10 18.7	
	comp=Z,17μm,1.0s						
PKGN	Cerro Pekin	0.93	326	iP	Pn	01 09 58.6	+0.8
PKGN				iS	Sn	01 10 14.8	+2.1
PKGN				IAML		01 10 18.8	
	comp=Z,15μm,1.0s						
CRIN	San Cristobal	0.99	324	Pn	Pn	01 09 59.2	+0.6
CRIN	San Cristobal	0.99	324	iP	Pn	01 09 59.3	+0.7
CRIN				iS	Sn	01 10 16.2	+2.1
CRIN				IAML		01 10 24.2	
	comp=Z,11μm,1.0s						
CRIN	San Cristobal	0.99	324	↑eP	Pn	01 09 59.3	+0.7
CRIN				eS	Sn	01 10 16.2	+2.1
LCRUZ	La Cruz	1.14	135	↓iP	Pn	01 10 01.1	+0.9
LCRUZ				eS	Sn	01 10 17.9	+1.0
CARN	Rivas	1.15	128	iP	Pn	01 10 01.1	+0.9
CARN				iS	Sn	01 10 12.9	-4.1
CARN				IAML		01 10 27.0	
	comp=Z,2μm,1.0s						
LIMN	Finca el Limon	1.16	4	iP	Pn	01 10 01.2	+0.7
LIMN				IAML		01 10 01.5	
	comp=Z,930nm,1.0s						
LIMN				iS	Sn	01 10 16.5	-1.0
ACON	Acoyapa	1.25	87	Pn	Pn	01 10 01.9	+0.6
ACON	Acoyapa	1.25	87	iP	Pn	01 10 02.3	+1.0
ACON				iS	Sn	01 10 20.4	+1.4
ACON				IAML		01 10 28.1	
	comp=Z,420nm,1.0s						
ACON	Acoyapa	1.25	87	↓iP	Pn	01 10 02.1	+0.8
ACON				eS	Sn	01 10 20.5	+1.4
POTN	Potosi Cosigui	1.51	317	iP	Pn	01 10 05.2	+0.8
POTN				iS	Sn	01 10 25.5	+1.0
POTN				IAML		01 10 28.4	
	comp=Z,820nm,1.0s						
ELI1	Hacienda Flor	1.52	145	eP	Pn	01 10 07.4	+2.8
VORI	VORI	1.52	135	eP	Pn	01 10 05.3	+0.5
CSGN	Cosiguina Volc	1.53	315	iP	Pn	01 10 05.4	+0.6
CSGN				iS	Sn	01 10 26.0	+0.9
CSGN				IAML		01 10 29.0	
	comp=Z,1μm,1.0s						
VRLE	La Escondida,	1.53	136	eP	Pn	01 10 06.0	+1.1
GPS3	Bodega del ICE	1.55	137	eP	Pn	01 10 07.3	+2.2
GPS2	Hotel Rincn d	1.56	136	eP	Pn	01 10 05.7	+0.5
GPS2				eS	Sn	01 10 26.5	+0.6
RCPN	Sur Rio San Ju	1.66	12	iP	Pn	01 10 07.4	+1.0
RCPN				IAML		01 10 21.7	
	comp=Z,2.6nm,1.0s						
RCVN	Varillal2	1.70	8	iP	Pn	01 10 08.0	+1.1
RCVN				iS	Sn	01 10 19.5	-9.5
RCVN				IAML		01 10 31.7	
	comp=Z,9μm,1.0s						
HORNC	Hornillas	1.71	133	↓iP	Pn	01 10 07.5	+0.4
HORNC				eS	Sn	01 10 30.8	+1.6
COLC	Colonia	1.73	135	↓iP	Pn	01 10 08.0	+0.7
COLC				eS	Sn	01 10 31.1	+1.6
CUI	Cuipilapa	1.76	134	↓eP	Pn	01 10 08.3	+0.6
CUI				eS	Sn	01 10 32.1	+1.8
BAGA	Bagaces	1.79	139	eP	Pn	01 10 09.2	+1.3
BAGA				eS	Sn	01 10 31.7	+0.9
SACU	Santa Cruz	1.83	152	↓iP	Pn	01 10 09.8	+1.3
SACU				eS	Sn	01 10 31.7	0.0
VERA	Finca Concepci	1.86	124	↓iP	Pn	01 10 09.6	+0.7
LCHIL	Los Chiles	1.90	117	↓iP	Pn	01 10 09.9	+0.5
CNCH	Conchagua	1.93	316	eP	Pn	01 10 10.2	+0.3
CNCH				eS	Sn	01 10 35.5	+1.4
CNCH				IAML		01 10 40.0	
	comp=Z,2μm,0.3s						
CNCH	Conchagua	1.93	316	iP	Pn	01 10 10.1	+0.3
CNCH				iS	Sn	01 10 34.4	+0.3
CNCH				IAML		01 10 39.8	
	comp=Z,2μm,1.0s						
LCND	La Caada	1.99	315	eP	Pn	01 10 10.2	-0.3
LCND				eS	Sn	01 10 35.3	0.0
LCND	La Caada	1.99	315	iP	Pn	01 10 11.0	+0.5
LCND				iS	Sn	01 10 35.3	0.0
LCND				IAML		01 10 42.6	
	comp=Z,480nm,1.0s						
NICO	Nicoya	2.01	151	↓iP	Pn	01 10 11.7	+1.0
NICO				eS	Sn	01 10 34.6	-1.2
ESPN	Las Esperanzas	2.12	82	Pn	Pn	01 10 12.9	+0.7
ESPN	Las Esperanzas	2.12	82	↓iP	Pn	01 10 13.2	+1.1
JTS	Las Juntas de	2.17	137	Pn	Pn	01 10 13.0	+0.1
JTS	Las Juntas de	2.17	137	P	Pn	01 10 13.2	+0.4
	comp=Z,348nm,0.3s,baz=323,slow=10,SNR=110						
JTS				S	Sn	01 10 39.5	0.0
	comp=Z,88nm,0.3s,baz=287,slow=21,SNR=4.3						
JTS	Las Juntas de	2.17	137	↓eP	Pn	01 10 13.3	+0.4
VACR	Volcan Arenal	2.24	129	↓iP	Pn	01 10 14.5	+0.7
TGUH	Tegucigalpa,Un	2.29	340	Pn	Pn	01 10 15.5	+0.9
TGUH	Tegucigalpa,Un	2.29	340	iP	Sn	01 10 43.8	+1.2
SOCE	Pocosol	2.34	130	Pn	Pn	01 10 15.4	+0.3
SOCE	Pocosol	2.34	130	iP	Pn	01 10 15.6	+0.5
SOCE				IAML		01 10 25.0	
	comp=Z,340nm,1.0s						
SOCE	Pocosol	2.34	130	eP	Pn	01 10 15.4	+0.3
SRA1	San Ramn	2.64	133	eP	Pn	01 10 19.7	+0.6
CBL1	Cabuya	2.65	150	↓iP	Pn	01 10 19.9	+0.8
CBL1				eS	Sn	01 10 49.2	-1.6
TECO	Alcaldia de Te	2.80	306	eP	Pn	01 10 21.2	+0.1
TECO				eS	Sn	01 10 54.0	-0.3
COEG	Centro de Oper	2.93	306	eP	Pn	01 10 23.2	+0.3
COEG				eS	Sn	01 10 57.4	-0.1
HDC	Heredia	2.97	129	Pn	Pn	01 10 24.3	+0.8
TRT2	Tortugero	2.98	116	iP	Pn	01 10 23.7	+0.3
TRT2				IAML		01 10 32.6	
	comp=Z,260nm,1.0s						
CVIMO	Finca Echandi	3.08	127	eP	Pn	01 10 26.1	+1.0
VICA	Volcano Irazu	3.19	126	eP	Pn	01 10 27.2	+0.6
ABE2	San Pablo	3.21	133	eP	Pn	01 10 27.6	+0.9
LCR2	La Lucha 2	3.22	131	Pn	Pn	01 10 27.6	+0.8
LCR2	La Lucha 2	3.22	131	eP	Pn	01 10 27.6	+0.8
VTCV	VTCV, Calle Va	3.28	125	eP	Pn	01 10 28.5	+0.8
PMON	Piamonte	3.33	303	eP	Pn	01 10 28.5	+0.3
PMON				eS	Sn	01 11 06.7	-0.4
JAYA	Jayaque - finc	3.41	301	eP	Pn	01 10 29.6	+0.3
JAYA				eS	Sn	01 11 07.9	-1.2
JAYA				IAML		01 11 13.5	
	comp=Z,396nm,0.2s						
BUS1	Rivas	3.53	131	↑eP	Pn	01 10 33.1	+1.8
MTO3	Montecristo	3.77	312	Pn	Pn	01 10 35.1	+0.7
ESQI	Esquipulas	3.87	314	Pn	Pn	01 10 37.0	+1.6
EDP2	Potrero Grande	4.31	131	↓iP	Pn	01 10 44.1	+2.8
BRU2	Volcan	4.81	129	Pn	Pn	01 10 49.8	+1.4
CMIG	Matias Romero	9.66	303	P	Pn	01 11 54.0	-0.1
	comp=Z,9.6nm,0.3s,baz=156,slow=10,SNR=35						
TLIG	Tlapa	13.00	297	Pn	Pn	01 12 39.4	+0.4
BAUV	El Baul	18.34	97	P	P	01 13 44.8	+0.3
BAUV				IAmb	IAmb	01 13 52.8	
	comp=Z,17nm,1.3s						
TXAR	Lajitas Array	23.62	320	P	P	01 14 39.1	-0.8
TXAR	Lajitas Array	23.62	320	P	P	01 14 39.6	-0.3
	comp=Z,2.2nm,0.6s,baz=141,slow=9.4,SNR=27 comp=Z,2.2nm,0.6s						
TX31	Lajitas Ar. Si	23.62	320	P	P	01 14 39.3	-0.7
TX31				IAmb	IAmb	01 14 40.0	
	comp=Z,2.5nm,0.5s						
ETMB	Extrema	29.49	136	P	P	01 15 30.7	-2.0
ETMB				IAmb	IAmb	01 15 31.8	
	comp=Z,2.3nm,0.7s						
ASAR	Alice Springs	139.97	247	PKP	PKPpre	01 28 46.4	
	comp=Z,0.2nm,0.3s,baz=98,slow=2.9,SNR=2.0						
WRA	Warramunga Arr	140.05	253	PKP	PKPpre	01 28 44.6	
	comp=Z,0.3nm,0.5s,baz=91,slow=3.6,SNR=6.3						

*IDC **21** 01:32:12.4±1.6, 24.°24N×121.°42E, h0km, mb3.6/6, mbtmp3.6/7, ML3.7/1, MS3.1/6, Error ellipse: s-maj=68.1km s-min=27.0km az=67.0*
*TAP **21** 01:32:16.4, 24.°42N×121.°91E, h38km, ML4.3, B*
*JMA **21** 01:32:16.2±0.2, 24.°3N±0.°7×121.°9E±0.°7, h45km±2km, MV3.4/15, TAIWAN REGION*
*ASIES **21** 01:32:16.4, 24.°42N×121.°91E, h38km, ML4.3, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}=0.22; $M_{\theta\theta}$1.32; $M_{\phi\phi}$=0.54; $M_{r\theta}$2.18; $M_{\theta\phi}$1.34; $M_{\phi r}$5.26; Fault plane solution: $M_0$5.93282×10^{21} NP1: ϕ_s202.72000°, δ87.76000°, λ-105.68000°. NP2: ϕ_s104.80000°, δ15.84000°, λ-8.24000°. Principal axes: T Plg40.7380°, Azm307.3440°; N Plg15.6720°, Azm203.3610°; P Plg45.0660°, Azm97.0280°;*

ISC 21 01:32:16.3±0.8, 24.°40N±0.°01×121.°94E±0.°02, h33km±2km, n153, σ1§10/249, mb3.5/6, MS3.2/4, 16C-28D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	Wuta	0.15	286	↓iP	Pb	01 32 22.3	+0.7
EWUT				eS	Sb	01 32 28.0	+1.3
ENA	Nanau	0.18	278	↓iP	Pn	01 32 23.4	+1.3
ENA				S	Sb	01 32 28.3	+1.1
ESAO	Su ao	0.20	333	↓iP	Pb	01 32 23.6	+0.7
ESAO				iS	Sb	01 32 28.5	+1.2
EAHA	Aohua	0.20	249	↓iP	Pn	01 32 23.5	+1.2
EAHA				S	Sb	01 32 29.3	+1.9
EHP	Heping Village	0.20	244	eP	Pn	01 32 23.7	+1.2
EHP				S	Sb	01 32 29.5	+2.0
TWC	Suao	0.22	338	↓iP	Pn	01 32 23.8	+0.9
TWC				iS	Sb	01 32 29.0	+1.2
EOS2	EOS2	0.27	86	↑eP	Pn	01 32 25.2	+1.5
NDS	Dongshan	0.31	318	↓iP	Pb	01 32 24.7	+0.5
NDS				iS	Sb	01 32 30.4	+0.8
EOS3	EOS3	0.36	108	↑P	Pn	01 32 26.2	+1.0
ETL	Fush Village	0.38	230	eP	Pb	01 32 25.3	+0.1
NACB	Ninganchiao	0.39	234	P	Pb	01 32 25.1	-0.2
NACB	Ninganchiao	0.39	234	↓iP	Pb	01 32 25.1	-0.2
NACB				S	Sb	01 32 32.2	+0.8
LATG	Datong	0.40	289	↓iP	Pb	01 32 25.7	+0.1
LATG				S	Sb	01 32 32.4	+0.5
ILA	Ilan	0.40	334	iP	Pb	01 32 26.2	+0.7
ILA				S	Sn	01 32 33.5	+1.3
TWE	Neicheng	0.41	322	↓iP	Pb	01 32 26.0	+0.4
TWE				eS	Sb	01 32 32.5	+0.7
ENTT	Nioudou	0.42	305	↓iP	Pb	01 32 26.1	+0.4
ENTT				iS	Sb	01 32 32.9	+0.7
EGS		0.44	359	eP	Pb	01 32 26.8	+0.7
EGS				eS	Sn	01 32 34.4	+1.1
EOS4	EOS4	0.44	129	P	Pn	01 32 26.8	+0.7
EOS4				eS	Sn	01 32 34.6	+1.9
TWD	Chiawan	0.45	225	↓iP	Pb	01 32 26.0	-0.2
TWD				eS	Sb	01 32 33.8	+0.9
NTC	Toucheng	0.46	347	eP	Pn	01 32 27.3	+0.6
NTC				S	Sn	01 32 35.1	+1.3
ETLH	Xiulin Townshi	0.46	245	↓eP	Pb	01 32 26.4	0.0
ETLH				S	Sb	01 32 34.3	+0.9
FUSB	Fushanzhiwuyua	0.48	318	↓iP	Pb	01 32 27.0	+0.3
FUSB				S	Sb	01 32 34.5	+0.7
NNSB	Datong	0.51	273	↓iP	Pb	01 32 27.2	+0.1
NNSB				S	Sb	01 32 35.0	+0.3
NNS	Nan Shan	0.52	274	↓iP	Pb	01 32 27.3	0.0
NNS				iS	Sb	01 32 35.2	+0.3
HWA	Hwalien	0.52	216	eP	Pb	01 32 28.0	+0.7
HWA				eS	Sn	01 32 37.2	+2.0
NWLT	Wulai	0.55	313	↓iP	Pb	01 32 28.0	+0.3
NWLT				eS	Sb	01 32 36.1	+0.5
TIPB	Shuangxi	0.58	349	↑P	Pb	01 32 28.7	+0.5
TIPB				eS	Sb	01 32 36.6	+0.2
YHNB	Yeheng	0.58	297	P	Pb	01 32 28.4	+0.1
YHNB	Yeheng	0.58	297	↓iP	Pb	01 32 28.4	+0.1
YHNB				eS	Sb	01 32 36.5	0.0
ETM	Tongmen	0.60	223	eP	Pn	01 32 28.1	-0.4
ETM				eS	Sn	01 32 38.2	+1.2
NSK	Sanguang	0.60	297	↓iP	Pb	01 32 28.6	+0.1
NSK				iS	Sb	01 32 37.0	+0.1
TWB1	Santiao Chiao	0.60	4	eP	Pn	01 32 29.2	+0.6
TWB1				eS	Sn	01 32 37.8	+0.6
LXIB	Xiulin Townshi	0.61	232	↓P	Pn	01 32 28.2	-0.7
TEYL	Yanliau Villag	0.62	211	eP	Pb	01 32 29.9	+1.1
FUSS	Fushou	0.66	257	↓iP	Pn	01 32 29.6	+0.1
FUSS				iS	Sb	01 32 39.1	+0.4
WHF	Hehuan Shan	0.67	248	↑iP	Pn	01 32 29.7	-0.1
WHF				iS	Sb	01 32 39.7	+0.5
NWF	Wu-fen Shan	0.68	348	↑iP	Pb	01 32 30.6	+0.6
NWF				iS	Sn	01 32 40.7	+1.4
WFSB	Wu-fen Shan	0.68	348

NCUH eS **Sb** **01 32 45.8 +0.9**
JYNG Yonagunijimaku 0.92 87 P **Pn** **01 32 33.5 +0.6**
JYNG S **Sb** **01 32 46.8 +1.1**
WHP Taichung City 0.92 262 ||P **Pn** **01 32 33.9 +0.9**
WHP *i* S **Sn** **01 32 46.1 +1.0**
TWY Chenhua 0.92 340 *e*P **Pn** **01 32 33.8 +0.8**
TWY eS **Sb** **01 32 46.1 +0.2**
SBCB Hsinchu 0.95 294 P **Pn** **01 32 34.4 +1.0**
SBCB *i* S **Sb** **01 32 48.6 +1.8**
HSN Hsinchu 0.97 294 *e*P **Pn** **01 32 34.2 +0.6**
HSN eS **Sb** **01 32 47.9 +0.7**
VWDT VWDT 0.98 229 *e*P **Pn** **01 32 34.1 +0.4**
VWDT eS **Sn** **01 32 47.3 +1.0**
YOJ Yonaguni jima 0.98 86 P **Pn** **01 32 34.1 +0.4**
YOJ Yonaguni jima 0.98 86 P **Pn** **01 32 34.3 +0.6**
YOJ eS **Sb** **01 32 47.7 +0.4**
YOJ Yonaguni jima 0.98 86 ||P **Pn** **01 32 34.3 +0.6**
YOJ eS **Sb** **01 32 47.5 +0.1**
WCS Beigang Elemen 1.00 250 *e*P **Pn** **01 32 35.0 +1.0**
WCS eS **Sn** **01 32 48.0 +1.0**
HGSD Ruisui 1.02 208 *i* P **Pn** **01 32 35.8 +1.4**
HGSD eS **Sb** **01 32 49.7 +1.0**
EHYH Wanrong 1.06 211 *e*P **Pn** **01 32 34.3 -0.5**
EHYH eS **Sn** **01 32 48.8 +0.4**
EHY Hungye 1.06 213 *e*P **Pn** **01 32 34.3 -0.5**
EHY eS **Sn** **01 32 46.9 -1.6**
NMLH Miaoli 1.06 278 *e*P **Pn** **01 32 36.3 +1.5**
NMLH *i* S **Sb** **01 32 50.7 +1.0**
TWQ1 Liyutan 1.07 267 *e*P **Pb** **01 32 37.0 +0.6**
TWQ1 *i* S **Sb** **01 32 51.3 +1.3**
SMLT Sun Moon Lake 1.08 242 *e*P **Pn** **01 32 35.2 -0.1**
SMLT eS **Sn** **01 32 49.8 +0.6**
SSLB Suanglung 1.09 236 P **Pn** **01 32 35.6 +0.3**
SSLB Suanglung 1.09 236 ||P **Pn** **01 32 35.6 +0.3**
SSLB eS **Sn** **01 32 50.1 +0.8**
YULB Yu-li 1.17 211 P **Pn** **01 32 36.2 -0.1**
YULB Yu-li 1.17 211 P **Pn** **01 32 36.2 -0.1**
YULB eS **Sn** **01 32 50.9 -0.2**
ECBN Changbin 1.17 203 *e*P **Pn** **01 32 37.2 +0.8**
WDJ Dajia District 1.19 268 *e*P **Pn** **01 32 38.2 +1.5**
WDJ eS **Sb** **01 32 54.1 +0.7**
EYUL Yuli 1.20 209 *e*P **Pn** **01 32 38.3 +1.6**
TWF1 Yuli 1.20 210 *e*P **Pn** **01 32 36.5 -0.4**
TWF1 eS **Sn** **01 32 51.4 -0.6**
WHYT Xinyi Township 1.22 235 *e*P **Pn** **01 32 38.6 +1.5**
PCYT Pengchaiyu 1.23 5 *e*P **Pn** **01 32 37.5 +0.3**
PCYT *i* S **Sn** **01 32 53.9 +1.3**
WJS Zhushan 1.25 243 *e*P **Pb** **01 32 39.9 +0.5**
WJS eS **Sb** **01 32 57.4 +2.2**
WNT Mingjian 1.26 246 P **Pb** **01 32 40.6 +1.1**
WNT eS **Sb** **01 32 57.3 +1.8**
WCHH Zhanghua 1.30 256 *e*P **Pb** **01 32 40.6 +0.3**
WCHH eS **Sb** **01 32 57.3 +0.6**
CHKH Chenggong 1.30 203 P **Pn** **01 32 39.3 +1.1**
CHKH eS **Sn** **01 32 55.6 +1.1**
FULB Fuli 1.34 206 *e*P **Pn** **01 32 39.9 +1.1**
ALS Alishan 1.37 230 *e*P **Pn** **01 32 41.1 +1.8**
ALS eS **Sn** **01 32 58.0 +1.5**
CHKT Chengkung 1.40 202 *e*P **Pn** **01 32 39.3 -0.2**
WGK Gukeng 1.45 241 *e*P **Pn** **01 32 42.3 +2.1**
WGK S **Sb** **01 33 02.2 +1.4**
WDLH Douliu 1.47 241 *e*P **Pn** **01 32 41.0 +0.6**
WDLH S **Sb** **01 33 01.3 -0.1**
ELDTW Lidau 1.48 215 *e*P **Pn** **01 32 40.7 0.0**
ELDTW eS **Sn** **01 32 59.4 +0.5**
EDH Donghe 1.54 202 *e*P **Pn** **01 32 40.6 -0.8**
EDH eS **Sn** **01 32 59.5 -0.8**
WCKO Fanlu 1.56 232 *e*P **Pb** **01 32 44.7 +0.1**
WCKO eS **Sb** **01 33 05.4 +1.5**
WTK Tuku 1.59 244 *e*P **Pn** **01 32 44.0 +1.9**
WTK S **Sb** **01 33 04.8 0.0**
CHN4 Tsaushan 1.62 230 *e*P **Pb** **01 32 45.5 -0.1**
CHN4 eS **Sb** **01 33 06.7 +1.0**
STYH Taoyuan 1.63 221 *i* P **Pn** **01 32 44.6 +2.0**
STYH eS **Sb** **01 33 05.7 -0.2**
TPUB Ta-pu 1.63 228 *e*P **Pn** **01 32 45.0 +2.3**
TPUB eS **Sb** **01 33 05.8 -0.2**
IRIF Iriomote-Funau 1.63 92 eS **Sn** **01 33 03.3 +0.7**
CHY Chiayi 1.66 237 *e*P **Pb** **01 32 45.9 -0.3**
LONT Longtian 1.66 207 *e*P **Pn** **01 32 44.5 +1.3**
WTP Ta-pu 1.67 227 *e*P **Pn** **01 32 45.7 +2.4**
WTP S **Sb** **01 33 08.1 +0.8**
HATJ Hateruma jima 1.73 101 eS **Sn** **01 33 06.1 +1.0**
TWK Hsinying 1.75 230 *e*P **Pn** **01 32 46.9 +2.5**
TWK eS **Sb** **01 33 09.1 -0.3**
TWGBT Beinan 1.76 207 *e*P **Pn** **01 32 43.9 -0.7**
TWG Pinlang 1.77 207 *e*P **Pn** **01 32 44.4 -0.1**
SNST Tainan City 1.77 229 *e*P **Pb** **01 32 47.7 -0.5**
SNST eS **Sb** **01 33 09.9 -0.2**
CHN1 Nanshi 1.77 227 *e*P **Pn** **01 32 47.2 +2.5**
CHN1 S **Sb** **01 33 11.0 +0.9**
LDUT Ludao 1.77 194 *e*P **Pn** **01 32 43.5 -1.2**
ICHU Yijhu 1.84 236 *e*P **Pn** **01 32 48.3 +2.7**
ICHU S **Sb** **01 33 12.0 0.0**
JKRS Kuro-shima 1.89 95 *e*P **Pn** **01 32 47.1 +0.8**
JKRS eS **Sn** **01 33 10.0 +1.0**
CHN8 Yiju 1.90 237 *e*P **Pn** **01 32 48.2 +1.8**
CHN8 eS **Sb** **01 33 14.0 +0.2**
JIJ Ishigaki jima 2.01 91 P **Pn** **01 32 48.3 +0.4**
JIJ eS **Sn** **01 33 12.3 +0.5**
SCST Cishan 2.01 222 *e*P **Pn** **01 32 50.6 +2.6**
TSMG Majia 2.07 215 *e*P **Pn** **01 32 51.0 +2.3**
TSCK Chigu Township 2.11 234 *e*P **Pn** **01 32 51.0 +1.7**
TSCK eS **Sn** **01 33 18.0 +3.6**
MASBT Mashibuluo 2.15 214 *e*P **Pn** **01 32 52.7 +2.8**
MASBT eS **Sn** **01 33 18.1 +2.8**
JISG Ishigakijimahi 2.17 85 P **Pn** **01 32 50.2 +0.1**
JISG eS **Sn** **01 33 17.3 +1.5**
EAST Anshuo 2.25 207 *e*P **Pn** **01 32 51.4 +0.1**
EAST eS **Sn** **01 33 16.9 -1.0**
PNG Penghu 2.34 250 *e*P **Pn** **01 32 53.3 +0.9**
PNG *i* S **Sn** **01 33 20.9 +0.9**
PHUB P'eng-hu 2.34 248 *e*P **Pn** **01 32 53.3 +0.8**
PHUB eS **Sn** **01 33 20.4 +0.3**
VWUC VWUC 2.34 285 *e*P **Pn** **01 32 52.0 -0.5**
LAY Lan-yu 2.38 189 *e*P **Pn** **01 32 52.8 -0.2**
WDGT Dungji 2.38 242 *e*P **Pn** **01 32 53.9 +0.9**
WDGT eS **Sn** **01 33 23.4 +2.4**
LYUB Lan-yu 2.41 188 *e*P **Pn** **01 32 50.7 -2.8**
SLIJ Shizi 2.42 206 *e*P **Pn** **01 32 54.9 +1.3**
TWP Hsiaoliuchiu 2.51 216 *e*P **Pn** **01 32 58.7 +3.9**
MATB Ma-tsu 2.51 314 *e*P **Pn** **01 32 53.9 -0.9**
JTJ Tarama 2.52 84 *e*P **Pn** **01 32 56.0 +1.0**
VCHM Qimei 2.59 243 *e*P **Pn** **01 32 55.5 -0.4**
VCHM eS **Sn** **01 33 26.9 +0.7**
PTMZ Houxiangcun 2.64 284 *e*P **Pn** **01 32 56.3 -0.3**
TWKBT Hengchun 2.66 203 *e*P **Pn** **01 32 59.1 +2.2**
XPSS Dashiqiu 2.97 328 *e*P **Pn** **01 33 00.6 -0.6**
MHZQ Yeshan 3.13 303 *e*P **Pn** **01 33 02.8 -0.6**
KNMB Chin-men Tao 3.24 272 *e*P **Pn** **01 33 04.7 -0.1**
ZPLA Ao Xicun 3.86 264 *e*P **Pn** **01 33 14.9 +1.6**
JOW Kunigami 6.21 66 LR LR 01 36 20.0
comp=Z,72nm,21.5s,baz=180,slow=37
KSRS Korea Array 13.98 20 Pn **P** **01 35 37.3 -2.3**
0.3nm,0.3s,baz=198,slow=14,SNR=2.3
1.5nm,0.7s
PZH PanZhiHua 18.36 281 P **P** **01 36 29.0 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,5.4s
MJAR Matsushiro Arr 18.49 45 LR LR 01 44 21.0
comp=Z,26nm,20.9s,baz=205,slow=38
CMAR Chiang Mai Arr 22.20 259 LR LR 01 46 41.5
comp=Z,24nm,19.9s,baz=335,slow=40
SONM Songino Array 26.44 336 P **P** **01 37 49.8 -0.5**
comp=Z,1.0nm,0.7s,baz=160,slow=11,SNR=5.3
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 38.67 315 P **P** **01 39 36.7 -0.1**
comp=Z,0.6nm,0.7s,baz=111,slow=9.2,SNR=4.6
comp=Z,0.6nm,0.7s
ZALV Zalesovo Beam 40.44 327 P **P** **01 39 51.0 -0.5**
comp=Z,0.4nm,0.3s,baz=103,slow=6.5,SNR=2.2
ZALV LR LR 01 58 06.1
comp=Z,31nm,19.4s,baz=350,slow=38
comp=Z,0.4nm,0.3s
KURBB Kurchatov Arra 42.39 320 P **P** **01 40 06.8 -0.7**
comp=Z,0.5nm,0.7s,baz=110,slow=8.5,SNR=2.5
comp=Z,0.5nm,0.7s
WRA Warramunga Arr 45.70 164 P **P** **01 40 35.0 +0.7**
comp=Z,0.5nm,0.8s,baz=345,slow=8.7,SNR=3.1
comp=Z,0.5nm,0.8s
BVAR Borovoye Array 47.95 320 P **P** **01 40 51.1 -0.5**
comp=Z,0.5nm,0.5s,baz=93,slow=5.9,SNR=3.7
comp=Z,0.5nm,0.5s
HFS Hagfors 77.71 331 LR LR 02 22 09.7
comp=Z,68nm,18.1s,baz=316,slow=39
URZ Urewera 80.99 139 LR LR 02 18 32.8
comp=Z,13nm,20.0s,baz=124,slow=34

*VIE **21** 01:42:48.9±0.4,49°.98N×19°.20E, h0km, mb2.5/1, ml1.8/1, Error ellipse: s-maj=11.3km s-min=2.0km az=157.0, Suspected Mining induced.*
*PRU **21** 01:42:49.4,50°.20N×19°.04E, h0km*
*IPEC **21** 01:42:49.0±0.1,50°.15N×19°.09E, h1km, ML2.0/4, Error ellipse: s-maj=2.5km s-min=0.7km az=166.0*
ISC 21 01:42:49.2±0.9, 50°.10N±0°.04×19°.11E±0°.02, h0km, n20, σ1§02/33, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.46**	**75**	*e*Pg	**Pg**	**01 42 57.6**	**-0.4**
OJC				*e*Sg	**Sg**	**01 43 04.0**	**0.0**
OKC	**Ostrava-Krasne**	**0.68**	**247**	*e*PG	**Pg**	**01 43 02.0**	**-0.1**
OKC				*e*SG	**Sg**	**01 43 11.8**	**+0.9**
LANS	**Liptovska Anna**	**0.98**	**166**	*e*PG	**Pg**	**01 43 07.9**	**-0.1**
LANS				*e*SG	**Sg**	**01 43 21.6**	**+0.9**
LANS				*e*LG	Lg	01 43 26.9	
NIE	**Niedzica**	**1.03**	**131**	*e*Pg	**Pg**	**01 43 09.1**	**+0.1**
NIE				*e*Sg	**Sb**	**01 43 24.8**	**+0.7**
MORC	**Moravsky Berou**	**1.06**	**253**	*e*Pg	**Pg**	**01 43 09.6**	**0.0**
MORC	baz=69			*e*Sg	**Sg**	**01 43 22.7**	**-0.6**
	23nm,0.5s,baz=69						
MAUC	**Maruska**	**1.11**	**229**	*e*PG	**Pg**	**01 43 10.7**	**+0.2**
KRLC	**Kraliky**	**1.50**	**270**	*e*PG	**Pn**	**01 43 15.8**	**-1.6**
KRLC				*e*SG	**Sg**	**01 43 35.8**	**-1.6**
	comp=Z,9.4nm,0.5s						
STHS	**Stebnicka Huta**	**1.54**	**116**	*e*PG	**Pn**	**01 43 17.4**	**-0.6**
STHS				*e*SG	**Sg**	**01 43 39.9**	**+1.1**
JAVC	**Velka Javorina**	**1.56**	**218**	*e*Pn	**Pn**	**01 43 18.2**	**0.0**
	baz=35						
JAVC	**Velka Javorina**	**1.56**	**218**	*e*PN	**Pn**	**01 43 18.3**	**0.0**
VYHS	**Vyhne**	**1.62**	**186**	*e*PG	**Pn**	**01 43 18.0**	**-1.0**
VYHS				*e*SG	**Sn**	**01 43 39.8**	**-0.8**
DPC	**Dobruska-Polom**	**1.81**	**279**	*e*PG	**Pn**	**01 43 21.2**	**-0.5**
DPC				*e*SG	**Sn**	**01 43 44.8**	**-0.5**
VRAC	**Vranov**	**1.82**	**245**	*e*Pn	**Pn**	**01 43 21.6**	**-0.1**
VRAC	baz=62			*e*Sg	**Sn**	**01 43 45.9**	**+0.4**
	11nm,0.7s,baz=62						
OSTC	**Ostas**	**1.91**	**285**	*e*SG	**Sn**	**01 43 47.8**	**0.0**
KSP	**Ksiaz**	**1.95**	**293**	*e*Pg	**Pg**	**01 43 28.3**	**+1.8**
KSP				*e*Sg	**Sg**	**01 43 51.8**	**+0.1**
KRUC	**Moravsky**	**2.05**	**241**	*e*Pn	**Pn**	**01 43 24.9**	**-0.1**
KRUC	baz=57			*e*Sg	**Sb**	**01 43 53.4**	**+0.1**
	9.2nm,0.6s,baz=57						
GOPC	**GO Pecny, Ondr**	**2.79**	**268**	*e*SG	**Sb**	**01 44 15.2**	**+0.4**
CONA	**Conrad Observa**	**3.05**	**226**	*i* Pn	**Pn**	**01 43 39.0**	**+0.2**
	0.2nm,0.2s						
CONA				*i* Sn	**Sn**	**01 44 14.7**	**-1.3**
	1.0nm,0.3s						
CKRC	**Cesky Krumlov**	**3.38**	**250**	*e*SG	**Sb**	**01 44 34.7**	**+3.0**
KHC	**Kasperske Hory**	**3.73**	**257**	*e*SG	**Sg**	**01 44 46.5**	**-2.3**

*IDC **21** 02:01:16.1±3.4,23°.29S×66°.59W, h200km±25km, mb3.1/2, mbtmp4.0/7, Error ellipse: s-maj=36.8km s-min=18.1km az=31.0*
*SJA **21** 02:01:18.0±0.5,23°.09S×66°.64W, h257km±5km, ML4.2, MW3.9*
*NEIC **21** 02:01:18.4±1.8,23°.16S±0°.07×66°.38W±0°.09, h196km±16km, mb4.3/5, Error ellipse: s-maj=14.1km s-min=8.1km az=123.0*
*VAO **21** 02:01:21.1±0.6,22°.93S×66°.46W, h222km, mb3.8*
ISC 21 02:01:18.8±0.6, 23°.11S±0°.04×66°.58W±0°.04, h226km±7km, n102, σ1§35/126, 5C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.35**	**47**	*e*P	**Pn**	**02 01 55.6**	**+1.3**
YJA				*i* S	**S**	**02 02 21.9**	**+0.1**
YJA	**Yavi**	**1.35**	**47**	*e*P	**Pn**	**02 01 55.9**	**+1.5**
YJA				*e*S	**S**	**02 02 17.6**	**-4.2**
AF01	**San Pedro de A**	**1.48**	**276**	Pn	**Pn**	**02 01 56.8**	**+1.7**
AF01	**San Pedro de A**	**1.48**	**276**	↑*i*P	**Pn**	**02 01 57.0**	**+1.8**
AF01				*e*S	**S**	**02 02 26.1**	**+2.8**
AF01				IAML		02 02 55.0	
	comp=E,167nm,0.3s						
AZAP	**Zapla**	**1.77**	**129**	*e*P	**Pn**	**02 01 58.1**	**+0.6**
SLA	**San Lorenzo**	**1.88**	**149**	||*i*P	**Pn**	**02 02 00.6**	**+2.2**
SLA	**San Lorenzo**	**1.88**	**149**	*e*P	**Pn**	**02 02 00.9**	**+2.5**
ALOL	**LOMAS DE OLMED**	**2.48**	**107**	*e*P	Pn	02 02 10.7	+6.5
PB15	**IPOC Station P**	**2.67**	**267**	Pn	**Pn**	**02 02 07.2**	**+0.8**
PB15	**IPOC Station P**	**2.67**	**267**	↑*i*P	**Pn**	**02 02 07.3**	**+1.0**
PB15				*i* S	**S**	**02 02 43.3**	**-0.2**
PB15	**IPOC Station P**	**2.67**	**267**	*e*P	**Pn**	**02 02 07.4**	**+1.0**
PB15				*e*S	**S**	**02 02 43.7**	**+0.2**
PB06	**IPOC Station P**	**2.79**	**278**	Pn	**Pn**	**02 02 08.3**	**+0.6**
PB06	**IPOC Station P**	**2.79**	**278**	*e*P	**Pn**	**02 02 08.4**	**+0.6**
PB06				*i* S	**S**	**02 02 44.9**	**-1.0**
PB06				IAML		02 02 48.7	
	comp=E,656nm,0.1s						
PB06	**IPOC Station P**	**2.79**	**278**	*e*P	**Pn**	**02 02 08.6**	**+0.8**
PB06				*e*S	**S**	**02 02 46.1**	**+0.2**
PB06				IAML		02 02 48.7	
	comp=Z,312nm,0.1s						
PB09	**IPOC Station P**	**2.79**	**297**	Pn	**Pn**	**02 02 08.9**	**+1.1**
PB09	**IPOC Station P**	**2.79**	**297**	↑*i*P	**Pn**	**02 02 08.9**	**+1.1**
PB09				*e*S	**S**	**02 02 45.3**	**-0.7**
PB09				IAML		02 02 47.8	
	comp=N,444nm,0.4s						
PB09	**IPOC Station P**	**2.79**	**297**	*e*P	**Pn**	**02 02 08.7**	**+0.9**
PB09				*e*S	**S**	**02 02 46.0**	**+0.1**
PB09				IAML		02 02 47.2	
	comp=Z,322nm,0.6s						
FSA	**Cafayete**	**3.03**	**170**	*e*P	**Pn**	**02 02 12.4**	**+2.0**
PB04	**IPOC Station P**	**3.39**	**283**	Pn	**Pn**	**02 02 14.7**	**+0.2**
PB04	**IPOC Station P**	**3.39**	**283**	↑*i*P	**Pn**	**02 02 14.8**	**+0.3**
PB04				*i* S	**S**	**02 02 55.6**	**-2.6**
PB04	**IPOC Station P**	**3.39**	**283**	*e*P	**Pn**	**02 02 14.9**	**+0.3**
PB04				*e*S	**S**	**02 02 56.8**	**-1.4**
PB04				IAML		02 02 60.0	
	comp=Z,494nm,0.1s						
PB01	**IPOC Station P**	**3.40**	**307**	Pn	**Pn**	**02 02 14.6**	**0.0**
PB01	**IPOC Station P**	**3.40**	**307**	*e*P	**Pn**	**02 02 14.8**	**+0.3**
PB01				*e*S	**S**	**02 02 56.0**	**-2.2**
PB01	**IPOC Station P**	**3.40**	**307**	*e*P	**Pn**	**02 02 14.9**	**+0.3**
PB01				*e*S	**S**	**02 02 57.6**	**-0.6**
PB01				IAML		02 02 58.3	
	comp=Z,392nm,0.2s						
GO02	**Mina Guanaco**	**3.43**	**233**	Pn	**Pn**	**02 02 16.2**	**+1.1**
GO02	**Mina Guanaco**	**3.43**	**233**	↑*i*P	**Pn**	**02 02 16.1**	**+1.0**
GO02				*e*S	**S**	**02 02 60.0**	**+0.8**
GO02	**Mina Guanaco**	**3.43**	**233**	*e*P	**Pn**	**02 02 16.2**	**+1.1**
GO02				*e*S	**S**	**02 02 59.2**	**0.0**
PB08	**IPOC Station P**	**3.81**	**320**	Pn	**Pn**	**02 02 20.6**	**+0.9**
PB08	**IPOC Station P**	**3.81**	**320**	||*i*P	**Pn**	**02 02 20.6**	**+0.9**
PB08				*e*S	**S**	**02 03 06.1**	**-1.4**
PB08	**IPOC Station P**	**3.81**	**320**	*e*P	**Pn**	**02 02 20.2**	**+0.4**
PB08				*e*S	**S**	**02 03 07.5**	**0.0**
PB08				IAML		02 03 09.1	
	comp=Z,179nm,0.7s						
PB14	**IPOC Station P**	**3.81**	**246**	Pn	**Pn**	**02 02 20.1**	**+0.4**
PB14	**IPOC Station P**	**3.81**	**246**	*e*P	**Pn**	**02 02 20.2**	**+0.4**
PB14				*e*S	**S**	**02 03 05.2**	**-2.3**
PB14	**IPOC Station P**	**3.81**	**246**	*e*P	**Pn**	**02 02 20.2**	**+0.6**
PB14				*e*S	**S**	**02 03 06.2**	**-1.2**
PB14				IAML		02 03 08.4	
	comp=Z,193nm,0.3s						
AHML	**Horco Molle**	**3.83**	**163**	*e*P	**Pn**	**02 02 20.8**	**+1.3**
PATCX	**Punta Patache**	**4.03**	**304**	Pn	**Pn**	**02 02 21.9**	**-0.1**
TA01	**Diego Aracena**	**4.20**	**306**	Pn	**Pn**	**02 02 23.4**	**-0.7**
TA01	**Diego Aracena**	**4.20**	**306**	*e*P	**Pn**	**02 02 23.6**	**-0.5**
TA01				*e*S	**S**	**02 03 11.0**	**-4.4**
GO01	**Chusmiza**	**4.21**	**324**	Pn	**Pn**	**02 02 24.8**	**+0.1**
GO01	**Chusmiza**	**4.21**	**324**	||*i*P	**Pn**	**02 02 25.0**	**+0.4**
GO01				*e*S	**S**	**02 03 14.9**	**-1.5**
GO01	**Chusmiza**	**4.21**	**324**	*e*P	**Pn**	**02 02 25.1**	**+0.4**
GO01				*e*S	**S**	**02 03 16.6**	**+0.2**
TA02	**Huaiquique**	**4.35**	**310**	Pn	**Pn**	**02 02 25.5**	**-0.4**
AC01	**Pan de Azucar**	**4.75**	**230**	Pn	**Pn**	**02 02 30.2**	**-0.5**
AC01	**Pan de Azucar**	**4.75**	**230**	*e*P	**Pn**	**02 02 30.3**	**-0.4**
AC01				*e*S	**S**	**02 03 25.2**	**-2.4**
AC01				IAML		02 03 26.2	
	comp=Z,102nm,0.2s						
GUSE	**Guasayan**	**5.00**	**162**	*e*P	**Pn**	**02 02 35.0**	**+1.1**
AC06	**Mina Casimiro**	**5.44**	**218**	Pn	**Pn**	**02 02 38.6**	**-0.8**
GO03	**Copiapo**	**5.55**	**216**	Pn	**Pn**	**02 02 40.2**	**-0.7**
PB12	**IPOC Station P**	**5.69**	**321**	Pn	**Pn**	**02 02 40.3**	**-2.4**
AP01	**Chacalluta**	**5.89**	**323**	Pn	**Pn**	**02 02 44.8**	**-0.4**
PB18	**Visviri**	**6.13**	**333**	Pn	**Pn**	**02 02 49.2**	**+0.4**
AC04	**Llanos de Chal**	**6.49**	**218**	Pn	**Pn**	**02 02 51.0**	**-1.7**
AC05	**El Transito**	**6.60**	**209**	Pn	**Pn**	**02 02 54.0**	**-0.2**
LCO	**Las Campanas**	**6.95**	**211**	Pn	**Pn**	**02 02 57.4**	**-1.4**
LPAZ	**La Paz**	**6.95**	**348**	Pn	**Pn**	**02 02 59.1**	**-0.1**
LPAZ	**La Paz**	**6.95**	**348**	P	**Pn**	**02 02 59.6**	**+0.3**
	comp=Z,17nm,0.5s,baz=169,slow=7.9,SNR=96						
LPAZ				S	**S**	**02 04 18.1**	**-1.1**
	comp=Z,301nm,0.4s,baz=298,slow=0.0,SNR=6.5						
LPAZ	**La Paz**	**6.95**	**348**	*e*P	**Pn**	**02 02 59.5**	**+0.3**
CO01	**Juntas del Tor**	**7.53**	**204**	Pn	**Pn**	**02 03 06.5**	**+0.3**
GO04	**Tololo Observa**	**7.98**	**207**	Pn	**Pn**	**02 03 11.6**	**-0.4**
BBSD	**Serra de San D**	**8.13**	**45**	*e*P	**Pn**	**02 03 13.3**	**-0.6**
MURT	**Porto Murtinho**	**8.42**	**82**	*e*P	**Pn**	**02 03 18.5**	**+1.0**
CO03	**El Pedregal**	**8.52**	**205**	Pn	**Pn**	**02 03 17.7**	**-1.1**
ZON	**Zonda**	**8.61**	**192**	Pn	**Pn**	**02 03 19.5**	**-0.3**
SIV	**San Ignacio**	**8.78**	**37**	P	**Pn**	**02 03 20.7**	**-1.5**
	comp=Z,4.1nm,0.5s,baz=212,slow=13,SNR=24						
SIV				S	**S**	**02 05 04.0**	**+2.5**
	comp=Z,0.3nm,0.4s,baz=313,slow=18,SNR=1.1						
CPUP	**Villa Florida**	**9.00**	**113**	P	**Pn**	**02 03 22.6**	**-2.3**
	comp=Z,0.7nm,0.6s,baz=326,slow=7.3,SNR=1.6						
CPUP	**Villa Florida**	**9.00**	**113**	*e*P	**Pn**	**02 03 26.8**	**+1.9**
VA03	**San Esteban**	**10.23**	**199**	Pn	**Pn**	**02 03 40.8**	**0.0**
VA06	**Catapilco**	**10.29**	**203**	Pn	**Pn**	**02 03 41.4**	**0.0**
PTLB	**Pontes e Lacer**	**10.36**	**44**	Pn	**Pn**	**02 03 41.3**	**-1.1**
PTLB	**Pontes e Lacer**	**10.36**	**44**	*e*P	**Pn**	**02 03 41.1**	**-1.3**
MT02	**Curacav**	**10.88**	**201**	Pn	**Pn**	**02 03 48.7**	**-0.1**
MT09	**Talagante**	**11.31**	**199**	Pn	**Pn**	**02 03 53.4**	**-1.0**
BO04	**La Punta**	**11.40**	**197**		**Pn**	**02 03 56.9**	**+1.5**
VILB	**Vilhena**	**11.78**	**32**	*e*P	**Pn**	**02 04 00.3**	**-0.1**
BO02	**Sierra Bellavi**	**12.20**	**197**	Pn	**Pn**	**02 04 06.7**	**+1.2**
SALV	**Santo Antonio**	**12.52**	**57**	*e*P	**Pn**	**02 04 09.2**	**-0.3**
ETMB	**Extrema**	**13.23**	**2**	Pn	**Pn**	**02 04 18.3**	**-0.1**
ETMB	**Extrema**	**13.23**	**2**	*e*P	**Pn**	**02 04 18.0**	**-0.4**
PTGB	**Pitanga**	**13.37**	**100**	*e*P	**P**	**02 04 21.9**	**-0.2**
ITAB	**Concordia**	**13.71**	**110**	Pn	**Pn**	**02 04 22.1**	**-2.1**
ITAB	**Concordia**	**13.71**	**110**	*e*P	**P**	**02 04 27.1**	**+1.3**
LDASE	**Londrina, Braz**	**14.21**	**94**	*e*P	**P**	**02 04 31.1**	**-0.4**
SAML	**Samuel**	**14.46**	**14**	*e*P	**P**	**02 04 33.3**	**-0.8**
NNA	**Nana**	**14.76**	**317**	P	**P**	**02 04 38.5**	**+0.9**
	comp=Z,8.2nm,0.7s,baz=183,slow=11,SNR=3.6						
PDRB	**Porto dos Gac**	**14.79**	**41**	*e*P	**P**	**02 04 38.7**	**+0.7**
TRQA	**Tornquist**	**15.41**	**166**		**P**	**02 04 44.2**	**-0.3**
TRQA				IAmb	IAmb	02 05 25.4	
	comp=Z,5.3nm,1.2s						
ITRB	**Iturama**	**15.48**	**80**	*e*P	**Pn**	**02 04 46.9**	**+1.0**
ARAG	**Araguaiana, MT**	**15.75**	**65**	*e*P	**Pn**	**02 04 49.6**	**+0.6**
LC02	**Puerto Saavedr**	**16.67**	**199**	P	**Pn**	**02 05 01.1**	**+1.2**
BB19B	**Bebedouro**	**16.85**	**87**	*e*P	**Pn**	**02 05 02.8**	**+0.6**
IPMB	**Ipameri, GO**	**17.93**	**77**	*e*P	**Pn**	**02 05 13.0**	**-2.0**
VAO	**Valinhos**	**18.05**	**94**		**Pn**	**02 05 13.8**	**-2.5**
VAO				IAmb	IAmb	02 05 15.1	
	comp=Z,23nm,0.6s						
VAO	**Valinhos**	**18.05**	**94**	*e*P	**Pn**	**02 05 14.1**	**-2.2**
SNDB	**Serra Nova Dou**	**18.29**	**55**	*e*P	**P**	**02 05 16.0**	**-0.2**
BDFB	**Brasilia**	**19.01**	**70**	P	**P**	**02 05 24.0**	**-0.2**
BDFB				IAmb	IAmb	02 05 25.8	
	comp=Z,12nm,0.9s						
BDFB	**Brasilia**	**19.01**	**70**	P	**Pn**	**02 05 24.9**	**-2.7**
	comp=Z,10nm,0.7s,baz=243,slow=12,SNR=15						
TBTG	**Tabatinga, AM**	**19.09**	**350**	*e*P	**P**	**02 05 26.3**	**+1.4**
JANB	**Januaria**	**22.50**	**73**	*e*P	**P**	**02 06 01.1**	**+1.5**
SMTB	**Santa Maria do**	**23.07**	**55**	*e*P	**P**	**02 06 05.0**	**+0.3**
SDBA	**SAO DESIDERIO**	**23.19**	**66**	*e*P	**P**	**02 06 05.7**	**-0.2**
COHC	**Cochancay**	**23.92**	**327**	P	**P**	**02 06 16.6**	**+4.1**
TXAR	**Lajitas Array**	**63.19**	**324**	P	**P**	**02 11 24.2**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=152,slow=9.9,SNR=2.4						
	comp=Z,0.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**75.89**	**69**	P	**P**	**02 12 40.3**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=258,slow=5.4,SNR=18						
	comp=Z,0.4nm,0.3s						
MKAR	**Makanchi Array**	**145.59**	**39**	PKPbc	**PKPab**	**02 20 32.0**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=316,slow=3.9,SNR=9.8						

SJA 21 02:13:34.1±0.9, 24°.26S×67°.05W, h201km±6km, ML3.4, MW3.7, Chile-Argentina border region

| Code | Station Name | Δ° | AZ

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EATA	**Eleskirt**	**0.32**	**208**	P	**Pg**	**03 00 15.4**	**-0.3**
EATA				S	**Sg**	**03 00 20.3**	**+0.2**
SENK	**Senkaya-Erzuru**	**0.49**	**329**	Pg	**Pb**	**03 00 19.2**	**-0.5**
SENK				Sg	**Sb**	**03 00 27.4**	**+0.5**
BOZK	**Kars-Merkez-Bo**	**0.50**	**27**	P	**Pb**	**03 00 19.1**	**-0.7**
BOZK				S	**Sg**	**03 00 25.8**	**+0.2**
KOTA	**Agri, Merkez-K**	**0.53**	**130**	P	**Pb**	**03 00 19.5**	**-0.8**
KARS	**Kars**	**0.57**	**32**	Pg	**Pb**	**03 00 20.2**	**-0.9**
KARS				Sg	**Sb**	**03 00 29.9**	**+0.7**
DIGO	**Kars**	**0.59**	**63**	P	**Pb**	**03 00 20.6**	**-0.9**
DIGO				S	**Sb**	**03 00 28.8**	**-1.2**
HOMI	**Horasan**	**0.60**	**261**	P	**Pb**	**03 00 20.8**	**-0.8**
AGRB	**Hanur-Agry**	**0.62**	**157**	Pg	**Pb**	**03 00 20.9**	**-0.9**
KOPR	**Koprukoy-ERZUR**	**0.65**	**257**	Pg	**Pb**	**03 00 21.7**	**-0.8**
KOPR				Sg	**Sb**	**03 00 32.3**	**+0.7**
GOLE	**Ardahan-G¶le**	**0.69**	**355**	P	**Pb**	**03 00 23.3**	**+0.1**
GOLE				S	**Sb**	**03 00 33.6**	**+0.8**
DORK	**Agr/Tutak/Do**	**0.76**	**174**	P	**Pb**	**03 00 23.6**	**-0.7**
DORK				S	**Sb**	**03 00 34.5**	**-0.1**
VNNZ	**Vanand**	**0.88**	**92**	*e*P	**Pb**	**03 00 26.2**	**0.0**
VNNZ				*e*S	**Sn**	**03 00 39.5**	**-0.4**
EAK	**Akyaka**	**0.89**	**52**	P	**Pb**	**03 00 26.5**	**-0.1**
EAK				S	**Sn**	**03 00 39.8**	**-0.6**
MLAZ	**Malazgirt-MUS**	**1.01**	**186**	Pg	**Pb**	**03 00 28.1**	**-0.4**
AKDA	**Akdag**	**1.01**	**268**	P	**Pb**	**03 00 28.4**	**-0.2**
AHAN	**Ardahan-Merkez**	**1.02**	**358**	P	**Pn**	**03 00 29.6**	**+0.3**
AHAN				S	**Sn**	**03 00 44.3**	**+0.6**
DDEM	**Demirkent**	**1.03**	**317**	P	**Pb**	**03 00 29.1**	**+0.2**
ERZM	**Erzurum**	**1.04**	**257**	P	**Pn**	**03 00 29.3**	**-0.3**
ARUZ	**Aruch**	**1.09**	**82**	*e*P	**Pn**	**03 00 29.8**	**-0.4**
ARUZ				*e*S	**Sn**	**03 00 45.0**	**-0.2**
DAGI	**Agillar**	**1.10**	**328**	P	**Pn**	**03 00 30.4**	**+0.1**
EJDE	**Erzurum, Palan**	**1.10**	**254**	P	**Pn**	**03 00 30.6**	**0.0**
EDAM	**Erzurum-Paland**	**1.11**	**258**	Pn	**Pn**	**03 00 30.5**	**-0.1**
DBAD	**Bademkaya**	**1.15**	**320**	P	**Pn**	**03 00 31.2**	**+0.1**
TASB	**TASBURUN-IGDIR**	**1.21**	**97**	Pn	**Pn**	**03 00 32.7**	**+0.9**
AMBZ	**Amberd**	**1.23**	**78**	⇑*i*P	**Pn**	**03 00 32.5**	**+0.2**
AMBZ				⇑*i*S	**Sn**	**03 00 49.3**	**+0.4**
ERCV	**ERCIS-VAN**	**1.23**	**155**	Pn	**Pn**	**03 00 33.1**	**+0.9**
VRTB	**Varto-Mus**	**1.36**	**224**	Pn	**Pg**	**03 00 35.6**	**+0.3**
CLDR	**Caldiran**	**1.38**	**136**	Pn	**Pg**	**03 00 35.3**	**-0.3**
AKH	**Akhalkalaki**	**1.41**	**26**	P	**Pg**	**03 00 35.3**	**-0.8**
AKH				S	**Sg**	**03 00 55.0**	**+0.6**
KARO	**Karliova-Bingo**	**1.51**	**237**	Pn	**Pg**	**03 00 37.9**	**-0.2**
NRKZ	**NAREK**	**1.52**	**95**	*e*P	**Pg**	**03 00 38.4**	**+0.1**
NRKZ				*e*S	**Sg**	**03 00 59.8**	**+1.7**
KAPZ	**Kaputan**	**1.55**	**83**	⇓*i*P	**Pg**	**03 00 38.3**	**-0.6**
KAPZ				⇓*i*S	**Sg**	**03 00 59.6**	**+0.5**
GNI	**Garni**	**1.58**	**89**	Pn	**Pg**	**03 00 39.1**	**-0.3**
GNI	**Garni**	**1.58**	**89**	⇑*i*P	**Pg**	**03 00 39.2**	**-0.1**
GNI				⇑*i*S	**Sg**	**03 01 02.3**	**+2.5**
BATM	**Batumi**	**1.64**	**333**	P	**Pg**	**03 00 39.8**	**-0.8**
VANB	**Van**	**1.64**	**160**	Pn	**Pg**	**03 00 40.2**	**-0.4**
GURO	**Guroymak-BITLI**	**1.67**	**198**	Pn	**Pg**	**03 00 40.1**	**-1.0**
TRLG	**Trialeti**	**1.76**	**37**	P	**Pb**	**03 00 41.5**	**+0.1**
TRLG				S	**Sg**	**03 01 05.6**	**-0.1**
AKDM	**Akdamar-Van**	**1.83**	**173**	Pn	**Pb**	**03 00 41.9**	**-0.6**
BNGB	**Bingl**	**1.93**	**234**	Pn	**Pb**	**03 00 43.9**	**-0.3**
ALIG	**Mtskhetisjvari**	**2.09**	**20**	P	**Pb**	**03 00 46.7**	**-0.2**
TKB	**Tkibuli**	**2.22**	**6**	P	**Pb**	**03 00 48.9**	**-0.2**
TBLG	**Delisi**	**2.22**	**44**	P	**Pb**	**03 00 48.5**	**-0.6**
CHRG	**Chargali**	**2.76**	**37**	P	**Pb**	**03 00 56.5**	**-1.9**

*IDC **21** 03:15:28.2±1.9, 35.°60N×71.°50E, h0km, mb3.9/7, mbtmp3.9/11, ML3.5/4, MS3.1/2, Error ellipse: s-maj=39.7km s-min=25.3km az=130.0*
*NNC **21** 03:15:45.9±4.9, 37.°00N×70.°62E, h0km, mb4.2, mpv4.1, Error ellipse: s-maj=39.1km s-min=28.2km az=170.0*
ISC 21 03:15:44.0±1.4, 36.°5N±0.°1×70.°9E±0.°1, h100km, n25, σ2s42/23, mb4.0/6, 4C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.03**	**21**	P	**Pn**	**03 17 12.4**	**+1.4**
SNR=48							
EKS2	**Erkin-Say**	**6.55**	**19**	P	**Pn**	**03 17 19.6**	**+1.8**
SNR=22							
KK31	**Karatay Array**	**6.59**	**358**	⇓P	**Pn**	**03 17 19.9**	**+1.6**
5.2nm,0.2s,baz=174,slow=12,SNR=218							
KK31				⇓S	**Sn**	**03 18 30.2**	**-1.7**
2.2nm,0.3s,baz=192,slow=24,SNR=6.1							
AAK	**Ala-Archa**	**6.74**	**24**	Pn	**Pn**	**03 17 22.0**	**+1.6**
5.7nm,0.3s,baz=189,slow=6.0,SNR=62							
AAK				Sn	**Sn**	**03 18 34.6**	**-1.0**
0.6nm,0.3s,baz=326,slow=22,SNR=1.3							
16nm,0.4s							
KBK	**Karagaybulak**	**6.91**	**26**	P	Pn	03 17 24.8	+2.1
SNR=5.2							
CHMS	**Chumysh**	**7.15**	**24**	P	**Pn**	**03 17 27.3**	**+1.5**
SNR=13							
CHMS	**Chumysh**	**7.15**	**24**	⇑P	**Pn**	**03 17 26.6**	**+0.8**
7.7nm,0.3s							
CHMS				⇑S	**Sn**	**03 18 46.0**	**+0.7**
5.9nm,0.7s							
USP	**Ospenovka**	**7.31**	**21**	P	**Pn**	**03 17 29.5**	**+1.5**
SNR=11							
TKM2	**Tokmak 2**	**7.38**	**28**	P	**Pn**	**03 17 30.1**	**+1.1**
SNR=8.8							
TKM2	**Tokmak 2**	**7.38**	**28**	⇓P	**Pn**	**03 17 29.0**	**-0.1**
4.4nm,0.5s							
TKM2				⇓S	**Sn**	**03 18 51.4**	**+0.2**
3.2nm,0.8s							
MKAR	**Makanchi Array**	**13.36**	**36**	Pn	**Pn**	**03 18 47.5**	**-2.0**
0.1nm,0.3s,baz=231,slow=19,SNR=2.7							
0.4nm,0.8s							
AB31	**Akbulak array**	**15.02**	**331**	P	**Pn**	**03 19 11.9**	**+1.2**
0.5nm,0.3s,baz=139,slow=13,SNR=40							
AB31				⇑S	**Sn**	**03 21 51.8**	**-4.5**
1.7nm,0.6s,baz=52,slow=67,SNR=4.8							
KURBB	**Kurchatov Arra**	**15.15**	**19**	Pn	**P**	**03 19 15.2**	**0.0**
baz=208,slow=11,SNR=4.8							
BVAR	**Borovoye Array**	**16.52**	**359**	P	**P**	**03 19 31.8**	**+1.5**
baz=151,slow=9.9,SNR=2.8							
0.4nm,0.4s							
AKTO	**Aktyubinsk**	**16.71**	**330**	⇑P	**P**	**03 19 35.0**	**+2.5**
2.7nm,0.8s							
AKTO				⇓S	Sn	03 22 31.5	-5.6
2.9nm,1.0s							
AKTO	**Aktyubinsk**	**16.71**	**330**	P	**P**	**03 19 37.1**	**+4.7**
0.5nm,0.3s,baz=131,slow=4.9,SNR=8.8							
AKTO				S	**Sn**	**03 22 33.5**	**-3.7**
1.5nm,0.6s,baz=164,slow=22,SNR=3.7							
AKTO				LR	LR	03 26 05.0	
comp=Z,42nm,19.9s,baz=92,slow=36							
2.3nm,0.5s							
ZALV	**Zalesovo Beam**	**19.96**	**25**	P	Pn	03 20 08.2	-2.3
1.1nm,0.3s,baz=208,slow=10,SNR=7.3							
1.1nm,0.3s							
AKASG	**Malin Array Be**	**32.84**	**309**	P	P	03 22 12.8	+5.0
0.5nm,0.5s,baz=110,slow=6.9,SNR=3.0							
AKASG				LR	LR	03 40 00.5	
comp=Z,46nm,19.1s,baz=322,slow=44							
0.5nm,0.5s							
FINES	**FINESS Array B**	**37.41**	**326**	P	P	03 22 51.0	+4.1
2.8nm,0.9s,baz=124,slow=9.5,SNR=5.8							
2.8nm,0.9s							
ARCES	**ARCESS Array B**	**41.09**	**338**	P	P	03 23 21.2	+3.8
7.3nm,1.0s,baz=104,slow=11,SNR=2.3							
7.3nm,1.0s							
HFS	**Hagfors**	**42.98**	**322**	P	P	03 23 37.0	+4.1
1.3nm,0.4s,baz=127,slow=13,SNR=6.7							
1.3nm,0.4s							
NB2	**NORSAR Subarra**	**44.30**	**323**	P	P	03 23 47.1	+3.6
comp=Z,1.1nm,0.6s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**44.30**	**323**	P	P	03 23 47.1	+3.6
comp=Z,1.7nm,1.0s,baz=98,slow=7.7,SNR=4.2							
comp=Z,1.7nm,1.0s							
TORD	**Torodi Ar. Bea**	**65.59**	**269**	P	**P**	**03 26 18.2**	**+0.8**
comp=Z,0.4nm,0.7s,baz=43,slow=5.9,SNR=3.3							
comp=Z,0.4nm,0.7s							
QSPA	**South Pole Qui**	**126.30**	**180**	PKP	**PKiKP**	**03 34 29.3**	**-5.0**
comp=Z,0.7nm,0.3s,baz=218,slow=2.2,SNR=2.9							

*CATAC **21** 03:25:16.5±0.8, 14.°00N×91.°56W, h29km±6km, ML3.8*
*GCG **21** 03:25:19.2±0.4, 14.°31N×91.°46W, h59km±6km, MD3.5*
ISC 21 03:25:12.4±2.1, 13.°89N±0.°08×91.°67W±0.°06, h12km±10km, n16, σ1s27/28, Near coast of Guatemala

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

SULM	**Suchitepequez,**	**0.42**	**14**	*e*P	**Pn**	**03 25 28.1**	**+3.7**
RTAL	**Retalhuleu**	**0.63**	**358**	*i*P	**Pn**	**03 25 28.6**	**+1.3**
RTAL				*i*S	**Sn**	**03 25 37.3**	**-0.1**
RTAL				IAML		03 25 40.1	
comp=Z,3μm,1.0s							
STG3	**Santiaguito 3,**	**0.82**	**7**	*e*P	**Pn**	**03 25 30.9**	**+0.8**
STG3				*e*S	**Sg**	**03 25 40.0**	**+0.8**
ESSG	**Sabana Grande**	**0.95**	**59**	*i*P	**Pb**	**03 25 31.9**	**+0.9**
ESSG				*i*S	**Sg**	**03 25 42.6**	**-0.6**
ESSG				IAML		03 25 44.2	
comp=Z,2μm,1.0s							
SOKI	**Kika Raxquin**	**0.96**	**16**	*i*P	**Pb**	**03 25 32.1**	**+0.8**
SOKI				*i*S	**Sg**	**03 25 43.5**	**-0.1**
SOKI				IAML		03 25 45.0	
comp=Z,4μm,1.0s							
FUG	**Fuego 3**	**0.97**	**55**	*e*P	**Pn**	**03 25 33.2**	**+1.0**
SMCA	**Catarina**	**1.04**	**338**	*i*P	**Pg**	**03 25 31.1**	**-1.4**
SMCA				*i*S	**Sg**	**03 25 45.4**	**-0.6**
CHTG	**Tecpan**	**1.09**	**37**	*i*P	**Pg**	**03 25 34.1**	**+0.6**
CHTG				*i*S	**Sg**	**03 25 46.8**	**-1.0**
CHTG				IAML		03 25 48.6	
comp=Z,5μm,1.0s							
PCG	**Pacaya**	**1.14**	**64**	*e*P	**Pn**	**03 25 35.8**	**+1.2**
PCG				*e*S	**Sg**	**03 25 49.1**	**-0.4**
GUMI	**Mixco**	**1.26**	**54**	*i*P	**Pg**	**03 25 36.8**	**+0.1**
GUMI				*i*S	**Sg**	**03 25 51.9**	**-1.3**
GUMI				IAML		03 25 53.9	
comp=Z,3μm,1.0s							
HUEH	**Huehuetenango**	**1.43**	**6**	*i*P	**Pn**	**03 25 38.8**	**+0.3**
HUEH				IAML		03 25 39.2	
comp=Z,1μm,1.0s							
HUEH				*i*S	**Sb**	**03 25 55.9**	**-1.6**
NBG	**Las Nubes**	**1.46**	**61**	*e*P	**Pg**	**03 25 41.1**	**+0.6**
QUIS	**Sacapulas**	**1.50**	**22**	*i*P	**Pn**	**03 25 39.4**	**0.0**
QUIS				*i*S	**Sn**	**03 25 57.4**	**-1.6**
QUIS				IAML		03 25 58.3	
comp=Z,1μm,1.0s							
NUBE	**Las Nubes**	**1.83**	**89**	*i*P	**Pn**	**03 25 45.1**	**+1.1**
NUBE				*i*S	**Sn**	**03 26 05.5**	**-1.8**
NUBE				IAML		03 26 08.2	
comp=Z,250nm,1.0s							
JAYA	**Jayaque - finc**	**2.17**	**96**	*i*P	**Pb**	**03 25 51.5**	**-0.3**
JAYA				*i*S	**Sn**	**03 26 15.1**	**-0.5**
CCIG	**Comitan**	**2.42**	**349**	*i*P	**Pn**	**03 25 53.6**	**+1.5**

KRSC 21 03:35:27.0±1.4, 49.°51N×156.°80E, h16km±31km, Ml4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.26**	**340**	*e*P	Pn	03 35 48.9	-1.1
SKR				*e*S	Sb	03 36 05.6	-0.7
PAU	**Pauzhetka**	**1.96**	**0**	*e*P	Pn	03 36 00.8	+1.2
PAU				*e*S	Sb	03 36 26.3	-0.3
KDTR	**Khodutka, Kamc**	**2.44**	**19**	*e*P	Pb	03 36 08.5	-2.1
KDTR				*e*S	Sb	03 36 39.2	-1.2
ASAK	**Asacha**	**2.96**	**13**	*e*P	Pb	03 36 16.6	-2.9
MTVR	**Mutnovka**	**3.10**	**16**	*e*P	Pn	03 36 18.1	+2.6
MTVR				*e*S	Sn	03 36 56.0	+3.6
RUS	**Russkaya**	**3.12**	**20**	*e*S	Sn	03 36 54.7	+2.1
GRL	**Gorelyy**	**3.15**	**14**	*e*P	Pn	03 36 19.2	+3.0
GRL				*e*S	Sb	03 36 58.2	-2.8
UGLR	**Uglovaya**	**3.92**	**18**	*e*P	Pn	03 36 30.3	+3.6
SMAR	**Somma**	**3.96**	**18**	*e*P	Pn	03 36 31.7	+4.3
SPN	**Mys Shipunski**	**4.12**	**28**	*e*S	Sn	03 37 21.0	+3.7

RSNC 21 04:21:41.9±0.0, 6.°N±2.°×7.°3W±.°, h3km±3km, M1.6, ML1.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUSC	**La Rusia**	**0.54**	**250**	P	Pg	04 21 49.6	-2.8
RUSC				S	Sg	04 21 57.5	-2.0
BARC	**Barichara**	**0.79**	**310**	P	Pg	04 21 56.7	-0.5
BARC				S	Sg	04 22 08.6	+1.1
TAMC	**Tame, Arauca**	**0.85**	**65**	P	Pg	04 21 57.2	-1.0
TAMC				S	Sg	04 22 08.9	-0.4
PAMC	**Pamplona, Colo**	**1.26**	**354**	P	Pg	04 22 04.5	-1.6
PAMC				S	Sg	04 22 21.6	-0.8
SPBC	**San Pablo de B**	**1.55**	**254**	P	Pn	04 22 09.6	-1.0
SPBC				S	Sn	04 22 30.9	-0.4
CHIC	**Chingaza**	**1.85**	**219**	P	Pn	04 22 10.9	-4.0

RSNC 21 04:21:57.8±0.0, 5.°N±1.°×7.°6W±.°, h101km±2km, M2.5, mb3.9, ML2.2, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.09**	**293**	P	Pn	04 22 11.4	-0.6
PLMC				S	Sn	04 22 22.4	-0.1
NIZA	**Niza - Manizal**	**0.75**	**76**	P	Pn	04 22 15.6	-0.5
NIZA				S	Sn	04 22 30.5	+0.7
RECRC	**Villamaria, Ca**	**0.85**	**84**	P	Pn	04 22 17.2	-0.1
RECRC				S	Sn	04 22 32.4	+0.5
ANIL	**Santa Ana**	**0.88**	**115**	P	Pn	04 22 16.5	-0.9
ANIL				S	Sn	04 22 31.7	-0.3
YOTC	**Yotoco, Valle**	**0.89**	**189**	P	Pn	04 22 16.5	-0.9
YOTC				S	Sn	04 22 34.4	+2.4
GUY2C	**Guyana, Caldas**	**0.90**	**67**	P	Pn	04 22 17.4	-0.4
GUY2C				S	Sn	04 22 33.6	+0.8
CBOC	**Ciudad Bolivar**	**1.00**	**11**	P	Pn	04 22 17.7	-0.9
CBOC				S	Sn	04 22 33.2	-1.0
PIZC	**Pizarro, Choco**	**1.16**	**275**	P	Pn	04 22 19.5	-0.6
PIZC				S	Sn	04 22 37.2	+0.3
ORTC	**Ortega, Tolima**	**1.35**	**135**	P	Pn	04 22 21.5	-0.8
ORTC				S	Sn	04 22 40.7	-0.2
MALC	**Bahia Malaga**	**1.42**	**233**	P	Pn	04 22 24.7	+1.6
MALC				S	Sn	04 22 44.3	+2.0
HELC	**Santa Helena**	**1.47**	**27**	P	Pn	04 22 23.6	-0.6
HELC				S	Sn	04 22 43.6	-0.5
NORC	**Norcasia**	**1.49**	**62**	P	Pn	04 22 24.1	0.0
NORC				S	Sn	04 22 44.5	+0.5
JAMC	**Jamundi, Valle**	**1.71**	**196**	P	Pn	04 22 26.4	-0.6
JAMC				S	Sn	04 22 48.6	-0.5
PRAC	**Prado**	**1.74**	**131**	P	Pn	04 22 26.7	-0.5
PRAC				S	Sn	04 22 49.5	-0.1
ROSC	**El Rosal**	**1.87**	**91**	P	Pn	04 22 30.2	+1.0
CVER	**Cruz Verde, Cu**	**2.15**	**99**	P	Pn	04 22 34.2	+1.4
CVER				S	Sn	04 23 00.6	+1.1
PTBC	**PUERTO BERRIO,**	**2.40**	**46**	P	Pn	04 22 35.2	-0.5
PTBC				S	Sn	04 23 03.4	-1.3
URMC	**La Uribe, Meta**	**2.43**	**132**	P	Pn	04 22 35.5	-0.6
URMC				S	Sn	04 23 04.3	-1.2
CHIC	**Chingaza**	**2.47**	**95**	P	Pn	04 22 38.2	+1.2
CHIC	**Chingaza**	**2.47**	**95**	S	Pn	04 22 38.3	+1.3
GR1C	**Gorgona, Isla**	**2.70**	**227**	P	Pn	04 22 40.6	+1.0
GR1C				S	Sn	04 23 10.9	-0.9
PTAC	**Punta Ardita,**	**2.77**	**325**	P	Pn	04 22 39.1	-1.5
PTAC				S	Sn	04 23 10.0	-3.4
ZARC	**Zaragoza, Cauc**	**2.93**	**27**	P	Pn	04 22 43.4	+0.7
ZARC				S	Sn	04 23 15.6	-1.6
UREC	**San Jos de Ur**	**2.94**	**13**	P	Pn	04 22 43.1	+0.3
UREC				S	Sn	04 23 16.8	-0.7
BBAC	**Balboa, Cauca**	**3.02**	**200**	P	Pn	04 22 44.9	+0.9
BBAC				S	Sn	04 23 18.0	-1.6
BRJC	**Barrancabermej**	**3.21**	**49**	P	Pn	04 22 45.3	-1.2
BRJC				S	Sn	04 23 21.9	-2.1
RUSC	**La Rusia**	**3.27**	**72**	P	Pn	04 22 48.7	+1.1
RUSC				S	Sn	04 23 28.6	+2.7
BARC	**Barichara**	**3.46**	**60**	P	Pn	04 22 49.8	-0.1
BARC				S	Sn	04 23 29.6	-0.6
MACC	**Macarena, Meta**	**3.58**	**139**	P	Pn	04 22 50.3	-1.2
MACC				S	Sn	04 23 30.6	-2.3
GCUF	**Volcan Galeras**	**3.80**	**198**	P	Pn	04 22 54.7	-0.1
GCUF				S	Sn	04 23 37.3	-1.4
OCAC	**Ocana**	**4.40**	**40**	P	Pn	04 23 03.3	+0.7
OCAC				S	Sn	04 23 50.3	-2.6
AZU	**Azuero**	**4.98**	**306**	P	Pn	04 23 09.3	-1.0
AZU				S	Sn	04 24 04.4	-2.3
CACAO	**El Cacao, Vera**	**5.25**	**298**	P	Pn	04 23 11.4	-2.5
29nm,1.9s							
CACAO				S	Sn	04 24 08.7	-4.5
29nm,1.9s							
PAC1	**Pacto, Paraso**	**5.25**	**210**	P	Pn	04 23 14.5	+0.3
PAC1				S	Sn	04 24 06.9	-6.7

WEL 21 04:22:33.4±0.9, 32.°S±15.°×18.°0E±3.°7, h322km±20km, M4.3/12, mB4.8/10, ML4.7/11, MLv4.6/12, Mw(mB)4.0/10, Error ellipse: s-maj=51.5km s-min=5.2km az=110.9, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.52**	**35**	S	S	04 24 25.8	-0.2
MXZ	**Matakaoa Point**	**5.51**	**192**	P	Pn	04 23 59.1	+1.6
MXZ				S	S	04 25 06.6	+1.2
WMGZ	**Waiomatatini S**	**5.75**	**191**	P	Pn	04 23 59.9	-0.3
WMGZ				S	S	04 25 11.9	+1.6
HAZ	**Te Kaha**	**5.81**	**196**	P	Pn	04 24 01.5	+0.6
HAZ				S	S	04 25 12.6	+0.9
PKGZ	**Pakihiroa**	**5.85**	**193**	P	Pn	04 24 02.3	+0.9
PKGZ				S	S	04 25 14.0	+1.4
PUZ	**Puketiti**	**6.02**	**191**	P	Pn	04 24 04.5	+1.1
PUZ				S	S	04 25 15.8	-0.4
TWGZ	**Tauwhareparae**	**6.17**	**193**	P	Pn	04 24 06.7	+1.5
TWGZ				S	S	04 25 21.7	+2.2
MWZ	**Matawai**	**6.42**	**196**	P	Pn	04 24 07.4	-0.7
MWZ				S	S	04 25 24.4	-0.4
TKGZ	**Te Karaka**	**6.45**	**193**	P	Pn	04 24 09.1	+0.7
TKGZ				S	S	04 25 25.4	0.0
URZ	**Urewera**	**6.45**	**199**	P	Pn	04 24 06.7	-1.8
URZ				S	S	04 25 25.2	-0.3
RAGZ	**Rawiri**	**6.60**	**196**	P	Pn	04 24 10.7	+0.4
RAGZ				S	S	04 25 30.2	+1.5
TARZ	**Mount Tarawera**	**6.61**	**203**	P	Pn	04 24 12.4	+1.9
HLRZ	**Highlands Stat**	**6.68**	**204**	P	Pn	04 24 12.5	+1.3
RIGZ	**Rimuhau**	**6.72**	**193**	P	Pn	04 24 09.9	-1.8
RIGZ				S	S	04 25 31.2	-0.3
MUGZ	**Murupara**	**6.75**	**200**	P	Pn	04 24 12.2	+0.2
MUGZ				S	S	04 25 32.6	+0.6
HRRZ	**Handcock Road**	**6.83**	**204**	P	Pn	04 24 13.9	+0.9
SNGZ	**Shannon Statio**	**6.89**	**196**	P	Pn	04 24 14.7	+1.0
SNGZ				S	S	04 25 35.3	+0.3
RAHZ	**Arahi**	**7.08**	**197**	P	Pn	04 24 12.8	-3.1
RAHZ				S	S	04 25 38.0	-1.1
MTHZ	**Maungataniwha**	**7.08**	**199**	P	Pn	04 24 15.6	-0.4
NMHZ	**Naumai**	**7.32**	**198**	P	Pn	04 24 18.3	-0.6
NMHZ				S	S	04 25 43.6	-0.9

*MOS **21** 04:31:21.4±1.1, 0.°47N×125.°95E, h13km, mb5.4/59, MS4.4/9, Error ellipse: s-maj=8.0km s-min=4.3km az=116.4*
*IDC **21** 04:31:22.2±2.1, 0.°45N×125.°94E, h11km±12km, mb4.9/25, mbtmp5.0/28, ML4.6/3, MS4.3/33, Error ellipse: s-maj=18.7km s-min=9.4km az=73.0*
*NEIC **21** 04:31:23.9, 0.°49N×125.°99E, h26km*
*NEIC **21** 04:31:23.9, 0.°02S×125.°79E, h26km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16 Nm; Mrr3.98; Mθθ2.74; Mϕϕ-6.72; Mrθ0.33; Mϕθ-2.92; Mϕr-2.14; Fault plane solution: M0 6.39000×10^16 NP1: ϕs168.85000°, δ62.33000°, λ51.93000°. NP2: ϕs48.18000°, δ45.79000°, λ139.62000°. Principal axes: T 4.9040, Plg55.0000°, Azm29.0000°; N 2.9752, Plg33.0000°, Azm189.0000°; P -7.8792, Plg9.0000°, Azm285.0000°;*
*NEIC **21** 04:31:25.0±1.4, 0.°48N±0.°06×126.°00E±0.°04, h25km±2km, mb5.3/246, Mww5.1/19 Error ellipse: s-maj=8.6km s-min=6.3km az=180.0*
*DJA **21** 04:31:26.1±0.2, 1.°N±2.°×12.°6E±.°, h29km±2km, M5.2/45, mb5.4/45, mB5.7/30, MLv5.4/24, Mw(mB)5.2/30, MwMwp5.2/22, Mwp5.4/22*
*GCMT **21** 04:31:29.0±0.1, 0.°63N±0.°01×125.°78E±0.°01, h25km, MW5.5/122, Moment Tensor Solution. s122, c192; s107, c147; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr0.69±.02; Mθθ0.40±.02; Mϕϕ-1.08±.02; Mrθ0.04±.04; Mϕθ-0.41±.02; Mϕr-1.76±.05; Best double couple: M0 2.01300×10^17 NP1: ϕs178.00000°, δ77.00000°, λ77.00000°. NP2: ϕs44.00000°, δ18.00000°, λ134.00000°. Principal axes: T 1.8180, Plg56.0000°, Azm71.0000°; N 0.3920, Plg13.0000°, Azm181.0000°; P -2.2090, Plg31.0000°, Azm279.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 04:31:26.2±0.4, 0.°47N±0.°03×125.°96E±0.°03, h34km±1km, h35km: pP-P, n900, σ1s71/885, mb5.3/243, MS4.5/69, 39C-3D, Northern Moluccas Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.44**	**78**	Pn	**Pn**	**04 31 48.5**	**-1.3**
TNTI				Sn	**Sn**	**04 32 06.2**	**-1.3**
TNTI	**Ternate**	**1.44**	**78**	P	**Pn**	**04 31 49.0**	**-0.8**
TNTI	**Ternate**	**1.44**	**78**	P	**Pn**	**04 31 48.5**	**-1.3**
TNTI				Pg	**Pb**	**04 31 51.1**	**-1.3**
TNTI		

DRS	**Darwin Rock St**	**13.72 159**	P	**Pn**	**04 34 38.9 +0.4**
SBUM	**Sibu**	**13.88 278**		**Pn**	**04 34 41.7 +1.1**
SBUM	**Sibu**	**13.88 278**	P	**Pn**	**04 34 44.2 +3.6**
MTN	**Manton Dam**	**14.19 159**		**Pn**	**04 34 43.1 -1.7**
MTN	**Manton Dam**	**14.19 159**	P	**Pn**	**04 34 42.6 -2.2**
MTN	**Manton Dam**	**14.19 159**	P	**Pn**	**04 34 45.3 +0.5**
TGY	**Tagaytay City**	**14.43 340**	Pn	**P**	**04 34 52.2 -2.4**
	9.4nm,0.3s,baz=145,slow=14,SNR=1.3				
GENI	**Genyem**	**14.53 102**	P	**Pn**	**04 34 48.7 -0.7**
GENI	**Genyem**	**14.53 102**	P	**Pn**	**04 34 51.5 +2.1**
	234nm,1.4s,5µm				
KDU	**Kakadu**	**14.58 154**	P	**Pn**	**04 34 48.7 -1.5**
JAGI	**Jajag, Banyuwa**	**14.74 233**	P	**P**	**04 34 56.8 -1.2**
JAGI	**Jajag, Banyuwa**	**14.74 233**	P	**P**	**04 34 56.0 -2.0**
JAY	**Jayapura**	**15.04 101**	Pn	**Pn**	**04 34 54.2 -2.2**
	0.3nm,0.3s,baz=285,slow=8.3,SNR=2.7				
JAY			LR	LR	04 41 46.4
	comp=Z,5µm,21.4s,baz=285,slow=42				
	17nm,0.9s				
KSM	**Kuching**	**15.68 274**	P	**P**	**04 35 07.1 -1.3**
KSM			IAmb	IAmb	04 35 12.9
	comp=Z,119nm,0.8s				
KSM	**Kuching**	**15.68 274**	P	**P**	**04 35 08.2 -0.2**
KNRA	**Kununurra**	**16.28 170**		**Pn**	**04 35 11.2 -1.2**
KNRA	**Kununurra**	**16.28 170**	P	**Pn**	**04 35 12.6 +0.2**
	comp=Z,0.0nmcomp=Z,140nm,0.8s				
PCJI	**Pacitan**	**17.07 239**	P	**P**	**04 35 24.0 +0.2**
	comp=Z,265nm,0.9s,comp=Z,3µm				
SMRI	**Semarang**	**17.19 244**	P	**P**	**04 35 26.8 +1.6**
UGM	**Wanagama**	**17.50 241**	P	**P**	**04 35 30.1 +1.5**
	comp=Z,218nm,1.0s				
FITZ	**Fitzroy Crossi**	**18.46 181**	P	**P**	**04 35 37.7 -1.4**
	comp=Z,2.7nm,0.3s,baz=13,slow=9.1,SNR=62				
FITZ			S	**Sn**	**04 39 04.5 -0.2**
	comp=Z,9.6nm,1.0s,baz=354,slow=19,SNR=1.8				
	comp=Z,18nm,0.7s				
TPI	**Tanjungpandan**	**18.58 260**	P	**Pn**	**04 35 40.8 -0.2**
CMJI	**Cimerak**	**19.29 244**	P	**Pn**	**04 35 49.5 0.0**
	comp=Z,128nm,1.0s,comp=Z,3µm				
LEM	**Lembang**	**19.68 248**	P	**P**	**04 35 51.5 -1.4**
	comp=Z,6.7nm,0.3s,baz=50,slow=17,SNR=2.1				
	comp=Z,25nm,0.5s				
BBJI	**Bungbulang**	**19.89 246**	P	**Pn**	**04 35 57.1 +0.4**
CNJI	**Cibinong**	**20.31 247**	P	**P**	**04 35 59.8 +0.4**
DLV	**Lat**	**20.75 304**	P	**P**	**04 36 03.8 -0.6**
DLV			IAmb	IAmb	04 36 13.5
	comp=Z,80nm,0.8s				
DLV	**Lat**	**20.75 304**	P	Pn	04 36 07.1 +0.1
MANU	**Manus Island**	**21.55 97**	P	**P**	**04 36 12.4 -0.4**
MANU			IAmb	IAmb	04 36 19.6
	comp=Z,133nm,1.4s				
WB0	**Warramunga Arr**	**21.75 158**	P	**P**	**04 36 13.2 -1.7**
WRAB	**Tennant Creek**	**21.88 158**	P	**P**	**04 36 14.8 -1.5**
WRAB	**Tennant Creek**	**21.88 158**	P	**P**	**04 36 14.8 -1.5**
WRAB			pmax	pmax	
	comp=Z,152nm,0.7s				
WRA	**Warramunga Arr**	**21.89 158**	P	**P**	**04 36 14.1 -2.3**
WRA	**Warramunga Arr**	**21.89 158**	P	**P**	**04 36 14.8 -1.6**
	comp=Z,75nm,0.6s,baz=338,slow=12,SNR=180				
WRA			PcP	**PcP**	**04 40 12.9 -2.3**
	comp=Z,11nm,0.9s,baz=316,slow=2.2,SNR=4.6				
	comp=Z,75nm,0.6s				
COEN	**Coen**	**22.28 131**	P	**P**	**04 36 18.6 -2.0**
COEN			IAmb	IAmb	04 36 33.3
	comp=Z,150nm,1.1s				
COEN	**Coen**	**22.28 131**	P	**P**	**04 36 19.5 -1.2**
	comp=Z,0.0nmcomp=Z,142nm,1.1s				
COEN	**Coen**	**22.28 131**	P	**P**	**04 36 20.3 -0.3**
MBWA	**Marble Bar**	**22.34 195**	P	**P**	**04 36 20.4 -0.8**
MBWA	**Marble Bar**	**22.34 195**	P	**P**	**04 36 20.8 -0.5**
	comp=Z,43nm,1.0s				
MBWA	**Marble Bar**	**22.34 195**	P	**P**	**04 36 21.9 +0.6**
LWLI	**Liwa**	**22.55 256**	P	**P**	**04 36 24.4 +0.7**
	comp=Z,131nm,0.7s				
LWLI			pP	**pP**	**04 36 32.7 +0.5**
	comp=Z,131nm,0.7s				
PSAC1	**Pilbara Seismi**	**22.68 195**	P	**P**	**04 36 24.8 -0.1**
	comp=Z,59nm,0.9s				
PSA00	**Pilbara Seismi**	**22.71 195**	P	**P**	**04 36 24.4 -0.7**
PSA00	**Pilbara Seismi**	**22.71 195**	P	**P**	**04 36 24.0 -1.2**
PSA00			IAmb	IAmb	04 36 27.9
	comp=Z,36nm,1.0s				
PSA00	**Pilbara Seismi**	**22.71 195**	P	**P**	**04 36 24.7 -0.4**
	comp=Z,68nm,0.8s				
PSA00	**Pilbara Seismi**	**22.71 195**	P	**P**	**04 36 25.7 +0.5**
TWGBT	**Beinan**	**22.71 348**	P	**P**	**04 36 25.4 +0.2**
TWG	**Pinlang**	**22.72 348**	P	**P**	**04 36 23.3 -2.0**
TWG			IAmb	IAmb	04 36 30.9
	comp=Z,81nm,0.6s				
XMI	**Christmas Isla**	**22.90 241**	P	**P**	**04 36 30.3 +3.1**
XMIS	**Christmas Isla**	**22.94 241**	P	**P**	**04 36 26.6 -1.2**
XMIS	**Christmas Isla**	**22.94 241**	P	**P**	**04 36 30.5 +2.8**
YULB	**Yu-li**	**23.23 349**	P	**P**	**04 36 30.1 -0.4**
TPUB	**Ta-pu**	**23.28 348**	P	**P**	**04 36 28.5 -2.4**
TPUB			IAmb	IAmb	04 36 37.4
	comp=Z,108nm,0.8s				
TPUB	**Ta-pu**	**23.28 348**	P	**P**	**04 36 31.4 +0.4**
PMG	**Port Moresby**	**23.28 115**	P	**P**	**04 36 30.1 -1.0**
PMG			IAmb	IAmb	04 36 34.4
	comp=Z,130nm,1.1s				
PMG	**Port Moresby**	**23.28 115**	LR	LR	04 48 06.6
	comp=Z,2µm,20.1s,baz=326,slow=43				
PMG	**Port Moresby**	**23.28 115**	P	**P**	**04 36 30.9 -0.2**
PMG	**Port Moresby**	**23.28 115**	P	**P**	**04 36 31.1 0.0**
PMG	**Port Moresby**	**23.28 115**	P	**P**	**04 36 30.1 -1.0**
PMG			pmax	pmax	
	comp=Z,130nm,1.1s				
SSLB	**Suanglung**	**23.68 349**	P	**P**	**04 36 33.8 -1.1**
SSLB			IAmb	IAmb	04 36 44.1
	comp=Z,61nm,0.8s				
SSLB	**Suanglung**	**23.68 349**	P	**P**	**04 36 36.6 +1.7**
YOJ	**Yonaguni jima**	**24.02 353**	P	**P**	**04 36 37.7 -0.3**
YOJ			IAmb	IAmb	04 36 46.5
	comp=Z,87nm,0.8s				
YOJ	**Yonaguni jima**	**24.02 353**	P	**P**	**04 36 37.7 -0.3**
YOJ			pmax	pmax	
	comp=Z,87nm,0.8s				
QIZ	**Qiongzhong**	**24.29 320**	P	**P**	**04 36 42.1 +1.5**
QIZ			S	**S**	**04 40 55.6 -1.9**
QIZ			pmax	pmax	
	comp=Z,25nm,1.7s				
QIZ			LR	LR	
	comp=Z,680nm,16.7s				
QIZ			LR	LR	
	comp=Z,680nm,19.4s				
QIZ			LR	LR	
	comp=Z,910nm,15.1s				
YHNB	**Yeheng**	**24.46 350**	P	**P**	**04 36 42.2 0.0**
YHNB			IAmb	IAmb	04 36 49.2
	comp=Z,128nm,1.2s				
YHNB	**Yeheng**	**24.46 350**	P	**P**	**04 36 44.5 +2.3**
QIS	**Mount Isa**	**24.80 148**	P	**P**	**04 36 44.3 -1.0**
	comp=Z,124nm,0.7s				
QIS	**Mount Isa**	**24.80 148**	P	**P**	**04 36 45.4 +0.1**
AS31	**Alice Springs**	**25.20 163**	P	**P**	**04 36 48.1 -0.8**
ASAR	**Alice Springs**	**25.20 163**	P	**P**	**04 36 48.2 -0.7**
ASAR	**Alice Springs**	**25.20 163**	P	**P**	**04 36 48.5 -0.4**
	comp=Z,30nm,0.5s,baz=352,slow=16,SNR=250				
ASAR			PcP	**PcP**	**04 40 21.9 -0.4**
	comp=Z,7.2nm,0.6s,baz=346,slow=2.4,SNR=6.2				
ASAR			S	**S**	**04 41 14.7 +2.5**
	comp=Z,1.8nm,0.8s,baz=312,slow=11,SNR=2.2				
ASAR			ScP	**ScP**	**04 43 59.2 +0.2**
	comp=Z,0.9nm,0.7s,baz=338,slow=3.1,SNR=1.5				
	comp=Z,30nm,0.5s				
IPM	**Ipoh**	**25.22 279**	P	**P**	**04 36 48.2 -0.9**
IPM	**Ipoh**	**25.22 279**	P	**P**	**04 36 52.9 +3.7**
QZH	**Quanzhou**	**25.35 344**	P	**P**	**04 36 54.3 +4.2**
QZH			S	**S**	**04 41 16.1 +1.8**
QZH			pmax	pmax	
	comp=Z,94nm,0.8s				
QZH			LR	LR	
	comp=Z,2µm,26.8s				
WRKA	**Warakurna**	**25.46 175**	P	**P**	**04 36 51.3 +0.1**
	comp=Z,0.0nmcomp=Z,63nm,0.9s				
WRKA	**Warakurna**	**25.46 175**	P	**P**	**04 36 51.3 +0.1**
GZH	**Guangzhou**	**25.61 332**	P	**P**	**04 36 57.4 +4.9**
GZH			S	S	04 41 29.9 +11
GZH			pmax	pmax	
	comp=Z,61nm,0.9s				
GZH			LR	LR	
	comp=Z,1µm,17.8s				
GZH			LR	LR	
	comp=Z,1µm,13.1s				
GIRL	**Giralia**	**25.66 206**	P	**P**	**04 36 51.7 -1.2**
	comp=Z,193nm,1.1s				
GIRL	**Giralia**	**25.66 206**	P	**P**	**04 36 55.7 +2.8**
MTSU	**Mount Surprise**	**25.84 137**	P	**P**	**04 36 54.8 0.0**
	comp=Z,48nm,1.0s				
MTSU	**Mount Surprise**	**25.84 137**	P	**P**	**04 36 55.6 +0.9**
JOW	**Kunigami**	**26.30 5**	P	**P**	**04 36 59.5 +0.7**
RABL	**Rabaul**	**26.59 100**	P	**P**	**04 36 59.7 -1.9**
RPSI	**Rantau Prapat**	**27.11 275**	P	**P**	**04 37 05.0 -1.3**
PSI	**Prapat**	**27.12 275**	P	**P**	**04 37 10.1 +3.6**
PSI	**Prapat**	**27.12 275**	P	**P**	**04 37 05.0 -1.5**
PSI			pmax	pmax	
	comp=Z,22nm,0.9s				
MEEK	**Meekatharra**	**27.87 194**	P	**P**	**04 37 12.0 -0.9**
	comp=Z,34nm,0.8s				
MEEK	**Meekatharra**	**27.87 194**	P	**P**	**04 37 12.9 0.0**
NAYO	**Nakonayok**	**27.99 301**	P	**P**	**04 37 16.5 +2.5**
TV1H	**Townsville Har**	**28.33 135**	P	**P**	**04 37 18.0 +1.0**
GSI	**Gunungsitoli**	**28.39 272**	P	**P**	**04 37 16.9 -0.8**
GSI	**Gunungsitoli**	**28.39 272**	P	**P**	**04 37 17.3 -0.4**
CTA	**Charters Tower**	**28.51 137**	LR	LR	04 50 59.5
	comp=Z,82nm,20.1s,baz=322,slow=41				
CTAO	**Charters Tower**	**28.51 137**	P	**P**	**04 37 17.4 -1.2**
CTAO	**Charters Tower**	**28.51 137**	P	**P**	**04 37 20.3 +1.6**
CTAO	**Charters Tower**	**28.51 137**	P	**P**	**04 37 17.5 -1.2**
CTAO			pmax	pmax	
	comp=Z,24nm,0.9s				
SLVN	**Son La**	**29.89 315**	P	**P**	**04 37 30.3 -0.6**
SLVN	**Son La**	**29.89 315**	P	**P**	**04 37 33.1 +2.2**
SRDT	**SRDT**	**29.91 299**	P	**P**	**04 37 33.0 +1.8**
SSE	**Sheshan**	**30.79 352**	P	**P**	**04 37 40.1 +1.4**
SSE			S	**S**	**04 42 44.3 +4.4**
SSE			pmax	pmax	
	comp=Z,8.0nm,0.6s				
SSE			LR	LR	
	comp=Z,170nm,22.0s				
SSE			LR	LR	
	comp=Z,280nm,21.4s				
MORW	**Morawa**	**30.87 197**	IAmb	IAmb	04 37 43.3
	comp=Z,66nm,1.4s				
MORW	**Morawa**	**30.87 197**	P	**P**	**04 37 38.7 -0.8**
	comp=Z,38nm,0.9s				
MORW	**Morawa**	**30.87 197**	P	**P**	**04 37 41.6 +2.2**
PHRA	**Phrae**	**30.97 307**	P	**P**	**04 37 39.9 -0.6**
BSI	**Banda Aceh**	**31.02 280**	P	**P**	**04 37 41.8 +0.8**
FORT	**Forrest**	**31.14 177**	P	**P**	**04 37 40.8 -1.0**
	comp=Z,135nm,0.7s				
FORT	**Forrest**	**31.14 177**	P	**P**	**04 37 43.9 +2.1**
INKA	**Innaminka**	**31.44 154**	P	**P**	**04 37 46.1 +1.6**
MULG	**Mulgathing**	**31.54 167**	P	**P**	**04 37 47.3 +2.0**
GYA	**Guiyang**	**31.82 326**	P	**P**	**04 37 49.8 +1.8**
GYA			S	**S**	**04 42 52.8 -3.7**
GYA			pmax	pmax	
	comp=Z,14nm,1.0s				
GYA			LR	LR	
	comp=Z,500nm,20.3s				
GYA			LR	LR	
	comp=Z,540nm,16.4s				
GYA			LR	LR	
	comp=Z,930nm,22.7s				
WHN	**Wuhan**	**31.88 341**	P	**P**	**04 37 53.0 +4.7**
WHN			S	S	04 43 08.3 +11
WHN			LR	LR	
	comp=Z,470nm,13.8s				
WHN			LR	LR	
	comp=Z,440nm,15.9s				
WHN			LR	LR	
	comp=Z,1µm,19.3s				
KMBL	**Kambalda**	**31.90 187**	P	**P**	**04 37 46.7 -1.8**
	comp=Z,39nm,0.9s				
KMBL	**Kambalda**	**31.90 187**	P	**P**	**04 37 49.6 +1.1**
CM31	**Chiang Mai Arr**	**31.99 306**	P	**P**	**04 37 48.9 -0.5**
CMAR	**Chiang Mai Arr**	**31.99 306**	P	**P**	**04 37 48.9 -0.6**
CMAR	**Chiang Mai Arr**	**31.99 306**	P	**P**	**04 37 49.2 -0.3**
	comp=Z,4.3nm,0.7s,baz=138,slow=8.4,SNR=20				
CMAR			PcP	**PcP**	**04 40 38.7 -0.4**
	comp=Z,3.4nm,0.6s,baz=160,slow=2.1,SNR=7.9				
CMAR			ScP	**ScP**	**04 44 20.9 +0.6**
	comp=Z,1.4nm,0.3s,baz=144,slow=2.6,SNR=4.4				
	comp=Z,4.3nm,0.7s				
NJ2	**Nanjing**	**32.12 349**	*e*P	**P**	**04 37 52.8 +2.4**
NJ2			pmax	pmax	
	comp=Z,6.0nm,0.6s				
BLDU	**Ballidu**	**32.14 195**	P	**P**	**04 37 53.1 +2.5**
QLP	**Quilpie**	**32.15 148**	P	**P**	**04 37 52.2 +1.4**
CHTO	**Chiang Mai**	**32.17 306**	P	**P**	**04 37 50.5 -0.6**
CHTO	**Chiang Mai**	**32.17 306**	P	**P**	**04 37 50.5 -0.6**
CHTO			pmax	pmax	
	comp=Z,11nm,0.8s				
JNU	**Nakatsue**	**32.81 8**	P	**P**	**04 37 57.2 +0.8**
JNU			IAmb	IAmb	04 38 04.4
	comp=Z,22nm,0.8s				
JNU	**Nakatsue**	**32.81 8**	P	**P**	**04 37 58.7 +2.2**
KLBR	**Kellerberrin**	**32.82 193**	P	**P**	**04 37 56.8 +0.2**
LCRK	**Leigh Creek**	**32.89 160**	P	**P**	**04 37 59.1 +2.0**
KMI	**Kunming**	**33.23 319**	⇓P	**P**	**04 38 01.1 +0.6**
KMI			PP	**PP**	**04 39 16.3 +0.2**
KMI			S	**S**	**04 43 15.0 -3.6**
KMI			pmax	pmax	
	comp=Z,21nm,1.3s				
KMI			LR	LR	
	comp=Z,490nm,20.2s				
KMI			LR	LR	
	comp=Z,670nm,22.0s				
KMI			LR	LR	
	comp=Z,920nm,20.7s				
ENH	**Enshi**	**33.52 334**	IAmb	IAmb	04 38 05.6
	comp=Z,29nm,0.8s				
JMN	**Monobe**	**33.91 12**	P	**P**	**04 38 05.9 -0.1**
JMN			IAmb	IAmb	04 38 15.0
	comp=Z,25nm,0.7s				
JMN	**Monobe**	**33.91 12**	P	**P**	**04 38 08.1 +2.0**
NWAO	**Narrogin (SRO)**	**34.22 193**	P	**P**	**04 38 08.3 -0.5**
NWAO			IAmb	IAmb	04 38 23.5
	comp=Z,49nm,1.3s				
NWAO	**Narrogin (SRO)**	**34.22 193**	P	**P**	**04 38 08.3 -0.5**
NWAO			pmax	pmax	
	comp=Z,49nm,1.3s				
GD1S	**Gladstone Soft**	**34.40 136**	P	**P**	**04 38 12.6 +2.2**
PZH	**PanZhiHua**	**34.83 320**	P	**P**	**04 38 15.0 +0.7**
PZH			S	**S**	**04 43 38.4 -4.8**
PZH			SS	**SS**	**04 46 02.4 -13**
PZH			pmax	pmax	
	comp=Z,20nm,0.7s				
PZH			pmax	pmax	
	comp=Z,100nm,5.3s				
PZH			LR	LR	
	comp=Z,510nm,19.0s				
PZH			LR	LR	
	comp=Z,480nm,21.0s				
PZH			LR	LR	
	comp=Z,750nm,21.5s				
TATA	**Tatamba Isabel**	**34.86 105**	P	**P**	**04 38 14.7 +0.2**
WHYH	**Whyalla**	**35.08 163**	P	**P**	**04 38 17.3 +1.2**
HNR	**Honiara**	**35.24 107**	LR	LR	04 53 46.3
	comp=Z,858nm,22.0s,baz=294,slow=38				
EIDS	**Eidsvold**	**35.35 138**	P	**P**	**04 38 21.1 +2.4**
STKA	**Stephens Creek**	**35.42 157**	P	**P**	**04 38 18.4 -0.7**
STKA	**Stephens Creek**	**35.42 157**	P	**P**	**04 38 17.7 -1.4**
	comp=Z,37nm,0.6s,baz=331,slow=9.0,SNR=31				
STKA			PcP	**PcP**	**04 40 47.4 -1.2**
	comp=Z,8.4nm,0.7s,baz=351,slow=4.1,SNR=2.9				
STKA			S	**S**	**04 43 52.6 +0.9**
	comp=Z,4.8nm,0.7s,baz=68,slow=5.4,SNR=3.5				
	comp=Z,37nm,0.6s				
STKA	**Stephens Creek**	**35.42 157**	P	**P**	**04 38 19.4 +0.3**
ALEG	**Aligegeo Malai**	**35.80 106**	P	**P**	**04 38 24.4 +1.8**
LYN	**LuoYang**	**36.18 341**	P	**P**	**04 38 27.8 +2.2**
LYN			pP	pP	04 38 31.3 -3.6
LYN			PP	**PP**	**04 39 53.8 +5.5**
LYN			S	**S**	**04 44 00.0 -3.3**
LYN			SS	**SnSn**	**04 46 25.9 -5.2**
LYN			pmax	pmax	
	comp=Z,38nm,0.9s				
LYN			LR	LR	
	comp=Z,760nm,18.6s				
LYN			LR	LR	
	comp=Z,500nm,16.9s				
LYN			LR	LR	
	comp=Z,1µm,21.8s				
INU	**Inuyama**	**36.20 15**	P	**P**	**04 38 25.5 -0.2**
INU			IAmb	IAmb	04 38 32.0
	comp=Z,45nm,0.8s				
INU	**Inuyama**	**36.20 15**	P	**P**	**04 38 26.6 +0.9**
TIA	**Tai'an**	**36.49 348**	P	**P**	**04 38 29.5 +1.2**
TIA			PP	**PnPn**	**04 39 49.0 -2.6**
TIA			S	**S**	**04 44 05.9 -2.3**
TIA			pmax	pmax	
	comp=Z,11nm,0.9s				
TIA			pmax	pmax	
	comp=Z,250nm,4.1s				
TIA			LR	LR	
	comp=Z,430nm,20.4s				
TIA			LR	LR	
	comp=Z,550nm,17.1s				
TIA			LR	LR	
	comp=Z,640nm,22.6s				
JGF	**Kuroka**	**36.53 16**	P	**P**	**04 38 28.8 +0.2**
JGF			IAmb	IAmb	04 38 32.5
	comp=Z,26nm,0.5s				
JGF	**Kuroka**	**36.53 16**	P	**P**	**04 38 30.2 +1.6**
KSAR	**Wonju Array Be**	**36.83 3**	P	**P**	**04 38 32.6 +1.5**
KSAR	**Wonju Array Be**	**36.83 3**	P	**P**	**04 38 32.6 +1.5**
KSRS	**Korea Array**	**36.84 3**	P	**P**	**04 38 31.2 0.0**
	comp=Z,8.3nm,0.6s,baz=179,slow=10.0,SNR=18				
KSRS			PcP	**PcP**	**04 40 52.0 -0.6**
	comp=Z,0.7nm,0.4s,baz=194,slow=3.4,SNR=2.6				
	comp=Z,8.3nm,0.6s				
CD2	**Chengdu**	**36.88 327**	P	**P**	**04 38 32.1 +0.4**
CD2			pP	pP	04 38 39.8 -1.2
CD2			S	**S**	**04 44 16.8 +2.5**
CD2			pmax	pmax	
	comp=Z,10.0nm,0.5s				
CD2			LR	LR	
	comp=Z,720nm,20.3s				
CD2			LR	LR	
	comp=Z,550nm,18.4s				
CD2			LR	LR	
	comp=Z,840nm,17.1s				
CMSA	**Cobar Meteorol**	**36.92 151**	P	**P**	**04 38 33.5 +1.5**
XAN	**Xi'an**	**37.02 336**	P	**P**	**04 38 31.0 -1.8**
XAN			pP	pP	04 38 37.4 -4.6
XAN			PcP	**PcP**	**04 40 53.4 0.0**
XAN			S	**S**	**04 44 12.4 -3.9**
XAN			pmax	pmax	
	comp=Z,42nm,0.7s				
XAN			pmax	pmax	
	comp=Z,170nm,4.0s				
XAN			LR	LR	
	comp=Z,600nm,18.0s				
XAN			LR	LR	
	comp=Z,870nm,15.5s				
XAN			LR	LR	
	comp=Z,980nm,20.3s				
MAJO	**Matsushiro**	**37.65 16**	P	**P**	**04 38 37.3 -0.8**
MAJO			IAmb	IAmb	04 38 46.8
	comp=Z,30nm,0.7s				
MAJO	**Matsushiro**	**37.65 16**	P	**P**	**04 38 39.0 +0.9**
MAJO	**Matsushiro**	**37.65 16**	*i* P	**P**	**04 38 37.7 -0.4**
MAJO			pmax	pmax	
	comp=Z,28nm,0.7s				
MJAR	**Matsushiro Arr**	**37.65 16**	P	**P**	**04 38 37.1 -1.0**
	comp=Z,11nm,0.5s,baz=183,slow=9.1,SNR=18				
MJAR			PcP	**PcP**	**04 40 54.5 -0.6**
	comp=Z,5.8nm,0.8s,baz=186,slow=2.1,SNR=3.4				
MJAR			LR	LR	04 53 03.6
	comp=Z,536nm,21.9s,baz=198,slow=34				
	comp=Z,11nm,0.5s				
MJB9	**Matsu-Tunnel**	**37.65 16**	P	**P**	**04 38 37.2 -0.9**
MJB9			IAmb	IAmb	04 38 46.8
	comp=Z,29nm,0.7s				
HNS	**HongShan**	**38.19 345**	⇑P	**P**	**04 38 44.9 +2.3**
HNS			S	S	04 44 44.6 +11
HNS			pmax	pmax	
	comp=Z,27nm,0.8s				
HNS			LR	LR	
	comp=Z,420nm,16.7s				
HNS			LR	LR	
	comp=Z,280nm,22.5s				
HNS			LR	LR	
	comp=Z,490nm,20.1s				
DL2	**Dalian**	**38.46 355**	P	**P**	**04 38 45.4 +0.6**
DL2			S	**S**	**04 44 41.0 +3.2**
DL2			pmax	pmax	
	comp=Z,72nm,0.9s				
DL2			pmax	pmax	
	comp=Z,350nm,4.9s				
DL2			LR	LR	
	comp=Z,510nm,16.0s				
DL2			LR	LR	
	comp=Z,650nm,18.9s				
DL2			LR	LR	
	comp=Z,810nm,23.9s				
JSD	**Sado**	**39.06 15**	P	**P**	**04 38 49.4 -0.5**
JSD			IAmb	IAmb	04 38 55.3
	comp=Z,40nm,0.7s				
TIY	**Taiyuan**	**39.10 343**	P	**P**	**04 38 52.6 +2.2**
TIY			pP	**pwP**	**04 39 01.1 -1.3**
TIY			sP	**sP**	**04 39 05.4 +1.9**
TIY			S	**S**	**04 44 48.6 +0.8**
TIY			S	**ScP**	**04 44 52.8 +7.0**
TIY			SS	**SS**	**04 47 40.3 -1.0**
TIY			pmax	pmax	
	comp=Z,31nm,0.5s				
TIY			LR	LR	
	comp=Z,430nm,25.2s				
TIY			LR	LR	
	comp=Z,300nm,15.7s				
TIY			LR	LR	
	comp=Z,530nm,22.5s				
ARMA	**Armidale**	**39.25 144**	P	**P**	**04 38 51.6 -0.1**
ARMA			IAmb	IAmb	04 38 55.9
	comp=Z,48nm,1.1s				
ARMA	**Armidale**	**39.25 144**	P	**P**	**04 38 53.2 +1.5**
JMM	**Marumori**	**39.64 19**	P	**P**	**04 38 55.1 +0.4**
JMM	**Marumori**	**39.64 19**	P	**P**	**04 38 56.1 +1.3**
ARPS	**Mount Arapiles**	**39.88 160**	P	**P**	**04 38 57.5 +0.8**
BJI	**Beijing**	**40.38 348**	P	**P**	**04 39 03.1 +2.3**
BJI			S	**S**	**04 45 06.3 -0.4**
BJI			pmax	pmax	
	comp=Z,16nm,0.7s				
BJI			LR	LR	
	comp=Z,130nm,17.4s				
BJI			LR	LR	
	comp=Z,210nm,19.7s				
BJI			LR	LR	
	comp=Z,290nm,24.0s				
YNG	**Young**	**40.48 151**	P	**P**	**04 39 03.5 +1.6**
LZH	**Lanzhou**	**40.96 332**	*e*P	**P**	**04 39 08.4 +2.5**
LZH			PcP	**PcP**	**04 41 07.8 +1.9**
LZH			S	**S**	**04 45 12.0 -3.9**
LZH			SS	**SS**	**04 48 15.3 -3.3**
LZH			pmax	pmax	
	comp=Z,25nm,1.1s				
LZH			LR	LR	
	comp=Z,450nm,18.2s				
LZH			LR	LR	
	comp=Z,810nm,18.0s				
LZH			LR	LR	
	comp=Z,1µm,19.9s				
MGCD	**Mangrove Creek**	**41.03 147**	P	**P**	**04 39 08.3 +2.0**
SNY	**Shenyang**	**41.23 357**	⇑P	**P**	**04 39 08.3 +0.5**
SNY			S	**S**	**04 45 22.9 +3.7**
SNY			pmax	pmax	
	comp=Z,22nm,0.9s				
SNY			pmax	pmax	
	comp=Z,190nm,3.8s				
SNY			LR	LR	
	comp=Z,460nm,22.6s				
SNY			LR	LR	
	comp=Z,430nm,19.6s				
SNY			LR	LR	
	comp=Z,590nm,21.8s				
SHL	**Shillong**	**41.27 310**	P	**P**	**04 39 07.9 -0.8**
SHL			IAmb	IAmb	04 39 15.8
	comp=Z,24nm,0.6s				
SHL	**Shillong**	**41.27 310**	P	**P**	**04 39 07.9 -0.8**
SHL			pmax	pmax	
	comp=Z,25nm,0.6s				
BRAT	**Ballarat**	**41.32 158**	P	**P**	**04 39 09.7 +1.1**
CAN	**Canberra**	**41.60 151**	P	**P**	**04 39 10.5 -0.6**
CAN			IAmb	IAmb	04 39 21.4
	comp=Z,29nm,0.7s				
CAN	**Canberra**	**41.60 151**	P	**P**	**04 39 12.1 +1.0**
CAN	**Canberra**	**41.60 151**	P	**P**	**04 39 10.5 -0.6**
CAN			pmax	pmax	
	comp=Z,29nm,0.7s				
TOO	**Toolangi**	**41.94 157**	P	**P**	**04 39 13.9 +0.1**
TOO	**Toolangi**	**41.94 157**	P	**P**	**04 39 13.9 +0.1**
TOO			pmax	pmax	
	comp=Z,21nm,1.5s				
MSHR	**Mys Shultsa**	**42.18 6**	*i* P	**P**	**04 39 17.4 +1.8**

MSHR				pmax	pmax		
comp=Z,70nm,0.9s							
HHC	**Hu-ho-hao-te**	**42.26**	**344**	*e*P	**P**	**04 39 19.8**	**+3.3**
HHC				pP	pP	04 39 23.8	-2.1
HHC				sP	sP	04 39 30.8	+1.2
HHC				S	**S**	**04 45 35.5**	**+0.6**
HHC				sS	pS	04 45 47.1	+1.1
HHC				SS	**SS**	**04 48 42.3**	**-1.9**
HHC				pmax	pmax		
comp=Z,24nm,0.5s							
HHC				pmax	pmax		
comp=Z,73nm,3.7s							
HHC				LR	LR		
comp=Z,390nm,16.1s							
HHC				LR	LR		
comp=Z,370nm,19.6s							
HHC				LR	LR		
comp=Z,700nm,18.8s							
JTM	**Tenmabayashi**	**42.41**	**17**	P	**P**	**04 39 17.6**	**+0.1**
BTO	**Baotou**	**42.49**	**342**	*e*P	**P**	**04 39 22.3**	**+4.0**
BTO				pP	**pP**	**04 39 26.8**	**-1.0**
BTO				sP	**pwP**	**04 39 29.4**	**-1.1**
BTO				PP	**PcP**	**04 41 04.4**	**-6.3**
BTO				S	S	04 45 47.9	+10
BTO				sS	**sS**	**04 45 53.3**	**-0.8**
BTO				SS	**SS**	**04 48 50.9**	**+2.2**
BTO				pmax	pmax		
comp=Z,15nm,0.7s							
BTO				pmax	pmax		
comp=Z,310nm,7.7s							
BTO				LR	LR		
comp=Z,1μm,21.8s							
BTO				LR	LR		
comp=Z,1μm,18.8s							
BTO				LR	LR		
comp=Z,2μm,24.7s							
KOUNC	**Koumac, New Ca**	**42.92**	**121**	P	**P**	**04 39 20.2**	**-1.7**
KOUNC				IAmb	IAmb	04 39 25.5	
comp=Z,49nm,0.9s							
KOUNC	**Koumac, New Ca**	**42.92**	**121**	P	**P**	**04 39 22.3**	**+0.3**
CN2	**Changchun**	**43.14**	**359**	*e*P	**P**	**04 39 26.6**	**+3.2**
CN2				*e*S	**S**	**04 45 54.4**	**+6.9**
CN2				SS	**SS**	**04 49 02.4**	**+1.2**
CN2				pmax	pmax		
comp=Z,10.0nm,0.8s							
CN2				pmax	pmax		
comp=Z,100nm,3.0s							
CN2				LR	LR		
comp=Z,400nm,18.0s							
CN2				LR	LR		
comp=Z,600nm,18.0s							
CN2				LR	LR		
comp=Z,400nm,15.0s							
USA0B	**Ussuriysk Arra**	**43.87**	**6**	IAmb	IAmb	04 39 37.2	
comp=Z,47nm,1.1s							
USA0B	**Ussuriysk Arra**	**43.87**	**6**	*i* P	**P**	**04 39 29.2**	**0.0**
USRK	**Ussuriysk Ar.**	**43.87**	**6**	P	**P**	**04 39 28.2**	**-1.0**
USRK	**Ussuriysk Ar.**	**43.87**	**6**	P	**P**	**04 39 29.1**	**-0.1**
comp=Z,19nm,0.6s,baz=199,slow=7.4,SNR=24							
comp=Z,19nm,0.6s							
MDJ	**Mudanjiang**	**44.07**	**4**	IAmb	IAmb	04 39 34.9	
comp=Z,32nm,0.8s							
MDJ	**Mudanjiang**	**44.07**	**4**	P	**P**	**04 39 31.3**	**+0.4**
MDJ				pP	pP	04 39 39.9	-0.4
MDJ				S	S	**04 46 04.9**	**+3.8**
MDJ				ScS	**ScS**	**04 49 26.8**	**-0.2**
MDJ				pmax	pmax		
comp=Z,18nm,1.0s							
MDJ				pmax	pmax		
comp=Z,200nm,3.9s							
MDJ				LR	LR		
comp=Z,460nm,12.2s							
MDJ				LR	LR		
comp=Z,440nm,11.5s							
MDJ				LR	LR		
comp=Z,780nm,19.6s							
LSA	**Lhasa**	**44.08**	**314**	IAmb	IAmb	04 39 38.3	
comp=Z,39nm,0.7s							
LSA	**Lhasa**	**44.08**	**314**	P	**P**	**04 39 31.1**	**-0.7**
LSA				pmax	pmax		
comp=Z,13nm,0.5s							
VLAKA	**Lakatoro**	**44.10**	**114**	P	**P**	**04 39 32.9**	**+1.3**
XLT	**XiLinHaoTe**	**44.13**	**350**	*e*P	**P**	**04 39 34.3**	**+2.8**
XLT				S	**S**	**04 45 57.9**	**-4.2**
XLT				pmax	pmax		
comp=Z,26nm,0.7s							
XLT				pmax	pmax		
comp=Z,140nm,3.8s							
XLT				LR	LR		
comp=Z,550nm,19.9s							
XLT				LR	LR		
comp=Z,590nm,25.4s							
BNX	**BinXian**	**45.10**	**1**	⇓P	**P**	**04 39 38.5**	**-0.5**
BNX				S	**S**	**04 46 13.1**	**-2.8**
BNX				SS	**ScS**	**04 49 33.3**	**-0.2**
BNX				pmax	pmax		
comp=Z,21nm,1.0s							
BNX				pmax	pmax		
comp=Z,150nm,5.8s							
BNX				LR	LR		
comp=Z,450nm,21.6s							
BNX				LR	LR		
comp=Z,360nm,16.6s							
BNX				LR	LR		
comp=Z,760nm,21.1s							
NOUC	**Port Laguerre**	**45.27**	**122**	P	**P**	**04 39 42.3**	**+1.5**
TEY	**Ternei**	**45.37**	**11**	*e*P	**P**	**04 39 43.1**	**+1.9**
DZM	**Mont Dzumac**	**45.38**	**122**	P	**P**	**04 39 41.6**	**-0.2**
DZM				IAmb	IAmb	04 40 00.0	
comp=Z,29nm,1.0s							
DZM	**Mont Dzumac**	**45.38**	**122**	*e*P	**P**	**04 39 40.8**	**-1.0**
comp=Z,62nm,1.1s							
DZM				*e*S	**S**	**04 46 18.4**	**-2.5**
comp=Z,440nm,39.4s							
DZM				*e*SS	**SS**	**04 49 41.8**	**-3.0**
comp=Z,610nm,30.8s							
DZM				*e*LR	LR	04 52 24.3	
comp=Z,1μm,25.1s							
DZM	**Mont Dzumac**	**45.38**	**122**	P	**P**	**04 39 43.5**	**+1.7**
GTA	**Gaotai**	**45.53**	**331**	*e*P	**P**	**04 39 44.3**	**+1.6**
GTA				pP	pP	04 39 51.6	-0.5
GTA				PcP	**PcP**	**04 41 22.8**	**+1.7**
GTA				S	**S**	**04 46 31.1**	**+8.4**
GTA				ScS	**ScS**	**04 49 37.5**	**+0.7**
GTA				pmax	pmax		
comp=Z,13nm,1.0s							
GTA				LR	LR		
comp=Z,390nm,19.5s							
GTA				LR	LR		
comp=Z,410nm,20.3s							
GTA				LR	LR		
comp=Z,700nm,23.5s							
LIFNC	**LIFOU**	**45.55**	**120**	P	**P**	**04 39 44.9**	**+1.9**
YATNC	**Mamie plateau,**	**45.75**	**122**	P	**P**	**04 39 46.9**	**+2.3**
GOMU	**GeErMu**	**45.81**	**324**	P	**P**	**04 39 46.3**	**+1.0**
GOMU				pP	pP	04 39 53.5	-1.3
GOMU				sP	pwP	04 39 56.0	-1.6
GOMU				PcP	**PcP**	**04 41 24.8**	**+2.3**
GOMU				S	**S**	**04 46 25.4**	**-1.9**
GOMU				pmax	pmax		
comp=Z,13nm,1.1s							
GOMU				pmax	pmax		
comp=Z,290nm,6.1s							
GOMU				LR	LR		
comp=Z,1μm,22.1s							
GOMU				LR	LR		
comp=Z,810nm,21.7s							
GOMU				LR	LR		
comp=Z,1μm,19.9s							
OUENC	**Ouen Island, N**	**45.85**	**122**	P	**P**	**04 39 47.3**	**+1.9**
ASAJ	**Asahikawa**	**45.91**	**17**	LR	LR	04 59 13.1	
comp=Z,319nm,21.5s,baz=202,slow=36							
ASAJ	**Asahikawa**	**45.91**	**17**	P	**P**	**04 39 45.7**	**+0.2**
ASAJ				pmax	pmax		
comp=Z,22nm,0.6s							
JKA	**Kamikawa-asahi**	**45.91**	**17**	P	**P**	**04 39 45.7**	**+0.2**
JKA				IAmb	IAmb	04 39 51.5	
comp=Z,22nm,0.6s							
PINNC	**Pines Island,**	**46.44**	**122**	P	**P**	**04 39 52.2**	**+2.1**
YSS	**Yuzh-Sakhalins**	**48.57**	**15**	*e*P	**P**	**04 40 06.9**	**+0.8**
YSS				MLR	MLR		
comp=Z,300nm,17.0s							
KLR	**Kul'dur**	**48.83**	**5**	*e*P	**P**	**04 40 07.1**	**-1.0**
KLR				pmax	pmax		
comp=Z,25nm,1.2s							
HIA	**Hailar**	**48.90**	**355**	IAmb	IAmb	04 40 13.9	
comp=Z,25nm,0.9s							
HYB	**Hyderabad**	**49.57**	**293**	*e*P	**P**	**04 40 14.5**	**+0.1**
HEH	**HeiHe**	**49.61**	**1**	*e*P	**P**	**04 40 13.8**	**-0.3**
HEH				S	**S**	**04 47 16.6**	**-3.4**
HEH				pmax	pmax		
comp=Z,30nm,0.8s							
HEH				LR	LR		
comp=Z,300nm,19.9s							
HEH				LR	LR		
comp=Z,330nm,20.7s							
HEH				LR	LR		
comp=Z,560nm,20.4s							
ULN	**Ulaanbaatar**	**49.98**	**343**	P	**P**	**04 40 16.7**	**-0.4**
ULN				IAmb	IAmb	04 40 21.6	
comp=Z,27nm,0.7s							
ULN	**Ulaanbaatar**	**49.98**	**343**	*ce*P	**P**	**04 40 17.6**	**+0.4**
ULN				pmax	pmax		
comp=Z,27nm,0.7s							
SONM	**Songino Array**	**50.14**	**343**	P	**P**	**04 40 18.1**	**-0.3**
SONM				IAmb	IAmb	04 40 22.6	
comp=Z,22nm,0.8s							
SONM	**Songino Array**	**50.14**	**343**	P	**P**	**04 40 17.9**	**-0.5**
comp=Z,19nm,0.7s,baz=156,slow=8.6,SNR=26							
SONM				PcP	**PcP**	**04 41 36.6**	**-0.9**
comp=Z,10.0nm,0.9s,baz=190,slow=2.7,SNR=4.3							
SONM				LR	LR	05 03 21.3	
comp=Z,461nm,21.3s,baz=150,slow=38							
comp=Z,19nm,0.7s							
CIT	**Chita**	**52.42**	**350**	*e*P	**P**	**04 40 38.3**	**+3.1**
CIT				*e*		04 40 44.8	
CIT				*e*		04 41 41.4	
CIT				*e*		04 42 38.0	
CIT				*e*		04 43 45.3	
CIT				pmax	pmax		
comp=Z,127nm,1.2s							
ZEA	**Zeya**	**53.10**	**1**	*e*P	**P**	**04 40 42.9**	**+2.8**
ZEA				pmax	pmax		
comp=Z,20nm,1.0s							
ZEA				MLR	MLR		
comp=N,300nm,15.0s							
ZEA				MLR	MLR		
comp=Z,300nm,18.0s							
MSVF	**Nonsavu**	**54.33**	**112**	P	**P**	**04 40 49.5**	**-0.4**
MSVF	**Nonsavu**	**54.33**	**112**	LR	LR	05 02 38.7	
comp=Z,666nm,21.6s,baz=284,slow=34							
MSVF	**Nonsavu**	**54.33**	**112**	P	**P**	**04 40 49.5**	**-0.4**
MSVF				pmax	pmax		
comp=Z,104nm,1.6s							
IRK	**Irkutsk**	**54.71**	**344**	*e*P	**P**	**04 40 51.0**	**-1.0**
IRK				pmax	pmax		
comp=Z,46nm,2.4s							
WMQ	**Urumqi**	**54.98**	**327**	*e*P	**P**	**04 40 56.4**	**+2.2**
WMQ				pmax	pmax		
comp=Z,58nm,0.7s							
WMQ				pmax	pmax		
comp=Z,130nm,3.7s							
WMQ				LR	LR		
comp=Z,740nm,21.5s							
WMQ				LR	LR		
comp=Z,520nm,19.1s							
WMQ				LR	LR		
comp=Z,530nm,20.3s							
MOY	**Mondy**	**55.18**	**341**	*e*P	**P**	**04 40 55.8**	**+0.2**
MOY				pmax	pmax		
comp=Z,24nm,1.0s							
BOD	**Bodaibo**	**57.97**	**352**	*e*P	**P**	**04 41 15.1**	**0.0**
BOD				pmax	pmax		
comp=Z,25nm,1.2s							
PEA0B	**Petropavlovsk-**	**58.72**	**22**	*i* P	**P**	**04 41 20.3**	**-0.1**
PETK	**Petropavlovsk-**	**58.72**	**22**	P	**P**	**04 41 20.2**	**-0.3**
PETK	**Petropavlovsk-**	**58.72**	**22**	P	**P**	**04 41 20.7**	**+0.3**
comp=Z,21nm,0.5s,baz=170,slow=3.0,SNR=30							
PETK				LR	LR	05 06 01.5	
comp=Z,219nm,21.0s,baz=209,slow=35							
comp=Z,21nm,0.5s							
ZSN	**Zaisan**	**58.84**	**329**	*e*P	**P**	**04 41 21.7**	**+0.3**
comp=Z,17nm,1.2s							
ZSN	**Zaisan**	**58.84**	**329**	*e*P	**P**	**04 41 21.7**	**+0.3**
ZSN				pmax	pmax		
comp=Z,17nm,1.2s							
PET	**Petropavlovsk**	**59.01**	**22**	*e*P	**P**	**04 41 26.0**	**+3.6**
PET				*e*		04 43 38.4	
PET				*e*S	**S**	**04 49 31.4**	**+4.8**
PET				pmax	pmax		
comp=Z,73nm,1.4s							
PET				MLR	MLR		
comp=Z,300nm,18.0s							
PET				MLR	MLR		
comp=Z,500nm,18.0s							
PET	**Petropavlovsk**	**59.01**	**22**	P	**P**	**04 41 23.8**	**+1.4**
comp=Z,75nm,1.9s							
INZ	**Inchbonnie**	**59.26**	**142**	IAmb	IAmb	04 41 28.4	
comp=Z,22nm,0.9s							
NIL	**Nilore**	**59.34**	**310**	P	**P**	**04 41 24.0**	**-1.2**
NIL				IAmb	IAmb	04 41 37.7	
comp=Z,16nm,0.6s							
NIL	**Nilore**	**59.34**	**310**	P	**P**	**04 41 24.0**	**-1.2**
NIL				pmax	pmax		
comp=Z,16nm,0.6s							
SHLS	**Shalkode**	**59.38**	**322**	*e*P	**P**	**04 41 23.9**	**-1.6**
comp=Z,18nm,1.0s							
SHLS	**Shalkode**	**59.38**	**322**	*e*P	**P**	**04 41 23.8**	**-1.6**
SHLS				pmax	pmax		
comp=Z,18nm,1.0s							
RPZ	**Rata Peaks**	**59.59**	**143**	LR	LR	05 07 33.8	
comp=Z,725nm,21.0s,baz=306,slow=36							
UZB	**Uzynbulak**	**59.65**	**322**	*e*P	**P**	**04 41 27.5**	**+0.2**
comp=Z,5.0nm,0.5s							
UZB	**Uzynbulak**	**59.65**	**322**	*e*P	**P**	**04 41 27.5**	**+0.2**
UZB				pmax	pmax		
comp=Z,5.0nm,0.5s							
TARG	**Taragay, Kyrgy**	**59.69**	**320**	IAmb	IAmb	04 41 50.0	
comp=Z,17nm,0.9s							
PRZ	**Przheval'sk**	**59.69**	**321**	P	**P**	**04 41 28.2**	**+0.6**
PRZ	**Przheval'sk**	**59.69**	**321**	P	**P**	**04 41 28.2**	**+0.6**
PRZ				pmax	pmax		
comp=Z,35nm,0.8s							
MK31	**Makanchi Array**	**59.81**	**327**	P	**P**	**04 41 27.0**	**-1.2**
MK31				IAmb	IAmb	04 41 34.7	
comp=Z,21nm,0.7s							
MK31	**Makanchi Array**	**59.81**	**327**	*ce*P	**P**	**04 41 27.3**	**-0.8**
MKAR	**Makanchi Array**	**59.81**	**327**	P	**P**	**04 41 27.4**	**-0.8**
MKAR	**Makanchi Array**	**59.81**	**327**	P	**P**	**04 41 27.0**	**-1.2**
comp=Z,12nm,0.6s,baz=120,slow=7.4,SNR=58							
MKAR				ScP	**ScP**	**04 46 17.4**	**+4.3**
comp=Z,2.4nm,0.9s,baz=115,slow=8.4,SNR=3.6							
MKAR				LR	LR	05 07 57.2	
comp=Z,617nm,21.9s,baz=161,slow=37							
MKAR				PKP2bc		05 11 05.3	
comp=Z,1.7nm,0.8s,baz=329,slow=1.4,SNR=7.3							
comp=Z,12nm,0.6s							
MKAR	**Makanchi Array**	**59.81**	**327**	P	**P**	**04 41 27.0**	**-1.2**
KSH	**Kashi**	**59.83**	**317**	P	**P**	**04 41 32.0**	**+3.4**
KSH				pP	pwP	04 41 40.3	-0.9
KSH				pmax	pmax		
comp=Z,11nm,1.3s							
SATY	**Saty**	**59.99**	**321**	*e*P	**P**	**04 41 29.8**	**+0.2**
comp=Z,12nm,0.6s							
SATY	**Saty**	**59.99**	**321**	*e*P	**P**	**04 41 29.7**	**+0.2**
SATY				pmax	pmax		
comp=Z,12nm,0.6s							
MAKZ	**Makanchi**	**59.99**	**327**	P	**P**	**04 41 28.6**	**-0.8**
MAKZ				IAmb	IAmb	04 41 39.4	
comp=Z,25nm,0.8s							
MAKZ	**Makanchi**	**59.99**	**327**	P	**P**	**04 41 28.6**	**-0.8**
MAKZ				pmax	pmax		
comp=Z,25nm,0.8s							
ZHN	**Zhinishke**	**60.03**	**321**	*e*P	**P**	**04 41 30.2**	**+0.3**
comp=Z,5.0nm,0.5s							
ZHN	**Zhinishke**	**60.03**	**321**	*e*P	**P**	**04 41 30.1**	**+0.3**
ZHN				pmax	pmax		
comp=Z,5.0nm,0.5s							
KPKS	**Kokpek**	**60.03**	**322**	*e*P	**P**	**04 41 30.1**	**+0.2**
comp=Z,11nm,0.6s							
KPKS	**Kokpek**	**60.03**	**322**	*e*P	**P**	**04 41 30.0**	**+0.2**
KPKS				pmax	pmax		
comp=Z,11nm,0.6s							
TUWZ	**Tuamarina**	**60.14**	**140**	P	**P**	**04 41 29.4**	**-1.0**
BKZ	**Black Stump Fm**	**60.73**	**137**	P	**P**	**04 41 33.6**	**-1.0**
BKZ				IAmb	IAmb	04 41 42.2	
comp=Z,18nm,0.9s							
URZ	**Urewera**	**60.74**	**135**	LR	LR	05 09 00.7	
comp=Z,375nm,20.6s,baz=31,slow=37							
RTZ	**Ruatahuna**	**60.81**	**136**	P	**P**	**04 41 34.0**	**-1.2**
MDOK	**Medeo**	**60.89**	**321**	*e*P	**P**	**04 41 36.2**	**+0.3**
MDOK	**Medeo**	**60.89**	**321**	*e*P	**P**	**04 41 36.1**	**+0.3**
TNSS	**Tian-Shan**	**60.89**	**321**	*e*P	**P**	**04 41 36.1**	**0.0**
TNSS	**Tian-Shan**	**60.89**	**321**	*e*P	**P**	**04 41 36.1**	**0.0**
ARXS	**Arharly**	**60.95**	**322**	*i* P	**P**	**04 41 36.4**	**+0.3**
AAA	**Alma-Ata**	**61.00**	**321**	*e*P	**P**	**04 41 36.6**	**+0.2**
AAA	**Alma-Ata**	**61.00**	**321**	*e*P	**P**	**04 41 36.6**	**+0.2**
TDK	**Taldyqorghan**	**61.02**	**323**	*e*P	**P**	**04 41 36.8**	**+0.3**
comp=Z,13nm,0.7s							
TDK	**Taldyqorghan**	**61.02**	**323**	*e*P	**P**	**04 41 36.7**	**+0.3**
TDK				pmax	pmax		
comp=Z,13nm,0.7s							
RAO	**Raoul Island**	**61.11**	**124**	LR	LR	05 08 13.6	
comp=Z,134nm,20.3s,baz=318,slow=36							
CHKK	**Chushkaly**	**61.28**	**322**	*e*P	**P**	**04 41 39.0**	**+0.7**
CHKK	**Chushkaly**	**61.28**	**322**	*e*P	**P**	**04 41 38.9**	**+0.7**
YAK	**Yakutsk**	**61.47**	**2**	P	**P**	**04 41 38.4**	**-0.6**
YAK	**Yakutsk**	**61.47**	**2**	*e*P	**P**	**04 41 39.7**	**+0.6**
YAK				*e**PP	**pP**	**04 41 44.9**	**-3.9**
YAK				*e*		04 42 24.5	
YAK				*e*		04 43 51.4	
YAK				*e*PPP	PPP	04 45 27.1	
YAK				*e*S	**S**	**04 50 02.4**	**+4.6**
YAK				*e**SS	**pS**	**04 50 10.3**	**+0.7**
YAK				pmax	pmax		
comp=Z,23nm,0.8s							
YAK				pmax	pmax		
comp=E,4.0nm,1.0s							
YAK				pmax	pmax		
comp=N,7.0nm,1.0s							
YAK				pmax	pmax		
comp=Z,157nm,2.7s							
YAK				pmax	pmax		
comp=N,148nm,2.5s							
YAK				pmax	pmax		
comp=E,111nm,2.8s							
YAK				smax	smax		
comp=N,111nm,2.5s							
YAK				smax	smax		
comp=E,187nm,2.6s							
TKM2	**Tokmak 2**	**61.70**	**320**	P	**P**	**04 41 42.3**	**+1.0**
KUU	**Kurty**	**61.71**	**321**	*e*P	**P**	**04 41 41.5**	**+0.3**
comp=E,12nm,0.8s							
KUU	**Kurty**	**61.71**	**321**	*e*P	**P**	**04 41 41.4**	**+0.3**
KUU				pmax	pmax		
comp=Z,12nm,0.8s							
MA2	**Magadan**	**62.03**	**14**	P	**P**	**04 41 44.1**	**+1.1**
MA2	**Magadan**	**62.03**	**14**	*i* P	**P**	**04 41 44.4**	**+1.4**
MA2				pmax	pmax		
comp=Z,40nm,0.6s							
MA2	**Magadan**	**62.03**	**14**	P	**P**	**04 41 44.3**	**+1.3**
comp=Z,88nm,1.0s							
AAK	**Ala-Archa**	**62.28**	**319**	P	**P**	**04 41 45.6**	**+0.4**
AAK				IAmb	IAmb	04 42 03.1	
comp=Z,14nm,0.9s							
AAK	**Ala-Archa**	**62.28**	**319**	P	**P**	**04 41 45.6**	**+0.4**
AAK				pmax	pmax		
comp=Z,15nm,0.9s							
SGDS	**Sogindy**	**62.57**	**320**	*e*P	**P**	**04 41 47.6**	**+0.5**
SGDS	**Sogindy**	**62.57**	**320**	*e*P	**P**	**04 41 47.5**	**+0.5**
DRK	**Karamyk**	**62.72**	**315**	P	**P**	**04 41 47.8**	**-0.6**
DRK				IAmb	IAmb	04 41 55.6	
comp=Z,22nm,0.6s							
DRK	**Karamyk**	**62.72**	**315**	P	**P**	**04 41 47.8**	**-0.6**
DRK				pmax	pmax		
comp=Z,22nm,0.6s							
KBL	**Kabul**	**62.92**	**309**	P	**P**	**04 41 48.5**	**-1.2**
KBL				IAmb	IAmb	04 41 53.7	
comp=Z,20nm,0.7s							
KBL	**Kabul**	**62.92**	**309**	P	**P**	**04 41 48.5**	**-1.2**
KBL				pmax	pmax		
comp=Z,20nm,0.7s							
SEM	**Semipalatinsk**	**63.06**	**329**	*e*P	**P**	**04 41 50.5**	**+0.2**
comp=Z,6.3nm,0.8s							
SEM	**Semipalatinsk**	**63.06**	**329**	*e*P	**P**	**04 41 50.4**	**+0.2**
SEM				pmax	pmax		
comp=Z,6.0nm,0.8s							
ZAA0	**Zalesovo Array**	**63.15**	**334**	P	**P**	**04 41 49.9**	**-0.6**
ZAA0				IAmb	IAmb	04 41 57.8	
comp=Z,20nm,0.8s							
ZALV	**Zalesovo Beam**	**63.15**	**334**	P	**P**	**04 41 49.1**	**-1.3**
ZALV	**Zalesovo Beam**	**63.15**	**334**	P	**P**	**04 41 48.8**	**-1.7**
comp=Z,12nm,0.7s,baz=132,slow=6.5,SNR=20							
ZALV				LR	LR	05 09 32.7	
comp=Z,166nm,20.4s,baz=134,slow=36							
ZALV				PKPPKP	**P'P'df**	**05 10 49.9**	**+0.2**
comp=Z,0.5nm,0.5s,baz=247,slow=3.0,SNR=1.7							
comp=Z,12nm,0.7s							
ZALV	**Zalesovo Beam**	**63.15**	**334**	*i* P	**P**	**04 41 50.7**	**+0.2**
ZALV				pmax	pmax		
comp=Z,15nm,0.5s							
GAR	**Garm**	**63.59**	**314**	P	**P**	**04 41 53.4**	**-0.5**
BTK	**Batken**	**63.65**	**315**	P	**P**	**04 41 54.1**	**-0.1**
BTK	**Batken**	**63.65**	**315**	P	**P**	**04 41 54.1**	**-0.1**
BTK				pmax	pmax		
comp=Z,113nm,1.9s							
BTLS	**Baital**	**63.70**	**322**	*e*P	**P**	**04 41 54.8**	**+0.4**
BTLS	**Baital**	**63.70**	**322**	*e*P	**P**	**04 41 54.7**	**+0.4**
KURBB	**Kurchatov Arra**	**64.08**	**329**	P	**P**	**04 41 55.7**	**-1.0**
comp=Z,30nm,0.6s,baz=130,slow=6.0,SNR=42							
comp=Z,30nm,0.6s							
KURBB	**Kurchatov Arra**	**64.08**	**329**	P	**P**	**04 41 56.3**	**-0.4**
KURK	**Kurchatov**	**64.08**	**329**	P	**P**	**04 41 55.7**	**-1.1**
KURK	**Kurchatov**	**64.08**	**329**	*ce*P	**P**	**04 41 55.9**	**-0.8**
KURK				pmax	pmax		
comp=Z,62nm,0.7s							
SIMJ	**Simiganj**	**64.40**	**313**	P	**P**	**04 41 58.4**	**-0.9**
SIMJ				IAmb	IAmb	04 42 03.9	
comp=Z,24nm,1.1s							
DZA	**Taraz**	**64.47**	**318**	*e*P	**P**	**04 42 00.2**	**+0.6**
comp=Z,7.8nm,0.5s							
DZA	**Taraz**	**64.47**	**318**	*e*P	**P**	**04 42 00.1**	**+0.6**
DZA				pmax	pmax		
comp=Z,8.0nm,0.5s							
IUG	**Iuzhnay**	**65.03**	**317**	*e*P	**P**	**04 42 03.6**	**+0.3**
comp=Z,13nm,0.7s							
IUG	**Iuzhnay**	**65.03**	**317**	*e*P	**P**	**04 42 03.6**	**+0.3**
IUG				pmax	pmax		
comp=Z,13nm,0.7s							
KK31	**Karatay Array**	**65.11**	**318**	P	**P**	**04 42 02.5**	**-1.1**
KKAR	**Karatay Array**	**65.11**	**318**	P	**P**	**04 42 02.4**	**-1.3**
KKAR	**Karatay Array**	**65.11**	**318**	P	**P**	**04 42 02.5**	**-1.2**
KKAR				IAmb	IAmb	04 42 07.6	
comp=Z,8.6nm,0.7s							
KKAR	**Karatay Array**	**65.11**	**318**	P	**P**	**04 42 02.4**	**-1.3**
KKAR						04 42 02.5	
KKAR				pmax	pmax		
comp=Z,9.0nm,0.7s							
SEY	**Seymchan**	**65.36**	**13**	*e*P	**P**	**04 42 05.1**	**+0.3**
SEY				pmax	pmax		
comp=Z,18nm,0.8s							
BRLS	**Borolday**	**65.53**	**318**	*e*P	**P**	**04 42 06.8**	**+0.4**
comp=Z,6.2nm,0.5s							
BRLS	**Borolday**	**65.53**	**318**	*e*P	**P**	**04 42 06.8**	**+0.4**
BRLS				pmax	pmax		
comp=Z,6.0nm,0.5s							
SHEM	**Shemya Is, Ala**	**65.65**	**30**	LR	LR	05 06 48.6	
comp=Z,323nm,20.8s,baz=308,slow=32							
HRA	**Herat**	**68.23**	**307**	P	**P**	**04 42 23.6**	**-0.4**
BVA0	**Borovoye Array**	**69.63**	**328**	*i* P	**P**	**04 42 31.7**	**-0.4**
BVAR	**Borovoye Array**	**69.63**	**328**	P	**P**	**04 42 31.3**	**-0.7**
comp=Z,3.6nm,0.3s,baz=126,slow=9.3,SNR=18							
BVAR				LR	LR	05 15 11.8	
comp=Z,165nm,18.5s,baz=115,slow=38							
comp=Z,3.6nm,0.3s							
BRVK	**Borovoye**	**69.71**	**328**	P	**P**	**04 42 31.7**	**-0.8**
BRVK				IAmb	IAmb	04 42 43.0	
comp=Z,27nm,0.8s							
BRVK	**Borovoye**	**69.71**	**328**	*

BILL	Bilibino	72.88	15	*i* P	P	04 42 51.6	+0.2
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,192nm,20.0s						
NRIK	Noril'sk	73.40	347	P	P	04 42 54.3	-0.1
	comp=Z,28nm,0.7s,baz=128,slow=5.6,SNR=28						
NRIK				S	SKiKP	04 52 23.2	+0.3
	comp=Z,3.7nm,1.1s,baz=59,slow=19,SNR=2.1						
NRIK				LR	LR	05 20 05.2	
	comp=Z,160nm,18.5s,baz=148,slow=40						
	comp=Z,28nm,0.7s						
AB31	Akbulak array	74.19	322	*e*P	P	04 42 58.3	-1.2
ABKAR	Akbulak array	74.19	322	P	P	04 42 58.8	-0.7
ABKAR	Akbulak array	74.19	322	IAmb	IAmb	04 43 04.0	
	comp=Z,27nm,0.7s						
NIKH	Nikolski High	74.91	35	P	P	04 43 03.5	-0.1
	baz=250						
RAR	Rarotonga	75.52	112	LR	LR	05 13 17.7	
	comp=Z,64nm,21.9s,baz=282,slow=33						
SPIA	Saint Paul Isl	75.68	30	P	P	04 43 07.9	+0.1
	baz=248						
AKTO	Aktyubinsk	75.73	322	P	P	04 43 07.6	-0.8
P08K	Saint George I	75.82	31	P	P	04 43 09.1	+0.4
	baz=248						
SVE	Sverdlovsk	76.33	329	*e*P	P	04 43 11.5	-0.1
SVE				pmax	pmax		
	comp=Z,65nm,0.8s						
UNV	Unalaska Valle	76.53	34	P	P	04 43 13.5	+0.7
	baz=252						
ARTI	Arti	77.35	328	P	P	04 43 16.6	-0.8
ARTI	Arti	77.35	328	P	P	04 43 16.6	-0.8
ARTI				pmax	pmax		
	comp=Z,35nm,0.7s						
FALS	False Pass	78.55	34	P	P	04 43 24.6	+0.6
	baz=254						
M11K	Mekoryuk	78.79	28	P	P	04 43 25.3	+0.1
	baz=251						
S12K	Black Hills	79.52	33	P	P	04 43 29.1	-0.3
	baz=255						
TNA	Tin City	79.87	23	P	P	04 43 31.5	+0.5
	baz=248						
K13K	Kusilvak Mount	80.00	27	IAmb	IAmb	04 43 34.7	
	comp=Z,29nm,0.8s						
K13K	Kusilvak Mount	80.00	27	P	P	04 43 32.5	+0.7
	baz=252						
M13K	Dall Lake	80.14	28	P	P	04 43 33.1	+0.5
	baz=253						
MAW	Mawson	80.45	200	P	P	04 43 34.5	+0.3
MAW	Mawson	80.45	200	P	P	04 43 34.4	+0.3
	comp=Z,11nm,1.0s,baz=59,slow=5.5,SNR=11						
MAW				LR	LR	05 18 31.7	
	comp=Z,215nm,18.9s,baz=62,slow=35						
	comp=Z,11nm,1.0s						
MAW	Mawson	80.45	200	P	P	04 43 34.5	+0.3
MAW				pmax	pmax		
	comp=Z,3.0nm,1.1s						
F14K	Arctic Creek	80.46	23	P	P	04 43 34.9	+0.7
	baz=250						
ANM	Nome	80.53	24	P	P	04 43 35.0	+0.3
	baz=251						
CHNA	Chernabura Isl	80.69	34	P	P	04 43 35.7	+0.1
	baz=257						
L14K	Kuka Creek	80.72	28	IAmb	IAmb	04 43 38.2	
	comp=Z,40nm,1.0s						
L14K	Kuka Creek	80.72	28	P	P	04 43 36.3	+0.6
	baz=254						
J14K	Nanvaranak Lak	80.73	26	P	P	04 43 36.3	+0.5
	baz=253						
N14K	Kuskokwak Cree	80.81	29	P	P	04 43 37.3	+1.1
	baz=255						
O14K	Tigyukauivet M	80.84	30	P	P	04 43 37.4	+1.0
	baz=255						
AKT	Akhty	80.87	312	*e*P	P	04 43 37.6	+0.5
AKT				*e*		04 43 44.4	
AKT				pmax	pmax		
	comp=Z,32nm,0.6s						
M14K	Bethel	80.90	28	P	P	04 43 37.8	+1.1
	baz=254						
RAYN	Ar Rayn	81.06	294	P	P	04 43 37.9	-0.5
RAYN				IAmb	IAmb	04 43 43.2	
	comp=Z,20nm,0.7s						
RAYN	Ar Rayn	81.06	294	⇑P	P	04 43 38.7	+0.3
F15K	North Star Dit	81.20	23	P	P	04 43 39.7	+1.5
	baz=251						
G15K	Niukluk	81.21	24	P	P	04 43 38.9	+0.6
	baz=252						
MAK	Makhachkala	81.23	313	*e*P	P	04 43 33.9	-4.9
MAK				*e*		04 46 39.0	
MAK				*e*PPP	PPP	04 48 31.7	
MAK				*e*S	S	04 53 41.6	-5.3
MAK				*e*SS	SS	04 59 00.3	-2.5
MAK				pmax	pmax		
	comp=Z,171nm,0.9s						
MAK				MLR	MLR		
	comp=Z,217nm,17.0s						
SBA	Scott Base	81.24	172	P	P	04 43 37.7	-0.5
SBA				IAmb	IAmb	04 43 42.8	
	comp=Z,17nm,0.8s						
SBA	Scott Base	81.24	172	P	P	04 43 37.7	-0.5
SBA				pmax	pmax		
	comp=Z,17nm,0.8s						
L15K	Ungalak Mounta	81.36	27	P	P	04 43 40.4	+1.2
	baz=255						
M15K	Kasigluk River	81.49	28	P	P	04 43 40.7	+0.9
	baz=256						
K15K	Wolf Creek Mou	81.51	27	IAmb	IAmb	04 43 43.1	
	comp=Z,32nm,0.8s						
K15K	Wolf Creek Mou	81.51	27	P	P	04 43 40.8	+0.9
	baz=255						
O15K	Ungalikthiuk R	81.54	30	P	P	04 43 41.2	+1.0
	baz=257						
N15K	Kwethluk River	81.64	29	IAmb	IAmb	04 43 54.5	
	comp=Z,31nm,0.9s						
N15K	Kwethluk River	81.64	29	P	P	04 43 41.9	+1.3
	baz=256						
CHGN	Chignik	81.65	33	P	P	04 43 41.4	+0.6
	baz=258						
C16K	Lisburne Hills	81.79	21	P	P	04 43 42.6	+1.4
	baz=250						
H16K	Elim	81.84	24	P	P	04 43 43.0	+1.4
	baz=254						
G16K	Koyuk River	82.01	24	IAmb	IAmb	04 43 48.3	
	comp=Z,21nm,1.0s						
G16K	Koyuk River	82.01	24	P	P	04 43 43.8	+1.3
	baz=253						
J16K	Anvik River	82.18	26	IAmb	IAmb	04 43 46.8	
	comp=Z,38nm,0.8s						
J16K	Anvik River	82.18	26	P	P	04 43 44.3	+0.9
	baz=255						
I17K	Unalakleet	82.29	25	P	P	04 43 44.3	+0.4
	baz=255						
L16K	Owhat River	82.30	28	IAmb	IAmb	04 43 51.6	
	comp=Z,20nm,0.8s						
L16K	Owhat River	82.30	28	P	P	04 43 44.5	+0.4
	baz=256						
N16K	Nishlik Lake	82.36	29	P	P	04 43 45.2	+0.8
	baz=257						
M16K	Timber Creek	82.39	28	IAmb	IAmb	04 43 56.8	
	comp=Z,18nm,0.8s						
M16K	Timber Creek	82.39	28	P	P	04 43 45.5	+0.9
	baz=257						
D17K	Noatak River	82.41	21	P	P	04 43 45.2	+0.7
	baz=252,SNR=8.5						
P16K	Nushagak River	82.44	30	P	P	04 43 45.3	+0.5
	baz=258						
O16K	Kokwok River B	82.50	30	IAmb	IAmb	04 43 47.7	
	comp=Z,18nm,0.8s						
O16K	Kokwok River B	82.50	30	P	P	04 43 46.4	+1.2
	baz=258						
BELG	Belogornoye	82.51	323	LR	LR	05 22 05.2	
	comp=Z,208nm,21.7s,baz=123,slow=37						
BELG	Belogornoye	82.51	323	*i* P	P	04 43 44.6	-0.7
BELG				pmax	pmax		
	comp=Z,19nm,0.9s						
RDOG	Red Dog Mine	82.58	21	IAmb	IAmb	04 43 50.8	
	comp=Z,59nm,1.4s						
RDOG	Red Dog Mine	82.58	21	P	P	04 43 46.9	+1.4
	baz=252						
KIRV	Kirov	82.60	329	*ce*P	P	04 43 47.5	+1.9
C17K	DeLong Mountai	82.61	21	P	P	04 43 46.8	+1.2
	baz=252						
E17K	Hotham Inlet	82.69	22	P	P	04 43 47.0	+1.0
	baz=254,SNR=13						
G17K	Kiwalik Mounta	82.72	24	P	P	04 43 47.3	+1.0
	baz=255						
F17K	Baldwin Pennin	82.74	23	IAmb	IAmb	04 44 02.2	
	comp=Z,32nm,0.9s						
F17K	Baldwin Pennin	82.74	23	P	P	04 43 47.0	+0.8
	baz=254						
J17K	VABM Dome	82.87	26	P	P	04 43 48.1	+1.1
	baz=257						
H17K	Granite Mounta	82.88	24	P	P	04 43 48.0	+0.9
	baz=256,SNR=17						
L17K	Donlin	82.94	27	P	P	04 43 48.3	+0.9
	baz=258						
GNI	Garni	82.98	310	P	P	04 43 47.9	-0.4
GNI	Garni	82.98	310	LR	LR	05 25 43.1	
	comp=Z,53nm,21.6s,baz=89,slow=39						
GNI	Garni	82.98	310	*ce*P	P	04 43 48.0	-0.3
GNI				pmax	pmax		
	comp=Z,43nm,1.7s						
GNI	Garni	82.98	310	P	P	04 43 50.9	+2.6
	comp=Z,60nm,0.8s						
R17L	Mt. Peulik Vol	83.01	32	P	P	04 43 48.6	+0.7
	baz=260						
O17K	Koliganek Bris	83.03	30	P	P	04 43 49.3	+1.4
	baz=259						
Q16K	King Salmon	83.05	31	P	P	04 43 49.3	+1.3
	baz=259						
K17K	Iditarod	83.06	27	P	P	04 43 49.1	+1.1
	baz=257						
CHIR	Chirikof Islan	83.11	34	P	P	04 43 48.8	+0.4
	baz=261						
N17K	Nushagak Hills	83.13	29	P	P	04 43 49.2	+0.8
	baz=259						
M17K	Holitna River	83.19	28	IAmb	IAmb	04 43 54.3	
	comp=Z,25nm,0.9s						
M17K	Holitna River	83.19	28	P	P	04 43 49.7	+1.0
	baz=258						
E18K	Tukpahlearik C	83.25	22	P	P	04 43 50.0	+1.1
	baz=255						
P17K	Kvichak River	83.25	30	P	P	04 43 49.8	+0.8
	baz=260						
B18K	Kokolik River	83.35	20	P	P	04 43 50.3	+0.9
	baz=253						
C18K	Utukok River	83.36	21	P	P	04 43 50.3	+0.8
	baz=254,SNR=8.1						
Q17K	Contact Creek	83.37	31	P	P	04 43 50.2	+0.3
	baz=260						
F18K	Selawik	83.40	23	P	P	04 43 49.9	+0.3
	baz=256						
H18K	Honhosa River	83.57	24	IAmb	IAmb	04 44 06.2	
	comp=Z,28nm,1.0s						
H18K	Honhosa River	83.57	24	P	P	04 43 50.6	-0.1
	baz=257						
G18K	Tagagawik	83.62	24	IAmb	IAmb	04 43 55.6	
	comp=Z,36nm,1.4s						
G18K	Tagagawik	83.62	24	P	P	04 43 51.5	+0.6
	baz=257						
ACHA	Angle Creek He	83.65	31	IAmb	IAmb	04 44 03.2	
	comp=Z,18nm,0.9s						
L18K	Granite Mounta	83.70	27	P	P	04 43 51.9	+0.6
	baz=259						
N18K	Kilae Creek	83.79	29	IAmb	IAmb	04 44 04.7	
	comp=Z,31nm,1.1s						
N18K	Kilae Creek	83.79	29	P	P	04 43 52.5	+0.6
	baz=260						
A19K	Wainwright	83.83	19	P	P	04 43 52.4	+0.6
	baz=254						
Q18K	Katmai Hardscr	83.89	31	P	P	04 43 52.9	+0.4
	baz=261						
P18K	Big Mountain,	83.90	30	P	P	04 43 52.8	+0.3
	baz=260						
J18K	Innoko River	83.92	26	IAmb	IAmb	04 43 57.2	
	comp=Z,18nm,0.7s						
J18K	Innoko River	83.92	26	P	P	04 43 53.4	+0.9
	baz=259						
M18K	Stony River	83.96	28	P	P	04 43 53.3	+0.7
	baz=260						
O18K	Koktuh Hills	83.98	30	P	P	04 43 53.5	+0.7
	baz=260						
SII	Sitkinak Islan	84.01	33	P	P	04 43 53.2	+0.1
	baz=262						
R18K	Karluk	84.02	32	P	P	04 43 52.9	-0.1
	baz=261						
C19K	Lookout Ridge	84.04	20	P	P	04 43 53.6	+0.5
	baz=256,SNR=19						
GCSA	Galena City Sc	84.11	25	P	P	04 43 53.6	+0.3
	baz=258						
TTA	Tatalina	84.14	27	P	P	04 43 53.8	+0.1
	baz=260						
F19K	Shaleruckik Mo	84.18	23	P	P	04 43 54.1	+0.5
	baz=258						
G19K	Purcell Mounta	84.30	23	P	P	04 43 54.5	+0.2
	baz=258						
D19K	Kuna River	84.42	21	P	P	04 43 55.3	+0.4
	baz=257						
H19K	Roundabout Mou	84.44	24	P	P	04 43 56.0	+1.0
	baz=259						
O19K	Port Alsworth	84.48	30	IAmb	IAmb	04 44 01.2	
	comp=Z,14nm,0.8s						
O19K	Port Alsworth	84.48	30	P	P	04 43 56.0	+0.8
	baz=261						
N19K	Bonanza Creek	84.49	29	P	P	04 43 55.8	+0.3
	baz=261						
J19K	Poorman	84.50	26	IAmb	IAmb	04 44 10.4	
	comp=Z,28nm,1.2s						
J19K	Poorman	84.50	26	P	P	04 43 56.5	+1.1
	baz=260						
E19K	Redstone River	84.52	22	IAmb	IAmb	04 44 23.7	
	comp=Z,34nm,1.2s						
E19K	Redstone River	84.52	22	P	P	04 43 56.1	+0.6
	baz=258						
L19K	White Mountain	84.53	28	IAmb	IAmb	04 44 06.0	
	comp=Z,35nm,1.1s						
L19K	White Mountain	84.53	28	P	P	04 43 56.3	+0.7
	baz=261						
OHAK	Old Harbor	84.59	33	P	P	04 43 56.4	+0.4
	baz=262						
Q19K	Cape Douglas,	84.63	31	P	P	04 43 56.4	+0.2
	baz=262						
KBZ	Khabaz	84.65	314	P	P	04 43 55.7	-0.9
	comp=Z,7.3nm,0.8s,baz=78,slow=2.0,SNR=12						
KBZ				LR	LR	05 26 11.4	
	comp=Z,99nm,21.5s,baz=77,slow=39						
	comp=Z,7.3nm,0.8s						
KBZ	Khabaz	84.65	314	*ce*P	P	04 43 57.6	+1.1
GOF	Gofitskoye	84.66	315	*ce*P	P	04 43 59.8	+3.2
M19K	Big River Lodg	84.71	28	IAmb	IAmb	04 44 09.0	
	comp=Z,18nm,0.9s						
M19K	Big River Lodg	84.71	28	P	P	04 43 57.0	+0.5
	baz=261						
KIV	Kislovodsk	84.82	314	P	P	04 43 56.8	-0.8
KIV	Kislovodsk	84.82	314	⇑P	P	04 43 59.3	+1.7
KIV	Kislovodsk	84.82	314	*e*P	P	04 43 58.2	+0.6
KIV				*e*		04 54 22.2	
KIV				pmax	pmax		
	comp=Z,20nm,1.1s						
KIV	Kislovodsk	84.82	314	P	P	04 43 58.8	+1.2
SHA1	Shidzhatmaz	84.83	314	*ce*P	P	04 43 59.1	+1.3
PPT	Papeete	84.86	108	LR	LR	05 18 05.9	
	comp=Z,130nm,21.3s,baz=271,slow=33						
PPT2	Papeete2	84.86	108	*e*P	P	04 43 51.4	-6.8
	comp=Z,69nm,24.8s						
PPT2	Papeete2	84.86	108	*e*S	SKSac	04 54 19.4	-1.4
	comp=Z,129nm,30.0s						
PPT2				*e*SS	SS	04 59 52.6	-5.4
	comp=Z,346nm,35.8s						
PPT2				*e*LQ	LQ	05 07 07.4	
	comp=Z,264nm,25.8s						
PPT2				*e*LR	LR	05 10 42.8	
	comp=Z,371nm,26.8s						
PPT2				*e*LR	LR	05 10 44.4	
	comp=Z,426nm,25.0s						
P19K	Oil Pt	84.94	30	P	P	04 43 58.0	+0.3
	baz=262						
GURO	Guymak-BITLI	84.95	308	P	P	04 43 57.8	-0.6
D20K	Etivluk River	85.00	21	P	P	04 43 58.4	+0.5
	baz=258						
F20K	Avaraart Lake	85.01	23	IAmb	IAmb	04 44 12.9	
	comp=Z,18nm,1.2s						
F20K	Avaraart Lake	85.01	23	P	P	04 43 58.4	+0.6
	baz=259						
L20K	Farewell, AK	85.03	27	P	P	04 43 58.8	+0.7
	baz=261						
ILSW	Iliamna Southw	85.03	30	IAmb	IAmb	04 45 11.5	
	comp=Z,25nm,1.3s						
KDAK	Kodiak Island	85.04	32	P	P	04 43 58.3	+0.1
KDAK	Kodiak Island	85.04	32	LR	LR	05 16 54.3	
	comp=Z,303nm,21.6s,baz=93,slow=32						
KDAK	Kodiak Island	85.04	32	P	P	04 43 58.0	-0.1
	baz=263						
KDAK	Kodiak Island	85.04	32	P	P	04 43 58.3	+0.1
KDAK				pmax	pmax		
	comp=Z,53nm,1.1s						
E20K	Nigu River	85.07	21	P	P	04 43 58.3	+0.1
	baz=259						
H20K	Anotleneega Mo	85.07	24	P	P	04 43 58.9	+0.7
	baz=260						
K20K	Telida	85.08	26	P	P	04 43 58.6	+0.3
	baz=261						
B20K	Meade River	85.08	20	P	P	04 43 58.5	+0.4
	baz=258						
I20K	Naaghedeneel	85.13	25	P	P	04 43 59.3	+0.8
	baz=261						
J20K	Nowinta River	85.17	26	P	P	04 43 58.7	0.0
	baz=261						
TBI	Tubuai	85.20	113	*e*S	S	04 54 29.8	+1.9
	comp=Z,840nm,37.0s						
TBI				*e*SS	SS	04 59 54.8	-7.8
	comp=Z,948nm,37.2s						
TBI				*e*LQ	LQ	05 07 15.9	
	comp=Z,971nm,27.2s						
TBI				*e*LR	LR	05 10 49.0	
	comp=Z,936nm,24.0s						
TBI				*e*LR	LR	05 10 53.4	
	comp=Z,2μm,27.5s						
Q20K	Shuyak Island	85.24	31	P	P	04 43 59.0	-0.1
	baz=263						
M20K	Styx River	85.29	28	P	P	04 43 59.3	-0.2
	baz=262						
O20K	Slope Mountain	85.30	30	P	P	04 43 59.7	+0.1
	baz=263						
A21K	Barrow	85.53	18	P	P	04 44 01.0	+0.6
	baz=258						
IMAR	Indian Mountai	85.61	24	P	P	04 44 01.2	+0.3
N20K	Mount Spurr	85.64	29	P	P	04 44 01.3	0.0
	baz=263						
SPCR	Spurr Chakacha	85.64	29	P	P	04 44 01.7	+0.5
	baz=263						
C21K	Knifeblade Rid	85.74	21	P	P	04 44 02.3	+0.9
	baz=260						
HOM	Homer	85.74	30	P	P	04 44 01.6	0.0
	baz=264						
G21K	Allakaket	85.79	23	P	P	04 44 02.5	+0.7
	baz=261						
PPLA	Purkeypile	85.86	27	P	P	04 44 02.7	+0.3
	baz=263						
B21K	Ikpikpuk River	85.88	20	IAmb	IAmb	04 44 13.9	
	comp=Z,12nm,0.8s						
B21K	Ikpikpuk River	85.88	20	P	P	04 44 02.2	+0.1
	baz=260						
F21K	Alatna River	85.91	23	P	P	04 44 02.6	+0.2
	baz=261						
E21K	Killik River	85.91	21	P	P	04 44 02.7	+0.4
	baz=261						
CHUM	Lake Minchumin	85.93	26	P	P	04 44 02.6	+0.1
	baz=263						
H21K	Melozitna Rive	85.95	24	P	P	04 44 02.5	-0.1
	baz=262						
CAST	Castle Rocks	85.97	27	P	P	04 44 02.7	-0.1
	baz=263						
A22K	Sinclair Lake	86.00	19	P	P	04 44 03.2	+0.5
	baz=260						
VRH	Novokhopyorsk	86.02	321	*e*P	P	04 44 03.4	+0.2
VRH				pmax	pmax		
	comp=Z,112nm,0.6s						
SKT	Skwentna	86.06	28	P	P	04 44 02.9	-0.4
	baz=264						
BRSE	Bradley Lake S	86.21	30	P	P	04 44 03.9	-0.1
	baz=264						
I21K	Tanana	86.23	25	IAmb	IAmb	04 44 10.6	
	comp=Z,12nm,0.9s						
I21K	Tanana	86.23	25	P	P	04 44 04.4	+0.5
	baz=263,SNR=7.1						
LABN	Labinsk	86.27	315	*e*P	P	04 44 07.1	+2.5
LABN				pmax	pmax		
	comp=Z,29nm,0.4s						
SUA	Susitna One	86.37	29	IAmb	IAmb	04 44 31.4	
	comp=Z,29nm,1.2s						
SUA	Susitna One	86.37	29	P	P	04 44 04.9	-0.1
	baz=264						
B22K	Teshekpuk Lake	86.40	20	P	P	04 44 05.0	+0.4
	baz=261						
D22K	Ayikyak River	86.44	21	P	P	04 44 05.5	+0.5
	baz=262						
F22K	John River	86.44	22	P	P	04 44 06.0	+1.0
	baz=263						
ERBR	Yeremizino-Bor	86.50	316	*e*P	P	04 44 06.9	+1.2
ERBR				*e**PP	PcP	04 44 10.3	+2.2
ERBR				*e*		04 54 32.8	
ERBR				pmax	pmax		
	comp=Z,85nm,1.6s						
BPAW	Bear Paw Mtn.	86.53	26	IAmb	IAmb	04 44 22.8	
	comp=Z,29nm,1.8s						
BPAW	Bear Paw Mtn.	86.53	26	P	P	04 44 06.0	+0.5
	baz=264						
H22K	Ishtalitna Cre	86.57	24	P	P	04 44 05.9	+0.3
	baz=263						
G22K	Bettles	86.63	23	P	P	04 44 06.5	+0.6
	baz=263						
E22K	Anaktuvuk Pass	86.66	22	IAmb	IAmb	04 44 14.2	
	comp=Z,15nm,0.8s						
E22K	Anaktuvuk Pass	86.66	22	P	P	04 44 06.3	+0.2
	baz=263						
M22K	Willow	86.70	28	P	P	04 44 06.6	+0.3
	baz=265						
VSLR	Vesyoloye	86.72	313	*i* P	P	04 44 07.9	+1.1
VSLR				pmax	pmax		
	comp=Z,88nm,1.0s						
MLY	Manley	86.74	25	P	P	04 44 06.5	0.0
	baz=264,SNR=11						
TRF	Thorofare Moun	86.78	27	P	P	04 44 07.3	+0.4
	baz=265						
O22K	Cooper Landing	86.78	30	P	P	04 44 07.2	+0.4
	baz=265						
RC01	Rabbit Creek A	86.83	29	IAmb	IAmb	04 44 16.9	
	comp=Z,20nm,1.0s						
RC01	Rabbit Creek A	86.83	29	P	P	04 44 07.4	+0.4
	baz=265						
SEW	Seward	86.89	30	P	P	04 44 07.5	+0.2
	baz=266						
SOC	Sochi	86.95	313	*e*P	P	04 44 07.3	-0.7
SOC				*e*		04 47 26.6	
SOC				*e*PPP	PPP	04 49 23.1	
SOC				*e*S	SKSac	04 54 33.7	+1.0
SOC				*e*SS	SS	05 00 32.1	+4.8
SOC				MLR	MLR		
	comp=Z,120nm,19.0s						
PMR	Palmer	87.16	28	IAmb	IAmb	04 44 27.9	
	comp=Z,35nm,1.4s						
PMR	Palmer	87.16	28	P	P	04 44 08.8	+0.2
	baz=266						
D23K	Nanushuk River	87.17	21	IAmb	IAmb	04 44 22.7	
	comp=Z,20nm,1.1s						
D23K	Nanushuk River	87.17	21	P	P	04 44 09.1	+0.6
	baz=264,SNR=6.8						
COLD	Coldfoot	87.17	23	P	P	04 44 09.1	+0.6
	baz=264,SNR=19						
G23K	Bananza Creek	87.19	23	IAmb	IAmb	04 44 21.1	
	comp=Z,17nm,1.0s						
G23K	Bananza Creek	87.19	23	P	P	04 44 09.0	+0.2
	baz=265,SNR=18						
C23K	Itkillik River	87.29	20	IAmb	IAmb	04 44 17.4	
	comp=Z,19nm,0.9s						
C23K	Itkillik River	87.29	20	P	P	04 44 09.8	+0.7
	baz=264						
H23K	Yukon River	87.31	24	P	P	04 44 09.9	+0.6
	baz=265						
I23K	Minto, Yukon-K	87.33	25	IAmb	IAmb	04 44 20.6	
	comp=Z,13nm,0.9s						
I23K	Minto, Yukon-K	87.33	25	P	P	04 44 09.3	0.0
	baz=265,SNR=16						
MCK	McKinley	87.41	26	P	P	04 44 09.9	+0.1
	baz=266						
NEA2	Nenana	87.41	25	P	P	04 44 10.0	+0.2
	baz=266						
KNK	Knik Glacier	87.47	29	IAmb	IAmb	04 44 23.3	
	comp=Z,18nm,1.0s						
KNK	Knik Glacier	87.47	29	P	P	04 44 09.9	-0.2
	baz=266						
E23K	Chandalar	87.47	22	IAmb	IAmb	04 44 14.6	
	comp=Z,22nm,0.8s						
E23K	Chandalar	87.47	22	P	P	04 44 09.7	-0.4
	baz=265,SNR=26						
PWL	Port Wells	87.49	29	IAmb	IAmb	04 44 11.4	
	comp=Z,29nm,1.2s						
PWL	Port Wells	87.49	29	P	P	04 44 09.9	-0.3
	baz=266						
WAT1	Susitna Watana	87.52	27	P	P	04 44 10.3	-0.1
	baz=266						
TOLK	Toolik Lake Re	87.54	21	IAmb	IAmb	04 44 16.2	

comp=Z,16nm,1.1s
TOLK Toolik Lake Re 87.54 21 P P 04 44 10.3 -0.1
baz=265,SNR=11
SML Sawmill 87.55 28 IAmb IAmb 04 44 23.7
comp=Z,19nm,0.8s
SML Sawmill 87.55 28 P P 04 44 10.8 +0.2
baz=266
VORR Voronezh 87.61 322 *e*P **P 04 44 13.6 +2.6**
VORR pmax pmax
comp=Z,30nm,0.8s
VSR Storozhevoye 87.62 321 *e*P **P 04 44 11.0 0.0**
VSR pmax pmax
comp=Z,20nm,0.6s
LPSR Galich'ya Gora 87.82 322 *e*P **P 04 44 14.5 +2.6**
LPSR pmax pmax
comp=Z,60nm,0.7s
WRH Wood River Hil 87.82 26 IAmb IAmb 04 44 20.1
comp=Z,31nm,1.5s
M23K Glacier View 87.84 28 P P 04 44 12.0 +0.1
baz=267
KLMR Klimovskoe 87.85 331 *e*P **P 04 44 10.9 -1.0**
KLMR pmax pmax
comp=Z,59nm,1.4s
D24K Happy Valley 87.85 21 IAmb IAmb 04 44 17.8
comp=Z,14nm,0.6s
D24K Happy Valley 87.85 21 P P 04 44 12.0 +0.2
baz=266
WAT6 Susitna Watana 87.87 28 P P 04 44 12.0 -0.3
baz=267
E24K Your Creek 87.90 22 P P 04 44 12.1 0.0
baz=266
P23K Montague Islan 87.91 30 P P 04 44 12.1 -0.1
baz=267
C24K Franklin Bluff 87.94 20 IAmb IAmb 04 44 17.4
comp=Z,9.2nm,0.8s
C24K Franklin Bluff 87.94 20 P P 04 44 12.4 +0.3
baz=266
H24K Noodor Dome 87.99 24 IAmb IAmb 04 44 17.2
comp=Z,18nm,1.3s
H24K Noodor Dome 87.99 24 P P 04 44 12.8 +0.2
baz=267
SCM Sheep Creek Mo 88.03 28 P P 04 44 12.8 -0.1
baz=267
DHY Denali Highway 88.06 27 IAmb IAmb 04 44 18.8
comp=Z,7.7nm,0.7s
DHY Denali Highway 88.06 27 P P 04 44 13.0 -0.1
baz=267
F24K Squaw Lake 88.09 23 P P 04 44 13.0 0.0
baz=267
GLI Glacier Island 88.10 29 P P 04 44 13.6 +0.5
baz=268
POKR Poker Plat Res 88.14 25 P P 04 44 13.3 +0.1
baz=267
G24K Hadweenzic Riv 88.20 23 P P 04 44 13.5 0.0
baz=267
HDA Harding Lake 88.32 26 IAmb IAmb 04 44 13.6
comp=Z,14nm,1.0s
HDA Harding Lake 88.32 26 P P 04 44 13.3 -0.8
baz=268
ILAR Eielson Array 88.36 25 P P 04 44 12.2 -2.0
comp=Z,3.3nm,0.5s,baz=250,slow=4.8,SNR=28
ILAR PP **PP 04 47 41.9 -0.1**
comp=Z,0.6nm,0.8s,baz=258,slow=6.4,SNR=2.7
comp=Z,3.3nm,0.5s
Q23K Middleton Isla 88.42 31 P P 04 44 14.3 -0.3
baz=268
M24K Tolsona, Glenn 88.58 28 P P 04 44 15.1 -0.4
baz=268
ANN Anapa 88.62 315 *e*P **P 04 44 17.4 +1.5**
ANN *e**PP **PcP 04 44 21.0 +3.5**
ANN *e* 04 54 45.5
ANN *e* 04 54 56.6
ANN pmax pmax
comp=Z,35nm,0.7s
MOS Moscow 88.67 326 *e*P **P 04 44 17.4 +1.5**
MOS pmax pmax
comp=Z,47nm,0.7s
KLU Klutina 88.69 29 P P 04 44 15.6 -0.4
baz=268
KMBO Kilima Mbogo 88.72 269 P P 04 44 16.0 -1.3
KMBO Kilima Mbogo 88.72 269 P P 04 44 15.5 -1.9
comp=Z,2.6nm,0.7s,baz=55,slow=8.5,SNR=7.2
KMBO LR LR 05 22 02.5
comp=Z,226nm,20.3s,baz=92,slow=34
comp=Z,2.6nm,0.7s
KMBO Kilima Mbogo 88.72 269 *i* P **P 04 44 18.7 +1.3**
KMBO pmax pmax
comp=Z,4.0nm,0.7s
D25K Kavik River 88.73 21 P P 04 44 16.3 +0.2
baz=268
EYAK Cordova Ski Ar 88.75 30 P P 04 44 16.0 -0.2
baz=269
G25K Bearman Lake 88.75 23 P P 04 44 16.2 +0.2
baz=268
K24K Donnelly Dome 88.81 26 P P 04 44 16.4 -0.1
baz=269
H25L Birch Creek 88.85 24 P P 04 44 16.6 0.0
baz=268
PAX Paxson 88.93 27 P P 04 44 17.5 +0.4
baz=269
F25K Christian Rive 88.95 23 P P 04 44 16.8 -0.3
baz=269
PRP Porcupine Dome 88.96 25 P P 04 44 17.5 +0.3
baz=269
J25K Salcha River, 89.00 26 P P 04 44 16.9 -0.5
baz=269
HARP HAARP 89.07 28 P P 04 44 17.4 -0.2
baz=269
FYU Fort Yukon 89.09 24 P P 04 44 18.4 +0.8
FYU IAmb IAmb 04 45 01.4
comp=Z,42nm,1.7s
RIDG Independent Ri 89.22 26 IAmb IAmb 04 44 28.9
comp=Z,25nm,1.0s
RIDG Independent Ri 89.22 26 P P 04 44 18.4 0.0
baz=269
C26K Camden Bay 89.26 20 P P 04 44 18.8 +0.4
baz=269
OBN Obninsk 89.27 325 P P 04 44 18.4 -0.3
OBN Obninsk 89.27 325 ⇑P **P 04 44 22.7 +4.0**
OBN Obninsk 89.27 325||*e*P **P 04 44 18.8 +0.1**
OBN *e* 04 47 50.4
OBN *e*S **S 04 54 58.6 -7.1**
OBN *e*SS **SS 05 00 58.4 -2.0**
OBN pmax pmax
comp=Z,84nm,1.7s
OBN MLR MLR
comp=Z,246nm,20.0s
OBN Obninsk 89.27 325 P P 04 44 19.9 +1.2
comp=Z,53nm,0.7s
BMRM Bremner River 89.32 29 P P 04 44 18.9 0.0
baz=270
N25K Chitina, Valde 89.32 29 P P 04 44 18.7 -0.2
baz=270
BMAR Burnt Mountain 89.36 23 P P 04 44 18.8 -0.2
KAIM Kayak Island 89.41 30 P P 04 44 19.2 0.0
baz=270
F26K Sheenjek River 89.53 22 P P 04 44 20.3 +0.5
baz=270
SCRK Sand Creek 89.60 26 P P 04 44 20.6 +0.3
baz=270
G26K Porcupine Rive 89.67 23 P P 04 44 20.8 +0.5
baz=270
C27K Jago River 89.68 20 IAmb IAmb 04 44 24.9
comp=Z,15nm,0.6s
C27K Jago River 89.68 20 P P 04 44 20.6 +0.3
baz=270
J26L Joseph Creek 89.78 26 IAmb IAmb 04 44 31.8
comp=Z,12nm,0.8s
J26L Joseph Creek 89.78 26 P P 04 44 21.2 +0.2
baz=271
L26K Log Cabin Wild 89.90 27 IAmb IAmb 04 44 23.6
comp=Z,40nm,2.0s
L26K Log Cabin Wild 89.90 27 P P 04 44 21.8 +0.2
baz=271
I26K Coal Creek Min 89.95 25 P P 04 44 21.9 +0.2
baz=271
BGLC Bering Glacier 89.97 30 P P 04 44 22.1 +0.2
baz=271
CRQE Cirque 90.06 29 P P 04 44 22.6 +0.1
baz=271
M26K Nabesna, AK 90.07 28 P P 04 44 22.8 +0.4
baz=271
MCARA McCarthy VSAT 90.08 29 P P 04 44 22.7 +0.3
baz=271
MMAI Mount Meron Ar 90.21 303 P P 04 44 23.7 -0.1
comp=Z,6.2nm,0.9s,baz=89,slow=6.8,SNR=10
comp=Z,6.2nm,0.9s
QSPA South Pole Qui 90.40 180 P P 04 44 24.0 0.0
QSPA South Pole Qui 90.40 180 P P 04 44 23.7 -0.2
comp=Z,30nm,1.0s,baz=297,slow=1.6,SNR=37
comp=Z,30nm,1.0s
E27K Coleen River 90.48 22 P P 04 44 24.4 +0.2
baz=272
G27K Doyon Strip 90.52 23 P P 04 44 24.5 +0.1
G27K Doyon Strip 90.52 23 P P 04 44 24.6 +0.3
baz=272
PLTM Poltava 90.56 319 P P 04 44 26.3 +1.4
I27K Kandik River 90.58 25 P P 04 44 25.5 +0.8
baz=272
H27K Steamboat Moun 90.59 24 P P 04 44 24.8 0.0
baz=272
L27K Beaver Creek, 90.59 27 IAmb IAmb 04 44 36.5
comp=Z,8.7nm,0.8s
L27K Beaver Creek, 90.59 27 P P 04 44 24.6 -0.2
baz=272
M27K Edge Creek, AK 90.59 28 P P 04 44 25.1 +0.1
baz=272
BCAR Beaver Creek A 90.61 27 P P 04 44 25.2 +0.3
MESA MESA 90.64 30 P P 04 44 25.4 +0.1
baz=272
EIL Elat 90.65 300 LR LR 05 28 44.6
comp=Z,234nm,21.4s,baz=68,slow=38
D27M Malcolm River 90.66 21 P P 04 44 25.1 0.0
baz=273
EGAK Eagle 90.81 25 P P 04 44 26.0 +0.3
baz=273
CTG Chitna Glacier 90.91 29 P P 04 44 26.4 0.0
baz=273
SIM Simferopol' 90.98 315 P P 04 44 36.4 +9.4
SIM pmax pmax
comp=Z,18nm,0.8s
SIM MLR MLR
comp=Z,150nm,20.0s
BVCY Beaver Creek 91.06 28 P P 04 44 27.5 +0.5
baz=273
F28M Old Crow 91.16 22 P P 04 44 27.4 0.0
baz=274
E28M Babbage River 91.22 21 IAmb IAmb 04 44 32.3
comp=Z,8.0nm,0.7s
E28M Babbage River 91.22 21 P P 04 44 27.6 +0.1
baz=274
I28M Miner Creek 91.29 25 IAmb IAmb 04 44 37.0
comp=Z,8.9nm,0.8s
I28M Miner Creek 91.29 25 P P 04 44 28.7 +0.6
baz=274
YUK3 Moose Creek 91.29 28 P P 04 44 28.4 +0.1
baz=273
KIRS Kirsehir-Merke 91.30 309 ⇑P **P 04 44 28.7 +0.1**
D28M Stokes Point 91.44 21 P P 04 44 29.6 +1.1
baz=275
O28M Mount Upton 91.48 29 P P 04 44 29.1 -0.2
baz=274
BR104 Keskin Array S 91.49 310 P P 04 44 30.1 +0.5
comp=Z,7.7nm,0.8s,comp=Z,56nm
BR131 Keskin Array S 91.49 310 IAmb IAmb 04 44 37.5
comp=Z,7.0nm,0.7s
BR131 Keskin Array S 91.49 310 *i* P **P 04 44 30.5 +0.8**
BRTR Keskin Array B 91.49 310 P P 04 44 28.6 -1.1
BRTR Keskin Array B 91.49 310 P P 04 44 28.1 -1.6
comp=Z,1.3nm,0.8s,baz=131,slow=5.8,SNR=11
comp=Z,1.3nm,0.8s
BRTR Keskin Array B 91.49 310 *i* P **P 04 44 31.2 +1.5**
BRTR pmax pmax
comp=Z,5.0nm,0.7s
PINM Pinnacle 91.49 30 P P 04 44 29.5 +0.4
baz=274
BR106 Keskin Array S 91.51 310 P P 04 44 30.8 +1.1
comp=Z,6.3nm,0.8s,comp=Z,51nm
BR105 Keskin Array S 91.51 310 P P 04 44 30.0 +0.3
comp=Z,8.6nm,0.8s,comp=Z,67nm
DAWY Dawson 91.62 26 P P 04 44 29.7 +0.1
baz=274
YUK8 Steele Glacier 91.65 29 P P 04 44 30.7 +0.6
baz=274
E29M Blow River 91.84 22 P P 04 44 31.1 +0.6
baz=276
H29M Whitestone 91.87 24 P P 04 44 31.7 +1.0
baz=275
G29M Pine Creek 91.94 23 IAmb IAmb 04 44 42.9
comp=Z,22nm,1.1s
G29M Pine Creek 91.94 23 P P 04 44 32.0 +1.0
baz=276
J29N Klondike Camp 92.10 26 P P 04 44 32.4 +0.6
baz=275
ANTO Ankara 92.14 310 P P 04 44 33.6 +1.0
comp=Z,4.4nm,1.2s
M29M Somme Creek 92.18 28 IAmb IAmb 04 44 44.2
comp=Z,18nm,1.4s
M29M Somme Creek 92.18 28 P P 04 44 32.6 +0.3
baz=275
YUK4 Talbot Arm 92.19 29 P P 04 44 32.7 +0.3
baz=275
L29M L29M 92.27 27 IAmb IAmb 04 44 48.1
comp=Z,17nm,1.1s
L29M L29M 92.27 27 P P 04 44 32.9 +0.3
baz=275
O29M Mount Kennedy 92.31 30 P P 04 44 33.1 +0.1
baz=275
YUK6 Outpost Mounta 92.36 29 P P 04 44 33.2 -0.1
baz=275
K29M Barlow Dome 92.47 26 IAmb IAmb 04 44 48.0
comp=Z,15nm,1.2s
K29M Barlow Dome 92.47 26 P P 04 44 34.1 +0.5
baz=276
EPYK Eagle Plains 92.52 24 IAmb IAmb 04 44 46.3
comp=Z,23nm,1.4s
EPYK Eagle Plains 92.52 24 P P 04 44 34.1 +0.4
baz=277
G30M tAoh Zrali Nji 92.64 23 IAmb IAmb 04 44 48.7
comp=Z,24nm,1.6s
G30M tAoh Zrali Nji 92.64 23 P P 04 44 34.4 +0.2
baz=277
F30M Barrier River 92.72 22 P P 04 44 34.8 +0.2
baz=278
HYT Haines Junctio 92.79 29 IAmb IAmb 04 44 48.1
comp=Z,22nm,1.4s
HYT Haines Junctio 92.79 29 P P 04 44 35.5 +0.4
baz=276
P29M Windy Craggy 92.79 30 P P 04 44 35.3 +0.2
baz=276
I30M Mount Dempster 92.80 25 P P 04 44 35.2 +0.1
baz=277
J30M Hart River 92.90 25 IAmb IAmb 04 44 49.9
comp=Z,27nm,1.6s
J30M Hart River 92.90 25 P P 04 44 36.1 +0.6
baz=277
N30M Aishikik Lake 92.92 29 P P 04 44 36.3 +0.6
baz=276
M30M Minto, Yukon 92.93 27 IAmb IAmb 04 44 48.1
comp=Z,12nm,1.1s
M30M Minto, Yukon 92.93 27 P P 04 44 36.1 +0.4
baz=277
P30M Million Dollar 93.13 30 P P 04 44 36.6 0.0
baz=276
NE56 Odesa 93.14 317 P P 04 44 38.6 +1.7
MAYO Mayo, Yukon 93.21 26 P P 04 44 37.4 +0.5
baz=278
ARCES ARCESS Array B 93.22 340 P P 04 44 36.5 -0.3
comp=Z,6.9nm,0.7s,baz=77,slow=4.4,SNR=11
ARCES PKKP **PKKPdf 05 01 43.9 -1.8**
comp=Z,12nm,1.1s,baz=323,slow=3.0,SNR=4.2
comp=Z,6.9nm,0.7s
G31M Satah River 93.40 23 IAmb IAmb 04 44 48.5
comp=Z,13nm,1.1s
G31M Satah River 93.40 23 P P 04 44 37.7 0.0
baz=279
INK Inuvik 93.45 21 IAmb IAmb 04 44 50.6
comp=Z,22nm,1.4s
INK Inuvik 93.45 21 LR LR 05 27 14.3
comp=Z,113nm,21.5s,baz=248,slow=36
INK Inuvik 93.45 21 P P 04 44 37.9 0.0
baz=280
O30N Mendenhall 93.48 29 P P 04 44 38.4 +0.1
baz=277
SPITS Spitsbergen Ar 93.50 349 P P 04 44 39.0 +1.0
comp=Z,7.4nm,0.7s,baz=85,slow=12,SNR=8.4
SPITS LR LR 05 33 14.5
comp=Z,150nm,18.6s,baz=32,slow=40
comp=Z,7.4nm,0.7s
SPITS Spitsbergen Ar 93.50 349 P P 04 44 39.0 +1.0
PLBC Pleasant Camp 93.51 30 P P 04 44 38.5 +0.2
baz=277
F31M Tsiigehtchic 93.52 22 IAmb IAmb 04 44 51.5
comp=Z,20nm,1.2s
F31M Tsiigehtchic 93.52 22 P P 04 44 38.2 0.0
baz=280
N31M Braeburn, Yuko 93.54 28 IAmb IAmb 04 45 00.3
comp=Z,21nm,1.1s
N31M Braeburn, Yuko 93.54 28 P P 04 44 39.0 +0.5
baz=278
H31M Peel River 93.55 24 P P 04 44 38.9 +0.5
baz=279
AK08 Malin Array Si 93.90 321 P P 04 44 40.6 +0.3
AK10 Malin Array Si 93.91 321 P P 04 44 39.9 -0.4
AKASG Malin Array Be 93.92 321 P P 04 44 39.5 -0.9
comp=Z,2.1nm,0.7s,baz=70,slow=4.9,SNR=6.6
AKASG LR LR 05 29 50.8
comp=Z,104nm,21.8s,baz=68,slow=37
comp=Z,2.1nm,0.7s
AKASG Malin Array Be 93.92 321 *i* P **P 04 44 40.2 -0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 93.92 321 *ce*P **P 04 44 42.2 +1.8**
AKBB Malin Array Si 93.92 321 P P 04 44 41.9 +1.5
TAOE Nuku Hiva Isla 93.92 99 *e*S **S 04 55 50.4 +0.7**
comp=Z,135nm,32.6s
TAOE Nuku Hiva Isla 93.92 99 *e*LR LR 05 14 51.2
comp=Z,733nm,23.6s
KIEV Kiev 93.93 321 ⇑P **P 04 44 41.5 +1.1**
KIEV Kiev 93.93 321 ⇑P **P 04 44 41.5 +1.1**
KIEV Kiev 93.93 321 P **P 04 44 41.8 +1.4**
comp=Z,36nm,0.8s
AK05 Malin Array Si 93.94 321 P P 04 44 38.9 -1.6
AK07 Malin Array Si 93.94 321 P P 04 44 39.8 -0.7
AK15 Malin Array Si 93.98 321 P P 04 44 42.9 +2.2
SKAG Skagway 94.03 30 P P 04 44 41.1 +0.4
baz=278
WHY Whitehorse 94.09 29 IAmb IAmb 04 44 51.0
comp=Z,11nm,1.0s
WHY Whitehorse 94.09 29 P P 04 44 41.3 +0.2
baz=278
M31M Drury Creek, Y 94.09 28 P P 04 44 41.4 +0.4
baz=279
FINES FINESS Array B 94.32 332 P P 04 44 41.9 -0.1
comp=Z,3.0nm,0.7s,baz=104,slow=8.0,SNR=8.1
comp=Z,3.0nm,0.7s
FINES FINESS Array B 94.32 332 *i* P **P 04 44 44.7 +2.7**
FINES pmax pmax
comp=Z,7.0nm,0.7s
MNK Minsk 94.32 325 *i* P **P 04 44 44.1 +1.9**
comp=E,14nm,0.9s
MNK *i* P **P 04 44 44.1 +1.9**
comp=N,9.0nm,0.9s
MNK *i* P **P 04 44 44.1 +1.9**
comp=Z,15nm,0.9s,baz=83
MNK *i* PP **PP 04 48 30.9 +1.6**
MNK *i* PPP PPP 04 50 37.0
MNK *i* SKS 04 54 09.0
MNK *i* S **SKSac 04 55 18.9 +4.2**
MNK *i* SP **SP 04 56 51.7 -14**
MNK *i* PS **PS 04 57 18.4 +7.7**
MNK *i* SSS SSS 05 06 00.1
MNK *i* LQ LQ 05 21 20.7
MNK *i* LR LR 05 25 18.8
MNK *i* LRM MLR 05 27 39.4
comp=E,221nm,19.0s
MNK *i* LRM MLR 05 28 50.8
comp=Z,184nm,18.6s
MNK *i* LRM MLR 05 30 49.4
comp=N,150nm,15.5s
MNK Minsk 94.32 325 *i* P **P 04 44 44.0 +1.9**
MNK *i* 04 48 30.9
MNK *i* PPP PPP 04 50 36.9
MNK *i* S **SKSac 04 55 18.9 +4.2**
MNK *i* PS PS 04 57 18.4 +7.7
MNK *i* SSS SSS 05 06 00.1
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=E,14nm,0.9s
MNK pmax pmax
comp=Z,15nm,0.9s
MNK MLR MLR
comp=E,221nm,19.0s
MNK MLR MLR
comp=Z,184nm,19.0s
MNK MLR MLR
comp=N,150nm,15.0s
SIT Sitka 94.36 33 P P 04 44 42.7 +0.5
baz=278
FARO Faro, Yukon 94.57 27 P P 04 44 43.2 0.0
baz=280
R32K Eaglecrest 94.62 32 P P 04 44 43.9 +0.4
baz=278
S32K Killisnoo 94.70 32 P P 04 44 44.0 +0.2
baz=278
SORM Soroca 94.74 318 ⇑P **P 04 44 43.9 -0.3**
SORM Soroca 94.74 318 ⇑P **P 04 44 43.9 -0.3**
SORM Soroca 94.74 318 P P 04 44 44.5 +0.3
comp=N,12nm,0.9s
P32M Atlin 94.83 30 P P 04 44 44.7 +0.2
baz=279
N32M Quiet Lake 94.88 29 P P 04 44 44.7 0.0
baz=280
NACGM Naroch 94.90 325 *e*P **P 04 44 46.3 +1.5**
comp=Z,20nm,1.1s,baz=82
LUBAR Lubar, Ukraine 94.93 320 P P 04 44 45.2 +0.1
P33M Teslin, Yukon 95.17 29 P P 04 44 46.0 0.0
baz=280
CFR Carcaliu 95.19 315 ⇑P P 04 44 55.7 +9.4
CFR Carcaliu 95.19 315 ⇑P P 04 44 55.7 +9.4
MBAR Mbarara 95.23 269 LR LR 05 24 51.6
comp=Z,170nm,21.9s,baz=82,slow=34
A36M Sachs Harbour 95.31 17 IAmb IAmb 04 44 49.6
comp=Z,8.1nm,0.8s
A36M Sachs Harbour 95.31 17 P P 04 44 46.5 +0.3
baz=288
HORU Horodok 95.88 319 P P 04 44 49.8 +0.4
RNPP9 Sopachiv 95.92 322 P P 04 44 51.7 +2.2
KMPD K-Podol'skiy 95.94 319 P P 04 44 49.8 +0.1
RNPP5 Staryi Chortor 95.95 322 P P 04 44 50.4 +0.7
TESR Tescani 96.08 317 ⇑P **P 04 44 50.7 +0.4**
TESR Tescani 96.08 317 P P 04 44 49.9 -0.5
VRI Vrincioaia 96.10 316 ⇑P **P 04 44 54.2 +3.6**
VRI Vrincioaia 96.10 316 ⇑P **P 04 44 54.2 +3.6**
PLOR Plostina 96.16 316 ⇑P P 04 45 00.9 +10
R33M Jennings River 96.24 30 P P 04 44 51.2 +0.2
baz=282
ONER Baraj Valea Uz 96.27 317 ⇑P **P 04 44 56.1 +4.8**
BIZ Bicaz 96.39 317 ⇑P **P 04 44 48.0 -3.8**
S34M Telegraph Cree 96.45 32 P P 04 44 51.8 0.0
baz=281
NEHR Nehoiu 96.45 316 ⇑P **P 04 44 54.5 +2.3**
C36M Paulatuk 96.52 20 P P 04 44 52.0 +0.1
baz=289
TURR Turia 96.57 316 ⇑P P 04 45 03.3 +11
MLR Muntele Rosu 96.69 316 ⇑P **P 04 44 57.3 +3.9**
MLR Muntele Rosu 96.69 316 ⇑P **P 04 44 57.3 +3.9**
BURAR Bucovina Array 96.90 318 P P 04 44 54.0 -0.2
BURAR IAmb IAmb 04 45 07.1
comp=Z,8.3nm,0.7s
BURAR Bucovina Array 96.90 318 ⇑P **P 04 44 55.0 +0.8**
BURAR Bucovina Array 96.90 318 ⇑P **P 04 44 55.0 +0.8**
BUR08 Bucovina Ar. S 96.91 318 IAmb IAmb 04 44 58.8
comp=Z,18nm,1.2s
DLBC Dease Lake 96.92 31 LR LR 05 23 50.3
comp=Z,348nm,21.2s,baz=280,slow=32
T35M Bob Quinn 97.10 32 P Pdif 04 44 54.9 0.0
baz=282
VOIR 97.32 316 ⇑P Pdif 04 45 01.8 +5.6
VOIR 97.32 316 ⇑P Pdif 04 45 01.8 +5.5
ARR Arges 97.62 316 ⇑P Pdif 04 45 00.6 +3.0
LOT Lotru 98.21 316 ⇑P Pdif 04 45 04.8 +4.6
MARR Marisel-Cluj 98.46 317 ⇑P Pdif 04 45 04.7 +3.4
HOLU Holmets 98.62 319 P Pdif 04 45 02.2 +0.4
LBTB Lobatse 99.59 245 LR LR 05 28 14.2
comp=Z,122nm,18.9s,baz=110,slow=34
BOSA Boshof 99.62 241 LR LR 05 26 04.5
comp=Z,168nm,20.6s,baz=94,slow=33
HFS Hagfors 100.52 332 P Pdif 04 45 08.6 -1.4
comp=Z,1.7nm,0.7s,baz=122,slow=14,SNR=1.7
NB2 NORSAR Subarra101.34 333 P Pdif 04 45 13.7 0.0
comp=Z,1.9nm,0.7s,baz=68,slow=4.6
NOA NORSAR Array B101.34 333 P Pdif 04 45 13.5 -0.2
comp=Z,0.9nm,0.6s,baz=68,slow=4.6,SNR=5.7
GERES GERESS Array B 104.13 321 Pdiff **Pdif 04 45 26.5 0.0**
comp=Z,0.3nm,0.4s,baz=124,slow=5.1,SNR=1.7
NVAR Mina Array Bea 109.63 49 Pdiff **Pdif 04 45 52.0 +0.6**
comp=Z,0.1nm,0.5s,baz=277,slow=2.4,SNR=3.0
NVAR PKiKP **PKiKP 04 49 52.6 -1.6**
comp=Z,0.7nm,0.7s,baz=257,slow=2.9,SNR=4.4

R11B	**Troy Canyon, C**	**111.69**	**48**	P	**PKiKP**	**04 49 57.9**	**-0.1**
	baz=289						
PDAR	**Pinedale Array**	**114.29**	**42**	PKiKP	PKPdf	04 50 02.6	-0.4
	comp=Z,0.5nm,0.5s,baz=219,slow=1.1,SNR=5.6						
PDAR				PKKPbc	**PKKPbc**	**05 00 41.5**	**-2.6**
	comp=Z,0.4nm,0.5s,baz=125,slow=6.7,SNR=6.1						
RSSD	**Black Hills**	**117.21**	**38**	PKPdf	**PKPdf**	**04 50 07.9**	**-0.6**
RSSD	**Black Hills**	**117.21**	**38**	PKiKP	**PKPdf**	**04 50 07.9**	**-0.6**
N23A	**Red Feather La**	**117.54**	**42**	P	**PKPdf**	**04 50 08.3**	**-1.0**
	baz=298						
ULM	**Lac du Bonnet**	**118.17**	**29**	PKP	**PKPdf**	**04 50 08.1**	**-1.7**
	comp=Z,4.8nm,0.7s,baz=332,slow=2.4,SNR=5.8						
S22A	**4UR Ranch, Cre**	**118.32**	**46**	P	**PKPdf**	**04 50 10.7**	**-0.2**
	baz=295						
Q24A	**Divide**	**118.97**	**44**	P	**PKPdf**	**04 50 11.9**	**-0.2**
	baz=297						
ESDC	**Sonseca Array**	**119.35**	**317**	PKP	**PKPdf**	**04 50 11.4**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=25,slow=1.2,SNR=2.4						
121A	**Cookes Peak, D**	**119.68**	**52**	P	**PKPdf**	**04 50 12.9**	**-0.6**
	baz=292						
ANMO	**Albuquerque**	**119.76**	**49**	PKPdf	**PKPdf**	**04 50 13.4**	**-0.2**
ANMO	**Albuquerque**	**119.76**	**49**	PKiKP	**PKPdf**	**04 50 13.4**	**-0.2**
T25A	**Trinidad**	**120.32**	**45**	P	**PKPdf**	**04 50 14.1**	**-0.6**
	baz=297						
TORD	**Torodi Ar. Bea**	**123.13**	**286**	PKPdf	**PKPdf**	**04 50 19.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**123.13**	**286**	PKP	**PKPdf**	**04 50 20.4**	**0.0**
	comp=Z,5.0nm,0.8s,baz=35,slow=3.1,SNR=31						
TORD				PKKPbc	**PKKPab**	**05 00 11.2**	**0.0**
	comp=Z,7.9nm,0.8s,baz=298,slow=4.8,SNR=25						
SCHQ	**Schefferville**	**123.88**	**9**	PKP	**PKPdf**	**04 50 20.6**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=313,slow=5.0,SNR=4.0						
TXAR	**Lajitas Array**	**124.17**	**54**		**PKPdf**	**04 50 22.0**	**-0.2**
TXAR	**Lajitas Array**	**124.17**	**54**	PKP	**PKPdf**	**04 50 22.1**	**0.0**
	comp=Z,2.7nm,0.7s,baz=230,slow=1.0,SNR=24						
TXAR				PKKPbc	**PKKPab**	**05 00 05.2**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=128,slow=5.8,SNR=2.5						
U38A	**Gravette**	**127.57**	**41**		**PKPdf**	**04 50 27.8**	**-0.5**
L44A	**Lake County Fo**	**127.71**	**32**	P	**PKPdf**	**04 50 28.0**	**-0.3**
	baz=315						
CCM	**Cathedral Cave**	**128.59**	**38**		**PKPdf**	**04 50 29.9**	**-0.3**
CCM	**Cathedral Cave**	**128.59**	**38**	PKiKP	**PKPdf**	**04 50 29.9**	**-0.3**
DBIC	**Dimbokro**	**130.41**	**279**	PKP	**PKiKP**	**04 50 35.3**	**+0.2**
	comp=Z,3.7nm,0.6s,baz=137,slow=3.2,SNR=6.0						
DBIC				SKPbc	**SKPbc**	**04 53 57.5**	**+2.2**
	comp=Z,6.1nm,0.9s,baz=119,slow=4.2,SNR=5.4						
O48B	**Farmland**	**130.53**	**31**	P	**PKPdf**	**04 50 33.0**	**-0.8**
	baz=317						
P49A	**Miami Univ. Ec**	**131.29**	**32**	P	**PKPdf**	**04 50 34.5**	**-0.8**
	baz=317						
WCI	**Wyandotte Cave**	**131.37**	**34**	PKPdf	**PKPdf**	**04 50 35.6**	**+0.1**
WCI	**Wyandotte Cave**	**131.37**	**34**	PKiKP	**PKPdf**	**04 50 35.6**	**+0.1**
WVT	**Waverly**	**131.91**	**37**	PKPdf	**PKPdf**	**04 50 36.9**	**+0.4**
WVT	**Waverly**	**131.91**	**37**	PKiKP	**PKPdf**	**04 50 36.9**	**+0.4**
L61B	**Northampton**	**134.09**	**19**	P	**PKPdf**	**04 50 39.3**	**-1.2**
	baz=334						
M65A	**Busby, Falmout**	**135.54**	**18**	P	**PKPdf**	**04 50 42.2**	**-1.0**
	baz=336						
AC04	**Llanos de Chal**	**147.96**	**151**		**PKPdf**	**04 51 05.6**	**-0.1**
PLTB	**Pedras Altas**	**148.87**	**181**	PKPbc	**PKPbc**	**04 51 10.5**	**-0.6**
CPUP	**Villa Florida**	**154.10**	**173**	PKP	**PKPdf**	**04 51 15.7**	**+0.5**
	comp=Z,2.6nm,1.0s,baz=243,slow=6.8,SNR=4.3						
CPUP				PKPbc	**PKPbc**	**04 51 22.0**	**-1.2**
	comp=Z,15nm,0.8s,baz=157,slow=2.4,SNR=13						
CPUP				PKPab	**PKPab**	**04 51 36.7**	**+0.1**
	comp=Z,8.9nm,0.8s,baz=188,slow=1.8,SNR=5.3						
OTAV	**Otavalo**	**155.58**	**88**	*eP*	**PKPab**	**04 51 45.8**	**+1.6**
PAPY	**Pozo Azul**	**156.17**	**170**	*eP*	**PKPab**	**04 51 46.2**	**+0.6**
PAPY				*ep*P	**sPKPab**	**04 52 03.1**	**+3.6**
MURT	**Porto Murtinho**	**158.66**	**171**	*eP*	**PKPab**	**04 51 51.1**	**-5.1**
LPAZ	**La Paz**	**159.02**	**139**	PKP	**PKPdf**	**04 51 22.9**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=315,slow=1.4,SNR=12						
LPAZ				PKPab	**PKPab**	**04 51 59.5**	**+0.7**
	comp=Z,2.6nm,0.6s,baz=217,slow=6.0,SNR=2.1						
ROSC	**El Rosal**	**159.07**	**75**	PKP	**PKPdf**	**04 51 22.4**	**0.0**
	comp=Z,7.2nm,0.6s,baz=225,slow=1.4,SNR=5.0						
ROSC				PKPab	**PKPab**	**04 51 58.2**	**-0.9**
	comp=Z,20nm,0.8s,baz=344,slow=15,SNR=4.4						
BDQN	**Bodoquena, MS**	**159.97**	**173**	*eP*	**PKPab**	**04 51 59.8**	**-2.2**
BBSD	**Serra de San D**	**162.17**	**159**	*eP*	**PKPdf**	**04 51 26.0**	**+0.8**
BBSD				*ep*P	**sPKPdf**	**04 51 41.3**	**+1.8**
BAUV	**El Baul**	**163.21**	**56**	PKPab	**PKPab**	**04 52 15.5**	**-1.1**
TBTG	**Tabatinga, AM**	**163.72**	**103**	*eP*	**PKPdf**	**04 51 27.2**	**+0.4**
BDFB	**Brasilia**	**163.79**	**201**	PKP	**PKPdf**	**04 51 26.3**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=238,slow=16,SNR=2.2						
BDFB				PKPab	**PKPab**	**04 52 18.2**	**-0.8**
	comp=Z,5.5nm,1.0s,baz=125,slow=8.6,SNR=4.1						
SALV	**Santo Antonio**	**164.58**	**174**	*eP*	**PKPab**	**04 52 17.4**	**-4.9**
NPGB	**Novo Progresso**	**173.34**	**169**	*eP*	PKPab	04 52 51.7	-9.4

*KNET **21** 04:44:55.9±0.5, 42°.19N×76°.10E, h8km±5km, ml2.2, Error ellipse: s-maj=4.6km s-min=3.8km az=12.0*
*SOME **21** 04:44:55.6, 42°.17N×76°.23E, h10km*
*KRNET **21** 04:44:55.4±0.1, 42°.14N×76°.18E, h19km, mb3.0*
*NNC **21** 04:44:55.3±0.8, 42°.17N×76°.18E, h0km, mb3.4, mpv3.5, Error ellipse: s-maj=5.3km s-min=2.5km az=4.0*

ISC 21 04:44:55.6±0.9, 42°.16N±0°.03×76°.17E±0°.01, h11km±5km, n72, σ0°82/138, 36C-22D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.10**	**33**	⇑P	**Pg**		**04 44 58.5**	**-0.1**
	128nm,0.1s							
ULHL				⇑S	**Sg**		**04 45 00.6**	**-0.1**
	858nm,0.1s							
ULHL	**Ulahol**	**0.10**	**33**	⇓*i*P	**Pg**		**04 44 58.5**	**-0.1**
ULHL				⇓*i*S	**Sg**		**04 45 00.7**	**-0.1**
BOOM	**Boomskoye usch**	**0.37**	**333**	⇑*e*P	**Pg**		**04 45 03.2**	**+0.1**
BOOM				⇑*e*S	**Sg**		**04 45 08.9**	**+0.8**
KDJ	**Kajisay**	**0.75**	**92**	⇑*i*P	**Pg**		**04 45 09.7**	**-0.5**
KDJ				⇑*i*S	**Sg**		**04 45 19.6**	**-0.5**
TKM2	**Tokmak 2**	**0.87**	**331**	⇑P	**Pg**		**04 45 12.4**	**-0.1**
	15nm,0.1s,SNR=28							
TKM2				⇑S	**Sb**		**04 45 24.6**	**0.0**
	95nm,0.1s							
TKM2	**Tokmak 2**	**0.87**	**331**	⇑P	**Pg**		**04 45 12.3**	**-0.1**
	2.3nm,0.2s							
TKM2				⇑S	**Sb**		**04 45 24.4**	**-0.2**
	16nm,0.2s							
TKM2	**Tokmak 2**	**0.87**	**331**	⇓*i*P	**Pg**		**04 45 12.3**	**-0.1**
TKM2				⇓*i*S	**Sb**		**04 45 24.2**	**-0.4**
KST	**Kastek**	**0.90**	**350**	P	**Pb**		**04 45 13.0**	**-0.3**
	20nm,0.1s							
KST				S	**Sb**		**04 45 25.4**	**+0.1**
	67nm,0.2s							
KST	**Kastek**	**0.90**	**350**	*e*P	**Pb**		**04 45 13.0**	**-0.3**
	20nm,0.1s							
KST				*e*S	**Sb**		**04 45 25.4**	**+0.1**
	67nm,0.1s							
KST	**Kastek**	**0.90**	**350**	*e*P	**Pb**		**04 45 13.0**	**-0.3**
KST				*e*S	**Sb**		**04 45 25.4**	**+0.1**
MTBS	**Maitube**	**0.99**	**11**	P	**Pg**		**04 45 14.5**	**-0.2**
	24nm,0.1s							
MTBS				S	**Sb**		**04 45 28.0**	**+0.1**
	41nm,0.3s							
MTBS	**Maitube**	**0.99**	**11**	*e*P	**Pg**		**04 45 14.5**	**-0.2**
	24nm,0.1s							
MTBS				*e*S	**Sb**		**04 45 27.9**	**+0.1**
	41nm,0.3s							
MTBS	**Maitube**	**0.99**	**11**	*e*P	**Pg**		**04 45 14.5**	**-0.2**
MTBS				*e*S	**Sb**		**04 45 28.0**	**+0.1**
KBK	**Karagaybulak**	**1.03**	**299**	⇓P	**Pg**		**04 45 15.2**	**-0.3**
	12nm,0.1s,SNR=5.4							
KBK				⇓S	**Sb**		**04 45 29.5**	**+0.3**
	57nm,0.2s							
KBK	**Karagaybulak**	**1.03**	**299**	⇑*i*P	**Pg**		**04 45 15.2**	**-0.3**
KBK				⇑*i*S	**Sb**		**04 45 29.5**	**+0.3**
TNSS	**Tian-Shan**	**1.05**	**33**	P	**Pg**		**04 45 15.6**	**-0.3**
	27nm,0.2s							
TNSS				S	**Sb**		**04 45 29.7**	**-0.2**
	30nm,0.1s							
TNSS	**Tian-Shan**	**1.05**	**33**	*e*P	**Pg**		**04 45 15.6**	**-0.3**
	27nm,0.2s							
TNSS				*e*S	**Sb**		**04 45 29.7**	**-0.2**
	30nm,0.1s							
TNSS	**Tian-Shan**	**1.05**	**33**	*e*P	**Pg**		**04 45 15.6**	**-0.3**
TNSS				*e*S	**Sb**		**04 45 29.8**	**-0.2**
DGS	**Degeres**	**1.12**	**345**	P	**Pb**		**04 45 17.1**	**0.0**
	21nm,0.2s							
DGS				S	**Sb**		**04 45 31.9**	**+0.1**
	65nm,0.3s							
DGS	**Degeres**	**1.12**	**345**	*e*P	**Pb**		**04 45 17.1**	**0.0**
	21nm,0.2s							
DGS				*e*S	**Sb**		**04 45 31.9**	**+0.1**
	65nm,0.3s							
DGS	**Degeres**	**1.12**	**345**	*e*P	**Pb**		**04 45 17.1**	**0.0**
DGS				*e*S	**Sb**		**04 45 31.9**	**+0.1**
MDOK	**Medeo**	**1.19**	**33**	⇓P	**Pb**		**04 45 17.9**	**-0.5**
	3.3nm,0.2s							
MDOK				Pg	**Pb**		**04 45 17.9**	**-0.5**
	18nm,0.2s							
MDOK				⇑S	**Sb**		**04 45 33.2**	**-0.7**
	14nm,0.5s							
MDOK				Lg	Lg		04 45 33.8	
	20nm,0.3s							
MDOK	**Medeo**	**1.19**	**33**	*e*P	**Pb**		**04 45 17.9**	**-0.5**
	18nm,0.2s							
MDOK				*e*S	**Sg**		**04 45 33.8**	**-0.3**
	20nm,0.3s							
MDOK	**Medeo**	**1.19**	**33**	*e*P	**Pb**		**04 45 17.9**	**-0.5**
MDOK				*e*S	**Sg**		**04 45 33.8**	**-0.3**
UCH	**Uchtor**	**1.23**	**274**	⇑P	**Pb**		**04 45 18.7**	**-0.5**
	4.6nm,0.1s,SNR=7.6							
UCH				⇑S	**Sb**		**04 45 35.6**	**+0.4**
	10nm,0.1s							
UCH	**Uchtor**	**1.23**	**274**	⇑*i*P	**Pb**		**04 45 18.6**	**-0.6**
UCH				⇑*i*S	**Sb**		**04 45 35.5**	**+0.3**
ANVS	**Anan'yevo**	**1.27**	**60**	⇑*e*P	**Pn**		**04 45 19.2**	**-0.3**
ANVS				⇑*e*S	**Sg**		**04 45 36.0**	**-0.6**
KOTS	**Kotyrbulak**	**1.28**	**33**	P	**Pg**		**04 45 19.9**	**-0.3**
	23nm,0.2s							
KOTS				S	**Sn**		**04 45 37.2**	**+0.3**
	64nm,0.3s							
KOTS	**Kotyrbulak**	**1.28**	**33**	*e*P	**Pg**		**04 45 19.9**	**-0.3**
	23nm,0.2s							
KOTS				*e*S	**Sn**		**04 45 37.2**	**+0.3**
	64nm,0.3s							
KOTS	**Kotyrbulak**	**1.28**	**33**	*e*P	**Pg**		**04 45 19.9**	**-0.3**
KOTS				*e*S	**Sn**		**04 45 37.2**	**+0.3**
TARG	**Taragay, Kyrgy**	**1.29**	**109**	⇓*i*P	**Pn**		**04 45 18.6**	**-1.4**
TARG				⇓*i*S	**Sb**		**04 45 35.8**	**-1.2**
FRU1	**Bishkek**	**1.31**	**300**	⇓*e*P	**Pn**		**04 45 20.0**	**+0.1**
FRU1				⇓*e*S	**Sn**		**04 45 37.8**	**+0.3**
AAK	**Ala-Archa**	**1.33**	**292**	⇓P	**Pn**		**04 45 20.5**	**+0.3**
	7.8nm,0.2s,SNR=8.4							
AAK				⇑S	**Sb**		**04 45 37.8**	**+0.1**
	29nm,0.2s							
AAK	**Ala-Archa**	**1.33**	**292**	⇓*i*P	**Pn**		**04 45 20.3**	**0.0**
AAK				⇓*i*S	**Sn**		**04 45 38.3**	**+0.3**
CHMS	**Chumysh**	**1.34**	**309**	⇑P	**Pn**		**04 45 18.5**	**-1.8**
	2.5nm,0.6s							
CHMS				⇑S	**Sn**		**04 45 38.4**	**+0.3**
	9.5nm,0.3s							
CHMS	**Chumysh**	**1.34**	**309**	⇑*i*P	**Pn**		**04 45 20.6**	**+0.3**
CHMS				⇑*i*S	**Sg**		**04 45 38.7**	**-0.1**
ARLS	**Aral**	**1.41**	**258**	⇑*e*P	**Pn**		**04 45 21.5**	**+0.1**
ARLS				⇑*e*S	**Sn**		**04 45 40.2**	**+0.2**
KTBS	**Karatobe**	**1.60**	**14**	P	**Pg**		**04 45 25.5**	**-0.7**
	30nm,0.2s							
KTBS				S	**Sg**		**04 45 47.0**	**0.0**
	41nm,0.2s							
KTBS	**Karatobe**	**1.60**	**14**	*e*P	**Pg**		**04 45 25.5**	**-0.7**
	30nm,0.2s							
KTBS				*e*S	**Sg**		**04 45 47.0**	**0.0**
	41nm,0.2s							
KTBS	**Karatobe**	**1.60**	**14**	*e*P	**Pg**		**04 45 25.5**	**-0.7**
KTBS				*e*S	**Sg**		**04 45 47.0**	**0.0**
USP	**Ospenovka**	**1.65**	**313**	⇑P	**Pb**		**04 45 26.4**	**+0.2**
	9.3nm,0.2s,SNR=29							
USP				⇓S	**Sg**		**04 45 48.6**	**-0.2**
	25nm,0.1s							
USP	**Ospenovka**	**1.65**	**313**	⇓*i*P	**Pb**		**04 45 26.2**	**+0.1**
USP				⇓*i*S	**Sg**		**04 45 48.3**	**-0.5**
PRZ	**Przheval'sk**	**1.69**	**78**	⇑*e*P	**Pb**		**04 45 26.1**	**-0.7**
PRZ				⇑*e*S	**Sb**		**04 45 48.2**	**+0.1**
KUU	**Kurty**	**1.74**	**4**	P	**Pb**		**04 45 27.3**	**-0.2**
	8.7nm,0.2s							
KUU				S	**Sb**		**04 45 49.9**	**+0.6**
	68nm,0.4s							
KUU	**Kurty**	**1.74**	**4**	*e*P	**Pb**		**04 45 27.3**	**-0.2**
	8.7nm,0.2s							
KUU				*e*S	**Sb**		**04 45 49.9**	**+0.6**
	68nm,0.4s							
CHKK	**Chushkaly**	**1.80**	**19**	*e*P	**Pg**		**04 45 29.1**	**-1.0**
	8.7nm,0.2s							
CHKK				*e*S	**Sg**		**04 45 52.8**	**-0.6**
	63nm,0.3s							
CHKK	**Chushkaly**	**1.80**	**19**	*e*P	**Pg**		**04 45 29.1**	**-1.0**
CHKK				*e*S	**Sg**		**04 45 52.8**	**-0.6**
AML	**Almayashu**	**1.84**	**270**	⇑P	**Pb**		**04 45 29.9**	**+0.4**
	5.2nm,0.2s,SNR=25							
AML				⇓S	**Sg**		**04 45 54.5**	**-0.3**
	26nm,0.2s							
AML	**Almayashu**	**1.84**	**270**	⇓*i*P	**Pb**		**04 45 29.0**	**-0.5**
AML				⇓*i*S	**Sb**		**04 45 53.6**	**+0.9**
EKS2	**Erkin-Say**	**1.84**	**287**	⇓P	**Pb**		**04 45 30.2**	**+0.9**
	4.7nm,0.2s,SNR=16							
EKS2				⇓S	**Sg**		**04 45 54.9**	**+0.2**
	16nm,0.3s							
EKS2	**Erkin-Say**	**1.84**	**287**	⇑*i*P	**Pb**		**04 45 29.0**	**-0.4**
EKS2				⇑*i*S	**Sb**		**04 45 53.6**	**+1.2**
SATY	**Saty**	**1.88**	**61**	P	**Pb**		**04 45 29.8**	**-0.3**
	11nm,0.2s							
SATY				S	**Sb**		**04 45 54.3**	**+0.7**
	192nm,0.2s							
SATY	**Saty**	**1.88**	**61**	*e*P	**Pb**		**04 45 29.8**	**-0.3**
	11nm,0.2s							
SATY				*e*S	**Sb**		**04 45 54.3**	**+0.7**
	192nm,0.2s							
SATY	**Saty**	**1.88**	**61**	*e*P	**Pb**		**04 45 29.8**	**-0.3**
SATY				*e*S	**Sb**		**04 45 54.3**	**+0.7**
ZHN	**Zhinishke**	**1.95**	**58**	P	**Pb**		**04 45 31.1**	**-0.2**
	16nm,0.2s							
ZHN				S	**Sb**		**04 45 56.4**	**+0.7**
	162nm,0.2s							
ZHN	**Zhinishke**	**1.95**	**58**	*e*P	**Pb**		**04 45 31.1**	**-0.2**
	16nm,0.2s							
ZHN				*e*S	**Sb**		**04 45 56.4**	**+0.7**
	162nm,0.2s							
ZHN	**Zhinishke**	**1.95**	**58**	*e*P	**Pb**		**04 45 31.1**	**-0.2**
ZHN				*e*S	**Sb**		**04 45 56.4**	**+0.7**
KURS	**Kuram**	**1.98**	**47**	*e*P	**Pb**		**04 45 32.2**	**+0.4**
	6.4nm,0.4s							
KURS				*e*S	**Sg**		**04 45 58.1**	**-1.2**
	17nm,0.6s							
SALK	**Salom-Alik**	**2.17**	**235**	⇑*e*P	**Pn**		**04 45 33.7**	**+1.8**
SALK				⇑*e*S	**Sb**		**04 46 01.6**	**-0.5**
UZB	**Uzynbulak**	**2.33**	**64**	Pg	**Pb**		**04 45 36.8**	**-0.8**
	8.7nm,0.3s							
UZB				Lg	Lg		04 46 06.7	
	55nm,0.4s							
UZB	**Uzynbulak**	**2.33**	**64**	*e*P	**Pb**		**04 45 36.9**	**-0.8**
	8.7nm,0.3s							
UZB				*e*S	**Sb**		**04 46 06.7**	**+0.3**
	55nm,0.4s							
ARXS	**Arharly**	**2.38**	**30**	Pg	**Pb**		**04 45 38.8**	**+0.2**
	18nm,0.3s							
ARXS				Lg	Lg		04 46 09.7	
	58nm,0.2s							
ARXS	**Arharly**	**2.38**	**30**	*e*P	**Pb**		**04 45 38.8**	**+0.2**
	18nm,0.3s							
ARXS				*e*S	**Sg**		**04 46 09.7**	**-2.5**
	58nm,0.2s							
BLB	**Baldybastay**	**2.57**	**40**	Pg	**Pb**		**04 45 41.7**	**-0.1**
	23nm,0.3s							
BLB				Lg	Lg		04 46 14.5	
	98nm,0.3s							
SHLS	**Shalkode**	**2.63**	**67**	Pg	**Pg**		**04 45 46.7**	**+0.8**
	8.1nm,0.2s							
SHLS				Lg	Lg		04 46 23.2	
	39nm,0.6s							
SHLS	**Shalkode**	**2.63**	**67**	*e*P	**Pg**		**04 45 46.7**	**+0.8**
	8.1nm,0.2s							
SHLS				*e*S	**Sg**		**04 46 23.2**	**+3.2**
	39nm,0.6s							
BTLS	**Baital**	**3.27**	**333**	Pg	**Pb**		**04 45 54.9**	**+1.3**
	3.3nm,0.3s							
BTLS				Lg	Lg		04 46 37.1	
	8.7nm,0.2s							
BTLS	**Baital**	**3.27**	**333**	*e*P	**Pb**		**04 45 54.9**	**+1.3**
	3.3nm,0.3s							
BTLS				*e*S	**Sg**		**04 46 37.1**	**-3.4**
	8.7nm,0.2s							
DJR	**Jarkent**	**3.42**	**49**	Pg	**Pb**		**04 45 56.9**	**+0.6**
	2.7nm,0.3s							
DJR				Lg	Lg		04 46 40.4	
	12nm,0.4s							
DJR	**Jarkent**	**3.42**	**49**	*e*P	**Pb**		**04 45 56.9**	**+0.6**
	2.7nm,0.3s							
DJR				*e*S	**Sb**		**04 46 40.4**	**+2.5**
	12nm,0.4s							
KAPS	**Kapalarasan**	**3.89**	**35**	*e*P	**Pb**		**04 46 05.2**	**+1.0**
	1.6nm,0.3s							
KAPS				*e*S	**Sb**		**04 46 55.0**	**+3.7**
	13nm,0.2s							
KK31	**Karatay Array**	**4.28**	**285**	⇑Pg	**Pg**		**04 46 16.0**	**-1.6**
	0.6nm,0.4s,baz=103,slow=15,SNR=6.6							
KK31				⇑Lg	Lg		04 47 09.8	
	2.3nm,0.3s,baz=100,slow=30,SNR=7.2							

*IDC **21** 04:49:09.8±2.7, 63°.27S×168°.12E, h0km, mb3.9/5, mbtmp3.9/5, MS3.5/1, Error ellipse: s-maj=96.8km s-min=23.9km az=74.0*
*NEIC **21** 04:49:10.7±1.9, 63°.1±0°.1×167°.3E±0°.3, h10km±1km, mb4.6/15, Error ellipse: s-maj=21.9km s-min=16.7km az=245.0*

ISC 21 04:49:10.7±0.6, 63°.08S±0°.08×167°.8E±0°.2, h10km, n36, σ1°21/26, mb4.1/6, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**17.23**	**0**		Pn	**Pn**	**04 53 11.0**	**-0.2**
DCZ	**Deep Cove**	**17.66**	**359**			**Pn**	**04 53 18.0**	**+1.5**
DCZ					IAmb	IAmb	04 53 22.6	
	comp=Z,38nm,1.2s							
ODZ	**Otahua Downs**	**18.15**	**7**			**Pn**	**04 53 23.3**	**+0.7**
ODZ					IAmb	IAmb	04 53 27.4	
	comp=Z,36nm,1.2s							
WKZ	**Wanaka**	**18.30**	**3**			**P**	**04 53 23.7**	**-0.9**
WKZ					IAmb	IAmb	04 53 28.2	
	comp=Z,85nm,1.5s							
LBZ	**Lake Benmore**	**18.78**	**5**	P		**P**	**04 53 28.7**	**-1.2**
LBZ					IAmb	IAmb	04 54 02.7	
	comp=Z,80nm,1.5s							
RPZ	**Rata Peaks**	**19.50**	**7**	P		**P**	**04 53 37.2**	**-0.5**
RPZ					IAmb	IAmb	04 53 40.4	
	comp=Z,62nm,1.4s							
MQZ	**McQueen's Vall**	**19.62**	**11**	P		**P**	**04 53 38.0**	**-1.0**
MQZ					IAmb	IAmb	04 53 42.0	
	comp=Z,66nm,1.2s							
CASY	**Casey**	**23.94**	**237**	P		**P**	**04 54 22.7**	**-1.8**
QSPA	**South Pole Qui**	**27.01**	**180**	P		**P**	**04 54 53.0**	**+0.5**
QSPA					IAmb	IAmb	04 54 58.4	
	comp=Z,12nm,1.5s							
QSPA	**South Pole Qui**	**27.01**	**180**	P		**P**	**04 54 50.9**	**-1.6**
	comp=Z,3.2nm,1.0s,baz=50,slow=1.0,SNR=4.6							
QSPA					LR	LR	05 04 25.0	
	comp=Z,109nm,19.8s,baz=13,slow=34							
	comp=Z,3.2nm,1.0s							
TOO	**Toolangi**	**28.92**	**321**	P		**P**	**04 55 09.0**	**-0.6**
LHI	**Lord Howe Isla**	**32.06**	**346**	P		**P**	**04 55 35.8**	**-1.6**
BELA	**Belgrano 2**	**38.62**	**173**	P		**P**	**04 56 33.2**	**-0.2**
MAW	**Mawson**	**38.96**	**216**	P		**P**	**04 56 36.5**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=128,slow=19,SNR=4.9							
	comp=Z,1.6nm,0.7s							
DZM	**Mont Dzumac**	**41.00**	**358**	P		**P**	**04 56 52.5**	**-1.2**
DZM					IAmb	IAmb	04 57 03.9	
	comp=Z,23nm,1.4s							
H01W1	**Cape Leeuwin H**	**43.19**	**285**	T		T	05 44 09.9	
	baz=148,slow=76,SNR=170							
H01W2	**Cape Leeuwin H**	**43.20**	**285**	T		T	05 44 11.3	
	baz=148,slow=76,SNR=176							
H01W3	**Cape Leeuwin H**	**43.21**	**285**	T		T	05 44 11.1	
	baz=148,slow=76,SNR=174							
SNAA	**Sanae**	**45.36**	**184**	P		**P**	**04 57 28.3**	**-0.2**
SNAA					IAmb	IAmb	04 57 28.7	
	comp=Z,3.9nm,0.9s							
SNAA	**Sanae**	**45.36**	**184**	P		**P**	**04 57 27.9**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=180,slow=19,SNR=4.1							
	comp=Z,2.6nm,0.9s							
ASAR	**Alice Springs**	**45.41**	**314**	P		**P**	**04 57 31.1**	**+1.6**
	comp=Z,1.5nm,0.9s,baz=160,slow=8.3,SNR=8.0							
	comp=Z,1.5nm,0.9s							
WRA	**Warramunga Arr**	**48.75**	**316**	P		**P**	**04 57 58.7**	**+3.2**
	comp=Z,0.9nm,1.1s,baz=152,slow=8.3,SNR=2.1							
	comp=Z,0.9nm,1.1s						

	97nm,0.4s						
KOTS	**Kotyrbulak**	**3.77 295**	Pg		**Pb**	**05 32 14.9**	**-0.6**
	17nm,0.5s						
KOTS			Lg		Lg	05 33 03.0	
	92nm,0.6s						
KOTS	**Kotyrbulak**	**3.77 295**	*e*P		**Pb**	**05 32 14.9**	**-0.6**
	17nm,0.5s						
KOTS			*e*S		**Sb**	**05 33 03.0**	**+2.2**
	92nm,0.6s						
MDOK	**Medeo**	**3.79 294**	⇑Pn		**Pn**	**05 32 07.3**	**+0.8**
	14nm,0.5s						
MDOK			Pg		**Pb**	**05 32 14.3**	**-1.4**
	11nm,0.4s						
MDOK			⇑Lg		Lg	05 33 01.7	
	93nm,0.9s						
MDOK			Lg		Lg	05 33 02.0	
	49nm,0.8s						
MDOK	**Medeo**	**3.79 294**	*e*P		**Pb**	**05 32 14.3**	**-1.4**
	11nm,0.4s						
MDOK			*e*S		**Sb**	**05 33 02.0**	**+0.6**
	49nm,0.8s						
TNSS	**Tian-Shan**	**3.82 292**	Pg		**Pb**	**05 32 14.2**	**-2.2**
	14nm,0.4s						
TNSS			Lg		Lg	05 33 03.0	
	40nm,0.4s						
TNSS	**Tian-Shan**	**3.82 292**	*e*P		**Pb**	**05 32 14.2**	**-2.2**
	14nm,0.4s						
TNSS			*e*S		**Sb**	**05 33 03.0**	**+0.6**
	40nm,0.4s						
ARXS	**Arharly**	**3.83 312**	Pg		**Pb**	**05 32 15.4**	**-0.9**
	18nm,0.6s						
ARXS			Lg		Lg	05 33 04.6	
	62nm,0.7s						
ARXS	**Arharly**	**3.83 312**	*e*P		**Pb**	**05 32 15.4**	**-0.9**
	18nm,0.6s						
ARXS			*e*S		**Sb**	**05 33 04.6**	**+2.3**
	62nm,0.7s						
KAPS	**Kapalarasan**	**3.98 334**	*e*P		**Pb**	**05 32 17.5**	**-1.4**
	28nm,0.2s						
KAPS			*e*S		**Sb**	**05 33 08.2**	**+1.6**
	59nm,0.4s						
CHKK	**Chushkaly**	**4.13 303**	*e*P		**Pb**	**05 32 20.6**	**-0.8**
	14nm,0.7s						
CHKK			*e*S		**Sb**	**05 33 13.1**	**+2.3**
	34nm,0.6s						
MTBS	**Maitube**	**4.21 291**	Pg		**Pb**	**05 32 21.9**	**-0.9**
	12nm,0.5s						
MTBS			Lg		Lg	05 33 15.0	
	46nm,0.7s						
MTBS	**Maitube**	**4.21 291**	*e*P		**Pb**	**05 32 21.9**	**-0.9**
	12nm,0.5s						
MTBS			*e*S		**Sb**	**05 33 15.0**	**+1.8**
	46nm,0.7s						
KTBS	**Karatobe**	**4.26 300**	Pg		**Pb**	**05 32 22.5**	**-1.1**
	8.1nm,0.3s						
KTBS			Lg		Lg	05 33 16.0	
	73nm,0.9s						
KTBS	**Karatobe**	**4.26 300**	*e*P		**Pb**	**05 32 22.5**	**-1.1**
	8.1nm,0.3s						
KTBS			*e*S		**Sb**	**05 33 16.0**	**+1.5**
	73nm,0.9s						
KST	**Kastek**	**4.51 289**	Pg		**Pb**	**05 32 27.3**	**-0.7**
	24nm,0.6s						
KST			Lg		Lg	05 33 24.6	
	46nm,0.7s						
KST	**Kastek**	**4.51 289**	*e*P		**Pb**	**05 32 27.3**	**-0.7**
	24nm,0.6s						
KST			*e*S		**Sb**	**05 33 24.6**	**+2.6**
	46nm,0.7s						
KUU	**Kurty**	**4.56 300**	*e*P		**Pb**	**05 32 30.0**	**+1.2**
	7.0nm,0.1s						
KUU			*e*S		**Sb**	**05 33 29.0**	**+5.7**
	76nm,0.8s						
DGS	**Degeres**	**4.70 291**	Pg		**Pb**	**05 32 31.0**	**-0.3**
	6.8nm,0.5s						
DGS			Lg		Lg	05 33 30.9	
	27nm,0.5s						
DGS	**Degeres**	**4.70 291**	*e*P		**Pb**	**05 32 31.0**	**-0.3**
	6.8nm,0.5s						
DGS			*e*S		**Sb**	**05 33 30.9**	**+3.4**
	27nm,0.5s						
TKM2	**Tokmak 2**	**4.74 287**	⇓Pn		**Pn**	**05 32 21.6**	**+1.9**
	7.1nm,0.5s						
TKM2			⇓Lg		Lg	05 33 32.6	
	20nm,0.6s						
MK31	**Makanchi Array**	**5.09 4**	Pn		**Pn**	**05 32 25.9**	**+1.6**
	1.8nm,0.3s,baz=185,slow=13,SNR=140						
MK31			⇑Sn		**Sn**	**05 33 26.3**	**+4.1**
	6.3nm,0.5s,baz=183,slow=23,SNR=3.0						
MK31			⇓Lg		Lg	05 33 45.8	
	32nm,0.7s,baz=186,slow=27,SNR=5.1						
MKAR	**Makanchi Array**	**5.09 4**	Pn		Pn	05 32 26.1	+1.9
	2.5nm,0.3s,baz=186,slow=13,SNR=66						
MKAR			Sn		**Sn**	**05 33 25.3**	**+3.1**
	3.5nm,0.3s,baz=183,slow=23,SNR=2.0						
MKAR			Lg		Lg	05 33 46.0	
	6.2nm,0.3s,baz=188,slow=32,SNR=13						
	4.4nm,0.3s						
MAKZ	**Makanchi**	**5.09 1**	⇑Pn		Pn	05 32 26.1	+1.8
	8.2nm,0.5s						
MAKZ			⇓Sn		**Sn**	**05 33 25.8**	**+3.5**
	6.3nm,0.3s						
MAKZ			⇓Lg		Lg	05 33 45.4	
	30nm,0.8s						
AAK	**Ala-Archa**	**5.50 282**	Pn		**Pn**	**05 32 30.6**	**+0.7**
	0.4nm,0.3s,baz=136,slow=13,SNR=4.3						
AAK			Lg		Lg	05 33 57.4	
	1.9nm,0.3s,baz=30,slow=20,SNR=6.9						
	1.0nm,0.4s						
ZSN	**Zaisan**	**6.14 20**	Pg		Pb	05 32 58.3	+2.7
	5.5nm,0.3s						
ZSN			Lg		Lg	05 34 17.9	
	41nm,1.0s						
ZSN	**Zaisan**	**6.14 20**	*e*P		Pb	05 32 58.3	+2.7
	5.5nm,0.3s						
ZSN			*e*S		Sb	05 34 17.9	+9.3
	40nm,1.8s						
BTLS	**Baital**	**6.54 303**	Pg		**Pb**	**05 33 04.4**	**+1.9**
	2.2nm,0.7s						
BTLS			Lg		Lg	05 34 28.1	
	3.3nm,0.6s						
BTLS	**Baital**	**6.54 303**	*e*P		Pb	05 33 07.5	+5.0
	4.1nm,1.0s						
BTLS			*e*S		Sb	05 34 33.3	+13
	5.4nm,0.7s						
KK31	**Karatay Array**	**8.46 283**	⇓Pg		Pb	05 33 42.9	+7.8
	1.0nm,0.5s,baz=106,slow=16,SNR=4.9						
KK31			⇑Lg		Lg	05 35 30.0	
	3.8nm,0.6s,baz=98,slow=28,SNR=5.0						
KURBB	**Kurchatov Arra**	**9.19 347**	⇑Pn		Pn	05 33 23.6	+3.2
	1.7nm,0.5s						
KURBB			⇓Sn		**Sn**	**05 35 03.6**	**+0.7**
	9.7nm,0.6s						
KURBB			⇑Lg		Lg	05 35 56.8	
	28nm,0.7s						
KURBB	**Kurchatov Arra**	**9.19 347**	Pn		**Pn**	**05 33 19.5**	**-0.9**
	0.1nm,0.3s,baz=175,slow=12,SNR=1.6						
KURBB			Sn		**Sn**	**05 35 02.2**	**-0.8**
	0.2nm,0.3s,baz=170,slow=22,SNR=1.3						
KURBB			Lg		Lg	05 35 57.9	
	0.2nm,0.3s,baz=187,slow=29,SNR=4.3						
	0.2nm,0.3s						
KURK	**Kurchatov**	**9.26 347**	⇓Pn		Pn	05 33 24.2	+2.8
	4.2nm,0.6s						
KURK			⇑Sn		**Sn**	**05 35 04.1**	**-0.7**
	7.7nm,0.7s						
KURK			⇓Lg		Lg	05 35 57.9	
	25nm,1.2s						
ZALV	**Zalesovo Beam**	**12.41 8**	Pn		**Pn**	**05 34 03.0**	**-1.4**
	0.2nm,0.3s,baz=185,slow=15,SNR=3.0						
ZALV			Lg		Lg	05 37 41.9	
	0.1nm,0.3s,baz=207,slow=31,SNR=1.6						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**13.68 330**	Pn		**Pn**	**05 34 18.5**	**-3.3**
	baz=127,slow=11,SNR=2.2						
BVAR			Sn		Sn	05 36 38.9	-14
	baz=137,slow=23,SNR=1.9						
BVAR			Lg		Lg	05 38 17.2	
	0.1nm,0.3s,baz=142,slow=38,SNR=1.4						
	0.2nm,0.3s						
SONM	**Songino Array**	**18.47 62**	P		**Pn**	**05 35 24.2**	**+0.4**
	0.1nm,0.3s,baz=253,slow=8.8,SNR=2.4						
	0.3nm,0.5s						
AKTO	**Aktyubinsk**	**18.59 306**	P		**Pn**	**05 35 23.8**	**-1.2**
	0.3nm,0.3s,baz=98,slow=7.2,SNR=2.6						
	1.3nm,0.5s						
ARTI	**Arti**	**21.08 322**	P		**P**	**05 35 52.8**	**+1.1**
	3.4nm,0.7s,baz=109,slow=8.7,SNR=4.3						
	3.4nm,0.7s						
FINES	**FINESS Array B**	**38.37 320**	P		**P**	**05 38 27.6**	**-0.6**
	4.0nm,1.1s,baz=113,slow=11,SNR=1.8						
	4.0nm,1.1s						
ARCES	**ARCESS Array B**	**39.94 333**	P		**P**	**05 38 41.2**	**-0.1**
	7.5nm,1.0s,baz=46,slow=7.4,SNR=4.3						
	7.5nm,1.0s						
HFS	**Hagfors**	**44.46 318**	P		**P**	**05 39 18.2**	**-0.1**
	1.7nm,0.7s,baz=90,slow=4.4,SNR=4.5						
	1.7nm,0.7s						
NB2	**NORSAR Subarra**	**45.55 320**	P		**P**	**05 39 26.6**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=83,slow=7.9						
NOA	**NORSAR Array B**	**45.55 320**	P		**P**	**05 39 26.4**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=83,slow=7.7,SNR=4.4						
	comp=Z,0.8nm,0.6s						
ILAR	**Eielson Array**	**67.23 20**	P		**P**	**05 42 01.2**	**0.0**
	comp=Z,0.3nm,0.7s,baz=305,slow=4.3,SNR=4.2						
	comp=Z,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**74.02 273**	P		**P**	**05 42 42.6**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=63,slow=6.5,SNR=1.8						
	comp=Z,0.2nm,0.4s						

*IDC **21** 05:32:54.5±1.4, 3.96N×97.12E, h94km±11km, mb4.1/23, mbtmp4.4/24, Error ellipse: s-maj=25.4km s-min=9.6km az=50.0*
*BKK **21** 05:32:55.8±1.4, 4.7N±8.9×9.7E±1.3, h10km, M4.7/9, mb5.4/5, mB5.3/3, Mjma4.2/9, ML4.7/5, MLv4.5/5, Mw(mB)4.7/3*
*DJA **21** 05:32:55.7±0.3, 4.7N±2.9×9.7E±.7, h108km±4km, M4.7/17, mb4.8/10, mB5.4/3, MLv4.7/17, Mw(mB)4.8/3*
*NEIC **21** 05:32:55.8±1.7, 3.78N±0.06×97.05E±0.05, h105km±7km, mb4.6/39, Error ellipse: s-maj=8.5km s-min=7.5km az=196.0*

ISC 21 05:32:54.8±0.4, **3.80N**±0.04×**97.03E**±0.05, **h100**km, **n122**, σ1.9**25**/132, **mb4.5**/48, **7C-4D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.78**	**307**	P	**Pn**	**05 33 15.2**	**+2.2**
KCSI	**Kotacane, Aceh**	**0.79**	**110**	P	**Pn**	**05 33 13.9**	**+0.8**
LHMI	**Lhok Sumawe**	**1.42**	**357**		**Pn**	**05 33 22.2**	**+2.0**
LHMI	**Lhok Sumawe**	**1.42**	**357**	P	**Pn**	**05 33 22.3**	**+2.1**
LHMI	**Lhok Sumawe**	**1.42**	**357**	P	**Pn**	**05 33 22.1**	**+2.0**
SNSI	**Sinabang, Aceh**	**1.55**	**207**	P	**Pn**	**05 33 23.7**	**+2.0**
PSI	**Prapat**	**2.13**	**118**	P	**Pn**	**05 33 30.4**	**+1.2**
	373nm,0.5s,baz=301,slow=9.9,SNR=354						
PSI				S	**Sn**	**05 33 56.5**	**+0.9**
	237nm,0.6s,baz=269,slow=9.9,SNR=3.8						
PSI	**Prapat**	**2.13**	**118**	P	**Pn**	**05 33 31.0**	**+1.8**
RPSI	**Rantau Prapat**	**2.18**	**120**		**Pn**	**05 33 30.9**	**+1.2**
RPSI	**Rantau Prapat**	**2.18**	**120**		**Pn**	**05 33 30.4**	**+0.7**
RPSI					**Sn**	**05 33 56.5**	**-0.1**
BSI	**Banda Aceh**	**2.42**	**314**	P	**Pn**	**05 33 35.4**	**+2.5**
GSI	**Gunungsitoli**	**2.54**	**168**		**Pn**	**05 33 35.0**	**+0.6**
GSI	**Gunungsitoli**	**2.54**	**168**	P	**Pn**	**05 33 35.2**	**+0.8**
GSI	**Gunungsitoli**	**2.54**	**168**	P	**Pn**	**05 33 35.0**	**+0.6**
MNSI	**Mandailing Nat**	**3.92**	**139**	P	**Pn**	**05 33 54.1**	**+1.2**
PBSI	**Pulau Batu**	**4.03**	**162**	P	**Pn**	**05 33 55.4**	**+1.0**
IPM	**Ipoh**	**4.04**	**80**		**Pn**	**05 33 56.4**	**+1.8**
IPM	**Ipoh**	**4.04**	**80**	P	**Pn**	**05 33 56.7**	**+2.1**
PKDT	**Phuket**	**4.27**	**18**	P	**Pn**	**05 33 57.7**	**0.0**
PKDT				Sg	**Sn**	**05 34 44.2**	**-2.2**
BKNI	**Bangkinang**	**5.28**	**131**	P	**Pn**	**05 34 14.1**	**+2.7**
	297nm,0.5s						
PPI	**Padang Panjang**	**5.40**	**141**	P	**Pn**	**05 34 14.0**	**+1.0**
	96nm,0.8s,0.4nm						
SRIT	**Nakonsritamara**	**5.41**	**28**	Pn	**Pn**	**05 34 13.7**	**+0.6**
SRIT	**Nakonsritamara**	**5.41**	**28**	P	**Pn**	**05 34 13.8**	**+0.7**
SRIT	**Nakonsritamara**	**5.41**	**28**	P	**Pn**	**05 34 13.0**	**-0.1**
	112nm,0.7s,1.6nm0.6nm						
SISI	**Saibi**	**5.49**	**158**	P	**Pn**	**05 34 14.2**	**0.0**
	61nm,1.2s,0.6nm						
BTDF	**Bukit Timah Da**	**7.16**	**110**	P	**Pn**	**05 34 39.5**	**+2.6**
	54nm,1.0s						
PPSI	**Pulau Pagai**	**7.16**	**155**	P	**Pn**	**05 34 37.5**	**+0.5**
	112nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.69**	**7**	P	**Pn**	**05 36 18.1**	**+0.4**
	10nm,0.7s,baz=197,slow=13,SNR=38						
PHRA	**Phrae**	**14.94**	**12**	Pn	**Pn**	**05 36 22.3**	**+1.4**
CHTO	**Chiang Mai**	**15.04**	**7**	Pn	**Pn**	**05 36 23.7**	**+1.6**
SLVN	**Son La**	**18.67**	**20**	P	**P**	**05 37 06.5**	**+1.3**
SLVN				IAmb	IAmb	05 37 07.8	
	comp=Z,11nm,0.8s						
KMMI	**Kalianget**	**20.05**	**122**	P	**P**	**05 37 21.6**	**+1.5**
	comp=Z,138nm,0.9s						
SHL	**Shillong**	**22.20**	**348**	P	**P**	**05 37 41.4**	**-1.9**
SHL				IAmb	IAmb	05 37 43.8	
	comp=Z,15nm,0.6s						
PZH	**PanZhiHua**	**23.02**	**11**	P	**P**	**05 37 52.3**	**+0.7**
PZH				pmax	pmax		
	comp=Z,20nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
TOLI2	**Tolitoli**	**23.88**	**96**	P	**P**	**05 37 58.5**	**-0.8**
TOLI2				IAmb	IAmb	05 38 01.0	
	comp=Z,14nm,0.7s						
PLAI	**Plampang**	**24.19**	**121**	P	**P**	**05 38 01.4**	**-0.8**
	comp=Z,38nm,0.9s						
KAPI	**Kappang**	**24.32**	**111**	P	**P**	**05 38 03.6**	**+0.2**
KAPI				IAmb	IAmb	05 38 05.4	
	comp=Z,17nm,0.7s						
XAN	**Xi'an**	**32.06**	**19**	P	**P**	**05 39 11.3**	**-1.0**
XAN				pmax	pmax		
	comp=Z,21nm,0.7s						
NJ2	**Nanjing**	**34.78**	**34**	*e*P	**P**	**05 39 38.3**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
GTA	**Gaotai**	**35.54**	**4**	*e*P	**P**	**05 39 42.4**	**0.0**
GTA				pP	pP	05 39 51.8	-14
GTA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GAR	**Garm**	**42.63**	**329**	IAmb	IAmb	05 40 43.0	
	comp=Z,7.1nm,0.9s						
SIMJ	**Simiganj**	**43.07**	**327**	P	**P**	**05 40 44.2**	**-0.8**
SIMJ				IAmb	IAmb	05 40 45.7	
	comp=Z,6.8nm,1.1s						
WB0	**Warramunga Arr**	**43.55**	**124**	P	**P**	**05 40 48.4**	**-0.6**
WRA	**Warramunga Arr**	**43.59**	**124**	P	**P**	**05 40 49.5**	**+0.2**
	comp=Z,46nm,0.6s,baz=302,slow=9.2,SNR=236						
WRA				ScP	**ScP**	**05 46 17.6**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=314,slow=3.3,SNR=4.6						
WRAB	**Tennant Creek**	**43.59**	**124**	P	**P**	**05 40 49.0**	**-0.4**
SONM	**Songino Array**	**44.61**	**9**	P	**P**	**05 40 55.9**	**-1.3**
	comp=Z,2.5nm,0.6s,baz=192,slow=9.1,SNR=12						
SONM				PcP	**PcP**	**05 42 38.6**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=194,slow=3.5,SNR=5.2						
SONM				ScP	**ScP**	**05 46 20.5**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=215,slow=1.8,SNR=3.6						
	comp=Z,2.5nm,0.6s						
MK31	**Makanchi Array**	**44.70**	**346**	P	**P**	**05 40 57.3**	**-0.6**
MKAR	**Makanchi Array**	**44.70**	**346**	P	**P**	**05 40 56.8**	**-1.1**
	comp=Z,2.9nm,0.6s,baz=159,slow=8.6,SNR=33						
	comp=Z,2.9nm,0.6s						
MAKZ	**Makanchi**	**44.79**	**345**	P	**P**	**05 40 58.5**	**0.0**
MAKZ				IAmb	IAmb	05 41 20.9	
	comp=Z,3.7nm,0.7s						
AS31	**Alice Springs**	**45.12**	**129**	P	**P**	**05 41 01.8**	**+0.3**
ASAR	**Alice Springs**	**45.12**	**129**	P	**P**	**05 41 01.8**	**+0.2**
	comp=Z,2.9nm,0.6s,baz=302,slow=8.0,SNR=31						
	comp=Z,2.9nm,0.6s						
FORT	**Forrest**	**45.38**	**141**	P	**P**	**05 41 04.4**	**+0.9**
FORT				IAmb	IAmb	05 41 05.4	
	comp=Z,29nm,0.8s						
COEN	**Coen**	**49.05**	**112**	P	**P**	**05 41 31.5**	**-0.7**
COEN				IAmb	IAmb	05 41 49.7	
	comp=Z,8.6nm,1.2s						
KURBB	**Kurchatov Arra**	**49.20**	**345**	P	**P**	**05 41 32.2**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=165,slow=7.2,SNR=13						
KURBB				PcP	**PcP**	**05 42 55.2**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=153,slow=3.0,SNR=5.4						
	comp=Z,1.8nm,0.6s						
USRK	**Ussuriysk Ar.**	**50.66**	**32**	P	**P**	**05 41 44.0**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=217,slow=9.5,SNR=2.0						
	comp=Z,1.3nm,0.6s						
ZAA0	**Zalesovo Array**	**50.98**	**351**	P	**P**	**05 41 45.9**	**-0.3**
ZAA0				IAmb	IAmb	05 41 48.3	
	comp=Z,5.3nm,1.0s						
ZALV	**Zalesovo Beam**	**50.98**	**351**	P	**P**	**05 41 45.3**	**-0.9**
ZALV	**Zalesovo Beam**	**50.98**	**351**	P	**P**	**05 41 45.6**	**-0.6**
	comp=Z,3.0nm,0.5s,baz=173,slow=7.0,SNR=17						
	comp=Z,3.0nm,0.5s						
BBOO	**Buckleboo**	**51.88**	**138**	P	**P**	**05 41 52.5**	**-0.8**
BVAR	**Borovoye Array**	**53.76**	**340**	P	**P**	**05 42 06.0**	**-0.7**
	comp=Z,2.7nm,0.6s,baz=146,slow=9.2,SNR=12						
	comp=Z,2.7nm,0.6s						
BRVK	**Borovoye**	**53.82**	**340**	P	**P**	**05 42 06.7**	**-0.5**
BRVK				IAmb	IAmb	05 42 07.9	
	comp=Z,3.7nm,0.9s						
ABKAR	**Akbulak array**	**55.16**	**331**	P	**P**	**05 42 16.9**	**-0.1**
ABKAR	**Akbulak array**	**55.16**	**331**	IAmb	IAmb	05 42 18.6	
	comp=Z,4.8nm,1.1s						
STKA	**Stephens Creek**	**55.23**	**133**	P	**P**	**05 42 18.1**	**+0.4**
STKA	**Stephens Creek**	**55.23**	**133**	P	**P**	**05 42 18.9**	**+1.1**
	comp=Z,3.4nm,0.5s,baz=294,slow=9.7,SNR=5.1						
	comp=Z,3.4nm,0.5s						
AKTO	**Aktyubinsk**	**56.88**	**331**	P	**P**	**05 42 28.5**	**-0.7**
	comp=Z,2.9nm,0.4s,baz=111,slow=5.3,SNR=13						
	comp=Z,2.9nm,0.4s						
ARTI	**Arti**	**60.78**	**337**	P	**P**	**05 42 55.0**	**-1.1**
	comp=Z,3.4nm,0.3s,baz=124,slow=6.7,SNR=6.2						
	comp=Z,3.4nm,0.3s						
KBZ	**Khabaz**	**62.02**	**318**	P	**P**	**05 43 05.0**	**+0.3**
	comp=Z,5.4nm,0.8s,baz=128,slow=6.9,SNR=10						
	comp=Z,5.4nm,0.8s						
NRIK	**Noril'sk**	**65.74**	**356**	P	**P**	**05 43 26.9**	**-1.7**
	comp=Z,3.0nm,0.8s,baz=156,slow=5.2,SNR=6.5						
	comp=Z,3.0nm,0.8s						
KIRS	**Kirsehir-Merke**	**66.90**	**311**	⇓P	**P**	**05 43 37.2**	**+0.5**
BR131	**Keskin Array S**	**67.26**	**312**	P	**P**	**05 43 38.8**	**-0.2**
BR131				IAmb	IAmb	05 43 39.7	
	comp=Z,4.0nm,0.7s						
BRTR	**Keskin Array B**	**67.26**	**312**	P	**P**	**05 43 39.1**	**+0.1**
BRTR	**Keskin Array B**	**67.26**	**312**	P	**P**	**05 43 38.9**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=132,slow=7.6,SNR=20						
	comp=Z,2.7nm,0.6s						
BZK	**Bozkurt**	**67.58**	**314**	P	**P**	**05 43 41.8**	**+1.0**
SORM	**Soroca**	**73.03**	**319**	⇑P	**P**	**05 44 13.7**	**-0.2**
AKASG	**Malin Array Be**	**73.11**	**322**	P	**P**	**05 44 13.7**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=88,slow=5.6,SNR=21						
	comp=Z,1.4nm,0.4s						
AKBB	**Malin Array Si**	**73.11**	**322**	P	**P**	**05 44 13.2**	**-1.1**
AKBB				IAmb	IAmb	05 44 14.5	
	comp=Z,4.7nm,0.6s						
KIEV	**Kiev**	**73.12**	**322**	P	**P**	**05 44 12.3**	**-2.1**
KIEV				IAmb	IAmb	05 44 14.6	
	comp=Z,4.2nm,0.7s						
VRI	**Vrincioaia**	**73.62**	**317**	⇑P	**P**	**05 44 18.6**	**+1.1**
PLOR	**Plostina**	**73.67**	**317**	⇓P	**P**	**05 44 19.2**	**+1.4**
TESR	**Tescani**	**73.80**	**317**	⇑P	**P**	**05 44 19.1**	**+0.6**
ONER	**Baraj Valea Uz**	**73.94**	**317**	⇑P	**P**	**05 44 20.1**	**+0.8**
MLR	**Muntele Rosu**	**74.08**	**316**	⇓P	**P**	**05 44 21.2**	**+0.9**
VOIR		**74.69**	**316**	⇑P	**P**	**05 44 23.9**	**+0.2**
MNK	**Minsk**	**74.89**	**326**	*i* P	**P**	**05 44 24.0**	**-0.6**
	comp=E,17nm,0.8s						
MNK				*i* P	**P**	**05 44 24.0**	**-0.6**
	comp=N,19nm,0.9s						
MNK				*i* P	**P**	**05 44 24.0**	**-0.6**
	comp=Z,15nm,0.8s,baz=105						
MNK				*i* PcP	**PcP**	**05 44 32.8**	**-5.3**
MNK				*i* PP	**PP**	**05 47 11.3**	**-2.0**
MNK				*i* PPP	PPP	05 48 57.3	
MNK				*i* S	**S**	**05 53 59.2**	**+5.4**
MNK				*i* SS	SS	05 59 26.2	+42
MNK				*i* SSS	SSS	06 03 14.0	
MNK				*i* LQ	LQ	06 13 24.8	
MNK				*i* LR	LR	06 16 40.4	
MNK				*i* LRM	MLR	06 21 08.0	
	comp=Z,73nm,13.7s						
MNK				*i* LRM	MLR	06 21 11.7	
	comp=N,235nm,17.9s						
MNK				*i* LRM	MLR	06 21 13.2	
	comp=E,163nm,17.4s						
BURAR	**Bucovina Array**	**74.98**	**318**	⇑P	**P**	**05 44 26.6**	**+1.1**
BUR08	**Bucovina Ar. S**	**75.00**	**318**	P	**P**	**05 44 26.7**	**+1.2**
MAW	**Mawson**	**75.19**	**193**	P	**P**	**05 44 27.0**	**+1.1**
	comp=E,1.3nm,0.8s,baz=98,slow=18,SNR=2.2						
	comp=E,1.3nm,0.8s						
NACGM	**Naroch**	**75.61**	**326**	*e*P	**P**	**05 44 29.0**	**+0.2**
	comp=Z,19nm,0.8s,baz=104						
MARR	**Marisel-Cluj**	**76.23**	**317**	⇑P	**P**	**05 44 33.4**	**+0.9**
LVZ	**Lovozero**	**76.35**	**340**	P	**P**	**05 44 33.1**	**+0.3**
FINES	**FINESS Array B**	**77.63**	**332**	P	**P**	**05 44 40.2**	**+0.2**
FINES	**FINESS Array B**	**77.63**	**332**	P	**P**	**05 44 39.6**	**-0.4**
	comp=Z,6.0nm,0.9s,baz=102,slow=4.6,SNR=13						
	comp=Z,6.0nm,0.9s						
MORH	**Mrgy, Hungar**	**79.23**	**316**	⇓P	**P**	**05 44 50.1**	**+1.0**
ARA0	**ARCESS Array S**	**80.05**	**340**	*e*P	**P**	**05 44 54.1**	**+1.0**
ARCES	**ARCESS Array B**	**80.05**	**340**	P	**P**	**05 44 53.4**	**+0.3**
	comp=Z,3.3nm,0.4s,baz=85,slow=4.5,SNR=36						
	comp=Z,3.3nm,0.4s						
KTK1	**Kautokeino**	**80.69**	**339**	*e*P	**P**	**05 44 56.1**	**-0.4**
JETT	**Jettan, Norway**	**81.80**	**340**	*e*P	**P**	**05 45 02.6**	**+0.2**
GERES	**GERESS Array B**	**82.76**	**319**	P	**P**	**05 45 08.3**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=122,slow=4.0,SNR=5.5						
	comp=Z,0.7nm,0.4s						
FAUS	**Fauske**	**83.33**	**337**	*e*P	**P**	**05 45 10.7**	**+0.4**
HFS	**Hagfors**	**83.40**	**330**	P	**P**	**05 45 11.3**	**+0.4**
	comp=Z,2.1n

IKRK				AML	AML	05 39 00.2
	comp=N,366nm,0.5s					
IDOB	**Doab**	**1.81 120**		Pg	**Pg**	**05 38 30.0 -0.5**
HSAM	**Samen**	**1.96 104**		Pn	**Pg**	**05 38 32.8 -0.7**
BHD	**Baghdad**	**2.15 228**		*e*Pn	**Pn**	**05 38 32.5 +0.9**
BHD				*e*Sn	**Sn**	**05 38 59.5 +1.3**
IAZR	**Azarshahr**	**2.97 355**		Pn	**Pb**	**05 38 46.8 -2.1**
RAFI	**Al-Rafai**	**2.99 183**		*e*Pn	**Pn**	**05 38 44.0 +0.9**
RAFI				*e*Sn	**Sn**	**05 39 20.0 +1.1**

*DNK **21** 05:45:33.0±2.4, 71°.61N×11°.10W, h36km±22km, ML1.4*
BER 21 05:45:35.1±1.3, 71°.64N×10°.38W, h3km±999km, ML2.1,
Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNW	**Jan Mayen West**	**0.88**	**133**	*e*P			Pg	05 45 49.7	-2.2
JNW				*e*S			Sg	05 46 02.9	-0.3
JNW				IAML				05 46 04.7	
	comp=Z,42nm,0.3s								
JMI	**Jan Mayen**	**0.89**	**142**	*e*P			Pg	05 45 51.5	-0.6
JMI				*e*S			Sg	05 46 02.4	-1.2
JMI				IAML				05 46 03.4	
	comp=Z,35nm,0.3s								
JMIC	**Jan Mayen**	**0.89**	**136**	*e*P			Pg	05 45 51.8	-0.3
JMIC				*e*S			Sg	05 46 02.5	-1.1
JMIC				IAML				05 46 03.9	
	comp=Z,39nm,0.4s								
JMIC	**Jan Mayen**	**0.89**	**136**	*i* P			Pg	05 45 51.1	-1.0
JMIC				*i* S			Sg	05 46 02.2	-1.4
DBG	**Daneborg**	**3.94**	**317**	*i* P			Pn	05 46 28.7	-7.7
DBG				*i* S			Sn	05 47 07.2	-16
DBG				IAML				05 47 33.1	
	comp=Z,3.3nm,0.3s								
SCO	**Scoresbysund**	**3.94**	**258**	*i* P			Pn	05 46 26.4	-10
SCO				*i* S			Sn	05 47 06.3	-17
SCO				IAML				05 47 35.2	
	comp=Z,4.4nm,1.3s								
DAG	**Danmarks Havn**	**5.63**	**340**	*i* P			Pn	05 46 53.4	-6.0
DAG				*e*S			Sn	05 47 49.4	-15
DAG				IAML				05 47 54.8	
	comp=Z,0.5nm,0.3s								

*IDC **21** 05:49:53.5±4.2, 42°.11N×81°.60E, h0km, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=48.6km s-min=30.7km az=63.0*
*SOME **21** 05:49:57.5, 42°.33N×81°.43E, h0km*
*NNC **21** 05:49:58.9±0.8, 42°.24N×81°.35E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=6.6km s-min=3.5km az=151.0*
ISC 21 05:50:00.2±1.7, 42°.32N±0°.08×81°.31E±0°.05, h10km, n45, σ2§08/70, 10C-6D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.60**	**302**	*e*P			**Pn**	**05 50 26.1**	**-2.6**
	64nm,0.2s								
SHLS				*e*S			**Sn**	**05 50 47.1**	**-2.3**
	3μm,0.4s								
UZB	**Uzynbulak**	**1.88**	**297**	Pg			**Pb**	**05 50 34.2**	**-0.5**
	53nm,0.4s								
UZB				Lg			Lg	05 51 01.3	
	257nm,0.4s								
UZB	**Uzynbulak**	**1.88**	**297**	*e*P			**Pb**	**05 50 34.2**	**-0.5**
	53nm,0.4s								
UZB				*e*S			**Sg**	**05 51 01.3**	**+0.6**
	257nm,0.4s								
KPKS	**Kokpek**	**2.25**	**302**	Pg			**Pb**	**05 50 40.5**	**-0.4**
	49nm,0.2s								
KPKS				Lg			Lg	05 51 12.1	
	918nm,0.6s								
KPKS	**Kokpek**	**2.25**	**302**	*e*P			**Pb**	**05 50 40.5**	**-0.4**
	49nm,0.2s								
KPKS				*e*S			**Sg**	**05 51 12.1**	**-0.3**
	918nm,0.6s								
SATY	**Saty**	**2.27**	**290**	*e*P			**Pg**	**05 50 42.5**	**-1.2**
	30nm,0.2s								
SATY				*e*S			**Sg**	**05 51 14.6**	**+1.6**
	258nm,0.2s								
ZHN	**Zhinishke**	**2.28**	**293**	Pg			**Pb**	**05 50 42.3**	**+0.7**
	30nm,0.2s								
ZHN				Lg			Lg	05 51 14.3	
	376nm,0.2s								
ZHN	**Zhinishke**	**2.28**	**293**	*e*P			**Pb**	**05 50 42.3**	**+0.7**
	30nm,0.2s								
ZHN				*e*S			**Sg**	**05 51 14.3**	**+0.7**
	376nm,0.2s								
DJR	**Jarkent**	**2.30**	**332**	Pg			**Pb**	**05 50 42.2**	**+0.4**
	5.5nm,0.2s								
DJR				Lg			Lg	05 51 14.4	
	209nm,0.6s								
DJR	**Jarkent**	**2.30**	**332**	*e*P			**Pb**	**05 50 42.2**	**+0.4**
	5.5nm,0.2s								
DJR				*e*S			**Sg**	**05 51 14.4**	**+0.4**
	209nm,0.6s								
KURS	**Kuram**	**2.59**	**298**	Pg			**Pb**	**05 50 47.6**	**+0.9**
	16nm,0.5s								
KURS				Lg			Lg	05 51 23.4	
	74nm,0.7s								
KURS	**Kuram**	**2.59**	**298**	*e*P			**Pb**	**05 50 47.6**	**+0.9**
	16nm,0.5s								
KURS				*e*S			**Sg**	**05 51 23.4**	**+0.1**
	74nm,0.7s								
BLB	**Baldybastay**	**2.73**	**312**	Pg			**Pb**	**05 50 50.5**	**+1.3**
	61nm,0.1s								
BLB				Lg			Lg	05 51 28.6	
	230nm,0.3s								
ARXS	**Arharly**	**3.17**	**308**	*e*P			**Pb**	**05 50 58.0**	**+1.2**
	6.8nm,0.6s								
ARXS				*e*S			**Sg**	**05 51 41.5**	**-0.6**
	58nm,0.4s								
KOTS	**Kotyrbulak**	**3.22**	**288**	Pg			**Pb**	**05 50 58.0**	**+0.3**
	20nm,0.3s								
KOTS				Lg			Lg	05 51 41.3	
	169nm,0.6s								
KOTS	**Kotyrbulak**	**3.22**	**288**	*e*P			**Pb**	**05 50 58.0**	**+0.3**
	20nm,0.3s								
KOTS				*e*S			**Sg**	**05 51 41.3**	**-2.5**
	169nm,0.6s								
MDOK	**Medeo**	**3.25**	**286**	Pn			**Pn**	**05 50 52.9**	**+1.4**
	9.2nm,0.5s								
MDOK				Pg			**Pb**	**05 50 58.5**	**+0.3**
	15nm,0.4s								
MDOK				Lg			Lg	05 51 41.8	
	44nm,0.6s								
MDOK				Lg			Lg	05 51 42.5	
	44nm,0.6s								
MDOK	**Medeo**	**3.25**	**286**	*e*P			**Pb**	**05 50 58.5**	**+0.3**
	15nm,0.4s								
MDOK				*e*S			**Sg**	**05 51 42.5**	**-2.2**
	44nm,0.6s								
KAPS	**Kapalarasan**	**3.28**	**335**	Pg			**Pb**	**05 50 59.8**	**+1.2**
	12nm,0.3s								
KAPS				Lg			Lg	05 51 44.5	
	110nm,0.2s								
KAPS	**Kapalarasan**	**3.28**	**335**	*e*P			**Pb**	**05 50 59.8**	**+1.2**
	12nm,0.3s								
KAPS				*e*S			**Sg**	**05 51 44.5**	**-1.2**
	110nm,0.2s								
TNSS	**Tian-Shan**	**3.30**	**284**	Pg			**Pb**	**05 50 59.4**	**+0.4**
	12nm,0.2s								
TNSS				Lg			Lg	05 51 43.7	
	24nm,0.6s								
TNSS	**Tian-Shan**	**3.30**	**284**	*e*P			**Pb**	**05 50 59.4**	**+0.4**
	12nm,0.2s								
TNSS				*e*S			**Sg**	**05 51 43.6**	**-2.5**
	24nm,0.6s								
KTBS	**Karatobe**	**3.67**	**294**	Pg			**Pb**	**05 51 06.9**	**+1.7**
	7.5nm,0.2s								
KTBS				Lg			Lg	05 51 56.5	
	109nm,0.5s								
KTBS	**Karatobe**	**3.67**	**294**	*e*P			**Pb**	**05 51 06.9**	**+1.7**
	7.5nm,0.2s								
KTBS				*e*S			**Sg**	**05 51 56.5**	**-1.6**
	109nm,0.5s								
MTBS	**Maitube**	**3.69**	**284**	Pg			**Pb**	**05 51 07.3**	**+1.8**
	7.9nm,0.4s								
MTBS				Lg			Lg	05 51 58.0	
	54nm,0.7s								
MTBS	**Maitube**	**3.69**	**284**	*e*P			**Pb**	**05 51 07.3**	**+1.8**
	9.1nm,0.3s								
MTBS				*e*S			**Sg**	**05 51 58.0**	**-0.7**
	54nm,0.5s								
KUU	**Kurty**	**3.97**	**295**	Pg			**Pb**	**05 51 11.7**	**+1.5**
	11nm,0.7s								
KUU				Lg			Lg	05 52 04.7	
	75nm,0.7s								
KUU	**Kurty**	**3.97**	**295**	*e*P			**Pb**	**05 51 11.7**	**+1.5**
	6.0nm,0.4s								
KUU				*e*S			**Sg**	**05 52 04.7**	**-2.9**
	75nm,0.7s								
KST	**Kastek**	**4.01**	**282**	Pg			**Pb**	**05 51 13.5**	**+2.4**
	7.2nm,0.4s								
KST				Lg			Lg	05 52 08.5	
	27nm,0.5s								
KST	**Kastek**	**4.01**	**282**	*e*P			**Pb**	**05 51 13.7**	**+2.6**
	2.6nm,0.2s								
KST				*e*S			**Sg**	**05 52 08.5**	**-0.5**
	30nm,0.6s								
DGS	**Degeres**	**4.18**	**285**	Pg			**Pb**	**05 51 16.4**	**+2.4**
	12nm,0.6s								
DGS				Lg			Lg	05 52 12.9	
	41nm,0.5s								
DGS	**Degeres**	**4.18**	**285**	*e*P			**Pb**	**05 51 16.4**	**+2.4**
	14nm,0.6s								
DGS				*e*S			**Sg**	**05 52 12.9**	**-1.5**
	41nm,0.5s								
TKM2	**Tokmak 2**	**4.26**	**280**	⇓Pn			**Pn**	**05 51 06.0**	**+0.6**
	12nm,0.9s								
TKM2				⇑Pg			**Pg**	**05 51 19.4**	**-2.5**
	5.0nm,0.5s								
TKM2				⇓Lg			Lg	05 52 16.1	
	15nm,0.5s								
MAKZ	**Makanchi**	**4.51**	**6**	⇑Pn			**Pn**	**05 51 08.8**	**+0.1**
	11nm,0.7s								
MAKZ				⇓Sn			**Sn**	**05 52 05.7**	**+4.5**
	12nm,0.4s								
MAKZ				⇓Lg			Lg	05 52 23.6	
	23nm,0.6s								
MK31	**Makanchi Array**	**4.53**	**9**	⇑Pn			**Pn**	**05 51 08.8**	**0.0**
	0.9nm,0.2s,baz=188,slow=13,SNR=94								
MK31				Pg			**Pb**	**05 51 20.6**	**+0.8**
	3.8nm,0.5s,baz=189,slow=17,SNR=5.3								
MK31				⇑Sn			**Sn**	**05 52 06.4**	**+4.9**
	13nm,0.5s,baz=183,slow=18,SNR=7.7								
MK31				⇑Lg			Lg	05 52 23.3	
	28nm,0.6s,baz=186,slow=29,SNR=7.4								
MKAR	**Makanchi Array**	**4.53**	**9**	Pn			**Pn**	**05 51 08.5**	**-0.4**
	1.9nm,0.3s,baz=184,slow=13,SNR=62								
MKAR				Sn			**Sn**	**05 52 04.1**	**+2.6**
	7.7nm,0.3s,baz=187,slow=24,SNR=17								
MKAR				Lg			Lg	05 52 21.7	
	11nm,0.3s,baz=188,slow=32,SNR=14								
	2.6nm,0.4s								
ZSN	**Zaisan**	**5.71**	**25**	*e*P			**Pb**	**05 51 42.3**	**+2.3**
	8.1nm,0.5s								
ZSN				*e*S			**Sg**	**05 52 57.5**	**-6.1**
	14nm,0.5s								
BTLS	**Baital**	**5.93**	**300**	Pg			**Pb**	**05 51 48.2**	**+4.6**
	1.6nm,0.4s								
BTLS				Lg			Lg	05 53 07.2	
	3.3nm,0.6s								
BTLS	**Baital**	**5.93**	**300**	*e*P			**Pb**	**05 51 47.8**	**+4.2**
	0.9nm,0.2s								
BTLS				*e*S			**Sg**	**05 53 07.0**	**-3.5**
	3.8nm,0.6s								
KK31	**Karatay Array**	**7.99**	**279**	⇑Pg			Pb	05 52 24.6	+5.8
	0.7nm,0.5s,baz=83,slow=16,SNR=4.5								
KK31				⇓Lg			Lg	05 54 15.1	
	2.2nm,0.5s,baz=87,slow=29,SNR=4.8								
KURBB	**Kurchatov Arra**	**8.52**	**348**	⇑Pn			**Pn**	**05 52 03.7**	**0.0**
	6.7nm,1.1s								
KURBB				⇑Lg			Lg	05 54 34.7	
	15nm,0.6s								
KURBB	**Kurchatov Arra**	**8.52**	**348**	Pn			**Pn**	**05 52 01.6**	**-2.0**
	0.1nm,0.3s,baz=171,slow=12,SNR=4.6								
KURBB				Sn			**Sn**	**05 53 41.6**	**+1.8**
	0.1nm,0.3s,baz=174,slow=18,SNR=1.7								
KURBB				Lg			Lg	05 54 29.1	
	0.1nm,0.3s,baz=165,slow=30,SNR=4.4								
	0.3nm,0.3s								
KURK	**Kurchatov**	**8.60**	**348**	⇑Pn			**Pn**	**05 52 03.7**	**-1.0**
	4.4nm,0.5s								
KURK				⇑Sn			**Sn**	**05 53 45.6**	**+3.9**
	3.3nm,0.7s								
KURK				⇓Lg			Lg	05 54 34.7	
	15nm,1.1s								
ZALV	**Zalesovo Beam**	**11.87**	**10**	Pn			**Pn**	**05 52 46.2**	**-3.2**
	0.1nm,0.3s,baz=195,slow=8.7,SNR=1.8								
	0.3nm,0.4s								
SONM	**Songino Array**	**18.51**	**64**	Pn			P	05 54 09.4	-7.3
	0.2nm,0.3s,baz=260,slow=14,SNR=2.9								
	0.6nm,0.7s								

*IDC **21** 06:01:33.0±0.9, 37°.68N×143°.79E, h0km, mb3.7/13, mbtmp3.8/18, ML3.5/4, MS2.9/6, Error ellipse: s-maj=20.7km s-min=18.2km az=99.0*
*NIED **21** 06:01:37.1, 37°.82N×143°.69E, h50km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=1.49; $M_{\theta\theta}$=1.84; $M_{\phi\phi}$=3.33; $M_{r\theta}$=2.86; $M_{\theta\phi}$=5.31; $M_{\phi r}$=2.94; Fault plane solution: M_0=6.87000×10^{14} NP1:ϕ_s=75.00000°, δ=87.00000°, λ=29.00000°. NP2:ϕ_s=344.00000°, δ=61.00000°, λ=177.00000°.*
*JMA **21** 06:01:37.1±0.2, 37°.8N±0°.8×14°.4E±°, h50km, MV4.0/31, FAR E OFF MIYAGI PREF*
ISC 21 06:01:37.9±0.8, 37°.74N±0°.05×143°.75E±0°.07, h35km, n40, σ1§62/42, mb3.7/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.89**	**288**	P			**Pn**	**06 02 06.8**	**-0.8**
JIKH				*e*S			**Sn**	**06 02 28.1**	**-2.1**
JIO	**Ouri**	**2.02**	**291**	P			**Pn**	**06 02 08.6**	**-0.9**
JIO				*e*S			**Sn**	**06 02 31.5**	**-2.0**
JKMT	**Kesennumamotoy**	**2.08**	**302**	P			**Pn**	**06 02 09.4**	**-0.9**
JKMT				*e*S			**Sn**	**06 02 33.5**	**-1.6**
OFUJ	**Ofunato**	**2.11**	**310**	P			**Pn**	**06 02 09.6**	**-1.1**
OFUJ				*e*S			**Sn**	**06 02 33.4**	**-2.3**
JMK	**Ichinoseki**	**2.33**	**302**	P			**Pn**	**06 02 12.9**	**-0.7**
JMK				*e*S			**Sn**	**06 02 40.1**	**-0.8**
JOM	**Ohasama**	**2.59**	**313**	P			**Pn**	**06 02 16.6**	**-0.6**
JOM				*e*S			**Sn**	**06 02 45.1**	**-2.3**
JOTO	**OTAMA OYAMA**	**2.71**	**267**	*e*P			**Pn**	**06 02 19.2**	**+0.2**
JOTO				*e*S			**Sn**	**06 02 50.4**	**-0.2**
JYK	**Kaneyama**	**2.91**	**295**	*e*P			**Pn**	**06 02 21.5**	**-0.2**
JANG	**Nango**	**3.15**	**327**	*e*P			**Pn**	**06 02 23.9**	**-1.1**
JAG	**Ashikaga**	**3.67**	**250**	*e*P			**Pn**	**06 02 32.0**	**-0.2**
BSO1	**Boso 1**	**3.81**	**217**	*e*P			**Pn**	**06 02 32.0**	**-1.5**
JRY	**Ryogami san**	**4.25**	**248**	P			**Pn**	**06 02 39.5**	**-0.5**
MJAR	**Matsushiro Arr**	**4.58**	**257**	Pn			**Pn**	**06 02 45.0**	**+0.4**
	1.4nm,0.3s,baz=75,slow=15,SNR=27								
MJAR				Sn			**Sn**	**06 03 38.4**	**+1.8**
	0.8nm,0.3s,baz=90,slow=27,SNR=8.8								
MJAR				LR			LR	06 04 52.2	
	comp=Z,119nm,19.0s,baz=82,slow=43								
	8.7nm,0.3s								
JNBK	**Urakawa-nobuka**	**4.60**	**351**	*e*P			**Pn**	**06 02 44.0**	**-0.9**
JHJ	**Hachijo jima 2**	**5.63**	**216**	Pn			**Pn**	**06 02 57.0**	**-2.1**
	baz=111,slow=22,SNR=2.9								
JHJ				Sn			**Sn**	**06 03 57.3**	**-5.1**
	baz=78,slow=23,SNR=1.4								
ASAJ	**Asahikawa**	**6.43**	**353**	Pn			**Pn**	**06 03 09.5**	**-0.5**
	29nm,0.3s,baz=194,slow=10,SNR=50								
ASAJ				Sn			**Sn**	**06 04 17.8**	**-4.4**
	4.6nm,0.3s,baz=74,slow=33,SNR=5.6								
USRK	**Ussuriysk Ar.**	**10.98**	**310**	Pn			**Pn**	**06 04 14.1**	**+1.8**
	0.3nm,0.3s,baz=106,slow=11,SNR=5.4								
USRK				LR			LR	06 08 06.6	
	comp=Z,58nm,21.8s,baz=327,slow=36								
	4.9nm,0.8s								
KSRS	**Korea Array**	**12.56**	**274**	Pn			**Pn**	**06 04 32.5**	**-1.5**
	0.4nm,0.3s,baz=114,slow=14,SNR=3.4								
KSRS				LR			LR	06 09 06.9	
	comp=Z,32nm,18.3s,baz=45,slow=36								
	1.9nm,0.8s								
KLR	**Kul'dur**	**14.39**	**327**	Pn			**Pn**	**06 04 57.8**	**-1.1**
	0.2nm,0.3s,baz=126,slow=11,SNR=2.0								
KLR				LR			LR	06 10 40.0	
	comp=Z,49nm,19.0s,baz=144,slow=38								
	1.2nm,0.6s								
YAK	**Yakutsk**	**25.84**	**345**	LR			LR	06 18 13.7	
	comp=Z,29nm,18.1s,baz=80,slow=39								
H11N2	**WAKE ISLAND Hy**	**26.97**	**125**	T			T	06 35 26.7	
	baz=317,slow=76								
H11N1	**WAKE ISLAND Hy**	**26.98**	**125**	T			T	06 35 31.8	
	baz=317								
H11N3	**WAKE ISLAND Hy**	**26.99**	**125**	T			T	06 35 24.4	
	baz=317,slow=76								
H11S1	**WAKE ISLAND Hy**	**27.74**	**127**	T			T	06 36 28.7	
	baz=318,slow=74								
H11S3	**WAKE ISLAND Hy**	**27.75**	**127**	T			T	06 36 24.7	
	baz=318								
H11S2	**WAKE ISLAND Hy**	**27.76**	**127**	T			T	06 36 34.8	
	baz=318,slow=74								
SONM	**Songino Array**	**28.96**	**302**	P			**P**	**06 07 35.2**	**+1.2**
	0.5nm,0.5s,baz=100,slow=7.5,SNR=4.0								
	0.5nm,0.5s								
ZALV	**Zalesovo Beam**	**42.82**	**312**	P			**P**	**06 09 33.5**	**+1.4**
	0.4nm,0.4s,baz=100,slow=7.8,SNR=2.2								
	0.4nm,0.4s								
CMAR	**Chiang Mai Arr**	**43.47**	**256**	LR			LR	06 28 55.9	
	comp=Z,25nm,18.2s,baz=320,slow=38								
MKAR	**Makanchi Array**	**45.32**	**302**	P			**P**	**06 09 53.3**	**+1.0**
	1.1nm,0.7s,baz=90,slow=6.1,SNR=4.1								
	1.1nm,0.7s								
KURBB	**Kurchatov Arra**	**47.04**	**308**	P			**P**	**06 10 06.1**	**+0.4**
	2.0nm,0.8s,baz=83,slow=8.3,SNR=12								
	2.0nm,0.8s								
ILAR	**Eielson Array**	**47.90**	**33**	P			**P**	**06 10 12.6**	**+0.4**
	0.6nm,0.7s,baz=259,slow=7.0,SNR=8.6								
	0.6nm,0.7s								
BVAR	**Borovoye Array**	**51.47**	**312**	P			**P**	**06 10 40.6**	**+1.1**
	0.9nm,0.7s,baz=15,slow=6.0,SNR=1.8								
	0.9nm,0.7s								
WRA	**Warramunga Arr**	**58.05**	**190**	P			**P**	**06 11 26.9**	**-0.6**
	0.6nm,0.6s,baz=7.7,slow=7.0,SNR=6.8								
	0.6nm,0.6s								
AKTO	**Aktyubinsk**	**59.58**	**312**	P			**P**	**06 11 37.3**	**-0.6**
	1.2nm,0.6s,baz=75,slow=11,SNR=3.7								
	1.2nm,0.6s								
ASAR	**Alice Springs**	**61.77**	**190**	P			**P**	**06 11 53.7**	**+0.7**
	0.4nm,0.7s,baz=5.0,slow=6.2,SNR=2.7								
	0.4nm,0.7s								
NVAR	**Mina Array Bea**	**73.08**	**54**	P			**P**	**06 13 06.4**	**+1.7**
	0.1nm,0.6s,baz=274,slow=7.1,SNR=1.4								
	0.1nm,0.6s								
HFS	**Hagfors**	**74.20**	**337**	P			**P**	**06 13 11.4**	**+0.8**
	0.4nm,0.4s,baz=38,slow=7.3,SNR=0.9								
	0.4nm,0.4s								
NOA	**NORSAR Array B**	**74.24**	**338**	P			**P**	**06 13 11.0**	**+0.1**
	0.1nm,0.3s,baz=45,slow=6.9,SNR=1.5								
	0.1nm,0.3s								
AKASG	**Malin Array Be**	**74.86**	**323**	P			**P**	**06 13 15.4**	**+0.8**
	0.3nm,0.4s,baz=130,slow=15,SNR=1.6								
	0.3nm,0.4s								

*IDC **21** 06:06:31.9±4.3, 20°.28S×176°.30W, h286km±32km, mb3.5/2, mbtmp4.1/4, Error ellipse: s-maj=47.1km s-min=33.0km az=91.0*
ISC 21 06:06:30.2±2.3, 20°.4S±0°.2×176°.3W±0°.3, h250km, n8, σ1§60/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.03**	**296**	P			**Pn**	**06 07 59.8**	**+1.0**
	7.5nm,0.7s,baz=136,slow=17,SNR=4.5								
DZM	**Mont Dzumac**	**16.21**	**261**	P			**Pn**	**06 10 05.8**	**+0.8**
	7.9nm,0.7s,baz=100,slow=22,SNR=9.0								
URZ	**Urewera**	**18.66**	**197**	P			**P**	**06 10 30.8**	**+0.9**
	6.5nm,0.7s,baz=358,slow=4.6,SNR=1.7								
URZ				S			**S**	**06 13 49.1**	**+0.1**
	8.8nm,0.9s,baz=90,slow=8.1,SNR=1.3								
ASAR	**Alice Springs**	**46.13**	**256**	P			**P**	**06 14 28.6**	**-1.5**
	3.0nm,0.7s,baz=89,slow=8.6,SNR=21								
	3.0nm,0.7s								
WRA	**Warramunga Arr**	**46.23**	**262**	P			**P**	**06 14 28.6**	**-2.4**
	0.7nm,0.3s,baz=99,slow=8.4,SNR=5.3								
	0.7nm,0.3s								
AKASG	**Malin Array Be**	**143.74**	**332**	PKP			PKPab	06 25 31.8	-1.0
	0.8nm,0.6s,baz=57,slow=3.2,SNR=4.6								
BRTR	**Keskin Array B**	**148.00**	**314**	PKPbc			**PKPdf**	**06 25 42.5**	**-0.6**
	1.1nm,0.6s,baz=43,slow=2.8,SNR=4.7								
MMAI	**Mount Meron Ar**	**149.21**	**301**	PKPbc			**PKPdf**	**06 25 46.6**	**+1.5**
	0.7nm,0.3s,baz=96,slow=7.6,SNR=3.5								

*IDC **21** 06:12:23.8±1.0, 16°.93S×173°.05W, h0km, mb3.7/7, mbtmp3.8/7, MS3.1/4, Error ellipse: s-maj=44.7km s-min=22.4km az=140.0*
ISC 21 06:12:29.7±1.0, 16°.9S±0°.2×173°.1W±0°.3, h41km, n11, σ0§82/7, mb3.6/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.49**	**263**	LR			LR	06 17 37.4	
	comp=Z,279nm,19.7s,baz=41,slow=37								
RAR	**Rarotonga**	**13.29**	**111**	LR			LR	06 19 33.2	
	comp=Z,61nm,19.5s,baz=292,slow=32								
DZM	**Mont Dzumac**	**19.94**	**252**	LR			LR	06 23 37.5	
	comp=Z,55nm,20.8s,baz=86,slow=34								
PPT	**Papeete**	**22.47**	**95**	LR			LR	06 24 26.0	
	comp=Z,42nm,18.4s,baz=272,slow=32								
URZ	**Urewera**	**22.91**	**200**	P			**P**	**06 17 29.1**	**-0.9**
	5.7nm,0.6s,baz=8.1,slow=7.1,SNR=1.5								
	5.7nm,0.6s								
WRA	**Warramunga Arr**	**49.79**	**258**	P			**P**	**06 21 18.3**	**-0.5**
	0.3nm,0.5s,baz=97,slow=7.3,SNR=8.5								
	0.3nm,0.5s								
ASAR	**Alice Springs**	**49.92**	**253**	P			**P**	**06 21 20.6**	**+0.7**
	1.2nm,0.6s,baz=88,slow=8.1,SNR=14								
	1.2nm,0.6s								
QSPA	**South Pole Qui**	**73.11**	**180**	P			**P**	**06 23 56.5**	**+0.8**
	0.8nm,0.9s,baz=18,slow=3.4,SNR=2.1								
	0.8nm,0.9s								
NVAR	**Mina Array Bea**	**75.28**	**42**	P			**P**	**06 24

DRO	**Drossia**	**0.71**	**54**	P	**Pg**	**06 27 53.3**	**-0.5**
DRO				S	**Sb**	**06 28 03.5**	**0.0**
DRO				AML	AML	06 28 12.8	
	comp=E,8990μm,0.5s						
DRO				AML	AML	06 28 13.9	
	comp=N,8845μm,0.4s						
ITM	**Ithomi**	**0.83**	**115**	P	**Pb**	**06 27 55.4**	**-0.5**
ITM				S	**Sn**	**06 28 09.7**	**+0.9**
	comp=N,2μm,0.6s						
ITM	**Ithomi**	**0.83**	**115**	P	**Pb**	**06 27 55.3**	**-0.7**
ITM				AML	AML	06 28 15.1	
	comp=E,3221μm,0.6s						
ITM				AML	AML	06 28 17.5	
	comp=N,3605μm,0.6s						
PYL	**PYLOS**	**0.88**	**136**	P	**Pb**	**06 27 56.5**	**-0.2**
PYL				S	**Sn**	**06 28 10.7**	**+0.8**
	comp=N,1μm,0.5s						
PYL	**PYLOS**	**0.88**	**136**	P	**Pb**	**06 27 56.3**	**-0.4**
PYL				AML	AML	06 28 14.7	
	comp=N,2466μm,0.5s						
PYL				AML	AML	06 28 14.9	
	comp=E,3310μm,0.5s						
FSK	**Fiskardo**	**0.98**	**341**	P	**Pb**	**06 27 57.8**	**-0.6**
FSK				S	**Sn**	**06 28 13.1**	**+0.7**
	comp=E,712nm,0.6s						
FSK	**Fiskardo**	**0.98**	**341**	P	**Pb**	**06 27 57.5**	**-1.0**
FSK				AML	AML	06 28 23.4	
	comp=N,1084μm,0.7s						
FSK				AML	AML	06 28 30.4	
	comp=E,1664μm,0.6s						
KLV	**Kalavryta, Ach**	**1.06**	**61**	P	**Pb**	**06 27 59.3**	**-0.5**
KLV	**Kalavryta, Ach**	**1.06**	**61**	P	**Pb**	**06 27 59.3**	**-0.5**
EVGI	**Lefkada island**	**1.11**	**347**	S	**Sn**	**06 28 17.2**	**+1.5**
EVGI	**Lefkada island**	**1.11**	**347**	P	**Pb**	**06 27 59.9**	**-0.8**
GUR	**Goura**	**1.15**	**69**	P	**Pb**	**06 28 01.1**	**-0.3**
GUR	**Goura**	**1.15**	**69**	P	**Pb**	**06 28 00.5**	**-0.9**
GUR				AML	AML	06 28 26.2	
	comp=E,2056μm,0.5s						
GUR				AML	AML	06 28 39.2	
	comp=N,2736μm,0.5s						
EFP	**Efpalio**	**1.15**	**39**	P	**Pb**	**06 28 00.9**	**-0.5**
EFP				AML	AML	06 28 26.2	
	comp=E,1372μm,0.4s						
EFP				AML	AML	06 28 26.7	
	comp=N,2040μm,0.4s						
NYDR	**Nydri-Lefkada**	**1.20**	**349**	P	**Pn**	**06 28 01.7**	**-0.2**
NYDR				S	**Sg**	**06 28 21.1**	**+2.4**
	comp=N,550nm,0.6s						
NYDR	**Nydri-Lefkada**	**1.20**	**349**	P	**Pn**	**06 28 01.5**	**-0.3**
LKD2	**Lefkada island**	**1.28**	**349**	P	**Pg**	**06 28 04.3**	**-0.2**
LKD2				S	**Sg**	**06 28 23.9**	**+2.7**
	comp=N,800nm,0.5s						
LKD2	**Lefkada island**	**1.28**	**349**	P	**Pn**	**06 28 03.4**	**+0.3**
ANX	**Ano Chora**	**1.29**	**35**	P	**Pn**	**06 28 03.2**	**-0.1**
ANX				AML	AML	06 28 29.8	
	comp=E,2210μm,0.7s						
ANX				AML	AML	06 28 30.1	
	comp=N,2718μm,0.5s						
TSLK	**Tsoukalades, L**	**1.31**	**349**	P	**Pn**	**06 28 04.1**	**+0.6**
HFS	**Hagfors**	**23.09**	**351**	P	**P**	**06 32 40.5**	**-4.0**
	comp=N,2.1nm,0.9s,baz=156,slow=11,SNR=1.6						
	comp=N,2.1nm,0.9s						
FINES	**FINESS Array B**	**24.15**	**6**	P	**P**	**06 32 53.3**	**-1.5**
	comp=N,3.7nm,1.1s,baz=217,slow=21,SNR=1.8						
	comp=N,3.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**29.77**	**220**	P	**P**	**06 33 47.2**	**+1.5**
	comp=N,0.2nm,0.4s,baz=34,slow=8.5,SNR=1.9						
	comp=N,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**42.32**	**53**	P	**P**	**06 35 32.6**	**0.0**
	comp=N,0.3nm,0.4s,baz=287,slow=8.8,SNR=2.2						
	comp=N,0.3nm,0.4s						
MKAR	**Makanchi Array**	**45.33**	**58**	P	**P**	**06 35 56.9**	**0.0**
	comp=N,0.5nm,0.6s,baz=279,slow=6.5,SNR=5.1						
	comp=N,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**45.85**	**48**	P	**P**	**06 36 01.2**	**+0.3**
	comp=N,0.6nm,0.4s,baz=295,slow=7.8,SNR=2.1						
	comp=N,0.6nm,0.4s						

GII 21 06:35:43.8±0.3, 31°.57N±0°.02×35°.97E±0°.02, h0km, confirmed, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHAJ	**Ghor Haditha**	**0.43**	**232**	P	Pb	06 35 53.3	-1.0
DSI	**Dead Sea**	**0.50**	**270**	P	Pb	06 35 54.8	-0.7
DSI	**Dead Sea**	**0.50**	**270**	S	Sb	06 36 02.2	-1.2
HMDT	**Nahal Hemdat**	**0.78**	**331**	P	Pb	06 36 00.1	-0.1
MMLI	**Mount Malkishu**	**0.98**	**332**	P	Pb	06 36 03.5	-0.2
MMLI	**Mount Malkishu**	**0.98**	**332**	S	Sn	06 36 18.9	-0.7
MMLI	**Mount Malkishu**	**0.98**	**332**	P	Pg	06 36 00.8	-1.9
MMLI	**Mount Malkishu**	**0.98**	**332**	S	Sn	06 36 21.1	+1.6
KSHT	**Keshet**	**1.41**	**355**	P	Pn	06 36 10.3	-0.6
KSHT	**Keshet**	**1.41**	**355**	P	Pn	06 36 05.7	-5.1
KSHT	**Keshet**	**1.41**	**355**	S	Sb	06 36 30.0	+0.2
PRNI	**Paran**	**1.47**	**215**	P	Pn	06 36 11.7	+0.1
PRNI	**Paran**	**1.47**	**215**	S	Sn	06 36 32.8	+1.3
GEM	**Giv'at Ha'Em**	**1.66**	**351**	P	Pn	06 36 14.1	-0.1
GEM	**Giv'at Ha'Em**	**1.66**	**351**	P	Pn	06 36 08.1	-6.1
GEM	**Giv'at Ha'Em**	**1.66**	**351**	S	Sn	06 36 36.1	0.0
NATI	**Neve Ativ**	**1.70**	**353**	P	Pn	06 36 09.5	-5.2
NATI	**Neve Ativ**	**1.70**	**353**	S	Sn	06 36 37.0	-0.2
HRFI	**Mount Harif**	**1.73**	**208**	P	Pn	06 36 15.3	+0.2
HRFI	**Mount Harif**	**1.73**	**208**	S	Sg	06 36 39.4	+0.2
KRMI	**Paran Flat**	**1.80**	**217**	P	Pn	06 36 15.9	-0.3
KRMI	**Paran Flat**	**1.80**	**217**	S	Sg	06 36 41.4	-0.3
MBRI	**Mt Berech**	**1.99**	**207**	P	Pn	06 36 18.9	+0.1
MBRI	**Mt Berech**	**1.99**	**207**	S	Sb	06 36 46.1	-0.2

*IDC **21** 06:39:03.5±0.5, 0°.89N×124°.94E, h0km, mb4.5/23, mbtmp4.4/24, ML3.8/1, MS3.4/11, Error ellipse: s-maj=26.4km s-min=11.9km az=81.0*
*NEIC **21** 06:39:13.7±2.2, 0°.99N±0°.08×125°.32E±0°.06, h69km±7km, mb4.7/33, Error ellipse: s-maj=12.3km s-min=8.9km az=198.0*
*DJA **21** 06:39:14.4±0.7, 1°N±3°×12°5E±°, h23km±8km, M5.0/18, mb5.0/12, mB5.7/5, MLv4.8/18, Mw(mB)5.2/5*

ISC 21 06:39:13.6±0.4, 0°.86N±0°.05×125°.32E±0°.05, h79km, n98, σ1°93/100, mb4.6/44, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.37**	**258**	P	**Pn**	**06 39 39.1**	**+2.0**
TNTI	**Ternate**	**2.05**	**92**	Pn	**Pn**	**06 39 47.0**	**+0.8**
TNTI	**Ternate**	**2.05**	**92**	P	**Pn**	**06 39 46.9**	**+0.8**
LBMI	**Labuha**	**2.64**	**124**	P	**Pn**	**06 39 54.5**	**+0.4**
SANI	**Sanana**	**2.97**	**167**	P	**Pn**	**06 39 57.7**	**-0.8**
LUWI	**Luwuk**	**3.17**	**233**	Pn	**Pn**	**06 40 04.7**	**+3.4**
LUWI	**Luwuk**	**3.17**	**233**	P	**Pn**	**06 40 04.4**	**+3.2**
MRSI	**Marisa**	**3.40**	**264**	P	**Pn**	**06 40 06.4**	**+2.1**
APSI	**Ampana**	**4.07**	**244**	P	**Pn**	**06 40 16.7**	**+3.2**
NLAI	**Namlea**	**4.45**	**156**	P	**Pn**	**06 40 18.8**	**+0.2**
TOLI2	**Tolitoli**	**4.54**	**273**	Pn	**Pn**	**06 40 20.1**	**+0.2**
AAI	**Ambon**	**5.36**	**148**	P	**Pn**	**06 40 32.4**	**+1.4**
	180nm,0.5s,5μm1.1nm						
MSAI	**Masohi**	**5.52**	**139**	P	**Pn**	**06 40 35.4**	**+2.1**
	227nm,0.6s,6μm1.1nm						
DAV	**Davao City (W)**	**6.17**	**2**	Lg	Lg	06 42 06.7	
	82nm,0.3s,baz=316,slow=9.1,SNR=1.7						
DAV				LR	LR	06 43 19.8	
	comp=Z,318nm,18.8s,baz=160,slow=42						
SWI	**Sorong**	**6.18**	**106**	P	**Pn**	**06 40 44.3**	**+2.0**
	30nm,0.4s,0.3nm						
TTSI	**Tana Toraja**	**6.73**	**235**	P	**Pn**	**06 40 52.2**	**+2.4**
	120nm,0.8s,0.6nm						
SPSI	**Sidrap Palu**	**7.33**	**229**	P	**Pn**	**06 41 00.6**	**+2.6**
	60nm,0.7s,0.2nm						
FAKI	**Fak Fak**	**7.88**	**118**		**Pn**	**06 41 05.9**	**+0.3**
FAKI	**Fak Fak**	**7.88**	**118**	P	**Pn**	**06 41 06.0**	**+0.5**
	46nm,1.0s						
MYLDM	**Lahad Datu**	**8.04**	**302**	Pn	**Pn**	**06 41 10.2**	**+2.4**
KAPI	**Kappang**	**8.06**	**224**	Pn	**Pn**	**06 41 04.3**	**-3.7**
	5.6nm,0.3s,baz=84,slow=19,SNR=2.6						
KAPI				Sn	**Sn**	**06 42 36.0**	**-1.6**
	baz=137,slow=18						
KKM	**Kota Kinabalu**	**10.44**	**300**	Pn	**Pn**	**06 41 39.2**	**-1.4**
BASI	**Baing, Sumba**	**11.98**	**203**	P	**Pn**	**06 41 59.9**	**-1.5**
SBUM	**Sibu**	**13.19**	**277**	Pn	**Pn**	**06 42 20.1**	**+2.4**
MTN	**Manton Dam**	**14.79**	**157**	Pn	**Pn**	**06 42 40.2**	**+1.6**
KDU	**Kakadu**	**15.22**	**152**	P	**Pn**	**06 42 42.9**	**-1.2**
PCJI	**Pacitan**	**16.72**	**237**	P	**P**	**06 43 06.6**	**+2.5**
FITZ	**Fitzroy Crossi**	**18.84**	**179**	P	**Pn**	**06 43 28.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**18.84**	**179**	P	**P**	**06 43 25.8**	**-1.6**
	0.2nm,0.3s,baz=13,slow=14,SNR=5.9						
	7.2nm,1.0s						
WB0	**Warramunga Arr**	**22.35**	**157**	P	**P**	**06 44 04.0**	**-1.2**
WB0				IAmb	IAmb	06 44 08.2	
	comp=Z,30nm,1.1s						
WRAB	**Tennant Creek**	**22.48**	**157**	P	**P**	**06 44 05.9**	**-0.8**
WRAB				IAmb	IAmb	06 44 09.0	
	comp=Z,24nm,1.1s						
WRA	**Warramunga Arr**	**22.49**	**157**	P	**P**	**06 44 06.6**	**-0.1**
WRA	**Warramunga Arr**	**22.49**	**157**	P	**P**	**06 44 06.2**	**-0.5**
	comp=Z,24nm,1.1s,baz=336,slow=11,SNR=66						
WRA				S	**S**	**06 48 06.0**	**-2.2**
	comp=Z,1.6nm,1.1s,baz=349,slow=22,SNR=3.9						
	comp=Z,24nm,1.1s						
WB2	**Warramunga Arr**	**22.49**	**157**	P	**P**	**06 44 06.4**	**-0.4**
WB2				IAmb	IAmb	06 44 09.1	
	comp=Z,28nm,1.1s						
WR0	**Warramunga Arr**	**22.58**	**157**	P	**P**	**06 44 06.9**	**-0.8**
AS31	**Alice Springs**	**25.77**	**162**	P	**P**	**06 44 38.8**	**+1.6**
ASAR	**Alice Springs**	**25.77**	**162**	P	**P**	**06 44 38.8**	**+1.6**
ASAR	**Alice Springs**	**25.77**	**162**	P	**P**	**06 44 38.2**	**+1.0**
	comp=Z,11nm,0.8s,baz=352,slow=17,SNR=44						
ASAR				PcP	**PcP**	**06 48 05.8**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=348,slow=1.9,SNR=5.1						
ASAR				S	**S**	**06 48 55.2**	**-5.6**
	comp=Z,0.8nm,1.0s,baz=348,slow=18,SNR=1.3						
ASAR				LR	LR	06 55 39.0	
	comp=Z,51nm,18.4s,baz=284,slow=38						
	comp=Z,11nm,0.8s						
JOW	**Kunigami**	**25.98**	**6**	P	**P**	**06 44 40.0**	**+1.0**
	comp=Z,37nm,0.6s,baz=201,slow=13,SNR=8.2						
	comp=Z,37nm,0.6s						
PSI	**Prapat**	**26.45**	**275**	LR	LR	06 54 50.2	
	comp=Z,81nm,22.0s,baz=84,slow=36						
CMAR	**Chiang Mai Arr**	**31.24**	**306**	P	**P**	**06 45 26.4**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=136,slow=7.6,SNR=6.0						
CMAR				LR	LR	06 58 39.2	
	comp=Z,33nm,21.4s,baz=95,slow=38						
FORT	**Forrest**	**31.57**	**175**	P	**P**	**06 45 28.5**	**-0.2**
PZH	**PanZhiHua**	**34.12**	**320**	P	P	06 45 58.6	+7.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
NWAO	**Narrogin (SRO)**	**34.46**	**192**	LR	LR	07 02 21.0	
	comp=Z,32nm,18.0s,baz=286,slow=41						
HNR	**Honiara**	**35.97**	**107**	LR	LR	07 01 11.0	
	comp=Z,40nm,19.4s,baz=222,slow=36						
STKA	**Stephens Creek**	**36.03**	**156**	P	**P**	**06 46 08.7**	**+1.3**
	comp=Z,8.3nm,0.8s,baz=336,slow=11,SNR=6.8						
	comp=Z,8.3nm,0.8s						
JGF	**Kuroka**	**36.33**	**17**	P	**P**	**06 46 09.3**	**-0.6**
JGF				IAmb	IAmb	06 46 36.5	
	comp=Z,9.6nm,1.0s						
XAN	**Xi'an**	**36.40**	**337**	P	**P**	**06 46 11.5**	**+0.9**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KSRS	**Korea Array**	**36.49**	**3**	P	**P**	**06 46 11.9**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=180,slow=10,SNR=10						
KSRS				PcP	**PcP**	**06 48 34.8**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=239,slow=3.7,SNR=2.3						
	comp=Z,2.6nm,0.7s						
MJAR	**Matsushiro Arr**	**37.46**	**17**	P	**P**	**06 46 18.4**	**-1.1**
	comp=Z,4.2nm,0.8s,baz=190,slow=7.6,SNR=6.5						
	comp=Z,4.2nm,0.8s						
ARMA	**Armidale**	**39.94**	**143**	P	**P**	**06 46 42.1**	**+1.7**
ARMA				IAmb	IAmb	06 46 51.8	
	comp=Z,15nm,1.2s						
USA0B	**Ussuriysk Arra**	**43.56**	**7**	P	**P**	**06 47 08.3**	**-1.3**
USA0B				IAmb	IAmb	06 47 11.4	
	comp=Z,20nm,1.4s						
USRK	**Ussuriysk Ar.**	**43.56**	**7**	P	**P**	**06 47 10.0**	**+0.4**
	comp=Z,2.9nm,0.5s,baz=186,slow=7.1,SNR=8.5						
	comp=Z,2.9nm,0.5s						
BNX	**BinXian**	**44.73**	**2**	⇑P	P	06 47 30.8	+12
BNX				pmax	pmax		
	comp=Z,8.0nm,1.7s						
KLR	**Kul'dur**	**48.50**	**6**	P	**P**	**06 47 47.3**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=147,slow=8.6,SNR=4.1						
	comp=Z,2.5nm,0.6s						
HEH	**HeiHe**	**49.24**	**2**	*eP*	**P**	**06 47 54.6**	**+0.6**
HEH				pmax	pmax		
	comp=Z,16nm,0.6s						
SONM	**Songino Array**	**49.59**	**343**	P	**P**	**06 47 55.8**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=163,slow=10,SNR=5.1						
SONM				PcP	**PcP**	**06 49 15.7**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=167,slow=6.8,SNR=2.0						
SONM				LR	LR	07 10 40.5	
	comp=Z,44nm,18.4s,baz=46,slow=38						
	comp=Z,0.9nm,0.7s						
PEA0B	**Petropavlovsk-**	**58.60**	**22**	P	**P**	**06 49 02.6**	**+0.4**
PETK	**Petropavlovsk-**	**58.60**	**22**	P	**P**	**06 49 02.7**	**+0.5**
PETK	**Petropavlovsk-**	**58.60**	**22**	P	**P**	**06 49 03.0**	**+0.9**
	comp=Z,3.4nm,0.6s,baz=156,slow=3.8,SNR=7.2						
	comp=Z,3.4nm,0.6s						
MK31	**Makanchi Array**	**59.13**	**327**	P	**P**	**06 49 05.4**	**-0.7**
MKAR	**Makanchi Array**	**59.13**	**327**	P	**P**	**06 49 05.3**	**-0.7**
	comp=Z,3.0nm,0.6s,baz=121,slow=8.7,SNR=24						
MKAR				PcP	**PcP**	**06 49 53.2**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=144,slow=5.2,SNR=7.1						
MKAR				LR	LR	07 16 31.0	
	comp=Z,32nm,18.4s,baz=339,slow=38						
	comp=Z,3.0nm,0.6s						
MAKZ	**Makanchi**	**59.31**	**327**	P	**P**	**06 49 06.6**	**-0.6**
MAKZ				IAmb	IAmb	06 49 09.2	
	comp=Z,2.9nm,0.7s						
YAK	**Yakutsk**	**61.10**	**2**	P	**P**	**06 49 19.9**	**+0.7**
	comp=Z,9.2nm,0.4s,baz=283,slow=0.7,SNR=2.5						
	comp=Z,9.2nm,0.4s						
BKZ	**Black Stump Fm**	**61.45**	**136**	P	**P**	**06 49 23.6**	**+1.6**
BKZ				IAmb	IAmb	06 49 34.0	
	comp=Z,10nm,1.0s						
URZ	**Urewera**	**61.47**	**135**	LR	LR	07 17 21.3	
	comp=Z,28nm,20.1s,baz=50,slow=37						
MA2	**Magadan**	**61.81**	**14**	P	**P**	**06 49 24.6**	**+0.6**
	comp=Z,7.8nm,0.6s,baz=158,slow=16,SNR=1.6						
	comp=Z,7.8nm,0.6s						
ZALV	**Zalesovo Beam**	**62.52**	**334**	P	**P**	**06 49 27.1**	**-1.7**
ZALV	**Zalesovo Beam**	**62.52**	**334**	P	**P**	**06 49 27.0**	**-1.8**
	comp=Z,1.3nm,0.7s,baz=113,slow=5.0,SNR=5.4						
	comp=Z,1.3nm,0.7s						
GAR	**Garm**	**62.85**	**314**	P	**P**	**06 49 31.4**	**-0.2**
KURBB	**Kurchatov Arra**	**63.41**	**329**	P	**P**	**06 49 33.0**	**-1.7**
	comp=Z,2.9nm,0.7s,baz=127,slow=6.3,SNR=26						
	comp=Z,2.9nm,0.7s						
KURK	**Kurchatov**	**63.42**	**329**	P	**P**	**06 49 33.2**	**-1.7**
KURK				IAmb	IAmb	06 49 34.7	
	comp=Z,5.4nm,0.6s						
KKAR	**Karatay Array**	**64.39**	**318**	P	**P**	**06 49 41.2**	**-0.3**
BVAR	**Borovoye Array**	**68.96**	**328**	P	**P**	**06 50 08.6**	**-1.8**
	comp=Z,1.1nm,0.5s,baz=136,slow=9.4,SNR=6.7						
	comp=Z,1.1nm,0.5s						
TIXI	**Tiksi**	**70.71**	**1**	P	**P**	**06 50 19.4**	**-1.3**
TIXI				IAmb	IAmb	06 50 21.2	
	comp=Z,5.3nm,0.8s						
NRIK	**Noril'sk**	**72.87**	**347**	P	**P**	**06 50 33.6**	**-0.1**
NRIK				IAmb	IAmb	06 50 34.5	
	comp=Z,7.9nm,0.7s						
NRIK	**Noril'sk**	**72.87**	**347**	P	**P**	**06 50 33.6**	**-0.1**
	comp=Z,6.7nm,0.6s,baz=137,slow=5.6,SNR=16						
	comp=Z,6.7nm,0.6s						
ABKAR	**Akbulak array**	**73.48**	**322**	P	**P**	**06 50 36.2**	**-1.5**
MAW	**Mawson**	**80.59**	**200**	P	**P**	**06 51 17.8**	**+0.7**
	comp=Z,6.9nm,1.3s,baz=37,slow=7.6,SNR=4.5						
	comp=Z,6.9nm,1.3s						
KIRV	**Kirov**	**81.93**	**329**	LR	LR	07 31 34.2	
	comp=Z,30nm,19.4s,baz=178,slow=38						
J17K	**VABM Dome**	**82.80**	**26**	P	**P**	**06 51 30.6**	**+1.7**
J17K				IAmb	IAmb	06 51 32.4	
	comp=Z,12nm,0.9s						
E18K	**Tukpahlearik C**	**83.12**	**22**	IAmb	IAmb	06 51 33.8	
	comp=Z,11nm,0.9s						
G19K	**Purcell Mounta**	**84.20**	**24**	IAmb	IAmb	06 51 39.1	
	comp=Z,12nm,1.1s						
H19K	**Roundabout Mou**	**84.34**	**24**	P	**P**	**06 51 37.5**	**+0.8**
H19K				IAmb	IAmb	06 51 40.0	
	comp=Z,16nm,1.3s						
GHO	**Glory Hole Cre**	**87.23**	**28**	P	**P**	**06 51 53.5**	**+2.3**
KIBK	**Kibwezi**	**87.31**	**268**	P	**P**	**06 51 53.1**	**+0.5**
KIBK				IAmb	IAmb	06 51 54.8	
	comp=Z,6.3nm,1.2s						
GAZ	**Gaziantep**	**87.97**	**307**	P	**P**	**06 51 56.1**	**+0.8**
KMBO	**Kilima Mbogo**	**88.08**	**269**	P	**P**	**06 51 54.9**	**-1.6**
KMBO				IAmb	IAmb	06 51 58.3	
	comp=Z,4.9nm,0.9s						
KMBO	**Kilima Mbogo**	**88.08**	**269**	P	**P**	**06 51 55.8**	**-0.7**
	comp=Z,4.2nm,0.9s,baz=59,slow=1.9,SNR=8.9						
	comp=Z,4.2nm,0.9s						
ILAR	**Eielson Array**	**88.28**	**25**	P	**P**	**06 51 55.4**	**-0.7**
	comp=Z,0.7nm,1.0s,baz=266,slow=7.1,SNR=4.7						
ILAR				PKiKP	**PKiKP**	**06 56 59.8**	**+2.8**
	comp=Z,0.6nm,0.8s,baz=249,slow=3.9,SNR=6.1						
	comp=Z,0.7nm,1.0s						
MMAI	**Mount Meron Ar**	**89.46**	**303**	P	**P**	**06 52 02.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=37,slow=13,SNR=5.8						
	comp=Z,0.4nm,0.3s						
SPITS	**Spitsbergen Ar**	**93.00**	**349**	LR	LR	07 42 58.6	
	comp=Z,35nm,18.4s,baz=164,slow=41						
AKASG	**Malin Array Be**	**93.21**	**321**	P	**P**	**06 52 17.4**	**-1.8**
	comp=Z,0.9nm,0.6s,baz=71,slow=4.7,SNR=4.5						
	comp=Z,0.9nm,0.6s						
MNK	**Minsk**	**93.63**	**325**	*i* P	**P**	**06 52 20.4**	**-0.7**
	comp=E,27nm,0.8s						
MNK				*i* P	**P**	**06 52 20.4**	**-0.7**
	comp=N,18nm,0.9s						
MNK				*i* P	**P**	**06 52 20.4**	**-0.7**
	comp=Z,18nm,0.9s,baz=84						
MNK				*i* PP	**PP**	**06 56 05.7**	**-1.0**
MNK				*i* PPP	PPP	06 58 06.5	
MNK				*i* S	**SKSac**	**07 02 52.0**	**+3.5**
MNK				*i* SP	ScS	07 03 59.3	+34
MNK				*i* PS	**PS**	**07 04 36.3**	**-11**
MNK				*i* SS	SS	07 10 27.9	+45
MNK				*i* SSS	SSS	07 14 31.3	
MNK				*i* LQ	LQ	07 30 19.3	
MNK				*i* LR	LR	07 32 06.8	
MNK				*i* LRM	MLR	07 34 55.6	
	comp=Z,50nm,14.4s						
MNK				*i* LRM	MLR	07 36 24.1	
	comp=E,80nm,13.5s						
MNK				*i* LRM	MLR	07 37 15.1	
	comp=N,55nm,13.0s						
FINES	**FINESS Array B**	**93.67**	**332**	P	**P**	**06 52 19.6**	**-1.5**
	comp=N,1.7nm,0.8s,baz=104,slow=4.4,SNR=2.0						
	comp=N,1.7nm,0.8s						
BUR08	**Bucovina Ar. S**	**96.19**	**318**	P	**P**	**06 52 33.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**122.41**	**286**	PKP	**PKPdf**	**06 58 00.2**	**-0.6**
	comp=N,1.1nm,0.8s,baz=34,slow=2.6,SNR=7.5						
TXAR	**Lajitas Array**	**124.45**	**53**	PKP	**PKiKP**	**06 58 04.9**	**+0.1**
	comp=N,0.2nm,0.8s,baz=17,slow=1.3,SNR=3.8						

*KRNET **21** 06:53:32.9±0.1, 40°.37N×78°.86E, mb4.4*
*IDC **21** 06:53:32.3±1.2, 40°.15N×78°.72E, h0km, mb3.9/11, mbtmp4.0/17, ML3.3/6, MS3.2/7, Error ellipse: s-maj=20.8km s-min=15.6km az=6.0*
*NEIC **21** 06:53:35.5±2.4, 40°.35N±0°.03×78°.9E±0°.1, h10km±1km, mb4.1/4, Error ellipse: s-maj=13.5km s-min=4.7km az=277.0*
*SOME **21** 06:53:38.8, 40°.62N×78°.60E, h0km, MS3.7*
*NNC **21** 06:53:39.1±1.2, 40°.55N×78°.68E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=8.4km s-min=7.5km az=162.0*

ISC 21 06:53:35.5±1.2, 40°.38N±0°.03×78°.93E±0°.03, h12km±8km, n125, σ2°09/156, mb4.0/12, 20C-17D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WUS	**Wushi**	**0.85**	**15**		**Pg**	**06 53 52.0**	**0.0**
TARG	**Taragay, Kyrgy**	**1.60**	**328**		**Pn**	**06 54 03.3**	**-0.7**
TARG	**Taragay, Kyrgy**	**1.60**	**328**	⇑*i*P	**Pn**	**06 54 02.4**	**-1.5**
TARG				⇑*i*S	**Sn**	**06 54 24.3**	**-0.4**
PRZ	**Przheval'sk**	**2.14**	**349**	⇓*e*P	**Pn**	**06 54 12.3**	**+1.1**
PRZ				⇓*e*S	**Sb**	**06 54 40.9**	**0.0**
KDJ	**Kajisay**	**2.19**	**324**		**Pn**	**06 54 12.9**	**+1.0**
KDJ	**Kajisay**	**2.19**	**324**	⇑*e*P	**Pn**	**06 54 12.2**	**+0.3**
KDJ				⇑*i*S	**Sn**	**06 54 40.8**	**+1.7**
KSH	**Kashi**	**2.43**	**250**	Pn	**Pg**	**06 54 20.3**	**-1.8**
KSH				Sn	**Sg**	**06 55 00.4**	**+6.8**
KSH				smax	smax		
	comp=N,620nm,0.6s						
KSH				smax	smax		
	comp=E,530nm,0.6s						
NRN	**Naryn**	**2.46**	**296**	Pn	**Pn**	**06 54 16.2**	**+0.5**
NRN	**Naryn**	**2.46**	**296**	⇑*e*P	**Pn**	**06 54 15.9**	**+0.2**
NRN				⇑*i*S	**Sn**	**06 54 47.4**	**+1.5**
ANVS	**Anan'yevo**	**2.58**	**339**	⇑*e*P	**Pn**	**06 54 17.8**	**+0.5**
ANVS				⇑*e*S	**Sn**	**06 54 50.5**	**

comp=E,2μm,0.8s
AAA Alma-Ata 3.21 333 Pg **Pb 06 54 34.3 +1.9**
comp=E,353nm,0.6s
AAA Lg Lg 06 55 14.2
comp=E,884nm,0.8s
AAA Alma-Ata 3.21 333 *e*P **Pb 06 54 34.3 +1.9**
comp=E,353nm,0.6s
AAA *e*S **Sb 06 55 14.2 +2.7**
comp=E,884nm,0.8s
KASK Kaskelen 3.31 330 ⇑Pg **Pb 06 54 32.4 -1.8**
KASK ⇓Lg Lg 06 55 17.9
MTBS Maitube 3.33 327 Pg **Pb 06 54 36.3 +1.8**
comp=E,59nm,0.7s
MTBS Lg Lg 06 55 16.8
comp=E,366nm,0.9s
MTBS Maitube 3.33 327 *e*P **Pb 06 54 36.3 +1.8**
comp=E,59nm,0.7s
MTBS *e*S **Sb 06 55 16.8 +1.9**
comp=E,366nm,0.9s
KST Kastek 3.47 321 Pg **Pb 06 54 38.5 +1.6**
comp=E,155nm,0.6s
KST Lg Lg 06 55 21.0
comp=E,504nm,1.1s
KST Kastek 3.47 321 *e*P **Pb 06 54 38.5 +1.6**
comp=E,155nm,0.6s
KST *e*S **Sb 06 55 21.0 +2.0**
comp=E,504nm,1.1s
TKM2 Tokmak 2 3.56 317 P **Pn 06 54 33.1 +2.3**
SNR=80
TKM2 Tokmak 2 3.56 317 ⇑Pn **Pn 06 54 32.9 +2.1**
comp=E,83nm,0.6s
TKM2 ⇑Lg Lg 06 55 24.0
comp=E,213nm,0.8s
TKM2 Tokmak 2 3.56 317 ⇓*e*P **Pn 06 54 31.2 +0.4**
TKM2 ⇓*i*S **Sn 06 55 13.6 +0.7**
DGS Degeres 3.71 321 Pg **Pb 06 54 41.9 +0.8**
comp=E,109nm,0.6s
DGS Lg Lg 06 55 27.4
comp=E,225nm,0.9s
DGS Degeres 3.71 321 *e*P **Pb 06 54 41.9 +0.8**
comp=E,109nm,0.6s
DGS *e*S **Sb 06 55 27.4 +1.4**
comp=E,225nm,0.9s
KTBS Karatobe 3.73 334 Pg **Pb 06 54 43.3 +2.0**
comp=E,117nm,0.7s
KTBS Lg Lg 06 55 29.7
comp=E,415nm,0.6s
KTBS Karatobe 3.73 334 *e*P **Pb 06 54 43.3 +2.0**
comp=E,117nm,0.7s
KTBS *e*S **Sb 06 55 29.6 +3.2**
comp=E,415nm,0.6s
BLB Baldybastay 3.73 355 Pg **Pg 06 54 44.9 -2.1**
comp=E,300nm,0.9s
BLB Lg Lg 06 55 32.1
comp=E,467nm,1.0s
KBK Karagaybulak 3.76 309 P **Pn 06 54 35.8 +2.3**
SNR=14
KBK Karagaybulak 3.76 309 ⇑*e*P **Pn 06 54 33.8 +0.4**
KBK ⇑*e*S **Sn 06 55 18.5 +0.8**
ARLS Aral 3.79 295 ⇑*e*P **Pn 06 54 33.8 0.0**
ARLS ⇑*e*S **Sn 06 55 18.5 +0.2**
ARXS Arharly 3.92 348 Pg **Pb 06 54 47.1 +2.5**
comp=E,94nm,0.7s
ARXS Lg Lg 06 55 36.1
comp=E,411nm,1.0s
ARXS Arharly 3.92 348 *e*P **Pb 06 54 47.1 +2.5**
comp=E,94nm,0.7s
ARXS *e*S **Sb 06 55 36.1 +4.1**
comp=E,411nm,1.0s
DJR Jarkent 4.00 9 Pg **Pg 06 54 50.2 -1.9**
comp=E,15nm,0.4s
DJR Lg Lg 06 55 40.8
comp=E,130nm,0.8s
DJR Jarkent 4.00 9 *e*P **Pg 06 54 50.2 -1.9**
comp=E,15nm,0.4s
DJR *e*S **Sg 06 55 40.8 -3.1**
comp=E,130nm,0.8s
KUU Kurty 4.01 332 Pg **Pb 06 54 47.8 +1.8**
comp=E,50nm,0.7s
KUU Lg Lg 06 55 36.7
comp=E,305nm,1.0s
KUU Kurty 4.01 332 *e*P **Pb 06 54 47.8 +1.8**
comp=E,50nm,0.7s
KUU *e*S **Sb 06 55 36.7 +2.2**
comp=E,305nm,1.0s
AAK Ala-Archa 4.03 306 P **Pb 06 54 42.0 -4.4**
SNR=13
AAK Ala-Archa 4.03 306 Pn **Pn 06 54 39.0 +1.9**
AAK Ala-Archa 4.03 306 Pn **Pn 06 54 39.2 +2.2**
comp=E,2.1nm,0.3s,baz=168,slow=9.2,SNR=37
AAK Pg **Pb 06 54 45.3 -1.1**
comp=E,9.4nm,0.3s,baz=135,slow=16,SNR=48
AAK Lg Lg 06 55 35.8
comp=E,4.2nm,0.3s,baz=62,slow=10,SNR=12
AAK LR LR 06 56 27.8
comp=E,152nm,20.4s,baz=88,slow=44
comp=E,18nm,0.7s
FRU1 Bishkek 4.04 308 **Pn 06 54 38.4 +1.2**
CHMS Chumysh 4.08 311 P **Pn 06 54 40.4 +2.6**
SNR=6.0
AML Almayashu 4.32 296 P **Pn 06 54 42.6 +1.3**
SNR=11
USP Ospenovka 4.39 313 P **Pb 06 54 53.6 +1.0**
SNR=9.2
EKS2 Erkin-Say 4.49 302 P **Pn 06 54 45.7 +2.2**
SNR=38
KAPS Kapalarasan 4.92 3 Pg **Pg 06 55 07.3 -2.3**
comp=E,34nm,0.6s
KAPS Lg Lg 06 56 10.0
comp=E,172nm,1.1s
KAPS Kapalarasan 4.92 3 *e*P **Pg 06 55 07.3 -2.3**
comp=E,34nm,0.6s
KAPS *e*S **Sg 06 56 10.0 -3.2**
comp=E,172nm,1.1s
DRK Karamyk 5.56 263 Pn **Pn 06 54 57.8 -0.5**
BTLS Baital 5.89 324 Pg **Pb 06 55 22.3 +4.3**
comp=E,13nm,0.9s
BTLS Lg Lg 06 56 36.2
comp=E,58nm,0.8s
BTLS Baital 5.89 324 *e*P **Pb 06 55 22.3 +4.3**
comp=E,13nm,0.9s
BTLS *e*S **Sb 06 56 36.2 +7.7**
comp=E,57nm,0.7s
BTK Batken 6.22 270 Pn **Pn 06 55 06.9 -0.2**
GAR Garm 6.79 261 Pn **Pn 06 55 13.5 -1.5**
MAKZ Makanchi 6.80 18 ⇓Pn **Pn 06 55 17.1 +2.1**
comp=E,7.3nm,0.8s
MAKZ ⇓Lg Lg 06 57 07.8
comp=E,37nm,1.2s
MAKZ Makanchi 6.80 18 **Pn 06 55 16.2 +1.2**
MK31 Makanchi Array 6.86 20 Pn **Pn 06 55 18.2 +2.4**
comp=E,1.8nm,0.4s,baz=203,slow=12,SNR=77
MK31 ⇓Lg Lg 06 57 10.9
comp=E,45nm,1.1s,baz=206,slow=28
MK31 Makanchi Array 6.86 20 Pn **Pn 06 55 18.5 +2.6**
MKAR Makanchi Array 6.86 20 Pn **Pn 06 55 18.1 +2.2**
comp=E,2.2nm,0.3s,baz=203,slow=13,SNR=91
MKAR Sn **Sn 06 56 35.2 +1.4**
comp=E,0.9nm,0.3s,baz=249,slow=11,SNR=1.5
MKAR Lg Lg 06 57 14.2
comp=E,1.3nm,0.3s,baz=207,slow=26,SNR=4.3
MKAR LR LR 06 58 07.5
comp=E,88nm,21.0s,baz=179,slow=39
comp=E,2.9nm,0.3s
KK31 Karatay Array 6.86 296 ⇓Pg **Pb 06 55 37.8 +3.2**
comp=E,6.9nm,0.6s,baz=105,slow=16,SNR=18
KK31 ⇓Lg Lg 06 57 10.5
comp=E,50nm,1.1s,baz=121,slow=27,SNR=4.7
KKAR Karatay Array 6.86 296 **Pn 06 55 16.5 +0.6**
IUG Iuzhnay 6.94 288 Pg Pb 06 55 40.8 +4.9
comp=E,51nm,1.2s
IUG Lg Lg 06 57 07.6
comp=E,104nm,1.0s
IUG Iuzhnay 6.94 288 *e*P Pb 06 55 40.8 +4.9
comp=E,51nm,1.2s
IUG *e*S Sb 06 57 07.6 +8.9
comp=E,104nm,1.0s
BRLS Borolday 7.30 294 Pg Pb 06 55 46.8 +4.7
comp=E,1.6nm,1.1s
BRLS Lg Lg 06 57 18.1
comp=E,20nm,1.3s
BRLS Borolday 7.30 294 *e*P Pb 06 55 46.8 +4.7
comp=E,3.3nm,0.7s
BRLS *e*S Sb 06 57 18.1 +8.9
comp=E,20nm,0.9s
HNLY HANLEY 7.58 180 *e*P **Pn 06 55 30.2 +3.8**
HNLY *e*S **Sn 06 56 56.0 +3.6**
HNLY IAML 06 56 58.0
comp=E,8.3nm,1.4s
SIMJ Simiganj 7.86 261 Pn **Pn 06 55 27.0 -2.7**
NIL Nilore 8.11 216 Pn **Pn 06 55 31.6 -1.4**
ZSN Zaisan 8.26 29 *e*P Pg 06 56 09.2 -4.4
comp=E,4.7nm,0.4s
ZSN *e*S **Sg 06 57 56.5 -3.9**
comp=E,11nm,0.6s
THN Thein Dam 8.34 199 *e*P **Pn 06 55 36.8 +0.6**
THN *e*S **Sn 06 57 06.0 -4.2**
THN IAML 06 57 29.4
comp=E,55nm,0.8s
DHRM DHARAMSHALA 8.38 195 *e*P **Pn 06 55 38.4 +1.4**
DHRM *e*S **Sn 06 57 08.0 -3.8**
DHRM IAML 06 57 14.8
comp=E,117nm,0.3s
DHRM IAML 06 57 16.1
comp=E,65nm,0.6s
KLP Kalpa 8.84 184 *e*P **Pn 06 55 44.4 +1.0**
KLP *e*S **Sn 06 57 21.0 -2.1**
KLP IAML 06 57 28.6
comp=E,133nm,0.8s
KLP IAML 06 57 37.9
comp=E,70nm,0.8s
KBL Kabul 9.78 237 Pn **Pn 06 55 54.8 -1.4**
KURBB Kurchatov Arra 10.25 359 ⇑Pn **Pn 06 56 02.7 +0.4**
comp=E,8.2nm,0.8s
KURBB ⇓Lg Lg 06 58 57.9
comp=E,76nm,0.8s
KURBB Kurchatov Arra 10.25 359 Pn **Pn 06 56 02.9 +0.7**
comp=E,0.2nm,0.3s,baz=188,slow=12,SNR=69
KURBB Sn **Sn 06 57 57.9 +0.9**
baz=184,slow=30,SNR=4.8
KURBB Lg Lg 06 58 58.4
comp=E,0.1nm,0.3s,baz=190,slow=32,SNR=9.2
KURBB LR LR 07 00 10.8
comp=E,130nm,18.3s,baz=170,slow=38
comp=E,5.0nm,0.8s
KURK Kurchatov 10.34 359 ⇑Pn **Pn 06 56 03.5 0.0**
comp=E,20nm,1.0s
KURK ⇑Lg Lg 06 58 57.9
comp=E,76nm,1.3s
KURK Kurchatov 10.34 359 Pn **Pn 06 56 04.1 +0.6**
SONA Sohna 12.19 188 *e*P **Pn 06 56 30.9 +2.0**
SONA *ex* x 06 58 34.5
KUDL Kundal 12.37 190 *e*P **Pn 06 56 29.6 -1.7**
KUDL IAML 06 58 45.9
comp=E,20nm,0.7s
KUDL IAML 06 58 53.0
comp=N,17nm,0.5s
GOMU GeErMu 13.15 103 Pn **Pn 06 56 41.4 -1.0**
GOMU smax smax
comp=N,9.0nm,0.4s
GOMU smax smax
comp=E,18nm,0.5s
BVAR Borovoye Array 13.93 338 Pn **Pn 06 56 51.3 -1.2**
comp=E,0.1nm,0.3s,baz=149,slow=14,SNR=16
BVAR Lg Lg 07 00 48.6
baz=138,slow=18,SNR=2.2
BVAR LR LR 07 02 22.1
comp=E,118nm,19.5s,baz=201,slow=38
comp=E,3.9nm,0.7s
BRVK Borovoye 13.99 338 Pn **Pn 06 56 51.9 -1.5**
ZAA0 Zalesovo Array 14.15 14 Pn **Pn 06 56 55.6 +0.1**
ZALV Zalesovo Beam 14.15 14 Pn **Pn 06 56 55.5 0.0**
comp=E,0.1nm,0.3s,baz=195,slow=11,SNR=17
ZALV LR LR 07 02 37.4
comp=E,86nm,18.0s,baz=323,slow=38
comp=E,6.0nm,0.9s
AJM Ajmer 14.31 196 IAML 06 59 31.4
comp=E,13nm,0.6s
AJM IAML 06 59 32.4
comp=N,12nm,0.5s
GTA Gaotai 16.06 87 *e*P **P 06 57 27.5 +2.9**
GTA pP sP 06 57 33.3 +3.3
GTA pmax pmax
comp=Z,8.0nm,0.7s
ABKAR Akbulak array 16.10 310 Pn **Pn 06 57 19.3 -2.2**
AKTO Aktyubinsk 17.74 311 P **Pn 06 57 41.7 -0.5**
comp=Z,0.3nm,0.3s,baz=122,slow=8.4,SNR=7.3
AKTO Lg Lg 07 02 49.4
comp=Z,0.1nm,0.3s,baz=25,slow=15,SNR=1.5
comp=Z,3.2nm,0.6s
SHL Shillong 18.30 140 P **Pn 06 57 49.0 -0.4**
SHL IAmb IAmb 06 57 52.3
comp=Z,9.2nm,0.7s
ARTI Arti 20.91 327 P **P 06 58 17.6 0.0**
ARTI Arti 20.91 327 P **P 06 58 17.5 -0.1**
comp=Z,9.2nm,1.0s,baz=172,slow=9.3,SNR=6.5
ARTI Lg Lg 07 04 30.6
comp=Z,0.2nm,0.3s,baz=95,slow=14,SNR=2.2
comp=Z,9.2nm,1.0s
SONM Songino Array 21.00 60 P **P 06 58 19.1 +0.2**
SONM Songino Array 21.00 60 P **P 06 58 21.6 +2.8**
comp=Z,5.2nm,0.7s,baz=256,slow=11,SNR=24
comp=Z,5.2nm,0.7s
ULN Ulaanbaatar 21.45 60 P **P 06 58 22.6 -1.0**
ULN IAmb IAmb 06 58 30.7
comp=Z,6.2nm,0.8s
CMAR Chiang Mai Arr 27.82 136 P **P 06 59 24.1 -0.6**
BRTR Keskin Array B 34.39 284 P **P 07 00 21.6 -1.0**
comp=Z,0.4nm,0.4s,baz=17,slow=12,SNR=2.6
comp=Z,0.4nm,0.4s
HEH HeiHe 34.93 57 *e*P **P 07 00 28.3 +1.4**
HEH pmax pmax
comp=Z,6.0nm,0.7s
KLR Kul'dur 37.82 58 P **P 07 00 53.2 +1.7**
comp=Z,1.8nm,0.7s,baz=286,slow=7.0,SNR=3.9
comp=Z,1.8nm,0.7s
KSRS Korea Array 37.84 78 P **P 07 00 52.4 +0.5**
comp=Z,0.7nm,0.5s,baz=305,slow=13,SNR=1.5
comp=Z,0.7nm,0.5s
FINES FINESS Array B 38.04 322 P **P 07 00 51.6 -1.7**
comp=Z,3.5nm,1.0s,baz=103,slow=14,SNR=3.4
comp=Z,3.5nm,1.0s
ARCES ARCESS Array B 40.17 334 P **P 07 01 10.4 -0.6**
comp=Z,2.7nm,0.6s,baz=20,slow=3.9,SNR=5.5
comp=Z,2.7nm,0.6s
NOA NORSAR Array B 45.20 321 LR LR 07 21 19.4
comp=Z,55nm,18.5s,baz=275,slow=37
ESDC Sonseca Array 61.10 299 P **P 07 03 47.8 -1.7**
comp=Z,0.4nm,0.6s,baz=56,slow=6.9,SNR=2.2
comp=Z,0.4nm,0.6s
ILAR Eielson Array 69.22 19 P **P 07 04 41.6 0.0**
comp=Z,1.8nm,0.8s,baz=319,slow=5.1,SNR=20
comp=Z,1.8nm,0.8s
TORD Torodi Ar. Bea 71.93 272 P **P 07 04 56.2 -2.8**
comp=Z,0.2nm,0.4s,baz=48,slow=6.9,SNR=2.8
comp=Z,0.2nm,0.4s
FRB Frobisher Bay 73.05 346 LR LR 07 40 08.1
comp=Z,39nm,21.2s,baz=129,slow=38
YKA Yellowknife Ar 76.90 6 P **P 07 05 26.4 -0.6**
comp=Z,1.4nm,0.7s,baz=335,slow=4.1,SNR=5.0
comp=Z,1.4nm,0.7s

*IDC **21** 07:00:40.8±1.7,21°.06N×121°.98E,h0km,mb3.5/4,*
mbtmp3.5/5,ML3.4/1,MS2.6/3,Error ellipse:
s-maj=75.6km s-min=28.4km az=68.0,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**14.39**	**32**	LR		LR	LR	07 09 38.0	
comp=Z,33nm,20.3s,baz=138,slow=37									
KSRS	**Korea Array**	**17.14**	**16**	P			Pn	07 04 41.6	-0.1
0.1nm,0.3s,baz=197,slow=12,SNR=1.9									
KSRS				LR			LR	07 11 36.7	
comp=Z,15nm,18.1s,baz=350,slow=38									
0.4nm,0.4s									
CMAR	**Chiang Mai Arr**	**21.83**	**267**	LR			LR	07 13 27.7	
comp=Z,12nm,20.8s,baz=40,slow=35									
MKAR	**Makanchi Array**	**41.12**	**318**	P			P	07 08 26.3	-0.3
0.6nm,0.6s,baz=110,slow=10,SNR=5.4									
0.6nm,0.6s									
H11N1	**WAKE ISLAND Hy**	**42.02**	**84**	T			T	07 53 20.8	
baz=281,slow=75,SNR=27									
H11N2	**WAKE ISLAND Hy**	**42.02**	**84**	T			T	07 53 28.2	
baz=281,slow=75,SNR=78									
H11N3	**WAKE ISLAND Hy**	**42.04**	**84**	T			T	07 53 32.1	
baz=281,slow=75,SNR=49									
H11S3	**WAKE ISLAND Hy**	**42.05**	**85**	T			T	07 53 25.6	
baz=282,slow=75,SNR=127									
H11S1	**WAKE ISLAND Hy**	**42.06**	**85**	T			T	07 53 24.6	
baz=282,slow=75,SNR=146									
H11S2	**WAKE ISLAND Hy**	**42.07**	**85**	T			T	07 53 25.2	
baz=282,slow=75,SNR=139									
ZALV	**Zalesovo Beam**	**43.27**	**329**	P			P	07 08 43.6	-0.4
0.6nm,0.5s,baz=120,slow=8.5,SNR=4.2									
0.6nm,0.5s									
KURBB	**Kurchatov Arra**	**44.98**	**322**	P			P	07 08 58.1	+0.3
0.6nm,0.7s,baz=127,slow=6.6,SNR=5.4									
0.6nm,0.7s									
ASAR	**Alice Springs**	**45.95**	**165**	P			P	07 09 05.6	-0.1
0.1nm,0.5s,baz=348,slow=8.7,SNR=1.3									
0.1nm,0.5s									

*IDC **21** 07:00:53.6±1.0,2°.40S×139°.79E,h0km,mb3.6/6,*
mbtmp3.7/7,ML3.7/1,MS3.3/1,Error ellipse: s-maj=22.4km
s-min=10.4km az=7.0
ISC 21 07:00:56.5±0.9,2°.6S±0°.1×139°.9E±0°.1,h25km,n9,
σ2°50/11,mb3.7/5,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.82**	**86**	Pg			**Pn**	**07 01 11.5**	**-1.1**
52nm,0.3s,baz=277,slow=10,SNR=88									
JAY				Lg			Lg	07 01 23.8	
137nm,0.3s,baz=288,slow=20,SNR=15									
WRA	**Warramunga Arr**	**18.10**	**197**	P			**P**	**07 05 07.9**	**+1.4**
0.3nm,0.3s,baz=19,slow=12,SNR=17									
WRA				S			**Sn**	**07 08 25.8**	**-2.0**
0.7nm,0.7s,baz=5.4,slow=23,SNR=2.3									
2.6nm,0.7s									
FITZ	**Fitzroy Crossi**	**20.82**	**221**	P			**P**	**07 05 37.7**	**+1.4**
3.1nm,1.0s,baz=43,slow=16,SNR=2.2									
FITZ				S			**S**	**07 09 22.6**	**-4.9**
0.8nm,0.5s,baz=47,slow=19,SNR=1.2									
3.1nm,1.0s									
ASAR	**Alice Springs**	**21.76**	**195**	P			**P**	**07 05 47.7**	**+1.3**
0.9nm,0.6s,baz=24,slow=9.1,SNR=12									
ASAR				S			**S**	**07 09 49.9**	**+3.8**
0.8nm,1.0s,baz=13,slow=26,SNR=2.3									
0.9nm,0.6s									
MSVF	**Nonsavu**	**40.35**	**115**	LR			LR	07 25 24.4	
comp=Z,36nm,19.2s,baz=167,slow=36									
MKAR	**Makanchi Array**	**70.39**	**322**	P			**P**	**07 12 08.7**	**+0.2**
0.4nm,0.7s,baz=117,slow=6.9,SNR=3.7									
0.4nm,0.7s									
KURBB	**Kurchatov Arra**	**74.29**	**325**	P			**P**	**07 12 32.6**	**+0.9**
0.6nm,0.9s,baz=107,slow=5.4,SNR=3.0									
0.6nm,0.9s									
BVAR	**Borovoye Array**	**79.87**	**325**	P			**P**	**07 13 02.8**	**-0.2**
0.5nm,0.4s,baz=111,slow=6.5,SNR=2.5									
0.5nm,0.4s									
ILAR	**Eielson Array**	**85.22**	**24**	P			**P**	**07 13 30.9**	**+0.2**
0.6nm,1.0s,baz=265,slow=7.9,SNR=4.2									
0.6nm,1.0s									

*IDC **21** 07:22:43.9±7.5,20°.15S×177°.93W,h550km±81km,mb2.9/5,*
mbtmp3.9/6,Error ellipse: s-maj=46.3km s-min=40.8km
az=79.0
ISC 21 07:22:43.7±1.4,20°.2S±0°.3×177°.9W±0°.2,h550km,n6,
σ0°62/7,mb3.4/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.78**	**260**	P			**P**	**07 25 51.7**	**+0.7**
6.3nm,1.1s,baz=92,slow=15,SNR=2.1									
STKA	**Stephens Creek**	**38.05**	**244**	P			**P**	**07 29 15.4**	**-0.2**
2.6nm,0.8s,baz=77,slow=14,SNR=2.2									
2.6nm,0.8s									
ASAR	**Alice Springs**	**44.73**	**256**	P			**P**	**07 30 08.2**	**-0.4**
1.7nm,0.8s,baz=93,slow=7.8,SNR=17									
ASAR				PcP			**PcP**	**07 31 39.5**	**+0.5**
0.3nm,0.5s,baz=104,slow=3.9,SNR=1.9									
1.7nm,0.8s									
WRA	**Warramunga Arr**	**44.78**	**262**	P			**P**	**07 30 08.2**	**-0.8**
0.5nm,0.4s,baz=96,slow=7.6,SNR=20									
0.5nm,0.4s									
QSPA	**South Pole Qui**	**69.89**	**180**	P			**P**	**07 32 59.5**	**+0.1**
0.6nm,0.7s,baz=310,slow=6.8,SNR=2.0									
0.6nm,0.7s									
ILAR	**Eielson Array**	**87.97**	**13**	P			**P**	**07 34 34.8**	**0.0**
0.2nm,0.6s,baz=219,slow=5.4,SNR=1.5									
0.2nm,0.6s									

*UPA **21** 07:39:56.8±9.7, 10°.40N×88°.16W, h0km±582km*
*IDC **21** 07:40:18.2±0.6, 11°.05N×85°.69W, h0km, mb4.5/15,*
mbtmp4.5/19, ML3.4/4, MS3.9/29, Error ellipse:
s-maj=25.4km s-min=11.2km az=51.0
*UCR **21** 07:40:20.4±0.9, 10°.40N×86°.25W, h19km±4km, MW5.1*
*NEIC **21** 07:40:20.5±2.9, 10°.49N±0°.07×86°.17W±0°.05, h10km±1km,*
mb4.9/413, Error ellipse: s-maj=13.9km s-min=2.9km
az=217.0
*CATAC **21** 07:40:23.4±0.8, 10°.51N×86°.26W, h33km±16km, ML4.8*
*GCMT **21** 07:40:25.5±0.6, 10°.36N±0°.03×86°.45W±0°.04, h24km±1km,*
MW4.8/62, Moment Tensor Solution. s25,c30; s62,c83;
Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.71±.13;
$M_{\theta\theta}$-1.01±.08; $M_{\phi\phi}$-0.69±.07; $M_{r\theta}$0.54±.09; $M_{r\phi}$0.64±.04;
$M_{\theta\phi}$-0.85±.11; Best double couple: $M_0$1.90100×10^{16}
NP1:φs138.00000°, δ61.00000°, λ98.00000°. NP2:
φs301.00000°, δ30.00000°, λ76.00000°. Principal axes: T
2.0190, Plg73.0000°, Azm68.0000°; N -0.2340,
Plg7.0000°, Azm314.0000°; P -1.7830, Plg16.0000°,
Azm222.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
*SNET **21** 07:40:32.1±0.7, 11°.20N×86°.55W, h91km±141km, ML4.6*
ISC 21 07:40:21.6±1.1,10°.48N±0°.03×86°.16W±0°.04,h28km±7km,
n685,σ1°70/522,mb4.9/200,MS3.9/27,33C,Off coast of
Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.60**	**111**	⇑*e*P			**Pb**	**07 40 33.3**	**-0.4**
SACU				*e*S			**Sb**	**07 40 43.3**	**+1.4**
ELI1	**Hacienda Flor**	**0.62**	**74**	*e*P			**Pn**	**07 40 35.8**	**+1.2**
ERIA	**Liberia**	**0.72**	**78**	⇑*e*P			**Pn**	**07 40 37.0**	**+0.9**
NICO	**Nicoya**	**0.78**	**116**	⇑*e*P			**Pn**	**07 40 35.5**	**-1.3**
NICO				*e*S			**Sb**	**07 40 46.9**	**0.0**
LCRUZ	**La Cruz**	**0.79**	**41**	⇑*e*P			**Pb**	**07 40 38.1**	**+1.2**
GPS3	**Bodega del ICE**	**0.83**	**71**	*e*P			**Pb**	**07 40 38.9**	**+1.5**
GPS2	**Hotel Rincn d**	**0.84**	**71**	⇑*e*P			**Pb**	**07 40 38.4**	**+0.7**
VRLE	**La Escondida,**	**0.84**	**68**	⇑*e*P			**Pb**	**07 40 38.2**	**+0.5**
VORI	**VORI**	**0.87**	**67**	⇑*i*P			**Pb**	**07 40 38.9**	**+0.6**
BAGA	**Bagaces**	**0.89**	**87**	⇑*e*P			**Pn**	**07 40 38.7**	**+0.5**
CARN	**Rivas**	**0.94**	**42**	*i*P			**Pb**	**07 40 40.5**	**+1.1**
CARN						IAML		07 41 10.8	
comp=Z,80μm,1.0s									
COLC	**Colonia**	**0.96**	**79**	⇑*e*P			**Pn**	**07 40 39.9**	**+0.6**
HORNC	**Hornillas**	**0.99**	**76**	⇑*e*P			**Pn**	**07 40 40.4**	**+0.6**
CUI	**Cuipilapa**	**0.99**	**80**	⇑*e*P			**Pn**	**07 40 40.5**	**+0.7**
ARIN	**Rivas**	**1.02**	**18**	*i*P			**Pb**	**07 40 41.1**	**+0.4**
ARIN						IAML		07 40 47.7	
comp=Z,19μm,1.0s									
CNAS	**Canas**	**1.05**	**92**	⇑*e*P			**Pn**	**07 40 41.1**	**+0.6**
JAPN	**AI SSO del Vol**	**1.14**	**24**	*i*P			**Pb**	**07 40 43.7**	**+0.9**
JAPN						IAML		07 40 51.3	
comp=Z,14μm,1.0s									
JAPN				*i*S			**Sb**	**07 40 59.1**	**+1.8**
MORN	**AI O del Volca**	**1.18**	**25**	*i*P			**Pb**	**07 40 43.7**	**+0.4**
MORN						IAML		07 40 51.1	
comp=Z,3μm,1.0s									
TENO	**El Achiote**	**1.18**	**79**	⇑*e*P			**Pn**	**07 40 42.7**	**+0.3**
JUNT	**Juntas**	**1.20**	**99**	⇑*e*P			**Pn**	**07 40 42.6**	**+0.1**
CONN	**Concepcion**	**1.20**	**26**	*i*P			**Pb**	**07 40 43.9**	**+0.2**
CONN						IAML		07 40 51.1	
comp=Z,230μm,1.0s									
JTS	**Las Juntas de**	**1.20**	**99**	Pn			**Pn**	**07 40 42.8**	**+0.1**
JTS	**Las Juntas de**	**1.20**	**99**	Pn			**Pn**	**07 40 42.1**	**-0.5**
comp=Z,394nm,0.3s,baz=280,slow=7.5,SNR=510									
JTS				Sn			**Sb**	**07 41 00.2**	**+1.2**
comp=Z,644nm,0.3s,baz=310,slow=19,SNR=7.8									
JTS	**Las Juntas de**	**1.20**	**99**	*e*P			**Pn**	**07 40 42.8**	**+0.1**
JTS				*e*S			Sb	07 41 26.5	+28
JTS	**Las Juntas de**	**1.20**	**99**	⇑*e*P			**Pn**	**07 40 42.7**	**+0.1**
NADN	**Granada**	**1.27**	**6**	*i*P			**Pn**	**07 40 43.9**	**+0.4**
NADN						IAML		07 41 12.3	
comp=Z,35μm,1.0s									
MTEVE	**Monteverde**	**1.32**	**97**	⇑*e*P			**Pn**	**07 40 44.9**	**+0.5**
VERA	**Finca Concepci**	**1.32**	**73**	⇑*e*P			**Pb**	**07 40 45.7**	**-0.1**
NANN	**Nandasmo**	**1.45**	**1**	*i*P			**Pb**	**07 40 48.0**	**0.0**
NANN						IAML		07 41 29.7	
comp=Z,280μm,1.0s									
VACR	**Volcan Arenal**	**1.46**	**90**	⇑*e*P			**Pn**	**07 40 47.6**	**+1.4**
FORC	**Fortuna**	**1.47**	**90**	⇑*e*P			**Pn**	**07 40 47.6**	**+1.4**
SABN	**Sabanita**	**1.47**	**360**	*i*P			**Pb**	**07 40 47.9**	**-0.4**
SABN						IAML		07 41 34.2	
comp=Z,50μm,1.0s									

TUNA La Fortuna 1.49 90⇑ eP Pn 07 40 47.9 +1.3
MASN Masaya 1.50 0 i P Pn 07 40 46.7 -0.1
MASN IAML 07 41 27.0
comp=Z,4μm,1.0s
CRUN El Crucero 1.50 355 i P Pn 07 40 47.3 +0.5
CRUN IAML 07 41 18.1
comp=Z,130μm,1.0s
RA5A7 El Crucero 1.51 354 i P Pb 07 40 48.3 -0.8
RA5A7 IAML 07 41 43.5
comp=Z,48μm,1.0s
SOCE Pocosol 1.52 93 Pn 07 40 48.1 +1.1
SOCE Pocosol 1.52 93 i P Pn 07 40 48.1 +1.1
SOCE i S Sn 07 40 58.2 -7.7
SOCE Pocosol 1.52 93⇑ eP Pn 07 40 48.1 +1.1
LCHIL Los Chiles 1.52 69⇑ eP Pn 07 40 48.2 +1.2
MAS3 Al N del Volca 1.54 359 i P Pn 07 40 47.8 +0.5
MAS3 i S Sb 07 41 08.0 -0.6
MAS3 IAML 07 41 22.3
comp=Z,10μm,1.0s
ARZA Esparza 1.55 108 eP Pn 07 40 47.9 +0.5
UNAN Cigeo UNAN 1.63 356 i P Pn 07 40 49.3 +0.8
UNAN i S Sn 07 41 05.3 -3.2
UNAN IAML 07 41 29.0
comp=Z,62μm,1.0s
ENAN Enatrel Managu 1.63 356 i P Pn 07 40 49.4 +0.9
ENAN IAML 07 41 02.2
comp=Z,15μm,1.0s
ENAN i S Sn 07 41 09.4 +0.8
USIM UNAN 1.63 356 i P Pn 07 40 49.6 +1.1
USIM IAML 07 41 00.6
comp=Z,11μm,1.0s
R0529 La Mascota 1.64 357 i P Pn 07 40 49.5 +0.9
R0529 IAML 07 41 17.9
comp=Z,7μm,1.0s
ABCN Banco Central 1.64 355 i P Pb 07 40 50.0 -1.2
ABCN IAML 07 41 25.7
comp=Z,22μm,1.0s
AERN Aeropuerto Man 1.66 360 i P Pn 07 40 49.6 +0.7
AERN i S Sb 07 41 16.0 +4.0
AERN IAML 07 41 19.2
comp=Z,11μm,1.0s
TISN Laguna Tiscapa 1.66 356 i P Pn 07 40 49.5 +0.6
TISN IAML 07 41 20.4
comp=Z,730nm,1.0s
MGAN Managua 1.66 357 Pn 07 40 49.8 +0.8
MGAN Managua 1.66 357 i P Pn 07 40 49.7 +0.8
MGAN IAML 07 41 28.0
comp=Z,8μm,1.0s
MGAN Managua 1.66 357⇑ eP Pn 07 40 49.7 +0.8
MGA1 Managua 1.66 357 i P Pb 07 40 50.2 -1.4
MGA1 i S Sb 07 41 18.0 +5.9
MGA1 IAML 07 41 47.7
comp=Z,10μm,1.0s
R4DEC Barrio San Lui 1.66 357 i P Pn 07 40 50.1 +1.1
R4DEC IAML 07 41 28.0
comp=Z,8μm,1.0s
ALLN Telcor Managua 1.67 356 i P Pb 07 40 50.3 -1.4
ALLN IAML 07 41 26.6
comp=Z,14μm,1.0s
SRA1 San Ramn 1.70 103⇑ eP Pn 07 40 50.0 +0.4
RAMO San Ramon 1.71 103⇑ eP Pn 07 40 50.2 +0.5
APQ2 Apoyeque 1.72 355 i P Pn 07 40 50.7 +1.0
APQ2 i S Sn 07 41 11.1 +0.4
APQ2 IAML 07 41 26.9
comp=Z,9μm,1.0s
COPN Copaltepe 1.74 346 i P Pn 07 40 50.6 +0.5
COVE Coope Vega, Sa 1.74 82 i P Pn 07 40 50.6 +0.5
ZARE Zarcero 1.77 99 eP Pn 07 40 52.1 +1.5
ACON Acoyapa 1.77 33 Pn 07 40 52.0 +1.6
ACON Acoyapa 1.77 33 i P Pn 07 40 51.5 +1.1
ACON IAML 07 40 59.2
comp=Z,12μm,1.0s
ACON Acoyapa 1.77 33⇑ eP Pn 07 40 51.8 +1.4
TRB2 Turrubares 1.77 108⇑ eP Pn 07 40 50.4 -0.1
BC86 Nagarote 1.82 347 i P Pb 07 40 53.9 -0.4
SBEN San Benito 1.82 3 i P Pn 07 40 51.9 +0.8
SBEN IAML 07 40 55.0
comp=Z,11μm,1.0s
SBEN i S Sb 07 41 22.8 +6.1
SARCI Sarchi 1.83 102 eP Pn 07 40 52.5 +1.2
ITAL Pital 1.86 91⇑ eP Pn 07 40 52.6 +0.9
MOMN Momotombo 1.95 349 i P Pn 07 40 53.5 +0.5
MOMN i S Sn 07 41 07.0 -10
MOMN IAML 07 41 09.7
comp=Z,240nm,1.0s
LEVN Ruinas Leon Vi 1.96 347 i P Pn 07 40 53.3 +0.2
LEVN IAML 07 41 38.2
comp=Z,5μm,1.0s
MOM2 El Cardon 1.97 351 i P Pn 07 40 53.9 +0.7
MOM2 IAML 07 41 11.8
comp=Z,5μm,1.0s
MOM2 i S Sb 07 41 25.5 +4.4
BELE Belen 2.00 104 eP Pn 07 40 54.5 +0.7
MACN El Madrono 2.04 346 i P Pn 07 40 54.8 +0.6
MACN IAML 07 41 05.2
comp=Z,2μm,1.0s
HDC Heredia 2.07 103 Pn 07 40 56.0 +1.3
HDC Heredia 2.07 103 eP Pn 07 40 55.7 +1.0
CNGA Al SSO del Vol 2.07 345 i P Pn 07 40 55.2 +0.5
CNGA IAML 07 41 33.9
comp=Z,3μm,1.0s
ACOS Acosta 2.08 109 eP Pn 07 40 55.0 +0.3
PACN Al O del Volca 2.10 343 i P Pn 07 40 55.9 +0.9
PACN IAML 07 41 09.1
comp=Z,4μm,1.0s
AMPA Desamparados 2.14 105 eP Pn 07 40 56.2 +0.5
ILCN San Idelfonso 2.15 346 i P Pn 07 40 55.7 0.0
ILCN IAML 07 41 12.4
comp=Z,2μm,1.0s
PLRN Geotermica Pol 2.18 344 i P Pn 07 40 56.0 0.0
PLRN i S Sn 07 41 23.2 +1.1
PLRN IAML 07 41 37.6
comp=Z,2μm,1.0s
CORON Coronado 2.18 103 eP Pn 07 40 57.5 +1.2
ABE2 San Pablo 2.21 110 eP Pn 07 40 57.0 +0.3
HERN Volcan Telica 2.22 343 i P Pb 07 40 59.4 -1.7
CVIMO Finca Echandi 2.23 101⇑ eP Pn 07 40 58.2 +1.3
BRAN Las Pilas 2.24 355 i P Pn 07 40 50.3 -6.5
BRAN IAML 07 40 57.1
comp=Z,4μm,1.0s
LCR2 La Lucha 2 2.24 109 Pn Pn 07 40 57.5 +0.3
LCR2 La Lucha 2 2.24 109 i P Pn 07 40 58.0 +0.9
PKGN Cerro Pekin 2.32 340 i P Pn 07 40 58.9 +0.9
PKGN IAML 07 41 35.6
comp=Z,8μm,1.0s
VICA Volcano Irazu 2.33 102⇑ eP Pn 07 40 59.6 +1.1
REPA Paraso 2.35 106 eP Pn 07 40 59.8 +1.2
TRT2 Tortugero 2.38 88 i P Pn 07 40 59.7 +0.8
TRT2 i S Sb 07 41 42.7 +10
ESPN Las Esperanzas 2.50 47 i P Pn 07 41 02.3 +1.9
ESPN IAML 07 41 54.7
comp=Z,4μm,1.0s
ESPN Las Esperanzas 2.50 47⇑ eP Pn 07 41 02.0 +1.6
BUS1 Rivas 2.55 111⇑ eP Pn 07 41 01.4 -0.1
LIMN Finca el Limon 2.58 356 i P Pn 07 41 02.4 +0.8
LIMN IAML 07 41 17.1
comp=Z,2μm,1.0s
BLUN Bluefields 2.79 57 i P Pn 07 41 05.7 +1.3
BLUN IAML 07 42 04.5
comp=Z,2μm,1.0s
POTN Potosi Cosigui 2.83 332 i P Pn 07 41 05.6 +0.6
POTN i S Sn 07 41 38.4 +0.1
POTN IAML 07 41 54.3
comp=Z,950nm,1.0s
RCPN Sur Rio San Ju 3.03 1 i P Pn 07 41 09.8 +1.9
RCPN IAML 07 41 26.3
comp=Z,2.2nm,1.0s
RCVN Varillal2 3.09 359 i P Pn 07 41 10.5 +1.8
RCVN IAML 07 41 34.3
comp=Z,19μm,1.0s
CNCH Conchagua 3.23 330⇑ eP Pn 07 41 10.6 0.0
CNCH eS Sn 07 41 40.2 -8.0
CNCH IAML 07 41 57.8
comp=Z,4μm,0.4s
CNCH Conchagua 3.23 330 i P Pn 07 41 10.9 +0.3
CNCH i S Sn 07 41 47.5 -0.7
CNCH IAML 07 41 56.7
comp=Z,3μm,1.0s
LCND La Caada 3.28 329 eP Pn 07 41 11.2 -0.1
LCND IAML 07 41 50.4
comp=Z,1μm,0.4s
LCND La Caada 3.28 329 i P Pn 07 41 11.5 +0.2
LCND i S Sn 07 41 47.7 -1.7
LCND IAML 07 41 50.3
comp=Z,1μm,1.0s
PTJ1 Puerto Jimnez 3.42 124 i P Pb 07 41 20.3 -1.2
PTJ1 Puerto Jimnez 3.42 124 eP Pn 07 41 15.0 +1.9
PTJ1 eS Sb 07 42 16.5 +14
PIRO Carate, Puerto 3.46 126 eP Pn 07 41 15.1 +1.4
PIRO eS Sb 07 42 16.1 +12
PIRO Carate, Puerto 3.46 126 eP Pn 07 41 14.7 +0.9
VSM San Miguel 3.59 325 eP Pn 07 41 16.3 +0.6
LCY Lacayo 3.60 325 eP Pn 07 41 15.6 -0.1
RANC El Ranchito 3.60 325 i P Pn 07 41 16.0 +0.2
RANC IAML 07 42 03.2
comp=Z,990nm,1.0s
RGM0 Gandoca 3.61 104 eP Pb 07 41 22.4 -2.4
RGM0 eS Sb 07 42 26.4 +18
TGUH Tegucigalpa,Un 3.72 343 Pn Pn 07 41 18.7 +1.3
CDITO Canoas 3.75 120 i P Pn 07 41 20.2 +2.5
CDITO IAML 07 42 48.9
comp=Z,2μm,1.0s
TECA Tecapa 3.77 323 eP Pn 07 41 17.9 -0.3
TECA eP Pb 07 41 18.1 -10
TECA eS Sn 07 41 54.4 -7.4
TECA eS Sn 07 41 55.2 -6.6
CNI2 El Empalme, Bo 3.78 106 eP Pn 07 41 20.1 +2.0
CNI2 eS Sb 07 42 21.2 +8.1
BRU2 Volcan 3.81 116 Pn 07 41 20.4 +1.8
BRU2 Volcan 3.81 116 eP Pn 07 41 21.3 +2.7
BRU2 eS Sb 07 42 16.4 +2.4
PQSS Presa 15 de Se 3.91 323 eP Pn 07 41 19.8 -0.1
PQSS Presa 15 de Se 3.91 323 i P Pn 07 41 20.5 +0.6
PQSS IAML 07 41 30.8
comp=Z,290nm,1.0s
PQSS i S Sn 07 42 04.8 -0.1
PTPM Petroterminale 3.95 125 eP Pn 07 41 22.2 +1.8
PTPM eS Sb 07 42 27.5 +10
TECO Alcaldia de Te 3.98 320 eP Pn 07 41 20.4 -0.5
TECO eS Sn 07 41 59.0 -7.6
TECO Alcaldia de Te 3.98 320 i P Pn 07 41 20.2 -0.6
TECO i S Sn 07 42 02.7 -3.9
TECO IAML 07 42 10.3
comp=Z,420nm,1.0s
UESV Universidad de 4.06 321 eP Pn 07 41 22.1 +0.1
UESV Universidad de 4.06 321 i P Pn 07 41 22.3 +0.4
UESV i S Sn 07 42 06.0 -2.6
UESV IAML 07 42 16.2
comp=Z,700nm,1.0s
SCLA Alcaldia de Sa 4.07 322 eP Pn 07 41 22.5 +0.3
SCLA eS Sn 07 42 01.3 -7.6
SCLA Alcaldia de Sa 4.07 322 i P Pn 07 41 22.7 +0.5
SCLA i S Sn 07 42 07.9 -1.1
SCLA IAML 07 42 10.8
comp=Z,370nm,1.0s
COEG Centro de Oper 4.10 320 eP Pn 07 41 22.3 -0.3
COEG Centro de Oper 4.10 320 i P Pn 07 41 22.8 +0.2
COEG i S Sn 07 42 07.6 -2.2
COEG IAML 07 42 11.5
comp=Z,440nm,1.0s
PAVA Las Pavas 4.21 320 eP Pn 07 41 24.3 +0.2
PAVA Las Pavas 4.21 320 i P Pn 07 41 24.4 +0.3
PAVA IAML 07 42 18.9
comp=Z,1μm,1.0s
LFRS El Faro 4.22 318 eP Pn 07 41 24.3 0.0
LOMA Loma Larga 4.31 317 eP Pn 07 41 25.8 +0.3
LOMA Loma Larga 4.31 317 i P Pn 07 41 25.8 +0.3
LOMA IAML 07 42 21.4
comp=Z,610nm,1.0s
SNET Serv Nac Est T 4.38 317 Pn 07 41 26.2 -0.3
SNET Serv Nac Est T 4.38 317 eP Pn 07 41 26.5 +0.1
UESS Universidad de 4.38 318 eP Pn 07 41 26.7 +0.3
UEES Universidad Ev 4.41 317 eP Pn 07 41 27.2 +0.4
UEES Universidad Ev 4.41 317 i P Pn 07 41 27.6 +0.8
UEES IAML 07 42 26.4
comp=Z,340nm,1.0s
PMON Piamonte 4.46 316 eP Pn 07 41 27.6 +0.2
PMON eS Sn 07 42 10.9 -7.6
PMON Piamonte 4.46 316 i P Pn 07 41 28.0 +0.5
PMON IAML 07 42 22.3
comp=Z,820nm,1.0s
JAYA Jayaque - finc 4.51 315 eP Pn 07 41 28.1 -0.2
JAYA Jayaque - finc 4.51 315 i P Pn 07 41 28.0 -0.2
JAYA IAML 07 42 23.5
comp=Z,910nm,1.0s
CEDA San Andres 4.58 317 eP Pn 07 41 28.9 -0.1
CEVE Cerro Verde 4.75 315 eP Pn 07 41 32.5 +0.8
CEVE IAML 07 42 33.4
comp=Z,829nm,0.4s
SNJE San Jose 4.76 315 eP Pn 07 41 32.6 +0.8
NUBE Las Nubes 4.91 314 i P Pn 07 41 33.8 0.0
NUBE IAML 07 42 29.9
comp=Z,460nm,1.0s
MTO3 Montecristo 5.00 322 Pn Pn 07 41 35.5 +0.5
MTO3 Montecristo 5.00 322 i P Pn 07 41 35.7 +0.7
MTO3 IAML 07 42 12.5
comp=Z,130nm,1.0s
ESQI Esquipulas 5.11 323 Pn 07 41 37.7 +1.2
PNME Penonome 6.08 108 eP Pn 07 41 54.1 +4.4
PNME eS Sb 07 43 26.4 +7.0
CACAO El Cacao, Vera 6.09 120 eP Pn 07 41 52.4 +2.5
CACAO eS Sb 07 43 16.1 -3.4
BCIP Isla Barro Col 6.37 101 Pn 07 41 55.2 +1.5
BCIP Isla Barro Col 6.37 101 eP Pn 07 41 55.5 +1.8
BCIP eS Sb 07 43 40.3 +13
AZU Azuero 6.39 114 eP Pn 07 42 03.6 +10
AZU eS Sb 07 43 25.0 -3.3
HUEH Huehuetenango 7.09 313 Pn 07 42 04.2 +0.4
PETF Flores 7.34 331 Pn 07 42 08.1 +1.0
CCIG Comitan 8.19 315 Pn 07 42 20.1 +1.2
TEIG Tepich 9.90 348 Pn Pn 07 42 40.7 -1.5
CMIG Matias Romero 10.72 309 Pn Pn 07 42 52.2 -1.2
comp=Z,2.2nm,0.3s,baz=134,slow=8.6,SNR=27
comp=Z,22nm,0.8s
SOR Soroa 12.61 13 Pn Pn 07 43 19.4 +0.1
OTAV Otavalo 12.74 143 eP Pn 07 43 27.5 +6.1
ROSC El Rosal 13.00 115 Pn Pn 07 43 23.4 -1.6
comp=Z,1.2nm,0.3s,baz=246,slow=20,SNR=1.5
comp=Z,4.5nm,0.4s
TLIG Tlapa 13.94 302 Pn Pn 07 43 39.4 +1.9
COHC Cochancay 14.58 152 Pn 07 43 46.6 +0.4
SDV Santo Domingo 15.39 95 Pn Pn 07 43 52.2 -5.0
comp=Z,0.6nm,0.3s,baz=17,slow=18,SNR=1.2
SDV LR LR 07 51 11.4
comp=Z,302nm,19.3s,baz=272,slow=44
comp=Z,3.8nm,0.4s
SDV Santo Domingo 15.39 95 eP Pn 07 43 54.7 -2.5
BAUV El Baul 17.92 93 P Pn 07 44 29.7 +0.6
BAUV IAmb IAmb 07 44 38.3
comp=Z,35nm,0.6s
656A Willston 19.10 10 P Pn 07 44 44.1 +0.9
656A IAmb IAmb 07 44 50.7
comp=Z,86nm,0.9s
ATAH Atahualpa 19.13 156 P Pn 07 44 46.1 +2.0
comp=Z,0.3nm,0.3s,baz=45,slow=17,SNR=1.8
ATAH LR LR 07 51 06.2
comp=Z,634nm,20.4s,baz=334,slow=33
comp=Z,3.8nm,0.9s
HBVL Hebbronville 20.28 326 IAmb IAmb 07 45 07.4
comp=Z,58nm,0.9s
CELP Cerrillos 20.41 66 P Pn 07 44 58.4 -0.5
456A Hilliard 20.51 10 P Pn 07 44 59.6 -0.3
456A IAmb IAmb 07 45 06.6
comp=Z,70nm,0.8s
BRAL Brewton 20.61 358 P Pn 07 45 00.2 -0.9
BRAL IAmb IAmb 07 45 04.1
comp=Z,78nm,0.8s
SJG San Juan 20.81 66 P P 07 44 54.4 -6.6
comp=Z,5.9nm,0.3s,baz=333,slow=23,SNR=1.1
comp=Z,5.9nm,0.3s
352A Blakely 20.93 3 IAmb IAmb 07 45 07.2
comp=Z,77nm,0.8s
TIGA Tifton 20.99 6 IAmb IAmb 07 45 09.4
comp=Z,88nm,0.8s
346A Big Creek Wild 21.03 352 P P 07 45 04.3 +1.0
346A IAmb IAmb 07 45 05.4
comp=Z,187nm,1.7s
PCRV Puerto La Cruz 21.18 89 P P 07 45 06.0 +0.9
comp=Z,26nm,0.7s,baz=245,slow=5.9,SNR=12
HKT Hockley 21.37 336 P P 07 45 07.5 +0.6
HKT IAmb IAmb 07 45 20.9
comp=Z,43nm,1.1s
833A Chaparral WMA, 21.67 327 IAmb IAmb 07 45 14.2
comp=Z,52nm,0.8s
833A Chaparral WMA, 21.67 327 P P 07 45 10.4 +0.3
baz=142
MLDN Muldoon 21.74 334 IAmb IAmb 07 45 13.7
comp=Z,60nm,0.9s
TBTG Tabatinga, AM 21.77 131 eP P 07 45 15.5 +4.1
HNVL Huntsville, TX 21.95 338 IAmb IAmb 07 45 16.9
comp=Z,51nm,0.7s
VBMS Vicksburg 22.01 350 IAmb IAmb 07 45 23.1
comp=Z,70nm,0.8s
LRAL Lakeview Retre 22.46 358 IAmb IAmb 07 45 21.9
comp=Z,66nm,0.8s
CZSB Cruzeiro do Su 22.51 143 eP P 07 45 23.5 +4.2
143A Socs Landing, 22.64 348 IAmb IAmb 07 45 23.4
comp=Z,32nm,0.9s
435B Jarrell 22.82 334 IAmb IAmb 07 45 25.9
comp=Z,71nm,0.8s
435B Jarrell 22.82 334 P P 07 45 23.0 +0.5
baz=150
GOGA Godfrey 22.96 6 IAmb IAmb 07 45 25.8
comp=Z,38nm,0.8s
DRIO Del Rio 23.19 326 IAmb IAmb 07 45 29.5
comp=Z,22nm,0.8s
237A Washetta, Mont 23.20 339 IAmb IAmb 07 45 28.4
comp=Z,39nm,0.8s
Z41A Richland Creek 23.48 346 IAmb IAmb 07 45 29.1
comp=Z,64nm,0.9s
JCT Junction City 23.61 329 IAmb IAmb 07 45 32.0
comp=Z,22nm,0.8s
X48A Hartselle 23.88 358 IAmb IAmb 07 45 36.0
comp=Z,28nm,0.7s
BRDY Brady 23.89 332 IAmb IAmb 07 45 34.4
comp=Z,39nm,0.7s
FPAL Fort Paine 23.96 1 IAmb IAmb 07 45 35.1
comp=Z,25nm,0.7s
WLAR White Oak Lake 23.97 346 IAmb IAmb 07 45 35.0
comp=Z,54nm,0.8s
Y57A Sumter 24.02 12 IAmb IAmb 07 45 35.4
comp=Z,39nm,0.9s
FW13 Cleburne 24.13 336 IAmb IAmb 07 45 37.8
comp=Z,40nm,0.8s
FW07 Weatherford 24.58 336 IAmb IAmb 07 45 41.4
comp=Z,37nm,0.7s
BIRD Birdtown, Kers 24.61 11 IAmb IAmb 07 45 41.2
comp=Z,44nm,0.9s
X40A Basin Creek Fa 24.67 347 IAmb IAmb 07 45 40.3
comp=Z,20nm,0.9s
FW06 Azle 24.73 337 IAmb IAmb 07 45 43.0
comp=Z,52nm,0.9s
X58A Rowland 24.76 14 IAmb IAmb 07 45 43.2
comp=Z,85nm,1.5s
PLPT Palo Pinto 24.89 335 IAmb IAmb 07 45 44.6
comp=Z,37nm,1.1s
TX31 Lajitas Ar. Si 24.89 321 IAmb IAmb 07 45 47.4
comp=Z,16nm,0.8s
TXAR Lajitas Array 24.89 321 P P 07 45 42.4 0.0
comp=Z,13nm,0.6s,baz=139,slow=8.9,SNR=148
TXAR PcP PcP 07 49 19.7 +1.8
comp=Z,3.8nm,0.8s,baz=139,slow=5.3,SNR=10
TXAR ScP ScP 07 52 56.9 +1.7
baz=134,slow=7.8,SNR=1.8
TXAR LR LR 07 56 42.9
comp=Z,70nm,21.0s,baz=108,slow=40
comp=Z,13nm,0.6s
MIAR Mount Ida 24.90 345 IAmb IAmb 07 45 43.0
comp=Z,42nm,0.8s
V48A Smith Brothers 25.16 359 IAmb IAmb 07 45 44.9
comp=Z,35nm,0.9s
TKL Tuckaleechee C 25.16 5 IAmb IAmb 07 45 47.7
comp=Z,38nm,0.8s
TKL Tuckaleechee C 25.16 5 LR LR 07 56 00.6
comp=Z,253nm,18.6s,baz=226,slow=38
W57A Gilead 25.20 12 IAmb IAmb 07 45 45.8
comp=Z,25nm,0.8s
V53A Saluda 25.26 6 IAmb IAmb 07 45 49.2
comp=Z,44nm,0.8s
WHAR Wooly Hollow 25.32 348 IAmb IAmb 07 45 46.3
comp=Z,46nm,0.9s
SGCY Sterling City 25.43 329 IAmb IAmb 07 45 48.4
comp=Z,27nm,0.8s
CLTN Cedars of Leba 25.50 360 IAmb IAmb 07 45 50.4
comp=Z,38nm,0.8s
WVT Waverly 25.58 357 P P 07 45 47.6 -0.8
WVT IAmb IAmb 07 45 48.0
comp=Z,17nm,0.9s
V55A Taylorsville 25.66 9 IAmb IAmb 07 45 53.3
comp=Z,22nm,0.9s
FCAR Ozark Folk Cen 25.87 349 IAmb IAmb 07 45 52.3
comp=Z,21nm,0.8s
LCAR Lake Charles 25.88 351 IAmb IAmb 07 45 50.5
comp=Z,28nm,0.9s
V58A Windy Hill, Pi 26.00 13 IAmb IAmb 07 45 53.2
comp=Z,41nm,0.8s
TZTN Tazewell 26.06 5 IAmb IAmb 07 45 53.4
comp=Z,22nm,0.7s
SN05 Snyder 5 26.09 331 IAmb IAmb 07 45 57.0
comp=Z,16nm,0.8s
APMT Aspermont 26.11 333 IAmb IAmb 07 45 56.4
comp=Z,38nm,0.8s
SLBS Sierra La Lagu 26.20 303 P P 07 45 55.6 +1.3
SLBS IAmb IAmb 07 46 07.2
comp=Z,22nm,1.1s
X34A Smith Ranch, M 26.27 338 IAmb IAmb 07 45 58.6
comp=Z,36nm,0.9s
U56A King 26.28 11 IAmb IAmb 07 45 56.1
comp=Z,27nm,0.8s
ODSA Odessa 26.33 327 IAmb IAmb 07 45 56.9
comp=Z,40nm,0.8s
W35A Tecumseh 26.43 340 IAmb IAmb 07 46 11.3
comp=Z,27nm,1.2s
T50A Nancy 26.45 2 IAmb IAmb 07 45 56.6
comp=Z,20nm,0.7s
PBMO Poplar Bluff 26.47 352 IAmb IAmb 07 45 56.0
comp=Z,30nm,1.1s
POST Post 26.55 330 P P 07 45 57.5 +0.2
POST IAmb IAmb 07 46 01.9
comp=Z,24nm,0.7s
HHAR Hobbs 26.64 346 IAmb IAmb 07 45 57.5
comp=Z,14nm,0.7s
LPIG La Paz 26.68 304 LR LR 07 57 36.0
comp=Z,236nm,19.5s,baz=116,slow=39
BOAV Boa Vista 26.69 106 P P 07 45 59.8 +1.1
BOAV Boa Vista 26.69 106 eP P 07 45 59.2 +0.5
DKNS Dickens 26.76 332 IAmb IAmb 07 46 02.7
comp=Z,24nm,0.8s
TUL3 Leonard 26.79 342 IAmb IAmb 07 46 05.6
comp=Z,30nm,0.8s
U38A Gravette 26.90 345 IAmb IAmb 07 46 00.2
comp=Z,29nm,1.0s
BLA Blacksburg 27.11 10 IAmb IAmb 07 46 10.2
comp=Z,28nm,0.9s
MGMO Mountain Grove 27.13 349 IAmb IAmb 07 46 02.8
comp=Z,15nm,0.9s
T57A Hurt 27.13 12 IAmb IAmb 07 46 03.3
comp=Z,26nm,0.8s
OK031 S. Brethren Rd 27.15 341 IAmb IAmb 07 46 02.6
comp=Z,29nm,0.8s
OK052 Battle Ridge R 27.18 341 IAmb IAmb 07 46 02.8
comp=Z,32nm,0.8s
S44A Carbondale 27.24 355 IAmb IAmb 07 46 03.3
comp=Z,42nm,0.9s
SIUC Southern Illin 27.26 355 IAmb IAmb 07 46 03.4
comp=Z,46nm,0.9s
QUOK Quay 27.31 341 IAmb IAmb 07 46 04.1
comp=Z,29nm,0.7s
USIN University of 27.40 357 IAmb IAmb 07 46 04.2
comp=Z,27nm,0.8s
S54A Dingess, Beckl 27.55 8 IAmb IAmb 07 46 06.8
comp=Z,20nm,0.7s
OK048 Pawnee Station 27.61 341 IAmb IAmb 07 46 09.8
comp=Z,12nm,0.8s
WCI Wyandotte Cave 27.63 360 P P 07 46 05.9 -1.0
SMWD Samnorwood 27.67 335 IAmb IAmb 07 46 11.7
comp=Z,22nm,0.8s
CCM Cathedral Cave 27.84 351 P P 07 46 07.2 -1.5
CCM IAmb IAmb 07 46 08.6
comp=Z,25nm,0.9s
S39A Bolivar 27.85 348 IAmb IAmb 07 46 15.1
comp=Z,13nm,0.9s
MSTX Muleshoe 27.90 329 IAmb IAmb 07 46 11.3
comp=Z,27nm,0.8s
S57A Dark Hollow, R 27.93 12 IAmb IAmb 07 46 10.5
comp=Z,14nm,0.7s
T35A Sooner Cattle 27.93 342 IAmb IAmb 07 46 09.6
comp=Z,23nm,1.3s
AMTX Amarillo 28.12 332 IAmb IAmb 07 46 20.8
comp=Z,14nm,0.8s
OLIL Olney 28.19 357 IAmb IAmb 07 46 11.8
comp=Z,44nm,1.0s
R40A Maddies Statio 28.23 350 IAmb IAmb 07 46 17.7
comp=Z,12nm,0.9s
ETMB Extrema 28.29 135 P P 07 46 13.9 +0.9

ETMB IAmb IAmb 07 46 18.9
comp=Z,14nm,1.0s
ETMB Extrema 28.29 135 *eP* **P 07 46 16.1 +3.1**
NOKA Waynoka 28.49 338 IAmb IAmb 07 46 20.6
comp=Z,26nm,0.7s
MACA Manacapuru-AM 28.76 117 P **P 07 46 18.8 +1.6**
MACA Manacapuru-AM 28.76 117 *eP* **P 07 46 19.0 +1.8**
P49A Miami Univ. Ec 28.96 2 P **P 07 46 17.0 -1.8**
baz=183
MCWV Mont Chateau 29.60 10 IAmb IAmb 07 46 25.1
comp=Z,23nm,0.7s
121A Cookes Peak, D 29.65 321 P **P 07 46 26.2 +1.0**
baz=133
O48B Farmland 29.67 2 P **P 07 46 23.5 -1.5**
baz=182
P57A Homestead Farm 29.78 13 IAmb IAmb 07 46 27.6
comp=Z,32nm,0.8s
RTBA Rita Blanca 29.89 332 IAmb IAmb 07 46 27.8
comp=Z,10nm,0.8s
SAML Samuel 29.92 129 P **P 07 46 27.4 -0.1**
SAML Samuel 29.92 129 *eP* **P 07 46 31.3 +3.8**
Y22D IRIS PASSCAL I 30.21 324 P **P 07 46 31.8 +1.7**
baz=136
DUN6 Lazy B Ranch 30.49 320 IAmb IAmb 07 46 36.7
comp=Z,28nm,1.1s
ANMO Albuquerque 30.59 326 P **P 07 46 34.3 +0.8**
MVL Millersville 30.66 15 IAmb IAmb 07 46 35.2
comp=Z,24nm,1.0s
N38A Joes South For 30.84 349 IAmb IAmb 07 46 37.4
comp=Z,16nm,0.9s
SSPA Standing Stone 30.92 12 P **P 07 46 36.1 +0.1**
T25A Trinidad 31.23 331 P **P 07 46 40.0 +0.9**
baz=143
M57A Sunshine Farm, 31.75 13 P **P 07 46 43.4 0.0**
L40A Anamosa 31.77 353 IAmb IAmb 07 46 42.7
comp=Z,26nm,1.0s
LPAZ La Paz 32.02 146 P **P 07 46 48.8 +2.1**
comp=Z,2.0nm,1.0s,baz=290,slow=7.6,SNR=5.4
LPAZ LR LR 08 00 25.2
comp=Z,230nm,19.7s,baz=334,slow=37
comp=Z,2.0nm,1.0s
LPAZ La Paz 32.02 146 *eP* **P 07 46 49.7 +3.0**
SDCO Great Sand Dun 32.24 331 IAmb IAmb 07 46 50.1
comp=Z,11nm,0.8s
KSPA Keystone Colle 32.28 15 IAmb IAmb 07 46 49.0
comp=Z,20nm,0.8s
S22A 4UR Ranch, Cre 32.90 329 P **P 07 46 54.2 +0.3**
baz=140
MMNY Mt. Morris Dam 32.93 11 IAmb IAmb 07 46 53.8
comp=Z,7.6nm,0.8s
Q24A Divide 33.05 332 P **P 07 46 55.5 +0.3**
baz=144
MVCO Mesa Verde 33.37 327 IAmb IAmb 07 46 59.9
comp=Z,9.5nm,0.8s
MDP Montagnes des 33.62 97 LR LR 08 01 16.9
comp=Z,139nm,18.8s,baz=301,slow=38
ITTB Itaituba 33.70 114 *eP* **P 07 47 01.3 +0.6**
M65A Busby, Falmout 33.84 21 P **P 07 47 01.8 +0.2**
baz=208
WUAZ Wupatki 33.86 321 IAmb IAmb 07 47 06.0
comp=Z,11nm,1.0s
L61B Northampton 33.96 18 P **P 07 47 02.8 +0.1**
baz=204
ECSD EROS Data Cent 34.35 347 IAmb IAmb 07 47 11.2
comp=Z,14nm,1.1s
SADO Sadowa 34.70 9 LR LR 08 01 56.1
comp=Z,302nm,18.7s,baz=187,slow=38
N23A Red Feather La 34.97 333 IAmb IAmb 07 47 34.5
comp=Z,39nm,1.9s
N23A Red Feather La 34.97 333 P **P 07 47 11.8 0.0**
baz=144
HMU Henry Mountain 35.13 325 IAmb IAmb 07 47 23.2
comp=Z,13nm,0.9s
NPGB Novo Progresso 35.26 118 *eP* **P 07 47 14.1 -0.3**
O20A White River Ci 35.44 330 IAmb IAmb 07 47 18.5
comp=Z,9.9nm,0.7s
LONY Lake Ozonia 35.45 14 IAmb IAmb 07 47 15.6
comp=Z,27nm,0.8s
CBX Cerro Bola 35.54 312 IAmb IAmb 07 47 20.3
comp=Z,21nm,1.4s
PKCU Pink Cliffs 35.70 323 IAmb IAmb 07 47 35.4
comp=Z,12nm,1.0s
SRU San Rafael Swe 35.85 327 IAmb IAmb 07 47 21.1
comp=Z,12nm,0.8s
PFO Pinyon Flats O 36.08 314 P **P 07 47 23.3 +2.0**
SIV San Ignacio 36.17 136 LR LR 08 03 00.0
comp=Z,168nm,21.5s,baz=288,slow=38
V12A Nelson 36.19 319 P **P 07 47 24.0 +1.8**
V12A IAmb IAmb 07 47 25.3
comp=Z,22nm,1.5s
P17A Butcher Ranch, 36.23 327 IAmb IAmb 07 47 24.8
comp=Z,13nm,0.8s
MVU Marysvale 36.36 324 IAmb IAmb 07 47 27.0
comp=Z,16nm,0.9s
MNTQ Montreal, Queb 36.52 15 IAmb IAmb 07 47 24.7
comp=Z,38nm,0.9s
CLDB Colider 36.90 124 *eP* **P 07 47 30.7 +2.4**
RSSD Black Hills 36.92 338 P **P 07 47 27.0 -1.4**
TRQ Mont Tremblant 36.97 13 IAmb IAmb 07 47 28.2
comp=Z,13nm,0.9s
PTLB Pontes e Lacer 37.15 133 P **P 07 47 31.7 +1.4**
PTLB Pontes e Lacer 37.15 133 *eP* **P 07 47 30.9 +0.6**
BBSD Serra de San D 37.33 137 *eP* **P 07 47 32.9 +1.0**
TPNV Topopah Spring 37.83 319 IAmb IAmb 07 47 40.5
comp=Z,17nm,1.1s
S11A Rachel 37.92 320 IAmb IAmb 07 47 41.3
comp=Z,17nm,0.8s
E28A Huff 38.04 344 IAmb IAmb 07 47 37.2
comp=Z,28nm,1.0s
PDAR Pinedale Array 38.10 332 P **P 07 47 37.2 -1.2**
PDAR Pinedale Array 38.10 332 P **P 07 47 36.8 -1.6**
comp=Z,4.0nm,0.6s,baz=128,slow=10,SNR=44
PDAR PcP **PcP 07 49 53.5 +0.3**
comp=Z,1.0nm,0.6s,baz=133,slow=5.8,SNR=4.8
comp=Z,4.0nm,0.6s
HWUT Hardware Ranch 38.21 329 IAmb IAmb 07 47 40.7
comp=Z,16nm,0.7s
R11B Troy Canyon, C 38.26 321 P **P 07 47 41.1 +1.3**
baz=128,SNR=8.1
AGMN Agassiz Nation 38.57 350 IAmb IAmb 07 47 41.3
comp=Z,27nm,1.1s
SNOW Snow King Moun 39.19 331 IAmb IAmb 07 48 08.7
comp=Z,35nm,1.1s
LMQ La Malbaie 39.29 17 IAmb IAmb 07 47 47.5
comp=Z,20nm,0.9s
MOOW Moose Ponds 39.41 332 P **P 07 47 48.6 -0.7**
LDAQ Lac Daran 39.42 16 IAmb IAmb 07 47 49.0
comp=Z,22nm,0.9s
NV11 Mina Array Sit 39.92 320 IAmb IAmb 07 47 57.2
comp=Z,26nm,1.0s
SALV Santo Antonio 39.96 131 *eP* **P 07 47 54.3 +0.3**
OMMB Old Mammoth Mi 40.00 318 IAmb IAmb 07 47 57.7
comp=Z,41nm,1.9s
NVAR Mina Array Bea 40.01 319 P **P 07 47 56.1 +1.7**
NVAR Mina Array Bea 40.01 319 P **P 07 47 55.8 +1.3**
comp=Z,14nm,0.8s,baz=141,slow=7.5,SNR=107
NVAR PcP **PcP 07 50 00.6 +1.3**
comp=Z,3.7nm,0.7s,baz=120,slow=3.3,SNR=11
comp=Z,14nm,0.8s
LHV Little Huntoon 40.04 319 IAmb IAmb 07 47 58.4
comp=Z,22nm,0.8s
KVN Kaiserville 40.25 320 IAmb IAmb 07 47 59.9
comp=Z,18nm,1.0s
ULM Lac du Bonnet 40.46 350 P **P 07 47 54.0 -3.7**
comp=Z,12nm,0.9s,baz=167,slow=8.2,SNR=13
ULM PcP **PcP 07 49 58.6 -1.6**
comp=Z,2.7nm,0.6s,baz=189,slow=4.0,SNR=4.0
comp=Z,12nm,0.9s
PMPB Monarch Peak 40.48 315 IAmb IAmb 07 48 00.8
comp=Z,21nm,1.1s
BMN Battle Mountai 40.55 323 IAmb IAmb 07 48 01.7
comp=Z,22nm,1.0s
DGMT Dagmar 40.78 342 IAmb IAmb 07 48 07.4
comp=Z,32nm,0.8s
WAKR Walker 40.78 319 P **P 07 48 01.9 +1.0**
WAKR IAmb IAmb 07 48 04.3
comp=Z,17nm,0.8s
YERR Yerington 40.93 320 IAmb IAmb 07 48 05.1
comp=Z,50nm,1.5s
SNDB Serra Nova Dou 41.20 122 *eP* **P 07 48 04.9 +0.6**
PNTR Pine Nut 41.22 319 P **P 07 48 05.7 +1.3**
PNTR IAmb IAmb 07 48 07.6
comp=Z,16nm,0.8s
EMB Emerald Bay 41.48 319 IAmb IAmb 07 48 09.9
comp=Z,37nm,1.5s
FDPY Filadelfia 41.48 142 *eP* **P 07 48 09.4 +2.9**
MPK Martis Peak 41.61 319 P **P 07 48 09.5 +1.8**

MPK IAmb IAmb 07 48 11.7
comp=Z,19nm,0.9s
BDQN Bodoquena, MS 42.21 137 *eP* **P 07 48 14.9 +2.4**
EGMT Eagleton 42.36 336 IAmb IAmb 07 48 14.3
comp=Z,9.8nm,0.7s
MURT Porto Murtinho 42.49 139 *eP* **P 07 48 17.6 +2.9**
WVOR Wild Horse Val 42.63 324 IAmb IAmb 07 48 18.2
comp=Z,15nm,0.7s
ARAG Araguaiana, MT 42.82 127 *eP* **P 07 48 19.4 +1.9**
SMTB Santa Maria do 42.92 115 *eP* **P 07 48 19.1 +0.7**
AQDB Aquidauana 42.94 136 *eP* **P 07 48 22.3 +3.9**
RPN Rapa Nui 43.62 211 LR LR 08 01 45.0
comp=Z,146nm,21.2s,baz=45,slow=29
YBH Yreka Blue Hor 44.67 321 P **P 07 48 31.5 -0.7**
YBH Yreka Blue Hor 44.67 321 LR LR 08 09 50.8
comp=Z,147nm,19.5s,baz=150,slow=40
PINE Pine Mountain 44.80 324 IAmb IAmb 07 48 35.2
comp=Z,16nm,0.8s
AMBA Amambai (Brazi 45.10 138 *eP* **P 07 48 36.4 +0.7**
I05D Terrebonne, OR 45.36 324 IAmb IAmb 07 48 40.7
comp=Z,11nm,0.8s
I04A Tendick Farm, 45.66 323 IAmb IAmb 07 48 41.1
comp=Z,22nm,0.8s
HAWA Hanford 45.66 328 IAmb IAmb 07 48 40.7
comp=Z,13nm,0.8s
DBO Dodson Butte 45.77 322 IAmb IAmb 07 48 42.8
comp=Z,12nm,0.8s
D08A Wollman Farm, 45.78 329 IAmb IAmb 07 48 58.8
comp=Z,39nm,1.9s
BDFB Brasília 45.83 124 P **P 07 48 42.0 +0.3**
comp=Z,4.2nm,0.6s,baz=300,slow=12,SNR=6.1
comp=Z,4.2nm,0.6s
H04A Detroit Lake 46.05 324 P **P 07 48 42.6 -0.4**
CPUP Villa Florida 46.09 143 P **P 07 48 45.2 +1.7**
comp=Z,3.1nm,0.9s,baz=321,slow=9.8,SNR=6.0
comp=Z,3.1nm,0.9s
CPUP Villa Florida 46.09 143 *eP* **P 07 48 47.6 +4.1**
MXC Moxie City 46.18 328 IAmb IAmb 07 48 46.4
comp=Z,13nm,0.8s
ITRB Iturama 46.29 130 *eP* **P 07 48 46.7 +1.5**
MT08 Bocatoma Ro 46.31 161 P **P 07 48 46.8 +1.4**
MT08 IAmb IAmb 07 48 54.8
comp=Z,11nm,0.9s
SCHQ Schefferville 46.82 15 P **P 07 48 46.6 -2.3**
SCHQ IAmb IAmb 07 48 47.4
comp=Z,16nm,0.8s
SCHQ Schefferville 46.82 15 P **P 07 48 45.0 -3.8**
comp=Z,18nm,0.8s,baz=206,slow=7.0,SNR=17
SCHQ LR LR 08 08 58.7
comp=Z,169nm,18.6s,baz=252,slow=37
comp=Z,18nm,0.8s
SDBA SAO DESIDERIO 46.86 118 *eP* **P 07 48 49.8 0.0**
B08A Colville Reser 46.87 330 IAmb IAmb 07 49 22.9
comp=Z,16nm,1.7s
IPMB Ipameri, GO 46.94 127 *eP* **P 07 48 51.9 +1.5**
LON Longmire 47.10 327 IAmb IAmb 07 48 54.0
comp=Z,6.9nm,0.8s
GNW Green Mountain 48.15 327 P **P 07 48 58.1 -1.1**
GNW IAmb IAmb 07 49 00.5
comp=Z,7.5nm,0.8s
JANB Januaria 48.61 121 *eP* **P 07 49 03.6 +0.2**
ITQB Itaqui 49.02 145 *eP* **P 07 49 09.9 +3.7**
LLLB Lillooet 49.61 331 IAmb IAmb 07 49 14.6
comp=Z,6.5nm,0.7s
DIAM Diamantina, MG 50.75 124 *eP* **P 07 49 21.3 +1.6**
GDU01 Guandu, BA 52.09 117 *eP* **P 07 49 29.5 -0.2**
PLTB Pedras Altas 52.30 145 *eP* **P 07 49 34.6 +3.6**
RCBR Riachuelo 52.60 106 LR LR 08 12 58.0
comp=Z,100nm,21.6s,baz=316,slow=38
CMC01 Camacan, BA 52.85 118 *eP* **P 07 49 34.9 -0.4**
PLCA Paso Flores 52.96 165 *eP* **P 07 49 40.2 +4.5**
SJMB Sao Joao De Ma 52.99 123 *eP* **P 07 49 37.8 +1.5**
FRB Frobisher Bay 54.64 9 LR LR 08 13 39.7
comp=Z,286nm,18.6s,baz=162,slow=37
YKA Yellowknife Ar 55.84 344 P **P 07 49 54.4 -1.9**
comp=Z,4.7nm,0.9s,baz=140,slow=7.8,SNR=21
YKA PcP **PcP 07 50 54.4 -0.6**
comp=Z,0.3nm,0.4s,baz=203,slow=7.5,SNR=4.2
YKA LR LR 08 17 15.6
comp=Z,104nm,18.2s,baz=277,slow=40
comp=Z,4.7nm,0.9s
TAOE Nuku Hiva Isla 57.05 252 *eS* **S 07 58 05.7 +6.3**
comp=Z,54nm,25.5s
TAOE *e*LR LR 08 06 42.4
comp=Z,78nm,21.3s
V35K Ketchikan 57.14 331 P **P 07 50 07.3 +1.7**
baz=123
LIRD Liard River Hi 57.25 337 P **P 07 50 06.6 +0.1**
baz=131
T35M Bob Quinn 57.45 333 P **P 07 50 08.3 +0.3**
baz=126
CRAG Craig 57.94 331 P **P 07 50 12.4 +1.1**
baz=122
DLBC Dease Lake 58.22 335 IAmb IAmb 07 50 14.5
comp=Z,17nm,1.2s
DLBC Dease Lake 58.22 335 P **P 07 50 14.4 +1.1**
baz=126
WTLY Watson Lake, Y 58.75 337 IAmb IAmb 07 50 17.0
comp=Z,8.1nm,1.1s
WTLY Watson Lake, Y 58.75 337 P **P 07 50 17.3 +0.3**
baz=129
R33M Jennings River 59.19 335 P **P 07 50 19.9 -0.2**
baz=126
Q32M Nakina River 59.48 334 P **P 07 50 22.9 +0.7**
baz=124
SIT Sitka 59.82 331 P **P 07 50 24.9 +0.6**
baz=120
P33M Teslin, Yukon 60.42 335 P **P 07 50 28.5 0.0**
baz=124
P32M Atlin 60.45 334 P **P 07 50 28.2 -0.5**
baz=123
N32M Quiet Lake 61.07 336 P **P 07 50 32.6 -0.3**
baz=125
SFJD Kangerlussuaq 61.27 15 LR LR 08 17 20.2
comp=Z,188nm,19.0s,baz=224,slow=37
FARO Faro, Yukon 61.79 337 P **P 07 50 37.7 -0.1**
baz=125
O30N Mendenhall 62.09 335 IAmb IAmb 07 50 40.3
comp=Z,11nm,1.1s
O30N Mendenhall 62.09 335 P **P 07 50 39.8 0.0**
baz=121
P30M Million Dollar 62.12 334 P **P 07 50 39.5 -0.5**
baz=120
P29M Windy Craggy 62.21 333 P **P 07 50 40.0 -0.6**
baz=119
N31M Braeburn, Yuko 62.34 336 P **P 07 50 40.9 -0.5**
baz=122
HYT Haines Junctio 62.71 334 P **P 07 50 43.6 -0.4**
baz=120
N30M Aishikik Lake 62.86 335 P **P 07 50 44.6 -0.3**
baz=121
O29M Mount Kennedy 62.91 334 P **P 07 50 45.3 -0.1**
baz=119
M30M Minto, Yukon 63.32 336 P **P 07 50 47.7 -0.3**
baz=122
MAYO Mayo, Yukon 63.52 338 P **P 07 50 48.7 -0.5**
baz=123
M29M Somme Creek 63.92 336 IAmb IAmb 07 50 53.5
comp=Z,12nm,1.0s
M29M Somme Creek 63.92 336 P **P 07 50 51.4 -0.6**
baz=120
L29M L29M 64.12 337 P **P 07 50 52.4 -0.9**
baz=120
J30M Hart River 64.22 338 P **P 07 50 53.2 -0.8**
baz=123
H31M Peel River 64.22 340 P **P 07 50 52.8 -1.0**
baz=125
K29M Barlow Dome 64.27 337 P **P 07 50 53.5 -0.8**
baz=121
YUK3 Moose Creek 64.42 335 P **P 07 50 54.7 -0.8**
baz=118
CTG Chitna Glacier 64.42 334 P **P 07 50 54.8 -0.5**
baz=116
I30M Mount Dempster 64.59 339 IAmb IAmb 07 50 56.6
comp=Z,9.0nm,1.1s
I30M Mount Dempster 64.59 339 P **P 07 50 55.6 -0.7**
baz=123,SNR=6.7
J29N Klondike Camp 64.85 338 P **P 07 50 57.4 -0.6**
baz=121
G31M Satah River 64.85 341 IAmb IAmb 07 50 57.2
comp=Z,9.1nm,1.1s
G31M Satah River 64.85 341 P **P 07 50 57.5 -0.3**
baz=126
BVCY Beaver Creek 64.88 335 P **P 07 50 57.8 -0.4**
baz=117
F31M Tsiigehtchic 65.00 342 P **P 07 50 58.3 -0.4**
baz=127

DAWY Dawson 65.09 337 P **P 07 50 59.1 -0.4**
baz=120
CRQE Cirque 65.11 333 P **P 07 50 59.0 -0.8**
baz=114
M27K Edge Creek, AK 65.28 335 P **P 07 50 59.7 -1.2**
baz=116
EPYK Eagle Plains 65.34 340 IAmb IAmb 07 51 01.2
comp=Z,20nm,1.2s
EPYK Eagle Plains 65.34 340 P **P 07 51 00.7 -0.4**
baz=123
I29M Ogilvie Camp, 65.35 339 IAmb IAmb 07 51 07.8
comp=Z,5.3nm,0.9s
I29M Ogilvie Camp, 65.35 339 P **P 07 51 00.7 -0.5**
baz=121
KAIM Kayak Island 65.38 332 P **P 07 51 00.8 -0.6**
baz=113
INK Inuvik 65.45 343 P **P 07 51 00.9 -0.8**
INK IAmb IAmb 07 51 02.2
comp=Z,7.6nm,0.9s
INK Inuvik 65.45 343 P **P 07 51 01.1 -0.6**
baz=127,SNR=5.8
BCAR Beaver Creek A 65.56 336 P **P 07 51 02.1 -0.5**
L27K Beaver Creek, 65.58 336 IAmb IAmb 07 51 03.2
comp=Z,12nm,1.1s
L27K Beaver Creek, 65.58 336 P **P 07 51 02.4 -0.3**
baz=117
F30M Barrier River 65.73 341 P **P 07 51 03.3 -0.3**
baz=125
H29M Whitestone 65.82 339 P **P 07 51 03.8 -0.4**
baz=121
A36M Sachs Harbour 65.84 348 IAmb IAmb 07 51 02.8
comp=Z,7.8nm,0.9s
A36M Sachs Harbour 65.84 348 P **P 07 51 02.9 -1.3**
baz=137
BMRM Bremner River 65.87 333 P **P 07 51 03.6 -1.0**
baz=113
I28M Miner Creek 65.98 338 P **P 07 51 04.7 -0.6**
baz=120
G29M Pine Creek 66.07 340 IAmb IAmb 07 51 07.2
comp=Z,13nm,1.1s
G29M Pine Creek 66.07 340 P **P 07 51 04.7 -1.1**
baz=122
EGAK Eagle 66.11 337 P **P 07 51 05.9 -0.1**
baz=118
N25K Chitina, Valde 66.12 334 P **P 07 51 05.8 -0.5**
baz=113
L26K Log Cabin Wild 66.18 335 P **P 07 51 06.6 0.0**
baz=115
EYAK Cordova Ski Ar 66.23 332 P **P 07 51 06.4 -0.5**
baz=112
KLU Klutina 66.66 333 P **P 07 51 09.6 -0.2**
baz=112
I27K Kandik River 66.67 338 P **P 07 51 08.8 -0.9**
baz=118
E29M Blow River 66.83 342 P **P 07 51 10.2 -0.4**
baz=123
SCRK Sand Creek 66.85 336 P **P 07 51 10.7 -0.2**
SCRK IAmb IAmb 07 51 19.7
comp=Z,14nm,1.4s
SCRK Sand Creek 66.85 336 P **P 07 51 10.3 -0.7**
baz=115
J26L Joseph Creek 66.91 337 IAmb IAmb 07 51 12.2
comp=Z,11nm,1.2s
J26L Joseph Creek 66.91 337 P **P 07 51 10.9 -0.4**
baz=116,SNR=7.6
H27K Steamboat Moun 66.94 339 P **P 07 51 10.6 -0.8**
baz=118
GLI Glacier Island 66.97 332 P **P 07 51 11.2 -0.4**
baz=111
M24K Tolsona, Glenn 67.01 334 P **P 07 51 11.2 -0.7**
baz=112
PAX Paxson 67.04 335 P **P 07 51 12.0 -0.2**
baz=113
F28M Old Crow 67.05 340 IAmb IAmb 07 51 14.0
comp=Z,5.1nm,0.8s
F28M Old Crow 67.05 340 P **P 07 51 11.3 -0.8**
baz=120,SNR=9.4
RIDG Independent Ri 67.09 336 IAmb IAmb 07 51 13.1
comp=Z,13nm,1.1s
RIDG Independent Ri 67.09 336 P **P 07 51 11.9 -0.5**
baz=114,SNR=6.0
I26K Coal Creek Min 67.11 338 IAmb IAmb 07 51 13.2
comp=Z,7.5nm,0.7s
I26K Coal Creek Min 67.11 338 P **P 07 51 12.1 -0.3**
baz=116
G27K Doyon Strip 67.26 339 P **P 07 51 12.8 -0.6**
baz=118
SCM Sheep Creek Mo 67.41 333 P **P 07 51 14.5 0.0**
baz=111
E28M Babbage River 67.46 341 IAmb IAmb 07 51 14.3
comp=Z,4.9nm,0.8s
E28M Babbage River 67.46 341 P **P 07 51 13.9 -0.6**
baz=121
K24K Donnelly Dome 67.50 336 P **P 07 51 14.8 -0.2**
baz=113
M23K Glacier View 67.57 333 P **P 07 51 15.1 -0.3**
baz=110
D28M Stokes Point 67.60 342 P **P 07 51 15.4 0.0**
baz=122
J25K Salcha River, 67.66 336 IAmb IAmb 07 51 16.7
comp=Z,7.6nm,1.1s
J25K Salcha River, 67.66 336 P **P 07 51 15.5 -0.5**
baz=114
KNK Knik Glacier 67.77 333 P **P 07 51 16.2 -0.6**
baz=110
SEW Seward 67.80 331 P **P 07 51 17.4 +0.6**
baz=108
SML Sawmill 67.85 333 P **P 07 51 17.4 +0.2**
baz=110
WAT6 Susitna Watana 67.86 334 P **P 07 51 17.3 -0.2**
baz=111
DHY Denali Highway 67.89 334 P **P 07 51 17.3 -0.3**
baz=111
E27K Coleen River 67.91 341 IAmb IAmb 07 51 17.6
comp=Z,5.7nm,1.0s
E27K Coleen River 67.91 341 P **P 07 51 17.3 -0.1**
baz=119
O22K Cooper Landing 68.05 331 P **P 07 51 18.2 -0.3**
baz=108
G26K Porcupine Rive 68.07 339 P **P 07 51 18.3 -0.1**
baz=116
PRP Porcupine Dome 68.09 337 P **P 07 51 18.1 -0.7**
PRP IAmb IAmb 07 51 19.1
comp=Z,5.2nm,1.0s
PRP Porcupine Dome 68.09 337 P **P 07 51 18.1 -0.7**
baz=114
PMR Palmer 68.14 333 P **P 07 51 18.7 -0.2**
baz=109
HDA Harding Lake 68.21 336 IAmb IAmb 07 51 19.5
comp=Z,16nm,1.1s
HDA Harding Lake 68.21 336 P **P 07 51 18.7 -0.6**
baz=112,SNR=8.5
D27M Malcolm River 68.23 342 IAmb IAmb 07 51 19.7
comp=Z,5.7nm,0.8s
D27M Malcolm River 68.23 342 P **P 07 51 18.7 -0.8**
baz=120
RC01 Rabbit Creek A 68.25 332 P **P 07 51 19.4 -0.3**
baz=108
WAT1 Susitna Watana 68.30 334 P **P 07 51 19.9 -0.1**
baz=110
IL31 68.32 336 IAmb IAmb 07 51 20.2
comp=Z,10nm,1.1s
ILAR Eielson Array 68.32 336 P **P 07 51 19.2 -0.9**
ILAR Eielson Array 68.32 336 P **P 07 51 19.0 -1.1**
comp=Z,4.1nm,0.9s,baz=108,slow=4.9,SNR=27
ILAR PP **PP 07 53 46.1 -4.8**
comp=Z,0.8nm,0.8s,baz=112,slow=7.2,SNR=5.2
ILAR LR LR 08 24 59.9
comp=Z,148nm,18.8s,baz=102,slow=39
comp=Z,4.1nm,0.9s
H25L Birch Creek 68.51 338 P **P 07 51 20.9 -0.3**
baz=114
F26K Sheenjek River 68.53 340 IAmb IAmb 07 53 19.4
comp=Z,14nm,1.8s
F26K Sheenjek River 68.53 340 P **P 07 51 21.0 -0.3**
baz=116
PPT2 Papeete2 68.56 246 *e*S **S 08 00 31.6 +8.0**
comp=Z,60nm,27.8s
PPT2 Papeete2 68.56 246 *e*LR LR 08 12 08.0
comp=Z,79nm,29.8s
PPT2 *e*LR LR 08 12 09.1
comp=Z,78nm,22.8s
BMAR Burnt Mountain 68.56 339 P **P 07 51 21.2 -0.4**
M22K Willow 68.63 333 P **P 07 51 21.6 -0.5**
baz=108
POKR Poker Plat Res 68.67 337 P **P 07 51 21.6 -0.7**
baz=112
WRH Wood River Hil 68.69 336 IAmb IAmb 07 51 28.7

comp=Z,10.0nm,1.2s
KDAK Kodiak Island 68.70 328 P **P 07 51 22.2 -0.3**
baz=104
HOM Homer 68.72 330 P **P 07 51 22.5 -0.1**
baz=106
COLA College 68.75 336 P **P 07 51 22.4 -0.2**
baz=112
MCK McKinley 68.78 335 P **P 07 51 22.7 -0.2**
baz=110,SNR=6.3
G25K Bearman Lake 68.82 338 P **P 07 51 23.0 -0.1**
baz=114
SUA Susitna One 68.83 332 P **P 07 51 23.0 -0.5**
baz=108
OHAK Old Harbor 68.93 328 P **P 07 51 23.7 -0.3**
baz=104
F25K Christian Rive 69.00 339 IAmb IAmb 07 51 24.8
comp=Z,7.1nm,1.1s
F25K Christian Rive 69.00 339 P **P 07 51 23.5 -0.8**
baz=115
H24K Noodor Dome 69.11 337 IAmb IAmb 07 51 34.1
comp=Z,19nm,1.6s
H24K Noodor Dome 69.11 337 P **P 07 51 24.2 -0.8**
baz=112
NEA2 Nenana 69.13 336 IAmb IAmb 07 51 25.1
comp=Z,7.9nm,1.0s
NEA2 Nenana 69.13 336 P **P 07 51 24.5 -0.6**
baz=110,SNR=6.4
TRF Thorofare Moun 69.25 334 P **P 07 51 25.2 -0.9**
baz=109
C27K Jago River 69.27 342 P **P 07 51 25.4 -0.4**
baz=117
G24K Hadweenzic Riv 69.30 338 IAmb IAmb 07 51 27.0
comp=Z,7.9nm,1.0s
G24K Hadweenzic Riv 69.30 338 P **P 07 51 26.3 +0.1**
baz=112
SKT Skwentna 69.34 333 P **P 07 51 25.6 -0.9**
baz=107
N20K Mount Spurr 69.42 332 P **P 07 51 26.8 -0.3**
baz=106
SPCR Spurr Chakacha 69.43 332 P **P 07 51 26.8 -0.3**
baz=106
I23K Minto, Yukon-K 69.44 336 IAmb IAmb 07 51 27.6
comp=Z,12nm,1.0s
I23K Minto, Yukon-K 69.44 336 P **P 07 51 26.6 -0.3**
baz=110,SNR=5.7
Q19K Cape Douglas, 69.52 329 P **P 07 51 27.7 0.0**
baz=104
KTH Kantishna Hill 69.55 334 P **P 07 51 27.1 -0.7**
H23K Yukon River 69.75 337 P **P 07 51 28.4 -0.6**
baz=110
BPAW Bear Paw Mtn. 69.75 335 P **P 07 51 28.2 -0.8**
BPAW IAmb IAmb 07 51 29.1
comp=Z,14nm,1.0s
BPAW Bear Paw Mtn. 69.75 335 P **P 07 51 28.5 -0.6**
baz=108,SNR=7.8
F24K Squaw Lake 69.76 339 P **P 07 51 28.5 -0.5**
baz=112
C26K Camden Bay 69.77 342 P **P 07 51 28.8 -0.2**
baz=116
PPLA Purkeypile 69.90 334 P **P 07 51 29.6 -0.5**
baz=107
MLY Manley 69.95 336 IAmb IAmb 07 51 30.9
comp=Z,14nm,0.9s
MLY Manley 69.95 336 P **P 07 51 29.5 -0.7**
baz=109,SNR=12
BORG Borgarnes 69.96 24 LR LR 08 22 16.8
comp=Z,95nm,18.0s,baz=267,slow=36
D25K Kavik River 69.97 341 IAmb IAmb 07 51 30.6
comp=Z,12nm,0.9s
D25K Kavik River 69.97 341 P **P 07 51 29.8 -0.6**
baz=114,SNR=14
CAST Castle Rocks 70.01 334 IAmb IAmb 07 51 37.5
comp=Z,35nm,1.9s
CAST Castle Rocks 70.01 334 P **P 07 51 29.8 -0.8**
baz=107
M20K Styx River 70.04 332 P **P 07 51 30.5 -0.4**
baz=106
O19K Port Alsworth 70.17 330 P **P 07 51 31.4 -0.2**
baz=104
E24K Your Creek 70.18 339 P **P 07 51 31.2 -0.4**
baz=112
G23K Bananza Creek 70.24 338 IAmb IAmb 07 51 32.9
comp=Z,7.5nm,0.9s
G23K Bananza Creek 70.24 338 P **P 07 51 31.5 -0.5**
baz=110
CHUM Lake Minchumin 70.25 335 P **P 07 51 31.3 -0.6**
baz=107
N19K Bonanza Creek 70.39 331 P **P 07 51 32.4 -0.7**
baz=104
TBI Tubuai 70.43 241 *e*LR LR 08 12 59.9
comp=Z,459nm,27.8s
H22K Ishtalitna Cre 70.48 337 P **P 07 51 33.2 -0.2**
baz=108
COLD Coldfoot 70.49 338 P **P 07 51 33.3 -0.1**
baz=110,SNR=6.5
I21K Tanana 70.50 336 IAmb IAmb 07 51 33.7
comp=Z,13nm,1.2s
I21K Tanana 70.50 336 P **P 07 51 33.0 -0.6**
baz=108,SNR=5.8
Q17K Contact Creek 70.52 328 P **P 07 51 33.3 -0.6**
baz=102
L20K Farewell, AK 70.54 333 P **P 07 51 33.0 -0.8**
baz=105
E23K Chandalar 70.57 339 IAmb IAmb 07 51 35.5
comp=Z,7.4nm,1.0s
E23K Chandalar 70.57 339 P **P 07 51 33.5 -0.6**
baz=111
M19K Big River Lodg 70.62 332 P **P 07 51 34.1 -0.2**
baz=104
D24K Happy Valley 70.71 340 P **P 07 51 34.6 -0.1**
baz=112
TOLK Toolik Lake Re 70.77 340 P **P 07 51 34.8 -0.4**
baz=111
K20K Telida 70.85 334 P **P 07 51 34.8 -0.9**
baz=105
G22K Bettles 70.87 338 P **P 07 51 35.9 +0.2**
baz=109
C24K Franklin Bluff 70.89 341 IAmb IAmb 07 51 38.0
comp=Z,8.6nm,1.0s
C24K Franklin Bluff 70.89 341 P **P 07 51 35.8 +0.1**
baz=112
L19K White Mountain 70.90 332 P **P 07 51 35.5 -0.6**
baz=104
H21K Melozitna Rive 70.97 336 P **P 07 51 35.5 -0.9**
baz=107
N18K Kilae Creek 71.03 331 P **P 07 51 36.7 -0.2**
baz=102
J20K Nowinta River 71.10 335 IAmb IAmb 07 51 38.4
comp=Z,21nm,1.6s
J20K Nowinta River 71.10 335 P **P 07 51 37.0 -0.2**
baz=105
M18K Stony River 71.19 332 P **P 07 51 37.5 -0.2**
baz=103
D23K Nanushuk River 71.26 340 IAmb IAmb 07 51 39.1
comp=Z,10nm,1.1s
D23K Nanushuk River 71.26 340 P **P 07 51 38.7 +0.6**
baz=110
F22K John River 71.30 338 P **P 07 51 38.2 -0.2**
baz=108,SNR=6.4
E22K Anaktuvuk Pass 71.37 339 P **P 07 51 38.3 -0.5**
baz=109
I20K Naaghedeneel 71.41 335 P **P 07 51 38.9 -0.1**
baz=105
O17K Koliganek Bris 71.43 330 P **P 07 51 39.4 +0.2**
baz=101
G21K Allakaket 71.50 337 IAmb IAmb 07 51 40.7
comp=Z,16nm,0.9s
G21K Allakaket 71.50 337 P **P 07 51 39.0 -0.6**
baz=107
C23K Itkillik River 71.55 341 IAmb IAmb 07 51 41.9
comp=Z,12nm,1.1s
C23K Itkillik River 71.55 341 P **P 07 51 39.9 +0.1**
baz=110
TTA Tatalina 71.60 333 P **P 07 51 39.5 -0.9**
baz=103
N17K Nushagak Hills 71.63 330 P **P 07 51 40.1 -0.3**
baz=101
J19K Poorman 71.68 334 P **P 07 51 40.3 -0.5**
baz=104
F21K Alatna River 71.69 338 IAmb IAmb 07 51 42.2
comp=Z,15nm,0.9s
F21K Alatna River 71.69 338 P **P 07 51 40.9 +0.1**
baz=107,SNR=15
L18K Granite Mounta 71.75 332 P **P 07 51 41.1 0.0**
baz=102
H20K Anotleneega Mo 71.75 336 P **P 07 51 41.1 0.0**
baz=105
D22K Ayikyak River 71.92 340 P **P 07 51 42.0 0.0**
baz=108
M17K Holitna River 71.92 331 P **P 07 51 41.8 -0.5**
baz=101
J18K Innoko River 72.03 334 P **P 07 51 42.7 -0.1**
baz=103
E21K Killik River 72.23 339 IAmb IAmb 07 52 12.8
comp=Z,14nm,1.4s
E21K Killik River 72.23 339 P **P 07 51 43.1 -0.8**
baz=107
N16K Nishlik Lake 72.39 330 P **P 07 51 45.0 0.0**
baz=100
GCSA Galena City Sc 72.39 335 P **P 07 51 44.8 -0.1**
baz=103
H19K Roundabout Mou 72.40 336 IAmb IAmb 07 51 45.8
comp=Z,12nm,0.9s
H19K Roundabout Mou 72.40 336 P **P 07 51 44.3 -0.6**
baz=104,SNR=7.7
F20K Avaravart Lake 72.49 337 P **P 07 51 45.0 -0.4**
baz=105
K17K Iditarod 72.58 333 P **P 07 51 45.9 -0.2**
baz=101
B22K Teshekpuk Lake 72.62 341 P **P 07 51 46.2 0.0**
baz=108
O15K Ungalikthiuk R 72.70 329 P **P 07 51 46.1 -0.8**
baz=98
C21K Knifeblade Rid 72.72 340 P **P 07 51 47.1 +0.2**
baz=106
G19K Purcell Mounta 72.80 336 P **P 07 51 46.6 -0.7**
baz=103
B21K Ikpikpuk River 72.80 340 P **P 07 51 46.7 -0.5**
baz=107
L16K Owhat River 72.94 331 P **P 07 51 48.3 0.0**
baz=100
E20K Nigu River 72.97 339 P **P 07 51 48.3 -0.1**
baz=105
J17K VABM Dome 73.06 333 P **P 07 51 49.0 +0.1**
baz=100
H18K Honhosa River 73.10 335 P **P 07 51 48.8 -0.4**
baz=102
E19K Redstone River 73.16 338 IAmb IAmb 07 51 56.2
comp=Z,8.4nm,1.2s
E19K Redstone River 73.16 338 P **P 07 51 49.3 -0.1**
baz=103
F19K Shaleruckik Mo 73.22 337 IAmb IAmb 07 51 54.2
comp=Z,38nm,1.9s
F19K Shaleruckik Mo 73.22 337 P **P 07 51 49.8 0.0**
baz=103
D20K Etivluk River 73.24 339 P **P 07 51 49.8 -0.2**
baz=104
A22K Sinclair Lake 73.31 341 P **P 07 51 50.2 -0.1**
baz=107
G18K Tagagawik 73.37 336 IAmb IAmb 07 51 58.1
comp=Z,9.0nm,1.1s
G18K Tagagawik 73.37 336 P **P 07 51 50.6 -0.2**
baz=102
H17K Granite Mounta 73.70 335 P **P 07 51 53.1 +0.4**
baz=100
J16K Anvik River 73.72 333 P **P 07 51 52.7 -0.1**
baz=99
D19K Kuna River 73.72 339 IAmb IAmb 07 51 53.3
comp=Z,10.0nm,0.9s
D19K Kuna River 73.72 339 P **P 07 51 52.4 -0.4**
baz=103
N14K Kuskokwak Cree 73.75 329 P **P 07 51 52.9 -0.1**
baz=97
B20K Meade River 73.75 340 P **P 07 51 52.9 0.0**
baz=104
M14K Bethel 73.99 330 P **P 07 51 54.5 +0.1**
baz=97
K15K Wolf Creek Mou 73.99 332 P **P 07 51 54.4 0.0**
baz=98
C19K Lookout Ridge 74.38 339 P **P 07 51 56.9 +0.2**
baz=102
L14K Kuka Creek 74.41 331 P **P 07 51 57.0 +0.2**
baz=97
E18K Tukpahlearik C 74.42 337 P **P 07 51 56.7 -0.1**
baz=100
F17K Baldwin Pennin 74.50 336 P **P 07 51 57.5 +0.1**
baz=99
M13K Dall Lake 74.63 330 P **P 07 51 57.6 -0.5**
baz=96
H16K Elim 74.64 334 P **P 07 51 58.3 +0.2**
baz=98
G16K Koyuk River 74.79 335 P **P 07 51 59.0 -0.1**
baz=98
E17K Hotham Inlet 74.83 337 P **P 07 51 59.6 +0.3**
baz=99
C18K Utukok River 74.86 338 P **P 07 51 59.4 -0.1**
baz=100
J14K Nanvaranak Lak 74.98 332 P **P 07 52 00.5 +0.4**
baz=96
A19K Wainwright 75.10 340 P **P 07 52 01.1 +0.4**
baz=100
B18K Kokolik River 75.20 339 P **P 07 52 01.6 +0.3**
baz=100
RDOG Red Dog Mine 75.39 338 P **P 07 52 02.8 +0.3**
baz=98
D17K Noatak River 75.41 337 P **P 07 52 02.9 +0.3**
baz=98
C17K DeLong Mountai 75.55 338 P **P 07 52 03.8 +0.4**
baz=98
F15K North Star Dit 75.78 335 P **P 07 52 04.9 +0.2**
baz=96
UNV Unalaska Valle 75.92 323 P **P 07 52 06.3 +0.6**
baz=91
ANM Nome 75.97 334 P **P 07 52 06.9 +1.1**
baz=95
C16K Lisburne Hills 76.33 338 P **P 07 52 09.0 +1.2**
baz=96
NIKH Nikolski High 77.32 322 P **P 07 52 14.7 +1.1**
baz=89
MDT Midelt 77.34 59 LR LR 08 23 53.3
comp=Z,145nm,18.6s,baz=302,slow=34
ESDC Sonseca Array 77.41 52 P **P 07 52 13.5 -1.1**
ESDC IAmb IAmb 07 52 53.5
comp=Z,14nm,1.9s
ESDC Sonseca Array 77.41 52 P **P 07 52 12.3 -2.2**
comp=Z,2.3nm,0.8s,baz=282,slow=5.8,SNR=11
ESDC LR LR 08 26 04.6
comp=Z,77nm,18.0s,baz=269,slow=36
comp=Z,2.3nm,0.8s
EKA Eskdalemuir Ar 77.48 36 P **P 07 52 10.2 -4.3**
comp=Z,3.4nm,0.8s,baz=267,slow=7.4,SNR=5.2
comp=Z,3.4nm,0.8s
RAR Rarotonga 78.82 246 LR LR 08 17 31.8
comp=Z,55nm,21.6s,baz=170,slow=28
ADK Adak 82.17 321 P **P 07 52 40.7 +0.7**
SPITS Spitsbergen Ar 82.37 12 LR LR 08 28 53.3
comp=Z,73nm,21.1s,baz=227,slow=36
NOA NORSAR Array B 84.47 29 LR LR 08 28 29.1
comp=Z,54nm,19.3s,baz=290,slow=34
TORD Torodi Ar. Bea 85.60 78 P **P 07 52 55.1 -3.1**
comp=Z,0.5nm,0.5s,baz=302,slow=5.5,SNR=4.6
comp=Z,0.5nm,0.5s
HFS Hagfors 85.86 30 LR LR 08 29 40.4
comp=Z,82nm,19.2s,baz=290,slow=35
DAVOX Davos/Dischmat 86.55 43 LR LR 08 28 48.2
comp=Z,56nm,20.9s,baz=296,slow=34
CLL Collm 87.57 38 *i* P **P 07 53 04.9 -2.3**
ARCES ARCESS Array B 87.62 19 LR LR 08 33 12.4
comp=Z,45nm,18.8s,baz=280,slow=36
VRAC Vranov 90.31 40 LR LR 08 30 22.5
comp=Z,74nm,20.3s,baz=304,slow=34
FINES FINESS Array B 91.17 26 LR LR 08 31 51.5
comp=Z,81nm,19.8s,baz=300,slow=34
MA2 Magadan 96.75 335 LR LR 08 42 06.7
comp=Z,24nm,18.1s,baz=75,slow=38
SNAA Sanae 97.77 162 P Pdif 07 53 57.6 +3.7
comp=Z,1.3nm,0.8s,baz=2.0,slow=17,SNR=1.7
comp=Z,1.3nm,0.8s
DZM Mont Dzumac 109.89 250 *e*LR LR 08 31 24.0
comp=Z,70nm,24.2s
MJAR Matsushiro Arr 117.33 321 PKP **PKPdf 07 59 03.9 -1.2**
comp=Z,1.2nm,0.4s,baz=43,slow=16,SNR=2.0
KURBB Kurchatov Arra 117.71 11 PKP **PKPdf 07 59 04.5 -0.9**
comp=Z,1.1nm,0.7s,baz=342,slow=2.0,SNR=10
SONM Songino Array 120.88 350 PKP **PKPdf 07 59 10.6 -1.2**
comp=Z,0.9nm,0.7s,baz=299,slow=2.5,SNR=4.4
MKAR Makanchi Array 122.06 9 PKP **PKPdf 07 59 12.5 -1.4**
comp=Z,0.8nm,0.8s,baz=8.4,slow=2.6,SNR=6.3
KSRS Korea Array 122.61 328 PKP **PKiKP 07 59 15.5 +0.2**
comp=Z,4.3nm,0.7s,baz=13,slow=1.8,SNR=16
NJ2 Nanjing 131.41 331 *e*P **PKiKP 07 59 33.4 +0.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
ASAR Alice Springs 139.67 246 PKhKP PKPpre 07 59 46.0
comp=Z,1.0nm,0.6s,baz=109,slow=2.8,SNR=14
WRA Warramunga Arr 139.90 252 PKhKP PKPpre 07 59 40.6
comp=Z,0.4nm,0.7s,baz=92,slow=2.5,SNR=2.3
WRA PKP **PKPdf 07 59 48.6 +0.4**
comp=Z,1.9nm,0.7s,baz=92,slow=2.2,SNR=14
PZH PanZhiHua 142.45 348 PKP **PKPdf 07 59 52.1 -0.7**
CMAR Chiang Mai Arr 150.81 350 PKP **PKPdf 08 00 06.0 -0.9**
comp=Z,6.2nm,0.8s,baz=304,slow=3.1,SNR=7.1
CMAR PKPbc **PKPbc 08 00 12.7 +0.2**
comp=Z,0.9nm,0.3s,baz=338,slow=3.0,SNR=4.7

*TEH **21** 07:47:02.6, 34.°56N×45.°77E, h15km±23km, ML3.5*
*ISN **21** 07:47:02.1±0.5, 34.°57N×45.°76E, h11km±5km, ML3.5*
ISC 21 07:47:02.8±1.0, 34.°55N±0.°03×45.°77E±0.°03, h15km±10km,
n20,σ1°08/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.16**	**253**	Pg	**Pg**	**07 47 06.7**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.45**	**165**	Pg	**Pg**	**07 47 11.8**	**-0.1**
IDHR	**Dehrash**	**0.53**	**74**	Pg	**Pg**	**07 47 12.7**	**-0.7**
IDHR				Sg	**Sb**	**07 47 20.9**	**-0.6**
IGHG	**Ghaleghazi**	**0.70**	**108**	Pg	**Pg**	**07 47 16.2**	**-0.3**
IGHG				Sg	**Sn**	**07 47 27.8**	**-1.2**
ILBA	**Ilam Banvizeh**	**0.99**	**159**	Pg	**Pb**	**07 47 21.6**	**-0.2**
ILIN	**Lien**	**1.05**	**69**	Pg	**Pb**	**07 47 22.7**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.09**	**104**	Pg	**Pn**	**07 47 23.6**	**-0.1**
IBDR	**Badra**	**1.45**	**175**	*e*Pn	**Pg**	**07 47 30.0**	**-0.7**
IBDR				*e*Sn	**Sg**	**07 47 51.0**	**+1.5**
IBDR				AML	AML	07 47 55.0	
	comp=E,1μm,0.7s						
IBDR				AML	AML	07 47 55.7	
	comp=N,2μm,0.5s						
IKRK	**Kirkuk**	**1.45**	**306**	*e*Pn	**Pg**	**07 47 30.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**07 47 50.0**	**+0.4**
IKRK				AML	AML	07 47 53.5	
	comp=E,549nm,0.8s						
IKRK				AML	AML	07 48 01.4	
	comp=N,457nm,0.6s						
SNQR	**Sonqor, Kerman**	**1.56**	**78**	Pg	**Pb**	**07 47 32.0**	**+0.5**
SDS1	**Sardasht. Az.**	**1.61**	**352**	Pg	**Pg**	**07 47 33.3**	**-0.5**
BHD	**Baghdad**	**1.73**	**222**	*e*Pn	**Pb**	**07 47 34.0**	**-0.2**
BHD				*e*Sn	**Sg**	**07 47 57.0**	**-1.4**
IBZA	**Bozab**	**1.73**	**92**	Pg	**Pb**	**07 47 33.4**	**-1.0**
IKFM	**Kafar-mosalman**	**2.01**	**120**	Pn	**Pb**	**07 47 38.5**	**-0.5**
IDOB	**Doab**	**2.14**	**110**	Pn	**Pb**	**07 47 40.0**	**-1.3**
HSAM	**Samen**	**2.37**	**97**	Pn	**Pn**	**07 47 43.1**	**+1.8**
BDRS	**Dareh Seyedi**	**2.64**	**102**	Pn	**Pn**	**07 47 46.6**	**+1.4**
HAGD	**Aghdareh**	**2.79**	**84**	Pn	**Pn**	**07 47 49.1**	**+1.9**
ISHB	**Shabestar**	**3.73**	**358**	Pn	**Pn**	**07 48 01.1**	**+1.1**
JHBN	**Jahan bin**	**4.70**	**118**	Pn	**Pn**	**07 48 15.3**	**+1.8**

*SFS **21** 07:50:58.9, 35.°66N×3.°66W, h0km, ML2.6/11, ML2.9/9, ML v2.4/11*
*MDD **21** 07:50:59.0±0.4, 35.°62N×3.°67W, h0km, mb_Lg2.6/11, Error ellipse: s-maj=4.2km s-min=2.6km az=38.0*
*CNRM **21** 07:50:58.9, 35.°73N×3.°54W, h11km, ML2.9*
*INMG **21** 07:51:00.5±1.6, 35.°63N×3.°55W, h27km±17km, ML2.2, Error ellipse: s-maj=9.6km s-min=6.0km az=110.0*
ISC 21 07:50:56.8±1.5, 35.°63N±0.°03×3.°56W±0.°03, h5km±12km,
n33,σ1°38/53, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.52**	**217**	P	**Pn**	**07 51 10.6**	**-0.4**
PALE	**Palemas**	**0.52**	**217**	S	**Sn**	**07 51 19.0**	**-1.1**
EALB	**Alboran**	**0.53**	**54**	Sg	**Sb**	**07 51 18.6**	**+2.2**
EALB				Pg	**Pn**	**07 51 10.2**	**-0.8**
EALB	**Alboran**	**0.53**	**54**	P	**Pn**	**07 51 10.2**	**-0.8**
EALB				S	**Sb**	**07 51 18.2**	**+1.8**
EALB				*i* Vmb_Lg		07 51 19.6	
WMELI	**Melilla**	**0.58**	**122**	Sg	**Sn**	**07 51 20.3**	**-1.5**
WMELI				Pg	**Pn**	**07 51 11.7**	**-0.1**
EMEL	**Melilla**	**0.59**	**124**	P	**Pn**	**07 51 11.8**	**-0.1**
EMEL				S	**Sn**	**07 51 20.1**	**-1.8**
EMLI	**Melilla**	**0.59**	**123**	Pg	**Pn**	**07 51 11.7**	**-0.2**
EMLI				Sg	**Sn**	**07 51 20.1**	**-1.9**
GOG	**Mont Gurugu**	**0.61**	**131**	P	**Pn**	**07 51 12.0**	**-0.3**
GOG	**Mont Gurugu**	**0.61**	**131**	S	**Sn**	**07 51 21.6**	**-1.0**
CHAS	**Isla Isabel II**	**1.02**	**115**	Sg	**Sn**	**07 51 34.0**	**+1.4**
CHAS				Pg	**Pn**	**07 51 17.6**	**-0.3**
ELGU	**Los Guajares,**	**1.24**	**357**	Sn	**Sn**	**07 51 37.6**	**-0.5**
ELGU				Pg	**Pb**	**07 51 20.4**	**-0.3**
ELGU	**Los Guajares,**	**1.24**	**357**	P	**Pg**	**07 51 20.3**	**-0.3**
ELGU				S	**Sn**	**07 51 37.9**	**-0.2**
ELGU				*i* Vmb_Lg		07 51 39.0	
EMAL	**Malaga-Limoner**	**1.33**	**328**	Sn	**Sg**	**07 51 38.7**	**-0.9**
EMAL				Pg	**Pn**	**07 51 21.2**	**-0.9**
EGOR	**Sierra Gorda,**	**1.54**	**343**	Sn	**Sg**	**07 51 46.2**	**-0.3**
EGOR				Pn	**Pn**	**07 51 25.0**	**+0.1**
EGOR	**Sierra Gorda,**	**1.54**	**343**	P	**Pn**	**07 51 25.2**	**+0.1**
EGOR				S	**Sg**	**07 51 47.9**	**+1.4**
EGOR				*i* Vmb_Lg		07 51 55.1	
EQUE	**Quentar**	**1.57**	**3**	P	**Pb**	**07 51 26.2**	**-0.4**
EQUE				*i* Vmb_Lg		07 51 43.5	
EQUE				S	**Sn**	**07 51 44.2**	**-2.2**
EQTA	**Presa de Quent**	**1.58**	**3**	Sn	**Sg**	**07 51 47.7**	**+0.2**
EQTA				Pn	**Pb**	**07 51 25.9**	**-0.7**
EJIF	**Jimena Fronter**	**1.75**	**298**	P	**Pn**	**07 51 28.6**	**+0.7**
ESPR	**Espera**	**2.23**	**304**	P	**Pb**	**07 51 37.2**	**-0.5**
ESPR				*i* Vmb_Lg		07 52 07.8	
IFR	**Ifrane**	**2.47**	**212**	Pn	**Pn**	**07 51 39.5**	**+1.5**
IFR				Sn	**Sn**	**07 52 09.1**	**+0.4**
EADA	**Adamuz**	**2.66**	**342**	Pn	**Pn**	**07 51 42.2**	**+1.7**
EADA	**Adamuz**	**2.66**	**342**	P	**Pn**	**07 51 42.4**	**+2.0**
EADA				S	**Sn**	**07 52 15.1**	**+2.0**
EADA				*i* Vmb_Lg		07 52 22.0	
ECAB	**El Cabril**	**2.86**	**329**	Pn	**Pn**	**07 51 44.1**	**+0.9**
ECAB	**El Cabril**	**2.86**	**329**	P	**Pb**	**07 51 46.3**	**-2.1**
ECAB				S	**Sn**	**07 52 20.2**	**+2.1**
ECAB				*i* Vmb_Lg		07 52 33.5	
MD31	**MD31**	**2.93**	**200**	P	**Pn**	**07 51 46.9**	**+2.7**
EMIN	**Mina Concepcio**	**3.29**	**311**	P	**Pn**	**07 51 49.2**	**+0.2**
EMIN				*i* Vmb_Lg		07 52 28.4	
PBAR	**Barrancos**	**3.77**	**313**	*e*P	**Pn**	**07 51 56.4**	**+0.7**
PBAR				*e*S	**Sn**	**07 52 39.2**	**-1.3**
PVAQ	**Vaqueiros**	**3.79**	**299**	*e*P	**Pn**	**07 51 56.0**	**+0.1**
PVAQ				*e*S	**Sn**	**07 52 38.5**	**-2.4**
PVAQ				A	A	07 52 39.3	
	2.8nm,0.8s						
PBDV	**Barranco-do-Ve**	**3.88**	**296**	*e*P	**Pn**	**07 51 57.3**	**+0.2**
PBDV				*e*S	**Sn**	**07 52 40.1**	**-3.0**
PBDV				A	A	07 52 45.5	
	5.0nm,0.8s						
PAB	**San Pablo**	**3.96**	**351**	P	**Pn**	**07 51 59.8**	**+1.5**
PAB				*i* Vmb_Lg		07 53 00.7	
EBAD	**Badajoz**	**4.16**	**320**	P	**Pn**	**07 52 01.5**	**+0.4**
EBAD				*i* Vmb_Lg		07 52 50.2	
MESJ	**Messejana**	**4.34**	**302**	*e*P	**Pn**	**07 52 03.8**	**+0.3**
PMRV	**Marv??o**	**4.86**	**322**	*e*P	**Pn**	**07 52 12.7**	**+2.0**
PMRV				*e*S	**Sn**	**07 53 04.9**	**-2.5**

*IDC **21** 07:50:55.6±2.4, 10.°32N×86.°29W, h0km, mb3.6/5, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=65.5km s-min=16.6km az=19.0*
*CATAC **21** 07:50:59.6±2.3, 12.°13N×84.°42W, h28km±36km, ML4.6*
*UCR **21** 07:51:02.5±1.1, 10.°47N×86.°05W, h19km±6km, MW4.6*
ISC 21 07:50:59.6±1.7, 10.°37N±0.°05×86.°23W±0.°06, h25km±12km,
n51,σ1°08/55, mb3.4/5, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.65**	**100**	*e*P	**Pb**	**07 51 12.5**	**+0.2**
NICO	**Nicoya**	**0.81**	**107**	*e*P	**Pb**	**07 51 14.7**	**-0.4**
LCRUZ	**La Cruz**	**0.92**	**40**	*e*P	**Pn**	**07 51 16.9**	**0.0**
GPS3	**Bodega del ICE**	**0.93**	**66**	*e*P	**Pn**	**07 51 17.3**	**+0.1**
GPS2	**Hotel Rincn d**	**0.94**	**66**	*e*P	**Pb**	**07 51 17.3**	**-0.1**
VRLE	**La Escondida,**	**0.95**	**64**	*e*P	**Pb**	**07 51 17.2**	**-0.3**
BAGA	**Bagaces**	**0.97**	**81**	*e*P	**Pn**	**07 51 17.8**	**+0.2**
VORI	**VORI**	**0.98**	**63**	*e*P	**Pb**	**07 51 17.6**	**-0.4**
COLC	**Colonia**	**1.05**	**74**	*e*P	**Pb**	**07 51 18.8**	**-0.4**
CARN	**Rivas**	**1.07**	**41**	*i* P	**Pn**	**07 51 19.3**	**+0.3**
CUI	**Cuipilapa**	**1.09**	**75**	*e*P	**Pb**	**07 51 19.6**	**-0.3**
HORNC	**Hornillas**	**1.09**	**72**	*e*P	**Pb**	**07 51 19.4**	**-0.5**
CNAS	**Canas**	**1.12**	**87**	*i* P	**Pn**	**07 51 19.8**	**+0.1**
JUNT	**Juntas**	**1.26**	**94**	*e*P	**Pn**	**07 51 21.6**	**0.0**
JTS	**Las Juntas de**	**1.26**	**94**	Pn	**Pn**	**07 51 21.8**	**+0.1**
	21nm,0.3s,baz=302,slow=22,SNR=55						
JTS				Sn	**Sn**	**07 51 42.0**	**+4.2**
	80nm,0.3s,baz=302,slow=19,SNR=19						

JTS Las Juntas de 1.26 94 *e*P Pn 07 51 21.8 +0.1
JAPN Al SSO del Vol 1.27 25 *i* P Pb 07 51 23.1 +0.3
JAPN IAML 07 51 39.0
comp=Z,4μm,1.0s
JAPN *i* S Sn 07 51 40.8 +2.8
TENO El Achiote 1.28 75 *e*P Pn 07 51 21.7 -0.3
MORN Al O del Volca 1.30 26 *i* P Pn 07 51 21.8 -0.4
MORN IAML 07 51 38.9
comp=Z,600nm,1.0s
MORN *i* S Sb 07 51 40.1 +0.4
CONN Concepcion 1.32 27 *i* P Pn 07 51 22.7 +0.2
CONN *i* S Sn 07 51 38.9 -0.5
CONN IAML 07 51 39.2
comp=Z,30μm,1.0s
NADN Granada 1.38 8 *i* P Pn 07 51 24.0 +0.7
MTEVE Monteverde 1.38 92 *e*P Pn 07 51 23.9 +0.4
VERA Finca Concepci 1.42 70 *e*P Pb 07 51 24.8 -0.7
VACR Volcan Arenal 1.53 86 *e*P Pn 07 51 26.3 +0.9
FORC Fortuna 1.54 86 *e*P Pb 07 51 27.0 -0.5
NANN Nandasmo 1.56 4 *i* P Pb 07 51 27.3 -0.5
NANN IAML 07 52 12.4
comp=Z,46μm,1.0s
SABN Sabanita 1.57 3 *i* P Pb 07 51 35.4 +7.3
ARZA Esparza 1.59 104 *e*P Pb 07 51 27.7 -0.6
SOCE Pocosol 1.59 90 *i* P Pb 07 51 28.1 -0.2
SOCE *i* S Sn 07 51 42.8 -3.2
SOCE IAML 07 52 07.9
comp=Z,2μm,1.0s
SOCE Pocosol 1.59 90 *e*P Pn 07 51 27.4 +1.2
CRUN El Crucero 1.60 358 *i* P Pb 07 51 28.8 +0.2
CRUN IAML 07 52 13.4
comp=Z,27μm,1.0s
LCHIL Los Chiles 1.63 66 *e*P Pn 07 51 27.4 +0.6
SRA1 San Ramn 1.75 99 *e*P Pn 07 51 29.7 +1.2
MGAN Managua 1.76 360 *e*P Pb 07 51 31.4 +0.1
APQ2 Apoyeque 1.81 357 *i* P Pn 07 51 30.3 +1.0
APQ2 IAML 07 52 08.6
comp=Z,2μm,1.0s
TRB2 Turrubares 1.81 104 *e*P Pn 07 51 29.9 +0.6
ZARE Zarcero 1.82 96 *e*P Pb 07 51 31.6 -0.9
COPN Copaltepe 1.83 349 *i* P Pn 07 51 29.5 0.0
ACON Acoyapa 1.89 33 *e*P Pn 07 51 30.7 +0.3
ITAL Pital 1.93 88 *e*P Pn 07 51 31.7 +0.8
SANTA Santa Ana 2.06 102 *e*P Pn 07 51 34.8 +2.0
ACOS Acosta 2.12 106 *e*P Pn 07 51 35.1 +1.5
CMIG Matias Romero 10.73 309 Pn Pn 07 53 31.4 -0.4
comp=Z,0.2nm,0.3s,baz=128,slow=12,SNR=2.5
comp=Z,2.0nm,0.9s
PCRV Puerto La Cruz 21.25 89 P P 07 55 43.0 -1.2
comp=Z,11nm,1.0s,baz=293,slow=14,SNR=2.6
comp=Z,11nm,1.0s
TXAR Lajitas Array 24.93 322 P P 07 56 21.7 +0.6
comp=Z,0.5nm,0.6s,baz=128,slow=8.2,SNR=6.2
comp=Z,0.5nm,0.6s
TKL Tuckaleechee C 25.27 5 P P 07 56 24.2 +0.3
comp=Z,1.3nm,0.6s,baz=208,slow=17,SNR=3.7
comp=Z,1.3nm,0.6s
PDAR Pinedale Array 38.16 332 P P 07 58 16.3 -0.9
comp=Z,0.2nm,0.5s,baz=129,slow=9.4,SNR=2.1
comp=Z,0.2nm,0.5s
NVAR Mina Array Bea 40.05 320 P P 07 58 32.3 -0.8
comp=Z,0.5nm,0.7s,baz=125,slow=8.2,SNR=3.6
comp=Z,0.5nm,0.7s
ASAR Alice Springs 139.56 246 PKP PKPdf 08 10 24.9 -1.0
comp=Z,0.4nm,0.9s,baz=104,slow=1.9,SNR=2.5
WRA Warramunga Arr 139.79 251 PKP PKPdf 08 10 28.0 +1.5
comp=Z,0.4nm,1.0s,baz=100,slow=1.9,SNR=1.5
CMAR Chiang Mai Arr 150.90 350 PKPab PKPab 08 10 57.9 -0.3
comp=Z,1.1nm,0.3s,baz=326,slow=3.2,SNR=5.6

IDC 21 08:05:07.5±2.2, 54°.16N×86°.42E, h0km, mbtmp3.2/3, ML3.1/3, Error ellipse: s-maj=17.4km s-min=12.6km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**0.96**	**258**	Pg	Pg	08 05 25.1	-0.8
	4.0nm,0.3s,baz=74,slow=18,SNR=34						
ZALV				Lg	Lg	08 05 39.5	
	15nm,0.3s,baz=76,slow=30,SNR=38						
KURBB	**Kurchatov Arra**	**5.99**	**237**	Pn	Pn	08 06 38.6	+1.4
	0.2nm,0.3s,baz=53,slow=13,SNR=9.2						
KURBB				Sn	Sn	08 07 45.8	-0.6
	baz=37,slow=35,SNR=1.4						
KURBB				Lg	Lg	08 08 17.1	
	baz=53,slow=30,SNR=3.0						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**7.83**	**201**	Pn	Pn	08 07 03.3	+0.7
	0.3nm,0.3s,baz=24,slow=13,SNR=16						
MKAR				Sn	Sn	08 08 31.9	+0.1
	0.1nm,0.3s,baz=24,slow=28,SNR=2.7						
MKAR				Lg	Lg	08 09 12.4	
	baz=18,slow=30,SNR=2.9						
	0.5nm,0.3s						
SONM	**Songino Array**	**14.06**	**109**	Pn	Pn	08 08 27.2	-0.7
	0.2nm,0.3s,baz=338,slow=19,SNR=2.6						
	0.4nm,0.7s						

BEO ***21*** *08:13:29.4±4.2, 36°.96N×20°.31E, h64km±9km, ML4.0/11*
MCSM ***21*** *08:13:33.7±0.7, 38°.N±5°×2°.1E±°, h6km±3km, mB4.4, mb3.9, MLv4.1, Mw(mB)3.6*
NEIC ***21*** *08:13:34.3±2.2, 37°.52N±0°.07×20°.74E±0°.06, h10km±1km, mb4.4/9, Error ellipse: s-maj=12.3km s-min=8.3km az=194.0*
NAO ***21*** *08:13:35.3, 37°.70N×20°.79E, h10km, mb4.1*
THE ***21*** *08:13:35.0, 37°.66N×20°.76E, h9km±1km, ML3.6/9, Error ellipse: s-maj=1.8km s-min=0.8km az=228.0*
TIR ***21*** *08:13:35.8, 37°.75N×21°.09E, h24km±1km, Md4.0, Ml3.9*
ATH ***21*** *08:13:35.1, 37°.69N×20°.79E, h14km±1km, ML3.8/10, Error ellipse: s-maj=2.2km s-min=0.9km az=37.0*
IDC ***21*** *08:13:39.2±1.9, 37°.76N×20°.96E, h38km±16km, mb3.9/17, mbtmp3.9/26, ML3.6/7, MS3.1/4, Error ellipse: s-maj=15.9km s-min=13.1km az=178.0*

ISC 21 08:13:35.1±0.7, 37°.69N±0°.03×20°.80E±0°.03, h12km±4km, n175, σ1§63/195, mb4.2/22, 10C-4D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.03**	**59**	P	**Pg**	**08 13 36.8**	**-0.5**
LTHK				S	**Sg**	**08 13 37.8**	**-1.1**
LTHK	**Lithakia**	**0.03**	**59**	P	**Pg**	**08 13 36.8**	**-0.5**
KRI1	**kERI**	**0.03**	**158**	P	**Pg**	**08 13 37.6**	**+0.3**
KRI1				S	**Sg**	**08 13 39.2**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.38**	**356**	P	**Pg**	**08 13 42.8**	**0.0**
RTZL				S	**Sg**	**08 13 49.0**	**+1.1**
PSDA	**Pessada-Kefalo**	**0.45**	**338**	P	**Pg**	**08 13 44.2**	**+0.1**
PSDA				S	**Sb**	**08 13 51.7**	**0.0**
PSDA	**Pessada-Kefalo**	**0.45**	**338**	P	**Pg**	**08 13 44.1**	**+0.1**
PSDA				S	**Sg**	**08 13 50.6**	**+0.5**
VLS	**Valsamata**	**0.51**	**341**	P	**Pg**	**08 13 44.9**	**-0.3**
VLS				S	**Sg**	**08 13 53.2**	**+1.2**
VLS	**Valsamata**	**0.51**	**341**	P	**Pg**	**08 13 44.8**	**-0.3**
VLS				S	**Sg**	**08 13 52.5**	**+0.5**
VLS				AML	AML	08 13 56.9	
	comp=N,11867μm,0.6s						
VLS				AML	AML	08 14 00.1	
	comp=E,11158μm,0.4s						
RLS	**Riolos of Patr**	**0.64**	**55**	P	**Pg**	**08 13 47.4**	**-0.1**
RLS				S	**Sb**	**08 13 57.3**	**+0.3**
	comp=E,8μm,0.4s						
RLS	**Riolos of Patr**	**0.64**	**55**	P	**Pg**	**08 13 47.3**	**-0.3**
RLS				S	**Sg**	**08 13 56.3**	**+0.3**
RLS				AML	AML	08 14 00.1	
	comp=E,12074μm,0.6s						
RLS				AML	AML	08 14 06.4	
	comp=N,18091μm,0.5s						
DMLN	**Damoulianata-K**	**0.64**	**328**	P	**Pg**	**08 13 47.7**	**+0.1**
DMLN				S	**Sb**	**08 13 57.6**	**+0.5**
	comp=N,13μm,0.5s						
DMLN	**Damoulianata-K**	**0.64**	**328**	P	**Pg**	**08 13 47.2**	**-0.4**
AMT	**Artemida-Makis**	**0.74**	**102**	P	**Pg**	**08 13 49.4**	**0.0**
AMT				S	**Sb**	**08 13 59.9**	**+0.1**
AMT				AML	AML	08 14 04.6	
	comp=N,63130μm,0.4s						
AMT				AML	AML	08 14 05.7	
	comp=E,70175μm,0.4s						
VSK1	**VASILIKIADES**	**0.74**	**345**	P	**Pg**	**08 13 48.8**	**-0.6**
DRO	**Drossia**	**0.77**	**70**	P	**Pg**	**08 13 49.8**	**-0.1**
DRO				S	**Sn**	**08 14 02.6**	**-0.5**
	comp=E,15μm,0.5s						
DRO	**Drossia**	**0.77**	**70**	P	**Pg**	**08 13 49.5**	**-0.4**
DRO				AML	AML	08 14 08.9	
	comp=N,27566μm,0.5s						
DRO				AML	AML	08 14 09.5	
	comp=E,34273μm,0.5s						
FSK	**Fiskardo**	**0.79**	**346**	P	**Pg**	**08 13 49.0**	**-1.3**
FSK				S	**Sb**	**08 14 02.9**	**+1.6**
	comp=E,4μm,0.8s						
FSK	**Fiskardo**	**0.79**	**346**	P	**Pg**	**08 13 49.6**	**-0.7**
FSK				AML	AML	08 14 09.5	
	comp=N,5859μm,0.6s						
FSK				AML	AML	08 14 11.7	
	comp=E,9711μm,0.6s						
EVGI	**Lefkada island**	**0.93**	**353**	P	**Pb**	**08 13 52.2**	**-1.0**
EVGI	**Lefkada island**	**0.93**	**353**	P	**Pb**	**08 13 51.9**	**-1.3**
NYDR	**Nydri-Lefkada**	**1.02**	**355**	P	**Pb**	**08 13 53.7**	**-1.0**
NYDR	**Nydri-Lefkada**	**1.02**	**355**	P	**Pb**	**08 13 53.6**	**-1.0**
ITM	**Ithomi**	**1.03**	**119**		**Pn**	**08 13 54.9**	**-0.4**
ITM	**Ithomi**	**1.03**	**119**	P	**Pb**	**08 13 54.4**	**-0.4**
ITM				S	**Sn**	**08 14 10.1**	**+0.4**
	comp=E,3μm,0.5s						
ITM	**Ithomi**	**1.03**	**119**	P	**Pb**	**08 13 54.4**	**-0.4**
ITM				AML	AML	08 14 16.1	
	comp=N,5079μm,0.6s						
ITM				AML	AML	08 14 16.2	
	comp=E,4952μm,0.5s						
PYL	**PYLOS**	**1.09**	**136**	P	**Pb**	**08 13 55.3**	**-0.6**
PYL				S	**Sn**	**08 14 11.6**	**+0.4**
	comp=E,2μm,0.5s						
PYL	**PYLOS**	**1.09**	**136**	P	**Pb**	**08 13 55.3**	**-0.6**
PYL				AML	AML	08 14 16.3	
	comp=N,4597μm,0.5s						
PYL				AML	AML	08 14 17.7	
	comp=E,4783μm,0.5s						
LKD2	**Lefkada island**	**1.10**	**354**	AMP			
	comp=N,11nm,0.6s,baz=343						
LKD2	**Lefkada island**	**1.10**	**354**	P	**Pn**	**08 13 56.4**	**+0.1**
KLV	**Kalavryta, Ach**	**1.12**	**71**	P	**Pb**	**08 13 55.8**	**-0.6**
KLV				S	**Sn**	**08 14 14.4**	**+2.4**
	comp=N,2μm,0.6s						
KLV	**Kalavryta, Ach**	**1.12**	**71**	P	**Pb**	**08 13 55.5**	**-0.9**
TSLK	**Tsoukalades, L**	**1.14**	**354**	P	**Pn**	**08 13 55.9**	**-0.9**
TSLK				S	**Sg**	**08 14 14.6**	**+2.8**
	comp=N,3μm,0.6s						
EFP	**Efpalio**	**1.14**	**50**	P	**Pn**	**08 13 55.2**	**-1.6**
EFP				AML	AML	08 14 21.1	
	comp=N,7691μm,0.6s						
EFP				AML	AML	08 14 24.0	
	comp=E,7467μm,0.6s						
GUR	**Goura**	**1.24**	**78**	P	**Pn**	**08 13 58.2**	**-0.1**
GUR	**Goura**	**1.24**	**78**	P	**Pn**	**08 13 57.8**	**-0.5**
GUR				AML	AML	08 14 23.6	
	comp=N,11914μm,0.5s						
GUR				AML	AML	08 14 33.0	
	comp=E,9266μm,0.5s						
ANX	**Ano Chora**	**1.26**	**44**	P	**Pn**	**08 13 57.7**	**-0.8**
ANX				AML	AML	08 14 25.0	
	comp=N,12351μm,0.5s						
ANX				AML	AML	08 14 25.9	
	comp=E,8966μm,0.6s						
AGG	**Agios Georgios**	**1.79**	**42**	Pn	**Pb**	**08 14 08.9**	**+1.1**
IGT	**Igoumenitsa**	**1.87**	**349**	AMP			
	comp=E,1.8nm,0.9s,baz=342						
KEK	**Kerkira**	**2.17**	**339**	Pn	**Pb**	**08 14 14.7**	**+0.5**
SRN	**Sarande**	**2.27**	**344**	AMP			
	comp=N,0.8nm,0.7s,baz=339						
NEST	**Nestorio**	**2.73**	**4**	AMP			
	comp=N,1.0nm,0.6s,baz=0.0						
LIT	**Litokhoron**	**2.74**	**28**	Pn	**Pn**	**08 14 21.4**	**+2.6**
KBN	**Korca**	**2.93**	**360**	AMP			
	comp=N,1.4nm,1.6s,baz=356						
SCTE	**Santa Cesarea**	**2.99**	**323**	P	**Pn**	**08 14 23.1**	**+0.8**
SCTE				S	**Sb**	**08 15 07.0**	**+2.3**
SCTE	**Santa Cesarea**	**2.99**	**323**	Pn	**Pn**	**08 14 22.6**	**+0.3**
THE	**Thessaloniki**	**3.38**	**29**	P	**Pn**	**08 14 30.3**	**+2.7**
THE				S	**Sn**	**08 15 10.2**	**+2.6**
OHR	**Ohrid**	**3.41**	**360**	*e*Pn	**Pn**	**08 14 29.1**	**+1.0**
OHR	**Ohrid**	**3.41**	**360**	*i* Pn	**Pb**	**08 14 33.2**	**-2.2**
TIP	**Timpagrande**	**3.50**	**296**	Pn	**Pn**	**08 14 31.0**	**+1.6**
TIP	**Timpagrande**	**3.50**	**296**	⇑P	**Pn**	**08 14 31.4**	**+2.1**
TIP	**Timpagrande**	**3.50**	**296**	P	**Pn**	**08 14 29.9**	**+0.5**
TIR	**Tirane**	**3.72**	**349**	S	**Sb**	**08 15 23.1**	**-2.7**
TIR	**Tirane**	**3.72**	**349**	Pn	**Pn**	**08 14 35.1**	**+2.8**
TIR	**Tirane**	**3.72**	**349**	⇓P	**Pn**	**08 14 33.2**	**+0.9**
TIR	**Tirane**	**3.72**	**349**	P	**Pn**	**08 14 32.9**	**+0.6**
APE	**Apeiranthos**	**3.82**	**98**	⇑P	**Pb**	**08 14 43.0**	**+0.6**
VAY	**Valandovo**	**3.87**	**20**	*i* Pn	**Pn**	**08 14 37.9**	**+3.5**
CEL	**Celeste**	**3.92**	**280**	*e*Pn	**Pn**	**08 14 35.8**	**+0.7**
CEL	**Celeste**	**3.92**	**280**	P	**Pn**	**08 14 35.6**	**+0.5**
SRS	**Serrai**	**4.04**	**31**	*e*Pn	**Pn**	**08 14 38.8**	**+2.0**
IDI	**Anoyia**	**4.08**	**125**	Pn	**Pn**	**08 14 38.4**	**+1.1**
	comp=N,3.1nm,0.4s,baz=111,slow=14,SNR=1.2						
IDI				Sn	**Sn**	**08 15 23.9**	**-1.0**
	comp=N,3.4nm,0.3s,baz=310,slow=17,SNR=2.2						
MATE	**Matera**	**4.34**	**314**	⇑P	**Pn**	**08 14 43.2**	**+2.5**
PUK	**Puka**	**4.40**	**351**		**Pn**	**08 14 42.8**	**+1.1**
BCI	**Bajram Curri**	**4.70**	**353**	P	Pn	08 14 50.9	+5.1
BCI				S	**Sb**	**08 15 48.9**	**-5.1**
BCI				AMP			
	comp=E,0.6nm,0.6s,baz=351						
PDG	**Podgorica**	**4.88**	**346**		**Pn**	**08 14 48.9**	**+0.7**
PDG	**Podgorica**	**4.88**	**346**	*e*Pn	**Pn**	**08 14 47.9**	**-0.3**
PDG	**Podgorica**	**4.88**	**346**	⇑P	**Pn**	**08 14 48.9**	**+0.7**
BOSS	**Bosilegrad**	**4.97**	**14**	*e*Pn	**Pn**	**08 14 50.8**	**+1.4**
RDO	**Rodhopi**	**5.03**	**45**	Pn	**Pn**	**08 14 51.8**	**+1.5**
VAE	**Valguarnera**	**5.08**	**270**	Pn	Pn	08 14 55.6	+4.6
	comp=E,4.3nm,0.3s,baz=37,slow=23,SNR=1.4						
VAE				Sn	**Sn**	**08 15 51.0**	**+1.4**
	comp=E,5.6nm,0.3s,baz=190,slow=20,SNR=4.1						
ALN	**Alexandroupoli**	**5.17**	**50**	Pn	**Pn**	**08 14 53.9**	**+1.6**
BARS	**Barje**	**5.18**	**8**	*e*Pn	**Pn**	**08 14 53.2**	**+0.9**
VTS	**Vitosha**	**5.26**	**20**	*e*Pn	**Pn**	**08 14 55.9**	**+2.3**
TREB	**Trebinje**	**5.36**	**340**	*e*Pn	**Pn**	**08 14 53.5**	**-1.3**
WDD	**Wied Dalam**	**5.37**	**252**		**Pn**	**08 14 53.0**	**-1.9**
BRY	**Bratogost**	**5.48**	**342**	*e*Pn	**Pn**	**08 14 59.4**	**+2.8**
SELS	**Selova**	**5.53**	**2**	*e*Pn	**Pn**	**08 14 57.8**	**+0.7**
SELS				*e*Sn	**Sn**	**08 16 00.7**	**+0.2**
SJES	**Sjenica**	**5.60**	**354**	*e*Pn	**Pn**	**08 14 59.0**	**+0.8**
SJES				*e*Sn	**Sn**	**08 16 04.4**	**+2.0**
SJES	**Sjenica**	**5.60**	**354**	*e*Pn	**Pn**	**08 14 58.6**	**+0.4**
STON	**Ston**	**5.69**	**336**	*e*Pn	**Pn**	**08 14 56.9**	**-2.4**
UPM	**Unac-Piva**	**5.69**	**346**	*e*Pn	**Pn**	**08 14 59.6**	**+0.1**
ZAPS	**Zavoj**	**5.75**	**13**	*e*Pn	**Pn**	**08 15 02.3**	**+2.1**
IVAS	**Ivanjica**	**5.90**	**355**	*e*Pn	**Pn**	**08 15 03.2**	**+0.9**
BOVS	**Bovan**	**5.98**	**6**	⇑P	**Pn**	**08 15 04.1**	**+0.8**
RUDO	**Rudo**	**6.02**	**350**	*e*Pn	**Pn**	**08 15 05.1**	**+1.2**
GRUS	**Gruza**	**6.19**	**359**	*e*Pn	**Pn**	**08 15 07.0**	**+0.8**
GRUS				*e*Sn	**Sn**	**08 16 19.6**	**+2.8**
ZAGS	**Zajecar**	**6.21**	**10**	*e*Pn	**Pn**	**08 15 09.1**	**+2.7**
BBLS	**Lazi&#263i**	**6.26**	**351**	*e*Pn	**Pn**	**08 15 06.4**	**-0.8**
BBLS				*e*Sn	**Sn**	**08 16 17.2**	**-1.4**
BBLS	**Lazi&#263i**	**6.26**	**351**	*e*Pn	**Pn**	**08 15 11.9**	**+4.7**
DIVS	**Divibare**	**6.43**	**355**	*e*Pn	**Pn**	**08 15 10.7**	**+1.1**
DIVS				*e*Sn	**Sn**	**08 16 22.2**	**-0.6**
ELND	**Elena**	**6.51**	**35**	⇑P	**Pn**	**08 15 12.8**	**+2.3**
TRUS	**Trudelj**	**6.53**	**357**	*e*Pn	**Pn**	**08 15 10.1**	**-0.8**
HAPS	**Han Pijesak,BI**	**6.54**	**348**	*e*Pn	**Pn**	**08 15 11.9**	**+0.8**
HERR	**Herculane**	**7.28**	**9**	⇓P	**Pn**	**08 15 22.4**	**+1.2**
A050A	**Klekovaca**	**7.51**	**336**	*e*Pn	**Pn**	**08 15 23.8**	**-0.6**
BLY	**Banja Luka**	**7.56**	**340**	*e*Pn	**Pn**	**08 15 24.9**	**-0.1**
NRCA	**Norcia**	**7.80**	**314**		**Pn**	**08 15 30.5**	**+2.1**
GZR	**Gura Zlata**	**7.83**	**10**	⇑P	**Pn**	**08 15 29.2**	**+0.4**
A051A	**Mrakovica**	**7.88**	**339**	*e*Pn	**Pn**	**08 15 25.5**	**-3.9**
BZS	**Buzias**	**7.94**	**4**	⇑P	**Pn**	**08 15 30.8**	**+0.6**
FDMO	**Fiordimonte**	**7.95**	**315**	Pn	**Pn**	**08 15 32.6**	**+2.2**
VOIR		**8.37**	**21**	⇑P	**Pn**	**08 15 37.0**	**+0.9**
MLR	**Muntele Rosu**	**8.69**	**25**	Pn	**Pn**	**08 15 41.5**	**+0.9**
	comp=E,0.2nm,0.3s,baz=172,slow=11,SNR=2.2						
MLR				LR	LR	08 19 15.0	
	comp=E,115nm,19.4s,baz=210,slow=39						
	comp=E,2.9nm,0.8s						
MLR	**Muntele Rosu**	**8.69**	**25**	⇑P	**Pn**	**08 15 41.7**	**+1.1**
MLR	**Muntele Rosu**	**8.69**	**25**	P	**Pn**	**08 15 42.0**	**+1.4**
	comp=E,13nm,1.5s						
CRES	**Cresnjevec Ost**	**9.05**	**336**	*e*Pn	**Pn**	**08 15 40.9**	**-4.6**
PLOR	**Plostina**	**9.24**	**26**	⇓P	**Pn**	**08 15 49.2**	**+1.0**
PLOR5	**Plostina Array**	**9.24**	**26**	P	**Pn**	**08 15 49.6**	**+1.5**
	comp=E,11nm,1.0s						
PLOR3	**Plostina Array**	**9.25**	**26**	P	**Pn**	**08 15 50.7**	**+2.5**
	comp=E,13nm,1.3s						
VRI	**Vrincioaia**	**9.29**	**27**	⇓P	**Pn**	**08 15 49.9**	**+1.2**
VRI	**Vrincioaia**	**9.29**	**27**	P	**Pn**	**08 15 50.2**	**+1.5**
	comp=E,9.7nm,0.6s						
CEY	**Cerknica**	**9.34**	**331**	*e*Pn	**Pn**	**08 15 45.8**	**-3.7**
KEST	**Kesra**	**9.40**	**261**	Pn	**Pn**	**08 15 54.7**	**+4.3**
	comp=E,0.1nm,0.3s,baz=45,slow=19,SNR=2.2						
KEST				Sn	**Sn**	**08 17 34.0**	**-2.1**
	comp=E,0.2nm,0.3s,baz=51,slow=20,SNR=1.5						
	comp=E,2.9nm,0.7s						
SOKA	**Soboth**	**9.94**	**336**	*i* Pn	**Pn**	**08 15 57.4**	**-0.3**
	comp=E,6.1nm,0.6s						
OBKA	**Obir**	**9.96**	**334**	*i* Pn	**Pn**	**08 15 58.5**	**+0.6**
	comp=E,2.0nm,0.5s						
OBKA	**Obir**	**9.96**	**334**	*e*Pn	**Pn**	**08 15 57.7**	**-0.2**
BRTR	**Keskin Array B**	**10.24**	**75**	Pn	**Pn**	**08 16 06.3**	**+4.4**
	comp=E,0.1nm,0.3s,baz=263,slow=12,SNR=2.9						
BRTR				LR	LR	08 20 02.2	
	comp=E,97nm,20.7s,baz=284,slow=38						
	comp=E,0.6nm,0.5s						
VYHS	**Vyhne**	**10.89**	**353**	*e*PN	Pn	08 16 04.5	-6.1
ABTA	**Abfaltersbach**	**10.93**	**328**	*i* Pn	Pn	08 16 16.4	+5.1
	comp=E,3.0nm,0.6s						
MOA	**Molln**	**11.22**	**337**	*i* Pn	**Pn**	**08 16 15.9**	**+0.7**
	comp=E,0.4nm,0.2s						
STNU	**Starunia**	**11.34**	**13**	P	**Pn**	**08 16 19.6**	**+2.9**
LESA	**Schwarzleotal**	**11.41**	**331**	*i* Pn	**Pn**	**08 16 18.9**	**+1.1**
	comp=E,3.0nm,0.3s						
DAVOX	**Davos/Dischmat**	**12.15**	**322**	Pn	**Pn**	**08 16 31.5**	**+3.4**
	comp=E,0.2nm,0.3s,baz=332,slow=20,SNR=1.5						
DAVOX				Sn	**Sn**	**08 18 39.7**	**-3.8**
	comp=E,0.3nm,0.3s,baz=127,slow=19,SNR=2.7						
	comp=E,0.9nm,0.4s						
MMAI	**Mount Meron Ar**	**12.80**	**107**	Pn	**Pn**	**08 16 35.5**	**-1.3**
	comp=E,0.8nm,0.3s,baz=288,slow=15,SNR=1.8						
	comp=E,0.9nm,0.4s						
LUBAR	**Lubar, Ukraine**	**13.21**	**20**	P	**Pn**	**08 16 44.2**	**+2.0**
AK07	**Malin Array Si**	**14.19**	**22**	P	**Pn**	**08 16 58.9**	**+3.3**
AK13	**Malin Array Si**	**14.20**	**22**	P	**Pn**	**08 16 59.0**	**+3.2**
AK06	**Malin Array Si**	**14.22**	**22**	P	**Pn**	**08 16 59.3**	**+3.3**
AK14	**Malin Array Si**	**14.23**	**22**	P	**Pn**	**08 16 59.0**	**+2.8**
AK10	**Malin Array Si**	**14.24**	**22**	P	**Pn**	**08 16 58.4**	**+2.0**
AK05	**Malin Array Si**	**14.25**	**22**	P	**Pn**	**08 16 58.1**	**+1.6**
AK09	**Malin Array Si**	**14.27**	**22**	P	**Pn**	**08 16 59.2**	**+2.5**
KIEV	**Kiev**	**14.31**	**22**	P	**Pn**	**08 16 58.5**	**+1.1**
	comp=E,35nm,2.0s						
AKASG	**Malin Array Be**	**14.32**	**22**	Pn	**P**	**08 17 01.4**	**-3.2**
AKASG	**Malin Array Be**	**14.32**	**22**	Pn	**Pn**	**08 16 58.0**	**+0.5**
	comp=E,0.5nm,0.3s,baz=213,slow=11,SNR=5.4						
AKASG				LR	LR	08 23 38.2	
	comp=E,135nm,20.5s,baz=222,slow=42						
	comp=E,0.3nm,0.4s						
AK04	**Malin Array Si**	**14.33**	**22**	P	**Pn**	**08 16 58.7**	**+1.2**
AK22	**Malin Array Si**	**14.33**	**22**	P	**Pn**	**08 16 58.8**	**+1.2**
NACGM	**Naroch**	**17.69**	**11**	*e*P	**P**	**08 17 42.7**	**+0.8**
	comp=Z,11nm,0.9s,baz=196						
KBZ	**Khabaz**	**17.78**	**63**	P	**P**	**08 17 45.0**	**+2.0**
	comp=Z,1.6nm,0.8s,baz=304,slow=7.3,SNR=2.2						
GNI	**Garni**	**18.78**	**75**	LR	LR	08 25 16.6	
	comp=Z,50nm,20.6s,baz=290,slow=37						
ESDC	**Sonseca Array**	**19.42**	**284**	P	**Pn**	**08 18 03.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=78,slow=11,SNR=5.4						
	comp=Z,2.0nm,1.1s						
HFS	**Hagfors**	**22.91**	**351**	P	**P**	**08 18 38.9**	**+0.4**
	comp=Z,4.3nm,0.5s,baz=154,slow=11,SNR=26						
	comp=Z,4.3nm,0.5s						
EKA	**Eskdalemuir Ar**	**23.95**	**325**	P	**P**	**08 18 49.5**	**+0.6**
	comp=Z,3.6nm,0.6s,baz=128,slow=11,SNR=11						
	comp=Z,3.6nm,0.6s						
ESK	**Eskdalemuir**	**23.96**	**325**	P	**P**	**08 18 51.2**	**+2.2**
FINES	**FINESS Array B**	**24.00**	**6**	P	**P**	**08 18 49.9**	**+0.6**
FINES	**FINESS Array B**	**24.00**	**6**	P	**P**	**08 18 49.7**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=168,slow=9.8,SNR=7.1						
	comp=Z,2.1nm,0.7s						
NC405	**NORSAR Array S**	**24.13**	**349**	P	**P**	**08 18 50.0**	**-0.5**
NC405				IAmb	IAmb	08 19 08.5	
	comp=Z,14nm,1.1s						
NB2	**NORSAR Subarra**	**24.14**	**349**	P	**P**	**08 18 50.6**	**0.0**
	comp=Z,3.3nm,0.8s,baz=161,slow=9.3						
NOA	**NORSAR Array B**	**24.14**	**349**	P	**P**	**08 18 50.8**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=156,slow=8.9,SNR=7.5						
	comp=Z,1.4nm,0.8s						
AKTO	**Aktyubinsk**	**29.30**	**52**	P	**P**	**08 19 36.4**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=277,slow=10,SNR=6.2						
	comp=Z,2.2nm,0.6s						
TORD	**Torodi Ar. B

LDUT	**Ludao**	**0.33**	**199**	*i* P	**Pn**	**08 21 18.8**	**+1.9**
LDUT				*i* S	**Sn**	**08 21 25.5**	**+3.0**
FULB	**Fuli**	**0.34**	**309**	*i* P	**Pn**	**08 21 18.1**	**+0.9**
FULB				*e*S	**Sn**	**08 21 24.4**	**+1.4**
ECBN	**Changbin**	**0.36**	**340**	*e*P	**Pn**	**08 21 19.2**	**+1.9**
ECBN				S	**Sn**	**08 21 25.3**	**+2.1**
ECS	**Chishang**	**0.36**	**289**	P	**Pn**	**08 21 18.0**	**+0.7**
ECS				*i* S	**Sn**	**08 21 23.8**	**+0.4**
EHD	**Haiduan**	**0.39**	**295**	*i* P	**Pb**	**08 21 17.6**	**+0.4**
EHD				*e*S	**Sb**	**08 21 22.5**	**-0.9**
LONT	**Longtian**	**0.43**	**260**	*e*P	**Pb**	**08 21 18.2**	**+0.3**
LONT				*e*S	**Sb**	**08 21 23.3**	**-1.1**
EYUL	**Yuli**	**0.44**	**326**	*i* P	**Pn**	**08 21 19.1**	**+0.6**
EYUL				*e*S	**Sn**	**08 21 26.4**	**+1.0**
TWF1	**Yuli**	**0.46**	**324**	*i* P	**Pn**	**08 21 18.9**	**+0.2**
TWF1				*e*S	**Sb**	**08 21 25.2**	**+0.1**
TTN	**Taitung**	**0.46**	**241**	*e*P	**Pn**	**08 21 19.4**	**+0.7**
TTN				*e*S	**Sn**	**08 21 27.6**	**+1.7**
YULB	**Yu-li**	**0.49**	**327**	P	**Pb**	**08 21 19.2**	**+0.4**
YULB	**Yu-li**	**0.49**	**327**	*i* P	**Pn**	**08 21 19.3**	**+0.2**
YULB				*e*S	**Sb**	**08 21 25.6**	**-0.3**
TWGBT	**Beinan**	**0.49**	**251**	P	**Pb**	**08 21 18.7**	**-0.2**
TWGBT	**Beinan**	**0.49**	**251**	*i* P	**Pb**	**08 21 18.9**	**0.0**
TWGBT				*e*S	**Sb**	**08 21 24.9**	**-1.2**
TWG	**Pinlang**	**0.50**	**251**	*i* P	**Pb**	**08 21 18.8**	**-0.1**
TWG				*e*S	**Sb**	**08 21 24.2**	**-2.0**
HGSD	**Ruisui**	**0.53**	**344**	*e*P	**Pn**	**08 21 22.0**	**+2.3**
HGSD				*e*S	**Sn**	**08 21 29.9**	**+2.4**
EHYH	**Wanrong**	**0.56**	**337**	*e*P	**Pn**	**08 21 20.5**	**+0.4**
EHYH				*e*S	**Sb**	**08 21 27.6**	**-0.1**
ELDTW	**Lidau**	**0.56**	**292**	*i* P	**Pb**	**08 21 19.6**	**-0.5**
ELDTW				*e*S	**Sb**	**08 21 25.7**	**-2.3**
EHY	**Hungye**	**0.58**	**335**	*i* P	**Pn**	**08 21 20.5**	**+0.2**
EHY				*e*S	**Sb**	**08 21 27.6**	**-0.7**
ECL	**Taimali**	**0.70**	**237**	*i* P	**Pb**	**08 21 21.2**	**-1.0**
ECL				*e*S	**Sb**	**08 21 29.3**	**-2.2**
EGFH	**Guangfu**	**0.70**	**348**	*e*P	**Pn**	**08 21 22.7**	**+0.7**
EGFH				*e*S	**Sb**	**08 21 31.8**	**+0.1**
TEGC	**Jichi Village**	**0.72**	**357**	*e*P	**Pn**	**08 21 23.6**	**+1.2**
TEGC				*e*S	**Sn**	**08 21 35.0**	**+2.6**
WARBT	**Fenglin Townsh**	**0.76**	**346**	*e*P	**Pb**	**08 21 23.1**	**-0.1**
WARBT				*e*S	**Sb**	**08 21 32.0**	**-1.2**
STYH	**Taoyuan**	**0.77**	**284**	*i* P	**Pb**	**08 21 23.0**	**-0.4**
STYH				*e*S	**Sb**	**08 21 31.6**	**-2.0**
SHUL	**Shoufeng**	**0.80**	**358**	P	**Pn**	**08 21 25.3**	**+1.8**
SHUL				*i* S	**Sn**	**08 21 36.2**	**+1.9**
ESL	**Shilin**	**0.84**	**350**	*e*P	**Pb**	**08 21 26.0**	**+1.4**
ESL				*e*S	**Sb**	**08 21 34.1**	**-1.5**
VWDT	**VWDT**	**0.87**	**332**	P	**Pb**	**08 21 25.3**	**+0.3**
VWDT				*e*S	**Sb**	**08 21 35.6**	**-0.9**
TEYL	**Yanliau Villag**	**0.88**	**1**	*e*P	**Pb**	**08 21 28.1**	**+2.9**
TEYL				*e*S	**Sn**	**08 21 40.8**	**+4.5**
TAW	**Tawu**	**0.89**	**226**	*i* P	**Pn**	**08 21 24.5**	**-0.1**
TAW				*e*S	**Sb**	**08 21 34.8**	**-2.2**
ALS	**Alishan**	**0.89**	**306**	*i* P	**Pb**	**08 21 25.8**	**+0.2**
ALS				*i* S	**Sb**	**08 21 36.5**	**-0.8**
EAST	**Anshuo**	**0.91**	**229**	*e*P	**Pn**	**08 21 24.6**	**-0.3**
EAST				*e*S	**Sn**	**08 21 35.7**	**-1.2**
TAWH	**Dawu Township**	**0.91**	**225**	*e*P	**Pn**	**08 21 24.7**	**-0.2**
TAWH				*e*S	**Sn**	**08 21 35.6**	**-1.3**
TSMG	**Majia**	**0.91**	**253**	*e*P	**Pn**	**08 21 23.9**	**-1.0**
TSMG				*e*S	**Sn**	**08 21 34.2**	**-2.8**
SGST	**Jiashian**	**0.93**	**276**	*i* P	**Pn**	**08 21 25.1**	**-0.1**
SGST				*i* S	**Sn**	**08 21 36.2**	**-1.2**
TPUB	**Ta-pu**	**0.94**	**290**	P	**Pn**	**08 21 26.1**	**+0.8**
TPUB	**Ta-pu**	**0.94**	**290**	P	**Pn**	**08 21 26.1**	**+0.8**
TPUB				*i* S	**Sn**	**08 21 38.0**	**+0.4**
LAY	**Lan-yu**	**0.94**	**182**	*i* P	**Pb**	**08 21 27.0**	**+0.7**
LAY				S	**Sb**	**08 21 39.2**	**+0.8**
MASBT	**Mashibuluo**	**0.95**	**247**	*i* P	**Pn**	**08 21 25.6**	**+0.1**
MASBT				*e*S	**Sn**	**08 21 36.1**	**-1.9**
LYUB	**Lan-yu**	**0.97**	**180**	*e*P	**Pb**	**08 21 26.9**	**+0.1**
LYUB				*e*S	**Sn**	**08 21 38.7**	**+0.1**
WHYT	**Xinyi Township**	**0.98**	**317**	*i* P	**Pb**	**08 21 27.3**	**+0.4**
WHYT				*i* S	**Sn**	**08 21 38.7**	**-0.1**
ETM	**Tongmen**	**0.98**	**355**	*e*P	**Pn**	**08 21 25.9**	**-0.1**
ETM				*e*S	**Sn**	**08 21 38.4**	**-0.4**
CHN4	**Tsaushan**	**0.98**	**292**	*e*P	**Pb**	**08 21 27.1**	**+0.2**
CHN4				*e*S	**Sn**	**08 21 40.0**	**+1.2**
SSLB	**Suanglung**	**0.99**	**324**	P	**Pb**	**08 21 27.0**	**-0.1**
SSLB	**Suanglung**	**0.99**	**324**	*i* P	**Pb**	**08 21 27.1**	**-0.1**
SSLB				*e*S	**Sn**	**08 21 38.2**	**-0.8**
CHN1	**Nanshi**	**0.99**	**282**	*e*P	**Pb**	**08 21 27.2**	**+0.1**
CHN1				*i* S	**Sn**	**08 21 39.1**	**0.0**
WCKO	**Fanlu**	**1.01**	**297**	*i* P	**Pb**	**08 21 27.5**	**+0.1**
WCKO				*e*S	**Sb**	**08 21 41.1**	**+0.7**
SCST	**Cishan**	**1.01**	**265**	*e*P	**Pb**	**08 21 27.9**	**+0.5**
SCST				*e*S	**Sn**	**08 21 40.1**	**+0.6**
SNST	**Tainan City**	**1.03**	**284**	*e*P	**Pb**	**08 21 27.9**	**+0.1**
SNST				*e*S	**Sn**	**08 21 40.8**	**+0.8**
CHN5	**Tsauling**	**1.04**	**306**	*e*S	**Sn**	**08 21 40.3**	**+0.1**
OWD	**Renai**	**1.04**	**339**	*e*P	**Pb**	**08 21 27.6**	**-0.3**
OWD				*e*S	**Sn**	**08 21 39.1**	**-1.3**
LXIB	**Xiulin Townshi**	**1.05**	**351**	*i* P	**Pn**	**08 21 27.4**	**+0.4**
LXIB				*e*S	**Sn**	**08 21 39.1**	**-1.5**
TWK	**Hsinying**	**1.05**	**286**	*e*P	**Pn**	**08 21 28.0**	**+1.1**
TWK				*e*S	**Sn**	**08 21 41.1**	**+0.6**
SLIU	**Shizi**	**1.05**	**224**	*e*P	**Pn**	**08 21 26.8**	**-0.1**
SLIU				*e*S	**Sb**	**08 21 43.7**	**+2.1**
SCZT	**Fangliau**	**1.08**	**236**	*e*P	**Pn**	**08 21 27.7**	**+0.4**
SCZT				*e*S	**Sn**	**08 21 42.2**	**+1.1**
TWM1	**Shoushan**	**1.08**	**262**	*e*P	**Pb**	**08 21 30.1**	**+1.4**
TWM1				*e*S	**Sb**	**08 21 43.5**	**+1.0**
TWD	**Chiawan**	**1.09**	**0**	*e*P	**Pb**	**08 21 28.7**	**-0.1**
TWD				*e*S	**Sn**	**08 21 40.5**	**-1.0**
WUSB	**Renai**	**1.09**	**337**	*i* P	**Pb**	**08 21 28.9**	**0.0**
WUSB				*e*S	**Sn**	**08 21 40.8**	**-0.9**
SMLT	**Sun Moon Lake**	**1.10**	**325**	*i* P	**Pn**	**08 21 28.1**	**+0.5**
SMLT				*e*S	**Sn**	**08 21 40.7**	**-1.0**
CHN3	**Shinhua**	**1.13**	**275**	*e*P	**Pb**	**08 21 31.1**	**+1.7**
CHN3				*e*S	**Sb**	**08 21 45.6**	**+1.8**
TYC	**Yuchr**	**1.14**	**324**	*e*P	**Pb**	**08 21 29.9**	**+0.4**
TYC				*e*S	**Sb**	**08 21 44.5**	**+0.5**
SHHT	**Tainan City**	**1.14**	**272**	*e*S	**Sb**	**08 21 45.2**	**+1.1**
WJS	**Zhushan**	**1.15**	**317**	*e*P	**Pb**	**08 21 30.2**	**+0.5**
WJS				*e*S	**Sb**	**08 21 44.9**	**+0.5**
CHN2	**Minshiung**	**1.16**	**298**	*e*P	**Pb**	**08 21 30.1**	**+0.2**
CHN2				*e*S	**Sb**	**08 21 46.4**	**+1.7**
ETL	**Fush Village**	**1.17**	**2**	*e*P	**Pb**	**08 21 30.3**	**+0.1**
ETL				*e*S	**Sn**	**08 21 43.9**	**+0.4**
WGK	**Gukeng**	**1.17**	**307**	*e*P	**Pb**	**08 21 30.4**	**+0.4**
WGK				*e*S	**Sb**	**08 21 45.2**	**+0.1**
SNJT	**Kaohsiung City**	**1.18**	**259**	P	**Pn**	**08 21 29.6**	**+1.0**
SNJT				*e*S	**Sb**	**08 21 47.3**	**+2.2**
SMST	**Manzhou Townsh**	**1.18**	**216**	*e*P	**Pn**	**08 21 29.1**	**+0.5**
SMST				S	**Sn**	**08 21 43.5**	**-0.1**
CHY	**Chiayi**	**1.19**	**296**	*e*P	**Pb**	**08 21 30.1**	**-0.2**
CHY				*e*S	**Sn**	**08 21 45.2**	**+1.4**
NACB	**Ninganchiao**	**1.19**	**0**	P	**Pb**	**08 21 29.7**	**-0.7**
NACB	**Ninganchiao**	**1.19**	**0**	*e*P	**Pn**	**08 21 29.5**	**+0.8**
NACB				*e*S	**Sn**	**08 21 43.5**	**-0.3**
WDLH	**Douliu**	**1.19**	**306**	*e*P	**Pn**	**08 21 29.6**	**+0.8**
WDLH				*i* S	**Sn**	**08 21 44.2**	**+0.3**
WHF	**Hehuan Shan**	**1.20**	**346**	*e*P	**Pn**	**08 21 30.0**	**+0.7**
WHF				*e*S	**Sn**	**08 21 44.0**	**-0.6**
SSHA	**Shanhua**	**1.21**	**278**	*e*S	**Sn**	**08 21 44.4**	**+0.1**
WDL	**Douliou City**	**1.21**	**307**	*e*S	**Sn**	**08 21 44.9**	**+0.5**
WNT	**Mingjian**	**1.22**	**317**	*e*P	**Pb**	**08 21 31.1**	**+0.2**
WNT				*e*S	**Sb**	**08 21 46.1**	**-0.2**
ETLH	**Xiulin Townshi**	**1.22**	**356**	*e*P	**Pn**	**08 21 29.9**	**+0.6**
ETLH				*e*S	**Sn**	**08 21 43.9**	**-1.0**
WCS	**Beigang Elemen**	**1.24**	**330**	*i* P	**Pb**	**08 21 31.2**	**0.0**
WCS				*e*S	**Sn**	**08 21 44.8**	**-0.2**
HEN	**Hengchun**	**1.25**	**219**	*e*P	**Pb**	**08 21 31.4**	**0.0**
HEN				*e*S	**Sn**	**08 21 46.5**	**+1.2**
TWKBT	**Hengchun**	**1.26**	**215**	*i* P	**Pn**	**08 21 30.7**	**+0.9**
TWKBT				S	**Sn**	**08 21 46.1**	**+0.5**
ICHU	**Yijhu**	**1.26**	**288**	*e*P	**Pn**	**08 21 30.9**	**+1.2**
ICHU				*e*S	**Sn**	**08 21 45.7**	**+0.1**
TWK1	**Hengchun**	**1.26**	**215**	*e*P	**Pn**	**08 21 30.6**	**+0.8**
TWK1				S	**Sn**	**08 21 45.7**	**+0.1**
WSSB	**Gushan**	**1.27**	**255**	*e*P	**Pb**	**08 21 33.6**	**+1.9**
WSSB				*e*S	**Sb**	**08 21 50.0**	**+2.2**
SCLT	**Jiali**	**1.30**	**279**	*e*P	**Pn**	**08 21 30.7**	**+0.5**
SCLT				*e*S	**Sn**	**08 21 47.7**	**+1.2**
FUSS	**Fushou**	**1.30**	**346**	*e*P	**Pb**	**08 21 32.3**	**-0.1**
FUSS				*e*S	**Sn**	**08 21 47.2**	**+0.2**
WTK	**Tuku**	**1.31**	**303**	*i* P	**Pn**	**08 21 31.5**	**+1.1**
WTK				*i* S	**Sn**	**08 21 46.5**	**-0.2**
CHN8	**Yiju**	**1.32**	**286**	*e*S	**Sn**	**08 21 47.5**	**+0.5**
EOS4	**EOS4**	**1.32**	**30**	P	**Pb**	**08 21 33.2**	**+0.9**
EOS4				S	**Sb**	**08 21 50.0**	**+1.2**
TWT	**Tachien**	**1.32**	**344**	*e*P	**Pb**	**08 21 32.6**	**-0.1**
TWT				*e*S	**Sn**	**08 21 47.3**	**-0.1**
TDCB	**Techi**	**1.32**	**343**	*e*P	**Pb**	**08 21 32.9**	**+0.1**
TDCB				*e*S	**Sn**	**08 21 47.2**	**-0.3**
WWF	**Wufeng**	**1.33**	**323**	*e*P	**Pb**	**08 21 33.0**	**+0.1**
WWF				*e*S	**Sb**	**08 21 49.6**	**0.0**
WYL	**Yuanlin Townsh**	**1.34**	**317**	P	**Pn**	**08 21 32.2**	**+1.3**
WYL				*e*S	**Sb**	**08 21 49.8**	**-0.1**
EAHA	**Aohua**	**1.35**	**6**	*e*P	**Pb**	**08 21 35.1**	**+2.0**
EAHA				*e*S	**Sb**	**08 21 52.0**	**+2.0**
WSL	**Shuilin Townsh**	**1.36**	**294**	*e*P	**Pn**	**08 21 32.0**	**+0.9**
WSL				*i* S	**Sn**	**08 21 47.7**	**-0.4**
TSCK	**Chigu Township**	**1.39**	**277**	*e*P	**Pn**	**08 21 32.9**	**+1.3**
TSCK				*i* S	**Sn**	**08 21 48.7**	**-0.1**
WSF	**Szhu**	**1.41**	**298**	*e*P	**Pn**	**08 21 32.1**	**+0.2**
WSF				*e*S	**Sn**	**08 21 48.1**	**-1.3**
WHP	**Taichung City**	**1.42**	**336**	*e*P	**Pb**	**08 21 35.0**	**+0.7**
WHP				*e*S	**Sb**	**08 21 52.3**	**+0.2**
TCU	**Taichung**	**1.43**	**324**	*e*P	**Pb**	**08 21 35.7**	**+1.2**
TCU				*e*S	**Sb**	**08 21 52.4**	**+0.1**
WCHH	**Zhanghua**	**1.44**	**319**	*e*P	**Pb**	**08 21 35.8**	**+1.1**
WCHH				*e*S	**Sb**	**08 21 52.0**	**-0.7**
ENA	**Nanau**	**1.45**	**6**	*e*P	**Pb**	**08 21 34.7**	**-0.1**
ENA				*e*S	**Sn**	**08 21 50.4**	**+0.2**
NNSB	**Datong**	**1.45**	**353**	*i* P	**Pb**	**08 21 34.1**	**-0.8**
NNSB				*e*S	**Sn**	**08 21 49.9**	**-0.6**
NNSH	**Datong**	**1.45**	**353**	P	**Pb**	**08 21 33.8**	**-1.1**
NNSH				*e*S	**Sn**	**08 21 49.7**	**-0.9**
EOS3	**EOS3**	**1.46**	**27**	P	**Pb**	**08 21 35.6**	**+0.7**
EOS3				*e*S	**Sb**	**08 21 54.4**	**+1.3**
NNS	**Nan Shan**	**1.47**	**352**	*e*P	**Pb**	**08 21 35.7**	**+0.5**
NNS				*e*S	**Sn**	**08 21 51.4**	**+0.6**
EWUT	**Wuta**	**1.47**	**7**	*e*P	**Pb**	**08 21 35.1**	**0.0**
EWUT				*e*S	**Sb**	**08 21 52.6**	**-0.8**
EOS2	**EOS2**	**1.55**	**22**	*e*P	**Pb**	**08 21 37.1**	**+0.7**
LATG	**Datong**	**1.55**	**358**	*e*P	**Pb**	**08 21 36.7**	**+0.2**
LATG				*e*S	**Sn**	**08 21 53.4**	**+0.5**
TWQ1	**Liyutan**	**1.55**	**331**	*e*P	**Pb**	**08 21 36.7**	**+0.2**
TWQ1				*e*S	**Sb**	**08 21 55.2**	**-0.6**
ESAO	**Su ao**	**1.60**	**8**	*e*P	**Pb**	**08 21 38.2**	**+0.7**
WDJ	**Dajia District**	**1.61**	**328**	*e*S	**Sb**	**08 21 57.8**	**+0.2**
NSY	**Sanyi**	**1.62**	**332**	*e*P	**Pb**	**08 21 37.9**	**+0.3**
NSY				*e*S	**Sb**	**08 21 58.0**	**+0.3**
TWC	**Suao**	**1.64**	**8**	*e*P	**Pb**	**08 21 37.4**	**-0.6**
TWC				*e*S	**Sb**	**08 21 57.7**	**-0.6**
NDS	**Dongshan**	**1.65**	**4**	P	**Pb**	**08 21 37.1**	**-1.0**
NDS				*e*S	**Sn**	**08 21 55.4**	**+0.2**
ENTT	**Nioudou**	**1.65**	**359**	P	**Pb**	**08 21 37.1**	**-1.1**
ENTT				*e*S	**Sn**	**08 21 56.0**	**+0.7**
YHNB	**Yeheng**	**1.69**	**353**	P	**Pb**	**08 21 38.1**	**-0.9**
YHNB	**Yeheng**	**1.69**	**353**	*i* P	**Pb**	**08 21 38.0**	**-1.0**
YHNB				*i* S	**Sn**	**08 21 57.4**	**+1.0**
NFF	**Wufeng Townshi**	**1.70**	**345**	*e*P	**Pb**	**08 21 39.0**	**-0.1**
NFF				*e*S	**Sb**	**08 21 59.2**	**-0.9**
NSK	**Sanguang**	**1.70**	**353**	*e*P	**Pb**	**08 21 38.2**	**-0.9**
NSK				*e*S	**Sn**	**08 21 57.0**	**+0.4**
NMLH	**Miaoli**	**1.71**	**335**	*e*P	**Pb**	**08 21 39.7**	**+0.5**
NMLH				*e*S	**Sb**	**08 21 59.2**	**-1.2**
NSTT	**Nanjuang**	**1.73**	**342**	*e*P	**Pb**	**08 21 39.7**	**+0.2**
NSTT				*e*S	**Sn**	**08 21 59.1**	**+1.9**
TWE	**Neicheng**	**1.73**	**2**	*e*P	**Pb**	**08 21 40.8**	**+1.2**
TWE				*e*S	**Sb**	**08 21 59.4**	**-1.6**
LIOB	**Emei**	**1.74**	**343**	*e*P	**Pb**	**08 21 39.0**	**-0.6**
LIOB				*e*S	**Sb**	**08 22 00.5**	**-0.7**
FUSB	**Fushanzhiwuyua**	**1.77**	**0**	*e*P	**Pb**	**08 21 39.2**	**-1.1**
FUSB				*e*S	**Sn**	**08 21 59.2**	**+0.9**
NWLT	**Wulai**	**1.79**	**358**	*i* P	**Pb**	**08 21 39.3**	**-1.3**
NWLT				*e*S	**Sn**	**08 21 59.5**	**+0.7**
WDGT	**Dungji**	**1.79**	**279**	*e*P	**Pn**	**08 21 37.3**	**+0.2**
WDGT				*e*S	**Sn**	**08 21 56.4**	**-2.4**
KSHI	**Guanxi Townshi**	**1.83**	**348**	*e*P	**Pb**	**08 21 41.6**	**+0.5**
KSHI				*e*S	**Sb**	**08 22 03.7**	**0.0**
EGS		**1.88**	**10**	*e*P	**Pb**	**08 21 43.2**	**+1.0**
EGS				*e*S	**Sb**	**08 22 04.3**	**-1.0**
SBCB	**Hsinchu**	**1.89**	**343**	*e*S	**Sb**	**08 22 04.4**	**-0.9**
HSN	**Hsinchu**	**1.90**	**343**	*e*S	**Sb**	**08 22 04.3**	**-1.5**
PHUB	**P'eng-hu**	**1.93**	**286**	P	**Pn**	**08 21 38.9**	**0.0**
PHUB				*e*S	**Sn**	**08 21 59.5**	**-2.6**
PNG	**Penghu**	**1.96**	**288**	*i* P	**Pn**	**08 21 39.5**	**+0.2**
PNG				*e*S	**Sn**	**08 22 00.1**	**-2.7**
YOJ	**Yonaguni jima**	**1.97**	**41**	P	**Pb**	**08 21 43.2**	**-0.4**
YOJ	**Yonaguni jima**	**1.97**	**41**	*e*P	**Pb**	**08 21 43.7**	**+0.1**
YOJ				*e*S	**Sb**	**08 22 07.4**	**-0.4**
YOJ	**Yonaguni jima**	**1.97**	**41**	*e*P	**Pb**	**08 21 43.5**	**-0.1**
YOJ				*e*S	**Sb**	**08 22 08.1**	**+0.4**
NHDH	**Xindian Distri**	**1.97**	**358**	*e*S	**Sn**	**08 22 04.9**	**+1.7**
TATO	**Taipei**	**1.99**	**357**	P	**Pb**	**08 21 42.6**	**-1.4**
TATO	**Taipei**	**1.99**	**357**	*e*P	**Pb**	**08 21 42.5**	**-1.4**
TWA	**Mucha**	**1.99**	**360**	*e*P	**Pn**	**08 21 39.7**	**-0.1**
TWA				*e*S	**Sn**	**08 22 02.6**	**-1.1**
TIPB	**Shuangxi**	**1.99**	**6**	*e*P	**Pb**	**08 21 43.2**	**-0.8**
VCHM	**Qimei**	**2.00**	**277**	*e*P	**Pn**	**08 21 40.0**	**+0.1**
VCHM				*e*S	**Sn**	**08 22 01.3**	**-2.6**
TWB1	**Santiao Chiao**	**2.05**	**10**	*e*P	**Pb**	**08 21 44.1**	**-0.8**
TWB1				*e*S	**Sb**	**08 22 09.2**	**-0.9**
NWF	**Wu-fen Shan**	**2.09**	**5**	*e*P	**Pb**	**08 21 44.0**	**-1.7**
NWF				S	**Sb**	**08 22 08.7**	**-2.6**
WFSB	**Wu-fen Shan**	**2.09**	**5**	*e*P	**Pb**	**08 21 45.7**	**+0.1**
WFSB				*e*S	**Sb**	**08 22 09.2**	**-1.9**
SXI1	**Grass Mountain**	**2.12**	**7**	*e*P	**Pb**	**08 21 45.7**	**-0.5**
SXI1				*e*S	**Sb**	**08 22 12.3**	**+0.1**
YM01	**YM01**	**2.15**	**360**	*e*P	**Pb**	**08 21 46.4**	**-0.4**
YM01				*i* S	**Sn**	**08 22 10.1**	**+2.3**
TWY	**Chenhua**	**2.28**	**0**	*e*S	**Sb**	**08 22 15.3**	**-1.5**
HATJ	**Hateruma jima**	**2.30**	**62**	P	**Pb**	**08 21 48.1**	**-1.2**
HATJ				S	**Sb**	**08 22 15.4**	**-1.9**
IRIF	**Iriomote-Funau**	**2.38**	**55**	P	**Pb**	**08 21 49.3**	**-1.3**
IRIF				S	**Sb**	**08 22 18.6**	**-1.1**
JKRS	**Kuro-shima**	**2.55**	**60**	S	**Sb**	**08 22 22.1**	**-2.3**
JIJ	**Ishigaki jima**	**2.72**	**59**	P	**Pb**	**08 21 53.5**	**-2.8**
JIJ				S	**Sb**	**08 22 25.0**	**-4.2**
VWUC	**VWUC**	**2.80**	**316**	P	**Pn**	**08 21 51.1**	**+0.2**
VWUC				*e*S	**Sn**	**08 22 20.7**	**-2.9**
JISG	**Ishigakijimahi**	**2.96**	**57**	P	**Pn**	**08 21 56.5**	**+3.4**
JISG				S	**Sn**	**08 22 30.9**	**+3.3**
PTMZ	**Houxiangcun**	**3.05**	**313**	P	**Pn**	**08 21 54.7**	**+0.3**
PTMZ				*e*S	**Sn**	**08 22 27.1**	**-2.6**
KNM	**Kinmen**	**3.22**	**297**	P	**Pn**	**08 21 58.5**	**+1.7**
KNM				*e*S	**Sn**	**08 22 33.7**	**-0.4**
KNMB	**Chin-men Tao**	**3.28**	**297**	*e*P	**Pn**	**08 21 57.0**	**-0.6**
KNMB				*e*S	**Sn**	**08 22 31.7**	**-3.8**
JTJ	**Tarama**	**3.30**	**59**	*e*S	**Sb**	**08 22 40.6**	**-5.3**
MATB	**Ma-tsu**	**3.49**	**335**	*e*P	**Pn**	**08 22 00.7**	**+0.2**
MATB				*e*S	**Sn**	**08 22 38.9**	**-1.8**
ZPLA	**Ao Xicun**	**3.65**	**286**	*e*P	**Pn**	**08 22 04.8**	**+2.2**
ZPLA				S	**Sn**	**08 22 43.1**	**-1.4**
MHZQ	**Yeshan**	**3.88**	**324**	*e*P	**Pn**	**08 22 08.2**	**+2.4**
MHZQ				*e*S	**Sn**	**08 22 47.5**	**-2.8**
XPSS	**Dashiqiu**	**4.13**	**342**	*e*P	**Pn**	**08 22 10.0**	**+0.7**
SXFK	**Yanhouchang**	**4.94**	**314**	*e*P	**Pn**	**08 22 20.1**	**-0.3**

UPA ***21*** *08:24:21.4±2.5, 11°.07N×87°.13W, h10km, MW5.1*
IDC ***21*** *08:24:35.5±0.8, 11°.04N×85°.89W, h0km, mb4.1/8, mbtmp4.1/9, ML3.9/1, MS3.6/6, Error ellipse: s-maj=41.0km s-min=9.8km az=44.0*
UCR ***21*** *08:24:36.1±1.2, 10°.41N×86°.26W, h15km±5km, MW4.6*
NEIC ***21*** *08:24:36.1±2.8, 10°.48N±0°.03×86°.19W±0°.08, h10km±1km, mb4.6/143, Error ellipse: s-maj=13.7km s-min=3.0km az=248.0*
CATAC ***21*** *08:24:41.5±1.3, 11°.31N×85°.32W, h105km±11km, ML4.0*
SNET ***21*** *08:24:52.8±0.8, 11°.47N×86°.84W, h97km±145km, ML4.0*
ISC 21 08:24:38.6±0.7,**10°.45N**±0°.05×**86°.15W**±0°.06,**h39**km±2km,
n234, σ1§**64**/175,**mb4.5**/77,**MS3.7**/4,**21C-2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.59**	**109⇑**	*e*P	**Pn**	**08 24 49.4**	**-1.2**
SACU				*e*S	**Sn**	**08 24 59.3**	**+0.4**
ELI1	**Hacienda Flor**	**0.62**	**72**	*e*P	**Pn**	**08 24 51.6**	**+0.6**
ERIA	**Liberia**	**0.72**	**75⇑**	*i*P	**Pn**	**08 24 52.9**	**+0.6**
NICO	**Nicoya**	**0.76**	**114⇑**	*e*P	**Pn**	**08 24 51.6**	**-1.3**
NICO				*e*S	**Sn**	**08 25 03.0**	**-0.2**
LCRUZ	**La Cruz**	**0.81**	**39⇑**	*i*P	**Pn**	**08 24 53.9**	**+0.4**
GPS3	**Bodega del ICE**	**0.83**	**69⇑**	*e*P	**Pn**	**08 24 54.1**	**+0.3**
GPS2	**Hotel Rincn d**	**0.84**	**69⇑**	*e*P	**Pn**	**08 24 54.4**	**+0.4**
VRLE	**La Escondida,**	**0.84**	**66⇑**	*i*P	**Pn**	**08 24 54.2**	**+0.1**
VORI	**VORI**	**0.87**	**65⇑**	*i*P	**Pn**	**08 24 54.7**	**+0.2**
BAGA	**Bagaces**	**0.88**	**85⇑**	*e*P	**Pn**	**08 24 54.8**	**+0.4**
COLC	**Colonia**	**0.95**	**77⇑**	*e*P	**Pn**	**08 24 55.7**	**+0.2**
CARN	**Rivas**	**0.95**	**40**	*i* P	**Pn**	**08 24 56.3**	**+0.8**
CARN				IAML		08 25 26.6	
	comp=Z,24μm,1.0s						
HORNC	**Hornillas**	**0.99**	**75⇑**	*e*P	**Pn**	**08 24 56.4**	**+0.3**
CUI	**Cuipilapa**	**0.99**	**78⇑**	*i*P	**Pn**	**08 24 56.5**	**+0.4**
CNAS	**Canas**	**1.04**	**91**	*e*P	**Pn**	**08 24 57.0**	**+0.3**
ARIN	**Rivas**	**1.04**	**17**	*i* P	**Pn**	**08 24 56.9**	**+0.2**
JAPN	**Al SSO del Vol**	**1.16**	**23**	*i* P	**Pn**	**08 24 59.8**	**+1.2**
JAPN				IAML		08 25 06.9	
	comp=Z,6μm,1.0s						
JUNT	**Juntas**	**1.18**	**98⇑**	*i*P	**Pn**	**08 24 58.7**	**0.0**
JTS	**Las Juntas de**	**1.19**	**98**	Pn	**Pn**	**08 24 58.7**	**0.0**
JTS	**Las Juntas de**	**1.19**	**98**	Pg	**Pn**	**08 24 58.6**	**-0.2**
	comp=Z,77nm,0.3s,baz=276,slow=7.5,SNR=164						
JTS				Lg	Lg	08 25 14.9	
	comp=Z,126nm,0.3s,baz=207,slow=9.2,SNR=14						
JTS	**Las Juntas de**	**1.19**	**98⇑**	*i*P	**Pn**	**08 24 58.7**	**0.0**
JTS				*i* S	Sn	08 25 26.6	+13
JTS	**Las Juntas de**	**1.19**	**98⇑**	*i*P	**Pn**	**08 24 58.7**	**0.0**
MORN	**Al O del Volca**	**1.19**	**24**	*i* P	**Pn**	**08 24 59.2**	**+0.3**
MORN				IAML		08 25 06.9	
	comp=Z,1μm,1.0s						
CONN	**Concepcion**	**1.22**	**25**	*i* P	**

JAYA eS Sn 08 26 22.9 -14
NUBE Las Nubes 4.94 314 eP **Pn 08 25 49.2 -1.2**
NUBE eS Sn 08 26 32.8 -14
MTO3 Montecristo 5.02 322 Pn **Pn 08 25 51.4 -0.3**
ESQI Esquipulas 5.14 323 Pn 08 25 53.2 0.0
PRVC Isla de Provid 5.51 58 eP Pn 08 26 17.9 +20
GMAL Guarumal, Vera 5.54 118 eP **Pn 08 25 58.3 -0.4**
CACAO El Cacao, Vera 6.07 120 eP **Pn 08 26 04.6 -1.3**
CHIT3 Chitre 6.18 113 eP **Pn 08 26 04.8 -2.6**
BCIP Isla Barro Col 6.35 101 eP **Pn 08 26 10.7 +1.0**
AZU Azuero 6.38 114 eP **Pn 08 26 10.5 +0.4**
PETF Flores 7.37 331 Pn 08 26 25.2 +1.4
CCIG Comitan 8.22 315 Pn 08 26 36.6 +1.1
CMIG Matias Romero 10.75 309 Pn **Pn 08 27 09.3 -0.7**
comp=Z,0.9nm,0.3s,baz=136,slow=8.4,SNR=12
comp=Z,2.5nm,0.4s
TLIG Tlapa 13.96 302 Pn 08 27 56.0 +1.8
SDV Santo Domingo 15.38 94 LR LR 08 35 16.0
comp=Z,76nm,19.3s,baz=269,slow=42
ATAH Atahualpa 19.10 156 LR LR 08 35 32.1
comp=Z,156nm,18.0s,baz=338,slow=34
TIGA Tifton 21.02 6 08 29 21.5
TIGA IAmb IAmb 08 29 25.1
comp=Z,20nm,0.8s
PCRV Puerto La Cruz 21.17 89 P **P 08 29 20.3 -0.5**
comp=Z,17nm,1.1s,baz=164,slow=22,SNR=2.3
comp=Z,17nm,1.1s
250A Grady 21.42 360 P **P 08 29 21.9 -1.5**
250A IAmb IAmb 08 29 27.0
comp=Z,17nm,0.8s
MLDN Muldoon 21.77 334 IAmb IAmb 08 29 35.6
comp=Z,25nm,1.0s
152A Waverly Hall 22.15 3 P **P 08 29 30.3 -0.9**
LRAL Lakeview Retre 22.49 358 P **P 08 29 34.2 -0.5**
LRAL IAmb IAmb 08 29 37.6
comp=Z,18nm,0.7s
Z47A Carrollton 22.71 356 P **P 08 29 36.9 -0.2**
Z47A IAmb IAmb 08 29 39.1
comp=Z,17nm,0.7s
435B Jarrell 22.85 334 IAmb IAmb 08 29 47.5
comp=Z,20nm,0.9s
GOGA Godfrey 22.98 6 P **P 08 29 39.6 -0.4**
GOGA IAmb IAmb 08 29 41.5
comp=Z,13nm,0.7s
DRIO Del Rio 23.22 326 P **P 08 29 42.3 -0.1**
Y49A Blount Mountai 23.30 359 P **P 08 29 42.5 -0.7**
Y49A IAmb IAmb 08 29 44.9
comp=Z,21nm,0.7s
Y52A Lilburn 23.38 4 P **P 08 29 43.4 -0.6**
Z41A Richland Creek 23.51 346 IAmb IAmb 08 29 44.7
comp=Z,18nm,0.9s
Y45A Yeager Farm, C 23.51 353 P **P 08 29 44.9 -0.2**
Y45A IAmb IAmb 08 29 46.4
comp=Z,27nm,1.0s
JCT Junction City 23.63 329 P **P 08 29 45.2 -1.2**
WHTX Lake Whitney, 23.85 336 IAmb IAmb 08 29 51.4
comp=Z,11nm,1.0s
X48A Hartselle 23.90 358 P **P 08 29 48.0 -0.9**
X48A IAmb IAmb 08 29 51.8
comp=Z,9.6nm,0.7s
BRDY Brady 23.91 332 P **P 08 29 47.6 -1.4**
BRDY IAmb IAmb 08 29 50.1
comp=Z,10nm,0.7s
FPAL Fort Paine 23.98 1 IAmb IAmb 08 29 50.8
comp=Z,7.4nm,0.7s
WLAR White Oak Lake 23.99 346 IAmb IAmb 08 29 50.7
comp=Z,15nm,0.8s
PLAL Pickwick Lake 24.48 356 IAmb IAmb 08 29 55.0
comp=Z,17nm,0.7s
BIRD Birdtown, Kers 24.64 11 IAmb IAmb 08 29 56.8
comp=Z,17nm,0.9s
SWET Sewanee 24.65 0 IAmb IAmb 08 29 57.3
comp=Z,21nm,0.9s
FW06 Azle 24.75 337 P **P 08 29 56.5 -0.2**
FW06 IAmb IAmb 08 29 58.7
comp=Z,16nm,0.9s
UALR University of 24.86 348 P **P 08 29 56.6 -1.0**
UALR IAmb IAmb 08 29 58.4
comp=Z,16nm,0.8s
PLPT Palo Pinto 24.92 335 IAmb IAmb 08 30 21.7
comp=Z,6.7nm,0.8s
TXAR Lajitas Array 24.92 321 P **P 08 29 58.6 +0.2**
comp=Z,3.5nm,0.6s,baz=136,slow=10,SNR=44
TXAR PcP **PcP 08 33 36.1 +2.7**
comp=Z,0.8nm,0.7s,baz=150,slow=5.2,SNR=7.9
comp=Z,3.5nm,0.6s
TX31 Lajitas Ar. Si 24.92 321 IAmb IAmb 08 30 06.7
comp=Z,6.7nm,0.8s
MIAR Mount Ida 24.93 345 P **P 08 29 56.9 -1.3**
MIAR IAmb IAmb 08 30 05.5
comp=Z,12nm,0.8s
CPCT Cooper Cave 24.93 3 IAmb IAmb 08 29 59.4
comp=Z,18nm,0.7s
Z35A Perchaven, San 24.95 338 IAmb IAmb 08 30 00.6
comp=Z,19nm,0.8s
FW03 Perrin-Whitt E 25.01 336 IAmb IAmb 08 29 60.0
comp=Z,11nm,0.7s
V48A Smith Brothers 25.18 359 IAmb IAmb 08 30 00.7
comp=Z,10nm,0.9s
TKL Tuckaleechee C 25.18 5 IAmb IAmb 08 30 01.3
comp=Z,13nm,0.8s
V53A Saluda 25.29 6 IAmb IAmb 08 30 03.4
comp=Z,16nm,0.7s
ABTX Abilene, Hawle 25.33 333 IAmb IAmb 08 30 04.2
comp=Z,13nm,0.9s
H06E1 SOCORRO T-PHAS 25.34 292 T T 08 56 14.0
SNR=28
WHAR Wooly Hollow 25.35 348 IAmb IAmb 08 30 02.0
comp=Z,14nm,1.0s
CLTN Cedars of Leba 25.52 360 IAmb IAmb 08 30 06.0
comp=Z,11nm,0.9s
WVT Waverly 25.61 357 P **P 08 30 02.9 -1.5**
WVT IAmb IAmb 08 30 10.7
comp=Z,4.8nm,0.6s
WTFS Witchita Falls 25.81 336 IAmb IAmb 08 30 09.1
comp=Z,14nm,0.8s
MNHN Monahans 25.87 326 IAmb IAmb 08 30 08.8
comp=Z,15nm,0.8s
FCAR Ozark Folk Cen 25.90 349 IAmb IAmb 08 30 14.5
comp=Z,6.8nm,0.8s
LCAR Lake Charles 25.90 351 IAmb IAmb 08 30 06.6
comp=Z,6.9nm,0.9s
U49A Red Boiling Sp 25.95 1 IAmb IAmb 08 30 07.6
comp=Z,13nm,0.8s
V58A Windy Hill, Pi 26.02 13 IAmb IAmb 08 30 08.9
comp=Z,14nm,0.8s
APMT Aspermont 26.14 333 IAmb IAmb 08 30 12.1
comp=Z,11nm,0.8s
X34A Smith Ranch, M 26.30 338 IAmb IAmb 08 30 14.2
comp=Z,17nm,1.1s
ODSA Odessa 26.36 327 IAmb IAmb 08 30 13.0
comp=Z,11nm,0.8s
T47A Sharon Grove 26.43 358 IAmb IAmb 08 30 11.5
comp=Z,12nm,0.7s
PBMO Poplar Bluff 26.50 352 IAmb IAmb 08 30 12.1
comp=Z,8.8nm,1.1s
POST Post 26.57 330 IAmb IAmb 08 30 17.5
comp=Z,8.1nm,0.8s
HHAR Hobbs 26.67 346 IAmb IAmb 08 30 13.6
comp=Z,7.2nm,1.0s
WMOK Wichita Mounta 26.79 336 IAmb IAmb 08 30 18.6
comp=Z,15nm,0.9s
DKNS Dickens 26.79 332 IAmb IAmb 08 30 18.4
comp=Z,6.9nm,0.6s
TUL3 Leonard 26.82 342 IAmb IAmb 08 30 15.3
comp=Z,10nm,0.9s
U38A Gravette 26.93 345 IAmb IAmb 08 30 17.3
comp=Z,14nm,1.3s
WCI Wyandotte Cave 27.66 360 P **P 08 30 20.7 -2.1**
R49A Shelbyville 27.73 2 IAmb IAmb 08 30 23.6
comp=Z,11nm,0.7s
R50A Paris 27.76 3 IAmb IAmb 08 30 24.2
comp=Z,13nm,0.8s
MSTX Muleshoe 27.93 329 IAmb IAmb 08 30 26.9
comp=Z,7.2nm,0.7s
S57A Dark Hollow, R 27.95 12 IAmb IAmb 08 30 25.4
comp=Z,13nm,1.2s
ETMB Extrema 28.26 135 P **P 08 30 29.2 +0.7**
Q44A Meyer Farm, Va 28.45 355 IAmb IAmb 08 30 36.2
comp=Z,16nm,0.8s
P48A Milroy 28.89 1 IAmb IAmb 08 30 33.1
comp=Z,13nm,0.7s
P46A Rosedale 29.06 358 IAmb IAmb 08 30 35.4
comp=Z,13nm,0.8s
ANMO Albuquerque 30.62 326 P **P 08 30 50.2 +0.7**
SSPA Standing Stone 30.94 12 P **P 08 30 51.3 -0.7**
LPAZ La Paz 32.00 146 P P 08 31 07.5 +5.4
comp=Z,0.6nm,0.5s,baz=154,slow=11,SNR=3.8
comp=Z,0.6nm,0.5s
SDCO Great Sand Dun 32.27 331 IAmb IAmb 08 31 06.2
comp=Z,3.5nm,0.8s
SADO Sadowa 34.72 9 LR LR 08 46 03.0
comp=Z,98nm,18.7s,baz=139,slow=38
SRU San Rafael Swe 35.88 327 IAmb IAmb 08 31 37.2
comp=Z,3.6nm,0.7s
TPNV Topopah Spring 37.85 319 P **P 08 31 53.2 +1.2**
WCT Wildcat Mounta 38.00 319 P **P 08 31 56.4 +3.2**
PDAR Pinedale Array 38.13 332 P **P 08 31 53.4 -1.0**
comp=Z,1.3nm,0.6s,baz=127,slow=9.8,SNR=14
PDAR PcP **PcP 08 34 09.6 +0.8**
comp=Z,0.4nm,0.7s,baz=142,slow=9.1,SNR=3.6
comp=Z,1.3nm,0.6s
HWUT Hardware Ranch 38.23 329 IAmb IAmb 08 31 56.4
comp=Z,5.0nm,0.7s
AGMN Agassiz Nation 38.60 350 IAmb IAmb 08 31 56.7
comp=Z,9.7nm,1.1s
DSP Deep Springs 39.21 318 P **P 08 32 05.8 +2.6**
NVAR Mina Array Bea 40.04 319 P **P 08 32 12.5 +2.1**
NVAR Mina Array Bea 40.04 319 P **P 08 32 12.2 +1.9**
comp=Z,4.2nm,0.8s,baz=141,slow=7.3,SNR=32
NVAR PcP **PcP 08 34 15.3 +0.5**
comp=Z,1.5nm,0.7s,baz=124,slow=4.8,SNR=9.1
comp=Z,4.2nm,0.8s
LHV Little Huntoon 40.06 319 P **P 08 32 13.4 +3.1**
LHV IAmb IAmb 08 32 21.1
comp=Z,7.4nm,0.9s
KVN Kaiserville 40.27 320 P **P 08 32 14.7 +2.4**
ULM Lac du Bonnet 40.48 350 P **P 08 32 11.8 -1.8**
comp=Z,1.9nm,0.4s,baz=201,slow=3.1,SNR=3.7
comp=Z,1.9nm,0.4s
DGMT Dagmar 40.81 342 P **P 08 32 15.8 -0.5**
DGMT IAmb IAmb 08 32 22.7
comp=Z,10nm,0.9s
WAKR Walker 40.81 319 P **P 08 32 19.4 +2.7**
HLID Hailey 41.10 328 P **P 08 32 19.2 +0.2**
PNTR Pine Nut 41.25 319 P **P 08 32 22.8 +2.4**
PNTR IAmb IAmb 08 32 25.3
comp=Z,5.1nm,0.8s
MPK Martis Peak 41.64 319 IAmb IAmb 08 32 26.7
comp=Z,6.2nm,0.9s
PINE Pine Mountain 44.82 324 IAmb IAmb 08 32 51.7
comp=Z,4.8nm,0.8s
I04A Tendick Farm, 45.68 323 IAmb IAmb 08 32 57.2
comp=Z,6.6nm,0.8s
H04A Detroit Lake 46.08 324 IAmb IAmb 08 33 06.0
comp=Z,17nm,1.4s
SCHQ Schefferville 46.84 15 P **P 08 33 02.1 -2.5**
comp=Z,4.3nm,0.7s,baz=239,slow=7.8,SNR=4.5
SCHQ LR LR 08 52 51.1
comp=Z,49nm,18.2s,baz=264,slow=37
comp=Z,4.3nm,0.7s
FRB Frobisher Bay 54.66 9 LR LR 08 56 13.2
comp=Z,77nm,18.2s,baz=124,slow=35
TAOE Nuku Hiva Isla 57.06 252 eLR LR 08 50 56.9
comp=Z,30nm,23.1s
ILAR Eielson Array 68.35 336 P **P 08 35 35.0 -0.8**
comp=Z,1.1nm,0.9s,baz=131,slow=4.1,SNR=9.8
ILAR LR LR 09 09 03.7
comp=Z,57nm,18.3s,baz=87,slow=39
comp=Z,1.1nm,0.9s
PPT2 Papeete2 68.56 246 eLR LR 08 56 12.6
comp=Z,29nm,24.5s
MLY Manley 69.98 336 P **P 08 35 44.9 -1.1**
MLY IAmb IAmb 08 35 47.0
comp=Z,4.7nm,0.9s
TBI Tubuai 70.43 241 eLR LR 08 57 03.9
comp=Z,541nm,34.8s
DZM Mont Dzumac 109.89 250 eLR LR 09 15 26.6
comp=Z,38nm,22.2s
KSRS Korea Array 122.63 328 PKP **PKiKP 08 43 31.8 +1.0**
comp=Z,1.5nm,0.7s,baz=17,slow=2.5,SNR=5.0
ASAR Alice Springs 139.66 246 PKhKP PKPpre 08 44 02.0
comp=Z,0.3nm,0.6s,baz=116,slow=2.6,SNR=4.4
WRA Warramunga Arr 139.90 251 PKhKP PKPpre 08 44 02.5
comp=Z,0.4nm,0.9s,baz=96,slow=2.3,SNR=1.9
WRA PKP **PKiKP 08 44 07.1 +1.0**
comp=Z,0.6nm,0.7s,baz=96,slow=2.2,SNR=6.9
PZH PanZhiHua 142.47 348 PKP **PKPdf 08 44 08.0 -0.3**
CMAR Chiang Mai Arr 150.84 350 PKPbc **PKiKP 08 44 28.9 +0.3**
comp=Z,1.9nm,0.3s,baz=339,slow=2.8,SNR=11

IDC 21 08:35:52.5±6.5, 5°.81S×151°.37E, h75km±52km, mb3.1/3, mbtmp3.5/4, ML1.5/1, Error ellipse: s-maj=115.9km s-min=35.7km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.49**	**229**	P	Pn		08 37 12.7	+0.9
0.9nm,0.3s,baz=341,slow=16,SNR=5.1								
PMG				S	Sn		08 38 13.9	+0.3
3.1nm,0.3s,baz=162,slow=18,SNR=1.6								
15nm,0.7s								
WRA	**Warramunga Arr**	**21.71**	**228**	P	P		08 40 37.6	-0.1
0.6nm,0.8s,baz=54,slow=10,SNR=5.3								
0.6nm,0.8s								
ASAR	**Alice Springs**	**24.45**	**222**	P	P		08 41 04.4	-0.2
0.9nm,0.7s,baz=52,slow=9.0,SNR=11								
0.9nm,0.7s								
ILAR	**Eielson Array**	**83.63**	**22**	P	P		08 48 11.8	-0.7
0.4nm,0.8s,baz=244,slow=4.8,SNR=4.2								
0.4nm,0.8s								
TORD	**Torodi Ar. Bea**	**149.23**	**286**	PKPbc	PKPbc		08 55 34.2	+0.5
0.5nm,0.7s,baz=78,slow=3.5,SNR=3.4								

*UPA **21** 08:45:56.8±12.0, 11°.38N×86°.87W, h0km±458km*
*UCR **21** 08:46:02.5±1.0, 10°.34N×86°.34W, h9km±9km, MW4.9*
*IDC **21** 08:46:03.5±0.8, 11°.13N×85°.76W, h0km, mb4.0/10, mbtmp4.0/11, ML3.8/1, MS3.5/12, Error ellipse: s-maj=35.3km s-min=9.7km az=48.0*
*NEIC **21** 08:46:05.1±2.0, 10°.53N±0°.04×86°.11W±0°.08, h10km±1km, mb4.5/115, Error ellipse: s-maj=13.8km s-min=5.2km az=248.0*
*CATAC **21** 08:46:06.1±2.0, 10°.47N×86°.22W, h25km±19km, mb4.6, ML4.3*
*SNET **21** 08:46:08.4±0.6, 10°.53N×86°.45W, h35km±387km, ML4.3*
ISC 21 08:46:06.9±0.7, 10°.52N±0°.04×86°.19W±0°.04, h36km±2km, n225, σ1§52/182, mb4.4/66, MS3.4/10, 23C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.65**	**113**	*e*P	Pn		**08 46 17.3**	**-2.4**
SACU				*e*S	Sn		08 46 27.5	-1.2
ERIA	**Liberia**	**0.75**	**81⇑**	*i*P	Pn		**08 46 21.0**	**+0.1**
LCRUZ	**La Cruz**	**0.78**	**45**	*e*P	Pn		**08 46 21.9**	**+0.5**
NICO	**Nicoya**	**0.83**	**118⇑**	*e*P	Pn		**08 46 19.6**	**-2.4**
VRLE	**La Escondida,**	**0.85**	**72⇑**	*i*P	Pn		**08 46 22.4**	**-0.1**
GPS2	**Hotel Rincn d**	**0.86**	**75⇑**	*i*P	Pn		**08 46 22.4**	**-0.1**
VORI	**VORI**	**0.88**	**71⇑**	*e*P	Pn		**08 46 23.0**	**0.0**
BAGA	**Bagaces**	**0.92**	**90⇑**	*e*P	Pn		**08 46 22.9**	**-0.3**
CARN	**Rivas**	**0.93**	**45**	*i*P	Pn		**08 46 23.9**	**+0.5**
CARN				IAML			08 46 54.9	
comp=Z,17μm,1.0s								
COLC	**Colonia**	**0.98**	**82⇑**	*e*P	Pn		**08 46 23.9**	**-0.2**
ARIN	**Rivas**	**0.99**	**21**	*i*P	Pn		**08 46 25.1**	**+0.9**
ARIN				IAML			08 46 51.9	
comp=Z,6μm,1.0s								
HORNC	**Hornillas**	**1.01**	**79⇑**	*i*P	Pn		**08 46 24.5**	**-0.1**
CUI	**Cuipilapa**	**1.02**	**82⇑**	*i*P	Pn		**08 46 24.6**	**0.0**
CNAS	**Canas**	**1.09**	**95⇑**	*i*P	Pn		**08 46 25.3**	**-0.3**
JAPN	**AI SSO del Vol**	**1.12**	**27**	*i*P	Pn		**08 46 27.8**	**+1.8**
JAPN				*i*S	Sn		**08 46 37.4**	**-2.7**
MORN	**AI O del Volca**	**1.15**	**28**	*i*P	Pn		**08 46 27.5**	**+1.1**
MORN				IAML			08 46 35.0	
comp=Z,930nm,1.0s								
MORN				*i*S	Sn		**08 46 36.2**	**-4.7**
CONN	**Concepcion**	**1.17**	**28**	*i*P	Pn		**08 46 27.8**	**+1.0**
CONN				IAML			08 46 35.3	
comp=Z,53μm,1.0s								
CONN				*i*S	Sn		**08 46 35.5**	**-6.1**
TENO	**El Achiote**	**1.21**	**81⇑**	*e*P	Pn		**08 46 26.8**	**-0.5**
JUNT	**Juntas**	**1.24**	**101⇑**	*i*P	Pn		**08 46 26.8**	**-0.9**
JTS	**Las Juntas de**	**1.24**	**101**	Pg	Pn		**08 46 26.7**	**-1.0**
comp=Z,134nm,0.3s,baz=306,slow=20,SNR=252								
JTS				Lg	Lg		08 46 41.2	
comp=Z,206nm,0.3s,baz=316,slow=21,SNR=6.3								
JTS	**Las Juntas de**	**1.24**	**101**	*e*P	Pn		**08 46 26.9**	**-0.8**
JTS				*e*S	Sn		**08 46 50.8**	**+7.6**
JTS	**Las Juntas de**	**1.24**	**101⇑**	*i*P	Pn		**08 46 26.9**	**-0.8**
VERA	**Finca Concepci**	**1.34**	**76⇑**	*e*P	Pn		**08 46 29.8**	**+0.7**
MTEVE	**Monteverde**	**1.36**	**98⇑**	*e*P	Pn		**08 46 28.9**	**-0.5**
NANN	**Nandasmo**	**1.41**	**3**	*i*P	Pn		**08 46 32.0**	**+2.0**
NANN				IAML			08 46 39.4	
comp=Z,56μm,1.0s								
SABN	**Sabanita**	**1.42**	**1**	*i*P	Pn		**08 46 31.5**	**+1.3**
SABN				IAML			08 47 12.2	
comp=Z,12μm,1.0s								
CRUN	**El Crucero**	**1.45**	**356**	*i*P	Pn		**08 46 31.4**	**+0.7**
CRUN				IAML			08 47 06.1	
comp=Z,33μm,1.0s								
MASN	**Masaya**	**1.46**	**2**	*i*P	Pn		**08 46 34.0**	**+3.3**
MASN				*i*S	Sn		**08 46 46.1**	**-2.4**
RA5A7	**El Crucero**	**1.46**	**355**	*i*P	Pn		**08 46 32.2**	**+1.4**
RA5A7				IAML			08 47 17.8	
comp=Z,11μm,1.0s								
VACR	**Volcan Arenal**	**1.49**	**92⇑**	*e*P	Pn		**08 46 31.6**	**+0.4**
MAS3	**AI N del Volca**	**1.49**	**1**	*i*P	Pn		**08 46 32.4**	**+1.2**
MAS3				*i*S	Sn		**08 46 47.6**	**-1.8**
MAS3				IAML			08 47 06.2	
comp=Z,3μm,1.0s								
FORC	**Fortuna**	**1.50**	**92**	*e*P	Pn		**08 46 31.8**	**+0.5**
TUNA	**La Fortuna**	**1.52**	**92⇑**	*e*P	Pn		**08 46 32.2**	**+0.6**
LCHIL	**Los Chiles**	**1.54**	**71⇑**	*i*P	Pn		**08 46 32.2**	**+0.5**
SOCE	**Pocosol**	**1.55**	**95**		Pn		**08 46 32.0**	**0.0**
SOCE	**Pocosol**	**1.55**	**95**	*i*P	Pn		**08 46 32.4**	**+0.4**
SOCE				*i*S	Sn		**08 46 48.4**	**-2.6**
SOCE				IAML			08 47 20.2	
comp=Z,2μm,1.0s								
SOCE	**Pocosol**	**1.55**	**95⇑**	*e*P	Pn		**08 46 32.1**	**+0.1**
UNAN	**Cigeo UNAN**	**1.58**	**357**	*i*P	Pn		**08 46 33.7**	**+1.3**
UNAN				IAML			08 47 12.8	
comp=Z,17μm,1.0s								
ENAN	**Enatrel Managu**	**1.58**	**358**	*i*P	Pn		**08 46 36.2**	**+3.8**
USIM	**UNAN**	**1.58**	**357**	*i*P	Pn		**08 46 35.4**	**+3.0**
ARZA	**Esparza**	**1.59**	**109**	*e*P	Pn		**08 46 32.0**	**-0.5**
R0529	**La Mascota**	**1.59**	**358**	*i*P	Pn		**08 46 33.6**	**+1.1**
R0529				IAML			08 47 18.4	
comp=Z,2μm,1.0s								
TISN	**Laguna Tiscapa**	**1.61**	**357**	*i*P	Pn		**08 46 33.5**	**+0.7**
TISN				IAML			08 46 43.9	
comp=Z,210nm,1.0s								
MGAN	**Managua**	**1.61**	**358**		Pn		**08 46 33.7**	**+0.8**
MGAN	**Managua**	**1.61**	**358**	*i*P	Pn		**08 46 33.8**	**+1.0**
MGAN				IAML			08 47 18.1	
comp=Z,2μm,1.0s								
MGAN	**Managua**	**1.61**	**358⇑**	*i*P	Pn		**08 46 33.8**	**+1.0**
R4DEC	**Barrio San Lui**	**1.62**	**358**	*i*P	Pn		**08 46 33.7**	**+0.9**
R4DEC				IAML			08 47 18.1	
comp=Z,2μm,1.0s								
APQ2	**Apoyeque**	**1.67**	**356**	*i*P	Pn		**08 46 33.9**	**+0.3**
APQ2				IAML			08 47 15.9	
comp=Z,2μm,1.0s								
COPN	**Copaltepe**	**1.69**	**347**	*i*P	Pn		**08 46 34.3**	**+0.4**
COPN				IAML			08 47 05.0	
comp=Z,2μm,1.0s								
SRA1	**San Ramn**	**1.74**	**104**	*e*P	Pn		**08 46 34.2**	**-0.5**
ACON	**Acoyapa**	**1.75**	**35**		Pn		**08 46 35.6**	**+0.9**
ACON	**Acoyapa**	**1.75**	**35**	*i*P	Pn		**08 46 35.7**	**+1.0**
ACON				IAML			08 46 43.0	
comp=Z,3μm,1.0s								
ACON	**Acoyapa**	**1.75**	**35⇑**	*i*P	Pn		**08 46 35.7**	**+1.0**
RAMO	**San Ramon**	**1.75**	**104**	*e*P	Pn		**08 46 34.4**	**-0.5**
COVE	**Coope Vega, Sa**	**1.77**	**84**	*i*P	Pn		**08 46 35.4**	**+0.4**
COVE				IAML			08 47 20.9	
comp=Z,3μm,1.0s								
SBEN	**San Benito**	**1.78**	**4**	*i*P	Pn		**08 46 36.1**	**+1.0**
SBEN				IAML			08 48 03.3	
comp=Z,5μm,1.0s								
ZARE	**Zarcero**	**1.81**	**101⇓**	*e*P	Pn		**08 46 36.4**	**+0.7**
TRB2	**Turrubares**	**1.82**	**109⇑**	*e*P	Pn		**08 46 34.6**	**-1.0**
NARAN	**Naranjo de Ala**	**1.83**	**103**	*e*P	Pn		**08 46 36.2**	**+0.3**
SARCI	**Sarchi**	**1.87**	**103**	*e*P	Pn		**08 46 36.4**	**0.0**
ITAL	**Pital**	**1.89**	**92⇑**	*i*P	Pn		**08 46 36.7**	**+0.1**
MOMN	**Momotombo**	**1.90**	**350**	*i*P	Pn		**08 46 37.6**	**+0.7**
MOMN				IAML			08 46 55.8	
comp=Z,54nm,1.0s								
LEVN	**Ruinas Leon Vi**	**1.91**	**347**	*i*P	Pn		08 46 42.1	+5.2
MOM2	**El Cardon**	**1.92**	**351**	*i*P	Pn		**08 46 37.7**	**+0.6**
MOM2				IAML			08 46 48.2	
comp=Z,1μm,1.0s								
MACN	**El Madrono**	**1.99**	**346**	*i*P	Pn		**08 46 38.5**	**+0.5**
MACN				*i*S	Sn		08 46 52.6	-9.1
MACN				IAML			08 47 09.6	
comp=Z,660nm,1.0s								
CNGA	**AI SSO del Vol**	**2.02**	**346**	*i*P	Pn		**08 46 38.8**	**+0.3**
CNGA				IAML			08 46 51.9	
comp=Z,1μm,1.0s								
PACN	**AI O del Volca**	**2.05**	**343**	*i*P	Pn		**08 46 39.6**	**+0.8**
PACN				IAML			08 47 14.9	
comp=Z,840nm,1.0s								
ILCN	**San Idelfonso**	**2.10**	**346**	*i*P	Pn		**08 46 39.6**	**+0.1**
ILCN				IAML			08 47 08.3	
comp=Z,330nm,1.0s								
HDC	**Heredia**	**2.11**	**104**		Pn		**08 46 40.0**	**+0.2**
HDC	**Heredia**	**2.11**	**104**	*e*P	Pn		**08 46 39.6**	**-0.1**
PLRN	**Geotermica Pol**	**2.12**	**345**	*i*P	Pn		**08 46 39.9**	**0.0**
PKGN	**Cerro Pekin**	**2.27**	**340**	*i*P	Pn		**08 46 42.4**	**+0.6**
PKGN				IAML			08 47 15.7	
comp=Z,3μm,1.0s								
LCR2	**La Lucha 2**	**2.29**	**110**	Pn	Pn		**08 46 42.0**	**-0.4**
LCR2	**La Lucha 2**	**2.29**	**110**	*i*P	Pn		**08 46 41.9**	**-0.4**
TRT2	**Tortugero**	**2.42**	**89**	*i*P	Pn		**08 46 43.4**	**-0.4**
TRT2				*i*S	Sn		08 47 26.4	+14
ESPN	**Las Esperanzas**	**2.49**	**48**		Pn		**08 46 46.1**	**+1.2**
ESPN	**Las Esperanzas**	**2.49**	**48**	*i*P	Pn		**08 46 46.1**	**+1.2**
ESPN				*i*S	Sn		08 47 27.6	+14
ESPN				IAML			08 47 38.7	
comp=Z,1μm,1.0s								
LIMN	**Finca el Limon**	**2.53**	**356**	*i*P	Pn		**08 46 46.2**	**+0.7**
LIMN				IAML			08 47 43.6	
comp=Z,540nm,1.0s								
POTN	**Potosi Cosigui**	**2.78**	**333**	*i*P	Pn		**08 46 48.9**	**+0.1**
POTN				IAML			08 47 09.0	
comp=Z,270nm,1.0s								
BLUN	**Bluefields**	**2.79**	**58**	*i*P	Pn		**08 46 50.0**	**+1.0**
BLUN				*i*S	Sn		08 46 57.9	-24
BLUN				IAML			08 47 46.9	
comp=Z,440nm,1.0s								
RCPN	**Sur Rio San Ju**	**2.98**	**2**	*i*P	Pn		**08 46 53.7**	**+1.9**
RCPN				IAML			08 46 54.9	
comp=Z,1.4nm,1.0s								
RCVN	**Varillal2**	**3.04**	**360**	*i*P	Pn		**08 46 54.2**	**+1.6**
RCVN				*i*S	Sn		08 47 06.3	-22
RCVN				IAML			08 47 18.2	
comp=Z,5μm,1.0s								
CNCH	**Conchagua**	**3.17**	**330**	*e*P	Pn		**08 46 54.6**	**+0.3**
CNCH				*e*S	Sn		**08 47 30.9**	**-0.2**
CNCH				IAML			08 47 35.0	
comp=Z,786nm,0.4s								
CNCH	**Conchagua**	**3.17**	**330**	*i*P	Pn		**08 46 54.9**	**+0.5**
CNCH				*i*S	Sn		**08 47 31.3**	**+0.2**
CNCH				IAML			08 47 40.9	
comp=Z,900nm,1.0s								
LCND	**La Caada**	**3.23**	**329**	*e*P	Pn		**08 46 55.2**	**+0.1**
LCND				*e*S	Sn		**08 47 32.1**	**-0.2**
LCND	**La Caada**	**3.23**	**329**	*i*P	Pn		**08 46 55.6**	**+0.6**
LCND				IAML			08 47 34.0	
comp=Z,340nm,1.0s								
PTJ1	**Puerto Jimnez**	**3.47**	**124**	*i*P	Pn		08 47 09.2	+11
PTJ1				*i*S	Sn		**08 47 37.7**	**-0.5**
PTJ1	**Puerto Jimnez**	**3.47**	**124**	*e*P	Pn		08 47 09.1	+11
PTJ1				*e*S	Sn		08 48 00.3	+22
PIRO	**Carate, Puerto**	**3.52**	**127**	*e*P	Pn		**08 46 59.0**	**0.0**
PIRO				*e*S	Sn		**08 47 37.2**	**-2.2**
RANC	**El Ranchito**	**3.55**	**325**	*i*P	Pn		**08 46 59.9**	**+0.4**
RANC				IAML			08 49 00.8	
comp=Z,340nm,1.0s								
RGM0	**Gandoca**	**3.65**	**104**	*e*P	Pn		08 47 09.9	+9.1
RGM0				*e*S	Sn		08 48 04.6	+22
TGUH	**Tegucigalpa,Un**	**3.67**	**

comp=Z,120nnm,1.0s
PTPM Petroterminale 4.00 125 *e*P Pn 08 47 16.4 +11
PTPM *e*S Sn 08 48 14.1 +23
UESV Universidad de 4.00 321 *i* P **Pn 08 47 06.4 +0.7**
UESV IAML 08 47 53.7
comp=Z,310nnm,1.0s
SCLA Alcaldia de Sa 4.02 322 *e*P **Pn 08 47 06.7 +0.7**
SCLA *e*S **Sn 08 47 51.8 0.0**
SCLA Alcaldia de Sa 4.02 322 *i* P **Pn 08 47 06.6 +0.7**
COEG Centro de Oper 4.05 320 *e*P **Pn 08 47 06.3 -0.1**
COEG *e*S **Sn 08 47 51.3 -1.3**
COEG Centro de Oper 4.05 320 *i* P **Pn 08 47 06.4 0.0**
PAVA Las Pavas 4.15 320 *i* P **Pn 08 47 08.8 +0.9**
PAVA IAML 08 48 17.1
comp=Z,250nnm,1.0s
LFRS El Faro 4.17 318 *e*P **Pn 08 47 08.3 +0.2**
PMON Piamonte 4.40 316 *i* P **Pn 08 47 12.3 +1.0**
PMON *i* S Sn 08 47 26.3 -35
PMON IAML 08 48 05.9
comp=Z,240nnm,1.0s
JAYA Jayaque - finc 4.45 315 *e*P **Pn 08 47 11.7 -0.4**
JAYA *e*S **Sn 08 48 00.4 -2.3**
JAYA Jayaque - finc 4.45 315 *i* P **Pn 08 47 12.7 +0.7**
JAYA IAML 08 48 07.0
comp=Z,470nnm,1.0s
NUBE Las Nubes 4.86 314 *i* P **Pn 08 47 18.3 +0.7**
NUBE IAML 08 48 20.9
comp=Z,120nnm,1.0s
MTO3 Montecristo 4.94 322 Pn **Pn 08 47 19.7 +0.9**
MTO3 Montecristo 4.94 322 *i* P Pn 08 47 39.6 +21
ESQI Esquipulas 5.05 323 Pn 08 47 21.7 +1.5
ESQI Esquipulas 5.05 323 *i* P **Pn 08 47 21.6 +1.4**
ESQI IAmb IAmb 08 47 47.0
comp=Z,57nnm,0.8s
ESQI IAML 08 49 03.7
comp=Z,78nnm,1.0s
BCIP Isla Barro Col 6.41 102 *i* P **Pn 08 47 39.0 +0.3**
CCIG Comitan 8.14 315 Pn 08 48 05.4 +2.8
TEIG Tepich 9.85 348 Pn **Pn 08 48 26.4 +0.4**
CMIG Matias Romero 10.67 309 Pn **Pn 08 48 38.2 +1.0**
comp=Z,0.8nnm,0.3s,baz=134,slow=8.9,SNR=10
CMIG Sn **Sn 08 50 30.0 -5.5**
baz=29,slow=6.0
comp=Z,2.9nnm,0.3s
TLIG Tlapa 13.89 302 Pn **Pn 08 49 24.2 +2.8**
SDV Santo Domingo 15.42 95 LR LR 08 57 53.8
comp=Z,61nnm,18.2s,baz=280,slow=47
ATAH Atahualpa 19.18 156 LR LR 08 56 59.1
comp=Z,185nnm,18.3s,baz=339,slow=34
HBVL Hebbronville 20.23 326 IAmb IAmb 08 50 50.6
comp=Z,12nnm,0.7s
PCRV Puerto La Cruz 21.21 89 P **P 08 50 47.8 -1.9**
comp=Z,7.7nnm,0.8s,baz=302,slow=9.5,SNR=1.5
comp=Z,7.7nnm,0.8s
250A Grady 21.35 360 P **P 08 50 52.0 +1.0**
250A IAmb IAmb 08 50 56.4
comp=Z,11nnm,0.7s
833A Chaparral WMA, 21.61 327 IAmb IAmb 08 50 58.0
comp=Z,13nnm,0.8s
152A Waverly Hall 22.08 3 P **P 08 50 59.6 +0.8**
LRAL Lakeview Retre 22.42 358 P **P 08 51 03.2 +0.8**
LRAL IAmb IAmb 08 51 05.7
comp=Z,14nnm,0.7s
CZSB Cruzeiro do Su 22.56 143 *e*P **P 08 51 03.5 -0.7**
Z47A Carrollton 22.63 356 P **P 08 51 05.2 +0.5**
Z47A IAmb IAmb 08 51 06.8
comp=Z,20nnm,0.8s
435B Jarrell 22.77 334 IAmb IAmb 08 51 16.1
comp=Z,16nnm,0.9s
GOGA Godfrey 22.92 6 P **P 08 51 08.5 +0.8**
GOGA IAmb IAmb 08 51 09.6
comp=Z,9.7nnm,0.7s
DRIO Del Rio 23.14 326 P **P 08 51 10.4 +0.4**
237A Washetta, Mont 23.15 339 IAmb IAmb 08 51 20.4
comp=Z,11nnm,0.7s
Y49A Blount Mountai 23.23 360 P **P 08 51 10.9 +0.1**
Y49A IAmb IAmb 08 51 13.0
comp=Z,17nnm,0.7s
Y52A Lilburn 23.31 4 P **P 08 51 12.3 +0.6**
Y52A IAmb IAmb 08 51 13.1
comp=Z,24nnm,0.9s
Y45A Yeager Farm, C 23.43 353 P **P 08 51 12.9 0.0**
Y45A IAmb IAmb 08 51 14.4
comp=Z,21nnm,1.0s
JCT Junction City 23.55 329 P **P 08 51 14.1 0.0**
WHTX Lake Whitney, 23.77 336 IAmb IAmb 08 51 25.9
comp=Z,9.4nnm,0.8s
X48A Hartselle 23.83 358 P **P 08 51 17.0 +0.3**
X48A IAmb IAmb 08 51 19.9
comp=Z,7.5nnm,0.7s
BRDY Brady 23.83 332 P **P 08 51 16.1 -0.7**
BRDY IAmb IAmb 08 51 18.6
comp=Z,8.4nnm,0.7s
FPAL Fort Paine 23.91 1 IAmb IAmb 08 51 18.9
comp=Z,7.4nnm,0.7s
WLAR White Oak Lake 23.91 346 IAmb IAmb 08 51 25.3
comp=Z,17nnm,0.7s
BIRD Birdtown, Kers 24.57 11 IAmb IAmb 08 51 24.6
comp=Z,13nnm,0.7s
SWET Sewanee 24.58 1 IAmb IAmb 08 51 25.4
comp=Z,20nnm,0.9s
FW06 Azle 24.67 337 IAmb IAmb 08 51 26.8
comp=Z,12nnm,0.8s
UALR University of 24.79 348 IAmb IAmb 08 51 32.6
comp=Z,14nnm,0.8s
PLPT Palo Pinto 24.84 335 IAmb IAmb 08 51 47.8
comp=Z,5.8nnm,0.8s
TXAR Lajitas Array 24.84 321 P **P 08 51 25.9 -0.2**
TXAR Lajitas Array 24.84 321 P **P 08 51 26.4 +0.3**
comp=Z,2.9nnm,0.6s,baz=136,slow=10,SNR=40
TXAR PcP **PcP 08 55 02.8 +0.9**
comp=Z,0.5nnm,0.5s,baz=155,slow=5.9,SNR=6.9
TXAR LR LR 09 03 25.8
comp=Z,32nnm,18.1s,baz=77,slow=42
comp=Z,2.9nnm,0.6s
MIAR Mount Ida 24.85 345 P **P 08 51 24.4 -1.5**
MIAR IAmb IAmb 08 51 33.7
comp=Z,12nnm,0.7s
CPCT Cooper Cave 24.86 3 IAmb IAmb 08 51 27.6
comp=Z,15nnm,0.8s
FW03 Perrin-Whitt E 24.93 336 IAmb IAmb 08 51 28.4
comp=Z,11nnm,0.7s
V48A Smith Brothers 25.11 359 IAmb IAmb 08 51 28.7
comp=Z,9.5nnm,0.9s
TKL Tuckaleechee C 25.12 5 IAmb IAmb 08 51 31.5
comp=Z,9.9nnm,0.7s
TKL Tuckaleechee C 25.12 5 LR LR 09 01 52.7
comp=Z,88nnm,18.0s,baz=232,slow=39
V53A Saluda 25.22 6 IAmb IAmb 08 51 33.0
comp=Z,14nnm,0.8s
ABTX Abilene, Hawle 25.25 333 IAmb IAmb 08 51 38.6
comp=Z,8.9nnm,0.7s
WHAR Wooly Hollow 25.27 348 IAmb IAmb 08 51 30.6
comp=Z,13nnm,1.0s
H06E1 SOCORRO T-PHAS 25.27 292 T T 09 17 41.5
SNR=37
CLTN Cedars of Leba 25.45 360 IAmb IAmb 08 51 34.2
comp=Z,10.0nnm,0.9s
WVT Waverly 25.54 357 P **P 08 51 30.4 -1.7**
WVT IAmb IAmb 08 51 38.8
comp=Z,4.5nnm,0.7s
V55A Taylorsville 25.62 9 IAmb IAmb 08 51 37.0
comp=Z,10.0nnm,0.9s
WTFS Witchita Falls 25.73 336 IAmb IAmb 08 51 36.8
comp=Z,9.4nnm,0.7s
MNHN Monahans 25.79 326 IAmb IAmb 08 51 36.9
comp=Z,14nnm,0.9s
FCAR Ozark Folk Cen 25.82 349 IAmb IAmb 08 51 42.6
comp=Z,5.4nnm,0.7s
LCAR Lake Charles 25.83 351 IAmb IAmb 08 51 34.3
comp=Z,6.4nnm,0.9s
U49A Red Boiling Sp 25.88 1 IAmb IAmb 08 51 35.7
comp=Z,10nnm,0.7s
V58A Windy Hill, Pi 25.96 13 IAmb IAmb 08 51 37.0
comp=Z,14nnm,0.8s
APMT Aspermont 26.06 333 IAmb IAmb 08 51 40.1
comp=Z,6.9nnm,0.8s
T47A Sharon Grove 26.36 358 IAmb IAmb 08 51 39.6
comp=Z,12nnm,0.8s
T50A Nancy 26.41 2 IAmb IAmb 08 51 40.4
comp=Z,7.1nnm,0.8s
POST Post 26.49 330 IAmb IAmb 08 51 42.5
comp=Z,5.3nnm,0.7s
LPIG La Paz 26.63 304 LR LR 09 02 20.7
comp=Z,44nnm,18.9s,baz=114,slow=37
FNO Franklin 26.65 339 IAmb IAmb 08 51 49.2
comp=Z,12nnm,0.7s
WMOK Wichita Mounta 26.70 336 IAmb IAmb 08 51 46.4
comp=Z,10nnm,0.8s
DKNS Dickens 26.71 332 IAmb IAmb 08 51 52.8
comp=Z,7.2nnm,0.8s
TUL3 Leonard 26.73 342 IAmb IAmb 08 51 49.8
comp=Z,7.5nnm,0.9s
U38A Gravette 26.85 345 IAmb IAmb 08 51 50.4
comp=Z,5.3nnm,0.8s
WCI Wyandotte Cave 27.59 360 P **P 08 51 49.8 -0.8**
R49A Shelbyville 27.66 2 IAmb IAmb 08 51 51.3
comp=Z,8.9nnm,0.6s
MSTX Muleshoe 27.84 329 IAmb IAmb 08 51 54.7
comp=Z,6.1nnm,0.8s
ETMB Extrema 28.34 135 P **P 08 51 58.7 +1.1**
ETMB Extrema 28.34 135 *e*P **P 08 51 58.0 +0.4**
MACA Manacapuru-AM 28.80 117 P **P 08 52 01.8 -0.1**
MACA Manacapuru-AM 28.80 117 *e*P **P 08 52 01.3 -0.5**
ANMO Albuquerque 30.54 326 P **P 08 52 17.4 +0.2**
LPAZ La Paz 32.08 146 P **P 08 52 35.0 +3.6**
comp=Z,0.7nnm,0.8s,baz=183,slow=21,SNR=3.7
comp=Z,0.7nnm,0.8s
SDCO Great Sand Dun 32.19 331 IAmb IAmb 08 52 33.9
comp=Z,2.8nnm,0.8s
ITTB Itaituba 33.74 115 *e*P **P 08 52 45.9 +0.6**
SADO Sadowa 34.66 9 LR LR 09 07 30.5
comp=Z,110nnm,18.0s,baz=158,slow=38
HMU Henry Mountain 35.08 325 IAmb IAmb 08 53 06.6
comp=Z,6.1nnm,1.1s
SIV San Ignacio 36.23 136 LR LR 09 07 37.5
comp=Z,78nnm,20.3s,baz=46,slow=36
BBSD Serra de San D 37.38 137 *e*P **P 08 53 16.5 -0.1**
TPNV Topopah Spring 37.77 319 P **P 08 53 21.6 +1.7**
PDAR Pinedale Array 38.04 332 P **P 08 53 21.2 -0.9**
comp=Z,1.1nnm,0.6s,baz=128,slow=10,SNR=13
PDAR PcP **PcP 08 55 37.3 +0.3**
comp=Z,0.4nnm,0.7s,baz=119,slow=5.4,SNR=3.1
PDAR LR LR 09 12 43.9
comp=Z,30nnm,18.9s,baz=120,slow=42
comp=Z,1.1nnm,0.6s
HWUT Hardware Ranch 38.15 329 IAmb IAmb 08 53 24.5
comp=Z,3.9nnm,0.7s
DSP Deep Springs 39.13 318 P **P 08 53 33.5 +2.5**
NV11 Mina Array Sit 39.86 320 P **P 08 53 39.6 +2.3**
NVAR Mina Array Bea 39.96 319 P **P 08 53 40.0 +1.8**
NVAR Mina Array Bea 39.96 319 P **P 08 53 40.3 +2.1**
comp=Z,3.6nnm,0.8s,baz=139,slow=7.3,SNR=31
NVAR PcP **PcP 08 55 44.5 +1.4**
comp=Z,1.0nnm,0.7s,baz=150,slow=4.2,SNR=7.7
comp=Z,3.6nnm,0.8s
LHV Little Huntoon 39.98 319 P **P 08 53 41.1 +3.0**
LHV IAmb IAmb 08 53 48.7
comp=Z,7.9nnm,1.1s
KVN Kaiserville 40.19 320 P **P 08 53 42.2 +2.1**
ULM Lac du Bonnet 40.41 350 P **P 08 53 38.0 -3.4**
comp=Z,3.5nnm,0.7s,baz=159,slow=2.9,SNR=4.2
comp=Z,3.5nnm,0.7s
DGMT Dagmar 40.73 342 IAmb IAmb 08 53 51.2
comp=Z,11nnm,0.9s
WAKR Walker 40.73 319 P **P 08 53 45.9 +1.3**
YERR Yerington 40.88 319 IAmb IAmb 08 53 48.9
comp=Z,4.1nnm,0.6s
HLID Hailey 41.02 328 P **P 08 53 47.7 +0.9**
PNTR Pine Nut 41.16 319 P **P 08 53 49.2 +1.1**
RPN Rapa Nui 43.65 210 LR LR 09 07 29.9
comp=Z,38nnm,19.8s,baz=78,slow=29
SCHQ Schefferville 46.78 15 P **P 08 54 29.6 -3.1**
comp=Z,5.4nnm,0.8s,baz=139,slow=1.8,SNR=3.9
SCHQ LR LR 09 13 48.6
comp=Z,97nnm,18.3s,baz=260,slow=36
comp=Z,5.4nnm,0.8s
SFJD Kangerlussuaq 61.23 15 LR LR 09 21 47.6
comp=Z,55nnm,20.7s,baz=208,slow=35
ILAR Eielson Array 68.27 336 P **P 08 57 03.0 -0.9**
comp=Z,1.2nnm,0.9s,baz=135,slow=5.0,SNR=7.7
comp=Z,1.2nnm,0.9s
PPT2 Papeete2 68.55 246 *e*LR LR 09 17 51.6
comp=Z,30nnm,25.0s
D25K Kavik River 69.92 341 P **P 08 57 13.9 -0.2**
D25K IAmb IAmb 08 57 14.5
comp=Z,5.7nnm,1.1s
F21K Alatna River 71.64 338 P **P 08 57 24.9 +0.3**
F21K IAmb IAmb 08 57 26.0
comp=Z,3.5nnm,0.8s
ESDC Sonseca Array 77.41 52 P **P 08 57 57.1 -1.5**
comp=Z,0.6nnm,0.8s,baz=282,slow=6.4,SNR=5.3
comp=Z,0.6nnm,0.8s
TORD Torodi Ar. Bea 85.62 78 P **P 08 58 42.0 -0.5**
comp=Z,0.2nnm,0.4s,baz=272,slow=5.4,SNR=1.9
comp=Z,0.2nnm,0.4s
VAE Valguarnera 91.95 51 LR LR 09 39 30.5
comp=Z,64nnm,18.0s,baz=186,slow=35
DZM Mont Dzumac 109.88 250 *e*LR LR 09 36 52.2
comp=Z,25nnm,23.1s
KSRS Korea Array 122.55 328 PKP **PKiKP 09 05 00.2 +1.0**
comp=Z,0.4nnm,0.4s,baz=67,slow=0.6,SNR=5.6
ASAR Alice Springs 139.66 246 PKhKP PKPpre 09 05 30.8
comp=Z,0.3nnm,0.7s,baz=98,slow=2.5,SNR=5.6
WRA Warramunga Arr 139.88 252 PKhKP PKPpre 09 05 30.7
comp=Z,0.4nnm,0.7s,baz=95,slow=2.2,SNR=2.6
WRA PKP **PKiKP 09 05 36.1 +1.5**
comp=Z,0.7nnm,0.8s,baz=90,slow=1.9,SNR=9.0
PZH PanZhiHua 142.40 348 PKP **PKPdf 09 05 37.3 +0.6**
CMAR Chiang Mai Arr 150.76 350 PKPbc **PKiKP 09 05 57.0 -0.1**
comp=Z,1.7nnm,0.7s,baz=324,slow=2.8,SNR=10

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*SOME **21** 08:52:50.2, 44.°70N×82.°03E, h15km*
*NNC **21** 08:52:51.2±0.7, 44.°75N×81.°82E, h0km, mb3.5, mpv3.0,*
Error ellipse: s-maj=9.2km s-min=1.8km az=121.0,
Suspected Mining explosion.
ISC 21 08:52:48.5±1.8, 44.°57N±0.°07×82.°2E±0.°1, h0km, n16,
σ0§84/26, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.77**	**263**	*e*P	**Pb**	**08 53 21.4**	**-0.4**
DJR	2.0nm,0.3s			*e*S	**Sn**	**08 53 43.5**	**-0.1**
	13nm,0.3s						
KAPS	**Kapalarasan**	**2.17**	**290**	*e*P	**Pb**	**08 53 27.4**	**-1.2**
KAPS	1.1nm,0.1s			*e*S	**Sn**	**08 53 54.2**	**+0.8**
	16nm,0.2s						
MK31	**Makanchi Array**	**2.23**	**1**	⇓Pn	**Pn**	**08 53 27.2**	**+0.5**
MK31	7.5nm,0.3s,baz=187,slow=15,SNR=266			⇑Sn	**Sn**	**08 53 54.8**	**-0.1**
	7.6nm,0.5s,baz=182,slow=28,SNR=20						
MAKZ	**Makanchi**	**2.25**	**355**	⇑Pn	**Pn**	**08 53 27.1**	**+0.1**
MAKZ	4.0nm,0.4s			⇑Sn	**Sn**	**08 53 54.9**	**-0.5**
	3.9nm,0.5s						
SHLS	**Shalkode**	**2.45**	**236**	Pg	**Pn**	**08 53 30.5**	**+0.7**
SHLS	4.6nm,0.4s			Lg	Lg	08 53 59.4	
	18nm,0.3s						
SHLS	**Shalkode**	**2.45**	**236**	*e*P	**Pn**	**08 53 29.7**	**-0.1**
SHLS	4.3nm,0.3s			*e*S	**Sn**	**08 53 58.3**	**-2.3**
	18nm,0.3s						
UZB	**Uzynbulak**	**2.72**	**240**	Pg	**Pb**	**08 53 37.7**	**-0.4**
UZB	4.3nm,0.5s			Lg	Lg	08 54 12.2	
	3.9nm,0.3s						
UZB	**Uzynbulak**	**2.72**	**240**	*e*P	**Pb**	**08 53 37.7**	**-0.4**
UZB	4.3nm,0.5s			*e*S	**Sb**	**08 54 12.2**	**+0.1**
	3.9nm,0.3s						
KPKS	**Kokpek**	**2.79**	**248**	Pg	**Pb**	**08 53 38.4**	**-0.8**
KPKS	1.7nm,0.1s			Lg	Lg	08 54 13.0	
	17nm,0.4s						
KPKS	**Kokpek**	**2.79**	**248**	*e*P	**Pb**	**08 53 38.4**	**-0.8**
KPKS	1.7nm,0.1s			*e*S	**Sb**	**08 54 13.0**	**-1.0**
	17nm,0.4s						
SATY	**Saty**	**3.15**	**243**	Pg	**Pb**	**08 53 46.4**	**+0.9**
SATY	0.9nm,0.2s			Lg	Lg	08 54 26.2	
	13nm,0.3s						
SATY	**Saty**	**3.15**	**243**	*e*P	**Pb**	**08 53 46.4**	**+0.9**
SATY	0.9nm,0.2s			*e*S	**Sb**	**08 54 26.2**	**+1.7**
	13nm,0.3s						
ARXS	**Arharly**	**3.18**	**265**	Pg	**Pb**	**08 53 45.8**	**-0.1**
ARXS	0.9nm,0.1s			Lg	Lg	08 54 25.5	
	9.6nm,0.3s						
ARXS	**Arharly**	**3.18**	**265**	*e*P	**Pb**	**08 53 45.8**	**-0.1**
ARXS	0.9nm,0.1s			*e*S	**Sb**	**08 54 25.6**	**+0.4**
	9.6nm,0.3s						
KTBS	**Karatobe**	**4.09**	**260**	Pg	**Pb**	**08 54 01.2**	**-0.1**
KTBS	0.3nm,0.1s			Lg	Lg	08 54 52.2	
	2.9nm,0.4s						
KTBS	**Karatobe**	**4.09**	**260**	*e*P	**Pb**	**08 54 01.2**	**-0.1**
KTBS	0.3nm,0.1s			*e*S	**Sb**	**08 54 52.1**	**+0.9**
	2.9nm,0.4s						

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*IDC **21** 09:00:57.4±2.3, 35.°84N×140.°95E, h0km, mb3.5/4,*
mbtmp3.5/5, ML2.6/1, MS2.8/1, Error ellipse: s-maj=63.5km
s-min=23.0km az=52.0
*JMA **21** 09:01:08.3±0.2, 35.°7N±0.°6×140.°1E±0.°8, h66km±1km,*
MV2.8/39, CENTRAL CHIBA PREF
ISC 21 09:01:09.3±0.9, 35.°57N±0.°06×140.°10E±0.°06, h69km±7km,
n24, σ1§57/24, mb3.5/4, Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.18**	**151**	P	**Pn**	**09 01 19.4**	**-0.3**
JCN				S	**Sn**	**09 01 27.3**	**0.0**
JSMT	**Sammumatsuo**	**0.29**	**76**	*i* P	**Pn**	**09 01 19.6**	**-0.7**
TOK	**Tokyo**	**0.30**	**292**	P	**Pn**	**09 01 20.0**	**-0.4**
TOK				*e*S	**Sn**	**09 01 28.7**	**+0.3**
BSO3	**Boso 3**	**0.84**	**156**	P	**Pn**	**09 01 25.2**	**-0.3**
BSO3				S	**Sn**	**09 01 38.8**	**+1.2**
JOD2	**Odawara 2**	**0.88**	**250**	*i* P	**Pn**	**09 01 25.5**	**-0.8**
JOD2				S	**Sn**	**09 01 37.7**	**-1.2**
JAG	**Ashikaga**	**1.00**	**329**	*i* P	**Pn**	**09 01 25.8**	**-2.0**
JIM2	**Oshima 3**	**1.01**	**213**	P	**Pn**	**09 01 26.8**	**-1.2**
JIM2				S	**Sn**	**09 01 41.4**	**-0.5**
JRY	**Ryogami san**	**1.07**	**295**	*i* P	**Pn**	**09 01 27.9**	**-0.8**
BSO1	**Boso 1**	**1.17**	**142**	P	**Pn**	**09 01 28.8**	**-0.6**
BSO1				*e*S	**Sn**	**09 01 45.4**	**+1.0**
JYN	**Shimob**	**1.27**	**267**	*i* P	**Pn**	**09 01 30.6**	**-0.8**
JKT	**Katashina**	**1.38**	**330**	P	**Pn**	**09 01 30.7**	**-2.1**
MJAR	**Matsushiro Arr**	**1.81**	**303**	Pn	**Pn**	**09 01 37.4**	**-1.1**
MJAR	1.7nm,0.3s,baz=105,slow=14,SNR=62			Sn	**Sn**	**09 02 05.5**	**+4.9**
	0.7nm,0.3s,baz=79,slow=2.8,SNR=6.7						
	23nm,0.6s						
NJ2	**Nanjing**	**18.00**	**265**	*e*P	**Pn**	**09 05 17.1**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.38**	**117**	T	T	09 36 26.8	
	baz=309						
H11N1	**WAKE ISLAND Hy**	**28.39**	**117**	T	T	09 36 27.9	
	baz=309						
H11N3	**WAKE ISLAND Hy**	**28.40**	**117**	T	T	09 36 38.6	
	baz=309						
H11S3	**WAKE ISLAND Hy**	**29.02**	**119**	T	T	09 36 60.0	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**29.02**	**119**	T	T	09 36 54.5	
	baz=310						
H11S2	**WAKE ISLAND Hy**	**29.04**	**119**	T	T	09 37 10.0	
	baz=310						
DAV	**Davao City (W)**	**31.34**	**209**	LR	LR	09 20 48.0	
	comp=Z,16nm,19.2s,baz=194,slow=37						
MKAR	**Makanchi Array**	**44.01**	**303**	P	**P**	**09 09 09.4**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=81,slow=8.9,SNR=2.9						
	comp=Z,0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**46.08**	**309**	P	**P**	**09 09 25.9**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=146,slow=9.3,SNR=1.4						
	comp=Z,0.6nm,0.3s						
WRA	**Warramunga Arr**	**55.48**	**187**	P	**P**	**09 10 36.0**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=2.4,slow=7.5,SNR=8.9						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**59.21**	**187**	P	**P**	**09 11 03.2**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=19,slow=9.0,SNR=1.7						
	comp=Z,0.1nm,0.4s						

WEL 21 09:09:51.2±1.1, 35.°5S±14.°×177.°9W±3.°0, h409km±12km,
M4.3/6, mB4.6/1, ML4.3/14, MLv4.3/6, Mw(mB)3.7/1, Error
ellipse: s-maj=43.2km s-min=6.2km az=114.2,
confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**3.48**	**213**	P	P	09 10 56.1	-2.8
WMGZ				S	S	09 11 54.7	+0.6
HAZ	**Te Kaha**	**3.75**	**220**	P	P	09 10 59.7	-1.6
PUZ	**Puketiti**	**3.76**	**213**	P	P	09 11 01.8	+0.4
PUZ				S	S	09 11 57.2	-1.6
TKGZ	**Te Karaka**	**4.25**	**214**	P	P	09 11 06.5	+0.6
TKGZ				S	S	09 12 08.1	+1.1
MWZ	**Matawai**	**4.32**	**217**	P	P	09 11 04.7	-1.9
URZ	**Urewera**	**4.47**	**221**	P	P	09 11 06.7	-1.4
RAGZ	**Rawiri**	**4.50**	**217**	P	P	09 11 08.4	0.0
RIGZ	**Rimuhau**	**4.50**	**212**	P	P	09 11 10.1	+1.6
RIGZ				S	S	09 12 13.0	+1.4
RTZ	**Ruatahuna**	**4.81**	**219**	P	P	09 11 10.1	-1.4
MUGZ	**Murupara**	**4.82**	**222**	P	P	09 11 10.8	-0.7
NMHZ	**Naumai**	**5.26**	**217**	P	P	09 11 16.8	+0.7
NMHZ				S	S	09 12 28.9	+3.2
ARHZ	**Aropaoanui**	**5.30**	**214**	P	P	09 11 18.0	+1.5
BKZ	**Black Stump Fm**	**5.47**	**218**	P	P	09 11 18.0	-0.2
BKZ				S	S	09 12 29.6	0.0
WATZ	**Wairara**	**5.57**	**226**	P	P	09 11 16.7	-2.5
KWHZ	**Kaweka Forest**	**5.70**	**217**	S	S	09 12 35.5	+1.4
GLKZ	**Green Lake**	**5.75**	**11**	S	S	09 12 37.3	+2.2
KAHZ	**Kahuranaki**	**5.79**	**212**	P	P	09 11 24.0	+2.4
KAHZ				S	S	09 12 42.1	+6.4
KRHZ	**Kereru**	**5.90**	**216**	P	P	09 11 23.6	+0.8
KRHZ				S	S	09 12 37.3	-0.5
OTVZ	**Oturere**	**5.91**	**223**	P	P	09 11 22.5	-0.5
PRHZ	**Porangahau**	**6.28**	**211**	P	P	09 11 28.7	+1.9
TSZ	**Takapari Road**	**6.42**	**216**	P	P	09 11 28.5	+0.1
MRZ	**Mangatainoka R**	**7.07**	**215**	P	P	09 11 36.4	+0.2
MRZ				S	S	09 13 02.1	+0.8

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*NEIC **21** 09:20:26.6±1.2, 17.°8S±0.°1×177.°9W±0.°1, h529km±9km,*
mb4.2/19, Error ellipse: s-maj=21.3km s-min=13.5km
az=112.0
*IDC **21** 09:20:28.7±1.8, 17.°89S×178.°41W, h521km±17km, mb3.4/7,*
mbtmp4.3/8, Error ellipse: s-maj=23.7km s-min=21.9km
az=158.0
ISC 21 09:20:25.6±0.7, 17.°9S±0.°1×178.°1W±0.°1, h500km, n36,
σ1§39/39, mb4.1/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.52**	**0**	P	**P**	**09 21 42.7**	**+2.3**
MSVF	**Nonsavu**	**3.63**	**271**	P	**P**	**09 21 44.4**	**+3.2**
MSVF	**Nonsavu**	**3.63**	**271**	P	**P**	**09 21 44.1**	**+2.8**
	61nm,0.8s,baz=122,slow=6.2,SNR=31						
AFI	**Afiamalu**	**7.27**	**58**	P	**P**	**09 22 13.6**	**-1.0**
NIUE	**Niue**	**7.89**	**100**	P	**P**	**09 22 22.1**	**+1.3**
FUNA	**Funafuti**	**9.62**	**344**	P	**P**	**09 22 41.0**	**+2.0**
EIDS	**Eidsvold**	**29.53**	**250**	P	**P**	**09 25 49.2**	**+0.2**
EIDS				IAmb	IAmb	09 26 02.4	
	comp=Z,10nm,1.1s						
ARMA	**Armidale**	**30.19**	**240**	P	**P**	**09 25 55.1**	**+0.3**
ARMA				IAmb	IAmb	09 26 21.9	
	comp=Z,4.6nm,1.1s						
CTAO	**Charters Tower**	**33.71**	**260**	P	**P**	**09 26 24.6**	**-0.2**
CTAO				IAmb	IAmb	09 26 25.2	
	comp=Z,4.7nm,0.8s						
COEN	**Coen**	**37.36**	**270**	P	**P**	**09 26 55.8**	**+0.5**
COEN				IAmb	IAmb	09 26 56.3	
	comp=Z,7.7nm,0.8s						
TOO	**Toolangi**	**37.41**	**231**	P	**P**	**09 26 56.1**	**+0.7**
TOO				IAmb	IAmb	09 27 23.9	
	comp=Z,5.2nm,1.1s						
STKA	**Stephens Creek**	**38.88**	**241**	P	**P**	**09 27 08.1**	**+0.5**
STKA	**Stephens Creek**	**38.88**	**241**	P	**P**	**09 27 07.3**	**-0.2**
	comp=Z,5.0nm,0.8s,baz=102,slow=12,SNR=3.8						
	comp=Z,5.0nm,0.8s						
BBOO	**Buckleboo**	**43.66**	**241**	P	**P**	**09 27 45.4**	**-0.1**
WR0	**Warramunga Arr**	**44.70**	**259**	P	**P**	**09 27 53.1**	**-0.7**
WB0	**Warramunga Arr**	**44.86**	**260**	P	**P**	**09 27 54.5**	**-0.5**
WB2	**Warramunga Arr**	**44.88**	**259**	P	**P**	**09 27 54.3**	**-0.9**
WB2				IAmb	IAmb	09 27 54.9	
	comp=Z,3.9nm,0.7s						
WRAB	**Tennant Creek**	**44.88**	**259**	P	**P**	**09 27 54.3**	**-0.9**

WRAB IAmb IAmb 09 27 54.7
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 44.89 259 P P 09 27 54.4 -0.9
comp=Z,2.2nm,0.6s,baz=96,slow=6.9,SNR=39
WRA PcP **PcP 09 29 25.6 -0.9**
comp=Z,0.3nm,0.4s,baz=95,slow=3.4,SNR=2.3
WRA S **S 09 33 53.1 -3.4**
comp=Z,0.6nm,1.1s,baz=98,slow=14,SNR=1.9
comp=Z,2.2nm,0.6s
AS31 Alice Springs 45.05 254 P **P 09 27 56.2 -0.3**
AS31 IAmb IAmb 09 27 56.6
comp=Z,5.7nm,0.6s
ASAR Alice Springs 45.05 254 P **P 09 27 56.1 -0.4**
comp=Z,19nm,0.6s,baz=89,slow=8.2,SNR=294
ASAR PcP **PcP 09 29 26.9 0.0**
comp=Z,0.5nm,0.5s,baz=97,slow=4.3,SNR=3.6
comp=Z,19nm,0.6s
FORT Forrest 50.26 245 P **P 09 28 35.2 -0.3**
KNRA Kununurra 50.75 264 P **P 09 28 39.1 -0.1**
KNRA IAmb IAmb 09 28 39.9
comp=Z,9.0nm,0.7s
FITZ Fitzroy Crossi 53.29 260 P **P 09 28 57.9 +0.4**
FITZ Fitzroy Crossi 53.29 260 P **P 09 28 57.4 -0.1**
comp=Z,2.6nm,0.6s,baz=80,slow=6.7,SNR=14
comp=Z,2.6nm,0.6s
PSA00 Pilbara Seismi 58.17 255 P **P 09 29 31.1 -0.3**
PSA00 IAmb IAmb 09 29 41.5
comp=Z,12nm,1.1s
MBWA Marble Bar 58.34 256 P **P 09 29 31.6 -1.0**
MBWA IAmb IAmb 09 29 41.5
comp=Z,11nm,1.1s
MJAR Matsushiro Arr 68.01 323 P **P 09 30 34.8 +0.3**
comp=Z,1.6nm,0.6s,baz=157,slow=6.3,SNR=5.5
comp=Z,1.6nm,0.6s
QSPA South Pole Qui 72.21 180 P **P 09 30 57.4 -1.9**
QSPA South Pole Qui 72.21 180 P **P 09 30 59.9 +0.6**
comp=Z,1.5nm,0.8s,baz=68,slow=0.3,SNR=9.5
comp=Z,1.5nm,0.8s
SDPT Sand Point 74.44 10 P **P 09 31 10.4 -1.4**
P08K Saint George I 74.51 5 P **P 09 31 08.9 -3.3**
KSRS Korea Array 74.83 318 P **P 09 31 13.5 -0.9**
comp=Z,0.4nm,0.4s,baz=137,slow=4.5,SNR=2.2
comp=Z,0.4nm,0.4s
MKAR Makanchi Array 109.28 314 PKiKP **PKiKP 09 37 57.8 -0.7**
comp=Z,0.2nm,0.5s,baz=0.0,slow=1.2,SNR=4.1
BRTR Keskin Array B 144.92 315 PKP **PKPdf 09 39 07.0 +1.2**
comp=Z,2.0nm,0.8s,baz=140,slow=3.3,SNR=9.0
MMAI Mount Meron Ar 146.32 303 PKPbc **PKPbc 09 39 11.8 +1.3**
comp=Z,1.9nm,0.5s,baz=67,slow=6.4,SNR=5.3

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*IDC **21** 09:22:51.1±2.0, 22°.65S×178°.03W, h0km, mb4.2/4, mbtmp4.2/4, Error ellipse: s-maj=60.9km s-min=37.9km az=26.0*
ISC 21 09:23:30.2±1.6, 22°.8S±0°.3×178°.5W±0°.3, h350km, n7, σ0°48/7, mb3.7/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.58**	**259**	P	**P**	**09 31 00.8**	**-0.4**
	1.7nm,0.4s,baz=96,slow=7.4,SNR=18						
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**43.86**	**264**	P	**P**	**09 31 03.2**	**-0.3**
	2.3nm,0.4s,baz=96,slow=8.4,SNR=46						
	2.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**52.29**	**264**	P	**P**	**09 32 07.7**	**+0.3**
	1.7nm,0.5s,baz=115,slow=5.6,SNR=6.5						
	1.7nm,0.5s						
QSPA	**South Pole Qui**	**67.31**	**180**	P	**P**	**09 33 48.2**	**+0.1**
	1.4nm,0.8s,baz=250,slow=1.3,SNR=5.7						
	1.4nm,0.8s						
HFS	**Hagfors**	**141.69**	**350**	PKP	**PKiKP**	**09 42 22.4**	**-0.5**
	1.1nm,0.4s,baz=45,slow=2.7,SNR=6.1						
AKASG	**Malin Array Be**	**144.73**	**329**	PKP	**PKiKP**	**09 42 29.4**	**0.0**
	0.3nm,0.4s,baz=43,slow=2,SNR=4.2						
MMAI	**Mount Meron Ar**	**148.45**	**296**	PKPbc	**PKPab**	**09 42 41.5**	**+0.6**
	0.9nm,0.4s,baz=66,slow=7.0,SNR=2.2						

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*IDC **21** 09:28:31.7±1.0, 60°.88N×20°.89E, h0km, mbtmp3.0/4, ML2.1/4, Error ellipse: s-maj=22.5km s-min=7.3km az=166.0*
*HEL **21** 09:28:32.5±0.1, 60°.94N×20°.79E, h0km, ML2.2, Explosion*
*UPP **21** 09:28:33.7±0.6, 60°.87N×20°.53E, h0km, ML2.3*
*DNK **21** 09:28:34.4±0.8, 60°.87N×20°.49E, h0km, ML2.3(UPP), Suspected explosion*
ISC 21 09:28:30.6±0.7, 60°.96N±0°.03×20°.84E±0°.02, h0km, n33, σ0°78/48, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.46**	**82**	*e*P	**Pb**	**09 28 41.0**	**-0.5**
RAF	**Rauma**	**0.46**	**82**	*e*P	**Pb**	**09 28 41.4**	**-0.1**
RAF				*e*S	**Sg**	**09 28 46.6**	**+1.3**
AAL	**Aland**	**0.89**	**208**	P	**Pg**	**09 28 47.7**	**+0.1**
AAL				S	**Sg**	**09 28 57.5**	**-1.6**
AAL	**Aland**	**0.89**	**208**	P	**Pg**	**09 28 47.7**	**+0.1**
AAL				S	**Sg**	**09 28 57.5**	**-1.6**
AAL	**Aland**	**0.89**	**208**	*e*P	**Pg**	**09 28 47.7**	**+0.1**
AAL				*e*S	**Sg**	**09 28 58.7**	**-0.4**
KPF	**Kankaanpaa**	**1.06**	**34**	*e*P	**Pn**	**09 28 53.0**	**+0.3**
GRAU	**Graesoe**	**1.29**	**242**	P	**Pg**	**09 28 54.8**	**-0.6**
	baz=56						
GRAU	**Graesoe**	**1.29**	**242**	P	**Pg**	**09 28 54.8**	**-0.6**
	baz=56						
FORU	**Forsmark**	**1.43**	**247**	P	**Pn**	**09 28 57.1**	**-0.6**
FORU	**Forsmark**	**1.43**	**247**	P	**Pn**	**09 28 57.1**	**-0.6**
FLYU	**Flymyra**	**1.68**	**242**	P	**Pn**	**09 29 01.4**	**+0.2**
FLYU	**Flymyra**	**1.68**	**242**	P	**Pn**	**09 29 01.4**	**+0.2**
NRTU	**Norrtaelje**	**1.69**	**221**	P	**Pn**	**09 29 01.3**	**-0.1**
NRTU	**Norrtaelje**	**1.69**	**221**	P	**Pn**	**09 29 01.3**	**-0.1**
IGGU	**Iggoen**	**1.72**	**269**	P	**Pb**	**09 29 02.7**	**-0.4**
IGGU	**Iggoen**	**1.72**	**269**	P	**Pb**	**09 29 02.7**	**-0.4**
ARNU	**Arnoeviken**	**1.82**	**295**	P	**Pg**	**09 29 05.1**	**-0.3**
ARNU	**Arnoeviken**	**1.82**	**295**	P	**Pg**	**09 29 05.1**	**-0.3**
MEF	**Metsahovi**	**1.91**	**111**	*e*P	**Pg**	**09 29 06.6**	**-0.5**
MEF	**Metsahovi**	**1.91**	**111**	*e*PG	**Pg**	**09 29 07.0**	**-0.1**
MEF				*e*SG	**Sg**	**09 29 32.5**	**+0.7**
NUR	**Nurmijarvi**	**1.93**	**102**	*e*PG	**Pg**	**09 29 07.6**	**+0.1**
NUR				*e*SG	**Sg**	**09 29 33.4**	**+0.9**
NUR				MSG		09 29 35.8	
	comp=Z,17nm,0.2s						
HEL1	**Helsinki**	**2.15**	**110**	*e*PG	**Pg**	**09 29 10.9**	**-0.8**
HEL1				*e*SG	**Sg**	**09 29 39.2**	**-0.3**
VAF	**Ylistaro**	**2.26**	**22**	*e*P	**Pg**	**09 29 13.4**	**-0.6**
VAF	**Ylistaro**	**2.26**	**22**	*e*PG	**Pg**	**09 29 13.5**	**-0.4**
VAF				*e*SG	**Sg**	**09 29 43.3**	**+0.1**
VAF				MSG		09 29 45.1	
	comp=Z,16nm,0.2s						
KEF	**Keuruu**	**2.28**	**56**	*e*P	**Pg**	**09 29 13.2**	**-1.1**
KEF	**Keuruu**	**2.28**	**56**	*e*PG	**Pg**	**09 29 13.5**	**-0.8**
KEF				*e*SG	**Sg**	**09 29 43.4**	**-0.4**
KEF				MSG		09 29 44.5	
	comp=Z,8.2nm,0.1s						
PVF	**Pernaja**	**2.50**	**97**	*e*PB	**Pb**	**09 29 16.7**	**+0.3**
PVF				*e*SG	**Sg**	**09 29 49.6**	**-1.3**
PVF				MSG		09 29 50.3	
	comp=Z,11nm,0.2s						
FIA0	**FINESS Array S**	**2.58**	**77**	*e*PB	**Pb**	**09 29 17.4**	**-0.3**
FIA0				*e*SG	**Sg**	**09 29 52.4**	**-1.1**
FIA0				MSG		09 29 54.0	
	comp=Z,8.1nm,0.1s						
FINES	**FINESS Array B**	**2.58**	**77**	Pn	**Pb**	**09 29 17.2**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=263,slow=13,SNR=52						
FINES				Sn	**Sb**	**09 29 49.8**	**-0.2**
	comp=Z,2.2nm,0.3s,baz=256,slow=23,SNR=22						
	comp=Z,4.6nm,0.4s						
UMAU	**Umeaa**	**2.94**	**359**	*e*PB	**Pb**	**09 29 23.5**	**-0.3**
UMAU				*e*		09 29 49.0	
HFS	**Hagfors**	**3.62**	**260**	Pn	**Pn**	**09 29 29.8**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=74,slow=11,SNR=8.1						
HFS				Pg	**Pb**	**09 29 35.6**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=80,slow=16,SNR=8.9						
HFS				Sn	**Sn**	**09 30 12.9**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=78,slow=28,SNR=1.9						
HFS				Lg	Lg	09 30 21.5	
	comp=Z,1.5nm,0.3s,baz=73,slow=31,SNR=11						
	comp=Z,0.7nm,0.3s						
NOA	**NORSAR Array B**	**4.69**	**275**	Pn	**Pn**	**09 29 42.2**	**-0.3**
	baz=111,slow=11,SNR=4.5						
NOA				Sn	**Sn**	**09 30 39.3**	**+1.8**
	baz=42,slow=15,SNR=1.5						
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**8.83**	**11**	Pn	**Pn**	**09 30 39.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=189,slow=13,SNR=8.6						
	comp=Z,2.6nm,0.8s						

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*IDC **21** 09:29:28.5±0.8, 56°.06N×149°.14W, h0km, mb3.8/13, mbtmp3.8/17, ML3.5/4, MS3.6/38, Error ellipse: s-maj=20.6km s-min=15.4km az=47.0*
*NEIC **21** 09:29:29.6±1.3, 56°.09N±0°.07×149°.19W±0°.09, h22km±7km, mb4.1/6, ML3.8/64, ML3.6(AEIC), Error ellipse: s-maj=10.8km s-min=7.0km az=164.0*
*AEIC **21** 09:29:33.9±1.2, 56°.20N±0°.07×149°.19W±0°.10, h11km±5km, Error ellipse: s-maj=10.4km s-min=7.7km az=168.0*
ISC 21 09:29:29.3±0.6, 56°.20N±0°.07×149°.19W±0°.05, h10km, n250, σ1°10/224, mb4.0/14, MS3.5/32, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.45**	**312**		**Pn**	**09 30 08.7**	**-0.4**
KDAK					**Sn**	**09 30 37.5**	**-1.6**
KDAK	**Kodiak Island**	**2.45**	**312**	Pn	**Pn**	**09 30 08.9**	**-0.3**
	6.5nm,0.3s,baz=210,slow=2.3,SNR=121						
KDAK				Sn	**Sn**	**09 30 36.5**	**-2.6**
	9.8nm,0.3s,baz=349,slow=5.5,SNR=6.6						
KDAK				LR	LR	09 31 22.9	
	comp=Z,434nm,18.7s,baz=343,slow=45						
	14nm,0.3s						
OHAK	**Old Harbor**	**2.48**	**296**		**Pn**	**09 30 08.8**	**-0.9**
OHAK					**Sn**	**09 30 37.4**	**-2.6**
OHAK				IAML		09 30 38.5	
	comp=N,304nm,1.1s						
OHAK	**Old Harbor**	**2.48**	**296**	P	**Pn**	**09 30 08.8**	**-0.9**
SII	**Sitkinak Islan**	**2.80**	**279**		**Pn**	**09 30 12.7**	**-1.4**
SII				IAML		09 30 55.7	
	comp=N,706nm,0.7s						
SII	**Sitkinak Islan**	**2.80**	**279**	P	**Pn**	**09 30 12.9**	**-1.2**
SYI	**Shuyak Island**	**2.98**	**326**		**Pn**	**09 30 16.4**	**-0.1**
R18K	**Karluk**	**3.20**	**298**		**Pn**	**09 30 19.9**	**+0.4**
R18K				IAML		09 31 05.5	
	comp=N,474nm,0.6s						
R18K				IAML		09 31 06.9	
	comp=E,312nm,0.8s						
CNPM	**China Poot**	**3.51**	**343**		**Pn**	**09 30 23.8**	**-0.1**
Q23K	**Middleton Isla**	**3.58**	**24**		**Pn**	**09 30 24.2**	**-0.5**
Q23K				IAML		09 31 02.8	
	comp=N,143nm,1.2s						
Q23K				IAML		09 32 43.7	
	comp=E,167nm,1.1s						
MID	**Middleton Isla**	**3.58**	**24**		**Pn**	**09 30 24.4**	**-0.4**
MID				IAML		09 31 02.7	
	comp=N,120nm,1.2s						
MID				IAML		09 32 43.7	
	comp=E,176nm,1.1s						
MID	**Middleton Isla**	**3.58**	**24**	P	**Pn**	**09 30 24.5**	**-0.2**
CHIR	**Chirikof Islan**	**3.63**	**267**		**Pn**	**09 30 23.4**	**-2.1**
CHIR				IAML		09 31 13.4	
	comp=N,231nm,0.8s						
CHIR	**Chirikof Islan**	**3.63**	**267**	P	**Pn**	**09 30 24.1**	**-1.4**
Q19K	**Cape Douglas,**	**3.64**	**321**		**Pn**	**09 30 26.4**	**+0.7**
BRSE	**Bradley Lake S**	**3.65**	**348**		**Pn**	**09 30 25.5**	**-0.3**
BRLK	**Bradley Lake**	**3.69**	**346**		**Pn**	**09 30 26.0**	**-0.3**
BRLK				IAML		09 31 21.1	
	comp=E,108nm,0.9s						
KAHG	**Katmai Hook Gl**	**3.71**	**311**		**Pn**	**09 30 27.4**	**+0.8**
HOM	**Homer**	**3.71**	**340**		**Pn**	**09 30 27.2**	**+0.7**
KAKN	**Katmai Knife C**	**3.82**	**306**		**Pn**	**09 30 28.8**	**+0.6**
ACHA	**Angle Creek He**	**3.90**	**304**		**Pn**	**09 30 30.2**	**+1.0**
SEW	**Seward**	**3.92**	**358**		**Pn**	**09 30 28.7**	**-0.7**
P23K	**Montague Islan**	**3.93**	**13**		**Pn**	**09 30 29.2**	**-0.3**
P23K					**Sn**	**09 31 14.2**	**-1.4**
ANCK	**Angle Creek**	**3.98**	**303**		**Pn**	**09 30 30.7**	**+0.5**
KAHC	**Katmai Hardscr**	**3.99**	**310**		**Pn**	**09 30 30.7**	**+0.1**
P19K	**Oil Pt**	**4.08**	**330**		**Pn**	**09 30 32.2**	**+0.5**
P19K				IAML		09 31 29.4	
	comp=N,194nm,0.6s						
P19K				IAML		09 31 29.7	
	comp=E,179nm,0.8s						
PLK3	**Peulik 3**	**4.16**	**294**		**Pn**	**09 30 32.8**	**+0.1**
PLK4	**Peulik 4**	**4.19**	**293**	Pn	**Pn**	**09 30 33.1**	**-0.1**
CNTC	**Contact Creek**	**4.19**	**302**		**Pn**	**09 30 33.7**	**+0.5**
PLK2	**Peulik 2**	**4.21**	**295**		**Pn**	**09 30 33.7**	**+0.3**
ILS	**Iliamna Low So**	**4.30**	**333**		**Pn**	**09 30 34.9**	**+0.2**
O22K	**Cooper Landing**	**4.30**	**356**		**Pn**	**09 30 34.8**	**+0.1**
IVE	**Iliamna Volcan**	**4.33**	**334**		**Pn**	**09 30 35.5**	**+0.3**
ILSW	**Iliamna Southw**	**4.34**	**333**		**Pn**	**09 30 35.2**	**-0.1**
ILSW				IAML		09 31 34.7	
	comp=E,96nm,1.0s						
ILSW				IAML		09 31 45.3	
	comp=N,84nm,0.9s						
SLKM	**Skilak Lake**	**4.36**	**353**		**Pn**	**09 30 35.0**	**-0.4**
PLK1	**Peulik 1**	**4.37**	**295**		**Pn**	**09 30 35.9**	**+0.4**
HIN	**Hinchinbrook I**	**4.44**	**17**		**Pn**	**09 30 36.2**	**-0.4**
HIN				IAML		09 31 36.8	
	comp=N,96nm,0.6s						
HIN				IAML		09 31 50.5	
	comp=E,93nm,1.2s						
KAIM	**Kayak Island**	**4.51**	**32**		**Pn**	**09 30 37.4**	**-0.2**
KAIM				IAML		09 31 32.0	
	comp=E,98nm,0.5s						
KAIM				IAML		09 32 10.4	
	comp=N,117nm,1.2s						
P18K	**Big Mountain,**	**4.55**	**317**		**Pn**	**09 30 38.0**	**-0.1**
P18K				IAML		09 31 41.6	
	comp=E,55nm,1.0s						
PWL	**Port Wells**	**4.70**	**5**		**Pn**	**09 30 39.8**	**-0.3**
PWL				IAML		09 31 48.4	
	comp=N,64nm,1.0s						
CAPN	**Captain Cook N**	**4.70**	**348**	Pn	**Pn**	**09 30 41.0**	**+0.9**
RDT	**Redoubt**	**4.70**	**340**		**Pn**	**09 30 39.5**	**-0.8**
RDWB	**Redoubt West**	**4.71**	**337**		**Pn**	**09 30 40.0**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.72**	**21**		**Pn**	**09 30 40.5**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.72**	**21**	P	**Pn**	**09 30 40.3**	**-0.1**
Q16K	**King Salmon**	**4.74**	**305**		**Pn**	**09 30 40.6**	**0.0**
FID	**Port Fidalgo**	**4.78**	**16**		**Pn**	**09 30 40.9**	**-0.4**
FID				IAML		09 31 35.5	
	comp=N,60nm,0.8s						
GLI	**Glacier Island**	**4.82**	**12**		**Pn**	**09 30 41.6**	**-0.2**
GLI				IAML		09 31 38.5	
	comp=E,46nm,0.8s						
SUCK	**Suckling Hills**	**4.83**	**34**	Pn	**Pn**	**09 30 41.7**	**-0.2**
SUCK				IAML		09 31 55.7	
	comp=N,99nm,1.0s						
SUCK				IAML		09 32 09.8	
	comp=E,98nm,1.0s						
O19K	**Port Alsworth**	**4.84**	**328**		**Pn**	**09 30 41.8**	**-0.3**
O18K	**Koktuh Hills**	**4.87**	**321**		**Pn**	**09 30 42.4**	**0.0**
O18K				IAML		09 31 42.6	
	comp=N,72nm,1.1s						
O18K				IAML		09 32 00.9	
	comp=E,74nm,1.0s						
RC01	**Rabbit Creek A**	**4.91**	**357**		**Pn**	**09 30 43.0**	**-0.1**
RC01				IAML		09 31 44.1	
	comp=E,53nm,0.8s						
P17K	**Kvichak River**	**4.92**	**311**		**Pn**	**09 30 43.8**	**+0.7**
BERG	**Berg Lake**	**5.10**	**32**	Pn	**Pn**	**09 30 45.5**	**-0.2**
SNH	**Sunshine Point**	**5.21**	**37**	Pn	**Pn**	**09 30 47.0**	**-0.3**
SNH				IAML		09 32 36.7	
	comp=N,42nm,0.9s						
SNH				IAML		09 33 08.3	
	comp=E,62nm,1.2s						
SPU	**Mount Spurr**	**5.22**	**345**		**Pn**	**09 30 47.1**	**-0.2**
SPU				IAML		09 31 50.8	
	comp=N,42nm,1.0s						
SPU				IAML		09 31 52.0	
	comp=E,54nm,0.7s						
KNK	**Knik Glacier**	**5.24**	**4**		**Pn**	**09 30 48.1**	**+0.5**
KNK				IAML		09 31 52.3	
	comp=E,37nm,0.7s						
DIV	**Divide**	**5.26**	**18**		**Pn**	**09 30 48.1**	**+0.3**
SPCR	**Spurr Chakacha**	**5.26**	**344**		**Pn**	**09 30 47.5**	**-0.4**
SPCG	**Spurr Capps Gl**	**5.32**	**345**		**Pn**	**09 30 48.4**	**-0.3**
SUA	**Susitna One**	**5.34**	**352**		**Pn**	**09 30 48.5**	**-0.6**
BMRM	**Bremner River**	**5.35**	**25**		**Pn**	**09 30 49.2**	**+0.1**
N19K	**Bonanza Creek**	**5.40**	**331**		**Pn**	**09 30 49.3**	**-0.5**
PMR	**Palmer**	**5.41**	**0**		**Pn**	**09 30 50.0**	**+0.1**
PMR	**Palmer**	**5.41**	**0**	P	**Pn**	**09 30 50.2**	**+0.3**
WAX	**Waxell Ridge**	**5.41**	**35**		**Pn**	**09 30 49.8**	**-0.2**
STLK	**Strandline Lak**	**5.49**	**347**		**Pn**	**09 30 51.0**	**-0.1**
BARK	**Barkley Ridge**	**5.50**	**37**		**Pn**	**09 30 51.4**	**+0.2**
P16K	**Nushagak River**	**5.52**	**305**		**Pn**	**09 30 51.9**	**+0.5**
MESA	**MESA**	**5.53**	**41**	Pn	**Pn**	**09 30 51.6**	**-0.1**
CRQM	**Cirque**	**5.56**	**32**		**Pn**	**09 30 52.0**	**-0.2**
KLU	**Klutina**	**5.57**	**16**		**Pn**	**09 30 52.5**	**+0.3**
GHO	**Glory Hole Cre**	**5.59**	**1**		**Pn**	**09 30 52.8**	**+0.3**
SML	**Sawmill**	**5.64**	**4**		**Pn**	**09 30 53.9**	**+0.7**
TGL	**Tana Glacier**	**5.66**	**33**		**Pn**	**09 30 53.2**	**-0.2**
N18K	**Kilae Creek**	**5.71**	**325**		**Pn**	**09 30 53.8**	**-0.2**
SCM	**Sheep Creek Mo**	**5.73**	**9**		**Pn**	**09 30 55.5**	**+1.1**
O16K	**Kokwok River B**	**5.84**	**309**		**Pn**	**09 30 56.3**	**+0.5**
VRDI	**Verde Repeater**	**5.86**	**28**		**Pn**	**09 30 56.1**	**-0.2**
N25K	**Chitina, Valde**	**5.92**	**22**		**Pn**	**09 30 57.4**	**+0.4**
SKT	**Skwentna**	**5.92**	**349**		**Pn**	**09 30 57.4**	**+0.4**
GLB	**Gilahina Butte**	**5.95**	**26**		**Pn**	**09 30 57.5**	**+0.1**
GRNC	**Granite Creek**	**5.99**	**38**		**Pn**	**09 30 57.8**	**-0.2**
TABL	**Table Mountain**	**6.00**	**42**		**Pn**	**09 30 58.3**	**0.0**
BALM	**Baldy**	**6.02**	**34**		**Pn**	**09 30 58.5**	**+0.1**
N17K	**Nushagak Hills**	**6.04**	**319**	Pn	**Pn**	**09 30 58.6**	**0.0**
M20K	**Styx River**	**6.05**	**342**		**Pn**	**09 30 58.7**	**-0.1**
CHNA	**Chernabura Isl**	**6.07**	**261**	P	**Pn**	**09 30 57.5**	**-1.4**
CNBA	**Chernabura Isl**	**6.07**	**261**		**Pn**	**09 30 57.4**	**-1.5**
MCARA	**McCarthy VSAT**	**6.11**	**29**		**Pn**	**09 30 59.6**	**+0.1**
PTPK	**Patty Peak**	**6.11**	**32**		**Pn**	**09 30 59.8**	**+0.2**
PCA	**Pinnacle**	**6.13**	**47**	Pn	**Pn**	**09 30 59.7**	**-0.1**
CTGM	**Chitina Glacie**	**6.30**	**37**		**Pn**	**09 31 02.1**	**-0.1**
BCPM	**Bancas Point**	**6.31**	**49**		**Pn**	**09 31 02.4**	**+0.1**
LOGN	**Logan Glacier**	**6.31**	**39**		**Pn**	**09 31 02.4**	**0.0**
M19K	**Big River Lodg**	**6.32**	**337**	Pn	**Pn**	**09 31 01.9**	**-0.5**
WACK	**Wrangell Chich**	**6.32**	**21**		**Pn**	**09 31 02.9**	**+0.3**
M18K	**Stony River**	**6.33**	**330**		**Pn**	**09 31 01.7**	**-0.8**
O15K	**Ungalikthiuk R**	**6.44**	**302**		**Pn**	**09 31 04.1**	**+0.1**
WAT6	**Susitna Watana**	**6.45**	**6**		**Pn**	**09 31 04.7**	**+0.4**
HARP	**HAARP**	**6.55**	**17**		**Pn**	**09 31 06.0**	**+0.4**
WAT7	**Susitna Watana**	**6.66**	**1**		**Pn**	**09 31 07.7**	**+0.5**
WAT1	**Susitna Watana**	**6.66**	**3**		**Pn**	**09 31 07.7**	**+0.6**
L19K	**White Mountain**	**6.67**	**336**		**Pn**	**09 31 07.0**	**-0.2**
M17K	**Holitna River**	**6.75**	**324**	Pn	**Pn**	**09 31 08.2**	**-0.1**
O29M	**Mount Kennedy**	**6.95**	**49**		**Pn**	**09 31 11.4**	**+0.3**
DHY	**Denali Highway**	**6.96**	**7**		**Pn**	**09 31 12.1**	**+0.8**
P29M	**Windy Craggy**	**7.00**	**56**		**Pn**	**09 31 11.3**	**-0.4**
N15K	**Kwethluk River**	**7.00**	**309**		**Pn**	**09 31 13.2**	**+1.4**
M16K	**Timber Creek**	**7.03**	**317**		**Pn**	**09 31 12.5**	**+0.4**
PAX	**Paxson**	**7.05**	**14**		**Pn**	**09 31 12.1**	**-0.4**
YUK2	**White River**	**7.07**	**34**		**Pn**	**09 31 13.7**	**+1.0**
YUK8	**Steele Glacier**	**7.07**	**40**		**Pn**	**09 31 14.2**	**+1.3**
L18K	**Granite Mounta**	**7.16**	**331**	Pn	**Pn**	**09 31 13.2**	**-0.6**
YUK3	**Moose Creek**	**7.18**	**35**		**Pn**	**09 31 14.5**	**+0.2**
PS4A	**Pavlof South-4**	**7.20**	**268**		**Pn**	**09 31 13.5**	**-1.0**
M27K	**Edge Creek, AK**	**7.22**	**28**	Pn	**Pn**	**09 31 15.8**	**+1.0**
PN7A	**Pavlof North-7**	**7.26**	**269**		**Pn**	**09 31 15.6**	**+0.2**
S31K	**Pelican**	**7.28**	**71**		**Pn**	**09 31 13.0**	**-2.5**
TRF	**Thorofare Moun**	**7.30**	**356**		**Pn**	**09 31 16.0**	**+0.1**
YUK6	**Outpost Mounta**	**7.39**	**45**		**Pn**	**09 31 17.8**	**+0.5**
CAST	**Castle Rocks**	**7.39**	**350**		**Pn**	**09 31 17.4**	**+0.3**
KTH	**Kantishna Hill**	**7.43**	**354**		**Pn**	**09 31 18.6**	**+1.0**
BVCY	**Beaver Creek**	**7.54**	**31**		**Pn**	**09 31 19.3**	**+0.1**
PLBC	**Pleasant Camp**	**7.58**	**59**		**Pn**	**09 31 20.4**	**+0.8**
K20K	**Telida**	**7.59**	**343**		**Pn**	**09 31 19.4**	**-0.4**
L16K	**Owhat River**	**7.67**	**320**	Pn	**Pn**	**09 31 20.9**	**+0.1**
HYT	**Haines Junctio**	**7.67**	**48**	Pn	**Pn**	**09 31 21.1**	**+0.1**
SIT	**Sitka**	**7.70**	**78**	Pn	**Pn**	**09 31 18.6**	**-2.6**
SIT	**Sitka**	**7.70**	**78**	P	**Pn**	**09 31 18.4**	**-2.8**
L27K	**Beaver Creek,**	**7.82**	**25**	Pn	**Pn**	**09 31 24.3**	**+1.2**
BCAR	**Beaver Creek A**	**7.84**	**25**	Pn	**Pn**	**09 31 24.0**	**+0.8**
RIDG	**Independent Ri**	**7.87**	**14**	Pn	**Pn**	**09 31 24.4**	**+0.7**
BPAW	**Bear Paw Mtn.**	**7.98**	**354**	Pn	**Pn**	**09 31 24.9**	**-0.2**
K17K	**Iditarod**	**8.01**	**328**	Pn	**Pn**	**09 31 24.8**	**-0.8**
SKAG	**Skagway**	**8.08**	**60**	P	**Pn**	**09 31 27.0**	**+0.5**
S32K	**Killisnoo**	**8.11**	**75**	Pn	**Pn**	**09 31 25.5**	**-1.5**
FALS	**False Pass**	**8.19**	**266**	P	**Pn**	**09 31 26.5**	**-1.5**
N30M	**Aishikik Lake**	**8.19**	**45**	Pn	**Pn**	**09 31 28.5**	**+0.4**
R32K	**Eaglecrest**	**8.22**	**69**		**Pn**	**09 31 27.5**	**-1.0**
O30N	**Mendenhall**	**8.24**	**51**	Pn	**Pn**	**09 31 29.2**	**+0.4**
JIS	**Juneau Island**	**8.29**	**69**	P	**Pn**	**09 31 30.4**	**+1.0**
HDA	**Harding Lake**	**8.31**	**7**	Pn	**Pn**	**09 31 30.5**	**+0.8**
M29M	**Somme Creek**	**8.31**	**37**		**Pn**	**09 31 30.5**	**+0.7**
J20K	**Nowinta River**	**8.37**	**345**	Pn	**Pn**	**09 31 30.6**	**+0.1**
ISLZ	**Isanotski Laza**	**8.39**	**266**		**Pn**	**09 31 29.4**	**-1.4**
NEA2	**Nenana**	**8.42**	**0**	

comp=Z,0.3nm,0.5s
RES Resolute Bay 27.61 28 LR LR 09 46 39.0
comp=Z,79nm,20.1s,baz=17,slow=37
PDAR Pinedale Array 28.60 101 P **P** **09 35 25.5 -0.1**
comp=Z,0.1nm,0.4s,baz=306,slow=6.6,SNR=1.6
comp=Z,0.1nm,0.4s
PETK Petropavlovsk- 30.25 287 P **P** **09 35 40.5 +0.6**
comp=Z,3.6nm,0.9s,baz=67,slow=12,SNR=2.4
PETK LR LR 09 49 14.6
comp=Z,54nm,18.5s,baz=80,slow=39
comp=Z,3.6nm,0.9s
MA2 Magadan 31.15 302 LR LR 09 48 19.0
comp=Z,77nm,20.8s,baz=99,slow=36
ULM Lac du Bonnet 31.77 78 LR LR 09 48 28.4
comp=Z,223nm,18.0s,baz=300,slow=36
PFO Pinyon Flats O 31.87 121 LR LR 09 46 04.1
comp=Z,67nm,21.3s,baz=339,slow=31
ANMO Albuquerque 35.89 108 LR LR 09 51 00.3
comp=Z,30nm,20.6s,baz=131,slow=36
YAK Yakutsk 39.47 313 LR LR 09 52 46.4
comp=Z,71nm,18.4s,baz=69,slow=35
TXAR Lajitas Array 41.74 111 P **P** **09 37 18.1 -0.4**
comp=Z,0.3nm,0.9s,baz=315,slow=8.9,SNR=2.6
TXAR LR LR 09 53 44.7
comp=Z,60nm,18.3s,baz=321,slow=35
comp=Z,0.3nm,0.9s
SFJD Kangerlussuaq 43.13 35 LR LR 09 55 12.3
comp=Z,77nm,19.2s,baz=213,slow=36
ASAJ Asahikawa 43.56 284 LR LR 09 53 43.8
comp=Z,56nm,20.9s,baz=4.0,slow=33
SCHQ Schefferville 44.00 56 LR LR 09 55 32.6
comp=Z,84nm,19.7s,baz=266,slow=36
SADO Sadowa 44.12 74 LR LR 09 55 24.1
comp=Z,73nm,18.1s,baz=60,slow=35
SPITS Spitsbergen Ar 45.59 4 LR LR 09 55 40.4
comp=Z,73nm,20.2s,baz=297,slow=34
KLR Kul'dur 45.92 296 LR LR 09 59 27.9
comp=Z,78nm,18.0s,baz=174,slow=39
TKL Tuckaleechee C 47.88 87 LR LR 09 58 07.8
comp=Z,257nm,18.4s,baz=329,slow=36
NRIK Noril'sk 48.20 337 LR LR 10 03 06.9
comp=Z,51nm,18.1s,baz=92,slow=42
H11N2 WAKE ISLAND Hy 48.89 240 T T 10 30 55.2
baz=31,slow=76,SNR=9.5
H11N3 WAKE ISLAND Hy 48.89 240 T T 10 31 00.3
baz=31,slow=76,SNR=11
H11N1 WAKE ISLAND Hy 48.91 240 T T 10 30 56.9
baz=31,slow=76,SNR=11
H11S1 WAKE ISLAND Hy 50.03 240 T T 10 32 48.9
baz=30,slow=76,SNR=18
H11S2 WAKE ISLAND Hy 50.04 240 T T 10 32 21.4
baz=30,slow=76,SNR=19
H11S3 WAKE ISLAND Hy 50.05 240 T T 10 32 24.7
baz=30,slow=76,SNR=17
MJAR Matsushiro Arr 51.23 280 LR LR 10 00 17.8
comp=Z,35nm,20.3s,baz=56,slow=36
ARCES ARCESS Array B 54.51 2 P **P** **09 38 58.7 +2.2**
comp=Z,5.0nm,0.9s,baz=0.0,slow=6.3,SNR=1.8
comp=Z,5.0nm,0.9s
KSRS Korea Array 56.14 288 LR LR 10 03 05.2
comp=Z,19nm,20.1s,baz=55,slow=36
JNU Nakatsue 57.80 282 LR LR 10 04 28.2
comp=Z,18nm,21.4s,baz=60,slow=36
SONM Songino Array 58.73 310 P **P** **09 39 28.6 +1.6**
comp=Z,1.2nm,0.8s,baz=53,slow=5.9,SNR=5.7
SONM LR LR 10 04 29.1
comp=Z,72nm,19.3s,baz=36,slow=36
comp=Z,1.2nm,0.8s
ZALV Zalesovo Beam 61.66 327 P **P** **09 39 47.9 +1.2**
comp=Z,0.9nm,0.5s,baz=28,slow=6.7,SNR=3.7
comp=Z,0.9nm,0.5s
FINES FINESS Array B 62.64 3 P **P** **09 39 54.8 +1.6**
comp=Z,2.3nm,0.8s,baz=354,slow=8.4,SNR=3.2
comp=Z,2.3nm,0.8s
BVAR Borovoye Array 66.38 335 P **P** **09 40 20.6 +2.7**
comp=Z,0.4nm,0.5s,baz=44,slow=4.6,SNR=1.5
BVAR LR LR 10 12 31.9
comp=Z,64nm,19.0s,baz=7.2,slow=39
comp=Z,0.4nm,0.5s
KURBB Kurchatov Arra 66.44 329 P **P** **09 40 20.8 +2.6**
comp=Z,0.2nm,0.3s,baz=36,slow=6.9,SNR=1.3
KURBB LR LR 10 12 19.9
comp=Z,67nm,20.4s,baz=182,slow=39
comp=Z,0.2nm,0.3s
MKAR Makanchi Array 68.69 325 P **P** **09 40 33.3 +0.8**
comp=Z,0.4nm,0.6s,baz=23,slow=3.3,SNR=1.4
MKAR LR LR 10 14 28.2
comp=Z,45nm,18.8s,baz=9.0,slow=39
comp=Z,0.4nm,0.6s
SJG San Juan 71.30 85 LR LR 10 12 27.7
comp=Z,27nm,19.4s,baz=235,slow=36
AKASG Malin Array Be 73.46 1 P **P** **09 41 03.8 +2.5**
comp=Z,0.5nm,0.5s,baz=2.0,slow=6.2,SNR=1.9
comp=Z,0.5nm,0.5s
PPT Papeete 73.48 180 P **P** **09 41 02.7 +1.0**
comp=Z,9.3nm,0.4s,baz=37,slow=11,SNR=2.0
VRAC Vranov 74.19 10 LR LR 10 14 36.0
comp=Z,29nm,18.0s,baz=330,slow=36
MLR Muntele Rosu 78.60 3 LR LR 10 18 28.7
comp=Z,71nm,18.2s,baz=344,slow=37
KBZ Khabaz 79.92 351 LR LR 10 20 31.8
comp=Z,28nm,18.9s,baz=5.0,slow=38
GNI Garni 83.29 349 LR LR 10 24 26.2
comp=Z,26nm,18.2s,baz=326,slow=40
CMAR Chiang Mai Arr 86.37 298 P **P** **09 42 12.4 +0.7**
comp=Z,1.0nm,0.3s,baz=23,slow=4.9,SNR=2.2
CMAR LR LR 10 26 00.5
comp=Z,18nm,18.8s,baz=10.0,slow=39
comp=Z,1.0nm,0.3s
QSPA South Pole Qui 145.99 180 PKPbc **PKPbc** **09 49 07.5 -0.1**
comp=Z,1.6nm,0.9s,baz=70,slow=0.9,SNR=5.9

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*UPP **21** 09:33:04.0±0.1, 59°.00N×18°.20E, h0km, ML2.1, Unknown*
*DNK **21** 09:33:04.4±0.4, 59°.00N×18°.21E, h0km, ML2.1(UPP), Explosion*
*HEL **21** 09:33:06.5±0.7, 59°.16N×18°.05E, h0km, ML1.8, Explosion*
*IDC **21** 09:33:07.4±2.3, 59°.24N×18°.14E, h0km, mbtmp2.8/4, ML1.8/3, Error ellipse: s-maj=27.6km s-min=7.5km az=179.0*

ISC 21 09:33:03.5±0.8, 59°.00N±0°.03×18°.24E±0°.03, h0km, n42, σ1§11/53, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NYNU	**Nynaeshamn**	**0.12**	**271**	P	**Pg**	**09 33 06.2**	**+0.4**
NYNU				S	**Sg**	**09 33 07.6**	**+0.3**
NYNU	**Nynaeshamn**	**0.12**	**271**	P	**Pg**	**09 33 06.2**	**+0.4**
NYNU				S	**Sg**	**09 33 07.6**	**+0.3**
NRTU	**Norrtaelje**	**0.70**	**16**	P	**Pg**	**09 33 17.4**	**+0.5**
NRTU	**Norrtaelje**	**0.70**	**16**	P	**Pg**	**09 33 17.4**	**+0.5**
UPP	**Uppsala**	**0.91**	**340**	P	**Pg**	**09 33 21.2**	**+0.2**
UPP	**Uppsala**	**0.91**	**340**	P	**Pg**	**09 33 21.2**	**+0.2**
VIKU	**Vikbolandet**	**0.95**	**239**	P	**Pg**	**09 33 21.5**	**0.0**
VIKU				S	**Sg**	**09 33 34.0**	**+0.1**
VIKU	**Vikbolandet**	**0.95**	**239**	P	**Pg**	**09 33 21.5**	**0.0**
VIKU				S	**Sg**	**09 33 34.0**	**+0.1**
FIBU	**Brunna**	**1.01**	**334**	P	**Pg**	**09 33 22.7**	**0.0**
FIBU	**Brunna**	**1.01**	**334**	P	**Pg**	**09 33 22.7**	**0.0**
BACU	**Backbrunna**	**1.03**	**326**	P	**Pg**	**09 33 23.1**	**-0.1**
BACU	**Backbrunna**	**1.03**	**326**	P	**Pg**	**09 33 23.1**	**-0.1**
FLYU	**Flymyra**	**1.14**	**351**	P	**Pg**	**09 33 25.3**	**0.0**
FLYU	**Flymyra**	**1.14**	**351**	P	**Pg**	**09 33 25.3**	**0.0**
GOTU	**Gotland**	**1.33**	**172**	P	**Pg**	**09 33 28.4**	**-0.5**
GOTU	**Gotland**	**1.33**	**172**	P	**Pg**	**09 33 28.4**	**-0.5**
GRAU	**Graesoe**	**1.34**	**6**	P	**Pg**	**09 33 29.2**	**0.0**
GRAU	**Graesoe**	**1.34**	**6**	P	**Pg**	**09 33 29.2**	**0.0**
OSTU	**Oestervaala**	**1.35**	**336**	P	**Pg**	**09 33 29.1**	**-0.3**
OSTU	**Oestervaala**	**1.35**	**336**	P	**Pg**	**09 33 29.1**	**-0.3**
FORU	**Forsmark**	**1.39**	**359**	P	**Pg**	**09 33 29.9**	**-0.2**
FORU	**Forsmark**	**1.39**	**359**	P	**Pg**	**09 33 29.9**	**-0.2**
AAL	**Aland**	**1.48**	**36**	P	**Pn**	**09 33 31.5**	**+0.2**
AAL	**Aland**	**1.48**	**36**	P	**Pn**	**09 33 31.5**	**+0.2**
AAL	**Aland**	**1.48**	**36**	*eP*	**Pn**	**09 33 31.4**	**+0.2**
AAL				*eS*	**Sg**	**09 33 50.9**	**0.0**
LNKU	**Linkoeping**	**1.63**	**242**	P	**Pn**	**09 33 33.6**	**+0.3**
LNKU	**Linkoeping**	**1.63**	**242**	P	**Pn**	**09 33 33.6**	**+0.3**
NRAU	**Nora**	**1.74**	**290**	P	**Pb**	**09 33 35.7**	**-0.5**
NRAU	**Nora**	**1.74**	**290**	P	**Pb**	**09 33 35.7**	**-0.5**
ASKU	**Askersund**	**1.77**	**268**	P	**Pn**	**09 33 35.9**	**+0.6**
ASKU	**Askersund**	**1.77**	**268**	P	**Pn**	**09 33 35.9**	**+0.6**
HFS	**Hagfors**	**2.58**	**298**	Pn	**Pn**	**09 33 48.3**	**+1.9**
	0.2nm,0.3s,baz=112,slow=18,SNR=1.2						
HFS				Lg	Lg	09 34 22.3	
	1.2nm,0.3s,baz=111,slow=29,SNR=8.0						
	0.6nm,0.3s						
RAF	**Rauma**	**2.69**	**40**	*eP*	**Pb**	**09 33 51.6**	**-0.8**
RAF				*eS*	**Sn**	**09 34 21.2**	**+0.1**
RAF				MSG		09 34 29.1	
	comp=Z,1.7nm,0.1s						
KPF	**Kankaanpaa**	**3.42**	**32**	*eP*	**Pn**	**09 34 01.1**	**+3.2**
KPF				*eSB*	**Sb**	**09 34 45.2**	**-1.6**
KPF				MSG		09 34 50.9	
	comp=Z,1.1nm,0.2s						
HEMU	**Hemsoen**	**3.69**	**359**	*eP*	**Pn**	**09 34 02.3**	**+0.7**
HEMU				*eS*	**Sn**	**09 34 43.2**	**-2.5**
NOA	**NORSAR Array B**	**4.07**	**303**	Pn	**Pn**	**09 34 07.4**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=124,slow=15,SNR=1.6						
NOA				Lg	Lg	09 35 11.7	
	comp=Z,0.1nm,0.3s,baz=283,slow=5.8,SNR=4.9						
KEF	**Keuruu**	**4.56**	**43**	*eP*	**Pn**	**09 34 15.9**	**+2.4**
FIA0	**FINESS Array S**	**4.61**	**55**	*eP*	**Pn**	**09 34 16.9**	**+2.6**
FIA0				*eS*	**Sn**	**09 35 09.7**	**+1.2**
FIA0				MSN		09 35 10.8	
	comp=Z,1.2nm,0.3s						
FINES	**FINESS Array B**	**4.61**	**55**	Pn	**Pn**	**09 34 16.7**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=241,slow=14,SNR=1.7						
FINES				Sn	**Sn**	**09 35 08.9**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=242,slow=22,SNR=5.9						
FINES				Lg	Lg	09 35 28.2	
	comp=Z,0.6nm,0.3s,baz=247,slow=25,SNR=6.2						
	comp=Z,0.4nm,0.3s						
UMAU	**Umeaa**	**5.04**	**12**	*eP*	**Pn**	**09 34 22.0**	**+1.9**
KAF	**Kangasniemi**	**5.06**	**48**	*eP*	**Pn**	**09 34 21.8**	**+1.4**
KAF				*eS*	**Sn**	**09 35 19.6**	**+0.2**
ARCES	**ARCESS Array B**	**11.02**	**13**	Pn	**Pn**	**09 35 39.1**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=198,slow=14,SNR=1.1						
	comp=Z,1.6nm,0.8s						

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*NEIC **21** 09:48:19.0±0.5, 5°.3S±0°.1×147°.7E±0°.1, h138km±12km, mb4.5/20, Error ellipse: s-maj=21.6km s-min=15.8km az=119.0*
*IDC **21** 09:48:22.8±1.9, 5°.63S×147°.71E, h165km±15km, mb3.6/9, mbtmp4.2/11, Error ellipse: s-maj=33.8km s-min=13.4km az=102.0*

ISC 21 09:48:23.7±0.7, 5°.65S±0°.07×147°.6E±0°.1, h170km, n46, σ1§23/52, mb4.2/14, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.76**	**187**	Pn	**Pn**	**09 49 20.9**	**-0.6**
PMG	**Port Moresby**	**3.76**	**187**	P	**Pn**	**09 49 20.6**	**-0.9**
	302nm,0.3s,baz=347,slow=5.8,SNR=119						
PMG				S	**Sn**	**09 50 03.0**	**-3.7**
	182nm,0.7s,baz=21,slow=8.8,SNR=5.7						
PMG	**Port Moresby**	**3.76**	**187**	P	**Pn**	**09 49 20.7**	**-0.9**
COEN	**Coen**	**9.34**	**208**	Pn	**Pn**	**09 50 36.1**	**+1.2**
COEN	**Coen**	**9.34**	**208**	P	**Pn**	**09 50 36.2**	**+1.3**
CTAO	**Charters Tower**	**14.42**	**185**		**Pn**	**09 51 40.9**	**+0.8**
KDU	**Kakadu**	**16.49**	**244**	P	**P**	**09 52 05.5**	**+0.3**
QIS	**Mount Isa**	**16.74**	**207**	P	**P**	**09 52 09.7**	**+1.8**
MTN	**Manton Dam**	**17.76**	**245**	P	**P**	**09 52 20.4**	**+1.3**
MTN				IAmb	IAmb	09 52 21.4	
	comp=Z,13nm,0.5s						
DRS	**Darwin Rock St**	**17.82**	**247**	P	**P**	**09 52 21.2**	**+1.4**
WB0	**Warramunga Arr**	**19.04**	**221**	P	**P**	**09 52 33.7**	**+0.7**
WB0				IAmb	IAmb	09 52 34.7	
	comp=Z,16nm,0.9s						
WR0	**Warramunga Arr**	**19.08**	**221**	P	**P**	**09 52 34.5**	**+1.0**
WR0				IAmb	IAmb	09 52 34.7	
	comp=Z,15nm,0.6s						
WRAB	**Tennant Creek**	**19.18**	**221**	P	**P**	**09 52 35.5**	**+0.9**
WRAB				IAmb	IAmb	09 52 36.2	
	comp=Z,18nm,0.7s						
WB2	**Warramunga Arr**	**19.19**	**221**	P	**P**	**09 52 35.5**	**+0.9**
WB2				IAmb	IAmb	09 52 36.3	
	comp=Z,15nm,0.7s						
WRA	**Warramunga Arr**	**19.20**	**221**	P	**P**	**09 52 34.0**	**-0.8**
WRA	**Warramunga Arr**	**19.20**	**221**	P	**P**	**09 52 35.5**	**+0.7**
	comp=Z,14nm,0.7s,baz=47,slow=11,SNR=50						
WRA				S	**S**	**09 56 00.6**	**-2.7**
	comp=Z,7.8nm,0.9s,baz=42,slow=20,SNR=13						
WRA				PcP	**PcP**	**09 56 51.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=36,slow=1.8,SNR=2.9						
WRA				ScP	**ScP**	**10 00 11.1**	**0.0**
	comp=Z,1.0nm,0.8s,baz=44,slow=2.1,SNR=4.5						
EIDS	**Eidsvold**	**19.89**	**171**	P	**P**	**09 52 43.3**	**+1.2**
KNRA	**Kununurra**	**21.01**	**240**	P	**P**	**09 52 54.1**	**-0.1**
KNRA				IAmb	IAmb	09 52 57.3	
	comp=Z,17nm,0.7s						
QLP	**Quilpie**	**21.07**	**188**	P	**P**	**09 52 55.8**	**+1.1**
AS31	**Alice Springs**	**22.25**	**215**	P	**P**	**09 53 07.9**	**+0.9**
AS31				IAmb	IAmb	09 53 08.7	
	comp=Z,9.1nm,0.3s						
ASAR	**Alice Springs**	**22.25**	**215**	P	**P**	**09 53 07.6**	**+0.6**
ASAR	**Alice Springs**	**22.25**	**215**	P	**P**	**09 53 07.4**	**+0.4**
	comp=Z,8.0nm,0.5s,baz=47,slow=8.8,SNR=162						
ASAR				S	**S**	**09 57 00.2**	**+0.8**
	comp=Z,1.6nm,1.1s,baz=33,slow=21,SNR=4.4						
ASAR				ScP	**ScP**	**10 00 19.4**	**+1.0**
	comp=Z,0.6nm,1.0s,baz=20,slow=3.0,SNR=2.9						
	comp=Z,8.0nm,0.5s						
INKA	**Innaminka**	**22.92**	**196**	P	**P**	**09 53 14.3**	**+1.3**
AULRC	**Lightning Ridg**	**23.66**	**179**	P	**P**	**09 53 21.4**	**+1.7**
	comp=Z,25nm,0.7s						
ARMA	**Armidale**	**24.93**	**172**	P	**P**	**09 53 32.5**	**+1.1**
LUWI	**Luwuk**	**25.21**	**280**	P	**P**	**09 53 31.3**	**-2.7**
STKA	**Stephens Creek**	**26.70**	**191**	P	**P**	**09 53 47.4**	**+0.2**
STKA	**Stephens Creek**	**26.70**	**191**	P	**P**	**09 53 47.0**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=11,slow=10.0,SNR=4.4						
	comp=Z,2.8nm,0.8s						
CAN	**Canberra**	**29.56**	**178**	P	**P**	**09 54 13.7**	**+1.1**
FORT	**Forrest**	**31.03**	**214**	P	**P**	**09 54 26.4**	**+0.8**
MBWA	**Marble Bar**	**31.11**	**238**	P	**P**	**09 54 26.7**	**+0.3**
PSA00	**Pilbara Seismi**	**31.19**	**237**	P	**P**	**09 54 27.1**	**0.0**
PSA00	**Pilbara Seismi**	**31.19**	**237**	P	**P**	**09 54 27.2**	**+0.1**
PSA00				IAmb	IAmb	09 54 28.2	
	comp=Z,14nm,0.8s						
GIRL	**Giralia**	**36.37**	**239**	P	**P**	**09 55 13.8**	**+2.0**
MORW	**Morawa**	**37.86**	**228**	P	**P**	**09 55 24.6**	**+0.3**
MORW				IAmb	IAmb	09 55 41.1	
	comp=Z,13nm,1.1s						
NWAO	**Narrogin (SRO)**	**39.20**	**222**	P	**P**	**09 55 35.8**	**+0.4**
NWAO				IAmb	IAmb	09 56 03.0	
	comp=Z,8.3nm,0.9s						
TKNZ	**Takaka Hill**	**41.90**	**151**	P	**P**	**09 55 59.6**	**+2.1**
SONM	**Songino Array**	**64.39**	**331**	P	**P**	**09 58 42.2**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=142,slow=5.7,SNR=5.6						
	comp=Z,1.1nm,0.7s						
MKAR	**Makanchi Array**	**77.61**	**320**	P	**P**	**10 00 01.4**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=104,slow=6.1,SNR=2.1						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**79.04**	**328**	P	**P**	**10 00 07.7**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=114,slow=3.6,SNR=2.2						
	comp=Z,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**81.31**	**323**	P	**P**	**10 00 19.5**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=101,slow=4.8,SNR=2.0						
	comp=Z,0.3nm,0.4s						
MAW	**Mawson**	**82.81**	**203**	P	**P**	**10 00 28.1**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=93,slow=6.8,SNR=9.1						
	comp=Z,1.5nm,0.6s						
QSPA	**South Pole Qui**	**84.32**	**180**	P	**P**	**10 00 36.5**	**0.0**
QSPA				IAmb	IAmb	10 00 36.8	
	comp=Z,4.4nm,0.6s						
QSPA	**South Pole Qui**	**84.32**	**180**	P	**P**	**10 00 36.0**	**-0.5**
	comp=Z,4.9nm,0.7s,baz=318,slow=0.8,SNR=49						
	comp=Z,4.9nm,0.7s						
ILAR	**Eielson Array**	**84.92**	**23**	P	**P**	**10 00 38.1**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=257,slow=4.7,SNR=6.8						
	comp=Z,0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**145.59**	**285**	PKPbc	**PKPab**	**10 07 42.8**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=52,slow=2.8,SNR=6.2						

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*UPP **21** 10:08:25.1±0.1, 58°.99N×18°.20E, h0km, ML2.1, Unknown*
*DNK **21** 10:08:25.5±0.4, 58°.99N×18°.21E, h0km, ML2.1(UPP), Explosion*
*HEL **21** 10:08:25.9±0.4, 59°.06N×18°.03E, h0km, ML2.1, Explosion*
*IDC **21** 10:08:28.7±2.0, 59°.25N×18°.12E, h0km, mbtmp2.2/3, ML1.4/3, Error ellipse: s-maj=25.9km s-min=7.2km az=178.0*

ISC 21 10:08:24.3±0.8, 59°.00N±0°.03×18°.20E±0°.03, h0km, n46, σ1§24/57, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NYNU	**Nynaeshamn**	**0.10**	**272**	P	**Pg**	**10 08 27.4**	**+1.2**
NYNU				S	**Sg**	**10 08 28.8**	**+1.4**
NYNU	**Nynaeshamn**	**0.10**	**272**	P	**Pg**	**10 08 27.4**	**+1.2**
NYNU				S	**Sg**	**10 08 28.8**	**+1.4**
NRTU	**Norrtaelje**	**0.71**	**18**	P	**Pg**	**10 08 38.7**	**+0.7**
NRTU				S	**Sg**	**10 08 48.5**	**+1.3**
NRTU	**Norrtaelje**	**0.71**	**18**	P	**Pg**	**10 08 38.7**	**+0.7**
NRTU				S	**Sg**	**10 08 48.5**	**+1.3**
VIKU	**Vikbolandet**	**0.93**	**238**	P	**Pb**	**10 08 42.5**	**-0.7**
VIKU	**Vikbolandet**	**0.93**	**238**	P	**Pb**	**10 08 42.5**	**-0.7**
ESKU	**Eskilstuna**	**0.96**	**285**	P	**Pg**	**10 08 43.0**	**+0.4**
ESKU				S	**Sb**	**10 08 56.4**	**-0.5**
ESKU	**Eskilstuna**	**0.96**	**285**	P	**Pg**	**10 08 43.0**	**+0.4**
ESKU				S	**Sb**	**10 08 56.4**	**-0.5**
FIBU	**Brunna**	**1.00**	**335**	P	**Pg**	**10 08 44.0**	**+0.6**
FIBU	**Brunna**	**1.00**	**335**	P	**Pg**	**10 08 44.0**	**+0.6**
BACU	**Backbrunna**	**1.02**	**327**	P	**Pg**	**10 08 44.3**	**+0.5**
BACU	**Backbrunna**	**1.02**	**327**	P	**Pg**	**10 08 44.3**	**+0.5**
FLYU	**Flymyra**	**1.14**	**352**	P	**Pg**	**10 08 46.6**	**+0.4**
FLYU	**Flymyra**	**1.14**	**352**	P	**Pg**	**10 08 46.6**	**+0.4**
GOTU	**Gotland**	**1.33**	**171**	P	**Pb**	**10 08 49.4**	**-0.7**
GOTU	**Gotland**	**1.33**	**171**	P	**Pb**	**10 08 49.4**	**-0.7**
OSTU	**Oestervaala**	**1.34**	**337**	P	**Pg**	**10 08 50.2**	**+0.2**
OSTU	**Oestervaala**	**1.34**	**337**	P	**Pg**	**10 08 50.2**	**+0.2**
GRAU	**Graesoe**	**1.35**	**7**	P	**Pg**	**10 08 50.3**	**+0.2**
GRAU	**Graesoe**	**1.35**	**7**	P	**Pg**	**10 08 50.3**	**+0.2**
FORU	**Forsmark**	**1.39**	**360**	P	**Pg**	**10 08 51.1**	**+0.2**
FORU	**Forsmark**	**1.39**	**360**	P	**Pg**	**10 08 51.1**	**+0.2**
AAL	**Aland**	**1.49**	**37**	P	**Pb**	**10 08 52.7**	**-0.1**
AAL	**Aland**	**1.49**	**37**	P	**Pb**	**10 08 52.7**	**-0.1**
AAL	**Aland**	**1.49**	**37**	*eP*	**Pb**	**10 08 52.9**	**0.0**
AAL				*eS*	**Sg**	**10 09 12.0**	**-0.2**
LNKU	**Linkoeping**	**1.61**	**242**	P	**Pg**	**10 08 54.8**	**-0.3**
LNKU	**Linkoeping**	**1.61**	**242**	P	**Pg**	**10 08 54.8**	**-0.3**
NRAU	**Nora**	**1.72**	**291**	P	**Pb**	**10 08 56.7**	**0.0**
NRAU	**Nora**	**1.72**	**291**	P	**Pb**	**10 08 56.7**	**0.0**
ASKU	**Askersund**	**1.75**	**268**	P	**Pb**	**10 08 57.1**	**-0.1**
ASKU	**Askersund**	**1.75**	**268**	P	**Pb**	**10 08 57.1**	**-0.1**
HFS	**Hagfors**	**2.56**	**298**	Pn	**Pb**	**10 09 09.2**	**-1.7**
	0.3nm,0.3s,baz=114,slow=18,SNR=13						
HFS				Lg	Lg	10 09 44.0	
	1.4nm,0.3s,baz=109,slow=29,SNR=12						
	0.9nm,0.4s						
SLIT	**Slitere, Latvi**	**2.56**	**121**	*eP*	**Pb**	**10 09 10.0**	**-1.1**
RAF	**Rauma**	**2.71**	**40**	*eP*	**Pn**	**10 09 07.2**	**-1.8**
RAF	**Rauma**	**2.71**	**40**	*eP*	**Pn**	**10 09 10.8**	**+1.9**
RAF				*eSG*	**Sb**	**10 09 48.8**	**+1.5**
RAF				MSG		10 09 51.1	
	comp=Z,2.4nm,0.1s						
MTSE	**Matsula**	**2.93**	**93**	*eP*	**Pn**	**10 09 14.0**	**+1.9**
MEF	**Metsahovi**	**3.38**	**66**	*eP*	**Pn**	**10 09 18.0**	**-0.2**
KPF	**Kankaanpaa**	**3.43**	**32**	*eP*	**Pn**	**10 09 20.1**	**+1.2**
KPF				*eSB*	**Sb**	**10 10 08.1**	**+0.1**
KPF				MSG		10 10 11.1	
	comp=Z,1.2nm,0.1s						
NOA	**NORSAR Array B**	**4.06**	**303**	Pn	**Pn**	**10 09 28.3**	**+0.7**
	baz=125,slow=11,SNR=1.7						
NOA				Lg	Lg	10 10 31.4	
	comp=Z,0.1nm,0.3s,baz=130,slow=24,SNR=5.4						
	comp=Z,0.3nm,0.8s						
KEF	**Keuruu**	**4.57**	**43**	*eP*	**Pn**	**10 09 33.0**	**-1.6**
VAF	**Ylistaro**	**4.60**	**26**	*eP*	**Pn**	**10 09 32.8**	**-2.2**
FIA0	**FINESS Array S**	**4.63**	**55**	*eP*	**Pn**	**10 09 37.9**	**+2.5**
FIA0				*eS*	**Sn**	**10 10 27.9**	**-2.0**
FINES	**FINESS Array B**	**4.63**	**55**	Pn	**Pn**	**10 09 38.0**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=244,slow=12,SNR=1.6						
FINES				Sn	**Sn**	**10 10 30.7**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=242,slow=20,SNR=9.4						
FINES				Lg	Lg	10 10 50.8	
	comp=Z,0.5nm,0.3s,baz=245,slow=22,SNR=7.8						
	comp=Z,1.0nm,0.7s						
KAF	**Kangasniemi**	**5.07**	**49**	*eP*	**Pn**	**10 09 43.2**	**+1.7**
KAF				*eS*	**Sn**	**10 10 37.7**	**-3.0**
KAF				MPN		10 10 47.6	
	comp=Z,1.5nm,0.2s						
GKP	**Gorka Klasztor**	**5.77**	**186**	*eP*	Pn	10 09 57.0	+5.9
ARCES	**ARCESS Array B**	**11.03**	**14**	Pn	**Pn**	**10 10 59.7**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=205,slow=15,SNR=1.6						

IDC 21 10:08:38.3±1.8, 0°.39N×124°.72E, h0km, mb3.3/3, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=57.2km s-min=28.1km az=65.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**7.31**	**223**	Pn	Pn	10 10 27.6	+1.1
	1.5nm,0.3s,baz=146,slow=12,SNR=2.4						
	4.2nm,0.3s						
WRA	**Warramunga Arr**	**22.30**	**156**	P	P	10 13 37.8	+0.2
	0.7nm,0.6s,baz=331,slow=10,SNR=5.8						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**25.52**	**160**	P	P	10 14 08.4	-0.5
	0.2nm,0.4s,baz=337,slow=7.1,SNR=8.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**59.20**	**327**	P	P	10 18 41.3	-0.1
	0.2nm,0.4s,baz=120,slow=8.3,SNR=2.5						
	0.2nm,0.4s						

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*THE **21** 10:12:09.6, 37°.58N×20°.69E, h0km±3km, ML3.0/3, Error ellipse: s-maj=3.9km s-min=0.9km az

KLYT			Sg	Sg	10 28 41.9	+1.5
CTKS	**Kestanelik-??a**	**0.29 295**	Pg	Pg	10 28 40.5	+0.8
CTKS			Sg	Sg	10 28 44.8	+1.3
MRMT	**Marmara Adasi**	**1.09 242**	Pn	Pb	10 28 55.8	0.0
MRMT			Sn	Sb	10 29 11.1	+0.5

*AEIC **21** 10:59:07.5±1.7,56°.04N±0°.08×149°.1W±0°.1,h11km±8km, Error ellipse: s-maj=11.8km s-min=8.9km az=171.0*
NEIC 21 10:59:05.9±1.4,**56°.11N**±0°.09×**149°.2W**±0°.1,**h27**km±10km, **ML3.5**/64,**ML3.4**(AEIC),**Error ellipse: s-maj=13.2km s-min=8.4km az=164.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.51**	**313**	Pn	Pn	10 59 44.1	-0.7
KDAK					Sn	11 00 13.2	-1.2
OHAK	**Old Harbor**	**2.53**	**298**	Pn	Pn	10 59 44.1	-1.0
OHAK					Sn	11 00 12.7	-2.2
SII	**Sitkinak Islan**	**2.82**	**281**	Pn	Pn	10 59 47.8	-1.5
SII				IAML		11 00 27.5	
	comp=E,284nm,0.8s						
SII				IAML		11 00 29.4	
	comp=N,285nm,0.7s						
SYI	**Shuyak Island**	**3.05**	**327**	Pn	Pn	10 59 51.9	-0.4
R18K	**Karluk**	**3.24**	**299**		Pn	10 59 54.8	-0.1
R18K				IAML		11 00 36.2	
	comp=N,105nm,0.5s						
R18K				IAML		11 00 48.4	
	comp=E,106nm,0.6s						
CNPM	**China Poot**	**3.59**	**343**	Pn	Pn	10 59 59.6	-0.2
CHIR	**Chirikof Islan**	**3.63**	**268**	Pn	Pn	10 59 59.0	-1.4
CHIR				IAML		11 00 47.7	
	comp=N,138nm,0.7s						
Q23K	**Middleton Isla**	**3.65**	**23**		Pn	10 59 59.7	-0.9
Q23K				IAML		11 00 54.0	
	comp=E,127nm,1.0s						
Q23K				IAML		11 01 58.1	
	comp=N,96nm,1.1s						
MID	**Middleton Isla**	**3.66**	**23**	Pn	Pn	11 00 00.0	-0.6
MID				IAML		11 00 47.4	
	comp=N,84nm,1.1s						
MID				IAML		11 00 54.0	
	comp=E,128nm,1.0s						
Q19K	**Cape Douglas,**	**3.71**	**321**		Pn	11 00 02.1	+0.6
BRSE	**Bradley Lake S**	**3.73**	**348**		Pn	11 00 00.8	-0.9
BRSE					Sn	11 00 42.9	-1.9
KAHG	**Katmai Hook Gl**	**3.77**	**312**		Pn	11 00 02.5	+0.3
BRLK	**Bradley Lake**	**3.77**	**347**		Pn	11 00 01.4	-0.9
BRLK				IAML		11 00 48.9	
	comp=E,56nm,0.8s						
HOM	**Homer**	**3.79**	**341**	Pn	Pn	11 00 02.7	+0.2
KAKN	**Katmai Knife C**	**3.88**	**307**		Pn	11 00 04.1	+0.3
ACHA	**Angle Creek He**	**3.95**	**305**		Pn	11 00 05.7	+0.9
SEW	**Seward**	**4.00**	**358**		Pn	11 00 04.5	-0.9
P23K	**Montague Islan**	**4.01**	**13**		Pn	11 00 04.2	-1.3
P23K					Sn	11 00 48.5	-3.0
ANCK	**Angle Creek**	**4.03**	**304**		Pn	11 00 06.4	+0.6
KAHC	**Katmai Hardscr**	**4.05**	**311**		Pn	11 00 06.2	0.0
P19K	**Oil Pt**	**4.16**	**330**	Pn	Pn	11 00 07.7	+0.2
P19K				IAML		11 00 58.3	
	comp=N,92nm,0.6s						
P19K				IAML		11 01 21.2	
	comp=E,68nm,1.1s						
PLK3	**Peulik 3**	**4.20**	**295**		Pn	11 00 08.3	+0.3
PLK4	**Peulik 4**	**4.22**	**294**		Pn	11 00 08.7	+0.1
PLK4				IAML		11 01 14.0	
	comp=E,49nm,0.8s						
PLK4				IAML		11 01 14.1	
	comp=N,70nm,1.0s						
CNTC	**Contact Creek**	**4.24**	**303**		Pn	11 00 09.0	+0.3
PLK2	**Peulik 2**	**4.25**	**296**		Pn	11 00 09.5	+0.7
ILS	**Iliamna Low So**	**4.37**	**333**		Pn	11 00 09.9	-0.6
O20K	**Slope Mountain**	**4.38**	**337**		Pn	11 00 09.9	-0.7
O22K	**Cooper Landing**	**4.39**	**356**		Pn	11 00 10.1	-0.6
PLK1	**Peulik 1**	**4.41**	**296**		Pn	11 00 11.2	+0.3
ILSW	**Iliamna Southw**	**4.42**	**333**	Pn	Pn	11 00 10.6	-0.6
ILSW				IAML		11 01 03.5	
	comp=N,45nm,1.0s						
ILSW				IAML		11 01 12.4	
	comp=E,46nm,0.8s						
SLKM	**Skilak Lake**	**4.44**	**353**		Pn	11 00 10.5	-1.0
PLBL	**Peulik Blue Cr**	**4.48**	**294**		Pn	11 00 12.8	+0.9
HIN	**Hinchinbrook I**	**4.52**	**17**	Pn	Pn	11 00 12.3	-0.2
HIN				IAML		11 01 03.5	
	comp=E,55nm,1.2s						
KAIM	**Kayak Island**	**4.58**	**32**	Pn	Pn	11 00 13.6	+0.2
KAIM				IAML		11 02 19.2	
	comp=E,72nm,1.0s						
PLK5	**Peulik 5**	**4.61**	**297**		Pn	11 00 14.7	+1.0
P18K	**Big Mountain,**	**4.62**	**318**	Pn	Pn	11 00 13.8	0.0
PWL	**Port Wells**	**4.78**	**5**	Pn	Pn	11 00 15.6	-0.5
PWL				IAML		11 01 19.9	
	comp=E,30nm,0.7s						
PWL				IAML		11 01 22.4	
	comp=N,29nm,0.7s						
RDT	**Redoubt**	**4.79**	**341**		Pn	11 00 15.4	-0.8
Q16K	**King Salmon**	**4.79**	**306**		Pn	11 00 16.6	+0.4
EYAK	**Cordova Ski Ar**	**4.80**	**21**		Pn	11 00 16.2	-0.1
FID	**Port Fidalgo**	**4.86**	**16**	Pn	Pn	11 00 16.6	-0.6
FID				IAML		11 01 15.4	
	comp=N,34nm,0.9s						
FID				IAML		11 01 21.4	
	comp=E,28nm,1.1s						
SUCK	**Suckling Hills**	**4.89**	**34**	Pn	Pn	11 00 17.7	+0.1
SUCK				IAML		11 01 36.9	
	comp=E,64nm,1.2s						
GLI	**Glacier Island**	**4.90**	**12**		Pn	11 00 17.1	-0.6
GLI				IAML		11 01 14.9	
	comp=E,31nm,0.5s						
O19K	**Port Alsworth**	**4.92**	**328**	Pn	Pn	11 00 17.7	-0.2
O18K	**Koktuh Hills**	**4.94**	**322**	Pn	Pn	11 00 18.1	-0.1
O18K				IAML		11 01 13.7	
	comp=N,31nm,1.1s						
P17K	**Kvichak River**	**4.97**	**311**		Pn	11 00 18.9	+0.1
RC01	**Rabbit Creek A**	**5.00**	**357**	Pn	Pn	11 00 18.6	-0.4
RC01				IAML		11 01 37.8	
	comp=E,23nm,0.8s						
CHGN	**Chignik**	**5.16**	**276**	Pn	Pn	11 00 20.8	-0.5
BERG	**Berg Lake**	**5.17**	**32**	Pn	Pn	11 00 21.0	-0.4
SNH	**Sunshine Point**	**5.28**	**37**	Pn	Pn	11 00 22.6	-0.4
SNH				IAML		11 01 14.9	
	comp=N,33nm,0.9s						
SNH				IAML		11 01 37.2	
	comp=E,40nm,1.0s						
SPU	**Mount Spurr**	**5.30**	**345**		Pn	11 00 22.6	-0.6
SPU				IAML		11 01 27.9	
	comp=E,27nm,0.5s						
SPU				IAML		11 01 32.3	
	comp=N,24nm,1.0s						
KNK	**Knik Glacier**	**5.33**	**4**		Pn	11 00 23.5	-0.1
KNK				IAML		11 01 29.9	
	comp=N,16nm,0.7s						
KNK				IAML		11 03 53.9	
	comp=E,24nm,0.5s						
BMRM	**Bremner River**	**5.42**	**24**		Pn	11 00 24.9	0.0
SUA	**Susitna One**	**5.43**	**352**	Pn	Pn	11 00 24.6	-0.4
N19K	**Bonanza Creek**	**5.47**	**332**		Pn	11 00 25.9	+0.3
WAX	**Waxell Ridge**	**5.48**	**35**		Pn	11 00 25.2	-0.5
PMR	**Palmer**	**5.50**	**0**	Pn	Pn	11 00 26.0	+0.2
P16K	**Nushagak River**	**5.57**	**305**		Pn	11 00 27.3	+0.4
STLK	**Strandline Lak**	**5.58**	**347**		Pn	11 00 26.1	-1.0
CRQM	**Cirque**	**5.63**	**32**		Pn	11 00 27.9	-0.1
KLU	**Klutina**	**5.65**	**16**		Pn	11 00 28.0	-0.1
GHO	**Glory Hole Cre**	**5.68**	**1**	Pn	Pn	11 00 28.5	+0.1
TGL	**Tana Glacier**	**5.72**	**33**		Pn	11 00 29.1	0.0
SML	**Sawmill**	**5.73**	**4**		Pn	11 00 29.5	+0.4
BAGL	**Bagley Icefiel**	**5.76**	**37**		Pn	11 00 29.3	-0.2
ISLE	**Juniper Island**	**5.76**	**36**		Pn	11 00 30.1	+0.4
N18K	**Kilae Creek**	**5.78**	**325**		Pn	11 00 29.2	-0.6
SCM	**Sheep Creek Mo**	**5.82**	**9**		Pn	11 00 30.7	+0.4
O16K	**Kokwok River B**	**5.90**	**310**		Pn	11 00 31.9	+0.5
VRDI	**Verde Repeater**	**5.93**	**28**		Pn	11 00 31.6	-0.5
N25K	**Chitina, Valde**	**6.00**	**21**		Pn	11 00 33.2	+0.3
KIAG	**Kiagna River**	**6.00**	**34**		Pn	11 00 31.8	-1.2
SKT	**Skwentna**	**6.01**	**349**		Pn	11 00 33.6	+0.7
GLB	**Gilahina Butte**	**6.03**	**25**		Pn	11 00 32.9	-0.4
GRNC	**Granite Creek**	**6.05**	**37**	Pn	Pn	11 00 33.3	-0.4
TABL	**Table Mountain**	**6.06**	**41**	Pn	Pn	11 00 33.7	-0.2
BALM	**Baldy**	**6.09**	**33**		Pn	11 00 34.0	-0.2
N17K	**Nushagak Hills**	**6.11**	**320**	Pn	Pn	11 00 34.5	+0.2
PTPK	**Patty Peak**	**6.17**	**32**		Pn	11 00 34.8	-0.6
MCARA	**McCarthy VSAT**	**6.18**	**29**		Pn	11 00 35.4	+0.1
M24K	**Tolsona, Glenn**	**6.21**	**13**		Pn	11 00 36.3	+0.6
PNL	**Peninsula**	**6.32**	**52**		Pn	11 00 37.3	+0.1
BCPM	**Bancas Point**	**6.36**	**49**		Pn	11 00 37.6	-0.2
CTGM	**Chitina Glacie**	**6.36**	**37**	Pn	Pn	11 00 37.2	-0.8
LOGN	**Logan Glacier**	**6.38**	**39**	Pn	Pn	11 00 37.7	-0.5
M18K	**Stony River**	**6.40**	**330**		Pn	11 00 37.3	-1.0
O15K	**Ungalikthiuk R**	**6.49**	**303**		Pn	11 00 40.1	+0.6
WAT6	**Susitna Watana**	**6.53**	**6**		Pn	11 00 40.1	-0.2
L19K	**White Mountain**	**6.75**	**337**	Pn	Pn	11 00 42.6	-0.5
O29M	**Mount Kennedy**	**7.00**	**49**		Pn	11 00 47.0	+0.4
DHY	**Denali Highway**	**7.04**	**7**		Pn	11 00 47.9	+0.6
P29M	**Windy Craggy**	**7.04**	**55**		Pn	11 00 47.2	0.0
N15K	**Kwethluk River**	**7.06**	**310**	Pn	Pn	11 00 48.1	+0.8
M16K	**Timber Creek**	**7.09**	**318**		Pn	11 00 47.9	0.0
PAX	**Paxson**	**7.13**	**14**		Pn	11 00 49.1	+0.7
L18K	**Granite Mounta**	**7.24**	**331**	Pn	Pn	11 00 48.5	-1.2
YUK3	**Moose Creek**	**7.25**	**35**		Pn	11 00 49.6	-0.5
S31K	**Pelican**	**7.30**	**70**	Pn	Pn	11 00 48.7	-2.0
MENT	**Mentasta**	**7.38**	**20**		Pn	11 00 53.1	+1.3
YUK6	**Outpost Mounta**	**7.44**	**45**		Pn	11 00 53.9	+1.1
KTH	**Kantishna Hill**	**7.51**	**354**	Pn	Pn	11 00 54.6	+1.0
L26K	**Log Cabin Wild**	**7.54**	**21**	Pn	Pn	11 00 55.2	+1.3
HYT	**Haines Junctio**	**7.72**	**48**	Pn	Pn	11 00 57.0	+0.4
L16K	**Owhat River**	**7.73**	**321**	Pn	Pn	11 00 56.0	-0.6
BCAR	**Beaver Creek A**	**7.91**	**25**	Pn	Pn	11 00 59.7	+0.7
RIDG	**Independent Ri**	**7.95**	**14**	Pn	Pn	11 01 01.1	+1.4
BPAW	**Bear Paw Mtn.**	**8.06**	**354**		Pn	11 01 00.7	-0.4
S32K	**Killisnoo**	**8.13**	**74**	Pn	Pn	11 01 00.0	-2.0
N30M	**Aishikik Lake**	**8.25**	**45**	Pn	Pn	11 01 03.9	+0.3
O30N	**Mendenhall**	**8.29**	**50**	Pn	Pn	11 01 04.6	+0.3
SCRK	**Sand Creek**	**8.30**	**16**	Pn	Pn	11 01 03.1	-1.3
M29M	**Somme Creek**	**8.38**	**36**		Pn	11 01 06.8	+1.2
HDA	**Harding Lake**	**8.40**	**7**		Pn	11 01 06.0	+0.4
NEA2	**Nenana**	**8.51**	**0**	Pn	Pn	11 01 06.4	-0.7
J19K	**Poorman**	**8.53**	**341**	Pn	Pn	11 01 06.7	-0.8
IL31		**8.76**	**6**		Pn	11 01 11.2	+0.6
WHY	**Whitehorse**	**8.78**	**53**	Pn	Pn	11 01 11.6	+0.6
N31M	**Braeburn, Yuko**	**8.79**	**47**	Pn	Pn	11 01 11.1	+0.1
J17K	**VABM Dome**	**8.84**	**330**	Pn	Pn	11 01 11.0	-0.7
J26L	**Joseph Creek**	**8.86**	**16**		Pn	11 01 12.1	0.0
L29M	**L29M**	**8.96**	**34**		Pn	11 01 14.2	+0.8
MLY	**Manley**	**8.98**	**356**	Pn	Pn	11 01 13.3	-0.4
M30M	**Minto, Yukon**	**9.04**	**39**	Pn	Pn	11 01 14.7	+0.1
I23K	**Minto, Yukon-K**	**9.07**	**360**		Pn	11 01 15.2	+0.4
I21K	**Tanana**	**9.20**	**353**		Pn	11 01 16.7	0.0
DAWY	**Dawson**	**9.34**	**27**	Pn	Pn	11 01 18.6	0.0
EGAK	**Eagle**	**9.54**	**21**	Pn	Pn	11 01 22.2	+0.9
P33M	**Teslin, Yukon**	**9.56**	**58**		Pn	11 01 21.4	-0.3
M31M	**Drury Creek, Y**	**9.73**	**45**	Pn	Pn	11 01 24.7	+0.8
H21K	**Melozitna Rive**	**9.74**	**351**		Pn	11 01 23.4	-0.6
IMAR	**Indian Mountai**	**10.14**	**349**	Pn	Pn	11 01 27.9	-1.6
FARO	**Faro, Yukon**	**10.16**	**46**	Pn	Pn	11 01 29.0	-0.8
R33M	**Jennings River**	**10.26**	**64**	Pn	Pn	11 01 30.8	-0.5
I28M	**Miner Creek**	**10.38**	**22**	Pn	Pn	11 01 31.9	-1.1
DLBC	**Dease Lake**	**10.62**	**69**	Pn	Pn	11 01 36.2	0.0
FYU	**Fort Yukon**	**10.66**	**9**	Pn	Pn	11 01 36.6	+0.1
F21K	**Alatna River**	**11.33**	**351**	Pn	Pn	11 01 46.5	+0.7
BMAR	**Burnt Mountain**	**11.56**	**9**	Pn	Pn	11 01 49.2	+0.3
E19K	**Redstone River**	**11.99**	**345**	Pn	Pn	11 01 55.4	+0.6
E21K	**Killik River**	**12.57**	**352**	Pn	Pn	11 02 03.3	+0.6
B22K	**Teshekpuk Lake**	**14.40**	**354**	Pn	Pn	11 02 27.9	+0.2

*IDC **21** 11:03:32.8±1.6,47°.73N×147°.30E,h431km±21km,mb2.7/7, mbtmp3.6/12,Error ellipse: s-maj=27.3km s-min=15.6km az=154.0*
ISC 21 11:03:33.8±0.8,**47°.7N**±0°.2×**147°.3E**±0°.1,**h450**km,**n12**, σ1º**04**/12,**mb3.1/7,Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**4.83**	**224**	P	**P**	**11 04 54.5**	**-2.0**
	5.1nm,0.6s,baz=62,slow=14,SNR=7.8						
PETK	**Petropavlovsk-**	**8.59**	**47**	P	**P**	**11 05 34.1**	**-1.2**
	5.4nm,1.0s,baz=234,slow=11,SNR=2.2						
KLR	**Kul'dur**	**10.45**	**284**	P	**P**	**11 05 56.2**	**+0.7**
	2.7nm,0.4s,baz=87,slow=10,SNR=13						
USRK	**Ussuriysk Ar.**	**11.21**	**258**	P	**P**	**11 06 03.4**	**-0.6**
	1.5nm,0.6s,baz=69,slow=11,SNR=5.0						
KSRS	**Korea Array**	**17.50**	**241**	P	**P**	**11 07 11.5**	**+0.3**
	0.9nm,0.6s,baz=43,slow=9.8,SNR=2.3						
ILAR	**Eielson Array**	**38.32**	**39**	P	**P**	**11 10 13.4**	**-0.5**
	0.5nm,0.6s,baz=265,slow=6.7,SNR=6.4						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**42.97**	**294**	P	**P**	**11 10 51.3**	**-0.2**
	0.5nm,0.6s,baz=67,slow=7.4,SNR=4.2						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**43.61**	**301**	P	**P**	**11 10 56.2**	**-0.1**
	0.4nm,0.6s,baz=71,slow=8.8,SNR=2.9						
	0.4nm,0.6s						
NVAR	**Mina Array Bea**	**65.45**	**59**	P	**P**	**11 13 31.9**	**+0.7**
	0.1nm,0.3s,baz=289,slow=8.5,SNR=2.3						
	0.1nm,0.3s						
PDAR	**Pinedale Array**	**67.33**	**51**	P	**P**	**11 13 43.5**	**+0.6**
	0.5nm,0.5s,baz=344,slow=1.8,SNR=4.6						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**68.30**	**193**	P	**P**	**11 13 49.7**	**+1.1**
	0.3nm,0.9s,baz=7.0,slow=6.6,SNR=1.2						
	0.3nm,0.9s						
TXAR	**Lajitas Array**	**80.41**	**57**	P	**P**	**11 14 58.3**	**+0.9**
	0.2nm,0.4s,baz=306,slow=4.0,SNR=4.7						
	0.2nm,0.4s						

*AEIC **21** 11:04:10.1±1.4,50°.96N±0°.07×176°.81W±0°.07,h42km±9km, Error ellipse: s-maj=10.0km s-min=6.2km az=180.0*
NEIC 21 11:04:09.6±1.1,**50°.93N**±0°.09×**176°.82W**±0°.04, **h26**km±12km,**ML2.9**(AEIC),**Error ellipse: s-maj=12.6km s-min=3.4km az=186.0,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.95**	**347**		Pn	11 04 26.8	-0.5
ADK	**Adak**	**0.96**	**5**		Pn	11 04 26.6	-0.8
ADK					Sb	11 04 40.0	+0.2
KIRH	**Kanaga Island**	**0.98**	**350**		Pn	11 04 27.5	-0.3
KICM	**Kanaga Island**	**1.02**	**347**		Pn	11 04 28.0	-0.2
KICM					Sn	11 04 41.7	+0.1
GSCK	**Great Sitkin C**	**1.16**	**21**		Pn	11 04 29.9	-0.3
GSCK					Sb	11 04 45.4	-0.2
TASE	**Tanaga Southea**	**1.18**	**320**		Pn	11 04 30.5	-0.1
GSTD	**Great Sitkin T**	**1.20**	**20**		Pn	11 04 30.7	-0.2
GSTD					Sn	11 04 46.6	+0.3
GSMY	**Great Sitkin M**	**1.21**	**23**		Pn	11 04 30.5	-0.4
TAFP	**Tanaga Falls P**	**1.21**	**324**		Pn	11 04 30.5	-0.4
TAFP					Sb	11 04 47.0	-0.1
GSTR	**Great Sitkin T**	**1.26**	**22**		Pn	11 04 31.4	-0.2
TANO	**Tanaga North**	**1.28**	**321**		Pn	11 04 32.1	+0.2
GAEA	**Gareloi East**	**1.48**	**306**		Pn	11 04 34.6	0.0
GANE	**Gareloi Northe**	**1.52**	**307**		Pn	11 04 35.0	-0.1
GASW	**Gareloi Southw**	**1.53**	**304**		Sn	11 04 54.3	-0.1
ATKA	**Atka Island**	**2.07**	**51**	Pn	Pn	11 04 41.8	-1.0
ATKA					Sn	11 05 07.0	-0.7
KOKL	**Mount Kliuchef**	**2.15**	**48**		Pn	11 04 44.4	+0.6
KOFP	**Korovin Flat P**	**2.17**	**51**		Pn	11 04 44.4	+0.4
CLCO	**Concord Point,**	**4.77**	**64**		Pn	11 05 21.1	+1.3
NIKH	**Nikolski High**	**5.33**	**64**		Pn	11 05 27.9	+0.4
MSW	**Makushin Switc**	**6.83**	**60**		Pn	11 05 48.8	+0.7
UNV	**Unalaska Valle**	**6.95**	**61**		Pn	11 05 50.6	+0.9
F28M	**Old Crow**	**24.64**	**34**		S	11 13 47.8	+0.6

*UPP **21** 11:08:31.9±0.1,59°.00N×18°.20E,h0km,ML2.2,Unknown*
*HEL **21** 11:08:32.3±0.3,59°.02N×18°.08E,h0km,ML1.7,Explosion*
*DNK **21** 11:08:32.3±0.5,58°.99N×18°.21E,h0km,ML2.2(UPP), Explosion*
*IDC **21** 11:08:35.2±3.0,59°.22N×18°.22E,h0km,mbtmp3.1/3, ML1.5/2,Error ellipse: s-maj=37.6km s-min=10.1km az=179.0*
ISC 21 11:08:31.1±0.8,**58°.97N**±0°.03×**18°.25E**±0°.03,**h0**km,**n44**, σ1º**15**/52,**Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.13**	**285**	P	**Pg**	**11 08 34.1**	**+0.5**
NYNU				S	**Sg**	**11 08 35.6**	**+0.3**
NYNU	**Nynaeshamn**	**0.13**	**285**	P	**Pg**	**11 08 34.1**	**+0.5**
NYNU				S	**Sg**	**11 08 35.6**	**+0.3**
NRTU	**Norrtaelje**	**0.73**	**15**	P	**Pg**	**11 08 45.4**	**+0.2**
NRTU				S	**Sg**	**11 08 54.8**	**+0.1**
NRTU	**Norrtaelje**	**0.73**	**15**	P	**Pg**	**11 08 45.4**	**+0.2**
NRTU				S	**Sg**	**11 08 54.8**	**+0.1**
VIKU	**Vikbolandet**	**0.94**	**240**	P	**Pb**	**11 08 49.3**	**-0.9**
VIKU				S	**Sb**	**11 09 01.7**	**-1.4**
VIKU	**Vikbolandet**	**0.94**	**240**	P	**Pb**	**11 08 49.3**	**-0.9**
VIKU				S	**Sb**	**11 09 01.7**	**-1.4**
UPP	**Uppsala**	**0.94**	**340**	P	**Pg**	**11 08 49.1**	**-0.1**
UPP	**Uppsala**	**0.94**	**340**	P	**Pg**	**11 08 49.1**	**-0.1**
ESKU	**Eskilstuna**	**0.99**	**286**	P	**Pg**	**11 08 49.8**	**-0.4**
ESKU	**Eskilstuna**	**0.99**	**286**	P	**Pg**	**11 08 49.8**	**-0.4**
FIBU	**Brunna**	**1.04**	**334**	P	**Pg**	**11 08 50.7**	**-0.3**
FIBU	**Brunna**	**1.04**	**334**	P	**Pg**	**11 08 50.7**	**-0.3**
BACU	**Backbrunna**	**1.06**	**327**	P	**Pg**	**11 08 51.1**	**-0.4**
BACU	**Backbrunna**	**1.06**	**327**	P	**Pg**	**11 08 51.1**	**-0.4**
FLYU	**Flymyra**	**1.18**	**351**	P	**Pg**	**11 08 53.3**	**-0.3**
FLYU	**Flymyra**	**1.18**	**351**	P	**Pg**	**11 08 53.3**	**-0.3**
GOTU	**Gotland**	**1.30**	**172**	P	**Pg**	**11 08 56.1**	**+0.1**
GOTU	**Gotland**	**1.30**	**172**	P	**Pg**	**11 08 56.1**	**+0.1**
GRAU	**Graesoe**	**1.38**	**6**	P	**Pg**	**11 08 57.1**	**-0.4**
GRAU	**Graesoe**	**1.38**	**6**	P	**Pg**	**11 08 57.1**	**-0.4**
OSTU	**Oestervaala**	**1.38**	**336**	P	**Pg**	**11 08 57.0**	**-0.7**
OSTU	**Oestervaala**	**1.38**	**336**	P	**Pg**	**11 08 57.0**	**-0.7**
FORU	**Forsmark**	**1.42**	**359**	P	**Pn**	**11 08 57.9**	**-0.3**
FORU	**Forsmark**	**1.42**	**359**	P	**Pn**	**11 08 57.9**	**-0.3**
AAL	**Aland**	**1.50**	**36**	P	**Pn**	**11 08 59.5**	**+0.2**
AAL	**Aland**	**1.50**	**36**	P	**Pn**	**11 08 59.5**	**+0.2**
AAL	**Aland**	**1.50**	**36**	*e*P	**Pn**	**11 08 59.5**	**+0.2**
AAL				*e*S	**Sg**	**11 09 18.8**	**-0.5**
LNKU	**Linkoeping**	**1.62**	**244**	P	**Pb**	**11 09 01.6**	**-0.3**
LNKU	**Linkoeping**	**1.62**	**244**	P	**Pb**	**11 09 01.6**	**-0.3**
NRAU	**Nora**	**1.75**	**291**	P	**Pb**	**11 09 03.7**	**-0.4**
NRAU	**Nora**	**1.75**	**291**	P	**Pb**	**11 09 03.7**	**-0.4**
ASKU	**Askersund**	**1.77**	**269**	P	**Pb**	**11 09 03.9**	**-0.6**
ASKU	**Askersund**	**1.77**	**269**	P	**Pb**	**11 09 03.9**	**-0.6**
SLIT	**Slitere, Latvi**	**2.52**	**121**	*e*P	**Pb**	**11 09 16.6**	**-0.6**
RAF	**Rauma**	**2.71**	**39**	*e*P	**Pn**	**11 09 17.9**	**+2.0**
RAF	**Rauma**	**2.71**	**39**	*e*PB	**Pb**	**11 09 19.4**	**-1.0**
RAF				*e*SG	**Sb**	**11 09 56.4**	**+2.2**
RAF				MSG		11 09 57.1	
	comp=Z,2.0nm,0.1s						
MEF	**Metsahovi**	**3.37**	**66**	*e*P	**Pb**	**11 09 29.0**	**-2.6**
KPF	**Kankaanpaa**	**3.44**	**32**	*e*P	**Pn**	**11 09 28.9**	**+3.0**
NOA	**NORSAR Array B**	**4.09**	**303**	Pn	**Pn**	**11 09 35.2**	**+0.2**
	baz=312,slow=26,SNR=1.4						
NOA				Lg	Lg	11 10 39.5	
	comp=Z,0.1nm,0.3s,baz=154,slow=10.0,SNR=5.3						
	comp=Z,0.4nm,0.8s						
VAF	**Ylistaro**	**4.62**	**26**	*e*P	Pn	11 09 46.9	+4.9
FIA0	**FINESS Array S**	**4.63**	**54**	*e*P	**Pn**	**11 09 44.3**	**+2.1**
FINES	**FINESS Array B**	**4.63**	**54**	Pn	**Pn**	**11 09 44.5**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=238,slow=12,SNR=5.8						
FINES				Sn	**Sn**	**11 10 37.5**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=245,slow=23,SNR=8.1						
FINES				Lg	Lg	11 10 55.0	
	comp=Z,0.6nm,0.3s,baz=242,slow=24,SNR=7.8						
	comp=Z,1.3nm,0.7s						
KAF	**Kangasniemi**	**5.07**	**48**	*e*P	**Pn**	**11 09 50.0**	**+1.7**
ARCES	**ARCESS Array B**	**11.05**	**13**	Pn	**Pn**	**11 11 06.5**	**-3.8**
	comp=Z,5.1nm,1.1s,baz=199,slow=13,SNR=1.6						

*AFAD **21** 11:09:00.9±0.0,38°.36N×45°.67E,h24km±3km,ML2.4*
*TEH **21** 11:09:01.7,38°.39N×45°.33E,h6km±42km,ML3.2*
*NSSP **21** 11:09:02.2,40°.22N×42°.67E,h10km,Ms3.6*
*AZER **21** 11:09:03.7,38°.53N×45°.41E,h10km,ml3.2*
ISC 21 11:09:03.1±1.0,**38°.42N**±0°.02×**45°.47E**±0°.02,**h10**km±

s-min=35.4km az=96.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.73**	**259**	P	P	11 17 56.3	-0.3
	0.5nm,0.8s,baz=95,slow=7.7,SNR=3.4						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**44.90**	**254**	P	P	11 17 57.7	0.0
	2.8nm,0.5s,baz=89,slow=8.3,SNR=65						
ASAR				PcP	PcP	11 19 27.6	-0.5
	0.1nm,0.6s,baz=101,slow=5.0,SNR=4.3						
	2.8nm,0.5s						
QSPA	**South Pole Qui**	**72.18**	**180**	P	P	11 21 01.2	+0.1
	1.6nm,0.7s,baz=3.3,slow=5.6,SNR=14						
	1.6nm,0.7s						
NVAR	**Mina Array Bea**	**79.33**	**44**	P	P	11 21 41.3	+0.1
	0.2nm,0.5s,baz=255,slow=6.5,SNR=1.7						
	0.2nm,0.5s						

*NEIC **21** 11:14:59.3±0.9, 19°.50N±0°.05×156°.49W±0°.03, h25km±9km, Error ellipse: s-maj=8.8km s-min=1.1km az=209.0*

HVO 21 11:15:03.2±0.8, 19°.55N±0°.04×156°.42W±0°.04, h27km±7km, ML3.1/46, ML3.1/52(NEIC), Error ellipse: s-maj=7.1km s-min=2.9km az=46.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKH	**Kailua Kona**	**0.40**	**75**		Pb	11 15 11.2	-0.7
KKH					Sb	11 15 16.6	-1.2
CPH	**Captain Cook**	**0.48**	**98**		Pb	11 15 11.9	-1.4
HUH	**Hualalai**	**0.57**	**77**		Pb	11 15 13.0	-1.9
HUH					Sb	11 15 22.3	-0.5
ALEP	**Alea Permanent**	**0.73**	**91**		Pb	11 15 15.7	-2.0
ALEP					Pn	11 15 24.8	+6.7
MWH	**Mokuaweoweo**	**0.78**	**95**		Pb	11 15 16.2	-2.4
MWH				IAML		11 15 35.6	
	comp=E,921nm,0.3s						
MHA	**Mahukona**	**0.80**	**38**		Pb	11 15 16.3	-2.2
MLOA	**Mauna Loa Obse**	**0.80**	**91**		Pb	11 15 16.3	-2.5
MLOA					Sb	11 15 26.3	-3.1
KHU	**Kahuku**	**0.82**	**112**		Pb	11 15 16.6	-2.5
KHU				IAML		11 15 27.1	
	comp=N,439nm,0.5s						
KHU				IAML		11 15 27.5	
	comp=E,509nm,0.4s						
HPAH	**Hawaii Prepara**	**0.83**	**55**		Pb	11 15 16.6	-2.6
POHA	**Pohakuloa**	**0.86**	**76**		Pb	11 15 17.5	-2.3
HMH	**Humu'ula Sheep**	**0.89**	**87**		Pn	11 15 17.7	-2.5
HMH				IAML		11 15 30.3	
	comp=E,442nm,0.2s						
HMH					Sb	11 15 30.3	-1.6
HMH				IAML		11 15 36.8	
	comp=N,430nm,0.5s						
MLH	**Mauna Loa**	**0.98**	**93**		Pn	11 15 18.6	-2.8
MLH				Sg	Sb	11 15 31.3	-3.1
MLH				IAML		11 15 31.5	
	comp=E,625nm,0.3s						
HTC	**Hot Caves**	**1.02**	**108**		Pn	11 15 18.8	-2.9
WRMHI	**West Rim**	**1.07**	**98**		Pn	11 15 19.6	-3.0
WRMHI					Sn	11 15 32.0	-4.6
UWE	**Uwekahuna**	**1.07**	**97**		Pn	11 15 20.0	-2.6
UWE				IAML		11 15 48.8	
	comp=N,592nm,2.9s						
SDHHI	**Sand Hill**	**1.08**	**98**		Pn	11 15 19.6	-3.1
SDHHI					Sn	11 15 32.4	-4.4
HLP	**Hilina Pali**	**1.08**	**103**	Pn	Pn	11 15 19.6	-3.0
HLP				IAML		11 15 53.2	
	comp=N,493nm,2.9s						
HLP				IAML		11 16 04.8	
	comp=E,570nm,2.3s						
OBL	**Observatory Le**	**1.08**	**97**		Pn	11 15 19.9	-2.8
RSD	**Rainshed**	**1.08**	**95**		Pn	11 15 20.2	-2.6
RSD				IAML		11 15 35.0	
	comp=N,462nm,0.4s						
RSD				IAML		11 15 35.8	
	comp=E,464nm,0.3s						
UWB	**Uwekahuna Bluf**	**1.09**	**97**		Pn	11 15 19.6	-3.1
UWB					Sn	11 15 32.5	-4.5
RIM	**Rim**	**1.10**	**98**		Sn	11 15 33.3	-4.0
SBLHI	**Steaming Bluff**	**1.10**	**96**		Pn	11 15 20.0	-2.9
SBLHI					Sn	11 15 33.5	-3.8
KKO	**Keanakako'i**	**1.10**	**98**		Pn	11 15 20.1	-2.9
HATHI	**Halema'uma'u T**	**1.10**	**97**		Pn	11 15 19.7	-3.3
HATHI				IAML		11 15 38.3	
	comp=E,394nm,2.5s						
HATHI				IAML		11 15 53.5	
	comp=N,316nm,2.0s						
BYL	**Byron's Ledge**	**1.11**	**97**	Pn	Pn	11 15 20.0	-3.0
BYL				IAML		11 16 02.6	
	comp=E,329nm,1.4s						
PUH	**Pauahi**	**1.15**	**99**		Pn	11 15 20.3	-3.4
KNHH	**Kane Nui o Ham**	**1.20**	**98**		Pn	11 15 21.4	-2.8
HLK	**Haleakala**	**1.21**	**8**		Pn	11 15 21.5	-3.1
HLK				IAML		11 15 34.8	
	comp=E,352nm,0.4s						
HLK				IAML		11 15 40.7	
	comp=N,386nm,2.2s						
STCH	**Steam Cracks**	**1.24**	**98**		Pn	11 15 21.7	-3.1
STCH				IAML		11 15 37.1	
	comp=E,258nm,0.1s						
STCH				IAML		11 16 05.0	
	comp=N,235nm,3.7s						
NPOC	**North of Pu'u**	**1.25**	**97**		Pn	11 15 21.0	-4.0
KHLH	**Kahului Airpor**	**1.34**	**360**	Pn	Pn	11 15 23.5	-2.6
KHLH				IAML		11 15 38.4	
	comp=E,352nm,0.3s						
KHLH				IAML		11 15 39.6	
	comp=N,240nm,0.3s						
JOKA	**Jonika Flow**	**1.34**	**95**		Pn	11 15 22.9	-3.3
JOKA				IAML		11 16 19.0	
	comp=N,318nm,3.6s						
PAH	**Pahoa**	**1.39**	**92**		Pn	11 15 24.0	-2.9
KPA	**Kalaupapa**	**1.71**	**342**	Pn	Pn	11 15 27.4	-3.8
WMR	**Waimanalo Ridg**	**2.12**	**326**		Pn	11 15 33.0	-3.8
WMR					Sn	11 15 56.4	-5.9
DHH	**Diamond Head**	**2.14**	**323**		Pn	11 15 33.1	-4.0
HON	**Honolulu**	**2.30**	**320**		Pn	11 15 35.4	-3.9
KIP	**Kipapa**	**2.38**	**322**		Pn	11 15 36.8	-3.7
KIP					Sn	11 16 02.3	-6.6
KIP	**Kipapa**	**2.38**	**322**	IAML		11 16 46.9	
	comp=N,118nm,3.5s						
KEKH	**Kekaha**	**3.91**	**309**	Pn	Pn	11 15 56.9	-4.6

*DJA **21** 11:25:55.2±0.3, 7°.5S±3°.×12°.7E±°., h421km±5km, M4.8/21, mB5.0/9, mb4.8/16, MLv5.3/21, Mw(mB)4.3/9*

*IDC **21** 11:25:56.4±1.1, 6°.98S×127°.03E, h404km±12km, mb4.1/22, mbtmp4.9/27, Error ellipse: s-maj=14.1km s-min=7.8km az=83.0*

*NEIC **21** 11:25:57.5±1.3, 6°.98S±0°.08×126°.93E±0°.04, h410km±7km, mb4.6/60, Error ellipse: s-maj=12.0km s-min=5.1km az=173.0*

ISC 21 11:25:56.5±0.3, 7°.04S±0°.04×126°.97E±0°.05, h407km, n186, σ1°.02/196, mb4.5/58, 3C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.55**	**20**	P	P	11 27 04.8	-0.1
AAI				S	S	11 28 01.9	+1.4
NLAI	**Namlea**	**3.78**	**2**	P	P	11 27 07.8	+0.9
NLAI				S	S	11 28 05.2	+1.0
SOEI	**Soe**	**3.79**	**225**	Pn	P	11 27 08.5	+1.3
SOEI	**Soe**	**3.79**	**225**	P	P	11 27 08.3	+1.2
SOEI	**Soe**	**3.79**	**225**	P	P	11 27 07.9	+0.8
SOEI				S	S	11 28 04.2	-0.4
BNDI	**Bandanaira**	**3.85**	**50**	P	P	11 27 07.5	0.0
BNDI	**Bandanaira**	**3.85**	**50**	P	P	11 27 07.1	-0.4
MSAI	**Masohi**	**4.16**	**28**	P	P	11 27 08.8	-1.7
SAUI	**Saumlaki**	**4.40**	**103**	Pn	P	11 27 13.6	+0.9
SAUI	**Saumlaki**	**4.40**	**103**	P	P	11 27 13.9	+1.2
SAUI	**Saumlaki**	**4.40**	**103**	P	P	11 27 12.7	0.0
BATI	**Baumata**	**4.53**	**226**	P	P	11 27 15.8	+1.8
	4μm,0.5s,baz=80,slow=1.4,SNR=592						
BATI				S	S	11 28 14.4	-2.9
	2μm,0.5s,baz=142,slow=23,SNR=12						
BATI	**Baumata**	**4.53**	**226**	P	P	11 27 15.1	+1.1
MMRI	**Maumere**	**4.94**	**251**	Pn	P	11 27 18.7	+0.6
MMRI	**Maumere**	**4.94**	**251**	P	P	11 27 19.1	+1.0
MMRI	**Maumere**	**4.94**	**251**	P	P	11 27 17.8	-0.3
SANI	**Sanana**	**5.05**	**349**	P	P	11 27 18.6	-0.7
SANI	**Sanana**	**5.05**	**349**	P	P	11 27 18.4	-0.9
	343nm,0.8s,4μm1.3nm						
KDI	**Kendari**	**5.30**	**305**	P	P	11 27 21.3	-0.5
	67nm,0.7s						
BSSI	**Bau Bau, Buton**	**6.49**	**278**	P	P	11 27 34.9	+0.4
	97nm,0.8s,0.4nm						
DRS	**Darwin Rock St**	**6.61**	**144**	P	P	11 27 37.0	+0.4
FAKI	**Fak Fak**	**6.67**	**52**		P	11 27 34.1	-3.2
FAKI	**Fak Fak**	**6.67**	**52**	P	P	11 27 34.6	-2.7
BKSI	**Bulukumba**	**7.01**	**284**	P	P	11 27 40.5	-0.6
BASI	**Baing, Sumba**	**7.06**	**243**	P	P	11 27 41.1	-0.4
	347nm,0.6s,5μm						
MTN	**Manton Dam**	**7.08**	**145**		P	11 27 42.4	+0.7
MTN	**Manton Dam**	**7.08**	**145**	P	P	11 27 41.9	+0.2
WSI	**Waingapu**	**7.09**	**248**	P	P	11 27 40.7	-1.2
	329nm,0.6s						
LUWI	**Luwuk**	**7.28**	**325**		P	11 27 44.5	+0.5
LUWI	**Luwuk**	**7.28**	**325**	P	P	11 27 44.9	+0.9
LUWI	**Luwuk**	**7.28**	**325**	P	P	11 27 43.5	-0.5
	140nm,0.9s,0.8nm						
KAPI	**Kappang**	**7.45**	**285**		P	11 27 44.8	-1.1
KAPI	**Kappang**	**7.45**	**285**	P	P	11 27 44.5	-1.4
	5.2nm,0.4s,baz=139,slow=11,SNR=6.4						
SWI	**Sorong**	**7.48**	**35**	P	P	11 27 44.5	-1.8
KMPI	**Kaimana, Papua**	**7.50**	**64**	P	P	11 27 44.0	-2.5
KDU	**Kakadu**	**7.80**	**136**	P	P	11 27 49.6	-0.1
WBSI	**Waikabubak, Su**	**7.93**	**250**	P	P	11 27 48.9	-2.3
	123nm,0.9s,2μm						
KMSI	**Cibinong**	**8.13**	**338**	P	P	11 27 52.0	-1.3
	198nm,0.5s,5μm						
KNRA	**Kununurra**	**8.76**	**169**		P	11 28 00.9	+0.7
PLAI	**Plampang**	**9.27**	**258**	P	P	11 28 04.7	-1.3
PLAI	**Plampang**	**9.27**	**258**	P	P	11 28 04.4	-1.6
TOLI2	**Tolitoli**	**10.18**	**322**	P	P	11 28 16.3	+0.2
TOLI2	**Tolitoli**	**10.18**	**322**	P	P	11 28 17.2	+1.1
FITZ	**Fitzroy Crossi**	**11.06**	**187**	P	P	11 28 26.9	+1.1
	20nm,0.5s,baz=20,slow=10,SNR=94						
FITZ				S	S	11 30 20.1	-8.9
	13nm,0.7s,baz=51,slow=17,SNR=3.1						
JAGI	**Jajag, Banyuwa**	**12.78**	**263**	P	P	11 28 43.4	-1.3
JAGI	**Jajag, Banyuwa**	**12.78**	**263**	P	P	11 28 44.2	-0.5
WB0	**Warramunga Arr**	**14.56**	**151**	P	P	11 29 04.5	+0.4
WRAB	**Tennant Creek**	**14.68**	**152**	P	P	11 29 05.8	+0.3
WRA	**Warramunga Arr**	**14.69**	**152**	P	P	11 29 04.9	-0.6
WRA	**Warramunga Arr**	**14.69**	**152**	P	P	11 29 05.7	+0.2
	8.3nm,0.5s,baz=327,slow=11,SNR=171						
WRA				S	S	11 31 37.9	-3.9
	17nm,0.9s,baz=321,slow=20,SNR=13						
WB2	**Warramunga Arr**	**14.69**	**152**	P	P	11 29 05.9	+0.4
MYLDM	**Lahad Datu**	**14.79**	**325**	P	P	11 29 07.5	+0.8
MYLDM	**Lahad Datu**	**14.79**	**325**	P	P	11 29 08.1	+1.5
WR0	**Warramunga Arr**	**14.80**	**151**	P	P	11 29 07.0	+0.4
MBWA	**Marble Bar**	**15.68**	**206**	P	P	11 29 16.9	+0.8
MBWA	**Marble Bar**	**15.68**	**206**	P	P	11 29 17.2	+1.0
PSA00	**Pilbara Seismi**	**16.00**	**205**	P	P	11 29 20.5	+0.9
PSA00	**Pilbara Seismi**	**16.00**	**205**	P	P	11 29 19.3	-0.3
PSA00				IAmb	IAmb	11 29 21.3	
	comp=Z,45nm,0.8s						
PSA00	**Pilbara Seismi**	**16.00**	**205**	P	P	11 29 20.9	+1.3
UGM	**Wanagama**	**16.33**	**266**	P	P	11 29 22.3	-0.9
KKM	**Kota Kinabalu**	**16.85**	**320**	P	P	11 29 28.7	-0.2
KKM	**Kota Kinabalu**	**16.85**	**320**	P	P	11 29 29.8	+0.9
COEN	**Coen**	**17.35**	**115**	P	P	11 29 34.1	+0.1
SBUM	**Sibu**	**17.48**	**302**	P	P	11 29 35.4	0.0
SBUM				IAmb	IAmb	11 29 40.5	
	comp=Z,20nm,0.6s						
SBUM	**Sibu**	**17.48**	**302**	P	P	11 29 36.6	+1.2
AS31	**Alice Springs**	**17.82**	**159**	P	P	11 29 39.5	+0.5
AS31				IAmb	IAmb	11 29 43.3	
	comp=Z,11nm,0.5s						
ASAR	**Alice Springs**	**17.82**	**159**	P	P	11 29 39.5	+0.5
	comp=Z,23nm,0.7s,baz=346,slow=13,SNR=243						
ASAR				S	S	11 32 39.8	-3.2
	comp=Z,7.5nm,0.8s,baz=337,slow=18,SNR=7.7						
WRKA	**Warakurna**	**17.94**	**176**	P	P	11 29 41.3	+1.1
QIS	**Mount Isa**	**18.18**	**139**	P	P	11 29 43.0	+0.2
KSM	**Kuching**	**18.65**	**296**	P	P	11 29 47.0	-0.8
KSM				IAmb	IAmb	11 29 51.6	
	comp=Z,37nm,0.8s						
KSM	**Kuching**	**18.65**	**296**	P	P	11 29 47.7	-0.1
BBJI	**Bungbulang**	**19.17**	**268**	P	P	11 29 51.6	-1.4
LEM	**Lembang**	**19.21**	**269**	P	P	11 29 54.3	+0.8
	comp=Z,130nm,0.7s,baz=52,slow=9.8,SNR=22						
MTSU	**Mount Surprise**	**20.18**	**125**	P	P	11 30 03.2	+0.8
MEEK	**Meekatharra**	**21.05**	**201**	P	P	11 30 10.7	+0.6
OOD	**Oodnadatta**	**22.23**	**159**	P	P	11 30 21.9	+1.0
CTAO	**Charters Tower**	**22.76**	**127**	P	P	11 30 27.3	+1.6
BULU	**Kimbe**	**23.26**	**88**	P	P	11 30 29.4	-0.9
FORT	**Forrest**	**23.64**	**178**	P	P	11 30 34.4	+0.9
FORT	**Forrest**	**23.64**	**178**	P	P	11 30 34.9	+1.4
MORW	**Morawa**	**24.21**	**204**	P	P	11 30 39.3	+0.6
MORW				IAmb	IAmb	11 30 40.1	
	comp=Z,18nm,0.8s						
INKA	**Innaminka**	**24.38**	**149**	P	P	11 30 41.4	+1.2
KMBL	**Kamballda**	**24.66**	**190**	P	P	11 30 43.8	+1.1
QLP	**Quilpie**	**25.45**	**142**	P	P	11 30 51.1	+1.3
KLBR	**Kellerberrin**	**25.90**	**198**	P	P	11 30 54.4	+0.7
BBOO	**Buckleboo**	**27.00**	**163**	P	P	11 31 04.3	+0.9
BBOO				IAmb	IAmb	11 31 05.2	
	comp=Z,26nm,0.8s						
NWAO	**Narrogin (SRO)**	**27.30**	**198**	P	P	11 31 07.0	+0.9
NWAO	**Narrogin (SRO)**	**27.30**	**198**	P	P	11 31 07.0	+0.9
STKA	**Stephens Creek**	**28.23**	**153**	P	P	11 31 15.0	+0.7
STKA	**Stephens Creek**	**28.23**	**153**	P	P	11 31 14.7	+0.4
	comp=Z,12nm,0.5s,baz=326,slow=9.6,SNR=20						
	comp=Z,12nm,0.5s						
STKA	**Stephens Creek**	**28.23**	**153**	P	P	11 31 15.6	+1.3
RPSI	**Rantau Prapat**	**29.61**	**288**	P	P	11 31 28.0	+1.3
PSI	**Prapat**	**29.65**	**288**	P	P	11 31 27.9	+0.8
AULRC	**Lightning Ridg**	**29.79**	**141**	P	P	11 31 29.2	+1.2
CMSA	**Cobar Meteorol**	**30.00**	**147**	P	P	11 31 31.2	+1.4
TPUB	**Ta-pu**	**30.79**	**349**	P	P	11 31 35.0	-1.8
TPUB				IAmb	IAmb	11 31 35.2	
	comp=Z,23nm,0.5s						
ARPS	**Mount Arapiles**	**32.55**	**157**	P	P	11 31 53.6	+1.8
ARMA	**Armidale**	**32.80**	**138**	P	P	11 31 53.8	-0.4
YNG	**Young**	**33.57**	**147**	P	P	11 32 02.6	+2.0
JOW	**Kunigami**	**33.70**	**2**	P	P	11 32 01.6	-0.1
JOW	**Kunigami**	**33.70**	**2**	P	P	11 32 01.1	-0.6
	comp=Z,23nm,0.8s,baz=137,slow=19,SNR=2.7						
	comp=Z,23nm,0.8s						
CAN	**Canberra**	**34.67**	**147**	P	P	11 32 12.3	+2.4
CAN				IAmb	IAmb	11 32 13.9	
	comp=Z,34nm,1.4s						
TOO	**Toolangi**	**34.74**	**154**	P	P	11 32 13.2	+2.7
CMAR	**Chiang Mai Arr**	**37.50**	**313**	P	P	11 32 33.7	-0.1
CMAR	**Chiang Mai Arr**	**37.50**	**313**	P	P	11 32 34.2	+0.4
	comp=Z,2.9nm,0.7s,baz=145,slow=7.2,SNR=21						
CMAR				ScP	S	11 37 51.9	-0.4
	comp=Z,2.6nm,0.6s,baz=166,slow=3.2,SNR=19						
	comp=Z,2.9nm,0.7s						
CHTO	**Chiang Mai**	**37.73**	**313**	P	P	11 32 35.2	-0.5
NJ2	**Nanjing**	**39.64**	**349**	⇑P	P	11 32 51.1	0.0
NJ2				pmax	pmax		
	comp=Z,29nm,0.7s						
JNU	**Nakatsue**	**40.11**	**5**	P	P	11 32 54.7	-0.3
JNU				IAmb	IAmb	11 32 55.2	
	comp=Z,20nm,0.9s						
JNU	**Nakatsue**	**40.11**	**5**	P	P	11 32 54.3	-0.7
	comp=Z,15nm,0.8s,baz=58,slow=4.2,SNR=6.8						
	comp=Z,15nm,0.8s						
JMN	**Monobe**	**41.07**	**9**	P	P	11 33 03.0	+0.2
JMN				IAmb	IAmb	11 33 03.9	
	comp=Z,45nm,0.8s						
PZH	**PanZhiHua**	**41.36**	**325**	P	P	11 33 05.3	0.0
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,5.9s						
INU	**Inuyama**	**43.22**	**12**	P	P	11 33 19.5	-0.2
INU				IAmb	IAmb	11 33 20.3	
	comp=Z,36nm,1.3s						
JGF	**Kuroka**	**43.53**	**12**	P	P	11 33 22.6	+0.4
JGF				IAmb	IAmb	11 33 22.7	
	comp=Z,16nm,0.9s						
LYN	**LuoYang**	**43.58**	**343**	P	P	11 33 22.3	-0.3
LYN				pmax	pmax		
	comp=Z,22nm,0.7s						
KSRS	**Korea Array**	**44.27**	**1**	P	P	11 33 27.5	-0.4
	comp=Z,8.2nm,0.7s,baz=176,slow=9.9,SNR=36						
	comp=Z,8.2nm,0.7s						
XAN	**Xi'an**	**44.29**	**338**	⇑P	P	11 33 27.3	-0.9
XAN				pmax	pmax		
	comp=Z,39nm,0.7s						
KS19	**Wonju Array Si**	**44.32**	**1**	P	P	11 33 28.2	-0.1
KS19				IAmb	IAmb	11 33 29.4	
	comp=Z,12nm,0.8s						
MAJO	**Matsushiro**	**44.62**	**13**	P	P	11 33 29.9	-0.8
MAJO				IAmb	IAmb	11 33 30.5	
	comp=Z,38nm,0.8s						
MJAR	**Matsushiro Arr**	**44.62**	**13**	P	P	11 33 29.4	-1.2
	comp=Z,33nm,0.8s,baz=188,slow=8.7,SNR=22						
	comp=Z,33nm,0.8s						
MJB9	**Matsu-Tunnel**	**44.62**	**13**	P	P	11 33 29.7	-1.1
MJB9				IAmb	IAmb	11 33 30.4	
	comp=Z,36nm,0.8s						
HNS	**HongShan**	**45.67**	**346**	⇓P	P	11 33 38.0	-0.8
HNS				pmax	pmax		
	comp=Z,44nm,0.8s						
JMM	**Marumori**	**46.50**	**15**	P	P	11 33 45.3	+0.1
SHL	**Shillong**	**47.05**	**315**	P	P	11 33 49.1	-0.8
SHL				IAmb	IAmb	11 33 51.3	
	comp=Z,7.5nm,0.4s						
BJI	**Beijing**	**47.90**	**349**	P	P	11 33 55.3	-0.4
BJI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LZH	**Lanzhou**	**48.09**	**335**	*e*P	P	11 33 58.3	+0.8
LZH				pP	PcP	11 35 19.3	+1.4
LZH				sP	sP	11 36 02.9	+0.7
LZH				PcS	PcS	11 39 14.8	+0.3
LZH				pmax	pmax		
	comp=Z,41nm,1.0s						
JTM	**Tenmabayashi**	**49.33**	**14**	P	P	11 34 06.8	+0.3
USA0B	**Ussuriysk Arra**	**51.20**	**5**	P	P	11 34 20.4	+0.1
USA0B				IAmb	IAmb	11 34 21.2	
	comp=Z,17nm,0.7s						
USRK	**Ussuriysk Ar.**	**51.20**	**5**	P	P	11 34 20.1	-0.2
USRK	**Ussuriysk Ar.**	**51.20**	**5**	P	P	11 34 20.3	0.0
	comp=Z,17nm,0.7s,baz=191,slow=7.3,SNR=34						
	comp=Z,17nm,0.7s						
MDJ	**Mudanjiang**	**51.47**	**2**	P	P	11 34 22.5	+0.2
MDJ				IAmb	IAmb	11 34 23.6	
	comp=Z,29nm,1.1s						
MDJ	**Mudanjiang**	**51.47**	**2**	P	P	11 34 22.5	+0.2
MDJ				sP	sP	11 36 28.3	+0.1
MDJ				S	S	11 41 12.8	+2.3
MDJ				sS	sS	11 43 41.1	+4.9
MDJ				pmax	pmax		
	comp=Z,27nm,1.2s						
XLT	**XiLinHaoTe**	**51.65**	**350**	*e*P	P	11 34 23.6	-0.1
XLT				pmax	pmax		
	comp=Z,27nm,0.8s						
XLT				pmax	pmax		
	comp=Z,85nm,4.3s						
BNX	**BinXian**	**52.54**	**0**	⇑P	P	11 34 29.1	-0.9
BNX				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GTA	**Gaotai**	**52.61**	**334**	P	P	11 34 31.0	+0.2
GTA				pmax	pmax		
	comp=Z,22nm,0.9s						
ASAJ	**Asahikawa**	**52.84**	**14**	P	P	11 34 31.4	-0.9
	comp=Z,14nm,0.8s,baz=202,slow=14,SNR=4.5						
	comp=Z,14nm,0.8s						
JKA	**Kamikawa-asahi**	**52.84**	**14**	P	P	11 34 32.5	+0.3
JKA				IAmb	IAmb	11 34 33.3	
	comp=Z,17nm,0.9s						
YSS	**Yuzh-Sakhalins**	**55.56**	**13**	P	P	11 34 52.1	+0.7
YSS				IAmb	IAmb	11 34 52.2	
	comp=Z,12nm,0.7s						
KLR	**Kul'dur**	**56.19**	**4**	P	P	11 34 55.3	-0.5
	comp=Z,3.2nm,0.9s,baz=139,slow=11,SNR=2.5						
	comp=Z,3.2nm,0.9s						
HEH	**HeiHe**	**57.06**	**0**	*e*P	P	11 35 01.8	-0.1
HEH				pmax	pmax		
	comp=Z,30nm,0.9s						
ULN	**Ulaanbaatar**	**57.43**	**344**	P	P	11 35 05.4	+0.7
ULN				IAmb	IAmb	11 35 06.1	
	comp=Z,13nm,0.8s						
SONM	**Songino Array**	**57.58**	**344**	P	P	11 35 06.5	+0.8
SONM				IAmb	IAmb	11 35 07.0	
	comp=Z,12nm,1.0s						
SONM	**Songino Array**	**57.58**	**344**	P	P	11 35 05.9	+0.2
	comp=Z,7.5nm,0.6s,baz=164,slow=7.8,SNR=35						
SONM				ScP	ScP	11 39 13.3	-0.6
	comp=Z,0.4nm,0.4s,baz=165,slow=3.6,SNR=2.1						
	comp=Z,7.5nm,0.6s						
CASY	**Casey**	**60.23**	**188**	P	P	11 35 24.4	+1.2
CASY				IAmb	IAmb	11 35 50.3	
	comp=Z,19nm,1.1s						
WMQ	**Urumqi**	**61.83**	**329**	*e*P	P	11 35 34.6	+0.3
WMQ				pmax	pmax		
	comp=Z,21nm,0.9s						
PEA0B	**Petropavlovsk-**	**65.34**	**20**	P	P	11 35 57.7	+1.0
PETK	**Petropavlovsk-**	**65.34**	**20**	P	P	11 35 57.4	+0.7
PETK	**Petropavlovsk-**	**65.34**	**20**	P	P	11 35 57.0	+0.3
	comp=Z,22nm,0.7s,baz=184,slow=3.0,SNR=52						
	comp=Z,22nm,0.7s						
PET	**Petropavlovsk**	**65.60**	**20**	P	P	11 35 57.4	-0.8
KSH	**Kashi**	**66.04**	**319**	P	P	11 36 02.1	+0.5
KSH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MK31	**Makanchi Array**	**66.64**	**328**	P	P	11 36 05.3	+0.3
MKAR	**Makanchi Array**	**66.64**	**328**	P	P	11 36 05.3	+0.3
MKAR	**Makanchi Array**	**66.64**	**328**	P	P	11 36 05.1	+0.1
	comp=Z,5.2nm,0.6s,baz=125,slow=7.1,SNR=48						
	comp=Z,5.2nm,0.6s						
MAKZ	**Makanchi**	**66.82**	**328**	P	P	11 36 06.2	0.0
BOOM	**Boomskoye usch**	**67.68**	**322**	P	P	11 36 11.9	+

TXAR	**Lajitas Array**	127.52	58	PKP	PKiKP	11 44 15.6	+0.1
	comp=Z,0.1nm,0.5s,baz=272,slow=2.3,SNR=2.0						
TXAR				SKPbc	SKPbc	11 46 53.5	
	comp=Z,0.5nm,0.8s,baz=183,slow=1.8,SNR=5.7						
CPUP	**Villa Florida**	146.57	173	PKPbc	PKPbc	11 44 50.8	-1.0
	comp=Z,5.3nm,0.8s,baz=224,slow=3.7,SNR=12						
LPAZ	**La Paz**	152.42	147	PKPab	PKPab	11 45 18.2	-0.7
	comp=Z,1.6nm,0.6s,baz=183,slow=3.0,SNR=4.3						
SIV	**San Ignacio**	155.77	161	PKPab	PKPab	11 45 32.3	-0.2
	comp=Z,1.5nm,0.7s,baz=196,slow=3.1,SNR=6.5						

*IDC **21** 11:28:51.8±0.9, 32.°90N×139.°99E, h148km±4km, mb3.7/10, mbtmp4.1/15, Error ellipse: s-maj=33.0km s-min=12.7km az=71.0*

*NEIC **21** 11:28:51.3±1.7, 32.°99N±0.°07×140.°18E±0.°09, h154km±5km, mb4.3/13, Error ellipse: s-maj=11.6km s-min=8.3km az=127.0*

*JMA **21** 11:28:52.5±0.1, 33.°0N±0.°3×14.°0E±.°, h150km, MD4.4/38, MV4.2/38, E OFF HACHIJOJIMA ISLAND*

*NIED **21** 11:28:52.5, 32.°99N×140.°01E, h150km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.14; $M_{\theta\theta}$-0.73; $M_{\phi\phi}$0.59; $M_{r\theta}$0.19; $M_{\theta\phi}$-1.43; $M_{\phi r}$0.22; Fault plane solution: $M_0$1.60000×10^{15} NP1: ϕ_s192.00000°, δ86.00000°, λ-9.00000°. NP2:ϕ_s283.00000°, δ81.00000°, λ-176.00000°.*

ISC 21 11:28:51.6±0.7, 32.°99N±0.°05×140.°02E±0.°07, h153km±5km, n79, σ1§33/81, mb4.0/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	0.20	294	P	Pn	11 29 12.8	+0.7
JHCJ				eS	Sn	11 29 28.5	+0.6
JHJ2	**Mitsune**	0.21	306		Pn	11 29 13.1	+0.9
JHJ2				Sn	Sn	11 29 27.9	0.0
JHJ2	**Mitsune**	0.21	306	P	Pn	11 29 13.2	+1.0
JHJ2	**Mitsune**	0.21	306	i P	Pn	11 29 12.9	+0.7
JHJ2				S	Sn	11 29 28.3	+0.4
JHJ2	**Mitsune**	0.21	306	A	A	11 29 12.9	
	comp=E,12nm,0.8s,comp=N,8.0nm,1.7s						
JHJ	**Hachijo jima 2**	0.23	304	P	Pn	11 29 12.8	+0.5
	baz=180,slow=20						
JHJ				S	Sn	11 29 28.4	+0.4
	baz=180,slow=20						
JAOM	**Aogashimamukai**	0.57	202	eS	Sn	11 29 31.1	+0.7
JMKN	**Mikurajimanish**	0.97	339	i P	Pn	11 29 16.9	+0.5
JMYK	**Miyake Tsubota**	1.14	340	P	Pn	11 29 18.6	+0.8
JMYK				eS	Sn	11 29 38.7	+0.8
JKO	**Kozu shima**	1.40	329	i P	Pn	11 29 21.3	+1.0
JKO				eS	Sn	11 29 43.0	+0.6
JTHY	**Toshimahigashi**	1.65	339	i P	Pn	11 29 24.2	+1.3
JTHY				S	Sn	11 29 48.6	+1.6
JIM2	**Oshima 3**	1.79	344	i P	Pn	11 29 25.6	+1.1
JIM2				S	Sn	11 29 50.0	+0.1
JIM2	**Oshima 3**	1.79	344	A	A	11 29 25.6	
	comp=E,7.0nm,1.7s,comp=N,10.0nm,1.3s						
BSO1	**Boso 1**	1.84	25	i P	Pn	11 29 26.1	+1.7
BSO1				eS	Sn	11 29 52.1	+2.2
BSO3	**Boso 3**	1.85	13	i P	Pn	11 29 26.6	+1.7
BSO3				S	Sn	11 29 52.9	+2.3
JIZS	**Izushimoda**	1.97	332	i P	Pn	11 29 27.6	+1.1
JIZS				eS	Sn	11 29 54.2	+0.8
TATJ	**Tateyama 2**	2.04	357	A	A	11 29 28.3	
	comp=E,12nm,1.4s,comp=N,8.0nm,0.7s						
JSG	**Sagara**	2.27	318		Pn	11 29 31.4	+1.5
JSG	**Sagara**	2.27	318	P	Pn	11 29 31.5	+1.5
JOD2	**Odawara 2**	2.40	342	i P	Pn	11 29 32.9	+1.4
JOD2				S	Sn	11 30 04.3	+1.9
JOD2	**Odawara 2**	2.40	342	A	A	11 29 32.9	
	comp=E,4.0nm,1.4s,comp=N,3.0nm,1.2s						
SHZ3	**Shizuoka 3**	2.56	325	i P	Pn	11 29 34.9	+1.4
JYN	**Shimob**	2.78	334	i P	Pn	11 29 38.0	+1.6
JIE	**Ise**	3.09	298	i P	Pn	11 29 40.7	+0.5
JIE				S	Sn	11 30 17.1	-0.8
JGF	**Kuroka**	3.41	321		Pn	11 29 45.2	+0.9
JGF	**Kuroka**	3.41	321	P	Pn	11 29 45.4	+1.1
INU	**Inuyama**	3.42	314		Pn	11 29 45.2	+0.8
INU	**Inuyama**	3.42	314	P	Pn	11 29 45.5	+1.1
MJAR	**Matsushiro Arr**	3.84	338	P	Pn	11 29 50.4	+0.5
	comp=N,16nm,0.5s,baz=158,slow=9.4,SNR=50						
MAJO	**Matsushiro**	3.84	338		Pn	11 29 50.8	+1.0
MAJO	**Matsushiro**	3.84	338	P	Pn	11 29 50.7	+0.8
MJB9	**Matsu-Tunnel**	3.85	338		Pn	11 29 50.8	+0.9
JMM	**Marumori**	4.91	7		Pn	11 30 03.8	+0.1
JMM	**Marumori**	4.91	7	P	Pn	11 30 03.5	-0.3
JMN	**Monobe**	5.19	280		Pn	11 30 08.1	+0.5
JSD	**Sado**	5.24	345		Pn	11 30 07.6	-0.5
JSD	**Sado**	5.24	345	P	Pn	11 30 07.6	-0.5
JCJ	**Chichijima**	6.17	162	Pn	Pn	11 30 19.0	-1.6
JCJ	**Chichijima**	6.17	162	P	Pn	11 30 12.3	-8.3
	baz=0.0,slow=0.0						
JCJ				S	Sn	11 31 18.1	-12
	baz=180,slow=0.0						
JNU	**Nakatsue**	7.67	273	Pn	Pn	11 30 42.5	+1.9
JNU	**Nakatsue**	7.67	273	P	Pn	11 30 40.7	0.0
	comp=N,12nm,0.9s,baz=85,slow=6.2,SNR=6.5						
JTM	**Tenmabayashi**	7.83	6	Pn	Pn	11 30 42.2	-0.4
ERM	**Erimo**	9.35	15	Pn	Pn	11 31 02.0	-0.8
KSRS	**Korea Array**	10.85	298	P	Pn	11 31 23.6	+1.0
	comp=N,2.7nm,0.9s,baz=109,slow=12,SNR=5.6						
ASAJ	**Asahikawa**	11.29	10	P	Pn	11 31 27.5	-0.9
	comp=N,7.6nm,0.4s,baz=227,slow=9.6,SNR=17						
ASAJ				S	Sn	11 33 25.7	-7.5
	comp=N,9.6nm,0.6s,baz=300,slow=29,SNR=4.1						
JKA	**Kamikawa-asahi**	11.29	10		Pn	11 31 27.1	-1.3
USA0B	**Ussuriysk Arra**	12.82	333	Pn	Pn	11 31 48.8	+0.5
USRK	**Ussuriysk Ar.**	12.82	333	P	Pn	11 31 48.5	+0.1
	comp=N,2.2nm,0.5s,baz=146,slow=11,SNR=4.4						
YSS	**Yuzh-Sakhalins**	14.10	8		Pn	11 32 03.4	-1.1
MDJ	**Mudanjiang**	14.16	328		Pn	11 32 05.4	+0.2
YOJ	**Yonaguni jima**	17.15	245	P	P	11 32 40.9	-0.4
KLR	**Kul'dur**	17.36	342	P	P	11 32 43.6	+0.1
	comp=N,8.8nm,0.5s,baz=165,slow=8.8,SNR=40						
YHNB	**Yeheng**	18.30	248	P	P	11 32 53.8	-0.2
YHNB				IAmb	IAmb	11 32 54.0	
	comp=Z,14nm,0.9s						
NACB	**Ninganchiao**	18.39	246	P	P	11 32 53.9	-1.1
NACB				IAmb	IAmb	11 33 08.3	
	comp=Z,13nm,0.9s						
YULB	**Yu-li**	19.05	245	P	P	11 33 01.2	-0.9
YULB				IAmb	IAmb	11 33 11.6	
	comp=Z,11nm,1.1s						
SSLB	**Suanglung**	19.09	246	P	P	11 33 02.5	-0.1
SSLB				IAmb	IAmb	11 33 02.6	
	comp=Z,15nm,1.1s						
HIA	**Hailar**	22.20	323	P	P	11 33 34.8	-0.6
HIA				IAmb	IAmb	11 33 38.6	
	comp=Z,9.8nm,0.6s						
ENH	**Enshi**	26.09	272	P	P	11 34 10.5	-0.7
H11N2	**WAKE ISLAND Hy**	27.38	112	T	T	12 03 44.9	
	baz=306,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	27.38	112	T	T	12 03 33.0	
	baz=306,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	27.39	112	T	T	12 03 37.1	
	baz=306,slow=75,SNR=17						
H11S3	**WAKE ISLAND Hy**	27.92	115	T	T	12 03 45.7	
	baz=305						
H11S1	**WAKE ISLAND Hy**	27.93	115	T	T	12 03 52.8	
	baz=305,slow=74						
H11S2	**WAKE ISLAND Hy**	27.94	115	T	T	12 04 06.0	
	baz=305,slow=74						
SONM	**Songino Array**	29.31	310	P	P	11 34 40.9	+1.1
	comp=Z,0.6nm,0.4s,baz=121,slow=9.1,SNR=2.2						
	comp=Z,0.6nm,0.4s						
JAY	**Jayapura**	35.32	179	P	P	11 35 32.8	+0.5
	comp=Z,3.0nm,0.5s,baz=268,slow=22,SNR=0.8						
	comp=Z,3.0nm,0.5s						
FAKI	**Fak Fak**	36.46	193	P	P	11 35 41.1	-0.9
FAKI				IAmb	IAmb	11 36 07.2	
	comp=Z,7.5nm,1.0s						
CMAR	**Chiang Mai Arr**	39.47	259	P	P	11 36 06.8	-0.5
	comp=Z,0.8nm,0.4s,baz=47,slow=6.6,SNR=2.5						
	comp=Z,0.8nm,0.4s						
K13K	**Kusilvak Mount**	45.28	33	P	P	11 36 48.6	-5.0
K13K				IAmb	IAmb	11 36 50.2	
	comp=Z,11nm,1.1s						
MK31	**Makanchi Array**	45.41	305	P	P	11 36 56.2	+1.3
MKAR	**Makanchi Array**	45.41	305	P	P	11 36 56.3	+1.5
MKAR	**Makanchi Array**	45.41	305	P	P	11 36 55.9	+1.0
	comp=Z,2.0nm,0.6s,baz=86,slow=9.6,SNR=7.1						
	comp=Z,2.0nm,0.6s						
MAKZ	**Makanchi**	45.62	305	P	P	11 36 57.6	+1.1
KURBB	**Kurchatov Arra**	47.68	311	P	P	11 37 13.4	+1.0
	comp=Z,1.7nm,0.5s,baz=88,slow=7.1,SNR=11						
	comp=Z,1.7nm,0.5s						
BVAR	**Borovoye Array**	52.51	314	P	P	11 37 50.2	+1.4
	comp=Z,2.0nm,0.4s,baz=101,slow=7.6,SNR=7.3						
	comp=Z,2.0nm,0.4s						
FITZ	**Fitzroy Crossi**	52.63	197	P	P	11 37 49.5	-0.5
	comp=Z,2.3nm,0.8s,baz=0.0,slow=5.1,SNR=1.9						
	comp=Z,2.3nm,0.8s						
WRA	**Warramunga Arr**	52.91	187	P	P	11 37 51.5	-0.6
	comp=Z,1.1nm,0.5s,baz=3.3,slow=7.6,SNR=8.9						
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	56.64	187	P	P	11 38 18.9	0.0
	comp=Z,1.0nm,0.4s,baz=356,slow=5.7,SNR=6.3						
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	71.86	332	P	P	11 39 58.4	+1.0
	comp=Z,0.6nm,0.4s,baz=45,slow=5.7,SNR=7.3						
	comp=Z,0.6nm,0.4s						

*EST **21** 11:29:25.6±0.1, 59.°23N×27.°88E, h0km, ML1.8(HEL), Explosion*

*LVSN **21** 11:29:27.6±1.5, 59.°21N×27.°92E, h0km±247km, ML1.8*

HEL 21 11:29:24.7±0.4, 59.°22N×28.°05E, h0km, ML1.9, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	0.18	331	eP	Pg	11 29 28.3	+0.1
EE04				eS	Sg	11 29 29.2	-1.2
EE03	**Tooma soojaam,**	0.98	250	eP	Pg	11 29 41.3	-2.2
EE03				eS	Sg	11 29 53.0	-3.1
VSU	**Vasula**	1.02	223	eP	Pb	11 29 45.3	+0.1
VSU				eS	Sg	11 29 56.6	-0.8
VSU				AML	AML	11 30 03.5	
	comp=E,52nm,0.5s						
VSU				AML	AML	11 30 07.0	
	comp=N,44nm,0.4s						
VSU				AML	AML	11 30 13.2	
	comp=Z,14nm,1.0s						
VSU	**Vasula**	1.02	223	eP	Pg	11 29 42.9	-1.3
VSU				eS	Sg	11 29 55.6	-1.8
VJF	**Virojoki**	1.35	350	eP	Pg	11 29 49.4	-1.1
VJF				eSB	Sg	11 30 07.2	-0.8
VJF				MSG		11 30 15.4	
	comp=Z,5.2nm,0.1s						
EE07	**Piusa Caves, O**	1.41	193	eP	Pn	11 29 51.0	-0.7
EE07				eSB	Sg	11 30 09.6	-0.4
EE08	**Sarghaua, Vand**	1.56	250	eP	Pn	11 29 51.7	-1.9
EE08				eS	Sn	11 30 11.2	-3.3
EE02	**Kiisa, Saku**	1.72	271	eP	Pn	11 29 54.9	-0.9
EE02				eS	Sn	11 30 16.1	-2.4
PVF	**Pernaja**	1.73	321	ePN	Pn	11 29 55.9	-0.1
PVF				MSG		11 30 16.3	
	comp=Z,6.1nm,0.2s						
PVF				eSG	Sn	11 30 17.3	-1.4
HEL1	**Helsinki**	1.87	302	ePG	Pn	11 29 58.0	+0.1
HEL1				eSG	Sn	11 30 20.9	-1.3
HEL1				MSG		11 30 23.3	
	comp=Z,7.2nm,0.1s						
MEF	**Metsahovi**	2.10	300	eP	Pn	11 30 02.2	+1.1
MEF				eS	Sn	11 30 27.9	0.0
MEF				AML	AML	11 30 30.7	
	comp=N,27nm,0.2s						
MEF				AML	AML	11 30 30.7	
	comp=E,12nm,0.1s						
MEF				AML	AML	11 30 30.9	
	comp=Z,11nm,0.1s						
MEF	**Metsahovi**	2.10	300	ePG	Pn	11 30 02.1	+1.0
MEF				eSG	Sn	11 30 27.9	-0.1
MEF				MSG		11 30 30.9	
	comp=Z,4.6nm,0.1s						
NUR	**Nurmijarvi**	2.15	309	ePG	Pn	11 30 02.9	+1.2
NUR				MSG		11 30 28.4	
	comp=Z,6.5nm,0.2s						
NUR				eSG	Sn	11 30 29.4	+0.3
MTSE	**Matsula**	2.25	259	eP	Pn	11 30 04.3	+1.2
MTSE				eS	Sn	11 30 31.6	+0.1
MTSE	**Matsula**	2.25	259	ePB	Pn	11 30 03.6	+0.6
RUF	**Ruokolahti**	2.26	11	ePB	Pn	11 30 04.8	+1.5
RUF				MSG		11 30 31.6	
	comp=Z,4.4nm,0.2s						
RUF				eSG	Sb	11 30 35.4	+0.6
EE01	**Perakula, Nova**	2.27	272	ePB	Pn	11 30 04.0	+0.6
EE01				eSG	Sn	11 30 32.7	+0.5
FIA0	**FINESS Array S**	2.44	337	MSG		11 30 36.7	
	comp=Z,3.0nm,0.2s						
FIA0				eSB	Sn	11 30 38.0	+1.8
FIA1	**FINESS Array S**	2.44	337	eSG	Sb	11 30 38.8	-1.1
FIA1				MSG		11 30 43.6	
	comp=Z,2.8nm,0.1s						
EE06	**Soera, Palade,**	2.69	267	eSG	Sb	11 30 45.0	-2.2
KAF	**Kangasniemi**	3.03	344	MSG		11 30 53.6	
	comp=Z,3.3nm,0.2s						
KAF				eSG	Sb	11 30 57.6	+0.8
SLIT	**Slitere, Latvi**	3.42	245	eP	Pn	11 30 20.8	+1.6
JOF	**Joensuu**	4.04	22	eP	Pn	11 30 28.0	+0.3
JOF	**Joensuu**	4.04	22	eP	Pn	11 30 28.5	+0.8

HEL 21 11:29:50.9±0.1, 61.°00N×22.°45E, h0km, ML1.6, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	0.33	274	PG	Pg	11 29 57.0	-0.3
RAF				SG	Sg	11 30 01.4	-0.1
KPF	**Kankaanpaa**	0.85	348	PG	Pg	11 30 06.3	-0.9
NUR	**Nurmijarvi**	1.19	114	MSG		11 30 26.9	
	comp=Z,6.5nm,0.2s						
AAL	**Aland**	1.47	237	SN	Sn	11 30 40.7	+2.3
KEF	**Keuruu**	1.65	44	MSG		11 30 40.1	
	comp=Z,1.9nm,0.2s						
KEF				SN	Sn	11 30 42.8	-0.1
FIA0	**FINESS Array S**	1.81	74	PG	Pn	11 30 23.4	+0.1
FIA0				SB	Sn	11 30 44.3	-2.6
FIA0				MSG		11 30 44.8	
	comp=Z,2.4nm,0.2s						
VAF	**Ylistaro**	2.05	3	eP	Pn	11 30 21.1	-5.5
VAF	**Ylistaro**	2.05	3	PG	Pn	11 30 27.7	+1.1
VAF				MSG		11 30 51.8	
	comp=Z,1.2nm,0.2s						
VAF				SG	Sb	11 30 54.6	-0.3
KAF	**Kangasniemi**	2.16	57	PG	Pb	11 30 29.8	-1.0
KAF				MSG		11 30 54.9	
	comp=Z,3.3nm,0.2s						
ARBE	**Arbavere**	2.36	130	SN	Sn	11 31 00.0	-0.5
MTSE	**Matsula**	2.40	163	PB	Pn	11 30 32.2	+0.8
HEMU	**Hemsoen**	2.68	311	SB	Sb	11 31 10.9	-2.2
UMAU	**Umeaa**	3.00	345	PG	Pb	11 30 43.5	-1.7
OUL	**Oulu**	4.39	19	SB	Sb	11 31 59.4	-2.7

*NEIC **21** 11:32:13.3±1.4, 5.°99S±0.°09×151.°11E±0.°08, h10km±1km, mb4.3/19, Error ellipse: s-maj=19.5km s-min=4.7km az=137.0*

*IDC **21** 11:32:17.7±4.5, 5.°77S×150.°94E, h48km±41km, mb4.0/10, mbtmp4.3/11, ML2.0/1, MS3.3/8, Error ellipse: s-maj=39.4km s-min=22.6km az=115.0*

ISC 21 11:32:16.6±0.6, 5.°95S±0.°07×151.°05E±0.°09, h43km, n42, σ1§06/39, mb4.3/19, MS3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	2.06	32		Pn	11 32 48.3	-0.5
PMG	**Port Moresby**	5.17	228		Pn	11 33 30.9	-0.6
PMG	**Port Moresby**	5.17	228	P	Pn	11 33 33.7	+2.2
	3.5nm,0.3s,baz=61,slow=5.4,SNR=8.4						
PMG				S	Sn	11 34 28.7	-1.2
	34nm,0.6s,baz=38,slow=20,SNR=2.5						
PMG				LR	LR	11 35 20.7	
	comp=Z,204nm,20.8s,baz=24,slow=35						
	17nm,0.7s						
MANU	**Manus Island**	5.34	316	Pn	Pn	11 33 34.2	+0.3
HNR	**Honiara**	9.47	112	LR	LR	11 37 41.1	
	comp=Z,216nm,21.0s,baz=304,slow=34						
CTA	**Charters Tower**	14.81	198	LR	LR	11 41 43.0	
	comp=Z,14nm,18.3s,baz=14,slow=38						
CTAO	**Charters Tower**	14.81	198	Pn	Pn	11 35 41.7	-1.6
EIDS	**Eidsvold**	19.32	180	P	P	11 36 37.1	-1.1
EIDS				IAmb	IAmb	11 36 38.8	
	comp=Z,18nm,1.1s						
KOUNC	**Koumac, New Ca**	19.38	140	P	P	11 36 38.4	-0.6
GUMO	**Guam**	20.36	342	LR	LR	11 45 24.7	
	comp=Z,62nm,18.9s,baz=82,slow=39						
MTN	**Manton Dam**	20.80	249	P	P	11 36 54.0	-0.5
WB0	**Warramunga Arr**	21.24	228	P	P	11 36 58.6	-0.6
WB0				IAmb	IAmb	11 37 05.0	
	comp=Z,19nm,0.9s						
WR0	**Warramunga Arr**	21.25	228	P	P	11 36 59.2	-0.1
WR0				IAmb	IAmb	11 37 08.5	
	comp=Z,15nm,0.9s						
WRAB	**Tennant Creek**	21.38	228	P	P	11 37 00.8	+0.1
WRAB				IAmb	IAmb	11 37 06.3	
	comp=Z,14nm,0.9s						
WB2	**Warramunga Arr**	21.38	228	P	P	11 37 01.4	+0.7
WB2				IAmb	IAmb	11 37 06.3	
	comp=Z,18nm,0.9s						
WRA	**Warramunga Arr**	21.39	228	P	P	11 37 00.8	0.0
WRA	**Warramunga Arr**	21.39	228	P	P	11 37 01.4	+0.6
	comp=Z,13nm,0.9s,baz=53,slow=11,SNR=12						
WRA				PcP	PcP	11 41 03.5	-0.1
	comp=Z,0.3nm,0.7s,baz=50,slow=2.0,SNR=1.8						
	comp=Z,13nm,0.9s						
DZM	**Mont Dzumac**	21.87	139	LR	LR	11 44 47.0	
	comp=Z,180nm,18.9s,baz=322,slow=34						
KNRA	**Kununurra**	23.91	244	P	P	11 37 26.6	-0.1
KNRA				IAmb	IAmb	11 37 36.6	
	comp=Z,8.6nm,0.8s						
AS31	**Alice Springs**	24.14	221	P	P	11 37 29.8	+1.0
AS31				IAmb	IAmb	11 37 35.4	
	comp=Z,4.3nm,0.7s						
ASAR	**Alice Springs**	24.14	221	P	P	11 37 28.9	+0.1
ASAR	**Alice Springs**	24.14	221	P	P	11 37 29.8	+1.0
	comp=Z,11nm,0.7s,baz=54,slow=9.1,SNR=26						
ASAR				LR	LR	11 48 17.4	
	comp=Z,104nm,19.4s,baz=58,slow=40						
	comp=Z,11nm,0.7s						
STKA	**Stephens Creek**	27.27	198	P	P	11 37 58.8	+1.8
	comp=Z,4.7nm,0.8s,baz=27,slow=6.8,SNR=2.4						
STKA				LR	LR	11 48 24.3	
	comp=Z,138nm,20.0s,baz=25,slow=35						
	comp=Z,4.7nm,0.8s						
FITZ	**Fitzroy Crossi**	27.59	242	P	P	11 38 00.8	+0.8
	comp=Z,1.5nm,0.7s,baz=68,slow=9.3,SNR=1.3						
	comp=Z,1.5nm,0.7s						
PSA00	**Pilbara Seismi**	33.95	240	P	P	11 38 55.3	-0.9
URZ	**Urewera**	39.92	147	LR	LR	11 53 46.7	
	comp=Z,69nm,21.1s,baz=37,slow=32						
LEM	**Lembang**	43.16	266	P	P	11 40 13.2	-0.6
	comp=Z,10nm,0.5s,baz=254,slow=18,SNR=1.5						
	comp=Z,10nm,0.5s						
PETK	**Petropavlovsk-**	59.10	5	P	P	11 42 12.1	-0.4
	comp=Z,2.1nm,0.8s,baz=177,slow=8.5,SNR=1.2						
	comp=Z,2.1nm,0.8s						
CAST	**Castle Rocks**	81.22	22	P	P	11 44 28.1	+0.4
CAST				IAmb	IAmb	11 44 28.4	
	comp=Z,3.7nm,1.2s						
F19K	**Shaleruckik Mo**	81.24	18	P	P	11 44 30.0	+2.3
F19K				IAmb	IAmb	11 44 37.1	
	comp=Z,2.7nm,1.1s						
PWL	**Port Wells**	81.42	26	P	P	11 44 30.5	+1.7
SML	**Sawmill**	81.88	25	P	P	11 44 33.1	+1.8
IMAR	**Indian Mountai**	82.04	20	P	P	11 44 33.8	+1.8
MLY	**Manley**	82.57	21	P	P	11 44 35.5	+0.6
E21K	**Killik River**	83.37	18	P	P	11 44 39.9	+1.0
CCB	**Clear Creek Bu**	83.46	22	P	P	11 44 39.5	+0.2
CCB				IAmb	IAmb	11 44 41.2	
	comp=Z,1.4nm,0.8s						
KURBB	**Kurchatov Arra**	83.63	322	P	P	11 44 39.3	-1.2
	comp=Z,0.4nm,0.6s,baz=112,slow=4.0,SNR=6.1						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	83.87	22	P	P	11 44 41.0	-0.5
	comp=Z,1.1nm,0.7s,baz=247,slow=5.5,SNR=15						
	comp=Z,1.1nm,0.7s						
QSPA	**South Pole Qui**	84.02	180	P	P	11 44 43.2	+0.7
QSPA				IAmb	IAmb	11 44 48.5	
	comp=Z,3.0nm,1.1s						
QSPA	**South Pole Qui**	84.02	180	P	P	11 44 43.7	+1.2
	comp=Z,2.3nm,1.1s,baz=199,slow=0.8,SNR=3.5						
	comp=Z,2.3nm,1.1s						
NVAR	**Mina Array Bea**	94.16	52	P	P	11 45 32.0	+0.6
	comp=Z,0.6nm,0.8s,baz=244,slow=6.8,SNR=4.8						
	comp=Z,0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	148.97	286	PKPbc	PKPbc	11 52 01.7	+0.7
	comp=Z,2.2nm,0.7s,baz=39,slow=3.4,SNR=12						

*TAP **21** 11:37:28.9, 21.°14N×121.°21E, h72km, ML3.6, D*

*ASIES **21** 11:37:28.9, 21.°14N×121.°21E, h71km, ML3.6, Mw4.0, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}0.41; $M_{\theta\theta}$0.08; $M_{\phi\phi}$-0.49; $M_{r\theta}$0.16; $M_{\theta\phi}$-0.04; $M_{\phi r}$-1.12; Fault plane solution: $M_0$1.22329×10^{22} NP1: ϕ_s172.77000°, δ79.42000°, λ84.75000°. NP2:ϕ_s19.36000°, δ11.80000°, λ116.10000°. Principal axes: T Plg55.2870°, Azm76.2480°; N Plg5.1620°, Azm173.7400°; P Plg34.2160°, Azm267.2620°;*

ISC 21 11:37:27.4±3.5, 21.°0N±0.°2×121.°20E±0.°06, h73km±14km, n86, σ1§80/163, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWKBT	**Hengchun**	1.00	339	i P	Pn	11 37 46.3	+0.1
TWKBT				i S	Sn	11 37 59.3	-0.7
TWK1	**Hengchun**	1.00	338	i P	Pn	11 37 46.5	+0.3
TWK1				i S	Sn	11 37 59.4	-0.7
LYUB	**Lan-yu**	1.05	20	i P	Pn	11 37 46.9

TWF1	Yuli	2.34	2	i P	Pn	11 38 04.2	+0.5
TWF1				eS	Sn	11 38 29.6	-2.0
TPUB	Ta-pu	2.35	347	P	Pn	11 38 05.8	+1.9
TPUB	Ta-pu	2.35	347	i P	Pn	11 38 04.1	+0.3
TPUB				eS	Sn	11 38 31.8	+0.1
TWK	Hsinying	2.35	344	eP	Pn	11 38 06.4	+2.5
TWK				eS	Sn	11 38 31.7	-0.1
TSCK	Chigu Township	2.37	334	eP	Pn	11 38 03.3	-0.8
TSCK				eS	Sn	11 38 31.1	-1.1
YULB	Yu-li	2.38	2	P	Pn	11 38 05.7	+1.4
YULB	Yu-li	2.38	2	eP	Pn	11 38 05.3	+1.0
YULB				eS	Sn	11 38 29.7	-2.8
CHN4	Tsaushan	2.40	347	eP	Pn	11 38 06.9	+2.2
CHN4				eS	Sn	11 38 32.4	-0.7
HGSD	Ruisui	2.48	5	P	Pn	11 38 07.3	+1.6
HGSD				eS	Sn	11 38 35.8	+0.8
WCKO	Fanlu	2.48	347	P	Pn	11 38 07.3	+1.6
WCKO				eS	Sn	11 38 35.0	-0.1
EHY	Hungye	2.49	3	P	Pn	11 38 06.8	+0.9
EHY				eS	Sn	11 38 32.2	-3.1
ALS	Alishan	2.52	352	P	Pn	11 38 08.3	+1.8
ALS				eS	Sn	11 38 35.9	-0.4
EGFH	Guangfu	2.66	4	i P	Pn	11 38 09.6	+1.5
EGFH				eS	Sn	11 38 37.0	-2.3
WDGT	Dungji	2.66	328	i P	Pn	11 38 07.9	-0.2
WHYT	Xinyi Township	2.70	353	i P	Pn	11 38 09.9	+1.3
WHYT				S	Sn	11 38 39.2	-1.1
WARBT	Fenglin Townsh	2.71	4	eP	Pn	11 38 10.4	+1.6
WARBT				eS	Sn	11 38 38.8	-1.7
VWDT	VWDT	2.74	359	i P	Pn	11 38 10.6	+1.5
VWDT				eS	Sn	11 38 40.2	-0.9
VCHM	Qimei	2.74	323	eP	Pn	11 38 08.6	-0.6
SSLB	Suanglung	2.78	355	P	Pn	11 38 12.5	+2.7
SSLB	Suanglung	2.78	355	eP	Pn	11 38 12.4	+2.7
SSLB				eS	Sn	11 38 40.7	-1.6
SHUL	Shoufeng	2.79	7	eP	Pn	11 38 12.8	+2.9
SHUL				eS	Sn	11 38 41.5	-1.0
ESL	Shilin	2.81	4	i P	Pn	11 38 11.8	+1.8
ESL				eS	Sn	11 38 39.9	-2.9
SMLT	Sun Moon Lake	2.88	354	i P	Pn	11 38 13.0	+1.8
SMLT				eS	Sn	11 38 44.0	-0.8
PHUB	P'eng-hu	2.92	329	P	Pn	11 38 11.5	0.0
PHUB				eS	Sn	11 38 41.4	-4.2
OWD	Renai	2.94	360	eP	Pn	11 38 14.6	+2.6
OWD				eS	Sn	11 38 44.5	-1.7
PNG	Penghu	2.97	329	eP	Pn	11 38 10.2	-2.1
PNG				i S	Sn	11 38 43.8	-3.0
WUSB	Renai	2.98	359	i P	Pn	11 38 14.7	+2.2
WUSB				eS	Sn	11 38 46.5	-0.7
LXIB	Xiulin Townshi	3.01	4	i P	Pn	11 38 13.3	+0.4
LXIB				eS	Sn	11 38 46.8	-1.2
WCS	Beigang Elemen	3.05	355	eP	Pn	11 38 15.3	+1.9
WCS				eS	Sn	11 38 46.9	-1.9
WHF	Hehuan Shan	3.13	1	eP	Pn	11 38 17.3	+2.5
WHF				eS	Sn	11 38 49.8	-1.5
NACB	Ninganchiao	3.17	6	P	Pn	11 38 17.6	+2.5
NACB	Ninganchiao	3.17	6	eP	Pn	11 38 17.0	+1.9
NACB				eS	Sn	11 38 49.3	-2.5
ETLH	Xiulin Townshi	3.20	5	eP	Pn	11 38 17.8	+2.3
ETLH				eS	Sn	11 38 51.5	-1.1
WHP	Taichung City	3.27	356	eP	Pn	11 38 19.1	+2.7
WHP				eS	Sn	11 38 53.3	-0.9
TWQ1	Liyutan	3.35	353	eP	Pn	11 38 20.2	+2.8
TWQ1				eS	Sn	11 38 55.4	-0.7
NNSB	Datong	3.41	3	eP	Pn	11 38 21.4	+3.0
NNSB				eS	Sn	11 38 57.7	-0.1
NNS	Nan Shan	3.42	3	eP	Pn	11 38 21.5	+2.9
NNS				eS	Sn	11 38 57.7	-0.4
LATG	Datong	3.53	5	eP	Pn	11 38 22.3	+2.3
LATG				eS	Sn	11 39 00.1	-0.5
NFF	Wufeng Townshi	3.61	359	eP	Pn	11 38 23.9	+2.8
NFF				eS	Sn	11 39 01.0	-1.6
NSTT	Nanjuang	3.62	357	eP	Pn	11 38 23.5	+2.5
NSTT				eS	Sn	11 39 00.9	-1.7
LIOB	Emei	3.63	357	eP	Pn	11 38 22.9	+1.6
LIOB				eS	Sn	11 39 00.5	-2.4
ENTT	Nioudou	3.63	5	P	Pn	11 38 23.6	+2.3
ENTT				eS	Sn	11 39 02.1	-0.9
YHNB	Yeheng	3.65	2	P	Pn	11 38 25.4	+3.8
YHNB	Yeheng	3.65	2	eP	Pn	11 38 24.8	+3.1
YHNB				eS	Sn	11 39 02.1	-1.5
NSK	Sanguang	3.66	2	eP	Pn	11 38 24.6	+2.8
NSK				eS	Sn	11 39 02.1	-1.6
FUSB	Fushanzhiwuyua	3.75	5	eP	Pn	11 38 26.5	+3.5
FUSB				eS	Sn	11 39 05.5	-0.6
NWLT	Wulai	3.77	4	eP	Pn	11 38 25.6	+2.4
NWLT				eS	Sn	11 39 05.9	-0.4
YOJ	Yonaguni jima	3.83	26	P	Pn	11 38 28.9	+5.0
YOJ	Yonaguni jima	3.83	26	eP	Pn	11 38 24.8	+0.9
YOJ				eS	Sn	11 39 04.7	-2.9
TIPB	Shuangxi	3.99	8	eP	Pn	11 38 28.8	+2.5
TIPB				eS	Sn	11 39 10.2	-1.6
SXI1	Grass Mountain	4.12	9	eP	Pn	11 38 31.6	+3.6
SXI1				eS	Sn	11 39 14.5	-0.5
VWUC	VWUC	4.28	338	eP	Pn	11 38 30.4	+0.2
VWUC				eS	Sn	11 39 15.5	-3.4
PTMZ	Houxiangcun	4.45	335	eP	Pn	11 38 32.6	+0.2
PTMZ				eS	Sn	11 39 20.3	-2.7

*UCC **21** 11:40:41.8, 50.′14N×0.′96E, h0km, ML3.3, Explosion.*
STR 21 11:40:42.6±0.3, 50°N±2″×±°, h0km, MLv3.4/22, 16D, Error ellipse: s-maj=0.0km s-min=0.0km az=89.0, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMNX	Herstmonceux	0.88	325	Pg	Pg	11 40 59.4	-0.1
HMNX	Herstmonceux	0.88	325	Sg	Sg	11 41 11.4	+0.6
ELSH	Elham, Standar	0.99	360	Sg	Sg	11 41 15.0	+0.5
ELSH	Elham, Standar	0.99	360	Pg	Pg	11 41 01.4	-0.3
BOST	Ostende	1.58	46	dP	Pn	11 41 11.7	-0.1
BBOU	Bougnies	1.81	82	dP	Pb	11 41 16.7	+0.1
BSKQ	Steenkerk	1.94	74	dP	Pn	11 41 17.4	+0.5
UCC	Uccle	2.15	71	dP	Pn	11 41 20.3	+0.5
UCC				dP	Pb	11 41 20.3	-2.2
LOUF	Saint-Loup	2.17	228	Pn	Pn	11 41 20.1	+0.1
LOUF				Sn	Sn	11 41 48.6	+1.1
DOU	Dourbes	2.22	90	Pn	Pn	11 41 20.4	-0.3
DOU				Sn	Sn	11 41 50.1	+1.2
DOU	Dourbes	2.22	90	dP	Pn	11 41 21.6	+0.9
BMRD	Maredsous	2.33	85	dP	Pn	11 41 23.0	+0.7
BGES	Gesves	2.54	83	dP	Pn	11 41 25.7	+0.6
RCHB	Rochefort	2.63	88	Sn	Sn	11 42 00.1	+1.2
RCHB	Rochefort	2.63	88	Pn	Pn	11 41 25.8	-0.5
RCHB	Rochefort	2.63	88	dP	Pn	11 41 27.2	+0.9
BCLA	Clavier	2.68	83	dP	Pn	11 41 27.6	+0.5
BDSL	Dessel	2.71	65	dP	Pn	11 41 27.9	+0.5
BMOL	Mol	2.72	66	dP	Pn	11 41 27.7	+0.1
BHOU	Houvegnez	3.13	85	dP	Pn	11 41 34.1	+0.9
MEM	Membach	3.15	80	dP	Pn	11 41 34.0	+0.5
MEM				dP	Pn	11 41 34.0	+0.5
LKLB	Kalborn	3.20	89	dP	Pn	11 41 34.6	+0.7
MANO	Manonville	3.39	111	Pn	Pn	11 41 36.7	-0.1
LOR	Lormes	3.40	147	Pn	Pn	11 41 37.1	+0.1
MFF	Saint Martin d	3.66	194	Pn	Pn	11 41 39.9	-0.5
XAFF	Xaffevillers	3.99	114	Pn	Pn	11 41 45.0	0.0
VOEL	Voellerdingen	4.07	105	Pn	Pn	11 41 45.5	-0.6
CIEL	Dossenheim-sur	4.27	106	Pn	Pn	11 41 48.5	-0.3
AGO	Saint Agoulin	4.32	161	Pn	Pn	11 41 49.1	-0.5
RONF	Ronchamp	4.38	122	Pn	Pn	11 41 50.1	-0.2
ECH	Echery	4.40	114	Pn	Pn	11 41 50.7	0.0
WLS	Welschbruch	4.42	111	Pn	Pn	11 41 50.7	-0.3
BOUC	Bouclans	4.47	129	Pn	Pn	11 41 50.6	-0.9
VERF	Verneugheol	4.50	168	Pn	Pn	11 41 51.7	-0.4
WALT	Westhalten	4.59	116	Pn	Pn	11 41 53.5	+0.2
RIVEL	MONT RIVEL	4.66	135	Pn	Pn	11 41 54.2	0.0
CHMF	Charmoille	4.67	126	Pn	Pn	11 41 53.7	-0.6
BRANT	Les Verrieres	4.79	130	Pn	Pn	11 41 55.1	-1.0
FRNF	Fournols	4.87	168	Pn	Pn	11 41 56.4	-0.7
BOURR	Bourrignon	4.88	122	Pn	Pn	11 41 57.0	-0.3
COLF	Collangettes	4.95	159	Pn	Pn	11 41 57.7	-0.5
COLF				Sn	Sn	11 42 57.8	+1.6
KIZ	Kirchzarten	4.97	114	Pn	Pn	11 41 58.1	-0.4
ENDD	Endenburg	4.99	117	Pn	Pn	11 41 58.2	-0.6
FELD	Feldberg im Sc	5.06	114	Pn	Pn	11 41 59.5	-0.3
OG35	Corcelles	5.07	143	Pn	Pn	11 41 60.0	0.0
LBL	Lubilhac	5.13	163	Pn	Pn	11 42 00.1	-0.7
BALST	Balsthal	5.17	121	Pn	Pn	11 42 01.0	-0.3
SULZ	Cheisacher	5.30	117	Pn	Pn	11 42 02.8	-0.3
SSB	Saint Sauveur	5.39	154	Pn	Pn	11 42 03.8	-0.5
OGSM	Saint Maurice	5.49	144	Pn	Pn	11 42 05.8	+0.2
GRN	Grenoble	5.81	146	Pn	Pn	11 42 09.9	-0.3
REMY	Saint-Rhmy-en	5.91	135	Pn	Pn	11 42 11.4	-0.3
ORIF	Oris-en-Rattie	6.14	147	Pn	Pn	11 42 14.4	-0.3
LSD	Lago del Serru	6.19	137	Pn	Pn	11 42 14.9	-0.6
CIRO	Champorcher	6.28	134	Pn	Pn	11 42 16.5	-0.2
RRL	Rocca Remolon	6.48	142	Pn	Pn	11 42 19.7	+0.2
CREF	Crivoux	6.73	144	Pn	Pn	11 42 22.7	-0.1
JAUF	Jausiers	6.88	144	Pn	Pn	11 42 24.8	0.0

*VAO **21** 11:42:53.9±0.5, 31.′70S×71.′51W, h10km, mb5.0*
*IDC **21** 11:42:59.3±0.4, 31.′57S×71.′40W, h44km±3km, mb4.5/17, mbtmp4.7/20, MS3.9/15, Error ellipse: s-maj=15.9km s-min=11.5km az=73.0*
*NEIC **21** 11:42:59.9±1.8, 31.′59S±0.′03×71.′56W±0.′07, h49km±5km, mb4.8/150, Mwr4.7/79, Error ellipse: s-maj=9.2km s-min=4.8km az=100.0, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; M_{rr}1.06; $M_{\theta\theta}$0.10; $M_{\phi\phi}$-1.16; $M_{r\theta}$0.18; $M_{\theta\phi}$0.14; $M_{\phi r}$-0.55; Fault plane solution: $M_0$1.26000×10^16^ NP1:ϕ_s167.86000°, δ58.62000°, λ83.63000°. NP2:ϕ_s359.96000°, δ31.96000°, λ100.31000°. Principal axes: T 1.2049, Plg76.0000°, Azm60.0000°; N 0.1027, Plg5.0000°, Azm171.0000°; P -1.3077, Plg13.0000°, Azm262.0000°;*
*NEIC **21** 11:42:59.7, 31.′60S×71.′55W, h45km*
*GUC **21** 11:42:59.1±0.6, 31.′60S×71.′44W, h47km±2km, ML4.9*
ISC 21 11:42:59.0±0.4, 31.′59S±0.′02×71.′48W±0.′04, h44km±3km, h44km:pP-P, n279, σ1$30/256, mb4.9/86, MS4.0/13, 14C-13D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO04	Los Peladeros	0.62	137	⇑iP	Pn	11 43 11.9	+0.1
CO04				i S	Sn	11 43 20.5	-0.5
CO06	Fray Jorge	0.92	351	Pn	Pn	11 43 16.3	+0.8
CO06	Fray Jorge	0.92	351	⇑iP	Pn	11 43 16.3	+0.8
CO06				eS	Sn	11 43 29.1	+1.6
CO06				IAML		11 43 34.3	
	comp=E,51μm,0.3s						
VA06	Catapilco	0.98	171		Pn	11 43 16.7	+0.4
VA06					Sn	11 43 29.4	+0.3
VA06	Catapilco	0.98	171	⇑iP	Pn	11 43 16.6	+0.2
VA06				eS	Sn	11 43 29.3	+0.1
VA06				IAML		11 43 32.2	
	comp=E,42μm,0.4s						
CO03	El Pedregal	1.00	42	Pn	Pn	11 43 17.5	+0.7
CO03					Sn	11 43 30.6	+0.8
CO03	El Pedregal	1.00	42	⇓iP	Pn	11 43 17.4	+0.7
CO03				eS	Sn	11 43 30.8	+1.0
CO03				IAML		11 43 32.8	
	comp=E,42μm,0.4s						
VA03	San Esteban	1.41	147		Pn	11 43 23.0	+0.7
VA03	San Esteban	1.41	147	⇓iP	Pn	11 43 23.0	+0.7
VA03				i S	Sn	11 43 41.1	+1.2
ROCH	El Roble	1.44	164	⇑iP	Pn	11 43 23.6	+0.8
ROCH				i S	Sn	11 43 41.4	+0.8
VA01	Torpederas	1.44	186		Pn	11 43 23.1	+0.5
VA01	Torpederas	1.44	186	eP	Pn	11 43 23.1	+0.5
VA01				i S	Sn	11 43 42.5	+2.1
GO04	Tololo Observa	1.52	23		Pn	11 43 25.3	+1.3
GO04	Tololo Observa	1.52	23	⇓iP	Pn	11 43 25.0	+1.0
GO04				i S	Sn	11 43 45.0	+2.3
CO05	La Serena	1.67	7		Pn	11 43 27.1	+1.3
CO05	La Serena	1.67	7	⇓iP	Pn	11 43 27.2	+1.3
CO05				i S	Sn	11 43 48.3	+2.3
CO05				IAML		11 43 53.3	
	comp=E,20μm,0.3s						
PEL	Peldehue	1.69	157		Pn	11 43 27.0	+0.8
PEL	Peldehue	1.69	157	eP	Pn	11 43 26.7	+0.5
PEL				i S	Sn	11 43 48.8	+2.2
MT02	Curacav	1.69	170		Pn	11 43 27.1	+1.0
MT02	Curacav	1.69	170	eP	Pn	11 43 27.0	+0.9
MT02				i S	Sn	11 43 48.2	+1.6
MT10	Hacienda Santa	1.86	155	⇓iP	Pn	11 43 29.5	+1.0
MT10				eS	Sn	11 43 52.6	+1.7
MT10				IAML		11 44 04.6	
	comp=N,24μm,0.5s						
MT05	Renca	1.91	161		Pn	11 43 30.1	+1.1
MT05	Renca	1.91	161	⇓iP	Pn	11 43 30.2	+1.1
MT05				i S	Sn	11 43 53.8	+1.9
MT14	Cerro Cal¡n	1.97	157	⇓iP	Pn	11 43 31.2	+1.2
MT14				eS	Sn	11 43 55.1	+1.5
CO01	Juntas del Tor	2.00	37		Pn	11 43 32.7	+2.3
CO01	Juntas del Tor	2.00	37	⇓iP	Pn	11 43 32.8	+2.3
CO01				eS	Sn	11 43 56.4	+2.0
CO01				IAML		11 43 59.4	
	comp=E,14μm,0.2s						
FCH	Farellones	2.00	150	⇓iP	Pn	11 43 31.6	+0.9
FCH				i S	Sn	11 43 57.3	+2.6
MT16	CCHEN	2.01	157		Pn	11 43 31.6	+1.1
MT16	CCHEN	2.01	157	⇓iP	Pn	11 43 31.6	+1.1
MT16				i S	Sn	11 43 54.9	+0.5
VA05	Santo Domingo	2.07	183		Pn	11 43 32.0	+0.8
VA05	Santo Domingo	2.07	183	eP	Pn	11 43 31.6	+0.4
VA05				i S	Sn	11 43 59.3	+3.5
VA05				IAML		11 44 06.0	
	comp=E,11μm,0.3s						
MT03	Universidad Ad	2.07	157		Pn	11 43 32.7	+1.3
MT03	Universidad Ad	2.07	157	⇓iP	Pn	11 43 32.5	+1.2
MT03				i S	Sn	11 43 57.5	+1.5
MT15	Las Vizcachas	2.17	158	eP	Pn	11 43 33.4	+0.7
MT15				eS	Sn	11 44 00.3	+1.9
MT09	Talagante	2.22	169		Pn	11 43 34.9	+1.5
MT09	Talagante	2.22	169	⇑iP	Pn	11 43 35.0	+1.5
MT09				i S	Sn	11 44 01.3	+1.5
MT08	Bocatoma Ro	2.23	147		Pn	11 43 36.2	+2.5
MT08	Bocatoma Ro	2.23	147	⇓iP	Pn	11 43 36.0	+2.3
MT08				i S	Sn	11 44 04.3	+4.2
MT01	Popeta	2.28	175		Pn	11 43 35.9	+1.8
MT01	Popeta	2.28	175	eP	Pn	11 43 35.2	+1.0
MT01				i S	Sn	11 44 02.8	+1.8
MT12	Pirque	2.28	160	eP	Pn	11 43 35.3	+1.1
MT12				i S	Sn	11 44 03.0	+1.9
MT13	San Alfonso	2.38	155		Pn	11 43 37.6	+2.0
MT13	San Alfonso	2.38	155	eP	Pn	11 43 37.1	+1.6
MT13				eS	Sn	11 44 06.3	+2.7
ZON	Zonda	2.39	90		Pn	11 43 39.1	+3.4
LMEL	Las Melosas	2.50	155		Pn	11 43 39.0	+1.7
LMEL	Las Melosas	2.50	155	eP	Pn	11 43 39.2	+1.9
LMEL				i S	Sn	11 44 10.8	+4.2
BO04	La Punta	2.51	163		Pn	11 43 38.9	+1.6
BO04	La Punta	2.51	163	eP	Pn	11 43 38.5	+1.2
BO04				i S	Sn	11 44 08.3	+1.7
LCO	Las Campanas	2.65	15		Pn	11 43 41.3	+1.8
BO01	Tunca	2.82	173		Pn	11 43 42.5	+1.0
BO01	Tunca	2.82	173	eP	Pn	11 43 42.7	+1.2
BO01				i S	Sn	11 44 15.0	+0.7
BO03	Pichilemu	2.93	188	⇓iP	Pn	11 43 42.7	-0.4
BO03				i S	Sn	11 44 15.5	-1.5
BO02	Sierra Bellavi	3.25	170		Pn	11 43 49.8	+2.2
BO02	Sierra Bellavi	3.25	170	eP	Pn	11 43 48.7	+1.1
BO02				eS	Sn	11 44 27.4	+2.4
AC04	Llanos de Chal	3.39	6		Pn	11 43 50.2	+0.9
AC04	Llanos de Chal	3.39	6	⇑iP	Pn	11 43 50.2	+0.9
AC04				i S	Sn	11 44 29.1	+0.7
GO05	Hualane	3.44	186		Pn	11 43 49.7	-0.4
GO03	Copiapo	4.12	16		Pn	11 44 00.7	+1.2
ML02	Panimavida	4.17	179		Pn	11 44 01.2	+1.1
AC06	Mina Casimiro	4.33	13		Pn	11 44 03.2	+0.9
BI02	San Fabin de	5.07	178		Pn	11 44 14.0	+1.5
BI05	Punta Hualpn	5.34	195		Pn	11 44 15.1	-1.0
AC01	Pan de Azucar	5.47	8		Pn	11 44 17.0	-1.0
VA04	Juan Fernndez	6.54	250		Pn	11 44 32.7	+0.1
H03N1	Juan Fernandez	6.55	252	P	Pn	11 44 33.1	+0.6
	baz=118,slow=19,SNR=181						
H03N1				T	T	11 51 17.3	
	baz=78,slow=72,SNR=1680						
H03N3	Juan Fernandez	6.56	252	P	Pn	11 44 33.0	+0.3
	baz=118,slow=19,SNR=135						
H03N3				T	T	11 51 13.6	
	baz=78,slow=72,SNR=1273						
H03N2	Juan Fernandez	6.56	252	P	Pn	11 44 33.3	+0.6
	baz=118,slow=19,SNR=119						
H03N2				T	T	11 51 18.1	
	baz=78,slow=72,SNR=1721						
H03S3	Juan Fernandez	6.65	248	P	Pn	11 44 33.7	-0.2
	baz=23,slow=18,SNR=24						
H03S3				T	T	11 51 27.0	
	baz=83,slow=74,SNR=34						
H03S1	Juan Fernandez	6.65	248	P	Pn	11 44 33.3	-0.6
	baz=23,slow=18,SNR=13						
H03S1				T	T	11 51 27.3	
	baz=83,slow=74,SNR=33						
H03S2	Juan Fernandez	6.67	248	P	Pn	11 44 33.7	-0.5
	baz=23,slow=18,SNR=21						
H03S2				T	T	11 51 26.7	
	baz=83,slow=74,SNR=31						
LC02	Puerto Saavedr	7.36	192	Pn	Pn	11 44 44.3	+0.5
LR04	Corral	8.43	190	Pn	Pn	11 44 58.0	-0.4
PB15	IPOC Station P	8.53	13		Pn	11 44 58.1	-2.1
PLCA	Paso Flores	9.16	176	eP	Pn	11 45 04.8	-3.7
LL04	Puerto Octay	9.34	184		Pn	11 45 10.3	-0.6
PB09	IPOC Station P	9.95	12		Pn	11 45 18.9	-0.7
TRQA	Tornquist	10.12	132		Pn	11 45 21.6	-0.2
PSAL	Palomas, Salto	11.87	91	eP	Pn	11 45 44.6	-1.0
ITQB	Itaqui	12.93	85		Pn	11 45 58.9	-1.2
ITQB	Itaqui	12.93	85	eP	Pn	11 45 57.4	-2.8
PB12	IPOC Station P	12.96	5	Pn	Pn	11 46 04.4	+3.8
CPUP	Villa Florida	13.44	71		Pn	11 46 06.4	-0.7
CPUP	Villa Florida	13.44	71	P	Pn	11 46 05.8	-1.3
	comp=E,13nm,1.0s,baz=244,slow=12,SNR=14						
CPUP				S	Sn	11 48 32.3	-2.8
	comp=E,42nm,1.1s,baz=260,slow=14,SNR=2.6						
CPUP				LR	LR	11 51 44.5	
	comp=E,483nm,20.5s,baz=250,slow=39						
CPUP	Villa Florida	13.44	71	eP	Pn	11 46 05.6	-1.5
PLTB	Pedras Altas	15.22	95	Pn	Pn	11 46 27.9	-3.1
PLTB	Pedras Altas	15.22	95	eP	Pn	11 46 28.7	-2.2
CPSB	Cacapava Do Su	15.52	90	eP	Pn	11 46 32.7	-2.1
LPAZ	La Paz	15.53	12		Pn	11 46 37.0	+1.4
LPAZ	La Paz	15.53	12	P	Pn	11 46 36.6	+1.0
	comp=E,12nm,0.6s,baz=185,slow=8.0,SNR=27						
LPAZ				S	Sn	11 49 29.8	+2.8
	comp=E,2.0nm,0.7s,baz=155,slow=5.0,SNR=1.4						
LPAZ	La Paz	15.53	12	eP	Pn	11 46 36.6	+1.0
AMBA	Amambai (Brazi	16.99	64	eP	P	11 46 54.3	-0.6
BDQN	Bodoquena, MS	17.25	54	eP	Pn	11 46 55.2	-1.5
BBSD	Serra de San D	17.40	37	eP	Pn	11 46 58.4	-0.2
ITAB	Concordia	17.40	80	P	P	11 46 59.2	-0.2
ITAB				IAmb	IAmb	11 47 24.8	
	comp=Z,58nm,1.0s						
ITAB	Concordia	17.40	80	eP	Pn	11 46 57.5	-1.1
CNLB	Canela	17.93	88	eP	Pn	11 47 03.6	-1.5
AQDB	Aquidauana	17.96	56	P	P	11 47 06.0	+0.4
AQDB	Aquidauana	17.96	56	eP	P	11 47 06.3	+0.7
SIV	San Ignacio	18.19	34	P	P	11 47 07.8	-0.4
	comp=Z,18nm,0.8s,baz=209,slow=10,SNR=75						
SIV				sP	sP	11 47 23.5	-1.2
	comp=Z,23nm,0.6s,baz=201,slow=10,SNR=19						
SIV				LR	LR	11 55 19.8	
	comp=Z,249nm,18.7s,baz=250,slow=41						
PTGB	Pitanga	18.42	73	eP	Pn	11 47 11.1	-0.1
RPRD	Ribas do Rio P	19.40	60	eP	Pn	11 47 22.2	-0.7
TER01	Tubaro-SC	19.58	87	eP	P	11 47 23.4	+0.1
PTLB	Pontes e Lacer	19.62	38	P	P	11 47 23.7	-0.1
PTLB	Pontes e Lacer	19.62	38	eP	P	11 47 23.4	-0.4
LDASE	Londrina, Braz	19.80	71	eP	P	11 47 24.7	-1.1
MAJ01	Sao Joao Batis	19.99	84	eP	P	11 47 27.6	-0.3
NNA	Nana	20.12	345	P	P	11 47 30.0	+0.7
	comp=Z,3.1nm,0.3s,baz=269,slow=20,SNR=1.3						
	comp=Z,3.1nm,0.3s						
FRTB	Fartura	21.08	72	eP	P	11 47 39.5	-0.2
SALV	Santo Antonio	21.23	46	eP	P	11 47 40.4	-0.9
VILB	Vilhena	21.25	32	P	P	11 47 40.6	-1.0
VILB				IAmb	IAmb	11 48 01.0	
	comp=Z,48nm,0.9s						
VILB	Vilhena	21.25	32	eP	P	11 47 41.0	-0.5
ETMB	Extrema	22.20	14	P	P	11 47 52.5	+0.8
ETMB				IAmb	IAmb	11 48 12.5	
	comp=Z,46nm,0.9s						
ETMB	Extrema	22.20	14	eP	P	11 47 52.3	+0.6
ITRB	Iturama	22.37	63	eP	P	11 47 52.1	-1.4
SPB	Sao Paulo	22.72	75	P	P	11 47 56.9	-0.2
SPB				IAmb	IAmb	11 47 58.4	
	comp=Z,39nm,1.2s						
SPB	Sao Paulo	22.72	75	eP	P	11 47 57.9	+0.7
RCLB	Rio Claro- Sao	23.17	73	eP	P

comp=Z,14nm,0.9s,baz=272,slow=7.8,SNR=21
SNAA pP **pP** **11 52 28.3 +0.1**
comp=Z,26nm,0.8s,baz=288,slow=6.5,SNR=21
comp=Z,14nm,0.9s
TEIG Tepich 53.98 340 P **P** **11 52 19.4 +0.9**
TROLL Troll, Antarti 55.35 159 ⇑P **P** **11 52 28.6 +0.4**
comp=Z,274nm,0.6s
TROLL ⇑pP **pP** **11 52 41.1 +0.4**
comp=Z,770nm,0.6s
QSPA South Pole Qui 58.65 180 P **P** **11 52 52.5 +1.0**
QSPA South Pole Qui 58.65 180 P **P** **11 52 52.6 +1.0**
comp=Z,12nm,0.8s,baz=153,slow=1.1,SNR=59
QSPA pP **pP** **11 53 04.9 +0.7**
comp=Z,12nm,1.0s,baz=268,slow=0.1,SNR=10
comp=Z,12nm,0.8s
H06E1 SOCORRO T-PHAS 62.77 317 T T 13 01 22.0
SNR=7.2
152A Waverly Hall 65.12 348 IAmb IAmb 11 53 35.9
comp=Z,9.5nm,0.9s
Y52A Lilburn 66.17 349 IAmb IAmb 11 53 42.9
comp=Z,12nm,0.9s
HNDO Hondo 66.28 334 P **P** **11 53 44.7 +2.0**
HNDO IAmb IAmb 11 53 45.2
comp=Z,13nm,0.8s
Z47A Carrollton 66.31 345 P **P** **11 53 43.6 +0.7**
Y49A Blount Mountai 66.60 346 P **P** **11 53 44.9 +0.2**
Y49A IAmb IAmb 11 53 45.0
comp=Z,21nm,1.5s
JCT Junction City 67.33 334 IAmb IAmb 11 53 51.5
comp=Z,9.5nm,0.8s
BRDY Brady 67.75 335 IAmb IAmb 11 53 53.4
comp=Z,4.6nm,0.8s
SAND Sanderson 67.77 331 IAmb IAmb 11 53 54.7
comp=Z,9.1nm,0.9s
CPCT Cooper Cave 67.80 349 IAmb IAmb 11 53 53.5
comp=Z,11nm,0.8s
TXAR Lajitas Array 67.88 330 P **P** **11 53 54.6 +1.6**
TXAR Lajitas Array 67.88 330 P **P** **11 53 54.2 +1.2**
comp=Z,2.5nm,0.7s,baz=150,slow=7.9,SNR=35
TXAR pP **pP** **11 54 06.3 +0.5**
comp=Z,2.1nm,0.6s,baz=156,slow=8.3,SNR=11
comp=Z,2.5nm,0.7s
TKL Tuckaleechee C 67.88 349 P **P** **11 53 52.8 +0.1**
TKL IAmb IAmb 11 53 53.2
comp=Z,9.4nm,0.7s
OZNA Ozona 68.23 333 IAmb IAmb 11 53 57.0
comp=Z,8.3nm,0.8s
TBI Tubuai 68.37 255 *e*S **S** **12 02 49.9 -4.6**
comp=Z,304nm,32.5s
TBI Tubuai 68.37 255 *e*LR LR 12 14 36.1
comp=Z,697nm,28.5s
U54A Nelsons Funny 68.44 351 IAmb IAmb 11 53 57.3
comp=Z,16nm,0.9s
WVT Waverly 69.08 346 P **P** **11 54 00.6 +0.4**
SGCY Sterling City 69.11 333 IAmb IAmb 11 54 02.7
comp=Z,9.1nm,1.0s
MNHN Monahans 69.25 332 IAmb IAmb 11 54 03.5
comp=Z,10nm,0.7s
T47A Sharon Grove 69.77 347 IAmb IAmb 11 54 05.5
comp=Z,12nm,0.8s
FCAR Ozark Folk Cen 69.86 342 IAmb IAmb 11 54 05.8
comp=Z,8.2nm,0.8s
APMT Aspermont 70.00 335 IAmb IAmb 11 54 07.9
comp=Z,13nm,0.9s
SN07 Snyder 07 70.07 334 IAmb IAmb 11 54 08.0
comp=Z,8.8nm,1.0s
POST Post 70.28 333 IAmb IAmb 11 54 09.2
comp=Z,5.8nm,0.8s
DKNS Dickens 70.60 334 IAmb IAmb 11 54 11.6
comp=Z,7.8nm,0.8s
HHAR Hobbs 70.72 341 IAmb IAmb 11 54 11.7
comp=Z,16nm,1.0s
S44A Carbondale 70.89 345 IAmb IAmb 11 54 12.4
comp=Z,15nm,0.8s
SIUC Southern Illin 70.91 345 P **P** **11 54 11.6 +0.2**
SIUC IAmb IAmb 11 54 12.5
comp=Z,16nm,0.8s
PPT2 Papeete2 71.07 261 *e*S **S** **12 03 25.8 -0.8**
comp=Z,49nm,25.2s
PPT2 Papeete2 71.07 261 *e*LR LR 12 15 50.5
comp=Z,66nm,25.5s
MGMO Mountain Grove 71.09 343 IAmb IAmb 11 54 14.1
comp=Z,7.6nm,0.9s
OK052 Battle Ridge R 71.30 339 IAmb IAmb 11 54 15.2
comp=Z,13nm,0.9s
FVM French Village 71.44 344 IAmb IAmb 11 54 16.0
comp=Z,19nm,1.0s
MSTX Muleshoe 71.57 333 IAmb IAmb 11 54 17.3
comp=Z,18nm,0.8s
SMWD Samnorwood 71.64 335 IAmb IAmb 11 54 18.2
comp=Z,17nm,1.0s
CCM Cathedral Cave 71.70 344 P **P** **11 54 17.3 +1.1**
OK048 Pawnee Station 71.73 339 IAmb IAmb 11 54 18.0
comp=Z,19nm,1.0s
P48A Milroy 71.86 349 IAmb IAmb 11 54 17.5
comp=Z,13nm,0.6s
S39A Bolivar 71.88 342 IAmb IAmb 11 54 18.8
comp=Z,24nm,1.3s
AMTX Amarillo 71.96 334 IAmb IAmb 11 54 20.4
comp=Z,8.9nm,0.9s
121A Cookes Peak, D 72.42 328 IAmb IAmb 11 54 23.9
comp=Z,9.2nm,0.8s
P43A Skaggs, Pawnee 72.82 346 IAmb IAmb 11 54 23.7
comp=Z,17nm,0.8s
DUN6 Lazy B Ranch 73.03 327 IAmb IAmb 11 54 27.6
comp=Z,27nm,1.2s
P38A Dawn 73.75 342 IAmb IAmb 11 54 29.9
comp=Z,12nm,0.8s
DBIC Dimbokro 73.96 72 P **P** **11 54 30.3 +0.2**
DBIC Dimbokro 73.96 72 P **P** **11 54 30.1 -0.1**
comp=Z,28nm,0.7s,baz=216,slow=5.9,SNR=35
DBIC pP **pP** **11 54 42.7 -0.6**
comp=Z,6.4nm,0.5s,baz=217,slow=5.7,SNR=3.8
DBIC LR LR 12 23 19.7
comp=Z,136nm,21.6s,baz=213,slow=33
comp=Z,28nm,0.7s
N41A Harden Midland 74.13 345 IAmb IAmb 11 54 31.5
comp=Z,16nm,0.9s
N38A Joes South For 74.78 343 IAmb IAmb 11 54 35.5
comp=Z,18nm,1.0s
T25A Trinidad 74.99 333 IAmb IAmb 11 54 50.9
comp=Z,11nm,0.8s
MAW Mawson 75.36 164 P **P** **11 54 38.0 +0.6**
comp=Z,7.9nm,0.8s,baz=226,slow=8.2,SNR=21
comp=Z,7.9nm,0.8s
SUR Sutherland 75.58 119 P **P** **11 54 39.9 +0.2**
comp=Z,5.7nm,0.9s,baz=285,slow=9.5,SNR=1.4
comp=Z,5.7nm,0.9s
MVCO Mesa Verde 76.69 330 IAmb IAmb 11 54 48.4
comp=Z,10nm,1.2s
Q24A Divide 76.86 334 IAmb IAmb 11 55 01.5
comp=Z,11nm,0.8s
HMU Henry Mountain 78.27 329 IAmb IAmb 11 54 57.7
comp=Z,10nm,1.3s
ECSD EROS Data Cent 78.41 342 IAmb IAmb 11 55 08.6
comp=Z,16nm,0.8s
KNB Kanab 78.44 327 IAmb IAmb 11 54 58.5
comp=Z,7.6nm,1.3s
SRU San Rafael Swe 79.15 330 IAmb IAmb 11 55 01.4
comp=Z,10nm,1.3s
Q16A Castle Valley 79.27 330 IAmb IAmb 11 55 02.6
comp=Z,8.8nm,1.2s
TSUM Tsumeb 79.42 106 P **P** **11 54 59.6 -1.6**
comp=Z,6.3nm,0.8s,baz=237,slow=8.0,SNR=3.8
TSUM LR LR 12 24 52.5
comp=Z,81nm,21.9s,baz=164,slow=32
comp=Z,6.3nm,0.8s
P18A Preston Nutter 79.47 331 IAmb IAmb 11 55 16.1
comp=Z,6.0nm,0.9s
PRN Pahroc Range 79.80 326 IAmb IAmb 11 55 06.0
comp=Z,7.3nm,1.1s
RDMU Red Mountain 79.98 331 IAmb IAmb 11 55 05.8
comp=Z,8.2nm,1.0s
BOSA Boshof 80.77 118 P **P** **11 55 07.3 -1.0**
comp=Z,8.6nm,0.8s,baz=230,slow=5.4,SNR=11
BOSA LR LR 12 29 27.8
comp=Z,33nm,18.1s,baz=208,slow=34
comp=Z,8.6nm,0.8s
RSSD Black Hills 81.00 337 P **P** **11 55 09.5 +0.4**
DUG Dugway, Tooele 81.04 329 P **P** **11 55 09.0 -0.2**
TPH Tonopah 81.38 325 IAmb IAmb 11 55 13.9
comp=Z,21nm,1.1s
HWUT Hardware Ranch 81.67 331 IAmb IAmb 11 55 14.4
comp=Z,4.8nm,0.8s
PDAR Pinedale Array 81.83 333 P **P** **11 55 14.2 +0.7**
comp=Z,0.8nm,0.8s,baz=120,slow=5.3,SNR=7.3
PDAR pP **pP** **11 55 26.6 0.0**
comp=Z,0.8nm,0.6s,baz=137,slow=7.2,SNR=5.2
comp=Z,0.8nm,0.8s
LHV Little Huntoon 82.15 324 IAmb IAmb 11 55 18.1
comp=Z,8.6nm,1.0s
NVAR Mina Array Bea 82.19 325 P **P** **11 55 17.0 +1.5**
comp=Z,2.4nm,0.8s,baz=157,slow=6.4,SNR=17
NVAR pP **pP** **11 55 29.4 +0.8**
comp=Z,0.9nm,0.7s,baz=163,slow=5.7,SNR=4.4
comp=Z,2.4nm,0.8s
WAKR Walker 82.81 324 IAmb IAmb 11 55 22.0
comp=Z,6.4nm,1.3s
LBTB Lobatse 82.89 115 P **P** **11 55 18.9 -0.6**
comp=Z,12nm,0.7s,baz=267,slow=5.0,SNR=15
LBTB LR LR 12 27 52.1
comp=Z,104nm,20.4s,baz=208,slow=32
comp=Z,12nm,0.7s
TORD Torodi Ar. Bea 82.94 70 P **P** **11 55 19.6 -0.1**
comp=Z,15nm,0.8s,baz=279,slow=5.0,SNR=87
TORD pP **pP** **11 55 32.2 -0.7**
comp=Z,5.2nm,0.7s,baz=287,slow=6.5,SNR=7.9
TORD LR LR 12 29 57.8
comp=Z,85nm,20.1s,baz=217,slow=34
comp=Z,15nm,0.8s
YERR Yerington 83.08 324 IAmb IAmb 11 55 23.5
comp=Z,11nm,1.4s
PAHR Pah Rah Range 83.70 325 IAmb IAmb 11 55 26.1
comp=Z,5.6nm,1.0s
YMR Madison River 83.98 333 IAmb IAmb 11 55 27.2
comp=Z,8.4nm,1.1s
ULM Lac du Bonnet 84.30 345 P **P** **11 55 25.1 -0.7**
comp=Z,7.2nm,0.9s,baz=168,slow=3.7,SNR=6.5
comp=Z,7.2nm,0.9s
PLID Pearl Lake 86.38 330 IAmb IAmb 11 55 38.6
comp=Z,5.7nm,1.1s
BMO Blue Mountains 86.75 329 IAmb IAmb 11 55 40.4
comp=Z,5.3nm,1.4s
I07A Izee 87.14 328 IAmb IAmb 11 56 01.7
comp=Z,10nm,1.4s
MATP Matopo 87.58 112 P **P** **11 55 42.8 -0.3**
comp=Z,2.5nm,0.7s,baz=242,slow=3.5,SNR=14
comp=Z,2.5nm,0.7s
C09A Chrisman Ranch 89.49 331 IAmb IAmb 11 55 52.8
comp=Z,4.9nm,0.8s
MDT Midelt 89.93 51 LR LR 12 35 17.0
comp=Z,56nm,19.7s,baz=344,slow=35
LSZ Lusaka 90.10 108 P **P** **11 55 56.1 +1.2**
ESDC Sonseca Array 94.56 46 P **P** **11 56 13.7 -1.2**
comp=Z,0.8nm,0.7s,baz=228,slow=3.3,SNR=4.7
comp=Z,0.8nm,0.7s
DZM Mont Dzumac 103.05 234 *e*LR LR 12 30 40.2
comp=Z,105nm,30.7s
ASAR Alice Springs 119.93 207 PKKPbc PKKPbc 12 11 54.0 +0.1
comp=Z,0.5nm,0.6s,baz=333,slow=3.0,SNR=5.8
AKASG Malin Array Be 120.20 46 PKP **PKPdf** **12 01 43.3 -1.4**
comp=Z,1.3nm,0.7s,baz=268,slow=2.7,SNR=6.3
BRTR Keskin Array B 120.23 60 PKP **PKPdf** **12 01 44.8 -0.5**
comp=Z,0.6nm,0.6s,baz=153,slow=3.4,SNR=4.9
WRA Warramunga Arr 123.09 209 PKP **PKPdf** **12 01 50.7 -0.6**
comp=Z,2.3nm,0.6s,baz=174,slow=1.4,SNR=2.2
WRA pPKP **pPKPdf** **12 02 04.1 -0.9**
comp=Z,6.2nm,1.0s,baz=143,slow=1.2,SNR=3.9
H11S2 WAKE ISLAND Hyl 26.25 271 T T 14 20 56.2
baz=116,slow=74,SNR=199
H11S1 WAKE ISLAND Hyl 26.26 271 T T 14 21 01.6
baz=116,slow=74,SNR=213
H11S3 WAKE ISLAND Hyl 26.27 271 T T 14 20 59.3
baz=116,slow=74,SNR=141
H11N3 WAKE ISLAND Hyl 26.60 272 T T 14 21 19.9
baz=116,slow=75,SNR=32
H11N1 WAKE ISLAND Hyl 26.62 272 T T 14 21 21.6
baz=116,slow=75,SNR=12
H11N2 WAKE ISLAND Hyl 26.62 272 T T 14 21 21.5
baz=116,slow=75,SNR=131
SEY Seymchan 138.16 332 PKP **PKPdf** **12 02 18.7 +0.3**
comp=Z,4.0nm,0.7s,baz=176,slow=22,SNR=4.3
BVAR Borovoye Array 145.17 41 PKPbc **PKPdf** **12 02 31.8 +0.6**
comp=Z,27nm,0.5s,baz=299,slow=3.0,SNR=82
BVAR pPKPbc pPKPab 12 02 44.3 -0.2
comp=Z,11nm,0.5s,baz=318,slow=3.1,SNR=11
KURBB Kurchatov Arra 150.76 41 PKPbc **PKiKP** **12 02 46.5 -0.2**
comp=Z,10.0nm,0.7s,baz=299,slow=3.0,SNR=57
KURBB pPKPbc **pPKPbc** **12 02 59.7 -0.1**
comp=Z,3.6nm,0.8s,baz=306,slow=3.3,SNR=5.3
ZALV Zalesovo Beam 151.92 30 PKPbc **PKiKP** **12 02 48.9 -0.1**
comp=Z,30nm,0.5s,baz=310,slow=3.1,SNR=113
ZALV pPKPbc **pPKPbc** **12 03 02.2 -0.1**
comp=Z,14nm,0.6s,baz=292,slow=2.5,SNR=8.7
KSH Kashi 152.47 64 PKPbc **PKPbc** **12 02 50.4 -0.1**
KSH pPKP PKPab 12 03 00.4 -0.6
MKAR Makanchi Array 154.78 45 PKP **PKPdf** **12 02 46.6 0.0**
comp=Z,0.4nm,0.7s,baz=318,slow=1.9,SNR=1.7
MJAR Matsushiro Arr 154.97 290 PKPbc **PKiKP** **12 02 58.1 +2.2**
comp=Z,0.9nm,0.6s,baz=129,slow=1.7,SNR=4.4
SONM Songino Array 163.69 5 PKPab **PKPab** **12 03 49.3 +0.3**
comp=Z,1.0nm,0.8s,baz=357,slow=2.9,SNR=3.4
CMAR Chiang Mai Arr 164.32 144 PKPab **PKPab** **12 03 51.6 -0.8**
comp=Z,1.3nm,0.3s,baz=217,slow=5.6,SNR=6.0
NJ2 Nanjing 171.20 276 *e*P **PKPdf** **12 03 03.3 +0.6**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
PZH PanZhiHua 172.20 129 PKP **PKPdf** **12 03 03.6 +0.1**

*IDC **21** 11:45:23.1±4.4,21°.17S×178°.97W,h644km±30km,mb3.3/6, mbtmp4.3/8,Error ellipse: s-maj=89.4km s-min=23.5km az=138.0*
*NEIC **21** 11:45:25.6±0.6,21°.4S±0°.2×179°.3W±0°.1,h632km±22km, mb4.1/23,Error ellipse: s-maj=28.5km s-min=15.3km az=160.0*
ISC 21 11:45:25.1±0.8,**21°.1S**±0°.1×**179°.3W**±0°.1,**h650**km,**n37,**
σ0**63**/39,**mb4.1**/17,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.20**	**322**	P	**P**	**11 46 55.8**	**0.0**
MSVF	**Nonsavu**	**4.20**	**322**	P	**P**	**11 46 55.1**	**-0.7**
63nm,0.4s,baz=187,slow=7.8,SNR=174							
MSVF				S	**S**	**11 48 09.6**	**0.0**
5.7nm,0.9s,baz=140,slow=22,SNR=0.6							
NIUE	**Niue**	**8.98**	**79**	P	**P**	**11 47 36.0**	**+0.7**
DZM	**Mont Dzumac**	**13.35**	**263**	P	**P**	**11 48 15.7**	**-0.7**
DZM	**Mont Dzumac**	**13.35**	**263**	P	**P**	**11 48 16.1**	**-0.3**
2.6nm,0.6s,baz=315,slow=22,SNR=2.0							
KOUNC	**Koumac, New Ca**	**15.41**	**269**	P	**P**	**11 48 35.4**	**+0.2**
KOUNC				IAmb	IAmb	11 48 45.9	
comp=Z,10nm,0.9s							
EIDS	**Eidsvold**	**27.57**	**255**	P	**P**	**11 50 23.8**	**+0.2**
ARMA	**Armidale**	**27.76**	**245**	P	**P**	**11 50 24.7**	**-0.6**
CAN	**Canberra**	**31.21**	**236**	P	**P**	**11 50 53.5**	**-1.2**
CAN				IAmb	IAmb	11 51 10.9	
comp=Z,6.4nm,1.1s							
CTAO	**Charters Tower**	**32.27**	**266**	P	**P**	**11 51 05.0**	**+1.2**
CTAO				IAmb	IAmb	11 51 12.3	
comp=Z,6.2nm,1.1s							
PMG	**Port Moresby**	**34.35**	**285**	P	**P**	**11 51 22.2**	**+1.1**
TOO	**Toolangi**	**34.61**	**234**	P	**P**	**11 51 22.8**	**-0.2**
TOO				IAmb	IAmb	11 51 30.3	
comp=Z,5.2nm,1.1s							
COEN	**Coen**	**36.46**	**275**	P	**P**	**11 51 39.2**	**+0.7**
COEN				IAmb	IAmb	11 51 40.7	
comp=Z,5.1nm,0.8s							
STKA	**Stephens Creek**	**36.48**	**245**	P	**P**	**11 51 37.1**	**-1.3**
STKA	**Stephens Creek**	**36.48**	**245**	P	**P**	**11 51 37.9**	**-0.5**
comp=Z,3.5nm,0.8s,baz=83,slow=9.3,SNR=2.8							
comp=Z,3.5nm,0.8s							
BBOO	**Buckleboo**	**41.24**	**244**	P	**P**	**11 52 16.1**	**-0.3**
WR0	**Warramunga Arr**	**43.18**	**263**	P	**P**	**11 52 31.6**	**0.0**
AS31	**Alice Springs**	**43.25**	**257**	P	**P**	**11 52 32.7**	**+0.5**
ASAR	**Alice Springs**	**43.25**	**257**	P	**P**	**11 52 32.6**	**+0.4**
comp=Z,4.8nm,0.5s,baz=96,slow=7.4,SNR=65							
ASAR				PcP	**PcP**	**11 54 06.1**	**+0.1**
comp=Z,0.5nm,0.5s,baz=94,slow=4.4,SNR=3.0							
comp=Z,4.8nm,0.5s							
WB0	**Warramunga Arr**	**43.35**	**263**	P	**P**	**11 52 33.1**	**+0.2**
WB2	**Warramunga Arr**	**43.35**	**263**	P	**P**	**11 52 33.2**	**+0.2**
WB2				IAmb	IAmb	11 52 33.9	
comp=Z,9.3nm,0.9s							
WRAB	**Tennant Creek**	**43.36**	**263**	P	**P**	**11 52 33.0**	**0.0**
WRAB				IAmb	IAmb	11 52 33.9	
comp=Z,6.7nm,0.9s							
WRA	**Warramunga Arr**	**43.37**	**263**	P	**P**	**11 52 33.1**	**0.0**
comp=Z,4.6nm,0.5s,baz=97,slow=7.5,SNR=65							
WRA				PcP	**PcP**	**11 54 06.4**	**0.0**
comp=Z,0.2nm,0.3s,baz=76,slow=3.4,SNR=1.5							
comp=Z,4.6nm,0.5s							
FORT	**Forrest**	**47.99**	**247**	P	**P**	**11 53 07.5**	**-0.3**
MTN	**Manton Dam**	**48.01**	**272**	P	**P**	**11 53 08.5**	**+0.4**
MTN				IAmb	IAmb	11 53 09.4	
comp=Z,7.1nm,0.7s							
KNRA	**Kununurra**	**49.46**	**267**	P	**P**	**11 53 19.2**	**+0.4**
KNRA				IAmb	IAmb	11 53 31.8	
comp=Z,8.0nm,1.1s							
FITZ	**Fitzroy Crossi**	**51.80**	**263**	P	**P**	**11 53 36.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**51.80**	**263**	P	**P**	**11 53 36.0**	**+0.4**
comp=Z,1.9nm,0.3s,baz=72,slow=3.9,SNR=17							
comp=Z,1.9nm,0.3s							
PSA00	**Pilbara Seismi**	**56.40**	**258**	P	**P**	**11 54 07.0**	**-0.6**
PSA00				IAmb	IAmb	11 54 31.8	
comp=Z,15nm,1.1s							
MBWA	**Marble Bar**	**56.59**	**258**	P	**P**	**11 54 09.1**	**+0.1**
MBWA				IAmb	IAmb	11 54 36.9	
comp=Z,13nm,1.1s							
NWAO	**Narrogin (SRO)**	**57.06**	**244**	P	**P**	**11 54 11.8**	**-0.2**
NWAO				IAmb	IAmb	11 54 13.6	
comp=Z,12nm,0.9s							
SBA	**Scott Base**	**57.21**	**183**	P	**P**	**11 54 12.1**	**-0.1**
MORW	**Morawa**	**58.52**	**248**	P	**P**	**11 54 22.0**	**+0.1**
ILAR	**Eielson Array**	**89.15**	**13**	P	**P**	**11 57 11.4**	**-1.5**
comp=Z,0.2nm,0.5s,baz=215,slow=5.2,SNR=1.6							
comp=Z,0.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**89.22**	**290**	P	**P**	**11 57 14.4**	**+0.1**
comp=Z,0.5nm,0.3s,baz=143,slow=4.2,SNR=5.4							
comp=Z,0.5nm,0.3s							
AKASG	**Malin Array Be**	**142.95**	**330**	PKP		12 03 43.8	
comp=Z,2.0nm,0.5s,baz=44,slow=4.4,SNR=19							
BRTR	**Keskin Array B**	**146.36**	**311**	PKPbc	**PKPdf**	**12 03 53.7**	**+0.9**
comp=Z,0.6nm,0.5s,baz=93,slow=2.9,SNR=2.9							

*DNK **21** 11:48:30.7±0.4,58°.99N×18°.21E,h0km,ML2.1(UPP), Explosion*
*UPP **21** 11:48:30.3±0.1,58°.99N×18°.21E,h0km,ML2.1,Unknown*
*HEL **21** 11:48:30.9±0.4,58°.99N×18°.18E,h0km,ML2.0,Explosion*
*IDC **21** 11:48:34.4±1.9,59°.36N×18°.11E,h0km,mbtmp2.1/3, ML1.5/3,Error ellipse: s-maj=25.2km s-min=6.9km az=177.0*
ISC 21 11:48:29.8±0.8,**58°.99N**±0°.03×**18°.24E**±0°.03,**h0**km,**n41,**
σ0**93**/55,**Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.12**	**279**	P	**Pg**	**11 48 32.6**	**+0.4**
NYNU				S	**Sg**	**11 48 34.0**	**+0.2**
NYNU	**Nynaeshamn**	**0.12**	**279**	P	**Pg**	**11 48 32.6**	**+0.4**
NYNU				S	**Sg**	**11 48 34.0**	**+0.2**
NRTU	**Norrtaelje**	**0.72**	**16**	P	**Pg**	**11 48 43.8**	**+0.2**
NRTU				S	**Sg**	**11 48 53.8**	**+0.8**
NRTU	**Norrtaelje**	**0.72**	**16**	P	**Pg**	**11 48 43.8**	**+0.2**
NRTU				S	**Sg**	**11 48 53.8**	**+0.8**
UPP	**Uppsala**	**0.93**	**340**	P	**Pg**	**11 48 47.6**	**-0.1**
UPP				S	**Sg**	**11 49 00.1**	**+0.4**
UPP	**Uppsala**	**0.93**	**340**	P	**Pg**	**11 48 47.6**	**-0.1**
UPP				S	**Sg**	**11 49 00.1**	**+0.4**
VIKU	**Vikbolandet**	**0.94**	**240**	P	**Pg**	**11 48 47.7**	**-0.1**
VIKU				S	**Sg**	**11 49 00.1**	**+0.2**
VIKU	**Vikbolandet**	**0.94**	**240**	P	**Pg**	**11 48 47.7**	**-0.1**
VIKU				S	**Sg**	**11 49 00.1**	**+0.2**
ESKU	**Eskilstuna**	**0.98**	**285**	P	**Pg**	**11 48 48.2**	**-0.5**
ESKU	**Eskilstuna**	**0.98**	**285**	P	**Pg**	**11 48 48.2**	**-0.5**
FIBU	**Brunna**	**1.03**	**334**	P	**Pg**	**11 48 49.2**	**-0.3**
FIBU	**Brunna**	**1.03**	**334**	P	**Pg**	**11 48 49.2**	**-0.3**
BACU	**Backbrunna**	**1.05**	**327**	P	**Pg**	**11 48 49.5**	**-0.4**
BACU	**Backbrunna**	**1.05**	**327**	P	**Pg**	**11 48 49.5**	**-0.4**
FLYU	**Flymyra**	**1.16**	**351**	P	**Pg**	**11 48 51.7**	**-0.3**
FLYU	**Flymyra**	**1.16**	**351**	P	**Pg**	**11 48 51.7**	**-0.3**
GOTU	**Gotland**	**1.31**	**172**	P	**Pg**	**11 48 54.5**	**-0.4**
GOTU	**Gotland**	**1.31**	**172**	P	**Pg**	**11 48 54.5**	**-0.4**
GRAU	**Graesoe**	**1.36**	**6**	P	**Pg**	**11 48 55.5**	**-0.4**
GRAU	**Graesoe**	**1.36**	**6**	P	**Pg**	**11 48 55.5**	**-0.4**
OSTU	**Oestervaala**	**1.37**	**336**	P	**Pg**	**11 48 55.4**	**-0.7**
OSTU	**Oestervaala**	**1.37**	**336**	P	**Pg**	**11 48 55.4**	**-0.7**
FORU	**Forsmark**	**1.41**	**359**	P	**Pn**	**11 48 56.3**	**-0.4**
FORU	**Forsmark**	**1.41**	**359**	P	**Pn**	**11 48 56.3**	**-0.4**
AAL	**Aland**	**1.49**	**36**	P	**Pn**	**11 48 57.9**	**+0.1**
AAL	**Aland**	**1.49**	**36**	P	**Pn**	**11 48 57.9**	**+0.1**
AAL	**Aland**	**1.49**	**36**	*e*P	**Pn**	**11 48 57.9**	**+0.1**
AAL				*e*S	**Sg**	**11 49 17.1**	**-0.7**
LNKU	**Linkoeping**	**1.62**	**243**	P	**Pn**	**11 48 59.9**	**+0.2**
LNKU	**Linkoeping**	**1.62**	**243**	P	**Pn**	**11 48 59.9**	**+0.2**
NRAU	**Nora**	**1.75**	**291**	P	**Pb**	**11 49 01.9**	**-0.8**
NRAU	**Nora**	**1.75**	**291**	P	**Pb**	**11 49 01.9**	**-0.8**
ASKU	**Askersund**	**1.77**	**269**	P	**Pb**	**11 49 02.3**	**-0.8**
ASKU	**Askersund**	**1.77**	**269**	P	**Pb**	**11 49 02.3**	**-0.8**
HFS	**Hagfors**	**2.59**	**298**	Pn	**Pn**	**11 49 14.2**	**+1.3**
0.3nm,0.3s,baz=111,slow=17,SNR=16							
HFS				Lg	Lg	11 49 47.8	
1.4nm,0.3s,baz=107,slow=31,SNR=13							
0.8nm,0.3s							
RAF	**Rauma**	**2.70**	**39**	*e*PB	**Pb**	**11 49 17.8**	**-1.2**
RAF				*e*SG	**Sb**	**11 49 54.0**	**+1.4**
RAF				MSG		11 49 58.2	
comp=Z,3.1nm,0.1s							
KPF	**Kankaanpaa**	**3.43**	**32**	*e*P	**Pn**	**11 49 27.3**	**+2.9**
KPF				*e*SB	**Sb**	**11 50 14.2**	**+0.6**
KPF				MSG		11 50 16.3	
comp=Z,1.5nm,0.2s							
HEMU	**Hemsoen**	**3.71**	**359**	*e*P	**Pn**	**11 49 29.1**	**+0.9**
HEMU				*e*S	**Sn**	**11 50 12.1**	**-0.5**
HEMU				MSN		11 50 26.8	
comp=Z,1.8nm,0.2s							
NOA	**NORSAR Array B**	**4.08**	**303**	Pn	**Pn**	**11 49 33.3**	**-0.2**
baz=124,slow=9.2,SNR=1.5							
NOA				Lg	Lg	11 50 35.9	
comp=Z,0.1nm,0.3s,baz=99,slow=17,SNR=2.1							
comp=Z,0.1nm,0.5s							
VAF	**Ylistaro**	**4.61**	**26**	*e*P	**Pn**	**11 49 42.2**	**+1.6**
VAF				*e*S	**Sn**	**11 50 34.8**	**+0.1**
VAF				MSN		11 50 56.0	
comp=Z,1.1nm,0.2s							
FINES	**FINESS Array B**	**4.62**	**54**	Pn	**Pn**	**11 49 43.0**	**+2.2**
comp=Z,0.1nm,0.3s,baz=242,slow=12,SNR=5.1							
FINES				Sn	**Sn**	**11 50 35.5**	**+0.5**
comp=Z,0.5nm,0.3s,baz=245,slow=22,SNR=8.2							
FINES				Lg	Lg	11 50 53.0	
comp=Z,0.6nm,0.3s,baz=247,slow=24,SNR=6.6							
comp=Z,0.6nm,0.6s							
ARCES	**ARCESS Array B**	**11.04**	**13**	Pn	**Pn**	**11 51 05.0**	**-3.7**
comp=Z,0.1nm,0.3s,baz=202,slow=14,SNR=1.3							

*DNK **21** 11:48:54.4±2.2,57°.80N×16°.24E,h36km±999km*
UPP 21 11:48:36.2±0.1,**58°.98N**×**18°.19E,h0km,ML2.2,Unknown, Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.10**	**283**	P	Pg	11 48 38.3	+0.3
baz=97							
NYNU				S	Sg	11 48 39.7	+0.5
NRTU	**Norrtaelje**	**0.73**	**18**	P	Pg	11 48 50.0	-0.2
VIKU	**Vikbolandet**	**0.91**	**239**	P	Pg	11 48 53.2	-0.5
ESKU	**Eskilstuna**	**0.96**	**286**	P	Pg	11 48 54.0	-0.6
FIBU	**Brunna**	**1.01**	**336**	P	Pg	11 48 55.2	-0.4
FLYU	**Flymyra**	**1.16**	**353**	P	Pg	11 48 57.7	-0.6
GOTU	**Gotland**	**1.32**	**171**	P	Pg	11 49 00.8	-0.7
OSTU	**Oestervaala**	**1.36**	**337**	P	Pg	11 49 01.5	-0.7
GRAU	**Graesoe**	**1.37**	**7**	P	Pg	11 49 01.5	-0.9
FORU	**Forsmark**	**1.41**	**360**	P	Pn	11 49 02.1	-0.9
AAL	**Aland**	**1.51**	**37**	P	Pn	11 49 04.2	-0.3
LNKU	**Linkoeping**	**1.60**	**243**	P	Pn	11 49 05.8	+0.1
NRAU	**Nora**	**1.72**	**291**	P	Pn	11 49 07.9	+0.6
ASKU	**Askersund**	**1.74**	**268**	P	Pn	11 49 08.1	+0.5
BLEU	**Blekinge**	**2.97**	**206**	*i* P	Pn	11 49 19.7	-4.9
**BOR

Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.34±.25; $M_{\theta\theta}$-2.12±.15; $M_{\phi\phi}$0.78±.15; $M_{r\theta}$-1.16±.15; $M_{\theta\phi}$0.97±.07; $M_{\phi r}$2.10±.25; Best double couple: $M_0$3.18700×10^{16} NP1:ϕ_s321.00000°, δ75.00000°, λ122.00000°. NP2: ϕ_s73.00000°, δ35.00000°, λ27.00000°. Principal axes: T 3.1930, Plg50.0000°, Azm266.0000°; N -0.0040, Plg31.0000°, Azm132.0000°; P -3.1810, Plg24.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*NEIC **21** 11:51:52.8±1.8, 2°.56S±0°.08×139°.63E±0°.07, h70km±5km, mb4.7/50 Error ellipse: s-maj=12.5km s-min=9.0km az=205.0*

ISC 21 11:51:47.0±0.3, **2°.51S**±0°.04×**139°.78E**±0°.05, **h25**km, **n145**, σ1§**83**/117, **mb4.8**/39, **MS3.9**/27, **1D**, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.40**	**102**	P	**Pb**	**11 51 55.0**	**-0.5**
GENI				S	**Sn**	**11 52 02.4**	**-1.4**
JAY	**Jayapura**	**0.92**	**90**	Pg	**Pb**	**11 52 01.5**	**-2.9**
257nm,0.3s,baz=242,slow=11,SNR=230							
JAY				Lg	Lg	11 52 13.3	
1μm,0.3s,baz=125,slow=21,SNR=13							
JAY	**Jayapura**	**0.92**	**90**	P	**Pb**	**11 52 01.1**	**-3.3**
TABU	**Tabubil**	**3.10**	**152**	P	**Pb**	**11 52 39.8**	**-1.7**
KMPI	**Kaimana, Papua**	**6.17**	**259**	P	**Pn**	**11 53 19.0**	**+2.4**
FAKI	**Fak Fak**	**7.54**	**267**		**Pn**	**11 53 37.1**	**+1.8**
MANU	**Manus Island**	**7.59**	**87**	Pn	**Pn**	**11 53 38.9**	**+2.7**
SWI	**Sorong**	**8.67**	**281**	P	**Pn**	**11 53 52.7**	**+1.7**
38nm,0.6s,3μm							
PMG	**Port Moresby**	**10.04**	**133**	Pn	Pn	11 54 14.1	+4.4
PMG	**Port Moresby**	**10.04**	**133**	Pn	**Pn**	**11 54 09.5**	**-0.2**
13nm,1.0s,baz=318,slow=18,SNR=2.6							
PMG				LR	LR	11 59 20.5	
comp=Z,1μm,20.0s,baz=336,slow=45							
SAUI	**Saumlaki**	**10.04**	**237**	Pn	**Pn**	**11 54 11.9**	**+2.1**
SAUI	**Saumlaki**	**10.04**	**237**	P	**Pn**	**11 54 12.9**	**+3.1**
COEN	**Coen**	**11.86**	**164**	Pn	**Pn**	**11 54 38.2**	**+3.5**
COEN	**Coen**	**11.86**	**164**	P	**Pn**	**11 54 38.1**	**+3.4**
KDU	**Kakadu**	**12.44**	**215**	P	**Pn**	**11 54 42.1**	**-0.4**
TNTI	**Ternate**	**12.83**	**285**	Pn	**Pn**	**11 54 49.1**	**+1.2**
TNTI	**Ternate**	**12.83**	**285**	P	**P**	**11 55 00.4**	**+1.8**
DRS	**Darwin Rock St**	**13.21**	**221**	P	**Pn**	**11 54 54.3**	**+1.2**
MTN	**Manton Dam**	**13.37**	**219**	Pn	**Pn**	**11 54 55.0**	**-0.3**
MTN	**Manton Dam**	**13.37**	**219**	P	**Pn**	**11 54 54.6**	**-0.7**
SANI	**Sanana**	**13.79**	**272**	P	**Pn**	**11 55 02.4**	**+1.4**
39nm,0.8s							
KMSI	**Cibinong**	**16.09**	**281**	P	**P**	**11 55 39.0**	**+4.1**
MTSU	**Mount Surprise**	**16.16**	**164**	P	**P**	**11 55 37.3**	**+1.7**
GUMO	**Guam**	**16.77**	**17**	LR	LR	12 00 46.8	
comp=Z,566nm,21.8s,baz=196,slow=33							
KNRA	**Kununurra**	**17.00**	**219**		**Pn**	**11 55 43.8**	**+0.6**
KNRA				IAmb	IAmb	11 55 48.4	
comp=Z,61nm,1.1s							
SOEI	**Soe**	**17.01**	**244**	Pn	**Pn**	**11 55 41.4**	**-2.2**
SOEI	**Soe**	**17.01**	**244**	P	**P**	**11 55 47.5**	**+2.3**
LUWI	**Luwuk**	**17.06**	**275**	Pn	**Pn**	**11 55 43.8**	**-0.3**
LUWI				IAmb	IAmb	11 56 02.1	
comp=Z,81nm,1.0s							
BATI	**Baumata**	**17.74**	**244**	P	**P**	**11 55 53.5**	**+0.3**
comp=Z,94nm,0.7s,baz=112,slow=2.5,SNR=11							
BATI	**Baumata**	**17.74**	**244**	P	**P**	**11 55 53.6**	**+0.4**
QIS	**Mount Isa**	**17.94**	**181**	P	**P**	**11 55 57.9**	**+2.5**
WB0	**Warramunga Arr**	**17.95**	**197**		**Pn**	**11 55 54.4**	**-0.5**
WB0				IAmb	IAmb	11 55 59.0	
comp=Z,32nm,0.7s							
MRSI	**Marisa**	**18.08**	**279**	P	**P**	**11 55 58.7**	**+1.8**
comp=Z,40nm,0.9s							
WR0	**Warramunga Arr**	**18.09**	**196**	P	**Pn**	**11 55 56.4**	**-0.3**
WR0				IAmb	IAmb	11 56 01.1	
comp=Z,40nm,0.8s							
WRAB	**Tennant Creek**	**18.11**	**197**	P	**P**	**11 55 57.7**	**+0.5**
WRAB				IAmb	IAmb	11 56 01.4	
comp=Z,63nm,0.8s							
WB2	**Warramunga Arr**	**18.12**	**197**	P	**P**	**11 55 57.6**	**+0.2**
WB2				IAmb	IAmb	11 56 01.6	
comp=Z,61nm,0.7s							
WRA	**Warramunga Arr**	**18.13**	**197**	P	**Pn**	**11 55 56.8**	**-0.4**
WRA	**Warramunga Arr**	**18.13**	**197**	P	**P**	**11 55 57.9**	**+0.5**
comp=Z,2.5nm,0.3s,baz=19,slow=12,SNR=58							
WRA				S	**Sn**	**11 59 12.6**	**-6.3**
comp=Z,6.6nm,0.8s,baz=8.4,slow=21,SNR=4.7							
WRA				LR	LR	12 03 14.8	
comp=Z,471nm,19.1s,baz=10.0,slow=38							
comp=Z,48nm,0.7s							
APSI	**Ampana**	**18.19**	**275**	P	P	11 56 12.5	+14
CTAO	**Charters Tower**	**18.58**	**161**		**Pn**	**11 56 03.7**	**+1.0**
CTAO	**Charters Tower**	**18.58**	**161**	P	**Pn**	**11 56 05.0**	**+2.2**
TOLI2	**Tolitoli**	**19.33**	**280**	P	**P**	**11 56 10.8**	**+0.1**
PCI	**Palu**	**20.00**	**274**	P	Pn	11 56 27.0	+7.2
TATA	**Tatamba Isabel**	**20.76**	**107**	P	**P**	**11 56 26.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**20.79**	**221**	P	**P**	**11 56 27.3**	**+0.8**
comp=Z,38nm,1.0s,baz=52,slow=10,SNR=27							
FITZ				S	**S**	**12 00 12.0**	**-5.6**
comp=Z,8.3nm,0.6s,baz=109,slow=15,SNR=3.5							
FITZ				LR	LR	12 05 38.3	
comp=Z,545nm,19.2s,baz=42,slow=40							
comp=Z,38nm,1.0s							
ALEG	**Aligegeo Malai**	**21.71**	**107**	P	**P**	**11 56 37.2**	**+0.8**
AS31	**Alice Springs**	**21.79**	**195**	P	**P**	**11 56 38.5**	**+1.2**
ASAR	**Alice Springs**	**21.79**	**195**	P	**P**	**11 56 37.6**	**+0.4**
ASAR	**Alice Springs**	**21.79**	**195**	P	**P**	**11 56 38.4**	**+1.1**
comp=Z,26nm,0.8s,baz=25,slow=9.5,SNR=153							
ASAR				S	**S**	**12 00 37.6**	**+0.4**
comp=Z,3.3nm,0.8s,baz=12,slow=26,SNR=4.2							
ASAR				LR	LR	12 05 28.9	
comp=Z,288nm,20.2s,baz=18,slow=38							
comp=Z,26nm,0.8s							
MYLDM	**Lahad Datu**	**22.59**	**290**	P	**P**	**11 56 46.2**	**+0.4**
HURO	**Huro Makira**	**23.34**	**111**	P	**P**	**11 56 53.4**	**-0.2**
WRKA	**Warakurna**	**24.99**	**205**	P	**P**	**11 57 09.4**	**+0.5**
KKM	**Kota Kinabalu**	**25.02**	**290**	P	**P**	**11 57 07.9**	**-1.5**
KKM				IAmb	IAmb	11 57 11.1	
comp=Z,29nm,1.0s							
INKA	**Innaminka**	**25.11**	**178**	P	**P**	**11 57 12.0**	**+2.1**
EIDS	**Eidsvold**	**25.20**	**155**	P	**P**	**11 57 12.0**	**+1.2**
EIDS	**Eidsvold**	**25.20**	**155**	P	**P**	**11 57 12.6**	**+1.8**
OOD	**Oodnadatta**	**25.45**	**188**	P	**P**	**11 57 15.2**	**+2.2**
MBWA	**Marble Bar**	**26.93**	**225**	P	**P**	**11 57 26.1**	**-0.4**
MBWA				IAmb	IAmb	11 57 31.1	
comp=Z,14nm,0.7s							
PSA00	**Pilbara Seismi**	**27.12**	**224**	P	**P**	**11 57 27.3**	**-0.9**
LCRK	**Leigh Creek**	**27.83**	**183**	P	**P**	**11 57 36.4**	**+1.9**
SBUM	**Sibu**	**27.99**	**280**	P	**P**	**11 57 34.3**	**-1.8**
MULG	**Mulgathing**	**28.15**	**191**	P	**P**	**11 57 38.8**	**+1.5**
STKA	**Stephens Creek**	**29.26**	**177**	P	**P**	**11 57 46.3**	**-0.9**
STKA	**Stephens Creek**	**29.26**	**177**	P	**P**	**11 57 48.9**	**+1.7**
comp=Z,6.9nm,1.0s,baz=318,slow=8.6,SNR=4.0							
STKA				LR	LR	12 12 09.8	
comp=Z,385nm,19.3s,baz=352,slow=42							
comp=Z,6.9nm,1.0s							
ARMA	**Armidale**	**29.94**	**159**	P	**P**	**11 57 53.1**	**-0.3**
FORT	**Forrest**	**30.23**	**200**	P	**P**	**11 57 55.1**	**-0.7**
BBOO	**Buckleboo**	**30.35**	**186**	P	**P**	**11 57 56.7**	**-0.1**
DZM	**Mont Dzumac**	**32.39**	**129**	*e*S	**S**	**12 03 26.9**	**-1.3**
comp=Z,129nm,28.1s							
CAN	**Canberra**	**33.75**	**166**	P	**P**	**11 58 27.3**	**+0.5**
CAN				IAmb	IAmb	11 58 45.0	
comp=Z,16nm,1.1s							
H11N1	**WAKE ISLAND Hy**	**34.59**	**49**	T	T	12 34 57.2	
baz=233,slow=75,SNR=19							
H11N2	**WAKE ISLAND Hy**	**34.60**	**49**	T	T	12 34 58.3	
baz=233,slow=75,SNR=23							
H11N3	**WAKE ISLAND Hy**	**34.61**	**49**	T	T	12 34 58.6	
baz=233,slow=75,SNR=8.9							
MORW	**Morawa**	**34.76**	**218**	P	**P**	**11 58 34.2**	**-1.3**
TOO	**Toolangi**	**35.29**	**172**	P	**P**	**11 58 39.5**	**-0.5**
QIZ	**Qiongzhong**	**36.40**	**307**	P	**P**	**11 58 49.3**	**-0.4**
QIZ				S	**S**	**12 04 23.3**	**-6.6**
QIZ				pmax	pmax		
comp=Z,19nm,1.0s							
QIZ				pmax	pmax		
comp=Z,260nm,2.8s							
QIZ				LR	LR		
comp=Z,230nm,18.2s							
QIZ				LR	LR		
comp=Z,200nm,14.8s							
QIZ				LR	LR		
comp=Z,160nm,13.5s							
JNU	**Nakatsue**	**36.42**	**347**	LR	LR	12 13 12.2	
comp=Z,101nm,19.6s,baz=138,slow=36							
JMN	**Monobe**	**36.47**	**352**	P	**P**	**11 58 50.0**	**-0.1**
JMN				IAmb	IAmb	11 58 50.6	
comp=Z,18nm,1.1s							
NWAO	**Narrogin (SRO)**	**36.92**	**212**	P	**P**	**11 58 53.0**	**-0.9**
NWAO				IAmb	IAmb	11 58 57.5	
comp=Z,18nm,1.0s							
NWAO	**Narrogin (SRO)**	**36.92**	**212**	LR	LR	12 15 43.1	
comp=Z,472nm,18.4s,baz=322,slow=39							
MJAR	**Matsushiro Arr**	**38.88**	**358**	P	**P**	**11 59 08.0**	**-2.4**
comp=Z,0.9nm,0.6s,baz=298,slow=11,SNR=1.4							
comp=Z,0.9nm,0.6s							
NJ2	**Nanjing**	**39.70**	**332**	*e*P	**P**	**11 59 20.0**	**+2.7**
NJ2				pmax	pmax		
comp=Z,10.0nm,0.5s							
MSVF	**Nonsavu**	**40.47**	**115**	LR	LR	12 16 34.2	
comp=Z,254nm,18.2s,baz=339,slow=37							
PSI	**Prapat**	**41.18**	**277**	LR	LR	12 19 50.1	
comp=Z,74nm,19.1s,baz=155,slow=41							
KSRS	**Korea Array**	**41.26**	**346**	P	**P**	**11 59 28.6**	**-1.5**
comp=Z,0.8nm,0.8s,baz=151,slow=8.9,SNR=1.7							
KSRS				PcP	**PcP**	**12 01 28.8**	**+0.1**
comp=Z,1.8nm,0.9s,baz=190,slow=6.2,SNR=4.9							
KSRS				LR	LR	12 16 20.8	
comp=Z,85nm,19.6s,baz=150,slow=36							
comp=Z,0.8nm,0.8s							
PHRA	**Phrae**	**44.17**	**300**	P	**P**	**11 59 53.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**45.27**	**299**	P	**P**	**12 00 02.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**45.27**	**299**	P	**P**	**12 00 02.9**	**-0.1**
comp=Z,5.0nm,0.9s,baz=123,slow=5.9,SNR=32							
comp=Z,5.0nm,0.9s							
CHTO	**Chiang Mai**	**45.41**	**300**	P	**P**	**12 00 03.7**	**-0.4**
ASAJ	**Asahikawa**	**46.48**	**3**	LR	LR	12 18 58.4	
comp=Z,47nm,20.4s,baz=180,slow=35							
XAN	**Xi'an**	**46.53**	**324**	P	**P**	**12 00 15.8**	**+3.1**
XAN				pmax	pmax		
comp=Z,7.0nm,0.9s							
PZH	**PanZhiHua**	**46.70**	**311**	P	**P**	**12 00 14.0**	**-0.2**
PZH				pmax	pmax		
comp=Z,10.0nm,1.0s							
PZH				pmax	pmax		
comp=Z,100nm,5.5s							
RAO	**Raoul Island**	**48.18**	**128**	LR	LR	12 18 03.8	
comp=Z,85nm,20.8s,baz=248,slow=33							
BNX	**BinXian**	**49.28**	**349**	↓P	**P**	**12 00 36.5**	**+2.8**
BNX				pmax	pmax		
comp=Z,7.0nm,1.6s							
URZ	**Urewera**	**49.29**	**141**	LR	LR	12 22 02.8	
comp=Z,137nm,19.5s,baz=44,slow=37							
RPZ	**Rata Peaks**	**49.53**	**150**	LR	LR	12 21 19.9	
comp=Z,228nm,20.8s,baz=316,slow=36							
LZH	**Lanzhou**	**50.97**	**322**	*e*P	P	12 00 53.6	+6.7
LZH				sS	sS	12 08 31.3	+16
LZH				pmax	pmax		
comp=Z,17nm,1.1s							
KLR	**Kul'dur**	**52.00**	**353**	LR	LR	12 22 06.0	
comp=Z,35nm,18.2s,baz=172,slow=35							
SHL	**Shillong**	**54.10**	**304**	P	**P**	**12 01 09.7**	**-0.7**
SHL				IAmb	IAmb	12 01 16.6	
comp=Z,9.3nm,0.8s							
GTA	**Gaotai**	**55.55**	**323**	*e*P	**P**	**12 01 20.8**	**+0.3**
GTA				pmax	pmax		
comp=Z,3.0nm,0.9s							
GOMU	**GeErMu**	**56.89**	**317**	P	**P**	**12 01 30.4**	**-0.1**
GOMU				pP	sP	12 01 45.0	+3.6
GOMU				sP	pP	12 01 51.9	+14
GOMU				S	**S**	**12 09 22.3**	**-1.0**
GOMU				pmax	pmax		
comp=Z,4.0nm,1.1s							
PETK	**Petropavlovsk-**	**57.42**	**13**	LR	LR	12 22 22.5	
comp=Z,90nm,21.9s,baz=202,slow=32							
SONM	**Songino Array**	**58.00**	**334**	P	**P**	**12 01 37.6**	**-0.1**
comp=Z,0.4nm,0.4s,baz=161,slow=5.1,SNR=1.8							
SONM				LR	LR	12 24 58.8	
comp=Z,80nm,21.9s,baz=139,slow=34							
comp=Z,0.4nm,0.4s							
RAR	**Rarotonga**	**61.61**	**113**	LR	LR	12 26 49.5	
comp=Z,61nm,21.3s,baz=264,slow=34							
SHEM	**Shemya Is, Ala**	**62.14**	**23**	LR	LR	12 24 22.5	
comp=Z,203nm,21.9s,baz=94,slow=32							
MA2	**Magadan**	**62.50**	**6**	LR	LR	12 32 26.1	
comp=Z,33nm,18.0s,baz=136,slow=39							
YAK	**Yakutsk**	**64.83**	**355**	LR	LR	12 28 27.7	
comp=Z,69nm,20.7s,baz=130,slow=34							
WMQ	**Urumqi**	**65.52**	**321**	*e*P	**P**	**12 02 29.4**	**+0.9**
WMQ				pmax	pmax		
comp=Z,21nm,0.7s							
MK31	**Makanchi Array**	**70.28**	**322**	P	**P**	**12 02 55.2**	**-3.1**
MK31				IAmb	IAmb	12 03 00.5	
comp=Z,8.1nm,1.1s							
MKAR	**Makanchi Array**	**70.28**	**322**	P	**P**	**12 02 55.6**	**-2.7**
MKAR	**Makanchi Array**	**70.28**	**322**	P	**P**	**12 02 58.8**	**+0.5**
comp=Z,6.7nm,0.8s,baz=120,slow=7.5,SNR=21							
comp=Z,6.7nm,0.8s							
MKAR	**Makanchi Array**	**70.28**	**322**	PKPbc	**P**	**12 02 55.2**	**-3.2**
comp=Z,6.4nm,0.9s,baz=306,slow=2.0,SNR=12							
MAKZ	**Makanchi**	**70.48**	**322**	P	**P**	**12 02 55.1**	**-4.4**
MAKZ				IAmb	IAmb	12 03 01.0	
comp=Z,13nm,0.9s							
PPT	**Papeete**	**70.80**	**108**	LR	LR	12 30 08.4	
comp=Z,86nm,21.4s,baz=276,slow=33							
PPT2	**Papeete2**	**70.80**	**108**	*e*LR	LR	12 24 36.8	
comp=Z,212nm,23.8s							
PPT2				*e*LR	LR	12 24 41.8	
comp=Z,184nm,25.5s							
TARG	**Taragay, Kyrgy**	**71.18**	**316**	P	**P**	**12 03 03.7**	**-0.7**
TARG				IAmb	IAmb	12 03 18.6	
comp=Z,6.4nm,0.9s							
TBI	**Tubuai**	**71.35**	**114**	*e*LR	LR	12 24 57.3	
comp=Z,558nm,38.0s							
BOOM	**Boomskoye usch**	**72.75**	**316**	P	**P**	**12 03 13.8**	**+0.3**
BOOM				IAmb	IAmb	12 03 18.3	
comp=Z,5.3nm,0.8s							
KURBB	**Kurchatov Arra**	**74.18**	**325**	P	**P**	**12 03 21.6**	**+0.1**
comp=Z,6.9nm,0.9s,baz=116,slow=5.8,SNR=13							
comp=Z,6.9nm,0.9s							
SBA	**Scott Base**	**76.64**	**174**	P	**P**	**12 03 35.6**	**+0.5**
BVAR	**Borovoye Array**	**79.76**	**325**	P	**P**	**12 03 53.1**	**+0.2**
comp=Z,12nm,0.9s,baz=113,slow=6.8,SNR=9.7							
comp=Z,12nm,0.9s							
TAOE	**Nuku Hiva Isla**	**79.81**	**98**	*e*LR	LR	12 28 53.0	
comp=Z,187nm,25.9s							
NRIK	**Noril'sk**	**79.83**	**343**	P	**P**	**12 03 52.8**	**0.0**
NRIK				IAmb	IAmb	12 03 58.8	
comp=Z,11nm,1.1s							
NRIK	**Noril'sk**	**79.83**	**343**	P	**P**	**12 03 52.9**	**0.0**
comp=Z,3.8nm,0.8s,baz=106,slow=5.1,SNR=4.6							
comp=Z,3.8nm,0.8s							
KDAK	**Kodiak Island**	**80.39**	**30**	P	**P**	**12 03 56.2**	**+0.1**
comp=Z,8.5nm,0.9s,baz=81,slow=23,SNR=2.2							
KDAK				LR	LR	12 34 56.1	
comp=Z,130nm,20.4s,baz=97,slow=32							
comp=Z,8.5nm,0.9s							
MAW	**Mawson**	**82.71**	**202**	P	**P**	**12 04 09.3**	**+1.1**
comp=Z,0.7nm,0.5s,baz=84,slow=5.2,SNR=2.5							
MAW				LR	LR	12 40 50.2	
comp=Z,98nm,18.0s,baz=98,slow=36							
comp=Z,0.7nm,0.5s							
ILAR	**Eielson Array**	**85.21**	**24**	LR	LR	12 37 24.0	
comp=Z,44nm,19.8s,baz=247,slow=32							
ABKAR	**Akbulak array**	**85.26**	**320**	P	**P**	**12 04 21.4**	**-0.2**
QSPA	**South Pole Qui**	**87.44**	**180**	P	**P**	**12 04 32.7**	**+0.5**
QSPA	**South Pole Qui**	**87.44**	**180**	P	**P**	**12 04 32.2**	**0.0**
comp=Z,1.2nm,0.8s,baz=292,slow=0.9,SNR=13							
comp=Z,1.2nm,0.8s							
DAWY	**Dawson**	**88.22**	**26**	P	**P**	**12 04 36.7**	**+0.8**
I28M	**Miner Creek**	**88.22**	**24**	IAmb	IAmb	12 04 37.6	
comp=Z,6.8nm,1.1s							
M29M	**Somme Creek**	**88.39**	**27**	IAmb	IAmb	12 04 38.6	
comp=Z,7.1nm,1.1s							
L29M	**L29M**	**88.64**	**27**	IAmb	IAmb	12 04 40.0	
comp=Z,8.6nm,1.1s							
G29M	**Pine Creek**	**89.22**	**23**	P	**P**	**12 04 41.7**	**+1.3**
J30M	**Hart River**	**89.61**	**25**	P	**P**	**12 04 43.6**	**+1.1**
J30M				IAmb	IAmb	12 04 44.4	
comp=Z,5.3nm,1.0s							
I30M	**Mount Dempster**	**89.67**	**25**	IAmb	IAmb	12 05 00.0	
comp=Z,3.4nm,1.0s							
G30M	**tAoh Zraii Nji**	**89.94**	**23**	P	**P**	**12 04 44.4**	**+0.6**
G30M				IAmb	IAmb	12 04 46.8	
comp=Z,7.2nm,1.0s							
INK	**Inuvik**	**91.08**	**22**	P	**P**	**12 04 48.8**	**-0.3**
INK				IAmb	IAmb	12 05 01.8	
comp=Z,3.2nm,1.1s							
INK	**Inuvik**	**91.08**	**22**	LR	LR	12 39 29.2	
comp=Z,54nm,21.9s,baz=249,slow=32							
YBH	**Yreka Blue Hor**	**97.27**	**48**	LR	LR	12 40 38.3	
comp=Z,169nm,21.3s,baz=287,slow=30							
YKA	**Yellowknife Ar**	**99.40**	**27**	LR	LR	12 46 55.5	
comp=Z,159nm,19.7s,baz=288,slow=33							
TORD	**Torodi Ar. Bea**	**137.22**	**287**	PKP	**PKPdf**	**12 11 09.0**	**-0.2**
comp=Z,0.8nm,0.8s,baz=20,slow=2.5,SNR=5.0							
DBIC	**Dimbokro**	**144.52**	**278**	PKP	PKPbc	12 11 20.7	-0.4
comp=Z,26nm,0.8s,baz=86,slow=3.7,SNR=36							
LPAZ	**La Paz**	**146.69**	**125**	PKPbc	**PKPbc**	**12 11 28.0**	**-0.4**
comp=Z,8.4nm,0.9s,baz=333,slow=1.4,SNR=16							
CPUP	**Villa Florida**	**146.90**	**151**	PKPbc	**PKPbc**	**12 11 27.1**	**-0.9**
comp=Z,5.6nm,0.8s,baz=192,slow=5.2,SNR=7.7							

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*IDC **21** 11:59:26.2±1.1, 65°.45N×167°.39W, h0km, mb3.9/14, mbtmp3.9/17, ML3.5/3, MS3.4/2, Error ellipse: s-maj=36.0km s-min=11.6km az=14.0*

*AEIC **21** 11:59:26.7±0.5, 65°.57N±0°.03×166°.78W±0°.02, h11km±3km, ML4.0, mb3.8/3(NEIC), mb_Lg3.8/32(NEIC), ML4.2/66(NEIC), Mwr3.8/17(NEIC), Error ellipse: s-maj=3.8km s-min=1.3km az=178.0*

*NEIC **21** 11:59:26.9±0.4, 65°.57N±0°.02×166°.76W±0°.03, h10km±1km, Error ellipse: s-maj=4.2km s-min=2.6km az=182.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-2.32; $M_{\theta\theta}$6.90; $M_{\phi\phi}$-4.58; $M_{r\theta}$-1.81; $M_{\theta\phi}$-1.72; $M_{\phi r}$-3.11; Fault plane solution: $M_0$7.27000×10^{14} NP1: ϕ_s318.01000°, δ59.08000°, λ-20.43000°. NP2:ϕ_s58.85000°, δ72.57000°, λ-147.42000°. Principal axes: T 7.3531, Plg9.0000°, Azm186.0000°; N -0.1739, Plg54.0000°, Azm84.0000°; P -7.1793, Plg35.0000°, Azm282.0000°;*

*NEIC **21** 11:59:26.3, 65°.58N×166°.73W, h3km*

ISC 21 11:59:27.1±1.1, **65°.57N**±0°.04×**166°.77W**±0°.03, **h7**km±7km, **n177**, σ1§**10**/171, **mb4.1**/14, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F14K	**Arctic Creek**	**0.21**	**117**		**Pg**	**11 59 31.6**	**+0.3**
F14K					**Sg**	**11 59 34.6**	**+0.5**
TNA	**Tin City**	**0.48**	**269**		**Pg**	**11 59 36.1**	**-0.3**
TNA	**Tin City**	**0.48**	**269**		**Sg**	**11 59 42.7**	**+0.1**
TNA	**Tin City**	**0.48**	**269**	P	**Pg**	**11 59 36.1**	**-0.3**
baz=90							
TNA				S	**Sg**	**11 59 42.7**	**+0.1**
baz=90							
F15K	**North Star Dit**	**0.89**	**80**		**Pg**	**11 59 44.0**	**-0.2**
F15K					**Sg**	**11 59 55.5**	**-0.3**
F15K				IAML		11 59 58.9	
comp=N,5μm,0.5s							
ANM	**Nome**	**1.17**	**149**		**Pg**	**11 59 48.7**	**-0.8**
ANM				Sg	**Sg**	**12 00 04.4**	**-0.3**
ANM				IAML		12 00 05.9	
comp=N,3μm,0.7s							
ANM				IAML		12 00 06.6	
comp=E,4μm,0.8s							
ANM	**Nome**	**1.17**	**149**	P	**Pg**	**11 59 48.6**	**-0.9**
baz=330							
ANM				S	**Sg**	**12 00 03.7**	**-1.0**
baz=330							
G15K	**Niukluk**	**1.29**	**115**		**Pn**	**11 59 50.6**	**-0.8**
G15K					**Sg**	**12 00 07.7**	**-0.7**
G15K	**Niukluk**	**1.29**	**115**	P	**Pn**	**11 59 50.6**	**-0.8**
baz=297							
G15K				S	**Sg**	**12 00 07.7**	**-0.7**
baz=297							
G16K	**Koyuk River**	**1.85**	**93**		**Pn**	**11 59 59.3**	**+0.1**
G16K				IAML		12 00 26.6	
comp=E,2μm,0.6s							
G16K				IAML		12 00 26.7	
comp=N,3μm,0.6s							
G16K				IAmb_Lg		12 00 28.5	
comp=Z,576nm,0.8s							
H16K	**Elim**	**2.13**	**114**		**Pn**	**12 00 01.9**	**-1.1**
H16K	**Elim**	**2.13**	**114**	P	**Pn**	**12 00 02.3**	**-0.8**
baz=298							
F17K	**Baldwin Pennin**	**2.42**	**66**	Pn	**Pn**	**12 00 06.3**	**-0.7**
F17K				IAML		12 00 47.6	
comp=E,964nm,0.7s							
F17K				IAML		12 00 51.9	
comp=N,1μm,0.9s							
E17K	**Hotham Inlet**	**2.51**	**51**		**Pn**	**12 00 07.5**	**-0.7**
E17K					**Sb**	**12 00 42.5**	**-0.9**
E17K	**Hotham Inlet**	**2.51**	**51**	P	**Pn**	**12 00 07.5**	**-0.7**
baz=235							
G17K	**Kiwalik Mounta**	**2.55**	**89**		**Pn**	**12 00 08.1**	**-0.7**
D17K	**Noatak River**	**2.59**	**33**		**Pn**	**12 00 08.5**	**-0.9**
D17K	**Noatak River**	**2.59**	**33**	P	**Pn**	**12 00 08.9**	**-0.5**
baz=216							
C16K	**Lisburne Hills**	**2.77**	**11**		**Pn**	**12 00 11.5**	**-0.4**
GAMB	**Gambell**	**2.78**	**232**	P	**Pn**	**12 00 13.5**	**+1.5**
baz=48

E19K				IAmb_Lg			12 01 51.2
	comp=Z,178nm,0.9s						
E19K				IAML			12 02 01.5
	comp=N,252nm,0.9s						
B18K	**Kokolik River**	**4.26**	**24**		**Pn**		**12 00 33.7 +1.4**
H19K	**Roundabout Mou**	**4.29**	**86**		**Pn**		**12 00 33.6 +0.9**
H19K				IAML			12 01 48.1
	comp=E,251nm,0.6s						
H19K				IAML			12 01 53.3
	comp=N,228nm,1.1s						
H19K	**Roundabout Mou**	**4.29**	**86**	P	**Pn**		**12 00 32.2 -0.5**
	baz=275						
D19K	**Kuna River**	**4.48**	**45**		**Pn**		**12 00 35.7 +0.3**
D19K	**Kuna River**	**4.48**	**45**	IAML			12 02 04.5
	comp=N,152nm,0.9s						
C19K	**Lookout Ridge**	**4.51**	**35**		**Pn**		**12 00 37.4 +1.7**
C19K				IAmb_Lg			12 01 56.7
	comp=Z,125nm,1.0s						
C19K				IAML			12 02 01.0
	comp=E,161nm,0.8s						
L15K	**Ungalak Mounta**	**4.56**	**146**		**Pn**		**12 00 36.7 +0.3**
L14K	**Kuka Creek**	**4.62**	**155**		**Pn**		**12 00 37.4 +0.2**
L14K	**Kuka Creek**	**4.62**	**155**	IAmb_Lg			12 02 05.3
	comp=Z,128nm,0.8s						
K17K	**Iditarod**	**4.69**	**124**		**Pn**		**12 00 38.3 +0.1**
K17K	**Iditarod**	**4.69**	**124**	IAmb_Lg			12 02 06.5
	comp=Z,174nm,0.9s						
F20K	**Avaraart Lake**	**4.70**	**67**		**Pn**		**12 00 39.3 +1.0**
J18K	**Innoko River**	**4.83**	**111**		**Pn**		**12 00 40.3 +0.2**
J18K	**Innoko River**	**4.83**	**111**	IAML			12 02 06.5
	comp=N,169nm,0.8s						
H20K	**Anotleneega Mo**	**4.95**	**85**		**Pn**		**12 00 41.8 +0.1**
E20K	**Nigu River**	**4.96**	**52**		**Pn**		**12 00 42.5 +0.5**
J19K	**Poorman**	**5.02**	**103**		**Pn**		**12 00 42.8 0.0**
J19K	**Poorman**	**5.02**	**103**	IAML			12 02 10.3
	comp=N,171nm,0.9s						
J19K				IAML			12 02 11.4
	comp=E,128nm,1.0s						
L16K	**Owhat River**	**5.06**	**137**		**Pn**		**12 00 43.6 +0.4**
L16K				IAML			12 02 12.7
	comp=N,124nm,0.9s						
L16K				IAmb_Lg			12 02 20.2
	comp=Z,183nm,1.1s						
D20K	**Etivluk River**	**5.06**	**47**		**Pn**		**12 00 43.7 +0.4**
L17K	**Donlin**	**5.09**	**129**		**Pn**		**12 00 44.3 +0.6**
A19K	**Wainwright**	**5.13**	**22**		**Pn**		**12 00 45.5 +1.3**
M11K	**Mekoryuk**	**5.21**	**177**		**Pn**		**12 00 44.8 -0.5**
M11K				IAmb_Lg			12 02 26.3
	comp=Z,162nm,1.2s						
M11K				IAML			12 02 38.2
	comp=N,144nm,1.1s						
I20K	**Naaghedeneel**	**5.24**	**93**		**Pn**		**12 00 46.5 +0.8**
M14K	**Bethel**	**5.30**	**154**	Pn	**Pn**		**12 00 47.3 +0.7**
M14K				IAmb_Lg			12 02 14.0
	comp=Z,111nm,0.8s						
TTA	**Tatalina**	**5.39**	**115**	Pn	**Pn**		**12 00 48.8 +0.9**
TTA				IAML			12 02 29.6
	comp=N,93nm,1.0s						
M13K	**Dall Lake**	**5.41**	**162**		**Pn**		**12 00 48.8 +0.8**
M13K	**Dall Lake**	**5.41**	**162**	IAmb_Lg			12 02 28.6
	comp=Z,162nm,1.1s						
J20K	**Nowinta River**	**5.56**	**99**		**Pn**		**12 00 50.9 +0.7**
L18K	**Granite Mounta**	**5.58**	**122**		**Pn**		**12 00 51.0 +0.6**
F21K	**Alatna River**	**5.59**	**67**		**Pn**		**12 00 51.7 +1.2**
M15K	**Kasiguk River**	**5.62**	**148**		**Pn**		**12 00 51.1 +0.2**
B20K	**Meade River**	**5.75**	**35**		**Pn**		**12 00 53.1 +0.4**
M16K	**Timber Creek**	**5.76**	**139**		**Pn**		**12 00 53.6 +0.7**
E21K	**Killik River**	**5.78**	**54**		**Pn**		**12 00 54.2 +1.0**
C21K	**Knifeblade Rid**	**5.86**	**47**		**Pn**		**12 00 55.1 +0.9**
M17K	**Holitna River**	**5.91**	**131**		**Pn**		**12 00 55.8 +0.9**
M17K	**Holitna River**	**5.91**	**131**	IAmb_Lg			12 02 49.8
	comp=Z,140nm,1.0s						
K20K	**Telida**	**5.92**	**106**		**Pn**		**12 00 55.6 +0.5**
N14K	**Kuskokwak Cree**	**6.13**	**155**		**Pn**		**12 00 58.3 +0.4**
B21K	**Ikpikpuk River**	**6.17**	**43**		**Pn**		**12 00 58.8 +0.3**
I21K	**Tanana**	**6.20**	**87**		**Pn**		**12 00 59.9 +1.1**
N15K	**Kwethluk River**	**6.22**	**148**		**Pn**		**12 00 59.8 +0.6**
L19K	**White Mountain**	**6.26**	**117**		**Pn**		**12 01 00.4 +0.6**
M18K	**Stony River**	**6.38**	**125**		**Pn**		**12 01 01.7 +0.4**
D22K	**Ayikyak River**	**6.39**	**52**		**Pn**		**12 01 02.1 +0.6**
CHUM	**Lake Minchumin**	**6.42**	**99**		**Pn**		**12 01 02.5 +0.6**
E22K	**Anaktuvuk Pass**	**6.43**	**60**		**Pn**		**12 01 03.4 +1.3**
L20K	**Farewell, AK**	**6.45**	**113**		**Pn**		**12 01 03.3 +0.9**
M19K	**Big River Lodg**	**6.61**	**118**		**Pn**		**12 01 05.4 +0.8**
N17K	**Nushagak Hills**	**6.67**	**135**	Pn	**Pn**		**12 01 06.5 +1.1**
CAST	**Castle Rocks**	**6.70**	**102**	Pn	**Pn**		**12 01 07.2 +1.5**
MLY	**Manley**	**6.74**	**87**		**Pn**		**12 01 06.3 -0.1**
SVW2	**Sparrevohn**	**6.74**	**127**	Pn	**Pn**		**12 01 07.9 +1.6**
O14K	**Tigyukauivet M**	**6.83**	**156**		**Pn**		**12 01 08.1 +0.5**
BPAW	**Bear Paw Mtn.**	**6.89**	**95**	Pn	**Pn**		**12 01 09.1 +0.7**
PPLA	**Purkeypile**	**6.90**	**106**		**Pn**		**12 01 09.0 +0.4**
B22K	**Teshekpuk Lake**	**6.93**	**40**		**Pn**		**12 01 08.2 -0.6**
N18K	**Kilae Creek**	**6.95**	**130**		**Pn**		**12 01 10.5 +1.3**
A22K	**Sinclair Lake**	**6.98**	**33**		**Pn**		**12 01 09.4 -0.1**
M20K	**Styx River**	**7.09**	**115**		**Pn**		**12 01 11.8 +0.6**
D23K	**Nanushuk River**	**7.09**	**54**		**Pn**		**12 01 12.1 +1.0**
H23K	**Yukon River**	**7.11**	**80**		**Pn**		**12 01 11.8 +0.4**
KTH	**Kantishna Hill**	**7.12**	**99**	Pn	**Pn**		**12 01 12.1 +0.5**
O15K	**Ungalikthiuk R**	**7.18**	**159**		**Pn**		**12 01 12.7 +0.4**
O16K	**Kokwok River B**	**7.21**	**142**		**Pn**		**12 01 13.5 +0.8**
E23K	**Chandalar**	**7.21**	**62**		**Pn**		**12 01 14.0 +1.2**
I23K	**Minto, Yukon-K**	**7.29**	**85**		**Pn**		**12 01 15.1 +1.3**
N19K	**Bonanza Creek**	**7.32**	**125**		**Pn**		**12 01 15.2 +0.9**
TOLK	**Toolik Lake Re**	**7.37**	**58**		**Pn**		**12 01 16.0 +1.0**
TRF	**Thorofare Moun**	**7.42**	**99**		**Pn**		**12 01 16.4 +0.6**
C23K	**Itkillik River**	**7.47**	**48**		**Pn**		**12 01 16.1 -0.2**
BWN	**Browne**	**7.50**	**93**		**Pn**		**12 01 18.4 +1.7**
NEA2	**Nenana**	**7.54**	**89**		**Pn**		**12 01 17.2 -0.1**
F24K	**Squaw Lake**	**7.78**	**67**		**Pn**		**12 01 23.9 +3.3**
H24K	**Noodor Dome**	**7.79**	**79**		**Pn**		**12 01 21.6 +0.9**
O18K	**Koktuh Hills**	**7.81**	**132**	Pn	**Pn**		**12 01 21.9 +1.0**
STLK	**Strandline Lak**	**7.81**	**115**		**Pn**		**12 01 19.6 -1.5**
SPCR	**Spurr Chakacha**	**7.86**	**117**		**Pn**		**12 01 22.4 +0.6**
MCK	**McKinley**	**7.87**	**95**		**Pn**		**12 01 21.1 -0.7**
SPU	**Mount Spurr**	**7.93**	**117**		**Pn**		**12 01 24.8 +2.0**
COLA	**College**	**7.97**	**86**	Pn	**Pn**		**12 01 25.9 +2.7**
WRH	**Wood River Hil**	**7.98**	**89**		**Pn**		**12 01 23.8 +0.5**
RND	**Reindeer**	**8.03**	**97**		**Pn**		**12 01 24.7 +0.7**
CCB	**Clear Creek Bu**	**8.05**	**88**		**Pn**		**12 01 24.4 +0.1**
P18K	**Big Mountain,**	**8.17**	**134**	Pn	**Pn**		**12 01 26.8 +0.8**
SUA	**Susitna One**	**8.25**	**113**		**Pn**		**12 01 29.7 +2.6**
WAT7	**Susitna Watana**	**8.28**	**101**		**Pn**		**12 01 27.2 -0.2**
M22K	**Willow**	**8.32**	**110**	Pn	**Pn**		**12 01 29.3 +1.3**
ILSW	**Iliamna Southw**	**8.38**	**126**	Pn	**Pn**		**12 01 29.9 +1.0**
ILAR	**Eielson Array**	**8.40**	**86**	Pn	**Pn**		**12 01 28.8 -0.2**
	comp=Z,1.0nm,0.3s,baz=282,slow=14,SNR=66						
ILAR				Sn	**Sn**		**12 03 01.9 -2.1**
	comp=Z,0.4nm,0.3s,baz=143,slow=28,SNR=5.2						
ILAR				Lg	Lg		12 03 56.4
	comp=Z,0.2nm,0.3s,baz=269,slow=27,SNR=5.7						
	comp=Z,4.0nm,0.4s						
P19K	**Oil Pt**	**8.60**	**127**	Pn	**Pn**		**12 01 32.1 +0.3**
F25K	**Christian Rive**	**8.64**	**67**	Pn	**Pn**		**12 01 34.7 +2.3**
PRP	**Porcupine Dome**	**8.80**	**81**		**Pn**		**12 01 36.0 +1.3**
Q19K	**Cape Douglas,**	**9.03**	**131**	Pn	**Pn**		**12 01 38.9 +1.1**
BMAR	**Burnt Mountain**	**9.04**	**68**	Pn	**Pn**		**12 01 40.0 +2.1**
CNPM	**China Poot**	**9.37**	**123**	Pn	**Pn**		**12 01 43.8 +1.4**
E27K	**Coleen River**	**10.20**	**64**		**Pn**		**12 01 55.5 +1.8**
KDAK	**Kodiak Island**	**10.29**	**133**	Pn	**Pn**		**12 01 57.3 +2.4**
	comp=Z,0.3nm,0.3s,baz=33,slow=7.5,SNR=1.5						
D27M	**Malcolm River**	**10.54**	**58**		**Pn**		**12 01 59.1 +0.8**
DAWY	**Dawson**	**11.72**	**85**	Pn	**Pn**		**12 02 16.4 +2.0**
M29M	**Somme Creek**	**12.74**	**91**	Pn	**Pn**		**12 02 29.9 +1.3**
G31M	**Satah River**	**13.08**	**69**	Pn	**Pn**		**12 02 36.0 +3.0**
INK	**Inuvik**	**13.21**	**63**	Pn	**Pn**		**12 02 37.4 +2.6**
	comp=Z,0.1nm,0.3s,baz=284,slow=11,SNR=6.5						
INK				Sn	Sn		12 04 52.4 -9.3
	baz=234,slow=4.3,SNR=1.4						
	comp=Z,1.0nm,0.6s						
F31M	**Tsiigehtchic**	**13.21**	**67**	Pn	**Pn**		**12 02 37.4 +2.6**
FARO	**Faro, Yukon**	**14.97**	**87**		**Pn**		**12 03 02.0 +3.2**
A36M	**Sachs Harbour**	**16.02**	**48**	Pn	**Pn**		**12 03 10.8 -1.7**
A36M				IAmb	IAmb		12 03 24.4
	comp=Z,15nm,0.8s						
P33M	**Teslin, Yukon**	**16.22**	**93**	Pn	**Pn**		**12 03 13.9 -1.4**
P33M				IAmb	IAmb		12 03 19.7
	comp=Z,5.4nm,1.0s						
C36M	**Paulatuk**	**16.53**	**58**	Pn	**Pn**		**12 03 16.7 -2.3**
C36M				IAmb	IAmb		12 03 26.0
	comp=Z,5.3nm,0.7s						
DLBC	**Dease Lake**	**18.43**	**95**	P	**P**		**12 03 45.7 +3.0**
	comp=Z,0.1nm,0.3s,baz=207,slow=4.5,SNR=3.3						
	comp=Z,1.8nm,0.8s						
RES	**Resolute Bay**	**24.34**	**38**	LR	LR		12 16 32.4
	comp=Z,32nm,18.1s,baz=243,slow=42						
NRIK	**Noril'sk**	**35.87**	**324**	P	**P**		**12 06 26.9 -0.1**
	comp=Z,1.9nm,0.7s,baz=50,slow=8.3,SNR=3.9						
	comp=Z,1.9nm,0.7s						
PDAR	**Pinedale Array**	**38.64**	**97**	P	**P**		**12 06 52.4 +1.4**
	comp=Z,0.4nm,0.5s,baz=337,slow=5.9,SNR=5.0						
	comp=Z,0.4nm,0.5s						
NVAR	**Mina Array Bea**	**38.79**	**110**	P	**P**		**12 06 53.5 +1.2**
	comp=Z,0.3nm,0.7s,baz=322,slow=6.9,SNR=1.8						
	comp=Z,0.3nm,0.7s						
SONM	**Songino Array**	**46.57**	**292**	P	**P**		**12 07 54.3 -0.9**
	comp=Z,0.9nm,0.7s,baz=38,slow=6.5,SNR=3.3						
	comp=Z,0.9nm,0.7s						
ZALV	**Zalesovo Beam**	**49.01**	**312**	P	**P**		**12 08 13.8 -0.1**
	comp=Z,2.4nm,0.6s,baz=35,slow=7.9,SNR=8.3						
	comp=Z,2.4nm,0.6s						
TXAR	**Lajitas Array**	**52.59**	**101**	P	**P**		**12 08 42.1 +0.8**
	comp=Z,0.4nm,0.8s,baz=329,slow=6.3,SNR=4.3						
	comp=Z,0.4nm,0.8s						
FINES	**FINESS Array B**	**52.94**	**352**	P	**P**		**12 08 43.3 +0.1**
	comp=Z,2.9nm,0.7s,baz=57,slow=7.0,SNR=3.7						
	comp=Z,2.9nm,0.7s						
KURBB	**Kurchatov Arra**	**53.82**	**314**	P	**P**		**12 08 49.8 0.0**
	comp=Z,2.3nm,0.8s,baz=30,slow=7.3,SNR=8.4						
	comp=Z,2.3nm,0.8s						
BVAR	**Borovoye Array**	**53.95**	**321**	P	**P**		**12 08 50.6 -0.2**
	comp=Z,1.6nm,0.6s,baz=356,slow=5.8,SNR=3.1						
	comp=Z,1.6nm,0.6s						
MKAR	**Makanchi Array**	**56.04**	**309**	P	**P**		**12 09 05.5 -0.5**
	comp=Z,0.8nm,0.7s,baz=48,slow=7.5,SNR=5.1						
	comp=Z,0.8nm,0.7s						
AKASG	**Malin Array Be**	**63.41**	**349**	P	**P**		**12 09 56.5 -0.2**
	comp=Z,0.9nm,0.5s,baz=7.2,slow=6.2,SNR=2.7						
	comp=Z,0.9nm,0.5s						
KBZ	**Khabaz**	**68.63**	**337**	P	**P**		**12 10 31.2 +0.9**
	comp=Z,1.6nm,0.8s,baz=63,slow=19,SNR=1.8						
	comp=Z,1.6nm,0.8s						
ESDC	**Sonseca Array**	**74.24**	**14**	P	**P**		**12 11 04.2 -0.2**
	comp=Z,1.3nm,0.9s,baz=353,slow=6.8,SNR=5.4						
	comp=Z,1.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**75.13**	**282**	P	**P**		**12 11 08.8 -0.9**
	comp=Z,0.7nm,0.3s,baz=5.4,slow=6.7,SNR=7.4						
	comp=Z,0.7nm,0.3s						
EIL	**Elat**	**83.59**	**341**	LR	LR		12 55 15.6
	comp=Z,38nm,18.1s,baz=250,slow=40						

NOU 21 12:08:09.8, 16°.97S×167°.37E, h27km, mb4.0/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.86**	**3**	P	Pb	12 08 25.9	-0.3
LIFNC	**LIFOU**	**3.79**	**182**	P	Pn	12 09 05.1	-1.3
KOUNC	**Koumac, New Ca**	**4.61**	**219**	P	Pn	12 09 18.4	+0.7
YATNC	**Mamie plateau,**	**5.08**	**185**	P	Pn	12 09 23.8	-0.5
DZM	**Mont Dzumac**	**5.15**	**190**	P	Pn	12 09 26.0	+0.8
ONTNC	**Ouen Toro**	**5.38**	**189**	P	Pn	12 09 28.5	+0.2
PINNC	**Pines Island,**	**5.61**	**179**	P	Pn	12 09 32.1	+0.6

HEL 21 12:10:16.7±0.4, 61°.91N×30°.42E, h0km, ML1.3, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.86**	**236**	PG	Pg	12 10 32.2	-0.8
RUF				MSG		12 10 43.1	
	comp=Z,1.9nm,0.2s						
RUF				SB	Sg	12 10 44.2	+0.1
JOF	**Joensuu**	**1.09**	**22**	PG	Pg	12 10 36.6	-1.0
JOF				SG	Sg	12 10 49.8	-1.9
NIF	**Nilsia**	**1.91**	**322**	PG	Pn	12 10 50.9	+0.4
NIF				SG	Sb	12 11 16.7	0.0
KAF	**Kangasniemi**	**1.95**	**278**	MSG		12 11 14.8	
	comp=Z,1.7nm,0.2s						
KAF				SG	Sg	12 11 19.1	-0.1
VJF	**Virojoki**	**1.96**	**226**	MSG		12 11 14.8	
	comp=Z,1.5nm,0.2s						
VJF				SG	Sb	12 11 17.5	-0.5
FIA0	**FINESS Array S**	**2.12**	**259**	PG	Pn	12 10 54.4	+1.0
	baz=73						
FIA0				MSG		12 11 19.7	
	comp=Z,0.9nm,0.2s						
FIA0				SG	Sg	12 11 24.3	-0.5
SUF	**Sumiainen**	**2.15**	**294**	PG	Pb	12 10 55.9	-0.6
SUF				MSG		12 11 20.4	
	comp=Z,1.2nm,0.2s						
RMF	**Romuvaara**	**2.32**	**355**	MSG		12 11 25.4	
	comp=Z,0.6nm,0.2s						
RMF				SG	Sb	12 11 28.0	-0.6
KEF	**Keuruu**	**2.63**	**278**	MSG		12 11 34.2	
	comp=Z,1.1nm,0.2s						
KEF				SG	Sb	12 11 37.3	0.0

ISC 21 12:11:37.3±1.2, 26°.41N±0°.04×110°.83W±0°.07, h29km±15km, n8, σ1§27/15, 2C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NE77	**Loreto B.C.S**	**0.62**	**231**	*eP*	**Pb**	**12 11 49.7**	**+0.1**
NE77				*eS*	**Sn**	**12 11 59.5**	**+0.4**
NE77				IAML		12 12 00.5	
	comp=E,766nm,0.5s						
NE77				⇑*e*		12 12 00.5	
NE77				⇑*e*		12 12 04.1	
NE77				IAML		12 12 04.1	
	comp=N,512nm,0.1s						
UAGRB	**Rancho Ultima**	**0.93**	**205**	*eP*	**Pb**	**12 11 53.7**	**-1.1**
UAGRB				*eS*	**Sb**	**12 12 06.6**	**-0.1**
CDOB	**Cd. Obregon**	**1.18**	**31**	*eP*	**Pb**	**12 11 58.2**	**-0.8**
CDOB				*eS*	**Sn**	**12 12 13.9**	**+1.0**
GUYB	**Guaymas**	**1.49**	**358**	*eP*	**Pn**	**12 12 00.4**	**-1.7**
EVAR0	**San Evaristo**	**1.49**	**176**	*eP*	**Pn**	**12 12 01.9**	**-0.2**
EVAR0				*eS*	**Sn**	**12 12 21.1**	**+0.4**
NE80	**Navojoa**	**1.52**	**70**	*eP*	**Pn**	**12 12 01.3**	**-1.2**
NE80				*eS*	**Sn**	**12 12 19.6**	**-1.7**
NE80				IAML		12 12 23.3	
	comp=N,310nm,0.1s						
NE80				*e*		12 12 23.3	
NE80				⇓*e*		12 12 23.7	
NE80				IAML		12 12 23.7	
	comp=E,382nm,0.1s						
NOVRB	**El Novillo Son**	**2.73**	**22**	*eP*	**Pb**	**12 12 26.9**	**+1.4**
NOVRB				*eS*	**Sb**	**12 13 00.7**	**+2.1**
SLBS	**Sierra La Lagu**	**2.83**	**163**	*eP*	**Pn**	**12 12 21.3**	**+0.7**
SLBS				*eS*	**Sn**	**12 12 54.5**	**+0.7**

*NEIC **21** 12:32:51.5±1.5, 58°.2S±0°.1×26°.6W±0°.2, h161km±7km, mb4.7/33, Error ellipse: s-maj=19.3km s-min=14.3km az=223.0*

*IDC **21** 12:32:52.0±2.1, 58°.24S×26°.84W, h170km±18km, mb4.2/9, mbtmp4.6/10, Error ellipse: s-maj=21.3km s-min=13.7km az=69.0*

ISC 21 12:32:49.8±0.4, 58°.23S±0°.08×26°.55W±0°.09, h150km, n61, σ1§10/68, mb4.7/22, 7C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.80**	**301**	Pn	**Pn**	**12 34 29.0**	**+1.9**
VNA1	**Neumayer--Stat**	**14.64**	**156**	⇑P	**Pn**	**12 36 11.1**	**+1.7**
	comp=Z,30nm,1.0s						
VNA3	**Neumayer Olymp**	**14.82**	**158**	⇑P	**Pn**	**12 36 11.8**	**+0.2**
	comp=Z,0.1nm,0.2s						
VNA3				⇓S	Sn	12 38 46.4	-9.4
	comp=Z,2.3nm,0.6s						
VNA2	**Neumayer--Watz**	**15.04**	**155**	⇑P	**Pn**	**12 36 15.2**	**+0.8**
	comp=Z,11nm,0.6s,baz=316,slow=11						
VNA2				⇑S	Sn	12 38 50.9	-10
	comp=Z,2.9nm,0.3s,baz=5.6,slow=1.9						
SNAA	**Sanae**	**16.61**	**154**	P	**P**	**12 36 34.2**	**+0.7**
SNAA	**Sanae**	**16.61**	**154**	⇑P	**P**	**12 36 34.1**	**+0.6**
	comp=Z,121nm,0.4s						
SNAA				⇑S	**S**	**12 39 33.9**	**-4.1**
	comp=Z,38nm,0.6s						
SNAA	**Sanae**	**16.61**	**154**	P	**P**	**12 36 34.3**	**+0.8**
	comp=Z,19nm,0.7s,baz=299,slow=11,SNR=42						
SNAA				S	**S**	**12 39 35.5**	**-2.5**
	comp=Z,1.9nm,0.5s,baz=262,slow=15,SNR=3.2						
SNAA				PcP	**PcP**	**12 41 13.6**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=223,slow=6.5,SNR=6.8						
SNAA				ScP	**ScP**	**12 44 32.1**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=345,slow=23,SNR=1.9						
TROLL	**Troll, Antarti**	**18.14**	**151**	⇑P	**P**	**12 36 50.9**	**+0.6**
	comp=Z,422nm,0.5s						
EFI	**East Falkland**	**19.12**	**276**	P	**P**	**12 37 01.3**	**+0.4**
BELA	**Belgrano 2**	**19.92**	**185**	P	**P**	**12 37 09.2**	**-0.2**
TRQA	**Tornquist**	**30.55**	**296**	P	**P**	**12 38 48.8**	**-0.1**
TRQA				IAmb	IAmb	12 38 50.8	
	comp=Z,31nm,1.8s						
QSPA	**South Pole Qui**	**32.01**	**180**	P	**P**	**12 39 02.5**	**+0.9**
QSPA	**South Pole Qui**	**32.01**	**180**	P	**P**	**12 39 02.4**	**+0.7**
	comp=Z,39nm,0.5s,baz=209,slow=1.7,SNR=506						
QSPA				ScP	**ScP**	**12 45 13.4**	**-3.2**
	comp=Z,1.7nm,0.6s,baz=203,slow=0.8,SNR=12						
	comp=Z,39nm,0.5s						
PLTB	**Pedras Altas**	**32.24**	**313**	P	**P**	**12 39 02.7**	**-1.1**
PLTB				IAmb	IAmb	12 39 42.1	
	comp=Z,30nm,1.5s						
GO05	**Hualane**	**37.84**	**288**	P	**P**	**12 39 51.9**	**+0.2**
GO05				IAmb	IAmb	12 40 17.9	
	comp=Z,37nm,1.5s						
BO04	**La Punta**	**37.99**	**290**	P	**P**	**12 39 53.0**	**0.0**
BO04				IAmb	IAmb	12 39 53.6	
	comp=Z,12nm,0.7s						
MAW	**Mawson**	**38.20**	**142**	P	**P**	**12 39 55.2**	**+0.9**
	comp=Z,5.3nm,0.3s,baz=220,slow=6.4,SNR=64						
MAW				PcP	**PcP**	**12 42 05.9**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=183,slow=2.5,SNR=3.8						
MAW				ScP	**S**	**12 45 36.0**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=246,slow=6.1,SNR=1.9						
	comp=Z,5.3nm,0.3s						
MT09	**Talagante**	**38.35**	**290**	P	**P**	**12 39 55.8**	**-0.4**
MT09				IAmb	IAmb	12 39 56.9	
	comp=Z,16nm,0.7s						
MT01	**Popeta**	**38.41**	**290**	P	**P**	**12 39 55.9**	**-0.6**
MT01				IAmb	IAmb	12 39 56.4	
	comp=Z,11nm,0.8s						
CPUP	**Villa Florida**	**38.53**	**313**	P	**P**	**12 39 56.5**	**-1.0**
CPUP	**Villa Florida**	**38.53**	**313**	P	**P**	**12 39 56.2**	**-1.3**
	comp=Z,1.1nm,0.4s,baz=156,slow=9.2,SNR=4.8						
	comp=Z,1.1nm,0.4s						
PEL	**Peldehue**	**38.71**	**291**	P	**P**	**12 39 59.8**	**+0.7**
VA05	**Santo Domingo**	**38.76**	**289**	P	**P**	**12 39 59.2**	**-0.2**
MT02	**Curacav**	**38.84**	**290**	P	**P**	**12 39 60.0**	**-0.1**
MT02				IAmb	IAmb	12 40 00.5	
	comp=Z,24nm,0.8s						
SUR	**Sutherland**	**40.93**	**72**	P	**P**	**12 40 17.3**	**-0.3**
CO01	**Juntas del Tor**	**41.01**	**294**	P	**P**	**12 40 19.2**	**+0.9**
AC05	**El Transito**	**42.05**	**295**	P	**P**	**12 40 26.6**	**+0.1**
LCO	**Las Campanas**	**42.10**	**295**	P	**P**	**12 40 26.7**	**-0.5**
AC04	**Llanos de Chal**	**42.96**	**295**	P	**P**	**12 40 33.6**	**-0.2**
AC04				IAmb	IAmb	12 41 55.4	
	comp=Z,28nm,1.2s						
GRHM	**Grahamstown, E**	**43.06**	**78**	P	**P**	**12 40 34.0**	**-0.6**
SBA	**Scott Base**	**43.92**	**184**	P	**P**	**12 40 42.4**	**+1.6**
SBA				IAmb	IAmb	12 41 06.2	
	comp=Z,26nm,1.6s						
PB14	**IPOC Station P**	**45.67**	**298**	P	**P**	**12 40 54.5**	**-1.2**
PB14				IAmb	IAmb	12 42 35.4	
	comp=Z,58nm,2.0s						
BOSA	**Boshof**	**46.22**	**73**	P	**P**	**12 41 00.7**	**+1.0**
BOSA				IAmb	IAmb	12 41 02.5	
	comp=Z,26nm,1.5s						
BOSA	**Boshof**	**46.22**	**73**	P	**P**	**12 41 00.5**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=229,slow=6.0,SNR=5.9						
	comp=Z,2.4nm,0.6s						
PTLB	**Pontes e Lacer**	**49.12**	**317**	P	**P**	**12 41 21.1**	**-0.9**
LBTB	**Lobatse**	**49.35**	**71**	P	**P**	**12 41 25.5**	**+1.6**
LBTB				IAmb	IAmb	12 42 46.2	
	comp=Z,26nm,1.6s						
GO01	**Chusmiza**	**49.41**	**303**	P	**P**	**12 41 24.6**	**-0.2**
CASY	**Casey**	**51.73**	**159**	P	**P**	**12 41 42.1**	**+1.1**
CASY				IAmb	IAmb	12 43 19.7	
	comp=Z,23nm,1.1s						
LPAZ	**La Paz**	**51.93**	**306**	P	**P**	**12 41 43.9**	**0.0**
LPAZ	**La Paz**	**51.93**	**306**

ESDC Sonseca Array 18.43 104 LR LR 13 05 54.8
comp=Z,181nm,20.6s,baz=310,slow=31
SFJD Kangerlussuaq 23.73 337 LR LR 13 08 56.7
comp=Z,75nm,18.3s,baz=119,slow=32
DAVOX Davos/Dischmat 25.42 76 LR LR 13 10 20.3
comp=Z,92nm,19.5s,baz=262,slow=33
SCHQ Schefferville 25.95 303 LR LR 13 09 40.6
comp=Z,105nm,18.9s,baz=175,slow=31
VRAC Vranov 29.27 68 LR LR 13 13 54.1
comp=Z,96nm,18.1s,baz=296,slow=36
KEST Kesra 29.49 98 LR LR 13 13 48.1
comp=Z,72nm,18.0s,baz=308,slow=36
SADO Sadowa 35.64 286 LR LR 13 16 55.0
comp=Z,80nm,18.6s,baz=108,slow=35
AKASG Malin Array Be 36.83 62 LR LR 13 18 23.9
comp=Z,53nm,18.3s,baz=268,slow=36
TORD Torodi Ar. Bea 41.40 134 P **P** **13 04 09.8 +0.2**
0.6nm,0.6s,baz=334,slow=9.3,SNR=4.8
TORD LR LR 13 19 47.5
comp=Z,84nm,19.8s,baz=318,slow=34
0.6nm,0.6s
TKL Tuckaleechee C 42.99 276 LR LR 13 21 10.0
comp=Z,41nm,20.0s,baz=59,slow=35
ULM Lac du Bonnet 44.10 301 LR LR 13 21 22.7
comp=Z,64nm,18.2s,baz=328,slow=34
BELG Belogornoye 47.01 54 LR LR 13 23 24.1
comp=Z,29nm,20.0s,baz=287,slow=34
EIL Elat 50.57 87 LR LR 13 29 28.3
comp=Z,35nm,18.2s,baz=250,slow=39
H10N2 ASCENSION HYDR 55.45 164 T T 14 05 37.0
baz=350,slow=74
H10N3 ASCENSION HYDR 55.46 164 T T 14 05 36.2
baz=350
H10N1 ASCENSION HYDR 55.47 164 T T 14 05 40.0
baz=350,slow=74
PDAR Pinedale Array 55.96 298 P **P** **13 06 01.4 -0.3**
0.9nm,0.8s,baz=63,slow=6.2,SNR=7.4
PDAR LR LR 13 28 18.7
comp=Z,28nm,19.4s,baz=56,slow=34
0.9nm,0.8s
H10S3 ASCENSION HYDR 56.52 165 T T 14 06 59.8
baz=230,slow=74,SNR=3.3
H10S2 ASCENSION HYDR 56.53 165 T T 14 06 55.5
baz=350,slow=74,SNR=4.8
ANMO Albuquerque 58.61 289 P **P** **13 06 18.5 -1.9**
0.4nm,0.3s,baz=78,slow=7.1,SNR=2.4
ANMO LR LR 13 32 30.5
comp=Z,18nm,18.1s,baz=232,slow=37
0.4nm,0.3s
ILAR Eielson Array 59.35 334 P **P** **13 06 25.1 +0.2**
0.6nm,0.9s,baz=45,slow=7.3,SNR=5.4
0.6nm,0.9s
TXAR Lajitas Array 60.25 282 P **P** **13 06 31.9 +0.3**
0.4nm,0.7s,baz=56,slow=9.8,SNR=2.3
TXAR LR LR 13 32 13.6
comp=Z,39nm,18.3s,baz=40,slow=36
0.4nm,0.7s
ELK Elko 60.58 299 P **P** **13 06 34.8 +0.9**
1.2nm,0.8s,baz=352,slow=1.3,SNR=4.3
1.2nm,0.8s
CMIG Matias Romero 62.34 266 LR LR 13 31 32.7
comp=Z,30nm,19.9s,baz=15,slow=34
NVAR Mina Array Bea 63.88 299 P **P** **13 06 56.5 +0.5**
0.3nm,0.6s,baz=64,slow=7.3,SNR=4.2
0.3nm,0.6s
LPIG La Paz 68.15 282 LR LR 13 37 02.3
comp=Z,44nm,19.1s,baz=41,slow=36
ASAR Alice Springs 152.58 40 PKPbc **PKiKP** **13 16 19.3 -0.7**
0.3nm,0.8s,baz=329,slow=2.7,SNR=1.9

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*KRNET **21** 13:02:42.6±0.1, 41°.65N×81°.89E, mb4.3*
*SOME **21** 13:02:43.7, 41°.78N×81°.57E, h5km, MS3.8*
*IDC **21** 13:02:44.7±0.7, 41°.74N×81°.49E, h0km, mb4.1/16, mbtmp4.0/23, ML3.4/7, MS3.2/4, Error ellipse: s-maj=12.9km s-min=10.5km az=55.0*
*MOS **21** 13:02:47.3±1.2, 41°.78N×81°.56E, h30km, mb4.5/4, Error ellipse: s-maj=8.0km s-min=6.2km az=122.3*
*NNC **21** 13:02:49.1±1.1, 41°.89N×81°.35E, h0km, mb4.8, mpv4.4, Error ellipse: s-maj=8.8km s-min=6.3km az=167.0*
*NEIC **21** 13:02:50.5±1.6, 41°.73N±0°.07×81°.5E±0°.1, h35km±2km, mb4.3/9, Error ellipse: s-maj=13.9km s-min=11.1km az=125.0*
ISC 21 13:02:46.4±0.5, 41°.82N±0°.03×81°.39E±0°.02, h10km, n150, σ2s20/163, mb4.1/19, MS3.3/4, 22C-18D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WUS	**Wushi**	**1.75**	**250**	Pn	**Pb**	**13 03 18.4**	**-0.3**
SHLS	**Shalkode**	**1.96**	**314**	*eP*	**Pb**	**13 03 20.8**	**-1.5**
	386nm,0.2s						
SHLS				*eS*	**Sb**	**13 03 47.5**	**+0.8**
	3μm,0.3s						
UZB	**Uzynbulak**	**2.20**	**308**	Pg	**Pg**	**13 03 27.6**	**-1.0**
	158nm,0.5s						
UZB				Lg	Lg	13 03 59.5	
	1μm,0.5s						
UZB	**Uzynbulak**	**2.20**	**308**	*eP*	**Pg**	**13 03 27.6**	**-1.0**
	130nm,0.3s						
UZB				*eS*	**Sg**	**13 03 59.5**	**+2.4**
	1μm,0.5s						
PRZ	**Przheval'sk**	**2.32**	**288**	Pn	**Pb**	**13 03 29.3**	**+0.8**
PRZ	**Przheval'sk**	**2.32**	**288**	⇑*eP*	**Pg**	**13 03 29.6**	**-1.3**
PRZ				⇑*eS*	**Sg**	**13 04 03.5**	**+2.5**
PRZ	**Przheval'sk**	**2.32**	**288**	PN	**Pb**	**13 03 29.3**	**+0.8**
SATY	**Saty**	**2.53**	**300**	Pg	**Pb**	**13 03 32.3**	**+0.3**
	110nm,0.2s						
SATY				Lg	Lg	13 04 08.0	
	2μm,0.5s						
SATY	**Saty**	**2.53**	**300**	*eP*	**Pb**	**13 03 32.4**	**+0.3**
	110nm,0.2s						
SATY				*eS*	**Sg**	**13 04 08.0**	**+0.1**
	2μm,0.5s						
ZHN	**Zhinishke**	**2.57**	**303**	Pg	**Pg**	**13 03 33.8**	**-1.9**
	86nm,0.1s						
ZHN				Lg	Lg	13 04 10.2	
	1μm,0.3s						
ZHN	**Zhinishke**	**2.57**	**303**	*eP*	**Pg**	**13 03 33.8**	**-1.9**
	86nm,0.1s						
ZHN				*eS*	**Sg**	**13 04 10.2**	**+1.2**
	1μm,0.3s						
KPKS	**Kokpek**	**2.59**	**310**	Pg	**Pb**	**13 03 32.8**	**-0.1**
	205nm,0.4s						
KPKS				Lg	Lg	13 04 08.3	
	2μm,0.5s						
KPKS	**Kokpek**	**2.59**	**310**	*eP*	**Pb**	**13 03 32.8**	**-0.1**
	205nm,0.4s						
KPKS				*eS*	**Sg**	**13 04 08.3**	**-1.3**
	2μm,0.5s						
TARG	**Taragay, Kyrgy**	**2.69**	**269**		**Pb**	**13 03 33.0**	**-1.8**
TARG	**Taragay, Kyrgy**	**2.69**	**269**	⇑*iP*	**Pb**	**13 03 33.8**	**-1.0**
TARG				⇑*iS*	**Sb**	**13 04 11.4**	**+3.4**
TARG	**Taragay, Kyrgy**	**2.69**	**269**	PN	**Pb**	**13 03 33.0**	**-1.8**
DJR	**Jarkent**	**2.77**	**335**	Pg	**Pg**	**13 03 37.8**	**-1.7**
	8.5nm,0.2s						
DJR				Lg	Lg	13 04 16.9	
	1μm,0.7s						
DJR	**Jarkent**	**2.77**	**335**	*eP*	**Pg**	**13 03 37.8**	**-1.7**
	8.5nm,0.2s						
DJR				*eS*	**Sg**	**13 04 16.9**	**+1.4**
	1μm,0.7s						
KURS	**Kuram**	**2.90**	**306**	Pg	**Pg**	**13 03 40.0**	**-2.0**
	136nm,0.8s						
KURS				Lg	Lg	13 04 19.9	
	305nm,0.9s						
KURS	**Kuram**	**2.90**	**306**	*eP*	**Pg**	**13 03 40.0**	**-2.0**
	136nm,0.8s						
KURS				*eS*	**Sg**	**13 04 19.9**	**+0.2**
	305nm,0.9s						
ANVS	**Anan'yevo**	**2.93**	**290**	⇓*eP*	**Pb**	**13 03 37.2**	**-1.6**
ANVS				⇓*iS*	**Sb**	**13 04 17.5**	**+2.8**
BLB	**Baldybastay**	**3.12**	**318**	Pg	**Pg**	**13 03 44.0**	**-2.3**
	130nm,0.3s						
BLB				Lg	Lg	13 04 27.7	
	846nm,0.5s						
KDJ	**Kajisay**	**3.16**	**277**	Pn	**Pb**	**13 03 39.6**	**-3.0**
KDJ	**Kajisay**	**3.16**	**277**	⇑*iP*	**Pb**	**13 03 40.2**	**-2.5**
KDJ				⇑*iS*	**Sb**	**13 04 22.3**	**+1.0**
KDJ	**Kajisay**	**3.16**	**277**	PN	**Pb**	**13 03 39.7**	**-3.0**
KOTS	**Kotyrbulak**	**3.46**	**295**	Pg	**Pg**	**13 03 50.3**	**-2.5**
	73nm,0.4s						
KOTS				Lg	Lg	13 04 38.4	
	1μm,1.0s						
KOTS	**Kotyrbulak**	**3.46**	**295**	*eP*	**Pg**	**13 03 50.3**	**-2.5**
	73nm,0.4s						
KOTS				*eS*	**Sg**	**13 04 38.4**	**+0.7**
	885nm,0.7s						
MDOK	**Medeo**	**3.48**	**294**	⇓Pn	**Pb**	**13 03 45.2**	**-3.0**
	84nm,0.5s						
MDOK				⇑Lg	Lg	13 04 38.3	
	454nm,0.6s						
MDOK	**Medeo**	**3.48**	**294**	*eP*	**Pb**	**13 03 49.8**	**+1.5**
	48nm,0.3s						
MDOK				*eS*	**Sg**	**13 04 37.6**	**-0.6**
	382nm,0.5s						
TNSS	**Tian-Shan**	**3.51**	**292**	Pg	**Pb**	**13 03 50.4**	**+1.5**
	30nm,0.3s						
TNSS				Lg	Lg	13 04 38.5	
	202nm,0.5s						
TNSS	**Tian-Shan**	**3.51**	**292**	*eP*	**Pb**	**13 03 50.4**	**+1.5**
	30nm,0.3s						
TNSS				*eS*	**Sg**	**13 04 38.5**	**-0.6**
	202nm,0.5s						
ARXS	**Arharly**	**3.54**	**314**	*eP*	**Pb**	**13 03 50.8**	**+1.6**
	43nm,0.4s						
ARXS				*eS*	**Sg**	**13 04 39.2**	**-1.0**
	360nm,0.5s						
ARXS	**Arharly**	**3.54**	**314**	*e*PN	**Pb**	**13 03 45.0**	**-4.3**
KNDC	**Almaty**	**3.56**	**295**	⇑Pn	**Pb**	**13 03 46.8**	**-2.7**
	159nm,0.5s						
KNDC				⇓Lg	Lg	13 04 41.1	
	886nm,0.9s						
AAA	**Alma-Ata**	**3.59**	**294**	Pg	**Pg**	**13 03 53.7**	**-1.5**
	92nm,0.3s						
AAA				Lg	Lg	13 04 43.8	
	333nm,0.5s						
AAA	**Alma-Ata**	**3.59**	**294**	*eP*	**Pg**	**13 03 53.7**	**-1.5**
	92nm,0.3s						
AAA				*eS*	**Sg**	**13 04 43.8**	**+2.1**
	333nm,0.5s						
KAPS	**Kapalarasan**	**3.77**	**338**	*eP*	**Pb**	**13 03 53.8**	**+0.7**
	73nm,0.4s						
KAPS				*eS*	**Sg**	**13 04 43.7**	**-3.6**
	364nm,0.4s						
KASK	**Kaskelen**	**3.78**	**293**	⇓Pn	**Pb**	**13 03 49.9**	**-3.3**
KASK				⇓Lg	Lg	13 04 50.7	
CHKK	**Chushkaly**	**3.82**	**304**	*eP*	**Pb**	**13 03 55.6**	**+1.6**
	14nm,0.3s						
CHKK				*eS*	**Sg**	**13 04 47.1**	**-2.1**
	184nm,0.6s						
TDK	**Taldyqorghan**	**3.85**	**327**	Pg	**Pg**	**13 03 57.1**	**-3.1**
	304nm,0.9s						
TDK				Lg	Lg	13 04 49.8	
	951nm,0.9s						
TDK	**Taldyqorghan**	**3.85**	**327**	*eP*	**Pg**	**13 03 57.1**	**-3.1**
	304nm,0.9s						
TDK				*eS*	**Sg**	**13 04 49.8**	**-0.3**
	951nm,0.9s						
ULHL	**Ulahol**	**3.86**	**278**	P	**Pn**	**13 03 49.5**	**+3.4**
	SNR=27						
ULHL	**Ulahol**	**3.86**	**278**	⇑*eP*	Pb	13 03 50.1	-4.6
ULHL				⇑*iS*	**Sb**	**13 04 39.7**	**-1.9**
MTBS	**Maitube**	**3.90**	**291**	Pg	**Pb**	**13 03 57.3**	**+2.0**
	32nm,0.4s						
MTBS				Lg	Lg	13 04 50.3	
	285nm,0.6s						
MTBS	**Maitube**	**3.90**	**291**	*eP*	**Pb**	**13 03 57.3**	**+2.0**
	32nm,0.4s						
MTBS				*eS*	**Sg**	**13 04 50.3**	**-1.3**
	285nm,0.6s						
KTBS	**Karatobe**	**3.95**	**300**	Pg	**Pg**	**13 03 58.9**	**-3.2**
	22nm,0.3s						
KTBS				Lg	Lg	13 04 53.0	
	460nm,0.6s						
KTBS	**Karatobe**	**3.95**	**300**	*eP*	**Pg**	**13 03 58.9**	**-3.2**
	22nm,0.3s						
KTBS				*eS*	**Sg**	**13 04 53.0**	**-0.3**
	460nm,0.6s						
NRN	**Naryn**	**4.06**	**266**		**Pn**	**13 03 51.2**	**+2.3**
NRN	**Naryn**	**4.06**	**266**	⇓*iP*	Pb	13 03 52.9	-5.3
NRN				⇓*eS*	**Sb**	**13 04 44.5**	**-3.0**
NRN	**Naryn**	**4.06**	**266**	PN	**Pn**	**13 03 51.2**	**+2.3**
BOOM	**Boomskoye usch**	**4.11**	**281**		**Pn**	**13 03 52.0**	**+2.5**
BOOM	**Boomskoye usch**	**4.11**	**281**	⇑*eP*	Pn	13 03 53.5	+4.1
BOOM				⇑*iS*	**Sb**	**13 04 45.5**	**-3.2**
BOOM	**Boomskoye usch**	**4.11**	**281**	PN	**Pn**	**13 03 52.0**	**+2.5**
KST	**Kastek**	**4.20**	**289**	Pg	**Pb**	**13 04 02.6**	**+2.1**
	99nm,0.8s						
KST				Lg	Lg	13 04 59.5	
	325nm,0.7s						
KST	**Kastek**	**4.20**	**289**	*eP*	**Pb**	**13 04 02.6**	**+2.1**
	99nm,0.8s						
KST				*eS*	**Sg**	**13 04 59.5**	**-1.8**
	325nm,0.7s						
KUU	**Kurty**	**4.25**	**301**	Pg	**Pg**	**13 04 05.8**	**-2.1**
	59nm,0.6s						
KUU				Lg	Lg	13 05 04.5	
	442nm,0.7s						
KUU	**Kurty**	**4.25**	**301**	*eP*	**Pg**	**13 04 05.8**	**-2.1**
	59nm,0.6s						
KUU				*eS*	**Sg**	**13 05 04.5**	**+1.5**
	442nm,0.7s						
DGS	**Degeres**	**4.39**	**291**	Pg	**Pg**	**13 04 06.8**	**-3.7**
	74nm,0.7s						
DGS				Lg	Lg	13 05 06.2	
	304nm,0.9s						
DGS	**Degeres**	**4.39**	**291**	*eP*	**Pg**	**13 04 06.8**	**-3.7**
	74nm,0.7s						
DGS				*eS*	**Sg**	**13 05 06.2**	**-1.1**
	304nm,0.9s						
TKM2	**Tokmak 2**	**4.43**	**286**	P	Pn	13 03 58.2	+4.2
	SNR=23						
TKM2	**Tokmak 2**	**4.43**	**286**	⇑Pn	**Pn**	**13 03 57.0**	**+3.1**
	44nm,0.3s						
TKM2				⇑Lg	Lg	13 05 07.9	
	104nm,0.4s						
TKM2	**Tokmak 2**	**4.43**	**286**	⇓*eP*	Pn	13 03 58.2	+4.3
TKM2				⇓*iS*	**Sb**	**13 04 53.4**	**-4.7**
KBK	**Karagaybulak**	**4.86**	**282**	P	Pn	13 04 03.7	+4.0
	SNR=50						
MAKZ	**Makanchi**	**5.00**	**5**	⇑Pn	Pn	13 04 04.6	+3.1
	23nm,0.5s						
MAKZ				⇓Lg	Lg	13 05 25.1	
	221nm,1.2s						
MAKZ	**Makanchi**	**5.00**	**5**		Pn	13 04 04.2	+2.6
MAKZ	**Makanchi**	**5.00**	**5**	PN	Pn	13 04 04.2	+2.6
MK31	**Makanchi Array**	**5.01**	**7**	Pn	Pn	13 04 04.8	+3.0
	2.5nm,0.2s,baz=188,slow=13,SNR=277						
MK31				⇓Pg	**Pg**	**13 04 20.6**	**-1.9**
	18nm,0.5s,baz=192,slow=16,SNR=4.7						
MK31				Lg	Lg	13 05 25.9	
	51nm,0.5s,baz=187,slow=30,SNR=4.7						
MK31	**Makanchi Array**	**5.01**	**7**	Pn	Pn	13 04 04.6	+2.9
MK31	**Makanchi Array**	**5.01**	**7**	*ce*PN	Pn	13 04 04.8	+3.1
MKAR	**Makanchi Array**	**5.01**	**7**	Pn	Pn	13 04 04.6	+2.9
MKAR	**Makanchi Array**	**5.01**	**7**	Pn	Pn	13 04 04.9	+3.2
	3.1nm,0.3s,baz=190,slow=14,SNR=64						
MKAR				Sn	**Sn**	**13 05 03.9**	**+4.1**
	8.2nm,0.3s,baz=186,slow=25,SNR=6.0						
MKAR				Lg	Lg	13 05 26.4	
	16nm,0.3s,baz=190,slow=32,SNR=11						
MKAR				LR	LR	13 05 29.7	
	comp=Z,75nm,19.0s,baz=215,slow=32						
	8.4nm,0.5s						
WMQ	**Urumqi**	**5.05**	**65**	*e*Pn	Pn	13 04 03.3	+1.1
WMQ				Sn	Sb	13 05 04.4	-11
WMQ				smax	smax		
	comp=N,110nm,0.9s						
WMQ				smax	smax		
	comp=E,130nm,0.9s						
WMQ				LR	LR		
	comp=N,580nm,10.1s						
WMQ				LR	LR		
	comp=E,450nm,10.9s						
WMQ				LR	LR		
	comp=Z,180nm,13.1s						
CHMS	**Chumysh**	**5.06**	**286**	P	**Pg**	**13 04 23.9**	**+0.7**
	SNR=6.4						
CHMS	**Chumysh**	**5.06**	**286**	⇓Pn	**Pn**	**13 04 05.8**	**+3.5**
	comp=Z,9.3nm,0.7s						
CHMS				⇑Pg	**Pg**	**13 04 23.1**	**-0.2**
	comp=Z,63nm,0.8s						
CHMS				⇑Lg	Lg	13 05 28.1	
	comp=Z,130nm,0.8s						
FRU1	**Bishkek**	**5.11**	**283**		**Pn**	**13 04 04.5**	**+1.5**
FRU1	**Bishkek**	**5.11**	**283**	PN	**Pn**	**13 04 04.6**	**+1.5**
AAK	**Ala-Archa**	**5.19**	**281**	P	Pn	13 04 08.4	+4.2
	SNR=7.6						
AAK	**Ala-Archa**	**5.19**	**281**	Pn	**Pn**	**13 04 07.3**	**+3.1**
AAK	**Ala-Archa**	**5.19**	**281**	Pn	**Pn**	**13 04 07.9**	**+3.7**
	comp=Z,3.5nm,0.3s,baz=119,slow=9.7,SNR=34						
AAK				Pg	Pg	13 04 21.3	-4.4
	comp=Z,4.5nm,0.3s,baz=85,slow=7.4,SNR=8.4						
AAK				Lg	Lg	13 05 32.1	
	comp=Z,14nm,0.3s,baz=41,slow=23,SNR=9.9						
	comp=Z,7.9nm,0.3s						
AAK	**Ala-Archa**	**5.19**	**281**	*e*P	Pn	13 04 08.4	+4.2
AAK				*i*S	**Sn**	**13 05 11.3**	**+7.1**
USP	**Ospenovka**	**5.29**	**288**	P	**Pn**	**13 04 09.2**	**+3.6**
	SNR=8.6						
AML	**Almayashu**	**5.75**	**276**	P	**Pg**	**13 04 37.1**	**+0.6**
	SNR=5.5						
MRKS	**Merke**	**6.13**	**281**	Pg	Pg	13 04 39.3	-4.4
	comp=Z,18nm,0.7s						
MRKS				Lg	Lg	13 06 01.7	
	comp=Z,68nm,0.5s						
MRKS	**Merke**	**6.13**	**281**	*e*P	Pg	13 04 38.9	-4.8
	comp=Z,3.2nm,0.3s						
MRKS				*e*S	**Sg**	**13 06 01.7**	**-1.4**
	comp=Z,68nm,0.5s						
ZSN	**Zaisan**	**6.15**	**23**	*e*P	Pg	13 04 38.2	-5.9
	comp=Z,15nm,0.3s						
ZSN				*e*S	**Sg**	**13 06 00.3**	**-3.4**
	comp=Z,155nm,1.5s						
BTLS	**Baital**	**6.24**	**304**	Pg	Pg	13 04 40.6	-5.3
	comp=Z,16nm,1.0s						
BTLS				Lg	Lg	13 06 04.7	
	comp=Z,29nm,0.9s						
BTLS	**Baital**	**6.24**	**304**	*e*P	Pg	13 04 40.6	-5.3
	comp=Z,16nm,1.0s						
BTLS				*e*S	**Sg**	**13 06 04.7**	**-2.0**
	comp=Z,27nm,0.7s						
ARSB	**Arslanbob**	**6.33**	**268**		**Pn**	**13 04 23.3**	**+3.4**
ARSB	**Arslanbob**	**6.33**	**268**	PN	**Pn**	**13 04 23.3**	**+3.4**
KK31	**Karatay Array**	**8.15**	**283**	Pg	**Pg**	**13 05 19.6**	**-2.8**
	comp=Z,9.0nm,0.7s,baz=92,slow=17,SNR=12						
KK31				⇑Lg	Lg	13 07 06.4	
	comp=Z,16nm,0.6s,baz=97,slow=26,SNR=9.6						
KKAR	**Karatay Array**	**8.15**	**283**	Pn	**Pn**	**13 04 47.0**	**+2.2**
KKAR	**Karatay Array**	**8.15**	**283**	P	**Pn**	**13 04 47.0**	**+2.2**
GAR	**Garm**	**8.91**	**255**	Pn	**Pn**	**13 04 58.1**	**+2.9**
KURBB	**Kurchatov Arra**	**9.02**	**348**	⇓Pn	Pn	13 05 01.3	+4.7
	comp=Z,19nm,0.8s						
KURBB				⇓Sn	**Sn**	**13 06 41.6**	**+3.3**
	comp=Z,40nm,0.8s						
KURBB				⇓Lg	Lg	13 07 33.0	
	comp=Z,84nm,0.7s						
KURBB	**Kurchatov Arra**	**9.02**	**348**	Pn	**Pn**	**13 04 58.3**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=166,slow=14,SNR=6.1						
KURBB				Sn	**Sn**	**13 06 39.2**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=166,slow=25,SNR=3.1						
KURBB				Lg	Lg	13 07 32.1	
	comp=Z,0.3nm,0.3s,baz=166,slow=32,SNR=5.1						
	comp=Z,1.7nm,0.8s						
KURK	**Kurchatov**	**9.10**	**349**	⇑Pn	Pn	13 05 02.2	+4.5
	comp=Z,16nm,1.0s						
KURK				⇓Sn	**Sn**	**13 06 42.8**	**+2.6**
	comp=Z,21nm,0.7s						
KURK				⇑Lg	Lg	13 07 33.5	
	comp=Z,134nm,1.2s						
KURK	**Kurchatov**	**9.10**	**349**	Pn	Pn	13 05 00.9	+3.2
KURK	**Kurchatov**	**9.10**	**349**	P	**Pn**	**13 04 58.3**	**+0.6**
KURK						13 06 39.2	
SIMJ	**Simiganj**	**9.98**	**256**		**Pn**	**13 05 10.1**	**+0.1**
NIL	**Nilore**	**10.39**	**221**		**Pn**	**13 05 16.4**	**+0.9**
NIL	**Nilore**	**10.39**	**221**	P	**Pn**	**13 05 16.5**	**+0.9**
GOMU	**GeErMu**	**11.85**	**114**	P	**Pn**	**13 05 33.0**	**-2.8**
GOMU				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KBL	**Kabul**	**12.13**	**237**	Pn	**Pn**	**13 05 41.7**	**+2.3**
KBL	**Kabul**	**12.13**	**237**	P	**Pn**	**13 05 41.7**	**+2.3**
ZAA0	**Zalesovo Array**	**12.35**	**10**		**Pn**	**13 05 41.7**	**-0.5**
ZALV	**Zalesovo Beam**	**12.35**	**10**		**Pn**	**13 05 41.8**	**-0.4**
ZALV	**Zalesovo Beam**	**12.35**	**10**	Pn	**Pn**	**13 05 42.0**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=192,slow=12,SNR=12						
ZALV				Sn	**Sn**	**13 07 59.0**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=192,slow=24,SNR=3.5						
ZALV				Lg	Lg	13 09 18.5	
	comp=Z,0.2nm,0.3s,baz=191,slow=32,SNR=1.7						
	comp=Z,2.3nm,0.6s						
ZALV	**Zalesovo Beam**	**12.35**	**10**	P	**Pn**	**13 05 41.8**	**-0.4**
BVAR	**Borovoye Array**	**13.44**	**330**	Pn	**Pn**	**13 05 57.1**	**0.0**
	baz=146,slow=14,SNR=8.8						
BVAR				Sn	**Sn**	**13 08 21.6**	**-4.8**
	comp=Z,0.1nm,0.3s,baz=142,slow=24,SNR=2.1						
BVAR				Lg	Lg	13 09 53.5	
	comp=Z,0.1nm,0.3s,baz=141,slow=31,SNR=4.3						
	comp=Z,1.2nm,0.7s						
BRVK	**Borovoye**	**13.51**	**330**		**Pn**	**13 06 00.7**	**+2.8**
BRVK	**Borovoye**	**13.51**	**330**	*ce*P	**Pn**	**13 06 00.9**	**+3.0**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ABKAR	**Akbulak array**	**16.73**	**304**		**Pn**	**13 06 40.2**	**-0.5**
AKTO	**Aktyubinsk**	**18.29**	**306**	P	**Pn**	**13 07 00.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=108,slow=13,SNR=5.3						
	comp=Z,1.8nm,0.8s						
SONM	**Songino Array**	**18.68**	**63**	P	**Pn**	**13 07 04.9**	**-0.2**
SONM	**Songino Array**	**18.68**	**63**	P	**Pn**	**13 07 04.3**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=260,slow=11,SNR=21						
	comp=Z,3.7nm,0.8s						
SONM	**Songino Array**	**18.68**	**63**	P	**Pn**	**13 07 04.9**	**-0.2**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ULN	**Ulaanbaatar**	**19.12**	**63**	*i*P	**P**	**13 07 05.2**	**-4.5**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ARTI	**Arti**	**20.82**	**322**	P	Pn	13 07 28.7	-1.6
ARTI				lAmb	lAmb	13 07 33.5	
	comp=Z,25nm,1.0s						
ARTI	**Arti**	**20.82**	**322**	P	Pn	13 07 28.7	-1.6
	comp=Z,20nm,0.9s,baz=132,slow=5.6,SNR=7.4						
ARTI				Lg	Lg	13 13 50.5	
	comp=Z,0.1nm,0.3s,baz=53,slow=3.6,SNR=5.7						
	comp=Z,20nm,0.9s						
ARTI	**Arti**	**20.82**	**322**	*d*iP	**P**	**13 07 27.4**	**-0.4**
ARTI						13 07 45.6	
ARTI				SS	Sn	13 11 48.9	+24
ARTI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAK	**Makhachkala**	**24.96**	**284**	*e*P	**P**	**13 08 07.0**	**-2.9**
MAK				*e*PPP	PPP	13 08 50.9	
MAK				*e*S	**S**	**13 12 29.2**	**-4.2**
MAK				*e*SS	**SnSn**	**13 13 28.1**	**+6.7**
MAK				*e*SSS	SSS	13 13 43.4	
MAK				pmax	pmax		
	comp=Z,270nm,1.1s						
MAK				MLR	MLR		
	comp=Z,131nm,16.0s						
GNI	**Garni**	**27.59**	**279**	P	**P**	**13 08 34.1**	**+0.2**
GNI				lAmb	lAmb	13 08 43.5	
	comp=Z,8.7nm,0.8s						
GNI	**Garni**	**27.59**	**279**	P	**P**	**13 08 34.1**	**+0.2**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.68**	**142**	P	**P**	**13 08 34.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMAI	**Mount Meron Ar**	**37.20**	**272**	P	**P**	**13 09 57.8**	**0.0**
	comp=Z,1.2nm,0.3s,baz=65,slow=8.5,SNR=5.1 comp=Z,1.2nm,0.3s						
FINES	**FINESS Array B**	**38.10**	**320**	P	**P**	**13 10 05.6**	**+0.6**
	comp=Z,3.4nm,0.9s,baz=117,slow=8.6,SNR=2.9 comp=Z,3.4nm,0.9s						
ARCES	**ARCESS Array B**	**39.71**	**333**	P	**P**	**13 10 19.4**	**+0.9**
	comp=Z,8.1nm,0.9s,baz=104,slow=8.6,SNR=11 comp=Z,8.1nm,0.9s						
HFS	**Hagfors**	**44.19**	**318**	P	**P**	**13 10 56.0**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=84,slow=8.3,SNR=5.2						
HFS				LR	LR	13 31 24.6	
	comp=Z,131nm,18.7s,baz=16,slow=39 comp=Z,2.5nm,0.6s						
NB2	**NORSAR Subarra**	**45.28**	**320**	P	**P**	**13 11 04.8**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=81,slow=7.9						
NOA	**NORSAR Array B**	**45.28**	**320**	P	**P**	**13 11 04.7**	**+0.9**
	comp=Z,2.7nm,0.6s,baz=82,slow=8.0,SNR=9.7 comp=Z,2.7nm,0.6s						
CLL	**Collm**	**46.38**	**306**	*e*P	**P**	**13 11 14.0**	**+1.4**
CLL				*ep*P	sP	13 11 24.0	+6.1
ESDC	**Sonseca Array**	**62.02**	**299**	P	**P**	**13 13 07.8**	**+0.8**
	comp=Z,1.1nm,0.9s,baz=60,slow=6.9,SNR=4.7 comp=Z,1.1nm,0.9s						
MBAR	**Mbarara**	**62.16**	**241**	*i* P	P	13 13 02.3	-6.0
MBAR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ILAR	**Eielson Array**	**67.23**	**20**	P	**P**	**13 13 39.7**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=321,slow=5.3,SNR=10 comp=Z,0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.72**	**273**	P	**P**	**13 14 20.7**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=33,slow=6.2,SNR=20 comp=Z,3.5nm,0.7s						
WRA	**Warramunga Arr**	**78.55**	**130**	P	**P**	**13 14 47.4**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=327,slow=5.6,SNR=6.6 comp=Z,1.4nm,0.9s						
ASAR	**Alice Springs**	**81.26**	**133**	P	**P**	**13 15 02.4**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=325,slow=4.5,SNR=10 comp=Z,1.1nm,0.8s						

*SOME **21** 14:02:12.5, 43°.63N×69°.63E*
*KRNET **21** 14:02:13.3±0.1, 43°.44N×69°.16E, mb2.5*
*NNC **21** 14:02:15.1±2.1, 43°.67N×69°.87E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=11.0km s-min=7.4km az=123.0, Suspected Mining explosion.*

ISC 21 14:02:12.8±3.3, 43°.66N±0°.08×69°.8E±0°.2, h0km, n11, σ1°.31/16, 6C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.77**	**136**	⇑P	**Pb**	**14 02 28.6**	**-0.4**
	2.1nm,0.3s,baz=320,slow=14,SNR=190						
KK31				⇑S	**Sb**	**14 02 39.9**	**-0.2**
	38nm,0.5s,baz=324,slow=31,SNR=57						
TRKS	**Terek-Say**	**2.35**	**154**	⇑*e*P	**Pg**	**14 02 57.4**	**-0.4**
TRKS				⇑*e*S	**Sg**	**14 03 29.2**	**+0.9**
ARK	**Arkit**	**2.46**	**138**	⇓*e*P	**Pg**	**14 02 59.3**	**-0.6**
ARK				⇓*e*S	**Sg**	**14 03 33.4**	**+1.7**
MRKS	**Merke**	**2.68**	**109**	Pg	**Pg**	**14 03 03.3**	**-0.9**
	6.9nm,0.6s						
MRKS				Lg	Lg	14 03 39.8	
	20nm,0.5s						
ARSB	**Arslanbob**	**3.32**	**133**	⇑*e*P	**Pb**	**14 03 12.1**	**-0.6**
ARSB				⇑*e*S	**Sb**	**14 03 54.8**	**+1.1**
BTLS	**Baital**	**3.36**	**64**	Pg	**Pg**	**14 03 18.2**	**+1.1**
	17nm,0.5s						
BTLS				Lg	Lg	14 04 05.6	
	7.8nm,0.7s						
ARLS	**Aral**	**3.80**	**117**	⇓*e*P	**Pb**	**14 03 20.6**	**-0.2**
ARLS				⇓*e*S	**Sb**	**14 04 09.1**	**+1.8**
DGS	**Degeres**	**4.38**	**93**	Pg	**Pg**	**14 03 35.8**	**-1.0**
	4.1nm,0.5s						
DGS				Lg	Lg	14 04 35.6	
	9.9nm,0.8s						
KST	**Kastek**	**4.55**	**96**	Pg	**Pg**	**14 03 38.4**	**-1.6**
	3.5nm,0.4s						
KST				Lg	Lg	14 04 40.1	
	13nm,0.7s						
TNSS	**Tian-Shan**	**5.26**	**94**	Pg	**Pg**	**14 03 51.2**	**-2.5**
	2.1nm,0.2s						
TNSS				Lg	Lg	14 05 01.8	
	3.6nm,0.8s						
KOTS	**Kotyrbulak**	**5.36**	**92**	Pg	**Pg**	**14 03 54.0**	**-1.4**
	1.6nm,0.1s						
KOTS				Lg	Lg	14 05 07.6	
	8.8nm,0.9s						

*IDC **21** 14:14:10.6±1.4, 5°.99S×151°.28E, h0km, mb3.9/4, mbtmp3.9/5, ML1.3/1, MS3.3/11, Error ellipse: s-maj=71.3km s-min=27.7km az=128.0*

ISC 21 14:14:16.2±1.3, 6°.1S±0°.3×151°.2E±0°.3, h35km, n16, σ1°.20/7, mb3.9/4, MS3.2/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.21**	**231**	Pn	**Pn**	**14 15 33.2**	**+1.5**
	0.7nm,0.3s,baz=45,slow=14,SNR=4.3						
PMG				Sn	**Sn**	**14 16 28.9**	**-1.6**
	2.1nm,0.3s,baz=60,slow=20,SNR=7.8 12nm,1.0s						
HNR	**Honiara**	**9.24**	**112**	LR	LR	14 19 41.0	
	comp=Z,141nm,20.7s,baz=302,slow=36						
CTA	**Charters Tower**	**14.72**	**199**	LR	LR	14 22 44.2	
	comp=Z,106nm,21.4s,baz=36,slow=35						
WRA	**Warramunga Arr**	**21.43**	**228**	P	**P**	**14 19 01.0**	**-0.4**
	4.7nm,0.9s,baz=52,slow=11,SNR=12 4.7nm,0.9s						
DZM	**Mont Dzumac**	**21.63**	**139**	LR	LR	14 26 02.2	
	comp=Z,109nm,20.0s,baz=251,slow=33						
ASAR	**Alice Springs**	**24.15**	**222**	P	**P**	**14 19 29.9**	**+0.6**
	5.3nm,0.7s,baz=55,slow=9.1,SNR=53						
ASAR				LR	LR	14 28 57.1	
	comp=Z,74nm,19.2s,baz=68,slow=36 5.3nm,0.7s						
STKA	**Stephens Creek**	**27.18**	**198**	LR	LR	14 30 25.2	
	comp=Z,58nm,19.7s,baz=27,slow=36						
KAPI	**Kappang**	**31.36**	**270**	LR	LR	14 34 44.5	
	comp=Z,34nm,18.7s,baz=82,slow=39						
NWAO	**Narrogin (SRO)**	**41.37**	**225**	LR	LR	14 39 12.5	
	comp=Z,42nm,18.1s,baz=296,slow=36						
MJAR	**Matsushiro Arr**	**44.14**	**345**	LR	LR	14 40 25.8	
	comp=Z,20nm,19.7s,baz=155,slow=36						
KLR	**Kul'dur**	**57.67**	**345**	LR	LR	14 47 01.6	
	comp=Z,16nm,18.4s,baz=195,slow=34						
MA2	**Magadan**	**65.47**	**360**	LR	LR	14 51 05.0	
	comp=Z,19nm,20.3s,baz=150,slow=34						
QSPA	**South Pole Qui**	**83.87**	**180**	P	**P**	**14 26 41.8**	**-0.4**
	1.1nm,1.1s,baz=309,slow=13,SNR=2.4 1.1nm,1.1s						
ILAR	**Eielson Array**	**83.94**	**22**	P	**P**	**14 26 42.1**	**-0.3**
	0.4nm,0.8s,baz=244,slow=5.9,SNR=3.3 0.4nm,0.8s						
NVAR	**Mina Array Bea**	**94.10**	**52**	LR	LR	15 05 42.3	
	comp=Z,36nm,18.1s,baz=275,slow=33						
TORD	**Torodi Ar. Bea**	**149.19**	**285**	PKPbc	**PKPbc**	**14 34 02.0**	**-0.1**
	0.4nm,0.3s,baz=82,slow=3.1,SNR=5.6						

ATH 21 14:24:16.1, 37°.17N×20°.61E, h11km±1km, ML2.7/8, Error ellipse: s-maj=2.7km s-min=1.1km az=52.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.57**	**18**	P	Pg	14 24 26.8	-0.4
LTHK				S	Sg	14 24 33.9	-0.9
LTHK				AML	AML	14 24 35.5	
	comp=E,3932μm,0.4s						
LTHK				AML	AML	14 24 36.8	
	comp=N,2975μm,0.2s						
PYL	**PYLOS**	**0.94**	**106**	P	Pg	14 24 33.9	-0.4
PYL				S	Sb	14 24 46.8	-0.2
PYL				AML	AML	14 24 51.0	
	comp=N,310μm,0.3s						
PYL				AML	AML	14 24 51.6	
	comp=E,357μm,0.3s						
AMT	**Artemida-Makis**	**0.95**	**67**	P	Pg	14 24 34.0	-0.4
AMT				S	Sg	14 24 46.7	0.0
AMT				AML	AML	14 24 52.2	
	comp=N,2096μm,0.3s						
AMT				AML	AML	14 24 52.3	
	comp=E,1952μm,0.2s						
VLS	**Valsamata**	**1.01**	**359**	P	Pg	14 24 35.3	-0.3
VLS				S	Sb	14 24 49.0	+0.1
VLS				AML	AML	14 24 51.2	
	comp=E,999μm,0.2s						
VLS				AML	AML	14 24 51.3	
	comp=N,723μm,0.2s						
ITM	**Ithomi**	**1.05**	**89**	P	Pg	14 24 35.9	-0.4
ITM				S	Sn	14 24 50.8	-0.7
ITM				AML	AML	14 24 52.6	
	comp=N,412μm,0.2s						
ITM				AML	AML	14 24 53.8	
	comp=E,293μm,0.2s						
RLS	**Riolos of Patr**	**1.12**	**37**	P	Pb	14 24 36.5	-1.0
DRO	**Drossia**	**1.17**	**48**	P	Pb	14 24 37.6	-0.8
DRO				S	Sb	14 24 53.6	-0.1
DRO				AML	AML	14 25 01.2	
	comp=E,447μm,0.3s						
DRO				AML	AML	14 25 02.7	
	comp=N,426μm,0.3s						
FSK	**Fiskardo**	**1.29**	**358**	P	Pn	14 24 40.1	-0.1
FSK				S	Sb	14 24 57.1	+0.1
FSK				AML	AML	14 25 00.6	
	comp=E,644μm,0.2s						
FSK				AML	AML	14 25 00.8	
	comp=N,408μm,0.2s						
EVGI	**Lefkada island**	**1.45**	**1**	P	Pn	14 24 41.5	-0.9
KLV	**Kalavryta, Ach**	**1.50**	**54**	P	Pn	14 24 42.8	-0.3
GUR	**Goura**	**1.57**	**60**	P	Pn	14 24 43.9	-0.2
LKD2	**Lefkada island**	**1.62**	**1**	P	Pb	14 24 45.7	-0.4
EFP	**Efpalio**	**1.62**	**39**	P	Pb	14 24 46.1	0.0
ANX	**Ano Chora**	**1.76**	**36**	P	Pb	14 24 47.8	-0.7
MAKR	**Makrakomi, Fth**	**2.20**	**33**	P	Pb	14 24 54.5	-1.4
MAKR				AML	AML	14 26 17.1	
	comp=E,248μm,1.0s						
MAKR				AML	AML	14 26 24.8	
	comp=N,255μm,1.0s						
AXAR	**Agios Charalam**	**2.27**	**45**	P	Pb	14 24 55.9	-1.3

ATH 21 14:25:04.9, 37°.61N×20°.47E, h11km±2km, ML2.8/16, Manual Solution by G.Panopoulou This location: 2020/08/13 18:47:53 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.28**	**80**	P	Pg	14 25 09.9	-0.7
KRI1				S	Sg	14 25 14.8	+0.4
LTHK	**Lithakia**	**0.31**	**72**	P	Pg	14 25 11.1	0.0
LTHK				S	Sg	14 25 15.7	+0.5
PSDA	**Pessada-Kefalo**	**0.51**	**10**	P	Pg	14 25 14.8	0.0
PSDA				S	Sg	14 25 22.0	+0.5
ARG2	**Argostoli**	**0.56**	**1**	P	Pg	14 25 16.2	+0.4
ARG2				S	Sg	14 25 23.4	+0.1
VLS	**Valsamata**	**0.57**	**10**	P	Pg	14 25 16.1	+0.1
VLS				S	Sg	14 25 24.1	+0.5
DMLN	**Damoulianata-K**	**0.63**	**353**	P	Pg	14 25 17.5	+0.4
DMLN				S	Sb	14 25 26.1	-0.6
SMHA	**Samh**	**0.65**	**12**	P	Pg	14 25 17.6	0.0
SMHA				S	Sg	14 25 25.6	-0.5
FSK	**Fiskardo**	**0.85**	**5**	P	Pg	14 25 21.0	-0.3
FSK				S	Sg	14 25 32.3	0.0
RLS	**Riolos of Patr**	**0.91**	**60**	P	Pg	14 25 22.3	0.0
AXS	**Araxos**	**0.92**	**51**	P	Pg	14 25 22.4	-0.3
AXS				S	Sg	14 25 34.2	-0.5
AMT	**Artemida-Makis**	**0.99**	**94**	P	Pn	14 25 24.6	-0.1
EVGI	**Lefkada island**	**1.02**	**8**	P	Pg	14 25 24.1	-0.3
DRO	**Drossia**	**1.04**	**71**	P	Pg	14 25 24.3	-0.6
NYDR	**Nydri-Lefkada**	**1.11**	**9**	P	Pb	14 25 25.8	-0.4
PDO	**Prodromos**	**1.13**	**30**	P	Pn	14 25 27.1	+0.4
PDO				S	Sg	14 25 41.4	0.0
ITM	**Ithomi**	**1.24**	**110**	P	Pn	14 25 28.1	-0.1
VVK	**Vomvokou**	**1.33**	**52**	P	Pn	14 25 28.9	-0.6
EFP	**Efpalio**	**1.39**	**54**	P	Pn	14 25 30.6	+0.3
KLV	**Kalavryta, Ach**	**1.40**	**72**	P	Pb	14 25 30.9	-0.1
ANX	**Ano Chora**	**1.50**	**49**	P	Pb	14 25 32.8	-0.1

*NEIC **21** 14:33:30.4±1.6, 19°.41N±0°.01×155°.051W±0°.006, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=149.0*

HVO 21 14:33:29.4±1.0, 19°.36N±0°.02×155°.02W±0°.01, h6km±2km, ML2.4/28, ML2.5/34(NEIC), Error ellipse: s-maj=3.3km s-min=1.3km az=149.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.07**	**12**	Pg	Pg	14 33 31.5	+0.3
STCH	**Steam Cracks**	**0.10**	**282**	Pg	Pg	14 33 32.0	+0.3
STCH				IAML		14 33 34.2	
	comp=E,2μm,0.4s						
STCH				IAML		14 33 34.9	
	comp=N,2μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.14**	**276**		Pg	14 33 32.9	+0.5
PAH	**Pahoa**	**0.15**	**28**		Pg	14 33 32.9	+0.4
PAH					Sg	14 33 35.5	+1.0
PUH	**Pauahi**	**0.19**	**273**		Pg	14 33 33.5	+0.4
PUH					Sg	14 33 36.5	+0.8
PUH	**Pauahi**	**0.19**	**273**	IAML		14 33 39.5	
	comp=N,485nm,0.7s						
PUH				IAML		14 33 39.9	
	comp=E,504nm,0.6s						
BYL	**Byron's Ledge**	**0.23**	**282**		Pg	14 33 34.2	+0.2
BYL					Sg	14 33 37.9	+0.7
BYL	**Byron's Ledge**	**0.23**	**282**	IAML		14 33 40.7	
	comp=E,627nm,0.3s						
BYL				IAML		14 33 41.4	
	comp=N,696nm,0.7s						
KKO	**Keanakako'i**	**0.23**	**278**		Pg	14 33 34.4	+0.3
KKO					Sg	14 33 38.1	+0.9
HATHI	**Halema'uma'u T**	**0.24**	**285**		Pg	14 33 34.3	+0.2
HATHI					Sg	14 33 38.0	+0.7
HATHI	**Halema'uma'u T**	**0.24**	**285**	IAML		14 33 40.3	
	comp=N,748nm,0.2s						
HATHI				IAML		14 33 41.4	
	comp=E,647nm,0.2s						
RIM	**Rim**	**0.24**	**278**		Pg	14 33 34.5	+0.3
RIM					Sg	14 33 38.3	+0.8
SBLHI	**Steaming Bluff**	**0.24**	**285**		Pg	14 33 34.4	+0.1
SBLHI					Sg	14 33 38.2	+0.7
UWB	**Uwekahuna Bluf**	**0.25**	**284**		Pg	14 33 34.5	+0.1
UWB					Sg	14 33 38.6	+0.8
OBL	**Observatory Le**	**0.26**	**282**		Pg	14 33 35.0	+0.5
OBL					Sg	14 33 39.0	+1.1
RSD	**Rainshed**	**0.26**	**292**		Pg	14 33 35.0	+0.3
RSD	**Rainshed**	**0.26**	**292**	IAML		14 33 42.1	
	comp=E,676nm,0.3s						
RSD				IAML		14 33 42.7	
	comp=N,833nm,0.4s						
UWE	**Uwekahuna**	**0.26**	**283**		Pg	14 33 35.5	+0.9
UWE				IAML		14 33 43.4	
	comp=N,965nm,0.5s						
WRMHI	**West Rim**	**0.27**	**279**		Pb	14 33 36.0	-0.8
WRMHI					Sb	14 33 41.2	-0.4
MLH	**Mauna Loa**	**0.37**	**291**		Pg	14 33 36.9	+0.1
MLH				IAML		14 33 49.2	
	comp=N,371nm,0.2s						
HTC	**Hot Caves**	**0.38**	**251**		Pb	14 33 37.7	-0.8
HMH	**Humu'ula Sheep**	**0.50**	**299**		Pg	14 33 39.5	+0.4
MWH	**Mokuaweoweo**	**0.56**	**283**		Pg	14 33 40.1	-0.1
MWH				IAML		14 33 53.6	
	comp=N,350nm,0.8s						
KHU	**Kahuku**	**0.57**	**258**		Sg	14 33 49.1	+1.0
KHU	**Kahuku**	**0.57**	**258**		Pg	14 33 40.1	-0.5
KHU	**Kahuku**	**0.57**	**258**	IAML		14 33 49.9	
	comp=N,205nm,1.7s						
KHU				IAML		14 33 52.3	
	comp=E,486nm,3.6s						
ALEP	**Alea Permanent**	**0.61**	**287**		Pg	14 33 40.9	-0.5
ALEP					Sg	14 33 49.9	+0.5
POHA	**Pohakuloa**	**0.62**	**309**		Sg	14 33 49.7	0.0
POHA	**Pohakuloa**	**0.62**	**309**		Pg	14 33 40.7	-0.8
POHA	**Pohakuloa**	**0.62**	**309**	IAML		14 33 53.5	
	comp=E,224nm,1.3s						
POHA				IAML		14 33 56.2	
	comp=E,241nm,0.7s						

*UCC **21** 14:35:30.7, 50°.13N×0°.98E, h0km, ML3.2, Explosion.*
*STR **21** 14:35:32.0±0.3, 50°N±4°×°±°, h0km, MLv3.4/36, Error ellipse: s-maj=0.0km s-min=0.0km az=9.7, preliminary*

ISC 21 14:35:30.2±1.0, 50°.18N±0°.05×0°.98E±0°.03, h0km, n50, σ0°.71/53, 9D, United Kingdom

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMNX	**Herstmonceux**	**0.80**	**329**	Pg	**Pb**	**14 35 47.4**	**+0.4**
ELSH	**Elham, Standar**	**0.97**	**6**	Pg	**Pb**	**14 35 50.3**	**+0.3**
BZEV	**Zevekote**	**1.55**	**51**	*d*P	**Pb**	**14 35 59.7**	**-0.2**
BOST	**Ostende**	**1.64**	**49**	*d*P	**Pb**	**14 36 01.1**	**-0.2**
BBOU	**Bougnies**	**1.92**	**83**	*d*P	**Pb**	**14 36 05.3**	**-0.7**
LOUF	**Saint-Loup**	**2.11**	**225**	Pn	**Pn**	**14 36 07.1**	**+0.4**
SWN1	**Swindon**	**2.21**	**308**	Pn	**Pb**	**14 36 09.7**	**-1.3**
JSA	**Saint Aubin**	**2.27**	**245**	Pn	**Pn**	**14 36 09.5**	**+0.5**
CLF	**Chambon-Foret**	**2.32**	**158**	Pg	**Pg**	**14 36 15.6**	**+1.0**
DOU	**Dourbes**	**2.33**	**91**	*d*P	**Pn**	**14 36 10.4**	**+0.6**
RCHB	**Rochefort**	**2.73**	**89**	Pn	**Pn**	**14 36 15.2**	**-0.1**
RCHB	**Rochefort**	**2.73**	**89**	*d*P	**Pn**	**14 36 15.0**	**-0.3**
PLEF	**Pleven - 22200**	**2.75**	**233**	Pn	**Pn**	**14 36 16.1**	**+0.6**
BCLA	**Clavier**	**2.78**	**83**	*d*P	**Pn**	**14 36 16.1**	**+0.1**
MCH1	**Michaelchurch**	**3.10**	**307**	Pn	**Pn**	**14 36 20.7**	**+0.3**
DYA	**Yadsworthy**	**3.16**	**277**	Pn	**Pn**	**14 36 21.1**	**0.0**
MEM	**Membach**	**3.25**	**80**	*d*P	**Pn**	**14 36 22.5**	**0.0**
MEM				*d*P	**Pn**	**14 36 22.5**	**0.0**
LKLB	**Kalborn**	**3.30**	**89**	*d*P	**Pn**	**14 36 23.7**	**+0.5**
ROSF	**Rostrenen**	**3.34**	**238**	Pn	**Pn**	**14 36 23.6**	**0.0**
LOCF	**Locquirec - 29**	**3.39**	**245**	Pn	**Pn**	**14 36 24.2**	**-0.1**
LOCF				Sn	**Sn**	**14 37 04.8**	**-0.4**
LOR	**Lormes**	**3.48**	**146**	Pn	**Pn**	**14 36 25.4**	**-0.2**
MANO	**Manonville**	**3.50**	**111**	Pn	**Pn**	**14 36 26.3**	**+0.5**
HTL	**Hartland**	**3.58**	**285**	Pn	**Pn**	**14 36 26.8**	**-0.1**
MFF	**Saint Martin d**	**3.66**	**192**	Pn	**Pn**	**14 36 26.9**	**-1.2**
CCA1	**Carnmenellis**	**3.99**	**272**	Pn	**Pn**	**14 36 32.4**	**-0.2**
OLIV	**Plomelin**	**4.06**	**238**	Pn	**Pn**	**14 36 33.1**	**-0.4**
OLIV				Sn	**Sn**	**14 37 21.2**	**-0.5**
XAFF	**Xaffevillers**	**4.10**	**114**	Pn	**Pn**	**14 36 33.8**	**-0.3**
VOEL	**Voellerdingen**	**4.18**	**105**	Pn	**Pn**	**14 36 35.3**	**+0.1**
ABH	**Alteburg**	**4.25**	**92**	Pn	**Pn**	**14 36 35.9**	**-0.3**
CIEL	**Dossenheim-sur**	**4.38**	**106**	Pn	**Pn**	**14 36 38.2**	**+0.3**
RONF	**Ronchamp**	**4.48**	**121**	Pn	**Pn**	**14 36 38.8**	**-0.6**
ECH	**Echery**	**4.50**	**114**	Pn	**Pn**	**14 36 39.3**	**-0.4**
WLS	**Welschbruch**	**4.53**	**111**	Pn	**Pn**	**14 36 39.3**	**-0.8**
VERF	**Verneugheol**	**4.55**	**167**	Pn	**Pn**	**14 36 39.6**	**-0.8**
LEMB	**Lembach**	**4.56**	**102**	Pn	**Pn**	**14 36 39.5**	**-0.9**
BOUC	**Bouclans**	**4.56**	**128**	Pn	**Pn**	**14 36 40.9**	**+0.4**
RIVEL	**MONT RIVEL**	**4.75**	**134**	Pn	**Pn**	**14 36 42.9**	**-0.2**
CHMF	**Charmoille**	**4.77**	**126**	Pn	**Pn**	**14 36 43.2**	**-0.2**
BRANT	**Les Verrieres**	**4.88**	**130**	Pn	**Pn**	**14 36 45.2**	**+0.2**
FRNF	**Fournols**	**4.92**	**167**	Pn	**Pn**	**14 36 44.9**	**-0.4**
BABA	**Baden-Baden-Ne**	**4.93**	**105**	Pn	**Pn**	**14 36 42.6**	**-2.9**
BOURR	**Bourrignon**	**4.99**	**122**	Pn	**Pn**	**14 36 46.4**	**+0.1**
GIMEL	**St. Georges /**	**5.07**	**134**	Pn	**Pn**	**14 36 47.5**	**-0.1**
BALST	**Balsthal**	**5.28**	**120**	Pn	**Pn**	**14 36 50.7**	**+0.4**
SULZ	**Cheisacher**	**5.41**	**117**	Pn	**Pn**	**14 36 51.7**	**-0.4**
RSL	**Roselend**	**5.88**	**138**	Pn	**Pn**	**14 36 58.8**	**0.0**
RRL	**Rocca Remolon**	**6.57**	**141**	Pn	**Pn**	**14 37 09.4**	**+1.1**
CREF	**Crivoux**	**6.81**	**144**	Pn	**Pn**	**14 37 12.9**	**+1.4**
ARTF	**Artigues**	**7.38**	**152**	Pn	**Pn**	**14 37 19.4**	**+0.3**
ECHI	**Chisagues Biel**	**7.54**	**184**	Pn	**Pn**	**14 37 22.9**	**+1.4**

*NEIC **21** 14:36:46±2.4, 24°.47S±0°.09×175°.5W±0°.1, h10km±1km, mb4.7/12, Error ellipse: s-maj=17.5km s-min=15.6km az=110.0*
*IDC **21** 14:36:58.5±5.2, 24°.48S×176°.16W, h79km±45km, mb3.7/8, mbtmp4.1/9, ML5.3/1, MS3.4/8, Error ellipse: s-maj=32.5km s-min=25.5km az=112.0*

ISC 21 14:36:46.2±0.6, 24°.40S±0°.09×175°.33W±0°.09, h10km, n39, σ2°.77/28, mb4.5/13, MS3.5/5, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.35**	**205**	LR	LR	14 40 05.0	
	comp=Z,264nm,18.6s,baz=282,slow=37						
NIUE	**Niue**	**7.30**	**44**	Pn	**Pn**	**14 38 33.6**	**+0.6**
MSVF	**Nonsavu**	**9.07**	**316**		**Pn**	**14 38 56.8**	**-0.6**
MSVF	**Nonsavu**	**9.07**	**316**	P	**Pn**	**14 39 00.6**	**+3.3**
	1.3nm,0.3s,baz=139,slow=14,SNR=8.6						
MSVF				LR	LR	14 42 07.5	
	comp=Z,396nm,19.2s,baz=129,slow=36 15nm,1.1s						
AFI	**Afiamalu**	**10.96**	**18**	Pn	**Pn**	**14 39 22.6**	**-0.8**
RAR	**Rarotonga**	**14.70**	**81**	Pn	**Pn**	**14 40 14.3**	**0.0**
DZM	**Mont Dzumac**	**16.91**	**274**	*e*LR	LR	14 45 07.2	
	152nm,23.2s						
DZM	**Mont Dzumac**	**16.91**	**274**	LR	LR	14 46 03.4	
	comp=Z,125nm,19.5s,baz=82,slow=34						
MRZ	**Mangatainoka R**	**17.91**	**203**	Pn	**Pn**	**14 40 52.5**	**-2.9**
THZ	**Tophouse**	**19.89**	**207**	P	**P**	**14 41 16.6**	**-1.2**
RPZ	**Rata Peaks**	**22.27**	**207**	LR	LR	14 49 57.1	
	comp=Z,170nm,19.0s,baz=64,slow=36						
TBI	**Tubuai**	**23.67**	**93**	*e*LR	LR	14 47 27.6	
	425nm,26.5s						
PPT2	**Papeete2**	**24.96**	**79**	*e*S	**S**	**14 46 25.9**	**-8.1**
	146nm,22.8s						
PPT2				*e*LR	LR	14 47 56.2	
	114nm,24.0s						
PPT	**Papeete**	**24.96**	**79**	LR	LR	14 49 27.0	
	comp=Z,50nm,21.6s,baz=261,slow=29						
HNR	**Honiara**	**27.87**	**298**	LR	LR	14 52 07.7	
	comp=Z,72nm,19.5s,baz=158,slow=33						
CTAO	**Charters Tower**	**35.74**	**269**	P	**P**	**14 43 43.5**	**-2.0**
CTAO				IAmb	IAmb	14 44 12.4	
	comp=Z,18nm,1.4s						
TAOE	**Nuku Hiva Isla**	**36.95**	**71**	*e*LR	LR	14 53 14.9	
	comp=Z,153nm,30.0s						
AS31	**Alice Springs**	**46.15**	**260**	P	**P**	**14 45 09.4**	**-2.0**
ASAR	**Alice Springs**	**46.15**	**260**	P	**P**	**14 45 09.

sea,Knipovich ridge, middle,Knipovich ridge, north
ISC 21 14:38:22.3±0.9,79°01N±0°06×3°50E±0°05,h10km,n26,
σ2§53/44,4C,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.63**	**89**	P	**Pb**	**14 38 52.7**	**+0.4**
KBS				S	**Sn**	**14 39 10.6**	**-1.3**
KBS	**Kingsbay**	**1.63**	**89**	⇑*i*P	**Pb**	**14 38 53.0**	**+0.7**
KBS				*e*S	**Sn**	**14 39 11.1**	**-0.8**
KBS				IAML		14 39 14.4	
	comp=Z,72nm,0.2s						
KBS	**Kingsbay**	**1.63**	**89**	⇑*i*P	**Pb**	**14 38 53.0**	**+0.7**
KBS				*i* S	**Sn**	**14 39 09.8**	**-2.1**
KBS	**Kingsbay**	**1.63**	**89**	*i* P	**Pb**	**14 38 52.9**	**+0.5**
KBS				*i* S	**Sn**	**14 39 10.7**	**-1.2**
BRBB	**Barentsburg B**	**2.33**	**108**	P	**Pn**	**14 39 02.6**	**+2.1**
BRBB				S	**Sn**	**14 39 25.5**	**-3.6**
BRBB	**Barentsburg B**	**2.33**	**108**	*e*P	**Pn**	**14 39 02.6**	**+2.1**
BRBB				*e*S	**Sn**	**14 39 27.9**	**-1.2**
BRBA	**Barentsburg A**	**2.34**	**109**	*e*P	**Pb**	**14 39 04.3**	**-0.2**
BRBA				*e*S	**Sn**	**14 39 28.8**	**-0.7**
SPA0	**Spitsbergen Ar**	**2.69**	**102**	⇑*i*P	**Pb**	**14 39 08.8**	**-1.7**
SPA0				*e*S	**Sn**	**14 39 38.4**	**+0.3**
SPA0				IAML		14 39 43.2	
	comp=Z,44nm,0.7s						
SPA0	**Spitsbergen Ar**	**2.69**	**102**	⇑*i*P	**Pb**	**14 39 08.7**	**-1.7**
SPA0				*i* S	**Sn**	**14 39 37.7**	**-0.4**
SPITS	**Spitsbergen Ar**	**2.69**	**102**	P	**Pn**	**14 39 08.1**	**+2.6**
SPITS				S	**Sn**	**14 39 35.5**	**-2.6**
HSPB	**Hornsund (broa**	**3.22**	**123**	P	**Pn**	**14 39 15.7**	**+3.0**
HSPB				S	**Sn**	**14 39 50.8**	**-0.3**
HSPB	**Hornsund (broa**	**3.22**	**123**	*e*P	**Pn**	**14 39 16.7**	**+4.0**
HSPB				*e*S	**Sn**	**14 39 49.4**	**-1.6**
HSPB				IAML		14 39 57.4	
	comp=Z,14nm,0.7s						
NOR	**Nord**	**4.26**	**317**	*e*P	**Pn**	**14 39 28.6**	**+1.5**
NOR				*e*S	**Sn**	**14 40 14.5**	**-2.4**
NOR	**Nord**	**4.26**	**317**	*i* P	**Pn**	**14 39 28.6**	**+1.5**
NOR				*i* S	**Sn**	**14 40 14.4**	**-2.4**
NOR				IAML		14 40 16.9	
	comp=Z,6.8nm,0.5s						
DAG	**Danmarks Havn**	**5.15**	**255**	*e*P	**Pn**	**14 39 40.2**	**+1.0**
DAG				*e*S	**Sn**	**14 40 33.5**	**-5.1**
DAG	**Danmarks Havn**	**5.15**	**255**	*i* P	**Pn**	**14 39 40.2**	**+1.0**
DAG				*i* S	**Sn**	**14 40 33.7**	**-4.9**
DAG				IAML		14 40 42.0	
	comp=Z,8.6nm,0.2s						
HOPEN	**Hopen**	**5.19**	**108**	*e*P	**Pn**	**14 39 42.4**	**+2.5**
HOPEN				*e*S	**Sn**	**14 40 37.3**	**-2.4**
HOPEN				IAML		14 40 39.4	
	comp=Z,16nm,0.6s						
HOPEN	**Hopen**	**5.19**	**108**	*e*P	**Pn**	**14 39 41.7**	**+1.8**
HOPEN				*e*S	**Sn**	**14 40 36.5**	**-3.2**
DBG	**Daneborg**	**7.17**	**241**	*e*S	Sn	14 41 21.6	-6.7
DBG	**Daneborg**	**7.17**	**241**	*i* S	Sn	14 41 21.2	-7.1
ZFI2	**Zemlya Franca-**	**7.79**	**56**	*e*P	**Pn**	**14 40 18.1**	**+2.7**
ZFI2				*e*S	**Sn**	**14 41 38.0**	**-5.4**
OMEGA	**Omega**	**7.80**	**56**	*e*P	**Pn**	**14 40 18.1**	**+2.5**
OMEGA				*e*S	**Sn**	**14 41 38.2**	**-5.6**
	comp=Z,51nm,1.7s						
JNW	**Jan Mayen West**	**8.56**	**207**	*e*P	**Pn**	**14 40 28.7**	**+2.6**
JMIC	**Jan Mayen**	**8.61**	**207**	*e*P	**Pn**	**14 40 29.1**	**+2.4**
NEEM	**North Greenlan**	**10.89**	**289**	*i* P	**Pn**	**14 40 56.5**	**-1.7**
NEEM				*i* S	Sn	14 42 46.4	-14
NEEM				IAML		14 42 55.8	
	comp=Z,11nm,0.7s						
SUMG	**Summit**	**11.81**	**260**	*i* P	**Pn**	**14 41 11.6**	**+0.7**

*IDC **21** 14:38:39.5±0.9,2°26N×96°10E,h0km,mb4.3/13,*
mbtmp4.3/15,ML4.1/2,MS3.5/5,Error ellipse:
s-maj=35.6km s-min=16.0km az=48.0
*BJI **21** 14:38:39.4,1°98N×96°22E,h30km,mb4.7/31,mB5.0/8,*
Ms4.0/4,Ms7 3.8/4
*DJA **21** 14:38:42.0±0.9,2°N±4°×9°6E±°,h16km±5km,M4.6/12,*
mb4.9/2,mB5.3/2,MLv4.5/12,Mw(mB)4.7/2
*NEIC **21** 14:38:43.8±1.0,2°32N±0°08×96°21E±0°10,h26km±7km,*
mb4.6/36,Error ellipse: s-maj=16.9km s-min=6.9km
az=53.0
ISC 21 14:38:41.2±0.6,2°32N±0°06×96°14E±0°06,h10km,n92,
σ1§05/82,mb4.5/37,MS3.5/7,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.21**	**64**	P	**Pg**	**14 38 48.1**	**+2.6**
GSI	**Gunungsitoli**	**1.75**	**125**	Pn	**Pn**	**14 39 11.2**	**-0.4**
GSI	**Gunungsitoli**	**1.75**	**125**	P	**Pn**	**14 39 11.8**	**+0.2**
MLSI	**Meulaboh, Aceh**	**1.95**	**8**	P	**Pn**	**14 39 14.3**	**-0.1**
KCSI	**Kotacane, Aceh**	**2.02**	**54**	P	**Pn**	**14 39 15.4**	**+0.1**
RPSI	**Rantau Prapat**	**2.81**	**82**	Pn	**Pn**	**14 39 25.7**	**-0.4**
RPSI	**Rantau Prapat**	**2.81**	**82**		**Pn**	**14 39 26.6**	**+0.5**
PSI	**Prapat**	**2.82**	**80**	Pn	**Pn**	**14 39 26.6**	**+0.1**
	13nm,0.3s,baz=267,slow=6.3,SNR=29						
PSI				Sn	**Sn**	**14 39 59.6**	**-1.0**
	8.2nm,0.3s,baz=247,slow=18,SNR=4.5						
	32nm,0.4s						
LHMI	**Lhok Sumawe**	**3.00**	**16**		**Pn**	**14 39 29.1**	**+0.3**
PBSI	**Pulau Batu**	**3.18**	**138**	P	**Pn**	**14 39 32.2**	**+0.9**
BSI	**Banda Aceh**	**3.27**	**345**	P	**Pn**	**14 39 31.8**	**-0.7**
MNSI	**Mandailing Nat**	**3.75**	**114**	P	**Pn**	**14 39 39.7**	**+0.5**
SISI	**Saibi**	**4.67**	**141**	P	**Pn**	**14 39 52.3**	**+0.5**
IPM	**Ipoh**	**5.33**	**66**	Pn	**Pn**	**14 40 00.7**	**-0.2**
SRIT	**Nakonsritamara**	**7.12**	**29**		**Pn**	**14 40 24.7**	**-0.9**
MYKOM	**Kota Tinggi**	**7.72**	**94**		**Pn**	**14 40 33.4**	**-0.4**
KSM	**Kuching**	**14.18**	**93**	Pn	**Pn**	**14 42 02.1**	**-0.2**
LEM	**Lembang**	**14.62**	**128**	LR	LR	14 48 08.3	
	comp=Z,350nm,20.4s,baz=216,slow=39						
SBUM	**Sibu**	**16.07**	**89**	Pn	**Pn**	**14 42 26.9**	**-0.5**
CM31	**Chiang Mai Arr**	**16.27**	**10**	Pn	**Pn**	**14 42 29.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**16.27**	**10**	Pn	**Pn**	**14 42 29.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.27**	**10**	P	**Pn**	**14 42 32.2**	**+2.2**
	0.4nm,0.3s,baz=200,slow=11,SNR=41						
	4.5nm,0.7s						
PHRA	**Phrae**	**16.57**	**14**		**Pn**	**14 42 33.5**	**-0.3**
KKM	**Kota Kinabalu**	**20.36**	**79**	P	**P**	**14 43 16.9**	**-1.3**
KKM				IAmb	IAmb	14 43 23.8	
	comp=Z,19nm,0.9s						
SLVN	**Son La**	**20.36**	**21**		**P**	**14 43 16.4**	**-1.6**
BKB	**Balikpapan**	**21.05**	**100**	P	**P**	**14 43 24.3**	**-1.3**
MYLDM	**Lahad Datu**	**22.49**	**82**	P	**P**	**14 43 40.4**	**-0.6**
MYLDM				IAmb	IAmb	14 44 02.8	
	comp=Z,36nm,1.2s						
TNCH	**TengChong**	**22.70**	**6**	P	**P**	**14 43 44.9**	**+1.6**
TNCH				pP	sP	14 43 49.9	+2.6
TNCH				pmax	pmax		
	comp=Z,34nm,0.4s						
KMI	**Kunming**	**23.55**	**15**	⇑P	**P**	**14 43 53.5**	**+1.4**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KMI				LR	LR		
	comp=Z,180nm,15.1s						
KMI				LR	LR		
	comp=Z,110nm,12.7s						
KMI				LR	LR		
	comp=Z,140nm,11.7s						
PZH	**PanZhiHua**	**24.64**	**12**	P	**P**	**14 44 02.3**	**+0.1**
PZH				S	**S**	**14 48 22.5**	**-1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
PZH				LR	LR		
	comp=Z,260nm,20.0s						
PZH				LR	LR		
	comp=Z,380nm,18.1s						
PZH				LR	LR		
	comp=Z,420nm,20.6s						
TOLI2	**Tolitoli**	**24.66**	**92**	P	**P**	**14 44 01.1**	**-1.3**
TOLI2				IAmb	IAmb	14 44 03.1	
	comp=Z,14nm,0.9s						
H08S2	**Diego Garcia H**	**25.59**	**247**	T	T	15 10 49.7	
	baz=68,slow=75,SNR=8193						
H08S3	**Diego Garcia H**	**25.59**	**247**	T	T	15 10 50.0	
	baz=68,slow=75,SNR=6675						
H08S1	**Diego Carcia H**	**25.60**	**247**	T	T	15 10 49.3	
	baz=68,slow=75,SNR=5792						
LSA	**Lhasa**	**27.64**	**351**	P	**P**	**14 44 29.1**	**-0.6**
YULB	**Yu-li**	**32.13**	**47**	P	**P**	**14 45 07.8**	**-1.3**
YULB				IAmb	IAmb	14 45 17.5	
	comp=Z,12nm,1.0s						
XAN	**Xi'an**	**33.74**	**19**	P	**P**	**14 45 21.4**	**-1.7**
XAN				pmax	pmax		
	comp=Z,19nm,0.7s						
LYN	**LuoYang**	**35.50**	**24**	*e*P	**P**	**14 45 38.6**	**+0.4**
LYN				pmax	pmax		
	comp=Z,22nm,0.7s						
LYN				LR	LR		
	comp=Z,160nm,11.4s						
LYN				LR	LR		
	comp=Z,220nm,10.4s						
LYN				LR	LR		
	comp=Z,250nm,14.6s						
GTA	**Gaotai**	**37.07**	**5**	P	**P**	**14 45 51.4**	**-0.3**
GTA				pP	sP	14 46 00.8	+4.9
GTA				pmax	pmax		
	comp=Z,11nm,0.9s						
NIL	**Nilore**	**37.81**	**328**	P	**P**	**14 45 58.3**	**+0.3**
NIL				IAmb	IAmb	14 45 59.7	
	comp=Z,9.1nm,0.6s						
BTO	**Baotou**	**40.13**	**16**	*e*P	**P**	**14 46 17.8**	**+0.4**
BTO				pP	**pP**	**14 46 23.6**	**+3.2**
BTO				sP	**sP**	**14 46 26.8**	**+5.2**
BTO				pmax	pmax		
	comp=Z,42nm,1.0s						
BTO				pmax	pmax		
	comp=Z,260nm,6.7s						
NWAO	**Narrogin (SRO)**	**40.33**	**152**	LR	LR	15 03 44.3	
	comp=Z,67nm,18.0s,baz=329,slow=37						
H01W3	**Cape Leeuwin H**	**40.68**	**157**	T	T	15 29 35.8	
	baz=332,slow=76,SNR=254						
H01W2	**Cape Leeuwin H**	**40.69**	**157**	T	T	15 29 36.8	
	baz=332,slow=76,SNR=196						
H01W1	**Cape Leeuwin H**	**40.69**	**157**	T	T	15 29 32.3	
	baz=332,slow=76,SNR=254						
WUS	**Wushi**	**41.61**	**341**	P	**P**	**14 46 29.9**	**+0.3**
WUS				IAmb	IAmb	14 46 32.5	
	comp=Z,11nm,0.7s						
BJT	**Baijiatuau**	**41.70**	**23**	P	**P**	**14 46 30.0**	**-0.2**
BJT				IAmb	IAmb	14 46 31.4	
	comp=Z,11nm,0.7s						
NRN	**Naryn**	**42.96**	**338**	P	**P**	**14 46 41.4**	**+0.5**
DRK	**Karamyk**	**43.11**	**332**	P	**P**	**14 46 43.2**	**+1.1**
KDJ	**Kajisay**	**43.13**	**339**	P	**P**	**14 46 42.9**	**+0.8**
KDJ				IAmb	IAmb	14 46 46.2	
	comp=Z,12nm,0.9s						
GAR	**Garm**	**43.45**	**330**	P	**P**	**14 46 44.3**	**-0.3**
GAR				IAmb	IAmb	14 46 46.5	
	comp=Z,14nm,1.0s						
WB0	**Warramunga Arr**	**43.49**	**122**	P	**P**	**14 46 43.7**	**-1.5**
WRA	**Warramunga Arr**	**43.52**	**122**	P	**P**	**14 46 45.1**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=302,slow=9.1,SNR=9.1						
	comp=Z,2.2nm,0.9s						
SIMJ	**Simiganj**	**43.85**	**329**	P	**P**	**14 46 47.7**	**-0.2**
SIMJ				IAmb	IAmb	14 46 49.4	
	comp=Z,9.2nm,1.1s						
BOOM	**Boomskoye usch**	**43.89**	**338**	P	**P**	**14 46 47.9**	**-0.3**
BOOM				IAmb	IAmb	14 46 51.6	
	comp=Z,4.0nm,0.7s						
ARSB	**Arslanbob**	**44.08**	**335**	P	**P**	**14 46 51.0**	**+1.3**
AAK	**Ala-Archa**	**44.57**	**337**	P	**P**	**14 46 54.6**	**+1.0**
ASAR	**Alice Springs**	**44.91**	**127**	P	**P**	**14 46 56.2**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=299,slow=7.8,SNR=14						
ASAR				PcP	**PcP**	**14 48 37.8**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=310,slow=3.0,SNR=4.7						
	comp=Z,1.2nm,0.8s						
KSRS	**Korea Array**	**45.55**	**36**	LR	LR	15 08 00.0	
	comp=Z,55nm,18.1s,baz=220,slow=39						
MK31	**Makanchi Array**	**45.91**	**347**	P	**P**	**14 47 03.8**	**-0.3**
MK31				IAmb	IAmb	14 47 05.2	
	comp=Z,6.7nm,0.7s						
MKAR	**Makanchi Array**	**45.91**	**347**	P	**P**	**14 47 03.5**	**-0.6**
MKAR	**Makanchi Array**	**45.91**	**347**	P	**P**	**14 47 04.3**	**+0.3**
	comp=Z,11nm,0.7s,baz=162,slow=8.0,SNR=94						
	comp=Z,11nm,0.7s						
MAKZ	**Makanchi**	**46.00**	**346**	P	**P**	**14 47 04.6**	**-0.1**
MAKZ				IAmb	IAmb	14 47 06.0	
	comp=Z,9.2nm,0.8s						
SONM	**Songino Array**	**46.20**	**10**	P	**P**	**14 47 06.2**	**-0.2**
	comp=Z,2.6nm,0.5s,baz=192,slow=9.0,SNR=20						
SONM				PcP	**PcP**	**14 48 42.7**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=191,slow=3.2,SNR=4.4						
	comp=Z,2.6nm,0.5s						
KKAR	**Karatay Array**	**46.59**	**334**	P	**P**	**14 47 10.4**	**+0.9**
KURBB	**Kurchatov Arra**	**50.39**	**346**	P	**P**	**14 47 38.9**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=153,slow=7.7,SNR=22						
KURBB				LR	LR	15 11 33.1	
	comp=Z,48nm,20.9s,baz=173,slow=39						
	comp=Z,2.5nm,0.8s						
KURK	**Kurchatov**	**50.45**	**346**	P	**P**	**14 47 39.1**	**+0.1**
KURK				IAmb	IAmb	14 47 41.6	
	comp=Z,5.1nm,0.9s						
MJAR	**Matsushiro Arr**	**51.60**	**44**	LR	LR	15 11 09.6	
	comp=Z,33nm,19.5s,baz=190,slow=38						
ZAA0	**Zalesovo Array**	**52.30**	**352**	P	**P**	**14 47 52.3**	**-0.5**
ZALV	**Zalesovo Beam**	**52.30**	**352**	P	**P**	**14 47 52.6**	**-0.2**
ZALV	**Zalesovo Beam**	**52.30**	**352**	P	**P**	**14 47 52.9**	**+0.1**
	comp=Z,9.0nm,0.4s,baz=174,slow=6.9,SNR=54						
	comp=Z,9.0nm,0.4s						
BVAR	**Borovoye Array**	**54.86**	**341**	P	**P**	**14 48 11.5**	**-0.1**
	comp=Z,5.6nm,0.7s,baz=140,slow=8.8,SNR=18						
	comp=Z,5.6nm,0.7s						
BRVK	**Borovoye**	**54.92**	**341**	P	**P**	**14 48 11.5**	**-0.6**
BRVK				IAmb	IAmb	14 48 14.9	
	comp=Z,3.6nm,0.7s						
ABKAR	**Akbulak array**	**56.04**	**332**	P	**P**	**14 48 19.8**	**-0.4**
ABKAR				IAmb	IAmb	14 48 31.7	
	comp=Z,3.5nm,0.8s						
ABKAR	**Akbulak array**	**56.04**	**332**	P	**P**	**14 48 20.1**	**-0.1**
H04N2	**CROZET ISLANDS**	**62.11**	**213**	T	T	15 56 27.7	
	baz=52,slow=75,SNR=6982						
H04N1	**CROZET ISLANDS**	**62.12**	**213**	T	T	15 56 28.3	
	baz=52,slow=75,SNR=9049						
H04N3	**CROZET ISLANDS**	**62.13**	**213**	T	T	15 56 27.0	
	baz=52,slow=75,SNR=8917						
H04S1	**CROZET ISLANDS**	**62.47**	**213**	T	T	15 56 55.8	
	baz=52,slow=76,SNR=238						
H04S3	**CROZET ISLANDS**	**62.48**	**213**	T	T	15 56 55.6	
	baz=52,slow=76,SNR=420						
H04S2	**CROZET ISLANDS**	**62.48**	**213**	T	T	15 56 57.1	
	baz=52,slow=76,SNR=197						
KBZ	**Khabaz**	**62.54**	**319**	P	**P**	**14 49 05.8**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=213,slow=6.2,SNR=4.2						
	comp=Z,1.9nm,0.9s						
YAK	**Yakutsk**	**64.66**	**17**	P	**P**	**14 49 17.8**	**-1.0**
NRIK	**Noril'sk**	**67.16**	**357**	P	**P**	**14 49 34.5**	**-0.4**
NRIK	**Noril'sk**	**67.16**	**357**	P	**P**	**14 49 34.6**	**-0.2**
	comp=Z,1.7nm,0.4s,baz=148,slow=8.0,SNR=5.0						
	comp=Z,1.7nm,0.4s						
BRTR	**Keskin Array B**	**67.58**	**312**	P	**P**	**14 49 38.5**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=116,slow=8.4,SNR=3.7						
	comp=Z,0.7nm,0.8s						
TIXI	**Tiksi**	**72.28**	**10**	P	**P**	**14 50 05.2**	**-1.2**
TIXI				IAmb	IAmb	14 50 06.1	
	comp=Z,3.7nm,0.8s						
AKASG	**Malin Array Be**	**73.73**	**322**	P	**P**	**14 50 15.2**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=92,slow=4.8,SNR=7.1						
	comp=Z,0.9nm,0.7s						
BUR08	**Bucovina Ar. S**	**75.51**	**319**	P	**P**	**14 50 25.9**	**-0.1**
BUR08				IAmb	IAmb	14 50 30.9	
	comp=Z,3.9nm,1.1s						
FINES	**FINESS Array B**	**78.53**	**333**	P	**P**	**14 50 42.3**	**-0.2**
FINES	**FINESS Array B**	**78.53**	**333**	P	**P**	**14 50 42.7**	**+0.2**
	comp=Z,2.3nm,0.7s,baz=100,slow=6.6,SNR=5.7						
	comp=Z,2.3nm,0.7s						
ARCES	**ARCESS Array B**	**81.13**	**340**	P	**P**	**14 50 56.7**	**+0.2**
	comp=Z,5.2nm,1.0s,baz=92,slow=5.5,SNR=7.1						
	comp=Z,5.2nm,1.0s						

*IDC **21** 14:42:22.7±0.6,4°91S×102°97E,h0km,mb4.5/21,*
mbtmp4.5/21,Error ellipse: s-maj=23.1km s-min=12.3km
az=55.0
*BJI **21** 14:42:24.2,5°63S×103°02E,h68km,mb4.8/25,mB5.0/2*
*DJA **21** 14:42:28.9±0.4,5°S±3°×10°3E±°,h20km±5km,M4.7/18,*
mB5.0/6,mb4.8/14,MLv4.8/18,Mw(mB)4.4/6
*NEIC **21** 14:42:28.3±2.2,5°17S±0°02×102°84E±0°07,h42km±7km,*
mb4.8/55,Error ellipse: s-maj=10.4km s-min=2.1km
az=95.0
ISC 21 14:42:28.5±0.5,5°05S±0°06×102°90E±0°06,h44km±3km,
n147,σ1§21/152,mb4.8/52,1D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.16**	**89**	Pg	**Pn**	**14 42 49.1**	**+0.7**
KSI	**Kapahiang**	**1.42**	**348**	P	**Pn**	**14 42 54.2**	**+2.3**
KASI	**Kota Agung**	**1.66**	**107**	P	**Pn**	**14 42 55.9**	**+0.7**
PMBI	**Palembang**	**2.82**	**42**		**Pn**	**14 43 12.2**	**+1.1**
PMBI	**Palembang**	**2.82**	**42**	P	**Pn**	**14 43 14.2**	**+3.1**
PPSI	**Pulau Pagai**	**3.67**	**308**	P	**Pn**	**14 43 25.9**	**+3.2**
DBJI	**Dramaga**	**4.12**	**111**	P	Pn	14 43 34.1	+5.2
PPBI	**Pangkal Pinang**	**4.32**	**49**	P	**Pn**	**14 43 32.7**	**+1.0**
CNJI	**Cibinong**	**4.77**	**118**	P	**Pn**	**14 43 38.0**	**+0.1**
PDSI	**Padang**	**4.77**	**329**	P	**Pn**	**14 43 40.3**	**+2.3**
LEM	**Lembang**	**5.02**	**111**	Pn	**Pn**	**14 43 44.7**	**+3.3**
	4.4nm,0.3s,baz=295,slow=23,SNR=4.0						
LEM				Sn	**Sn**	**14 44 38.3**	**0.0**
	6.8nm,0.3s,baz=220,slow=23,SNR=1.8						
PPI	**Padang Panjang**	**5.20**	**331**	P	**Pn**	**14 43 46.5**	**+2.7**
	85nm,0.8s,1μm0.6nm						
TPI	**Tanjungpandan**	**5.26**	**65**	P	**Pn**	**14 43 45.6**	**+0.9**
BBJI	**Bungbulang**	**5.30**	**117**	P	**Pn**	**14 43 46.3**	**+1.1**
SISI	**Saibi**	**5.30**	**314**	P	**Pn**	**14 43 47.2**	**+2.0**
	113nm,0.6s,1.3nm						
BKNI	**Bangkinang**	**5.65**	**341**	Pn	**Pn**	**14 43 52.0**	**+2.0**
XMI	**Christmas Isla**	**6.04**	**153**	P	Pn	14 43 50.7	-4.6
XMIS	**Christmas Isla**	**6.05**	**153**	Pn	Pn	14 43 49.8	-5.7
XMIS	**Christmas Isla**	**6.05**	**153**	P	Pn	14 43 50.4	-5.1
CMJI	**Cimerak**	**6.15**	**116**	P	**Pn**	**14 43 57.6**	**+0.8**
	70nm,0.8s,3μm0.6nm						
KPJI	**Karang Pucung**	**6.42**	**111**	P	**Pn**	**14 44 03.4**	**+2.9**
	38nm,0.8s						
PBSI	**Pulau Batu**	**6.77**	**317**	P	**Pn**	**14 44 06.9**	**+1.5**
	83nm,1.6s,0.6nm						
MYKOM	**Kota Tinggi**	**6.86**	**8**		**Pn**	**14 44 08.6**	**+2.0**
MYKOM	**Kota Tinggi**	**6.86**	**8**	P	**Pn**	**14 44 10.4**	**+3.8**
UGM	**Wanagama**	**8.10**	**111**	Pn	**Pn**	**14 44 23.4**	**-0.1**
UGM	**Wanagama**	**8.10**	**111**	P	**Pn**	**14 44 25.8**	**+2.2**
UGM	**Wanagama**	**8.10**	**111**	P	**Pn**	**14 44 26.3**	**+2.7**
	133nm,1.7s						
GSI	**Gunungsitoli**	**8.25**	**320**	Pn	**Pn**	**14 44 25.8**	**+0.2**
GSI	**Gunungsitoli**	**8.25**	**320**	P	**Pn**	**14 44 25.5**	**-0.2**
	46nm,0.4s						
RPSI	**Rantau Prapat**	**8.65**	**333**	Pn	**Pn**	**14 44 32.1**	**+0.9**
PCJI	**Pacitan**	**8.80**	**111**	P	**Pn**	**14 44 34.2**	**+1.0**
COCO	**West Island**	**9.29**	**220**		**Pn**	**14 44 39.1**	**-0.8**
PWJI	**Pagerwojo**	**9.33**	**109**	P	**Pn**	**14 44 41.9**	**+1.4**
JAGI	**Jajag, Banyuwa**	**11.68**	**108**	Pn	**Pn**	**14 45 12.4**	**-0.3**
JAGI	**Jajag, Banyuwa**	**11.68**	**108**	P	**Pn**	**14 45 14.4**	**+1.7**
SBUM	**Sibu**	**11.93**	**52**	Pn	**Pn**	**14 45 17.9**	**+1.8**
KKM	**Kota Kinabalu**	**17.27**	**51**		**P**	**14 46 28.1**	**+0.4**
MYLDM	**Lahad Datu**	**18.60**	**57**	P	**Pn**	**14 46 44.1**	**+1.2**
TOLI2	**Tolitoli**	**18.89**	**72**	P	**P**	**14 46 45.8**	**+0.3**
TOLI2				IAmb	IAmb	14 46 48.3	
	comp=Z,27nm,0.7s						
BATI	**Baumata**	**21.21**	**105**	P	**P**	**14 47 10.1**	**-0.6**
	comp=Z,33nm,0.4s,baz=252,slow=4.7,SNR=8.2						
	comp=Z,33nm,0.4s						
SOEI	**Soe**	**21.70**	**104**	P	**P**	**14 47 14.3**	**-1.7**
SOEI				IAmb	IAmb	14 47 36.6	
	comp=Z,83nm,1.5s						
PSA00	**Pilbara Seismi**	**23.23**	**137**	P	**P**	**14 47 30.6**	**-1.5**
PSA00				IAmb	IAmb	14 47 38.8	
	comp=Z,53nm,1.8s						
PHRA	**Phrae**	**23.55**	**354**		**P**	**14 47 34.9**	**-0.2**
CM31	**Chiang Mai Arr**	**23.68**	**351**	P	**P**	**14 47 35.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**23.68**	**351**		**P**	**14 47 35.1**	**-1.2**
CMAR	**Chiang Mai Arr**	**23.68**	**351**	P	**P**	**14 47 35.9**	**-0.5**
	comp=Z,6.3nm,0.6s,baz=182,slow=8.7,SNR=60						
	comp=Z,6.3nm,0.6s						
CHTO	**Chiang Mai**	**24.03**	**351**		**P**	**14 47 38.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**25.74**	**122**	P	**P**	**14 47 54.8**	**-0.3**
SLVN	**Son La**	**26.24**	**2**	P	**P**	**14 47 59.4**	**-0.2**
KNRA	**Kununurra**	**27.51**	**115**	P	**P**	**14 48 10.0**	**-1.2**
KNRA				IAmb	IAmb	14 48 23.3	
	comp=Z,45nm,1.6s						
H08S2	**Diego Garcia H**	**30.32**	**264**	T	T	15 20 57.9	
	baz=86,slow=76,SNR=47						
H08S3	**Diego Garcia H**	**30.33**	**264**	T	T	15 21 17.4	
	baz=86,slow=76,SNR=84						
H08S1	**Diego Carcia H**	**30.34**	**264**	T	T	15 21 18.2	
	baz=86,slow=76,SNR=36						
PZH	**PanZhiHua**	**31.39**	**358**	P	**P**	**14 48 45.1**	**-0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
H01W3	**Cape Leeuwin H**	**31.46**	**162**	T	T	15 22 20.0	
	baz=340,slow=76,SNR=26						
H01W2	**Cape Leeuwin H**	**31.47**	**162**	T	T	15 22 06.5	
	baz=340,slow=76,SNR=28						
H01W1	**Cape Leeuwin H**	**31.47**	**162**	T	T	15 22 13.2

BOOM Boomskoye usch 53.28 335 P P 14 51 42.9 -0.2
BOOM IAmb IAmb 14 51 43.7
comp=Z,4.7nm,0.7s
SIMJ Simiganj 53.62 327 P P 14 51 45.7 0.0
SIMJ sP **sP** 14 52 01.4 -1.2
ARSB Arslanbob 53.64 332 P P 14 51 45.8 0.0
AAK Ala-Archa 54.01 334 P P 14 51 48.3 -0.2
MK31 Makanchi Array 54.75 343 P P 14 51 53.0 -0.6
MK31 IAmb IAmb 14 51 54.1
comp=Z,5.4nm,0.6s
MKAR Makanchi Array 54.75 343 P P 14 51 53.6 -0.1
MKAR Makanchi Array 54.75 343 P P 14 51 53.3 -0.3
comp=Z,7.1nm,0.5s,baz=152,slow=8.8,SNR=75
comp=Z,7.1nm,0.5s
MAKZ Makanchi 54.86 343 P P 14 51 54.0 -0.3
MAKZ Makanchi 54.86 343 P P 14 51 53.8 -0.6
MAKZ PcP **PcP** 14 52 56.6 +0.4
BNX BinXian 55.08 21 ⇓P **P 14 51 55.6 -0.4**
BNX pmax pmax
comp=Z,17nm,1.1s
USRK Ussuriysk Ar. 55.57 25 P P 14 51 58.4 -1.1
USRK Ussuriysk Ar. 55.57 25 P P 14 51 58.9 -0.6
comp=Z,5.3nm,0.7s,baz=216,slow=4.3,SNR=11
comp=Z,5.3nm,0.7s
KKAR Karatay Array 56.18 332 P P 14 52 04.7 +0.7
HEH HeiHe 59.02 18 *e*P **P 14 52 22.8 -0.9**
HEH pmax pmax
comp=Z,9.0nm,0.9s
KURBB Kurchatov Arra 59.29 342 P P 14 52 25.2 -0.4
comp=Z,5.0nm,0.7s,baz=160,slow=6.5,SNR=36
KURBB PcP **PcP** 14 53 13.6 +0.2
comp=Z,1.7nm,0.6s,baz=156,slow=3.7,SNR=6.5
comp=Z,5.0nm,0.7s
KURK Kurchatov 59.35 342 P P 14 52 25.4 -0.7
KURK IAmb IAmb 14 52 26.5
comp=Z,8.2nm,0.8s
KURK Kurchatov 59.35 342 P P 14 52 25.5 -0.5
KURK pP **pP** 14 52 37.6 -0.6
KURK PcP **PcP** 14 53 13.7 0.0
JKA Kamikawa-asahi 60.57 32 P P 14 52 33.8 -0.8
ZAA0 Zalesovo Array 60.71 348 P P 14 52 34.4 -0.9
ZAA0 IAmb IAmb 14 52 36.8
comp=Z,7.6nm,0.9s
ZALV Zalesovo Beam 60.71 348 P P 14 52 34.4 -0.9
ZALV Zalesovo Beam 60.71 348 P P 14 52 34.5 -0.7
comp=Z,3.8nm,0.4s,baz=160,slow=7.1,SNR=19
comp=Z,3.8nm,0.4s
DZM Mont Dzumac 63.62 112 *e*LR LR 15 11 56.8
comp=Z,52nm,24.9s
BVAR Borovoye Array 64.04 339 P P 14 52 56.9 -0.7
comp=Z,7.9nm,0.5s,baz=142,slow=9.2,SNR=39
comp=Z,7.9nm,0.5s
BRVK Borovoye 64.10 339 P P 14 52 57.2 -0.8
BRVK IAmb IAmb 14 52 58.1
comp=Z,5.9nm,0.6s
BRVK Borovoye 64.10 339 P P 14 52 56.9 -1.1
BRVK pP **pP** 14 53 08.9 -1.4
ABKAR Akbulak array 65.69 331 P P 14 53 07.8 -0.6
ABKAR Akbulak array 65.69 331 P P 14 53 08.0 -0.4
ABKAR IAmb IAmb 14 53 24.6
comp=Z,10nm,0.8s
MAW Mawson 68.09 195 P P 14 53 25.5 +2.1
comp=Z,0.5nm,0.8s,baz=93,slow=15,SNR=1.3
ARTI Arti 71.19 336 P P 14 53 42.3 -0.3
ARTI IAmb IAmb 14 53 43.5
comp=Z,11nm,0.7s
ARTI Arti 71.19 336 P P 14 53 42.5 -0.1
ARTI pP **pP** 14 53 54.5 -0.5
ARTI sP **pwP** 14 53 58.2 +3.1
THZ Tophouse 71.77 132 P P 14 53 46.5 -0.1
KBZ Khabaz 72.49 319 P P 14 53 51.9 +1.2
comp=Z,4.2nm,0.8s,baz=143,slow=7.0,SNR=9.7
comp=Z,4.2nm,0.8s
MMAI Mount Meron Ar 74.16 306 P P 14 54 02.0 +1.2
comp=Z,4.5nm,0.7s,baz=116,slow=7.8,SNR=3.7
comp=Z,4.5nm,0.7s
NRIK Noril'sk 74.98 354 P P 14 54 03.8 -0.9
NRIK IAmb IAmb 14 54 05.8
comp=Z,4.6nm,0.6s
NRIK Noril'sk 74.98 354 P P 14 54 04.0 -0.7
comp=Z,4.4nm,0.4s,baz=143,slow=5.1,SNR=13
comp=Z,4.4nm,0.4s
BR131 Keskin Array S 77.50 312 P P 14 54 19.7 -0.2
BR131 IAmb IAmb 14 54 20.9
comp=Z,5.0nm,0.8s
BRTR Keskin Array B 77.50 312 P P 14 54 19.9 -0.1
BRTR Keskin Array B 77.50 312 P P 14 54 20.4 +0.4
comp=Z,2.8nm,0.7s,baz=105,slow=6.1,SNR=16
comp=Z,2.8nm,0.7s
ALN Alexandroupoli 83.41 312 P P 14 54 51.8 +0.4
AKASG Malin Array Be 83.65 322 P P 14 54 52.2 -0.1
comp=Z,0.2nm,0.3s,baz=90,slow=4.4,SNR=6.2
comp=Z,0.2nm,0.3s
QSPA South Pole Qui 84.93 180 P P 14 55 00.4 +1.6
comp=Z,0.9nm,1.1s,baz=308,slow=4.2,SNR=1.3
comp=Z,0.9nm,1.1s
BURAR Bucovina Array 85.44 318 P P 14 55 03.0 +1.2
BURAR IAmb IAmb 14 55 04.6
comp=Z,3.0nm,0.7s
BUR08 Bucovina Ar. S 85.46 318 P P 14 55 02.9 +1.1
BUR08 IAmb IAmb 14 56 42.7
comp=Z,22nm,2.0s
LIT Litokhoron 85.91 311 P P 14 55 04.2 0.0
LIT IAmb IAmb 14 56 35.8
comp=Z,10nm,1.0s
NACGM Naroch 86.17 326 *e*P **P 14 55 03.3 -1.7**
comp=Z,13nm,1.1s,baz=104
LVZ Lovozero 86.63 339 P P 14 55 06.4 -0.6
KOLS Kolonicke sedl 87.63 319 *e*P **P 14 55 14.4 +2.1**
FINES FINESS Array B 88.14 332 P P 14 55 14.6 +0.3
FINES FINESS Array B 88.14 332 P P 14 55 15.0 +0.6
comp=Z,2.4nm,0.6s,baz=105,slow=4.5,SNR=12
comp=Z,2.4nm,0.6s
STHS Stebnicka Huta 88.38 320 *e*P **P 14 55 16.3 +0.5**
LANS Liptovska Anna 89.49 319 *e*P **P 14 55 21.8 +0.7**
ARCES ARCESS Array B 90.31 340 P P 14 55 24.3 -0.2
ARCES ARCESS Array B 90.31 340 P P 14 55 24.8 +0.4
comp=Z,2.8nm,0.6s,baz=99,slow=4.5,SNR=10
comp=Z,2.8nm,0.6s
SPITS Spitsbergen Ar 94.19 348 P P 14 55 41.5 -0.7
comp=Z,20nm,1.0s,baz=92,slow=4.9,SNR=6.1
TBI Tubuai 104.07 115 *e*LR LR 15 30 39.7
comp=Z,468nm,42.5s
PPT2 Papeete2 105.06 110 *e*LR LR 15 31 06.2
comp=Z,48nm,29.8s
TXAR Lajitas Array 145.15 43 PKPbc **PKPbc 15 02 01.9 +0.3**
comp=Z,2.7nm,0.5s,baz=272,slow=1.4,SNR=45

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*CATAC **21** 14:48:18.6±1.3, 11°.43N×86°.77W, h20km±9km, ML3.3*
*UCR **21** 14:48:20.4±0.7, 10°.80N×86°.20W, h0km±98km, MW3.5*
ISC 21 14:48:13.1±1.5, 11°.14N±0°.06×86°.82W±0°.08, h10km, n28, σ1§77/27, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.98**	**31**	*i* P	**Sn**	**14 48 44.3**	**-2.7**
RA5A7	**El Crucero**	**0.98**	**30**	*i* P	**Pg**	**14 48 33.0**	**+1.0**
RA5A7				IAML		14 48 54.4	
comp=Z,3μm,1.0s							
SABN	**Sabanita**	**1.03**	**38**	*i* P	**Pg**	**14 48 34.3**	**+1.3**
SABN				IAML		14 49 06.9	
comp=Z,4μm,1.0s							
NANN	**Nandasmo**	**1.04**	**41**	*i* P	**Pb**	**14 48 35.0**	**+1.7**
NANN				IAML		14 48 38.6	
comp=Z,11μm,1.0s							
COPN	**Copaltepe**	**1.05**	**12**	*i* P	**Pg**	**14 48 34.2**	**+0.8**
COPN				IAML		14 49 01.9	
comp=Z,380nm,1.0s							
R0529	**La Mascota**	**1.13**	**30**	*i* P	**Pg**	**14 48 34.3**	**-0.5**
R0529				IAML		14 48 54.2	
comp=Z,1μm,1.0s							
TISN	**Laguna Tiscapa**	**1.13**	**28**	*i* P	**Pg**	**14 48 34.1**	**-0.7**
TISN				IAML		14 48 41.3	
comp=Z,41nm,1.0s							
LCRUZ	**La Cruz**	**1.17**	**93**	*e*P	**Pg**	**14 48 34.8**	**-0.7**
JAPN	**AI SSO del Vol**	**1.18**	**71**	*i* P	**Pn**	**14 48 37.1**	**+1.4**
JAPN				IAML		14 48 42.8	
comp=Z,680nm,1.0s							
CONN	**Concepcion**	**1.24**	**70**	*i* P	**Pn**	**14 48 40.4**	**+3.9**
CONN				IAML		14 49 06.4	
comp=Z,3μm,1.0s							
MOMN	**Momotombo**	**1.29**	**12**	*i* P	**Pb**	**14 48 37.3**	**-0.2**
MOMN				IAML		14 48 44.5	
comp=Z,18nm,1.0s							
MACN	**El Madrono**	**1.32**	**6**	*i* P	**Pn**	**14 48 37.8**	**+0.1**
MACN				IAML		14 48 45.6	
comp=Z,290nm,1.0s							
MOM2	**El Cardon**	**1.33**	**14**	*i* P	**Pn**	**14 48 37.9**	**+0.2**
MOM2				IAML		14 49 17.0	
comp=Z,250nm,1.0s							
CNGA	**AI SSO del Vol**	**1.35**	**5**	*i* P	**Pn**	**14 48 38.4**	**+0.4**
CNGA				IAML		14 49 00.0	
comp=Z,410nm,1.0s							
VRLE	**La Escondida,**	**1.47**	**104**	*e*P	**Pn**	**14 48 37.4**	**-2.4**
VORI	**VORI**	**1.48**	**102**	*e*P	**Pn**	**14 48 37.6**	**-2.4**
PKGN	**Cerro Pekin**	**1.53**	**354**	*i* P	**Pn**	**14 48 41.1**	**+0.7**
PKGN				*i* S	**Sn**	**14 48 58.6**	**-1.8**
PKGN				IAML		14 49 03.9	
comp=Z,840nm,1.0s							
HORNC	**Hornillas**	**1.67**	**105**	*e*P	**Pn**	**14 48 40.3**	**-2.2**
CUI	**Cuipilapa**	**1.69**	**106**	*e*P	**Pn**	**14 48 40.7**	**-2.1**
INDI	**Punta indio, G**	**1.81**	**134**	*i* P	**Pg**	**14 48 51.2**	**+3.3**
INDI				IAML		14 49 33.1	
comp=Z,5μm,1.0s							
VERA	**Finca Concepci**	**1.93**	**98**	*e*P	**Pn**	**14 48 45.8**	**-0.2**
LIMN	**Finca el Limon**	**1.96**	**13**	*i* P	**Pn**	**14 48 46.6**	**+0.1**
LIMN				IAML		14 49 38.5	
comp=Z,97nm,1.0s							
JTS	**Las Juntas de**	**2.02**	**115**	*e*P	Pn	14 48 45.0	-2.3
CNCH	**Conchagua**	**2.34**	**335**	*i* P	Pn	14 48 52.3	+0.5
CNCH				*i* S	**Sn**	**14 49 19.1**	**-1.6**
CNCH				IAML		14 49 25.4	
comp=Z,220nm,1.0s							
RCPN	**Sur Rio San Ju**	**2.47**	**17**	*i* P	**Pn**	**14 48 53.3**	**-0.3**
RCPN				IAML		14 49 06.4	
comp=Z,0.5nm,1.0s							
ESPN	**Las Esperanzas**	**2.68**	**67**	*i* P	**Pg**	**14 49 06.1**	**+1.6**
BUS1	**Rivas**	**3.41**	**117**	*e*P	**Pn**	**14 49 05.2**	**-1.5**
OCHAL	**Ojochal**	**3.73**	**123**	*i* P	Pn	14 49 17.2	+6.5
OCHAL				IAML		14 49 28.1	
comp=Z,230nm,1.0s							

ISC 21 15:15:18.6±3.8, 46°.3N±0°.2×9°.1E±0°.1, h8km, n4, σ1§39/7, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAVA	**Damuels**	**1.17**	**28**	*e*Pg	**Pn**	**15 15 41.8**	**+0.4**
DAVA				*e*Sg	**Sn**	**15 15 58.7**	**+1.1**
4.0nm,0.2s							
14nm,0.3s							
FETA	**Feichten**	**1.37**	**55**	*e*Pg	**Pg**	**15 15 43.0**	**-1.8**
FETA				Sg	**Sn**	**15 16 01.2**	**-1.3**
0.8nm,0.1s							
0.4nm,0.2s							
MOTA	**Moosalm**	**1.76**	**51**	*e*Sg	**Sg**	**15 16 16.2**	**+0.9**
1.9nm,0.2s							
ABTA	**Abfaltersbach**	**2.42**	**77**	Pg	**Pg**	**15 16 05.1**	**+0.1**
ABTA				*e*Sg	**Sg**	**15 16 37.0**	**+0.7**
1.0nm,0.2s							
2.1nm,0.1s							

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*BGR **21** 15:49:27.7, 4°.42N×95°.89E, h64km, mb5.2*
*BJI **21** 15:49:34.1, 5°.02N×94°.75E, h59km, mb5.2/77, mB5.1/34, Ms4.5/59, Ms7 4.3/58*
*MOS **21** 15:49:34.1±0.9, 5°.12N×94°.83E, h52km, mb5.5/62, MS4.1/7, Error ellipse: s-maj=7.4km s-min=3.7km az=114.4*
*NEIC **21** 15:49:35.5, 4°.40N×94°.33E, h60km, Moment Tensor Solution. Duration: 1§2 Moment tensor: Scale 10^{16}Nm; M_{rr}1.90; $M_{\theta\theta}$-1.02; $M_{\phi\phi}$-0.89; $M_{r\theta}$0.88; $M_{\theta\phi}$1.66; $M_{\phi r}$-0.80; Fault plane solution: $M_0$2.55000×10^{16} NP1: ϕ_s132.97000°, δ58.90000°, λ88.90000°. NP2: ϕ_s315.09000°, δ31.12000°, λ91.82000°. Principal axes: T 2.1957, Plg76.0000°, Azm40.0000°; N 0.7073, Plg1.0000°, Azm134.0000°; P -2.9029, Plg14.0000°, Azm224.0000°;*
*DJA **21** 15:49:35.4±0.2, 5°N±2°×9°5E±°, h50km±2km, M5.0/79, mb5.2/79, mB5.5/28, MLv5.3/16, Mw4.9/99, Mw(mB)5.0/28, MwMwp4.6/1, Mwp4.9/1*
*NEIC **21** 15:49:35.5, 5°.00N×94°.73E, h60km*
*IDC **21** 15:49:36.8±1.6, 5°.12N×94°.84E, h59km±14km, mb4.7/29, mbtmp4.9/30, MS4.0/61, Error ellipse: s-maj=13.3km s-min=9.9km az=54.0*
*GCMT **21** 15:49:36.1±0.2, 4°.95N±0°.02×94°.64E±0°.02, h40km±1km, MW5.0/92, Moment Tensor Solution. s72, c88; s92, c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.72±.12; $M_{\theta\theta}$-0.95±.09; $M_{\phi\phi}$-1.78±.09; $M_{r\theta}$1.81±.09; $M_{\theta\phi}$1.46±.07; $M_{\phi r}$-1.29±.09; Best double couple: $M_0$3.57800×10^{16} NP1:ϕ_s132.00000°, δ64.00000°, λ80.00000°. NP2: ϕ_s334.00000°, δ27.00000°, λ110.00000°. Principal axes: T 3.5500, Plg69.0000°, Azm22.0000°; N 0.0480, Plg9.0000°, Azm136.0000°; P -3.6060, Plg19.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **21** 15:49:36.1±1.5, 4°.99N±0°.07×94°.74E±0°.07, h54km±5km, mb5.3/173, Mww4.9/18 Error ellipse: s-maj=10.5km s-min=10.2km az=146.0*
ISC 21 15:49:35.8±0.3, 4°.98N±0°.03×94°.73E±0°.04, h57km±2km, h57km:pP-P, n978, σ1§11/953, mb5.2/270, MS4.1/86, 51C-22D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.76**	**47**	P	**Pn**	**15 49 50.0**	**-0.7**
BSI				S	**Sn**	**15 50 01.1**	**-0.4**
MLSI	**Meulaboh, Aceh**	**1.81**	**113**	P	**Pn**	**15 50 04.0**	**-0.6**
MLSI				S	**Sn**	**15 50 26.1**	**-0.4**
CMBY	**CAMPBELL BAY**	**2.17**	**338**	*e*P	**Pn**	**15 50 09.6**	**0.0**
CMBY				*e*S	**Sn**	**15 50 37.2**	**+1.8**
CMBY				IAML		15 50 44.6	
comp=N,2μm,0.5s							
CMBY				IAML		15 50 45.6	
comp=E,4μm,0.4s							
LHMI	**Lhok Sumawe**	**2.22**	**83**		**Pn**	**15 50 10.2**	**-0.1**
LHMI	**Lhok Sumawe**	**2.22**	**83**	P	**Pn**	**15 50 11.9**	**+1.7**
LHMI	**Lhok Sumawe**	**2.22**	**83**	P	**Pn**	**15 50 10.8**	**+0.6**
SNSI	**Sinabang, Aceh**	**3.01**	**148**	P	**Pn**	**15 50 19.2**	**-1.8**
GSI	**Gunungsitoli**	**4.62**	**142**	Pn	**Pn**	**15 50 41.6**	**-1.6**
GSI	**Gunungsitoli**	**4.62**	**142**	P	**Pn**	**15 50 41.9**	**-1.3**
GSI	**Gunungsitoli**	**4.62**	**142**	P	**Pn**	**15 50 42.1**	**-1.1**
PSI	**Prapat**	**4.71**	**117**	P	**Pn**	**15 50 46.2**	**+1.8**
comp=E,102nm,0.5s,baz=303,slow=10,SNR=36							
PSI				S	**Sn**	**15 51 40.2**	**+2.3**
comp=E,304nm,0.8s,baz=208,slow=18,SNR=7.5							
PSI				LR	LR	15 52 53.4	
comp=E,2μm,20.7s,baz=280,slow=42							
PSI	**Prapat**	**4.71**	**117**	P	**Pn**	**15 50 46.4**	**+2.0**
RPSI	**Rantau Prapat**	**4.76**	**118**		**Pn**	**15 50 46.2**	**+1.2**
RPSI	**Rantau Prapat**	**4.76**	**118**	Pn	**Pn**	**15 50 44.7**	**-0.3**
SRIT	**Nakonsritamara**	**6.02**	**53**	Pn	**Pn**	**15 51 02.3**	**-0.1**
SRIT	**Nakonsritamara**	**6.02**	**53**	P	**Pn**	**15 51 03.2**	**+0.8**
PBSI	**Pulau Batu**	**6.13**	**145**	P	**Pn**	**15 51 02.9**	**-0.9**
comp=E,160nm,0.7s,comp=E,1.5nm							
IPM	**Ipoh**	**6.29**	**94**	Pn	**Pn**	**15 51 05.2**	**-0.8**
IPM	**Ipoh**	**6.29**	**94**	P	**Pn**	**15 51 06.7**	**+0.6**
MNSI	**Mandailing Nat**	**6.38**	**130**	P	**Pn**	**15 51 07.4**	**+0.2**
comp=E,87nm,0.5s,comp=E,3μmcomp=E,0.7nm							
PBA	**Port Blair**	**6.92**	**344**	*e*P	**Pn**	**15 51 16.4**	**+1.7**
PBA				*e*S	**Sn**	**15 52 30.0**	**-2.1**
PBA				*ex*	x	15 52 31.5	
PBA				IAML		15 52 44.8	
comp=N,4μm,0.8s							
PBA				IAML		15 52 49.9	
comp=E,3μm,0.6s							
SISI	**Saibi**	**7.63**	**145**	P	**Pn**	**15 51 22.9**	**-1.5**
comp=E,61nm,0.9s,comp=E,0.5nm							
BKNI	**Bangkinang**	**7.81**	**126**	Pn	**Pn**	**15 51 25.7**	**-1.2**
BKNI	**Bangkinang**	**7.81**	**126**	P	**Pn**	**15 51 26.8**	**-0.1**
BKNI	**Bangkinang**	**7.81**	**126**	P	**Pn**	**15 51 26.5**	**-0.4**
comp=E,287nm,0.7s,comp=E,3μmcomp=E,1.3nm							
PPI	**Padang Panjang**	**7.82**	**134**	P	**Pn**	**15 51 26.6**	**-0.4**
comp=E,105nm,1.1s,comp=E,1μmcomp=E,0.4nm							
PDSI	**Padang**	**8.18**	**135**	P	**Pn**	**15 51 30.8**	**-1.2**
comp=E,86nm,1.0s,comp=E,1μm							
DGPR	**DIGLIPUR**	**8.34**	**348**	*e*P	**Pn**	**15 51 31.9**	**-2.3**
DGPR				IAML		15 53 20.9	
comp=E,2μm,0.8s							
DGPR				IAML		15 53 27.1	
comp=E,3μm,0.4s							
PPSI	**Pulau Pagai**	**9.32**	**145**	P	**Pn**	**15 51 46.5**	**-1.1**
comp=E,87nm,1.2s							
MYKOM	**Kota Tinggi**	**9.63**	**109**	Pn	**Pn**	**15 51 50.8**	**-1.1**
MYKOM	**Kota Tinggi**	**9.63**	**109**	P	**Pn**	**15 51 54.0**	**+2.1**
BTDF	**Bukit Timah Da**	**9.71**	**111**	P	**Pn**	**15 51 54.1**	**+1.1**
SRDT	**SRDT**	**10.27**	**25**	P	**Pn**	**15 52 02.4**	**+1.9**
TPRI	**Tanjung Pinang**	**10.58**	**112**	P	**Pn**	**15 52 04.4**	**-0.4**
comp=E,72nm,0.7s,comp=E,4μm							
KSI	**Kapahiang**	**11.62**	**137**	P	**Pn**	**15 52 18.6**	**-0.5**
comp=E,82nm,1.1s							
LWLI	**Liwa**	**13.61**	**137**	P	**Pn**	**15 52 45.5**	**-0.8**
comp=E,72nm,0.6s							
CM31	**Chiang Mai Arr**	**14.01**	**17**		**Pn**	**15 52 51.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**14.01**	**17**		**Pn**	**15 52 51.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**14.01**	**17**	P	**Pn**	**15 52 54.8**	**+3.2**
comp=E,32nm,0.9s,baz=206,slow=12,SNR=98							
CMAR				S	**Sn**	**15 55 34.0**	**+8.3**
comp=E,0.6nm,0.5s,baz=97,slow=32,SNR=1.9							
CMAR				LR	LR	15 58 04.4	
comp=E,710nm,21.5s,baz=200,slow=37							
CMAR	**Chiang Mai Arr**	**14.01**	**17**	P	**Pn**	**15 52 51.8**	**+0.2**
KASI	**Kota Agung**	**14.28**	**137**	P	**Pn**	**15 52 57.0**	**+1.9**
comp=E,43nm,0.8s,comp=E,496nm							
CHTO	**Chiang Mai**	**14.35**	**16**		**Pn**	**15 52 56.4**	**+0.3**
CHTO	**Chiang Mai**	**14.35**	**16**	P	**Pn**	**15 52 56.4**	**+0.3**
PHRA	**Phrae**	**14.47**	**21**		**Pn**	**15 52 58.1**	**+0.5**
UBPT	**Khong Chiam**	**14.71**	**45**	P	**Pn**	**15 53 03.7**	**+3.0**
UBPT	**Khong Chiam**	**14.71**	**45**	P	**Pn**	**15 53 03.2**	**+2.5**
DLV	**Lat**	**15.26**	**62**	Pn	**Pn**	**15 53 07.4**	**-0.6**
DLV	**Lat**	**15.26**	**62**	P	**P**	**15 53 11.0**	**-0.9**
KSM	**Kuching**	**15.93**	**102**	P	**P**	**15 53 18.9**	**-0.3**
KSM	**Kuching**	**15.93**	**102**	P	**P**	**15 53 19.2**	**0.0**
MDRS	**Chennai**	**16.40**	**300**	*ex*	x	15 56 08.9	
LEM	**Lembang**	**17.40**	**132**	LR	LR	16 01 40.5	
comp=E,430nm,20.5s,baz=328,slow=42							
STKI	**Sintang**	**17.42**	**106**	P	**Pn**	**15 53 35.4**	**+0.3**
comp=E,86nm,0.9s							
SBUM	**Sibu**	**17.63**	**98**	P	**Pn**	**15 53 37.6**	**-0.1**
SBUM	**Sibu**	**17.63**	**98**	P	**Pn**	**15 53 38.2**	**+0.5**
SLVN	**Son La**	**18.54**	**28**	P	**P**	**15 53 49.0**	**+1.1**
IMP	**Imphal**	**19.75**	**358**	*e*P	**P**	**15 53 57.8**	**-3.5**
HYB	**Hyderabad**	**20.09**	**309**	*e*P	**P**	**15 54 05.2**	**+0.2**
HYB				*e*S	**S**	**15 57 48.1**	**+0.3**
TNCH	**TengChong**	**20.27**	**10**	P	**P**	**15 54 06.6**	**-0.3**
TNCH				pP	pP	15 54 19.3	+0.1
TNCH				S	**S**	**15 57 46.9**	**-4.4**
TNCH				sS	Sn	15 58 03.4	+6.3
TNCH				SS	**SnSn**	**15 58 18.8**	**+6.0**
TNCH				ScP	**ScP**	**16 01 47.6**	**-3.3**
TNCH				pmax	pmax		
comp=E,82nm,1.0s							
TNCH				pmax	pmax		
comp=E,190nm,4.2s							
TNCH				LR	LR		
comp=E,180nm,10.9s							
TNCH				LR	LR		
comp=E,260nm,11.3s							
TNCH				LR	LR		
comp=E,430nm,14.2s							
QIZ	**Qiongzhong**	**20.31**	**45**	P	**P**	**15 54 08.3**	**+1.1**
QIZ				pP	**pP**	**15 54 18.9**	**-0.9**
QIZ				sP	**sP**	**15 54 23.5**	**-3.5**
QIZ				S	**S**	**15 57 53.8**	**+1.9**
QIZ				pmax	pmax		
comp=E,22nm,0.8s							
QIZ				pmax	pmax		
comp=E,190nm,8.0s							
QIZ				LR	LR		
comp=E,620nm,17.0s							
QIZ				LR	LR		
comp=E,540nm,16.4s							
QIZ				LR	LR		
comp=E,770nm,14.5s							
QIZ	**Qiongzhong**	**20.31**	**45**	P	**P**	**15 54 08.4**	**+1.2**
BOK	**Bokaro**	**20.56**	**336**	*e*P	**P**	**15 54 09.8**	**-0.1**
BOK				IAmb	IAmb	15 54 12.4	
comp=Z,100nm,0.6s							
KOHI	**KOHIMA**	**20.63**	**358**	*e*P	**P**	**15 54 07.1**	**-3.7**
KOHI				*e*S	**S**	**15 57 52.6**	**-5.9**
SHL	**Shillong**	**20.65**	**353**	P	**P**	**15 54 07.2**	**-3.9**
SHL	**Shillong**	**20.65**	**353**	*e*P	**P**	**15 54 05.8**	**-5.3**
SHL				IAmb	IAmb	15 54 09.2	
comp=Z,25nm,0.6s							
SHL	**Shillong**	**20.65**	**353**	P	**P**	**15 54 07.2**	**-3.9**
SHL				pmax	pmax		
comp=Z,64nm,0.8s							
NGJI	**Ngawi**	**20.71**	**126**	P	**P**	**15 54 11.7**	**0.0**
comp=Z,53nm,1.0s							
MTKI	**Muara Teweh, K**	**20.98**	**106**	P	**P**	**15 54 15.2**	**+0.6**
comp=Z,102nm,0.7s							
KKM	**Kota Kinabalu**	**21.41**	**86**	P	**P**	**15 54 18.5**	**-0.8**
KMI	**Kunming**	**21.45**	**20**	⇑P	**P**	**15 54 20.8**	**+1.0**
KMI				pP	sP	15 54 36.8	-2.5
KMI				S	**S**	**15 58 14.9**	**-0.1**
KMI				pmax	pmax		
comp=Z,27nm,1.0s							
KMI				LR	LR		
comp=Z,480nm,16.1s							
KMI				LR	LR		
comp=Z,740nm,15.4s							
KMI				LR	LR		
comp=Z,730nm,21.0s							
NGP	**Nagpur**	**22.14**	**318**	*e*P	**P**	**15 54 28.4**	**+1.5**
NGP				IAmb	IAmb	15 54 31.2	
comp=Z,54nm,1.1s							
PZH	**PanZhiHua**	**22.43**	**17**	P	**P**	**15 54 29.4**	**-0.7**
PZH				pP	**pP**	**15 54 42.5**	**-0.1**
PZH				S	**S**	**15 58 29.6**	**-3.3**
PZH				ScS	**ScS**	**16 05 38.8**	**-2.8**
PZH				pmax	pmax		
comp=Z,40nm,1.2s							
PZH				pmax	pmax		
comp=Z,230nm,5.3s							
PZH				LR	LR		
comp=Z,500nm,17.2s							
PZH				LR	LR		
comp=Z,390nm,16.7s							
PZH				LR	LR		
comp=Z,530nm,18.6s							
ZIRO	**ZIRO**	**22.44**	**358**	*e*P	**P**	**15 54 27.0**	**-3.3**
ZIRO				*e*S	**S**	**15 58 29.5**	**-3.7**
KMMI	**Kalianget**	**22.61**	**122**	P	**P**	**15 54 32.2**	**+0.2**
comp=Z,113nm,0.9s							
BLJI	**Banyuglugur**	**22.67**	**124**	P	**P**	**15 54 32.2**	**-0.4**
BKB	**Balikpapan**	**22.99**	**105**	P	**P**	**15 54 38.6**	**+2.6**
comp=Z,91nm,0.8s							
AKL	**Akola**	**23.25**	**314**	*e*P	**P**	**15 54 40.3**	**+1.8**
JAGI	**Jajag, Banyuwa**	**23.53**	**125**	P	**P**	**15 54 42.9**	**+1.8**
MYLDM	**Lahad Datu**	**23.67**	**88**	P	**P**	**15 54 42.1**	**-0.5**
MYLDM	**Lahad Datu**	**23.67**	**88**	P	**P**	**15 54 43.4**	**+0.9**
ALBI	**Allahabad**	**23.72**	**330**	*e*P	**P**	**15 54 43.3**	**+0.6**
ALBI				IAmb	IAmb	15 54 44.5	
comp=Z,96nm,0.7s							
SRBI	**Singaraja**	**24.20**	**122**	P	**P**	**15 54 48.3**	**+1.0**
GYA	**Guiyang**	**24.21**	**27**	⇓P	**P**	**15 54 47.6**	**+0.1**
GYA				pP	pP	15 54 59.3	-2.0
GYA				S	**S**	**15 59 00.1**	**-2.1**
GYA				pmax	pmax		
comp=Z,260n

JHNI	Jhansi	25.61	324	eP	P	15 54 59.4	-0.7
BRCI	Bahraich	25.72	332	eP	P	15 55 03.2	+2.2
BRCI				IAmb	IAmb	15 55 05.0	
comp=Z,6μm,1.7s							
GUNA	GUNA	25.73	321	eP	P	15 55 02.8	+1.6
GUNA				IAmb	IAmb	15 55 07.4	
comp=Z,36nm,0.5s							
PCI	Palu	25.75	102	P	P	15 55 02.2	+0.8
comp=Z,67nm,1.1s							
TOLI2	Tolitoli	26.29	98	P	P	15 55 06.8	+0.5
TTSI	Tana Toraja	26.30	107	P	P	15 55 07.4	+1.0
comp=Z,56nm,1.0s,comp=Z,826nm							
SPSI	Sidrap Palu	26.54	109	P	P	15 55 07.7	-0.9
comp=Z,21nm,0.7s							
PLAI	Plampang	26.76	121	P	P	15 55 10.9	+0.4
comp=Z,40nm,0.9s							
KAPI	Kappang	26.89	111	P	P	15 55 11.4	-0.3
KAPI				IAmb	IAmb	15 55 13.2	
comp=Z,73nm,1.5s							
KAPI	Kappang	26.89	111	LR	LR	16 06 24.1	
comp=Z,309nm,20.3s,baz=290,slow=38							
KAPI	Kappang	26.89	111	P	P	15 55 12.2	+0.5
KAPI	Kappang	26.89	111	P	P	15 55 11.4	-0.3
KAPI				pmax	pmax		
comp=Z,73nm,1.5s							
BNSI	Bone	27.00	110	P	P	15 55 14.6	+1.9
comp=Z,67nm,1.3s,comp=Z,724nm							
CD2	Chengdu	27.16	17	P	P	15 55 12.4	-1.6
CD2				pmax	pmax		
comp=Z,50nm,0.8s							
CD2				LR	LR		
comp=Z,490nm,15.9s							
CD2				LR	LR		
comp=Z,760nm,15.2s							
CD2				LR	LR		
comp=Z,430nm,17.8s							
BKSI	Bulukumba	27.34	112	P	P	15 55 15.9	+0.1
comp=Z,70nm,1.0s,comp=Z,530nm							
APSI	Ampana	27.52	102	P	P	15 55 17.8	+0.5
comp=Z,85nm,1.1s							
MRSI	Marisa	27.54	99	P	P	15 55 17.2	-0.3
comp=Z,47nm,0.8s							
LGTI	Lohaghat	27.93	332	eP	P	15 55 20.1	-0.7
SZP	Santa	28.10	62	P	P	15 55 23.7	+1.2
SONA	Sohna	28.58	326	eP	P	15 55 26.5	-0.1
LUWI	Luwuk	28.64	101	IAmb	IAmb	15 55 47.1	
comp=Z,114nm,0.9s							
LUWI	Luwuk	28.64	101	P	P	15 55 28.0	+0.6
LUWI	Luwuk	28.64	101	P	P	15 55 27.6	+0.2
AJM	Ajmer	28.74	320	eP	P	15 55 29.4	+1.3
ENH	Enshi	28.75	27	P	P	15 55 26.6	-1.6
ENH				IAmb	IAmb	15 55 28.2	
comp=Z,43nm,0.6s							
ENH	Enshi	28.75	27	P	P	15 55 27.2	-1.0
KDI	Kendari	29.24	107	P	P	15 55 32.1	-0.6
comp=Z,30nm,0.9s							
KMSI	Cibinong	29.53	98	P	P	15 55 36.4	+1.1
KLP	Kalpa	30.61	332	eP	P	15 55 45.1	+0.1
DAV	Davao City (W)	30.74	85	LR	LR	16 12 17.2	
comp=Z,224nm,18.3s,baz=258,slow=44							
SMLA	Simla	30.81	330	eP	P	15 55 46.1	-0.3
SMLA				IAmb	IAmb	15 55 49.4	
comp=Z,11nm,0.7s							
GOMU	GeErMu	31.07	0	P	P	15 55 48.4	-0.6
GOMU				pP	pP	15 56 01.8	-0.8
GOMU				sP	pwP	15 56 07.3	+1.8
GOMU				PcP	PcP	15 58 45.3	+1.7
GOMU				S	S	16 00 55.8	+5.1
GOMU				pmax	pmax		
comp=Z,12nm,0.6s							
GOMU				LR	LR		
comp=Z,210nm,19.6s							
GOMU				LR	LR		
comp=Z,330nm,20.9s							
WHN	Wuhan	31.44	34	P	P	15 55 52.5	+0.6
WHN				pmax	pmax		
comp=Z,100nm,0.9s							
YULB	Yu-li	31.49	52	P	P	15 55 52.0	-0.5
YULB	Yu-li	31.49	52	P	P	15 55 54.2	+1.7
XAN	Xi'an	31.78	23	⇑P	P	15 55 53.9	-1.0
XAN				pP	pP	15 56 05.0	-3.9
XAN				S	S	16 00 59.5	-1.7
XAN				pmax	pmax		
comp=Z,220nm,0.7s							
XAN				pmax	pmax		
comp=Z,420nm,3.6s							
XAN				LR	LR		
comp=Z,880nm,15.5s							
XAN				LR	LR		
comp=Z,870nm,16.3s							
XAN				LR	LR		
comp=Z,2μm,17.0s							
XAN	Xi'an	31.78	23	⇑P	P	15 55 53.8	-1.1
XAN				pP	pP	15 56 07.2	-1.7
XAN				PcP	PcP	15 58 45.2	0.0
SANI	Sanana	32.00	102	P	P	15 55 56.6	-0.4
SANI	Sanana	32.00	102	P	P	15 55 55.8	-1.2
comp=Z,39nm,0.9s							
LZH	Lanzhou	32.08	14	eP	P	15 55 57.0	-0.6
LZH				pP	pP	15 56 09.8	-1.6
LZH				sP	sP	15 56 13.8	-4.1
LZH				PcP	PcP	15 58 46.4	+0.3
LZH				SS	SS	16 02 57.0	-29
LZH				pmax	pmax		
comp=Z,48nm,1.0s							
LZH				LR	LR		
comp=Z,530nm,16.7s							
LZH				LR	LR		
comp=Z,530nm,15.5s							
LZH				LR	LR		
comp=Z,590nm,18.4s							
DHRM	DHARAMSHALA	32.15	330	eP	P	15 55 58.2	-0.2
DHRM				IAmb	IAmb	15 55 58.7	
comp=Z,24nm,1.1s							
BATI	Baumata	32.52	118	LR	LR	16 10 59.4	
comp=Z,510nm,20.1s,baz=311,slow=40							
TNTI	Ternate	32.85	96	P	P	15 56 02.6	-1.9
comp=Z,15nm,0.9s,comp=Z,685nm							
SOEI	Soe	32.87	116	P	P	15 56 02.8	-2.0
comp=Z,26nm,0.8s							
NLAI	Namlea	33.35	104	P	P	15 56 09.0	+0.1
comp=Z,77nm,0.9s,comp=Z,670nm							
LYN	LuoYang	33.70	27	⇑iP	P	15 56 12.1	+0.4
LYN				pP	pP	15 56 25.3	-0.4
LYN				pmax	pmax		
comp=Z,190nm,0.7s							
LYN				LR	LR		
comp=Z,1μm,17.1s							
LYN				LR	LR		
comp=Z,580nm,13.9s							
LYN				LR	LR		
comp=Z,2μm,15.9s							
AAI	Ambon	34.52	104	P	P	15 56 18.4	-0.6
GTA	Gaotai	34.58	7	⇑P	P	15 56 18.8	-0.6
GTA				pP	pP	15 56 31.5	-1.9
GTA				PcP	PcP	15 58 54.4	+1.4
GTA				pmax	pmax		
comp=Z,54nm,0.9s							
GTA				LR	LR		
comp=Z,160nm,19.1s							
GTA				LR	LR		
comp=Z,220nm,15.9s							
GTA				LR	LR		
comp=Z,280nm,21.1s							
NIL	Nilore	34.83	328	P	P	15 56 20.1	-1.4
NIL				IAmb	IAmb	15 56 21.9	
comp=Z,29nm,0.8s							
NIL	Nilore	34.83	328	P	P	15 56 20.1	-1.4
NIL				pmax	pmax		
comp=Z,29nm,0.8s							
NIL	Nilore	34.83	328	P	P	15 56 21.0	-0.5
MSAI	Masohi	35.15	103	P	P	15 56 23.8	-0.7
comp=Z,66nm,0.9s							
NJ2	Nanjing	35.15	37	⇑P	P	15 56 24.6	+0.4
NJ2				pmax	pmax		
comp=Z,53nm,1.0s							
SSE	Sheshan	35.96	41	P	P	15 56 30.1	-1.0
SSE				S	S	16 02 05.1	-0.6
SSE				pmax	pmax		
comp=Z,9.0nm,0.7s							
SSE				pmax	pmax		
comp=Z,98nm,3.0s							
SSE				LR	LR		
comp=Z,350nm,18.6s							
SSE				LR	LR		
comp=Z,180nm,20.1s							
SWI	Sorong	36.95	98	P	P	15 56 38.8	-1.0
HNS	HongShan	37.08	27	⇑P	P	15 56 41.8	+1.2
HNS				pP	pP	15 56 53.9	-0.9
HNS				S	S	16 02 25.8	+3.2
HNS				pmax	pmax		
comp=Z,220nm,1.0s							
HNS				LR	LR		
comp=Z,440nm,16.1s							
HNS				LR	LR		
comp=Z,370nm,16.3s							
HNS				LR	LR		
comp=Z,590nm,15.9s							
TIA	Tai'an	37.28	31	P	P	15 56 42.4	0.0
TIA				S	S	16 02 22.8	-3.0
TIA				pmax	pmax		
comp=Z,79nm,0.8s							
TIA				pmax	pmax		
comp=Z,170nm,3.5s							
TIA				LR	LR		
comp=Z,690nm,18.2s							
TIA				LR	LR		
comp=Z,570nm,16.6s							
TIA				LR	LR		
comp=Z,1μm,15.5s							
KBL	Kabul	37.84	324	P	P	15 56 46.7	-0.6
KBL	Kabul	37.84	324	P	P	15 56 46.7	-0.6
KBL				pmax	pmax		
comp=Z,8.0nm,0.9s							
BTO	Baotou	38.04	19	⇑iP	P	15 56 48.6	-0.2
BTO				pP	pP	15 57 03.8	+0.7
BTO				sP	sP	15 57 11.1	+1.4
BTO				PP	PnPn	15 58 20.5	+1.9
BTO				S	S	16 02 35.5	-1.9
BTO				sS	sS	16 03 02.5	+1.9
BTO				SS	SnSn	16 05 19.5	-5.2
BTO				pmax	pmax		
comp=Z,110nm,0.9s							
BTO				pmax	pmax		
comp=Z,250nm,7.8s							
BTO				LR	LR		
comp=Z,1μm,21.2s							
BTO				LR	LR		
comp=Z,590nm,15.3s							
BTO				LR	LR		
comp=Z,1μm,22.3s							
FITZ	Fitzroy Crossi	38.15	128	P	P	15 56 48.8	-1.1
FITZ	Fitzroy Crossi	38.15	128	P	P	15 56 48.4	-1.5
comp=Z,4.0nm,1.0s							
FITZ	Fitzroy Crossi	38.15	128	LR	LR	16 14 10.1	
comp=Z,172nm,20.7s,baz=304,slow=39							
FITZ	Fitzroy Crossi	38.15	128	P	P	15 56 49.3	-0.6
FAKI	Fak Fak	38.29	101	P	P	15 56 50.2	-1.0
KSH	Kashi	38.34	336	P	P	15 56 50.3	-1.1
KSH				pP	pP	15 57 04.8	-0.5
KSH				pmax	pmax		
comp=Z,37nm,0.6s							
WUS	Wushi	38.65	341	P	P	15 56 54.8	+0.8
WUS				pP	pP	15 57 08.3	+0.5
WUS				sP	sP	15 57 13.4	-0.8
JOW	Kunigami	38.68	52	LR	LR	16 12 52.5	
comp=Z,274nm,21.9s,baz=300,slow=36							
SAUI	Saumlaki	38.68	109	P	P	15 56 53.5	-0.9
SAUI				IAmb	IAmb	15 56 55.8	
comp=Z,60nm,0.8s							
SAUI	Saumlaki	38.68	109	P	P	15 56 55.2	+0.7
SAUI	Saumlaki	38.68	109	P	P	15 56 54.7	+0.2
comp=Z,90nm,1.1s							
WMQ	Urumqi	39.18	352	eP	P	15 56 59.1	+0.8
WMQ				pP	pP	15 57 07.8	-4.5
WMQ				sP	pwP	15 57 16.1	+1.5
WMQ				pmax	pmax		
comp=Z,38nm,1.1s							
WMQ				pmax	pmax		
comp=Z,110nm,4.3s							
WMQ				LR	LR		
comp=Z,190nm,22.9s							
WSAR	Wadi Sarin	39.26	301	LR	LR	16 11 13.3	
comp=Z,113nm,21.6s,baz=130,slow=33							
KNRA	Kununurra	39.45	122	P	P	15 56 59.9	-1.0
KNRA	Kununurra	39.45	122	P	P	15 56 59.7	-1.2
comp=Z,15nm,1.0s							
TARG	Taragay, Kyrgy	39.59	340	IAmb	IAmb	15 57 05.2	
comp=Z,48nm,0.8s							
KMPI	Kaimana, Papua	39.87	102	P	P	15 57 03.7	-0.7
comp=Z,47nm,0.8s							
BJT	Baijiatuau	39.88	26	P	P	15 57 04.3	+0.3
BJT	Baijiatuau	39.88	26	P	P	15 57 05.4	+1.3
BJT	Baijiatuau	39.88	26	P	P	15 57 04.4	+0.3
BJT				pmax	pmax		
comp=Z,71nm,0.8s							
BJT	Baijiatuau	39.88	26	P	P	15 57 05.2	+1.1
BJT				pP	pP	15 57 18.1	-0.3
BJI	Beijing	39.90	26	P	P	15 57 05.3	+1.1
BJI				pmax	pmax		
comp=Z,48nm,0.9s							
BJI				LR	LR		
comp=Z,170nm,22.4s							
BJI				LR	LR		
comp=Z,67nm,20.6s							
BJI				LR	LR		
comp=Z,230nm,16.7s							
NRN	Naryn	39.98	338	IAmb	IAmb	15 57 06.8	
comp=Z,30nm,0.7s							
KDJ	Kajisay	40.16	340	IAmb	IAmb	15 57 08.7	
comp=Z,46nm,0.6s							
MTN	Manton Dam	40.27	116	P	P	15 57 01.5	-6.1
SHLS	Shalkode	40.35	343	eP	P	15 57 07.1	-1.1
comp=Z,62nm,0.8s							
SHLS	Shalkode	40.35	343	eP	P	15 57 07.0	-1.1
SHLS				pmax	pmax		
comp=Z,62nm,0.8s							
GAR	Garm	40.46	330	IAmb	IAmb	15 57 16.1	
comp=Z,38nm,0.6s							
UZB	Uzynbulak	40.48	342	eP	P	15 57 09.0	-0.2
comp=Z,42nm,0.7s							
UZB	Uzynbulak	40.48	342	eP	P	15 57 09.0	-0.2
UZB				pmax	pmax		
comp=Z,42nm,0.7s							
PDGK	Podgornoye	40.50	343	P	P	15 57 09.7	+0.3
SATY	Saty	40.59	342	eP	P	15 57 10.0	-0.2
comp=Z,55nm,0.9s							
SATY				eS	S	16 03 16.2	+0.4
SATY	Saty	40.59	342	eP	P	15 57 09.9	-0.2
SATY				eS	S	16 03 16.1	+0.4
SATY				pmax	pmax		
comp=Z,55nm,0.9s							
ULHL	Ulahol	40.60	339	P	P	15 57 10.9	+0.7
SNR=13							
ZHN	Zhinishke	40.68	342	eP	P	15 57 10.5	-0.4
comp=Z,54nm,1.1s							
ZHN	Zhinishke	40.68	342	eP	P	15 57 10.4	-0.4
ZHN				pmax	pmax		
comp=Z,54nm,1.1s							
SIMJ	Simiganj	40.86	329	P	P	15 57 10.6	-1.8
SIMJ	Simiganj	40.86	329	P	P	15 57 11.3	-1.1
SIMJ				ScP	ScP	16 02 59.0	+1.6
KPKS	Kokpek	40.87	342	eP	P	15 57 12.2	-0.2
comp=Z,30nm,0.7s							
KPKS	Kokpek	40.87	342	eP	P	15 57 12.1	-0.2
KPKS				pmax	pmax		
comp=Z,30nm,0.7s							
TNSS	Tian-Shan	41.05	340	eP	P	15 57 13.7	-0.6
TNSS	Tian-Shan	41.05	340	eP	P	15 57 13.6	-0.6
ARSB	Arslanbob	41.09	335	IAmb	IAmb	15 57 17.4	
comp=Z,56nm,1.4s							
MDOK	Medeo	41.12	340	eP	P	15 57 14.4	-0.1
MDOK				eS	S	16 03 24.2	+0.4
MDOK	Medeo	41.12	340	eP	P	15 57 14.4	-0.1
MDOK				eS	S	16 03 24.1	+0.4
AAA	Alma-Ata	41.21	340	eP	P	15 57 15.1	0.0
AAA	Alma-Ata	41.21	340	eP	P	15 57 15.1	0.0
UCH	Uchtor	41.23	337	P	P	15 57 17.1	+1.4
SNR=9.9							
KDU	Kakadu	41.41	115	P	P	15 57 15.1	-1.9
TKM2	Tokmak 2	41.42	339	P	P	15 57 18.0	+0.9
SNR=7.7							
TKM2	Tokmak 2	41.42	339	P	P	15 57 16.8	-0.2
KBK	Karagaybulak	41.43	338	P	P	15 57 18.5	+1.5
SNR=48							
AML	Almayashu	41.47	336	P	P	15 57 18.7	+1.1
SNR=117							
AAK	Ala-Archa	41.59	337	P	P	15 57 19.6	+1.2
SNR=25							
AAK	Ala-Archa	41.59	337	P	P	15 57 19.4	+1.1
AAK	Ala-Archa	41.59	337	LR	LR	16 17 33.1	
comp=Z,158nm,19.0s,baz=152,slow=40							
AAK	Ala-Archa	41.59	337	P	P	15 57 19.4	+1.1
AAK				pmax	pmax		
comp=Z,28nm,0.8s							
AAK	Ala-Archa	41.59	337	P	P	15 57 19.3	+1.0
AAK				pP	pP	15 57 33.4	+1.1
AAK				PcP	PcP	15 59 15.8	+1.1
AAK				ScP	ScP	16 03 01.7	+1.5
DL2	Dalian	41.66	32	P	P	15 57 19.3	+0.6
DL2				S	S	16 03 30.3	-1.0
DL2				pmax	pmax		
comp=Z,150nm,0.8s							
DL2				LR	LR		
comp=Z,610nm,15.2s							
DL2				LR	LR		
comp=Z,360nm,14.8s							
DL2				LR	LR		
comp=Z,610nm,17.5s							
FRU1	Bishkek	41.68	338	IAmb	IAmb	15 57 21.9	
comp=Z,31nm,0.8s							
CHKK	Chushkaly	41.76	341	eP	P	15 57 19.3	-0.2
CHKK	Chushkaly	41.76	341	eP	P	15 57 19.3	-0.2
CHMS	Chumysh	41.80	338	P	P	15 57 20.5	+0.6
SNR=11							
ARXS	Arharly	41.81	342	eP	P	15 57 20.7	+0.6
EKS2	Erkin-Say	41.89	337	P	P	15 57 22.0	+1.3
SNR=45							
KUU	Kurty	42.01	340	eP	P	15 57 21.6	0.0
KUU	Kurty	42.01	340	eP	P	15 57 21.6	0.0
USP	Ospenovka	42.12	338	P	P	15 57 23.4	+0.8
SNR=92							
SGDS	Sogindy	42.23	338	eP	P	15 57 23.5	0.0
SGDS	Sogindy	42.23	338	eP	P	15 57 23.5	0.0
TDK	Taldyqorghan	42.35	343	eP	P	15 57 24.1	-0.2
comp=Z,59nm,1.2s							
TDK	Taldyqorghan	42.35	343	eP	P	15 57 24.1	-0.2
TDK				pmax	pmax		
comp=Z,59nm,1.2s							
MKAR	Makanchi Array	43.02	347	P	P	15 57 29.1	-0.7
MKAR	Makanchi Array	43.02	347	P	P	15 57 29.8	0.0
comp=Z,55nm,0.7s,baz=167,slow=8.2,SNR=354							
MKAR				LR	LR	16 21 11.9	
comp=Z,70nm,18.2s,baz=204,slow=44							
comp=Z,55nm,0.7s							
MK31	Makanchi Array	43.02	347	IAmb	IAmb	15 57 30.9	
comp=Z,48nm,0.8s							
MK31	Makanchi Array	43.02	347	iP	P	15 57 29.7	-0.1
IUG	Iuzhnay	43.05	333	eP	P	15 57 30.2	-0.1
comp=Z,30nm,0.7s							
IUG	Iuzhnay	43.05	333	eP	P	15 57 30.1	-0.1
IUG				pmax	pmax		
comp=Z,30nm,0.7s							
DZA	Taraz	43.08	335	eP	P	15 57 30.3	0.0
DZA	Taraz	43.08	335	eP	P	15 57 30.3	0.0
XLT	XiLinHaoTe	43.09	23	eP	P	15 57 30.6	+0.2
XLT				pP	pP	15 57 44.3	-0.6
XLT				S	S	16 03 53.8	+1.3
XLT				pmax	pmax		
comp=Z,29nm,0.9s							
XLT				pmax	pmax		
comp=Z,71nm,3.7s							
XLT				LR	LR		
comp=Z,100nm,16.3s							
XLT				LR	LR		
comp=Z,560nm,18.0s							
XLT				LR	LR		
comp=Z,1μm,18.1s							
MAKZ	Makanchi	43.11	347	P	P	15 57 30.4	-0.1
MAKZ				IAmb	IAmb	15 57 31.4	
comp=Z,54nm,0.7s							
MAKZ	Makanchi	43.11	347	P	P	15 57 30.4	-0.1
MAKZ				pmax	pmax		
comp=Z,53nm,0.7s							
MAKZ	Makanchi	43.11	347	P	P	15 57 30.3	-0.2
MAKZ				pP	pP	15 57 43.5	-0.9
MAKZ				sP	pwP	15 57 49.0	+1.4
MAKZ				PcP	PcP	15 59 20.1	+0.6
ZSN	Zaisan	43.16	350	eP	P	15 57 30.9	+0.1
ZSN	Zaisan	43.16	350	eP	P	15 57 30.9	+0.1
TJN	Taejon	43.28	39	P	P	15 57 31.9	-0.1
TJN	Taejon	43.28	39	iP	P	15 57 31.3	-0.7
NWAO	Narrogin (SRO)	43.33	152	LR	LR	16 15 51.6	
comp=Z,94nm,19.4s,baz=246,slow=36							
CHM	Chimkent	43.38	333	eP	P	15 57 32.9	+0.1
CHM	Chimkent	43.38	333	eP	P	15 57 32.8	+0.1
INCN	Inchon	43.52	38	P	P	15 57 32.9	-1.1
INCN				IAmb	IAmb	15 57 34.3	
comp=Z,64nm,1.1s							
INCN	Inchon	43.52	38	P	P	15 57 33.6	-0.4
INCN	Inchon	43.52	38	P	P	15 57 32.9	-1.1
INCN				pmax	pmax		
comp=Z,64nm,1.1s							
KK31	Karatay Array	43.60	334	iP	P	15 57 34.8	+0.3
KKAR	Karatay Array	43.60	334	P	P	15 57 34.3	-0.2
KKAR	Karatay Array	43.60	334	IAmb	IAmb	15 57 35.7	
comp=Z,19nm,0.8s							
KKAR	Karatay Array	43.60	334	P	P	15 57 34.3	-0.2
H01W3	Cape Leeuwin H	43.66	157	T	T	16 44 46.5	
baz=331,slow=76,SNR=5.5							
H01W2	Cape Leeuwin H	43.67	157	T	T	16 44 30.0	
baz=331,slow=76,SNR=9.0							
H01W1	Cape Leeuwin H	43.67	157	T	T	16 44 31.4	
baz=331,slow=76,SNR=3.7							
JNU	Nakatsue	43.78	46	P	P	15 57 35.9	-0.2
JNU				IAmb	IAmb	15 57 37.2	
comp=Z,35nm,0.8s							
JNU	Nakatsue	43.78	46	LR	LR	16 18 22.4	
comp=Z,404nm,18.4s,baz=252,slow=40							
JNU	Nakatsue	43.78	46	P	P	15 57 36.5	+0.4
BTLS	Baital	43.81	339	eP	P	15 57 36.2	0.0
BTLS	Baital	43.81	339	eP	P	15 57 36.2	0.0
BRLS	Borolday	43.84	334	eP	P	15 57 35.3	-1.2
BRLS	Borolday	43.84	334	eP	P	15 57 35.2	-1.2
SONM	Songino Array	43.86	11	P	P	15 57 35.6	-1.0
SONM				IAmb	IAmb	15 57 36.9	
comp=Z,32nm,0.8s							
SONM	Songino Array	43.86	11	P	P	15 57 35.9	-0.7
comp=Z,26nm,0.8s,baz=190,slow=8.7,SNR=174							
SONM				PcP	PcP	15 59 22.7	+0.5
comp=Z,11nm,0.7s,baz=197,slow=3.7,SNR=11							
SONM				ScP	ScP	16 03 08.9	-0.3
comp=Z,2.9nm,1.0s,baz=196,slow=4.5,SNR=6.5							
SONM				LR	LR	16 18 16.8	
comp=Z,289nm,18.1s,baz=192,slow=39							
comp=Z,28nm,0.8s							
ULN	Ulaanbaatar	44.02	12	P	P	15 57 36.8	-1.1
ULN	Ulaanbaatar	44.02	12	P	P	15 57 36.8	-1.1
ULN				pmax	pmax		
comp=Z,19nm,0.7s							
ULN	Ulaanbaatar	44.02	12	P	P	15 57 37.0	-0.9
ULN				PcP	PcP	15 59 23.1	+0.4
ULN				ScP	ScP	16 03 10.7	+0.8
KSAR	Wonju Array Be	44.27	39	P	P	15 57 39.3	-0.6
KSAR	Wonju Array Be	44.27	39	P	P	15 57 39.3	-0.6
KS19	Wonju Array Si	44.30	38	IAmb	IAmb	15 57 41.6	
comp=Z,28nm,0.8s							
KSRS	Korea Array	44.30	39	P	P	15 57 39.5	-0.6
comp=Z,20nm,0.8s,baz=218,slow=9.0,SNR=66							
KSRS				LR	LR	16 17 39.5	
comp=Z,156nm,18.9s,baz=225,slow=38							
comp=Z,20nm,0.8s							
WB0	Warramunga Arr	46.10	123	IAmb	IAmb	15 57 56.0	
comp=Z,48nm,0.8s							
WRA	Warramunga Arr	46.14	124	P	P	15 57 55.3	+0.3
comp=Z,54nm,0.8s,baz=303,slow=9.1,SNR=253							
WRA				LR	LR	16 18 14.1	
comp=Z,194nm,21.9s,baz=17,slow=37							
comp=Z,54nm,0.8s							
WRAB	Tennant Creek	46.15	124	P	P	15 57 55.3	+0.2
WRAB	Tennant Creek	46.15	124	ciP	P	15 57 55.4	+0.3
WRAB				pmax	pmax		
comp=Z,89nm,0.9s							
JMN	Monobe	46.25	47	IAmb	IAmb	15 57 57.4	
comp=Z,45nm,0.7s							
JMN	Monobe	46.25	47	P	P	15 57 56.5	+0.8
MOY	Mondy	46.83	5	eP	P	15 57 59.4	-0.6
SEM	Semipalatinsk	46.88	347	eP	P	15 58 00.3	-0.3
comp=Z,45nm,1.3s							
SEM	Semipalatinsk	46.88	347	eP	P	15 58 00.3	-0.3
SEM				pmax	pmax		
comp=Z,45nm,1.3s							
KURBB	Kurchatov Arra	47.48	346	P	P	15 58 05.5	+0.5
comp=Z,52nm,0.7s,baz=170,slow=6.8,SNR=160							
KURBB				PcP	PcP	15 59 35.2	+0.8

comp=Z,12nm,0.9s,baz=148,slow=2.7,SNR=5.0
KURBB S **S** **16 04 54.6 -0.8**
comp=Z,0.6nm,0.3s,baz=158,slow=14,SNR=1.2
KURBB LR LR 16 22 17.1
comp=Z,106nm,18.0s,baz=168,slow=41
comp=Z,52nm,0.7s
KURK Kurchatov 47.55 346 P **P** **15 58 05.9 +0.4**
KURK Kurchatov 47.55 346 P **P** **15 58 05.5 0.0**
KURK 15 59 35.3
KURK S **S** **16 04 54.6 -1.8**
KURK Kurchatov 47.55 346 ⇑P **P** **15 58 06.0 +0.6**
KURK pP **pP** **15 58 19.9 +0.3**
KURK PcP **PcP** **15 59 35.1 +0.4**
ASAR Alice Springs 47.64 128 P **P** **15 58 06.8 +0.1**
comp=Z,14nm,0.7s,baz=299,slow=7.6,SNR=171
ASAR PcP **PcP** **15 59 36.4 +0.7**
comp=Z,4.6nm,0.8s,baz=304,slow=3.1,SNR=5.2
ASAR LR LR 16 21 48.0
comp=Z,80nm,18.2s,baz=304,slow=40
comp=Z,14nm,0.7s
IRK Irkutsk 47.77 8 *e*P P 15 58 02.3 -4.9
IRK pmax pmax
comp=Z,52nm,2.5s
HIA Hailar 48.96 22 IAmb IAmb 15 58 17.2
comp=Z,24nm,0.7s
HIA Hailar 48.96 22 P **P** **15 58 16.3 -0.2**
HIA Hailar 48.96 22 P **P** **15 58 16.4 -0.1**
HIA pP **pP** **15 58 29.3 -1.9**
HIA PcP **PcP** **15 59 40.0 +0.1**
INU Inuyama 49.29 47 P **P** **15 58 18.6 -0.7**
INU Inuyama 49.29 47 P **P** **15 58 19.3 +0.1**
INU Inuyama 49.29 47 P **P** **15 58 18.8 -0.5**
INU pP **pP** **15 58 32.5 -1.5**
ZALV Zalesovo Beam 49.49 352 P **P** **15 58 20.1 -0.2**
ZALV Zalesovo Beam 49.49 352 P **P** **15 58 20.4 0.0**
comp=Z,52nm,0.5s,baz=180,slow=7.0,SNR=274
ZALV PcP **PcP** **15 59 41.4 -0.2**
comp=Z,6.5nm,0.8s,baz=171,slow=3.8,SNR=1.3
ZALV ScP **ScP** **16 03 31.6 -0.8**
comp=Z,1.0nm,0.8s,baz=165,slow=4.6,SNR=3.5
ZALV S **S** **16 05 23.9 +0.2**
comp=Z,2.1nm,0.9s,baz=178,slow=15,SNR=3.7
ZALV LR LR 16 23 15.3
comp=Z,107nm,19.3s,baz=173,slow=41
comp=Z,52nm,0.5s
BNX BinXian 49.55 30 ⇓P **P** **15 58 20.8 -0.2**
BNX pmax pmax
comp=Z,29nm,1.2s
JGF Kuroka 49.66 46 P **P** **15 58 21.9 -0.2**
MDJ Mudanjiang 49.90 32 IAmb IAmb 15 58 25.5
comp=Z,26nm,0.9s
MDJ Mudanjiang 49.90 32 P **P** **15 58 24.4 +0.7**
MDJ pP pP 15 58 38.0 -0.3
MDJ PcS **PcS** **16 03 38.8 -1.4**
MDJ S **S** **16 05 34.8 +5.1**
MDJ pmax pmax
comp=Z,36nm,1.4s
MDJ pmax pmax
comp=Z,250nm,3.5s
MDJ LR LR
comp=Z,320nm,15.0s
MDJ LR LR
comp=Z,320nm,13.8s
MDJ LR LR
comp=Z,390nm,18.5s
MDJ Mudanjiang 49.90 32 P **P** **15 58 24.4 +0.7**
MDJ Mudanjiang 49.90 32 P **P** **15 58 24.1 +0.5**
MDJ pP **pP** **15 58 38.1 -0.2**
MDJ sP **sP** **15 58 44.1 -0.7**
GUMO Guam 50.13 77 LR LR 16 19 27.9
comp=Z,79nm,22.0s,baz=76,slow=36
MJB9 Matsu-Tunnel 50.70 46 P **P** **15 58 30.1 +0.2**
MJB9 IAmb IAmb 15 58 31.5
comp=Z,16nm,0.8s
MAJO Matsushiro 50.70 46 P **P** **15 58 29.7 -0.2**
MAJO IAmb IAmb 15 58 31.5
comp=Z,16nm,0.8s
MAJO Matsushiro 50.70 46 P **P** **15 58 30.1 +0.1**
MAJO Matsushiro 50.70 46 P **P** **15 58 29.7 -0.2**
MAJO pmax pmax
comp=Z,16nm,0.8s
MAJO Matsushiro 50.70 46 P **P** **15 58 30.0 +0.1**
MAJO PcP **PcP** **15 59 47.0 +0.5**
MJAR Matsushiro Arr 50.70 46 P **P** **15 58 29.7 -0.2**
comp=Z,8.8nm,0.7s,baz=236,slow=7.5,SNR=20
MJAR PcP **PcP** **15 59 46.6 +0.1**
comp=Z,4.1nm,0.9s,baz=239,slow=3.5,SNR=4.2
MJAR LR LR 16 21 56.8
comp=Z,296nm,18.9s,baz=238,slow=38
comp=Z,8.8nm,0.7s
QIS Mount Isa 50.84 121 P **P** **15 58 30.8 -0.3**
comp=Z,39nm,1.1s
QIS Mount Isa 50.84 121 P **P** **15 58 31.3 +0.1**
RAYN Ar Rayn 50.85 296 P **P** **15 58 32.1 +0.8**
RAYN Ar Rayn 50.85 296 P **P** **15 58 32.1 +0.8**
RAYN pmax pmax
comp=Z,23nm,1.4s
USA0B Ussuriysk Arra 50.93 34 IAmb IAmb 15 58 32.6
comp=Z,31nm,1.3s
USA0B Ussuriysk Arra 50.93 34 *e*P **P** **15 58 30.2 -1.3**
USRK Ussuriysk Ar. 50.93 34 P **P** **15 58 31.0 -0.5**
USRK Ussuriysk Ar. 50.93 34 P **P** **15 58 31.3 -0.2**
comp=Z,8.8nm,0.6s,baz=247,slow=6.6,SNR=22
USRK LR LR 16 22 48.4
comp=Z,404nm,18.3s,baz=218,slow=39
comp=Z,8.8nm,0.6s
OOD Oodnadatta 51.20 132 P **P** **15 58 33.9 +0.2**
COEN Coen 51.61 112 P **P** **15 58 35.8 -1.3**
COEN Coen 51.61 112 P **P** **15 58 34.2 -2.8**
comp=Z,13nm,0.9s
COEN Coen 51.61 112 P **P** **15 58 36.5 -0.5**
BVA0 Borovoye Array 51.90 342 *i*P **P** **15 58 38.2 -0.4**
BVAR Borovoye Array 51.90 342 P **P** **15 58 38.6 0.0**
comp=Z,52nm,0.7s,baz=142,slow=8.2,SNR=284
BVAR PcP **PcP** **15 59 50.9 +0.2**
comp=Z,4.5nm,0.7s,baz=150,slow=3.3,SNR=1.2
BVAR S **S** **16 05 57.0 -0.2**
comp=Z,1.3nm,0.8s,baz=145,slow=15,SNR=4.3
comp=Z,52nm,0.7s
BRVK Borovoye 51.97 342 P **P** **15 58 39.1 +0.1**
BRVK Borovoye 51.97 342 P **P** **15 58 39.1 +0.1**
BRVK pmax pmax
comp=Z,50nm,0.9s
OPO Ambohidratompo 52.37 242 LR LR 16 19 28.2
comp=Z,58nm,18.0s,baz=202,slow=34
HEH HeiHe 52.81 26 *e*P **P** **15 58 44.9 -0.5**
HEH pmax pmax
comp=Z,28nm,0.8s
HEH LR LR
comp=Z,270nm,16.1s
HEH LR LR
comp=Z,250nm,15.3s
HEH LR LR
comp=Z,360nm,16.9s
AB31 Akbulak array 53.04 332 *i*P **P** **15 58 47.3 +0.2**
ABKAR Akbulak array 53.04 332 P **P** **15 58 47.3 +0.2**
JMM Marumori 53.14 45 IAmb IAmb 15 58 48.7
comp=Z,39nm,0.8s
JMM Marumori 53.14 45 P **P** **15 58 48.0 0.0**
MTSU Mount Surprise 54.02 117 P **P** **15 58 54.7 0.0**
comp=Z,11nm,0.9s
MTSU Mount Surprise 54.02 117 P **P** **15 58 55.0 +0.2**
KLR Kul'dur 54.09 29 LR LR 16 24 38.4
comp=Z,296nm,18.2s,baz=217,slow=39
KLR Kul'dur 54.09 29*ce*P **P** **15 58 54.9 +0.2**
KLR pmax pmax
comp=Z,46nm,1.7s
PMG Port Moresby 54.16 105 P **P** **15 58 55.2 -0.7**
PMG IAmb IAmb 15 58 59.8
comp=Z,23nm,0.9s
PMG Port Moresby 54.16 105 P **P** **15 58 55.9 0.0**
PMG Port Moresby 54.16 105*ce*P **P** **15 58 55.8 -0.1**
PMG pmax pmax
comp=Z,26nm,1.0s
AKTO Aktyubinsk 54.76 332 P **P** **15 58 58.7 -0.9**
BOD Bodaibo 54.82 12 *e*P **P** **15 58 58.1 -1.8**
BOD pmax pmax
comp=Z,31nm,1.2s
INKA Innaminka 55.02 129 P **P** **15 59 02.5 +0.7**
ZEA Zeya 55.36 23 *e*P **P** **15 59 03.7 -0.2**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=N,200nm,16.0s

ZEA MLR MLR
comp=Z,200nm,14.0s
AKT Akhty 55.43 318 *e*P **P** **15 59 04.6 -0.2**
AKT *e**PP **pP** **15 59 18.0 -1.2**
AKT *e* 16 00 04.6
AKT *e*S **S** **16 06 46.6 +1.0**
AKT *e**SS **sS** **16 07 10.2 -0.3**
AKT pmax pmax
comp=Z,41nm,1.3s
FURI Furi 55.74 277 LR LR 16 20 14.4
comp=Z,201nm,20.6s,baz=95,slow=33
CTA Charters Tower 56.41 118 LR LR 16 24 32.8
comp=Z,194nm,21.9s,baz=285,slow=37
CTA Charters Tower 56.41 118 P **P** **15 59 12.4 +0.4**
CTAO Charters Tower 56.41 118 P **P** **15 59 11.7 -0.3**
CTAO IAmb IAmb 15 59 13.2
comp=Z,21nm,1.0s
CTAO Charters Tower 56.41 118 P **P** **15 59 12.4 +0.4**
CTAO Charters Tower 56.41 118 P **P** **15 59 11.7 -0.3**
CTAO pmax pmax
comp=Z,21nm,1.0s
GNI Garni 56.89 315 P **P** **15 59 15.1 -0.1**
GNI IAmb IAmb 15 59 20.9
comp=Z,33nm,1.1s
GNI Garni 56.89 315 LR LR 16 27 12.3
comp=Z,31nm,18.9s,baz=107,slow=40
GNI Garni 56.89 315*ce*P **P** **15 59 15.2 -0.1**
GNI pmax pmax
comp=Z,41nm,1.3s
GNI Garni 56.89 315 P **P** **15 59 16.0 +0.8**
comp=Z,32nm,1.1s
KIBK Kibwezi 57.10 264 P **P** **15 59 16.3 -0.8**
ASAJ Asahikawa 57.23 39 LR LR 16 25 45.4
comp=Z,154nm,18.7s,baz=298,slow=38
JKA Kamikawa-asahi 57.23 39 IAmb IAmb 15 59 27.2
comp=Z,25nm,0.8s
QLP Quilpie 57.25 126 P **P** **15 59 19.1 +1.3**
comp=Z,75nm,1.1s
QLP Quilpie 57.25 126 P **P** **15 59 18.7 +0.9**
STKA Stephens Creek 57.71 133 P **P** **15 59 21.6 +0.7**
comp=Z,9.5nm,0.9s,baz=306,slow=7.3,SNR=7.2
STKA LR LR 16 26 57.6
comp=Z,91nm,20.1s,baz=358,slow=39
comp=Z,9.5nm,0.9s
KMBO Kilima Mbogo 57.74 266 P **P** **15 59 21.7 -0.1**
KMBO Kilima Mbogo 57.74 266 P **P** **15 59 24.8 +3.0**
comp=Z,0.7nm,0.3s,baz=61,slow=9.6,SNR=5.6
KMBO LR LR 16 20 06.7
comp=Z,199nm,21.4s,baz=94,slow=32
comp=Z,0.7nm,0.3s
KMBO Kilima Mbogo 57.74 266 *i*P **P** **15 59 25.2 +3.4**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
GURO Guroymak-BITLI 58.21 313 IAmb IAmb 15 59 26.2
comp=Z,11nm,0.8s
SVE Sverdlovsk 58.30 339*de*P **P** **15 59 25.0 +0.4**
SVE *e*S **S** **16 07 25.1 +2.5**
SVE pmax pmax
comp=Z,54nm,0.9s
YSS Yuzh-Sakhalins 58.72 37 P **P** **15 59 27.7 0.0**
YSS IAmb IAmb 15 59 29.1
comp=Z,36nm,0.9s
YSS Yuzh-Sakhalins 58.72 37 P **P** **15 59 28.2 +0.5**
YSS Yuzh-Sakhalins 58.72 37 *e*P **P** **15 59 27.9 +0.2**
YSS *e*S **S** **16 07 28.1 -0.3**
YSS pmax pmax
comp=Z,100nm,3.6s
YSS pmax pmax
comp=Z,40nm,0.8s
YSS MLR MLR
comp=Z,300nm,14.0s
YSS MLR MLR
comp=N,200nm,15.0s
YSS MLR MLR
comp=E,300nm,15.0s
ARTI Arti 58.81 337 P **P** **15 59 27.7 -0.5**
ARTI IAmb IAmb 15 59 29.0
comp=Z,29nm,0.9s
ARTI Arti 58.81 337 LR LR 16 27 01.9
comp=Z,131nm,20.8s,baz=152,slow=38
ARTI Arti 58.81 337 P **P** **15 59 27.7 -0.5**
ARTI pmax pmax
comp=Z,29nm,0.9s
KBZ Khabaz 59.62 319 P **P** **15 59 34.4 +0.4**
comp=Z,16nm,0.9s,baz=126,slow=6.2,SNR=25
comp=Z,16nm,0.9s
SHA1 Shidzhatmaz 59.79 319 *i*P **P** **15 59 35.6 +0.1**
KIV Kislovodsk 59.86 319 P **P** **15 59 35.6 -0.3**
KIV IAmb IAmb 15 59 36.9
comp=Z,37nm,0.9s
KIV Kislovodsk 59.86 319 *e*P **P** **15 59 35.5 -0.3**
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,22nm,17.0s
KIV Kislovodsk 59.86 319 P **P** **15 59 35.6 -0.3**
comp=Z,34nm,1.1s
CMSA Cobar Meteorol 60.60 130 P **P** **15 59 41.7 +0.7**
comp=Z,59nm,0.9s
CMSA Cobar Meteorol 60.60 130 P **P** **15 59 41.5 +0.6**
BELG Belogornoye 61.08 329 LR LR 16 28 41.3
comp=Z,100nm,20.9s,baz=92,slow=38
BELG Belogornoye 61.08 329 *i*P **P** **15 59 42.8 -1.0**
BELG pmax pmax
comp=Z,13nm,0.9s
GAZ Gaziantep 61.37 310 IAmb IAmb 15 59 48.5
comp=Z,38nm,0.9s
EIL Elat 61.39 301 LR LR 16 27 28.6
comp=Z,247nm,18.2s,baz=70,slow=37
LABN Labinsk 61.42 319 *e*P **P** **15 59 45.4 -0.9**
LABN pmax pmax
comp=Z,24nm,0.6s
AULRC Lightning Ridg 61.45 127 P **P** **15 59 47.1 +0.3**
SOC Sochi 61.69 317 *e*P **P** **15 59 45.3 -2.8**
SOC *e* 16 02 01.8
SOC *e*S **S** **16 08 04.0 -2.6**
SOC *e*SS **SS** **16 12 08.7 -0.3**
SOC MLR MLR
comp=Z,48nm,15.0s
MMAI Mount Meron Ar 61.72 305 P **P** **15 59 50.6 +1.9**
comp=Z,8.6nm,0.8s,baz=106,slow=6.7,SNR=22
MMAI LR LR 16 29 31.5
comp=Z,176nm,18.4s,baz=62,slow=39
comp=Z,8.6nm,0.8s
ERBR Yeremizino-Bor 62.01 320 *e*P **P** **15 59 49.1 -1.2**
ERBR pmax pmax
comp=Z,62nm,1.3s
YAK Yakutsk 62.55 18 P **P** **15 59 51.9 -1.5**
YAK Yakutsk 62.55 18 LR LR 16 29 13.2
comp=Z,260nm,20.5s,baz=220,slow=38
YAK Yakutsk 62.55 18 *e*P **P** **15 59 52.0 -1.5**
YAK *e**PP **pP** **16 00 04.1 -4.3**
YAK *e* 16 02 19.0
YAK *e*S **S** **16 08 14.9 -1.9**
YAK *e**SS sS 16 08 51.9 +9.2
YAK pmax pmax
comp=Z,47nm,0.8s
YAK pmax pmax
comp=E,10.0nm,1.0s
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=Z,223nm,3.3s
YAK pmax pmax
comp=N,45nm,2.7s
YAK pmax pmax
comp=E,63nm,2.3s
YAK smax smax
comp=E,14nm,12.6s
YAK smax smax
comp=N,53nm,14.5s
YAK MLR MLR
comp=Z,321nm,15.0s
YAK MLR MLR
comp=E,147nm,15.0s
YAK MLR MLR
comp=N,197nm,15.0s
AUDCS Dubbo College 63.14 130 P **P** **15 59 58.8 +0.8**
H04N2 CROZET ISLANDS 63.58 212 T T 17 08 44.4
baz=49,slow=75,SNR=1767
H04N1 CROZET ISLANDS 63.59 212 T T 17 08 45.0
baz=49,slow=75,SNR=1795
H04N3 CROZET ISLANDS 63.59 212 T T 17 08 43.7
baz=49,slow=75,SNR=1897
VRH Novokhopyorsk 63.63 326 *e*P **P** **15 59 58.9 -2.0**
VRH pmax pmax
comp=Z,65nm,0.8s
ANN Anapa 63.66 318 *e*P P 16 00 07.4 +6.2
ANN pmax pmax
comp=Z,43nm,0.9s
CSS Mathiatis 63.84 307 P **P** **16 00 02.7 0.0**
CSS IAmb IAmb 16 00 20.9
comp=Z,39nm,1.0s
KIRV Kirov 63.87 335 LR LR 16 29 45.8
comp=Z,45nm,19.4s,baz=132,slow=38
KIRV Kirov 63.87 335*ce*P **P** **16 00 01.8 -0.5**
YNG Young 63.87 132 P **P** **16 00 02.9 0.0**
comp=Z,95nm,1.1s
YNG Young 63.87 132 P **P** **16 00 03.8 +0.9**
H04S1 CROZET ISLANDS 63.96 211 T T 17 09 07.1
baz=48,slow=76,SNR=65
H04S3 CROZET ISLANDS 63.97 211 T T 17 09 06.9
baz=48,slow=76,SNR=106
H04S2 CROZET ISLANDS 63.98 211 T T 17 09 08.1
baz=48,slow=76,SNR=64
MBAR Mbarara 64.16 267 LR LR 16 23 44.7
comp=Z,252nm,21.5s,baz=82,slow=32
MBAR Mbarara 64.16 267 *i*P **P** **16 00 05.4 +0.1**
MBAR pmax pmax
comp=Z,10.0nm,1.5s
AUPHS Peel High Scho 64.43 128 P **P** **16 00 07.8 +1.2**
NRIK Noril'sk 64.44 357 P **P** **16 00 05.5 -0.4**
comp=Z,43nm,0.8s,baz=161,slow=6.1,SNR=90
NRIK LR LR 16 29 23.1
comp=Z,93nm,21.6s,baz=154,slow=37
comp=Z,43nm,0.8s
ARMA Armidale 64.75 127 P **P** **16 00 09.6 +0.9**
ARMA Armidale 64.75 127 P **P** **16 00 10.6 +1.9**
comp=Z,17nm,2.0s
BR104 Keskin Array S 64.76 312 P **P** **16 00 08.0 -0.8**
comp=Z,18nm,1.0s,comp=Z,156nm
BR131 Keskin Array S 64.77 312 IAmb IAmb 16 00 09.5
comp=Z,26nm,1.0s
BR131 Keskin Array S 64.77 312 *i*P **P** **16 00 08.2 -0.6**
BRTR Keskin Array B 64.77 312 P **P** **16 00 08.1 -0.7**
BRTR Keskin Array B 64.77 312 P **P** **16 00 08.5 -0.3**
comp=Z,14nm,0.8s,baz=105,slow=6.9,SNR=78
comp=Z,14nm,0.8s
BR105 Keskin Array S 64.78 312 P **P** **16 00 07.9 -1.0**
comp=Z,20nm,1.0s,comp=Z,171nm
VORD Divnogorie 64.90 325 *e*P **P** **16 00 06.7 -2.5**
VORD pmax pmax
comp=Z,30nm,0.9s
VSR Storozhevoye 65.08 325 *e*P **P** **16 00 07.3 -3.1**
VSR pmax pmax
comp=Z,20nm,0.9s
VORR Voronezh 65.25 326 *e*P **P** **16 00 09.5 -2.0**
VORR pmax pmax
comp=Z,40nm,0.8s
ANTO Ankara 65.44 312 P **P** **16 00 12.8 -0.2**
ANTO IAmb IAmb 16 00 14.1
comp=Z,38nm,1.1s
ANTO Ankara 65.44 312 ⇑P **P** **16 00 13.1 0.0**
ANTO Ankara 65.44 312 P **P** **16 00 13.0 0.0**
ANTO Ankara 65.44 312 P **P** **16 00 12.7 -0.3**
comp=Z,18nm,1.0s
LPSR Galich'ya Gora 65.81 326 *e*P **P** **16 00 12.9 -2.1**
LPSR pmax pmax
comp=Z,30nm,0.9s
ISP Isparta 66.68 309*ce*P **P** **16 00 21.0 -0.1**
ISP pmax pmax
comp=Z,14nm,0.7s
MOS Moscow 67.85 329 *e*P **P** **16 00 26.8 -1.2**
MOS *e* 16 00 53.8
MOS pmax pmax
comp=Z,40nm,0.7s
OBN Obninsk 68.13 328⇑*e*P **P** **16 00 29.2 -0.5**
OBN *e* 16 03 01.3
OBN *e*SS SS 16 13 52.9 +4.1
OBN pmax pmax
comp=Z,56nm,1.7s
OBN MLR MLR
comp=Z,82nm,17.0s
OBN Obninsk 68.13 328 P **P** **16 00 28.9 -0.8**
comp=Z,26nm,1.3s
KARP Karpathos 68.91 306 *e*P **P** **16 00 35.7 +0.6**
KARP Karpathos 68.91 306 P **P** **16 00 35.3 +0.2**
comp=Z,150nm,0.9s
MA2 Magadan 69.06 27 LR LR 16 34 56.4
comp=Z,109nm,18.4s,baz=132,slow=40
KLMR Klimovskoe 69.30 335 *e*P **P** **16 00 35.3 -1.6**
KLMR *e**PP **pP** **16 00 50.2 -1.6**
KLMR pmax pmax
comp=Z,43nm,1.3s
TLCR 69.61 316 ⇑P **P** **16 00 39.5 +0.3**
TLCR 69.61 316 P **P** **16 00 39.4 +0.3**
TIXI Tiksi 69.94 11 P **P** **16 00 38.6 -2.1**
TIXI IAmb IAmb 16 00 40.3
comp=Z,44nm,0.7s
TIXI Tiksi 69.94 11 P **P** **16 00 38.6 -2.1**
TIXI pmax pmax
comp=Z,44nm,0.7s
TLBR Topalu 69.99 316 ⇑P **P** **16 00 42.1 +0.6**
PETK Petropavlovsk- 70.02 35 LR LR 16 31 44.1
comp=Z,188nm,21.6s,baz=232,slow=36
MILM Milestii Mici 70.04 318 ⇑P **P** **16 00 41.2 -0.6**
MILM Milestii Mici 70.04 318 P **P** **16 00 41.1 -0.6**
CFR Carcaliu 70.07 316 ⇑P **P** **16 00 42.1 +0.1**
CFR Carcaliu 70.07 316 P **P** **16 00 42.1 +0.1**
VLDR Vladesti 70.27 317 ⇓P **P** **16 00 43.7 +0.5**
SORM Soroca 70.65 319 ⇑P **P** **16 00 45.1 -0.3**
SORM Soroca 70.65 319 P **P** **16 00 45.1 -0.3**
SORM Soroca 70.65 319 P **P** **16 00 44.0 -1.4**
comp=Z,40nm,1.3s
AK09 Malin Array Si 70.72 322 P **P** **16 00 44.7 -1.1**
AK10 Malin Array Si 70.74 322 P **P** **16 00 44.8 -1.1**
AK08 Malin Array Si 70.75 322 P **P** **16 00 44.9 -1.1**
AK07 Malin Array Si 70.75 322 P **P** **16 00 44.9 -1.1**
GHRR 70.77 317 ⇓P **P** **16 00 47.0 +0.7**
AKASG Malin Array Be 70.78 322 P **P** **16 00 45.3 -0.9**
comp=Z,5.2nm,0.6s,baz=94,slow=5.0,SNR=52
comp=Z,5.2nm,0.6s
AKBB Malin Array Si 70.78 322 P **P** **16 00 44.8 -1.4**
AKBB Malin Array Si 70.78 322*ce*P **P** **16 00 45.1 -1.1**
AKBB pmax pmax
comp=Z,15nm,0.7s
AKBB Malin Array Si 70.78 322 P **P** **16 00 44.6 -1.6**
AK01 Malin Array Si 70.79 322 P **P** **16 00 44.6 -1.6**
KIEV Kiev 70.79 322 P **P** **16 00 45.1 -1.2**
KIEV Kiev 70.79 322 ⇓P **P** **16 00 45.7 -0.6**
KIEV Kiev 70.79 322 P **P** **16 00 45.6 -0.6**
AK03 Malin Array Si 70.79 322 P **P** **16 00 44.6 -1.7**
PANC Panciu 70.91 317 ⇑P **P** **16 00 48.8 +1.7**
RDO Rodhopi 71.11 312 IAmb IAmb 16 00 49.6
comp=Z,28nm,1.1s
ELND Elena 71.19 314 ⇑P **P** **16 00 48.6 -0.3**
VRI Vrincioaia 71.19 317 ⇑P **P** **16 00 49.7 +0.8**
VRI Vrincioaia 71.19 317 P **P** **16 00 49.7 +0.8**
VRI Vrincioaia 71.19 317 P **P** **16 00 49.4 +0.5**
comp=Z,94nm,1.1s
PLOR Plostina 71.24 317 ⇑P **P** **16 00 50.1 +0.9**
PLOR Plostina 71.24 317 P **P** **16 00 50.0 +0.9**
PLOR3 Plostina Array 71.25 317 P **P** **16 00 49.8 +0.6**
comp=Z,64nm,1.0s
SEY Seymchan 71.31 24*ce*P **P** **16 00 48.2 -0.9**
SEY pmax pmax
comp=Z,52nm,2.5s
TESR Tescani 71.39 317 ⇑P **P** **16 00 50.4 +0.4**
TESR Tescani 71.39 317 P **P** **16 00 49.9 -0.1**
comp=Z,90nm,0.9s,comp=Z,1μm
ONER Baraj Valea Uz 71.52 317 ⇑P **P** **16 00 52.4 +1.6**
MI29 MI29, Kamyanyy 71.55 322 P **P** **16 00 50.3 -0.6**
comp=Z,188nm,0.9s
MLR Muntele Rosu 71.65 316 IAmb IAmb 16 00 53.6
comp=Z,58nm,1.0s
MLR Muntele Rosu 71.65 316 ⇑P **P** **16 00 52.3 +0.5**
MLR Muntele Rosu 71.65 316 P **P** **16 00 52.2 +0.5**
MLR Muntele Rosu 71.65 316 P **P** **16 00 52.1 +0.3**
comp=Z,59nm,1.2s
ZIMR 71.69 314 ⇑P **P** **16 00 53.6 +1.7**
ZIMR 71.69 314 P **P** **16 00 53.6 +1.7**
TURR Turia 71.72 317 ⇑P **P** **16 00 52.6 +0.5**
PRAR RASCA 71.86 318 ⇑P **P** **16 00 52.1 -0.7**
KMPD K-Podol'skiy 71.97 320 P **P** **16 00 51.7 -1.8**
comp=Z,5μm,1.1s
DOPR Dopca 72.13 317 ⇑P **P** **16 00 55.4 +0.9**
MTUR Matau 72.21 316 ⇑P **P** **16 00 55.7 +0.6**
MTUR Matau 72.21 316 P **P** **16 00 55.6 +0.6**
VOIR 72.26 316 ⇑P **P** **16 00 55.1 -0.2**
VOIR 72.26 316 P **P** **16 00 55.1 -0.2**
VOIR 72.26 316 P **P** **16 00 54.1 -1.2**

comp=Z,9.2nm,0.7s
BURAR **Bucovina Array** 72.58 318 ⇑P P 16 00 58.3 +1.0
BURAR **Bucovina Array** 72.58 318 P P 16 00 58.2 +1.0
BUR08 **Bucovina Ar. S** 72.60 318 IAmb IAmb 16 00 59.2
comp=Z,39nm,1.3s
MNK **Minsk** 72.63 326 *i* P P 16 00 57.1 -0.2
comp=E,13nm,0.8s
MNK *i* P P 16 00 57.1 -0.2
comp=Z,40nm,0.9s,baz=106
MNK *i* P pP 16 00 57.3 -15
comp=N,22nm,0.9s
MNK *i* pP pP 16 01 13.4 +1.1
MNK *i* sP sP 16 01 20.7 +2.5
MNK *i* PP PP 16 03 38.7 -0.7
MNK *i* PPP PPP 16 05 23.1
MNK *i* S S 16 10 17.7 -0.3
MNK *i* sS sS 16 10 46.1 +2.8
MNK *i* SS SS 16 15 55.5 +57
MNK *i* SSS SSS 16 19 54.4
MNK *i* LQ LQ 16 26 55.3
MNK *i* LR LR 16 32 35.3
MNK *i* LRM MLR 16 35 29.3
comp=E,83nm,15.2s
MNK *i* LRM MLR 16 35 29.3
comp=N,187nm,17.0s
MNK *i* LRM MLR 16 35 37.9
comp=Z,58nm,15.2s
MNK **Minsk** 72.63 326 *i* P P 16 00 57.0 -0.2
MNK *i* *PP pP 16 01 13.3 +1.1
MNK *i* 16 01 13.9
MNK *i* *SP sP 16 01 20.7 +2.5
MNK *i* 16 03 38.6
MNK *i* PPP PPP 16 05 23.1
MNK *i* S S 16 10 17.6 -0.3
MNK *i* *SS sS 16 10 46.1 +2.8
MNK pmax pmax
comp=Z,40nm,0.9s
MNK pmax pmax
comp=E,13nm,0.8s
MNK pmax pmax
comp=N,22nm,0.9s
MNK MLR MLR
comp=N,187nm,17.0s
MNK MLR MLR
comp=E,83nm,15.0s
MNK MLR MLR
comp=Z,58nm,15.0s
KOUNC **Koumac, New Ca** 72.78 113 P P 16 00 59.9 +1.1
KOUNC IAmb IAmb 16 01 01.8
comp=Z,23nm,1.0s
KSV **Kosov** 72.83 319 P P 16 00 57.4 -1.2
TNR **Turnu Rosu** 72.83 316 ⇑P P 16 00 59.6 +0.8
TNR **Turnu Rosu** 72.83 316 P P 16 00 59.5 +0.8
RNPP5 **Staryi Chortor** 72.96 322 P P 16 00 58.0 -1.3
RNPP9 **Sopachiv** 73.00 322 P P 16 00 58.9 -0.6
RNPP8 **Varash** 73.00 322 P P 16 00 58.8 -0.7
ARCR **ARCALIA** 73.05 318 ⇓P P 16 01 01.3 +1.3
STNU **Starunia** 73.28 319 P P 16 01 00.5 -0.7
ITM **Ithomi** 73.32 307 IAmb IAmb 16 01 02.3
comp=Z,48nm,0.8s
NACGM **Naroch** 73.36 326 *eP* P 16 01 02.0 +0.5
comp=E,1μm,1.1s
LBTB **Lobatse** 73.40 242 LR LR 16 28 43.4
comp=E,307nm,21.3s,baz=65,slow=32
CJR **Cluj-Napoca** 73.49 317 ⇑P P 16 01 04.4 +1.7
CJR **Cluj-Napoca** 73.49 317 P P 16 01 04.3 +1.7
JOF **Joensuu** 73.70 335 *eP* P 16 01 03.5 +0.1
BMR **Baia Mare** 73.73 318 ⇓P P 16 01 05.2 +1.3
BMR **Baia Mare** 73.73 318 P P 16 01 05.2 +1.3
MORS **Morshin** 73.75 320 P P 16 01 02.5 -1.5
MARR **Marisel-Cluj** 73.81 317 ⇑P P 16 01 05.5 +1.0
DEV **Deva** 73.82 316 ⇑P P 16 01 06.1 +1.6
DEV **Deva** 73.82 316 P P 16 01 06.0 +1.6
GZR **Gura Zlata** 73.82 316 ⇓P P 16 01 05.1 +0.4
GZR **Gura Zlata** 73.82 316 P P 16 01 05.0 +0.4
MEZ **Mezhgor'ye** 73.88 319 P P 16 01 05.2 +0.4
HERR **Herculane** 73.99 315 ⇑P P 16 01 05.8 +0.3
DRGR 74.10 317 ⇑P P 16 01 07.5 +1.3
DRGR 74.10 317 P P 16 01 07.5 +1.3
BRIU **Brid** 74.17 319 P P 16 01 06.9 +0.5
SURR **Surduc** 74.33 316 ⇑P P 16 01 08.1 +0.7
VSU **Vasula** 74.36 330 *ceP* P 16 01 07.4 +0.1
VSU pmax pmax
comp=Z,34nm,1.7s
BERU **Beregovo** 74.40 319 P P 16 01 08.2 +0.4
MUKU **Mukachevo** 74.41 319 P P 16 01 08.3 +0.5
MDVR **Moldovita** 74.47 315 ⇑P P 16 01 08.1 -0.2
BOSA **Boshof** 74.57 239 P P 16 01 11.3 +2.0
comp=Z,4.2nm,0.8s,baz=69,slow=4.2,SNR=6.4
BOSA LR LR 16 28 02.1
comp=Z,214nm,20.7s,baz=70,slow=31
comp=Z,4.2nm,0.8s
KWP **Kalwaria Pacla** 74.61 320 *eP* P 16 01 09.6 +0.6
KWP **Kalwaria Pacla** 74.61 320 IAmb IAmb 16 01 10.7
comp=Z,72nm,1.1s
KWP **Kalwaria Pacla** 74.61 320 P P 16 01 09.4 +0.4
comp=Z,69nm,1.0s
HOLU **Holmets** 74.62 319 P P 16 01 09.5 +0.5
BZS **Buzias** 74.66 316 ⇓P P 16 01 10.0 +0.5
BZS **Buzias** 74.66 316 P P 16 01 09.9 +0.5
SIRR **Siria** 74.73 317 ⇑P P 16 01 10.4 +0.6
KOLS **Kolonicke sedl** 74.76 319 *eP* P 16 01 10.9 +1.0
KOLS pmax pmax
comp=Z,38nm,0.8s
KOLS **Kolonicke sedl** 74.76 319 *eP* P 16 01 10.9 +1.0
DZM **Mont Dzumac** 75.06 114 P P 16 01 13.4 +1.2
DZM IAmb IAmb 16 01 14.9
comp=Z,32nm,1.1s
DZM **Mont Dzumac** 75.06 114 *e*LR LR 16 24 15.3
comp=Z,152nm,23.9s
DZM **Mont Dzumac** 75.06 114 LR LR 16 38 46.6
comp=Z,80nm,18.8s,baz=255,slow=39
PABE **Paberze** 75.07 326 P P 16 01 10.9 -0.6
PABE IAmb IAmb 16 01 12.4
comp=Z,44nm,1.0s
PABE **Paberze** 75.07 326 *eP* P 16 01 11.7 +0.2
SUW **Suwalki** 75.19 325 *eP* P 16 01 12.2 0.0
SUW **Suwalki** 75.19 325 *eP* P 16 01 12.4 +0.2
STHS **Stebnicka Huta** 75.51 320 *eP* P 16 01 14.8 +0.6
STHS pmax pmax
comp=Z,35nm,0.9s
STHS **Stebnicka Huta** 75.51 320 *eP* P 16 01 14.8 +0.6
FINES **FINESS Array B** 75.53 332 P P 16 01 13.9 0.0
comp=Z,5.7nm,0.5s,baz=96,slow=5.6,SNR=35
comp=Z,5.7nm,0.5s
FINES **FINESS Array B** 75.53 332 P P 16 01 14.0 0.0
MAW **Mawson** 75.84 192 P P 16 01 17.3 +1.8
comp=Z,1.4nm,0.7s,baz=352,slow=4.3,SNR=5.5
MAW LR LR 16 31 37.2
comp=Z,104nm,18.1s,baz=14,slow=33
comp=Z,1.4nm,0.7s
KECS **Kecovo** 75.86 319 *eP* P 16 01 17.1 +0.9
KECS pmax pmax
comp=Z,34nm,0.8s
KECS **Kecovo** 75.86 319 *eP* P 16 01 17.1 +0.9
MTSE **Matsula** 75.91 329 *eP* P 16 01 16.5 +0.3
PDG **Podgorica** 75.94 312 ⇓P P 16 01 16.6 -0.2
NIE **Niedzica** 76.12 320 *eP* P 16 01 19.6 +1.8
PSZ **Piszkesteto** 76.17 318 P P 16 01 18.1 +0.1
PSZ IAmb IAmb 16 01 19.7
comp=Z,34nm,0.9s
PSZ **Piszkesteto** 76.17 318 *eP* P 16 01 18.4 +0.4
PSZ **Piszkesteto** 76.17 318 ⇑P P 16 01 18.6 +0.5
PSZ **Piszkesteto** 76.17 318 P P 16 01 18.6 +0.5
KEF **Keuruu** 76.28 333 *eP* P 16 01 18.4 +0.1
OJC **Ojcow** 76.56 320 *eP* P 16 01 20.7 +0.6
LANS **Liptovska Anna** 76.62 319 *eP* P 16 01 21.9 +1.3
LANS pmax pmax
comp=Z,8.0nm,0.9s
LANS **Liptovska Anna** 76.62 319 *eP* P 16 01 21.9 +1.3
MORH **Mrgy, Hungar** 76.80 316 ⇑P P 16 01 21.9 +0.4
VYHS **Vyhne** 76.95 319 *eP* P 16 01 23.0 +0.6
VYHS pmax pmax
comp=Z,23nm,0.9s
VYHS **Vyhne** 76.95 319 *eP* P 16 01 23.0 +0.6
VADS **Vadso** 77.11 341 *eP* P 16 01 23.4 +0.5
SRO **Srobarova** 77.21 318 *eP* P 16 01 25.3 +1.5
SRO pmax pmax
comp=Z,43nm,0.9s
SRO **Srobarova** 77.21 318 *eP* P 16 01 25.3 +1.5
RAF **Rauma** 77.44 332 *eP* P 16 01 24.9 +0.1
VAF **Ylistaro** 77.49 334 *eP* P 16 01 25.8 +0.7
OKC **Ostrava-Krasne** 77.56 320 *eP* P 16 01 26.6 +0.8
OKC **Ostrava-Krasne** 77.56 320 *eP* P 16 01 26.6 +0.8

MAUC **Maruska** 77.71 319 *eP* P 16 01 27.6 +0.9
JAVC **Velka Javorina** 77.76 319 *eP* P 16 01 28.4 +1.4
MORC **Moravsky Berou** 77.95 320 IAmb IAmb 16 01 30.0
comp=Z,42nm,1.1s
MORC **Moravsky Berou** 77.95 320 *eP* P 16 01 28.7 +0.7
MORC **Moravsky Berou** 77.95 320 ⇑P P 16 01 28.7 +0.7
MORC **Moravsky Berou** 77.95 320 P P 16 01 28.6 +0.7
MODS **Modra-Piesok** 77.97 318 *eP* P 16 01 28.8 +0.7
MODS pmax pmax
comp=Z,212nm,2.0s
MODS **Modra-Piesok** 77.97 318 *eP* P 16 01 28.8 +0.7
ARA0 **ARCESS Array S** 78.17 340 *eP* P 16 01 28.7 -0.1
ARCES **ARCESS Array B** 78.17 340 P P 16 01 29.0 +0.2
comp=Z,15nm,0.8s,baz=107,slow=6.0,SNR=27
ARCES LR LR 16 39 17.9
comp=Z,74nm,20.1s,baz=100,slow=38
comp=Z,15nm,0.8s
ARCES **ARCESS Array B** 78.17 340 P P 16 01 29.0 +0.2
KRLC **Kraliky** 78.47 320 *eP* P 16 01 32.1 +1.2
KRLC **Kraliky** 78.47 320 *eP* P 16 01 32.1 +1.2
KOGS **Kog** 78.47 316 *i* P P 16 01 31.7 +0.8
VRAC **Vranov** 78.51 319 LR LR 16 41 15.0
comp=Z,34nm,18.3s,baz=62,slow=40
VRAC **Vranov** 78.51 319 *eP* P 16 01 31.5 +0.4
VRAC **Vranov** 78.51 319 ⇓P P 16 01 32.2 +1.1
VRAC **Vranov** 78.51 319 P P 16 01 32.2 +1.1
BILL **Bilibino** 78.55 21 P P 16 01 30.2 -0.7
BILL **Bilibino** 78.55 21 P P 16 01 30.0 -0.9
RONA **Rosalia, Austr** 78.55 318 *i* P P 16 01 31.9 +0.6
comp=Z,17nm,1.0s,SNR=6.3
KRUC **Moravsky** 78.62 319 *eP* P 16 01 32.1 +0.5
DPC **Dobruska-Polom** 78.79 320 *eP* P 16 01 33.9 +1.3
DPC **Dobruska-Polom** 78.79 320 *eP* P 16 01 33.9 +1.3
KTK1 **Kautokeino** 78.80 340 *eP* P 16 01 32.4 +0.2
KSP **Ksiaz** 78.86 321 *eP* P 16 01 34.0 +1.1
CONA **Conrad Observa** 78.86 318 *i* P P 16 01 33.7 +0.6
comp=Z,18nm,1.0s,SNR=6.1
OSTC **Ostas** 78.88 320 *eP* P 16 01 34.4 +1.3
OSTC **Ostas** 78.88 320 *eP* P 16 01 34.4 +1.3
CHVC **Chvalec** 78.98 320 *eP* P 16 01 34.8 +1.1
CHVC **Chvalec** 78.98 320 *eP* P 16 01 34.8 +1.1
UPC **Upice** 79.00 320 *eP* P 16 01 35.1 +1.4
UPC **Upice** 79.00 320 *eP* P 16 01 35.1 +1.4
ARSA **Arzberg** 79.04 317 *i* P P 16 01 34.9 +0.9
comp=Z,32nm,1.0s,SNR=12
BOJS **Bojanci** 79.09 315 *i* P P 16 01 35.0 +0.6
BOJS *i* pP sP 16 01 54.4 -1.0
HAMF **Hammerfest** 79.10 341 *eP* P 16 01 34.5 +0.7
SUR **Sutherland** 79.19 236 LR LR 16 30 50.3
comp=Z,113nm,18.9s,baz=90,slow=31
PERS **Pernice** 79.27 316 *i* P P 16 01 36.1 +0.8
SOKA **Soboth** 79.33 316 *i* P P 16 01 36.6 +0.9
comp=Z,64nm,1.0s,SNR=28
TSUM **Tsumeb** 79.56 250 LR LR 16 31 37.0
comp=Z,55nm,21.7s,baz=350,slow=32
LJU **Ljubljana** 79.64 316 *i* P P 16 01 38.2 +0.9
OBKA **Obir** 79.65 316 *i* P P 16 01 38.5 +1.0
comp=Z,40nm,1.4s,SNR=7.5
PRU **Pruhonice** 79.90 320 *eP* P 16 01 39.5 +0.9
PRU **Pruhonice** 79.90 320 *eP* P 16 01 39.5 +0.9
PVCC **Panska Ves** 79.92 320 *eP* P 16 01 39.7 +1.0
PVCC **Panska Ves** 79.92 320 *eP* P 16 01 39.7 +1.0
MOA **Molln** 79.93 318 *i* P P 16 01 39.2 +0.4
comp=Z,18nm,0.9s,SNR=7.0
CKRC **Cesky Krumlov** 79.97 319 *eP* P 16 01 40.1 +1.1
CKRC **Cesky Krumlov** 79.97 319 *eP* P 16 01 40.1 +1.1
ZVC **Zvikov** 80.08 319 *eP* P 16 01 40.7 +1.1
SABO **M.te Sabotino** 80.28 316 IAmb IAmb 16 01 42.0
comp=Z,37nm,0.9s
MYKA **Terra Mystica** 80.28 316 *eP* P 16 01 41.6 +0.7
comp=Z,13nm,0.8s
PRED **Cave del Predi** 80.33 316 IAmb IAmb 16 01 41.3
comp=Z,52nm,0.9s
BIOA **Bad Ischl, Aus** 80.34 317 *i* P P 16 01 41.5 +0.4
comp=Z,19nm,0.8s,SNR=7.0
BRG **Berggiesshubel** 80.34 321 *i* P P 16 01 41.8 +0.8
BRG Amp 16 01 43.0
comp=Z,21nm,1.0s
BRG **Berggiesshubel** 80.34 321 *i* P P 16 01 41.8 +0.8
BRG 16 02 01.1
BRG pmax pmax
comp=Z,21nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG **Berggiesshubel** 80.34 321 *eP* P 16 01 41.6 +0.6
comp=Z,14nm,0.9s,baz=91,slow=5.2
KHC **Kasperske Hory** 80.47 319 *eP* P 16 01 42.4 +0.7
KHC **Kasperske Hory** 80.47 319 *eP* P 16 01 42.4 +0.7
KHC **Kasperske Hory** 80.47 319 P P 16 01 41.3 -0.4
comp=Z,21nm,0.9s
NRCA **Norcia** 80.49 312 IAmb IAmb 16 01 44.1
comp=Z,44nm,1.2s
KBA **Koelnbreinsper** 80.51 317 *i* P P 16 01 42.2 0.0
comp=Z,18nm,0.8s,SNR=8.7
FDMO **Fiordimonte** 80.52 313 IAmb IAmb 16 01 43.7
comp=Z,32nm,1.1s
RUE **Ruedersdorf** 80.56 322 *eP* P 16 01 42.9 +0.9
comp=Z,52nm,0.8s,baz=91,slow=5.2
HSKC **Hora Svate Kat** 80.65 320 *eP* P 16 01 43.5 +0.8
WET **Wettzell** 80.93 319 *eP* P 16 01 45.1 +0.9
comp=Z,20nm,0.9s,baz=91,slow=5.2
CLL **Collm** 80.97 321 ⇓*i*P P 16 01 44.2 -0.1
CLL *i* *PP pP 16 02 00.2 +0.7
CLL pmax pmax
comp=Z,22nm,1.0s
CLL **Collm** 80.97 321 *eP* P 16 01 44.8 +0.6
comp=Z,12nm,0.9s,baz=91,slow=5.2
CLL **Collm** 80.97 321 ⇓*i*P P 16 01 44.2 -0.1
comp=Z,22nm,1.0s
CLL *i* pP pP 16 02 00.2 +0.7
comp=Z,59nm,2.3s
CLL **Collm** 80.97 321 P P 16 01 43.6 -0.7
comp=Z,20nm,1.1s
LESA **Schwarzleotal** 80.98 317 *eP* P 16 01 44.6 0.0
comp=Z,30nm,0.7s
ABTA **Abfaltersbach** 81.06 316 *i* P P 16 01 45.0 -0.1
comp=Z,29nm,1.1s,SNR=6.7
HFS **Hagfors** 81.24 330 P P 16 01 45.4 -0.2
comp=Z,6.0nm,0.7s,baz=96,slow=5.7,SNR=15
HFS LR LR 16 41 03.0
comp=Z,92nm,18.6s,baz=85,slow=38
comp=Z,6.0nm,0.7s
TANN **Tannenbergsta** 81.26 320 *eP* P 16 01 46.5 +0.5
comp=Z,8.5nm,1.0s,baz=91,slow=5.2
TANN *eP* pwP 16 02 04.2 -0.4
FAUS **Fauske** 81.37 337 *eP* P 16 01 46.2 +0.1
ROTZ **Rotzenmuhle** 81.39 319 *eP* P 16 01 47.6 +1.0
comp=Z,4.6nm,0.9s,baz=91,slow=5.2
STEI **Steigen** 81.46 338 *eP* P 16 01 46.8 +0.2
MANZ **Manzenberg** 81.47 320 *eP* P 16 01 47.7 +0.7
comp=Z,7.2nm,0.9s,baz=91,slow=5.2
CTI **Castel Tesino** 81.64 316 P P 16 01 48.4 +0.3
CTI IAmb IAmb 16 01 50.0
comp=Z,50nm,0.9s
CTI **Castel Tesino** 81.64 316 P P 16 01 48.4 +0.3
CTI pmax pmax
comp=Z,50nm,0.9s
WTTA **Wattenberg** 81.68 317 *i* P P 16 01 48.5 +0.1
comp=Z,40nm,0.9s,SNR=16
WATA **Walderalm** 81.72 317 *i* P P 16 01 48.3 -0.3
comp=Z,32nm,1.0s,SNR=8.2
NEUB **Neuenburg** 81.73 321 *eP* P 16 01 48.9 +0.5
comp=Z,25nm,1.0s,baz=91,slow=5.2
MOX **Moxa** 81.81 320 *eP* P 16 01 49.3 +0.5
comp=Z,6.5nm,0.8s,baz=91,slow=5.2
FUR **Furstenfeldbru** 81.95 318 *eP* P 16 01 49.8 +0.2
comp=Z,22nm,0.8s,baz=91,slow=5.2
SQTA **Sankt Quirin** 81.97 317 *i* P P 16 01 49.9 +0.1
comp=Z,33nm,0.7s,SNR=10.0
GRA1 **Grafenberg Arr** 82.03 319 IAmb IAmb 16 01 52.1
comp=Z,39nm,0.9s
GRF **Grafenberg Arr** 82.03 319 *eP* P 16 01 50.9 +0.9
comp=Z,17nm,0.8s,baz=91,slow=5.2
GRF *eP* pwP 16 02 08.6 -0.1
GRFO **Grafenberg** 82.03 319 P P 16 01 50.1 +0.1
GRFO IAmb IAmb 16 01 52.1
comp=Z,40nm,1.0s
GRFO **Grafenberg** 82.03 319 P P 16 01 50.1 +0.1
GRFO pmax pmax
comp=Z,40nm,1.0s
MOTA **Moosalm** 82.05 317 *eP* P 16 01 50.1 -0.2
comp=Z,60nm,1.1s
FLTG **Flechtingen** 82.11 322 *eP* P 16 01 50.4 +0.1
comp=Z,6.9nm,0.9s,baz=91,slow=5.2
RETA **Reutte** 82.28 317 *i* P P 16 01 51.7 +0.3

comp=Z,33nm,0.7s,SNR=10
FETA **Feichten** 82.30 317 *i* P P 16 01 52.1 +0.4
comp=Z,23nm,0.8s,SNR=8.8
NC602 **NORSAR Array S** 82.35 331 *eP* P 16 01 51.1 -0.3
NSS **Namsos** 82.42 334 *eP* P 16 01 51.6 0.0
NB2 **NORSAR Subarra** 82.53 331 P P 16 01 51.6 -0.8
comp=Z,8.9nm,0.9s,baz=93,slow=5.9
NB2 **NORSAR Subarra** 82.53 331 P P 16 01 51.6 -0.8
baz=93,slow=5.9
NOA **NORSAR Array B** 82.53 331 P P 16 01 51.8 -0.6
comp=Z,4.9nm,0.8s,baz=93,slow=5.4,SNR=13
NOA LR LR 16 41 54.4
comp=Z,55nm,19.9s,baz=95,slow=38
comp=Z,4.9nm,0.8s
FUORN **Ofenpass-Fuorn** 82.61 316 IAmb IAmb 16 01 55.3
comp=Z,58nm,1.5s
CLZ **Clausthal** 82.63 321 *eP* P 16 01 53.2 +0.1
comp=Z,23nm,0.9s,baz=91,slow=5.2
BSEG **Bad Segeberg** 82.71 324 *eP* P 16 01 53.5 +0.1
comp=Z,29nm,0.9s,baz=91,slow=5.2
UBR **Ueberruh** 82.73 317 *eP* P 16 01 53.9 +0.1
comp=Z,15nm,0.8s,baz=91,slow=5.2
SPA0 **Spitsbergen Ar** 82.77 348 *eP* P 16 01 53.3 0.0
SPITS **Spitsbergen Ar** 82.77 348 P P 16 01 53.3 0.0
comp=Z,12nm,0.6s,baz=107,slow=5.5,SNR=8.5
SPITS LR LR 16 44 51.3
comp=Z,75nm,19.6s,baz=82,slow=40
comp=Z,12nm,0.6s
NRDL **Niedersach Rie** 82.80 322 *eP* P 16 01 54.2 +0.4
comp=Z,22nm,1.1s,baz=91,slow=5.2
UBBA **Unterbreizbach** 82.84 320 *eP* P 16 01 54.5 +0.5
baz=91,slow=5.2
GTTG **Gottingen** 82.87 321 *eP* P 16 01 55.1 +0.8
comp=Z,14nm,0.9s,baz=91,slow=5.2
DAVA **Damuels** 82.88 317 *i* P P 16 01 55.1 +0.5
comp=Z,43nm,1.0s,SNR=8.5
TUE **Stuetta** 83.24 316 P P 16 01 56.5 -0.1
TUE IAmb IAmb 16 02 01.0
comp=Z,22nm,0.9s
TUE **Stuetta** 83.24 316 P P 16 01 56.3 -0.3
comp=Z,109nm,1.1s
KEST **Kesra** 83.38 305 P P 16 01 58.9 +1.5
comp=Z,15nm,0.8s,baz=331,slow=2.9,SNR=14
comp=Z,15nm,0.8s
DOMB **Dombas** 83.60 332 *eP* P 16 01 58.1 +0.3
RPZ **Rata Peaks** 83.60 135 LR LR 16 40 14.9
comp=Z,90nm,20.4s,baz=310,slow=36
TNS **Taunus Mts** 83.83 320 *eP* P 16 01 60.0 +0.6
comp=Z,17nm,0.8s,baz=91,slow=5.2
KASTN **Kahler Asten** 83.84 321 *eP* P 16 01 59.6 +0.2
comp=Z,7.3nm,0.9s,baz=91,slow=5.2
BFO **Black Forest** 83.92 318 P P 16 01 59.7 -0.1
BFO IAmb IAmb 16 02 00.9
comp=Z,18nm,0.8s
BFO **Black Forest** 83.92 318 P P 16 01 59.7 -0.1
BFO pmax pmax
comp=Z,18nm,0.8s
BFO **Black Forest** 83.92 318 *eP* P 16 01 60.0 +0.2
comp=Z,15nm,0.8s,baz=91,slow=5.2
IBBN **Ibbenburen** 84.24 322 *eP* P 16 02 01.5 +0.2
comp=Z,24nm,0.8s,baz=91,slow=5.2
BUG **Bochum--Univer** 84.56 321 *eP* P 16 02 03.3 +0.4
comp=Z,21nm,0.9s,baz=91,slow=5.2
AKN **Aaknes** 84.57 332 *eP* P 16 02 03.7 +0.9
BLS5 **Blasjo** 84.87 329 *eP* P 16 02 05.4 +1.1
BTNL **Ternell** 85.30 320 *dP* P 16 02 06.9 +0.2
comp=Z,15nm,1.0s
WLF **Walferdange** 85.32 319 *eP* P 16 02 07.7 +0.9
comp=Z,12nm,0.9s,baz=91,slow=5.2
WLF *ep*P pwP 16 02 25.2 -0.4
WLF **Walferdange** 85.32 319 *dP* P 16 02 08.2 +1.4
comp=Z,11nm,1.0s
MEM **Membach** 85.38 320 *dP* P 16 02 07.8 +0.7
comp=Z,17nm,1.0s
BCLA **Clavier** 85.84 320 *dP* P 16 02 09.8 +0.5
comp=Z,7.2nm,1.0s
RCHB **Rochefort** 85.90 320 *dP* P 16 02 10.2 +0.5
comp=Z,6.6nm,1.0s
RCHB *dP*P PP 16 05 27.4 -2.4
BMRD **Maredsous** 86.19 320 *dP* P 16 02 11.5 +0.5
comp=Z,7.9nm,1.5s
DOU **Dourbes** 86.31 320 *dP* P 16 02 12.5 +0.8
comp=Z,9.2nm,1.0s
SSB **Saint Sauveur** 86.64 315 IAmb IAmb 16 02 15.0
comp=Z,26nm,1.1s
URZ **Urewera** 87.08 129 LR LR 16 46 08.3
comp=Z,31nm,18.1s,baz=10.0,slow=39
GAMB **Gambell** 87.15 26 P P 16 02 16.6 +1.2
baz=275
TNA **Tin City** 88.54 24 P P 16 02 23.2 +1.1
baz=279
SPIA **Saint Paul Isl** 88.58 33 P P 16 02 23.2 +0.8
baz=277
P08K **Saint George I** 89.03 33 P P 16 02 24.6 +0.1
baz=278
C16K **Lisburne Hills** 89.08 22 P P 16 02 25.2 +0.7
baz=281
F14K **Arctic Creek** 89.21 24 P P 16 02 26.0 +0.8
baz=280
ANM **Nome** 89.78 25 P P 16 02 28.2 +0.2
baz=281
C17K **DeLong Mountai** 89.82 21 P P 16 02 28.6 +0.5
baz=283
F15K **North Star Dit** 89.86 24 P P 16 02 28.6 +0.4
baz=282
NIKH **Nikolski High** 89.92 37 P P 16 02 27.8 -1.0
baz=278
RDOG **Red Dog Mine** 90.02 22 P P 16 02 29.6 +0.6
baz=283
D17K **Noatak River** 90.03 22 P P 16 02 29.4 +0.4
baz=283,SNR=5.5
B18K **Kokolik River** 90.09 20 P P 16 02 29.6 +0.3
baz=284
A19K **Wainwright** 90.13 19 P P 16 02 29.6 +0.3
baz=285
M11K **Mekoryuk** 90.18 29 P P 16 02 30.5 +0.7
baz=280
G15K **Niukluk** 90.25 25 P P 16 02 30.6 +0.5
baz=282
DAG **Danmarks Havn** 90.41 348 *i* P P 16 02 29.0 -1.6
EKA **Eskdalemuir Ar** 90.42 326 P P 16 02 31.8 +0.7
comp=Z,13nm,0.8s,baz=97,slow=5.4,SNR=14
comp=Z,13nm,0.8s
C18K **Utukok River** 90.49 21 P P 16 02 31.5 +0.3
baz=285,SNR=7.9
E17K **Hotham Inlet** 90.65 22 P P 16 02 32.7 +0.7
baz=284
G16K **Koyuk River** 90.86 24 P P 16 02 33.4 +0.5
baz=284
C19K **Lookout Ridge** 90.92 20 P P 16 02 33.9 +0.7
baz=286,SNR=5.9
E18K **Tukpahlearik C** 91.03 22 P P 16 02 34.4 +0.7
baz=285
F17K **Baldwin Pennin** 91.03 23 P P 16 02 33.9 +0.3
F17K IAmb IAmb 16 02 34.9
comp=Z,18nm,0.8s
F17K **Baldwin Pennin** 91.03 23 P P 16 02 34.0 +0.3
baz=285
H16K **Elim** 91.08 25 P P 16 02 34.8 +0.8
baz=284
B20K **Meade River** 91.46 19 P P 16 02 35.8 +0.2
baz=289,SNR=6.6
G17K **Kiwalik Mounta** 91.52 24 P P 16 02 36.3 +0.3
baz=285
M13K **Dall Lake** 91.56 29 P P 16 02 36.1 -0.1
baz=283
F18K **Selawik** 91.61 23 P P 16 02 36.5 +0.2
baz=286
D19K **Kuna River** 91.62 21 P P 16 02 36.8 +0.3
baz=288
L14K **Kuka Creek** 91.67 28 P P 16 02 36.8 +0.1
baz=283
A22K **Sinclair Lake** 91.82 18 P P 16 02 37.9 +0.7
baz=291
TORD **Torodi Ar. Bea** 91.83 283 P P 16 02 38.6 +0.1
TORD **Torodi Ar. Bea** 91.83 283 P P 16 02 39.4 +0.9
comp=Z,2.7nm,0.9s,baz=85,slow=4.7,SNR=13
TORD LR LR 16 43 08.3
comp=Z,81nm,18.4s,baz=118,slow=35
comp=Z,2.7nm,0.9s
I17K **Unalakleet** 91.93 25 P P 16 02 38.6 +0.7
baz=285
K15K **Wolf Creek Mou** 91.97 27 P P 16 02 38.0 -0.1
baz=284
H17K **Granite Mounta** 91.97 24 P P 16 02 38.4 +0.3
baz=286
D20K **Etivluk River** 92.07 20 P P 16 02 38.7 +0.2
baz=289

J16K	Anvik River	92.13	26	P	P	16 02 39.0 +0.2
	baz=285					
L15K	Ungalak Mounta	92.14	28	P	P	16 02 39.1 +0.1
	baz=284					
M14K	Bethel	92.15	29	P	P	16 02 39.5 +0.5
	baz=284					
G18K	Tagagawik	92.20	23	P	P	16 02 39.0 -0.2
	baz=287					
F19K	Shaleruckik Mo	92.25	22	P	P	16 02 39.5 +0.1
	baz=288					
E19K	Redstone River	92.26	22	P	P	16 02 39.9 +0.5
	baz=289					
E20K	Nigu River	92.37	21	P	P	16 02 40.2 +0.2
	baz=290					
B21K	Ikpikpuk River	92.43	19	IAmb	IAmb	16 02 41.7
	comp=Z,18nm,0.8s					
B21K	Ikpikpuk River	92.43	19	P	P	16 02 40.4 +0.3
	baz=291,SNR=9.5					
N14K	Kuskokwak Cree	92.49	29	P	P	16 02 40.7 +0.1
	baz=284					
H18K	Honhosa River	92.54	24	P	P	16 02 40.9 +0.1
	baz=287					
C21K	Knifeblade Rid	92.54	20	P	P	16 02 40.5 -0.1
	baz=291					
B22K	Teshekpuk Lake	92.54	18	P	P	16 02 40.4 -0.2
	baz=292					
G19K	Purcell Mounta	92.73	23	P	P	16 02 42.0 +0.4
	baz=289					
J17K	VABM Dome	92.76	26	P	P	16 02 42.6 +0.8
	baz=287					
M15K	Kasigluk River	92.77	28	P	P	16 02 41.8 0.0
	baz=285					
O14K	Tigyukauivet M	92.86	30	P	P	16 02 41.9 -0.4
	baz=285					
F20K	Avaraart Lake	92.95	22	P	P	16 02 42.5 0.0
	baz=290					
L16K	Owhat River	93.06	27	P	P	16 02 43.5 +0.3
	baz=286					
E21K	Killik River	93.07	20	IAmb	IAmb	16 02 44.4
	comp=Z,22nm,1.1s					
E21K	Killik River	93.07	20	P	P	16 02 43.3 +0.1
	baz=292					
H19K	Roundabout Mou	93.18	23	P	P	16 02 44.1 +0.4
H19K	Roundabout Mou	93.18	23	P	P	16 02 44.0 +0.4
	baz=289					
GCSA	Galena City Sc	93.27	24	P	P	16 02 44.5 +0.5
	baz=289					
K17K	Iditarod	93.30	26	IAmb	IAmb	16 02 46.0
	comp=Z,21nm,1.0s					
K17K	Iditarod	93.30	26	P	P	16 02 44.6 +0.3
	baz=287					
D22K	Ayikyak River	93.34	20	IAmb	IAmb	16 02 46.0
	comp=Z,26nm,1.4s					
D22K	Ayikyak River	93.34	20	P	P	16 02 44.4 0.0
	baz=293					
L17K	Donlin	93.47	27	P	P	16 02 44.8 -0.3
	baz=287					
M16K	Timber Creek	93.49	28	P	P	16 02 45.3 +0.1
	baz=287					
ESDC	Sonseca Array	93.52	310	P	P	16 02 46.6 +0.7
	comp=Z,2.1nm,0.9s,baz=70,slow=3.0,SNR=6.6					
ESDC				LR	LR	16 48 27.9
	comp=Z,21nm,19.6s,baz=50,slow=38					
	comp=Z,2.1nm,0.9s					
O15K	Ungalikthiuk R	93.59	30	P	P	16 02 46.0 +0.3
	baz=286					
C23K	Itkillik River	93.63	18	IAmb	IAmb	16 02 46.9
	comp=Z,18nm,1.0s					
C23K	Itkillik River	93.63	18	P	P	16 02 46.2 +0.5
	baz=295					
F21K	Alatna River	93.70	21	IAmb	IAmb	16 02 47.9
	comp=Z,13nm,1.1s					
F21K	Alatna River	93.70	21	P	P	16 02 46.1 0.0
	baz=292					
N16K	Nishlik Lake	93.74	28	P	P	16 02 46.7 +0.3
	baz=287					
J18K	Innoko River	93.75	25	IAmb	IAmb	16 02 47.7
	comp=Z,10nm,0.9s					
J18K	Innoko River	93.75	25	P	P	16 02 46.5 +0.2
	baz=289					
H20K	Anotleneega Mo	93.81	23	P	P	16 02 46.7 +0.1
	baz=291					
E22K	Anaktuvuk Pass	93.93	20	P	P	16 02 47.1 0.0
	baz=294					
G21K	Allakaket	93.96	22	P	P	16 02 47.5 +0.2
	baz=292					
D23K	Nanushuk River	93.97	19	IAmb	IAmb	16 02 49.0
	comp=Z,12nm,0.9s					
D23K	Nanushuk River	93.97	19	P	P	16 02 47.5 +0.3
	baz=295					
J19K	Poorman	94.03	25	IAmb	IAmb	16 02 49.3
	comp=Z,16nm,0.8s					
J19K	Poorman	94.03	25	P	P	16 02 48.1 +0.5
	baz=290					
F22K	John River	94.06	21	P	P	16 02 48.3 +0.6
	baz=293					
IMAR	Indian Mountai	94.07	22	P	P	16 02 48.2 +0.4
M17K	Holitna River	94.08	27	P	P	16 02 48.5 +0.6
	baz=288					
L18K	Granite Mounta	94.16	26	P	P	16 02 48.6 +0.4
	baz=289					
I20K	Naaghedeneel	94.22	24	P	P	16 02 49.0 +0.6
	baz=291					
TTA	Tatalina	94.22	26	P	P	16 02 48.8 +0.2
	baz=290					
C24K	Franklin Bluff	94.28	18	P	P	16 02 48.9 +0.3
	baz=297					
O16K	Kokwok River B	94.33	29	P	P	16 02 49.5 +0.5
	baz=287					
N17K	Nushagak Hills	94.47	28	P	P	16 02 49.9 +0.2
	baz=288					
TOLK	Toolik Lake Re	94.48	19	IAmb	IAmb	16 03 04.6
	comp=Z,9.9nm,0.8s					
TOLK	Toolik Lake Re	94.48	19	P	P	16 02 49.8 +0.2
	baz=296					
D24K	Happy Valley	94.49	19	IAmb	IAmb	16 02 50.9
	comp=Z,11nm,0.8s					
D24K	Happy Valley	94.49	19	P	P	16 02 49.8 +0.1
	baz=297					
G22K	Bettles	94.53	21	P	P	16 02 51.0 +1.1
	baz=294					
H21K	Melozitna Rive	94.55	23	P	P	16 02 50.1 +0.2
H21K				IAmb	IAmb	16 02 51.3
	comp=Z,15nm,1.2s					
H21K	Melozitna Rive	94.55	23	P	P	16 02 50.5 +0.5
	baz=293					
J20K	Nowinta River	94.57	24	P	P	16 02 51.3 +1.2
	baz=291					
E23K	Chandalar	94.72	20	IAmb	IAmb	16 02 52.5
	comp=Z,35nm,1.9s					
E23K	Chandalar	94.72	20	P	P	16 02 51.6 +0.8
	baz=296					
O17K	Koliganek Bris	94.75	29	P	P	16 02 51.5 +0.5
	baz=288					
M18K	Stony River	94.79	27	P	P	16 02 52.1 +0.9
	baz=290					
COLD	Coldfoot	94.87	21	P	P	16 02 52.4 +1.0
	baz=295					
QSPA	South Pole Qui	94.90	180	LR	LR	16 40 38.6
	comp=Z,238nm,19.4s,baz=295,slow=32					
CHNA	Chernabura Isl	94.90	34	P	P	16 02 53.1 +1.3
	baz=286					
K20K	Telida	94.90	25	P	P	16 02 52.6 +0.9
	baz=291					
L19K	White Mountain	94.98	26	P	P	16 02 52.5 +0.4
	baz=290					
H22K	Ishtalitna Cre	95.00	22	P	P	16 02 52.9 +0.8
	baz=294					
N18K	Kilae Creek	95.03	28	P	P	16 02 52.8 +0.5
	baz=289					
I21K	Tanana	95.05	23	IAmb	IAmb	16 02 54.1
	comp=Z,26nm,1.4s					
I21K	Tanana	95.05	23	P	P	16 02 53.4 +1.1
	baz=293					
E24K	Your Creek	95.09	20	P	P	16 02 52.9 +0.5
	baz=297					
G23K	Bananza Creek	95.16	21	IAmb	IAmb	16 02 54.5
	comp=Z,22nm,1.8s					
G23K	Bananza Creek	95.16	21	P	P	16 02 53.5 +0.7
	baz=295					
D25K	Kavik River	95.19	18	P	P	16 02 53.4 +0.5
	baz=299					
P17K	Kvichak River	95.25	29	P	P	16 02 53.8 +0.6
	baz=289					
M19K	Big River Lodg	95.29	26	P	P	16 02 54.1 +0.6
	baz=291					
L20K	Farewell, AK	95.30	26	P	P	16 02 54.3 +0.7
	baz=291					
C26K	Camden Bay	95.34	17	P	P	16 02 54.3 +0.8
	baz=300					
CHUM	Lake Minchumin	95.43	24	P	P	16 02 55.1 +1.1
	baz=293					
F24K	Squaw Lake	95.55	20	P	P	16 02 55.3 +0.8
	baz=297					
MLY	Manley	95.60	23	P	P	16 02 55.6 +0.7
	baz=294					
O18K	Koktuh Hills	95.63	28	P	P	16 02 55.4 +0.4
	baz=290					
N19K	Bonanza Creek	95.63	27	P	P	16 02 55.5 +0.4
	baz=291					
CAST	Castle Rocks	95.71	25	IAmb	IAmb	16 02 56.7
	comp=Z,18nm,1.1s					
CAST	Castle Rocks	95.71	25	P	P	16 02 56.0 +0.6
	baz=293					
H23K	Yukon River	95.71	22	P	P	16 02 55.9 +0.5
	baz=301					
P18K	Big Mountain,	95.78	29	P	P	16 02 55.7 0.0
	baz=290					
R17L	Mt. Peulik Vol	95.80	31	P	P	16 02 56.0 +0.1
	baz=289					
Q17K	Contact Creek	95.83	30	P	P	16 02 56.1 0.0
	baz=289					
C27K	Jago River	95.85	17	IAmb	IAmb	16 02 57.5
	comp=Z,13nm,0.9s					
C27K	Jago River	95.85	17	P	P	16 02 56.2 +0.4
	baz=301					
M20K	Styx River	95.85	26	P	P	16 02 56.6 +0.5
	baz=292					
PPLA	Purkeypile	95.87	25	P	P	16 02 56.5 +0.2
	baz=293					
BPAW	Bear Paw Mtn.	95.88	24	P	P	16 02 56.4 +0.3
	baz=294					
O19K	Port Alsworth	95.93	28	P	P	16 02 56.9 +0.5
	baz=291					
G24K	Hadweenzic Riv	96.07	21	P	P	16 02 57.3 +0.4
	baz=298					
I23K	Minto, Yukon-K	96.08	22	P	P	16 02 58.0 +1.1
	baz=296					
Q18K	Katmai Hardscr	96.14	30	P	P	16 02 57.1 -0.4
	baz=290					
F25K	Christian Rive	96.27	20	IAmb	IAmb	16 03 13.7
	comp=Z,12nm,1.6s					
F25K	Christian Rive	96.27	20	P	P	16 02 58.5 +0.7
	baz=299					
BORG	Borgarnes	96.31	337	LR	LR	16 49 39.1
	comp=Z,53nm,19.1s,baz=52,slow=37					
H24K	Noodor Dome	96.32	22	P	P	16 02 59.1 +0.9
	baz=297					
NEA2	Nenana	96.43	23	P	P	16 02 59.2 +0.6
	baz=296					
TRF	Thorofare Moun	96.43	24	P	P	16 02 58.8 0.0
	baz=295					
SKT	Skwentna	96.51	26	P	P	16 02 58.8 -0.2
	baz=293					
G25K	Bearman Lake	96.52	20	P	P	16 02 59.6 +0.7
	baz=299					
N20K	Mount Spurr	96.52	27	P	P	16 02 59.1 -0.1
	baz=293					
BMAR	Burnt Mountain	96.70	20	P	P	16 03 00.7 +0.8
F26K	Sheenjek River	96.71	19	P	P	16 03 00.1 +0.3
	baz=301					
CHIR	Chirikof Islan	96.77	32	P	P	16 02 59.6 -0.7
	baz=289					
COLA	College	96.77	22	P	P	16 03 00.0 0.0
	baz=297					
R18K	Karluk	96.79	30	P	P	16 03 00.1 -0.1
	baz=290					
POKR	Poker Plat Res	96.82	22	P	P	16 03 01.0 +0.7
	baz=298					
H25L	Birch Creek	96.86	21	P	P	16 03 00.7 +0.2
	baz=299					
MCK	McKinley	96.86	24	P	P	16 03 01.2 +0.7
	baz=296					
D27M	Malcolm River	96.87	17	IAmb	IAmb	16 03 02.0
	comp=Z,6.9nm,0.8s					
D27M	Malcolm River	96.87	17	P	P	16 03 00.9 +0.4
	baz=304					
SUA	Susitna One	97.06	26	P	P	16 03 01.9 +0.3
	baz=294					
ILAR	Eielson Array	97.19	22	P	P	16 03 00.8 -1.2
	comp=Z,1.0nm,0.7s,baz=288,slow=4.3,SNR=4.2					
ILAR				LR	LR	16 49 46.6
	comp=Z,80nm,21.2s,baz=286,slow=37					
	comp=Z,1.0nm,0.7s					
G26K	Porcupine Rive	97.22	20	P	Pdif	16 03 02.8 +0.7
	baz=301					
E27K	Coleen River	97.27	18	P	P	16 03 02.6 +0.3
	baz=303					
HDA	Harding Lake	97.33	23	P	P	16 03 02.5 -0.1
	baz=298					
PRP	Porcupine Dome	97.33	21	P	P	16 03 02.5 -0.3
	baz=299					
Q20K	Shuyak Island	97.43	29	P	Pdif	16 03 04.0 +0.8
	baz=292					
D28M	Stokes Point	97.47	17	P	Pdif	16 03 03.6 +0.4
	baz=306					
OHAK	Old Harbor	97.50	31	P	Pdif	16 03 03.9 +0.4
	baz=291					
KDAK	Kodiak Island	97.64	30	LR	LR	16 53 57.7
	comp=Z,79nm,18.5s,baz=150,slow=40					
KDAK	Kodiak Island	97.64	30	P	Pdif	16 03 04.6 +0.4
	baz=292					
E28M	Babbage River	97.66	17	IAmb	IAmb	16 03 05.4
	comp=Z,6.5nm,0.9s					
E28M	Babbage River	97.66	17	P	P	16 03 04.3 +0.3
	baz=305					
RC01	Rabbit Creek A	97.66	26	P	P	16 03 04.1 0.0
	baz=295					
PMR	Palmer	97.71	26	P	P	16 03 04.4 0.0
	baz=296					
J25K	Salcha River,	97.83	22	P	Pdif	16 03 05.5 +0.5
	baz=299					
WAT6	Susitna Watana	97.86	24	P	P	16 03 05.4 +0.1
	baz=297					
SML	Sawmill	97.96	25	P	Pdif	16 03 06.0 +0.4
	baz=296					
G27K	Doyon Strip	98.01	19	P	Pdif	16 03 06.2 +0.5
	baz=303					
K24K	Donnelly Dome	98.07	23	P	Pdif	16 03 06.4 +0.3
	baz=299					
KNK	Knik Glacier	98.08	26	P	Pdif	16 03 06.5 +0.3
	baz=296					
F28M	Old Crow	98.13	18	P	Pdif	16 03 06.8 +0.5
	baz=305					
SEW	Seward	98.21	27	P	P	16 03 06.5 -0.2
	baz=295					
M23K	Glacier View	98.22	25	P	Pdif	16 03 07.2 +0.4
	baz=297					
E29M	Blow River	98.28	17	IAmb	IAmb	16 03 08.0
	comp=Z,10nm,1.2s					
E29M	Blow River	98.28	17	P	Pdif	16 03 07.2 +0.3
	baz=307					
I26K	Coal Creek Min	98.29	21	P	Pdif	16 03 07.6 +0.6
	baz=302					
H27K	Steamboat Moun	98.37	20	P	Pdif	16 03 07.9 +0.6
	baz=303					
SCM	Sheep Creek Mo	98.37	25	P	P	16 03 07.2 -0.3
	baz=297					
PWL	Port Wells	98.38	26	P	Pdif	16 03 07.9 +0.4
	baz=296					
RIDG	Independent Ri	98.47	23	P	P	16 03 08.0 +0.2
	baz=300					
J26L	Joseph Creek	98.56	22	P	P	16 03 08.5 +0.2
	baz=301					
PAX	Paxson	98.60	24	P	P	16 03 08.4 -0.1
	baz=299					
SCRK	Sand Creek	98.67	22	P	P	16 03 08.6 -0.2
	baz=301					
I27K	Kandik River	98.68	20	P	P	16 03 09.0 +0.2
	baz=303					
DBIC	Dimbokro	98.91	278	LR	LR	16 44 55.7
	comp=Z,74nm,21.9s,baz=78,slow=34					
A36M	Sachs Harbour	98.95	12	IAmb	IAmb	16 03 11.0
	comp=Z,13nm,0.8s					
A36M	Sachs Harbour	98.95	12	P	P	16 03 09.4 -0.3
	baz=320,SNR=6.4					
G29M	Pine Creek	99.12	19	P	Pdif	16 03 11.2 +0.5
	baz=307					
KLU	Klutina	99.13	25	P	Pdif	16 03 11.0 +0.1
	baz=298					
EGAK	Eagle	99.29	21	P	Pdif	16 03 11.3 -0.1
	baz=303					
I28M	Miner Creek	99.35	20	IAmb	IAmb	16 03 15.8
	comp=Z,23nm,1.9s					
I28M	Miner Creek	99.35	20	P	Pdif	16 03 11.7 -0.1
	baz=305					
F30M	Barrier River	99.38	17	P	Pdif	16 03 11.9 +0.2
	baz=309					
H29M	Whitestone	99.43	19	P	Pdif	16 03 12.1 +0.1
	baz=306					
INK	Inuvik	99.59	16	LR	LR	16 54 13.8
	comp=Z,125nm,19.6s,baz=235,slow=39					
INK	Inuvik	99.59	16	P	Pdif	16 03 12.8 +0.2
	baz=311					
N25K	Chitina, Valde	99.62	25	P	Pdif	16 03 13.1 0.0
	baz=300					
G30M	tAoh Zraii Nji	99.65	18	P	Pdif	16 03 13.1 +0.1
	baz=308					
EYAK	Cordova Ski Ar	99.65	26	P	Pdif	16 03 13.3 +0.2
	baz=298					
EPYK	Eagle Plains	99.87	19	P	Pdif	16 03 13.7 -0.3
	baz=308					
M26K	Nabesna, AK	99.87	24	P	Pdif	16 03 14.4 +0.2
	baz=301					
Q23K	Middleton Isla	99.91	27	P	Pdif	16 03 14.6 +0.3
	baz=298					
BMRM	Bremner River	99.94	25	P	Pdif	16 03 14.6 +0.1
	baz=300					
G31M	Satah River	100.28	18	P	Pdif	16 03 15.8 +0.1
	baz=310					
DAWY	Dawson	100.33	21	P	Pdif	16 03 15.9 -0.2
	baz=305					
I30M	Mount Dempster	100.69	20	P	Pdif	16 03 17.3 -0.5
	baz=308					
H31M	Peel River	100.98	18	P	Pdif	16 03 18.9 -0.1
	baz=310					
J30M	Hart River	101.10	20	P	Pdif	16 03 19.4 -0.2
	baz=308					
K29M	Barlow Dome	101.13	21	P	Pdif	16 03 19.7 -0.1
	baz=307					
C36M	Paulatuk	101.24	13	P	Pdif	16 03 20.3 +0.4
	baz=320					
L29M	L29M	101.35	22	P	Pdif	16 03 20.5 -0.2
	baz=306					
M29M	Somme Creek	101.61	22	P	Pdif	16 03 21.7 -0.2
	baz=306					
YUK8	Steele Glacier	101.77	24	P	Pdif	16 03 23.1 +0.2
	baz=304					
O28M	Mount Upton	101.88	24	P	Pdif	16 03 22.8 -0.6
	baz=304					
M30M	Minto, Yukon	102.16	22	P	Pdif	16 03 24.3 0.0
	baz=307					
YUK4	Talbot Arm	102.18	23	P	Pdif	16 03 24.3 -0.3
	baz=305					
PINM	Pinnacle	102.23	25	P	Pdif	16 03 24.2 -0.5
	baz=303					
YUK6	Outpost Mounta	102.52	24	P	Pdif	16 03 25.7 -0.5
	baz=305					
N30M	Aishikik Lake	102.72	23	P	Pdif	16 03 26.7 -0.1
	baz=307					
O29M	Mount Kennedy	102.81	24	P	Pdif	16 03 27.1 -0.2
	baz=305					
PNL	Peninsula	102.83	25	P	Pdif	16 03 27.3 0.0
	baz=304					
HYT	Haines Junctio	102.93	23	P	Pdif	16 03 28.3 +0.5
	baz=306					
N31M	Braeburn, Yuko	103.20	22	P	Pdif	16 03 29.6 +0.7
	baz=308					
M31M	Drury Creek, Y	103.27	21	P	Pdif	16 03 29.6 +0.4
	baz=308					
O30N	Mendenhall	103.52	23	P	Pdif	16 03 30.4 0.0
	baz=308					
P30M	Million Dollar	103.57	24	P	Pdif	16 03 30.4 -0.3
	baz=306					
PLBC	Pleasant Camp	104.21	24	P	Pdif	16 03 33.2 -0.2
	baz=307					
N32M	Quiet Lake	104.42	22	P	Pdif	16 03 34.2 -0.2
	baz=310					
SKAG	Skagway	104.62	24	P	Pdif	16 03 34.5 -0.7
	baz=308					
P33M	Teslin, Yukon	105.13	22	P	Pdif	16 03 36.5 -1.1
	baz=310					
S31K	Pelican	105.16	25	P	PKiKP	16 07 52.2 +0.5
	baz=307					
P32M	Atlin	105.19	23	P	PKiKP	16 07 51.9 0.0
	baz=310					
R32K	Eaglecrest	105.69	25	P	PKiKP	16 07 52.5 -0.2
	baz=308					
Q32M	Nakina River	106.16	23	P	PKiKP	16 07 53.4 -0.4
	baz=311					
S32K	Killisnoo	106.17	25	P	PKiKP	16 07 53.7 +0.1
	baz=308					
R33M	Jennings River	106.38	22	P	PKiKP	16 07 54.0 -0.2
	baz=312					
DLBC	Dease Lake	107.39	23	P	PKiKP	16 07 56.2 +0.2
	baz=313					
U33K	Whale Pass	107.64	26	P	PKiKP	16 07 55.9 -0.4
	baz=309					
WRAK	Wrangell Islan	107.78	25	P	PKiKP	16 07 56.2 -0.4
	baz=310					
CRAG	Craig	108.05	26	P	PKiKP	16 07 56.7 -0.5
	baz=309					
V35K	Ketchikan	108.80	26	P	PKiKP	16 07 58.6 0.0
	baz=310					
TBI	Tubuai	115.63	113	eLR	LR	16 43 06.8
	comp=Z,523nm,29.2s					
PPT2	Papeete2	115.97	107	eLR	LR	16 43 19.2
	comp=Z,110nm,31.8s					
PPT2				eLR	LR	16 43 22.5
	comp=Z,57nm,26.0s					
SCHQ	Schefferville	118.46	348	PKP	PKPdf	16 08 15.4 -1.7
	comp=Z,7.1nm,0.9s,baz=21,slow=4.7,SNR=3.7					
MSO	Missoula	122.51	23		PKPdf	16 08 24.7 -0.6
PLID	Pearl Lake	123.08	26		PKPdf	16 08 26.4 -0.1
ULM	Lac du Bonnet	124.23	8	PKP	PKPdf	16 08 27.5 -0.8
	comp=Z,5.4nm,0.8s,baz=84,slow=3.1,SNR=5.9					
NVAR	Mina Array Bea	127.06	32	PKP	PKiKP	16 08 36.0 +1.1
	comp=Z,3.5nm,0.8s,baz=288,slow=1.3,SNR=13					
PDAR	Pinedale Array	127.62	22		PKPdf	16 08 34.7 -0.7
PDAR	Pinedale Array	127.62	22	PKP	PKPdf	16 08 35.6 +0.2
	comp=Z,3.2nm,0.8s,baz=61,slow=0.9,SNR=23					
R11B	Troy Canyon, C	128.53	30	P	PKPdf	16 08 37.1 -0.1
	baz=320					
N23A	Red Feather La	130.57	21	P	PKPdf	16 08 41.1 0.0
	baz=332					
L61B	Northampton	131.43	348	P	PKPdf	16 08 42.2 -0.1
	baz=17					
Q24A	Divide	132.56	21	P	PKPdf	16 08 44.2 -0.8
	baz=333					
T25A	Trinidad	134.45	22	P	PKPdf	16 08 48.1 -0.3
	baz=333					
O48B	Farmland	134.99	360	P	PKPdf	16 08 49.3 +0.2
	baz=0.2					
TXAR	Lajitas Array	141.58	26		PKPpre	16 08 55.2
TXAR	Lajitas Array	141.58	26	PKhKP	PKPpre	16 08 56.4
	comp=Z,1.2nm,0.6s,baz=288,slow=0.7,SNR=15					
TXAR				PP	PP	16 12 04.5 +0.4
	comp=Z,0.8nm,0.9s,baz=328,slow=5.9,SNR=4.0					
TXAR	Lajitas Array	141.58	26	PKHKP	PKPpre	16 08 55.2
BDFB	Brasilia	141.92	251	PKP	PKPdf	16 09 02.9 +0.4
	comp=Z,1.7nm,0.5s,baz=241,slow=1.7,SNR=2.2					
SNDB	Serra Nova Dou	145.72	256	eP	PKPab	16 09 10.4 +0.5
AMBA	Amambai (Brazi	145.75	236	eP	PKPab	16 09 09.5 -0.3
CPUP	Villa Florida	145.88	229	PKPbc	PKPab	16 09 10.6 +0.4
	comp=Z,8.5nm,0.9s,baz=132,slow=5.0,SNR=6.6					
LPAZ	La Paz	159.78	235	PKP	PKPdf	16 09 30.9 +0.8
	comp=Z,0.8nm,0.4s,baz=51,slow=1.7,SNR=6.2					
LPAZ				PKPab	PKPab	16 10 09.5 +0.3
	comp=Z,0.7nm,0.4s,baz=184,slow=3.0,SNR=3.9					
LPAZ	La Paz	159.78	235	eP	PKPdf	16 09 29.9 -0.3
CZSB	Cruzeiro do Su	167.22	257	eP	PKPdf	16 09 37.7 +1.2

*IDC **21** 15:58:46.9±4.5, 33°.34S×136°.64E, h0km, mbtmp4.2/4, ML4.3/4, Error ellipse: s-maj=48.5km s-min=23.1km az=18.0*

*NOU **21** 15:58:49.7, 33°.40S×136°.85E, h0km, mb4.6/15, Near Coast of South Australia*

*AUST **21** 15:58:51.0±0.2, 33°.S±2°.×13°.7E±°., h10km, mb4.3/19, ML3.7/31, Error ellipse: s-maj=4.6km s-min=3.4km az=44.7*

*NEIC **21** 15:58:50.3±1.4, 33°.3S±0°.1×136°.92E±0°.07, h10km±1km, mb4.2/7, Error ellipse: s-maj=19.0km s-min=6.7km az=203.0*

ISC 21 15:58:49.1±0.6, **33°.31S**±0°.04×**136°.81E**±0°.04, **h10**km, **n80**, σ1°.83/85, **1C-4D, Near coast of South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHYH	**Whyalla**	**0.70**	**67**	‖P	**Pn**	**15 59 07.3**	**+2.3**
WHYH				S	**Sn**	**15 59 15.8**	**-0.1**
BBOO	**Buckleboo**	**0.81**	**308**	Pg	**Pn**	**15 59 09.5**	**+3.1**

BBOO				Sn	15 59 20.7	+2.1
BBOO	**Buckleboo**	**0.81**	**308** ⇑P	**Pn**	**15 59 09.6**	**+3.1**
BBOO	**Buckleboo**	**0.81**	**308** S	**Sn**	**15 59 20.8**	**+2.2**
BBOO	**Buckleboo**	**0.81**	**308** P	**Pn**	**15 59 08.7**	**+2.2**
PTPS	**Port Pirie**	**1.00**	**82** P	**Pn**	**15 59 11.4**	**+2.3**
NAPP	**Napperby**	**1.13**	**84** P	**Pn**	**15 59 13.3**	**+2.4**
AUJCS	**Jamestown Cent**	**1.51**	**86** ⇓P	**Pg**	**15 59 19.0**	**+0.9**
HTT	**Hallett**	**1.77**	**94** P	**Pb**	**15 59 22.4**	**+0.7**
HTT	**Hallett**	**1.77**	**94** P	**Pb**	**15 59 22.6**	**+1.0**
HTT	**Hallett**	**1.77**	**94** P	**Pb**	**15 59 22.3**	**+0.7**
YAPP	**Yappala Statio**	**1.92**	**42** ⇓P	**Pb**	**15 59 24.7**	**+0.5**
SDAN	**Sedan**	**2.42**	**120** ⇓P	**Pn**	**15 59 31.1**	**+2.5**
SDAN			S	**Sn**	**15 59 58.3**	**+0.1**
KELC	**Kelly Hill Cav**	**2.66**	**178** P	**Pn**	**15 59 34.5**	**+2.5**
KELC			S	**Sn**	**16 00 05.0**	**+0.7**
AUMBR	**Murray Bridge**	**2.74**	**132** P	**Pn**	**15 59 35.2**	**+2.1**
LCRK	**Leigh Creek**	**3.10**	**23** P	**Pn**	**15 59 41.0**	**+3.0**
LCRK	**Leigh Creek**	**3.10**	**23** S	**Sn**	**16 00 15.9**	**+0.8**
LCRK	**Leigh Creek**	**3.10**	**23** P	**Pn**	**15 59 41.1**	**+3.1**
MULG	**Mulgathing**	**3.82**	**321** P	**Pn**	**15 59 50.8**	**+2.8**
MULG	**Mulgathing**	**3.82**	**321** P	**Pn**	**15 59 50.7**	**+2.7**
STKA	**Stephens Creek**	**4.29**	**72**	**Pn**	**15 59 55.3**	**+0.9**
STKA	**Stephens Creek**	**4.29**	**72** P	**Pn**	**15 59 56.6**	**+2.3**
STKA	**Stephens Creek**	**4.29**	**72** Pn	**Pn**	**15 59 56.6**	**+2.3**
12nm,0.3s,baz=250,slow=12,SNR=91						
STKA			Sn	**Sn**	**16 00 42.3**	**-2.1**
7.5nm,0.3s,baz=188,slow=19,SNR=2.8						
STKA			Lg	Lg	16 01 07.1	
14nm,0.3s,baz=225,slow=12,SNR=5.2						
24nm,0.3s						
STKA	**Stephens Creek**	**4.29**	**72** P	**Pn**	**15 59 56.6**	**+2.3**
MGBR	**Mount Gambier**	**5.37**	**146** Pn	**Pn**	**16 00 10.6**	**+1.4**
MGBR	**Mount Gambier**	**5.37**	**146** P	**Pn**	**16 00 11.2**	**+2.1**
comp=Z,0.3nmcomp=Z,41nm,1.3s						
ARPS	**Mount Arapiles**	**5.38**	**131** P	**Pn**	**16 00 11.3**	**+2.0**
comp=Z,0.2nmcomp=Z,41nm,0.4s						
ARPS	**Mount Arapiles**	**5.38**	**131** P	**Pn**	**16 00 10.9**	**+1.6**
OOD	**Oodnadatta**	**5.58**	**350** P	**Pn**	**16 00 13.7**	**+1.5**
comp=Z,0.5nmcomp=Z,32nm,1.5s						
OOD	**Oodnadatta**	**5.58**	**350** P	**Pn**	**16 00 15.9**	**+3.7**
INKA	**Innaminka**	**6.51**	**32** P	**Pn**	**16 00 26.8**	**+1.9**
comp=Z,0.2nmcomp=Z,54nm,0.4s						
INKA	**Innaminka**	**6.51**	**32** P	**Pn**	**16 00 27.3**	**+2.4**
AUMTC	**Mt Clear Colle**	**7.18**	**129** P	**Pn**	**16 00 35.6**	**+1.5**
comp=Z,0.1nmcomp=Z,19nm,1.9s						
BRAT	**Ballarat**	**7.18**	**128** P	**Pn**	**16 00 35.4**	**+1.2**
comp=Z,0.0nmcomp=Z,12nm,0.6s						
CMSA	**Cobar Meteorol**	**7.71**	**79** P	**Pn**	**16 00 42.2**	**+0.7**
comp=Z,0.1nmcomp=Z,21nm,0.5s						
CMSA	**Cobar Meteorol**	**7.71**	**79** P	**Pn**	**16 00 42.5**	**+1.0**
FORT	**Forrest**	**7.85**	**286** Pn	**Pn**	**16 00 45.1**	**+1.9**
FORT	**Forrest**	**7.85**	**286** P	**Pn**	**16 00 45.3**	**+2.1**
comp=Z,0.6nmcomp=Z,65nm,0.7s						
FORT	**Forrest**	**7.85**	**286** S	**Sn**	**16 02 07.8**	**-4.4**
FORT	**Forrest**	**7.85**	**286** P	**Pn**	**16 00 45.5**	**+2.2**
GVL	**Greenvale**	**7.87**	**125** P	**Pn**	**16 00 45.0**	**+1.4**
comp=Z,0.0nmcomp=Z,9.2nm,0.7s						
TOO	**Toolangi**	**8.26**	**123** Pn	**Pn**	**16 00 49.4**	**+0.4**
TOO	**Toolangi**	**8.26**	**123** P	**Pn**	**16 00 50.1**	**+1.2**
comp=Z,0.0nmcomp=Z,12nm,1.8s						
ASAR	**Alice Springs**	**9.95**	**344** Pn	**Pn**	**16 01 12.1**	**-0.1**
ASAR	**Alice Springs**	**9.95**	**344** Pn	**Pn**	**16 01 11.2**	**-1.0**
comp=Z,3.7nm,0.3s,baz=162,slow=14,SNR=77						
ASAR			Sn	Sn	16 02 55.1	-8.8
comp=Z,5.8nm,0.3s,baz=158,slow=22,SNR=16						
ASAR			Lg	Lg	16 04 04.8	
baz=162,slow=30						
comp=Z,2.4nm,0.4s						
AS31	**Alice Springs**	**9.95**	**344** Pn	**Pn**	**16 01 12.3**	**+0.1**
AUDCS	**Dubbo College**	**10.01**	**87** P	**Pn**	**16 01 13.9**	**+1.0**
comp=Z,0.1nmcomp=Z,48nm,0.5s						
AUSMG	**Snowy Mountain**	**10.18**	**111** P	**Pn**	**16 01 15.8**	**+0.5**
comp=Z,0.1nmcomp=Z,21nm,1.7s						
AUMTS	**Mt Stromlo**	**10.28**	**105** P	**Pn**	**16 01 16.3**	**-0.4**
comp=Z,0.1nmcomp=Z,15nm,0.8s						
CAN	**Canberra**	**10.28**	**105** Pn	**Pn**	**16 01 16.0**	**-0.7**
CAN	**Canberra**	**10.28**	**105** P	**Pn**	**16 01 16.2**	**-0.5**
comp=Z,0.1nmcomp=Z,15nm,1.8s						
CAN	**Canberra**	**10.28**	**105** P	**Pn**	**16 01 15.7**	**-0.9**
comp=Z,23nm,1.8s						
AULRC	**Lightning Ridg**	**10.30**	**71** P	**Pn**	**16 01 17.7**	**+0.8**
comp=Z,0.1nmcomp=Z,50nm,0.7s						
DLN	**Dalton (NSW)**	**10.36**	**101** P	**Pn**	**16 01 17.4**	**-0.3**
comp=Z,0.0nmcomp=Z,6.3nm,1.3s						
CNB	**Canberra Magne**	**10.57**	**104** P	**Pn**	**16 01 20.2**	**-0.5**
comp=Z,0.1nmcomp=Z,31nm,2.1s						
CNB	**Canberra Magne**	**10.57**	**104** P	**Pn**	**16 01 21.5**	**+0.8**
MILA	**Mila**	**10.77**	**114** P	**Pn**	**16 01 23.7**	**+0.3**
comp=Z,0.1nmcomp=Z,17nm,2.2s						
WRKA	**Warakurna**	**11.10**	**316** P	**Pn**	**16 01 28.2**	**+0.2**
comp=Z,9.7nm,1.8s						
WRKA	**Warakurna**	**11.10**	**316** P	**Pn**	**16 01 28.6**	**+0.6**
MGCD	**Mangrove Creek**	**11.97**	**93** P	**Pn**	**16 01 40.7**	**+0.9**
ARMA	**Armidale**	**12.92**	**81** Pn	**Pn**	**16 01 53.2**	**+0.3**
QIS	**Mount Isa**	**12.95**	**12** P	**Pn**	**16 01 52.7**	**-0.5**
QIS	**Mount Isa**	**12.95**	**12** P	**Pn**	**16 01 55.0**	**+1.8**
WR0	**Warramunga Arr**	**13.45**	**351** Pn	**Pn**	**16 01 57.7**	**-2.4**
WB2	**Warramunga Arr**	**13.50**	**350** Pn	**Pn**	**16 01 58.7**	**-2.0**
WRA	**Warramunga Arr**	**13.50**	**350** Pn	**Pn**	**16 01 58.2**	**-2.5**
WRA	**Warramunga Arr**	**13.50**	**350** Pn	**Pn**	**16 01 58.8**	**-2.0**
comp=Z,1.4nm,0.3s,baz=166,slow=14,SNR=31						
WRA			Sn	Sn	16 04 18.6	-12
comp=Z,2.3nm,0.3s,baz=168,slow=25,SNR=14						
WRA			Lg	Lg	16 05 55.0	
baz=174,slow=27						
comp=Z,4.4nm,0.5s						
WRAB	**Tennant Creek**	**13.51**	**350** Pn	**Pn**	**16 01 58.9**	**-1.9**
WB0	**Warramunga Arr**	**13.66**	**350** Pn	**Pn**	**16 02 00.4**	**-2.5**
FITZ	**Fitzroy Crossi**	**18.17**	**324** Pn	**Pn**	**16 02 58.5**	**-3.1**
FITZ	**Fitzroy Crossi**	**18.17**	**324** P	**Pn**	**16 02 59.1**	**-2.4**
comp=Z,0.6nm,0.3s,baz=159,slow=9.2,SNR=11						
FITZ			S	Sn	16 06 05.0	-19
comp=Z,3.5nm,0.7s,baz=96,slow=20,SNR=3.2						
comp=Z,4.0nm,0.6s						
MORW	**Morawa**	**18.26**	**278** Pn	**Pn**	**16 03 00.5**	**-2.2**
MORW			IAmb	IAmb	16 03 31.6	
comp=Z,18nm,1.2s						
KNRA	**Kununurra**	**19.01**	**336**	**P**	**16 03 09.1**	**-2.0**
KNRA			IAmb	IAmb	16 03 21.4	
comp=Z,13nm,1.0s						
KNRA	**Kununurra**	**19.01**	**336** P	**P**	**16 03 10.5**	**-0.5**
PSA00	**Pilbara Seismi**	**19.04**	**304** P	**P**	**16 03 09.0**	**-2.3**
PSA00			IAmb	IAmb	16 03 51.2	
comp=Z,26nm,1.2s						
PSAC1	**Pilbara Seismi**	**19.09**	**304** P	**P**	**16 03 10.9**	**-1.0**
MBWA	**Marble Bar**	**19.39**	**304**	**P**	**16 03 15.6**	**+0.4**
MBWA			IAmb	IAmb	16 03 56.5	
comp=Z,19nm,1.2s						
COEN	**Coen**	**20.12**	**18** P	**P**	**16 03 24.0**	**+0.7**
MTN	**Manton Dam**	**21.03**	**344** P	**P**	**16 03 32.8**	**-0.2**
MTN	**Manton Dam**	**21.03**	**344** P	**P**	**16 03 32.9**	**-0.1**

*IDC **21** 16:12:49.7±0.8, 10˚.98S×110˚.78E, h0km, mb3.9/12, mbtmp3.9/14, ML3.5/2, Error ellipse: s-maj=43.4km s-min=13.9km az=51.0*

*NEIC **21** 16:12:51.1±2.5, 11˚.08S±0˚.06×110˚.68E±0˚.07, h10km±1km, mb4.2/15, Error ellipse: s-maj=14.8km s-min=7.2km az=230.0*

*DJA **21** 16:12:56.8±0.6, 11˚S±4˚×11˚1E±˚, h10km, M4.3/15, MLv4.3/15*

ISC 21 16:12:51.0±0.5, 11˚.00S±0˚.06×110˚.81E±0˚.05, h10km, n56, σ1§72/60, mb4.1/19, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**2.81**	**7**	P	**Pn**	**16 13 34.2**	**-1.8**
PCJI				S	**Sn**	**16 14 05.8**	**-4.2**
UGM	**Wanagama**	**3.08**	**355**	Pn	**Pn**	**16 13 39.1**	**-0.6**
UGM	**Wanagama**	**3.08**	**355**	P	**Pn**	**16 13 39.1**	**-0.6**
UGM				S	**Sn**	**16 14 11.5**	**-5.2**
PWJI	**Pagerwojo**	**3.12**	**18**	P	**Pn**	**16 13 39.4**	**-0.8**
PWJI				S	**Sn**	**16 14 13.7**	**-3.8**
GMJI	**Gumukmas**	**3.75**	**44**	P	**Pn**	**16 13 48.9**	**0.0**
GMJI				S	**Sn**	**16 14 30.0**	**-3.2**
SMRI	**Semarang**	**3.94**	**355**	Pn	**Pn**	**16 13 51.8**	**+0.2**
SMRI	**Semarang**	**3.94**	**355**	P	**Pn**	**16 13 52.7**	**+1.1**
CMJI	**Cimerak**	**3.96**	**324**	P	**Pn**	**16 13 51.9**	**+0.1**
KPJI	**Karang Pucung**	**4.09**	**333**	P	**Pn**	**16 13 55.6**	**+2.0**
JAGI	**Jajag, Banyuwa**	**4.14**	**53**	Pn	**Pn**	**16 13 55.5**	**+1.1**
JAGI	**Jajag, Banyuwa**	**4.14**	**53**	P	**Pn**	**16 13 55.2**	**+0.9**
BLJI	**Banyuglugur**	**4.24**	**41**	P	**Pn**	**16 13 57.3**	**+1.6**
BLJI				S	**Sn**	**16 14 42.6**	**-2.7**
UWJI	**Ujung Watu**	**4.55**	**2**	P	Pn	16 13 53.2	-6.8
XMIS	**Christmas Isla**	**5.10**	**275**	Pn	**Pn**	**16 14 04.8**	**-2.7**
LEM	**Lembang**	**5.21**	**322**	Pn	**Pn**	**16 14 08.5**	**-0.7**
2.9nm,0.3s,baz=159,slow=23,SNR=1.9							
LEM				Sn	**Sn**	**16 15 10.3**	**+0.9**
3.7nm,0.3s,baz=93,slow=20,SNR=4.2							
7.0nm,0.4s							
MMRI	**Maumere**	**11.50**	**79**	Pn	**Pn**	**16 15 37.8**	**+2.4**
GIRL	**Giralia**	**12.03**	**165**	Pn	**Pn**	**16 15 40.5**	**-2.2**
MBWA	**Marble Bar**	**13.24**	**141**	Pn	**Pn**	**16 15 56.1**	**-3.1**
PSA00	**Pilbara Seismi**	**13.62**	**142**	Pn	**Pn**	**16 16 01.6**	**-2.8**
FITZ	**Fitzroy Crossi**	**15.99**	**118**	Pn	**Pn**	**16 16 35.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**15.99**	**118**	Pn	**Pn**	**16 16 36.2**	**+0.1**
0.1nm,0.3s,baz=277,slow=22,SNR=2.1							
FITZ				Sn	Sn	16 19 20.0	-14
0.1nm,0.3s,baz=164,slow=18,SNR=1.6							
1.6nm,0.7s							
KNRA	**Kununurra**	**18.07**	**107**		**Pn**	**16 17 03.7**	**+1.4**
KNRA				IAmb	IAmb	16 17 47.4	
comp=Z,30nm,1.5s							
MORW	**Morawa**	**18.63**	**166**	P	**P**	**16 17 08.1**	**-0.8**
MORW				IAmb	IAmb	16 17 10.8	
comp=Z,12nm,0.9s							
WB0	**Warramunga Arr**	**24.32**	**114**	P	**P**	**16 18 09.2**	**+0.1**
WB0				IAmb	IAmb	16 18 15.5	
comp=Z,6.6nm,1.4s							
WRA	**Warramunga Arr**	**24.33**	**114**	P	**P**	**16 18 07.2**	**-2.0**
WRA	**Warramunga Arr**	**24.33**	**114**	P	**P**	**16 18 09.5**	**+0.4**
comp=Z,0.9nm,0.8s,baz=286,slow=11,SNR=9.6							
WRA				PcP	**PcP**	**16 21 49.8**	**+0.8**
comp=Z,0.2nm,0.4s,baz=290,slow=2.4,SNR=2.2							
comp=Z,0.9nm,0.8s							
WRAB	**Tennant Creek**	**24.34**	**114**	P	**P**	**16 18 09.1**	**-0.1**
WRAB				IAmb	IAmb	16 18 45.9	
comp=Z,7.6nm,1.4s							
WB2	**Warramunga Arr**	**24.34**	**114**	P	**P**	**16 18 09.3**	**+0.1**
WB2				IAmb	IAmb	16 18 12.9	
comp=Z,9.6nm,1.4s							
WR0	**Warramunga Arr**	**24.51**	**114**	P	**P**	**16 18 11.4**	**+0.6**
WR0				IAmb	IAmb	16 18 42.6	
comp=Z,8.0nm,1.4s							
ASAR	**Alice Springs**	**25.34**	**123**	P	**P**	**16 18 19.8**	**+1.5**
ASAR	**Alice Springs**	**25.34**	**123**	P	**P**	**16 18 18.9**	**+0.7**
comp=Z,1.7nm,0.8s,baz=295,slow=8.8,SNR=23							
ASAR				PcP	**PcP**	**16 21 52.0**	**+0.9**
comp=Z,0.3nm,0.5s,baz=315,slow=1.9,SNR=5.3							
comp=Z,1.7nm,0.8s							
AS31	**Alice Springs**	**25.34**	**123**	P	**P**	**16 18 19.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**31.53**	**338**	P	**P**	**16 19 14.5**	**+1.0**
comp=Z,0.4nm,0.4s,baz=176,slow=7.4,SNR=5.5							
comp=Z,0.4nm,0.4s							
STKA	**Stephens Creek**	**35.19**	**131**	P	**P**	**16 19 46.0**	**+0.6**
comp=Z,1.9nm,0.8s,baz=332,slow=22,SNR=1.6							
comp=Z,1.9nm,0.8s							
H08S2	**Diego Garcia H**	**37.94**	**272**	T	T	17 01 14.4	
baz=96							
H08S3	**Diego Garcia H**	**37.95**	**272**	T	T	17 01 16.9	
baz=96							
H08S1	**Diego Garcia H**	**37.96**	**272**	T	T	17 01 20.7	
baz=96							
PZH	**PanZhiHua**	**38.31**	**347**	P	**P**	**16 20 16.6**	**+4.5**
PZH				pmax	pmax		
comp=Z,10.0nm,0.6s							
PZH				pmax	pmax		
comp=Z,100nm,5.3s							
SONM	**Songino Array**	**58.70**	**357**	P	**P**	**16 22 49.0**	**+0.2**
SONM	**Songino Array**	**58.70**	**357**	P	**P**	**16 22 49.2**	**+0.3**
comp=Z,0.5nm,0.5s,baz=173,slow=6.9,SNR=4.7							
comp=Z,0.5nm,0.5s							
SIMJ	**Simiganj**	**62.93**	**324**	P	**P**	**16 23 16.1**	**-1.7**
MK31	**Makanchi Array**	**62.94**	**338**	P	**P**	**16 23 17.1**	**-0.5**
MKAR	**Makanchi Array**	**62.94**	**338**	P	**P**	**16 23 17.7**	**+0.1**
MKAR	**Makanchi Array**	**62.94**	**338**	P	**P**	**16 23 17.9**	**+0.3**
comp=Z,0.4nm,0.4s,baz=145,slow=8.3,SNR=8.8							
comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**67.50**	**338**	P	**P**	**16 23 46.4**	**-0.7**
comp=Z,0.6nm,0.7s,baz=146,slow=6.9,SNR=5.5							
comp=Z,0.6nm,0.7s							
ZALV	**Zalesovo Beam**	**68.36**	**344**	P	**P**	**16 23 51.7**	**-0.7**
ZALV	**Zalesovo Beam**	**68.36**	**344**	P	**P**	**16 23 52.1**	**-0.4**
comp=Z,0.8nm,0.4s,baz=151,slow=6.3,SNR=5.0							
comp=Z,0.8nm,0.4s							
BVAR	**Borovoye Array**	**72.52**	**336**	P	**P**	**16 24 18.1**	**+0.2**
comp=Z,1.4nm,0.6s,baz=135,slow=6.3,SNR=9.0							
comp=Z,1.4nm,0.6s							
BRVK	**Borovoye**	**72.58**	**336**	P	**P**	**16 24 18.0**	**-0.3**
BRVK				IAmb	IAmb	16 24 19.1	
comp=Z,0.9nm,0.7s							
ABKAR	**Akbulak array**	**74.77**	**328**	P	**P**	**16 24 31.3**	**+0.1**
ABKAR				IAmb	IAmb	16 24 32.3	
comp=Z,1.9nm,0.8s							
QSPA	**South Pole Qui**	**79.01**	**180**	P	**P**	**16 24 55.7**	**+0.6**
QSPA	**South Pole Qui**	**79.01**	**180**	P	**P**	**16 24 55.5**	**+0.4**
comp=Z,2.0nm,0.8s,baz=285,slow=1.1,SNR=6.5							
comp=Z,2.0nm,0.8s							
MMAI	**Mount Meron Ar**	**83.97**	**305**	P	**P**	**16 25 22.2**	**+0.3**
comp=Z,0.6nm,0.4s,baz=106,slow=5.3,SNR=3.7							
comp=Z,0.6nm,0.4s							
BRTR	**Keskin Array B**	**87.28**	**311**	P	**P**	**16 25 38.7**	**+0.4**
comp=Z,0.6nm,0.7s,baz=106,slow=5.1,SNR=4.4							
comp=Z,0.6nm,0.7s							
BRDY	**Brady**	**145.82**	**49**		**PKPab**	**16 32 32.6**	**+1.0**
T42A	**Van Buren**	**147.43**	**34**	PKPbc	**PKPbc**	**16 32 36.6**	**+1.0**

AUST 21 16:14:40.8±0.6, 34˚S±3˚×11˚7E±˚, h3km±2km, ML1.4/3, Error ellipse: s-maj=5.7km s-min=3.3km az=3.6, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LM01	**Lskr Muir 01**	**0.01**	**223**	P	Pg	16 14 41.6	+0.2
LM01				S	Sg	16 14 41.8	0.0
LM03	**Lake Muir 03**	**0.10**	**81**	P	Pg	16 14 43.3	+0.4
LM03				S	Sg	16 14 44.7	+0.4
LM04	**Lake Muir 04**	**0.14**	**289**	P	Pg	16 14 43.8	+0.3
LM04				S	Sg	16 14 45.7	+0.4
LM02	**Lake Muir 02**	**0.17**	**231**	P	Pg	16 14 44.6	+0.4
LM02				S	Sg	16 14 46.8	+0.4
RKGY	**Rocky Gully**	**0.27**	**147**	P	Pg	16 14 46.2	+0.3
RKGY				S	Sg	16 14 49.6	+0.2
LM05	**Lake Muir 05**	**0.40**	**270**	P	Pg	16 14 48.8	+0.4
LM05				S	Sg	16 14 53.6	+0.1

NEIC 21 16:37:17.5±0.7, 36˚.255N±0˚.009×97˚.484W±0˚.007, h4km±3km, mb_Lg2.4/14, ML2.5/57, Error ellipse: s-maj=1.4km s-min=0.4km az=153.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.46**	**177**	Pg	Pg	16 37 26.8	+0.5
OK029				Sg	Sg	16 37 33.2	+0.9
OK029				IAML		16 37 37.5	
345nm,0.5s							
OK048	**Pawnee Station**	**0.47**	**70**	Pg	Pg	16 37 26.6	+0.2
OK048				Sg	Sg	16 37 33.2	+0.7
OK048				IAML		16 37 35.5	
250nm,0.3s							
OK048				IAML		16 37 35.7	
464nm,0.6s							
CROK	**Carrier**	**0.47**	**302**	Pg	Pg	16 37 26.9	+0.2
CROK				Sg	Sg	16 37 33.2	+0.4
CROK				IAML		16 37 37.2	
comp=E,406nm,0.2s							
BLOK	**Blackwell**	**0.55**	**23**	Pg	Pg	16 37 28.2	+0.1
BLOK				Sg	Sg	16 37 36.2	+1.0
BLOK				IAML		16 37 44.4	
comp=E,276nm,0.2s							
OK051	**E0350 and S346**	**0.58**	**64**	Pg	Pg	16 37 29.1	+0.4
OK051				Sg	Sg	16 37 36.6	+0.5
OK051				IAML		16 37 39.2	
comp=E,274nm,0.4s							
OK051				IAML		16 37 42.0	
comp=E,301nm,0.2s							
OK031	**S. Brethren Rd**	**0.60**	**120**	Pg	Pg	16 37 29.5	+0.5
OK031				Sg	Sg	16 37 37.9	+1.0
ADOK	**Arcadia Dam**	**0.61**	**171**	Pg	Pg	16 37 29.6	+0.4
OK052	**Battle Ridge R**	**0.61**	**115**	Pg	Pg	16 37 29.5	+0.3
OK052				Sg	Sg	16 37 38.1	+1.0
OK052				IAML		16 37 42.8	
comp=E,192nm,0.2s							
QUOK	**Quay**	**0.63**	**97**	Pg	Pg	16 37 30.0	+0.4
QUOK				Sg	Sg	16 37 38.8	+0.9
GC02	**Grant County #**	**0.67**	**333**	Pg	Pg	16 37 30.4	+0.1
GC02				Sg	Sg	16 37 39.4	+0.4
KAN13	**South Haven SW**	**0.76**	**0**	Pg	Pg	16 37 31.9	-0.1
KAN13				IAML		16 37 44.7	
comp=E,252nm,0.3s							
KAN13				IAML		16 37 46.8	
comp=N,208nm,0.3s							
KAN14	**Manchester OK**	**0.80**	**331**	Pg	Pg	16 37 32.6	-0.2
KAN14				IAML		16 37 48.5	
comp=N,263nm,0.1s							
KAN09	**Caldwell North**	**0.89**	**353**	Pg	Pg	16 37 34.5	-0.1
KAN09				Sg	Sg	16 37 46.1	+0.1
DEOK	**Depew**	**0.90**	**117**	Pg	Pg	16 37 34.3	-0.4
DEOK				IAmb_Lg		16 37 44.9	
comp=Z,16nm,0.7s							
DEOK				Sg	Sg	16 37 46.7	+0.3
DEOK				IAML		16 37 47.9	
comp=E,126nm,0.1s							
DEOK				IAML		16 37 49.9	
comp=N,144nm,0.2s							
KAN01	**Argonia South**	**0.92**	**346**	Pg	Pg	16 37 35.0	-0.2
KAN01				Sg	Sg	16 37 47.5	+0.3
KAN01				IAML		16 37 49.1	
comp=N,160nm,0.1s							
KAN01				IAML		16 37 49.6	
comp=E,194nm,0.3s							
FNO	**Franklin**	**1.00**	**176**	Pg	Pg	16 37 36.5	-0.1
FNO				Sg	Sb	16 37 50.4	-0.4
FNO				IAML		16 37 50.8	
comp=N,177nm,0.2s							
FNO				IAML		16 37 52.7	
comp=E,189nm,0.2s							
T35A	**Sooner Cattle**	**1.02**	**50**	Pg	Pg	16 37 37.1	0.0
T35A				Sg	Sg	16 37 50.2	-0.2
T35A				IAML		16 37 56.4	
comp=N,97nm,0.5s							
OK038	**West end E0370**	**1.04**	**283**	Pg	Pg	16 37 37.0	-0.4
KAN08	**Anthony NE Sta**	**1.05**	**338**	Pg	Pg	16 37 37.4	-0.2
KAN08				Sg	Sg	16 37 51.4	+0.3
KAN08				IAML		16 37 54.7	
comp=N,164nm,0.1s							
KAN12	**Harper NE Stat**	**1.12**	**339**	Pg	Pg	16 37 38.8	-0.2
W35A	**Tecumseh**	**1.21**	**156**	Pg	Pg	16 37 40.1	-0.6
W35A				IAML		16 38 03.3	
comp=N,119nm,0.3s							
NOKA	**Waynoka**	**1.23**	**288**	Pg	Pg	16 37 40.2	-0.9
NOKA				IAML		16 38 00.1	
comp=E,148nm,0.2s							
TUL3	**Leonard**	**1.41**	**104**		Pn	16 37 43.2	-0.7
WMOK	**Wichita Mounta**	**1.85**	**215**	Pn	Pn	16 37 50.5	+0.6
RLO	**Rose Lookout**	**1.99**	**92**	Pn	Pn	16 37 53.0	+1.1
WTFS	**Witchita Falls**	**2.61**	**198**	Pn	Pn	16 38 00.5	+0.1
MIAR	**Mount Ida**	**3.62**	**117**	Pn	Pn	16 38 15.3	+1.0
S39A	**Bolivar**	**3.63**	**65**	Pn	Pn	16 38 15.7	+1.3
AMTX	**Amarillo**	**3.69**	**249**	IAmb_Lg		16 39 13.7	
comp=Z,6.1nm,0.9s							
X40A	**Basin Creek Fa**	**4.19**	**114**	IAmb_Lg		16 39 31.3	
comp=Z,6.8nm,0.9s							
P38A	**Dawn**	**4.59**	**42**	IAmb_Lg		16 39 48.3	
comp=Z,8.6nm,0.9s							
R40A	**Maddies Statio**	**4.63**	**62**	IAmb_Lg		16 39 42.8	
comp=Z,12nm,0.8s							
P40A	**Paris**	**5.40**	**51**	IAmb_Lg		16 40 13.0	
comp=Z,9.3nm,0.8s							
N41A	**Harden Midland**	**6.84**	**47**	IAmb_Lg		16 40 56.2	
comp=Z,8.0nm,0.8s							

*BUG **21** 17:08:52.0, 46˚.14N×5˚.06E, h10km, ML4.5/10*

*ZUR **21** 17:08:54.7, 46˚.14N×5˚.07E, h8km±2km, MLh3.8/104, Error ellipse: s-maj=5243.4km s-min=2227.9km az=242.0*

*PRU **21** 17:08:54.7, 46˚.50N×4˚.93E, h10km*

*LDG **21** 17:08:54.6±0.0, 46˚.15N×5˚.02E, h2km, MI4.2/52, Error ellipse: s-maj=0.8km s-min=0.7km az=30.0*

*STR **21** 17:08:54.9±0.1, 46˚.2N±0˚.9×5˚.0E±0˚.8, h6km±1km, MLv3.9/104, Error ellipse: s-maj=0.0km s-min=0.0km az=7.5, preliminary*

*BGR **21** 17:08:55.8±0.6, 46˚.25N×5˚.10E, h10km, ML4.0/8, Error ellipse: s-maj=8.9km s-min=5.6km az=166.0*

*BNS **21** 17:09:00.3±1.0, 46˚.24N×4˚.73E, h5km, ML3.6*

**ISC

LOR	Lormes	1.37	324	Pn	Pn	17 09 18.7	+0.6
LOR	Lormes	1.37	324	Pg	Pg	17 09 21.2	+1.0
LPG	La Plagne	1.37	119	ePn	Pg	17 09 19.9	-0.3
LPG				eSn	Sn	17 09 36.9	+0.7
	672nm,0.4s						
ORIF	Oris-en-Rattie	1.38	155	ePn	Pb	17 09 19.3	+0.1
ORIF				eSn	Sn	17 09 36.2	0.0
	2µm,0.5s						
ORIF	Oris-en-Rattie	1.38	155	Pg	Pg	17 09 20.4	0.0
ORIF	Oris-en-Rattie	1.38	155	Pn	Pb	17 09 19.2	+0.1
ORIF	Oris-en-Rattie	1.38	155	Sg	Sb	17 09 37.5	+1.0
SSF	Saint Saulge	1.39	311	ePg	Pg	17 09 20.6	+0.1
SSF				eSg	Sg	17 09 38.1	-0.5
	874nm,0.2s						
CFF	Clermont-Ferra	1.41	254	Pg	Pg	17 09 21.9	+1.0
CFF				Sg	Sg	17 09 40.2	+0.9
STFL	Fournets-Luisa	1.41	47	Pn	Pb	17 09 19.8	+0.1
STFL				Pg	Pg	17 09 21.9	+0.9
STFL				Sg	Sg	17 09 41.2	+1.9
TORNY	Torny/Romont	1.46	65	⇑Pn	Pb	17 09 20.3	-0.1
TORNY	Torny/Romont	1.46	65	Pn	Pb	17 09 20.3	-0.1
MRGE	Morge	1.46	105	P	Pb	17 09 21.1	+0.5
OGMO	Fort Saint-Gob	1.50	129	Pn	Pb	17 09 21.8	+0.6
OGMO				Sn	Sg	17 09 42.0	-0.1
OGMO	Fort Saint-Gob	1.50	129	P	Pg	17 09 23.5	+0.8
REMY	Saint-Rhmy-en	1.51	102	Sg	Sg	17 09 43.7	+1.1
REMY	Saint-Rhmy-en	1.51	102	Pg	Pg	17 09 23.9	+1.0
REMY	Saint-Rhmy-en	1.51	102	Pn	Pb	17 09 22.1	+0.6
REMY	Saint-Rhmy-en	1.51	102	P	Pb	17 09 22.0	+0.6
CHMF	Charmoille	1.55	45	Pn	Pn	17 09 21.2	+0.6
CHMF	Charmoille	1.55	45	Pn	Pn	17 09 21.3	+0.7
CHMF				Pg	Pg	17 09 24.0	+0.5
CHMF				Sg	Sg	17 09 44.1	+0.4
LBL	Lubilhac	1.57	234	Pn	Pn	17 09 21.1	+0.2
BGF	Bois d'Agland	1.57	285	ePn	Pn	17 09 21.9	+1.0
BGF	Bois d'Agland	1.57	285	ePg	Pg	17 09 23.6	-0.4
BGF				eSg	Sg	17 09 43.6	-0.8
	1µm,0.3s						
SENIN	Lac Senin/Sane	1.58	82	P	Pb	17 09 22.4	-0.1
BNI	Bardonecchia	1.60	134	P	Pg	17 09 24.6	0.0
LSD	Lago del Serru	1.62	115	Pn	Pb	17 09 23.6	+0.2
LSD	Lago del Serru	1.62	115	Pg	Pg	17 09 25.5	+0.4
LSD	Lago del Serru	1.62	115	P	Pb	17 09 23.5	+0.1
DIX	Grande Dixence	1.65	92	Pg	Pg	17 09 26.1	+0.6
DIX	Grande Dixence	1.65	92	Pn	Pb	17 09 23.8	0.0
DIX	Grande Dixence	1.65	92	P	Pb	17 09 23.9	0.0
RRL	Rocca Remolon	1.75	135	Pn	Pb	17 09 25.1	-0.4
RRL	Rocca Remolon	1.75	135	P	Pb	17 09 25.2	-0.4
A188A	Saint Laurent	1.75	207	Pn	Pn	17 09 23.8	+0.3
A188A				Pg	Pb	17 09 26.6	+1.1
VANNI	Vissoie, Val d	1.77	88	P	Pb	17 09 25.6	-0.3
VERF	Verneugheol	1.83	258	Pn	Pn	17 09 24.9	+0.4
VERF				Pg	Pg	17 09 29.4	+0.3
CIRO	Champorcher	1.85	107	Pn	Pb	17 09 27.0	-0.3
CIRO	Champorcher	1.85	107	Pg	Pg	17 09 29.4	0.0
CIRO	Champorcher	1.85	107	P	Pb	17 09 27.0	-0.3
MBDF	Montbardon	1.89	139	ePn	Pn	17 09 26.7	+1.4
MBDF	Montbardon	1.89	139	ePg	Pg	17 09 30.1	+0.1
MBDF				eSn	Sn	17 09 48.2	-0.6
MBDF				eSg	Sb	17 09 52.7	+1.6
	342nm,0.5s						
RONF	Ronchamp	1.89	35	Pn	Pn	17 09 25.5	+0.2
RONF	Ronchamp	1.89	35	Pn	Pn	17 09 25.5	+0.2
RONF				Sg	Sg	17 09 54.5	-0.2
FRNF	Fournols	1.90	247	Pn	Pn	17 09 26.5	+1.1
FRNF				Pg	Pg	17 09 30.6	+0.2
EMBD	Embd, Matterta	1.94	88	Pn	Pb	17 09 27.8	-0.9
EMBD	Embd, Matterta	1.94	88	Pg	Pg	17 09 31.1	+0.1
BOURR	Bourrignon	1.94	50	Sg	Sg	17 09 56.1	-0.1
BOURR	Bourrignon	1.94	50	Pn	Pn	17 09 26.2	+0.3
CREF	Crivoux	1.96	145	Pn	Pn	17 09 28.1	+1.6
CREF				Pg	Pg	17 09 31.5	0.0
TCF	Toulx Ste Croi	1.97	274	ePn	Pn	17 09 27.3	+0.9
TCF	Toulx Ste Croi	1.97	274	ePg	Pb	17 09 30.2	+1.0
TCF				eSn	Sn	17 09 50.1	-0.6
TCF				eSg	Sb	17 09 55.6	+2.1
	470nm,0.5s						
HYF	Humbligny	1.99	304	ePn	Pn	17 09 27.8	+1.2
HYF	Humbligny	1.99	304	ePg	Pb	17 09 30.6	+1.2
HYF				eSg	Sg	17 09 56.8	-0.9
	6µm,0.6s						
SATI	Passo dei Sala	1.99	97	Pn	Pb	17 09 28.9	-0.8
SATI	Passo dei Sala	1.99	97	Pg	Pg	17 09 31.6	-0.4
TRAV	Traversella	2.00	108	Pn	Pb	17 09 29.2	-0.5
TRAV	Traversella	2.00	108	Pg	Pg	17 09 32.2	0.0
OGAG	Argentiere	2.01	148	Pn	Pb	17 09 24.8	-2.2
OGAG				Pg	Pb	17 09 27.4	-2.6
OGAG	Argentiere	2.01	148	P	Pn	17 09 24.8	-2.2
SFTF	Sexfontaines	2.04	360	ePn	Pn	17 09 28.0	+0.7
SFTF	Sexfontaines	2.04	360	ePg	Pg	17 09 32.5	-0.4
	baz=176						
SFTF				eSg	Sg	17 09 59.3	0.0
	302nm,0.2s						
HAU	Haudompre	2.04	25	ePn	Pn	17 09 27.0	-0.4
HAU	Haudompre	2.04	25	ePg	Pg	17 09 33.0	0.0
HAU				eSg	Sg	17 09 58.8	-0.7
	1µm,0.3s						
A158A	Haudompre, 880	2.04	25	Pn	Pn	17 09 27.7	+0.3
A194A	Meolans-Revel,	2.05	149	Pn	Pn	17 09 28.5	+0.9
A194A				Pg	Pg	17 09 32.4	-0.8
HINF	Hinteralfeld	2.06	36	ePn	Pn	17 09 27.5	-0.2
HINF	Hinteralfeld	2.06	36	ePg	Pg	17 09 34.2	+0.8
HINF				eSg	Sg	17 10 00.1	0.0
	579nm,0.3s						
SURF	Saint Ours	2.10	143	Pn	Pb	17 09 30.4	-1.1
SURF				Pg	Pg	17 09 33.8	-0.3
JAUF	Jausiers	2.12	145	Pn	Pn	17 09 30.2	+1.7
ILLF	Illfurth	2.14	44	Pn	Pn	17 09 28.6	-0.1
BALST	Balsthal	2.17	56	Pn	Pn	17 09 29.2	+0.2
BALST	Balsthal	2.17	56	Pg	Pg	17 09 36.0	+0.6
BALST	Balsthal	2.17	56	ePn	Pn	17 09 29.3	+0.2
BALST				eSg	Sg	17 10 01.9	-1.5
PZZ	Stroppo	2.21	138	Pn	Pn	17 09 31.9	+2.1
STUF	Presbytere Uff	2.21	47	Pg	Pg	17 09 37.4	+1.1
SMRF	Simiane la Rot	2.23	170	ePn	Pn	17 09 30.1	+0.2
SMRF	Simiane la Rot	2.23	170	ePg	Pg	17 09 36.2	-0.3
SMRF				eSg	Sg	17 10 03.7	-1.6
	153nm,0.5s						
MLYF	Mely	2.24	167	Pn	Pn	17 09 30.8	+0.7
OGDI	Digne	2.24	156	Pn	Pn	17 09 30.6	+0.4
OGDI				Sn	Sn	17 09 57.6	+0.2
RUSF	Rustrel	2.25	172	Pn	Pn	17 09 30.9	+0.7
RUSF				Pg	Pg	17 09 37.6	+0.7
LASF	Ste Croix	2.25	202	ePn	Pn	17 09 30.4	+0.1
LASF	Ste Croix	2.25	202	ePg	Pb	17 09 35.0	+1.0
LASF				eSg	Sb	17 10 03.9	+2.3
	349nm,0.4s						
BSTF	la Bastide-des	2.33	169	Pn	Pn	17 09 32.7	+1.4
BLAF	les Blancs	2.33	162	Pn	Pn	17 09 32.2	+0.9
MEZF	Maizieres J'vi	2.33	0	ePn	Pn	17 09 32.3	+1.0
	baz=181						
MEZF	Maizieres J'vi	2.33	0	ePg	Pg	17 09 38.5	-0.1
	baz=175						
MEZF				eSg	Sg	17 10 08.3	-0.5
	622nm,0.4s						
WALT	Westhalten	2.36	40	Pn	Pn	17 09 31.1	-0.5
ENDD	Endenburg	2.41	49	Pn	Pn	17 09 31.9	-0.5
PAGF	Fort de Pagny	2.43	11	ePn	Pn	17 09 33.2	+0.5
	baz=193						
PAGF	Fort de Pagny	2.43	11	ePg	Pg	17 09 40.0	-0.4
	baz=192						
PAGF				eSn	Sn	17 10 03.1	+1.1
	424nm,0.5s						
PAGF				eSg	Sg	17 10 11.9	-0.1
CAF	Calviac	2.44	240	ePn	Pn	17 09 34.0	+1.2
CAF				eSg	Sg	17 10 10.3	-1.7
	218nm,0.4s						
BNALP	Bannalp	2.44	72	⇑Pn	Pn	17 09 34.0	+1.1
ISO	Isola	2.44	144	Pn	Pn	17 09 34.3	+1.4
SAVF	Savonnieres en	2.45	1	ePn	Pn	17 09 33.8	+0.9
SAVF	Savonnieres en	2.45	1	ePn	Pn	17 09 34.1	+1.2
SAVF	Savonnieres en	2.45	1	ePg	Pg	17 09 40.2	-0.5
SAVF	Savonnieres en	2.45	1	ePg	Pg	17 09 40.7	0.0
SAVF				eSn	Sn	17 10 03.0	+0.6
SAVF				eSn	Sb	17 10 03.4	-3.8
	378nm,0.4s						
SAVF				eSg	Sg	17 10 11.7	-0.8
	471nm,0.4s						
SAVF				eSg	Sg	17 10 12.6	+0.1
XAFF	Xaffevillers	2.48	25	Pn	Pn	17 09 33.3	-0.1
XAFF				Pg	Pg	17 09 41.5	+0.2
ECH	Echery	2.50	34	Pn	Pn	17 09 33.3	-0.5
ECH	Echery	2.50	34	Pn	Pn	17 09 33.2	-0.5
ECH				Pg	Pg	17 09 43.4	+1.5
ECH	Echery	2.50	34	ePn	Pn	17 09 35.5	+1.8
SULZ	Cheisacher	2.51	56	Pn	Pn	17 09 33.6	-0.2
SULZ	Cheisacher	2.51	56	Pg	Pg	17 09 42.3	+0.5
SULZ	Cheisacher	2.51	56	ePn	Pn	17 09 33.7	0.0
SULZ				eSg	Sg	17 10 14.2	-0.1
STV	Sant Anna di V	2.51	139	Pn	Pn	17 09 35.8	+1.9
ENR	Entracque	2.57	138	Pn	Pn	17 09 36.2	+1.6
ENR	Entracque	2.57	138	Sn	Sn	17 10 06.6	+1.1
SALSA	La sagne	2.57	152	Pn	Pn	17 09 35.8	+1.2
SALSA				Pg	Pg	17 09 43.8	+0.8
TRIGF	Trigance	2.61	158	Pn	Pn	17 09 35.6	+0.4
A199A	Bergerie de la	2.61	202	Pn	Pn	17 09 35.5	+0.4
RJF	Les Rejaudoux	2.62	252	ePn	Pn	17 09 35.7	+0.5
RJF	Les Rejaudoux	2.62	252	eP	Pn	17 09 38.1	+2.9
RJF				eSn	Sn	17 10 05.9	-0.7
RJF				eSg	Sb	17 10 14.5	+2.5
	260nm,0.5s						
SPIF	crte de Spivo	2.62	143	Pn	Pn	17 09 37.2	+1.7
VOGT	Vogtsburg - To	2.62	42	Pn	Pn	17 09 34.8	-0.5
ARTF	Artigues	2.64	168	Pn	Pn	17 09 35.9	+0.4
FELD	Feldberg im Sc	2.65	49	Pn	Pn	17 09 35.0	-0.8
FELD	Feldberg im Sc	2.65	49	Pg	Pg	17 09 45.0	+0.5
KIZ	Kirchzarten	2.66	47	Pn	Pn	17 09 35.1	-0.7
CLF	Chambon-Foret	2.66	315	Pg	Pg	17 09 45.5	+0.7
CLF				Sg	Sg	17 10 19.6	+0.5
METMA	Mettma DE	2.69	54	ePn	Pn	17 09 35.7	-0.5
METMA				eSg	Sb	17 10 17.1	+3.1
LEPF	PUYLOUBIER	2.69	170	Pn	Pn	17 09 37.3	+1.1
CDF	Champ du Feu	2.71	33	ePn	Pn	17 09 36.3	-0.3
CDF	Champ du Feu	2.71	33	ePg	Pg	17 09 45.5	-0.2
CDF				eSn	Sn	17 10 09.5	+0.5
	375nm,0.3s						
CDF				eSg	Sg	17 10 19.2	-1.7
ZUR	Degenried	2.71	62	Pn	Pn	17 09 36.7	+0.2
ZUR	Degenried	2.71	62	Pg	Pg	17 09 46.4	+0.6
MVIF	Mont Vial	2.72	146	Pn	Pn	17 09 38.2	+1.4
MANO	Manonville	2.73	12	Pn	Pn	17 09 37.6	+0.9
MANO				Pg	Pg	17 09 46.6	+0.6
MANO				Sg	Sg	17 10 21.9	+0.5
BERGE	Lenzkirch (DE)	2.74	50	ePn	Pn	17 09 36.2	-0.7
WLS	Welschbruch	2.74	34	Pn	Pn	17 09 36.6	-0.4
PIAF	les Granges de	2.74	137	Pn	Pn	17 09 38.5	+1.4
PIAF				Sn	Sn	17 10 11.1	+1.3
TURF	col de Turini	2.75	142	Pn	Pn	17 09 39.0	+1.7
CALF	Calern	2.76	150	Pn	Pn	17 09 38.2	+0.9
GBOS	Grotte di Boss	2.76	133	Pn	Pn	17 09 38.9	+1.6
ZELS	Zelsheim	2.77	39	Pn	Pn	17 09 36.8	-0.5
SAOF	Saorge	2.82	140	Pn	Pn	17 09 39.9	+1.9
SLE	Schleitheim	2.85	55	Pn	Pn	17 09 37.7	-0.8
SLE	Schleitheim	2.85	55	Pg	Pg	17 09 48.7	+0.3
SLE	Schleitheim	2.85	55	ePn	Pn	17 09 37.9	-0.6
SBF	Sospel	2.86	143	ePn	Pn	17 09 40.2	+1.5
SBF	Sospel	2.86	143	ePg	Pg	17 09 48.4	-0.2
SBF				eSn	Sn	17 10 11.4	-1.3
SBF				eSg	Sg	17 10 23.3	-2.4
	525nm,0.8s						
ESCA	l'Escarene	2.86	144	Pn	Pn	17 09 40.6	+1.9
MGRO	Montegrosso	2.89	136	Pn	Pn	17 09 40.7	+1.6
WILA	Wila	2.93	63	ePn	Pn	17 09 40.1	+0.4
A202A	Domaine de Cad	2.95	206	Pn	Pn	17 09 40.3	+0.5
A202A				Pg	Pg	17 09 50.1	-0.2
A204A	Roquefort la B	2.96	172	Pg	Pg	17 09 50.2	-0.2
RORO	Rocca Rossa	2.97	133	Sn	Sn	17 10 17.1	+1.9
RORO	Rocca Rossa	2.97	133	Pn	Pn	17 09 41.7	+1.6
CANO	Canova, Maglio	2.99	130	Pn	Pn	17 09 42.1	+1.7
HOHE	HOHENGOEFT	2.99	33	Pn	Pn	17 09 40.1	-0.3
HOHE				Pg	Pg	17 09 52.3	+1.2
LMR	La Mourre	3.02	159	ePn	Pn	17 09 40.6	-0.2
LMR	La Mourre	3.02	159	ePg	Pg	17 09 50.0	-1.7
LMR				eSn	Sn	17 10 14.8	-1.7
LMR				eSg	Sg	17 10 27.5	-3.3
	196nm,0.7s						
A101B	Rottweil, Deis	3.09	50	Pn	Pn	17 09 41.3	-0.4
A101B				Pg	Pg	17 09 53.1	+0.2
A101B				Sg	Sg	17 10 30.0	-2.9
A205A	Foret Domanial	3.09	164	Pn	Pn	17 09 42.3	+0.6
A205A				Pg	Pg	17 09 52.3	-0.6
CIEL	Dossenheim-sur	3.10	30	Pn	Pn	17 09 41.6	-0.2
BFO	Black Forest	3.11	45	ePn	Pn	17 09 43.6	+1.5
BFO				Pg	Pg	17 09 54.9	+1.5
BFO				Sg	Sb	17 10 29.1	+2.8
PLONS	Plons/SG	3.12	72	ePn	Pn	17 09 43.4	+1.2
PLONS				eSg	Sg	17 10 32.7	-1.2
VOEL	Voellerdingen	3.13	26	Pn	Pn	17 09 42.1	-0.2
VOEL				Sg	Sg	17 10 36.1	+1.7
OPP	Oppenau	3.16	41	Pn	Pn	17 09 41.9	-0.8
WALHA	Wallhausen, DE	3.21	59	ePn	Pn	17 09 43.5	+0.1
MONQ	Montcuq	3.26	238	Pg	Pg	17 09 55.7	-0.5
LFF	La Frestale	3.26	249	eP	Pn	17 09 47.5	+3.4
LFF	La Frestale	3.26	249	ePg	Pg	17 09 54.6	-1.7
LFF				eSn	Sn	17 10 23.4	+0.9
LFF				eSg	Sg	17 10 35.8	-2.8
	134nm,0.4s						
BABA	Baden-Baden-Ne	3.33	39	Pn	Pn	17 09 43.9	-1.1
CLAF	Gruissan	3.34	205	Pg	Pg	17 09 57.3	-0.5
SZBH	soultz borehol	3.36	34	Pg	Pg	17 10 02.1	+3.9
GUT	Gutenstein	3.37	54	Pn	Pn	17 09 44.9	-0.7
GUT	Gutenstein	3.37	54	Pg	Pg	17 09 58.6	+0.3
GORR	Gorreto	3.38	116	Pn	Pn	17 09 48.9	+3.2
LEMB	Lembach	3.41	32	Pn	Pn	17 09 45.2	-0.9
A102A	Sigmaringen, J	3.45	54	Pn	Pn	17 09 46.0	-0.8
A102A				Pg	Pg	17 10 00.7	+0.8
MTLF	Montolieu	3.47	216	ePn	Pn	17 09 46.8	-0.2
MTLF	Montolieu	3.47	216	ePg	Pb	17 09 57.6	+2.9
MTLF				eSn	Sn	17 10 26.4	-1.2
MTLF				eSg	Sg	17 10 42.6	-2.6
	236nm,0.5s						
MTLF	Montolieu	3.47	216	Pn	Pn	17 09 47.0	0.0
NEEW	Neewiller pres	3.47	36	Pn	Pn	17 09 48.6	+1.6
A103D	Ravensburg, Wa	3.49	60	Pn	Pn	17 09 47.3	0.0
A103D				Pg	Pg	17 10 01.6	+1.0
A103D				Sg	Sg	17 10 45.0	-0.8
A100A	Rottenburg, We	3.49	48	Pn	Pn	17 09 46.2	-1.1
A100A				Pg	Pg	17 10 06.2	+5.5
DAVA	Damuels	3.51	70	*i* Pn	Pn	17 09 48.7	+1.1
	3.1nm,0.2s,SNR=4.8						
DAVA				ePg	Pg	17 10 00.8	-0.2
	15nm,0.3s						
DAVA				eSg	Sg	17 10 46.3	-0.2
	77nm,0.3s						
DAVA	Damuels	3.51	70	ePn	Pn	17 09 48.6	+0.9
DAVA				eSg	Sg	17 10 46.0	-0.4
WLF	Walferdange	3.58	12	Pn	Pn	17 09 49.1	+0.7
WLF	Walferdange	3.58	12	Pg	Pg	17 10 02.0	-0.3
WLF	Walferdange	3.58	12	ePg	Pg	17 10 02.0	-0.3
WLF				Sg	Sg	17 10 50.4	+1.8
WLF	Walferdange	3.58	12	dP	Pb	17 09 56.6	+0.1
WLF				dS	Sn	17 10 32.4	+2.1
MFF	Saint Martin d	3.62	279	ePn	Pn	17 09 49.8	+0.8
MFF	Saint Martin d	3.62	279	eP	Pn	17 09 52.7	+3.7
MFF	Saint Martin d	3.62	279	ePg	Pg	17 10 01.0	-2.1
MFF				eSn	Sn	17 10 29.9	-1.3
MFF				eSg	Sg	17 10 47.7	-2.2
	132nm,0.4s						
A104A	Biberach, Staf	3.71	58	Pg	Pg	17 10 04.7	-0.1
RIVT	Riveris	3.72	17	ePg	Pg	17 10 04.6	-0.5
KTD	Kalmit	3.76	32	ePg	Pg	17 10 04.9	-0.9
UBR	Ueberruh	3.79	65	ePn	Pn	17 09 51.9	+0.6
UBR				Pg	Pg	17 10 08.8	+2.6
UBR				eSg	Sg	17 10 54.1	-1.2
A105A	Obersdorf, Sch	3.81	69	Pg	Pg	17 10 06.5	-0.3
A105A				Sg	Sg	17 10 55.3	-0.9
STU	Stuttgart	3.83	46	eSg	Sg	17 10 54.8	-2.1
FNEB	Nbias	3.88	214	Pn	Pn	17 09 52.8	+0.1
DUNF	Dun	3.90	217	Pn	Pn	17 09 53.2	+0.3
A108A	Ulm, Ringingen	3.92	54	Pg	Pg	17 10 06.4	-2.5
A108A				Sg	Sg	17 10 58.8	-0.8
BAIF	Baives	3.93	352	ePn	Pn	17 09 54.3	+1.0
BAIF	Baives	3.93	352	ePg	Pg	17 10 07.8	-1.3
BAIF				eSn	Sn	17 10 39.4	+0.4
	90nm,0.5s						
BAIF				eSg	Sg	17 10 58.5	-1.5
GIVF	Givet	3.94	358	ePn	Pn	17 09 54.2	+0.8
GIVF	Givet	3.94	358	ePg	Pg	17 10 08.5	-0.7
GIVF				eSn	Sn	17 10 38.7	-0.5
	176nm,0.6s						
GIVF				eSg	Sg	17 11 00.1	-0.1
DOU	Dourbes	3.94	356	Pn	Pn	17 09 54.8	+1.4
DOU	Dourbes	3.94	356	dP	Pn	17 09 54.6	+1.2
DOU				dS	Sn	17 10 39.5	+0.3
A107C	Memmingen - Ei	3.98	60	Pg	Pg	17 10 10.7	+0.7
A107C				Sg	Sg	17 11 00.0	-1.5
RCHB	Rochefort	3.99	2	Pn	Pn	17 09 55.1	+1.0
RCHB	Rochefort	3.99	2	dP	Pn	17 09 55.1	+1.0
RCHB				dS	Sn	17 10 39.3	-1.2
	comp=E,84nm,0.0s						
FETA	Feichten	4.01	76	*i* Pn	Pn	17 09 56.8	+2.3
	comp=E,1.6nm,0.1s,SNR=28						
FETA				Sg	Sg	17 11 02.2	-0.4
	comp=E,18nm,0.5s						
CARF	Carcanieres	4.04	212	Pn	Pn	17 09 54.6	-0.3
ABH	Alteburg	4.08	23	Pn	Pn	17 09 56.6	+1.3
ABH	Alteburg	4.08	23	Pg	Pg	17 10 12.9	+1.1
ABH	Alteburg	4.08	23	ePg	Pg	17 10 11.4	-0.4
BMRD	Maredsous	4.14	358	dP	Pn	17 09 57.5	+1.4
RETA	Reutte	4.14	69	ePn	Pg	17 10 12.4	-0.6
	comp=E,3.4nm,0.2s						
RETA				eSg	Sg	17 11 05.5	-1.2
	comp=E,20nm,0.4s						
BGES	Gesves	4.22	0	dP	Pn	17 09 58.1	+0.9
BGES				dS	Sn	17 10 44.6	-1.4
	comp=E,60nm,0.0s						
BHOU	Houvegnez	4.24	8	dP	Pn	17 09 59.5	+2.1
BCLA	Clavier	4.26	2	dP	Pn	17 09 59.5	+1.8
LDF	La Druitiere	4.27	307	ePn	Pn	17 09 58.9	+1.0
LDF	La Druitiere	4.27	307	ePg	Pg	17 10 14.1	-1.3
LDF				eSn	Sn	17 10 46.6	-0.6
LDF				eSg	Sg	17 11 05.6	-5.1
	comp=E,213nm,0.5s						
HILG	Hillesheim	4.27	14	ePn	Pb	17 10 04.0	-4.3
HILG				eSn	Sn	17 10 52.9	+5.6
	comp=E,81nm,1.1s						
MLS	Moulis	4.27	223	Pn	Pn	17 09 58.1	+0.1
MLS				Pg	Pg	17 10 14.5	-1.1
BGG	Burgeitz	4.32	20	ePn	Pb	17 10 06.0	-3.2
BGG				eSn	Sn	17 10 55.3	+6.8
	comp=E,46nm,0.6s						
MOTA	Moosalm	4.33	72	*i* Pn	Pn	17 10 00.5	+1.6
	comp=E,2.9nm,0.1s						
MOTA				eSg	Sg	17 11 12.9	+0.2
	comp=E,27nm,0.3s						
SQTA	Sankt Quirin	4.37	74	*i* Pn	Pn	17 10 01.6	+2.1
	comp=E,8.9nm,0.1s,SNR=29						
SQTA				eSn	Sg	17 11 16.4	+2.4
	comp=E,40nm,0.4s						
SALF	Salau	4.38	220	Pn	Pn	17 09 59.2	-0.4
BTNL	Ternell	4.48	9	dP	Pn	17 09 58.5	-2.4
BTNL				dS	Sn	17 10 51.7	-0.8
	comp=E,75nm,0.0s						
MEM	Membach	4.49	8	dP	Pn	17 10 01.4	+0.4
MEM				dS	Sn	17 10 55.5	+2.7
	comp=N,76nm,0.0s						
MELF	Melles	4.50	224	Pn	Pn	17 10 00.8	-0.4
MELF				Pg	Pg	17 10 18.7	-1.2
FLN	La Foliniere	4.56	307	ePn	Pn	17 10 02.9	+1.0
	baz=124						
FLN	La Foliniere	4.56	307	ePg	Pg	17 10 18.6	-2.4
FLN				eSn	Sn	17 10 52.0	-2.4
FLN				eSg	Sg	17 11 16.7	-3.3
	comp=N,168nm,0.5s						
KLL	Kalltalsperre	4.56	10	ePn	Pb	17 10 08.8	-4.5
KLL				eSn	Sn	17 10 59.8	+5.3
DREG	Dreilaegerbach	4.57	10	ePn	Pb	17 10 09.0	-4.4
DREG				eSn	Sn	17 10 59.7	+5.1
	comp=N,44nm,0.6s						
STB	Steinbach	4.59	14	ePn	Pb	17 10 09.4	-4.3
STB				eSn	Sn	17 11 00.3	+5.2
	comp=N,51nm,0.7s						
GRR	Gorron	4.59	301	ePn	Pn	17 10 03.2	+0.9
GRR	Gorron	4.59	301	ePg	Pg	17 10 19.4	-2.2
GRR				eSn	Sn	17 10 53.1	-2.1
GRR				eSg	Sg	17 11 18.1	-2.9
	comp=N,128nm,0.4s						
EPF	Esparros	4.60	229	ePn	Pn	17 10 02.7	+0.2
EPF	Esparros	4.60	229	ePg	Pg

	comp=N,1.8nm,0.4s						
ZVC	**Zvikov**	**6.97**	**59**	*e*SG	**Sg**	**17 12 33.5**	**-3.9**
	comp=N,43nm,1.2s						
ARSA	**Arzberg**	**7.29**	**78**	*e*Pn	**Pn**	**17 10 40.5**	**+1.1**
	comp=N,2.6nm,0.5s						
CLL	**Collm**	**7.36**	**43**	*i* Sg	**Sg**	**17 12 47.0**	**-2.6**
	comp=Z,21nm,1.0s						
PRU	**Pruhonice**	**7.42**	**56**	*e*SG	**Sg**	**17 12 47.4**	**-4.3**
	comp=Z,28nm,0.8s						
BRG	**Berggiesshubel**	**7.55**	**48**	Pg		17 11 19.9	
BRG				Sg		17 12 53.6	
BRG				Amp		17 13 11.1	
	comp=Z,18nm,0.7s						
CONA	**Conrad Observa**	**7.60**	**73**	*e*Pn	**Pn**	**17 10 44.1**	**+0.4**
	comp=Z,1.0nm,0.3s						
CONA				*e*Sn		17 13 05.6	
	comp=Z,5.7nm,0.6s						
KRUC	**Moravsky**	**8.20**	**65**	*e*PN	**Pn**	**17 10 52.0**	**+0.2**
KRUC				*e*SN	**Sn**	**17 12 20.4**	**-3.6**
VRAC	**Vranov**	**8.39**	**64**	*e*PN	**Pn**	**17 10 55.0**	**+0.4**
VRAC				*e*SN	**Sn**	**17 12 25.8**	**-3.1**
DPC	**Dobruska-Polom**	**8.61**	**57**	*e*SG		17 13 24.9	
	comp=Z,20nm,1.2s						
MODS	**Modra-Piesok**	**8.61**	**71**	*e*SG		17 13 30.8	
MORC	**Moravsky Berou**	**9.13**	**62**	*e*PN	**Pn**	**17 11 04.8**	**+0.2**
MORC				*e*SN	**Sn**	**17 12 43.7**	**-3.2**

*IDC **21** 17:11:07.0±1.3, 72°.43N×133°.16W, h0km, mb3.6/3, mbtmp3.8/8, ML3.9/5, Error ellipse: s-maj=29.6km s-min=19.5km az=70.0*
*PGC **21** 17:11:10.8±0.1, 72°.28N×133°.19W, h35km, ML3.8/1, 273km west of Sachs Harbour, Nt Beaufort Sea*
ISC 21 17:11:07.5±0.9, 72°.21N±0'.06×133°.30W±0'.04, h10km, n184, σ1.9 46/214, mb3.6/3, Beaufort Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A36M	**Sachs Harbour**	**2.50**	**91**	Pn	**Pn**	**17 11 47.5**	**-0.6**
A36M				Sn	**Sn**	**17 12 14.6**	**-4.0**
A36M	**Sachs Harbour**	**2.50**	**91**	P	**Pn**	**17 11 47.4**	**-0.6**
	baz=280						
A36M				S	**Sn**	**17 12 14.5**	**-4.1**
	baz=280						
D28M	**Stokes Point**	**3.41**	**214**	Pn	**Pn**	**17 12 01.9**	**+1.4**
D28M				Sn	**Sn**	**17 12 39.6**	**-1.3**
D28M	**Stokes Point**	**3.41**	**214**	P	**Pn**	**17 12 01.9**	**+1.4**
	baz=30,SNR=40						
D28M				S	**Sn**	**17 12 40.8**	**-0.2**
	baz=30						
D27M	**Malcolm River**	**3.92**	**224**	Pn	**Pn**	**17 12 08.3**	**+0.7**
D27M				Sn	**Sn**	**17 12 51.0**	**-2.6**
D27M	**Malcolm River**	**3.92**	**224**	P	**Pn**	**17 12 08.7**	**+1.1**
	baz=37,SNR=11						
D27M				S	**Sn**	**17 12 51.4**	**-2.3**
	baz=37						
INK	**Inuvik**	**3.92**	**181**	Pn	**Pn**	**17 12 09.4**	**+1.8**
	6.9nm,0.3s,baz=1.8,slow=14,SNR=456						
INK				Sn	**Sn**	**17 12 51.3**	**-2.3**
	23nm,0.3s,baz=93,slow=19,SNR=8.1 21nm,0.2s						
INK	**Inuvik**	**3.92**	**181**	Pn	**Pn**	**17 12 08.7**	**+1.1**
INK				Sn	**Sn**	**17 12 51.4**	**-2.3**
INK	**Inuvik**	**3.92**	**181**	P	**Pn**	**17 12 08.9**	**+1.2**
	baz=1.8,SNR=369						
INK				S	**Sn**	**17 12 52.4**	**-1.3**
	baz=1.8						
E29M	**Blow River**	**4.14**	**204**	Pn	**Pn**	**17 12 11.3**	**+0.6**
E29M				Sn	**Sn**	**17 12 57.1**	**-2.0**
E29M	**Blow River**	**4.14**	**204**	P	**Pn**	**17 12 11.5**	**+0.8**
	baz=20						
E29M				S	**Sn**	**17 12 57.3**	**-1.8**
	baz=20						
E28M	**Babbage River**	**4.19**	**213**	Pn	**Pn**	**17 12 12.1**	**+0.8**
E28M				Sn	**Sn**	**17 12 57.2**	**-2.9**
E28M	**Babbage River**	**4.19**	**213**	P	**Pn**	**17 12 12.2**	**+0.8**
	baz=28						
E28M				S	**Sn**	**17 12 57.3**	**-2.9**
	baz=28						
C36M	**Paulatuk**	**4.19**	**129**	Pn	**Pn**	**17 12 11.4**	**+0.2**
C36M				Sn	**Sn**	**17 12 57.0**	**-3.2**
C36M	**Paulatuk**	**4.19**	**129**	P	**Pn**	**17 12 11.5**	**+0.2**
	baz=318						
C36M				S	**Sn**	**17 12 56.8**	**-3.5**
	baz=318						
C27K	**Jago River**	**4.29**	**238**	Pn	**Pn**	**17 12 13.6**	**+1.0**
C27K				Sn	**Sn**	**17 12 59.5**	**-3.2**
C27K	**Jago River**	**4.29**	**238**	P	**Pn**	**17 12 13.7**	**+1.0**
	baz=48						
C27K				S	**Sn**	**17 12 59.7**	**-3.0**
	baz=48						
C26K	**Camden Bay**	**4.43**	**244**	Pn	**Pn**	**17 12 15.8**	**+1.3**
C26K				Sn	**Sn**	**17 13 03.2**	**-2.8**
C26K	**Camden Bay**	**4.43**	**244**	P	**Pn**	**17 12 16.0**	**+1.4**
	baz=53						
C26K				S	**Sn**	**17 13 04.7**	**-1.3**
	baz=53						
F30M	**Barrier River**	**4.70**	**192**	Pn	**Pn**	**17 12 19.3**	**+1.0**
F30M				Sn	**Sn**	**17 13 10.4**	**-2.4**
F30M	**Barrier River**	**4.70**	**192**	P	**Pn**	**17 12 19.6**	**+1.2**
	baz=9.9						
F30M				S	**Sn**	**17 13 10.5**	**-2.4**
	baz=9.9						
F31M	**Tsiigehtchic**	**4.80**	**182**	Pn	**Pn**	**17 12 20.3**	**+0.6**
F31M				Sn	**Sn**	**17 13 11.9**	**-3.2**
F31M	**Tsiigehtchic**	**4.80**	**182**	P	**Pn**	**17 12 20.4**	**+0.8**
	baz=2.3,SNR=144						
F31M				S	**Sn**	**17 13 12.4**	**-2.8**
	baz=2.3						
E27K	**Coleen River**	**4.93**	**219**	Pn	**Pn**	**17 12 22.6**	**+1.1**
E27K				Sn	**Sn**	**17 13 15.6**	**-2.8**
E27K	**Coleen River**	**4.93**	**219**	P	**Pn**	**17 12 22.7**	**+1.2**
	baz=31						
E27K				S	**Sn**	**17 13 15.9**	**-2.5**
	baz=31						
F28M	**Old Crow**	**5.14**	**209**	Pn	**Pn**	**17 12 24.8**	**+0.4**
F28M				Sn	**Sn**	17 13 19.4	-4.3
F28M	**Old Crow**	**5.14**	**209**	P	**Pn**	**17 12 24.8**	**+0.4**
	baz=23,SNR=158						
F28M				S	Sn	17 13 19.9	-3.8
	baz=23						
D25K	**Kavik River**	**5.20**	**242**	Pn	**Pn**	**17 12 25.8**	**+0.5**
D25K	**Kavik River**	**5.20**	**242**	P	**Pn**	**17 12 25.9**	**+0.6**
	baz=50						
D25K				S	**Sn**	**17 13 21.1**	**-4.1**
	baz=50						
G31M	**Satah River**	**5.33**	**184**	Pn	**Pn**	**17 12 27.6**	**+0.7**
G31M				Sn	**Sn**	**17 13 24.6**	**-3.6**
G31M	**Satah River**	**5.33**	**184**	P	**Pn**	**17 12 27.8**	**+0.9**
	baz=3.8,SNR=194						
G31M				S	**Sn**	**17 13 25.9**	**-2.3**
	baz=3.8						
G30M	**tAoh Zraii Nji**	**5.35**	**192**	Pn	**Pn**	**17 12 27.8**	**+0.5**
G30M				Sn	**Sn**	**17 13 26.5**	**-2.5**
G30M	**tAoh Zraii Nji**	**5.35**	**192**	P	**Pn**	**17 12 28.1**	**+0.8**
	baz=10						
G30M				S	**Sn**	**17 13 26.8**	**-2.2**
	baz=10						
G29M	**Pine Creek**	**5.57**	**200**	Pn	**Pn**	**17 12 30.9**	**+0.5**
G29M				Sn	**Sn**	**17 13 31.2**	**-3.2**
G29M	**Pine Creek**	**5.57**	**200**	P	**Pn**	**17 12 31.1**	**+0.8**
	baz=16						
G29M				S	**Sn**	**17 13 31.8**	**-2.5**
	baz=16						
C24K	**Franklin Bluff**	**5.62**	**251**	P	**Pn**	**17 12 32.1**	**+1.2**
	baz=56						
C24K				S	Sn	17 13 31.0	-4.4
	baz=56						
F26K	**Sheenjek River**	**5.86**	**225**	Pn	**Pn**	**17 12 35.4**	**+1.1**
F26K				Sn	Sn	17 13 37.0	-4.5
F26K	**Sheenjek River**	**5.86**	**225**	P	**Pn**	**17 12 35.4**	**+1.1**
	baz=35						
F26K				S	Sn	17 13 37.6	-4.0
	baz=35						
D24K	**Happy Valley**	**5.99**	**247**	P	**Pn**	**17 12 36.8**	**+0.8**
	baz=52						
D24K				S	**Sn**	**17 13 40.3**	**-4.1**
	baz=52						
EPYK	**Eagle Plains**	**5.99**	**193**	Pn	**Pn**	**17 12 37.0**	**+0.9**
EPYK				Sn	**Sn**	**17 13 42.1**	**-2.6**
EPYK	**Eagle Plains**	**5.99**	**193**	P	**Pn**	**17 12 37.2**	**+1.1**
	baz=11,SNR=17						
EPYK				S	**Sn**	**17 13 42.3**	**-2.4**
	baz=11						
C23K	**Itkillik River**	**6.12**	**255**	P	**Pn**	**17 12 38.8**	**+1.1**
	baz=59						
C23K				S	**Sn**	**17 13 43.3**	**-4.4**
	baz=59						
G27K	**Doyon Strip**	**6.16**	**212**	Pn	**Pn**	**17 12 38.4**	**-0.1**
G27K				Sn	Sn	17 13 43.8	-5.1
G27K	**Doyon Strip**	**6.16**	**212**	P	**Pn**	**17 12 38.7**	**+0.3**
	baz=25						
G27K				S	Sn	17 13 45.0	-3.9
	baz=25						
F25K	**Christian Rive**	**6.28**	**229**	Pn	**Pn**	**17 12 41.1**	**+1.0**
F25K				Sn	Sn	17 13 47.4	-4.4
F25K	**Christian Rive**	**6.28**	**229**	P	**Pn**	**17 12 40.9**	**+0.8**
	baz=37						
F25K				S	Sn	17 13 47.6	-4.2
	baz=37						
H29M	**Whitestone**	**6.28**	**199**	Pn	**Pn**	**17 12 40.4**	**+0.4**
H29M				Sn	**Sn**	**17 13 48.1**	**-3.6**
H29M	**Whitestone**	**6.28**	**199**	P	**Pn**	**17 12 40.5**	**+0.5**
	baz=15						
H29M				S	**Sn**	**17 13 49.3**	**-2.5**
	baz=15						
G26K	**Porcupine Rive**	**6.42**	**220**	Pn	**Pn**	**17 12 42.6**	**+0.7**
G26K				Sn	Sn	17 13 49.4	-5.8
G26K	**Porcupine Rive**	**6.42**	**220**	P	**Pn**	**17 12 42.6**	**+0.7**
	baz=30,SNR=354						
G26K				S	Sn	17 13 50.4	-4.8
	baz=30						
H31M	**Peel River**	**6.45**	**184**	Pn	**Pn**	**17 12 42.9**	**+0.5**
H31M				Sn	Sn	17 13 51.3	-4.6
H31M	**Peel River**	**6.45**	**184**	P	**Pn**	**17 12 43.3**	**+0.9**
	baz=3.3						
H31M				S	Sn	17 13 51.5	-4.4
	baz=3.3						
TOLK	**Toolik Lake Re**	**6.52**	**245**	P	**Pn**	**17 12 43.9**	**+0.5**
	baz=49						
TOLK				S	Sn	17 13 53.4	-4.4
	baz=49						
TOLK				S	Sn	17 13 53.4	-4.4
	baz=49						
E24K	**Your Creek**	**6.62**	**239**	P	**Pn**	**17 12 45.9**	**+1.2**
	baz=44						
E24K				S	Sn	17 13 55.7	-4.4
	baz=44						
D23K	**Nanushuk River**	**6.63**	**249**	P	**Pn**	**17 12 46.0**	**+1.2**
	baz=52						
D23K				S	**Sn**	**17 13 56.5**	**-3.8**
	baz=52						
H27K	**Steamboat Moun**	**6.67**	**210**	Pn	**Pn**	**17 12 46.2**	**+0.8**
H27K				Sn	Sn	17 13 57.5	-3.9
H27K	**Steamboat Moun**	**6.67**	**210**	P	**Pn**	**17 12 46.5**	**+1.0**
	baz=22						
H27K				S	**Sn**	**17 13 57.7**	**-3.8**
	baz=22						
B22K	**Teshekpuk Lake**	**6.73**	**264**	P	**Pn**	**17 12 47.0**	**+0.9**
	baz=64						
B22K				S	Sn	17 13 57.1	-5.6
	baz=64						
F24K	**Squaw Lake**	**6.88**	**234**	P	**Pn**	**17 12 49.0**	**+0.7**
	baz=40						
F24K				S	Sn	17 14 01.1	-5.3
	baz=40						
E23K	**Chandalar**	**6.93**	**241**	P	**Pn**	**17 12 49.5**	**+0.5**
	baz=46						
E23K				S	Sn	17 14 03.1	-4.7
	baz=46						
A22K	**Sinclair Lake**	**6.95**	**270**	P	**Pn**	**17 12 50.2**	**+1.1**
	baz=70						
A22K				S	Sn	17 14 01.8	-6.2
	baz=70						
G25K	**Bearman Lake**	**7.06**	**226**	Pn	**Pn**	**17 12 51.5**	**+0.8**
G25K				Sn	Sn	17 14 05.1	-5.8
G25K	**Bearman Lake**	**7.06**	**226**	P	**Pn**	**17 12 51.6**	**+0.8**
	baz=34						
G25K				S	Sn	17 14 06.3	-4.7
	baz=34						
I30M	**Mount Dempster**	**7.11**	**191**	Pn	**Pn**	**17 12 51.6**	**+0.1**
I30M	**Mount Dempster**	**7.11**	**191**	P	**Pn**	**17 12 52.0**	**+0.5**
	baz=8.0						
I30M				S	Sn	17 14 08.2	-4.1
	baz=8.0						
I29M	**Ogilvie Camp,**	**7.11**	**197**	Pn	**Pn**	**17 12 51.8**	**+0.3**
I29M				Sn	Sn	17 14 07.5	-4.8
I29M	**Ogilvie Camp,**	**7.11**	**197**	S	Sn	17 14 08.4	-3.8
	baz=13						
I28M	**Miner Creek**	**7.20**	**203**	Pn	**Pn**	**17 12 52.6**	**-0.1**
I28M				Sn	Sn	17 14 09.9	-4.6
I28M	**Miner Creek**	**7.20**	**203**	P	**Pn**	**17 12 52.8**	**0.0**
	baz=17						
I28M				S	Sn	17 14 10.3	-4.2
	baz=17						
D22K	**Ayikyak River**	**7.26**	**252**	P	**Pn**	**17 12 54.4**	**+0.9**
	baz=54						
D22K				S	Sn	17 14 10.3	-5.5
	baz=54						
I27K	**Kandik River**	**7.28**	**208**	Pn	**Pn**	**17 12 54.0**	**+0.3**
I27K				Sn	Sn	17 14 12.1	-4.1
I27K	**Kandik River**	**7.28**	**208**	P	**Pn**	**17 12 54.2**	**+0.5**
	baz=21						
I27K				S	Sn	17 14 11.3	-4.9
	baz=21						
I27K				S	Sn	17 14 11.3	-4.9
	baz=21						
A21K	**Barrow**	**7.35**	**274**	S	Sn	17 14 11.4	-6.4
	baz=72						
H25L	**Birch Creek**	**7.43**	**223**	P	**Pn**	**17 12 56.7**	**+1.0**
	baz=31						
G24K	**Hadweenzic Riv**	**7.43**	**229**	P	**Pn**	**17 12 56.3**	**+0.5**
	baz=36						
G24K				S	Sn	17 14 14.4	-5.6
	baz=36						
B21K	**Ikpikpuk River**	**7.43**	**260**	P	**Pn**	**17 12 57.0**	**+1.3**
	baz=60						
B21K				S	Sn	17 14 13.6	-6.3
	baz=60						
E22K	**Anaktuvuk Pass**	**7.48**	**246**	P	**Pn**	**17 12 56.7**	**+0.1**
	baz=48						
E22K				S	Sn	17 14 15.4	-5.9
	baz=48						
KUKN	**Kugluktuk,NWT**	**7.61**	**116**	Pn	**Pn**	**17 12 58.1**	**-0.1**
KUKN				Sn	Sn	17 14 18.6	-5.8
COLD	**Coldfoot**	**7.69**	**238**	Pn	**Pn**	**17 12 59.8**	**+0.5**
COLD	**Coldfoot**	**7.69**	**238**	P	**Pn**	**17 13 00.2**	**+0.9**
	baz=42						
C21K	**Knifeblade Rid**	**7.73**	**257**	P	**Pn**	**17 13 01.0**	**+1.1**
	baz=57						
C21K				S	Sn	17 14 21.7	-5.6
	baz=57						
J30M	**Hart River**	**7.75**	**190**	Pn	**Pn**	**17 13 00.2**	**-0.1**
J30M				Sn	Sn	17 14 22.6	-5.4
J30M	**Hart River**	**7.75**	**190**	P	**Pn**	**17 13 00.9**	**+0.6**
	baz=7.3						
J30M				S	Sn	17 14 23.3	-4.8
	baz=7.3						
I26K	**Coal Creek Min**	**7.79**	**212**	Pn	**Pn**	**17 13 01.3**	**+0.6**
I26K				Sn	Sn	17 14 23.2	-5.6
I26K	**Coal Creek Min**	**7.79**	**212**	P	**Pn**	**17 13 01.4**	**+0.7**
	baz=23						
I26K				S	Sn	17 14 23.3	-5.5
	baz=23						
I26K				S	Sn	17 14 23.3	-5.5
	baz=23						
E21K	**Killik River**	**7.90**	**252**	P	**Pn**	**17 13 03.0**	**+0.7**
	baz=52						
E21K				S	Sn	17 14 25.3	-6.4
	baz=52						
EGAK	**Eagle**	**8.00**	**205**	Pn	**Pn**	**17 13 03.4**	**-0.1**
EGAK				Sn	Sn	17 14 28.1	-5.8
EGAK	**Eagle**	**8.00**	**205**	P	**Pn**	**17 13 03.8**	**+0.2**
	baz=18,SNR=16						
EGAK				S	Sn	17 14 29.7	-4.2
	baz=18						
J29N	**Klondike Camp**	**8.00**	**195**	Sn	**Sn**	**17 14 30.5**	**-3.6**
F22K	**John River**	**8.01**	**243**	P	**Pn**	**17 13 04.2**	**+0.4**
	baz=45						
F22K				S	Sn	17 14 28.4	-6.0
	baz=45						
B20K	**Meade River**	**8.02**	**266**	P	**Pn**	**17 13 04.9**	**+1.0**
	baz=63						
B20K				S	Sn	17 14 26.9	-7.5
	baz=63						
PRP	**Porcupine Dome**	**8.02**	**219**	P	**Pn**	**17 13 04.6**	**+0.6**
	baz=28						
G23K	**Bananza Creek**	**8.04**	**235**	P	**Pn**	**17 13 04.3**	**+0.2**
	baz=39						
G23K				S	Sn	17 14 28.8	-6.2
	baz=39						
H24K	**Noodor Dome**	**8.24**	**226**	P	**Pn**	**17 13 07.0**	**+0.1**
	baz=33						
H24K				S	Sn	17 14 32.9	-7.0
	baz=33						
H24K				S	Sn	17 14 32.9	-7.0
	baz=33						
DAWY	**Dawson**	**8.49**	**198**	Pn	**Pn**	**17 13 10.0**	**-0.3**
DAWY				Sn	Sn	17 14 39.8	-6.2
DAWY	**Dawson**	**8.49**	**198**	P	**Pn**	**17 13 10.7**	**+0.4**
	baz=13						
D20K	**Etivluk River**	**8.52**	**257**	P	**Pn**	**17 13 11.6**	**+0.8**
	baz=55						
K29M	**Barlow Dome**	**8.55**	**193**	Pn	**Pn**	**17 13 11.6**	**+0.4**
K29M				Sn	Sn	17 14 42.8	-4.9
K29M	**Barlow Dome**	**8.55**	**193**	P	**Pn**	**17 13 11.9**	**+0.7**
	baz=9.1						
F21K	**Alatna River**	**8.57**	**244**	P	**Pn**	**17 13 11.8**	**+0.4**
	baz=45						
F21K				S	Sn	17 14 42.6	-5.5
	baz=45						
J26L	**Joseph Creek**	**8.60**	**211**	P	**Pn**	**17 13 13.0**	**+1.0**
	baz=22						
J26L				S	Sn	17 14 43.8	-5.2
	baz=22						
J26L				S	Sn	17 14 43.8	-5.2
	baz=22						
H23K	**Yukon River**	**8.63**	**230**	P	**Pn**	**17 13 13.0**	**+0.8**
	baz=35						
E20K	**Nigu River**	**8.67**	**254**	P	**Pn**	**17 13 13.3**	**+0.6**
	baz=52						
E20K				S	Sn	17 14 44.8	-5.7
	baz=52						
POKR	**Poker Plat Res**	**8.76**	**223**	P	**Pn**	**17 13 14.7**	**+0.6**
	baz=30						
J25K	**Salcha River,**	**8.81**	**216**	Pn	**Pn**	**17 13 15.5**	**+0.8**
J25K	**Salcha River,**	**8.81**	**216**	P	**Pn**	**17 13 15.4**	**+0.7**
	baz=25						
ILAR	**Eielson Array**	**8.95**	**220**	Pn	**Pn**	**17 13 17.5**	**+0.8**
	0.7nm,0.3s,baz=25,slow=14,SNR=34						
ILAR				Sn	Sn	17 14 52.7	-4.7
	0.6nm,0.3s,baz=22,slow=27,SNR=7.0 2.4nm,0.5s						
H22K	**Ishtalitna Cre**	**9.02**	**234**	P	**Pn**	**17 13 18.1**	**+0.5**
	baz=38						
H22K				S	Sn	17 14 52.3	-6.7
	baz=38						
H22K				S	Sn	17 14 52.3	-6.7
	baz=38						
G21K	**Allakaket**	**9.09**	**241**	P	**Pn**	**17 13 18.6**	**0.0**
	baz=42						
D19K	**Kuna River**	**9.10**	**258**	P	**Pn**	**17 13 19.1**	**+0.4**
	baz=54						
D19K				S	Sn	17 14 53.6	-7.4
	baz=54						
I23K	**Minto, Yukon-K**	**9.15**	**227**	P	**Pn**	**17 13 19.8**	**+0.5**
	baz=32						
SCRK	**Sand Creek**	**9.16**	**211**	P	**Pn**	**17 13 21.2**	**+1.6**
	baz=21,SNR=29						
L29M	**L29M**	**9.32**	**194**	Pn	Pn	17 13 21.3	-0.5
L29M				Sn	Sn	17 15 01.5	-5.0
L29M	**L29M**	**9.32**	**194**	P	**Pn**	**17 13 21.9**	**+0.1**
	baz=9.5						
L29M				S	Sn	17 15 01.3	-5.2
	baz=9.5						
F20K	**Avaraart Lake**	**9.32**	**247**	P	**Pn**	**17 13 22.3**	**+0.6**
	baz=46						
F20K				S	Sn	17 14 59.5	-6.9
	baz=46						
DOT	**Dot Lake**	**9.48**	**210**	Pn	**Pn**	**17 13 25.1**	**+1.2**
E19K	**Redstone River**	**9.48**	**252**	P	**Pn**	**17 13 23.9**	**0.0**
	baz=49						
E19K				S	Sn	17 15 02.2	-8.1
	baz=49						
NEA2	**Nenana**	**9.56**	**225**	P	**Pn**	**17 13 25.3**	**+0.3**
	baz=30						
NEA2				S	Sn	17 15 06.3	-6.1
	baz=30						
H21K	**Melozitna Rive**	**9.57**	**236**	P	**Pn**	**17 13 25.9**	**+0.8**
	baz=38						
H21K				S	Sn	17 15 06.2	-6.3
	baz=38						
H21K				S	Sn	17 15 06.2	-6.3
	baz=38						
MLY	**Manley**	**9.57**	**230**	P	**Pn**	**17 13 25.9**	**+0.8**
	baz=34						
MLY				S	Sn	17 15 07.4	-5.1
	baz=34						
K24K	**Donnelly Dome**	**9.62**	**215**	P	**Pn**	**17 13 26.7**	**+0.8**
	baz=24						
L27K	**Beaver Creek,**	**9.73**	**204**	Pn	**Pn**	**17 13 27.6**	**+0.3**
L27K	**Beaver Creek,**	**9.73**	**204**	P	**Pn**	**17 13 27.5**	**+0.1**
	baz=16						
I21K	**Tanana**	**9.74**	**233**	P	**Pn**	**17 13 27.7**	**+0.2**
	baz=36						
I21K				S	Sn	17 15 10.2	-6.6
	baz=36						
I21K				S	Sn	17 15 10.2	-6.6
	baz=36						
B18K	**Kokolik River**	**9.75**	**267**	P	**Pn**	**17 13 27.9**	**+0.3**
	baz=60						
M30M	**Minto, Yukon**	**9.77**	**190**	Pn	**Pn**	**17 13 27.8**	**0.0**
M30M	**Minto, Yukon**	**9.77**	**190**	P	**Pn**	**17 13 28.2**	**+0.3**
	baz=6.6,SNR=63						
M30M				S	Sn	17 15 11.6	-5.8
	baz=6.6						
C18K	**Utukok River**	**9.95**	**263**	P	**Pn**	**17 13 30.1**	**-0.2**
	baz=56						
L26K	**Log Cabin Wild**	**9.97**	**207**	Pn	**Pn**	**17 13 31.2**	**+0.6**
L26K	**Log Cabin Wild**	**9.97**	**207**	P	**Pn**	**17 13 31.3**	**+0.8**
	baz=18,SNR=17						
M29M	**Somme Creek**	**10.01**	**194**	Pn	**Pn**	**17 13 31.1**	**-0.1**
M29M				Sn	Sn	17 15 15.0	-8.4
M29M	**Somme Creek**	**10.01**	**194**	P	**Pn**	**17 13 31.3**	**+0.1**
	baz=9.4,SNR=40						
M29M				S	Sn	17 15 17.7	-5.7
	baz=9.4						
FARO	**Faro, Yukon**	**10.03**	**180**	Pn	**Pn**	**17 13 32.2**	**+0.8**
FARO	**Faro, Yukon**	**10.03**	**180**	P	**Pn**	**17 13 31.9**	**+0.5**
	baz=0.4,SNR=6.4						
FARO				S	Sn	17 15 16.0	-7.8
	baz=0.4						
F19K	**Shaleruckik Mo**	**10.06**	**250**	P	**Pn**	**17 13 31.6**	**-0.1**
	baz=47						
F19K				S	Sn	17 15 16.6	-7.9
	baz=47						
M31M	**Drury Creek, Y**	**10.06**	**183**	Pn	**Pn**	**17 13 32.5**	**+0.6**
M31M	**Drury Creek, Y**	**10.06**	**183**	P	**Pn**	**17 13 32.5**	**+0.6**
	baz=2.2,SNR=20						
M31M				S	Sn	17 15 18.4	-6.2
	baz=2.2						
H20K	**Anotleneega Mo**	**10.24**	**240**	P	**Pn**	**17 13 34.1**	**-0.1**
	baz=39						
BVCY	**Beaver Creek**	**10.25**	**200**	Pn	**Pn**	**17 13 34.7**	**+0.2**
BVCY				Sn	Sn	17 15 22.4	-6.9
BVCY	**Beaver Creek**	**10.25**	**200**	P	**Pn**	**17 13 34.6**	**+0.2**
	baz=13						
BVCY				S	Sn	17 15 23.3	-6.0
	baz=13						
MCK	**McKinley**	**10.29**	**222**	P	**Pn**	**17 13 35.8**	**+0.8**
	baz=28						
PAX	**Paxson**	**10.35**	**212**	P	**Pn**	**17 13 36.0**	**+0.3**
	baz=21						
G19K	**Purcell Mounta**	**10.35**	**246**	P	**Pn**	**17 13 35.7**	**-0.1**
	baz=44						
G19K				S	Sn	17 15 22.9	-8.8
	baz=44						
BPAW	**Bear Paw Mtn.**	**10.42**	**228**	S	Sn	17 15 26.1	-7.2
	baz=31						
M27K	**Edge Creek, AK**	**10.42**	**203**	Pn	**Pn**	**17 13 36.8**	**-0.1**
M27K	**Edge Creek, AK**	**10.42**	**203**	P	**Pn**	**17 13 36.8**	**-0.1**
	baz=15						
E18K	**Tukpahlearik C**	**10.50**	**256**	P	**Pn**	**17 13 37.5**	**-0.3**

baz=29
YUK3 Moose Creek 10.84 198 Sn Sn 17 15 36.8 -7.1
YUK3 Moose Creek 10.84 198 S Sn 17 15 36.4 -7.5
baz=12
N30M Aishikik Lake 10.90 190 Pn **Pn 17 13 43.8 +0.5**
N30M Sn Sn 17 15 37.5 -7.6
N30M Aishikik Lake 10.90 190 P **Pn 17 13 44.1 +0.8**
baz=6.4
N30M S Sn 17 15 38.5 -6.7
baz=6.4
G18K Tagagawik 10.97 247 P **Pn 17 13 44.4 +0.1**
baz=44
G18K S Sn 17 15 40.0 -6.9
baz=44
RES Resolute Bay 11.07 59 Pn Pn 17 13 42.7 -2.8
0.8nm,0.3s,baz=274,slow=13,SNR=27
RES Sn Sn 17 15 33.5 -16
1.3nm,0.3s,baz=188,slow=19,SNR=5.0
2.1nm,0.4s
E17K Hotham Inlet 11.09 257 P **Pn 17 13 45.8 0.0**
baz=50
E17K S Sn 17 15 38.4 -11
baz=50
J20K Nowinta River 11.11 234 P **Pn 17 13 46.7 +0.6**
baz=35
YUK4 Talbot Arm 11.11 193 Pn Pn 17 13 45.5 -0.8
YUK4 Talbot Arm 11.11 193 P Pn 17 13 45.4 -1.0
baz=8.7,SNR=18
N32M Quiet Lake 11.11 179 Pn **Pn 17 13 47.3 +1.1**
N32M Quiet Lake 11.11 179 P **Pn 17 13 47.1 +0.9**
baz=360
N32M S Sn 17 15 43.6 -6.7
baz=360
YUK5 Granite Creek 11.27 191 Pn **Pn 17 13 48.9 +0.4**
C16K Lisburne Hills 11.43 266 P **Pn 17 13 50.3 -0.1**
baz=55
H18K Honhosa River 11.44 244 P **Pn 17 13 51.0 +0.3**
baz=41
YUK6 Outpost Mounta 11.49 192 Pn **Pn 17 13 52.1 +0.5**
YUK6 Outpost Mounta 11.49 192 P **Pn 17 13 52.0 +0.4**
baz=8.1,SNR=13
O30N Mendenhall 11.54 187 Pn **Pn 17 13 52.9 +0.8**
O30N Mendenhall 11.54 187 P **Pn 17 13 52.5 +0.3**
baz=4.5,SNR=11
HYT Haines Junctio 11.55 190 Pn **Pn 17 13 52.8 +0.5**
HYT Haines Junctio 11.55 190 P **Pn 17 13 52.9 +0.6**
baz=6.7,SNR=6.8
WHY Whitehorse 11.62 184 Pn **Pn 17 13 53.4 +0.2**
J19K Poorman 11.63 236 P **Pn 17 13 53.9 +0.7**
baz=35
K20K Telida 11.77 232 P **Pn 17 13 55.5 +0.3**
baz=32
YKA Yellowknife Ar 12.04 135 Pn **Pn 17 13 58.0 -0.9**
1.0nm,0.3s,baz=343,slow=21,SNR=24
YKA Sn Sn 17 16 04.7 -8.3
2.1nm,0.3s,baz=330,slow=22,SNR=5.2
1.2nm,0.4s
P33M Teslin, Yukon 12.05 179 P **Pn 17 13 59.7 +0.5**
baz=360,SNR=5.4
DLBC Dease Lake 13.90 173 Pn **Pn 17 14 24.6 +0.3**
0.3nm,0.3s,baz=354,slow=11,SNR=4.4
DLBC Sn Sn 17 16 48.7 -10
0.2nm,0.3s,baz=302,slow=19,SNR=1.6
0.9nm,0.4s
PDAR Pinedale Array 31.68 146 P **P 17 17 34.0 +3.0**
0.5nm,0.6s,baz=14,slow=7.5,SNR=7.4
0.5nm,0.6s
TXAR Lajitas Array 45.80 143 P **P 17 19 31.2 +2.1**
0.2nm,0.5s,baz=8.7,slow=6.6,SNR=4.1
0.2nm,0.5s
KURBB Kurchatov Arra 55.44 336 P **P 17 20 41.4 -0.1**
1.2nm,0.7s,baz=12,slow=7.2,SNR=12
1.2nm,0.7s

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*NNC **21** 17:13:35.8±6.9, 39.°14N×75.°95E, h0km, mb3.8, mpv3.4,*
Error ellipse: s-maj=67.2km s-min=45.6km az=103.0
SOME 21 17:13:35.6, 39.10N×76.17E, h5km, 2C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**3.84**	**354**	⇓Pg	Pb	17 14 45.9	+1.9
	1.3nm,0.5s						
TKM2				⇓Lg	Lg	17 15 36.9	
	2.7nm,0.5s						
TNSS	**Tian-Shan**	**3.98**	**8**	Pg	Pg	17 14 49.7	-2.2
	3.2nm,0.5s						
TNSS				Lg	Lg	17 15 42.8	
	4.2nm,1.0s						
TNSS	**Tian-Shan**	**3.98**	**8**	*e*P	Pg	17 14 49.6	-2.2
	3.1nm,0.5s						
TNSS				*e*S	Sg	17 15 42.8	-0.5
	3.9nm,0.6s						
MTBS	**Maitube**	**4.03**	**3**	*e*P	Pg	17 14 51.0	-1.8
	0.8nm,0.1s						
MTBS				*e*S	Sg	17 15 45.2	+0.2
	4.7nm,0.3s						
MDOK	**Medeo**	**4.11**	**9**	Pg	Pg	17 14 52.2	-2.2
	4.1nm,0.2s						
MDOK				Lg	Lg	17 15 47.5	
	10.0nm,0.8s						
MDOK	**Medeo**	**4.11**	**9**	*e*P	Pg	17 14 52.2	-2.2
	4.1nm,0.2s						
MDOK				*e*S	Sg	17 15 47.5	-0.2
	6.5nm,0.4s						
KNDC	**Almaty**	**4.16**	**8**	⇑Pg	Pb	17 14 46.0	-3.2
	24nm,0.7s						
KNDC				⇑Lg	Lg	17 15 45.2	
	2.1nm,0.2s						
SATY	**Saty**	**4.30**	**22**	Pg	Pg	17 14 55.9	-2.1
	7.7nm,0.9s						
SATY				Lg	Lg	17 15 53.5	
	2.1nm,0.2s						
SATY	**Saty**	**4.30**	**22**	*e*P	Pg	17 14 55.9	-2.1
	3.5nm,0.6s						
SATY				*e*S	Sg	17 15 53.5	-0.3
	8.3nm,1.3s						
UZB	**Uzynbulak**	**4.58**	**27**	*e*P	Pb	17 14 59.5	+2.9
	2.9nm,0.3s						
UZB				*e*S	Sg	17 15 59.7	-3.0
	6.2nm,0.6s						
KPKS	**Kokpek**	**4.76**	**23**	Pg	Pg	17 15 03.7	-3.0
	2.6nm,0.5s						
KPKS				Lg	Lg	17 16 06.9	
	6.2nm,0.6s						
KPKS	**Kokpek**	**4.76**	**23**	*e*P	Pg	17 15 03.7	-3.0
	2.6nm,0.5s						
KPKS				*e*S	Sg	17 16 07.0	-1.4
	6.2nm,0.6s						

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*IDC **21** 17:15:15.7±0.8, 7.°37N×125.°40E, h131km±10km, mb3.3/6,*
mbtmp3.7/6, MS3.1/2, Error ellipse: s-maj=193.3km
s-min=17.2km az=66.0
*DJA **21** 17:18:11.8±0.5, 3.°S±4.°×11.°9E±.°, h10km, M3.4/7, MLv3.4/7*
ISC 21 17:15:02.5±1.1, 8.°3N±0.°1×127.°3E±0.°2, h31km, n13,
σ1§25/10, mb3.8/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.08**	**236**	P	**Pn**	**17 15 35.6**	**+0.4**
	183nm,0.5s,baz=270,slow=9.1,SNR=3.7						
DAV				S	Sn	17 15 49.6	-11
	320nm,0.3s,baz=289,slow=16,SNR=11						
TTSI	**Tana Toraja**	**13.48**	**214**	P	**P**	**17 18 18.2**	**-2.4**
SPSI	**Sidrap Palu**	**14.27**	**212**	P	**P**	**17 18 31.1**	**+1.7**
BNSI	**Bone**	**14.47**	**210**	P	P	17 18 40.5	+8.8
BKSI	**Bulukumba**	**15.27**	**208**	P	P	17 18 52.7	+12
WRA	**Warramunga Arr**	**28.85**	**166**	P	**P**	**17 20 58.2**	**-0.2**
	0.6nm,1.1s,baz=342,slow=8.1,SNR=2.1						
	0.6nm,1.1s						
ASAR	**Alice Springs**	**32.36**	**169**	P	**P**	**17 21 29.4**	**+0.1**
	0.3nm,0.3s,baz=342,slow=7.5,SNR=28						
ASAR				PcP	**PcP**	**17 24 17.2**	**+0.4**
	0.5nm,0.9s,baz=354,slow=2.6,SNR=2.8						
	0.3nm,0.3s						
KLR	**Kul'dur**	**41.02**	**4**	LR	LR	17 41 13.0	
	comp=Z,23nm,19.0s,baz=358,slow=37						
STKA	**Stephens Creek**	**42.17**	**162**	LR	LR	17 41 58.5	
	comp=Z,24nm,18.4s,baz=210,slow=38						
MKAR	**Makanchi Array**	**54.25**	**323**	P	**P**	**17 24 24.6**	**-1.0**
	0.6nm,0.5s,baz=118,slow=7.2,SNR=11						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**58.31**	**326**	P	**P**	**17 24 54.7**	**+0.3**
	0.5nm,0.3s,baz=124,slow=7.4,SNR=2.8						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**63.91**	**326**	P	**P**	**17 25 33.4**	**+1.0**
	0.2nm,0.4s,baz=94,slow=6.1,SNR=1.8						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**88.15**	**332**	P	**P**	**17 27 49.8**	**-0.3**
	0.6nm,0.5s,baz=64,slow=6.3,SNR=7.0						
	0.6nm,0.5s						

UPA 21 17:29:43.7±2.2, 8.°82N×83.°00W, h38km±12km, MW3.5, 2C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLIR3	**Monte Lirio, C**	**0.18**	**97**	*e*P	Pn	17 29 51.0	-1.7
BRU2	**Volcan**	**0.31**	**94**	⇑*i*P	Pn	17 29 53.0	+0.8
BRU2				*i* S	Sn	17 29 58.1	-0.8
PTJ1	**Puerto Jimnez**	**0.41**	**227**	*e*P	Pn	17 29 52.2	-0.8
BCO2	**Palmira**	**0.48**	**102**	*i* P	Pn	17 29 55.4	+1.2
BCO2				*i* S	Sn	17 30 01.9	+0.3
PTAR3	**Potrerillos Ar**	**0.52**	**104**	*e*P	Pn	17 29 56.2	+1.4
PTPM	**Petroterminale**	**0.62**	**169**	*e*P	Pn	17 29 54.6	-1.5
PTPM				*e*S	Sn	17 30 05.4	+0.6
DVD	**David**	**0.66**	**125**	*e*P	Pn	17 29 56.3	-0.3
DVD				*e*S	Sn	17 30 06.5	+0.7
PSOM3	**Paja de Sombre**	**0.68**	**101**	*e*P	Pn	17 29 56.3	-0.7
PSOM3				*e*S	Sn	17 30 05.3	-1.1
LOCO3	**Loma Colorada,**	**0.70**	**125**	*e*P	Pn	17 29 57.1	-0.1
GUAL3	**Gualaca, Chiri**	**0.75**	**112**	*e*P	Pn	17 29 59.7	+1.9
CNI2	**El Empalme, Bo**	**0.80**	**41**	*i* P	Pn	17 29 57.2	-1.2
CNI2				*i* S	Sn	17 30 08.2	-1.0
CHGR2	**Aguacate**	**0.86**	**82**	⇑*i*P	Pn	17 30 00.3	+1.0
CHGR2				*i* S	Sn	17 30 10.7	+0.1
CACAO	**El Cacao, Vera**	**2.57**	**124**	*e*P	Pn	17 30 23.1	+0.3
CHIT3	**Chitre**	**2.70**	**108**	*e*P	Pn	17 30 22.8	-1.8

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*DJA **21** 17:37:03.0±0.4, 8.°S±5.°×11.°9E±.°, h153km±8km, M4.1/13,*
mb4.4/6, mB5.1/3, MLv4.0/13, Mw(mB)4.4/3
ISC 21 17:37:03.2±0.8, 8.°46S±0.°08×118.°81E±0.°07, h150km, n24,
σ1§58/27, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.08**	**250**	P	**Pn**	**17 37 30.2**	**+1.6**
PLAI	**Plampang**	**1.08**	**250**	P	**Pn**	**17 37 30.2**	**+1.6**
WBSI	**Waikabubak, Su**	**1.30**	**154**	P	**Pn**	**17 37 31.8**	**+1.0**
WBSI				S	**Sn**	**17 37 54.5**	**+2.5**
WSI	**Waingapu**	**1.90**	**129**	P	**Pn**	**17 37 37.6**	**+0.5**
WSI				S	**Sn**	**17 38 04.2**	**+1.0**
BASI	**Baing, Sumba**	**2.47**	**135**	P	**Pn**	**17 37 44.7**	**+0.8**
BASI				S	**Sn**	**17 38 16.4**	**+1.0**
BSSI	**Bau Bau, Buton**	**2.85**	**36**	P	**Pn**	**17 37 46.9**	**-1.7**
BKSI	**Bulukumba**	**3.38**	**23**	P	**Pn**	**17 37 53.4**	**-2.0**
SRBI	**Singaraja**	**3.58**	**276**	P	**Pn**	**17 37 59.5**	**+1.6**
JAGI	**Jajag, Banyuwa**	**4.61**	**270**	P	**Pn**	**17 38 11.9**	**+0.5**
JAGI	**Jajag, Banyuwa**	**4.61**	**270**	P	**Pn**	**17 38 09.9**	**-1.5**
BATI	**Baumata**	**5.10**	**110**	P	**Pn**	**17 38 18.2**	**+0.3**
	63nm,0.5s,1μm0.4nm						
SOEI	**Soe**	**5.54**	**104**	P	**Pn**	**17 38 23.2**	**-0.7**
SOEI	**Soe**	**5.54**	**104**	P	**Pn**	**17 38 23.2**	**-0.7**
PWJI	**Pagerwojo**	**6.95**	**273**	P	**Pn**	**17 38 42.5**	**0.0**
	28nm,1.5s,6μm0.3nm						
PCJI	**Pacitan**	**7.55**	**271**	P	**Pn**	**17 38 49.6**	**-1.1**
SANI	**Sanana**	**9.57**	**49**	P	**Pn**	**17 39 21.9**	**+4.3**
DRS	**Darwin Rock St**	**12.53**	**109**	P	**Pn**	**17 39 55.0**	**-1.4**
	11nm,0.5s						
MTN	**Manton Dam**	**12.87**	**111**	P	**Pn**	**17 39 58.4**	**-2.4**
KSM	**Kuching**	**13.01**	**319**	P	**P**	**17 40 07.3**	**-0.1**
KDU	**Kakadu**	**14.07**	**109**	P	**Pn**	**17 40 15.4**	**-0.7**
MEEK	**Meekatharra**	**18.08**	**181**	P	**P**	**17 41 03.4**	**0.0**
WRKA	**Warakurna**	**18.80**	**152**	P	**P**	**17 41 09.9**	**-1.4**
TABU	**Tabubil**	**22.48**	**83**	P	**P**	**17 41 51.7**	**+1.4**
COEN	**Coen**	**24.51**	**105**	P	**P**	**17 42 09.0**	**+0.1**

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*ISK **21** 18:14:41.6, 35.°92N×30.°32E, h27km, ML3.3/30*
*AFAD **21** 18:14:41.2±0.0, 35.°96N×30.°39E, h20km±2km, ML3.2*
*NIC **21** 18:14:44.3, 35.°88N×30.°17E, h32km±27km, MI2.8/8*
ISC 21 18:14:41.8±1.1, 35.°93N±0.°03×30.°35E±0.°02, h18km±7km,
n71, σ1§35/100, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.40**	**359**	P	**Pg**	**18 14 49.0**	**-1.0**
AKUM				S	**Sg**	**18 14 54.7**	**-0.8**
DEMR	**Demre-Antalya**	**0.47**	**311**	Pg	**Pb**	**18 14 51.7**	**+0.1**
AKAS	**Kas**	**0.68**	**297**	P	**Pb**	**18 14 55.4**	**+0.2**
AKAS				S	**Sb**	**18 15 04.7**	**+0.5**
AKAS				*i* AML	AML	18 15 12.0	
	comp=N,3μm,0.4s						
AKAS	**Kas**	**0.68**	**297**	Pg	**Pb**	**18 14 55.4**	**+0.2**
AKAS				Sg	**Sn**	**18 15 05.8**	**-1.0**
KEMT	**Kemer-ANTALYA**	**0.70**	**14**	Pg	**Pg**	**18 14 54.3**	**-1.2**
KEMT				Sg	**Sb**	**18 15 05.7**	**+1.0**
ELL	**Elmali**	**0.89**	**337**	Pg	**Pg**	**18 14 58.4**	**-0.8**
ELL				Sg	**Sb**	**18 15 11.6**	**+1.1**
ELL	**Elmali**	**0.89**	**337**	S	**Sn**	**18 15 12.8**	**+0.6**
ELL				AML	AML	18 15 15.8	
	6.4nm,0.7s						
ELL				AML	AML	18 15 16.8	
	10.0nm,0.4s						
ANTB	**Antalya**	**1.00**	**14**	**Pg**	**Pg**	**18 15 00.9**	**-0.3**
ANTB				Sg	**Sb**	**18 15 14.9**	**+1.4**
IZZE	**Mula-Seydike**	**1.04**	**300**	P	**Pb**	**18 15 08.0**	**-0.6**
IZZE				S	**Sn**	**18 15 20.2**	**+4.5**
KORT	**Korkueli**	**1.07**	**0**	P	**Pg**	**18 15 00.7**	**-1.9**
KORT				S	**Sn**	**18 15 17.7**	**+1.1**
KORT	**Korkueli**	**1.07**	**0**	Pn	**Pg**	**18 15 01.2**	**-1.4**
KNIK	**Mula-Seydike**	**1.11**	**326**	P	**Pg**	**18 15 02.0**	**-1.3**
KNIK				S	**Sb**	**18 15 17.8**	**+1.1**
MNVG	**Manavgat-Antal**	**1.22**	**45**	Pn	**Pn**	**18 15 03.6**	**-0.4**
FETY	**Fethiye**	**1.24**	**305**	P	**Pg**	**18 15 06.0**	**+0.2**
FETY	**Fethiye**	**1.24**	**305**	Pn	**Pn**	**18 15 03.7**	**-0.6**
CAME	**Cameli-Denizli**	**1.32**	**321**	Pn	**Pn**	**18 15 04.9**	**-0.6**
BUCA	**Burdur, Bucak-**	**1.41**	**7**	P	**Pn**	**18 15 06.4**	**-0.3**
BUCA				S	**Sn**	**18 15 26.2**	**+1.4**
BUCA				*i* AML	AML	18 15 37.0	
	comp=E,177nm,1.0s						
SABU	**Mula-Dalaman**	**1.43**	**309**	P	**Pn**	**18 15 06.0**	**-0.9**
SABU				S	**Sg**	**18 15 33.7**	**+5.7**
CAEL	**Denizli, Camel**	**1.45**	**326**	P	**Pn**	**18 15 07.3**	**-0.1**
CAEL				S	**Sg**	**18 15 28.1**	**-0.7**
CAEL				*i* AML	AML	18 15 40.0	
	comp=E,580nm,0.7s						
ALAN	**Alanya-ANTALYA**	**1.50**	**65**	Pn	**Pn**	**18 15 07.3**	**-0.5**
BCK	**Bucak**	**1.54**	**7**	Pn	**Pn**	**18 15 08.3**	**-0.2**
DALY	**Dalyan (Mula)**	**1.63**	**304**	Pn	**Pn**	**18 15 08.8**	**-0.8**
DNZT	**Denizli-Tavas-**	**1.72**	**322**	P	**Pn**	**18 15 10.6**	**-0.4**
DNZT				S	**Sg**	**18 15 40.8**	**+3.5**
APMY	**Acipayam-Deniz**	**1.76**	**332**	Pn	**Pn**	**18 15 11.2**	**-0.3**
BRDR	**BURDUR-Merkez**	**1.78**	**353**	P	**Pn**	**18 15 12.1**	**+0.3**
BRDR				S	**Sn**	**18 15 34.5**	**+0.4**
ARG	**Arkhangelos**	**1.82**	**280**	Pn	**Pn**	**18 15 11.9**	**-0.4**
ARG	**Arkhangelos**	**1.82**	**280**	P	**Pn**	**18 15 11.4**	**-0.9**
ARG				S	**Sn**	**18 15 32.9**	**-2.1**
ARG				AML	AML	18 15 55.5	
	0.4nm,0.7s						
ARG				AML	AML	18 16 01.5	
	0.5nm,0.9s						
AKMS	**Akamas**	**1.86**	**119**	P	**Pb**	**18 15 15.5**	**+0.2**
AKMS				S	**Sb**	**18 15 39.5**	**+1.4**
AKMS				AML	AML	18 15 58.0	
	0.2nm,0.5s						
AKMS				AML	AML	18 16 00.7	
	0.2nm,0.7s						
INCE	**Denizli-Bozkur**	**1.88**	**341**	P	**Pn**	**18 15 13.1**	**-0.2**
INCE				S	**Sn**	**18 15 36.8**	**+0.2**
SEDI	**Konya, Seydise**	**1.90**	**36**	P	**Pn**	**18 15 13.6**	**+0.1**
SEDI				S	**Sn**	**18 15 35.8**	**-1.2**
ISP	**Isparta**	**1.90**	**4**	Pn	**Pn**	**18 15 13.9**	**+0.5**
TURN	**Turunc**	**1.90**	**297**	P	**Pn**	**18 15 13.1**	**-0.2**
TURN				S	**Sb**	**18 15 38.9**	**-0.3**
TURN	**Turunc**	**1.90**	**297**	Pn	**Pn**	**18 15 12.8**	**-0.5**
SEYD	**Seydisehir-KON**	**1.90**	**39**	Pn	**Pn**	**18 15 13.7**	**+0.2**
MRSB	**Marmaris-Mugla**	**1.91**	**295**	Pn	**Pn**	**18 15 13.0**	**-0.5**
TAVA	**DENIZLI_Tavas**	**1.92**	**324**	P	**Pn**	**18 15 13.4**	**-0.3**
TAVA				S	**Sb**	**18 15 40.7**	**+0.7**
ALFC	**Alefka**	**1.99**	**112**	P	**Pb**	**18 15 18.0**	**+0.5**
ALFC				AML	AML	18 16 04.3	
	0.3nm,0.6s						
ALFC				AML	AML	18 16 06.1	
	0.2nm,0.5s						
DNIZ	**Denizli-Tavas-**	**2.00**	**329**	P	**Pn**	**18 15 14.1**	**-0.6**
DNIZ				S	**Sb**	**18 15 44.1**	**+1.9**
BASM	**Basmaki-Afyon**	**2.00**	**353**	Pn	**Pn**	**18 15 14.3**	**-0.6**
HDMB	**Hadim**	**2.01**	**58**	Pn	**Pn**	**18 15 15.4**	**+0.3**
YER	**Yerkesik**	**2.05**	**307**	Pn	**Pn**	**18 15 15.8**	**+0.3**
MULA	**Mugla, Merkez-**	**2.10**	**310**	P	**Pn**	**18 15 12.9**	**-3.4**
MULA				S	**Sn**	**18 15 41.4**	**-0.6**
NATA	**Nata**	**2.15**	**122**	P	**Pb**	**18 15 20.3**	**+0.1**
NATA				AML	AML	18 16 08.2	
	1.0nm,0.7s						
NATA				AML	AML	18 16 15.8	
	0.6nm,0.8s						
ERMK	**Ermenek**	**2.19**	**70**	P	**Pn**	**18 15 19.1**	**+1.6**
ERMK				S	**Sg**	**18 15 52.8**	**+0.4**
TEKE	**Tekeli-Mersin**	**2.25**	**84**	Pn	**Pn**	**18 15 18.4**	**+0.2**
KZIL	**AFYON_Kizioren**	**2.33**	**356**	P	**Pn**	**18 15 18.8**	**-0.7**
KZIL				S	**Sn**	**18 15 45.0**	**-2.7**
AFYN	**Afyon-Dinar-K**	**2.34**	**3**	P	**Pn**	**18 15 19.3**	**-0.2**
BERE	**Bereket-Mersin**	**2.37**	**79**	Pn	**Pn**	**18 15 19.9**	**0.0**
DAT	**Datca**	**2.38**	**291**	P	**Pn**	**18 15 20.1**	**+0.1**
DAT	**Datca**	**2.38**	**291**	Pn	**Pn**	**18 15 19.5**	**-0.5**
DOGA	**KONYA_Doganhis**	**2.42**	**26**	P	**Pn**	**18 15 21.1**	**+0.5**
DOGA				S	**Sn**	**18 15 48.1**	**-1.8**
YVAC	**Isparta, Yalva**	**2.45**	**17**	P	**Pn**	**18 15 20.8**	**-0.2**
KKBE	**Karaman, Kazim**	**2.45**	**58**	P	**Pn**	**18 15 22.2**	**+1.2**
ESEN	**Aydn-Nazilli**	**2.46**	**320**	P	**Pn**	**18 15 20.1**	**-1.0**
PASA	**Karahalli, USA**	**2.51**	**344**	P	**Pn**	**18 15 20.4**	**-1.4**
PASA				S	**Sn**	**18 15 52.5**	**+0.4**
KONT	**Konya--Tatoy**	**2.58**	**38**	Pn	**Pn**	**18 15 23.5**	**+0.8**
BDRM	**Kayabasi**	**2.60**	**297**	P	**Pn**	**18 15 22.4**	**-0.6**
NAZL	**Nazilli-Aydin**	**2.62**	**322**	Pn	**Pn**	**18 15 23.0**	**-0.2**
CSS	**Mathiatis**	**2.62**	**111**	P	**Pb**	**18 15 26.5**	**-1.7**
CSS				AML	AML	18 16 21.9	
	0.1nm,0.8s						
CSS				AML	AML	18 16 22.2	
	0.1nm,0.7s						
KARP	**Karpathos**	**2.62**	**263**	Pn	**Pn**	**18 15 23.9**	**+0.6**
KARP	**Karpathos**	**2.62**	**263**	P	**Pn**	**18 15 23.6**	**+0.4**
KARP				S	**Sn**	**18 15 52.2**	**-2.5**
KARP				AML	AML	18 15 57.3	
	0.6nm,0.5s						
KARP				AML	AML	18 15 58.0	
	0.4nm,0.3s						
SHUT	**Suhut-Afyon**	**2.63**	**3**	Pn	**Pn**	**18 15 23.5**	**0.0**
ASGA	**Asgata**	**2.63**	**115**	P	**Pn**	**18 15 26.0**	**+2.6**
ASGA				AML	AML	18 16 23.1	
	0.2nm,0.7s						
ASGA				AML	AML	18 16 25.5	
	0.2nm,0.8s						
BODT	**Bodrum**	**2.70**	**296**	Pn	**Pn**	**18 15 23.7**	**-0.6**
KIRA	**zmir-Kiraz**	**2.75**	**326**	P	**Pn**	**18 15 23.6**	**-1.5**
KIRA				S	**Sb**	**18 16 02.7**	**-1.2**
BNAZ	**Uak-Banaz**	**2.77**	**352**	P	**Pn**	**18 15 23.6**	**-1.9**
AYDB	**Zeytinkoy-Aydi**	**2.82**	**316**	Pn	**Pn**	**18 15 25.2**	**-0.9**
MYOU	**Mavrovouni**	**2.83**	**108**	S	**Sb**	**18 16 04.1**	**-2.0**
KULA	**Kula-Manisa**	**2.91**	**333**	Pn	**Pn**	**18 15 25.6**	**-1.8**
GCAM	**G?zelcaml?**	**3.06**	**306**	Pn	**Pn**	**18 15 28.6**	**-0.7**
ZKR	**Zakros**	**3.46**	**258**	P	**Pn**	**18 15 34.8**	**-0.1**
ZKR				S	**Sn**	**18 16 13.0**	**-2.5**

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*IDC **21** 18:15:01.1±2.7, 21.°17S×178.°70W, h423km±26km, mb3.3/4,*
mbtmp4.1/5, Error ellipse: s-maj=35.4km s-min=31.0km
az=29.0
ISC 21 18:14:59.5±1.5, 21.°4S±0.°2×178.°6W±0.°2, h400km, n8,
σ1§34/9, mb3.7/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.82**	**318**	P	**Pn**	**18 16 20.2**	**+0.3**
	31nm,0.8s,baz=129,slow=14,SNR=13						
DZM	**Mont Dzumac**	**13.95**	**264**	P	**Pn**	**18 18 04.6**	**+1.2**
	4.1nm,0.5s,baz=80,slow=19,SNR=7.0						
STKA	**Stephens Creek**	**36.93**	**245**	P	**P**	**18 21 32.2**	**-0.2**
	2.5nm,0.6s,baz=102,slow=10,SNR=4.9						
	2.5nm,0.6s						
ASAR	**Alice Springs**	**43.80**	**258**	P	**P**	**18 22 27.6**	**-0.6**
	2.9nm,0.7s,baz=99,slow=7.9,SNR=44						
ASAR				PcP	**PcP**	**18 24 04.6**	**-2.0**
	0.3nm,0.8s,baz=107,slow=5.0,SNR=1.9						
	2.9nm,0.7s						
WRA	**Warramunga Arr**	**43.96**	**263**	P	**P**	**18 22 27.9**	**-1.5**
	1.5nm,0.8s,baz=98,slow=7.7,SNR=11						
	1.5nm,0.8s						
QSPA	**South Pole Qui**	**68.70**	**180**	P	**P**	**18 25 21.9**	**+0.7**
	2.2nm,0.8s,baz=3.4,slow=3.0,SNR=8.0						
	2.2nm,0.8s						
FINES	**FINESS Array B**	**136.45**	**343**	PKP	**PKPdf**	**18 33 33.8**	**-0.2**
	5.8nm,0.8s,baz=45,slow=2.9,SNR=1.2						
MMAI	**Mount Meron Ar**	**147.77**	**298**	PKPbc	**PKPdf**	**18 33 56.4**	**+1.3**
	1.7nm,0.5s,baz=68,slow=3.7,SNR=7.5						

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*BJI **21** 18:21:40.3, 59.°92N×153.°59W, h141km, mb5.7/93,*
mB5.6/47
*BGR **21** 18:21:40.3, 61.°83N×159.°11W, h151km±3km, mb4.8*
*MOS **21** 18:21:42.1±0.9, 60.°07N×153.°35W, h146km, mb5.4/40,*
Error ellipse: s-maj=9.8km s-min=4.0km az=93.8
*NEIC **21** 18:21:43.9, 59.°97N×153.°31W, h146km*
*NEIC **21** 18:21:43.3±1.6, 59.°97N±0.°04×153.°31W±0.°09,*
h145km±1km, Error ellipse: s-maj=7.8km s-min=6.8km
az=96.0, Moment Tensor Solution. Moment tensor: Scale
10^{17}Nm; M_{rr}0.56; $M_{\theta\theta}$-1.38; $M_{\phi\phi}$0.82; $M_{r\theta}$0.71; $M_{\phi\phi}$0.70;
$M_{\theta r}$1.01; Fault plane solution: $M_0$1.86000×10^{17} NP1:
ϕ_s66.70000°, δ72.76000°, λ39.67000°. NP2:ϕ_s322.89000°,
δ52.43000°, λ158.04000°. Principal axes: T 1.9961,
Plg40.0000°, Azm292.0000°; N -0.3225, Plg47.0000°,
Azm86.0000°; P -1.6736, Plg13.0000°, Azm191.0000°;
*IPGP **21** 18:21:43.0, 59.°97N×153.°31W, h147km, Mw5.5, Fault*
plane solution: NP1:ϕ_s321.00000°, δ62.00000°,
λ155.00000°. NP2:ϕ_s63.00000°, δ68.00000°, λ30.00000°.
*NEIC **21** 18:21:43.9, 59.°97N×153.°31W, h140km*

P19K Oil Pt 0.34 169 Sn 18 22 18.8 -0.2
P19K Oil Pt 0.34 169 Pn 18 22 03.4 -0.3
P19K Oil Pt 0.34 169 P **Pn 18 22 03.5 -0.2**
baz=356
P19K S **Sn 18 22 18.8 -0.2**
baz=356
O20K Slope Mountain 0.38 75 Pn 18 22 04.1 +0.2
O20K **Sn 18 22 19.8 +0.4**
O20K Slope Mountain 0.38 75 P **Pn 18 22 04.1 +0.2**
baz=248
O20K S **Sn 18 22 19.3 0.0**
baz=248
O20K S **Sn 18 22 19.3 0.0**
baz=248
O19K Port Alsworth 0.52 294 Sn 18 22 20.0 -0.3
O19K Port Alsworth 0.52 294 Pn 18 22 04.3 -0.1
O19K IAML 18 22 21.0
comp=E,264µm,0.5s
O19K IAML 18 22 21.3
comp=N,172µm,0.6s
O19K Port Alsworth 0.52 294 P **Pn 18 22 04.7 +0.4**
baz=115
O19K S **Sn 18 22 20.0 -0.3**
baz=115
O19K S **Sn 18 22 20.0 -0.3**
baz=115
RDWB Redoubt West 0.57 27 Pn 18 22 04.6 -0.3
RDWB **Sn 18 22 20.8 -0.4**
AUL Augustine Lava 0.60 183 Pn 18 22 04.7 -0.2
AUL **Sn 18 22 20.9 -0.3**
AU22 Augustine Moun 0.62 180 Pn 18 22 04.7 -0.2
AU22 **Sn 18 22 20.7 -0.5**
AUCH Augustine Cone 0.62 184 Pn 18 22 04.8 -0.3
AUCH **Sn 18 22 20.6 -1.0**
RDJH Redoubt Jeurge 0.67 24 Sn 18 22 22.3 +0.1
RDT Redoubt 0.76 38 Pn 18 22 05.8 -0.1
RDT **Sn 18 22 22.1 -1.1**
HOM Homer 0.93 110 Pn 18 22 07.1 -0.1
HOM Homer 0.93 110 P **Pn 18 22 07.0 -0.2**
baz=290
O18K Koktuh Hills 0.94 263 Sn 18 22 25.0 -0.4
O18K Koktuh Hills 0.94 263 Pn 18 22 07.4 +0.1
O18K Koktuh Hills 0.94 263 P **Pn 18 22 07.0 -0.3**
baz=84
O18K S **Sn 18 22 25.0 -0.4**
baz=84
O18K S **Sn 18 22 25.0 -0.4**
baz=84
N19K Bonanza Creek 1.00 327 Sn 18 22 26.5 -0.1
N19K Bonanza Creek 1.00 327 Pn 18 22 08.1 +0.2
N19K Bonanza Creek 1.00 327 IAML 18 22 27.7
comp=E,117µm,1.2s
N19K IAML 18 22 27.8
comp=N,101µm,0.8s
Q19K Cape Douglas, 1.07 188 Pn 18 22 08.0 -0.5
Q19K Cape Douglas, 1.07 188 Sn 18 22 27.2 -0.3
Q19K Cape Douglas, 1.07 188 IAML 18 22 29.6
comp=E,316µm,0.9s
Q19K IAML 18 22 32.3
comp=N,617µm,0.9s
Q19K Cape Douglas, 1.07 188 P **Pn 18 22 07.8 -0.7**
baz=10
P18K Big Mountain, 1.12 239 Pn 18 22 08.4 -0.5
P18K Big Mountain, 1.12 239 P **Pn 18 22 08.2 -0.7**
baz=60
CNPM China Poot 1.17 112 Pn 18 22 08.7 -0.7
CNPM China Poot 1.17 112 Sn 18 22 27.6 -1.6
BRLK Bradley Lake 1.27 99 Sn 18 22 29.0 -1.9
BRLK Bradley Lake 1.27 99 Pn 18 22 09.5 -0.8
BRLK IAML 18 22 30.1
comp=N,126µm,0.4s
BRLK IAML 18 22 30.1
comp=E,110µm,0.4s
BRSE Bradley Lake S 1.34 99 Pn 18 22 10.8 -0.2
BRSE **Sn 18 22 30.5 -1.7**
BRSE Bradley Lake S 1.34 99 P **Pn 18 22 10.5 -0.6**
baz=280
N20K Mount Spurr 1.35 25 P **Pn 18 22 11.2 0.0**
baz=203
SPCR Spurr Chakacha 1.35 25 Pn 18 22 11.4 +0.2
SPCR **Sn 18 22 31.9 -0.4**
SPCP Crater Peak Br 1.42 24 Pn 18 22 12.4 +0.4
N18K Kilae Creek 1.44 300 Pn 18 22 12.2 +0.2
Q20K Shuyak Island 1.47 160 P **Pn 18 22 11.3 -1.0**
baz=342
SYI Shuyak Island 1.47 160 Sn 18 22 32.8 -1.6
SYI Shuyak Island 1.47 160 Pn **Pn 18 22 11.7 -0.6**
KAPH Katmai Pasha 1.48 200 Pn 18 22 12.1 -0.4
SVW2 Sparrevohn 1.56 317 Pn **Pn 18 22 13.4 +0.1**
SVW2 IAML 18 22 36.6
comp=E,20µm,0.9s
SVW2 Sparrevohn 1.56 317 P **Pn 18 22 13.7 +0.3**
Q18K Katmai Hardscr 1.58 213 P **Pn 18 22 13.1 -0.6**
baz=34
KAHG Katmai Hook Gl 1.61 203 Pn 18 22 13.5 -0.5
SLKM Skilak Lake 1.65 70 Pn 18 22 13.7 -0.6
P17K Kvichak River 1.75 245 Pn 18 22 15.8 +0.4
P17K Kvichak River 1.75 245 P **Pn 18 22 15.9 +0.4**
baz=64
O22K Cooper Landing 1.88 73 Pn 18 22 16.4 -0.5
O22K Cooper Landing 1.88 73 P **Pn 18 22 16.5 -0.4**
baz=255
KVTA Katmai Vly 10 1.89 213 Pn 18 22 16.6 -0.4
O17K Koliganek Bris 1.89 265 Pn 18 22 17.6 +0.6
KAKN Katmai Knife C 1.91 208 Pn 18 22 16.7 -0.6
M20K Styx River 1.91 3 Pn 18 22 17.9 +0.6
SUA Susitna One 1.96 40 Pn **Pn 18 22 17.6 -0.4**
SUA IAML 18 22 45.8
comp=E,132µm,0.6s
SUA Susitna One 1.96 40 P **Pn 18 22 17.5 -0.4**
baz=220
SEW Seward 1.97 85 Pn 18 22 17.4 -0.4
SEW Seward 1.97 85 P **Pn 18 22 17.1 -0.7**
baz=267
N17K Nushagak Hills 1.98 288 Pn 18 22 18.8 +0.8
M19K Big River Lodg 1.99 346 Pn 18 22 18.6 +0.4
M19K Big River Lodg 1.99 346 IAML 18 22 45.9
comp=E,18µm,1.0s
ACHA Angle Creek He 2.05 210 Pn 18 22 18.5 -0.4
RC01 Rabbit Creek A 2.11 57 Pn **Pn 18 22 18.6 -0.9**
RC01 IAML 18 22 46.7
comp=N,64µm,0.7s
RC01 IAML 18 22 47.2
comp=E,76µm,0.6s
RC01 Rabbit Creek A 2.11 57 P **Pn 18 22 18.6 -0.9**
baz=238
Q16K King Salmon 2.14 234 P **Pn 18 22 20.4 +0.5**
baz=52
Q17K Contact Creek 2.16 218 P **Pn 18 22 19.6 -0.7**
baz=37
SKT Skwentna 2.19 23 Pn 18 22 20.3 -0.3
SKT IAML 18 22 50.3
comp=N,30µm,1.1s
SKT IAML 18 22 50.5
comp=E,27µm,0.7s
SKT Skwentna 2.19 23 P **Pn 18 22 20.3 -0.3**
baz=203
KDAK Kodiak Island 2.25 169 Pn **Pn 18 22 19.1 -2.1**
KDAK IAML 18 22 49.3
comp=E,53µm,0.4s
KDAK IAML 18 22 53.3
comp=E,72µm,0.9s
KDAK Kodiak Island 2.25 169 P **Pn 18 22 19.4 -1.8**
comp=E,6µm,0.5s,baz=215,slow=5.8
KDAK S **Sn 18 22 47.3 -2.9**
comp=E,34µm,0.6s,baz=330,slow=20,SNR=53
KDAK Kodiak Island 2.25 169 P **Pn 18 22 19.1 -2.1**
L19K White Mountain 2.32 342 Pn 18 22 22.1 0.0
L19K White Mountain 2.32 342 IAML 18 22 53.4
comp=E,12µm,0.9s
L19K IAML 18 22 55.6
comp=N,13µm,1.0s
M22K Willow 2.38 40 P **Pn 18 22 22.2 -0.6**
baz=222
O16K Kokwok River B 2.42 263 Pn 18 22 24.1 +0.7
M17K Holitna River 2.46 307 Pn 18 22 24.3 +0.5
M17K Holitna River 2.46 307 IAML 18 22 57.1
comp=N,26µm,1.1s
M17K IAML 18 22 58.2
comp=E,36µm,1.0s
R18K Karluk 2.49 194 Pn 18 22 22.1 -2.1
R18K Karluk 2.49 194 IAML 18 22 54.2
comp=E,78µm,0.5s
R18K IAML 18 22 57.9
comp=N,80µm,0.4s

L20K Farewell, AK 2.52 355 Pn 18 22 25.0 +0.5
P16K Nushagak River 2.54 250 P **Pn 18 22 25.9 +1.1**
baz=67
PMR Palmer 2.63 50 Pn 18 22 24.3 -1.6
PMR IAML 18 22 56.9
comp=E,41µm,0.6s
PMR IAML 18 22 57.3
comp=N,35µm,0.7s
PMR Palmer 2.63 50 P **Pn 18 22 24.1 -1.7**
baz=233
PMR Palmer 2.63 50 P **Pn 18 22 24.5 -1.4**
PMR Palmer 2.63 50 P **Pn 18 22 24.3 -1.6**
PWL Port Wells 2.64 68 IAML 18 22 56.8
comp=N,63µm,0.5s
PWL IAML 18 23 06.2
comp=E,51µm,0.6s
PWL Port Wells 2.64 68 P **Pn 18 22 24.5 -1.6**
baz=252
PLK5 Peulik 5 2.70 224 Pn 18 22 27.0 +0.2
PLK2 Peulik 2 2.71 216 Pn 18 22 27.1 +0.2
N16K Nishlik Lake 2.74 283 Pn 18 22 28.6 +1.2
L18K Granite Mounta 2.76 326 IAML 18 23 03.2
comp=E,10µm,0.9s
L18K IAML 18 23 03.7
comp=N,10µm,1.1s
OHAK Old Harbor 2.77 179 Pn **Pn 18 22 25.3 -2.4**
OHAK IAML 18 23 01.6
comp=N,21µm,0.8s
OHAK IAML 18 23 05.2
comp=E,27µm,0.9s
OHAK Old Harbor 2.77 179 P **Pn 18 22 25.8 -1.9**
KNK Knik Glacier 2.81 57 IAML 18 23 05.0
comp=N,54µm,0.7s
KNK Knik Glacier 2.81 57 P **Pn 18 22 26.6 -1.6**
baz=240
GHO Glory Hole Cre 2.82 49 IAML 18 23 03.2
comp=N,67µm,0.7s
PLK4 Peulik 4 2.83 215 Pn **Pn 18 22 28.3 -0.2**
PLK4 IAML 18 23 05.6
comp=N,17µm,1.2s
PLK4 IAML 18 23 07.3
comp=E,17µm,1.1s
R17L Mt. Peulik Vol 2.83 215 P **Pn 18 22 28.2 -0.3**
baz=33
M16K Timber Creek 2.96 293 Pn 18 22 31.3 +1.2
PPLA Purkeypile 2.98 10 P **Pn 18 22 31.1 +0.7**
baz=190
P23K Montague Islan 3.00 87 Pn 18 22 30.2 -0.4
P23K Montague Islan 3.00 87 P **Pn 18 22 29.9 -0.6**
baz=272
SML Sawmill 3.06 51 Pn 18 22 29.8 -1.6
SML IAML 18 23 07.9
comp=N,53µm,1.0s
SML IAML 18 23 10.3
comp=E,43µm,0.8s
SML Sawmill 3.06 51 P **Pn 18 22 29.8 -1.6**
baz=234
TTA Tatalina 3.22 338 Pn **Pn 18 22 33.3 -0.2**
TTA Tatalina 3.22 338 P **Pn 18 22 33.2 -0.2**
baz=155
TTA Tatalina 3.22 338 P **Pn 18 22 33.5 +0.1**
TTA Tatalina 3.22 338 P **Pn 18 22 33.3 -0.2**
L17K Donlin 3.23 314 Pn 18 22 33.9 +0.4
GLI Glacier Island 3.23 71 Pn 18 22 31.4 -2.2
GLI Glacier Island 3.23 71 IAML 18 23 12.0
comp=N,47µm,0.9s
GLI IAML 18 23 14.6
comp=E,37µm,0.5s
GLI Glacier Island 3.23 71 P **Pn 18 22 31.4 -2.2**
baz=256
R16K Pilot Point 3.27 224 Pn 18 22 34.0 0.0
R16K Pilot Point 3.27 224 IAML 18 23 20.9
comp=E,11µm,1.1s
R16K IAML 18 23 32.2
comp=N,16µm,1.1s
R16K Pilot Point 3.27 224 P **Pn 18 22 34.5 +0.5**
baz=41
M23K Glacier View 3.30 54 P **Pn 18 22 33.0 -1.4**
baz=238
N15K Kwethluk River 3.38 276 Pn 18 22 36.9 +1.5
HIN Hinchinbrook I 3.45 80 Pn 18 22 35.2 -1.2
SII Sitkinak Islan 3.46 188 Pn 18 22 34.3 -2.3
SII Sitkinak Islan 3.46 188 IAML 18 23 24.8
comp=E,30µm,0.9s
SII IAML 18 23 28.3
comp=N,49µm,1.0s
SII Sitkinak Islan 3.46 188 P **Pn 18 22 34.8 -1.8**
SCM Sheep Creek Mo 3.48 55 Pn 18 22 35.3 -1.5
SCM Sheep Creek Mo 3.48 55 P **Pn 18 22 35.5 -1.3**
baz=240
SCM Sheep Creek Mo 3.48 55 P **Pn 18 22 35.3 -1.5**
CAST Castle Rocks 3.50 9 Pn **Pn 18 22 36.7 -0.3**
CAST Castle Rocks 3.50 9 P **Pn 18 22 36.7 -0.3**
baz=190
WAT7 Susitna Watana 3.59 35 Pn 18 22 37.3 -0.9
Q23K Middleton Isla 3.60 96 Pn **Pn 18 22 36.9 -1.3**
Q23K IAML 18 23 22.4
comp=N,24µm,0.7s
Q23K IAML 18 23 34.9
comp=E,14µm,0.8s
Q23K Middleton Isla 3.60 96 P **Pn 18 22 37.0 -1.2**
baz=281
K17K Iditarod 3.63 321 Pn 18 22 39.3 +0.6
K17K Iditarod 3.63 321 IAML 18 23 25.0
comp=N,8µm,1.1s
K17K IAML 18 23 25.1
comp=E,6µm,1.2s
WAT1 Susitna Watana 3.67 37 Pn 18 22 38.3 -1.0
M15K Kasigluk River 3.71 284 Pn 18 22 41.0 +1.3
WAT6 Susitna Watana 3.76 44 Pn 18 22 39.5 -1.1
KTH Kantishna Hill 3.77 17 Pn **Pn 18 22 39.5 -1.0**
KTH IAML 18 23 60.0
comp=E,9µm,0.9s
KTH IAML 18 24 07.1
comp=N,11µm,1.0s
TRF Thorofare Moun 3.77 21 Pn 18 22 39.7 -1.0
TRF Thorofare Moun 3.77 21 IAML 18 23 28.1
comp=N,15µm,0.6s
TRF IAML 18 23 52.6
comp=E,10µm,1.0s
TRF Thorofare Moun 3.77 21 P **Pn 18 22 39.7 -1.0**
baz=203
EYAK Cordova Ski Ar 3.83 78 Pn 18 22 40.1 -1.3
EYAK Cordova Ski Ar 3.83 78 P **Pn 18 22 40.0 -1.3**
baz=264
EYAK Cordova Ski Ar 3.83 78 P **Pn 18 22 40.6 -0.7**
CHUM Lake Minchumin 3.94 7 Pn 18 22 42.7 0.0
ANNE Aniakchak Nort 3.95 221 Pn 18 22 42.4 -0.5
KLU Klutina 3.95 64 P **Pn 18 22 41.6 -1.4**
baz=250
RND Reindeer 4.05 30 Pn **Pn 18 22 43.0 -1.2**
RND IAML 18 23 31.3
comp=N,11µm,0.9s
RND IAML 18 23 34.2
comp=E,10µm,0.7s
RND Reindeer 4.05 30 P **Pn 18 22 43.0 -1.2**
O14K Tigyukauivet M 4.08 263 Pn 18 22 46.0 +1.5
M24K Tolsona, Glenn 4.09 56 P **Pn 18 22 43.9 -0.9**
baz=241
J19K Poorman 4.16 346 Pn 18 22 45.7 +0.1
N14K Kuskokwak Cree 4.18 273 Pn 18 22 47.7 +1.8
J20K Nowinta River 4.22 355 Pn 18 22 47.1 +0.7
J20K Nowinta River 4.22 355 IAML 18 23 38.9
comp=E,3µm,0.9s
BPAW Bear Paw Mtn. 4.28 14 Pn 18 22 45.9 -1.3
BPAW Bear Paw Mtn. 4.28 14 IAML 18 23 34.2
comp=N,4µm,1.0s
BPAW IAML 18 24 12.6
comp=E,4µm,1.2s
BPAW Bear Paw Mtn. 4.28 14 P **Pn 18 22 45.7 -1.5**
baz=196
MCK McKinley 4.31 27 P **Pn 18 22 46.3 -1.2**
baz=210
M14K Bethel 4.34 284 Pn 18 22 49.5 +1.6
GOAT Goat Mountain 4.34 78 Pn 18 22 47.1 -1.0
CHIR Chirikof Islan 4.34 197 Pn 18 22 45.6 -2.4
CHIR IAML 18 23 35.7
comp=E,9µm,0.8s
CHIR IAML 18 23 36.2
comp=N,9µm,0.5s
CHIR Chirikof Islan 4.34 197 P **Pn 18 22 46.1 -2.0**
RAGM Ragged Mountai 4.36 81 Pn 18 22 47.1 -1.2
J17K VABM Dome 4.37 324 Pn 18 22 48.5 +0.1
J17K VABM Dome 4.37 324 IAML 18 23 56.8
comp=E,3µm,1.1s

J17K IAML 18 24 09.8
comp=N,3µm,1.1s
BMRM Bremner River 4.45 73 Pn 18 22 48.1 -1.3
KAIM Kayak Island 4.50 87 Pn 18 22 49.6 -0.4
KAIM IAML 18 23 43.9
comp=E,17µm,1.0s
KAIM IAML 18 23 47.0
comp=N,18µm,0.6s
CHGN Chignik 4.56 218 Pn 18 22 49.6 -1.3
CHGN IAML 18 23 43.9
comp=N,4µm,0.5s
CHGN IAML 18 23 46.5
comp=E,4µm,0.5s
HMT Hamilton 4.56 82 Pn 18 22 50.0 -0.9
BWN Browne 4.58 22 Pn 18 22 50.2 -1.0
BWN Browne 4.58 22 IAML 18 23 57.2
comp=N,11µm,0.8s
BWN IAML 18 24 08.1
comp=E,15µm,0.9s
K15K Wolf Creek Mou 4.59 304 Pn 18 22 52.9 +1.7
N25K Chitina, Valde 4.59 65 IAML 18 23 43.0
comp=N,22µm,1.1s
N25K IAML 18 23 45.3
comp=E,20µm,0.6s
J16K Anvik River 4.78 317 Pn 18 22 54.1 +0.3
L14K Kuka Creek 4.78 291 IAML 18 24 15.5
comp=N,5µm,1.2s
L14K IAML 18 24 17.3
comp=E,4µm,1.1s
I20K Naaghedeneel 4.86 354 Pn 18 22 55.6 +0.8
I20K Naaghedeneel 4.86 354 IAML 18 23 51.7
comp=E,12µm,0.9s
I20K IAML 18 24 54.0
comp=N,10µm,1.0s
VNHG Veniaminof 1 4.87 222 Pn 18 22 55.4 +0.4
WASW Wrangell South 4.89 63 Pn 18 22 54.6 -0.8
GLB Gilahina Butte 4.92 69 IAML 18 23 50.4
comp=N,17µm,0.8s
GLB IAML 18 23 52.3
comp=E,13µm,0.6s
VNSG Veniaminof 6 4.92 221 Pn 18 22 55.1 -0.6
WAZA Wrangell Mount 4.95 61 Pn 18 22 55.4 -0.8
M13K Dall Lake 5.00 279 Pn 18 22 58.6 +2.0
M13K Dall Lake 5.00 279 IAML 18 25 11.4
comp=E,2µm,1.2s
NEA2 Nenana 5.04 22 Pn 18 22 55.3 -1.9
NEA2 Nenana 5.04 22 IAML 18 23 54.5
comp=E,3µm,0.6s
NEA2 IAML 18 24 01.2
comp=N,3µm,0.7s
VRDI Verde Repeater 5.04 71 IAML 18 23 53.9
comp=E,14µm,0.5s
WRH Wood River Hil 5.13 26 Pn 18 22 56.5 -2.0
WRH Wood River Hil 5.13 26 IAML 18 23 56.7
comp=E,4µm,0.6s
WRH IAML 18 23 57.7
comp=N,5µm,0.7s
CRQM Cirque 5.13 77 Pn 18 22 58.0 -0.7
MLY Manley 5.21 12 IAML 18 24 49.5
comp=E,2µm,0.8s
I17K Unalakleet 5.22 322 Pn 18 22 59.8 +0.2
I21K Tanana 5.25 6 IAML 18 24 45.9
comp=N,2µm,1.1s
I21K IAML 18 24 47.5
comp=E,2µm,1.1s
SNH Sunshine Point 5.27 83 IAML 18 24 00.2
comp=N,10µm,0.7s
SNH IAML 18 24 01.4
comp=E,11µm,0.8s
CCB Clear Creek Bu 5.35 27 Pn 18 22 59.4 -1.8
CCB Clear Creek Bu 5.35 27 IAML 18 24 00.9
comp=N,3µm,0.7s
CCB IAML 18 24 01.6
comp=E,3µm,0.6s
HDA Harding Lake 5.36 31 IAML 18 24 01.6
comp=E,9µm,0.5s
CYK Cape Yakataga 5.46 84 Pn 18 23 02.3 -0.4
MENT Mentasta 5.49 53 Pn 18 23 02.2 -1.0
MENT Mentasta 5.49 53 P **Pn 18 23 02.3 -1.0**
I23K Minto, Yukon-K 5.50 18 Pn 18 23 01.7 -1.6
ISLE Juniper Island 5.52 79 Pn 18 23 03.3 -0.4
KIAG Kiagna River 5.53 75 Pn 18 23 03.0 -0.9
I53US FAIRBANKS INFR 5.53 25 P **Pn 18 23 02.7 -1.0**
baz=203,slow=21,SNR=1.5
I53US I I 18 41 50.0
baz=211,slow=337,SNR=2.3
COLA College 5.53 25 Pn 18 23 02.4 -1.3
COLA College 5.53 25 P **Pn 18 23 02.2 -1.5**
COLA College 5.53 25 P **Pn 18 23 02.4 -1.3**
BALM Baldy 5.55 74 Pn 18 23 03.3 -0.8
M26K Nabesna, AK 5.57 60 Pn 18 23 03.3 -1.0
H20K Anotleneega Mo 5.57 353 Pn 18 23 04.8 +0.5
J14K Nanvaranak Lak 5.63 304 Pn 18 23 06.6 +1.6
IL31 5.67 29 Pn 18 23 04.0 -1.5
ILAR Eielson Array 5.67 29 Pn 18 23 04.1 -1.5
ILAR Eielson Array 5.67 29 P **Pn 18 23 04.7 -0.9**
comp=E,8µm,0.5s,baz=218,slow=13
ILAR S **Sn 18 24 05.1 -4.6**
comp=E,2µm,0.7s,baz=215,slow=26,SNR=8.6
ILAR ScP **ScP 18 33 13.1 -0.6**
comp=E,2.1nm,0.6s,baz=269,slow=2.0,SNR=5.6
H18K Honhosa River 5.68 338 Pn 18 23 06.1 +0.4
L26K Log Cabin Wild 5.68 53 Pn 18 23 05.1 -0.7
H21K Melozitna Rive 5.70 2 Pn 18 23 05.7 -0.3
MESA MESA 5.72 83 Pn 18 23 06.0 -0.4
H19K Roundabout Mou 5.74 347 Pn 18 23 06.8 +0.4
GRNC Granite Creek 5.81 78 Pn 18 23 07.2 -0.5
H17K Granite Mounta 5.82 331 Pn 18 23 07.6 0.0
POKR Poker Plat Res 5.83 25 Pn 18 23 06.2 -1.6
K13K Kusilvak Mount 5.84 294 Pn 18 23 09.4 +1.6
J25K Salcha River, 5.95 35 Pn 18 23 08.4 -1.0
H22K Ishtalitna Cre 6.00 8 Pn 18 23 08.9 -1.1
IMAR Indian Mountai 6.03 358 Pn 18 23 10.5 +0.2
M27K Edge Creek, AK 6.04 62 Pn 18 23 10.6 -0.2
TABL Table Mountain 6.11 80 Pn 18 23 11.5 -0.2
H23K Yukon River 6.12 15 Pn 18 23 10.2 -1.4
CHNA Chernabura Isl 6.16 216 P **Pn 18 23 10.2 -2.0**
CNBA Chernabura Isl 6.17 216 Pn 18 23 10.0 -2.3
SAMH Samovar Hills 6.30 83 Pn 18 23 14.4 +0.3
L27K Beaver Creek, 6.32 56 Pn 18 23 13.8 -0.5
S12K Black Hills 6.32 231 Pn 18 23 14.6 +0.3
BCAR Beaver Creek A 6.34 56 Pn 18 23 14.0 -0.6
H24K Noodor Dome 6.38 21 Pn 18 23 13.8 -1.3
G18K Tagagawik 6.40 340 Pn 18 23 15.7 +0.3
PS1A Pavlof South-1 6.41 228 Pn 18 23 15.2 -0.2
M11K Mekoryuk 6.42 279 Pn 18 23 16.6 +1.1
J26L Joseph Creek 6.44 41 Pn 18 23 14.7 -1.2
G17K Kiwalik Mounta 6.47 332 Pn 18 23 15.8 -0.3
PS4A Pavlof South-4 6.51 228 Pn 18 23 16.4 -0.4
HAG Hague Volcano 6.55 228 Pn 18 23 17.1 -0.3
HAG Hague Volcano 6.55 228 P **Pn 18 23 17.1 -0.3**
G21K Allakaket 6.56 360 Pn 18 23 17.5 +0.1
PCA Pinnacle 6.57 83 Pn 18 23 17.4 -0.3
O28M Mount Upton 6.58 77 Pn 18 23 18.2 +0.2
G16K Koyuk River 6.82 327 Pn 18 23 21.1 +0.2
BCPM Bancas Point 6.89 84 Pn 18 23 21.1 -0.8
G23K Bananza Creek 6.92 11 Pn 18 23 21.0 -1.2
YKU2 Yakutat 6.94 88 P **Pn 18 23 22.7 +0.2**
G22K Bettles 7.01 6 Pn 18 23 22.5 -0.9
G15K Niukluk 7.04 320 Pn 18 23 24.6 +0.7
PNL Peninsula 7.05 87 Pn 18 23 23.1 -0.9
I26K Coal Creek Min 7.11 37 Pn 18 23 23.1 -1.6
F19K Shaleruckik Mo 7.15 346 Pn 18 23 26.2 +0.9
H25L Birch Creek 7.17 25 Pn 18 23 23.7 -1.8
F20K Avaraart Lake 7.17 353 Pn 18 23 26.2 +0.7
G24K Hadweenzic Riv 7.24 19 Pn 18 23 24.6 -1.9
F21K Alatna River 7.27 360 Pn 18 23 26.8 -0.1
F17K Baldwin Pennin 7.39 335 Pn 18 23 28.6 +0.2
O29M Mount Kennedy 7.39 81 Pn 18 23 28.1 -0.6
FALS False Pass 7.47 231 Pn 18 23 29.1 -0.6
FALS False Pass 7.47 231 P **Pn 18 23 29.6 0.0**
G25K Bearman Lake 7.54 22 Pn 18 23 28.5 -2.1
FYU Fort Yukon 7.55 26 Pn 18 23 28.3 -2.3
F22K John River 7.57 3 Pn 18 23 30.6 -0.3
YUK7 Dusty Glacier 7.59 79 Pn 18 23 30.9 -0.6
F15K North Star Dit 7.71 323 Pn 18 23 33.8 +1.0
I27K Kandik River 7.79 39 Pn 18 23 32.0 -1.8
P29M Windy Craggy 7.89 86 Pn 18 23 34.5 -0.7
L29M L29M 7.92 60 Pn 18 23 35.7 +0.1
F24K Squaw Lake 7.94 15 Pn 18 23 34.5 -1.4
N30M Aishikik Lake 8.11 72 Pn 18 23 36.8 -1.5
G26K Porcupine Rive 8.19 27 Pn 18 23 36.2 -3.0
WEBT Westdahl Beart 8.20 234 Pn 18 23 39.5 +0.1

P30M	Million Dollar	8.21	82		Pn	18 23 38.8	-0.8
WESE	West Dahl East	8.21	233		Pn	18 23 39.6	0.0
H27K	Steamboat Moun	8.24	35		Pn	18 23 37.8	-2.1
I28M	Miner Creek	8.24	43		Pn	18 23 38.9	-1.1
E23K	Chandalar	8.27	10		Pn	18 23 39.5	-0.8
F25K	Christian Rive	8.36	21		Pn	18 23 39.4	-2.1
J29N	Klondike Camp	8.36	51		Pn	18 23 41.7	+0.1
E24K	Your Creek	8.40	13		Pn	18 23 41.0	-1.0
E20K	Nigu River	8.40	353		Pn	18 23 42.9	+0.9
K29M	Barlow Dome	8.41	56		Pn	18 23 42.4	+0.2
BMAR	Burnt Mountain	8.42	24		Pn	18 23 39.9	-2.3
E21K	Killik River	8.50	358		Pn	18 23 43.1	-0.2
PLBC	Pleasant Camp	8.61	86		Pn	18 23 44.1	-0.7
G27K	Doyon Strip	8.62	32		Pn	18 23 41.9	-3.0
TNA	Tin City	8.69	316		Pn	18 23 47.7	+1.8
F26K	Sheenjek River	8.73	24		Pn	18 23 43.7	-2.8
I29M	Ogilvie Camp,	8.76	46		Pn	18 23 45.7	-1.1
D19K	Kuna River	8.79	348		Pn	18 23 48.0	+0.8
D17K	Noatak River	8.84	335		Pn	18 23 47.9	+0.1
AKSA	Akutan Strait	8.91	234		Pn	18 23 49.2	+0.4
D22K	Ayikyak River	8.94	2		Pn	18 23 48.7	-0.5
AHB	Akutan Harbor	8.97	234		Pn	18 23 49.0	-0.8
MAYO	Mayo, Yukon	9.02	59		Pn	18 23 50.7	+0.4
AKRB	Akutan Reef Bi	9.06	235		Pn	18 23 50.6	-0.4
AKMO	Akutan Morgan	9.07	235		Pn	18 23 51.2	+0.2
SKAG	Skagway	9.12	85		Pn	18 23 50.6	-1.1
SKAG	Skagway	9.12	85	P	Pn	18 23 50.9	-0.8
J30M	Hart River	9.16	53		Pn	18 23 53.0	+0.7
WHY	Whitehorse	9.19	78		Pn	18 23 52.2	-0.6
H29M	Whitestone	9.21	41		Pn	18 23 51.0	-1.9
C21K	Knifeblade Rid	9.23	357		Pn	18 23 52.0	-1.0
SPIA	Saint Paul Isl	9.25	260		Pn	18 23 54.4	+1.0
SPIA	Saint Paul Isl	9.25	260	P	Pn	18 23 55.0	+1.6
C18K	Utukok River	9.33	342		Pn	18 23 55.4	+1.0
D24K	Happy Valley	9.41	10		Pn	18 23 55.1	-0.3
I30M	Mount Dempster	9.41	49		Pn	18 23 54.8	-0.8
MTBL	Makushin Table	9.43	236		Pn	18 23 55.7	-0.2
GAMB	Gambell	9.44	302		Pn	18 23 57.4	+1.5
UNV	Unalaska Valle	9.45	235	P	Pn	18 23 55.4	-0.6
C17K	DeLong Mountai	9.52	338		Pn	18 23 58.0	+1.1
C19K	Lookout Ridge	9.53	346		Pn	18 23 57.7	+0.6
E27K	Coleen River	9.69	27		Pn	18 23 55.9	-3.2
B21K	Ikpikpuk River	9.69	357		Pn	18 23 57.4	-1.8
G29M	Pine Creek	9.74	38		Pn	18 23 57.9	-2.0
C16K	Lisburne Hills	9.81	333		Pn	18 24 02.0	+1.4
D25K	Kavik River	9.83	15		Pn	18 23 59.7	-1.4
R32K	Eaglecrest	9.83	92		Pn	18 23 59.9	-1.3
EPYK	Eagle Plains	9.85	42		Pn	18 23 59.6	-1.8
SIT	Sitka	9.88	99	P	Pn	18 24 00.7	-1.0
JIS	Juneau Island	9.90	92		Pn	18 24 00.7	-1.3
JIS	Juneau Island	9.90	92	P	Pn	18 24 01.0	-1.0
FARO	Faro, Yukon	9.94	68		Pn	18 24 03.1	+0.6
C23K	Itkillik River	9.96	6		Pn	18 24 01.0	-1.8
S32K	Killisnoo	10.08	96		Pn	18 24 04.4	0.0
P33M	Teslin, Yukon	10.26	80		Pn	18 24 05.2	-1.6
B22K	Teshekpuk Lake	10.40	360	Pn	Pn	18 24 06.5	-2.0
E29M	Blow River	10.76	32		Pn	18 24 12.0	-1.3
G31M	Satah River	10.97	43	Pn	Pn	18 24 14.4	-1.7
NIKH	Nikolski High	11.06	237	P	Pn	18 24 17.3	0.0
WRAK	Wrangell Islan	11.63	99		Pn	18 24 23.6	-1.2
CRAG	Craig	11.71	104		Pn	18 24 24.6	-1.2
CRAG	Craig	11.71	104	P	Pn	18 24 24.9	-0.9
INK	Inuvik	11.96	38		Pn	18 24 27.3	-1.7
INK	Inuvik	11.96	38	P	Pn	18 24 27.9	-1.2
	comp=E,349nm,0.5s,baz=233,slow=15,SNR=360						
INK				S	Sn	18 26 36.4	-4.5
	comp=E,115nm,0.7s,baz=194,slow=13,SNR=2.1						
DLBC	Dease Lake	12.04	87	P	Pn	18 24 30.1	-0.1
	comp=E,142nm,0.4s,baz=284,slow=9.3,SNR=58						
DLBC				S	Sn	18 26 41.9	-1.2
	comp=E,104nm,0.8s,baz=68,slow=24,SNR=1.4						
DIB	Dawson Inlet,	13.32	111	Pn	Pn	18 24 46.5	-0.2
ATKA	Atka Island	13.95	245	Pn	Pn	18 24 54.9	+0.3
ATKA	Atka Island	13.95	245	P	Pn	18 24 55.3	+0.7
WRGLY	Wrigley	14.52	64	Pn	Pn	18 25 01.6	-0.1
ADK	Adak	15.31	248	Pn	Pn	18 25 11.9	+0.3
ADK	Adak	15.31	248	P	P	18 25 12.6	-0.5
ADK	Adak	15.31	248	P	Pn	18 25 12.0	+0.3
KIWB	Kanaga Island	15.55	249		P	18 25 15.7	0.0
BBB	Bella Bella	16.03	108	P	P	18 25 21.5	+0.4
	comp=E,55nm,1.1s,baz=293,slow=6.7,SNR=2.8						
BBB				S	Sn	18 28 18.3	-0.5
	comp=E,34nm,0.7s,baz=253,slow=19,SNR=7.7						
A36M	Sachs Harbour	16.37	31	Pn	Pn	18 25 22.7	-1.7
YKA	Yellowknife Ar	18.62	66	P	P	18 25 49.7	+0.3
YKA	Yellowknife Ar	18.62	66	P	Pn	18 25 50.1	-1.4
	comp=E,125nm,0.8s,baz=281,slow=11,SNR=156						
YKA				ScP	ScP	18 33 32.7	-0.1
	comp=E,0.9nm,0.4s,baz=288,slow=2.4,SNR=4.0						
BILL	Bilibino	19.09	312	P	P	18 25 54.4	0.0
BILL	Bilibino	19.09	312	P	P	18 25 55.0	+0.6
SHEM	Shemya Is, Ala	19.27	262	P	P	18 25 57.0	+0.5
	comp=E,251nm,0.7s,baz=25,slow=5.4,SNR=14						
NEW	Newport	23.93	103	IAmb	IAmb	18 27 18.1	
	comp=Z,216nm,1.1s						
NEW	Newport	23.93	103	LR	LR	18 37 13.2	
	comp=Z,518nm,20.1s,baz=300,slow=39						
RES	Resolute Bay	25.41	32	P	P	18 26 56.5	-0.4
RES	Resolute Bay	25.41	32	P	P	18 26 56.5	-0.4
RES				pmax	pmax		
	comp=Z,85nm,0.8s						
SEY	Seymchan	25.44	300	LR	LR	18 38 00.7	
	comp=Z,796nm,19.3s,baz=8.5,slow=38						
SEY	Seymchan	25.44	300	*ce*P	P	18 26 57.2	0.0
SEY				pmax	pmax		
	comp=Z,75nm,1.3s						
PLID	Pearl Lake	26.72	107	P	P	18 27 09.7	+0.4
PLID				IAmb	IAmb	18 27 44.8	
	comp=Z,155nm,1.4s						
PET	Petropavlovsk	26.85	277	*e*P	P	18 27 07.8	-2.2
PET				*e**PP	pP	18 27 37.3	-3.3
PET				*e*S	S	18 31 31.2	-4.1
PET				pmax	pmax		
	comp=Z,500nm,12.8s						
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
PET	Petropavlovsk	26.85	277	P	P	18 27 10.2	+0.2
	comp=Z,127nm,1.6s						
PEA0B	Petropavlovsk-	27.28	277	P	P	18 27 14.3	+0.5
PEA0B	Petropavlovsk-	27.28	277	P	P	18 27 14.4	+0.5
PEA0B				pmax	pmax		
	comp=Z,105nm,1.1s						
PETK	Petropavlovsk-	27.28	277	P	P	18 27 13.9	+0.1
PETK	Petropavlovsk-	27.28	277	P	P	18 27 14.2	+0.4
	comp=Z,49nm,0.9s,baz=69,slow=14,SNR=77						
PETK				PcP	PcP	18 30 29.4	0.0
	comp=Z,16nm,1.1s,baz=349,slow=2.9,SNR=3.7						
	comp=Z,49nm,0.9s						
MA2	Magadan	27.42	294	P	P	18 27 17.2	+2.2
MA2				IAmb	IAmb	18 27 19.1	
	comp=Z,206nm,1.4s						
MA2	Magadan	27.42	294	P	P	18 27 17.6	+2.6
MA2	Magadan	27.42	294	P	P	18 27 17.2	+2.2
MA2				pmax	pmax		
	comp=Z,206nm,1.4s						
FFC	Flin Flon	27.61	78	P	P	18 27 17.7	+0.9
FFC				IAmb	IAmb	18 27 54.4	
	comp=Z,143nm,1.1s						
FFC	Flin Flon	27.61	78	P	P	18 27 17.7	+0.9
FFC				pmax	pmax		
	comp=Z,143nm,1.1s						
EUNU	Eureka	27.69	20	P	P	18 27 18.4	+1.1
FCC	Fort Churchill	29.35	66	P	P	18 27 33.2	+1.1
FCC				IAmb	IAmb	18 27 34.4	
	comp=Z,109nm,0.8s						
FCC	Fort Churchill	29.35	66	P	P	18 27 33.2	+1.1
FCC				pmax	pmax		
	comp=Z,109nm,0.9s						
NVAR	Mina Array Bea	30.88	118	P	P	18 27 47.9	+1.8
	comp=Z,4.9nm,0.7s,baz=313,slow=9.5,SNR=17						
NVAR				PcP	PcP	18 30 38.3	-0.7
	comp=Z,3.9nm,0.7s,baz=298,slow=1.9,SNR=3.1						
NVAR				ScP	ScP	18 34 08.9	+1.1
	comp=Z,2.9nm,0.7s,baz=312,slow=3.1,SNR=6.7						
	comp=Z,4.9nm,0.7s						
ALE	Alert	31.16	15	P	P	18 27 47.0	-0.8
PDAR	Pinedale Array	31.57	103	P	P	18 27 53.9	+1.8
PDAR	Pinedale Array	31.57	103	P	P	18 27 53.8	+1.6
	comp=Z,2.0nm,0.6s,baz=334,slow=3.5,SNR=25						
PDAR				pP	pP	18 28 24.8	+1.7
	comp=Z,32nm,0.8s,baz=310,slow=5.8,SNR=17						
PDAR				ScP	ScP	18 34 10.1	0.0
	comp=Z,2.8nm,0.9s,baz=297,slow=0.7,SNR=4.0						
	comp=Z,2.0nm,0.6s						
ULM	Lac du Bonnet	33.25	81	P	P	18 28 07.1	+0.7
	comp=Z,20nm,0.9s,baz=305,slow=8.5,SNR=18						
ULM				pP	pP	18 28 39.5	+1.9
	comp=Z,112nm,0.9s,baz=308,slow=8.2,SNR=17						
ULM				ScP	ScP	18 34 14.5	-0.9
	comp=Z,4.2nm,0.4s,baz=301,slow=3.3,SNR=5.1						
ULM				LR	LR	18 42 30.2	
	comp=Z,713nm,18.6s,baz=304,slow=38						
	comp=Z,20nm,0.9s						
RSSD	Black Hills	33.31	96	P	P	18 28 09.0	+1.7
RSSD				pP	pP	18 28 40.0	+1.5
RSSD				PcP	PcP	18 30 45.3	-0.4
RSSD				ScP	ScP	18 34 16.2	+0.2
AGMN	Agassiz Nation	34.53	84	IAmb	IAmb	18 28 51.5	
	comp=Z,178nm,0.8s						
NEEM	North Greenlan	34.91	22	*i* P	P	18 28 20.3	-0.5
NEEM				IAmb	IAmb	18 28 23.5	
	comp=Z,111nm,0.5s						
KULLO	Kullorsuaq	35.06	28	*i* P	P	18 28 21.0	-0.7
KULLO				IAmb	IAmb	18 28 26.7	
	comp=Z,87nm,1.2s						
YAK	Yakutsk	35.33	307	P	P	18 28 24.2	+0.1
YAK				IAmb	IAmb	18 28 25.1	
	comp=Z,338nm,1.8s						
YAK	Yakutsk	35.33	307	LR	LR	18 43 38.8	
	comp=Z,381nm,19.3s,baz=54,slow=37						
YAK	Yakutsk	35.33	307	*e*P	P	18 28 22.9	-1.2
YAK				*e**PP	pP	18 28 56.4	+0.8
YAK				*e*		18 29 49.8	
YAK				*e*S	S	18 33 43.1	-4.0
YAK				*e*SS	SnSn	18 36 20.5	-1.8
YAK				pmax	pmax		
	comp=Z,79nm,1.3s						
YAK				pmax	pmax		
	comp=N,30nm,1.3s						
YAK				pmax	pmax		
	comp=E,49nm,1.3s						
YAK				pmax	pmax		
	comp=Z,602nm,3.0s						
YAK				pmax	pmax		
	comp=N,159nm,2.0s						
YAK				pmax	pmax		
	comp=E,280nm,2.0s						
YAK				smax	smax		
	comp=N,333nm,2.6s						
YAK				smax	smax		
	comp=E,40nm,1.9s						
YAK	Yakutsk	35.33	307	P	P	18 28 23.5	-0.6
YAK				pP	pP	18 28 55.8	+0.2
YAK				PcP	PcP	18 30 50.5	-0.3
PFO	Pinyon Flats O	35.73	121	LR	LR	18 40 38.9	
	comp=E,360nm,20.6s,baz=303,slow=32						
F33A	5 Mile Ranch,	35.99	87	IAmb	IAmb	18 29 04.0	
	comp=Z,121nm,1.3s						
TYV	Tymovskoe	36.05	285	*e*P	P	18 28 30.9	+0.5
TYV				*e*S	S	18 34 02.0	+3.6
TYV				pmax	pmax		
	comp=Z,700nm,2.3s						
TYV				pmax	pmax		
	comp=Z,85nm,1.1s						
TYV				smax	smax		
	comp=N,500nm,6.9s						
TYV				smax	smax		
	comp=E,1μm,6.9s						
TYV				smax	smax		
	comp=E,12nm,1.1s						
NOR	Nord	36.75	10	*i* P	P	18 28 37.0	+1.0
NOR				IAmb	IAmb	18 28 41.0	
	comp=Z,35nm,1.1s						
KUR	Kuril'sk	37.26	274	*e*P	P	18 28 41.1	+0.4
KUR				S	S	18 34 18.7	+1.9
KUR				*e*		18 38 38.8	
KUR				pmax	pmax		
	comp=Z,158nm,1.1s						
ECSD	EROS Data Cent	37.32	90	P	P	18 28 41.8	+0.6
ECSD				IAmb	IAmb	18 29 14.9	
	comp=Z,120nm,1.4s						
NUUG	Nuugaatsiaq	37.71	31	*i* P	P	18 28 44.4	+0.2
NUUG				IAmb	IAmb	18 28 45.7	
	comp=Z,59nm,1.0s						
UMMG	Uummannaq	38.51	32	*i* P	P	18 28 50.9	0.0
YSS	Yuzh-Sakhalins	38.61	280	P	P	18 28 52.9	+0.9
YSS				IAmb	IAmb	18 28 54.1	
	comp=Z,379nm,1.8s						
YSS	Yuzh-Sakhalins	38.61	280	P	P	18 28 54.2	+2.2
YSS	Yuzh-Sakhalins	38.61	280	*e*P	P	18 28 53.0	+1.0
YSS				*e**PP	pP	18 29 22.9	-0.9
YSS				*e**SP	sP	18 29 41.2	+0.8
YSS				*e*		18 30 22.5	
YSS				*e*S	S	18 34 37.4	+0.3
YSS				pmax	pmax		
	comp=Z,1μm,3.3s						
YSS				pmax	pmax		
	comp=N,400nm,3.9s						
YSS				pmax	pmax		
	comp=Z,70nm,1.0s						
YSS	Yuzh-Sakhalins	38.61	280	P	P	18 28 53.0	+1.0
YSS				sP	sP	18 29 41.6	+1.2
YSS				PcP	PcP	18 31 02.3	+1.2
GRNR	Gornyy	39.12	289	⇑*i* P	P	18 28 56.0	-0.2
GRNR				pmax	pmax		
	comp=E,20nm,1.2s						
GRNR				pmax	pmax		
	comp=N,20nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,30nm,1.0s						
GRNR				MLR	MLR		
	comp=E,300nm,21.0s						
GRNR				MLR	MLR		
	comp=N,200nm,19.0s						
GRNR				MLR	MLR		
	comp=Z,230nm,15.0s						
ANMO	Albuquerque	39.19	108	LR	LR	18 43 16.8	
	comp=Z,180nm,21.4s,baz=125,slow=33						
ANMO	Albuquerque	39.19	108	*ce*P	P	18 28 57.3	+0.1
ANMO				pmax	pmax		
	comp=Z,5.0nm,2.5s						
ANMO	Albuquerque	39.19	108	P	P	18 28 59.3	+2.1
ANMO				pP	pP	18 29 30.3	+1.2
ANMO				sP	sP	18 29 46.5	+0.9
ANMO				PcP	PcP	18 31 04.7	+1.2
ANMO				ScP	ScP	18 34 39.2	+1.4
MLH	Mauna Loa	40.47	183	IAmb	IAmb	18 30 32.3	
	comp=Z,373nm,1.5s						
SUMG	Summit	40.49	25	P	P	18 29 07.9	+0.2
SUMG				IAmb	IAmb	18 29 46.8	
	comp=Z,123nm,1.2s						
SUMG	Summit	40.49	25	P	P	18 29 07.5	-0.2
SUMG	Summit	40.49	25	P	P	18 29 07.9	+0.2
SUMG				pmax	pmax		
	comp=Z,123nm,1.2s						
SUMG	Summit	40.49	25	*i* P	P	18 29 07.0	-0.8
SUMG				IAmb	IAmb	18 29 10.8	
	comp=Z,44nm,0.7s						
DAG	Danmarks Havn	40.56	15	*i* P	P	18 29 06.9	-0.8
DAG				IAmb	IAmb	18 29 10.2	
	comp=Z,50nm,0.6s						
STCH	Steam Cracks	40.57	183	IAmb	IAmb	18 29 43.6	
	comp=Z,147nm,1.0s						
PUH	Pauahi	40.59	183	IAmb	IAmb	18 29 43.9	
	comp=Z,162nm,0.9s						
JKA	Kamikawa-asahi	40.70	277	P	P	18 29 09.5	+0.3
JKA				IAmb	IAmb	18 29 12.1	
	comp=Z,368nm,1.8s						
ASAJ	Asahikawa	40.70	277	P	P	18 29 09.5	+0.2
ASAJ				pmax	pmax		
	comp=Z,368nm,1.8s						
KHU	Kahuku	40.72	183	P	P	18 29 11.5	+1.5
KHU	Kahuku	40.72	183	P	P	18 29 11.5	+1.5
KHU				pmax	pmax		
	comp=Z,816nm,1.6s						
KBS	Kingsbay	41.05	4	*i* P	P	18 29 13.9	+2.1
KBS	Kingsbay	41.05	4	P	P	18 29 14.6	+2.8
KBS				pP	pP	18 29 46.5	+2.3
KBS				PcP	PcP	18 31 08.8	+0.4
JFWS	Jewell Farm	41.11	85	P	P	18 29 13.1	+0.4
JFWS				IAmb	IAmb	18 29 46.8	
	comp=Z,182nm,0.8s						
JFWS	Jewell Farm	41.11	85	P	P	18 29 13.1	+0.4
JFWS				pmax	pmax		
	comp=Z,182nm,0.8s						
N38A	Joes South For	41.18	90	P	P	18 29 13.6	+0.4
N38A				IAmb	IAmb	18 29 47.4	
	comp=Z,106nm,0.9s						
L40A	Anamosa	41.24	87	P	P	18 29 14.0	+0.3
SFJD	Kangerlussuaq	41.30	36	P	P	18 29 14.3	+0.5
SFJD				IAmb	IAmb	18 29 15.3	
	comp=Z,92nm,0.8s						
SFJD	Kangerlussuaq	41.30	36	P	P	18 29 14.4	+0.5
SFJD				pmax	pmax		
	comp=Z,92nm,0.9s						
SFJD	Kangerlussuaq	41.30	36	*i* P	P	18 29 13.0	-0.9
SFJD				IAmb	IAmb	18 29 15.2	
	comp=Z,92nm,0.8s						
SFJD	Kangerlussuaq	41.30	36	P	P	18 29 14.6	+0.8
SFJD				pP	pP	18 29 47.5	+1.5
ZEA	Zeya	41.38	298	*e*P	P	18 29 14.3	-0.4
ZEA				pmax	pmax		
	comp=Z,300nm,2.7s						
ZEA				pmax	pmax		
	comp=Z,40nm,1.4s						
ZEA				MLR	MLR		
	comp=Z,200nm,19.0s						
E46A	Sault Ste Mari	41.58	77	P	P	18 29 17.2	+0.8
E46A				IAmb	IAmb	18 29 51.5	
	comp=Z,249nm,0.9s						
P38A	Dawn	41.91	91	IAmb	IAmb	18 29 53.5	
	comp=Z,155nm,1.0s						
SPITS	Spitsbergen Ar	41.94	3	P	P	18 29 18.5	-0.6
	comp=Z,10nm,0.3s,baz=11,slow=6.0,SNR=75						
	comp=Z,10nm,0.3s						
SPB2	Spitsbergen Ar	41.95	3	IAmb	IAmb	18 29 28.0	
	comp=Z,115nm,1.1s						
ERM	Erimo	41.95	274	P	P	18 29 20.4	+0.9
ERM	Erimo	41.95	274	P	P	18 29 20.7	+1.2
ERM	Erimo	41.95	274	P	P	18 29 20.4	+0.9
ERM				pmax	pmax		
	comp=Z,494nm,1.4s						
ERM	Erimo	41.95	274	P	P	18 29 20.4	+0.9
ERM				sP	sP	18 30 08.7	+0.5
KLR	Kul'dur	42.38	290	LR	LR	18 47 39.8	
	comp=Z,147nm,20.2s,baz=57,slow=37						
KLR	Kul'dur	42.38	290	*ce*P	P	18 29 22.7	-0.2
KLR				pmax	pmax		
	comp=Z,221nm,1.7s						
DBG	Daneborg	42.42	17	*i* P	P	18 29 21.8	-1.1
DBG				IAmb	IAmb	18 29 25.1	
	comp=Z,51nm,0.6s						
N41A	Harden Midland	42.44	88	IAmb	IAmb	18 29 58.2	
	comp=Z,291nm,1.2s						
P40A	Paris	42.73	90	IAmb	IAmb	18 30 00.7	
	comp=Z,404nm,1.6s						
ICESG	Greenland Ices	42.76	29	*i* P	P	18 29 25.2	-0.9
DY2G	Dye2	42.91	34	*i* P	P	18 29 26.8	-0.5
R40A	Maddies Statio	43.56	92	IAmb	IAmb	18 30 07.0	
	comp=Z,303nm,1.3s						
VLDQ	Val d'Or	43.65	70	IAmb	IAmb	18 30 07.5	
	comp=Z,163nm,1.1s						
HEH	HeiHe	43.69	294	*e*P	P	18 29 32.1	-1.3
HEH				S	S	18 35 48.3	-3.6
HEH				pmax	pmax		
	comp=Z,110nm,1.8s						
SCHQ	Schefferville	43.73	57	P	P	18 29 34.0	+0.2
SCHQ				IAmb	IAmb	18 29 34.9	
	comp=Z,231nm,1.8s						
SCHQ	Schefferville	43.73	57	P	P	18 29 33.9	+0.2
	comp=Z,19nm,0.4s,baz=313,slow=7.0,SNR=90						
	comp=Z,19nm,0.4s						
NRIK	Noril'sk	43.83	333	P	P	18 29 34.8	+0.5
NRIK				IAmb	IAmb	18 29 35.8	
	comp=Z,147nm,0.8s						
NRIK	Noril'sk	43.83	333	P	P	18 29 34.7	+0.5
	comp=Z,94nm,0.7s,baz=50,slow=6.7,SNR=210						
NRIK				LR	LR	18 51 45.1	
	comp=Z,433nm,19.1s,baz=44,slow=41						
	comp=Z,94nm,0.7s						
NRIK	Noril'sk	43.83	333	P	P	18 29 34.8	+0.5
NRIK				pmax	pmax		
	comp=Z,147nm,0.9s						
RLO	Rose Lookout	43.83	96	IAmb	IAmb	18 30 09.8	
	comp=Z,320nm,1.2s						
P43A	Skaggs, Pawnee	43.91	88	IAmb	IAmb	18 30 10.2	
	comp=Z,381nm,1.3s						
JTM	Tenmabayashi	43.91	275	P	P	18 29 35.6	+0.3
BOD	Bodaibo	44.12	310	*e*P	P	18 29 36.0	-0.8
BOD				pmax	pmax		
	comp=Z,182nm,1.5s						
SFIN	Lafayette	44.57	85	IAmb	IAmb	18 30 15.3	
	comp=Z,334nm,1.3s						
FVM	French Village	44.72	90	IAmb	IAmb	18 30 16.8	
	comp=Z,224nm,1.2s						
Q44A	Meyer Farm, Va	44.73	88	IAmb	IAmb	18 30 16.8	
	comp=Z,292nm,1.1s						
TXAR	Lajitas Array	45.15	110	P	P	18 29 46.5	+1.2
	comp=Z,3.2nm,0.8s,baz=331,slow=5.8,SNR=38						
TXAR				pP	pP	18 30 20.0	+2.0
	comp=Z,16nm,0.8s,baz=339,slow=4.8,SNR=8.9						
TXAR				ScP	ScP	18 35 02.5	+0.9
	comp=Z,1.8nm,0.6s,baz=298,slow=1.9,SNR=4.3						
TXAR				LR	LR	18 47 13.2	
	comp=Z,175nm,20.5s,baz=304,slow=34						
	comp=Z,3.2nm,0.8s						
SADO	Sadowa	45.24	75	LR	LR	18 49 10.8	
	comp=Z,594nm,18.5s,baz=6.0,slow=36						
SCO	Scoresbysund	45.38	21	*i* P	P	18 29 46.0	-0.5
SCO				IAmb	IAmb	18 29 49.5	
	comp=Z,12nm,0.6s						
S44A	Carbondale	45.53	89	IAmb	IAmb	18 30 23.2	
	comp=Z,178nm,1.1s						
SIUC	Southern Illin	45.54	89	IAmb	IAmb	18 30 23.2	
	comp=Z,205nm,1.0s						
USA0B	Ussuriysk Arra	45.87	285	*i* P	P	18 29 49.3	-1.4
USRK	Ussuriysk Ar.	45.87	285	P	P	18 29 49.5	-1.2
USRK	Ussuriysk Ar.	45.87	285	P	P	18 29 50.6	-0.1
	comp=Z,14nm,0.7s,baz=47,slow=8.4,SNR=28						
USRK				PcP	PcP	18 31 25.0	-0.3
	comp=Z,18nm,1.0s,baz=64,slow=3.4,SNR=5.8						
	comp=Z,14nm,0.7s						
IVI	Ivigtut	46.17	40	P	P	18 29 53.5	+0.7
JMM	Marumori	46.27	272	P	P	18 29 55.0	+1.0
TRQ	Mont Tremblant	46.38	70	IAmb	IAmb	18 30 30.9	
	comp=Z,237nm,1.2s						
DRIO	Del Rio	46.53	107	IAmb	IAmb	18 30 32.5	
	comp=Z,123nm,1.2s						
LDAQ	Lac Daran	46.65	66	IAmb	IAmb	18 30 32.8	
	comp=Z,201nm,1.6s						
MDJ	Mudanjiang	46.72	287	IAmb	IAmb	18 29 58.7	
	comp=Z,160nm,1.4s						
MDJ

MSHR	**Mys Shultsa**	**47.48**	**284**	*ce*P	**P**	**18 30 04.5**	**+1.3**
MSHR				pmax	pmax		
	comp=Z,407nm,1.3s						
HIA	**Hailar**	**47.86**	**298**	P	**P**	**18 30 07.1**	**+1.0**
P53A	**Whipple**	**48.10**	**81**	IAmb	IAmb	18 30 39.0	
	comp=Z,203nm,0.8s						
U49A	**Red Boiling Sp**	**48.20**	**88**	IAmb	IAmb	18 30 44.0	
	comp=Z,200nm,1.0s						
CIT	**Chita**	**48.48**	**304**	*e*P	**P**	**18 30 12.0**	**+1.1**
CIT				*e*		18 30 40.2	
CIT				*e*		18 31 01.8	
CIT				*e*		18 31 32.6	
CIT				*e*		18 33 06.6	
CIT				*e*		18 37 04.4	
CIT				*e*		18 40 27.2	
CIT				pmax	pmax		
	comp=Z,532nm,1.7s						
MAJO	**Matsushiro**	**48.60**	**273**	P	**P**	**18 30 11.6**	**-0.4**
MAJO	**Matsushiro**	**48.60**	**273**	P	**P**	**18 30 13.0**	**+1.0**
MAJO	**Matsushiro**	**48.60**	**273**	P	**P**	**18 30 13.2**	**+1.2**
MAJO	**Matsushiro**	**48.60**	**273**	P	**P**	**18 30 12.2**	**+0.2**
MAJO				sP	**sP**	**18 31 00.9**	**-0.4**
MAJO				PcP	**PcP**	**18 31 36.4**	**+1.2**
MAJO				ScP	**ScP**	**18 35 14.8**	**-1.1**
MJAR	**Matsushiro Arr**	**48.60**	**273**	P	**P**	**18 30 12.6**	**+0.6**
	comp=Z,194nm,1.1s,baz=18,slow=6.7,SNR=107						
MJAR				PcP	**PcP**	**18 31 36.3**	**+1.0**
	comp=Z,16nm,1.1s,baz=82,slow=3.5,SNR=3.0						
	comp=Z,194nm,1.1s						
M57A	**Sunshine Farm,**	**48.79**	**76**	IAmb	IAmb	18 30 49.2	
	comp=Z,135nm,0.9s						
SSPA	**Standing Stone**	**48.95**	**78**	P	**P**	**18 30 15.0**	**+0.5**
SSPA	**Standing Stone**	**48.95**	**78**	P	**P**	**18 30 15.3**	**+0.8**
SSPA				pP	**pP**	**18 30 48.8**	**+1.2**
SSPA				ScP	**ScP**	**18 35 17.8**	**+0.5**
CN2	**Changchun**	**49.31**	**289**	*e*P	**P**	**18 30 16.5**	**-0.7**
CN2				*ep*P	pP	18 30 49.5	-1.0
CN2				*es*P	sP	18 31 06.3	-0.5
CN2				PP	**PP**	**18 32 11.6**	**-0.6**
CN2				*e*S	**S**	**18 37 09.3**	**-2.8**
CN2				pmax	pmax		
	comp=Z,200nm,1.4s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,200nm,12.0s						
CN2				LR	LR		
	comp=Z,300nm,12.0s						
CN2				LR	LR		
	comp=Z,300nm,13.1s						
N58A	**Sunbury**	**49.37**	**77**	IAmb	IAmb	18 30 53.6	
	comp=Z,153nm,0.9s						
F64A	**Sherman**	**49.54**	**66**	IAmb	IAmb	18 30 55.5	
	comp=Z,124nm,1.0s						
JGF	**Kuroka**	**49.76**	**273**	P	**P**	**18 30 21.9**	**+1.0**
TKL	**Tuckaleechee C**	**49.88**	**87**	IAmb	IAmb	18 30 57.0	
	comp=Z,219nm,0.9s						
TKL	**Tuckaleechee C**	**49.88**	**87**	LR	LR	18 53 10.5	
	comp=Z,459nm,19.1s,baz=325,slow=38						
INU	**Inuyama**	**50.13**	**273**	IAmb	IAmb	18 30 25.4	
	comp=Z,195nm,1.3s						
INU	**Inuyama**	**50.13**	**273**	P	**P**	**18 30 24.6**	**+1.0**
INU	**Inuyama**	**50.13**	**273**	P	**P**	**18 30 23.1**	**-0.5**
INU				sP	**sP**	**18 31 12.1**	**-0.9**
VADS	**Vadso**	**50.17**	**359**	*e*P	**P**	**18 30 24.4**	**+1.0**
BLA	**Blacksburg**	**50.34**	**83**	IAmb	IAmb	18 31 00.6	
	comp=Z,195nm,0.8s						
BORG	**Borgarnes**	**50.47**	**24**	LR	LR	18 53 32.4	
	comp=Z,133nm,18.7s,baz=343,slow=38						
BORG	**Borgarnes**	**50.47**	**24**	P	**P**	**18 30 26.6**	**+0.9**
BORG				pP	**pP**	**18 31 00.1**	**+0.7**
BORG				sP	**sP**	**18 31 16.4**	**+0.7**
KEV	**Kevo**	**50.55**	**360**	P	**P**	**18 30 27.5**	**+1.3**
KEV				pP	**pP**	**18 31 01.2**	**+1.3**
KEV				sP	**sP**	**18 31 17.1**	**+0.8**
ARA0	**ARCESS Array S**	**50.77**	**1**	*e*P	**P**	**18 30 29.4**	**+1.5**
ARCES	**ARCESS Array B**	**50.77**	**1**	P	**P**	**18 30 27.8**	**-0.1**
	comp=Z,6.5nm,0.5s,baz=10,slow=7.6,SNR=21						
	comp=Z,6.5nm,0.5s						
BG3	**Lake Jocassee**	**50.82**	**86**	IAmb	IAmb	18 31 05.1	
	comp=Z,202nm,1.0s						
V55A	**Taylorsville**	**51.01**	**84**	IAmb	IAmb	18 31 05.8	
	comp=Z,163nm,1.0s						
LMN	**Caledonia Moun**	**51.16**	**64**	IAmb	IAmb	18 31 08.7	
	comp=Z,90nm,0.8s						
KTK1	**Kautokeino**	**51.28**	**2**	*e*P	**P**	**18 30 33.4**	**+1.7**
PAULI	**Pauline**	**51.52**	**86**	IAmb	IAmb	18 31 09.4	
	comp=Z,206nm,1.1s						
SNY	**Shenyang**	**51.70**	**289**	⇑P	**P**	**18 30 35.6**	**+0.4**
SNY				S	**S**	**18 37 44.3**	**-0.8**
SNY				pmax	pmax		
	comp=Z,210nm,1.3s						
SNY				LR	LR		
	comp=Z,140nm,11.6s						
SNY				LR	LR		
	comp=Z,270nm,7.6s						
SNY				LR	LR		
	comp=Z,320nm,8.8s						
HODGE	**Hodges**	**51.76**	**86**	IAmb	IAmb	18 31 11.3	
	comp=Z,238nm,1.1s						
IRK	**Irkutsk**	**52.01**	**310**	*e*P	**P**	**18 30 36.7**	**-0.7**
IRK				pmax	pmax		
	comp=Z,269nm,2.2s						
STEI	**Steigen**	**52.12**	**5**	*e*P	**P**	**18 30 39.0**	**+1.2**
W57A	**Gilead**	**52.17**	**84**	IAmb	IAmb	18 31 14.9	
	comp=Z,191nm,1.1s						
JSC	**Jenkinsville**	**52.22**	**86**	IAmb	IAmb	18 31 14.7	
	comp=Z,185nm,1.0s						
FAUS	**Fauske**	**52.66**	**5**	*e*P	**P**	**18 30 42.6**	**+0.7**
JMN	**Monobe**	**52.99**	**275**	P	**P**	**18 30 46.6**	**+1.7**
KSRS	**Korea Array**	**53.00**	**282**	P	**P**	**18 30 46.1**	**+1.3**
	comp=Z,213nm,1.0s,baz=38,slow=6.7,SNR=196						
	comp=Z,213nm,1.0s						
KSAR	**Wonju Array Be**	**53.03**	**282**	P	**P**	**18 30 45.7**	**+0.7**
KSAR	**Wonju Array Be**	**53.03**	**282**	P	**P**	**18 30 45.7**	**+0.7**
XLT	**XiLinHaoTe**	**53.58**	**296**	*e*P	**P**	**18 30 49.1**	**0.0**
XLT				sP	sP	18 31 40.3	+1.4
XLT				PcP	**PcP**	**18 31 54.8**	**+1.1**
XLT				S	**S**	**18 38 09.3**	**-1.5**
XLT				pmax	pmax		
	comp=Z,76nm,1.4s						
XLT				LR	LR		
	comp=Z,480nm,9.1s						
XLT				LR	LR		
	comp=Z,210nm,14.3s						
STOK	**Stokkvaagen**	**53.59**	**7**	*e*P	**P**	**18 30 47.8**	**-0.9**
INCN	**Inchon**	**53.61**	**283**	P	**P**	**18 30 49.6**	**+0.3**
INCN	**Inchon**	**53.61**	**283**	P	**P**	**18 30 50.5**	**+1.1**
INCN	**Inchon**	**53.61**	**283**	P	**P**	**18 30 49.6**	**+0.3**
INCN				pmax	pmax		
	comp=Z,271nm,1.1s						
INCN	**Inchon**	**53.61**	**283**	P	**P**	**18 30 49.8**	**+0.5**
MOY	**Mondy**	**53.71**	**312**	*e*P	**P**	**18 30 51.0**	**+1.0**
MOY				pmax	pmax		
	comp=Z,258nm,2.0s						
TJN	**Taejon**	**54.13**	**282**	P	**P**	**18 30 54.9**	**+1.9**
JCJ	**Chichijima**	**54.20**	**263**	P	**P**	**18 30 54.5**	**+0.8**
ULN	**Ulaanbaatar**	**54.36**	**305**	P	**P**	**18 30 55.2**	**+0.5**
ULN				IAmb	IAmb	18 30 56.9	
	comp=Z,155nm,1.1s						
ULN	**Ulaanbaatar**	**54.36**	**305**	P	**P**	**18 30 55.5**	**+0.8**
ULN	**Ulaanbaatar**	**54.36**	**305**	P	**P**	**18 30 55.6**	**+0.8**
ULN				PcP	**PcP**	**18 31 58.3**	**+1.6**
JTU	**Tsushima**	**54.59**	**279**	P	**P**	**18 30 57.5**	**+1.1**
SONM	**Songino Array**	**54.65**	**306**	P	**P**	**18 30 58.0**	**+1.1**
SONM	**Songino Array**	**54.65**	**306**	P	**P**	**18 30 58.4**	**+1.6**
	comp=Z,172nm,0.9s,baz=43,slow=7.6,SNR=571						
SONM				ScP	**ScP**	**18 35 41.3**	**-0.9**
	comp=Z,1.7nm,0.9s,baz=46,slow=6.2,SNR=1.7						
SONM				LR	LR	18 56 49.3	
	comp=Z,285nm,18.1s,baz=35,slow=39						
	comp=Z,172nm,0.9s						
DL2	**Dalian**	**54.91**	**288**	P	**P**	**18 30 59.0**	**+0.3**
DL2				pP	**pP**	**18 31 35.8**	**+3.3**
DL2				S	**S**	**18 38 28.6**	**0.0**
DL2				pmax	pmax		
	comp=Z,150nm,1.2s						
DL2				pmax	pmax		
	comp=Z,820nm,4.9s						
JNU	**Nakatsue**	**54.98**	**277**	P	**P**	**18 31 00.0**	**+0.7**
BJI	**Beijing**	**56.58**	**293**	P	**P**	**18 31 11.0**	**+0.5**
BJI				S	**S**	**18 38 50.9**	**+0.3**
BJI				pmax	pmax		
	comp=Z,79nm,1.1s						
BJI				pmax	pmax		
	comp=Z,330nm,3.3s						
BJI				LR	LR		
	comp=Z,170nm,15.9s						
BJI				LR	LR		
	comp=Z,190nm,13.5s						
BJI				LR	LR		
	comp=Z,120nm,13.6s						
BJT	**Baijiatuau**	**56.60**	**293**	P	**P**	**18 31 11.2**	**+0.5**
AKN	**Aaknes**	**57.23**	**11**	*e*P	**P**	**18 31 14.1**	**-0.8**
VAF	**Ylistaro**	**57.26**	**2**	*e*P	**P**	**18 31 14.8**	**-0.1**
ZAA0	**Zalesovo Array**	**57.28**	**323**	P	**P**	**18 31 15.7**	**+0.4**
ZALV	**Zalesovo Beam**	**57.28**	**323**	P	**P**	**18 31 15.9**	**+0.7**
	comp=Z,212nm,0.7s,baz=29,slow=7.0,SNR=824						
ZALV				LR	LR	18 58 14.7	
	comp=Z,217nm,18.9s,baz=44,slow=38						
ZALV	**Zalesovo Beam**	**57.28**	**323**	P	**P**	**18 31 16.0**	**+0.7**
JOF	**Joensuu**	**57.37**	**357**	*e*P	**P**	**18 31 16.4**	**+0.7**
DOMB	**Dombas**	**57.55**	**10**	*e*P	**P**	**18 31 17.2**	**+0.1**
HHC	**Hu-ho-hao-te**	**58.03**	**297**	⇑*i*P	**P**	**18 31 21.4**	**+0.6**
HHC				sP	PcP	18 32 11.0	-0.1
HHC				S	**S**	**18 39 07.1**	**-2.7**
HHC				sS	sS	18 40 12.0	+3.2
HHC				pmax	pmax		
	comp=Z,220nm,1.0s						
HHC				pmax	pmax		
	comp=Z,160nm,4.5s						
HHC				LR	LR		
	comp=Z,340nm,16.9s						
HHC				LR	LR		
	comp=Z,210nm,14.3s						
HHC				LR	LR		
	comp=Z,250nm,17.7s						
SUE	**Sulen**	**58.11**	**12**	*e*P	**P**	**18 31 20.4**	**-0.5**
KEF	**Keuruu**	**58.17**	**1**	*e*P	**P**	**18 31 21.3**	**0.0**
NC303	**NORSAR Array S**	**58.55**	**9**	IAmb	IAmb	18 32 01.6	
	comp=Z,86nm,1.4s						
NB201	**NORSAR Array S**	**58.71**	**9**	IAmb	IAmb	18 32 02.6	
	comp=Z,59nm,1.1s						
NB2	**NORSAR Subarra**	**58.72**	**9**	P	**P**	**18 31 24.3**	**-0.9**
	comp=Z,12nm,1.0s,baz=352,slow=7.4						
NB2				pP	**pP**	**18 31 59.1**	**-0.6**
	comp=Z,8.3nm,0.7s,baz=351,slow=7.4						
NB2	**NORSAR Subarra**	**58.72**	**9**	P	**P**	**18 31 24.3**	**-0.9**
	baz=352,slow=7.4						
NOA	**NORSAR Array B**	**58.72**	**9**	P	**P**	**18 31 24.2**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=352,slow=7.0,SNR=15						
NOA				pP	**pP**	**18 31 59.0**	**-0.6**
	comp=Z,21nm,0.9s,baz=351,slow=7.0,SNR=10						
	comp=Z,2.5nm,0.6s						
FIA1	**FINESS Array S**	**58.90**	**0**	IAmb	IAmb	18 32 02.9	
	comp=Z,175nm,1.2s						
FINES	**FINESS Array B**	**58.90**	**0**	P	**P**	**18 31 25.8**	**-0.6**
FINES	**FINESS Array B**	**58.90**	**0**	P	**P**	**18 31 25.5**	**-0.9**
	comp=Z,23nm,0.8s,baz=0.0,slow=8.0,SNR=21						
	comp=Z,23nm,0.8s						
FINES	**FINESS Array B**	**58.90**	**0**	P	**P**	**18 31 25.8**	**-0.6**
BTO	**Baotou**	**58.91**	**298**	*e*P	**P**	**18 31 26.5**	**-0.5**
BTO				pP	**pP**	**18 31 59.4**	**-1.9**
BTO				sP	**PcP**	**18 32 15.8**	**+1.2**
BTO				PP	**PP**	**18 33 39.4**	**+1.0**
BTO				S	**S**	**18 39 18.6**	**-2.7**
BTO				sS	**sS**	**18 40 15.6**	**-4.8**
BTO				SS	**SS**	**18 43 15.8**	**-0.6**
BTO				pmax	pmax		
	comp=Z,250nm,1.2s						
BTO				pmax	pmax		
	comp=Z,1μm,8.7s						
BTO				LR	LR		
	comp=Z,830nm,20.8s						
BTO				LR	LR		
	comp=Z,1μm,15.1s						
BTO				LR	LR		
	comp=Z,780nm,20.7s						
KLMR	**Klimovskoe**	**59.08**	**353**	*e*P	**P**	**18 31 26.0**	**-1.6**
KLMR				*e**PP	**pP**	**18 32 01.5**	**-0.8**
KLMR				*e*		18 32 11.1	
KLMR				pmax	pmax		
	comp=Z,84nm,1.2s						
TIA	**Tai'an**	**59.21**	**290**	P	**P**	**18 31 28.3**	**-0.6**
TIA				pP	**pP**	**18 32 01.3**	**-1.9**
TIA				S	**S**	**18 39 25.1**	**+0.1**
TIA				pmax	pmax		
	comp=Z,55nm,1.3s						
TIA				pmax	pmax		
	comp=Z,330nm,3.5s						
TIA				LR	LR		
	comp=Z,290nm,10.9s						
TIA				LR	LR		
	comp=Z,240nm,14.8s						
TIA				LR	LR		
	comp=Z,330nm,16.9s						
RAF	**Rauma**	**59.27**	**3**	*e*P	**P**	**18 31 28.3**	**-0.6**
HNS	**HongShan**	**59.38**	**292**	⇑P	**P**	**18 31 30.6**	**+0.5**
HNS				pP	**pP**	**18 32 06.4**	**+1.9**
HNS				PcP	**sP**	**18 32 21.0**	**+0.5**
HNS				S	**S**	**18 39 27.4**	**+0.3**
HNS				pmax	pmax		
	comp=Z,240nm,1.3s						
HNS				LR	LR		
	comp=Z,290nm,16.5s						
HNS				LR	LR		
	comp=Z,310nm,16.7s						
HNS				LR	LR		
	comp=Z,400nm,16.5s						
HFS	**Hagfors**	**59.79**	**7**	P	**P**	**18 31 31.3**	**-1.2**
	comp=Z,4.6nm,0.4s,baz=37,slow=5.9,SNR=14						
	comp=Z,4.6nm,0.4s						
MEF	**Metsahovi**	**60.12**	**1**	*e*P	**P**	**18 31 34.4**	**-0.3**
TIY	**Taiyuan**	**60.18**	**294**	P	**P**	**18 31 36.4**	**+0.8**
TIY				S	**S**	**18 39 36.6**	**-0.9**
TIY				ScS	**ScS**	**18 41 11.3**	**-0.4**
TIY				pmax	pmax		
	comp=Z,140nm,1.1s						
TIY				pmax	pmax		
	comp=Z,450nm,3.5s						
TIY				LR	LR		
	comp=Z,280nm,9.8s						
TIY				LR	LR		
	comp=Z,320nm,9.0s						
TIY				LR	LR		
	comp=Z,190nm,15.0s						
TEIG	**Tepich**	**60.27**	**101**	P	**P**	**18 31 36.5**	**+0.2**
TEIG				pP	**pP**	**18 32 10.8**	**+0.1**
TEIG				PcP	**PcP**	**18 32 19.8**	**-0.3**
KIRV	**Kirov**	**60.42**	**347**	LR	LR	18 59 44.0	
	comp=Z,176nm,20.3s,baz=20,slow=38						
KIRV	**Kirov**	**60.42**	**347**	*i* P	**P**	**18 31 35.5**	**-1.3**
SVE	**Sverdlovsk**	**60.47**	**339**	*e*P	**P**	**18 31 36.6**	**-0.6**
SVE				pmax	pmax		
	comp=Z,83nm,1.2s						
JMZ	**Minamidaito 2**	**60.75**	**271**	P	**P**	**18 31 40.8**	**+1.3**
ARBE	**Arbavere**	**60.91**	**0**	*e*P	**P**	**18 31 38.7**	**-1.5**
ARTI	**Arti**	**61.27**	**341**	P	**P**	**18 31 42.2**	**-0.5**
ARTI				IAmb	IAmb	18 31 43.4	
	comp=Z,73nm,0.9s						
ARTI	**Arti**	**61.27**	**341**	LR	LR	18 59 50.5	
	comp=Z,192nm,21.9s,baz=18,slow=37						
ARTI	**Arti**	**61.27**	**341**	*c i*P	**P**	**18 31 41.0**	**-1.6**
ARTI						18 32 17.7	
ARTI						18 33 55.1	
ARTI				S	**S**	**18 39 50.6**	**-0.1**
ARTI				pmax	pmax		
	comp=Z,79nm,0.9s						
ARTI	**Arti**	**61.27**	**341**	P	**P**	**18 31 41.8**	**-0.8**
ARTI				pP	**pP**	**18 32 16.7**	**-0.7**
JOW	**Kunigami**	**61.40**	**275**	P	**P**	**18 31 44.6**	**+0.7**
JOW	**Kunigami**	**61.40**	**275**	P	**P**	**18 31 45.6**	**+1.7**
SSE	**Sheshan**	**61.41**	**283**	P	**P**	**18 31 44.3**	**+0.4**
SSE				S	**S**	**18 39 55.6**	**+2.5**
SSE				pmax	pmax		
	comp=Z,52nm,1.2s						
MTSE	**Matsula**	**61.62**	**2**	*e*P	**P**	**18 31 45.7**	**+0.8**
SEM	**Semipalatinsk**	**61.74**	**324**	*e*P	**P**	**18 31 46.1**	**0.0**
	comp=Z,37nm,0.8s						
SEM	**Semipalatinsk**	**61.74**	**324**	*e*P	**P**	**18 31 46.1**	**0.0**
SEM				pmax	pmax		
	comp=Z,37nm,0.8s						
NJ2	**Nanjing**	**61.77**	**286**	⇑*i*P	**P**	**18 31 46.3**	**0.0**
NJ2				sP	**sP**	**18 32 36.9**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,220nm,1.2s						
VSU	**Vasula**	**61.89**	**360**	*i* P	**P**	**18 31 45.6**	**-1.1**
VSU				pmax	pmax		
	comp=Z,50nm,0.9s						
KURK	**Kurchatov**	**61.94**	**325**	P	**P**	**18 31 47.5**	**+0.4**
KURK	**Kurchatov**	**61.94**	**325**	P	**P**	**18 31 48.1**	**+0.9**
KURK	**Kurchatov**	**61.94**	**325**	P	**P**	**18 31 46.8**	**-0.4**
KURK				sP	**sP**	**18 32 37.3**	**-0.6**
BRVK	**Borovoye**	**61.99**	**332**	P	**P**	**18 31 47.4**	**-0.1**
BRVK				IAmb	IAmb	18 31 48.6	
	comp=Z,131nm,0.8s						
BRVK	**Borovoye**	**61.99**	**332**	P	**P**	**18 31 47.4**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,131nm,0.9s						
BRVK	**Borovoye**	**61.99**	**332**	P	**P**	**18 31 46.8**	**-0.7**
BRVK				pP	**pP**	**18 32 21.4**	**-0.8**
BRVK				sP	**sP**	**18 32 37.9**	**-0.3**
BVA0	**Borovoye Array**	**62.00**	**332**	*i* P	**P**	**18 31 47.1**	**-0.4**
BVAR	**Borovoye Array**	**62.00**	**332**	P	**P**	**18 31 47.4**	**-0.1**
	comp=Z,130nm,0.7s,baz=29,slow=6.1,SNR=535						
BVAR				LR	LR	19 04 38.7	
	comp=Z,125nm,18.2s,baz=13,slow=42						
	comp=Z,130nm,0.7s						
KURBB	**Kurchatov Arra**	**62.05**	**325**	P	**P**	**18 31 48.1**	**+0.2**
	comp=Z,104nm,0.8s,baz=26,slow=6.3,SNR=465						
KURBB				LR	LR	19 01 20.8	
	comp=Z,230nm,18.5s,baz=194,slow=38						
	comp=Z,104nm,0.8s						
KURBB	**Kurchatov Arra**	**62.05**	**325**	P	**P**	**18 31 47.8**	**-0.1**
IDGL	**Inch Island, C**	**62.10**	**21**	P	**P**	**18 31 47.9**	**-0.3**
EKA	**Eskdalemuir Ar**	**62.60**	**19**	P	**P**	**18 31 51.3**	**-0.3**
	comp=Z,15nm,0.7s,baz=331,slow=5.4,SNR=36						
	comp=Z,15nm,0.7s						
ESK	**Eskdalemuir**	**62.61**	**19**	P	**P**	**18 31 50.8**	**-0.8**
ESK				pP	**pP**	**18 32 25.5**	**-1.0**
SLIT	**Slitere, Latvi**	**62.68**	**3**	*e*P	**P**	**18 31 51.5**	**-0.4**
LYN	**LuoYang**	**62.75**	**292**	⇑*i*P	**P**	**18 31 53.4**	**+0.6**
LYN				pP	PcP	18 32 29.4	-0.6
LYN				sP	sP	18 32 41.9	-1.4
LYN				PP	**PP**	**18 34 12.8**	**+0.6**
LYN				S	**S**	**18 40 09.8**	**-0.1**
LYN				pmax	pmax		
	comp=Z,670nm,1.2s						
LYN				pmax	pmax		
	comp=Z,760nm,6.3s						
ZSN	**Zaisan**	**62.92**	**320**	*e*P	**P**	**18 31 53.9**	**+0.1**
	comp=Z,65nm,1.0s						
ZSN				*e*S	**S**	**18 40 12.9**	**+1.2**
ZSN	**Zaisan**	**62.92**	**320**	*e*P	**P**	**18 31 53.9**	**+0.1**
ZSN				*e*S	**S**	**18 40 12.9**	**+1.2**
ZSN				pmax	pmax		
	comp=Z,65nm,1.0s						
IGLA	**Glengowla, Co**	**63.32**	**23**	P	**P**	**18 31 55.9**	**-0.3**
DSB	**Dublin**	**64.05**	**21**	P	**P**	**18 32 01.7**	**+0.6**
GTA	**Gaotai**	**64.29**	**305**	⇑P	**P**	**18 32 03.3**	**+0.3**
GTA				pP	PcP	18 32 35.3	-1.1
GTA				S	**S**	**18 40 27.3**	**-1.7**
GTA				SS	**SS**	**18 44 40.3**	**-0.1**
GTA				pmax	pmax		
	comp=Z,230nm,1.3s						
GTA				pmax	pmax		
	comp=Z,610nm,9.6s						
GTA				LR	LR		
	comp=Z,260nm,21.5s						
GTA				LR	LR		
	comp=Z,370nm,21.5s						
GTA				LR	LR		
	comp=Z,240nm,17.9s						
MOS	**Moscow**	**64.29**	**353**	*e*P	**P**	**18 32 05.0**	**+2.4**
MOS				*e*		18 32 35.6	
MOS				*e*		18 32 40.9	
MK31	**Makanchi Array**	**64.33**	**321**	IAmb	IAmb	18 32 03.8	
	comp=Z,42nm,0.8s						
MK31	**Makanchi Array**	**64.33**	**321**	*i* P	**P**	**18 32 02.8**	**-0.3**
MKAR	**Makanchi Array**	**64.33**	**321**	P	**P**	**18 32 02.8**	**-0.2**
	comp=Z,37nm,0.6s,baz=36,slow=6.7,SNR=239						
MKAR				LR	LR	19 01 59.3	
	comp=Z,182nm,19.7s,baz=16,slow=38						
	comp=Z,37nm,0.6s						
MAKZ	**Makanchi**	**64.42**	**321**	P	**P**	**18 32 03.7**	**+0.1**
MAKZ				IAmb	IAmb	18 32 04.5	
	comp=Z,131nm,1.1s						
MAKZ	**Makanchi**	**64.42**	**321**	P	**P**	**18 32 03.7**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,131nm,1.1s						
VAL	**Valentia**	**64.54**	**24**	P	**P**	**18 32 04.4**	**+0.2**
VAL	**Valentia**	**64.54**	**24**	P	**P**	**18 32 03.9**	**-0.3**
IWEX	**Carrickbyrne,**	**64.81**	**22**	P	**P**	**18 32 05.6**	**-0.4**
XAN	**Xi'an**	**64.81**	**295**	⇑P	**P**	**18 32 05.4**	**-1.0**
XAN				pP	PcP	18 32 39.1	+0.5
XAN				sP	sP	18 32 54.9	-2.3
XAN				PP	**PP**	**18 34 32.3**	**+2.0**
XAN				S	**S**	**18 40 35.0**	**-0.4**
XAN				sS	sS	18 41 34.3	-1.4
XAN				pmax	pmax		
	comp=Z,250nm,1.2s						
XAN				pmax	pmax		
	comp=Z,930nm,3.8s						
XAN				LR	LR		
	comp=Z,430nm,13.2s						
XAN				LR	LR		
	comp=Z,540nm,11.9s						
XAN				LR	LR		
	comp=Z,490nm,13.9s						
XAN	**Xi'an**	**64.81**	**295**	P	**P**	**18 32 05.8**	**-0.6**
XAN				pP	**pP**	**18 32 40.6**	**-0.8**
PABE	**Paberze**	**64.84**	**2**	IAmb	IAmb	18 32 51.1	
	comp=Z,118nm,1.0s						
OBN	**Obninsk**	**64.98**	**354**	⇑*e*P	**P**	**18 32 05.2**	**-1.8**
OBN				*e**PP	**pP**	**18 32 42.3**	**+0.2**
OBN				*i* S	**S**	**18 40 30.0**	**-6.6**
OBN				*i* SS	**SS**	**18 44 57.6**	**+7.7**
OBN				pmax	pmax		
	comp=Z,56nm,1.2s						
OBN	**Obninsk**	**64.98**	**354**	P	**P**	**18 32 06.4**	**-0.6**
	comp=Z,35nm,0.6s						
WMQ	**Urumqi**	**65.14**	**316**	⇑P	**P**	**18 32 09.5**	**+1.1**
WMQ				sP	sP	18 33 01.0	+1.7
WMQ				S	**S**	**18 40 41.9**	**+2.6**
WMQ				sS	sS	18 41 43.0	+3.5
WMQ				pmax	pmax		
	comp=Z,170nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,810nm,3.7s						
WMQ				LR	LR		
	comp=Z,210nm,17.7s						
WHN	**Wuhan**	**65.18**	**288**	P	**P**	**18 32 08.6**	**-0.1**
WHN				sP	**sP**	**18 32 59.8**	**+0.4**
WHN				pmax	pmax		
	comp=Z,250nm,1.2s						
LZH	**Lanzhou**	**65.37**	**300**	⇑*i*P	**P**	**18 32 10.3**	**+0.2**
LZH				pP	pP	18 32 49.1	+4.0
LZH				sP	sP	18 33 00.4	-0.5
LZH				PP	**PP**	**18 34 35.8**	**+0.6**
LZH				S	**S**	**18 40 40.4**	**-2.1**
LZH				SS	**SS**	**18 45 01.8**	**+4.4**
LZH				pmax	pmax		
	comp=Z,410nm,1.1s						
LZH				pmax	pmax		
	comp=Z,920nm,

MNK *i* SS **SS** **18 45 10.4 +6.8**
MNK pmax pmax
comp=N,9.0nm,0.9s
MNK pmax pmax
comp=Z,16nm,0.8s
MNK pmax pmax
comp=E,12nm,0.9s
SUW Suwalki 66.32 2 IAmb IAmb 18 33 00.9
comp=Z,106nm,0.9s
YHNB Yeheng 66.64 279 P **P** **18 32 19.3 +1.1**
BELG Belogornoye 66.71 346 LR LR 19 05 07.2
comp=Z,145nm,18.2s,baz=28,slow=39
BELG Belogornoye 66.71 346 *i* P **P** **18 32 16.7 -1.4**
BELG pmax pmax
comp=Z,11nm,0.8s
NACB Ninganchiao 66.94 279 IAmb IAmb 18 32 20.8
comp=Z,153nm,1.2s
NACB Ninganchiao 66.94 279 P **P** **18 32 20.1 +0.1**
IBBN Ibbenburen 67.03 12 *eP* **P** **18 32 19.3 -0.9**
comp=Z,6.9nm,0.8s,baz=355,slow=6.3
IBBN *ep*P **pP** **18 32 56.3 +0.8**
AKTO Aktyubinsk 67.04 339 LR LR 19 04 57.9
comp=Z,122nm,18.9s,baz=9.0,slow=39
AKTO Aktyubinsk 67.04 339 P **P** **18 32 18.3 -2.0**
NRDL Niedersach Rie 67.09 11 *eP* **P** **18 32 19.3 -1.2**
comp=Z,13nm,1.1s,baz=355,slow=6.3
NRDL *ep*P **pP** **18 32 56.0 +0.3**
TDK Taldyqorghan 67.14 323 *eP* **P** **18 32 21.2 +0.1**
comp=Z,73nm,0.9s
TDK Taldyqorghan 67.14 323 *eP* **P** **18 32 21.1 +0.1**
TDK pmax pmax
comp=Z,73nm,0.9s
LPSR Galich'ya Gora 67.33 352 *eP* **P** **18 32 20.0 -2.1**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
FLTG Flechtingen 67.35 10 *eP* **P** **18 32 20.7 -1.5**
comp=Z,4.7nm,0.9s,baz=355,slow=6.3
RUE Ruedersdorf 67.41 8 *eP* **P** **18 32 20.7 -1.9**
baz=355,slow=6.3
SSLB Suanglung 67.58 279 IAmb IAmb 18 32 25.0
comp=Z,238nm,1.3s
SSLB Suanglung 67.58 279 P **P** **18 32 24.7 +0.6**
ENH Enshi 67.70 292 P **P** **18 32 24.8 0.0**
ENH Enshi 67.70 292 P **P** **18 32 24.6 -0.2**
ENH PcP **PcP** **18 32 49.5 -1.1**
YULB Yu-li 67.74 278 IAmb IAmb 18 32 35.4
comp=Z,109nm,1.3s
YULB Yu-li 67.74 278 P **P** **18 32 26.5 +1.4**
CLZ Clausthal 67.76 11 *eP* **P** **18 32 23.5 -1.3**
comp=Z,18nm,1.1s,baz=355,slow=6.3
CLZ *ep*P **pP** **18 33 00.2 0.0**
QZH Quanzhou 67.78 281 ⇑*i*P **P** **18 32 24.3 -1.0**
QZH S **S** **18 41 11.8 +0.4**
QZH pmax pmax
comp=Z,140nm,1.3s
QZH pmax pmax
comp=Z,810nm,2.7s
AB31 Akbulak array 67.81 337 P **P** **18 32 24.4 -0.7**
ABKAR Akbulak array 67.81 337 P **P** **18 32 24.4 -0.7**
ABKAR Akbulak array 67.81 337 IAmb IAmb 18 32 26.1
comp=Z,42nm,0.7s
CNSH ChangSha 67.83 288 P **P** **18 32 24.5 -1.1**
CNSH pmax pmax
comp=Z,210nm,1.2s
BUG Bochum--Univer 67.83 13 *eP* **P** **18 32 25.4 +0.2**
baz=355,slow=6.3
GTTG Gottingen 68.01 11 *eP* **P** **18 32 25.8 -0.6**
comp=Z,14nm,1.0s,baz=355,slow=6.3
GTTG *ep*P **pP** **18 33 01.9 +0.2**
ARXS Arharly 68.03 323 *eP* **P** **18 32 25.5 -1.2**
TPUB Ta-pu 68.15 279 IAmb IAmb 18 32 30.1
comp=Z,108nm,1.1s
TPUB Ta-pu 68.15 279 P **P** **18 32 29.2 +1.5**
KASTN Kahler Asten 68.19 12 *eP* **P** **18 32 27.4 -0.2**
baz=355,slow=6.3
VORR Voronezh 68.24 352 *eP* **P** **18 32 28.8 +1.0**
VORR pmax pmax
comp=Z,20nm,1.6s
KNMB Chin-men Tao 68.28 281 IAmb IAmb 18 32 30.4
comp=Z,81nm,0.9s
PDGK Podgornoye 68.31 321 P **P** **18 32 28.8 +0.2**
TWGBT Beinan 68.33 278 P **P** **18 32 30.5 +1.7**
BTLS Baital 68.38 326 *eP* **P** **18 32 28.9 0.0**
comp=Z,37nm,0.9s
BTLS Baital 68.38 326 *eP* **P** **18 32 28.8 0.0**
BTLS pmax pmax
comp=Z,37nm,0.9s
KPKS Kokpek 68.44 322 *eP* **P** **18 32 29.6 +0.3**
comp=Z,48nm,1.0s
KPKS Kokpek 68.44 322 *eP* **P** **18 32 29.6 +0.3**
KPKS pmax pmax
comp=Z,47nm,1.0s
SHLS Shalkode 68.48 321 *eP* **P** **18 32 28.7 -1.0**
comp=Z,101nm,1.1s
SHLS Shalkode 68.48 321 *eP* **P** **18 32 28.6 -1.0**
SHLS pmax pmax
comp=Z,101nm,1.1s
VRH Novokhopyorsk 68.50 350 *eP* **P** **18 32 25.3 -4.1**
VRH pmax pmax
comp=Z,9.0nm,0.8s
NEUB Neuenburg 68.51 10 *eP* **P** **18 32 28.6 -0.9**
comp=Z,10.0nm,0.8s,baz=355,slow=6.3
NEUB *ep*P **pP** **18 33 05.0 +0.1**
CLL Collm 68.52 9 *i* P **P** **18 32 28.8 -0.7**
CLL *i* *PP **pP** **18 33 04.5 -0.5**
CLL *es*S **S** **18 41 15.0 -4.4**
CLL pmax pmax
comp=Z,26nm,1.6s
CLL Collm 68.52 9 *eP* **P** **18 32 28.0 -1.5**
baz=355,slow=6.3
CLL *ep*P **pP** **18 33 04.4 -0.5**
CLL Collm 68.52 9 *i* P **P** **18 32 29.2 -0.3**
comp=Z,26nm,1.6s
CLL *i* pP **pP** **18 33 04.5 -0.5**
CLL *i* x x 18 33 11.8
comp=Z,30nm,1.1s
CLL *es*P **sP** **18 33 19.0 -1.7**
CLL *es*S **S** **18 41 15.0 -4.4**
CLL *es*SKSac **SKSac** **18 42 13.0 -1.2**
CLL *es*PS 18 42 46.0
CLL *es*SKSac **sSKSac** **18 43 23.0 +2.7**
CLL *es*SS **SS** **18 45 52.0 +7.2**
CLL *es*SS 18 46 48.0
CLL *es*SSS 18 49 54.0
CLL Collm 68.52 9 P **P** **18 32 29.1 -0.4**
comp=Z,11nm,1.2s
CHKK Chushkaly 68.61 323 *eP* **P** **18 32 30.4 +0.1**
CHKK Chushkaly 68.61 323 *eP* **P** **18 32 30.4 +0.1**
UZB Uzynbulak 68.63 321 *eP* **P** **18 32 30.4 -0.1**
UZB Uzynbulak 68.63 321 *eP* **P** **18 32 30.4 -0.1**
VSR Storozhevoye 68.69 352 *eP* **P** **18 32 27.8 -2.8**
VSR pmax pmax
comp=Z,10.0nm,0.9s
UBBA Unterbreizbach 68.73 11 *eP* **P** **18 32 29.8 -0.9**
baz=355,slow=6.3
ZHN Zhinishke 68.79 322 *eP* **P** **18 32 31.6 0.0**
ZHN Zhinishke 68.79 322 *eP* **P** **18 32 31.5 0.0**
SATY Saty 68.90 322 *eP* **P** **18 32 32.1 -0.2**
SATY Saty 68.90 322 *eP* **P** **18 32 32.0 -0.2**
VORD Divnogorie 68.93 351 *eP* **P** **18 32 29.5 -2.6**
VORD pmax pmax
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 69.02 9 *i* P **P** **18 32 32.7 0.0**
BRG Amp 18 32 35.1
comp=Z,11nm,1.1s
BRG Berggiesshubel 69.02 9 *i* P **P** **18 32 32.6 0.0**
BRG 18 33 02.9
BRG 18 33 08.3
BRG pmax pmax
comp=Z,11nm,1.1s
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG pmax pmax
comp=Z,16nm,1.1s
BRG pmax pmax
comp=Z,17nm,0.9s
BRG Berggiesshubel 69.02 9 *eP* **P** **18 32 31.5 -1.2**
comp=Z,14nm,1.3s,baz=355,slow=6.3
MOX Moxa 69.06 10 *eP* **P** **18 32 31.7 -1.2**
baz=355,slow=6.3
GOMU GeErMu 69.08 306 P **P** **18 32 33.8 +0.1**
GOMU pP pP 18 33 08.3 -0.8
GOMU sP sP 18 33 22.8 -2.1
GOMU S **S** **18 41 24.8 -2.4**
GOMU SS **SS** **18 45 51.9 -3.1**

GOMU pmax pmax
comp=Z,180nm,1.1s
GOMU pmax pmax
comp=Z,470nm,4.7s
GOMU LR LR
comp=Z,550nm,21.2s
GOMU LR LR
comp=Z,490nm,17.3s
GOMU LR LR
comp=Z,620nm,21.9s
RNPP5 Staryi Chortor 69.14 1 P **P** **18 32 33.5 +0.1**
TNS Taunus Mts 69.16 12 *eP* **P** **18 32 33.4 -0.2**
comp=Z,4.8nm,0.9s,baz=355,slow=6.3
TNS *ep*P **pP** **18 33 09.3 +0.2**
KSP Ksiaz 69.21 7 P **P** **18 32 33.5 -0.3**
comp=Z,14nm,0.9s
AAA Alma-Ata 69.22 323 *eP* **P** **18 32 34.0 -0.1**
comp=Z,63nm,1.0s
AAA Alma-Ata 69.22 323 *eP* **P** **18 32 34.0 -0.1**
AAA pmax pmax
comp=Z,63nm,1.0s
MDOK Medeo 69.22 323 *eP* **P** **18 32 34.0 -0.2**
MDOK Medeo 69.22 323 *eP* **P** **18 32 34.0 -0.2**
TANN Tannenbergstha 69.36 10 *eP* **P** **18 32 34.1 -0.7**
comp=Z,4.5nm,1.1s,baz=355,slow=6.3
TNSS Tian-Shan 69.36 323 *eP* **P** **18 32 35.1 -0.3**
TNSS Tian-Shan 69.36 323 *eP* **P** **18 32 35.1 -0.3**
PVCC Panska Ves 69.41 8 *eP* **P** **18 32 34.9 -0.2**
PVCC *ep*P **pP** **18 33 11.8 +1.3**
PVCC Panska Ves 69.41 8 *eP* **P** **18 32 34.9 -0.2**
PVCC *e*PP **pP** **18 33 11.8 +1.3**
WLF Walferdange 69.45 14 P **P** **18 32 35.3 0.0**
WLF Walferdange 69.45 14 *eP* **P** **18 32 36.3 +1.0**
comp=Z,15nm,1.0s,baz=355,slow=6.3
OSTC Ostas 69.49 7 *ep*P pP 18 33 12.3 +1.2
UPC Upice 69.53 7 *eP* **P** **18 32 35.8 0.0**
UPC Upice 69.53 7 *eP* **P** **18 32 35.8 0.0**
AK21 Malin Array Si 69.58 358 P **P** **18 32 36.6 +0.5**
AK23 Malin Array Si 69.59 358 P **P** **18 32 36.5 +0.4**
AK22 Malin Array Si 69.59 358 P **P** **18 32 36.6 +0.5**
AK03 Malin Array Si 69.63 358 P **P** **18 32 36.6 +0.3**
AK04 Malin Array Si 69.63 358 P **P** **18 32 35.7 -0.7**
AK18 Malin Array Si 69.63 358 P **P** **18 32 35.7 -0.7**
AK19 Malin Array Si 69.63 358 P **P** **18 32 35.7 -0.7**
AKASG Malin Array Be 69.65 358 P **P** **18 32 35.1 -1.4**
comp=Z,2.8nm,0.4s,baz=2.5,slow=5.9,SNR=20
comp=Z,2.8nm,0.4s
AKBB Malin Array Si 69.65 358 IAmb IAmb 18 33 21.9
comp=Z,81nm,0.8s
AKBB Malin Array Si 69.65 358 *i* P **P** **18 32 35.2 -1.3**
AKBB pmax pmax
comp=Z,16nm,0.9s
AKBB Malin Array Si 69.65 358 P **P** **18 32 35.2 -1.3**
KIEV Kiev 69.66 358 P **P** **18 32 35.4 -1.2**
KIEV IAmb IAmb 18 33 21.9
comp=Z,73nm,0.8s
KIEV Kiev 69.66 358 ⇑P **P** **18 32 35.1 -1.5**
KIEV Kiev 69.66 358 P **P** **18 32 35.4 -1.2**
KIEV pmax pmax
comp=Z,73nm,0.8s
KIEV Kiev 69.66 358 P **P** **18 32 35.1 -1.5**
comp=Z,67nm,0.7s
AK01 Malin Array Si 69.66 358 P **P** **18 32 35.5 -1.1**
AK17 Malin Array Si 69.67 358 P **P** **18 32 35.8 -0.8**
AK11 Malin Array Si 69.67 358 P **P** **18 32 35.8 -0.8**
AK16 Malin Array Si 69.68 358 P **P** **18 32 35.9 -0.8**
DPC Dobruska-Polom 69.70 7 *eP* **P** **18 32 37.2 +0.3**
DPC *ep*P **pP** **18 33 13.6 +1.2**
DPC Dobruska-Polom 69.70 7 *eP* **P** **18 32 37.2 +0.3**
DPC *e*PP **pP** **18 33 13.6 +1.2**
DPC Dobruska-Polom 69.70 7 P **P** **18 32 36.7 -0.2**
comp=Z,26nm,1.0s
AK12 Malin Array Si 69.71 358 P **P** **18 32 36.1 -0.8**
MANZ Manzenberg 69.75 10 *eP* **P** **18 32 36.3 -0.9**
comp=Z,0.9nm,1.1s,baz=355,slow=6.3
CD2 Chengdu 69.78 297 P **P** **18 32 37.5 -0.2**
CD2 sP sP 18 33 28.8 -0.1
CD2 S **S** **18 41 33.0 -2.0**
CD2 ScS **SKSac** **18 42 21.3 -3.2**
CD2 pmax pmax
comp=Z,190nm,1.0s
CD2 pmax pmax
comp=Z,600nm,3.5s
TKM2 Tokmak 2 69.88 324 P **P** **18 32 39.1 +0.7**
SNR=26
TKM2 Tokmak 2 69.88 324 P **P** **18 32 38.6 +0.3**
USP Ospenovka 69.88 325 P **P** **18 32 38.8 +0.7**
SNR=6.2
PRU Pruhonice 69.95 8 *eP* **P** **18 32 41.7 +3.4**
PRU *ep*P **pP** **18 33 15.3 +1.5**
PRU Pruhonice 69.95 8 *eP* **P** **18 32 41.7 +3.4**
PRU *e*PP **pP** **18 33 15.3 +1.5**
GRF Grafenberg Arr 69.97 11 *eP* **P** **18 32 37.9 -0.6**
comp=Z,4.4nm,0.9s,baz=355,slow=6.3
ROTZ Rotzenmuhle 69.98 10 *eP* **P** **18 32 37.8 -0.8**
comp=Z,0.8nm,0.9s,baz=355,slow=6.3
KRLC Kraliky 70.01 7 *eP* **P** **18 32 38.6 -0.2**
KRLC *ep*P **pP** **18 33 15.6 +1.3**
KRLC Kraliky 70.01 7 *eP* **P** **18 32 38.6 -0.2**
KRLC *e*PP **pP** **18 33 15.6 +1.3**
CHMS Chumysh 70.05 324 P **P** **18 32 40.1 +1.0**
SNR=38
KDJ Kajisay 70.12 322 IAmb IAmb 18 32 41.5
comp=Z,57nm,0.9s
FRU1 Bishkek 70.26 324 IAmb IAmb 18 32 42.5
comp=Z,85nm,0.8s
ULHL Ulahol 70.30 323 P **P** **18 32 41.8 +0.9**
SNR=6.7
KBK Karagaybulak 70.31 324 P **P** **18 32 41.9 +1.0**
SNR=66
WUS Wushi 70.33 320 IAmb IAmb 18 32 42.8
comp=Z,103nm,0.9s
MORC Moravsky Berou 70.35 6 *eP* **P** **18 32 40.4 -0.5**
MORC *e* 18 33 16.3
MORC Moravsky Berou 70.35 6 ⇓P **P** **18 32 39.4 -1.4**
MORC Moravsky Berou 70.35 6 P **P** **18 32 39.4 -1.4**
AAK Ala-Archa 70.46 325 P **P** **18 32 41.8 0.0**
SNR=58
AAK Ala-Archa 70.46 325 P **P** **18 32 41.8 0.0**
AAK Ala-Archa 70.46 325 LR LR 19 07 52.8
comp=Z,164nm,18.6s,baz=20,slow=39
AAK Ala-Archa 70.46 325 P **P** **18 32 41.8 0.0**
AAK pmax pmax
comp=Z,53nm,0.9s
AAK Ala-Archa 70.46 325 P **P** **18 32 42.1 +0.3**
AAK pP **pP** **18 33 17.9 +0.6**
CLF Chambon-Foret 70.53 17 P **P** **18 32 41.6 -0.3**
CLF pP **pP** **18 33 17.0 -0.5**
EKS2 Erkin-Say 70.65 325 P **P** **18 32 43.9 +1.0**
SNR=82
WET Wettzell 70.66 10 *eP* **P** **18 32 41.5 -1.2**
baz=355,slow=6.3
KWP Kalwaria Pacla 70.69 3 IAmb IAmb 18 33 28.8
comp=Z,122nm,1.3s
KWP Kalwaria Pacla 70.69 3 P **P** **18 32 43.6 +0.7**
comp=Z,31nm,1.1s
KHC Kasperske Hory 70.72 9 *eP* **P** **18 32 43.2 0.0**
KHC *ep*P **pP** **18 33 20.7 +1.9**
KHC Kasperske Hory 70.72 9 *eP* **P** **18 32 43.2 0.0**
KHC *e*PP **pP** **18 33 20.7 +1.9**
KHC Kasperske Hory 70.72 9 P **P** **18 32 43.9 +0.7**
comp=Z,12nm,1.2s
VRAC Vranov 70.76 7 *eP* **P** **18 32 43.2 -0.1**
VRAC *e* 18 33 18.6
VRAC Vranov 70.76 7 ⇓P **P** **18 32 42.3 -1.0**
VRAC Vranov 70.76 7 P **P** **18 32 42.3 -1.0**
NIE Niedzica 70.83 4 P **P** **18 32 45.1 +1.3**
comp=Z,6.9nm,1.3s
STHS Stebnicka Huta 70.87 4 *eP* **P** **18 32 43.2 -0.8**
STHS pmax pmax
comp=Z,16nm,1.4s
STHS Stebnicka Huta 70.87 4 *eP* **P** **18 32 43.2 -0.8**
STHS *ep*P **pP** **18 33 19.3 -0.3**
STHS *e* 18 33 27.9
KRUC Moravsky 70.99 7 *eP* **P** **18 32 44.1 -0.6**
KRUC *e* 18 33 20.6
ECH Echery 71.00 14 P **P** **18 32 44.8 0.0**
ECH pP **pP** **18 33 20.3 -0.2**
BFO Black Forest 71.02 13 *eP* **P** **18 32 44.6 -0.4**
comp=Z,8.4nm,1.1s,baz=355,slow=6.3
BFO *ep*P **pP** **18 33 21.2 +0.7**
GERES GERESS Array B 71.02 9 P **P** **18 32 44.7 -0.3**
GERES GERESS Array B 71.02 9 P **P** **18 32 44.4 -0.6**
comp=Z,2.0nm,0.7s,baz=0.0,slow=8.8,SNR=11

comp=Z,2.0nm,0.7s
GERES GERESS Array B 71.02 9 P **P** **18 32 44.7 -0.3**
LANS Liptovska Anna 71.07 5 *eP* **P** **18 32 45.8 +0.6**
LANS pmax pmax
comp=Z,9.0nm,1.0s
LANS Liptovska Anna 71.07 5 *eP* **P** **18 32 45.8 +0.6**
LANS *ep*P **pP** **18 33 21.4 +0.5**
CKRC Cesky Krumlov 71.09 9 *eP* **P** **18 32 45.2 -0.1**
CKRC Cesky Krumlov 71.09 9 *eP* **P** **18 32 45.2 -0.1**
DZA Taraz 71.12 327 *eP* **P** **18 32 45.7 0.0**
DZA Taraz 71.12 327 *eP* **P** **18 32 45.6 0.0**
KK31 Karatay Array 71.15 328 *i* P **P** **18 32 45.6 -0.2**
KKAR Karatay Array 71.15 328 P **P** **18 32 45.5 -0.3**
KKAR Karatay Array 71.15 328 IAmb IAmb 18 32 46.8
comp=Z,34nm,0.9s
KKAR Karatay Array 71.15 328 P **P** **18 32 45.5 -0.3**
AML Almayashu 71.16 325 P **P** **18 32 47.5 +1.2**
SNR=6.4
MORS Morshin 71.22 2 P **P** **18 32 45.2 -0.8**
JAVC Velka Javorina 71.27 6 *eP* **P** **18 32 46.8 +0.3**
JAVC *e* 18 33 23.6
KOLS Kolonicke sedl 71.38 3 *eP* **P** **18 32 47.5 +0.4**
KOLS pmax pmax
comp=Z,10.0nm,0.9s
KOLS Kolonicke sedl 71.38 3 *eP* **P** **18 32 47.5 +0.4**
KOLS *ep*P **pP** **18 33 28.5 +5.8**
BRLS Borolday 71.40 328 *eP* **P** **18 32 48.9 +1.5**
BRLS Borolday 71.40 328 *eP* **P** **18 32 48.8 +1.5**
FUR Furstenfeldbru 71.48 11 *eP* **P** **18 32 47.4 -0.4**
comp=Z,12nm,0.6s,baz=355,slow=6.3
FUR *ep*P **pP** **18 33 23.3 0.0**
SMOL Smolenice 71.60 6 *eP* **P** **18 32 49.8 +1.4**
SMOL pmax pmax
comp=Z,6.0nm,1.1s
STNU Starunia 71.65 1 P **P** **18 32 48.0 -0.7**
VYHS Vyhne 71.69 5 *eP* **P** **18 32 48.9 0.0**
VYHS pmax pmax
comp=Z,12nm,1.2s
VYHS Vyhne 71.69 5 *eP* **P** **18 32 48.8 -0.1**
VYHS *ep*P **pP** **18 33 26.1 +1.5**
VYHS *e* 18 33 33.1
MODS Modra-Piesok 71.73 7 *eP* **P** **18 32 50.0 +0.8**
MODS pmax pmax
comp=Z,47nm,1.4s
MODS Modra-Piesok 71.73 7 *eP* **P** **18 32 50.0 +0.8**
MODS *ep*P **pP** **18 33 26.3 +1.5**
MODS *e* 18 33 33.6
HOLU Holmets 71.79 3 P **P** **18 32 48.9 -0.6**
KMPD K-Podol'skiy 71.81 0 P **P** **18 32 49.4 -0.2**
comp=Z,2μm,0.8s,comp=Z,104μm
UBR Ueberruh 71.85 12 *eP* **P** **18 32 50.2 +0.2**
comp=Z,3.5nm,0.9s,baz=355,slow=6.3
UBR *ep*P **pP** **18 33 26.5 +0.7**
CONA Conrad Observa 72.09 8 *i* P **P** **18 32 51.5 +0.1**
comp=Z,20nm,1.3s,SNR=8.6
BERU Beregovo 72.09 3 P **P** **18 32 51.4 +0.1**
CHM Chimkent 72.12 328 *eP* **P** **18 32 51.8 +0.2**
CHM Chimkent 72.12 328 *eP* **P** **18 32 51.8 +0.2**
NSLU Nyzhne Selyshc 72.16 2 P **P** **18 32 51.7 0.0**
IUG Iuzhnay 72.17 328 *eP* **P** **18 32 52.1 +0.1**
comp=Z,93nm,1.2s
IUG Iuzhnay 72.17 328 *eP* **P** **18 32 52.1 +0.1**
IUG pmax pmax
comp=Z,93nm,1.2s
HKPS Hong Kong Po S 72.21 284 P **P** **18 32 53.6 +1.2**
SORM Soroca 72.23 359 ⇓P **P** **18 32 50.7 -1.4**
SORM Soroca 72.23 359 P **P** **18 32 50.7 -1.4**
SORM Soroca 72.23 359 P **P** **18 32 51.3 -0.8**
comp=Z,12nm,0.9s
GYA Guiyang 72.24 292 ⇑P **P** **18 32 52.3 -0.4**
GYA pP pP 18 33 32.5 +4.3
GYA S **S** **18 42 02.5 -1.1**
GYA SKS **SKSac** **18 42 40.1 -3.2**
GYA pmax pmax
comp=Z,170nm,1.4s
MOTA Moosalm 72.28 11 *i* P **P** **18 32 52.9 +0.3**
comp=Z,16nm,1.2s
PSZ Piszkesteto 72.32 5 ⇓P **P** **18 32 51.3 -1.5**
PSZ Piszkesteto 72.32 5 P **P** **18 32 51.2 -1.5**
WATA Walderalm 72.33 11 *i* P **P** **18 32 53.2 +0.2**
comp=Z,25nm,1.2s,SNR=6.5
RONA Rosalia, Austr 72.34 7 *eP* **P** **18 32 53.2 +0.3**
comp=Z,8.3nm,1.0s
LESA Schwarzleotal 72.34 10 *eP* **P** **18 32 52.9 -0.1**
comp=Z,14nm,1.2s
SRO Srobarova 72.35 6 *ep*P **pP** **18 33 27.7 -0.8**
SRO *e* 18 33 36.9
WTTA Wattenberg 72.41 11 *eP* **P** **18 32 53.0 -0.4**
comp=Z,25nm,1.3s,SNR=5.6
SQTA Sankt Quirin 72.41 11 *i* P **P** **18 32 53.4 0.0**
comp=Z,31nm,1.3s,SNR=7.9
FETA Feichten 72.56 11 *eP* **P** **18 32 54.8 +0.5**
comp=Z,17nm,1.1s
ARSA Arzberg 72.74 8 *eP* **P** **18 32 55.2 0.0**
comp=Z,7.7nm,0.9s
KBA Koelnbreinsper 72.75 9 *i* P **P** **18 32 55.9 +0.5**
comp=Z,35nm,1.7s,SNR=9.3
BURAR Bucovina Array 72.75 1 P **P** **18 32 54.6 -0.7**
BURAR Bucovina Array 72.75 1 ⇑P **P** **18 32 54.0 -1.4**
BURAR Bucovina Array 72.75 1 P **P** **18 32 53.9 -1.4**
KSH Kashi 72.88 322 P **P** **18 32 59.6 +3.3**
KSH PcP **PcP** **18 33 15.4 +2.8**
KSH sP sP 18 33 50.3 +2.6
KSH S **SKiKP** **18 42 17.3 +3.4**
KSH pmax pmax
comp=Z,74nm,1.0s
FUORN Ofenpass-Fuorn 72.92 12 P **P** **18 32 56.2 -0.3**
MPLH Magyarpolny 72.95 6 P **P** **18 32 56.5 +0.1**
comp=Z,33nm,1.3s
TUE Stuetta 72.97 12 P **P** **18 32 56.2 -0.5**
ABTA Abfaltersbach 73.00 10 P **P** **18 32 56.9 0.0**
comp=Z,14nm,1.6s
SZP Santa 73.08 276 P **P** **18 32 58.8 +1.3**
SJG San Juan 73.12 83 LR LR 19 07 31.2
comp=Z,120nm,18.8s,baz=270,slow=38
MESR Meseseni 73.18 3 ⇓P **P** **18 32 56.2 -1.6**
MYKA Terra Mystica 73.22 9 *eP* **P** **18 32 58.3 +0.2**
comp=Z,11nm,1.6s
ARCR ARCALIA 73.27 2 ⇓P **P** **18 32 57.1 -1.2**
SOKA Soboth 73.27 8 *i* P **P** **18 32 59.1 +0.7**
comp=Z,19nm,1.4s,SNR=7.8
PERS Pernice 73.32 8 *i* P **P** **18 32 58.6 0.0**
PERS *ep*P **pP** **18 33 35.0 +0.4**
OBKA Obir 73.41 9 *i* P **P** **18 32 59.0 -0.2**
comp=Z,10.0nm,0.7s,SNR=12
BIZ Bicaz 73.44 0 ⇑P **P** **18 32 58.4 -0.9**
MILM Milestii Mici 73.44 358 ⇑P **P** **18 32 58.5 -0.8**
MILM Milestii Mici 73.44 358 P **P** **18 32 58.4 -0.8**
DRGR 73.53 3 ⇑P **P** **18 32 59.0 -1.0**
DRGR 73.53 3 P **P** **18 32 58.9 -1.0**
KOGS Kog 73.59 7 *i* P **P** **18 32 59.8 -0.4**
KOGS *ep*P **pP** **18 33 37.1 +1.0**
KOGS *i* 18 33 43.1
MARR Marisel-Cluj 73.66 3 ⇓P **P** **18 32 59.8 -0.9**
TESR Tescani 73.86 360 ⇓P **P** **18 33 00.4 -1.3**
MORH Mrgy, Hungar 73.96 6 ⇓P **P** **18 33 02.0 -0.3**
MORH Mrgy, Hungar 73.96 6 P **P** **18 33 01.0 -1.3**
comp=Z,6.1nm,1.5s
SIRR Siria 74.03 4 ⇑P **P** **18 33 02.0 -0.8**
ONER Baraj Valea Uz 74.04 0 ⇑P **P** **18 33 01.8 -1.0**
ERBR Yeremizino-Bor 74.05 350 *eP* **P** **18 33 02.7 -0.2**
ERBR pmax pmax
comp=Z,37nm,1.0s
DOPR Dopca 74.40 1 ⇑P **P** **18 33 03.8 -1.1**
PGAV Gavieira, Arco 74.43 26 *eP* **P** **18 33 06.2 +0.9**
GOF Gofitskoye 74.46 348 *eP* **P** **18 33 04.3 -0.9**
PZH PanZhiHua 74.46 296 P **P** **18 33 04.9 -0.8**
PZH S **S** **18 42 25.1 -3.5**
PZH SKS **SKSac** **18 42 57.0 -3.0**
PZH pmax pmax
comp=Z,150nm,1.3s
PZH pmax pmax
comp=Z,510nm,3.5s
PZH LR LR
comp=Z,180nm,14.8s
PZH LR LR
comp=Z,260nm,15.8s
PZH LR LR
comp=Z,200nm,18.0s
VRI Vrincioaia 74.51 360 ⇓P **P** **18 33 04.9 -0.6**
VRI Vrincioaia 74.51 360 P **P** **18 33 04.9 -0.6**
VRI Vrincioaia 74.51 360 P **P** **18 33 06.4 +0.9**
comp=Z,6.6nm,0.7s,comp=Z,952nm
PLOR Plostina 74.52 360 ⇑P **P** **18 33 04.5 -1.2**

PLOR Plostina 74.52 360 P **P 18 33 04.4 -1.2**
COVR Voineasa-Covas 74.53 0 ⇑P **P 18 33 04.3 -1.3**
SURR Surduc 74.56 3 ⇓P **P 18 33 04.1 -1.7**
BZS Buzias 74.68 4 ⇑P **P 18 33 05.8 -0.7**
BZS Buzias 74.68 4 P **P 18 33 05.7 -0.7**
PCAB Cabril 74.73 26 *e*P **P 18 33 09.0 +2.1**
MLR Muntele Rosu 74.88 1 ⇑P **P 18 33 06.7 -1.2**
MLR Muntele Rosu 74.88 1 P **P 18 33 06.6 -1.2**
LOT Lotru 74.90 2 ⇑P **P 18 33 06.6 -1.4**
PBRG Braganca 74.92 25 *e*P **P 18 33 08.6 +0.6**
PBRG Braganca 74.92 25 *e*PcP **PcP 18 33 20.3 -0.9**
PBRG *e*pP **pP 18 33 46.2 +2.2**
VOIR 74.93 1 ⇑P **P 18 33 06.1 -1.9**
VOIR 74.93 1 P **P 18 33 06.1 -1.9**
GZR Gura Zlata 74.94 3 ⇓P **P 18 33 07.7 -0.3**
GZR Gura Zlata 74.94 3 P **P 18 33 09.6 +1.6**
ARR Arges 75.00 1 ⇑P **P 18 33 07.7 -0.7**
GAR Garm 75.02 326 IAmb IAmb 18 33 10.7
comp=Z,141nm,1.1s
POLO Lamas de Olo 75.10 26 *e*P **P 18 33 10.1 +1.0**
PTO Porto 75.15 27 *e*P **P 18 33 09.8 +0.6**
CFR Carcaliu 75.19 359 ⇑P **P 18 33 08.2 -1.2**
CFR Carcaliu 75.19 359 P **P 18 33 08.1 -1.2**
KMI Kunming 75.19 294 ⇑P **P 18 33 09.6 -0.4**
KMI S **S 18 42 33.8 -3.1**
KMI pmax pmax
comp=Z,40nm,1.3s
KMI LR LR
comp=Z,170nm,15.1s
KMI LR LR
comp=Z,270nm,16.8s
KMI LR LR
comp=Z,200nm,18.4s
PVRL Vila Real 75.21 26 *e*P **P 18 33 10.2 +0.5**
HERR Herculane 75.44 3 ⇑P **P 18 33 10.3 -0.5**
MVO Moncorvo 75.47 26 *e*P **P 18 33 11.6 +0.4**
MVO A A 18 33 25.6
comp=Z,42nm,1.5s
MVO *e*pP **pP 18 33 48.0 +0.8**
MDVR Moldovita 75.52 4 ⇓P **P 18 33 10.8 -0.6**
KVAR Kislovodsk Arr 75.58 348 LR LR 19 09 04.4
comp=Z,96nm,18.4s,baz=266,slow=38
KIV Kislovodsk 75.58 348 P **P 18 33 11.5 -0.3**
KIV Kislovodsk 75.58 348 ⇓P **P 18 33 10.9 -0.9**
KIV Kislovodsk 75.58 348 *e*P **P 18 33 11.0 -0.9**
KIV *e* 18 33 45.4
KIV *e* 18 36 01.3
KIV *e*S **S 18 42 36.5 -3.9**
KIV pmax pmax
comp=Z,24nm,1.1s
KIV MLR MLR
comp=Z,78nm,18.0s
KIV Kislovodsk 75.58 348 P **P 18 33 11.5 -0.3**
SIMJ Simiganj 75.70 327 P **P 18 33 11.9 -0.7**
SIMJ IAmb IAmb 18 33 14.4
comp=Z,88nm,1.1s
PVIS Viseu 75.71 26 *e*P **P 18 33 13.0 +0.5**
PVIS Viseu 75.71 26 *e*PcP **PcP 18 33 22.4 -2.2**
KBZ Khabaz 75.79 348 P **P 18 33 12.8 0.0**
comp=Z,11nm,0.8s,baz=358,slow=8.9,SNR=19
KBZ LR LR 19 09 16.3
comp=Z,148nm,19.1s,baz=11,slow=38
comp=Z,11nm,0.8s
SHA1 Shidzhatmaz 75.80 348 *i* P **P 18 33 11.3 -1.9**
NCK Nalchik 75.94 347 *i* P **P 18 33 13.9 +0.1**
NCK pmax pmax
comp=Z,50nm,1.0s
MAK Makhachkala 75.99 344 *e*P **P 18 33 12.9 -1.1**
MAK *e**PP **pP 18 33 47.1 -2.9**
MAK *e**SP **sP 18 34 03.8 -1.9**
MAK *e* 18 36 07.7
MAK *e*PPP PPP 18 37 56.5
MAK *e*S **S 18 42 43.5 -1.1**
MAK *e**SS **sS 18 43 46.6 -0.4**
MAK *e*SS **SS 18 47 39.2 +0.3**
MAK *e*SSS SSS 18 51 04.9
MAK pmax pmax
comp=Z,168nm,1.6s
MAK MLR MLR
comp=Z,276nm,14.0s
MTE Manteigas 76.09 26 *e*P **P 18 33 15.1 +0.4**
MTE Manteigas 76.09 26 *e*PcP **PcP 18 33 24.5 -1.8**
MTE A A 18 33 32.6
comp=Z,80nm,1.6s
MTE *e*pP **pP 18 33 50.3 -0.5**
PCAS Casmilo, Conde 76.20 27 *e*P **P 18 33 15.8 +0.5**
PCAS Casmilo, Conde 76.20 27 *e*PcP **PcP 18 33 26.4 -0.3**
SOC Sochi 76.23 350 *e*P **P 18 33 16.2 +0.8**
SOC *e**SP **sP 18 34 03.8 -3.3**
SOC *e* 18 36 09.0
SOC *e*PPP PPP 18 37 53.4
SOC *e*S **S 18 42 52.2 +4.9**
SOC *e*SS **SS 18 47 41.1 -1.5**
LSA Lhasa 76.24 306 IAmb IAmb 18 33 18.8
comp=Z,152nm,1.3s
LSA Lhasa 76.24 306 P **P 18 33 18.0 +1.8**
LSA S **S 18 42 45.8 -3.0**
LSA pmax pmax
comp=Z,94nm,1.2s
PCBR Castelo Branco 76.64 26 *e*P **P 18 33 18.0 +0.3**
PCBR Castelo Branco 76.64 26 *e*PcP **PcP 18 33 27.6 -1.0**
PCBR *e*pP **pP 18 33 53.7 -0.1**
PCBR A A 18 33 56.1
comp=Z,50nm,1.3s
ZIRO ZIRO 77.03 303 *e*P **P 18 33 20.9 +0.6**
ZIRO IAmb IAmb 18 33 24.8
comp=Z,255nm,1.9s
PMRV Marv??o 77.05 26 *e*P **P 18 33 19.7 -0.4**
QIZ Qiongzhong 77.06 285 IAmb IAmb 18 33 22.1
comp=Z,116nm,1.2s
QIZ Qiongzhong 77.06 285 P **P 18 33 19.8 -0.6**
QIZ PP **PP 18 36 19.8 +4.4**
QIZ S **S 18 42 54.3 -2.7**
QIZ sS **sS 18 43 59.0 -0.2**
QIZ pmax pmax
comp=Z,86nm,1.1s
QIZ pmax pmax
comp=Z,400nm,3.0s
QIZ LR LR
comp=Z,170nm,13.5s
QIZ LR LR
comp=Z,260nm,16.0s
QIZ LR LR
comp=Z,210nm,13.2s
QIZ Qiongzhong 77.06 285 P **P 18 33 21.3 +0.9**
PMAFR Mafra 77.07 28 P **P 18 33 19.5 -0.7**
UCM Universidad Co 77.08 23 P **P 18 33 20.1 -0.2**
TNCH TengChong 77.18 298 ⇑P **P 18 33 21.0 -0.2**
TNCH pP pP 18 33 57.3 +0.1
TNCH sP sP 18 34 13.1 +0.4
TNCH S **S 18 42 54.8 -3.7**
TNCH ScS **SKKSac 18 43 21.3 +0.2**
TNCH sS sS 18 43 58.5 -2.2
TNCH pmax pmax
comp=Z,98nm,1.2s
TNCH pmax pmax
comp=Z,340nm,2.7s
PMTG Montargil 77.20 27 *e*P **P 18 33 20.8 -0.1**
PMTG Montargil 77.20 27 *e*PcP **PcP 18 33 31.5 +0.5**
PMTG *e*pP **pP 18 33 57.1 0.0**
PPT Papeete 77.34 176 LR LR 19 02 33.2
comp=Z,196nm,18.8s,baz=320,slow=32
PPT2 Papeete2 77.36 176 *e*P **P 18 33 24.1 +2.2**
comp=Z,26nm,24.8s
PPT2 *e*S **S 18 42 52.7 -7.3**
comp=Z,436nm,35.5s
PPT2 Papeete2 77.36 176 *e*LQ LQ 18 54 00.6
comp=Z,2μm,40.0s
PPT2 *e*LR LR 18 57 20.8
comp=Z,246nm,29.2s
PPT2 *e*LR LR 18 57 28.3
comp=Z,587nm,31.8s
AKT Akhty 77.41 344 *e*P **P 18 33 21.0 -1.2**
AKT *e* 18 33 33.3
AKT *e**PP **pP 18 33 58.2 -0.2**
AKT *e**SP **sP 18 34 13.6 -0.4**
AKT *e* 18 36 19.9
AKT *e*S **S 18 42 57.9 -2.5**
AKT *e* 18 43 28.0
AKT *e**SS **sS 18 44 02.9 -0.1**
AKT pmax pmax
comp=Z,34nm,1.0s
ELND Elena 77.44 1 ⇓P **P 18 33 21.2 -1.0**

PESTR Estremoz 77.54 27 *e*P **P 18 33 22.9 +0.1**
PESTR A A 18 34 04.2
comp=Z,52nm,1.6s
PESTR Estremoz 77.54 27 P **P 18 33 22.6 -0.2**
ESDC Sonseca Array 77.55 24 P **P 18 33 22.7 -0.2**
ESDC Sonseca Array 77.55 24 P **P 18 33 22.9 +0.1**
comp=Z,8.9nm,0.9s,baz=341,slow=5.8,SNR=41
ESDC LR LR 19 11 09.1
comp=Z,60nm,18.2s,baz=333,slow=38
comp=Z,8.9nm,0.9s
ALEG Aligegeo Malai 77.59 227 P **P 18 33 24.5 +1.3**
PAB San Pablo 77.59 24 P **P 18 33 23.3 +0.2**
PDG Podgorica 77.76 6 ⇓P **P 18 33 23.2 -0.7**
EVO Evora 77.77 27 *e*P **P 18 33 24.2 +0.2**
EVO A A 18 34 01.7
comp=Z,44nm,1.5s
EVO Evora 77.77 27 P **P 18 33 24.0 -0.1**
EBAD Badajoz 77.78 26 P **P 18 33 23.8 -0.3**
SLVN Son La 77.92 292 P **P 18 33 25.3 +0.1**
SLVN IAmb IAmb 18 33 27.5
comp=Z,161nm,1.0s
SLVN Son La 77.92 292 P **P 18 33 26.0 +0.8**
BATM Batumi 78.01 349 ⇓P **P 18 33 25.2 -0.1**
BATM Batumi 78.01 349 P **P 18 33 25.2 -0.1**
PBEJ Beja 78.28 27 *e*P **P 18 33 27.6 +0.7**
PBEJ A A 18 34 20.1
comp=Z,46nm,1.7s
PBAR Barrancos 78.33 27 *e*P **P 18 33 27.5 +0.4**
PBAR A A 18 33 45.5
comp=Z,42nm,1.9s
PBAR *e*pP **pP 18 34 03.1 -0.3**
MESJ Messejana 78.38 28 *e*P **P 18 33 27.8 +0.4**
MESJ A A 18 33 54.8
comp=Z,42nm,1.4s
MESJ Messejana 78.38 28 *e*P **P 18 33 27.3 -0.1**
MESJ IAmb IAmb 18 33 27.6
comp=Z,19nm,1.2s
MESJ Messejana 78.38 28 *e*P **P 18 33 27.3 -0.1**
DIKM Dikmen 78.48 353 ⇓P **P 18 33 26.9 -1.0**
HNR Honiara 78.49 227 LR LR 19 06 29.3
comp=Z,58nm,18.2s,baz=7.5,slow=34
KOHI KOHIMA 78.50 302 *e*P **P 18 33 28.6 +0.2**
KOHI IAmb IAmb 18 33 31.0
comp=Z,138nm,1.9s
SDV Santo Domingo 78.72 92 LR LR 19 10 39.7
comp=Z,150nm,20.1s,baz=313,slow=37
MORF Marmelete 78.79 28 *e*P **P 18 33 30.4 +0.7**
MORF *e*pP **pP 18 34 07.9 +1.9**
MORF Marmelete 78.79 28 *e*P **P 18 33 29.7 0.0**
MORF IAmb IAmb 18 33 30.6
comp=Z,31nm,0.9s
MORF *e*pP **pP 18 34 06.5 +0.5**
MORF Marmelete 78.79 28 *e*P **P 18 33 29.7 0.0**
MORF *e**PP **pP 18 34 06.5 +0.5**
PFVI Vila Bisbo 78.91 28 *e*P **P 18 33 30.9 +0.6**
PVAQ Vaqueiros 78.91 27 *e*P **P 18 33 30.9 +0.6**
PVAQ *e*pP **pP 18 34 08.8 +2.1**
PVAQ A A 18 34 14.9
comp=Z,77nm,1.7s
PBDV Barranco-do-Ve 79.02 27 *e*P **P 18 33 31.8 +0.9**
GNI Garni 79.11 346 *e*P **P 18 33 30.7 -0.9**
GNI pmax pmax
comp=Z,19nm,1.1s
NIL Nilore 79.12 322 P **P 18 33 31.5 -0.1**
NIL IAmb IAmb 18 33 34.0
comp=Z,240nm,1.5s
NIL Nilore 79.12 322 P **P 18 33 31.5 -0.1**
NIL pmax pmax
comp=Z,240nm,1.5s
IMP Imphal 79.35 301 *e*P **P 18 33 32.1 -0.9**
IMP IAmb IAmb 18 33 35.5
comp=Z,50nm,1.0s
GTK Tadong 79.38 307 *e*P **P 18 33 34.8 +1.6**
GTK IAmb IAmb 18 33 40.2
comp=Z,1μm,2.6s
GTK IAmb IAmb 18 33 42.8
comp=Z,80nm,1.2s
DHRM DHARAMSHALA 79.44 319 *e*P **P 18 33 33.1 -0.4**
DHRM IAmb IAmb 18 33 40.6
comp=Z,88nm,1.2s
DHRM *i* pP **sP 18 34 26.0 +0.7**
KLP Kalpa 79.44 317 *e*P **P 18 33 34.3 +0.6**
KBL Kabul 79.55 326 P **P 18 33 33.1 -1.0**
KBL Kabul 79.55 326 P **P 18 33 33.1 -1.0**
KBL pmax pmax
comp=Z,46nm,1.2s
SHL Shillong 79.58 303 IAmb IAmb 18 33 34.7
comp=Z,101nm,1.2s
SHL Shillong 79.58 303 *e*P **P 18 33 33.9 -0.5**
SHL IAmb IAmb 18 33 36.2
comp=Z,159nm,2.0s
BAUV El Baul 79.98 90 P **P 18 33 36.2 -0.2**
BAND Balkesir-Ban 80.01 359 ⇓P **P 18 33 35.8 -0.5**
SMLA Simla 80.18 318 *e*P **P 18 33 37.0 -0.2**
SMLA IAmb IAmb 18 33 38.6
comp=Z,1μm,2.4s
EMAL Malaga-Limoner 80.25 25 P **P 18 33 38.7 +1.1**
ROSC El Rosal 80.35 97 LR LR 19 14 34.7
comp=Z,82nm,18.3s,baz=26,slow=39
JAY Jayapura 80.38 248 LR LR 19 04 26.7
comp=Z,97nm,21.0s,baz=3.0,slow=32
JAY Jayapura 80.38 248 P **P 18 33 37.4 -1.1**
comp=Z,24nm,1.1s
BRTR Keskin Array B 80.48 355 P **P 18 33 37.4 -1.6**
BRTR Keskin Array B 80.48 355 P **P 18 33 38.0 -0.9**
comp=Z,3.5nm,0.8s,baz=23,slow=2.7,SNR=13
comp=Z,3.5nm,0.8s
BRTR Keskin Array B 80.48 355 *i* P **P 18 33 38.4 -0.5**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
DDI Dehra Dun 80.61 317 *e*P **P 18 33 40.4 +0.7**
DDI IAmb IAmb 18 33 41.6
comp=Z,204nm,1.2s
PCRV Puerto La Cruz 80.64 86 LR LR 19 11 15.2
comp=Z,96nm,18.9s,slow=37
LGTI Lohaghat 80.64 315 *e*P **P 18 33 40.4 +0.6**
GENI Genyem 80.69 248 P **P 18 33 40.7 +0.5**
comp=Z,38nm,1.3s,comp=Z,2μm
MSVF Nonsavu 80.85 208 P **P 18 33 41.9 +1.1**
comp=Z,3.2nm,0.3s,baz=30,slow=4.3,SNR=6.0
comp=Z,3.2nm,0.3s
MSVF Nonsavu 80.85 208 P **P 18 33 41.8 +0.9**
AZL Aizawl 80.85 302 *e*P **P 18 33 41.3 +0.2**
AZL IAmb IAmb 18 33 44.2
comp=Z,159nm,1.4s
KIRS Kirsehir-Merke 81.06 354 ⇓P **P 18 33 41.2 -0.8**
RAR Rarotonga 81.07 186 LR LR 19 03 40.0
comp=Z,91nm,20.7s,baz=354,slow=31
BNN Bunyan 81.23 353 IAmb IAmb 18 34 21.7
comp=Z,76nm,1.0s
OTAV Otavalo 82.28 103 *e*P **P 18 33 49.7 +0.6**
CHTO Chiang Mai 82.39 294 P **P 18 33 47.5 -1.6**
CHTO Chiang Mai 82.39 294 P **P 18 33 47.5 -1.6**
CHTO pmax pmax
comp=Z,73nm,1.2s
NDI New Delhi 82.40 317 *e*P **P 18 33 49.9 +0.9**
NPLP NPLP New Delhi 82.46 317 *e*P **P 18 33 49.1 -0.3**
CM31 Chiang Mai Arr 82.70 294 IAmb IAmb 18 33 52.6
comp=Z,152nm,1.2s
CMAR Chiang Mai Arr 82.70 294 P **P 18 33 49.8 -0.9**
CMAR Chiang Mai Arr 82.70 294 P **P 18 33 50.0 -0.8**
comp=Z,74nm,1.1s,baz=13,slow=5.2,SNR=188
CMAR LR LR 19 12 17.9
comp=Z,120nm,18.6s,baz=25,slow=37
comp=Z,74nm,1.1s
CMAR Chiang Mai Arr 82.70 294 P **P 18 33 50.0 -0.8**
SONA Sohna 82.84 317 *e*P **P 18 33 51.3 0.0**
AVE Averroes 82.91 28 P **P 18 33 51.9 +0.3**
TBI Tubuai 83.09 176 *e*S **S 18 43 54.9 -4.5**
comp=Z,2μm,31.5s
TBI *e*SS **SS 18 49 29.4 +1.9**
comp=Z,1μm,30.2s
TBI *e*LQ LQ 18 56 31.6
comp=Z,2μm,43.0s
TBI *e*LR LR 19 00 09.4
comp=Z,2μm,31.2s
KUDL Kundal 83.14 317 *e*P **P 18 33 52.2 -0.7**
IFR Ifrane 83.22 26 P **P 18 33 53.8 +0.3**
SWI Sorong 83.45 257 P **P 18 33 55.6 +1.0**
comp=Z,43nm,1.2s,comp=Z,773nm
KEST Kesra 83.57 14 P **P 18 33 54.9 -0.1**
comp=Z,10nm,1.0s,baz=110,slow=1.6,SNR=5.6
comp=Z,10nm,1.0s
PMG Port Moresby 83.59 239 P **P 18 33 54.4 -0.8**
PMG Port Moresby 83.59 239 LR LR 19 05 12.6
comp=Z,72nm,20.1s,baz=346,slow=31
PMG Port Moresby 83.59 239 P **P 18 33 56.5 +1.3**
PMG Port Moresby 83.59 239 P **P 18 33 56.4 +1.3**
PMG Port Moresby 83.59 239 P **P 18 33 54.4 -0.8**
PMG pmax pmax
comp=Z,68nm,1.6s
BOK Bokaro 83.61 308 *e*P **P 18 33 54.9 -0.5**
BOK IAmb IAmb 18 33 57.1
comp=Z,48nm,1.2s
DLV Lat 83.80 283 IAmb IAmb 18 33 59.0
comp=Z,116nm,1.1s
DLV Lat 83.80 283 P **P 18 33 57.3 +0.7**
TNTI Ternate 83.96 261 P **P 18 33 57.9 +0.7**
TNTI Ternate 83.96 261 *e*P **P 18 33 57.8 +0.6**
comp=Z,31nm,1.3s
MDT Midelt 84.02 26 LR LR 19 13 20.7
comp=Z,46nm,18.5s,baz=354,slow=37
MYLDM Lahad Datu 84.62 271 IAmb IAmb 18 34 04.1
comp=Z,132nm,1.4s
MYLDM Lahad Datu 84.62 271 P **P 18 34 01.6 +1.1**
KMPI Kaimana, Papua 84.70 253 P **P 18 34 01.6 +0.8**
comp=Z,55nm,2.0s,comp=Z,791nm
FAKI Fak Fak 84.75 255 P **P 18 34 00.7 -0.4**
FAKI Fak Fak 84.75 255 P **P 18 33 59.8 -1.3**
JHNI Jhansi 84.88 314 *e*P **P 18 34 00.8 -0.9**
KKM Kota Kinabalu 85.02 273 IAmb IAmb 18 34 05.2
comp=Z,145nm,1.1s
KKM Kota Kinabalu 85.02 273 P **P 18 34 03.7 +1.1**
TIO Tiouine 85.21 29 P **P 18 34 03.9 +0.4**
AJM Ajmer 85.30 318 *e*P **P 18 34 03.7 -0.2**
GUNA GUNA 86.06 315 *e*P **P 18 34 06.8 -0.8**
SRDT SRDT 86.20 292 P **P 18 34 08.4 +0.1**
MSAI Masohi 86.75 258 P **P 18 34 11.3 +0.3**
comp=Z,58nm,1.3s
MRSI Marisa 86.93 266 P **P 18 34 12.0 +0.2**
comp=Z,28nm,0.4s,comp=Z,1μm
MMAI Mount Meron Ar 87.06 353 P **P 18 34 11.9 -0.5**
comp=Z,7.8nm,1.1s,baz=316,slow=4.0,SNR=14
comp=Z,7.8nm,1.1s
SANI Sanana 87.08 261 P **P 18 34 11.6 -1.0**
BNDI Bandanaira 87.29 256 P **P 18 34 15.0 +1.5**
BNDI Bandanaira 87.29 256 P **P 18 34 13.5 0.0**
comp=Z,160nm,1.1s
BHPL Bhopal 87.32 314 *e*P **P 18 34 12.9 -0.9**
BHPL IAmb IAmb 18 34 14.1
comp=Z,105nm,1.6s
LUWI Luwuk 87.82 264 P **P 18 34 17.0 +0.9**
NRDN NARMADA NAGAR 87.89 314 *e*P **P 18 34 17.9 +1.5**
DZM Mont Dzumac 88.09 217 *e*P **P 18 34 21.2 +4.0**
comp=Z,47nm,27.0s
APSI Ampana 88.27 265 P **P 18 34 18.3 +0.1**
NGP Nagpur 88.64 312 *e*P **P 18 34 19.5 -0.5**
ATAH Atahualpa 88.70 107 LR LR 19 15 54.7
comp=Z,50nm,18.5s,baz=332,slow=37
PCI Palu 89.17 267 P **P 18 34 22.0 -0.5**
comp=Z,56nm,1.2s,comp=Z,783nm
BOAV Boa Vista 89.37 86 *e*P **P 18 34 24.0 +0.6**
COEN Coen 89.38 240 P **P 18 34 22.7 -0.6**
SAUI Saumlaki 89.61 253 P **P 18 34 25.5 +1.0**
SAUI Saumlaki 89.61 253 P **P 18 34 25.5 +1.0**
comp=Z,41nm,0.9s,comp=Z,3μm
SBUM Sibu 90.11 275 P **P 18 34 28.6 +1.7**
KDI Kendari 90.40 263 P **P 18 34 29.2 +1.0**
comp=Z,24nm,1.7s
MDP Montagnes des 90.96 78 LR LR 19 14 07.7
comp=Z,98nm,21.5s,baz=292,slow=35
SRIT Nakonsritamara 90.99 289 IAmb IAmb 18 34 33.1
comp=Z,67nm,1.0s
SRIT Nakonsritamara 90.99 289 P **P 18 34 32.6 +1.6**
PBA Port Blair 91.49 296 *e*P **P 18 34 33.7 +0.5**
KSM Kuching 91.91 276 IAmb IAmb 18 34 37.3
comp=Z,62nm,1.2s
KSM Kuching 91.91 276 P **P 18 34 36.3 +1.1**
CZSB Cruzeiro do Su 91.98 102 *e*P **P 18 34 35.9 +0.4**
STKI Sintang 92.53 274 P **P 18 34 38.4 +0.3**
TV1H Townsville Har 92.57 235 P **P 18 34 38.7 +0.7**
MTSU Mount Surprise 92.60 237 P **P 18 34 38.9 +0.7**
AUAYR Ayr State High 92.60 234 P **P 18 34 38.5 +0.4**
WSAR Wadi Sarin 93.04 331 LR LR 19 23 57.3
comp=Z,79nm,19.2s,baz=34,slow=40
KDU Kakadu 93.14 250 P **P 18 34 40.0 -0.7**
CTAO Charters Tower 93.53 235 P **P 18 34 41.5 -1.0**
CTAO IAmb IAmb 18 34 43.3
comp=Z,43nm,1.4s
CTAO Charters Tower 93.53 235 P **P 18 34 42.6 +0.2**
CTAO Charters Tower 93.53 235 P **P 18 34 41.5 -1.0**
CTAO pmax pmax
comp=Z,43nm,1.4s
IPM Ipoh 93.89 286 IAmb IAmb 18 34 45.8
comp=Z,41nm,1.1s
IPM Ipoh 93.89 286 P **P 18 34 45.4 +1.0**
MTN Manton Dam 93.91 251 IAmb IAmb 18 34 46.3
comp=Z,32nm,1.1s
MTN Manton Dam 93.91 251 P **P 18 34 45.4 +1.1**
RPN Rapa Nui 94.01 142 LR LR 19 07 44.7
comp=Z,80nm,22.0s,baz=341,slow=29
RAYN Ar Rayn 95.37 343 P **P 18 34 50.0 -1.1**
RAYN Ar Rayn 95.37 343 P **P 18 34 50.0 -1.1**
RAYN pmax pmax
comp=Z,18nm,1.3s
PSI Prapat 96.36 287 LR LR 19 28 02.0
comp=Z,43nm,18.4s,baz=14,slow=41
PSI Prapat 96.36 287 P **P 18 34 55.7 -0.1**
RPSI Rantau Prapat 96.45 287 IAmb IAmb 18 34 56.9
comp=Z,48nm,1.1s
ETMB Extrema 97.00 97 IAmb IAmb 18 35 35.1
comp=Z,29nm,0.7s
ETMB Extrema 97.00 97 *e*P **P 18 34 57.0 -1.4**
SAML Samuel 97.77 94 *e*P **PKiKP 18 39 28.4 -6.6**
WRA Warramunga Arr 98.58 245 P **P 18 35 04.0 -1.4**
comp=Z,2.9nm,1.0s,baz=33,slow=5.4,SNR=8.8
comp=Z,2.9nm,1.0s
WRA Warramunga Arr 98.58 245 P **P 18 35 04.0 -1.4**
ASAR Alice Springs 102.02 244 P **Pdif 18 35 20.2 -0.4**
comp=Z,0.4nm,0.6s,baz=25,slow=4.3,SNR=10
ASAR PP **PP 18 39 33.6 -0.5**
comp=Z,1.1nm,0.9s,baz=30,slow=7.1,SNR=2.7
TORD Torodi Ar. Bea 104.40 25 Pdiff **Pdif 18 35 31.8 +0.3**
comp=Z,0.4nm,0.4s,baz=199,slow=6.1,SNR=8.2
KMBO Kilima Mbogo 120.73 348 PKPdf **PKPdf 18 40 17.8 -0.5**
KMBO Kilima Mbogo 120.73 348 PKP **PKiKP 18 40 18.1 -0.4**
comp=Z,1.9nm,0.7s,baz=32,slow=3.8,SNR=11
KMBO Kilima Mbogo 120.73 348 PKIKP **PKPdf 18 40 17.8 -0.5**
TRQA Tornquist 122.70 110 PKPdf **PKPdf 18 40 20.7 -0.3**
TRQA Tornquist 122.70 110 PKIKP **PKPdf 18 40 20.7 -0.3**
ABPO Ambohimpanom 136.49 331 **PKPdf 18 40 47.8 -0.2**
ABPO Ambohimpanom 136.49 331 PKIKP **PKPdf 18 40 47.8 -0.2**
SMAI San Martin Ant 142.11 143 PKPpre 18 40 52.4
CASY Casey 144.31 224 PKPdf PKPbc 18 40 58.8 -0.3
BOSA Boshof 148.62 2 **PKPbc 18 41 12.5 -0.4**
BOSA Boshof 148.62 2 PKPbc **PKPbc 18 41 11.6 -1.3**
comp=Z,25nm,0.7s,baz=4.4,slow=2.5,SNR=48
BOSA Boshof 148.62 2 PKP2 **PKPbc 18 41 12.5 -0.4**
QSPA South Pole Qui 149.78 180 PKPbc **PKPbc 18 41 14.1 -0.4**
comp=Z,55nm,0.8s,baz=304,slow=0.6,SNR=32
VNA3 Neumayer Olymp 161.62 143 ⇑pPKPab pPKPab 18 42 44.2 -4.1
comp=Z,21nm,0.8s
MAW Mawson 162.52 229 PKP **PKPdf 18 41 24.8 -1.2**
comp=Z,4.8nm,1.0s,baz=29,slow=1.7,SNR=10
MAW PKPab **PKPab 18 42 14.5 -0.6**
comp=Z,22nm,1.0s,baz=95,slow=7.6,SNR=18
TROLL Troll, Antarti 164.63 151 ⇑PKPab **PKPab 18 42 20.7 -3.8**
comp=Z,507nm,0.8s
TROLL ⇑pPKPab **pPKPab 18 42 59.8 -1.8**
comp=Z,493nm,0.7s

*IDC **21** 18:39:25.2±2.5, 13°.77N×90°.62W, h0km, mb3.8/4, mbtmp3.8/6, ML3.9/2, Error ellipse: s-maj=65.1km s-min=41.3km az=27.0*
*CATAC **21** 18:39:27.3±0.8, 13°.49N×91°.21W, h8km±8km, ML4.2*
*SNET **21** 18:39:29.1±1.1, 13°.58N×91°.14W, h17km±9km, ML4.3*
*NEIC **21** 18:39:32.6±2.1, 13°.57N±0°.06×91°.17W±0°.05, h35km±2km, mb4.1/19, Error ellipse: s-maj=10.9km s-min=7.7km az=186.0*
*GCG **21** 18:39:32.9±0.6, 13°.78N×91°.27W, h34km±999km, MD4.2*
ISC 21 18:39:27.7±2.4, 13°.52N±0°.08×91°.20W±0°.04, h11km±13km, **n81**, σ0°91/88, **mb4.2**/11, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.99**	**20**	*i* P	**Pn**	**18 39 48.1**	**+0.4**
RTAL	**Retalhuleu**	**1.11**	**334**		**Pb**	**18 39 48.3**	**-0.6**
RTAL	**Retalhuleu**	**1.11**	**334**	*e*P	**Pb**	**18 39 48.4**	**-0.6**

RTAL *e*S **Sb** **18 40 03.0 -0.5**
RTAL Retalhuleu 1.11 334 *i* P **Pb** **18 39 48.2 -0.8**
RTAL IAML 18 40 34.4
comp=Z,2μm,1.0s
STG3 Santiaguito 3, 1.24 343 *i* P **Pn** **18 39 50.7 -0.5**
GUMI Mixco 1.25 27 *i* P **Pb** **18 39 51.5 +0.1**
GUMI IAML 18 39 53.2
comp=Z,6μm,1.0s
CHTG Tecpan 1.26 10 *i* P **Pb** **18 39 51.6 0.0**
CHTG IAML 18 39 51.9
comp=Z,7μm,1.0s
SOKI Kika Raxquin 1.31 351 *i* P **Pn** **18 39 51.6 -0.8**
SOKI IAML 18 40 12.8
comp=Z,2μm,1.0s
NBG Las Nubes 1.35 38 *e*P **Pg** **18 39 54.0 +0.3**
NUBE Las Nubes 1.43 74 *e*P **Pn** **18 39 52.9 -0.8**
NUBE Las Nubes 1.43 74 *i* P **Pn** **18 39 52.9 -0.8**
NUBE IAML 18 40 19.1
comp=Z,2μm,1.0s
LOAL Lomas de Alarc 1.46 71 *e*P **Pn** **18 39 53.9 -0.2**
LOAL Lomas de Alarc 1.46 71 *i* P **Pn** **18 39 53.9 -0.2**
LOAL IAML 18 40 21.6
comp=Z,5μm,1.0s
SLOZ Alcaldia de Sa 1.47 70 *e*P **Pn** **18 39 53.8 -0.3**
RTR El Retiro 1.56 76 *e*P **Pn** **18 39 55.4 -0.1**
CEVE Cerro Verde 1.56 78 *e*P **Pn** **18 39 55.1 -0.5**
CEVE IAML 18 40 26.4
comp=Z,6μm,0.3s
CEVE Cerro Verde 1.56 78 *i* P **Pn** **18 39 55.1 -0.5**
CEVE *i* S **Sn** **18 40 15.3 -0.7**
CEVE IAML 18 40 26.1
comp=Z,5μm,1.0s
SBLS San Blas 1.56 78 *e*P **Pn** **18 39 54.9 -0.8**
SMCA Catarina 1.58 328 *i* P **Pn** **18 39 54.8 -0.9**
SMCA IAML 18 40 28.6
comp=Z,900nm,1.0s
SNJE San Jose 1.59 77 *e*P **Pn** **18 39 55.3 -0.7**
UNIC Universidad Ca 1.67 74 *i* P **Pn** **18 39 56.9 -0.1**
UNIC *i* S **Sb** **18 40 19.3 -0.3**
UNIC IAML 18 40 22.8
comp=Z,770nm,1.0s
JAYA Jayaque - finc 1.71 85 *e*P **Pn** **18 39 56.5 -1.0**
JAYA IAML 18 40 22.8
comp=Z,4μm,0.3s
JAYA Jayaque - finc 1.71 85 *i* P **Pn** **18 39 56.7 -0.9**
JAYA *i* S **Sn** **18 40 19.1 -0.4**
JAYA IAML 18 40 22.8
comp=Z,8μm,1.0s
CEDA San Andres 1.78 81 *e*P **Pn** **18 39 58.2 -0.2**
CEDA IAML 18 40 29.9
comp=Z,2μm,0.4s
HUEH Huehuetenango 1.82 351 **Pb** **18 40 00.1 -1.1**
HUEH Huehuetenango 1.82 351 *e*P **Pb** **18 40 00.1 -1.1**
LALI Alcalda de L 1.83 91 *i* P **Pn** **18 39 58.8 -0.2**
LALI IAML 18 40 32.4
comp=Z,440nm,1.0s
PMON Piamonte 1.84 84 *e*P **Pn** **18 39 59.0 -0.4**
PMON Piamonte 1.84 84 *i* P **Pn** **18 39 59.0 -0.4**
PMON *i* S **Sb** **18 40 24.8 +0.2**
PMON IAML 18 40 32.0
comp=Z,4μm,1.0s
BOQS Boqueron 1.88 83 *e*P **Pn** **18 39 59.7 -0.3**
SNET Serv Nac Est T 1.92 85 **Pn** **18 40 00.5 +0.1**
SNET Serv Nac Est T 1.92 85 *i* P **Pn** **18 40 00.9 +0.5**
SNET *i* S **Sn** **18 40 24.9 +0.3**
SNET IAML 18 40 30.5
comp=Z,4μm,1.0s
LOMA Loma Larga 1.98 86 *e*P **Pn** **18 40 01.1 -0.2**
LOMA Loma Larga 1.98 86 *i* P **Pn** **18 40 00.9 -0.3**
LOMA *i* S **Sb** **18 40 27.8 -0.7**
LOMA IAML 18 40 31.8
comp=Z,2μm,1.0s
MTO3 Montecristo 1.99 64 Pn **Pn** **18 40 01.8 +0.2**
MTO3 Montecristo 1.99 64 *e*P **Pn** **18 40 01.7 +0.2**
MTO3 Montecristo 1.99 64 *i* P **Pn** **18 40 01.9 +0.4**
MTO3 IAML 18 40 04.1
comp=Z,1μm,1.0s
ESQI Esquipulas 2.08 60 **Pn** **18 40 03.3 +0.6**
LFRS El Faro 2.08 87 *e*P **Pn** **18 40 02.9 +0.3**
MRL Marmol 2.14 43 *i* P **Pb** **18 40 05.6 -1.1**
PAVA Las Pavas 2.21 85 *e*P **Pn** **18 40 04.6 +0.2**
PAVA Las Pavas 2.21 85 *i* P **Pn** **18 40 04.6 +0.2**
PAVA IAML 18 40 40.8
comp=Z,2μm,1.0s
COEG Centro de Oper 2.26 87 *e*P **Pn** **18 40 05.2 +0.2**
COEG Centro de Oper 2.26 87 *i* P **Pn** **18 40 05.6 +0.6**
COEG *i* S **Sn** **18 40 34.1 +1.2**
COEG IAML 18 40 42.5
comp=Z,1μm,1.0s
LLGN La Laguna 2.28 73 *i* P **Pn** **18 40 05.5 +0.1**
LLGN IAML 18 40 39.9
comp=Z,1μm,1.0s
TECO Alcaldia de Te 2.35 89 *i* P **Pn** **18 40 06.5 +0.2**
TECO IAML 18 40 49.2
comp=Z,680nm,1.0s
SCLA Alcaldia de Sa 2.41 85 *e*P **Pn** **18 40 07.8 +0.7**
SCLA Alcaldia de Sa 2.41 85 *i* P **Pn** **18 40 07.7 +0.6**
SCLA IAML 18 40 53.4
comp=Z,380nm,1.0s
TECA Tecapa 2.62 90 *e*P **Pn** **18 40 10.4 +0.2**
CCIG Comitan 2.90 342 **Pn** **18 40 15.4 +1.5**
TGUH Tegucigalpa,Un 3.85 82 Pn **Pn** **18 40 27.8 +0.8**
CRIN San Cristobal 4.12 101 Pn **Pn** **18 40 32.0 +1.2**
CMIG Matias Romero 5.03 315 Pn **Pn** **18 40 43.2 +0.1**
comp=Z,2.3nm,0.3s,baz=124,slow=11,SNR=15
CMIG Sn **Sn** **18 41 42.4 +1.1**
comp=Z,1.4nm,0.3s,baz=126,slow=19,SNR=2.1
comp=Z,10nm,0.4s
ACON Acoyapa 6.08 104 Pn **Pn** **18 40 59.0 +1.5**
TEIG Tepich 7.24 22 Pn **Pn** **18 41 14.8 +1.4**
BRDY Brady 19.09 339 **Pn** **18 43 51.0 -0.2**
TXAR Lajitas Array 19.53 326 P **Pn** **18 43 56.4 -0.2**
TXAR Lajitas Array 19.53 326 P **Pn** **18 43 56.7 +0.1**
comp=Z,0.1nm,0.3s,baz=154,slow=13,SNR=25
comp=Z,1.8nm,0.7s
TX31 Lajitas Ar. Si 19.53 326 P **Pn** **18 43 56.4 -0.3**
OZNA Ozona 19.59 334 P **Pn** **18 43 57.2 -0.1**
ALPN Alpine 20.33 328 P Pn **18 44 06.0 -0.2**
ALPN IAmb IAmb 18 44 07.3
comp=Z,6.4nm,0.8s
ABTX Abilene, Hawle 20.53 339 P Pn **18 44 07.5 -0.9**
ABTX IAmb IAmb 18 44 07.5
comp=Z,6.2nm,0.7s
MNHN Monahans 20.68 331 P **P** **18 44 08.7 +0.8**
MNHN IAmb IAmb 18 44 10.4
comp=Z,12nm,0.8s
PECS Pecos 21.25 329 P **P** **18 44 14.6 +0.6**
PECS IAmb IAmb 18 44 16.1
comp=Z,10nm,0.7s
VHRN Van Horn 21.37 326 P **P** **18 44 15.7 +0.2**
VHRN IAmb IAmb 18 44 17.8
comp=Z,6.2nm,0.8s
W50A Signal Mountai 22.24 13 P **P** **18 44 25.2 +0.7**
W50A IAmb IAmb 18 44 39.9
comp=Z,10nm,1.3s
LNXT Lenox 22.54 4 P **P** **18 44 28.2 +0.5**
121A Cookes Peak, D 24.25 324 P **P** **18 44 46.5 +1.4**
121A IAmb IAmb 18 44 47.5
comp=Z,5.2nm,0.8s
O52A Adamsville 27.75 16 P **P** **18 45 17.5 +1.1**
KNB Kanab 30.35 324 P **P** **18 45 41.0 +1.2**
KNB IAmb IAmb 18 45 42.4
comp=Z,3.0nm,0.8s
BSUT Blindstream Ca 31.91 331 P **P** **18 45 55.5 +1.8**
BSUT IAmb IAmb 18 46 27.2
comp=Z,3.5nm,1.2s
PDAR Pinedale Array 33.18 335 P **P** **18 46 04.5 -0.1**
comp=Z,0.3nm,0.7s,baz=136,slow=12,SNR=2.4
comp=Z,0.3nm,0.7s
NVAR Mina Array Bea 34.53 321 P **P** **18 46 17.8 +1.3**
comp=Z,1.8nm,0.7s,baz=130,slow=8.1,SNR=6.3
comp=Z,1.8nm,0.7s
KVN Kaiserville 34.80 322 P **P** **18 46 20.2 +1.5**
I63A Otisfield 35.18 26 P **P** **18 46 23.7 +2.0**
HOPS Hopland Field 37.89 318 P **P** **18 46 46.3 +1.4**
LON Longmire 41.91 328 P **P** **18 47 18.6 +0.4**
LON IAmb IAmb 18 47 46.2
comp=Z,8.0nm,1.4s
SCHQ Schefferville 45.41 20 P **P** **18 47 41.8 -4.5**
comp=Z,2.8nm,0.6s,baz=216,slow=13,SNR=4.0
comp=Z,2.8nm,0.6s
ILAR Eielson Array 63.59 337 P **P** **18 49 56.8 -1.5**
comp=Z,0.7nm,1.0s,baz=165,slow=5.1,SNR=6.3
comp=Z,0.7nm,1.0s

ASAR Alice Springs 136.23 250 PKP **PKPdf** **18 58 50.1 -0.1**
comp=Z,0.5nm,1.0s,baz=79,slow=3.7,SNR=2.8
CMAR Chiang Mai Arr 146.69 342 PKPbc **PKPdf** **18 59 09.1 +0.1**
comp=Z,2.0nm,0.6s,baz=344,slow=3.3,SNR=20

*AEIC **21** 19:03:43.5±1.6,51°.8N±0°.1×171°.66W±0°.09, h42km±9km, Error ellipse: s-maj=16.9km s-min=6.6km az=166.0*
NEIC 21 19:03:45.0±1.4,51°.9N±0°.2×171°.71W±0°.08, h34km±16km, ML3.3/4, ML3.0(AEIC), Error ellipse: s-maj=34.5km s-min=4.0km az=170.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**1.50**	**54**		Pn	19 04 09.0	-0.5
KOSE	**Korovin Southe**	**1.51**	**288**		Pn	19 04 09.9	+0.3
KOFP	**Korovin Flat P**	**1.52**	**285**		Pn	19 04 09.2	-0.6
ATKA	**Atka Island**	**1.56**	**282**		Pn	19 04 09.7	-0.7
ATKA					Sn	19 04 29.7	+0.3
ATKA	**Atka Island**	**1.56**	**282**	IAML		19 04 33.8	
	comp=E,263nm,0.7s						
KOKL	**Mount Kliuchef**	**1.59**	**286**		Pn	19 04 10.8	0.0
KOWE	**Korovin West**	**1.63**	**287**		Pn	19 04 11.4	+0.1
NIKH	**Nikolski High**	**2.04**	**58**		Pn	19 04 16.1	-0.8
NIKH					Sn	19 04 41.6	+0.3
OKCE	**Okmok Cone E**	**2.64**	**54**		Pn	19 04 25.4	+0.2
OKTU	**Okmok Mt. Tuli**	**2.67**	**55**		Pn	19 04 25.5	-0.2
GSMY	**Great Sitkin M**	**2.69**	**274**		Pn	19 04 26.8	+0.8
GSTR	**Great Sitkin T**	**2.70**	**276**	Pn	Pn	19 04 24.5	-1.4
ADK	**Adak**	**3.08**	**271**		Pn	19 04 30.8	-0.5
ADK				IAML		19 05 18.5	
	comp=E,119nm,1.0s						
ADK	**Adak**	**3.08**	**271**		Sn	19 05 07.7	+0.8
KIWB	**Kanaga Island**	**3.37**	**271**	Pn	Pn	19 04 34.1	-1.2
MAPS	**Pakushin South**	**3.46**	**55**		Pn	19 04 37.3	+0.9
MSW	**Makushin Switc**	**3.59**	**54**		Pn	19 04 38.5	+0.2
UNV	**Unalaska Valle**	**3.70**	**56**		Pn	19 04 40.4	+0.7
UNV					Sn	19 05 24.6	+2.6
J20K	**Nowinta River**	**15.33**	**30**	Pn	Pn	19 07 17.2	-1.4
J26L	**Joseph Creek**	**19.24**	**38**	P	P	19 08 05.2	-1.0
B21K	**Ikpikpuk River**	**19.49**	**18**	P	P	19 08 08.5	-0.2
C23K	**Itkillik River**	**20.49**	**21**	P	P	19 08 19.6	0.0
K29M	**Barlow Dome**	**21.43**	**43**	P	P	19 08 30.0	0.0

*IDC **21** 19:06:52.1±2.4,7°.36S×128°.78E, h141km±21km, mb3.8/9, mbtmp4.4/14, Error ellipse: s-maj=21.4km s-min=12.6km az=66.0*
*NEIC **21** 19:06:52.6±1.6,7°.36S±0°.09×128°.70E±0°.06, h145km±7km, mb4.3/21, Error ellipse: s-maj=14.7km s-min=6.0km az=209.0*
*DJA **21** 19:06:54.3±0.3,7°.S±2°.×12°.9E±°, h206km±7km, M4.4/18, mb4.5/12, mB4.9/5, MLv4.5/18, Mw(mB)4.2/5*
ISC 21 19:06:53.4±0.4,7°.50S±0°.04×128°.61E±0°.05, h150km, n102, σ2°.27/110, mb4.1/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.71**	**100**		**Pn**	**19 07 34.6**	**-2.5**
SAUI	**Saumlaki**	**2.71**	**100**	**P**	**Pn**	**19 07 40.7**	**+3.6**
SAUI	**Saumlaki**	**2.71**	**100**	**P**	**Pn**	**19 07 40.0**	**+2.9**
SAUI				S	**Sn**	**19 08 15.3**	**+4.5**
BNDI	**Bandanaira**	**3.23**	**24**	**P**	**Pn**	**19 07 46.6**	**+2.9**
BNDI	**Bandanaira**	**3.23**	**24**	**P**	**Pn**	**19 07 45.6**	**+1.9**
BNDI				S	**Sn**	**19 08 27.5**	**+4.9**
AAI	**Ambon**	**3.81**	**354**	**P**	**Pn**	**19 07 54.1**	**+2.9**
AAI				S	**Sn**	**19 08 41.3**	**+5.2**
MSAI	**Masohi**	**4.14**	**4**	**P**	**Pn**	**19 07 58.6**	**+3.1**
NLAI	**Namlea**	**4.49**	**340**	**P**	**Pn**	**19 08 03.8**	**+3.6**
SOEI	**Soe**	**4.84**	**242**		**Pn**	**19 08 08.1**	**+3.2**
SOEI				Sn	**Sn**	**19 08 56.6**	**-4.0**
SOEI	**Soe**	**4.84**	**242**	**P**	**Pn**	**19 08 08.7**	**+3.8**
SOEI	**Soe**	**4.84**	**242**	**P**	**Pn**	**19 08 08.5**	**+3.6**
DRS	**Darwin Rock St**	**5.39**	**155**	**P**	**Pn**	**19 08 14.2**	**+2.1**
BATI	**Baumata**	**5.58**	**241**	**P**	**Pn**	**19 08 17.7**	**+3.1**
	183nm,0.3s,baz=61,slow=3.3,SNR=84						
BATI				S	**Sn**	**19 09 21.2**	**+3.2**
	257nm,0.4s,baz=76,slow=19,SNR=5.0						
BATI	**Baumata**	**5.58**	**241**	**P**	**Pn**	**19 08 17.7**	**+3.1**
FAKI	**Fak Fak**	**5.82**	**39**	Pn	**Pn**	**19 08 15.8**	**-1.9**
FAKI				Sn	**Sn**	**19 09 15.2**	**-8.5**
FAKI	**Fak Fak**	**5.82**	**39**	**P**	**Pn**	**19 08 16.2**	**-1.5**
	37nm,0.6s,0.3nm						
MTN	**Manton Dam**	**5.86**	**155**		**Pn**	**19 08 19.4**	**+1.1**
MTN				Sn	**Sn**	**19 09 22.6**	**-2.1**
MTN	**Manton Dam**	**5.86**	**155**	**P**	**Pn**	**19 08 20.1**	**+1.8**
SANI	**Sanana**	**6.01**	**334**	**P**	Pn	19 08 25.5	+5.2
SANI	**Sanana**	**6.01**	**334**	**P**	**Pn**	**19 08 23.1**	**+2.8**
BBSI	**Bau Bau**	**6.33**	**288**	**P**	**Pn**	**19 08 27.5**	**+3.0**
	134nm,1.1s,0.4nm						
KMPI	**Kaimana, Papua**	**6.34**	**53**	**P**	**Pn**	**19 08 24.6**	**-0.1**
	90nm,0.6s,3μm0.8nm						
KDU	**Kakadu**	**6.41**	**144**	**P**	**Pn**	**19 08 26.8**	**+1.3**
MMRI	**Maumere**	**6.41**	**259**	Pn	**Pn**	**19 08 28.7**	**+3.1**
MMRI	**Maumere**	**6.41**	**259**	**P**	**Pn**	**19 08 28.6**	**+3.0**
	31nm,0.6s,0.2nm						
KDI	**Kendari**	**6.92**	**300**	**P**	**Pn**	**19 08 33.4**	**+0.9**
SWI	**Sorong**	**7.10**	**22**	**P**	**Pn**	**19 08 34.3**	**-0.6**
	42nm,0.5s,942nm0.2nm						
KNRA	**Kununurra**	**8.13**	**179**		**Pn**	**19 08 49.3**	**+0.8**
BASI	**Baing, Sumba**	**8.38**	**251**	**P**	**Pn**	**19 08 54.5**	**+2.5**
	138nm,0.9s						
WSI	**Waingapu**	**8.50**	**255**	**P**	**Pn**	**19 08 55.0**	**+1.5**
LUWI	**Luwuk**	**8.66**	**318**	**P**	**Pn**	**19 08 56.9**	**+1.2**
PLAI	**Plampang**	**10.81**	**262**	**P**	**Pn**	**19 09 27.6**	**+3.5**
FITZ	**Fitzroy Crossi**	**10.93**	**195**		**Pn**	**19 09 25.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**10.93**	**195**	**P**	**Pn**	**19 09 25.1**	**-0.6**
	24nm,0.3s,baz=16,slow=9.5,SNR=103						
FITZ				S	**Sn**	**19 11 24.9**	**-1.6**
	19nm,0.4s,baz=335,slow=19,SNR=3.1						
JAY	**Jayapura**	**13.02**	**68**	P	**Pn**	**19 09 49.5**	**-3.5**
	15nm,1.0s,baz=198,slow=20,SNR=2.8						
WB0	**Warramunga Arr**	**13.42**	**156**		**Pn**	**19 09 56.5**	**-1.6**
WRAB	**Tennant Creek**	**13.55**	**156**		**Pn**	**19 09 57.7**	**-2.1**
WRA	**Warramunga Arr**	**13.56**	**156**		**Pn**	**19 09 57.5**	**-2.3**
WRA	**Warramunga Arr**	**13.56**	**156**	**P**	**Pn**	**19 09 58.0**	**-1.9**
	5.4nm,0.4s,baz=331,slow=13,SNR=103						
WRA				S	Sn	19 12 20.6	-9.4
	8.8nm,0.5s,baz=329,slow=22,SNR=8.5						
WB2	**Warramunga Arr**	**13.56**	**156**		**Pn**	**19 09 58.0**	**-1.9**
WR0	**Warramunga Arr**	**13.66**	**156**		**Pn**	**19 09 59.0**	**-2.1**
COEN	**Coen**	**15.68**	**115**	P	**P**	**19 10 27.6**	**+0.4**
COEN				IAmb	IAmb	19 10 29.6	
	comp=Z,6.2nm,0.8s						
COEN	**Coen**	**15.68**	**115**	**P**	**P**	**19 10 28.8**	**+1.6**
MBWA	**Marble Bar**	**16.07**	**211**		**P**	**19 10 32.8**	**+1.4**
MBWA				IAmb	IAmb	19 10 47.9	
	comp=Z,30nm,1.4s						
MBWA	**Marble Bar**	**16.07**	**211**	**P**	**P**	**19 10 33.0**	**+1.5**
PSA00	**Pilbara Seismi**	**16.35**	**210**	**P**	**Pn**	**19 10 34.4**	**-0.1**
PSA00				IAmb	IAmb	19 10 54.7	
	comp=Z,31nm,1.4s						
PSA00	**Pilbara Seismi**	**16.35**	**210**	**P**	**P**	**19 10 37.0**	**+2.4**
QIS	**Mount Isa**	**16.79**	**142**	**P**	**Pn**	**19 10 41.3**	**+1.5**
AS31	**Alice Springs**	**16.86**	**163**	**P**	**P**	**19 10 38.6**	**-1.6**
AS31				IAmb	IAmb	19 10 43.4	
	comp=Z,5.2nm,0.5s						
ASAR	**Alice Springs**	**16.86**	**163**	**P**	**P**	**19 10 37.9**	**-2.4**
ASAR	**Alice Springs**	**16.86**	**163**	**P**	**Pn**	**19 10 41.9**	**+1.2**
	comp=Z,6.5nm,0.4s,baz=337,slow=9.6,SNR=357						
ASAR				S	S	19 13 38.2	-10
	comp=Z,3.1nm,0.9s,baz=339,slow=19,SNR=5.0						
WRKA	**Warakurna**	**17.44**	**181**	**P**	**Pn**	**19 10 49.1**	**+1.4**
SBUM	**Sibu**	**19.11**	**301**	**P**	**P**	**19 11 04.1**	**-0.8**
OOD	**Oodnadatta**	**21.27**	**162**	**P**	**P**	**19 11 29.4**	**+1.4**
MEEK	**Meekatharra**	**21.27**	**205**	**P**	**P**	**19 11 31.1**	**+3.0**
XMIS	**Christmas Isla**	**22.87**	**261**	**P**	**P**	**19 11 42.9**	**-1.3**
FORT	**Forrest**	**23.17**	**181**	**P**	**P**	**19 11 45.4**	**-1.3**
FORT				IAmb	IAmb	19 11 59.9	
	comp=Z,23nm,0.8s						
FORT	**Forrest**	**23.17**	**181**	**P**	**P**	**19 11 48.7**	**+2.0**
INKA	**Innaminka**	**23.18**	**152**	**P**	**P**	**19 11 48.9**	**+2.0**
MULG	**Mulgathing**	**23.23**	**168**	**P**	**P**	**19 11 49.1**	**+1.8**
QLP	**Quilpie**	**24.10**	**144**	**P**	**P**	**19 11 57.6**	**+2.3**
MORW	**Morawa**	**24.51**	**207**	**P**	**P**	**19 12 00.2**	**+1.2**
MORW				IAmb	IAmb	19 12 27.5	
	comp=Z,24nm,1.3s						
MORW	**Morawa**	**24.51**	**207**	**P**	**P**	**19 12 01.2**	**+2.2**
LCRK	**Leigh Creek**	**24.54**	**160**	**P**	**P**	**19 12 01.1**	**+1.9**
KLBR	**Kellerberrin**	**26.02**	**201**	**P**	**P**	**19 12 14.4**	**+1.8**
BBOO	**Buckleboo**	**26.12**	**166**	**P**	**P**	**19 12 13.8**	**+0.4**
BBOO	**Buckleboo**	**26.12**	**166**	**P**	**P**	**19 12 14.9**	**+1.4**

STKA Stephens Creek 27.11 155 P **P** **19 12 22.8 +0.4**
STKA Stephens Creek 27.11 155 P **P** **19 12 23.4 +1.0**
comp=Z,5.5nm,0.9s,baz=336,slow=9.3,SNR=5.4
comp=Z,5.5nm,0.9s
NWAO Narrogin (SRO) 27.42 201 P **P** **19 12 25.9 +0.9**
NWAO Narrogin (SRO) 27.42 201 P **P** **19 12 26.8 +1.7**
HTT Hallett 27.51 161 P **P** **19 12 27.6 +1.6**
CMSA Cobar Meteorol 28.74 149 P **P** **19 12 38.7 +1.8**
ARPS Mount Arapiles 31.53 159 P **P** **19 13 03.8 +2.4**
CMAR Chiang Mai Arr 39.01 312 P **P** **19 14 05.9 +0.3**
comp=Z,1.0nm,0.8s,baz=137,slow=6.8,SNR=10
CMAR PcP **PcP** **19 16 13.6 +0.7**
comp=Z,0.6nm,0.6s,baz=169,slow=1.8,SNR=5.9
comp=Z,1.0nm,0.8s
PZH PanZhiHua 42.69 323 P **P** **19 14 35.8 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,120nm,5.3s
KS19 Wonju Array Si 44.77 359 P **P** **19 14 50.5 -1.5**
KS19 IAmb IAmb 19 15 06.8
comp=Z,16nm,1.2s
HHC Hu-ho-hao-te 50.60 343 *e*P **P** **19 15 40.8 +3.7**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,90nm,4.3s
SONM Songino Array 58.49 343 P **P** **19 16 32.1 -1.8**
comp=Z,0.9nm,0.8s,baz=158,slow=6.8,SNR=4.2
comp=Z,0.9nm,0.8s
KSH Kashi 67.46 318 P **P** **19 17 34.1 +0.8**
KSH pmax pmax
comp=Z,4.0nm,0.9s
MK31 Makanchi Array 67.90 328 P **P** **19 17 33.7 -2.0**
MK31 IAmb IAmb 19 17 55.0
comp=Z,2.8nm,1.1s
MKAR Makanchi Array 67.90 328 P **P** **19 17 33.7 -2.1**
MKAR Makanchi Array 67.90 328 P **P** **19 17 35.3 -0.4**
comp=Z,2.0nm,0.7s,baz=126,slow=7.8,SNR=16
comp=Z,2.0nm,0.7s
KDJ Kajisay 68.09 321 P **P** **19 17 37.2 -0.1**
KDJ IAmb IAmb 19 17 46.0
comp=Z,2.5nm,0.9s
MA2 Magadan 69.16 12 P **P** **19 17 41.9 -1.4**
ARSB Arslanbob 70.35 319 P **P** **19 17 50.9 -0.3**
ZAA0 Zalesovo Array 71.43 334 P **P** **19 17 55.7 -1.4**
ZALV Zalesovo Beam 71.43 334 P **P** **19 17 55.8 -1.4**
ZALV Zalesovo Beam 71.43 334 P **P** **19 17 55.9 -1.3**
comp=Z,2.3nm,0.8s,baz=134,slow=3.9,SNR=10
comp=Z,2.3nm,0.8s
KURBB Kurchatov Arra 72.22 329 P **P** **19 18 01.4 -0.6**
comp=Z,1.8nm,0.6s,baz=132,slow=5.0,SNR=32
comp=Z,1.8nm,0.6s
KURK Kurchatov 72.23 329 P **P** **19 18 01.3 -0.7**
KURK IAmb IAmb 19 18 02.4
comp=Z,3.4nm,0.8s
KKAR Karatay Array 72.81 319 P **P** **19 18 04.8 -0.9**
MAW Mawson 73.99 201 P **P** **19 18 12.7 +0.6**
MAW Mawson 73.99 201 P **P** **19 18 12.9 +0.8**
comp=Z,2.2nm,0.7s,baz=82,slow=10,SNR=11
comp=Z,2.2nm,0.7s
BVAR Borovoye Array 77.75 328 P **P** **19 18 33.1 -0.6**
comp=Z,1.2nm,0.8s,baz=121,slow=7.2,SNR=6.3
comp=Z,1.2nm,0.8s
NRIK Noril'sk 81.71 346 P **P** **19 18 56.4 +1.7**
comp=Z,1.2nm,0.6s,baz=176,slow=13,SNR=2.2
ABKAR Akbulak array 82.05 322 P **P** **19 18 55.8 -1.1**
QSPA South Pole Qui 82.48 180 P **P** **19 18 59.4 +0.4**
comp=Z,2.9nm,0.7s,baz=21,slow=2.6,SNR=11
comp=Z,2.9nm,0.7s
M16K Timber Creek 88.14 28 P **P** **19 19 25.9 -1.1**
TORD Torodi Ar. Bea 127.55 281 PKP **PKPdf** **19 25 40.8 -1.0**
comp=Z,0.6nm,0.6s,baz=103,slow=1.9,SNR=3.8
CPUP Villa Florida 145.88 170 PKPbc **PKPdf** **19 26 14.3 -0.8**
comp=Z,2.5nm,0.7s,baz=182,slow=5.8,SNR=5.4
LPAZ La Paz 151.13 145 PKPbc **PKPbc** **19 26 30.3 -0.4**
comp=Z,1.7nm,0.6s,baz=200,slow=4.4,SNR=6.2

NOU 21 19:24:14.2,15°.68S×166°.99E, h3km, MLv4.3/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**0.59**	**136**	P	Pg	19 24 26.0	+0.4
DVP	**Devils Point**	**2.33**	**151**	P	Pn	19 24 54.3	+0.8
KOUNC	**Koumac, New Ca**	**5.48**	**208**	P	Pn	19 25 37.1	+0.3
YATNC	**Mamie plateau,**	**6.35**	**181**	P	Pn	19 25 48.0	-0.7
DZM	**Mont Dzumac**	**6.38**	**185**	P	Pn	19 25 48.7	-0.5

*SSNC **21** 20:14:23.9±2.8, 19°.65N×71°.24W, h5km±20km, MD3.3, ML3.3*
*SDD **21** 20:14:23.4±2.4, 19°.77N×71°.29W, h20km±28km, MD3.7, ML3.6, MW3.7*
*OSPL **21** 20:14:24.7±3.0, 19°.70N×71°.34W, h0km±10km, ML3.1*
ISC 21 20:14:21.3±1.2, 19°.76N±0°.02×71°.28W±0°.03, h1km±10km, n34, σ0°.81/53, 10C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.12**	**37**	*i* P	Pg	20 14 19.3	-4.3
LOPP1				*e*S	**Sg**	**20 14 23.9**	**-1.3**
LOPP1				IAML		20 14 25.4	
	comp=Z,6μm,0.6s						
MAO1	**Mao**	**0.28**	**138**	*e*Pg	**Pb**	**20 14 29.1**	**+0.1**
LODA1	**ITESIL, Dajabo**	**0.46**	**242**	*e*Pg	**Pg**	**20 14 30.6**	**+0.5**
LODA1				IAML		20 14 37.0	
	comp=N,5μm,0.5s						
LODA1	**ITESIL, Dajabo**	**0.46**	**242**	*i* P	**Pg**	**20 14 30.4**	**+0.3**
LODA1				*e*S	**Sg**	**20 14 36.9**	**+0.9**
LODA1				IAML		20 14 43.0	
	comp=Z,1μm,0.4s						
SC01	**Santiago de Io**	**0.61**	**122**	*e*Pg	**Pb**	**20 14 35.3**	**+0.6**
SC01				⇑*e*Sg	**Sb**	**20 14 45.3**	**+1.4**
SC01				IAML		20 14 46.7	
	comp=N,1μm,0.1s						
SC01				IAML		20 14 46.7	
	comp=N,1μm,0.1s						
SC01				IAML		20 14 47.3	
	comp=E,1μm,0.3s						
SC01	**Santiago de Io**	**0.61**	**122**	*i* P	**Pb**	**20 14 35.4**	**+0.6**
SC01				*e*S	**Sb**	**20 14 45.1**	**+1.2**
SC01				IAML		20 14 51.0	
	comp=Z,1μm,0.3s						
SDDR	**Presa de Saban**	**0.77**	**181**	*e*P	**Pg**	**20 14 36.4**	**+0.3**
SDDR				*e*S	**Sg**	**20 14 46.1**	**0.0**
SDDR				IAML		20 14 48.1	
	comp=Z,1μm,0.1s						
SDDR				IAML		20 14 48.5	
	comp=Z,2μm,0.3s						
SDDR	**Presa de Saban**	**0.77**	**181**	⇓*e*Pg	**Pg**	**20 14 36.5**	**+0.5**
SDDR				⇑*e*Sg	**Sg**	**20 14 46.6**	**+0.5**
SDDR				IAML		20 14 47.1	
	comp=E,1μm,0.5s						
SDDR				IAML		20 14 48.5	
	comp=N,2μm,0.4s						
SDDR				IAML		20 14 48.5	
	comp=N,2μm,0.4s						
SDDR	**Presa de Saban**	**0.77**	**181**	*i* P	**Pg**	**20 14 36.6**	**+0.5**
SDDR				*e*S	**Sg**	**20

JIDR				IAML		20 15 06.8	
	comp=N,1μm,0.5s						
JIDR				IAML		20 15 06.8	
	comp=N,1μm,0.5s						
JIDR				IAML		20 15 13.8	
	comp=E,780nm,0.3s						
NADR	**Nagua**	**1.40 106**		IAML		20 15 10.9	
	comp=E,2μm,0.2s						
LODU1	**El Espartillar**	**1.41 188**	*i* P		**Pb**	**20 14 48.3**	**0.0**
LODU1			*e*S		**Sb**	**20 15 05.8**	**-1.1**
LODU1				IAML		20 15 07.2	
	comp=Z,632nm,0.4s						
DR08	**Loma La Naviza**	**1.42 124**⇑	*e*Pg		**Pn**	**20 14 48.3**	**0.0**
DR08				IAML		20 15 08.6	
	comp=E,8μm,0.1s						
DR08				IAML		20 15 09.9	
	comp=N,10μm,0.1s						
DR08				IAML		20 15 09.9	
	comp=N,10μm,0.1s						
PAPH	**Port-au-Prince**	**1.56 218**	*i* P		**Pn**	**20 14 50.3**	**+0.1**
PODR	**Polo**	**1.58 180**	*e*Pg		**Pb**	**20 14 51.3**	**-0.2**
PODR			⇑*e*Sg		**Sg**	**20 15 12.4**	**+0.3**
PODR				IAML		20 15 13.2	
	comp=N,433nm,0.4s						
PODR				IAML		20 15 16.2	
	comp=E,679nm,0.5s						
PODR				IAML		20 15 20.9	
	comp=N,345nm,0.3s						
PODR	**Polo**	**1.58 180**	*i* P		**Pb**	**20 14 51.0**	**-0.5**
PODR			*e*S		**Sn**	**20 15 11.4**	**-0.4**
PODR				IAML		20 15 20.9	
	comp=Z,302nm,0.5s						
BANI	**BANI**	**1.61 147**⇑	*e*Pg		**Pg**	**20 14 52.2**	**0.0**
BANI				IAML		20 15 17.6	
	comp=N,668nm,0.5s						
BANI				IAML		20 15 17.7	
	comp=N,668nm,0.5s						
BANI				IAML		20 15 18.9	
	comp=E,968nm,0.6s						
LOBA2	**Hotel Casa Bon**	**1.68 174**	*e*Pg		**Pb**	**20 14 52.6**	**-0.3**
GRTK	**Grand Turk**	**1.75 4**	*e*P		**Pb**	**20 14 54.5**	**+0.3**
GRTK			*e*S		**Sb**	**20 15 17.3**	**+0.7**
GRTK				IAML		20 15 21.8	
	comp=E,389nm,0.3s						
GRTK				IAML		20 15 22.0	
	comp=E,450nm,0.3s						
GRTK	**Grand Turk**	**1.75 4**⇑	*e*Pg		**Pb**	**20 14 54.2**	**0.0**
GRTK				IAML		20 15 21.8	
	comp=N,362nm,0.3s						
GRTK				IAML		20 15 21.8	
	comp=N,362nm,0.3s						
GRTK				IAML		20 15 21.9	
	comp=E,414nm,0.3s						
GRTK	**Grand Turk**	**1.75 4**	*i* P		**Pb**	**20 14 54.2**	**0.0**
GRTK			*e*S		**Sg**	**20 15 18.2**	**+0.6**
GRTK				IAML		20 15 20.6	
	comp=Z,78nm,0.8s						
SDD	**Santo Domingo**	**1.82 135**	*i* P		**Pg**	**20 14 56.7**	**+0.4**
SDD			*e*S		**Sn**	**20 15 16.7**	**-0.8**
LOBH	**Bahia de las A**	**1.92 190**	*i* P		**Pn**	**20 14 55.7**	**+0.7**
LOBH			*e*S		**Sb**	**20 15 20.6**	**-0.8**
LOBH				IAML		20 15 22.0	
	comp=Z,121nm,1.1s						
LOVI	**El Cajuil, Ovi**	**1.95 183**	*i* P		**Pg**	**20 14 58.7**	**0.0**
LOVI				IAML		20 15 24.2	
	comp=Z,190nm,1.3s						
HATOM	**Hato Mayor del**	**2.03 118**	*e*Pg		**Pn**	**20 14 57.5**	**+0.9**
HATOM			⇑*e*Sg		**Sb**	**20 15 24.4**	**-0.4**
HATOM				IAML		20 15 25.1	
	comp=N,344nm,0.6s						
HATOM				IAML		20 15 25.1	
	comp=N,344nm,0.6s						
HATOM				IAML		20 15 26.8	
	comp=E,408nm,0.7s						
MIDR	**Miches**	**2.24 110**	*e*Pg		**Pb**	**20 15 01.3**	**-1.2**
MIDR			⇓*e*Sg		**Sb**	**20 15 29.9**	**-0.8**
MIDR				IAML		20 15 31.3	
	comp=E,237nm,0.4s						
MIDR				IAML		20 15 36.7	
	comp=N,162nm,0.4s						
MASC	**Masc**	**2.81 279**	*e*P		**Pn**	**20 15 06.3**	**-1.1**
MASC			*e*S		**Sn**	**20 15 44.1**	**+2.3**
MASC				IAML		20 15 52.6	
	comp=N,59nm,0.2s						
MASC				IAML		20 15 53.6	
	comp=E,62nm,0.3s						
QMBU	**Quimbuelo**	**3.35 278**	*e*P		**Pn**	**20 15 14.2**	**-0.7**
QMBU			*e*S		**Sn**	**20 15 55.9**	**+0.6**
QMBU				IAML		20 16 06.1	
	comp=E,43nm,0.6s						
QMBU				IAML		20 16 06.1	
	comp=N,54nm,0.4s						
NMDO	**Nuevo Mundo**	**3.57 284**	*e*P		**Pn**	**20 15 15.0**	**-2.8**
PINC	**Pinares de May**	**4.30 280**	*e*P		**Pn**	**20 15 27.5**	**-0.4**

*SDD **21** 20:29:17.6±1.8, 19°.70N×71°.33W, h20km±11km, MD3.8, ML3.9, MW4.0*
*SSNC **21** 20:29:18.5±1.3, 19°.69N×71°.38W, h5km±14km, MD3.7, ML3.8*
*OSPL **21** 20:29:18.3±2.6, 19°.71N×71°.35W, h0km±10km, ML3.5*
ISC 21 20:29:16.1±1.1, 19°.74N±0°.03×71°.34W±0°.02, h7km±9km, n35, σ1s42/54, 11C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.18**	**50**	*i* P	Pg	20 29 13.4	-6.3
LOPP1				*e*S	**Sg**	**20 29 18.2**	**-3.9**
LOPP1				IAML		20 29 19.6	
	comp=Z,14μm,0.4s						
MAO1	**Mao**	**0.31 127**		*e*Pg	**Pg**	**20 29 23.0**	**+0.8**
MAO1				⇑*e*Sg	**Sg**	**20 29 27.4**	**+1.2**
LODA1	**ITESIL, Dajabo**	**0.39 241**⇑		*e*Pg	**Pg**	**20 29 23.9**	**+0.1**
LODA1				⇓*e*Sg	**Sg**	**20 29 30.2**	**+1.3**
LODA1				IAML		20 29 35.7	
	comp=N,12μm,0.3s						
LODA1	**ITESIL, Dajabo**	**0.39 241**		*i* P	**Pg**	**20 29 23.9**	**+0.1**
LODA1				*e*S	**Sg**	**20 29 30.1**	**+1.2**
LODA1				IAML		20 29 30.2	
	comp=Z,5μm,0.6s						
SC01	**Santiago de lo**	**0.66 118**⇑		*e*Pg	**Pg**	**20 29 29.5**	**+0.7**
SC01				IAML		20 29 41.9	
	comp=N,3μm,0.9s						
SC01				IAML		20 29 41.9	
	comp=N,3μm,0.9s						
SC01				IAML		20 29 46.4	
	comp=E,3μm,0.7s						
SC01	**Santiago de lo**	**0.66 118**		*i* P	**Pg**	**20 29 29.8**	**+1.0**
SC01				*e*S	**Sg**	**20 29 39.2**	**+1.9**
SC01				IAML		20 29 46.4	
	comp=Z,2μm,0.4s						
SDDR	**Presa de Saban**	**0.76 176**		*e*P	**Pg**	**20 29 30.9**	**+0.2**
SDDR				*e*S	**Sg**	**20 29 40.4**	**-0.1**
SDDR				IAML		20 29 43.0	
	comp=Z,3μm,0.2s						
SDDR				IAML		20 29 43.4	
	comp=Z,3μm,0.3s						
SDDR	**Presa de Saban**	**0.76 176**⇓		*e*Pg	**Pg**	**20 29 30.8**	**+0.2**
SDDR				⇑*e*Sg	**Sg**	**20 29 40.7**	**+0.2**
SDDR				IAML		20 29 41.4	
	comp=E,5μm,0.7s						
SDDR				IAML		20 29 41.5	
	comp=N,6μm,0.8s						
SDDR				IAML		20 29 41.5	
	comp=N,6μm,0.8s						
SDDR	**Presa de Saban**	**0.76 176**		*i* P	**Pg**	**20 29 30.8**	**+0.2**
SDDR				*e*S	**Sg**	**20 29 40.3**	**-0.1**
SDDR				IAML		20 29 44.2	
	comp=Z,3μm,0.4s						
LONE3	**El Aguacate, B**	**1.13 186**		*i* P	**Pg**	**20 29 37.6**	**-0.3**
LONE3				*e*S	**Sg**	**20 29 52.6**	**-0.1**
LONE3				IAML		20 29 58.0	
	comp=Z,762nm,0.9s						
ABDR	**Alto Bandera**	**1.14 144**⇓		*e*Pg	**Pg**	**20 29 36.4**	**-1.6**
ABDR				⇑*e*Sg	**Sg**	**20 29 50.8**	**-2.1**
ABDR				IAML		20 30 03.1	
	comp=N,1μm,0.3s						
ABDR				IAML		20 30 03.1	
	comp=N,1μm,0.3s						
JIDR	**Jimani**	**1.33 201**⇓		*e*Pg	**Pn**	**20 29 41.0**	**-0.1**
JIDR				IAML		20 30 01.0	
	comp=N,3μm,0.5s						
JIDR				IAML		20 30 01.1	
	comp=N,3μm,0.5s						
JIDR				IAML		20 30 10.9	
	comp=E,1μm,0.6s						
LODU1	**El Espartillar**	**1.39 185**	*i* P		**Pn**	**20 29 42.1**	**+0.2**
LODU1			*e*S		**Sb**	**20 30 00.7**	**+0.4**
LODU1				IAML		20 30 13.2	
	comp=Z,1μm,0.5s						
LONA1	**Toro Cenizo, N**	**1.44 104**	*i* P		**Pn**	**20 29 43.1**	**+0.5**
LONA1			*e*S		**Sn**	**20 29 59.6**	**-2.1**
LONA1				IAML		20 30 02.4	
	comp=Z,1μm,0.6s						
DR08	**Loma La Naviza**	**1.47 122**⇑	*e*Pg		**Pn**	**20 29 42.6**	**-0.5**
DR08				IAML		20 30 04.6	
	comp=E,8μm,0.1s						
DR08				IAML		20 30 06.0	
	comp=N,11μm,0.2s						
DR08				IAML		20 30 06.0	
	comp=N,11μm,0.2s						
PAPH	**Port-au-Prince**	**1.51 217**	*i* P		**Pn**	**20 29 44.4**	**+0.7**
PODR	**Polo**	**1.57 178**	*e*Pg		**Pn**	**20 29 44.6**	**0.0**
PODR				IAML		20 30 15.3	
	comp=N,815nm,0.6s						
PODR	**Polo**	**1.57 178**	*i* P		**Pn**	**20 29 44.8**	**+0.2**
PODR			*e*S		**Sb**	**20 30 06.5**	**+0.8**
PODR				IAML		20 30 15.2	
	comp=Z,764nm,0.4s						
LOBA2	**Hotel Casa Bon**	**1.67 172**⇑	*e*Pg		**Pn**	**20 29 46.1**	**+0.3**
GRTK	**Grand Turk**	**1.77 6**⇑	*e*P		**Pn**	**20 29 48.0**	**+0.8**
GRTK			*e*S		**Sn**	**20 30 09.5**	**-0.6**
GRTK				IAML		20 30 13.1	
	comp=Z,2μm,0.5s						
GRTK				IAML		20 30 13.3	
	comp=Z,859nm,0.2s						
GRTK	**Grand Turk**	**1.77 6**⇑	*e*Pg		**Pn**	**20 29 48.4**	**+1.1**
GRTK			⇓*e*Sg		**Sn**	**20 30 12.7**	**+2.6**
GRTK				IAML		20 30 13.2	
	comp=N,2μm,0.5s						
GRTK				IAML		20 30 13.2	
	comp=N,2μm,0.5s						
GRTK				IAML		20 30 14.3	
	comp=E,1μm,0.3s						
GRTK	**Grand Turk**	**1.77 6**	*i* P		**Pn**	**20 29 48.4**	**+1.1**
GRTK			*e*S		**Sn**	**20 30 11.1**	**+1.0**
GRTK				IAML		20 30 15.4	
	comp=Z,363nm,0.3s						
SDD	**Santo Domingo**	**1.86 133**	*i* P		**Pn**	**20 29 49.6**	**+1.2**
SDD			*e*S		**Sn**	**20 30 11.8**	**-0.4**
LOBH	**Bahia de las A**	**1.89 189**	*i* P		**Pn**	**20 29 50.1**	**+1.3**
LOBH				IAML		20 30 20.3	
	comp=Z,224nm,0.4s						
LOVI	**El Cajuil, Ovi**	**1.93 181**	*i* P		**Pn**	**20 29 51.2**	**+1.8**
LOVI				IAML		20 30 25.4	
	comp=Z,338nm,0.5s						
HATOM	**Hato Mayor del**	**2.08 117**⇑	*e*Pg		**Pn**	**20 29 51.5**	**0.0**
HATOM				IAML		20 30 21.0	
	comp=E,536nm,0.3s						
HATOM				IAML		20 30 23.2	
	comp=N,598nm,0.7s						
HATOM				IAML		20 30 23.2	
	comp=N,599nm,0.7s						
MASC	**Masc**	**2.75 280**	*e*P		**Pn**	**20 30 00.6**	**-0.1**
MASC			*e*S		**Sb**	**20 30 39.1**	**-0.5**
MASC				IAML		20 30 45.3	
	comp=E,214nm,0.3s						
MASC				IAML		20 30 45.9	
	comp=N,303nm,0.5s						
MASC	**Masc**	**2.75 280**	*i* P		**Pn**	**20 30 00.9**	**+0.2**
MASC				IAML		20 30 45.2	
	comp=Z,207nm,0.5s						
QMBU	**Quimbuelo**	**3.30 279**	*e*P		**Pn**	**20 30 08.2**	**0.0**
NMDO	**Nuevo Mundo**	**3.52 284**	*e*P		**Pn**	**20 30 10.7**	**-0.5**
MOAC	**Moa**	**3.52 286**	*e*P		**Pn**	**20 30 15.8**	**+4.5**
MOAC			⇑*e*S		**Sb**	**20 31 01.3**	**-0.4**
GTBY	**Guantanamo Bay**	**3.55 274**	*e*P		**Pn**	**20 30 12.6**	**+0.9**
GTBY	**Guantanamo Bay**	**3.55 274**	*i* P		**Pn**	**20 30 13.3**	**+1.6**
GTBY				IAML		20 31 10.3	
	comp=Z,46nm,0.7s						
PINC	**Pinares de May**	**4.25 281**	*e*P		**Pn**	**20 30 19.7**	**-1.5**
MARVS	**Santiago de Cu**	**4.30 274**	*e*P		**Pn**	**20 30 21.2**	**-0.8**
MARVS			*e*S		**Sn**	**20 31 08.4**	**-4.0**

IDC 21 20:41:38.4±1.7, 1°.62N×124°.09E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=130.4km s-min=20.5km az=59.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.67**	**155**	P	P	20 46 51.5	-0.3
	2.4nm,0.4s,baz=335,slow=10.0,SNR=23						
	2.4nm,0.4s						
ASAR	**Alice Springs**	**26.88**	**160**	P	P	20 47 21.1	-0.2
	0.4nm,0.4s,baz=340,slow=7.6,SNR=13						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**29.81**	**306**	P	P	20 47 46.8	-0.6
	0.2nm,0.4s,baz=130,slow=8.4,SNR=1.9						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**57.84**	**327**	P	P	20 51 32.4	+0.6
	0.2nm,0.3s,baz=126,slow=7.0,SNR=10						
	0.2nm,0.3s						

*NSSP **21** 21:01:47.9, 38°.43N×45°.22E, h10km, Ms4.0*
*AFAD **21** 21:01:47.5±0.0, 38°.43N×45°.18E, h18km±1km, ML3.3*
*TEH **21** 21:01:48.9, 38°.43N×45°.06E, h13km±20km, ML3.3*
*TIF **21** 21:01:49.0, 38°.43N×45°.09E, h24km±2km*
*AZER **21** 21:01:49.4, 38°.57N×45°.07E, h2km, ml3.4*
ISC 21 21:01:49.4±1.0, 38°.43N±0°.02×45°.07E±0°.02, h12km±9km, n81, σ1s48/114, 4C, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.45**	**109**	Pg	**Pg**	**21 01 57.5**	**-0.8**
IMRD	**Marand**	**0.57**	**60**	Pg	**Pg**	**21 02 00.6**	**+0.1**
NAX	**Nakhchivan**	**0.81**	**24**	Pg	**Pb**	**21 02 05.1**	**-0.4**
NAX	**Nakhchivan**	**0.81**	**24**	P	**Pb**	**21 02 05.2**	**-0.4**
NAX				S	**Sn**	**21 02 17.3**	**-1.5**
ITBZ	**Tabriz**	**0.87**	**103**	Pg	**Pg**	**21 02 04.8**	**-1.4**
ORD	**Ordubad**	**0.88**	**55**	Pg	**Pg**	**21 02 06.1**	**-0.2**
ORD	**Ordubad**	**0.88**	**55**	P	**Pg**	**21 02 06.1**	**-0.2**
ORD				S	**Sn**	**21 02 19.1**	**-1.3**
OZAP	**Van, Ozalp-Mer**	**0.88**	**286**	P	**Pb**	**21 02 06.3**	**-0.4**
OZAP				S	**Sn**	**21 02 20.0**	**-0.7**
OZAP				*i* AML	AML	21 02 22.0	
	comp=E,668nm,0.4s						
MAKU	**Maku**	**0.97**	**342**	Pg	**Pg**	**21 02 07.0**	**-1.2**
IAZR	**Azarshahr**	**1.04**	**136**	Pg	**Pb**	**21 02 08.5**	**-0.9**
SBZ	**Shahbuz**	**1.04**	**21**	Pg	**Pb**	**21 02 08.6**	**-0.8**
SBZ	**Shahbuz**	**1.04**	**21**	P	**Pb**	**21 02 08.6**	**-0.8**
SBZ				S	**Sn**	**21 02 24.8**	**+0.3**
YOVA	**Hakkari_Yksek**	**1.04**	**217**	P	**Pb**	**21 02 08.6**	**-0.9**
CLDR	**Caldiran**	**1.15**	**309**	P	**Pg**	**21 02 14.6**	**+3.0**
HYR	**Heyderabad**	**1.30**	**352**	Pg	**Pn**	**21 02 13.0**	**-0.4**
HYR	**Heyderabad**	**1.30**	**352**	P	**Pn**	**21 02 13.1**	**-0.4**
HYR				S	**Sg**	**21 02 31.4**	**+0.1**
VMUR	**Van-Muradiye**	**1.30**	**296**	P	**Pb**	**21 02 13.5**	**-0.5**
VMUR				S	**Sg**	**21 02 31.4**	**0.0**
VMUR				*i* AML	AML	21 02 40.0	
	comp=E,333nm,0.7s						
VMUR	**Van-Muradiye**	**1.30**	**296**	Pg	**Pb**	**21 02 13.4**	**-0.5**
TVAN	**Van**	**1.31**	**275**	P	**Pg**	**21 02 13.9**	**-0.8**
TVAN				S	**Sg**	**21 02 33.4**	**+1.7**
TVAN				*i* AML	AML	21 02 37.0	
	comp=N,538nm,0.5s						
TVAN				*i* AML	AML	21 02 38.0	
	comp=E,440nm,0.8s						
TVAN	**Van**	**1.31**	**275**	Pg	**Pg**	**21 02 13.8**	**-0.8**
HAKT	**HAKKARI**	**1.39**	**232**	P	**Pb**	**21 02 14.6**	**-0.8**
GRS	**Goris**	**1.45**	**42**⇑	*i*P	**Pg**	**21 02 20.0**	**+2.7**
GRS				⇑*i*S	**Sg**	**21 02 41.0**	**+4.8**
DYDN	**Diyadin**	**1.55**	**316**	P	**Pg**	**21 02 18.1**	**-1.1**
DYDN				S	**Sg**	**21 02 39.8**	**+0.4**
DYDN	**Diyadin**	**1.55**	**316**	Pg	**Pg**	**21 02 18.1**	**-1.1**
IHRS	**Heris**	**1.55**	**93**	Pg	**Pb**	**21 02 17.8**	**-0.4**
GEVA	**Gevas**	**1.59**	**266**	P	**Pn**	**21 02 17.3**	**-0.3**
GEVA				S	**Sg**	**21 02 42.0**	**+1.5**
GEVA	**Gevas**	**1.59**	**266**	Pg	**Pn**	**21 02 17.2**	**-0.3**
NRKZ	**NAREK**	**1.60**	**349**	*e*P	**Pb**	**21 02 18.2**	**-0.8**
NRKZ				*e*S	**Sg**	**21 02 40.5**	**-0.5**
IGDI	**IGDIR**	**1.63**	**332**	P	**Pb**	**21 02 18.3**	**-1.3**
IGDI				S	**Sb**	**21 02 40.2**	**+0.1**
IGDI	**IGDIR**	**1.63**	**332**	Pg	**Pb**	**21 02 18.2**	**-1.3**
CUKT	**Cukurca**	**1.66**	**225**	P	**Pb**	**21 02 19.7**	**-0.2**
CUKT	**Cukurca**	**1.66**	**225**	Pg	**Pb**	**21 02 19.7**	**-0.2**
MAHB	**Mahabad**	**1.73**	**163**	Pg	**Pb**	**21 02 21.0**	**-0.3**
GNI	**Garni**	**1.74**	**352**⇑	*i*P	**Pb**	**21 02 21.0**	**-0.4**
GNI				⇑*i*S	**Sg**	**21 02 47.3**	**+2.0**
ADCV	**BITLIS_Adilcev**	**1.88**	**282**	P	**Pb**	**21 02 22.5**	**-1.3**
ADCV	**BITLIS_Adilcev**	**1.88**	**282**	Pn	**Pb**	**21 02 22.5**	**-1.3**
METS	**Metsamor**	**1.88**	**336**	*e*P	**Pg**	**21 02 24.4**	**-1.1**
METS				*e*S	**Sg**	**21 02 51.3**	**+1.3**
KAPZ	**Kaputan**	**1.91**	**351**	*e*P	**Pb**	**21 02 23.5**	**-0.8**
KAPZ				*e*S	**Sg**	**21 02 49.9**	**-1.1**
VNNZ	**Vanand**	**1.93**	**330**	*e*P	**Pg**	**21 02 25.7**	**-0.8**
VNNZ				*e*S	**Sg**	**21 02 53.8**	**+2.2**
KOTA	**Agri, Merkez-K**	**2.00**	**314**	P	**Pb**	**21 02 23.9**	**-1.9**
ARUZ	**Aruch**	**2.00**	**338**	*e*P	**Pg**	**21 02 26.3**	**-1.5**
ARUZ				*e*S	**Sg**	**21 02 54.7**	**+0.9**
DORK	**Agr/Tutak/Do**	**2.03**	**299**	P	**Pb**	**21 02 24.8**	**-1.6**
QRD	**Qoradiz**	**2.03**	**59**	Pn	**Pb**	**21 02 25.2**	**-1.0**
QRD	**Qoradiz**	**2.03**	**59**	P	**Pb**	**21 02 25.3**	**-1.0**
QRD				S	**Sg**	**21 02 53.8**	**-0.9**
PERV	**Siirt/Pervari-**	**2.05**	**257**	P	**Pb**	**21 02 25.9**	**-0.8**
AMBZ	**Amberd**	**2.06**	**342**	*e*P	**Pb**	**21 02 26.7**	**-0.2**
AMBZ				*e*S	**Sg**	**21 02 55.0**	**-0.5**
IHSH	**Hashtrud**	**2.06**	**122**	Pn	**Pb**	**21 02 25.4**	**-1.6**
ISRB	**Sarab**	**2.13**	**106**	Pn	**Pb**	**21 02 26.1**	**-2.0**
GRMI	**Germi**	**2.24**	**79**	Pn	**Pb**	**21 02 27.8**	**-2.1**
AGDM	**Agdam**	**2.30**	**43**	P	**Pb**	**21 02 30.4**	**-0.5**
AGDM				S	**Sg**	**21 03 03.3**	**-0.1**
BLIS	**Bitlis-Merkez**	**2.32**	**271**	P	**Pb**	**21 02 29.9**	**-1.5**
BLIS	**Bitlis-Merkez**	**2.32**	**271**	Pn	**Pb**	**21 02 29.8**	**-1.5**
BLQ	**Beylaqan**	**2.33**	**56**	P	**Pb**	**21 02 29.5**	**-1.7**
BLQ				S	**Sg**	**21 03 02.4**	**-1.7**
GDB	**GEDABAY**	**2.35**	**13**	P	**Pb**	**21 02 31.4**	**-0.4**
GDB				S	**Sb**	**21 03 02.1**	**+1.3**
BRDA	**Brd**	**2.45**	**41**	P	**Pb**	**21 02 34.2**	**+0.8**
BRDA				S	**Sg**	**21 03 09.8**	**+1.6**
EATA	**Eleskirt**	**2.47**	**306**	P	**Pb**	**21 02 34.4**	**+0.5**
YRD	**Yardimli**	**2.53**	**78**	P	**Pb**	**21 02 33.0**	**-1.8**
YRD				S	**Sg**	**21 03 09.8**	**-0.8**
LRK	**Lerik**	**2.57**	**84**	P	**Pb**	**21 02 35.4**	**-0.2**
LRK				S	**Sg**	**21 03 10.7**	**-1.3**
QZX	**Qazax, Azerbai**	**2.64**	**5**	P	**Pb**	**21 02 34.8**	**-1.8**
QZX				S	**Sg**	**21 03 12.4**	**-1.7**
GLBA	**Clilabad**	**2.72**	**72**	P	**Pb**	**21 02 38.0**	**+0.1**
GLBA				S	**Sb**	**21 03 12.9**	**+1.7**
ZRD	**Zardab**	**2.74**	**47**	P	**Pb**	**21 02 39.0**	**+0.7**
ZRD				S	**Sb**	**21 03 13.5**	**+1.7**
MNGR	**Mingechevir, A**	**2.81**	**33**	P	**Pb**	**21 02 40.6**	**+1.1**
LKRN	**Lenkeran, Azer**	**2.92**	**83**	P	**Pb**	**21 02 40.8**	**-0.5**
LKRN				S	**Sg**	**21 03 21.2**	**-1.9**
ASTR	**Astara**	**2.92**	**86**	P	**Pb**	**21 02 42.3**	**+1.0**
ASTR				S	**Sb**	**21 03 18.9**	**+1.9**
GAS1	**Astara - Iran**	**2.96**	**90**	Pn	**Pn**	**21 02 38.2**	**+2.0**
VSHL	**Vashlovani**	**2.98**	**20**	P	**Pb**	**21 02 40.0**	**-2.4**
KDMR	**Kurdemir**	**3.10**	**50**	S	**Sb**	**21 03 20.6**	**-1.5**
SEKA	**Sheki**	**3.22**	**30**	P	**Pb**	**21 02 47.0**	**+0.4**
SEKA				S	**Sg**	**21 03 31.8**	**-1.1**
QBL	**Gabala**	**3.30**	**39**	P	**Pb**	**21 02 47.3**	**-0.5**
QBL				S	**Sb**	**21 03 31.0**	**+3.0**
IML	**Ismayilli**	**3.37**	**44**	P	**Pb**	**21 02 47.7**	**-1.4**
LGD	**Lagodekhi**	**3.52**	**14**	P	**Pb**	**21 02 52.0**	**+0.4**
PQL	**Pirkuli**	**3.60**	**48**	P	**Pb**	**21 02 51.0**	**-2.0**
PQL				S	**Sb**	**21 03 37.3**	**+0.5**
XNQ	**Khinaliq**	**3.62**	**40**	P	**Pb**	**21 02 51.1**	**-2.3**
GBS	**Qobustan**	**3.66**	**54**	P	**Pb**	**21 02 49.5**	**-4.5**
ATGJ	**Altiaghaj**	**3.85**	**50**	P	**Pb**	**21 02 53.0**	**-4.2**
IDHR	**Dehrash**	**3.87**	**164**	Pn	**Pn**	**21 02 50.8**	**+1.8**
CHRG	**Chargali**	**3.90**	**358**	P	**Pg**	**21 03 03.2**	**-0.9**
QUBA	**Quba, Azerbaij**	**3.93**	**41**	P	**Pn**	**21 02 50.9**	**+1.3**
QSAR	**Qusar**	**3.94**	**37**	P	**Pb**	**21 02 56.6**	**-2.2**
SIZA	**Siyzn**	**3.96**	**47**	P	**Pn**	**21 02 52.3**	**+2.3**
QABG	**Abgarm-Qazvin**	**4.51**	**126**	Pn	**Pn**	**21 02 59.2**	**+1.4**

*IDC **21** 21:02:45.0±1.1, 28°.43S×177°.66W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=45.3km s-min=32.9km az=157.0*
ISC 21 21:02:50.3±1.2, 28°.4S±0°.3×177°.7W±0°.3, h35km, n12, σ0s78/11, mb3.8/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.27**	**254**	P	**P**	**21 09 42.9**	**+1.1**
	1.1nm,0.5s,baz=103,slow=19,SNR=1.4						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**43.56**	**265**	P	**P**	**21 10 50.8**	**-0.3**
	0.8nm,0.5s,baz=96,slow=7.2,SNR=19						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**44.36**	**270**	P	**P**	**21 10 56.4**	**-1.1**
	0.5nm,0.4s,baz=108,slow=8.0,SNR=7.3						
	0.5nm,0.4s						
MAW	**Mawson**	**74.29**	**200**	P	**P**	**21 14 23.1**	**-0.4**
	0.4nm,0.4s,baz=135,slow=2.9,SNR=2.4						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**116.70**	**311**	PKP	**PKPdf**	**21 21 29.7**	**-0.9**
	0.3nm,0.5s,baz=217,slow=1.2,SNR=2.3						
BVAR	**Borovoye Array**	**125.17**	**317**	PKP	**PKPdf**	**21 21 46.4**	**-0.3**
	1.0nm,0.5s,baz=90,slow=2.9,SNR=6.8						
FINES	**FINESS Array B**	**143.36**	**341**	PKP	PKPbc	21 22 18.6	+1.1
	1.0nm,0.5s,baz=46,slow=4.0,SNR=11						
NOA	**NORSAR Array B**	**146.81**	**352**	PKPbc	**P

baz=67,slow=76,SNR=776
H08S1 Diego Carcia H 25.43 246 T T 21 42 10.2
baz=67,slow=76,SNR=655
LSA Lhasa 27.35 351 P **P** **21 16 15.6 +0.1**
LSA IAmb IAmb 21 16 31.9
comp=Z,7.9nm,1.5s
DAV Davao City (W) 29.95 80 LR LR 21 29 26.7
comp=Z,15nm,18.8s,baz=262,slow=38
GTA Gaotai 36.85 5 *e*P **P** **21 17 37.3 -0.9**
GTA pP pP 21 17 44.4 -1.3
GTA pmax pmax
comp=Z,3.0nm,1.0s
NIL Nilore 37.45 328 P **P** **21 17 42.7 -0.6**
NIL IAmb IAmb 21 17 45.4
comp=Z,3.5nm,0.8s
H01W3 Cape Leeuwin H 41.02 157 T T 22 01 47.2
baz=332,slow=76,SNR=73
H01W2 Cape Leeuwin H 41.03 157 T T 22 01 48.1
baz=332,slow=76,SNR=106
H01W1 Cape Leeuwin H 41.04 157 T T 22 01 48.4
baz=332,slow=76,SNR=92
WUS Wushi 41.28 341 P **P** **21 18 15.5 +0.3**
WUS IAmb IAmb 21 18 24.0
comp=Z,4.7nm,1.2s
NRN Naryn 42.62 338 P **P** **21 18 27.4 +1.1**
DRK Karamyk 42.76 332 P **P** **21 18 29.0 +1.5**
KDJ Kajisay 42.80 339 P **P** **21 18 28.6 +0.9**
KDJ IAmb IAmb 21 18 37.0
comp=Z,3.6nm,0.8s
SIMJ Simiganj 43.48 329 P **P** **21 18 33.3 +0.1**
SIMJ IAmb IAmb 21 18 34.4
comp=Z,3.3nm,1.1s
BTK Batken 43.67 332 P **P** **21 18 35.7 +1.0**
BTK IAmb IAmb 21 19 03.1
comp=Z,9.8nm,1.5s
ARSB Arslanbob 43.73 335 P **P** **21 18 35.8 +0.6**
WB0 Warramunga Arr 43.87 122 P **P** **21 18 36.1 -0.4**
WRA Warramunga Arr 43.90 122 P **P** **21 18 36.4 -0.4**
comp=Z,0.5nm,1.0s,baz=301,slow=9.3,SNR=3.0
comp=Z,0.5nm,1.0s
AAK Ala-Archa 44.22 337 LR LR 21 38 41.6
comp=Z,27nm,18.9s,baz=204,slow=38
ASAR Alice Springs 45.29 127 P **P** **21 18 46.8 -1.1**
comp=Z,0.2nm,0.5s,baz=300,slow=8.6,SNR=4.3
comp=Z,0.2nm,0.5s
MK31 Makanchi Array 45.61 347 P **P** **21 18 50.3 +0.4**
MK31 IAmb IAmb 21 18 51.3
comp=Z,4.5nm,1.3s
MKAR Makanchi Array 45.61 347 P **P** **21 18 49.8 -0.1**
MKAR Makanchi Array 45.61 347 P **P** **21 18 50.2 +0.3**
comp=Z,1.1nm,0.5s,baz=157,slow=8.3,SNR=28
comp=Z,1.1nm,0.5s
SONM Songino Array 46.01 10 P **P** **21 18 52.9 -0.3**
SONM Songino Array 46.01 10 P **P** **21 18 53.0 -0.2**
comp=Z,1.1nm,0.5s,baz=192,slow=9.5,SNR=9.7
SONM PcP **PcP** **21 20 29.9 +0.4**
comp=Z,0.2nm,0.5s,baz=207,slow=2.9,SNR=1.8
comp=Z,1.1nm,0.5s
KKAR Karatay Array 46.24 334 P **P** **21 18 55.6 +0.7**
KKAR Karatay Array 46.24 334 P **P** **21 18 55.8 +0.8**
KKAR IAmb IAmb 21 18 56.8
comp=Z,3.0nm,1.3s
KURBB Kurchatov Arra 50.07 346 P **P** **21 19 24.7 +0.3**
comp=Z,1.5nm,0.2s,baz=166,slow=7.0,SNR=4.3
comp=Z,1.5nm,0.2s
KURK Kurchatov 50.14 346 P **P** **21 19 26.6 +1.7**
KURK IAmb IAmb 21 19 41.8
comp=Z,1.8nm,0.7s
ZAA0 Zalesovo Array 52.01 352 P **P** **21 19 39.0 +0.1**
ZAA0 IAmb IAmb 21 19 39.4
comp=Z,2.2nm,0.6s
ZALV Zalesovo Beam 52.01 352 P **P** **21 19 38.9 0.0**
comp=Z,1.5nm,0.5s,baz=170,slow=6.5,SNR=9.5
comp=Z,1.5nm,0.5s
BVAR Borovoye Array 54.53 341 P **P** **21 19 57.4 -0.1**
comp=Z,0.7nm,0.7s,baz=141,slow=9.3,SNR=3.4
comp=Z,0.7nm,0.7s
ABKAR Akbulak array 55.68 332 P **P** **21 20 06.2 +0.4**
ABKAR Akbulak array 55.68 332 P **P** **21 20 06.3 +0.4**
ABKAR IAmb IAmb 21 20 14.9
comp=Z,9.2nm,1.1s
H04N2 CROZET ISLANDS 62.15 213 T T 22 28 15.6
baz=52,slow=75,SNR=2703
H04N1 CROZET ISLANDS 62.16 213 T T 22 28 16.2
baz=52,slow=75,SNR=1889
H04N3 CROZET ISLANDS 62.17 213 T T 22 28 14.7
baz=52,slow=75,SNR=2450
H04S1 CROZET ISLANDS 62.52 212 T T 22 28 41.1
baz=51,slow=75,SNR=120
H04S3 CROZET ISLANDS 62.53 212 T T 22 28 40.9
baz=51,slow=75,SNR=147
H04S2 CROZET ISLANDS 62.53 212 T T 22 28 45.1
baz=51,slow=75,SNR=88

IDC 21 21:14:46.1±60.0, 17°.25S×177°.77W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1109.0km s-min=161.6km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.48**	**241**	P	P	21 22 18.8	+0.2
	2.4nm,0.6s,baz=75,slow=7.3,SNR=3.5						
	2.4nm,0.6s						
WRA	**Warramunga Arr**	**45.35**	**259**	P	P	21 23 06.2	-0.3
	0.6nm,0.5s,baz=96,slow=7.4,SNR=15						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**45.56**	**254**	P	P	21 23 08.0	-0.2
	2.3nm,0.6s,baz=86,slow=8.9,SNR=32						
	2.3nm,0.6s						

*NEIC **21** 21:20:49.9±0.8, 38°.864N±0°.004×118°.87W±0°.01, h8km±4km, Error ellipse: s-maj=1.4km s-min=0.5km az=97.0*
REN 21 21:20:49.7±0.8, 38°.86N±0°.01×118°.88W±0°.01, h9km±8km, ML2.5/14, ML2.4/46(NEIC), Error ellipse: s-maj=2.0km s-min=1.5km az=207.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YERR	**Yerington**	**0.31**	**294**		Pg	21 20 56.3	+0.3
YERR					Sg	21 21 00.8	+0.7
YERR				IAML		21 21 01.6	
	comp=N,286nm,0.4s						
YERR				IAML		21 21 03.6	
	comp=E,509nm,0.5s						
RYN	**Ryan**	**0.36**	**130**		Pg	21 20 57.2	+0.4
RYN					Sg	21 21 02.6	+0.9
RYN				IAML		21 21 03.2	
	comp=E,678nm,0.2s						
WAKR	**Walker**	**0.57**	**231**		Pg	21 21 00.9	+0.2
WAKR					Sg	21 21 08.5	+0.3
NV09	**Mina Array Sit**	**0.60**	**135**		Pg	21 21 01.6	+0.2
PNTR	**Pine Nut**	**0.61**	**292**		Pg	21 21 01.7	+0.2
PNTR					Sg	21 21 09.9	+0.4
PNTR				IAML		21 21 12.9	
	comp=N,104nm,0.7s						
NVAR	**Mina Array Bea**	**0.62**	**134**		Pg	21 21 01.7	-0.1
NV08	**Mina Array Sit**	**0.63**	**136**		Pg	21 21 02.0	0.0
KVN	**Kaiserville**	**0.63**	**72**		Pg	21 21 02.2	+0.2
KVN					Sg	21 21 10.8	+0.5
KVN				IAML		21 21 11.8	
	comp=E,312nm,0.1s						
KVN				IAML		21 21 12.1	
	comp=N,197nm,0.4s						
LHV	**Little Huntoon**	**0.68**	**154**		Pg	21 21 03.1	+0.4
LHV					Sg	21 21 12.3	+0.8
NV11	**Mina Array Sit**	**0.71**	**127**		Pg	21 21 03.6	+0.1
NV11					Sg	21 21 13.4	+0.8
NV11				IAML		21 21 14.0	
	comp=N,105nm,0.5s						
PAHR	**Pah Rah Range**	**0.93**	**335**		Pg	21 21 07.6	-0.1
PAHR				IAML		21 21 23.4	
	comp=E,120nm,0.4s						
EMB	**Emerald Bay**	**0.96**	**277**		Pg	21 21 08.2	-0.1
EMB				IAML		21 21 25.4	
	comp=E,178nm,0.5s						
MPK	**Martis Peak**	**1.00**	**296**		Pg	21 21 08.9	-0.1
MPK				IAML		21 21 11.9	
	comp=N,86nm,0.7s						
MPK				IAML		21 21 24.4	
	comp=E,116nm,0.8s						
MGNR	**McGee Canyon**	**1.06**	**172**		Pg	21 21 10.1	+0.1
MGNR					Sb	21 21 24.8	+0.4
PEAR	**Peavine Mounta**	**1.12**	**312**		Pg	21 21 11.2	-0.1
PEAR					Sb	21 21 26.8	+0.5
BENR	**Benton**	**1.17**	**168**		Pg	21 21 12.0	-0.2
MCBM	**Casa Benchmark**	**1.22**	**181**		Pg	21 21 13.1	0.0
MCBM					Sb	21 21 29.3	+0.3
DONR	**Donner Summit**	**1.23**	**294**		Pb	21 21 12.8	-0.5
MDPB	**Devils Postpil**	**1.24**	**187**		Pb	21 21 13.0	-0.4
Q09A	**Carvers**	**1.32**	**91**		Pn	21 21 14.7	+0.1
CMB	**Columbia Colle**	**1.45**	**236**	Pn	Pb	21 21 16.6	-0.3
CMB				IAML		21 21 37.9	
	comp=N,65nm,0.5s						
CMB				IAML		21 21 38.1	
	comp=E,56nm,0.7s						
TPH	**Tonopah**	**1.52**	**121**		Pb	21 21 17.9	-0.3
KCC	**Kaiser Creek**	**1.57**	**193**		Pb	21 21 19.2	+0.1
AFDM	**Forest Hills D**	**1.64**	**274**		Pn	21 21 19.0	+0.2
AFDM				IAML		21 21 43.0	
	comp=E,32nm,0.2s						
AFDM				IAML		21 21 43.4	
	comp=N,34nm,0.6s						
DSP	**Deep Springs**	**1.65**	**154**		Pb	21 21 19.7	-0.6
LCH	**Last Change Ra**	**1.89**	**149**		Pb	21 21 24.7	+0.2
BMN	**Battle Mountai**	**2.02**	**39**	Pn	Pn	21 21 23.5	-0.7
ORV	**Oroville**	**2.15**	**290**	Pn	Pn	21 21 27.1	+1.2
SGV	**South Grapevin**	**2.38**	**142**		Pg	21 21 34.7	-0.6
R11B	**Troy Canyon, C**	**2.63**	**100**		Pn	21 21 32.3	-0.2
R11B				IAML		21 22 13.7	
	comp=N,11nm,0.6s						
WCT	**Wildcat Mounta**	**2.73**	**139**		Pn	21 21 33.9	+0.1
PRN	**Pahroc Range**	**3.35**	**115**		Pn	21 21 42.0	-0.3
ELK	**Elko**	**3.37**	**55**		Pn	21 21 42.9	0.0
ELK				IAML		21 22 38.5	
	comp=N,5.4nm,0.3s						
ELK				IAML		21 22 42.1	
	comp=N,5.3nm,0.3s						

*IDC **21** 21:27:16.7±1.5, 2°.17N×96°.07E, h0km, mb4.2/9, mbtmp4.1/11, ML4.1/2, MS3.2/4, Error ellipse: s-maj=45.1km s-min=22.9km az=41.0*
*NEIC **21** 21:27:19.8±1.4, 2°.33N±0°.07×96°.22E±0°.10, h10km±2km, mb4.3/21, Error ellipse: s-maj=18.3km s-min=9.0km az=237.0*
*DJA **21** 21:27:20.1±0.6, 2°.N±3°.×9°.6E±°, h16km±3km, M4.4/13, mb4.8/2, mB4.7/1, MLv4.2/13, Mw(mB)4.0/1*
ISC 21 21:27:21.1±0.7, 2°.33N±0°.05×96°.19E±0°.08, h25km, n68, σ0°.77/60, mb4.3/23, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.16**	**59**	P	**Pb**	**21 27 26.2**	**-0.1**
SNSI				S	**Sb**	**21 27 29.5**	**-0.3**
GSI	**Gunungsitoli**	**1.72**	**126**		**Pn**	**21 27 50.0**	**+0.5**
GSI				Sn	**Sn**	**21 28 09.5**	**-1.1**
GSI	**Gunungsitoli**	**1.72**	**126**	P	**Pn**	**21 27 49.9**	**+0.5**
GSI				S	**Sn**	**21 28 10.4**	**-0.2**
MLSI	**Meulaboh, Aceh**	**1.94**	**6**	P	**Pn**	**21 27 52.7**	**+0.2**
MLSI				S	**Sn**	**21 28 17.6**	**+1.5**
RPSI	**Rantau Prapat**	**2.75**	**82**	Pn	**Pn**	**21 28 04.1**	**+0.4**
RPSI	**Rantau Prapat**	**2.75**	**82**		**Pn**	**21 28 04.6**	**+0.9**
PSI	**Prapat**	**2.77**	**80**	Pn	**Pn**	**21 28 04.6**	**+0.6**
	7.7nm,0.3s,baz=291,slow=8.6,SNR=25						
PSI				LR	LR	21 29 29.4	
	comp=Z,269nm,18.0s,baz=292,slow=46						
	17nm,0.2s						
LHMI	**Lhok Sumawe**	**2.98**	**15**	Pn	**Pn**	**21 28 07.4**	**+0.5**
LHMI	**Lhok Sumawe**	**2.98**	**15**	P	**Pn**	**21 28 07.5**	**+0.7**
PBSI	**Pulau Batu**	**3.15**	**139**	P	**Pn**	**21 28 10.1**	**+0.9**
PBSI				S	**Sn**	**21 28 44.7**	**-1.4**
BSI	**Banda Aceh**	**3.27**	**344**	P	**Pn**	**21 28 10.1**	**-0.8**
MNSI	**Mandailing Nat**	**3.71**	**114**	P	**Pn**	**21 28 18.0**	**+1.1**
SISI	**Saibi**	**4.64**	**141**	P	**Pn**	**21 28 30.9**	**+1.2**
BKNI	**Bangkinang**	**5.24**	**112**	P	**Pn**	**21 28 39.1**	**+1.2**
	80nm,0.5s						
IPM	**Ipoh**	**5.28**	**66**	Pn	**Pn**	**21 28 39.0**	**+0.5**
SRIT	**Nakonsritamara**	**7.09**	**28**	Pn	**Pn**	**21 29 02.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.26**	**9**	Pn	**P**	**21 31 09.9**	**-0.9**
	0.6nm,0.3s,baz=199,slow=11,SNR=10						
CMAR				LR	LR	21 37 59.1	
	comp=Z,52nm,18.9s,baz=140,slow=39						
	2.6nm,0.8s						
PHRA	**Phrae**	**16.55**	**14**	Pn	**Pn**	**21 31 11.5**	**-0.2**
CHTO	**Chiang Mai**	**16.61**	**9**	Pn	**Pn**	**21 31 12.5**	**+0.1**
KKM	**Kota Kinabalu**	**20.31**	**79**	P	**P**	**21 31 55.0**	**-0.5**
MYLDM	**Lahad Datu**	**22.44**	**82**	P	**P**	**21 32 17.4**	**-1.0**
MYLDM				IAmb	IAmb	21 32 42.4	
	comp=Z,15nm,1.2s						
SHL	**Shillong**	**23.48**	**350**	P	**P**	**21 32 26.9**	**-2.2**
SHL				IAmb	IAmb	21 32 30.3	
	comp=Z,9.3nm,0.7s						
PZH	**PanZhiHua**	**24.62**	**12**	P	**P**	**21 32 40.5**	**+0.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,5.5s						
H08S2	**Diego Garcia H**	**25.63**	**247**	T	T	21 59 22.8	
	baz=68,slow=75,SNR=4396						
H08S3	**Diego Garcia H**	**25.64**	**247**	T	T	21 59 22.9	
	baz=68,slow=75,SNR=4190						
H08S1	**Diego Carcia H**	**25.65**	**247**	T	T	21 59 24.1	
	baz=68,slow=75,SNR=4382						
LSA	**Lhasa**	**27.64**	**351**	P	**P**	**21 33 07.2**	**-0.3**
LSA				IAmb	IAmb	21 33 24.0	
	comp=Z,3.3nm,1.0s						
GTA	**Gaotai**	**37.06**	**5**	*e*P	**P**	**21 34 29.5**	**+0.1**
GTA				pP	pP	21 34 38.6	+1.7
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MTN	**Manton Dam**	**37.82**	**114**	P	**P**	**21 34 34.6**	**-1.4**
H01W3	**Cape Leeuwin H**	**40.66**	**157**	T	T	22 18 14.7	
	baz=333,slow=76,SNR=309						
H01W2	**Cape Leeuwin H**	**40.68**	**157**	T	T	22 18 15.9	
	baz=333,slow=76,SNR=326						
H01W1	**Cape Leeuwin H**	**40.68**	**157**	T	T	22 18 12.8	
	baz=333,slow=76,SNR=300						
HHC	**Hu-ho-hao-te**	**40.79**	**18**	*e*P	**P**	**21 35 00.4**	**-0.2**
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,64nm,4.1s						
WUS	**Wushi**	**41.62**	**341**	P	**P**	**21 35 08.2**	**+0.8**
WUS				IAmb	IAmb	21 35 10.0	
	comp=Z,5.0nm,0.7s						
TARG	**Taragay, Kyrgy**	**42.57**	**340**	P	**P**	**21 35 16.1**	**+0.6**
TARG				IAmb	IAmb	21 35 19.3	
	comp=Z,3.7nm,0.9s						
NRN	**Naryn**	**42.97**	**338**	P	**P**	**21 35 18.8**	**+0.2**
DRK	**Karamyk**	**43.13**	**332**	P	**P**	**21 35 21.2**	**+1.3**
KDJ	**Kajisay**	**43.14**	**339**	P	**P**	**21 35 20.9**	**+1.1**
KDJ				IAmb	IAmb	21 35 23.8	
	comp=Z,4.1nm,0.8s						
WB0	**Warramunga Arr**	**43.45**	**122**	P	**P**	**21 35 22.4**	**-0.1**
WB0				IAmb	IAmb	21 35 30.3	
	comp=Z,6.8nm,1.4s						
GAR	**Garm**	**43.47**	**330**	P	**P**	**21 35 22.8**	**+0.4**
WRA	**Warramunga Arr**	**43.48**	**122**	P	**P**	**21 35 22.1**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=298,slow=9.2,SNR=6.1						
	comp=Z,0.6nm,0.9s						
SIMJ	**Simiganj**	**43.87**	**329**	P	**P**	**21 35 24.5**	**-1.2**
SIMJ				IAmb	IAmb	21 35 26.9	
	comp=Z,2.5nm,0.6s						
BTK	**Batken**	**44.05**	**332**	P	**P**	**21 35 27.3**	**+0.2**
BTK				IAmb	IAmb	21 35 43.4	
	comp=Z,2.6nm,0.7s						
MK31	**Makanchi Array**	**45.92**	**347**	P	**P**	**21 35 42.2**	**+0.4**
MK31				IAmb	IAmb	21 35 44.7	
	comp=Z,3.9nm,0.8s						
MKAR	**Makanchi Array**	**45.92**	**347**	P	**P**	**21 35 41.9**	**+0.2**
MKAR	**Makanchi Array**	**45.92**	**347**	P	**P**	**21 35 42.2**	**+0.4**
	comp=Z,4.1nm,0.7s,baz=160,slow=8.8,SNR=41						
	comp=Z,4.1nm,0.7s						
SONM	**Songino Array**	**46.19**	**10**	P	**P**	**21 35 43.8**	**-0.1**
SONM	**Songino Array**	**46.19**	**10**	P	**P**	**21 35 43.9**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=190,slow=8.7,SNR=14						
SONM				PcP	**PcP**	**21 37 20.2**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=199,slow=2.6,SNR=2.3						
	comp=Z,1.2nm,0.5s						
KKAR	**Karatay Array**	**46.61**	**334**	P	**P**	**21 35 48.3**	**+1.0**
COEN	**Coen**	**49.30**	**111**	P	**P**	**21 36 08.5**	**0.0**
KURBB	**Kurchatov Arra**	**50.39**	**345**	P	**P**	**21 36 16.5**	**+0.2**
	comp=Z,1.0nm,0.2s,baz=162,slow=7.2,SNR=4.5						
	comp=Z,1.0nm,0.2s						
ZAA0	**Zalesovo Array**	**52.30**	**352**	P	**P**	**21 36 30.9**	**+0.4**
ZAA0				IAmb	IAmb	21 36 31.5	
	comp=Z,7.2nm,1.1s						
ZALV	**Zalesovo Beam**	**52.30**	**352**	P	**P**	**21 36 30.7**	**+0.2**
ZALV	**Zalesovo Beam**	**52.30**	**352**	P	**P**	**21 36 31.1**	**+0.6**
	comp=Z,4.3nm,0.4s,baz=167,slow=6.8,SNR=28						
	comp=Z,4.3nm,0.4s						
BVAR	**Borovoye Array**	**54.87**	**341**	P	**P**	**21 36 49.1**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=138,slow=8.8,SNR=12						
	comp=Z,2.1nm,0.7s						
ABKAR	**Akbulak array**	**56.05**	**332**	P	**P**	**21 36 58.4**	**+0.5**
ABKAR	**Akbulak array**	**56.05**	**332**	P	**P**	**21 36 58.8**	**+0.9**
ABKAR				IAmb	IAmb	21 37 24.1	
	comp=Z,1.3nm,0.8s						
H04N2	**CROZET ISLANDS**	**62.14**	**213**	T	T	22 45 06.8	
	baz=52,slow=75,SNR=4140						
H04N1	**CROZET ISLANDS**	**62.15**	**213**	T	T	22 45 07.0	
	baz=52,slow=75,SNR=3213						
H04N3	**CROZET ISLANDS**	**62.16**	**213**	T	T	22 45 06.0	
	baz=52,slow=75,SNR=3716						
H04S1	**CROZET ISLANDS**	**62.50**	**213**	T	T	22 45 33.5	
	baz=52,slow=75,SNR=215						
H04S3	**CROZET ISLANDS**	**62.51**	**213**	T	T	22 45 33.6	
	baz=52,slow=75,SNR=318						
H04S2	**CROZET ISLANDS**	**62.52**	**213**	T	T	22 45 34.2	
	baz=52,slow=75,SNR=143						
KBZ	**Khabaz**	**62.57**	**319**	LR	LR	22 05 52.1	
	comp=Z,17nm,19.8s,baz=314,slow=37						
NRIK	**Noril'sk**	**67.15**	**357**	LR	LR	22 09 47.5	
	comp=Z,53nm,21.3s,baz=188,slow=38						
AKASG	**Malin Array Be**	**73.76**	**322**	P	**P**	**21 38 52.8**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=101,slow=4.8,SNR=2.2						
	comp=Z,0.2nm,0.4s						
FINES	**FINESS Array B**	**78.54**	**333**	P	**P**	**21 39 20.8**	**+0.6**
	comp=Z,4.2nm,1.1s,baz=110,slow=3.3,SNR=4.0						
	comp=Z,4.2nm,1.1s						
ARCES	**ARCESS Array B**	**81.14**	**340**	P	**P**	**21 39 34.6**	**+0.4**
	comp=Z,5.9nm,1.0s,baz=99,slow=5.8,SNR=5.4						
	comp=Z,5.9nm,1.0s						

*IDC **21** 21:31:08.2±1.3, 6°.27S×151°.68E, h0km, mb3.9/7, mbtmp4.0/8, ML1.8/1, MS3.4/22, Error ellipse: s-maj=48.9km s-min=17.6km az=119.0*
ISC 21 21:31:14.4±1.2, 6°.2S±0°.2×151°.4E±0°.2, h35km, n29, σ2s55/12, mb4.0/7, MS3.5/20, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.28**	**233**	Pn	**Pn**	**21 32 32.1**	**+1.1**
	1.8nm,0.3s,baz=49,slow=9.1,SNR=8.2						
PMG				Sn	**Sn**	**21 33 29.3**	**-1.3**
	6.6nm,0.3s,baz=47,slow=18,SNR=11						
	8.8nm,0.5s						
HNR	**Honiara**	**9.00**	**111**	LR	LR	21 36 36.1	
	comp=Z,228nm,21.0s,baz=255,slow=37						
CTA	**Charters Tower**	**14.66**	**200**	LR	LR	21 39 28.6	
	comp=Z,168nm,21.6s,baz=34,slow=34						
WRA	**Warramunga Arr**	**21.49**	**229**	P	**P**	**21 35 59.1**	**-1.2**
	4.9nm,0.6s,baz=52,slow=10,SNR=36						
WRA				S	**S**	**21 39 53.9**	**-3.0**
	1.0nm,1.2s,baz=58,slow=21,SNR=5.5						
	4.9nm,0.6s						
ASAR	**Alice Springs**	**24.18**	**222**	P	**P**	**21 36 27.3**	**-0.5**
	10nm,0.8s,baz=52,slow=9.6,SNR=80						
ASAR				S	**S**	**21 40 49.9**	**+6.0**
	0.9nm,1.0s,baz=47,slow=23,SNR=4.2						
ASAR				LR	LR	21 46 03.3	
	comp=Z,74nm,19.2s,baz=48,slow=37						
	10nm,0.8s						
STKA	**Stephens Creek**	**27.12**	**199**	LR	LR	21 48 25.3	
	comp=Z,78nm,18.1s,baz=18,slow=38						
BATI	**Baumata**	**27.77**	**260**	LR	LR	21 49 46.1	
	comp=Z,110nm,19.0s,baz=105,slow=40						
MSVF	**Nonsavu**	**28.38**	**116**	LR	LR	21 48 39.2	
	comp=Z,44nm,19.6s,baz=174,slow=37						
KAPI	**Kappang**	**31.56**	**271**	LR	LR	21 51 46.8	
	comp=Z,48nm,19.6s,baz=102,slow=39						
URZ	**Urewera**	**39.47**	**148**	LR	LR	21 54 16.2	
	comp=Z,55nm,18.3s,baz=44,slow=35						
JOW	**Kunigami**	**39.81**	**327**	LR	LR	21 53 28.5	
	comp=Z,61nm,19.1s,baz=242,slow=34						
NWAO	**Narrogin (SRO)**	**41.42**	**226**	LR	LR	21 57 02.4	
	comp=Z,61nm,19.6s,baz=211,slow=37						
KSRS	**Korea Array**	**48.70**	**335**	LR	LR	21 58 33.6	
	comp=Z,24nm,21.8s,baz=155,slow=34						
ASAJ	**Asahikawa**	**50.76**	**352**	LR	LR	22 00 31.5	
	comp=Z,26nm,20.3s,baz=160,slow=35						
CMAR	**Chiang Mai Arr**	**57.28**	**296**	LR	LR	22 08 28.7	
	comp=Z,7.7nm,18.1s,baz=180,slow=39						
KLR	**Kul'dur**	**57.85**	**345**	LR	LR	22 05 10.3	
	comp=Z,31nm,18.1s,baz=286,slow=35						
SONM	**Songino Array**	**66.83**	**329**	P	**P**	**21 42 04.8**	**+1.9**
	0.3nm,0.5s,baz=131,slow=6.5,SNR=2.0						
SONM				LR	LR	22 10 13.9	
	comp=Z,34nm,21.8s,baz=170,slow=35						
	0.3nm,0.5s						
YAK	**Yakutsk**	**70.12**	**349**	LR	LR	22 11 42.4	
	comp=Z,15nm,21.0s,baz=75,slow=35						
MKAR	**Makanchi Array**	**80.52**	**319**	P	**P**	**21 43 23.6**	**+0.5**
	0.9nm,1.1s,baz=108,slow=5.6,SNR=1.9						
	0.9nm,1.1s						
ZALV	**Zalesovo Beam**	**81.60**	**327**	P	**P**	**21 43 27.7**	**-1.0**
	0.3nm,0.4s,baz=96,slow=10,SNR=2.1						
	0.3nm,0.4s						
MAW	**Mawson**	**83.73**	**203**	LR	LR	22 17 57.4	
	comp=Z,41nm,20.4s,baz=118,slow=34						
QSPA	**South Pole Qui**	**83.73**	**180**	P	**P**	**21 43 39.8**	**+0.1**
	1.1nm,0.7s,baz=333,slow=2.3,SNR=4.1						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**83.99**	**22**	P	**P**	**21 43 39.9**	**-1.0**
	1.0nm,0.8s,baz=248,slow=5.7,SNR=6.8						
	1.0nm,0.8s						
BVAR	**Borovoye Array**	**89.58**	**323**	LR	LR	22 25 52.1	
	comp=Z,24nm,18.8s,baz=343,slow=37						
YBH	**Yreka Blue Hor**	**91.02**	**48**	LR	LR	22 20 01.6	
	comp=Z,33nm,19.4s,baz=354,slow=32						
NVAR	**Mina Array Bea**	**94.03**	**52**	LR	LR	22 22 20.4	
	comp=Z,41nm,18.8s,baz=272,slow=33						
NEW	**Newport**	**95.56**	**42**	LR	LR	22 22 51.8	
	comp=Z,29nm,18.3s,baz=334,slow=32						
ARTI	**Arti**	**96.85**	**326**	LR	LR	22 27 59.2	
	comp=Z,36nm,21.2s,baz=1.0,slow=35						
TORD	**Torodi Ar. Bea**	**149.42**	**285**	PKPbc	**PKPbc**	**21 50 59.1**	**-1.8**
	1.3nm,0.9s,baz=89,slow=2.8,SNR=5.6						

*IDC **21** 21:39:12.3±2.2, 5°.23S×152°.93E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=84.1km s-min=28.5km az=118.0*
ISC 21 21:39:18.1±1.9, 5°.3S±0°.3×152°.7E±0°.4, h35km, n8, σ1s01/8, mb3.5/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.89**	**233**	Sn	**Sn**	**21 42 13.1**	**-0.8**
	2.0nm,0.3s,baz=42,slow=17,SNR=6.9

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.61**	**30⇓**	*i*P	**Pn**	**21 48 23.4**	**-0.3**
CNCH				*e*S	**Sn**	**21 48 34.6**	**+1.2**
CNCH	**Conchagua**	**0.61**	**30**	*i*P	**Pn**	**21 48 23.3**	**-0.3**
CNCH				*i*S	**Sn**	**21 48 34.0**	**+0.5**
CNCH				IAML		21 48 36.7	
	comp=Z,15μm,1.0s						
LCND	**La Caada**	**0.62**	**24⇓**	*i*P	**Pn**	**21 48 23.3**	**-0.3**
LCND				*e*S	**Sn**	**21 48 33.9**	**+0.6**
LCND				IAML		21 48 37.8	
	comp=Z,5μm,0.3s						
LCND	**La Caada**	**0.62**	**24**	*i*P	**Pn**	**21 48 23.3**	**-0.3**
LCND				*i*S	**Sn**	**21 48 34.2**	**+0.9**
LCND				IAML		21 48 37.7	
	comp=Z,5μm,1.0s						
CSGN	**Cosiguina Volc**	**0.62**	**68**	*i*P	**Pn**	**21 48 22.7**	**-0.9**
CSGN				*i*S	**Sn**	**21 48 33.2**	**-0.3**
CSGN				IAML		21 48 35.5	
	comp=Z,2μm,1.0s						
POTN	**Potosi Cosigui**	**0.67**	**68**	*i*P	**Pn**	**21 48 23.4**	**-0.8**
POTN				*i*S	**Sn**	**21 48 34.8**	**+0.3**
POTN				IAML		21 48 36.7	
	comp=Z,2μm,1.0s						
LCY	**Lacayo**	**0.69**	**348⇓**	*i*P	**Pn**	**21 48 24.3**	**-0.3**
BLLM	**Bellamira**	**0.70**	**353⇑**	*i*P	**Pn**	**21 48 24.4**	**-0.2**
RANC	**El Ranchito**	**0.70**	**349⇑**	*e*P	**Pn**	**21 48 24.5**	**-0.2**
RANC	**El Ranchito**	**0.70**	**349**	*i*P	**Pn**	**21 48 24.5**	**-0.2**
RANC				*i*S	**Sn**	**21 48 36.1**	**+0.8**
RANC				IAML		21 48 38.0	
	comp=Z,5μm,1.0s						
CNRM	**Centro Naciona**	**0.73**	**358**	*e*P	**Pn**	**21 48 24.7**	**-0.2**
CNRM	**Centro Naciona**	**0.73**	**358**	*i*P	**Pn**	**21 48 24.7**	**-0.2**
CNRM				*i*S	**Sn**	**21 48 37.2**	**+1.5**
CNRM				IAML		21 48 39.8	
	comp=Z,18μm,1.0s						
PACA	**Pacayal**	**0.74**	**347**	*e*P	**Pn**	**21 48 25.1**	**-0.1**
PACA				*e*S	**Sn**	**21 48 36.8**	**+0.6**
PACA	**Pacayal**	**0.74**	**347**	*i*P	**Pn**	**21 48 25.1**	**-0.1**
PACA				*i*S	**Sn**	**21 48 37.0**	**+0.8**
PACA				IAML		21 48 39.1	
	comp=Z,33μm,1.0s						
TECA	**Tecapa**	**0.82**	**335⇓**	*e*P	**Pn**	**21 48 25.7**	**-0.5**
TECA				⇓*i*P	**Pn**	**21 48 25.7**	**-0.5**
PQSS	**Presa 15 de Se**	**0.97**	**335**	*i*P	**Pn**	**21 48 27.9**	**+0.1**
PQSS				*i*S	**Sn**	**21 48 42.1**	**+1.2**
PQSS				IAML		21 48 44.5	
	comp=Z,3μm,1.0s						
EVIJ	**El Viejo**	**1.00**	**95**	*i*P	**Pn**	**21 48 27.1**	**-1.2**
EVIJ				*i*S	**Sn**	**21 48 40.4**	**-1.4**
EVIJ				IAML		21 48 43.1	
	comp=Z,11μm,1.0s						
TECO	**Alcaldia de Te**	**1.00**	**322⇑**	*i*P	**Pn**	**21 48 27.6**	**-0.7**
TECO	**Alcaldia de Te**	**1.00**	**322**	*i*P	**Pn**	**21 48 27.6**	**-0.7**
TECO				*i*S	**Sn**	**21 48 40.9**	**-0.9**
TECO				IAML		21 48 41.4	
	comp=Z,2μm,1.0s						
CAHU	**Cacacuatique**	**1.02**	**356⇑**	*e*P	**Pn**	**21 48 29.3**	**+0.5**
CRIN	**San Cristobal**	**1.07**	**92**	*i*P	**Pn**	**21 48 29.0**	**-0.2**
CRIN				*i*S	**Sn**	**21 48 44.0**	**+0.6**
CRIN				IAML		21 48 47.3	
	comp=Z,11μm,1.0s						
CRIN	**San Cristobal**	**1.07**	**92**	*e*P	**Pn**	**21 48 28.7**	**-0.5**
CRIN				*e*S	**Sn**	**21 48 44.1**	**+0.7**
UESV	**Universidad de**	**1.09**	**325**	*e*P	**Pn**	**21 48 29.2**	**-0.2**
UESV	**Universidad de**	**1.09**	**325**	*i*P	**Pn**	**21 48 29.2**	**-0.2**
UESV				*i*S	**Sn**	**21 48 44.0**	**+0.2**
UESV				IAML		21 48 53.4	
	comp=Z,3μm,1.0s						
SCLA	**Alcaldia de Sa**	**1.11**	**329**	*e*P	**Pn**	**21 48 29.9**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.11**	**329**	*i*P	**Pn**	**21 48 29.9**	**+0.1**
SCLA				*i*S	**Sn**	**21 48 45.4**	**+1.0**
SCLA				IAML		21 48 46.4	
	comp=Z,3μm,1.0s						
COEG	**Centro de Oper**	**1.13**	**321**	*e*P	**Pn**	**21 48 29.3**	**-0.7**
COEG				*e*S	**Sn**	**21 48 44.5**	**-0.4**
COEG				IAML		21 48 48.3	
	comp=Z,3μm,0.3s						
COEG	**Centro de Oper**	**1.13**	**321**	*i*P	**Pn**	**21 48 29.5**	**-0.5**
COEG				*i*S	**Sn**	**21 48 44.4**	**-0.4**
COEG				IAML		21 48 48.1	
	comp=Z,2μm,1.0s						
PKGN	**Cerro Pekin**	**1.14**	**93**	*i*P	**Pn**	**21 48 29.7**	**-0.4**
PKGN				*i*S	**Sn**	**21 48 45.1**	**+0.1**
PKGN				IAML		21 48 47.0	
	comp=Z,13μm,1.0s						
PAVA	**Las Pavas**	**1.24**	**321**	*e*P	**Pn**	**21 48 31.3**	**-0.2**
PAVA	**Las Pavas**	**1.24**	**321**	*i*P	**Pn**	**21 48 31.4**	**-0.1**
PAVA				*i*S	**Sn**	**21 48 48.3**	**+0.9**
PAVA				IAML		21 48 51.6	
	comp=Z,3μm,1.0s						
LFRS	**El Faro**	**1.25**	**315⇑**	*e*P	**Pn**	**21 48 31.0**	**-0.7**
HERN	**Volcan Telica**	**1.29**	**96**	*i*P	**Pn**	**21 48 30.0**	**-2.1**
HERN				IAML		21 48 48.1	
	comp=Z,4μm,1.0s						
TELN	**Telica**	**1.29**	**96**	*i*P	**Pn**	**21 48 31.4**	**-0.7**
TELN				*i*S	**Sn**	**21 48 47.6**	**-1.0**
TELN				IAML		21 48 52.0	
	comp=Z,360nm,1.0s						
POLN	**Al Sur del Vol**	**1.30**	**94**	*i*P	**Pn**	**21 48 31.4**	**-0.9**
POLN				*i*S	**Sn**	**21 48 48.1**	**-0.7**
POLN				IAML		21 48 49.7	
	comp=Z,22nm,1.0s						
PACN	**Al O del Volca**	**1.34**	**100**	*i*P	**Pn**	**21 48 31.7**	**-1.1**
PACN				IAML		21 48 50.4	
	comp=Z,4μm,1.0s						
LOMA	**Loma Larga**	**1.34**	**312**	*e*P	**Pn**	**21 48 32.4**	**-0.5**
LOMA				IAML		21 48 54.1	
	comp=Z,3μm,0.2s						
LOMA	**Loma Larga**	**1.34**	**312**	*i*P	**Pn**	**21 48 32.1**	**-0.8**
LOMA				*i*S	**Sn**	**21 48 49.1**	**-0.9**
LOMA				IAML		21 48 53.9	
	comp=Z,2μm,1.0s						
PLRN	**Geotermica Pol**	**1.35**	**97**	*i*P	**Pn**	**21 48 31.8**	**-1.1**
ILCN	**San Idelfonso**	**1.42**	**96**	*i*P	**Pn**	**21 48 32.8**	**-1.0**
ILCN				IAML		21 48 54.7	
	comp=Z,700nm,1.0s						
CNGA	**Al SSO del Vol**	**1.43**	**100**	*i*P	**Pn**	**21 48 32.8**	**-1.2**
CNGA				IAML		21 48 54.3	
	comp=Z,4μm,1.0s						
MACN	**El Madrono**	**1.46**	**101**	*i*P	**Pn**	**21 48 33.4**	**-1.0**
MACN				IAML		21 48 56.4	
	comp=Z,2μm,1.0s						
BOQS	**Boqueron**	**1.48**	**312**	*e*P	**Pn**	**21 48 34.6**	**-0.2**
PMON	**Piamonte**	**1.49**	**310**	*e*P	**Pn**	**21 48 34.5**	**-0.5**
PMON	**Piamonte**	**1.49**	**310**	*i*P	**Pn**	**21 48 34.4**	**-0.5**
PMON				IAML		21 48 55.7	
	comp=Z,2μm,1.0s						
JAYA	**Jayaque - finc**	**1.56**	**306**	*e*P	**Pn**	**21 48 35.2**	**-0.6**
JAYA	**Jayaque - finc**	**1.56**	**306**	*i*P	**Pn**	**21 48 35.4**	**-0.4**
JAYA				IAML		21 48 56.0	
	comp=Z,4μm,1.0s						
MOMN	**Momotombo**	**1.60**	**102**	*i*P	**Pn**	**21 48 35.1**	**-1.2**
MOMN				IAML		21 48 58.5	
	comp=Z,65nm,1.0s						
COPN	**Copaltepe**	**1.62**	**110**	*i*P	**Pn**	**21 48 35.1**	**-1.3**
COPN				IAML		21 48 57.8	
	comp=Z,920nm,1.0s						
MOM2	**El Cardon**	**1.65**	**100**	*i*P	**Pn**	**21 48 36.0**	**-0.9**
MOM2				IAML		21 49 00.4	
	comp=Z,550nm,1.0s						
LIMN	**Finca el Limon**	**1.76**	**79**	*i*P	**Pn**	**21 48 38.1**	**-0.4**
LIMN				IAML		21 49 00.7	
	comp=Z,520nm,1.0s						
SAPS	**Ciudad Sandino**	**1.79**	**108**	*i*P	**Pn**	**21 48 37.7**	**-1.1**
SAPS				IAML		21 49 06.0	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**1.80**	**307**	*i*P	Pn	21 48 51.2	+12
APQ2	**Apoyeque**	**1.86**	**107**	*i*P	**Pn**	**21 48 39.8**	**+0.1**
APQ2				IAML		21 49 05.7	
	comp=Z,1μm,1.0s						
NUBE	**Las Nubes**	**1.97**	**306**	*e*P	**Pn**	**21 48 41.0**	**-0.3**
NUBE	**Las Nubes**	**1.97**	**306**	*i*P	**Pn**	**21 48 41.0**	**-0.3**
NUBE				IAML		21 49 08.9	
	comp=Z,1μm,1.0s						
RCFN	**Al S de San Ju**	**2.04**	**67**	*i*P	**Pn**	**21 48 42.8**	**+0.5**
RCFN				IAML		21 48 42.9	
	comp=Z,6μm,1.0s						
RCVN	**Varillal2**	**2.08**	**66**	*i*P	**Pn**	**21 48 42.0**	**-0.8**
RCVN				IAML		21 48 44.1	
	comp=Z,9μm,1.0s						
SABN	**Sabanita**	**2.09**	**112**	*i*P	Pn	21 48 56.0	+13
NANN	**Nandasmo**	**2.13**	**112**	*i*P	**Pn**	**21 48 43.4**	**-0.1**
NANN				IAML		21 49 10.7	
	comp=Z,18μm,1.0s						
RCPN	**Sur Rio San Ju**	**2.15**	**68**	*i*P	**Pn**	**21 48 44.3**	**+0.6**
RCPN				IAML		21 49 13.4	
	comp=Z,4.0nm,1.0s						
LCRUZ	**La Cruz**	**2.96**	**124**	*e*P	**Pn**	**21 48 55.9**	**+1.1**
ACON	**Acoyapa**	**3.00**	**105**	*e*P	**Pn**	**21 48 55.8**	**+0.5**
VRLE	**La Escondida,**	**3.34**	**125**	*e*P	**Pn**	**21 49 01.5**	**+1.4**
CUI	**Cuipilapa**	**3.58**	**125**	*e*P	**Pn**	**21 49 04.7**	**+1.4**
JTS	**Las Juntas de**	**3.96**	**128**	*e*P	**Pn**	**21 49 10.8**	**+2.3**
LCR2	**La Lucha 2**	**5.04**	**126**	*e*P	**Pn**	**21 49 25.5**	**+2.1**
BUS1	**Rivas**	**5.35**	**126**	*e*P	**Pn**	**21 49 29.1**	**+1.2**
CMIG	**Matias Romero**	**7.82**	**304**	LR	LR	21 53 49.1	
	comp=Z,17nm,20.7s,baz=84,slow=40						
TXAR	**Lajitas Array**	**21.92**	**321**	P	**P**	**21 52 59.9**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=141,slow=11,SNR=18						
	comp=Z,1.4nm,0.6s						
PDAR	**Pinedale Array**	**35.20**	**332**	P	**P**	**21 54 58.5**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=126,slow=10,SNR=4.1						
	comp=Z,0.3nm,0.5s						
RES	**Resolute Bay**	**62.05**	**358**	LR	LR	22 26 00.3	
	comp=Z,51nm,18.3s,baz=358,slow=37						
ILAR	**Eielson Array**	**65.48**	**336**	P	**P**	**21 58 45.5**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=99,slow=5.6,SNR=2.0						
	comp=Z,0.2nm,0.5s						
WRA	**Warramunga Arr**	**138.70**	**254**	PKP	**PKiKP**	**22 07 31.4**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=92,slow=2.3,SNR=6.2						

*AEIC **21** 22:12:16.3±0.7, 55.°4N±0.°1×160.°7W±0.°1, h77km±4km, Error ellipse: s-maj=16.6km s-min=6.3km az=157.0*
NEIC 21 22:12:15.5±0.7,**55.°45N**±0.°06×**160.°72W**±0.°10,
h79km±10km,**ML3.3**/24,**ML3.4**(AEIC),**Error ellipse:**
s-maj=11.0km s-min=5.8km az=144.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PS1A	**Pavlof South-1**	**0.59**	**267**		Pn	22 12 29.8	-0.2
PS1A					Sn	22 12 40.9	+0.3
PVV	**Pavlof Volcano**	**0.62**	**263**		Pn	22 12 29.9	-0.3
PVV					Sn	22 12 41.2	+0.1
PS4A	**Pavlof South-4**	**0.66**	**261**		Pn	22 12 30.5	-0.2
PS4A					Sn	22 12 42.2	+0.3
HAG	**Hague Volcano**	**0.69**	**259**		Pn	22 12 30.8	-0.2
HAG					Sn	22 12 43.1	+0.6
PN7A	**Pavlof North-7**	**0.73**	**269**		Pn	22 12 31.5	+0.1
S12K	**Black Hills**	**0.80**	**289**		Pn	22 12 31.9	-0.3
S12K					Sn	22 12 44.4	-0.3
CNBA	**Chernabura Isl**	**0.91**	**134**		Pn	22 12 32.0	-1.4
VNSG	**Veniaminof 6**	**1.14**	**53**		Pn	22 12 36.3	+0.1
VNHG	**Veniaminof 1**	**1.17**	**48**		Pn	22 12 37.1	+0.5
CHGN	**Chignik**	**1.55**	**56**		Pn	22 12 41.2	-0.1
FALS	**False Pass**	**1.66**	**250**		Pn	22 12 42.4	-0.5
ISNN	**Isanotski Nort**	**1.87**	**252**		Sn	22 13 08.2	-0.2
ISLZ	**Isanotski Laza**	**1.87**	**248**		Pn	22 12 45.3	-0.3
ISLZ					Sn	22 13 08.7	+0.2
ANPB	**Aniakchak Plen**	**1.92**	**44**		Pn	22 12 46.4	+0.1
AZAC	**Aniakchak**	**2.00**	**43**		Pn	22 12 47.5	0.0
ANON	**Aniakchak**	**2.04**	**43**		Pn	22 12 47.9	-0.1
WESE	**West Dahl East**	**2.44**	**248**		Pn	22 12 53.4	+0.2
WEBT	**Westdahl Beart**	**2.48**	**251**		Pn	22 12 53.4	-0.4
WECS	**Westdahl Cape**	**2.52**	**250**		Pn	22 12 54.0	-0.3
R16K	**Pilot Point**	**2.74**	**38**		Pn	22 12 56.5	-0.8
PLBL	**Peulik Blue Cr**	**3.12**	**42**		Pn	22 13 02.6	+0.3
AKSA	**Akutan Strait**	**3.17**	**247**		Pn	22 13 03.3	+0.2
AHB	**Akutan Harbor**	**3.24**	**248**		Pn	22 13 04.1	0.0
PLK1	**Peulik 1**	**3.27**	**42**		Pn	22 13 04.8	+0.4
AKBBA	**Akutan Broad B**	**3.31**	**248**		Pn	22 13 04.9	-0.1
PLK5	**Peulik 5**	**3.31**	**38**		Pn	22 13 05.5	+0.5
AKV	**Akutan Volcano**	**3.32**	**249**		Pn	22 13 04.9	-0.2
PLK3	**Peulik 3**	**3.33**	**46**		Pn	22 13 05.7	+0.5
ZRO	**Akutan Zero**	**3.34**	**248**		Pn	22 13 05.1	-0.2
AKMO	**Akutan Morgan**	**3.36**	**248**		Pn	22 13 05.4	-0.2
O15K	**Ungalikthiuk R**	**3.77**	**7**		Pn	22 13 10.9	-0.2
O14K	**Tigyukauivet M**	**3.82**	**356**		Pn	22 13 11.6	-0.2
O14K				IAML		22 14 23.7	
	comp=N,31nm,1.4s						
O14K				IAML		22 14 27.9	
	comp=E,31nm,1.1s						
SII	**Sitkinak Islan**	**3.83**	**70**		Pn	22 13 10.8	-1.2
SII				IAML		22 14 11.3	
	comp=N,109nm,0.7s						
SII				IAML		22 14 13.7	
	comp=E,103nm,0.7s						
MSW	**Makushin Switc**	**3.84**	**249**		Pn	22 13 11.4	-0.8
KJL	**Kejulik**	**3.85**	**45**		Pn	22 13 11.8	-0.5
P16K	**Nushagak River**	**3.88**	**21**		Pn	22 13 12.9	+0.3
MGOD	**Makushin Gods**	**3.95**	**248**		Pn	22 13 12.9	-0.8
ANCK	**Angle Creek**	**3.98**	**44**		Pn	22 13 14.2	+0.2
MAPS	**Pakushin South**	**3.98**	**248**		Pn	22 13 13.4	-0.6
ACHA	**Angle Creek He**	**4.05**	**45**		Pn	22 13 15.4	+0.3
KAKN	**Katmai Knife C**	**4.21**	**45**		Pn	22 13 17.3	0.0
O16K	**Kokwok River B**	**4.39**	**18**		Pn	22 13 19.3	-0.2
O16K				IAML		22 14 42.1	
	comp=N,16nm,1.4s						
P17K	**Kvichak River**	**4.41**	**30**		Pn	22 13 20.3	+0.4
KAHC	**Katmai Hardscr**	**4.47**	**42**		Pn	22 13 20.9	+0.1
N14K	**Kuskokwak Cree**	**4.51**	**354**		Pn	22 13 21.6	+0.4
KAHG	**Katmai Hook Gl**	**4.55**	**45**		Pn	22 13 21.9	0.0
N15K	**Kwethluk River**	**4.74**	**4**		Pn	22 13 24.6	+0.2
N15K				IAML		22 15 02.7	
	comp=N,24nm,1.2s						
N15K				IAML		22 15 04.4	
	comp=E,22nm,1.1s						
OKTU	**Okmok Mt. Tuli**	**4.75**	**247**		Pn	22 13 24.5	-0.2
P18K	**Big Mountain,**	**4.94**	**35**	Pn	Pn	22 13 27.8	+0.6
P18K				IAML		22 15 58.8	
	comp=N,11nm,1.3s						
N16K	**Nishlik Lake**	**5.14**	**11**		Pn	22 13 30.0	+0.2
M15K	**Kasigluk River**	**5.26**	**0**		Pn	22 13 31.4	0.0
O18K	**Koktuh Hills**	**5.31**	**32**		Pn	22 13 33.0	+0.8
O18K				IAML		22 15 41.5	
	comp=E,12nm,1.3s						
O18K				IAML		22 15 44.2	
	comp=N,15nm,1.4s						
M14K	**Bethel**	**5.36**	**353**		Pn	22 13 33.0	+0.3
M14K				IAML		22 15 08.3	
	comp=E,26nm,1.5s						
M14K				IAML		22 16 18.2	
	comp=N,24nm,1.5s						
NIKH	**Nikolski High**	**5.38**	**246**		Pn	22 13 32.4	-0.8
N17K	**Nushagak Hills**	**5.42**	**19**		Pn	22 13 33.7	0.0
SYI	**Shuyak Island**	**5.54**	**52**		Pn	22 13 34.3	-1.0
M11K	**Mekoryuk**	**5.74**	**332**		Pn	22 13 37.9	-0.1
N18K	**Kilae Creek**	**5.83**	**24**		Pn	22 13 38.8	-0.5
CLCO	**Concord Point,**	**5.93**	**247**		Pn	22 13 39.3	-1.3
L14K	**Kuka Creek**	**6.00**	**351**		Pn	22 13 41.6	+0.1
L15K	**Ungalak Mounta**	**6.26**	**357**		Pn	22 13 44.7	-0.3
N19K	**Bonanza Creek**	**6.30**	**29**		Pn	22 13 46.6	+0.8
O20K	**Slope Mountain**	**6.34**	**40**		Pn	22 13 47.0	+0.7
M18K	**Stony River**	**6.57**	**21**		Pn	22 13 49.0	-0.4
RDT	**Redoubt**	**6.77**	**37**		Pn	22 13 52.0	-0.1
K13K	**Kusilvak Mount**	**6.81**	**344**		Pn	22 13 53.0	+0.3
L17K	**Donlin**	**6.82**	**10**		Pn	22 13 52.5	-0.2
BRSE	**Bradley Lake S**	**6.87**	**47**		Pn	22 13 51.7	-1.7
K15K	**Wolf Creek Mou**	**6.88**	**357**		Pn	22 13 53.8	+0.3
CKL	**Chakachamna La**	**7.25**	**34**		Pn	22 13 58.6	0.0
M19K	**Big River Lodg**	**7.26**	**24**		Pn	22 13 58.9	+0.2
SPCR	**Spurr Chakacha**	**7.29**	**34**		Pn	22 13 59.1	-0.2
K17K	**Iditarod**	**7.39**	**9**		Pn	22 14 00.2	-0.3
J14K	**Nanvaranak Lak**	**7.46**	**350**		Pn	22 14 01.5	+0.1
SLKM	**Skilak Lake**	**7.53**	**43**		Pn	22 14 02.0	-0.4
STLK	**Strandline Lak**	**7.64**	**34**		Pn	22 14 04.2	+0.3
L20K	**Farewell, AK**	**7.88**	**24**		Pn	22 14 07.4	+0.3
SUA	**Susitna One**	**7.97**	**37**		Pn	22 14 07.9	-0.6
I17K	**VABM Dome**	**8.01**	**5**		Pn	22 14 08.0	-1.0
RC01	**Rabbit Creek A**	**8.08**	**41**		Pn	22 14 08.3	-1.6
SKT	**Skwentna**	**8.10**	**32**		Pn	22 14 10.8	+0.6
J18K	**Innoko River**	**8.29**	**13**		Pn	22 14 12.6	-0.2
P23K	**Montague Islan**	**8.45**	**52**		Pn	22 14 12.9	-2.1
PWL	**Port Wells**	**8.49**	**45**		Pn	22 14 13.0	-2.5
KNK	**Knik Glacier**	**8.77**	**42**		Pn	22 14 16.9	-2.4
GHO	**Glory Hole Cre**	**8.82**	**39**		Pn	22 14 17.9	-2.2
J19K	**Poorman**	**8.94**	**15**		Pn	22 14 21.0	-0.6
GLI	**Glacier Island**	**9.01**	**47**		Pn	22 14 20.2	-2.4
HIN	**Hinchinbrook I**	**9.03**	**51**		Pn	22 14 21.3	-1.6
CAST	**Castle Rocks**	**9.11**	**25**		Pn	22 14 22.9	-1.1
FID	**Port Fidalgo**	**9.21**	**49**		Pn	22 14 22.6	-2.7
J20K	**Nowinta River**	**9.35**	**18**		Pn	22 14 26.0	-1.2
ANM	**Nome**	**9.43**	**348**		Pn	22 14 26.7	-1.5
EYAK	**Cordova Ski Ar**	**9.43**	**51**		Pn	22 14 26.0	-2.3
H17K	**Granite Mounta**	**9.52**	**2**		Pn	22 14 27.9	-1.7
WAT7	**Susitna Watana**	**9.57**	**35**		Pn	22 14 27.8	-2.6
TRF	**Thorofare Moun**	**9.60**	**29**		Pn	22 14 30.0	-0.8
DIV	**Divide**	**9.70**	**48**		Pn	22 14 29.9	-2.1
G15K	**Niukluk**	**9.71**	**352**		Pn	22 14 31.3	-0.8
WAT6	**Susitna Watana**	**9.77**	**38**		Pn	22 14 29.9	-3.2
H18K	**Honhosa River**	**9.80**	**6**		Pn	22 14 32.0	-1.3
GOAT	**Goat Mountain**	**9.90**	**52**		Pn	22 14 33.0	-1.8
M24K	**Tolsona, Glenn**	**10.05**	**43**		Pn	22 14 34.9	-1.9

*IDC **21** 22:17:14.2±1.5, 34.°63N×23.°90E, h0km, mb3.8/5, mbtmp3.7/6, ML2.7/1, MS3.1/1, Error ellipse: s-maj=45.9km s-min=24.5km az=138.0*
*ISK **21** 22:17:16.8, 34.°28N×24.°07E, h21km, ML3.1/16*
*ATH **21** 22:17:18.7, 34.°36N×24.°02E, h31km±6km, ML3.5/5, Error ellipse: s-maj=6.9km s-min=2.3km az=9.0*
*THE **21** 22:17:22.1, 34.°54N×23.°99E, h14km±1km, ML3.3/3, Error ellipse: s-maj=2.5km s-min=1.6km az=28.0*
*GII **21** 22:17:27.3±0.5, 34.°84N±0.°04×25.°01E±0.°01, h30km, Md3.4/1, confirmed*
*AFAD **21** 22:17:32.0±0.0, 34.°90N×25.°02E, h47km, ML2.9*
ISC 21 22:17:18.7±1.8,**34.°36N**±0.°09×**24.°17E**±0.°07,**h36**km±2km,
n83,σ2=85/89,mb3.5/5,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.48**	**352**	Pg	Pn	22 17 28.6	-0.5
GVD				Sg	**Sn**	**22 17 36.9**	**+0.6**
GVD	**Gavdhos**	**0.48**	**352**	P	Pn	22 17 28.7	-0.4
GVD				S	**Sn**	**22 17 33.3**	**-3.0**
	13μm,0.3s						
GVD	**Gavdhos**	**0.48**	**352**	P	Pn	22 17 28.6	-0.5
GVD				S	**Sn**	**22 17 35.8**	**-0.5**
GVD				AML	AML	22 17 37.8	
	comp=N,33257μm,0.4s						
GVD				AML	AML	22 17 39.0	
	comp=E,16824μm,0.3s						
TMBK	**Timbaki Herakl**	**0.87**	**35**	P	**Pn**	**22 17 36.8**	**+2.5**
KNDR	**Palaiochora Ch**	**0.96**	**336**	Pg	**Pn**	**22 17 36.3**	**+0.7**
KNDR				Sg	**Sn**	**22 17 51.2**	**+3.2**
KNDR	**Palaiochora Ch**	**0.96**	**336**	P	Pn	22 17 35.8	+0.2
KNDR				S	**Sn**	**22 17 49.0**	**+1.0**
KNDR				AML	AML	22 17 54.7	
	comp=E,6027μm,0.4s						
KNDR				AML	AML	22 17 54.8	
	comp=N,6614μm,0.4s						
IDI	**Anoyia**	**1.10**	**32**	Pn	**Pn**	**22 17 39.5**	**+1.9**
IDI	**Anoyia**	**1.10**	**32**	P	**Pn**	**22 17 40.5**	**+2.9**
IDI				S	**Sn**	**22 17 56.0**	**+4.4**
IDI	**Anoyia**	**1.10**	**32**	P	**Pn**	**22 17 40.2**	**+2.6**
IDI				S	**Sn**	**22 17 55.5**	**+3.8**
IDI				AML	AML	22 18 04.3	
	comp=E,760μm,0.5s						
IDI				AML	AML	22 18 06.3	
	comp=N,913μm,0.5s						
IMMV	**Iera Moni Meta**	**1.11**	**352**	Pn	**Pn**	**22 17 38.6**	**+0.9**
IMMV				Sn	**Sn**	**22 17 54.4**	**+2.6**
IMMV	**Iera Moni Meta**	**1.11**	**352**	P	**Pn**	**22 17 38.4**	**+0.7**
IMMV				S	**Sn**	**22 17 52.5**	**+0.8**
	comp=N,3μm,0.2s						
IMMV	**Iera Moni Meta**	**1.11**	**352**	P	**Pn**	**22 17 38.4**	**+0.7**
IMMV				S	**Sn**	**22 17 52.6**	**+0.8**
IMMV				AML	AML	22 17 58.4	
	comp=E,5683μm,0.4s						
IMMV				AML	AML	22 17 58.6	
	comp=N,5906μm,0.4s						
CHAN	**Chania**	**1.16**	**355**	P	**Pn**	**22 17 39.7**	**+1.3**
CHAN				S	**Sn**	**22 17 55.2**	**+2.1**
CHAN				AML	AML	22 18 00.4	
	comp=N,5363μm,0.5s						
CHAN				AML	AML	22 18 01.4	
	comp=E,4433μm,0.6s						
ANKY	**Antikythira Is**	**1.66**	**335**	P	**Pn**	**22 17 47.3**	**+2.0**
ANKY				S	**Sn**	**22 18 05.2**	**-0.2**
	comp=E,308nm,0.8s						
ANKY	**Antikythira Is**	**1.66**	**335**	P	**Pn**	**22 17 47.5**	**+2.2**
ZKR	**Zakros**	**1.85**	**65**	Pn	**Pn**	**22 17

TORD Torodi Ar. Bea 29.35 229 P P 22 23 18.9 +0.7
comp=E,0.2nm,0.3s,baz=29,slow=8.4,SNR=5.7
comp=E,0.2nm,0.3s

MBAR Mbarara 35.32 169 LR LR 22 40 40.9
comp=E,30nm,19.7s,baz=303,slow=40

MKAR Makanchi Array 44.90 56 P **P** **22 25 30.9 +1.2**
comp=E,1.0nm,0.5s,baz=271,slow=7.3,SNR=8.4
comp=E,1.0nm,0.5s

ZALV Zalesovo Beam 46.15 46 P **P** **22 25 39.4 0.0**
comp=E,0.7nm,0.3s,baz=263,slow=8.9,SNR=4.4
comp=E,0.7nm,0.3s

IDC 21 22:23:56.5±3.2, 17°.09S×172°.49W, h0km, mb3.6/3, mbtmp3.6/3, MS3.3/2, Error ellipse: s-maj=371.7km s-min=32.6km az=157.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.05**	**265**	LR	LR	22 28 57.4	
	comp=Z,194nm,19.5s,baz=183,slow=33						
WRA	**Warramunga Arr**	**50.33**	**258**	P	P	22 32 55.7	+0.1
	0.3nm,0.5s,baz=96,slow=7.6,SNR=4.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**50.44**	**253**	P	P	22 32 56.2	-0.2
	1.2nm,0.7s,baz=87,slow=8.7,SNR=12						
	1.2nm,0.7s						
JNU	**Nakatsue**	**73.59**	**313**	LR	LR	23 01 10.8	
	comp=Z,19nm,20.1s,baz=135,slow=30						
TXAR	**Lajitas Array**	**80.83**	**56**	P	P	22 36 12.7	0.0
	0.4nm,0.7s,baz=226,slow=4.7,SNR=4.5						
	0.4nm,0.7s						

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*SSNC **21** 22:24:26.1±1.0, 19°.63N×70°.70W, h24km±999km, MD3.1, ML2.7*
*SDD **21** 22:24:26.1±2.2, 19°.81N×71°.28W, h2km±401km, MD3.0, ML2.4, MW2.6*
*OSPL **21** 22:24:29.3±1.8, 19°.67N×71°.37W, h7km±8km, ML2.2*
ISC 21 22:24:25.6±1.3, 19°.78N±0°.03×71°.30W±0°.03, h1km±11km, n19, σ1§00/34, 9C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.13**	**52**	*i* P	Pg	22 24 24.5	-3.5
LOPP1				*e*S	**Sg**	**22 24 28.3**	**-1.4**
LOPP1				IAML		22 24 29.4	
	comp=Z,1μm,0.6s						
LODA1	**ITESIL, Dajabo**	**0.44**	**239**	IAML		22 24 40.4	
	comp=Z,608nm,0.9s						
LODA1				*e*S	**Sg**	**22 24 40.6**	**+0.8**
SC01	**Santiago de lo**	**0.64**	**122**	*i* P	**Pn**	**22 24 41.1**	**-0.8**
SC01				*e*S	**Sb**	**22 24 50.0**	**+0.8**
SC01				IAML		22 24 55.5	
	comp=Z,79nm,0.3s						
SDDR	**Presa de Saban**	**0.79**	**179**	*e*P	**Pg**	**22 24 41.0**	**+0.3**
SDDR				*e*S	**Sg**	**22 24 50.6**	**-0.4**
SDDR				IAML		22 24 52.4	
	comp=Z,47nm,0.1s						
SDDR				IAML		22 24 57.0	
	comp=Z,61nm,0.2s						
SDDR	**Presa de Saban**	**0.79**	**179**	⇑*e*Pg	**Pg**	**22 24 41.1**	**+0.3**
SDDR				⇑*e*Sg	**Sg**	**22 24 51.0**	**0.0**
SDDR				IAML		22 24 51.6	
	comp=E,125nm,0.6s						
SDDR				IAML		22 24 51.7	
	comp=N,120nm,0.6s						
SDDR	**Presa de Saban**	**0.79**	**179**	*i* P	**Pg**	**22 24 41.1**	**+0.3**
SDDR				*e*S	**Sg**	**22 24 50.6**	**-0.4**
SDDR				IAML		22 24 53.6	
	comp=Z,99nm,0.5s						
ABDR	**Alto Bandera**	**1.15**	**146**	⇑*e*Pg	**Pg**	**22 24 46.2**	**-1.6**
ABDR				⇑*e*Sg	**Sg**	**22 25 03.4**	**+0.7**
ABDR				IAML		22 25 04.3	
	comp=N,56nm,0.7s						
ABDR				IAML		22 25 08.5	
	comp=E,83nm,0.4s						
LONE3	**El Aguacate, B**	**1.17**	**187**	*i* P	**Pg**	**22 24 48.0**	**-0.1**
LONE3				*e*S	**Sg**	**22 25 02.3**	**-1.1**
LONE3				IAML		22 25 07.0	
	comp=Z,39nm,1.8s						
JIDR	**Jimani**	**1.38**	**202**	⇑*e*Sg	**Sg**	**22 25 10.2**	**+0.3**
JIDR				IAML		22 25 11.3	
	comp=N,182nm,0.5s						
JIDR				IAML		22 25 18.5	
	comp=E,89nm,0.3s						
LODU1	**El Espartillar**	**1.42**	**187**	*i* P	**Pb**	**22 24 52.8**	**-0.2**
PODR	**Polo**	**1.60**	**179**	*e*Pg	**Pn**	**22 24 55.4**	**+0.2**
PODR				⇑*e*Sg	**Sg**	**22 25 18.2**	**+1.1**
PODR				IAML		22 25 20.2	
	comp=N,32nm,0.5s						
PODR				IAML		22 25 26.2	
	comp=E,75nm,0.5s						
PODR	**Polo**	**1.60**	**179**	*i* P	**Pn**	**22 24 55.5**	**+0.3**
PODR				*e*S	**Sb**	**22 25 16.5**	**-0.4**
PODR				IAML		22 25 21.9	
	comp=Z,23nm,0.5s						
GRTK	**Grand Turk**	**1.73**	**5**	*i* P	**Pb**	**22 24 59.0**	**+0.8**
GRTK				*e*S	**Sg**	**22 25 21.9**	**+0.5**
GRTK				IAML		22 25 25.9	
	comp=Z,26nm,1.8s						
LOBH	**Bahia de las A**	**1.93**	**190**	*i* P	**Pn**	**22 24 59.3**	**-0.3**
LOBH				IAML		22 25 29.7	
	comp=Z,31nm,0.9s						
HATOM	**Hato Mayor del**	**2.06**	**118**	⇑*e*Pg	**Pn**	**22 25 02.6**	**+1.1**
HATOM				⇑*e*Sg	**Sb**	**22 25 30.7**	**+0.6**
HATOM				IAML		22 25 35.2	
	comp=E,20nm,0.7s						
HATOM				IAML		22 25 41.4	
	comp=N,29nm,3.8s						
MIDR	**Miches**	**2.27**	**110**	⇑*e*Pg	**Pb**	**22 25 08.3**	**+1.0**
MIDR				⇑*e*Sg	**Sb**	**22 25 35.5**	**-0.5**
MIDR				IAML		22 25 47.0	
	comp=N,19nm,1.1s						
MIDR				IAML		22 25 47.9	
	comp=E,19nm,0.8s						
MIDR				IAML		22 26 03.7	
	comp=N,18nm,1.1s						
MASC	**Masc**	**2.78**	**279**	*e*P	**Pn**	**22 25 11.6**	**+0.3**
MASC				*e*S	**Sn**	**22 25 47.3**	**+1.9**
MASC				*e*Sg	**Sb**	**22 25 51.8**	**+1.1**
MASC				IAML		22 25 56.3	
	comp=N,27nm,0.3s						
MASC				IAML		22 25 56.9	
	comp=E,17nm,0.2s						
QMBU	**Quimbuelo**	**3.33**	**278**	*e*P	**Pn**	**22 25 18.6**	**-0.2**
QMBU				*e*S	**Sn**	**22 25 58.0**	**-1.0**
QMBU				IAML		22 26 10.1	
	comp=E,14nm,0.2s						
QMBU				IAML		22 26 10.2	
	comp=N,22nm,0.3s						
RCC	**Rio Carpintero**	**4.14**	**274**	*e*P	**Pn**	**22 25 28.1**	**-1.9**
RCC				*e*S	**Sn**	**22 26 16.4**	**-2.7**
RCC				IAML		22 26 26.3	
	comp=E,4.4nm,0.2s						
RCC				IAML		22 26 35.4	
	comp=N,1.1nm,0.1s						

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*IDC **21** 23:00:07.1±1.0, 5°.15S×152°.74E, h0km, mb4.1/12, mbtmp4.1/13, ML2.2/1, MS3.4/16, Error ellipse: s-maj=31.1km s-min=19.0km az=112.0*
*BJI **21** 23:00:08.9, 5°.41S×152°.40E, h13km, mb4.5/16, mB5.1/5*
*NEIC **21** 23:00:09.3±1.0, 5°.33S±0°.06×152°.90E±0°.10, h10km±1km, mb4.7/24, Error ellipse: s-maj=16.5km s-min=9.5km az=266.0*
ISC 21 23:00:08.8±0.6, 5°.34S±0°.07×152°.84E±0°.09, h10km, n68, σ1§14/56, mb4.6/29, MS3.3/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.32**	**329**	Pn	**Pb**	**23 00 34.4**	**+0.6**
RABL					**Sb**	**23 00 52.0**	**+1.1**
PMG	**Port Moresby**	**6.93**	**234**	Pn	**Pn**	**23 01 52.2**	**+1.7**
	2.7nm,0.3s,baz=33,slow=6.8,SNR=8.9						
PMG				Sn	**Sn**	**23 03 07.7**	**-1.8**
	5.0nm,0.3s,baz=326,slow=24,SNR=9.0						
	14nm,0.4s						
HNR	**Honiara**	**8.14**	**120**	LR	LR	23 05 14.3	
	comp=Z,146nm,21.0s,baz=346,slow=37						
COEN	**Coen**	**12.80**	**227**	Pn	**Pn**	**23 03 11.6**	**+0.5**
CTA	**Charters Tower**	**16.00**	**203**	LR	LR	23 09 55.8	
	comp=Z,122nm,19.2s,baz=72,slow=36						
GUMO	**Guam**	**20.40**	**337**	LR	LR	23 13 10.4	
	comp=Z,41nm,18.8s,baz=96,slow=39						

DZM	**Mont Dzumac**	**21.21**	**143**	P	**P**	**23 04 57.8**	**+2.8**
	15nm,1.2s,baz=327,slow=11,SNR=2.7						
DZM				LR	LR	23 12 22.3	
	comp=Z,122nm,18.1s,baz=94,slow=34						
	15nm,1.2s						
WB0	**Warramunga Arr**	**22.98**	**230**	P	**P**	**23 05 13.7**	**-0.1**
WRA	**Warramunga Arr**	**23.12**	**229**	P	**P**	**23 05 15.0**	**-0.3**
	2.2nm,0.8s,baz=53,slow=9.8,SNR=17						
WRA				LR	LR	23 14 04.3	
	comp=Z,90nm,21.1s,baz=218,slow=36						
	2.2nm,0.8s						
KNRA	**Kununurra**	**25.77**	**245**	P	**P**	**23 05 40.1**	**0.0**
KNRA				IAmb	IAmb	23 05 55.1	
	comp=Z,17nm,1.1s						
AS31	**Alice Springs**	**25.78**	**223**	P	**P**	**23 05 40.5**	**+0.3**
ASAR	**Alice Springs**	**25.78**	**223**	P	**P**	**23 05 40.5**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=58,slow=9.0,SNR=18						
ASAR				LR	LR	23 17 10.0	
	comp=Z,71nm,18.2s,baz=50,slow=40						
	comp=Z,1.9nm,0.8s						
MSVF	**Nonsavu**	**27.55**	**119**	LR	LR	23 16 20.7	
	comp=Z,85nm,19.8s,baz=129,slow=35						
BATI	**Baumata**	**29.30**	**259**	LR	LR	23 20 14.8	
	comp=Z,141nm,18.1s,baz=88,slow=41						
KAPI	**Kappang**	**32.95**	**269**	LR	LR	23 21 54.5	
	comp=Z,38nm,19.5s,baz=124,slow=40						
NWAO	**Narrogin (SRO)**	**43.04**	**226**	LR	LR	23 26 04.5	
	comp=Z,63nm,21.1s,baz=262,slow=36						
MJAR	**Matsushiro Arr**	**43.85**	**343**	LR	LR	23 23 46.3	
	comp=Z,40nm,20.9s,baz=144,slow=32						
NJ2	**Nanjing**	**49.29**	**321**	*e*P	**P**	**23 08 58.9**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
XAN	**Xi'an**	**57.04**	**317**	P	**P**	**23 09 53.5**	**-1.7**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**58.14**	**295**	P	**P**	**23 10 02.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**58.14**	**295**	P	**P**	**23 10 02.7**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=122,slow=4.9,SNR=7.9						
	comp=Z,0.7nm,0.3s						
PETK	**Petropavlovsk-**	**58.37**	**3**	P	**P**	**23 10 03.9**	**-0.2**
PETK	**Petropavlovsk-**	**58.37**	**3**	P	**P**	**23 10 04.0**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=162,slow=6.1,SNR=4.1						
	comp=Z,1.9nm,0.6s						
PZH	**PanZhiHua**	**58.71**	**305**	P	**P**	**23 10 09.1**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,3.8s						
HHC	**Hu-ho-hao-te**	**59.51**	**324**	*e*P	**P**	**23 10 15.8**	**+3.3**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,95nm,3.9s						
LZH	**Lanzhou**	**61.64**	**316**	*e*P	P	23 10 22.1	-5.1
LZH				pP	pP	23 10 26.4	-3.2
LZH				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MA2	**Magadan**	**64.73**	**359**	LR	LR	23 37 47.8	
	comp=Z,22nm,20.0s,baz=102,slow=35						
TAOE	**Nuku Hiva Isla**	**66.52**	**97**	P	**P**	**23 10 58.6**	**-1.0**
SONM	**Songino Array**	**66.80**	**328**	P	**P**	**23 11 00.3**	**-0.5**
SONM	**Songino Array**	**66.80**	**328**	P	**P**	**23 11 00.1**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=133,slow=4.4,SNR=4.9						
	comp=Z,0.6nm,0.5s						
O14K	**Tigyukauivet M**	**73.93**	**23**	P	**P**	**23 11 44.3**	**+0.3**
K15K	**Wolf Creek Mou**	**75.89**	**20**	P	**P**	**23 11 56.1**	**+0.8**
L16K	**Owhat River**	**76.23**	**21**	P	**P**	**23 11 57.5**	**+0.3**
L16K				IAmb	IAmb	23 12 26.1	
	comp=Z,12nm,1.3s						
KDAK	**Kodiak Island**	**76.64**	**27**	LR	LR	23 41 51.2	
	comp=Z,36nm,21.4s,baz=75,slow=33						
J17K	**VABM Dome**	**77.47**	**20**	P	**P**	**23 12 05.3**	**+1.1**
J17K				IAmb	IAmb	23 12 06.4	
	comp=Z,11nm,1.1s						
CNPM	**China Poot**	**78.18**	**26**	P	**P**	**23 12 08.6**	**+0.3**
F17K	**Baldwin Pennin**	**78.82**	**17**	P	**P**	**23 12 12.9**	**+1.3**
G18K	**Tagagawik**	**79.24**	**18**	P	**P**	**23 12 14.4**	**+0.5**
G18K				IAmb	IAmb	23 12 15.8	
	comp=Z,6.9nm,0.9s						
SUA	**Susitna One**	**79.43**	**24**	P	**P**	**23 12 15.2**	**-0.1**
G19K	**Purcell Mounta**	**79.89**	**18**	P	**P**	**23 12 18.7**	**+1.2**
G19K				IAmb	IAmb	23 12 19.9	
	comp=Z,9.4nm,1.1s						
MKAR	**Makanchi Array**	**80.75**	**319**	P	**P**	**23 12 22.2**	**-0.3**
MKAR	**Makanchi Array**	**80.75**	**319**	P	**P**	**23 12 21.7**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=95,slow=7.5,SNR=6.9						
	comp=Z,0.9nm,0.9s						
IMAR	**Indian Mountai**	**80.88**	**19**	P	**P**	**23 12 23.0**	**+0.2**
MAKZ	**Makanchi**	**80.96**	**319**	P	**P**	**23 12 24.1**	**+0.4**
MAKZ				IAmb	IAmb	23 12 42.4	
	comp=Z,8.3nm,1.2s						
MLY	**Manley**	**81.37**	**21**	P	**P**	**23 12 25.6**	**+0.1**
MLY				IAmb	IAmb	23 12 27.2	
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**81.62**	**326**	P	**P**	**23 12 25.7**	**-1.2**
ZALV	**Zalesovo Beam**	**81.62**	**326**	P	**P**	**23 12 25.2**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=111,slow=7.0,SNR=4.9						
	comp=Z,0.6nm,0.4s						
CCB	**Clear Creek Bu**	**82.24**	**22**	P	**P**	**23 12 29.5**	**-0.4**
IL31		**82.64**	**22**	P	**P**	**23 12 31.3**	**-0.8**
IL31				IAmb	IAmb	23 12 32.9	
	comp=Z,4.6nm,0.9s						
ILAR	**Eielson Array**	**82.64**	**22**	P	**P**	**23 12 31.0**	**-1.1**
ILAR	**Eielson Array**	**82.64**	**22**	P	**P**	**23 12 31.1**	**-1.0**
	comp=Z,2.6nm,0.9s,baz=247,slow=5.4,SNR=25						
	comp=Z,2.6nm,0.9s						
KDJ	**Kajisay**	**83.01**	**313**	P	**P**	**23 12 34.6**	**-0.2**
KDJ				IAmb	IAmb	23 12 36.1	
	comp=Z,7.3nm,1.0s						
J25K	**Salcha River,**	**83.14**	**22**	P	**P**	**23 12 34.3**	**-0.5**
J25K				IAmb	IAmb	23 12 36.3	
	comp=Z,4.8nm,0.8s						
KSH	**Kashi**	**83.31**	**311**	P	**P**	**23 12 38.1**	**+1.8**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BCAR	**Beaver Creek A**	**83.88**	**25**	P	**P**	**23 12 39.4**	**+0.8**
KURBB	**Kurchatov Arra**	**84.24**	**322**	P	**P**	**23 12 39.2**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=111,slow=5.3,SNR=6.0						
	comp=Z,0.3nm,0.3s						
QSPA	**South Pole Qui**	**84.62**	**180**	P	**P**	**23 12 42.8**	**+0.3**
BMAR	**Burnt Mountain**	**84.74**	**20**	P	**P**	**23 12 43.6**	**+0.8**
AAK	**Ala-Archa**	**85.06**	**313**	P	**P**	**23 12 44.4**	**-0.9**
AAK				IAmb	IAmb	23 12 45.9	
	comp=Z,3.3nm,0.8s						
ARSB	**Arslanbob**	**85.91**	**312**	P	**P**	**23 12 49.5**	**0.0**
NRIK	**Noril'sk**	**86.48**	**341**	P	**P**	**23 12 50.4**	**-1.1**
NRIK				IAmb	IAmb	23 12 52.6	
	comp=Z,7.6nm,1.4s						
NRIK	**Noril'sk**	**86.48**	**341**	P	**P**	**23 12 50.0**	**-1.5**
	comp=Z,1.9nm,0.5s,baz=126,slow=4.6,SNR=8.1						
	comp=Z,1.9nm,0.5s						
KKAR	**Karatay Array**	**88.03**	**313**	P	**P**	**23 12 58.6**	**-1.0**
BVAR	**Borovoye Array**	**89.69**	**323**	P	**P**	**23 13 05.2**	**-2.0**
	comp=Z,1.8nm,0.7s,baz=104,slow=4.9,SNR=11						
	comp=Z,1.8nm,0.7s						
NVAR	**Mina Array Bea**	**92.39**	**52**	LR	LR	23 48 08.5	
	comp=Z,38nm,20.5s,baz=271,slow=31						
PFO	**Pinyon Flats O**	**93.50**	**57**	LR	LR	23 53 56.3	
	comp=Z,15nm,18.8s,baz=78,slow=34						
NEW	**Newport**	**93.97**	**42**	LR	LR	23 55 14.2	
	comp=Z,21nm,18.4s,baz=139,slow=35						
TORD	**Torodi Ar. Bea**	**150.51**	**287**	PKPbc	**PKPbc**	**23 20 00.9**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=71,slow=2.6,SNR=7.5						

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*BGR **21** 23:13:53.8, 53°.04N×178°.02W, h195km±8km, mb4.7*
*BJI **21** 23:14:08.2, 52°.90N×174°.73W, h190km, mb4.4/28, mB5.1/7*
*MOS **21** 23:14:09.9±0.9, 52°.75N×174°.36W, h205km, mb4.6/50, Error ellipse: s-maj=8.7km s-min=5.0km az=94.0*
*NEIC **21** 23:14:10.4±2.0, 52°.67N±0°.09×174°.32W±0°.10, h194km±4km, mb4.7/189, ML4.5/8, ML4.2(AEIC), Error ellipse: s-maj=13.3km s-min=8.3km az=164.0*
*AEIC **21** 23:14:12.1±4.0, 52°.34N±0°.09×174°.21W±0°.10, h192km±4km, Error ellipse: s-maj=13.6km s-min=8.1km az=164.0*
*IDC **21** 23:14:12.7±0.7, 52°.84N×174°.41W, h216km±5km, mb3.9/32, mbtmp4.5/35, Error ellipse: s-maj=10.9km s-min=7.0km az=172.0*
ISC 21 23:14:10.4±0.4, 52°.69N±0°.06×174°.32W±0°.03, h201km±2km, h200km: pP-P, n560, σ0§94/625, mb4.5/170, 41C-30D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONE	**Korovin Northe**	**0.32**	**158**		**Pn**	**23 14 36.6**	**-0.5**
KOKL	**Mount Kliuchef**	**0.37**	**169**		**Pn**	**23 14 36.8**	**-0.5**
KOFP	**Korovin Flat P**	**0.43**	**162**		**Pn**	**23 14 36.7**	**-0.8**
ATKA	**Atka Island**	**0.49**	**171**	Pn	**Pn**	**23 14 36.3**	**-1.3**
ATKA				Sn	**S**	**23 14 56.5**	**-2.1**
ATKA	**Atka Island**	**0.49**	**171**	P	**Pn**	**23 14 36.3**	**-1.3**
GSTR	**Great Sitkin T**	**1.22**	**242**		**Pn**	**23 14 41.3**	**-0.6**
GSMY	**Great Sitkin M**	**1.25**	**239**		**Pn**	**23 14 41.4**	**-0.7**
GSTD	**Great Sitkin T**	**1.29**	**241**		**Pn**	**23 14 41.8**	**-0.7**
GSTD					**S**	**23 15 05.7**	**-1.2**
GSCK	**Great Sitkin C**	**1.32**	**240**		**Pn**	**23 14 42.0**	**-0.6**
ADK	**Adak**	**1.66**	**242**		**Pn**	**23 14 44.6**	**-1.0**
ADK				Sn	**S**	**23 15 11.0**	**-1.5**
ADK				IAML		23 15 12.9	
	2μm,0.3s						
ADK	**Adak**	**1.66**	**242**	P	**Pn**	**23 14 44.8**	**-0.8**
KIRH	**Kanaga Island**	**1.88**	**246**		**Pn**	**23 14 47.6**	**-0.2**
KICM	**Kanaga Island**	**1.93**	**248**		**Pn**	**23 14 48.1**	**-0.1**
KIWB	**Kanaga Island**	**1.93**	**245**		**Pn**	**23 14 47.6**	**-0.6**
TAFP	**Tanaga Falls P**	**2.38**	**252**		**Pn**	**23 14 53.0**	**-0.1**
TAFP					**S**	**23 15 24.7**	**-0.9**
TASE	**Tanaga Southea**	**2.44**	**251**		**Pn**	**23 14 53.6**	**-0.1**
TANO	**Tanaga North**	**2.46**	**253**		**Pn**	**23 14 53.9**	**0.0**
CLCO	**Concord Point,**	**2.79**	**86**		**Pn**	**23 14 57.9**	**+0.2**
CLCO					**S**	**23 15 33.3**	**-0.5**
GALAA	**Gareloi Lava P**	**2.89**	**253**		**Pn**	**23 14 59.0**	**+0.2**
GASW	**Gareloi Southw**	**2.94**	**254**		**Pn**	**23 14 59.3**	**+0.1**
GASW					**S**	**23 15 36.7**	**-0.1**
NIKH	**Nikolski High**	**3.33**	**83**		**Pn**	**23 15 03.4**	**-0.5**
NIKH	**Nikolski High**	**3.33**	**83**		**S**	**23 15 45.0**	**-0.1**
OKFG	**Magazine Ridge**	**3.93**	**77**		**Pn**	**23 15 11.8**	**+0.5**
OKFG					**S**	**23 16 00.1**	**+1.7**
MAPS	**Pakushin South**	**4.57**	**73**		**Pn**	**23 15 19.5**	**+0.2**
MGOD	**Makushin Gods**	**4.61**	**73**		**Pn**	**23 15 19.9**	**+0.2**
MSW	**Makushin Switc**	**4.68**	**72**		**Pn**	**23 15 21.0**	**+0.3**
MTBL	**Makushin Table**	**4.76**	**71**		**Pn**	**23 15 22.1**	**+0.4**
MTBL					**S**	**23 16 20.2**	**+2.9**
P08K	**Saint George I**	**4.80**	**33**		**Pn**	**23 15 22.9**	**+0.8**
P08K				IAML		23 16 19.0	
	comp=N,305nm,1.6s						
P08K				IAML		23 17 58.7	
	comp=E,206nm,2.5s						
SPIA	**Saint Paul Isl**	**5.07**	**26**		**Pn**	**23 15 26.2**	**+0.7**
SPIA	**Saint Paul Isl**	**5.07**	**26**	P	**Pn**	**23 15 26.7**	**+1.1**
AKRB	**Akutan Reef Bi**	**5.14**	**70**		**Pn**	**23 15 27.2**	**+0.7**
AKRB					**S**	**23 16 27.5**	**+1.3**
AKMO	**Akutan Morgan**	**5.17**	**71**		**Pn**	**23 15 27.4**	**+0.6**
LVA	**Lava Point**	**5.17**	**70**	Pn	**Pn**	**23 15 27.5**	**+0.7**
LVA				IAML		23 16 42.4	
	comp=E,341nm,0.7s						
ZRO	**Akutan Zero**	**5.19**	**71**		**Pn**	**23 15 27.9**	**+0.9**
ZRO					**S**	**23 16 29.0**	**+1.8**
WECS	**Westdahl Cape**	**5.97**	**68**		**Pn**	**23 15 38.2**	**+1.0**
WESE	**West Dahl East**	**6.07**	**69**		**Pn**	**23 15 39.4**	**+0.9**
ISNN	**Isanotski Nort**	**6.61**	**67**		**Pn**	**23 15 47.0**	**+1.6**
FALS	**False Pass**	**6.82**	**67**		**Pn**	**23 15 48.6**	**+0.5**
SHEM	**Shemya Is, Ala**	**7.04**	**275**	P	**Pn**	**23 15 53.9**	**+2.9**
	comp=E,75nm,0.8s,baz=80,slow=18,SNR=1.8						
SHEM				S	**S**	**23 17 08.7**	**-2.0**
	comp=E,20nm,0.4s,baz=303,slow=22,SNR=1.1						
S12K	**Black Hills**	**7.80**	**62**	Pn	**Pn**	**23 16 00.5**	**-0.3**
PS1A	**Pavlof South-1**	**7.89**	**65**		**Pn**	**23 16 03.3**	**+1.2**
CNBA	**Chernabura Isl**	**8.98**	**70**	Pn	**Pn**	**23 16 15.3**	**-1.0**
L14K	**Kuka Creek**	**10.73**	**31**	Pn	**Pn**	**23 16 39.8**	**+1.1**
O16K	**Kokwok River B**	**11.37**	**46**	Pn	**Pn**	**23 16 46.6**	**-0.3**
PLK4	**Peulik 4**	**11.39**	**57**	Pn	**Pn**	**23 16 47.6**	**+0.3**
J14K	**Nanvaranak Lak**	**11.59**	**25**		**Pn**	**23 16 51.2**	**+1.5**
K15K	**Wolf Creek Mou**	**11.81**	**30**	Pn	**Pn**	**23 16 53.0**	**+0.5**
ACHA	**Angle Creek He**	**12.10**	**55**		**Pn**	**23 16 56.5**	**+0.2**
SII	**Sitkinak Islan**	**12.28**	**64**	Pn	**Pn**	**23 16 58.3**	**-0.3**
P18K	**Big Mountain,**	**12.58**	**50**	Pn	**Pn**	**23 17 02.9**	**+0.6**
ANM	**Nome**	**12.77**	**18**	Pn	**Pn**	**23 17 06.0**	**+1.3**
ANM	**Nome**	**12.77**	**18**	P	**Pn**	**23 17 06.0**	**+1.3**
J16K	**Anvik River**	**12.84**	**29**		**Pn**	**23 17 06.1**	**+0.6**
N18K	**Kilae Creek**	**12.87**	**44**		**Pn**	**23 17 06.6**	**+0.6**
OHAK	**Old Harbor**	**12.89**	**61**	Pn	**Pn**	**23 17 05.6**	**-0.6**
OHAK	**Old Harbor**	**12.89**	**61**	P	**P**	**23 17 08.9**	**-0.6**
K17K	**Iditarod**	**13.16**	**34**	Pn	**Pn**	**23 17 09.8**	**+0.3**
Q19K	**Cape Douglas,**	**13.17**	**54**		**Pn**	**23 17 09.4**	**-0.2**
SVW2	**Sparrevohn**	**13.21**	**43**	Pn	**Pn**	**23 17 11.1**	**+0.8**
SVW2	**Sparrevohn**	**13.21**	**43**	P	**P**	**23 17 14.1**	**+1.0**
I17K	**Unalakleet**	**13.28**	**27**		**P**	**23 17 13.0**	**-0.7**
KDAK	**Kodiak Island**	**13.38**	**59**	Pn	**Pn**	**23 17 10.4**	**-1.9**
KDAK	**Kodiak Island**	**13.38**	**59**	P	**Pn**	**23 17 10.2**	**-2.1**
	comp=E,81nm,0.3s,baz=1.9,slow=1.0,SNR=109						
KDAK				S	**S**	**23 19 33.4**	**-7.8**
	comp=E,8.0nm,0.4s,baz=102,slow=23,SNR=3.2						
KDAK	**Kodiak Island**	**13.38**	**59**	P	**Pn**	**23 17 10.4**	**-1.9**
J17K	**VABM Dome**	**13.38**	**31**		**Pn**	**23 17 13.5**	**+1.2**
P19K	**Oil Pt**	**13.62**	**51**		**P**	**23 17 16.7**	**-0.9**
SYI	**Shuyak Island**	**13.69**	**56**	Pn	**Pn**	**23 17

COLA College 18.18 38 P **Pn** **23 18 09.5 -0.5**
COLA pmax pmax
comp=Z,61nm,0.6s
COLA College 18.18 38 P **P** **23 18 07.2 -0.4**
COLA pmax pmax
comp=Z,28nm,0.9s
BERG Berg Lake 18.42 53 P **P** **23 18 09.3 -1.1**
BERG IAmb IAmb 23 18 22.4
comp=Z,28nm,0.9s
POKR Poker Plat Res 18.45 37 P **P** **23 18 09.7 -0.9**
G23K Bananza Creek 18.45 31 P **Pn** **23 18 12.3 -1.1**
G23K IAmb IAmb 23 18 20.4
comp=Z,32nm,0.8s
IL31 18.49 39 P **P** **23 18 09.8 -1.2**
ILAR Eielson Array 18.49 39 P **P** **23 18 09.5 -1.6**
ILAR Eielson Array 18.49 39 P **P** **23 18 10.1 -1.0**
comp=Z,21nm,0.4s,baz=242,slow=10,SNR=115
ILAR S **S** **23 21 30.6 -0.6**
comp=Z,2.4nm,0.9s,baz=235,slow=19,SNR=7.0
ILAR ScP **ScP** **23 25 45.9 -1.5**
comp=Z,0.4nm,0.5s,baz=273,slow=3.3,SNR=7.7
GLB Gilahina Butte 18.60 50 P **P** **23 18 11.4 -0.9**
GLB IAmb IAmb 23 18 17.1
comp=Z,22nm,0.7s
CRQM Cirque 18.76 52 P **P** **23 18 13.8 -0.4**
CRQM IAmb IAmb 23 18 20.9
comp=Z,18nm,0.6s
E22K Anaktuvuk Pass 18.87 26 P **P** **23 18 16.6 +1.4**
MENT Mentasta 19.06 45 P **Pn** **23 18 19.7 -0.8**
B20K Meade River 19.09 18 P **P** **23 18 18.2 +0.8**
B20K IAmb IAmb 23 18 22.3
comp=Z,48nm,0.9s
B21K Ikpikpuk River 19.29 21 P **P** **23 18 20.4 +0.7**
F24K Squaw Lake 19.61 31 P **P** **23 18 24.9 +1.7**
TOLK Toolik Lake Re 19.82 27 P **P** **23 18 26.6 +1.2**
BCAR Beaver Creek A 19.94 46 P **P** **23 18 26.7 -0.1**
FYU Fort Yukon 19.96 35 **P** **23 18 27.6 +0.7**
FYU IAmb IAmb 23 18 28.3
comp=Z,33nm,0.7s
B22K Teshekpuk Lake 20.11 21 P **P** **23 18 28.7 +0.3**
SEY Seymchan 20.24 313 P **P** **23 18 30.6 +0.8**
comp=Z,9.8nm,0.7s,baz=110,slow=14,SNR=7.8
comp=Z,9.8nm,0.7s
SEY Seymchan 20.24 313 *e*P **P** **23 18 31.3 +1.4**
SEY pmax pmax
comp=Z,26nm,1.3s
C23K Itkillik River 20.38 24 P **P** **23 18 31.9 +0.7**
MA2 Magadan 20.45 304 P **P** **23 18 32.9 +0.8**
comp=Z,17nm,0.8s,baz=60,slow=14,SNR=1.5
comp=Z,17nm,0.8s
BMAR Burnt Mountain 20.62 33 P **P** **23 18 34.8 +0.9**
EGAK Eagle 20.74 41 P **P** **23 18 35.6 +0.5**
HYT Haines Junctio 21.50 53 P **P** **23 18 42.7 -0.6**
SIT Sitka 22.63 63 P **P** **23 18 54.4 +0.5**
SIT Sitka 22.63 63 P **P** **23 18 54.4 +0.5**
D27M Malcolm River 22.70 31 P **P** **23 18 55.3 +0.7**
WHY Whitehorse 22.78 54 P **P** **23 18 56.2 +0.8**
E29M Blow River 23.31 34 P **P** **23 19 00.9 +0.9**
CRAG Craig 24.07 67 P **P** **23 19 08.3 +1.3**
CRAG IAmb IAmb 23 19 46.4
comp=Z,60nm,1.4s
WRAK Wrangell Islan 24.34 64 P **P** **23 19 10.5 +1.1**
WRAK IAmb IAmb 23 19 12.3
comp=Z,11nm,0.7s
INK Inuvik 24.79 35 P **P** **23 19 13.5 +0.2**
INK IAmb IAmb 23 19 14.6
comp=Z,22nm,0.9s
INK Inuvik 24.79 35 P **P** **23 19 13.6 +0.2**
comp=Z,16nm,0.3s,baz=227,slow=7.1,SNR=147
INK PcP **PcP** **23 22 43.8 +0.1**
comp=Z,0.7nm,0.5s,baz=194,slow=3.6,SNR=3.1
comp=Z,16nm,0.3s
V35K Ketchikan 24.95 67 P **P** **23 19 16.1 +1.2**
V35K IAmb IAmb 23 19 18.2
comp=Z,11nm,0.7s
DIB Dawson Inlet, 24.96 72 P **P** **23 19 15.9 +0.8**
DIB IAmb IAmb 23 19 20.5
comp=Z,52nm,1.3s
BBB Bella Bella 27.80 72 P **P** **23 19 41.5 +1.1**
A36M Sachs Harbour 28.59 29 P **P** **23 19 48.1 +0.9**
OZB Mount Ozzard 30.59 77 P **P** **23 20 06.8 +1.6**
TIXI Tiksi 30.90 329 P **P** **23 20 08.0 +0.4**
TIXI Tiksi 30.90 329 P **P** **23 20 08.0 +0.4**
TIXI pmax pmax
comp=Z,12nm,1.4s
CLRS Cowichan Lake 31.46 77 P **P** **23 20 13.1 +0.3**
C03A Quillayute Air 31.60 78 P **P** **23 20 15.5 +1.6**
LLLB Lillooet 32.01 72 P **P** **23 20 19.2 +1.6**
LLLB IAmb IAmb 23 20 20.5
comp=Z,14nm,0.8s
YKA Yellowknife Ar 32.30 49 P **P** **23 20 20.0 +0.1**
comp=Z,4.6nm,0.7s,baz=284,slow=8.5,SNR=23
comp=Z,4.6nm,0.7s
YKA Yellowknife Ar 32.30 49 P **P** **23 20 20.0 +0.1**
GNW Green Mountain 32.81 78 P **P** **23 20 26.7 +2.2**
GNW IAmb IAmb 23 20 28.8
comp=Z,9.9nm,0.6s
F03A Seaside 33.18 81 P **P** **23 20 29.1 +1.4**
KLR Kul'dur 33.48 286 P **P** **23 20 29.1 -1.2**
comp=Z,2.4nm,0.6s,baz=54,slow=5.0,SNR=7.8
comp=Z,2.4nm,0.6s
LON Longmire 33.82 79 P **P** **23 20 35.1 +1.8**
LON IAmb IAmb 23 20 38.2
comp=Z,8.3nm,0.6s
LON Longmire 33.82 79 P **P** **23 20 35.1 +1.8**
LON pmax pmax
comp=Z,8.0nm,0.6s
DBO Dodson Butte 34.88 85 P **P** **23 20 45.0 +2.6**
DBO IAmb IAmb 23 20 46.3
comp=Z,28nm,1.4s
G05A Wamic 34.88 81 P **P** **23 20 44.4 +1.9**
G05A IAmb IAmb 23 20 45.5
comp=Z,17nm,0.7s
KSXB Camp Six Broad 35.23 87 P **P** **23 20 48.1 +2.6**
KSXB IAmb IAmb 23 21 05.0
comp=Z,43nm,1.4s
HUMO Hull Mountain 35.34 86 P **P** **23 20 48.3 +1.9**
HAWA Hanford 35.35 78 P **P** **23 20 48.1 +1.7**
HAWA IAmb IAmb 23 20 49.1
comp=Z,28nm,1.1s
NEW Newport 35.84 74 P **P** **23 20 51.7 +1.1**
NEW Newport 35.84 74 P **P** **23 20 51.7 +1.1**
NEW pmax pmax
comp=Z,36nm,0.6s
USRK Ussuriysk Ar. 35.86 278 P **P** **23 20 50.0 -0.7**
comp=Z,0.8nm,0.6s,baz=37,slow=9.9,SNR=2.1
USRK PcP **PcP** **23 23 13.8 +0.6**
comp=Z,3.1nm,0.5s,baz=30,slow=3.6,SNR=12
comp=Z,0.8nm,0.6s
I07A Izee 36.60 81 P **P** **23 20 59.2 +2.0**
I07A IAmb IAmb 23 21 00.1
comp=Z,9.4nm,0.8s
MJAR Matsushiro Arr 36.71 263 P **P** **23 20 57.5 -0.5**
comp=Z,2.4nm,0.9s,baz=28,slow=5.5,SNR=4.4
MJAR PcP **PcP** **23 23 15.5 -0.4**
comp=Z,2.7nm,0.6s,baz=48,slow=3.4,SNR=6.5
comp=Z,2.4nm,0.9s
O02D Mt. Diablo Mer 36.87 89 P **P** **23 21 01.8 +2.4**
O02D IAmb IAmb 23 21 03.5
comp=Z,18nm,0.9s
BMO Blue Mountains 37.49 79 P **P** **23 21 05.8 +1.2**
BMO Blue Mountains 37.49 79 P **P** **23 21 05.8 +1.2**
BMO pmax pmax
comp=Z,12nm,1.3s
BNX BinXian 37.77 283 ⇑P **P** **23 21 05.4 -1.4**
BNX pmax pmax
comp=Z,6.0nm,0.7s
WVOR Wild Horse Val 38.05 83 P **P** **23 21 10.8 +1.5**
WVOR IAmb IAmb 23 21 12.3
comp=Z,15nm,1.0s
WVOR Wild Horse Val 38.05 83 P **P** **23 21 10.9 +1.5**
WVOR pmax pmax
comp=Z,15nm,1.0s
PLID Pearl Lake 38.14 77 P **P** **23 21 10.8 +0.6**
MSO Missoula 38.43 74 P **P** **23 21 13.2 +0.8**
MSO PcP **PcP** **23 23 21.9 +0.7**
OVMT Ovando 38.85 73 P **P** **23 21 16.3 +0.3**
OVMT **PcP** **23 23 23.3 +0.7**
MFID Camas Ranch 39.18 80 P **P** **23 21 19.7 +1.0**
HLID Hailey 39.94 78 P **P** **23 21 26.5 +1.5**
HLID PcP **PcP** **23 23 28.0 +1.9**
BMN Battle Mountai 40.10 84 P **P** **23 21 28.1 +1.8**
BMN Battle Mountai 40.10 84 P **P** **23 21 28.1 +1.8**
BMN pmax pmax
comp=Z,9.0nm,0.7s
EGMT Eagleton 40.22 70 P **P** **23 21 27.8 +0.6**
EGMT IAmb IAmb 23 21 30.7
comp=Z,15nm,1.1s
BOZ Bozeman (W) 40.44 74 P **P** **23 21 30.0 +0.9**
BOZ IAmb IAmb 23 21 30.8
comp=Z,22nm,0.8s
BOZ Bozeman (W) 40.44 74 P **P** **23 21 30.0 +0.9**
BOZ pmax pmax
comp=Z,22nm,0.8s
NVAR Mina Array Bea 40.68 87 P **P** **23 21 33.3 +2.1**
NVAR Mina Array Bea 40.68 87 P **P** **23 21 33.5 +2.2**
comp=Z,10nm,0.7s,baz=299,slow=7.6,SNR=43
NVAR PcP **PcP** **23 23 29.4 +0.7**
comp=Z,1.7nm,0.7s,baz=274,slow=2.8,SNR=5.4
NVAR ScP **ScP** **23 26 58.6 -0.1**
comp=Z,0.5nm,0.5s,baz=321,slow=2.1,SNR=3.9
comp=Z,10nm,0.7s
ELK Elko 41.11 82 P **P** **23 21 36.2 +1.5**
ELK PcP **PcP** **23 23 31.7 +1.6**
ELK Elko 41.11 82 P **P** **23 21 36.2 +1.5**
ELK 23 23 31.7
ELK pmax pmax
comp=Z,8.0nm,0.9s
YHL Hebgen Lake 41.12 75 P **P** **23 21 36.0 +1.2**
YHL IAmb IAmb 23 21 36.6
comp=Z,45nm,1.3s
YHL PcP **PcP** **23 23 31.9 +1.8**
HVU Hansel Valley 41.96 80 P **P** **23 21 42.6 +1.1**
HVU IAmb IAmb 23 21 43.5
comp=Z,9.7nm,0.6s
HVU PcP **PcP** **23 23 34.0 +1.3**
RLMT Red Lodge 42.09 73 P **P** **23 21 43.8 +1.2**
RLMT IAmb IAmb 23 21 44.7
comp=Z,41nm,1.2s
ISA Isabella, Lake 42.37 91 P **P** **23 21 46.2 +1.4**
ISA Isabella, Lake 42.37 91 P **P** **23 21 46.2 +1.4**
ISA pmax pmax
comp=Z,9.0nm,0.7s
R11B Troy Canyon, C 42.38 86 P **P** **23 21 46.6 +1.6**
R11B PcP **PcP** **23 23 35.9 +1.6**
TPNV Topopah Spring 42.88 88 P **P** **23 21 49.9 +0.9**
TPNV IAmb IAmb 23 21 51.9
comp=Z,30nm,0.7s
TPNV Topopah Spring 42.88 88 P **P** **23 21 49.9 +0.9**
TPNV pmax pmax
comp=Z,30nm,0.7s
LAO LASA Array 42.96 70 P **P** **23 21 49.9 +0.5**
LAO IAmb IAmb 23 21 51.1
comp=Z,14nm,0.6s
FCC Fort Churchill 43.03 49 P **P** **23 21 49.0 -0.6**
FCC IAmb IAmb 23 21 50.9
comp=Z,12nm,0.8s
FCC Fort Churchill 43.03 49 P **P** **23 21 49.0 -0.6**
FCC pmax pmax
comp=Z,12nm,0.8s
PD31 Pinedale Array 43.29 76 P **P** **23 21 53.1 +0.8**
PD31 IAmb IAmb 23 21 54.0
comp=Z,25nm,0.6s
PDAR Pinedale Array 43.29 76 P **P** **23 21 53.2 +0.9**
comp=Z,21nm,0.4s,baz=313,slow=3.1,SNR=254
PDAR PcP **PcP** **23 23 37.5 +0.2**
comp=Z,0.7nm,0.5s,baz=240,slow=1.2,SNR=3.9
NRIK Noril'sk 44.67 330 P **P** **23 22 02.9 +0.4**
NRIK Noril'sk 44.67 330 P **P** **23 22 02.3 -0.2**
comp=Z,3.1nm,0.4s,baz=79,slow=9.0,SNR=9.0
comp=Z,3.1nm,0.4s
NRIK Noril'sk 44.67 330 P **P** **23 22 02.9 +0.4**
NRIK pmax pmax
comp=Z,5.0nm,0.7s
PFO Pinyon Flats O 44.98 91 P **P** **23 22 06.7 +1.1**
PFO Pinyon Flats O 44.98 91 P **P** **23 22 06.7 +1.1**
PFO pmax pmax
comp=Z,5.0nm,0.9s
W13A Hualapai Mount 45.54 88 P **P** **23 22 11.3 +1.2**
ESJX Sierra Juarez 46.40 93 P **P** **23 22 18.5 +1.7**
N23A Red Feather La 46.57 76 P **P** **23 22 18.9 +0.7**
N23A IAmb IAmb 23 22 20.5
comp=Z,26nm,1.3s
ULM Lac du Bonnet 46.64 60 P **P** **23 22 17.4 -0.8**
comp=Z,2.4nm,0.3s,baz=310,slow=6.2,SNR=9.2
ULM PcP **PcP** **23 23 48.2 -0.3**
comp=Z,4.9nm,0.6s,baz=319,slow=3.2,SNR=4.9
comp=Z,2.4nm,0.3s
WUAZ Wupatki 46.78 85 P **P** **23 22 21.3 +1.5**
WUAZ IAmb IAmb 23 22 22.5
comp=Z,18nm,0.8s
MVCO Mesa Verde 47.41 82 P **P** **23 22 25.4 +0.7**
X16A Lo Mia Camp, P 47.48 87 P **P** **23 22 26.7 +1.5**
BRIGG Briggsdale 47.73 75 P **P** **23 22 27.9 +1.0**
BRIGG IAmb IAmb 23 22 29.0
comp=Z,25nm,0.6s
ULN Ulaanbaatar 48.14 298 *ce*P **P** **23 22 28.0 -2.0**
ULN pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 48.51 298 P **P** **23 22 33.2 +0.4**
SONM Songino Array 48.51 298 P **P** **23 22 32.9 +0.1**
comp=Z,1.4nm,1.0s,baz=56,slow=6.9,SNR=5.9
SONM PcP **PcP** **23 23 55.0 -0.4**
comp=Z,1.2nm,0.6s,baz=80,slow=2.3,SNR=5.8
SONM ScP **ScP** **23 27 29.1 -1.5**
comp=Z,1.5nm,0.9s,baz=63,slow=4.0,SNR=7.2
comp=Z,1.4nm,1.0s
KBS Kingsbay 48.59 358 P **P** **23 22 34.3 +1.5**
KBS IAmb IAmb 23 22 40.2
comp=Z,46nm,1.2s
KBS Kingsbay 48.59 358 P **P** **23 22 34.3 +1.5**
KBS pmax pmax
comp=Z,47nm,1.2s
SPITS Spitsbergen Ar 49.23 357 P **P** **23 22 37.7 0.0**
comp=Z,2.7nm,0.5s,baz=54,slow=4.2,SNR=17
comp=Z,2.7nm,0.5s
SPITS Spitsbergen Ar 49.23 357 P **P** **23 22 37.8 0.0**
SPITS pmax pmax
comp=Z,103nm,1.5s
SPB2 Spitsbergen Ar 49.24 357 P **P** **23 22 38.0 +0.2**
SPB2 IAmb IAmb 23 23 02.8
comp=Z,80nm,1.5s
TUC Tucson 49.33 88 P **P** **23 22 40.5 +1.3**
TUC Tucson 49.33 88 P **P** **23 22 40.5 +1.3**
TUC pmax pmax
comp=Z,12nm,0.8s
T25A Trinidad 49.90 79 P **P** **23 22 44.6 +1.0**
T25A IAmb IAmb 23 22 46.0
comp=Z,28nm,0.9s
T25A PcP **PcP** **23 24 02.0 +1.2**
HHC Hu-ho-hao-te 49.96 288 *eP* **P** **23 22 45.1 +1.2**
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,100nm,3.5s
ANMO Albuquerque 50.14 82 P **P** **23 22 46.2 +0.8**
ANMO Albuquerque 50.14 82 P **P** **23 22 46.2 +0.8**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
121A Cookes Peak, D 50.99 86 P **P** **23 22 53.0 +1.2**
121A IAmb IAmb 23 22 54.4
comp=Z,9.3nm,0.7s
BTO Baotou 51.01 288 *eP* **P** **23 22 49.8 -1.9**
BTO pP **pP** **23 23 35.3 +0.4**
BTO sP **sP** **23 23 58.6 +1.9**
BTO PP **PP** **23 24 49.8 -0.2**
BTO pmax pmax
comp=Z,8.0nm,0.8s
BTO pmax pmax
comp=Z,260nm,5.6s
SUMG Summit 51.33 16 P **P** **23 22 54.1 +0.2**
SUMG Summit 51.33 16 P **P** **23 22 54.1 +0.2**
SUMG pmax pmax
comp=Z,5.0nm,0.6s
NJ2 Nanjing 51.51 274 *eP* **P** **23 22 55.0 -0.3**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
CBKS Cedar Bluff 51.56 74 P **P** **23 22 56.2 +0.5**
CBKS Cedar Bluff 51.56 74 P **P** **23 22 56.2 +0.5**
CBKS pmax pmax
comp=Z,63nm,0.7s
MSTX Muleshoe 53.03 81 P **P** **23 23 07.3 +0.7**
MSTX IAmb IAmb 23 23 09.1
comp=Z,9.7nm,0.8s
VHRN Van Horn 53.92 85 P **P** **23 23 14.3 +1.2**
VHRN IAmb IAmb 23 23 15.6
comp=Z,9.3nm,0.8s
WMOK Wichita Mounta 54.88 77 P **P** **23 23 20.3 +0.3**
WMOK IAmb IAmb 23 23 21.4
comp=Z,11nm,0.8s
WMOK Wichita Mounta 54.88 77 P **P** **23 23 20.3 +0.3**
WMOK pmax pmax
comp=Z,11nm,0.9s
ZALV Zalesovo Beam 55.10 315 P **P** **23 23 20.5 -0.6**
comp=Z,0.4nm,0.3s,baz=46,slow=6.2,SNR=3.1
ZALV PcP **PcP** **23 24 19.3 -0.5**
comp=Z,0.4nm,0.3s,baz=31,slow=3.5,SNR=4.4
comp=Z,0.4nm,0.3s
SCO Scoresbysund 55.53 11 P **P** **23 23 24.0 +0.1**
SCO IAmb IAmb 23 23 35.3
comp=Z,12nm,1.2s
SCO Scoresbysund 55.53 11 P **P** **23 23 24.0 +0.1**
SCO pmax pmax
comp=Z,12nm,1.2s
TXAR Lajitas Array 55.75 85 P **P** **23 23 27.4 +1.1**
TXAR Lajitas Array 55.75 85 P **P** **23 23 27.3 +1.0**
comp=Z,7.8nm,0.7s,baz=298,slow=4.7,SNR=92
TXAR PcP **PcP** **23 24 24.3 +1.4**
comp=Z,2.4nm,0.6s,baz=239,slow=1.5,SNR=11
TXAR ScP **ScP** **23 28 03.1 +0.8**
comp=Z,1.0nm,0.8s,baz=283,slow=2.2,SNR=7.5
comp=Z,7.8nm,0.7s
SLBS Sierra La Lagu 56.06 95 P **P** **23 23 29.6 +1.1**
SLBS IAmb IAmb 23 23 31.0
comp=Z,9.7nm,0.8s
SSLB Suanglung 56.20 265 P **P** **23 23 29.5 0.0**
SSLB IAmb IAmb 23 24 04.8
comp=Z,14nm,1.0s
HHAR Hobbs 56.66 72 P **P** **23 23 31.5 -1.0**
CCM Cathedral Cave 56.98 69 P **P** **23 23 33.8 -0.9**
CCM IAmb IAmb 23 23 36.3
comp=Z,6.0nm,0.6s
CCM Cathedral Cave 56.98 69 P **P** **23 23 33.8 -0.9**
CCM pmax pmax
comp=Z,6.0nm,0.6s
SCHQ Schefferville 57.23 41 P **P** **23 23 36.5 +0.3**
comp=Z,3.0nm,0.5s,baz=316,slow=7.2,SNR=10
comp=Z,3.0nm,0.5s
ARCES ARCESS Array B 57.23 352 P **P** **23 23 35.5 -0.5**
comp=Z,5.0nm,0.8s,baz=19,slow=6.8,SNR=10
ARCES PcP **PcP** **23 24 27.9 0.0**
comp=Z,6.2nm,0.6s,baz=22,slow=3.7,SNR=13
comp=Z,5.0nm,0.8s
GTA Gaotai 57.61 294 *e*P **P** **23 23 38.8 -0.5**
GTA pmax pmax
comp=Z,4.0nm,0.7s
LVZ Lovozero 57.80 347 P **P** **23 23 39.6 -0.5**
LVZ Lovozero 57.80 347 P **P** **23 23 39.6 -0.5**
LVZ pmax pmax
comp=Z,81nm,1.4s
MIAR Mount Ida 58.08 74 P **P** **23 23 42.7 +0.2**
MIAR Mount Ida 58.08 74 P **P** **23 23 42.7 +0.2**
MIAR pmax pmax
comp=Z,31nm,0.8s
WHAR Wooly Hollow 58.31 72 P **P** **23 23 43.3 -0.7**
WHAR IAmb IAmb 23 23 44.6
comp=Z,12nm,0.7s
HKT Hockley 60.03 79 P **P** **23 23 56.6 +0.8**
HKT IAmb IAmb 23 23 57.4
comp=Z,12nm,0.8s
HKT Hockley 60.03 79 P **P** **23 23 56.6 +0.8**
HKT pmax pmax
comp=Z,12nm,0.9s
KURK Kurchatov 60.07 315 P **P** **23 23 55.9 0.0**
KURK IAmb IAmb 23 23 56.6
comp=Z,7.8nm,0.8s
KURK Kurchatov 60.07 315 P **P** **23 23 56.4 +0.6**
KURK 23 24 39.5
KURK *PP **pwP** **23 24 45.8 +0.4**
KURBB Kurchatov Arra 60.18 315 P **P** **23 23 56.4 -0.2**
comp=Z,6.3nm,0.8s,baz=45,slow=6.8,SNR=51
KURBB PcP **PcP** **23 24 39.5 -0.4**
comp=Z,0.6nm,0.4s,baz=42,slow=3.6,SNR=6.3
KURBB pP **pwP** **23 24 45.8 -0.3**
comp=Z,1.3nm,0.8s,baz=43,slow=7.1,SNR=3.4
comp=Z,6.3nm,0.8s
WMQ Urumqi 60.91 305 *e*P **P** **23 24 02.3 +0.6**
WMQ pmax pmax
comp=Z,12nm,0.9s
ZAIG Zacatecas 61.23 90 P **P** **23 24 04.8 +0.4**
MK31 Makanchi Array 61.34 310 P **P** **23 24 03.9 -0.6**
MK31 Makanchi Array 61.34 310 P **P** **23 24 03.9 -0.6**
MK31 pmax pmax
comp=Z,7.0nm,1.3s
MKAR Makanchi Array 61.34 310 P **P** **23 24 03.7 -0.8**
comp=Z,1.5nm,0.5s,baz=48,slow=4.9,SNR=15
MKAR PcP **PcP** **23 24 44.6 -0.2**
comp=Z,0.4nm,0.4s,baz=49,slow=4.3,SNR=1.6
MKAR pP **pwP** **23 24 53.6 -0.8**
comp=Z,1.4nm,0.7s,baz=36,slow=4.9,SNR=3.4
comp=Z,1.5nm,0.5s
BVAR Borovoye Array 61.63 322 P **P** **23 24 06.5 +0.2**
comp=Z,13nm,0.5s,baz=54,slow=6.7,SNR=115
BVAR PcP **PcP** **23 24 45.9 +0.1**
comp=Z,1.5nm,0.5s,baz=66,slow=3.0,SNR=4.4
BVAR pP **pwP** **23 24 55.4 -0.8**
comp=Z,9.4nm,0.8s,baz=55,slow=7.8,SNR=8.1
comp=Z,13nm,0.5s
BRVK Borovoye 61.64 322 P **P** **23 24 06.2 -0.2**
BRVK IAmb IAmb 23 24 07.5
comp=Z,5.9nm,0.7s
BRVK Borovoye 61.64 322 *ce*P **P** **23 24 06.8 +0.4**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
SWET Sewanee 62.00 68 P **P** **23 24 08.2 -0.9**
SWET IAmb IAmb 23 24 08.6
comp=Z,6.5nm,0.6s
TZTN Tazewell 62.37 65 P **P** **23 24 11.1 -0.4**
TZTN IAmb IAmb 23 24 12.3
comp=Z,13nm,0.8s
FPAL Fort Paine 62.67 68 P **P** **23 24 13.1 -0.5**
FPAL IAmb IAmb 23 24 13.8
comp=Z,13nm,0.7s
TKL Tuckaleechee C 62.89 66 P **P** **23 24 14.7 -0.2**
TKL IAmb IAmb 23 24 15.5
comp=Z,8.7nm,0.8s
TKL Tuckaleechee C 62.89 66 P **P** **23 24 14.7 -0.2**
TKL pmax pmax
comp=Z,9.0nm,0.9s
LRAL Lakeview Retre 62.98 70 P **P** **23 24 14.8 -0.7**
LRAL IAmb IAmb 23 24 15.4
comp=Z,8.2nm,0.8s
ARTI Arti 62.98 330 P **P** **23 24 15.3 0.0**
ARTI IAmb IAmb 23 24 16.1
comp=Z,12nm,0.6s
ARTI Arti 62.98 330 *c i*P **P** **23 24 15.2 0.0**
ARTI 23 26 32.4
ARTI S **S** **23 32 31.9 +3.1**
ARTI SS **SS** **23 36 39.1 +2.2**
ARTI pmax pmax
comp=Z,12nm,0.7s
JOF Joensuu 62.99 347 *e*P **P** **23 24 14.6 -0.5**
KIRV Kirov 63.55 336 *ce*P **P** **23 24 19.6 +0.8**
VAF Ylistaro 63.84 351 *e*P **P** **23 24 20.1 -0.6**
KEF Keuruu 64.49 350 *e*P **P** **23 24 23.9 -1.0**
GOGA Godfrey 64.71 68 P **P** **23 24 26.2 -0.6**
GOGA IAmb IAmb 23 24 27.0
comp=Z,17nm,1.1s
GOGA Godfrey 64.71 68 P **P** **23 24 26.2 -0.6**
GOGA pmax pmax
comp=Z,17nm,1.1s
FINES FINESS Array B 65.06 349 P **P** **23 24 28.4 -0.3**
comp=Z,4.4nm,0.7s,baz=16,slow=8.1,SNR=17
FINES PcP **PcP** **23 24 59.5 -0.1**
comp=Z,2.7nm,0.6s,baz=33,slow=4.3,SNR=7.0
comp=Z,4.4nm,0.7s
PZH PanZhiHua 65.81 282 smax smax
comp=N,10.0nm,0.6s
PZH smax smax
comp=E,10.0nm,0.7s
PZH PanZhiHua 65.81 282 P **P** **23 24 34.0 -0.2**
PZH pmax pmax
comp=E,10.0nm,0.8s
PZH pmax pmax
comp=E,150nm,4.5s
RAF Rauma 65.91 352 *e*P **P** **23 24 33.8 -0.3**
NC204 NORSAR Array S 66.31 357 P **P** **23 24 36.5 -0.2**
NC204 IAmb IAmb 23 24 48.6
comp=Z,17nm,1.4s
MEF Metsahovi 66.45 350 *e*P **P** **23 24 37.2 -0.2**
NB2 NORSAR Subarra 66.53 357 P **P** **23 24 37.8 -0.3**
comp=Z,0.9nm,0.4s,baz=5.7,slow=6.9
NOA NORSAR Array B 66.53 357 P **P** **23 24 37.8 -0.3**
comp=Z,1.0nm,0.4s,baz=3.8,slow=7.4,SNR=18
NOA pP **pwP** **23 25 27.6 -0.9**
comp=Z,0.8nm,0.9s,baz=1.9,slow=6.3,SNR=2.0
comp=Z,1.0nm,0.4s
WUS Wushi 67.02 308 P **P** **23 24 41.8 +0.1**

WUS IAmb IAmb 23 24 42.8
comp=Z,9.3nm,0.8s
KDJ Kajisay 67.26 310 P **P 23 24 43.3 +0.1**
KDJ Kajisay 67.26 310 P **P 23 24 43.3 +0.1**
KDJ pmax pmax
comp=Z,3.0nm,0.8s
TARG Taragay, Kyrgy 67.28 309 P **P 23 24 43.8 +0.2**
TARG Taragay, Kyrgy 67.28 309 P **P 23 24 43.8 +0.2**
TARG pmax pmax
comp=Z,3.0nm,0.7s
HFS Hagfors 67.35 356 P **P 23 24 42.9 -0.3**
comp=Z,5.9nm,0.4s,baz=12,slow=2.1,SNR=63
comp=Z,5.9nm,0.4s
VSU Vasula 67.89 348 *ce*P **P 23 24 47.0 +0.4**
VSU pmax pmax
comp=Z,19nm,0.7s
MTSE Matsula 67.98 350 *e*P **P 23 24 47.1 0.0**
AAK Ala-Archa 68.09 312 P **P 23 24 48.7 +0.3**
AAK IAmb IAmb 23 24 49.6
comp=Z,9.5nm,0.8s
AAK Ala-Archa 68.09 312 P **P 23 24 48.7 +0.3**
NRN Naryn 68.35 310 P **P 23 24 50.6 +0.5**
NRN Naryn 68.35 310 P **P 23 24 50.7 +0.5**
NRN pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 68.51 325 P **P 23 24 50.9 +0.3**
ABKAR Akbulak array 68.51 325 P **P 23 24 50.9 +0.3**
ABKAR IAmb IAmb 23 24 52.1
comp=Z,8.6nm,0.6s
SLIT Slitere, Latvi 69.21 351 *e*P **P 23 24 54.4 -0.3**
KKAR Karatay Array 69.48 315 P **P 23 24 56.5 -0.2**
KKAR Karatay Array 69.48 315 P **P 23 24 56.3 -0.4**
KKAR IAmb IAmb 23 24 57.2
comp=Z,3.2nm,0.7s
KKAR Karatay Array 69.48 315 P **P 23 24 56.5 -0.2**
BELG Belogornoye 69.55 334 *i* P **P 23 24 55.0 -1.9**
BELG pmax pmax
comp=Z,4.0nm,0.9s
LSA Lhasa 69.56 292 P **P 23 24 59.0 +1.0**
LSA IAmb IAmb 23 24 59.8
comp=Z,11nm,0.8s
LSA Lhasa 69.56 292 P **P 23 24 59.0 +1.0**
LSA pmax pmax
comp=Z,11nm,0.8s
OBN Obninsk 69.56 342 P **P 23 24 56.5 -0.4**
OBN IAmb IAmb 23 24 57.1
comp=Z,14nm,0.5s
OBN Obninsk 69.56 342⇑ *e*P **P 23 24 57.3 +0.4**
OBN *e* 23 27 32.2
OBN pmax pmax
comp=Z,7.0nm,0.6s
ARSB Arslanbob 69.82 312 P **P 23 24 59.5 +0.5**
ARSB Arslanbob 69.82 312 P **P 23 24 59.5 +0.5**
ARSB pmax pmax
comp=Z,2.0nm,0.8s
KSH Kashi 69.88 309 P **P 23 25 03.1 +3.8**
KSH pmax pmax
comp=Z,14nm,0.6s
BORU Boraas 69.89 356 *e*P **P 23 24 58.9 +0.1**
ONAU Onsala 70.16 356 *i* P **P 23 25 00.6 +0.1**
FABU Falkenberg 70.52 356 *i* P **P 23 25 02.9 +0.2**
DEL Delary 71.00 355 *i* P **P 23 25 05.7 +0.1**
BLEU Blekinge 71.05 354 *i* P **P 23 25 05.6 -0.3**
PABE Paberze 71.12 349 P **P 23 25 06.1 -0.2**
PABE Paberze 71.12 349 *e*P **P 23 25 06.2 -0.2**
MNK Minsk 71.60 347 *i* P **P 23 25 07.6 -1.6**
comp=E,9.0nm,0.9s
MNK *i* P **P 23 25 07.6 -1.6**
comp=N,7.0nm,1.0s
MNK *i* P **P 23 25 07.6 -1.6**
comp=Z,12nm,0.8s,baz=14
MNK *i* pP **pP 23 25 55.0 -0.5**
MNK *i* sP **sP 23 26 16.6 +0.1**
MNK *i* PP **PP 23 27 49.1 -1.0**
MNK *i* PPP PPP 23 29 33.6
MNK *i* S **S 23 34 11.0 -0.4**
MNK *i* sS **sS 23 35 34.1 +2.0**
MNK *i* SS SS 23 39 27.3 +38
MNK Minsk 71.60 347 *i* P **P 23 25 07.6 -1.6**
MNK *i* 23 25 25.4
MNK *i* *PP **pP 23 25 54.9 -0.5**
MNK *i* *SP **sP 23 26 16.6 +0.1**
MNK *i* 23 27 49.1
MNK *i* PPP PPP 23 29 33.6
MNK *i* S **S 23 34 11.0 -0.4**
MNK pmax pmax
comp=Z,12nm,0.8s
MNK pmax pmax
comp=N,7.0nm,1.0s
MNK pmax pmax
comp=E,9.0nm,0.9s
BTK Batken 71.81 313 P **P 23 25 10.9 +0.1**
BTK Batken 71.81 313 P **P 23 25 11.0 +0.1**
BTK pmax pmax
comp=Z,6.0nm,0.7s
DRK Karamyk 71.84 312 P **P 23 25 11.3 0.0**
DRK IAmb IAmb 23 25 12.6
comp=Z,7.9nm,0.6s
DRK Karamyk 71.84 312 P **P 23 25 11.3 0.0**
DRK pmax pmax
comp=Z,8.0nm,0.6s
LUNU Lund 71.86 355 *i* P **P 23 25 10.9 +0.1**
EKA Eskdalemuir Ar 72.10 5 P **P 23 25 12.3 +0.2**
comp=Z,2.0nm,0.6s,baz=353,slow=4.7,SNR=8.5
comp=Z,2.0nm,0.6s
PHRA Phrae 72.78 278 P **P 23 25 16.7 -0.1**
GAR Garm 72.90 313 P **P 23 25 17.6 +0.1**
CMAR Chiang Mai Arr 73.59 279 P **P 23 25 21.4 -0.1**
CMAR Chiang Mai Arr 73.59 279 P **P 23 25 22.1 +0.5**
comp=Z,2.9nm,0.6s,baz=23,slow=6.9,SNR=16
comp=Z,2.9nm,0.6s
SIMJ Simiganj 73.76 313 P **P 23 25 22.2 -0.3**
SIMJ IAmb IAmb 23 25 23.1
comp=Z,9.7nm,0.7s
AK21 Malin Array Si 75.04 345 P **P 23 25 27.7 -1.7**
AK22 Malin Array Si 75.05 345 P **P 23 25 27.8 -1.6**
AK03 Malin Array Si 75.06 345 P **P 23 25 27.8 -1.7**
AK04 Malin Array Si 75.07 345 P **P 23 25 27.9 -1.7**
AKASG Malin Array Be 75.08 345 P **P 23 25 28.8 -0.9**
AKASG Malin Array Be 75.08 345 P **P 23 25 28.9 -0.8**
comp=Z,2.6nm,0.3s,baz=19,slow=6.0,SNR=30
AKASG pP **pwP 23 26 20.0 -1.2**
comp=Z,1.6nm,0.6s,baz=17,slow=6.0,SNR=3.4
comp=Z,2.6nm,0.3s
AKBB Malin Array Si 75.08 345 *ce*P **P 23 25 28.3 -1.3**
AKBB pmax pmax
comp=Z,10.0nm,0.7s
AKBB Malin Array Si 75.08 345 P **P 23 25 28.0 -1.6**
KIEV Kiev 75.09 345 P **P 23 25 28.8 -0.9**
KIEV IAmb IAmb 23 25 29.5
comp=Z,8.9nm,0.7s
KIEV Kiev 75.09 345 ⇑P **P 23 25 28.8 -0.9**
KIEV Kiev 75.09 345 P **P 23 25 28.8 -0.9**
KIEV pmax pmax
comp=Z,9.0nm,0.7s
KIEV Kiev 75.09 345 P **P 23 25 28.1 -1.6**
comp=Z,50nm,1.0s
NRDL Niedersach Rie 75.12 357 *e*P **P 23 25 30.1 +0.4**
comp=Z,4.6nm,0.7s,baz=5.8,slow=5.6
FLTG Flechtingen 75.25 356 *e*P **P 23 25 30.6 0.0**
comp=Z,9.6nm,0.6s,baz=5.8,slow=5.6
FLTG *e*pP **pP 23 26 16.8 -0.4**
IBBN Ibbenburen 75.36 359 *e*P **P 23 25 32.0 +0.8**
comp=Z,13nm,0.7s,baz=5.8,slow=5.6
CLZ Clausthal 75.77 357 *e*P **P 23 25 33.9 +0.3**
comp=Z,9.5nm,0.7s,baz=5.8,slow=5.6
CLZ *e*pP **pP 23 26 19.4 -0.9**
NIL Nilore 75.89 307 P **P 23 25 34.8 +0.2**
NIL IAmb IAmb 23 25 35.7
comp=Z,14nm,0.7s
NIL Nilore 75.89 307 P **P 23 25 34.8 +0.2**
NIL pmax pmax
comp=Z,14nm,0.7s
GTTG Gottingen 76.08 357 *e*P **P 23 25 35.6 +0.4**
comp=Z,9.4nm,0.8s,baz=5.8,slow=5.6
CLL Collm 76.19 355 P **P 23 25 36.1 +0.1**
CLL IAmb IAmb 23 25 36.7
comp=Z,8.5nm,0.7s
CLL Collm 76.19 355 P **P 23 25 36.1 +0.1**
CLL pmax pmax
comp=Z,8.0nm,0.7s
CLL Collm 76.19 355 *e*P **P 23 25 36.0 +0.1**
comp=Z,6.7nm,0.7s,baz=5.8,slow=5.6
CLL Collm 76.19 355 *i* P **P 23 25 35.7 -0.2**
comp=Z,9.0nm,0.8s

BRG Berggiesshubel 76.58 355⇓ *i* P **P 23 25 38.4 +0.3**
BRG Amp 23 25 39.6
comp=Z,8.7nm,0.9s
BRG Berggiesshubel 76.58 355⇓ *i* P **P 23 25 38.4 +0.3**
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG Berggiesshubel 76.58 355 *e*P **P 23 25 38.0 -0.1**
comp=Z,6.6nm,0.8s,baz=5.8,slow=5.6
BRG *e*pP **pP 23 26 25.5 +0.6**
OSTC Ostas 76.75 353 *e*P **P 23 25 39.2 +0.1**
OSTC Ostas 76.75 353 *e*P **P 23 25 39.2 +0.1**
UPC Upice 76.81 353 *e*P **P 23 25 39.7 +0.3**
UPC Upice 76.81 353 *e*P **P 23 25 39.7 +0.3**
MOX Moxa 76.92 356 *e*P **P 23 25 40.3 +0.2**
comp=Z,6.2nm,0.8s,baz=5.8,slow=5.6
DPC Dobruska-Polom 76.94 353 *e*P **P 23 25 40.8 +0.6**
DPC Dobruska-Polom 76.94 353 *e*P **P 23 25 40.8 +0.6**
DPC Dobruska-Polom 76.94 353 P **P 23 25 40.8 +0.6**
comp=Z,13nm,1.3s
BTNL Ternell 77.10 360 *d*P **P 23 25 40.6 -0.5**
comp=Z,8.1nm,0.8s
TANN Tannenbergstha 77.11 356 *e*P **P 23 25 41.1 -0.1**
comp=Z,3.0nm,0.8s,baz=5.8,slow=5.6
KBL Kabul 77.14 311 P **P 23 25 40.8 -1.1**
KBL Kabul 77.14 311 P **P 23 25 40.8 -1.1**
KBL pmax pmax
comp=Z,6.0nm,0.7s
KRLC Kraliky 77.18 353 *e*P **P 23 25 41.7 +0.1**
KRLC Kraliky 77.18 353 *e*P **P 23 25 41.7 +0.1**
BCLA Clavier 77.27 0 *d*P **P 23 25 42.6 +0.7**
NKC Novy Kostel 77.29 356 *e*P **P 23 25 42.7 +0.5**
NKC Novy Kostel 77.29 356 *e*P **P 23 25 42.7 +0.5**
BGES Gesves 77.30 0 *d*P **P 23 25 41.6 -0.6**
BMRD Maredsous 77.38 1 *d*P **P 23 25 42.5 -0.1**
comp=Z,9.1nm,0.8s
MORC Movsky Berou 77.42 352 P **P 23 25 42.9 0.0**
MORC Moravsky Berou 77.42 352 *e*P **P 23 25 42.3 -0.6**
MORC Moravsky Berou 77.42 352 ⇑P **P 23 25 43.3 +0.4**
MORC Moravsky Berou 77.42 352 ⇑P **P 23 25 43.3 +0.4**
PRU Pruhonice 77.42 354 *e*P **P 23 25 43.0 +0.2**
PRU Pruhonice 77.42 354 *e*P **P 23 25 43.0 +0.2**
TNS Taunus Mts 77.44 358 *e*P **P 23 25 43.7 +0.7**
comp=Z,8.7nm,0.7s,baz=5.8,slow=5.6
RCHB Rochefort 77.53 0 *d*P **P 23 25 43.6 +0.2**
RCHB *d*PcP **PcP 23 25 52.5 -0.4**
MANZ Manzenberg 77.56 356 *e*P **P 23 25 43.7 +0.1**
comp=Z,0.8nm,0.8s,baz=5.8,slow=5.6
DOU Dourbes 77.59 1 *d*P **P 23 25 43.8 +0.1**
SORM Soroca 77.71 345 ⇓P **P 23 25 43.9 -0.6**
SORM Soroca 77.71 345 ⇓P **P 23 25 43.9 -0.6**
SORM Soroca 77.71 345 P **P 23 25 43.5 -0.9**
comp=Z,16nm,0.8s
ROTZ Rotzenmuhle 77.77 356 *e*P **P 23 25 45.2 +0.4**
comp=Z,0.9nm,0.7s,baz=5.8,slow=5.6
KOLS Kolonicke sedl 77.78 349 *e*P **P 23 25 44.6 -0.3**
KOLS Kolonicke sedl 77.78 349 *e*P **P 23 25 44.5 -0.3**
LANS Liptovska Anna 77.86 351 *e*P **P 23 25 46.6 +1.2**
LANS Liptovska Anna 77.86 351 *e*P **P 23 25 46.6 +1.2**
GRA1 Grafenberg Arr 77.89 356 P **P 23 25 46.2 +0.8**
GRA1 IAmb IAmb 23 25 46.7
comp=Z,18nm,0.7s
GRF Grafenberg Arr 77.89 356 P **P 23 25 46.2 +0.8**
GRF pmax pmax
comp=Z,18nm,0.7s
GRF Grafenberg Arr 77.89 356 *e*P **P 23 25 45.6 +0.2**
comp=Z,16nm,0.7s,baz=5.8,slow=5.6
GRFO Grafenberg 77.89 356 P **P 23 25 46.3 +0.9**
GRFO IAmb IAmb 23 25 46.7
comp=Z,17nm,0.7s
GRFO Grafenberg 77.89 356 P **P 23 25 46.3 +0.9**
GRFO pmax pmax
comp=Z,17nm,0.7s
VRAC Vranov 77.96 353 *e*P **P 23 25 45.8 0.0**
VRAC Vranov 77.96 353 ⇑P **P 23 25 46.2 +0.3**
VRAC Vranov 77.96 353 ⇑P **P 23 25 46.2 +0.3**
ZVC Zvikov 77.99 354 *e*P **P 23 25 46.3 +0.3**
WLF Walferdange 78.02 360 *e*P **P 23 25 47.3 +1.1**
comp=Z,6.1nm,0.8s,baz=5.8,slow=5.6
WLF Walferdange 78.02 360 *d*P **P 23 25 46.9 +0.8**
KRUC Moravsky 78.22 353 *e*P **P 23 25 47.1 -0.1**
JAVC Velka Javorina 78.32 352 *e*P **P 23 25 48.8 +0.9**
KHC Kasperske Hory 78.34 355 P **P 23 25 48.2 +0.2**
KHC IAmb IAmb 23 25 49.4
comp=Z,8.1nm,0.8s
KHC Kasperske Hory 78.34 355 *e*P **P 23 25 48.6 +0.7**
KHC Kasperske Hory 78.34 355 *ce*P **P 23 25 48.7 +0.8**
KHC pmax pmax
comp=Z,28nm,1.3s
WET Wettzell 78.36 355 *e*P **P 23 25 48.0 -0.1**
comp=Z,2.0nm,0.7s,baz=5.8,slow=5.6
KIV Kislovodsk 78.60 334 P **P 23 25 49.5 0.0**
KIV IAmb IAmb 23 25 50.9
comp=Z,9.7nm,0.9s
KIV Kislovodsk 78.60 334 ⇑P **P 23 25 49.3 -0.2**
KIV Kislovodsk 78.60 334 ⇑P **P 23 25 49.3 -0.2**
KIV Kislovodsk 78.60 334 P **P 23 25 49.6 0.0**
CKRC Cesky Krumlov 78.60 354 *e*P **P 23 25 49.4 0.0**
CKRC Cesky Krumlov 78.60 354 *e*P **P 23 25 49.4 0.0**
GERES GERESS Array B 78.61 355 P **P 23 25 49.7 +0.2**
GERES GERESS Array B 78.61 355 P **P 23 25 49.2 -0.4**
comp=Z,4.1nm,0.7s,baz=15,slow=5.7,SNR=21
comp=Z,4.1nm,0.7s
GERES GERESS Array B 78.61 355 P **P 23 25 49.7 +0.2**
BURAR Bucovina Array 78.69 347 P **P 23 25 50.0 0.0**
BURAR Bucovina Array 78.69 347 ⇑P **P 23 25 49.6 -0.4**
BURAR Bucovina Array 78.69 347 ⇑P **P 23 25 49.6 -0.4**
KBZ Khabaz 78.75 333 P **P 23 25 50.3 +0.1**
comp=Z,5.3nm,0.7s,baz=116,slow=1.8,SNR=17
comp=Z,5.3nm,0.7s
NCK Nalchik 78.78 333 *i* P **P 23 25 49.9 -0.5**
NCK pmax pmax
comp=Z,17nm,0.8s
SHA1 Shidzhatmaz 78.81 334 *i* P **P 23 25 50.2 -0.7**
MILM Milestii Mici 78.82 344 ⇓P **P 23 25 50.2 -0.4**
MILM Milestii Mici 78.82 344 ⇓P **P 23 25 50.2 -0.4**
MODS Modra-Piesok 78.83 352 *e*P **P 23 25 51.5 +0.9**
MODS Modra-Piesok 78.83 352 *e*P **P 23 25 51.5 +0.9**
CHIV Chivirico 79.01 72 P **P 23 25 52.4 +0.4**
CHIV IAmb IAmb 23 25 53.5
comp=Z,15nm,0.8s
ARCR ARCALIA 79.33 347 ⇑P **P 23 25 54.0 +0.7**
BFO Black Forest 79.33 358 P **P 23 25 54.0 +0.6**
BFO Black Forest 79.33 358 P **P 23 25 54.0 +0.6**
BFO pmax pmax
comp=Z,6.0nm,0.7s
BFO Black Forest 79.33 358 *e*P **P 23 25 53.9 +0.5**
comp=Z,4.9nm,0.7s,baz=5.8,slow=5.6
CONA Conrad Observa 79.39 353 *i* P **P 23 25 54.2 +0.5**
comp=Z,5.7nm,0.6s
ECH Echery 79.47 359 P **P 23 25 54.2 +0.1**
ECH IAmb IAmb 23 25 55.7
comp=Z,12nm,0.9s
ECH Echery 79.47 359 P **P 23 25 54.2 +0.1**
ECH pmax pmax
comp=Z,12nm,0.9s
JOSR Joseni 79.54 346 ⇑P **P 23 25 55.4 +0.8**
MOA Molln 79.57 354 *e*P **P 23 25 54.9 +0.3**
comp=Z,3.8nm,0.9s
RONA Rosalia, Austr 79.58 353 *i* P **P 23 25 55.4 +0.7**
comp=Z,1.5nm,0.5s,SNR=4.8
CLF Chambon-Foret 79.62 2 P **P 23 25 55.8 +1.0**
BIOA Bad Ischl, Aus 79.77 355 *e*P **P 23 25 56.1 +0.3**
comp=Z,4.4nm,0.7s
RJOB Jochberg 79.77 355 *e*P **P 23 25 55.9 +0.1**
comp=Z,4.4nm,0.7s,baz=5.8,slow=5.6
RJOB *e*pP **pP 23 26 44.6 +1.7**
ONER Baraj Valea Uz 79.77 346 ⇑P **P 23 25 55.8 +0.1**
DRGR 79.83 348 ⇓P **P 23 25 56.1 0.0**
DRGR 79.83 348 ⇓P **P 23 25 56.1 0.0**
GHRR 79.88 345 ⇓P **P 23 25 55.7 -0.6**
MARR Marisel-Cluj 79.89 348 ⇓P **P 23 25 56.2 -0.4**
VLDR Vladesti 79.98 344 ⇓P **P 23 25 57.3 +0.5**
ARSA Arzberg 80.08 353 *i* P **P 23 25 57.9 +0.4**
comp=Z,4.6nm,0.7s
LESA Schwarzleotal 80.09 355 *e*P **P 23 25 57.7 +0.2**
comp=Z,5.5nm,0.9s
OZUR 80.10 346 ⇑P **P 23 25 57.1 -0.4**
TURR Turia 80.10 346 ⇓P **P 23 25 58.4 +0.8**
VRI Vrincioaia 80.18 345 ⇓P **P 23 25 59.0 +1.1**
VRI Vrincioaia 80.18 345 ⇓P **P 23 25 59.0 +1.1**
WATA Walderalm 80.23 356 *i* P **P 23 25 58.6 +0.3**
comp=Z,4.8nm,0.6s
MOTA Moosalm 80.24 356 *e*P **P 23 25 57.8 -0.6**
comp=Z,11nm,1.7s

MTN Manton Dam 80.26 234 P **P 23 25 58.5 -0.1**
MTN IAmb IAmb 23 26 04.8
comp=Z,23nm,1.4s
COVR Voineasa-Covas 80.28 346 ⇑P **P 23 25 59.4 +0.9**
DOPR Dopca 80.28 346 ⇓P **P 23 25 59.6 +1.1**
SPBR Spulber 80.29 345 ⇓P **P 23 25 58.7 +0.2**
WTTA Wattenberg 80.30 356 *i* P **P 23 25 59.0 +0.3**
comp=Z,7.2nm,0.7s
DAVA Damuels 80.34 357 *e*P **P 23 25 60.0 +1.0**
comp=Z,6.7nm,1.1s
SQTA Sankt Quirin 80.36 356 *i* P **P 23 25 59.3 +0.3**
comp=Z,6.2nm,0.6s,SNR=7.0
KBA Koelnbreinsper 80.40 355 *i* P **P 23 25 60.0 +0.7**
comp=Z,14nm,0.6s
SIRR Siria 80.48 349 ⇓P **P 23 25 59.2 -0.3**
TLCR 80.50 344 ⇓P **P 23 26 00.1 +0.5**
TLCR 80.50 344 ⇓P **P 23 26 00.1 +0.5**
FETA Feichten 80.58 357 *e*P **P 23 26 00.4 +0.2**
comp=Z,8.2nm,0.9s
CFR Carcaliu 80.62 344 ⇑P **P 23 26 00.3 0.0**
CFR Carcaliu 80.62 344 ⇑P **P 23 26 00.3 0.0**
MLR Muntele Rosu 80.66 346 P **P 23 26 01.1 +0.4**
MLR Muntele Rosu 80.66 346 ⇑P **P 23 26 01.9 +1.2**
MLR Muntele Rosu 80.66 346 ⇑P **P 23 26 01.9 +1.2**
SOKA Soboth 80.69 353 *i* P **P 23 26 00.9 +0.2**
comp=Z,2.8nm,0.7s,SNR=14
PERS Pernice 80.72 353 *e*P **P 23 26 01.0 +0.1**
ABTA Abfaltersbach 80.77 355 *e*P **P 23 26 00.8 -0.3**
comp=Z,2.2nm,0.6s
VOIR 80.85 346 ⇑P **P 23 26 02.0 +0.4**
VOIR 80.85 346 ⇑P **P 23 26 02.0 +0.4**
SRIT Nakonsritamara 80.85 272 P **P 23 26 02.3 +0.4**
SRIT IAmb IAmb 23 26 03.5
comp=Z,16nm,0.6s
GROS Grobnik 80.87 353 *i* P **P 23 26 01.5 -0.2**
OBKA Obir 80.89 354 *i* P **P 23 26 02.5 +0.7**
comp=Z,8.3nm,0.7s,SNR=9.9
SURR Surduc 80.93 348 ⇑P **P 23 26 01.8 -0.1**
ARR Arges 80.98 347 ⇑P **P 23 26 04.2 +2.0**
FUORN Ofenpass-Fuorn 80.99 357 P **P 23 26 03.1 +0.6**
BZS Buzias 81.12 349 ⇑P **P 23 26 02.7 -0.2**
BZS Buzias 81.12 349 ⇑P **P 23 26 02.7 -0.2**
TUE Stuetta 81.17 357 P **P 23 26 04.0 +0.6**
GZR Gura Zlata 81.20 348 ⇑P **P 23 26 03.1 -0.3**
GZR Gura Zlata 81.20 348 ⇑P **P 23 26 03.1 -0.3**
SENIN Lac Senin/Sane 81.32 359 P **P 23 26 04.3 0.0**
SENIN IAmb IAmb 23 26 05.4
comp=Z,15nm,0.8s
GNI Garni 81.53 331 *ce*P **P 23 26 05.3 -0.1**
GNI pmax pmax
comp=Z,38nm,1.7s
GBRS Gornja Briga 81.85 354 *i* P **P 23 26 05.3 -1.4**
MDVR Moldovita 81.94 349 ⇓P **P 23 26 08.4 +1.2**
SSB Saint Sauveur 82.41 1 P **P 23 26 10.2 +0.5**
SSB Saint Sauveur 82.41 1 P **P 23 26 10.2 +0.5**
SSB pmax pmax
comp=Z,11nm,1.3s
ZIMR 82.54 346 ⇑P **P 23 26 11.0 +0.7**
ZIMR 82.54 346 ⇑P **P 23 26 11.0 +0.7**
BNI Bardonecchia 82.63 359 P **P 23 26 12.3 +1.3**
BNI IAmb IAmb 23 26 13.3
comp=Z,13nm,0.7s
BNI Bardonecchia 82.63 359 P **P 23 26 12.3 +1.3**
BNI pmax pmax
comp=Z,13nm,0.7s
ELND Elena 83.18 345 ⇓P **P 23 26 13.9 +0.2**
MSSA Maissana 83.32 357 P **P 23 26 13.8 -0.7**
PDG Podgorica 84.53 350 ⇓P **P 23 26 20.7 +0.2**
WB0 Warramunga Arr 84.73 228 P **P 23 26 21.4 -0.2**
BR131 Keskin Array S 84.82 339 *i* P **P 23 26 20.6 -1.6**
BRTR Keskin Array B 84.82 339 P **P 23 26 22.6 +0.4**
BRTR Keskin Array B 84.82 339 P **P 23 26 22.4 +0.3**
comp=Z,3.2nm,0.8s,baz=23,slow=2.2,SNR=13
BRTR pP **pwP 23 27 14.0 -0.8**
comp=Z,1.9nm,0.8s,baz=32,slow=3.1,SNR=5.2
comp=Z,3.2nm,0.8s
PUK Puka 84.85 349 P **P 23 26 22.1 0.0**
PUK IAmb IAmb 23 26 22.8
comp=Z,20nm,1.5s
WB2 Warramunga Arr 84.91 228 P **P 23 26 22.4 -0.1**
WRA Warramunga Arr 84.91 228 P **P 23 26 22.9 +0.4**
comp=Z,1.1nm,0.6s,baz=32,slow=5.7,SNR=13
comp=Z,1.1nm,0.6s
CEST Esterri de Car 85.01 3 P **P 23 26 22.8 -0.2**
CEST IAmb IAmb 23 26 24.7
comp=Z,4.7nm,1.0s
BNN Bunyan 85.14 337 P **P 23 26 24.0 +0.2**
PBRG Braganca 85.27 9 *e*P **P 23 26 24.0 -0.3**
KIRS Kirsehir-Merke 85.32 338 ⇑P **P 23 26 25.6 +1.0**
INTR Introdacqua 85.41 354 P **P 23 26 25.1 +0.1**
INTR IAmb IAmb 23 26 26.2
comp=Z,10nm,0.7s
TIR Tirane 85.54 349 ⇑P **P 23 26 25.5 0.0**
TIR Tirane 85.54 349 P **P 23 26 25.5 0.0**
POLO Lamas de Olo 85.59 10 *e*P **P 23 26 26.0 +0.1**
PVRL Vila Real 85.70 10 *e*P **P 23 26 26.4 0.0**
PTO Porto 85.73 11 *e*P **P 23 26 26.3 -0.2**
PSI Prapat 85.82 269 P **P 23 26 27.7 +0.3**
PSI pmax pmax
comp=Z,21nm,0.9s
MVO Moncorvo 85.88 10 *e*P **P 23 26 26.9 -0.4**
RPSI Rantau Prapat 85.90 269 P **P 23 26 27.7 +0.1**
RPSI IAmb IAmb 23 26 28.6
comp=Z,21nm,0.9s
FNA Florina 85.92 348 P **P 23 26 27.3 -0.2**
FNA IAmb IAmb 23 26 27.8
comp=Z,13nm,0.6s
FNA Florina 85.92 348 P **P 23 26 27.3 -0.2**
FNA pmax pmax
comp=Z,13nm,0.6s
PVIS Viseu 86.23 10 *e*P **P 23 26 28.7 -0.3**
MTE Manteigas 86.58 10 *e*P **P 23 26 30.1 -0.6**
PCAS Casmilo, Conde 86.82 11 *e*P **P 23 26 31.2 -0.6**
PCBR Castelo Branco 87.14 10 *e*P **P 23 26 32.6 -0.7**
FITZ Fitzroy Crossi 87.47 236 P **P 23 26 35.4 +0.4**
PMRV Marv??o 87.56 10 *e*P **P 23 26 35.4 0.0**
ESBB Sonseca Array 87.63 7 P **P 23 26 35.1 -0.6**
ESDC Sonseca Array 87.63 7 P **P 23 26 35.1 -0.7**
ESDC Sonseca Array 87.63 7 P **P 23 26 35.2 -0.6**
comp=Z,3.6nm,0.6s,baz=346,slow=4.5,SNR=32
comp=Z,3.6nm,0.6s
GSI Gunungsitoli 87.82 269 P **P 23 26 37.2 +0.3**
AS31 Alice Springs 88.36 226 P **P 23 26 39.7 +0.5**
ASAR Alice Springs 88.36 226 P **P 23 26 39.6 +0.4**
ASAR Alice Springs 88.36 226 P **P 23 26 40.1 +1.0**
comp=Z,4.5nm,0.7s,baz=29,slow=4.4,SNR=36
comp=Z,4.5nm,0.7s
PBAR Barrancos 88.83 10 *e*P **P 23 26 41.0 -0.4**
PVAQ Vaqueiros 89.52 11 *e*P **P 23 26 44.6 0.0**
PBDV Barranco-do-Ve 89.66 11 *e*P **P 23 26 45.2 -0.1**
MMAI Mount Meron Ar 90.80 335 P **P 23 26 50.4 -0.3**
comp=Z,0.8nm,0.5s,baz=356,slow=5.0,SNR=5.5
comp=Z,0.8nm,0.5s
TORD Torodi Ar. Bea 114.34 4 PKP **PKiKP 23 32 25.0 -1.2**
comp=Z,0.4nm,0.5s,baz=341,slow=3.0,SNR=5.3
BDFB Brasilia 124.04 70 PKP **PKPdf 23 32 42.6 -2.3**
comp=Z,1.1nm,0.4s,baz=228,slow=5.6,SNR=3.1
CPUP Villa Florida 126.72 86 PKP **PKPdf 23 32 49.3 -0.2**
comp=Z,1.8nm,0.6s,baz=0.0,slow=2.0,SNR=6.4
QSPA South Pole Qui 142.45 180 PKhKP PKPpre 23 33 14.1
comp=Z,4.6nm,0.7s,baz=259,slow=1.1,SNR=24
POGA Pongola 148.11 312 PKPbc **PKPbc 23 33 31.7 -0.2**
LBTB Lobatse 148.53 324 PKPbc **PKPbc 23 33 33.1 -0.1**
LBTB Lobatse 148.53 324 PKP2 **PKPbc 23 33 33.1 -0.1**
MAW Mawson 149.23 219 PKPbc **PKiKP 23 33 34.6 0.0**
comp=Z,6.8nm,0.8s,baz=96,slow=3.0,SNR=18
BELA Belgrano 2 150.88 164 PKPbc **PKPbc 23 33 37.3 +0.1**
BOSA Boshof 151.92 321 PKPbc **PKPbc 23 33 40.7 -0.5**
BOSA Boshof 151.92 321 PKPbc **PKPbc 23 33 40.4 -0.8**
comp=Z,3.6nm,0.6s,baz=9.5,slow=2.3,SNR=14

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*JMA **21** 23:47:01.9±0.1, 24°.0N±1°.0×122°.4E±0°.4, h54km, MV2.2/9, NW OFF ISHIGAKIJIMA IS*
*TAP **21** 23:47:02.3, 24°.03N×122°.44E, h50km, ML2.6, C*
ISC 21 23:47:02.6±1.3, 24°.00N±0°.04×122°.43E±0°.03, h49km±9km, n45, σ0°.67/78, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.16**	**321**	P	**Pn**	**23 47 09.9**	**-0.1**
EOS4				S	**Sn**	**23 47 16.1**	**+0.7**
EOS3	**EOS3**	**0.31**	**341**	P	**Pn**	**23 47 11.4**	**0.0**
EOS3				*e*S	**Sn**	**23 47 18.8**	**+1.0**

EOS2	EOS2	0.46	337	eP	Pn	23 47 13.1	0.0
EOS2				eS	Sn	23 47 21.5	+0.9
YOJ	Yonaguni jima	0.70	49	eP	Pn	23 47 16.1	-0.2
YOJ				eS	Sn	23 47 26.0	-0.3
YOJ	Yonaguni jima	0.70	49	eP	Pn	23 47 15.9	-0.4
YOJ				eS	Sn	23 47 25.9	-0.3
EWUT	Wuta	0.74	307	eP	Pn	23 47 16.6	-0.3
EWUT				eS	Sn	23 47 26.9	-0.3
ETL	Fush Village	0.75	283	eP	Pn	23 47 16.9	-0.1
ETL				eS	Sn	23 47 26.9	-0.5
TWD	Chiawan	0.77	276	eP	Pn	23 47 16.4	-0.7
TWD				eS	Sn	23 47 26.6	-1.1
NACB	Ninganchiao	0.78	283	i P	Pn	23 47 16.6	-0.8
NACB				eS	Sn	23 47 27.4	-0.7
SHUL	Shoufeng	0.82	255	eP	Pn	23 47 17.5	-0.3
SHUL				eS	Sn	23 47 29.2	+0.2
ETM	Tongmen	0.86	268	eP	Pn	23 47 17.6	-0.7
ETM				eS	Sn	23 47 28.8	-1.1
ETLH	Xiulin Townshi	0.89	284	eP	Pn	23 47 18.4	-0.5
ETLH				eS	Sn	23 47 29.9	-0.9
LXIB	Xiulin Townshi	0.93	272	P	Pn	23 47 18.9	-0.6
LXIB				S	Sn	23 47 30.8	-1.1
EGFH	Guangfu	0.97	251	eP	Pn	23 47 19.4	-0.5
EGFH				eS	Sn	23 47 32.7	+0.1
LATG	Datong	0.98	303	P	Pn	23 47 19.8	-0.3
LATG				eS	Sn	23 47 32.6	-0.5
WARBT	Fenglin Townsh	0.99	254	P	Pn	23 47 19.3	-0.9
WARBT				S	Sn	23 47 32.2	-1.0
ENTT	Nioudou	1.01	309	eP	Pn	23 47 20.3	-0.2
ENTT				eS	Sn	23 47 33.9	+0.2
NNSB	Datong	1.05	294	eP	Pn	23 47 20.8	-0.2
NNSB				eS	Sn	23 47 34.1	-0.5
HGSD	Ruisui	1.05	242	eP	Pn	23 47 21.0	+0.1
NNS	Nan Shan	1.06	295	eP	Pn	23 47 21.1	-0.1
NNS				eS	Sn	23 47 34.7	-0.2
WHF	Hehuan Shan	1.07	278	P	Pn	23 47 21.4	-0.2
WHF				eS	Sn	23 47 34.6	-1.1
FUSB	Fushanzhiwuyua	1.08	315	eP	Pn	23 47 21.4	0.0
FUSB				S	Sn	23 47 35.7	+0.3
TIPB	Shuangxi	1.12	331	eS	Sn	23 47 35.5	-0.6
EHY	Hungye	1.12	245	eP	Pn	23 47 21.4	-0.6
OWD	Renai	1.15	268	eP	Pn	23 47 22.0	-0.4
OWD				eS	Sn	23 47 36.5	-0.6
NWLT	Wulai	1.15	313	eS	Sn	23 47 36.6	-0.3
YHNB	Yeheng	1.17	305	eS	Sn	23 47 36.6	-1.0
NSK	Sanguang	1.19	305	eP	Pn	23 47 22.7	-0.1
NSK				eS	Sn	23 47 37.2	-0.8
TDCB	Techi	1.19	283	eS	Sn	23 47 37.8	-0.3
YULB	Yu-li	1.20	240	P	Pn	23 47 22.5	-0.5
YULB				eS	Sn	23 47 37.4	-0.7
WUSB	Renai	1.20	270	P	Pn	23 47 23.1	+0.1
WUSB				eS	Sn	23 47 38.0	-0.3
VWDT	VWDT	1.20	259	P	Pn	23 47 23.0	+0.1
VWDT				S	Sn	23 47 38.1	-0.1
TWF1	Yuli	1.22	239	P	Pn	23 47 23.4	+0.1
IRIF	Iriomote-Funau	1.24	74	P	Pn	23 47 23.4	0.0
NFF	Wufeng Townshi	1.35	298	eP	Pn	23 47 26.0	+0.9
NFF				eS	Sn	23 47 42.2	+0.2
WHP	Taichung City	1.38	282	eP	Pn	23 47 27.2	+1.6
WHP				eS	Sn	23 47 43.2	+0.5
WCS	Beigang Elemen	1.39	273	eP	Pn	23 47 26.1	+0.5
WCS				eS	Sn	23 47 43.1	+0.4
SMLT	Sun Moon Lake	1.40	266	eP	Pn	23 47 25.5	-0.3
SMLT				eS	Sn	23 47 43.1	-0.2
LIOB	Emei	1.44	297	eP	Pn	23 47 27.1	+0.9
LIOB				eS	Sn	23 47 45.4	+1.3
NSTT	Nanjuang	1.45	296	eS	Sn	23 47 44.8	+0.6
JKRS	Kuro-shima	1.46	80	eP	Pn	23 47 27.0	+0.5
ALS	Alishan	1.56	252	eP	Pn	23 47 29.0	+0.8
ALS				eS	Sn	23 47 48.0	+0.5
JIJ	Ishigaki jima	1.61	77	eP	Pn	23 47 28.0	-0.5
TPUB	Ta-pu	1.79	248	eP	Pn	23 47 32.7	+1.6
TPUB				eS	Sn	23 47 54.6	+2.0
JISG	Ishigakijimahi	1.81	71	P	Pn	23 47 31.0	-0.4

KRSZO 21 23:49:56.4±1.5, 48°.08N×20°.21E, h5km, MLv1.7/1, Error ellipse: s-maj=11.4km s-min=5.0km az=141.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSZ	Piszkesteto	0.27	233	Pg	Pb	23 50 02.8	-1.0
	comp=Z,42nm,SNR=10						
PSZ				Lg	Lg	23 50 07.5	
KECS	Kecovo	0.44	24	Pg	Pb	23 50 06.1	-0.7
	comp=Z,44nm,SNR=9.6						
KECS				Lg	Lg	23 50 12.5	
KECS	Kecovo	0.44	24	eSG	Sb	23 50 12.4	-1.3
KECS				eLG	Lg	23 50 43.9	
ABAH	Abaujker	0.72	72	Lg	Lg	23 50 20.6	
VYHS	Vyhne	1.01	295	Lg	Lg	23 50 29.5	
VYHS	Vyhne	1.01	295	eSG	Sb	23 50 30.5	+0.6

KRSZO 21 23:50:27.1±1.1, 48°.03N×20°.25E, h9km±7km, M2.0/13, Error ellipse: s-maj=4.8km s-min=3.0km az=151.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSZ	Piszkesteto	0.26	245	Pg	Pb	23 50 33.4	-0.6
PSZ				Lg	Lg	23 50 37.7	
KECS	Kecovo	0.48	19	Pg	Pg	23 50 37.0	+0.6
KECS				Lg	Lg	23 50 43.2	
KECS	Kecovo	0.48	19	ePG	Pb	23 50 37.3	-0.5
KECS				eSG	Sg	23 50 43.2	+0.4
ABAH	Abaujker	0.72	68	Pg	Pb	23 50 41.6	-0.2
ABAH				Lg	Lg	23 50 51.4	
A270A	Szokolya	0.85	258	Pn	Pb	23 50 44.5	+0.5
A270A				Lg	Lg	23 50 56.8	
A336A	Medovarce	0.86	284	Pg	Pb	23 50 44.8	+0.6
A336A				Lg	Lg	23 50 55.1	
VYHS	Vyhne	1.05	297	Pn	Pg	23 50 47.3	0.0
VYHS				Sn	Sg	23 51 00.9	-0.1
VYHS	Vyhne	1.05	297	ePG	Pb	23 50 47.4	-0.1
VYHS				eSG	Sg	23 51 00.8	-0.2
LANS	Liptovska Anna	1.23	336	Pg	Pg	23 50 50.8	0.0
LANS				Sn	Sb	23 51 06.5	-0.2
LANS	Liptovska Anna	1.23	336	ePG	Pg	23 50 50.9	+0.1
LANS				eSG	Sb	23 51 06.6	-0.1
A338A	Semerovo	1.27	270	Lg	Lg	23 51 09.8	
A335A	Lovce	1.34	289	Sn	Sg	23 51 10.2	-0.1
NIE	Niedzica	1.39	1	Pg	Pg	23 50 55.2	+1.4
NIE				Sn	Sn	23 51 11.4	+0.1
A332A	Rudnianska	1.42	304	Sn	Sg	23 51 12.5	-0.2
CSKK	Cskako	1.50	244	Pg	Pg	23 50 55.9	0.0
STHS	Stebnicka Huta	1.54	25	Pg	Pb	23 50 55.9	+0.2
STHS				Sn	Sg	23 51 15.9	-0.6
STHS	Stebnicka Huta	1.54	25	ePG	Pg	23 50 56.5	-0.1
STHS				eSG	Sb	23 51 15.5	+0.1
STHS				eLG	Lg	23 51 16.3	
TRPA	Tarpa	1.54	85	Pg	Pg	23 50 56.6	-0.1
TRPA				Lg	Lg	23 51 18.3	
A267A	Kaloz	1.61	228	Pg	Pg	23 50 59.0	+1.0
A267A				Lg	Lg	23 51 21.7	
KOLS	Kolonicke sedl	1.62	55	ePG	Pn	23 50 55.7	-0.2
KOLS				eSG	Sg	23 51 19.4	+0.1
KOLS				eLG	Lg	23 51 27.6	
SIRR	Siria	2.01	151	Pn	Pn	23 51 01.7	+0.5
DRGR		2.08	126	Pn	Pn	23 51 03.6	+1.3
MORH	Mrgy, Hungar	2.12	212	Pg	Pg	23 51 09.2	+1.5
MORH				Lg	Lg	23 51 36.8	

IDC 21 23:50:58.3±3.2, 30°.19S×60°.67E, h0km, mb3.7/4, mbtmp3.7/4, MS3.2/1, Error ellipse: s-maj=92.6km s-min=40.7km az=115.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	17.38	201	T	T	00 12 53.9	
	baz=26,slow=74,SNR=175						
H04N1	CROZET ISLANDS	17.39	201	T	T	00 12 55.0	
	baz=26,slow=74,SNR=171						
H04N3	CROZET ISLANDS	17.40	201	T	T	00 12 53.8	
	baz=26,slow=74,SNR=184						
H08S1	Diego Garcia H	25.02	29	T	T	00 22 11.5	
	baz=204,slow=75,SNR=9.5						
H08S2	Diego Garcia H	25.02	29	T	T	00 22 01.1	
	baz=204,slow=75,SNR=5.4						
H08S3	Diego Garcia H	25.04	29	T	T	00 22 05.8	
	baz=204,slow=75,SNR=7.0						
BOSA	Boshof	30.82	264	LR	LR	00 06 39.1	
	comp=Z,39nm,19.3s,baz=196,slow=30						
QSPA	South Pole Qui	59.97	180	P	P	00 01 06.4	+0.1
	0.7nm,0.5s,baz=274,slow=4.0,SNR=3.2						
	0.7nm,0.5s						
CMAR	Chiang Mai Arr	60.81	42	P	P	00 01 12.3	-0.1
	0.9nm,0.3s,baz=218,slow=6.8,SNR=0.9						
	0.9nm,0.3s						
ASAR	Alice Springs	64.62	104	P	P	00 01 38.0	0.0
	0.2nm,0.4s,baz=233,slow=6.9,SNR=2.1						
	0.2nm,0.4s						
WRA	Warramunga Arr	66.51	100	P	P	00 01 50.4	+0.1
	0.4nm,0.8s,baz=243,slow=6.0,SNR=4.8						
	0.4nm,0.8s						

IDC 21 23:52:40.0±2.1, 59°.30S×24°.30W, h0km, mb4.1/1, mbtmp4.1/1, Error ellipse: s-maj=111.3km s-min=73.6km az=119.0

ISC 21 23:52:41.3±1.8, 59°.4S±0°.2×24°.0W±0°.6, h10km, n8, σ0§36/8, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.01	156	⇑P	Pn	23 55 46.4	+0.6
	comp=Z,8.9nm,0.3s						
VNA3	Neumayer Olymp	13.22	159	⇑P	Pn	23 55 48.7	-0.1
	comp=Z,4.6nm,0.2s						
VNA2	Neumayer--Watz	13.40	156	⇑P	Pn	23 55 51.0	-0.3
	comp=Z,9.1nm,0.4s,baz=330,slow=16						
SNAA	Sanae	14.95	154	⇑P	Pn	23 56 12.3	-0.1
	comp=Z,258nm,0.4s						
TROLL	Troll, Antarti	16.45	151	⇑P	Pn	23 56 31.6	-0.4
	comp=Z,331nm,0.4s						
TORD	Torodi Ar. Bea	75.28	26	P	P	00 04 24.3	0.0
	comp=Z,0.9nm,0.5s,baz=204,slow=6.1,SNR=18						
	comp=Z,0.9nm,0.5s						
SONM	Songino Array	149.15	90	PKPbc	PKPbc	00 12 29.2	+0.2
	comp=Z,1.1nm,0.9s,baz=217,slow=3.6,SNR=6.0						
ILAR	Eielson Array	153.56	306	PKPbc	PKiKP	00 12 38.4	-0.1
	comp=Z,0.3nm,0.9s,baz=74,slow=1.3,SNR=4.1						

IDC 22 00:11:12.1±0.6, 13°.90N×120°.97E, h128km±2km, mb3.6/16, mbtmp4.0/16, MS3.5/1, Error ellipse: s-maj=33.5km s-min=13.3km az=65.0

ISC 22 00:11:12.3±1.0, 13°.9N±0°.2×121°.0E±0°.2, h131km±7km, n18, σ0§61/18, mb3.8/16, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City	0.21	355	P	Pn	00 11 30.2	-0.3
	1μm,0.4s,baz=251,slow=1.9,SNR=32						
TGY				LR	LR	00 11 38.1	
	comp=Z,218nm,19.7s,baz=244,slow=131						
TGY				S	Sn	00 11 44.4	+0.2
	2μm,0.6s,baz=91,slow=22,SNR=23						
CMAR	Chiang Mai Arr	21.62	285	P	P	00 15 52.1	0.0
	0.9nm,0.3s,baz=95,slow=7.4,SNR=7.9						
	0.9nm,0.3s						
SONM	Songino Array	35.95	343	P	P	00 18 01.0	+0.7
	1.2nm,0.6s,baz=165,slow=9.6,SNR=12						
	1.2nm,0.6s						
WRA	Warramunga Arr	36.11	158	P	P	00 18 01.5	-0.3
	0.3nm,0.4s,baz=340,slow=8.9,SNR=8.4						
	0.3nm,0.4s						
ASAR	Alice Springs	39.42	161	P	P	00 18 30.5	+0.9
	0.4nm,0.4s,baz=337,slow=6.5,SNR=10						
	0.4nm,0.4s						
MKAR	Makanchi Array	46.03	323	P	P	00 19 23.1	+0.4
	0.5nm,0.4s,baz=120,slow=8.6,SNR=10						
	0.5nm,0.4s						
ZALV	Zalesovo Beam	49.00	332	P	P	00 19 45.5	0.0
	1.4nm,0.4s,baz=123,slow=6.9,SNR=11						
	1.4nm,0.4s						
KURBB	Kurchatov Arra	50.17	326	P	P	00 19 54.9	+0.5
	3.2nm,0.8s,baz=132,slow=7.9,SNR=30						
	3.2nm,0.8s						
BVAR	Borovoye Array	55.76	326	P	P	00 20 35.6	+0.2
	1.3nm,0.6s,baz=110,slow=8.5,SNR=10						
	1.3nm,0.6s						
NRIK	Noril'sk	59.28	347	P	P	00 20 59.8	0.0
	1.2nm,0.5s,baz=116,slow=2.6,SNR=4.3						
	1.2nm,0.5s						
ILAR	Eielson Array	78.47	26	P	P	00 22 58.3	-0.3
	0.2nm,0.6s,baz=272,slow=4.5,SNR=2.3						
	0.2nm,0.6s						
ARCES	ARCESS Array B	79.00	339	P	P	00 23 01.5	+0.1
	6.5nm,1.1s,baz=66,slow=4.2,SNR=4.9						
	6.5nm,1.1s						
BRTR	Keskin Array B	79.23	308	P	P	00 23 03.1	-0.3
	0.4nm,0.7s,baz=75,slow=11,SNR=1.5						
	0.4nm,0.7s						
SPITS	Spitsbergen Ar	79.45	348	P	P	00 23 04.4	+0.7
	11nm,1.0s,baz=95,slow=7.7,SNR=1.7						
	11nm,1.0s						
FINES	FINESS Array B	80.24	331	P	P	00 23 07.1	-1.1
	1.3nm,0.8s,baz=99,slow=8.7,SNR=0.9						
	1.3nm,0.8s						
AKASG	Malin Array Be	80.48	320	LR	LR	00 59 13.5	
	comp=Z,24nm,18.6s,baz=276,slow=36						
HFS	Hagfors	86.43	331	P	P	00 23 39.3	-0.6
	1.2nm,0.6s,baz=107,slow=7.7,SNR=2.0						
	1.2nm,0.6s						
NOA	NORSAR Array B	87.20	333	P	P	00 23 42.7	-1.1
	0.4nm,0.6s,baz=76,slow=8.0,SNR=2.2						
	0.4nm,0.6s						

IDC 22 00:11:53.1±1.3, 30°.70S×178°.48W, h135km±12km, mb3.8/3, mbtmp4.3/5, Error ellipse: s-maj=32.2km s-min=17.7km az=120.0

ISC 22 00:11:52.8±0.8, 30°.7S±0°.1×178°.6W±0°.2, h124km, n11, σ1§49/13, mb4.2/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.58	23	P	Pn	00 12 21.8	+0.3
	1μm,0.3s,baz=270,slow=19,SNR=27						
RAO				S	Sn	00 12 43.7	+0.5
	1μm,0.2s,baz=203,slow=23,SNR=6.0						
URZ	Urewera	8.30	204	P	Pn	00 13 49.5	-0.8
	5.8nm,0.9s,baz=30,slow=4.1,SNR=14						
URZ				S	Sn	00 15 22.0	-0.3
	14nm,0.3s,baz=163,slow=19,SNR=16						
RPZ	Rata Peaks	15.34	209	P	P	00 15 24.0	-0.5
	5.7nm,0.3s,baz=18,slow=13,SNR=7.4						
RPZ				S	Sn	00 18 00.7	-12
	2.6nm,0.3s,baz=229,slow=20,SNR=1.5						
STKA	Stephens Creek	33.88	258	P	P	00 18 25.9	+2.2
	3.4nm,0.6s,baz=90,slow=9.9,SNR=6.8						
	3.4nm,0.6s						
ASAR	Alice Springs	42.55	268	P	P	00 19 36.2	-0.2
	0.7nm,0.4s,baz=104,slow=7.4,SNR=12						
	0.7nm,0.4s						
WRA	Warramunga Arr	43.57	273	P	P	00 19 44.1	-0.5
	1.9nm,0.4s,baz=111,slow=8.0,SNR=31						
	1.9nm,0.4s						
QSPA	South Pole Qui	59.39	180	P	P	00 21 44.3	+2.4
	1.0nm,0.3s,baz=41,slow=5.3,SNR=5.0						
FINES	FINESS Array B	145.25	339	PKPbc	PKPdf	00 31 12.4	-2.6
	1.7nm,0.3s,baz=41,slow=4.9,SNR=20						
MMAI	Mount Meron Ar	151.08	284	PKPbc	PKPbc	00 31 31.1	-0.4
	0.9nm,0.4s,baz=94,slow=7.0,SNR=6.1						
AKASG	Malin Array Be	151.22	322	PKPbc	PKPbc	00 31 29.2	-1.9
	0.1nm,0.3s,baz=58,slow=1.8,SNR=4.1						
TORD	Torodi Ar. Bea	162.51	181	PKPab	PKPab	00 32 28.3	-0.5
	0.7nm,0.7s,baz=179,slow=3.9,SNR=5.8						

IDC 22 00:36:55.4±4.3, 21°.13S×172°.31E, h62km±53km, mb3.7/3, mbtmp4.0/4, ML5.3/1, MS3.1/10, Error ellipse: s-maj=256.2km s-min=26.8km az=153.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.38	59	P	Pn	00 38 27.1	+0.2
	2.3nm,0.3s,baz=222,slow=15,SNR=12						
MSVF				LR	LR	00 40 22.9	
	comp=Z,343nm,18.4s,baz=284,slow=32						
	4.2nm,0.3s						
HNR	Honiara	16.64	312	LR	LR	00 45 14.7	
	comp=Z,32nm,20.1s,baz=319,slow=30						
URZ	Urewera	17.57	167	LR	LR	00 45 59.0	
	comp=Z,28nm,18.1s,baz=80,slow=31						
CTA	Charters Tower	24.40	268	LR	LR	00 50 28.5	
	comp=Z,59nm,18.2s,baz=102,slow=33						
RAR	Rarotonga	26.02	95	LR	LR	00 50 37.3	
	comp=Z,21nm,19.1s,baz=267,slow=32						
STKA	Stephens Creek	29.40	242	LR	LR	00 53 53.4	
	comp=Z,28nm,19.7s,baz=32,slow=35						
WRA	Warramunga Arr	35.52	265	P	P	00 43 45.6	-1.0
	1.1nm,0.9s,baz=101,slow=8.6,SNR=5.3						
	1.1nm,0.9s						
ASAR	Alice Springs	35.53	259	P	P	00 43 47.0	+0.4
	3.6nm,0.7s,baz=90,slow=9.0,SNR=31						
ASAR				LR	LR	00 57 28.8	
	comp=Z,40nm,21.2s,baz=92,slow=35						
	3.6nm,0.7s						
FITZ	Fitzroy Crossi	43.95	266	LR	LR	01 02 07.0	
	comp=Z,37nm,19.6s,baz=108,slow=34						
NWAO	Narrogin (SRO)	49.95	244	LR	LR	01 05 41.2	
	comp=Z,52nm,19.4s,baz=224,slow=35						
KAPI	Kappang	53.37	280	LR	LR	01 08 28.1	
	comp=Z,17nm,20.8s,baz=174,slow=36						
ILAR	Eielson Array	91.20	16	P	P	00 49 51.6	-1.5
	0.4nm,0.7s,baz=222,slow=5.3,SNR=3.0						
	0.4nm,0.7s						
GERES	GERESS Array B	147.48	333	PKPbc	PKPbc	00 56 33.0	+0.6
	0.8nm,0.7s,baz=33,slow=3.8,SNR=5.2						

GUC 22 00:49:34.8±0.6, 23°.86S×68°.13W, h145km±4km, ML3.8
IDC 22 00:49:46.4±8.8, 22°.95S×67°.39W, h209km±69km, mb3.4/1, mbtmp3.9/4, MS2.7/1, Error ellipse: s-maj=99.3km s-min=37.3km az=6.0

ISC 22 00:49:33.3±1.0, 23°.91S±0°.04×68°.04W±0°.05, h147km±10km, n17, σ1§24/26, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	San Pedro de A	0.96	352	eP	Pn	00 49 58.3	+0.5
AF01				eS	Sn	00 50 15.7	-0.8
AF01				IAML		00 50 17.1	
	comp=E,2μm,0.2s						
GO02	Mina Guanaco	1.89	228	eP	Pn	00 50 08.4	+1.3
GO02				eS	Sn	00 50 34.1	+0.9
GO02				IAML		00 50 36.2	
	comp=N,1μm,0.3s						
PB14	IPOC Station P	2.27	251	eP	Pn	00 50 12.6	+0.9
PB14				eS	Sn	00 50 41.4	0.0
PB09	IPOC Station P	2.38	332	eP	Pn	00 50 14.5	+1.6
PB09				i S	Sn	00 50 43.0	-0.4
PB09				IAML		00 50 49.6	
	comp=E,263nm,0.7s						
SLA	San Lorenzo	2.45	110	eP	Pn	00 50 15.0	+1.2
PB04	IPOC Station P	2.50	308	eP	Pn	00 50 15.1	+0.7
PB04				eS	Sn	00 50 44.9	-1.1
PB04				IAML		00 50 48.7	
	comp=N,356nm,0.1s						
YJA	Yavi	2.90	54	eP	Pn	00 50 20.8	+1.1
YJA				eS	Sn	00 50 54.7	-0.7
PB01	IPOC Station P	3.15	335	eP	Pn	00 50 23.2	+0.7
PB01				i S	Sn	00 50 59.4	-1.2
PB01				IAML		00 51 03.8	
	comp=N,287nm,0.5s						
AC01	Pan de Azucar	3.22	226	eP	Pn	00 50 23.2	-0.1
AC01				i S	Sn	00 51 01.2	-0.8
TA01	Diego Aracena	3.87	329	eP	Pn	00 50 31.6	-0.2
PB08	IPOC Station P	3.89	344	eP	Pn	00 50 33.5	+1.1
AC06	Mina Casimiro	4.02	211	eP	Pn	00 50 32.7	-1.0
GO03	Copiapo	4.17	208	eP	Pn	00 50 35.2	-0.5
GO03				eS	Sn	00 51 22.5	-1.8
LPAZ	La Paz	7.58	359	P	Pn	00 51 23.4	+1.7
	comp=N,1.0nm,0.3s,baz=178,slow=14,SNR=8.6						
SIV	San Ignacio	10.24	41	P	Pn	00 51 53.6	-3.1
	comp=N,2.0nm,0.4s,baz=219,slow=13,SNR=16						
SIV				S	Sn	00 53 37.9	-12
	comp=N,0.3nm,0.4s,baz=127,slow=22,SNR=1.4						
SIV				LR	LR	00 55 28.8	
	comp=N,50nm,20.0s,baz=176,slow=38						
BDFB	Brasilia	20.54	70	P	P	00 54 00.1	-0.4
	comp=N,6.1nm,0.7s,baz=250,slow=9.5,SNR=9.2						
TORD	Torodi Ar. Bea	77.43	69	P	P	01 01 14.0	+1.3
	comp=N,0.5nm,0.4s,baz=257,slow=5.6,SNR=11						
	comp=N,0.5nm,0.4s						

GUC 22 00:50:33.3±0.7, 19°.64S×69°.36W, h113km±4km, ML3.1, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	Chusmiza	0.16	102	eP	Pn	00 50 49.7	+0.1
GO01				eS	Sn	00 51 01.3	-0.5
GO01				IAML		00 51 03.2	
	comp=E,3μm,0.2s						
PB08	IPOC Station P	0.54	159	eP	Pn	00 50 51.5	+0.3
PB08				i S	Sn	00 51 04.7	0.0
PB08				IAML		00 51 06.1	
	comp=N,543nm,0.3s						
PX03	IPOC Station P	0.81	199	eP	Pn	00 50 52.1	-0.9
PX03				eS	Sn	00 51 06.6	-1.3
PX03				IAML		00 51 07.8	
	comp=N,655nm,0.1s						
TA02	Huaiquique	0.96	229	eP	Pn	00 50 53.8	-0.6
TA02				eS	Sn	00 51 09.8	-0.5
TA02				IAML		00 51 12.2	
	comp=E,1μm,0.1s						
PX02	IPOC Station P	1.04	310	eP	Pn	00 50 53.8	-1.5
PX02				eS	Sn	00 51 08.9	-2.9
TA01	Diego Aracena	1.21	220	eP	Pn	00 50 56.1	-0.8
TA01				eS	Sn	00 51 13.2	-1.6
PB12	IPOC Station P	1.37	318	eP	Pn	00 50 58.1	-0.8
PB12				i S	Sn	00 51 16.5	-1.7
PB12				IAML		00 51 17.6	
	comp=E,272nm,0.2s						
PB01	IPOC Station P	1.41	185	eP	Pn	00 50 58.6	-0.7
PB01				eS	Sn	00 51 18.5	-0.6
PB01				IAML		00 51 19.5	
	comp=E,459nm,0.3s						
AP01	Chacalluta	1.56	323	eP	Pn	00 51 00.7	-0.4
AP01				eS	Sn	00 51 21.4	-0.8
AP01				IAML		00 51 26.5	
	comp=N,278nm,0.1s						
PB18	Visviri	2.04	357	eP	Pn	00 51 10.4	+2.9
PB09	IPOC Station P	2.15	177	eS	Sn	00 51 35.4	-0.1
PB09				IAML		00 51 39.4	
	comp=E,88nm,0.2s						

RSNC 22 00:53:23.2±0.0, 7°.N±1°.×7°.3W±°, h149km±2km, M3.0, mb3.6, mB4.5, ML2.6, Mw(mB)3.7, Northern Colombia

| Code | Station Name | Δ° | AZ°

PTGC	**Puerto Gaitan,**	**2.79 159**	P	Pn	00 54 06.2	-1.7
PTGC			S	Sn	00 54 39.3	-3.2
CBOC	**Ciudad Bolivar**	**3.01 252**	P	Pn	00 54 11.2	+0.4
CBOC			S	Sn	00 54 48.5	+0.9
ARGC	**Ariguani, Magd**	**3.21 340**	P	Pn	00 54 13.5	+0.2
ARGC			S	Sn	00 54 51.6	-0.4
PRAC	**Prado**	**3.54 209**	P	Pn	00 54 16.8	-0.8
PRAC			S	Sn	00 54 58.8	-0.9
ORTC	**Ortega, Tolima**	**3.57 216**	P	Pn	00 54 17.4	-0.5
ORTC			S	Sn	00 55 00.3	-0.1
APAC	**Apartado, Choc**	**3.58 288**	P	Pn	00 54 16.5	-1.4
APAC			S	Sn	00 54 59.6	-0.8
SJCC	**San Jacinto, C**	**3.66 327**	P	Pn	00 54 17.1	-2.0
SJCC			S	Sn	00 54 58.4	-4.1
URMC	**La Uribe, Meta**	**3.76 199**	P	Pn	00 54 20.2	-0.2
URMC			S	Sn	00 55 04.2	-0.6
CRJC	**Cerrejon, Guaj**	**4.18 3**	P	Pn	00 54 23.4	-2.5
CRJC			S	Sn	00 55 11.5	-3.2
MACC	**Macarena, Meta**	**4.70 189**	P	Pn	00 54 29.8	-2.9
MACC			S	Sn	00 55 21.9	-4.9
URIC	**Uribia, Colomb**	**4.98 13**	P	Pn	00 54 33.8	-2.6
URIC			S	Sn	00 55 32.7	-0.8
JAMC	**Jamundi, Valle**	**5.02 225**	P	Pn	00 54 38.6	+1.5
	5.3nm,2.4s					
FLOC	**Florencia**	**5.77 206**	P	Pn	00 54 46.0	-1.0
	9.8nm,0.8s					
BBAC	**Balboa, Cauca**	**6.28 221**	P	Pn	00 54 54.1	+0.2

BGR ***22*** *01:07:20.1, 17°.24S×171°.41W, h47km±1km*
NEIC ***22*** *01:07:21.7±1.7, 16°.23S±0°.06×172°.80W±0°.08, h10km±1km, mb4.7/42, Error ellipse: s-maj=13.5km s-min=10.0km az=106.0*
IDC ***22*** *01:07:24.5±0.8, 16°.42S×173°.34W, h43km±5km, mb4.2/11, mbtmp4.5/12, MS3.6/30, Error ellipse: s-maj=42.2km s-min=13.9km az=147.0*
ISC 22 01:07:22.8±0.6, 16°.33S±0°.07×173°.04W±0°.07, h35km±3km, h35km:pP-P, n219, σ1§38/196, mb4.6/35, MS3.7/28, 25C-17D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.70**	**27**	Pn	**Pn**	**01 08 01.7**	**-2.1**
AFI				Sn	**Sn**	**01 08 32.8**	**-2.6**
NIUE	**Niue**	**4.03**	**133**		**Pn**	**01 08 22.1**	**0.0**
FUTU	**Fugatoga**	**5.30**	**292**	Pn	**Pn**	**01 08 43.7**	**+4.1**
MSVF	**Nonsavu**	**8.64**	**259**	Pn	**Pn**	**01 09 29.2**	**+3.8**
MSVF	**Nonsavu**	**8.64**	**259**	P	**Pn**	**01 09 28.0**	**+2.6**
	13nm,0.2s,baz=90,slow=20,SNR=2.4						
MSVF				LR	LR	01 12 15.5	
	comp=Z,680nm,18.9s,baz=82,slow=35						
RAR	**Rarotonga**	**13.46**	**113**	P	**Pn**	**01 10 32.0**	**+0.6**
	5.9nm,0.3s,baz=164,slow=22,SNR=3.3						
RAR				LR	LR	01 14 26.7	
	comp=Z,216nm,21.3s,baz=302,slow=31						
DZM	**Mont Dzumac**	**20.19**	**250**		Pn	01 11 57.9	+1.1
DZM				IAmb	IAmb	01 12 01.3	
	comp=Z,38nm,0.8s						
DZM	**Mont Dzumac**	**20.19**	**250**	*e*P	Pn	01 11 57.7	+0.9
DZM							
	comp=Z,91nm,0.9s						
	comp=Z,589nm,25.7s			*e*LR	LR	01 16 51.3	
DZM	**Mont Dzumac**	**20.19**	**250**	P	**P**	**01 11 54.3**	**-0.4**
	comp=Z,7.2nm,0.8s,baz=98,slow=17						
ONTNC	**Ouen Toro**	**20.24**	**250**	P	Pn	01 11 57.8	+0.6
ONTNC				IAmb	IAmb	01 12 01.5	
	comp=Z,30nm,1.0s						
PPT	**Papeete**	**22.47**	**97**	LR	LR	01 18 45.4	
	comp=Z,107nm,20.6s,baz=240,slow=30						
PPT2	**Papeete2**	**22.47**	**97**	*e*P	**P**	**01 12 15.3**	**-4.0**
	comp=Z,40nm,26.5s						
PPT2				*e*S	S	01 16 10.0	-14
	comp=Z,102nm,26.2s						
PPT2				*e*LR	LR	01 17 37.2	
	comp=Z,181nm,26.5s						
PPT2				*e*LR	LR	01 17 42.8	
	comp=Z,232nm,23.8s						
TBI	**Tubuai**	**23.23**	**111**	*e*P	P	01 12 18.9	-8.1
	comp=Z,424nm,35.0s						
TBI				*e*S	S	01 16 24.4	-12
	comp=Z,574nm,30.2s						
TBI				*e*LR	LR	01 18 03.3	
	comp=Z,1μm,26.2s						
URZ	**Urewera**	**23.50**	**200**	LR	LR	01 20 52.0	
	comp=Z,106nm,21.1s,baz=114,slow=35						
RTZ	**Ruatahuna**	**23.87**	**200**	P	**P**	**01 12 35.5**	**+2.4**
RTZ				IAmb	IAmb	01 13 14.6	
	comp=Z,19nm,1.1s						
BKZ	**Black Stump Fm**	**24.52**	**200**	P	**P**	**01 12 40.9**	**+1.7**
BKZ				IAmb	IAmb	01 13 10.6	
	comp=Z,15nm,1.2s						
HNR	**Honiara**	**27.20**	**281**	LR	LR	01 22 06.5	
	comp=Z,422nm,21.4s,baz=114,slow=33						
QRZ	**Quartz Range**	**27.42**	**204**	P	**P**	**01 13 07.9**	**+2.6**
TAOE	**Nuku Hiva Isla**	**32.91**	**81**	*e*LR	LR	01 22 28.1	
	comp=Z,152nm,24.9s						
ARMA	**Armidale**	**35.17**	**240**	P	**P**	**01 14 11.5**	**-2.2**
ARMA				IAmb	IAmb	01 14 40.4	
	comp=Z,15nm,1.4s						
CTA	**Charters Tower**	**38.78**	**258**	LR	LR	01 29 01.5	
	comp=Z,90nm,18.2s,baz=103,slow=34						
H11N3	**WAKE ISLAND Hy**	**40.89**	**330**	T	T	01 57 47.5	
	baz=150,slow=76,SNR=15						
H11N1	**WAKE ISLAND Hy**	**40.90**	**330**	T	T	01 57 44.8	
	baz=150,slow=76,SNR=22						
H11N2	**WAKE ISLAND Hy**	**40.91**	**330**	T	T	01 57 48.8	
	baz=150,slow=76,SNR=20						
COEN	**Coen**	**42.28**	**267**	P	**P**	**01 15 11.6**	**-1.7**
STKA	**Stephens Creek**	**43.88**	**241**	P	**P**	**01 15 24.5**	**-1.7**
STKA	**Stephens Creek**	**43.88**	**241**	P	**P**	**01 15 24.2**	**-1.9**
	comp=Z,4.6nm,0.6s,baz=84,slow=9.8,SNR=5.1						
STKA				LR	LR	01 31 35.2	
	comp=Z,36nm,20.3s,baz=34,slow=33						
	comp=Z,4.6nm,0.6s						
JAY	**Jayapura**	**47.52**	**282**	LR	LR	01 33 11.3	
	comp=Z,41nm,21.9s,baz=260,slow=33						
WB0	**Warramunga Arr**	**49.94**	**258**	P	**P**	**01 16 11.7**	**-2.0**
WB0				IAmb	IAmb	01 16 52.3	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**49.97**	**257**	P	**P**	**01 16 12.1**	**-1.8**
WB2				IAmb	IAmb	01 16 15.2	
	comp=Z,5.9nm,1.1s						
WRA	**Warramunga Arr**	**49.98**	**257**	P	**P**	**01 16 11.7**	**-2.2**
WRA	**Warramunga Arr**	**49.98**	**257**	P	**P**	**01 16 11.4**	**-2.5**
	comp=Z,2.2nm,0.8s,baz=96,slow=6.8,SNR=20						
WRA				PcP	**PcP**	**01 17 33.9**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=89,slow=3.5,SNR=6.1						
WRA				LR	LR	01 36 10.2	
	comp=Z,107nm,19.0s,baz=102,slow=35						
	comp=Z,2.2nm,0.8s						
AS31	**Alice Springs**	**50.16**	**253**	P	**P**	**01 16 13.5**	**-1.8**
AS31				IAmb	IAmb	01 16 15.9	
	comp=Z,4.0nm,0.7s						
ASAR	**Alice Springs**	**50.16**	**253**	P	**P**	**01 16 13.1**	**-2.2**
ASAR	**Alice Springs**	**50.16**	**253**	P	**P**	**01 16 12.6**	**-2.8**
	comp=Z,13nm,0.6s,baz=90,slow=7.5,SNR=76						
ASAR				pP	**pP**	**01 16 25.2**	**+0.2**
	comp=Z,8.9nm,0.6s,baz=84,slow=8.9,SNR=9.2						
ASAR				PcP	**PcP**	**01 17 34.9**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=111,slow=3.8,SNR=1.5						
ASAR				LR	LR	01 36 31.7	
	comp=Z,102nm,18.9s,baz=97,slow=35						
	comp=Z,13nm,0.6s						
FORT	**Forrest**	**55.31**	**244**	P	**P**	**01 16 50.5**	**-2.8**
FITZ	**Fitzroy Crossi**	**58.36**	**259**	LR	LR	01 41 28.1	
	comp=Z,100nm,18.5s,baz=96,slow=35						
MBWA	**Marble Bar**	**63.44**	**254**	P	**P**	**01 17 47.8**	**-1.8**
NWAO	**Narrogin (SRO)**	**64.47**	**241**	LR	LR	01 45 54.8	
	comp=Z,43nm,18.4s,baz=276,slow=36						
MJAR	**Matsushiro Arr**	**69.87**	**320**	LR	LR	01 42 38.9	
	comp=Z,34nm,20.9s,baz=163,slow=30						
ASAJ	**Asahikawa**	**72.51**	**328**	P	**P**	**01 18 47.1**	**+1.1**
	comp=Z,7.4nm,0.6s,baz=124,slow=18,SNR=4.5						
ASAJ				LR	LR	01 44 13.9	
	comp=Z,24nm,21.4s,baz=241,slow=30						
	comp=Z,7.4nm,0.6s						
JNU	**Nakatsue**	**72.69**	**313**	LR	LR	01 43 07.3	
	comp=Z,32nm,21.1s,baz=142,slow=30						
LPIG	**La Paz**	**73.23**	**58**	LR	LR	01 42 35.9	
	comp=Z,49nm,19.3s,baz=219,slow=29						
PFO	**Pinyon Flats O**	**73.30**	**47**	LR	LR	01 43 15.1	
	comp=Z,54nm,19.2s,baz=239,slow=29						
PETK	**Petropavlovsk-**	**73.62**	**342**	P	**P**	**01 18 53.4**	**+1.0**
	comp=Z,10.0nm,0.8s,baz=109,slow=9.4,SNR=7.8						
	comp=Z,10.0nm,0.8s						
QSPA	**South Pole Qui**	**73.72**	**180**	LR	LR	01 45 29.0	
	comp=Z,19nm,20.6s,baz=42,slow=31						
GSC	**Goldstone, Bar**	**73.99**	**45**	P	**P**	**01 18 56.3**	**+1.2**
GSC				IAmb	IAmb	01 19 11.3	
	comp=Z,6.0nm,1.1s						
YBH	**Yreka Blue Hor**	**74.13**	**37**	LR	LR	01 43 44.5	
	comp=Z,69nm,19.8s,baz=242,slow=29						
NVAR	**Mina Array Bea**	**74.79**	**42**	P	**P**	**01 19 02.6**	**+2.8**
	comp=Z,2.6nm,0.8s,baz=230,slow=9.0,SNR=11						
NVAR				pP	**PcP**	**01 19 15.2**	**+1.5**
	comp=Z,4.6nm,0.7s,baz=233,slow=8.9,SNR=13						
NVAR				LR	LR	01 44 42.2	
	comp=Z,78nm,20.9s,baz=270,slow=30						
	comp=Z,2.6nm,0.8s						
KVN	**Kaiserville**	**75.28**	**41**		**P**	**01 19 03.9**	**+1.3**
J04A	**Umpqua Nationa**	**75.44**	**36**	P	**P**	**01 19 04.4**	**+1.0**
KDAK	**Kodiak Island**	**75.76**	**11**	LR	LR	01 44 27.4	
	comp=Z,62nm,20.1s,baz=26,slow=29						
SHPR	**Sheep Range**	**75.77**	**45**		**P**	**01 19 07.2**	**+1.8**
Y14A	**Wickenburg**	**75.91**	**48**	P	**P**	**01 19 07.8**	**+1.6**
Y14A				IAmb	IAmb	01 19 23.4	
	comp=Z,5.3nm,1.0s						
PRN	**Pahroc Range**	**76.33**	**44**		**P**	**01 19 09.5**	**+0.9**
PRN				IAmb	IAmb	01 19 25.9	
	comp=Z,4.1nm,0.8s						
X16A	**Lo Mia Camp, P**	**77.27**	**48**	P	**P**	**01 19 14.2**	**+0.2**
X16A				IAmb	IAmb	01 19 31.3	
	comp=Z,4.2nm,0.8s						
M14K	**Bethel**	**77.33**	**6**		**P**	**01 19 15.3**	**+1.9**
SPR3	**Spring Creek 3**	**77.67**	**43**		**P**	**01 19 16.7**	**+0.4**
SPR3				IAmb	IAmb	01 19 32.6	
	comp=Z,4.6nm,1.0s						
PSUT	**Pine Spring**	**77.74**	**44**		**P**	**01 19 17.9**	**+1.3**
PSUT				IAmb	IAmb	01 19 33.3	
	comp=Z,5.2nm,0.8s						
ELK	**Elko**	**78.05**	**41**		**P**	**01 19 19.7**	**+1.4**
ELK	**Elko**	**78.05**	**41**	LR	LR	01 46 10.3	
	comp=Z,66nm,19.3s,baz=262,slow=30						
PKCU	**Pink Cliffs**	**78.20**	**45**		**P**	**01 19 20.2**	**+0.9**
USRK	**Ussuriysk Ar.**	**78.34**	**323**	LR	LR	01 47 27.3	
	comp=Z,31nm,20.6s,baz=156,slow=31						
G08A	**Pilot Rock**	**78.48**	**36**	P	**P**	**01 19 21.8**	**+1.4**
G08A				IAmb	IAmb	01 19 37.1	
	comp=Z,4.7nm,0.8s						
MSU	**Marysvale**	**78.84**	**44**		**P**	**01 19 24.5**	**+1.8**
F10A	**Beach Ranch, E**	**79.86**	**36**	P	**P**	**01 19 28.6**	**+0.6**
F10A				IAmb	IAmb	01 19 44.0	
	comp=Z,6.3nm,0.8s						
HLID	**Hailey**	**80.13**	**39**	P	**P**	**01 19 30.9**	**+1.4**
HVU	**Hansel Valley**	**80.17**	**41**	P	**P**	**01 19 31.0**	**+1.2**
HVU				IAmb	IAmb	01 19 46.3	
	comp=Z,3.9nm,0.7s						
VHRN	**Van Horn**	**80.42**	**54**	P	**P**	**01 19 32.3**	**+1.0**
TXAR	**Lajitas Array**	**80.84**	**56**	P	**P**	**01 19 35.8**	**+2.2**
	comp=Z,0.4nm,0.8s,baz=217,slow=10,SNR=4.7						
TXAR				pP	**pwP**	**01 19 49.2**	**+2.0**
	comp=Z,0.9nm,0.9s,baz=212,slow=8.4,SNR=4.1						
TXAR				LR	LR	01 47 59.5	
	comp=Z,32nm,18.5s,baz=206,slow=30						
	comp=Z,0.4nm,0.8s						
NJ2	**Nanjing**	**81.00**	**307**	*e*P	**P**	**01 19 33.8**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,330nm,4.3s						
ANMO	**Albuquerque**	**81.13**	**50**	LR	LR	01 46 44.7	
	comp=Z,38nm,21.3s,baz=93,slow=29						
MA2	**Magadan**	**81.16**	**342**	LR	LR	01 51 45.9	
	comp=Z,22nm,20.1s,baz=134,slow=33						
NEW	**Newport**	**81.28**	**34**	LR	LR	01 48 35.4	
	comp=Z,50nm,18.7s,baz=196,slow=30						
PDAR	**Pinedale Array**	**82.72**	**42**	P	**P**	**01 19 44.7**	**+1.4**
	comp=Z,2.8nm,0.7s,baz=211,slow=3.5,SNR=22						
PDAR				pP	**pwP**	**01 19 58.5**	**+1.3**
	comp=Z,3.1nm,0.7s,baz=213,slow=3.4,SNR=12						
PDAR				LR	LR	01 50 44.0	
	comp=Z,34nm,18.8s,baz=256,slow=31						
	comp=Z,2.8nm,0.7s						
YHL	**Hebgen Lake**	**82.78**	**39**	P	**P**	**01 19 45.9**	**+2.3**
YHL				IAmb	IAmb	01 20 01.0	
	comp=Z,9.6nm,0.8s						
CCB	**Clear Creek Bu**	**83.01**	**11**		**P**	**01 19 45.1**	**+1.1**
CCB				IAmb	IAmb	01 19 45.7	
	comp=Z,8.2nm,0.8s						
SCRK	**Sand Creek**	**83.14**	**12**		**P**	**01 19 46.4**	**+1.5**
SCRK				IAmb	IAmb	01 19 47.1	
	comp=Z,6.0nm,0.9s						
ILAR	**Eielson Array**	**83.29**	**11**		**P**	**01 19 46.5**	**+1.0**
ILAR	**Eielson Array**	**83.29**	**11**	P	**P**	**01 19 46.1**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=219,slow=5.6,SNR=35						
ILAR				LR	LR	01 48 19.4	
	comp=Z,38nm,20.4s,baz=164,slow=29						
	comp=Z,1.8nm,0.8s						
SEY	**Seymchan**	**83.51**	**345**	P	**P**	**01 19 47.1**	**+0.5**
	comp=Z,8.0nm,0.8s,baz=130,slow=16,SNR=6.8						
	comp=Z,8.0nm,0.8s						
PRP	**Porcupine Dome**	**84.21**	**11**		**P**	**01 19 51.4**	**+1.0**
PRP				IAmb	IAmb	01 19 52.6	
	comp=Z,6.8nm,0.8s						
DAWY	**Dawson**	**84.23**	**14**		**P**	**01 19 51.6**	**+1.2**
DAWY				IAmb	IAmb	01 19 52.9	
	comp=Z,6.4nm,0.8s						
E19K	**Redstone River**	**84.36**	**6**		**P**	**01 19 53.2**	**+2.3**
J29N	**Klondike Camp**	**84.84**	**14**		**P**	**01 19 55.7**	**+2.2**
MAW	**Mawson**	**87.02**	**199**	LR	LR	01 56 49.4	
	comp=Z,27nm,20.3s,baz=138,slow=34						
F31M	**Tsiigehtchic**	**88.35**	**14**		**P**	**01 20 11.9**	**+1.5**
HHC	**Hu-ho-hao-te**	**89.91**	**313**	*e*P	**P**	**01 20 16.3**	**-2.3**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,69nm,4.6s						
ELIB	**Princess Elisa**	**91.24**	**185**	*d*P	**P**	**01 20 25.2**	**+0.9**
	comp=Z,4.1nm,1.0s						
PZH	**PanZhiHua**	**93.00**	**297**	P	**P**	**01 20 29.6**	**-3.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,120nm,8.0s						
CMAR	**Chiang Mai Arr**	**93.24**	**288**	P	**P**	**01 20 34.8**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=121,slow=1.6,SNR=6.4						
	comp=Z,0.8nm,0.3s						
A36M	**Sachs Harbour**	**93.72**	**13**		**P**	**01 20 36.2**	**+0.9**
MKAR	**Makanchi Array**	**111.73**	**314**	PKiKP	**PKiKP**	**01 25 53.5**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=122,slow=2.6,SNR=4.5						
KURBB	**Kurchatov Arra**	**114.13**	**319**	PKP	PKPdf	01 25 58.2	-0.1
	comp=Z,0.2nm,0.4s,baz=102,slow=1.4,SNR=3.5						
BVAR	**Borovoye Array**	**118.83**	**322**	PKP	**PKPdf**	**01 26 06.9**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=96,slow=3.0,SNR=4.5						
ARCES	**ARCESS Array B**	**125.58**	**352**	PKP	**PKPdf**	**01 26 18.4**	**-1.4**
	comp=Z,5.9nm,1.0s,baz=26,slow=2.3,SNR=5.2						
FINES	**FINESS Array B**	**132.92**	**348**	PKP	**PKPdf**	**01 26 32.0**	**-1.9**
	comp=Z,2.3nm,0.9s,baz=45,slow=4.5,SNR=4.6						
AKASG	**Malin Array Be**	**141.33**	**337**	PKhKP	PKPpre	01 26 45.3	
	comp=Z,0.1nm,0.3s,baz=44,slow=4.3,SNR=4.8						
IBBN	**Ibbenburen**	**144.10**	**359**	*e*PKPbc	PKPbc	01 26 53.2	+0.5
	baz=4.1,slow=3.2						
KIBK	**Kibwezi**	**144.12**	**242**	PKPdf	PKPbc	01 26 55.1	+1.0
KWP	**Kalwaria Pacla**	**144.41**	**342**	*e*PKP	**PKPdf**	**01 26 54.9**	**-0.4**
CLZ	**Clausthal**	**144.47**	**356**	*e*PKPbc	PKPbc	01 26 54.4	+0.4
	baz=4.1,slow=3.2						
OJC	**Ojcow**	**144.64**	**346**	*e*PKP	**PKPdf**	**01 26 55.5**	**-0.2**
OJC	**Ojcow**	**144.64**	**346**	PKPdf	**PKPab**	**01 26 54.5**	**+0.2**
KSP	**Ksiaz**	**144.77**	**350**	*e*PKP	**PKPdf**	**01 26 55.9**	**0.0**
CLL	**Collm**	**144.78**	**353**	PKPdf	**PKPdf**	**01 26 55.7**	**-0.2**
CLL	**Collm**	**144.78**	**353**	*e*PKPbc	**PKPdf**	**01 26 55.8**	**-0.2**
	baz=4.1,slow=3.2						
CLL				*e*pPKPbc	**sPKPdf**	**01 27 09.9**	**-0.2**
CLL	**Collm**	**144.78**	**353**	*i* PKPdf	PKPbc	01 26 55.4	+0.5
	comp=Z,7.0nm,0.8s						
GTTG	**Gottingen**	**144.79**	**357**	*e*PKPbc	PKPbc	01 26 55.3	+0.4
	baz=4.1,slow=3.2						
BUG	**Bochum--Univer**	**144.98**	**360**	*e*PKPbc	PKPbc	01 26 55.9	+0.4
	baz=4.1,slow=3.2						
STHS	**Stebnicka Huta**	**145.02**	**344**	*e*PKP	**PKPdf**	**01 26 56.3**	**-0.1**
OSTC	**Ostas**	**145.06**	**350**	*e*PKP	**PKPdf**	**01 26 57.8**	**+1.3**
BRG	**Berggiesshubel**	**145.09**	**352**	*e*PKPbc	**PKPdf**	**01 26 57.1**	**+0.6**
	baz=4.1,slow=3.2						
KOLS	**Kolonicke sedl**	**145.16**	**342**	*e*PKP	**PKPdf**	**01 26 57.3**	**+0.6**
KASTN	**Kahler Asten**	**145.19**	**358**	*e*PKPbc	**PKPdf**	**01 26 56.7**	**0.0**
	baz=4.1,slow=3.2						
DPC	**Dobruska-Polom**	**145.24**	**349**	*e*PKP	**PKPdf**	**01 26 58.3**	**+1.5**
NIE	**Niedzica**	**145.26**	**345**	*e*PKP	**PKPdf**	**01 26 58.9**	**+2.0**
BUR08	**Bucovina Ar. S**	**145.34**	**338**		**PKPdf**	**01 26 57.6**	**+0.5**
BURAR	**Bucovina Array**	**145.36**	**338**	⇑P	**PKPab**	**01 26 58.0**	**+0.8**
KRLC	**Kraliky**	**145.42**	**349**	*e*PKP	**PKPab**	**01 26 58.5**	**+1.2**
GIRR	**Girov**	**145.43**	**336**	⇑P	**PKPab**	**01 26 58.0**	**+0.7**
KMBO	**Kilima Mbogo**	**145.43**	**243**	PKPdf	**PKPab**	**01 26 58.8**	**+0.1**
KMBO	**Kilima Mbogo**	**145.43**	**243**	PKPbc	**PKPab**	**01 26 59.4**	**+0.7**
	comp=Z,5.3nm,1.0s,baz=56,slow=4.5,SNR=13						
UBBA	**Unterbreizbach**	**145.51**	**357**	*e*PKPbc	**PKPab**	**01 26 58.1**	**+0.7**
	baz=4.1,slow=3.2						
UBBA				*e*pPKPbc	sPKPab	01 27 12.4	+1.0
MORC	**Moravsky Berou**	**145.56**	**348**	PKPdf	**PKPab**	**01 26 58.0**	**+0.2**
MORC	**Moravsky Berou**	**145.56**	**348**	*e*PKIKP	**PKPab**	**01 26 58.5**	**+0.7**
MORC	**Moravsky Berou**	**145.56**	**348**	⇓P	**PKPab**	**01 26 59.3**	**+1.5**
MOX	**Moxa**	**145.57**	**355**	*e*PKPbc	**PKPab**	**01 26 58.5**	**+0.7**
	baz=4.1,slow=3.2						
MOX				*e*pPKPbc	sPKPab	01 27 12.5	+0.6
VLDR	**Vladesti**	**145.69**	**333**	⇑P	**PKPab**	**01 26 59.2**	**+0.8**
TANN	**Tannenbergstha**	**145.72**	**354**	*e*PKPbc	**PKPab**	**01 26 58.7**	**+0.3**
	baz=4.1,slow=3.2						
TANN				*e*pPKPbc	sPKPab	01 27 12.8	+0.4
LANS	**Liptovska Anna**	**145.72**	**345**	*e*PKP	**PKPab**	**01 27 00.0**	**+1.6**
TESR	**Tescani**	**145.74**	**336**	⇑P	**PKPab**	**01 26 59.5**	**+1.0**
GHRR		**145.80**	**334**	⇑P	**PKPab**	**01 27 00.1**	**+1.4**
BSTI	**Sart Tilman**	**145.82**	**2**	*d*PKP	**PKPab**	**01 26 59.7**	**+1.0**
BTNL	**Ternell**	**145.83**	**1**	*d*PKiKP	**PKPab**	**01 26 59.1**	**+0.3**
PRU	**Pruhonice**	**145.87**	**351**	*e*PKP	**PKPab**	**01 26 59.9**	**+1.0**
PRU				*ex*	x	01 27 08.7	
TLCR		**145.88**	**332**	⇑P	**PKPab**	**01 27 00.1**	**+1.1**
MAUC	**Maruska**	**145.89**	**347**	*e*PKP	**PKPab**	**01 27 00.3**	**+1.3**
TATR	**Tatarca**	**145.89**	**333**	⇓P	**PKPab**	**01 27 00.2**	**+1.1**
NKC	**Novy Kostel**	**145.90**	**354**	*e*PKP	**PKPab**	**01 27 00.0**	**+1.0**
BMR	**Baia Mare**	**145.90**	**340**	⇑P	**PKPab**	**01 27 00.3**	**+1.2**
GOPC	**GO Pecny, Ondr**	**145.91**	**351**	*e*PKP	**PKPab**	**01 27 00.1**	**+1.0**
BCLA	**Clavier**	**145.97**	**2**	*d*PKP	**PKPab**	**01 26 59.4**	**+0.2**
ONER	**Baraj Valea Uz**	**145.99**	**336**	⇑P	**PKPab**	**01 27 00.5**	**+1.1**
PANC	**Panciu**	**146.06**	**334**	⇓P	**PKPab**	**01 27 00.9**	**+1.2**
BMRD	**Maredsous**	**146.07**	**3**	*d*PKP	**PKPdf**	**01 26 50.6**	**-7.6**
MANZ	**Manzenberg**	**146.18**	**354**	*e*PKPbc	**PKPab**	**01 27 00.6**	**+0.5**
	baz=4.1,slow=3.2						
MANZ				*e*pPKPbc	sPKPab	01 27 14.3	+0.1
TNS	**Taunus Mts**	**146.18**	**358**	*e*PKPbc	**PKPab**	**01 27 00.1**	**0.0**
	baz=4.1,slow=3.2						
ODBI	**Odobesti**	**146.18**	**334**	⇑P	**PKiKP**	**01 27 01.9**	**-0.9**
CFR	**Carcaliu**	**146.19**	**333**	⇓P	**PKPab**	**01 27 00.6**	**+0.4**
VRAC	**Vranov**	**146.19**	**349**	*e*PKIKP	**PKPab**	**01 27 00.7**	**+0.6**
VRAC	**Vranov**	**146.19**	**349**	⇓P	**PKPab**	**01 27 01.2**	**+1.1**
BNN	**Bunyan**	**146.21**	**317**	PKPdf	**PKPdf**	**01 26 59.6**	**+0.6**
VRI	**Vrincioaia**	**146.24**	**335**	⇑P	**PKPab**	**01 27 01.3**	**+0.9**
PLOR	**Plostina**	**146.28**	**335**	⇑P	**PKPab**	**01 27 01.1**	**+0.5**
SPBR	**Spulber**	**146.32**	**335**	⇑P	**PKPab**	**01 27 00.7**	**-0.1**
ROTZ	**Rotzenmuhle**	**146.38**	**354**	*e*PKPbc	**PKPab**	**01 27 01.2**	**+0.3**
	baz=4.1,slow=3.2						
ROTZ				*e*pPKPbc	sPKPab	01 27 15.3	+0.3
JAVC	**Velka Javorina**	**146.40**	**347**	*e*PKIKP	**PKPab**	**01 27 02.2**	**+1.2**
OZUR		**146.42**	**336**	⇑P	**PKPab**	**01 27 01.6**	**+0.4**
ZVC	**Zvikov**	**146.46**	**351**	*e*PKP	**PKPab**	**01 27 01.3**	**+0.1**
COVR	**Voineasa-Covas**	**146.46**	**335**	⇓P	**PKPab**	**01 27 01.5**	**+0.2**
KRUC	**Moravsky**	**146.46**	**349**	*e*PKIKP	**PKPab**	**01 27 01.2**	**0.0**
VYHS	**Vyhne**	**146.48**	**346**	*e*PKP	**PKPab**	**01 27 01.8**	**+0.5**
**GRF

CMAR Chiang Mai Arr 17.51 148 LR LR 01 23 45.4
comp=Z,14nm,21.6s,baz=135,slow=39

KURBB Kurchatov Arra 18.62 338 P **P** **01 16 34.7 -1.0**
0.1nm,0.3s,baz=143,slow=12,SNR=6.4
0.6nm,0.3s

SONM Songino Array 19.11 37 P **Pn** **01 16 42.2 -0.2**
0.1nm,0.3s,baz=236,slow=10,SNR=2.8
0.3nm,0.4s

ZALV Zalesovo Beam 20.46 353 P **P** **01 16 55.6 -0.2**
1.1nm,0.6s,baz=165,slow=11,SNR=6.3
1.1nm,0.6s

BVAR Borovoye Array 23.53 331 P **P** **01 17 28.7 +0.4**
0.5nm,0.4s,baz=138,slow=12,SNR=4.2
BVAR LR LR 01 27 38.7
comp=Z,51nm,18.9s,baz=305,slow=39
0.5nm,0.4s

NRIK Noril'sk 35.68 359 P **P** **01 19 16.7 +0.8**
2.5nm,0.6s,baz=163,slow=6.3,SNR=6.2
2.5nm,0.6s

EIL Elat 45.92 280 LR LR 01 44 29.9
comp=Z,21nm,19.3s,baz=249,slow=42

NOA NORSAR Array B 55.46 325 P **P** **01 21 52.2 -0.2**
0.6nm,0.8s,baz=83,slow=6.8,SNR=3.4
0.6nm,0.8s

WRA Warramunga Arr 68.53 134 P **P** **01 23 20.5 -0.1**
0.7nm,0.9s,baz=328,slow=6.5,SNR=3.0
0.7nm,0.9s

SCHQ Schefferville 89.43 346 LR LR 02 09 33.5
comp=Z,58nm,18.7s,baz=260,slow=38

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*SDD **22** 01:13:27.0±2.2, 19°.32N×70°.78W, h15km±76km, MD2.5, ML2.5, MW2.7*
*OSPL **22** 01:13:28.7±1.8, 19°.36N×70°.94W, h27km±10km, ML2.1*
ISC 22 01:13:27.3±1.1, 19°.28N±0°.05×70°.84W±0°.03, h32km±9km, n16, σ1§58/27, 15C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.18**	**36**	*i* P	**Pb**	**01 13 34.9**	**+1.3**
SC01				IAML		01 13 43.1	
	comp=Z,74nm,0.3s						
ABDR	**Alto Bandera**	**0.51**	**156**	⇑*e*Pg	**Pb**	**01 13 36.6**	**-1.6**
ABDR				⇓*e*Sg	**Sb**	**01 13 43.1**	**-2.6**
ABDR				IAML		01 13 43.6	
	comp=E,316nm,0.2s						
ABDR				IAML		01 13 43.8	
	comp=N,311nm,0.3s						
SDDR	**Presa de Saban**	**0.52**	**235**	⇑*e*Pg	**Pb**	**01 13 37.7**	**-0.5**
SDDR				⇑*e*Sg	**Sb**	**01 13 45.8**	**+0.2**
SDDR				IAML		01 13 45.8	
	comp=E,115nm,0.4s						
SDDR				IAML		01 13 48.6	
	comp=N,83nm,0.2s						
SDDR	**Presa de Saban**	**0.52**	**235**	*i* P	**Pb**	**01 13 37.6**	**-0.5**
SDDR				*e*S	**Sb**	**01 13 45.3**	**-0.3**
DR08	**Loma La Naviza**	**0.84**	**112**	⇑*e*Pg	**Pn**	**01 13 41.8**	**-1.2**
DR08				⇑*e*Sg	**Sb**	**01 13 52.1**	**-2.4**
DR08				IAML		01 13 55.1	
	comp=N,2μm,0.1s						
DR08				IAML		01 13 55.3	
	comp=E,2μm,0.1s						
LODA1	**ITESIL, Dajabo**	**0.86**	**288**	*i* P	**Pb**	**01 13 41.6**	**-2.1**
LODA1				*e*S	**Sb**	**01 13 52.4**	**-2.5**
LODA1				IAML		01 13 55.6	
	comp=Z,642nm,2.1s						
LONE3	**El Aguacate, B**	**0.89**	**221**	*i* P	**Pn**	**01 13 43.6**	**-0.2**
LONE3				*e*S	**Sb**	**01 13 55.6**	**-0.4**
LONE3				IAML		01 13 57.7	
	comp=Z,47nm,0.7s						
BANI	**BANI**	**0.99**	**153**	⇑*e*Pg	**Pn**	**01 13 45.2**	**+0.1**
BANI				IAML		01 14 03.5	
	comp=N,81nm,1.0s						
LODU1	**El Espartillar**	**1.10**	**213**	*i* P	**Pn**	**01 13 47.5**	**+1.1**
LODU1				IAML		01 14 03.4	
	comp=Z,45nm,1.0s						
PODR	**Polo**	**1.18**	**201**	⇑*e*Pg	**Pn**	**01 13 47.3**	**-0.5**
PODR				⇑*e*Sg	**Sb**	**01 14 06.6**	**+2.2**
PODR				IAML		01 14 12.3	
	comp=N,52nm,0.8s						
PODR				IAML		01 14 12.4	
	comp=E,49nm,0.3s						
PODR	**Polo**	**1.18**	**201**	*i* P	**Pn**	**01 13 48.1**	**+0.3**
PODR				*e*S	**Sn**	**01 14 04.5**	**+1.6**
PODR				IAML		01 14 08.0	
	comp=Z,24nm,0.3s						
JIDR	**Jimani**	**1.24**	**231**	⇑*e*Pg	**Pn**	**01 13 48.7**	**+0.3**
JIDR				⇑*e*Sg	**Sb**	**01 14 06.8**	**+1.1**
JIDR				IAML		01 14 07.8	
	comp=N,84nm,0.5s						
JIDR				IAML		01 14 10.0	
	comp=E,69nm,0.3s						
HATOM	**Hato Mayor del**	**1.47**	**109**	⇑*e*Pg	**Pn**	**01 13 51.6**	**0.0**
HATOM				⇑*e*Sg	**Sn**	**01 14 08.8**	**-0.8**
HATOM				IAML		01 14 09.2	
	comp=N,46nm,0.2s						
HATOM				IAML		01 14 10.1	
	comp=E,45nm,0.2s						
LOBH	**Bahia de las A**	**1.60**	**208**	*i* P	**Pn**	**01 13 55.0**	**+1.7**
LOBH				IAML		01 14 29.7	
	comp=Z,37nm,2.7s						
MIDR	**Miches**	**1.72**	**100**	⇑*e*Pg	**Pn**	**01 13 56.6**	**+1.6**
MIDR				IAML		01 14 16.7	
	comp=E,26nm,1.1s						
MIDR				⇑*e*Sg	**Sn**	**01 14 17.5**	**+1.6**
MIDR				IAML		01 14 41.0	
	comp=N,18nm,1.6s						
HIDR	**Higuey Centro**	**2.12**	**108**	⇑*e*Pg	**Pn**	**01 14 03.6**	**+3.0**
HIDR				IAML		01 14 35.1	
	comp=N,95nm,0.3s						

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*NEIC **22** 01:44:55.6±1.6, 17°.8S±0°.1×178°.2W±0°.1, h512km±4km, mb4.4/24, Error ellipse: s-maj=21.0km s-min=18.8km az=178.0*
*IDC **22** 01:44:57.9±1.7, 17°.79S×178°.38W, h532km±13km, mb3.7/6, mbtmp4.5/8, Error ellipse: s-maj=30.4km s-min=22.8km az=130.0*
ISC 22 01:44:54.4±0.6, 17°.8S±0°.1×178°.12W±0°.09, h500km, n51, σ1§44/54, mb4.4/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.44**	**0**	P	**P**	**01 46 09.7**	**+1.1**
MSVF	**Nonsavu**	**3.65**	**270**		**P**	**01 46 12.9**	**+2.7**
MSVF	**Nonsavu**	**3.65**	**270**	P	**P**	**01 46 13.0**	**+2.9**
	33nm,0.5s,baz=120,slow=20,SNR=39						
MSVF				S	**S**	**01 47 18.1**	**+6.3**
	5.8nm,0.2s,baz=71,slow=24,SNR=3.7						
AFI	**Afiamalu**	**7.21**	**59**	P	**P**	**01 46 44.4**	**+1.4**
NIUE	**Niue**	**7.89**	**101**	P	**P**	**01 46 51.8**	**+2.1**
FUNA	**Funafuti**	**9.55**	**344**	P	**P**	**01 47 06.2**	**-0.9**
DZM	**Mont Dzumac**	**15.13**	**251**	P	**P**	**01 48 05.1**	**-1.0**
DZM				IAmb	IAmb	01 48 23.0	
	comp=Z,9.9nm,1.0s						
DZM	**Mont Dzumac**	**15.13**	**251**	P	**P**	**01 48 04.6**	**-1.5**
	comp=Z,3.5nm,0.7s,baz=79,slow=19,SNR=2.6						
KOUNC	**Koumac, New Ca**	**16.85**	**258**	P	**P**	**01 48 24.8**	**+0.8**
MRZ	**Mangatainoka R**	**23.45**	**192**	P	**P**	**01 49 22.7**	**-1.3**
THZ	**Tophouse**	**25.12**	**196**	P	**P**	**01 49 38.5**	**-0.4**
THZ				IAmb	IAmb	01 50 01.9	
	comp=Z,24nm,1.4s						
EIDS	**Eidsvold**	**29.57**	**250**	P	**P**	**01 50 17.8**	**-0.4**
ARMA	**Armidale**	**30.24**	**240**	P	**P**	**01 50 24.1**	**+0.1**
CTAO	**Charters Tower**	**33.74**	**260**	P	**P**	**01 50 53.0**	**-0.9**
CTAO				IAmb	IAmb	01 50 53.8	
	comp=Z,12nm,0.8s						
CAN	**Canberra**	**34.00**	**233**	P	**P**	**01 50 56.2**	**+0.2**
CAN				IAmb	IAmb	01 50 56.5	
	comp=Z,9.4nm,0.8s						
COEN	**Coen**	**37.38**	**270**	P	**P**	**01 51 23.8**	**-0.5**
COEN				IAmb	IAmb	01 51 24.6	
	comp=Z,7.2nm,0.8s						
TOO	**Toolangi**	**37.47**	**231**	P	**P**	**01 51 25.0**	**+0.2**
TOO				IAmb	IAmb	01 51 25.8	
	comp=Z,7.4nm,0.6s						
STKA	**Stephens Creek**	**38.93**	**241**	P	**P**	**01 51 36.8**	**0.0**
STKA	**Stephens Creek**	**38.93**	**241**	P	**P**	**01 51 36.5**	**-0.3**
	comp=Z,11nm,0.5s,baz=91,slow=10,SNR=26						
	comp=Z,11nm,0.5s						
BBOO	**Buckleboo**	**43.71**	**241**	P	**P**	**01 52 14.2**	**-0.5**
WR0	**Warramunga Arr**	**44.73**	**259**	P	**P**	**01 52 21.0**	**-1.8**
WB0	**Warramunga Arr**	**44.89**	**260**	P	**P**	**01 52 22.4**	**-1.7**
WB2	**Warramunga Arr**	**44.91**	**259**	P	**P**	**01 52 22.6**	**-1.7**
WB2				IAmb	IAmb	01 52 23.4	
	comp=Z,5.6nm,0.7s						
WRA	**Warramunga Arr**	**44.92**	**259**	P	**P**	**01 52 22.6**	**-1.8**
WRA	**Warramunga Arr**	**44.92**	**259**	P	**P**	**01 52 22.6**	**-1.8**
	comp=Z,3.6nm,0.6s,baz=95,slow=6.9,SNR=74						
WRA				PcP	**PcP**	**01 53 54.8**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=87,slow=3.6,SNR=6.4						
	comp=Z,3.6nm,0.6s						
AS31	**Alice Springs**	**45.09**	**254**	P	**P**	**01 52 24.8**	**-0.8**
AS31				IAmb	IAmb	01 52 25.3	
	comp=Z,13nm,0.7s						
ASAR	**Alice Springs**	**45.09**	**254**	P	**P**	**01 52 24.8**	**-0.9**
	comp=Z,44nm,0.6s,baz=89,slow=8.2,SNR=450						
ASAR				PcP	**PcP**	**01 53 55.5**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=96,slow=3.6,SNR=4.5						
	comp=Z,44nm,0.6s						
MTN	**Manton Dam**	**49.07**	**268**	P	**P**	**01 52 54.5**	**-1.3**
MTN				IAmb	IAmb	01 53 14.8	
	comp=Z,16nm,1.2s						
FORT	**Forrest**	**50.31**	**245**	P	**P**	**01 53 03.4**	**-1.2**
KNRA	**Kununurra**	**50.77**	**264**	P	**P**	**01 53 07.3**	**-0.9**
KNRA				IAmb	IAmb	01 53 31.2	
	comp=Z,28nm,1.5s						
FITZ	**Fitzroy Crossi**	**53.32**	**260**	P	**P**	**01 53 25.8**	**-0.8**
MORW	**Morawa**	**60.78**	**246**	P	**P**	**01 54 16.4**	**-1.3**
MORW				IAmb	IAmb	01 54 59.4	
	comp=Z,30nm,1.4s						
QSPA	**South Pole Qui**	**72.28**	**180**	P	**P**	**01 55 28.4**	**-0.1**
QSPA	**South Pole Qui**	**72.28**	**180**	P	**P**	**01 55 29.3**	**+0.8**
	comp=Z,2.0nm,0.5s,baz=88,slow=3.5,SNR=7.6						
	comp=Z,2.0nm,0.5s						
BELA	**Belgrano 2**	**82.27**	**173**	P	**P**	**01 56 22.7**	**+0.2**
BELA				IAmb	IAmb	01 56 25.5	
	comp=Z,5.5nm,0.6s						
ILAR	**Eielson Array**	**85.69**	**13**	P	**P**	**01 56 38.5**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=224,slow=5.0,SNR=1.9						
	comp=Z,0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**89.09**	**290**	P	**P**	**01 56 57.1**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=107,slow=2.7,SNR=9.4						
	comp=Z,1.3nm,0.3s						
MKAR	**Makanchi Array**	**109.23**	**314**	PKiKP	**PKiKP**	**02 02 26.1**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=54,slow=3.7,SNR=4.2						
BVAR	**Borovoye Array**	**116.91**	**321**	PKP	**PKPdf**	**02 02 40.5**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=93,slow=3.7,SNR=3.0						
BRTR	**Keskin Array B**	**144.88**	**315**	PKP	**PKPdf**	**02 03 34.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=46,slow=2.3,SNR=7.7						
MMAI	**Mount Meron Ar**	**146.29**	**303**	PKPbc	**PKPdf**	**02 03 39.2**	**+2.1**
	comp=Z,2.6nm,0.6s,baz=78,slow=6.1,SNR=10						
GERES	**GERESS Array B**	**147.55**	**345**	PKPbc	**PKPbc**	**02 03 41.9**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=358,slow=4.4,SNR=4.2						
CONA	**Conrad Observa**	**147.82**	**342**	*e*PKP	**PKPbc**	**02 03 43.1**	**+0.2**
	comp=Z,0.9nm,0.5s						
RONA	**Rosalia, Austr**	**147.89**	**342**	*e*PKP	**PKPbc**	**02 03 42.8**	**-0.1**
	comp=Z,0.5nm,0.3s						
LESA	**Schwarzleotal**	**149.12**	**346**	*e*PKP	**PKPbc**	**02 03 46.0**	**-0.1**
	comp=Z,0.8nm,0.4s						
KBA	**Koelnbreinsper**	**149.28**	**345**	*e*PKP	**PKPbc**	**02 03 45.9**	**-0.7**
	comp=Z,0.7nm,0.4s						
WTTA	**Wattenberg**	**149.51**	**347**	*e*PKP	**PKPbc**	**02 03 46.8**	**-0.3**
	comp=Z,0.8nm,0.3s						
MOTA	**Moosalm**	**149.54**	**348**	*e*PKP	**PKPbc**	**02 03 47.1**	**-0.1**
	comp=Z,0.7nm,0.4s						
SQTA	**Sankt Quirin**	**149.64**	**347**	*e*PKP	**PKPbc**	**02 03 47.3**	**-0.1**
	comp=Z,0.3nm,0.3s						
ABTA	**Abfaltersbach**	**149.79**	**345**	*e*PKP	**PKPbc**	**02 03 46.8**	**-0.9**
	comp=Z,2.8nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**150.41**	**348**		**PKPbc**	**02 03 49.4**	**0.0**

IDC 22 01:51:04.1±1.6, 3°.88N×32°.27W, h0km, mb3.7/4, mbtmp3.7/4, MS3.5/9, Error ellipse: s-maj=79.2km s-min=28.8km az=134.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.30**	**201**	LR	LR	01 56 44.0	
	comp=Z,65nm,18.7s,baz=56,slow=33						
BBTS	**Babate**	**18.85**	**54**	LR	LR	02 00 52.3	
	comp=Z,91nm,21.0s,baz=137,slow=31						
H10N3	**ASCENSION HYDR**	**21.21**	**123**	T	T	02 17 43.0	
	baz=302,slow=75,SNR=100						
H10N2	**ASCENSION HYDR**	**21.21**	**123**	T	T	02 17 44.4	
	baz=302,slow=75,SNR=82						
H10N1	**ASCENSION HYDR**	**21.23**	**123**	T	T	02 17 46.0	
	baz=302,slow=75,SNR=103						
H10S3	**ASCENSION HYDR**	**21.69**	**126**	T	T	02 18 16.1	
	baz=302,slow=74,SNR=94						
H10S2	**ASCENSION HYDR**	**21.71**	**126**	T	T	02 18 19.8	
	baz=278,slow=74,SNR=88						
BDFB	**Brasilia**	**24.88**	**218**	P	P	01 56 28.8	-0.1
	1.2nm,0.5s,baz=29,slow=10,SNR=3.1						
	1.2nm,0.5s						
H05S1	**Guadeloupe/Mar**	**30.04**	**292**	T	T	02 28 37.3	
	SNR=18						
H05N1	**Guadeloupe/Mar**	**30.86**	**296**	T	T	02 29 33.4	
	SNR=4.1						
SIV	**San Ignacio**	**34.66**	**235**	LR	LR	02 11 10.9	
	comp=Z,126nm,18.9s,baz=282,slow=35						
TORD	**Torodi Ar. Bea**	**34.79**	**73**	P	P	01 57 56.6	-0.2
	1.6nm,0.9s,baz=262,slow=8.3,SNR=8.4						
TORD				LR	LR	02 09 43.6	
	comp=Z,82nm,19.1s,baz=268,slow=32						
	1.6nm,0.9s						
CPUP	**Villa Florida**	**38.60**	**218**	LR	LR	02 14 09.2	
	comp=Z,74nm,19.3s,baz=53,slow=36						
MDT	**Midelt**	**38.71**	**39**	LR	LR	02 12 51.9	
	comp=Z,88nm,19.2s,baz=258,slow=34						
ESDC	**Sonseca Array**	**43.89**	**32**	P	P	01 59 11.9	-0.7
	0.7nm,0.8s,baz=230,slow=8.0,SNR=5.4						
	0.7nm,0.8s						
TKL	**Tuckaleechee C**	**56.99**	**311**	LR	LR	02 19 58.9	
	comp=Z,19nm,21.8s,baz=116,slow=30						
AKASG	**Malin Array Be**	**69.23**	**37**	P	P	02 02 13.5	+0.7
	0.2nm,0.3s,baz=255,slow=4.9,SNR=1.5						
AKASG				LR	LR	02 32 54.7	
	comp=Z,106nm,18.0s,baz=137,slow=36						
	0.2nm,0.3s						
ANMO	**Albuquerque**	**74.83**	**305**	LR	LR	02 32 48.6	
	comp=Z,14nm,20.1s,baz=231,slow=34						

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*NEIC **22** 01:55:41.7±0.8, 36°.449N±0°.008×89°.54W±0°.01, h10km±4km, Error ellipse: s-maj=1.7km s-min=1.1km az=103.0*
*SLM **22** 01:55:41±0.8, 36°.448N±0°.008×89°.54W±0°.02, h10km±5km, Md3.1/70, mb_Lg3.2/123(NEIC), ML3.5/30(NEIC), Error ellipse: s-maj=2.0km s-min=1.1km az=100.0*
ISC 22 01:55:41.1±0.9, 36°.44N±0°.02×89°.54W±0°.02, h15km±4km, n143, σ0§64/124, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLM	**Point Pleasant**	**0.05**	**221**		**Pg**	**01 55 45.2**	**+1.3**
PENMO	**Penman**	**0.07**	**275**		**Pg**	**01 55 43.5**	**-0.6**
PENMO					**Sg**	**01 55 45.6**	**-0.4**
WALK	**Watson Lake**	**0.10**	**359**		**Pg**	**01 55 43.8**	**-0.5**
WALK					**Sg**	**01 55 46.1**	**-0.3**
WYBT	**Wynnburg**	**0.10**	**160**		**Pg**	**01 55 43.8**	**-0.6**
WYBT					**Sg**	**01 55 46.3**	**-0.2**
POBM	**Portage Bay**	**0.10**	**250**		**Pg**	**01 55 43.9**	**-0.5**
POBM					**Sg**	**01 55 46.4**	**-0.1**
PVMO	**Portageville**	**0.13**	**257**		**Pg**	**01 55 44.4**	**-0.4**
PVMO					**Sg**	**01 55 47.2**	**0.0**
PVMO	**Portageville**	**0.13**	**257**	IAML		01 55 47.4	
	comp=N,47μm,0.2s						
PVMO				IAML		01 55 47.4	
	comp=E,53μm,0.2s						
MARMO	**Marston**	**0.14**	**310**		**Pg**	**01 55 44.5**	**-0.3**
MARMO					**Sg**	**01 55 47.2**	**0.0**
NMMO	**New Madrid**	**0.14**	**356**		**Pg**	**01 55 44.6**	**-0.3**
NMMO					**Sg**	**01 55 47.4**	**0.0**
PGVM	**Portageville**	**0.15**	**276**		**Pg**	**01 55 44.7**	**-0.3**
PGVM					**Sg**	**01 55 47.7**	**+0.1**
FLPT	**Flippin**	**0.18**	**101**		**Pg**	**01 55 45.1**	**-0.3**
FLPT					**Sg**	**01 55 48.4**	**+0.1**
CATM	**Catron**	**0.19**	**333**		**Pg**	**01 55 45.4**	**-0.2**
CATM					**Sg**	**01 55 48.7**	**+0.1**
SJMO	**Saint John's B**	**0.19**	**16**		**Pg**	**01 55 45.4**	**-0.3**
SJMO					**Sg**	**01 55 48.8**	**+0.1**
WADM	**Wardell**	**0.22**	**249**		**Pg**	**01 55 45.9**	**-0.2**
WADM					**Sg**	**01 55 49.8**	**+0.4**
KEWM	**Kewanee**	**0.26**	**350**		**Pg**	**01 55 46.4**	**-0.3**
KEWM					**Sg**	**01 55 50.5**	**+0.1**
GLAT	**Glass**	**0.27**	**130**		**Pg**	**01 55 46.7**	**-0.1**
GLAT					**Sg**	**01 55 51.2**	**+0.5**
GLAT	**Glass**	**0.27**	**130**	IAML		01 55 51.4	
	comp=N,8μm,0.3s						
GLAT				IAML		01 55 51.4	
	comp=E,13μm,0.2s						
HICK	**Hickman**	**0.27**	**69**		**Pg**	**01 55 46.5**	**-0.3**
HICK				Sg	**Sg**	**01 55 50.2**	**-0.6**
HICK				IAML		01 55 51.2	
	comp=N,8μm,0.3s						
MIST	**Miston**	**0.27**	**174**		**Pg**	**01 55 46.8**	**-0.2**
MIST					**Sg**	**01 55 51.4**	**+0.5**
HENM	**Henderson Moun**	**0.28**	**11**		**Pg**	**01 55 46.8**	**-0.3**
HENM					**Sg**	**01 55 51.1**	**+0.1**
PARMO	**Parma**	**0.28**	**322**		**Pg**	**01 55 46.8**	**-0.2**
PARMO				IAML		01 55 51.5	
	comp=N,9μm,0.3s						
PARMO				IAML		01 55 51.8	
	comp=E,6μm,0.4s						
TOPM	**Tallapoosa**	**0.29**	**286**		**Pg**	**01 55 47.1**	**-0.2**
TOPM					**Sg**	**01 55 51.7**	**+0.2**
COKM	**Charter Oak**	**0.30**	**331**		**Pg**	**01 55 47.4**	**-0.1**
COKM					**Sg**	**01 55 52.1**	**+0.2**
EPRM	**East Prairie**	**0.31**	**28**		**Pg**	**01 55 47.3**	**-0.3**
EPRM					**Sg**	**01 55 52.1**	**+0.1**
MATM	**Matthews**	**0.33**	**351**		**Pg**	**01 55 48.0**	**-0.1**
MATM					**Sg**	**01 55 52.9**	**+0.1**
LNXT	**Lenox**	**0.34**	**173**		**Pg**	**01 55 48.1**	**-0.1**
LNXT					**Sg**	**01 55 53.6**	**+0.6**
LNXT	**Lenox**	**0.34**	**173**	IAML		01 55 57.7	
	comp=E,2μm,0.5s						
LNXT				IAML		01 55 58.4	
	comp=N,2μm,0.3s						
BRGM	**Braggadocio**	**0.35**	**227**		**Pg**	**01 55 48.2**	**-0.1**
BRGM					**Sg**	**01 55 53.8**	**+0.6**
DWDM	**Dogwood**	**0.35**	**6**		**Pg**	**01 55 48.1**	**-0.3**
DWDM					**Sg**	**01 55 53.4**	**+0.1**
MLDM	**Malden**	**0.35**	**301**		**Pg**	**01 55 48.2**	**-0.2**
MLDM					**Sg**	**01 55 53.4**	**+0.1**
PEBM	**Pemiscott Bayo**	**0.42**	**218**		**Pg**	**01 55 49.5**	**-0.1**
PEBM	**Pemiscott Bayo**	**0.42**	**218**	IAML		01 55 58.4	
	comp=N,2μm,0.7s						
PEBM				IAML		01 55 58.8	
	comp=E,2μm,0.5s						
CHRM	**Charleston**	**0.43**	**19**		**Pg**	**01 55 49.5**	**-0.3**
BETM	**Bethany**	**0.45**	**292**		**Pg**	**01 55 49.8**	**-0.3**
BRNM	**Bernie**	**0.46**	**307**		**Pg**	**01 55 50.2**	**-0.2**
GUAMO	**Guam**	**0.51**	**332**		**Pg**	**01 55 50.8**	**-0.3**
CHNM	**Channel**	**0.51**	**218**		**Pg**	**01 55 51.2**	**0.0**
FMKY	**Fulgham**	**0.55**	**66**		**Pg**	**01 55 51.5**	**-0.5**
UTMT	**University of**	**0.55**	**100**		**Pg**	**01 55 52.0**	**-0.1**
UTMT				IAML		01 56 04.3	
	comp=E,2μm,0.7s						
HALT	**Halls**	**0.56**	**163**		**Pg**	**01 55 52.0**	**-0.1**
PBMO	**Poplar Bluff**	**0.79**	**295**		**Pg**	**01 55 55.8**	**-0.7**
PBMO				Sg	**Sg**	**01 56 06.2**	**-0.7**
PBMO				IAML		01 56 06.8	
	comp=N,2μm,0.3s						
PBMO				IAML		01 56 14.2	
	comp=E,1μm,0.2s						
CGM3	**Cape Girardeau**	**0.86**	**354**		**Pg**	**01 55 57.1**	**-0.7**
CGM3				IAML		01 56 15.9	
	comp=E,2μm,0.2s						
CGM3				IAML		01 56 16.3	
	comp=N,2μm,0.2s						
T45A	**Paducah**	**0.92**	**51**		**Pg**	**01 55 58.2**	**-0.8**
T45A				IAML		01 56 11.7	
	comp=E,1μm,0.4s						
T45A				IAML		01 56 14.2	
	comp=N,2μm,0.3s						
LPAR	**Lepanto**	**1.04**	**216**		**Pg**	**01 56 00.4**	**-0.9**
SFTN	**Shelby Forest**	**1.15**	**200**		**Pg**	**01 56 02.5**	**-0.3**
HBAR	**Harrisburg**	**1.27**	**226**		**Pn**	**01 56 04.2**	**-0.1**
HBAR				IAML		01 56 23.5	
	comp=E,928nm,0.5s						
HBAR				IAML		01 56 27.5	
	comp=N,1μm,0.4s						
S44A	**Carbondale**	**1.27**	**10**		**Pn**	**01 56 04.2**	**-0.2**
S44A				IAML		01 56 24.2	
	comp=N,891nm,0.2s						
S44A				IAML		01 56 24.7	
	comp=E,1μm,0.1s						
SIUC	**Southern Illin**	**1.29**	**11**		**Pn**	**01 56 04.5**	**-0.3**
SIUC				IAML		01 56 23.9	
	comp=E,1μm,0.1s						
EBZ	**Ebenezer Churc**	**1.31**	**173**		**Pn**	**01 56 05.0**	**+0.1**
LCAR	**Lake Charles**	**1.36**	**254**		**Pn**	**01 56 05.3**	**-0.3**
WVT	**Waverly**	**1.42**	**102**		**Pn**	**01 56 06.2**	**-0.3**
FVM	**French Village**	**1.69**	**336**		**Pn**	**01 56 11.1**	**+0.9**
PLAL	**Pickwick Lake**	**1.88**	**140**	Pn	**Pn**	**01 56 12.8**	**-0.1**
PWLA	**Pickwick Lake**	**1.89**	**140**		**Pn**	**01 56 12.7**	**-0.3**
T47A	**Sharon Grove**	**2.03**	**74**		**Pn**	**01 56 15.6**	**+0.7**
CCM	**Cathedral Cave**	**2.11**	**320**		**Pn**	**01 56 17.2**	**+1.3**
CCM				IAmb_Lg		01 56 50.1	
	comp=Z,137nm,0.8s						
USIN	**University of**	**2.13**	**44**	Pn	**Pn**	**01 56 17.3**	**+1.0**
FCAR	**Ozark Folk Cen**	**2.16**	**256**		**Pn**	**01 56 17.7**	**+1.0**
SLM	**Saint Louis**	**2.26**	**346**	IAmb_Lg		01 56 52.8	
	comp=Z,82nm,0.9s						
MGMO	**Mountain Grove**	**2.30**	**289**		**Pn**	**01 56 19.8**	**+1.2**
MGMO				IAmb_Lg		01 56 57.7	
	comp=Z,106nm,0.9s						
V48A	**Smith Brothers**	**2.31**	**107**		**Pn**	**01 56 19.4**	**+0.6**
Q44A	**Meyer Farm, Va**	**2.49**	**9**	Pn	**Pn**	**01 56 22.8**	**+1.7**
WHAR	**Wooly Hollow**	**2.51**	**244**	Pn	**Pn**	**01 56 21.9**	**+0.4**
OLIL	**Olney**	**2.56**	**26**		**Pn**	**01 56 23.5**	**+1.4**
OLIL				IAmb_Lg		01 57 05.3	
	comp=Z,74nm,0.8s						
Y45A	**Yeager Farm, C**	**2.57**	**180**	Pn	**Pn**	**01 56 23.0**	**+0.7**
U40A	**Yellville**	**2.67**	**269**		**Pn**	**01 56 25.4**

comp=Z,61nm,0.7s
P49A Miami Univ. Ec 4.90 50 IAmb_Lg 01 58 20.7
comp=Z,34nm,0.8s
TUL3 Leonard 5.08 266 Pn **Pn 01 56 56.9 0.0**
O48B Farmland 5.13 41 Pn **Pn 01 56 57.0 -0.6**
O48B IAmb_Lg 01 58 25.8
comp=Z,48nm,0.9s
Y52A Lilburn 5.17 118 IAmb_Lg 01 58 26.2
comp=Z,43nm,0.9s
250A Grady 5.21 148 IAmb_Lg 01 58 40.1
comp=Z,33nm,0.8s
N38A Joes South For 5.22 327 IAmb_Lg 01 58 35.2
comp=Z,51nm,1.0s
152A Waverly Hall 5.48 132 IAmb_Lg 01 58 35.3
comp=Z,37nm,1.0s
V53A Saluda 5.50 96 IAmb_Lg 01 58 41.1
comp=Z,39nm,0.8s
SSFO Shawnee State 5.52 64 Pn **Pn 01 57 04.2 +1.4**
O49A Covington 5.54 46 IAmb_Lg 01 58 43.3
comp=Z,30nm,0.7s
Q51A Peebles 5.54 60 IAmb_Lg 01 58 39.2
comp=Z,43nm,0.8s
L42A Oliver, Polo 5.55 359 IAmb_Lg 01 58 38.2
comp=Z,32nm,0.9s
BG3 Lake Jocassee 5.57 103 IAmb_Lg 01 58 45.8
comp=Z,30nm,0.7s
T35A Sooner Cattle 5.62 277 Pn **Pn 01 57 04.8 +0.5**
DEOK Depew 5.66 266 Pn **Pn 01 57 05.4 +0.6**
DEOK IAmb_Lg 01 58 56.5
comp=Z,42nm,0.9s
OK052 Battle Ridge R 5.89 268 IAmb_Lg 01 58 59.1
comp=Z,40nm,0.9s
OK031 S. Brethren Rd 5.92 267 IAmb_Lg 01 59 03.1
comp=Z,42nm,0.9s
OK048 Pawnee Station 5.97 272 IAmb_Lg 01 59 03.9
comp=Z,32nm,0.7s
N49A Columbus Grove 6.13 42 IAmb_Lg 01 58 56.3
comp=Z,30nm,0.9s
SCIA State Center 6.16 334 IAmb_Lg 01 59 02.3
comp=Z,28nm,0.7s
BLOK Blackwell 6.18 275 IAmb_Lg 01 59 06.4
comp=Z,41nm,0.7s
352A Blakely 6.26 141 IAmb_Lg 01 58 55.9
comp=Z,40nm,0.9s
Q52A Bidwell 6.29 64 IAmb_Lg 01 59 00.8
comp=Z,42nm,0.9s
JFWS Jewell Farm 6.49 355 Pn **Pn 01 57 16.5 +0.4**
JFWS IAmb_Lg 01 59 11.3
comp=Z,24nm,0.8s
PAULI Pauline 6.50 102 Pn **Pn 01 57 16.6 +0.3**
PAULI IAmb_Lg 01 59 01.6
comp=Z,22nm,0.8s
S54A Dingess, Beckl 6.71 76 IAmb_Lg 01 59 24.5
comp=Z,31nm,0.7s
V55A Taylorsville 6.76 93 IAmb_Lg 01 59 13.8
comp=Z,31nm,0.9s
KMSC Kings Mountain 6.79 99 IAmb_Lg 01 59 17.0
comp=Z,24nm,0.7s
CROK Carrier 6.80 273 IAmb_Lg 01 59 21.8
comp=Z,30nm,0.9s
Z35A Perchaven, San 7.06 246 IAmb_Lg 01 59 30.8
comp=Z,26nm,1.2s
O52A Adamsville 7.08 57 IAmb_Lg 01 59 23.5
comp=Z,28nm,0.8s
JSC Jenkinsville 7.10 105 IAmb_Lg 01 59 21.6
comp=Z,28nm,0.9s
P53A Whipple 7.12 62 Pn **Pn 01 57 25.2 +0.5**
P53A IAmb_Lg 01 59 40.4
comp=Z,35nm,1.1s
N51A Ashland 7.17 49 IAmb_Lg 01 59 44.1
comp=Z,29nm,0.8s
BLA Blacksburg 7.35 81 Pn **Pn 01 57 28.3 +0.2**
U56A King 7.39 88 IAmb_Lg 01 59 36.4
comp=Z,26nm,0.7s
OK038 West end E0370 7.42 273 IAmb_Lg 01 59 51.8
comp=Z,25nm,0.9s
I40A Norwalk 7.49 354 IAmb_Lg 01 59 39.1
comp=Z,24nm,1.2s
R32A Long Quarter, 7.56 288 Pn **Pn 01 57 30.8 -0.1**
NOKA Waynoka 7.56 274 IAmb_Lg 01 59 51.8
comp=Z,22nm,0.9s
BIRD Birdtown, Kers 7.62 101 IAmb_Lg 01 59 40.6
comp=Z,22nm,1.0s
L34A Svendsen Farm, 7.65 318 IAmb_Lg 01 59 52.2
comp=Z,31nm,0.8s
WMOK Wichita Mounta 7.72 260 Pn **Pn 01 57 32.5 -0.6**
CBKS Cedar Bluff 8.43 289 Pn **Pn 01 57 42.6 -0.3**

IDC 22 02:05:52.2±1.4, 6°.27N×120°.22E, h0^{km}, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=197.7km s-min=24.1km az=66.0, Sulu Archipelago

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.52**	**152**	P	P	02 11 58.4	-0.1
	0.4nm,0.9s,baz=334,slow=9.6,SNR=2.3 0.4nm,0.9s						
ASAR	**Alice Springs**	**32.62**	**156**	P	P	02 12 26.0	+0.1
	0.2nm,0.7s,baz=342,slow=7.5,SNR=1.8 0.2nm,0.7s						
SONM	**Songino Array**	**43.07**	**346**	P	P	02 13 54.5	+0.5
	0.8nm,0.8s,baz=160,slow=9.8,SNR=4.1 0.8nm,0.8s						
KURBB	**Kurchatov Arra**	**56.19**	**329**	P	P	02 15 33.2	-0.6
	0.3nm,0.7s,baz=130,slow=6.6,SNR=4.6 0.3nm,0.7s						

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*MOS **22** 02:11:49.1±0.9, 27°.04N×53°.81E, h12^{km}, mb4.8/44, Error ellipse: s-maj=5.2km s-min=3.6km az=102.5*
*BJI **22** 02:11:49.8, 27°.25N×53°.60E, h11^{km}, mb4.6/32, mB5.1/12, Ms4.5/17, Ms7 4.2/17*
*TEH **22** 02:11:50.1, 26°.99N×53°.80E, h18^{km}±26^{km}, ML4.7*
*NEIC **22** 02:11:50.5±1.3, 27°.03N±0°.07×53°.76E±0°.06, h10^{km}±1^{km}, mb4.7/104, Error ellipse: s-maj=12.3km s-min=8.2km az=213.0*
*DSN **22** 02:11:52.0±0.5, 27°.11N×53°.81E, h10^{km}, mb5.2/3, ML4.6/13, Error ellipse: s-maj=9.2km s-min=5.0km az=39.0*
*GCMT **22** 02:11:51.5±0.4, 26°.87N±0°.02×53°.70E±0°.02, h17^{km}±1^{km}, MW4.7/79, Moment Tensor Solution. s9, c9; s79, c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.67±.10; $M_{\theta\theta}$-1.39±.09; $M_{\phi\phi}$0.71±.07; $M_{r\theta}$0.72±.23; $M_{\theta\phi}$0.93±.06; $M_{\phi r}$-0.27±.20; Best double couple: $M_0$1.55400×10^{16} NP1:ϕ_s71.00000°, δ81.00000°, λ32.00000°. NP2: ϕ_s336.00000°, δ58.00000°, λ169.00000°. Principal axes: T 1.1780, Plg29.0000°, Azm298.0000°; N 0.7500, Plg57.0000°, Azm86.0000°; P -1.9290, Plg15.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*OMAN **22** 02:11:51.7±1.0, 27°.08N×53°.82E, h10^{km}, mb5.4/10, ml4.8/19 Error ellipse: s-maj=10.7km s-min=5.7km az=174.0*
*IDC **22** 02:11:53.4±3.6, 27°.07N×53°.83E, h28^{km}±25^{km}, mb4.2/29, mbtmp4.4/35, ML4.2/6, MS3.9/51, Error ellipse: s-maj=13.1km s-min=11.1km az=170.0*
*GII **22** 02:11:53.2±0.2, 27°.16N×53°.74E, h10^{km}, confirmed*
*BGR **22** 02:11:59.5, 28°.93N×55°.00E, h10^{km}, mb4.4*

ISC 22 02:11:50.7±0.5, 27°.03N±0°.03×53°.83E±0°.02, h10^{km}±3^{km}, h10^{km}:pP-P, n620, σ1^{s}41/614, mb4.7/160, MS3.9/61, 47C-21D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMD1	**Lamerd**	**0.67**	**298**	Pg	**Pb**	**02 12 04.0**	**-0.6**
LAR1	**LAR**	**0.80**	**37**	Pg	**Pg**	**02 12 05.5**	**-0.6**
JHRM	**Jahrom**	**1.49**	**351**	Pg	**Pb**	**02 12 18.7**	**+0.2**
QIR1	**Qir**	**1.60**	**334**	Pg	**Pb**	**02 12 20.3**	**-0.1**
GENO	**Geno**	**2.12**	**79**	Pn	**Pn**	**02 12 26.9**	**+0.5**
JRN	**Qarnain Island**	**2.26**	**203**	P	**Pb**	**02 12 31.6**	**0.0**
JRN				S	**Sb**	**02 13 00.9**	**+1.2**
SHME	**Shamm**	**2.29**	**115**	*e*P	**Pn**	**02 12 28.8**	**+0.2**
	SNR=60						
SHME	**Shamm**	**2.29**	**115**	P	**Pn**	**02 12 28.8**	**+0.2**
	SNR=60						
SHME				S	**Sb**	**02 13 01.7**	**+1.2**
IBND	**Bandar-abas**	**2.45**	**80**	Pn	**Pn**	**02 12 31.8**	**+1.1**
BANOM	**Banah**	**2.47**	**116**	*e*P	**Pn**	**02 12 31.7**	**+0.6**
	SNR=137						
BANOM	**Banah**	**2.47**	**116**	P	**Pn**	**02 12 31.9**	**+0.8**
BANOM				S	**Sb**	**02 13 07.2**	**+1.4**
NAZ	**Nazwa, Dubai**	**2.62**	**141**	*e*P	**Pn**	**02 12 35.6**	**+2.5**
	SNR=71						
NAZ	**Nazwa, Dubai**	**2.62**	**141**	P	**Pb**	**02 12 35.8**	**-2.0**
	SNR=71						
NAZ				S	**Sb**	**02 13 08.4**	**-1.6**
DSBU	**Dashti - Bushe**	**2.64**	**301**	Pn	**Pn**	**02 12 33.8**	**+0.4**
MASF	**Masafi**	**2.67**	**128**	P	**Pn**	**02 12 35.3**	**+1.5**
	SNR=40						
MASF				S	**Sb**	**02 13 09.6**	**-1.8**
AJN	**Ajban**	**2.67**	**157**	*e*P	**Pb**	**02 12 36.9**	**-1.8**
	SNR=29						
AJN	**Ajban**	**2.67**	**157**	P	**Pb**	**02 12 37.3**	**-1.3**
	SNR=28						
AJN				S	**Sb**	**02 13 12.5**	**+1.0**
MSFE	**Esma-Masafi**	**2.67**	**128**	*e*P	**Pn**	**02 12 35.5**	**+1.6**
	SNR=40						
ASUD	**Al Ashush, Dub**	**2.75**	**150**	*e*P	**Pb**	**02 12 37.7**	**-2.3**
	SNR=37						
ASUD	**Al Ashush, Dub**	**2.75**	**150**	P	**Pb**	**02 12 38.4**	**-1.6**
	SNR=38						
ASUD				S	**Sb**	**02 13 12.8**	**-1.0**
FAQ	**Al Faqa, Dubai**	**2.77**	**145**	*e*P	**Pn**	**02 12 37.8**	**+2.5**
	SNR=15						
FAQ	**Al Faqa, Dubai**	**2.77**	**145**	P	**Pb**	**02 12 38.3**	**-2.1**
	SNR=20						
MDH	**Madha**	**2.81**	**127**	*e*P	**Pn**	**02 12 37.3**	**+1.6**
	SNR=19						
MDH	**Madha**	**2.81**	**127**	P	**Pn**	**02 12 37.8**	**+2.0**
	SNR=19						
SHMA	**Al-Shehemyia**	**2.82**	**246**	P	**Pb**	**02 12 39.0**	**-2.3**
	SNR=46						
SHMA				S	**Sb**	**02 13 14.4**	**-1.5**
SHI	**Shiraz**	**2.85**	**336**	Pn	**Pn**	**02 12 36.3**	**-0.2**
AHBU	**AHRAM**	**2.89**	**310**	Pn	**Pn**	**02 12 36.5**	**-0.3**
HATD	**Hatta, Dubai**	**3.02**	**136**	*i* P	**Pn**	**02 12 40.5**	**+1.9**
	SNR=38						
HATD	**Hatta, Dubai**	**3.02**	**136**	P	**Pn**	**02 12 41.0**	**+2.3**
	SNR=38						
HATD				S	**Sn**	**02 13 18.4**	**+3.5**
ASHO	**Ashiyiah**	**3.08**	**139**	*i* P	**Pn**	**02 12 41.3**	**+1.8**
	SNR=145						
ASHO				S	**Sb**	**02 13 22.6**	**-0.8**
ASHO	**Ashiyiah**	**3.08**	**139**	P	**Pn**	**02 12 41.3**	**+1.8**
	SNR=861						
ASHO				S	**Sb**	**02 13 22.7**	**-0.6**
SAKB	**Bahrain**	**3.13**	**251**	P	**Pn**	**02 12 43.1**	**+3.0**
GHWR	**Ruwais**	**3.17**	**196**	⇑P	**Pn**	**02 12 43.2**	**+2.4**
GHWR				S	**Sn**	**02 13 21.0**	**+2.3**
KAZ2	**Kazeron-Fars-I**	**3.21**	**324**	Pn	**Pn**	**02 12 41.6**	**+0.3**
TRNA	**Turayna**	**3.29**	**226**	P	**Pn**	**02 12 44.7**	**+2.5**
	SNR=140						
TRNA				S	**Sn**	**02 13 24.1**	**+2.6**
SLWR	**Sila**	**3.53**	**214**	P	**Pn**	**02 12 47.8**	**+2.2**
SLWR				S	**Sn**	**02 13 31.0**	**+3.6**
SMRA	**Abu-Samra**	**3.54**	**231**	P	**Pn**	**02 12 49.0**	**+3.2**
	SNR=19						
SMRA				S	**Sn**	**02 13 30.9**	**+3.3**
KHNJ	**Kahnooj**	**3.56**	**74**	Pn	**Pn**	**02 12 46.6**	**+0.5**
NGRK	**Negar Kerman**	**3.65**	**44**	Pn	**Pn**	**02 12 49.0**	**+1.4**
SOHO	**SOHO**	**3.78**	**139**	*i* P	**Pn**	**02 12 50.3**	**+1.2**
	SNR=43						
SOHO	**SOHO**	**3.78**	**139**	P	**Pn**	**02 12 50.6**	**+1.5**
SOHO				S	**Sb**	**02 13 39.8**	**-3.6**
JASK	**Jask - Hormozg**	**3.80**	**107**	Pn	**Pn**	**02 12 49.8**	**+0.5**
JASK	**Jask - Hormozg**	**3.80**	**107**	P	**Pn**	**02 12 49.8**	**+0.5**
	SNR=35						
TVBK	**TV Kerman**	**3.91**	**41**	Pn	**Pn**	**02 12 52.4**	**+1.2**
MZR	**Muzera**	**4.02**	**185**	*i* P	**Pn**	**02 12 54.4**	**+2.0**
	SNR=48						
MZR	**Muzera**	**4.02**	**185**	P	**Pn**	**02 12 54.8**	**+2.4**
	SNR=47						
MZR				S	**Sn**	**02 13 42.2**	**+2.5**
KHGB	**Koh Gabri**	**4.06**	**34**	Pn	**Pn**	**02 12 54.4**	**+1.2**
CHMN	**Cheshme madani**	**4.31**	**48**	Pn	**Pn**	**02 12 59.1**	**+2.4**
IMEH	**Mehriz**	**4.40**	**9**	Pn	**Pn**	**02 12 59.5**	**+1.8**
ARQ	**Araqi**	**4.41**	**146**	P	**Pn**	**02 12 59.7**	**+1.9**
	SNR=37						
ARQ				S	**Sn**	**02 13 52.3**	**+3.0**
KLNJ	**Kolanjah**	**4.42**	**334**	Pn	**Pn**	**02 12 57.8**	**-0.4**
ZRDN	**Zarand Kerman**	**4.58**	**30**	Pn	**Pn**	**02 13 01.8**	**+1.5**
KBAM	**BAM**	**4.59**	**62**	Pn	**Pn**	**02 13 01.6**	**+1.3**
KRM1	**Kerman Provinc**	**4.59**	**40**	Pn	**Pn**	**02 13 01.9**	**+1.4**
HOQ	**Hoqain**	**4.66**	**137**	P	**Pn**	**02 13 01.7**	**+0.5**
	SNR=89						
HOQ				S	**Sn**	**02 13 56.2**	**+0.8**
IBAF	**Bafgh**	**4.79**	**18**	Pn	**Pn**	**02 13 04.2**	**+1.1**
ISAD	**Sadrabad**	**4.87**	**359**	Pn	**Pn**	**02 13 05.7**	**+1.4**
IRAM	**Ramesheh**	**4.93**	**345**	Pn	**Pn**	**02 13 05.6**	**+0.6**
ICHK	**Chekchek**	**5.22**	**5**	Pn	**Pn**	**02 13 10.4**	**+1.3**
BIDO	**Bidbid**	**5.23**	**131**	P	**Pn**	**02 13 10.4**	**+1.5**
	SNR=17						
BSY	**Bisya**	**5.25**	**144**	P	**Pn**	**02 13 11.0**	**+1.7**
	SNR=106						
BSY				P	**Pn**	**02 13 11.1**	**+1.7**
	SNR=264						
BSY				S	**Sn**	**02 14 10.6**	**+0.6**
SMDO	**Samad**	**5.50**	**135**	P	**Pn**	**02 13 13.9**	**+1.0**
	SNR=187						
SMDO				S	**Sn**	**02 14 17.3**	**+1.0**
IGAR	**Gharneh**	**5.58**	**344**	Pn	**Pn**	**02 13 14.5**	**+0.5**
ZNGN	**Zangian**	**5.69**	**334**	Pn	**Pn**	**02 13 15.5**	**-0.2**
WSAR	**Wadi Sarin**	**5.76**	**130**	Pn	**Pn**	**02 13 16.6**	**+0.2**
	12nm,0.3s,baz=318,slow=10,SNR=103						
WSAR				Sn	**Sn**	**02 14 19.9**	**-2.6**
	12nm,0.3s,baz=238,slow=19,SNR=3.7						
WSAR				LR	LR	02 15 50.2	
	comp=Z,2μm,20.7s,baz=336,slow=41 44nm,0.4s						
WSAR	**Wadi Sarin**	**5.76**	**130**	P	**Pn**	**02 13 17.8**	**+1.4**
	SNR=147						
JHBN	**Jahan bin**	**5.87**	**333**	Pn	**Pn**	**02 13 18.5**	**+0.4**
IZEF	**Zefreh**	**5.99**	**348**	Pn	**Pn**	**02 13 19.7**	**+0.1**
JMDO	**Jabal Madar**	**6.05**	**139**	P	**Pn**	**02 13 21.4**	**+1.0**
	SNR=38						
JMDO				S	**Sn**	**02 14 30.1**	**+0.3**
CHBR	**Chabahar**	**6.14**	**102**	Pn	**Pn**	**02 13 21.5**	**0.0**
IPIR	**Pirpir**	**6.18**	**336**	Pn	**Pn**	**02 13 21.7**	**-0.7**
WBK	**Wadi Bani Khal**	**6.42**	**132**	P	**Pn**	**02 13 26.4**	**+1.0**
	SNR=48						
WBK				S	**Sn**	**02 14 39.4**	**+0.7**
TPRV	**Parvadeh(Tabas**	**6.47**	**22**	Pn	**Pn**	**02 13 27.0**	**+0.9**
IKLH	**Kolahrood**	**6.56**	**343**	Pn	**Pn**	**02 13 28.0**	**+0.4**
NGCH	**Negor - Chabah**	**6.77**	**103**	Pn	**Pn**	**02 13 30.8**	**+0.6**
NGCH	**Negor - Chabah**	**6.77**	**103**	P	**Pn**	**02 13 30.4**	**+0.2**
	SNR=8.1						
NHDN	**Nehbandan**	**6.96**	**50**	Pn	**Pn**	**02 13 34.2**	**+1.3**
QAMS	**Qamsar**	**7.01**	**343**	Pn	**Pn**	**02 13 34.2**	**+0.6**
IKOO	**Kooshah**	**7.01**	**39**	Pn	**Pn**	**02 13 35.1**	**+1.5**
JLN	**Jalan Bani Buh**	**7.03**	**133**	P	**Pn**	**02 13 33.8**	**+0.1**
	SNR=57						
JLN				S	**Sn**	**02 14 53.1**	**-0.6**
KRSH	**Karshahi**	**7.07**	**348**	Pn	**Pn**	**02 13 34.7**	**+0.3**
MHTO	**MHTO**	**7.11**	**147**	P	**Pn**	**02 13 35.8**	**+1.0**
	SNR=146						
TKDS	**Koohdasht(Taba**	**7.15**	**23**	Pn	**Pn**	**02 13 36.9**	**+1.4**
ITEG	**Tejag**	**7.24**	**35**	Pn	**Pn**	**02 13 38.2**	**+1.5**
TNSJ	**Nastanj**	**7.31**	**18**	Pn	**Pn**	**02 13 38.2**	**+0.4**
ISFB	**Sefidab**	**7.42**	**350**	Pn	**Pn**	**02 13 39.4**	**+0.1**
SRVN	**Saravan**	**7.64**	**85**	Pn	**Pn**	**02 13 43.3**	**+1.0**
IDAH	**Dahanechah**	**7.73**	**41**	Pn	**Pn**	**02 13 45.4**	**+1.8**
AFRZ	**Afriz**	**7.79**	**34**	Pn	**Pn**	**02 13 45.8**	**+1.5**
IQOM	**Qom**	**8.14**	**344**	Pn	**Pn**	**02 13 49.3**	**+0.1**
IVRN	**Varamin**	**8.14**	**348**	Pn	**Pn**	**02 13 49.1**	**0.0**
IKFM	**Kafar-mosalman**	**8.28**	**323**	Pn	**Pn**	**02 13 51.0**	**0.0**
RAYN	**Ar Rayn**	**8.31**	**247**	Pn	**Pn**	**02 13 51.2**	**-0.1**
RAYN	**Ar Rayn**	**8.31**	**247**	*i* P	**Pn**	**02 13 51.5**	**+0.2**
	SNR=78						
RAYN	**Ar Rayn**	**8.31**	**247**	Pn	**Pn**	**02 13 51.2**	**-0.1**
RAYN	**Ar Rayn**	**8.31**	**247**	P	**Pn**	**02 13 51.4**	**0.0**
TAPT	**Tabas- Tapeh t**	**8.33**	**19**	Pn	**Pn**	**02 13 52.4**	**+0.7**
ILAS	**Lasjerd**	**8.36**	**355**	Pn	**Pn**	**02 13 52.9**	**+0.7**
DOK	**Doka**	**8.38**	**178**	P	**Pn**	**02 13 52.6**	**+0.3**
	SNR=79						
IANJ	**Anjilo**	**8.41**	**0**	Pn	**Pn**	**02 13 54.0**	**+1.1**
HSAM	**Samen**	**8.46**	**329**	Pn	**Pn**	**02 13 53.1**	**-0.4**
IFIR	**Firoozkooh**	**8.63**	**354**	Pn	**Pn**	**02 13 56.4**	**+0.4**
SHRT	**Shahrakht**	**8.64**	**39**	Pn	**Pn**	**02 13 57.5**	**+1.7**
IDMV	**Damavand**	**8.66**	**350**	Pn	**Pn**	**02 13 57.2**	**+0.9**
HAGD	**Aghdareh**	**8.75**	**334**	Pn	**Pn**	**02 13 58.0**	**+0.5**
IRAZ	**Razeghan**	**8.99**	**339**	Pn	**Pn**	**02 14 01.6**	**+0.8**
WHFO	**Wadi Hawf**	**9.07**	**180**	P	**Pn**	**02 14 01.7**	**-0.1**
	SNR=516						
IPRN	**Peran**	**9.27**	**352**	Pn	**Pn**	**02 14 05.4**	**+0.8**
KCHF	**Cheshme Sefid,**	**9.29**	**323**	Pn	**Pn**	**02 14 04.3**	**-0.6**
ILBA	**Ilam Banvizeh**	**9.30**	**317**	Pn	**Pn**	**02 14 03.1**	**-1.8**
DMTO	**DMTO**	**9.33**	**173**	P	**Pn**	**02 14 05.3**	**-0.1**
QABG	**Abgarm-Qazvin**	**9.38**	**338**	Pn	**Pn**	**02 14 06.3**	**+0.1**
SNQR	**Sonqor, Kerman**	**9.44**	**327**	Pn	**Pn**	**02 14 06.8**	**-0.3**
RBK	**Rabkut**	**9.49**	**178**	P	**Pn**	**02 14 08.0**	**+0.4**
	SNR=38						
MZPU	**Pul - Mazandar**	**9.58**	**349**	Pn	**Pn**	**02 14 09.4**	**+0.6**
IGHG	**Ghaleghazi**	**9.59**	**321**	Pn	**Pn**	**02 14 08.2**	**-0.9**
ABTO	**Aybut**	**9.64**	**183**	P	**Pn**	**02 14 09.8**	**+0.1**
	SNR=273						
KLST	**Kelardasht - M**	**9.75**	**347**	Pn	**Pn**	**02 14 11.7**	**+0.4**
GLG1	**Gilan-e-Gharb**	**9.82**	**318**	Pn	**Pn**	**02 14 10.6**	**-1.5**
IGZV	**Ghazvin**	**9.82**	**343**	Pn	**Pn**	**02 14 13.1**	**+0.9**
ILIN	**Lien**	**9.82**	**325**	Pn	**Pn**	**02 14 11.2**	**-1.1**
TBJM	**Torbat-e-JAM**	**9.92**	**33**	Pn	**Pn**	**02 14 15.2**	**+1.7**
IDHR	**Dehrash**	**9.96**	**322**	Pn	**Pn**	**02 14 13.3**	**-0.8**
KGS1	**Ghasr-e-Shirin**	**10.28**	**318**	Pn	**Pn**	**02 14 16.9**	**-1.4**
HRA	**Herat**	**10.30**	**43**	Pn	**Pn**	**02 14 20.7**	**+1.9**
IMYA	**Miami**	**10.71**	**28**	Pn	**Pn**	**02 14 27.5**	**+3.2**
MRVT	**Maraveh tapeh**	**10.77**	**10**	Pn	**Pn**	**02 14 26.5**	**+1.4**
IHRS	**Heris**	**12.62**	**335**	Pn	**Pn**	**02 14 51.6**	**+1.1**
GRMI	**Germi**	**12.75**	**339**	Pn	**Pn**	**02 14 53.1**	**+0.8**
KBL	**Kabul**	**15.05**	**57**	Pn	**Pn**	**02 15 23.2**	**-0.6**
KBL				IAmb	IAmb	02 15 32.6	
	comp=Z,30nm,1.2s						
KBL	**Kabul**	**15.05**	**57**	P	**Pn**	**02 15 23.2**	**-0.6**
KBL				pmax	pmax		
	comp=Z,30nm,1.3s						
GNI	**Garni**	**15.11**	**332**	P	**P**	**02 15 28.0**	**-1.6**
GNI	**Garni**	**15.11**	**332**	Pn	**P**	**02 15 30.2**	**+0.6**
	comp=Z,6.0nm,0.3s,baz=225,slow=1.4,SNR=47						
GNI	**Garni**	**15.11**	**332**	P	**P**	**02 15 28.0**	**-1.6**
GNI				pmax	pmax		
	comp=Z,70nm,0.7s						
GURO	**Guroymak-BITLI**	**15.16**	**322**	Pn	**Pn**	**02 15 25.1**	**0.0**
GURO				IAmb	IAmb	02 15 35.3	
	comp=Z,47nm,1.1s						
AKT	**Akhty**	**15.26**	**342**	*e*P	**Pn**	**02 15 27.1**	**+0.7**
AKT				*e*S	**Sn**	**02 18 18.3**	**+2.7**
AKT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AKT				smax	smax		
	comp=E,4.0nm,0.5s						
AKT				smax	smax		
	comp=N,4.0nm,0.6s						
AKT				MLR	MLR		
	comp=Z,275nm,12.0s						
ASF	**Jabal al Asfar**	**15.59**	**293**	Pn	**Pn**	**02 15 29.4**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=78,slow=0.1,SNR=13						
ASF				Sn	**Sn**	**02 18 16.4**	**-7.2**
	comp=Z,0.3nm,0.3s,baz=27,slow=18,SNR=8.0 comp=Z,3.5nm,0.4s						
ASF	**Jabal al Asfar**	**15.59**	**293**	P	**Pn**	**02 15 31.4**	**+0.7**
HSUJ	**Al Zarqa**	**16.15**	**292**	P	**Pn**	**02 15 37.9**	**-0.1**
KARS	**Kars**	**16.22**	**329**	P	**Pn**	**02 15 38.2**	**-0.7**
KARS	**Kars**	**16.22**	**329**	P	**Pn**	**02 15 38.2**	**-0.7**
KARS				pmax	pmax		
	comp=Z,175nm,1.1s						
HSNJ	**Maan**	**16.25**	**286**	P	**Pn**	**02 15 39.4**	**+0.1**
GHAJ	**Ghor Haditha**	**16.51**	**289**		**Pn**	**02 15 42.4**	**-0.1**
GHAJ				IAmb	IAmb	02 15 46.9	
	comp=Z,73nm,1.3s						
GHAJ	**Ghor Haditha**	**16.51**	**289**	P	**Pn**	**02 15 42.6**	**+0.2**
GHAJ	**Ghor Haditha**	**16.51**	**289**	⇑*i*P	**Pn**	**02 15 43.2**	**+0.7**
LISJ	**El Lisan**	**16.57**	**289**	P	**Pn**	**02 15 43.8**	**+0.6**
SHMJ	**Saham**	**16.66**	**294**	P	**Pn**	**02 15 44.2**	**-0.2**
MSBI	**Mazada**	**16.69**	**289**	P	**Pn**	**02 15 45.4**	**+0.7**
MSBI	**Mazada**	**16.69**	**289**	⇑*i*P	**Pn**	**02 15 45.7**	**+1.1**
KSHT	**Keshet**	**16.69**	**295**	⇑*i*P	**Pn**	**02 15 45.6**	**+0.7**
MAK	**Makhachkala**	**16.71**	**344**	*e*P	**Pn**	**02 15 43.1**	**-1.8**
MAK				*e*S	**Sn**	**02 18 48.7**	**-1.7**
MAK				pmax	pmax		
	comp=Z,109nm,1.3s						
MAK				MLR	MLR		
	comp=Z,847nm,18.0s						
DSI	**Dead Sea**	**16.71**	**290**	P	**P**	**02 15 46.4**	**-1.0**
DSI	**Dead Sea**	**16.71**	**290**	⇑*i*P	**Pn**	**02 15 45.8**	**+0.7**
QRNJ	**Al-Qirein**	**16.72**	**293**	P	**Pn**	**02 15 45.2**	**+0.2**
ZFRI	**Zfri**	**16.72**	**286**	P	**P**	**02 15 46.3**	**-1.1**
ZFRI	**Zfri**	**16.72**	**286**	⇑*i*P	**Pn**	**02 15 45.7**	**+0.6**
HMDT	**Nahal Hemdat**	**16.74**	**292**	P	**Pn**	**02 15 44.9**	**-0.4**
HMDT	**Nahal Hemdat**	**16.74**	**292**	⇑*i*P	**Pn**	**02 15 46.0**	**+0.7**
AQBJ	**Aqaba**	**16.75**	**284**	P	**Pn**	**02 15 45.7**	**+0.2**
HRFI	**Mount Harif**	**16.79**	**285**	P	**Pn**	**02 15 47.0**	**+1.0**
HRFI	**Mount Harif**	**16.79**	**285**	⇑*i*P	**Pn**	**02 15 46.7**	**+0.7**
EIL	**Elat**	**16.83**	**283**	Pn	**Pn**	**02 15 46.4**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=90,slow=3.8,SNR=18 comp=Z,37nm,1.1s						
EIL	**Elat**	**16.83**	**283**	P	**P**	**02 15 47.8**	**-0.8**
NATI	**Neve Ativ**	**16.83**	**296**	P	**P**	**02 15 47.6**	**-1.0**
NATI	**Neve Ativ**	**16.83**	**296**	⇑*i*P	**Pn**	**02 15 47.2**	**+0.7**
PRNI	**Paran**	**16.85**	**286**	P	**Pn**	**02 15 47.7**	**+0.9**
PRNI	**Paran**	**16.85**	**286**	⇑*i*P	**Pn**	**02 15 47.5**	**+0.7**
MMLI	**Mount Malkishu**	**16.87**	**293**	⇑*i*P	**Pn**	**02 15 47.9**	**+0.9**
MBRI	**Mt Berech**	**16.87**	**284**	P	**Pn**	**02 15 47.9**	**+0.8**
**MB

comp=Z,41nm,1.4s
CSS Mathiatis 19.25 299 Pn **P 02 16 15.2 -0.1**
CSS IAmb IAmb 02 16 17.9
comp=Z,66nm,1.1s
CSS Mathiatis 19.25 299 P **Pn 02 16 16.4 +0.1**
CSS Mathiatis 19.25 299 P **Pn 02 16 16.2 -0.1**
comp=Z,61nm,1.0s,comp=Z,660nm
TEND Ethiopian Broa 19.37 221 *e*P **Pn 02 16 22.5 +4.6**
DRK Karamyk 19.45 46 P **P 02 16 17.7 -0.1**
DRK Karamyk 19.45 46 P **P 02 16 17.7 -0.1**
DRK pmax pmax
comp=Z,23nm,1.0s
VSLR Vesyoloye 19.85 329 *i* P **P 02 16 22.2 +0.4**
GOF Gofitskoye 19.96 337 *ce*P **Pn 02 16 25.0 +0.3**
CHM Chimkent 19.97 36 *e*P **P 02 16 23.4 +0.2**
CHM Chimkent 19.97 36 *e*P **P 02 16 23.3 +0.2**
IUG Iuzhnay 20.08 37 *e*P **P 02 16 24.6 +0.2**
comp=Z,28nm,0.9s
IUG Iuzhnay 20.08 37 *e*P **P 02 16 24.6 +0.2**
IUG pmax pmax
comp=Z,28nm,0.9s
SOC Sochi 20.09 329 *e*P **P 02 16 24.4 0.0**
SOC *e*PPP PPP 02 16 47.7
SOC *e* 02 20 11.8
SOC *e*SS **SnSn 02 20 30.6 +3.9**
SOC *e*SSS SSS 02 20 39.2
SOC pmax pmax
comp=Z,38nm,1.0s
SOC MLR MLR
comp=Z,485nm,17.0s
LABN Labinsk 20.49 332 *e*P **P 02 16 29.7 +1.0**
LABN pmax pmax
comp=Z,118nm,0.8s
BRLS Borolday 20.59 35 *e*P **P 02 16 27.2 -2.7**
BRLS Borolday 20.59 35 *e*P **P 02 16 27.2 -2.7**
DESE Dese 20.72 223 *e*P Pn 02 16 33.9 -0.2
KKAR Karatay Array 21.00 36 P **P 02 16 34.4 +0.1**
KKAR Karatay Array 21.00 36 P **P 02 16 34.3 0.0**
KKAR Karatay Array 21.00 36 P **P 02 16 34.3 0.0**
KKAR 02 16 34.4
KKAR pmax pmax
comp=Z,8.0nm,0.8s
BR104 Keskin Array S 21.02 312 P **P 02 16 35.4 +0.7**
comp=Z,24nm,0.9s,comp=Z,167nm
BR104 pP **pP 02 16 38.2 +0.6**
comp=Z,24nm,0.9s,comp=Z,167nm
BR131 Keskin Array S 21.03 312 P **P 02 16 34.6 -0.2**
BR131 Keskin Array S 21.03 312 *i* P **P 02 16 35.0 +0.2**
BRTR Keskin Array B 21.03 312 P **P 02 16 35.1 +0.2**
BRTR Keskin Array B 21.03 312 P **P 02 16 35.5 +0.8**
comp=Z,14nm,0.9s,baz=133,slow=12,SNR=52
BRTR LR LR 02 27 19.8
comp=Z,454nm,18.2s,baz=120,slow=44
comp=Z,14nm,0.9s
BR105 Keskin Array S 21.04 312 P **P 02 16 35.5 +0.6**
comp=Z,24nm,0.9s,comp=Z,151nm
BR105 pP **sP 02 16 38.6 -0.6**
comp=Z,24nm,0.9s,comp=Z,151nm
BR106 Keskin Array S 21.05 312 P **P 02 16 35.6 +0.6**
comp=Z,24nm,0.8s,comp=Z,165nm
ARSB Arslanbob 21.25 43 P **P 02 16 36.7 -0.5**
ARSB Arslanbob 21.25 43 P **P 02 16 36.7 -0.5**
ARSB pmax pmax
comp=Z,12nm,0.7s
DZA Taraz 21.29 37 *e*P **P 02 16 37.5 +0.1**
DZA Taraz 21.29 37 *e*P **P 02 16 37.5 +0.1**
ERBR Yeremizino-Bor 21.47 334 *e*P **P 02 16 40.0 +0.7**
ERBR *e*S **S 02 20 36.9 -0.5**
ERBR pmax pmax
comp=Z,75nm,1.0s
BR231 Keskin MP Arra 21.66 311 P **P 02 16 40.8 -0.7**
ANTO Ankara 21.66 312 P **P 02 16 40.8 -0.7**
ANTO IAmb IAmb 02 16 47.5
comp=Z,31nm,0.9s
ANTO Ankara 21.66 312 ⇑P **P 02 16 42.3 +0.8**
ANTO Ankara 21.66 312 P **P 02 16 42.3 +0.8**
ANTO Ankara 21.66 312 P **P 02 16 42.6 +1.1**
comp=Z,22nm,0.9s,comp=Z,319nm
ANKE Ethiopia-Afar 21.87 220 *e*P **P 02 16 46.2 +2.0**
ANN Anapa 22.08 328 *e*P **P 02 16 44.7 -1.1**
ANN pmax pmax
comp=Z,71nm,1.5s
KSH Kashi 22.24 50 P **P 02 16 43.0 -4.8**
KSH pmax pmax
comp=Z,20nm,0.8s
KSH LR LR
comp=Z,840nm,20.6s
KSH LR LR
comp=Z,740nm,18.6s
KSH LR LR
comp=Z,500nm,11.7s
ELL Elmali 22.45 301 P **P 02 16 48.4 -1.7**
ELL Elmali 22.45 301 P **P 02 16 48.4 -1.7**
ELL pmax pmax
comp=Z,287nm,1.2s
ABKAR Akbulak array 22.69 10 P **P 02 16 51.9 -0.4**
ABKAR IAmb IAmb 02 17 03.7
comp=Z,53nm,1.4s
ABKAR Akbulak array 22.69 10 P **P 02 16 52.1 -0.2**
WLRA Wolmera 22.87 222 *e*P **P 02 16 57.1 +2.2**
AAE Adis Abeba 22.89 221 *e*P **P 02 16 57.4 +2.4**
AAK Ala-Archa 22.93 42 P **P 02 16 55.2 +0.1**
AAK IAmb IAmb 02 17 12.0
comp=Z,41nm,1.4s
AAK Ala-Archa 22.93 42 *i* P **P 02 16 56.3 +1.1**
SNR=21
AAK Ala-Archa 22.93 42 LR LR 02 26 17.0
comp=Z,439nm,18.4s,baz=246,slow=38
AAK Ala-Archa 22.93 42 *ce*P **P 02 16 56.5 +1.3**
AAK pmax pmax
comp=Z,22nm,1.7s
FURI Furi 23.04 221 LR LR 02 26 37.8
comp=Z,276nm,18.8s,baz=35,slow=38
FURI Furi 23.04 221 *e*P **P 02 17 03.6 +7.0**
NRN Naryn 23.20 46 P **P 02 16 57.5 -0.6**
NRN IAmb IAmb 02 17 26.4
comp=Z,27nm,1.3s
NRN Naryn 23.20 46 P **P 02 16 57.5 -0.6**
NRN pmax pmax
comp=Z,27nm,1.3s
AKTO Aktyubinsk 23.59 7 LR LR 02 27 55.7
comp=Z,276nm,19.3s,baz=222,slow=41
GRD1 Great Renaissa 23.71 232 *e*P **P 02 17 02.0 -1.1**
BOOM Boomskoye usch 23.73 44 P **P 02 17 02.1 -1.1**
BOOM Boomskoye usch 23.73 44 P **P 02 17 02.1 -1.1**
BOOM pmax pmax
comp=Z,15nm,0.9s
SIM Simferopol' 23.86 324 *e*P **P 02 17 00.7 -3.5**
SIM *e*S **S 02 21 09.6 -11**
SIM pmax pmax
comp=Z,39nm,1.0s
SIM smax smax
comp=N,119nm,20.1s
SIM MLR MLR
comp=Z,152nm,22.2s
BTLS Baital 24.18 37 *e*P **P 02 17 07.3 +0.1**
BTLS Baital 24.18 37 *e*P **P 02 17 07.3 +0.1**
KDJ Kajisay 24.31 46 P **P 02 17 08.1 -0.6**
KDJ Kajisay 24.31 46 P **P 02 17 08.1 -0.6**
KDJ pmax pmax
comp=Z,9.0nm,0.8s
TARG Taragay, Kyrgy 24.52 47 P **P 02 17 09.1 -1.8**
TARG Taragay, Kyrgy 24.52 47 P **P 02 17 09.1 -1.8**
TARG pmax pmax
comp=Z,14nm,1.0s
TNSS Tian-Shan 24.65 44 *e*P **P 02 17 11.6 -0.4**
TNSS Tian-Shan 24.65 44 *e*P **P 02 17 11.6 -0.4**
MDOK Medeo 24.78 43 *e*P **P 02 17 13.1 +0.2**
MDOK Medeo 24.78 43 *e*P **P 02 17 13.1 +0.2**
WUS Wushi 25.21 49 P **P 02 17 15.6 -1.2**
WUS IAmb IAmb 02 17 53.5
comp=Z,23nm,1.5s
SATY Saty 25.57 45 *e*P **P 02 17 20.3 +0.2**
SATY Saty 25.57 45 *e*P **P 02 17 20.2 +0.2**
BELG Belogornoye 25.76 351 LR LR 02 29 41.6
comp=Z,266nm,19.4s,baz=172,slow=42
BELG Belogornoye 25.76 351 *i* P **P 02 17 22.6 +1.2**
BELG pmax pmax
comp=Z,12nm,1.0s
ARXS Arharly 25.82 42 *e*P **P 02 17 26.0 +3.7**
VRH Novokhopyorsk 25.83 342 *e*P **P 02 17 22.6 +0.5**
VRH pmax pmax
comp=Z,40nm,1.0s
APE Apeiranthos 25.91 300 ⇑P **P 02 17 23.1 +0.1**

APE Apeiranthos 25.91 300 P **P 02 17 23.1 +0.1**
KPKS Kokpek 25.95 44 *e*P **P 02 17 23.3 -0.2**
KPKS Kokpek 25.95 44 *e*P **P 02 17 23.2 -0.2**
UZB Uzynbulak 26.00 45 *e*P **P 02 17 23.8 -0.2**
UZB Uzynbulak 26.00 45 *e*P **P 02 17 23.8 -0.2**
IDI Anoyia 26.03 296 P **P 02 17 24.0 -0.2**
SHLS Shalkode 26.29 46 *e*P **P 02 17 29.0 +2.5**
SHLS Shalkode 26.29 46 *e*P **P 02 17 29.0 +2.5**
VORD Divnogorie 26.34 339 *e*P **P 02 17 25.8 -0.9**
VORD pmax pmax
comp=Z,30nm,0.9s
VSR Storozhevoye 26.60 339 *e*P **P 02 17 29.1 +0.1**
VSR pmax pmax
comp=Z,20nm,0.9s
TDK Taldyqorghan 26.61 41 *e*P **P 02 17 29.2 -0.1**
comp=Z,8.5nm,0.6s
TDK Taldyqorghan 26.61 41 *e*P **P 02 17 29.2 -0.1**
TDK pmax pmax
comp=Z,8.0nm,0.6s
VORR Voronezh 26.98 340 *e*P **P 02 17 30.8 -1.7**
VORR pmax pmax
comp=Z,24nm,0.6s
VLDR Vladesti 27.77 319 ⇑P **P 02 17 41.3 +1.6**
LPSR Galich'ya Gora 27.87 340 *e*P **P 02 17 39.4 -1.1**
LPSR *e*S **S 02 22 30.1 +6.3**
LPSR pmax pmax
comp=Z,12nm,0.7s
LPSR smax smax
comp=E,100nm,1.4s
VRI Vrincioaia 28.57 318 ⇓P **P 02 17 48.0 +1.1**
VRI Vrincioaia 28.57 318 P **P 02 17 47.9 +1.1**
NEHR Nehoiu 28.61 317 ⇑P **P 02 17 48.5 +1.3**
PLOR Plostina 28.61 318 ⇑P **P 02 17 47.9 +0.6**
PLOR Plostina 28.61 318 P **P 02 17 47.8 +0.6**
PLOR3 Plostina Array 28.61 318 P **P 02 17 49.0 +1.7**
comp=E,17nm,1.0s
BRVK Borovoye 28.75 21 P **P 02 17 47.2 -1.1**
BRVK IAmb IAmb 02 17 57.8
comp=Z,15nm,1.4s
BRVK Borovoye 28.75 21 *ce*P **P 02 17 48.3 0.0**
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BVAR Borovoye Array 28.75 21 P **P 02 17 48.5 +0.1**
comp=Z,7.6nm,0.7s,baz=214,slow=7.2,SNR=37
BVAR PcP **PcP 02 20 58.0 -0.3**
comp=Z,2.9nm,0.8s,baz=225,slow=3.8,SNR=3.0
BVAR ScP **ScP 02 24 37.6 -2.2**
comp=Z,0.6nm,0.6s,baz=208,slow=2.5,SNR=3.5
BVAR LR LR 02 30 37.8
comp=Z,210nm,20.6s,baz=218,slow=39
comp=Z,7.6nm,0.7s
MLR Muntele Rosu 28.85 317 P **P 02 17 48.0 -1.5**
MLR Muntele Rosu 28.85 317 ⇑P **P 02 17 50.8 +1.3**
MLR Muntele Rosu 28.85 317 P **P 02 17 50.7 +1.3**
MLR Muntele Rosu 28.85 317 P **P 02 17 51.1 +1.6**
comp=Z,13nm,1.5s
COVR Voineasa-Covas 28.87 318 ⇓P **P 02 17 51.0 +1.4**
TESR Tescani 28.96 319 ⇑P **P 02 17 50.5 +0.2**
TESR Tescani 28.96 319 P **P 02 17 50.8 +0.5**
comp=Z,21nm,1.4s
TESR pP **pP 02 17 53.8 +0.4**
comp=Z,21nm,1.4s
ONER Baraj Valea Uz 29.02 319 ⇓P **P 02 17 51.9 +1.1**
TURR Turia 29.09 318 ⇓P **P 02 17 53.0 +1.5**
OZUR 29.25 318 ⇑P **P 02 17 53.3 +0.4**
VOIR 29.37 316 ⇓P **P 02 17 55.1 +1.1**
VOIR 29.37 316 P **P 02 17 55.2 +1.1**
VOIR 29.37 316 P **P 02 17 54.4 +0.4**
comp=Z,15nm,1.0s
DOPR Dopca 29.43 317 ⇓P **P 02 17 55.5 +1.0**
ARTI Arti 29.52 5 LR LR 02 31 54.8
comp=Z,189nm,18.2s,baz=212,slow=41
ARTI Arti 29.52 5 P **P 02 17 54.5 -0.6**
ARTI S **S 02 22 50.3 +0.7**
ARR Arges 29.60 316 ⇑P **P 02 17 56.7 +0.6**
MK31 Makanchi Array 29.86 41 P **P 02 17 56.9 -1.4**
MK31 Makanchi Array 29.86 41 P **P 02 17 56.9 -1.4**
MK31 pmax pmax
comp=Z,11nm,1.5s
MKAR Makanchi Array 29.86 41 P **P 02 17 56.0 -2.3**
MKAR Makanchi Array 29.86 41 P **P 02 17 58.3 0.0**
comp=Z,1.7nm,0.6s,baz=241,slow=5.0,SNR=12
MKAR LR LR 02 30 57.7
comp=Z,204nm,18.1s,baz=240,slow=38
comp=Z,1.7nm,0.6s
MKAR Makanchi Array 29.86 41 *ce*P **P 02 17 58.5 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
AK07 Malin Array Si 30.07 328 P **P 02 18 01.8 +1.7**
KURBB Kurchatov Arra 30.15 32 P **P 02 18 01.0 +0.2**
comp=Z,1.8nm,0.7s,baz=231,slow=8.7,SNR=16
KURBB LR LR 02 31 23.3
comp=Z,290nm,18.3s,baz=172,slow=39
comp=Z,1.8nm,0.7s
AK01 Malin Array Si 30.16 328 P **P 02 17 59.9 -1.0**
AKASG Malin Array Be 30.16 328 P **P 02 17 59.7 -1.1**
comp=Z,1.5nm,0.3s,baz=138,slow=8.1,SNR=17
comp=Z,1.5nm,0.3s
AKASG Malin Array Be 30.16 328 *ce*P **P 02 18 00.2 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 30.16 328 IAmb IAmb 02 18 11.3
comp=Z,9.9nm,0.7s
AKBB Malin Array Si 30.16 328 *ce*P **P 02 17 59.1 -1.8**
AKBB pmax pmax
comp=Z,7.0nm,0.6s
AKBB Malin Array Si 30.16 328 P **P 02 18 00.1 -0.8**
KIEV Kiev 30.17 328 P **P 02 17 59.9 -0.9**
KIEV IAmb IAmb 02 18 11.3
comp=Z,9.0nm,0.8s
KIEV Kiev 30.17 328 ⇓P **P 02 18 00.2 -0.8**
KIEV Kiev 30.17 328 P **P 02 18 00.1 -0.8**
KIEV Kiev 30.17 328 P **P 02 18 00.1 -0.8**
comp=Z,48nm,1.0s
AK03 Malin Array Si 30.18 328 P **P 02 18 00.1 -0.9**
KURK Kurchatov 30.26 32 P **P 02 18 01.3 -0.4**
KURK Kurchatov 30.26 32 *e*P **P 02 18 01.9 +0.2**
KURK pmax pmax
comp=Z,9.0nm,1.4s
BURAR Bucovina Array 30.38 320 ⇑P **P 02 18 04.2 +1.1**
BURAR Bucovina Array 30.38 320 P **P 02 18 04.1 +1.1**
BUR08 Bucovina Ar. S 30.41 320 IAmb IAmb 02 18 23.2
comp=Z,20nm,1.5s
ARCR ARCALIA 30.61 319 ⇑P **P 02 18 06.5 +1.6**
OBN Obninsk 30.75 341 ⇓*e*P **P 02 18 05.1 -0.9**
OBN *e**PP **pP 02 18 07.2 -1.9**
OBN *e**SP **sP 02 18 11.0 +0.6**
OBN S **S 02 23 14.0 +5.1**
OBN SS **ScP 02 24 45.0 -1.2**
OBN pmax pmax
comp=Z,27nm,1.5s
OBN MLR MLR
comp=Z,135nm,16.0s
GZR Gura Zlata 30.77 315 ⇑P **P 02 18 07.0 +0.6**
SEM Semipalatinsk 30.85 34 *e*P **P 02 18 07.2 0.0**
SEM Semipalatinsk 30.85 34 *e*P **P 02 18 07.2 0.0**
CJR Cluj-Napoca 30.87 318 ⇑P **P 02 18 08.8 +1.5**
CJR Cluj-Napoca 30.87 318 P **P 02 18 08.8 +1.5**
MOS Moscow 30.99 342 *e*P **P 02 18 09.7 +1.6**
MARR Marisel-Cluj 31.14 317 ⇑P **P 02 18 10.0 +0.3**
MDVR Moldovita 31.20 313 ⇓P **P 02 18 10.1 -0.1**
BMR Baia Mare 31.41 319 ⇓P **P 02 18 13.0 +1.0**
BMR Baia Mare 31.41 319 P **P 02 18 12.9 +1.0**
DRGR 31.45 317 ⇓P **P 02 18 13.4 +1.1**
DRGR 31.45 317 P **P 02 18 13.4 +1.1**
BZS Buzias 31.61 314 ⇓P **P 02 18 14.4 +0.8**
BZS Buzias 31.61 314 P **P 02 18 14.4 +0.8**
KIRV Kirov 31.69 356 LR LR 02 32 43.4
comp=Z,214nm,21.9s,baz=170,slow=40
KIRV Kirov 31.69 356 *ce*P **P 02 18 15.2 +1.0**
ZSN Zaisan 31.71 42 *e*P **P 02 18 15.0 +0.3**
ZSN Zaisan 31.71 42 *e*P **P 02 18 14.9 +0.3**
SIRR Siria 31.86 316 ⇑P **P 02 18 17.0 +1.1**
WMQ Urumqi 32.00 50 *e*P **P 02 18 18.9 +1.6**
WMQ PP **PnPn 02 19 22.6 +0.3**
WMQ LR LR
comp=Z,860nm,24.3s
WMQ LR LR
comp=Z,290nm,23.9s
BRIU Brid 32.02 320 P **P 02 18 18.0 +0.7**
BERU Beregovo 32.18 319 P **P 02 18 19.1 +0.4**
KMBO Kilima Mbogo 32.23 212 P **P 02 18 17.1 -2.6**
KMBO Kilima Mbogo 32.23 212 P **P 02 18 20.9 +1.2**
comp=Z,1.4nm,0.6s,baz=52,slow=11,SNR=7.6

KMBO LR LR 02 31 34.4
comp=Z,90nm,18.3s,baz=90,slow=37
comp=Z,1.4nm,0.6s
RNPP1 Kostyukhnivka 32.25 326 P **P 02 18 20.9 +1.7**
KOLS Kolonicke sedl 32.75 320 *e*P **P 02 18 24.6 +0.9**
KOLS pmax pmax
comp=Z,32nm,1.0s
KOLS Kolonicke sedl 32.75 320 *e*P **P 02 18 24.6 +0.9**
TIP Timpagrande 33.11 301 P **P 02 18 27.9 +0.8**
comp=Z,10nm,2.3s
MNK Minsk 33.38 332 *i* P **P 02 18 28.0 -1.1**
comp=E,15nm,1.0s
MNK *i* P **P 02 18 28.0 -1.1**
comp=N,8.0nm,0.7s
MNK *i* P **P 02 18 28.0 -1.1**
comp=Z,8.0nm,0.8s,baz=135
MNK *i* PP **PnPn 02 19 38.8 -1.0**
MNK *i* S **S 02 23 49.4 -0.6**
MNK *i* SS **SnSn 02 25 52.3 +1.3**
MNK *i* LQ LQ 02 29 30.1
MNK *i* LR LR 02 32 02.6
MNK *i* LRM MLR 02 33 20.7
comp=E,298nm,18.8s
MNK *i* LRM MLR 02 33 20.7
comp=Z,284nm,20.9s
MNK Minsk 33.38 332 *i* P **P 02 18 28.0 -1.1**
MNK *i* 02 19 38.7
MNK *i* S **S 02 23 49.4 -0.6**
MNK *i* SS **SnSn 02 25 52.3 +1.3**
MNK pmax pmax
comp=E,15nm,1.0s
MNK pmax pmax
comp=Z,8.0nm,0.8s
MNK pmax pmax
comp=N,8.0nm,0.7s
MNK MLR MLR
comp=Z,284nm,21.0s
MNK MLR MLR
comp=E,298nm,19.0s
KECS Kecovo 33.57 319 *e*P **P 02 18 32.0 +1.1**
KECS pmax pmax
comp=Z,16nm,0.7s
KECS Kecovo 33.57 319 *e*P **P 02 18 31.9 +1.1**
STHS Stebnicka Huta 33.58 321 *e*P **P 02 18 32.2 +1.3**
STHS Stebnicka Huta 33.58 321 *e*P **P 02 18 32.2 +1.3**
MORH Mrgy, Hungar 33.75 314 ⇓P **P 02 18 33.0 +0.6**
NIE Niedzica 34.11 320 *e*P **P 02 18 37.0 +1.4**
NACGM Naroch 34.12 332 *e*P **P 02 18 38.7 +3.2**
comp=E,1μm,1.1s
LANS Liptovska Anna 34.47 319 *e*P **P 02 18 39.9 +1.2**
LANS pmax pmax
comp=Z,11nm,1.0s
LANS Liptovska Anna 34.47 319 *e*P **P 02 18 39.9 +1.2**
VYHS Vyhne 34.55 318 *e*P **P 02 18 39.6 +0.2**
VYHS pmax pmax
comp=Z,7.0nm,1.2s
VYHS Vyhne 34.55 318 *e*P **P 02 18 39.6 +0.2**
SRO Srobarova 34.58 316 *e*P **P 02 18 40.3 +0.7**
SRO pmax pmax
comp=Z,16nm,1.1s
SRO Srobarova 34.58 316 *e*P **P 02 18 40.3 +0.7**
OJC Ojcow 34.78 321 *e*P **P 02 18 41.4 -0.1**
OJC Ojcow 34.78 321 P **P 02 18 41.3 -0.1**
comp=Z,23nm,1.0s
MPLH Magyarpolny 34.81 315 P **P 02 18 41.9 +0.2**
comp=Z,41nm,1.1s
KLMR Klimovskoe 35.19 348 *e*P **P 02 18 43.2 -1.4**
KLMR pmax pmax
comp=Z,20nm,1.0s
ZAA0 Zalesovo Array 35.25 32 IAmb IAmb 02 19 00.0
comp=Z,11nm,0.7s
ZALV Zalesovo Beam 35.25 32 P **P 02 18 45.1 -0.1**
ZALV Zalesovo Beam 35.25 32 P **P 02 18 45.0 -0.3**
comp=Z,7.2nm,0.5s,baz=238,slow=9.4,SNR=36
ZALV LR LR 02 34 04.9
comp=Z,164nm,18.3s,baz=241,slow=38
comp=Z,7.2nm,0.5s
ZALV Zalesovo Beam 35.25 32 P **P 02 18 45.2 -0.1**
MBAR Mbarara 35.34 223 P **P 02 18 45.3 -1.4**
MBAR Mbarara 35.34 223 LR LR 02 33 05.4
comp=Z,249nm,20.4s,baz=33,slow=36
MBAR Mbarara 35.34 223 *i* P **P 02 18 45.6 -1.1**
MBAR pmax pmax
comp=Z,6.0nm,1.0s
JAVC Velka Javorina 35.41 318 *e*P **P 02 18 47.4 +0.6**
MODS Modra-Piesok 35.45 317 *e*P **P 02 18 49.5 +2.4**
MODS pmax pmax
comp=Z,126nm,2.5s
MODS Modra-Piesok 35.45 317 *e*P **P 02 18 49.5 +2.4**
PABE Paberze 35.72 331 P **P 02 18 48.9 -0.5**
BOJS Bojanci 35.73 311 *i* P **P 02 18 49.8 +0.2**
RONA Rosalia, Austr 35.79 315 *i* P **P 02 18 50.4 +0.2**
comp=Z,14nm,1.5s,SNR=5.1
GOMU GeErMu 35.86 65 P **P 02 18 52.8 +1.6**
GOMU pP pP 02 18 54.9 +0.5
GOMU S **S 02 24 30.8 +1.4**
GOMU pmax pmax
comp=Z,21nm,0.8s
GOMU pmax pmax
comp=Z,200nm,4.4s
GOMU LR LR
comp=Z,200nm,18.3s
GOMU LR LR
comp=Z,310nm,20.1s
GOMU LR LR
comp=Z,430nm,17.4s
MORC Moravsky Berou 35.88 319 IAmb IAmb 02 18 54.2
comp=Z,12nm,1.1s
MORC Moravsky Berou 35.88 319 *e*P **P 02 18 50.2 -0.6**
MORC Moravsky Berou 35.88 319 ⇓P **P 02 18 51.0 +0.1**
MORC Moravsky Berou 35.88 319 P **P 02 18 50.9 +0.1**
ARSA Arzberg 36.12 314 *e*P **P 02 18 53.6 +0.6**
comp=Z,5.4nm,1.0s
CONA Conrad Observa 36.15 315 *i* P **P 02 18 53.3 +0.1**
comp=Z,7.7nm,1.2s
VRAC Vranov 36.24 318 LR LR 02 34 57.7
comp=Z,85nm,21.5s,baz=100,slow=38
VRAC Vranov 36.24 318 *e*P **P 02 18 53.9 0.0**
VRAC Vranov 36.24 318 ⇑P **P 02 18 53.9 0.0**
VRAC Vranov 36.24 318 P **P 02 18 53.9 0.0**
SOKA Soboth 36.25 313 *e*P **P 02 18 54.0 0.0**
comp=Z,3.6nm,0.9s
KRUC Moravsky 36.26 317 *e*P **P 02 18 53.9 -0.1**
LJU Ljubljana 36.38 312 *i* P **P 02 18 55.6 +0.5**
GBAS Gorenja Brezov 36.40 312 *i* P **P 02 18 55.2 -0.1**
KRLC Kraliky 36.45 319 *e*P **P 02 18 55.0 -0.7**
KRLC Kraliky 36.45 319 *e*P **P 02 18 55.0 -0.7**
OBKA Obir 36.51 313 *e*P **P 02 18 56.9 +0.6**
comp=Z,11nm,1.2s
NRCA Norcia 36.53 306 IAmb IAmb 02 18 58.2
comp=Z,12nm,0.7s
FDMO Fiordimonte 36.59 307 IAmb IAmb 02 18 58.7
comp=Z,19nm,1.0s
DPC Dobruska-Polom 36.83 319 *e*P **P 02 18 59.1 +0.1**
DPC Dobruska-Polom 36.83 319 *e*P **P 02 18 59.1 +0.1**
DPC Dobruska-Polom 36.83 319 P **P 02 18 58.3 -0.7**
comp=Z,11nm,2.4s
CESX Cesi 36.87 306 IAmb IAmb 02 19 00.9
comp=Z,16nm,1.0s
SABO M.te Sabotino 36.98 312 IAmb IAmb 02 19 01.0
comp=Z,14nm,0.9s
OSTC Ostas 36.98 320 *e*P **P 02 18 59.8 -0.4**
OSTC Ostas 36.98 320 *e*P **P 02 18 59.8 -0.4**
KSP Ksiaz 37.06 320 *e*P **P 02 19 01.0 +0.1**
KSP Ksiaz 37.06 320 P **P 02 19 00.5 -0.4**
comp=Z,13nm,1.5s
CHVC Chvalec 37.09 320 *e*P **P 02 19 00.9 -0.2**
CHVC Chvalec 37.09 320 *e*P **P 02 19 00.9 -0.2**
MOA Molln 37.13 315 *i* P **P 02 19 01.2 -0.3**
comp=Z,8.3nm,0.9s
PRED Cave del Predi 37.13 312 IAmb IAmb 02 19 02.9
comp=Z,12nm,1.1s
MYKA Terra Mystica 37.14 313 *i* pP pP 02 19 03.4 -1.5
comp=Z,8.4nm,1.1s
KBA Koelnbreinsper 37.47 313 *i* P **P 02 19 04.7 0.0**
comp=Z,11nm,0.9s,SNR=8.1
BIOA Bad Ischl, Aus 37.48 314 *i* P **P 02 19 04.7 +0.2**
comp=Z,8.8nm,0.7s,SNR=6.2
ARBE Arbavere 37.66 337 *e*P **P 02 19 05.6 -0.2**
ZVC Zvikov 37.73 317 *e*P **P 02 19 06.6 0.0**
ZVC *ex* x 02 19 09.7
GERES GERESS Array B 37.82 316 P **P 02 19 06.9 -0.6**
comp=Z,1.2nm,0.6s,baz=114,slow=6.0,SNR=5.9
comp=Z,1.2nm,0.6s
ABTA Abfaltersbach 37.92 312 *i* P **P 02 19 08.2 -0.1**

comp=Z,12nm,0.9s,SNR=6.3
KHC Kasperske Hory 38.00 316 IAmb IAmb 02 19 09.6
comp=Z,12nm,1.0s
KHC Kasperske Hory 38.00 316 *e*P **P** **02 19 08.9 0.0**
KHC *ep*P **pP** **02 19 12.0 -0.1**
KHC Kasperske Hory 38.00 316 *e*P **P** **02 19 08.9 0.0**
KHC *e* 02 19 12.0
LESA Schwarzleotal 38.01 313 *e*P **P** **02 19 08.8 -0.3**
comp=Z,6.6nm,0.8s
CTI Castel Tesino 38.30 311 IAmb IAmb 02 19 12.4
comp=Z,14nm,0.8s
BRG Berggiesshubel 38.43 319 *e*P **P** **02 19 12.3 -0.2**
BRG Amp 02 19 13.2
comp=Z,5.6nm,1.0s
BRG Berggiesshubel 38.43 319 *e*P **P** **02 19 12.2 -0.2**
BRG pmax pmax
comp=Z,6.0nm,1.0s
WTTA Wattenberg 38.64 313 *i*P **P** **02 19 14.3 -0.2**
comp=Z,37nm,1.3s,SNR=10
KEST Kesra 38.69 294 P **P** **02 19 16.5 +1.6**
comp=Z,9.0nm,0.9s,baz=90,slow=3.0,SNR=8.6
comp=Z,9.0nm,0.9s
WATA Walderalm 38.70 313 *i*P **P** **02 19 14.0 -0.9**
comp=Z,36nm,1.2s,SNR=11
MEF Metsahovi 38.78 337 *e*P **P** **02 19 15.6 +0.4**
SQTA Sankt Quirin 38.91 313 *i*P **P** **02 19 16.3 -0.4**
comp=Z,19nm,0.7s,SNR=10
MOTA Moosalm 39.01 313 *e*P **P** **02 19 16.7 -0.9**
comp=Z,29nm,1.1s
FINES FINESS Array B 39.13 339 P **P** **02 19 17.2 -0.9**
comp=Z,2.9nm,0.4s,baz=136,slow=8.6,SNR=19
FINES LR LR 02 37 57.1
comp=Z,245nm,18.7s,baz=150,slow=40
comp=Z,2.9nm,0.4s
FINES FINESS Array B 39.13 339 *i*P **P** **02 19 17.6 -0.5**
FINES pmax pmax
comp=Z,3.0nm,0.4s
CLL Collm 39.14 319 *i*P **P** **02 19 18.2 -0.2**
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL MLR MLR
comp=Z,200nm,16.6s
CLL Collm 39.14 319 *i*P **P** **02 19 18.2 -0.2**
comp=Z,9.0nm,1.0s
FETA Feichten 39.17 312 *i*P **P** **02 19 18.5 -0.4**
comp=Z,30nm,1.1s,SNR=13
RETA Reutte 39.27 313 *e*P **P** **02 19 18.3 -1.3**
comp=Z,8.1nm,0.7s
GRA1 Grafenberg Arr 39.64 316 IAmb IAmb 02 19 23.3
comp=Z,16nm,1.0s
GRF Grafenberg Arr 39.64 316 *e*P **P** **02 19 22.7 +0.1**
comp=Z,8.4nm,0.9s,baz=113,slow=9.2
GRFO Grafenberg 39.64 316 P **P** **02 19 21.9 -0.7**
GRFO IAmb IAmb 02 19 23.2
comp=Z,15nm,1.0s
GRFO Grafenberg 39.64 316 P **P** **02 19 21.9 -0.7**
GRFO pmax pmax
comp=Z,15nm,1.0s
DAVOX Davos/Dischmat 39.67 312 LR LR 02 39 07.2
comp=Z,203nm,20.2s,baz=86,slow=41
BSD Bornholm Skovb 39.76 326 *e*P **P** **02 19 23.2 -0.3**
BSD Bornholm Skovb 39.76 326 *i*P **P** **02 19 22.0 -1.5**
BSD IAmb IAmb 02 19 32.0
comp=Z,26nm,0.9s
DAVA Damuels 39.80 312 *i*P **P** **02 19 23.4 -0.7**
comp=Z,42nm,0.8s,SNR=15
BLEU Blekinge 39.91 328 *i*P **P** **02 19 24.5 -0.2**
GTA Gaotai 40.00 60 *e*P **P** **02 19 26.8 +0.9**
GTA pP sP 02 19 30.0 -0.4
GTA pmax pmax
comp=Z,6.0nm,0.7s
GTA LR LR
comp=Z,140nm,12.4s
GTA LR LR
comp=Z,100nm,12.0s
GTA LR LR
comp=Z,180nm,12.0s
TNCH TengChong 40.05 83 P **P** **02 19 29.6 +3.1**
TNCH pP sP 02 19 31.1 +0.1
TNCH PP **PP** **02 20 59.8 +1.2**
TNCH pmax pmax
comp=Z,140nm,3.6s
KEF Keuruu 40.05 339 *e*P **P** **02 19 26.0 +0.2**
RAF Rauma 40.28 336 *e*P **P** **02 19 28.2 +0.6**
LUNU Lund 40.74 326 *i*P **P** **02 19 32.0 +0.4**
DEL Delary 40.93 327 *i*P **P** **02 19 33.0 -0.2**
VAF Ylistaro 41.39 339 *e*P **P** **02 19 37.1 +0.3**
BNI Bardonecchia 41.51 308 P **P** **02 19 36.6 -1.7**
BNI IAmb IAmb 02 19 38.8
comp=Z,19nm,1.2s
BNI Bardonecchia 41.51 308 P **P** **02 19 36.6 -1.7**
BNI pmax pmax
comp=Z,19nm,1.2s
FABU Falkenberg 41.75 327 *i*P **P** **02 19 39.4 -0.5**
ECH Echery 41.80 313 P **P** **02 19 39.5 -1.0**
ECH IAmb IAmb 02 19 40.7
comp=Z,17nm,1.0s
ECH Echery 41.80 313 P **P** **02 19 39.5 -1.0**
ECH pmax pmax
comp=Z,17nm,1.0s
BORU Boraas 42.02 328 *i*P **P** **02 19 41.3 -0.9**
CMAR Chiang Mai Arr 42.29 92 P **P** **02 19 45.5 +0.7**
comp=Z,1.1nm,0.3s,baz=275,slow=10,SNR=5.5
CMAR LR LR 02 40 10.2
comp=Z,58nm,18.7s,baz=285,slow=40
comp=Z,1.1nm,0.3s
ONAU Onsala 42.32 328 *i*P **P** **02 19 43.9 -0.5**
PZH PanZhiHua 42.57 79 P **P** **02 19 49.9 +2.7**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.1s
SSRD Sdr. Stenderup 42.63 324 *i*P **P** **02 19 47.6 +0.5**
SSRD IAmb IAmb 02 19 49.3
comp=Z,177nm,1.1s
TJOU Tjoern 42.75 328 *i*P **P** **02 19 46.7 -1.3**
WLF Walferdange 42.79 315 *d*P **P** **02 19 47.6 -0.9**
comp=Z,9.8nm,1.1s
HFS Hagfors 42.89 332 P **P** **02 19 47.9 -1.3**
comp=Z,3.5nm,0.6s,baz=136,slow=9.4,SNR=10
HFS LR LR 02 39 40.2
comp=Z,197nm,21.3s,baz=112,slow=39
comp=Z,3.5nm,0.6s
OVD Ostervraa, Den 43.11 327 *i*P **P** **02 19 51.1 +0.2**
OVD IAmb IAmb 02 20 01.8
comp=Z,73nm,1.0s
LZH Lanzhou 43.16 65 *e*P P 02 19 42.3 -10
LZH sP pP 02 19 47.3 -7.8
LZH pmax pmax
comp=Z,20nm,1.2s
LZH LR LR
comp=N,420nm,15.1s
LZH LR LR
comp=E,170nm,15.5s
LZH LR LR
comp=Z,290nm,17.2s
MUD Monsted U'grnd 43.26 325 *i*P **P** **02 19 54.0 +1.9**
MUD IAmb IAmb 02 20 04.7
comp=Z,53nm,0.2s
PHRA Phrae 43.42 91 P **P** **02 19 54.0 0.0**
RCHB Rochefort 43.49 315 *d*P **P** **02 19 53.8 -0.3**
comp=Z,6.4nm,1.1s
BCLA Clavier 43.50 316 *d*P **P** **02 19 54.7 +0.4**
BGES Gesves 43.63 316 *d*P **P** **02 19 55.5 +0.2**
comp=Z,6.0nm,1.1s
KMI Kunming 43.75 81 ⇑P **P** **02 20 00.4 +3.5**
KMI pmax pmax
comp=Z,13nm,0.7s
BMRD Maredsous 43.81 316 *d*P **P** **02 19 57.1 +0.4**
comp=Z,7.4nm,1.2s
TAM Tamanrasset 43.81 275 P **P** **02 19 55.6 -1.7**
TAM IAmb IAmb 02 19 59.3
comp=Z,9.7nm,0.9s
TAM Tamanrasset 43.81 275 P **P** **02 19 55.6 -1.7**
TAM pmax pmax
comp=Z,10.0nm,0.9s
DOU Dourbes 43.87 315 *d*P **P** **02 19 57.3 +0.1**
comp=Z,12nm,1.2s
NC405 NORSAR Array S 44.24 332 P **P** **02 19 58.6 -1.4**
NC405 IAmb IAmb 02 20 10.4
comp=Z,15nm,1.1s
HOMB Homborsund 44.34 327 *i*P **P** **02 20 01.7 +0.8**
NB2 NORSAR Subarra 44.41 332 P **P** **02 20 00.0 -1.4**
comp=Z,6.1nm,1.0s,baz=120,slow=8.6
NOA NORSAR Array B 44.41 332 P **P** **02 20 00.3 -1.1**
comp=Z,1.9nm,0.7s,baz=120,slow=8.0,SNR=12
NOA LR LR 02 40 48.8
comp=Z,119nm,19.5s,baz=125,slow=39
comp=Z,1.9nm,0.7s
CEST Esterri de Car 45.16 304 P **P** **02 20 06.9 -1.0**
CEST IAmb IAmb 02 20 09.5
comp=Z,18nm,1.2s
SONM Songino Array 45.62 48 P **P** **02 20 11.2 -0.2**
comp=Z,2.0nm,0.7s,baz=260,slow=8.4,SNR=15
SONM LR LR 02 40 18.2
comp=Z,313nm,20.7s,baz=198,slow=37
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 45.63 346 P **P** **02 20 10.4 -0.5**
comp=Z,2.1nm,0.6s,baz=147,slow=7.8,SNR=8.2
ARCES LR LR 02 43 34.9
comp=Z,109nm,18.2s,baz=132,slow=42
comp=Z,2.1nm,0.6s
OPO Ambohidratompo 45.79 189 LR LR 02 38 08.9
comp=Z,97nm,19.1s,baz=178,slow=34
ULN Ulaanbaatar 46.07 48 P **P** **02 20 14.3 -0.7**
ULN Ulaanbaatar 46.07 48 *i*P **P** **02 20 14.5 -0.4**
ULN pmax pmax
comp=Z,3.0nm,0.6s
NRIK Noril'sk 46.69 16 P **P** **02 20 19.3 0.0**
NRIK IAmb IAmb 02 20 28.2
comp=Z,8.0nm,0.9s
NRIK Noril'sk 46.69 16 P **P** **02 20 19.7 +0.4**
comp=Z,4.6nm,0.7s,baz=221,slow=4.6,SNR=11
comp=Z,4.6nm,0.7s
XAN Xi'an 47.49 67 P P 02 20 34.8 +8.7
XAN pmax pmax
comp=Z,9.0nm,1.2s
HHC Hu-ho-hao-te 49.02 58 *e*P **P** **02 20 39.1 +1.1**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,93nm,4.3s
HHC LR LR
comp=Z,140nm,10.4s
HHC LR LR
comp=Z,150nm,10.8s
HHC LR LR
comp=Z,110nm,12.4s
ESDC Sonseca Array 49.13 300 P **P** **02 20 37.8 -0.9**
ESDC IAmb IAmb 02 20 39.7
comp=Z,12nm,1.1s
ESDC Sonseca Array 49.13 300 P **P** **02 20 38.5 -0.3**
comp=Z,9.3nm,1.0s,baz=75,slow=7.4,SNR=43
ESDC LR LR 02 46 10.0
comp=Z,68nm,18.4s,baz=50,slow=42
comp=Z,9.3nm,1.0s
PSI Prapat 49.39 111 LR LR 02 44 02.5
comp=Z,46nm,19.6s,baz=2.0,slow=39
PAB San Pablo 49.44 300 P **P** **02 20 39.6 -1.5**
PAB San Pablo 49.44 300 P **P** **02 20 39.6 -1.5**
PAB pmax pmax
comp=Z,15nm,0.9s
EKA Eskdalemuir Ar 49.56 321 P **P** **02 20 40.8 -0.9**
comp=Z,1.8nm,0.5s,baz=106,slow=8.0,SNR=15
comp=Z,1.8nm,0.5s
TORD Torodi Ar. Bea 50.54 265 P **P** **02 20 47.4 -2.3**
TORD IAmb IAmb 02 20 51.0
comp=Z,12nm,1.1s
TORD Torodi Ar. Bea 50.54 265 P **P** **02 20 49.0 -0.7**
comp=Z,11nm,1.0s,baz=51,slow=7.6,SNR=49
comp=Z,11nm,1.0s
PBRG Braganca 51.11 303 *e*P **P** **02 20 53.5 -0.2**
PBRG A A 02 21 43.6
comp=Z,53nm,1.7s
MVO Moncorvo 51.37 302 *e*P **P** **02 20 56.2 +0.5**
PBAR Barrancos 51.65 299 *e*P **P** **02 20 57.7 -0.1**
BOD Bodaibo 51.73 36 *e*P **P** **02 20 57.3 -0.8**
BOD pmax pmax
comp=Z,18nm,1.7s
HNS HongShan 51.75 62 ⇓P **P** **02 21 00.5 +2.0**
HNS pmax pmax
comp=Z,4.0nm,1.2s
PMRV Marv??o 51.79 300 *e*P **P** **02 20 58.8 0.0**
PMRV A A 02 20 59.8
comp=Z,30nm,2.0s
PCBR Castelo Branco 51.82 301 *e*P **P** **02 20 59.5 +0.5**
PVRL Vila Real 51.87 303 *e*P **P** **02 21 00.1 +0.6**
PVRL A A 02 21 21.3
comp=Z,72nm,1.9s
POLO Lamas de Olo 51.92 303 *e*P **P** **02 21 00.8 +0.9**
PESTR Estremoz 52.00 300 *e*P **P** **02 21 00.2 -0.2**
PVIS Viseu 52.05 302 *e*P **P** **02 21 01.7 +0.9**
PBEJ Beja 52.32 299 *e*P **P** **02 21 02.8 +0.1**
EVO Evora 52.37 299 *e*P **P** **02 21 03.5 +0.4**
EVO A A 02 21 04.3
comp=Z,43nm,1.6s
COI Coimbra 52.50 301 *e*P **P** **02 21 05.7 +1.7**
PSBE So Bento 52.86 300 *e*P **P** **02 21 05.7 -1.1**
PFVI Vila Bisbo 53.19 298 *e*P **P** **02 21 09.3 +0.1**
SPITS Spitsbergen Ar 53.96 351 LR LR 02 47 50.4
comp=Z,87nm,18.1s,baz=112,slow=40
JMIC Jan Mayen 55.75 339 LR LR 02 46 22.6
comp=Z,45nm,18.5s,baz=226,slow=37
NJ2 Nanjing 56.04 68 *e*P **P** **02 21 29.8 -0.2**
NJ2 pmax pmax
comp=Z,12nm,0.7s
NJ2 pmax pmax
comp=Z,330nm,4.0s
TSUM Tsumeb 57.86 221 LR LR 02 49 06.7
comp=Z,160nm,18.5s,baz=34,slow=39
LBTB Lobatse 58.47 210 LR LR 02 48 26.2
comp=Z,103nm,19.0s,baz=16,slow=38
CN2 Changchun 58.97 53 P P 02 21 55.3 +4.8
CN2 pmax pmax
comp=Z,10.0nm,0.6s
DBIC Dimbokro 59.16 261 P **P** **02 21 52.1 0.0**
comp=Z,8.3nm,0.4s,baz=53,slow=7.6,SNR=15
comp=Z,8.3nm,0.4s
HEH HeiHe 59.44 46 *e*P **P** **02 21 53.8 +0.2**
BORG Borgarnes 59.58 331 LR LR 02 49 58.9
comp=Z,78nm,18.7s,baz=102,slow=38
TIXI Tiksi 59.88 21 P **P** **02 21 57.6 +1.3**
TIXI IAmb IAmb 02 22 06.6
comp=Z,5.2nm,0.9s
TIXI Tiksi 59.88 21 P **P** **02 21 57.6 +1.3**
TIXI pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 59.89 345 *i*P **P** **02 21 55.5 -0.7**
DAG IAmb IAmb 02 22 04.0
comp=Z,5.3nm,1.1s
DAG Danmarks Havn 59.89 345 *i*P **P** **02 21 56.4 +0.2**
DAG *i*S sP 02 22 09.6 +8.8
YAK Yakutsk 59.90 32 LR LR 02 51 23.7
comp=Z,116nm,19.7s,baz=275,slow=40
PMAR Madeira 60.58 294 *e*P **P** **02 22 02.9 +0.9**
NOR Nord 60.60 351 *i*P **P** **02 22 00.3 -0.8**
NOR IAmb IAmb 02 22 04.0
comp=Z,11nm,1.4s
BOSA Boshof 61.75 209 P **P** **02 22 10.1 +0.4**
comp=Z,4.4nm,0.9s,baz=19,slow=8.0,SNR=2.4
BOSA LR LR 02 52 28.6
comp=Z,85nm,18.7s,baz=64,slow=39
comp=Z,4.4nm,0.9s
KSRS Korea Array 62.08 60 P **P** **02 22 10.9 -0.8**
comp=Z,2.4nm,0.8s,baz=277,slow=7.8,SNR=3.8
KSRS LR LR 02 53 56.7
comp=Z,70nm,18.1s,baz=260,slow=41
comp=Z,2.4nm,0.8s
KLR Kul'dur 62.37 46 P **P** **02 22 12.4 -1.1**
comp=Z,4.2nm,1.0s,baz=291,slow=5.9,SNR=3.6
KLR LR LR 02 51 14.5
comp=Z,142nm,18.9s,baz=272,slow=38
comp=Z,4.2nm,1.0s
KLR Kul'dur 62.37 46 *e*P **P** **02 22 14.4 +0.9**
KLR pmax pmax
comp=Z,7.0nm,1.1s
USRK Ussuriysk Ar. 63.53 52 P **P** **02 22 20.4 -0.9**
comp=Z,1.2nm,0.7s,baz=276,slow=4.9,SNR=2.9
USRK LR LR 02 51 53.4
comp=Z,97nm,19.3s,baz=270,slow=38
comp=Z,1.2nm,0.7s
SUMG Summit 65.14 341 P **P** **02 22 31.1 -0.8**
SUMG Summit 65.14 341 P **P** **02 22 31.1 -0.8**
SUMG pmax pmax
comp=Z,20nm,1.0s
SUMG Summit 65.14 341 *i*P **P** **02 22 31.1 -0.8**
SUMG IAmb IAmb 02 22 40.7
comp=Z,29nm,1.2s
JNU Nakatsue 65.57 64 LR LR 02 55 56.8
comp=Z,138nm,18.4s,baz=302,slow=40
ICESG Greenland Ices 66.27 337 *i*P **P** **02 22 38.7 -0.5**
ICESG IAmb IAmb 02 22 41.1
comp=Z,20nm,1.3s
ISOG Isortoq, Green 66.87 333 *i*P **P** **02 22 45.1 +2.6**
ISOG IAmb IAmb 02 22 48.8
comp=Z,34nm,1.1s
SUR Sutherland 66.93 210 LR LR 02 54 31.0
comp=Z,112nm,20.3s,baz=32,slow=38
NEEM North Greenlan 66.99 347 *i*P **P** **02 22 42.9 -0.7**
NEEM IAmb IAmb 02 22 46.1
comp=Z,12nm,0.9s
DY2G Dye2 69.44 335 *i*P **P** **02 22 58.8 -0.2**
DY2G IAmb IAmb 02 23 04.3
comp=Z,25nm,1.1s
SEY Seymchan 70.04 29 P **P** **02 23 02.6 +0.1**
comp=Z,2.6nm,0.6s,baz=335,slow=19,SNR=2.1
comp=Z,2.6nm,0.6s
YSS Yuzh-Sakhalins 70.07 47 *e*P **P** **02 22 58.8 -4.2**
YSS *e* 02 23 05.5
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=Z,200nm,17.0s
YSS MLR MLR
comp=N,200nm,13.0s
MJAR Matsushiro Arr 70.22 58 LR LR 02 58 06.6
comp=N,50nm,19.0s,baz=288,slow=40
SFJD Kangerlussuaq 70.84 336 LR LR 02 53 34.2
comp=N,69nm,19.0s,baz=80,slow=35
ASAJ Asahikawa 70.89 50 LR LR 02 57 03.1
comp=N,90nm,18.3s,baz=287,slow=38
KAPI Kapparg 71.14 106 LR LR 02 57 17.0
comp=N,34nm,19.3s,baz=282,slow=38
PEA0B Petropavlovsk- 76.60 37 *c e*P **P** **02 23 41.1 -0.3**
PETK Petropavlovsk- 76.60 37 LR LR 03 00 56.6
comp=N,124nm,18.6s,baz=283,slow=38
BATI Baumata 77.11 109 LR LR 02 57 56.6
comp=N,40nm,21.6s,baz=244,slow=36
A36M Sachs Harbour 81.25 360 P **P** **02 24 06.3 -0.3**
C23K Itkillik River 81.81 8 IAmb IAmb 02 24 37.9
comp=Z,7.5nm,0.9s
C27K Jago River 82.79 6 IAmb IAmb 02 24 32.0
comp=Z,8.9nm,1.2s
D25K Kavik River 82.81 7 IAmb IAmb 02 24 19.0
comp=Z,7.7nm,1.2s
E23K Chandalar 83.61 9 IAmb IAmb 02 24 26.2
comp=Z,4.9nm,0.9s
E24K Your Creek 83.74 8 IAmb IAmb 02 24 23.4
comp=Z,5.5nm,1.1s
F21K Alatna River 83.81 10 IAmb IAmb 02 24 21.9
comp=Z,6.7nm,1.1s
SCHQ Schefferville 83.94 330 P **P** **02 24 20.2 -0.7**
comp=Z,4.8nm,0.8s,baz=45,slow=4.3,SNR=2.0
comp=Z,4.8nm,0.8s
F24K Squaw Lake 84.34 8 IAmb IAmb 02 24 30.0
comp=Z,3.3nm,0.9s
E27K Coleen River 84.38 6 IAmb IAmb 02 24 27.7
comp=Z,4.4nm,1.1s
E29M Blow River 84.47 4 IAmb IAmb 02 24 52.5
comp=Z,4.2nm,1.0s
BMAR Burnt Mountain 84.82 7 **P** **02 24 24.7 -0.5**
F28M Old Crow 85.09 5 **P** **02 24 26.3 -0.2**
F28M IAmb IAmb 02 24 43.1
comp=Z,7.3nm,1.2s
H21K Melozitna Rive 85.36 11 IAmb IAmb 02 24 39.0
comp=Z,4.8nm,1.1s
G27K Doyon Strip 85.72 6 IAmb IAmb 02 24 30.8
comp=Z,7.8nm,1.3s
MLY Manley 86.28 10 P **P** **02 24 32.9 +0.4**
J19K Poorman 86.37 13 IAmb IAmb 02 24 38.2
comp=Z,8.2nm,1.1s
ILAR Eielson Array 87.08 9 P **P** **02 24 35.4 -1.0**
comp=Z,0.7nm,0.8s,baz=325,slow=3.9,SNR=6.6
ILAR LR LR 03 08 43.5
comp=Z,70nm,18.1s,baz=1.5,slow=39
comp=Z,0.7nm,0.8s
BPAW Bear Paw Mtn. 87.10 11 IAmb IAmb 02 24 41.1
comp=Z,5.5nm,1.0s
I30M Mount Dempster 87.71 4 IAmb IAmb 02 24 42.3
comp=Z,3.9nm,0.9s
J26L Joseph Creek 87.76 7 IAmb IAmb 02 25 09.8
comp=Z,3.9nm,0.8s
YKA Yellowknife Ar 90.31 355 LR LR 03 13 41.4
comp=Z,40nm,18.5s,baz=8.5,slow=41
WRA Warramunga Arr 90.85 112 P **P** **02 24 53.9 -1.0**
comp=Z,0.5nm,0.4s,baz=310,slow=4.1,SNR=11
comp=Z,0.5nm,0.4s
WRA Warramunga Arr 90.85 112 *i*P **P** **02 24 54.7 -0.2**
WRA pmax pmax
comp=Z,1.0nm,0.4s
ASAR Alice Springs 92.26 115 P **P** **02 25 00.8 -0.6**
comp=Z,0.6nm,0.5s,baz=308,slow=4.5,SNR=10
ASAR LR LR 03 09 52.3
comp=Z,15nm,18.1s,baz=294,slow=38
comp=Z,0.6nm,0.5s
KDAK Kodiak Island 92.65 14 LR LR 03 11 28.0
comp=Z,48nm,21.9s,baz=189,slow=39
MAW Mawson 94.59 177 LR LR 03 01 42.3
comp=Z,42nm,19.1s,baz=22,slow=32
DLBC Dease Lake 94.80 2 LR LR 03 16 03.9
comp=Z,24nm,18.2s,baz=352,slow=41
ULM Lac du Bonnet 98.50 341 LR LR 03 10 56.1
comp=Z,37nm,21.0s,baz=62,slow=36
TXAR Lajitas Array 119.95 337 PKP **PKPdf** **02 30 41.6 -0.6**
comp=Z,0.2nm,0.8s,baz=44,slow=2.7,SNR=2.8
EFI East Falkland 124.11 224 *c e*PKIKP **PKPdf** **02 30 48.8 -0.3**
EFI pmax pmax
comp=Z,41nm,1.7s

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*IDC **22** 02:18:32.0±4.2, 45°.83N×148°.11E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=136.4km s-min=31.3km az=9.0*
*SKHL **22** 02:18:48.4±0.3, 44°.50N×148°.80E, h144km±4km, mb4.7/4, msha5.4/3*
*JMA **22** 02:18:50.0±0.5, 45°N±3°×14°8E±°, h154km, MV3.4/11, NEAR ETOROFU ISLAND*
ISC 22 02:18:48.6±1.0, 44°.9N±0°.1×148°.2E±0°.1, h172km±7km, n28, σ1$08/30, mb3.3/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time (h m s)	Res (ISC)
KUR	**Kuril'sk**	**0.36**	**324**	*i* P	AMB	**Pn**	**02 19 11.9**	**0.0**
KUR	150nm,0.4s				AMB	AMB	02 19 13.2	
KUR				*i* S	A	**Sn**	**02 19 29.7**	**-0.2**
KUR	430nm,0.5s				A	A	02 19 32.5	
SHO	**Shikotan**	**1.44**	**222**	*i* P	AMB	**Pn**	**02 19 19.6**	**+0.4**
SHO	230nm,0.3s				AMB	AMB	02 19 19.8	
SHO				*i* S	A	**Sn**	**02 19 42.0**	**-0.9**
SHO	740nm,0.4s				A	A	02 19 43.0	
SHO	2μm,0.4s				A	A	02 19 43.0	
YUK	**Yuzh-Kuril'sk**	**1.88**	**242**	*e*P	AMB	**Pn**	**02 19 24.7**	**+0.9**
YUK	280nm,0.2s				AMB	AMB	02 19 25.4	
YUK				*e*S	A	**Sn**	**02 19 51.6**	**+0.6**
YUK	390nm,0.5s				A	A	02 19 52.8	
YUK	820nm,0.5s				A	A	02 19 52.8	
NEM2	**Nemuro 2**	**2.35**	**229**	P	**Pn**	**02 19 29.3**	**+0.2**
NEM2				*e*S	**Sn**	**02 19 59.6**	**-0.8**
NMR	**Nemuro--Hokkai**	**2.36**	**229**	*i* P	**Pn**	**02 19 29.3**	**+0.2**
NMR				*i* S	**Sn**	**02 19 59.5**	**-1.0**
JRA	**Rausu**	**2.40**	**246**	*e*P	**Pn**	**02 19 30.7**	**+1.1**
JNK	**Nakash**	**2.82**	**243**	*e*P	**Pn**	**02 19 36.0**	**+1.3**
AKK	**Akkeshi**	**3.08**	**233**	*i* P	**Pn**	**02 19 38.3**	**+0.6**
AKK				*e*S	**Sn**	**02 20 15.4**	**-0.6**
JAK	**Akkeshi**	**3.17**	**233**	P	**Pn**	**02 19 39.4**	**+0.5**
JAK				*e*S	**Sn**	**02 20 17.4**	**-0.7**
JTKR	**Abashiri--Toko**	**3.20**	**254**	*e*S	**Sn**	**02 20 19.8**	**+1.1**
JAR	**Ashorobuto**	**3.57**	**244**	*e*S	**Sn**	**02 20 29.3**	**+2.3**
JOB	**Onbets**	**3.73**	**239**	*e*P	**Pn**	**02 19 47.2**	**+1.2**
JOB				*e*S	**Sn**	**02 20 30.9**	**+0.1**
JCH	**Churui**	**4.18**	**238**	*e*P	**Pn**	**02 19 52.3**	**+0.5**
JCH				*e*S	**Sn**	**02 20 39.5**	**-1.7**
YSS	**Yuzh-Sakhalins**	**4.28**	**300**	*e*P	Pn	02 19 59.7	+6.8
YSS	10.0nm,0.3s				AMB	AMB	02 20 00.1	
JNBK	**Urakawa-nobuka**	**4.75**	**238**	*e*P	**Pn**	**02 19 58.9**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**29.56**	**142**	T	T	02 56 04.3	
	baz=335,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**29.57**	**142**	T	T	02 56 03.5	
	baz=335,slow=76,SNR=9.9						
H11N3	**WAKE ISLAND Hy**	**29.57**	**142**	T	T	02 56 09.9	

baz=335,slow=76,SNR=10
H11S1 WAKE ISLAND Hy 30.56 144 T T 02 57 24.1
baz=335,slow=76,SNR=8.3
H11S3 WAKE ISLAND Hy 30.56 144 T T 02 57 18.7
baz=335,slow=76,SNR=7.4
H11S2 WAKE ISLAND Hy 30.57 144 T T 02 57 20.8
baz=335,slow=76,SNR=7.1
MKAR Makanchi Array 44.69 297 P **P** **02 26 43.3 -0.9**
0.9nm,0.9s,baz=61,slow=9.1,SNR=2.8
0.9nm,0.9s
FINES FINESS Array B 64.15 333 P **P** **02 29 02.6 -1.4**
2.1nm,0.8s,baz=37,slow=7.1,SNR=6.3
2.1nm,0.8s
PDAR Pinedale Array 68.59 51 P **P** **02 29 34.2 +1.3**
0.3nm,0.6s,baz=358,slow=2.3,SNR=3.9
0.3nm,0.6s
NOA NORSAR Array B 68.76 339 P **P** **02 29 31.6 -1.8**
0.6nm,1.0s,baz=29,slow=6.5,SNR=4.0
0.6nm,1.0s
AKASG Malin Array Be 71.05 324 P **P** **02 29 46.8 -0.7**
0.2nm,0.4s,baz=37,slow=5.9,SNR=2.2
0.2nm,0.4s
GERES GERESS Array B 78.47 331 P **P** **02 30 30.3 0.0**
0.4nm,0.4s,baz=52,slow=8.0,SNR=2.6
0.4nm,0.4s
TXAR Lajitas Array 81.39 57 P **P** **02 30 48.0 +1.8**
0.4nm,0.6s,baz=290,slow=4.3,SNR=8.9
0.4nm,0.6s

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*IDC **22** 02:22:31.1±0.9,38.°16S×75.°11W,h0km,mb3.9/7, mbtmp3.9/8,ML4.0/1,MS3.2/1,Error ellipse: s-maj=39.0km s-min=19.6km az=93.0*
*NEIC **22** 02:22:31.1±0.9,38.°07S±0.°05×75.°17W±0.°08,h10km±2km, mb4.5/6,Error ellipse: s-maj=12.1km s-min=6.9km az=236.0*
*GUC **22** 02:22:36.7±0.6,37.°95S×74.°69W,h15km±9km,ML3.9*
ISC 22 02:22:32.1±2.0,38.°10S±0.°04×75.°00W±0.°07,h12km±11km, n77,σ1°38/88,mb3.8/7,1C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BI04	**Isla Mocha**	**0.93**	**110**	*eP*	**Pg**	**02 22 50.6**	**+0.5**
BI04				*eS*	**Sg**	**02 23 00.4**	**-1.9**
LC02	**Puerto Saavedr**	**1.45**	**119**	Pn	**Pn**	**02 22 58.6**	**+0.5**
LC02				Sn	**Sn**	**02 23 16.8**	**-0.3**
LC02	**Puerto Saavedr**	**1.45**	**119**	*eP*	**Pn**	**02 22 58.5**	**+0.3**
LC02				*i* S	**Sn**	**02 23 15.3**	**-1.8**
LC02				IAML		02 23 17.7	
	comp=N,6μm,0.4s						
BI05	**Punta Hualpn**	**1.97**	**48**	Pn	**Pn**	**02 23 05.2**	**-0.2**
BI05	**Punta Hualpn**	**1.97**	**48**	*eP*	**Pn**	**02 23 04.9**	**-0.4**
BI05				*eS*	**Sn**	**02 23 25.9**	**-4.1**
LR04	**Corral**	**2.16**	**146**	Pn	**Pn**	**02 23 07.4**	**-0.6**
LR04	**Corral**	**2.16**	**146**	⇓*iP*	**Pn**	**02 23 07.2**	**-0.8**
LR04				*i* S	**Sn**	**02 23 30.1**	**-4.7**
LR02	**Universidad Au**	**2.19**	**142**	*eP*	**Pn**	**02 23 08.1**	**-0.2**
LR02				*i* S	**Sn**	**02 23 31.7**	**-3.6**
LR02				IAML		02 23 37.0	
	comp=N,2μm,0.5s						
LR03	**Panguipulli**	**2.58**	**127**		**Pn**	**02 23 14.8**	**+1.1**
LR03	**Panguipulli**	**2.58**	**127**	*eP*	**Pn**	**02 23 15.1**	**+1.3**
LR03				*eS*	**Sn**	**02 23 43.3**	**-1.7**
GO06	**Curarrehue**	**3.13**	**119**	Pn	**Pn**	**02 23 23.0**	**+1.6**
GO06	**Curarrehue**	**3.13**	**119**	*eP*	**Pn**	**02 23 23.1**	**+1.6**
GO06				*i* S	**Sn**	**02 23 58.0**	**-0.8**
LR05	**Currie**	**3.16**	**133**	Pn	**Pn**	**02 23 22.9**	**+1.2**
LR05	**Currie**	**3.16**	**133**	*eP*	**Pn**	**02 23 22.9**	**+1.2**
LR05				*i* S	**Sn**	**02 23 59.1**	**-0.2**
BI02	**San Fabin de**	**3.29**	**65**	Pn	**Pn**	**02 23 24.7**	**+1.0**
BI02	**San Fabin de**	**3.29**	**65**	*eP*	**Pn**	**02 23 24.6**	**+1.0**
BI02				*i* S	**Sn**	**02 24 00.7**	**-2.1**
BI02				IAML		02 24 09.2	
	comp=N,133nm,0.4s						
LL04	**Puerto Octay**	**3.45**	**145**		**Pn**	**02 23 25.5**	**-0.3**
LL05	**Los Muermos**	**3.51**	**161**		**Pn**	**02 23 25.8**	**-0.7**
LL05	**Los Muermos**	**3.51**	**161**	*eP*	**Pn**	**02 23 25.8**	**-0.7**
LL03	**Petrohue**	**3.64**	**147**	Pn	**Pn**	**02 23 28.4**	**+0.1**
ML02	**Panimavida**	**3.69**	**52**	Pn	**Pn**	**02 23 29.7**	**+0.7**
ML02	**Panimavida**	**3.69**	**52**	*eP*	**Pn**	**02 23 29.8**	**+0.7**
ML02				*i* S	**Sn**	**02 24 09.1**	**-3.5**
GO05	**Hualane**	**3.95**	**40**	Pn	**Pn**	**02 23 32.5**	**-0.1**
GO05	**Hualane**	**3.95**	**40**	*eP*	**Pn**	**02 23 32.3**	**-0.3**
GO05				*i* S	**Sn**	**02 24 16.4**	**-2.5**
LL06	**Loncomilla**	**4.25**	**166**		**Pn**	**02 23 35.9**	**-0.8**
LL06	**Loncomilla**	**4.25**	**166**	*eP*	**Pn**	**02 23 35.9**	**-0.8**
LL06				*i* S	**Sn**	**02 24 21.6**	**-4.6**
PLCA	**Paso Flores**	**4.34**	**129**	Pn	**Pn**	**02 23 38.7**	**+0.7**
BO03	**Pichilemu**	**4.35**	**35**	⇑*iP*	**Pn**	**02 23 37.3**	**-0.8**
LL01	**San Ignacio de**	**4.71**	**156**		**Pn**	**02 23 43.0**	**-0.1**
BO02	**Sierra Bellavi**	**4.74**	**47**		**Pn**	**02 23 43.6**	**+0.1**
BO01	**Tunca**	**4.86**	**42**	Pn	**Pn**	**02 23 45.2**	**+0.1**
GO07	**Milladeo Hill,**	**5.12**	**169**		**Pn**	**02 23 47.8**	**-0.8**
MT01	**Popeta**	**5.20**	**37**	Pn	**Pn**	**02 23 49.5**	**-0.3**
MT01	**Popeta**	**5.20**	**37**	*eP*	**Pn**	**02 23 49.3**	**-0.6**
VA05	**Santo Domingo**	**5.21**	**33**		**Pn**	**02 23 49.2**	**-0.7**
H03S1	**Juan Fernandez**	**5.29**	**322**	T	T	02 29 30.7	
	baz=146,slow=72,SNR=13						
H03S2	**Juan Fernandez**	**5.31**	**322**	T	T	02 29 28.5	
	baz=146,slow=72,SNR=13						
H03S3	**Juan Fernandez**	**5.31**	**322**	T	T	02 29 18.0	
	baz=146,slow=72,SNR=11						
MT09	**Talagante**	**5.40**	**38**		**Pn**	**02 23 52.6**	**0.0**
MT09	**Talagante**	**5.40**	**38**	*eP*	**Pn**	**02 23 52.8**	**+0.1**
BO04	**La Punta**	**5.42**	**42**		**Pn**	**02 23 53.0**	**+0.1**
VA01	**Torpederas**	**5.75**	**29**		**Pn**	**02 23 56.9**	**-0.5**
LMEL	**Las Melosas**	**5.75**	**44**		**Pn**	**02 23 57.6**	**+0.1**
MT02	**Curacav**	**5.76**	**34**		**Pn**	**02 23 56.8**	**-0.7**
MT02	**Curacav**	**5.76**	**34**	*eP*	**Pn**	**02 23 56.7**	**-0.7**
MT13	**San Alfonso**	**5.79**	**43**		**Pn**	**02 23 58.4**	**+0.4**
MT05	**Renca**	**5.83**	**38**		**Pn**	**02 23 58.6**	**+0.1**
MT03	**Universidad Ad**	**5.86**	**40**		**Pn**	**02 23 58.8**	**-0.2**
MT16	**CCHEN**	**5.91**	**39**		**Pn**	**02 23 59.5**	**-0.1**
PEL	**Peldehue**	**6.06**	**37**		**Pn**	**02 24 01.7**	**0.0**
MT08	**Bocatoma Ro**	**6.16**	**43**	Pn	**Pn**	**02 24 03.2**	**+0.1**
VA06	**Catapilco**	**6.29**	**30**	Pn	**Pn**	**02 24 03.9**	**-0.9**
VA03	**San Esteban**	**6.44**	**36**		**Pn**	**02 24 06.7**	**-0.2**
COYC	**Coyhaique**	**7.78**	**165**	Pn	**Pn**	**02 24 25.1**	**-0.1**
CO03	**El Pedregal**	**8.06**	**27**	Pn	**Pn**	**02 24 28.7**	**-0.5**
ZON	**Zonda**	**8.35**	**40**		**Pn**	**02 24 33.3**	**+0.2**
GO04	**Tololo Observa**	**8.63**	**25**		**Pn**	**02 24 35.9**	**-1.2**
CO01	**Juntas del Tor**	**9.06**	**28**	Pn	**Pn**	**02 24 42.6**	**-0.4**
AY03	**Cochrane**	**9.32**	**170**		**Pn**	**02 24 45.9**	**-0.4**
AC05	**El Transito**	**10.04**	**24**		**Pn**	**02 24 55.9**	**-0.4**
TRQA	**Tornquist**	**10.27**	**94**	Pn	**Pn**	**02 25 01.9**	**+2.5**
GO08	**Villa O'Higgin**	**10.52**	**171**	Pn	**Pn**	**02 25 04.3**	**+1.6**
AF01	**San Pedro de A**	**16.19**	**23**	P	**P**	**02 26 21.1**	**-1.8**
AF01				IAmb	IAmb	02 26 27.8	
	comp=Z,35nm,0.8s						
PLTB	**Pedras Altas**	**18.63**	**77**	P	**P**	**02 26 49.2**	**-0.4**
CPUP	**Villa Florida**	**18.97**	**57**	P	**Pn**	**02 26 54.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=229,slow=11,SNR=5.1						
CPUP				LR	LR	02 35 26.9	
	comp=Z,67nm,20.4s,baz=226,slow=41						
	comp=Z,2.4nm,0.8s						
PB18	**Visviri**	**20.99**	**15**	P	**P**	**02 27 15.0**	**-1.1**
PB18				IAmb	IAmb	02 27 29.2	
	comp=Z,34nm,1.3s						
ITAB	**Concordia**	**22.03**	**67**	P	**P**	**02 27 27.9**	**+1.3**
LPAZ	**La Paz**	**22.55**	**17**	P	**P**	**02 27 34.6**	**+1.8**
	comp=Z,1.4nm,0.8s,baz=219,slow=6.5,SNR=5.1						
	comp=Z,1.4nm,0.8s						
SIV	**San Ignacio**	**25.21**	**33**	P	**P**	**02 28 00.4**	**+2.6**
	comp=Z,1.8nm,0.8s,baz=228,slow=12,SNR=8.1						
	comp=Z,1.8nm,0.8s						
SNAA	**Sanae**	**48.75**	**156**	P	**P**	**02 31 17.3**	**+0.9**
SNAA				IAmb	IAmb	02 31 18.5	
	comp=Z,5.5nm,1.0s						
SNAA	**Sanae**	**48.75**	**156**	P	**P**	**02 31 17.1**	**+0.7**
	comp=Z,3.3nm,0.9s,baz=276,slow=1.9,SNR=5.1						
	comp=Z,3.3nm,0.9s						
QSPA	**South Pole Qui**	**52.15**	**180**	P	**P**	**02 31 41.6**	**-0.7**
QSPA				IAmb	IAmb	02 31 44.2	
	comp=Z,5.2nm,1.1s						
QSPA	**South Pole Qui**	**52.15**	**180**	P	**P**	**02 31 42.4**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=152,slow=8.4,SNR=4.9						
	comp=Z,2.9nm,0.8s						
MAW	**Mawson**	**69.92**	**164**	P	**P**	**02 33 43.3**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=207,slow=11,SNR=2.7						
	comp=Z,1.3nm,0.7s						
TXAR	**Lajitas Array**	**72.24**	**334**	P	**P**	**02 33 58.4**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=153,slow=8.6,SNR=7.7						
	comp=Z,0.7nm,0.8s						
PDAR	**Pinedale Array**	**86.40**	**335**	P	**P**	**02 35 14.7**	**+0.3**

comp=Z,0.5nm,0.9s,baz=128,slow=5.8,SNR=3.9
comp=Z,0.5nm,0.9s
BVAR Borovoye Array 151.87 47 PKPbc **PKiKP** **02 42 27.6 +0.9**
comp=Z,0.8nm,0.7s,baz=297,slow=1.0,SNR=2.4
BVAR PKPab **PKPab** **02 42 35.5 0.0**
comp=Z,0.4nm,0.4s,baz=285,slow=5.7,SNR=2.2

IDC 22 02:54:06.0±14.0,17.°79S×174.°96W,h344km±83km, mb3.0/3,mbtmp3.8/4,Error ellipse: s-maj=291.3km s-min=37.7km az=138.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.66**	**269**	P	Pn	02 55 44.4	0.0
	7.1nm,0.2s,baz=100,slow=10,SNR=5.7						
WRA	**Warramunga Arr**	**47.88**	**259**	P	P	03 02 10.2	-0.8
	0.4nm,0.6s,baz=96,slow=8.1,SNR=9.0						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**47.98**	**254**	P	P	03 02 12.1	+0.4
	2.3nm,0.6s,baz=88,slow=8.0,SNR=42						
	2.3nm,0.6s						
ILAR	**Eielson Array**	**85.07**	**12**	P	P	03 06 03.2	-0.1
	0.3nm,0.7s,baz=212,slow=5.6,SNR=2.6						
	0.3nm,0.7s						

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*SOME **22** 03:08:23.6,41.°32N×83.°77E,h10km*
*IDC **22** 03:08:26.9±4.9,41.°49N×83.°69E,h0km,mbtmp3.3/4, ML3.0/4,Error ellipse: s-maj=61.1km s-min=35.5km az=49.0*
*NNC **22** 03:08:29.0±1.7,41.°48N×83.°60E,h0km,mb3.9,mpv3.7, Error ellipse: s-maj=12.7km s-min=7.6km az=149.0*
ISC 22 03:08:26.6±1.8,41.°40N±0.°09×83.°59E±0.°06,h10km,n31, σ2°79/50,13C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.53**	**301**	Pg	**Pb**	**03 09 27.0**	**-2.3**
	16nm,0.1s						
SHLS				Lg	Lg	03 10 13.5	
	211nm,0.6s						
SHLS	**Shalkode**	**3.53**	**301**	*eP*	**Pb**	**03 09 27.0**	**-2.3**
	16nm,0.1s						
SHLS				*eS*	**Sb**	**03 10 13.5**	**+1.3**
	211nm,0.6s						
PDGK	**Podgornoye**	**3.60**	**304**	⇑Pn	**Pb**	**03 09 26.5**	**-3.9**
	3.1nm,0.3s						
PDGK				⇑Pg	**Pg**	**03 09 36.1**	**+0.6**
	13nm,0.5s						
PDGK				⇑Sn	**Sb**	**03 10 11.0**	**-3.2**
	56nm,0.4s						
PDGK				⇓Lg	Lg	03 10 23.7	
	134nm,1.0s						
UZB	**Uzynbulak**	**3.81**	**299**	Pg	**Pb**	**03 09 36.1**	**+2.0**
	6.1nm,0.4s						
UZB				Lg	Lg	03 10 29.3	
	100nm,0.3s						
UZB	**Uzynbulak**	**3.81**	**299**	*eP*	**Pb**	**03 09 36.1**	**+2.0**
	6.1nm,0.4s						
UZB				*eS*	**Sg**	**03 10 28.8**	**-0.3**
	100nm,0.3s						
DJR	**Jarkent**	**4.05**	**318**	*eP*	**Pg**	**03 09 41.3**	**-2.8**
	2.1nm,0.1s						
DJR				*eS*	**Sg**	**03 10 37.0**	**+0.5**
	21nm,0.5s						
KPKS	**Kokpek**	**4.18**	**301**	*eP*	**Pg**	**03 09 43.4**	**-3.2**
	8.2nm,0.1s						
KPKS				*eS*	**Sg**	**03 10 41.0**	**+0.2**
	89nm,0.5s						
SATY	**Saty**	**4.19**	**295**	*eP*	**Pb**	**03 09 43.3**	**+2.8**
	4.4nm,0.2s						
SATY				*eS*	**Sg**	**03 10 40.4**	**-0.8**
	57nm,0.1s						
KURS	**Kuram**	**4.52**	**299**	Pg	**Pg**	**03 09 50.0**	**-3.2**
	2.4nm,0.2s						
KURS				Lg	Lg	03 10 52.5	
	12nm,0.7s						
KURS	**Kuram**	**4.52**	**299**	*eP*	**Pg**	**03 09 50.0**	**-3.2**
	2.4nm,0.2s						
KURS				*eS*	**Sg**	**03 10 52.5**	**+0.7**
	12nm,0.7s						
BLB	**Baldybastay**	**4.63**	**307**	Pg	**Pb**	**03 09 50.9**	**+2.9**
	13nm,0.2s						
BLB				Lg	Lg	03 10 54.0	
	24nm,0.4s						
ARXS	**Arharly**	**5.09**	**305**	*eP*	**Pg**	**03 10 00.3**	**-3.7**
	4.5nm,0.3s						
ARXS				*eS*	**Sg**	**03 11 10.0**	**+0.1**
	28nm,0.2s						
MDOK	**Medeo**	**5.17**	**292**	Pg	**Pg**	**03 10 01.7**	**-3.9**
	2.6nm,0.2s						
MDOK				Lg	Lg	03 11 12.5	
	26nm,0.8s						
MDOK	**Medeo**	**5.17**	**292**	*eP*	**Pg**	**03 10 01.6**	**-3.9**
	2.6nm,0.2s						
MDOK				*eS*	**Sg**	**03 11 12.5**	**+0.1**
	26nm,0.8s						
TNSS	**Tian-Shan**	**5.20**	**291**	Pg	**Pg**	**03 10 02.5**	**-3.7**
	3.1nm,0.3s						
TNSS				Lg	Lg	03 11 14.1	
	15nm,0.7s						
TNSS	**Tian-Shan**	**5.20**	**291**	*eP*	**Pg**	**03 10 02.5**	**-3.7**
	3.1nm,0.3s						
TNSS				*eS*	**Sg**	**03 11 14.1**	**+0.5**
	15nm,0.7s						
CHKK	**Chushkaly**	**5.46**	**299**	*eP*	**Pg**	**03 10 07.2**	**-3.8**
	1.9nm,0.1s						
CHKK				*eS*	**Sg**	**03 11 21.9**	**+0.2**
	19nm,0.3s						
MK31	**Makanchi Array**	**5.47**	**351**	Pn	**Pn**	**03 09 51.4**	**+3.2**
	0.4nm,0.3s,baz=218,slow=1.1,SNR=29						
MK31				⇑Pg	**Pg**	**03 10 07.7**	**-3.6**
	7.1nm,0.7s,baz=174,slow=15,SNR=3.2						
MK31				⇑Sn	**Sn**	**03 10 53.5**	**+2.3**
	6.2nm,0.6s,baz=172,slow=25,SNR=3.8						
MK31				⇓Lg	Lg	03 11 20.1	
	15nm,0.5s,baz=165,slow=30,SNR=3.9						
MKAR	**Makanchi Array**	**5.47**	**351**	Pn	Pn	03 09 51.9	+3.7
	0.7nm,0.3s,baz=164,slow=13,SNR=28						
MKAR				Sn	**Sn**	**03 10 54.5**	**+3.3**
	2.7nm,0.3s,baz=166,slow=25,SNR=7.4						
MKAR				Lg	Lg	03 11 18.3	
	2.6nm,0.3s,baz=170,slow=29,SNR=4.6						
	0.8nm,0.3s						
MAKZ	**Makanchi**	**5.53**	**348**	⇓Pn	Pn	03 09 52.5	+3.5
	2.0nm,0.5s						
MAKZ				⇑Pg	**Pg**	**03 10 09.4**	**-3.0**
	7.0nm,0.8s						
MAKZ				⇑Sn	**Sn**	**03 10 56.1**	**+3.5**
	8.2nm,0.6s						
MAKZ				⇑Lg	Lg	03 11 22.3	
	15nm,0.7s						
MTBS	**Maitube**	**5.59**	**290**	*eP*	**Pg**	**03 10 09.6**	**-4.0**
	2.1nm,0.1s						
MTBS				*eS*	**Sg**	**03 11 26.1**	**+0.1**
	31nm,0.5s						
KTBS	**Karatobe**	**5.60**	**297**	Pg	**Pb**	**03 10 08.1**	**+3.6**
	2.8nm,0.1s						
KTBS				Lg	Lg	03 11 24.2	
	20nm,0.4s						
KTBS	**Karatobe**	**5.60**	**297**	*eP*	**Pg**	**03 10 10.6**	**-3.3**
	2.7nm,0.2s						
KTBS				*eS*	**Sg**	**03 11 27.6**	**+1.2**
	51nm,0.6s						
KST	**Kastek**	**5.90**	**289**	*eP*	**Pg**	**03 10 15.2**	**-4.3**
	2.8nm,0.4s						
KST				*eS*	**Sg**	**03 11 36.0**	**+0.1**
	33nm,0.7s						
KUU	**Kurty**	**5.90**	**297**	*eP*	**Pg**	**03 10 16.2**	**-3.3**
	4.5nm,0.1s						
KUU				*eS*	**Sg**	**03 11 37.2**	**+1.3**
	6.8nm,0.1s						
TKM2	**Tokmak 2**	**6.13**	**287**	⇑Pn	Pn	03 10 01.8	+4.4
	2.6nm,0.5s						
TKM2				⇑Sn	**Sn**	**03 11 12.1**	**+4.3**
	6.4nm,0.5s						
TKM2				⇑Lg	Lg	03 11 44.3	
	25nm,0.6s						
CHMS	**Chumysh**	**6.76**	**287**	⇑Lg	Lg	03 12 02.4	
	31nm,1.4s						
KURBB	**Kurchatov Arra**	**9.87**	**341**	⇑Lg	Lg	03 13 42.6	
	16nm,0.7s						
KURBB	**Kurchatov Arra**	**9.87**	**341**	Pn	**Pn**	**03 10 50.3**	**+1.9**
	baz=153,slow=12,SNR=2.7						
KURBB				Sn	**Sn**	**03 12 36.1**	**-3.1**
	0.1nm,0.3s,baz=161,slow=20,SNR=1.7						
KURBB				Lg	Lg	03 13 34.5	

0.2nm,0.3s,baz=178,slow=29,SNR=2.1
0.4nm,0.5s
ZALV Zalesovo Beam 12.58 3 Pn **Pn** **03 11 27.6 +2.1**
0.3nm,0.3s,baz=181,slow=13,SNR=9.1
ZALV Sn **Sn** **03 13 43.1 -2.5**
0.4nm,0.3s,baz=182,slow=25,SNR=5.1
1.7nm,0.5s
SONM Songino Array 17.43 61 P **P** **03 12 30.0 -1.1**
0.1nm,0.3s,baz=243,slow=13,SNR=2.5
0.4nm,0.6s

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*IDC **22** 03:25:52.7±0.8,6.°73N×72.°96W,h160km±10km,mb2.6/1, mbtmp3.7/4,Error ellipse: s-maj=42.6km s-min=7.7km az=133.0*
*RSNC **22** 03:25:53.9±0.0,7.°N±1.°×7.°3W±.°,h153km±2km,M3.3,mb3.7, ML3.1*
ISC 22 03:25:52.9±0.9,6.°84N±0.°03×73.°07W±0.°04,h156km±6km, n43,σ1°53/80,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.28**	**204**	P	**Pn**	**03 26 14.5**	**+0.1**
BARC				S	**Sn**	**03 26 29.6**	**-1.2**
PAMC	**Pamplona, Colo**	**0.61**	**37**	P	**Pn**	**03 26 17.4**	**+1.3**
PAMC				S	**Sn**	**03 26 34.3**	**+0.4**
BRJC	**Barrancabermej**	**0.68**	**281**	P	**Pn**	**03 26 16.0**	**0.0**
BRJC				S	**Sn**	**03 26 33.1**	**-0.4**
RUSC	**La Rusia**	**0.94**	**181**	P	**Pn**	**03 26 18.3**	**-0.1**
RUSC				S	**Sn**	**03 26 37.7**	**-0.2**
TAMC	**Tame, Arauca**	**1.33**	**108**	P	**Pn**	**03 26 22.8**	**+1.5**
TAMC				S	**Sn**	**03 26 44.8**	**+1.8**
OCAC	**Ocana**	**1.41**	**350**	P	**Pn**	**03 26 22.4**	**+0.2**
OCAC				S	**Sn**	**03 26 44.4**	**-0.3**
PTBC	**PUERTO BERRIO,**	**1.41**	**258**	P	**Pn**	**03 26 20.9**	**-1.2**
PTBC				S	**Sn**	**03 26 42.2**	**-2.2**
SPBC	**San Pablo de B**	**1.55**	**220**	P	**Pn**	**03 26 23.3**	**-0.3**
SPBC				S	**Sn**	**03 26 45.9**	**-1.2**
ZARC	**Zaragoza, Cauc**	**1.89**	**290**	P	**Pn**	**03 26 27.0**	**-0.2**
ZARC				S	**Sn**	**03 26 52.5**	**-1.0**
NORC	**Norcasia**	**2.20**	**235**	P	**Pn**	**03 26 30.2**	**-0.6**
NORC				S	**Sn**	**03 26 58.2**	**-1.7**
CHIC	**Chingaza**	**2.30**	**197**	P	**Pn**	**03 26 32.7**	**+0.4**
CHIC				S	**Sn**	**03 27 01.9**	**-0.8**
ROSC	**El Rosal**	**2.35**	**212**	P	**Pn**	**03 26 34.1**	**+1.2**
	113nm,0.3s,baz=324,slow=19,SNR=176						
ROSC				S	**Sn**	**03 27 03.3**	**-0.4**
	222nm,0.5s,baz=210,slow=20,SNR=9.6						
ROSC	**El Rosal**	**2.35**	**212**	P	**Pn**	**03 26 34.1**	**+1.2**
ROSC				S	**Sn**	**03 27 04.6**	**+0.9**
CVER	**Cruz Verde, Cu**	**2.52**	**204**	P	**Pn**	**03 26 35.8**	**+0.8**
CVER				S	**Sn**	**03 27 07.2**	**-0.3**
HELC	**Santa Helena**	**2.53**	**255**	P	**Pn**	**03 26 36.2**	**+1.1**
HELC				S	**Sn**	**03 27 08.2**	**+0.7**
UREC	**San Jos de Ur**	**2.61**	**290**	P	**Pn**	**03 26 38.5**	**+2.8**
PTGC	**Puerto Gaitan,**	**2.79**	**160**	P	**Pn**	**03 26 37.6**	**-0.3**
PTGC				S	**Sn**	**03 27 11.2**	**-1.5**
GUY2C	**Guyana, Caldas**	**2.79**	**235**	P	**Pn**	**03 26 39.4**	**+1.0**
GUY2C				S	**Sn**	**03 27 11.7**	**-1.9**
RECRC	**Villamaria, Ca**	**2.94**	**231**	P	**Pn**	**03 26 42.2**	**+1.8**
RECRC				S	**Sn**	**03 27 18.9**	**+1.9**
NIZA	**Niza - Manizal**	**2.98**	**234**	P	**Pn**	**03 26 44.4**	**+3.9**
NIZA				S	**Sn**	**03 27 21.2**	**+3.9**
CBOC	**Ciudad Bolivar**	**3.08**	**252**	P	**Pn**	**03 26 42.7**	**+0.9**
CBOC				S	**Sn**	**03 27 20.2**	**+0.6**
DBBC	**Dabeiba**	**3.12**	**273**	P	**Pn**	**03 26 42.8**	**+0.6**
DBBC				S	**Sn**	**03 27 18.0**	**-2.3**
SDV	**Santo Domingo**	**3.15**	**50**	P	**Pn**	**03 26 43.7**	**+1.1**
	23nm,0.3s,baz=222,slow=12,SNR=31						
SDV				S	**Sn**	**03 27 20.7**	**-0.4**
	39nm,0.5s,baz=285,slow=20,SNR=14						
SDV	**Santo Domingo**	**3.15**	**50**	P	**Pn**	**03 26 43.9**	**+1.3**
SDV				S	**Sn**	**03 27 21.6**	**+0.4**
ARGC	**Ariguani, Magd**	**3.21**	**339**	P	**Pn**	**03 26 44.5**	**+1.2**
ARGC				S	**Sn**	**03 27 22.6**	**+0.3**
ANIL	**Santa Ana**	**3.30**	**225**	P	**Pn**	**03 26 45.8**	**+1.2**
ANIL				S	**Sn**	**03 27 23.3**	**-1.3**
PRAC	**Prado**	**3.60**	**210**	P	**Pn**	**03 26 47.7**	**-0.5**
PRAC				S	**Sn**	**03 27 30.4**	**-0.8**
ORTC	**Ortega, Tolima**	**3.63**	**217**	P	**Pn**	**03 26 48.6**	**-0.1**
ORTC				S	**Sn**	**03 27 31.7**	**-0.3**
APAC	**Apartado, Choc**	**3.64**	**287**	P	**Pn**	**03 26 48.2**	**-0.5**
APAC				S	**Sn**	**03 27 29.6**	**-2.4**
SJCC	**San Jacinto, C**	**3.68**	**326**	P	**Pn**	**03 26 48.1**	**-1.2**
SJCC				S	**Sn**	**03 27 30.1**	**-3.1**
URMC	**La Uribe, Meta**	**3.80**	**200**	P	**Pn**	**03 26 51.3**	**+0.4**
URMC				S	**Sn**	**03 27 35.1**	**-0.9**
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	P	**Pn**	**03 26 54.7**	**-0.7**
CRJC				S	**Sn**	**03 27 42.7**	**-1.5**
GUVC	**San Jose del G**	**4.29**	**174**	P	**Pn**	**03 26 57.1**	**-0.1**
GUVC				S	**Sn**	**03 27 45.9**	**-1.4**
YOTC	**Yotoco, Valle**	**4.33**	**229**	P	**Pn**	**03 26 57.7**	**0.0**
MACC	**Macarena, Meta**	**4.73**	**189**	P	**Pn**	**03 27 01.5**	**-1.5**
MACC				S	**Sn**	**03 27 52.4**	**-5.3**
URIC	**Uribia, Colomb**	**4.94**	**12**	P	**Pn**	**03 27 05.0**	**-0.7**
URIC				S	**Sn**	**03 28 01.1**	**-1.5**
MALC	**Bahia Malaga**	**5.09**	**237**	P	**Pn**	**03 27 09.4**	**+1.7**
MALC				S	**Sn**	**03 28 08.7**	**+2.5**
FLOC

W35A	**Tecumseh**	**1.63**	**113**	Pg	Pn	03 26 52.9	-0.6
QUOK	**Quay**	**1.66**	**77**		Pn	03 26 54.0	+0.1
OK051	**E0350 and S346**	**1.66**	**65**		Pn	03 26 54.1	+0.3
DEOK	**Depew**	**1.79**	**88**		Pn	03 26 56.1	+0.4
WTFS	**Witchita Falls**	**2.05**	**174**		Pn	03 26 59.5	+0.3
T35A	**Sooner Cattle**	**2.08**	**57**		Pn	03 26 59.5	-0.2
LOOK	**Love County**	**2.21**	**145**		Pn	03 27 02.5	+1.2
TUL3	**Leonard**	**2.37**	**87**		Pn	03 27 03.9	+0.3
R32A	**Long Quarter,**	**2.60**	**360**	Pn	Pn	03 27 07.5	+0.5
PLPT	**Palo Pinto**	**3.01**	**174**		Pn	03 27 12.2	-0.3
HHAR	**Hobbs**	**3.89**	**82**	Pn	Pn	03 27 26.0	+1.4

*IDC **22** 03:49:04.4±0.8, 7°03S×154°97E, h0km, mb4.1/11, mbtmp4.2/12, ML2.3/1, MS3.5/15, Error ellipse: s-maj=28.9km s-min=19.0km az=123.0*
*NEIC **22** 03:49:05.8±1.3, 7°05S±0°1×155°0E±0°1, h10km±2km, mb4.5/14, Error ellipse: s-maj=21.0km s-min=18.5km az=159.0*
ISC 22 03:49:11.1±0.6, 6°89S±0°08×154°77E±0°07, h41km, n49, σ1°54/40, mb4.2/17, MS3.4/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.73**	**316**	Pn	**Pn**	**03 50 06.0**	**-0.3**
TATA	**Tatamba Isabel**	**5.21**	**107**	P	**Pn**	**03 50 27.7**	**+1.2**
HNR	**Honiara**	**5.71**	**117**	LR	LR	03 52 45.6	
	comp=Z,285nm,19.4s,baz=241,slow=40						
PMG	**Port Moresby**	**7.94**	**251**		**Pn**	**03 51 03.1**	**-1.0**
PMG					**Sn**	**03 52 34.9**	**+2.3**
PMG	**Port Moresby**	**7.94**	**251**	Pn	**Pn**	**03 51 05.1**	**+1.1**
	2.3nm,0.3s,baz=49,slow=7.7,SNR=6.1						
PMG				Sn	**Sn**	**03 52 32.8**	**+0.2**
	0.8nm,0.3s,baz=321,slow=20,SNR=9.2 22nm,0.9s						
PMG	**Port Moresby**	**7.94**	**251**	P	Pn	03 51 08.5	+4.5
PMG	**Port Moresby**	**7.94**	**251**	P	Pn	03 51 08.6	+4.6
MTSU	**Mount Surprise**	**15.12**	**221**	P	**P**	**03 52 45.8**	**-0.8**
CTA	**Charters Tower**	**15.50**	**211**	LR	LR	03 58 52.5	
	comp=Z,194nm,18.2s,baz=57,slow=38						
QIS	**Mount Isa**	**20.01**	**226**	P	**Pn**	**03 53 40.9**	**-1.6**
KDU	**Kakadu**	**22.70**	**254**	P	**P**	**03 54 12.6**	**+3.0**
WR0	**Warramunga Arr**	**23.54**	**235**	P	**P**	**03 54 16.2**	**-1.7**
WR0				IAmb	IAmb	03 54 18.5	
	comp=Z,11nm,1.0s						
WB0	**Warramunga Arr**	**23.56**	**235**	P	**P**	**03 54 16.1**	**-2.0**
WB0				IAmb	IAmb	03 54 18.8	
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**23.68**	**235**	P	**P**	**03 54 18.3**	**-0.9**
WB2	**Warramunga Arr**	**23.68**	**235**	P	**P**	**03 54 18.1**	**-1.2**
WB2				IAmb	IAmb	03 54 19.9	
	comp=Z,9.1nm,0.9s						
WRA	**Warramunga Arr**	**23.69**	**235**	P	**P**	**03 54 17.2**	**-2.1**
WRA	**Warramunga Arr**	**23.69**	**235**	P	**P**	**03 54 18.1**	**-1.3**
	comp=Z,7.8nm,0.9s,baz=60,slow=9.8,SNR=20						
WRA				PcP	**PcP**	**03 58 03.3**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=61,slow=2.7,SNR=2.7						
WRA				LR	LR	04 04 03.2	
	comp=Z,120nm,18.1s,baz=92,slow=38 comp=Z,7.8nm,0.9s						
INKA	**Innaminka**	**24.63**	**211**	P	**P**	**03 54 28.7**	**+0.8**
CMSA	**Cobar Meteorol**	**25.95**	**198**	P	**P**	**03 54 40.4**	**+0.6**
AS31	**Alice Springs**	**26.07**	**228**	P	**P**	**03 54 37.7**	**-3.4**
ASAR	**Alice Springs**	**26.07**	**228**	P	**P**	**03 54 39.6**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=60,slow=8.8,SNR=13						
ASAR				ScP	**ScP**	**04 01 49.6**	**+4.7**
	comp=Z,0.9nm,0.9s,baz=67,slow=3.3,SNR=6.5						
ASAR				LR	LR	04 05 16.1	
	comp=Z,105nm,18.2s,baz=44,slow=37 comp=Z,1.4nm,0.8s						
STKA	**Stephens Creek**	**27.73**	**205**	P	**P**	**03 54 55.6**	**-0.2**
	comp=Z,3.9nm,0.9s,baz=8.3,slow=13,SNR=3.5						
STKA				LR	LR	04 06 29.4	
	comp=Z,103nm,18.5s,baz=21,slow=38 comp=Z,3.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**30.49**	**246**	LR	LR	04 07 05.2	
	comp=Z,87nm,18.8s,baz=66,slow=35						
BATI	**Baumata**	**30.93**	**262**	LR	LR	04 10 43.4	
	comp=Z,61nm,18.9s,baz=142,slow=42						
NWAO	**Narrogin (SRO)**	**43.39**	**228**	LR	LR	04 15 47.6	
	comp=Z,94nm,18.3s,baz=169,slow=37						
KSRS	**Korea Array**	**50.75**	**332**	LR	LR	04 16 57.4	
	comp=Z,12nm,21.6s,baz=20,slow=33						
ASAJ	**Asahikawa**	**51.95**	**349**	LR	LR	04 18 48.3	
	comp=Z,31nm,20.1s,baz=114,slow=34						
ENH	**Enshi**	**57.01**	**313**	P	**P**	**03 58 53.9**	**+0.9**
XAN	**Xi'an**	**59.48**	**316**	P	**P**	**03 59 09.8**	**-0.5**
XAN				IAmb	IAmb	03 59 11.7	
	comp=Z,7.6nm,1.2s						
CM31	**Chiang Mai Arr**	**60.54**	**296**	P	**P**	**03 59 18.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**60.54**	**296**	P	**P**	**03 59 17.8**	**0.0**
CMAR	**Chiang Mai Arr**	**60.54**	**296**	P	**P**	**03 59 19.9**	**+2.1**
	comp=Z,2.6nm,0.6s,baz=116,slow=4.8,SNR=15 comp=Z,2.6nm,0.6s						
ULN	**Ulaanbaatar**	**68.80**	**328**	P	**P**	**04 00 11.0**	**-0.3**
ULN				IAmb	IAmb	04 00 16.6	
	comp=Z,7.0nm,1.4s						
SHL	**Shillong**	**69.05**	**301**	P	**P**	**04 00 13.9**	**+0.6**
SONM	**Songino Array**	**69.13**	**327**	P	**P**	**04 00 13.3**	**-0.1**
SONM				IAmb	IAmb	04 00 15.4	
	comp=Z,3.6nm,1.1s						
SONM	**Songino Array**	**69.13**	**327**	P	**P**	**04 00 14.1**	**+0.8**
	comp=Z,2.5nm,1.0s,baz=136,slow=6.2,SNR=7.7 comp=Z,2.5nm,1.0s						
LSA	**Lhasa**	**71.03**	**304**	P	**P**	**04 00 26.2**	**+0.4**
LSA				IAmb	IAmb	04 00 40.1	
	comp=Z,4.6nm,0.8s						
KDAK	**Kodiak Island**	**77.17**	**26**	LR	LR	04 33 40.5	
	comp=Z,18nm,19.1s,baz=312,slow=35						
QSPA	**South Pole Qui**	**83.08**	**180**	P	**P**	**04 01 30.0**	**-2.4**
	comp=Z,0.9nm,0.7s,baz=67,slow=4.5,SNR=1.9 comp=Z,0.9nm,0.7s						
MKAR	**Makanchi Array**	**83.18**	**319**	P	**P**	**04 01 33.5**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=110,slow=6.5,SNR=5.8 comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**83.36**	**22**	P	**P**	**04 01 32.6**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=247,slow=5.3,SNR=14						
ILAR				LR	LR	04 37 00.8	
	comp=Z,29nm,18.4s,baz=226,slow=34 comp=Z,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**83.97**	**326**	P	**P**	**04 01 36.0**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=125,slow=2.3,SNR=2.0 comp=Z,0.4nm,0.3s						
DLBC	**Dease Lake**	**88.17**	**31**	P	**P**	**04 01 57.9**	**+0.2**
	comp=Z,2.6nm,1.0s,baz=270,slow=6.1,SNR=3.7 comp=Z,2.6nm,1.0s						
YBH	**Yreka Blue Hor**	**88.99**	**48**	LR	LR	04 34 50.1	
	comp=Z,42nm,19.7s,baz=286,slow=31						
NVAR	**Mina Array Bea**	**91.83**	**52**	P	**P**	**04 02 15.5**	**0.0**
	comp=Z,0.8nm,0.8s,baz=231,slow=8.1,SNR=4.5 comp=Z,0.8nm,0.8s						
PFO	**Pinyon Flats O**	**92.75**	**57**	LR	LR	04 41 43.4	
	comp=Z,35nm,18.0s,baz=234,slow=34						
NEW	**Newport**	**93.83**	**42**	LR	LR	04 37 22.8	
	comp=Z,34nm,20.4s,baz=322,slow=31						
BDFB	**Brasilia**	**148.21**	**135**	PKPbc	**PKPbc**	**04 08 53.6**	**-0.3**
	comp=Z,4.0nm,1.1s,baz=219,slow=10,SNR=4.4						
TORD	**Torodi Ar. Bea**	**152.78**	**285**	PKPbc	**PKPbc**	**04 09 04.4**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=34,slow=3.3,SNR=12						

*NEIC **22** 04:00:35.6±0.5, 62°87N±0°04×151°02W±0°09, h105km±6km, Error ellipse: s-maj=5.8km s-min=5.2km az=81.0*
AEIC 22 04:00:36.1±0.7, 62°87N±0°02×151°01W±0°07, h100km±6km, ML2.5, ML3.2/46(NEIC), Error ellipse: s-maj=5.3km s-min=1.2km az=125.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.54**	**274**		Pn	04 00 52.9	+0.6
TRF	**Thorofare Moun**	**0.67**	**29**		Pn	04 00 53.4	0.0
TRF					Sn	04 01 06.9	+0.5
KTH	**Kantishna Hill**	**0.69**	**3**		Pn	04 00 53.5	0.0
KTH					Sn	04 01 07.0	+0.5
CAST	**Castle Rocks**	**0.74**	**319**		Pn	04 00 53.8	-0.1
CAST					Sn	04 01 07.1	-0.1
SKT	**Skwentna**	**0.92**	**195**		Pn	04 00 55.6	-0.1
SKT					Sn	04 01 10.8	+0.3
SKT	**Skwentna**	**0.92**	**195**	IAML		04 01 47.1	
	comp=N,370nm,0.4s						
WAT7	**Susitna Watana**	**0.99**	**91**		Pn	04 00 56.6	+0.1
WAT7					Sn	04 01 11.7	-0.2
WAT1	**Susitna Watana**	**1.13**	**91**		Pn	04 00 57.9	-0.1
BPAW	**Bear Paw Mtn.**	**1.24**	**0**		Pn	04 00 58.9	-0.3
BPAW					Sn	04 01 16.2	-0.4
L20K	**Farewell, AK**	**1.38**	**255**		Pn	04 01 00.6	-0.3
M20K	**Styx River**	**1.40**	**226**		Pn	04 01 00.8	-0.4
SUA	**Susitna One**	**1.42**	**175**	Pn	Pn	04 01 01.7	+0.3
STLK	**Strandline Lak**	**1.43**	**196**		Pn	04 01 01.5	0.0
STLK					Sn	04 01 21.0	+0.2
GHO	**Glory Hole Cre**	**1.47**	**138**		Pn	04 01 02.3	+0.3
K20K	**Telida**	**1.48**	**291**	Pn	Pn	04 01 01.8	-0.2
SML	**Sawmill**	**1.64**	**129**		Pn	04 01 03.9	-0.2
SML					Sn	04 01 25.2	-0.3
SML	**Sawmill**	**1.64**	**129**	IAML		04 02 01.0	
	comp=E,560nm,0.6s						
DHY	**Denali Highway**	**1.67**	**81**		Pn	04 01 04.8	+0.2
DHY					Sn	04 01 26.4	+0.1
SPCP	**Crater Peak Br**	**1.69**	**199**		Pn	04 01 04.0	-0.9
KNK	**Knik Glacier**	**1.89**	**139**	Pn	Pn	04 01 06.7	-0.5
KNK				IAML		04 02 13.4	
	comp=N,328nm,0.5s						
J20K	**Nowinta River**	**1.92**	**314**	Pn	Pn	04 01 07.3	-0.4
J20K				IAML		04 01 38.0	
	comp=E,116nm,0.5s						
NEA2	**Nenana**	**1.94**	**26**	Pn	Pn	04 01 07.1	-0.7
CCB	**Clear Creek Bu**	**2.28**	**37**	Pn	Pn	04 01 11.8	-0.4
I21K	**Tanana**	**2.36**	**350**	Pn	Pn	04 01 12.9	-0.4
J19K	**Poorman**	**2.36**	**301**	Pn	Pn	04 01 13.2	-0.1
PWL	**Port Wells**	**2.38**	**147**	Pn	Pn	04 01 12.8	-0.8
I23K	**Minto, Yukon-K**	**2.40**	**17**	Pn	Pn	04 01 13.6	-0.2
I20K	**Naaghedeneel**	**2.47**	**323**	Pn	Pn	04 01 14.6	-0.1
GLI	**Glacier Island**	**2.72**	**135**	Pn	Pn	04 01 17.2	-0.9
H21K	**Melozitna Rive**	**2.91**	**345**	Pn	Pn	04 01 20.3	-0.3
FID	**Port Fidalgo**	**3.02**	**133**	Pn	Pn	04 01 21.2	-0.9

*NEIC **22** 04:01:05.6±0.9, 63°04N±0°04×151°10W±0°08, h124km±6km, Error ellipse: s-maj=5.6km s-min=5.0km az=175.0*
*AEIC **22** 04:01:05.9±0.8, 63°03N±0°04×151°05W±0°07, h123km±6km, ML3.1, ML3.2/204(NEIC), Error ellipse: s-maj=5.6km s-min=4.1km az=195.0*
*IDC **22** 04:01:06.2±1.1, 62°38N×148°04W, h0km, mb3.5/2, mbtmp3.4/5, ML3.1/3, Error ellipse: s-maj=29.7km s-min=10.9km az=105.0*
ISC 22 04:01:05.9±0.9, 63°02N±0°02×151°10W±0°03, h127km±6km, n382, σ0°84/397, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.51**	**256**		**Pn**	**04 01 24.8**	**-0.1**
PPLA	**Purkeypile**	**0.51**	**256**	P	**Pn**	**04 01 24.8**	**-0.1**
	baz=75						
KTH	**Kantishna Hill**	**0.54**	**9**		**Pn**	**04 01 24.7**	**-0.3**
KTH	**Kantishna Hill**	**0.54**	**9**		**Sn**	**04 01 38.7**	**-0.6**
TRF	**Thorofare Moun**	**0.57**	**40**		**Pn**	**04 01 24.8**	**-0.5**
TRF					**Sn**	**04 01 39.4**	**-0.4**
TRF	**Thorofare Moun**	**0.57**	**40**	IAML		04 01 39.9	
	comp=E,776nm,0.6s						
TRF				IAML		04 01 40.0	
	comp=N,684nm,0.8s						
TRF	**Thorofare Moun**	**0.57**	**40**	P	**Pn**	**04 01 24.8**	**-0.5**
	baz=220						
TRF				S	**Sn**	**04 01 39.4**	**-0.4**
	baz=220						
CAST	**Castle Rocks**	**0.60**	**312**		**Pn**	**04 01 24.8**	**-0.5**
CAST				IAML		04 01 39.4	
	comp=E,254nm,0.8s						
CAST				IAML		04 01 39.5	
	comp=N,250nm,0.6s						
CAST	**Castle Rocks**	**0.60**	**312**		**Sn**	**04 01 39.1**	**-0.8**
CAST	**Castle Rocks**	**0.60**	**312**	P	**Pn**	**04 01 24.8**	**-0.5**
	baz=129						
CAST				S	**Sn**	**04 01 39.1**	**-0.8**
	baz=129						
CHUM	**Lake Minchumin**	**1.02**	**328**		**Sn**	**04 01 45.8**	**-0.2**
CHUM	**Lake Minchumin**	**1.02**	**328**	S	**Sn**	**04 01 45.8**	**-0.2**
	baz=146						
WAT7	**Susitna Watana**	**1.05**	**99**		**Pn**	**04 01 28.3**	**-0.8**
WAT7					**Sn**	**04 01 46.2**	**-0.5**
SKT	**Skwentna**	**1.06**	**191**		**Pn**	**04 01 28.8**	**-0.5**
SKT					**Sn**	**04 01 46.2**	**-0.6**
SKT				IAML		04 01 48.1	
	comp=E,548nm,0.3s						
SKT				IAML		04 01 48.7	
	comp=N,416nm,0.2s						
SKT	**Skwentna**	**1.06**	**191**	P	**Pn**	**04 01 28.7**	**-0.5**
	baz=12						
SKT				S	**Sn**	**04 01 46.6**	**-0.3**
	baz=12						
BPAW	**Bear Paw Mtn.**	**1.08**	**3**		**Pn**	**04 01 28.8**	**-0.6**
BPAW				IAML		04 01 46.2	
	comp=E,386nm,0.7s						
BPAW				IAML		04 01 46.6	
	comp=N,152nm,0.8s						
BPAW	**Bear Paw Mtn.**	**1.08**	**3**		**Sn**	**04 01 46.1**	**-1.0**
BPAW	**Bear Paw Mtn.**	**1.08**	**3**	P	**Pn**	**04 01 28.7**	**-0.6**
	baz=182						
BPAW				S	**Sn**	**04 01 46.2**	**-1.0**
	baz=182						
RND	**Reindeer**	**1.09**	**68**		**Pn**	**04 01 28.9**	**-0.6**
RND				IAML		04 01 48.2	
	comp=N,318nm,0.5s						
RND				IAML		04 01 49.0	
	comp=E,234nm,0.3s						
MCK	**McKinley**	**1.21**	**53**		**Pn**	**04 01 30.0**	**-0.6**
MCK					**Sn**	**04 01 48.8**	**-0.6**
MCK	**McKinley**	**1.21**	**53**	P	**Pn**	**04 01 30.0**	**-0.6**
	baz=234						
MCK				S	**Sn**	**04 01 48.8**	**-0.6**
	baz=234						
M22K	**Willow**	**1.35**	**160**		**Pn**	**04 01 31.6**	**-0.5**
M22K	**Willow**	**1.35**	**160**		**Sn**	**04 01 52.6**	**+0.6**
M22K	**Willow**	**1.35**	**160**	P	**Pn**	**04 01 31.7**	**-0.4**
	baz=342						
M22K				S	**Sn**	**04 01 52.7**	**+0.6**
	baz=342						
BWN	**Browne**	**1.37**	**32**		**Pn**	**04 01 32.4**	**+0.1**
BWN				IAML		04 01 52.7	
	comp=E,270nm,0.5s						
BWN				IAML		04 01 52.8	
	comp=N,350nm,0.7s						
K20K	**Telida**	**1.39**	**285**		**Pn**	**04 01 32.3**	**-0.2**
K20K	**Telida**	**1.39**	**285**		**Sn**	**04 01 51.5**	**-1.3**
K20K				IAML		04 01 52.3	
	comp=E,205nm,0.8s						
K20K				IAML		04 01 52.5	
	comp=N,204nm,0.7s						
K20K	**Telida**	**1.39**	**285**	P	**Pn**	**04 01 32.3**	**-0.2**
	baz=102						
K20K				S	**Sn**	**04 01 52.0**	**-0.8**
	baz=102						
K20K				S	**Sn**	**04 01 52.0**	**-0.8**
	baz=102						
L20K	**Farewell, AK**	**1.39**	**248**		**Pn**	**04 01 32.3**	**-0.3**
L20K					**Sn**	**04 01 52.9**	**0.0**
L20K	**Farewell, AK**	**1.39**	**248**	P	**Pn**	**04 01 32.3**	**-0.3**
	baz=66						
L20K				S	**Sn**	**04 01 52.9**	**0.0**
	baz=66						
L20K				S	**Sn**	**04 01 52.9**	**0.0**
	baz=66						
M20K	**Styx River**	**1.48**	**220**		**Pn**	**04 01 33.2**	**-0.5**
M20K	**Styx River**	**1.48**	**220**	IAML		04 01 54.7	
	comp=E,133nm,0.7s						
M20K				IAML		04 01 57.1	
	comp=N,92nm,0.7s						
M20K	**Styx River**	**1.48**	**220**	P	**Pn**	**04 01 33.2**	**-0.5**
	baz=39						
STLK	**Strandline Lak**	**1.57**	**193**		**Pn**	**04 01 34.2**	**-0.5**
SUA	**Susitna One**	**1.57**	**174**		**Pn**	**04 01 34.4**	**-0.4**
SUA				IAML		04 01 58.0	
	comp=N,148nm,0.7s						
SUA				IAML		04 01 58.1	
	comp=E,161nm,0.5s						
SUA	**Susitna One**	**1.57**	**174**	P	**Pn**	**04 01 35.0**	**+0.3**
	baz=355						
WAT6	**Susitna Watana**	**1.61**	**105**		**Pn**	**04 01 34.2**	**-0.9**
WAT6	**Susitna Watana**	**1.61**	**105**	P	**Pn**	**04 01 34.2**	**-0.9**
	baz=288						
GHO	**Glory Hole Cre**	**1.61**	**140**		**Pn**	**04 01 34.7**	**-0.5**
DHY	**Denali Highway**	**1.70**	**87**		**Pn**	**04 01 35.4**	**-0.8**
DHY				IAML		04 01 60.0	
	comp=N,335nm,0.3s						
DHY	**Denali Highway**	**1.70**	**87**	P	**Pn**	**04 01 35.5**	**-0.7**
	baz=270						
PMR	**Palmer**	**1.71**	**146**		**Pn**	**04 01 35.2**	**-0.9**
PMR				IAML		04 02 04.3	
	comp=N,305nm,0.3s						
PMR	**Palmer**	**1.71**	**146**	P	**Pn**	**04 01 35.2**	**-0.9**
	baz=329						
SML	**Sawmill**	**1.78**	**132**		**Pn**	**04 01 36.3**	**-0.8**
SML	**Sawmill**	**1.78**	**132**	P	**Pn**	**04 01 36.2**	**-0.9**
	baz=315						
J20K	**Nowinta River**	**1.79**	**312**		**Pn**	**04 01 36.7**	**-0.4**
J20K				IAML		04 02 01.1	
	comp=N,133nm,0.6s						
J20K				IAML		04 02 01.5	
	comp=E,73nm,0.6s						
SPCG	**Spurr Capps Gl**	**1.79**	**194**		**Pn**	**04 01 37.0**	**-0.3**
NEA2	**Nenana**	**1.82**	**29**		**Pn**	**04 01 36.4**	**-1.1**
NEA2				IAML		04 02 00.0	
	comp=E,231nm,0.8s						
NEA2				IAML		04 02 00.6	
	comp=N,94nm,0.4s						
NEA2	**Nenana**	**1.82**	**29**	P	**Pn**	**04 01 36.6**	**-0.9**
	baz=210						
SPCP	**Crater Peak Br**	**1.83**	**196**		**Pn**	**04 01 37.7**	**-0.1**
M19K	**Big River Lodg**	**1.90**	**235**		**Pn**	**04 01 37.7**	**-0.7**
N20K	**Mount Spurr**	**1.90**	**196**	P	**Pn**	**04 01 38.2**	**-0.3**
	baz=16						
SPCR	**Spurr Chakacha**	**1.90**	**196**		**Pn**	**04 01 38.2**	**-0.3**
SPCR	**Spurr Chakacha**	**1.90**	**196**		**Pn**	**04 01 38.2**	**-0.3**
SPCR	**Spurr Chakacha**	**1.90**	**196**	P	**Pn**	**04 01 38.2**	**-0.3**
	baz=16						
L19K	**White Mountain**	**1.93**	**246**		**Pn**	**04 01 38.0**	**-0.9**
L19K	**White Mountain**	**1.93**	**246**	P	**Pn**	**04 01 38.4**	**-0.5**
	baz=62						
WRH	**Wood River Hil**	**1.98**	**41**		**Pn**	**04 01 38.7**	**-0.6**
WRH				IAML		04 02 03.5	
	comp=E,81nm,0.8s						
WRH				IAML		04 02 05.4	
	comp=N,86nm,1.2s						
WRH	**Wood River Hil**	**1.98**	**41**		**Sn**	**04 02 03.2**	**-1.8**
M23K	**Glacier View**	**2.00**	**127**		**Pn**	**04 01 38.8**	**-0.9**
M23K	**Glacier View**	**2.00**	**127**	P	**Pn**	**04 01 38.8**	**-0.9**
	baz=310						
MLY	**Manley**	**2.02**	**4**		**Pn**	**04 01 39.5**	**-0.5**
MLY				IAML		04 02 22.3	
	comp=E,64nm,0.7s						
MLY	**Manley**	**2.02**	**4**		**Sn**	**04 02 06.2**	**+0.1**
MLY	**Manley**	**2.02**	**4**	P	**Pn**	**04 01 39.4**	**-0.6**
	baz=184						
MLY				S	**Sn**	**04 02 06.2**	**+0.1**
	baz=184						
KNK	**Knik Glacier**	**2.04**	**141**		**Pn**	**04 01 39.3**	**-0.9**
KNK	**Knik Glacier**	**2.04**	**141**	P	**Pn**	**04 01 39.5**	**-0.7**
	baz=324						
RC01	**Rabbit Creek A**	**2.04**	**161**		**Pn**	**04 01 39.5**	**-0.8**
RC01				IAML		04 02 09.7	
	comp=E,247nm,0.3s						
RC01	**Rabbit Creek A**	**2.04**	**161**	P	**Pn**	**04 01 39.6**	**-0.7**
	baz=343						
SCM	**Sheep Creek Mo**	**2.12**	**123**		**Pn**	**04 01 40.3**	**-1.0**
SCM	**Sheep Creek Mo**	**2.12**	**123**	P	**Pn**	**04 01 40.1**	**-1.1**
	baz=306						
CCB	**Clear Creek Bu**	**2.19**	**40**		**Pn**	**04 01 41.1**	**-0.9**
CCB				IAML		04 02 08.0	
	comp=E,114nm,0.5s						
CCB				IAML		04 02 09.8	
	comp=N,77nm,0.9s						
CCB	**Clear Creek Bu**	**2.19**	**40**		**Sn**	**04 02 08.8**	**-0.8**
I21K	**Tanana**	**2.20**	**350**		**Pn**	**04 01 41.8**	**-0.4**
I21K	**Tanana**	**2.20**	**350**	P	**Pn**	**04 01 41.7**	**-0.4**
	baz=169						
TTA	**Tatalina**	**2.24**	**270**		**Pn**	**04 01 42.1**	**-0.7**
TTA				IAML		04 02 10.9	
	comp=E,75nm,1.0s						
TTA				IAML		04 02 11.2	
	comp=N,102nm,0.8s						
TTA	**Tatalina**	**2.24**	**270**	P	**Pn**	**04 01 42.4**	**-0.4**
	baz=85						
J19K	**Poorman**	**2.25**	**298**		**Pn**	**04 01 42.5**	**-0.3**
J19K				IAML		04 02 11.6	
	comp=N,108nm,0.8s						
J19K				IAML		04 02 12.2	
	comp=E,56nm,1.2s						
CAPN	**Captain Cook N**	**2.26**	**181**		**Pn**	**04 01 43.1**	**+0.2**
CAPN	**Captain Cook N**	**2.26**	**181**	P	**Pn**	**04 01 43.1**	**+0.2**
	baz=1.1						
I23K	**Minto, Yukon-K**	**2.27**	**19**		**Pn**	**04 01 42.4**	**-0.5**
I23K				IAML		04 02 11.4	
	comp=N,59nm,0.8s						
I23K				IAML		04 02 11.5	
	comp=E,62nm,1.0s						
I23K	**Minto, Yukon-K**	**2.27**	**19**		**Sn**	**04 02 11.5**	**+0.1**
I23K	**Minto, Yukon-K**	**2.27**	**19**	P	**Pn**	**04 01 42.5**	**-0.4**
	baz=200						
I23K				S	**Sn**	**04 02 11.5**	**+0.1**
	baz=200						
I23K				S	**Sn**	**04 02 11.5**	**+0.1**
	baz=200						
HDA	**Harding Lake**	**2.31**	**51**		**Pn**	**04 01 42.6**	**-1.0**
HDA				IAML		04 02 15.8	
	comp=E,162nm,0.5s						
HDA				IAML		04 02 16.3	
	comp=N,145nm,0.5s						
HDA	**Harding Lake**	**2.31**	**51**		**Sn**	**04 02 11.6**	**-0.9**
HDA	**Harding Lake**	**2.31**	**51**	P	**Pn**	**04 01 43.2**	**-0.4**
	baz=235						
HDA				S	**Sn**	**04 02 11.6**	**-0.9**
	baz=235						
I20K	**Naaghedeneel**	**2.32**	**322**		**Pn**	**04 01 43.4**	**-0.3**
I20K	**Naaghedeneel**	**2.32**	**322**	IAML		04 02 14.2	
	comp=N,156nm,0.6s						
I20K				IAML		04 02 20.1	
	comp=E,175nm,0.8s						
I20K	**Naaghedeneel**	**2.32**	**322**	P	**Pn**	**04 01 43.4**	**-0.3**
	baz=138						
COLA	**College**	**2.35**	**36**		**Pn**	**04 01 43.4**	**-0.6**
COLA				IAML		04 02 13.1	
	comp=E,170nm,0.6s						
COLA	**College**	**2.35**	**36**		**Sn**	**04 02 10.4**	**-2.7**
M24K	**Tols

POKR				IAML			04 02 20.6
	comp=E,38nm,0.8s						
POKR	**Poker Plat Res**	**2.65**	**36**		**Sn**	**04 02 18.8**	**-1.3**
POKR	**Poker Plat Res**	**2.65**	**36**	P	**Pn**	**04 01 47.2**	**-0.7**
	baz=219						
POKR				S	**Sn**	**04 02 18.8**	**-1.3**
	baz=219						
POKR				S	**Sn**	**04 02 18.8**	**-1.3**
	baz=219						
RDWB	**Redoubt West**	**2.67**	**199**		**Pn**	**04 01 48.8**	**+0.5**
M18K	**Stony River**	**2.69**	**237**		**Pn**	**04 01 48.0**	**-0.4**
M18K	**Stony River**	**2.69**	**237**	P	**Pn**	**04 01 48.0**	**-0.4**
	baz=53						
L18K	**Granite Mounta**	**2.70**	**255**		**Pn**	**04 01 48.2**	**-0.3**
L18K	**Granite Mounta**	**2.70**	**255**	P	**Pn**	**04 01 48.2**	**-0.3**
	baz=70						
N19K	**Bonanza Creek**	**2.73**	**217**		**Pn**	**04 01 48.8**	**-0.2**
N19K	**Bonanza Creek**	**2.73**	**217**	P	**Pn**	**04 01 48.8**	**-0.2**
	baz=34						
H21K	**Melozitna Rive**	**2.75**	**345**		**Pn**	**04 01 48.4**	**-0.7**
H21K	**Melozitna Rive**	**2.75**	**345**	P	**Pn**	**04 01 48.4**	**-0.7**
	baz=163						
HARP	**HAARP**	**2.81**	**100**		**Pn**	**04 01 49.5**	**-0.4**
HARP					**Sn**	**04 02 24.9**	**+1.0**
HARP	**HAARP**	**2.81**	**100**	P	**Pn**	**04 01 49.5**	**-0.4**
	baz=286						
HARP				S	**Sn**	**04 02 24.9**	**+1.0**
	baz=286						
SVW2	**Sparrevohn**	**2.86**	**229**		**Sn**	**04 02 25.3**	**+0.3**
GLI	**Glacier Island**	**2.87**	**137**		**Pn**	**04 01 49.4**	**-1.2**
GLI	**Glacier Island**	**2.87**	**137**		**Sn**	**04 02 24.7**	**-0.4**
GLI	**Glacier Island**	**2.87**	**137**	P	**Pn**	**04 01 49.6**	**-1.1**
	baz=321						
GLI				S	**Sn**	**04 02 24.7**	**-0.4**
	baz=321						
KLU	**Klutina**	**2.87**	**120**		**Pn**	**04 01 49.3**	**-1.5**
KLU	**Klutina**	**2.87**	**120**		**Sn**	**04 02 23.5**	**-1.8**
KLU	**Klutina**	**2.87**	**120**	P	**Pn**	**04 01 49.1**	**-1.7**
	baz=305						
KLU				S	**Sn**	**04 02 23.5**	**-1.8**
	baz=305						
H22K	**Ishtalitna Cre**	**2.88**	**358**		**Pn**	**04 01 50.2**	**-0.7**
H22K	**Ishtalitna Cre**	**2.88**	**358**	P	**Pn**	**04 01 50.2**	**-0.7**
	baz=177						
H23K	**Yukon River**	**2.89**	**13**		**Pn**	**04 01 50.5**	**-0.4**
H23K	**Yukon River**	**2.89**	**13**	IAML		04 02 24.9	
	comp=N,32nm,1.1s						
H23K				IAML		04 02 25.1	
	comp=E,40nm,1.2s						
H23K	**Yukon River**	**2.89**	**13**	P	**Pn**	**04 01 50.6**	**-0.4**
	baz=194						
RIDG	**Independent Ri**	**2.91**	**73**		**Pn**	**04 01 50.8**	**-0.5**
RIDG				IAML		04 02 32.3	
	comp=N,135nm,0.6s						
RIDG				IAML		04 02 33.4	
	comp=E,137nm,0.7s						
RIDG	**Independent Ri**	**2.91**	**73**	P	**Pn**	**04 01 50.9**	**-0.3**
	baz=258						
H20K	**Anotleneega Mo**	**2.98**	**328**		**Pn**	**04 01 51.3**	**-0.7**
H20K	**Anotleneega Mo**	**2.98**	**328**	P	**Pn**	**04 01 51.3**	**-0.7**
	baz=144						
J25K	**Salcha River,**	**3.00**	**55**		**Pn**	**04 01 51.5**	**-0.9**
J25K	**Salcha River,**	**3.00**	**55**	IAML		04 02 30.0	
	comp=E,102nm,0.5s						
J25K				IAML		04 02 32.0	
	comp=N,114nm,0.4s						
J25K	**Salcha River,**	**3.00**	**55**	P	**Pn**	**04 01 51.5**	**-0.9**
	baz=240						
SEW	**Seward**	**3.03**	**164**	P	**Pn**	**04 01 51.8**	**-1.0**
	baz=346						
O20K	**Slope Mountain**	**3.04**	**195**		**Pn**	**04 01 52.9**	**-0.1**
O20K	**Slope Mountain**	**3.04**	**195**	P	**Pn**	**04 01 52.9**	**-0.1**
	baz=14						
GCSA	**Galena City Sc**	**3.08**	**307**	P	**Pn**	**04 01 53.4**	**0.0**
	baz=121						
H24K	**Noodor Dome**	**3.15**	**25**		**Pn**	**04 01 53.7**	**-0.7**
H24K	**Noodor Dome**	**3.15**	**25**	P	**Pn**	**04 01 53.7**	**-0.7**
	baz=208						
FID	**Port Fidalgo**	**3.16**	**134**		**Pn**	**04 01 53.6**	**-0.9**
IMAR	**Indian Mountai**	**3.19**	**340**		**Pn**	**04 01 54.1**	**-0.6**
BRLK	**Bradley Lake**	**3.27**	**178**		**Pn**	**04 01 55.4**	**-0.6**
BRLK				IAML		04 02 35.1	
	comp=E,52nm,0.5s						
BRLK				IAML		04 02 36.3	
	comp=N,74nm,0.1s						
BRSE	**Bradley Lake S**	**3.30**	**177**		**Sn**	**04 02 35.4**	**+0.2**
BRSE	**Bradley Lake S**	**3.30**	**177**	P	**Pn**	**04 01 55.5**	**-0.7**
	baz=358						
BRSE				S	**Sn**	**04 02 35.4**	**+0.2**
	baz=358						
K17K	**Iditarod**	**3.31**	**268**	Pn	**Pn**	**04 01 56.4**	**0.0**
K17K				IAML		04 02 36.8	
	comp=E,36nm,1.4s						
K17K				IAML		04 02 50.6	
	comp=N,39nm,1.4s						
SCRK	**Sand Creek**	**3.33**	**70**	Pn	**Pn**	**04 01 55.7**	**-1.1**
SCRK				IAML		04 02 39.9	
	comp=E,58nm,0.9s						
SCRK				IAML		04 02 41.2	
	comp=N,66nm,0.8s						
SCRK	**Sand Creek**	**3.33**	**70**	P	**Pn**	**04 01 55.7**	**-1.1**
	baz=256						
N25K	**Chitina, Valde**	**3.35**	**112**		**Pn**	**04 01 56.0**	**-1.0**
N25K				IAML		04 02 36.7	
	comp=E,96nm,0.5s						
N25K				IAML		04 02 37.0	
	comp=N,110nm,0.3s						
N25K	**Chitina, Valde**	**3.35**	**112**	P	**Pn**	**04 01 56.1**	**-1.0**
	baz=298						
WAZA	**Wrangell Mount**	**3.36**	**103**		**Pn**	**04 01 56.6**	**-0.7**
MENT	**Mentasta**	**3.37**	**88**		**Pn**	**04 01 56.8**	**-0.5**
M17K	**Holitna River**	**3.38**	**244**		**Pn**	**04 01 56.6**	**-0.8**
M17K	**Holitna River**	**3.38**	**244**	IAML		04 02 53.5	
	comp=N,39nm,1.4s						
M17K				IAML		04 02 57.9	
	comp=E,28nm,1.2s						
M17K	**Holitna River**	**3.38**	**244**	P	**Pn**	**04 01 56.6**	**-0.8**
	baz=58						
HOM	**Homer**	**3.39**	**185**	P	**Pn**	**04 01 58.0**	**+0.5**
	baz=4.6						
HIN	**Hinchinbrook I**	**3.43**	**138**		**Pn**	**04 01 56.8**	**-1.2**
H19K	**Roundabout Mou**	**3.43**	**320**		**Pn**	**04 01 57.6**	**-0.4**
H19K	**Roundabout Mou**	**3.43**	**320**	P	**Pn**	**04 01 57.5**	**-0.4**
	baz=134						
L17K	**Donlin**	**3.45**	**258**		**Pn**	**04 01 57.8**	**-0.4**
L17K	**Donlin**	**3.45**	**258**	P	**Pn**	**04 01 57.8**	**-0.4**
	baz=72						
PRP	**Porcupine Dome**	**3.49**	**42**		**Pn**	**04 01 58.2**	**-0.7**
PRP				IAML		04 02 43.5	
	comp=E,31nm,0.5s						
PRP				IAML		04 02 43.5	
	comp=N,37nm,0.4s						
PRP	**Porcupine Dome**	**3.49**	**42**	P	**Pn**	**04 01 58.0**	**-0.9**
	baz=226						
CNPM	**China Poot**	**3.51**	**181**		**Pn**	**04 01 58.8**	**-0.3**
CNPM				IAML		04 02 40.1	
	comp=E,54nm,0.7s						
CNPM				IAML		04 02 40.6	
	comp=N,53nm,0.4s						
P23K	**Montague Islan**	**3.52**	**148**		**Pn**	**04 01 57.6**	**-1.5**
P23K	**Montague Islan**	**3.52**	**148**	P	**Pn**	**04 01 57.6**	**-1.5**
	baz=332						
P19K	**Oil Pt**	**3.53**	**198**		**Pn**	**04 01 59.8**	**+0.4**
P19K	**Oil Pt**	**3.53**	**198**	IAML		04 02 42.3	
	comp=N,48nm,0.7s						
P19K				IAML		04 02 43.6	
	comp=E,55nm,0.3s						
P19K	**Oil Pt**	**3.53**	**198**	P	**Pn**	**04 01 59.8**	**+0.4**
	baz=16						
L26K	**Log Cabin Wild**	**3.54**	**87**		**Pn**	**04 01 59.0**	**-0.4**
L26K	**Log Cabin Wild**	**3.54**	**87**	P	**Pn**	**04 01 59.0**	**-0.4**
	baz=274						
EYAK	**Cordova Ski Ar**	**3.55**	**132**		**Pn**	**04 01 58.9**	**-0.7**
EYAK					**Sn**	**04 02 41.4**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.55**	**132**	P	**Pn**	**04 01 58.9**	**-0.7**
	baz=317						
EYAK				S	**Sn**	**04 02 41.4**	**+0.3**
	baz=317						
J17K	**VABM Dome**	**3.63**	**279**		**Pn**	**04 02 00.5**	**-0.1**
J17K				IAML		04 02 56.7	
	comp=N,29nm,1.0s						
J17K				IAML		04 02 57.7	
	comp=E,20nm,0.9s						
J17K	**VABM Dome**	**3.63**	**279**	P	**Pn**	**04 02 00.2**	**-0.4**
	baz=92						
G21K	**Allakaket**	**3.66**	**345**		**Pn**	**04 02 00.2**	**-0.7**
G21K	**Allakaket**	**3.66**	**345**	P	**Pn**	**04 02 00.2**	**-0.7**
	baz=162						
J26L	**Joseph Creek**	**3.66**	**63**		**Pn**	**04 02 00.6**	**-0.6**
J26L	**Joseph Creek**	**3.66**	**63**	IAML		04 02 46.9	
	comp=N,80nm,0.8s						
J26L				IAML		04 02 48.4	
	comp=E,78nm,0.8s						
J26L	**Joseph Creek**	**3.66**	**63**	P	**Pn**	**04 02 00.5**	**-0.6**
	baz=250						
BMRM	**Bremner River**	**3.69**	**121**		**Pn**	**04 01 59.8**	**-1.8**
BMRM	**Bremner River**	**3.69**	**121**	P	**Pn**	**04 01 59.8**	**-1.8**
	baz=307						
G23K	**Bananza Creek**	**3.73**	**7**		**Pn**	**04 02 01.6**	**-0.4**
G23K	**Bananza Creek**	**3.73**	**7**	IAML		04 02 46.1	
	comp=N,16nm,1.0s						
G23K	**Bananza Creek**	**3.73**	**7**	P	**Pn**	**04 02 01.6**	**-0.4**
	baz=187						
GLB	**Gilahina Butte**	**3.76**	**112**		**Pn**	**04 02 01.5**	**-1.0**
GLB				IAML		04 02 46.1	
	comp=N,77nm,0.7s						
M26K	**Nabesna, AK**	**3.79**	**96**		**Pn**	**04 02 01.7**	**-1.0**
M26K	**Nabesna, AK**	**3.79**	**96**	IAML		04 03 06.4	
	comp=N,55nm,0.6s						
M26K				IAML		04 03 08.1	
	comp=E,51nm,0.4s						
M26K	**Nabesna, AK**	**3.79**	**96**	P	**Pn**	**04 02 01.7**	**-1.0**
	baz=283						
N17K	**Nushagak Hills**	**3.82**	**232**	P	**Pn**	**04 02 03.4**	**+0.2**
	baz=46						
H18K	**Honhosa River**	**3.84**	**307**		**Pn**	**04 02 03.3**	**0.0**
H18K	**Honhosa River**	**3.84**	**307**	P	**Pn**	**04 02 03.3**	**0.0**
	baz=120						
GOAT	**Goat Mountain**	**3.89**	**126**		**Pn**	**04 02 02.7**	**-1.4**
H25L	**Birch Creek**	**3.97**	**33**		**Pn**	**04 02 04.7**	**-0.3**
H25L	**Birch Creek**	**3.97**	**33**	P	**Pn**	**04 02 04.7**	**-0.3**
	baz=217						
G24K	**Hadweenzic Riv**	**4.00**	**21**		**Pn**	**04 02 04.9**	**-0.7**
G24K	**Hadweenzic Riv**	**4.00**	**21**	P	**Pn**	**04 02 04.9**	**-0.7**
	baz=204						
VRDI	**Verde Repeater**	**4.02**	**113**	Pn	**Pn**	**04 02 04.4**	**-1.6**
VRDI				IAML		04 02 53.7	
	comp=N,56nm,1.0s						
VRDI				IAML		04 02 55.7	
	comp=E,48nm,0.6s						
RAGM	**Ragged Mountai**	**4.04**	**128**		**Pn**	**04 02 03.2**	**-2.9**
G19K	**Purcell Mounta**	**4.06**	**323**		**Pn**	**04 02 05.5**	**-0.8**
G19K	**Purcell Mounta**	**4.06**	**323**	P	**Pn**	**04 02 05.5**	**-0.8**
	baz=138						
L16K	**Owhat River**	**4.12**	**255**		**Pn**	**04 02 06.7**	**-0.3**
L16K				IAML		04 02 55.8	
	comp=N,25nm,0.9s						
L16K				IAML		04 02 56.6	
	comp=E,12nm,1.2s						
L16K	**Owhat River**	**4.12**	**255**	P	**Pn**	**04 02 06.9**	**-0.1**
	baz=68						
MCARA	**McCarthy VSAT**	**4.13**	**110**		**Pn**	**04 02 06.5**	**-0.7**
MCARA	**McCarthy VSAT**	**4.13**	**110**	P	**Pn**	**04 02 06.5**	**-0.7**
	baz=297						
I26K	**Coal Creek Min**	**4.17**	**53**		**Pn**	**04 02 06.9**	**-0.8**
I26K				IAML		04 02 58.9	
	comp=N,44nm,0.7s						
I26K				IAML		04 02 59.8	
	comp=E,31nm,1.1s						
M16K	**Timber Creek**	**4.21**	**245**		**Pn**	**04 02 07.8**	**-0.5**
M16K	**Timber Creek**	**4.21**	**245**	IAML		04 02 58.2	
	comp=N,11nm,0.8s						
M16K	**Timber Creek**	**4.21**	**245**	P	**Pn**	**04 02 07.8**	**-0.5**
	baz=58						
L27K	**Beaver Creek,**	**4.22**	**85**		**Pn**	**04 02 07.1**	**-1.5**
L27K	**Beaver Creek,**	**4.22**	**85**	IAML		04 03 01.8	
	comp=N,20nm,0.4s						
L27K				IAML		04 03 23.8	
	comp=E,14nm,0.6s						
L27K	**Beaver Creek,**	**4.22**	**85**	P	**Pn**	**04 02 07.1**	**-1.5**
	baz=274						
COLD	**Coldfoot**	**4.24**	**5**	P	**Pn**	**04 02 08.3**	**-0.3**
	baz=185						
BCAR	**Beaver Creek A**	**4.24**	**85**	Pn	**Pn**	**04 02 07.6**	**-1.2**
Q19K	**Cape Douglas,**	**4.29**	**198**		**Pn**	**04 02 09.4**	**0.0**
Q19K	**Cape Douglas,**	**4.29**	**198**	P	**Pn**	**04 02 09.4**	**0.0**
	baz=16						
M27K	**Edge Creek, AK**	**4.30**	**95**		**Pn**	**04 02 09.4**	**-0.3**
M27K	**Edge Creek, AK**	**4.30**	**95**	IAML		04 03 21.0	
	comp=E,30nm,0.8s						
M27K				IAML		04 03 25.2	
	comp=N,24nm,1.2s						
M27K	**Edge Creek, AK**	**4.30**	**95**	P	**Pn**	**04 02 09.4**	**-0.3**
	baz=283						
J16K	**Anvik River**	**4.32**	**278**		**Pn**	**04 02 09.7**	**0.0**
J16K	**Anvik River**	**4.32**	**278**	IAML		04 02 59.7	
	comp=N,11nm,1.4s						
J16K				IAML		04 03 00.6	
	comp=E,12nm,1.5s						
J16K	**Anvik River**	**4.32**	**278**	P	**Pn**	**04 02 09.7**	**0.0**
	baz=89						
G25K	**Bearman Lake**	**4.32**	**27**		**Pn**	**04 02 09.3**	**-0.4**
G25K	**Bearman Lake**	**4.32**	**27**	P	**Pn**	**04 02 09.3**	**-0.4**
	baz=212						
H17K	**Granite Mounta**	**4.33**	**300**		**Pn**	**04 02 10.3**	**+0.4**
H17K	**Granite Mounta**	**4.33**	**300**	IAML		04 03 02.2	
	comp=E,21nm,1.0s						
H17K				IAML		04 03 02.7	
	comp=N,12nm,0.9s						
H17K	**Granite Mounta**	**4.33**	**300**	P	**Pn**	**04 02 10.3**	**+0.4**
	baz=112						
F21K	**Alatna River**	**4.33**	**348**		**Pn**	**04 02 09.8**	**-0.2**
F21K	**Alatna River**	**4.33**	**348**	P	**Pn**	**04 02 09.8**	**-0.2**
	baz=165						
O17K	**Koliganek Bris**	**4.35**	**224**		**Pn**	**04 02 10.5**	**+0.3**
O17K	**Koliganek Bris**	**4.35**	**224**	P	**Pn**	**04 02 10.5**	**+0.3**
	baz=39						
FYU	**Fort Yukon**	**4.35**	**33**	Pn	**Pn**	**04 02 09.4**	**-0.8**
FYU				IAML		04 03 35.8	
	comp=E,16nm,1.0s						
G18K	**Tagagawik**	**4.36**	**315**		**Pn**	**04 02 10.0**	**-0.2**
G18K	**Tagagawik**	**4.36**	**315**	P	**Pn**	**04 02 10.0**	**-0.2**
	baz=128						
I17K	**Unalakleet**	**4.39**	**286**		**Pn**	**04 02 10.7**	**0.0**
I17K	**Unalakleet**	**4.39**	**286**	IAML		04 03 01.7	
	comp=E,14nm,1.3s						
I17K				IAML		04 03 04.3	
	comp=N,14nm,1.5s						
I17K	**Unalakleet**	**4.39**	**286**	P	**Pn**	**04 02 10.7**	**0.0**
	baz=97						
Q20K	**Shuyak Island**	**4.47**	**189**	P	**Pn**	**04 02 11.4**	**-0.5**
	baz=7.8						
SYI	**Shuyak Island**	**4.47**	**189**		**Pn**	**04 02 11.4**	**-0.4**
SYI	**Shuyak Island**	**4.47**	**189**	IAML		04 03 15.9	
	comp=N,25nm,1.0s						
F20K	**Avaraart Lake**	**4.49**	**336**		**Pn**	**04 02 11.8**	**-0.2**
F20K	**Avaraart Lake**	**4.49**	**336**	P	**Pn**	**04 02 11.8**	**-0.2**
	baz=152						
F22K	**John River**	**4.53**	**355**		**Pn**	**04 02 12.4**	**-0.1**
F22K	**John River**	**4.53**	**355**	P	**Pn**	**04 02 12.4**	**-0.1**
	baz=174						
F24K	**Squaw Lake**	**4.71**	**15**	Pn	**Pn**	**04 02 14.6**	**-0.4**
F24K	**Squaw Lake**	**4.71**	**15**	P	**Pn**	**04 02 14.8**	**-0.2**
	baz=198						
EGAK	**Eagle**	**4.73**	**64**		**Pn**	**04 02 14.0**	**-1.3**
EGAK				IAML		04 03 25.6	
	comp=N,34nm,0.5s						
EGAK	**Eagle**	**4.73**	**64**	P	**Pn**	**04 02 14.4**	**-0.8**
	baz=253						
F19K	**Shaleruckik Mo**	**4.76**	**326**		**Pn**	**04 02 15.1**	**-0.5**
F19K	**Shaleruckik Mo**	**4.76**	**326**	P	**Pn**	**04 02 15.1**	**-0.5**
	baz=140						
KAHC	**Katmai Hardscr**	**4.79**	**205**		**Pn**	**04 02 16.0**	**-0.1**
Q18K	**Katmai Hardscr**	**4.79**	**205**	P	**Pn**	**04 02 16.0**	**-0.1**
	baz=22						
ISLE	**Juniper Island**	**4.81**	**116**		**Pn**	**04 02 14.7**	**-1.8**
KAHG	**Katmai Hook Gl**	**4.85**	**202**		**Pn**	**04 02 16.9**	**0.0**
K15K	**Wolf Creek Mou**	**4.86**	**266**		**Pn**	**04 02 17.3**	**+0.2**
K15K	**Wolf Creek Mou**	**4.86**	**266**	IAML		04 03 02.9	
	comp=E,8.2nm,1.2s						
K15K	**Wolf Creek Mou**	**4.86**	**266**	P	**Pn**	**04 02 17.3**	**+0.2**
	baz=77						
BARK	**Barkley Ridge**	**4.87**	**119**		**Pn**	**04 02 16.2**	**-1.0**
I27K	**Kandik River**	**4.87**	**54**		**Pn**	**04 02 16.3**	**-0.9**
I27K	**Kandik River**	**4.87**	**54**	P	**Pn**	**04 02 16.3**	**-0.9**
	baz=242						
GRNC	**Granite Creek**	**4.99**	**113**		**Pn**	**04 02 17.5**	**-1.3**
GRNC	**Granite Creek**	**4.99**	**113**	IAML		04 03 35.9	
	comp=N,30nm,0.7s						
GRNC				IAML		04 03 48.3	
	comp=E,16nm,1.2s						
G26K	**Porcupine Rive**	**5.02**	**35**		**Pn**	**04 02 18.4**	**-0.6**
G26K	**Porcupine Rive**	**5.02**	**35**	P	**Pn**	**04 02 18.4**	**-0.6**
	baz=221						
L15K	**Ungalak Mounta**	**5.02**	**259**		**Pn**	**04 02 19.2**	**0.0**
L15K	**Ungalak Mounta**	**5.02**	**259**	P	**Pn**	**04 02 19.2**	**0.0**
	baz=70						
CTG	**Chitna Glacier**	**5.04**	**110**	P	**Pn**	**04 02 19.1**	**-0.5**
	baz=299						
CTGM	**Chitina Glacie**	**5.05**	**110**		**Pn**	**04 02 19.1**	**-0.6**
CTGM	**Chitina Glacie**	**5.05**	**110**	IAML		04 03 18.2	
	comp=E,22nm,0.9s						
CTGM				IAML		04 03 41.0	
	comp=N,23nm,1.4s						
E23K	**Chandalar**	**5.09**	**6**		**Pn**	**04 02 20.2**	**+0.1**
E23K	**Chandalar**	**5.09**	**6**	P	**Pn**	**04 02 20.2**	**+0.1**
	baz=187						
M15K	**Kasigluk River**	**5.10**	**247**		**Pn**	**04 02 20.7**	**+0.5**
M15K	**Kasigluk River**	**5.10**	**247**	P	**Pn**	**04 02 20.7**	**+0.5**
	baz=59						
YUK3	**Moose Creek**	**5.11**	**99**	P	**Pn**	**04 02 20.1**	**-0.4**
	baz=289						
F25K	**Christian Rive**	**5.13**	**24**		**Pn**	**04 02 20.0**	**-0.6**
F25K	**Christian Rive**	**5.13**	**24**	P	**Pn**	**04 02 20.0**	**-0.6**
	baz=209						
E19K	**Redstone River**	**5.14**	**333**		**Pn**	**04 02 20.7**	**0.0**
E19K	**Redstone River**	**5.14**	**333**	P	**Pn**	**04 02 20.7**	**0.0**
	baz=147						
E24K	**Your Creek**	**5.19**	**11**		**Pn**	**04 02 21.3**	**-0.1**
E24K	**Your Creek**	**5.19**	**11**	P	**Pn**	**04 02 21.3**	**-0.1**
	baz=193						
BMAR	**Burnt Mountain**	**5.20**	**29**	Pn	**Pn**	**04 02 21.1**	**-0.5**
H27K	**Steamboat Moun**	**5.23**	**48**		**Pn**	**04 02 20.9**	**-1.0**
H27K	**Steamboat Moun**	**5.23**	**48**	P	**Pn**	**04 02 20.9**	**-1.0**
	baz=236						
ANCK	**Angle Creek**	**5.30**	**206**		**Pn**	**04 02 23.5**	**+0.6**
KDAK	**Kodiak Island**	**5.31**	**189**		**Pn**	**04 02 21.4**	**-1.6**
KDAK	**Kodiak Island**	**5.31**	**189**	IAML		04 03 20.2	
	comp=N,16nm,1.3s						
KDAK				IAML		04 03 24.0	
	comp=N,24nm,1.4s						
KDAK	**Kodiak Island**	**5.31**	**189**	Pn	**Pn**	**04 02 20.8**	**-2.2**
	comp=N,0.8nm,0.3s,baz=293,slow=3.4,SNR=30						
KDAK				Sn	**Sn**	**04 03 17.5**	**-5.5**
	comp=N,1.8nm,0.3s,baz=66,slow=18,SNR=11						
	comp=N,2.9nm,0.3s						
CNTC	**Contact Creek**	**5.32**	**208**		**Pn**	**04 02 23.6**	**+0.3**
Q17K	**Contact Creek**	**5.32**	**208**	P	**Pn**	**04 02 23.6**	**+0.3**
	baz=24						
DAWY	**Dawson**	**5.34**	**74**		**Pn**	**04 02 22.4**	**-1.1**
DAWY	**Dawson**	**5.34**	**74**	P	**Pn**	**04 02 22.4**	**-1.1**
	baz=264						
TABL	**Table Mountain**	**5.40**	**114**		**Pn**	**04 02 22.9**	**-1.4**
TABL	**Table Mountain**	**5.40**	**114**	IAML		04 03 23.3	
	comp=E,23nm,1.4s						
TABL				IAML		04 03 34.8	
	comp=N,20nm,1.0s						
I28M	**Miner Creek**	**5.45**	**59**		**Pn**	**04 02 24.1**	**-0.7**
I28M	**Miner Creek**	**5.45**	**59**	P	**Pn**	**04 02 24.2**	**-0.7**
	baz=248						
F26K	**Sheenjek River**	**5.52**	**29**		**Pn**	**04 02 25.2**	**-0.6**
F26K	**Sheenjek River**	**5.52**	**29**	P	**Pn**	**04 02 25.2**	**-0.6**
	baz=215						
F17K	**Baldwin Pennin**	**5.54**	**313**		**Pn**	**04 02 26.0**	**0.0**
F17K	**Baldwin Pennin**	**5.54**	**313**	P	**Pn**	**04 02 26.0**	**0.0**
	baz=123						
E21K	**Killik River**	**5.57**	**349**		**Pn**	**04 02 27.6**	**+1.1**
E21K	**Killik River**	**5.57**	**349**	P	**Pn**	**04 02 27.5**	**+1.1**
	baz=166						
M14K	**Bethel**	**5.62**	**251**		**Pn**	**04 02 27.7**	**+0.6**
M14K	**Bethel**	**5.62**	**251**	P	**Pn**	**04 02 27.7**	**+0.6**
	baz=61						
O28M	**Mount Upton**	**5.63**	**109**		**Pn**	**04 02 27.4**	**-0.2**
O28M	**Mount Upton**	**5.63**	**109**	P	**Pn**	**04 02 27.4**	**-0.2**
	baz=299						
E20K	**Nigu River**	**5.66**	**340**		**Pn**	**04 02 28.5**	**+0.8**
E20K	**Nigu River**	**5.66**	**340**	P	**Pn**	**04 02 28.5**	**+0.8**
	baz=156						
TOLK	**Toolik Lake Re**	**5.68**	**6**		**Pn**	**04 02 28.8**	**+0.9**
TOLK	**Toolik Lake Re**	**5.68**	**6**	P	**Pn**	**04 02 29.7**	**+1.7**
	baz=187						
L14K	**Kuka Creek**	**5.68**	**258**		**Pn**	**04 02 28.7**	**+0.8**
L14K	**Kuka Creek**	**5.68**	**258**	P	**Pn**	**04 02 28.7**	**+0.8**
	baz=68						
SAMH	**Samovar Hills**	**5.72**	**116**		**Pn**	**04 02 28.7**	**+0.1**
M29M	**Somme Creek**	**5.84**	**90**		**Pn**	**04 02 29.6**	**-0.6**
M29M	**Somme Creek**	**5.84**	**90**	P	**Pn**	**04 02 29.9**	**-0.3**
	baz=281						
J29N	**Klondike Camp**	**5.90**	**70**		**Pn**	**04 02 30.8**	**-0.2**
L29M	**L29M**	**5.90**	**83**		**Pn**	**04 02 30.0**	**-1.0**
L29M	**L29M**	**5.90**	**83**	P	**Pn**	**04 02 30.0**	**-1.0**
	baz=275						
OHAK	**Old Harbor**	**5.92**	**192**		**Pn**	**04 02 29.2**	**-2.0**
OHAK	**Old Harbor**	**5.92**	**192**	P	**Pn**	**04 02 29.2**	**-2.0**
	baz=9.9						
E18K	**Tukpahlearik C**	**5.95**	**322**		**Pn**	**04 02 31.6**	**0.0**
E18K	**Tukpahlearik C**	**5.95**	**322**	P	**Pn**	**04 02 31.6**	**0.0**
	baz=133						
PCA	**Pinnacle**	**5.96**	**115**		**Pn**	**04 02 31.2**	**-0.6**
PINM	**Pinnacle**	**5.96**	**115**	P	**Pn**	**04 02 31.2**	**-0.6**
	baz=304						
D23K	**Nanushuk River**	**5.97**	**1**		**Pn**	**04 02 32.8**	**+0.9**
D23K	**Nanushuk River**	**5.97**	**1**	P	**Pn**	**04 02 32.8**	**+0.9**
	baz=182						
D20K	**Etivluk River**	**6.14**	**341**		**Pn**	**04 02 34.2**	**0.0**
D20K	**Etivluk River**

comp=N,0.1nm,0.3s,baz=240,slow=13,SNR=2.2
comp=N,1.1nm,0.8s
BESE Bessie Mountai 9.09 112 Pn 04 03 13.1 -0.9
PDAR Pinedale Array 31.41 110 P **P 04 07 16.1 +1.2**
comp=N,0.4nm,0.6s,baz=340,slow=4.8,SNR=4.0
comp=N,0.4nm,0.6s
TXAR Lajitas Array 45.32 115 P **P 04 09 12.2 +1.1**
comp=N,0.3nm,0.5s,baz=327,slow=6.7,SNR=5.9
comp=N,0.3nm,0.5s

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*IDC **22** 04:04:36.0±4.0, 37.°14N×20.°15E, h0km, mb3.6/4, mbtmp3.6/7, ML3.9/2, Error ellipse: s-maj=67.1km s-min=27.1km az=52.0*
*ATH **22** 04:04:41.2, 37.°56N×20.°33E, h7km±2km, ML3.2/13, Manual Solution by M.Kolligri This location: 2020/07/02 04:53:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*THE **22** 04:04:43.1, 37.°62N×20.°43E, h33km±34km, ML3.3/5, Error ellipse: s-maj=35.0km s-min=3.2km az=32.0*
ISC 22 04:04:41.3±2.1, 37.°55N±0.°07×20.°36E±0.°08, h12km±10km, n34, σ1§03/46, mb3.6/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.41**	**67**	P	**Pg**	**04 04 49.5**	**+0.1**
LTHK				S	**Sg**	**04 04 55.1**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.59**	**17**	P	**Pg**	**04 04 52.7**	**-0.1**
PSDA				S	**Sg**	**04 05 00.5**	**-0.1**
3μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.59**	**17**	P	**Pg**	**04 04 52.6**	**-0.2**
PSDA				S	**Sg**	**04 05 00.4**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.62**	**32**	P	**Pg**	**04 04 53.0**	**-0.3**
RTZL				S	**Sg**	**04 05 01.7**	**+0.2**
2μm,0.7s							
VLS	**Valsamata**	**0.65**	**16**	P	**Pg**	**04 04 53.6**	**-0.4**
VLS				S	**Sg**	**04 05 02.3**	**-0.3**
2μm,0.4s							
VLS	**Valsamata**	**0.65**	**16**	P	**Pg**	**04 04 52.9**	**-1.0**
VLS				S	**Sg**	**04 05 01.4**	**-1.2**
LXR1	**Lixouri, Cepha**	**0.65**	**5**	P	**Pg**	**04 04 54.2**	**+0.2**
LXR1				S	**Sb**	**04 05 03.1**	**-0.5**
8μm,0.6s							
DMLN	**Damoulianata-K**	**0.69**	**1**	P	**Pg**	**04 04 54.6**	**0.0**
DMLN				S	**Sg**	**04 05 03.5**	**-0.2**
4μm,0.6s							
DMLN	**Damoulianata-K**	**0.69**	**1**	P	**Pg**	**04 04 54.5**	**-0.2**
DMLN				S	**Sg**	**04 05 03.2**	**-0.5**
SMHA	**Samh**	**0.73**	**18**	P	**Pg**	**04 04 54.3**	**-1.2**
SMHA				S	**Sg**	**04 05 04.9**	**-0.3**
VSK1	**VASILIKIADES**	**0.87**	**10**	P	**Pg**	**04 04 57.5**	**-0.6**
FSK	**Fiskardo**	**0.92**	**10**	P	**Pg**	**04 04 58.3**	**-0.8**
FSK	**Fiskardo**	**0.92**	**10**	P	**Pg**	**04 04 58.1**	**-1.0**
FSK				S	**Sb**	**04 05 11.4**	**+0.1**
RLS	**Riolos of Patr**	**1.01**	**60**	P	**Pg**	**04 04 59.0**	**-1.8**
RLS	**Riolos of Patr**	**1.01**	**60**	P	**Pg**	**04 04 60.0**	**-0.8**
AMT	**Artemida-Makis**	**1.07**	**91**	P	**Pg**	**04 05 01.4**	**-0.5**
AMT				S	**Sb**	**04 05 17.5**	**+1.8**
EVGI	**Lefkada island**	**1.09**	**12**	P	**Pg**	**04 05 01.3**	**-1.0**
EVGI	**Lefkada island**	**1.09**	**12**	P	**Pg**	**04 05 01.5**	**-0.9**
DRO	**Drossia**	**1.14**	**69**	P	**Pg**	**04 05 03.0**	**-0.2**
NYDR	**Nydri-Lefkada**	**1.19**	**13**	P	**Pg**	**04 05 02.8**	**-1.4**
NYDR	**Nydri-Lefkada**	**1.19**	**13**	P	**Pg**	**04 05 03.0**	**-1.2**
PYL	**PYLOS**	**1.28**	**120**	P	**Pb**	**04 05 06.1**	**+0.9**
ITM	**Ithomi**	**1.30**	**106**	P	**Pn**	**04 05 05.3**	**+0.1**
KLV	**Kalavryta, Ach**	**1.50**	**70**	P	**Pn**	**04 05 09.0**	**+1.0**
EFP	**Efpalio**	**1.50**	**54**	P	**Pn**	**04 05 08.8**	**+0.8**
ANX	**Ano Chora**	**1.61**	**49**	P	**Pn**	**04 05 10.2**	**+0.6**
GUR	**Goura**	**1.62**	**76**	P	**Pb**	**04 05 11.6**	**+0.6**
IDI	**Anoyia**	**4.29**	**120**	Pn	Pn	04 05 42.5	-4.0
19nm,1.0s,baz=325,slow=16,SNR=1.0							
IDI				Sn	**Sn**	**04 06 34.2**	**-2.3**
0.3nm,0.3s,baz=273,slow=21,SNR=2.2							
MLR	**Muntele Rosu**	**8.97**	**26**	Pn	**Pn**	**04 06 54.4**	**+3.7**
0.3nm,0.3s,baz=203,slow=5.1,SNR=7.5							
9.0nm,1.1s							
AKASG	**Malin Array Be**	**14.59**	**23**	Pn	**Pn**	**04 08 08.7**	**+1.4**
0.4nm,0.3s,baz=213,slow=9.9,SNR=1.5							
0.1nm,0.2s							
HFS	**Hagfors**	**23.00**	**351**	P	**P**	**04 09 46.2**	**+0.6**
1.0nm,0.6s,baz=149,slow=15,SNR=2.3							
1.0nm,0.6s							
FINES	**FINESS Array B**	**24.18**	**7**	P	**P**	**04 09 57.6**	**+0.5**
1.3nm,0.6s,baz=166,slow=9.8,SNR=6.6							
1.3nm,0.6s							
MKAR	**Makanchi Array**	**45.74**	**58**	P	**P**	**04 13 01.6**	**-0.7**
0.4nm,0.7s,baz=285,slow=6.9,SNR=4.1							
0.4nm,0.7s							
ZALV	**Zalesovo Beam**	**46.20**	**48**	P	**P**	**04 13 05.2**	**-0.6**
0.5nm,0.5s,baz=277,slow=8.2,SNR=1.5							
0.5nm,0.5s							

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*NNC **22** 04:05:40.8±0.5, 43.°10N×74.°92E, h0km, mb3.1, mpv2.5, Error ellipse: s-maj=5.2km s-min=1.7km az=167.0, Suspected Mining explosion.*
*KNET **22** 04:05:41.3±0.2, 43.°04N×74.°91E, h6km±3km, ml1.2, Error ellipse: s-maj=1.3km s-min=0.9km az=28.0*
*SOME **22** 04:05:41.1, 43.°15N×74.°88E*
ISC 22 04:05:40.7±0.9, 43.°11N±0.°03×74.°89E±0.°03, h0km, n13, σ0§43/23, 14C-1D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.15**	**222**	⇑P	**Pg**	**04 05 44.0**	**+0.4**
14nm,0.1s,SNR=110							
CHMS				⇑S	**Sg**	**04 05 46.1**	**+0.6**
94nm,0.3s							
CHMS	**Chumysh**	**0.15**	**222**	⇑P	**Pg**	**04 05 43.8**	**+0.3**
33nm,0.9s							
CHMS				⇑S	**Sg**	**04 05 46.2**	**+0.6**
168nm,0.9s							
USP	**Ospenovka**	**0.32**	**299**	⇑P	**Pb**	**04 05 48.8**	**-0.6**
7.4nm,0.1s,SNR=46							
USP				⇑S	**Sb**	**04 05 54.3**	**-0.9**
8.8nm,0.2s							
SGDS	**Sogindy**	**0.39**	**331**	P	**Pg**	**04 05 48.1**	**0.0**
0.5nm,0.0s							
SGDS				S	**Sg**	**04 05 52.9**	**-0.2**
29nm,0.8s							
KBK	**Karagaybulak**	**0.46**	**175**	⇑P	**Pg**	**04 05 49.4**	**0.0**
4.4nm,0.1s,SNR=17							
KBK				⇑S	**Sg**	**04 05 55.1**	**-0.2**
16nm,0.2s							
TKM2	**Tokmak 2**	**0.55**	**110**	⇑P	**Pg**	**04 05 51.6**	**+0.3**
1.8nm,0.1s,SNR=20							
TKM2				⇑S	**Sg**	**04 05 58.6**	**+0.1**
8.6nm,0.1s							
TKM2	**Tokmak 2**	**0.55**	**110**	⇓P	**Pg**	**04 05 50.9**	**-0.4**
2.9nm,0.7s							
TKM2				⇑S	**Sg**	**04 05 58.4**	**-0.1**
13nm,0.8s							
AAK	**Ala-Archa**	**0.56**	**212**	⇑P	**Pg**	**04 05 51.0**	**-0.3**
1.2nm,0.1s							
AAK				⇑S	**Sg**	**04 05 58.8**	**+0.2**
6.4nm,0.3s							
EKS2	**Erkin-Say**	**0.93**	**242**	⇑P	**Pg**	**04 05 58.9**	**+0.3**
1.3nm,0.1s,SNR=6.4							
KTBS	**Karatobe**	**1.44**	**65**	P	**Pb**	**04 06 08.5**	**+0.1**
KTBS				S	**Sn**	**04 06 27.8**	**+0.1**
TNSS	**Tian-Shan**	**1.51**	**92**	P	**Pn**	**04 06 09.5**	**+0.1**
2.5nm,0.2s							
TNSS				S	**Sn**	**04 06 30.1**	**+0.1**
2.0nm,0.5s							
MDOK	**Medeo**	**1.58**	**87**	Pg	**Pb**	**04 06 10.9**	**0.0**
MDOK				Lg	Lg	04 06 32.3	
BTLS	**Baital**	**2.02**	**343**	Pg	**Pg**	**04 06 20.3**	**+0.9**
1.1nm,0.2s							
BTLS				Lg	Lg	04 06 48.5	
4.4nm,0.6s							

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*IDC **22** 04:17:20.9±1.5, 0.°20S×123.°96E, h0km, mb3.5/4, mbtmp3.6/4, MS3.3/1, Error ellipse: s-maj=209.0km s-min=24.0km az=63.0*
*DJA **22** 04:17:26.2±0.2, 0.°N±2.°×12.°5E±.°, h10km, M4.2/14, mb4.4/3, mB5.0/2, MLv4.1/14, Mw(mB)4.3/2*
ISC 22 04:17:28.3±1.1, 0.°39N±0.°09×125.°44E±0.°06, h73km, n14, σ1§58/14, mb3.5/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.47**	**277**	P	**Pn**	**04 17 51.9**	**-1.1**
KMSI				S	**Sn**	**04 18 09.7**	**-2.0**
TNTI	**Ternate**	**1.96**	**79**	P	**Pn**	**04 17 59.6**	**+0.1**
SANI	**Sanana**	**2.49**	**167**	P	**Pn**	**04 18 04.9**	**-1.7**
LUWI	**Luwuk**	**3.03**	**242**	P	**Pn**	**04 18 15.8**	**+1.8**
MRSI	**Marisa**	**3.50**	**271**	P	**Pn**	**04 18 20.8**	**+0.4**
NLAI	**Namlea**	**3.97**	**155**	P	**Pn**	**04 18 26.5**	**-0.3**
APSI	**Ampana**	**4.01**	**251**	P	**Pn**	**04 18 29.6**	**+2.3**
SPSI	**Sidrap Palu**	**7.13**	**233**	P	**Pn**	**04 19 11.6**	**+1.5**
16nm,0.7s,972nm0.1nm							
FAKI	**Fak Fak**	**7.56**	**116**	P	**Pn**	**04 19 14.2**	**-1.7**
WRA	**Warramunga Arr**	**22.01**	**157**	P	**P**	**04 22 17.7**	**+0.9**
0.8nm,0.7s,baz=332,slow=11,SNR=4.5							
0.8nm,0.7s							
ASAR	**Alice Springs**	**25.29**	**162**	P	**P**	**04 22 49.0**	**+0.9**
0.5nm,0.7s,baz=336,slow=8.6,SNR=2.9							
0.5nm,0.7s							
JOW	**Kunigami**	**26.43**	**6**	LR	LR	04 36 19.8	
comp=Z,58nm,18.5s,baz=298,slow=42							
MKAR	**Makanchi Array**	**59.59**	**327**	P	**P**	**04 27 23.6**	**-1.0**
0.2nm,0.3s,baz=129,slow=8.4,SNR=5.1							
0.2nm,0.3s							
KURBB	**Kurchatov Arra**	**63.87**	**329**	P	**P**	**04 27 54.8**	**+1.6**
0.5nm,0.2s,baz=123,slow=7.1,SNR=1.7							
0.5nm,0.2s							

IDC 22 04:17:52.5±2.1, 6.°02S×130.°08E, h0km, mb4.1/1, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=94.0km s-min=27.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.77**	**199**	Pn	Pn	04 20 56.3	+0.8
0.1nm,0.3s,baz=356,slow=14,SNR=6.3							
FITZ				Sn	Sn	04 23 03.1	-15
0.5nm,0.3s,baz=173,slow=21,SNR=7.4							
0.5nm,0.3s							
WRA	**Warramunga Arr**	**14.45**	**164**	Pn	Pn	04 21 19.9	+1.4
0.2nm,0.3s,baz=346,slow=12,SNR=10							
WRA				Sn	Sn	04 23 45.4	-14
0.4nm,0.3s,baz=331,slow=23,SNR=6.7							
0.2nm,0.3s							
ASAR	**Alice Springs**	**17.93**	**169**	P	Pn	04 22 01.9	-1.6
0.1nm,0.3s,baz=347,slow=10,SNR=9.1							
ASAR				S	Sn	04 25 08.8	-15
0.3nm,0.5s,baz=351,slow=28,SNR=1.7							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**67.45**	**327**	P	P	04 28 50.3	+0.1
1.0nm,0.4s,baz=128,slow=6.9,SNR=11							
1.0nm,0.4s							

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*AEIC **22** 04:20:27.0±1.2, 52.°52N±0.°05×167.°05W±0.°06, h5km±4km, Error ellipse: s-maj=6.6km s-min=4.9km az=174.0*
NEIC 22 04:20:25.8±1.8, 52.°43N±0.°06×166.°95W±0.°06, h10km±2km, ML2.5(AEIC), **Error ellipse: s-maj=10.9km s-min=5.4km az=162.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.14**	**330**		Pb	04 20 46.6	-0.9
OKFG					Sb	04 21 01.3	-1.1
OKER	**Okmok East Rim**	**1.22**	**327**		Pn	04 20 48.2	-0.7
OKCE	**Okmok Cone E**	**1.24**	**324**		Pn	04 20 48.5	-0.7
OKCE					Sb	04 21 05.2	-0.1
OKNC	**Okmok New Cone**	**1.25**	**326**		Pn	04 20 48.7	-0.6
OKNC					Sg	04 21 06.0	+0.1
NIKH	**Nikolski High**	**1.28**	**296**		Pn	04 20 49.0	-0.6
NIKH	**Nikolski High**	**1.28**	**296**		Sg	04 21 07.0	+0.2
MGOD	**Makushin Gods**	**1.36**	**2**		Pn	04 20 50.2	-0.7
MAPS	**Pakushin South**	**1.38**	**0**		Pn	04 20 50.4	-0.6
MAPS					Sb	04 21 08.6	-0.7
UNV	**Unalaska Valle**	**1.44**	**11**		Pn	04 20 51.6	-0.3
MSW	**Makushin Switc**	**1.49**	**4**		Pn	04 20 52.5	-0.1
MTBL	**Makushin Table**	**1.55**	**6**		Pn	04 20 53.8	+0.3
AKMO	**Akutan Morgan**	**1.75**	**18**		Pn	04 20 56.8	+0.6
ZRO	**Akutan Zero**	**1.76**	**19**		Pn	04 20 57.1	+0.8
ZRO					Sn	04 21 19.0	+0.2
AKBBA	**Akutan Broad B**	**1.78**	**20**		Pb	04 20 57.7	-0.7
AKRB	**Akutan Reef Bi**	**1.78**	**17**		Pb	04 20 57.6	-0.8
AKRB					Sb	04 21 21.5	+0.7
LVA	**Lava Point**	**1.82**	**17**	Pn	Pn	04 20 56.9	-0.2
AHB	**Akutan Harbor**	**1.82**	**22**		Pn	04 20 58.0	+0.9
AKSA	**Akutan Strait**	**1.86**	**23**		Pn	04 20 58.7	+1.0

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*GUC **22** 04:36:06.8±0.9, 30.°85S×71.°73W, h38km±2km, ML3.8*
*NEIC **22** 04:36:08.5±1.5, 30.°81S±0.°04×71.°72W±0.°10, h24km±5km, mb4.3/8, Error ellipse: s-maj=12.4km s-min=6.2km az=96.0*
ISC 22 04:36:08.2±0.9, 30.°84S±0.°03×71.°70W±0.°05, h25km±6km, n56, σ1§02/73, mb4.5/3, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.18**	**18**		**Pb**	**04 36 13.3**	**-0.3**
CO06				Sg	**Sb**	**04 36 17.3**	**0.0**
CO06	**Fray Jorge**	**0.18**	**18**	⇓*i*P	**Pb**	**04 36 13.3**	**-0.3**
CO06				*i* S	**Sb**	**04 36 17.4**	**0.0**
CO06				IAML		04 36 18.1	
comp=E,19μm,0.4s							
CO03	**El Pedregal**	**0.87**	**90**		**Pb**	**04 36 23.5**	**-1.2**
CO03				Sg	**Sb**	**04 36 35.2**	**-0.8**
CO03	**El Pedregal**	**0.87**	**90**	*e*P	**Pb**	**04 36 23.5**	**-1.2**
CO03				*i* S	**Sb**	**04 36 35.4**	**-0.6**
CO03				IAML		04 36 36.1	
comp=N,4μm,0.5s							
CO05	**La Serena**	**1.00**	**23**	Pn	**Pn**	**04 36 25.7**	**-1.0**
CO05	**La Serena**	**1.00**	**23**	*e*P	**Pn**	**04 36 25.6**	**-1.2**
CO05				*i* S	**Sb**	**04 36 38.8**	**-1.0**
GO04	**Tololo Observa**	**1.02**	**49**		**Pn**	**04 36 26.1**	**-1.1**
GO04	**Tololo Observa**	**1.02**	**49**	⇓*i*P	**Pn**	**04 36 26.1**	**-1.1**
GO04				*e*S	**Sb**	**04 36 39.5**	**-1.0**
GO04				IAML		04 36 44.5	
comp=N,13μm,0.4s							
CO04	**Los Peladeros**	**1.34**	**153**	*e*P	**Pn**	**04 36 30.5**	**-1.2**
CO04				*e*S	**Sn**	**04 36 48.6**	**-0.3**
CO04				IAML		04 36 55.1	
comp=N,2μm,0.2s							
CO01	**Juntas del Tor**	**1.63**	**58**		**Pn**	**04 36 36.0**	**+0.5**
CO01	**Juntas del Tor**	**1.63**	**58**	*e*P	**Pn**	**04 36 36.1**	**+0.5**
CO01				*e*S	**Sn**	**04 36 57.2**	**+1.3**
VA06	**Catapilco**	**1.75**	**169**	Pn	**Pn**	**04 36 36.3**	**-0.7**
VA06	**Catapilco**	**1.75**	**169**	*e*P	**Pn**	**04 36 35.8**	**-1.1**
VA06				*i* S	**Sn**	**04 36 57.8**	**-0.6**
VA06				IAML		04 37 06.5	
comp=E,1μm,0.4s							
LCO	**Las Campanas**	**2.02**	**26**		**Pn**	**04 36 40.8**	**-0.1**
LCO	**Las Campanas**	**2.02**	**26**	*e*P	**Pn**	**04 36 40.7**	**-0.3**
LCO				*e*S	**Sn**	**04 37 06.0**	**+0.5**
LCO				IAML		04 37 11.2	
comp=E,2μm,0.2s							
VA03	**San Esteban**	**2.15**	**153**		**Pn**	**04 36 43.4**	**+0.8**
VA03	**San Esteban**	**2.15**	**153**	*e*P	**Pn**	**04 36 43.1**	**+0.6**
VA03				*e*S	**Sn**	**04 37 10.9**	**+2.4**
VA03				IAML		04 37 16.0	
comp=E,827nm,0.2s							
VA01	**Torpederas**	**2.17**	**179**		**Pn**	**04 36 43.4**	**+0.6**
VA01	**Torpederas**	**2.17**	**179**	*e*P	**Pn**	**04 36 41.5**	**-1.3**
AC05	**El Transito**	**2.35**	**32**		**Pn**	**04 36 46.2**	**+0.8**
PEL	**Peldehue**	**2.45**	**160**		**Pn**	**04 36 48.6**	**+2.0**
PEL	**Peldehue**	**2.45**	**160**	*e*P	**Pn**	**04 36 46.8**	**+0.1**
PEL				*e*S	**Sn**	**04 37 17.0**	**+1.1**
PEL				IAML		04 37 26.2	
comp=E,445nm,0.6s							
MT02	**Curacav**	**2.45**	**169**		**Pn**	**04 36 48.4**	**+1.7**
MT02	**Curacav**	**2.45**	**169**	*e*P	**Pn**	**04 36 45.8**	**-0.9**
MT02				*e*S	**Sn**	**04 37 16.6**	**+0.6**
MT02				IAML		04 37 27.0	
comp=N,148nm,0.4s							
MT10	**Hacienda Santa**	**2.61**	**158**	*e*P	**Pn**	**04 36 49.6**	**+0.6**
MT10				*i* S	**Sn**	**04 37 21.1**	**+1.0**
MT10				IAML		04 37 32.9	
comp=E,808nm,0.4s							
MT05	**Renca**	**2.67**	**162**		**Pn**	**04 36 51.9**	**+2.2**
MT05	**Renca**	**2.67**	**162**	*e*P	**Pn**	**04 36 50.6**	**+0.9**
MT05				*e*S	**Sn**	**04 37 22.2**	**+0.9**
MT05				IAML		04 37 33.4	
comp=E,723nm,0.4s							
ZON	**Zonda**	**2.68**	**106**		**Pn**	**04 36 51.3**	**+1.5**
AC04	**Llanos de Chal**	**2.69**	**12**	Pn	**Pn**	**04 36 48.8**	**-1.1**
MT14	**Cerro Calı¡n**	**2.73**	**159**	*e*S	**Sn**	**04 37 23.0**	**+0.2**
MT16	**CCHEN**	**2.76**	**159**		**Pn**	**04 36 52.8**	**+1.8**
MT16	**CCHEN**	**2.76**	**159**	*e*P	**Pn**	**04 36 52.6**	**+1.6**
MT16				*e*S	**Sn**	**04 37 24.1**	**+0.5**
VA05	**Santo Domingo**	**2.81**	**179**		**Pn**	**04 36 52.5**	**+1.0**
MT03	**Universidad Ad**	**2.83**	**159**		**Pn**	**04 36 53.1**	**+1.2**
MT08	**Bocatoma Ro**	**2.96**	**152**		**Pn**	**04 36 55.4**	**+1.6**
MT09	**Talagante**	**2.98**	**169**		**Pn**	**04 36 54.9**	**+0.7**
MT09	**Talagante**	**2.98**	**169**	*e*P	**Pn**	**04 36 54.2**	**+0.1**
MT09				*e*S	**Sn**	**04 37 28.0**	**-1.2**
MT01	**Popeta**	**3.04**	**173**	Pn	**Pn**	**04 36 55.3**	**+0.6**
MT13	**San Alfonso**	**3.13**	**158**		**Pn**	**04 36 56.5**	**+0.4**
LMEL	**Las Melosas**	**3.25**	**158**		**Pn**	**04 36 59.1**	**+1.3**
BO04	**La Punta**	**3.27**	**164**		**Pn**	**04 36 58.3**	**+0.3**
GO03	**Copiapo**	**3.48**	**22**		**Pn**	**04 37 00.9**	**0.0**
BO01	**Tunca**	**3.58**	**172**	Pn	**Pn**	**04 37 02.2**	**+0.1**
AC06	**Mina Casimiro**	**3.67**	**19**		**Pn**	**04 37 05.0**	**+1.6**
BO02	**Sierra Bellavi**	**4.01**	**169**		**Pn**	**04 37 08.6**	**+0.4**
AC01	**Pan de Azucar**	**4.78**	**12**	Pn	**Pn**	**04 37 20.0**	**+1.4**
GO02	**Mina Guanaco**	**5.96**	**19**	Pn	**Pn**	**04 37 36.7**	**+1.5**
TRQA	**Tornquist**	**10.77**	**135**	Pn	**Pn**	**04 38 41.6**	**+0.7**
PLTB	**Pedras Altas**	**15.50**	**98**	Pn	**Pn**	**04 39 45.7**	**+0.5**
PLTB				IAmb	IAmb	04 40 15.6	
comp=Z,18nm,1.3s							
GO08	**Villa O'Higgin**	**17.61**	**182**		**Pn**	**04 40 11.8**	**+0.1**
PTLB	**Pontes e Lacer**	**19.16**	**40**	P	**P**	**04 40 29.1**	**-0.8**
SPB	**Sao Paulo**	**22.73**	**77**	P	**P**	**04 41 08.7**	**+0.3**
SPB				IAmb	IAmb	04 41 22.9	
comp=Z,23nm,1.4s							
BDFB	**Brasilia**	**26.42**	**60**	P	**P**	**04 41 42.8**	**-0.5**
BDFB				IAmb	IAmb	04 41 48.4	
comp=Z,11nm,1.4s							
TEIG	**Tepich**	**53.22**	**340**	P	**P**	**04 45 23.7**	**-0.9**
SNAA	**Sanae**	**54.40**	**159**	P	**P**	**04 45 33.1**	**+0.3**
QSPA	**South Pole Qui**	**59.38**	**180**	P	**P**	**04 46 08.5**	**+0.2**
QSPA				IAmb	IAmb	04 46 37.3	
comp=Z,5.5nm,1.4s							

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*IDC **22** 04:44:20.1±1.1, 38.°61N×134.°32E, h407km±15km, mb2.8/7, mbtmp3.6/11, Error ellipse: s-maj=23.9km s-min=13.7km az=67.0*
*JMA **22** 04:44:21.4±0.5, 38.°N±4.°×13.°5E±.°, h436km, MV3.6/23, SEA OF JAPAN*
ISC 22 04:44:20.3±0.8, 38.°7N±0.°1×134.°54E±0.°09, h419km, n15, σ1§17/16, mb3.1/8, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**3.07**	**171**	*e*P	**P**	**04 45 25.9**	**+0.4**
JWT	**Wachi**	**3.45**	**168**	*e*P	**P**	**04 45 29.2**	**+0.5**
MJAR	**Matsushiro Arr**	**3.60**	**125**	P	**P**	**04 45 30.4**	**+0.4**
1.9nm,0.3s,baz=312,slow=11,SNR=8.1							
JMM	**Marumori**	**4.99**	**97**	P	**P**	**04 45 43.3**	**+0.4**
JMM				*e*S	**S**	**04 46 48.0**	**-2.4**
KSRS	**Korea Array**	**5.36**	**259**	P	**P**	**04 45 45.8**	**-0.9**
2.0nm,0.5s,baz=68,slow=10,SNR=6.1							
USRK	**Ussuriysk Ar.**	**5.85**	**342**	P	**P**	**04 45 50.3**	**-1.3**
0.9nm,0.3s,baz=168,slow=8.4,SNR=2.3							
ASAJ	**Asahikawa**	**8.14**	**45**	P	**P**	**04 46 17.2**	**+0.3**
5.0nm,0.3s,baz=254,slow=12,SNR=5.6							
SONM	**Songino Array**	**22.35**	**303**	P	**P**	**04 48 44.5**	**-0.3**
0.3nm,0.4s,baz=114,slow=11,SNR=2.5							
0.3nm,0.4s							
YAK	**Yakutsk**	**23.58**	**354**	P	**P**	**04 48 58.0**	**+2.4**
26nm,0.3s,baz=96,slow=1.9,SNR=6.1							
ZALV	**Zalesovo Beam**	**36.77**	**311**	P	**P**	**04 50 49.9**	**-0.1**
0.5nm,0.4s,baz=100,slow=9.5,SNR=1.9							
0.5nm,0.4s							
MKAR	**Makanchi Array**	**38.61**	**299**	P	**P**	**04 51 04.3**	**-1.1**
0.8nm,0.9s,baz=82,slow=8.7,SNR=2.8							
0.8nm,0.9s							
KURBB	**Kurchatov Arra**	**40.67**	**306**	P	**P**	**04 51 21.0**	**-1.0**
0.3nm,0.3s,baz=88,slow=9.1,SNR=4.4							
0.3nm,0.3s							
WRA	**Warramunga Arr**	**58.30**	**180**	P	**P**	**04 53 33.8**	**+0.4**
0.4nm,0.4s,baz=356,slow=7.4,SNR=11							
0.4nm,0.4s							
ASAR	**Alice Springs**	**62.01**	**181**	P	**P**	**04 53 58.8**	**+0.6**
0.3nm,0.6s,baz=1.1,slow=5.0,SNR=3.3							
0.3nm,0.6s							
FINES	**FINESS Array B**	**64.75**	**330**	P	**P**	**04 54 15.9**	**+0.6**
3.0nm,0.9s,baz=52,slow=9.0,SNR=3.8							
3.0nm,0.9s							

NEIC 22 05:02:47.4±1.6, 40.°37N±0.°04×125.°40W±0.°04, h10km±1km, Error ellipse: s-maj=6.9km s-min=5.2km az=213.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.82**	**82**		Pn	05 03 04.4	-0.6
KCTM					Sb	05 03 16.0	+1.1
FER	**Ferndale**	**0.89**	**76**		Pb	05 03 05.4	+0.4
KMPM	**Mount Pierce**	**0.98**	**87**		Pb	05 03 06.4	-0.1
KMPM				Sg	Sg	05 03 18.9	-0.1
JCC	**Jacoby Creek,**	**1.13**	**66**		Pb	05 03 08.1	-1.1
JCC				Sg	Sb	05 03 21.3	-2.6
JCC				IAML		05 03 21.7	
comp=N,234nm,0.5s							
JCC				IAML		05 03 22.0	
comp=E,381nm,0.6s						

K02D	**Willamette Mer**	**2.66**	**29**		Pn	05 03 29.9	-0.6
K02D				IAML		05 04 01.7	
	comp=E,39nm,0.4s						
K02D				IAML		05 04 02.5	
	comp=N,50nm,0.7s						
B040	**Montague**	**2.68**	**56**		Pn	05 03 30.7	0.0
LMPM	**Military Pass**	**2.69**	**64**		Pn	05 03 31.8	+0.8
O03E	**Paynes Creek**	**2.75**	**90**		Pn	05 03 31.5	-0.2
O03E	**Paynes Creek**	**2.75**	**90**	IAML		05 04 05.2	
	comp=N,40nm,0.5s						
O03E				IAML		05 04 07.4	
	comp=E,70nm,0.7s						
HUMO	**Hull Mountain**	**2.89**	**39**	Pn	Pn	05 03 33.3	-0.3
MCCM	**Marconi Confer**	**2.96**	**138**	Pn	Pn	05 03 34.7	+0.3
MCCM				IAML		05 03 54.7	
	comp=E,78nm,2.3s						
MCCM				IAML		05 04 21.5	
	comp=N,62nm,2.7s						
L04D	**Klamath Falls**	**2.97**	**51**	Pn	Pn	05 03 36.4	+1.6
L04D				IAML		05 04 18.9	
	comp=E,38nm,1.9s						
L04D				IAML		05 04 20.9	
	comp=N,36nm,1.5s						
J01E	**Myrtle Point**	**3.00**	**21**	Pn	Pn	05 03 34.6	-0.4
J01E				IAML		05 04 12.6	
	comp=N,50nm,0.3s						
J01E				IAML		05 04 21.5	
	comp=E,46nm,3.0s						
SUTB	**Sutter Butte**	**3.01**	**111**		Pn	05 03 35.4	+0.2
SUTB	**Sutter Butte**	**3.01**	**111**	IAML		05 04 09.7	
	comp=N,53nm,0.4s						
SUTB				IAML		05 04 10.7	
	comp=E,66nm,0.5s						
HATC	**Hat Creek Radi**	**3.03**	**80**	Pn	Pn	05 03 36.5	+1.0
HATC				IAML		05 04 18.0	
	comp=N,50nm,1.9s						
HATC				IAML		05 04 21.9	
	comp=E,79nm,2.3s						
ORV	**Oroville**	**3.11**	**104**		Pn	05 03 37.3	+0.8
DBO	**Dodson Butte**	**3.18**	**30**	Pn	Pn	05 03 37.8	+0.2
DBO				IAML		05 04 14.4	
	comp=E,34nm,3.8s						
DBO				IAML		05 04 21.1	
	comp=N,31nm,4.3s						
AFDM	**Forest Hills D**	**3.70**	**111**	Pn	Pn	05 03 45.5	+0.8
I02E	**Swisshome, OR**	**3.91**	**17**	Pn	Pn	05 03 47.6	+0.2
I04A	**Tendick Farm,**	**4.08**	**32**		Pn	05 03 52.0	+2.1
I04A				IAML		05 04 43.7	
	comp=E,23nm,0.1s						
BUCK	**Buck Mountain**	**4.22**	**24**	Pn	Pn	05 03 53.5	+1.6
J05D	**Fort Rock, OR**	**4.26**	**46**	Pn	Pn	05 03 54.2	+1.8
J05D				IAML		05 04 55.4	
	comp=E,26nm,4.2s						
J05D				IAML		05 05 51.8	
	comp=N,27nm,4.9s						
SAO	**San Andreas Ge**	**4.75**	**138**	Pn	Pn	05 03 58.0	-1.1
PINE	**Pine Mountain**	**4.76**	**43**	Pn	Pn	05 04 01.4	+2.0
PINE				IAML		05 05 18.6	
	comp=N,17nm,4.1s						
H04A	**Detroit Lake**	**4.92**	**28**	Pn	Pn	05 04 03.1	+1.6
LUL	**Lundy Lake**	**5.36**	**114**		Pn	05 04 02.9	-4.8
PMPB	**Monarch Peak**	**5.50**	**137**	Pn	Pn	05 04 10.2	+0.7
HOOD	**Mount Hood Mea**	**5.66**	**28**	Pn	Pn	05 04 13.7	+1.9
NVAR	**Mina Array Bea**	**5.83**	**107**	Pn	Pn	05 04 14.0	-0.1
G06A	**Carlson Farm,**	**5.99**	**34**	Pn	Pn	05 04 16.1	0.0
DSP	**Deep Springs**	**6.53**	**115**	Pn	Pn	05 04 23.9	+0.4
MXC	**Moxie City**	**7.23**	**29**	Pn	Pn	05 04 32.4	-0.8

*JMA **22** 05:04:14.2±0.1,24°.2N±0°.3×123°.8E±0°.3,h16km±1km,*
MV3.2/10,NEAR ISHIGAKIJIMA ISLAND
JMA Felt I J1 at NEAR ISHIGAKIJIMA ISLAND.
ISC 22 05:04:14.4±0.9,24°.25N±0°.05×123°.81E±0°.03,h14km±8km,
n13,σ0°59/21,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.11**	**321**	P	**Pg**	**05 04 17.7**	**+0.1**
IRIF				S	**Sb**	**05 04 20.4**	**-0.5**
JKRS	**Kuro-shima**	**0.19**	**93**	P	**Pg**	**05 04 18.9**	**+0.2**
JKRS				S	**Sb**	**05 04 22.6**	**-0.6**
HATJ	**Hateruma jima**	**0.19**	**180**	P	**Pg**	**05 04 18.5**	**-0.3**
HATJ				S	**Sg**	**05 04 21.8**	**0.0**
JIJ	**Ishigaki jima**	**0.33**	**70**	P	**Pg**	**05 04 21.0**	**-0.2**
JIJ				S	**Sg**	**05 04 25.8**	**0.0**
JISG	**Ishigakijimahi**	**0.57**	**54**	P	**Pg**	**05 04 25.4**	**-0.2**
JISG				S	**Sg**	**05 04 33.6**	**+0.3**
YOJ	**Yonaguni jima**	**0.75**	**286**	P	**Pb**	**05 04 28.9**	**-0.4**
YOJ				S	**Sg**	**05 04 38.9**	**-0.1**
JYNG	**Yonagunijimaku**	**0.81**	**285**	*e*P	**Pb**	**05 04 29.6**	**-0.6**
JYNG				S	**Sg**	**05 04 40.7**	**-0.1**
JTJ	**Tarama**	**0.91**	**64**	*e*P	**Pb**	**05 04 31.6**	**-0.4**
JTJ				S	**Sg**	**05 04 44.0**	**+0.1**
NACB	**Ninganchiao**	**2.02**	**268**	P	**Pn**	**05 04 48.0**	**-0.1**
YHNB	**Yeheng**	**2.25**	**281**	P	**Pn**	**05 04 52.3**	**+0.9**
YULB	**Yu-li**	**2.45**	**250**	P	**Pn**	**05 04 54.4**	**+0.4**
SSLB	**Suanglung**	**2.65**	**261**	P	**Pn**	**05 04 57.6**	**+0.8**
TPUB	**Ta-pu**	**3.06**	**253**	P	**Pn**	**05 05 04.0**	**+1.6**

*IDC **22** 05:06:53.7±2.1,19°.31S×177°.89W,h441km±18km,*
mb3.3/11,mbtmp4.1/13,Error ellipse: s-maj=44.4km
s-min=13.5km az=153.0
ISC 22 05:06:54.3±1.1,19°.35±0°.3×177°.9W±0°.1,h450km,n17,
σ0°99/18,mb3.6/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.13**	**291**	P	**P**	**05 08 10.7**	**-0.1**
	21nm,0.4s,baz=307,slow=23,SNR=18						
DZM	**Mont Dzumac**	**14.90**	**257**	P	**P**	**05 10 05.3**	**+0.7**
	3.2nm,0.6s,baz=84,slow=19,SNR=5.2						
DZM				S	**S**	**05 12 39.9**	**-1.9**
	2.3nm,0.9s,baz=321,slow=18,SNR=1.3						
STKA	**Stephens Creek**	**38.41**	**243**	P	**P**	**05 13 35.6**	**-0.2**
	2.0nm,0.7s,baz=107,slow=17,SNR=1.6						
	2.0nm,0.7s						
WRA	**Warramunga Arr**	**44.87**	**261**	P	**P**	**05 14 26.9**	**-0.6**
	1.6nm,0.3s,baz=97,slow=7.5,SNR=48						
WRA				S	**S**	**05 20 32.9**	**+1.4**
	0.5nm,0.9s,baz=87,slow=16,SNR=2.9						
	1.6nm,0.3s						
ASAR	**Alice Springs**	**44.89**	**256**	P	**P**	**05 14 27.4**	**-0.3**
	2.8nm,0.6s,baz=96,slow=7.9,SNR=40						
	2.8nm,0.6s						
MJAR	**Matsushiro Arr**	**69.29**	**323**	P	**P**	**05 17 14.8**	**-0.5**
	1.1nm,0.5s,baz=107,slow=8.0,SNR=2.1						
	1.1nm,0.5s						
PETK	**Petropavlovsk-**	**75.12**	**345**	P	**P**	**05 17 49.3**	**+0.4**
	7.6nm,1.0s,baz=109,slow=10,SNR=2.7						
	7.6nm,1.0s						
YBH	**Yreka Blue Hor**	**79.29**	**39**	P	**P**	**05 18 12.7**	**+0.6**
	1.1nm,1.0s,baz=117,slow=8.2,SNR=1.2						
	1.1nm,1.0s						
NVAR	**Mina Array Bea**	**80.09**	**43**	P	**P**	**05 18 16.9**	**+0.3**
	0.6nm,0.7s,baz=219,slow=7.7,SNR=4.5						
	0.6nm,0.7s						
TXAR	**Lajitas Array**	**86.33**	**57**	P	**P**	**05 18 47.9**	**-0.1**
	0.5nm,0.7s,baz=205,slow=5.1,SNR=6.5						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**87.11**	**13**	P	**P**	**05 18 49.6**	**-1.2**
	0.2nm,0.4s,baz=215,slow=4.9,SNR=7.3						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**88.02**	**43**	P	**P**	**05 18 55.5**	**-0.4**
	0.1nm,0.4s,baz=160,slow=2.9,SNR=1.7						
	0.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**89.79**	**290**	P	**P**	**05 19 06.5**	**+2.2**
	0.7nm,0.3s,baz=30,slow=6.3,SNR=1.1						
	0.7nm,0.3s						
AKASG	**Malin Array Be**	**141.99**	**332**	PKhKP	PKPpre	05 25 29.9	
	0.8nm,0.4s,baz=48,slow=3.2,SNR=8.5						
BRTR	**Keskin Array B**	**146.08**	**314**	PKPbc	**PKPbc**	**05 25 43.3**	**-0.1**
	1.9nm,0.6s,baz=137,slow=5.0,SNR=8.5						
MMAI	**Mount Meron Ar**	**147.27**	**301**	PKPbc	**PKiKP**	**05 25 48.0**	**-0.6**
	3.1nm,0.5s,baz=81,slow=5.2,SNR=4.8						
GERES	**GERESS Array B**	**149.06**	**345**	PKPbc	**PKiKP**	**05 25 51.4**	**-0.4**
	0.5nm,0.6s,baz=358,slow=7.0,SNR=2.3						

*DNK **22** 05:15:20.3±2.3,51°.58N×16°.51E,h30km,ML3.1*
*IPEC **22** 05:15:20.1±0.2,51°.61N×16°.07E,h1km,ML2.3/5,Error*
ellipse: s-maj=3.2km s-min=1.5km az=70.0
*PRU **22** 05:15:22.0,51°.55N×15°.99E,h0km*
*VIE **22** 05:15:22.1±1.4,51°.40N×15°.73E,h0km,mb2.4/1,ml2.4/6,*
Error ellipse: s-maj=9.0km s-min=7.0km az=114.0,
Suspected Mining induced.
ISC 22 05:15:19.1±0.8,51°.68N±0°.03×16°.03E±0°.03,h0km,n37,
σ1°43/66,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.85**	**169**	*e*Pg	**Pb**	**05 15 37.3**	**+0.5**
KSP				*e*Sg	**Sg**	**05 15 45.8**	**-0.7**
CHVC	**Chvalec**	**1.09**	**179**	*e*PG	**Pg**	**05 15 40.0**	**0.0**
CHVC				*e*SG	**Sg**	**05 15 53.6**	**-0.5**
	comp=Z,43nm,0.4s						
OSTC	**Ostas**	**1.13**	**174**	*e*PG	**Pg**	**05 15 40.7**	**0.0**
OSTC				*e*SG	**Sg**	**05 15 54.7**	**-0.7**
	comp=Z,42nm,0.3s						
UPC	**Upice**	**1.17**	**180**	*e*PG	**Pg**	**05 15 41.5**	**-0.1**
UPC				*e*SG	**Sg**	**05 15 56.0**	**-0.7**
	comp=Z,56nm,0.3s						
DPC	**Dobruska-Polom**	**1.34**	**172**	*e*SG	**Sg**	**05 16 00.8**	**-1.4**
	comp=Z,26nm,0.2s						
PVCC	**Panska Ves**	**1.47**	**219**	*e*PG	**Pn**	**05 15 47.0**	**+0.1**
PVCC				*e*SG	**Sg**	**05 16 05.7**	**-0.7**
	comp=Z,109nm,0.1s						
PIVO	**Bartosovice**	**1.53**	**167**	*e*Pg	**Pn**	**05 15 47.2**	**-0.5**
	baz=348						
PIVO				*e*Sg	**Sg**	**05 16 05.9**	**-2.3**
	44nm,0.1s,baz=348						
BRG	**Berggiesshubel**	**1.54**	**239**	Pg	**Pn**	**05 15 48.2**	**+0.4**
BRG				Sg	**Sn**	**05 16 08.3**	**-0.1**
BRG				Amp		05 16 10.8	
	comp=Z,46nm,0.4s						
KRLC	**Kraliky**	**1.68**	**163**	*e*PG	**Pn**	**05 15 49.1**	**-0.6**
KRLC				*e*SG	**Sn**	**05 16 11.7**	**-0.2**
	comp=Z,47nm,0.3s						
CLL	**Collm**	**1.93**	**260**	*i* Pn	**Pn**	**05 15 52.5**	**-0.6**
	comp=Z,7.0nm,0.5s						
CLL				*i* Pg	**Pb**	**05 15 55.7**	**+0.7**
CLL				*i* x	x	05 15 59.6	
CLL				*i* Sg	**Sb**	**05 16 21.0**	**+1.4**
	comp=Z,15nm,0.3s						
PRU	**Pruhonice**	**1.94**	**210**	*e*PG	**Pb**	**05 15 54.6**	**-0.6**
PRU				*e*SG	**Sn**	**05 16 19.0**	**+0.7**
	comp=Z,20nm,0.5s						
HSKC	**Hora Svate Kat**	**1.96**	**238**	*e*PG	**Pn**	**05 15 54.7**	**+1.2**
HSKC				*e*SG	**Sb**	**05 16 20.5**	**0.0**
MORC	**Moravsky Berou**	**2.13**	**153**	*e*Pn	**Pn**	**05 15 55.6**	**-0.4**
	baz=334						
MORC				*e*Sg	**Sb**	**05 16 25.0**	**-0.7**
	comp=Z,20nm,0.4s,baz=334						
VRAC	**Vranov**	**2.40**	**171**	*e*Pn	**Pn**	**05 15 59.7**	**0.0**
	baz=352						
VRAC				*e*Sg	**Sb**	**05 16 33.2**	**-0.1**
	comp=Z,12nm,0.3s,baz=352						
TREC	**Trest**	**2.41**	**188**	*e*SG	**Sb**	**05 16 32.8**	**-0.8**
	comp=Z,15nm,0.2s						
KRUC	**Moravsky**	**2.63**	**175**	*e*Pn	**Pn**	**05 16 02.7**	**-0.1**
	baz=355						
KRUC				*e*Sg	**Sb**	**05 16 40.2**	**+0.3**
	comp=Z,12nm,0.6s,baz=355						
NKC	**Novy Kostel**	**2.69**	**239**	*e*SG	**Sg**	**05 16 44.9**	**-0.4**
	comp=Z,28nm,0.6s						
OJC	**Ojcow**	**2.80**	**120**	*e*Pg	**Pg**	**05 16 13.0**	**+0.3**
OJC				*e*Sg	**Sg**	**05 16 47.5**	**-1.4**
KHC	**Kasperske Hory**	**2.99**	**212**	*e*PN	**Pn**	**05 16 07.9**	**+0.1**
KHC				*e*PG	**Pb**	**05 16 13.8**	**+0.5**
KHC				*e*SG	**Sb**	**05 16 52.6**	**+2.2**
	comp=Z,9.0nm,0.4s						
JAVC	**Velka Javorina**	**3.01**	**159**	*e*Pn	**Pn**	**05 16 07.9**	**-0.2**
	baz=340						
JAVC	**Velka Javorina**	**3.01**	**159**	*e*PN	**Pn**	**05 16 08.0**	**-0.2**
CKRC	**Cesky Krumlov**	**3.07**	**202**	*e*PG	**Pb**	**05 16 15.0**	**+0.5**
LANS	**Liptovska Anna**	**3.35**	**138**	*e*PG	**Pg**	**05 16 24.3**	**+0.9**
LANS				*e*SG	**Sg**	**05 17 05.2**	**-1.6**
MODS	**Modra-Piesok**	**3.41**	**166**	*e*SG	**Sg**	**05 17 07.9**	**-0.6**
BSD	**Bornholm Skovb**	**3.50**	**350**	*i* P	**Pn**	**05 16 15.0**	**+0.2**
BSD				*i* S	**Sn**	**05 16 56.5**	**-0.4**
BSD				IAML		05 17 31.4	
	comp=Z,28nm,3.8s						
NIE	**Niedzica**	**3.54**	**128**	*e*Pg	**Pg**	**05 16 29.2**	**+2.3**
NIE				*e*Sg	**Sg**	**05 17 12.9**	**+0.1**
VYHS	**Vyhne**	**3.67**	**149**	*e*SG	**Sg**	**05 17 16.8**	**0.0**
CONA	**Conrad Observa**	**3.76**	**182**	*e*Pn	**Pn**	**05 16 19.1**	**+0.8**
	comp=Z,0.4nm,0.1s						
CONA				*e*Sg	**Sb**	**05 17 15.1**	**+2.7**
	comp=Z,5.3nm,0.3s						
RONA	**Rosalia, Austr**	**3.99**	**177**	*e*Pn	**Pn**	**05 16 22.4**	**+0.9**
	comp=Z,0.6nm,0.2s						
RONA				*e*Sg	**Sb**	**05 17 22.7**	**+3.7**
	comp=Z,5.3nm,0.4s						
MOA	**Molln**	**4.00**	**197**	*e*Pn	**Pn**	**05 16 21.7**	**+0.1**
	comp=Z,1.4nm,0.3s						
MOA				*e*Sg	**Sg**	**05 17 24.7**	**-2.8**
	comp=Z,4.0nm,0.4s						
LUNU	**Lund**	**4.25**	**340**	*i* P	**Pn**	**05 16 28.1**	**+3.2**
LUNU				*i* S	**Sn**	**05 17 14.0**	**-1.2**
ARSA	**Arzberg**	**4.45**	**184**	*e*Sg	**Sg**	**05 17 40.2**	**-1.6**
	comp=Z,7.5nm,0.7s						
BLEU	**Blekinge**	**4.64**	**359**	*i* P	**Pn**	**05 16 31.2**	**+0.9**
BLEU				*i* S	**Sn**	**05 17 21.8**	**-3.0**
KBA	**Koelnbreinsper**	**4.93**	**202**	*e*Pn	**Pn**	**05 16 34.4**	**-0.1**
	comp=Z,0.4nm,0.3s						
KBA				*e*Sg	**Sg**	**05 17 53.9**	**-3.4**
	comp=Z,2.1nm,0.5s						
DEL	**Delary**	**4.97**	**346**	*i* P	**Pn**	**05 16 34.0**	**-0.8**
DEL				*i* S	**Sn**	**05 17 28.8**	**-4.1**
SOKA	**Soboth**	**5.05**	**188**	*e*Sg	**Sg**	**05 18 00.1**	**-1.1**
	comp=Z,1.0nm,0.4s						
FABU	**Falkenberg**	**5.67**	**341**	*i* P	**Pn**	**05 16 46.2**	**+1.7**
FABU				*i* S	**Sn**	**05 17 47.6**	**-2.7**

*SOME **22** 05:21:46.3,40°.60N×78°.22E,h15km*
*KRNET **22** 05:21:47.8±0.1,40°.61N×78°.02E,h19km,mb3.4*
*NNC **22** 05:21:48.8±0.6,40°.72N×78°.19E,h0km,mb4.2,mpv3.9,*
Error ellipse: s-maj=3.9km s-min=3.1km az=156.0
ISC 22 05:21:51.4±2.4,40°.82N±0°.09×78°.13E±0°.05,h9km±12km,
n54,σ0°99/79,20C-4D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.94**	**345**	⇑*i*P	**Pg**	**05 22 09.2**	**-0.3**
TARG				⇑*i*S	**Sn**	**05 22 24.8**	**-0.1**
KDJ	**Kajisay**	**1.49**	**332**	⇓*i*P	**Pn**	**05 22 18.3**	**-0.2**
KDJ				⇓*i*S	**Sg**	**05 22 40.6**	**+1.3**
PRZ	**Przheval'sk**	**1.67**	**7**	⇑*e*P	**Pg**	**05 22 22.9**	**-0.6**
PRZ				⇑*e*S	**Sg**	**05 22 48.5**	**+3.3**
NRN	**Naryn**	**1.72**	**292**	⇑*i*P	**Pn**	**05 22 20.2**	**-1.6**
NRN				⇑*i*S	**Sn**	**05 22 43.8**	**-0.3**
ANVS	**Anan'yevo**	**1.99**	**350**	⇑*e*P	**Pb**	**05 22 27.6**	**-0.3**
ANVS				⇑*e*S	**Sg**	**05 22 56.2**	**+0.8**
ULHL	**Ulahol**	**2.01**	**316**	⇑*i*P	**Pn**	**05 22 26.0**	**+0.3**
ULHL				⇑*i*S	**Sb**	**05 22 53.8**	**+0.4**
SATY	**Saty**	**2.25**	**5**	Pg	**Pb**	**05 22 31.8**	**-0.4**
	17nm,0.4s						
SATY				Lg	Lg	05 23 04.2	
	89nm,0.6s						
SATY	**Saty**	**2.25**	**5**	*e*P	**Pb**	**05 22 31.8**	**-0.4**
	17nm,0.4s						
SATY				*e*S	**Sg**	**05 23 04.2**	**+0.6**
	89nm,0.6s						
BOOM	**Boomskoye usch**	**2.34**	**316**	⇑*i*P	**Pn**	**05 22 30.7**	**+0.5**
BOOM				⇑*i*S	**Sb**	**05 23 01.9**	**-1.0**
ZHN	**Zhinishke**	**2.36**	**5**	Pg	**Pb**	**05 22 33.5**	**-0.6**
	16nm,0.2s						
ZHN				Lg	Lg	05 23 06.8	
	110nm,0.4s						
ZHN	**Zhinishke**	**2.36**	**5**	*e*P	**Pb**	**05 22 33.5**	**-0.6**
	16nm,0.2s						
ZHN				*e*S	**Sg**	**05 23 06.8**	**-0.3**
	110nm,0.4s						
TNSS	**Tian-Shan**	**2.38**	**339**	Pg	**Pb**	**05 22 34.7**	**0.0**
	99nm,0.4s						
TNSS				Lg	Lg	05 23 09.3	
	23nm,0.4s						
TNSS	**Tian-Shan**	**2.38**	**339**	*e*P	**Pb**	**05 22 34.7**	**0.0**
	99nm,0.4s						
TNSS				*e*S	**Sg**	**05 23 09.3**	**+1.3**
	23nm,0.4s						
UZB	**Uzynbulak**	**2.42**	**16**	Pg	**Pb**	**05 22 34.3**	**-0.8**
	15nm,0.3s						
UZB				Lg	Lg	05 23 08.4	
	55nm,0.5s						
UZB	**Uzynbulak**	**2.42**	**16**	*e*P	**Pb**	**05 22 34.4**	**-0.8**
	15nm,0.3s						
UZB				*e*S	**Sg**	**05 23 08.4**	**-0.6**
	55nm,0.5s						
MDOK	**Medeo**	**2.48**	**341**	Pn	**Pn**	**05 22 32.8**	**+0.8**
	34nm,0.5s						
MDOK				Pg	**Pb**	**05 22 36.1**	**-0.1**
	47nm,0.6s						
MDOK				Lg	Lg	05 23 10.9	
	127nm,0.7s						
MDOK				Lg	Lg	05 23 11.4	
	121nm,0.7s						
MDOK	**Medeo**	**2.48**	**341**	*e*P	**Pb**	**05 22 36.1**	**-0.1**
	47nm,0.6s						
MDOK				*e*S	**Sg**	**05 23 11.4**	**+0.5**
	121nm,0.7s						
SHLS	**Shalkode**	**2.54**	**23**	Pg	**Pb**	**05 22 38.0**	**+0.8**
	27nm,0.5s						
SHLS				Lg	Lg	05 23 14.6	
	121nm,0.7s						
SHLS	**Shalkode**	**2.54**	**23**	*e*P	**Pb**	**05 22 38.0**	**+0.8**
	27nm,0.5s						
SHLS				*e*S	**Sg**	**05 23 14.6**	**+1.7**
	121nm,0.7s						
KNDC	**Almaty**	**2.55**	**341**	⇑Lg	Lg	05 23 14.6	
	154nm,0.6s						
MTBS	**Maitube**	**2.63**	**332**	Pg	**Pb**	**05 22 38.6**	**-0.1**
	38nm,0.5s						
MTBS				Lg	Lg	05 23 15.8	
	41nm,0.3s						
MTBS	**Maitube**	**2.63**	**332**	*e*P	**Pb**	**05 22 38.6**	**-0.1**
	38nm,0.5s						
MTBS				*e*S	**Sg**	**05 23 15.8**	**-0.1**
	41nm,0.3s						
KURS	**Kuram**	**2.67**	**1**	Pg	**Pb**	**05 22 39.1**	**-0.2**
	19nm,0.5s						
KURS				Lg	Lg	05 23 16.8	
	54nm,0.9s						
KURS	**Kuram**	**2.67**	**1**	*e*P	**Pb**	**05 22 39.1**	**-0.2**
	19nm,0.5s						
KURS				*e*S	**Sg**	**05 23 16.8**	**-0.2**
	54nm,0.9s						
KPKS	**Kokpek**	**2.68**	**9**	Pg	**Pb**	**05 22 38.8**	**-0.7**
	26nm,0.3s						
KPKS				Lg	Lg	05 23 16.3	
	154nm,0.4s						
KPKS	**Kokpek**	**2.68**	**9**	*e*P	**Pb**	**05 22 38.8**	**-0.7**
	26nm,0.3s						
KPKS				*e*S	**Sg**	**05 23 16.3**	**-1.0**
	154nm,0.4s						
KST	**Kastek**	**2.75**	**325**	Pg	**Pb**	**05 22 40.4**	**-0.3**
	18nm,0.3s						
KST				Lg	Lg	05 23 18.9	
	31nm,0.4s						
KST	**Kastek**	**2.75**	**325**	*e*P	**Pb**	**05 22 40.4**	**-0.3**
	18nm,0.3s						
KST				*e*S	**Sg**	**05 23 18.9**	**-0.7**
	31nm,0.4s						
TKM2	**Tokmak 2**	**2.82**	**319**	P	**Pb**	**05 22 42.1**	**0.0**
	SNR=20						
TKM2	**Tokmak 2**	**2.82**	**319**	⇑Pn	**Pn**	**05 22 36.9**	**0.0**
	20nm,0.7s						
TKM2				⇓Lg	Lg	05 23 21.5	
	20nm,0.6s						
KBK	**Karagaybulak**	**3.00**	**309**	P	**Pb**	**05 22 44.8**	**-0.4**
	SNR=20						
KBK	**Karagaybulak**	**3.00**	**309**	⇑*e*P	**Pn**	**05 22 39.4**	**+0.1**
KBK				⇑*i*S	**Sn**	**05 23 16.9**	**+1.4**
ARLS	**Aral**	**3.05**	**291**	⇑*i*P	**Pn**	**05 22 39.0**	**-0.9**
ARLS				⇑*i*S	**Sn**	**05 23 16.1**	**-0.5**
CHKK	**Chushkaly**	**3.15**	**345**	Pg	**Pb**	**05 22 48.2**	**+0.7**
	21nm,0.3s						
CHKK				Lg	Lg	05 23 32.6	
	165nm,0.4s						
CHKK	**Chushkaly**	**3.15**	**345**	*e*P	**Pb**	**05 22 48.2**	**+0.7**
	21nm,0.3s						
CHKK				*e*S	**Sg**	**05 23 32.6**	**+0.2**
	165nm,0.4s						
AAK	**Ala-Archa**	**3.27**	**305**	P	**Pb**	**05 22 49.1**	**-0.6**
	SNR=13						
BLB	**Baldybastay**	**3.28**	**4**	Pg	**Pb**	**05 22 50.5**	**+0.6**
	33nm,0.5s						
BLB				Lg	Lg	05 23 36.2	
	77nm,0.2s						
CHMS	**Chumysh**	**3.33**	**312**	P	**Pb**	**05 22 50.5**	**-0.1**
	SNR=6.9						
CHMS	**Chumysh**	**3.33**	**312**	⇑Pg	**Pb**	**05 22 52.1**	**+1.5**
	9.5nm,0.6s						
CHMS				⇑Lg	Lg	05 23 37.3	
	25nm,0.6s						
KUU	**Kurty**	**3.34**	**337**	Pg	**Pb**	**05 22 51.3**	**+0.4**
	12nm,0.3s						
KUU				Lg	Lg	05 23 37.5	
	27nm,0.3s						
KUU	**Kurty**	**3.34**	**337**	*e*P	**Pb**	**05 22 51.3**	**+0.4**
	12nm,0.3s						
KUU				*e*S	**Sg**	**05 23 37.5**	**-1.3**
	27nm,0.3s						
ARXS	**Arharly**	**3.40**	**356**	Pg	**Pb**	**05 22 52.3**	**+0.5**
	12nm,0.4s						
ARXS				Lg	Lg	05 23 39.3	
	66nm,0.4s						
ARXS	**Arharly**	**3.40**	**356**	*e*P	**Pb**	**05 22 52.3**	**+0.5**
	12nm,0.4s						
ARXS				*e*S	**Sg**	**05 23 39.3**	**-1.2**
	66nm,0.4s						
AML	**Almayashu**	**3.58**	**293**	P	**Pb**	**05 22 55.6**	**+0.5**
	SNR=15						
USP	**Ospenovka**	**3.64**	**313**	P	**Pb**	**05 22 55.5**	**-0.4**
	SNR=18						
SGDS	**Sogindy**	**3.70**	**316**	Pg	**Pb**	**05 22 57.3**	**+0.4**
	3.8nm,0.2s						
SGDS				Lg	Lg	05 23 47.8	
	12nm,0.4s						
DJR	**Jarkent**	**3.72**	**19**	Pg	**Pb**	**05 22 57.9**	**+0.7**
	3.4nm,0.4s

RIGZ				S	S	05 25 44.7	-1.2
RTZ	**Ruatahuna**	**8.52**	**192**	P	Pn	05 24 11.7	+1.2
RAHZ	**Arahi**	**8.80**	**191**	P	Pn	05 24 14.9	+0.9
RAHZ				S	S	05 25 52.9	-0.1
NMHZ	**Naumai**	**9.02**	**192**	P	Pn	05 24 17.5	+0.5
NMHZ				S	S	05 25 58.2	-0.2
ARHZ	**Aropaoanui**	**9.15**	**191**	P	Pn	05 24 17.4	-1.1
OTVZ	**Oturere**	**9.33**	**197**	P	Pn	05 24 21.5	+0.4
KWHZ	**Kaweka Forest**	**9.41**	**193**	P	Pn	05 24 20.8	-1.2
KWHZ				S	S	05 26 06.7	-0.9
KRHZ	**Kereru**	**9.63**	**193**	P	Pn	05 24 23.4	-1.4
KRHZ				S	S	05 26 12.6	-0.2
KAHZ	**Kahuranaki**	**9.69**	**191**	P	Pn	05 24 25.2	-0.3

*IDC **22** 05:23:27.3±0.4, 44°.72N×142°.05E, h249km±4km, mb3.2/11, mbtmp3.8/17, Error ellipse: s-maj=13.8km s-min=12.0km az=145.0*
*NIED **22** 05:23:27.3, 44°.76N×141°.96E, h252km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.23; $M_{\theta\theta}$=1.59; $M_{\phi\phi}$=1.82; $M_{r\theta}$=1.15; $M_{\theta\phi}$=-0.84; $M_{\phi r}$=-0.15; Fault plane solution: M_0=2.23000×10^{15} NP1: ϕ_s=304.00000°, δ=79.00000°, λ=-152.00000°. NP2: ϕ_s=208.00000°, δ=62.00000°, λ=-12.00000°.*
*JMA **22** 05:23:27.3±0.1, 44°.8N±0°.6×14°2E±°, h252km±1km, MV3.8/34, SOYA REGION*
*SKHL **22** 05:23:29.3±0.2, 44°.60N×141°.80E, h170km±7km, mb5.2/4, msha5.3/2*

ISC 22 05:23:27.4±0.6, 44°.71N±0°.05×142°.06E±0°.05, h252km±5km, n40, σ1°.03/57, mb3.5/11, 6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.45**	**56**	⇓*i*P	**Pn**	**05 24 00.4**	**+0.2**
JSE				⇓S	**S**	**05 24 25.6**	**-0.5**
JYG	**Yagishiri**	**0.54**	**238**	S	**S**	**05 24 26.6**	**0.0**
JWK2	**Keihoku**	**0.62**	**349**	⇓*i*P	**Pn**	**05 24 00.6**	**-0.1**
JWK2				⇓S	**S**	**05 24 26.5**	**-0.6**
JRR	**Rishiri**	**0.69**	**309**	P	**Pn**	**05 24 00.9**	**-0.1**
ASAJ	**Asahikawa**	**0.70**	**147**	P	**Pn**	**05 24 01.1**	**-0.1**
	54nm,0.3s,baz=287,slow=5.7,SNR=38						
ASAJ				S	**S**	**05 24 27.9**	**+0.2**
	54nm,0.8s,baz=174,slow=33,SNR=12						
ASAJ	**Asahikawa**	**0.70**	**147**	P	**Pn**	**05 24 01.4**	**+0.2**
ASAJ				S	**S**	**05 24 27.8**	**0.0**
JKK2	**Kamakawa 2**	**0.97**	**149**	P	**Pn**	**05 24 03.1**	**+0.6**
JKK2				S	**S**	**05 24 30.6**	**+0.5**
JHR	**Hokuryu**	**0.99**	**194**	P	**Pn**	**05 24 03.0**	**+0.4**
JHR				*e*S	**S**	**05 24 30.7**	**+0.4**
JRBN	**Rebuntou**	**1.01**	**316**	⇓*i*P	**Pn**	**05 24 01.7**	**-0.8**
JRBN				⇓S	**S**	**05 24 28.5**	**-1.7**
JMP	**Maruseppu**	**1.17**	**127**	P	**Pn**	**05 24 04.3**	**+0.7**
JMP				S	**S**	**05 24 33.4**	**+1.3**
JTKR	**Abashiri--Toko**	**1.52**	**118**	P	**Pn**	**05 24 06.7**	**+0.8**
JTKR				S	**S**	**05 24 37.2**	**+0.9**
JAR	**Ashorobuto**	**1.87**	**138**	P	**Pn**	**05 24 09.6**	**+0.7**
JAR				S	**S**	**05 24 42.0**	**+0.4**
JEW	**Eniwo**	**1.92**	**194**	P	**Pn**	**05 24 09.9**	**+0.6**
JEW				S	**S**	**05 24 42.4**	**+0.1**
JCH	**Churui**	**2.30**	**155**	P	**Pn**	**05 24 11.6**	**-1.2**
JCH				S	**S**	**05 24 45.5**	**-3.1**
YSS	**Yuzh-Sakhalins**	**2.30**	**12**	*e*P	**Pn**	**05 24 12.5**	**-0.1**
YSS				AMB	AMB	05 24 12.9	
	960nm,0.4s						
YSS				*e*S	**S**	**05 24 46.4**	**-2.1**
YSS				A	A	05 24 48.2	
	250nm,0.6s						
YSS				A	A	05 24 48.2	
	170nm,0.6s						
JRA	**Rausu**	**2.33**	**108**	P	**Pn**	**05 24 14.1**	**+1.1**
JNBK	**Urakawa-nobuka**	**2.48**	**168**	*e*P	**Pn**	**05 24 15.1**	**+0.5**
JNBK				*e*S	**S**	**05 24 50.6**	**-1.2**
AKK	**Akkeshi**	**2.63**	**129**	*e*P	**Pn**	**05 24 16.0**	**0.0**
AKK				*e*S	**S**	**05 24 52.2**	**-2.3**
YUK	**Yuzh-Kuril'sk**	**2.81**	**103**	*e*P	**Pn**	**05 24 19.0**	**+1.2**
YUK				AMB	AMB	05 24 19.4	
	320nm,0.4s						
NMR	**Nemuro--Hokkai**	**2.96**	**116**	*e*P	**Pn**	**05 24 19.5**	**0.0**
NMR				*e*S	**S**	**05 24 58.8**	**-2.0**
SHO	**Shikotan**	**3.52**	**102**	*e*P	**Pn**	**05 24 26.0**	**+0.3**
SHO				AMB	AMB	05 24 27.2	
	50nm,0.6s						
SHO				*i*S	**S**	**05 25 10.1**	**-1.9**
SHO				A	A	05 25 11.0	
	150nm,0.4s						
SHO				A	A	05 25 11.0	
	270nm,0.4s						
UGL	**Uglegorsk**	**4.37**	**0**	*e*P	**Pn**	**05 24 36.0**	**+0.5**
UGL				AMB	AMB	05 24 36.4	
	260nm,0.8s						
TYV	**Tymovskoe**	**6.17**	**4**	*e*P	**Pn**	**05 24 58.4**	**+0.9**
USRK	**Ussuriysk Ar.**	**7.23**	**270**	P	**Pn**	**05 25 10.4**	**-0.4**
	35nm,0.7s,baz=84,slow=13,SNR=49						
KLR	**Kul'dur**	**8.38**	**306**	P	**Pn**	**05 25 23.9**	**-1.3**
	2.9nm,0.9s,baz=127,slow=13,SNR=4.7						
MJAR	**Matsushiro Arr**	**8.67**	**201**	P	**Pn**	**05 25 27.4**	**-1.7**
	4.0nm,0.7s,baz=12,slow=14,SNR=7.8						
KSRS	**Korea Array**	**12.88**	**241**	P	**P**	**05 26 24.1**	**+0.5**
	0.7nm,0.4s,baz=54,slow=15,SNR=2.0						
PETK	**Petropavlovsk-**	**13.26**	**45**	P	**Pn**	**05 26 26.9**	**+0.7**
	17nm,1.0s,baz=222,slow=7.1,SNR=11						
SEY	**Seymchan**	**19.20**	**14**	P	**P**	**05 27 31.4**	**-1.0**
	2.7nm,0.8s,baz=246,slow=6.6,SNR=3.5						
SONM	**Songino Array**	**24.72**	**290**	P	**P**	**05 28 25.8**	**0.0**
	1.6nm,0.7s,baz=81,slow=8.5,SNR=7.2						
	1.6nm,0.7s						
ZALV	**Zalesovo Beam**	**37.48**	**305**	P	**P**	**05 30 17.7**	**+1.0**
	0.7nm,0.3s,baz=90,slow=4.6,SNR=6.9						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**40.88**	**295**	P	**P**	**05 30 45.3**	**+0.4**
	0.6nm,0.8s,baz=74,slow=8.9,SNR=3.0						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**42.02**	**302**	P	**P**	**05 30 53.2**	**-0.8**
	0.3nm,0.4s,baz=76,slow=8.8,SNR=2.7						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**42.89**	**37**	P	**P**	**05 30 59.9**	**-0.9**
	0.6nm,0.7s,baz=282,slow=6.1,SNR=7.3						
	0.6nm,0.7s						
YKA	**Yellowknife Ar**	**57.00**	**33**	P	**P**	**05 32 46.4**	**-0.1**
	1.2nm,0.8s,baz=314,slow=7.4,SNR=2.2						
	1.2nm,0.8s						
WRA	**Warramunga Arr**	**64.72**	**188**	P	**P**	**05 33 37.9**	**-0.8**
	0.8nm,0.7s,baz=12,slow=6.9,SNR=5.8						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**68.45**	**188**	P	**P**	**05 34 03.1**	**+0.9**
	1.5nm,0.8s,baz=6.3,slow=4.7,SNR=13						
	1.5nm,0.8s						
NVAR	**Mina Array Bea**	**70.11**	**55**	P	**P**	**05 34 13.4**	**+0.8**
	0.2nm,0.3s,baz=291,slow=4.1,SNR=3.7						
	0.2nm,0.3s						
PDAR	**Pinedale Array**	**72.02**	**47**	P	**P**	**05 34 24.6**	**+0.5**
	1.0nm,0.6s,baz=293,slow=2.5,SNR=11						
	1.0nm,0.6s						
TXAR	**Lajitas Array**	**85.08**	**53**	P	**P**	**05 35 36.1**	**+1.0**
	0.3nm,0.8s,baz=266,slow=3.8,SNR=3.8						
	0.3nm,0.8s						

*CNRM **22** 05:36:55.6, 36°.00N×10°.64W, h58km, ML3.5*
*MDD **22** 05:36:56.7±0.8, 36°.28N×10°.70W, h8km±16km, mb_Lg3.5/13, Error ellipse: s-maj=21.5km s-min=5.9km az=51.0*
*IGIL **22** 05:36:57.5, 36°.14N×10°.75W, h26km, ML2.5*
*INMG **22** 05:36:57.8±1.1, 36°.16N×10°.76W, h26km±17km, ML2.5, Error ellipse: s-maj=12.0km s-min=4.1km az=56.0*

ISC 22 05:36:53.7±1.7, 36°.08N±0°.04×10°.82W±0°.09, h35km, n76, σ1°.97/115, 4C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.92**	**56**	⇑*i*P	**Pn**	**05 37 25.9**	**+2.1**
PFVI				*e*S	**Sn**	**05 37 47.3**	**+0.6**
PFVI				A	A	05 37 47.7	
	19nm,0.2s						
PFVI	**Vila Bisbo**	**1.92**	**56**	Pn	**Pn**	**05 37 25.9**	**+2.1**
PFVI	**Vila Bisbo**	**1.92**	**56**	P	**Pn**	**05 37 25.9**	**+2.1**
MORF	**Marmelete**	**2.13**	**54**	⇑*i*P	**Pn**	**05 37 28.9**	**+2.1**
MORF				*e*S	**Sn**	**05 37 52.2**	**+0.2**
MORF				A	A	05 37 53.1	
	26nm,0.1s						
MORF	**Marmelete**	**2.13**	**54**	*e*P	**Pn**	**05 37 28.9**	**+2.1**
MORF				*e*S	**Sn**	**05 37 51.8**	**-0.2**
MORF				IAML		05 37 52.9	
	comp=N,55nm,0.1s						
PTEO	**Sao Teotonio**	**2.23**	**48**	*e*P	**Pn**	**05 37 30.1**	**+2.0**
PTEO				*e*S	**Sn**	**05 37 54.6**	**+0.2**
PTEO				A	A	05 37 57.4	
	comp=N,16nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.59**	**63**	⇑*e*P	**Pn**	**05 37 35.6**	**+2.4**
PBDV				*e*S	**Sn**	**05 38 03.6**	**+0.1**
PBDV				A	A	05 38 06.0	
	comp=N,12nm,0.3s						
MESJ	**Messejana**	**2.72**	**49**	⇑*e*P	**Pn**	**05 37 37.0**	**+2.1**
MESJ				*e*S	**Sn**	**05 38 06.4**	**-0.2**
MESJ				A	A	05 38 09.6	
	comp=N,12nm,0.2s						
MESJ	**Messejana**	**2.72**	**49**	*e*P	**Pn**	**05 37 37.0**	**+2.1**
MESJ				*e*S	**Sn**	**05 38 06.0**	**-0.7**
MESJ				IAML		05 38 07.5	
	comp=N,10nm,0.1s						
PVAQ	**Vaqueiros**	**2.82**	**61**	*e*P	**Pn**	**05 37 38.6**	**+2.3**
PVAQ				*e*S	**Sn**	**05 38 08.8**	**-0.2**
PVAQ				A	A	05 38 10.5	
	comp=N,17nm,0.1s						
PVAQ	**Vaqueiros**	**2.82**	**61**	Pn	**Pn**	**05 37 38.5**	**+2.3**
PVAQ				Sn	**Sn**	**05 38 08.8**	**-0.2**
PVAQ	**Vaqueiros**	**2.82**	**61**	P	**Pn**	**05 37 37.8**	**+1.6**
PVAQ	**Vaqueiros**	**2.82**	**61**	S	**Sn**	**05 38 09.4**	**+0.4**
PBEJ	**Beja**	**3.06**	**50**	*e*P	**Pn**	**05 37 41.2**	**+1.7**
PBEJ				*e*S	**Sn**	**05 38 14.3**	**-0.6**
PBEJ				A	A	05 38 16.4	
	comp=N,11nm,0.3s						
PMAFR	**Mafra**	**3.12**	**23**	*e*P	**Pn**	**05 37 41.9**	**+1.5**
PMAFR				*e*S	**Sn**	**05 38 15.4**	**-1.0**
PMAFR				A	A	05 38 20.4	
	comp=N,24nm,0.2s						
PMAFR	**Mafra**	**3.12**	**23**	Pn	**Pn**	**05 37 41.7**	**+1.3**
EVO	**Evora**	**3.31**	**42**	*e*P	**Pn**	**05 37 44.9**	**+1.8**
EVO				*e*S	**Sn**	**05 38 20.3**	**-0.9**
EVO				A	A	05 38 24.6	
	comp=N,22nm,0.1s						
EVO	**Evora**	**3.31**	**42**	Pn	**Pn**	**05 37 44.6**	**+1.6**
EVO				Sn	**Sn**	**05 38 20.0**	**-1.2**
PMTG	**Montargil**	**3.62**	**34**	*e*P	**Pn**	**05 37 49.2**	**+1.9**
PMTG				*e*S	**Sn**	**05 38 27.7**	**-1.2**
PMTG				A	A	05 38 29.0	
	comp=N,11nm,0.3s						
PBAR	**Barrancos**	**3.67**	**54**	*e*P	**Pn**	**05 37 50.0**	**+2.0**
PBAR				*e*S	**Sn**	**05 38 29.4**	**-0.7**
PBAR				A	A	05 38 32.2	
	comp=N,8.1nm,0.4s						
PBAR	**Barrancos**	**3.67**	**54**	Pn	**Pn**	**05 37 49.8**	**+1.8**
PBAR				Sn	**Sn**	**05 38 29.3**	**-0.8**
EMIN	**Mina Concepcio**	**3.72**	**62**	Pn	**Pn**	**05 37 50.5**	**+1.9**
EMIN				Sn	**Sn**	**05 38 30.9**	**-0.4**
EMIN	**Mina Concepcio**	**3.72**	**62**	P	**Pn**	**05 37 50.4**	**+1.7**
EMIN				S	**Sn**	**05 38 30.3**	**-1.0**
PSBE	**So Bento**	**3.78**	**24**	*e*P	**Pn**	**05 37 51.4**	**+1.9**
PSBE				*e*S	**Sn**	**05 38 31.5**	**-1.3**
PSBE				A	A	05 38 34.8	
	comp=N,8.3nm,0.9s						
PESTR	**Estremoz**	**3.79**	**42**	*e*P	**Pn**	**05 37 51.2**	**+1.6**
PESTR				*e*S	**Sn**	**05 38 31.5**	**-1.4**
PESTR				A	A	05 38 33.8	
	comp=N,4.1nm,0.2s						
PESTR	**Estremoz**	**3.79**	**42**	Pn	**Pn**	**05 37 50.9**	**+1.4**
PESTR				Sn	**Sn**	**05 38 31.4**	**-1.4**
PESTR	**Estremoz**	**3.79**	**42**	P	**Pn**	**05 37 50.8**	**+1.3**
PESTR	**Estremoz**	**3.79**	**42**	S	**Sn**	**05 38 34.1**	**+1.3**
AVE	**Averroes**	**3.95**	**134**	Pn	**Pn**	**05 37 54.2**	**+2.4**
AVE				Sn	**Sn**	**05 38 36.2**	**-0.6**
EBAD	**Badajoz**	**4.04**	**47**	Pn	**Pn**	**05 37 54.4**	**+1.4**
EBAD				Sn	**Sn**	**05 38 37.6**	**-1.5**
EBAD	**Badajoz**	**4.04**	**47**	P	**Pn**	**05 37 54.5**	**+1.5**
EBAD				S	**Sn**	**05 38 37.4**	**-1.6**
ESPR	**Espera**	**4.08**	**77**	Pn	**Pn**	**05 37 56.0**	**+2.5**
ESPR				Sn	**Sn**	**05 38 39.2**	**-0.7**
ESPR	**Espera**	**4.08**	**77**	P	**Pn**	**05 37 55.9**	**+2.4**
ESPR				S	**Sn**	**05 38 39.2**	**-0.7**
ESPR				*i* Vmb_Lg		05 39 28.5	
PMRV	**Marv??o**	**4.31**	**38**	*e*P	**Pn**	**05 37 58.3**	**+1.6**
PMRV				*e*S	**Sn**	**05 38 43.8**	**-1.9**
PMRV				A	A	05 38 45.0	
	comp=N,7.2nm,0.2s						
ZHG	**ZHG**	**4.33**	**126**	P	**Pn**	**05 37 57.5**	**+0.5**
ZHG	**ZHG**	**4.33**	**126**	S	**Sn**	**05 38 44.8**	**-1.5**
SRHM	**Skhour des Reh**	**4.34**	**145**	P	**Pn**	**05 37 58.6**	**+1.4**
SRHM	**Skhour des Reh**	**4.34**	**145**	S	**Sn**	**05 38 49.2**	**+2.7**
EJIF	**Jimena Fronter**	**4.34**	**84**	P	**Pn**	**05 37 59.8**	**+2.7**
EJIF				S	**Sn**	**05 38 47.6**	**+1.1**
PCAS	**Casmilo, Conde**	**4.37**	**24**	*e*S	**Sn**	**05 38 46.0**	**-1.2**
PCAS				A	A	05 38 47.7	
	comp=N,5.9nm,0.3s						
COI	**Coimbra**	**4.54**	**24**	*e*S	**Sn**	**05 38 50.5**	**-0.8**
PCBR	**Castelo Branco**	**4.59**	**34**	*e*S	**Sn**	**05 38 50.6**	**-2.0**
PCBR				A	A	05 38 51.7	
	comp=N,3.5nm,0.8s						
ECAB	**El Cabril**	**4.75**	**64**	Pn	**Pn**	**05 38 04.6**	**+1.7**
ECAB				Sn	**Sn**	**05 38 54.8**	**-1.9**
ECAB	**El Cabril**	**4.75**	**64**	P	**Pn**	**05 38 04.6**	**+1.7**
ECAB				S	**Sn**	**05 38 54.6**	**-2.2**
MTE	**Manteigas**	**5.02**	**30**	*e*S	**Sn**	**05 39 01.0**	**-2.4**
MTE				A	A	05 39 05.4	
	comp=N,3.7nm,0.6s						
PVIS	**Viseu**	**5.17**	**26**	*e*S	**Sn**	**05 39 04.6**	**-2.3**
IFR	**Ifrane**	**5.33**	**117**	Pn	**Pn**	**05 38 12.2**	**+1.2**
IFR				Sn	**Sn**	**05 39 08.4**	**-2.9**
EADA	**Adamuz**	**5.41**	**65**	Pn	**Pn**	**05 38 13.8**	**+2.0**
EADA				Sn	**Sn**	**05 39 11.4**	**-1.5**
EADA	**Adamuz**	**5.41**	**65**	P	**Pn**	**05 38 13.6**	**+1.8**
EADA				S	**Sn**	**05 39 09.8**	**-3.0**
EADA				*i* Vmb_Lg		05 39 14.8	
LCRM	**LCR**	**5.45**	**114**	P	**Pn**	**05 38 12.2**	**-0.3**
LCRM	**LCR**	**5.45**	**114**	S	**Sn**	**05 39 12.4**	**-1.7**
EPLA	**Plasencia**	**5.46**	**42**	P	**Pn**	**05 38 14.3**	**+1.8**
EPLA				S	**Sn**	**05 39 11.6**	**-2.5**
EPLA				*i* Vmb_Lg		05 39 16.6	
EGOR	**Sierra Gorda,**	**5.50**	**77**	Pn	**Pn**	**05 38 15.6**	**+2.4**
EGOR				Sn	**Sn**	**05 39 13.7**	**-1.5**
EGOR	**Sierra Gorda,**	**5.50**	**77**	P	**Pn**	**05 38 15.8**	**+2.7**
EGOR				S	**Sn**	**05 39 15.5**	**+0.3**
PALE	**Palemas**	**5.67**	**97**	P	**Pn**	**05 38 15.0**	**-0.4**
PALE	**Palemas**	**5.67**	**97**	S	**Sn**	**05 39 17.5**	**-1.8**
PVRL	**Vila Real**	**5.73**	**24**	*e*S	**Sn**	**05 39 18.3**	**-2.4**
PVRL				A	A	05 39 20.7	
	comp=N,5.2nm,0.2s						
POLO	**Lamas de Olo**	**5.79**	**23**	*e*S	**Sn**	**05 39 19.5**	**-2.9**
POLO				A	A	05 39 22.1	
	comp=N,1.8nm,0.5s						
ELGU	**Los Guajares,**	**5.85**	**80**	Pn	**Pn**	**05 38 20.3**	**+2.3**
TTIG	**Tnine Tigouga,**	**5.87**	**160**	P	Pn	05 38 17.7	-0.6
MVO	**Moncorvo**	**5.88**	**29**	*e*P	**Pn**	**05 38 20.5**	**+2.1**
MVO				*e*S	**Sn**	**05 39 21.6**	**-2.9**
MVO				A	A	05 39 24.8	
	comp=N,4.9nm,0.5s						
TIO	**Tiouine**	**5.94**	**149**	Pn	**Pn**	**05 38 20.7**	**+1.5**
TIO				Sn	**Sn**	**05 39 23.7**	**-2.4**
TIO	**Tiouine**	**5.94**	**149**	P	Pn	05 38 19.2	-0.1
TIO	**Tiouine**	**5.94**	**149**	S	**Sn**	**05 39 25.1**	**-1.0**
MD31	**MD31**	**5.94**	**121**	P	**Pn**	**05 38 19.1**	**-0.1**
MD31	**MD31**	**5.94**	**121**	S	**Sn**	**05 39 24.4**	**-1.7**
PCAB	**Cabril**	**6.03**	**20**	*e*S	**Sn**	**05 39 25.5**	**-2.6**
ELOB	**Lobios**	**6.17**	**20**	S	**Sn**	**05 39 27.6**	**-4.0**
PAB	**San Pablo**	**6.18**	**54**	P	**Pn**	**05 38 24.4**	**+1.9**
PAB				*i* Vmb_Lg		05 38 25.6	
PAB				S	**Sn**	**05 39 28.7**	**-3.2**
PGAV	**Gavieira, Arco**	**6.20**	**18**	*e*S	**Sn**	**05 39 29.4**	**-3.1**
ESDC	**Sonseca Array**	**6.50**	**54**	P	**Pn**	**05 38 28.8**	**+1.9**
ESDC				*i* Vmb_Lg		05 43 18.7	
PBRG	**Braganca**	**6.54**	**28**	*e*S	**Sn**	**05 39 36.3**	**-4.4**
PBRG				A	A	05 39 40.5	
	comp=N,2.7nm,0.2s						
ECAL	**Calabor**	**6.66**	**27**	S	**Sn**	**05 39 40.1**	**-3.6**
GUD	**Guadarrama**	**6.94**	**47**	S	**Sn**	**05 39 47.2**	**-3.5**
UCM	**Universidad Co**	**7.30**	**52**	Pn	**Pn**	**05 38 40.0**	**+2.1**
UCM				Sn	**Sn**	**05 39 56.4**	**-3.2**
ETOR	**Torete**	**8.34**	**53**	P	**Pn**	**05 38 53.9**	**+1.7**
ETOR				S	**Sn**	**05 40 20.6**	**-4.6**
ETOR				*i* Vmb_Lg		05 43 20.0	

*IDC **22** 05:49:34.8±5.5, 7°.07S×147°.19E, h97km±38km, mb3.4/3, mbtmp3.7/5, MS2.8/2, Error ellipse: s-maj=49.7km s-min=39.6km az=27.0*

ISC 22 05:49:34.9±2.1, 7°.1S±0°.2×147°.2E±0°.3, h100km, n8, σ0°.72/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.31**	**180**	P	**Pn**	**05 50 10.6**	**-0.9**
	42nm,0.3s,baz=12,slow=9.3,SNR=18						
PMG				S	**Sn**	**05 50 40.4**	**+0.9**
	58nm,0.3s,baz=41,slow=22,SNR=14						
JAY	**Jayapura**	**7.87**	**305**	LR	LR	05 54 17.9	
	comp=Z,48nm,21.5s,baz=301,slow=36						
WRA	**Warramunga Arr**	**17.83**	**223**	P	**P**	**05 53 35.8**	**-0.3**
	0.5nm,0.5s,baz=51,slow=11,SNR=12						
GUMO	**Guam**	**20.66**	**354**	LR	LR	06 01 58.1	
	comp=Z,30nm,18.4s,baz=132,slow=36						
ASAR	**Alice Springs**	**20.83**	**216**	P	**P**	**05 54 08.6**	**0.0**
	0.6nm,0.7s,baz=43,slow=10,SNR=18						
	0.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.65**	**240**	P	**P**	**05 54 37.6**	**+0.3**
	2.5nm,0.5s,baz=48,slow=8.8,SNR=8.8						
	2.5nm,0.5s						
QSPA	**South Pole Qui**	**82.89**	**180**	P	**P**	**06 01 48.8**	**+0.4**
	0.9nm,0.5s,baz=344,slow=0.6,SNR=11						
	0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**145.49**	**283**	PKPbc	**PKPdf**	**06 09 02.4**	**+0.1**
	0.7nm,0.5s,baz=76,slow=3.7,SNR=7.1						

*TEH **22** 05:50:51.9, 37°.21N×42°.47E, h10km±22km, ML4.0*
*ISK **22** 05:50:51.4, 37°.21N×42°.41E, h5km, ML4.3/19*
*MCSM **22** 05:50:52.6±0.5, 37°N±3°×4°2E±°, h8km, mB4.1, mb4.1, MLv4.1, Mw(mB)3.2*
*ISN **22** 05:50:52.0±0.7, 37°.28N×42°.33E, h19km±6km, ML4.0*
*IDC **22** 05:50:52.4±1.0, 37°.58N×42°.19E, h0km, mb3.8/9, mbtmp3.8/16, ML3.4/7, MS3.1/12, Error ellipse: s-maj=18.2km s-min=11.2km az=140.0*
*AFAD **22** 05:50:52.3±0.0, 37°.26N×42°.46E, h7km±2km, MW4.1*
*NEIC **22** 05:50:53.4±1.6, 37°.26N±0°.05×42°.42E±0°.08, h10km±2km, mb4.1/17, Error ellipse: s-maj=10.7km s-min=7.9km az=247.0*
*GII **22** 05:50:54.4±0.2, 37°.22N×42°.41E, h10km, Mws4.3, confirmed*

ISC 22 05:50:52.6±1.1, 37°.27N±0°.03×42°.43E±0°.03, h6km±8km, n156, σ0°.99/163, mb4.1/13, MS3.0/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRN	**Sırnak**	**0.23**	**357**	P	**Pg**	**05 50 57.2**	**0.0**
SIRN				S	**Sg**	**05 51 00.8**	**+0.4**
SIRN				*i* AML	AML	05 51 02.0	
	comp=N,7μm,0.5s						
SIRN				*i* AML	AML	05 51 02.0	
	comp=E,6μm,0.2s						
SIRN	**Sırnak**	**0.23**	**357**	Pg	**Pg**	**05 50 57.2**	**0.0**
PERV	**Siirt/Pervari-**	**0.69**	**8**	P	**Pg**	**05 51 05.8**	**0.0**
SRTM	**Siirt_Merkez**	**0.83**	**331**	P	**Pb**	**05 51 08.9**	**-0.6**
SRTM				S	**Sb**	**05 51 21.0**	**+0.1**
SRTM				*i* AML	AML	05 51 22.0	
	comp=E,5μm,1.0s						
SRTM	**Siirt_Merkez**	**0.83**	**331**	Pg	**Pb**	**05 51 08.8**	**-0.6**
MIDY	**Mardin/Midyat-**	**0.83**	**280**	P	**Pb**	**05 51 09.1**	**-0.4**
MIDY				S	**Sn**	**05 51 21.5**	**-2.0**
MIDY				*i* AML	AML	05 51 30.0	
	comp=N,6μm,0.5s						
CUKT	**Cukurca**	**0.94**	**91**	P	**Pg**	**05 51 09.7**	**-1.1**
CUKT	**Cukurca**	**0.94**	**91**	Pg	**Pg**	**05 51 10.1**	**-0.6**
CUKT				Sg	**Sb**	**05 51 24.0**	**-0.2**
CUKT	**Cukurca**	**0.94**	**91**	Pg	**Pg**	**05 51 09.6**	**-1.1**
HAKT	**HAKKARI**	**1.06**	**74**	P	**Pg**	**05 51 11.9**	**-1.1**
HAKT	**HAKKARI**	**1.06**	**74**	Pg	**Pg**	**05 51 11.8**	**-1.1**
BTMN	**Batman**	**1.11**	**305**	P	**Pn**	**05 51 14.4**	**-0.4**
BTMN				S	**Sn**	**05 51 30.4**	**0.0**
BTMN				*i* AML	AML	05 51 32.0	
	comp=N,6μm,0.6s						
BTMN				*i* AML	AML	05 51 32.0	
	comp=E,5μm,0.5s						
BTMN	**Batman**	**1.11**	**305**	Pg	**Pn**	**05 51 14.3**	**-0.4**
AKDM	**Akdamar-Van**	**1.15**	**22**	Pn	**Pb**	**05 51 13.7**	**-1.3**
AKDM				Sn	**Sn**	**05 51 32.2**	**+0.7**
AKDM	**Akdamar-Van**	**1.15**	**22**	Pg	**Pb**	**05 51 13.6**	**-1.4**
GEVA	**Gevas**	**1.16**	**25**	P	**Pb**	**05 51 14.1**	**-1.0**
GEVA	**Gevas**	**1.16**	**25**	Pg	**Pb**	**05 51 14.1**	**-1.0**
BLIS	**Bitlis-Merkez**	**1.17**	**348**	P	**Pb**	**05 51 14.9**	**-0.5**
BLIS	**Bitlis-Merkez**	**1.17**	**348**	Pg	**Pb**	**05 51 14.9**	**-0.5**
GURO	**Guroymak-BITLI**	**1.32**	**346

NATI	Neve Ativ	6.77 236	S	Sn	05 53 51.2 +1.3
NATI	Neve Ativ	6.77 236	P	Pn	05 52 33.7 +1.2
ASF	Jabal al Asfar	6.82 223	Pn	Pn	05 52 35.4 +2.2
	comp=N,1.5nm,0.3s,baz=207,slow=0.0,SNR=7.7				
ASF			Lg	Lg	05 54 32.7
	comp=N,5.1nm,0.3s,baz=325,slow=0.0,SNR=3.8				
	comp=N,7.0nm,0.5s				
GEM	Giv'at Ha'Em	6.85 236	S	Sn	05 53 52.3 +0.4
GEM	Giv'at Ha'Em	6.85 236	P	Pn	05 52 34.7 +1.0
KSHT	Keshet	6.90 234	S	Sn	05 53 54.1 +1.0
KSHT	Keshet	6.90 234	P	Pn	05 52 35.6 +1.3
MMA0B	Mount Meron ar	7.15 236	P	Pn	05 52 38.4 +0.7
MMAI	Mount Meron Ar	7.15 236	Pn	Pn	05 52 37.8 +0.1
	comp=N,3.2nm,0.3s,baz=65,slow=14,SNR=5.8				
MMAI			Lg	Lg	05 54 34.4
	comp=N,2.3nm,0.3s,baz=47,slow=18,SNR=3.6				
MMAI			LR	LR	05 55 34.6
	comp=N,85nm,18.3s,baz=8.5,slow=39				
	comp=N,2.8nm,0.4s				
BR104	Keskin Array S	7.31 292	P	Pn	05 52 39.7 -0.3
	comp=N,4.3nm,0.8s,comp=N,75nmcomp=N,0.0nm				
BR131	Keskin Array S	7.32 292	Pn	Pn	05 52 39.6 -0.5
BRTR	Keskin Array B	7.32 292	Pn	Pn	05 52 40.0 -0.1
BRTR	Keskin Array B	7.32 292	Pn	Pn	05 52 39.6 -0.5
	comp=N,0.4nm,0.3s,baz=258,slow=16,SNR=5.8				
BRTR			Lg	Lg	05 54 34.4
	comp=N,0.1nm,0.3s,baz=38,slow=35,SNR=0.9				
	comp=N,0.8nm,0.7s				
BR105	Keskin Array S	7.33 292	P	Pn	05 52 40.0 -0.3
	comp=N,4.1nm,0.8s,comp=N,95nmcomp=N,0.0nm				
BR106	Keskin Array S	7.33 292	P	Pn	05 52 40.0 -0.3
	comp=N,3.8nm,1.4s,comp=N,83nmcomp=N,0.0nm				
MMLI	Mount Malkishu	7.50 232	Pn	Pn	05 52 44.1 +1.5
MMLI	Mount Malkishu	7.50 232	P	Pn	05 52 43.6 +1.0
BALJ	Balqa	7.61 229	Pn	Pn	05 52 44.2 +0.2
CSS	Mathiatis	7.71 255	P	Pn	05 52 45.0 -0.4
	comp=N,13nm,2.3s,comp=N,0.1nm				
ILGA	Ilgaz	7.75 302	Pn	Pn	05 52 45.3 -0.8
GHAJ	Ghor Haditha	8.22 226	Pn	Pn	05 52 52.9 +0.6
GHAJ	Ghor Haditha	8.22 226	P	Pn	05 52 52.7 +0.4
PRNI	Paran	9.25 224	P	Pn	05 53 07.1 +0.6
HRFI	Mount Harif	9.48 223	P	Pn	05 53 09.7 0.0
KRMI	Paran Flat	9.59 224	P	Pn	05 53 11.8 +0.7
EIL	Elat	9.81 222	Pn	Pn	05 53 14.9 +0.7
	comp=N,0.3nm,0.3s,baz=10,slow=16,SNR=1.6				
EIL			Lg	Lg	05 56 12.1
	comp=N,1.2nm,0.3s,baz=124,slow=22,SNR=4.5				
EIL			LR	LR	05 57 07.9
	comp=N,80nm,18.5s,baz=52,slow=38				
	comp=N,2.1nm,0.6s				
EIL	Elat	9.81 222	P	Pn	05 53 15.1 +0.9
RAYN	Ar Rayn	13.95 168	Pn	Pn	05 54 11.0 +0.1
ISR	Istrita	14.29 308	P	Pn	05 54 15.4 0.0
	comp=N,33nm,1.0s				
MLR	Muntele Rosu	14.83 309	P	Pn	05 54 22.9 0.0
TESR	Tescani	14.92 313	P	Pn	05 54 24.2 +0.2
	comp=N,13nm,1.4s				
SORM	Soroca	14.98 321	P	Pn	05 54 25.0 +0.3
	comp=N,18nm,1.1s				
VOIR		15.37 308	P	Pn	05 54 30.0 0.0
	comp=N,6.7nm,1.4s				
KMPD	K-Podol'skiy	16.22 319	P	Pn	05 54 41.0 +0.1
AK07	Malin Array Si	16.31 329	P	Pn	05 54 42.3 +0.3
AK09	Malin Array Si	16.32 329	P	Pn	05 54 42.1 -0.1
AK10	Malin Array Si	16.33 329	P	Pn	05 54 42.0 -0.3
BUR08	Bucovina Ar. S	16.37 315	Pn	Pn	05 54 43.1 +0.1
AKASG	Malin Array Be	16.42 329	P	Pn	05 54 42.6 -0.8
AKBB	Malin Array Si	16.42 329	P	Pn	05 54 43.4 0.0
AKBB			IAmb	IAmb	05 54 52.0
	comp=Z,15nm,0.8s				
AKBB	Malin Array Si	16.42 329	P	Pn	05 54 43.7 +0.3
KIEV	Kiev	16.42 329	P	Pn	05 54 43.6 +0.1
KIEV			IAmb	IAmb	05 54 52.0
	comp=Z,14nm,0.9s				
MI29	MI29, Kamyanyy	16.79 326	P	P	05 54 49.4 -1.0
	comp=Z,122nm,1.2s				
MI30	MI30,Zelenitsa	16.88 327	P	Pn	05 54 48.6 -0.7
	comp=Z,31nm,1.1s				
MI28	Mi28,Pidlybu	17.24 327	P	Pn	05 54 53.8 -0.1
AKTO	Aktyubinsk	17.26 35	P	P	05 54 54.6 -1.0
	comp=Z,0.3nm,0.3s,baz=236,slow=13,SNR=7.7				
AKTO			LR	LR	06 01 54.5
	comp=Z,73nm,21.0s,baz=150,slow=39				
	comp=Z,3.6nm,0.7s				
ABKAR	Akbulak array	17.45 41	P	P	05 54 56.8 -1.0
WSAR	Wadi Sarin	19.74 131	P	Pn	05 55 27.8 +3.3
	comp=Z,2.7nm,0.5s,baz=328,slow=8.5,SNR=5.9				
WSAR			LR	LR	06 04 42.1
	comp=Z,73nm,20.8s,baz=296,slow=41				
	comp=Z,2.7nm,0.5s				
NACGM	Naroch	20.63 334	*e*P	Pn	05 55 36.4 +1.7
	comp=Z,19nm,1.0s,baz=143				
SIMJ	Simiganj	20.98 78	P	P	05 55 37.3 +0.7
SIMJ			IAmb	IAmb	05 55 43.5
	comp=Z,8.1nm,1.2s				
SUW	Suwalki	21.37 328	P	P	05 55 40.4 0.0
KBL	Kabul	21.71 89	P	P	05 55 43.9 -0.6
KIRV	Kirov	21.82 10	LR	LR	06 05 53.8
	comp=Z,50nm,19.2s,baz=238,slow=42				
ARTI	Arti	21.92 24	P	P	05 55 45.8 -0.7
ARTI			IAmb	IAmb	05 55 50.4
	comp=Z,13nm,0.8s				
ARTI	Arti	21.92 24	P	P	05 55 46.0 -0.4
	comp=Z,12nm,0.8s,baz=214,slow=7.3,SNR=12				
ARTI			LR	LR	06 06 05.1
	comp=Z,51nm,18.4s,baz=226,slow=42				
	comp=Z,12nm,0.8s				
GAR	Garm	21.98 77	P	P	05 55 47.7 +0.4
GAR			IAmb	IAmb	05 56 09.7
	comp=Z,6.2nm,1.0s				
PABE	Paberze	22.12 331	P	P	05 55 49.2 +0.7
KKAR	Karatay Array	22.18 66	P	P	05 55 50.3 +1.0
BTK	Batken	22.31 74	P	P	05 55 50.4 -0.4
CAMP	Campotosto	22.82 292	P	P	05 55 56.5 +0.2
GERES	GERESS Array B	23.82 308	P	P	05 56 05.0 -1.3
GERES	GERESS Array B	23.82 308	P	P	05 56 04.5 -1.8
	comp=Z,0.4nm,0.4s,baz=105,slow=10.0,SNR=1.5				
	comp=Z,0.4nm,0.4s				
ARSB	Arslanbob	23.93 71	P	P	05 56 08.7 +1.2
ARSB			IAmb	IAmb	05 56 15.6
	comp=Z,7.2nm,1.4s				
BRVK	Borovoye	24.98 42	P	P	05 56 17.5 +0.8
BRVK			IAmb	IAmb	05 56 29.5
	comp=Z,4.4nm,1.1s				
BVAR	Borovoye Array	25.02 42	P	P	05 56 16.1 -1.0
	comp=Z,1.2nm,0.9s,baz=228,slow=13,SNR=4.2				
	comp=Z,1.2nm,0.9s				
CLL	Collm	25.11 313	*i* P	P	05 56 18.9 +1.0
	comp=Z,8.0nm,1.1s				
NIL	Nilore	25.31 89	P	P	05 56 20.0 +0.1
FINES	FINESS Array B	26.28 342	P	P	05 56 26.2 -2.3
	comp=Z,4.3nm,1.0s,baz=158,slow=12,SNR=1.8				
	comp=Z,4.3nm,1.0s				
FURI	Furi	28.45 188	LR	LR	06 08 37.7
	comp=Z,53nm,18.8s,baz=26,slow=37				
HFS	Hagfors	29.30 331	P	P	05 56 52.8 -2.7
	comp=Z,3.3nm,1.0s,baz=141,slow=4.8,SNR=3.2				
	comp=Z,3.3nm,1.0s				
MKAR	Makanchi Array	30.82 59	P	P	05 57 08.4 -0.7
MKAR	Makanchi Array	30.82 59	P	P	05 57 09.8 +0.7
	comp=Z,0.8nm,0.8s,baz=262,slow=8.8,SNR=2.5				
MKAR			LR	LR	06 11 26.3
	comp=Z,21nm,18.9s,baz=80,slow=40				
	comp=Z,0.8nm,0.8s				
NOA	NORSAR Array B	30.82 331	P	P	05 57 06.0 -3.0
	comp=Z,0.8nm,0.8s,baz=95,slow=9.5,SNR=2.8				
	comp=Z,0.8nm,0.8s				
WMQ	Urumqi	34.67 65	*e*P	P	05 57 46.1 +3.2
KMBO	Kilima Mbogo	38.50 188	LR	LR	06 12 35.0
	comp=Z,25nm,21.1s,baz=87,slow=34				
MBAR	Mbarara	39.20 199	LR	LR	06 13 03.4
	comp=Z,24nm,19.7s,baz=52,slow=34				
TORD	Torodi Ar. Bea	43.52 247	P	P	05 58 57.7 +0.6
	comp=Z,0.4nm,0.7s,baz=35,slow=8.5,SNR=3.0				
	comp=Z,0.4nm,0.7s				
HHC	Hu-ho-hao-te	52.53 63	*e*P	P	06 00 07.3 +0.6
HHC			pmax	pmax	
	comp=Z,13nm,0.6s				
HHC			pmax	pmax	
	comp=Z,69nm,3.7s				
MJAR	Matsushiro Arr	72.98 57	LR	LR	06 36 42.8
	comp=Z,26nm,18.4s,baz=178,slow=38				

TRN ***22*** *05:59:04.3, 10°.82N×62°.22W, h91km, MD3.6, North of the Paria peninsula.*

FUNV ***22*** *05:59:04.4, 10°.77N×62°.25W, h85km, MW3.6*
ISC 22 05:59:01.2±1.4, 10°.75N±0°.04×62°.25W±0°.04,
h113km±12km, n25, σ1°90/46, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	Mucurapo Girls	0.71	96	*e*P	Pn	05 59 21.3	+1.4
PSMG				*e*S	Sn	05 59 32.6	-1.3
PSQC	Port of Spain	0.72	96	*e*P	Pn	05 59 21.4	+1.4
PSGH	Port of Spain	0.73	97	*e*P	Pn	05 59 21.4	+1.3
PSGH				*e*S	Sn	05 59 32.7	-1.6
TRN	Trinidad (W)	0.84	97	*e*P	Pn	05 59 22.4	+1.4
TRN				*e*S	Sn	05 59 34.8	-1.2
GRFF	Grenada Fort F	1.39	21	*e*P	Pn	05 59 27.3	+0.4
GRFF				*e*S	Sn	05 59 44.5	-1.9
GRGR	Grenville	1.50	23	*e*P	Pn	05 59 28.8	+0.6
GRGR				*e*S	Sn	05 59 47.3	-1.3
GRW	Mount Saint Ca	1.52	22	*e*P	Pn	05 59 30.1	+1.6
GRW				*e*S	Sn	05 59 48.6	-0.6
GRHS	Sauteurs	1.58	22	*e*P	Pn	05 59 29.7	+0.5
GRHS				*e*S	Sn	05 59 48.9	-1.6
GRSS	Sisters	1.66	22	*e*P	Pn	05 59 31.3	+1.2
GRSS				*e*S	Sn	05 59 51.1	-1.0
TOSP	Speyside	1.77	72	*e*P	Pn	05 59 32.5	+1.1
TOSP				*e*S	Sn	05 59 53.6	-0.9
GCMP	Grenada, Carri	1.91	25	*e*P	Pn	05 59 34.3	+1.2
GCMP				*e*S	Sn	05 59 56.1	-1.5
PCRV	Puerto La Cruz	2.42	257	*e*P	Pn	05 59 41.9	+2.2
PCRV				*e*S	Sn	06 00 06.7	-2.5
PCRV	Puerto La Cruz	2.42	257	*e*P	Pn	05 59 42.8	+3.1
PCRV				*e*S	Sn	06 00 11.3	+2.1
SVOC	Richmond Hill,	2.59	23	*e*P	Pn	05 59 43.4	+1.4
SVOC				*e*S	Sn	06 00 12.2	-1.1
SVB	Belmont	2.69	21	*e*P	Pn	05 59 45.0	+1.7
SVB				*e*S	Sn	06 00 13.8	-1.9
MCLT	Moule a Chique	3.21	23	*e*S	Sn	06 00 27.5	-0.3
SLBI	Saint Lucia, B	3.49	21	*e*P	Pn	05 59 55.4	+1.7
SLBI				*e*S	Sn	06 00 33.7	-0.7
TACV	Tcata	4.74	263	*e*P	Pn	06 00 12.2	+1.6
TACV				*e*S	Sn	06 01 02.5	-2.1
LUEV	Luepa	4.94	171	*e*P	Pn	06 00 15.0	+1.6
LUEV				*e*S	Sn	06 01 06.9	-2.6
CACV	CAICARA DEL OR	5.29	234	*e*P	Pn	06 00 15.0	-3.0
CACV				*e*S	Sn	06 01 06.4	-11
BENV	Beln	5.32	262	*e*P	Pn	06 00 20.2	+1.7
BENV				*e*S	Sn	06 01 16.1	-2.6
BAUV	El Baul	5.98	253	*e*P	Pn	06 00 28.6	+1.2
BAUV				*e*S	Sn	06 01 31.4	-3.3
BAUV	El Baul	5.98	253	*e*P	Pn	06 00 29.9	+2.5
BAUV				*e*S	Sn	06 01 34.7	+0.1
MAPV	Macapo	6.18	262	*e*P	Pn	06 00 31.4	+1.3
MAPV				*e*S	Sn	06 01 36.1	-3.3
TEPV	Terepaima	6.88	264	*e*P	Pn	06 00 40.8	+1.3
TEPV				*e*S	Sn	06 01 51.7	-4.7

JMA ***22*** *06:05:54.9±1.3, 43°N±7°×14°9E±°, h30km, MV4.0/9, SE OFF ETOROFU*
SKHL ***22*** *06:05:55.7±0.4, 42°.90N×148°.90E, h57km±4km, mb4.6/3*
ISC 22 06:05:55.1±3.5, 42°.9N±0°.1×148°.9E±0°.2, h35km, n12,
σ0°92/22, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	1.78	304	*i* P	Pn	06 06 23.4	+0.1
SHO				AMB	AMB	06 06 23.5	
	60nm,0.2s						
SHO				*i* S	Sn	06 06 44.7	0.0
SHO				A	A	06 06 45.3	
	290nm,0.2s						
SHO				A	A	06 06 45.3	
	250nm,0.2s						
NEM2	Nemuro 2	2.34	282	P	Pn	06 06 31.3	+0.2
NEM2				*e*S	Sn	06 06 58.6	0.0
NMR	Nemuro--Hokkai	2.35	283	*i* P	Pn	06 06 31.5	+0.3
NMR				*i* S	Sn	06 06 58.7	-0.2
KUR	Kuril'sk	2.44	343	*e*P	Pn	06 06 32.2	-0.2
KUR				AMB	AMB	06 06 32.9	
	50nm,0.3s						
KUR				*e*S	Sn	06 07 00.9	-0.2
KUR				A	A	06 07 02.5	
	130nm,0.2s						
KUR				A	A	06 07 02.5	
	120nm,0.2s						
YUK	Yuzh-Kuril'sk	2.47	298	*e*P	Pn	06 06 33.3	+0.5
YUK				AMB	AMB	06 06 33.8	
	190nm,0.3s						
YUK				*e*S	Sn	06 07 01.5	-0.3
YUK				A	A	06 07 03.6	
	380nm,0.2s						
YUK				A	A	06 07 03.6	
	360nm,0.2s						
JRA	Rausu	2.93	292	*e*P	Pn	06 06 39.6	+0.5
JRA				*e*S	Sn	06 07 13.0	0.0
AKK	Akkeshi	2.97	274	*i* P	Pn	06 06 40.3	+0.7
AKK				*e*S	Sn	06 07 13.5	-0.5
JAK	Akkeshi	3.07	273	P	Pn	06 06 41.7	+0.6
JAK				*e*S	Sn	06 07 15.7	-0.9
JAR	Ashorobuto	3.77	278	*e*S	Sn	06 07 33.1	-0.6
JTKR	Abashiri--Toko	3.78	288	*e*P	Pn	06 06 50.8	+0.1
JTKR				*e*S	Sn	06 07 35.3	+1.4
JCH	Churui	4.07	268	*e*P	Pn	06 06 56.1	+1.2
JCH				*e*S	Sn	06 07 38.2	-3.0
JNBK	Urakawa-nobuka	4.57	264	*e*P	Pn	06 07 02.1	+0.4

NEIC ***22*** *06:10:50.6±0.8, 6°.2S±0°.1×150°.17E±0°.09, h39km±20km, mb4.0/11, Error ellipse: s-maj=16.3km s-min=10.9km az=145.0*
IDC ***22*** *06:10:59.6±2.2, 6°.29S×149°.15E, h65km±17km, mb3.5/4, mbtmp3.9/6, MS3.2/11, Error ellipse: s-maj=51.9km s-min=12.3km az=125.0*
ISC 22 06:10:49.2±0.9, 6°.3S±0°.1×150°.1E±0°.1, h35km, n30,
σ2°70/16, mb3.7/4, MS3.3/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	2.93	45	Pn	Pn	06 11 33.0	-0.4
PMG	Port Moresby	4.25	223	P	Pn	06 11 54.3	+2.8
	135nm,0.6s,baz=42,slow=5.3,SNR=52						
PMG				S	Sn	06 12 36.4	-3.4
	474nm,0.8s,baz=66,slow=18,SNR=18						
PMG				LR	LR	06 13 15.1	
	comp=Z,61nm,19.8s,baz=326,slow=37						
COEN	Coen	10.21	221	Pn	Pn	06 13 14.9	+1.5
HNR	Honiara	10.25	108	LR	LR	06 17 00.2	
	comp=Z,64nm,21.0s,baz=292,slow=32						
CTA	Charters Tower	14.21	195	LR	LR	06 18 49.8	
	comp=Z,62nm,21.8s,baz=341,slow=34						
EIDS	Eidsvold	19.00	177	P	P	06 15 08.2	+0.2
EIDS				IAmb	IAmb	06 15 19.7	
	comp=Z,12nm,1.1s						
MTN	Manton Dam	19.79	249	P	Pn	06 15 18.1	-0.3
MTN				IAmb	IAmb	06 15 25.5	
	comp=Z,13nm,1.1s						
WB0	Warramunga Arr	20.30	227	P	P	06 15 23.1	+0.8
WB0				IAmb	IAmb	06 15 25.8	
	comp=Z,4.9nm,0.8s						
WR0	Warramunga Arr	20.32	227	P	Pn	06 15 24.3	-0.3
WR0				IAmb	IAmb	06 15 33.4	
	comp=Z,5.0nm,0.8s						
WRAB	Tennant Creek	20.44	227	P	Pn	06 15 25.7	-0.4
WRAB				IAmb	IAmb	06 15 41.5	
	comp=Z,5.7nm,0.8s						
WB2	Warramunga Arr	20.45	227	P	Pn	06 15 25.7	-0.4
WB2				IAmb	IAmb	06 15 39.9	
	comp=Z,5.2nm,0.7s						
WRA	Warramunga Arr	20.45	227	P	Pn	06 15 25.2	-1.0
WRA	Warramunga Arr	20.45	227	P	Pn	06 15 25.6	-0.6
	comp=Z,3.2nm,0.6s,baz=51,slow=11,SNR=23						
WRA				S	S	06 19 04.5	-6.7
	comp=Z,0.8nm,0.8s,baz=50,slow=24,SNR=1.9						
DZM	Mont Dzumac	22.27	136	P	P	06 15 44.0	+0.5
DZM	Mont Dzumac	22.27	136	LR	LR	06 23 44.7	
	comp=Z,130nm,18.7s,baz=356,slow=33						
KNRA	Kununurra	22.90	244	P	P	06 15 51.5	+1.3
AS31	Alice Springs	23.25	220	P	P	06 15 55.0	+1.2
ASAR	Alice Springs	23.26	220	P	P	06 15 56.4	+2.6
	comp=Z,0.8nm,0.6s,baz=54,slow=9.0,SNR=14						
ASAR				S	S	06 20 00.0	-3.7
	comp=Z,1.0nm,0.9s,baz=38,slow=24,SNR=6.2						
ASAR				LR	LR	06 24 32.6	
	comp=Z,66nm,19.9s,baz=12,slow=36						
	comp=Z,0.8nm,0.6s						
FITZ	Fitzroy Crossi	26.58	242	P	P	06 16 25.5	+1.2
FITZ	Fitzroy Crossi	26.58	242	LR	LR	06 28 24.3	
	comp=Z,56nm,18.2s,baz=12,slow=40						
STKA	Stephens Creek	26.67	196	LR	LR	06 26 54.7	
	comp=Z,56nm,20.1s,baz=27,slow=36						
URZ	Urewera	40.16	146	LR	LR	06 33 22.1	
	comp=Z,41nm,18.3s,baz=56,slow=33						
NWAO	Narrogin (SRO)	40.43	225	LR	LR	06 36 03.1	
	comp=Z,65nm,20.1s,baz=296,slow=38						
PETK	Petropavlovsk-	59.52	5	P	P	06 20 56.1	+7.2
	comp=Z,4.6nm,0.9s,baz=149,slow=6.4,SNR=4.3						
	comp=Z,4.6nm,0.9s						
SONM	Songino Array	66.18	329	LR	LR	06 49 44.9	
	comp=Z,23nm,20.0s,baz=164,slow=35						
ZALV	Zalesovo Beam	80.91	327	LR	LR	06 57 15.6	
	comp=Z,19nm,21.9s,baz=320,slow=34						
QSPA	South Pole Qui	83.68	180	P	P	06 23 20.5	+6.2
	comp=Z,0.6nm,0.6s,baz=356,slow=8.3,SNR=2.2						
	comp=Z,0.6nm,0.6s						
ILAR	Eielson Array	84.55	23	P	P	06 23 25.9	+7.4
	comp=Z,0.3nm,0.7s,baz=258,slow=5.3,SNR=2.9						
	comp=Z,0.3nm,0.7s						
TORD	Torodi Ar. Bea	148.14	285	PKPbc	PKPab	06 30 36.7	+1.3
	comp=Z,1.3nm,0.6s,baz=58,slow=3.1,SNR=11						
BDFB	Brasilia	151.78	141	PKPbc	PKPab	06 30 50.0	-0.3
	comp=Z,2.4nm,0.5s,baz=278,slow=1.5,SNR=7.7						

IDC ***22*** *06:17:06.4±3.6, 18°.92S×169°.34E, h260km±64km, mb3.5/4, mbtmp4.1/6, Error ellipse: s-maj=139.3km s-min=17.5km az=155.0*
NEIC ***22*** *06:17:06.3±0.9, 19°.0S±0°.2×169°.37E±0°.08, h245km±14km, mb4.1/13, Error ellipse: s-maj=31.2km s-min=5.4km az=160.0*
NOU ***22*** *06:17:12.6, 19°.02S×169°.06E, h145km, MLv3.8/9, Vanuatu Islands*
ISC 22 06:17:05.9±0.8, 18°.83S±0°.09×169°.33E±0°.09, h246km, n33,
σ1°00/34, mb4.0/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	Devils Point	1.54	315	P	Pn	06 17 42.3	-1.9
MARNC	Mare, Loyalty	2.91	205	P	Pn	06 17 55.5	-1.6
YATNC	Mamie plateau,	3.95	215	P	Pn	06 18 07.1	-1.8
PINNC	Pines Island,	4.16	205	Pn	Pn	06 18 10.3	-1.1
DZM	Mont Dzumac	4.21	219	P	Pn	06 18 11.0	-1.1
DZM	Mont Dzumac	4.21	219	P	Pn	06 18 11.6	-0.6
	12nm,0.4s,baz=57,slow=18,SNR=43						
DZM				S	S	06 19 05.1	+0.4
	19nm,0.7s,baz=108,slow=19,SNR=5.3						
DZM	Mont Dzumac	4.21	219	P	Pn	06 18 11.4	-0.7
OUENC	Ouen Island, N	4.27	213	P	Pn	06 18 12.6	-0.1
NOUC	Port Laguerre	4.32	221	P	Pn	06 18 13.1	-0.2
ONTNC	Ouen Toro	4.39	217		Pn	06 18 13.1	-1.1
ONTNC	Ouen Toro	4.39	217	P	Pn	06 18 13.9	-0.2
KOUNC	Koumac, New Ca	5.05	249		Pn	06 18 22.2	0.0
KOUNC	Koumac, New Ca	5.05	249	P	Pn	06 18 22.7	+0.5
MSVF	Nonsavu	8.36	84	Pn	Pn	06 19 03.6	-0.2
MSVF	Nonsavu	8.36	84	P	Pn	06 19 05.4	+1.6
	12nm,0.8s,baz=263,slow=12,SNR=9.1						
WB0	Warramunga Arr	32.95	263	P	P	06 23 17.4	-0.5
WB0				IAmb	IAmb	06 23 18.7	
	comp=Z,2.4nm,0.7s						
WB2	Warramunga Arr	32.98	262	P	P	06 23 17.3	-0.8
WRAB	Tennant Creek	32.98	262	P	P	06 23 17.6	-0.5
WRAB				IAmb	IAmb	06 23 45.1	
	12nm,0.8s,baz=263,slow=12,SNR=9.1						
WRA	Warramunga Arr	32.99	262	P	P	06 23 17.4	-0.8
WRA	Warramunga Arr	32.99	262	P	P	06 23 17.1	-1.1
	comp=Z,0.9nm,0.4s,baz=97,slow=8.1,SNR=11						
	comp=Z,0.9nm,0.4s						
AS31	Alice Springs	33.31	255	P	P	06 23 20.9	-0.1
ASAR	Alice Springs	33.31	255	P	P	06 23 20.5	-0.5
ASAR	Alice Springs	33.31	255	P	P	06 23 20.6	-0.4
	comp=Z,6.0nm,0.5s,baz=82,slow=8.8,SNR=112						
	comp=Z,6.0nm,0.5s						
MTN	Manton Dam	37.17	273	P	P	06 23 53.9	+0.1
FITZ	Fitzroy Crossi	41.37	264	P	P	06 24 28.7	+0.2
PSA00	Pilbara Seismi	46.37	258	P	P	06 25 08.3	+0.2
PSA00				IAmb	IAmb	06 25 32.8	
	comp=Z,8.8nm,0.9s						
MBWA	Marble Bar	46.52	258	P	P	06 25 09.4	+0.2
MBWA				IAmb	IAmb	06 25 25.4	
	comp=Z,16nm,1.1s						
K15K	Wolf Creek Mou	84.08	13	P	P	06 29 10.6	+1.9
J16K	Anvik River	85.16	13	P	P	06 29 15.7	+1.7
J16K				IAmb	IAmb	06 29 17.1	
	comp=Z,5.1nm,1.1s						
J18K	Innoko River	86.20	15	P	P	06 29 19.9	+0.8
J18K				IAmb	IAmb	06 29 41.5	
	comp=Z,2.7nm,1.1s						
SONM	Songino Array	86.94	323	P	P	06 29 23.6	+0.3
SONM	Songino Array	86.94	323	P	P	06 29 22.3	-0.9
	comp=Z,1.1nm,0.8s,baz=140,slow=5.0,SNR=6.5						
	comp=Z,1.1nm,0.8s						
ILAR	Eielson Array	89.81	17	P	P	06 29 34.6	-1.5
	comp=Z,0.3nm,0.6s,baz=234,slow=5.4,SNR=4.4						
	comp=Z,0.3nm,0.6s						

DNK ***22*** *06:56:30.1±3.5, 71°.28N×11°.39W, h36km±40km, ML1.8*
BER 22 06:56:30.3±0.4, 71°.57N×10°.56W, h3km±405km, ML2.0,
Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	Jan Mayen	0.88	137	*e*S	Sg	06 56 57.5	-0.9
JNW	Jan Mayen West	0.88	128	*e*P	Pg	06 56 46.1	-1.0
JNW				*e*S	Sg	06 56 57.5	-1.0
JNW				IAML		06 56 59.0	
	comp=Z,40nm,0.1s						
JMIC	Jan Mayen	0.89	131	*e*S	Sg	06 56

ULHL	**Ulahol**	**0.79**	**78**	⇓*e*P	**Pg**	**07 02 13.5**	**0.0**
ULHL				⇓*e*S	**Sb**	**07 02 24.6**	**-1.0**
FRU1	**Bishkek**	**0.83**	**330**	⇑*e*P	**Pb**	**07 02 15.3**	**-0.1**
FRU1				⇑*e*S	**Sb**	**07 02 27.5**	**+0.6**
TKM2	**Tokmak 2**	**0.88**	**19**	⇑P	**Pb**	**07 02 15.8**	**-0.4**
TKM2	39nm,0.1s,SNR=204			⇑S	**Sb**	**07 02 28.1**	**-0.2**
TKM2	**Tokmak 2**	**0.88**	**19**	⇓P	**Pb**	**07 02 15.7**	**-0.4**
TKM2	208nm,0.1s			⇑S	**Sg**	**07 02 27.5**	**+0.8**
TKM2	**Tokmak 2**	**0.88**	**19**	⇑*e*P	**Pb**	**07 02 15.8**	**-0.4**
TKM2	81nm,0.5s			⇑*e*S	**Sb**	**07 02 28.3**	**0.0**
NRN	**Naryn**	**0.89**	**138**	⇓*e*P	**Pg**	**07 02 14.4**	**-1.0**
NRN				⇓*e*S	**Sg**	**07 02 25.9**	**-1.0**
CHMS	**Chumysh**	**0.97**	**340**	⇑P	**Pb**	**07 02 17.5**	**-0.1**
CHMS	14nm,0.1s,SNR=32			⇑S	**Sb**	**07 02 30.3**	**-0.3**
CHMS	**Chumysh**	**0.97**	**340**	⇓P	**Pb**	**07 02 17.6**	**0.0**
CHMS	102nm,0.1s			⇓S	**Sb**	**07 02 30.3**	**-0.3**
CHMS	**Chumysh**	**0.97**	**340**	⇑*e*P	**Pb**	**07 02 17.2**	**-0.4**
CHMS	2.9nm,0.2s			⇑*e*S	**Sb**	**07 02 30.8**	**+0.1**
KST	**Kastek**	**1.10**	**30**	P	**Pb**	**07 02 19.9**	**-0.1**
KST	18nm,0.1s			S	**Sb**	**07 02 34.9**	**+0.2**
KST	**Kastek**	**1.10**	**30**	*e*P	**Pb**	**07 02 19.9**	**-0.1**
KST	18nm,0.1s			*e*S	**Sb**	**07 02 34.9**	**+0.2**
KST	**Kastek**	**1.10**	**30**	*e*P	**Pb**	**07 02 19.9**	**-0.1**
KST	105nm,0.3s			*e*S	**Sb**	**07 02 34.9**	**+0.2**
AML	**Almayashu**	**1.12**	**273**	⇓P	**Pg**	**07 02 19.8**	**-0.1**
AML	14nm,0.1s,SNR=54			⇑S	**Sb**	**07 02 35.0**	**-0.5**
AML	**Almayashu**	**1.12**	**273**	⇓*e*P	**Pg**	**07 02 19.5**	**-0.5**
AML	130nm,0.2s			⇓*e*S	**Sg**	**07 02 34.5**	**-0.1**
EKS2	**Erkin-Say**	**1.20**	**299**	⇑P	**Pb**	**07 02 21.4**	**-0.2**
EKS2	13nm,0.1s,SNR=11			⇓S	**Sn**	**07 02 38.3**	**-0.3**
EKS2	**Erkin-Say**	**1.20**	**299**	⇑*e*P	**Pg**	**07 02 21.1**	**-0.3**
EKS2	48nm,0.2s			⇑*e*S	**Sb**	**07 02 37.4**	**-0.1**
DGS	**Degeres**	**1.23**	**20**	P	**Pn**	**07 02 22.2**	**0.0**
DGS	23nm,0.1s			S	**Sn**	**07 02 38.9**	**-0.2**
DGS	**Degeres**	**1.23**	**20**	*e*P	**Pn**	**07 02 22.2**	**0.0**
DGS	73nm,0.3s			*e*S	**Sn**	**07 02 38.9**	**-0.2**
DGS	**Degeres**	**1.23**	**20**	*e*P	**Pn**	**07 02 22.2**	**0.0**
DGS	22nm,0.1s			*e*S	**Sn**	**07 02 38.9**	**-0.2**
DGS	**Degeres**	**1.23**	**20**	*e*P	**Pn**	**07 02 22.2**	**0.0**
DGS	108nm,0.2s			*e*S	**Sn**	**07 02 38.9**	**-0.2**
USP	**Ospenovka**	**1.28**	**336**	⇑P	**Pg**	**07 02 23.2**	**+0.2**
USP	13nm,0.1s,SNR=14			⇓S	**Sn**	**07 02 40.3**	**-0.2**
USP	**Ospenovka**	**1.28**	**336**	⇓*e*P	**Pg**	**07 02 22.9**	**-0.1**
USP	65nm,0.1s			⇓*e*S	**Sn**	**07 02 40.5**	**0.0**
MTBS	**Maitube**	**1.38**	**41**	P	**Pg**	**07 02 24.9**	**+0.1**
MTBS	25nm,0.3s			S	**Sn**	**07 02 43.4**	**+0.6**
MTBS	**Maitube**	**1.38**	**41**	*e*P	**Pg**	**07 02 24.9**	**+0.1**
MTBS	104nm,0.4s			*e*S	**Sn**	**07 02 43.4**	**+0.6**
MTBS	**Maitube**	**1.38**	**41**	*e*P	**Pg**	**07 02 24.9**	**+0.1**
MTBS	15nm,0.2s			*e*S	**Sn**	**07 02 43.5**	**+0.6**
KDJ	**Kajisay**	**1.47**	**88**	⇑*e*P	**Pb**	**07 02 25.7**	**-0.5**
KDJ	104nm,0.2s			⇑*e*S	**Sg**	**07 02 45.5**	**-0.1**
SALK	**Salom-Alik**	**1.59**	**221**	⇓*e*P	**Pn**	**07 02 27.1**	**-0.2**
SALK	22nm,0.2s			⇓*e*S	**Sn**	**07 02 47.8**	**-0.4**
TNSS	**Tian-Shan**	**1.60**	**53**	P	**Pg**	**07 02 28.6**	**-0.4**
TNSS	40nm,0.1s			S	**Sg**	**07 02 49.9**	**+0.2**
TNSS	**Tian-Shan**	**1.60**	**53**	*e*P	**Pg**	**07 02 28.6**	**-0.4**
TNSS	22nm,0.2s			*e*S	**Sg**	**07 02 49.9**	**+0.2**
TNSS	**Tian-Shan**	**1.60**	**53**	*e*P	**Pg**	**07 02 28.6**	**-0.4**
TNSS	40nm,0.2s			*e*S	**Sg**	**07 02 49.9**	**+0.2**
MRKS	**Merke**	**1.60**	**295**	P	**Pb**	**07 02 28.1**	**-0.4**
MRKS	7.0nm,0.1s			S	**Sb**	**07 02 49.0**	**0.0**
MRKS	**Merke**	**1.60**	**295**	*e*P	**Pb**	**07 02 28.1**	**-0.4**
MRKS	7.0nm,0.2s			*e*S	**Sb**	**07 02 49.0**	**0.0**
MRKS	**Merke**	**1.60**	**295**	*e*P	**Pb**	**07 02 28.1**	**-0.4**
MRKS	43nm,0.3s			*e*S	**Sb**	**07 02 49.0**	**0.0**
AAA	**Alma-Ata**	**1.69**	**48**	P	**Pg**	**07 02 30.5**	**-0.1**
AAA	38nm,0.2s			S	**Sg**	**07 02 53.0**	**+0.5**
AAA	**Alma-Ata**	**1.69**	**48**	*e*P	**Pg**	**07 02 30.5**	**-0.1**
AAA	38nm,0.2s			*e*S	**Sg**	**07 02 53.0**	**+0.5**
AAA	**Alma-Ata**	**1.69**	**48**	*e*P	**Pg**	**07 02 30.5**	**-0.1**
AAA	86nm,0.3s			*e*S	**Sg**	**07 02 53.0**	**+0.5**
KNDC	**Almaty**	**1.72**	**48**	⇑Sn	**Sg**	**07 02 54.7**	**+1.1**
MDOK	65nm,0.5s			Pg	**Pg**	**07 02 30.0**	**-0.7**
MDOK	**Medeo**	**1.73**	**51**	⇓Pn	**Pb**	**07 02 30.0**	**-0.7**
MDOK	5.8nm,0.4s			Pg	**Pg**	**07 02 31.0**	**-0.6**
MDOK	12nm,0.2s			⇓Sn	**Sg**	**07 02 54.1**	**0.0**
MDOK	27nm,0.5s			Lg	Lg	07 02 54.2	
MDOK	**Medeo**	**1.73**	**51**	*e*P	**Pg**	**07 02 31.0**	**-0.6**
MDOK	37nm,0.3s			*e*S	**Sg**	**07 02 54.2**	**+0.2**
MDOK	**Medeo**	**1.73**	**51**	*e*P	**Pg**	**07 02 31.0**	**-0.6**
MDOK	12nm,0.2s			*e*S	**Sg**	**07 02 54.2**	**+0.2**
KOTS	**Kotyrbulak**	**1.81**	**50**	P	**Pg**	**07 02 32.6**	**-0.4**
KOTS	19nm,0.3s			S	**Sg**	**07 02 56.7**	**+0.1**
KOTS	**Kotyrbulak**	**1.81**	**50**	*e*P	**Pg**	**07 02 32.6**	**-0.4**
KOTS	115nm,0.2s			*e*S	**Sg**	**07 02 56.7**	**+0.1**
KOTS	**Kotyrbulak**	**1.81**	**50**	*e*P	**Pg**	**07 02 32.7**	**-0.4**
KOTS	19nm,0.3s			*e*S	**Sg**	**07 02 56.7**	**+0.1**
ARSB	**Arslanbob**	**1.83**	**246**	⇑*e*P	**Pn**	**07 02 30.9**	**+0.4**
ARSB	97nm,0.2s			⇑*e*S	**Sb**	**07 02 54.6**	**-1.0**
ANVS	**Anan'yevo**	**1.95**	**68**	⇓*e*P	**Pb**	**07 02 33.3**	**-1.1**
ANVS	15nm,0.1s			⇓*e*S	**Sb**	**07 02 58.7**	**-0.4**
KTBS	**Karatobe**	**1.95**	**33**	Pg	**Pg**	**07 02 35.0**	**-0.8**
KTBS	104nm,0.3s			Lg	Lg	07 03 00.5	
KTBS	**Karatobe**	**1.95**	**33**	*e*P	**Pg**	**07 02 35.0**	**-0.8**
KTBS	104nm,0.3s			*e*S	**Sg**	**07 03 00.5**	**-0.5**
KUU	**Kurty**	**1.98**	**24**	Pg	**Pb**	**07 02 35.3**	**+0.4**
KUU	94nm,0.2s			Lg	Lg	07 03 01.4	
KUU	**Kurty**	**1.98**	**24**	*e*P	**Pb**	**07 02 35.3**	**+0.4**
KUU	94nm,0.2s			*e*S	**Sg**	**07 03 01.4**	**-0.7**
MNAS	**Manas**	**2.04**	**282**	⇓*e*P	**Pn**	**07 02 34.4**	**+1.0**
MNAS	116nm,0.2s			⇓*e*S	**Sb**	**07 03 00.4**	**-1.3**
CHKK	**Chushkaly**	**2.19**	**36**	Pg	**Pb**	**07 02 39.0**	**+0.5**
CHKK	13nm,0.2s			Lg	Lg	07 03 07.5	
CHKK	**Chushkaly**	**2.19**	**36**	*e*P	**Pb**	**07 02 39.0**	**+0.5**
CHKK	13nm,0.2s			*e*S	**Sg**	**07 03 07.5**	**-1.4**
OHH	**Osh**	**2.40**	**230**	⇑*e*P	**Pn**	**07 02 38.7**	**+0.4**
OHH	116nm,0.2s			⇑*e*S	**Sn**	**07 03 07.9**	**-0.2**
PRZ	**Przheval'sk**	**2.40**	**80**	⇑*e*P	**Pn**	**07 02 39.9**	**+1.5**
PRZ				⇑*e*S	**Sb**	**07 03 10.0**	**-2.1**
ARK	**Arkit**	**2.44**	**264**	⇓*e*P	**Pn**	**07 02 39.6**	**+0.8**
ARK				⇓*e*S	**Sn**	**07 03 09.5**	**+0.5**
SFK	**Sufi-Kurgan**	**2.44**	**212**	⇑*e*P	**Pn**	**07 02 39.2**	**+0.2**
SFK				⇑*e*S	**Sn**	**07 03 09.3**	**0.0**
SATY	**Saty**	**2.56**	**67**	Pg	**Pb**	**07 02 45.3**	**+0.6**
SATY	6.0nm,0.2s			Lg	Lg	07 03 18.5	
SATY	**Saty**	**2.56**	**67**	*e*P	**Pb**	**07 02 45.3**	**+0.6**
SATY	6.0nm,0.2s			*e*S	**Sg**	**07 03 18.5**	**-1.9**
KURS	**Kuram**	**2.59**	**56**	Pg	**Pb**	**07 02 45.9**	**+0.7**
KURS	9.2nm,0.5s			Lg	Lg	07 03 19.8	
KURS	**Kuram**	**2.59**	**56**	*e*P	**Pb**	**07 02 45.9**	**+0.7**
KURS	9.2nm,0.5s			*e*S	**Sg**	**07 03 19.8**	**-1.8**
ZHN	**Zhinishke**	**2.62**	**65**	Pg	**Pb**	**07 02 46.5**	**+0.8**
ZHN	9.4nm,0.1s			Lg	Lg	07 03 20.5	
ZHN	**Zhinishke**	**2.62**	**65**	*e*P	**Pb**	**07 02 46.5**	**+0.8**
ZHN	9.4nm,0.1s			*e*S	**Sg**	**07 03 20.5**	**-1.9**
ARXS	**Arharly**	**2.86**	**41**	Pg	**Pb**	**07 02 51.0**	**+1.2**
ARXS	8.2nm,0.2s			Lg	Lg	07 03 28.2	
ARXS	**Arharly**	**2.86**	**41**	*e*P	**Pb**	**07 02 51.0**	**+1.2**
ARXS	8.2nm,0.2s			*e*S	**Sg**	**07 03 28.2**	**-2.0**
KPKS	**Kokpek**	**2.91**	**61**	Pg	**Pb**	**07 02 51.0**	**+0.3**
KPKS	9.1nm,0.2s			Lg	Lg	07 03 28.2	
KPKS	**Kokpek**	**2.91**	**61**	*e*P	**Pb**	**07 02 51.0**	**+0.3**
KPKS	9.1nm,0.2s			*e*S	**Sb**	**07 03 28.2**	**+1.7**
UZB	**Uzynbulak**	**3.01**	**68**	Pg	**Pb**	**07 02 53.4**	**+1.0**
UZB	5.5nm,0.2s			Lg	Lg	07 03 32.3	
UZB	**Uzynbulak**	**3.01**	**68**	*e*P	**Pb**	**07 02 53.4**	**+1.0**
UZB	5.5nm,0.2s			*e*S	**Sg**	**07 03 32.3**	**-2.7**
BTLS	**Baital**	**3.07**	**344**	Pg	**Pb**	**07 02 54.8**	**+1.4**
BTLS	1.6nm,0.2s			Lg	Lg	07 03 34.8	
BTLS	**Baital**	**3.07**	**344**	*e*P	**Pb**	**07 02 54.8**	**+1.4**
BTLS	1.6nm,0.2s			*e*S	**Sg**	**07 03 34.8**	**-2.1**
TRKS	**Terek-Say**	**3.09**	**261**	⇑*e*P	**Pn**	**07 02 48.2**	**+0.4**
TRKS				⇑*e*S	**Sn**	**07 03 24.7**	**-0.5**
BLB	**Baldybastay**	**3.13**	**49**	Pg	**Pb**	**07 02 55.4**	**+0.9**
BLB	41nm,0.3s			Lg	Lg	07 03 36.0	
BLB	**Baldybastay**	**3.13**	**49**	*e*P	**Pb**	**07 02 55.4**	**+0.9**
BLB	48nm,0.2s			*e*S	**Sb**	**07 03 36.0**	**+1.7**
SHLS	**Shalkode**	**3.32**	**70**	Pg	**Pg**	**07 03 04.2**	**+2.3**
SHLS	5.0nm,0.2s			Lg	Lg	07 03 50.9	
SHLS	**Shalkode**	**3.32**	**70**	*e*P	**Pg**	**07 03 04.2**	**+2.3**
SHLS	25nm,0.3s			*e*S	**Sg**	**07 03 51.0**	**+6.0**
PDGK	**Podgornoye**	**3.39**	**67**	⇑Lg	Lg	07 03 47.7	
KK31	35nm,1.0s						
KK31	**Karatay Array**	**3.61**	**288**	⇑Pg	**Pg**	**07 03 05.7**	**-1.8**
KK31	2.6nm,0.6s,baz=117,slow=16,SNR=8.3			⇑Lg	Lg	07 03 53.7	
KKAR	**Karatay Array**	**3.61**	**288**	⇓*e*P	**Pn**	**07 02 56.1**	**+1.2**
KKAR	3.0nm,0.3s,baz=104,slow=27,SNR=9.8			⇓*e*S	**Sn**	**07 03 38.1**	**+0.3**
KNOS	**Konyrlen**	**3.69**	**51**	Pg	**Pb**	**07 03 05.9**	**+2.0**
KNOS	14nm,0.6s			Lg	Lg	07 03 53.7	
IUG	**Iuzhnay**	**3.85**	**273**	Pg	**Pb**	**07 03 07.2**	**+0.5**
IUG	7.8nm,0.2s			Lg	Lg	07 03 56.1	
IUG	**Iuzhnay**	**3.85**	**273**	*e*P	**Pb**	**07 03 07.2**	**+0.5**
IUG	6.7nm,0.2s			*e*S	**Sb**	**07 03 56.1**	**+2.5**
DJR	**Jarkent**	**4.03**	**55**	Pg	**Pb**	**07 03 12.2**	**+2.4**
DJR	5.3nm,0.3s			Lg	Lg	07 04 04.3	
DJR	**Jarkent**	**4.03**	**55**	*e*P	**Pb**	**07 03 12.2**	**+2.4**
DJR	14nm,0.3s			*e*S	**Sg**	**07 04 04.3**	**-3.5**
KAPS	**Kapalarasan**	**4.39**	**42**	Pg	**Pg**	**07 03 19.4**	**-3.0**
KAPS	6.7nm,0.4s			Lg	Lg	07 04 16.6	
KAPS	**Kapalarasan**	**4.39**	**42**	*e*P	**Pg**	**07 03 19.4**	**-3.0**
KAPS	6.7nm,0.4s			*e*S	**Sg**	**07 04 16.6**	**-2.6**
KUR04	**Kurchatov Arra**	**0.65**	**4**	⇑P	**Pb**	**07 34 24.1**	**+0.3**
KUR04				⇑S	**Sb**	**07 34 33.2**	**-0.1**
KURK	**Kurchatov**	**0.70**	**8**	⇑P	**Pb**	**07 34 25.0**	**+0.2**
KURK	18nm,0.9s			⇑S	**Sb**	**07 34 34.8**	**-0.2**
SEM	**Semipalatinsk**	**1.21**	**70**	P	**Pg**	**07 34 32.9**	**+0.1**
SEM	7.0nm,0.1s			S	**Sg**	**07 34 47.2**	**-1.2**
MAKZ	**Makanchi**	**3.97**	**143**	⇑Lg	Lg	07 36 13.7	
MK31	12nm,0.8s						
MK31	**Makanchi Array**	**4.11**	**140**	⇑Pn	**Pn**	**07 35 14.0**	**+0.3**
MK31	0.1nm,0.1s,baz=322,slow=9.9,SNR=7.2			⇑Pg	**Pb**	**07 35 23.9**	**+1.1**
MK31	1.2nm,0.5s,baz=336,slow=12,SNR=7.3			Lg	Lg	07 36 17.3	
MKAR	**Makanchi Array**	**4.11**	**140**	Pn	**Pn**	**07 35 15.7**	**+2.0**
MKAR	6.7nm,0.6s,baz=326,slow=26,SNR=19			Lg	Lg	07 36 18.4	
ZSN	**Zaisan**	**4.95**	**119**	Pg	**Pb**	**07 35 36.7**	**-0.5**
ZSN	0.1nm,0.3s,baz=322,slow=10,SNR=11			Lg	Lg	07 36 36.8	
ZALV	**Zalesovo Beam**	**5.55**	**42**	Pn	**Pn**	**07 35 33.6**	**+0.2**
ZALV	1.8nm,0.3s,baz=326,slow=27,SNR=16			Lg	Lg	07 37 04.7	
I46RU	**ZALESOVO INFRA**	**5.56**	**42**	I	I	08 04 40.0	
ARXS	0.5nm,0.6s						
ARXS	**Arharly**	**5.83**	**185**	Pg	**Pg**	**07 35 59.9**	**-1.2**
ARXS	0.1nm,1.5s,baz=223,slow=311,SNR=3.8			Lg	Lg	07 37 17.1	
BVAR	**Borovoye Array**	**5.87**	**304**	Lg	Lg	07 37 19.0	
BLB	1.5nm,0.1s						
BLB	**Baldybastay**	**5.92**	**180**	Pg	**Pg**	**07 36 01.8**	**-1.3**
BLB	8.0nm,0.3s			Lg	Lg	07 37 19.7	
KUU	**Kurty**	**6.30**	**194**	Pg	**Pg**	**07 36 09.8**	**-0.5**
KUU	7.6nm,0.3s			Lg	Lg	07 37 33.6	
KTBS	**Karatobe**	**6.43**	**192**	Pg	**Pg**	**07 36 12.6**	**-0.1**
KTBS	4.6nm,0.0s			Lg	Lg	07 37 38.4	
AAK	**Ala-Archa**	**7.88**	**202**	Lg	Lg	07 38 22.4	
	0.8nm,0.4s						
	5.3nm,0.5s						
	0.2nm,0.3s,baz=270,slow=21,SNR=4.2						

NAO ***22*** *07:34:15.2, 37.°30N×17.°66E, h33km, mb3.3*
ROM ***22*** *07:35:08.6±0.6, 40.°11N±0.°02×14.°46E±0.°07, h442km±4km, ML3.7/37, Error ellipse: s-maj=5.3km s-min=2.3km az=91.0*
NEIC ***22*** *07:35:14.7±1.7, 40.°36N±0.°08×13.°99E±0.°07, h386km±9km, mb4.0/13, Error ellipse: s-maj=12.9km s-min=4.8km az=149.0*
IDC ***22*** *07:35:15.1±1.4, 40.°39N×13.°92E, h400km±18km, mb3.1/11, mbtmp3.9/20, Error ellipse: s-maj=15.6km s-min=14.5km az=153.0*
VIE ***22*** *07:35:18.6, 40.°50N×14.°09E, h422km, mb3.2/7*

ISC 22 07:35:14.6±0.6, 40.°30N±0.°07×14.°07E±0.°06, h394km±7km, n104, σ1°01/109, mb3.7/16, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMPR	**Campora**	**0.94**	**88**	P	**Pn**	**07 36 05.3**	**+0.4**
CDRU	**Civita di Ruta**	**0.96**	**78**	P	**Pn**	**07 36 05.8**	**+0.7**
NSC3	**Nusco**	**0.97**	**55**	P	**Pn**	**07 36 05.7**	**+0.6**
BULG	**Bulgheria - Ca**	**1.02**	**102**	P	**Pn**	**07 36 06.0**	**+0.7**
SNAL	**S. Angelo Dei**	**1.07**	**54**	P	**Pn**	**07 36 08.0**	**+2.7**
SGG	**Gregorio Mates**	**1.11**	**12**	P	**Pn**	**07 36 09.0**	**+3.5**
VAGA	**Valle Agricola**	**1.13**	**6**	P	**Pn**	**07 36 09.6**	**+4.1**
MGR	**Morigerati**	**1.15**	**97**	P	**Pn**	**07 36 06.2**	**+0.6**
CAFE	**Carife**	**1.15**	**50**	P	**Pn**	**07 36 06.7**	**+1.0**
SLCN	**Sala Consilina**	**1.20**	**85**	P	**Pn**	**07 36 06.7**	**+0.8**
MTSN	**Montesano sull**	**1.29**	**91**	P	**Pn**	**07 36 06.6**	**+0.3**
MCEL	**Monticello**	**1.32**	**88**	P	**Pn**	**07 36 07.1**	**+0.6**
CUC	**Castrocucco**	**1.37**	**102**		**Pn**	**07 36 06.6**	**0.0**
CUC	**Castrocucco**	**1.37**	**102**	P	**Pn**	**07 36 06.9**	**+0.3**
SIRI	**Monte Sirino -**	**1.38**	**94**	P	**Pn**	**07 36 06.9**	**+0.2**
MMN	**Mormanno**	**1.53**	**105**	P	**Pn**	**07 36 07.6**	**+0.4**
CET2	**Cetraro**	**1.64**	**117**	P	**Pn**	**07 36 08.1**	**+0.1**
CET2	comp=E,138μm,0.9s			AML	AML		
CET2	comp=N,240μm,0.5s			AML	AML		
CET2	comp=E,99μm,1.1s			AML	AML		
CET2	comp=N,108μm,1.6s			AML	AML		
CET2	comp=E,137μm,0.9s			AML	AML		
CET2	comp=N,240μm,0.5s			AML	AML		
SALB	**San Lorenzo Be**	**1.79**	**103**	P	**Pn**	**07 36 09.0**	**+0.1**
TDS	**Terranova Siba**	**1.85**	**109**	P	**Pn**	**07 36 09.8**	**+0.7**
TDS	comp=E,39μm,1.1s			AML	AML		
TDS	comp=N,47μm,1.2s			AML	AML		
TDS	comp=E,24μm,6.3s			AML	AML		
TDS	comp=E,39μm,1.0s			AML	AML		
TDS	comp=N,47μm,1.2s			AML	AML		
CAR1	**CAROLEI**	**1.95**	**122**	P	**Pn**	**07 36 09.5**	**-0.3**
CAR1				S	**S**	**07 36 55.4**	**+1.0**
CAR1	comp=E,181μm,0.5s			AML	AML		
CAR1	comp=N,144μm,1.0s			AML	AML		
CAR1	comp=N,80μm,3.4s			AML	AML		
CAR1	comp=N,167μm,0.9s			AML	AML		
CAR1	comp=N,220μm,1.0s			AML	AML		
CAR1	comp=E,181μm,0.5s			AML	AML		
CAR1	comp=N,143μm,0.8s			AML	AML		
CAR1	comp=E,190μm,0.7s			AML	AML		
SPS2	**Spezzano della**	**2.01**	**119**	P	**Pn**	**07 36 10.0**	**-0.2**
SPS2	comp=E,36μm,0.4s			AML	AML		
SPS2	comp=N,36μm,0.4s			AML	AML		
SPS2	comp=E,36μm,0.4s			AML	AML		
SPS2	comp=N,36μm,0.4s			AML	AML		
VPL	**Vulcano Piano**	**2.04**	**159**	P	**Pn**	**07 36 11.5**	**+1.1**
JOPP	**Joppolo**	**2.19**	**140**	P	**Pn**	**07 36 10.8**	**-0.5**
JOPP				S	**S**	**07 36 57.0**	**-0.2**
JOPP	comp=E,145μm,0.9s			AML	AML		
JOPP	comp=N,225μm,0.5s			AML	AML		
JOPP	comp=E,41μm,0.9s			AML	AML		
JOPP	comp=N,73μm,2.8s			AML	AML		
JOPP	comp=N,225μm,0.5s			AML	AML		
JOPP	comp=E,112μm,0.5s			AML	AML		
PIPA	**Pietrapaola**	**2.26**	**110**	P	**Pn**	**07 36 11.8**	**0.0**
CAMP	**Campotosto**	**2.29**	**348**	Pn	**Pn**	**07 36 11.4**	**-0.6**
PLLN	**Pollina**	**2.30**	**179**	P	**Pn**	**07 36 12.4**	**+0.3**
MSRU	**Castanea**	**2.32**	**151**	P	**Pn**	**07 36 11.6**	**-0.6**
MSRU				S	**S**	**07 36 58.1**	**-0.6**
MSRU	comp=E,223μm,1.6s			AML	AML		
MSRU	comp=N,119μm,3.2s			AML	AML		
MSRU				AML	AML		

IDC 22 07:09:11.9±2.6, 5.°33S×151.°97E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=195.7km s-min=29.8km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.48**	**228**	P	P	07 14 13.4	+0.3
	0.4nm,0.8s,baz=54,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**25.20**	**222**	P	P	07 14 39.5	-0.1
	0.8nm,0.9s,baz=56,slow=9.6,SNR=7.7						
ILAR	**Eielson Array**	**82.96**	**22**	P	P	07 21 38.9	+0.3
	0.8nm,0.9s						
	1.0nm,1.0s,baz=252,slow=5.2,SNR=5.7						
TORD	**Torodi Ar. Bea**	**149.68**	**287**	PKPbc	PKPbc	07 29 03.7	-1.1
	1.0nm,1.0s						
	0.1nm,0.5s,baz=83,slow=3.3,SNR=1.2						

NNC ***22*** *07:34:11.5±0.4, 50.°02N×78.°69E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=4.5km s-min=1.9km az=67.0, Suspected Mining explosion.*
IDC ***22*** *07:34:11.4±1.3, 50.°01N×78.°58E, h0km, mbtmp2.8/2, ML2.1/2, Error ellipse: s-maj=15.0km s-min=7.9km az=70.0*

ISC 22 07:34:09.6±1.0, 50.°02N±0.°03×78.°47E±0.°06, h0km, n24, σ0°67/32, 18C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.57**	**3**	⇑P	**Pb**	**07 34 22.7**	**+0.3**
KUR07				⇓S	**Sb**	**07 34 31.5**	**+0.4**
KUR06	**Kurchatov Arra**	**0.59**	**3**	⇓P	**Pb**	**07 34 22.9**	**+0.1**
KUR06				⇑S	**Sb**	**07 34 32.1**	**+0.5**
KUR14	**Kurchatov Arra**	**0.60**	**7**	⇑P	**Pb**	**07 34 22.8**	**-0.2**
KUR14				⇑S	**Sb**	**07 34 31.3**	**-0.7**
KUR15	**Kurchatov Arra**	**0.60**	**6**	⇓P	**Pb**	**07 34 23.1**	**+0.1**
KUR15				⇓S	**Sb**	**07 34 31.7**	**-0.4**
KURBB	**Kurchatov Arra**	**0.61**	**4**	⇑P	**Pb**	**07 34 23.3**	**+0.2**
KURBB	17nm,0.6s			⇑S	**Sb**	**07 34 32.6**	**+0.4**
KURBB	**Kurchatov Arra**	**0.61**	**4**	Pg	**Pb**	**07 34 23.4**	**+0.3**
KURBB	115nm,0.7s			Lg	Lg	07 34 32.4	
KUR16	**Kurchatov Arra**	**0.61**	**2**	⇑P	**Pb**	**07 34 23.4**	**+0.2**
KUR16				⇑S	**Sb**	**07 34 32.2**	**-0.1**
KUR17	**Kurchatov Arra**	**0.61**	**360**	⇓P	**Pb**	**07 34 23.8**	**+0.6**
KUR17				⇑S	**Sb**	**07 34 32.8**	**+0.4**
KUR05	**Kurchatov Arra**	**0.63**	**4**	⇑P	**Pb**	**07 34 23.6**	**+0.2**
KUR05				⇑S	**Sb**	**07 34 32.5**	**-0.2**

comp=E,294μm,0.6s
MSRU AML AML
comp=N,215μm,0.4s
MUCR Ucria 2.33 164 P **Pn 07 36 11.7 -0.8**
MUCR AML AML
comp=N,87μm,0.5s
GRI Girifalco 2.34 128 P **Pn 07 36 12.4 0.0**
CSLB Castelbuono 2.35 180 P **Pn 07 36 12.1 -0.4**
CSLB AML AML
comp=N,35μm,0.7s
CSLB AML AML
comp=E,31μm,0.5s
TIP Timpagrande 2.35 117 **Pn 07 36 12.0 -0.5**
TIP Timpagrande 2.35 117 P **Pn 07 36 12.1 -0.4**
TIP S **S 07 36 56.7 -2.5**
NOV Novara 2.41 160 P **Pn 07 36 13.2 +0.2**
NOV AML AML
comp=E,635μm,0.7s
NOV AML AML
comp=N,732μm,0.7s
NOV AML AML
comp=E,533μm,0.7s
NOV AML AML
comp=N,642μm,0.5s
LADO San Nicola del 2.46 113 P **Pn 07 36 12.8 -0.4**
CEL Celeste 2.48 145 **Pn 07 36 12.0 -1.4**
CEL Celeste 2.48 145 P **Pn 07 36 12.4 -1.0**
CEL S **S 07 36 58.5 -2.4**
CEL AML AML
comp=E,158μm,1.1s
CEL AML AML
comp=N,120μm,0.5s
CEL AML AML
comp=E,136μm,1.4s
AIO Antillo 2.49 158 P **Pn 07 36 13.6 +0.1**
AIO S **S 07 37 02.1 +1.0**
AIO AML AML
comp=E,120μm,0.9s
AIO AML AML
comp=N,182μm,0.4s
AIO AML AML
comp=N,183μm,0.4s
AIO AML AML
comp=E,120μm,0.9s
EPZF Pizzo Felice 2.54 166 P **Pn 07 36 14.6 +0.6**
EPZF AML AML
comp=E,207μm,0.7s
EPZF AML AML
comp=N,261μm,0.5s
PLAC Placanica 2.60 134 P **Pn 07 36 13.5 -0.8**
PLAC AML AML
comp=E,119μm,0.3s
PLAC AML AML
comp=E,167μm,0.4s
PLAC AML AML
comp=N,170μm,0.5s
MTGR Montagna Grand 2.61 203 AML AML
comp=N,12300μm,1.4s
MTGR AML AML
comp=E,17500μm,1.5s
GALF Gagliano Caste 2.61 171 P **Pn 07 36 14.8 +0.4**
GALF AML AML
comp=E,59μm,0.5s
GALF AML AML
comp=N,80μm,0.7s
GALF AML AML
comp=N,80μm,0.7s
GALF AML AML
comp=E,136μm,0.9s
GALF AML AML
comp=E,59μm,0.5s
GALF AML AML
comp=N,135μm,0.7s
MTTG Motta San Giov 2.62 151 P **Pn 07 36 14.2 -0.2**
MTTG AML AML
comp=E,99μm,1.1s
MTTG AML AML
comp=N,171μm,0.6s
SOI Samo 2.70 145 P **Pn 07 36 13.9 -1.1**
SOI AML AML
comp=E,90μm,2.3s
SOI AML AML
comp=N,87μm,5.1s
SOI AML AML
comp=E,90μm,0.5s
SOI AML AML
comp=N,100μm,0.3s
FDMO Fiordimonte 2.84 345 Pn **Pn 07 36 16.6 +0.7**
RAFF Raffo Rosso 3.08 176 **Pn 07 36 17.5 -0.6**
SCTE Santa Cesarea 3.38 92 **Pn 07 36 20.6 +0.1**
CASP Castiglione de 3.46 317 Pn **Pn 07 36 21.1 -0.1**
VSL Villasalto 3.70 259 **Pn 07 36 23.5 0.0**
KEK Kerkira 4.44 96 Pn **Pn 07 36 31.4 +0.8**
PUK Puka 4.73 66 Pn **Pn 07 36 34.7 +1.2**
TEOL Teolo 5.36 342 Pn **Pn 07 36 38.4 -1.5**
FNA Florina 5.59 83 **Pn 07 36 44.1 +1.6**
KEST Kesra 5.89 221 P **Pn 07 36 46.4 +0.5**
comp=N,10.0nm,0.5s,baz=41,slow=5.5,SNR=16
LIT Litokhoron 6.45 89 Pn **Pn 07 36 53.1 +1.2**
FUORN Ofenpass-Fuorn 6.90 338 Pn **Pn 07 36 55.8 -1.3**
TUE Stuetta 7.07 332 **Pn 07 36 57.2 -1.7**
FETA Feichten 7.15 341 *i* P **P 07 37 00.4 0.0**
comp=N,2.1nm,0.4s
DAVOX Davos/Dischmat 7.16 336 P **Pn 07 36 59.0 -1.0**
comp=N,3.0nm,0.5s,baz=176,slow=14,SNR=5.8
WTTA Wattenberg 7.18 347 *eP* **P 07 37 00.6 -0.3**
comp=N,6.1nm,0.4s
WATA Walderalm 7.26 346 *eP* **P 07 37 01.2 -0.5**
comp=N,6.3nm,0.5s
SENIN Lac Senin/Sane 7.82 323 **P 07 37 08.0 0.0**
GERES GERESS Array B 8.55 358 P **Pn 07 37 15.3 -0.4**
comp=N,0.7nm,0.4s,baz=160,slow=9.0,SNR=2.8
PSZ Piszkesteto 8.69 27 P **P 07 37 19.1 +1.4**
CEST Esterri de Car 9.89 288 P **P 07 37 31.2 0.0**
MLR Muntele Rosu 10.14 55 P **P 07 37 33.9 0.0**
MLR Muntele Rosu 10.14 55 P **Pn 07 37 34.4 +0.2**
comp=N,5.5nm,0.6s,baz=256,slow=19,SNR=6.3
ESBB Sonseca Array 13.84 273 P **P 07 38 16.4 +1.7**
ESDC Sonseca Array 13.85 273 P **P 07 38 14.7 0.0**
comp=N,2.0nm,0.6s,baz=75,slow=10,SNR=12
KIEV Kiev 14.83 40 P **P 07 38 25.2 +0.1**
AKASG Malin Array Be 14.84 40 P **P 07 38 24.4 -0.9**
AKASG Malin Array Be 14.84 40 P **P 07 38 25.1 -0.2**
comp=N,3.3nm,0.4s,baz=239,slow=9.4,SNR=39
AKBB Malin Array Si 14.84 40 P **P 07 38 25.1 -0.2**
BR131 Keskin Array S 15.01 86 P **P 07 38 28.3 +0.8**
BR131 IAmb IAmb 07 38 30.3
comp=Z,7.6nm,0.8s
BRTR Keskin Array B 15.01 86 P **P 07 38 29.1 +1.6**
BRTR Keskin Array B 15.01 86 P **Pn 07 38 29.6 -0.7**
comp=Z,4.5nm,0.7s,baz=272,slow=9.1,SNR=18
EKA Eskdalemuir Ar 18.90 328 P **P 07 39 06.7 -1.8**
comp=Z,1.2nm,0.3s,baz=143,slow=11,SNR=13
ESK Eskdalemuir 18.90 328 P **P 07 39 06.9 -1.7**
HFS Hagfors 19.86 359 P **P 07 39 16.8 -0.9**
comp=Z,2.6nm,0.4s,baz=180,slow=12,SNR=19
NB2 NORSAR Subarra 20.85 356 P **P 07 39 26.9 +0.1**
comp=Z,0.5nm,0.5s,baz=167,slow=10
NOA NORSAR Array B 20.85 356 P **P 07 39 26.1 -0.7**
comp=Z,0.3nm,0.5s,baz=180,slow=9.2,SNR=4.5
comp=Z,0.3nm,0.5s
NBO00 NORSAR Array S 20.86 355 P **P 07 39 26.6 -0.3**
NC405 NORSAR Array S 20.89 357 P **P 07 39 26.6 -0.6**
KBZ Khabaz 21.64 71 P **P 07 39 35.5 +1.3**
comp=Z,3.7nm,0.8s,baz=292,slow=12,SNR=7.0
comp=Z,3.7nm,0.8s
FINES FINESS Array B 22.42 15 P **P 07 39 40.7 -0.3**
FINES FINESS Array B 22.42 15 P **P 07 39 40.8 -0.2**
comp=Z,2.3nm,0.8s,baz=189,slow=8.0,SNR=8.5
comp=Z,2.3nm,0.8s
TORD Torodi Ar. Bea 29.15 205 P **P 07 40 41.8 +0.4**
comp=Z,0.2nm,0.6s,baz=21,slow=9.1,SNR=1.8
comp=Z,0.2nm,0.6s
AKTO Aktyubinsk 32.07 57 P **P 07 41 06.2 -0.2**
comp=Z,1.2nm,0.3s,baz=253,slow=5.5,SNR=4.7
comp=Z,1.2nm,0.3s
ABKAR Akbulak array 33.32 59 P **P 07 41 17.5 +0.4**
BRVK Borovoye 39.62 52 P **P 07 42 10.5 +1.0**
BRVK AMb AMb 07 42 11.5
comp=Z,5.3nm,0.6s
BVAR Borovoye Array 39.68 52 P **P 07 42 11.1 +1.0**
comp=Z,1.8nm,0.6s,baz=282,slow=7.3,SNR=8.5
comp=Z,1.8nm,0.6s
KURBB Kurchatov Arra 45.04 54 P **P 07 42 53.0 +0.3**
comp=Z,0.6nm,0.3s,baz=283,slow=9.8,SNR=5.3
comp=Z,0.6nm,0.3s
KURK Kurchatov 45.07 54 P **P 07 42 53.1 +0.1**
TARG Taragay, Kyrgy 47.12 66 P **P 07 43 10.7 +1.4**
ZALV Zalesovo Beam 48.04 49 P **P 07 43 15.8 +0.2**
comp=Z,1.3nm,0.3s,baz=288,slow=7.9,SNR=5.5
comp=Z,1.3nm,0.3s
MK31 Makanchi Array 48.47 58 P **P 07 43 18.9 -0.1**
MKAR Makanchi Array 48.47 58 P **P 07 43 19.0 0.0**
MKAR Makanchi Array 48.47 58 P **P 07 43 19.3 +0.3**
comp=Z,2.2nm,0.6s,baz=279,slow=7.0,SNR=15
comp=Z,2.2nm,0.6s
C27K Jago River 69.18 352 P **P 07 45 40.6 +1.3**
C27K IAmb IAmb 07 45 41.8
comp=Z,1.9nm,0.9s
E29M Blow River 69.62 349 P **P 07 45 42.8 +0.9**
E29M IAmb IAmb 07 46 04.0
comp=Z,4.8nm,1.5s
F31M Tsiigehtchic 69.84 347 P **P 07 45 44.0 +0.8**
F31M IAmb IAmb 07 46 24.6
comp=Z,6.1nm,1.5s
F28M Old Crow 70.62 350 P **P 07 45 48.7 +0.7**
F28M IAmb IAmb 07 45 58.4
comp=Z,3.9nm,1.4s
H29M Whitestone 71.71 349 P **P 07 45 55.1 +0.7**
H29M IAmb IAmb 07 46 04.4
comp=Z,5.7nm,1.2s
CMAR Chiang Mai Arr 74.48 79 P **P 07 46 10.8 -0.5**
comp=Z,1.0nm,0.3s,baz=307,slow=8.9,SNR=4.5
comp=Z,1.0nm,0.3s
PDAR Pinedale Array 82.88 322 P **P 07 46 56.0 -0.4**
comp=Z,0.3nm,0.5s,baz=28,slow=4.1,SNR=3.8
comp=Z,0.3nm,0.5s

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*SDD **22** 08:17:25.8±1.5, 19°.11N×71°.12W, h14km±38km, MD2.5, ML2.5, MW2.7*
*OSPL **22** 08:17:27.7±2.3, 19°.10N×71°.07W, h0km±12km, ML2.2*
ISC 22 08:17:23.5±1.1, 19°.24N±0°.03×71°.13W±0°.03, h13km±10km, n15, σ1§19/26, 8C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDDR	**Presa de Saban**	**0.30**	**210**	⇑*e*Pg	**Pb**	**08 17 30.8**	**0.0**
SDDR				⇑*e*Sg	**Sg**	**08 17 33.1**	**-0.8**
SDDR				IAML		08 17 38.2	
comp=N,356nm,0.6s							
SDDR	**Presa de Saban**	**0.30**	**210**	*i* P	**Pb**	**08 17 30.7**	**-0.1**
SDDR				*e*S	**Sb**	**08 17 34.5**	**-1.2**
SDDR				IAML		08 17 36.4	
comp=Z,288nm,0.2s							
SC01	**Santiago de lo**	**0.42**	**64**	*i* P	**Pn**	**08 17 35.0**	**-0.4**
SC01				*e*S	**Sb**	**08 17 41.9**	**+2.7**
SC01				IAML		08 17 48.2	
comp=Z,150nm,0.3s							
LODA1	**ITESIL, Dajabo**	**0.62**	**299**	*i* P	**Pb**	**08 17 36.0**	**-0.2**
LODA1				*e*S	**Sb**	**08 17 44.5**	**-0.4**
LODA1				IAML		08 17 45.6	
comp=Z,795nm,2.6s							
ABDR	**Alto Bandera**	**0.64**	**132**	⇑*e*Pg	**Pb**	**08 17 35.6**	**-1.2**
ABDR				⇑*e*Sg	**Sg**	**08 17 43.0**	**-1.6**
ABDR				IAML		08 17 44.4	
comp=N,168nm,0.2s							
LONE3	**El Aguacate, B**	**0.71**	**206**	*i* P	**Pn**	**08 17 38.1**	**-1.2**
LONE3				*e*S	**Sb**	**08 17 47.6**	**+0.1**
LONE3				IAML		08 17 51.0	
comp=Z,69nm,0.3s							
LODU1	**El Espartillar**	**0.94**	**200**	*i* P	**Pn**	**08 17 42.9**	**+0.4**
LODU1				IAML		08 17 58.2	
comp=Z,46nm,0.3s							
PODR	**Polo**	**1.08**	**188**	*i* P	**Pn**	**08 17 44.2**	**-0.3**
PODR				*e*S	**Sb**	**08 17 58.3**	**0.0**
PODR				IAML		08 18 06.0	
comp=Z,38nm,0.2s							
NADR	**Nagua**	**1.21**	**85**	⇑*e*Pg	**Pg**	**08 17 47.2**	**+0.4**
NADR				⇑*e*Sg	**Sn**	**08 18 03.5**	**+1.2**
NADR				IAML		08 18 07.5	
comp=N,164nm,0.3s							
PAPH	**Port-au-Prince**	**1.32**	**237**	*i* P	**Pg**	**08 17 50.1**	**+1.2**
PAPH				*e*S	**Sg**	**08 18 08.7**	**+2.5**
PAPH				IAML		08 18 11.9	
comp=Z,21nm,0.3s							
LOVI	**El Cajuil, Ovi**	**1.45**	**189**	*i* P	**Pg**	**08 17 52.0**	**+0.4**
LOVI				IAML		08 18 17.6	
comp=Z,50nm,1.0s							
LOBH	**Bahia de las A**	**1.46**	**200**	*i* P	**Pg**	**08 17 52.9**	**+1.3**
LOBH				IAML		08 18 16.4	
comp=Z,39nm,2.6s							
GRTK	**Grand Turk**	**2.26**	**360**	⇑*e*Pg	**Pg**	**08 18 07.3**	**+0.4**
GRTK				⇑*e*Sg	**Sg**	**08 18 36.1**	**-0.1**
GRTK				IAML		08 18 40.7	
comp=N,41nm,0.8s							
GRTK	**Grand Turk**	**2.26**	**360**	*e*S	**Sg**	**08 18 36.1**	**-0.1**
GRTK				IAML		08 18 40.8	
comp=Z,22nm,1.4s							
MASC	**Masc**	**3.07**	**288**	*i* P	**Pb**	**08 18 16.7**	**-1.3**
MASC				*e*S	**Sb**	**08 18 53.7**	**-1.6**
MASC				IAML		08 19 06.2	
comp=Z,8.3nm,0.8s							

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*IDC **22** 08:31:42.5±4.1, 29°.02S×68°.78W, h75km±34km, mb3.6/5, mbtmp3.8/8, Error ellipse: s-maj=32.2km s-min=26.9km az=71.0*
ISC 22 08:31:45.5±0.9, 28°.9S±0°.1×68°.6W±0°.1, h100km, n14, σ1§00/14, mb3.9/5, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**10.30**	**78**	P	**Pn**	**08 34 10.3**	**0.0**
1.4nm,0.5s,baz=251,slow=13,SNR=5.7							
LPAZ	**La Paz**	**12.57**	**2**	P	**Pn**	**08 34 41.4**	**+0.1**
0.5nm,0.4s,baz=215,slow=12,SNR=5.2							
SIV	**San Ignacio**	**14.60**	**30**	P	**Pn**	**08 35 05.7**	**-1.5**
0.4nm,0.3s,baz=229,slow=11,SNR=2.5							
QSPA	**South Pole Qui**	**61.31**	**180**	P	**P**	**08 41 50.0**	**-0.3**
1.5nm,0.9s,baz=183,slow=3.2,SNR=4.0							
1.5nm,0.9s							
TXAR	**Lajitas Array**	**66.92**	**327**	P	**P**	**08 42 26.3**	**-1.0**
0.3nm,0.6s,baz=148,slow=6.9,SNR=3.9							
0.3nm,0.6s							
DBIC	**Dimbokro**	**70.73**	**71**	P	**P**	**08 42 51.5**	**+0.4**
8.4nm,1.2s,baz=225,slow=2.9,SNR=1.9							
8.4nm,1.2s							
TORD	**Torodi Ar. Bea**	**79.65**	**69**	P	**P**	**08 43 43.1**	**+0.8**
1.3nm,0.7s,baz=276,slow=5.4,SNR=7.4							
1.3nm,0.7s							
PDAR	**Pinedale Array**	**80.68**	**331**	P	**P**	**08 43 48.2**	**+0.7**
0.3nm,0.7s,baz=138,slow=5.5,SNR=2.3							
0.3nm,0.7s							
ASAR	**Alice Springs**	**123.42**	**205**	PKP	**PKPdf**	**08 50 30.1**	**-1.4**
0.2nm,0.5s,baz=150,slow=1.5,SNR=5.4							
WRA	**Warramunga Arr**	**126.63**	**207**	PKP	**PKPdf**	**08 50 36.6**	**-1.1**
0.3nm,0.4s,baz=162,slow=1.8,SNR=11							
BVAR	**Borovoye Array**	**141.52**	**40**	PKhKP	PKPpre	08 51 00.7	
0.3nm,0.4s,baz=359,slow=8.6,SNR=1.9							
KURBB	**Kurchatov Arra**	**147.11**	**40**	PKPbc	**PKPbc**	**08 51 17.4**	**+1.0**
1.3nm,0.4s,baz=297,slow=3.5,SNR=2.2							
ZALV	**Zalesovo Beam**	**148.35**	**30**	PKPbc	**PKPbc**	**08 51 20.5**	**+0.8**
3.2nm,0.5s,baz=304,slow=3.3,SNR=14							
MKAR	**Makanchi Array**	**151.12**	**44**	PKPbc	**PKPbc**	**08 51 27.0**	**+0.2**
1.3nm,0.6s,baz=298,slow=1.9,SNR=9.8							
MKAR				PKPab	**PKPab**	**08 51 36.0**	**+1.2**
0.7nm,0.5s,baz=287,slow=5.0,SNR=4.9							

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*OSUNB **22** 08:37:11.1±0.4, 32°.84S×59°.43W, h0km, mb4.2/6, Error ellipse: s-maj=3.7km s-min=6.3km az=0.0*
*VAO **22** 08:37:13.6, 32°.79S×59°.19W, h0km±10km, mbR3.7*
ISC 22 08:37:12.0±1.1, 32°.83S±0°.06×59°.20W±0°.07, h10km, n18, σ2§04/29, Northeastern Argentina

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSAL	**Palomas, Salto**	**2.21**	**38**	*e*P	**Pn**	**08 37 51.0**	**+2.3**
PSAL				*e*S	**Sn**	**08 38 15.8**	**-0.2**
ITQB	**Itaqui**	**3.84**	**36**	*e*P	**Pn**	**08 38 13.3**	**+2.1**
ITQB				*e*S	**Sn**	**08 38 56.7**	**+0.3**
ITQB	**Itaqui**	**3.84**	**36**	P	**Pn**	**08 38 13.4**	**+2.1**
ITQB				S	**Sb**	**08 39 03.2**	**-3.3**
PLTB	**Pedras Altas**	**4.86**	**79**	*e*P	**Pn**	**08 38 25.5**	**+0.4**
PLTB				*e*S	**Sn**	**08 39 22.5**	**+1.0**
PLTB	**Pedras Altas**	**4.86**	**79**	P	**Pn**	**08 38 25.9**	**+0.8**
CPSB	**Cacapava Do Su**	**5.47**	**65**	*e*P	**Pn**	**08 38 35.1**	**+1.4**
CPSB				*e*S	**Sn**	**08 39 36.8**	**+0.1**
CPSB	**Cacapava Do Su**	**5.47**	**65**	P	**Pn**	**08 38 34.7**	**+1.0**
TRQA	**Tornquist**	**5.69**	**203**	P	**Pn**	**08 38 36.4**	**-0.1**
TRQA				S	**Sn**	**08 39 41.0**	**-0.9**
CPUP	**Villa Florida**	**6.68**	**15**	*e*P	**Pn**	**08 38 51.1**	**+1.0**
CPUP				*e*S	**Sn**	**08 40 04.6**	**-1.7**
CPUP	**Villa Florida**	**6.68**	**15**	P	**Pn**	**08 38 51.4**	**+1.2**
CPUP				S	**Sn**	**08 40 07.6**	**+1.2**
CNLB	**Canela**	**7.97**	**66**	*e*P	**Pn**	**08 39 08.9**	**+0.9**
CNLB				*e*S	**Sn**	**08 40 35.7**	**-2.5**
CNLB	**Canela**	**7.97**	**66**	P	**Pn**	**08 39 11.2**	**+3.3**
ITAB	**Concordia**	**8.28**	**50**	*e*P	**Pn**	**08 39 13.6**	**+1.4**
ITAB				*e*S	**Sn**	**08 40 44.2**	**-1.6**
ITAB	**Concordia**	**8.28**	**50**	P	**Pn**	**08 39 15.9**	**+3.8**
TER01	**Tubaro-SC**	**9.67**	**66**	P	**Pn**	**08 39 34.5**	**+3.3**
PTGB	**Pitanga**	**10.22**	**40**	P	**Pn**	**08 39 41.6**	**+2.7**
AMBA	**Amambai (Brazi**	**10.54**	**22**	*e*P	**Pn**	**08 39 45.6**	**+2.4**
AMBA				*e*S	**Sn**	**08 41 38.7**	**-2.7**
TIJ01	**Guaruva-PR**	**11.63**	**53**	P	**Pn**	**08 39 59.9**	**+1.6**

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*IDC **22** 08:48:44.6±0.7, 33°.69N×89°.21E, h0km, mb4.1/15, mbtmp4.1/19, ML3.4/2, MS3.4/13, Error ellipse: s-maj=25.5km s-min=13.6km az=52.0*
*BJI **22** 08:48:48.7, 33°.64N×89°.42E, h10km, mb4.0/8, ML3.6/2, Ms3.9/13, Ms7 3.7/13*
ISC 22 08:48:46.1±0.6, 33°.70N±0°.06×89°.29E±0°.07, h10km, n36, σ1§75/30, mb4.2/14, MS3.5/9, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.29**	**158**	Pg	**Pb**	**08 49 59.8**	**-2.2**
LSA				Sg	**Sb**	**08 50 57.4**	**+3.4**
LSA				LR	LR		
comp=N,1μm,9.9s							
LSA				LR	LR		
comp=Z,790nm,9.0s							
GOMU	**GeErMu**	**5.17**	**60**	Pg	**Pg**	**08 50 23.6**	**-1.6**
GOMU				LR	LR		
comp=N,2μm,5.0s							
GOMU				LR	LR		
comp=E,860nm,4.8s							
GOMU				LR	LR		
comp=Z,580nm,5.3s							
GTA	**Gaotai**	**10.20**	**53**	*e*P	**Pn**	**08 51 14.9**	**+2.2**
GTA				pmax	pmax		
comp=Z,2.0nm,1.2s							
GTA				LR	LR		
comp=N,280nm,11.6s							
GTA				LR	LR		
comp=E,240nm,10.9s							
GTA				LR	LR		
comp=Z,400nm,10.9s							
LZH	**Lanzhou**	**12.18**	**75**	*e*P	Pn	08 51 30.8	-9.1
LZH				sP		08 51 38.8	
LZH				pmax	pmax		
comp=Z,14nm,1.1s							
LZH				LR	LR		
comp=N,970nm,11.2s							
LZH				LR	LR		
comp=E,410nm,9.1s							
LZH				LR	LR		
comp=Z,460nm,11.5s							
PZH	**PanZhiHua**	**12.94**	**120**	P	**Pn**	**08 51 47.9**	**-2.3**
PZH				S	**Sn**	**08 54 10.9**	**-3.5**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,90nm,4.6s							
PZH				LR	LR		
comp=N,540nm,13.3s							
PZH				LR	LR		
comp=E,330nm,12.3s							
PZH				LR	LR		
comp=Z,340nm,13.9s							
MKAR	**Makanchi Array**	**14.12**	**340**	Pn	Pn	08 52 04.1	-2.0
comp=Z,0.1nm,0.3s,baz=149,slow=13,SNR=2.4							
MKAR				LR	LR	08 58 20.3	
comp=Z,147nm,18.1s,baz=241,slow=41							
comp=Z,0.5nm,0.6s							
KMI	**Kunming**	**14.49**	**123**	⇑P	**Pn**	**08 52 15.1**	**+3.5**
KMI				PP	**PnPn**	**08 52 22.3**	**+2.8**
KMI				LR	LR		
comp=Z,450nm,12.1s							
KMI				LR	LR		
comp=Z,390nm,11.3s							
KMI				LR	LR		
comp=Z,420nm,11.2s							
AAK	**Ala-Archa**	**14.65**	**312**	LR	LR	08 59 13.1	
comp=Z,124nm,20.4s,baz=125,slow=43							
XAN	**Xi'an**	**16.31**	**83**	P	**P**	**08 52 40.4**	**+2.1**
XAN				pmax	pmax		
comp=Z,6.0nm,0.9s							
XAN				LR	LR		
comp=Z,840nm,15.3s							
XAN				LR	LR		
comp=Z,390nm,15.8s							
XAN				LR	LR		
comp=Z,460nm,13.9s							
CMAR	**Chiang Mai Arr**	**17.46**	**148**	P	**Pn**	**08 52 51.6**	**+1.7**
comp=Z,2.2nm,0.6s,baz=346,slow=14,SNR=10							
CMAR				LR	LR	09 00 23.8	
comp=Z,139nm,18.4s,baz=345,slow=40							
KURBB	**Kurchatov Arra**	**18.66**	**338**	P	**P**	**08 53 03.3**	**-0.8**
comp=Z,5.8nm,0.9s,baz=149,slow=12,SNR=21							
KURBB				LR	LR	09 00 54.4	
comp=Z,85nm,19.8s,baz=153,slow=39							
SONM	**Songino Array**	**19.10**	**37**	P	**P**	**08 53 10.4**	**+1.3**
comp=Z,0.2nm,0.3s,baz=233,slow=13,SNR=17							
SONM				LR	LR	09 01 09.2	
comp=Z,107nm,18.2s,baz=228,slow=39							
comp=Z,3.5nm,0.9s							
ZALV	**Zalesovo Beam**	**20.49**	**352**	P	**P**	**08 53 24.1**	**+0.1**
comp=Z,5.5nm,0.7s,baz=170,slow=12,SNR=26							
comp=Z,5.5nm,0.7s							
QIZ	**Qiongzhong**	**23.44**	**123**	P	**P**	**08 53 53.0**	**-2.7**
QIZ				S	**S**	**08 58 08.3**	**-0.9**
QIZ				LR	LR		
comp=N,240nm,7.7s							
QIZ				LR	LR		
comp=E,230nm,7.6s							
QIZ				LR	LR		
comp=Z,200nm,7.8s							
BVAR	**Borovoye Array**	**23.57**	**331**	P	**P**	**08 53 57.5**	**+0.8**
comp=Z,2.4nm,0.5s,baz=133,slow=11,SNR=12							
BVAR				LR	LR	09 04 19.5	
comp=Z,83nm,19.5s,baz=144,slow=40							
comp=Z,2.4nm,0.5s							
AKTO	**Aktyubinsk**	**28.33**	**316**	LR	LR	09 07 25.4	
comp=Z,151nm,19.2s,baz=71,slow=40							
KSRS	**Korea Array**	**31.49**	**72**	P	**P**	**08 55 08.1**	**+0.1**
comp=Z,1.9nm,0.6s,baz=271,slow=10,SNR=4.7							
KSRS				LR	LR	09 09 12.7	
comp=Z,78nm,18.6s,baz=270,slow=39							
comp=Z,1.9nm,0.6s							
PSI	**Prapat**	**32.03**	**162**	LR	LR	09 09 11.7	
comp=Z,19nm,19.8s,baz=330,slow=38							
JOW	**Kunigami**	**34.21**	**91**	LR	LR	09 10 31.0	
comp=Z,233nm,19.3s,baz=304,slow=38							
JNU	**Nakatsue**	**34.55**	**79**	LR	LR	09 10 20.8	
comp=Z,84nm,18.8s,baz=308,slow=37							
NRIK	**Noril'sk**	**35.70**	**359**	P	**P**	**08 55 44.0**	**-0.3**
comp=Z,12nm,0.6s,baz=145,slow=5.1,SNR=18							
comp=Z,12nm,0.6s							
KIRV	**Kirov**	**36.34**	**325**	LR	LR	09 13 24.5	
comp=Z,4μm,19.2s,baz=77,slow=41							
DAV	**Davao City (W)**	**42.74**	**120**	LR	LR	09 14 54.6	
comp=Z,75nm,18.9s,baz=164,slow=37							
BRTR	**Keskin Array B**	**44.41**	**295**	P	**P**	**08 56 56.8**	**-0.4**
comp=Z,1.1nm,0.8s,baz=64,slow=3.4,SNR=2.5							
comp=Z,1.1nm,0.8s							
AKASG	**Malin Array Be**	**46.31**	**310**	P	**P**	**08 57 11.6**	**-0.3**
comp=Z,0.4nm,0.5s,baz=81,slow=6.9,SNR=6.9							
comp=Z,0.4nm,0.5s							
FINES	**FINESS Array B**	**48.33**	**325**	P	**P**	**08 57 27.4**	**0.0**
comp=Z,1.9nm,0.5s,baz=106,slow=8.8,SNR=9.1							
comp=Z,1.9nm,0.5s							
ARCES	**ARCESS Array B**	**49.72**	**336**	P	**P**	**08 57 37.7**	**-0.4**
comp=Z,10nm,1.1s,baz=96,slow=8.3,SNR=5.3							
comp=Z,10nm,1.1s							
GUMO	**Guam**	**54.04**	**98**	LR	LR	09 24 17.5	
comp=Z,14nm,18.1s,baz=150,slow=39							
HFS	**Hagfors**	**54.41**	**323**	P	**P**	**08 58 12.3**	**-0.9**
comp=Z,2.7nm,0.7s,baz=91,slow=7.2,SNR=5.9							
comp=Z,2.7nm,0.7s							
NB2	**NORSAR Subarra**	**55.51**	**325**	P	**P**	**08 58 21.4**	**+0.3**
comp=Z,1.3nm,0.7s,baz=82,slow=7.4							
NOA	**NORSAR Array B**	**55.51**	**325**	P	**P**	**08 58 20.9**	**-0.1**
comp=Z,1.9nm,0.7s,baz=82,slow=7.2,SNR=6.7							
comp=Z,1.9nm,0.7s							

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WRA  Warramunga Arr  68.48 134  P      P      08 59 49.4 +0.7
     comp=Z,1.2nm,0.6s,baz=325,slow=6.3,SNR=19
     comp=Z,1.2nm,0.6s
ASAR Alice Springs   71.11 137  P      P      09 00 04.7 -0.2
     comp=Z,1.5nm,1.0s,baz=316,slow=5.9,SNR=7.8
     comp=Z,1.5nm,1.0s
ILAR Eielson Array   72.53  22  P      P      09 00 12.9 +0.1
     comp=Z,1.0nm,1.0s,baz=297,slow=5.9,SNR=7.0
     comp=Z,1.0nm,1.0s
TORD Torodi Ar. Bea  80.86 280  P      P      09 01 00.3 -0.5
     comp=Z,0.2nm,0.5s,baz=42,slow=6.1,SNR=2.0
     comp=Z,0.2nm,0.5s
STKA Stephens Creek  81.75 137  P      P      09 01 05.5 +0.4
     comp=Z,1.7nm,0.7s,baz=346,slow=8.7,SNR=1.9
     comp=Z,1.7nm,0.7s
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*IDC **22** 09:07:09.4±0.7,29°.13N×66°.42E,h0km,mb4.2/26,*
mbtmp4.2/28,ML4.1/2,MS3.7/31,Error ellipse:
s-maj=16.2km s-min=13.4km az=18.0
*MOS **22** 09:07:09.3±1.2,29°.15N×66°.41E,h13km,mb4.6/18,Error*
ellipse: s-maj=8.5km s-min=5.3km az=80.7
*NEIC **22** 09:07:10.6±2.4,29°.01N±0°.08×66°.41E±0°.08,h10km±1km,*
mb4.4/28,Error ellipse: s-maj=14.3km s-min=10.7km
az=148.0

ISC 22 09:07:10.5±0.4,29°.15N±0°.05×66°.43E±0°.04,h8km,n189,
σ1§64/191,mb4.4/55,MS3.6/36,5C-1D,Pakistan

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Code Station Name      Δ°   AZ°  Phase ID          Time     Res
                                Op    ISC         h m s    ISC
JASL Jaisalmer       4.53 118   eP    Pn          09 08 22.3 +2.8
JASL                            eS    Sn          09 09 14.3 +1.9
JASL                                  IAML        09 09 21.1
     comp=N,110nm,0.4s
JASL                                  IAML        09 09 21.2
     comp=E,120nm,0.6s
KBL  Kabul           5.81  22        Pn          09 08 38.9 +1.6
KBL  Kabul           5.81  22   P    Pn          09 08 38.9 +1.6
NGCH Negor - Chabah  6.04 232   P    Pn          09 08 41.2 +1.0
     SNR=7.4
HRA  Herat           6.32 327        Pn          09 08 46.6 +2.4
NIL  Nilore          7.35  51   Pn   Pn          09 08 59.5 +1.2
NIL  Nilore          7.35  51   P    Pn          09 08 59.5 +1.2
AJM  Ajmer           7.75 108   eP   Pn          09 09 03.8 +0.1
AJM                             ex   x           09 10 55.8
AJM                                  IAML        09 11 00.1
     comp=E,135nm,0.2s
AJM                                  IAML        09 11 05.4
     comp=E,135nm,0.6s
JASK Jask - Hormozg  8.28 249   P    Pn          09 09 12.4 +1.5
     SNR=14
DHRM DHARAMSHALA     9.04  68   eP   Pn          09 09 23.2 +1.6
DHRM                            eS   Sn          09 11 03.5 -0.2
DHRM                                 IAML        09 11 23.0
     comp=E,181nm,0.8s
DHRM                                 IAML        09 11 24.4
     comp=E,163nm,0.8s
WSAR Wadi Sarin      9.15 232   Pn   Pn          09 09 21.9 -1.0
     comp=E,2.2nm,0.3s,baz=105,slow=8.7,SNR=27
WSAR                            Sn   Sn          09 10 54.5 -12
     comp=E,1.0nm,0.3s,baz=304,slow=5.8,SNR=1.6
     comp=E,4.3nm,0.3s
WSAR Wadi Sarin      9.15 232   P    Pn          09 09 21.9 -1.0
WSAR                            S    Sn          09 10 55.9 -10
BIDO Bidbid          9.32 235   P    Pn          09 09 25.9 +0.7
WBK  Wadi Bani Khal  9.36 228   P    Pn          09 09 25.5 -0.2
WBK                             S    Sn          09 11 03.2 -8.0
JLN  Jalan Bani Buh  9.42 224   P    Pn          09 09 25.7 -0.9
JLN                             S    Sn          09 11 05.4 -7.2
NDI  New Delhi       9.46  90   eP   Pn          09 09 28.6 +1.4
NDI                             eS   Sn          09 11 08.7 -5.2
NDI                                  IAML        09 11 13.4
     comp=N,135nm,0.4s
NDI                                  IAML        09 11 13.4
     comp=E,123nm,0.6s
SMLA Simla           9.50  75   eP   Pn          09 09 28.2 +0.5
SMLA                            eS   Sn          09 11 13.9 -0.8
SMLA                                 IAML        09 11 18.9
     comp=E,196nm,0.6s
SMLA                                 IAML        09 11 20.9
     comp=E,166nm,0.6s
BANOM Banah          9.55 253   i P  Pn          09 09 27.1 -1.3
     SNR=30
BANOM Banah          9.55 253   P    Pn          09 09 28.6 +0.2
BANOM                           S    Sn          09 11 07.4 -8.6
SHME Shamm           9.63 254   i P  Pn          09 09 27.2 -2.4
     SNR=14
SHME Shamm           9.63 254   P    Pn          09 09 30.8 +1.2
     SNR=28
SHME                            S    Sn          09 11 12.6 -5.4
SMDO Samad           9.67 233   P    Pn          09 09 30.4 +0.2
     SNR=14
SMDO                            P    Pn          09 09 30.4 +0.2
     SNR=14
SMDO                            S    Sn          09 11 11.5 -7.6
SMDO                            S    Sn          09 11 11.5 -7.6
SIMJ Simiganj        9.72  12        Pn          09 09 30.9 +0.1
MDH  Madha           9.80 249   i P  Pn          09 09 28.4 -3.4
     SNR=17
MDH  Madha           9.80 249   P    Pn          09 09 31.2 -0.6
MDH                             P    Pn          09 09 31.2 -0.6
MDH                             S    Sn          09 11 13.5 -8.6
MDH                             S    Sn          09 11 13.5 -8.6
HOQ  Hoqain          9.88 238   P    Pn          09 09 32.1 -0.8
     SNR=25
HOQ                             P    Pn          09 09 32.1 -0.8
     SNR=25
MASF Masafi          9.88 250   P    Pn          09 09 32.4 -0.5
MASF                            P    Pn          09 09 32.4 -0.5
MASF                            S    Sn          09 11 17.2 -7.0
MASF                            S    Sn          09 11 17.2 -7.0
MSFE Esma-Masafi     9.89 250   P    Pn          09 09 32.2 -0.8
JMDO Jabal Madar    10.09 230   P    Pn          09 09 37.0 +1.1
     SNR=8.0
JMDO                            S    Sn          09 11 22.1 -7.2
HATD Hatta, Dubai   10.14 247   i P  Pn          09 09 34.5 -2.0
     SNR=8.6
HATD Hatta, Dubai   10.14 247   P    Pn          09 09 35.9 -0.6
HATD                            S    Sn          09 11 22.6 -7.9
SOHO SOHO           10.16 243   i P  Pn          09 09 33.7 -3.1
     SNR=15
SOHO SOHO           10.16 243   P    Pn          09 09 35.9 -0.9
SOHO                            P    Pn          09 09 35.9 -0.9
SOHO                            S    Sn          09 11 22.3 -8.7
SOHO                            S    Sn          09 11 22.3 -8.7
ASHO Ashiyiah       10.27 247   i P  Pn          09 09 37.9 -0.4
     SNR=24
ASHO Ashiyiah       10.27 247   P    Pn          09 09 38.5 +0.2
ASHO                            S    Sn          09 11 25.3 -8.3
GAR  Garm           10.34  17        Pn          09 09 40.4 +1.2
NAZ  Nazwa, Dubai   10.45 249   P    Pn          09 09 43.4 +2.7
NAZ                             P    Pn          09 09 43.4 +2.7
BSY  Bisya          10.47 235   P    Pn          09 09 42.4 +1.3
BSY                             P    Pn          09 09 42.4 +1.3
ARQ  Araqi          10.61 239   P    Pn          09 09 45.5 +2.6
     SNR=7.3
ARQ                             P    Pn          09 09 45.5 +2.6
     SNR=7.3
FAQ  Al Faqa, Dubai 10.62 248   P    Pn          09 09 45.1 +2.1
FAQ                             P    Pn          09 09 45.1 +2.1
ALNE Al Ain         10.82 244   P    Pn          09 09 46.9 +1.2
ALNE                            P    Pn          09 09 46.9 +1.2
ASUD Al Ashush, Dub 10.88 248   P    Pn          09 09 47.9 +1.2
ASUD Al Ashush, Dub 10.88 248   P    Pn          09 09 49.0 +2.4
     SNR=12
MHTO MHTO           11.17 225   P    Pn          09 09 54.8 +4.2
MHTO                            P    Pn          09 09 54.8 +4.2
MHTO                            S    Sn          09 11 47.5 -8.3
MHTO                            S    Sn          09 11 47.5 -8.3
DRK  Karamyk        11.21  22        Pn          09 09 51.1 -0.2
DRK  Karamyk        11.21  22   P    Pn          09 09 51.2 -0.2
JHNI Jhansi         11.38 106   eP   Pn          09 09 55.6 +2.2
JHNI                            eS   Sn          09 11 57.1 -3.6
JHNI                                 IAML        09 12 43.4
     comp=E,117nm,0.4s
JHNI                                 IAML        09 13 46.4
     comp=E,124nm,1.4s
JHNI                                 IAML        09 13 46.5
     comp=N,138nm,0.7s
BTK  Batken         11.46  17   Pn   Pn          09 09 54.0 -0.6
BTK  Batken         11.46  17   P    Pn          09 09 54.0 -0.6
BHPL Bhopal         11.49 118   ex   x           09 09 41.6
BHPL                            eS   Sn          09 11 55.2 -8.4
UMZA Um Al Zommool  11.99 240   P    Pn          09 10 02.1 +0.3
UMZA                            P    Pn          09 10 02.1 +0.3
KSH  Kashi          12.99  35   P    Pn          09 10 10.5 -5.1
KSH                             S    Sn          09 12 28.0 -12
KSH                             pmax pmax
     comp=Z,27nm,0.6s
KSH                             LR   LR
     comp=N,2μm,15.5s
KSH                             LR   LR
     comp=E,2μm,14.1s
KSH                             LR   LR
     comp=Z,1μm,13.4s
SHMA Al-Shehemyia   14.11 260   P    Pn          09 10 31.0 +0.2
     SNR=7.6
KKAR Karatay Array  14.30  12   Pn   Pn          09 10 35.3 +1.9
KKAR Karatay Array  14.30  12   P    Pn          09 10 35.3 +1.9
NRN  Naryn          14.52  30   Pn   Pn          09 10 34.8 -1.8
NRN  Naryn          14.52  30   P    Pn          09 10 34.8 -1.8
SMRA Abu-Samra      14.59 256   P    Pn          09 10 37.9 +0.6
AAK  Ala-Archa      14.95  24   Pn   Pn          09 10 41.0 -1.3
AAK  Ala-Archa      14.95  24   i P  Pn          09 10 40.7 -1.5
     SNR=6.4
AAK  Ala-Archa      14.95  24   Pn   Pn          09 10 42.1 -0.2
     comp=Z,0.8nm,0.3s,baz=198,slow=5.2,SNR=11
AAK                             Sn   Sn          09 13 24.8 -3.3
     comp=Z,0.2nm,0.3s,baz=348,slow=18,SNR=2.0
AAK                             LR   LR          09 17 23.0
     comp=Z,274nm,19.6s,baz=225,slow=41
     comp=Z,3.7nm,0.5s
DOK  Doka           15.37 230   P    Pn          09 10 47.8  0.0
DOK                             P    Pn          09 10 47.8  0.0
BOOM Boomskoye usch 15.37  27   P    Pn          09 10 46.4 -1.4
BOOM Boomskoye usch 15.37  27   P    Pn          09 10 46.4 -1.4
BOOM                            pmax pmax
     comp=Z,8.0nm,0.7s
DMTO DMTO           15.50 225   P    Pn          09 10 52.9 +3.4
TARG Taragay, Kyrgy 15.58  33   Pn   Pn          09 10 49.1 -1.8
TARG Taragay, Kyrgy 15.58  33   P    Pn          09 10 49.1 -1.8
TARG                            pmax pmax
     comp=Z,9.0nm,0.8s
WUS  Wushi          15.91  38   Pn   Pn          09 10 52.5 -2.4
WHFO Wadi Hawf      16.10 229   P    Pn          09 11 01.1 +3.7
WHFO                            P    Pn          09 11 01.1 +3.7
AKT  Akhty          19.55 314   eP   P           09 11 38.1 -0.7
AKT                             eS   S           09 15 21.4 +1.7
AKT                             pmax pmax
     comp=Z,12nm,0.9s
RAYN Ar Rayn        19.57 258   P    P           09 11 37.6 -1.3
RAYN                            IAmb IAmb        09 11 42.1
     comp=Z,10nm,0.6s
RAYN Ar Rayn        19.57 258   i P  P           09 11 37.5 -1.4
     SNR=9.8
RAYN Ar Rayn        19.57 258   P    P           09 11 37.7 -1.3
RAYN                            pmax pmax
     comp=Z,10.0nm,0.6s
MAK  Makhachkala    20.53 317   eP   P           09 11 44.7 -4.5
MAK                             eS   S           09 15 32.9 -6.1
MAK                             pmax pmax
     comp=Z,161nm,1.3s
MAK                             MLR  MLR
     comp=Z,90nm,15.0s
ABKAR Akbulak array 20.68 348   P    P           09 11 51.9 +1.1
ABKAR                           IAmb IAmb        09 11 59.1
     comp=Z,16nm,0.9s
ABKAR Akbulak array 20.68 348   P    P           09 11 51.5 +0.7
GNI  Garni          20.89 307   P    P           09 11 53.2 -0.2
     comp=Z,3.8nm,0.4s,baz=147,slow=17,SNR=1.9
GNI                             LR   LR          09 21 02.7
     comp=Z,166nm,20.3s,baz=127,slow=40
     comp=Z,3.8nm,0.4s
GNI  Garni          20.89 307   P    P           09 11 53.2 -0.2
     comp=Z,20nm,1.0s
MAKZ Makanchi       21.40  30   P    P           09 11 58.1 -0.6
MAKZ Makanchi       21.40  30   P    P           09 11 58.1 -0.6
MAKZ                            pmax pmax
     comp=Z,36nm,0.8s
MK31 Makanchi Array 21.53  31   P    P           09 12 00.2 +0.1
MK31 Makanchi Array 21.53  31   P    P           09 12 00.2 +0.1
MK31                            pmax pmax
     comp=Z,10.0nm,1.1s
MKAR Makanchi Array 21.53  31   P    P           09 11 59.7 -0.3
MKAR Makanchi Array 21.53  31   P    P           09 11 59.9 -0.2
     comp=Z,6.7nm,0.6s,baz=218,slow=11,SNR=26
MKAR                            LR   LR          09 22 20.2
     comp=Z,138nm,21.6s,baz=214,slow=42
     comp=Z,6.7nm,0.6s
MKAR Makanchi Array 21.53  31   eP   P           09 12 00.5 +0.5
MKAR                            pmax pmax
     comp=Z,7.0nm,0.6s
AKTO Aktyubinsk     22.19 346   P    P           09 12 07.7 +0.6
     comp=Z,2.5nm,0.9s,baz=168,slow=11,SNR=3.3
AKTO                            LR   LR          09 21 29.6
     comp=Z,119nm,19.3s,baz=116,slow=39
     comp=Z,2.5nm,0.9s
GURO Guroymak-BITLI 22.27 301   P    P           09 12 09.1 +0.9
GURO                            IAmb IAmb        09 12 20.5
     comp=Z,15nm,1.1s
SHL  Shillong       22.87  93   P    P           09 12 14.4 -0.4
SHL                             IAmb IAmb        09 12 20.1
     comp=Z,20nm,0.9s
SHL  Shillong       22.87  93   P    P           09 12 14.4 -0.4
SHL                             pmax pmax
     comp=Z,20nm,0.9s
KURBB Kurchatov Arra 23.31  20  P    P           09 12 18.6 -0.1
     comp=Z,6.3nm,0.8s,baz=210,slow=9.1,SNR=16
     comp=Z,6.3nm,0.8s
KURK Kurchatov      23.42  20   P    P           09 12 19.1 -0.8
KURK                            IAmb IAmb        09 12 22.1
     comp=Z,9.0nm,0.9s
KURK Kurchatov      23.42  20   ceP  P           09 12 19.2 -0.7
KURK                            pmax pmax
     comp=Z,10.0nm,0.9s
KBZ  Khabaz         23.77 314   P    P           09 12 23.9 +0.5
     comp=Z,5.2nm,1.0s,baz=119,slow=8.2,SNR=8.4
     comp=Z,5.2nm,1.0s
KBZ  Khabaz         23.77 314   i P  P           09 12 24.9 +1.5
KBZ                             pmax pmax
     comp=Z,10.0nm,1.2s
SHA1 Shidzhatmaz    23.92 314   i P  P           09 12 24.5 -0.7
KIV  Kislovodsk     24.01 314   eP   P           09 12 25.4 -0.5
KIV                             pmax pmax
     comp=Z,14nm,1.0s
KIV                             MLR  MLR
     comp=Z,33nm,14.0s
KIV  Kislovodsk     24.01 314   P    P           09 12 25.7 -0.2
     comp=Z,14nm,0.9s
BVAR Borovoye Array 24.03   6   P    P           09 12 26.4 +0.6
     comp=Z,6.7nm,0.7s,baz=167,slow=9.0,SNR=26
BVAR                            LR   LR          09 22 17.6
     comp=Z,74nm,19.7s,baz=198,slow=38
     comp=Z,6.7nm,0.7s
BRVK Borovoye       24.05   6   P    P           09 12 26.6 +0.5
BRVK                            IAmb IAmb        09 12 34.7
     comp=Z,12nm,0.9s
BRVK Borovoye       24.05   6   ceP  P           09 12 27.1 +1.1
BRVK                            pmax pmax
     comp=Z,8.0nm,0.7s
ARPR Arapgir-MALATY 25.20 301   P    P           09 12 38.1 +1.4
SOC  Sochi          25.75 311   eP   P           09 12 40.1 -1.4
SOC                             ePPP PPP         09 13 24.4
SOC                             eS   S           09 17 10.3 -0.4
SOC                             eSSS SSS         09 18 18.2
SOC                             MLR  MLR
     comp=Z,81nm,15.0s
BELG Belogornoye    27.08 334   LR   LR          09 25 29.7
     comp=Z,111nm,19.1s,baz=209,slow=41
BELG Belogornoye    27.08 334   i P  P           09 12 53.0 -0.4
BELG                            pmax pmax
     comp=Z,8.0nm,1.4s
ANN  Anapa          27.75 312   eP   P           09 12 55.3 -4.2
ANN                             pmax pmax
     comp=Z,71nm,1.0s
ARTI Arti           27.82 350   c iP P           09 12 58.3 -1.7
ARTI                            S    S           09 17 41.0 -2.0
ARTI                            pmax pmax
     comp=Z,11nm,1.5s
DIKM Dikmen         28.14 305   P    P           09 13 02.9 -0.3
     comp=Z,45nm,1.2s
ZALV Zalesovo Beam  28.17  23   P    P           09 13 01.9 -1.3
     comp=Z,1.9nm,0.6s,baz=199,slow=8.5,SNR=7.9
ZALV                            LR   LR          09 25 23.8
     comp=Z,237nm,18.7s,baz=220,slow=39
     comp=Z,1.9nm,0.6s
BRTR Keskin Array B 28.88 300   P    P           09 13 10.2 +0.2
     comp=Z,1.0nm,0.8s,baz=127,slow=9.6,SNR=2.2
     comp=Z,1.0nm,0.8s
BR105 Keskin Array S 28.90 300  P    P           09 13 10.0 -0.1
     comp=Z,4.7nm,1.1s
BR106 Keskin Array S 28.90 300  P    P           09 13 09.8 -0.3
     comp=Z,3.2nm,1.1s
ANTO Ankara         29.55 300   P    P           09 13 15.6 -0.2
     comp=Z,5.2nm,1.7s
PZH  PanZhiHua      31.27  86   P    P           09 13 32.8 +1.6
PZH                             S    S           09 18 34.6 -3.6
PZH                             pmax pmax
     comp=Z,10.0nm,1.2s
PZH                             pmax pmax
     comp=Z,100nm,9.2s
PZH                             LR   LR
     comp=N,380nm,20.6s
PZH                             LR   LR
     comp=E,190nm,18.6s
PZH                             LR   LR
     comp=Z,200nm,21.0s
CHTO Chiang Mai     31.35 102   P    P           09 13 31.7 -0.1
CHTO                            IAmb IAmb        09 13 36.9
     comp=Z,4.9nm,0.9s
CHTO Chiang Mai     31.35 102   P    P           09 13 31.7 -0.1
CHTO                            pmax pmax
     comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 31.50 102   P    P           09 13 33.9 +0.7
     comp=Z,0.8nm,0.3s,baz=296,slow=8.6,SNR=7.6
CMAR                            LR   LR          09 27 05.7
     comp=Z,78nm,21.3s,baz=285,slow=38
     comp=Z,0.8nm,0.3s
KIRV Kirov          31.68 343   LR   LR          09 29 46.6
     comp=Z,65nm,18.3s,baz=149,slow=43
KMI  Kunming        32.48  88   ⇑P   P           09 13 46.6 +4.7
KMI                             pmax pmax
     comp=Z,18nm,1.1s
KMI                             LR   LR
     comp=N,230nm,14.3s
KMI                             LR   LR
     comp=E,200nm,15.7s
KMI                             LR   LR
     comp=Z,250nm,22.1s
NE56 Odesa          32.69 312   P    P           09 13 43.2  0.0
CTYL Yalikoy Yolu   33.20 302   P    P           09 13 47.7 -0.1
     comp=Z,63nm,0.6s
OBN  Obninsk        33.64 329‖  eP   P           09 13 49.9 -1.5
OBN                             e*PP pP          09 13 52.9 -1.6
OBN                             e*SP sP          09 13 57.4 +1.7
OBN                             S    S           09 19 21.0 +6.8
OBN                             pmax pmax
     comp=Z,12nm,1.2s
OBN                             MLR  MLR
     comp=Z,77nm,15.0s
AK08 Malin Array Si 35.16 318   P    P           09 14 04.6 -0.1
AK05 Malin Array Si 35.19 318   P    P           09 14 04.8 -0.1
AKASG Malin Array Be 35.21 318  P    P           09 14 05.2 +0.1
     comp=Z,1.6nm,0.8s,baz=109,slow=7.6,SNR=7.3
     comp=Z,1.6nm,0.8s
AKASG Malin Array Be 35.21 318  eP   P           09 14 06.1 +1.0
AKASG                           pmax pmax
     comp=Z,2.0nm,0.8s
AKBB Malin Array Si 35.21 318   P    P           09 14 05.0 -0.1
AK01 Malin Array Si 35.21 318   P    P           09 14 04.9 -0.2
LUBAR Lubar, Ukraine 35.78 316  P    P           09 14 09.4 -0.7
SONM Songino Array  35.92  48   LR   LR          09 31 53.1
     comp=Z,213nm,19.5s,baz=209,slow=41
KMPD K-Podol'skiy   36.14 314   P    P           09 14 12.7 -0.4
ULN  Ulaanbaatar    36.35  48   P    P           09 14 15.7 +0.5
ULN                             IAmb IAmb        09 14 21.9
     comp=Z,5.9nm,1.1s
ULN  Ulaanbaatar    36.35  48   ceP  P           09 14 17.3 +2.1
ULN                             pmax pmax
     comp=Z,15nm,2.5s
RNPP5 Staryi Chortor 37.36 318  P    P           09 14 23.4 -0.1
PSI  Prapat         40.50 124   LR   LR          09 33 37.6
     comp=Z,68nm,18.2s,baz=302,slow=39
KMBO Kilima Mbogo   41.05 228   LR   LR          09 33 32.0
     comp=Z,68nm,18.2s,baz=88,slow=39
FINES FINESS Array B 41.81 332  P    P           09 15 00.6 +0.2
FINES FINESS Array B 41.81 332  P    P           09 15 01.4 +1.0
     comp=Z,3.3nm,0.7s,baz=115,slow=6.6,SNR=3.3
FINES                           LR   LR          09 35 48.6
     comp=Z,104nm,18.7s,baz=115,slow=41
     comp=Z,3.3nm,0.7s
NRIK Noril'sk       42.04  11   P    P           09 15 03.7 +1.5
     comp=Z,3.3nm,0.7s,baz=179,slow=9.1,SNR=5.3
     comp=Z,3.3nm,0.7s
CUC  Castrocucco    42.55 299   P    P           09 15 07.2 +0.4
GERES GERESS Array B 44.46 311  P    P           09 15 22.3 +0.2
     comp=Z,0.5nm,0.4s,baz=90,slow=5.9,SNR=2.3
     comp=Z,0.5nm,0.4s
FDMO Fiordimonte    44.56 303   P    P           09 15 23.0  0.0
BRG  Berggiesshubel 44.57 314   eP   P           09 15 29.1 +6.3
BRG                             Amp              09 15 30.7
     comp=Z,8.1nm,1.3s
BRG  Berggiesshubel 44.57 314   eP   P           09 15 29.1 +6.3
BRG                             pmax pmax
     comp=Z,8.0nm,1.3s
MBAR Mbarara        45.15 235   LR   LR          09 35 38.8
     comp=Z,63nm,19.5s,baz=2.0,slow=38
ARCES ARCESS Array B 46.67 342  P    P           09 15 40.4 +1.1
     comp=Z,7.8nm,1.0s,baz=119,slow=7.3,SNR=5.3
ARCES                           LR   LR          09 39 20.6
     comp=Z,53nm,19.8s,baz=130,slow=41
     comp=Z,7.8nm,1.0s
HFS  Hagfors        46.79 327   P    P           09 15 40.5 +0.2
     comp=Z,4.4nm,0.8s,baz=129,slow=12,SNR=3.1
     comp=Z,4.4nm,0.8s
KEST Kesra          48.05 293   P    P           09 15 51.8 +1.2
     comp=Z,2.7nm,0.7s,baz=27,slow=9.0,SNR=2.1
     comp=Z,2.7nm,0.7s
NB2  NORSAR Subarra 48.22 328   P    P           09 15 51.3 -0.2
     comp=Z,3.1nm,0.8s,baz=106,slow=7.9
NOA  NORSAR Array B 48.22 328   P    P           09 15 50.6 -0.9
     comp=Z,2.5nm,0.9s,baz=108,slow=7.5,SNR=5.6
NOA                             LR   LR          09 39 27.5
     comp=Z,83nm,18.2s,baz=95,slow=40
     comp=Z,2.5nm,0.9s
NOA  NORSAR Array B 48.22 328   eP   P           09 15 51.5  0.0
NOA                             pmax pmax
     comp=Z,2.0nm,0.6s
HEH  HeiHe          49.91  47   eP   P           09 16 05.5 +1.0
HEH                             pmax pmax
     comp=Z,4.0nm,0.8s
KSRS Korea Array    51.27  64   P    P           09 16 15.3 +0.3
     comp=Z,4.5nm,0.8s,baz=273,slow=7.6,SNR=12
KSRS                            LR   LR          09 39 01.1
     comp=Z,47nm,21.8s,baz=270,slow=37
     comp=Z,4.5nm,0.8s
KSRS Korea Array    51.27  64   eP   P           09 16 15.5 +0.5
KSRS                            pmax pmax
     comp=Z,4.0nm,0.8s
YAK  Yakutsk        52.19  32   LR   LR          09 40 15.3
     comp=Z,102nm,21.6s,baz=266,slow=38
YAK  Yakutsk        52.19  32   eP   P           09 16 21.8 +0.3
YAK                             pmax pmax
     comp=Z,13nm,1.2s
YAK                             pmax pmax
     comp=N,5.0nm,1.4s
YAK                             pmax pmax
     comp=E,9.0nm,1.4s
KLR  Kul'dur        52.74  48   LR   LR          09 41 40.5
     comp=E,125nm,18.9s,baz=267,slow=39
KLR  Kul'dur        52.74  48   eP   P           09 16 24.3 -1.5
KLR                             pmax pmax
     comp=Z,8.0nm,1.2s
USRK Ussuriysk Ar.  53.34  55   LR   LR          09 41 28.3
     comp=Z,78nm,18.9s,baz=231,slow=39
TIXI Tiksi          53.99  20   P    P           09 16 34.9 +0.3
TIXI                            IAmb IAmb        09 16 38.0
     comp=Z,3.1nm,0.8s
TIXI Tiksi          53.99  20   P    P           09 16 34.9 +0.3
TIXI                            pmax pmax
     comp=Z,3.0nm,0.8s
JNU  Nakatsue       54.54  68   LR   LR          09 42 55.3
     comp=Z,93nm,18.5s,baz=294,slow=39
EKA  Eskdalemuir Ar 55.11 319   P    P           09 16 42.3 -0.7
     comp=Z,2.0nm,0.8s,baz=100,slow=8.1,SNR=2.4
     comp=Z,2.0nm,0.8s
ESDC Sonseca Array  57.67 301   LR   LR          09 44 59.2
     comp=Z,50nm,18.3s,baz=306,slow=39
MJAR Matsushiro Art 59.50  63   P    P           09 17 15.3 +1.0
     comp=Z,3.5nm,1.0s,baz=283,slow=9.6,SNR=4.4
MJAR                            LR   LR          09 46 06.3
     comp=Z,44nm,18.5s,baz=290,slow=39
     comp=Z,3.5nm,1.0s
DAV  Davao City (W) 59.71  99   LR   LR          09 47 40.1
     comp=Z,34nm,18.3s,baz=248,slow=41
YSS  Yuzh-Sakhalins 60.35  50   i P  P           09 17 20.2 +0.2
YSS                             pmax pmax
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comp=Z,8.0nm,0.9s
ASAJ Asahikawa 60.87 53 LR LR 09 47 15.6
comp=Z,122nm,18.2s,baz=300,slow=40
LUWI Luwuk 61.58 109 P **P** **09 17 28.5 -0.3**
TORD Torodi Ar. Bea 61.76 270 P **P** **09 17 29.0 -1.0**
TORD IAmb IAmb 09 17 36.1
comp=Z,5.5nm,1.1s
TORD Torodi Ar. Bea 61.76 270 P **P** **09 17 29.6 -0.4**
comp=Z,4.3nm,0.9s,baz=41,slow=6.7,SNR=19
comp=Z,4.3nm,0.9s
MA2 Magadan 62.54 35 LR LR 09 46 23.5
comp=Z,97nm,19.8s,baz=272,slow=38
BORG Borgarnes 63.10 331 LR LR 09 46 26.8
comp=Z,113nm,18.7s,baz=23,slow=37
LBTB Lobatse 66.63 220 LR LR 09 47 27.3
comp=Z,33nm,18.1s,baz=31,slow=36
PETK Petropavlovsk- 67.98 41 LR LR 09 51 20.5
comp=Z,88nm,18.1s,baz=291,slow=39
BOSA Boshof 69.64 218 P **P** **09 18 18.5 -2.2**
BOSA Boshof 69.64 218 P **P** **09 18 18.5 -2.2**
BOSA pmax pmax
comp=Z,13nm,1.4s
SHEM Shemya Is, Ala 77.10 36 LR LR 09 56 01.1
comp=Z,85nm,18.5s,baz=100,slow=38
C23K Itkillik River 77.73 12 P **P** **09 19 08.8 +1.3**
IMAR Indian Mountai 80.29 16 P **P** **09 19 22.2 +0.6**
BMAR Burnt Mountain 80.93 12 P **P** **09 19 26.7 +1.6**
WRA Warramunga Arr 81.66 118 P **P** **09 19 29.4 -0.2**
comp=Z,1.9nm,1.0s,baz=315,slow=4.5,SNR=7.6
comp=Z,1.9nm,1.0s
INK Inuvik 81.71 7 P **P** **09 19 29.8 +0.7**
INK IAmb IAmb 09 19 45.1
comp=Z,2.8nm,1.1s
INK Inuvik 81.71 7 P **P** **09 19 29.8 +0.7**
INK pmax pmax
comp=Z,3.0nm,1.1s
MLY Manley 81.78 15 P **P** **09 19 30.0 +0.3**
MLY IAmb IAmb 09 19 41.8
comp=Z,4.3nm,1.2s
ILAR Eielson Array 82.84 14 P **P** **09 19 34.9 -0.3**
comp=Z,0.6nm,0.9s,baz=318,slow=3.9,SNR=4.9
ILAR LR LR 10 04 49.0
comp=Z,42nm,18.5s,baz=295,slow=42
comp=Z,0.6nm,0.9s
ASAR Alice Springs 83.47 122 P **P** **09 19 38.9 -0.2**
comp=Z,1.6nm,0.8s,baz=310,slow=5.1,SNR=11
comp=Z,1.6nm,0.8s
DAWY Dawson 84.89 11 P **P** **09 19 45.8 +0.1**
DAWY IAmb IAmb 09 19 54.4
comp=Z,4.6nm,1.3s
YKA Yellowknife Ar 88.67 0 P **P** **09 20 03.6 -0.5**
comp=Z,1.3nm,0.8s,baz=350,slow=4.3,SNR=4.7
comp=Z,1.3nm,0.8s
MAW Mawson 96.50 181 P **P** **09 20 40.3 +0.6**
comp=Z,1.3nm,0.8s,baz=318,slow=15,SNR=4.3
comp=Z,1.3nm,0.8s

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*SOME **22** 09:13:36.3, 44°.68N×82°.00E, h20km*
*NNC **22** 09:13:36.7±1.2, 44°.69N×82°.03E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=13.7km s-min=3.7km az=122.0, Suspected Mining explosion.*
ISC 22 09:13:29.7±1.9, 44°.39N±0°.07×82°.40E±0°.10, h0km, n17, σ1§01/28, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.87**	**269**	P	**Pg**	**09 14 07.7**	**+2.0**
DJR				S	**Sg**	**09 14 30.7**	**+0.7**
DJR	**Jarkent**	**1.87**	**269**	*e*P	**Pg**	**09 14 06.2**	**+0.5**
	3.3nm,0.1s						
DJR				*e*S	**Sn**	**09 14 27.6**	**0.0**
	14nm,0.2s						
KAPS	**Kapalarasan**	**2.35**	**294**	Pg	**Pb**	**09 14 12.6**	**-0.4**
	5.6nm,0.2s						
KAPS				Lg	Lg	09 14 38.7	
	48nm,0.2s						
KAPS	**Kapalarasan**	**2.35**	**294**	*e*P	**Pb**	**09 14 12.6**	**-0.4**
	5.6nm,0.2s						
KAPS				*e*S	**Sn**	**09 14 38.7**	**-0.5**
	48nm,0.2s						
PDGK	**Podgornoye**	**2.36**	**244**	⇓Pn	**Pg**	**09 14 16.2**	**+1.3**
	6.0nm,0.5s						
PDGK				⇑Sn	**Sg**	**09 14 46.1**	**+0.6**
	25nm,0.8s						
MK31	**Makanchi Array**	**2.41**	**358**	Pn	**Pb**	**09 14 13.7**	**-0.3**
	5.0nm,0.3s,baz=184,slow=14,SNR=114						
MK31				⇑Sn	**Sn**	**09 14 41.3**	**+0.7**
	12nm,0.6s,baz=189,slow=22,SNR=9.2						
MAKZ	**Makanchi**	**2.44**	**353**	⇓Pn	**Pb**	**09 14 13.6**	**-0.9**
	3.7nm,0.3s						
MAKZ				⇓Sn	**Sn**	**09 14 41.1**	**-0.3**
	15nm,0.8s						
SHLS	**Shalkode**	**2.46**	**241**	Pg	**Pg**	**09 14 16.3**	**-0.6**
	11nm,0.3s						
SHLS				Lg	Lg	09 14 45.4	
	29nm,0.3s						
SHLS	**Shalkode**	**2.46**	**241**	*e*P	**Pb**	**09 14 14.5**	**-0.4**
	4.9nm,0.1s						
SHLS				*e*S	**Sn**	**09 14 42.2**	**+0.2**
	30nm,0.2s						
UZB	**Uzynbulak**	**2.74**	**244**	Pg	**Pg**	**09 14 23.4**	**+1.1**
	11nm,0.3s						
UZB				Lg	Lg	09 14 57.3	
	4.5nm,0.2s						
UZB	**Uzynbulak**	**2.74**	**244**	*e*P	**Pg**	**09 14 23.4**	**+1.1**
	11nm,0.3s						
UZB				*e*S	**Sg**	**09 14 57.3**	**-0.6**
	4.5nm,0.2s						
KPKS	**Kokpek**	**2.84**	**252**	Pg	**Pg**	**09 14 24.7**	**+0.6**
	5.4nm,0.1s						
KPKS				Lg	Lg	09 14 59.5	
	20nm,0.3s						
KPKS	**Kokpek**	**2.84**	**252**	*e*P	**Pg**	**09 14 24.7**	**+0.6**
	5.4nm,0.1s						
KPKS				*e*S	**Sg**	**09 14 59.5**	**-1.5**
	20nm,0.3s						
SATY	**Saty**	**3.19**	**247**	Pg	**Pg**	**09 14 32.0**	**+1.2**
	2.3nm,0.2s						
SATY				Lg	Lg	09 15 12.2	
	12nm,0.2s						
SATY	**Saty**	**3.19**	**247**	*e*P	**Pg**	**09 14 32.0**	**+1.2**
	2.3nm,0.2s						
SATY				*e*S	**Sg**	**09 15 12.2**	**+0.1**
	12nm,0.2s						
TNSS	**Tian-Shan**	**4.18**	**253**	Pg	**Pg**	**09 14 51.0**	**+1.2**
	2.7nm,0.3s						
TNSS				Lg	Lg	09 15 44.3	
	1.5nm,0.8s						
TNSS	**Tian-Shan**	**4.18**	**253**	*e*P	**Pg**	**09 14 49.3**	**-0.5**
	1.3nm,0.2s						
TNSS				*e*S	**Sg**	**09 15 41.5**	**-2.4**
	1.1nm,0.2s						

IDC 22 09:41:12.6±2.1, 10°.95S×162°.71E, h0km, mb3.6/3, mbtmp3.7/4, ML4.0/1, MS3.2/4, Error ellipse: s-maj=61.7km s-min=33.1km az=140.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.11**	**299**	Pn	Pn	09 42 03.3	+0.3
	17nm,0.3s,baz=190,slow=11,SNR=2.0						
HNR				Sn	Sg	09 42 52.7	0.0
	19nm,0.3s,baz=157,slow=21,SNR=1.8						
	43nm,0.3s						
PMG	**Port Moresby**	**15.39**	**274**	LR	LR	09 50 29.6	
	comp=Z,98nm,18.5s,baz=102,slow=36						
CTA	**Charters Tower**	**18.27**	**238**	LR	LR	09 52 32.7	
	comp=Z,48nm,18.8s,baz=135,slow=37						
WRA	**Warramunga Arr**	**28.74**	**248**	P	P	09 47 10.6	-1.4
	0.3nm,0.6s,baz=79,slow=9.2,SNR=2.0						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**30.20**	**241**	P	P	09 47 25.9	+0.9
	0.3nm,0.5s,baz=68,slow=10.0,SNR=9.8						
ASAR				LR	LR	09 59 18.1	
	comp=Z,44nm,21.5s,baz=53,slow=36						
	0.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**36.53**	**254**	LR	LR	10 03 33.6	
	comp=Z,34nm,18.2s,baz=19,slow=37						
ILAR	**Eielson Array**	**84.39**	**19**	P	P	09 53 46.5	0.0
	1.2nm,1.0s,baz=238,slow=5.2,SNR=6.0						
	1.2nm,1.0s						

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*UCC **22** 10:03:32.6, 50°.18N×1°.01E, h0km, ML3.2, Explosion.*

*STR **22** 10:03:33.7±0.3, 50°.N±4°.×°.±°., h0km, MLv3.4/39, Error ellipse: s-maj=0.0km s-min=0.0km az=12.5, preliminary*
ISC 22 10:03:33.2±1.2, 50°.16N±0°.05×1°.01E±0°.04, h10km, n57, σ0§52/57, 8D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMNX	**Herstmonceux**	**0.83**	**329**	Pg	**Pg**	**10 03 49.1**	**0.0**
ELSH	**Elham, Standar**	**0.99**	**5**	Pg	**Pg**	**10 03 52.0**	**-0.2**
BOST	**Ostende**	**1.64**	**48**	*d*P	**Pn**	**10 04 01.3**	**-0.6**
BBOU	**Bougnies**	**1.90**	**82**	*d*P	**Pn**	**10 04 06.7**	**+1.1**
BSKQ	**Steenkerk**	**2.03**	**75**	*d*P	**Pn**	**10 04 07.4**	**0.0**
BRQR	**Ronquire**	**2.11**	**77**	*d*P	**Pn**	**10 04 08.5**	**0.0**
LOUF	**Saint-Loup**	**2.11**	**226**	Pn	**Pn**	**10 04 08.9**	**+0.5**
SWN1	**Swindon**	**2.24**	**308**	Pn	**Pn**	**10 04 11.2**	**+1.0**
JSA	**Saint Aubin**	**2.28**	**246**	Pn	**Pn**	**10 04 11.3**	**+0.4**
CLF	**Chambon-Foret**	**2.29**	**158**	Pn	**Pn**	**10 04 12.0**	**+1.0**
DOU	**Dourbes**	**2.31**	**90**	Pn	**Pn**	**10 04 11.9**	**+0.7**
DOU	**Dourbes**	**2.31**	**90**	*d*P	**Pn**	**10 04 12.4**	**+1.1**
RCHB	**Rochefort**	**2.71**	**88**	Pn	**Pn**	**10 04 17.0**	**+0.2**
RCHB	**Rochefort**	**2.71**	**88**	*d*P	**Pn**	**10 04 17.1**	**+0.2**
PLEF	**Pleven - 22200**	**2.75**	**234**	Pn	**Pn**	**10 04 17.5**	**+0.3**
DYA	**Yadsworthy**	**3.18**	**277**	Pn	**Pn**	**10 04 23.0**	**-0.2**
BHOU	**Houvegnez**	**3.21**	**85**	*d*P	**Pn**	**10 04 24.2**	**+0.5**
LKLB	**Kalborn**	**3.28**	**89**	*d*P	**Pn**	**10 04 24.9**	**+0.3**
ROSF	**Rostrenen**	**3.35**	**239**	Pn	**Pn**	**10 04 25.3**	**-0.2**
LOCF	**Locquirec - 29**	**3.40**	**246**	Pn	**Pn**	**10 04 25.9**	**-0.3**
LOR	**Lormes**	**3.46**	**146**	Pn	**Pn**	**10 04 27.1**	**0.0**
MANO	**Manonville**	**3.47**	**111**	Pn	**Pn**	**10 04 28.5**	**+1.3**
CCA1	**Carnmenellis**	**4.01**	**273**	Pn	**Pn**	**10 04 34.5**	**-0.1**
PLYF	**Puligny Montra**	**4.05**	**141**	Pn	**Pn**	**10 04 34.8**	**-0.4**
OLIV	**Plomelin**	**4.06**	**238**	Pn	**Pn**	**10 04 35.4**	**+0.1**
CHIF	**Chize**	**4.14**	**194**	Pn	**Pn**	**10 04 35.7**	**-0.6**
VOEL	**Voellerdingen**	**4.16**	**104**	Pn	**Pn**	**10 04 36.1**	**-0.5**
ABH	**Alteburg**	**4.23**	**91**	Pn	**Pn**	**10 04 37.3**	**-0.3**
AGO	**Saint Agoulin**	**4.35**	**160**	Pn	**Pn**	**10 04 39.4**	**+0.1**
CIEL	**Dossenheim-sur**	**4.35**	**105**	Pn	**Pn**	**10 04 39.5**	**+0.2**
RONF	**Ronchamp**	**4.45**	**121**	Pn	**Pn**	**10 04 41.1**	**+0.4**
ECH	**Echery**	**4.48**	**113**	Pn	**Pn**	**10 04 40.7**	**-0.4**
WLS	**Welschbruch**	**4.51**	**110**	Pn	**Pn**	**10 04 41.2**	**-0.3**
VERF	**Verneughiol**	**4.52**	**167**	Pn	**Pn**	**10 04 41.2**	**-0.5**
BOUC	**Bouclans**	**4.54**	**128**	Pn	**Pn**	**10 04 41.7**	**-0.1**
RIVEL	**MONT RIVEL**	**4.72**	**134**	Pn	**Pn**	**10 04 44.5**	**0.0**
CHMF	**Charmoille**	**4.74**	**126**	Pn	**Pn**	**10 04 44.9**	**+0.2**
BRANT	**Les Verrieres**	**4.86**	**130**	Pn	**Pn**	**10 04 46.6**	**+0.2**
FRNF	**Fournols**	**4.89**	**167**	Pn	**Pn**	**10 04 46.4**	**-0.4**
BOURR	**Bourrignon**	**4.96**	**122**	Pn	**Pn**	**10 04 47.6**	**-0.2**
OPP	**Oppenau**	**4.98**	**107**	Pn	**Pn**	**10 04 47.1**	**-0.9**
COLF	**Collangettes**	**4.99**	**158**	Pn	**Pn**	**10 04 47.5**	**-0.6**
KIZ	**Kirchzarten**	**5.05**	**113**	Pn	**Pn**	**10 04 49.1**	**+0.2**
OG35	**Corcelles**	**5.13**	**142**	Pn	**Pn**	**10 04 50.3**	**+0.2**
BFO	**Black Forest**	**5.13**	**108**	Pn	**Pn**	**10 04 49.6**	**-0.5**
FELD	**Feldberg im Sc**	**5.14**	**114**	Pn	**Pn**	**10 04 50.3**	**0.0**
LBL	**Lubilhac**	**5.16**	**162**	Pn	**Pn**	**10 04 50.5**	**0.0**
TORNY	**Torny/Romont**	**5.21**	**128**	Pn	**Pn**	**10 04 51.3**	**+0.1**
BALST	**Balsthal**	**5.25**	**120**	Pn	**Pn**	**10 04 51.9**	**+0.2**
SSB	**Saint Sauveur**	**5.43**	**153**	Pn	**Pn**	**10 04 54.0**	**-0.3**
SLE	**Schleitheim**	**5.48**	**113**	Pn	**Pn**	**10 04 54.8**	**-0.1**
OGSM	**Saint Maurice**	**5.54**	**144**	Pn	**Pn**	**10 04 55.9**	**+0.2**
OGSI	**Sixt**	**5.62**	**135**	Pn	**Pn**	**10 04 57.5**	**+0.7**
GUT	**Gutenstein**	**5.72**	**108**	Pn	**Pn**	**10 04 57.7**	**-0.5**
RSL	**Roselend**	**5.85**	**138**	Pn	**Pn**	**10 05 00.5**	**+0.4**
GRN	**Grenoble**	**5.87**	**145**	Pn	**Pn**	**10 05 01.1**	**+0.8**
REMY	**Saint-Rhmy-en**	**5.98**	**134**	Pn	**Pn**	**10 05 03.1**	**+1.2**

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*NOU **22** 10:11:52.9, 20°.27S×173°.38W, h0km, mb4.7/17, Tonga Islands*
*NEIC **22** 10:11:53.1±2.9, 20°.21S±0°.08×173°.43W±0°.08, h10km±1km, mb4.8/53, Error ellipse: s-maj=13.8km s-min=11.6km az=152.0*
*GCMT **22** 10:11:59.1±0.4, 20°.27S±0°.03×173°.39W±0°.03, h12km, MW4.9/55, Moment Tensor Solution. s30, c34; s55, c72; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.69±.12; $M_{\theta\theta}$-2.41±.14; $M_{\phi\phi}$-0.28±.08; $M_{r\theta}$0.73±.31; $M_{r\phi}$-1.00±.06; $M_{\theta\phi}$1.09±.30; Best double couple: $M_0$3.04700×10^{16} NP1:ϕ_s262.00000°, δ36.00000°, λ113.00000°. Principal axes: T 3.0760, Plg73.0000°, Azm285.0000°; N -0.0590, Plg13.0000°, Azm63.0000°; P -3.0180, Plg11.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **22** 10:12:05.3±3.9, 20°.43S×174°.02W, h92km±32km, mb4.2/15, mbtmp4.5/18, MS4.0/41 Error ellipse: s-maj=20.3km s-min=16.4km az=116.0*
ISC 22 10:11:55.0±0.3, 20°.29S±0°.07×173°.48W±0°.05, h21km, n164, σ1§96/135, mb4.8/45, MS4.0/37, 4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.56**	**71**		**Pn**	**10 12 47.3**	**-1.7**
NIUE	**Niue**	**3.56**	**71**	P	**Pn**	**10 12 47.9**	**-1.1**
AFI	**Afiamalu**	**6.55**	**15**		**Pn**	**10 13 27.6**	**-2.6**
AFI	**Afiamalu**	**6.55**	**15**	P	**Pn**	**10 13 29.7**	**-0.6**
MSVF	**Nonsavu**	**8.41**	**286**	Pn	**Pn**	**10 13 56.2**	**+0.5**
MSVF	**Nonsavu**	**8.41**	**286**	P	**Pn**	**10 14 00.2**	**+4.5**
	46nm,0.9s,baz=119,slow=19,SNR=17						
MSVF				S	Sn	10 15 43.3	+13
	8.9nm,0.9s,baz=131,slow=19,SNR=0.7						
MSVF				LR	LR	10 16 47.0	
	comp=Z,4μm,19.0s,baz=127,slow=35						
MSVF	**Nonsavu**	**8.41**	**286**	P	**Pn**	**10 13 57.7**	**+2.0**
RAO	**Raoul Island**	**9.79**	**203**	Pn	**Pn**	**10 14 15.0**	**+0.5**
RAR	**Rarotonga**	**12.86**	**96**		**Pn**	**10 14 55.0**	**-1.6**
RAR	**Rarotonga**	**12.86**	**96**	P	**Pn**	**10 14 55.6**	**-1.0**
	99nm,0.9s,baz=261,slow=13,SNR=14						
RAR				S	Sn	10 17 03.1	-16
	17nm,0.9s,baz=281,slow=22,SNR=2.0						
RAR				LR	LR	10 19 20.4	
	comp=Z,257nm,21.1s,baz=273,slow=33						
RAR	**Rarotonga**	**12.86**	**96**	P	**Pn**	**10 14 55.8**	**-0.8**
PINNC	**Pines Island,**	**17.91**	**259**	P	**Pn**	**10 16 01.9**	**-0.9**
PINNC				IAmb	IAmb	10 16 20.8	
	comp=Z,62nm,1.2s						
PINNC	**Pines Island,**	**17.91**	**259**	P	**P**	**10 16 05.0**	**+1.7**
YATNC	**Mamie plateau,**	**18.39**	**261**	P	**Pn**	**10 16 09.3**	**+0.5**
OUENC	**Ouen Island, N**	**18.45**	**260**	P	**Pn**	**10 16 11.4**	**+1.9**
OUZ	**Omahuta**	**18.73**	**215**	P	**Pn**	**10 16 12.8**	**0.0**
ONTNC	**Ouen Toro**	**18.80**	**260**	P	**P**	**10 16 10.7**	**-2.5**
ONTNC				IAmb	IAmb	10 16 30.4	
	comp=Z,35nm,0.9s						
DZM	**Mont Dzumac**	**18.81**	**261**	P	**P**	**10 16 11.2**	**-2.2**
DZM	**Mont Dzumac**	**18.81**	**261**	*e*P	**P**	**10 16 10.6**	**-2.8**
	comp=Z,100nm,1.2s						
DZM				*e*LR	LR	10 20 23.5	
	comp=Z,443nm,20.4s						
DZM	**Mont Dzumac**	**18.81**	**261**	P	**P**	**10 16 12.8**	**-0.6**
	comp=Z,23nm,0.9s,baz=75,slow=19,SNR=14						
DZM				LR	LR	10 22 31.4	
	comp=Z,475nm,19.1s,baz=94,slow=34						
DZM	**Mont Dzumac**	**18.81**	**261**	P	**P**	**10 16 13.6**	**+0.2**
NOUC	**Port Laguerre**	**18.94**	**261**	P	**Pn**	**10 16 16.9**	**+1.5**
URZ	**Urewera**	**19.67**	**202**	P	**Pn**	**10 16 23.4**	**-0.7**
	comp=Z,23nm,0.7s,baz=46,slow=3.1,SNR=17						
URZ				S	S	10 19 38.1	-25
	comp=Z,5.5nm,0.9s,baz=154,slow=5.7,SNR=1.6						
URZ				LR	LR	10 22 09.2	
	comp=Z,364nm,21.0s,baz=94,slow=31						
URZ	**Urewera**	**19.67**	**202**	P	**Pn**	**10 16 23.5**	**-0.6**
BKZ	**Black Stump Fm**	**20.70**	**203**	P	Pn	10 16 35.0	-1.2
HIZ	**Hauiti**	**20.77**	**207**	P	Pn	10 16 35.7	-1.3
HIZ				IAmb	IAmb	10 16 54.8	
	comp=Z,140nm,1.4s						
HIZ	**Hauiti**	**20.77**	**207**	P	Pn	10 16 36.7	-0.3
KOUNC	**Koumac, New Ca**	**20.84**	**265**	P	**P**	**10 16 32.5**	**-2.9**
KOUNC				IAmb	IAmb	10 16 50.0	
	comp=Z,34nm,0.9s						
BFZ	**Birch Farm**	**22.13**	**201**	P	**P**	**10 16 50.4**	**+1.2**
TBI	**Tubuai**	**22.50**	**102**	*e*P	**P**	**10 16 47.3**	**-6.0**
	comp=Z,328nm,37.5s						
TBI				*e*S	**S**	**10 21 04.8**	**+5.6**
	comp=Z,4μm,26.0s						
TBI				*e*LR	LR	10 22 24.8	
	comp=Z,1μm,23.5s						
PPT2	**Papeete2**	**22.76**	**87**	*e*P	**P**	**10 16 52.0**	**-4.2**
	comp=Z,37nm,23.5s						
PPT2				*e*S	Sn	10 21 12.9	-6.3
	comp=Z,979nm,25.8s						
PPT2				*e*LR	LR	10 22 29.7	
	comp=Z,369nm,25.8s						
PPT2				*e*LR	LR	10 22 35.8	
	comp=Z,446nm,24.2s						
PPT	**Papeete**	**22.77**	**87**	LR	LR	10 24 24.7	
	comp=Z,190nm,18.5s,baz=256,slow=32						
QRZ	**Quartz Range**	**23.69**	**207**	P	**P**	**10 17 07.4**	**+2.2**
OXZ	**Oxford**	**25.98**	**205**	P	**P**	**10 17 28.5**	**+2.3**
OXZ				IAmb	IAmb	10 17 33.2	
	comp=Z,29nm,0.8s						
HNR	**Honiara**	**27.82**	**289**	LR	LR	10 27 05.9	
	comp=Z,312nm,18.2s,baz=132,slow=33						
JCZ	**Jackson Bay**	**27.94**	**208**	P	**P**	**10 17 46.0**	**+2.1**
ARMA	**Armidale**	**32.99**	**245**	P	**P**	**10 18 27.6**	**-1.2**
ARMA				IAmb	IAmb	10 18 36.8	
	comp=Z,8.1nm,1.0s						
EIDS	**Eidsvold**	**32.99**	**254**	P	**P**	**10 18 26.6**	**-2.1**
EIDS				IAmb	IAmb	10 18 30.6	
	comp=Z,6.9nm,0.9s						
TAOE	**Nuku Hiva Isla**	**34.13**	**75**	*e*LR	LR	10 27 40.9	
	comp=Z,179nm,25.3s						
CAN	**Canberra**	**36.17**	**238**	P	**P**	**10 18 55.1**	**-1.1**
CTA	**Charters Tower**	**37.73**	**263**	LR	LR	10 34 21.3	
	comp=Z,265nm,18.1s,baz=154,slow=36						
CTAO	**Charters Tower**	**37.73**	**263**	P	**P**	**10 19 07.9**	**-1.6**
PMG	**Port Moresby**	**39.46**	**280**	P	**P**	**10 19 21.9**	**-2.1**
PMG				IAmb	IAmb	10 19 34.5	
	comp=Z,20nm,0.9s						
PMG	**Port Moresby**	**39.46**	**280**	LR	LR	10 33 47.3	
	comp=Z,273nm,18.5s,baz=112,slow=33						
TOO	**Toolangi**	**39.47**	**235**	P	**P**	**10 19 22.9**	**-1.1**
STKA	**Stephens Creek**	**41.70**	**245**	P	**P**	**10 19 40.7**	**-1.8**
STKA	**Stephens Creek**	**41.70**	**245**	P	**P**	**10 19 40.5**	**-1.9**
	comp=Z,6.8nm,0.8s,baz=86,slow=11,SNR=8.9						
STKA				LR	LR	10 35 56.4	
	comp=Z,244nm,18.7s,baz=47,slow=35						
	comp=Z,6.8nm,0.8s						
COEN	**Coen**	**41.81**	**272**	P	**P**	**10 19 41.1**	**-2.4**
BBOO	**Buckleboo**	**46.44**	**244**	P	**P**	**10 20 18.3**	**-2.2**
JAY	**Jayapura**	**48.04**	**286**	P	**P**	**10 20 32.2**	**-1.0**
	comp=Z,35nm,0.7s,baz=162,slow=2.5,SNR=12						
JAY				LR	LR	10 40 15.1	
	comp=Z,146nm,18.2s,baz=3.0,slow=36						
	comp=Z,35nm,0.7s						
AS31	**Alice Springs**	**48.69**	**256**	P	**P**	**10 20 36.0**	**-2.1**
ASAR	**Alice Springs**	**48.69**	**256**	P	**P**	**10 20 35.1**	**-3.0**
	comp=Z,5.8nm,0.8s,baz=88,slow=8.3,SNR=53						
ASAR				PcP	**PcP**	**10 22 03.5**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=105,slow=3.9,SNR=5.9						
ASAR				LR	LR	10 39 49.0	
	comp=Z,141nm,19.6s,baz=96,slow=34						
	comp=Z,5.8nm,0.8s						
WB0	**Warramunga Arr**	**48.80**	**261**	P	**P**	**10 20 36.3**	**-2.7**
WB0				IAmb	IAmb	10 21 04.7	
	comp=Z,7.6nm,0.9s						
WB2	**Warramunga Arr**	**48.81**	**261**	P	**P**	**10 20 36.6**	**-2.4**
WB2				IAmb	IAmb	10 20 37.0	
	comp=Z,10nm,1.0s						
WRA	**Warramunga Arr**	**48.82**	**261**	P	**P**	**10 20 36.7**	**-2.4**
WRA	**Warramunga Arr**	**48.82**	**261**	P	**P**	**10 20 36.0**	**-3.2**
	comp=Z,4.8nm,1.0s,baz=96,slow=7.1,SNR=28						
WRA				PcP	**PcP**	**10 22 02.2**	**-1.6**
	comp=Z,1.7nm,1.1s,baz=85,slow=3.0,SNR=2.1						
WRA				LR	LR	10 40 27.1	
	comp=Z,233nm,18.0s,baz=62,slow=35						
	comp=Z,4.8nm,1.0s						
GUMO	**Guam**	**53.02**	**306**	LR	LR	10 43 38.3	
	comp=Z,90nm,18.1s,baz=120,slow=36						
FORT	**Forrest**	**53.26**	**246**	P	**P**	**10 21 10.4**	**-2.0**
FORT				IAmb	IAmb	10 21 38.5	
	comp=Z,22nm,0.9s						
MTN	**Manton Dam**	**53.40**	**269**	P	**P**	**10 21 12.8**	**-0.8**
MTN				IAmb	IAmb	10 21 13.2	
	comp=Z,8.0nm,0.8s						
KNRA	**Kununurra**	**54.90**	**265**	P	**P**	**10 21 23.1**	**-1.5**
KNRA				IAmb	IAmb	10 21 35.9	
	comp=Z,10nm,0.9s						
FITZ	**Fitzroy Crossi**	**57.25**	**261**	LR	LR	10 46 05.3	
	comp=Z,311nm,18.1s,baz=100,slow=36						
SBA	**Scott Base**	**58.39**	**185**	P	**P**	**10 21 50.5**	**+2.1**
RPN	**Rapa Nui**	**58.59**	**110**	LR	LR	10 42 45.4	
	comp=Z,174nm,18.8s,baz=240,slow=31						
BATI	**Baumata**	**61.17**	**269**	LR	LR	10 50 19.5	
	comp=Z,96nm,18.3s,baz=136,slow=38						
MBWA	**Marble Bar**	**62.03**	**256**	P	**P**	**10 22 13.0**	**-1.3**
NWAO	**Narrogin (SRO)**	**62.24**	**243**	LR	LR	10 48 23.2	
	comp=Z,150nm,18.7s,baz=328,slow=35						
MORW	**Morawa**	**63.82**	**247**	P	**P**	**10 22 25.6**	**-0.5**
DAV	**Davao City (W)**	**65.77**	**288**	LR	LR	10 50 35.7	
	comp=Z,79nm,18.9s,baz=182,slow=35						
QSPA	**South Pole Qui**	**69.78**	**180**	P	**P**	**10 23 04.7**	**+1.1**
QSPA				IAmb	IAmb	10 23 12.3	
	comp=Z,13nm,1.0s						
QSPA	**South Pole Qui**	**69.78**	**180**	P	**P**	**10 23 06.1**	**+2.6**
	comp=Z,7.7nm,0.9s,baz=30,slow=2.4,SNR=13						
QSPA				LR	LR	10 51 24.6	
	comp=Z,94nm,18.9s,baz=46,slow=34						
	comp=Z,7.7nm,0.9s						
ATKA	**Atka Island**	**72.19**	**360**	P	**P**	**10 23 18.6**	**+0.6**
JGF	**Kuroka**	**72.52**	**320**	P	**P**	**10 23 21.2**	**+0.8**
MJAR	**Matsushiro Arr**	**72.64**	**321**	P	**P**	**10 23 21.6**	**+0.5**
	comp=Z,7.2nm,0.8s,baz=158,slow=5.8,SNR=15						
MJAR				LR	LR	10 51 03.6	
	comp=Z,56nm,19.3s,baz=134,slow=32			

comp=Z,6.0nm,0.6s
NJ2 pmax pmax
comp=Z,180nm,3.9s
MAW Mawson 83.16 199 P P 10 24 21.0 +1.9
MAW Mawson 83.16 199 P P 10 24 18.5 -0.6
comp=Z,3.0nm,0.8s,baz=81,slow=17,SNR=4.8
MAW LR LR 11 00 45.9
comp=Z,177nm,18.1s,baz=104,slow=35
comp=Z,3.0nm,0.8s
SRU San Rafael Swe 83.37 44 P P 10 24 20.4 -0.5
SRU IAmb IAmb 10 24 41.5
comp=Z,16nm,1.4s
TXAR Lajitas Array 83.41 56 P P 10 24 25.3 +4.1
comp=Z,0.7nm,0.9s,baz=219,slow=8.1,SNR=5.7
comp=Z,0.7nm,0.9s
HLID Hailey 83.45 39 P P 10 24 19.5 -1.7
TCUT Toone Canyon 83.90 42 P P 10 24 23.9 +0.2
TCUT IAmb IAmb 10 24 49.5
comp=Z,12nm,1.0s
ANMO Albuquerque 84.01 50 P P 10 24 23.6 -0.7
ANMO IAmb IAmb 10 24 33.9
comp=Z,8.1nm,1.3s
KLR Kul'dur 84.57 327 LR LR 10 54 06.3
comp=Z,77nm,21.8s,baz=147,slow=30
BNX BinXian 84.76 323 ⇓P **P 10 24 29.8 +2.3**
BNX pmax pmax
comp=Z,14nm,1.0s
MA2 Magadan 84.78 343 LR LR 10 58 41.8
comp=Z,65nm,19.6s,baz=130,slow=33
CMIG Matias Romero 85.59 70 LR LR 10 57 06.6
comp=Z,55nm,18.0s,baz=220,slow=31
RND Reindeer 85.63 11 P P 10 24 30.4 -1.2
PDAR Pinedale Array 85.95 42 P P 10 24 36.8 +2.9
comp=Z,1.1nm,1.0s,baz=248,slow=4.8,SNR=4.4
comp=Z,1.1nm,1.0s
TIA Tai'an 86.31 311 P P 10 24 38.0 +2.5
TIA pmax pmax
comp=Z,12nm,0.9s
CCB Clear Creek Bu 86.96 11 P P 10 24 39.1 +1.1
COLA College 87.16 11 P P 10 24 40.0 +1.1
ILAR Eielson Array 87.24 11 P P 10 24 39.9 +0.6
ILAR Eielson Array 87.24 11 P P 10 24 41.8 +2.4
comp=Z,1.3nm,0.8s,baz=227,slow=5.4,SNR=13
ILAR LR LR 10 56 00.9
comp=Z,43nm,21.1s,baz=290,slow=30
comp=Z,1.3nm,0.8s
ELIB Princess Elisa 87.28 185 *d*P **P 10 24 42.0 +2.2**
comp=Z,4.2nm,1.1s
IMAR Indian Mountai 87.30 8 P P 10 24 41.2 +1.5
HEH HeiHe 87.42 327 *e*P **P 10 24 42.6 +2.0**
HEH pmax pmax
comp=Z,6.0nm,0.8s
SNAA Sanae 88.05 177 LR LR 11 05 04.1
comp=Z,58nm,18.1s,baz=193,slow=36
PRP Porcupine Dome 88.16 11 P P 10 24 42.9 -1.0
PRP IAmb IAmb 10 25 00.3
comp=Z,13nm,1.3s
E19K Redstone River 88.32 6 P P 10 24 45.1 +0.6
E19K IAmb IAmb 10 24 56.7
comp=Z,12nm,1.1s
PSI Prapat 88.71 273 LR LR 11 06 29.1
comp=Z,72nm,19.1s,baz=130,slow=37
LYN LuoYang 88.96 307 *e*P **P 10 24 52.1 +3.9**
LYN pmax pmax
comp=Z,15nm,1.0s
XAN Xi'an 91.42 306 P P 10 25 01.9 +2.1
XAN pmax pmax
comp=Z,8.0nm,1.0s
HHC Hu-ho-hao-te 92.28 313 *e*P **P 10 24 59.0 -4.8**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,110nm,3.8s
KMI Kunming 93.06 296 ⇓P **P 10 25 11.3 +3.4**
KMI pmax pmax
comp=Z,12nm,1.0s
YAK Yakutsk 93.56 337 LR LR 11 00 41.4
comp=Z,38nm,20.0s,baz=188,slow=31
CMAR Chiang Mai Arr 94.06 288 P P 10 25 12.5 +0.2
CMAR Chiang Mai Arr 94.06 288 P P 10 25 13.2 +0.8
comp=Z,2.7nm,0.8s,baz=122,slow=2.4,SNR=21
comp=Z,2.7nm,0.8s
PZH PanZhiHua 94.39 296 P P 10 25 15.0 +1.2
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,5.1s
LZH Lanzhou 96.04 306 *e*P **P 10 25 18.4 -2.8**
LZH pmax pmax
comp=Z,16nm,1.2s
ULM Lac du Bonnet 97.76 39 LR LR 11 03 44.5
comp=Z,185nm,18.4s,baz=81,slow=32
LPAZ La Paz 98.19 111 LR LR 11 02 49.5
comp=Z,63nm,18.5s,baz=252,slow=31
KURBB Kurchatov Arra 116.77 317 PKP **PKiKP 10 30 38.3 +0.7**
comp=Z,0.4nm,0.2s,baz=91,slow=2.1,SNR=4.8
BVAR Borovoye Array 121.64 320 PKP **PKPdf 10 30 45.9 -1.1**
comp=Z,0.8nm,0.6s,baz=95,slow=1.6,SNR=4.6
LBTB Lobatse 131.29 203 PKPdf **PKPdf 10 31 05.2 -1.2**
KMBO Kilima Mbogo 143.13 238 PKP **PKPdf 10 31 28.8 +0.1**
comp=Z,1.0nm,0.3s,baz=162,slow=20,SNR=1.4
EKA Eskdalemuir Ar 144.26 9 PKP **PKPdf 10 31 29.3 +0.2**
comp=Z,1.5nm,0.6s,baz=336,slow=3.1,SNR=4.4
AKASG Malin Array Be 144.76 335 PKPdf **PKPab 10 31 27.4 -1.6**
AKASG Malin Array Be 144.76 335 PKP **PKPdf 10 31 29.7 -0.4**
comp=Z,2.5nm,0.5s,baz=43,slow=4.5,SNR=29
AKBB Malin Array Si 144.76 335 PKPdf **PKPdf 10 31 30.0 -0.1**
AKBB Malin Array Si 144.76 335 PKP **PKPdf 10 31 30.0 -0.1**
KIEV Kiev 144.77 335 PKPdf **PKPab 10 31 28.9 0.0**
RNPP9 Sopachiv 145.43 339 PKP **PKPab 10 31 31.8 +0.4**
CLL Collm 148.63 352 *i* PKiKP **PKiKP 10 31 42.3 +0.5**
comp=Z,12nm,1.4s
CLL *i* x x 10 31 47.5
comp=Z,10.0nm,0.9s
BRG Berggiesshubel 148.93 351 *e*PKP **PKiKP 10 31 43.8 +1.3**
BRG Amp 10 31 48.4
comp=Z,7.7nm,0.9s
DPC Dobruska-Polom 149.02 348 *e*PKP **PKPab 10 31 45.3 -0.2**
MORC Moravsky Berou 149.30 346 *e*PKP **PKiKP 10 31 44.7 +1.4**
LANS Liptovska Anna 149.40 343 *e*PKP **PKiKP 10 31 44.3 +0.8**
LANS *e* 10 31 50.6
BRTR Keskin Array B 149.75 316 PKPdf **PKPdf 10 31 37.2 -1.7**
BRTR Keskin Array B 149.75 316 PKPbc **PKiKP 10 31 44.9 +0.1**
comp=Z,1.0nm,0.6s,baz=144,slow=2.9,SNR=3.0
VRAC Vranov 149.95 347 *e*PKP **PKiKP 10 31 46.1 +1.5**
BMRD Maredsous 150.02 2 *d*PKPdf **PKPdf 10 31 41.0 +2.1**
JAVC Velka Javorina 150.13 345 *e*PKP **PKiKP 10 31 46.8 +1.7**
VYHS Vyhne 150.17 343 *e*PKP **PKPab 10 31 47.7 -2.5**
KRUC Moravsky 150.22 347 *e*PKP **PKiKP 10 31 46.5 +1.3**
ZVC Zvikov 150.28 350 *e*PKP **PKPab 10 31 50.1 -0.5**
MODS Modra-Piesok 150.67 345 *e*PKP **PKPab 10 31 49.4 -2.9**
KHC Kasperske Hory 150.68 351 *e*PKP **PKiKP 10 31 48.5 +2.3**
GERES GERESS Array B 150.94 350 PKPbc **PKiKP 10 31 46.9 +0.1**
comp=Z,0.4nm,0.3s,baz=91,slow=3.9,SNR=2.3
MMAI Mount Meron Ar 151.35 302 PKPbc **PKiKP 10 31 49.3 +1.2**
comp=Z,3.0nm,0.6s,baz=73,slow=4.2,SNR=4.5

HEL 22 10:47:36.2±0.4, 67°.53N×21°.03E, h0km, ML1.3, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**0.96**	**121**	PB	Pb	10 47 55.8	+0.1
baz=302							
ERTU	**Ertsjaerv**	**1.08**	**155**	PN	Pn	10 47 58.5	-0.1
baz=336							
ERTU				SN	Sn	10 48 14.7	+0.5
KLF	**Kolari**	**1.18**	**103**	PN	Pb	10 47 59.3	0.0
KLF				MSG		10 48 12.0	
comp=Z,2.1nm,0.2s							
KLF				SN	Sn	10 48 16.4	-0.1
HEF	**Hetta**	**1.33**	**47**	*e*P	Pg	10 48 00.1	-1.5
HEF	**Hetta**	**1.33**	**47**	PG	Pg	10 47 59.6	-2.0
HEF				MSG		10 48 16.4	
comp=Z,2.6nm,0.2s							
HEF				SG	Sg	10 48 17.3	-1.5
KIF	**Kilpisjarvi**	**1.48**	**357**	*e*P	Pn	10 48 02.8	-1.3
KTK1	**Kautokeino**	**1.70**	**28**	PG	Pn	10 48 07.0	-0.1
KTK1				SN	Sn	10 48 29.6	0.0
KMNF	**Kaamanen**	**2.75**	**51**	SB	Sn	10 48 56.6	+1.3
RAJF	**Raja-Jooseppi**	**2.90**	**68**	SG	Sb	10 49 05.4	+0.6

UPP 22 10:48:12.1±0.1, 67°.65N×21°.07E, h0km, ML1.6, Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.41**	**118**	P	Pg	10 48 19.8	-0.1
MASU				S	Sg	10 48 25.6	+0.5
KUA	**Kurravaara**	**0.41**	**318**	P	Pg	10 48 19.7	-0.3
KUA				S	Sg	10 48 25.3	0.0
DUNU	**Dundret**	**0.56**	**200**	P	Pg	10 48 22.9	0.0
RATU	**Laukkuluspa**	**0.59**	**288**	P	Pg	10 48 23.1	-0.3
KOVU	**Salmi**	**0.67**	**330**	P	Pg	10 48 25.2	+0.3
PAJU	**Pajala**	**1.01**	**127**	P	Pg	10 48 31.1	-0.4
SALU	**Saltoluokta**	**1.02**	**256**	P	Pg	10 48 30.9	-0.7
ERTU	**Ertsjaerv**	**1.19**	**158**	P	Pg	10 48 33.9	-0.9

IDC ***22*** *11:01:29.9±0.6, 16°.85S×168°.34E, h0km, mb4.3/18, mbtmp4.3/19, ML4.0/1, MS4.4/38, Error ellipse: s-maj=20.4km s-min=16.5km az=121.0*
NOU ***22*** *11:01:31.6, 16°.89S×168°.26E, h0km, MLv5.0/28, Vanuatu Islands*
NEIC ***22*** *11:01:34.3±2.4, 17°.08S±0°.09×168°.21E±0°.08, h10km±1km, mb4.8/52, Error ellipse: s-maj=15.6km s-min=11.9km az=325.0*
GCMT ***22*** *11:01:34.3±0.2, 16°.84S±0°.01×168°.37E±0°.01, h12km, MW5.0/122, Moment Tensor Solution. s46,c54; s122,c191; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.44±.09; Mθθ3.03±.09; Mφφ-3.47±.08; Mrθ1.14±.24; Mφr-2.39±.07; Mθr1.04±.24; Best double couple: M0=4.30200×10^16 NP1:φs243.00000°, δ88.00000°, λ-160.00000°. NP2:φs152.00000°, δ70.00000°, λ-2.00000°. Principal axes: T 3.9870, Plg13.0000°, Azm16.0000°; N 0.6270, Plg70.0000°, Azm247.0000°; P -4.6160, Plg15.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***22*** *11:01:36.7, 16°.69S×168°.64E, h39km, mb4.7/17, mB5.1/6, Ms4.9/4, Ms7 4.6/7*
ISC 22 11:01:36.5±0.4, 16°.94S±0°.05×168°.28E±0°.06, h35km, n149, σ1§48/115, mb4.8/46, MS4.5/40, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.79**	**187**	P	**Pn**	**11 01 47.1**	**-4.0**
VLAKA	**Lakatoro**	**1.17**	**315**	P	**Pn**	**11 01 51.8**	**-4.5**
MARNC	**Mare, Loyalty**	**4.53**	**183**	P	**Pn**	**11 02 42.1**	**-0.4**
KOUNC	**Koumac, New Ca**	**5.22**	**226**		**Pn**	**11 02 51.6**	**-0.5**
KOUNC	**Koumac, New Ca**	**5.22**	**226**	P	**Pn**	**11 02 51.8**	**-0.3**
YATNC	**Mamie plateau,**	**5.26**	**194**	P	**Pn**	**11 02 51.4**	**-1.3**
DZM	**Mont Dzumac**	**5.39**	**198**		**Pn**	**11 02 53.5**	**-1.0**
DZM	**Mont Dzumac**	**5.39**	**198**	*e*Pn	**Pn**	**11 02 54.4**	**-0.2**
163nm,0.8s							
DZM				*e*Sn	**Sn**	**11 03 55.7**	**+0.2**
DZM				*e*LR	LR	11 04 04.5	
12μm,24.4s							
DZM	**Mont Dzumac**	**5.39**	**198**	Pn	**Pn**	**11 02 52.2**	**-2.3**
5.1nm,0.3s,baz=34,slow=23,SNR=51							
DZM				Sn	**Sn**	**11 03 56.3**	**+0.8**
3.6nm,0.3s,baz=125,slow=23,SNR=1.5							
DZM				LR	LR	11 04 23.6	
comp=Z,2μm,20.5s,baz=346,slow=32							
49nm,0.6s							
DZM	**Mont Dzumac**	**5.39**	**198**	P	**Pn**	**11 02 53.5**	**-1.0**
NOUC	**Port Laguerre**	**5.46**	**200**	P	**Pn**	**11 02 53.8**	**-1.7**
ONTNC	**Ouen Toro**	**5.61**	**198**		**Pn**	**11 02 56.7**	**-0.8**
ONTNC	**Ouen Toro**	**5.61**	**198**	P	**Pn**	**11 02 57.7**	**+0.2**
OUENC	**Ouen Island, N**	**5.62**	**194**	P	**Pn**	**11 02 56.6**	**-1.0**
PINNC	**Pines Island,**	**5.70**	**188**		**Pn**	**11 02 57.1**	**-1.6**
PINNC	**Pines Island,**	**5.70**	**188**	P	**Pn**	**11 02 57.7**	**-1.0**
LUES	**Luesalemba Tem**	**6.65**	**339**	P	**Pn**	**11 03 10.6**	**-1.1**
MSVF	**Nonsavu**	**9.36**	**96**		**Pn**	**11 03 50.9**	**+1.8**
MSVF	**Nonsavu**	**9.36**	**96**	Pn	**Pn**	**11 03 48.5**	**-0.6**
0.2nm,0.3s,baz=299,slow=12,SNR=4.0							
NGOA	**Tingoa Renbel**	**9.60**	**303**	P	**Pn**	**11 03 50.2**	**-2.0**
HNR	**Honiara**	**11.02**	**312**		**Pn**	**11 04 14.9**	**+3.2**
HNR	**Honiara**	**11.02**	**312**	Pn	**Pn**	**11 04 12.6**	**+0.9**
4.2nm,0.3s,baz=204,slow=6.0,SNR=1.9							
HNR				LR	LR	11 07 59.4	
comp=Z,2μm,19.8s,baz=140,slow=35							
EIDS	**Eidsvold**	**18.09**	**239**		**Pn**	**11 05 44.2**	**-0.9**
OUZ	**Omahuta**	**18.82**	**166**	P	**Pn**	**11 05 53.7**	**-0.1**
ARMA	**Armidale**	**20.28**	**226**		**P**	**11 06 08.2**	**-1.1**
CTA	**Charters Tower**	**21.12**	**258**	LR	LR	11 12 51.0	
comp=Z,688nm,21.0s,baz=136,slow=32							
CTAO	**Charters Tower**	**21.12**	**258**	P	**P**	**11 06 19.1**	**+0.8**
PMG	**Port Moresby**	**21.87**	**287**	P	**P**	**11 06 26.0**	**-0.5**
PMG	**Port Moresby**	**21.87**	**287**	P	**P**	**11 06 25.8**	**-0.7**
5.2nm,0.7s,baz=153,slow=6.8,SNR=3.4							
PMG				LR	LR	11 13 47.1	
comp=Z,2μm,18.8s,baz=104,slow=34							
5.2nm,0.7s							
URZ	**Urewera**	**22.61**	**162**	P	**P**	**11 06 33.2**	**-1.0**
12nm,1.1s,baz=321,slow=13,SNR=1.8							
URZ				LR	LR	11 14 20.2	
comp=Z,1μm,18.3s,baz=63,slow=34							
12nm,1.1s							
BKZ	**Black Stump Fm**	**23.28**	**164**	P	**P**	**11 06 40.1**	**-1.0**
BKZ	**Black Stump Fm**	**23.28**	**164**	P	**P**	**11 06 41.7**	**+0.6**
QRZ	**Quartz Range**	**24.09**	**172**	P	**P**	**11 06 49.3**	**+0.6**
COEN	**Coen**	**24.38**	**273**	P	**P**	**11 06 50.2**	**-1.4**
MRZ	**Mangatainoka R**	**24.47**	**167**	P	**P**	**11 06 51.3**	**-0.9**
CNB	**Canberra Magne**	**24.89**	**219**	P	**P**	**11 06 56.0**	**-0.2**
THZ	**Tophouse**	**25.06**	**172**	P	**P**	**11 06 58.0**	**+0.4**
THZ				IAmb	IAmb	11 07 03.5	
comp=Z,23nm,0.8s							
INZ	**Inchbonnie**	**25.84**	**175**	P	**P**	**11 07 04.2**	**-0.4**
LTZ	**Lake Taylor**	**25.98**	**173**	P	**P**	**11 07 06.5**	**+0.6**
LTZ				IAmb	IAmb	11 07 12.8	
comp=Z,20nm,0.7s							
QIS	**Mount Isa**	**27.38**	**258**	P	**P**	**11 07 18.4**	**-0.4**
STKA	**Stephens Creek**	**28.39**	**233**	P	**P**	**11 07 26.6**	**-1.0**
STKA	**Stephens Creek**	**28.39**	**233**	P	**P**	**11 07 28.0**	**+0.3**
comp=Z,10nm,0.8s,baz=64,slow=9.0,SNR=15							
STKA				LR	LR	11 18 11.9	
comp=Z,479nm,19.9s,baz=59,slow=35							
comp=Z,10nm,0.8s							
STKA	**Stephens Creek**	**28.39**	**233**	P	**P**	**11 07 28.6**	**+0.9**
RAR	**Rarotonga**	**30.46**	**103**	LR	LR	11 17 17.2	
comp=Z,438nm,20.2s,baz=263,slow=31							
LCRK	**Leigh Creek**	**30.53**	**238**	P	**P**	**11 07 46.5**	**-0.2**
JAY	**Jayapura**	**30.66**	**295**	LR	LR	11 19 36.2	
comp=Z,770nm,19.7s,baz=111,slow=35							
HTT	**Hallett**	**31.09**	**233**	P	**P**	**11 07 51.7**	**+0.1**
OOD	**Oodnadatta**	**31.93**	**244**	P	**P**	**11 07 58.9**	**-0.1**
WB0	**Warramunga Arr**	**32.26**	**260**	P	**P**	**11 08 00.0**	**-2.0**
WB0				IAmb	IAmb	11 08 11.6	
comp=Z,10.0nm,1.0s							
WB2	**Warramunga Arr**	**32.30**	**259**	P	**P**	**11 08 02.1**	**-0.2**
WRA	**Warramunga Arr**	**32.31**	**259**	P	**P**	**11 08 00.6**	**-1.9**
comp=Z,1.5nm,0.6s,baz=90,slow=9.0,SNR=11							
WRA				LR	LR	11 19 39.0	
comp=Z,552nm,19.9s,baz=94,slow=34							
comp=Z,1.5nm,0.6s							
AS31	**Alice Springs**	**32.87**	**253**	P	**P**	**11 08 06.1**	**-1.3**
AS31				IAmb	IAmb	11 08 11.7	
comp=Z,7.1nm,0.8s							
ASAR	**Alice Springs**	**32.87**	**253**	P	**P**	**11 08 05.8**	**-1.6**
comp=Z,13nm,0.9s,baz=76,slow=9.0,SNR=84							
ASAR				LR	LR	11 20 15.2	
comp=Z,412nm,19.2s,baz=86,slow=34							
comp=Z,13nm,0.9s							
BBOO	**Buckleboo**	**33.06**	**235**	P	**P**	**11 08 08.0**	**-0.9**
BBOO	**Buckleboo**	**33.06**	**235**	P	**P**	**11 08 08.7**	**-0.2**
MULG	**Mulgathing**	**33.91**	**241**	P	**P**	**11 08 16.0**	**-0.3**
KNRA	**Kununurra**	**37.91**	**266**	P	**P**	**11 08 50.0**	**-0.7**
KNRA				IAmb	IAmb	11 08 52.7	
comp=Z,15nm,0.9s							
WRKA	**Warakurna**	**38.08**	**251**	P	**P**	**11 08 52.6**	**+0.4**
GUMO	**Guam**	**38.14**	**321**	LR	LR	11 26 26.1	
comp=Z,252nm,18.2s,baz=148,slow=39							
FORT	**Forrest**	**39.06**	**242**	P	**P**	**11 09 00.5**	**+0.2**
FORT	**Forrest**	**39.06**	**242**	P	**P**	**11 09 01.4**	**+1.1**
TBI	**Tubuai**	**40.08**	**106**	*e*S	**S**	**11 15 10.7**	**-2.1**
comp=Z,608nm,29.5s							
TBI				*e*LQ	LQ	11 18 29.8	
comp=Z,2μm,26.8s							
TBI				*e*LR	LR	11 20 07.5	
comp=Z,5μm,26.5s							
TBI				*e*LR	LR	11 20 14.7	
comp=Z,1μm,27.5s							
PPT2	**Papeete2**	**40.19**	**97**	*e*P	**P**	**11 09 13.2**	**+3.3**
comp=Z,48nm,30.8s							
PPT2				*e*S	**S**	**11 15 13.6**	**-1.1**
comp=Z,172nm,24.8s							
PPT2				*e*LQ	LQ	11 18 32.3	
comp=Z,1μm,30.5s							
PPT2				*e*LR	LR	11 20 16.5	
comp=Z,1μm,25.2s							
PPT2				*e*LR	LR	11 20 20.1	
comp=Z,1μm,27.5s							
FITZ	**Fitzroy Crossi**	**40.62**	**262**	P	**P**	**11 09 12.3**	**-1.0**
comp=Z,6.8nm,0.9s,baz=99,slow=8.0,SNR=5.4							
FITZ				LR	LR	11 25 56.7	
comp=Z,741nm,18.1s,baz=92,slow=36							
comp=Z,6.8nm,0.9s							
BATI	**Baumata**	**43.81**	**273**	LR	LR	11 27 26.2	
comp=Z,645nm,20.5s,baz=125,slow=36							
MBWA	**Marble Bar**	**45.95**	**257**	P	**P**	**11 09 56.0**	**-0.4**
DAV	**Davao City (W)**	**48.49**	**296**	LR	LR	11 28 17.6	
comp=Z,256nm,21.8s,baz=106,slow=33							
NWAO	**Narrogin (SRO)**	**48.49**	**241**	LR	LR	11 29 14.0	
comp=Z,378nm,21.1s,baz=19,slow=34							
MORW	**Morawa**	**49.23**	**246**	P	**P**	**11 10 21.9**	**+0.2**
TAOE	**Nuku Hiva Isla**	**50.79**	**88**	*e*S	**S**	**11 17 45.8**	**-1.9**
comp=Z,198nm,24.4s							
TAOE				*e*LR	LR	11 25 12.2	
comp=Z,720nm,29.2s							
LEM	**Lembang**	**60.01**	**272**	LR	LR	11 39 19.2	
comp=Z,163nm,18.6s,baz=138,slow=38							
MJAR	**Matsushiro Ar**	**60.30**	**332**	P	**P**	**11 11 39.1**	**-2.7**
comp=Z,2.4nm,1.0s,baz=164,slow=8.3,SNR=2.9							
MJAR				LR	LR	11 40 28.8	
comp=Z,117nm,18.1s,baz=146,slow=39							
comp=Z,2.4nm,1.0s							
ASAJ	**Asahikawa**	**65.14**	**340**	LR	LR	11 35 20.1	
comp=Z,664nm,21.9s,baz=170,slow=31							
NJ2	**Nanjing**	**67.93**	**316**	*e*P	**P**	**11 12 34.3**	**+2.4**
NJ2				pmax	pmax		
comp=Z,11nm,0.5s							
USRK	**Ussuriysk Ar.**	**69.28**	**333**	LR	LR	11 38 38.1	
comp=Z,242nm,22.0s,baz=156,slow=32							
SHEM	**Shemya Is, Ala**	**69.56**	**4**	LR	LR	11 36 39.5	
comp=Z,360nm,21.8s,baz=138,slow=30							
PETK	**Petropavlovsk-**	**70.35**	**353**	LR	LR	11 38 38.8	
comp=Z,393nm,19.5s,baz=149,slow=32							
QSPA	**South Pole Qui**	**73.10**	**180**	P	**P**	**11 13 04.0**	**+0.9**
QSPA	**South Pole Qui**	**73.10**	**180**	P	**P**	**11 13 03.3**	**+0.1**
comp=Z,0.9nm,0.7s,baz=351,slow=9.1,SNR=6.2							
comp=Z,0.9nm,0.7s							
KLR	**Kul'dur**	**73.41**	**336**	LR	LR	11 41 01.9	
comp=Z,313nm,21.8s,baz=140,slow=32							
CMAR	**Chiang Mai Arr**	**76.73**	**294**	P	**P**	**11 13 24.0**	**-0.8**
comp=Z,0.5nm,0.7s,baz=91,slow=2.4,SNR=4.2							
comp=Z,0.5nm,0.7s							
MA2	**Magadan**	**77.57**	**351**	LR	LR	11 42 02.8	
comp=Z,312nm,21.9s,baz=154,slow=31							
PZH	**PanZhiHua**	**77.70**	**303**	P	**P**	**11 13 32.1**	**+1.9**
PZH				pmax	pmax		
comp=Z,10.0nm,0.6s							
PZH				pmax	pmax		
comp=Z,110nm,6.3s							
HHC	**Hu-ho-hao-te**	**77.89**	**320**	*e*P	**P**	**11 13 32.8**	**+1.9**
HHC				pmax	pmax		
comp=Z,9.0nm,0.6s							
HHC				pmax	pmax		
comp=Z,72nm,4.3s							
HHC				LR	LR		
comp=Z,110nm,10.6s							
HHC				LR	LR		
comp=Z,170nm,12.0s							
HHC				LR	LR		
comp=Z,140nm,12.7s							
MAW	**Mawson**	**80.21**	**202**	P	**P**	**11 13 41.0**	**-2.1**
comp=Z,0.9nm,0.8s,baz=96,slow=11,SNR=1.3							
MAW				LR	LR	11 44 14.3	
comp=Z,453nm,21.0s,baz=97,slow=32							
comp=Z,0.9nm,0.8s							
LZH	**Lanzhou**	**80.52**	**312**	*e*P	**P**	**11 13 48.3**	**+2.9**
LZH				sP	sP	11 14 05.4	+5.1
LZH				pmax	pmax		
comp=Z,16nm,1.1s							
LZH				LR	LR		
comp=Z,280nm,15.8s							
LZH				LR	LR		
comp=Z,220nm,16.5s							
LZH				LR	LR		
comp=Z,320nm,18.2s							
SEY	**Seymchan**	**80.58**	**353**	LR	LR	11 46 44.8	
comp=Z,352nm,18.4s,baz=150,slow=34							
KDAK	**Kodiak Island**	**81.19**	**20**	LR	LR	11 44 40.5	
comp=Z,171nm,19.1s,baz=72,slow=32							
YAK	**Yakutsk**	**84.42**	**343**	P	**P**	**11 14 07.9**	**+3.0**
YAK	**Yakutsk**	**84.42**	**343**	LR	LR	11 52 03.9	
comp=Z,247nm,18.1s,baz=119,slow=36							
BELA	**Belgrano 2**	**84.46**	**175**	P	**P**	**11 14 05.0**	**-0.1**
BELA				IAmb	IAmb	11 14 34.0	
comp=Z,6.1nm,1.1s							
ULN	**Ulaanbaatar**	**84.48**	**324**	P	**P**	**11 14 06.8**	**+0.9**
ULN				IAmb	IAmb	11 14 17.6	
comp=Z,6.2nm,0.9s							
SONM	**Songino Array**	**84.84**	**323**	P	**P**	**11 14 06.3**	**-1.3**
comp=Z,1.8nm,0.9s,baz=139,slow=4.7,SNR=6.7							
comp=Z,1.8nm,0.9s							
GTA	**Gaotai**	**84.89**	**314**	*e*P	**P**	**11 14 08.1**	**0.0**
GTA				pP	sP	11 14 22.3	-0.6
GTA				pmax	pmax		
comp=Z,3.0nm,1.1s							
GTA				LR	LR		
comp=Z,150nm,16.7s							
GTA				LR	LR		
comp=Z,170nm,20.0s							
GTA				LR	LR		
comp=Z,170nm,19.3s							
SML	**Sawmill**	**85.67**	**19**	P	**P**	**11 14 13.7**	**+2.3**
SML				IAmb	IAmb	11 14 40.8	
comp=Z,7.7nm,1.2s							
ORV	**Oroville**	**86.17**	**47**	P	**P**	**11 14 15.2**	**+1.0**
ORV				IAmb	IAmb	11 14 18.2	
comp=Z,7.2nm,1.1s							
AFDM	**Forest Hills D**	**86.28**	**48**	IAmb	IAmb	11 14 18.2	
comp=Z,6.6nm,1.1s							
YBH	**Yreka Blue Hor**	**86.29**	**44**	P	**P**	**11 14 14.1**	**-0.8**
YBH				IAmb	IAmb	11 14 22.0	
comp=Z,8.9nm,1.1s							
YBH	**Yreka Blue Hor**	**86.29**	**44**	LR	LR	11 44 24.6	
comp=Z,255nm,20.7s,baz=249,slow=30							
HATC	**Hat Creek Radi**	**86.74**	**46**	P	**P**	**11 14 19.0**	**+1.9**
ISA	**Isabella, Lake**	**86.75**	**51**		**P**	**11 14 18.1**	**+0.8**
OMMB	**Old Mammoth Mi**	**87.14**	**49**	IAmb	IAmb	11 14 27.0	
comp=Z,7.7nm,1.2s							
WAKR	**Walker**	**87.19**	**48**	IAmb	IAmb	11 14 26.0	
comp=Z,7.6nm,1.1s							
PFO	**Pinyon Flats O**	**87.50**	**54**	LR	LR	11 46 04.5	
comp=Z,308nm,19.8s,baz=244,slow=31							
YERR	**Yerington**	**87.53**	**48**	IAmb	IAmb	11 14 30.0	
comp=Z,6.8nm,1.1s							
PAHR	**Pah Rah Range**	**87.72**	**47**	P	**P**	**11 14 22.9**	**+0.9**
PAHR				IAmb	IAmb	11 14 27.6	
comp=Z,7.0nm,1.2s							
LHV	**Little Huntoon**	**87.76**	**49**	P	**P

comp=Z,5.7nm,1.1s
HAWA Hanford 90.36 41 P **P 11 14 33.7 -0.4**
DLBC Dease Lake 90.43 28 LR LR 11 52 18.9
comp=Z,245nm,18.0s,baz=260,slow=34
TROLL Troll, Antarti 90.75 184 ⇑P **P 11 14 36.8 +1.1**
comp=Z,257nm,0.9s
ELK Elko 91.05 48 P **P 11 14 35.0 -2.7**
comp=Z,0.7nm,0.8s,baz=244,slow=5.0,SNR=1.7
comp=Z,0.7nm,0.8s
SNAA Sanae 91.41 183 ⇑P P 11 14 44.1 +5.4
comp=Z,53nm,0.8s
SNAA Sanae 91.41 183 P **P 11 14 37.5 -1.2**
comp=Z,1.5nm,0.8s,baz=239,slow=5.9,SNR=2.3
comp=Z,1.5nm,0.8s
F10A Beach Ranch, E 91.66 42 IAmb IAmb 11 14 49.3
comp=Z,3.0nm,0.8s
NEW Newport 92.61 40 LR LR 11 48 53.9
comp=Z,143nm,20.9s,baz=278,slow=31
INK Inuvik 94.66 18 LR LR 11 50 51.1
comp=Z,271nm,20.6s,baz=231,slow=31
WMQ Urumqi 94.96 314 *e*P **P 11 14 59.4 +3.9**
WMQ pmax pmax
comp=Z,15nm,0.6s
WMQ LR LR
comp=Z,210nm,24.7s
PDAR Pinedale Array 95.72 47 LR LR 11 58 05.2
comp=Z,65nm,18.2s,baz=256,slow=36
ANMO Albuquerque 95.75 55 LR LR 11 48 50.7
comp=Z,123nm,21.8s,baz=62,slow=30
TXAR Lajitas Array 96.47 61 P **P 11 15 02.1 -0.6**
comp=Z,0.1nm,0.5s,baz=256,slow=9.9,SNR=1.6
comp=Z,0.1nm,0.5s
YKA Yellowknife Ar 99.05 27 LR LR 11 58 17.5
comp=Z,134nm,18.2s,baz=288,slow=34
MKAR Makanchi Array 99.46 316 P **Pdif 11 15 14.8 -0.9**
comp=Z,1.6nm,1.1s,baz=90,slow=7.8,SNR=3.1
comp=Z,1.6nm,1.1s
ZALV Zalesovo Beam 99.74 323 P **Pdif 11 15 14.4 -2.3**
comp=Z,0.8nm,0.7s,baz=118,slow=8.3,SNR=2.2
comp=Z,0.8nm,0.7s
ARCES ARCESS Array B 122.62 345 PKP **PKPdf 11 20 26.9 -0.9**
comp=Z,2.5nm,0.7s,baz=77,slow=5.4,SNR=3.7
FINES FINESS Array B 128.12 338 PKP **PKPdf 11 20 37.1 -1.4**
comp=Z,1.4nm,0.7s,baz=60,slow=7.7,SNR=3.6
AKASG Malin Array Be 133.10 325 PKP **PKiKP 11 20 48.9 -0.6**
comp=Z,0.5nm,0.3s,baz=58,slow=1.7,SNR=2.9
RONA Rosalia, Austr 141.66 329 *e*PKP **PKPdf 11 21 04.9 +0.7**
comp=Z,2.2nm,0.7s
CONA Conrad Observa 141.71 330 *e*PKP **PKiKP 11 21 05.5 -1.8**
comp=Z,2.7nm,1.1s
KBA Koelnbreinsper 143.51 331 *e*PKP **PKPdf 11 21 07.8 0.0**
comp=Z,10nm,1.3s
LESA Schwarzleotal 143.56 332 *e*PKP **PKPdf 11 21 06.2 -1.5**
comp=Z,5.7nm,0.8s
MOTA Moosalm 144.32 333 *i* PKP **PKPdf 11 21 08.6 -0.5**
comp=Z,12nm,1.0s
RETA Reutte 144.35 334 *i* PKP **PKPdf 11 21 08.8 -0.3**
comp=Z,1.9nm,0.5s
SQTA Sankt Quirin 144.37 333 *e*PKP **PKPdf 11 21 08.1 -1.0**
comp=Z,3.3nm,0.5s
FETA Feichten 144.73 333 *i* PKP **PKPdf 11 21 09.1 -0.7**
comp=Z,11nm,0.9s
DAVA Damuels 144.88 334 *i* PKP **PKPdf 11 21 09.4 -0.7**
comp=Z,17nm,1.1s
DAVOX Davos/Dischmat 145.28 334 PKPbc **PKPbc 11 21 09.7 -0.9**
comp=Z,12nm,0.6s,baz=56,slow=3.6,SNR=20
TORD Torodi Ar. Bea 166.51 256 PKP **PKPdf 11 21 39.6 +0.5**
comp=Z,0.1nm,0.4s,baz=24,slow=2.7,SNR=2.9
TORD PKPab **PKPab 11 22 41.0 -0.2**
comp=Z,1.0nm,0.9s,baz=152,slow=4.3,SNR=3.0

IDC 22 11:02:57.1±4.3, 14°.40N×92°.86W, h0km, mb3.7/2, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=63.6km s-min=36.0km az=174.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.31**	**324**	Pn	Pn	11 03 50.5	+0.3
	3.1nm,0.3s,baz=140,slow=14,SNR=42						
CMIG				Sn	Sn	11 04 31.0	+0.7
	4.3nm,0.3s,baz=113,slow=14,SNR=4.2						
	7.4nm,0.3s						
TEIG	**Tepich**	**7.26**	**36**	Pn	Pn	11 04 45.4	+1.0
	baz=225,slow=24,SNR=25						
TEIG				Sn	Sn	11 06 07.9	+0.3
	baz=27,slow=24,SNR=1.2						
TXAR	**Lajitas Array**	**17.91**	**328**	P	P	11 07 09.3	+0.8
	baz=143,slow=12,SNR=5.3						
	1.0nm,1.1s						
NVAR	**Mina Array Bea**	**32.84**	**322**	P	P	11 09 32.9	+0.1
	0.4nm,0.6s,baz=125,slow=8.9,SNR=5.3						
	0.4nm,0.6s						
YKA	**Yellowknife Ar**	**50.45**	**347**	P	P	11 11 55.2	-1.0
	1.5nm,0.8s,baz=154,slow=7.4,SNR=5.4						
	1.5nm,0.8s						

IDC 22 11:06:42.4±6.4, 22°.42S×179°.27W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=172.7km s-min=100.6km az=143.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.92**	**246**	P	P	11 13 43.2	-1.4
	0.9nm,0.4s,baz=96,slow=13,SNR=3.6						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**42.96**	**259**	P	P	11 14 43.4	-0.3
	1.1nm,0.7s,baz=93,slow=7.6,SNR=21						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**43.20**	**264**	P	P	11 14 46.1	+0.5
	1.5nm,0.4s,baz=96,slow=8.3,SNR=43						
	1.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**51.63**	**264**	P	P	11 15 51.5	+0.3
	1.2nm,0.7s,baz=111,slow=8.6,SNR=1.1						
	1.2nm,0.7s						
HFS	**Hagfors**	**141.22**	**350**	PKP	PKPdf	11 26 13.9	-0.7
	1.2nm,0.3s,baz=64,slow=3.4,SNR=9.0						

GII ***22*** *11:11:24.5±0.4, 37°.24N×20°.58E, h10km, Mws4.6, confirmed*
IDC ***22*** *11:11:28.9±0.6, 37°.34N×20°.56E, h0km, mb4.3/20, mbtmp4.2/32, ML4.0/11, MS3.8/34, Error ellipse: s-maj=13.5km s-min=11.1km az=165.0*
MOS ***22*** *11:11:28.3±1.4, 37°.24N×20°.46E, h12km, mb4.6/20, Error ellipse: s-maj=7.0km s-min=3.6km az=80.2*
TIR ***22*** *11:11:28.9, 37°.26N×20°.21E, h10km±31km, Md3.8, Ml4.4*
ATH ***22*** *11:11:29.8, 37°.16N×20°.46E, h13km±2km, ML4.4/20, Error ellipse: s-maj=3.4km s-min=1.2km az=55.0*
MED_RC ***22*** *11:11:30.0±0.4, 37°.12N×20°.52E, h10km±2km, MW4.6/35, Moment Tensor Solution.Mantle waves: s35,c46; Duration: 1s0 Moment tensor: Scale 1015Nm; Mrr-0.72±.62; Mθθ1.50±.55; Mφφ-0.78±.43; Mrθ-0.59±1.44; Mθφ8.14±.41; Mφr-3.50±1.48; Best double couple: Ms8.95000×1015 NP1:φs4.00000°, δ89.00000°, λ-157.00000°. NP2:φs274.00000°, δ67.00000°, λ-1.00000°. Principal axes: T 9.3500, Plg16.0000°, Azm137.0000°; N -0.8000, Plg67.0000°, Azm6.0000°; P -8.5400, Plg17.0000°, Azm232.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***22*** *11:11:30.2±1.5, 37°.23N±0°.07×20°.56E±0°.08, h10km±1km, mb4.6/46 Error ellipse: s-maj=11.7km s-min=10.3km az=174.0*
PDG ***22*** *11:11:30.2±0.5, 37°.22N×20°.46E, h10km±2km, ML4.4/13, Error ellipse: s-maj=0.9km s-min=1.0km az=0.0*
THE ***22*** *11:11:30.0, 37°.17N×20°.50E, h0km±2km, ML4.4/8, Error ellipse: s-maj=3.0km s-min=0.6km az=232.0*
MCSM ***22*** *11:11:31.8±0.5, 37°N±4°×2°1E±°, h11km±3km, mB5.2, mb4.5, MLv4.6, Mw(mB)4.6*
BEO ***22*** *11:11:31.6±0.6, 37°.30N×20°.37E, h10km, ML4.9/11*
NAO ***22*** *11:11:33.5, 37°.70N×20°.79E, h10km, mb4.8*
AFAD ***22*** *11:11:34.0±0.0, 37°.34N×20°.86E, h50km±62km, MW4.5*
ISC 22 11:11:31.7±0.9, 37°.24N±0°.03×20°.54E±0°.03, h23km±6km, n489, σ1§80/503, mb4.5/60, MS3.8/29, 18C-20D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.48**	**27**	P	**Pb**	**11 11 40.9**	**-0.5**
KRI1				S	**Sb**	**11 11 48.5**	**+0.4**
	202μm,0.5s						
LTHK	**Lithakia**	**0.53**	**26**	P	**Pb**	**11 11 41.6**	**-0.7**
LTHK				S	**Sb**	**11 11 50.1**	**+0.6**
	120μm,0.6s						
LTHK	**Lithakia**	**0.53**	**26**	P	**Pb**	**11 11 41.5**	**-0.7**
LTHK				S	**Sb**	**11 11 49.6**	**+0.1**
LTHK				AML	AML	11 11 50.8	
LTHK				AML	AML	11 11 51.0	
RTZL	**Ratzakli, Kefa**	**0.86**	**12**	P	**Pb**	**11 11 47.4**	**-0.5**
RTZL				S	**Sn**	**11 12 01.3**	**+1.1**
	24μm,1.0s						
PSDA	**Pessada-Kefalo**	**0.88**	**2**	P	**Pb**	**11 11 47.7**	**-0.5**
PSDA				S	**Sn**	**11 12 02.2**	**+1.5**
	22μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.88**	**2**	P	**Pb**	**11 11 47.4**	**-0.8**
PSDA				S	**Sn**	**11 12 01.2**	**+0.5**
VLS	**Valsamata**	**0.94**	**2**	P	**Pb**	**11 11 48.4**	**-0.9**
VLS				S	**Sn**	**11 12 03.4**	**+1.1**
	17μm,1.0s						
VLS	**Valsamata**	**0.94**	**2**	P	**Pb**	**11 11 48.3**	**-0.9**
VLS				S	**Sn**	**11 12 03.0**	**+0.7**
VLS				AML	AML	11 12 10.0	
	comp=E,24825μm,0.8s						
VLS				AML	AML	11 12 11.7	
	comp=N,24348μm,0.5s						
AMT	**Artemida-Makis**	**0.97**	**72**	P	**Pb**	**11 11 49.6**	**-0.2**
AMT				AML	AML	11 12 11.5	
AMT				AML	AML	11 12 14.9	
DMLN	**Damoulianata-K**	**1.01**	**352**	P	**Pb**	**11 11 50.0**	**-0.5**
DMLN	**Damoulianata-K**	**1.01**	**352**	P	**Pb**	**11 11 49.2**	**-1.3**
PYL	**PYLOS**	**1.02**	**109**	P	**Pn**	**11 11 49.5**	**-1.1**
PYL				S	**Sn**	**11 12 04.3**	**+0.2**
	comp=N,14μm,0.8s						
PYL	**PYLOS**	**1.02**	**109**	P	**Pn**	**11 11 49.5**	**-1.1**
PYL				AML	AML	11 12 07.5	
	comp=N,30179μm,0.7s						
PYL				AML	AML	11 12 09.0	
	comp=E,17379μm,0.5s						
RLS	**Riolos of Patr**	**1.10**	**41**	P	**Pb**	**11 11 52.2**	**+0.2**
RLS	**Riolos of Patr**	**1.10**	**41**	P	**Pn**	**11 11 51.5**	**-0.2**
RLS				AML	AML	11 12 17.7	
	comp=E,23334μm,0.6s						
RLS				AML	AML	11 12 19.4	
	comp=N,23034μm,0.5s						
ITM	**Ithomi**	**1.10**	**92**	*e*P	**Pb**	**11 11 52.7**	**+0.6**
ITM	**Ithomi**	**1.10**	**92**		**Pn**	**11 11 51.4**	**-0.4**
ITM	**Ithomi**	**1.10**	**92**	P	**Pn**	**11 11 51.7**	**-0.1**
ITM				S	**Sn**	**11 12 07.8**	**+1.4**
	comp=N,13μm,0.7s						
ITM	**Ithomi**	**1.10**	**92**	P	**Pn**	**11 11 51.5**	**-0.4**
ITM				AML	AML	11 12 14.8	
	comp=E,26154μm,0.5s						
ITM				AML	AML	11 12 15.1	
	comp=N,26987μm,1.0s						
DRO	**Drossia**	**1.17**	**52**	P	**Pn**	**11 11 52.9**	**+0.2**
DRO	**Drossia**	**1.17**	**52**	P	**Pn**	**11 11 52.9**	**+0.2**
DRO				AML	AML	11 12 23.5	
	comp=E,7482 5μm,0.5s						
DRO				AML	AML	11 12 25.0	
	comp=N,67388μm,0.7s						
VSK1	**VASILIKIADES**	**1.17**	**1**	P	**Pn**	**11 11 52.8**	**+0.1**
FSK	**Fiskardo**	**1.22**	**1**	P	**Pn**	**11 11 53.5**	**+0.1**
FSK				S	**Sb**	**11 12 13.0**	**+3.6**
	comp=N,13μm,0.8s						
FSK	**Fiskardo**	**1.22**	**1**	P	**Pn**	**11 11 53.4**	**0.0**
FSK				AML	AML	11 12 20.2	
	comp=N,19736μm,0.7s						
FSK				AML	AML	11 12 22.2	
	comp=E,30540μm,0.7s						
EVGI	**Lefkada island**	**1.39**	**4**	P	**Pb**	**11 11 56.7**	**-0.2**
EVGI	**Lefkada island**	**1.39**	**4**	P	**Pb**	**11 11 56.4**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.48**	**5**	P	**Pb**	**11 11 58.1**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.48**	**5**	P	**Pb**	**11 11 58.2**	**-0.3**
KLV	**Kalavryta, Ach**	**1.51**	**57**	P	**Pb**	**11 11 58.7**	**-0.3**
KLV	**Kalavryta, Ach**	**1.51**	**57**	P	**Pb**	**11 11 58.7**	**-0.3**
KLV				AML	AML	11 12 33.2	
	comp=E,11053μm,0.8s						
KLV				AML	AML	11 12 37.0	
	comp=N,11411μm,1.2s						
LKD2	**Lefkada island**	**1.55**	**3**	P	**Pb**	**11 11 58.9**	**-0.9**
LKD2				AMP			
	comp=N,37nm,0.9s,baz=12						
TSLK	**Tsoukalades, L**	**1.59**	**3**	P	**Pb**	**11 12 00.1**	**-0.2**
TSLK	**Tsoukalades, L**	**1.59**	**3**	P	**Pb**	**11 12 00.4**	**+0.1**
GUR	**Goura**	**1.59**	**63**	P	**Pb**	**11 11 59.8**	**-0.6**
GUR	**Goura**	**1.59**	**63**	P	**Pn**	**11 11 59.5**	**+0.9**
GUR				AML	AML	11 12 34.7	
	comp=E,11594μm,0.6s						
GUR				AML	AML	11 12 34.9	
	comp=N,18390μm,0.9s						
EFP	**Efpalio**	**1.60**	**42**	P	**Pb**	**11 12 00.6**	**0.0**
EFP				AML	AML	11 12 31.9	
	comp=E,13678μm,0.7s						
EFP				AML	AML	11 12 33.3	
	comp=N,12206μm,1.1s						
ANX	**Ano Chora**	**1.74**	**38**	P	**Pb**	**11 12 02.7**	**-0.3**
ANX				AML	AML	11 12 38.3	
	comp=E,25074μm,0.6s						
ANX				AML	AML	11 12 41.4	
	comp=N,28586μm,0.8s						
DLFA	**Delphi**	**1.98**	**51**	P	**Pb**	**11 12 06.6**	**-0.5**
DLFA				AML	AML	11 12 46.6	
	comp=E,7073μm,0.9s						
DLFA				AML	AML	11 12 52.5	
	comp=N,7198μm,1.1s						
VLI	**Veliai**	**1.98**	**104**	P	**Pb**	**11 12 05.6**	**-1.5**
VLI	**Veliai**	**1.98**	**104**	P	**Pb**	**11 12 05.8**	**-1.3**
VLI				AML	AML	11 12 49.8	
	comp=E,8724μm,1.0s						
VLI				AML	AML	11 12 52.1	
	comp=N,10430μm,0.9s						
MNVA	**Monemvasia**	**2.07**	**105**	P	**Pb**	**11 12 08.1**	**-0.5**
MAKR	**Makrakomi, Fth**	**2.17**	**35**	P	**Pb**	**11 12 09.6**	**-0.7**
MAKR				AML	AML	11 12 50.8	
	comp=N,26558μm,1.0s						
MAKR				AML	AML	11 12 52.5	
	comp=E,20573μm,0.6s						
AXAR	**Agios Charalam**	**2.26**	**47**	P	**Pb**	**11 12 10.4**	**-1.5**
AXAR				AML	AML	11 12 55.0	
	comp=E,21957μm,0.5s						
AXAR				AML	AML	11 12 57.7	
	comp=N,17182μm,0.7s						
IGT	**Igoumenitsa**	**2.30**	**356**	P	**Pn**	**11 12 10.2**	**+2.0**
IGT				AMP			
	comp=E,6.7nm,0.8s,baz=2.0						
IGT	**Igoumenitsa**	**2.30**	**356**	*e*Pn	**Pn**	**11 12 10.0**	**+1.8**
IGT				*e*Sn	**Sn**	**11 12 36.2**	**+0.4**
IGT	**Igoumenitsa**	**2.30**	**356**	P	**Pb**	**11 12 10.5**	**-1.9**
IGT				AML	AML	11 12 57.2	
	comp=E,4804μm,1.0s						
IGT				AML	AML	11 13 05.4	
	comp=N,3249μm,1.0s						
JAN	**Janina**	**2.43**	**6**	P	**Pb**	**11 12 13.1**	**-1.6**
JAN				AML	AML	11 13 06.7	
	comp=N,4687μm,1.1s						
JAN				AML	AML	11 13 13.2	
	comp=E,5062μm,1.1s						
KEK	**Kerkira**	**2.54**	**347**	*e*P	**Pn**	**11 12 12.9**	**+1.4**
KEK	**Kerkira**	**2.54**	**347**		**Pn**	**11 12 12.1**	**+0.6**
KEK	**Kerkira**	**2.54**	**347**	P	**Pn**	**11 12 13.3**	**+1.8**
KEK				AML	AML	11 13 09.9	
	comp=N,3247μm,0.9s						
KEK				AML	AML	11 13 16.7	
	comp=E,4532μm,0.8s						
SRN	**Sarande**	**2.67**	**351**	P	**Pn**	**11 12 15.7**	**+2.3**
SRN				AMP			
	comp=E,3.7nm,1.1s,baz=357						
LSK	**Leskovik**	**2.91**	**1**	P	**Pn**	**11 12 19.0**	**+2.3**
LSK				AMP			
	comp=E,12nm,0.8s,baz=5.0						
KNDR	**Palaiochora Ch**	**3.23**	**127**	*e*P	**Pb**	**11 12 24.8**	**-3.5**
LIT	**Litokhoron**	**3.24**	**27**	P	**Pn**	**11 12 22.5**	**+1.3**
LIT				S	**Sn**	**11 12 59.3**	**+0.3**
LIT	**Litokhoron**	**3.24**	**27**		**Pn**	**11 12 22.5**	**+1.3**
LIT	**Litokhoron**	**3.24**	**27**	P	**Pn**	**11 12 22.5**	**+1.3**
SCTE	**Santa Cesarea**	**3.27**	**331**	P	**Pn**	**11 12 22.6**	**+1.1**
SCTE				AMP			
	comp=N,4.9nm,1.2s,baz=335						
SCTE	**Santa Cesarea**	**3.27**	**331**		**Pn**	**11 12 20.9**	**-0.6**
IMMV	**Iera Moni Meta**	**3.29**	**122**	*e*P	**Pn**	**11 12 22.4**	**+0.6**
TIP	**Timpagrande**	**3.56**	**304**		**Pn**	**11 12 25.8**	**+0.3**
TIP	**Timpagrande**	**3.56**	**304**	⇑P	**Pn**	**11 12 25.4**	**-0.1**
TIP	**Timpagrande**	**3.56**	**304**	P	**Pn**	**11 12 25.8**	**+0.3**
FNA	**Florina**	**3.60**	**10**	P	**Pn**	**11 12 27.9**	**+1.7**
FNA				S	**Sn**	**11 13 07.5**	**-0.5**
FNA	**Florina**	**3.60**	**10**	P	**Pn**	**11 12 29.7**	**+3.6**
FNA				AMP			
	comp=N,1.2nm,1.1s,baz=14						
FNA	**Florina**	**3.60**	**10**		**Pn**	**11 12 27.6**	**+1.5**
FNA	**Florina**	**3.60**	**10**	*e*Pn	**Pn**	**11 12 27.9**	**+1.7**
FNA	**Florina**	**3.60**	**10**	P	**Pn**	**11 12 27.6**	**+1.5**
GVD	**Gavdhos**	**3.74**	**129**	*e*P	**Pn**	**11 12 28.7**	**+0.7**
CEL	**Celeste**	**3.83**	**287**		**Pn**	**11 12 29.6**	**+0.3**
OHR	**Ohrid**	**3.88**	**3**	*e*Pn	**Pn**	**11 12 31.9**	**+2.0**
OHR				*e*Sn	**Sn**	**11 13 16.6**	**+1.8**
OHR	**Ohrid**	**3.88**	**3**	*i* Pn	**Pn**	**11 12 32.2**	**+2.3**
APE	**Apeiranthos**	**3.99**	**91**	P	**Pn**	**11 12 31.6**	**+0.1**
APE				S	**Sn**	**11 13 15.3**	**-2.3**
APE	**Apeiranthos**	**3.99**	**91**	*e*P	**Pn**	**11 12 31.4**	**0.0**
APE	**Apeiranthos**	**3.99**	**91**	⇓P	**Pn**	**11 12 33.5**	**+2.0**
APE	**Apeiranthos**	**3.99**	**91**	P	**Pn**	**11 12 33.4**	**+2.0**
APE	**Apeiranthos**	**3.99**	**91**	P	**Pn**	**11 12 31.1**	**-0.3**
IDI	**Anoyia**	**4.01**	**118**	Pn	**Pn**	**11 12 33.6**	**+1.8**
	comp=N,8.1nm,0.4s,baz=308,slow=16,SNR=12						
IDI				Sn	**Sn**	**11 13 19.4**	**+1.2**
	comp=N,15nm,0.3s,baz=38,slow=22,SNR=4.1						
IDI				LR	LR	11 14 17.2	
	comp=N,1μm,20.3s,baz=302,slow=42						
TIR	**Tirane**	**4.14**	**353**	P	**Pn**	**11 12 36.0**	**+2.5**
TIR				AMP			
	comp=N,1.3nm,0.7s,baz=357						
TIR	**Tirane**	**4.14**	**353**		**Pn**	**11 12 34.4**	**+0.9**
TIR	**Tirane**	**4.14**	**353**	P	**Pn**	**11 12 34.4**	**+0.9**
TIR	**Tirane**	**4.14**	**353**	P	**Pn**	**11 12 33.0**	**-0.5**
VAY	**Valandovo**	**4.37**	**20**	*e*Pn	**Pn**	**11 12 37.8**	**+1.1**
VAY				*e*Sn	**Sn**	**11 13 26.5**	**-0.4**
VAY	**Valandovo**	**4.37**	**20**	*i* Pn	**Pn**	**11 12 38.1**	**+1.4**
CHOS	**Chios island**	**4.51**	**74**	*e*P	**Pn**	**11 12 39.4**	**+0.7**
SRS	**Serrai**	**4.54**	**30**	*e*Pn	**Pn**	**11 12 40.5**	**+1.5**
SRS				*e*Sn	**Sn**	**11 13 29.6**	**-1.5**
CUC	**Castrocucco**	**4.61**	**308**		**Pn**	**11 12 41.1**	**+1.1**
PUK	**Puka**	**4.83**	**354**		**Pn**	**11 12 43.5**	**+0.4**
ULC	**Ulcinj**	**4.83**	**348**	⇑*i* Pn	**Pn**	**11 12 42.9**	**-0.1**
ULC				*i* Sn	**Sn**	**11 13 36.0**	**-2.2**
ZEYE	**Izmir, Urla-Ze**	**4.83**	**76**	P	**Pn**	**11 12 42.8**	**-0.2**
PEHC	**Pehcevo**	**4.89**	**21**	*i* Pn	**Pn**	**11 12 44.2**	**+0.4**
VAE	**Valguarnera**	**4.89**	**275**	Pn	**Pn**	**11 12 45.4**	**+1.5**
	comp=N,54nm,0.6s,baz=90,slow=4.0,SNR=12						
VAE				Sn	**Sn**	**11 13 38.1**	**-1.7**
	comp=N,12nm,0.3s,baz=353,slow=11,SNR=6.5						
RAFF	**Raffo Rosso**	**4.93**	**272**		**Pn**	**11 12 44.5**	**+0.1**
WDD	**Wied Dalam**	**5.04**	**256**		**Pn**	**11 12 46.0**	**+0.1**
ZKR	**Zakros**	**5.05**	**113**	*e*P	Pn	11 12 51.2	+5.1
DRME	**Dracevica, Mon**	**5.05**	**348**	⇑*i* Pn	**Pn**	**11 12 45.5**	**-0.6**
DRME				*i* Sn	**Sn**	**11 13 41.8**	**-1.9**
DGB	**zmir**	**5.10**	**79**	P	**Pn**	**11 12 46.1**	**-0.5**
GOAD	**anakkale-G¶**	**5.11**	**54**	P	**Pn**	**11 12 49.7**	**+2.8**
BUM	**Brajici-Budva**	**5.22**	**346**	⇓*i* Pn	**Pn**	**11 12 48.2**	**-0.1**
BUM				*i* Sn	**Sn**	**11 13 45.7**	**-2.1**
EZN	**Ezine**	**5.22**	**59**	*e*P	**Pn**	**11 12 47.6**	**-0.7**
EZN	**Ezine**	**5.22**	**59**	P	**Pn**	**11 12 48.7**	**+0.4**
	comp=N,28nm,0.6s,comp=N,0.3nm						
BLCB	**Balcova**	**5.27**	**75**	*e*P	**Pn**	**11 12 50.7**	**+1.7**
PDG	**Podgorica**	**5.28**	**350**		**Pn**	**11 12 49.3**	**+0.1**
PDG	**Podgorica**	**5.28**	**350**	*e*Pn	**Pn**	**11 12 48.6**	**-0.6**
PDG	**Podgorica**	**5.28**	**350**	⇑*i* Pn	**Pn**	**11 12 49.1**	**-0.1**
PDG				*i* Sn	**Sn**	**11 13 47.4**	**-1.9**
BAYC	**CANAKKALE_Bayr**	**5.33**	**60**	P	**Pn**	**11 12 51.9**	**+2.0**
PVY	**Plav**	**5.37**	**355**	⇓*i* Pn	**Pn**	**11 12 51.4**	**+0.9**
PVY				*i* Sn	**Sn**	**11 13 49.7**	**-2.0**
BODT	**Bodrum**	**5.41**	**90**	P	**Pn**	**11 12 52.0**	**+1.1**
BODT	**Bodrum**	**5.41**	**90**	*e*P	**Pn**	**11 12 51.4**	**+0.5**
HCY	**Herceg Novi**	**5.44**	**344**	*e*Pn	**Pn**	**11 12 50.1**	**-1.2**
HCY	**Herceg Novi**	**5.44**	**344**	⇓*i* Pn	**Pn**	**11 12 50.6**	**-0.7**
HCY				*i* Sn	**Sn**	**11 13 50.6**	**-2.6**
CEME	**Cevo**	**5.45**	**347**	⇑*i* Pn	**Pn**	**11 12 51.0**	**-0.5**
CEME				*i* Sn	**Sn**	**11 13 51.3**	**-2.3**
BOSS	**Bosilegrad**	**5.46**	**15**	*e*Pn	**Pn**	**11 12 52.6**	**+0.9**
RDO	**Rodhopi**	**5.50**	**43**		**Pn**	**11 12 50.7**	**-1.5**
YAZI	**Mula-Dat§a-**	**5.56**	**94**	P	**Pn**	**11 12 52.0**	**-1.1**
KARP	**Karpathos**	**5.60**	**106**	*e*P	**Pn**	**11 12 54.7**	**+1.1**
KARP	**Karpathos**	**5.60**	**106**		**Pn**	**11 12 52.1**	**-1.4**
ALN	**Alexandroupoli**	**5.63**	**48**	P	**Pn**	**11 12 56.0**	**+2.1**
ALN				S	**Sn**	**11 13 57.7**	**-0.2**
ALN	**Alexandroupoli**	**5.63**	**48**		**Pn**	**11 12 54.1**	**+0.1**
ALN	**Alexandroupoli**	**5.63**	**48**	P	**Pn**	**11 12 54.1**	**+0.1**
IVA	**Berane**	**5.65**	**355**	*e*Pn	**Pn**	**11 12 55.1**	**+0.8**
IVA				*i* Sn	**Sn**	**11 13 56.3**	**-2.3**
DAT	**Datca**	**5.65**	**93**	*e*P	Pn	11 12 49.3	-5.1
NKME	**Niksic**	**5.66**	**348**	⇓*i* Pn	**Pn**	**11 12 54.1**	**-0.3**
NKME				*i* Sn	**Sn**	**11 13 56.6**	**-2.1**
BARS	**Barje**	**5.66**	**10**	*e*Pn	**Pn**	**11 12 54.6**	**+0.2**
KOME	**Kolasin**	**5.66**	**352**	⇑*i* Pn	**Pn**	**11 12 54.8**	**+0.3**
KOME				*i* Sn	**Sn**	**11 13 56.8**	**-2.1**
TREB	**Trebinje**	**5.73**	**344**	*e*Pn	**Pn**	**11 12 54.1**	**-1.2**
VTS	**Vitosha**	**5.76**	**20**	*e*Pn	**Pn**	**11 12 56.6**	**+0.7**
VTS				*e*Sn	**Sn**	**11 14 01.0**	**-0.3**
BRY	**Bratogost**	**5.86**	**345**	*e*Pn	**Pn**	**11 12 56.3**	**-1.0**
BRY	**Bratogost**	**5.86**	**345**	⇓*i* Pn	**Pn**	**11 12 56.5**	**-0.8**
BRY				*i* Sn	**Sn**	**11 14 01.5**	**-2.4**
SELS	**Selova**	**5.99**	**4**	*e*Pn	**Pn**	**11 12 59.1**	**+0.1**
SELS				*e*Sn	**Sn**	**11 14 05.4**	**-1.5**
PAOL	**Paolisi**	**6.00**	**311**		**Pn**	**11 12 59.5**	**+0.4**
GOMA	**Golmarmara-Man**	**6.01**	**74**	P	Pn	11 12 50.9	-8.2
SJES	**Sjenica**	**6.04**	**356**	*e*Pn	**Pn**	**11 13 00.0**	**+0.4**
SJES				*e*Sn	**Sn**	**11 14 06.2**	**-1.8**
SJES	**Sjenica**	**6.04**	**

comp=N,0.7nm,0.3s,baz=82,slow=5.4,SNR=6.4
KEST Sn **Sn** **11 15 22.2 -2.3**
comp=N,0.9nm,0.3s,baz=64,slow=20,SNR=6.2
KEST LR LR 11 17 29.2
comp=N,232nm,19.1s,baz=64,slow=39
comp=N,13nm,0.9s
BOJS Bojanci 9.17 336 *i* Pn **Pn** **11 13 41.9 -0.5**
BOJS *e*Sn **Sn** **11 15 20.1 -4.8**
MLR Muntele Rosu 9.19 24 **Pn** **11 13 43.0 +0.1**
MLR Muntele Rosu 9.19 24 Pn **Pn** **11 13 43.3 +0.4**
comp=N,0.6nm,0.3s,baz=240,slow=4.7,SNR=12
comp=N,3.9nm,0.4s
MLR Muntele Rosu 9.19 24 ⇓P **Pn** **11 13 44.2 +1.2**
MLR Muntele Rosu 9.19 24 P **Pn** **11 13 44.1 +1.2**
MLR Muntele Rosu 9.19 24 P **Pn** **11 13 42.6 -0.3**
comp=N,43nm,1.2s
NEHR Nehoiu 9.25 26 ⇑P **Pn** **11 13 44.0 +0.3**
CRES Cresnjevec Ost 9.39 338 *e*Pn **Pn** **11 13 44.3 -1.2**
DOPR Dopca 9.45 21 ⇓P **Pn** **11 13 46.6 +0.3**
BISRR Bisoca 9.51 27 P **Pn** **11 13 47.0 -0.2**
comp=N,79nm,0.9s,comp=N,12μm
COVR Voineasa-Covas 9.59 24 ⇑P **Pn** **11 13 48.4 +0.1**
SKDS Skadanscina 9.64 331 *e*Pn **Pn** **11 13 46.1 -2.9**
CEY Cerknica 9.65 334 *e*Pn **Pn** **11 13 48.8 -0.4**
OZUR 9.68 22 ⇓P **Pn** **11 13 49.6 +0.1**
PLOR Plostina 9.74 26 ⇓P **Pn** **11 13 51.5 +1.1**
PLOR Plostina 9.74 26 P **Pn** **11 13 51.5 +1.1**
PLOR5 Plostina Array 9.74 26 P **Pn** **11 13 50.0 -0.4**
comp=N,37nm,1.3s,comp=N,2μm
VRI Vrincioaia 9.79 26 ⇑P **Pn** **11 13 51.4 +0.4**
VRI Vrincioaia 9.79 26 P **Pn** **11 13 51.3 +0.4**
VRI Vrincioaia 9.79 26 P **Pn** **11 13 50.8 -0.2**
comp=N,34nm,0.7s
ANTO Ankara 9.95 71 P **Pn** **11 13 53.8 +0.5**
comp=N,6.2nm,0.7s
ZCCA Zocca 10.15 317 **Pn** **11 13 55.8 -0.2**
SABO M.te Sabotino 10.16 331 **Pn** **11 13 55.8 -0.4**
GHRR 10.20 28 P **Pn** **11 13 56.3 -0.3**
PERS Pernice 10.22 338 *i* Pn **Pn** **11 13 56.2 -0.8**
OBKA Obir 10.28 336 *e*Pn **Pn** **11 13 58.4 +0.5**
comp=N,2.9nm,0.3s
OBKA *e*Sn **Sn** **11 15 48.2 -4.3**
comp=N,19nm,0.5s
OBKA Obir 10.28 336 *e*Pn **Pn** **11 13 54.2 -3.7**
SOKA Soboth 10.29 338 *i* Pn **Pn** **11 13 56.8 -1.1**
comp=N,9.1nm,0.5s,SNR=18
TESR Tescani 10.32 24 P **Pn** **11 13 58.0 -0.3**
comp=N,13nm,1.9s
TEOL Teolo 10.50 323 Pn **Pn** **11 14 00.7 -0.1**
BR105 Keskin Array S 10.55 72 P **Pn** **11 14 01.7 +0.2**
comp=N,4.5nm,0.7s
BR104 Keskin Array S 10.56 72 P **Pn** **11 14 02.0 +0.3**
comp=N,3.7nm,0.7s
BR131 Keskin Array S 10.56 72 *i* P **Pn** **11 14 03.6 +1.8**
BRTR Keskin Array B 10.56 72 Pn **Pn** **11 14 05.3 +3.5**
comp=N,0.2nm,0.3s,baz=261,slow=13,SNR=2.5
BRTR LR LR 11 18 17.2
comp=N,558nm,19.0s,baz=260,slow=39
PRED Cave del Predi 10.56 333 **Pn** **11 14 01.4 -0.3**
ARSA Arzberg 10.67 341 *e*Pn **Pn** **11 14 03.2 +0.1**
comp=N,2.5nm,0.3s
PSZ Piszkesteto 10.69 358 **Pn** **11 14 03.1 -0.3**
PSZ Piszkesteto 10.69 358 P **Pn** **11 14 03.1 -0.3**
MYKA Terra Mystica 10.70 334 *i* Pn **Pn** **11 14 05.8 +2.3**
comp=N,2.4nm,0.5s
SRO Srobarova 10.70 352 *e*P **Pn** **11 14 06.3 +2.9**
SRO Srobarova 10.70 352 *e*PN **Pn** **11 14 06.3 +2.9**
RONA Rosalia, Austr 10.91 345 *e*Pn **Pn** **11 14 05.6 -0.8**
comp=N,2.8nm,0.5s
BURAR Bucovina Array 10.93 17 Pn **Pn** **11 14 06.8 +0.1**
BUR08 Bucovina Ar. S 10.95 17 **Pn** **11 14 06.7 -0.3**
CTI Castel Tesino 11.03 326 **Pn** **11 14 05.9 -2.2**
CTI Castel Tesino 11.03 326 P **Pn** **11 14 05.9 -2.2**
BERU Beregovo 11.10 7 P **Pn** **11 14 07.7 -1.2**
RAKU Rahkiv 11.11 13 P **Pn** **11 14 11.0 +2.0**
KBA Koelnbreinsper 11.19 334 *i* Pn **Pn** **11 14 11.3 +1.0**
comp=N,15nm,0.8s,SNR=22
KBA *e*Sn **Sn** **11 16 10.6 -4.1**
comp=N,12nm,0.7s
ABTA Abfaltersbach 11.22 330 *e*Pn **Pn** **11 14 10.8 +0.2**
comp=N,2.6nm,0.4s
BRIU Brid 11.24 9 P **Pn** **11 14 10.6 -0.3**
MUKU Mukachevo 11.32 7 P **Pn** **11 14 11.7 -0.2**
VYHS Vyhne 11.32 354 *e*P **Pn** **11 14 12.1 +0.1**
VYHS Vyhne 11.32 354 *e*PN **Pn** **11 14 12.1 +0.1**
HOLU Holmets 11.37 6 P **Pn** **11 14 12.3 -0.2**
MODS Modra-Piesok 11.39 349 *e*P **Pn** **11 14 12.9 0.0**
MODS Modra-Piesok 11.39 349 *e*PN **Pn** **11 14 12.9 0.0**
MEZ Mezhgor'ye 11.48 10 P **Pn** **11 14 13.0 -1.1**
MOA Molln 11.57 338 *i* Pn **Pn** **11 14 16.4 +1.0**
comp=N,10nm,0.6s,SNR=15
BIOA Bad Ischl, Aus 11.62 336 *i* Pn **Pn** **11 14 16.9 +0.8**
comp=N,9.4nm,0.5s,SNR=8.7
LESA Schwarzleotal 11.72 333 *e*Pn **Pn** **11 14 18.5 +1.0**
comp=N,11nm,0.5s
KOLS Kolonicke sedl 11.76 6 *e*P **Pn** **11 14 18.8 +0.8**
KOLS Kolonicke sedl 11.76 6 *e*PN **Pn** **11 14 18.8 +0.8**
JAVC Velka Javorina 11.80 351 *e*PN **Pn** **11 14 18.3 -0.3**
LANS Liptovska Anna 11.94 357 *e*P **Pn** **11 14 22.0 +1.6**
LANS Liptovska Anna 11.94 357 *e*PN **Pn** **11 14 22.0 +1.6**
WTTA Wattenberg 11.99 329 *e*Pn **Pn** **11 14 24.2 +2.9**
comp=N,2.6nm,0.4s
WTTA *e*Sn **Sn** **11 16 30.2 -4.1**
comp=N,23nm,0.9s
WATA Walderalm 12.07 330 *e*Pn **Pn** **11 14 25.0 +2.6**
comp=N,6.2nm,0.5s,SNR=7.4
FUORN Ofenpass-Fuorn 12.09 324 **Pn** **11 14 22.4 -0.4**
KMPD K-Podol'skiy 12.12 19 P **Pn** **11 14 22.4 -0.4**
comp=N,3μm,1.6s
SQTA Sankt Quirin 12.13 328 *e*Pn **Pn** **11 14 25.9 +2.8**
comp=N,1.7nm,0.3s
NIE Niedzica 12.18 359 *e*P **Pn** **11 14 25.2 +1.5**
NIE Niedzica 12.18 359 P **Pn** **11 14 23.7 0.0**
comp=N,5.5nm,1.4s
FETA Feichten 12.18 326 *e*Pn **Pn** **11 14 27.0 +3.1**
comp=N,2.4nm,0.5s
STHS Stebnicka Huta 12.19 2 *e*P **Pn** **11 14 27.2 +3.4**
STHS Stebnicka Huta 12.19 2 *e*PN **Pn** **11 14 27.2 +3.4**
KRUC Moravsky 12.20 347 *e*PN **Pn** **11 14 22.2 -1.8**
MOTA Moosalm 12.27 328 *e*Pn **Pn** **11 14 27.1 +2.0**
comp=N,6.4nm,0.7s
DAVOX Davos/Dischmat 12.39 324 Pn **Pn** **11 14 27.1 +0.3**
comp=N,0.4nm,0.3s,baz=155,slow=15,SNR=11
DAVOX Sn **Sn** **11 16 37.4 -6.8**
comp=N,0.6nm,0.3s,baz=351,slow=23,SNR=2.3
DAVOX LR LR 11 20 21.4
comp=N,268nm,18.3s,baz=126,slow=43
comp=N,10nm,0.9s
VRAC Vranov 12.40 348 Pn **Pn** **11 14 25.9 -0.8**
comp=N,0.5nm,0.3s,baz=172,slow=14,SNR=6.1
VRAC LR LR 11 20 46.8
comp=N,372nm,19.4s,baz=172,slow=45
comp=N,3.6nm,0.6s
VRAC Vranov 12.40 348 *e*PN **Pn** **11 14 25.4 -1.4**
TUE Stuetta 12.43 321 **Pn** **11 14 27.0 -0.4**
TUE Stuetta 12.43 321 P **Pn** **11 14 28.0 +0.7**
comp=N,75nm,1.4s
CKRC Cesky Krumlov 12.44 341 AMS AMS 11 19 50.0
comp=N,900nm,10.3s
GERES GERESS Array B 12.63 339 **Pn** **11 14 28.3 -1.7**
GERES GERESS Array B 12.63 339 Pn **Pn** **11 14 28.4 -1.5**
comp=N,0.4nm,0.3s,baz=160,slow=17,SNR=9.7
GERES Sn **Sn** **11 16 42.9 -6.9**
comp=N,1.0nm,0.3s,baz=147,slow=22,SNR=5.5
comp=N,2.6nm,0.6s
MORC Moravsky Berou 12.72 351 *e*PN **Pn** **11 14 30.1 -1.1**
DAVA Damuels 12.76 325 *i* Pn **Pn** **11 14 34.2 +2.4**
comp=N,8.7nm,0.7s,SNR=6.0
MMAI Mount Meron Ar 12.87 105 Pn **Pn** **11 14 34.2 +0.9**
comp=N,1.5nm,0.3s,baz=293,slow=15,SNR=2.9
comp=N,1.1nm,0.3s
KHC Kasperske Hory 12.92 339 **Pn** **11 14 32.8 -1.1**
KHC Kasperske Hory 12.92 339 *e*PN **Pn** **11 14 33.5 -0.4**
KHC *e*SN **Sn** **11 16 50.2 -6.7**
KHC AMS AMS 11 20 40.0
comp=N,600nm,12.5s
KHC Kasperske Hory 12.92 339 *e*P **Pn** **11 14 33.5 -0.4**
KHC *e* 11 16 50.2
KHC MLR MLR
comp=Z,600nm,12.5s
ZVC Zvikov 13.04 341 *e*PN **Pn** **11 14 34.4 -1.0**
KSHT Keshet 13.20 104 P Pn 11 14 31.8 -6.0
HMDT Nahal Hemdat 13.28 108 P Pn 11 14 32.5 -6.3
QRNJ Al-Qirein 13.28 107 P **Pn** **11 14 41.7 +2.9**
GOPC GO Pecny, Ondr 13.34 344 AMS AMS 11 21 20.0
comp=Z,700nm,12.0s
SENIN Lac Senin/Sane 13.43 317 **Pn** **11 14 40.6 -0.4**
BALJ Balqa 13.44 108 P **Pn** **11 14 43.4 +2.4**
DPC Dobruska-Polom 13.46 348 AMS AMS 11 21 10.0
comp=Z,900nm,9.1s
PRU Pruhonice 13.46 343 AMS AMS 11 21 20.0
comp=Z,1μm,5.2s
DSI Dead Sea 13.49 110 P **Pn** **11 14 42.9 +1.3**
DSI Dead Sea 13.49 110 P Pn 11 14 35.3 -6.3
DSI Dead Sea 13.49 110 S **Sn** **11 17 04.3 -6.4**
LISJ El Lisan 13.72 111 P **Pn** **11 14 45.5 +0.7**
GHAJ Ghor Haditha 13.76 111 **Pn** **11 14 45.0 -0.3**
GHAJ Ghor Haditha 13.76 111 P **Pn** **11 14 47.1 +1.8**
GHAJ Ghor Haditha 13.76 111 P Pn 11 14 39.7 -5.6
KRMI Paran Flat 13.77 117 P Pn 11 14 39.2 -6.3
PRNI Paran 13.84 116 P **Pn** **11 14 48.1 +1.6**
PRNI Paran 13.84 116 P Pn 11 14 40.9 -5.5
HSUJ Al Zarqa 13.86 107 P **Pn** **11 14 44.2 -2.5**
KSP Ksiaz 13.94 349 *e*P **P** **11 14 58.2 +2.6**
HRFI Mount Harif 14.04 117 P Pn 11 14 43.5 -5.7
MBRI Mt Berech 14.09 118 P **Pn** **11 14 50.3 +0.3**
MBRI Mt Berech 14.09 118 P Pn 11 14 43.8 -6.2
GRA1 Grafenberg Arr 14.16 335 Pn **Pn** **11 14 49.3 -1.4**
GRF Grafenberg Arr 14.16 335 P **Pn** **11 14 49.3 -1.4**
GRFO Grafenberg 14.16 335 Pn **Pn** **11 14 49.7 -1.0**
GRFO Grafenberg 14.16 335 P **Pn** **11 14 49.7 -1.0**
EIL Elat 14.19 118 P **Pn** **11 14 51.8 +0.6**
EIL Elat 14.19 118 S **Sn** **11 17 22.0 -5.9**
EIL Elat 14.19 118 P Pn 11 14 45.8 -5.4
BFO Black Forest 14.24 325 **Pn** **11 14 50.9 -0.9**
BFO Black Forest 14.24 325 P **Pn** **11 14 50.9 -0.9**
ASF Jabal al Asfar 14.37 106 P **P** **11 14 59.4 -1.2**
BRG Berggiesshubel 14.43 343 *e*P **Pn** **11 14 49.9 -4.4**
BRG Amp 11 14 50.6
comp=Z,2.8nm,0.7s
BRG Berggiesshubel 14.43 343 Amp 11 14 58.1
comp=Z,6.2nm,1.0s
BRG Berggiesshubel 14.43 343 *e*P **Pn** **11 14 49.9 -4.4**
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG MLR MLR
comp=E,317nm,13.1s
BRG MLR MLR
comp=N,424nm,12.9s
BRG MLR MLR
comp=Z,707nm,11.9s
BRG Berggiesshubel 14.43 343 P **Pn** **11 14 57.1 +2.7**
RNPP5 Staryi Chortor 14.50 14 P **Pn** **11 14 55.0 -0.3**
KIEV Kiev 14.81 22 **Pn** **11 15 00.0 +0.4**
KIEV Kiev 14.81 22 P **Pn** **11 15 00.0 +0.4**
AKASG Malin Array Be 14.82 22 **Pn** **11 14 58.8 -1.0**
AKASG Malin Array Be 14.82 22 Pn **Pn** **11 14 57.9 -1.9**
comp=Z,0.8nm,0.3s,baz=214,slow=12,SNR=10
AKASG LR LR 11 20 47.9
comp=Z,319nm,19.0s,baz=204,slow=38
comp=Z,2.2nm,0.7s
AKASG Malin Array Be 14.82 22 *i* P **Pn** **11 15 00.1 +0.3**
AKASG pmax pmax
comp=Z,12nm,0.9s
AKBB Malin Array Si 14.82 22 **Pn** **11 14 59.9 +0.1**
AKBB Malin Array Si 14.82 22 P **Pn** **11 14 59.9 +0.1**
AKBB Malin Array Si 14.82 22 P **Pn** **11 14 59.4 -0.4**
CLL Collm 15.06 342 **Pn** **11 15 02.4 -0.5**
CLL Collm 15.06 342 *i* P **P** **11 15 10.5 +2.5**
CLL pmax pmax
comp=Z,77nm,1.4s
CLL MLR MLR
comp=Z,400nm,15.2s
CLL Collm 15.06 342 *e*P **Pn** **11 15 04.0 +1.1**
CLL *i* PP **P** **11 15 10.5 +2.5**
comp=Z,77nm,1.4s
CEST Esterri de Car 15.73 296 **Pn** **11 15 10.3 -1.6**
CEST IAmb IAmb 11 15 21.1
comp=Z,20nm,1.1s
SOC Sochi 15.91 61 *e*P **Pn** **11 15 10.6 -3.4**
SOC *e* 11 18 06.0
SOC MLR MLR
comp=Z,189nm,16.0s
RUE Ruedersdorf 15.97 345 *e*P **P** **11 15 19.8 +1.8**
WLF Walferdange 16.20 325 *d*P **P** **11 15 22.7 +2.0**
comp=Z,28nm,1.2s
SUW Suwalki 16.88 5 *e*P **Pn** **11 15 26.0 -0.3**
SUW Suwalki 16.88 5 **Pn** **11 15 25.6 -0.7**
SUW Suwalki 16.88 5 *e*P **Pn** **11 15 26.7 +0.5**
SUW Suwalki 16.88 5 P **Pn** **11 15 25.6 -0.7**
SUW pmax pmax
comp=Z,109nm,0.9s
MEM Membach 16.94 327 *d*P **P** **11 15 31.9 +3.0**
comp=Z,12nm,0.8s
DOU Dourbes 17.23 323 *d*P **P** **11 15 33.0 +1.0**
comp=Z,10nm,1.3s
UCC Uccle 17.81 325 *d*P **P** **11 15 41.0 +2.4**
MNK Minsk 17.99 14 *i* P **Pn** **11 15 36.5 -3.6**
comp=E,31nm,0.9s
MNK *i* P **Pn** **11 15 36.5 -3.6**
comp=N,30nm,1.0s
MNK *i* P **Pn** **11 15 36.5 -3.6**
comp=Z,14nm,0.9s,baz=199
MNK *i* S **Sn** **11 18 53.0 -7.0**
MNK *i* LQ LQ 11 20 53.5
MNK *i* LR LR 11 22 14.7
MNK *i* LRM MLR 11 23 06.2
comp=E,1μm,28.2s
MNK Minsk 17.99 14 *i* P **Pn** **11 15 36.4 -3.6**
MNK *i* S **Sn** **11 18 52.9 -7.0**
MNK pmax pmax
comp=N,30nm,1.0s
MNK pmax pmax
comp=E,31nm,0.9s
MNK pmax pmax
comp=Z,14nm,0.9s
MNK MLR MLR
comp=E,1μm,28.0s
KIV Kislovodsk 18.08 61 P **Pn** **11 15 39.6 -1.8**
KIV Kislovodsk 18.08 61 *e*P **Pn** **11 15 39.3 -2.0**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,54nm,14.0s
KIV Kislovodsk 18.08 61 P **P** **11 15 42.0 +0.4**
comp=Z,10nm,0.6s
KVAR Kislovodsk Arr 18.08 61 P **P** **11 15 42.4 +0.7**
baz=274,slow=17
comp=Z,2.3nm,0.3s
KBZ Khabaz 18.17 62 P **P** **11 15 43.2 +0.7**
comp=Z,0.1nm,0.3s,baz=274,slow=7.4,SNR=6.9
KBZ LR LR 11 24 31.7
comp=Z,130nm,19.1s,baz=260,slow=43
comp=Z,5.0nm,1.0s
KBZ Khabaz 18.17 62 *ce*P **P** **11 15 44.8 +2.3**
KBZ pmax pmax
comp=Z,11nm,1.0s
NACGM Naroch 18.18 12 *e*P **P** **11 15 43.5 +0.9**
comp=Z,45nm,1.0s,baz=196
PABE Paberze 18.42 6 P **P** **11 15 43.7 -1.5**
PABE Paberze 18.42 6 *e*P **P** **11 15 44.4 -0.7**
GNI Garni 19.10 74 LR LR 11 23 22.5
comp=Z,299nm,18.9s,baz=276,slow=37
GNI Garni 19.10 74 *i* P **P** **11 15 53.0 +0.1**
GNI pmax pmax
comp=Z,39nm,1.5s
VSR Storozhevoye 19.25 38 *e*P **Pn** **11 15 58.6 +3.3**
VSR pmax pmax
comp=Z,10.0nm,1.0s
ESDC Sonseca Array 19.33 285 P **Pn** **11 15 56.8 +0.2**
comp=Z,0.1nm,0.3s,baz=79,slow=13,SNR=10.0
comp=Z,2.9nm,0.9s
BLEU Blekinge 19.34 352 *i* P **P** **11 15 54.4 -0.8**
VORR Voronezh 19.56 37 *e*P **Pn** **11 16 02.1 +3.0**
VORR pmax pmax
comp=Z,86nm,0.4s
DEL Delary 19.76 349 *i* P **P** **11 16 00.4 +0.6**
LPSR Galich'ya Gora 20.05 34 *e*P **P** **11 16 01.8 -1.2**
LPSR pmax pmax
comp=Z,40nm,1.0s
FABU Falkenberg 20.45 348 *i* P **P** **11 16 07.7 +0.3**
VRH Novokhopyorsk 20.52 40 *e*P **P** **11 16 06.9 -1.3**
VRH pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 20.95 26 P **P** **11 16 12.3 -0.4**
OBN IAmb IAmb 11 16 14.9
comp=Z,42nm,1.0s
OBN Obninsk 20.95 26 P **P** **11 16 12.1 -0.7**
comp=Z,13nm,0.3s,baz=246,slow=20,SNR=7.5
comp=Z,13nm,0.3s
OBN Obninsk 20.95 26⇓*e*P **P** **11 16 11.9 -0.9**
OBN *SP **pP** **11 16 18.0 -0.1**
OBN PPP PPP 11 16 39.0
OBN S **S** **11 20 06.0 +1.0**
OBN 11 20 12.0
OBN SS **SnSn** **11 20 39.0 +13**
OBN pmax pmax
comp=Z,65nm,1.3s
OBN MLR MLR
comp=Z,337nm,15.0s
OBN Obninsk 20.95 26 P **P** **11 16 12.4 -0.4**
comp=Z,30nm,0.5s
MDT Midelt 21.04 265 P **P** **11 16 14.5 +0.4**
comp=Z,7.1nm,0.8s,baz=99,slow=12,SNR=16
MDT LR LR 11 25 24.6
comp=Z,165nm,21.2s,baz=82,slow=40
comp=Z,7.1nm,0.8s
BORU Boraas 21.05 348 *i* P **P** **11 16 13.9 +0.1**
MAK Makhachkala 21.36 66 *e*P **P** **11 16 16.1 -1.1**
MAK *e* 11 20 13.9
MAK pmax pmax
comp=Z,93nm,0.7s
MAK MLR MLR
comp=Z,331nm,15.0s
AKT Akhty 21.41 70 *e*P **P** **11 16 19.6 +1.7**
AKT *e* 11 16 39.4
AKT *e*S **S** **11 20 18.3 +3.8**
AKT pmax pmax
comp=Z,21nm,1.1s
PBRG Braganca 21.50 291 *e*P **P** **11 16 20.7 +1.9**
TJOU Tjoern 21.62 347 *i* P **P** **11 16 22.6 +2.7**
VSU Vasula 21.62 9 *ce*P **P** **11 16 20.5 +0.6**
VSU pmax pmax
comp=Z,120nm,1.7s
MVO Moncorvo 21.69 289 *e*P **P** **11 16 21.8 +0.9**
PBAR Barrancos 21.82 281 *e*P **P** **11 16 23.9 +1.7**
MOS Moscow 21.82 27 *e*P **P** **11 16 19.5 -2.6**
MOS *e* 11 16 40.7
MOS *e*S **S** **11 20 15.2 -6.8**
MOS pmax pmax
comp=Z,69nm,0.8s
PMRV Marv??o 21.99 284 *e*P **P** **11 16 26.4 +2.3**
PBEJ Beja 22.48 281 *e*P **P** **11 16 29.8 +0.4**
PBDV Barranco-do-Ve 22.64 279 *e*P **P** **11 16 33.4 +2.3**
HFS Hagfors 23.33 351 P **P** **11 16 37.1 -0.9**
comp=Z,21nm,0.7s,baz=163,slow=11,SNR=34
HFS LR LR 11 27 21.5
comp=Z,139nm,18.9s,baz=170,slow=41
comp=Z,21nm,0.7s
KONO Kongsberg 23.51 346 *i* P **P** **11 16 41.3 +1.6**
KONO pmax pmax
comp=Z,15nm,1.3s
BLS5 Blasjo 24.00 342 *e*P **P** **11 16 44.9 +0.5**
NC602 NORSAR Array S 24.20 349 P **P** **11 16 46.1 -0.2**
NC602 IAmb IAmb 11 16 47.0
comp=Z,26nm,1.1s
NC602 NORSAR Array S 24.20 349 *e*P **P** **11 16 46.0 -0.2**
EKA Eskdalemuir Ar 24.21 326 P **P** **11 16 46.5 0.0**
comp=Z,9.2nm,0.8s,baz=126,slow=9.1,SNR=17
comp=Z,9.2nm,0.8s
ESK Eskdalemuir 24.22 326 P **P** **11 16 45.5 -1.0**
ESK IAmb IAmb 11 16 53.5
comp=Z,26nm,1.1s
ESK Eskdalemuir 24.22 326 P **P** **11 16 45.5 -1.0**
ESK pmax pmax
comp=Z,26nm,1.2s
BELG Belogornoye 24.27 43 P **P** **11 16 46.7 -0.3**
comp=Z,33nm,0.6s,baz=225,slow=14,SNR=8.1
BELG LR LR 11 28 16.9
comp=Z,150nm,18.3s,baz=277,slow=42
comp=Z,33nm,0.6s
BELG Belogornoye 24.27 43 *i* P **P** **11 16 48.0 +1.0**
BELG pmax pmax
comp=Z,8.0nm,0.9s
NAO01 NORSAR Array S 24.41 349 P **P** **11 16 48.4 +0.2**
FINES FINESS Array B 24.48 6 P **P** **11 16 48.9 +0.1**
FINES FINESS Array B 24.48 6 P **P** **11 16 48.2 -0.5**
comp=Z,5.7nm,0.6s,baz=171,slow=10,SNR=21
FINES LR LR 11 27 38.9
comp=Z,649nm,18.4s,baz=192,slow=40
comp=Z,5.7nm,0.6s
FINES FINESS Array B 24.48 6 *i* P **P** **11 16 49.2 +0.4**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FIA1 FINESS Array S 24.48 6 P **P** **11 16 48.9 +0.1**
NC405 NORSAR Array S 24.54 350 P **P** **11 16 49.3 -0.1**
NC405 IAmb IAmb 11 17 00.5
comp=Z,15nm,0.8s
NB201 NORSAR Array S 24.54 349 P **P** **11 16 48.9 -0.5**
NB201 IAmb IAmb 11 16 51.9
comp=Z,28nm,1.1s
NB2 NORSAR Subarra 24.55 349 P **P** **11 16 49.1 -0.3**
comp=Z,17nm,0.9s,baz=161,slow=9.3
NB2 NORSAR Subarra 24.55 349 P **P** **11 16 49.1 -0.3**
baz=161,slow=9.3
NOA NORSAR Array B 24.55 349 P **P** **11 16 49.3 -0.1**
comp=Z,12nm,0.9s,baz=158,slow=8.9,SNR=35
NOA LR LR 11 27 22.7
comp=Z,149nm,19.9s,baz=165,slow=39
comp=Z,12nm,0.9s
NBO00 NORSAR Array S 24.60 349 P **P** **11 16 50.3 +0.3**
NC303 NORSAR Array S 24.70 349 P **P** **11 16 49.8 -1.0**
SKAR Skarslia 24.72 346 *e*P **P** **11 16 50.9 -0.1**
RAYN Ar Rayn 25.41 115 P **P** **11 16 57.6 0.0**
RAYN Ar Rayn 25.41 115 P **P** **11 16 57.6 0.0**
RAYN pmax pmax
comp=Z,5.0nm,0.8s
DOMB Dombas 25.84 348 *e*P **P** **11 17 02.2 +1.1**
SUE Sulen 25.84 342 *e*P **P** **11 17 01.3 +0.3**
AKN Aaknes 26.35 346 *e*P **P** **11 17 06.5 +0.7**
KLMR Klimovskoe 26.51 21 *e*P **P** **11 17 04.5 -2.7**
KLMR pmax pmax
comp=Z,38nm,1.4s
NSS Namsos 27.81 352 *e*P **P** **11 17 18.8 +0.1**
KIRV Kirov 28.44 32 LR LR 11 28 21.8
comp=Z,132nm,19.1s,baz=230,slow=36
TORD Torodi Ar. Bea 29.32 220 P **P** **11 17 33.1 +0.5**
comp=Z,2.1nm,0.7s,baz=32,slow=9.4,SNR=12
TORD LR LR 11 29 47.8
comp=Z,150nm,19.6s,baz=35,slow=37
comp=Z,2.1nm,0.7s
STOK Stokkvaagen 29.47 354 *e*P **P** **11 17 33.5 +0.1**
KONS Konsvik 29.62 354 *e*P **P** **11 17 34.9 +0.1**
AKTO Aktyubinsk 29.74 52 LR LR 11 31 43.8
comp=Z,182nm,20.1s,baz=288,slow=41
FAUS Fauske 30.34 356 *e*P **P** **11 17 41.1 -0.1**
ABKAR Akbulak array 30.77 54 P **P** **11 17 45.2 0.0**
STEI Steigen 30.89 356 *e*P **P** **11 17 45.8 -0.2**
ARTI Arti 31.65 41 P **P** **11 17 52.1 -0.8**
ARTI IAmb IAmb 11 17 53.0
comp=Z,8.4nm,0.9s
ARTI Arti 31.65 41 LR LR 11 31 46.5
comp=Z,288nm,18.2s,baz=251,slow=39
ARTI Arti 31.65 41 *d*P **P** **11 17 51.9 -1.0**
ARTI 11 18 52.3
ARTI S **S** **11 23 01.5 +0.8**
ARTI SS **SnSn** **11 24 45.5 -1.8**
ARTI pmax pmax
comp=Z,10.0nm,1.0s
ARCES ARCESS Array B 32.47 3 P **P** **11 17 59.2 -0.7**
comp=Z,5.3nm,0.9s,baz=185,slow=9.6,SNR=5.6
ARCES LR LR 11 31 36.1
comp=Z,156nm,19.1s,baz=182,slow=37
comp=Z,5.3nm,0.9s
ARCES ARCESS Array B 32.47 3 P **P** **11 17 59.5 -0.5**
ARCES pmax pmax
comp=Z,6.0nm,1.0s
KEV Kevo 32.77 4 P **P** **11 18 03.5 +1.0**
KEV Kevo 32.77 4 P **P** **11 18 03.5 +1.0**
KEV pmax pmax
comp=Z,30nm,1.1s
BORG Borgarnes 36.95 332 LR LR 11 36 50.6
comp=Z,137nm,18.3s,baz=307,slow=41
BRVK Borovoye 37.65 49 *i* P **P** **11 18 44.3 -0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BVAR Borovoye Array 37.72 49 P **P** **11 18 44.9 -0.4**
comp=Z,2.1nm,0.6s,baz=266,slow=5.6,SNR=11
BVAR LR LR 11 36 42.2
comp=Z,98nm,19.2s,baz=267,slow=40
comp=Z,2.1nm,0.6s
KKAR Karatay Array 38.17 65 P **P** **11 18 49.7 +0.4**
KKAR Karatay Array 38.17 65 P **P** **11 18 49.7 +0.4**

DBIC	Dimbokro	38.22	224	P	P	11 18 50.1	+0.2
	comp=Z,3.4nm,0.9s,baz=19,slow=9.1,SNR=3.6						
DBIC				LR	LR	11 34 47.4	
	comp=Z,143nm,18.8s,baz=12,slow=36						
	comp=Z,3.4nm,0.9s						
GAR	Garm	38.81	72	IAmb	IAmb	11 19 12.4	
	comp=Z,8.8nm,0.8s						
MBAR	Mbarara	38.81	164	LR	LR	11 36 25.7	
	comp=Z,181nm,18.7s,baz=357,slow=38						
BBTS	Babate	39.84	246	LR	LR	11 37 33.4	
	comp=Z,258nm,18.4s,baz=314,slow=39						
ARSB	Arslanbob	40.29	67	P	P	11 19 08.3	+1.1
ARSB	Arslanbob	40.29	67	P	P	11 19 08.3	+1.1
ARSB				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AAK	Ala-Archa	41.13	65	LR	LR	11 37 15.7	
	comp=Z,86nm,19.4s,baz=284,slow=38						
AAK	Ala-Archa	41.13	65	*e*P	P	11 19 14.5	+0.3
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KMBO	Kilima Mbogo	41.19	154	LR	LR	11 39 57.5	
	comp=Z,66nm,18.8s,baz=98,slow=41						
NIL	Nilore	42.64	78	P	P	11 19 25.8	-0.6
NIL				IAmb	IAmb	11 19 33.9	
	comp=Z,7.5nm,0.5s						
NIL	Nilore	42.64	78	P	P	11 19 25.8	-0.6
NIL				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KURBB	Kurchatov Arra	42.78	53	P	P	11 19 26.0	-1.3
	comp=Z,2.3nm,0.7s,baz=281,slow=8.5,SNR=13						
KURBB				LR	LR	11 40 13.1	
	comp=Z,209nm,18.4s,baz=165,slow=40						
	comp=Z,2.3nm,0.7s						
KURK	Kurchatov	42.83	53	P	P	11 19 27.5	-0.2
KURK	Kurchatov	42.83	53	*i* P	P	11 19 29.0	+1.3
KURK				pmax	pmax		
	comp=Z,8.0nm,2.2s						
MK31	Makanchi Array	45.78	58		P	11 19 51.7	+0.2
MK31	Makanchi Array	45.78	58	*i* P	P	11 19 51.8	+0.3
MKAR	Makanchi Array	45.78	58		P	11 19 51.3	-0.2
MKAR	Makanchi Array	45.78	58	P	P	11 19 50.6	-0.8
	comp=Z,1.6nm,0.5s,baz=270,slow=7.6,SNR=18						
	comp=Z,1.6nm,0.5s						
MKAR	Makanchi Array	45.78	58	P	P	11 19 51.3	-0.2
ZAA0	Zalesovo Array	46.31	47	P	P	11 19 54.7	-0.7
ZAA0				IAmb	IAmb	11 20 06.6	
	comp=Z,4.5nm,0.8s						
ZALV	Zalesovo Beam	46.31	47	P	P	11 19 53.9	-1.5
ZALV	Zalesovo Beam	46.31	47	P	P	11 19 54.7	-0.7
	comp=Z,3.1nm,0.5s,baz=274,slow=9.0,SNR=12						
ZALV				LR	LR	11 40 01.7	
	comp=Z,116nm,21.3s,baz=222,slow=37						
	comp=Z,3.1nm,0.5s						
ZALV	Zalesovo Beam	46.31	47	*i* P	P	11 19 55.0	-0.4
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NRIK	Noril'sk	47.63	26	*i* P	P	11 20 07.3	+1.8
NRIK				pmax	pmax		
	comp=Z,16nm,3.0s						
SCHQ	Schefferville	59.16	318	P	P	11 21 29.4	-1.0
	comp=Z,4.4nm,0.9s,baz=72,slow=9.6,SNR=2.2						
	comp=Z,4.4nm,0.9s						
RES	Resolute Bay	60.68	344	P	P	11 21 42.0	+1.5
RES				IAmb	IAmb	11 21 43.0	
	comp=Z,5.5nm,1.1s						
RES	Resolute Bay	60.68	344	P	P	11 21 42.0	+1.5
RES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SONM	Songino Array	61.04	50	P	P	11 21 45.7	+2.1
	comp=Z,0.6nm,0.5s,baz=282,slow=7.2,SNR=4.5						
	comp=Z,0.6nm,0.5s						
LBTB	Lobatse	62.10	175	P	P	11 21 51.3	+0.5
LBTB				IAmb	IAmb	11 22 01.4	
	comp=Z,4.2nm,0.9s						
LBTB	Lobatse	62.10	175	P	P	11 21 51.3	+0.5
LBTB				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YAK	Yakutsk	65.92	29	*i* P	P	11 22 15.3	-0.1
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BTO	Baotou	66.66	56	*e*P	P	11 22 16.9	-3.8
BTO				pmax	pmax		
	comp=Z,11nm,1.3s						
BTO				pmax	pmax		
	comp=Z,280nm,5.1s						
HHC	Hu-ho-hao-te	67.56	55	*e*P	P	11 22 27.1	+0.7
HHC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,94nm,3.6s						
RCBR	Riachuelo	67.78	244	LR	LR	11 52 51.4	
	comp=Z,52nm,18.4s,baz=70,slow=37						
PZH	PanZhiHua	67.86	73	P	P	11 22 28.5	0.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,110nm,5.5s						
CMAR	Chiang Mai Arr	70.00	82	P	P	11 22 41.5	-0.3
	comp=Z,0.9nm,0.4s,baz=305,slow=8.0,SNR=6.5						
	comp=Z,0.9nm,0.4s						
HEH	HeiHe	71.74	40	*e*P	P	11 22 52.3	+0.5
HEH				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HEH				LR	LR		
	comp=N,130nm,14.8s						
HEH				LR	LR		
	comp=E,380nm,16.6s						
HEH				LR	LR		
	comp=Z,390nm,17.2s						
D27M	Malcolm River	72.96	353	IAmb	IAmb	11 23 01.6	
	comp=Z,3.8nm,1.0s						
E28M	Babbage River	73.43	353	IAmb	IAmb	11 23 04.1	
	comp=Z,6.1nm,1.1s						
E29M	Blow River	73.46	352	IAmb	IAmb	11 23 03.7	
	comp=Z,3.9nm,0.6s						
F31M	Tsiigehtchic	73.83	350	IAmb	IAmb	11 23 05.9	
	comp=Z,8.9nm,1.1s						
F21K	Alatna River	75.77	358	IAmb	IAmb	11 23 18.1	
	comp=Z,5.0nm,1.1s						
I29M	Ogilvie Camp,	76.41	351	IAmb	IAmb	11 23 20.9	
	comp=Z,7.7nm,1.1s						
ULM	Lac du Bonnet	76.47	324	LR	LR	11 56 58.8	
	comp=Z,206nm,20.8s,baz=18,slow=36						
J30M	Hart River	76.90	350	IAmb	IAmb	11 23 24.4	
	comp=Z,5.6nm,1.1s						
H21K	Melozitna Rive	77.31	357	IAmb	IAmb	11 23 27.2	
	comp=Z,4.8nm,1.0s						
DAWY	Dawson	77.79	351	P	P	11 23 27.6	+0.8
DAWY				IAmb	IAmb	11 23 29.1	
	comp=Z,6.8nm,1.1s						
J26L	Joseph Creek	77.83	353	P	P	11 23 27.5	+0.5
ILAR	Eielson Array	77.85	355	P	P	11 23 28.1	+1.2
	comp=Z,0.6nm,0.9s,baz=354,slow=7.2,SNR=6.6						
	comp=Z,0.6nm,0.9s						
HDA	Harding Lake	78.21	354	IAmb	IAmb	11 23 30.6	
	comp=Z,6.5nm,1.1s						
WRH	Wood River Hil	78.23	355	IAmb	IAmb	11 23 31.3	
	comp=Z,6.2nm,1.1s						
KSRS	Korea Array	79.91	50	P	P	11 23 38.8	0.0
	comp=Z,2.2nm,0.9s,baz=302,slow=4.4,SNR=4.8						
KSRS				LR	LR	12 03 40.8	
	comp=Z,74nm,18.6s,baz=120,slow=39						
	comp=Z,2.2nm,0.9s						
R33M	Jennings River	80.86	346	IAmb	IAmb	11 23 47.3	
	comp=Z,9.4nm,1.1s						
YSS	Yuzh-Sakhalins	81.52	36	*e*P	P	11 23 52.2	+5.0
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
PWL	Port Wells	81.83	355	P	P	11 23 49.6	+1.0
BDFB	Brasilia	83.13	245	LR	LR	12 02 00.7	
	comp=Z,92nm,18.6s,baz=129,slow=36						
T35A	Sooner Cattle	86.02	314	P	P	11 24 11.1	+0.6
ROSC	El Rosal	90.97	277	LR	LR	11 59 03.9	
	comp=Z,54nm,21.8s,baz=264,slow=31						
SIV	San Ignacio	93.04	252	LR	LR	12 07 28.0	
	comp=Z,98nm,18.2s,baz=274,slow=36						
TXAR	Lajitas Array	95.63	313	P	P	11 24 57.4	+1.7
	comp=Z,0.3nm,0.8s,baz=78,slow=4.2,SNR=2.2						
	comp=Z,0.3nm,0.8s						
CPUP	Villa Florida	96.62	242	LR	LR	12 08 46.0	
	comp=Z,67nm,20.6s,baz=227,slow=36						
NVL	N'lazarevskaya	107.88	183	*e*P	Pdif	11 25 50.7	+1.7
NVL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WRA	Warramunga Arr	120.48	93	PKP	PKiKP	11 30 24.2	+2.5
	comp=Z,0.5nm,0.8s,baz=332,slow=1.7,SNR=2.8						
ASAR	Alice Springs	122.05	97	PKP	PKiKP	11 30 27.6	+2.8
	comp=Z,0.7nm,0.6s,baz=308,slow=1.5,SNR=5.4						

NEIC ***22*** *11:11:55.0±1.5, 5°.29S±0°.08×150°.84E±0°.07, h132km±9km, mb4.5/23, Error ellipse: s-maj=11.3km s-min=9.7km az=172.0*

IDC ***22*** *11:11:55.1±1.4, 5°.34S×150°.81E, h149km±11km, mb3.9/17, mbtmp4.4/19, MS4.0/7, Error ellipse: s-maj=14.5km s-min=8.6km az=117.0*

ISC 22 11:11:55.3±0.4, 5°.31S±0°.06×150°.80E±0°.06, h150km, n71, σ1°.42/73, mb4.3/27, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BULU	Kimbe	0.53	245	P	Pn	11 12 13.6	-3.2
RABL	Rabaul	1.75	51	Pn	Pn	11 12 24.9	-2.8
MANU	Manus Island	4.72	313		Pn	11 13 05.4	+0.3
PMG	Port Moresby	5.44	221	Pn	Pn	11 13 14.5	-0.1
PMG	Port Moresby	5.44	221	P	Pn	11 13 14.3	-0.4
	223nm,0.4s,baz=36,slow=6.0,SNR=74						
PMG				S	Sn	11 14 16.0	-0.6
	795nm,0.8s,baz=262,slow=18,SNR=18						
PMG	Port Moresby	5.44	221	P	Pn	11 13 14.6	-0.1
PMG	Port Moresby	5.44	221	P	Pn	11 13 14.4	-0.3
TATA	Tatamba Isabel	9.45	109	P	Pn	11 14 09.6	+1.5
HNR	Honiara	9.95	115	Pn	Pn	11 14 14.5	-0.3
HNR	Honiara	9.95	115	P	Pn	11 14 13.6	-1.2
	121nm,0.9s,baz=204,slow=2.2,SNR=12						
NGOA	Tingoa Renbel	11.06	125	P	P	11 14 37.3	-0.6
COEN	Coen	11.42	221	Pn	Pn	11 14 34.9	+0.8
COEN	Coen	11.42	221	P	Pn	11 14 34.8	+0.8
MTSU	Mount Surprise	14.24	206	P	P	11 15 15.2	+2.0
CTAO	Charters Tower	15.34	196		P	11 15 25.1	-0.3
CTAO				IAmb	IAmb	11 15 29.0	
	comp=Z,9.2nm,0.9s						
FAKI	Fak Fak	18.65	277		P	11 16 02.3	+0.4
QIS	Mount Isa	18.66	215	P	Pn	11 16 03.9	-0.1
EIDS	Eidsvold	19.95	179	P	P	11 16 16.5	+0.7
EIDS				IAmb	IAmb	11 16 21.7	
	comp=Z,12nm,0.8s						
MTN	Manton Dam	20.80	248	P	P	11 16 25.9	+0.9
DRS	Darwin Rock St	20.89	249	P	P	11 16 19.0	-6.9
WB0	Warramunga Arr	21.49	227	P	P	11 16 32.7	+0.3
WB0				IAmb	IAmb	11 16 38.8	
	comp=Z,5.3nm,0.6s						
WR0	Warramunga Arr	21.50	226	P	P	11 16 33.6	+1.0
WR0				IAmb	IAmb	11 16 36.6	
	comp=Z,7.1nm,0.6s						
WB2	Warramunga Arr	21.63	226	P	P	11 16 34.1	+0.2
WB2				IAmb	IAmb	11 16 37.3	
	comp=Z,11nm,0.4s						
WRA	Warramunga Arr	21.64	226	P	P	11 16 33.8	-0.2
	comp=Z,3.7nm,0.4s,baz=50,slow=10.0,SNR=74						
WRA				S	S	11 20 22.5	-1.6
	comp=Z,3.7nm,0.8s,baz=45,slow=17,SNR=9.2						
WRA				PcP	PcP	11 20 30.4	+0.7
	comp=Z,2.6nm,0.7s,baz=35,slow=1.7,SNR=9.8						
WRA				ScP	ScP	11 23 53.3	+0.3
	comp=Z,1.0nm,0.6s,baz=52,slow=2.5,SNR=6.2						
	comp=Z,3.7nm,0.4s						
DZM	Mont Dzumac	22.52	139	P	P	11 16 42.7	-0.1
DZM				IAmb	IAmb	11 16 45.1	
	comp=Z,7.6nm,0.5s						
DZM	Mont Dzumac	22.52	139	P	P	11 16 42.0	-0.8
	comp=Z,7.4nm,0.6s,baz=297,slow=4.5,SNR=15						
	comp=Z,7.4nm,0.6s						
KNRA	Kununurra	23.97	243	P	P	11 16 57.0	+1.0
INKA	Innaminka	24.27	202	P	P	11 17 01.6	+2.9
AS31	Alice Springs	24.46	220	P	P	11 17 01.2	+0.7
ASAR	Alice Springs	24.46	220	P	P	11 17 01.2	+0.7
	comp=Z,4.4nm,0.3s,baz=51,slow=8.8,SNR=70						
ASAR				PcP	PcP	11 20 36.0	+0.5
	comp=Z,0.6nm,0.6s,baz=65,slow=2.5,SNR=4.1						
ASAR				S	S	11 21 08.9	-0.9
	comp=Z,0.9nm,0.7s,baz=49,slow=13,SNR=4.3						
ASAR				ScP	ScP	11 24 01.8	+1.4
	comp=Z,0.3nm,0.5s,baz=57,slow=3.4,SNR=4.8						
	comp=Z,4.4nm,0.3s						
ARMA	Armidale	24.99	178	P	P	11 17 06.1	+0.7
OOD	Oodnadatta	26.59	211	P	P	11 17 21.4	+1.8
FITZ	Fitzroy Crossi	27.67	241	P	P	11 17 29.7	+0.3
FITZ	Fitzroy Crossi	27.67	241	P	P	11 17 29.5	0.0
	comp=Z,9.8nm,0.4s,baz=54,slow=6.9,SNR=89						
	comp=Z,9.8nm,0.4s						
WRKA	Warakurna	29.17	225	P	P	11 17 42.6	-0.2
MSVF	Nonsavu	29.36	117	P	P	11 17 45.3	+0.7
MULG	Mulgathing	29.43	210	P	P	11 17 45.3	+0.4
FORT	Forrest	33.16	217	P	P	11 18 16.0	-1.6
FORT	Forrest	33.16	217	P	P	11 18 18.2	+0.6
MBWA	Marble Bar	33.99	239	P	P	11 18 24.7	-0.3
MBWA				IAmb	IAmb	11 18 43.1	
	comp=Z,8.1nm,0.9s						
JAGI	Jajag, Banyuwa	36.51	263	P	P	11 18 46.2	-0.4
JAGI				IAmb	IAmb	11 18 47.7	
	comp=Z,18nm,1.0s						
MEEK	Meekatharra	37.32	232	P	P	11 18 50.1	-3.2
MORW	Morawa	40.49	230	P	P	11 19 19.7	+0.1
MORW				IAmb	IAmb	11 19 31.5	
	comp=Z,7.9nm,0.9s						
RTZ	Ruatahuna	40.79	148	P	P	11 19 23.9	+1.9
RTZ				IAmb	IAmb	11 19 26.1	
	comp=Z,7.3nm,0.6s						
MRZ	Mangatainoka R	41.63	151	P	P	11 19 29.4	+0.6
MRZ				IAmb	IAmb	11 19 41.7	
	comp=Z,11nm,1.0s						
JMN	Momobe	42.00	339	P	P	11 19 32.6	+0.7
JNU	Nakatsue	42.64	335	P	P	11 19 38.3	+1.3
MJAR	Matsushiro Arr	43.27	345	P	P	11 19 40.4	-1.7
	comp=Z,5.3nm,1.0s,baz=139,slow=8.2,SNR=4.6						
	comp=Z,5.3nm,1.0s						
JTM	Tenmabayashi	46.73	350	P	P	11 20 09.7	+0.4
JTM				IAmb	IAmb	11 20 20.4	
	comp=Z,23nm,1.0s						
KSRS	Korea Array	47.59	335	P	P	11 20 17.4	+1.4
	comp=Z,8.9nm,0.8s,baz=156,slow=8.5,SNR=22						
	comp=Z,8.9nm,0.8s						
PSI	Prapat	52.44	278	LR	LR	11 47 14.2	
	comp=Z,286nm,18.1s,baz=130,slow=40						
YSS	Yuzh-Sakhalins	52.52	353	P	P	11 20 53.1	+0.1
YSS				IAmb	IAmb	11 20 53.8	
	comp=Z,6.7nm,0.5s						
CMAR	Chiang Mai Arr	56.30	296	P	P	11 21 22.0	+1.1
	comp=Z,0.5nm,0.4s,baz=116,slow=6.6,SNR=1.4						
	comp=Z,0.5nm,0.4s						
PEA0B	Petropavlovsk-	58.49	5	P	P	11 21 35.3	-0.2
PETK	Petropavlovsk-	58.49	5	P	P	11 21 35.4	-0.2
	comp=Z,14nm,0.9s,baz=158,slow=6.6,SNR=15						
	comp=Z,14nm,0.9s						
SONM	Songino Array	65.71	329	P	P	11 22 25.6	+1.7
	comp=Z,2.0nm,0.6s,baz=148,slow=5.6,SNR=10						
	comp=Z,2.0nm,0.6s						
MKAR	Makanchi Array	79.40	319	P	P	11 23 45.2	+0.3
	comp=Z,0.3nm,0.5s,baz=103,slow=7.2,SNR=1.7						
	comp=Z,0.3nm,0.5s						
ZALV	Zalesovo Beam	80.47	327	P	P	11 23 49.3	-1.1
	comp=Z,0.8nm,0.3s,baz=100,slow=3.8,SNR=4.4						
ZALV				LR	LR	11 59 12.0	
	comp=Z,117nm,22.0s,baz=153,slow=35						
	comp=Z,0.8nm,0.3s						
KURBB	Kurchatov Arra	82.97	322	P	P	11 24 02.2	-1.3
	comp=Z,0.6nm,0.7s,baz=114,slow=4.3,SNR=4.5						
	comp=Z,0.6nm,0.7s						
ILAR	Eielson Array	83.38	22	P	P	11 24 03.6	-1.7
	comp=Z,2.3nm,0.6s,baz=254,slow=5.2,SNR=31						
	comp=Z,2.3nm,0.6s						
AAK	Ala-Archa	83.57	314	LR	LR	12 01 06.8	
	comp=Z,71nm,21.5s,baz=92,slow=35						
MAW	Mawson	84.34	203	P	P	11 24 10.3	+0.1
	comp=Z,1.9nm,0.6s,baz=92,slow=6.1,SNR=15						
	comp=Z,1.9nm,0.6s						
QSPA	South Pole Qui	84.66	180	P	P	11 24 12.6	+0.6
	comp=Z,2.6nm,0.7s,baz=349,slow=2.5,SNR=34						
	comp=Z,2.6nm,0.7s						
BVAR	Borovoye Array	88.45	323	P	P	11 24 28.9	-1.7
	comp=Z,1.3nm,0.7s,baz=100,slow=6.2,SNR=3.9						
BVAR				LR	LR	12 07 50.4	
	comp=Z,72nm,18.1s,baz=84,slow=38						
	comp=Z,1.3nm,0.7s						
NVAR	Mina Array Bea	93.96	52	P	P	11 24 56.1	-0.7
	comp=Z,0.9nm,0.7s,baz=250,slow=6.1,SNR=9.5						
	comp=Z,0.9nm,0.7s						
WSAR	Wadi Sarin	94.06	293	LR	LR	12 10 49.9	
	comp=Z,40nm,18.3s,baz=134,slow=38						
ARTI	Arti	95.72	326	LR	LR	12 09 44.9	
	comp=Z,94nm,20.6s,baz=76,slow=36						
AKTO	Aktyubinsk	95.83	320	LR	LR	12 10 01.9	
	comp=Z,66nm,20.1s,baz=102,slow=36						
PDAR	Pinedale Array	100.66	48	P	Pdif	11 25 25.9	-1.0
	comp=Z,0.5nm,0.6s,baz=209,slow=1.7,SNR=5.6						
TORD	Torodi Ar. Bea	148.56	287	PKPbc	PKPbc	11 31 24.6	-1.0
	comp=Z,2.0nm,0.6s,baz=28,slow=3.4,SNR=12						
BDFB	Brasilia	152.07	138	PKPbc	PKiKP	11 31 34.3	-0.1
	comp=Z,12nm,0.6s,baz=240,slow=3.0,SNR=16						

STR 22 11:12:43.1±2.9, 44°N±10°×±1°2, h0km, MLv1.2/3, Error ellipse: s-maj=0.0km s-min=0.0km az=124.9, preliminary, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUF	chteau de Sau	0.12	162	Pg	Pg	11 12 45.7	+0.2
SAUF				Sg	Sg	11 12 47.4	+0.5
RUSF	Rustrel	0.33	110	Pg	Pg	11 12 49.7	+0.3
RUSF				Sg	Sg	11 12 54.5	+0.8
ARTF	Artigues	0.71	130	Pg	Pg	11 12 57.2	+0.4
ARTF				Sg	Sb	11 13 08.7	-0.1

IDC ***22*** *11:17:58.6±1.4, 5°.84N×127°.35E, h206km±13km, mb3.4/8, mbtmp4.0/9, MS3.8/3, Error ellipse: s-maj=35.2km s-min=11.7km az=72.0*

ISC 22 11:17:57.9±0.7, 5°.9N±0°.1×127°.4E±0°.2, h200km, n12, σ0°.72/15, mb3.9/9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.19	304	P	Pn	11 18 37.7	-0.7
	141nm,0.3s,baz=230,slow=8.6,SNR=1.8						
DAV				S	Sn	11 19 11.2	+1.3
	211nm,0.3s,baz=270,slow=22,SNR=9.1						
FITZ	Fitzroy Crossi	23.86	184	P	P	11 22 53.6	+0.4
	1.3nm,0.4s,baz=14,slow=12,SNR=1.5						
	1.3nm,0.4s						
WRA	Warramunga Arr	26.52	165	P	P	11 23 16.9	-0.4
	0.7nm,0.6s,baz=344,slow=10,SNR=13						
WRA				PcP	PcP	11 26 36.8	+0.1
	0.5nm,1.0s,baz=345,slow=2.8,SNR=1.7						
WRA				ScP	ScP	11 29 56.8	-1.1
	0.4nm,0.9s,baz=345,slow=3.0,SNR=5.1						
	0.7nm,0.6s						
NJ2	Nanjing	27.27	344	*e*P	P	11 23 23.6	-0.1
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,370nm,3.8s						
JNU	Nakatsue	27.33	6	LR	LR	11 37 30.6	
	comp=Z,48nm,18.1s,baz=125,slow=43						
ASAR	Alice Springs	30.01	168	P	P	11 23 48.1	-0.1
	comp=Z,0.8nm,0.3s,baz=341,slow=7.2,SNR=26						
ASAR				PcP	PcP	11 26 44.9	-0.5
	comp=Z,0.3nm,0.5s,baz=333,slow=2.1,SNR=1.7						
ASAR				ScP	ScP	11 30 07.8	-0.9
	comp=Z,0.3nm,0.6s,baz=338,slow=2.7,SNR=5.6						
ASAR				LR	LR	11 37 57.7	
	comp=Z,268nm,18.3s,baz=50,slow=40						
	comp=Z,0.8nm,0.3s						
STKA	Stephens Creek	39.88	161	P	P	11 25 13.2	+0.8
	comp=Z,4.1nm,0.5s,baz=332,slow=7.2,SNR=9.1						
	comp=Z,4.1nm,0.5s						
PETK	Petropavlovsk-	53.22	22	P	P	11 26 56.5	+0.8
	comp=Z,5.1nm,1.0s,baz=272,slow=38,SNR=1.8						
	comp=Z,5.1nm,1.0s						
MKAR	Makanchi Array	56.23	324	P	P	11 27 16.9	-0.4
	comp=Z,0.6nm,0.5s,baz=119,slow=8.8,SNR=6.8						
	comp=Z,0.6nm,0.5s						
KURBB	Kurchatov Arra	60.34	326	P	P	11 27 45.5	-0.2
	comp=Z,0.3nm,0.5s,baz=126,slow=6.0,SNR=4.2						
	comp=Z,0.3nm,0.5s						
NRIK	Noril'sk	68.55	346	LR	LR	12 00 06.1	
	comp=Z,212nm,21.0s,baz=128,slow=37						
ILAR	Eielson Array	82.91	26	P	P	11 29 59.8	-0.2
	comp=Z,0.3nm,0.6s,baz=264,slow=5.5,SNR=5.8						
	comp=Z,0.3nm,0.6s						

HEL 22 11:33:33.4±0.2, 61°.80N×23°.83E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	Keuruu	0.61	53	PG	Pg	11 33 44.5	-0.6
	baz=230						
KEF				SG	Sg	11 33 52.4	-0.7
KEF				MSG		11 33 52.9	
	comp=Z,2.3nm,0.2s						
KPF	Kankaanpaa	0.83	273	PG	Pg	11 33 48.9	-0.5
	baz=91						
FIA0	FINESS Array S	1.13	107	PG	Pg	11 33 54.0	-1.1
	baz=285						
FIA0				MSG		11 34 07.9	
	comp=Z,0.9nm,0.2s						
FIA0				SN	Sn	11 34 12.9	+0.2
KAF	Kangasniemi	1.21	74	PG	Pg	11 33 55.5	-1.1
	baz=259						
KAF				MSG		11 34 10.2	
	comp=Z,1.1nm,0.2s						
RAF	Rauma	1.26	233	MSG		11 34 11.5	
	comp=Z,1.0nm,0.2s						
RAF				SN	Sb	11 34 15.2	+0.4
VAF	Ylistaro	1.36	337	PN	Pg	11 33 59.1	-0.2
VAF				MSG		11 34 14.4	
	comp=Z,0.8nm,0.2s						
VAF				SB	Sg	11 34 17.0	0.0
SUF	Sumiainen	1.43	49	PG	Pn	11 33 59.2	-1.3
SUF				MSG		11 34 16.2	
	comp=Z,0.5nm,0.2s						
SUF				SB	Sg	11 34 18.4	-0.7
MEF	Metsahovi	1.61	170	MSG		11 34 21.6	
	comp=Z,1.3nm,0.2s						
MEF				SN	Sn	11 34 24.4	-0.1
NIF	Nilsia	2.44	47	SG	Sb	11 34 48.1	-0.5
RUF	Ruokolahti	2.48	97	PB	Pn	11 34 15.5	+0.6
RUF				MSG		11 34 46.5	
	comp=Z,0.8nm,0.2s						
UMAU	Umeaa	2.54	327	SG	Sb	11 34 51.8	+0.2
OUF	Merijarvi	2.61	9	MSG		11 34 50.4	
	comp=Z,0.8nm,0.2s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**4.82**	**65**	I	I	13 00 40.0	
	0.6nm,0.7s,baz=252,slow=319,SNR=1.0						
I46RU	**ZALESOVO INFRA**	**21.58**	**63**	I	I	14 41 30.0	
	baz=267,slow=317,SNR=1.5						
I34MN	**SONGINO INFRAS**	**36.14**	**70**	I	I	16 06 40.0	
	baz=290,slow=335,SNR=0.7						

*IDC **22** 12:31:07.4±0.8, 0°.30S×124°.49E, h0km, mb4.0/10, mbtmp4.0/10, MS3.0/3, Error ellipse: s-maj=74.4km s-min=17.2km az=67.0*
*DJA **22** 12:31:13.6±1.1, 0°.5±2°.×12°.5E±°, h20km±10km, M4.2/21, mb4.2/6, mB4.7/1, MLv4.2/21, Mw(mB)3.9/1*
ISC 22 12:31:14.5±0.7, **0°.14**±0°.07×**125°.07E**±0°.06, **h53km, n29, σ1°12/29, mb3.9/10, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.30**	**303**	P	**Pn**	**12 31 35.6**	**-0.8**
KMSI				S	**Sn**	**12 31 52.1**	**-0.6**
SANI	**Sanana**	**2.11**	**154**	P	**Pn**	**12 31 46.0**	**-1.4**
LUWI	**Luwuk**	**2.46**	**249**	P	**Pn**	**12 31 53.1**	**+0.8**
TNTI	**Ternate**	**2.47**	**68**	P	**Pn**	**12 31 54.3**	**+1.9**
LBMI	**Labuha**	**2.48**	**101**	P	**Pn**	**12 31 52.4**	**-0.2**
MRSI	**Marisa**	**3.19**	**281**	P	**Pn**	**12 32 00.5**	**-1.7**
APSI	**Ampana**	**3.50**	**257**	P	**Pn**	**12 32 08.1**	**+1.6**
NLAI	**Namlea**	**3.69**	**147**	P	**Pn**	**12 32 08.8**	**-0.3**
KDI	**Kendari**	**4.51**	**213**	P	**Pn**	**12 32 20.5**	**+0.1**
MSAI	**Masohi**	**5.00**	**130**	P	**Pn**	**12 32 27.6**	**+0.5**
TTSI	**Tana Toraja**	**5.99**	**241**	P	**Pn**	**12 32 41.4**	**+0.8**
BNSI	**Bone**	**6.51**	**229**	P	**Pn**	**12 32 47.6**	**-0.3**
	17nm,0.6s,0.1nm						
SPSI	**Sidrap Palu**	**6.51**	**234**	P	**Pn**	**12 32 49.2**	**+1.3**
	21nm,0.4s,0.1nm						
BKSI	**Bulukumba**	**7.13**	**224**	P	**Pn**	**12 32 57.0**	**+0.7**
DAV	**Davao City (W)**	**7.18**	**4**	LR	LR	12 35 45.1	
	comp=Z,69nm,21.8s,baz=182,slow=38						
BSSI	**Bau Bau, Buton**	**7.51**	**217**	P	**Pn**	**12 33 01.3**	**-0.2**
	35nm,0.9s						
FAKI	**Fak Fak**	**7.69**	**111**	P	**Pn**	**12 33 02.0**	**-2.0**
	12nm,1.1s,0.1nm						
WRA	**Warramunga Arr**	**21.67**	**156**	P	**P**	**12 36 00.3**	**-0.6**
	0.5nm,0.3s,baz=336,slow=11,SNR=16						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**24.91**	**160**	P	**P**	**12 36 33.4**	**+0.6**
	1.2nm,0.8s,baz=340,slow=8.5,SNR=15						
ASAR				PcP	**PcP**	**12 40 08.6**	**+1.0**
	0.3nm,0.8s,baz=332,slow=1.5,SNR=4.3						
	1.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.63**	**307**	LR	LR	12 50 03.8	
	comp=Z,12nm,19.8s,baz=0.0,slow=36						
USRK	**Ussuriysk Ar.**	**44.58**	**7**	P	**P**	**12 39 23.5**	**+2.2**
	0.9nm,0.5s,baz=191,slow=9.1,SNR=1.9						
	0.9nm,0.5s						
SONM	**Songino Array**	**50.47**	**344**	P	**P**	**12 40 08.1**	**+0.8**
	0.5nm,0.7s,baz=167,slow=7.3,SNR=3.7						
	0.5nm,0.7s						
MSVF	**Nonsavu**	**54.93**	**112**	LR	LR	13 06 03.8	
	comp=Z,46nm,18.4s,baz=172,slow=38						
MKAR	**Makanchi Array**	**59.83**	**327**	P	**P**	**12 41 14.6**	**-0.1**
	1.8nm,0.5s,baz=123,slow=8.4,SNR=33						
MKAR				PcP	**PcP**	**12 42 00.6**	**-0.2**
	0.7nm,0.6s,baz=113,slow=4.3,SNR=3.7						
	1.8nm,0.5s						
ZALV	**Zalesovo Beam**	**63.31**	**335**	P	**P**	**12 41 36.4**	**-1.5**
	0.4nm,0.3s,baz=134,slow=4.2,SNR=2.1						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**64.14**	**329**	P	**P**	**12 41 42.2**	**-1.2**
	0.8nm,0.3s,baz=122,slow=7.3,SNR=12						
	0.8nm,0.3s						
BVAR	**Borovoye Array**	**69.68**	**328**	P	**P**	**12 42 17.5**	**-1.1**
	0.7nm,0.5s,baz=140,slow=7.5,SNR=4.4						
	0.7nm,0.5s						
NRIK	**Noril'sk**	**73.79**	**347**	P	**P**	**12 42 42.4**	**-0.6**
	2.2nm,0.5s,baz=126,slow=6.4,SNR=6.8						
	2.2nm,0.5s						
AKTO	**Aktyubinsk**	**75.67**	**323**	P	**P**	**12 42 53.3**	**-0.9**
	2.2nm,0.6s,baz=116,slow=6.9,SNR=7.8						
	2.2nm,0.6s						

IDC 22 12:34:41.4±296.0, **66°.03N×38°.81E, h0km, Error ellipse: s-maj=148.4km s-min=120.8km az=26.0, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	**I37NO**	**8.29**	**301**	I	I	13 21 00.0	
	baz=97,slow=329,SNR=0.7						
I31KZ	**AKTYUBINSK INF**	**18.51**	**138**	I	I	14 22 40.0	
	baz=335,slow=325,SNR=0.7						
I46RU	**ZALESOVO INFRA**	**25.32**	**96**	I	I	15 10 00.0	
	baz=316,slow=334,SNR=0.7						
I34MN	**SONGINO INFRAS**	**38.82**	**84**	I	I	16 32 30.0	
	baz=320,slow=336,SNR=0.9						
I53US	**FAIRBANKS INFR**	**49.29**	**4**	I	I	17 40 50.0	
	baz=354,slow=328,SNR=1.0						

*NORS **22** 12:56:07.4, 42°.76N×45°.59E, h22km, MPVA3.6*
*DRS **22** 12:56:07.6, 42°.87N×45°.72E, h18km*
MOS 22 12:56:06.4, 42°.90N×45°.66E, h16km, MPVA3.6, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.35**	**80**	*i* Pg	Pb	12 56 14.8	+0.5
DVE				*i* Sg	Sb	12 56 20.9	+1.3
BTLR	**Botlikh**	**0.48**	**119**	*e*Pg	Pn	12 56 17.6	-1.1
	23nm,0.5s						
BTLR				*e*Sg	Sb	12 56 25.0	+1.7
	225nm,0.4s						
DLMR	**Dylym**	**0.73**	**76**	*e*Pg	Pn	12 56 23.2	+1.1
	56nm,0.2s						
DLMR				*e*Sg	Sn	12 56 33.7	+0.7
	250nm,0.2s						
VLKR	**Vladikavkaz**	**0.74**	**282**	*e*Pg	Pn	12 56 23.6	+1.4
VLKR				*e*Sg	Sn	12 56 36.1	+2.9
XNZR	**Khunzakh**	**0.85**	**114**	*e*Pg	Pn	12 56 24.5	+0.6
	26nm,0.3s						
XNZR				*e*Sg	Sn	12 56 36.8	+0.6
	59nm,0.3s						
UNCR	**Uncukul**	**0.85**	**102**	*e*Pg	Pn	12 56 25.1	+1.2
	43nm,0.2s						
UNCR				*e*Sg	Sn	12 56 37.4	+1.3
	256nm,0.4s						
DBC	**Dubki**	**0.87**	**82**	*e*Pg	Pn	12 56 25.4	+1.4
	12nm,0.2s						
DBC				*e*Sg	Sn	12 56 37.7	+1.3
	53nm,0.5s						
KRNR	**Karanay**	**0.92**	**94**	*e*Pg	Pn	12 56 26.1	+1.3
	25nm,0.1s						
KRNR				*e*Sg	Sn	12 56 39.4	+1.6
	112nm,0.3s						
BTKR	**Batakoyurt**	**0.94**	**300**	*e*Pg	Pn	12 56 26.8	+1.7
BTKR				*e*Sg	Sn	12 56 42.1	+3.8
GUDG	**Gudauri**	**0.97**	**244**	*e*Pg	Pn	12 56 25.5	-0.2
GUDG				*e*Sg	Sn	12 56 39.1	-0.2
LACR	**Lac**	**1.00**	**266**	*e*Pg	Pn	12 56 26.2	+0.2
LACR				*e*Sg	Sn	12 56 40.4	+0.5
ARKR	**Arakani**	**1.03**	**106**	*e*Pg	Pg	12 56 28.6	+2.3
	22nm,0.5s						
ARKR				*e*Sg	Sn	12 56 43.4	+3.1
	120nm,0.4s						
ARNR	**Ardon**	**1.05**	**286**	*e*Pg	Pg	12 56 29.2	+2.5
ARNR				*i* Sg	Sn	12 56 44.8	+4.0
BUJR	**Buynaksk**	**1.07**	**93**	*e*Pg	Pg	12 56 28.9	+1.9
	67nm,0.3s						
BUJR				*e*Sg	Sn	12 56 44.6	+3.3
	440nm,0.4s						
TRKR	**Terskaya**	**1.07**	**321**	*e*Pg	Pg	12 56 29.2	+2.2
TRKR				*i* Sg	Sn	12 56 45.6	+4.3
GNBR	**Gunib**	**1.09**	**117**	*e*Pg	Pg	12 56 28.8	+1.4
	25nm,0.1s						
GNBR				*e*Sg	Sn	12 56 44.3	+2.4
	150nm,0.2s						
KORR	**Kora**	**1.18**	**280**	*e*Pg	Pg	12 56 30.3	+1.1
KORR				*e*Sg	Sg	12 56 47.5	+2.8
STDR	**Stavd-Durt**	**1.26**	**292**	*e*Pg	Pg	12 56 33.0	+2.3
STDR				*e*Sg	Sg	12 56 51.2	+4.0
KMKR	**Kumukh**	**1.31**	**125**	*e*Pg	Pg	12 56 32.6	+0.9
	6.0nm,0.1s						
KMKR				*e*Sg	Sg	12 56 51.0	+2.2
	190nm,0.2s						
LSNR	**Lesken**	**1.40**	**286**	*e*Pg	Pg	12 56 33.2	-0.1
LSNR				*e*Sg	Sg	12 56 53.3	+1.8
DIGR	**Digorskoe uzhe**	**1.53**	**271**	*e*Pg	Pg	12 56 35.8	0.0
DIGR				*e*Sg	Sg	12 56 55.1	-0.6
SGKR	**Sergokala**	**1.54**	**106**	*e*Pg	Pg	12 56 36.4	+0.4
	39nm,0.4s						
SGKR				*e*Sg	Sg	12 56 57.3	+1.3
	32nm,0.1s						
URKR	**Urkarakh**	**1.63**	**116**	*e*Pg	Pg	12 56 37.6	-0.1
URKR				*e*Sg	Sg	12 57 00.2	+1.2
KBTC	**Kuba-Taba**	**1.88**	**300**	*e*Pg	Pb	12 56 41.4	+0.9
KBTC				*e*Sg	Sg	12 57 05.8	-1.1
AKT	**Akhty**	**2.09**	**132**	*e*Pg	Pb	12 56 44.1	0.0
AKT				*e*Sg	Sg	12 57 12.0	-1.7
KBZ	**Khabaz**	**2.18**	**293**	*e*Pg	Pb	12 56 45.6	+0.1
KBZ				*e*Sg	Sb	12 57 13.4	+1.1
AKH	**Akhalkalaki**	**2.19**	**228**	*e*Pg	Pb	12 56 45.6	-0.3
AKH				*e*Sg	Sb	12 57 12.7	-0.2
PYA1	**Pyatigorsk**	**2.20**	**303**	*e*Pg	Pb	12 56 44.3	-1.6
PYA1				*e*Sg	Sb	12 57 14.8	+1.9
SHA1	**Shidzhatmaz**	**2.35**	**292**	*e*Pn	Pb	12 56 47.6	-0.9
SHA1				*e*Sn	Sb	12 57 17.8	+0.5
BEYR	**Belyy Ugol+**	**2.35**	**299**	*e*Pn	Pb	12 56 48.6	+0.1
BEYR				*e*Sn	Sb	12 57 16.5	-0.7
KIV	**Kislovodsk**	**2.41**	**297**	*e*Pn	Pb	12 56 50.4	+1.0
KIV				*e*Sn	Sb	12 57 17.7	-1.3
GHRG	**Ghorjomi**	**2.72**	**246**	*e*Pn	Pb	12 56 55.4	+0.5
GHRG				*e*Sn	Sb	12 57 28.4	+0.3

*NNC **22** 13:25:44.1±2.1, 50°.23N×76°.12E, h0km, mb2.8, mpv2.8, Error ellipse: s-maj=23.6km s-min=13.0km az=162.0, Suspected Mining explosion.*
*IDC **22** 13:25:45.4±4.0, 50°.13N×76°.26E, h0km, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=42.7km s-min=22.0km az=122.0*
ISC 22 13:25:45.9±3.4, **50°.1N**±0°.1×**76°.3E**±0°.2, **h0km, n8, σ1°04/7, 2C-3D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**1.51**	**69**	⇑P	**Pn**	**13 26 12.7**	**-1.4**
	8.6nm,1.1s,baz=257,slow=15						
KURBB				⇑S	**Sg**	**13 26 35.0**	**+0.7**
	21nm,0.8s						
KURBB	**Kurchatov Arra**	**1.51**	**69**	Pg	**Pn**	**13 26 13.6**	**-0.6**
	0.2nm,0.3s,baz=255,slow=15,SNR=23						
KURBB				Lg	Lg	13 26 34.3	
	0.3nm,0.3s,baz=263,slow=30,SNR=12						
KURBB				Rg	Rg	13 26 42.4	
	0.7nm,0.5s,baz=255,slow=40,SNR=3.5						
KURK	**Kurchatov**	**1.60**	**66**	⇓P	**Pn**	**13 26 14.5**	**-0.8**
	4.5nm,0.6s						
KURK				⇓S	**Sn**	**13 26 36.4**	**-0.2**
	13nm,0.8s						
BVAR	**Borovoye Array**	**4.72**	**311**	Lg	Lg	13 28 09.9	
	baz=125,slow=25,SNR=3.7						
MK31	**Makanchi Array**	**5.16**	**127**	⇓Lg	Lg	13 28 32.2	
	6.6nm,1.2s,baz=315,slow=26,SNR=3.7						
MKAR	**Makanchi Array**	**5.16**	**127**	Pn	**Pn**	**13 27 04.6**	**+0.2**
	0.1nm,0.3s,baz=311,slow=16,SNR=1.4						
MKAR				Lg	Lg	13 28 26.8	
	0.2nm,0.3s,baz=312,slow=25,SNR=5.5						
	0.3nm,0.7s						
I46RU	**ZALESOVO INFRA**	**6.51**	**50**	I	I	14 03 50.0	
	baz=237,slow=324,SNR=6.8						
ZALV	**Zalesovo Beam**	**6.51**	**50**	Pn	**Pn**	**13 27 23.7**	**+0.9**
	0.2nm,0.3s,baz=244,slow=16,SNR=3.3						
	0.5nm,0.3s						

*IDC **22** 13:30:46.4±2.2, 37°.46N×20°.75E, h0km, mb3.4/5, mbtmp3.4/7, ML0.9/1, Error ellipse: s-maj=47.0km s-min=23.8km az=30.0*
*ATH **22** 13:30:50.7, 37°.53N×20°.99E, h18km±1km, ML3.2/20, Error ellipse: s-maj=1.8km s-min=0.8km az=219.0*
*THE **22** 13:30:50.6, 37°.54N×20°.98E, h18km, ML3.2/8, Error ellipse: s-maj=0.7km s-min=0.3km az=221.0*
ISC 22 13:30:49.9±0.8, **37°.53N**±0°.03×**20°.98E**±0°.03, **h12km, n50, σ0°92/67, mb3.6/5, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.18**	**314**	P	**Pb**	**13 30 55.1**	**-0.1**
KRI1				S	**Sg**	**13 30 58.7**	**+1.9**
LTHK	**Lithakia**	**0.21**	**326**	P	**Pb**	**13 30 55.5**	**-0.1**
LTHK				S	**Sg**	**13 30 59.4**	**+1.9**
	63μm,0.4s						
LTHK	**Lithakia**	**0.21**	**326**	P	**Pb**	**13 30 55.5**	**-0.1**
LTHK				S	**Sg**	**13 30 59.3**	**+1.9**
LTHK				AML	AML	13 30 59.8	
	comp=E,85714μm,0.4s						
LTHK				AML	AML	13 31 00.1	
AMT	**Artemida-Makis**	**0.58**	**90**	P	**Pb**	**13 31 01.8**	**-0.1**
AMT				S	**Sb**	**13 31 10.0**	**-0.1**
	comp=E,12μm,0.4s						
AMT	**Artemida-Makis**	**0.58**	**90**	P	**Pb**	**13 31 01.8**	**-0.1**
AMT				S	**Sb**	**13 31 10.0**	**-0.1**
AMT				AML	AML	13 31 14.1	
	comp=N,20807μm,0.4s						
AMT				AML	AML	13 31 16.7	
	comp=E,25401μm,0.4s						
RLS	**Riolos of Patr**	**0.65**	**36**	P	**Pg**	**13 31 02.9**	**+0.4**
RLS				S	**Sb**	**13 31 12.4**	**+0.3**
	comp=E,1μm,0.4s						
RLS	**Riolos of Patr**	**0.65**	**36**	P	**Pg**	**13 31 02.7**	**+0.2**
RLS				S	**Sg**	**13 31 11.7**	**+0.7**
RLS				AML	AML	13 31 16.5	
	comp=E,2987μm,0.4s						
RLS				AML	AML	13 31 21.6	
	comp=N,2687μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.66**	**331**	P	**Pg**	**13 31 03.0**	**+0.3**
PSDA				S	**Sb**	**13 31 13.0**	**+0.6**
PSDA	**Pessada-Kefalo**	**0.66**	**331**	P	**Pg**	**13 31 03.0**	**+0.3**
PSDA				S	**Sb**	**13 31 13.2**	**+0.8**
DRO	**Drossia**	**0.71**	**54**	P	**Pg**	**13 31 04.0**	**+0.3**
DRO				S	**Sb**	**13 31 14.5**	**+0.5**
	comp=N,5μm,0.5s						
DRO	**Drossia**	**0.71**	**54**	P	**Pg**	**13 31 04.2**	**+0.5**
DRO				S	**Sb**	**13 31 13.9**	**0.0**
DRO				AML	AML	13 31 23.5	
	comp=E,9811μm,0.5s						
DRO				AML	AML	13 31 24.6	
	comp=N,11190μm,0.6s						
VLS	**Valsamata**	**0.71**	**334**	P	**Pg**	**13 31 03.7**	**0.0**
VLS				S	**Sb**	**13 31 14.5**	**+0.5**
	comp=N,2μm,0.6s						
VLS	**Valsamata**	**0.71**	**334**	P	**Pg**	**13 31 03.7**	**0.0**
VLS				S	**Sb**	**13 31 14.3**	**+0.3**
VLS				AML	AML	13 31 19.0	
	comp=E,4659μm,0.6s						
VLS				AML	AML	13 31 19.8	
	comp=N,4448μm,0.5s						
ITM	**Ithomi**	**0.83**	**115**	P	**Pg**	**13 31 06.1**	**+0.2**
ITM	**Ithomi**	**0.83**	**115**	P	**Pb**	**13 31 06.3**	**0.0**
ITM				AML	AML	13 31 25.8	
	comp=E,2602μm,0.7s						
ITM				AML	AML	13 31 28.2	
	comp=N,3485μm,0.7s						
DMLN	**Damoulianata-K**	**0.85**	**326**	P	**Pg**	**13 31 06.3**	**-0.1**
DMLN				S	**Sb**	**13 31 18.7**	**+0.7**
DMLN	**Damoulianata-K**	**0.85**	**326**	P	**Pg**	**13 31 06.2**	**-0.1**
PYL	**PYLOS**	**0.88**	**136**	P	**Pg**	**13 31 07.0**	**+0.2**
PYL	**PYLOS**	**0.88**	**136**	P	**Pb**	**13 31 07.2**	**+0.1**
PYL				AML	AML	13 31 25.4	
	comp=N,1725μm,0.6s						
PYL				AML	AML	13 31 25.7	
	comp=E,3042μm,0.7s						
FSK	**Fiskardo**	**0.98**	**340**	P	**Pg**	**13 31 08.5**	**-0.3**
FSK				S	**Sb**	**13 31 22.6**	**+0.9**
	comp=E,1μm,0.8s						
FSK	**Fiskardo**	**0.98**	**340**	P	**Pg**	**13 31 08.3**	**-0.5**
FSK				S	**Sb**	**13 31 22.6**	**+0.9**
FSK				AML	AML	13 31 34.1	
	comp=N,2216μm,0.9s						
FSK				AML	AML	13 31 41.2	
	comp=E,2851μm,0.7s						
KLV	**Kalavryta, Ach**	**1.05**	**61**	P	**Pb**	**13 31 09.8**	**-0.3**
KLV	**Kalavryta, Ach**	**1.05**	**61**	P	**Pb**	**13 31 09.8**	**-0.3**
KLV				AML	AML	13 31 33.8	
	comp=N,1448μm,0.6s						
KLV				AML	AML	13 31 40.2	
	comp=E,1201μm,0.8s						
EVGI	**Lefkada island**	**1.11**	**347**	P	**Pb**	**13 31 10.5**	**-0.6**
EVGI	**Lefkada island**	**1.11**	**347**	P	**Pb**	**13 31 10.8**	**-0.3**
GUR	**Goura**	**1.15**	**69**	P	**Pb**	**13 31 11.2**	**-0.5**
GUR	**Goura**	**1.15**	**69**	P	**Pb**	**13 31 11.4**	**-0.3**
GUR				AML	AML	13 31 37.0	
	comp=E,3326μm,0.6s						
GUR				AML	AML	13 31 38.4	
	comp=N,3176μm,0.5s						
EFP	**Efpalio**	**1.15**	**39**	P	**Pb**	**13 31 11.2**	**-0.5**
EFP	**Efpalio**	**1.15**	**39**	P	**Pb**	**13 31 11.2**	**-0.5**
EFP				AML	AML	13 31 36.1	
	comp=E,2000μm,0.8s						
EFP				AML	AML	13 31 37.4	
	comp=N,2583μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.20**	**349**	P	**Pg**	**13 31 13.1**	**+0.2**
LKD2	**Lefkada island**	**1.28**	**349**	P	**Pg**	**13 31 15.0**	**+0.5**
LKD2				AML	AML	13 31 40.3	
	comp=N,2204μm,0.8s						
LKD2				AML	AML	13 31 44.6	
	comp=E,2833μm,0.6s						
ANX	**Ano Chora**	**1.29**	**35**	P	**Pn**	**13 31 13.9**	**+0.1**
ANX				AML	AML	13 31 40.5	
	comp=E,3634μm,0.6s						
ANX				AML	AML	13 31 41.5	
	comp=N,3880μm,0.7s						
TSLK	**Tsoukalades, L**	**1.31**	**349**	P	**Pb**	**13 31 14.9**	**+0.4**
TSLK	**Tsoukalades, L**	**1.31**	**349**	P	**Pb**	**13 31 14.9**	**+0.4**
TSLK				AML	AML	13 31 39.8	
	comp=E,2134μm,0.6s						
TSLK				AML	AML	13 31 40.8	
	comp=N,3122μm,0.6s						
DLFA	**Delphi**	**1.52**	**51**	P	**Pb**	**13 31 18.8**	**+0.7**
DLFA				AML	AML	13 31 55.1	
	comp=N,911μm,1.0s						
DLFA				AML	AML	13 32 03.6	
	comp=E,900μm,1.1s						
MAKR	**Makrakomi, Fth**	**1.73**	**31**	P	**Pb**	**13 31 21.8**	**+0.2**
MAKR				AML	AML	13 31 58.3	
	comp=N,2037μm,0.6s						
MAKR				AML	AML	13 32 00.9	
	comp=E,1893μm,1.0s						
VLI	**Veliai**	**1.76**	**117**	P	**Pb**	**13 31 23.0**	**+0.9**
VIL2	**Platees**	**1.93**	**69**	P	**Pb**	**13 31 25.6**	**+0.6**
VIL2				AML	AML	13 32 07.5	
	comp=E,1049μm,0.7s						
VIL2				AML	AML	13 32 18.3	
	comp=N,631μm,1.2s						
IGT	**Igoumenitsa**	**2.06**	**346**	P	**Pb**	**13 31 27.2**	**0.0**
IGT				AML	AML	13 32 09.3	
	comp=E,463μm,0.6s						
IGT				AML	AML	13 32 16.8	
	comp=N,314μm,0.9s						
THL	**Klokotos Trika**	**2.18**	**21**	P	**Pb**	**13 31 29.9**	**+0.6**
THL				AML	AML	13 32 14.1	
	comp=E,452μm,1.2s						
THL				AML	AML	13 32 15.4	
	comp=N,371μm,0.8s						
VLY	**Voula,Athens**	**2.25**	**81**	P	**Pb**	**13 31 29.1**	**-1.3**
ATHU	**Athens Univers**	**2.26**	**78**	P	**Pb**	**13 31 29.3**	**-1.4**
KEK	**Kerkira**	**2.37**	**337**	P	**Pb**	**13 31 32.8**	**+0.4**
KEK				AML	AML	13 32 30.5	
	comp=E,395μm,0.7s						
KEK				AML	AML	13 32 31.8	
	comp=N,383μm,0.6s						
IDI	**Anoyia**	**3.87**	**124**	Pn	**Pn**	**13 31 50.9**	**+1.7**
	comp=N,0.4nm,0.3s,baz=342,slow=4.9,SNR=1.5						
IDI				Sn	**Sn**	**13 32 36.1**	**+1.6**
	comp=N,0.9nm,0.3s,baz=88,slow=11,SNR=2.0						
	comp=N,7.6nm,1.0s						
ESDC	**Sonseca Array**	**19.60**	**284**	P	**P**	**13 35 13.3**	**-4.6**
	comp=N,0.7nm,1.1s,baz=83,slow=11,SNR=1.8						
HFS	**Hagfors**	**23.09**	**351**	P	**P**	**13 35 53.9**	**-1.4**
	comp=N,1.5nm,0.8s,baz=147,slow=8.6,SNR=1.4						
	comp=N,1.5nm,0.8s						
NOA	**NORSAR Array B**	**24.32**	**348**	P	**P**	**13 36 07.6**	**+0.5**
	comp=N,0.1nm,0.3s,baz=152,slow=10,SNR=1.9						
	comp=N,0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**42.32**	**53**	P	**P**	**13 38 42.7**	**-0.6**
	comp=N,0.4nm,0.6s,baz=282,slow=8.7,SNR=3.7						
	comp=N,0.4nm,0.6s						
MKAR	**Makanchi Array**	**45.33**	**58**	P	**P**	**13 39 07.1**	**-0.6**
	comp=N,0.3nm,0.4s,baz=271,slow=8.3,SNR=6.4						
	comp=N,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**45.85**	**48**	P	**P**	**13 39 10.9**	**-0.7**
	comp=N,0.4nm,0.4s,baz=270,slow=8.6,SNR=2.0						
	comp=N,0.4nm,0.4s						

*UPP **22** 13:41:37.0±0.5, 65°.55N×21°.86E, h0km±2km, ML2.6, Unknown*
*HEL **22** 13:41:37.5±0.2, 65°.56N×21°.86E, h0km, ML1.4, Explosion*
ISC 22 13:41:36.9±0.8, **65°.54N**±0°.02×**21°.89E**±0°.03, **h0km, n29, σ0°85/42, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJUU	**Sjulsmark**	**0.12**	**256**	P	**Pg**	**13 41 39.5**	**+0.3**
SJUU				S	**Sg**	**13 41 41.3**	**+0.5**
KALU	**Kalix**	**0.69**	**61**	P	**Pg**	**13 41 50.0**	**0.0**
KALU	**Kalix**	**0.69**	**61**	PG	**Pg**	**13 41 50.1**	**0.0**
KALU				SG	**Sg**	**13 41 59.3**	**+0.4**
HARU	**Harads**	**0.73**	**330**	P	**Pg**	**13 41 50.5**	**-0.3**
LILU	**Lilltraesk**	**0.89**	**254**	P	**Pg**	**13 41 53.6**	**-0.3**
BURU	**Burvik**	**0.98**	**193**	P	**Pg**	**13 41 55.8**	**+0.1**
ERTU	**Ertsjaerv**	**1.03**	**7**	P	**Pg**	**13 41 56.0**	**-0.5**
ERTU	**Ertsjaerv**	**1.03**	**7**	PG	**Pg**	**13 41 56.0**	**-0.5**
ERTU				SB	**Sg**	**13 42 10.0**	**+0.2**
TOF	**Tornio**	**1.14**	**60**	PG	**Pg**	**13 41 58.0**	**-0.7**
TOF				MSG		13 42 12.2	
	comp=Z,2.3nm,0.2s						
TOF				SB	**Sg**	**13 42 13.3**	**-0.2**
ODEU	**Stanfors**	**1.24**	**204**	P	**Pg**	**13 42 00.3**	**-0.3**
SVAU	**Svanoeiden**	**1.44**	**224**	P	**Pn**	**13 42 03.7**	**-0.5**
OBF0	**Syolatti, Pyha**	**1.45**	**135**	PG	**Pn**	**13 42 04.1**	**-0.2**
	baz=319						
OBF0				MSG		13 42 21.6	
	comp=Z,3.5nm,0.2s						
OBF0				SN	**Sb**	**13 42

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.36**	**353**	P	**Pb**	**13 42 52.9**	**-0.8**
VLO				AMP			
comp=E,60nm,0.2s,baz=343							
SRN	**Sarande**	**0.41**	**124**	P	**Pb**	**13 42 54.3**	**-0.2**
SRN				AMP			
comp=N,4.8nm,0.5s,baz=132							
SRN	**Sarande**	**0.41**	**124**	P	**Pb**	**13 42 54.0**	**-0.5**
SRN				S	**Sb**	**13 42 59.7**	**-0.7**
KEK	**Kerkira**	**0.44**	**155**	P	**Pb**	**13 42 54.9**	**-0.1**
KEK				S	**Sb**	**13 43 01.5**	**+0.4**
comp=N,2μm,0.3s							
KEK	**Kerkira**	**0.44**	**155**	P	**Pb**	**13 42 55.2**	**+0.2**
KEK				S	**Sb**	**13 43 01.3**	**+0.2**
KEK				AML	AML	13 43 09.1	
comp=N,4031μm,0.2s							
KEK				AML	AML	13 43 09.4	
comp=E,4890μm,0.4s							
LSK	**Leskovik**	**0.80**	**87**	P	**Pb**	**13 43 00.2**	**-1.0**
LSK				AMP			
comp=E,6.5nm,0.8s,baz=89							
LSK	**Leskovik**	**0.80**	**87**	P	**Pb**	**13 43 00.2**	**-1.0**
LSK				S	**Sn**	**13 43 11.7**	**-1.4**
IGT	**Igoumenitsa**	**0.83**	**134**	P	**Pn**	**13 43 01.8**	**-0.4**
IGT				AMP			
comp=N,3.7nm,0.2s,baz=138							
IGT	**Igoumenitsa**	**0.83**	**134**	P	**Pn**	**13 43 01.6**	**-0.6**
IGT				S	**Sn**	**13 43 13.3**	**-0.4**
comp=N,768nm,0.4s							
IGT	**Igoumenitsa**	**0.83**	**134**	P	**Pn**	**13 43 01.5**	**-0.6**
IGT				S	**Sn**	**13 43 13.3**	**-0.4**
IGT				AML	AML	13 43 19.2	
comp=N,1780μm,0.3s							
IGT				AML	AML	13 43 22.7	
comp=E,1295μm,0.5s							
SCTE	**Santa Cesarea**	**0.83**	**268**	P	**Pb**	**13 43 03.0**	**+1.3**
SCTE				AMP			
comp=E,13nm,0.2s,baz=266							
KBN	**Korca**	**1.07**	**61**	P	**Pn**	**13 43 04.5**	**-1.0**
KBN				AMP			
comp=N,4.3nm,0.5s,baz=61							
JAN	**Janina**	**1.09**	**114**	P	**Pb**	**13 43 07.0**	**+0.8**
JAN				S	**Sb**	**13 43 21.7**	**+1.7**
comp=N,1μm,0.5s							
JAN	**Janina**	**1.09**	**114**	P	**Pb**	**13 43 07.0**	**+0.8**
JAN				S	**Sb**	**13 43 20.3**	**+0.3**
JAN				AML	AML	13 43 26.0	
comp=N,2754μm,0.6s							
JAN				AML	AML	13 43 26.5	
comp=E,3080μm,0.5s							
PENT	**Pentalofos**	**1.22**	**85**	P	**Pb**	**13 43 08.3**	**0.0**
PENT	**Pentalofos**	**1.22**	**85**	P	**Pb**	**13 43 08.5**	**+0.2**
TIR	**Tirane**	**1.26**	**11**	P	**Pb**	**13 43 09.1**	**+0.2**
TIR				AMP			
comp=E,1.3nm,0.3s,baz=8.0							
OHR	**Ohrid**	**1.38**	**43**	*i* Pn	**Pb**	**13 43 11.1**	**+0.2**
OHR				*i* Sn	**Sb**	**13 43 32.6**	**+4.5**
KPRO	**Kipourio**	**1.40**	**96**	P	**Pb**	**13 43 11.9**	**+0.6**
KPRO	**Kipourio**	**1.40**	**96**	P	**Pb**	**13 43 11.9**	**+0.6**
KPRO				AML	AML	13 43 35.1	
comp=N,1588μm,0.5s							
KPRO				AML	AML	13 43 40.0	
comp=E,1640μm,0.7s							
TSLK	**Tsoukalades, L**	**1.54**	**146**	P	**Pb**	**13 43 13.4**	**-0.3**
TSLK				S	**Sb**	**13 43 34.3**	**+1.6**
comp=E,910nm,0.6s							
TSLK	**Tsoukalades, L**	**1.54**	**146**	P	**Pb**	**13 43 14.0**	**+0.3**
TSLK				S	**Sb**	**13 43 34.3**	**+1.6**
TSLK				AML	AML	13 43 38.5	
comp=E,1769μm,0.7s							
TSLK				AML	AML	13 43 41.8	
comp=N,1872μm,0.5s							
FNA	**Florina**	**1.54**	**64**	P	**Pb**	**13 43 12.6**	**-1.2**
FNA				S	**Sb**	**13 43 33.3**	**+0.3**
comp=N,975nm,0.5s							
FNA	**Florina**	**1.54**	**64**	P	**Pb**	**13 43 13.3**	**-0.5**
FNA				S	**Sb**	**13 43 33.3**	**+0.3**
FNA				AML	AML	13 43 38.6	
comp=N,2117μm,0.5s							
FNA				AML	AML	13 43 39.0	
comp=E,1780μm,0.5s							
LKD2	**Lefkada island**	**1.57**	**147**	P	**Pb**	**13 43 14.7**	**+0.4**
LKD2	**Lefkada island**	**1.57**	**147**	P	**Pb**	**13 43 15.1**	**+0.9**
LKD2	**Lefkada island**	**1.57**	**147**	P	**Pb**	**13 43 15.1**	**+0.9**
LKD2				AML	AML	13 43 42.8	
comp=N,1201μm,0.5s							
LKD2				AML	AML	13 43 43.0	
comp=E,1588μm,0.4s							
NYDR	**Nydri-Lefkada**	**1.65**	**147**	P	**Pb**	**13 43 15.0**	**-0.6**
NYDR				S	**Sb**	**13 43 37.5**	**+1.6**
NYDR	**Nydri-Lefkada**	**1.65**	**147**	P	**Pb**	**13 43 15.0**	**-0.6**
NYDR				S	**Sb**	**13 43 35.5**	**-0.4**
KZN	**Kozani**	**1.71**	**83**	P	**Pb**	**13 43 15.2**	**-1.4**
KZN	**Kozani**	**1.71**	**83**	P	**Pb**	**13 43 16.6**	**-0.1**
KZN				AML	AML	13 43 45.2	
comp=N,748μm,0.6s							
KZN				AML	AML	13 43 45.5	
comp=E,1149μm,0.8s							
EVGI	**Lefkada island**	**1.71**	**150**	P	**Pb**	**13 43 15.9**	**-0.7**
EVGI	**Lefkada island**	**1.71**	**150**	P	**Pb**	**13 43 16.0**	**-0.7**
FSK	**Fiskardo**	**1.82**	**154**	P	**Pn**	**13 43 17.0**	**+1.2**
FSK				AML	AML	13 43 53.3	
comp=N,955μm,0.9s							
FSK				AML	AML	13 43 54.6	
comp=E,775μm,0.7s							
PUK	**Puka**	**1.95**	**7**	P	**Pb**	**13 43 19.1**	**-1.6**
THL	**Klokotos Trika**	**1.97**	**105**	P	**Pb**	**13 43 20.2**	**-0.8**
THL				AML	AML	13 43 52.8	
comp=E,472μm,0.6s							
THL				AML	AML	13 43 56.3	
comp=N,485μm,0.6s							
DMLN	**Damoulianata-K**	**1.97**	**161**	P	**Pn**	**13 43 19.4**	**+1.5**
VLS	**Valsamata**	**2.09**	**157**	P	**Pn**	**13 43 20.7**	**+1.3**
VLS				AML	AML	13 44 01.6	
comp=N,685μm,0.7s							
VLS				AML	AML	13 44 03.2	
comp=E,960μm,0.4s							
EVR	**Evrytania**	**2.11**	**124**	P	**Pb**	**13 43 24.1**	**+0.6**
EVR				AML	AML	13 44 01.1	
comp=E,672μm,0.6s							
EVR				AML	AML	13 44 04.5	
comp=N,614μm,0.8s							
MAKR	**Makrakomi, Fth**	**2.27**	**118**	P	**Pb**	**13 43 25.5**	**-0.7**
MAKR				AML	AML	13 44 03.3	
comp=E,1445μm,0.6s							
MAKR				AML	AML	13 44 04.4	
comp=N,1779μm,0.5s							
BCI	**Bajram Curri**	**2.29**	**10**	AMP			
comp=E,1.0nm,0.4s,baz=8.0							
ANX	**Ano Chora**	**2.38**	**129**	P	**Pb**	**13 43 26.9**	**-1.1**
ANX				AML	AML	13 44 14.0	
comp=N,673μm,0.5s							
ANX				AML	AML	13 44 17.6	
comp=E,838μm,0.5s							
HCY	**Herceg Novi**	**2.47**	**341**	*e*Pn	**Pn**	**13 43 24.3**	**-0.4**
EFP	**Efpalio**	**2.48**	**132**	P	**Pb**	**13 43 27.9**	**-1.8**
EFP				AML	AML	13 44 15.1	
comp=N,439μm,0.6s							
EFP				AML	AML	13 44 24.8	
comp=E,475μm,1.1s							
VAY	**Valandovo**	**2.59**	**61**	*i* Pn	**Pb**	**13 43 33.3**	**+1.7**
VAY				*i* Sn	**Sb**	**13 44 10.2**	**+7.2**
KALE	**Kalithea**	**2.64**	**130**	P	**Pb**	**13 43 30.3**	**-2.2**
KALE				AML	AML	13 44 25.1	
comp=E,403μm,0.9s							
KALE				AML	AML	13 44 25.4	
comp=N,395μm,0.6s							
TREB	**Trebinje**	**2.76**	**341**	*e*Pn	**Pn**	**13 43 28.5**	**-0.2**
BRY	**Bratogost**	**2.89**	**345**	*e*Pn	**Pn**	**13 43 31.1**	**+0.5**
PEHC	**Pehcevo**	**3.03**	**56**	*i* Pn	**Pn**	**13 43 33.3**	**+0.8**
PEHC				*i* Sn	**Sb**	**13 44 11.9**	**-3.9**
STON	**Ston**	**3.09**	**334**	*e*Pn	**Pn**	**13 43 32.6**	**-0.6**
UPM	**Unac-Piva**	**3.13**	**351**	*e*Pn	**Pn**	**13 43 36.0**	**+2.1**
SJES	**Sjenica**	**3.17**	**6**	*e*Pn	**Pn**	**13 43 36.8**	**+2.4**
RUDO	**Rudo**	**3.51**	**358**	*e*Pn	**Pn**	**13 43 38.7**	**-0.3**
BBLS	**Lazi&#263i**	**3.76**	**358**	*e*Pn	**Pb**	**13 43 49.7**	**-1.8**
A050A	**Klekovaca**	**4.91**	**334**	*e*Pn	**Pn**	**13 43 59.3**	**+1.0**
BLY	**Banja Luka**	**4.96**	**340**	*e*Pn	**Pn**	**13 43 57.3**	**-1.6**
A051A	**Mrakovica**	**5.28**	**339**	*e*Pn	**Pn**	**13 44 03.4**	**+0.1**
CRES	**Cresnjevec Ost**	**6.46**	**334**	*e*Pn	**Pn**	**13 44 18.2**	**-1.2**
CEY	**Cerknica**	**6.77**	**328**	*e*Pn	**Pn**	**13 44 23.5**	**-0.3**
SKDS	**Skadanscina**	**6.79**	**325**	*e*Pn	**Pn**	**13 44 23.1**	**-0.9**
OBKA	**Obir**	**7.36**	**332**	*e*Pn	**Pn**	**13 44 29.7**	**-2.3**

*WEL **22** 14:17:48.4±0.5,33°S±4°×18°0E±1°0,h33km,M4.4/21, mB5.0/17,ML4.5/33,MLv4.4/21,Mw(mB)4.4/17,Error ellipse: s-maj=13.3km s-min=3.5km az=108.6,confirmed*
*NOU **22** 14:18:16.1,35°.19S×177°.59E,h226km,MLv4.1/8,Off E. Coast of N. Island, N.Z.*
ISC 22 14:17:49.0±1.3,33°.25S±0°.07×179°.9W±0°.1,h35km,n74, σ2°91/96,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.34**	**24**	P	**Pn**	**14 18 51.8**	**-0.6**
GLKZ				S	**Sn**	**14 19 43.4**	**+1.7**
MXZ	**Matakaoa Point**	**4.53**	**198**	P	**Pn**	**14 18 57.6**	**+2.6**
MXZ				S	**Sn**	**14 19 53.3**	**+6.8**
MXZ	**Matakaoa Point**	**4.53**	**198**	P	Pn	14 19 01.1	+6.0
WMGZ	**Waiomatatini S**	**4.75**	**196**	P	**Pn**	**14 19 00.4**	**+2.3**
WMGZ				S	**Sn**	**14 19 58.5**	**+6.6**
HAZ	**Te Kaha**	**4.86**	**202**	P	**Pn**	**14 19 00.3**	**+0.7**
HAZ				S	**Sn**	**14 20 00.8**	**+6.2**
PUZ	**Puketiti**	**5.03**	**196**	P	**Pn**	**14 19 02.8**	**+0.9**
PUZ				S	**Sn**	**14 20 03.6**	**+4.8**
TWGZ	**Tauwhareparae**	**5.20**	**198**	P	**Pn**	**14 19 07.4**	**+3.2**
TWGZ				S	**Sn**	**14 20 09.4**	**+6.4**
WIAZ	**Waiheke Island**	**5.37**	**227**	P	**Pn**	**14 19 07.6**	**+1.1**
OPRZ	**Ohinepanea**	**5.40**	**211**	P	**Pn**	**14 19 09.0**	**+2.1**
CNGZ	**Carnagh Statio**	**5.43**	**196**	P	**Pn**	**14 19 07.7**	**+0.3**
MWZ	**Matawai**	**5.47**	**201**	P	**Pn**	**14 19 07.5**	**-0.6**
MWZ				S	**Sn**	**14 20 12.9**	**+3.2**
TKGZ	**Te Karaka**	**5.48**	**198**	P	**Pn**	**14 19 07.2**	**-0.9**
TKGZ				S	**Sn**	**14 20 13.4**	**+3.6**
MBAZ	**Motutapu North**	**5.50**	**229**	P	**Pn**	**14 19 10.0**	**+1.7**
URZ	**Urewera**	**5.54**	**205**	P	**Pn**	**14 19 07.8**	**-1.2**
URZ				S	**Sn**	**14 20 15.1**	**+3.7**
URZ	**Urewera**	**5.54**	**205**	P	**Pn**	**14 19 07.7**	**-1.2**
MKAZ	**Moumakai**	**5.55**	**225**	P	**Pn**	**14 19 10.3**	**+1.2**
RAGZ	**Rawiri**	**5.66**	**202**	P	**Pn**	**14 19 11.6**	**+1.0**
KARZ	**Kaharoa**	**5.68**	**212**	P	**Pn**	**14 19 14.4**	**+3.5**
OUZ	**Omahuta**	**5.70**	**248**	P	**Pn**	**14 19 10.0**	**-1.1**
OUZ	**Omahuta**	**5.70**	**248**	P	**Pn**	**14 19 10.2**	**-0.9**
RIGZ	**Rimuhau**	**5.75**	**198**	P	**Pn**	**14 19 09.9**	**-2.0**
RIGZ				S	**Sn**	**14 20 18.6**	**+1.9**
MUGZ	**Murupara**	**5.86**	**206**	P	**Pn**	**14 19 12.8**	**-0.5**
MUGZ				S	**Sn**	**14 20 20.4**	**+1.2**
RTZ	**Ruatahuna**	**5.91**	**204**	P	**Pn**	**14 19 10.9**	**-3.1**
RTZ				S	**Sn**	**14 20 23.2**	**+2.7**
PRGZ	**Paritu Road**	**5.93**	**197**	P	**Pn**	**14 19 16.3**	**+2.0**
PRGZ				S	**Sn**	**14 20 22.5**	**+1.6**
SNGZ	**Shannon Statio**	**5.94**	**201**	P	**Pn**	**14 19 12.8**	**-1.6**
SNGZ				S	**Sn**	**14 20 24.5**	**+3.2**
HRRZ	**Handcock Road**	**5.97**	**210**	P	**Pn**	**14 19 17.1**	**+2.2**
PRRZ	**Plateau Road**	**6.02**	**209**	P	**Pn**	**14 19 16.7**	**+1.2**
KNZ	**Kokohu**	**6.07**	**198**	P	**Pn**	**14 19 13.8**	**-2.5**
KNZ				S	**Sn**	**14 20 25.2**	**+0.7**
ALRZ	**Allen Road**	**6.10**	**209**	P	**Pn**	**14 19 17.4**	**+0.8**
MHGZ	**Mahia Peninsul**	**6.14**	**196**	P	**Pn**	**14 19 15.7**	**-1.4**
MHGZ				S	**Sn**	**14 20 26.6**	**+0.5**
RAHZ	**Arahi**	**6.14**	**202**	P	**Pn**	**14 19 14.7**	**-2.5**
RAHZ				S	**Sn**	**14 20 27.8**	**+1.5**
MTHZ	**Maungataniwha**	**6.17**	**204**	P	**Pn**	**14 19 16.9**	**-0.6**
MTHZ				S	**Sn**	**14 20 27.0**	**+0.1**
WHHZ	**Waihua**	**6.25**	**201**	P	**Pn**	**14 19 18.4**	**-0.2**
WHHZ				S	**Sn**	**14 20 30.4**	**+1.7**
KUTZ	**Kaahu Road**	**6.25**	**212**	P	**Pn**	**14 19 20.1**	**+1.4**
TLZ	**Tolley Road**	**6.26**	**215**	P	**Pn**	**14 19 20.0**	**+1.2**
MRHZ	**Matea Rd**	**6.30**	**207**	P	**Pn**	**14 19 18.8**	**-0.7**
NMHZ	**Naumai**	**6.40**	**203**	P	**Pn**	**14 19 19.6**	**-1.2**
NMHZ				S	**Sn**	**14 20 33.2**	**+0.6**
ARHZ	**Aropaoanui**	**6.49**	**202**	P	**Pn**	**14 19 20.4**	**-1.5**
ARHZ				S	**Sn**	**14 20 33.5**	**-1.2**
BKZ	**Black Stump Fm**	**6.57**	**205**	P	**Pn**	**14 19 19.8**	**-3.4**
BKZ				S	**Sn**	**14 20 34.7**	**-2.0**
BKZ	**Black Stump Fm**	**6.57**	**205**	P	**Pn**	**14 19 19.7**	**-3.4**
HIZ	**Hauiti**	**6.74**	**217**	P	**Pn**	**14 19 25.7**	**+0.3**
MCHZ	**McNeill Hill**	**6.75**	**203**	P	**Pn**	**14 19 23.3**	**-2.2**
MCHZ				S	**Sn**	**14 20 40.7**	**-0.5**
KWHZ	**Kaweka Forest**	**6.82**	**204**	P	**Pn**	**14 19 23.7**	**-2.9**
KWHZ				S	**Sn**	**14 20 41.4**	**-1.7**
TMVZ	**Te Maari**	**6.83**	**210**	P	**Pn**	**14 19 25.3**	**-1.4**
CKHZ	**Cape Kidnapper**	**6.83**	**200**	P	**Pn**	**14 19 24.4**	**-2.2**
CKHZ				S	**Sn**	**14 20 40.5**	**-2.6**
NNVZ	**North Ngauruho**	**6.88**	**210**	P	**Pn**	**14 19 27.3**	**-0.2**
OTVZ	**Oturere**	**6.88**	**210**	P	**Pn**	**14 19 24.8**	**-2.8**
SNVZ	**South Ngauruho**	**6.91**	**210**	P	**Pn**	**14 19 26.2**	**+1.8**
TUVZ	**Tukino**	**6.98**	**209**	P	**Pn**	**14 19 26.8**	**-2.0**
FWVZ	**Far West T-bar**	**7.01**	**210**	P	**Pn**	**14 19 25.9**	**-3.4**
KAHZ	**Kahuranaki**	**7.01**	**200**	P	**Pn**	**14 19 25.3**	**-3.9**
KAHZ				S	**Sn**	**14 20 42.9**	**-4.8**
WHVZ	**Whangaehu Hut**	**7.02**	**210**	P	**Pn**	**14 19 27.3**	**-2.2**
KRHZ	**Kereru**	**7.04**	**204**	P	**Pn**	**14 19 26.2**	**-3.3**
KRHZ				S	**Sn**	**14 20 43.6**	**-4.6**
WNVZ	**Wahianoa**	**7.05**	**209**	P	**Pn**	**14 19 26.1**	**-3.7**
WNVZ				S	**Sn**	**14 20 47.6**	**-1.2**
MOVZ	**Moawhango**	**7.06**	**208**	P	**Pn**	**14 19 26.6**	**-3.2**
MOVZ				S	**Sn**	**14 20 43.8**	**-5.0**
PKVZ	**Pokaka**	**7.12**	**211**	P	**Pn**	**14 19 28.1**	**-2.7**
PXZ	**Pawanui**	**7.24**	**200**	P	**Pn**	**14 19 29.3**	**-2.9**
PXZ				S	**Sn**	**14 20 45.9**	**-7.2**
WPHZ	**Waipukurau**	**7.39**	**202**	P	**Pn**	**14 19 31.7**	**-2.7**
PRHZ	**Porangahau**	**7.52**	**200**	P	**Pn**	**14 19 31.9**	**-4.2**
TSZ	**Takapari Road**	**7.55**	**205**	P	**Pn**	**14 19 32.2**	**-4.3**
DVHZ	**Dannevirke**	**7.69**	**203**	P	**Pn**	**14 19 34.7**	**-3.9**
NEZ	**North Egmont**	**7.70**	**217**	P	**Pn**	**14 19 37.9**	**-0.7**
ANWZ	**Angora Road**	**7.75**	**201**	P	**Pn**	**14 19 34.9**	**-4.3**
POWZ	**Post Office Ro**	**7.91**	**205**	P	**Pn**	**14 19 37.3**	**-4.2**
PRWZ	**Pori Road**	**7.99**	**203**	P	**Pn**	**14 19 38.1**	**-4.4**
BFZ	**Birch Farm**	**8.02**	**201**	P	Pn	14 19 37.8	-5.2
BFZ	**Birch Farm**	**8.02**	**201**	P	**Pn**	**14 19 38.9**	**-4.0**
TIWZ	**Tintock**	**8.22**	**203**	P	Pn	14 19 40.4	-5.3
CPWZ	**Castlepoint**	**8.24**	**201**	P	**Pn**	**14 19 42.5**	**-3.4**
TMWZ	**Te Maipa**	**8.52**	**202**	P	Pn	14 19 44.0	-5.8
TRWZ	**Traveller**	**8.84**	**202**	P	Pn	14 19 47.9	-6.3
SNZO	**South Karori**	**9.10**	**206**	P	Pn	14 19 49.5	-8.3
QRZ	**Quartz Range**	**9.66**	**216**	P	Pn	14 19 55.6	-10
KHZ	**Kahutara**	**10.50**	**207**	P	Pn	14 20 07.3	-10

*IDC **22** 14:22:07.1±1.3,0°.60N×126°.17E,h0km,mb3.8/5, mbtmp3.8/5,Error ellipse: s-maj=139.3km s-min=19.4km az=67.0*
*DJA **22** 14:22:09.6±0.5,1°N±2°×12°7E±°,h15km±5km,M3.6/9, MLv3.6/9*
ISC 22 14:22:11.6±1.0,0°.99N±0°.09×127°.05E±0°.07,h35km,n10, σ1°09/13,mb3.6/5,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.38**	**124**	P	**Pn**	**14 22 19.5**	**-1.1**
TNTI				S	**Sn**	**14 22 27.5**	**+0.7**
LBMI	**Labuha**	**1.68**	**164**	P	**Pn**	**14 22 40.2**	**+1.7**
LBMI				S	**Sn**	**14 22 59.5**	**+0.8**
KMSI	**Cibinong**	**3.10**	**262**	P	**Pn**	**14 22 58.2**	**+0.2**
KMSI				S	**Sn**	**14 23 34.5**	**+0.6**
SANI	**Sanana**	**3.20**	**199**	P	**Pn**	**14 22 57.2**	**-2.2**
NLAI	**Namlea**	**4.20**	**179**	P	**Pn**	**14 23 13.3**	**+0.1**
WRA	**Warramunga Arr**	**21.99**	**161**	P	**P**	**14 27 02.4**	**-0.5**
1.3nm,0.8s,baz=336,slow=11,SNR=17							
1.3nm,0.8s							
ASAR	**Alice Springs**	**25.39**	**165**	P	**P**	**14 27 35.1**	**-0.8**
0.6nm,0.4s,baz=346,slow=8.0,SNR=15							
0.6nm,0.4s							
SONM	**Songino Array**	**49.99**	**342**	P	**P**	**14 31 02.7**	**+0.2**
0.3nm,0.5s,baz=152,slow=6.7,SNR=3.9							
0.3nm,0.5s							
MKAR	**Makanchi Array**	**59.99**	**326**	P	**P**	**14 32 14.6**	**-0.1**
1.1nm,0.4s,baz=117,slow=7.5,SNR=21							
1.1nm,0.4s							
KURBB	**Kurchatov Arra**	**64.21**	**328**	P	**P**	**14 32 43.3**	**+0.3**
1.2nm,0.3s,baz=128,slow=6.1,SNR=4.5							
1.2nm,0.3s							

*TIR **22** 14:25:35.2,37°.28N×20°.28E,h8km±6km,Md3.5,Ml3.8*
*ATH **22** 14:25:36.5,37°.16N×20°.46E,h9km±1km,ML3.8/20,Error ellipse: s-maj=2.5km s-min=1.1km az=54.0*
*IDC **22** 14:25:37.2±1.1,37°.44N×20°.70E,h0km,mb3.8/8, mbtmp3.8/15,ML3.8/4,MS3.4/7,Error ellipse: s-maj=19.4km s-min=17.9km az=179.0*
*THE **22** 14:25:37.6,37°.21N×20°.53E,h0km±1km,ML3.7/7,Error ellipse: s-maj=1.1km s-min=0.3km az=225.0*
*NAO **22** 14:25:38.6,37°.44N×20°.70E,h10km,mb4.0*
*BEO **22** 14:25:41.5±1.2,37°.58N×20°.42E,h0km,ML3.5/8*
ISC 22 14:25:38.2±1.5,37°.28N±0°.03×20°.61E±0°.03,h14km±10km, n96,σ1°64/122,mb3.9/8,MS3.5/5,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.42**	**24**	P	**Pb**	**14 25 47.5**	**+0.1**
KRI1				S	**Sb**	**14 25 54.9**	**+1.2**
LTHK	**Lithakia**	**0.47**	**23**	P	**Pb**	**14 25 48.2**	**0.0**
LTHK				S	**Sb**	**14 25 56.2**	**+1.2**
24μm,0.7s							
LTHK	**Lithakia**	**0.47**	**23**	P	**Pb**	**14 25 48.6**	**+0.4**
LTHK				S	**Sb**	**14 25 56.2**	**+1.2**
LTHK				AML	AML	14 25 57.4	
comp=N,50964μm,0.7s							
LTHK				AML	AML	14 25 57.7	
comp=E,43089μm,0.7s							
RTZL	**Ratzakli, Kefa**	**0.81**	**9**	P	**Pb**	**14 25 54.2**	**+0.2**
RTZL				S	**Sn**	**14 26 07.2**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.84**	**359**	P	**Pb**	**14 25 54.5**	**0.0**
PSDA				S	**Sn**	**14 26 07.7**	**0.0**
PSDA	**Pessada-Kefalo**	**0.84**	**359**	P	**Pb**	**14 25 54.5**	**0.0**
PSDA				S	**Sn**	**14 26 07.7**	**0.0**
VLS	**Valsamata**	**0.90**	**359**	P	**Pb**	**14 25 55.7**	**+0.1**
VLS				S	**Sn**	**14 26 09.8**	**+0.5**
comp=E,5μm,0.7s							
VLS	**Valsamata**	**0.90**	**359**	P	**Pb**	**14 25 55.2**	**-0.4**
VLS				S	**Sn**	**14 26 09.8**	**+0.5**
VLS				AML	AML	14 26 16.7	
comp=E,10009μm,0.6s							
VLS				AML	AML	14 26 19.3	
comp=N,9232μm,0.7s							
SMHA	**Samh**	**0.97**	**2**	P	**Pb**	**14 25 57.0**	**+0.1**
SMHA				S	**Sn**	**14 26 12.3**	**+1.3**
DMLN	**Damoulianata-K**	**0.98**	**349**	P	**Pb**	**14 25 57.0**	**+0.1**
DMLN				S	**Sn**	**14 26 12.1**	**+0.9**
DMLN	**Damoulianata-K**	**0.98**	**349**	P	**Pb**	**14 25 56.6**	**-0.3**
DMLN				S	**Sn**	**14 26 12.1**	**+0.9**
PYL	**PYLOS**	**0.99**	**112**	P	**Pn**	**14 25 56.7**	**-0.9**
PYL				S	**Sn**	**14 26 11.7**	**+0.3**
comp=N,3μm,0.5s							
PYL	**PYLOS**	**0.99**	**112**	P	**Pb**	**14 25 56.2**	**-0.8**
PYL				S	**Sn**	**14 26 11.7**	**+0.3**
PYL				AML	AML	14 26 15.9	
comp=E,4442μm,0.4s							
PYL				AML	AML	14 26 19.2	
comp=N,7167μm,0.7s							
RLS	**Riolos of Patr**	**1.04**	**41**	P	**Pn**	**14 25 58.5**	**+0.2**
RLS				S	**Sn**	**14 26 14.9**	**+2.2**
comp=N,3μm,0.9s							
RLS	**Riolos of Patr**	**1.04**	**41**	P	**Pn**	**14 25 58.5**	**+0.2**
RLS				S	**Sn**	**14 26 14.6**	**+1.9**
RLS				AML	AML	14 26 24.5	
comp=E,5376μm,1.2s							
RLS				AML	AML	14 26 26.0	
comp=N,4781μm,0.7s							
ITM	**Ithomi**	**1.06**	**95**	P	**Pn**	**14 25 58.4**	**-0.2**
ITM				S	**Sn**	**14 26 14.8**	**+1.6**
comp=N,3μm,0.9s							
ITM	**Ithomi**	**1.06**	**95**	P	**Pb**	**14 25 57.9**	**-0.4**
ITM				S	**Sn**	**14 26 15.0**	**+1.8**
ITM				AML	AML	14 26 25.5	
comp=E,5853μm,0.8s							
ITM				AML	AML	14 26 32.1	
comp=N,4845μm,0.9s							
DRO	**Drossia**	**1.11**	**52**	P	**Pn**	**14 25 59.8**	**+0.5**
DRO				S	**Sn**	**14 26 17.3**	**+2.9**
comp=N,5μm,0.8s							
DRO	**Drossia**	**1.11**	**52**	P	**Pn**	**14 25 59.8**	**+0.5**
DRO				S	**Sn**	**14 26 17.0**	**+2.6**
DRO				AML	AML	14 26 30.3	
comp=N,9771μm,1.0s							
DRO				AML	AML	14 26 37.1	
comp=E,11584μm,0.6s							
VSK1	**VASILIKIADES**	**1.13**	**358**	P	**Pn**	**14 25 59.9**	**+0.3**
FSK	**Fiskardo**	**1.18**	**358**	P	**Pn**	**14 26 00.8**	**+0.5**
FSK				S	**Sn**	**14 26 18.9**	**+2.7**
comp=E,3μm,0.7s							
FSK	**Fiskardo**	**1.18**	**358**	P	**Pn**	**14 26 00.6**	**+0.3**
FSK				S	**Sn**	**14 26 18.4**	**+2.2**
FSK				AML	AML	14 26 28.7	
comp=E,7270μm,0.5s							
FSK				AML	AML	14 26 30.1	
comp=N,5107μm,0.9s							
EVGI	**Lefkada island**	**1.34**	**2**	P	**Pb**	**14 26 03.6**	**+0.5**
EVGI				S	**Sn**	**14 26 23.9**	**+3.7**
EVGI	**Lefkada island**	**1.34**	**2**	P	**Pb**	**14 26 03.8**	**+0.6**
EVGI				S	**Sn**	**14 26 23.7**	**+3.5**
UPR	**University Cam**	**

THL	**Klokotos Trika**	**2.54**	**25**	P	**Pb**	**14 26 21.6**	**-1.9**
THL				AML	AML	14 27 16.8	
	comp=E,1344μm,0.9s						
THL				AML	AML	14 27 17.4	
	comp=N,673μm,0.7s						
SRN	**Sarande**	**2.64**	**350**	P	**Pn**	**14 26 22.1**	**+1.7**
SRN				AMP			
	comp=E,0.9nm,1.3s,baz=356						
LSK	**Leskovik**	**2.87**	**360**	P	**Pn**	**14 26 25.7**	**+2.1**
LSK				AMP			
	comp=N,3.6nm,0.9s,baz=4.0						
SCTE	**Santa Cesarea**	**3.25**	**330**	P	**Pn**	**14 26 29.4**	**+0.6**
SCTE				AMP			
	comp=E,0.8nm,1.1s,baz=334						
FNA	**Florina**	**3.55**	**9**	P	**Pn**	**14 26 35.2**	**+2.2**
FNA				AMP			
	comp=N,0.2nm,0.3s,baz=13						
FNA	**Florina**	**3.55**	**9**	*e*Pn	**Pn**	**14 26 34.9**	**+1.9**
OHR	**Ohrid**	**3.83**	**2**	*e*Pn	**Pn**	**14 26 37.3**	**+0.5**
OHR	**Ohrid**	**3.83**	**2**	*i* Pn	**Pn**	**14 26 39.3**	**+2.5**
IDI	**Anoyia**	**3.99**	**119**	Pn	**Pn**	**14 26 41.5**	**+2.5**
	comp=N,4.3nm,0.4s,baz=295,slow=14,SNR=1.1						
IDI				Sn	**Sn**	**14 27 26.9**	**+1.2**
	comp=N,3.9nm,0.3s,baz=330,slow=21,SNR=5.7						
TIR	**Tirane**	**4.11**	**352**	P	**Pn**	**14 26 43.1**	**+2.6**
VAY	**Valandovo**	**4.32**	**20**	*e*Pn	**Pn**	**14 26 45.2**	**+1.8**
VAY	**Valandovo**	**4.32**	**20**	*i* Pn	**Pn**	**14 26 45.5**	**+2.1**
PEHC	**Pehcevo**	**4.83**	**21**	*i* Pn	**Pn**	**14 26 51.6**	**+1.0**
VAE	**Valguarnera**	**4.94**	**274**	Pn	**Pn**	**14 26 54.8**	**+2.8**
	comp=N,14nm,0.5s,baz=31,slow=18,SNR=4.3						
VAE				Sn	**Sn**	**14 27 47.8**	**-1.1**
	comp=N,9.3nm,0.3s,baz=219,slow=16,SNR=4.2						
BOSS	**Bosilegrad**	**5.41**	**15**	*e*Pn	**Pn**	**14 26 59.3**	**+0.9**
BARS	**Barje**	**5.61**	**9**	*e*Pn	**Pn**	**14 27 01.6**	**+0.4**
VTS	**Vitosha**	**5.70**	**20**	*e*Pn	**Pn**	**14 27 03.6**	**+1.0**
SELS	**Selova**	**5.95**	**4**	*e*Pn	**Pn**	**14 27 06.1**	**+0.2**
SJES	**Sjenica**	**6.00**	**356**	*e*Pn	**Pn**	**14 27 07.1**	**+0.5**
SJES				*e*Sn	**Sn**	**14 28 10.0**	**-5.1**
ZAPS	**Zavoj**	**6.19**	**14**	*e*Pn	**Pn**	**14 27 10.3**	**+1.1**
IVAS	**Ivanjica**	**6.30**	**357**	*e*Pn	**Pn**	**14 27 10.3**	**-0.4**
BOVS	**Bovan**	**6.41**	**7**	*e*Pn	**Pn**	**14 27 11.5**	**-0.6**
GRUS	**Gruza**	**6.61**	**1**	*e*Pn	**Pn**	**14 27 14.7**	**-0.1**
BBLS	**Lazi&#263i**	**6.64**	**352**	*e*Pn	**Pn**	**14 27 16.0**	**+0.5**
ZAGS	**Zajecar**	**6.65**	**10**	*e*Pn	**Pn**	**14 27 15.4**	**0.0**
DIVS	**Divibare**	**6.83**	**356**	*e*Pn	**Pn**	**14 27 17.5**	**-0.5**
DIVS				*e*Sn	**Sn**	**14 28 30.5**	**-5.1**
TEKS	**Tekeris**	**7.31**	**354**	*e*Pn	**Pn**	**14 27 23.4**	**-1.1**
FRGS	**Fruska Gora**	**7.90**	**356**	*e*Pn	**Pn**	**14 27 32.8**	**+0.2**
MLR	**Muntele Rosu**	**9.13**	**24**	Pn	**Pn**	**14 27 49.5**	**-0.1**
	comp=N,0.4nm,0.3s,baz=208,slow=17,SNR=1.9						
	comp=N,2.8nm,0.5s						
KEST	**Kesra**	**9.20**	**264**	Pn	**Pn**	**14 27 53.1**	**+2.6**
	comp=N,0.3nm,0.3s,baz=53,slow=5.1,SNR=5.3						
KEST				LR	LR	14 31 26.3	
	comp=N,83nm,19.0s,baz=296,slow=38						
	comp=N,5.8nm,0.8s						
OBKA	**Obir**	**10.27**	**336**	*e*Pn	**Pn**	**14 28 06.9**	**+1.7**
	comp=N,0.8nm,0.2s						
OBKA				*e*Sn	**Sn**	**14 29 55.9**	**-4.2**
	comp=N,4.3nm,0.4s						
SOKA	**Soboth**	**10.27**	**338**	*e*Pn	**Pn**	**14 28 04.2**	**-0.9**
	comp=N,1.8nm,0.3s						
SOKA				*e*Sn	**Sn**	**14 29 53.0**	**-7.0**
	comp=N,1.2nm,0.4s						
KBA	**Koelnbreinsper**	**11.17**	**334**	*e*Pn	**Pn**	**14 28 19.8**	**+2.2**
	comp=N,1.6nm,0.5s						
KBA				*e*Sn	**Sn**	**14 30 18.9**	**-3.5**
	comp=N,1.7nm,0.4s						
VRAC	**Vranov**	**12.37**	**348**	LR	LR	14 35 05.2	
	comp=N,92nm,18.7s,baz=258,slow=46						
DAVOX	**Davos/Dischmat**	**12.39**	**323**	Pn	**Pn**	**14 28 35.0**	**+0.8**
	comp=N,0.2nm,0.3s,baz=156,slow=15,SNR=4.3						
	comp=N,2.4nm,0.7s						
GERES	**GERESS Array B**	**12.61**	**339**	Pn	**Pn**	**14 28 36.9**	**-0.3**
	comp=N,0.3nm,0.3s,baz=157,slow=14,SNR=4.9						
	comp=N,1.0nm,0.6s						
AKASG	**Malin Array Be**	**14.77**	**22**	Pn	**Pn**	**14 29 05.7**	**-0.8**
	comp=N,0.2nm,0.3s,baz=212,slow=9.5,SNR=1.6						
HFS	**Hagfors**	**23.30**	**351**	P	**P**	**14 30 44.6**	**-0.7**
	comp=N,5.4nm,0.7s,baz=165,slow=12,SNR=9.9						
HFS				LR	LR	14 41 33.8	
	comp=N,70nm,19.4s,baz=254,slow=41						
	comp=N,5.4nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.21**	**326**	P	**P**	**14 30 54.2**	**+0.1**
	comp=N,2.6nm,0.8s,baz=123,slow=9.2,SNR=4.6						
	comp=N,2.6nm,0.8s						
FINES	**FINESS Array B**	**24.43**	**6**	P	**P**	**14 30 56.0**	**-0.2**
	comp=N,1.2nm,0.5s,baz=177,slow=9.5,SNR=5.9						
FINES				LR	LR	14 41 00.5	
	comp=N,152nm,19.0s,baz=279,slow=38						
	comp=N,1.2nm,0.5s						
NB2	**NORSAR Subarra**	**24.51**	**349**	P	**P**	**14 30 56.5**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=162,slow=9.3						
NOA	**NORSAR Array B**	**24.51**	**349**	P	**P**	**14 30 56.2**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=158,slow=8.9,SNR=11						
	comp=Z,1.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.38**	**220**	P	**P**	**14 31 43.4**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=36,slow=10,SNR=3.2						
	comp=Z,0.5nm,0.6s						
FURI	**Furi**	**32.65**	**145**	LR	LR	14 46 40.5	
	comp=Z,38nm,20.7s,baz=145,slow=39						
DBIC	**Dimbokro**	**38.28**	**224**	LR	LR	14 48 20.5	
	comp=Z,92nm,18.3s,baz=360,slow=36						
KURBB	**Kurchatov Arra**	**42.72**	**53**	P	**P**	**14 33 33.6**	**-1.0**
	comp=Z,1.0nm,0.2s,baz=283,slow=8.6,SNR=2.8						
	comp=Z,1.0nm,0.2s						
MKAR	**Makanchi Array**	**45.72**	**58**	P	**P**	**14 33 58.6**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=267,slow=8.0,SNR=4.6						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.25**	**47**	P	**P**	**14 34 02.6**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=289,slow=9.0,SNR=3.9						
	comp=Z,1.0nm,0.7s						
BBB	**Bella Bella**	**86.82**	**341**	LR	LR	15 18 14.7	
	comp=Z,37nm,18.3s,baz=46,slow=36						

DJA 22 14:53:19.2±0.4, 7°S±3°×12°3E±°, h10km, M4.0/10, mb4.3/1, MLv3.9/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.59**	**220**	P	Pn	14 53 48.0	+0.6
BBSI	**Bau Bau**	**2.04**	**340**	P	Pn	14 53 54.4	+0.7
SOEI	**Soe**	**2.52**	**157**	P	Pb	14 54 03.1	-1.5
BATI	**Baumata**	**2.79**	**172**	P	Pb	14 54 08.5	-0.8
BSSI	**Bau Bau, Buton**	**3.05**	**294**	P	Pn	14 54 07.8	+0.3
KDI	**Kendari**	**3.50**	**349**	P	Pn	14 54 13.0	-0.8
WSI	**Waingapu**	**3.70**	**233**	P	Pn	14 54 15.1	-1.4
BKSI	**Bulukumba**	**3.77**	**303**	P	Pn	14 54 16.8	-0.6
BNSI	**Bone**	**4.36**	**313**	P	Pn	14 54 27.4	+1.9
WBSI	**Waikabubak, Su**	**4.43**	**240**	P	Pn	14 54 26.5	-0.1
PLAI	**Plampang**	**5.62**	**255**	P	Pn	14 54 42.8	-0.2

DJA 22 14:54:09.1±1.5, 3°S±9°×11°9E±°, h13km±6km, M2.5/3, MLv2.5/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.45**	**127**	P	Pb	14 54 19.1	+0.2
TTSI				S	Sb	14 54 26.0	+0.4
SPSI	**Sidrap Palu**	**1.23**	**165**	P	Pn	14 54 30.7	-1.3
SPSI				S	Sg	14 54 48.8	+0.1
BNSI	**Bone**	**1.74**	**158**	P	Pn	14 54 28.7	-10

DJA 22 15:05:50.1±0.5, 8°S±3°×10°8E±°, h24km±4km, M3.9/14, mb4.2/2, MLv3.7/14, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.64**	**65**	P	Pn	15 06 03.7	0.0
CMJI				S	Sn	15 06 12.8	-0.4
CNJI	**Cibinong**	**1.04**	**316**	P	Pn	15 06 09.0	-0.2
CNJI				S	Sb	15 06 22.2	-0.5
LEM	**Lembang**	**1.25**	**349**	P	Pn	15 06 12.4	+0.2
KPJI	**Karang Pucung**	**1.28**	**56**	P	Pn	15 06 12.3	-0.2
SKJI	**Sukabumi**	**1.66**	**309**	P	Pn	15 06 18.7	+0.9
SKJI				S	Sn	15 06 38.3	-0.1
UGM	**Wanagama**	**2.64**	**87**	P	Pn	15 06 31.2	-0.1
SMRI	**Semarang**	**2.75**	**69**	P	Pn	15 06 33.3	+0.6
PCJI	**Pacitan**	**3.29**	**93**	P	Pn	15 06 40.3	+0.2
GMJI	**Gumukmas**	**5.53**	**93**	P	Pn	15 07 11.3	+0.3
	18nm,1.4s						
JAGI	**Jajag, Banyuwa**	**6.24**	**94**	P	Pn	15 07 24.6	+3.8

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*IDC **22** 15:11:25.2±1.2, 10°.40N×62°.26W, h0km, mb4.0/10, mbtmp4.1/13, ML3.5/3, MS3.5/9, Error ellipse: s-maj=36.5km s-min=17.8km az=1.0*
*TRN **22** 15:11:26.2, 10°.36N×62°.29W, h12km, MD3.8, Gulf of Paria.*
*FUNV **22** 15:11:28.2, 10°.37N×62°.10W, h25km, MW4.3*
*NEIC **22** 15:11:28.2±1.4, 10°.34N±0°.06×62°.18W±0°.08, h25km±6km, mb4.7/46, Error ellipse: s-maj=11.9km s-min=8.3km az=102.0*
ISC 22 15:11:28.5±1.6, 10°.28N±0°.04×62°.26W±0°.04, h29km±12km, n120, σ1°37/139, mb4.7/31, MS3.5/6, 3C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSKH	**Kent House, Po**	**0.83**	**61**	*e*P	**Pn**	**15 11 43.4**	**-0.8**
PSKH				*e*S	**Sb**	**15 11 53.8**	**-1.4**
PSKH	**Kent House, Po**	**0.83**	**61**	*e*P	**Pn**	**15 11 40.0**	**-4.3**
TRN	**Trinidad (W)**	**0.92**	**66**	*e*P	**Pn**	**15 11 42.5**	**-3.0**
TBH	**Brigand Hill**	**1.19**	**80**	*e*P	**Pn**	**15 11 50.0**	**+0.8**
TPR	**Prospect**	**1.71**	**58**	*e*P	**Pn**	**15 11 55.0**	**-1.5**
GRFF	**Grenada Fort F**	**1.83**	**16**	*e*P	**Pn**	**15 11 57.1**	**-1.1**
GRFF				*e*S	**Sn**	**15 12 20.4**	**-0.1**
CUMV	**Cumana_UDO**	**1.91**	**275**	*e*P	**Pn**	**15 12 00.2**	**+1.0**
CUMV				*e*S	**Sb**	**15 12 25.6**	**-0.6**
GRGR	**Grenville**	**1.94**	**18**		**Pn**	**15 11 58.1**	**-1.5**
GRGR				Sn	**Sn**	**15 12 20.9**	**-2.1**
GRGR	**Grenville**	**1.94**	**18**	*e*P	**Pn**	**15 11 58.6**	**-1.0**
GRGR				*e*S	**Sn**	**15 12 22.7**	**-0.3**
GRW	**Mount Saint Ca**	**1.96**	**17**	*e*P	**Pn**	**15 11 59.0**	**-0.9**
GRW				*e*S	**Sn**	**15 12 23.2**	**-0.5**
TOSP	**Speyside**	**1.98**	**59**	*e*P	**Pn**	**15 12 00.2**	**+0.1**
GRHS	**Sauteurs**	**2.03**	**17**	*e*P	**Pn**	**15 12 00.6**	**-0.2**
GRHS				*e*S	**Sn**	**15 12 23.1**	**-2.1**
GRSS	**Sisters**	**2.11**	**17**	*e*P	**Pn**	**15 12 01.4**	**-0.5**
GRSS				*e*S	**Sn**	**15 12 25.6**	**-1.5**
PCRV	**Puerto La Cruz**	**2.34**	**268**	*e*P	**Pn**	**15 12 06.5**	**+1.3**
PCRV				*e*S	**Sn**	**15 12 34.2**	**+1.2**
PCRV	**Puerto La Cruz**	**2.34**	**268**	Pn	**Pn**	**15 12 05.3**	**+0.2**
	8.7nm,0.3s,baz=85,slow=3.4,SNR=69						
PCRV				Sn	**Sb**	**15 12 40.8**	**+2.2**
	26nm,0.3s,baz=343,slow=8.9,SNR=2.1						
	38nm,0.5s						
PCRV	**Puerto La Cruz**	**2.34**	**268**	*e*P	**Pn**	**15 12 04.6**	**-0.6**
PCRV				*e*S	**Sb**	**15 12 37.4**	**-1.2**
GCMP	**Grenada, Carri**	**2.34**	**20**	*e*P	**Pn**	**15 12 03.7**	**-1.4**
GCMP				*e*S	**Sn**	**15 12 31.0**	**-2.0**
SVT	**Saint Vincent**	**3.04**	**19**	*e*P	**Pn**	**15 12 12.9**	**-1.9**
SVT				*e*S	**Sn**	**15 12 48.9**	**-1.3**
SVB	**Belmont**	**3.14**	**18**	*e*P	**Pn**	**15 12 15.1**	**-0.9**
SVB				*e*S	**Sn**	**15 12 50.8**	**-1.8**
MERV	**Las Mercedes**	**4.11**	**256**	*e*P	**Pn**	**15 12 30.6**	**+1.2**
MERV				*e*S	**Sn**	**15 13 16.4**	**-0.2**
H05S1	**Guadeloupe/Mar**	**4.35**	**18**	Pn	**Pn**	**15 12 31.8**	**-0.9**
H05S1				Sn	**Sn**	**15 13 20.3**	**-2.2**
MPOM	**Morne Pois Mar**	**4.36**	**18**	Pn	**Pn**	**15 12 32.3**	**-0.6**
MPOM					**Sn**	**15 13 21.8**	**-1.1**
BIM	**Bigot**	**4.37**	**15**		**Pn**	**15 12 31.9**	**-1.2**
BIM					**Sn**	**15 13 20.8**	**-2.3**
LUEV	**Luepa**	**4.47**	**170**	*e*P	**Pn**	**15 12 33.5**	**-1.1**
LUEV				*e*S	**Sn**	**15 13 23.2**	**-2.7**
FUNV	**FUNVISIS**	**4.48**	**273**	*e*P	**Pn**	**15 12 35.6**	**+0.9**
FDF	**Fort de France**	**4.56**	**14**		**Pn**	**15 12 34.2**	**-1.5**
FDF				Sn	**Sn**	**15 13 25.9**	**-1.9**
ILAM	**Ilet Lapin Mar**	**4.67**	**17**	Pn	**Pn**	**15 12 35.4**	**-1.8**
TACV	**Tcata**	**4.70**	**269**	*e*P	**Pn**	**15 12 38.8**	**+1.3**
TACV				*e*S	**Sn**	**15 13 29.4**	**-1.7**
CACV	**CAICARA DEL OR**	**5.01**	**238**	*e*P	Pn	15 12 37.1	-4.8
CACV				*e*S	Sn	15 13 28.7	-10
BENV	**Beln**	**5.27**	**267**	*e*P	**Pn**	**15 12 46.0**	**+0.6**
BENV				*e*S	**Sn**	**15 13 42.5**	**-2.8**
TURV	**Turiamo**	**5.49**	**272**	*e*P	**Pn**	**15 12 49.0**	**+0.5**
TURV				*e*S	**Sn**	**15 13 48.9**	**-1.8**
CBE	**Ff, Capester**	**5.79**	**6**	Pn	**Pn**	**15 12 51.7**	**-0.9**
BAUV	**El Baul**	**5.85**	**257**	Pn	**Pn**	**15 12 53.3**	**-0.1**
BAUV	**El Baul**	**5.85**	**257**	*e*P	**Pn**	**15 12 53.9**	**+0.4**
BAUV				*e*S	**Sn**	**15 13 57.3**	**-2.4**
GDSD	**La Dsirade Is**	**6.11**	**11**	Pn	**Pn**	**15 12 56.0**	**-1.1**
H05N1	**Guadeloupe/Mar**	**6.12**	**11**	Pn	**Pn**	**15 12 54.3**	**-2.8**
MAPV	**Macapo**	**6.12**	**266**	*e*P	**Pn**	**15 12 57.5**	**+0.4**
MAPV				*e*S	**Sn**	**15 14 03.0**	**-3.3**
ABD	**La Joyeuse, An**	**6.21**	**7**	Pn	**Pn**	**15 12 57.6**	**-0.6**
JACV	**Jacura**	**6.51**	**278**	*e*P	**Pn**	**15 13 02.6**	**+0.2**
TEPV	**Terepaima**	**6.83**	**268**	*e*P	**Pn**	**15 13 06.6**	**-0.3**
TEPV				*e*S	**Sn**	**15 14 20.2**	**-3.6**
BGAV	**Boa Vista**	**8.02**	**167**	Pn	**Pn**	**15 13 23.0**	**-0.2**
SDV	**Santo Domingo**	**8.37**	**261**	Pn	**Pn**	**15 13 28.9**	**+0.7**
SDV	**Santo Domingo**	**8.37**	**261**	Pn	**Pn**	**15 13 28.2**	**0.0**
	3.8nm,0.3s,baz=75,slow=9.2,SNR=14						
SDV				Sn	**Sn**	**15 14 58.7**	**-3.3**
	2.1nm,0.3s,baz=348,slow=17,SNR=2.0						
	45nm,0.7s						
PDPR	**Patillas Dam,**	**8.52**	**335**	Pn	**Pn**	**15 13 30.8**	**+0.8**
HUMP	**Col San Antoni**	**8.56**	**336**	Pn	**Pn**	**15 13 30.0**	**-0.5**
SJG	**San Juan**	**8.65**	**335**	LR	LR	15 16 41.6	
	comp=Z,226nm,21.4s,baz=130,slow=37						
SOCV	**Socops**	**8.71**	**258**	*e*P	**Pn**	**15 13 32.6**	**-0.1**
CELP	**Cerrillos**	**8.81**	**332**	Pn	**Pn**	**15 13 33.5**	**-0.6**
MLPR	**Magueyes Islan**	**8.95**	**329**	Pn	**Pn**	**15 13 35.1**	**-0.7**
AGPR	**Aguadilla, PR**	**9.40**	**331**	Pn	**Pn**	**15 13 42.4**	**+0.2**
CAPV	**Capacho**	**10.21**	**257**	*e*P	**Pn**	**15 13 51.8**	**-1.7**
MDP	**Montagnes des**	**10.83**	**118**	Pn	**Pn**	**15 14 02.2**	**+0.5**
	1.0nm,0.3s,baz=307,slow=13,SNR=4.7						
MDP				Sn	Sn	15 15 51.0	-11
	0.3nm,0.3s,baz=206,slow=8.8,SNR=2.3						
MDP				LR	LR	15 18 47.9	
	comp=Z,158nm,21.2s,baz=314,slow=41						
	7.1nm,0.6s						
SDDR	**Presa de Saban**	**12.29**	**316**		**Pn**	**15 14 22.6**	**+0.8**
ROSC	**El Rosal**	**13.12**	**247**	LR	LR	15 20 48.7	
	comp=Z,451nm,20.7s,baz=56,slow=43						
SAML	**Samuel**	**19.12**	**183**		**Pn**	**15 15 51.3**	**+0.9**
CZSB	**Cruzeiro do Su**	**20.69**	**211**	P	**P**	**15 16 07.2**	**+0.7**
CZSB				IAmb	IAmb	15 16 11.7	
	comp=Z,23nm,0.9s						
ATAH	**Atahualpa**	**23.61**	**224**	LR	LR	15 27 43.9	
	comp=Z,116nm,18.2s,baz=358,slow=41						
SIV	**San Ignacio**	**26.12**	**177**	LR	LR	15 29 13.6	
	comp=Z,44nm,19.6s,baz=54,slow=41						
BDFB	**Brasília**	**29.36**	**151**	LR	LR	15 29 33.1	
	comp=Z,180nm,21.8s,baz=321,slow=37						
250A	**Grady**	**30.97**	**318**	P	**P**	**15 17 43.3**	**-0.1**
250A				IAmb	IAmb	15 17 47.0	
	comp=Z,16nm,1.0s						
TKL	**Tuckaleechee C**	**31.95**	**326**	LR	LR	15 30 00.7	
	comp=Z,102nm,19.2s,baz=34,slow=35						
Y49A	**Blount Mountai**	**32.27**	**320**	P	**P**	**15 17 54.4**	**-0.5**
S54A	**Dingess, Beckl**	**32.32**	**331**	P	**P**	**15 17 55.4**	**+0.2**
S54A				IAmb	IAmb	15 18 04.7	
	comp=Z,19nm,1.3s						
TZTN	**Tazewell**	**32.48**	**327**	P	**P**	**15 17 56.9**	**+0.2**
TZTN				IAmb	IAmb	15 18 06.8	
	comp=Z,17nm,1.2s						
Q51A	**Peebles**	**34.27**	**330**	P	**P**	**15 18 12.8**	**+0.6**
WVT	**Waverly**	**34.64**	**322**	P	**P**	**15 18 15.9**	**+0.5**
WVT				IAmb	IAmb	15 18 18.2	
	comp=Z,8.5nm,0.8s						
PBMO	**Poplar Bluff**	**36.66**	**321**	P	**P**	**15 18 32.1**	**-0.6**
P46A	**Rosedale**	**36.70**	**327**	P	**P**	**15 18 32.7**	**-0.3**
CPUP	**Villa Florida**	**36.70**	**173**	LR	LR	15 35 16.0	
	comp=Z,64nm,20.4s,baz=28,slow=39						
FCAR	**Ozark Folk Cen**	**37.21**	**318**	P	**P**	**15 18 36.4**	**-1.0**
P43A	**Skaggs, Pawnee**	**37.99**	**325**	P	**P**	**15 18 43.4**	**-0.6**
435B	**Jarrell**	**38.62**	**307**	P	**P**	**15 18 48.1**	**-1.4**
435B				IAmb	IAmb	15 18 51.8	
	comp=Z,18nm,1.1s						
HHAR	**Hobbs**	**38.63**	**317**	P	**P**	**15 18 48.6**	**-0.9**
S39A	**Bolivar**	**39.04**	**319**	IAmb	IAmb	15 18 54.9	
	comp=Z,13nm,0.7s						
P40A	**Paris**	**39.38**	**323**	P	**P**	**15 18 54.5**	**-1.2**
P40A				IAmb	IAmb	15 18 57.5	
	comp=Z,14nm,0.9s						
TUL3	**Leonard**	**39.69**	**315**	P	**P**	**15 18 57.2**	**-1.2**
TUL3				IAmb	IAmb	15 19 00.2	
	comp=Z,10.0nm,0.9s						
BRDY	**Brady**	**39.93**	**307**	P	**P**	**15 18 59.4**	**-1.0**
BRDY				IAmb	IAmb	15 19 03.1	
	comp=Z,20nm,0.9s						
PLPT	**Palo Pinto**	**40.04**	**310**	P	**P**	**15 18 59.8**	**-1.5**
X34A	**Smith Ranch, M**	**40.49**	**312**	P	**P**	**15 19 04.1**	**-0.9**
L40A	**Anamosa**	**40.58**	**326**	P	**P**	**15 19 04.8**	**-0.8**
L40A				IAmb	IAmb	15 19 09.1	
	comp=Z,16nm,0.9s						
T35A	**Sooner Cattle**	**40.72**	**316**	P	**P**	**15 19 05.9**	**-0.9**
T35A				IAmb	IAmb	15 19 08.9	
	comp=Z,16nm,0.9s						
N38A	**Joes South For**	**40.89**	**323**	P	**P**	**15 19 06.9**	**-1.3**
N38A				IAmb	IAmb	15 19 09.9	
	comp=Z,18nm,0.9s						
APMT	**Aspermont**	**41.63**	**309**	P	**P**	**15 19 12.9**	**-1.5**
POST	**Post**	**42.58**	**308**	P	**P**	**15 19 21.4**	**-0.8**
POST				IAmb	IAmb	15 19 24.6	
	comp=Z,18nm,0.8s						
MNHN	**Monahans**	**42.94**	**305**	P	**P**	**15 19 24.1**	**-1.1**
TXAR	**Lajitas Array**	**43.04**	**302**	P	**P**	**15 19 27.1**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=115,slow=9.0,SNR=9.6						
TXAR				PcP	**PcP**	**15 21 15.4**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=128,slow=6.6,SNR=8.3						
	comp=Z,0.9nm,0.8s						
I37A	**Lemond, Waseca**	**43.08**	**327**	P	**P**	**15 19 25.2**	**-0.8**
ALPN	**Alpine**	**43.33**	**304**	P	**P**	**15 19 27.9**	**-0.5**
SCHQ	**Schefferville**	**44.59**	**356**	P	**P**	**15 19 39.4**	**+1.4**
	comp=Z,6.2nm,0.9s,baz=188,slow=7.1,SNR=2.6						
	comp=Z,6.2nm,0.9s						
ANMO	**Albuquerque**	**47.10**	**309**	P	**P**	**15 19 58.3**	**-0.1**
ULM	**Lac du Bonnet**	**48.54**	**332**	P	**P**	**15 20 08.2**	**-0.9**
	comp=Z,3.6nm,0.5s,baz=129,slow=7.7,SNR=3.3						
	comp=Z,3.6nm,0.5s						
DGMT	**Dagmar**	**51.72**	**325**	P	**P**	**15 20 32.9**	**-0.4**
PDAR	**Pinedale Array**	**52.31**	**317**	P	**P**	**15 20 37.0**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=118,slow=9.4,SNR=11						
	comp=Z,1.7nm,0.8s						
YHL	**Hebgen Lake**	**54.23**	**319**	IAmb	IAmb	15 20 55.7	
	comp=Z,10nm,1.0s						
NVAR	**Mina Array Bea**	**57.22**	**309**	P	**P**	**15 21 15.3**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=139,slow=3.4,SNR=3.5						
NVAR				PcP	**PcP**	**15 22 10.2**	**+2.2**
	comp=Z,0.2nm,0.6s,baz=126,slow=4.6,SNR=3.6						
	comp=Z,0.5nm,0.8s						
ESDC	**Sonseca Array**	**59.21**	**50**	P	**P**	**15 21 28.0**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=263,slow=8.9,SNR=2.3						
	comp=Z,0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**62.55**	**80**	P	**P**	**15 21 50.9**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=287,slow=7.6,SNR=1.8						
	comp=Z,0.5nm,0.8s						
SUMG	**Summit**	**63.88**	**8**	P	**P**	**15 21 59.1**	**+0.4**
NB2	**NORSAR Subarra**	**73.08**	**29**	P	**P**	**15 22 58.2**	**+2.3**
	comp=Z,2.3nm,0.9s,baz=263,slow=6.2						
NOA	**NORSAR Array B**	**73.08**	**29**	P	**P**	**15 22 57.2**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=261,slow=5.8,SNR=5.6						
	comp=Z,1.8nm,0.9s						
EGAK	**Eagle**	**76.03**	**334**	P	**P**	**15 23 12.5**	**-0.5**
D25K	**Kavik River**	**78.38**	**339**	P	**P**	**15 23 25.7**	**-0.4**
D25K				IAmb	IAmb	15 23 29.0	
	comp=Z,8.4nm,1.3s						
ILAR	**Eielson Array**	**78.48**	**334**	P	**P**	**15 23 26.3**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=114,slow=4.4,SNR=10.0						
ILAR				LR	LR	16 01 42.7	
	comp=Z,56nm,18.0s,baz=52,slow=38						
	comp=Z,1.1nm,0.8s						
NEA2	**Nenana**	**79.42**	**334**	P	**P**	**15 23 30.6**	**-1.2**
NEA2				IAmb	IAmb	15 23 33.6	
	comp=Z,7.3nm,0.9s						

comp=E,21005μm,0.3s
AMT AML AML 15 12 14.0
comp=N,22769μm,0.7s
EVGI Lefkada island 0.99 7 P **Pb 15 11 54.1 0.0**
EVGI Lefkada island 0.99 7 P **Pb 15 11 54.1 0.0**
DRO Drossia 1.00 71 P **Pg 15 11 54.3 -0.4**
DRO Drossia 1.00 71 P **Pg 15 11 54.3 -0.4**
NYDR Nydri-Lefkada 1.09 8 P **Pg 15 11 55.7 -0.6**
NYDR Nydri-Lefkada 1.09 8 P **Pg 15 11 55.6 -0.8**
LKD2 Lefkada island 1.16 6 AMP
comp=E,15nm,0.8s,baz=41
LKD2 Lefkada island 1.16 6 P **Pb 15 11 57.0 0.0**
LKD2 Lefkada island 1.16 6 P **Pn 15 11 57.2 +0.3**
LKD2 AML AML 15 12 24.2
comp=E,9006μm,0.4s
LKD2 AML AML 15 12 32.5
comp=N,6209μm,0.8s
TSLK Tsoukalades, L 1.20 5 P **Pb 15 11 57.5 -0.1**
TSLK S **Sn 15 12 14.4 +1.1**
comp=N,5μm,0.7s
TSLK Tsoukalades, L 1.20 5 P **Pb 15 11 57.5 -0.1**
TSLK S **Sn 15 12 14.4 +1.1**
TSLK AML AML 15 12 22.0
comp=N,9192μm,0.5s
TSLK AML AML 15 12 23.6
comp=E,9142μm,0.9s
UPR University Cam 1.20 57 P **Pb 15 11 57.7 +0.1**
UPR University Cam 1.20 57 P **Pb 15 11 58.2 +0.5**
ITM Ithomi 1.22 111 P **Pn 15 11 57.9 +0.3**
ITM Ithomi 1.22 111 P **Pn 15 11 57.9 +0.3**
ITM AML AML 15 12 32.9
comp=E,3255μm,0.7s
ITM AML AML 15 12 38.3
comp=N,3453μm,0.5s
PYL PYLOS 1.23 126 P **Pn 15 11 58.2 +0.4**
PYL PYLOS 1.23 126 P **Pn 15 11 57.4 -0.4**
PYL AML AML 15 12 19.1
comp=E,3543μm,0.3s
PYL AML AML 15 12 21.5
comp=N,3001μm,0.6s
EFP Efpalio 1.36 54 P **Pn 15 11 59.8 +0.2**
EFP S **Sb 15 12 18.6 +1.1**
comp=N,2μm,0.7s
EFP Efpalio 1.36 54 P **Pn 15 12 00.1 +0.5**
EFP S **Sb 15 12 18.1 +0.6**
EFP AML AML 15 12 29.5
comp=N,5122μm,0.6s
EFP AML AML 15 12 34.7
comp=E,4717μm,0.8s
KLV Kalavryta, Ach 1.36 72 P **Pn 15 12 00.0 +0.3**
KLV Kalavryta, Ach 1.36 72 P **Pn 15 11 60.0 +0.3**
KLV AML AML 15 12 25.7
comp=N,2940μm,0.8s
KLV AML AML 15 12 30.8
comp=E,3413μm,0.9s
ANX Ano Chora 1.47 49 P **Pn 15 12 01.7 +0.5**
ANX S **Sn 15 12 21.4 +1.2**
comp=E,5μm,0.6s
ANX Ano Chora 1.47 49 P **Pn 15 12 01.9 +0.7**
ANX S **Sb 15 12 21.8 +1.0**
ANX AML AML 15 12 28.5
comp=E,8902μm,0.5s
ANX AML AML 15 12 28.7
comp=N,12457μm,0.6s
GUR Goura 1.48 78 P **Pn 15 12 01.6 +0.2**
GUR Goura 1.48 78 P **Pn 15 12 02.2 +0.8**
GUR AML AML 15 12 34.4
comp=E,5060μm,0.6s
GUR AML AML 15 12 38.0
comp=N,7422μm,0.7s
KALE Kalithea 1.49 59 P **Pn 15 12 02.2 +0.7**
KALE Kalithea 1.49 59 P **Pn 15 12 02.2 +0.7**
KALE AML AML 15 12 32.9
comp=E,4166μm,0.5s
KALE AML AML 15 12 33.5
comp=N,5433μm,0.6s
EVR Evrytania 1.64 38 P **Pg 15 12 06.1 -0.7**
EVR AML AML 15 12 38.4
comp=N,3257μm,0.7s
EVR AML AML 15 12 38.5
comp=E,3878μm,1.1s
DLFA Delphi 1.78 61 P **Pb 15 12 08.6 +1.0**
DLFA AML AML 15 12 40.3
comp=E,2367μm,0.8s
DLFA AML AML 15 12 43.2
comp=N,2212μm,0.7s
MAKR Makrakomi, Fth 1.88 42 P **Pb 15 12 09.0 -0.2**
MAKR AML AML 15 12 45.7
comp=E,7083μm,0.8s
MAKR AML AML 15 12 48.8
comp=N,5312μm,0.5s
IGT Igoumenitsa 1.90 356 AMP
comp=E,2.6nm,0.5s,baz=18
IGT Igoumenitsa 1.90 356 P **Pn 15 12 08.3 +1.3**
LOUT Loutraki 1.98 79 P **Pb 15 12 10.6 -0.4**
AXAR Agios Charalam 2.04 56 P **Pb 15 12 11.9 0.0**
AXAR AML AML 15 12 50.9
comp=E,4241μm,0.8s
AXAR AML AML 15 13 01.4
comp=N,5700μm,1.1s
VLI Veliai 2.14 114 P **Pn 15 12 12.7 +2.3**
KEK Kerkira 2.15 345 P **Pn 15 12 12.0 +1.5**
VIL2 Platees 2.26 74 P **Pn 15 12 14.4 +2.5**
VIL2 AML AML 15 12 58.9
comp=N,1681μm,0.8s
VIL2 AML AML 15 13 00.5
comp=E,2303μm,0.7s
THL Klokotos Trika 2.26 31 P **Pb 15 12 14.9 -0.9**
THL AML AML 15 13 01.1
comp=E,1536μm,1.0s
THL AML AML 15 13 01.8
comp=N,900μm,0.8s
SRN Sarande 2.28 350 P **Pn 15 12 13.5 +1.3**
SRN S **Sb 15 12 43.4 -0.6**
SRN AMP
comp=E,1.9nm,1.7s,baz=8.0
LSK Leskovik 2.52 2 P **Pb 15 12 18.3 -1.8**
LSK S **Sb 15 12 49.0 -1.9**
LSK AMP
comp=E,3.6nm,1.1s,baz=18
SCTE Santa Cesarea 2.91 327 AMP
comp=N,2.1nm,1.0s,baz=339
KBN Korca 3.00 4 P **Pn 15 12 25.3 +3.1**
KBN S **Sb 15 13 03.5 -1.2**
KBN AMP
comp=E,1.3nm,1.4s,baz=18
FNA Florina 3.22 12 P **Pb 15 12 29.1 -3.0**
FNA S **Sb 15 13 12.2 +1.1**
FNA Florina 3.22 12 *e*Pn **Pn 15 12 28.1 +2.9**
OHR Ohrid 3.48 4 *e*Pn **Pn 15 12 30.9 +2.1**
OHR Ohrid 3.48 4 *i* Pn **Pb 15 12 36.2 -0.3**
VAY Valandovo 4.01 23 *e*Pn **Pn 15 12 39.0 +2.9**
VAY Valandovo 4.01 23 *i* Pn **Pn 15 12 39.5 +3.4**
IDI Anoyia 4.24 122 Pn **Pn 15 12 39.0 -0.2**
comp=E,5.2nm,0.7s,baz=311,slow=10,SNR=1.7
IDI Sn **Sn 15 13 28.1 -0.2**
comp=E,17nm,0.3s,baz=326,slow=18,SNR=13
PUK Puka 4.43 354 P **Pn 15 12 43.0 +1.1**
PUK S **Sn 15 13 35.1 +1.9**
PUK AMP
comp=N,0.5nm,0.5s,baz=3.0
BCI Bajram Curri 4.74 356 P **Pn 15 12 49.1 +3.0**
BCI S **Sn 15 13 44.9 +4.1**
BCI AMP
comp=E,0.8nm,0.6s,baz=4.0
BOSS Bosilegrad 5.09 17 *e*Pn **Pn 15 12 53.6 +2.7**
BARS Barje 5.27 11 *e*Pn **Pn 15 12 54.4 +1.0**
BARS *e*Sn **Sn 15 13 52.3 -1.6**
VTS Vitosha 5.40 22 *e*Pn **Pn 15 12 57.4 +2.1**
VTS *e*Sn **Sn 15 13 57.8 +0.6**
SELS Selova 5.60 5 *e*Pn **Pn 15 12 58.2 +0.3**
SJES Sjenica 5.64 356 *e*Pn **Pn 15 12 59.5 +1.0**
SJES *e*Sn **Sn 15 14 02.8 -0.2**
ZAPS Zavoj 5.86 15 *e*Pn **Pn 15 13 04.0 +2.5**
IVAS Ivanjica 5.94 357 *e*Pn **Pn 15 13 04.7 +2.0**
BOVS Bovan 6.07 8 *e*Pn **Pn 15 13 04.7 +0.4**
GRUS Gruza 6.25 1 *e*Pn **Pn 15 13 08.1 +1.3**
BBLS Lazi&#263i 6.28 353 *e*Pn **Pn 15 13 06.4 -0.9**
DIVS Divibare 6.47 357 *e*Pn **Pn 15 13 08.6 -1.3**
DIVS *e*Sn **Sn 15 14 21.0 -2.5**
TRUS Trudelj 6.58 359 *e*Pn **Pn 15 13 13.0 +1.6**
MLR Muntele Rosu 8.84 26 Pn **Pn 15 13 42.2 -0.3**
comp=E,0.2nm,0.3s,baz=229,slow=9.3,SNR=1.9
MLR LR LR 15 17 57.6

comp=E,142nm,20.1s,baz=198,slow=44
comp=E,2.9nm,0.8s
KEST Kesra 9.17 261 Pn **Pn 15 13 49.4 +2.5**
comp=E,0.2nm,0.3s,baz=60,slow=14,SNR=1.8
comp=E,1.6nm,0.7s
BRTR Keskin Array B 10.48 74 Pn **Pn 15 14 04.9 0.0**
baz=264,slow=13,SNR=2.0
comp=E,0.6nm,0.9s
VRAC Vranov 12.01 348 LR LR 15 19 11.1
comp=E,65nm,19.3s,baz=333,slow=38
AKASG Malin Array Be 14.47 23 Pn **Pn 15 14 58.3 -1.0**
comp=E,0.4nm,0.3s,baz=214,slow=12,SNR=1.4
comp=E,0.2nm,0.3s
ESDC Sonseca Array 19.21 284 P **P 15 15 58.6 +0.1**
comp=E,1.2nm,1.0s,baz=78,slow=14,SNR=1.9
HFS Hagfors 22.94 351 P **P 15 16 38.2 -0.3**
comp=E,1.5nm,0.5s,baz=153,slow=10.0,SNR=12
comp=E,1.5nm,0.5s
EKA Eskdalemuir Ar 23.87 325 P **P 15 16 48.0 +0.3**
comp=E,3.4nm,0.9s,baz=124,slow=10,SNR=3.3
comp=E,3.4nm,0.9s
FINES FINESS Array B 24.09 7 P **P 15 16 49.2 -0.6**
comp=E,1.2nm,0.5s,baz=169,slow=11,SNR=6.2
comp=E,1.2nm,0.5s
NOA NORSAR Array B 24.15 349 P **P 15 16 50.9 +0.5**
comp=E,1.0nm,0.8s,baz=162,slow=10,SNR=3.6
comp=E,1.0nm,0.8s
KIRV Kirov 28.12 32 LR LR 15 29 14.7
comp=E,62nm,18.1s,baz=291,slow=38
TORD Torodi Ar. Bea 29.60 219 P **P 15 17 40.3 +0.6**
comp=E,0.5nm,0.5s,baz=26,slow=10,SNR=4.3
comp=E,0.5nm,0.5s
ARCES ARCESS Array B 32.08 3 P **P 15 18 00.6 -0.5**
comp=E,7.7nm,1.1s,baz=197,slow=11,SNR=2.3
comp=E,7.7nm,1.1s
BVAR Borovoye Array 37.48 49 P **P 15 18 47.6 -0.3**
comp=E,0.6nm,0.6s,baz=276,slow=4.1,SNR=4.6
comp=E,0.6nm,0.6s
KURBB Kurchatov Arra 42.56 53 P **P 15 19 29.3 -0.8**
comp=E,0.7nm,0.3s,baz=282,slow=8.7,SNR=6.5
comp=E,0.7nm,0.3s
MKAR Makanchi Array 45.60 58 P **P 15 19 53.7 -0.9**
comp=E,0.4nm,0.5s,baz=302,slow=6.9,SNR=2.4
comp=E,0.4nm,0.5s
ZALV Zalesovo Beam 46.06 48 P **P 15 19 56.6 -1.4**
comp=E,1.3nm,0.6s,baz=293,slow=7.6,SNR=5.7
comp=E,1.3nm,0.6s
CMAR Chiang Mai Arr 69.97 82 P **P 15 22 43.7 -2.6**
comp=E,0.6nm,0.8s,baz=312,slow=7.2,SNR=3.4
comp=E,0.6nm,0.8s

DJA 22 15:15:27.3±0.7, 1°S±3°×12°6E±°, h27km±8km, M3.8/10, mb3.9/3, MLv3.7/10, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.72**	**203**	P	Pb	15 15 41.5	+0.2
SANI				S	Sn	15 15 52.5	+0.6
LBMI	**Labuha**	**1.43**	**59**	P	Pn	15 15 50.8	-0.8
NLAI	**Namlea**	**2.02**	**156**	P	Pn	15 15 58.9	-0.8
NLAI				S	Sn	15 16 24.1	0.0
TNTI	**Ternate**	**2.40**	**27**	P	Pn	15 16 05.2	+0.3
TNTI				S	Sn	15 16 33.9	+0.5
APSI	**Ampana**	**4.64**	**276**	P	Pn	15 16 34.4	-1.3
FAKI	**Fak Fak**	**6.17**	**104**	P	Pn	15 16 55.7	-1.0
	6.5nm,0.9s,0.1nm						
SPSI	**Sidrap Palu**	**6.98**	**248**	P	Pn	15 17 09.3	+1.4

*IPEC **22** 15:29:49.2±0.2, 50°.06N×18°.48E, h1km, ML2.5/4, Error ellipse: s-maj=2.0km s-min=1.0km az=163.0*
*VIE **22** 15:29:49.9±1.4, 50°.12N×18°.30E, h0km, mb2.3/3, ml2.2/3, Error ellipse: s-maj=9.3km s-min=4.2km az=72.0, Suspected Mining induced.*
*PRU **22** 15:29:51.0, 50°.05N×18°.36E, h0km*
ISC 22 15:29:48.6±0.8, 50°.12N±0°.03×18°.45E±0°.02, h0km, n28, σ1§17/49, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.34**	**215**	*e*PG	**Pg**	**15 29 55.6**	**+0.5**
OKC				*e*SG	**Sg**	**15 30 00.5**	**+1.0**
	comp=Z,208nm,0.6s						
MORC	**Moravsky Berou**	**0.68**	**240**	*e*Pg	**Pg**	**15 30 01.8**	**+0.3**
	baz=64						
MORC				*e*Sg	**Sg**	**15 30 10.4**	**+0.1**
	90nm,0.6s,baz=64						
OJC	**Ojcow**	**0.87**	**83**	*e*Pg	**Pb**	**15 30 05.9**	**-0.7**
OJC				*e*Sg	**Sb**	**15 30 18.4**	**-0.4**
KRLC	**Kraliky**	**1.07**	**268**	*e*PG	**Pg**	**15 30 08.9**	**-0.3**
KRLC				*e*SG	**Sg**	**15 30 23.1**	**0.0**
	comp=Z,68nm,0.3s						
LANS	**Liptovska Anna**	**1.17**	**145**	*e*PG	**Pb**	**15 30 11.1**	**-0.6**
LANS				*e*SG	**Sb**	**15 30 27.7**	**+0.3**
LANS				*e*LG	Lg	15 30 31.3	
JAVC	**Velka Javorina**	**1.36**	**202**	*e*Pg	**Pg**	**15 30 14.2**	**-0.3**
	baz=23						
JAVC	**Velka Javorina**	**1.36**	**202**	*e*PG	**Pg**	**15 30 14.3**	**-0.3**
DPC	**Dobruska-Polom**	**1.39**	**281**	*e*PG	**Pb**	**15 30 15.4**	**0.0**
DPC				*e*SG	**Sn**	**15 30 34.0**	**-0.3**
	comp=Z,90nm,0.6s						
NIE	**Niedzica**	**1.39**	**120**	*e*Pg	**Pb**	**15 30 16.4**	**+1.1**
NIE				*e*Sg	**Sn**	**15 30 36.5**	**+2.2**
VRAC	**Vranov**	**1.45**	**237**	*e*Pg	**Pn**	**15 30 15.5**	**-0.6**
	baz=58						
VRAC				*e*Sg	**Sg**	**15 30 34.4**	**-0.7**
	39nm,0.7s,baz=58						
OSTC	**Ostas**	**1.50**	**288**	*e*PG	**Pn**	**15 30 16.8**	**+0.1**
OSTC				*e*SG	**Sn**	**15 30 38.2**	**+1.2**
	comp=Z,40nm,0.7s						
KSP	**Ksiaz**	**1.56**	**299**	*e*Pg	**Pn**	**15 30 17.6**	**+0.1**
KSP				*e*Sg	**Sg**	**15 30 39.9**	**+1.3**
CHVC	**Chvalec**	**1.60**	**288**	*e*PG	**Pb**	**15 30 18.9**	**-0.2**
UPC	**Upice**	**1.61**	**285**	*e*PG	**Pb**	**15 30 19.1**	**-0.1**
UPC				*e*SG	**Sg**	**15 30 40.6**	**+0.3**
VYHS	**Vyhne**	**1.64**	**171**	*e*PN	**Pn**	**15 30 18.0**	**-0.7**
VYHS				*e*SN	**Sb**	**15 30 40.5**	**-0.5**
KRUC	**Moravsky**	**1.70**	**233**	*e*Pn	**Pn**	**15 30 19.6**	**+0.1**
	baz=53						
KRUC				*e*Sg	**Sn**	**15 30 41.9**	**-0.1**
	32nm,0.6s,baz=53						
MODS	**Modra-Piesok**	**1.91**	**204**	*e*PN	**Pn**	**15 30 21.8**	**-0.5**
MODS				*e*SN	**Sn**	**15 30 44.8**	**-2.2**
STHS	**Stebnicka Huta**	**1.94**	**110**	*e*PG	**Pg**	**15 30 25.3**	**-0.5**
STHS				*e*SG	**Sg**	**15 30 52.1**	**+1.2**
STHS				*e*LG	Lg	15 30 54.6	
TREC	**Trest**	**2.09**	**248**	*e*SG	**Sb**	**15 30 53.1**	**-0.8**
KECS	**Kecovo**	**2.11**	**140**	*e*PN	**Pn**	**15 30 24.7**	**-0.4**
KECS				*e*LG	Lg	15 30 56.6	
KOLS	**Kolonicke sedl**	**2.76**	**114**	*e*PG	**Pg**	**15 30 40.3**	**-1.1**
KOLS				*e*LG	Lg	15 31 29.0	
CONA	**Conrad Observa**	**2.77**	**219**	*e*Pn	**Pn**	**15 30 34.4**	**+0.1**
	1.2nm,0.2s						
CONA				*e*Sg	**Sg**	**15 31 17.6**	**-0.1**
	2.3nm,0.3s						
RONA	**Rosalia, Austr**	**2.80**	**211**	Pn	**Pn**	**15 30 34.0**	**-0.7**
	2.5nm,0.2s						
BRG	**Berggiesshubel**	**2.98**	**286**	Pg	**Pg**	**15 30 45.1**	**-0.5**
BRG				Sg	**Sg**	**15 31 23.5**	**-0.7**
BRG				Amp		15 31 27.9	
	comp=Z,13nm,0.6s						
CKRC	**Cesky Krumlov**	**3.00**	**246**	*e*PG	**Pb**	**15 30 43.0**	**+0.2**
CKRC				*e*SG	**Sg**	**15 31 23.4**	**-1.4**
KHC	**Kasperske Hory**	**3.32**	**255**	*e*PN	**Pn**	**15 30 41.0**	**-0.7**
KHC				*e*PG	**Pb**	**15 30 49.3**	**+1.0**
KHC				*e*SG	**Sg**	**15 31 33.0**	**-2.1**
	comp=Z,14nm,0.7s						
ARSA	**Arzberg**	**3.46**	**215**	*e*Sg	**Sg**	**15 31 45.1**	**+5.4**
	comp=Z,1.6nm,0.3s						
CLL	**Collm**	**3.66**	**291**	*e*Pg	**Pg**	**15 31 00.0**	**+1.3**
CLL				*i* Sg	**Sg**	**15 31 46.6**	**+0.5**

ISC 22 15:41:39.4±1.1, 28°.86N±0°.05×113°.18W±0°.03, h12km±9km, n9, σ1§17/16, 4C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAHB	**Baha de los**	**0.34**	**284⇑**	*e*P	**Pg**	**15 41 46.3**	**+0.1**
BAHB				*e*S	**Sg**	**15 41 51.7**	**+0.8**
SFQB	**San Francisqui**	**0.54**	**148⇑**	*e*P	**Pg**	**15 41 50.2**	**+0.3**
SFQB				*e*S	**Sb**	**15 41 58.2**	**-0.2**
SFQB			⇑	*e*		15 41 58.9	
SFQB				IAML		15 41 58.9	
	comp=N,968nm,0.2s						
BKIRB	**Bahia Kino**	**1.04**	**90⇑**	*e*P	**Pg**	**15 41 57.3**	**-2.0**
BKIRB				*e*S	**Sg**	**15 42 12.4**	**-0.5**
NE74	**Guerrero Negro**	**1.12**	**221**	*e*P	**Pn**	**15 42 01.2**	**+0.4**
NE74				*e*S	**Sb**	**15 42 15.1**	**-0.1**
NE74				*e*		15 42 17.4	
NE74				IAML		15 42 17.4	
	comp=N,351nm,0.3s						
PLIB	**Puerto Liberta**	**1.13**	**22**	*e*P	**Pb**	**15 42 00.8**	**-0.1**
SLGB	**San Luis Gonza**	**1.44**	**312**	*e*P	**Pn**	**15 42 04.0**	**-1.2**
SLGB				*e*S	**Sn**	**15 42 22.7**	**-1.2**
LAPR	**La Primavera**	**1.80**	**25**	*e*P	**Pn**	**15 42 11.9**	**+1.8**
LAPR				*e*S	**Sn**	**15 42 33.9**	**+1.1**
LAPR			⇓	*e*		15 42 45.9	
LAPR				IAML		15 42 45.9	
	comp=E,169nm,1.0s						
LAPR				IAML		15 42 49.2	
	comp=N,96nm,0.7s						
LAPR				*e*		15 42 49.2	
HSIG		**1.96**	**85**	*e*P	**Pn**	**15 42 14.4**	**+1.9**
GUYB	**Guaymas**	**2.25**	**115**	*e*P	**Pn**	**15 42 16.5**	**+0.1**
GUYB				*e*S	**Sn**	**15 42 43.8**	**-0.3**

IDC 22 15:56:53.2±5.0, 17°.17N×146°.58E, h104km±61km, mb3.3/3, mbtmp3.8/4, Error ellipse: s-maj=496.1km s-min=22.4km az=111.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.92**	**205**	P	Pn	15 57 53.2	+1.7
	190nm,1.2s,baz=35,slow=16,SNR=6.9						
GUMO				S	Sn	15 58 36.3	-0.3
	43nm,0.3s,baz=180,slow=23,SNR=6.0						
H11S3	**WAKE ISLAND Hy 19.18**	**83**		T	T	16 22 20.0	
	baz=271,slow=74,SNR=4.4						
H11S1	**WAKE ISLAND Hy 19.20**	**83**		T	T	16 22 06.2	
	baz=271,slow=74,SNR=4.0						
H11S2	**WAKE ISLAND Hy 19.20**	**83**		T	T	16 22 09.8	
	baz=271,slow=74,SNR=4.9						
H11N1	**WAKE ISLAND Hy 19.43**	**79**		T	T	16 22 19.4	
	baz=266,slow=74,SNR=6.3						
H11N2	**WAKE ISLAND Hy 19.44**	**79**		T	T	16 22 23.8	
	baz=266,slow=74,SNR=4.3						
H11N3	**WAKE ISLAND Hy 19.45**	**79**		T	T	16 22 26.0	
	baz=266,slow=74,SNR=5.0						
DRS	**Darwin Rock St**	**33.24**	**209**	P	P	16 03 28.2	+7.6
SOEI	**Soe**	**34.67**	**221**	P	P	16 03 20.7	-12
WRA	**Warramunga Arr**	**38.79**	**199**	P	P	16 04 08.1	+0.2
	1.5nm,0.8s,baz=33,slow=9.2,SNR=8.4						
	1.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**40.65**	**211**	P	P	16 04 28.7	+5.4
ASAR	**Alice Springs**	**42.43**	**197**	P	P	16 04 37.7	-0.1
	0.3nm,0.7s,baz=17,slow=6.6,SNR=4.9						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**64.65**	**26**	P	P	16 07 19.3	-0.2
	0.4nm,0.4s,baz=250,slow=6.2,SNR=25						
	0.4nm,0.4s						

*TIR **22** 16:00:09.2, 37°.26N×20°.34E, h10km±4km, Md4.2, Ml4.4*
*IDC **22** 16:00:13.6±0.9, 37°.61N×20°.51E, h0km, mb3.9/13, mbtmp3.8/21, ML3.8/6, MS3.4/9, Error ellipse: s-maj=18.6km s-min=14.3km az=36.0*
*BEO **22** 16:00:14.9±5.6, 37°.23N×20°.04E, h57km±8km, ML4.0/15*
*NEIC **22** 16:00:14.4±1.8, 37°.43N±0°.06×20°.46E±0°.06, h10km±1km, mb4.6/24, Error ellipse: s-maj=11.2km s-min=7.7km az=209.0*
*ATH **22** 16:00:15.8, 37°.55N×20°.34E, h7km±2km, ML4.1/17, Error ellipse: s-maj=2.9km s-min=1.1km az=37.0*
*THE **22** 16:00:16.2, 37°.56N×20°.38E, h3km, ML4.1/8, Error ellipse: s-maj=0.7km s-min=0.3km az=36.0*
*NAO **22** 16:00:16.2, 37°.68N×21°.45E, h10km, mb3.8*
*MED_RC **22** 16:00:18.0±0.4, 37°.52N×20°.47E, h19km±1km, MW4.3/16, Moment Tensor Solution.Mantle waves: s16,c23; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.93±.56; $M_{\theta\theta}$3.28±.32; $M_{\phi\phi}$-0.35±.30; $M_{r\theta}$-1.65±.35; $M_{\theta\phi}$0.17±.25; $M_{\phi r}$-0.35±.38; Best double couple: $M_0$3.54000×10^{15} NP1:ϕ_s82.00000°, δ59.00000°, λ-95.00000°. NP2:ϕ_s273.00000°, δ31.00000°, λ-81.00000°. Principal axes: T 3.7100, Plg14.0000°, Azm176.0000°; N -0.3300, Plg5.0000°, Azm85.0000°; P -3.3700, Plg75.0000°, Azm337.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*PDG **22** 16:00:21.3±0.7, 37°.61N×20°.39E, h15km±8km, ML4.0/12 Error ellipse: s-maj=2.0km s-min=3.3km az=0.0*
*AFAD **22** 16:00:26.0±0.0, 37°.89N×20°.96E, h15km, MW3.9*
ISC 22 16:00:15.5±1.1, 37°.57N±0°.03×20°.39E±0°.03, h17km±7km, n234, σ1§85/273, mb4.3/23, MS3.4/5, 23C-5D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.36**	**74**	P	**Pb**	**16 00 23.2**	**-0.2**
KRI1				S	**Sb**	**16 00 28.6**	**-0.1**
LTHK	**Lithakia**	**0.39**	**68**	P	**Pb**	**16 00 23.8**	**-0.1**
LTHK				S	**Sb**	**16 00 29.6**	**+0.1**
	64μm,0.3s						
LTHK	**Lithakia**	**0.39**	**68**	P	**Pb**	**16 00 24.0**	**+0.2**
LTHK				S	**Sb**	**16 00 29.5**	**-0.1**
LTHK				AML	AML	16 00 34.1	
LTHK				AML	AML	16 00 34.2	
	comp=E,96155μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.57**	**16**	P	**Pb**	**16 00 27.1**	**+0.1**
PSDA				S	**Sb**	**16 00 35.5**	**+0.7**
PSDA	**Pessada-Kefalo**	**0.57**	**16**	P	**Pb**	**16 00 27.4**	**+0.4**
PSDA				S	**Sb**	**16 00 35.4**	**+0.7**
RTZL	**Ratzakli, Kefa**	**0.59**	**31**	P	**Pb**	**16 00 27.6**	**+0.2**
RTZL				S	**Sb**	**16 00 36.4**	**+0.9**
VLS	**Valsamata**	**0.63**	**15**	P	**Pb**	**16 00 28.2**	**+0.1**
VLS				S	**Sb**	**16 00 37.5**	**+0.9**
	comp=E,12μm,0.7s						
VLS	**Valsamata**	**0.63**	**15**	P	**Pb**	**16 00 28.2**	**+0.1**
VLS				S	**Sb**	**16 00 37.5**	**+0.9**
VLS				AML	AML	16 00 42.4	
	comp=N,30300μm,0.8s						
VLS				AML	AML	16 00 42.6	
	comp=E,19404μm,0.6s						
DMLN	**Damoulianata-K**	**0.67**	**359**	P	**Pb**	**16 00 29.1**	**+0.3**
DMLN	**Damoulianata-K**	**0.67**	**359**	P	**Pb**	**16 00 29.3**	**+0.6**
SMHA	**Samh**	**0.71**	**17**	P	**Pg**	**16 00 29.1**	**-0.4**
FSK	**Fiskardo**	**0.90**	**9**	P	**Pn**	**16 00 33.2**	**-0.2**
FSK				S	**Sn**	**16 00 46.6**	**+0.6**
	comp=E,10μm,0.8s						
FSK	**Fiskardo**	**0.90**	**9**	P	**Pg**	**16 00 33.0**	**-0.1**
FSK				S	**Sn**	**16 00 46.1**	**+0.1**
FSK				AML	AML	16 00 54.0	
	comp=N,21884μm,1.0s						
FSK				AML	AML	16 00 55.4	
	comp=E,18182μm,0.7s						
RLS	**Riolos of Patr**	**0.99**	**60**	P	**Pn**	**16 00 34.8**	**+0.2**
RLS				S	**Sn**	**16 00 49.5**	**+1.4**
	comp=E,15μm,0.5s						
RLS	**Riolos of Patr**	**0.99**	**60**	P	**Pn**	**16 00 34.8**	**+0.2**
RLS				S	**Sn**	**16 00 49.7**	**+1.6**
RLS				AML	AML	16 00 53.5	
	comp=E,25343μm,0.5s						
RLS				AML	AML	16 00 53.9	
	comp=N,34110μm,0.6s						
AMT	**Artemida-Makis**	**1.05**	**91**	P	**Pg**	**16 00 36.0**	**+0.1**
AMT				S	**Sn**	**16 00 50.8**	**+1.0**
	comp=N,26μm,0.4s						
AMT	**Artemida-Makis**	**1.05**	**91**	P	**Pg**	**16 00 36.0**	**+0.1**
AMT				S	**Sn**	**16 00 50.8**	**+1.0**
AMT				AML	AML	16 00 57.6	
	comp=E,55775μm,0.4s						
AMT				AML	AML	16 01 04.5	
	comp=N,48749μm,0.4s						
EVGI	**Lefkada island**	**1.07**	**11**	P	**Pg**	**16 00 36.5**	**+0.1**
EVGI	**Lefkada island**	**1.07**	**11**	P	**Pg**	**16 00 36.1**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.17**	**12**	P	**Pg**	**16 00 38.3**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.17**	**12**	P	**Pg**	**16 00 38.0**	**-0.2**
LKD2	**Lefkada island**	**1.24**	**10**	AMP			
	comp=E,20nm,0.8s,baz=9.0						
LKD2	**Lefkada island**	**1.24**	**10**	P	**Pg**	**16 00 39.6**	**+0.1**
LKD2	**Lefkada island**	**1.24**	**10**	P	**Pg**	**16 00 40.2**	**+0.7**
LKD2				AML	AML	16 01 05.4	
	comp=E,11829μm,0.7s						
LKD2				AML	AML	16 01 05.9	
	comp=N,15172μm,0.9s						
PYL	**PYLOS**	**1.27**	**121**	P	**Pg**	**16 00 40.0**	**-0.1**
PYL				S	**Sg**	**16 00 58.3**	**+1.5**
	comp=N,5μm,0.4s						

PYL	**PYLOS**	**1.27**	**121**	P	**Pg**	**16 00 39.6**	**-0.6**
PYL				S	**Sg**	**16 00 57.7**	**+0.9**
PYL				AML	AML	16 01 01.6	
	comp=E,11125μm,0.4s						
PYL				AML	AML	16 01 02.4	
	comp=N,7438μm,0.3s						
TSLK	**Tsoukalades, L**	**1.27**	**10**	P	**Pg**	**16 00 39.9**	**-0.2**
TSLK				S	**Sg**	**16 00 58.8**	**+2.0**
	comp=N,7μm,0.6s						
TSLK	**Tsoukalades, L**	**1.27**	**10**	P	**Pg**	**16 00 39.6**	**-0.5**
TSLK				AML	AML	16 01 08.3	
	comp=N,14418μm,0.6s						
TSLK				AML	AML	16 01 09.6	
	comp=E,13359μm,0.6s						
ITM	**Ithomi**	**1.29**	**107**		**Pg**	**16 00 40.0**	**-0.4**
ITM				Sn	**Sb**	**16 00 54.2**	**-1.4**
ITM	**Ithomi**	**1.29**	**107**	P	**Pg**	**16 00 40.3**	**-0.1**
ITM				S	**Sg**	**16 00 58.6**	**+1.4**
	comp=E,5μm,0.5s						
ITM	**Ithomi**	**1.29**	**107**	P	**Pg**	**16 00 40.3**	**-0.1**
ITM				S	**Sg**	**16 00 58.6**	**+1.4**
ITM				AML	AML	16 01 03.5	
	comp=N,8966μm,0.5s						
ITM				AML	AML	16 01 12.1	
	comp=E,10506μm,0.4s						
UPR	**University Cam**	**1.32**	**57**	P	**Pg**	**16 00 40.8**	**-0.2**
UPR	**University Cam**	**1.32**	**57**	P	**Pg**	**16 00 41.2**	**+0.2**
EFP	**Efpalio**	**1.48**	**54**	P	**Pg**	**16 00 43.2**	**-0.8**
EFP	**Efpalio**	**1.48**	**54**	P	**Pg**	**16 00 43.2**	**-0.8**
EFP				AML	AML	16 01 09.1	
	comp=N,12756μm,0.6s						
EFP				AML	AML	16 01 13.2	
	comp=E,10057μm,0.6s						
KLV	**Kalavryta, Ach**	**1.48**	**71**	P	**Pb**	**16 00 43.1**	**+0.6**
KLV	**Kalavryta, Ach**	**1.48**	**71**	P	**Pg**	**16 00 43.8**	**-0.2**
KLV				AML	AML	16 01 12.2	
	comp=N,7363μm,0.8s						
KLV				AML	AML	16 01 14.1	
	comp=E,5101μm,0.8s						
ANX	**Ano Chora**	**1.59**	**49**	P	**Pb**	**16 00 44.7**	**+0.3**
ANX				S	**Sg**	**16 01 06.8**	**0.0**
ANX	**Ano Chora**	**1.59**	**49**	P	**Pg**	**16 00 45.2**	**-0.9**
ANX				S	**Sg**	**16 01 06.8**	**0.0**
GUR	**Goura**	**1.59**	**76**	P	**Pb**	**16 00 44.6**	**0.0**
GUR	**Goura**	**1.59**	**76**	P	**Pg**	**16 00 45.8**	**-0.5**
GUR				AML	AML	16 01 18.7	
	comp=N,15219μm,0.5s						
GUR				AML	AML	16 01 19.9	
	comp=E,11684μm,0.6s						
KALE	**Kalithea**	**1.61**	**59**	P	**Pb**	**16 00 45.3**	**+0.5**
KALE	**Kalithea**	**1.61**	**59**	P	**Pb**	**16 00 45.3**	**+0.5**
KALE				AML	AML	16 01 15.4	
	comp=N,13532μm,0.6s						
KALE				AML	AML	16 01 16.4	
	comp=E,11510μm,0.4s						
DLFA	**Delphi**	**1.90**	**61**	P	**Pb**	**16 00 50.2**	**+0.5**
DLFA				AML	AML	16 01 25.2	
	comp=N,5828μm,0.5s						
DLFA				AML	AML	16 01 33.3	
	comp=E,4481μm,0.7s						
IGT	**Igoumenitsa**	**1.96**	**359**	AMP			
	comp=E,4.0nm,1.0s,baz=0.0						
IGT	**Igoumenitsa**	**1.96**	**359**	P	**Pb**	**16 00 50.1**	**-0.7**
MAKR	**Makrakomi, Fth**	**1.99**	**43**	P	**Pg**	**16 00 52.5**	**-1.4**
MAKR				AML	AML	16 01 30.2	
	comp=N,14926μm,0.8s						
MAKR				AML	AML	16 01 34.9	
	comp=E,13791μm,0.9s						
AXAR	**Agios Charalam**	**2.15**	**56**	P	**Pb**	**16 00 53.7**	**-0.4**
AXAR				AML	AML	16 01 39.6	
	comp=N,11248μm,0.5s						
AXAR				AML	AML	16 01 41.3	
	comp=E,10584μm,1.0s						
KEK	**Kerkira**	**2.19**	**348**		**Pb**	**16 00 53.2**	**-1.4**
VLI	**Veliai**	**2.21**	**112**	P	**Pb**	**16 00 55.0**	**0.0**
SRN	**Sarande**	**2.33**	**353**	P	**Pb**	**16 00 55.4**	**-1.6**
SRN				S	**Sg**	**16 01 31.5**	**+1.1**
SRN				AMP			
	comp=N,2.0nm,0.7s,baz=355						
THL	**Klokotos Trika**	**2.37**	**32**	P	**Pb**	**16 00 57.1**	**-0.6**
THL				AML	AML	16 01 44.7	
	comp=E,3231μm,0.8s						
THL				AML	AML	16 01 45.1	
	comp=N,2208μm,0.8s						
LSK	**Leskovik**	**2.58**	**4**	P	**Pb**	**16 00 59.8**	**-1.6**
LSK				S	**Sg**	**16 01 36.9**	**-1.8**
LSK				AMP			
	comp=N,7.1nm,1.0s,baz=3.0						
SCTE	**Santa Cesarea**	**2.92**	**330**	P	**Pb**	**16 01 04.6**	**-2.4**
SCTE				S	**Sb**	**16 01 44.6**	**+2.2**
SCTE	**Santa Cesarea**	**2.92**	**330**		**Pn**	**16 01 02.8**	**+1.7**
LIT	**Litokhoron**	**3.02**	**32**	Pn	**Pn**	**16 01 04.9**	**+2.4**
LIT				Sn	**Sn**	**16 01 41.0**	**+2.7**
KBN	**Korca**	**3.07**	**6**	P	**Pb**	**16 01 08.1**	**-1.6**
KBN				S	**Sb**	**16 01 49.2**	**+2.4**
KBN				AMP			
	comp=E,2.0nm,1.1s,baz=5.0						
TIP	**Timpagrande**	**3.27**	**301**	Pn	**Pn**	**16 01 07.8**	**+1.8**
FNA	**Florina**	**3.30**	**13**	P	**Pn**	**16 01 10.0**	**+3.5**
FNA	**Florina**	**3.30**	**13**		**Pn**	**16 01 09.3**	**+2.8**
FNA	**Florina**	**3.30**	**13**	*e*Pn	**Pn**	**16 01 09.6**	**+3.1**
OHR	**Ohrid**	**3.55**	**5**	*e*Pn	**Pn**	**16 01 13.8**	**+3.9**
OHR	**Ohrid**	**3.55**	**5**	*i* Pn	**Pn**	**16 01 09.7**	**-0.2**
CEL	**Celeste**	**3.62**	**282**		**Pn**	**16 01 12.2**	**+1.4**
TIR	**Tirane**	**3.80**	**354**	Pn	**Pn**	**16 01 16.4**	**+3.2**
TIR	**Tirane**	**3.80**	**354**	⇑P	**Pn**	**16 01 16.0**	**+2.8**
VAY	**Valandovo**	**4.11**	**24**	*e*Pn	**Pn**	**16 01 20.2**	**+2.7**
VAY	**Valandovo**	**4.11**	**24**	*i* Pn	**Pn**	**16 01 20.4**	**+2.9**
APE	**Apeiranthos**	**4.13**	**95**	⇓P	**Pb**	**16 01 23.6**	**-4.2**
IDI	**Anoyia**	**4.29**	**121**	Pn	**Pn**	**16 01 20.7**	**+0.7**
	comp=E,10nm,0.9s,baz=265,slow=12,SNR=2.1						
IDI				Sn	**Sn**	**16 02 07.8**	**-1.8**
	comp=E,15nm,0.3s,baz=323,slow=20,SNR=19						
CUC	**Castrocucco**	**4.32**	**306**		**Pn**	**16 01 22.6**	**+2.2**
ULC	**Ulcinj**	**4.48**	**349**	⇑*i*Pn	**Pn**	**16 01 24.4**	**+1.8**
ULC				*i* Sn	**Sn**	**16 02 14.4**	**+0.1**
PUK	**Puka**	**4.49**	**355**	P	**Pn**	**16 01 24.8**	**+2.0**
PUK				S	**Sb**	**16 02 26.4**	**-1.2**
PUK	**Puka**	**4.49**	**355**		**Pn**	**16 01 24.5**	**+1.8**
PEHC	**Pehcevo**	**4.63**	**24**	*i* Pn	**Pn**	**16 01 26.5**	**+1.8**
DRME	**Dracevica, Mon**	**4.71**	**349**	⇑*i*Pn	**Pn**	**16 01 27.3**	**+1.6**
DRME				*i* Sn	**Sn**	**16 02 20.0**	**+0.2**
VAE	**Valguarnera**	**4.75**	**271**	Pn	**Pn**	**16 01 29.8**	**+3.4**
	comp=E,6.7nm,0.3s,baz=186,slow=14,SNR=1.8						
VAE				Sn	**Sn**	**16 02 23.8**	**+2.8**
	comp=E,5.7nm,0.3s,baz=28,slow=15,SNR=7.5						
BCI	**Bajram Curri**	**4.80**	**357**	P	**Pn**	**16 01 30.9**	**+3.9**
BCI				S	**Sb**	**16 02 33.5**	**-3.1**
RAFF	**Raffo Rosso**	**4.81**	**268**	Pn	**Pn**	**16 01 27.7**	**+0.6**
BUM	**Brajici-Budva**	**4.87**	**347**	⇑*i*Pn	**Pn**	**16 01 29.9**	**+2.0**
BUM				*i* Sn	**Sn**	**16 02 23.7**	**-0.1**
KOCA	**Canakkale, Ayv**	**4.91**	**65**	P	**Pn**	**16 01 27.1**	**-1.4**
KOCA				S	**Sn**	**16 02 24.2**	**-0.6**
PDG	**Podgorica**	**4.93**	**350**	Pn	**Pn**	**16 01 30.0**	**+1.2**
PDG	**Podgorica**	**4.93**	**350**	*e*Pn	**Pn**	**16 01 28.7**	**-0.1**
PDG	**Podgorica**	**4.93**	**350**	⇑P	**Pn**	**16 01 31.4**	**+2.6**
PDG	**Podgorica**	**4.93**	**350**	*e*Pn	**Pn**	**16 01 30.5**	**+1.7**
PDG				*i* Sn	**Sn**	**16 02 23.3**	**-2.1**
WDD	**Wied Dalam**	**5.02**	**252**	Pn	**Pn**	**16 01 29.2**	**-0.8**
GOAD	**anakkale-G¶**	**5.03**	**57**	P	**Pn**	**16 01 34.5**	**+4.4**
GOAD				S	**Sn**	**16 02 25.4**	**-2.4**
PVY	**Plav**	**5.03**	**356**	⇑*i*Pn	**Pn**	**16 01 32.0**	**+1.7**
PVY				*i* Sn	**Sn**	**16 02 27.8**	**-0.3**
HCY	**Herceg Novi**	**5.09**	**344**	P	Pn	16 01 36.1	+5.2
HCY	**Herceg Novi**	**5.09**	**344**	⇑*i*Pn	**Pn**	**16 01 32.3**	**+1.4**
HCY				*i* Sn	**Sn**	**16 02 29.4**	**+0.2**
CEME	**Cevo**	**5.10**	**348**	⇑*i*Pn	**Pn**	**16 01 32.4**	**+1.2**
CEME				*i* Sn	**Sn**	**16 02 29.2**	**-0.4**
DGB	**zmir**	**5.17**	**83**	P	**Pn**	**16 01 35.5**	**+3.5**
DGB				S	**Sn**	**16 02 29.9**	**-1.3**
BOSS	**Bosilegrad**	**5.18**	**17**	*e*Pn	**Pn**	**16 01 33.2**	**+1.0**
BAYC	**CANAKKALE_Bayr**	**5.29**	**64**	P	**Pn**	**16 01 36.0**	**+2.2**
BAYC				S	**Sn**	**16 02 27.5**	**-6.8**
NKME	**Niksic**	**5.31**	**349**	*e*Pn	**Pn**	**16 01 35.6**	**+1.6**
NKME				*i* Sn	**Sn**	**16 02 34.4**	**-0.4**
IVA	**Berane**	**5.31**	**356**	⇓*i*Pn	**Pn**	**16 01 35.7**	**+1.6**
IVA				*i* Sn	**Sn**	**16 02 34.5**	**-0.4**
KOME	**Kolasin**	**5.32**	**353**	⇑*i*Pn	**Pn**	**16 01 35.9**	**+1.7**
KOME				*i* Sn	**Sn**	**16 02 32.6**	**-2.5**
BARS	**Barje**	**5.36**	**11**	*e*Pn	**Pn**	**16 01 36.3**	**+1.7**
RDO	**Rodhopi**	**5.36**	**47**	Pn	**Pn**	**16 01 35.2**	**+0.6**
TREB	**Trebinje**	**5.38**	**344**	*e*Pn	**Pn**	**16 01 33.5**	**-1.4**
VTS	**Vitosha**	**5.50**	**23**	*e*Pn	**Pn**	**16 01 39.0**	**+2.3**
ALN	**Alexandroupoli**	**5.51**	**51**	Pn	**Pn**	**16 01 35.7**	**-1.0**
BRY	**Bratogost**	**5.51**	**346**	*e*Pn	**Pn**	**16 01 36.8**	**-0.1**
BRY	**Bratogost**	**5.51**	**346**	⇑*i*Pn	**Pn**	**16 01 38.6**	**+1.7**
BRY				*i* Sn	**Sn**	**16 02 39.0**	**-0.9**
BUHA	**Balikesir, Bur**	**5.59**	**68**	P	Pn	16 01 43.1	+5.3
BUHA				S	**Sn**	**16 02 40.9**	**-0.8**
SELS	**Selova**	**5.67**	**5**	*e*Pn	**Pn**	**16 01 40.4**	**+1.4**
STON	**Ston**	**5.68**	**340**	*e*Pn	**Pn**	**16 01 39.2**	**+0.1**
PAOL	**Paolisi**	**5.69**	**309**	Pn	**Pn**	**16 01 39.3**	**+0.1**
SJES	**Sjenica**	**5.70**	**357**	*e*Pn	**Pn**	**16 01 41.1**	**+1.7**
SJES				*e*Sn	**Sn**	**16 02 44.9**	**+0.5**
SJES	**Sjenica**	**5.70**	**357**	*e*Pn	**Pn**	**16 01 39.2**	**-0.2**
PLE	**Pljevlja**	**5.81**	**353**	⇓*i*Pn	**Pn**	**16 01 42.3**	**+1.4**
PLE				*i* Sn	**Sn**	**16 02 46.6**	**-0.5**
KARP	**Karpathos**	**5.81**	**108**	Pn	**Pn**	**16 01 37.9**	**-3.1**
ZAPS	**Zavoj**	**5.95**	**16**	*e*Pn	**Pn**	**16 01 45.0**	**+2.2**
IVAS	**Ivanjica**	**6.01**	**358**	*e*Pn	**Pn**	**16 01 43.6**	**0.0**
IZMR	**zmir-demi**	**6.01**	**82**	P	**Pn**	**16 01 45.7**	**+2.0**
IZMR				S	**Sn**	**16 02 57.0**	**+4.9**
RUDO	**Rudo**	**6.09**	**353**	*e*Pn	**Pn**	**16 01 44.9**	**+0.1**
BOVS	**Bovan**	**6.14**	**9**	*e*Pn	**Pn**	**16 01 46.5**	**+1.1**
BOVS	**Bovan**	**6.14**	**9**	⇑P	**Pn**	**16 01 47.9**	**+2.5**
GRUS	**Gruza**	**6.32**	**2**	*e*Pn	**Pn**	**16 01 49.3**	**+1.5**
BBLS	**Lazi&#263i**	**6.34**	**354**	*e*Pn	**Pn**	**16 01 48.9**	**+0.8**
BBLS	**Lazi&#263i**	**6.34**	**354**	*e*Pn	**Pn**	**16 01 49.3**	**+1.2**
ARG	**Arkhangelos**	**6.35**	**100**	Pn	**Pn**	**16 01 45.7**	**-2.6**
ZAGS	**Zajecar**	**6.39**	**12**	*e*Pn	**Pn**	**16 01 50.1**	**+1.2**
DIVS	**Divibare**	**6.53**	**358**	*e*Pn	**Pn**	**16 01 52.3**	**+1.5**
DIVS				*e*Sn	**Sn**	**16 03 01.1**	**-3.8**
TRUS	**Trudelj**	**6.65**	**0**	*e*Pn	**Pn**	**16 01 52.5**	**+0.1**
INTR	**Introdacqua**	**6.68**	**314**	Pn	**Pn**	**16 01 54.0**	**+1.1**
ELND	**Elena**	**6.80**	**36**	⇓P	**Pn**	**16 01 57.5**	**+3.0**
ARMN	**Kirklareli, Me**	**6.92**	**49**	P	**Pn**	**16 01 57.2**	**+1.1**
ARMN				S	**Sn**	**16 03 16.0**	**+1.7**
TEKS	**Tekeris**	**7.00**	**355**	*e*Pn	**Pn**	**16 01 57.4**	**+0.1**
TEKS	**Tekeris**	**7.00**	**355**	*e*Pn	**Pn**	**16 01 57.0**	**-0.3**
CAMP	**Campotosto**	**7.30**	**315**	Pn	**Pn**	**16 02 02.9**	**+1.5**
HERR	**Herculane**	**7.46**	**11**	⇑P	**Pn**	**16 02 05.5**	**+1.9**
A050A	**Klekovaca**	**7.50**	**338**	*e*Pn	**Pn**	**16 02 06.1**	**+2.0**
AKAS	**Kas**	**7.51**	**97**	Pn	**Pn**	**16 02 01.7**	**-2.6**
BLY	**Banja Luka**	**7.57**	**342**	*e*Pn	**Pn**	**16 02 07.7**	**+2.7**
ELL	**Elmali**	**7.65**	**93**	Pn	**Pn**	**16 02 05.4**	**-0.8**
NRCA	**Norcia**	**7.66**	**316**		**Pn**	**16 02 08.4**	**+2.2**
GUMA	**Gualdo di Mace**	**7.69**	**318**	Pn	**Pn**	**16 02 10.2**	**+3.5**
HUMR	**Humele**	**7.77**	**25**	⇑P	**Pn**	**16 02 10.6**	**+2.9**
FDMO	**Fiordimonte**	**7.80**	**317**	Pn	**Pn**	**16 02 09.8**	**+1.5**
A051A	**Mrakovica**	**7.88**	**342**	*e*Pn	**Pn**	**16 02 08.7**	**-0.7**
GZR	**Gura Zlata**	**8.02**	**12**	⇑P	**Pn**	**16 02 13.7**	**+2.5**
ARR	**Arges**	**8.42**	**21**	⇑P	**Pn**	**16 02 20.6**	**+3.8**
MLR	**Muntele Rosu**	**8.95**	**26**	Pn	**Pn**	**16 02 25.5**	**+1.5**
MLR	**Muntele Rosu**	**8.95**	**26**	Pn	**Pn**	**16 02 27.6**	**+3.6**
	comp=E,0.9nm,0.3s,baz=215,slow=5.5,SNR=14						
MLR				LR	LR	16 06 09.2	
	comp=E,203nm,19.0s,baz=241,slow=40						
MLR	**Muntele Rosu**	**8.95**	**26**	⇑P	**Pn**	**16 02 27.2**	**+3.2**
CRES	**Cresnjevec Ost**	**9.04**	**338**	*e*Pn	**Pn**	**16 02 25.0**	**-0.1**
KEST	**Kesra**	**9.06**	**262**	Sn	**Sn**	**16 04 05.4**	**-1.7**
	comp=E,0.2nm,0.3s,baz=84,slow=23,SNR=1.6						
DOPR	**Dopca**	**9.19**	**22**	⇑P	**Pn**	**16 02 30.0**	**+2.8**
BISRR	**Bisoca**	**9.27**	**29**	⇑P	**Pn**	**16 02 31.8**	**+3.4**
CEY	**Cerknica**	**9.30**	**333**	*e*Pn	**Pn**	**16 02 32.1**	**+3.4**
OZUR		**9.42**	**24**	⇑P	**Pn**	**16 02 32.9**	**+2.5**
TURR	**Turia**	**9.46**	**25**	⇑P	**Pn**	**16 02 33.6**	**+2.7**
PLOR	**Plostina**	**9.51**	**28**	⇑P	**Pn**	**16 02 35.3**	**+3.7**
VRI	**Vrincioaia**	**9.55**	**28**	⇑P	**Pn**	**16 02 36.0**	**+3.9**
SABO	**M.te Sabotino**	**9.81**	**331**	Pn	**Pn**	**16 02 36.4**	**+0.7**
ZCCA	**Zocca**	**9.82**	**317**	Pn	**Pn**	**16 02 37.4**	**+1.4**
OBKA	**Obir**	**9.93**	**336**	*e*Pn	**Pn**	**16 02 40.3**	**+2.9**
	comp=E,8.5nm,0.6s						
OBKA	**Obir**	**9.93**	**336**	*e*Pn	**Pn**	**16 02 37.4**	**0.0**
SOKA	**Soboth**	**9.93**	**338**	*e*Pn	**Pn**	**16 02 40.4**	**+3.0**
	comp=E,3.3nm,0.3s						
TEOL	**Teolo**	**10.16**	**323**	Pn	**Pn**	**16 02 41.4**	**+0.8**
PRED	**Cave del Predi**	**10.21**	**332**		**Pn**	**16 02 42.1**	**+0.8**
PSZ	**Piszkesteto**	**10.35**	**358**	Pn	**Pn**	**16 02 44.4**	**+1.2**
CIMO	**Cimolais**	**10.54**	**328**	Pn	**Pn**	**16 02 49.4**	**+3.6**
BR131	**Keskin Array S**	**10.59**	**74**	Pn	**Pn**	**16 02 45.1**	**-1.4**
BRTR	**Keskin Array B**	**10.59**	**74**	Pn	**Pn**	**16 02 45.6**	**-0.9**
BRTR	**Keskin Array B**	**10.59**	**74**	Pn	Pn	16 02 52.8	+6.2
	comp=E,0.2nm,0.3s,baz=256,slow=13,SNR=7.8						
BURAR	**Bucovina Array**	**10.65**	**18**	⇑P	**Pn**	**16 02 50.7**	**+3.4**
ABTA	**Abfaltersbach**	**10.87**	**330**	*e*Pn	Pn	16 03 00.9	+11
	comp=E,2.1nm,0.4s						
VYHS	**Vyhne**	**10.98**	**355**	*e*PN	**Pn**	**16 02 56.2**	**+4.5**
MODS	**Modra-Piesok**	**11.04**	**349**	*e*PN	**Pn**	**16 02 56.6**	**+4.1**
MOA	**Molln**	**11.21**	**338**	*e*Pn	Pn	16 03 03.3	+8.4
	comp=E,2.4nm,0.4s						
BIOA	**Bad Ischl, Aus**	**11.27**	**336**	*e*Pn	Pn	16 03 03.4	+7.8
	comp=E,1.8nm,0.2s						
LANS	**Liptovska Anna**	**11.60**	**357**	*e*PN	**Pn**	**16 03 04.8**	**+4.6**
FUORN	**Ofenpass-Fuorn**	**11.75**	**324**	Pn	**Pn**	**16 03 05.3**	**+2.8**
DAVOX	**Davos/Dischmat**	**12.05**	**323**	Pn	**Pn**	**16 03 10.1**	**+3.6**
	comp=E,0.3nm,0.3s,baz=187,slow=3.7,SNR=2.5						
DAVOX				Sn	**Sn**	**16 05 18.4**	**-2.2**
	comp=E,0.3nm,0.3s,baz=155,slow=23,SNR=1.8						
DAVOX				LR	LR	16 08 39.6	
	comp=E,173nm,18.6s,baz=102,slow=42						
VRAC	**Vranov**	**12.05**	**348**	LR	LR	16 08 35.4	
	comp=E,55nm,21.2s,baz=204,slow=42						
TUE	**Stuetta**	**12.09**	**321**	Pn	**Pn**	**16 03 05.8**	**-1.4**
GERES	**GERESS Array B**	**12.28**	**339**	Pn	**Pn**	**16 03 11.4**	**+1.8**
	comp=E,0.2nm,0.3s,baz=133,slow=8.6,SNR=2.6						
GERES				Sn	**Sn**	**16 05 22.9**	**-2.9**
	comp=E,0.2nm,0.3s,baz=156,slow=34,SNR=2.1						
	comp=E,0.7nm,0.6s						
KHC	**Kasperske Hory**	**12.57**	**339**	*e*P	**Pn**	**16 03 16.5**	**+3.0**
KHC				*ex*	x	16 03 29.0	
MMAI	**Mount Meron Ar**	**13.08**	**106**	Pn	**Pn**	**16 03 18.2**	**-2.4**
	comp=E,0.4nm,0.3s,baz=301,slow=12,SNR=1.6						
MMAI				Sn	Sn	16 05 35.9	-10
	comp=E,1.7nm,0.3s,baz=310,slow=26,SNR=1.9						
	comp=E,0.3nm,0.3s						
SENIN	**Lac Senin/Sane**	**13.10**	**316**	Pn	**Pn**	**16 03 18.3**	**-2.6**
GHAJ	**Ghor Haditha**	**13.99**	**112**	Pn	Pn	16 03 26.7	-6.3
EIL	**Elat**	**14.46**	**119**	Pn	**Pn**	**16 03 38.7**	**-0.7**
	comp=E,0.8nm,0.3s,baz=0.9,slow=14,SNR=2.5						
EIL				Sn	Sn	16 06 04.0	-15
	comp=E,0.5nm,0.3s,baz=220,slow=23,SNR=4.9						
	comp=E,1.8nm,0.4s						
KIEV	**Kiev**	**14.56**	**23**	Pn	**Pn**	**16 03 38.2**	**-2.3**
AKASG	**Malin Array Be**	**14.57**	**23**	Pn	**Pn**	**16 03 40.6**	**-0.1**
	comp=E,0.2nm,0.3s,baz=214,slow=12,SNR=5.9						
	comp=E,0.2nm,0.3s						
AKBB	**Malin Array Si**	**14.57**	**23**	Pn	**Pn**	**16 03 38.1**	**-2.6**
CLL	**Collm**	**14.70**	**341**	*i* PP	**P**	**16 03 52.0**	**+3.4**
WLF	**Walferdange**	**15.85**	**324**	Pn	**Pn**	**16 03 57.6**	**-0.1**
WLF				IAmb	IAmb	16 04 13.3	
	comp=Z,34nm,1.1s						
WLF	**Walferdange**	**15.85**	**324**	*d*P	P	16 04 12.7	+11
MARD	**Mardin**	**16.20**	**85**	Pn	**Pn**	**16 03 58.8**	**-3.7**
SUW	**Suwalki**	**16.56**	**6**	Pn	**Pn**	**16 04 05.2**	**-1.5**
SUW				IAmb	IAmb	16 04 17.6	
	comp=Z,73nm,0.9s						
NACGM	**Naroch**	**17.88**	**12**	*e*P	**P**	**16 04 23.7**	**-0.1**
	comp=Z,21nm,1.2s,baz=197						
PABE	**Paberze**	**18.11**	**7**	P	**Pn**	**16 04 23.3**	**-2.6**
PABE				IAmb	IAmb	16 04 26.9	
	comp=Z,30nm,0.8s						
KBZ	**Khabaz**	**18.13**	**63**	P	**Pn**	**16 04 24.5**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=271,slow=17,SNR=1.4						
	comp=Z,0.6nm,0.6s						
ESDC	**Sonseca Array**	**19.13**	**284**	P	**P**	**16 04 37.9**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=74,slow=11,SNR=4.6						
	comp=Z,0.6nm,0.5s						
GNI	**Garni**	**19.13**	**75**	LR	LR	16 13 43.9	
	comp=Z,87nm,18.2s,baz=301,slow=43						
OBN	**Obninsk**	**20.71**	**27**	LR	LR	16 14 37.1	
	comp=Z,166nm,18.7s,baz=344,slow=42						
HFS	**Hagfors**	**22.99**	**351**	P	**P**	**16 05 19.8**	**+0.7**
	comp=Z,6.2nm,0.7s,baz=157,slow=9.6,SNR=14						
	comp=Z,6.2nm,0.7s						
NC602	**NORSAR Array S**	**23.86**	**349**	P	**P**	**16 05 28.7**	**+1.1**
EKA	**Eskdalemuir Ar**	**23.87**	**326**	P	**P**	**16 05 28.2**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=116,slow=7.5,SNR=3.0						
	comp=Z,1.1nm,0.6s						
NAO01	**NORSAR Array S**	**24.06**	**349**	P	**P**	**16 05 30.7**	**+1.2**
NAO01				IAmb	IAmb	16 05 40.1	
	comp=Z,12nm,1.1s						
FINES	**FINESS Array B**	**24.16**	**7**	P	**P**	**16 05 30.6**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=168,slow=9.3,SNR=23						
	comp=Z,3.0nm,0.6s						
FIA1	**FINESS Array S**	**24.17**	**7**	P	**P**	**16 05 30.8**	**+0.3**
NC405	**NORSAR Array S**	**24.19**	**350**	P	**P**	**16 05 31.3**	**+0.5**
NC405				IAmb	IAmb	16 05 54.6	
NB2	**NORSAR Subarra**	**24.20**	**349**	P	**P**	**16 05 32.2**	**+1.3**
	comp=Z,3.2nm,1.1s,baz=160,slow=10						
NOA	**NORSAR Array B**	**24.20**	**349**	P	**P**	**16 05 30.9**	**+0.1**
	comp=Z,2.1nm,1.0s,baz=161,slow=12,SNR=5.3						
NOA				LR	LR	16 17 40.9	
	comp=Z,56nm,19.9s,baz=295,slow=43						
	comp=Z,2.1nm,1.0s						
KIRV	**Kirov**	**28.23**	**33**	LR	LR	16 17 44.5	
	comp=Z,98nm,20.8s,baz=283,slow=37						
TORD	**Torodi Ar. Bea**	**29.49**	**219**	P	**P**	**16 06 20.4**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=22,slow=10,SNR=4.5						
	comp=Z,0.6nm,0.6s						
ABKAR	**Akbulak array**	**30.68**	**55**	P	**P**	**16 06 27.4**	**-1.6**
ARTI	**Arti**	**31.48**	**41**	P	**P**	**16 06 34.6**	**-1.4**
ARTI				IAmb	IAmb	16 06 36.3	
	comp=Z,4.1nm,0.6s						
ARTI	**Arti**	**31.48**	**41**	LR	LR	16 21 54.3	
	comp=Z,70nm,18.8s,baz=296,slow=41						
ARCES	**ARCESS Array B**	**32.15**	**3**	P	**P**	**16 06 42.5**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=182,slow=12,SNR=4.3						
ARCES				LR	LR	16 21 01.9	
	comp=Z,129nm,18.5s,baz=274,slow=39						
	comp=Z,2.9nm,0.8s						
BRVK	**Borovoye**	**37.53**	**49**	P	**P**	**16 07 28.0**	**-0.4**
BVAR	**Borovoye Array**	**37.59**	**49**	P	**P**	**16 07 29.1**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=263,slow=7.1,SNR=4.1						
	comp=Z,0.9nm,0.6s						
SIMJ	**Simiganj**	**37.91**	**73**	P	**P**	**16 07 30.4**	**-1.6**
KKAR	**Karatay Array**	**38.14**	**66**	P	**P**	**16 07 33.3**	**-0.4**
GAR	**Garm**	**38.82**	**72**	P	**P**	**16 07 38.9**	**-0.7**
GAR				IAmb	IAmb	16 08 03.4	
	comp=Z,7.3nm,0.4s						
SPB2	**Spitsbergen Ar**	**40.75**	**359**	P	**P**	**16 07 55.4**	**+0.4**
SPA2	**Spitsbergen Ar**	**40.75**	**359**	P	**P**	**16 07 56.2**	**+1.1**
KURBB	**Kurchatov Arra**	**42.68**	**53**	P	**P**	**16 08 10.7**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=280,slow=8.7,SNR=5.7						
	comp=Z,0.8nm,0.3s						
ZAA0	**Zalesovo Array**	**46.18**

comp=Z,164nm,1.4s
MRZ Mangataiinoka R 33.83 274 P **P 16 13 47.7 -0.8**
MRZ IAmb IAmb 16 14 03.4
comp=Z,169nm,1.5s
GVZ Greta Valley S 33.91 269 P **P 16 13 48.9 -0.3**
GVZ IAMs_20 IAMs_20 16 24 24.0
comp=Z,13μm,18.0s
SNZO South Karori 33.94 272 P **P 16 13 50.2 +0.9**
KHZ Kahutara 33.94 270 P **P 16 13 49.0 -0.4**
RPN Rapa Nui 34.01 49 P **P 16 13 50.5 +0.4**
RPN Rapa Nui 34.01 49 LR LR 16 24 07.2
comp=Z,9μm,19.6s,baz=212,slow=30
RPN Rapa Nui 34.01 49 P **P 16 13 50.5 +0.4**
RPN pmax pmax
comp=Z,296nm,1.6s
ODZ Otahua Downs 34.10 264 P **P 16 13 50.4 -0.4**
ODZ IAMs_20 IAMs_20 16 25 04.1
comp=Z,27μm,19.0s
BSWZ Blackbirch Sta 34.17 271 P **P 16 13 50.8 -0.7**
BKZ Black Stump Fm 34.26 277 P **P 16 13 51.0 -1.4**
BKZ IAMs_20 IAMs_20 16 25 10.7
comp=Z,17μm,19.0s
OXZ Oxford 34.28 267 P **P 16 13 50.6 -1.8**
OXZ IAmb IAmb 16 14 07.1
comp=Z,88nm,1.4s
MXZ Matakaoa Point 34.29 281 P **P 16 13 52.4 0.0**
TUWZ Tuamarina 34.31 271 P **P 16 13 53.0 +0.3**
RTZ Ruatahuna 34.34 278 P **P 16 13 54.1 +1.0**
RTZ IAMs_20 IAMs_20 16 24 43.8
comp=Z,16μm,19.0s
LTZ Lake Taylor 34.47 268 P **P 16 13 53.1 -1.0**
LTZ IAmb IAmb 16 14 17.6
comp=Z,159nm,1.6s
LTZ IAMs_20 IAMs_20 16 24 59.9
comp=Z,13μm,18.0s
URZ Urewera 34.51 279 P P 16 14 02.5 +8.1
comp=Z,6.8nm,0.9s,baz=112,slow=21,SNR=3.0
URZ LR LR 16 24 58.6
comp=Z,16μm,20.2s,baz=220,slow=31
comp=Z,6.8nm,0.9s
SMAI San Martin Ant 34.56 142 P **P 16 13 53.9 -0.6**
RPZ Rata Peaks 34.63 266 P **P 16 13 53.7 -1.7**
RPZ IAmb IAmb 16 14 18.4
comp=Z,128nm,1.6s
RPZ IAMs_20 IAMs_20 16 24 20.1
comp=Z,18μm,19.0s
RPZ Rata Peaks 34.63 266 P P 16 14 02.4 +7.0
comp=Z,4.1nm,0.6s,baz=184,slow=9.0,SNR=1.8
RPZ LR LR 16 24 52.3
comp=Z,16μm,20.8s,baz=118,slow=30
comp=Z,4.1nm,0.6s
THZ Tophouse 34.72 270 P **P 16 13 55.2 -1.0**
THZ IAmb IAmb 16 14 11.3
comp=Z,197nm,1.6s
LBZ Lake Benmore 34.75 264 P **P 16 13 54.7 -1.7**
LBZ IAmb IAmb 16 14 11.5
comp=Z,157nm,1.5s
LBZ IAMs_20 IAMs_20 16 24 54.2
comp=Z,26μm,20.0s
NNZ Nelson 34.77 271 P **P 16 13 54.8 -1.8**
INZ Inchbonnie 34.99 268 P **P 16 13 56.9 -1.5**
INZ IAmb IAmb 16 14 13.7
comp=Z,210nm,1.6s
INZ IAMs_20 IAMs_20 16 24 17.6
comp=Z,14μm,22.0s
MRNZ Matariki Terra 35.03 271 P **P 16 13 56.8 -2.1**
TKNZ Takaka Hill 35.14 271 P **P 16 13 56.5 -3.3**
WKZ Wanaka 35.18 263 P **P 16 13 58.6 -1.6**
WKZ IAMs_20 IAMs_20 16 24 38.5
comp=Z,23μm,21.0s
WHZ Wether Hill Ro 35.20 261 P **P 16 13 58.8 -1.5**
WHZ IAMs_20 IAMs_20 16 28 07.0
comp=Z,16μm,18.0s
DSZ Denniston Nort 35.37 269 P **P 16 13 59.3 -2.6**
DSZ IAmb IAmb 16 14 44.7
comp=Z,148nm,1.7s
MLZ Mavora Lakes 35.40 262 P **P 16 14 00.4 -1.6**
MLZ IAmb IAmb 16 14 23.1
comp=Z,110nm,1.5s
MLZ IAMs_20 IAMs_20 16 24 46.2
comp=Z,16μm,22.0s
QRZ Quartz Range 35.52 271 P **P 16 14 01.2 -1.9**
QRZ IAmb IAmb 16 14 17.4
comp=Z,196nm,1.5s
HIZ Hauiti 35.65 276 P **P 16 14 02.2 -2.0**
TOZ Tahuroa Road 35.80 278 P **P 16 14 03.2 -2.3**
TOZ IAMs_20 IAMs_20 16 25 41.4
comp=Z,17μm,19.0s
DCZ Deep Cove 35.90 261 P **P 16 14 03.4 -2.9**
MCQ Macquarie Isla 35.93 243 P **P 16 14 05.9 -0.5**
MCQ IAMs_20 IAMs_20 16 24 33.7
comp=Z,14μm,22.0s
MCQ Macquarie Isla 35.93 243 P **P 16 14 05.9 -0.5**
MCQ pmax pmax
comp=Z,240nm,1.7s
MCQ MLR MLR
comp=Z,14μm,22.0s
QSPA South Pole Qui 36.03 180 P **P 16 14 05.0 -2.4**
QSPA South Pole Qui 36.03 180 IAMs_20 IAMs_20 16 27 15.7
comp=Z,25μm,18.0s
QSPA South Pole Qui 36.03 180 P **P 16 14 08.1 +0.6**
comp=Z,6.4nm,1.0s,baz=99,slow=3.0,SNR=14
QSPA LR LR 16 27 18.4
comp=Z,25μm,18.1s,baz=70,slow=34
comp=Z,6.4nm,1.0s
PMSA Palmer Station 36.66 137 IAMs_20 IAMs_20 16 24 40.7
comp=Z,13μm,21.0s
PMSA Palmer Station 36.66 137 LR LR 16 25 02.6
comp=Z,12μm,20.8s,baz=246,slow=30
RAR Rarotonga 36.96 324 P **P 16 14 13.0 -2.5**
RAR Rarotonga 36.96 324 LR LR 16 25 31.3
comp=Z,10μm,20.0s,baz=170,slow=29
RAR Rarotonga 36.96 324 P **P 16 14 13.0 -2.5**
RAR pmax pmax
comp=Z,57nm,1.3s
RAR MLR MLR
comp=Z,11μm,20.0s
PAE Paea 37.58 341 *e*S **S 16 20 09.9 -0.1**
comp=Z,416nm,24.4s
PAE *e*LR LR 16 24 28.0
comp=Z,6μm,24.1s
PPTF Pamatai, Papee 37.64 341 IAMs_20 IAMs_20 16 26 48.2
comp=Z,15μm,18.0s
PPT2 Papeete2 37.65 341 *e*P **P 16 14 21.4 0.0**
comp=Z,556nm,26.8s
PPT2 Papeete2 37.65 341 *e*PP **PP 16 15 46.1 -1.3**
PPT2 comp=Z,364nm,25.8s
PPT2 comp=Z,612nm,24.3s *e*S **S 16 20 11.5 +0.3**
PPT2 comp=Z,2μm,26.2s *e*S **S 16 20 12.6 +1.4**
PPT2 comp=Z,27μm,24.5s *e*LR LR 16 24 34.3
PPT2 comp=Z,46μm,25.8s *e*LR LR 16 24 34.4
PPT Papeete 37.67 341 LR LR 16 25 33.0
comp=Z,15μm,22.0s,baz=138,slow=29
RAO Raoul Island 38.30 294 LR LR 16 27 16.9
comp=Z,2μm,20.2s,baz=152,slow=31
OUZ Omahuta 38.64 279 IAMs_20 IAMs_20 16 27 18.7
comp=Z,11μm,19.0s
VAH Vaihoa 39.61 345 *e*P **P 16 14 35.0 -2.8**
comp=Z,54nm,1.1s
VAH Vaihoa 39.61 345 *e*LR LR 16 25 25.7
comp=Z,26μm,22.4s
PMOR Pomariorio Ree 39.88 344 *e*S **S 16 20 43.1 -1.6**
PMOR comp=Z,2μm,24.4s *e*LR LR 16 25 33.5
comp=Z,27μm,22.8s
BELA Belgrano 2 40.32 161 P **P 16 14 41.6 -1.6**
BELA IAMs_20 IAMs_20 16 29 17.4
comp=Z,10μm,20.0s
AY03 Cochrane 40.38 108 IAMs_20 IAMs_20 16 26 39.5
comp=Z,15μm,20.0s
COYC Coyhaique 41.65 106 P **P 16 14 53.0 -1.5**
COYC Coyhaique 41.65 106 IAMs_20 IAMs_20 16 27 17.0
comp=Z,13μm,21.0s
GO07 Milladeo Hill, 42.23 102 IAMs_20 IAMs_20 16 27 19.5
comp=Z,25μm,22.0s
LL06 Loncomilla 42.81 101 IAMs_20 IAMs_20 16 27 36.9
comp=Z,15μm,22.0s
NIUE Niue 42.90 312 IAMs_20 IAMs_20 16 29 28.0
comp=Z,12μm,19.0s
LL02 Futaleuf 43.23 103 IAMs_20 IAMs_20 16 28 03.8
comp=Z,19μm,21.0s
LL01 San Ignacio de 43.41 102 IAMs_20 IAMs_20 16 28 26.7
comp=Z,15μm,19.0s
LL05 Los Muermos 43.41 100 IAMs_20 IAMs_20 16 27 53.9
comp=Z,10μm,21.0s
LL03 Petrohue 44.20 101 P **P 16 15 14.6 -0.6**
LL03 IAMs_20 IAMs_20 16 28 47.8
comp=Z,8μm,20.0s
LL04 Puerto Octay 44.35 100 P **P 16 15 15.1 -1.3**
LR04 Corral 44.42 99 IAMs_20 IAMs_20 16 28 22.7
comp=Z,13μm,21.0s
LR05 Currie 45.02 100 P **P 16 15 21.1 -0.6**
LR05 IAmb IAmb 16 15 35.5
comp=Z,100nm,1.6s
TAOE Nuku Hiva Isla 45.20 356 *e*P **P 16 15 21.9 -1.6**
comp=Z,339nm,25.7s
TAOE *e*S **S 16 22 01.9 -1.4**
comp=Z,2μm,25.9s
TAOE *e*SS **SS 16 25 26.7 +0.8**
comp=Z,5μm,26.4s
TAOE *e*LR LR 16 28 02.6
comp=Z,25μm,24.5s
LR03 Panguipulli 45.22 99 IAMs_20 IAMs_20 16 28 58.7
comp=Z,10μm,19.0s
H03S2 Juan Fernandez 45.30 88 T T 17 03 41.5
baz=223,slow=74,SNR=78
H03S1 Juan Fernandez 45.31 88 T T 17 03 43.2
baz=223,slow=74,SNR=78
H03S3 Juan Fernandez 45.32 88 T T 17 03 48.5
baz=223,slow=74,SNR=80
PLCA Paso Flores 45.53 101 P **P 16 15 24.2 -1.8**
PLCA IAmb IAmb 16 15 38.7
comp=Z,130nm,1.9s
PLCA Paso Flores 45.53 101 P **P 16 15 24.2 -1.8**
PLCA pmax pmax
comp=Z,130nm,1.9s
PLCA Paso Flores 45.53 101 *e*P **P 16 15 29.4 +3.4**
H03N3 Juan Fernandez 45.58 88 T T 17 03 58.2
baz=226,slow=72,SNR=2692
H03N2 Juan Fernandez 45.58 88 T T 17 03 57.1
baz=226,slow=72,SNR=3061
H03N1 Juan Fernandez 45.59 88 T T 17 03 50.1
baz=226,slow=72,SNR=1769
EFI East Falkland 45.60 121 *i* P **P 16 15 25.8 -0.4**
EFI pmax pmax
comp=Z,7.0nm,0.9s
GO06 Curarrehue 45.76 100 P **P 16 15 26.6 -1.2**
GO06 IAMs_20 IAMs_20 16 29 17.9
comp=Z,9μm,20.0s
BI05 Punta Hualpn 46.66 95 IAMs_20 IAMs_20 16 29 22.9
comp=Z,11μm,21.0s
BI02 San Fabin de 47.84 97 P **P 16 15 43.0 -1.0**
BI02 IAMs_20 IAMs_20 16 30 16.1
comp=Z,9μm,22.0s
AFI Afiamalu 48.28 313 IAMs_20 IAMs_20 16 30 11.7
comp=Z,10μm,19.0s
ML02 Panimavida 48.37 96 P **P 16 15 46.6 -1.4**
GO05 Hualane 48.60 95 P **P 16 15 48.7 -1.1**
GO05 IAmb IAmb 16 16 07.3
comp=Z,166nm,1.9s
GO05 IAMs_20 IAMs_20 16 30 19.3
comp=Z,11μm,22.0s
TAU Tasmania Unive 48.76 251 P **P 16 15 49.1 -1.8**
TAU Tasmania Unive 48.76 251 IAMs_20 IAMs_20 16 32 41.3
comp=Z,14μm,18.0s
TAU Tasmania Unive 48.76 251 P **P 16 15 49.1 -1.8**
TAU pmax pmax
comp=Z,353nm,2.0s
TAU MLR MLR
comp=Z,14μm,18.0s
BO02 Sierra Bellavi 49.42 95 P **P 16 15 53.9 -2.3**
BO02 IAmb IAmb 16 16 16.9
comp=Z,53nm,1.1s
CASY Casey 49.43 210 P **P 16 15 54.7 -1.0**
CASY IAmb IAmb 16 16 13.3
comp=Z,84nm,1.3s
CASY Casey 49.43 210 IAMs_20 IAMs_20 16 34 38.0
comp=Z,8μm,18.0s
BO01 Tunca 49.52 95 P **P 16 15 55.8 -1.1**
BO01 IAmb IAmb 16 16 03.8
comp=Z,134nm,1.9s
BO01 IAMs_20 IAMs_20 16 30 57.9
comp=Z,7μm,19.0s
VNA3 Neumayer Olymp 49.59 160 ⇑P **P 16 15 58.5 +1.5**
comp=Z,15nm,0.9s
MT01 Popeta 49.80 94 P **P 16 15 58.0 -1.0**
MT01 IAmb IAmb 16 16 11.7
comp=Z,66nm,1.2s
MSVF Nonsavu 49.81 299 P **P 16 15 56.4 -2.9**
MSVF IAmb IAmb 16 16 29.9
comp=Z,180nm,1.8s
MSVF Nonsavu 49.81 299 IAMs_20 IAMs_20 16 32 04.7
comp=Z,7μm,19.0s
MSVF Nonsavu 49.81 299 P P 16 16 06.8 +7.4
comp=Z,16nm,1.1s,baz=145,slow=8.4,SNR=6.8
MSVF LR LR 16 32 05.5
comp=Z,5μm,21.7s,baz=151,slow=30
comp=Z,16nm,1.1s
MSVF Nonsavu 49.81 299 P **P 16 15 56.4 -2.9**
MSVF pmax pmax
comp=Z,180nm,1.8s
MSVF MLR MLR
comp=Z,7μm,19.0s
MT09 Talagante 50.02 94 P **P 16 15 58.3 -2.5**
MT09 IAmb IAmb 16 16 07.3
comp=Z,72nm,1.1s
BO04 La Punta 50.09 95 P **P 16 15 58.3 -3.0**
BO04 IAmb IAmb 16 16 23.8
comp=Z,115nm,1.8s
VNA2 Neumayer--Watz 50.29 161 ⇑P **P 16 16 00.7 -1.6**
comp=Z,25nm,0.8s,baz=212,slow=5.8
MT02 Curacav 50.30 94 P **P 16 16 00.7 -2.1**
VNA1 Neumayer--Stat 50.35 160 ⇑P **P 16 16 03.8 +1.1**
comp=Z,29nm,1.0s
LMEL Las Melosas 50.42 95 P **P 16 16 01.3 -2.7**
LMEL IAMs_20 IAMs_20 16 31 28.7
comp=Z,8μm,20.0s
MT05 Renca 50.44 94 P **P 16 16 02.1 -1.8**
MT13 San Alfonso 50.45 95 P **P 16 16 02.6 -1.5**
MT13 IAMs_20 IAMs_20 16 31 28.4
comp=Z,7μm,19.0s
MT03 Universidad Ad 50.50 94 P **P 16 16 02.0 -2.5**
MT03 IAmb IAmb 16 16 25.0
comp=Z,79nm,1.1s
SNAA Sanae 50.50 163 P **P 16 16 01.7 -2.3**
SNAA IAMs_20 IAMs_20 16 34 17.6
comp=Z,8μm,22.0s
SNAA Sanae 50.50 163 ⇑P **P 16 16 03.1 -0.9**
comp=Z,182nm,0.8s
SNAA Sanae 50.50 163 P **P 16 16 01.3 -2.6**
comp=Z,2.6nm,0.7s,baz=226,slow=9.7,SNR=6.5
SNAA LR LR 16 34 51.3
comp=Z,7μm,21.3s,baz=240,slow=33
comp=Z,2.6nm,0.7s
SNAA Sanae 50.50 163 *i* P **P 16 16 02.1 -1.9**
SNAA pmax pmax
comp=Z,55nm,2.6s
MT16 CCHEN 50.53 94 P **P 16 16 02.9 -1.8**
PEL Peldehue 50.64 94 P **P 16 16 02.8 -2.7**
PEL IAmb IAmb 16 16 26.4
comp=Z,147nm,1.3s
PEL Peldehue 50.64 94 P **P 16 16 02.8 -2.7**
PEL pmax pmax
comp=Z,147nm,1.3s
PEL MLR MLR
comp=Z,4μm,18.0s
VA06 Catapilco 50.70 93 P **P 16 16 03.8 -2.1**
VA06 IAmb IAmb 16 16 26.3
comp=Z,116nm,1.4s
MT08 Bocatoma Ro 50.82 95 P **P 16 16 04.8 -2.3**
MT08 IAMs_20 IAMs_20 16 31 40.2
comp=Z,7μm,19.0s
VA03 San Esteban 50.99 94 P **P 16 16 06.2 -2.0**
VA03 IAmb IAmb 16 16 29.4
comp=Z,64nm,1.1s
TROLL Troll, Antarti 51.08 165 ⇑P **P 16 16 07.4 -1.0**
comp=Z,497nm,1.1s
TRQA Tornquist 52.24 105 P **P 16 16 15.9 -1.5**
TRQA IAmb IAmb 16 16 26.8
comp=Z,124nm,1.8s
TRQA IAMs_20 IAMs_20 16 33 45.5
comp=Z,13μm,20.0s
TRQA Tornquist 52.24 105 P **P 16 16 15.9 -1.5**
TRQA pmax pmax
comp=Z,124nm,1.8s
TRQA MLR MLR
comp=Z,13μm,20.0s
CO03 El Pedregal 52.30 92 P **P 16 16 16.1 -1.9**
CO03 IAMs_20 IAMs_20 16 32 43.5
comp=Z,6μm,18.0s
ONTNC Ouen Toro 52.43 284 P **P 16 16 17.8 -1.1**
ONTNC IAmb IAmb 16 16 27.5
comp=Z,108nm,1.5s
DZM Mont Dzumac 52.62 285 P **P 16 16 18.7 -1.8**
DZM IAmb IAmb 16 16 34.4
comp=Z,189nm,1.9s
DZM IAMs_20 IAMs_20 16 33 07.0
comp=Z,8μm,21.0s
DZM Mont Dzumac 52.62 285 *e*P P 16 16 25.9 +5.5
comp=Z,145nm,1.6s
DZM *e*S **S 16 23 46.5 -1.2**
comp=Z,581nm,25.6s
DZM *e*SS **SS 16 27 25.8 0.0**
comp=Z,989nm,23.6s
DZM *e*LQ LQ 16 29 18.9
comp=Z,9μm,27.2s
DZM *e*LR LR 16 31 33.0
comp=Z,11μm,22.6s
DZM Mont Dzumac 52.62 285 P P 16 16 26.2 +5.8
comp=Z,12nm,1.1s,baz=129,slow=8.4,SNR=4.8
DZM LR LR 16 33 39.9
comp=Z,7μm,21.9s,baz=147,slow=30
comp=Z,12nm,1.1s
GO04 Tololo Observa 52.72 91 P **P 16 16 18.3 -3.0**
CNB Canberra Magne 52.77 259 P P 16 16 28.6 +7.2
comp=Z,52nm,1.4s
ZON Zonda 52.97 94 P **P 16 16 18.9 -4.0**
ZON IAmb IAmb 16 16 44.4
comp=Z,132nm,1.8s
ZON Zonda 52.97 94 P **P 16 16 18.9 -4.0**
ZON pmax pmax
comp=Z,132nm,1.8s
ZON MLR MLR
comp=Z,5μm,19.0s
CAN Canberra 52.97 259 IAMs_20 IAMs_20 16 35 59.3
comp=Z,6μm,19.0s
CO01 Juntas del Tor 53.28 92 P **P 16 16 21.4 -4.0**
CO01 IAMs_20 IAMs_20 16 33 39.4
comp=Z,6μm,18.0s
TOO Toolangi 53.40 255 P **P 16 16 23.6 -2.4**
TOO Toolangi 53.40 255 P P 16 16 35.0 +9.1
comp=Z,21nm,1.2s
TOO Toolangi 53.40 255 P **P 16 16 23.6 -2.4**
TOO pmax pmax
comp=Z,22nm,1.2s
TOO MLR MLR
comp=Z,4μm,21.0s
ELIB Princess Elisa 53.50 173 *d*P **P 16 16 25.9 -0.4**
comp=Z,11nm,1.0s
LCO Las Campanas 53.63 90 P P 16 16 22.9 -5.2
LCO IAmb IAmb 16 16 33.8
comp=Z,112nm,1.8s
LCO Las Campanas 53.63 90 P P 16 16 22.9 -5.1
LCO pmax pmax
comp=Z,112nm,1.8s
LCO MLR MLR
comp=Z,4μm,20.0s
HOPE Hope Point 53.92 135 IAMs_20 IAMs_20 16 34 35.8
comp=Z,9μm,19.0s
AC05 El Transito 54.01 91 P **P 16 16 26.8 -3.8**
GO03 Copiapo 54.96 90 P **P 16 16 33.9 -3.6**
ARMA Armidale 54.96 265 P **P 16 16 36.4 -1.1**
ARMA IAmb IAmb 16 16 51.0
comp=Z,74nm,1.3s
ARMA IAMs_20 IAMs_20 16 37 34.3
comp=Z,9μm,18.0s
ARMA Armidale 54.96 265 P P 16 16 43.7 +6.2
comp=Z,57nm,1.2s
KOUNC Koumac, New Ca 55.05 284 P **P 16 16 36.9 -1.2**
KOUNC IAmb IAmb 16 16 59.6
comp=Z,118nm,1.6s
AC06 Mina Casimiro 55.06 89 P **P 16 16 34.4 -3.8**
AC06 IAmb IAmb 16 16 45.1
comp=Z,110nm,1.9s
PB14 IPOC Station P 57.09 87 P **P 16 16 49.6 -3.5**
GO02 Mina Guanaco 57.16 88 P **P 16 16 49.7 -3.8**
GO02 IAmb IAmb 16 18 46.9
comp=Z,42nm,0.7s
CMSA Cobar Meteorol 57.61 260 P P 16 17 02.3 +6.0
comp=Z,32nm,1.7s
MAW Mawson 57.63 189 P **P 16 16 55.8 -0.1**
comp=Z,4.1nm,0.9s,baz=179,slow=5.6,SNR=13
MAW LR LR 16 41 05.4
comp=Z,4μm,18.2s,baz=158,slow=36
comp=Z,4.1nm,0.9s
EIDS Eidsvold 59.05 269 P **P 16 17 03.9 -2.5**
EIDS IAMs_20 IAMs_20 16 39 28.5
comp=Z,6μm,18.0s
EIDS Eidsvold 59.05 269 P P 16 17 11.8 +5.5
comp=Z,68nm,1.4s
STKA Stephens Creek 59.72 257 P **P 16 17 08.2 -2.7**
STKA Stephens Creek 59.72 257 P P 16 17 15.8 +4.8
comp=Z,13nm,1.2s
STKA Stephens Creek 59.72 257 P **P 16 17 14.8 +3.8**
comp=Z,8.8nm,0.8s,baz=117,slow=7.3,SNR=8.6
STKA LR LR 16 39 03.8
comp=Z,4μm,20.0s,baz=140,slow=32
comp=Z,8.8nm,0.8s
PSAL Palomas, Salto 59.75 102 *e*P **P 16 17 12.9 +1.7**
HTT Hallett 60.09 253 P P 16 17 21.3 +7.7
comp=Z,44nm,1.4s
TA02 Huaiquique 60.60 84 IAMs_20 IAMs_20 16 36 01.8
comp=Z,7μm,21.0s
ITQB Itaqui 61.37 102 P **P 16 17 18.4 -3.8**
ITQB IAmb IAmb 16 17 32.0
comp=Z,69nm,1.1s
ITQB IAMs_20 IAMs_20 16 39 32.2
comp=Z,10μm,19.0s
ITQB Itaqui 61.37 102 *e*P **P 16 17 23.8 +1.6**
PLTB Pedras Altas 61.53 106 P **P 16 17 19.6 -3.7**
PLTB IAmb IAmb 16 17 39.3
comp=Z,58nm,1.4s
PLTB Pedras Altas 61.53 106 *e*P **P 16 17 26.3 +3.0**
PB12 IPOC Station P 61.78 83 P **P 16 17 21.8 -3.5**
PB12 IAMs_20 IAMs_20 16 36 36.1
comp=Z,8μm,22.0s
AP01 Chacalluta 61.97 83 IAMs_20 IAMs_20 16 36 39.9
comp=Z,7μm,22.0s
QLP Quilpie 62.15 263 P P 16 17 33.3 +5.8
comp=Z,164nm,1.3s
BBOO Buckleboo 62.16 252 P **P 16 17 26.1 -1.5**
BBOO IAMs_20 IAMs_20 16 40 37.4
comp=Z,11μm,19.0s
CPSB Cacapava Do Su 62.64 105 *e*P **P 16 17 33.9 +3.1**
PB18 Visviri 63.08 83 P **P 16 17 30.7 -3.7**
PB18 IAMs_20 IAMs_20 16 37 48.4
comp=Z,7μm,22.0s
NNA Nana 63.33 73 P **P 16 17 33.9 -1.7**
NNA Nana 63.33 73 IAMs_20 IAMs_20 16 38 00.5
comp=Z,7μm,18.0s
NNA Nana 63.33 73 LR LR 16 38 04.2
comp=Z,7μm,19.3s,baz=216,slow=30
NNA Nana 63.33 73 P **P 16 17 33.9 -1.7**
NNA pmax pmax
comp=Z,90nm,1.2s
NNA MLR MLR
comp=Z,7μm,18.0s
CPUP Villa Florida 63.47 99 IAmb IAmb 16 17 56.8
comp=Z,38nm,1.2s
CPUP Villa Florida 63.47 99 P **P 16 17 34.1 -2.2**
comp=Z,6.7nm,0.9s,baz=238,slow=6.3,SNR=10
CPUP LR LR 16 40 28.5
comp=Z,9μm,20.6s,baz=222,slow=32
comp=Z,6.7nm,0.9s
CPUP Villa Florida 63.47 99 *e*P **P 16 17 37.5 +1.2**
LPAZ La Paz 64.89 83 IAmb IAmb 16 18 07.5
comp=Z,87nm,1.4s
LPAZ La Paz 64.89 83 P **P 16 17 44.9 -1.6**
comp=Z,7.1nm,0.8s,baz=203,slow=4.5,SNR=15
LPAZ LR LR 16 39 27.3
comp=Z,4μm,21.2s,baz=204,slow=30
comp=Z,7.1nm,0.8s
LPAZ La Paz 64.89 83 *e*P **P 16 17 46.6 +0.1**
LPAZ pmax pmax
comp=Z,9.0nm,0.7s
LPAZ La Paz 64.89 83 *e*P **P 16 17 46.5 -0.1**
CNLB Canela 64.93 106 *e*P **P 16 17 48.2 +2.2**
ITAB Concordia 65.79 103 P **P 16 17 48.6 -2.8**
ITAB IAmb IAmb 16 18 11.1
comp=Z,59nm,1.2s
ITAB IAMs_20 IAMs_20 16 42 17.1
comp=Z,7μm,20.0s
ITAB Concordia 65.79 103 *e*P **P 16 17 52.8 +1.3**
CTAO Charters Tower 65.94 269 P **P 16 17 50.7 -1.8**
CTAO Charters Tower 65.94 269 P **P 16 17 50.7 -1.8**
CTAO pmax pmax

comp=Z,92nm,1.2s
CTAO MLR MLR
comp=Z,2µm,20.0s
HNR Honiara 66.45 287 P **P 16 18 00.3 +4.5**
comp=Z,26nm,0.8s,baz=209,slow=11,SNR=1.4
HNR LR LR 16 45 05.1
comp=Z,1µm,18.2s,baz=154,slow=34
comp=Z,26nm,0.8s
ATAH Atahualpa 66.46 68 LR LR 16 39 54.2
comp=Z,6µm,21.6s,baz=223,slow=30
AMBA Amambai (Brazi 67.44 98 *eP* **P 16 18 04.4 +2.3**
MAJ01 Sao Joao Batis 67.44 106 *eP* **P 16 18 04.6 +2.6**
PTGB Pitanga 67.76 102 *eP* **P 16 18 04.9 +0.8**
FORT Forrest 68.12 248 P **P 16 18 05.9 -0.4**
FORT IAMs_20 IAMs_20 16 40 43.9
comp=Z,6µm,21.0s
BDQN Bodoquena, MS 68.33 95 *eP* **P 16 18 08.3 +0.6**
BBSD Serra de San D 68.60 90 *eP* **P 16 18 08.3 -1.2**
AQDB Aquidauana 68.92 96 P **P 16 18 08.0 -3.4**
AQDB IAmb IAmb 16 18 19.0
comp=Z,76nm,1.9s
AQDB Aquidauana 68.92 96 *eP* **P 16 18 13.0 +1.6**
CZSB Cruzeiro do Su 69.13 74 IAMs_20 IAMs_20 16 41 18.2
comp=Z,9µm,21.0s
SIV San Ignacio 69.27 89 LR LR 16 44 41.8
comp=Z,1µm,19.8s,baz=262,slow=33
LDASE Londrina, Braz 69.32 101 *eP* **P 16 18 15.1 +1.1**
PANT Pantanal (Braz 69.54 94 *eP* **P 16 18 15.9 +0.6**
RPRD Ribas do Rio P 70.09 98 *eP* **P 16 18 20.5 +1.9**
FRTB Fartura 70.26 103 *eP* **P 16 18 22.3 +2.6**
ASAR Alice Springs 70.36 257 P **P 16 18 23.7 +3.4**
comp=Z,13nm,0.8s,baz=139,slow=6.4,SNR=36
ASAR LR LR 16 45 00.9
comp=Z,8µm,20.2s,baz=144,slow=32
comp=Z,13nm,0.8s
PTLB Pontes e Lacer 70.84 90 *eP* **P 16 18 24.5 +1.3**
ETMB Extrema 71.17 81 IAMs_20 IAMs_20 16 42 27.8
comp=Z,4µm,20.0s
ETMB Extrema 71.17 81 *eP* **P 16 18 25.9 +0.7**
SPB Sao Paulo 71.28 104 IAMs_20 IAMs_20 16 45 53.7
comp=Z,10µm,19.0s
SPB Sao Paulo 71.28 104 *eP* **P 16 18 28.6 +2.7**
VAO Valinhos 72.01 104 IAMs_20 IAMs_20 16 46 34.9
comp=Z,8µm,19.0s
VAO Valinhos 72.01 104 *eP* **P 16 18 32.8 +2.5**
H01W1 Cape Leeuwin H 72.04 235 T T 17 38 14.4
baz=143,slow=76,SNR=139
H01W2 Cape Leeuwin H 72.05 235 T T 17 38 14.9
baz=143,slow=76,SNR=164
H01W3 Cape Leeuwin H 72.06 235 T T 17 38 15.7
baz=143,slow=76,SNR=142
NWAO Narrogin (SRO) 72.11 239 IAMs_20 IAMs_20 16 42 37.5
comp=Z,6µm,21.0s
NWAO Narrogin (SRO) 72.11 239 LR LR 16 42 28.5
comp=Z,5µm,20.8s,baz=104,slow=29
VILB Vilhena 72.18 87 *eP* **P 16 18 31.0 -0.4**
SALV Santo Antonio 72.51 93 *eP* **P 16 18 35.3 +2.0**
PARB Paraibuna 72.51 106 *eP* **P 16 18 34.7 +1.4**
COEN Coen 72.55 270 P **P 16 18 33.9 +0.3**
COEN IAmb IAmb 16 18 46.2
comp=Z,98nm,1.4s
COEN IAMs_20 IAMs_20 16 45 17.6
comp=Z,4µm,20.0s
OTAV Otavalo 72.59 64 P **P 16 18 33.2 -1.1**
OTAV IAmb IAmb 16 18 46.0
comp=Z,57nm,1.4s
OTAV Otavalo 72.59 64 P **P 16 18 33.2 -1.1**
OTAV pmax pmax
comp=Z,57nm,1.5s
OTAV MLR MLR
comp=Z,2µm,18.0s
OTAV Otavalo 72.59 64 *eP* **P 16 18 35.0 +0.6**
BB19B Bebedouro 72.63 102 *eP* **P 16 18 37.0 +3.0**
ITRB Iturama 72.64 100 *eP* **P 16 18 35.3 +1.2**
WB2 Warramunga Arr 73.01 259 P **P 16 18 35.6 -0.6**
WB2 IAmb IAmb 16 18 55.6
comp=Z,44nm,1.1s
WRA Warramunga Arr 73.02 259 P **P 16 18 39.8 +3.5**
comp=Z,11nm,0.8s,baz=143,slow=5.3,SNR=26
WRA LR LR 16 48 17.2
comp=Z,9µm,18.3s,baz=164,slow=34
comp=Z,11nm,0.8s
WRAB Tennant Creek 73.02 259 IAMs_20 IAMs_20 16 49 51.1
comp=Z,10µm,18.0s
WRAB Tennant Creek 73.02 259 *i P* **P 16 18 37.3 +1.0**
WRAB pmax pmax
comp=Z,22nm,1.0s
WB0 Warramunga Arr 73.12 260 P **P 16 18 36.0 -0.9**
WB0 IAmb IAmb 16 18 56.2
comp=Z,49nm,1.1s
TBTG Tabatinga, AM 73.61 74 IAMs_20 IAMs_20 16 44 09.8
comp=Z,4µm,22.0s
SAML Samuel 73.63 83 P **P 16 18 36.6 -3.3**
SAML IAmb IAmb 16 19 00.4
comp=Z,61nm,1.3s
SAML Samuel 73.63 83 P **P 16 18 36.6 -3.3**
SAML pmax pmax
comp=Z,61nm,1.3s
SAML MLR MLR
comp=Z,4µm,22.0s
SAML Samuel 73.63 83 *eP* **P 16 18 39.9 0.0**
PMG Port Moresby 73.83 276 P **P 16 18 38.8 -2.3**
PMG Port Moresby 73.83 276 IAMs_20 IAMs_20 16 46 38.8
comp=Z,5µm,19.0s
PMG Port Moresby 73.83 276 P P 16 18 46.6 +5.5
comp=Z,25nm,1.0s,baz=114,slow=3.5,SNR=14
PMG LR LR 16 47 38.6
comp=Z,4µm,19.0s,baz=148,slow=33
comp=Z,25nm,1.0s
PAF Port-aux-Franc 74.27 198 IAMs_20 IAMs_20 16 47 53.7
comp=Z,4µm,20.0s
BSCB Bom Sucesso 74.83 105 *eP* **P 16 18 49.0 +2.0**
ARAG Araguaiana, MT 74.94 96 *eP* **P 16 18 50.1 +2.6**
POHA Pohakuloa 75.20 342 IAMs_20 IAMs_20 16 44 17.5
comp=Z,8µm,20.0s
IPMB Ipameri, GO 75.24 100 *eP* **P 16 18 52.0 +2.7**
PDRB Porto dos Gac 75.29 89 *eP* **P 16 18 50.6 +1.0**
DUB01 Friburgo-RJ 75.33 107 *eP* **P 16 18 52.8 +3.0**
JOHN Johnston Islan 75.71 328 IAMs_20 IAMs_20 16 44 43.7
comp=Z,7µm,20.0s
PMNB Patos De Minas 75.82 102 *eP* **P 16 18 55.6 +2.9**
H06S1 SOCORRO T 76.07 26 T T 17 42 08.0
SNR=23
H06E1 SOCORRO T-PHAS 76.12 26 T T 17 42 11.0
SNR=15
CLDB Colider 76.43 90 *eP* **P 16 18 58.1 +2.0**
BDFB Brasilia 77.20 99 P **P 16 18 57.2 -3.4**
BDFB IAmb IAmb 16 19 07.9
comp=Z,118nm,1.9s
BDFB Brasilia 77.20 99 P **P 16 18 59.7 -0.9**
comp=Z,8.7nm,0.8s,baz=199,slow=4.0,SNR=7.1
BDFB LR LR 16 49 33.0
comp=Z,4µm,20.6s,baz=209,slow=33
comp=Z,8.7nm,0.8s
KIP Kipapa 77.29 340 IAMs_20 IAMs_20 16 45 00.7
comp=Z,6µm,20.0s
DIAM Diamantina, MG 77.60 104 *eP* **P 16 19 04.3 +1.4**
BRU2 Volcan 77.75 56 IAMs_20 IAMs_20 16 45 10.2
comp=Z,5µm,20.0s
JTS Las Juntas de 77.97 53 LR LR 16 45 42.7
comp=Z,3µm,19.0s,baz=200,slow=30
JTS Las Juntas de 77.97 53 *i P* **P 16 19 01.1 -3.5**
JTS pmax pmax
comp=Z,16nm,1.2s
HDC Heredia 78.11 54 IAMs_20 IAMs_20 16 44 59.9
comp=Z,6µm,22.0s
SNDB Serra Nova Dou 78.20 94 *eP* **P 16 19 08.5 +2.5**
RIB01 Linhares ES 78.65 107 *eP* **P 16 19 10.2 +1.7**
ROSC El Rosal 78.66 65 P **P 16 19 10.1 +1.1**
comp=Z,15nm,0.8s,baz=261,slow=11,SNR=7.5
ROSC LR LR 16 49 18.7
comp=Z,4µm,18.1s,baz=246,slow=32
comp=Z,15nm,0.8s
SJMB Sao Joao De Ma 78.69 106 *eP* **P 16 19 10.2 +1.5**
FITZ Fitzroy Crossi 79.45 254 P **P 16 19 11.8 -1.1**
FITZ Fitzroy Crossi 79.45 254 LR LR 16 51 44.2
comp=Z,9µm,18.1s,baz=144,slow=34
BCIP Isla Barro Col 79.47 58 IAMs_20 IAMs_20 16 46 23.9
comp=Z,4µm,20.0s
CRZF Crozet Islands 79.50 187 IAMs_20 IAMs_20 16 50 58.2
comp=Z,4µm,21.0s
KNRA Kununurra 79.61 258 P **P 16 19 12.6 -1.1**
KNRA IAmb IAmb 16 19 34.1
comp=Z,92nm,1.2s
KNRA IAMs_20 IAMs_20 16 54 08.9
comp=Z,4µm,18.0s

NPGB Novo Progresso 79.74 88 *eP* **P 16 19 15.8 +1.3**
MACA Manacapuru-AM 79.74 81 IAmb IAmb 16 19 31.1
comp=Z,58nm,1.0s
MACA IAMs_20 IAMs_20 16 47 35.0
comp=Z,4µm,21.0s
MACA Manacapuru-AM 79.74 81 *eP* **P 16 19 16.9 +2.4**
CMIG Matias Romero 79.75 41 LR LR 16 47 20.0
comp=Z,880nm,18.9s,baz=207,slow=30
JANB Januaria 79.81 101 *eP* **P 16 19 17.2 +2.3**
MBWA Marble Bar 80.27 247 P **P 16 19 16.8 -0.5**
MBWA IAmb IAmb 16 19 36.9
comp=Z,98nm,1.3s
MBWA Marble Bar 80.27 247 IAMs_20 IAMs_20 16 51 44.8
comp=Z,5µm,19.0s
MTN Manton Dam 80.50 261 IAMs_20 IAMs_20 16 51 29.6
comp=Z,8µm,21.0s
SLBS Sierra La Lagu 81.07 25 IAMs_20 IAMs_20 16 47 08.6
comp=Z,5µm,18.0s
LPIG La Paz 81.38 25 LR LR 16 46 49.3
comp=Z,3µm,20.2s,baz=200,slow=29
SDBA SAO DESIDERIO 81.58 99 *eP* **P 16 19 26.9 +2.4**
ITTB Itaituba 81.67 86 *eP* **P 16 19 27.1 +2.4**
GIRL Giralia 81.99 242 IAMs_20 IAMs_20 16 49 21.8
comp=Z,4µm,20.0s
SMTB Santa Maria do 82.85 95 *eP* **P 16 19 32.2 +1.1**
JAY Jayapura 83.14 275 LR LR 16 54 30.2
comp=Z,2µm,19.6s,baz=140,slow=34
GDU01 Guandu, BA 83.60 104 *eP* **P 16 19 37.0 +2.1**
PRPB Parauapebas 83.70 92 *eP* **P 16 19 37.9 +2.5**
SDV Santo Domingo 84.02 66 P **P 16 19 35.4 -1.7**
SDV IAmb IAmb 16 20 06.9
comp=Z,46nm,1.6s
SDV Santo Domingo 84.02 66 LR LR 16 50 57.3
comp=Z,1µm,20.6s,baz=210,slow=31
SAUI Saumlaki 84.29 264 IAMs_20 IAMs_20 16 55 45.1
comp=Z,7µm,19.0s
BOAV Boa Vista 84.34 78 IAmb IAmb 16 19 58.8
comp=Z,38nm,1.1s
BOAV IAMs_20 IAMs_20 16 51 08.1
comp=Z,5µm,19.0s
BOAV Boa Vista 84.34 78 *eP* **P 16 19 38.5 -0.1**
MAL2 Monte Alegre, 84.46 86 P **P 16 19 38.4 -0.9**
BAUV El Baul 85.47 68 IAmb IAmb 16 19 53.1
comp=Z,60nm,1.2s
BAUV IAMs_20 IAMs_20 16 51 55.6
comp=Z,8µm,21.0s
H11S2 WAKE ISLAND Hy 86.60 308 T T 17 56 01.1
baz=146,slow=75,SNR=40
H11S3 WAKE ISLAND Hy 86.61 308 T T 17 55 56.7
baz=146,slow=75,SNR=26
H11S1 WAKE ISLAND Hy 86.62 308 T T 17 56 08.3
baz=146,slow=75,SNR=23
NBLA Lagarto - SE 86.82 104 *eP* **P 16 19 53.9 +2.9**
BATI Baumata 86.93 257 LR LR 16 57 44.2
comp=Z,6µm,18.3s,baz=157,slow=35
SOEI Soe 86.95 258 IAMs_20 IAMs_20 16 58 18.2
comp=Z,7µm,19.0s
H11N3 WAKE ISLAND Hy 87.57 309 T T 17 57 07.2
baz=148,slow=76,SNR=9.4
H11N1 WAKE ISLAND Hy 87.58 309 T T 17 57 09.2
baz=148,slow=76,SNR=12
H11N2 WAKE ISLAND Hy 87.59 309 T T 17 57 11.1
baz=148,slow=76,SNR=9.6
FAKI Fak Fak 87.79 268 IAMs_20 IAMs_20 16 54 49.2
comp=Z,3µm,22.0s
TXAR Lajitas Array 88.13 29 P **P 16 19 59.1 +2.2**
comp=Z,1.2nm,0.8s,baz=195,slow=8.2,SNR=10.0
TXAR LR LR 16 51 30.4
comp=Z,260nm,20.5s,baz=206,slow=30
comp=Z,1.2nm,0.8s
PCRV Puerto La Cruz 88.36 70 LR LR 16 55 15.4
comp=Z,5µm,18.5s,slow=33
MTDJ Mount Denham 88.37 55 IAMs_20 IAMs_20 16 52 22.9
comp=Z,3µm,19.0s
YUH Yuha Desert 88.42 18 IAmb IAmb 16 20 18.1
comp=Z,53nm,1.6s
319A Douglas 88.59 24 P **P 16 19 59.1 0.0**
319A IAmb IAmb 16 20 19.9
comp=Z,66nm,1.4s
NBAN Anadia - AL 88.76 105 *eP* **P 16 20 01.7 +1.4**
MIDW Midway 88.94 326 IAMs_20 IAMs_20 16 56 24.3
comp=Z,4µm,18.0s
MMRI Maumere 89.02 257 IAMs_20 IAMs_20 16 57 41.0
comp=Z,4µm,19.0s
VHRN Van Horn 89.13 28 P **P 16 20 01.7 0.0**
VHRN IAmb IAmb 16 20 21.9
comp=Z,43nm,1.4s
TUC Tucson 89.14 22 P **P 16 20 01.9 +0.3**
TUC IAmb IAmb 16 20 21.9
comp=Z,50nm,1.4s
TUC Tucson 89.14 22 IAMs_20 IAMs_20 16 50 15.4
comp=Z,3µm,21.0s
TUC Tucson 89.14 22 P **P 16 20 01.9 +0.3**
TUC pmax pmax
comp=Z,50nm,1.4s
TUC MLR MLR
comp=Z,3µm,21.0s
SAND Sanderson 89.16 30 IAmb IAmb 16 20 21.5
comp=Z,59nm,1.5s
PFO Pinyon Flats O 89.27 17 P **P 16 20 01.9 -0.3**
PFO IAmb IAmb 16 20 22.5
comp=Z,53nm,1.4s
PFO Pinyon Flats O 89.27 17 LR LR 16 51 38.6
comp=Z,4µm,18.7s,baz=204,slow=30
PFO Pinyon Flats O 89.27 17 P **P 16 20 01.9 -0.3**
PFO pmax pmax
comp=Z,53nm,1.4s
PASC Pasadena Art C 89.52 16 IAMs_20 IAMs_20 16 50 43.6
comp=Z,5µm,19.0s
JCT Junction City 90.35 32 P **P 16 20 07.4 +0.2**
JCT Junction City 90.35 32 P **P 16 20 07.4 +0.2**
JCT pmax pmax
comp=Z,101nm,1.4s
CHIV Chivirico 90.41 55 IAMs_20 IAMs_20 16 52 35.9
comp=Z,2µm,20.0s
NLAI Namlea 90.56 264 P P 16 20 15.1 +6.5
CAMR Camarioca 90.74 50 IAMs_20 IAMs_20 16 53 11.0
comp=Z,3µm,20.0s
MDP Montagnes des 91.09 83 LR LR 16 55 00.9
comp=Z,3µm,21.9s,baz=192,slow=32
HKT Hockley 91.16 35 *i P* **P 16 20 11.3 +0.5**
HKT pmax pmax
comp=Z,30nm,1.5s
SAO San Andreas Ge 91.59 13 IAMs_20 IAMs_20 16 51 05.4
comp=Z,5µm,19.0s
NMDO Nuevo Mundo 91.60 56 IAMs_20 IAMs_20 16 52 20.5
comp=Z,3µm,21.0s
V12A Nelson 91.61 18 P **P 16 20 12.1 -0.9**
V12A IAmb IAmb 16 20 33.1
comp=Z,29nm,1.3s
GRGR Grenville 91.62 72 IAMs_20 IAMs_20 16 57 06.5
comp=Z,4µm,18.0s
Y22D IRIS PASSCAL I 91.74 25 IAMs_20 IAMs_20 16 54 08.3
comp=Z,4µm,18.0s
SUR Sutherland 91.83 162 LR LR 16 57 01.3
comp=Z,4µm,19.6s,baz=190,slow=33
RCBR Riachuelo 92.09 103 IAMs_20 IAMs_20 16 58 33.1
comp=Z,6µm,18.0s
RCBR Riachuelo 92.09 103 LR LR 16 58 25.3
comp=Z,2µm,18.1s,baz=208,slow=34
WUAZ Wupatki 92.10 21 IAMs_20 IAMs_20 16 52 12.8
comp=Z,4µm,20.0s
SANI Sanana 92.16 264 P P 16 20 22.2 +6.1
comp=Z,35nm,1.8s
SHPR Sheep Range 92.31 18 P **P 16 20 15.7 -0.6**
TPNV Topopah Spring 92.56 17 IAMs_20 IAMs_20 16 52 11.9
comp=Z,4µm,20.0s
KDI Kendari 92.58 260 P P 16 20 24.0 +5.9
ANMO Albuquerque 92.69 25 P **P 16 20 18.2 0.0**
ANMO IAmb IAmb 16 20 37.3
comp=Z,26nm,1.4s
ANMO Albuquerque 92.69 25 IAMs_20 IAMs_20 16 53 23.3
comp=Z,3µm,20.0s
ANMO Albuquerque 92.69 25 LR LR 16 55 00.7
comp=Z,2µm,18.3s,baz=6.5,slow=31
ANMO Albuquerque 92.69 25 P **P 16 20 18.2 0.0**
ANMO pmax pmax
comp=Z,26nm,1.5s
ANMO MLR MLR
comp=Z,3µm,20.0s
GMN Gold Mountain 92.73 16 P **P 16 20 18.4 0.0**
MSTX Muleshoe 92.74 28 IAMs_20 IAMs_20 16 54 25.6
comp=Z,5µm,19.0s
MCCM Marconi Confer 92.77 12 IAMs_20 IAMs_20 16 51 43.7
comp=Z,4µm,20.0s
APMT Aspermont 92.91 31 IAmb IAmb 16 20 32.9
comp=Z,28nm,1.2s

CMB Columbia Colle 92.98 13 IAMs_20 IAMs_20 16 52 13.2
comp=Z,4µm,20.0s
HOPS Hopland Field 93.59 11 IAMs_20 IAMs_20 16 53 38.3
comp=Z,5µm,20.0s
BBGH Gun Hill 93.62 73 IAMs_20 IAMs_20 16 57 59.4
comp=Z,4µm,20.0s
NVAR Mina Array Bea 93.67 15 P **P 16 20 25.6 +2.9**
comp=Z,0.8nm,0.7s,baz=206,slow=6.1,SNR=11
NVAR LR LR 16 55 02.2
comp=Z,5µm,18.3s,baz=195,slow=31
comp=Z,0.8nm,0.7s
JAGI Jajag, Banyuwa 93.71 250 IAMs_20 IAMs_20 16 57 49.9
comp=Z,4µm,22.0s
GUMO Guam 93.78 288 LR LR 16 53 14.7
comp=Z,432nm,21.1s,baz=146,slow=29
BIM Bigot 93.89 71 IAMs_20 IAMs_20 16 58 19.4
comp=Z,3µm,19.0s
MPOM Morne Pois Mar 93.95 71 IAMs_20 IAMs_20 16 58 27.3
comp=Z,3µm,20.0s
FDF Fort de France 94.02 70 IAMs_20 IAMs_20 16 58 33.3
comp=Z,3µm,18.0s
R11B Troy Canyon, C 94.03 17 IAMs_20 IAMs_20 16 53 21.0
comp=Z,3µm,20.0s
SJG San Juan 94.07 65 LR LR 16 59 12.7
comp=Z,1µm,18.0s,baz=220,slow=33
ILAM Ilet Lapin Mar 94.21 71 IAMs_20 IAMs_20 16 58 44.7
comp=Z,3µm,19.0s
KVN Kaiserville 94.31 15 P **P 16 20 24.7 -0.8**
KVN Kaiserville 94.31 15 P **P 16 20 24.7 -0.8**
KVN pmax pmax
comp=Z,26nm,1.5s
ORV Oroville 94.33 12 IAMs_20 IAMs_20 16 52 48.0
comp=Z,3µm,20.0s
TDBA Terre de Bas, 94.67 69 IAMs_20 IAMs_20 16 56 49.3
comp=Z,5µm,22.0s
PAHR Pah Rah Range 94.76 14 P **P 16 20 27.3 -0.2**
O02D Mt. Diablo Mer 94.79 11 IAMs_20 IAMs_20 16 53 31.1
comp=Z,6µm,20.0s
JCC Jacoby Creek, 95.28 10 IAMs_20 IAMs_20 16 52 15.3
comp=Z,3µm,19.0s
HATC Hat Creek Radi 95.58 12 IAMs_20 IAMs_20 16 53 26.0
comp=Z,3µm,21.0s
SDCO Great Sand Dun 95.58 25 IAMs_20 IAMs_20 16 55 37.0
comp=Z,5µm,20.0s
UGM Wanagama 96.16 248 IAMs_20 IAMs_20 16 59 43.7
comp=Z,3µm,19.0s
BOSA Boshof 96.26 165 LR LR 16 57 57.6
comp=Z,7µm,22.0s,baz=188,slow=32
DUG Dugway, Tooele 96.33 19 IAMs_20 IAMs_20 16 56 14.8
comp=Z,3µm,20.0s
YBH Yreka Blue Hor 96.33 11 IAMs_20 IAMs_20 16 54 31.0
comp=Z,4µm,20.0s
YBH Yreka Blue Hor 96.33 11 LR LR 16 54 51.7
comp=Z,4µm,19.8s,baz=167,slow=30
ELK Elko 96.43 17 IAMs_20 IAMs_20 16 54 57.4
comp=Z,3µm,20.0s
ELK Elko 96.43 17 LR LR 16 55 59.2
comp=Z,3µm,19.9s,baz=203,slow=30
XMIS Christmas Isla 96.61 242 IAMs_20 IAMs_20 17 03 51.1
comp=Z,2µm,19.0s
OK048 Pawnee Station 96.74 32 IAMs_20 IAMs_20 16 55 18.4
comp=Z,3µm,19.0s
SMRI Semarang 96.93 248 IAMs_20 IAMs_20 17 00 54.0
comp=Z,3µm,19.0s
HUMO Hull Mountain 97.17 11 IAMs_20 IAMs_20 16 53 31.2
comp=Z,3µm,21.0s
ISCO Idaho Springs 97.50 24 IAMs_20 IAMs_20 16 59 07.8
comp=Z,5µm,21.0s
WVOR Wild Horse Val 97.55 14 IAMs_20 IAMs_20 16 55 20.0
comp=Z,5µm,20.0s
TOLI2 Tolitoli 97.75 261 IAMs_20 IAMs_20 17 01 03.7
comp=Z,3µm,22.0s
BKB Balikpapan 98.07 257 IAMs_20 IAMs_20 17 02 53.1
comp=Z,3µm,20.0s
CBKS Cedar Bluff 98.12 29 IAMs_20 IAMs_20 16 56 30.1
comp=Z,3µm,20.0s
BRIGG Briggsdale 98.56 25 IAMs_20 IAMs_20 16 58 37.8
comp=Z,4µm,18.0s
LEM Lembang 98.64 246 LR LR 17 00 15.1
comp=Z,1µm,20.7s,baz=144,slow=32
MFID Camas Ranch 98.93 16 IAMs_20 IAMs_20 16 57 04.7
comp=Z,5µm,20.0s
COR Corvallis 99.09 10 IAMs_20 IAMs_20 16 56 25.9
comp=Z,5µm,18.0s
AHID Auburn Hatcher 99.14 19 IAMs_20 IAMs_20 16 58 08.2
comp=Z,2µm,20.0s
HLID Hailey 99.31 17 IAMs_20 IAMs_20 16 57 19.6
comp=Z,4µm,20.0s
PDAR Pinedale Array 99.45 20 LR LR 16 57 51.9
comp=Z,2µm,19.6s,baz=196,slow=31
W50A Signal Mountai 99.71 41 IAMs_20 IAMs_20 16 56 20.5
comp=Z,3µm,18.0s
LBTB Lobatse 99.84 164 LR LR 17 00 25.4
comp=Z,3µm,21.2s,baz=185,slow=32
BMO Blue Mountains 100.11 14 IAMs_20 IAMs_20 16 57 32.8
comp=Z,3µm,19.0s
PLID Pearl Lake 100.53 15 IAMs_20 IAMs_20 16 55 46.1
comp=Z,3µm,21.0s
WIN Windhoek 100.55 156 IAMs_20 IAMs_20 17 00 00.7
comp=Z,6µm,21.0s
FOMA Nahampoana Res 101.13 184 IAMs_20 IAMs_20 17 04 35.8
comp=Z,5µm,18.0s
HAWA Hanford 101.31 13 IAMs_20 IAMs_20 16 59 54.7
comp=Z,4µm,19.0s
DLMT Dillon 101.37 18 IAMs_20 IAMs_20 17 04 15.2
comp=Z,3µm,18.0s
NEW Newport 103.47 14 IAMs_20 IAMs_20 16 58 36.8
comp=Z,2µm,20.0s
SSFO Shawnee State 103.58 41 IAMs_20 IAMs_20 17 04 08.1
comp=Z,4µm,20.0s
KSM Kuching 104.04 253 IAMs_20 IAMs_20 17 02 48.9
comp=Z,2µm,22.0s
MYKOM Kota Tinggi 107.87 247 IAMs_20 IAMs_20 17 07 39.1
comp=Z,2µm,20.0s
CPNY Central Park 109.10 46 IAMs_20 IAMs_20 17 21 05.1
comp=Z,4µm,19.0s
V35K Ketchikan 109.20 4 IAMs_20 IAMs_20 17 03 16.6
comp=Z,4µm,18.0s
U35K Hyder 109.86 4 IAMs_20 IAMs_20 17 00 35.9
comp=Z,3µm,21.0s
U33K Whale Pass 109.94 3 IAMs_20 IAMs_20 16 59 54.2
comp=Z,4µm,20.0s
WRAK Wrangell Islan 110.27 3 IAMs_20 IAMs_20 17 02 06.8
comp=Z,5µm,20.0s
LVA Lava Point 110.47 343 IAMs_20 IAMs_20 17 02 08.0
comp=Z,5µm,21.0s
T35M Bob Quinn 110.91 4 IAMs_20 IAMs_20 17 01 06.8
comp=Z,3µm,20.0s
RPSI Rantau Prapat 111.27 243 IAMs_20 IAMs_20 17 10 49.6
comp=Z,2µm,19.0s
S32K Killisnoo 111.27 2 IAMs_20 IAMs_20 17 03 18.2
comp=Z,4µm,19.0s
S31K Pelican 111.74 1 IAMs_20 IAMs_20 17 02 14.7
comp=Z,5µm,20.0s
R32K Eaglecrest 112.08 2 IAMs_20 IAMs_20 17 02 36.6
comp=Z,4µm,20.0s
Q32M Nakina River 112.82 3 IAMs_20 IAMs_20 17 01 54.6
comp=Z,4µm,19.0s
SYI Shuyak Island 113.03 352 IAMs_20 IAMs_20 17 09 44.8
comp=Z,4µm,18.0s
P32M Atlin 113.41 2 IAMs_20 IAMs_20 17 02 00.8
comp=Z,5µm,22.0s
P08K Saint George I 113.43 341 IAMs_20 IAMs_20 17 02 09.3
comp=Z,3µm,22.0s
Q19K Cape Douglas, 113.45 351 IAMs_20 IAMs_20 17 10 28.1
comp=Z,4µm,18.0s
BCPM Bancas Point 113.75 359 IAMs_20 IAMs_20 17 04 28.8
comp=Z,5µm,20.0s
HOM Homer 114.00 352 IAMs_20 IAMs_20 17 07 28.6
comp=Z,4µm,19.0s
P33M Teslin, Yukon 114.06 3 IAMs_20 IAMs_20 17 03 15.9
comp=Z,4µm,21.0s
P18K Big Mountain, 114.06 350 IAMs_20 IAMs_20 17 03 53.2
comp=Z,4µm,21.0s
P19K Oil Pt 114.13 351 IAMs_20 IAMs_20 17 10 31.0
comp=Z,3µm,18.0s
LHMI Lhok Sumawe 114.44 243 IAMs_20 IAMs_20 17 14 59.8
comp=Z,2µm,18.0s
O18K Koktuh Hills 114.52 350 IAMs_20 IAMs_20 17 03 03.1
comp=Z,4µm,22.0s
O19K Port Alsworth 114.77 351 IAMs_20 IAMs_20 17 11 42.7
comp=Z,3µm,18.0s
N32M Quiet Lake 114.99 2 IAMs_20 IAMs_20 17 04 13.1
comp=Z,4µm,20.0s
JMM Marumori 115.27 300 IAMs_20 IAMs_20 17 05 02.4
comp=Z,2µm,21.0s
GLB Gilahina Butte 115.34 357 IAMs_20 IAMs_20 17 05 25.8
comp=Z,4µm,20.0s

N19K	Bonanza Creek	115.39	351	IAMs_20	IAMs_20	17 12	20.0
	comp=Z,4μm,18.0s						
N18K	Kilae Creek	115.40	350	IAMs_20	IAMs_20	17 03	41.0
	comp=Z,4μm,22.0s						
SUA	Susitna One	115.73	353	IAMs_20	IAMs_20	17 10	06.1
	comp=Z,4μm,19.0s						
GHO	Glory Hole Cre	115.91	354	IAMs_20	IAMs_20	17 09	13.0
	comp=Z,4μm,18.0s						
M22K	Willow	115.97	353	IAMs_20	IAMs_20	17 09	44.5
	comp=Z,4μm,18.0s						
M31M	Drury Creek, Y	116.02	2	IAMs_20	IAMs_20	17 03	29.8
	comp=Z,4μm,21.0s						
M29M	Somme Creek	116.24	360	IAMs_20	IAMs_20	17 04	44.5
	comp=Z,5μm,20.0s						
M17K	Holitna River	116.27	349	IAMs_20	IAMs_20	17 06	34.0
	comp=Z,5μm,20.0s						
M26K	Nabesna, AK	116.27	357	IAMs_20	IAMs_20	17 05	30.0
	comp=Z,5μm,21.0s						
M19K	Big River Lodg	116.46	351	IAMs_20	IAMs_20	17 12	46.2
	comp=Z,4μm,18.0s						
L19K	White Mountain	116.77	351	IAMs_20	IAMs_20	17 14	04.4
	comp=Z,4μm,18.0s						
L18K	Granite Mounta	116.99	350	IAMs_20	IAMs_20	17 05	03.5
	comp=Z,4μm,22.0s						
DHY	Denali Highway	117.12	355	IAMs_20	IAMs_20	17 09	25.0
	comp=Z,4μm,18.0s						
ERM	Erimo	117.25	305	IAMs_20	IAMs_20	17 08	49.7
	comp=Z,2μm,19.0s						
RND	Reindeer	117.53	354	IAMs_20	IAMs_20	17 09	02.9
	comp=Z,4μm,18.0s						
KTH	Kantishna Hill	117.81	353	IAMs_20	IAMs_20	17 05	59.2
	comp=Z,5μm,21.0s						
J18K	Innoko River	118.21	350	IAMs_20	IAMs_20	17 06	02.4
	comp=Z,3μm,20.0s						
BPAW	Bear Paw Mtn.	118.36	353	IAMs_20	IAMs_20	17 08	37.7
	comp=Z,4μm,20.0s						
QIZ	Qiongzhong	118.44	263	PKP	**PKPdf**	**16 25**	**53.1 -0.9**
QIZ				PP	**PP**	**16 27**	**09.3 -1.5**
QIZ				SS	SS	16 43	29.4 +1.8
QIZ				LR	LR		
	comp=Z,780nm,17.2s						
QIZ				LR	LR		
	comp=Z,470nm,15.2s						
QIZ				LR	LR		
	comp=Z,1μm,18.6s						
WRH	Wood River Hil	118.55	355	IAMs_20	IAMs_20	17 06	49.8
	comp=Z,4μm,20.0s						
J19K	Poorman	118.62	351	IAMs_20	IAMs_20	17 05	21.4
	comp=Z,2μm,22.0s						
NEA2	Nenana	118.73	354	IAMs_20	IAMs_20	17 10	07.4
	comp=Z,4μm,19.0s						
ILAR	Eielson Array	118.79	355	PKP	**PKiKP**	**16 25**	**57.0 +3.7**
	comp=Z,1.2nm,0.8s,baz=206,slow=2.0,SNR=10						
ILAR	Eielson Array	118.79	355	*e*PKIKP	**PKiKP**	**16 25**	**57.6 +4.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
COLA	College	118.94	355	IAMs_20	IAMs_20	17 09	50.1
	comp=Z,4μm,19.0s						
JKA	Kamikawa-asahi	119.10	306	IAMs_20	IAMs_20	17 09	37.9
	comp=Z,2μm,19.0s						
PET	Petropavlovsk	119.18	322	IAMs_20	IAMs_20	17 04	10.6
	comp=Z,3μm,22.0s						
PET	Petropavlovsk	119.18	322	*e*P	**Pdif**	**16 22**	**14.6 -1.3**
PET				*e*SS	SS	16 43	37.3 +0.7
PET				MLR	MLR		
	comp=Z,2μm,18.0s						
PET				MLR	MLR		
	comp=Z,3μm,16.0s						
MLY	Manley	119.27	354	IAMs_20	IAMs_20	17 09	24.6
	comp=Z,4μm,20.0s						
I23K	Minto, Yukon-K	119.30	354	IAMs_20	IAMs_20	17 10	36.5
	comp=Z,3μm,19.0s						
MBO	M'Bour	119.32	107	IAMs_20	IAMs_20	17 11	23.6
	comp=Z,3μm,20.0s						
I21K	Tanana	119.50	353	IAMs_20	IAMs_20	17 07	52.8
	comp=Z,4μm,20.0s						
H31M	Peel River	119.64	2	IAMs_20	IAMs_20	17 07	33.8
	comp=Z,4μm,19.0s						
H18K	Honhosa River	120.03	350	IAMs_20	IAMs_20	17 06	58.8
	comp=Z,5μm,22.0s						
H21K	Melozitna Rive	120.03	353	IAMs_20	IAMs_20	17 09	08.8
	comp=Z,4μm,19.0s						
ACRG	Accra	120.63	128	IAMs_20	IAMs_20	17 17	52.9
	comp=Z,1μm,18.0s						
G31M	Satah River	120.76	1	IAMs_20	IAMs_20	17 06	05.0
	comp=Z,3μm,20.0s						
G18K	Tagagawik	120.78	350	IAMs_20	IAMs_20	17 07	33.3
	comp=Z,4μm,22.0s						
G19K	Purcell Mounta	120.87	351	IAMs_20	IAMs_20	17 14	18.6
	comp=Z,3μm,18.0s						
G23K	Bananza Creek	120.89	354	IAMs_20	IAMs_20	17 12	11.1
	comp=Z,4μm,19.0s						
KAAM	Kaadhehdhoo	120.92	216	IAMs_20	IAMs_20	17 09	34.9
	comp=Z,2μm,18.0s						
G21K	Allakaket	120.93	353	IAMs_20	IAMs_20	17 09	37.3
	comp=Z,4μm,20.0s						
F31M	Tsiigehtchic	121.29	2	IAMs_20	IAMs_20	17 08	54.0
	comp=Z,5μm,20.0s						
TJN	Taejon	121.32	290	IAMs_20	IAMs_20	17 07	47.3
	comp=Z,4μm,20.0s						
F19K	Shaleruckik Mo	121.61	351	IAMs_20	IAMs_20	17 12	06.3
	comp=Z,3μm,19.0s						
F21K	Alatna River	121.63	353	IAMs_20	IAMs_20	17 09	49.0
	comp=Z,3μm,20.0s						
PBA	Port Blair	122.06	243	IAMs_20	IAMs_20	17 15	41.7
	comp=Z,2μm,20.0s						
E22K	Anaktuvuk Pass	122.41	354	IAMs_20	IAMs_20	17 13	47.4
	comp=Z,3μm,19.0s						
E28M	Babbage River	122.43	359		**PKiKP**	**16 26**	**01.0 +0.7**
E28M				IAMs_20	IAMs_20	17 09	28.3
	comp=Z,4μm,20.0s						
E21K	Killik River	122.86	353	IAMs_20	IAMs_20	17 09	21.4
	comp=Z,2μm,20.0s						
SCHQ	Schefferville	123.15	41	PKP	**PKiKP**	**16 26**	**04.8 +2.6**
	comp=Z,6.5nm,0.8s,baz=202,slow=6.3,SNR=2.2						
D22K	Ayikyak River	123.21	353	IAMs_20	IAMs_20	17 14	04.8
	comp=Z,3μm,18.0s						
C36M	Paulatuk	123.56	6	IAMs_20	IAMs_20	17 10	43.1
	comp=Z,3μm,20.0s						
B21K	Ikpikpuk River	124.07	353	IAMs_20	IAMs_20	17 13	57.3
	comp=Z,3μm,19.0s						
CMAR	Chiang Mai Arr	124.27	253	PKP	**PKiKP**	**16 26**	**07.0 +1.6**
	comp=Z,1.0nm,0.9s,baz=214,slow=3.0,SNR=5.1						
CMAR				PP	**PP**	**16 27**	**56.7 +6.4**
	comp=Z,0.3nm,0.3s,baz=231,slow=4.6,SNR=1.6						
CMAR	Chiang Mai Arr	124.27	253	*e*PKIKP	**PKiKP**	**16 26**	**10.0 +4.5**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CHTO	Chiang Mai	124.55	253	IAMs_20	IAMs_20	17 14	33.4
	comp=Z,2μm,21.0s						
B22K	Teshekpuk Lake	124.70	354	IAMs_20	IAMs_20	17 11	28.8
	comp=Z,2μm,20.0s						
KMBO	Kilima Mbogo	124.76	174	IAMs_20	IAMs_20	17 17	42.1
	comp=Z,3μm,19.0s						
A36M	Sachs Harbour	126.12	5		**PKiKP**	**16 26**	**07.5 0.0**
A36M				IAMs_20	IAMs_20	17 11	02.7
	comp=Z,3μm,20.0s						
DL2	Dalian	126.31	288	*e*PKP	**PKPdf**	**16 26**	**03.3 -5.1**
DL2				SS	SS	16 45	04.0 -3.7
DL2				AMB	AMB		
	comp=Z,320nm,5.0s						
DL2				LR	LR		
	comp=Z,740nm,24.7s						
DL2				LR	LR		
	comp=Z,610nm,22.7s						
DL2				LR	LR		
	comp=Z,1μm,22.1s						
MA2	Magadan	127.01	323	IAMs_20	IAMs_20	17 11	56.7
	comp=Z,3μm,20.0s						
CN2	Changchun	127.57	295	PKP	**PKPdf**	**16 26**	**10.5 -0.2**
CN2				PP	**PP**	**16 28**	**12.9 +0.5**
CN2				LR	LR		
	comp=Z,400nm,19.0s						
CN2				LR	LR		
	comp=Z,700nm,19.0s						
CN2				LR	LR		
	comp=Z,800nm,21.0s						
BNX	BinXian	127.85	298	PKP	**PKPdf**	**16 26**	**09.8 -1.4**
TORD	Torodi Ar. Bea	128.08	126	PKP	**PKPdf**	**16 26**	**11.8 -0.7**
	comp=Z,3.1nm,0.8s,baz=143,slow=1.0,SNR=7.6						
BILL	Bilibino	128.75	336	IAMs_20	IAMs_20	17 11	32.9
	comp=Z,4μm,22.0s						
PZH	PanZhiHua	128.93	262	PKP	**PKPdf**	**16 26**	**13.9 -0.1**
PZH				PP	**PP**	**16 28**	**23.3 +1.8**
PZH				AMB	AMB		
	comp=Z,240nm,6.7s						
PZH				LR	LR		
	comp=Z,650nm,19.1s						
PZH				LR	LR		
	comp=Z,490nm,19.1s						
PZH				LR	LR		
	comp=Z,950nm,19.6s						
LODK	Lodwar	129.12	171	IAMs_20	IAMs_20	17 18	38.5
	comp=Z,3μm,20.0s						
HNS	HongShan	129.20	282	*e*PKP	**PKiKP**	**16 26**	**20.0 +5.3**
HNS				PP	**PP**	**16 28**	**25.3 +2.2**
HNS				PKS	PKSdf	16 29	58.4 +8.0
HNS	HongShan	129.20	282	SS	SS	16 45	46.9 +3.3
HNS				LR	LR		
	comp=N,620nm,18.6s						
HNS				LR	LR		
	comp=E,470nm,19.6s						
HNS				LR	LR		
	comp=Z,960nm,19.9s						
TNCH	TengChong	129.67	258	PKP	**PKPdf**	**16 26**	**11.6 -4.0**
TNCH				sPKP		16 26	19.6
TNCH				PP	**PP**	**16 28**	**31.4 +5.0**
TNCH				SKS	**SKSac**	**16 33**	**20.9 -3.6**
TNCH				AMB	AMB		
	comp=Z,220nm,5.5s						
TNCH				LR	LR		
	comp=Z,440nm,16.9s						
TNCH				LR	LR		
	comp=Z,480nm,18.4s						
TNCH				LR	LR		
	comp=Z,1μm,19.5s						
XAN	Xi'an	130.22	274	PKP	**PKPdf**	**16 26**	**12.1 -4.1**
XAN				PP	**PP**	**16 28**	**30.9 +1.0**
XAN				SS	SS	16 46	00.4 +4.0
XAN				AMB	AMB		
	comp=Z,430nm,8.2s						
XAN				LR	LR		
	comp=Z,960nm,18.7s						
XAN				LR	LR		
	comp=Z,1μm,19.9s						
XAN				LR	LR		
	comp=Z,2μm,23.0s						
AZL	Aizawl	131.97	251	*ex*	**PP**	**16 28**	**45.4 +4.2**
KOHI	KOHIMA	132.72	254	*ex*	**PP**	**16 28**	**48.7 +2.6**
HHC	Hu-ho-hao-te	133.32	283	*e*PKP	**PKPdf**	**16 26**	**18.0 -3.9**
HHC				PP	**PP**	**16 28**	**52.9 +2.9**
HHC				LR	LR		
	comp=Z,270nm,18.6s						
HHC				LR	LR		
	comp=Z,390nm,13.1s						
HHC				LR	LR		
	comp=Z,970nm,20.0s						
SHL	Shillong	133.86	252	*ex*	**PP**	**16 28**	**57.8 +4.5**
BTO	Baotou	134.05	282	*e*PKP	**PKPdf**	**16 26**	**17.9 -5.3**
BTO				PP	**PP**	**16 28**	**55.1 +0.5**
BTO				SS	SS	16 46	46.3 +3.2
BTO				AMB	AMB		
	comp=Z,290nm,4.6s						
BTO				LR	LR		
	comp=Z,1μm,22.1s						
BTO				LR	LR		
	comp=Z,2μm,22.9s						
BTO				LR	LR		
	comp=Z,3μm,24.7s						
ZIRO	ZIRO	134.26	256	*ex*	**PP**	**16 28**	**57.0 +1.1**
GOA	Goa	134.36	225	*ex*	**PP**	**16 28**	**55.8 -0.1**
LZH	Lanzhou	134.63	273	*e*PKP	PKiKP	16 26	37.3 +11
LZH				sPKP		16 26	49.8
LZH				PP	PP	16 29	08.4 +10
YAK	Yakutsk	136.60	317	IAMs_20	IAMs_20	17 17	60.0
	comp=Z,1μm,20.0s						
TULEG	Thule	137.38	19	IAMs_20	IAMs_20	17 13	30.6
	comp=Z,2μm,20.0s						
ATD	Arta Tunnel	137.50	181	IAMs_20	IAMs_20	17 22	36.2
	comp=Z,2μm,21.0s						
GTA	Gaotai	139.22	273	*e*PKP	**PKiKP**	**16 26**	**42.3 +7.1**
GTA				sPKP		16 26	50.8
GTA				PP	PP	16 29	39.8 +13
AVE	Averroes	139.40	100	IAMs_20	IAMs_20	17 26	43.9
	comp=Z,1μm,19.0s						
GOMU	GeErMu	140.02	265	PKP	**PKPdf**	**16 26**	**35.0 +0.2**
GOMU				sPKP		16 26	39.5
GOMU				PP	**PP**	**16 29**	**32.6 +0.4**
GOMU				SS	SS	16 47	56.3 +1.7
GOMU				AMB	AMB		
	comp=Z,480nm,5.8s						
GOMU				LR	LR		
	comp=Z,2μm,21.7s						
GOMU				LR	LR		
	comp=Z,500nm,19.5s						
GOMU				LR	LR		
	comp=Z,3μm,22.2s						
ULN	Ulaanbaatar	140.16	288		**PKPdf**	**16 26**	**33.9 -0.5**
ULN	Ulaanbaatar	140.16	288	PKIKP	**PKPdf**	**16 26**	**33.9 -0.5**
ULN				MLR	MLR		
	comp=Z,800nm,21.0s						
SONM	Songino Array	140.51	288	PKhKP	PKPpre	16 26	31.2
	comp=Z,2.7nm,1.0s,baz=155,slow=4.0,SNR=8.3						
SONM				PP	PP	16 29	44.9 +10
	comp=Z,0.9nm,0.8s,baz=133,slow=8.3,SNR=4.5						
SONM	Songino Array	140.51	288	*e*PKIKP	**PKPdf**	**16 26**	**33.8 -1.2**
SONM				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIXI	Tiksi	141.13	330		**PKPdf**	**16 26**	**33.8 -1.3**
TIXI	Tiksi	141.13	330	IAMs_20	IAMs_20	17 20	10.4
	comp=Z,1μm,20.0s						
TIXI	Tiksi	141.13	330	PKIKP	**PKPdf**	**16 26**	**33.8 -1.3**
TIXI				MLR	MLR		
	comp=Z,1μm,20.0s						
NEEM	North Greenlan	141.35	20	*e*P	**PKPdf**	**16 26**	**33.6 -2.2**
MESJ	Messejana	142.09	94	IAMs_20	IAMs_20	17 20	59.3
	comp=Z,2μm,22.0s						
PVAQ	Vaqueiros	142.10	95	*e*LQ	LQ	17 06	33.2
PVAQ	Vaqueiros	142.10	95	*e*LR	LR	17 17	59.6
PVAQ				A	A	17 23	02.5
	comp=Z,1μm,20.0s						
SFS	San Fernando	142.34	98	IAMs_20	IAMs_20	17 40	50.7
	comp=Z,2μm,19.0s						
SUMG	Summit	143.02	30		**PKPdf**	**16 26**	**40.3 +1.2**
SUMG	Summit	143.02	30	PKIKP	**PKPdf**	**16 26**	**40.3 +1.2**
SUMG	Summit	143.02	30	*i* P	**PKiKP**	**16 26**	**41.0 -1.3**
PESTR	Estremoz	143.15	94	IAMs_20	IAMs_20	17 23	02.2
	comp=Z,2μm,21.0s						
AJM	Ajmer	143.62	234	*e*P	PKPab	16 26	37.8 +0.1
PMRV	Marv??o	143.63	93	*e*LR	LR	17 19	29.5
PMRV				A	A	17 23	27.6
	comp=Z,2μm,20.0s						
SONA	Sohna	143.90	238	*e*P	**PKiKP**	**16 26**	**44.8 -0.2**
IRK	Irkutsk	143.96	293	*e*PKIKP	**PKPdf**	**16 26**	**42.0 +1.2**
IRK				pmax	pmax		
	comp=Z,88nm,2.8s						
JMIU	JAMIA UNIVERSI	144.06	239	*e*P	**PKPdf**	**16 26**	**41.5 -0.3**
KUDL	Kundal	144.11	237	*e*P	**PKiKP**	**16 26**	**44.0 -1.3**
PVIS	Viseu	144.16	91	*e*PKPdf	**PKiKP**	**16 26**	**44.7 -0.5**
MTE	Manteigas	144.17	92	IAMs_20	IAMs_20	17 25	48.2
	comp=Z,2μm,20.0s						
MTE	Manteigas	144.17	92	*e*PKPdf	**PKiKP**	**16 26**	**46.2 +1.0**
MTE	Manteigas	144.17	92	*e*LQ	LQ	17 07	21.0
MTE				*e*LR	LR	17 15	44.1
MTE				A	A	17 26	39.9
	comp=Z,2μm,18.0s						
NPLP	NPLP New Delhi	144.18	239	*ex*	**PKPab**	**16 26**	**41.7 +2.0**
NDI	New Delhi	144.19	239	*e*P	PKPbc	16 26	40.8 +0.7
PVRL	Vila Real	144.62	90	*e*PKPdf	**PKiKP**	**16 26**	**46.5 +0.4**
POLO	Lamas de Olo	144.63	90	*e*PKPdf	**PKiKP**	**16 26**	**46.3 +0.1**
GNR	GANAUR	144.66	239	*e*P	**PKPab**	**16 26**	**40.0 -1.5**
PGAV	Gavieira, Arco	144.72	89	*e*PKPdf	**PKPdf**	**16 26**	**43.9 +1.3**
MVO	Moncorvo	144.95	91	*e*PKPdf	**PKiKP**	**16 26**	**47.4 +0.6**
MVO	Moncorvo	144.95	91	*e*LQ	LQ	17 07	04.5
MVO				*e*LR	LR	17 16	16.6
MVO				A	A	17 26	17.2
	comp=Z,2μm,18.0s						
DDI	Dehra Dun	145.09	242	*e*P	**PKPbc**	**16 26**	**41.5 -1.5**
MOY	Mondy	145.48	290	*e*PKP2	**PKiKP**	**16 26**	**47.4 -0.2**
MOY				pmax	pmax		
	comp=Z,216nm,2.2s						
PAB	San Pablo	145.49	96		**PKPdf**	**16 26**	**43.4 -0.6**
PAB	San Pablo	145.49	96	PKIKP	**PKPdf**	**16 26**	**43.4 -0.6**
PBRG	Braganca	145.52	90	*e*PKPdf	**PKiKP**	**16 26**	**48.1 +0.2**
BKNR	BIKANER	145.56	233	*e*P	**PKPab**	**16 26**	**46.3 +1.5**
JASL	Jaisalmer	145.71	229	*e*P	**PKPab**	**16 26**	**46.7 +1.3**
ESDC	Sonseca Array	145.80	96	PKPbc	**PKPab**	**16 26**	**45.5 +0.1**
	comp=Z,14nm,0.9s,baz=242,slow=2.8,SNR=18						
ESBB	Sonseca Array	145.80	96		**PKPdf**	**16 26**	**44.3 -0.2**
KLP	Kalpa	145.94	243	*e*P	**PKPbc**	**16 26**	**46.0 0.0**
SMLA	Simla	146.19	241	*e*P	**PKPdf**	**16 26**	**43.9 -1.4**
BHK	Bhakra	146.80	241	*e*P	**PKPdf**	**16 26**	**44.9 -1.5**
SRGN	SRI GANGA NAGA	146.86	236	*e*P	**PKPdf**	**16 26**	**46.1 -0.3**
DHRM	DHARAMSHALA	147.52	241	*e*P	**PKPdf**	**16 26**	**46.9 -1.0**
NOR	Nord	147.57	14	*e*P	**PKPbc**	**16 26**	**48.3 -0.6**
DAG	Danmarks Havn	148.45	23	*e*P	**PKiKP**	**16 26**	**52.4 -0.4**
WMQ	Urumqi	149.08	269	PKPbc	**PKPdf**	**16 26**	**49.4 -0.4**
WMQ				LR	LR		
	comp=Z,540nm,23.9s						
WMQ				LR	LR		
	comp=Z,900nm,24.2s						
WMQ				LR	LR		
	comp=Z,1μm,24.0s						
RAYN	Ar Rayn	149.35	185		**PKPbc**	**16 26**	**55.0 -0.1**
RAYN	Ar Rayn	149.35	185	PKP2	**PKPbc**	**16 26**	**55.1 -0.1**
NIL	Nilore	150.19	239		**PKPbc**	**16 26**	**56.3 -0.7**
NIL	Nilore	150.19	239	PKIKP	**PKPbc**	**16 26**	**56.3 -0.7**
KEST	Kesra	150.58	115	PKPbc	**PKPbc**	**16 26**	**57.8 -0.1**
	comp=Z,18nm,0.9s,baz=308,slow=2.8,SNR=16						
CEST	Esterri de Car	150.70	96		**PKPbc**	**16 26**	**57.0 -1.0**
CEST				IAMs_20	IAMs_20	17 31	24.1
	comp=Z,777nm,20.0s						
MAHO	Mahon	150.72	103	IAMs_20	IAMs_20	17 43	24.4
	comp=Z,1μm,19.0s						
WUS	Wushi	152.42	257	IAMs_20	IAMs_20	17 45	25.8
	comp=Z,1μm,20.0s						
KBS	Kingsbay	153.03	13	IAMs_20	IAMs_20	17 28	15.2
	comp=Z,3μm,21.0s						
KSH	Kashi	153.13	251	PKPbc	**PKiKP**	**16 27**	**05.6 +1.8**
VSL	Villasalto	153.33	110	IAMs_20	IAMs_20	17 51	45.5
	comp=Z,1μm,18.0s						
WDD	Wied Dalam	153.34	122	IAMs_20	IAMs_20	17 43	02.1
	comp=Z,2μm,18.0s						
PRZ	Przheval'sk	153.71	258	IAMs_20	IAMs_20	17 50	57.4
	comp=Z,1μm,20.0s						
MKAR	Makanchi Array	153.90	270	PKPbc	**PKiKP**	**16 27**	**07.5 +2.5**
	comp=Z,1.8nm,0.9s,baz=104,slow=5.1,SNR=7.8						
MKAR				PP	**PP**	**16 30**	**59.1 +5.7**
	comp=Z,3.9nm,1.1s,baz=106,slow=3.9,SNR=4.1						
EKA	Eskdalemuir Ar	153.98	69	PKPbc	**PKiKP**	**16 27**	**05.4 +0.6**
	comp=Z,2.3nm,0.7s,baz=266,slow=4.0,SNR=3.8						
MAKZ	Makanchi	154.09	270	PKPdf	**PKPdf**	**16 26**	**54.5 -2.7**
MAKZ					**PKPab**	**16 27**	**16.4 -2.7**
MAKZ				IAMs_20	IAMs_20	17 50	35.4
	comp=Z,1μm,21.0s						
KDJ	Kajisay	154.19	257	IAMs_20	IAMs_20	17 41	07.4
	comp=Z,1μm,21.0s						
SSB	Saint Sauveur	154.19	94	IAMs_20	IAMs_20	17 28	43.7
	comp=Z,2μm,20.0s						
CLF	Chambon-Foret	154.28	87	IAMs_20	IAMs_20	17 50	32.1
	comp=Z,2μm,20.0s						
BNI	Bardonecchia	155.32	97	IAMs_20	IAMs_20	17 30	39.4
	comp=Z,2μm,20.0s						
DRK	Karamyk	155.38	245	PKPdf	**PKPdf**	**16 26**	**58.2 -1.4**
DRK					**PKPab**	**16 27**	**21.2 -3.9**
DRK	Karamyk	155.38	245	PKIKP	**PKPdf**	**16 26**	**58.2 -1.4**
ZALV	Zalesovo Beam	155.40	287	PKP	**PKPdf**	**16 27**	**01.5 +2.8**
	comp=Z,0.3nm,0.3s,baz=111,slow=6.3,SNR=1.7						
ZALV				PKPab	**sPKPab**	**16 27**	**28.7 +1.1**
	comp=Z,9.3nm,0.8s,baz=108,slow=4.8,SNR=19						
ZALV				PP	PP	16 31	11.3 +10
	comp=Z,0.3nm,0.3s,baz=91,slow=0.6,SNR=1.5						
CEL	Celeste	155.91	120	IAMs_20	IAMs_20	17 43	59.2
	comp=Z,2μm,20.0s						
AAK	Ala-Archa	156.04	254	IAMs_20	IAMs_20	17 50	35.7
	comp=Z,2μm,21.0s						
FRU1	Bishkek	156.08	255	IAMs_20	IAMs_20	17 49	32.6
	comp=Z,1μm,21.0s						
BTK	Batken	156.32	245	IAMs_20	IAMs_20	17 52	25.6
	comp=Z,1μm,20.0s						
MSSA	Maissana	156.54	101	IAMs_20	IAMs_20	17 45	22.7
	comp=Z,2μm,20.0s						
GHAJ	Ghor Haditha	156.65	165	IAMs_20	IAMs_20	17 37	28.4
	comp=Z,3μm,19.0s						
BMRD	Maredsous	156.77	84	*d*PKP	**PKPab**	**16 27**	**29.1 -1.3**
TIP	Timpagrande	157.04	120	IAMs_20	IAMs_20	17 47	23.3
	comp=Z,2μm,20.0s						
CUC	Castrocucco	157.16	117	IAMs_20	IAMs_20	17 38	34.6
	comp=Z,2μm,19.0s						
CESX	Cesi	157.22	108	IAMs_20	IAMs_20	17 43	44.5
	comp=Z,1μm,21.0s						
PAOL	Paolisi	157.24	114	IAMs_20	IAMs_20	17 45	31.9
	comp=Z,2μm,19.0s						
ECH	Echery	157.25	91	IAMs_20	IAMs_20	17 52	05.7
	comp=Z,1μm,20.0s						
WLF	Walferdange	157.32	86	IAMs_20	IAMs_20	17 34	40.4
	comp=Z,2μm,21.0s						
ZCCA	Zocca	157.40	103	IAMs_20	IAMs_20	17 44	08.4
	comp=Z,2μm,18.0s						
CAMP	Campotosto	157.63	109	IAMs_20	IAMs_20	17 50	16.3
	comp=Z,2μm,21.0s						
TUE	Stuetta	157.66	96	IAMs_20	IAMs_20	17 42	56.3
	comp=Z,2μm,22.0s						
FDMO	Fiordimonte	157.78	108	IAMs_20	IAMs_20	17 51	30.3
	comp=Z,1μm,21.0s						
KURK	Kurchatov	157.85	276	IAMs_20	IAMs_20	17 53	27.9
	comp=Z,2μm,19.0s						
KURK	Kurchatov	157.85	276	PKIKP	**PKPdf**	**16 27**	**04.3 +2.3**
KURBB	Kurchatov Arra	157.87	276	PKP	**PKPdf**	**16 27**	**04.3 +2.3**
	comp=Z,0.2nm,0.3s,baz=158,slow=0.5,SNR=2.0						
KURBB				PP	**PP**	**16 31**	**21.9 +6.5**
	comp=Z,4.3nm,1.1s,baz=116,slow=4.3,SNR=7.0						
ITM	Ithomi	157.91	132	IAMs_20	IAMs_20	17 40	10.8
	comp=

CLL					pmax	pmax			
	comp=Z,25nm,1.7s								
CLL					MLR	MLR			
	comp=Z,1μm,24.5s								
CLL	**Collm**	**161.99**	**87**	*i* PKPdf	**PKPdf**	**16 27 08.4**	**+1.7**		
	comp=Z,6.0nm,1.3s								
CLL				*i* PKPab	**PKPab**	**16 27 54.5**	**+1.4**		
	comp=Z,25nm,1.7s								
CLL				*e*PP	**PP**	**16 31 39.0**	**+1.3**		
CLL				*e*SKKSac	SKKSac	16 38 28.0	+3.1		
CLL				*e*SKSP		16 42 00.0			
CLL				*e*PPS	PPS	16 45 10.0			
CLL				*e*SS	**SS**	**16 51 57.0**	**-0.1**		
CLL				*e*PSS	PSS	16 52 52.0			
CLL				*e*PSPS		16 53 23.0			
CLL				*e*SSS	SSS	16 58 06.0			
CLL				*e*SSSS		17 02 30.0			
CLL				AMS	AMS	17 47 00.0			
	comp=N,1μm,21.5s								
CLL				AMS	AMS	17 47 00.0			
	comp=E,1μm,19.6s								
CLL				AMS	AMS	17 50 00.0			
	comp=Z,1μm,19.0s								
NOA	**NORSAR Array B**	**162.01**	**55**	PKP	**PKPdf**	**16 27 08.8**	**+2.3**		
	comp=Z,0.2nm,0.5s,baz=312,slow=1.1,SNR=2.2								
CONA	**Conrad Observa**	**162.21**	**100**	*e*pPKP	pPKPdf	16 27 11.5	+1.9		
	comp=Z,5.4nm,1.0s								
RONA	**Rosalia, Austr**	**162.35**	**101**	*e*pPKP	pPKPdf	16 27 12.0	+2.3		
	comp=Z,12nm,1.9s								
BRG	**Berggiesshubel**	**162.38**	**89**	*e*PKP	**PKPdf**	**16 27 11.7**	**+4.6**		
BRG				Amp		16 27 16.5			
	comp=Z,4.6nm,0.9s								
BRG	**Berggiesshubel**	**162.38**	**89**	*e*PKIKP	**PKPdf**	**16 27 11.7**	**+4.6**		
BRG				pmax	pmax				
	comp=Z,5.0nm,0.9s								
BRG				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BRG				MLR	MLR				
	comp=N,476nm,16.0s								
BRG				MLR	MLR				
	comp=Z,1μm,22.6s								
BRG				MLR	MLR				
	comp=E,657nm,15.3s								
PRU	**Pruhonice**	**162.39**	**92**	*e*SS	SS	16 52 05.2	+3.9		
PRU				AMS	AMS	17 50 00.0			
	comp=E,2μm,18.0s								
GOPC	**GO Pecny, Ondr**	**162.50**	**93**	AMS	AMS	17 50 20.0			
	comp=E,2μm,16.8s								
ARCES	**ARCESS Array B**	**162.71**	**20**	PKPab	**PKPab**	**16 27 59.4**	**+3.7**		
	comp=E,9.4nm,1.1s,baz=300,slow=3.8,SNR=2.1								
KRUC	**Moravsky**	**163.07**	**97**	*e*PKP	**PKPdf**	**16 27 11.9**	**+4.1**		
KRUC				*e*PP	**PP**	**16 31 46.4**	**+2.9**		
MODS	**Modra-Piesok**	**163.25**	**100**	*e*PKIKP	**PKPdf**	**16 27 13.5**	**+5.4**		
MODS	**Modra-Piesok**	**163.25**	**100**	*e*PKP	**PKPdf**	**16 27 13.5**	**+5.4**		
VRAC	**Vranov**	**163.30**	**96**	*e*PKP	**PKPdf**	**16 27 11.5**	**+3.4**		
VRAC				*e*PP	**PP**	**16 31 49.5**	**+4.8**		
BVAR	**Borovoye Array**	**163.43**	**278**	PKP	**PKPdf**	**16 27 11.9**	**+3.8**		
	comp=E,1.8nm,1.0s,baz=180,slow=0.9,SNR=5.9								
BVAR				PKPab	**sPKPab**	**16 28 03.9**	**+1.3**		
	comp=E,5.0nm,1.0s,baz=108,slow=4.8,SNR=7.4								
BVAR				PP	**PP**	**16 31 51.6**	**+6.2**		
	comp=E,2.7nm,1.1s,baz=54,slow=2.6,SNR=3.9								
UPC	**Upice**	**163.46**	**92**	AMS	AMS	17 45 50.0			
	comp=E,2μm,18.9s								
CHVC	**Chvalec**	**163.51**	**92**	AMS	AMS	17 46 30.0			
	comp=E,2μm,19.2s								
DPC	**Dobruska-Polom**	**163.58**	**93**	AMS	AMS	17 48 10.0			
	comp=E,2μm,21.6s								
OSTC	**Ostas**	**163.60**	**92**	AMS	AMS	17 51 10.0			
	comp=E,2μm,17.4s								
KRLC	**Kraliky**	**163.74**	**94**	AMS	AMS	17 44 30.0			
	comp=E,2μm,25.9s								
MORC	**Moravsky Berou**	**164.06**	**96**	*e*PKP	**PKPdf**	**16 27 13.3**	**+4.5**		
MORC				*e*PP	**PP**	**16 31 55.0**	**+6.2**		
VYHS	**Vyhne**	**164.22**	**101**	*e*PKIKP	**PKPdf**	**16 27 13.6**	**+4.7**		
VYHS	**Vyhne**	**164.22**	**101**	*e*PKP	**PKPdf**	**16 27 13.6**	**+4.7**		
BRTR	**Keskin Array B**	**164.40**	**154**	PKP	**PKPdf**	**16 27 10.9**	**+1.3**		
	comp=E,2.2nm,0.9s,baz=115,slow=2.0,SNR=6.7								
BRTR				PKPab	**PKPab**	**16 28 04.5**	**+0.4**		
	comp=E,1.2nm,0.8s,baz=186,slow=3.6,SNR=1.8								
OKC	**Ostrava-Krasne**	**164.44**	**96**	AMS	AMS	17 46 00.0			
	comp=E,2μm,21.1s								
STHS	**Stebnicka Huta**	**166.05**	**101**	*e*PKIKP	**PKPdf**	**16 27 15.1**	**+4.6**		
STHS	**Stebnicka Huta**	**166.05**	**101**	*e*PKP	**PKPdf**	**16 27 15.1**	**+4.6**		
MAK	**Makhachkala**	**168.34**	**199**	*e*PKIKP	**PKPdf**	**16 27 06.7**	**-5.6**		
MAK				*e*SSS	SSS	16 59 35.8			
MAK				pmax	pmax				
	comp=Z,77nm,0.9s								
FINES	**FINESS Array B**	**168.61**	**43**	PKPab	**PKPab**	**16 28 24.3**	**+2.4**		
	comp=Z,3.3nm,0.9s,baz=251,slow=4.3,SNR=2.3								
SOC	**Sochi**	**169.29**	**169**	*e*PKIKP	**PKPdf**	**16 27 10.8**	**-2.1**		
SOC				*e*		16 32 11.1			
SOC				*e*SS	SS	16 53 08.4	-1.4		
SOC				*e*SSS	SSS	16 59 51.3			
KBZ	**Khabaz**	**169.58**	**182**	PKPab	**PKPab**	**16 28 28.6**	**+2.0**		
	comp=Z,1.7nm,0.9s,baz=124,slow=14,SNR=2.0								
KIV	**Kislovodsk**	**169.81**	**181**	*e*PKIKP	**PKPdf**	**16 27 11.4**	**-2.0**		
KIV				*e*		16 32 15.5			
KIV				*e*SSS	SSS	16 59 56.3			
KIV				pmax	pmax				
	comp=Z,7.0nm,1.1s								
ARTI	**Arti**	**170.64**	**290**	PKPdf	**PKPdf**	**16 27 14.2**	**+0.9**		
ARTI					**pPKPab**	**16 28 32.9**	**-0.7**		
ARTI	**Arti**	**170.64**	**290**	PKIKP	**PKPdf**	**16 27 14.2**	**+0.9**		
ARTI						16 28 32.9			
NACGM	**Naroch**	**170.84**	**79**	*i* PKP	**PKPdf**	**16 27 11.9**	**-1.5**		
	comp=Z,10.0nm,0.9s,baz=266								
AKASG	**Malin Array Be**	**171.20**	**108**	PKP	**PKPdf**	**16 27 15.2**	**+1.5**		
	comp=Z,0.3nm,0.3s,baz=292,slow=0.5,SNR=1.5								
AKASG				PKPab	**PKPab**	**16 28 34.7**	**+0.9**		
	comp=Z,0.2nm,0.3s,baz=247,slow=5.1,SNR=0.8								
VORR	**Voronezh**	**176.84**	**140**	*e*PKP2	**PKPab**	**16 28 59.7**	**+1.0**		
VORR				pmax	pmax				
	comp=Z,30nm,0.3s								
VRH	**Novokhopyorsk**	**177.03**	**171**	*e*PKP2	PKPab	16 29 00.3	+0.9		
VRH				pmax	pmax				
	comp=Z,24nm,1.8s								
LPSR	**Galich'ya Gora**	**177.38**	**124**	*e*PKP2	PKPab	16 29 00.0	-1.1		
LPSR				pmax	pmax				
	comp=Z,13nm,0.6s								

*IDC **22** 16:15:23.9±0.7, 53°.85S×137°.29W, h0km, mb4.1/11, mbtmp4.1/11, Error ellipse: s-maj=27.9km s-min=18.8km az=4.0*

ISC 22 16:15:25.6±0.7, 53°.9S±0°.2×137°.2W±0°.1, h10km, n28, σ1§19/16, mb4.3/12, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**36.31**	**180**	P	**P**	**16 22 29.2**	**0.0**
	0.8nm,0.7s,baz=36,slow=11,SNR=2.2						
	0.8nm,0.7s						
H03S2	**Juan Fernandez**	**45.10**	**88**	T	T	17 11 56.8	
	baz=223,slow=74,SNR=16						
H03S1	**Juan Fernandez**	**45.11**	**88**	T	T	17 11 57.1	
	baz=223,slow=74,SNR=17						
H03S3	**Juan Fernandez**	**45.12**	**88**	T	T	17 11 57.6	
	baz=223,slow=74,SNR=16						
H03N3	**Juan Fernandez**	**45.37**	**88**	T	T	17 12 13.1	
	baz=226,slow=72,SNR=108						
H03N2	**Juan Fernandez**	**45.38**	**88**	T	T	17 12 10.4	
	baz=226,slow=72,SNR=101						
H03N1	**Juan Fernandez**	**45.39**	**88**	T	T	17 12 11.8	
	baz=226,slow=72,SNR=113						
MSVF	**Nonsavu**	**49.84**	**299**	P	**P**	**16 24 17.8**	**-1.1**
	6.2nm,0.9s,baz=128,slow=23,SNR=1.4						
	6.2nm,0.9s						
SNAA	**Sanae**	**50.71**	**163**	P	**P**	**16 24 24.2**	**-0.7**
	2.9nm,1.0s,baz=196,slow=10,SNR=3.1						
	2.9nm,1.0s						
MAW	**Mawson**	**57.93**	**189**	P	**P**	**16 25 16.5**	**-0.8**
	2.7nm,0.9s,baz=161,slow=10,SNR=6.5						
	2.7nm,0.9s						
STKA	**Stephens Creek**	**59.97**	**256**	P	**P**	**16 25 32.5**	**+0.5**
	2.7nm,0.9s,baz=144,slow=17,SNR=5.0						
	2.7nm,0.9s						
CPUP	**Villa Florida**	**63.33**	**99**	P	**P**	**16 25 55.9**	**+1.2**
	2.8nm,0.8s,baz=231,slow=5.8,SNR=4.6						
	2.8nm,0.8s						
LPAZ	**La Paz**	**64.67**	**83**	P	**P**	**16 26 03.5**	**-0.9**
	1.0nm,0.7s,baz=270,slow=5.1,SNR=2.4						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**70.61**	**256**	P	**P**	**16 26 39.9**	**-1.2**
	1.3nm,0.8s,baz=140,slow=7.0,SNR=19						
	1.3nm,0.8s						

H01W1	**Cape Leeuwin H**	**72.36**	**235**	T	T	17 46 32.4	
	baz=145						
H01W2	**Cape Leeuwin H**	**72.36**	**235**	T	T	17 46 32.9	
	baz=145						
H01W3	**Cape Leeuwin H**	**72.37**	**235**	T	T	17 46 33.8	
	baz=145						
WRA	**Warramunga Arr**	**73.25**	**259**	P	**P**	**16 26 57.4**	**+0.4**
	2.8nm,0.9s,baz=142,slow=5.3,SNR=13						
	2.8nm,0.9s						
PMG	**Port Moresby**	**73.99**	**276**	P	**P**	**16 27 04.1**	**+2.7**
	7.5nm,1.0s,baz=166,slow=5.8,SNR=4.7						
BDFB	**Brasilia**	**77.06**	**99**	P	**P**	**16 27 20.4**	**+1.3**
	2.2nm,0.6s,baz=170,slow=6.1,SNR=2.1						
	2.2nm,0.6s						
H11N3	**WAKE ISLAND Hy**	**87.55**	**309**	T	T	18 05 17.1	
	baz=142						
H11N1	**WAKE ISLAND Hy**	**87.56**	**309**	T	T	18 05 17.9	
	baz=142						
H11N2	**WAKE ISLAND Hy**	**87.57**	**309**	T	T	18 05 18.5	
	baz=142						
TXAR	**Lajitas Array**	**87.80**	**29**	P	**P**	**16 28 13.8**	**-0.9**
	0.2nm,0.8s,baz=192,slow=8.3,SNR=1.8						
	0.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**128.09**	**126**	PKP	**PKiKP**	**16 34 32.3**	**-0.2**
	1.1nm,1.1s,baz=262,slow=2.9,SNR=2.4						
ESDC	**Sonseca Array**	**145.64**	**95**	PKPbc	**PKPdf**	**16 35 03.0**	**-0.5**
	0.4nm,0.4s,baz=244,slow=3.6,SNR=2.2						
MKAR	**Makanchi Array**	**154.09**	**270**	PKPab	**PKPab**	**16 35 38.8**	**+0.4**
	3.0nm,0.9s,baz=104,slow=5.1,SNR=10.0						
ZALV	**Zalesovo Beam**	**155.50**	**287**	PKPab	**PKPab**	**16 35 42.8**	**-1.3**
	0.5nm,0.6s,baz=117,slow=2.3,SNR=1.8						

*IDC **22** 16:26:47.4±2.2, 37°.43N×144°.99E, h0km, mb3.3/3, mbtmp3.4/5, ML2.9/2, Error ellipse: s-maj=60.9km s-min=28.8km az=73.0*
*JMA **22** 16:26:52.6±0.2, 38°N±1°×14°4E±°, h5km, MV3.4/20, FAR E OFF NORTH HONSHU*

ISC 22 16:26:52.5±1.4, 37°.54N±0°.07×144°.72E±0°.09, h35km, n13, σ1§46/21, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.68**	**288**	*e*P	**Pn**	**16 27 33.4**	**+0.2**
JIKH				S	**Sn**	**16 28 03.1**	**-1.3**
JIO	**Ouri**	**2.81**	**290**	P	**Pn**	**16 27 35.4**	**+0.5**
JIO				S	**Sn**	**16 28 06.6**	**-1.0**
OFUJ	**Ofunato**	**2.85**	**304**	P	**Pn**	**16 27 35.9**	**+0.5**
OFUJ				*e*S	**Sn**	**16 28 07.9**	**-0.6**
JKMT	**Kesennumamotoy**	**2.85**	**297**	*e*P	**Pn**	**16 27 35.6**	**+0.1**
JKMT				*e*S	**Sn**	**16 28 07.8**	**-0.8**
JOTO	**OTAMA OYAMA**	**3.48**	**272**	P	**Pn**	**16 27 45.4**	**+1.2**
JOTO				*e*S	**Sn**	**16 28 23.6**	**-0.6**
JYK	**Kaneyama**	**3.69**	**293**	P	**Pn**	**16 27 48.5**	**+1.4**
JRY	**Ryogami san**	**4.91**	**254**	P	**Pn**	**16 28 03.4**	**-0.4**
JRY				S	**Sn**	**16 28 56.6**	**-2.8**
JCH	**Churui**	**5.17**	**349**	P	**Pn**	**16 28 06.7**	**-0.6**
JCH				S	**Sn**	**16 29 03.2**	**-2.6**
MJAR	**Matsushiro Arr**	**5.30**	**261**	Pn	**Pn**	**16 28 10.2**	**+1.0**
	0.1nm,0.3s,baz=159,slow=12,SNR=6.0						
MJAR				Sn	**Sn**	**16 29 06.2**	**-2.9**
	baz=356,slow=17,SNR=1.9						
	1.1nm,0.6s						
ASAJ	**Asahikawa**	**6.76**	**347**	Pn	**Pn**	**16 28 29.6**	**+0.4**
	0.3nm,0.3s,baz=198,slow=20,SNR=2.1						
	10nm,0.9s						
KURBB	**Kurchatov Arra**	**47.76**	**308**	P	**P**	**16 35 28.2**	**+2.2**
	0.3nm,0.4s,baz=81,slow=8.1,SNR=1.8						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**58.01**	**192**	P	**P**	**16 36 41.2**	**-0.6**
	0.2nm,0.4s,baz=10,slow=7.0,SNR=1.9						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**61.73**	**191**	P	**P**	**16 37 07.2**	**-0.2**
	0.2nm,0.8s,baz=0.4,slow=6.6,SNR=4.2						
	0.2nm,0.8s						

*SKO **22** 16:48:16.7, 42°.27N×21°.42E, h6km, ML2.7*
*BEO **22** 16:48:17.3±0.6, 42°.27N×21°.42E, h5km±2km, ML2.5/13*
*SOF **22** 16:48:17.5, 42°.35N±0°.03×21°.39E±0°.03, h20km±3km, MD2.8/6*
*TIR **22** 16:48:17.9, 42°.31N×21°.41E, h11km±1km, Md3.0, Ml2.9*
*PDG **22** 16:48:18.9±0.7, 42°.32N×21°.54E, h12km±1km, ML2.8/12, Error ellipse: s-maj=1.4km s-min=1.6km az=0.0*

ISC 22 16:48:17.5±1.1, 42°.30N±0°.02×21°.43E±0°.01, h7km±10km, n69, σ0§94/111, 18C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARS	**Barje**	**0.59**	**29**	*e*Pg	**Pg**	**16 48 28.6**	**-0.2**
BARS				*e*Sg	**Sg**	**16 48 36.5**	**0.0**
BARS	**Barje**	**0.59**	**29**	*i* Pg	**Pg**	**16 48 28.7**	**-0.2**
BARS				*i* Sg	**Sg**	**16 48 37.4**	**+0.8**
BOSS	**Bosilegrad**	**0.80**	**76**	*e*Pg	**Pg**	**16 48 32.2**	**-0.7**
BOSS				*e*Sg	**Sg**	**16 48 42.6**	**-0.7**
SELS	**Selova**	**0.94**	**346**	*e*Pg	**Pg**	**16 48 35.5**	**-0.1**
SELS				*e*Sg	**Sb**	**16 48 49.1**	**+0.1**
BCI	**Bajram Curri**	**1.01**	**274**	AMP			
	comp=E,2.0nm,0.5s,baz=274						
TRAN	**Tran**	**1.05**	**59**	*i* Pg	**Pn**	**16 48 39.2**	**+0.5**
TRAN				*e*Sg	**Sb**	**16 48 52.1**	**+0.1**
PVY	**Plav**	**1.13**	**286**	⇑*i*Pg	**Pg**	**16 48 38.2**	**-0.9**
PVY				*i* Sg	**Sn**	**16 48 57.0**	**+1.4**
PUK	**Puka**	**1.17**	**258**	AMP			
	comp=N,1.0nm,0.5s,baz=258						
PEHC	**Pehcevo**	**1.22**	**115**	*i* Pg	**Pn**	**16 48 40.0**	**-0.9**
PEHC				*i* Sg	**Sb**	**16 48 56.5**	**-0.2**
PEHC				*e*Lg	Lg	16 48 58.8	
	comp=E,66nm,0.3s						
PEHC				*e*Lg	Lg	16 48 59.5	
	comp=N,87nm,0.5s						
BEY	**Berane**	**1.27**	**297**	P	**Pg**	**16 48 41.9**	**+0.1**
BEY	**Berane**	**1.27**	**297**	*i* Pn	**Pg**	**16 48 41.7**	**-0.1**
IVA	**Berane**	**1.27**	**297**	⇑*i*Pg	**Pn**	**16 48 41.1**	**-0.6**
IVA				*i* Sg	**Sn**	**16 49 00.9**	**+1.8**
OHR	**Ohrid**	**1.28**	**202**	*i* Pg	**Pn**	**16 48 41.0**	**-0.8**
OHR				*i* Sg	**Sg**	**16 48 58.5**	**-0.1**
OHR				*e*Lg	Lg	16 49 02.2	
	comp=N,123nm,0.7s						
OHR				*e*Lg	Lg	16 49 02.8	
	comp=E,147nm,0.5s						
VAY	**Valandovo**	**1.30**	**139**	*i* Pg	**Pn**	**16 48 41.8**	**-0.3**
VAY				*i* Sg	**Sg**	**16 48 59.6**	**+0.4**
VAY				*e*Lg	Lg	16 49 02.2	
	comp=N,74nm,0.5s						
VAY				*e*Lg	Lg	16 49 03.3	
	comp=E,57nm,0.5s						
ZAPS	**Zavoj**	**1.31**	**42**	*e*Pg	**Pg**	**16 48 42.7**	**0.0**
ZAPS				*e*Sg	**Sg**	**16 49 00.1**	**+0.3**
KKB	**Krupnik**	**1.35**	**109**	*i* P	**Pg**	**16 48 43.4**	**+0.1**
KKB				S	**Sg**	**16 49 01.7**	**+0.9**
KKB	**Krupnik**	**1.35**	**109**	*i* Pn	**Pb**	**16 48 42.8**	**-0.2**
KKB				*i* Sg	**Sb**	**16 48 59.1**	**-1.4**
BOVS	**Bovan**	**1.35**	**9**	*e*Pg	**Pn**	**16 48 42.2**	**-0.5**
BOVS				*e*Sg	**Sg**	**16 49 01.4**	**+0.6**
BOVS	**Bovan**	**1.35**	**9**	⇑P	**Pn**	**16 48 42.3**	**-0.5**
VTS	**Vitosha**	**1.37**	**76**	*i* P	**Pn**	**16 48 42.8**	**-0.4**
VTS				S	**Sb**	**16 49 01.0**	**-0.4**
SJES	**Sjenica**	**1.44**	**312**	*e*Pg	**Pn**	**16 48 43.9**	**-0.2**
SJES				*e*Sg	**Sb**	**16 49 03.0**	**-0.2**
PLNA	**Plana**	**1.49**	**83**	*i* P	**Pn**	**16 48 44.9**	**+0.1**
PLNA				S	**Sg**	**16 49 06.3**	**+0.9**
KOME	**Kolasin**	**1.52**	**292**	⇑*i*Pn	**Pb**	**16 48 45.5**	**-0.5**
KOME				*i* Sn	**Sg**	**16 49 07.8**	**+1.6**
FNA	**Florina**	**1.52**	**181**	*i* Pn	**Pn**	**16 48 45.0**	**-0.2**
FNA				*i* Sg	**Sn**	**16 49 04.8**	**-0.4**
IVAS	**Ivanjica**	**1.58**	**324**	*e*Pg	**Pn**	**16 48 45.8**	**-0.2**
IVAS				*e*Sg	**Sb**	**16 49 06.7**	**-0.6**
KNT	**Kendrikon**	**1.58**	**136**	*i* Pn	**Pn**	**16 48 45.5**	**-0.5**
KNT				*i* Sg	**Sb**	**16 49 07.5**	**+0.2**
BLKB	**Belogradchik**	**1.61**	**34**	⇑S	**Sg**	**16 49 10.4**	**+1.3**
PDG	**Podgorica**	**1.62**	**275**	⇑P	**Pn**	**16 48 43.7**	**-2.7**
PDG				⇑S	**Sg**	**16 49 10.0**	**+0.6**
PDG	**Podgorica**	**1.62**	**275**	⇓*i*Pn	**Pg**	**16 48 47.8**	**-0.6**
PDG				*i* Sn	**Sg**	**16 49 11.8**	**+2.4**
ZAGS	**Zajecar**	**1.62**	**21**	*e*Pg	**Pn**	**16 48 46.6**	**+0.1**
ZAGS				*e*Sg	**Sg**	**16 49 09.2**	**-0.4**
ULC	**Ulcinj**	**1.66**	**259**	*i* Pn	**Pg**	**16 48 48.9**	**-0.3**
ULC	**Ulcinj**	**1.66**	**259**	⇓*i*Pn	**Pb**	**16 48 48.5**	**+0.1**
ULC				*i* Sn	**Sg**	**16 49 13.0**	**+2.2**
DRME	**Dracevica, Mon**	**1.67**	**267**	*e*Pn	**Pb**	**16 48 48.7**	**+0.1**
DRME				*i* Sn	**Sg**	**16 49 12.2**	**+1.1**

GRUS	**Gruza**	**1.67**	**342**	*e*Pn	**Pn**	**16 48 47.0**	**-0.2**
GRUS				*e*Sg	**Sg**	**16 49 11.5**	**+0.4**
KBN	**Korca**	**1.75**	**196**	P	**Pg**	**16 48 50.6**	**-0.3**
KBN				S	**Sg**	**16 49 15.0**	**+1.5**
KBN				AMP			
	comp=N,0.3nm,0.4s,baz=196						
PLE	**Pljevlja**	**1.82**	**305**	P	**Pg**	**16 48 51.9**	**-0.5**
PLE	**Pljevlja**	**1.82**	**305**	⇓*i*Pn	**Pg**	**16 48 51.8**	**-0.5**
PLE				*i* Sn	**Sg**	**16 49 16.7**	**+0.8**
CEME	**Cevo**	**1.88**	**278**	⇓*i*Pn	**Pb**	**16 48 52.1**	**0.0**
CEME				*i* Sn	**Sg**	**16 49 17.7**	**0.0**
BUM	**Brajici-Budva**	**1.88**	**271**	P	**Pg**	**16 48 53.0**	**-0.5**
BUM	**Brajici-Budva**	**1.88**	**271**	⇑*i*Pn	**Pg**	**16 48 52.6**	**-0.9**
BUM				*i* Sn	**Sg**	**16 49 18.2**	**+0.3**
NKME	**Niksic**	**1.89**	**285**	⇑*i*Pn	**Pb**	**16 48 52.3**	**0.0**
NKME				*i* Sn	**Sg**	**16 49 18.1**	**0.0**
MMB	**Musomishta**	**1.89**	**113**	*i* P	**Pg**	**16 48 53.6**	**-0.1**
MMB	**Musomishta**	**1.89**	**113**	*i* Pn	**Pb**	**16 48 51.5**	**-0.9**
MMB				*i* Sg	**Sg**	**16 49 18.7**	**+0.6**
MPEP	**Malo Peshtene**	**2.00**	**57**	*i* P	**Pb**	**16 48 53.6**	**-0.6**
MPEP				S	**Sg**	**16 49 24.8**	**+3.1**
SRS	**Serrai**	**2.01**	**125**	*i* Pn	**Pn**	**16 48 52.0**	**+0.2**
VALD	**Valchedram**	**2.02**	**46**	*i* P	**Pg**	**16 48 57.7**	**+1.5**
TRUS	**Trudelj**	**2.06**	**339**	*e*Pn	**Pn**	**16 48 52.6**	**+0.1**
TRUS				*e*Sn	**Sb**	**16 49 20.3**	**-0.8**
SOH	**Sokhos**	**2.07**	**135**	*i* Pn	**Pn**	**16 48 53.6**	**+0.9**
DIVS	**Divibare**	**2.08**	**330**	*e*Pn	**Pn**	**16 48 53.3**	**+0.4**
DIVS				*e*Sg	**Sg**	**16 49 23.8**	**-0.5**
KUBS	**Kucevo**	**2.12**	**5**	*e*Pn	**Pn**	**16 48 52.0**	**-1.3**
KUBS				*e*Sn	**Sb**	**16 49 20.9**	**-1.8**
BBLS	**Lazi&#263i**	**2.15**	**317**	*e*Pn	**Pn**	**16 48 54.4**	**+0.5**
HCY	**Herceg Novi**	**2.18**	**275**	P	**Pb**	**16 48 57.5**	**+0.3**
HCY	**Herceg Novi**	**2.18**	**275**	⇑*i*Pn	**Pb**	**16 48 56.7**	**-0.5**
HCY				*i* Sn	**Sb**	**16 49 25.2**	**+0.7**
BRY	**Bratogost**	**2.22**	**287**	P	**Pb**	**16 48 58.1**	**+0.1**
BRY	**Bratogost**	**2.22**	**287**	⇑*i*Pn	**Pb**	**16 48 57.2**	**-0.7**
BRY				*i* Sn	**Sb**	**16 49 26.0**	**+0.3**
LSK	**Leskovik**	**2.24**	**196**	S	**Sg**	**16 49 29.1**	**-0.3**
PUNG	**Punghina**	**2.26**	**29**	⇓P	**Pn**	**16 48 53.5**	**-1.8**
PUNG				⇓S	**Sb**	**16 49 26.9**	**+0.1**
MDVR	**Moldovita**	**2.49**	**5**	⇓P	**Pn**	**16 48 59.1**	**+0.6**
MDVR				⇓S	**Sg**	**16 49 36.3**	**-1.1**
TEKS	**Tekeris**	**2.64**	**329**	*e*Pn	**Pn**	**16 49 00.3**	**-0.2**
HERR	**Herculane**	**2.68**	**15**	⇑P	**Pn**	**16 49 01.4**	**+0.4**
HERR				⇑S	**Sb**	**16 49 39.0**	**+0.2**
VRSS	**Vrsac**	**2.82**	**359**	*e*Pn	**Pn**	**16 49 04.3**	**+1.3**
FRGS	**Fruska Gora**	**3.09**	**338**	*e*Pn	**Pn**	**16 49 05.8**	**-0.9**
GZR	**Gura Zlata**	**3.24**	**17**	⇑P	**Pn**	**16 49 09.1**	**+0.3**
GZR				⇑S	**Sb**	**16 49 53.1**	**-2.0**
BZS	**Buzias**	**3.32**	**2**	⇑P	**Pn**	**16 49 09.5**	**-0.3**
BZS				⇓S	**Sb**	**16 49 56.4**	**-0.7**
ELND	**Elena**	**3.34**	**78**	⇓P	Pn	16 49 04.1	-6.1
SURR	**Surduc**	**3.49**	**8**	⇓P	**Pn**	**16 49 12.4**	**+0.3**
SURR				⇑S	**Sb**	**16 50 00.2**	**-1.8**
SIRR	**Siria**	**3.97**	**2**	⇓P	**Pn**	**16 49 19.4**	**+0.6**
SIRR				⇑S	**Sb**	**16 50 12.8**	**-3.1**
VYHS	**Vyhne**	**6.46**	**344**	*e*PN	**Pn**	**16 49 54.2**	**+1.3**
MODS	**Modra-Piesok**	**6.74**	**336**	*e*PN	Pn	16 50 02.1	+5.3

IDC 22 16:53:10.8±1.9, 29°.98N×95°.23E, h0km, mb3.3/3, mbtmp3.2/5, ML3.4/2, Error ellipse: s-maj=75.6km s-min=27.9km az=63.0, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.

comp=Z,2.3nm,1.1s
QSPA South Pole Qui 75.12 180 P **P 17 20 52.7 +3.2**
comp=Z,1.0nm,0.7s,baz=76,slow=3.3,SNR=6.2
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 80.05 56 P P 17 21 23.6 +5.9
comp=Z,0.4nm,0.9s,baz=207,slow=5.0,SNR=2.7
comp=Z,0.4nm,0.9s
ILAR Eielson Array 81.91 11 P **P 17 21 30.2 +3.6**
comp=Z,0.2nm,0.6s,baz=200,slow=6.7,SNR=1.8
comp=Z,0.2nm,0.6s
BRTR Keskin Array B 146.01 322 PKPbc **PKiKP 17 28 49.9 -1.4**
comp=Z,2.5nm,0.8s,baz=25,slow=2.8,SNR=11

*IDC **22** 17:26:51.1±0.7, 49°.13S×125°.07E, h0km, mb4.2/7, mbtmp4.2/7, MS4.0/7, Error ellipse: s-maj=39.8km s-min=17.8km az=108.0*
*NEIC **22** 17:26:52.1±1.4, 49°.12S±0°.08×125°.2E±0°.3, h10km±1km, mb4.5/15, Error ellipse: s-maj=28.5km s-min=12.7km az=103.0*
ISC 22 17:26:51.9±0.6, 49°.10S±0°.10×125°.1E±0°.2, h10km, n41, σ0s89/33, mb4.3/11, MS3.9/6, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.35**	**326**	T	T	17 47 31.2	
	baz=153,slow=74,SNR=23						
H01W2	**Cape Leeuwin H**	**16.35**	**326**	T	T	17 47 26.5	
	baz=153,slow=74,SNR=21						
H01W3	**Cape Leeuwin H**	**16.36**	**326**	T	T	17 47 23.6	
	baz=153,slow=74,SNR=18						
NWAO	**Narrogin (SRO)**	**17.20**	**337**	P	**P**	**17 30 54.7**	**+0.9**
NWAO				IAmb	IAmb	17 31 38.0	
	comp=Z,42nm,1.4s						
NWAO	**Narrogin (SRO)**	**17.20**	**337**	LR	LR	17 35 44.5	
	comp=Z,404nm,19.4s,baz=54,slow=31						
BBOO	**Buckleboo**	**18.21**	**31**	P	**P**	**17 31 06.2**	**+1.2**
FORT	**Forrest**	**18.43**	**8**	P	**Pn**	**17 31 07.8**	**+0.4**
FORT				IAmb	IAmb	17 31 18.8	
	comp=Z,22nm,0.8s						
MORW	**Morawa**	**21.18**	**337**	P	**P**	**17 31 36.7**	**-0.7**
MORW				IAmb	IAmb	17 32 14.3	
	comp=Z,36nm,1.4s						
STKA	**Stephens Creek**	**21.20**	**42**	P	**P**	**17 31 37.5**	**0.0**
STKA	**Stephens Creek**	**21.20**	**42**	P	**P**	**17 31 39.5**	**+1.9**
	comp=Z,7.4nm,0.9s,baz=197,slow=13,SNR=9.8						
STKA				LR	LR	17 38 02.8	
	comp=Z,359nm,20.7s,baz=229,slow=32						
	comp=Z,7.4nm,0.9s						
ASAR	**Alice Springs**	**26.31**	**18**	P	**P**	**17 32 26.3**	**-1.5**
ASAR	**Alice Springs**	**26.31**	**18**	P	**P**	**17 32 28.1**	**+0.4**
	comp=Z,4.2nm,0.9s,baz=189,slow=9.2,SNR=28						
ASAR				PcP	**PcP**	**17 35 53.8**	**0.0**
	comp=Z,0.6nm,0.8s,baz=201,slow=0.9,SNR=5.1						
ASAR				LR	LR	17 41 50.5	
	comp=Z,284nm,20.4s,baz=194,slow=34						
	comp=Z,4.2nm,0.9s						
AS31	**Alice Springs**	**26.31**	**18**	P	**P**	**17 32 26.9**	**-0.8**
WRA	**Warramunga Arr**	**30.01**	**18**	P	**P**	**17 33 00.8**	**-0.1**
	comp=Z,1.8nm,1.0s,baz=190,slow=8.3,SNR=5.8						
WRA				PcP	**PcP**	**17 36 02.9**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=211,slow=2.7,SNR=5.1						
WRA				LR	LR	17 44 04.1	
	comp=Z,388nm,20.2s,baz=154,slow=34						
	comp=Z,1.8nm,1.0s						
WB0	**Warramunga Arr**	**30.19**	**18**	P	**P**	**17 33 00.6**	**-1.8**
WB0				IAmb	IAmb	17 33 01.7	
	comp=Z,4.0nm,1.2s						
FITZ	**Fitzroy Crossi**	**30.93**	**1**	LR	LR	17 45 26.1	
	comp=Z,204nm,18.8s,baz=197,slow=36						
BATI	**Baumata**	**38.79**	**358**	LR	LR	17 50 44.0	
	comp=Z,237nm,20.1s,baz=204,slow=37						
QSPA	**South Pole Qui**	**41.02**	**180**	P	**P**	**17 34 34.8**	**-0.2**
QSPA				IAmb	IAmb	17 34 52.2	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**41.02**	**180**	P	**P**	**17 34 35.0**	**0.0**
	comp=Z,2.9nm,1.0s,baz=316,slow=3.0,SNR=6.4						
QSPA				PcP	**PcP**	**17 36 35.0**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=284,slow=2.0,SNR=2.7						
QSPA				LR	LR	17 49 57.8	
	comp=Z,372nm,19.5s,baz=302,slow=34						
	comp=Z,2.9nm,1.0s						
KOUNC	**Koumac, New Ca**	**42.21**	**62**	P	**P**	**17 34 44.6**	**-0.5**
KOUNC				IAmb	IAmb	17 35 00.8	
	comp=Z,17nm,1.2s						
SNAA	**Sanae**	**54.06**	**198**	P	**P**	**17 36 15.7**	**-0.4**
SNAA				IAmb	IAmb	17 36 17.9	
	comp=Z,11nm,1.3s						
SNAA	**Sanae**	**54.06**	**198**	P	**P**	**17 36 16.2**	**+0.1**
	comp=Z,3.6nm,0.9s,baz=144,slow=6.3,SNR=5.6						
	comp=Z,3.6nm,0.9s						
KULM	**Kulim**	**58.22**	**331**	P	**P**	**17 36 44.8**	**-1.5**
H08S2	**Diego Garcia H**	**60.34**	**295**	T	T	18 42 05.4	
	baz=143,slow=76,SNR=5.5						
H08S1	**Diego Garcia H**	**60.35**	**295**	T	T	18 42 04.9	
	baz=143,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**60.35**	**295**	T	T	18 42 18.3	
	baz=143,slow=76,SNR=4.9						
CM31	**Chiang Mai Arr**	**71.18**	**334**	P	**P**	**17 38 10.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**71.18**	**334**	P	**P**	**17 38 11.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**71.18**	**334**	P	**P**	**17 38 12.1**	**+1.3**
	comp=Z,2.2nm,0.8s,baz=187,slow=5.3,SNR=21						
	comp=Z,2.2nm,0.8s						
CHTO	**Chiang Mai**	**71.51**	**334**	P	**P**	**17 38 13.3**	**+0.5**
CHTO				IAmb	IAmb	17 38 17.5	
	comp=Z,6.2nm,1.4s						
BOSA	**Boshof**	**74.94**	**244**	P	**P**	**17 38 33.6**	**+0.3**
BOSA	**Boshof**	**74.94**	**244**	P	**P**	**17 38 34.2**	**+0.9**
	comp=Z,4.6nm,1.0s,baz=184,slow=4.8,SNR=4.2						
	comp=Z,4.6nm,1.0s						
KSAR	**Wonju Array Be**	**86.20**	**2**	P	**P**	**17 39 33.5**	**+0.6**
H10S2	**ASCENSION HYDR**	**112.29**	**224**	T	T	19 48 22.8	
	baz=150,slow=74,SNR=5.3						
H10S3	**ASCENSION HYDR**	**112.30**	**224**	T	T	19 48 24.6	
	baz=70,slow=74,SNR=6.6						
ILAR	**Eielson Array**	**132.14**	**35**	PKP	**PKiKP**	**17 46 05.9**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=256,slow=2.7,SNR=3.5						
NVAR	**Mina Array Bea**	**134.21**	**79**	PKP	**PKiKP**	**17 46 11.0**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=251,slow=2.8,SNR=4.5						
PDAR	**Pinedale Array**	**142.15**	**78**	PKP	**PKiKP**	**17 46 25.3**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=232,slow=5.6,SNR=1.7						
YKA	**Yellowknife Ar**	**145.21**	**45**		**PKPbc**	**17 46 27.5**	**-0.6**
YKA	**Yellowknife Ar**	**145.21**	**45**	PKPbc	**PKPdf**	**17 46 29.5**	**+1.1**
	comp=Z,4.4nm,0.8s,baz=276,slow=3.6,SNR=15						
EKA	**Eskdalemuir Ar**	**148.35**	**301**	PKPbc	**PKPbc**	**17 46 37.4**	**0.0**
	comp=Z,3.6nm,0.8s,baz=116,slow=1.9,SNR=6.0						

*IDC **22** 17:52:27.8±9.4, 0°.21N×122°.10E, h215km±91km, mb3.0/3, mbtmp3.6/4, Error ellipse: s-maj=128.4km s-min=27.0km az=59.0*
*DJA **22** 17:52:28.3±1.1, 0°.1N±5°.1×12°.2E±°, h170km±9km, M3.3/5, MLv3.3/5*
ISC 22 17:52:26.5±1.1, 0°.2N±0°.1×122°.11E±0°.08, h202km, n9, σ0s62/12, mb3.5/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.18**	**203**	P	**Pn**	**17 52 58.1**	**+0.2**
LUWI	**Luwuk**	**1.39**	**152**	P	**Pn**	**17 52 59.9**	**+0.4**
LUWI				S	**S**	**17 53 24.4**	**-0.4**
KMSI	**Cibinong**	**1.91**	**78**	P	**Pn**	**17 53 04.4**	**+0.1**
KMSI				S	**S**	**17 53 33.6**	**+0.5**
PCI	**Palu**	**2.52**	**244**	P	**Pn**	**17 53 10.3**	**-0.5**
SANI	**Sanana**	**4.47**	**120**	P	**Pn**	**17 53 33.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**18.50**	**169**	P	**P**	**17 56 28.5**	**+0.7**
	3.0nm,0.9s,baz=14,slow=12,SNR=12						
WRA	**Warramunga Arr**	**23.32**	**150**	P	**P**	**17 57 17.2**	**+0.4**
	1.2nm,0.7s,baz=324,slow=11,SNR=24						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**26.33**	**155**	P	**P**	**17 57 44.4**	**+0.3**
	0.6nm,0.6s,baz=344,slow=14,SNR=25						
ASAR				PcP	**PcP**	**18 01 04.2**	**-0.5**
	0.1nm,0.3s,baz=353,slow=2.3,SNR=5.3						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**57.99**	**329**	P	**P**	**18 01 57.9**	**-0.2**
	0.1nm,0.3s,baz=140,slow=7.6,SNR=1.9						
	0.1nm,0.3s						

*NAO **22** 18:00:07.4, 34°.19N×23°.40E, h10km, mb4.2*
*BEO **22** 18:00:25.0±5.5, 35°.61N×20°.45E, h127km±8km, ML4.4/15*
*NEIC **22** 18:00:31.7±1.9, 36°.50N±0°.04×21°.13E±0°.06, h10km±1km, mb4.2/36, Error ellipse: s-maj=8.6km s-min=4.6km az=238.0*
*IDC **22** 18:00:31.0±0.6, 36°.60N×21°.16E, h0km, mb4.0/20, mbtmp4.0/29, ML3.9/6, Error ellipse: s-maj=15.4km s-min=12.6km az=163.0*
*MOS **22** 18:00:31.3±1.0, 36°.61N×21°.13E, h12km, mb4.3/11, Error ellipse: s-maj=6.8km s-min=3.8km az=77.3*
*THE **22** 18:00:31.7, 36°.49N×20°.92E, h0km±3km, ML3.9/5, Error ellipse: s-maj=3.4km s-min=1.1km az=200.0*
*ATH **22** 18:00:32.8, 36°.46N×20°.95E, h6km±2km, ML3.9/22, Error ellipse: s-maj=2.4km s-min=1.3km az=114.0*
*MCSM **22** 18:00:33.8±0.5, 37°.N±4°×2°.1E±°, h31km, mB6.6, mb4.2, MLv4.3, Mw(mB)6.4*
*TIR **22** 18:00:35.1, 37°.07N×20°.70E, h10km±31km, Md4.1, Ml4.0*
*PDG **22** 18:00:36.8±1.0, 36°.47N×21°.03E, h40km±27km, ML4.2/13, Error ellipse: s-maj=1.8km s-min=1.7km az=90.0*
*AFAD **22** 18:00:38.9±0.0, 36°.61N×21°.29E, h7km±31km, MW4.1*
ISC 22 18:00:32.3±0.7, 36°.55N±0°.03×21°.07E±0°.03, h15km±4km, n405, σ2s05/467, mb4.1/43, 23C-18D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.64**	**58**	P	**Pb**	**18 00 45.7**	**+0.5**
PYL				S	**Sn**	**18 00 58.3**	**+1.5**
	10μm,0.8s						
PYL	**PYLOS**	**0.64**	**58**	P	**Pn**	**18 00 46.3**	**-0.6**
PYL				S	**Sn**	**18 00 57.8**	**+1.0**
PYL				AML	AML	18 01 04.8	
	comp=N,15706μm,1.0s						
PYL				AML	AML	18 01 08.1	
	comp=E,25448μm,0.7s						
ITM	**Ithomi**	**0.93**	**47**	*e*P	**Pn**	**18 00 51.3**	**+0.4**
ITM	**Ithomi**	**0.93**	**47**		**Pb**	**18 00 50.1**	**0.0**
ITM	**Ithomi**	**0.93**	**47**	P	**Pn**	**18 00 51.3**	**+0.4**
ITM				S	**Sn**	**18 01 07.7**	**+3.7**
	comp=E,6μm,0.8s						
ITM	**Ithomi**	**0.93**	**47**	P	**Pn**	**18 00 52.2**	**+1.3**
ITM				S	**Sn**	**18 01 08.0**	**+4.0**
ITM				AML	AML	18 01 12.1	
	comp=E,14121μm,0.7s						
ITM				AML	AML	18 01 17.5	
	comp=N,10928μm,0.8s						
AMT	**Artemida-Makis**	**1.10**	**27**	P	**Pn**	**18 00 55.0**	**+1.7**
AMT				S	**Sn**	**18 01 12.3**	**+4.0**
AMT	**Artemida-Makis**	**1.10**	**27**	P	**Pn**	**18 00 55.0**	**+1.7**
AMT				S	**Sn**	**18 01 12.3**	**+4.0**
AMT				AML	AML	18 01 24.4	
	comp=E,31701μm,0.6s						
AMT				AML	AML	18 01 24.5	
	comp=N,35097μm,0.5s						
LTHK	**Lithakia**	**1.17**	**351**	P	**Pg**	**18 00 54.8**	**-0.1**
LTHK				S	**Sn**	**18 01 12.4**	**+2.6**
	comp=N,6μm,0.6s						
LTHK	**Lithakia**	**1.17**	**351**	P	**Pg**	**18 00 55.2**	**+0.3**
LTHK				AML	AML	18 01 21.4	
	comp=E,11372μm,0.8s						
LTHK				AML	AML	18 01 28.8	
	comp=N,14503μm,0.5s						
VLI	**Veliai**	**1.51**	**83**	P	**Pg**	**18 01 01.5**	**+0.1**
VLI				S	**Sg**	**18 01 24.4**	**+3.3**
	comp=N,2μm,1.2s						
VLI	**Veliai**	**1.51**	**83**	P	**Pg**	**18 01 01.7**	**+0.3**
VLI				S	**Sg**	**18 01 22.0**	**+0.9**
VLI				AML	AML	18 01 33.1	
	comp=E,5109μm,1.2s						
VLI				AML	AML	18 01 42.1	
	comp=N,4230μm,1.1s						
RLS	**Riolos of Patr**	**1.54**	**12**	P	**Pg**	**18 01 01.1**	**-0.7**
RLS	**Riolos of Patr**	**1.54**	**12**	P	**Pg**	**18 01 01.9**	**+0.1**
RLS				AML	AML	18 01 47.1	
	comp=N,4028μm,0.6s						
RLS				AML	AML	18 01 47.2	
	comp=E,4014μm,0.7s						
MNVA	**Monemvasia**	**1.59**	**85**	P	**Pg**	**18 01 02.5**	**-0.4**
MNVA				AML	AML	18 01 40.4	
	comp=E,3969μm,0.9s						
MNVA				AML	AML	18 01 43.5	
	comp=N,1660μm,0.8s						
PSDA	**Pessada-Kefalo**	**1.60**	**346**	P	**Pb**	**18 01 01.1**	**-0.6**
PSDA	**Pessada-Kefalo**	**1.60**	**346**	P	**Pb**	**18 01 01.8**	**+0.2**
VLS	**Valsamata**	**1.67**	**347**	P	**Pb**	**18 01 02.1**	**-0.6**
VLS	**Valsamata**	**1.67**	**347**	P	**Pb**	**18 01 02.7**	**-0.1**
VLS				AML	AML	18 01 39.3	
	comp=E,4113μm,0.8s						
VLS				AML	AML	18 01 40.6	
	comp=N,4091μm,0.7s						
GUR	**Goura**	**1.71**	**36**	P	**Pg**	**18 01 04.1**	**-1.2**
GUR	**Goura**	**1.71**	**36**	P	**Pg**	**18 01 04.5**	**-0.7**
GUR				AML	AML	18 01 44.4	
	comp=E,4438μm,0.8s						
GUR				AML	AML	18 01 48.2	
	comp=N,5526μm,0.5s						
KLV	**Kalavryta, Ach**	**1.72**	**30**	P	**Pg**	**18 01 04.1**	**-1.3**
KLV				S	**Sg**	**18 01 29.1**	**+1.4**
	comp=N,2μm,0.9s						
KLV	**Kalavryta, Ach**	**1.72**	**30**	P	**Pg**	**18 01 04.7**	**-0.6**
KLV				S	**Sg**	**18 01 27.7**	**-0.1**
KLV				AML	AML	18 01 53.0	
	comp=N,3812μm,1.1s						
KLV				AML	AML	18 01 53.4	
	comp=E,2465μm,0.7s						
DMLN	**Damoulianata-K**	**1.77**	**342**	P	**Pb**	**18 01 03.4**	**-1.1**
DMLN	**Damoulianata-K**	**1.77**	**342**	P	**Pb**	**18 01 04.5**	**-0.1**
UPR	**University Cam**	**1.82**	**18**	P	**Pg**	**18 01 05.8**	**-1.5**
ANKY	**Antikythira Is**	**1.93**	**110**	P	**Pb**	**18 01 06.7**	**-0.5**
ANKY				AML	AML	18 02 01.4	
	comp=E,3634μm,1.3s						
ANKY				AML	AML	18 02 01.4	
	comp=N,3032μm,1.0s						
FSK	**Fiskardo**	**1.94**	**348**	P	**Pb**	**18 01 07.2**	**-0.2**
FSK				S	**Sb**	**18 01 31.2**	**-0.3**
FSK				AML	AML	18 01 49.2	
	comp=N,2632μm,1.0s						
FSK				AML	AML	18 01 51.2	
	comp=E,3852μm,0.8s						
EFP	**Efpalio**	**1.99**	**19**	P	**Pg**	**18 01 09.2**	**-1.2**
EFP				AML	AML	18 01 57.6	
	comp=E,2459μm,1.0s						
EFP				AML	AML	18 02 06.2	
	comp=N,2172μm,0.7s						
EVGI	**Lefkada island**	**2.09**	**351**	P	**Pb**	**18 01 09.3**	**-0.6**
ANX	**Ano Chora**	**2.15**	**18**	P	**Pb**	**18 01 11.7**	**+0.7**
ANX				AML	AML	18 02 06.5	
	comp=N,4736μm,0.8s						
ANX				AML	AML	18 02 07.7	
	comp=E,3140μm,1.1s						
NYDR	**Nydri-Lefkada**	**2.18**	**352**	P	**Pb**	**18 01 11.0**	**-0.4**
DLFA	**Delphi**	**2.23**	**30**	P	**Pb**	**18 01 11.6**	**-0.8**
DLFA				S	**Sb**	**18 01 39.2**	**-0.7**
LKD2	**Lefkada island**	**2.26**	**352**	*e*P	**Pg**	**18 01 14.4**	**-1.2**
LKD2	**Lefkada island**	**2.26**	**352**	P	**Pn**	**18 01 07.9**	**-1.2**
LKD2				AMP			
	comp=N,4.7nm,0.8s,baz=359						
LKD2	**Lefkada island**	**2.26**	**352**	P	**Pb**	**18 01 11.5**	**-1.3**
LKD2				AML	AML	18 01 57.9	
	comp=N,2624μm,0.7s						
LKD2				AML	AML	18 02 08.7	
	comp=E,2332μm,0.7s						
TSLK	**Tsoukalades, L**	**2.29**	**352**	P	**Pn**	**18 01 10.8**	**+1.2**
TSLK				AML	AML	18 02 10.1	
	comp=E,2711μm,0.8s						
TSLK				AML	AML	18 02 13.6	
	comp=N,3305μm,0.7s						
EVR	**Evrytania**	**2.43**	**14**	P	**Pb**	**18 01 15.1**	**-0.7**
EVR				AML	AML	18 02 08.6	
	comp=N,2529μm,0.9s						
EVR				AML	AML	18 02 21.5	
	comp=E,1422μm,1.3s						
KNDR	**Palaiochora Ch**	**2.50**	**121**	*e*P	**Pn**	**18 01 13.2**	**+0.8**
IMMV	**Iera Moni Meta**	**2.60**	**114**	*e*P	**Pn**	**18 01 14.8**	**+0.9**
IMMV	**Iera Moni Meta**	**2.60**	**114**	P	**Pn**	**18 01 15.2**	**+1.4**
GVD	**Gavdhos**	**2.99**	**124**	*e*P	**Pn**	**18 01 20.5**	**+1.2**
GVD	**Gavdhos**	**2.99**	**124**	P	**Pn**	**18 01 20.0**	**+0.7**
IGT	**Igoumenitsa**	**3.03**	**349**	P	**Pn**	**18 01 20.1**	**+0.4**
IGT				S	**Sn**	**18 01 52.9**	**-2.9**
IGT				AMP			
	comp=E,1.2nm,0.7s,baz=354						
IGT	**Igoumenitsa**	**3.03**	**349**	P	**Pn**	**18 01 21.7**	**+1.9**
IGT				S	**Sn**	**18 01 57.6**	**+1.8**
THL	**Klokotos Trika**	**3.10**	**14**	P	**Pn**	**18 01 23.5**	**+2.9**
JAN	**Janina**	**3.10**	**357**	P	**Pn**	**18 01 23.7**	**+2.9**
XOR	**Xorichti**	**3.27**	**30**	*e*P	**Pn**	**18 01 25.7**	**+2.6**
KEK	**Kerkira**	**3.31**	**343**	*e*P	**Pn**	**18 01 25.4**	**+1.8**
KEK	**Kerkira**	**3.31**	**343**	Pn	**Pn**	**18 01 25.1**	**+1.5**
KEK	**Kerkira**	**3.31**	**343**	P	**Pn**	**18 01 25.2**	**+1.6**
KEK				S	**Sn**	**18 02 05.4**	**+2.7**
KEK				AML	AML	18 02 06.6	
	comp=E,883μm,0.3s						
KEK				AML	AML	18 02 27.8	
	comp=N,738μm,0.6s						
IDI	**Anoyia**	**3.35**	**111**	Pn	**Pn**	**18 01 25.4**	**+1.2**
	comp=N,7.9nm,0.3s,baz=307,slow=12,SNR=23						
IDI				Sn	**Sn**	**18 02 04.7**	**+0.9**
	comp=N,17nm,0.3s,baz=280,slow=18,SNR=7.5						
KPRO	**Kipourio**	**3.40**	**4**	P	**Pb**	**18 01 28.7**	**-3.7**
KPRO				AML	AML	18 02 11.5	
	comp=E,1300μm,0.5s						
KPRO				AML	AML	18 02 14.4	
	comp=N,1768μm,0.4s						
SRN	**Sarande**	**3.43**	**346**	P	**Pn**	**18 01 27.0**	**+1.9**
SRN				S	**Sn**	**18 02 04.2**	**-1.4**
SRN				AMP			
	comp=E,0.5nm,0.7s,baz=350						
LSK	**Leskovik**	**3.61**	**354**	P	**Pn**	**18 01 28.5**	**+0.7**
LSK				S	**Sn**	**18 02 08.9**	**-1.3**
APE	**Apeiranthos**	**3.62**	**80**	⇑P	**Pb**	**18 01 32.4**	**-3.7**
APE	**Apeiranthos**	**3.62**	**80**	P	**Pb**	**18 01 32.3**	**-3.7**
LIT	**Litokhoron**	**3.71**	**17**	*e*P	**Pn**	**18 01 31.6**	**+2.4**
LIT	**Litokhoron**	**3.71**	**17**		**Pn**	**18 01 28.9**	**-0.3**
LIT	**Litokhoron**	**3.71**	**17**	P	**Pn**	**18 01 28.9**	**-0.3**
SCTE	**Santa Cesarea**	**4.07**	**331**	P	**Pn**	**18 01 35.3**	**+1.3**
SCTE				S	**Sn**	**18 02 18.5**	**-2.8**
SCTE	**Santa Cesarea**	**4.07**	**331**	Pn	**Pn**	**18 01 35.2**	**+1.2**
SCTE					**Sn**	**18 02 19.0**	**-2.3**
KBN	**Korca**	**4.07**	**357**	P	**Pn**	**18 01 35.8**	**+1.7**
KBN				AMP			
	comp=N,1.9nm,0.6s,baz=1.0						
FNA	**Florina**	**4.23**	**3**	*e*P	**Pn**	**18 01 39.2**	**+2.9**
FNA	**Florina**	**4.23**	**3**	P	**Pn**	**18 01 38.5**	**+2.2**
FNA				S	**Sn**	**18 02 25.6**	**+0.1**
FNA	**Florina**	**4.23**	**3**		**Pn**	**18 01 37.9**	**+1.6**
FNA	**Florina**	**4.23**	**3**	*e*Pn	**Pn**	**18 01 38.7**	**+2.4**
FNA	**Florina**	**4.23**	**3**	P	**Pn**	**18 01 37.9**	**+1.6**
FNA	**Florina**	**4.23**	**3**	P	**Pn**	**18 01 38.9**	**+2.5**
FNA				AML	AML	18 02 29.2	
	comp=E,985μm,0.5s						
FNA				AML	AML	18 02 30.2	
	comp=N,654μm,0.5s						
TIP	**Timpagrande**	**4.30**	**309**	Pn	**Pn**	**18 01 38.6**	**+1.3**
TIP	**Timpagrande**	**4.30**	**309**	⇓P	**Pn**	**18 01 37.8**	**+0.5**
TIP	**Timpagrande**	**4.30**	**309**	P	**Pn**	**18 01 37.2**	**-0.1**
THE	**Thessaloniki**	**4.34**	**19**	P	**Pn**	**18 01 39.4**	**+1.7**
THE				S	**Sn**	**18 02 31.8**	**+3.8**
HORT	**Hortiatis**	**4.34**	**21**	*e*P	**Pn**	**18 01 40.1**	**+2.3**
OUR	**Ouranopolis**	**4.41**	**30**	*e*P	**Pn**	**18 01 40.8**	**+2.1**
CEL	**Celeste**	**4.46**	**294**		**Pn**	**18 01 41.2**	**+1.8**
CEL	**Celeste**	**4.46**	**294**	P	**Pn**	**18 01 39.5**	**+0.1**
OHR	**Ohrid**	**4.56**	**357**	*e*Pn	**Pn**	**18 01 42.7**	**+1.9**
OHR	**Ohrid**	**4.56**	**357**	*i* Pn	**Pn**	**18 01 43.9**	**+3.1**
DGB	**zmir**	**4.87**	**70**	P	**Pn**	**18 01 49.1**	**+4.1**
DGB				S	**Sn**	**18 02 35.7**	**-5.4**
TIR	**Tirane**	**4.88**	**349**	*e*P	**Pn**	**18 01 47.4**	**+2.2**
TIR	**Tirane**	**4.88**	**349**	S	**Sn**	**18 02 40.1**	**-1.3**
TIR	**Tirane**	**4.88**	**349**	Pn	**Pn**	**18 01 46.2**	**+1.0**
TIR	**Tirane**	**4.88**	**349**	⇑P	**Pn**	**18 01 44.7**	**-0.5**
TIR	**Tirane**	**4.88**	**349**	P	**Pn**	**18 01 46.2**	**+1.0**
VAY	**Valandovo**	**4.90**	**13**	*e*Pn	**Pn**	**18 01 48.9**	**+3.4**
SRS	**Serrai**	**4.96**	**23**	*e*P	**Pn**	**18 01 48.3**	**+1.9**
SRS	**Serrai**	**4.96**	**23**	*e*Pn	**Pn**	**18 01 48.0**	**+1.6**
KARP	**Karpathos**	**5.04**	**100**	Pn	**Pn**	**18 01 47.2**	**-0.2**
KARP	**Karpathos**	**5.04**	**100**	P	**Pn**	**18 01 46.9**	**-0.5**
GCAM	**G?zelcaml?**	**5.06**	**75**	P	**Pn**	**18 01 44.3**	**-3.3**
BDRM	**Kayabasi**	**5.14**	**82**	P	**Pn**	**18 01 49.3**	**+0.5**
DAT	**Datca**	**5.24**	**86**	P	**Pn**	**18 01 50.7**	**+0.5**
IZMD	**zmir-Dikili-**	**5.24**	**61**	P	Pn	18 01 54.9	+4.7
MATE	**Matera**	**5.33**	**321**	*e*P	**Pn**	**18 01 51.8**	**+0.5**
WDD	**Wied Dalam**	**5.34**	**264**	Pn	**Pn**	**18 01 52.5**	**+1.1**
BAYC	**CANAKKALE_Bayr**	**5.36**	**52**	P	**Pn**	**18 01 51.5**	**-0.3**
CUC	**Castrocucco**	**5.37**	**311**		**Pn**	**18 01 53.6**	**+1.6**
VAE	**Valguarnera**	**5.41**	**282**	Pn	**Pn**	**18 01 55.5**	**+3.0**
	comp=N,48nm,0.7s,baz=131,slow=19,SNR=16						
VAE				Sn	**Sn**	**18 02 54.4**	**0.0**
	comp=N,7.6nm,0.3s,baz=173,slow=21,SNR=1.6						
PEHC	**Pehcevo**	**5.41**	**15**	*i* Pn	**Pn**	**18 01 53.9**	**+1.3**
RAFF	**Raffo Rosso**	**5.42**	**279**	Pn	**Pn**	**18 01 53.8**	**+1.3**
PUK	**Puka**	**5.56**	**351**	P	**Pn**	**18 01 56.0**	**+1.5**
PUK				S	**Sn**	**18 02 58.2**	**+0.1**
PUK				AMP			
	comp=E,0.7nm,0.4s,baz=354						
PUK	**Puka**	**5.56**	**351**		**Pn**	**18 01 55.7**	**+1.2**
BUHA	**Balikesir, Bur**	**5.58**	**56**	P	Pn	18 02 01.4	+6.5
ULC	**Ulcinj**	**5.58**	**346**	*e*Pn	**Pn**	**18 01 54.9**	**0.0**
ULC				*i* Sn	**Sn**	**18 02 56.5**	**-2.3**
ARG	**Arkhangelos**	**5.70**	**91**		**Pn**	**18 01 56.3**	**-0.2**
ARG	**Arkhangelos**	**5.70**	**91**	P	**Pn**	**18 01 56.3**	**-0.2**
RDO	**Rodhopi

BOVS Bovan 7.09 4 *e*Pn **Pn 18 02 15.4 -0.1**
BOVS Bovan 7.09 4 ⇓P **Pn 18 02 15.4 -0.1**
RUDO Rudo 7.17 350 *e*Pn **Pn 18 02 16.0 -0.7**
ZAGS Zajecar 7.31 7 *e*Pn **Pn 18 02 19.5 +1.0**
GRUS Gruza 7.33 358 *e*Pn **Pn 18 02 19.1 +0.3**
ELND Elena 7.37 29 ⇑P **Pn 18 02 21.9 +2.6**
BBLS Lazi&#263i 7.41 351 *e*Pn **Pn 18 02 19.6 -0.4**
BBLS Lazi&#263i 7.41 351 *e*Pn **Pn 18 02 19.8 -0.2**
DIVS Divibare 7.58 354 *e*Pn **Pn 18 02 22.4 +0.1**
DIVS *e*Sn **Sn 18 03 41.7 -6.3**
ISP Isparta 7.65 78 *e*Pn **Pn 18 02 24.2 +0.8**
ISP Isparta 7.65 78 P **Pn 18 02 24.2 +0.8**
TRUS Trudelj 7.68 356 *e*Pn **Pn 18 02 23.8 +0.2**
INTR Introdacqua 7.78 317 P **Pn 18 02 27.3 +2.3**
KUBS Kucevo 7.86 3 *e*Pn **Pn 18 02 25.5 -0.6**
TEKS Tekeris 8.07 352 *e*Pn **Pn 18 02 28.1 -0.9**
TEKS Tekeris 8.07 352 *e*Pn **Pn 18 02 26.5 -2.5**
MDVR Moldovita 8.23 3 ⇓P **Pn 18 02 32.5 +1.2**
HERR Herculane 8.38 7 ⇑P **Pn 18 02 33.3 +0.1**
CAMP Campotosto 8.41 318 **Pn 18 02 35.7 +2.1**
A050A Klekovaca 8.64 338 *e*Pn **Pn 18 02 37.9 +1.1**
FRGS Fruska Gora 8.65 354 *e*Pn **Pn 18 02 35.6 -1.3**
FRGS Fruska Gora 8.65 354 *e*Pn **Pn 18 02 33.9 -3.0**
BLY Banja Luka 8.70 341 *e*Pn **Pn 18 02 37.9 +0.3**
NRCA Norcia 8.77 318 **Pn 18 02 40.7 +2.1**
GUMA Gualdo di Mace 8.81 320 **Pn 18 02 41.3 +2.1**
CESX Cesi 8.91 315 Pn **Pn 18 02 42.4 +1.9**
FDMO Fiordimonte 8.92 319 **Pn 18 02 42.9 +2.3**
GZR Gura Zlata 8.93 8 ⇑P **Pn 18 02 41.7 +0.9**
GZR Gura Zlata 8.93 8 P **Pn 18 02 41.6 +0.9**
A051A Mrakovica 9.02 341 *e*Pn **Pn 18 02 41.8 -0.2**
BZS Buzias 9.06 2 ⇓P **Pn 18 02 43.8 +1.1**
BZS Buzias 9.06 2 P **Pn 18 02 43.7 +1.1**
LOT Lotru 9.12 12 ⇓P **Pn 18 02 45.4 +2.0**
ICOR Ion Corvin 9.13 32 ⇑P **Pn 18 02 45.6 +2.1**
ARR Arges 9.21 16 ⇑P **Pn 18 02 46.0 +1.4**
SURR Surduc 9.23 5 ⇓P **Pn 18 02 45.7 +0.9**
KEST Kesra 9.52 269 Pn **Pn 18 02 51.3 +2.4**
comp=E,0.8nm,0.3s,baz=103,slow=13,SNR=9.7
KEST Sn **Sn 18 04 34.1 -1.6**
comp=E,0.2nm,0.3s,baz=98,slow=21,SNR=1.8
comp=E,11nm,0.8s
TLBR Topalu 9.58 31 ⇑P **Pn 18 02 51.4 +1.7**
HARR Harsova 9.65 31 ⇓P **Pn 18 02 52.5 +1.9**
HARR Harsova 9.65 31 P **Pn 18 02 52.5 +1.9**
MLR Muntele Rosu 9.66 21 **Pn 18 02 50.2 -0.6**
MLR Muntele Rosu 9.66 21 Pn Pn 18 02 55.7 +4.9
comp=E,0.9nm,0.3s,baz=212,slow=9.8,SNR=7.0
MLR Muntele Rosu 9.66 21 ⇑P **Pn 18 02 52.3 +1.5**
MLR Muntele Rosu 9.66 21 P **Pn 18 02 52.3 +1.5**
VSL Villasalto 9.68 291 Pn **Pn 18 02 51.7 +0.6**
NEHR Nehoiu 9.70 22 ⇓P **Pn 18 02 53.7 +2.3**
MORH Mrgy, Hungar 9.82 350 ⇓P **Pn 18 02 52.6 -0.3**
MORH Mrgy, Hungar 9.82 350 P **Pn 18 02 52.2 -0.8**
BISRR Bisoca 9.94 24 ⇑P **Pn 18 02 55.5 +0.8**
DOPR Dopca 9.95 18 ⇓P **Pn 18 02 55.7 +1.0**
CASP Castiglione de 10.03 312 Pn **Pn 18 02 55.8 -0.1**
COVR Voineasa-Covas 10.05 21 ⇓P **Pn 18 02 58.3 +2.1**
CSS Mathiatis 10.09 95 Pn **Pn 18 02 55.3 -1.5**
CFR Carcaliu 10.14 30 ⇑P **Pn 18 02 59.3 +2.0**
CFR Carcaliu 10.14 30 P **Pn 18 02 59.3 +2.0**
OZUR 10.17 19 ⇓P **Pn 18 03 00.0 +2.2**
CRES Cresnjevec Ost 10.18 337 *e*Pn **Pn 18 02 57.4 -0.5**
PLOR Plostina 10.19 23 ⇑P **Pn 18 02 59.8 +1.7**
PLOR Plostina 10.19 23 P **Pn 18 02 59.8 +1.7**
TURR Turia 10.19 20 ⇓P **Pn 18 03 00.0 +1.9**
MARR Marisel-Cluj 10.23 8 ⇑P **Pn 18 02 59.4 +0.8**
VRI Vrincioaia 10.23 23 ⇑P **Pn 18 02 59.4 +0.8**
VRI Vrincioaia 10.23 23 P **Pn 18 02 59.3 +0.8**
BR131 Keskin Array S 10.40 68 Pn **Pn 18 03 00.4 -0.6**
BR131 Keskin Array S 10.40 68 *i* P **Pn 18 03 02.8 +1.8**
BRTR Keskin Array B 10.40 68 Pn **Pn 18 03 01.1 +0.1**
BRTR Keskin Array B 10.40 68 Pn **Pn 18 03 04.9 +3.9**
baz=350,slow=6.3,SNR=1.4
BRTR Keskin Array B 10.40 68 P **Pn 18 03 01.1 +0.1**
BEHE Becsehely 10.42 343 **Pn 18 03 00.8 -0.3**
CEY Cerknica 10.45 333 *e*Pn **Pn 18 03 02.1 +0.5**
GHRR 10.62 25 P **Pn 18 03 02.4 -1.5**
ARCR ARCALIA 10.80 12 ⇓P **Pn 18 03 08.1 +1.7**
MPLH Magyarpolny 10.93 347 P **Pn 18 03 07.4 -0.7**
comp=E,33nm,1.2s
ZCCA Zocca 10.94 319 Pn **Pn 18 03 11.4 +3.1**
SABO M.te Sabotino 10.96 332 **Pn 18 03 08.5 -0.1**
SABO **Sn 18 05 04.6 -6.3**
SOKA Soboth 11.07 338 *e*Pn **Pn 18 03 08.5 -1.7**
comp=E,9.2nm,0.4s,SNR=20
SOKA *e*Sn **Sn 18 05 05.9 -7.9**
comp=E,5.1nm,0.5s
OBKA Obir 11.08 336 *e*Pn **Pn 18 03 10.5 +0.2**
comp=E,10nm,0.3s,SNR=23
OBKA *e*Sn **Sn 18 05 07.4 -6.5**
comp=E,48nm,0.7s
OBKA Obir 11.08 336 *e*Pn **Pn 18 03 08.7 -1.5**
TEOL Teolo 11.30 324 Pn **Pn 18 03 13.2 0.0**
PRED Cave del Predi 11.36 333 **Pn 18 03 13.6 -0.6**
PSZ Piszkesteto 11.39 356 **Pn 18 03 14.2 -0.3**
PSZ Piszkesteto 11.39 356 ⇓P **Pn 18 03 15.2 +0.7**
PSZ Piszkesteto 11.39 356 P **Pn 18 03 15.2 +0.7**
ARSA Arzberg 11.46 341 Pn **Pn 18 03 15.9 +0.6**
comp=E,3.2nm,0.3s,SNR=9.3
ARSA *e*Sn **Sn 18 05 15.4 -7.6**
comp=E,3.2nm,0.6s
BURAR Bucovina Array 11.47 14 Pn **Pn 18 03 16.8 +1.1**
BURAR Bucovina Array 11.47 14 ⇓P **Pn 18 03 17.9 +2.2**
BURAR Bucovina Array 11.47 14 P **Pn 18 03 17.8 +2.2**
MYKA Terra Mystica 11.49 333 *i* Pn **Pn 18 03 17.3 +1.4**
comp=E,5.1nm,0.4s,SNR=5.9
MYKA *e*Sn **Sn 18 05 19.4 -4.7**
comp=E,5.9nm,0.5s
PRMA PARMA 11.57 318 Pn **Pn 18 03 15.8 -1.0**
TRSU Trosnyk 11.62 6 P **Pn 18 03 16.4 -1.1**
RONA Rosalia, Austr 11.69 344 Pn **Pn 18 03 18.4 -0.1**
comp=E,2.4nm,0.5s,SNR=5.0
CIMO Cimolais 11.69 329 **Pn 18 03 18.8 +0.2**
BERU Beregovo 11.73 5 P **Pn 18 03 18.3 -0.8**
CTI Castel Tesino 11.83 326 **Pn 18 03 19.8 -0.7**
CTI Castel Tesino 11.83 326 P **Pn 18 03 19.8 -0.7**
KECS Kecovo 11.93 358 *e*P **Pn 18 03 23.9 +2.1**
KECS Kecovo 11.93 358 *e*PN **Pn 18 03 23.9 +2.1**
KBA Koelnbreinsper 11.98 334 *i* Pn **Pn 18 03 23.9 +1.2**
comp=E,5.9nm,0.3s
CONA Conrad Observa 12.00 343 *e*Pn **Pn 18 03 23.8 +1.0**
comp=E,1.4nm,0.4s
ABTA Abfaltersbach 12.02 331 *i* Pn **Pn 18 03 24.4 +1.2**
comp=E,3.2nm,0.3s,SNR=9.2
VYHS Vyhne 12.05 353 *e*P **Pn 18 03 25.2 +1.8**
VYHS *e* 18 05 32.7
VYHS Vyhne 12.05 353 *e*PN **Pn 18 03 25.2 +1.8**
VYHS Vyhne 12.05 353 *e*SN **Sn 18 05 32.7 -4.7**
MMAI Mount Meron Ar 12.30 102 Pn **Pn 18 03 23.7 -3.4**
comp=E,0.5nm,0.3s,baz=288,slow=14,SNR=1.6
MMAI Sn **Sn 18 05 36.0 -8.0**
comp=E,1.8nm,0.3s,baz=301,slow=21,SNR=1.7
MOA Molln 12.36 338 *i* Pn **Pn 18 03 28.6 +0.9**
comp=E,9.9nm,0.3s,SNR=23
STNU Starunia 12.41 11 P **Pn 18 03 27.6 -0.7**
BIOA Bad Ischl, Aus 12.41 336 *e*Pn **Pn 18 03 29.3 +0.8**
comp=E,14nm,0.3s,SNR=13
LESA Schwarzleotal 12.52 333 *i* Pn **Pn 18 03 31.3 +1.4**
comp=E,11nm,0.3s
SORM Soroca 12.76 23 P **Pn 18 03 32.4 -0.7**
comp=E,6.8nm,1.9s
WTTA Wattenberg 12.79 330 *i* Pn **Pn 18 03 36.1 +2.4**
comp=E,3.1nm,0.3s,SNR=6.8
BALJ Balqa 12.84 106 Pn **Pn 18 03 31.7 -2.7**
WATA Walderalm 12.87 330 *i* Pn **Pn 18 03 37.4 +2.6**
comp=E,4.0nm,0.3s
FUORN Ofenpass-Fuorn 12.89 325 **Pn 18 03 36.4 +1.2**
SQTA Sankt Quirin 12.93 329 *i* Pn **Pn 18 03 38.2 +2.6**
comp=E,3.9nm,0.3s,SNR=5.6
FETA Feichten 12.98 327 *i* Pn **P 18 03 42.9 -4.0**
comp=E,1.0nm,0.3s
MOTA Moosalm 13.07 329 *i* Pn **Pn 18 03 40.2 +2.6**
comp=E,3.2nm,0.3s
GHAJ Ghor Haditha 13.12 109 **Pn 18 03 37.9 -0.2**
GHAJ Ghor Haditha 13.12 109 P **Pn 18 03 38.8 +0.6**
DAVOX Davos/Dischmat 13.19 324 Pn **Pn 18 03 42.5 +3.3**
comp=E,0.9nm,0.3s,baz=157,slow=13,SNR=11
DAVOX Sn **Sn 18 06 00.1 -5.5**
comp=E,0.4nm,0.3s,baz=139,slow=20,SNR=3.6
CKRC Cesky Krumlov 13.22 340 *e*PN **Pn 18 03 40.0 +0.5**
CKRC Cesky Krumlov 13.22 340 *e*P **Pn 18 03 40.0 +0.5**
TUE Stuetta 13.23 322 **Pn 18 03 40.8 +1.1**

MBRI Mt Berech 13.41 116 P **Pn 18 03 42.7 +0.6**
GEC2 GERESS Array S 13.42 339 **Pn 18 03 41.7 -0.5**
GERES GERESS Array B 13.42 339 **Pn 18 03 41.7 -0.5**
GERES GERESS Array B 13.42 339 Pn **Pn 18 03 42.9 +0.7**
comp=E,3.6nm,0.3s,baz=153,slow=14,SNR=28
GERES Sn **Sn 18 06 02.8 -8.3**
comp=E,1.7nm,0.3s,baz=152,slow=23,SNR=11
MORC Moravsky Berou 13.46 350 Pn **Pn 18 03 43.5 +0.7**
MORC Moravsky Berou 13.46 350 P **Pn 18 03 43.5 +0.7**
EIL Elat 13.50 117 Pn **Pn 18 03 42.9 -0.5**
comp=E,0.9nm,0.3s,baz=288,slow=12,SNR=6.4
EIL Sn Sn 18 06 01.4 -12
comp=E,0.6nm,0.3s,baz=317,slow=19,SNR=2.5
comp=E,3.0nm,0.5s
DAVA Damuels 13.56 326 *i* Pn **Pn 18 03 47.4 +3.2**
comp=E,1.6nm,0.3s
KHC Kasperske Hory 13.71 339 **Pn 18 03 44.3 -1.8**
KHC Kasperske Hory 13.71 339 *e*PN **Pn 18 03 47.2 +1.1**
KHC *e*SN **Sn 18 06 09.8 -8.3**
KHC Kasperske Hory 13.71 339 *e*P **Pn 18 03 47.2 +1.1**
KHC Kasperske Hory 13.71 339 P **Pn 18 03 45.7 -0.4**
comp=E,4.6nm,1.9s
ASF Jabal al Asfar 13.79 104 Pn **Pn 18 03 49.0 +1.8**
comp=E,0.4nm,0.3s,baz=228,slow=16,SNR=8.2
comp=E,1.1nm,0.4s
BNI Bardonecchia 13.80 312 Pn **Pn 18 03 48.4 +0.9**
BNI Bardonecchia 13.80 312 P **Pn 18 03 48.4 +0.9**
ZVC Zvikov 13.82 341 *e*PN **Pn 18 03 47.6 0.0**
SENIN Lac Senin/Sane 14.22 318 Pn **Pn 18 03 55.2 +2.0**
GRA1 Grafenberg Arr 14.95 335 Pn **Pn 18 04 05.7 +2.7**
GRA1 IAmb IAmb 18 04 25.8
comp=Z,15nm,1.0s
GRF Grafenberg Arr 14.95 335 P **Pn 18 04 05.7 +2.7**
GRF pmax pmax
comp=Z,15nm,1.0s
BFO Black Forest 15.04 325 Pn **Pn 18 04 05.0 +0.8**
BFO IAmb IAmb 18 04 43.8
comp=Z,8.5nm,1.1s
BFO Black Forest 15.04 325 P **Pn 18 04 05.0 +0.8**
BFO pmax pmax
comp=Z,8.0nm,1.1s
RNPP5 Staryi Chortor 15.07 12 P **Pn 18 04 04.1 -0.5**
MI28 Mi28,Pidlybu 15.13 16 P **Pn 18 04 04.7 -0.7**
AK07 Malin Array Si 15.17 20 P **Pn 18 04 05.1 -0.8**
AK06 Malin Array Si 15.20 20 P **Pn 18 04 04.3 -2.0**
AK14 Malin Array Si 15.21 20 P **Pn 18 04 05.5 -1.0**
AK10 Malin Array Si 15.23 20 P **Pn 18 04 06.1 -0.6**
AKASG Malin Array Be 15.31 20 Pn **Pn 18 04 07.8 +0.1**
comp=Z,0.7nm,0.3s,baz=215,slow=10,SNR=5.2
AKASG Sn **Sn 18 07 03.5 +6.6**
comp=Z,0.2nm,0.3s,baz=201,slow=22,SNR=1.7
comp=Z,1.3nm,0.7s
AKBB Malin Array Si 15.31 20 *i* P **Pn 18 04 08.8 +1.0**
AKBB Malin Array Si 15.31 20 P **Pn 18 04 07.2 -0.6**
ECH Echery 15.51 323 **Pn 18 04 11.0 +0.5**
ECH IAmb IAmb 18 04 27.3
comp=Z,16nm,1.3s
ECH Echery 15.51 323 P **Pn 18 04 11.0 +0.5**
ECH pmax pmax
comp=Z,16nm,1.3s
CLL Collm 15.84 341 *i* P **P 18 04 20.9 +2.6**
CLL Collm 15.84 341 *e*PP **P** 18 04 26.0 +7.7
WLF Walferdange 17.00 325 P **P 18 04 30.7 -0.5**
WLF IAmb IAmb 18 04 56.4
comp=Z,19nm,1.3s
WLF Walferdange 17.00 325 P **P 18 04 30.7 -0.5**
WLF pmax pmax
comp=Z,19nm,1.3s
SUW Suwalki 17.52 4 P **Pn 18 04 35.9 0.0**
SUW Suwalki 17.52 4 P **Pn 18 04 35.9 0.0**
SUW pmax pmax
comp=Z,43nm,0.9s
KIV Kislovodsk 18.05 59 P **Pn 18 04 41.9 -0.7**
KIV Kislovodsk 18.05 59 *e*P **P 18 04 44.6 +1.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 18.13 60 P **P 18 04 45.1 +1.3**
comp=Z,0.3nm,0.3s,baz=249,slow=2.5,SNR=10
comp=Z,3.7nm,0.6s
KBZ Khabaz 18.13 60 *i* P **P 18 04 45.9 +2.1**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
MNK Minsk 18.56 13 *i* P **P 18 04 47.1 -1.4**
comp=Z,20nm,0.8s
MNK *i* P **pP 18 04 49.4 -1.9**
comp=E,26nm,0.9s
MNK *i* P **pP 18 04 49.4 -1.9**
comp=N,18nm,0.8s,baz=197
MNK *i* PP **PnPn 18 05 01.6 +1.2**
MNK *i* S **S 18 08 21.5 +2.0**
MNK *i* SS **SnSn 18 08 37.7 +8.2**
MNK *i* LQ LQ 18 10 22.3
MNK *i* LR LR 18 11 46.5
MNK *i* LRM MLR 18 13 14.7
comp=Z,177nm,16.2s
MNK *i* LRM MLR 18 13 15.4
comp=E,294nm,17.3s
MNK Minsk 18.56 13 *i* P **P 18 04 47.0 -1.4**
MNK *i* S **S 18 08 21.4 +2.0**
MNK pmax pmax
comp=Z,20nm,0.8s
MNK pmax pmax
comp=N,18nm,0.8s
MNK pmax pmax
comp=E,26nm,0.9s
MNK MLR MLR
comp=Z,177nm,16.0s
MNK MLR MLR
comp=E,294nm,17.0s
NACGM Naroch 18.77 10⇑ *i*P **Pn 18 04 51.3 +0.1**
comp=Z,27nm,0.8s,baz=194
GNI Garni 18.90 72 P **P 18 04 51.9 -0.6**
GNI IAmb IAmb 18 05 31.5
comp=Z,17nm,0.9s
GNI Garni 18.90 72 P **Pn 18 04 54.4 +1.3**
comp=Z,9.6nm,1.0s,baz=256,slow=12,SNR=3.1
GNI Garni 18.90 72 *i* P **Pn 18 04 53.1 0.0**
PABE Paberze 19.06 5 P **P 18 04 54.1 +0.3**
TAM Tamanrasset 19.21 229 P **P 18 04 54.7 -1.3**
TAM Tamanrasset 19.21 229 P **P 18 04 54.7 -1.3**
TAM pmax pmax
comp=Z,3.0nm,1.1s
VORD Divnogorie 19.44 36 *e*P **Pn 18 04 58.7 -0.6**
VORD pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 19.54 36 *e*P **P 18 04 58.9 -0.3**
VSR pmax pmax
comp=Z,4.0nm,0.9s
ESDC Sonseca Array 19.92 287 P **Pn 18 05 05.5 +0.3**
comp=Z,0.1nm,0.3s,baz=82,slow=10,SNR=9.1
comp=Z,1.0nm,0.7s
LPSR Galich'ya Gora 20.39 32 *e*P **P 18 05 07.8 -0.6**
LPSR pmax pmax
comp=Z,20nm,0.9s
VRH Novokhopyorsk 20.78 39 *e*P Pn 18 05 15.0 -0.1
VRH pmax pmax
comp=Z,10.0nm,0.9s
AKT Akhty 21.25 68 *e*P **P 18 05 20.4 +2.4**
AKT *e* 18 05 40.0
AKT pmax pmax
comp=Z,9.0nm,0.9s
OBN Obninsk 21.39 25⇑ *e*P **P 18 05 18.3 -0.8**
OBN *i* *PP **sP 18 05 24.0 +0.6**
OBN *e* 18 05 45.6
OBN pmax pmax
comp=Z,20nm,0.7s
MDT Midelt 21.42 268 P **P 18 05 20.8 +0.9**
comp=Z,2.9nm,0.9s,baz=125,slow=16,SNR=10
comp=Z,2.9nm,0.9s
VSU Vasula 22.24 8*ce*P **P 18 05 28.2 0.0**
VSU pmax pmax
comp=Z,52nm,0.8s
MOS Moscow 22.25 25 *e*P **P 18 05 29.0 +0.6**
MOS *e* 18 05 51.5
MOS *e*S **S 18 09 31.6 -1.0**
MOS pmax pmax
comp=Z,40nm,0.8s
HFS Hagfors 24.07 351 P **P 18 05 46.9 +0.1**
comp=Z,1.0nm,0.3s,baz=167,slow=9.7,SNR=12
comp=Z,1.0nm,0.3s
BELG Belogornoye 24.50 41 *i* P **P 18 05 51.1 +0.3**
BELG pmax pmax
comp=Z,5.0nm,0.9s
RAYN Ar Rayn 24.74 115 P **P 18 05 52.1 -1.2**
RAYN IAmb IAmb 18 05 57.2
comp=Z,5.5nm,1.3s
RAYN Ar Rayn 24.74 115 P **P 18 05 52.1 -1.2**
RAYN pmax pmax
comp=Z,6.0nm,1.3s
NC602 NORSAR Array S 24.95 349 P **P 18 05 53.2 -1.6**
FINES FINESS Array B 25.11 6 P **P 18 05 56.4 +0.1**
comp=Z,2.8nm,0.7s,baz=181,slow=8.9,SNR=12
comp=Z,2.8nm,0.7s
FIA1 FINESS Array S 25.11 6 P **P 18 05 56.3 +0.1**
NC405 NORSAR Array S 25.29 349 P **P 18 05 58.0 +0.1**
NC405 IAmb IAmb 18 06 11.7
comp=Z,9.5nm,1.1s
NB201 NORSAR Array S 25.29 349 P **P 18 05 57.9 0.0**
NB2 NORSAR Subarra 25.29 349 P **P 18 05 57.7 -0.3**
comp=Z,2.2nm,0.7s,baz=158,slow=9.3
NOA NORSAR Array B 25.29 349 P **P 18 05 58.3 +0.3**
comp=Z,1.3nm,0.8s,baz=158,slow=9.1,SNR=6.8
comp=Z,1.3nm,0.8s
NBO00 NORSAR Array S 25.36 348 P **P 18 05 57.6 -0.9**
NBO00 IAmb IAmb 18 06 21.4
comp=Z,7.1nm,0.8s
NC303 NORSAR Array S 25.45 349 P **P 18 05 59.3 0.0**
TORD Torodi Ar. Bea 29.07 222 P **P 18 06 33.4 +1.1**
comp=Z,1.0nm,0.6s,baz=27,slow=9.7,SNR=7.5
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 30.83 53 P **P 18 06 47.1 -0.4**
ABKAR Akbulak array 30.83 53 P **P 18 06 46.8 -0.8**
ABKAR IAmb IAmb 18 07 17.9
comp=Z,4.2nm,1.4s
ARTI Arti 31.90 40 P **P 18 06 56.3 -0.6**
ARTI IAmb IAmb 18 07 10.2
comp=Z,3.6nm,0.7s
ARTI Arti 31.90 40*c i*P **P 18 06 56.2 -0.7**
ARTI 18 07 57.1
ARTI S **S 18 12 06.1 -1.0**
ARTI SS **SnSn 18 13 51.3 -4.1**
ARTI pmax pmax
comp=Z,5.0nm,1.4s
ARCES ARCESS Array B 33.13 3 P **P 18 07 07.7 +0.2**
comp=Z,2.4nm,0.9s,baz=189,slow=5.4,SNR=4.8
comp=Z,2.4nm,0.9s
ARCES ARCESS Array B 33.13 3 P **P 18 07 08.1 +0.6**
ARCES pmax pmax
comp=Z,10.0nm,1.2s
SIMJ Simiganj 37.70 72 P **P 18 07 45.8 -1.5**
SIMJ IAmb IAmb 18 08 19.3
comp=Z,5.4nm,1.2s
BRVK Borovoye 37.79 48 P **P 18 07 47.0 -0.7**
BRVK Borovoye 37.79 48 *i* P **P 18 07 47.4 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BVAR Borovoye Array 37.85 48 P **P 18 07 48.4 +0.1**
comp=Z,1.5nm,0.6s,baz=268,slow=6.9,SNR=5.4
comp=Z,1.5nm,0.6s
DBIC Dimbokro 38.02 225 P **P 18 07 51.3 +1.2**
comp=Z,3.5nm,0.7s,baz=27,slow=7.6,SNR=4.9
comp=Z,3.5nm,0.7s
KKAR Karatay Array 38.08 64 P **P 18 07 49.5 -0.9**
KKAR Karatay Array 38.08 64 P **P 18 07 49.6 -0.8**
KKAR Karatay Array 38.08 64 P **P 18 07 49.6 -0.8**
GAR Garm 38.63 71 P **P 18 07 54.8 -0.3**
GAR IAmb IAmb 18 08 10.3
comp=Z,6.1nm,0.8s
BTK Batken 38.79 69 P **P 18 07 56.7 +0.2**
BTK Batken 38.79 69 P **P 18 07 56.7 +0.2**
BTK pmax pmax
comp=Z,3.0nm,0.9s
ARSB Arslanbob 40.17 67 P **P 18 08 08.3 +0.3**
ARSB Arslanbob 40.17 67 P **P 18 08 08.3 +0.3**
ARSB pmax pmax
comp=Z,1.0nm,0.7s
AAK Ala-Archa 41.04 64 P **P 18 08 15.5 +0.3**
AAK Ala-Archa 41.04 64 *i* P **P 18 08 16.2 +1.0**
AAK pmax pmax
comp=Z,2.0nm,0.8s
SPITS Spitsbergen Ar 41.78 359 P **P 18 08 22.1 +1.4**
comp=Z,1.3nm,0.4s,baz=147,slow=11,SNR=10
comp=Z,1.3nm,0.4s
KIBK Kibwezi 41.80 154 P **P 18 08 21.2 -0.4**
NRN Naryn 42.37 66 P **P 18 08 25.5 -0.8**
NRN Naryn 42.37 66 P **P 18 08 25.5 -0.8**
NRN pmax pmax
comp=Z,4.0nm,1.2s
KSH Kashi 42.78 69 P **P 18 08 29.5 0.0**
KURBB Kurchatov Arra 42.86 52 P **P 18 08 29.9 +0.1**
comp=Z,1.3nm,0.3s,baz=273,slow=8.7,SNR=1.5
comp=Z,1.3nm,0.3s
KURK Kurchatov 42.91 52 P **P 18 08 29.9 -0.3**
WUS Wushi 44.79 65 IAmb IAmb 18 08 51.4
comp=Z,3.7nm,0.7s
MK31 Makanchi Array 45.80 57 P **P 18 08 52.4 -0.9**
MK31 IAmb IAmb 18 09 01.3
comp=Z,1.6nm,0.7s
MK31 Makanchi Array 45.80 57 *i* P **P 18 08 52.5 -0.9**
MKAR Makanchi Array 45.80 57 P **P 18 08 52.3 -1.1**
MKAR Makanchi Array 45.80 57 P **P 18 08 52.7 -0.7**
comp=Z,1.0nm,0.3s,baz=273,slow=7.8,SNR=24
comp=Z,1.0nm,0.3s
ZAA0 Zalesovo Array 46.46 47 P **P 18 08 57.2 -1.3**
ZAA0 IAmb IAmb 18 09 06.9
comp=Z,4.5nm,1.1s
ZALV Zalesovo Beam 46.46 47 P **P 18 08 56.7 -1.8**
ZALV Zalesovo Beam 46.46 47 P **P 18 08 57.9 -0.5**
comp=Z,2.5nm,0.4s,baz=271,slow=9.6,SNR=14
comp=Z,2.5nm,0.4s
SONM Songino Array 61.16 50 P **P 18 10 45.9 -0.4**
SONM IAmb IAmb 18 11 01.8
comp=Z,3.6nm,1.4s
SONM Songino Array 61.16 50 P **P 18 10 46.6 +0.4**
comp=Z,0.9nm,0.9s,baz=271,slow=8.8,SNR=1.6
comp=Z,0.9nm,0.9s
HHC Hu-ho-hao-te 67.60 55 *e*P **P 18 11 27.5 -1.0**
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,170nm,4.5s
PZH PanZhiHua 67.66 73 P **P 18 11 28.8 -0.3**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,110nm,4.7s
CMAR Chiang Mai Arr 69.69 82 P **P 18 11 42.6 +0.9**
comp=Z,0.5nm,0.7s,baz=287,slow=6.2,SNR=4.8
comp=Z,0.5nm,0.7s
HEH HeiHe 71.99 40 *e*P **P 18 11 55.8 +0.6**
HEH pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 75.06 340 P **P 18 12 14.5 +1.4**
comp=Z,0.8nm,0.7s,baz=12,slow=8.9,SNR=2.5
comp=Z,0.8nm,0.7s
USRK Ussuriysk Ar. 78.16 43 P **P 18 12 31.9 +1.0**
comp=Z,1.5nm,0.8s,baz=290,slow=3.8,SNR=2.5
comp=Z,1.5nm,0.8s
ILAR Eielson Array 78.56 355 P **P 18 12 34.0 +1.2**
comp=Z,0.3nm,0.7s,baz=348,slow=3.9,SNR=2.2
comp=Z,0.3nm,0.7s
KSRS Korea Array 80.02 51 P **P 18 12 41.4 +0.1**
comp=Z,1.2nm,0.6s,baz=302,slow=5.8,SNR=5.4
comp=Z,1.2nm,0.6s
PDAR Pinedale Array 89.14 326 P **P 18 13 28.5 +1.0**
comp=Z,0.4nm,0.8s,baz=57,slow=6.6,SNR=2.2
comp=Z,0.4nm,0.8s
TXAR Lajitas Array 96.41 314 P **P 18 14 03.6 +2.5**
comp=Z,0.4nm,0.9s,baz=68,slow=5.9,SNR=2.6
comp=Z,0.4nm,0.9s
WRA Warramunga Arr 120.02 93 PKP **PKPdf 18 19 22.6 -0.1**
comp=Z,0.3nm,0.8s,baz=313,slow=1.8,SNR=1.7
ASAR Alice Springs 121.55 97 PKP **PKiKP 18 19 25.9 +0.2**
comp=Z,0.2nm,0.6s,baz=306,slow=1.7,SNR=4.3
ASAR Alice Springs 121.55 97 PKIKP **PKiKP 18 19 26.0 +0.2**
QSPA South Pole Qui 126.41 180 PKP **PKiKP 18 19 36.6 +2.5**
comp=Z,0.3nm,0.4s,baz=183,slow=7.3,SNR=1.7

IDC 22 18:18:32.3±2.1, 3°52S×133°41E, h0km, mb3.3/2,
mbtmp3.4/4, ML2.9/2, Error ellipse: s-maj=123.7km
s-min=32.6km az=102.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.35**	**177**	Pn	P	18 22 25.1	-1.4
	baz=358,slow=12,SNR=1.4						
	0.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**16.37**	**207**	Pn	Pn	18 22 22.3	-1.4
	baz=24,slow=10.0,SNR=1.6						
	2.7nm,1.0s						
ASAR	**Alice Springs**	**20.04**	**179**	P	P	18 23 06.9	-0.2

0.4nm,0.7s,baz=1.1,slow=11,SNR=3.9
0.4nm,0.7s

ILAR	**Eielson Array**	**88.77**	**25**	P	P	18 31 27.8	0.0
	0.3nm,0.6s,baz=265,slow=3.3,SNR=5.2						
	0.3nm,0.6s						

*AEIC **22** 18:22:47.4±2.0, 52°.11N±0°.09×170°.43W±0°.07, h25km±5km, Error ellipse: s-maj=14.2km s-min=5.1km az=160.0*
*NEIC **22** 18:22:48.9±1.8, 52°.16N±0°.08×170°.49W±0°.08, h35km±2km, mb4.0/64, ML4.1/8, ML3.9(AEIC), Error ellipse: s-maj=15.2km s-min=6.0km az=156.0*
*IDC **22** 18:22:49.8±3.5, 52°.33N×170°.57W, h45km±31km, mb3.8/25, mbtmp4.0/28, ML3.7/3, Error ellipse: s-maj=19.8km s-min=13.7km az=177.0*

ISC 22 18:22:47.5±0.6, 52°.12N±0°.09×170°.46W±0°.05, h31km, n196, σ1§55/194, mb4.0/33, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.81**	**34**		**Pn**	**18 23 02.4**	**-0.3**
CLCO					**Sn**	**18 23 14.3**	**+0.7**
NIKH	**Nikolski High**	**1.30**	**48**		**Sn**	**18 23 24.4**	**-1.4**
OKSP	**Okmok Steeple**	**1.75**	**48**		**Pn**	**18 23 15.1**	**-0.5**
OKSP					**Sn**	**18 23 36.6**	**-0.2**
OKCE	**Okmok Cone E**	**1.92**	**46**		**Pn**	**18 23 18.7**	**+0.8**
OKCE					**Sb**	**18 23 44.5**	**-0.8**
OKNC	**Okmok New Cone**	**1.96**	**46**		**Pn**	**18 23 19.4**	**+0.9**
OKFG	**Magazine Ridge**	**2.02**	**49**		**Pn**	**18 23 19.7**	**+0.4**
OKFG					**Sn**	**18 23 44.2**	**+0.6**
KOFP	**Korovin Flat P**	**2.24**	**276**		**Pn**	**18 23 23.5**	**+1.1**
ATKA	**Atka Island**	**2.30**	**274**		**Pn**	**18 23 23.5**	**+0.3**
ATKA	**Atka Island**	**2.30**	**274**		**Sn**	**18 23 52.3**	**+1.9**
ATKA	**Atka Island**	**2.30**	**274**	IAML		18 23 59.7	
	comp=E,547nm,0.8s						
ATKA				IAML		18 24 00.8	
	comp=N,617nm,0.6s						
MAPS	**Pakushin South**	**2.72**	**50**		**Sn**	**18 24 02.0**	**+1.2**
MSW	**Makushin Switc**	**2.86**	**49**		**Pn**	**18 23 31.6**	**+0.7**
UNV	**Unalaska Valle**	**2.95**	**53**		**Pn**	**18 23 32.5**	**+0.4**
AKRB	**Akutan Reef Bi**	**3.33**	**51**		**Pn**	**18 23 39.2**	**+1.9**
AKMO	**Akutan Morgan**	**3.33**	**52**		**Pn**	**18 23 39.5**	**+2.1**
ZRO	**Akutan Zero**	**3.35**	**52**		**Pn**	**18 23 39.9**	**+2.3**
LVA	**Lava Point**	**3.36**	**51**	Pn	**Pn**	**18 23 38.4**	**+0.6**
AKBBA	**Akutan Broad B**	**3.38**	**52**		**Pn**	**18 23 40.1**	**+2.1**
AKV	**Akutan Volcano**	**3.38**	**52**		**Pn**	**18 23 40.2**	**+2.2**
AKGG	**Akutan Green G**	**3.41**	**50**		**Pn**	**18 23 39.9**	**+1.5**
AHB	**Akutan Harbor**	**3.44**	**53**		**Pn**	**18 23 40.5**	**+1.6**
GSTR	**Great Sitkin T**	**3.45**	**272**		**Pn**	**18 23 38.8**	**-0.2**
AKSA	**Akutan Strait**	**3.51**	**53**		**Pn**	**18 23 42.3**	**+2.5**
GSCK	**Great Sitkin C**	**3.52**	**271**		**Pn**	**18 23 41.4**	**+1.5**
ADK	**Adak**	**3.85**	**269**	Pn	**Pn**	**18 23 44.3**	**-0.2**
ADK	**Adak**	**3.85**	**269**	IAML		18 24 37.4	
	comp=N,276nm,0.6s						
ADK				IAML		18 24 40.2	
	comp=N,270nm,1.0s						
KIWB	**Kanaga Island**	**4.14**	**269**	Pn	**Pn**	**18 23 47.5**	**-1.0**
WEBT	**Westdahl Beart**	**4.22**	**52**		**Pn**	**18 23 51.7**	**+2.1**
WESE	**West Dahl East**	**4.24**	**54**		**Pn**	**18 23 52.2**	**+2.2**
P08K	**Saint George I**	**4.53**	**6**	Pn	**Pn**	**18 23 52.8**	**-0.9**
P08K				IAML		18 24 52.2	
	comp=N,162nm,0.7s						
P08K				IAML		18 24 54.1	
	comp=E,138nm,1.0s						
SSLN	**Shishaldin Nor**	**4.71**	**52**		**Pn**	**18 23 59.5**	**+3.1**
ISLZ	**Isanotski Laza**	**4.81**	**54**		**Pn**	**18 23 59.8**	**+2.1**
ISNN	**Isanotski Nort**	**4.83**	**53**		**Pn**	**18 24 00.2**	**+2.3**
FALS	**False Pass**	**5.02**	**54**	Pn	**Pn**	**18 24 01.3**	**+0.8**
SPIA	**Saint Paul Isl**	**5.08**	**1**	Pn	**Pn**	**18 24 03.1**	**+1.8**
PN7A	**Pavlof North-7**	**6.02**	**53**		**Pn**	**18 24 17.5**	**+3.2**
S12K	**Black Hills**	**6.13**	**51**	Pn	**Pn**	**18 24 18.2**	**+2.5**
PS1A	**Pavlof South-1**	**6.14**	**54**		**Pn**	**18 24 19.6**	**+3.7**
CNBA	**Chernabura Isl**	**7.03**	**63**	Pn	**Pn**	**18 24 29.1**	**+1.0**
CHGN	**Chignik**	**8.21**	**55**	Pn	**Pn**	**18 24 43.2**	**-1.0**
M11K	**Mekoryuk**	**8.62**	**14**	Pn	**Pn**	**18 24 51.3**	**+1.4**
O14K	**Tigyukauivet M**	**8.83**	**32**	Pn	**Pn**	**18 24 54.6**	**+1.8**
M13K	**Dall Lake**	**9.21**	**23**		**Pn**	**18 25 01.4**	**+3.6**
N14K	**Kuskokwak Cree**	**9.23**	**29**		**Pn**	**18 25 01.3**	**+3.0**
O15K	**Ungalikthiuk R**	**9.28**	**36**		**Pn**	**18 25 02.2**	**+3.3**
CHIR	**Chirikof Islan**	**9.50**	**61**	Pn	**Pn**	**18 25 01.9**	**0.0**
PLK4	**Peulik 4**	**9.82**	**50**	Pn	**Pn**	**18 25 08.6**	**+2.2**
N15K	**Kwethluk River**	**9.92**	**31**		**Pn**	**18 25 10.9**	**+3.2**
M15K	**Kasigluk River**	**10.15**	**28**		**Pn**	**18 25 13.2**	**+2.4**
L14K	**Kuka Creek**	**10.18**	**22**		**Pn**	**18 25 13.9**	**+2.7**
O16K	**Kokwok River B**	**10.21**	**38**		**Pn**	**18 25 15.2**	**+3.6**
SII	**Sitkinak Islan**	**10.49**	**58**	Pn	**Pn**	**18 25 15.8**	**+0.3**
ANCK	**Angle Creek**	**10.50**	**49**		**Pn**	**18 25 18.0**	**+2.3**
ACHA	**Angle Creek He**	**10.58**	**49**	Pn	**Pn**	**18 25 17.5**	**+0.7**
P17K	**Kvichak River**	**10.62**	**43**		**Pn**	**18 25 20.2**	**+3.0**
KABU	**Katmai Buttres**	**10.63**	**49**		**Pn**	**18 25 19.0**	**+1.5**
O17K	**Koliganek Bris**	**10.71**	**39**		**Pn**	**18 25 21.5**	**+3.1**
KAKN	**Katmai Knife C**	**10.74**	**49**		**Pn**	**18 25 21.2**	**+2.1**
OHAK	**Old Harbor**	**11.17**	**56**	Pn	**Pn**	**18 25 22.7**	**-2.1**
P18K	**Big Mountain,**	**11.24**	**44**	Pn	**Pn**	**18 25 25.7**	**-0.1**
L16K	**Owhat River**	**11.32**	**28**	Pn	**Pn**	**18 25 28.1**	**+1.3**
O18K	**Koktuh Hills**	**11.51**	**42**	Pn	**Pn**	**18 25 30.4**	**+0.9**
Q19K	**Cape Douglas,**	**11.70**	**48**	Pn	**Pn**	**18 25 31.6**	**-0.4**
KDAK	**Kodiak Island**	**11.72**	**54**	Pn	**Pn**	**18 25 30.2**	**-2.1**
KDAK	**Kodiak Island**	**11.72**	**54**	P	**Pn**	**18 25 31.7**	**-0.7**
	comp=E,0.8nm,0.3s,baz=288,slow=13,SNR=20						
KDAK				S	Sn	18 27 33.0	-8.9
	comp=E,4.9nm,0.9s,baz=162,slow=20,SNR=1.2						
	comp=E,2.4nm,0.3s						
SYI	**Shuyak Island**	**12.14**	**51**	Pn	**Pn**	**18 25 37.7**	**-0.4**
ILSW	**Iliamna Southw**	**12.45**	**44**	Pn	**Pn**	**18 25 43.6**	**+1.2**
K17K	**Iditarod**	**12.46**	**27**		**Pn**	**18 25 42.6**	**+0.2**
L18K	**Granite Mounta**	**12.55**	**31**	Pn	**Pn**	**18 25 42.7**	**-1.0**
ANM	**Nome**	**12.76**	**10**	Pn	**Pn**	**18 25 46.6**	**+0.1**
CNPM	**China Poot**	**13.07**	**48**	Pn	**Pn**	**18 25 50.0**	**-0.8**
TTA	**Tatalina**	**13.29**	**30**		**Pn**	**18 25 54.4**	**+0.6**
BRLK	**Bradley Lake**	**13.34**	**47**	Pn	**Pn**	**18 25 54.9**	**+0.4**
J18K	**Innoko River**	**13.49**	**27**	Pn	**Pn**	**18 25 58.4**	**+1.9**
G16K	**Koyuk River**	**13.95**	**14**	Pn	**Pn**	**18 26 04.6**	**+1.9**
O22K	**Cooper Landing**	**14.18**	**46**	Pn	**Pn**	**18 26 05.4**	**-0.5**
K20K	**Telida**	**14.21**	**31**		**Pn**	**18 26 08.0**	**+1.8**
SKT	**Skwentna**	**14.21**	**39**	Pn	**Pn**	**18 26 06.9**	**+0.5**
SUA	**Susitna One**	**14.24**	**41**	Pn	**Pn**	**18 26 07.5**	**+0.8**
RC01	**Rabbit Creek A**	**14.46**	**44**	Pn	**Pn**	**18 26 10.0**	**+0.3**
H18K	**Honhosa River**	**14.47**	**21**		**Pn**	**18 26 11.6**	**+1.8**
J20K	**Nowinta River**	**14.78**	**29**		**Pn**	**18 26 15.1**	**+1.1**
CAST	**Castle Rocks**	**14.91**	**33**	Pn	**Pn**	**18 26 17.2**	**+1.5**
PWL	**Port Wells**	**14.96**	**46**	Pn	**Pn**	**18 26 14.7**	**-1.8**
PMR	**Palmer**	**14.97**	**42**	Pn	**Pn**	**18 26 16.1**	**-0.4**
F17K	**Baldwin Pennin**	**15.09**	**14**	Pn	**Pn**	**18 26 19.8**	**+1.7**
F17K				IAmb	IAmb	18 26 24.1	
	comp=Z,21nm,1.4s						
GHO	**Glory Hole Cre**	**15.14**	**42**	Pn	**Pn**	**18 26 18.2**	**-0.7**
KNK	**Knik Glacier**	**15.16**	**44**	Pn	**Pn**	**18 26 17.6**	**-1.5**
KNK				IAmb	IAmb	18 26 26.6	
	comp=Z,6.4nm,0.6s						
KTH	**Kantishna Hill**	**15.39**	**34**	Pn	**Pn**	**18 26 19.9**	**-2.3**
KTH				IAmb	IAmb	18 26 27.2	
	comp=Z,18nm,1.4s						
SML	**Sawmill**	**15.40**	**42**	Pn	**Pn**	**18 26 20.2**	**-2.1**
SML				IAmb	IAmb	18 26 49.8	
	comp=Z,7.2nm,1.0s						
GLI	**Glacier Island**	**15.52**	**46**	Pn	**Pn**	**18 26 21.1**	**-2.7**
GLI				IAmb	IAmb	18 26 44.9	
	comp=Z,16nm,0.9s						
HIN	**Hinchinbrook I**	**15.61**	**49**	Pn	**Pn**	**18 26 22.6**	**-2.4**
BPAW	**Bear Paw Mtn.**	**15.72**	**33**	Pn	**Pn**	**18 26 24.1**	**-2.3**
FID	**Port Fidalgo**	**15.75**	**47**	Pn	**Pn**	**18 26 23.8**	**-3.0**
SCM	**Sheep Creek Mo**	**15.84**	**43**		**Pn**	**18 26 26.5**	**-1.5**
SCM				IAmb	IAmb	18 26 52.4	
	comp=Z,13nm,1.0s						
EYAK	**Cordova Ski Ar**	**16.01**	**49**	Pn	**Pn**	**18 26 27.8**	**-2.2**
EYAK				IAmb	IAmb	18 27 04.2	
	comp=Z,24nm,1.4s						
RND	**Reindeer**	**16.05**	**37**	Pn	**Pn**	**18 26 30.2**	**-0.4**
RND				IAmb	IAmb	18 26 34.3	
	comp=Z,12nm,0.9s						
E18K	**Tukpahlearik C**	**16.10**	**14**		**Pn**	**18 26 32.9**	**+1.7**
E18K				IAmb	IAmb	18 26 50.4	
	comp=Z,20nm,1.5s						
I21K	**Tanana**	**16.15**	**29**		**Pn**	**18 26 32.7**	**+0.9**
IMAR	**Indian Mountai**	**16.26**	**25**	P	**P**	**18 26 35.8**	**-0.2**
KLU	**Klutina**	**16.29**	**45**		**Pn**	**18 26 31.6**	**-2.1**
KLU				IAmb	IAmb	18 26 42.8	
	comp=Z,13nm,1.3s						
MLY	**Manley**	**16.43**	**30**	Pn	**Pn**	**18 26 34.5**	**-0.9**
DHY	**Denali Highway**	**16.43**	**39**		**Pn**	**18 26 34.5**	**-1.0**
M24K	**Tolsona, Glenn**	**16.45**	**43**		**Pn**	**18 26 35.3**	**-0.4**
RAGM	**Ragged Mountai**	**16.45**	**50**		**Pn**	**18 26 34.8**	**-1.0**
BMRM	**Bremner River**	**16.68**	**48**		**Pn**	**18 26 35.1**	**-3.6**
BMRM				IAmb	IAmb	18 26 52.7	
	comp=Z,14nm,1.2s						
NEA2	**Nenana**	**16.68**	**33**		**Pn**	**18 26 37.3**	**-1.3**
BERG	**Berg Lake**	**16.91**	**50**		**Pn**	**18 26 39.9**	**-1.7**
N25K	**Chitina, Valde**	**16.92**	**46**		**Pn**	**18 26 39.9**	**-1.7**
N25K				IAmb	IAmb	18 26 46.2	
	comp=Z,16nm,1.4s						
I23K	**Minto, Yukon-K**	**16.94**	**31**		**Pn**	**18 26 41.2**	**-0.6**
I23K				IAmb	IAmb	18 26 53.7	
	comp=Z,15nm,1.4s						
WRH	**Wood River Hil**	**16.95**	**34**		**Pn**	**18 26 40.6**	**-1.3**
PAX	**Paxson**	**17.13**	**41**	Pn	**Pn**	**18 26 42.0**	**-2.3**
CCB	**Clear Creek Bu**	**17.15**	**34**	Pn	**Pn**	**18 26 42.5**	**-1.9**
C18K	**Utukok River**	**17.17**	**12**	P	**Pn**	**18 26 45.4**	**+0.7**
C18K				IAmb	IAmb	18 27 10.7	
	comp=Z,24nm,1.4s						
GLB	**Gilahina Butte**	**17.21**	**47**	Pn	**Pn**	**18 26 42.2**	**-3.0**
GLB				IAmb	IAmb	18 26 46.3	
	comp=Z,15nm,1.4s						
CRQM	**Cirque**	**17.29**	**49**	P	**Pn**	**18 26 45.7**	**-0.7**
CRQM				IAmb	IAmb	18 27 05.5	
	comp=Z,13nm,1.2s						
VRDI	**Verde Repeater**	**17.30**	**48**	P	**Pn**	**18 26 45.1**	**-1.4**
VRDI				IAmb	IAmb	18 27 02.7	
	comp=Z,6.9nm,0.9s						
F21K	**Alatna River**	**17.30**	**22**	P	**P**	**18 26 47.9**	**+0.3**
HDA	**Harding Lake**	**17.31**	**36**	P	**Pn**	**18 26 46.1**	**-0.4**
TGL	**Tana Glacier**	**17.43**	**49**	P	**Pn**	**18 26 47.8**	**-0.3**
TGL				IAmb	IAmb	18 27 17.7	
	comp=Z,19nm,1.4s						
IL31		**17.54**	**35**	P	**Pn**	**18 26 47.9**	**-1.3**
ILAR	**Eielson Array**	**17.54**	**35**	P	**Pn**	**18 26 48.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=229,slow=10,SNR=13						
	comp=Z,0.6nm,0.8s						
RIDG	**Independent Ri**	**17.75**	**39**	P	**Pn**	**18 26 50.5**	**-1.4**
RIDG				IAmb	IAmb	18 27 21.2	
	comp=Z,15nm,1.4s						
M26K	**Nabesna, AK**	**17.92**	**44**	P	**Pn**	**18 26 52.4**	**-1.7**
M26K				IAmb	IAmb	18 27 05.5	
	comp=Z,10nm,1.4s						
SCRK	**Sand Creek**	**18.20**	**39**	P	**Pn**	**18 26 56.0**	**-1.4**
SCRK				IAmb	IAmb	18 27 06.2	
	comp=Z,9.5nm,1.4s						
G24K	**Hadweenzic Riv**	**18.54**	**29**	P	**P**	**18 27 02.0**	**+0.9**
BCAR	**Beaver Creek A**	**18.69**	**43**	P	**P**	**18 27 00.8**	**-2.2**
I26K	**Coal Creek Min**	**19.16**	**36**	P	**P**	**18 27 05.9**	**-2.1**
I26K				IAmb	IAmb	18 27 40.6	
	comp=Z,13nm,1.5s						
PETK	**Petropavlovsk-**	**19.28**	**286**	P	**P**	**18 27 09.9**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=84,slow=14,SNR=11						
	comp=Z,48nm,1.3s						
O29M	**Mount Kennedy**	**19.36**	**52**	P	**P**	**18 27 11.1**	**+0.8**
EGAK	**Eagle**	**19.66**	**39**	P	**P**	**18 27 12.3**	**-1.1**
M29M	**Somme Creek**	**19.93**	**46**	P	**P**	**18 27 15.7**	**-0.7**
M29M				IAmb	IAmb	18 27 20.6	
	comp=Z,4.7nm,0.9s						
N30M	**Aishikik Lake**	**20.31**	**50**	IAmb	IAmb	18 27 24.1	
	comp=Z,6.7nm,0.6s						
G27K	**Doyon Strip**	**20.47**	**33**	P	**P**	**18 27 20.4**	**-1.8**
SKAG	**Skagway**	**20.87**	**56**	P	**P**	**18 27 25.1**	**-1.5**
I30M	**Mount Dempster**	**21.70**	**40**	P	**P**	**18 27 33.2**	**-2.3**
I30M				IAmb	IAmb	18 27 39.1	
	comp=Z,10nm,1.2s						
G29M	**Pine Creek**	**21.77**	**35**	P	**P**	**18 27 34.7**	**-1.5**
G29M				IAmb	IAmb	18 27 49.3	
	comp=Z,12nm,1.4s						
DLBC	**Dease Lake**	**23.59**	**58**	P	**P**	**18 27 58.3**	**+3.0**
	comp=Z,4.4nm,0.5s,baz=286,slow=10,SNR=5.8						
INK	**Inuvik**	**23.93**	**33**	P	**P**	**18 27 56.8**	**-1.4**
INK				IAmb	IAmb	18 28 01.1	
	comp=Z,2.2nm,0.5s						
INK	**Inuvik**	**23.93**	**33**	P	**P**	**18 27 57.6**	**-0.6**
	comp=Z,2.2nm,0.4s,baz=245,slow=7.5,SNR=25						
	comp=Z,2.2nm,0.4s						
YKA	**Yellowknife Ar**	**30.91**	**48**	P	**P**	**18 29 01.4**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=306,slow=8.2,SNR=12						
	comp=Z,0.9nm,0.7s						
NEW	**Newport**	**33.72**	**75**	P	**P**	**18 29 26.6**	**+0.9**
LYMT	**Lyon Mountain**	**37.21**	**74**	P	**P**	**18 29 56.2**	**+0.3**
HLID	**Hailey**	**37.72**	**80**	P	**P**	**18 30 00.5**	**+0.3**
MCMT	**McKenzie Canyo**	**37.99**	**78**	P	**P**	**18 30 03.9**	**+1.3**
H11S1	**WAKE ISLAND Hy**	**38.03**	**217**	T	T	19 10 55.8	
	baz=22,slow=76,SNR=42						
H11S2	**WAKE ISLAND Hy**	**38.05**	**217**	T	T	19 10 42.0	
	baz=22,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**38.05**	**217**	T	T	19 10 53.7	
	baz=22,slow=76,SNR=36						
EUNU	**Eureka**	**38.15**	**16**	P	**P**	**18 30 03.8**	**+0.5**
EUNU				IAmb	IAmb	18 30 45.4	
	comp=Z,2.3nm,1.1s						
BOZ	**Bozeman (W)**	**38.31**	**76**	P	**P**	**18 30 06.2**	**+1.0**
BOZ				IAmb	IAmb	18 30 06.7	
	comp=Z,2.1nm,0.8s						
NVAR	**Mina Array Bea**	**38.33**	**90**	P	**P**	**18 30 07.7**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=318,slow=5.3,SNR=2.9						
	comp=Z,0.4nm,0.7s						
MJAR	**Matsushiro Arr**	**39.01**	**267**	P	**P**	**18 30 12.7**	**+1.7**
	comp=Z,1.7nm,0.8s,baz=48,slow=9.3,SNR=2.5						
	comp=Z,1.7nm,0.8s						
YHH	**Holmes Hill**	**39.21**	**76**	P	**P**	**18 30 14.0**	**+1.2**
HVU	**Hansel Valley**	**39.73**	**81**	P	**P**	**18 30 18.7**	**+1.6**
PD31	**Pinedale Array**	**41.11**	**78**	P	**P**	**18 30 29.3**	**+0.7**
PDAR	**Pinedale Array**	**41.11**	**78**	P	**P**	**18 30 29.5**	**+0.9**
PDAR	**Pinedale Array**	**41.11**	**78**	P	**P**	**18 30 29.6**	**+1.1**
	comp=Z,1.3nm,0.4s,baz=303,slow=2.6,SNR=28						
	comp=Z,1.3nm,0.4s						
FCC	**Fort Churchill**	**41.62**	**50**	P	**P**	**18 30 32.2**	**+0.1**
BSUT	**Blindstream Ca**	**41.69**	**82**	P	**P**	**18 30 34.5**	**+1.1**
PV16	**Nyswonger Mesa**	**44.18**	**83**	P	**P**	**18 30 53.4**	**-0.1**
PV16				IAmb	IAmb	18 31 28.1	
	comp=Z,4.7nm,1.3s						
PV02	**Paradox Valley**	**44.35**	**83**	P	**P**	**18 30 56.1**	**+1.2**
ECSD	**EROS Data Cent**	**48.19**	**69**	P	**P**	**18 31 23.9**	**-0.7**
ECSD				IAmb	IAmb	18 31 59.4	
	comp=Z,1.7nm,1.1s						
SPITS	**Spitsbergen Ar**	**49.90**	**358**	P	**P**	**18 31 36.5**	**-0.9**
	comp=Z,3.2nm,0.5s,baz=33,slow=5.0,SNR=4.6						
	comp=Z,3.2nm,0.5s						
SONM	**Songino Array**	**50.85**	**300**	P	**P**	**18 31 44.5**	**-0.6**
SONM				IAmb	IAmb	18 31 45.9	
	comp=Z,1.7nm,0.9s						
SONM	**Songino Array**	**50.85**	**300**	P	**P**	**18 31 44.6**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=60,slow=6.2,SNR=6.8						
SONM				PcP	**PcP**	**18 33 00.7**	**-0.7**
	comp=Z,2.4nm,1.2s,baz=60,slow=3.5,SNR=5.6						
	comp=Z,1.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**52.38**	**290**	*e*P	**P**	**18 31 56.1**	**-0.5**
HHC				pmax	pmax		
	comp=Z,18nm,0.5s						
HHC				pmax	pmax		
	comp=Z,140nm,4.2s						
I42A	**Draeger Farm,**	**52.45**	**64**	P	**P**	**18 31 56.6**	**-0.3**
TXAR	**Lajitas Array**	**53.42**	**88**	P	**P**	**18 32 05.1**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=307,slow=6.1,SNR=11						
	comp=Z,0.5nm,0.6s						
P40A	**Paris**	**53.50**	**70**	P	**P**	**18 32 04.2**	**-0.4**
ZALV	**Zalesovo Beam**	**57.16**	**317**	P	**P**	**18 32 30.1**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=12,slow=7.6,SNR=2.0						
ZALV				PcP	**PcP**	**18 33 25.1**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=7.8,slow=3.3,SNR=4.0						
	comp=Z,0.5nm,0.5s						
ARCES	**ARCESS Array B**	**58.10**	**353**	P	**P**	**18 32 36.3**	**-0.9**
	comp=Z,3.1nm,0.8s,baz=21,slow=7.8,SNR=3.6						
	comp=Z,3.1nm,0.8s						
KURBB	**Kurchatov Arra**	**62.22**	**318**	P	**P**	**18 33 04.5**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=46,slow=6.9,SNR=8.6						
KURBB				PcP	**PcP**	**18 33 44.6**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=38,slow=3.2,SNR=2.3						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**63.49**	**313**	P	**P**	**18 33 12.6**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=57,slow=8.8,SNR=4.4						
MKAR				PcP	**PcP**	**18 33 50.4**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=52,slow=6.0,SNR=1.2						
	comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**63.52**	**324**	P	**P**	**18 33 13.1**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=54,slow=6.5,SNR=15						
BVAR				PcP	**PcP**	**18 33 50.3**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=43,slow=2.4,SNR=6.3						
	comp=Z,1.3nm,0.5s						
FINES	**FINESS Array B**	**66.02**	**351**	P	**P**	**18 33 29.0**	**-1.4**
	comp=Z,1.9nm,0.8s,baz=5.2,slow=8.4,SNR=11						
	comp=Z,1.9nm,0.8s						
NB2	**NORSAR Subarra**	**67.19**	**359**	P	**P**	**18 33 37.0**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=1.2,slow=6.5						
NOA	**NORSAR Array B**	**67.19**	**359**	P	**P**	**18 33 37.2**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=1.8,slow=6.5,SNR=5.9						
	comp=Z,0.7nm,0.5s						
HFS	**Hagfors**	**68.06**	**358**	P	**P**	**18 33 42.2**	**-1.1**
	comp=Z,1.8nm,0.3s,baz=27,slow=3.6,SNR=38						
	comp=Z,1.8nm,0.3s						
PPT2	**Papeete2**	**71.75**	**159**	*e*LR	LR	18 56 05.4	
	comp=Z,349nm,26.2s						
PPT2				*e*LR	LR	18 56 06.8	
	comp=Z,443nm,25.5s						
KSH	**Kashi**	**72.05**	**312**	P	**P**	**18 34 11.1**	**+2.7**
EKA	**Eskdalemuir Ar**	**72.40**	**8**	P	**P**	**18 34 10.3**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=330,slow=4.8,SNR=3.5						
	comp=Z,0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**76.02**	**282**	P	**P**	**18 34 31.9**	**+0.3**
	comp=Z,5.6nm,0.8s,baz=26,slow=6.7,SNR=33						
	comp=Z,5.6nm,0.8s						
AKASG	**Malin Array Be**	**76.21**	**347**	P	**P**	**18 34 30.9**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=17,slow=6.5,SNR=4.0						
	comp=Z,0.2nm,0.3s						
GERES	**GERESS Array B**	**79.36**	**357**	P	**P**	**18 34 49.7**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=8.7,slow=9.7,SNR=6.0						
	comp=Z,1.1nm,0.6s						
KBZ	**Khabaz**	**80.28**	**336**	P	**P**	**18 34 54.8**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=37,slow=5.1,SNR=1.6						
	comp=Z,0.8nm,0.6s						
BRTR	**Keskin Array B**	**86.16**	**342**	P	**P**	**18 35 26.0**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=353,slow=6.2,SNR=3.8						
	comp=Z,0.9nm,0.8s						
WRA	**Warramunga Arr**	**86.32**	**231**	P	**P**	**18 35 26.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=38,slow=6.0,SNR=4.8						
	comp=Z,0.3nm,0.5s						
ESDC	**Sonseca Array**	**87.83**	**10**	P	**P**	**18 35 32.7**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=342,slow=4.6,SNR=9.0						
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**89.72**	**229**	P	**P**	**18 35 42.5**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=39,slow=4.0,SNR=18						
	comp=Z,2.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**114.65**	**8**	PKP	**PKiKP**	**18 41 23.9**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=356,slow=4.6,SNR=1.8						
H03N2	**Juan Fernandez**	**116.46**	**111**	T	T	20 48 53.0	
	baz=317,slow=77,SNR=2.8						
H03N1	**Juan Fernandez**	**116.47**	**111**	T	T	20 48 48.3	
	baz=317,slow=77,SNR=6.9						
H03N3	**Juan Fernandez**	**116.47**	**111**	T	T	20 48 47.5	
	baz=317,slow=77,SNR=4.6						
QSPA	**South Pole Qui**	**141.88**	**180**	PKhKP	PKPpre	18 42 09.0	
	comp=Z,0.9nm,0.9s,baz=61,slow=12,SNR=2.0						
MAW	**Mawson**	**150.26**	**218**

comp=Z,122nm,19.6s,baz=354,slow=40
AKASG Malin Array Be 52.44 313 P **P 19 08 32.8 0.0**
0.2nm,0.2s,baz=77,slow=7.1,SNR=1.7
AKASG LR LR 19 36 10.4
comp=Z,99nm,18.6s,baz=322,slow=42
0.2nm,0.2s
WRA Warramunga Arr 62.40 138 P **P 19 09 43.5 +0.2**
0.5nm,0.7s,baz=330,slow=7.1,SNR=3.9
0.5nm,0.7s
ASAR Alice Springs 65.09 141 P **P 19 10 01.4 +0.3**
0.6nm,0.8s,baz=335,slow=6.8,SNR=7.5
0.6nm,0.8s
TORD Torodi Ar. Bea 86.39 283 P **P 19 12 02.7 -0.3**
0.4nm,0.7s,baz=65,slow=6.6,SNR=3.8
0.4nm,0.7s

IDC 22 19:28:52.7±6.3, 6°.10S×127°.74E, h389km±79km, mb2.6/1, mbtmp3.4/4, Error ellipse: s-maj=93.4km s-min=26.8km az=47.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.74**	**224**	P		Pn	19 30 23.1	+0.9
	11nm,0.3s,baz=38,slow=4.3,SNR=8.1							
BATI				S		S	19 31 34.5	-0.4
	9.0nm,0.5s,baz=72,slow=20,SNR=1.9							
WRA Warramunga Arr 15.18 156 P 19 32 07.3 -0.3
0.2nm,0.4s,baz=334,slow=12,SNR=4.6
ASAR Alice Springs 18.45 162 P P 19 32 42.8 +0.2
0.2nm,0.4s,baz=347,slow=12,SNR=5.1
MKAR Makanchi Array 66.26 328 P P 19 39 00.3 -0.1
0.3nm,0.8s,baz=125,slow=5.7,SNR=1.8
0.3nm,0.8s

*IDC **22** 19:32:46.5±15.0, 37°.23N×20°.37E, h0km, mb3.5/4, mbtmp3.5/4, MS2.5/1, Error ellipse: s-maj=303.3km s-min=50.4km az=34.0*
*ATH **22** 19:32:47.6, 37°.14N×20°.45E, h5km±1km, ML3.1/8, Error ellipse: s-maj=2.5km s-min=1.1km az=50.0*
*THE **22** 19:32:48.0, 37°.17N×20°.49E, h3km±1km, ML2.9/5, Error ellipse: s-maj=1.4km s-min=0.3km az=56.0*
ISC 22 19:32:47.7±1.9, 37°.18N±0°.06×20°.52E±0°.06, h6km±11km, n32, σ0s59/48, mb3.5/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.53**	**26**	P		**Pb**	**19 32 58.7**	**-0.8**
KRI1				S		**Sb**	**19 33 06.5**	**-0.9**
LTHK	**Lithakia**	**0.58**	**26**	P		**Pg**	**19 32 59.4**	**+0.4**
LTHK				S		**Sb**	**19 33 08.2**	**-0.6**
	6μm,0.4s							
LTHK	**Lithakia**	**0.58**	**26**	P		**Pb**	**19 32 59.8**	**-0.5**
LTHK				S		**Sb**	**19 33 08.4**	**-0.4**
LTHK				AML		AML	19 33 08.8	
	comp=N,14164μm,0.4s							
LTHK				AML		AML	19 33 09.0	
	comp=E,8859μm,0.5s							
RTZL	**Ratzakli, Kefa**	**0.91**	**13**	P		**Pg**	**19 33 05.3**	**0.0**
RTZL				S		**Sb**	**19 33 19.1**	**+0.8**
PSDA	**Pessada-Kefalo**	**0.93**	**3**	P		**Pg**	**19 33 05.7**	**+0.1**
PSDA				S		**Sb**	**19 33 19.3**	**+0.5**
PSDA	**Pessada-Kefalo**	**0.93**	**3**	P		**Pb**	**19 33 05.9**	**-0.3**
PSDA				S		**Sb**	**19 33 19.0**	**+0.2**
VLS	**Valsamata**	**0.99**	**3**	P		**Pg**	**19 33 06.7**	**-0.1**
VLS				S		**Sb**	**19 33 21.5**	**+0.8**
	comp=E,748nm,0.4s							
VLS	**Valsamata**	**0.99**	**3**	P		**Pg**	**19 33 06.7**	**-0.1**
VLS				S		**Sb**	**19 33 21.5**	**+0.8**
VLS				AML		AML	19 33 28.0	
	comp=E,1385μm,0.5s							
VLS				AML		AML	19 33 30.1	
	comp=N,1603μm,0.3s							
AMT	**Artemida-Makis**	**1.01**	**70**	P		**Pb**	**19 33 07.7**	**+0.1**
AMT	**Artemida-Makis**	**1.01**	**70**	P		**Pb**	**19 33 07.7**	**+0.1**
AMT				S		**Sn**	**19 33 22.7**	**-0.3**
AMT				AML		AML	19 33 31.1	
	comp=N,8113μm,0.4s							
AMT				AML		AML	19 33 34.2	
	comp=E,5137μm,0.5s							
PYL	**PYLOS**	**1.02**	**106**	P		**Pb**	**19 33 07.5**	**-0.2**
PYL				S		**Sn**	**19 33 22.4**	**-0.8**
	comp=E,802nm,0.5s							
PYL	**PYLOS**	**1.02**	**106**	P		**Pb**	**19 33 07.6**	**-0.2**
PYL				S		**Sb**	**19 33 22.1**	**+0.6**
PYL				AML		AML	19 33 25.5	
	comp=E,1465μm,0.3s							
PYL				AML		AML	19 33 30.2	
	comp=N,1735μm,0.6s							
DMLN	**Damoulianata-K**	**1.06**	**354**	P		**Pg**	**19 33 07.8**	**-0.2**
DMLN				S		**Sb**	**19 33 23.4**	**+0.9**
DMLN	**Damoulianata-K**	**1.06**	**354**	P		**Pg**	**19 33 07.8**	**-0.2**
DMLN				S		**Sb**	**19 33 23.0**	**+0.4**
ITM	**Ithomi**	**1.13**	**90**	P		**Pb**	**19 33 09.4**	**-0.1**
ITM				S		**Sn**	**19 33 25.9**	**+0.1**
	comp=N,625nm,0.3s							
ITM	**Ithomi**	**1.13**	**90**	P		**Pb**	**19 33 09.4**	**-0.1**
ITM				S		**Sn**	**19 33 25.7**	**-0.1**
ITM				AML		AML	19 33 27.9	
	comp=N,1288μm,0.2s							
ITM				AML		AML	19 33 30.4	
	comp=E,1214μm,0.5s							
RLS	**Riolos of Patr**	**1.15**	**41**	P		**Pg**	**19 33 09.8**	**0.0**
RLS				S		**Sn**	**19 33 26.8**	**+0.4**
	comp=E,455nm,0.5s							
RLS	**Riolos of Patr**	**1.15**	**41**	P		**Pn**	**19 33 10.3**	**0.0**
RLS				S		**Sn**	**19 33 26.8**	**+0.4**
RLS				AML		AML	19 33 37.4	
	comp=N,1009μm,0.4s							
RLS				AML		AML	19 33 42.0	
	comp=E,810μm,0.5s							
DRO	**Drossia**	**1.22**	**51**	P		**Pg**	**19 33 11.0**	**-0.2**
DRO	**Drossia**	**1.22**	**51**	P		**Pg**	**19 33 10.9**	**-0.2**
DRO				AML		AML	19 33 39.8	
	comp=N,2503μm,0.6s							
DRO				AML		AML	19 33 44.6	
	comp=E,2544μm,0.5s							
FSK	**Fiskardo**	**1.27**	**2**	P		**Pn**	**19 33 11.8**	**-0.2**
FSK	**Fiskardo**	**1.27**	**2**	P		**Pn**	**19 33 11.5**	**-0.5**
FSK				AML		AML	19 33 40.6	
	comp=E,1027μm,0.6s							
FSK				AML		AML	19 33 46.9	
	comp=N,724μm,0.9s							
EVGI	**Lefkada island**	**1.44**	**4**	P		**Pn**	**19 33 14.3**	**0.0**
EVGI	**Lefkada island**	**1.44**	**4**	P		**Pb**	**19 33 14.6**	**-0.3**
NYDR	**Nydri-Lefkada**	**1.53**	**5**	P		**Pn**	**19 33 15.6**	**0.0**
NYDR	**Nydri-Lefkada**	**1.53**	**5**	P		**Pb**	**19 33 16.0**	**-0.5**
OHR	**Ohrid**	**3.93**	**3**	*i* Pn		**Pn**	**19 33 50.9**	**+2.3**
KEST	**Kesra**	**9.12**	**264**	LR		LR	19 39 08.0	
	comp=N,28nm,19.1s,baz=280,slow=42							
HFS	**Hagfors**	**23.38**	**351**	P		**P**	**19 37 55.9**	**-0.9**
	comp=N,1.2nm,0.5s,baz=159,slow=9.1,SNR=8.0							
	comp=N,1.2nm,0.5s							
FINES	**FINESS Array B**	**24.53**	**6**	P		**P**	**19 38 07.5**	**-0.3**
	comp=N,3.2nm,1.1s,baz=202,slow=10,SNR=4.6							
	comp=N,3.2nm,1.1s							
NOA	**NORSAR Array B**	**24.59**	**349**	P		**P**	**19 38 07.4**	**-0.9**
	comp=N,0.5nm,0.8s,baz=158,slow=9.1,SNR=2.5							
	comp=N,0.5nm,0.8s							
MKAR	**Makanchi Array**	**45.83**	**58**	P		**P**	**19 41 10.7**	**+0.3**
	comp=N,0.3nm,0.8s,baz=271,slow=5.1,SNR=1.5							
	comp=N,0.3nm,0.8s							

*IDC **22** 19:49:36.0±2.2, 20°.41S×178°.14W, h547km±24km, mb3.3/5, mbtmp4.2/7, Error ellipse: s-maj=33.9km s-min=25.2km az=168.0*
*NEIC **22** 19:49:35.1±1.9, 20°.5S±0°.2×178°.12W±0°.08, h528km±12km, mb4.4/20, Error ellipse: s-maj=28.3km s-min=11.2km az=185.0*
ISC 22 19:49:34.7±0.7, 20°.4S±0°.2×178°.04W±0°.10, h534km, n39, σ0s96/39, mb4.4/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.53**	**305**	P		**P**	**19 50 59.9**	**+0.1**
MSVF	**Nonsavu**	**4.53**	**305**	P		**P**	**19 51 01.7**	**+1.9**
	23nm,0.8s,baz=170,slow=6.1,SNR=14							
FUTU	**Fugatoga**	**6.02**	**359**	P		**P**	**19 51 11.5**	**-1.4**
NIUE	**Niue**	**7.75**	**82**	P		**P**	**19 51 29.5**	**+0.1**
PINNC	**Pines Island,**	**13.70**	**258**	P		**P**	**19 52 31.3**	**+0.4**
DZM	**Mont Dzumac**	**14.57**	**261**	P		**P**	**19 52 40.0**	**-0.1**
DZM	**Mont Dzumac**	**14.57**	**261**	P		**P**	**19 52 39.6**	**-0.5**
	6.3nm,0.8s,baz=83,slow=17,SNR=5.9							
KOUNC	**Koumac, New Ca**	**16.57**	**266**	P		**P**	**19 53 01.6**	**+1.4**
EIDS	**Eidsvold**	**28.85**	**254**	P		**P**	**19 54 49.5**	**-0.7**
EIDS				IAmb		IAmb	19 54 57.0	
	comp=Z,14nm,1.2s							
ARMA	**Armidale**	**29.10**	**244**	P		**P**	**19 54 52.6**	**+0.2**
CTAO	**Charters Tower**	**33.47**	**264**	P		**P**	**19 55 29.6**	**-0.2**
CTAO				IAmb		IAmb	19 55 31.0	
	comp=Z,13nm,0.8s							
COEN	**Coen**	**37.54**	**273**	P		**P**	**19 56 04.0**	**+0.3**
COEN				IAmb		IAmb	19 56 05.0	
	comp=Z,5.3nm,1.0s							
STKA	**Stephens Creek**	**37.82**	**244**	P		**P**	**19 56 05.5**	**-0.3**
STKA	**Stephens Creek**	**37.82**	**244**	P		**P**	**19 56 05.3**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=84,slow=12,SNR=5.4							
	comp=Z,1.7nm,0.7s							
BBOO	**Buckleboo**	**42.58**	**243**	P		**P**	**19 56 43.0**	**-0.8**
WR0	**Warramunga Arr**	**44.40**	**262**	P		**P**	**19 56 57.4**	**-0.7**
AS31	**Alice Springs**	**44.52**	**257**	P		**P**	**19 56 57.8**	**-1.2**
ASAR	**Alice Springs**	**44.52**	**257**	P		**P**	**19 56 58.1**	**-1.0**
ASAR	**Alice Springs**	**44.52**	**257**	P		**P**	**19 56 58.9**	**-0.2**
	comp=Z,9.4nm,0.6s,baz=98,slow=7.6,SNR=174							
	comp=Z,9.4nm,0.6s							
WB0	**Warramunga Arr**	**44.56**	**262**	P		**P**	**19 56 57.6**	**-1.8**
WB0				IAmb		IAmb	19 56 59.4	
	comp=Z,6.6nm,0.6s							
WB2	**Warramunga Arr**	**44.57**	**262**	P		**P**	**19 56 58.0**	**-1.5**
WB2				IAmb		IAmb	19 57 00.2	
	comp=Z,7.3nm,1.1s							
WRA	**Warramunga Arr**	**44.59**	**262**	P		**P**	**19 56 58.6**	**-1.0**
	comp=Z,3.8nm,0.6s,baz=98,slow=8.4,SNR=44							
	comp=Z,3.8nm,0.6s							
MTN	**Manton Dam**	**49.13**	**270**	P		**P**	**19 57 33.6**	**-0.3**
MTN				IAmb		IAmb	19 58 11.4	
	comp=Z,19nm,1.2s							
KNRA	**Kununurra**	**50.63**	**266**	P		**P**	**19 57 44.4**	**-0.5**
FAKI	**Fak Fak**	**51.43**	**283**	P		**P**	**19 57 50.8**	**-0.1**
FAKI				IAmb		IAmb	19 58 17.0	
	comp=Z,24nm,1.4s							
FITZ	**Fitzroy Crossi**	**53.01**	**262**	P		**P**	**19 58 02.0**	**0.0**
SOEI	**Soe**	**56.46**	**272**	P		**P**	**19 58 28.1**	**+1.6**
SOEI				IAmb		IAmb	19 58 33.9	
	comp=Z,29nm,1.1s							
PSA00	**Pilbara Seismi**	**57.66**	**257**	P		**P**	**19 58 33.1**	**-1.3**
PSA00	**Pilbara Seismi**	**57.66**	**257**	P		**P**	**19 58 32.8**	**-1.7**
PSA00				IAmb		IAmb	19 59 02.6	
	comp=Z,32nm,1.4s							
MBWA	**Marble Bar**	**57.85**	**257**	P		**P**	**19 58 35.0**	**-0.7**
MBWA				IAmb		IAmb	19 58 48.3	
	comp=Z,36nm,1.4s							
MORW	**Morawa**	**59.85**	**248**	P		**P**	**19 58 48.2**	**-0.8**
MORW				IAmb		IAmb	19 58 58.6	
	comp=Z,30nm,1.4s							
QSPA	**South Pole Qui**	**69.71**	**180**	P		**P**	**19 59 51.0**	**+0.4**
QSPA	**South Pole Qui**	**69.71**	**180**	P		**P**	**19 59 50.7**	**0.0**
	comp=Z,2.2nm,0.6s,baz=18,slow=1.8,SNR=8.6							
	comp=Z,2.2nm,0.6s							
TXAR	**Lajitas Array**	**87.01**	**57**	P		**P**	**20 01 24.0**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=206,slow=6.0,SNR=2.8							
	comp=Z,0.2nm,0.7s							
BRTR	**Keskin Array B**	**146.72**	**312**	PKPbc		**PKPbc**	**20 08 17.1**	**0.0**
BRTR	**Keskin Array B**	**146.72**	**312**	PKPbc		**PKPbc**	**20 08 16.8**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=120,slow=4.7,SNR=2.9							
BUR08	**Bucovina Ar. S**	**146.91**	**331**	PKPbc		**PKPbc**	**20 08 18.2**	**+0.9**
BURAR	**Bucovina Array**	**146.92**	**331**	PKPbc		**PKPbc**	**20 08 18.0**	**+0.7**
MLR	**Muntele Rosu**	**148.09**	**327**			**PKPdf**	**20 08 18.5**	**+2.0**

*AEIC **22** 20:06:42.4±1.5, 65°.63N±0°.04×166°.70W±0°.02, h7km±4km, ML3.4, mb_Lg3.2/25(NEIC), ML3.6/66(NEIC), Error ellipse: s-maj=6.3km s-min=0.9km az=181.0*
*NEIC **22** 20:06:42.7±1.9, 65°.55N±0°.03×166°.79W±0°.02, h10km±3km, Error ellipse: s-maj=4.6km s-min=1.0km az=193.0*
*IDC **22** 20:06:44.7±1.2, 65°.93N×167°.21W, h0km, mb3.6/6, mbtmp3.6/8, ML2.9/2, Error ellipse: s-maj=41.3km s-min=15.0km az=20.0*
ISC 22 20:06:42.9±1.0, 65°.60N±0°.05×166°.68W±0°.03, h10km±7km, n207, σ1s29/218, mb3.7/6, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
F14K	**Arctic Creek**	**0.19**	**130**			**Pg**	**20 06 47.1**	**+0.1**
F14K						**Sg**	**20 06 49.9**	**+0.1**
F14K	**Arctic Creek**	**0.19**	**130**	P		**Pg**	**20 06 46.8**	**-0.2**
	baz=313							
F14K				S		**Sg**	**20 06 50.1**	**+0.3**
	baz=313							
TNA	**Tin City**	**0.52**	**266**			**Pg**	**20 06 52.3**	**-0.6**
TNA						**Sg**	**20 06 59.0**	**-0.7**
TNA	**Tin City**	**0.52**	**266**	P		**Pg**	**20 06 52.3**	**-0.6**
	baz=83							
TNA				S		**Sg**	**20 06 59.4**	**-0.3**
	baz=83							
F15K	**North Star Dit**	**0.85**	**82**			**Pb**	**20 06 59.5**	**-0.3**
F15K				Sg		**Sb**	**20 07 10.8**	**-0.4**
F15K				IAML			20 07 14.0	
	comp=N,2μm,0.6s							
F15K				IAML			20 07 14.4	
	comp=E,1μm,0.3s							
F15K	**North Star Dit**	**0.85**	**82**	P		**Pb**	**20 06 59.4**	**-0.3**
	baz=265							
F15K				S		**Sn**	**20 07 11.5**	**-2.0**
	baz=265							
ANM	**Nome**	**1.18**	**151**			**Pn**	**20 07 04.2**	**-1.1**
ANM						**Sb**	**20 07 19.9**	**-0.7**
ANM				IAML			20 07 22.6	
	comp=E,880nm,0.6s							
ANM	**Nome**	**1.18**	**151**	P		**Pn**	**20 07 04.3**	**-1.1**
	baz=333							
ANM				S		**Sb**	**20 07 20.3**	**-0.3**
	baz=333							
G15K	**Niukluk**	**1.27**	**117**			**Pn**	**20 07 06.5**	**-0.1**
G15K						**Sg**	**20 07 24.9**	**+1.3**
G15K	**Niukluk**	**1.27**	**117**	P		**Pn**	**20 07 06.5**	**-0.1**
	baz=300							
G15K				S		**Sg**	**20 07 24.9**	**+1.3**
	baz=300							
G16K	**Koyuk River**	**1.82**	**95**			**Pn**	**20 07 13.1**	**-1.1**
G16K	**Koyuk River**	**1.82**	**95**			**Sg**	**20 07 40.6**	**-0.6**
G16K	**Koyuk River**	**1.82**	**95**	IAmb_Lg			20 07 42.2	
	comp=Z,455nm,0.8s							
G16K				IAML			20 07 45.0	
	comp=E,927nm,0.5s							
G16K				IAML			20 07 45.1	
	comp=N,974nm,0.6s							
G16K	**Koyuk River**	**1.82**	**95**	P		**Pn**	**20 07 14.5**	**+0.4**
	baz=279							
H16K	**Elim**	**2.11**	**115**			**Pn**	**20 07 18.6**	**+0.4**
H16K	**Elim**	**2.11**	**115**	P		**Pn**	**20 07 19.2**	**+0.9**
	baz=300							
F17K	**Baldwin Pennin**	**2.38**	**67**			**Pn**	**20 07 21.8**	**0.0**
F17K				Sn		**Sn**	**20 07 50.8**	**-0.2**
F17K				IAML			20 08 07.2	
	comp=N,395nm,0.8s							
F17K				IAML			20 08 07.6	
	comp=E,316nm,0.7s							
F17K	**Baldwin Pennin**	**2.38**	**67**	P		**Pn**	**20 07 21.4**	**-0.4**
	baz=252							
E17K	**Hotham Inlet**	**2.46**	**51**			**Pn**	**20 07 22.8**	**-0.2**
G17K	**Kiwalik Mounta**	**2.51**	**90**			**Pn**	**20 07 23.7**	**0.0**
G17K	**Kiwalik Mounta**	**2.51**	**90**	P		**Pn**	**20 07 23.7**	**0.0**
	baz=275							
D17K	**Noatak River**	**2.55**	**33**			**Pn**	**20 07 24.9**	**+0.7**
D17K	**Noatak River**	**2.55**	**33**	P		**Pn**	**20 07 24.9**	**+0.7**
	baz=216							
C16K	**Lisburne Hills**	**2.74**	**11**			**Pn**	**20 07 27.3**	**+0.5**
C16K				IAmb_Lg			20 08 12.7	
	comp=Z,95nm,1.2s							
C16K				IAML			20 08 16.7	
	comp=E,181nm,0.7s							
C16K				IAML			20 08 22.3	
	comp=N,168nm,1.0s							
C16K	**Lisburne Hills**	**2.74**	**11**	P		**Pn**	**20 07 27.2**	**+0.5**
	baz=192							
GAMB	**Gambell**	**2.83**	**232**			**Pn**	**20 07 28.0**	**-0.1**
RDOG	**Red Dog Mine**	**2.88**	**29**			**Pn**	**20 07 28.8**	**-0.1**
H17K	**Granite Mounta**	**2.92**	**100**			**Pn**	**20 07 29.4**	**+0.1**
H17K				IAmb_Lg			20 08 16.2	
	comp=Z,89nm,0.7s							
H17K				IAML			20 08 16.3	
	comp=N,233nm,0.5s							
H17K				IAML			20 08 18.3	
	comp=E,177nm,0.5s							
H17K	**Granite Mounta**	**2.92**	**100**	P		**Pn**	**20 07 29.8**	**+0.4**
	baz=287							
F18K	**Selawik**	**3.03**	**67**			**Pn**	**20 07 31.7**	**+0.8**
F18K	**Selawik**	**3.03**	**67**	P		**Pn**	**20 07 32.0**	**+1.1**
	baz=254							
E18K	**Tukpahlearik C**	**3.05**	**50**	Pn		**Pn**	**20 07 31.5**	**+0.5**
E18K				IAML			20 08 31.1	
	comp=N,139nm,0.9s							
E18K				IAML			20 08 36.0	
	comp=E,143nm,0.8s							
E18K	**Tukpahlearik C**	**3.05**	**50**	P		**Pn**	**20 07 32.2**	**+1.2**
	baz=236							
I17K	**Unalakleet**	**3.09**	**121**			**Pn**	**20 07 31.9**	**+0.3**
I17K				IAML			20 08 26.1	
	comp=N,172nm,1.0s							
I17K				IAML			20 08 28.3	
	comp=E,152nm,0.7s							
I17K				IAmb_Lg			20 08 29.5	
	comp=Z,67nm,0.9s							
I17K	**Unalakleet**	**3.09**	**121**	P		**Pn**	**20 07 32.6**	**+0.9**
	baz=307							
J14K	**Nanvaranak Lak**	**3.17**	**153**	Pn		**Pn**	**20 07 32.5**	**-0.3**
J14K				IAmb_Lg			20 08 27.3	
	comp=Z,95nm,1.0s							
J14K				IAML			20 08 30.0	
	comp=E,127nm,0.7s							
J14K	**Nanvaranak Lak**	**3.17**	**153**	P		**Pn**	**20 07 33.0**	**+0.2**
	baz=336							
C17K	**DeLong Mountai**	**3.20**	**24**			**Pn**	**20 07 34.2**	**+1.0**
C17K	**DeLong Mountai**	**3.20**	**24**	P		**Pn**	**20 07 34.2**	**+1.0**
	baz=207							
G18K	**Tagagawik**	**3.33**	**81**	Pn		**Pn**	**20 07 34.5**	**-0.5**
G18K				IAML			20 08 31.0	
	comp=N,110nm,0.7s							
G18K				IAmb_Lg			20 08 34.9	
	comp=Z,64nm,0.8s							
G18K	**Tagagawik**	**3.33**	**81**	P		**Pn**	**20 07 35.0**	**0.0**
	baz=269							
H18K	**Honhosa River**	**3.51**	**94**	Pn		**Pn**	**20 07 37.3**	**-0.2**
H18K				IAML			20 08 46.0	
	comp=N,171nm,1.2s							
H18K	**Honhosa River**	**3.51**	**94**	P		**Pn**	**20 07 38.1**	**+0.6**
	baz=281							
J16K	**Anvik River**	**3.51**	**129**			**Pn**	**20 07 37.2**	**-0.3**
J16K				IAmb_Lg			20 08 39.4	
	comp=Z,96nm,0.8s							
J16K	**Anvik River**	**3.51**	**129**	P		**Pn**	**20 07 37.9**	**+0.4**
	baz=314							
C18K	**Utukok River**	**3.74**	**33**	Pn		**Pn**	**20 07 41.5**	**+0.9**
C18K				IAmb_Lg			20 08 50.2	
	comp=Z,50nm,0.9s							
K13K	**Kusilvak Mount**	**3.79**	**165**	Pn		**Pn**	**20 07 40.9**	**-0.4**
K13K				IAmb_Lg			20 08 47.6	
	comp=Z,84nm,0.8s							
K13K				IAML			20 08 58.7	
	comp=E,111nm,0.7s							
K13K				IAML			20 09 03.8	
	comp=N,105nm,0.9s							
K13K	**Kusilvak Mount**	**3.79**	**165**	P		**Pn**	**20 07 41.5**	**+0.3**
	baz=347							
F19K	**Shaleruckik Mo**	**3.82**	**67**			**Pn**	**20 07 41.8**	**+0.2**
F19K				IAML			20 08 45.3	
	comp=E,81nm,0.7s							
F19K				IAmb_Lg			20 08 49.7	
	comp=Z,60nm,1.1s							
J17K	**VABM Dome**	**3.96**	**120**			**Pn**	**20 07 44.5**	**+0.9**
J17K				IAML			20 08 53.2	
	comp=N,80nm,0.7s							
J17K				IAML			20 08 54.9	
	comp=E,65nm,0.6s							
J17K				IAmb_Lg			20 08 56.3	
	comp=Z,81nm,1.0s							
J17K	**VABM Dome**	**3.96**	**120**	P		**Pn**	**20 07 45.1**	**+1.5**
	baz=308							
G19K	**Purcell Mounta**	**3.98**	**78**			**Pn**	**20 07 43.7**	**-0.2**
K15K	**Wolf Creek Mou**	**4.02**	**143**	Pn		**Pn**	**20 07 44.0**	**-0.5**
K15K				IAmb_Lg			20 08 54.7	
	comp=Z,66nm,0.8s							
K15K	**Wolf Creek Mou**	**4.02**	**143**	P		**Pn**	**20 07 45.2**	**+0.7**
	baz=328							
E19K	**Redstone River**	**4.21**	**59**			**Pn**	**20 07 47.0**	**-0.1**
E19K				IAML			20 09 00.2	
	comp=E,72nm,0.7s							
E19K				IAmb_Lg			20 09 01.5	
	comp=Z,43nm,0.8s							
E19K				IAML			20 09 03.4	
	comp=N,77nm,0.6s							
E19K	**Redstone River**	**4.21**	**59**	P		**Pn**	**20 07 47.9**	**+0.8**
	baz=248							
H19K	**Roundabout Mou**	**4.25**	**86**	Pn		**Pn**	**20 07 46.6**	**-1.0**
H19K				IAML			20 09 12.3	
	comp=N,72nm,0.9s							
H19K	**Roundabout Mou**	**4.25**	**86**	P		**Pn**	**20 07 49.0**	**+1.4**
	baz=276							
D19K	**Kuna River**	**4.44**	**45**	Pn		**Pn**	**20 07 50.8**	**+0.6**
D19K				IAML			20 09 15.9	
	comp=N,45nm,1.1s							
D19K	**Kuna River**	**4.44**	**45**	P		**Pn**	**20 07 51.4**	**+1.2**
	baz=233							
C19K	**Lookout Ridge**	**4.46**	**35**			**Pn**	**20 07 51.6**	**+1.1**
L15K	**Ungalak Mounta**	**4.57**	**147**			**Pn**	**20 07 52.7**	**+0.8**
L15K	**Ungalak Mounta**	**4.57**	**147**	P		**Pn**	**20 07 52.8**	**+0.9**
	baz=332							
L14K	**Kuka Creek**	**4.63**	**155**	Pn		**Pn**	**20 07 52.7**	**-0.1**
L14K	**Kuka Creek**	**4.63**	**155**	P		**Pn**	**20 07 53.4**	**+0.5**
	baz=339							
F20K	**Avaraart Lake**	**4.65**	**67**	Pn		**Pn**	**20 07 53.2**	**+0.1**
F20K				IAML			20 09 16.2	
	comp=N,54nm,0.8s							
K17K	**Iditarod**	**4.67**	**124**			**Pn**	**20 07 53.8**	**+0.4**
K17K				IAML			20 09 15.4	
	comp=N,41nm,1.1s							
K17K				IAML			20 09 46.5	
	comp=E,41nm,1.1s							
K17K	**Iditarod**	**4.67**	**124**	P		**Pn**	**20 07 54.8**	**+1.4**
	baz=312							
J18K	**Innoko River**	**4.81**	**112**			**Pn**	**20 07 54.6**	**-0.6**
J18K				IAML			20 09 21.6	
	comp=N,42nm,0.7s							
J18K				IAmb_Lg			20 09 26.7	
	comp=Z,37nm,1.2s							
J18K	**Innoko River**	**4.81**	**112**	P		**Pn**	**20 07 56.9**	**+1.7**
	baz=301							
H20K	**Anotleneega Mo**	**4.91**	**86**			**Pn**	**20 07 57.5**	**+0.8**
H20K	**Anotleneega Mo**	**4.91**	**86**	P		**Pn**	**20 07 58.4**	**+1.8**
	baz=277	

baz=259
L18K Granite Mounta 5.56 123 Pn **Pn 20 08 07.0 +1.4**
L18K Granite Mounta 5.56 123 P **Pn 20 08 07.2 +1.6**
baz=312
M15K Kasigluk River 5.62 148 Pn 20 08 07.0 +0.6
M15K Kasigluk River 5.62 148 P **Pn 20 08 07.2 +0.8**
baz=334
B20K Meade River 5.71 35 Pn **Pn 20 08 06.6 -0.9**
E21K Killik River 5.74 54 Pn **Pn 20 08 05.9 -2.1**
H21K Melozitna Rive 5.75 83 Pn 20 08 08.2 0.0
M16K Timber Creek 5.76 139 Pn **Pn 20 08 06.5 -1.8**
M16K Timber Creek 5.76 139 P **Pn 20 08 10.0 +1.6**
baz=326
C21K Knifeblade Rid 5.81 47 Pn 20 08 10.9 +1.9
C21K Knifeblade Rid 5.81 47 P **Pn 20 08 11.2 +2.2**
baz=238
K20K Telida 5.90 107 Pn **Pn 20 08 08.3 -1.9**
K20K Telida 5.90 107 P **Pn 20 08 12.4 +2.1**
baz=298
M17K Holitna River 5.90 131 Pn **Pn 20 08 08.4 -1.9**
M17K Holitna River 5.90 131 P **Pn 20 08 11.8 +1.5**
baz=320
B21K Ikpikpuk River 6.12 43 Pn **Pn 20 08 11.7 -1.5**
B21K Ikpikpuk River 6.12 43 P **Pn 20 08 15.2 +2.0**
baz=235
N14K Kuskokwak Cree 6.14 156 Pn 20 08 14.3 +0.8
N14K Kuskokwak Cree 6.14 156 P **Pn 20 08 14.3 +0.8**
baz=340
I21K Tanana 6.16 87 Pn 20 08 11.8 -1.9
N15K Kwethluk River 6.23 148 Pn **Pn 20 08 12.1 -2.7**
N15K Kwethluk River 6.23 148 P **Pn 20 08 16.0 +1.3**
baz=334
L19K White Mountain 6.24 118 Pn **Pn 20 08 12.6 -2.4**
L19K White Mountain 6.24 118 P **Pn 20 08 16.8 +1.8**
baz=309
D22K Ayikyak River 6.35 53 Pn **Pn 20 08 14.5 -1.9**
D22K Ayikyak River 6.35 53 P **Pn 20 08 18.8 +2.4**
baz=246
M18K Stony River 6.36 125 Pn 20 08 18.2 +1.6
M18K Stony River 6.36 125 P **Pn 20 08 18.2 +1.6**
baz=315
E22K Anaktuvuk Pass 6.38 60 Pn **Pn 20 08 15.8 -1.1**
L20K Farewell, AK 6.43 113 Pn 20 08 19.3 +1.7
L20K Farewell, AK 6.43 113 P **Pn 20 08 19.5 +2.0**
baz=305
M19K Big River Lodg 6.59 119 Pn 20 08 18.0 -1.7
M19K Big River Lodg 6.59 119 P **Pn 20 08 21.6 +1.9**
baz=310
CAST Castle Rocks 6.67 102 Pn **Pn 20 08 20.1 -0.7**
N17K Nushagak Hills 6.67 135 Pn **Pn 20 08 20.0 -0.8**
N17K Nushagak Hills 6.67 135 P **Pn 20 08 22.1 +1.3**
baz=324
MLY Manley 6.70 88 Pn **Pn 20 08 20.2 -1.0**
SVW2 Sparrevohn 6.73 127 Pn **Pn 20 08 20.0 -1.6**
COLD Coldfoot 6.81 69 Pn **Pn 20 08 22.4 -0.3**
G23K Bananza Creek 6.84 73 Pn 20 08 22.1 -1.1
O14K Tigyukauivet M 6.85 156 Pn **Pn 20 08 22.1 -1.1**
O14K Tigyukauivet M 6.85 156 P **Pn 20 08 24.1 +0.9**
baz=341
BPAW Bear Paw Mtn. 6.86 95 Pn 20 08 22.4 -0.9
PPLA Purkeypile 6.87 107 Pn **Pn 20 08 22.3 -1.3**
PPLA Purkeypile 6.87 107 P **Pn 20 08 25.4 +1.8**
baz=300
B22K Teshekpuk Lake 6.88 40 Pn **Pn 20 08 22.4 -1.2**
N18K Kilae Creek 6.94 130 Pn **Pn 20 08 22.7 -1.9**
N18K Kilae Creek 6.94 130 P **Pn 20 08 26.8 +2.3**
baz=320
D23K Nanushuk River 7.05 54 Pn **Pn 20 08 27.3 +1.3**
M20K Styx River 7.07 116 Pn 20 08 26.1 -0.3
M20K Styx River 7.07 116 P **Pn 20 08 29.1 +2.7**
baz=308
H23K Yukon River 7.07 80 Pn **Pn 20 08 25.8 -0.5**
KTH Kantishna Hill 7.09 100 Pn **Pn 20 08 26.2 -0.3**
E23K Chandalar 7.16 62 Pn 20 08 25.8 -1.8
O15K Ungalikthiuk R 7.19 151 Pn 20 08 29.2 +1.4
O15K Ungalikthiuk R 7.19 151 P **Pn 20 08 29.3 +1.4**
baz=337
O16K Kokwok River B 7.21 143 Pn **Pn 20 08 27.7 -0.5**
I23K Minto, Yukon-K 7.25 86 Pn **Pn 20 08 26.7 -2.0**
N19K Bonanza Creek 7.30 125 Pn **Pn 20 08 27.3 -2.3**
N19K Bonanza Creek 7.30 125 P **Pn 20 08 31.8 +2.3**
baz=316
O17K Koliganek Bris 7.32 139 Pn 20 08 31.6 +1.9
O17K Koliganek Bris 7.32 139 P **Pn 20 08 31.6 +1.9**
baz=327
TOLK Toolik Lake Re 7.32 58 Pn 20 08 28.4 -1.4
TOLK Toolik Lake Re 7.32 58 P **Pn 20 08 32.4 +2.6**
baz=254
TRF Thorofare Moun 7.39 99 Pn 20 08 32.7 +1.9
TRF Thorofare Moun 7.39 99 P **Pn 20 08 33.1 +2.3**
baz=294
C23K Itkillik River 7.43 48 Pn **Pn 20 08 30.8 -0.3**
C23K Itkillik River 7.43 48 P **Pn 20 08 32.5 +1.4**
baz=243
BWN Browne 7.46 93 Pn **Pn 20 08 30.8 -0.8**
E24K Your Creek 7.58 63 Pn **Pn 20 08 31.3 -2.0**
SKT Skwentna 7.62 111 Pn **Pn 20 08 31.8 -2.1**
F24K Squaw Lake 7.73 67 Pn **Pn 20 08 34.2 -1.2**
D24K Happy Valley 7.74 55 Pn 20 08 35.0 -0.4
H24K Noodor Dome 7.75 80 Pn **Pn 20 08 34.9 -0.8**
O18K Koktuh Hills 7.80 132 Pn **Pn 20 08 34.6 -1.7**
MCK McKinley 7.83 96 Pn **Pn 20 08 34.3 -2.5**
G24K Hadweenzic Riv 7.86 73 Pn **Pn 20 08 35.5 -1.5**
WRH Wood River Hil 7.94 90 Pn **Pn 20 08 37.4 -0.8**
C24K Franklin Bluff 7.98 51 Pn 20 08 38.2 -0.5
CCB Clear Creek Bu 8.01 88 Pn 20 08 39.0 -0.1
POKR Poker Plat Res 8.05 85 Pn **Pn 20 08 39.0 -0.8**
SUA Susitna One 8.23 113 Pn 20 08 42.3 +0.1
IL31 8.36 87 Pn **Pn 20 08 44.0 0.0**
ILAR Eielson Array 8.36 87 Pn **Pn 20 08 43.6 -0.4**
ILAR Eielson Array 8.36 87 Pn **Pn 20 08 45.1 +1.2**
comp=N,0.1nm,0.3s,baz=281,slow=13,SNR=11
ILAR Sn **Sn 20 10 15.9 -2.3**
comp=N,0.1nm,0.3s,baz=295,slow=11,SNR=2.1
comp=N,0.5nm,0.6s
ILSW Iliamna Southw 8.37 126 Pn **Pn 20 08 44.5 +0.3**
IL03 Eielson Array 8.38 87 Pn **Pn 20 08 44.5 +0.4**
F25K Christian Rive 8.60 67 Pn **Pn 20 08 48.3 +1.1**
D25K Kavik River 8.62 55 Pn 20 08 47.0 -0.5
DHY Denali Highway 8.74 98 Pn **Pn 20 08 47.8 -1.5**
GHO Glory Hole Cre 8.76 108 Pn **Pn 20 08 48.5 -1.0**
PRP Porcupine Dome 8.76 81 Pn **Pn 20 08 48.6 -1.0**
SML Sawmill 8.97 107 Pn **Pn 20 08 51.9 -0.6**
BMAR Burnt Mountain 9.00 68 Pn **Pn 20 08 52.0 -0.7**
J25K Salcha River, 9.03 87 Pn **Pn 20 08 51.2 -2.0**
ACHA Angle Creek He 9.13 139 Pn **Pn 20 08 53.5 -1.1**
KNK Knik Glacier 9.15 109 Pn **Pn 20 08 54.5 -0.2**
SCM Sheep Creek Mo 9.36 105 Pn **Pn 20 08 58.3 +0.6**
PLK4 Peulik 4 9.37 144 Pn **Pn 20 08 56.9 -1.0**
PWL Port Wells 9.53 111 Pn **Pn 20 08 59.6 -0.3**
RIDG Independent Ri 9.53 91 Pn **Pn 20 08 57.1 -2.8**
C27K Jago River 9.61 55 Pn **Pn 20 09 00.2 -0.8**
M24K Tolsona, Glenn 9.69 102 Pn **Pn 20 09 00.1 -2.0**
J26L Joseph Creek 9.81 86 Pn **Pn 20 09 02.5 -1.4**
KDAK Kodiak Island 10.28 133 Pn **Pn 20 09 14.7 +4.4**
comp=N,0.2nm,0.3s,baz=253,slow=11,SNR=1.2
comp=N,4.2nm,0.9s
SONM Songino Array 46.59 292 P **P 20 15 12.0 +1.3**
comp=N,0.4nm,0.8s,baz=26,slow=11,SNR=2.8
comp=N,0.4nm,0.8s
ZALV Zalesovo Beam 49.02 312 P **P 20 15 29.0 -0.2**
comp=N,0.7nm,0.5s,baz=52,slow=9.3,SNR=4.1
comp=N,0.7nm,0.5s
FINES FINESS Array B 52.91 352 P **P 20 15 59.1 +0.7**
comp=N,1.2nm,0.7s,baz=32,slow=11,SNR=5.1
comp=N,1.2nm,0.7s
KURBB Kurchatov Arra 53.82 314 P **P 20 16 05.8 +0.5**
comp=N,0.6nm,0.7s,baz=28,slow=7.2,SNR=4.6
comp=N,0.6nm,0.7s
BVAR Borovoye Array 53.95 321 P **P 20 16 06.6 +0.4**
comp=N,0.5nm,0.6s,baz=23,slow=7.7,SNR=4.0
comp=N,0.5nm,0.6s
MKAR Makanchi Array 56.05 309 P **P 20 16 21.8 +0.4**
comp=N,0.4nm,0.7s,baz=19,slow=6.2,SNR=2.1
comp=N,0.4nm,0.7s

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*NEIC **22** 20:07:46.9±0.7, 18°.1S±0°.3×178°.08W±0°.06, h618km±12km, mb4.3/11, Error ellipse: s-maj=39.5km s-min=8.5km az=181.0*
*IDC **22** 20:07:47.5±2.0, 17°.73S×178°.34W, h618km±22km, mb2.8/5, mbtmp3.8/7, Error ellipse: s-maj=41.7km s-min=23.9km az=151.0*

ISC 22 20:07:46.1±0.7, 17°.8S±0°.2×178°.2W±0°.1, h600km, n25, σ1§22/25, mb3.9/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.56**	**271**		**P**	**20 09 11.4**	**+2.6**
MSVF	**Nonsavu**	**3.56**	**271**	P	**P**	**20 09 10.9**	**+2.1**
58nm,0.7s,baz=128,slow=15,SNR=59							
NIUE	**Niue**	**7.96**	**100**	P	**P**	**20 09 44.3**	**-0.9**
PINNC	**Pines Island,**	**14.27**	**248**	P	**P**	**20 10 47.2**	**-0.4**
DZM	**Mont Dzumac**	**15.02**	**251**	P	**P**	**20 10 53.3**	**-1.3**
4.6nm,1.0s,baz=78,slow=14,SNR=2.3							
COEN	**Coen**	**37.29**	**270**	P	**P**	**20 14 10.4**	**+1.3**
COEN				IAmb	IAmb	20 14 38.4	
comp=Z,12nm,1.4s							
WB0	**Warramunga Arr**	**44.79**	**260**	P	**P**	**20 15 07.7**	**-0.5**
WB0				IAmb	IAmb	20 15 24.3	
comp=Z,11nm,1.5s							
WRA	**Warramunga Arr**	**44.82**	**259**	P	**P**	**20 15 08.1**	**-0.4**
WRA	**Warramunga Arr**	**44.82**	**259**	P	**P**	**20 15 08.1**	**-0.4**
comp=Z,0.7nm,0.5s,baz=98,slow=6.9,SNR=11							
comp=Z,0.7nm,0.5s							
AS31	**Alice Springs**	**44.98**	**254**	P	**P**	**20 15 09.0**	**-0.7**
ASAR	**Alice Springs**	**44.99**	**254**	P	**P**	**20 15 08.3**	**-1.4**
ASAR	**Alice Springs**	**44.99**	**254**	P	**P**	**20 15 09.1**	**-0.7**
comp=Z,1.1nm,0.4s,baz=94,slow=7.5,SNR=19							
comp=Z,1.1nm,0.4s							
MTN	**Manton Dam**	**48.98**	**268**	P	**P**	**20 15 39.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**53.22**	**260**	P	**P**	**20 16 09.9**	**-0.2**
MBWA	**Marble Bar**	**58.27**	**256**	P	**P**	**20 16 43.8**	**-1.2**
YOJ	**Yonaguni jima**	**71.05**	**305**	P	**P**	**20 18 02.9**	**-2.3**
QSPA	**South Pole Qui**	**72.22**	**180**	P	**P**	**20 18 12.4**	**+1.0**
comp=Z,0.6nm,0.3s,baz=96,slow=9.2,SNR=1.3							
comp=Z,0.6nm,0.3s							
K15K	**Wolf Creek Mou**	**80.95**	**8**	P	**P**	**20 18 59.2**	**+0.5**
K15K				IAmb	IAmb	20 18 59.6	
comp=Z,22nm,1.4s							
GHO	**Glory Hole Cre**	**82.69**	**14**	P	**P**	**20 19 08.4**	**+0.7**
GHO				IAmb	IAmb	20 19 45.6	
comp=Z,19nm,1.4s							
IMAR	**Indian Mountai**	**85.58**	**10**	P	**P**	**20 19 21.6**	**+0.1**
ILAR	**Eielson Array**	**85.77**	**13**	P	**P**	**20 19 21.9**	**-0.6**
comp=Z,0.1nm,0.4s,baz=220,slow=5.4,SNR=6.5							
comp=Z,0.1nm,0.4s							
F19K	**Shaleruckik Mo**	**85.78**	**8**	P	**P**	**20 19 23.2**	**+0.7**
F19K				IAmb	IAmb	20 19 51.2	
comp=Z,4.3nm,1.3s							
TXAR	**Lajitas Array**	**85.80**	**58**	P	**P**	**20 19 23.4**	**-0.2**
comp=Z,0.2nm,0.7s,baz=226,slow=7.5,SNR=2.7							
comp=Z,0.2nm,0.7s							
BRTR	**Keskin Array B**	**144.86**	**315**		**PKPdf**	**20 26 17.0**	**+0.8**
CLL	**Collm**	**145.43**	**348**	*i* PKPbc	**PKPdf**	**20 26 18.2**	**+1.6**

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*MOS **22** 20:12:45.8±1.1, 12°.76S×166°.93E, h199km, mb5.1/31, Error ellipse: s-maj=9.7km s-min=8.9km az=125.2*
*NEIC **22** 20:12:46.7±1.7, 12°.67S±0°.06×167°.06E±0°.09, h194km±4km, mb5.0/282, Mww5.0/18, Error ellipse: s-maj=13.0km s-min=7.7km az=67.0*
*NEIC **22** 20:12:47.4, 12°.79S×166°.84E, h190km, Moment Tensor Solution. Duration: 1§7 Moment tensor: Scale 10^{16}Nm; M_{rr}4.06; $M_{\theta\theta}$0.08; $M_{\phi\phi}$-4.14; $M_{r\theta}$0.09; $M_{\theta\phi}$1.51; $M_{\phi r}$-1.52; Fault plane solution: $M_0$4.60000×10^{16} NP1: ϕ_s167.67000°, δ54.62000°, λ96.69000°. NP2: ϕ_s336.22000°, δ35.92000°, λ80.69000°. Principal axes: T 4.3411, Plg79.0000°, Azm104.0000°; N 0.5254, Plg5.0000°, Azm344.0000°; P -4.8665, Plg9.0000°, Azm253.0000°;*
*NEIC **22** 20:12:47.4, 12°.69S×167°.05E, h190km*
*BJI **22** 20:12:47.9, 12°.41S×167°.18E, h212km, mb4.7/61, mB5.0/22*
*IDC **22** 20:12:48.0±0.5, 12°.81S×166°.96E, h208km±3km, mb4.3/24, mbtmp4.8/28, Error ellipse: s-maj=9.4km s-min=8.1km az=134.0*
*GCMT **22** 20:12:49.4±0.2, 12°.71S±0°.02×166°.90E±0°.01, h208km±1km, MW5.1/110, Moment Tensor Solution. s71,c96; s110,c157; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.93±.14; $M_{\theta\theta}$-0.20±.16; $M_{\phi\phi}$-5.73±.16; $M_{r\theta}$-0.25±.16; $M_{\theta\phi}$0.40±.18; $M_{\phi r}$-2.77±.15; Best double couple: $M_0$6.47200×10^{16} NP1 ϕ_s180.00000°, δ58.00000°, λ94.00000°. NP2 ϕ_s352.00000°, δ33.00000°, λ84.00000°. Principal axes: T 6.5710, Plg77.0000°, Azm102.0000°; N -0.2020, Plg3.0000°, Azm358.0000°; P -6.3730, Plg13.0000°, Azm267.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NOU **22** 20:12:49.6, 12°.61S×166°.97E, h212km, mb4.8/75, Santa Cruz Islands*

ISC 22 20:12:48.1±0.3, 12°.80S±0°.04×167°.06E±0°.04, h213km±2km, h213km; pP-P, n711, σ1§33/713, mb5.0/199, 19C-5D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUES	**Luesalemba Tem**	**2.40**	**332**	P	**Pn**	**20 13 30.0**	**-1.9**
VLAKA	**Lakatoro**	**3.31**	**174**	P	**Pn**	**20 13 45.0**	**+3.0**
DVP	**Devils Point**	**5.02**	**168**	P	**Pn**	**20 14 07.2**	**+4.1**
HURO	**Huro Makira**	**5.56**	**294**	P	**Pn**	**20 14 09.1**	**-1.0**
NGOA	**Tingoa Renbel**	**6.96**	**279**	P	**Pn**	**20 14 27.6**	**-0.4**
ALEG	**Aligegeo Malai**	**7.44**	**302**	P	**Pn**	**20 14 33.7**	**-0.5**
HNR	**Honiara**	**7.74**	**295**	Pn	**Pn**	**20 14 34.9**	**-3.3**
HNR	**Honiara**	**7.74**	**295**	P	**Pn**	**20 14 36.4**	**-1.8**
152nm,0.7s,baz=187,slow=5.2,SNR=8.9							
HNR	**Honiara**	**7.74**	**295**	P	**Pn**	**20 14 34.9**	**-3.3**
KOUNC	**Koumac, New Ca**	**8.15**	**199**	Pn	**Pn**	**20 14 44.8**	**+1.4**
KOUNC				Sn	**S**	**20 16 10.7**	**-4.9**
KOUNC	**Koumac, New Ca**	**8.15**	**199**	P	**Pn**	**20 14 46.3**	**+2.9**
TATA	**Tatamba Isabel**	**8.38**	**301**	P	**Pn**	**20 14 45.7**	**-0.6**
YATNC	**Mamie plateau,**	**9.21**	**181**	P	**Pn**	**20 15 00.6**	**+3.5**
DZM	**Mont Dzumac**	**9.24**	**184**	Pn	Pn	20 14 52.9	-4.6
DZM	**Mont Dzumac**	**9.24**	**184**	*e*Pn	**Pn**	**20 14 54.6**	**-2.9**
56nm,1.1s							
DZM				*e*Sn	**S**	**20 16 41.0**	**-0.5**
61nm,1.6s							
DZM	**Mont Dzumac**	**9.24**	**184**	P	**Pn**	**20 14 59.0**	**+1.4**
7.1nm,0.5s,baz=19,slow=17,SNR=26							
DZM				S	**S**	**20 16 42.4**	**+1.0**
5.4nm,0.4s,baz=95,slow=24,SNR=1.3							
DZM	**Mont Dzumac**	**9.24**	**184**	P	**P**	**20 15 02.7**	**-3.4**
NOUC	**Port Laguerre**	**9.28**	**184**	P	**Pn**	**20 15 01.8**	**+3.9**
ONTNC	**Ouen Toro**	**9.47**	**183**	Pn	**Pn**	**20 14 56.7**	**-3.8**
OUENC	**Ouen Island, N**	**9.57**	**181**	P	**P**	**20 15 06.9**	**-2.8**
PINNC	**Pines Island,**	**9.77**	**178**	Pn	**Pn**	**20 15 00.9**	**-3.3**
MSVF	**Nonsavu**	**11.68**	**116**	Pn	**Pn**	**20 15 29.0**	**+0.2**
MSVF	**Nonsavu**	**11.68**	**116**	P	**Pn**	**20 15 31.9**	**+3.1**
28nm,1.1s,baz=292,slow=6.2,SNR=7.2							
MSVF	**Nonsavu**	**11.68**	**116**	P	**Pn**	**20 15 29.0**	**+0.2**
FUNA	**Funafuti**	**12.65**	**72**	Pn	**Pn**	**20 15 37.6**	**-3.4**
FUTU	**Fugatoga**	**14.48**	**98**	Pn	**Pn**	**20 16 02.2**	**-1.4**
RABAL	**Rabaul**	**17.03**	**299**	P	**P**	**20 16 31.1**	**-1.6**
EIDS	**Eidsvold**	**19.58**	**228**	P	**P**	**20 16 59.4**	**-0.8**
EIDS	**Eidsvold**	**19.58**	**228**	P	**Pn**	**20 17 02.7**	**-1.6**
PMG	**Port Moresby**	**19.82**	**278**	P	**P**	**20 17 00.5**	**-2.4**
PMG	**Port Moresby**	**19.82**	**278**	P	**P**	**20 17 03.2**	**+0.3**
26nm,0.9s,baz=91,slow=6.3,SNR=13							
PMG				S	**S**	**20 20 35.3**	**+0.8**
1.3nm,0.3s,baz=249,slow=18,SNR=1.0							
PMG	**Port Moresby**	**19.82**	**278**	*ce*P	**P**	**20 17 03.2**	**+0.3**
PMG				pmax	pmax		
comp=Z,62nm,1.3s							
TV1H	**Townsville Har**	**20.50**	**249**	P	**P**	**20 17 11.4**	**+1.3**
CTAO	**Charters Tower**	**21.22**	**247**	P	**P**	**20 17 15.9**	**-1.8**
CTAO	**Charters Tower**	**21.22**	**247**	P	**P**	**20 17 18.9**	**+1.2**
CTAO	**Charters Tower**	**21.22**	**247**	P	**P**	**20 17 15.9**	**-1.8**
MTSU	**Mount Surprise**	**22.55**	**254**	P	**P**	**20 17 32.2**	**+1.7**
ARMA	**Armidale**	**22.61**	**217**	P	**P**	**20 17 29.7**	**-1.3**
ARMA	**Armidale**	**22.61**	**217**	P	**P**	**20 17 33.9**	**+2.9**
OUZ	**Omahuta**	**23.09**	**166**	P	**P**	**20 17 38.7**	**+3.5**
COEN	**Coen**	**23.27**	**264**	P	**P**	**20 17 36.7**	**-0.3**
COEN	**Coen**	**23.27**	**264**	P	**P**	**20 17 39.1**	**+2.1**
MGCD	**Mangrove Creek**	**25.00**	**213**	P	**P**	**20 17 54.3**	**+1.7**
QLP	**Quilpie**	**25.44**	**234**	P	**P**	**20 17 59.6**	**+3.0**
TOZ	**Tahuroa Road**	**25.95**	**165**	P	**P**	**20 18 02.1**	**+1.1**
TOZ				IAmb	IAmb	20 18 03.4	
comp=Z,57nm,1.8s							
MXZ	**Matakaoa Point**	**26.63**	**160**	P	**P**	**20 18 07.6**	**+0.5**
MXZ	**Matakaoa Point**	**26.63**	**160**	P	**P**	**20 18 09.6**	**+2.5**
URZ	**Urewera**	**26.89**	**162**	P	**P**	**20 18 12.7**	**+3.3**
CMSA	**Cobar Meteorol**	**27.10**	**223**	P	**P**	**20 18 12.9**	**+1.5**
RTZ	**Ruatahuna**	**27.18**	**163**	P	**P**	**20 18 12.0**	**-0.1**
RTZ				IAmb	IAmb	20 18 12.9	
comp=Z,42nm,1.3s							
QIS	**Mount Isa**	**27.38**	**250**	P	**P**	**20 18 15.2**	**+1.1**
BKZ	**Black Stump Fm**	**27.56**	**164**	P	**P**	**20 18 15.6**	**+0.2**
BKZ				IAmb	IAmb	20 18 21.0	
comp=Z,17nm,0.5s							
BKZ	**Black Stump Fm**	**27.56**	**164**	P	**P**	**20 18 18.3**	**+2.9**
CAN	**Canberra**	**27.74**	**213**	P	**P**	**20 18 16.2**	**-0.9**
CAN	**Canberra**	**27.74**	**213**	P	**P**	**20 18 16.2**	**-0.9**
CAN				pmax	pmax		
comp=Z,197nm,1.9s							
QRZ	**Quartz Range**	**28.33**	**171**	P	**P**	**20 18 23.0**	**+0.9**
QRZ				IAmb	IAmb	20 18 25.4	
comp=Z,32nm,0.9s							
QRZ	**Quartz Range**	**28.33**	**171**	P	**P**	**20 18 25.3**	**+3.2**
TKNZ	**Takaka Hill**	**28.60**	**171**	P	**P**	**20 18 26.0**	**+1.5**
INKA	**Innaminka**	**28.73**	**235**	P	**P**	**20 18 28.1**	**+2.2**
MRZ	**Mangatainoka R**	**28.75**	**166**	P	**P**	**20 18 26.3**	**+0.5**
MRZ				IAmb	IAmb	20 18 39.9	
comp=Z,25nm,1.2s							
NNZ	**Nelson**	**28.85**	**170**	P	**P**	**20 18 28.5**	**+1.8**
NNZ				IAmb	IAmb	20 18 58.3	
comp=Z,60nm,1.3s							
BFZ	**Birch Farm**	**28.92**	**165**	P	**P**	**20 18 29.4**	**+2.0**
MRNZ	**Matariki Terra**	**28.93**	**171**	P	**P**	**20 18 29.3**	**+1.9**
DSZ	**Denniston Nort**	**29.13**	**173**	P	**P**	**20 18 31.7**	**+2.4**
DSZ				IAmb	IAmb	20 18 34.4	
comp=Z,29nm,0.8s							
TUWZ	**Tuamarina**	**29.15**	**169**	P	**P**	**20 18 31.2**	**+1.9**
SNZO	**South Karori**	**29.18**	**168**	P	**P**	**20 18 32.5**	**+2.9**
THZ	**Tophouse**	**29.30**	**171**	P	**P**	**20 18 32.5**	**+1.7**
THZ				IAmb	IAmb	20 18 33.2	
comp=Z,28nm,0.7s							
MSWZ	**Moikau Station**	**29.39**	**167**	P	**P**	**20 18 32.1**	**+0.5**
STKA	**Stephens Creek**	**30.13**	**227**	P	**P**	**20 18 39.1**	**+0.9**
STKA				PcP	**PcP**	**20 21 34.9**	**+0.7**
STKA	**Stephens Creek**	**30.13**	**227**	P	**P**	**20 18 39.5**	**+1.4**
comp=Z,9.0nm,0.3s,baz=44,slow=8.9,SNR=55							
STKA				pP	**pP**	**20 19 19.6**	**-0.8**
comp=Z,3.1nm,0.4s,baz=53,slow=11,SNR=1.8							
STKA				PcP	**PcP**	**20 21 34.7**	**+0.5**
comp=Z,4.2nm,0.5s,baz=52,slow=1.5,SNR=5.0							
STKA				ScP	**ScP**	**20 24 57.6**	**+1.3**
comp=Z,1.7nm,0.8s,baz=338,slow=2.4,SNR=3.0							
comp=Z,9.0nm,0.3s							
STKA	**Stephens Creek**	**30.13**	**227**	P	**P**	**20 18 39.8**	**+1.6**
STKA	**Stephens Creek**	**30.13**	**227**	P	**P**	**20 18 39.1**	**+0.9**
STKA						20 21 34.9	
STKA				pmax	pmax		
comp=Z,8.0nm,1.1s							
RPZ	**Rata Peaks**	**31.00**	**174**	IAmb	IAmb	20 18 49.9	
comp=Z,31nm,0.7s							
RPZ	**Rata Peaks**	**31.00**	**174**	P	**P**	**20 18 48.8**	**+3.1**
JCZ	**Jackson Bay**	**31.20**	**178**	P	**P**	**20 18 50.7**	**+3.2**
TOO	**Toolangi**	**31.30**	**214**	P	**P**	**20 18 48.9**	**+0.5**
TOO				IAmb	IAmb	20 19 13.5	
comp=Z,36nm,1.6s							
TOO	**Toolangi**	**31.30**	**214**	P	**P**	**20 18 48.9**	**+0.5**
TOO				pmax	pmax		
comp=Z,36nm,1.6s							
LCRK	**Leigh Creek**	**31.91**	**232**	P	**P**	**20 18 54.8**	**+0.9**
WRAB	**Tennant Creek**	**32.14**	**253**	*i* P	**P**	**20 18 54.5**	**-1.5**
WRAB				pmax	pmax		
comp=Z,12nm,0.8s							
WRA	**Warramunga Arr**	**32.15**	**253**	P	**P**	**20 18 55.3**	**-0.8**
comp=Z,8.1nm,0.7s,baz=85,slow=9.2,SNR=38							
WRA				pP	**pP**	**20 19 38.3**	**-0.5**
comp=Z,1.8nm,0.5s,baz=85,slow=8.8,SNR=3.1							
WRA				PcP	**PcP**	**20 21 39.9**	**0.0**
comp=Z,0.8nm,0.7s,baz=89,slow=6.5,SNR=1.9							
WRA				S	**S**	**20 23 49.9**	**-3.1**
comp=Z,3.2nm,1.1s,baz=82,slow=15,SNR=8.5							
WRA				ScP	**ScP**	**20 25 04.7**	**+1.4**
comp=Z,2.5nm,0.8s,baz=80,slow=3.4,SNR=11							
WRA				PKiKP	**PKiKP**	**20 29 06.5**	**-1.1**
comp=Z,0.9nm,1.1s,baz=23,slow=0.6,SNR=7.5							
comp=Z,8.1nm,0.7s							
WRA	**Warramunga Arr**	**32.15**	**253**	*i* P	**P**	**20 18 55.5**	**-0.6**
WRA				pmax	pmax		
comp=Z,8.0nm,0.7s							
ODZ	**Otahua Downs**	**32.28**	**175**	P	**P**	**20 18 59.6**	**+2.8**
DCZ	**Deep Cove**	**32.56**	**180**	IAmb	IAmb	20 19 03.0	
comp=Z,51nm,1.4s							
HTT	**Hallett**	**32.86**	**227**	P	**P**	**20 19 03.2**	**+1.1**
OOD	**Oodnadatta**	**32.87**	**238**	P	**P**	**20 19 03.7**	**+1.5**
AS31	**Alice Springs**	**33.22**	**246**	P	**P**	**20 19 05.0**	**-0.3**
ASAR	**Alice Springs**	**33.22**	**246**	P	**P**	**20 19 04.4**	**-0.9**
comp=Z,13nm,0.8s,baz=74,slow=9.4,SNR=137							
ASAR				pP	**pP**	**20 19 47.6**	**-0.6**
comp=Z,8.7nm,0.7s,baz=73,slow=9.7,SNR=5.4							
ASAR				PcP	**PcP**	**20 21 42.4**	**-0.5**
comp=Z,1.0nm,0.4s,baz=81,slow=3.0,SNR=5.0							
ASAR				S	**S**	**20 24 05.3**	**-4.2**
comp=Z,2.7nm,1.1s,baz=78,slow=14,SNR=6.7							
ASAR				ScP	**ScP**	**20 25 08.3**	**+1.4**
comp=Z,3.6nm,0.9s,baz=89,slow=3.8,SNR=16							
comp=Z,13nm,0.8s							
PYZ	**Puysegur Point**	**33.26**	**180**	P	**P**	**20 19 07.9**	**+2.6**
KDU	**Kakadu**	**33.73**	**266**	P	**P**	**20 19 11.1**	**+1.4**
TAU	**Tasmania Unive**	**34.53**	**206**	P	**P**	**20 19 16.4**	**+0.2**
TAU	**Tasmania Unive**	**34.53**	**206**	P	**P**	**20 19 16.4**	**+0.2**
TAU				pmax	pmax		
comp=Z,345nm,1.9s							
BBOO	**Buckleboo**	**34.63**	**230**	P	**P**	**20 19 18.3**	**+1.0**
BBOO				IAmb	IAmb	20 19 19.5	
comp=Z,67nm,1.3s							
BBOO	**Buckleboo**	**34.63**	**230**	P	**P**	**20 19

comp=Z,52nm,1.3s
JGF Kuroka 55.74 331 P **P 20 22 01.4 -1.5**
JGF Kuroka 55.74 331 P **P 20 22 03.0 +0.1**
UGM Wanagama 55.75 269 P **P 20 22 03.6 +0.2**
UGM Wanagama 55.75 269 P **P 20 22 04.0 +0.6**
JMN Monobe 56.03 327 P **P 20 22 05.8 +0.8**
JMN Monobe 56.03 327 P **P 20 22 04.5 -0.5**
JMM Marumori 56.10 335 P **P 20 22 05.4 +0.1**
JMM Marumori 56.10 335 P **P 20 22 05.3 0.0**
MJAR Matsushiro Arr 56.11 332 P **P 20 22 04.6 -0.9**
comp=Z,4.2nm,0.4s,baz=161,slow=7.9,SNR=31
comp=Z,4.2nm,0.4s
MAJO Matsushiro 56.12 332 P **P 20 22 05.0 -0.5**
MAJO IAmb IAmb 20 22 06.5
comp=Z,34nm,1.1s
MAJO Matsushiro 56.12 332 P **P 20 22 05.5 0.0**
MAJO Matsushiro 56.12 332 P **P 20 22 05.0 -0.5**
MAJO pmax pmax
comp=Z,34nm,1.1s
MJB9 Matsu-Tunnel 56.12 332 P **P 20 22 04.9 -0.6**
MJB9 IAmb IAmb 20 22 06.5
comp=Z,34nm,1.1s
DRV Dumont d'Urvil 56.77 193 P **P 20 22 10.9 +1.3**
JNU Nakatsue 57.25 324 P **P 20 22 13.5 -0.1**
JNU Nakatsue 57.25 324 P **P 20 22 13.3 -0.3**
comp=Z,32nm,1.0s,baz=56,slow=3.6,SNR=14
comp=Z,32nm,1.0s
JNU Nakatsue 57.25 324 P **P 20 22 14.0 +0.4**
TPUB Ta-pu 57.89 308 P **P 20 22 17.8 -0.4**
TPUB Ta-pu 57.89 308 P **P 20 22 18.3 +0.1**
SSLB Suanglung 57.91 309 P **P 20 22 16.7 -1.7**
SSLB Suanglung 57.91 309 P **P 20 22 18.4 0.0**
JTM Tenmabayashi 58.50 337 P **P 20 22 22.4 +0.4**
BBJI Bungbulang 58.63 269 P **P 20 22 24.2 +0.6**
ERM Erimo 58.82 339 P **P 20 22 23.3 -0.9**
ERM Erimo 58.82 339 P **P 20 22 23.3 -0.9**
ERM pmax pmax
comp=Z,243nm,2.0s
JTU Tsushima 59.11 324 P **P 20 22 25.9 -0.5**
JKA Kamikawa-asahi 60.87 340 P **P 20 22 38.9 +0.8**
ASAJ Asahikawa 60.87 340 P **P 20 22 39.2 +1.1**
comp=Z,9.8nm,0.4s,baz=224,slow=8.0,SNR=29
comp=Z,9.8nm,0.4s
ASAJ Asahikawa 60.87 340 P **P 20 22 38.9 +0.8**
ASAJ pmax pmax
comp=Z,221nm,1.9s
KSRS Korea Array 62.04 325 P **P 20 22 46.8 +0.7**
comp=Z,2.0nm,0.4s,baz=136,slow=7.6,SNR=9.4
comp=Z,2.0nm,0.4s
YSS Yuzh-Sakhalins 63.34 342 *e*P **P 20 22 56.0 +1.5**
YSS pmax pmax
comp=Z,20nm,0.9s
NJ2 Nanjing 64.17 315 *e*P **P 20 23 02.5 +2.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,230nm,3.8s
SBA Scott Base 65.06 180 P **P 20 23 06.7 +1.5**
SBA Scott Base 65.06 180 P **P 20 23 06.7 +1.5**
SBA pmax pmax
comp=Z,65nm,1.0s
SBA Scott Base 65.06 180 P **P 20 23 07.9 +2.7**
USA0B Ussuriysk Arra 65.08 333 P **P 20 23 07.1 +1.2**
USA0B IAmb IAmb 20 23 08.6
comp=Z,49nm,1.3s
USA0B Ussuriysk Arra 65.08 333 P **P 20 23 07.1 +1.2**
USA0B pmax pmax
comp=Z,49nm,1.3s
USRK Ussuriysk Ar. 65.08 333 P **P 20 23 07.2 +1.3**
comp=Z,19nm,1.1s,baz=143,slow=6.7,SNR=14
comp=Z,19nm,1.1s
CASY Casey 65.23 202 P **P 20 23 07.5 +0.9**
PEA0B Petropavlovsk- 66.13 354*ce*P **P 20 23 12.7 +0.3**
PETK Petropavlovsk- 66.13 354 P **P 20 23 12.6 +0.2**
comp=Z,3.4nm,0.5s,baz=149,slow=2.8,SNR=14
comp=Z,3.4nm,0.5s
MDJ Mudanjiang 66.49 332 P **P 20 23 14.8 -0.1**
MDJ IAmb IAmb 20 23 17.3
comp=Z,34nm,1.3s
MDJ Mudanjiang 66.49 332 P **P 20 23 16.3 +1.4**
MDJ pmax pmax
comp=Z,23nm,1.5s
MDJ Mudanjiang 66.49 332 P **P 20 23 16.4 +1.6**
DL2 Dalian 66.65 323 P **P 20 23 16.6 +0.7**
DL2 pmax pmax
comp=Z,42nm,0.9s
CCD Concordia, Ant 66.74 191 P **P 20 23 17.7 +1.2**
TIA Tai'an 67.77 318 P **P 20 23 22.9 -0.2**
TIA pmax pmax
comp=Z,14nm,1.4s
IPM Ipoh 67.80 280 P **P 20 23 23.8 0.0**
CN2 Changchun 67.90 329 P **P 20 23 24.3 +0.6**
CN2 pmax pmax
comp=Z,20nm,1.1s
BNX BinXian 68.36 331 ⇓P **P 20 23 27.0 +0.5**
BNX pmax pmax
comp=Z,19nm,1.6s
KULM Kulim 68.38 281 P **P 20 23 26.4 -1.0**
KULM Kulim 68.38 281 P **P 20 23 28.1 +0.8**
KLR Kul'dur 69.17 336 P **P 20 23 32.1 +0.7**
comp=Z,3.4nm,0.5s,baz=173,slow=4.8,SNR=11
comp=Z,3.4nm,0.5s
KLR Kul'dur 69.17 336*ce*P **P 20 23 31.6 +0.1**
KLR pmax pmax
comp=Z,25nm,1.5s
RPSI Rantau Prapat 69.36 278 P **P 20 23 32.4 -0.9**
RPSI IAmb IAmb 20 23 34.2
comp=Z,23nm,1.2s
PSI Prapat 69.39 278 P **P 20 23 32.4 -1.3**
PSI pmax pmax
comp=Z,23nm,1.2s
LYN LuoYang 69.99 314 *e*P **P 20 23 37.8 +1.0**
LYN pmax pmax
comp=Z,35nm,1.1s
ENH Enshi 70.00 309 IAmb IAmb 20 23 38.2
comp=Z,36nm,1.2s
ENH Enshi 70.00 309 P **P 20 23 37.7 +0.7**
HNS HongShan 70.04 318 ⇓P **P 20 23 38.5 +1.5**
HNS sP **sP 20 24 47.1 -1.8**
HNS pmax pmax
comp=Z,20nm,1.5s
UNV Unalaska Valle 70.11 16 P **P 20 23 37.6 +0.6**
baz=208
UNV Unalaska Valle 70.11 16 P **P 20 23 37.8 +0.8**
SRIT Nakonsritamara 70.30 284 P **P 20 23 39.6 +0.5**
SRIT IAmb IAmb 20 23 41.7
comp=Z,36nm,1.1s
GSI Gunungsitoli 70.32 276 P **P 20 23 39.0 -0.2**
GSI IAmb IAmb 20 23 41.4
comp=Z,17nm,0.8s
GSI Gunungsitoli 70.32 276 P **P 20 23 39.5 +0.2**
GYA Guiyang 70.47 304 P **P 20 23 40.3 +0.3**
GYA S **S 20 32 34.1 -1.8**
GYA pmax pmax
comp=Z,14nm,0.8s
SLVN Son La 70.67 298 P **P 20 23 41.3 0.0**
TIY Taiyuan 71.72 317 P **P 20 23 48.8 +1.6**
TIY S **S 20 32 49.3 -0.4**
TIY pmax pmax
comp=Z,45nm,0.4s
XAN Xi'an 72.25 312 ⇑P **P 20 23 50.8 +0.4**
XAN pP pP 20 24 39.4 -0.6
XAN pmax pmax
comp=Z,21nm,1.4s
SRDT SRDT 72.49 290 P **P 20 23 53.0 +0.8**
PHRA Phrae 72.86 294 P **P 20 23 54.9 +0.6**
S12K Black Hills 72.99 18 P **P 20 23 54.8 +0.5**
baz=212
CHNA Chernabura Isl 73.03 19 P **P 20 23 54.9 +0.5**
baz=214
XLT XiLinHaoTe 73.03 324 *e*P **P 20 23 55.1 +0.2**
XLT S **S 20 33 04.0 -0.5**
XLT SKS **SKSac 20 33 34.3 -5.9**
XLT ScS **SKKSac 20 33 39.8 -0.6**
XLT pmax pmax
comp=Z,19nm,1.1s
XLT pmax pmax
comp=Z,150nm,6.0s
KMI Kunming 73.13 301 ⇑P **P 20 23 57.5 +1.5**
KMI pmax pmax
comp=Z,24nm,1.1s
CMAR Chiang Mai Arr 73.99 294 P **P 20 24 02.0 +1.1**
comp=Z,12nm,1.0s,baz=117,slow=3.8,SNR=49
CMAR pP **pP 20 24 49.5 -0.4**
comp=Z,2.4nm,0.9s,baz=119,slow=3.5,SNR=2.5
comp=Z,12nm,1.0s
HHC Hu-ho-hao-te 74.00 319 *e*P **P 20 24 00.4 -0.2**
HHC pmax pmax
comp=Z,29nm,0.5s
HHC pmax pmax
comp=Z,100nm,3.9s
PZH PanZhiHua 74.50 302 P **P 20 24 04.1 +0.3**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,150nm,6.3s
HIA Hailar 74.52 330 P **P 20 24 02.8 -0.6**
HIA Hailar 74.52 330 P **P 20 24 02.8 -0.6**
HIA pmax pmax
comp=Z,16nm,1.2s
CHGN Chignik 74.62 19 P **P 20 24 04.3 +0.6**
baz=215
CD2 Chengdu 74.69 307 P **P 20 24 06.3 +1.6**
CD2 pmax pmax
comp=Z,20nm,0.5s
BTO Baotou 74.85 319 *e*P **P 20 24 08.0 +2.5**
BTO sP **sP 20 25 24.5 +6.6**
BTO pmax pmax
comp=Z,27nm,1.3s
BTO pmax pmax
comp=Z,310nm,5.5s
O14K Tigyukauivet M 76.25 16 P **P 20 24 13.4 +0.5**
baz=212
SEY Seymchan 76.35 353*ce*P **P 20 24 14.4 +1.0**
SEY pmax pmax
comp=Z,55nm,1.5s
TNCH TengChong 76.64 300 ⇑P **P 20 24 17.0 +0.9**
TNCH pP pP 20 25 05.3 -0.4
TNCH pmax pmax
comp=Z,15nm,1.4s
TNCH pmax pmax
comp=Z,79nm,3.6s
N14K Kuskokwak Cree 76.71 16 P **P 20 24 16.0 +0.6**
baz=211
LZH Lanzhou 76.88 312 ⇓*i*P **P 20 24 19.6 +2.4**
LZH pP pwP 20 25 10.3 -0.5
LZH pmax pmax
comp=Z,31nm,1.0s
R18K Karluk 76.93 20 P **P 20 24 16.6 -0.1**
baz=219
Q17K Contact Creek 77.02 19 P **P 20 24 17.7 +0.3**
baz=217
OHAK Old Harbor 77.06 21 P **P 20 24 17.7 +0.2**
OHAK Old Harbor 77.06 21 P **P 20 24 18.0 +0.6**
baz=220
OHAK Old Harbor 77.06 21 P **P 20 24 18.8 +1.4**
Q16K King Salmon 77.11 18 P **P 20 24 17.6 0.0**
baz=216
ACHA Angle Creek He 77.15 19 P **P 20 24 17.9 -0.2**
QSPA South Pole Qui 77.22 180 P **P 20 24 19.7 +1.2**
QSPA IAmb IAmb 20 24 21.2
comp=Z,63nm,1.4s
QSPA South Pole Qui 77.22 180 P **P 20 24 19.2 +0.7**
comp=Z,14nm,0.8s,baz=0.1,slow=1.5,SNR=28
comp=Z,14nm,0.8s
N15K Kwethluk River 77.34 16 P **P 20 24 19.8 +0.8**
baz=213
M14K Bethel 77.35 15 P **P 20 24 19.6 +0.6**
M14K **pP 20 25 09.1 -0.2**
M14K Bethel 77.35 15 P **P 20 24 19.7 +0.8**
baz=211,SNR=6.3
O16K Kokwok River B 77.42 17 P **P 20 24 19.8 +0.4**
baz=215
P17K Kvichak River 77.59 18 P **P 20 24 19.9 -0.4**
baz=216
Q18K Katmai Hardscr 77.60 19 P **P 20 24 20.6 0.0**
baz=218
M15K Kasigluk River 77.63 16 P **P 20 24 21.2 +0.6**
baz=212
L14K Kuka Creek 77.68 14 P **P 20 24 22.3 +1.5**
baz=210,SNR=7.3
K13K Kusilvak Mount 77.74 13 P **P 20 24 22.6 +1.5**
baz=208
KDAK Kodiak Island 77.74 21 P **P 20 24 22.1 +0.9**
baz=220
O17K Koliganek Bris 77.86 18 P **P 20 24 21.8 -0.1**
baz=216
N16K Nishlik Lake 77.96 17 P **P 20 24 23.7 +1.2**
baz=214
GAMB Gambell 78.07 9 P **P 20 24 23.6 +0.7**
baz=201
P18K Big Mountain, 78.12 19 P **P 20 24 22.4 -1.0**
P18K IAmb IAmb 20 24 24.4
comp=Z,54nm,1.2s
P18K **pwP 20 25 14.9 -1.5**
P18K Big Mountain, 78.12 19 P **P 20 24 23.2 -0.2**
baz=218
L15K Ungalak Mounta 78.26 15 P **P 20 24 24.8 +0.8**
baz=211,SNR=7.4
Q19K Cape Douglas, 78.27 20 P **P 20 24 24.3 +0.2**
baz=219
M16K Timber Creek 78.36 16 P **P 20 24 25.5 +0.9**
baz=214
N17K Nushagak Hills 78.45 17 IAmb IAmb 20 24 27.4
comp=Z,36nm,1.5s
N17K Nushagak Hills 78.45 17 P **P 20 24 25.8 +0.7**
baz=216
O18K Koktuh Hills 78.50 18 P **P 20 24 26.7 +1.3**
baz=218
J14K Nanvaranak Lak 78.70 13 P **P 20 24 27.7 +1.4**
baz=209
K15K Wolf Creek Mou 78.78 14 P **P 20 24 27.7 +0.9**
K15K **pP 20 25 16.8 -0.5**
K15K Wolf Creek Mou 78.78 14 P **P 20 24 28.4 +1.5**
baz=211
L16K Owhat River 78.80 16 IAmb IAmb 20 24 29.1
comp=Z,30nm,1.4s
L16K Owhat River 78.80 16 P **P 20 24 27.8 +0.9**
baz=213,SNR=5.3
N18K Kilae Creek 78.95 18 P **P 20 24 28.6 +0.8**
baz=217
P19K Oil Pt 78.96 19 P **P 20 24 28.9 +1.0**
baz=219
O19K Port Alsworth 79.04 19 P **P 20 24 28.4 +0.1**
baz=218
M17K Holitna River 79.10 17 P **P 20 24 30.2 +1.6**
baz=215
CIT Chita 79.32 330 *e*P **P 20 24 31.0 +1.0**
CIT *e* 20 25 18.0
CIT pmax pmax
comp=Z,69nm,1.8s
L17K Donlin 79.47 16 P **P 20 24 32.3 +1.7**
baz=214
N19K Bonanza Creek 79.48 18 P **P 20 24 31.0 +0.2**
baz=218
O20K Slope Mountain 79.49 19 P **P 20 24 30.8 0.0**
baz=220
M18K Stony River 79.62 17 P **P 20 24 32.6 +1.2**
baz=217
BRSE Bradley Lake S 79.85 20 P **P 20 24 33.3 +0.6**
baz=222
J16K Anvik River 79.85 14 P **P 20 24 33.5 +1.0**
baz=212
ANM Nome 79.93 12 P **P 20 24 34.1 +1.1**
baz=207
K17K Iditarod 79.95 15 IAmb IAmb 20 25 27.7
comp=Z,25nm,1.1s
K17K Iditarod 79.95 15 P **P 20 24 34.4 +1.3**
baz=214
L18K Granite Mounta 79.97 16 IAmb IAmb 20 25 28.0
comp=Z,20nm,0.8s
L18K Granite Mounta 79.97 16 P **P 20 24 34.4 +1.1**
baz=216,SNR=7.8
YAK Yakutsk 80.14 343 P **P 20 24 34.1 0.0**
YAK IAmb IAmb 20 24 35.7
comp=Z,43nm,1.1s
YAK Yakutsk 80.14 343 *e*P **P 20 24 34.1 0.0**
YAK *e**PP **pwP 20 25 25.9 -1.3**
YAK *e* 20 27 39.4
YAK *e*PPP PPP 20 29 30.5
YAK *e*S **S 20 34 20.5 0.0**
YAK *e**SS **sS 20 35 52.6 +3.8**
YAK *e*SS **SS 20 39 37.6 +1.2**
YAK *e*SSS SSS 20 43 03.3
YAK pmax pmax
comp=Z,37nm,1.1s
YAK pmax pmax
comp=N,12nm,1.5s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,282nm,4.6s
YAK pmax pmax
comp=N,231nm,3.5s
YAK pmax pmax
comp=E,171nm,3.1s
YAK smax smax
comp=N,213nm,3.8s
YAK smax smax
comp=E,117nm,2.9s
J17K VABM Dome 80.32 15 P **P 20 24 36.0 +0.9**
J17K **pP 20 25 25.7 +0.1**
J17K VABM Dome 80.32 15 P **P 20 24 36.6 +1.5**
baz=214,SNR=5.4
I17K Unalakleet 80.34 14 IAmb IAmb 20 24 38.3
comp=Z,44nm,1.4s
I17K Unalakleet 80.34 14 P **P 20 24 37.0 +1.8**
baz=212
TNA Tin City 80.35 10 P **P 20 24 35.4 +0.2**
baz=205
M19K Big River Lodg 80.37 17 IAmb IAmb 20 24 38.0
comp=Z,57nm,1.8s
M19K Big River Lodg 80.37 17 P **P 20 24 36.2 +0.8**
baz=218
L19K White Mountain 80.45 17 P **P 20 24 37.0 +1.1**
baz=218
ULN Ulaanbaatar 80.47 324 P **P 20 24 36.0 -0.4**
ULN IAmb IAmb 20 24 38.8
comp=Z,33nm,1.4s
ULN Ulaanbaatar 80.47 324*ce*P **P 20 24 37.7 +1.2**
ULN pmax pmax
comp=Z,26nm,1.3s
N20K Mount Spurr 80.48 19 P **P 20 24 36.9 +0.8**
baz=220
SEW Seward 80.56 20 P **P 20 24 36.6 +0.2**
baz=223
F14K Arctic Creek 80.56 11 P **P 20 24 36.3 0.0**
baz=206
G15K Niukluk 80.58 12 P **P 20 24 37.5 +1.1**
baz=209
BILL Bilibino 80.62 360 P **P 20 24 36.8 +0.1**
BILL Bilibino 80.62 360*ce*P **P 20 24 37.6 +1.0**
BILL pmax pmax
comp=Z,66nm,1.7s
H16K Elim 80.64 13 P **P 20 24 37.4 +0.6**
baz=210
M20K Styx River 80.72 18 P **P 20 24 38.0 +0.6**
baz=219
TTA Tatalina 80.73 16 P **P 20 24 38.5 +1.1**
TTA Tatalina 80.73 16 P **P 20 24 37.9 +0.5**
baz=216,SNR=5.5
TTA Tatalina 80.73 16 P **P 20 24 38.7 +1.3**
TTA Tatalina 80.73 16 P **P 20 24 38.5 +1.1**
TTA pmax pmax
comp=Z,14nm,1.1s
O22K Cooper Landing 80.74 20 P **P 20 24 37.8 +0.4**
baz=223
SONM Songino Array 80.83 323 P **P 20 24 39.0 +0.6**
comp=Z,1.9nm,0.3s,baz=142,slow=6.6,SNR=33
SONM pP **pP 20 25 29.6 +0.5**
comp=Z,1.0nm,0.6s,baz=137,slow=4.8,SNR=3.1
comp=Z,1.9nm,0.3s
L20K Farewell, AK 80.97 17 P **P 20 24 39.8 +1.2**
baz=218
J18K Innoko River 80.98 16 P **P 20 24 39.6 +1.0**
baz=216
F15K North Star Dit 81.08 11 P **P 20 24 40.0 +0.8**
baz=208
SUA Susitna One 81.14 19 P **P 20 24 40.0 +0.3**
SUA IAmb IAmb 20 24 44.6
comp=Z,57nm,1.6s
SUA Susitna One 81.14 19 P **P 20 24 40.2 +0.6**
baz=222,SNR=7.2
Q23K Middleton Isla 81.17 22 P **P 20 24 39.7 +0.1**
baz=226
RC01 Rabbit Creek A 81.19 20 IAmb IAmb 20 24 41.6
comp=Z,31nm,1.2s
RC01 Rabbit Creek A 81.19 20 P **P 20 24 39.9 +0.2**
baz=222,SNR=5.8
P23K Montague Islan 81.19 21 P **P 20 24 40.6 +0.8**
baz=225
GTA Gaotai 81.20 314 ⇑P **P 20 24 41.6 +1.1**
GTA pP pP 20 25 29.0 -2.2
GTA sP sP 20 25 51.3 -2.1
GTA pmax pmax
comp=Z,16nm,1.5s
G16K Koyuk River 81.27 12 P **P 20 24 41.4 +1.3**
baz=210
SKT Skwentna 81.29 18 P **P 20 24 40.8 +0.5**
baz=221
H17K Granite Mounta 81.42 14 P **P 20 24 41.6 +0.7**
baz=213
PWL Port Wells 81.49 20 IAmb IAmb 20 24 43.1
comp=Z,37nm,0.9s
PWL Port Wells 81.49 20 P **P 20 24 41.6 +0.2**
baz=224,SNR=6.1
M22K Willow 81.56 19 P **P 20 24 41.8 +0.2**
baz=222,SNR=5.6
K20K Telida 81.61 17 IAmb IAmb 20 24 44.5
comp=Z,31nm,1.4s
K20K Telida 81.61 17 P **P 20 24 42.7 +0.7**
baz=218
J19K Poorman 81.69 16 IAmb IAmb 20 24 45.0
comp=Z,43nm,1.7s
J19K Poorman 81.69 16 P **P 20 24 43.7 +1.3**
baz=217
G17K Kiwalik Mounta 81.73 13 P **P 20 24 43.8 +1.3**
baz=212
PMR Palmer 81.76 20 P **P 20 24 42.6 -0.1**
PMR IAmb IAmb 20 24 43.8
comp=Z,25nm,1.2s
PMR pP **pwP 20 25 34.2 -1.7**
PMR Palmer 81.76 20 P **P 20 24 43.1 +0.4**
baz=223,SNR=6.3
PMR Palmer 81.76 20 P **P 20 24 42.6 -0.1**
PMR *PP **pwP 20 25 34.2 -1.7**
PMR pmax pmax
comp=Z,25nm,1.2s
KNK Knik Glacier 81.85 20 IAmb IAmb 20 24 45.1
comp=Z,58nm,1.5s
KNK Knik Glacier 81.85 20 P **P 20 24 43.9 +0.7**
baz=224,SNR=5.9
GLI Glacier Island 81.93 21 P **P 20 24 43.8 +0.1**
baz=225
GHO Glory Hole Cre 81.96 19 IAmb IAmb 20 24 46.9
comp=Z,50nm,1.6s
H18K Honhosa River 81.96 14 P **P 20 24 44.3 +0.6**
baz=214
GCSA Galena City Sc 81.98 15 P **P 20 24 44.6 +0.8**
baz=216
EYAK Cordova Ski Ar 82.17 21 P **P 20 24 45.3 +0.5**
baz=226
EYAK Cordova Ski Ar 82.17 21 P **P 20 24 45.9 +1.1**
SML Sawmill 82.18 20 P **P 20 24 45.4 +0.5**
SML **pwP 20 25 37.1 -1.1**
SML Sawmill 82.18 20 P **P 20 24 45.5 +0.5**
baz=224,SNR=5.9
CAST Castle Rocks 82.22 17 P **P 20 24 44.4 -0.7**
CAST IAmb IAmb 20 24 46.0
comp=Z,23nm,1.1s
CAST **pP 20 25 35.2 -0.9**
CAST Castle Rocks 82.22 17 P **P 20 24 44.9 -0.2**
baz=220,SNR=15
KAIM Kayak Island 82.23 22 P **P 20 24 45.6 +0.5**
baz=228
J20K Nowinta River 82.23 16 P **P 20 24 45.7 +0.6**
baz=218
M23K Glacier View 82.37 20 P **P 20 24 46.2 +0.3**
baz=224
F17K Baldwin Pennin 82.41 12 P **P 20 24 47.0 +1.0**
F17K IAmb IAmb 20 24 48.6
comp=Z,52nm,1.6s
F17K Baldwin Pennin 82.41 12 P **P 20 24 47.0 +1.0**
baz=211
SHL Shillong 82.48 298 P **P 20 24 46.8 -0.7**
SHL Shillong 82.48 298 P **P 20 24 46.8 -0.7**
SHL pmax pmax
comp=Z,76nm,1.5s
CHUM Lake Minchumin 82.51 17 P **P 20 24 47.6 +1.0**
baz=220
G18K Tagagawik 82.51 13 P **P 20 24 47.3 +0.8**
baz=214
SCM Sheep Creek Mo 82.53 20 P **P 20 24 47.8 +0.9**
baz=225,SNR=5.8
I20K Naaghedeneel 82.64 16 P **P 20 24 48.2 +1.0**
baz=218
KTH Kantishna Hill 82.66 18 P **P 20 24 46.4 -1.1**
KTH IAmb IAmb 20 24 48.2
comp=Z,92nm,2.0s

KTH					pP	20 25 37.6 -0.9
H19K	Roundabout Mou	82.73	14	IAmb	IAmb	20 24 50.1
	comp=Z,32nm,1.4s					
H19K	Roundabout Mou	82.73	14	P	P	20 24 48.7 +1.1
	baz=216					
KLU	Klutina	82.76	21	IAmb	IAmb	20 24 50.1
	comp=Z,40nm,1.4s					
KLU	Klutina	82.76	21	P	P	20 24 48.6 +0.6
	baz=226,SNR=7.6					
TRF	Thorofare Moun	82.77	18	P	P	20 24 47.9 -0.3
	baz=222					
E17K	Hotham Inlet	82.84	12	P	P	20 24 49.2 +0.9
	baz=211,SNR=6.8					
WAT1	Susitna Watana	82.85	19	P	P	20 24 48.8 +0.4
	baz=224					
BMRM	Bremner River	82.86	22	P	P	20 24 48.6 0.0
	baz=227					
F18K	Selawik	82.88	13	P	P	20 24 48.8 +0.4
	baz=213,SNR=5.4					
WAT6	Susitna Watana	82.93	19	P	P	20 24 49.4 +0.4
	baz=224					
BPAW	Bear Paw Mtn.	83.06	17	P	P	20 24 49.2 -0.2
	baz=221					
G19K	Purcell Mounta	83.08	14	IAmb	IAmb	20 24 53.5
	comp=Z,45nm,1.6s					
G19K	Purcell Mounta	83.08	14	P	P	20 24 49.3 -0.1
	baz=215					
H20K	Anotleneega Mo	83.09	15	P	P	20 24 50.8 +1.3
	baz=217					
M24K	Tolsona, Glenn	83.11	20	P	P	20 24 49.9 +0.1
M24K					pwP	20 25 42.5 -0.7
M24K	Tolsona, Glenn	83.11	20	P	P	20 24 51.3 +1.5
	baz=226,SNR=11					
CRQM	Cirque	83.26	22	IAmb	IAmb	20 24 52.6
	comp=Z,43nm,1.2s					
CRQE	Cirque	83.27	22	P	P	20 24 51.0 +0.3
	baz=229,SNR=5.1					
N25K	Chitina, Valde	83.30	21	P	P	20 24 51.1 +0.3
	baz=227,SNR=11					
TGL	Tana Glacier	83.37	22	P	P	20 24 51.1 -0.1
TGL				IAmb	IAmb	20 24 53.2
	comp=Z,40nm,1.2s					
E18K	Tukpahlearik C	83.38	12	P	P	20 24 51.0 0.0
	baz=212					
MCK	McKinley	83.39	18	P	P	20 24 51.2 +0.1
	baz=223,SNR=18					
DHY	Denali Highway	83.40	19	P	P	20 24 51.9 +0.5
	baz=225					
ISLE	Juniper Island	83.45	23	P	P	20 24 52.0 +0.3
ISLE				IAmb	IAmb	20 24 53.4
	comp=Z,36nm,1.1s					
VRDI	Verde Repeater	83.45	22	IAmb	IAmb	20 24 53.5
	comp=Z,60nm,1.6s					
GLB	Gilahina Butte	83.47	21	P	P	20 24 51.8 +0.2
GLB				IAmb	IAmb	20 24 53.4
	comp=Z,53nm,1.4s					
GLB					pP	20 25 41.0 -1.8
RDOG	Red Dog Mine	83.48	11	P	P	20 24 53.1 +1.6
	baz=209					
BBGB	Big Mountain B	83.49	50	IAmb	IAmb	20 24 55.2
	comp=Z,39nm,1.2s					
F19K	Shaleruckik Mo	83.49	13	P	P	20 24 52.8 +1.3
	baz=214					
O02D	Mt. Diablo Mer	83.55	46	P	P	20 24 52.8 +0.3
O02D					pP	20 25 43.6 +0.2
MAW	Mawson	83.59	202	P	P	20 24 52.9 +0.8
MAW	Mawson	83.59	202	P	P	20 24 53.0 +0.8
	comp=Z,6.9nm,1.0s,baz=111,slow=8.3,SNR=10.0					
	comp=Z,6.9nm,1.0s					
MAW	Mawson	83.59	202	P	P	20 24 52.9 +0.8
MAW				pmax	pmax	
	comp=Z,3.0nm,1.2s					
I21K	Tanana	83.60	16	IAmb	IAmb	20 24 54.6
	comp=Z,64nm,1.4s					
I21K	Tanana	83.60	16	P	P	20 24 53.1 +1.0
	baz=220,SNR=12					
GOMU	GeErMu	83.62	309	P	P	20 24 54.8 +1.4
GOMU				pP	pP	20 25 43.4 -1.0
GOMU				sP	sP	20 26 03.9 -2.7
GOMU				pmax	pmax	
	comp=Z,230nm,5.4s					
HARP	HAARP	83.65	20	P	P	20 24 53.6 +1.1
	baz=227					
MCARA	McCarthy VSAT	83.71	22	IAmb	IAmb	20 25 49.4
	comp=Z,25nm,1.2s					
MCARA	McCarthy VSAT	83.71	22	P	P	20 24 53.6 +0.8
	baz=229					
H21K	Melozitna Rive	83.75	16	P	P	20 24 52.6 -0.3
H21K				IAmb	IAmb	20 24 55.7
	comp=Z,44nm,1.6s					
H21K					pP	20 25 43.8 -0.3
H21K	Melozitna Rive	83.75	16	P	P	20 24 54.3 +1.4
	baz=219,SNR=7.0					
GRNC	Granite Creek	83.75	23	IAmb	IAmb	20 24 55.1
	comp=Z,45nm,1.4s					
IMAR	Indian Mountai	83.76	15	P	P	20 24 53.0 +0.1
IMAR					pP	20 25 43.4 -0.8
TABL	Table Mountain	83.80	23	IAmb	IAmb	20 24 55.4
	comp=Z,36nm,1.0s					
C17K	DeLong Mountai	83.80	11	P	P	20 24 54.2 +1.1
	baz=209					
MLY	Manley	83.83	17	IAmb	IAmb	20 24 55.1
	comp=Z,56nm,1.6s					
MLY	Manley	83.83	17	P	P	20 24 53.3 0.0
	baz=221,SNR=14					
PINM	Pinnacle	83.92	24	P	P	20 24 54.5 +0.5
	baz=231					
PAX	Paxson	83.94	20	P	P	20 24 54.6 +0.6
	baz=226,SNR=5.9					
NEA2	Nenana	83.98	17	IAmb	IAmb	20 24 55.4
	comp=Z,65nm,1.5s					
NEA2	Nenana	83.98	17	P	P	20 24 54.0 -0.1
	baz=223,SNR=18					
PNL	Peninsula	84.00	24	P	P	20 24 55.1 +0.8
	baz=232					
CTG	Chitna Glacier	84.06	23	P	P	20 24 56.0 +1.2
	baz=230,SNR=7.1					
CTGM	Chitina Glacie	84.06	23	P	P	20 24 54.8 +0.1
CTGM				IAmb	IAmb	20 24 56.7
	comp=Z,23nm,0.8s					
CTGM					pP	20 25 44.6 -1.4
LOGN	Logan Glacier	84.10	23	IAmb	IAmb	20 24 56.7
	comp=Z,20nm,1.0s					
E19K	Redstone River	84.13	13	P	P	20 24 56.1 +1.3
	baz=215					
F20K	Avaraart Lake	84.13	14	P	P	20 24 56.9 +2.2
	baz=216					
WRH	Wood River Hil	84.18	18	P	P	20 24 54.4 -0.7
WRH					pP	20 25 44.3 -2.0
SIT	Sitka	84.19	28	P	P	20 24 56.0 +0.7
	baz=236					
IRK	Irkutsk	84.22	327	eP	P	20 24 53.1 -2.5
IRK				pmax	pmax	
	comp=Z,38nm,1.4s					
G21K	Allakaket	84.24	15	IAmb	IAmb	20 24 58.0
	comp=Z,43nm,1.4s					
G21K	Allakaket	84.24	15	P	P	20 24 56.3 +1.0
	baz=218					
S31K	Pelican	84.31	27	P	P	20 24 56.4 +0.6
	baz=235					
I23K	Minto, Yukon-K	84.31	17	IAmb	IAmb	20 24 57.1
	comp=Z,70nm,1.9s					
I23K	Minto, Yukon-K	84.31	17	P	P	20 24 55.9 +0.2
	baz=223,SNR=5.8					
H22K	Ishtalitna Cre	84.31	16	P	P	20 24 57.0 +1.3
	baz=221,SNR=18					
C18K	Utukok River	84.32	11	P	P	20 24 56.8 +1.0
	baz=211					
LSA	Lhasa	84.37	302	P	P	20 24 58.8 +1.4
LSA				pmax	pmax	
	comp=Z,11nm,1.2s					
O28M	Mount Upton	84.37	23	P	P	20 24 56.7 +0.2
	baz=231					
AFDM	Forest Hills D	84.39	48	P	P	20 24 56.5 -0.3
CCB	Clear Creek Bu	84.40	18	P	P	20 24 55.4 -0.8
CCB					pP	20 25 45.1 -2.3
M26K	Nabesna, AK	84.40	21	IAmb	IAmb	20 25 50.8
	comp=Z,27nm,1.1s					
M26K	Nabesna, AK	84.40	21	P	P	20 24 57.3 +1.0
	baz=229					
K24K	Donnelly Dome	84.42	19	P	P	20 24 57.1 +0.8
	baz=226,SNR=11					
HDA	Harding Lake	84.49	18	P	P	20 24 57.2 +0.6
	baz=225,SNR=57					
MENT	Mentasta	84.51	20	IAmb	IAmb	20 24 59.0
	comp=Z,60nm,1.8s					
COLA	College	84.55	18	P	P	20 24 56.4 -0.5
COLA				IAmb	IAmb	20 24 58.0
	comp=Z,39nm,0.8s					
COLA	College	84.55	18	P	P	20 24 57.0 +0.2
	baz=224					
COLA	College	84.55	18	P	P	20 24 56.4 -0.5
COLA				pmax	pmax	
	comp=Z,39nm,0.9s					
P29M	Windy Craggy	84.65	25	P	P	20 24 58.2 +0.7
	baz=234					
RIDG	Independent Ri	84.68	19	P	P	20 24 57.3 -0.4
RIDG					pP	20 25 47.9 -1.0
RIDG				IAmb	IAmb	20 25 52.1
	comp=Z,42nm,1.1s					
RIDG	Independent Ri	84.68	19	P	P	20 24 58.0 +0.4
	baz=227,SNR=12					
L26K	Log Cabin Wild	84.69	20	IAmb	IAmb	20 24 59.8
	comp=Z,33nm,1.4s					
L26K	Log Cabin Wild	84.69	20	P	P	20 24 58.2 +0.5
	baz=228					
O29M	Mount Kennedy	84.71	24	P	P	20 24 58.9 +0.9
	baz=233					
H23K	Yukon River	84.76	17	IAmb	IAmb	20 25 00.1
	comp=Z,63nm,1.4s					
H23K	Yukon River	84.76	17	P	P	20 24 58.6 +0.6
	baz=222					
IL31		84.76	18	P	P	20 24 57.6 -0.3
IL31					pP	20 25 47.1 -2.2
ILAR	Eielson Array	84.76	18	P	P	20 24 57.4 -0.6
	comp=Z,6.5nm,0.4s,baz=232,slow=5.1,SNR=255					
ILAR				pP	pP	20 25 47.8 -1.5
	comp=Z,11nm,0.8s,baz=233,slow=5.6,SNR=14					
	comp=Z,6.5nm,0.4s					
S32K	Killisnoo	84.76	28	P	P	20 24 58.8 +0.7
	baz=237					
M27K	Edge Creek, AK	84.76	21	P	P	20 24 58.8 +0.6
	baz=230					
D19K	Kuna River	84.80	12	P	P	20 24 59.1 +0.9
	baz=214					
F21K	Alatna River	84.81	14	P	P	20 24 59.5 +1.3
	baz=218					
POKR	Poker Plat Res	84.85	18	IAmb	IAmb	20 24 59.4
	comp=Z,18nm,0.8s					
POKR	Poker Plat Res	84.85	18	P	P	20 24 58.3 -0.1
	baz=224					
YUK8	Steele Glacier	84.86	23	P	P	20 24 59.5 +0.6
	baz=232,SNR=10					
YUK3	Moose Creek	84.91	22	P	P	20 24 59.7 +0.7
	baz=231,SNR=7.3					
E20K	Nigu River	85.01	13	P	P	20 25 00.6 +1.3
	baz=216					
V35K	Ketchikan	85.02	30	P	P	20 25 00.4 +1.0
	baz=239					
C19K	Lookout Ridge	85.02	11	P	P	20 25 00.4 +1.2
	baz=213					
G22K	Bettles	85.06	15	P	P	20 25 00.7 +1.3
	baz=220					
PLBC	Pleasant Camp	85.11	25	P	P	20 25 00.7 +0.9
	baz=235					
J25K	Salcha River,	85.12	19	IAmb	IAmb	20 25 54.1
	comp=Z,37nm,1.0s					
J25K	Salcha River,	85.12	19	P	P	20 25 01.1 +1.3
	baz=226					
SCRK	Sand Creek	85.12	20	P	P	20 24 59.9 -0.1
SCRK					pP	20 25 50.2 -1.1
SCRK				IAmb	IAmb	20 25 54.5
	comp=Z,27nm,1.1s					
SCRK	Sand Creek	85.12	20	P	P	20 25 00.3 +0.4
	baz=228,SNR=14					
BVCY	Beaver Creek	85.16	22	P	P	20 25 01.1 +1.0
	baz=231					
YUK6	Outpost Mounta	85.19	24	P	P	20 25 01.0 +0.5
	baz=233					
R32K	Eaglecrest	85.23	27	P	P	20 25 00.4 0.0
	baz=237					
H24K	Noodor Dome	85.24	17	IAmb	IAmb	20 25 03.1
	comp=Z,34nm,1.8s					
H24K	Noodor Dome	85.24	17	P	P	20 25 01.7 +1.3
	baz=224					
L27K	Beaver Creek,	85.24	21	P	P	20 25 01.0 +0.6
	baz=230					
P30M	Million Dollar	85.25	25	P	P	20 25 01.3 +0.7
	baz=234					
G23K	Bananza Creek	85.29	16	IAmb	IAmb	20 25 03.3
	comp=Z,62nm,1.4s					
G23K	Bananza Creek	85.29	16	P	P	20 25 02.1 +1.4
	baz=222					
D20K	Etivluk River	85.29	13	P	P	20 25 02.2 +1.6
	baz=216					
YUK4	Talbot Arm	85.32	23	P	P	20 25 02.6 +1.5
	baz=233					
F22K	John River	85.35	15	P	P	20 25 02.4 +1.5
	baz=220					
WAKR	Walker	85.36	49	P	P	20 25 02.6 +0.7
WAKR				IAmb	IAmb	20 25 04.4
	comp=Z,34nm,1.5s					
WAKR					pP	20 25 51.8 -1.2
HYT	Haines Junctio	85.45	24	P	P	20 25 02.6 +1.0
	baz=234					
J26L	Joseph Creek	85.61	19	P	P	20 25 03.5 +1.2
	baz=228					
COLD	Coldfoot	85.63	15	P	P	20 25 04.0 +1.7
	baz=222,SNR=14					
E21K	Killik River	85.65	13	IAmb	IAmb	20 25 05.0
	comp=Z,53nm,1.3s					
E21K	Killik River	85.65	13	P	P	20 25 03.4 +1.0
	baz=218					
PRP	Porcupine Dome	85.70	18	P	P	20 25 03.9 +1.1
	baz=226					
J05D	Fort Rock, OR	85.80	44	IAmb	IAmb	20 25 06.3
	comp=Z,24nm,1.0s					
E22K	Anaktuvuk Pass	85.92	14	P	P	20 25 04.9 +1.2
	baz=220					
LHV	Little Huntoon	85.96	49	IAmb	IAmb	20 25 07.1
	comp=Z,33nm,1.6s					
G24K	Hadweenzic Riv	85.97	17	P	P	20 25 04.7 +0.8
	baz=224					
O30N	Mendenhall	85.98	24	P	P	20 25 04.7 +0.5
	baz=235					
N30M	Aishikik Lake	85.99	23	P	P	20 25 05.0 +0.8
	baz=234					
C21K	Knifeblade Rid	86.04	13	P	P	20 25 05.5 +1.3
	baz=217					
M29M	Somme Creek	86.06	22	P	P	20 25 05.3 +0.7
	baz=233					
DSP	Deep Springs	86.07	50	P	P	20 25 05.4 +0.4
DSP					pP	20 25 56.7 +0.4
RYN	Ryan	86.07	49	IAmb	IAmb	20 26 00.8
	comp=Z,24nm,1.5s					
H25L	Birch Creek	86.14	17	P	P	20 25 05.8 +1.1
	baz=226					
NVAR	Mina Array Bea	86.17	49	P	P	20 25 06.8 +1.0
	comp=Z,4.5nm,0.8s,baz=231,slow=7.8,SNR=25					
NVAR				pP	pP	20 25 57.0 -0.1
	comp=Z,6.1nm,1.0s,baz=224,slow=6.3,SNR=5.4					
	comp=Z,4.5nm,0.8s					
YUH	Yuha Desert	86.17	55	IAmb	IAmb	20 25 08.3
	comp=Z,38nm,1.7s					
B20K	Meade River	86.24	12	P	P	20 25 05.8 +0.7
	baz=215					
I26K	Coal Creek Min	86.28	19	IAmb	IAmb	20 26 00.4
	comp=Z,27nm,1.2s					
I26K	Coal Creek Min	86.28	19	P	P	20 25 06.2 +0.8
	baz=228					
D22K	Ayikyak River	86.29	14	P	P	20 25 07.4 +1.9
	baz=219,SNR=15					
P32M	Atlin	86.31	26	P	P	20 25 07.0 +1.3
	baz=237					
E23K	Chandalar	86.40	15	IAmb	IAmb	20 25 08.9
	comp=Z,51nm,1.4s					
E23K	Chandalar	86.40	15	P	P	20 25 07.4 +1.3
	baz=222					
G25K	Bearman Lake	86.40	17	P	P	20 25 07.5 +1.5
	baz=226					
WHY	Whitehorse	86.41	25	P	P	20 25 07.4 +1.1
	baz=236					
B21K	Ikpikpuk River	86.45	13	P	P	20 25 07.4 +1.2
	baz=217					
F24K	Squaw Lake	86.45	16	IAmb	IAmb	20 25 09.3
	comp=Z,37nm,1.4s					
F24K	Squaw Lake	86.45	16	P	P	20 25 08.0 +1.6
	baz=224,SNR=15					
N31M	Braeburn, Yuko	86.52	24	IAmb	IAmb	20 25 08.7
	comp=Z,30nm,1.4s					
N31M	Braeburn, Yuko	86.52	24	P	P	20 25 06.7 -0.1
	baz=235					
S34M	Telegraph Cree	86.57	28	P	P	20 25 07.7 +0.7
	baz=240					
EGAK	Eagle	86.58	20	P	P	20 25 06.8 -0.1
EGAK				IAmb	IAmb	20 25 09.2
	comp=Z,15nm,0.9s					
EGAK					pP	20 25 57.9 -0.5
EGAK	Eagle	86.58	20	P	P	20 25 06.9 -0.1
	baz=230,SNR=12					
L29M	L29M	86.58	22	IAmb	IAmb	20 25 08.8
	comp=Z,21nm,1.4s					
L29M	L29M	86.58	22	P	P	20 25 07.0 0.0
	baz=233					
Q32M	Nakina River	86.60	27	P	P	20 25 07.4 0.0
	baz=238					
GWY	Greenwater Val	86.68	52	IAmb	IAmb	20 25 10.3
	comp=Z,21nm,1.4s					
E24K	Your Creek	86.70	15	IAmb	IAmb	20 25 10.1
	comp=Z,22nm,1.4s					
E24K	Your Creek	86.70	15	P	P	20 25 08.8 +1.3
	baz=223					
DAWY	Dawson	86.72	21	P	P	20 25 07.7 0.0
DAWY					pP	20 25 58.1 -1.1
DAWY	Dawson	86.72	21	P	P	20 25 08.9 +1.2
	baz=232,SNR=6.1					
M30M	Minto, Yukon	86.76	23	P	P	20 25 08.9 +1.0
	baz=234					
D23K	Nanushuk River	86.82	14	P	P	20 25 10.0 +1.9
	baz=221					
TOLK	Toolik Lake Re	86.85	15	IAmb	IAmb	20 25 10.8
	comp=Z,31nm,1.4s					
TOLK	Toolik Lake Re	86.85	15	P	P	20 25 09.6 +1.4
	baz=222,SNR=9.7					
WCT	Wildcat Mounta	86.90	51	P	P	20 25 09.5 +0.2
I27K	Kandik River	86.96	19	P	P	20 25 10.0 +1.1
	baz=230					
P33M	Teslin, Yukon	87.02	26	P	P	20 25 10.2 +1.0
	baz=238					
F25K	Christian Rive	87.11	16	P	P	20 25 11.1 +1.6
	baz=226					
G26K	Porcupine Rive	87.20	17	P	P	20 25 10.6 +0.8
	baz=228,SNR=11					
K29M	Barlow Dome	87.24	21	IAmb	IAmb	20 26 05.2
	comp=Z,33nm,1.8s					
K29M	Barlow Dome	87.24	21	P	P	20 25 10.9 +0.6
	baz=234					
B22K	Teshekpuk Lake	87.27	12	P	P	20 25 11.8 +1.7
	baz=218					
WVOR	Wild Horse Val	87.28	46	IAmb	IAmb	20 26 07.3
	comp=Z,21nm,1.2s					
BMAR	Burnt Mountain	87.30	17	P	P	20 25 10.8 +0.5
BMAR					pP	20 26 00.7 -1.2
DLBC	Dease Lake	87.34	28	P	P	20 25 11.8 +1.0
	baz=240					
J29N	Klondike Camp	87.36	21	P	P	20 25 11.1 +0.3
J29N				IAmb	IAmb	20 25 24.5
	comp=Z,42nm,1.8s					
J29N	Klondike Camp	87.36	21	P	P	20 25 12.0 +1.2
	baz=233					
R33M	Jennings River	87.39	27	P	P	20 25 12.3 +1.2
	baz=240					
H27K	Steamboat Moun	87.40	18	P	P	20 25 11.0 +0.1
	baz=230					
I28M	Miner Creek	87.40	20	P	P	20 25 11.6 +0.6
	baz=231					
D24K	Happy Valley	87.41	14	IAmb	IAmb	20 25 14.7
	comp=Z,29nm,1.2s					
D24K	Happy Valley	87.41	14	P	P	20 25 11.5 +0.7
	baz=223					
N32M	Quiet Lake	87.42	25	P	P	20 25 12.0 +0.9
	baz=238					
A22K	Sinclair Lake	87.48	12	P	P	20 25 12.5 +1.4
	baz=217					
C23K	Itkillik River	87.50	14	P	P	20 25 12.8 +1.6
	baz=221					
F26K	Sheenjek River	87.60	17	P	P	20 25 13.0 +1.2
	baz=227					
BLYC	Blythe	87.62	55	IAmb	IAmb	20 25 15.2
	comp=Z,14nm,0.9s					
BMN	Battle Mountai	87.62	48	P	P	20 25 13.0 +0.3
BMN				IAmb	IAmb	20 25 15.3
	comp=Z,36nm,1.6s					
BMN	Battle Mountai	87.62	48	P	P	20 25 13.0 +0.3
BMN				pmax	pmax	
	comp=Z,36nm,1.6s					
G27K	Doyon Strip	87.73	18	P	P	20 25 13.7 +1.2
	baz=230					
C24K	Franklin Bluff	87.86	14	P	P	20 25 13.7 +0.8
C24K				IAmb	IAmb	20 25 16.0
	comp=Z,29nm,1.0s					
C24K	Franklin Bluff	87.86	14	P	P	20 25 14.2 +1.3
	baz=223					
I29M	Ogilvie Camp,	87.89	20	P	P	20 25 12.5 -0.6
I29M				IAmb	IAmb	20 25 15.4
	comp=Z,32nm,1.3s					
I29M					pP	20 26 03.3 -1.5
I29M	Ogilvie Camp,	87.89	20	P	P	20 25 13.3 +0.2
	baz=233,SNR=10					
E07A	Sunnyside	87.90	41	IAmb	IAmb	20 26 09.6
	comp=Z,52nm,1.6s					
SHPR	Sheep Range	87.93	52	P	P	20 25 14.1 -0.2
SHPR				IAmb	IAmb	20 25 16.9
	comp=Z,23nm,1.5s					
SHPR					pP	20 26 04.5 -1.1
113A	Mohawk Valley,	87.94	56	IAmb	IAmb	20 25 16.9
	comp=Z,44nm,1.8s					
G08A	Pilot Rock	88.04	43	P	P	20 25 15.0 +0.5
G08A				IAmb	IAmb	20 25 16.1
	comp=Z,18nm,1.1s					
G08A					pP	20 26 05.2 -0.8
TIXI	Tiksi	88.05	349	P	P	20 25 13.1 -0.7
TIXI				IAmb	IAmb	20 25 16.2
	comp=Z,20nm,1.3s					
TIXI	Tiksi	88.05	349	P	P	20 25 13.1 -0.7
TIXI				pmax	pmax	
	comp=Z,20nm,1.3s					
J30M	Hart River	88.10	21	P	P	20 25 15.4 +1.1
	baz=235					
D25K	Kavik River	88.14	15	P	P	20 25 15.3 +0.9
	baz=225					
R11B	Troy Canyon, C	88.17	50	P	P	20 25 14.0 -1.4
R11B	Troy Canyon, C	88.17	50	P	P	20 25 15.8 +0.4
	baz=252					
PRN	Pahroc Range	88.29	51	IAmb	IAmb	20 25 18.6
	comp=Z,20nm,1.1s					
H29M	Whitestone	88.39	19	IAmb	IAmb	20 26 06.7
	comp=Z,29nm,1.9s					
H29M	Whitestone	88.39	19	P	P	20 25 16.8 +1.3
	baz=233					
I30M	Mount Dempster	88.46	21	P	P	20 25 15.5 -0.5
I30M				IAmb	IAmb	20 25 18.2
	comp=Z,23nm,1.6s					
I30M	Mount Dempster	88.46	21	P	P	20 25 17.1 +1.1
	baz=235					
E27K	Coleen River	88.65	17	P	P	20 25 17.5 +0.8
	baz=230					
BELA	Belgrano 2	88.65	176	P	P	20 25 16.3 -0.4
F28M	Old Crow	88.78	18	P	P	20 25 18.8 +1.5
	baz=231					
B08A	Colville Reser	88.87	40	IAmb	IAmb	20 25 20.1
	comp=Z,30nm,1.4s					
G29M	Pine Creek	88.92	19	P	P	20 25 19.4 +1.4
	baz=233					
C26K	Camden Bay	88.92	15	P	P	20 25 18.9 +1.0
	baz=226					
E09A	Wood Farm, Sta	88.99	42	IAmb	IAmb	20 25 20.9
	comp=Z,29nm,1.5s					
BMO	Blue Mountains	89.00	44	IAmb	IAmb	20 25 21.0
	comp=Z,40nm,1.7s					
EPYK	Eagle Plains	89.01	20	IAmb	IAmb	20 27 12.4
	comp=Z,54nm,1.9s					
EPYK	Eagle Plains	89.01	20	P	P	20 25 18.5 +0.1
	baz=234					
C27K	Jago River	89.03	15	P	P	20 25 18.1 -0.3
C27K				IAmb	IAmb	20 25 21.8
	comp=Z,21nm,1.2s					
C27K					pP	20 26 09.1 -1.1
C27K	Jago River	89.03	15	P	P	20 25 19.6 +1.2
	baz=228					
ELK	Elko	89.15	48	IAmb	IAmb	20 25 22.2
	comp=Z,10nm,0.9s					
SPR3	Spring Creek 3	89.30	50	P	P	20 25 20.7 -0.2
SPR3				IAmb	IAmb	20 25 22.9
	comp=Z,52nm,1.8s					
SPR3					pP	20 26 11.4 -0.9
F10A	Beach Ranch, E	89.42	43	IAmb	IAmb	20 25 22.1
	comp=Z,14nm,0.9s					
H31M	Peel River	89.49	21	P	P	20 25 21.3 +0.6
	baz=236					
E28M	Babbage River	89.50	17	P	P	20 25 21.3 +0.6
	baz=232					

D27M Malcolm River 89.51 16 P **P 20 25 20.7 0.0**
baz=230
G30M tAoh Zraii Nji 89.53 19 P **P 20 25 20.8 -0.1**
G30M **pP 20 26 11.5 -1.2**
G30M tAoh Zraii Nji 89.53 19 P **P 20 25 21.0 +0.1**
baz=235
LCMT Little Creek M 89.55 52 IAmb IAmb 20 25 24.2
comp=Z,14nm,0.9s
LIRD Liard River Hi 89.59 28 P **P 20 25 21.7 +0.4**
baz=244
TGTN Hyland Airport 89.61 26 P **P 20 25 21.6 +0.3**
baz=242
TOAD Toad River Com 89.75 29 P **P 20 25 22.2 +0.1**
baz=245
E29M Blow River 89.85 18 P **P 20 25 22.8 +0.5**
baz=233
KNB Kanab 89.88 52 IAmb IAmb 20 25 26.1
comp=Z,42nm,1.6s
PLID Pearl Lake 89.95 44 P **P 20 25 23.4 -0.2**
PLID IAmb IAmb 20 25 25.4
comp=Z,13nm,1.1s
PLID **pP 20 26 14.1 -1.1**
F30M Barrier River 90.03 19 P **P 20 25 23.6 +0.4**
baz=235
U15A North Rim 90.13 53 IAmb IAmb 20 25 27.4
comp=Z,17nm,0.9s
G31M Satah River 90.13 20 P **P 20 25 23.3 -0.3**
baz=236
TUC Tucson 90.25 57 P **P 20 25 25.3 +0.2**
TUC IAmb IAmb 20 25 27.9
comp=Z,30nm,1.6s
TUC **pP 20 26 15.6 -1.0**
TUC Tucson 90.25 57 P **P 20 25 25.3 +0.2**
TUC pmax pmax
comp=Z,30nm,1.6s
X16A Lo Mia Camp, P 90.26 55 IAmb IAmb 20 25 28.0
comp=Z,12nm,1.0s
HLID Hailey 90.58 45 IAmb IAmb 20 26 22.2
comp=Z,17nm,1.4s
MVU Marysvale 90.75 51 P **P 20 25 27.2 -0.3**
MVU **pP 20 26 19.3 +0.3**
INK Inuvik 91.13 19 P **P 20 25 29.1 +0.9**
baz=237
HVU Hansel Valley 91.23 47 P **P 20 25 28.7 -0.8**
HVU **pP 20 26 20.1 -1.0**
HVU IAmb IAmb 20 26 26.0
comp=Z,20nm,1.1s
WMQ Urumqi 91.24 315 *e*P **P 20 25 27.8 -1.6**
WMQ pmax pmax
comp=Z,17nm,0.9s
319A Douglas 91.25 58 P **P 20 25 29.9 +0.1**
319A IAmb IAmb 20 26 26.9
comp=Z,22nm,1.1s
X18A Snowflake 91.48 55 IAmb IAmb 20 25 32.8
comp=Z,13nm,1.1s
MPU Maple Canyon 91.59 49 IAmb IAmb 20 26 27.8
comp=Z,28nm,1.8s
Q16A Castle Valley 91.64 51 P **P 20 25 31.8 +0.2**
Q16A IAmb IAmb 20 25 35.1
comp=Z,36nm,1.9s
Q16A **pP 20 26 23.7 +0.5**
CTU Camp Tracy 91.68 49 P **P 20 25 30.2 -1.5**
CTU IAmb IAmb 20 25 33.9
comp=Z,26nm,1.8s
CTU **pwP 20 26 24.7 -2.0**
JLU Jordanelle 91.88 49 IAmb IAmb 20 28 54.3
comp=Z,17nm,1.9s
ELIB Princess Elisa 92.06 191 *d*P **P 20 25 33.3 +0.5**
comp=Z,8.1nm,0.8s
BSUT Blindstream Ca 92.36 49 IAmb IAmb 20 25 39.4
comp=Z,14nm,1.6s
121A Cookes Peak, D 92.76 57 P **P 20 25 36.7 -0.1**
baz=257
PDAR Pinedale Array 93.79 47 P **P 20 25 42.0 +0.6**
comp=Z,0.7nm,0.5s,baz=240,slow=2.0,SNR=8.2
PDAR pP **pwP 20 26 36.4 +0.1**
comp=Z,1.2nm,0.9s,baz=171,slow=2.3,SNR=3.8
comp=Z,0.7nm,0.5s
ANMO Albuquerque 94.38 55 P **P 20 25 44.3 0.0**
ANMO IAmb IAmb 20 25 46.0
comp=Z,15nm,1.7s
ANMO **pP 20 26 34.5 -1.4**
ANMO Albuquerque 94.38 55*ce*P **P 20 25 45.7 +1.5**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
C36M Paulatuk 94.65 19 P **P 20 25 44.6 +0.2**
baz=246
S22A 4UR Ranch, Cre 94.68 53 IAmb IAmb 20 25 47.9
comp=Z,8.6nm,1.3s
S22A 4UR Ranch, Cre 94.68 53 P **P 20 25 45.4 -0.4**
baz=259
TROLL Troll, Antarti 94.76 185 ⇑P **P 20 25 45.8 +0.6**
comp=Z,566nm,0.7s
NVL N'lazarevskaya 94.92 188 *e*P **P 20 25 45.8 0.0**
NVL pmax pmax
comp=Z,13nm,0.7s
A36M Sachs Harbour 95.39 17 IAmb IAmb 20 25 48.4
comp=Z,9.5nm,1.1s
A36M Sachs Harbour 95.39 17 P **P 20 25 47.6 -0.1**
baz=245
SNAA Sanae 95.45 183 P **P 20 25 47.8 -0.5**
SNAA IAmb IAmb 20 25 50.3
comp=Z,9.4nm,1.1s
SNAA Sanae 95.45 183 ⇑P **P 20 25 48.2 -0.1**
comp=Z,76nm,0.7s
SNAA Sanae 95.45 183 P **P 20 25 48.2 -0.1**
comp=Z,4.9nm,0.8s,baz=194,slow=5.9,SNR=12
comp=Z,4.9nm,0.8s
SNAA Sanae 95.45 183*ce*P **P 20 25 50.0 +1.7**
SNAA pmax pmax
comp=Z,18nm,2.5s
TXAR Lajitas Array 95.53 61 P **P 20 25 50.1 +0.6**
comp=Z,0.5nm,0.7s,baz=218,slow=5.1,SNR=5.8
comp=Z,0.5nm,0.7s
MK31 Makanchi Array 95.67 317 IAmb IAmb 20 25 51.2
comp=Z,15nm,1.1s
MK31 pwP 20 26 39.2 -4.7
MK31 Makanchi Array 95.67 317*ce*P **P 20 25 50.4 +0.7**
MKAR Makanchi Array 95.67 317 P **P 20 25 49.8 +0.1**
comp=Z,4.3nm,0.7s,baz=79,slow=5.9,SNR=41
MKAR pP **pP 20 26 39.6 -2.0**
comp=Z,2.3nm,0.7s,baz=97,slow=6.1,SNR=6.0
MKAR PKiKP **PKiKP 20 30 27.6 -0.6**
comp=Z,0.1nm,0.4s,baz=134,slow=2.3,SNR=4.9
MKAR PKKPbc **PKKPbc 20 42 38.8 -2.2**
comp=Z,0.7nm,0.7s,baz=251,slow=4.8,SNR=5.4
comp=Z,4.3nm,0.7s
ZAA0 Zalesovo Array 95.72 324 IAmb IAmb 20 25 50.1
comp=Z,13nm,1.3s
ZALV Zalesovo Beam 95.72 324 P **P 20 25 48.8 -0.9**
comp=Z,1.4nm,0.4s,baz=105,slow=5.2,SNR=16
comp=Z,1.4nm,0.4s
ZALV Zalesovo Beam 95.72 324 *i* P **P 20 25 49.2 -0.4**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
MAKZ Makanchi 95.89 317 P **P 20 25 49.6 -1.0**
MAKZ Makanchi 95.89 317 P **P 20 25 49.6 -1.0**
MAKZ pmax pmax
comp=Z,21nm,1.3s
YKA Yellowknife Ar 95.93 27 P **P 20 25 49.6 -0.7**
comp=Z,1.5nm,0.8s,baz=254,slow=4.4,SNR=5.1
comp=Z,1.5nm,0.8s
YKA Yellowknife Ar 95.93 27 *i* P **P 20 25 51.9 +1.5**
N23A Red Feather La 96.01 50 P **P 20 25 51.8 +0.1**
baz=258
VNA3 Neumayer Olymp 96.13 181 ⇑P **P 20 25 51.1 -0.2**
comp=Z,12nm,0.6s
Q24A Divide 96.23 52 P **P 20 25 53.0 +0.3**
baz=259
VNA2 Neumayer--Watz 96.39 182 ⇑P **P 20 25 53.2 +0.7**
comp=Z,7.4nm,0.7s,baz=164,slow=2.8
NRIK Noril'sk 98.21 339 P **P 20 25 59.8 -0.7**
comp=Z,1.2nm,0.3s,baz=103,slow=6.0,SNR=5.6
comp=Z,1.2nm,0.3s
NRIK Noril'sk 98.21 339*ce*P **P 20 26 00.3 -0.2**
NRIK pmax pmax
comp=Z,14nm,1.5s
KURBB Kurchatov Arra 98.85 320 P **P 20 26 02.9 -0.8**
comp=Z,0.4nm,0.4s,baz=93,slow=5.3,SNR=8.8
KURBB PKKPbc **PKKPbc 20 42 29.1 -3.3**
comp=Z,0.7nm,0.9s,baz=254,slow=3.2,SNR=6.1
comp=Z,0.4nm,0.4s
H03N2 Juan Fernandez 102.19 129 T T 22 18 48.6
SNR=9.6
H03N3 Juan Fernandez 102.19 129 T T 22 18 49.0
SNR=6.8
H03N1 Juan Fernandez 102.20 129 T T 22 18 48.0
SNR=8.7
BVAR Borovoye Array 104.12 322 Pdiff **Pdif 20 26 26.4 -0.8**
comp=Z,0.4nm,0.6s,baz=106,slow=3.1,SNR=3.8
BVAR PKiKP **PKiKP 20 30 43.5 +0.3**
comp=Z,0.4nm,0.6s,baz=29,slow=3.3,SNR=2.5
BVAR PP **PP 20 30 51.4 +3.6**
comp=Z,0.8nm,0.9s,baz=90,slow=1.4,SNR=3.7
BVAR PKKPbc **PKKPbc 20 42 15.1 -2.1**
comp=Z,0.5nm,0.6s,baz=247,slow=3.0,SNR=3.7
LPAZ La Paz 118.25 116 PKP **PKPdf 20 31 11.4 -0.3**
comp=Z,1.4nm,0.8s,baz=248,slow=2.9,SNR=4.4
ARCES ARCESS Array B 118.34 346 PKP **PKPdf 20 31 09.5 -0.1**
comp=Z,3.1nm,0.5s,baz=64,slow=2.1,SNR=44
ARCES pPKP **pPKPdf 20 32 01.9 -2.1**
comp=Z,3.2nm,0.7s,baz=45,slow=0.5,SNR=2.3
AKT Akhty 120.29 311 *i* PKIKP **PKiKP 20 31 15.8 +1.4**
AKT *e* 20 32 39.2
AKT pmax pmax
comp=Z,7.0nm,1.3s
L61B Northampton 120.78 48 P **PKPdf 20 31 14.8 -0.2**
baz=282
SCHQ Schefferville 120.80 33 PKP **PKPdf 20 31 14.9 +0.2**
comp=Z,4.6nm,0.8s,baz=308,slow=9.0,SNR=1.7
VRH Novokhopyorsk 121.74 323 *e*PKIKP **PKiKP 20 31 21.0 +4.2**
VRH pmax pmax
comp=Z,6.0nm,0.4s
CPUP Villa Florida 121.90 132 PKP **PKPdf 20 31 16.7 -1.0**
comp=Z,1.1nm,0.4s,baz=279,slow=1.0,SNR=3.9
LPSR Galich'ya Gora 122.81 325 *e*PKIKP **PKiKP 20 31 19.0 +0.2**
LPSR pmax pmax
comp=Z,8.0nm,0.6s
VORR Voronezh 123.03 324 *e*PKIKP **PKiKP 20 31 19.7 +0.4**
VORR pmax pmax
comp=Z,23nm,0.6s
KBZ Khabaz 123.28 314 PKP **PKiKP 20 31 20.6 +0.6**
comp=Z,1.0nm,0.7s,baz=166,slow=8.3,SNR=1.8
KIV Kislovodsk 123.37 314 *e*PKIKP **PKPdf 20 31 18.6 -1.5**
KIV pmax pmax
comp=Z,4.0nm,1.1s
RAYN Ar Rayn 123.78 290 PKPdf **PKPdf 20 31 21.4 0.0**
RAYN Ar Rayn 123.78 290 PKIKP **PKPdf 20 31 21.5 0.0**
FINES FINESS Array B 123.86 339 PKP **PKPdf 20 31 20.3 -0.1**
comp=Z,1.2nm,0.3s,baz=84,slow=2.2,SNR=27
FINES PKKPbc **PKKPab 20 41 08.6 +1.5**
comp=Z,2.6nm,0.9s,baz=198,slow=7.0,SNR=5.3
SIV San Ignacio 124.46 120 PKP **PKPdf 20 31 22.8 -0.1**
comp=Z,2.0nm,0.7s,baz=265,slow=0.4,SNR=10
BOSA Boshof 124.69 221 PKP **PKPdf 20 31 23.2 -0.1**
comp=Z,1.7nm,0.4s,baz=140,slow=2.0,SNR=11
SAML Samuel 125.61 111 PKPdf **PKPdf 20 31 23.6 -1.5**
SAML Samuel 125.61 111 PKIKP **PKPdf 20 31 23.6 -1.5**
PTLB Pontes e Lacer 126.36 120 PKPdf **PKPdf 20 31 26.3 -0.2**
NB2 NORSAR Subarra 128.72 345 PKPdf **PKPdf 20 31 30.1 +0.3**
comp=Z,1.4nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B 128.72 345 PKP **PKPdf 20 31 29.9 +0.2**
comp=Z,0.9nm,0.6s,baz=30,slow=2.0,SNR=8.9
HFS Hagfors 128.83 343 PKP **PKPdf 20 31 29.7 -0.3**
comp=Z,2.4nm,0.8s,baz=76,slow=6.1,SNR=9.3
HFS pPKP **pPKPdf 20 32 23.8 -0.5**
comp=Z,0.6nm,0.5s,baz=75,slow=1.6,SNR=1.6
AKASG Malin Array Be 129.03 327 PKP **PKPdf 20 31 30.3 -0.2**
comp=Z,1.6nm,0.8s,baz=51,slow=1.1,SNR=9.0
AKBB Malin Array Si 129.03 327 *c i* PKIKP **PKiKP 20 31 31.5 +0.2**
AKBB Malin Array Si 129.03 327 PKP **PKPdf 20 31 30.0 -0.6**
BRTR Keskin Array B 131.09 312 PKP **PKPdf 20 31 35.6 +0.5**
comp=Z,0.4nm,0.4s,baz=152,slow=5.3,SNR=4.7
KOLS Kolonicke sedl 133.71 328 *e*PKIKP **PKiKP 20 31 41.1 +0.2**
KOLS Kolonicke sedl 133.71 328 *e*PKP **PKiKP 20 31 41.1 +0.2**
BDFB Brasilia 135.25 128 PKP **PKPdf 20 31 43.4 -0.1**
comp=Z,4.6nm,0.8s,baz=134,slow=2.0,SNR=4.8
BRG Berggiesshubel 136.18 336 *e*PKP **PKiKP 20 31 46.9 +1.1**
BRG Amp 20 31 48.1
comp=Z,5.8nm,1.3s
BRG Berggiesshubel 136.18 336 *e*PKIKP **PKiKP 20 31 46.9 +1.1**
BRG pmax pmax
comp=Z,6.0nm,1.3s
CLL Collm 136.22 337 *i* PKIKP **PKiKP 20 31 46.6 +0.8**
CLL Collm 136.22 337 *i* PKPdf **PKiKP 20 31 46.6 +0.8**
EKA Eskdalemuir Ar 136.88 352 PKP **PKiKP 20 31 47.0 0.0**
comp=Z,0.6nm,0.4s,baz=12,slow=1.9,SNR=4.4
RONA Rosalia, Austr 137.50 331 *e*PKIKP **PKiKP 20 31 49.2 +0.5**
comp=Z,2.3nm,0.7s
CONA Conrad Observa 137.54 331 *e*PKIKP **PKiKP 20 31 49.8 +1.0**
comp=Z,4.6nm,1.8s
GERES GERESS Array B 137.84 334 PKP **PKiKP 20 31 49.7 +0.3**
comp=Z,0.3nm,0.3s,baz=352,slow=8.6,SNR=5.2
KBA Koelnbreinsper 139.33 332 *e*PKP **PKPdf 20 31 48.9 -1.3**
comp=Z,3.0nm,1.4s
BMRD Maredsous 139.89 342 *d*PKPdf **PKPdf 20 31 50.3 -0.5**
ABTA Abfaltersbach 139.95 333 *e*PKP **PKPdf 20 31 50.9 -0.4**
comp=Z,5.8nm,1.2s
INTR Introdacqua 142.69 326 PKPdf **PKPdf 20 31 53.3 -3.0**
BNI Bardonecchia 143.76 336 PKPdf PKPbc 20 31 56.3 0.0
BNI Bardonecchia 143.76 336 PKIKP PKPbc 20 31 56.3 0.0
CEL Celeste 143.95 320 PKPab 20 31 55.4 -1.0
SSB Saint Sauveur 144.37 339 PKPdf **PKPab 20 31 57.0 -0.8**
SSB Saint Sauveur 144.37 339 PKIKP **PKPab 20 31 57.0 -0.8**
RAFF Raffo Rosso 145.54 320 **PKPab 20 32 02.2 -0.1**
VSL Villasalto 146.90 327 **PKPdf 20 32 04.2 +0.6**
CEST Esterri de Car 147.86 340 **PKPdf 20 32 05.4 +0.2**
KEST Kesra 149.58 322 PKPbc **PKPbc 20 32 13.4 +0.5**
comp=Z,9.9nm,0.9s,baz=143,slow=1.7,SNR=11
KEST pPKPbc **pPKPbc 20 33 04.8 -2.1**
comp=Z,3.5nm,0.6s,baz=248,slow=1.0,SNR=2.3
PBRG Braganca 150.60 351 *e*PKPbc **PKPbc 20 32 15.5 +0.4**
POLO Lamas de Olo 151.18 352 *e*PKPbc **PKiKP 20 32 17.5 +0.5**
POLO Lamas de Olo 151.18 352 *e*PKPab **PKPab 20 32 26.4 +1.4**
PVRL Vila Real 151.26 352 *e*PKPbc **PKiKP 20 32 17.7 +0.6**
MVO Moncorvo 151.27 351 *e*PKPbc **PKiKP 20 32 17.7 +0.5**
PTO Porto 151.51 353 *e*PKPbc **PKiKP 20 32 18.2 +0.7**
PVIS Viseu 151.84 352 *e*PKPdf **PKPdf 20 32 11.0 -0.4**
PVIS Viseu 151.84 352 *e*PKPbc **PKiKP 20 32 18.9 +0.6**
ESDC Sonseca Array 152.08 345 PKPbc **PKPbc 20 32 18.9 +0.3**
comp=Z,2.9nm,0.7s,baz=12,slow=2.9,SNR=20
ESDC PKPab **PKPab 20 32 27.9 -0.9**
comp=Z,3.2nm,0.7s,baz=11,slow=4.2,SNR=12
ESDC pPKPbc **pPKPdf 20 33 08.4 +2.0**
comp=Z,2.3nm,1.0s,baz=19,slow=1.1,SNR=3.1
MTE Manteigas 152.10 351 *e*PKPbc **PKiKP 20 32 19.8 +0.9**
PCBR Castelo Branco 152.64 351 *e*PKPbc **PKiKP 20 32 20.4 +0.5**
PMRV Marv??o 153.03 351 *e*PKPbc **PKiKP 20 32 21.8 +1.0**
PMTG Montargil 153.50 352 *e*PKPbc **PKPbc 20 32 21.7 +0.1**
PESTR Estremoz 153.61 351 *e*PKPab **PKPab 20 32 37.0 +1.8**
EVO Evora 154.00 351 *e*PKPab **PKPab 20 32 38.5 +1.7**
PBAR Barrancos 154.19 349 *e*PKPab **PKPab 20 32 36.6 -1.0**
PBEJ Beja 154.47 351 *e*PKPab **PKPab 20 32 39.4 +0.5**
MESJ Messejana 154.71 351 *e*PKPab **PKPab 20 32 41.4 +1.5**
PVAQ Vaqueiros 155.06 350 *e*PKPdf **PKPdf 20 32 15.4 -0.6**
PVAQ Vaqueiros 155.06 350 *e*PKPbc PKPdf 20 32 24.4 +8.4
TORD Torodi Ar. Bea 165.74 273 PKP **PKPdf 20 32 28.1 -0.2**
comp=Z,2.5nm,0.9s,baz=13,slow=3.4,SNR=12
TORD pPKP **pPKPdf 20 33 23.9 +0.7**
comp=Z,1.8nm,1.1s,baz=352,slow=3.0,SNR=3.9
TORD PP **PP 20 37 20.2 +3.4**
comp=Z,0.2nm,0.3s,baz=62,slow=3.4,SNR=3.8
DBIC Dimbokro 169.98 233 PKP **PKPdf 20 32 29.0 -2.3**
comp=Z,4.0nm,1.0s,baz=198,slow=6.4,SNR=3.4

IDC ***22*** *20:15:52.5±5.6, 32°.07S×69°.52W, h91km±45km, mb3.4/5, mbtmp3.8/8, MS3.1/1, Error ellipse: s-maj=39.2km s-min=26.4km az=62.0*
GUC ***22*** *20:15:55.7±0.9, 31°.94S×69°.89W, h141km±5km, ML4.1*
NEIC ***22*** *20:15:55.8±1.7, 31°.94S±0°.04×69°.70W±0°.08, h119km±7km, mb4.5/20, Error ellipse: s-maj=10.0km s-min=6.2km az=93.0*
ISC 22 20:15:54.7±0.6, 31°.93S±0°.03×69°.61W±0°.05, h115km±5km, n110, σ1°31/136, mb4.3/15, 7C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.88**	**65**		**Pn**	**20 16 15.4**	**+0.3**
ZON				Sn	**Sn**	**20 16 30.0**	**-0.7**
VA03	**San Esteban**	**1.15**	**223**		**Pn**	**20 16 18.8**	**+0.8**
VA03				Sn	**Sn**	**20 16 36.4**	**+0.9**
VA03	**San Esteban**	**1.15**	**223**	||*e*P	**Pn**	**20 16 19.0**	**+1.1**
VA03				*e*S	**Sn**	**20 16 36.8**	**+1.3**
VA03				IAML		20 16 37.6	
comp=N,5μm,0.4s							
CO04	**Los Peladeros**	**1.16**	**264**	||*e*P	**Pn**	**20 16 18.6**	**+0.4**
CO04				*e*S	**Sn**	**20 16 36.0**	**-0.1**
CO04				IAML		20 16 38.1	
comp=N,9μm,0.3s							
CO03	**El Pedregal**	**1.42**	**319**		**Pn**	**20 16 22.3**	**+1.3**
CO03				Sn	**Sn**	**20 16 42.8**	**+1.8**
CO03	**El Pedregal**	**1.42**	**319**	||*e*P	**Pn**	**20 16 22.4**	**+1.4**
CO03				IAML		20 16 44.2	
comp=E,6μm,0.2s							
FCH	**Farellones**	**1.51**	**202**	||*e*P	**Pn**	**20 16 23.4**	**+1.3**
FCH				*e*S	**Sn**	**20 16 45.4**	**+2.4**
FCH				IAML		20 16 47.0	
comp=E,1μm,0.3s							
PEL	**Peldehue**	**1.51**	**216**		**Pn**	**20 16 22.1**	**+0.1**
PEL				Sn	**Sn**	**20 16 43.0**	**+0.3**
PEL	**Peldehue**	**1.51**	**216**	||*e*P	**Pn**	**20 16 22.6**	**+0.6**
PEL				*e*S	**Sn**	**20 16 42.9**	**+0.2**
PEL				IAML		20 16 45.6	
comp=E,2μm,0.4s							
MT04	**Ro Olivares**	**1.54**	**197**	||*e*P	**Pn**	**20 16 23.9**	**+1.4**
MT04				*e*S	**Sn**	**20 16 45.7**	**+2.1**
MT08	**Bocatoma Ro**	**1.55**	**193**	P	**Pn**	**20 16 23.8**	**+1.2**
MT08	**Bocatoma Ro**	**1.55**	**193**	||*e*P	**Pn**	**20 16 23.9**	**+1.3**
MT08				*e*S	**Sn**	**20 16 46.4**	**+2.6**
MT10	**Hacienda Santa**	**1.55**	**210**	||*e*P	**Pn**	**20 16 23.7**	**+1.2**
MT10				*e*S	**Sn**	**20 16 44.6**	**+0.9**
MT10				IAML		20 16 48.7	
comp=N,2μm,0.5s							
VA06	**Catapilco**	**1.56**	**246**	P	**Pn**	**20 16 22.4**	**-0.1**
VA06				Sn	**Sn**	**20 16 42.6**	**-0.9**
VA06	**Catapilco**	**1.56**	**246**	||*e*P	**Pn**	**20 16 22.4**	**-0.1**
VA06				*e*S	**Sn**	**20 16 42.8**	**-0.7**
VA06				IAML		20 16 44.5	
comp=E,4μm,0.4s							
MT14	**Cerro Calı̣n**	**1.66**	**208**	||*e*P	**Pn**	**20 16 24.9**	**+1.1**
MT14				*e*S	**Sn**	**20 16 46.8**	**+1.0**
MT14				IAML		20 16 48.9	
comp=E,3μm,0.4s							
MT16	**CCHEN**	**1.68**	**207**		**Pn**	**20 16 25.0**	**+1.0**
MT16	**CCHEN**	**1.68**	**207**	||*e*P	**Pn**	**20 16 25.1**	**+1.1**
MT16				*e*S	**Sn**	**20 16 46.2**	**-0.2**
MT03	**Universidad Ad**	**1.73**	**206**		**Pn**	**20 16 25.5**	**+0.9**
MT03	**Universidad Ad**	**1.73**	**206**	||*e*P	**Pn**	**20 16 25.8**	**+1.1**
MT03				*e*S	**Sn**	**20 16 47.6**	**+0.1**
MT03				IAML		20 16 50.6	
comp=N,2μm,0.2s							
MT05	**Renca**	**1.74**	**213**		**Pn**	**20 16 25.5**	**+0.8**
MT05	**Renca**	**1.74**	**213**	||*e*P	**Pn**	**20 16 25.8**	**+1.1**
MT05				*e*S	**Sn**	**20 16 48.2**	**+0.5**
MT05				IAML		20 16 50.3	
comp=E,4μm,0.4s							
MT15	**Las Vizcachas**	**1.83**	**204**	*i* P	**Pn**	**20 16 26.3**	**+0.5**
MT15				*i* S	**Sn**	**20 16 49.9**	**+0.4**
MT15				IAML		20 16 52.8	
comp=E,2μm,0.3s							
MT02	**Curacav**	**1.85**	**224**		**Pn**	**20 16 25.9**	**0.0**
MT02	**Curacav**	**1.85**	**224**	||*e*P	**Pn**	**20 16 26.0**	**0.0**
MT02				*e*S	**Sn**	**20 16 49.4**	**-0.5**
MT02				IAML		20 16 51.3	
comp=E,917nm,0.3s							
MT13	**San Alfonso**	**1.90**	**197**		**Pn**	**20 16 27.8**	**+1.1**
MT13	**San Alfonso**	**1.90**	**197**	||*e*P	**Pn**	**20 16 27.9**	**+1.2**
MT13				*e*S	**Sn**	**20 16 51.8**	**+0.6**
MT13				IAML		20 16 57.4	
comp=N,951nm,0.2s							
MT12	**Pirque**	**1.96**	**203**	*i* P	**Pn**	**20 16 28.5**	**+1.0**
MT12				*i* S	**Sn**	**20 16 52.7**	**+0.2**
MT12				IAML		20 16 56.6	
comp=N,1μm,0.4s							
LMEL	**Las Melosas**	**1.98**	**194**		**Pn**	**20 16 28.6**	**+0.9**
LMEL	**Las Melosas**	**1.98**	**194**	||*e*P	**Pn**	**20 16 28.8**	**+1.1**
LMEL				*e*S	**Sn**	**20 16 53.7**	**+0.7**
LMEL				IAML		20 17 01.3	
comp=N,688nm,0.2s							
CO01	**Juntas del Tor**	**1.99**	**348**		**Pn**	**20 16 30.4**	**+2.4**
CO01	**Juntas del Tor**	**1.99**	**348**	||*e*P	**Pn**	**20 16 30.4**	**+2.4**
CO01				*i* S	**Sn**	**20 16 55.1**	**+1.7**
CO01				IAML		20 16 59.1	
comp=E,583nm,0.4s							
GO04	**Tololo Observa**	**2.02**	**330**	P	**Pn**	**20 16 29.2**	**+0.8**
GO04	**Tololo Observa**	**2.02**	**330**	||*e*P	**Pn**	**20 16 29.2**	**+0.8**
GO04				*e*S	**Sn**	**20 16 55.0**	**+0.8**
GO04				IAML		20 16 57.6	
comp=N,6μm,0.5s							
VA01	**Torpederas**	**2.04**	**237**	P	**Pn**	**20 16 28.1**	**-0.2**
CO06	**Fray Jorge**	**2.13**	**305**	P	**Pn**	**20 16 29.4**	**-0.2**
CO06	**Fray Jorge**	**2.13**	**305**	||*e*P	**Pn**	**20 16 29.4**	**-0.2**
CO06				*e*S	**Sn**	**20 16 54.2**	**-2.1**
CO06				IAML		20 17 03.5	
comp=E,941nm,0.3s							
MT09	**Talagante**	**2.18**	**212**		**Pn**	**20 16 30.1**	**-0.1**
MT09	**Talagante**	**2.18**	**212**	||*e*P	**Pn**	**20 16 30.3**	**+0.1**
MT09				*e*S	**Sn**	**20 16 57.0**	**-0.5**
MT09				IAML		20 16 58.5	
comp=E,1μm,0.3s							
BO04	**La Punta**	**2.22**	**202**		**Pn**	**20 16 31.2**	**+0.5**
BO04	**La Punta**	**2.22**	**202**	||*e*P	**Pn**	**20 16 31.4**	**+0.7**
BO04				*e*S	**Sn**	**20 16 58.2**	**0.0**
BO04				IAML		20 17 00.2	
comp=N,880nm,0.4s							
BO04				IAML		20 17 00.7	
comp=E,934nm,0.4s							
MT01	**Popeta**	**2.37**	**215**	Pn	**Pn**	**20 16 32.0**	**-0.5**
MT01	**Popeta**	**2.37**	**215**	*e*P	**Pn**	**20 16 32.1**	**-0.5**
MT01				*e*S	**Sn**	**20 17 00.2**	**-1.5**
MT01				IAML		20 17 03.2	
comp=N,565nm,0.2s							
CO05	**La Serena**	**2.44**	**325**		**Pn**	**20 16 33.6**	**+0.1**
CO05	**La Serena**	**2.44**	**325**	*e*P	**Pn**	**20 16 33.7**	**+0.2**
CO05				*e*S	**Sn**	**20 17 02.3**	**-1.1**
CO05				IAML		20 17 06.3	
comp=E,2μm,0.4s							
BO01	**Tunca**	**2.75**	**206**	Pn	**Pn**	**20 16 36.8**	**-0.7**
BO02	**Sierra Bellavi**	**3.02**	**199**		**Pn**	**20 16 41.3**	**+0.2**
LCO	**Las Campanas**	**3.06**	**342**	Pn	**Pn**	**20 16 42.2**	**+0.4**
AC05	**El Transito**	**3.13**	**349**		**Pn**	**20 16 43.5**	**+0.8**
GO05	**Hualane**	**3.63**	**212**		**Pn**	**20 16 47.3**	**-1.9**
AC04	**Llanos de Chal**	**3.92**	**341**	Pn	**Pn**	**20 16 53.4**	**+0.3**
ML02	**Panimavida**	**4.11**	**201**		**Pn**	**20 16 54.3**	**-1.3**
GO03	**Copiapo**	**4.35**	**353**		**Pn**	**20 16 59.2**	**+0.2**
AC06	**Mina Casimiro**	**4.60**	**352**		**Pn**	**20 17 02.0**	**-0.2**
BI02	**San Fabin de**	**4.92**	**196**		**Pn**	**20 17 05.3**	**-1.2**
BI05	**Punta Hualpn**	**5.64**	**211**	Pn	**Pn**	**20 17 13.2**	**-3.0**
AC01	**Pan de Azucar**	**5.82**	**351**	Pn	**Pn**	**20 17 17.4**	**-1.4**
GO02	**Mina Guanaco**	**6.74**	**0**	Pn	**Pn**	**20 17 29.1**	**-2.3**
PB14	**IPOC Station P**	**7.31**	**354**	Pn	**Pn**	**20 17 35.5**	**-3.6**
LC02	**Puerto Saavedr**	**7.51**	**203**	Pn	**Pn**	**20 17 37.8**	**-3.6**
GO06	**Curarrehue**	**7.79**	**191**	Pn	**Pn**	**20 17 42.1**	**-3.2**
H03N1	**Juan Fernandez**	**7.98**	**257**	T	T	20 24 47.1	
baz=85,slow=73,SNR=92							
H03N3	**Juan Fernandez**	**7.99**	**257**	T	T	20 24 46.6	
baz=85,slow=73,SNR=94							
H03N2	**Juan Fernandez**	**8.00**	**257**	T	T	20 24 56.7	
baz=85,slow=73,SNR=87							
TRQA	**Tornquist**	**8.75**	**136**	Pn	**Pn**	**20 17 56.9**	**-1.4**
PLCA	**Paso Flores**	**8.82**	**185**	Pn	**Pn**	**20 17 57.0**	**-2.2**
PB01	**IPOC Station P**	**10.84**	**1**	Pn	Pn	20 18 21.9	-4.8
LL02	**Futaleuf**	**11.38**	**188**	Pn	**Pn**	**20 18 30.2**	**-3.5**
ITQB	**Itaqui**	**11.39**	**82**	Pn	Pn	20 18 30.1	-3.8
CPUP	**Villa Florida**	**12.10**	**66**	P	**Pn**	**20 18 40.8**	**-2.5**
comp=E,0.9nm,0.3s,baz=240,slow=18,SNR=2.2							
PLTB	**Pedras Altas**	**13.61**	**94**	Pn	Pn	20 18 58.1	-4.9
LPAZ	**La Paz**	**15.63**	**5**	Pn	**Pn**	**20 19 25.1**	**-4.2**
LPAZ	**La Paz**	**15.63**	**5**	P	**Pn**	**20 19 31.1**	**+1.9**
comp=E,2.7nm,0.7s,baz=197,slow=7.4,SNR=9.9							
LPAZ				LR	LR	20 27 27.1	
comp=E,66nm,20.1s,baz=21,slow=44							
SIV	**San Ignacio**	**17.67**	**28**	P	**P**	**20 19 52.8**	**-0.2

comp=Z,0.9nm,0.7s
TEIG Tepich 54.86 338 P P 20 25 14.5 +1.3
HNDO Hondo 67.31 332 P P 20 26 38.5 +1.3
HNDO IAmb IAmb 20 26 40.2
comp=Z,4.8nm,0.9s
SWET Sewanee 68.53 346 P P 20 26 45.7 +1.0
SWET IAmb IAmb 20 26 57.6
comp=Z,9.1nm,1.3s
SAND Sanderson 68.85 330 P P 20 26 48.1 +1.2
TXAR Lajitas Array 68.98 328 P P 20 26 47.9 +0.1
TXAR Lajitas Array 68.98 328 P P 20 26 49.5 +1.7
comp=Z,0.5nm,0.6s,baz=159,slow=8.4,SNR=4.0
comp=Z,0.5nm,0.6s
V48A Smith Brothers 69.22 345 P P 20 26 49.5 +0.5
V48A IAmb IAmb 20 26 50.8
comp=Z,10nm,1.2s
OZNA Ozona 69.28 331 P P 20 26 50.3 +0.8
WVT Waverly 69.82 344 P P 20 26 53.6 +1.0
MIAR Mount Ida 69.86 339 P P 20 26 54.1 +1.2
LCAR Lake Charles 70.59 342 P P 20 26 58.3 +1.0
APMT Aspermont 71.00 333 P P 20 27 01.0 +1.1
APMT IAmb IAmb 20 27 01.9
comp=Z,6.5nm,0.7s
P49A Miami Univ. Ec 72.47 348 P P 20 27 08.7 +0.2
S39A Bolivar 72.71 340 P P 20 27 10.9 +0.9
S39A IAmb IAmb 20 27 12.3
comp=Z,7.8nm,1.4s
R40A Maddies Statio 72.98 342 P P 20 27 12.5 +0.9
R40A pP pP **20 27 42.3 +0.9**
O48B Farmland 73.25 348 P P 20 27 13.6 +0.5
O48B IAmb IAmb 20 27 14.5
comp=Z,13nm,1.1s
TORD Torodi Ar. Bea 81.58 69 P P 20 28 00.4 +0.3
comp=Z,1.2nm,0.7s,baz=284,slow=5.3,SNR=7.2
TORD pP pP **20 28 30.0 -0.3**
comp=Z,0.8nm,0.8s,baz=256,slow=5.8,SNR=3.8
comp=Z,1.2nm,0.7s
PDAR Pinedale Array 82.88 332 P P 20 28 06.9 +0.4
comp=Z,0.1nm,0.4s,baz=225,slow=0.8,SNR=1.9
comp=Z,0.1nm,0.4s
NVAR Mina Array Bea 83.39 324 P P 20 28 11.6 +2.3
comp=Z,0.2nm,0.5s,baz=187,slow=4.5,SNR=2.0
comp=Z,0.2nm,0.5s
ASAR Alice Springs 120.32 205 PKP PKPdf 20 34 32.0 -1.0
comp=Z,0.2nm,0.4s,baz=124,slow=1.3,SNR=2.9
WRA Warramunga Arr 123.55 207 PKP PKPdf 20 34 38.9 -0.3
comp=Z,0.4nm,0.4s,baz=158,slow=1.8,SNR=11
BVAR Borovoye Array 144.38 42 PKP PKPdf 20 35 17.3 +0.5
comp=Z,0.4nm,0.5s,baz=46,slow=4.2,SNR=3.1
KURBB Kurchatov Arra 149.97 42 PKPbc PKPbc 20 35 31.9 +0.8
comp=Z,0.9nm,0.5s,baz=302,slow=3.0,SNR=14
ZALV Zalesovo Beam 151.39 32 PKPbc PKiKP 20 35 35.3 +0.4
comp=Z,3.7nm,0.5s,baz=299,slow=2.8,SNR=19
ZALV pPKPbc **pPKPbc 20 36 05.7 -0.4**
comp=Z,1.5nm,0.6s,baz=323,slow=2.1,SNR=4.2
MKAR Makanchi Array 153.87 47 PKPab PKPab 20 35 54.3 +0.5
comp=Z,0.5nm,0.6s,baz=296,slow=4.6,SNR=5.3
PZH PanZhiHua 170.72 123 PKP PKPdf 20 35 48.5 -1.2

IDC 22 20:28:54.0±16.0, 5°.93S×149°.99E, h189km±152km, mb2.9/3, mbtmp3.3/3, Error ellipse: s-maj=121.8km s-min=60.2km az=149.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.63**	**226**	P	P	20 33 18.5	-0.6
	0.3nm,0.5s,baz=52,slow=10,SNR=5.3						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**23.46**	**220**	P	P	20 33 47.2	+0.5
	0.2nm,0.5s,baz=57,slow=10,SNR=9.1						
	0.2nm,0.5s						
NVAR	**Mina Array Bea**	**94.98**	**52**	P	P	20 41 55.8	+0.2
	0.2nm,0.5s,baz=258,slow=4.5,SNR=1.9						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**147.95**	**285**	PKPbc	PKPbc	20 48 16.9	-1.2
	0.4nm,0.7s,baz=40,slow=2.8,SNR=2.7						

RSNC 22 20:38:25.1±0.0, 6°N±1°×7°4W±°, h119km±2km, M2.6, mb3.6, ML2.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.43**	**59**	P	Pn	20 38 42.7	-0.1
BARC				S	Sn	20 38 56.0	-0.1
BRJC	**Barrancabermej**	**0.63**	**342**	P	Pn	20 38 42.2	-1.6
BRJC				S	Sn	20 38 57.3	-0.7
RUSC	**La Rusia**	**0.66**	**136**	P	Pn	20 38 43.9	-0.8
RUSC				S	Sn	20 38 58.8	-0.5
SPBC	**San Pablo de B**	**0.88**	**216**	P	Pn	20 38 44.7	-1.3
SPBC				S	Sn	20 38 59.3	-2.5
PTBC	**PUERTO BERRIO,**	**0.92**	**281**	P	Pn	20 38 44.3	-1.9
PTBC				S	Sn	20 39 01.2	-1.0
NORC	**Norcasia**	**1.54**	**239**	P	Pn	20 38 51.3	-1.7
NORC				S	Sn	20 39 12.7	-1.5
ROSC	**El Rosal**	**1.70**	**207**	P	Pn	20 38 56.7	+1.4
ROSC				S	Sn	20 39 20.0	+1.8
ZARC	**Zaragoza, Cauc**	**1.71**	**311**	P	Pn	20 38 54.6	-0.4
ZARC				S	Sn	20 39 17.3	-0.5
CHIC	**Chingaza**	**1.74**	**186**	P	Pn	20 38 54.9	-0.8
CHIC				S	Sn	20 39 19.7	+0.7
TAMC	**Tame, Arauca**	**1.75**	**88**	P	Pn	20 38 55.4	-0.1
TAMC				S	Sn	20 39 16.8	-1.8
OCAC	**Ocana**	**1.87**	**7**	P	Pn	20 38 58.7	+1.6
OCAC				S	Sn	20 39 22.1	+0.6
HELC	**Santa Helena**	**1.98**	**265**	P	Pn	20 38 58.3	-0.3
HELC				S	Sn	20 39 24.1	0.0
GUY2C	**Guyana, Caldas**	**2.13**	**238**	P	Pn	20 39 00.2	-0.5
GUY2C				S	Sn	20 39 28.4	+0.6
VILC	**Villavicencio,**	**2.25**	**184**	P	Pn	20 39 00.4	-1.4
VILC				S	Sn	20 39 29.8	-0.1
RECRC	**Villamaria, Ca**	**2.28**	**232**	P	Pn	20 39 03.9	+1.4
RECRC				S	Sn	20 39 32.5	+1.4
UREC	**San Jos de Ur**	**2.40**	**305**	P	Pn	20 39 01.9	-1.7
UREC				S	Sn	20 39 30.4	-2.7
CBOC	**Ciudad Bolivar**	**2.50**	**259**	P	Pn	20 39 04.7	-0.3
CBOC				S	Sn	20 39 34.3	-1.4
PTGC	**Puerto Gaitan,**	**2.58**	**147**	P	Pn	20 39 04.3	-1.6
PTGC				S	Sn	20 39 35.5	-1.7
ANIL	**Santa Ana**	**2.62**	**225**	P	Pn	20 39 07.2	+0.4
ANIL				S	Sn	20 39 39.4	+0.7
PRAC	**Prado**	**2.96**	**207**	P	Pn	20 39 09.9	-1.0
PRAC				S	Sn	20 39 45.8	-0.3
ORTC	**Ortega, Tolima**	**2.97**	**215**	P	Pn	20 39 11.2	+0.1
ORTC				S	Sn	20 39 47.0	+0.5
PLMC	**San Jos del P**	**3.08**	**242**	P	Pn	20 39 12.4	-0.2
PLMC				S	Sn	20 39 42.5	-6.7
URMC	**La Uribe, Meta**	**3.21**	**195**	P	Pn	20 39 14.7	+0.4
URMC				S	Sn	20 39 53.4	+1.2
SJCC	**San Jacinto, C**	**3.86**	**335**	P	Pn	20 39 21.7	-1.1
SJCC				S	Sn	20 40 04.5	-3.0
CAPC	**Capurgana**	**4.39**	**301**	P	Pn	20 39 26.4	-3.5
CAPC				S	Sn	20 40 13.5	-6.7
CRJC	**Cerrejon, Guaj**	**4.67**	**8**	P	Pn	20 39 33.0	-0.7
CRJC				S	Sn	20 40 26.5	-0.5
URIC	**Uribia, Colomb**	**5.52**	**16**	P	Pn	20 39 45.6	+0.6
URIC				S	Sn	20 40 47.2	-0.1

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*NEIC **22** 20:45:17.8±2.0, 15°.75N±0°.05×98°.34W±0°.05, h10km±2km, mb4.1/37, Md4.4/104(MEX), Error ellipse: s-maj=9.0km s-min=7.1km az=227.0*
*IDC **22** 20:45:20.3±2.9, 15°.90N×98°.18W, h0km, mb3.6/5, mbtmp3.7/8, ML3.7/3, Error ellipse: s-maj=51.8km s-min=19.7km az=5.0*
*MEX **22** 20:45:21.9±1.2, 15°.88N×98°.29W, h10km±17km, MD4.4*
ISC 22 20:45:19.3±1.1, 15°.83N±0°.03×98°.29W±0°.02, h15km±6km, n135, σ2°.24/191, mb4.1/11, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.58**	**15**		**Pg**	**20 45 30.8**	**0.0**
PNIG					**Sg**	**20 45 37.7**	**-0.9**
PNIG	**Pinotepa**	**0.58**	**15**	*eP*	**Pg**	**20 45 30.8**	**0.0**
PNIG				*eS*	**Sg**	**20 45 37.7**	**-0.9**
PEIG	**Puerto Escondi**	**1.11**	**81**		**Pg**	**20 45 39.6**	**-1.2**
PEIG					**Sg**	**20 45 53.2**	**-2.1**
PEIG	**Puerto Escondi**	**1.11**	**81**	*eP*	**Pg**	**20 45 39.6**	**-1.2**
PEIG				*eS*	**Sg**	**20 45 53.2**	**-2.1**
CRIG	**Cruz Grande**	**1.21**	**318**		**Pb**	**20 45 40.6**	**-1.4**
CRIG					**Sb**	**20 45 55.0**	**-2.6**
CRIG	**Cruz Grande**	**1.21**	**318**	*eP*	**Pb**	**20 45 40.6**	**-1.4**
CRIG				*eS*	**Sb**	**20 45 55.0**	**-2.6**
YOIG	**Yosondua**	**1.25**	**35**		**Pb**	**20 45 41.3**	**-1.5**
YOIG					**Sg**	**20 45 58.0**	**-1.7**
YOIG	**Yosondua**	**1.25**	**35**	*eP*	**Pb**	**20 45 41.3**	**-1.5**
YOIG				*eS*	**Sg**	**20 45 58.0**	**-1.7**
MGIG	**Malinaltepec**	**1.44**	**347**		**Pn**	**20 45 44.2**	**-0.9**
MGIG					**Sb**	**20 46 01.3**	**-2.9**
MGIG					**Sn**	**20 46 04.7**	**+0.9**
MGIG	**Malinaltepec**	**1.44**	**347**	*i* P	**Pn**	**20 45 44.2**	**-0.9**
MGIG				*eS*	**Sb**	**20 46 01.3**	**-2.9**
MGIG				*eS*	**Sn**	**20 46 04.7**	**+0.9**
TXIG	**Tlaxiaco**	**1.50**	**19**		**Pn**	**20 45 44.9**	**-1.2**
TXIG					**Sn**	**20 46 02.6**	**-3.0**
TXIG	**Tlaxiaco**	**1.50**	**19**	*eP*	**Pn**	**20 45 44.9**	**-1.2**
TXIG				*eS*	**Sn**	**20 46 02.6**	**-3.0**
TLIG	**Tlapa**	**1.75**	**351**		**Pn**	**20 45 48.9**	**-0.4**
TLIG					**Sn**	**20 46 10.3**	**-1.0**
TLIG	**Tlapa**	**1.75**	**351**	*eP*	**Pn**	**20 45 48.8**	**-0.4**
TLIG				*eS*	**Sn**	**20 46 10.8**	**-0.6**
DAIG	**Los Arroyos**	**1.77**	**312**		**Pn**	**20 45 47.6**	**-1.8**
DAIG					**Sn**	**20 46 08.6**	**-3.1**
DAIG	**Los Arroyos**	**1.77**	**312**	*eP*	**Pn**	**20 45 47.6**	**-1.8**
DAIG				*eS*	**Sn**	**20 46 08.6**	**-3.1**
OXIG	**Oaxaca**	**1.94**	**50**		**Pn**	**20 45 51.5**	**-0.5**
OXIG					**Sn**	**20 46 16.6**	**+0.3**
VHO	**Vista Hermosa**	**1.94**	**50**	*eP*	**Pn**	**20 45 51.5**	**-0.5**
VHO				*eS*	**Sn**	**20 46 16.6**	**+0.3**
OXBJ	**Oaxaca**	**1.94**	**50**		**Pn**	**20 45 53.6**	**+1.5**
OXBJ	**Oaxaca**	**1.94**	**50**	*eP*	**Pn**	**20 45 53.6**	**+1.5**
OXBJ				*eS*	**Sn**	**20 46 18.5**	**+2.2**
HLIG	**Huajuapan de L**	**2.04**	**13**		**Pn**	**20 45 53.0**	**-0.5**
HLIG					**Sn**	**20 46 18.2**	**-0.7**
HLIG	**Huajuapan de L**	**2.04**	**13**	*eP*	**Pn**	**20 45 53.0**	**-0.5**
HLIG				*eS*	**Sn**	**20 46 18.2**	**-0.7**
FTIG	**Fresnillo de T**	**2.07**	**4**		**Pn**	**20 45 53.9**	**+0.1**
FTIG					**Sn**	**20 46 20.1**	**+0.6**
FTIG	**Fresnillo de T**	**2.07**	**4**	*eP*	**Pn**	**20 45 53.9**	**+0.1**
FTIG				*eS*	**Sn**	**20 46 20.1**	**+0.6**
HUIG	**Huatulco**	**2.10**	**91**		**Pn**	**20 45 53.9**	**-0.1**
HUIG					**Sn**	**20 46 17.4**	**-2.6**
HUIG	**Huatulco**	**2.10**	**91**	*eP*	**Pn**	**20 45 53.9**	**-0.1**
HUIG				*eS*	**Sn**	**20 46 17.4**	**-2.6**
CAIG	**El Cayaco**	**2.25**	**303**		**Pn**	**20 45 56.5**	**+0.4**
CAIG					**Sn**	**20 46 20.9**	**-2.8**
CAIG	**El Cayaco**	**2.25**	**303**	*eP*	**Pn**	**20 45 56.5**	**+0.4**
CAIG				*eS*	**Sn**	**20 46 20.9**	**-2.8**
TOIG	**Toxpalan**	**2.54**	**27**		**Pn**	**20 45 59.9**	**-0.3**
TOIG					**Sn**	**20 46 27.7**	**-3.3**
TOIG	**Toxpalan**	**2.54**	**27**	*eP*	**Pn**	**20 45 59.9**	**-0.3**
TOIG				*eS*	**Sn**	**20 46 27.7**	**-3.3**
TPIG	**Tehuac#an**	**2.73**	**19**		**Pn**	**20 46 03.5**	**+0.7**
TPIG					**Sn**	**20 46 33.0**	**-2.6**
TPIG	**Tehuac#an**	**2.73**	**19**	*eP*	**Pn**	**20 46 03.5**	**+0.7**
TPIG				*eS*	**Sn**	**20 46 33.0**	**-2.6**
PLIG	**Platanillo**	**2.80**	**336**		**Pn**	**20 46 03.2**	**-0.6**
PLIG					**Sn**	**20 46 37.9**	**+0.5**
PLIG	**Platanillo**	**2.80**	**336**	*eP*	**Pn**	**20 46 03.2**	**-0.6**
PLIG				*eS*	**Sn**	**20 46 37.9**	**+0.5**
NEUV	**Arroyo Zacate**	**3.03**	**51**	*eP*	**Pn**	**20 46 06.0**	**-0.8**
NEUV				*eS*	**Sn**	**20 46 43.3**	**+0.4**
YAIG	**Yautepec**	**3.11**	**346**		**Pn**	**20 46 10.1**	**+2.1**
YAIG					**Sn**	**20 46 43.6**	**-1.4**
YAIG	**Yautepec**	**3.11**	**346**	*eP*	**Pn**	**20 46 10.1**	**+2.1**
YAIG				*eS*	**Sn**	**20 46 43.6**	**-1.4**
ARIG	**Puente Sto Nin**	**3.13**	**321**		**Pn**	**20 46 07.5**	**-0.8**
ARIG					**Sn**	**20 46 40.6**	**-4.9**
ARIG	**Puente Sto Nin**	**3.13**	**321**	*eP*	**Pn**	**20 46 07.5**	**-0.8**
ARIG				*eS*	**Sn**	**20 46 40.6**	**-4.9**
PBCV	**Popocatepetl**	**3.15**	**355**	*eP*	**Pn**	**20 46 10.9**	**+2.1**
PBCV				*eS*	**Sn**	**20 46 43.5**	**-2.9**
PBXN	**Popocatepetl**	**3.18**	**354**	*eP*	Pn	20 46 02.8	-6.6
PBXN				*eP*	Pb	20 46 10.6	-5.4
PBXN				*eS*	**Sn**	**20 46 44.3**	**-3.1**
PBXN				*eS*	**Sn**	**20 46 45.2**	**-2.2**
PBPN	**Popocatepetl**	**3.21**	**354**	*eP*	**Pn**	**20 46 08.7**	**-1.1**
PBPN				*eP*	**Pn**	**20 46 10.9**	**+1.1**
PBPN				*eS*	**Sn**	**20 46 46.7**	**-1.5**
PPIG	**Popocatepetl**	**3.24**	**354**		**Pn**	**20 46 11.7**	**+1.6**
PPIG					**Sn**	**20 46 49.1**	**+0.4**
PPM	**Popocatepetl**	**3.24**	**354**	*eP*	**Pn**	**20 46 11.7**	**+1.6**
PPM				*eS*	**Sn**	**20 46 49.1**	**+0.4**
MAVM	**Malinalco, Edo**	**3.32**	**340**		Pn	20 46 06.3	-4.7
MAVM					**Sn**	**20 46 47.0**	**-3.3**
MAVM	**Malinalco, Edo**	**3.32**	**340**	*eP*	Pn	20 46 06.3	-4.7
MAVM				*eS*	**Sn**	**20 46 47.0**	**-3.3**
MPVM	**San Francisco**	**3.42**	**348**	*eP*	**Pn**	**20 46 14.4**	**+1.9**
MPVM				*eS*	**Sn**	**20 46 51.0**	**-2.0**
TLVM	**San Miguel Top**	**3.46**	**346**	*eP*	Pn	20 46 18.7	+5.6
TLVM				*eS*	**Sn**	**20 46 53.4**	**-0.7**
XCVM	**Xochimilco**	**3.50**	**347**	*eP*	**Pn**	**20 46 17.5**	**+4.0**
XCVM				*eS*	**Sn**	**20 46 54.1**	**-0.7**
CMIG	**Matias Romero**	**3.50**	**68**		**Pn**	**20 46 12.4**	**-0.9**
CMIG					**Sn**	**20 46 49.6**	**-4.9**
CMIG	**Matias Romero**	**3.50**	**68**	Pn	**Pn**	**20 46 13.0**	**-0.2**
	13nm,0.3s,baz=248,slow=12,SNR=171						
CMIG				Sn	**Sn**	**20 46 53.2**	**-1.3**
	13nm,0.3s,baz=332,slow=16,SNR=5.8						
CMIG				Lg	Lg	20 47 07.7	
	57nm,0.3s,baz=261,slow=18,SNR=13						
	27nm,0.2s						
CMIG	**Matias Romero**	**3.50**	**68**	*eP*	**Pn**	**20 46 12.4**	**-0.9**
CMIG				*eS*	**Sn**	**20 46 49.6**	**-4.9**
ZIIG	**Zihuatanejo**	**3.52**	**301**		Pn	20 46 10.5	-3.1
ZIIG					**Sn**	**20 46 52.1**	**-2.9**
ZIIG	**Zihuatanejo**	**3.52**	**301**	*eP*	Pn	20 46 10.5	-3.1
ZIIG				*eS*	**Sn**	**20 46 52.1**	**-2.9**
THVM	**De Xico**	**3.52**	**349**	*eP*	**Pn**	**20 46 16.5**	**+2.6**
THVM				*eS*	**Sn**	**20 46 58.0**	**+2.5**
AOVM	**Tlapan**	**3.56**	**344**		**Pn**	**20 46 16.2**	**+1.6**
AOVM					**Sn**	**20 46 58.5**	**+1.8**
AOVM	**Tlapan**	**3.56**	**344**	*eP*	**Pn**	**20 46 16.2**	**+1.6**
AOVM				*eS*	**Sn**	**20 46 58.5**	**+1.8**
CNCY	**Coyoacan**	**3.57**	**346**	*eS*	**Sb**	**20 47 08.0**	**+2.3**
UNM	**Universidad Na**	**3.58**	**346**	Pn	**Pn**	**20 46 14.7**	**0.0**
UNM	**Universidad Na**	**3.58**	**346**	*eP*	**Pb**	**20 46 24.4**	**+1.7**
UNM				*eS*	**Sb**	**20 47 11.2**	**+5.1**
INVM	**La Marquesa**	**3.60**	**343**	*eP*	**Pb**	**20 46 22.1**	**-0.9**
INVM				*eS*	**Sn**	**20 47 00.7**	**+3.2**
BJVM	**Benito Juarez**	**3.63**	**347**	*eS*	**Sn**	**20 47 01.4**	**+3.4**
CJVM	**Cuajimalpa**	**3.64**	**345**	*eS*	**Sn**	**20 47 00.5**	**+2.1**
MHVM	**Bosque de Chap**	**3.67**	**346**	*eS*	Sn	20 46 51.3	-7.7
PBVM	**Pinon**	**3.67**	**348**		**Pn**	**20 46 19.9**	**+4.2**
PBVM					**Sn**	**20 47 03.1**	**+4.3**
PBVM	**Pinon**	**3.67**	**348**	*eP*	**Pn**	**20 46 19.9**	**+4.2**
PBVM				*eS*	**Sn**	**20 47 03.1**	**+4.3**
APVM	**Azcapotzalco**	**3.74**	**347**		**Sn**	**20 46 58.5**	**-2.4**
APVM	**Azcapotzalco**	**3.74**	**347**	*eS*	**Sn**	**20 46 58.5**	**-2.4**
JAUV	**Jalcomulco**	**3.79**	**22**	*eP*	**Pn**	**20 46 17.7**	**+0.3**
JAUV				*eS*	**Sn**	**20 46 58.1**	**-3.7**
PMUV	**Sontecomapan**	**4.06**	**48**	*eP*	Pn	20 46 18.6	-2.4
PMUV				*eS*	**Sn**	**20 47 13.4**	**+5.0**
CXUV	**Coxquihui**	**4.37**	**9**	*eP*	**Pn**	**20 46 28.1**	**+2.7**
CXUV				*eS*	**Sn**	**20 47 13.0**	**-3.1**
ACIG	**Acambay**	**4.40**	**340**		Pn	20 46 32.4	+6.5
ACIG					**Sn**	**20 47 16.6**	**-0.4**
ACIG	**Acambay**	**4.40**	**340**	*eP*	Pn	20 46 32.4	+6.5
ACIG				*eS*	**Sn**	**20 47 16.6**	**-0.4**
DHIG	**Demacu**	**4.50**	**351**		Pn	20 46 32.7	+5.4
DHIG					**Sn**	**20 47 19.1**	**-0.5**
DEIG	**Demacu**	**4.50**	**351**	*eP*	Pn	20 46 32.7	+5.4
DEIG				*eS*	**Sn**	**20 47 19.1**	**-0.6**
MOIG	**Morelia**	**4.72**	**325**	Pn	Pn	20 46 22.1	-8.3
JRQG	**Juriquilla Cam**	**5.26**	**337**	Pn	Pn	20 46 34.7	-3.1
CCIG	**Comitan**	**5.93**	**85**	Pn	Pn	20 46 44.4	-2.5
EZ5V		**6.23**	**306**	*eP*	**Pn**	**20 46 55.5**	**+4.3**
EZ5V				*eS*	**Sn**	**20 47 58.9**	**-3.4**
RPIG	**Rio Verde**	**6.23**	**345**		**Sn**	**20 47 60.0**	**-2.1**
RPIG	**Rio Verde**	**6.23**	**345**	*eS*	**Sn**	**20 47 60.0**	**-2.1**
MNGA	**Volcan de Coli**	**6.24**	**306**	*eP*	**Pn**	**20 46 54.8**	**+3.5**
MNGA				*eS*	**Sn**	**20 47 59.8**	**-2.6**
INCO	**Volcan de Coli**	**6.26**	**307**	*eP*	**Pn**	**20 46 54.4**	**+2.8**
INCO				*eS*	**Sn**	**20 47 57.7**	**-5.5**
CDAR	**Ciudad de Arme**	**6.28**	**300**	*eP*	**Pn**	**20 46 53.6**	**+2.1**
CDAR				*eS*	**Sn**	**20 48 00.6**	**-2.5**
SOMAC	**Volcano de Col**	**6.28**	**307**	*eP*	Pn	20 46 59.8	+7.9
SOMAC				*eS*	**Sn**	**20 47 58.8**	**-4.8**
CEGR	**Campo Tres**	**6.38**	**305**	*eP*	**Pn**	**20 46 57.0**	**+3.9**
CEGR				*eS*	**Sn**	**20 48 07.2**	**+1.3**
CIHU	**Emiliano Zapat**	**7.04**	**300**	*eP*	**Pn**	**20 47 03.1**	**+1.2**
CIHU				*eS*	**Sn**	**20 48 17.4**	**-4.4**
ZAIG	**Zacatecas**	**8.00**	**330**	Pn	Pn	20 47 11.8	-3.5
ESQI	**Esquipulas**	**8.73**	**97**	Pn	Pn	20 47 22.1	-3.2
TEIG	**Tepich**	**10.48**	**64**	Pn	**Pn**	**20 47 47.4**	**-1.7**
JTS	**Las Juntas de**	**14.11**	**111**	Pn	**Pn**	**20 48 41.5**	**+2.7**
	0.4nm,0.3s,baz=299,slow=19,SNR=2.0						
	4.2nm,0.6s						
TXAR	**Lajitas Array**	**14.33**	**341**	Pn	**Pn**	**20 48 44.4**	**+2.5**
	baz=162,slow=13,SNR=3.1						
	0.3nm,0.8s						
SAND	**Sanderson**	**14.50**	**347**	Pn	**Pn**	**20 48 45.4**	**+1.2**
OZNA	**Ozona**	**15.25**	**351**	P	**Pn**	**20 48 58.9**	**+4.6**
OZNA				IAmb	IAmb	20 49 08.5	
	comp=Z,5.4nm,0.7s						
BRDY	**Brady**	**15.40**	**358**	P	**Pn**	**20 48 58.8**	**+2.5**
BRDY				IAmb	IAmb	20 49 08.5	
	comp=Z,6.3nm,0.8s						
MNHN	**Monahans**	**15.97**	**346**	P	**Pn**	**20 49 06.8**	**+3.1**
VHRN	**Van Horn**	**16.10**	**339**	P	**Pn**	**20 49 08.4**	**+3.0**
SGCY	**Sterling City**	**16.22**	**351**	P	**Pn**	**20 49 08.5**	**+1.6**
237A	**Washetta, Mont**	**16.26**	**8**	P	**Pn**	**20 49 09.3**	**+2.1**
237A				IAmb	IAmb	20 49 18.6	
	comp=Z,17nm,0.8s						
PECS	**Pecos**	**16.29**	**343**	P	**Pn**	**20 49 10.8**	**+3.0**
PECS				IAmb	IAmb	20 49 20.7	
	comp=Z,10nm,0.9s						
ABTX	**Abilene, Hawle**	**16.77**	**356**	P	**Pn**	**20 49 14.6**	**+0.8**
ABTX				IAmb	IAmb	20 49 24.2	
	comp=Z,24nm,1.0s						
PLPT	**Palo Pinto**	**16.91**	**360**	P	**Pn**	**20 49 16.4**	**+0.8**
SN05	**Snyder 5**	**17.14**	**353**	P	**Pn**	**20 49 19.6**	**+1.1**
SN05				IAmb	IAmb	20 49 23.6	
	comp=Z,9.1nm,0.8s						
SN07	**Snyder 07**	**17.35**	**353**	P	**Pn**	**20 49 21.9**	**+0.8**
POST	**Post**	**17.41**	**351**	P	**Pn**	**20 49 22.7**	**+0.9**
POST				IAmb	IAmb	20 49 27.6	
	comp=Z,9.4nm,0.8s						
DKNS	**Dickens**	**17.92**	**353**	P	**Pn**	**20 49 28.9**	**+0.7**
DKNS				IAmb	IAmb	20 49 32.8	
	comp=Z,11nm,0.7s						
121A	**Cookes Peak, D**	**18.73**	**334**	P	**P**	**20 49 36.7**	**-1.1**
W35A	**Tecumseh**	**19.29**	**4**	P	**P**	**20 49 44.1**	**+0.4**
DEOK	**Depew**	**20.00**	**4**	P	**P**	**20 49 51.4**	**-0.1**
DEOK				IAmb	IAmb	20 49 59.2	
	comp=Z,13nm,0.8s						
TUL3	**Leonard**	**20.12**	**6**	P	**P**	**20 49 51.4**	**-1.5**
ANMO	**Albuquerque**	**20.40**	**340**	P	**P**	**20 49 57.0**	**+0.9**
ANMO	**Albuquerque**	**20.40**	**340**	P	Pn	20 49 59.8	+1.7
	comp=Z,4.2nm,1.0s,baz=73,slow=11,SNR=12						
	comp=Z,4.2nm,1.0s						
RTBA	**Rita Blanca**	**20.91**	**350**	P	**P**	**20 50 02.0**	**+0.6**
RTBA				IAmb	IAmb	20 50 10.0	
	comp=Z,10nm,0.8s						
T35A	**Sooner Cattle**	**21.06**	**4**	P	**P**	**20 50 01.5**	**-1.5**
T35A				IAmb	IAmb	20 50 19.8	
	comp=Z,11nm,1.1s						
KAN13	**South Haven SW**	**21.11**	**2**	P	**P**	**20 50 03.9**	**+0.4**
KAN17	**Caldwell West**	**21.14**	**1**	P	**P**	**20 50 03.7**	**-0.1**
MGMO	**Mountain Grove**	**21.90**	**13**	P	**P**	**20 50 11.9**	**-0.1**
MGMO				IAmb	IAmb	20 50 21.6	
	comp=Z,15nm,1.2s						
T25A	**Trinidad**	**21.91**	**347**	P	**P**	**20 50 11.7**	**-0.7**
X16A	**Lo Mia Camp, P**	**21.97**	**330**	P	**P**	**20 50 11.9**	**-1.1**
X16A				IAmb	IAmb	20 50 26.9	
	comp=Z,8.2nm,1.1s						
PBMO	**Poplar Bluff**	**22.00**	**17**	P	**P**	**20 50 14.3**	**+1.2**
S39A	**Bolivar**	**22.22**	**10**	P	**P**	**20 50 15.2**	**-0.2**
SWET	**Sewanee**	**22.26**	**28**	P	**P**	**20 50 15.4**	**-0.5**
SWET				IAmb	IAmb	20 50 39.7	
	comp=Z,9.2nm,1.1s						
WVT	**Waverly**	**22.27**	**23**	P	**P**	**20 50 15.2**	**-0.7**
W50A	**Signal Mountai**	**22.52**	**29**	P	**P**	**20 50 16.7**	**-2.0**
WUAZ	**Wupatki**	**22.84**	**332**	P	**P**	**20 50 21.0**	**-1.2**
WUAZ				IAmb	IAmb	20 50 36.6	
	comp=Z,5.8nm,0.9s						
R40A	**Maddies Statio**	**23.00**	**12**	P	**P**	**20 50 23.4**	**-0.3**
R40A				IAmb	IAmb	20 50

ILCN	**San Idelfonso**	**1.82**	**40**	*i* P	**Pn**	**20 50 13.2**	**+0.9**
ILCN				*i* S	**Sb**	**20 50 36.6**	**-0.6**
ILCN				IAML		20 50 39.8	
	comp=Z,990nm,1.0s						
ABCN	**Banco Central**	**1.82**	**59**	*i* S	**Sg**	**20 50 38.1**	**-0.6**
POTN	**Potosi Cosigui**	**1.84**	**12**	*i* P	**Pn**	**20 50 13.3**	**+0.7**
POTN				*i* S	**Sb**	**20 50 37.0**	**-0.9**
POTN				IAML		20 50 38.8	
	comp=Z,440nm,1.0s						
APQ2	**Apoyeque**	**1.84**	**57**	*i* P	**Pb**	**20 50 14.3**	**-0.2**
APQ2				*i* S	**Sg**	**20 50 38.9**	**-0.6**
APQ2				IAML		20 50 42.5	
	comp=Z,2µm,1.0s						
APYN	**Apoyeque**	**1.84**	**56**	*i* P	**Pb**	**20 50 14.4**	**-0.1**
APYN				*i* S	**Sb**	**20 50 37.3**	**-0.7**
APYN				IAML		20 50 41.4	
	comp=Z,110nm,1.0s						
UNAN	**Cigeo UNAN**	**1.85**	**60**	*i* P	**Pn**	**20 50 14.0**	**+1.3**
UNAN				*i* S	**Sg**	**20 50 38.4**	**-1.2**
UNAN				IAML		20 50 48.2	
	comp=Z,11µm,1.0s						
TISN	**Laguna Tiscapa**	**1.86**	**59**	*i* P	**Pn**	**20 50 14.1**	**+1.2**
TISN				IAML		20 50 44.5	
	comp=Z,250nm,1.0s						
MOM2	**El Cardon**	**1.86**	**48**	*i* P	**Pn**	**20 50 14.1**	**+1.2**
MOM2				*i* S	**Sg**	**20 50 38.9**	**-1.2**
MOM2				IAML		20 50 43.2	
	comp=Z,1µm,1.0s						
MAFN	**Magfor**	**1.87**	**61**	*i* P	**Pn**	**20 50 14.1**	**+1.1**
MAFN				*i* S	**Sg**	**20 50 39.7**	**-0.5**
MAFN				IAML		20 51 36.2	
	comp=Z,6µm,1.0s						
SABN	**Sabanita**	**1.87**	**66**	*i* P	**Pn**	**20 50 14.3**	**+1.2**
SABN				IAML		20 50 43.3	
	comp=Z,4µm,1.0s						
R0529	**La Mascota**	**1.88**	**60**	*i* P	**Pb**	**20 50 14.7**	**-0.4**
R0529				IAML		20 50 45.7	
	comp=Z,2µm,1.0s						
MGAN	**Managua**	**1.88**	**60**		**Pn**	**20 50 14.2**	**+1.0**
MGAN				Sn	**Sb**	**20 50 38.8**	**-0.4**
MGAN	**Managua**	**1.88**	**60**	*i* P	**Pn**	**20 50 14.2**	**+1.0**
MGAN				*i* S	**Sb**	**20 50 39.2**	**+0.1**
MGAN				IAML		20 50 41.8	
	comp=Z,2µm,1.0s						
R4DEC	**Barrio San Lui**	**1.88**	**59**	*i* P	**Pn**	**20 50 14.2**	**+1.0**
R4DEC				*i* S	**Sg**	**20 50 39.4**	**-1.4**
R4DEC				IAML		20 50 41.8	
	comp=Z,2µm,1.0s						
MAS3	**Al N del Volca**	**1.89**	**64**	*i* P	**Pn**	**20 50 14.3**	**+1.0**
MAS3				*i* S	**Sb**	**20 50 39.3**	**0.0**
MAS3				IAML		20 50 39.9	
	comp=Z,2µm,1.0s						
NANN	**Nandasmo**	**1.90**	**67**	*i* P	**Pb**	**20 50 15.8**	**+0.3**
NANN				*i* S	**Sg**	**20 50 41.1**	**-0.2**
NANN				IAML		20 50 42.5	
	comp=Z,26µm,1.0s						
NADN	**Granada**	**1.92**	**73**	*i* P	**Pn**	**20 50 15.3**	**+1.6**
NADN				*i* S	**Sb**	**20 50 40.0**	**-0.2**
NADN				IAML		20 50 42.9	
	comp=Z,3µm,1.0s						
CNCH	**Conchagua**	**2.08**	**2**	*e*P	**Pn**	**20 50 17.2**	**+1.2**
CNCH				*e*S	**Sn**	**20 50 42.5**	**+0.1**
CNCH				IAML		20 50 50.5	
	comp=Z,1µm,0.2s						
CNCH	**Conchagua**	**2.08**	**2**	*i* P	**Pn**	**20 50 17.1**	**+1.2**
CNCH				*i* S	**Sb**	**20 50 43.6**	**-1.2**
CNCH				IAML		20 50 45.4	
	comp=Z,1µm,1.0s						
LCND	**La Caada**	**2.11**	**0**	*e*P	**Pn**	**20 50 17.3**	**+1.0**
LCND				*e*S	**Sn**	**20 50 42.9**	**-0.1**
LCND				IAML		20 50 50.1	
	comp=Z,322nm,0.3s						
LCND	**La Caada**	**2.11**	**0**	*i* P	**Pn**	**20 50 17.3**	**+1.0**
LCND				*i* S	**Sn**	**20 50 43.3**	**+0.3**
LCND				IAML		20 50 47.1	
	comp=Z,380nm,1.0s						
JAPN	**Al SSO del Volc**	**2.21**	**81**	*i* P	**Pn**	**20 50 19.0**	**+1.3**
JAPN				IAML		20 50 57.7	
	comp=Z,600nm,1.0s						
RANC	**El Ranchito**	**2.26**	**351**	*e*P	**Pn**	**20 50 20.1**	**+1.5**
RANC	**El Ranchito**	**2.26**	**351**	*i* P	**Pn**	**20 50 19.6**	**+1.0**
RANC				*i* S	**Sn**	**20 50 48.5**	**+1.5**
RANC				IAML		20 50 51.7	
	comp=Z,480nm,1.0s						
PACA	**Pacayal**	**2.30**	**350**	*e*P	**Pn**	**20 50 20.8**	**+1.7**
PACA				IAML		20 50 54.0	
	comp=Z,3µm,0.2s						
PACA	**Pacayal**	**2.30**	**350**	*i* P	**Pn**	**20 50 20.7**	**+1.6**
PACA				*i* S	**Sn**	**20 50 48.7**	**+0.7**
PACA				IAML		20 50 53.8	
	comp=Z,4µm,1.0s						
TECA	**Tecapa**	**2.36**	**346**	*e*P	**Pn**	**20 50 20.9**	**+1.0**
TECA				*e*P	**Pn**	**20 50 21.0**	**+1.0**
TECA				*e*S	**Sn**	**20 50 48.9**	**-0.7**
TECA				IAML		20 50 53.6	
	comp=Z,179nm,0.2s						
LIMN	**Finca el Limon**	**2.40**	**39**	*i* P	**Pn**	**20 50 21.1**	**+0.8**
LIMN				IAML		20 50 56.1	
	comp=Z,540nm,1.0s						
ACON	**Acoyapa**	**2.79**	**74**		**Pn**	**20 50 25.9**	**+0.2**
ACON				Sn	**Sn**	**20 50 60.0**	**+0.2**
ACON	**Acoyapa**	**2.79**	**74**	*i* P	**Pn**	**20 50 26.8**	**+1.1**
ACON				*i* S	**Sn**	**20 51 00.0**	**+0.2**
ACON				IAML		20 51 06.5	
	comp=Z,220nm,1.0s						
JAYA	**Jayaque - finc**	**2.88**	**329**	*i* P	**Pn**	**20 50 27.8**	**+0.7**
JAYA				*e*S	**Sn**	**20 50 59.6**	**-2.6**
JAYA	**Jayaque - finc**	**2.88**	**329**	*i* P	**Pn**	**20 50 27.7**	**+0.7**
JAYA				*i* S	**Sn**	**20 51 00.3**	**-1.9**
JAYA				IAML		20 51 05.2	
	comp=Z,1µm,1.0s						
RCVN	**Varilla!2**	**2.91**	**35**	*i* P	**Pn**	**20 50 29.0**	**+1.5**
RCVN				*i* S	**Sn**	**20 51 04.6**	**+1.6**
RCVN				IAML		20 51 11.3	
	comp=Z,4µm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.92**	**12**	Pn	**Pn**	**20 50 27.8**	**+0.3**
RCPN	**Sur Rio San Ju**	**2.92**	**37**	*i* P	**Pn**	**20 50 29.1**	**+1.5**
RCPN				*i* S	**Sn**	**20 51 04.8**	**+1.5**
RCPN				IAML		20 51 10.4	
	comp=Z,3.0nm,1.0s						
JTS	**Las Juntas de**	**3.04**	**107**		**Pn**	**20 50 30.2**	**+1.1**
JTS	**Las Juntas de**	**3.04**	**107**	Pn	**Pn**	**20 50 29.6**	**+0.5**
	comp=Z,7.5nm,0.3s,baz=5.2,slow=11,SNR=18						
JTS				Sn	**Sn**	**20 51 04.7**	**-1.4**
	comp=Z,21nm,0.3s,baz=250,slow=18,SNR=15						
JTS				LR	LR	20 51 45.8	
	comp=Z,165nm,21.1s,baz=5.0,slow=45						
	comp=Z,14nm,0.3s						
SNJE	**San Jose**	**3.14**	**328**	*e*P	**Pn**	**20 50 32.2**	**+1.6**
SNJE				*e*P	Pb	20 50 32.3	-4.4
NUBE	**Las Nubes**	**3.26**	**326**	*e*P	**Pn**	**20 50 33.5**	**+1.2**
NUBE				*e*S	**Sn**	**20 51 09.7**	**-1.9**
NUBE				IAML		20 51 13.9	
	comp=Z,83nm,0.3s						
NUBE	**Las Nubes**	**3.26**	**326**	*i* P	**Pn**	**20 50 33.3**	**+1.0**
NUBE				*i* S	**Sn**	**20 51 09.6**	**-2.0**
NUBE				IAML		20 51 15.5	
	comp=Z,320nm,1.0s						
MTO3	**Montecristo**	**3.49**	**336**		**Pn**	**20 50 37.2**	**+1.6**
MTO3	**Montecristo**	**3.49**	**336**	*i* P	**Pn**	**20 50 37.2**	**+1.6**
MTO3				*i* S	**Sn**	**20 51 18.0**	**+0.5**
MTO3				IAML		20 51 20.9	
	comp=Z,96nm,1.0s						
ESQI	**Esquipulas**	**3.63**	**337**	Pn	**Pn**	**20 50 39.6**	**+2.2**
ESPN	**Las Esperanzas**	**3.67**	**74**	Pn	**Pn**	**20 50 39.3**	**+1.5**
BRU2	**Volcan**	**5.66**	**114**	Pn	**Pn**	**20 51 07.1**	**+1.7**
CMIG	**Matias Romero**	**8.95**	**312**	Pn	**Pn**	**20 51 52.8**	**+2.3**
	comp=Z,0.8nm,0.3s,baz=153,slow=12,SNR=7.9						
	comp=Z,2.3nm,0.2s						
BAUV	**El Baul**	**19.69**	**95**	P	**P**	**20 54 10.2**	**-0.4**
ATAH	**Atahualpa**	**20.52**	**152**	P	Pn	20 54 26.7	+4.5
	comp=Z,3.8nm,0.7s,baz=300,slow=20,SNR=2.3						
	comp=Z,3.8nm,0.7s						
PDPR	**Patillas Dam,**	**22.23**	**70**	P	**P**	**20 54 39.3**	**+1.2**
TREL	**Terrell**	**22.72**	**342**	P	**P**	**20 54 45.0**	**+1.7**
TREL				IAmb	IAmb	20 54 47.2	
	comp=Z,29nm,1.3s						
TXAR	**Lajitas Array**	**23.28**	**323**	P	**P**	**20 54 49.9**	**+0.7**
TXAR	**Lajitas Array**	**23.28**	**323**	P	**P**	**20 54 50.4**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=133,slow=9.9,SNR=10						
	comp=Z,1.9nm,0.9s						
TX31	**Lajitas Ar. Si**	**23.28**	**323**	P	**P**	**20 54 49.6**	**+0.4**
PLPT	**Palo Pinto**	**23.55**	**338**	P	**P**	**20 54 53.1**	**+1.3**
PLPT				IAmb	IAmb	20 54 54.5	
	comp=Z,20nm,1.1s						
Z35A	**Perchaven, San**	**23.65**	**340**	P	**P**	**20 54 53.5**	**+0.8**
Z35A				IAmb	IAmb	20 54 55.5	
	comp=Z,22nm,1.0s						
MIAR	**Mount Ida**	**23.82**	**348**	P	**P**	**20 54 54.4**	**+0.1**
MIAR				IAmb	IAmb	20 55 03.0	
	comp=Z,9.5nm,0.8s						
ABTX	**Abilene, Hawle**	**23.91**	**335**	P	**P**	**20 54 55.9**	**+0.6**
ABTX				IAmb	IAmb	20 54 57.2	
	comp=Z,12nm,0.9s						
SGCY	**Sterling City**	**23.96**	**331**	P	**P**	**20 54 55.7**	**-0.2**
SGCY				IAmb	IAmb	20 54 58.0	
	comp=Z,22nm,1.5s						
LOOK	**Love County**	**24.23**	**341**	P	**P**	**20 54 58.8**	**+0.6**
MNHN	**Monahans**	**24.31**	**328**	P	**P**	**20 54 59.6**	**+0.5**
TKL	**Tuckaleechee C**	**24.65**	**8**	LR	LR	21 03 11.4	
	comp=Z,249nm,20.2s,baz=6.5,slow=34						
APMT	**Aspermont**	**24.72**	**335**	P	**P**	**20 55 03.4**	**+0.6**
APMT				IAmb	IAmb	20 55 05.3	
	comp=Z,9.0nm,0.8s						
POST	**Post**	**25.10**	**332**	P	**P**	**20 55 06.2**	**-0.1**
POST				IAmb	IAmb	20 55 15.3	
	comp=Z,11nm,1.0s						
FNO	**Franklin**	**25.47**	**342**	P	**P**	**20 55 09.1**	**-0.4**
SMWD	**Samnorwood**	**26.32**	**337**	P	**P**	**20 55 16.9**	**-0.3**
AMTX	**Amarillo**	**26.71**	**334**	P	**P**	**20 55 21.5**	**+0.6**
X16A	**Lo Mia Camp, P**	**31.55**	**321**	P	**P**	**20 56 05.0**	**+1.0**
SAML	**Samuel**	**31.70**	**128**	P	**P**	**20 56 04.8**	**-0.6**
SAML				IAmb	IAmb	20 56 06.2	
	comp=Z,7.2nm,0.8s						
Y14A	**Wickenburg**	**32.23**	**319**	P	**P**	**20 56 10.9**	**+1.0**
W13A	**Hualapai Mount**	**33.52**	**319**	P	**P**	**20 56 21.5**	**+0.1**
W13A				IAmb	IAmb	20 56 25.9	
	comp=Z,2.6nm,0.9s						
PDAR	**Pinedale Array**	**36.67**	**333**	P	**P**	**20 56 49.3**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=123,slow=6.6,SNR=2.4						
	comp=Z,0.3nm,0.8s						
MZP	**Montezuma Peak**	**37.35**	**320**	P	**P**	**20 56 54.7**	**+0.4**
TPH	**Tonopah**	**37.47**	**321**	P	**P**	**20 56 55.7**	**+0.4**
LOHW	**Long Hollow**	**37.81**	**333**	P	**P**	**20 56 58.9**	**+0.8**
NVAR	**Mina Array Bea**	**38.37**	**320**	P	**P**	**20 57 04.1**	**+1.2**
NVAR	**Mina Array Bea**	**38.37**	**320**	P	**P**	**20 57 06.2**	**+3.3**
	comp=Z,3.7nm,0.8s,baz=142,slow=7.6,SNR=24						
	comp=Z,3.7nm,0.8s						
LHV	**Little Huntoon**	**38.38**	**320**	P	**P**	**20 57 04.1**	**+1.4**
LHV				IAmb	IAmb	20 57 07.6	
	comp=Z,5.8nm,0.8s						
BCAR	**Beaver Creek A**	**64.21**	**336**	P	**P**	**21 00 17.5**	**+1.4**
IL31		**66.99**	**336**	P	**P**	**21 00 34.8**	**+0.9**
ILAR	**Eielson Array**	**66.99**	**336**	P	**P**	**21 00 35.0**	**+1.0**
ILAR	**Eielson Array**	**66.99**	**336**	P	**P**	**21 00 34.5**	**+0.5**
	comp=Z,3.0nm,1.1s,baz=142,slow=4.5,SNR=13						
	comp=Z,3.0nm,1.1s						
D25K	**Kavik River**	**68.75**	**341**	IAmb	IAmb	21 00 47.3	
	comp=Z,4.0nm,0.9s						
F21K	**Alatna River**	**70.39**	**338**	P	**P**	**21 00 56.3**	**+1.1**
F21K				IAmb	IAmb	21 00 58.1	
	comp=Z,6.8nm,1.1s						
H19K	**Roundabout Mou**	**71.05**	**336**	P	**P**	**21 01 00.3**	**+1.1**
H19K				IAmb	IAmb	21 01 01.3	
	comp=Z,4.8nm,0.8s						
G19K	**Purcell Mounta**	**71.46**	**336**	P	**P**	**21 01 03.0**	**+1.2**
G19K				IAmb	IAmb	21 01 10.4	
	comp=Z,5.3nm,1.1s						
H18K	**Honhosa River**	**71.73**	**335**	P	**P**	**21 01 04.4**	**+1.0**
H18K				IAmb	IAmb	21 01 06.2	
	comp=Z,6.9nm,1.0s						
G18K	**Tagagawik**	**72.02**	**336**	P	**P**	**21 01 06.5**	**+1.4**
G18K				IAmb	IAmb	21 01 15.0	
	comp=Z,4.6nm,1.1s						
H17K	**Granite Mounta**	**72.33**	**335**	P	**P**	**21 01 08.1**	**+1.1**
ARCES	**ARCESS Array B**	**87.52**	**19**	P	**P**	**21 02 25.4**	**-3.6**
	comp=Z,9.5nm,1.1s,baz=316,slow=7.6,SNR=2.8						
	comp=Z,9.5nm,1.1s						
PZH	**PanZhiHua**	**141.38**	**346**	PKP	**PKPdf**	**21 09 11.5**	**-2.0**
CMAR	**Chiang Mai Arr**	**149.78**	**347**	PKPbc	**PKPbc**	**21 09 33.0**	**+0.4**
	comp=Z,2.4nm,0.9s,baz=342,slow=3.2,SNR=12						

NEIC ***22*** *20:54:06.6±0.7,36°.445N±0°.008×89°.53W±0°.01, h9km, Error ellipse: s-maj=1.2km s-min=1.1km az=57.0*

SLM 22 20:54:06.1±0.7,36°.445N±0°.008×89°.54W±0°.01, h10km, Md2.9/53, mb_Lg2.8/12(NEIC), ML2.9/28(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=56.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLM	**Point Pleasant**	**0.06**	**222**		Pg	20 54 10.2	+2.2
PENMO	**Penman**	**0.07**	**274**		Pg	20 54 08.5	+0.2
PENMO					Sg	20 54 10.6	+0.8
WALK	**Watson Lake**	**0.09**	**357**		Pg	20 54 08.9	+0.3
WALK					Sg	20 54 11.2	+0.9
WYBT	**Wynnburg**	**0.10**	**162**		Pg	20 54 08.8	+0.2
WYBT					Sg	20 54 11.3	+0.8
POBM	**Portage Bay**	**0.11**	**250**		Pg	20 54 09.0	+0.3
POBM					Sg	20 54 11.4	+0.8
PVMO	**Portageville**	**0.14**	**257**		Pg	20 54 09.2	+0.1
PVMO				Sg	Sg	20 54 12.1	+0.8
MARMO	**Marston**	**0.14**	**309**		Pg	20 54 09.5	+0.4
MARMO					Sg	20 54 12.3	+1.0
NMMO	**New Madrid**	**0.14**	**355**		Pg	20 54 09.8	+0.5
NMMO					Sg	20 54 12.6	+1.1
PGVM	**Portageville**	**0.16**	**276**		Pg	20 54 09.8	+0.3
PGVM					Sg	20 54 12.7	+0.9
FLPT	**Flippin**	**0.18**	**101**		Pg	20 54 10.2	+0.3
CATM	**Catron**	**0.19**	**332**		Pg	20 54 10.5	+0.4
CATM					Sg	20 54 13.8	+1.0
SJMO	**Saint John's B**	**0.19**	**15**		Pg	20 54 10.5	+0.4
SJMO					Sg	20 54 13.8	+1.0
WADM	**Wardell**	**0.22**	**249**		Pg	20 54 10.9	+0.2
WADM					Sg	20 54 14.8	+1.0
KEWM	**Kewanee**	**0.26**	**350**		Pg	20 54 11.5	+0.3
KEWM					Sg	20 54 15.6	+0.8
HICK	**Hickman**	**0.27**	**69**		Pg	20 54 11.5	+0.1
HICK				Sg	Sg	20 54 15.4	+0.3
HICK				IAML		20 54 16.1	
	comp=N,2µm,0.5s						
HICK				IAML		20 54 16.3	
	comp=E,2µm,0.3s						
GLAT	**Glass**	**0.27**	**131**		Pg	20 54 11.7	+0.3
GLAT				Sg	Sg	20 54 15.2	+0.2
HENM	**Henderson Moun**	**0.28**	**11**		Pg	20 54 11.9	+0.3
HENM					Sg	20 54 16.2	+0.9
MIST	**Miston**	**0.28**	**174**		Pg	20 54 11.8	+0.2
MIST					Sg	20 54 16.3	+1.1
PARMO	**Parma**	**0.28**	**322**		Pg	20 54 11.8	+0.2
PARMO				Sg	Sg	20 54 16.2	+0.7
PARMO				IAML		20 54 16.6	
	comp=E,2µm,0.4s						
PARMO				IAML		20 54 16.7	
	comp=N,2µm,0.1s						
TOPM	**Tallapoosa**	**0.29**	**286**		Pg	20 54 12.1	+0.2
TOPM					Sg	20 54 16.8	+0.9
COKM	**Charter Oak**	**0.30**	**330**		Pg	20 54 12.5	+0.3
COKM					Sg	20 54 17.1	+0.9
EPRM	**East Prairie**	**0.31**	**28**		Pg	20 54 12.4	+0.2
EPRM					Sg	20 54 17.2	+0.9
MATM	**Matthews**	**0.33**	**351**		Pg	20 54 13.0	+0.3
LNXT	**Lenox**	**0.34**	**174**		Pg	20 54 13.1	+0.2
LNXT				Sg	Sg	20 54 17.5	0.0
LNXT				IAML		20 54 18.7	
	comp=E,2µm,0.3s						
LNXT				IAML		20 54 18.9	
	comp=N,2µm,0.3s						
DWDM	**Dogwood**	**0.35**	**6**		Pg	20 54 13.3	+0.3
DWDM					Sg	20 54 18.5	+0.8
BRGM	**Braggadocio**	**0.35**	**227**		Pg	20 54 13.3	+0.2
MLDM	**Malden**	**0.36**	**300**		Pg	20 54 13.2	+0.1
PEBM	**Pemiscott Bayo**	**0.42**	**219**	Pg	Pg	20 54 14.4	+0.1
PEBM				Sg	Sg	20 54 20.4	+0.5
PEBM				IAML		20 54 28.1	
	comp=E,936nm,0.9s						
CHRM	**Charleston**	**0.43**	**19**		Pg	20 54 14.5	0.0
BETM	**Bethany**	**0.45**	**292**		Pg	20 54 14.9	0.0
UTMT	**University of**	**0.55**	**100**		Pg	20 54 14.6	-2.1
UTMT	**University of**	**0.55**	**100**		Pb	20 54 16.9	-1.0
UTMT				IAML		20 54 31.1	
	comp=N,350nm,0.4s						
UTMT				IAML		20 54 34.1	
	comp=E,611nm,0.6s						
HALT	**Halls**	**0.56**	**163**	Pg	Pg	20 54 17.3	+0.5
HALT				IAML		20 54 31.2	
	comp=E,671nm,0.8s						
GNAR	**Gosnell**	**0.62**	**219**		Pg	20 54 18.2	+0.2
PBMO	**Poplar Bluff**	**0.79**	**295**	Pg	Pg	20 54 20.8	-0.5
PBMO				IAML		20 54 39.4	
	comp=N,421nm,0.3s						
CGM3	**Cape Girardeau**	**0.86**	**354**		Pg	20 54 21.9	-0.6
CGM3				IAML		20 54 42.7	
	comp=N,472nm,0.2s						
T45A	**Paducah**	**0.92**	**51**		Pg	20 54 23.0	-0.7
T45A				IAML		20 54 39.6	
	comp=E,389nm,0.3s						
LPAR	**Lepanto**	**1.04**	**217**		Pg	20 54 25.7	-0.5
SFTN	**Shelby Forest**	**1.15**	**200**		Pb	20 54 27.7	-0.4
S44A	**Carbondale**	**1.27**	**10**		Pn	20 54 29.4	-0.5
S44A				IAML		20 54 47.5	
	comp=E,230nm,0.1s						
S44A				IAML		20 54 47.6	
	comp=N,225nm,0.1s						
SIUC	**Southern Illin**	**1.29**	**11**		Pn	20 54 29.5	-0.8
SIUC				IAML		20 54 48.9	
	comp=E,273nm,0.2s						
EBZ	**Ebenezer Churc**	**1.31**	**173**		Pg	20 54 31.0	-0.2
MET	**Memphis--Engin**	**1.36**	**194**		Pn	20 54 30.9	-0.2
MET				IAmb_Lg		20 54 49.1	
	comp=Z,84nm,0.8s						
LCAR	**Lake Charles**	**1.36**	**254**		Pn	20 54 30.3	-0.8
WVT	**Waverly**	**1.41**	**102**	Pg	Pn	20 54 31.3	-0.6
FVM	**French Village**	**1.69**	**335**		Pn	20 54 36.2	+0.5
PLAL	**Pickwick Lake**	**1.88**	**140**	Pn	Pn	20 54 37.8	-0.6
PWLA	**Pickwick Lake**	**1.89**	**140**		Pb	20 54 39.6	-1.0
T47A	**Sharon Grove**	**2.03**	**74**		Pn	20 54 40.8	+0.5
CCM	**Cathedral Cave**	**2.11**	**320**		Pn	20 54 42.4	+0.9
USIN	**University of**	**2.13**	**44**	Pn	Pn	20 54 42.2	+0.5
FCAR	**Ozark Folk Cen**	**2.17**	**256**		Pn	20 54 42.7	+0.4
SLM	**Saint Louis**	**2.26**	**346**	Pn	Pn	20 54 43.6	+0.1
MGMO	**Mountain Grove**	**2.30**	**289**		Pn	20 54 45.0	+0.8
MGMO				IAmb_Lg		20 55 20.2	
	comp=Z,32nm,0.7s						
V48A	**Smith Brothers**	**2.31**	**107**		Pn	20 54 44.3	+0.1
Q44A	**Meyer Farm, Va**	**2.49**	**9**	Pn	Pn	20 54 46.8	+0.1
WHAR	**Wooly Hollow**	**2.52**	**244**		Pn	20 54 47.2	+0.1
Y45A	**Yeager Farm, C**	**2.57**	**180**	Pn	Pn	20 54 47.4	-0.4
CLTN	**Cedars of Leba**	**2.61**	**97**		Pn	20 54 47.8	-0.6
CLTN				IAmb_Lg		20 55 28.8	
	comp=Z,32nm,1.3s						
UALR	**University of**	**2.83**	**235**	Pn	Pn	20 54 51.5	+0.1
X48A	**Hartselle**	**2.84**	**134**	Pn	Pn	20 54 51.5	0.0
R40A	**Maddies Statio**	**2.85**	**311**	Pn	Pn	20 54 51.7	0.0
U49A	**Red Boiling Sp**	**3.03**	**88**	Pn	Pn	20 54 53.7	-0.4
CCAR	**Cane Creek**	**3.12**	**217**	Pn	Pn	20 54 55.0	-0.3
WCI	**Wyandotte Cave**	**3.14**	**54**	Pn	Pn	20 54 55.1	-0.5
SWET	**Sewanee**	**3.17**	**112**	Pn	Pn	20 54 56.2	+0.1
P43A	**Skaggs, Pawnee**	**3.19**	**0**	Pn	Pn	20 54 56.7	+0.3
S39A	**Bolivar**	**3.27**	**293**	Pn	Pn	20 54 57.8	+0.3
S39A				IAmb_Lg		20 55 51.0	
	comp=Z,27nm,0.9s						
X40A	**Basin Creek Fa**	**3.33**	**235**		Pn	20 54 56.6	-1.6
HHAR	**Hobbs**	**3.56**	**269**	Pn	Pn	20 55 00.2	-1.2
BLO	**Bloomington**	**3.62**	**40**	Pn	Pn	20 55 01.8	-0.5
BLO				IAmb_Lg		20 55 59.9	
	comp=Z,25nm,0.8s						
Y49A	**Blount Mountai**	**3.64**	**134**	Pn	Pn	20 55 02.2	-0.3
W50A	**Signal Mountai**	**3.65**	**109**	Pn	Pn	20 55 02.5	-0.2
P40A	**Paris**	**3.66**	**328**	Pn	Pn	20 55 03.5	+0.6
P46A	**Rosedale**	**3.66**	**29**	Pn	Pn	20 55 02.1	-0.7
FPAL	**Fort Paine**	**3.72**	**120**	Pn	Pn	20 55 03.5	-0.2
MIAR	**Mount Ida**	**3.80**	**241**	Pn	Pn	20 55 04.5	-0.3
T50A	**Nancy**	**3.82**	**80**	Pn	Pn	20 55 04.8	-0.2
U38A	**Gravette**	**3.91**	**271**	Pn	Pn	20 55 05.6	-0.7
R49A	**Shelbyville**	**3.94**	**61**	Pn	Pn	20 55 02.7	-3.9
LRAL	**Lakeview Retre**	**3.99**	**148**	Pn	Pn	20 55 06.3	-1.0
WLAR	**White Oak Lake**	**4.02**	**228**	Pn	Pn	20 55 07.0	-0.7
WLAR				IAmb_Lg		20 56 16.3	
	comp=Z,19nm,0.9s						
HDIL	**Hopedale**	**4.11**	**3**		Pn	20 55 06.8	-2.1
Z41A	**Richland Creek**	**4.16**	**221**	Pn	Pn	20 55 04.5	-5.2
CPCT	**Cooper Cave**	**4.19**	**102**	Pn	Pn	20 55 07.8	-2.3
X51A	**Calhoun**	**4.25**	**115**	Pn	Pn	20 55 11.8	+0.8
SFIN	**Lafayette**	**4.37**	**25**	Pn	Pn	20 55 12.7	+0.2
N41A	**Harden Midland**	**4.38**	**347**	Pn	Pn	20 55 12.3	-0.4
P48A	**Milroy**	**4.43**	**46**	Pn	Pn	20 55 13.7	+0.4
P38A	**Dawn**	**4.47**	**316**	Pn	Pn	20 55 14.1	+0.1
R50A	**Paris**	**4.54**	**65**	Pn	Pn	20 55 13.9	-0.9
TKL	**Tuckaleechee C**	**4.74**

FITZ	**Fitzroy Crossi**	**13.04 191**			**Pn**	**21 01 32.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**13.04 191**	P		**Pn**	**21 01 32.7**	**+0.7**
	1.2nm,0.8s,baz=0.0,slow=3.0,SNR=1.0						
FITZ			S		**S**	**21 03 51.3**	**-3.2**
	1.1nm,0.7s,baz=24,slow=19,SNR=1.1						
MYLDM	**Lahad Datu**	**14.21 317**			**P**	**21 01 41.8**	**-2.3**
JAGI	**Jajag, Banyuwa**	**14.36 256**	P		**P**	**21 01 45.9**	**+0.1**
WB0	**Warramunga Arr**	**15.63 158**	P		**Pn**	**21 02 01.3**	**-0.9**
WB0			IAmb		IAmb	21 02 05.1	
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**15.77 158**	P		**Pn**	**21 02 02.4**	**-1.4**
WRAB			IAmb		IAmb	21 02 06.7	
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**15.77 158**	P		**P**	**21 02 01.3**	**+0.2**
WRA	**Warramunga Arr**	**15.77 158**	P		**P**	**21 02 02.3**	**+1.2**
	comp=Z,7.7nm,0.6s,baz=335,slow=12,SNR=69						
WRA			S		**S**	**21 04 48.0**	**-1.6**
	comp=Z,0.9nm,0.8s,baz=336,slow=19,SNR=4.1						
WB2	**Warramunga Arr**	**15.78 158**	P		**Pn**	**21 02 02.7**	**-1.2**
WB2			IAmb		IAmb	21 02 06.8	
	comp=Z,11nm,0.7s						
WR0	**Warramunga Arr**	**15.86 158**	P		**Pn**	**21 02 03.8**	**-1.1**
WR0			IAmb		IAmb	21 02 08.3	
	comp=Z,6.1nm,0.6s						
COEN	**Coen**	**17.06 122**	P		**P**	**21 02 17.7**	**+2.6**
COEN			IAmb		IAmb	21 02 18.5	
	comp=Z,5.1nm,0.6s						
COEN	**Coen**	**17.06 122**	P		**P**	**21 02 17.7**	**+2.6**
QIS	**Mount Isa**	**18.80 145**	P		**P**	**21 02 35.5**	**+1.9**
AS31	**Alice Springs**	**19.11 164**	P		**P**	**21 02 38.5**	**+1.6**
AS31			IAmb		IAmb	21 02 39.4	
	comp=Z,2.2nm,0.5s						
ASAR	**Alice Springs**	**19.12 164**	P		**P**	**21 02 38.4**	**+1.5**
	comp=Z,5.2nm,0.4s,baz=345,slow=12,SNR=66						
ASAR			S		**S**	**21 05 55.0**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=346,slow=19,SNR=13						
PMG	**Port Moresby**	**19.20 104**	P		**P**	**21 02 39.8**	**+2.0**
	comp=Z,6.1nm,0.7s,baz=270,slow=12,SNR=1.7						
WRKA	**Warakurna**	**19.69 180**	P		**P**	**21 02 44.5**	**+1.6**
BBOO	**Buckleboo**	**28.39 166**	P		**P**	**21 04 03.2**	**+1.9**
STKA	**Stephens Creek**	**29.30 156**	P		**P**	**21 04 11.5**	**+2.1**
STKA	**Stephens Creek**	**29.30 156**	P		**P**	**21 04 10.9**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=325,slow=11,SNR=5.5						
	comp=Z,0.7nm,0.3s						
MKAR	**Makanchi Array**	**65.81 327**	P		**P**	**21 08 47.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=115,slow=8.2,SNR=9.6						
	comp=Z,0.5nm,0.5s						
MAKZ	**Makanchi**	**65.99 327**	P		**P**	**21 08 47.3**	**-0.5**
MAKZ			IAmb		IAmb	21 09 27.5	
	comp=Z,4.6nm,1.4s						
ZALV	**Zalesovo Beam**	**69.25 334**	P		**P**	**21 09 07.4**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=147,slow=8.6,SNR=1.9						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**70.11 329**	P		**P**	**21 09 13.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=130,slow=5.3,SNR=6.7						
	comp=Z,0.4nm,0.7s						
BVAR	**Borovoye Array**	**75.66 328**	P		**P**	**21 09 44.9**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=131,slow=10,SNR=2.0						
	comp=Z,0.3nm,0.6s						
ABKAR	**Akbulak array**	**80.06 322**	P		**P**	**21 10 10.1**	**+0.7**
O16K	**Kokwok River B**	**86.30 29**	P		**P**	**21 10 42.8**	**+2.0**

IDC 22 21:19:50.5±10.0, 20°.37S×178°.67W, h537km±42km, mb3.0/3, mbtmp3.8/5, Error ellipse: s-maj=199.8km s-min=102.6km az=106.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.06**	**310**	P		21 21 11.9	-0.2
	2.7nm,0.4s,baz=139,slow=19,SNR=7.2						
DZM	**Mont Dzumac**	**13.99**	**260**	P		21 22 50.4	+0.6
	2.4nm,0.8s,baz=72,slow=20,SNR=1.4						
STKA	**Stephens Creek**	**37.28**	**244**	P		21 26 16.5	-0.5
	1.1nm,0.6s,baz=71,slow=7.4,SNR=1.7						
	1.1nm,0.6s						
ASAR	**Alice Springs**	**43.94**	**257**	P		21 27 10.2	-0.1
	1.3nm,0.5s,baz=98,slow=7.9,SNR=18						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**44.00**	**262**	P		21 27 10.5	-0.2
	0.9nm,0.5s,baz=97,slow=7.4,SNR=15						
	0.9nm,0.5s						

*CATAC **22** 21:27:07.7±0.9, 13°.82N×92°.78W, h9km±6km, ML4.0*
*IDC **22** 21:27:09.0±3.2, 14°.77N×92°.27W, h0km, mb3.8/6, mbtmp3.6/8, ML3.6/2, Error ellipse: s-maj=100.6km s-min=24.0km az=32.0*

ISC 22 21:27:05.6±1.0, 13°.82N±0°.08×92°.89W±0°.06, h10km, n20, σ1§24/28, mb3.9/6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMCA	**Catarina**	**1.30**	**37**	*i* P	**Pn**	**21 27 29.2**	**-0.7**
SMCA				*i* S	**Sb**	**21 27 46.9**	**-0.1**
SMCA				IAML		21 27 55.7	
	comp=Z,1μm,1.0s						
RTAL	**Retalhuleu**	**1.36**	**59**	*i* P	**Pn**	**21 27 30.9**	**+0.3**
RTAL				IAML		21 27 40.3	
	comp=Z,2μm,1.0s						
RTAL				*i* S	**Sn**	**21 27 49.3**	**+0.6**
QUEO	**Labor Ovalle**	**1.70**	**52**	*i* P	**Pn**	**21 27 35.8**	**+0.2**
QUEO				*i* S	**Sn**	**21 27 57.3**	**-0.2**
QUEO				IAML		21 28 08.0	
	comp=Z,4μm,1.0s						
SOKI	**Kika Raxquin**	**1.75**	**55**	*i* P	**Pn**	**21 27 36.9**	**+0.5**
SOKI				*i* S	**Sn**	**21 27 58.6**	**-0.5**
SOKI				IAML		21 28 08.2	
	comp=Z,1μm,1.0s						
HUEH	**Huehuetenango**	**2.01**	**42**	*i* P	**Pn**	**21 27 40.9**	**+1.1**
HUEH				IAML		21 28 17.7	
	comp=Z,2μm,1.0s						
ESSG	**Sabana Grande**	**2.08**	**74**	*i* P	**Pn**	**21 27 40.6**	**0.0**
ESSG				IAML		21 28 21.2	
	comp=Z,790nm,1.0s						
QUIS	**Sacapulas**	**2.28**	**50**	*i* P	**Pn**	**21 27 44.9**	**+1.5**
QUIS				IAML		21 27 48.2	
	comp=Z,1μm,1.0s						
QUIS				*i* S	**Sb**	**21 28 13.5**	**-1.7**
CCIG	**Comitan**	**2.56**	**16**	*i* P	**Pn**	**21 27 49.6**	**+2.3**
CCIG				*i* S	**Sn**	**21 28 20.1**	**+1.5**
CCIG				IAML		21 28 44.2	
	comp=Z,650nm,1.0s						
NUBE	**Las Nubes**	**3.02**	**88**	*i* P	**Pn**	**21 27 55.1**	**+1.4**
NUBE				*i* S	**Sn**	**21 28 29.8**	**-0.2**
NUBE				IAML		21 28 37.5	
	comp=Z,250nm,1.0s						
JAYA	**Jayaque - finc**	**3.35**	**92**	*i* P	**Pn**	**21 27 58.7**	**+0.5**
JAYA				*i* S	**Sn**	**21 28 37.7**	**-0.4**
JAYA				IAML		21 28 40.1	
	comp=Z,560nm,1.0s						
MTO3	**Montecristo**	**3.48**	**80**	*i* P	**Pn**	**21 28 00.8**	**+0.9**
MTO3				IAML		21 29 09.1	
	comp=Z,73nm,1.0s						
CMIG	**Matias Romero**	**3.78**	**330**	Pn	**Pn**	**21 28 02.9**	**-1.1**
	comp=Z,3.9nm,0.3s,baz=140,slow=12,SNR=28						
CMIG				Lg	Lg	21 28 55.8	
	comp=Z,11nm,0.3s,baz=141,slow=17,SNR=5.9						
	comp=Z,11nm,0.3s						
TXAR	**Lajitas Array**	**18.39**	**329**	P	**P**	**21 31 19.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=143,slow=12,SNR=4.1						
	comp=Z,0.1nm,0.6s						
PDAR	**Pinedale Array**	**32.24**	**337**	P	**P**	**21 33 33.4**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=128,slow=7.0,SNR=2.0						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**33.28**	**322**	P	**P**	**21 33 45.9**	**+2.3**
	comp=Z,0.9nm,0.7s,baz=134,slow=8.0,SNR=6.6						
	comp=Z,0.9nm,0.7s						
YKA	**Yellowknife Ar**	**51.01**	**347**	P	**P**	**21 36 07.0**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=131,slow=10.0,SNR=7.9						
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**60.37**	**344**	P	**P**	**21 37 15.0**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=117,slow=12,SNR=5.4						
	comp=Z,1.5nm,0.7s						
ILAR	**Eielson Array**	**62.67**	**337**	P	**P**	**21 37 31.8**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=114,slow=5.7,SNR=6.7						
	comp=Z,0.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**78.62**	**36**	P	**P**	**21 39 05.5**	**-2.1**
	comp=Z,0.9nm,0.6s,baz=280,slow=4.8,SNR=4.1						
	comp=Z,0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**145.88**	**340**	PKPbc	**PKPdf**	**21 46 47.1**	**+1.5**
	comp=Z,1.0nm,0.6s,baz=341,slow=2.7,SNR=8.2						

*IDC **22** 21:44:41.1±1.0, 53°.57N×109°.08E, h0km, mb3.7/8, mbtmp3.7/13, ML3.5/5, MS3.5/4, Error ellipse:*
s-maj=22.5km s-min=16.5km az=73.0
*MOS **22** 21:44:41.4±1.5, 53°.55N×109°.14E, h10km, mb4.2/3, Error ellipse: s-maj=8.5km s-min=5.9km az=61.0*
*BYKL **22** 21:44:44.3±0.1, 53°.56N×109°.10E, h24km±2km, FELT I=III-IV MSK at Gusiha, Barguzin.*

ISC 22 21:44:42.5±1.0, 53°.61N±0°.02×109°.04E±0°.02, h6km±7km, n90, σ2§11/175, mb3.7/9, MS3.2/3, 23C-3D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.39**	**207**	⇑*i*Pg	**Pb**	**21 44 52.5**	**+0.7**
MXMB				*e*Sg	**Sb**	**21 44 58.6**	**+0.6**
SYVR	**Suvo**	**0.58**	**85**	⇑*i*Pg	**Pg**	**21 44 55.0**	**+1.4**
	2μm,0.4s						
SYVR				⇑*i*Pg	**Pg**	**21 44 55.0**	**+1.4**
	6μm,0.4s						
SYVR				⇑*i*Pg	**Pg**	**21 44 55.0**	**+1.4**
	9μm,0.4s						
SYVR				Pmax		21 44 55.1	
	8μm,0.3s						
SYVR				*e*Sg	**Sg**	**21 45 02.9**	**+1.8**
SYVR				Smax		21 45 03.1	
	6μm,0.3s						
SYVR	**Suvo**	**0.58**	**85**	⇑*i*PG	**Pg**	**21 44 54.7**	**+1.1**
SYVR				*e*		21 45 02.6	
SYVR				pmax	pmax		
	comp=Z,9μm,0.4s						
SYVR				smax	smax		
	comp=N,6μm,0.4s						
GORB	**Goryachinsk**	**0.77**	**216**	⇑*i*Pg	**Pb**	**21 44 58.8**	**+0.5**
GORB				*e*Sg	**Sb**	**21 45 09.2**	**+0.2**
OGRR	**Ongureny**	**0.86**	**273**	⇑*i*Pg	**Pn**	**21 45 01.4**	**+0.2**
	comp=N,358nm,0.5s						
OGRR				⇓*i*Pg	**Pn**	**21 45 01.4**	**+0.2**
	comp=N,2μm,0.5s						
OGRR				⇑*i*Pg	**Pn**	**21 45 01.4**	**+0.2**
	comp=N,2μm,0.5s						
OGRR				Pmax		21 45 01.6	
	comp=N,1μm,0.4s						
OGRR				*e*Sg	**Sn**	**21 45 12.9**	**-1.2**
OGRR				Smax		21 45 13.9	
	comp=N,3μm,0.5s						
OGRR	**Ongureny**	**0.86**	**273**	⇑*i*PG	**Pn**	**21 45 01.4**	**+0.2**
OGRR				*e*		21 45 12.9	
OGRR				pmax	pmax		
	comp=Z,2μm,0.7s						
OGRR				smax	smax		
	comp=N,3μm,0.7s						
KELR	**Kotokel**	**1.02**	**214**	⇑*i*Pg	**Pg**	**21 45 03.0**	**+0.8**
KELR				*e*Sg	**Sg**	**21 45 16.5**	**+1.0**
YLYR	**Ulyunkhan**	**1.78**	**44**	⇑*i*Pn	**Pn**	**21 45 15.0**	**+1.1**
YLYR				⇑*i*Pg	**Pb**	**21 45 16.0**	**+0.4**
YLYR				Pmax		21 45 16.4	
	comp=N,1μm,0.3s						
YLYR				*e*Sg	**Sg**	**21 45 40.2**	**+0.5**
YLYR				*e*		21 45 47.7	
YLYR				max		21 45 49.7	
	comp=N,4μm,0.7s						
YLYR	**Ulyunkhan**	**1.78**	**44**	⇑*i*PN	**Pn**	**21 45 14.9**	**+1.1**
YLYR				*e*		21 45 16.0	
YLYR				*e*		21 45 40.3	
YLYR				pmax	pmax		
	comp=Z,1μm,0.4s						
YLYR				smax	smax		
	comp=E,4μm,1.7s						
TRG	**Tyrgan**	**1.83**	**243**	⇑*i*Pn	**Pn**	**21 45 15.1**	**+0.6**
TRG				⇑*e*Pg	**Pb**	**21 45 17.1**	**+0.7**
TRG				Pmax		21 45 18.0	
	comp=E,443nm,0.2s						
TRG				*e*Sg	**Sg**	**21 45 41.5**	**+0.3**
TRG				Smax		21 45 43.5	
	comp=E,2μm,0.2s						
TRG				*e*		21 45 46.3	
TRG	**Tyrgan**	**1.83**	**243**	⇑*i*PN	**Pn**	**21 45 15.2**	**+0.7**
TRG				*e*		21 45 38.1	
TRG				pmax	pmax		
	comp=Z,450nm,0.2s						
TRG				smax	smax		
	comp=N,2μm,0.2s						
UUDB	**Ulan-Yde**	**1.93**	**206**	*e*Pn	**Pn**	**21 45 16.4**	**+0.4**
UUDB				*e*Pg	**Pb**	**21 45 18.3**	**+0.1**
UUDB				Pmax		21 45 30.1	
	comp=N,293nm,0.7s						
UUDB				*e*Sn	**Sn**	**21 45 41.0**	**+0.4**
UUDB				*e*Sg	**Sb**	**21 45 43.6**	**+1.1**
UUDB				Smax		21 45 45.2	
	comp=N,3μm,0.6s						
UUDB				*e*SgSg	**SnSn**	**21 45 54.3**	**+3.0**
FFNB	**Fofonovo**	**2.08**	**222**	*e*Pn	**Pn**	**21 45 18.8**	**+0.8**
FFNB				*e*Pg	**Pb**	**21 45 21.5**	**+0.8**
FFNB				*e*Sn	**Sn**	**21 45 44.9**	**+0.6**
FFNB				*e*Sg	**Sg**	**21 45 48.8**	**-0.6**
KAB	**Kabansk**	**2.13**	**224**	*e*Pg	**Pb**	**21 45 22.2**	**+0.7**
KAB				Pmax		21 45 26.0	
	comp=N,770nm,0.6s						
KAB				*e*Sg	**Sb**	**21 45 49.9**	**+1.8**
KAB				Smax		21 46 03.4	
	comp=N,9μm,1.4s						
KAB	**Kabansk**	**2.13**	**224**	*e*PN	**Pb**	**21 45 22.9**	**+1.4**
KAB				*e*		21 45 50.2	
KAB				pmax	pmax		
	comp=Z,766nm,0.6s						
KAB				smax	smax		
	comp=N,7μm,0.6s						
STDB	**Stepnoy Dvoret**	**2.17**	**229**	*e*Pn	**Pn**	**21 45 20.1**	**+1.0**
STDB				*e*Pg	**Pg**	**21 45 23.7**	**-0.3**
STDB				*e*		21 45 48.0	
STDB				*e*Sg	**Sg**	**21 45 53.3**	**+1.2**
NIZB	**Nizh Angarsk**	**2.19**	**8**	*e*Pn	**Pb**	**21 45 21.6**	**-0.9**
NIZB				*e*Pg	**Pg**	**21 45 24.5**	**+0.1**
NIZB				*e*PgPg	**PnPn**	**21 45 32.0**	**+5.2**
NIZB				max		21 45 35.5	
	comp=N,367nm,0.5s						
NIZB				*e*Sg	**Sg**	**21 45 53.5**	**+0.7**
NIZB				Smax		21 45 54.1	
	comp=N,1μm,0.6s						
NIZB	**Nizh Angarsk**	**2.19**	**8**	⇑*i*PN	**Pb**	**21 45 21.6**	**-0.9**
NIZB				*e*		21 45 24.4	
NIZB				*e*S	**Sb**	**21 45 49.0**	**-0.9**
NIZB				*e*		21 45 53.1	
NIZB				pmax	pmax		
	comp=Z,159nm,0.4s						
NIZB				smax	smax		
	comp=E,1μm,0.4s						
HRMR	**Khuramsha**	**2.35**	**213**	*e*Pn	**Pn**	**21 45 22.5**	**+0.8**
HRMR				*e*Pg	**Pb**	**21 45 25.5**	**+0.2**
HRMR				*e*Sn	**Sn**	**21 45 51.2**	**+0.3**
HRMR				*e*Sg	**Sb**	**21 45 56.9**	**+2.3**
KMO	**Kumora**	**2.61**	**28**	*e*Pn	**Pn**	**21 45 27.0**	**+1.8**
KMO				*e*Pg	**Pb**	**21 45 31.1**	**+1.5**
KMO				*e*PgPg	**PbPb**	**21 45 36.5**	**+3.7**
KMO				max		21 45 39.1	
	comp=E,860nm,0.9s						
KMO				*e*Sg	**Sg**	**21 46 05.7**	**-0.5**
KMO				*e*SgSg	**SnSn**	**21 46 12.3**	**+4.2**
KMO				max		21 46 16.5	
	comp=E,4μm,1.0s						
KMO	**Kumora**	**2.61**	**28**	*e*PN	**Pn**	**21 45 26.8**	**+1.6**
KMO				*e*		21 45 31.7	
KMO				*e*		21 46 05.6	
KMO				pmax	pmax		
	comp=Z,273nm,0.3s						
KMO				smax	smax		
	comp=N,4μm,1.0s						
BGT	**Bolshoye Golou**	**2.70**	**236**	*e*Pn	**Pn**	**21 45 26.6**	**+0.1**
BGT				*e*Pg	**Pb**	**21 45 33.0**	**+1.8**
BGT				Pmax		21 45 39.2	
	comp=N,195nm,0.4s						
BGT				*e*Sn	**Sn**	**21 45 58.1**	**-1.4**
BGT				*e*Sg	**Sg**	**21 46 08.1**	**-1.1**
BGT				Smax		21 46 11.9	
	comp=N,616nm,0.3s						
BGT	**Bolshoye Golou**	**2.70**	**236**	*e*PN	**Pn**	**21 45 26.8**	**+0.3**
BGT				*e*		21 45 32.0	
BGT				*e*S	**Sn**	**21 45 58.3**	**-1.2**
BGT				*e*		21 46 07.2	
BGT				pmax	pmax		
	comp=Z,100nm,0.3s						
BGT				smax	smax		
	comp=N,648nm,0.7s						
YOAB	**Uoyan, Buryati**	**2.98**	**30**	*e*Pg	**Pb**	**21 45 38.0**	**+2.1**
YOAB				Pmax		21 45 45.9	
	comp=N,95nm,0.1s						
YOAB				*e*Sg	**Sg**	**21 46 17.5**	**-0.5**
YOAB				Smax		21 46 38.3	
	comp=N,6μm,1.0s						
LSTR	**Listvyanka**	**3.09**	**237**	*e*Pn	**Pn**	**21 45 32.4**	**+0.6**
LSTR				max		21 45 46.7	
	comp=N,154nm,0.6s						
LSTR				*e*Sn	**Sn**	**21 46 07.3**	**-1.8**
LSTR				*e*Sg	**Sb**	**21 46 19.1**	**+3.2**
LSTR				Smax		21 46 23.8	
	comp=N,476nm,0.9s						
LSTR	**Listvyanka**	**3.09**	**237**	⇑*i*PN	**Pn**	**21 45 32.5**	**+0.6**
LSTR				*e*		21 45 38.8	
LSTR				*e*S	**Sn**	**21 46 07.3**	**-1.8**
LSTR				*e*		21 46 18.9	
LSTR				pmax	pmax		
	comp=Z,136nm,0.7s						
LSTR				smax	smax		
	comp=N,479nm,0.6s						
CIT	**Chita**	**3.17**	**118**	*e*Pn	**Pn**	**21 45 32.4**	**-0.5**
CIT				*e*Pg	**Pb**	**21 45 40.1**	**+0.9**
CIT				Pmax		21 45 41.2	
	comp=N,507nm,0.3s						
CIT				*e*Sn	**Sn**	**21 46 09.0**	**-2.1**
CIT				*e*Sg	**Sb**	**21 46 20.7**	**+2.6**
CIT				*e*SgSg	**Sg**	**21 46 26.0**	**+1.8**
CIT				max		21 46 27.4	
	comp=N,6μm,0.2s						
CIT	**Chita**	**3.17**	**118**	*e*PN	**Pn**	**21 45 32.2**	**-0.7**
CIT				*e*		21 45 40.8	
CIT				*e*S	**Sn**	**21 46 11.0**	**-0.1**
CIT				*e*		21 46 19.6	
CIT				pmax	pmax		
	comp=Z,712nm,0.6s						
CIT				smax	smax		
	comp=E,7μm,0.8s						
IRK	**Irkutsk**	**3.19**	**247**	*e*Pn	**Pn**	**21 45 33.4**	**+0.2**
IRK				*e*Pg	**Pb**	**21 45 40.9**	**+1.3**
IRK				*e*PgPg	**PbPb**	**21 45 42.9**	**+0.2**
IRK				max		21 45 47.2	
	comp=E,339nm,0.4s						
IRK				*e*Sn	**Sn**	**21 46 10.6**	**-1.0**
IRK				*e*Sg	**Sg**	**21 46 22.6**	**-2.4**
IRK				Smax		21 46 27.4	
	comp=E,2μm,0.6s						
IRK	**Irkutsk**	**3.19**	**247**	*e*PN	**Pn**	**21 45 34.0**	**+0.8**
IRK				*e*		21 45 40.5	
IRK				*e*		21 46 21.4	
IRK				pmax	pmax		
	comp=Z,332nm,0.4s						
IRK				smax	smax		
	comp=N,2μm,0.7s						
UKT	**Uakit**	**3.27**	**53**	⇑*i*Pn	**Pn**	**21 45 35.4**	**+1.0**
UKT				*e*		21 45 41.4	
UKT				*e*		21 45 44.5	
UKT				max		21 45 46.0	
	comp=N,333nm,1.0s						
UKT				*e*Sg	**Sg**	**21 46 25.8**	**-1.7**
UKT				*e*		21 46 39.5	
UKT				max		21 46 41.2	
	comp=N,1μm,1.6s						
UKT	**Uakit**	**3.27**	**53**	⇑*i*PN	**Pn**	**21 45 35.4**	**+1.0**
UKT				*e*		21 45 41.4	
UKT				*e*		21 46 25.3	
UKT				pmax	pmax		
	comp=Z,327nm,1.0s						
UKT				smax	smax		
	comp=N,912nm,1.1s						
IVK	**Ivanovka**	**3.34**	**239**	*e*Pn	**Pn**	**21 45 36.0**	**+0.7**
IVK				*e*Pg	**Pb**	**21 45 44.2**	**+2.0**
IVK				Pmax		21 45 46.2	
	comp=N,282nm,0.7s						
IVK				*e*Sn	**Sn**	**21 46 14.2**	**-1.1**
IVK				*e*		21 46 26.1	
IVK				*e*Sg	**Sg**	**21 46 28.5**	**-1.3**
IVK				Smax		21 46 34.2	
	comp=N,2μm,0.7s						
IVK	**Ivanovka**	**3.34**	**239**	⇑*i*PN	**Pn**	**21 45 36.2**	**+0.9**
IVK				*e*		21 45 43.8	
IVK				*e*S	**Sn**	**21 46 14.0**	**-1.3**
IVK				*e*		21 46 26.6	
IVK				pmax	pmax		
	comp=Z,279nm,0.7s						
IVK				smax	smax		
	comp=N,2μm,0.9s						
SVKR	**Severomuysk**	**3.63**	**44**	*e*Pn	**Pn**	**21 45 40.4**	**+1.1**
SVKR				*e*Pg	**Pb**	**21 45 49.6**	**+2.5**
SVKR				Pmax		21 45 52.4	
	comp=N,381nm,0.6s						
SVKR				*e*Sg	**Sg**	**21 46 38.2**	**-0.7**
SVKR				Smax		21 46 51.6	
	comp=N,3μm,1.0s						
TLY	**Talaya**	**3.81**	**242**	⇑*i*Pn	**Pn**	**21 45 42.2**	**+0.5**
TLY				*e*		21 45 50.1	
TLY				⇑*e*Pg	**Pb**	**21 45 52.3**	**+2.2**
TLY				Pmax		21 45 58.0	
	comp=N,94nm,0.4s						
TLY				*e*Sn	**Sn**	**21 46 25.7**	**-1.1**
TLY				*e*		21 46 39.1	
TLY				*e*Sg	**Sg**	**21 46 42.0**	**-2.8**
TLY				Smax		21 46 51.7	
	comp=N,452nm,0.5s						
TLY	**Talaya**	**3.81**	**242**	*e*PN	**Pn**	**21 45 42.3**	**+0.5**
TLY				*e*		21 45 50.3	
TLY				*e*S	**Sn**	**21 46 25.1**	**-1.7**
TLY				*e*		21 46 39.4	
TLY				pmax	pmax		
	comp=Z,94nm,0.3s						
TLY				smax	smax		
	comp=E,452nm,0.5s						
ARS	**Arshan**	**4.36**	**250**	*e*Pn	**Pn**	**21 45 49.7**	**+0.4**
ARS				*e*		21 45 51.1	
ARS				*e*Pg	**Pb**	**21 46 02.3**	**+2.8**
ARS				Pmax		21 46 08.9	
	comp=E,77nm,0.2s						
ARS				*e*Sn	**Sn**	**21 46 38.7**	**-1.7**
ARS				*e*Sg	**Sg**	**21 46 58.6**	**-3.8**
ARS				Smax		21 47 07.9	
	comp=E,435nm,0.8s						
ARS	**Arshan**	**4.36**	**250**	*e*PN	**Pn**	**21 45 49.8**	**+0.4**
ARS				*e*		21 46 01.5	
ARS				*e*		21 46 57.5	
ARS				pmax	pmax		
	comp=Z,254nm,0.5s						
ARS				smax	smax		
	comp=E,2μm,0.7s						
KPC	**Khapcheranga**	**4.43**	**151**	⇓*i*Pn	**Pn**	**21 45 48.8**	**-1.5**
KPC				*e*Pg	**Pb**	**21 46 02.6**	**+1.9**
KPC				Pmax		21 46 08.2	
	comp=E,78nm,0.4s						
KPC				*e*Sn	**Sn**	**21 46 37.7**	**-4.5**
KPC				*e*Sg	**Sb**	**21 46 58.6**	**+4.2**
KPC				*e*SgSg	**SbSb**	**21 47 00.1**	**+0.6**
KPC				max		21 47 05.0	
	comp=E,888nm,0.7s						
KPC	**Khapcheranga**	**4.43**	**151**	*e*PN	**Pn**	**21 45 48.9**	**-1.4**
KPC				*e*		21 46 01.0	
KPC				*e*		21 46 58.1	
KPC				pmax	pmax		
	comp=Z,78nm,0.4s						
KPC				smax	smax		
	comp=E,900

BOD				Smax			21 47 27.5
	comp=E,373nm,1.0s						
BOD	**Bodaibo**	**5.07**	**32**	*e*PN		**Pn**	**21 46 00.1 +1.1**
BOD				*e*			21 46 15.2
BOD				*e*			21 47 20.6
BOD				pmax	pmax		
	comp=Z,45nm,0.8s						
BOD				smax	smax		
	comp=N,346nm,0.9s						
MOY	**Mondy**	**5.27**	**252**	*e*PN		**Pn**	**21 46 03.8 +1.9**
MOY				*e*			21 46 19.1
MOY				*e*S		**Sn**	**21 47 03.0 +0.1**
MOY				*e*			21 47 24.6
MOY				pmax	pmax		
	comp=Z,107nm,0.9s						
MOY				smax	smax		
	comp=N,485nm,1.3s						
ORL	**Orlik**	**5.66**	**263**	*e*Pn		**Pn**	**21 46 08.9 +1.6**
ORL				max			21 46 10.5
	comp=N,138nm,0.5s						
ORL				*e*Pg		**Pg**	**21 46 27.2 -3.8**
ORL				*e*Sn		**Sn**	**21 47 09.7 -3.0**
ORL				*e*Sg		**Sg**	**21 47 41.0 -3.3**
ORL				Smax			21 47 47.4
	comp=N,252nm,1.0s						
ULN	**Ulaanbaatar**	**5.88**	**193**	*e*Pn		**Pn**	**21 46 10.7 +0.4**
ULN				*e*Pg		**Pb**	**21 46 29.4 +3.8**
ULN				Pmax			21 46 32.6
	comp=N,57nm,0.8s						
ULN				*e*			21 46 47.4
ULN				*e*Sn		**Sn**	**21 47 15.5 -2.7**
ULN				*e*Sg		**Sg**	**21 47 45.3 -6.1**
ULN				Smax			21 47 51.7
	comp=N,1μm,2.3s						
ULN	**Ulaanbaatar**	**5.88**	**193**	*i* PN		**Pn**	**21 46 10.8 +0.4**
SONM	**Songino Array**	**6.02**	**197**	Pn		**Pn**	**21 46 12.6 +0.4**
	comp=N,5.9nm,0.3s,baz=14,slow=14,SNR=183						
SONM				Pg		**Pb**	**21 46 31.4 +3.6**
	comp=N,8.7nm,0.3s,baz=6.8,slow=16,SNR=14						
SONM				Sn		**Sn**	**21 47 16.8 -4.6**
	comp=N,7.4nm,0.3s,baz=0.9,slow=16,SNR=4.4						
SONM				Lg	Lg		21 47 51.4
	comp=N,47nm,0.3s,baz=5.1,slow=25,SNR=11						
	comp=N,9.2nm,0.3s						
VTMR	**Vitim**	**6.16**	**17**	*e*Pn		**Pn**	**21 46 14.5 +0.5**
VTMR				*e*			21 46 43.2
VTMR				*e*Sg		**Sg**	**21 47 56.6 -3.6**
VTMR				*e*			21 48 20.2
CRS	**Chara**	**6.22**	**54**	*e*Pn		**Pn**	**21 46 15.8 +0.9**
CRS				*e*Pg		Pb	21 46 36.8 +5.5
CRS				Pmax			21 46 40.8
	comp=N,117nm,1.1s						
CRS				*e*Sg		**Sg**	**21 47 57.9 -4.3**
CRS				Smax			21 48 19.5
	comp=N,425nm,1.4s						
CRS	**Chara**	**6.22**	**54**	*e*PN		**Pn**	**21 46 15.9 +1.0**
CRS				*e*			21 47 57.6
CRS				pmax	pmax		
	comp=Z,113nm,0.8s						
CRS				smax	smax		
	comp=E,231nm,0.9s						
TUP	**Tupik**	**6.49**	**78**	*e*Pn		**Pn**	**21 46 18.5 -0.1**
TUP				*e*Pg		**Pb**	**21 46 39.9 +4.1**
TUP				Pmax			21 46 43.7
	comp=E,43nm,0.8s						
TUP				*e*			21 47 40.3
TUP				*e*Sg		**Sg**	**21 48 03.3 -7.4**
TUP				Smax			21 48 10.2
	comp=E,927nm,1.0s						
TUP				*e*			21 48 17.7
TUP	**Tupik**	**6.49**	**78**	*e*PN		**Pn**	**21 46 18.4 -0.1**
TUP				*e*			21 46 39.9
TUP				*e*S		**Sn**	**21 47 30.6 -2.2**
TUP				*e*			21 48 04.7
TUP				pmax	pmax		
	comp=Z,43nm,0.8s						
TUP				smax	smax		
	comp=N,929nm,1.0s						
KHNR	**Khani**	**7.08**	**58**	*e*Sg		**Sg**	**21 48 23.5 -6.1**
YKLR	**Yuktali**	**7.83**	**62**	*e*Pn		**Pn**	**21 46 37.4 +0.5**
YKLR				*e*Pg		Pb	21 47 04.6 +6.0
YKLR				*e*			21 48 17.3
YKLR				*e*Sg		**Sg**	**21 48 46.4 -7.3**
HIA	**Hailar**	**7.97**	**119**	*i* PN		**Pn**	**21 46 36.3 -2.6**
CLNS	**Chul'man**	**9.62**	**64**	*e*Sg		Sn	21 49 41.2 +51
KRAR	**Krasnoyarsk**	**9.64**	**291**	*i* P		**Pn**	**21 47 01.8 +0.2**
YAK	**Yakutsk**	**13.81**	**44**	Lg	Lg		21 51 54.3
	comp=N,1.9nm,0.3s,baz=151,slow=22,SNR=5.9						
YAK	**Yakutsk**	**13.81**	**44**	*i* P		**Pn**	**21 47 56.2 -2.3**
YAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BNX	**BinXian**	**14.23**	**116**	⇓P		**Pn**	**21 48 01.0 -3.5**
BNX				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ZALV	**Zalesovo Beam**	**14.31**	**281**	Pn		**Pn**	**21 48 05.7 +0.2**
	comp=Z,0.1nm,0.3s,baz=79,slow=10,SNR=8.8						
ZALV				Lg	Lg		21 52 07.9
	comp=Z,0.1nm,0.3s,baz=82,slow=21,SNR=3.9						
	comp=Z,2.4nm,0.8s						
ZALV	**Zalesovo Beam**	**14.31**	**281**	*e*P		**Pn**	**21 48 06.9 +1.5**
KLR	**Kul'dur**	**14.81**	**98**	Sn		**Sn**	**21 50 55.0 -1.5**
	comp=Z,0.1nm,0.3s,baz=311,slow=20,SNR=1.1						
KLR				Lg	Lg		21 52 25.2
	comp=Z,0.4nm,0.3s,baz=18,slow=20,SNR=4.9						
KLR	**Kul'dur**	**14.81**	**98**	*i* P		**Pn**	**21 48 11.2 -1.1**
KLR				pmax	pmax		
	comp=Z,8.0nm,1.7s						
WMQ	**Urumqi**	**17.09**	**244**	*e*P		**P**	**21 48 47.3 +3.6**
WMQ				pmax	pmax		
	comp=Z,13nm,0.9s						
USRK	**Ussuriysk Ar.**	**17.71**	**113**	Lg	Lg		21 54 02.8
	comp=Z,0.1nm,0.3s,baz=333,slow=24,SNR=2.8						
USRK				LR	LR		21 56 17.7
	comp=Z,93nm,18.2s,baz=16,slow=39						
MK31	**Makanchi Array**	**18.36**	**259**	*i* P		**P**	**21 48 57.7 +0.1**
MKAR	**Makanchi Array**	**18.36**	**259**	P		**Pn**	**21 48 56.9 -0.6**
	comp=Z,0.1nm,0.3s,baz=66,slow=11,SNR=8.3						
MKAR				Lg	Lg		21 54 28.7
	baz=72,slow=37,SNR=2.3						
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**18.36**	**259**	*e*P		**Pn**	**21 48 57.5 -0.1**
NRIK	**Noril'sk**	**18.63**	**336**	P		**P**	**21 49 00.0 -0.5**
	comp=Z,0.3nm,0.3s,baz=145,slow=11,SNR=4.1						
	comp=Z,2.2nm,0.7s						
NRIK	**Noril'sk**	**18.63**	**336**	*e*P		**Pn**	**21 49 01.3 +0.6**
NRIK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
KURK	**Kurchatov**	**18.81**	**274**	P		**P**	**21 49 02.5 -0.1**
KURBB	**Kurchatov Arra**	**18.90**	**273**	P		**P**	**21 49 02.5 -1.1**
	comp=Z,0.2nm,0.3s,baz=66,slow=11,SNR=9.1						
	comp=Z,1.2nm,0.4s						
KSRS	**Korea Array**	**20.77**	**133**	LR	LR		21 58 03.5
	comp=Z,69nm,18.9s,baz=30,slow=39						
BVAR	**Borovoye Array**	**22.91**	**284**	P		**P**	**21 49 45.8 -1.1**
	comp=Z,2.4nm,0.5s,baz=81,slow=9.1,SNR=15						
	comp=Z,2.4nm,0.5s						
BRVK	**Borovoye**	**22.96**	**284**	*i* P		**P**	**21 49 46.9 -0.5**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
JNU	**Nakatsue**	**25.72**	**134**	LR	LR		22 01 35.4
	comp=Z,63nm,18.9s,baz=339,slow=40						
FINES	**FINESS Array B**	**42.32**	**315**	P		**P**	**21 52 37.3 +0.6**
	comp=Z,1.6nm,1.0s,baz=74,slow=12,SNR=4.2						
	comp=Z,1.6nm,1.0s						
FINES	**FINESS Array B**	**42.32**	**315**	*e*P		**P**	**21 52 38.2 +1.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.1s						
AKASG	**Malin Array Be**	**46.62**	**301**	P		**P**	**21 53 10.5 -0.6**
	comp=Z,0.2nm,0.4s,baz=359,slow=18,SNR=1.3						
	comp=Z,0.2nm,0.4s						
HFS	**Hagfors**	**48.13**	**318**	P		**P**	**21 53 22.5 -0.2**
	comp=Z,1.1nm,0.8s,baz=70,slow=14,SNR=4.0						
	comp=Z,1.1nm,0.8s						
ILAR	**Eielson Array**	**48.44**	**34**	P		**P**	**21 53 25.2 +0.1**
	comp=Z,0.2nm,0.6s,baz=288,slow=6.6,SNR=2.3						
	comp=Z,0.2nm,0.6s						
BRTR	**Keskin Array B**	**51.17**	**287**	P		**P**	**21 53 46.9 +0.6**
	comp=Z,0.7nm,0.7s,baz=45,slow=1.8,SNR=2.4						
	comp=Z,0.7nm,0.7s						
HNR	**Honiara**	**76.11**	**128**	LR	LR		22 25 17.1
	comp=Z,137nm,21.9s,baz=114,slow=32						
WRA	**Warramunga Arr**	**76.44**	**156**	P		**P**	**21 56 31.6 -1.1**
	comp=Z,0.9nm,0.7s,baz=320,slow=2.2,SNR=6.1						
	comp=Z,0.9nm,0.7s						
WRA	**Warramunga Arr**	**76.44**	**156**	*e*P		**P**	**21 56 32.3 -0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**79.91**	**157**	P		**P**	**21 56 51.0 -1.0**
	comp=Z,0.5nm,0.7s,baz=359,slow=5.5,SNR=6.5						
	comp=Z,0.5nm,0.7s						

*NAO **22** 21:52:59.5, 35°.82N×23°.29E, h10km, mb3.8*
*BEO **22** 21:53:13.8±5.1, 36°.70N×20°.29E, h96km±5km, ML3.5/13*
*IDC **22** 21:53:14.4±1.0, 37°.18N×20°.72E, h0km, mb3.6/9, mbtmp3.5/20, ML3.6/9, MS3.3/4, Error ellipse: s-maj=18.6km s-min=14.7km az=7.0*
*THE **22** 21:53:15.8, 37°.17N×20°.53E, h8km, ML3.7/4, Error ellipse: s-maj=1.2km s-min=0.5km az=68.0*
*ATH **22** 21:53:15.3, 37°.14N×20°.51E, h10km±2km, ML3.8/7, Error ellipse: s-maj=3.8km s-min=1.3km az=62.0*

ISC 22 21:53:17.3±1.2, 37°.22N±0°.04×20°.61E±0°.04, h26km±10km, n76, σ1°.77/83, mb3.6/9, MS3.2/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.47**	**21**	P	**Pb**	**21 53 26.2**	**-0.8**
KRI1				S	**Sb**	**21 53 34.0**	**+0.4**
LTHK	**Lithakia**	**0.52**	**21**	P	**Pb**	**21 53 27.0**	**-0.8**
LTHK				S	**Sb**	**21 53 35.5**	**+0.5**
	22μm,0.4s						
LTHK	**Lithakia**	**0.52**	**21**	P	**Pb**	**21 53 27.2**	**-0.6**
LTHK				S	**Sb**	**21 53 35.3**	**+0.4**
LTHK				AML	AML	21 53 36.4	
	comp=N,48192μm,0.3s						
LTHK				AML	AML	21 53 41.0	
	comp=E,40342μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.86**	**9**	P	**Pb**	**21 53 33.1**	**-0.5**
RTZL				S	**Sn**	**21 53 46.6**	**+1.1**
	comp=E,3μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.89**	**359**	P	**Pb**	**21 53 33.5**	**-0.5**
AMT	**Artemida-Makis**	**0.93**	**70**	P	**Pn**	**21 53 35.0**	**+0.3**
AMT	**Artemida-Makis**	**0.93**	**70**	P	**Pn**	**21 53 35.0**	**+0.3**
VLS	**Valsamata**	**0.95**	**359**	P	**Pb**	**21 53 34.4**	**-0.7**
VLS				S	**Sn**	**21 53 49.3**	**+1.5**
	comp=E,3μm,0.7s						
VLS	**Valsamata**	**0.95**	**359**	P	**Pb**	**21 53 34.2**	**-0.9**
VLS				S	**Sn**	**21 53 49.3**	**+1.5**
VLS				AML	AML	21 53 56.9	
	comp=E,4416μm,0.4s						
VLS				AML	AML	21 53 57.2	
	comp=N,6340μm,1.1s						
PYL	**PYLOS**	**0.96**	**110**	P	**Pb**	**21 53 34.5**	**-0.8**
PYL	**PYLOS**	**0.96**	**110**	P	**Pb**	**21 53 34.5**	**-0.8**
SMHA	**Samh**	**1.03**	**2**	P	**Pn**	**21 53 35.7**	**-0.2**
DMLN	**Damoulianata-K**	**1.03**	**350**	P	**Pb**	**21 53 35.9**	**-0.6**
DMLN	**Damoulianata-K**	**1.03**	**350**	P	**Pb**	**21 53 35.6**	**-0.9**
ITM	**Ithomi**	**1.05**	**92**	P	**Pb**	**21 53 36.6**	**-0.2**
ITM	**Ithomi**	**1.05**	**92**	P	**Pn**	**21 53 36.3**	**-0.1**
ITM				AML	AML	21 54 00.3	
	comp=N,7243μm,0.6s						
ITM				AML	AML	21 54 03.6	
	comp=E,8413μm,0.5s						
RLS	**Riolos of Patr**	**1.08**	**39**	P	**Pb**	**21 53 37.2**	**0.0**
RLS	**Riolos of Patr**	**1.08**	**39**	P	**Pb**	**21 53 37.0**	**-0.2**
DRO	**Drossia**	**1.14**	**50**	P	**Pb**	**21 53 38.1**	**-0.2**
DRO	**Drossia**	**1.14**	**50**	P	**Pb**	**21 53 38.1**	**-0.2**
DRO				AML	AML	21 54 04.4	
	comp=E,9229μm,0.6s						
DRO				AML	AML	21 54 06.8	
	comp=N,10776μm,0.4s						
FSK	**Fiskardo**	**1.23**	**358**	P	**Pn**	**21 53 39.1**	**+0.2**
FSK				S	**Sb**	**21 53 57.4**	**+2.0**
	comp=N,3μm,0.6s						
FSK	**Fiskardo**	**1.23**	**358**	P	**Pn**	**21 53 39.1**	**+0.2**
FSK				S	**Sb**	**21 53 57.1**	**+1.7**
FSK				AML	AML	21 54 05.2	
	comp=E,5216μm,0.5s						
FSK				AML	AML	21 54 12.6	
	comp=N,5560μm,0.6s						
KLV	**Kalavryta, Ach**	**1.47**	**56**	P	**Pb**	**21 53 43.6**	**-0.4**
KLV	**Kalavryta, Ach**	**1.47**	**56**	P	**Pb**	**21 53 44.0**	**0.0**
KLV				AML	AML	21 54 14.9	
	comp=N,1569μm,0.6s						
KLV				AML	AML	21 54 18.6	
	comp=E,2125μm,0.7s						
MAKR	**Makrakomi, Fth**	**2.15**	**33**	P	**Pb**	**21 53 55.3**	**-0.3**
MAKR	**Makrakomi, Fth**	**2.15**	**33**	P	**Pb**	**21 53 55.3**	**-0.3**
FNA	**Florina**	**3.60**	**9**	*e*Pn	**Pn**	**21 54 13.7**	**+2.2**
OHR	**Ohrid**	**3.88**	**2**	*e*Pn	**Pn**	**21 54 16.7**	**+1.3**
OHR	**Ohrid**	**3.88**	**2**	*i* Pn	**Pn**	**21 54 19.9**	**+4.5**
IDI	**Anoyia**	**3.96**	**118**	Pn	**Pn**	**21 54 16.8**	**+0.4**
	comp=E,11nm,1.1s,baz=4.0,slow=7.3,SNR=1.5						
IDI				Sn	**Sn**	**21 55 03.9**	**+1.7**
	comp=E,2.8nm,0.3s,baz=104,slow=16,SNR=3.8						
SRS	**Serrai**	**4.53**	**30**	*e*Pn	**Pn**	**21 54 25.8**	**+1.7**
PEHC	**Pehcevo**	**4.88**	**21**	*i* Pn	**Pn**	**21 54 29.6**	**+0.5**
VAE	**Valguarnera**	**4.94**	**275**	Pn	Pn	21 54 34.0	+4.1
	comp=E,14nm,0.7s,baz=185,slow=4.8,SNR=8.6						
VAE				Sn	**Sn**	**21 55 26.4**	**+0.1**
	comp=E,1.9nm,0.3s,baz=32,slow=22,SNR=1.7						
BOSS	**Bosilegrad**	**5.46**	**15**	*e*Pn	**Pn**	**21 54 36.7**	**-0.2**
BARS	**Barje**	**5.66**	**9**	*e*Pn	**Pn**	**21 54 40.8**	**+1.1**
VTS	**Vitosha**	**5.75**	**20**	*e*Pn	**Pn**	**21 54 42.8**	**+1.7**
SELS	**Selova**	**6.00**	**4**	*e*Pn	**Pn**	**21 54 44.9**	**+0.5**
SJES	**Sjenica**	**6.05**	**356**	*e*Pn	**Pn**	**21 54 45.7**	**+0.6**
SJES				*e*Sn	**Sn**	**21 55 49.9**	**-3.7**
ZAPS	**Zavoj**	**6.24**	**14**	*e*Pn	**Pn**	**21 54 50.0**	**+2.3**
IVAS	**Ivanjica**	**6.36**	**357**	*e*Pn	**Pn**	**21 54 49.5**	**+0.2**
BOVS	**Bovan**	**6.46**	**7**	*e*Pn	**Pn**	**21 54 51.3**	**+0.7**
GRUS	**Gruza**	**6.66**	**1**	*e*Pn	**Pn**	**21 54 54.6**	**+1.2**
ZAGS	**Zajecar**	**6.70**	**10**	*e*Pn	**Pn**	**21 54 55.9**	**+2.0**
BBLS	**Lazi&#263i**	**6.70**	**353**	*e*Pn	**Pn**	**21 54 54.7**	**+0.7**
DIVS	**Divibare**	**6.88**	**356**	*e*Pn	**Pn**	**21 54 57.2**	**+0.6**
DIVS				*e*Sn	**Sn**	**21 56 07.6**	**-6.5**
TRUS	**Trudelj**	**7.00**	**359**	*e*Pn	**Pn**	**21 54 58.9**	**+0.9**
TEKS	**Tekeris**	**7.36**	**354**	*e*Pn	**Pn**	**21 55 02.3**	**-0.8**
MLR	**Muntele Rosu**	**9.18**	**24**	Pn	**Pn**	**21 55 31.5**	**+3.4**
	comp=E,0.1nm,0.3s,baz=183,slow=20,SNR=1.9						
	comp=E,2.0nm,0.8s						
KEST	**Kesra**	**9.19**	**264**	Pn	**Pn**	**21 55 28.6**	**+0.3**
	comp=E,0.1nm,0.3s,baz=11,slow=6.1,SNR=5.7						
	comp=E,3.4nm,0.9s						
OBKA	**Obir**	**10.32**	**336**	*i* Pn	**Pn**	**21 55 46.4**	**+2.7**
	comp=E,0.5nm,0.3s						
OBKA				*e*Sn	**Sn**	**21 57 37.6**	**-0.8**
	comp=E,4.9nm,0.7s						
SOKA	**Soboth**	**10.32**	**338**	*i* Pn	**Pn**	**21 55 43.5**	**-0.1**
	comp=E,0.4nm,0.3s						
BRTR	**Keskin Array B**	**10.52**	**72**	Pn	**Pn**	**21 55 48.7**	**+2.3**
	comp=E,0.1nm,0.3s,baz=268,slow=14,SNR=1.9						
	comp=E,0.6nm,0.6s						
KBA	**Koelnbreinsper**	**11.22**	**334**	*e*Pn	Pn	21 56 01.0	+4.9
	comp=E,0.9nm,0.3s						
KBA				*e*Sn	**Sn**	**21 57 54.9**	**-5.7**
	comp=E,1.2nm,0.5s						
BIOA	**Bad Ischl, Aus**	**11.65**	**336**	*e*Pn	**Pn**	**21 56 04.0**	**+2.1**
	comp=E,1.0nm,0.3s						
LESA	**Schwarzleotal**	**11.76**	**333**	*i* Pn	Pn	21 56 10.8	+7.5
	comp=E,1.3nm,0.4s						
WATA	**Walderalm**	**12.11**	**329**	*e*Pn	P	21 56 15.4	-5.3
	comp=E,0.9nm,0.4s						
MOTA	**Moosalm**	**12.31**	**328**	*e*Pn	**P**	**21 56 18.5**	**-4.4**
	comp=E,0.4nm,0.3s						
DAVOX	**Davos/Dischmat**	**12.43**	**324**	Pn	**Pn**	**21 56 15.3**	**+2.7**
	comp=E,0.2nm,0.3s,baz=173,slow=19,SNR=2.8						
	comp=E,1.1nm,0.6s						
GERES	**GERESS Array B**	**12.66**	**339**	Pn	**Pn**	**21 56 15.8**	**+0.2**
	comp=E,0.1nm,0.3s,baz=122,slow=11,SNR=2.4						
	comp=E,0.2nm,0.3s						
MMAI	**Mount Meron Ar**	**12.82**	**105**	Pn	**Pn**	**21 56 16.1**	**-1.8**
	comp=E,0.7nm,0.3s,baz=274,slow=13,SNR=1.6						
	comp=E,0.8nm,0.4s						
EIL	**Elat**	**14.14**	**118**	Pn	**Pn**	**21 56 33.2**	**-2.7**
	comp=E,0.3nm,0.3s,baz=12,slow=19,SNR=3.5						
EIL				LR	LR	22 04 07.9	
	comp=E,50nm,18.1s,baz=301,slow=47						
	comp=E,1.8nm,0.5s						
AKASG	**Malin Array Be**	**14.82**	**22**	Pn	**Pn**	**21 56 46.4**	**+1.5**
	comp=E,0.7nm,0.3s,baz=196,slow=13,SNR=4.1						
	comp=E,0.1nm,0.2s						
CLL	**Collm**	**15.08**	**341**	*e*(PP)		21 57 05.0	
CLL				*ex*	x	21 57 10.0	
ESDC	**Sonseca Array**	**19.39**	**285**	P	**Pn**	**21 57 43.3**	**+0.8**
	comp=E,0.1nm,0.3s,baz=83,slow=8.6,SNR=3.8						
	comp=E,0.7nm,0.9s						
MDT	**Midelt**	**21.09**	**265**	LR	LR	22 07 23.5	
	comp=E,108nm,19.1s,baz=345,slow=40						
HFS	**Hagfors**	**23.35**	**351**	P	**P**	**21 58 23.7**	**+0.4**
	comp=E,1.2nm,0.5s,baz=158,slow=12,SNR=3.0						
	comp=E,1.2nm,0.5s						
EKA	**Eskdalemuir Ar**	**24.25**	**326**	P	**P**	**21 58 34.7**	**+2.7**
	comp=E,2.0nm,0.8s,baz=115,slow=10,SNR=3.8						
	comp=E,2.0nm,0.8s						
FINES	**FINESS Array B**	**24.49**	**6**	P	**P**	**21 58 35.6**	**+1.6**
	comp=E,2.0nm,0.8s,baz=181,slow=9.7,SNR=4.9						
	comp=E,2.0nm,0.8s						
NB2	**NORSAR Subarra**	**24.57**	**349**	P	**P**	**21 58 35.3**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=158,slow=9.3						
NOA	**NORSAR Array B**	**24.57**	**349**	P	**P**	**21 58 34.8**	**0.0**
	comp=Z,0.5nm,0.7s,baz=157,slow=9.0,SNR=6.1						
NOA				LR	LR	22 08 55.4	
	comp=Z,46nm,18.7s,baz=305,slow=38						
	comp=Z,0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.34**	**220**	P	**P**	**21 59 19.4**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=28,slow=9.5,SNR=4.1						
	comp=Z,0.2nm,0.5s						
BVAR	**Borovoye Array**	**37.69**	**49**	P	**P**	**22 00 31.9**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=251,slow=4.6,SNR=5.5						
	comp=Z,0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**42.75**	**53**	P	**P**	**22 01 11.9**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=280,slow=8.3,SNR=4.1						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**45.75**	**58**	P	**P**	**22 01 35.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=275,slow=7.1,SNR=8.2						
	comp=Z,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**46.28**	**47**	P	**P**	**22 01 39.4**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=298,slow=6.2,SNR=3.0						
	comp=Z,0.8nm,0.6s						
KSRS	**Korea Array**	**79.88**	**51**	LR	LR	22 45 25.0	
	comp=Z,38nm,19.1s,baz=15,slow=39						

TRN 22 22:02:19.1, 14°.68N×60°.84W, h118km, MD4.3, Near East of Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAM	**Ilet Lapin Mar**	**0.10**	**341**	*e*P	Pn	22 02 36.9	+1.6
ILAM				*e*S	Sn	22 02 49.0	+1.5
BIM	**Bigot**	**0.28**	**234**	*e*P	Pn	22 02 37.5	+1.7
BIM				*e*S	Sn	22 02 50.1	+1.8
SLBI	**Saint Lucia, B**	**0.67**	**191**	*e*P	Pn	22 02 38.9	+0.9
SLBI				*e*S	Sn	22 02 52.6	+0.4
SLAC	**Saint Lucia, A**	**0.78**	**184**	*e*P	Pn	22 02 40.1	+1.1
SLAC				*e*S	Sn	22 02 54.7	+0.8
DSLB	**Salisbury**	**0.94**	**323**	*e*P	Pn	22 02 42.2	+1.8
DSLB				*e*S	Sn	22 02 58.8	+2.3
TBG	**Guadaloupe-3**	**1.40**	**326**	*e*P	Pn	22 02 46.6	+1.3
TBG				*e*S	Sn	22 03 07.0	+1.9
SVB	**Belmont**	**1.46**	**196**	*e*P	Pn	22 02 47.2	+1.3
SVB				*e*S	Sn	22 03 07.9	+1.5
SVT	**Saint Vincent**	**1.55**	**195**	*e*P	Pn	22 02 48.0	+0.9
SVT				*e*S	Sn	22 03 09.3	+1.0
SVOC	**Richmond Hill,**	**1.56**	**194**	*e*P	Pn	22 02 48.2	+1.1
SVOC				*e*S	Sn	22 03 09.0	+0.5
BBGH	**Gun Hill**	**1.97**	**141**	*e*P	Pn	22 02 54.3	+2.1
BBGH				*e*S	Sn	22 03 18.8	+1.4
GCMP	**Grenada, Carri**	**2.25**	**195**	*e*P	Pn	22 02 56.4	+0.6
GCMP				*e*S	Sn	22 03 24.5	+0.8
MBFL	**Flemmings, Mon**	**2.44**	**327**	*e*P	Pn	22 02 59.3	+1.2
MBFL				*e*S	Sn	22 03 29.4	+1.2
ANBD	**Bethesda, Anti**	**2.52**	**339**	*e*P	Pn	22 02 60.0	+0.9
ANBD				*e*S	Sn	22 03 29.3	-0.4
GRW	**Mount Saint Ca**	**2.63**	**198**	*e*S	Sn	22 03 33.2	+0.7
GRGR	**Grenville**	**2.65**	**197**	*e*P	Pn	22 03 03.0	+2.1
GRGR				*e*S	Sn	22 03 34.7	+1.7
ANWB	**Willy Bob**	**3.11**	**343**	*e*P	Pn	22 03 07.9	+1.1
ANWB				*e*S	Sn	22 03 42.2	-1.4
SKI	**Saint Kitts**	**3.21**	**326**	*e*P	Pn	22 03 09.9	+1.8
TOSP	**Speyside**	**3.38**	**175**	*e*P	Pn	22 03 12.1	+1.8

ISC 22 22:03:22.6±1.0, 28°.91N±0°.06×113°.17W±0°.05, h17km, n7, σ0°.63/11, 1C, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAHB	**Baha de los**	**0.34**	**277**	*e*P	**Pg**	**22 03 29.9**	**+0.1**
BAHB				*e*S	**Sg**	**22 03 35.2**	**+0.5**
BAHB				IAML		22 03 35.5	
	comp=E,310nm,0.2s						
BAHB				IAML		22 03 35.7	
	comp=N,490nm,0.4s						
SFQB	**San Francisqui**	**0.57**	**151**	*e*P	**Pg**	**22 03 33.7**	**-0.2**
SFQB				*e*S	**Sg**	**22 03 41.3**	**-0.2**
SFQB				IAML		22 03 42.5	
	comp=E,134nm,0.5s						
SFQB				⇑*e*		22 03 42.5	
BKIRB	**Bahia

MARNC **Mare, Loyalty** 12.46 266 P **P** **22 16 38.4 +0.8**
FUNA **Funafuti** 12.66 350 P **P** **22 16 37.1 -2.7**
PINNC **Pines Island,** 13.03 261 P **P** **22 16 44.2 +0.7**
PINNC **Pines Island,** 13.03 261 P **P** **22 16 44.8 +1.3**
YATNC **Mamie plateau,** 13.52 263 P **P** **22 16 50.8 +2.2**
OUENC **Ouen Island, N** 13.58 262 P **P** **22 16 50.1 +0.9**
ONTNC **Ouen Toro** 13.93 262 P **P** **22 16 54.3 +1.5**
ONTNC **Ouen Toro** 13.93 262 P **P** **22 16 54.0 +1.2**
DZM **Mont Dzumac** 13.94 263 P **P** **22 16 53.4 +0.4**
DZM **Mont Dzumac** 13.94 263 *e*P **P** **22 16 52.5 -0.5**
comp=Z,98nm,0.8s
DZM *e*S **S** **22 19 20.3 +0.2**
comp=Z,111nm,1.1s
DZM **Mont Dzumac** 13.94 263 P **P** **22 16 51.5 -1.5**
comp=Z,29nm,0.7s,baz=84,slow=18,SNR=12
DZM S **S** **22 19 20.7 +0.6**
comp=Z,9.2nm,0.9s,baz=0.0,slow=19,SNR=1.9
NOUC **Port Laguerre** 14.07 263 P **P** **22 16 55.6 +1.4**
OUZ **Omahuta** 15.66 204 P **P** **22 17 11.1 +0.7**
KOUNC **Koumac, New Ca** 16.00 269 P **P** **22 17 14.1 +0.2**
KOUNC **Koumac, New Ca** 16.00 269 P **P** **22 17 15.9 +2.0**
WCZ **Waipu Caves** 16.04 201 P **P** **22 17 14.8 +0.7**
KUZ **Kuaotunu** 16.37 196 P **P** **22 17 17.5 +0.3**
KUZ **Kuaotunu** 16.37 196 P **P** **22 17 18.2 +1.0**
ABAZ **Army Bay** 16.49 199 P **P** **22 17 20.3 +2.0**
MXZ **Matakaoa Point** 16.64 189 P **P** **22 17 18.5 -1.1**
PUZ **Puketiti** 17.15 188 P **P** **22 17 23.4 -0.9**
PUZ S **S** **22 20 12.9 -2.7**
OPRZ **Ohinepanea** 17.22 193 P **P** **22 17 26.1 +1.2**
TWGZ **Tauwhareparae** 17.29 189 P **P** **22 17 26.0 +0.4**
TWGZ S **S** **22 20 16.9 -1.1**
TOZ **Tahuroa Road** 17.36 196 **P** **22 17 26.2 0.0**
TOZ **Tahuroa Road** 17.36 196 P **P** **22 17 27.2 +1.0**
URZ **Urewera** 17.51 191 P **P** **22 17 25.1 -2.5**
comp=Z,62nm,0.5s,baz=13,slow=4.1,SNR=65
URZ S **S** **22 20 15.1 -6.4**
comp=Z,26nm,0.8s,baz=274,slow=22,SNR=8.3
URZ **Urewera** 17.51 191 P **P** **22 17 24.7 -3.0**
URZ S **S** **22 20 15.5 -6.0**
MWZ **Matawai** 17.51 190 P **P** **22 17 25.0 -2.7**
MWZ S **S** **22 20 16.6 -5.0**
MKRZ **Makatiti** 17.52 193 P **P** **22 17 25.9 -2.0**
CNGZ **Carnagh Statio** 17.56 188 P **P** **22 17 28.3 +0.3**
TKGZ **Te Karaka** 17.57 189 P **P** **22 17 28.6 +0.5**
RAR **Rarotonga** 17.58 94 P **P** **22 17 27.7 -0.8**
comp=Z,38nm,0.9s,baz=252,slow=7.7,SNR=7.0
RAR **Rarotonga** 17.58 94 P **P** **22 17 29.3 +0.8**
TARZ **Mount Tarawera** 17.61 193 P **P** **22 17 29.2 +0.6**
HLRZ **Highlands Stat** 17.66 193 P **P** **22 17 29.8 +0.8**
RAGZ **Rawiri** 17.69 190 P **P** **22 17 28.5 -0.9**
RRRZ **Republican Roa** 17.71 193 P **P** **22 17 29.4 -0.1**
MUGZ **Murupara** 17.79 192 P **P** **22 17 28.9 -1.2**
HRRZ **Handcock Road** 17.80 193 P **P** **22 17 30.0 -0.4**
RIGZ **Rimuhau** 17.84 189 P **P** **22 17 31.1 +0.4**
RIGZ S **S** **22 20 25.4 -1.5**
RTZ **Ruatahuna** 17.88 191 **P** **22 17 29.7 -1.4**
RTZ **Ruatahuna** 17.88 191 P **P** **22 17 29.3 -1.9**
RTZ S **S** **22 20 22.0 -5.8**
TLZ **Tolley Road** 17.92 195 P **P** **22 17 33.1 +1.8**
SNGZ **Shannon Statio** 17.98 190 P **P** **22 17 32.0 +0.1**
PRGZ **Paritu Road** 18.04 189 P **P** **22 17 33.1 +0.6**
LUES **Luesalemba Tem** 18.11 303 P **P** **22 17 34.9 +1.4**
MTHZ **Maungataniwha** 18.14 191 P **P** **22 17 32.5 -1.0**
MTHZ S **S** **22 20 29.2 -2.6**
RAHZ **Arahi** 18.16 191 P **P** **22 17 33.1 -0.4**
RAHZ S **S** **22 20 28.2 -3.8**
KNZ **Kokohu** 18.16 189 P **P** **22 17 33.3 -0.3**
KNZ S **S** **22 20 29.7 -2.3**
MHGZ **Mahia Peninsul** 18.26 189 P **P** **22 17 35.2 +0.7**
HIZ **Hauiti** 18.26 197 P **P** **22 17 34.2 -0.3**
HIZ **Hauiti** 18.26 197 P **P** **22 17 36.7 +2.2**
RATZ **Rangitukua** 18.37 194 P **P** **22 17 34.0 -1.5**
NMHZ **Naumai** 18.38 191 P **P** **22 17 34.6 -1.1**
NMHZ S **S** **22 20 35.8 -0.1**
RITZ **Rihia Road** 18.46 194 P **P** **22 17 36.4 +0.1**
BKZ **Black Stump Fm** 18.51 192 P **P** **22 17 34.9 -1.9**
BKZ **Black Stump Fm** 18.51 192 P **P** **22 17 34.6 -2.3**
BKZ S **S** **22 20 32.8 -5.0**
BKZ **Black Stump Fm** 18.51 192 P **P** **22 17 38.0 +1.2**
ARHZ **Aropaoanui** 18.51 191 P **P** **22 17 37.7 +0.9**
ARHZ S **S** **22 20 38.1 +0.4**
NTVZ **North Tongarir** 18.62 194 P **P** **22 17 37.7 -0.2**
TMVZ **Te Maari** 18.63 194 P **P** **22 17 36.7 -1.2**
ETVZ **East Tongariro** 18.64 194 P **P** **22 17 37.2 -0.9**
TWVZ **Taurewa** 18.64 195 P **P** **22 17 37.7 -0.4**
WTVZ **West Tongariro** 18.65 194 P **P** **22 17 34.9 -3.3**
NNVZ **North Ngauruho** 18.66 194 P **P** **22 17 38.0 -0.4**
OTVZ **Oturere** 18.68 194 P **P** **22 17 36.7 -1.9**
NGZ **Ngauruhoe** 18.71 194 P **P** **22 17 38.5 -0.3**
SNVZ **South Ngauruho** 18.71 194 P **P** **22 17 38.2 -0.6**
MCNZ **McNeill Hill** 18.74 191 S **S** **22 20 40.7 -0.7**
KWHZ **Kaweka Forest** 18.77 192 P **P** **22 17 37.6 -1.7**
KWHZ S **S** **22 20 43.8 +1.7**
TUVZ **Tukino** 18.78 194 P **P** **22 17 37.3 -2.1**
TUVZ S **S** **22 20 44.1 +1.7**
WHVZ **Whangaehu Hut** 18.81 194 P **P** **22 17 39.0 -0.8**
TRVZ **Turoa** 18.84 194 P **P** **22 17 40.1 +0.1**
WNVZ **Wahianoa** 18.85 194 P **P** **22 17 39.2 -0.9**
WNVZ S **S** **22 20 41.5 -2.1**
CKHZ **Cape Kidnapper** 18.88 190 P **P** **22 17 39.5 -0.7**
KRHZ **Kereru** 18.99 192 P **P** **22 17 39.1 -2.1**
KRHZ S **S** **22 20 41.1 -4.5**
KAHZ **Kahuranaki** 19.05 191 P **P** **22 17 40.0 -1.7**
KAHZ S **S** **22 20 47.3 +0.8**
PXZ **Pawanui** 19.28 191 P **P** **22 17 42.6 -1.2**
PXZ S **S** **22 20 47.2 -2.9**
BFZ **Birch Farm** 20.02 191 P **P** **22 17 48.6 -1.9**
BFZ **Birch Farm** 20.02 191 P **P** **22 17 52.0 +1.5**
MRZ **Mangatainoka R** 20.13 193 P **P** **22 17 49.1 -2.4**
MSWZ **Moikau Station** 20.93 193 P **P** **22 17 57.1 -1.6**
SNZO **South Karori** 20.95 194 P **P** **22 17 57.8 -1.0**
TCW **Tory Channel** 20.95 195 P **P** **22 17 58.5 -0.4**
BHW **Baring Head** 21.00 194 P **P** **22 17 58.3 -1.0**
QRZ **Quartz Range** 21.07 199 P **P** **22 17 59.7 -0.3**
QRZ **Quartz Range** 21.07 199 P **P** **22 18 01.3 +1.3**
PLWZ **Palliser** 21.07 193 P **P** **22 17 59.5 -0.5**
TKNZ **Takaka Hill** 21.14 198 P **P** **22 17 58.9 -1.7**
NNZ **Nelson** 21.19 197 P **P** **22 18 00.5 -0.5**
TUWZ **Tuamarina** 21.24 196 P **P** **22 17 59.9 -1.6**
CMWZ **Cape Campbell** 21.48 195 **P** **22 18 01.7 -2.0**
BSWZ **Blackbirch Sta** 21.53 195 P **P** **22 18 03.4 -0.7**
MRNZ **Matariki Terra** 21.53 198 P **P** **22 18 02.7 -1.5**
THZ **Tophouse** 21.83 197 P **P** **22 18 06.0 -0.9**
DSZ **Denniston Nort** 22.13 199 P **P** **22 18 08.7 -0.9**
KHZ **Kahutara** 22.27 195 P **P** **22 18 08.4 -2.3**
KHZ **Kahutara** 22.27 195 P **P** **22 18 12.7 +2.0**
GVZ **Greta Valley S** 22.92 196 **P** **22 18 15.4 -1.1**
LTZ **Lake Taylor** 22.95 197 P **P** **22 18 14.6 -2.2**
INZ **Inchbonnie** 23.14 199 P **P** **22 18 16.9 -1.5**
AMCZ **Amberley** 23.21 196 P **P** **22 18 17.6 -1.5**
ALEG **Aligegeo Malai** 23.41 298 P **P** **22 18 23.5 +2.2**
OXZ **Oxford** 23.52 197 P **P** **22 18 19.8 -2.0**
OXZ **PcP** **22 21 50.1 +2.3**
MQZ **McQueen's Vall** 23.71 196 P **P** **22 18 21.9 -1.6**
TARA **Tarawa** 23.79 339 P **P** **22 18 24.3 -0.3**
RPZ **Rata Peaks** 24.16 199 P **P** **22 18 26.6 -0.9**
TATA **Tatamba Isabel** 24.35 298 P **P** **22 18 31.0 +1.4**
LBZ **Lake Benmore** 25.03 199 P **P** **22 18 33.2 -2.0**
JCZ **Jackson Bay** 25.21 202 P **P** **22 18 37.3 +0.4**
ODZ **Otahua Downs** 25.49 198 P **P** **22 18 38.6 -0.7**
WKZ **Wanaka** 25.79 201 P **P** **22 18 40.9 -1.1**
AUWSH **Wavell State H** 26.56 251 P **P** **22 18 50.6 +1.6**
MLZ **Mavora Lakes** 26.57 201 P **P** **22 18 49.1 +0.2**
DCZ **Deep Cove** 26.99 202 P **P** **22 18 52.3 -0.2**
TBI **Tubuai** 27.07 100 *e*S **S** **22 22 59.7 +6.4**
comp=Z,479nm,27.2s
TBI *e*sS sS 22 25 33.5 -6.1
comp=Z,2µm,26.5s
WHZ **Wether Hill Ro** 27.09 201 P **P** **22 18 53.9 +0.6**
TW1H **Toowoomba 1 Ha** 27.52 251 P **P** **22 18 59.5 +2.0**
PPT2 **Papeete2** 27.60 88 *e*S **S** **22 23 03.8 +1.8**
comp=Z,123nm,25.2s
PPT2 *e*sS sS 22 25 45.5 -3.2
comp=Z,572nm,25.5s
EIDS **Eidsvold** 28.14 255 P **P** **22 19 03.1 +0.3**
EIDS **Eidsvold** 28.14 255 P **P** **22 19 03.0 +0.2**
comp=Z,82nm,0.8s
EIDS **Eidsvold** 28.14 255 P **P** **22 19 03.2 +0.3**
ARMA **Armidale** 28.30 245 P **P** **22 19 05.2 +0.9**
comp=Z,43nm,1.2s
ARMA **Armidale** 28.30 245 P **P** **22 19 06.2 +1.9**

MGCD **Mangrove Creek** 29.42 239 P **P** **22 19 14.8 +1.0**
comp=Z,152nm,0.8s
MGCD **Mangrove Creek** 29.42 239 P **P** **22 19 16.3 +2.5**
PMOR **Pomariorio Ree** 29.80 83 *e*P **P** **22 19 19.1 +1.8**
comp=Z,69nm,1.2s
SYDH **Sydney Hard Ro** 29.87 238 P **P** **22 19 20.0 +2.3**
WOLH **Wollongong Har** 29.96 237 P **P** **22 19 19.9 +1.4**
VAH **Vaihoa** 29.98 84 *e*P **P** **22 19 20.7 +1.8**
comp=Z,44nm,1.0s
AUUHS **Ulladulla High** 30.58 236 P **P** **22 19 25.6 +1.8**
CNB **Canberra Magne** 31.43 236 P **P** **22 19 31.9 +0.7**
comp=Z,174nm,0.8s
CNB **Canberra Magne** 31.43 236 P **P** **22 19 32.9 +1.7**
CAN **Canberra** 31.71 236 P **P** **22 19 33.5 -0.1**
CAN **Canberra** 31.71 236 P **P** **22 19 33.7 +0.1**
comp=Z,79nm,0.9s
CAN **Canberra** 31.71 236 P **P** **22 19 34.9 +1.3**
CAN **Canberra** 31.71 236 P **P** **22 19 33.5 -0.1**
CAN pmax pmax
comp=Z,64nm,0.9s
CAN **Canberra** 31.71 236 P **P** **22 19 33.1 -0.4**
AUSMG **Snowy Mountain** 32.36 235 P **P** **22 19 39.6 +0.5**
TV1H **Townsville Har** 32.48 267 P **P** **22 19 42.1 +1.8**
CTAO **Charters Tower** 32.86 265 P **P** **22 19 43.8 +0.3**
CTAO **Charters Tower** 32.86 265 P **P** **22 19 43.9 +0.4**
CTAO **Charters Tower** 32.86 265 P **P** **22 19 43.8 +0.3**
CTAO pmax pmax
comp=Z,116nm,0.6s
CTAO **Charters Tower** 32.86 265 P **P** **22 19 43.6 0.0**
CTAO PcP **PcP** **22 22 11.6 -0.4**
CTAO sP **sP** **22 22 13.9 -3.6**
CMSA **Cobar Meteorol** 33.52 244 P **P** **22 19 49.1 +0.3**
comp=Z,95nm,0.8s
CMSA **Cobar Meteorol** 33.52 244 P **P** **22 19 51.1 +2.2**
QLP **Quilpie** 34.34 253 P **P** **22 19 56.0 +0.1**
comp=Z,142nm,0.9s
QLP **Quilpie** 34.34 253 P **P** **22 19 57.1 +1.3**
PMG **Port Moresby** 34.92 284 P **P** **22 20 00.7 -0.1**
PMG **Port Moresby** 34.92 284 P **P** **22 20 01.3 +0.5**
PMG **Port Moresby** 34.92 284 P **P** **22 20 00.9 +0.1**
PMG **Port Moresby** 34.92 284 P **P** **22 20 00.7 -0.1**
PMG pmax pmax
comp=Z,177nm,1.3s
PMG **Port Moresby** 34.92 284 P **P** **22 20 00.5 -0.3**
MTSU **Mount Surprise** 34.99 268 P **P** **22 20 01.4 0.0**
comp=Z,106nm,0.8s
MTSU **Mount Surprise** 34.99 268 P **P** **22 20 01.7 +0.3**
TOO **Toolangi** 35.09 234 P **P** **22 20 01.0 -1.0**
TOO IAmb IAmb 22 20 05.5
comp=Z,36nm,0.8s
TOO **Toolangi** 35.09 234 P **P** **22 20 02.6 +0.6**
comp=Z,54nm,0.9s
TOO **Toolangi** 35.09 234 P **P** **22 20 01.0 -1.0**
TOO pmax pmax
comp=Z,36nm,0.8s
BRAT **Ballarat** 36.27 235 P **P** **22 20 13.4 +1.7**
STKA **Stephens Creek** 37.02 245 P **P** **22 20 18.3 +0.3**
STKA **Stephens Creek** 37.02 245 P **P** **22 20 18.2 +0.3**
comp=Z,17nm,1.2s
STKA **Stephens Creek** 37.02 245 P **P** **22 20 17.4 -0.5**
comp=Z,55nm,0.8s,baz=89,slow=10,SNR=56
STKA S **S** **22 25 21.6 -3.3**
comp=Z,2.7nm,0.7s,baz=144,slow=21,SNR=2.8
comp=Z,55nm,0.8s
STKA **Stephens Creek** 37.02 245 P **P** **22 20 18.8 +0.8**
STKA **Stephens Creek** 37.02 245 P **P** **22 20 18.3 +0.3**
STKA pmax pmax
comp=Z,11nm,0.8s
COEN **Coen** 37.05 275 P **P** **22 20 18.5 0.0**
COEN **Coen** 37.05 275 P **P** **22 20 18.4 0.0**
comp=Z,95nm,1.0s
COEN **Coen** 37.05 275 P **P** **22 20 19.1 +0.7**
INKA **Innaminka** 37.47 252 P **P** **22 20 23.0 +1.3**
ARPS **Mount Arapiles** 37.69 237 P **P** **22 20 23.5 +0.2**
comp=Z,97nm,0.8s
ARPS **Mount Arapiles** 37.69 237 P **P** **22 20 25.2 +1.9**
MGBR **Mount Gambier** 38.89 236 P **P** **22 20 34.7 +1.6**
QIS **Mount Isa** 38.97 263 P **P** **22 20 33.4 -0.6**
comp=Z,26nm,1.1s
QIS **Mount Isa** 38.97 263 P **P** **22 20 35.2 +1.1**
AUMBR **Murray Bridge** 39.39 240 P **P** **22 20 39.7 +2.5**
HTT **Hallett** 39.45 243 P **P** **22 20 38.1 +0.4**
comp=Z,124nm,0.9s
HTT **Hallett** 39.45 243 P **P** **22 20 38.5 +0.8**
LCRK **Leigh Creek** 39.78 247 P **P** **22 20 41.5 +1.1**
WHYH **Whyalla** 40.52 244 P **P** **22 20 47.2 +0.9**
BBOO **Buckleboo** 41.77 244 P **P** **22 20 56.1 -0.1**
BBOO **Buckleboo** 41.77 244 P **P** **22 20 55.9 -0.3**
comp=Z,162nm,0.8s
BBOO **Buckleboo** 41.77 244 P **P** **22 20 56.9 +0.7**
OOD **Oodnadatta** 41.95 252 P **P** **22 20 59.2 +1.6**
WAKE **Wake Island** 42.63 339 P **P** **22 21 02.4 -0.5**
WAKE **Wake Island** 42.63 339 P **P** **22 21 02.5 -0.5**
WAKE PcP **PcP** **22 22 44.0 +1.5**
MULG **Mulgathing** 43.37 248 P **P** **22 21 09.2 +0.5**
WR0 **Warramunga Arr** 43.76 263 IAmb IAmb 22 21 14.8
comp=Z,49nm,0.8s
AS31 **Alice Springs** 43.83 257 IAmb IAmb 22 21 16.1
comp=Z,31nm,0.7s
ASAR **Alice Springs** 43.83 257 P **P** **22 21 12.4 0.0**
ASAR **Alice Springs** 43.83 257 P **P** **22 21 12.1 -0.3**
comp=Z,79nm,0.6s,baz=96,slow=7.7,SNR=160
ASAR PcP **PcP** **22 22 45.9 -0.9**
comp=Z,14nm,0.6s,baz=109,slow=4.1,SNR=9.2
ASAR ScP **ScP** **22 25 49.8 +3.2**
comp=Z,4.3nm,0.7s,baz=106,slow=4.2,SNR=7.2
ASAR S **S** **22 27 02.2 -1.8**
comp=Z,3.7nm,0.8s,baz=96,slow=15,SNR=9.3
comp=Z,79nm,0.6s
ASAR **Alice Springs** 43.83 257 P **P** **22 21 12.4 0.0**
WRAB **Tennant Creek** 43.94 263 P **P** **22 21 12.4 -0.9**
WRAB **Tennant Creek** 43.94 263 P **P** **22 21 12.4 -0.9**
WRAB pmax pmax
comp=Z,111nm,1.0s
WRA **Warramunga Arr** 43.95 263 P **P** **22 21 11.5 -1.9**
WRA **Warramunga Arr** 43.95 263 P **P** **22 21 12.4 -1.0**
comp=Z,54nm,0.6s,baz=97,slow=7.4,SNR=136
WRA PcP **PcP** **22 22 47.2 0.0**
comp=Z,8.4nm,1.0s,baz=92,slow=3.9,SNR=6.9
WRA ScP **ScP** **22 25 50.9 +3.8**
comp=Z,1.4nm,0.7s,baz=94,slow=3.6,SNR=3.3
WRA S **S** **22 27 03.1 -2.6**
comp=Z,5.6nm,1.0s,baz=98,slow=14,SNR=11
WRA PKIKP **PKiKP** **22 29 45.0 -1.5**
comp=Z,1.1nm,0.7s,baz=86,slow=0.7,SNR=4.6
comp=Z,54nm,0.6s
WRA **Warramunga Arr** 43.95 263 P **P** **22 21 11.5 -1.9**
WRA pmax pmax
comp=Z,8.0nm,0.9s
GENI **Genyem** 44.12 289 P **P** **22 21 15.9 +1.1**
KDU **Kakadu** 47.39 272 P **P** **22 21 40.6 +1.0**
FORT **Forrest** 48.54 247 P **P** **22 21 47.7 -0.3**
FORT **Forrest** 48.54 247 P **P** **22 21 50.0 +2.0**
MTN **Manton Dam** 48.60 271 P **P** **22 21 48.6 0.0**
WRKA **Warakurna** 48.76 255 P **P** **22 21 49.8 +0.1**
DRS **Darwin Rock St** 48.93 272 P **P** **22 21 51.5 +0.4**
SAUI **Saumlaki** 50.00 277 P **P** **22 21 59.0 +0.1**
SAUI **Saumlaki** 50.00 277 P **P** **22 22 00.3 +1.3**
FAKI **Fak Fak** 51.07 284 P **P** **22 22 05.5 -1.4**
FAKI IAmb IAmb 22 22 09.3
comp=Z,88nm,1.1s
FAKI **Fak Fak** 51.07 284 P **P** **22 22 07.7 +0.9**
FITZ **Fitzroy Crossi** 52.38 263 P **P** **22 22 16.2 0.0**
BNDI **Bandanaira** 52.57 281 P **P** **22 22 20.0 +2.4**
DRV **Dumont d'Urvil** 52.62 199 P **P** **22 22 17.6 +0.6**
KMBL **Kambalda** 53.80 246 P **P** **22 22 27.8 +1.7**
SOEI **Soe** 55.95 272 P **P** **22 22 43.9 +2.4**
PSA00 **Pilbara Seismi** 56.98 257 P **P** **22 22 47.5 -0.8**
PSA00 IAmb IAmb 22 22 50.8
comp=Z,52nm,1.1s
PSA00 **Pilbara Seismi** 56.98 257 IAmb IAmb 22 22 50.7
comp=Z,107nm,0.8s
PSA00 **Pilbara Seismi** 56.98 257 P **P** **22 22 48.6 +0.3**
TNTI **Ternate** 57.05 285 P **P** **22 22 49.2 +0.2**
TNTI **Ternate** 57.05 285 P **P** **22 22 50.2 +1.3**
SANI **Sanana** 57.13 282 P **P** **22 22 50.4 +0.9**
MBWA **Marble Bar** 57.17 258 P **P** **22 22 48.4 -1.2**
MBWA **Marble Bar** 57.17 258 P **P** **22 22 51.1 +1.5**
MBWA **Marble Bar** 57.17 258 P **P** **22 22 49.0 -0.6**
MEEK **Meekatharra** 57.19 251 P **P** **22 22 51.1 +1.4**
SBA **Scott Base** 57.26 184 P **P** **22 22 48.9 -0.4**
SBA IAmb IAmb 22 22 52.1
comp=Z,91nm,1.8s
SBA **Scott Base** 57.26 184 P **P** **22 22 48.9 -0.4**

SBA pmax pmax
comp=Z,91nm,1.8s
KLBR **Kellerberrin** 57.29 245 P **P** **22 22 51.2 +0.9**
NWAO **Narrogin (SRO)** 57.59 244 P **P** **22 22 52.5 +0.1**
NWAO IAmb IAmb 22 22 55.3
comp=Z,82nm,1.3s
NWAO **Narrogin (SRO)** 57.59 244 P **P** **22 22 53.9 +1.5**
NWAO **Narrogin (SRO)** 57.59 244 P **P** **22 22 52.5 +0.1**
NWAO pmax pmax
comp=Z,82nm,1.3s
MMRI **Maumere** 58.20 273 P **P** **22 22 56.5 -0.2**
MMRI **Maumere** 58.20 273 P **P** **22 22 59.1 +2.3**
BLDU **Ballidu** 58.29 246 P **P** **22 22 59.1 +2.0**
MUN **Mundaring** 58.56 245 P **P** **22 22 59.8 +0.9**
MORW **Morawa** 59.08 248 P **P** **22 23 02.3 -0.1**
MORW IAmb IAmb 22 23 04.6
comp=Z,40nm,0.8s
MORW **Morawa** 59.08 248 P **P** **22 23 04.8 +2.4**
LUWI **Luwuk** 60.48 281 P **P** **22 23 11.1 -0.8**
LUWI **Luwuk** 60.48 281 P **P** **22 23 13.8 +1.9**
CCD **Concordia, Ant** 61.76 194 P **P** **22 23 21.1 +1.3**
CCD PcP **PcP** **22 23 56.3 +1.6**
CCD pP **pwP** **22 25 10.4 -0.5**
KAPI **Kappang** 61.77 276 P **P** **22 23 20.3 -0.1**
KAPI **Kappang** 61.77 276 P **P** **22 23 21.5 +1.1**
KAPI **Kappang** 61.77 276 P **P** **22 23 20.3 -0.1**
KAPI pmax pmax
comp=Z,26nm,0.8s
GIRL **Giralia** 61.84 255 P **P** **22 23 20.8 0.0**
PLAI **Plampang** 62.30 271 P **P** **22 23 25.4 +1.5**
TOLI2 **Tolitoli** 63.16 283 P **P** **22 23 28.8 -0.7**
TOLI2 **Tolitoli** 63.16 283 P **P** **22 23 29.8 +0.4**
CASY **Casey** 63.19 205 P **P** **22 23 29.2 +0.5**
CASY IAmb IAmb 22 23 32.4
comp=Z,58nm,1.0s
CASY **Casey** 63.19 205 P **P** **22 23 31.2 +2.5**
JAGI **Jajag, Banyuwa** 65.81 270 P **P** **22 23 44.8 -1.4**
JAGI **Jajag, Banyuwa** 65.81 270 P **P** **22 23 47.4 +1.2**
MYLDM **Lahad Datu** 66.93 286 P **P** **22 23 55.0 +1.9**
MYLDM IAmb IAmb 22 24 15.1
comp=Z,42nm,0.9s
MYLDM **Lahad Datu** 66.93 286 P **P** **22 23 55.3 +2.2**
QSPA **South Pole Qui** 68.99 180 P **P** **22 24 05.9 +1.0**
comp=Z,14nm,0.7s,baz=20,slow=1.2,SNR=35
QSPA S **S** **22 32 27.6 +1.4**
comp=Z,0.6nm,0.5s,baz=255,slow=20,SNR=8.6
QSPA PKPPKP **P'P'df** **22 52 04.9 -5.6**
comp=Z,2.0nm,0.7s,baz=234,slow=1.3,SNR=6.5
comp=Z,14nm,0.7s
QSPA **South Pole Qui** 68.99 180 P **P** **22 24 06.1 +1.3**
QSPA PcP **PcP** **22 24 27.3 +2.7**
KKM **Kota Kinabalu** 69.35 285 P **P** **22 24 08.2 +0.3**
KKM **Kota Kinabalu** 69.35 285 P **P** **22 24 09.3 +1.4**
UGM **Wanagama** 69.38 269 P **P** **22 24 07.6 -0.4**
MJAR **Matsushiro Arr** 70.34 324 P **P** **22 24 12.5 -0.7**
comp=Z,19nm,0.9s,baz=156,slow=6.3,SNR=25
comp=Z,19nm,0.9s
MAJO **Matsushiro** 70.34 324 P **P** **22 24 13.2 0.0**
MAJO IAmb IAmb 22 24 15.8
comp=Z,26nm,0.8s
MAJO **Matsushiro** 70.34 324 P **P** **22 24 14.7 +1.5**
MAJO **Matsushiro** 70.34 324 P **P** **22 24 13.2 0.0**
MAJO pmax pmax
comp=Z,27nm,0.8s
MAJO **Matsushiro** 70.34 324 P **P** **22 24 12.9 -0.3**
MAJO PcP **PcP** **22 24 32.0 +1.4**
MJB9 **Matsu-Tunnel** 70.34 324 P **P** **22 24 13.4 +0.1**
MJB9 IAmb IAmb 22 24 15.8
comp=Z,26nm,0.8s
JMN **Monobe** 70.84 319 P **P** **22 24 17.6 +1.3**
KPJI **Karang Pucung** 71.06 269 P **P** **22 24 18.1 +0.2**
comp=Z,89nm,0.8s
STKI **Sintang** 71.31 278 P **P** **22 24 19.9 +0.5**
comp=Z,99nm,0.8s
SBUM **Sibu** 71.54 280 P **P** **22 24 21.4 +0.7**
SBUM **Sibu** 71.54 280 P **P** **22 24 23.0 +2.3**
BBJI **Bungbulang** 72.21 269 P **P** **22 24 26.0 +1.3**
JNU **Nakatsue** 72.31 317 P **P** **22 24 23.8 -1.0**
JNU IAmb IAmb 22 24 27.8
comp=Z,57nm,1.1s
JNU **Nakatsue** 72.31 317 P **P** **22 24 26.2 +1.4**
ADK **Adak** 72.67 1 P **P** **22 24 24.2 -2.1**
ADK **Adak** 72.67 1 P **P** **22 24 24.2 -2.1**
ADK pmax pmax
comp=Z,439nm,1.8s
KSM **Kuching** 72.92 278 P **P** **22 24 29.4 +0.6**
TWGBT **Beinan** 73.20 303 P **P** **22 24 31.8 +1.7**
TWG **Pinlang** 73.21 303 P **P** **22 24 29.1 -1.1**
TWG IAmb IAmb 22 24 31.5
comp=Z,46nm,0.7s
YULB **Yu-li** 73.34 304 P **P** **22 24 30.2 -0.7**
YULB IAmb IAmb 22 26 48.5
comp=Z,32nm,0.7s
NACB **Ninganchiao** 73.53 305 P **P** **22 24 31.4 -0.5**
NACB IAmb IAmb 22 24 34.2
comp=Z,66nm,1.0s
NACB **Ninganchiao** 73.53 305 P **P** **22 24 34.8 +2.9**
TPUB **Ta-pu** 73.81 303 P **P** **22 24 32.8 -0.9**
TPUB **Ta-pu** 73.81 303 P **P** **22 24 33.9 +0.3**
SSLB **Suanglung** 73.81 304 P **P** **22 24 32.8 -0.8**
SSLB **Suanglung** 73.81 304 P **P** **22 24 34.2 +0.6**
JKA **Kamikawa-asahi** 73.96 332 P **P** **22 24 34.7 +0.8**
ASAJ **Asahikawa** 73.96 332 P **P** **22 24 34.7 +0.7**
ASAJ pmax pmax
comp=Z,117nm,1.5s
UNV **Unalaska Valle** 75.34 7 P **P** **22 24 39.4 -2.1**
baz=192
YSS **Yuzh-Sakhalins** 76.16 334 *i*P **P** **22 24 47.3 +1.2**
YSS pmax pmax
comp=Z,39nm,1.2s
KNMB **Chin-men Tao** 76.16 303 P **P** **22 24 45.8 -0.9**
KNMB IAmb IAmb 22 26 50.7
comp=Z,78nm,1.0s
PET **Petropavlovsk** 76.39 346 *i*P **P** **22 24 48.7 +1.5**
PET pmax pmax
comp=Z,47nm,1.4s
PEA0B **Petropavlovsk-** 76.69 346 P **P** **22 24 48.4 -0.5**
PEA0B IAmb IAmb 22 24 51.7
comp=Z,106nm,1.5s
PEA0B **Petropavlovsk-** 76.69 346 P **P** **22 24 48.4 -0.5**
PEA0B pmax pmax
comp=Z,107nm,1.5s
PETK **Petropavlovsk-** 76.69 346 P **P** **22 24 48.7 -0.2**
PETK **Petropavlovsk-** 76.69 346 P **P** **22 24 47.8 -1.2**
comp=Z,17nm,0.9s,baz=125,slow=6.4,SNR=10
comp=Z,17nm,0.9s
PETK **Petropavlovsk-** 76.69 346 P **P** **22 24 48.7 -0.2**
FALS **False Pass** 76.74 9 P **P** **22 24 47.2 -1.9**
baz=194
KSRS **Korea Array** 76.94 319 P **P** **22 24 50.6 -0.1**
comp=Z,7.3nm,0.9s,baz=134,slow=5.9,SNR=14
comp=Z,7.3nm,0.9s
CNBA **Chernabura Isl** 77.33 11 P **P** **22 24 51.5 -0.9**
CNBA IAmb IAmb 22 24 54.6
comp=Z,74nm,1.3s
CHNA **Chernabura Isl** 77.34 11 P **P** **22 24 50.7 -1.7**
baz=198
MNAI **Manna** 77.66 270 P **P** **22 24 54.9 -0.3**
S12K **Black Hills** 77.76 9 P **P** **22 24 53.8 -0.9**
S12K IAmb IAmb 22 24 56.1
comp=Z,41nm,0.7s
SPIA **Saint Paul Isl** 78.27 5 P **P** **22 24 55.4 -2.0**
baz=188
SMAI **San Martin Ant** 78.27 159 P **P** **22 24 57.7 +0.3**
SMAI IAmb IAmb 22 27 41.6
comp=Z,143nm,2.0s
MSHR **Mys Shultsa** 78.45 325 *ce*P **P** **22 25 01.2 +2.5**
MSHR pmax pmax
comp=Z,77nm,1.0s
PSTR **Posyet** 78.69 324 *i*P **P** **22 24 58.7 -1.2**
SAO **San Andreas Ge** 78.84 43 P **P** **22 25 02.0 +1.0**
SAO **San Andreas Ge** 78.84 43 P **P** **22 25 02.0 +1.0**
SAO pmax pmax
comp=Z,24nm,1.0s
PMPB **Monarch Peak** 78.94 44 P **P** **22 25 01.8 +0.2**
BTDF **Bukit Timah Da** 78.94 276 P **P** **22 25 03.2 +1.2**
CHGN **Chignik** 78.95 11 P **P** **22 25 00.5 -0.4**
CHGN IAmb IAmb 22 25 06.2
comp=Z,41nm,0.8s
CHGN **Chignik** 78.95 11 P **P** **22 24 59.5 -1.5**
baz=199
MYKOM **Kota Tinggi** 79.03 276 P **P** **22 25 03.3 +0.8**
MYKOM IAmb IAmb 22 25 06.0
comp=Z,37nm,0.8s

MYKOM **Kota Tinggi** 79.03 276 P **P** 22 25 05.3 +2.9
CHIR **Chirikof Islan** 79.05 13 P **P** 22 24 59.9 -1.7
baz=202
BELA **Belgrano 2** 79.06 173 P **P** 22 25 01.9 +0.5
USA0B **Ussuriysk Arra** 79.12 326 P **P** 22 25 03.5 +1.3
USA0B IAmb IAmb 22 25 06.2
comp=Z,51nm,1.1s
USA0B **Ussuriysk Arra** 79.12 326 P **P** 22 25 03.5 +1.3
USA0B pmax pmax
comp=Z,51nm,1.2s
USRK **Ussuriysk Ar.** 79.12 326 P **P** 22 25 02.9 +0.7
USRK **Ussuriysk Ar.** 79.12 326 P **P** 22 25 02.5 +0.3
comp=Z,31nm,1.0s,baz=124,slow=1.7,SNR=25
comp=Z,31nm,1.0s
USRK **Ussuriysk Ar.** 79.12 326 P **P** 22 25 02.9 +0.7
HOPS **Hopland Field** 79.18 41 P **P** 22 25 03.8 +1.1
HOPS IAmb IAmb 22 25 06.8
comp=Z,40nm,0.9s
TYV **Tymovskoe** 79.33 336 *e*P **P** 22 25 05.3 +2.1
TYV pmax pmax
comp=Z,37nm,1.2s
TYV pmax pmax
comp=Z,500nm,4.3s
NJ2 **Nanjing** 79.81 310 ⇑P **P** 22 25 09.1 +3.0
NJ2 pmax pmax
comp=Z,34nm,1.0s
NJ2 pmax pmax
comp=Z,320nm,4.0s
ESJX **Sierra Juarez** 79.88 50 P **P** 22 25 07.4 +0.6
SII **Sitkinak Islan** 80.04 13 P **P** 22 25 06.4 -0.4
SII **Sitkinak Islan** 80.04 13 P **P** 22 25 05.0 -1.8
baz=203
O02D **Mt. Diablo Mer** 80.09 40 P **P** 22 25 08.1 +0.5
O02D IAmb IAmb 22 25 12.2
comp=Z,54nm,1.1s
ISA **Isabella, Lake** 80.15 46 P **P** 22 25 06.9 -1.1
ISA **Isabella, Lake** 80.15 46 P **P** 22 25 06.9 -1.1
ISA pmax pmax
comp=Z,35nm,1.5s
YUH **Yuha Desert** 80.24 50 P **P** 22 25 08.2 -0.2
CMB **Columbia Colle** 80.28 43 P **P** 22 25 08.6 +0.1
CMB **Columbia Colle** 80.28 43 P **P** 22 25 08.6 +0.1
CMB pmax pmax
comp=Z,24nm,1.4s
PFO **Pinyon Flats O** 80.39 48 *i*P **P** 22 25 09.9 +0.6
PFO pmax pmax
comp=Z,28nm,1.3s
AFDM **Forest Hills D** 80.45 42 P **P** 22 25 09.6 +0.2
ORV **Oroville** 80.49 41 P **P** 22 25 09.8 +0.3
ORV **Oroville** 80.49 41 P **P** 22 25 09.8 +0.3
ORV pmax pmax
comp=Z,24nm,1.2s
R17L **Mt. Peulik Vol** 80.59 12 P **P** 22 25 08.1 -1.5
baz=201,SNR=5.8
PLK4 **Peulik 4** 80.59 12 P **P** 22 25 09.6 -0.1
MDJ **Mudanjiang** 80.66 325 P **P** 22 25 10.3 0.0
MDJ **Mudanjiang** 80.66 325 P **P** 22 25 11.4 +1.1
MDJ pmax pmax
comp=Z,10.0nm,1.0s
MDJ pmax pmax
comp=Z,410nm,4.6s
MDJ **Mudanjiang** 80.66 325 P **P** 22 25 11.9 +1.6
MAW **Mawson** 80.82 200 P **P** 22 25 11.7 +0.9
MAW **Mawson** 80.82 200 P **P** 22 25 11.5 +0.7
comp=Z,20nm,0.9s,baz=136,slow=7.1,SNR=31
comp=Z,20nm,0.9s
MAW **Mawson** 80.82 200 P **P** 22 25 11.7 +0.9
OHAK **Old Harbor** 80.85 14 P **P** 22 25 10.7 -0.2
OHAK IAmb IAmb 22 27 08.5
comp=Z,148nm,2.0s
OHAK **Old Harbor** 80.85 14 P **P** 22 25 09.6 -1.3
baz=204
R18K **Karluk** 80.91 13 P **P** 22 25 09.9 -1.3
baz=203
YBH **Yreka Blue Hor** 81.10 39 P **P** 22 25 14.1 +1.3
YBH **Yreka Blue Hor** 81.10 39 P **P** 22 25 13.7 +0.9
comp=Z,25nm,1.0s,baz=211,slow=2.5,SNR=17
comp=Z,25nm,1.0s
YBH **Yreka Blue Hor** 81.10 39 P **P** 22 25 14.1 +1.3
YBH pmax pmax
comp=Z,20nm,0.9s
WAKR **Walker** 81.16 43 P **P** 22 25 14.5 +1.2
WAKR IAmb IAmb 22 25 17.5
comp=Z,36nm,1.1s
Q17K **Contact Creek** 81.27 12 P **P** 22 25 11.8 -1.4
baz=201,SNR=12
O14K **Tigyukauivet M** 81.30 9 P **P** 22 25 12.9 -0.3
O14K IAmb IAmb 22 28 09.4
comp=Z,100nm,1.6s
O14K **Tigyukauivet M** 81.30 9 P **P** 22 25 12.4 -0.8
baz=196
ACHA **Angle Creek He** 81.33 12 P **P** 22 25 13.1 -0.4
PNTR **Pine Nut** 81.40 42 P **P** 22 25 15.3 +0.8
PNTR IAmb IAmb 22 25 18.5
comp=Z,46nm,0.9s
O15K **Ungalikthiuk R** 81.45 10 P **P** 22 25 13.1 -0.9
baz=198
DSP **Deep Springs** 81.45 45 P **P** 22 25 14.9 +0.3
HUMO **Hull Mountain** 81.50 38 P **P** 22 25 15.8 +1.1
HUMO IAmb IAmb 22 25 19.3
comp=Z,57nm,1.2s
KDAK **Kodiak Island** 81.51 14 P **P** 22 25 14.2 -0.1
KDAK **Kodiak Island** 81.51 14 P **P** 22 25 13.4 -0.9
baz=204
KDAK **Kodiak Island** 81.51 14 P **P** 22 25 14.2 -0.1
KDAK pmax pmax
comp=Z,201nm,2.0s
Q16K **King Salmon** 81.52 11 P **P** 22 25 13.3 -1.0
baz=201
LHV **Little Huntoon** 81.61 44 P **P** 22 25 16.1 +0.9
P16K **Nushagak River** 81.61 11 P **P** 22 25 13.9 -0.9
baz=199
L04D **Klamath Falls** 81.64 39 P **P** 22 25 16.8 +1.2
L04D IAmb IAmb 22 25 19.6
comp=Z,47nm,1.0s
GRAC **Grapevine Rang** 81.64 45 P **P** 22 25 16.2 +0.6
GWY **Greenwater Val** 81.66 46 P **P** 22 25 16.4 +0.5
DBO **Dodson Butte** 81.66 38 P **P** 22 25 15.6 +0.1
DBO IAmb IAmb 22 25 53.6
comp=Z,119nm,1.7s
Q18K **Katmai Hardscr** 81.80 12 P **P** 22 25 14.6 -1.3
baz=202,SNR=11
RYN **Ryan** 81.81 43 P **P** 22 25 16.9 +0.3
RYN IAmb IAmb 22 25 20.6
comp=Z,60nm,1.8s
BLYC **Blythe** 81.82 49 P **P** 22 25 16.6 +0.1
NVAR **Mina Array Bea** 81.84 44 P **P** 22 25 17.1 +0.3
NVAR **Mina Array Bea** 81.84 44 P **P** 22 25 17.5 +0.7
comp=Z,14nm,0.9s,baz=226,slow=7.4,SNR=38
NVAR pP **pP** 22 27 13.6 +0.1
comp=Z,1.6nm,0.8s,baz=230,slow=8.2,SNR=4.1
NVAR PKKPbc **PKKPbc** 22 43 45.0 +0.6
comp=Z,1.5nm,0.7s,baz=93,slow=2.0,SNR=10
NVAR PKPPKP **P'P'df** 22 51 53.7 +6.7
comp=Z,1.8nm,0.9s,baz=79,slow=4.7,SNR=9.7
comp=Z,14nm,0.9s
113A **Mohawk Valley,** 81.85 50 P **P** 22 25 17.1 +0.4
GMN **Gold Mountain** 81.88 45 P **P** 22 25 17.2 +0.2
N14K **Kuskokwak Cree** 81.89 9 P **P** 22 25 15.1 -1.0
baz=196
PAHR **Pah Rah Range** 81.89 42 P **P** 22 25 16.9 0.0
NV11 **Mina Array Sit** 81.94 44 P **P** 22 25 17.3 +0.1
WCT **Wildcat Mounta** 82.02 46 P **P** 22 25 17.8 +0.2
MZP **Montezuma Peak** 82.03 45 P **P** 22 25 17.6 -0.2
P17K **Kvichak River** 82.04 11 P **P** 22 25 15.7 -1.2
baz=201,SNR=14
HSIG 82.06 55 P **P** 22 25 17.8 0.0
O16K **Kokwok River B** 82.13 10 IAmb IAmb 22 25 19.3
comp=Z,36nm,0.8s
O16K **Kokwok River B** 82.13 10 P **P** 22 25 15.7 -1.7
baz=199
K04D **Chiloquin, OR** 82.21 39 P **P** 22 25 18.0 -0.4
K04D IAmb IAmb 22 25 22.5
comp=Z,63nm,1.1s
WHN **Wuhan** 82.33 307 P **P** 22 25 21.9 +2.8
WHN pmax pmax
comp=Z,180nm,1.4s
KVN **Kaiserville** 82.33 43 P **P** 22 25 19.0 -0.2
KVN **Kaiserville** 82.33 43 P **P** 22 25 19.0 -0.2
KVN pmax pmax
comp=Z,27nm,1.1s
Q19K **Cape Douglas,** 82.34 13 P **P** 22 25 18.2 -0.3
Q19K **Cape Douglas,** 82.34 13 P **P** 22 25 17.6 -1.0
baz=203
TPH **Tonopah** 82.34 44 P **P** 22 25 19.5 +0.2
TPH pmax pmax
comp=Z,129nm,1.1s
N15K **Kwethluk River** 82.36 9 P **P** 22 25 17.5 -1.1
baz=197
TPNV **Topopah Spring** 82.36 46 P **P** 22 25 19.7 +0.3
TPNV **Topopah Spring** 82.36 46 P **P** 22 25 19.7 +0.3
TPNV pmax pmax
comp=Z,22nm,1.0s
J04A **Umpqua Nationa** 82.39 38 P **P** 22 25 19.1 -0.4
CN2 **Changchun** 82.41 323 P **P** 22 25 20.0 +0.8
CN2 pmax pmax
comp=Z,40nm,1.2s
P18K **Big Mountain,** 82.45 12 P **P** 22 25 18.7 -0.5
P18K IAmb IAmb 22 25 21.3
comp=Z,38nm,0.9s
P18K **Big Mountain,** 82.45 12 P **P** 22 25 17.0 -2.1
baz=202
O17K **Koliganek Bris** 82.47 11 P **P** 22 25 17.5 -1.6
baz=200
BNX **BinXian** 82.57 325 ⇓P **P** 22 25 19.4 -0.6
BNX pmax pmax
comp=Z,11nm,1.1s
IPM **Ipoh** 82.64 278 P **P** 22 25 21.0 -0.2
IPM **Ipoh** 82.64 278 P **P** 22 25 22.4 +1.3
V12A **Nelson** 82.64 47 P **P** 22 25 20.1 -0.6
M14K **Bethel** 82.65 8 P **P** 22 25 20.1 +0.1
M14K IAmb IAmb 22 25 23.4
comp=Z,46nm,0.9s
M14K **Bethel** 82.65 8 P **P** 22 25 19.3 -0.7
baz=196
KLR **Kul'dur** 82.73 330 *ce*P **P** 22 25 20.8 0.0
KLR pmax pmax
comp=Z,14nm,1.3s
M15K **Kasigluk River** 82.77 9 P **P** 22 25 19.8 -0.9
baz=197
UBPT **Khong Chiam** 82.78 289 P **P** 22 25 22.1 +0.3
Q09A **Carvers** 82.79 44 P **P** 22 25 21.3 -0.2
N16K **Nishlik Lake** 82.85 10 P **P** 22 25 19.8 -1.3
baz=198
SHPR **Sheep Range** 82.85 47 P **P** 22 25 22.2 +0.3
O18K **Koktuh Hills** 82.89 12 P **P** 22 25 20.3 -1.0
O18K **Koktuh Hills** 82.89 12 P **P** 22 25 19.4 -1.9
baz=202,SNR=11
J05D **Fort Rock, OR** 82.92 38 P **P** 22 25 22.6 +0.5
G03D **McMinnville, O** 82.97 36 P **P** 22 25 21.2 -0.8
W13A **Hualapai Mount** 82.98 48 P **P** 22 25 21.8 -0.8
Y14A **Wickenburg** 83.00 50 P **P** 22 25 22.7 +0.1
S11A **Rachel** 83.07 45 P **P** 22 25 22.6 -0.3
S11A IAmb IAmb 22 25 26.6
comp=Z,32nm,1.1s
P19K **Oil Pt** 83.09 13 P **P** 22 25 21.8 -0.5
P19K IAmb IAmb 22 25 24.7
comp=Z,50nm,0.8s
P19K **Oil Pt** 83.09 13 P **P** 22 25 20.6 -1.7
baz=204
L14K **Kuka Creek** 83.13 8 P **P** 22 25 22.1 -0.3
L14K IAmb IAmb 22 25 25.8
comp=Z,34nm,0.9s
L14K **Kuka Creek** 83.13 8 P **P** 22 25 21.4 -0.9
baz=195
N17K **Nushagak Hills** 83.16 10 P **P** 22 25 21.7 -0.9
baz=200
H04A **Detroit Lake** 83.24 37 P **P** 22 25 23.5 +0.1
H04A IAmb IAmb 22 25 26.9
comp=Z,35nm,1.2s
TIA **Tai'an** 83.24 313 P **P** 22 25 23.9 +0.3
TIA S **S** 22 35 01.5 +2.5
TIA pmax pmax
comp=Z,26nm,1.3s
KULM **Kulim** 83.28 278 P **P** 22 25 23.5 -0.9
KULM IAmb IAmb 22 25 28.2
comp=Z,38nm,0.8s
KULM **Kulim** 83.28 278 P **P** 22 25 25.7 +1.4
M16K **Timber Creek** 83.34 9 P **P** 22 25 24.2 +0.7
M16K **Timber Creek** 83.34 9 P **P** 22 25 22.4 -1.2
baz=198
O19K **Port Alsworth** 83.37 12 P **P** 22 25 22.7 -1.0
O19K **Port Alsworth** 83.37 12 P **P** 22 25 22.4 -1.3
baz=203,SNR=18
PINE **Pine Mountain** 83.39 38 P **P** 22 25 24.3 -0.2
PINE IAmb IAmb 22 25 28.8
comp=Z,63nm,1.1s
CNPM **China Poot** 83.40 14 P **P** 22 25 23.7 -0.1
CNPM IAmb IAmb 22 25 26.5
comp=Z,44nm,0.9s
ILSW **Iliamna Southw** 83.41 13 P **P** 22 25 23.0 -1.0
PRN **Pahroc Range** 83.41 46 P **P** 22 25 23.9 -0.7
PRN IAmb IAmb 22 25 28.9
comp=Z,28nm,1.0s
HOM **Homer** 83.43 13 P **P** 22 25 23.6 -0.3
K13K **Kusilvak Mount** 83.48 7 IAmb IAmb 22 25 27.7
comp=Z,32nm,1.0s
K13K **Kusilvak Mount** 83.48 7 P **P** 22 25 22.9 -1.2
baz=193
I05D **Terrebonne, OR** 83.50 37 P **P** 22 25 24.9 +0.2
I05D IAmb IAmb 22 25 28.8
comp=Z,36nm,1.0s
N18K **Kilae Creek** 83.53 11 P **P** 22 25 23.2 -1.3
baz=201
R11B **Troy Canyon, C** 83.57 45 P **P** 22 25 24.0 -1.4
R11B **Troy Canyon, C** 83.57 45 P **P** 22 25 23.0 -2.5
baz=237
O20K **Slope Mountain** 83.61 13 P **P** 22 25 23.4 -1.5
baz=204
L15K **Ungalak Mounta** 83.61 8 P **P** 22 25 23.5 -1.3
baz=196
BMN **Battle Mountai** 83.67 42 P **P** 22 25 25.8 -0.1
BMN **Battle Mountai** 83.67 42 P **P** 22 25 25.8 -0.1
BMN pmax pmax
comp=Z,21nm,1.0s
BRLK **Bradley Lake** 83.69 14 P **P** 22 25 24.7 -0.6
BRLK IAmb IAmb 22 25 27.9
comp=Z,38nm,0.8s
BRSE **Bradley Lake S** 83.70 14 P **P** 22 25 23.7 -1.6
baz=206
TUC **Tucson** 83.79 52 P **P** 22 25 26.7 +0.2
TUC **Tucson** 83.79 52 P **P** 22 25 26.7 +0.2
TUC pmax pmax
comp=Z,25nm,1.2s
F04A **Amboy** 83.89 36 P **P** 22 25 25.8 -0.8
F04A IAmb IAmb 22 25 30.3
comp=Z,45nm,1.3s
N19K **Bonanza Creek** 83.91 12 IAmb IAmb 22 25 28.4
comp=Z,19nm,0.8s
N19K **Bonanza Creek** 83.91 12 P **P** 22 25 25.9 -0.6
baz=202
L16K **Owhat River** 83.92 9 P **P** 22 25 25.3 -1.0
baz=198
HOOD **Mount Hood Mea** 83.93 36 P **P** 22 25 25.7 -1.3
HOOD IAmb IAmb 22 25 30.1
comp=Z,30nm,1.1s
RPSI **Rantau Prapat** 83.93 275 P **P** 22 25 26.6 -1.0
RPSI IAmb IAmb 22 25 30.2
comp=Z,48nm,1.0s
M17K **Holitna River** 83.94 10 P **P** 22 25 26.0 -0.4
M17K IAmb IAmb 22 25 30.4
comp=Z,49nm,1.1s
M17K **Holitna River** 83.94 10 P **P** 22 25 25.8 -0.7
baz=200
WVOR **Wild Horse Val** 83.94 40 P **P** 22 25 26.6 -0.5
WVOR IAmb IAmb 22 25 31.2
comp=Z,30nm,1.2s
WVOR **Wild Horse Val** 83.94 40 P **P** 22 25 26.6 -0.5
WVOR pmax pmax
comp=Z,30nm,1.2s
PSI **Prapat** 83.97 275 P **P** 22 25 27.1 -0.9
comp=Z,40nm,1.0s,baz=170,slow=4.7,SNR=23
comp=Z,40nm,1.0s
PSI **Prapat** 83.97 275 P **P** 22 25 28.8 +0.9
PSI **Prapat** 83.97 275 P **P** 22 25 26.6 -1.3
PSI pmax pmax
comp=Z,48nm,1.0s
G05A **Wamic** 84.07 37 P **P** 22 25 27.1 -0.5
G05A IAmb IAmb 22 25 30.9
comp=Z,67nm,1.4s
MA2 **Magadan** 84.19 345 P **P** 22 25 27.9 +0.1
MA2 **Magadan** 84.19 345 P **P** 22 25 27.9 +0.1
MA2 pmax pmax
comp=Z,241nm,1.9s
K15K **Wolf Creek Mou** 84.20 8 P **P** 22 25 27.8 0.0
K15K **Wolf Creek Mou** 84.20 8 P **P** 22 25 26.8 -0.9
baz=196
M18K **Stony River** 84.30 11 P **P** 22 25 27.4 -0.8
baz=201
SEW **Seward** 84.32 14 P **P** 22 25 27.2 -1.1
baz=207
ESPZ **Base Esperanza** 84.33 157 P **P** 22 25 29.8 +1.3
X16A **Lo Mia Camp, P** 84.36 50 P **P** 22 25 29.0 -0.4
J14K **Nanvaranak Lak** 84.40 7 P **P** 22 25 27.7 -1.0
baz=194
I07A **Izee** 84.40 38 P **P** 22 25 29.2 -0.1
I07A IAmb IAmb 22 25 33.4
comp=Z,36nm,1.2s
LCMT **Little Creek M** 84.42 47 P **P** 22 25 28.9 -0.7
Q12A **Willow Creek R** 84.44 45 P **P** 22 25 29.1 -0.6
319A **Douglas** 84.45 54 P **P** 22 25 29.3 -0.6
319A IAmb IAmb 22 25 34.6
comp=Z,44nm,1.1s
L17K **Donlin** 84.50 9 P **P** 22 25 28.3 -0.9
baz=199
J08A **Circle Bar Ran** 84.58 39 P **P** 22 25 29.8 -0.4
O22K **Cooper Landing** 84.59 14 P **P** 22 25 29.1 -0.6
O22K IAmb IAmb 22 25 37.3
comp=Z,53nm,1.1s
O22K **Cooper Landing** 84.59 14 P **P** 22 25 28.2 -1.4
baz=207
GSI **Gunungsitoli** 84.69 273 P **P** 22 25 31.8 +0.5
GSI **Gunungsitoli** 84.69 273 P **P** 22 25 32.5 +1.2
GNW **Green Mountain** 84.69 34 P **P** 22 25 30.0 -0.5
P23K **Montague Islan** 84.71 15 P **P** 22 25 29.1 -1.2
baz=209
N20K **Mount Spurr** 84.71 12 P **P** 22 25 28.5 -1.9
baz=205,SNR=5.8
SPCR **Spurr Chakacha** 84.71 12 P **P** 22 25 28.8 -1.6
baz=205
KNB **Kanab** 84.71 47 P **P** 22 25 31.2 +0.1
KNB IAmb IAmb 22 25 35.5
comp=Z,51nm,1.8s
KNB **Kanab** 84.71 47 P **P** 22 25 31.2 +0.1
KNB pmax pmax
comp=Z,51nm,1.8s
SPR3 **Spring Creek 3** 84.74 45 P **P** 22 25 29.9 -1.4
PSUT **Pine Spring** 84.81 45 P **P** 22 25 30.3 -1.3
L18K **Granite Mounta** 84.84 10 P **P** 22 25 31.4 +0.6
L18K IAmb IAmb 22 25 34.3
comp=Z,20nm,0.8s
L18K **Granite Mounta** 84.84 10 P **P** 22 25 29.8 -1.1
baz=200
D05A **Enumclaw** 84.90 35 P **P** 22 25 31.0 -0.5
D05A IAmb IAmb 22 25 35.8
comp=Z,60nm,1.3s
M19K **Big River Lodg** 84.94 11 P **P** 22 25 30.4 -1.0
baz=202
WUAZ **Wupatki** 84.96 49 P **P** 22 25 30.8 -1.5
K17K **Iditarod** 85.05 9 P **P** 22 25 31.0 -0.8
baz=199
ELK **Elko** 85.10 43 P **P** 22 25 31.9 -1.0
ELK **Elko** 85.10 43 P **P** 22 25 31.9 -1.0
ELK pmax pmax
comp=Z,5.0nm,0.8s
L19K **White Mountain** 85.11 11 P **P** 22 25 31.8 -0.4
L19K IAmb IAmb 22 25 35.2
comp=Z,42nm,1.2s
L19K **White Mountain** 85.11 11 P **P** 22 25 31.3 -0.9
baz=202
RC01 **Rabbit Creek A** 85.13 14 P **P** 22 25 32.4 +0.1
RC01 IAmb IAmb 22 25 34.9
comp=Z,44nm,1.1s
RC01 **Rabbit Creek A** 85.13 14 P **P** 22 25 31.3 -1.0
baz=207,SNR=10
M20K **Styx River** 85.16 12 P **P** 22 25 31.6 -0.9
baz=204
DUN6 **Lazy B Ranch** 85.16 53 P **P** 22 25 33.3 0.0
F07A **Phinny Hill Vi** 85.24 37 P **P** 22 25 33.3 +0.2
PWL **Port Wells** 85.25 14 P **P** 22 25 32.0 -0.9
PWL IAmb IAmb 22 25 35.2
comp=Z,42nm,0.9s
PWL **Port Wells** 85.25 14 P **P** 22 25 31.2 -1.7
baz=208
SUA **Susitna One** 85.25 13 P **P** 22 25 32.2 -0.9
SUA IAmb IAmb 22 25 35.2
comp=Z,28nm,0.8s
SUA **Susitna One** 85.25 13 P **P** 22 25 31.7 -1.3
baz=206,SNR=15
J16K **Anvik River** 85.27 8 IAmb IAmb 22 25 37.7
comp=Z,40nm,1.6s
J16K **Anvik River** 85.27 8 P **P** 22 25 32.1 -0.8
baz=197
PKCU **Pink Cliffs** 85.28 47 P **P** 22 25 33.0 -1.1
PKCU IAmb IAmb 22 25 38.7
comp=Z,29nm,1.1s
G08A **Pilot Rock** 85.43 38 P **P** 22 25 34.8 +0.5
G08A IAmb IAmb 22 25 38.1
comp=Z,50nm,1.2s
MXC **Moxie City** 85.45 36 P **P** 22 25 34.1 -0.1
SRIT **Nakonsritamara** 85.47 281 P **P** 22 25 35.8 +0.8
SRIT **Nakonsritamara** 85.47 281 P **P** 22 25 36.6 +1.5
X18A **Snowflake** 85.48 50 P **P** 22 25 34.1 -0.8
X18A IAmb IAmb 22 25 38.4
comp=Z,34nm,1.6s
HEH **HeiHe** 85.50 329 *e*P **P** 22 25 34.3 0.0
HEH pmax pmax
comp=Z,28nm,1.4s
HNS **HongShan** 85.52 313 ⇑P **P** 22 25 35.6 +0.9
HNS S **S** 22 35 16.1 -4.8
HNS pmax pmax
comp=Z,27nm,1.2s
GLI **Glacier Island** 85.55 15 P **P** 22 25 33.4 -1.0
GLI **Glacier Island** 85.55 15 P **P** 22 25 33.4 -1.0
baz=209
SKT **Skwentna** 85.56 12 P **P** 22 25 33.2 -1.1
SKT IAmb IAmb 22 25 36.7
comp=Z,83nm,2.0s
SKT **Skwentna** 85.56 12 P **P** 22 25 33.1 -1.3
baz=205
L20K **Farewell, AK** 85.56 11 P **P** 22 25 33.1 -1.3
baz=203
J17K **VABM Dome** 85.59 9 P **P** 22 25 34.5 +0.1
J17K **VABM Dome** 85.59 9 P **P** 22 25 33.4 -1.1
baz=198
FID **Port Fidalgo** 85.59 15 P **P** 22 25 34.2 -0.3
FID IAmb IAmb 22 25 37.0
comp=Z,38nm,1.1s
TTA **Tatalina** 85.61 10 P **P** 22 25 34.6 -0.1
TTA **Tatalina** 85.61 10 P **P** 22 25 33.6 -1.1
baz=201
TTA **Tatalina** 85.61 10 P **P** 22 25 35.9 +1.2
TTA **Tatalina** 85.61 10 P **P** 22 25 34.6 -0.1
TTA pmax pmax
comp=Z,23nm,1.2s
M22K **Willow** 85.64 13 P **P** 22 25 33.5 -1.2
LTY **Liberty** 85.65 35 P **P** 22 25 34.7 -0.6
E07A **Sunnyside** 85.68 36 P **P** 22 25 35.5 +0.1
E07A IAmb IAmb 22 25 39.2
comp=Z,29nm,1.0s
LYN **LuoYang** 85.68 309 *e*P **P** 22 25 37.0 +1.4
LYN pmax pmax
comp=Z,59nm,0.9s
MTPU **Mount Pierson** 85.68 47 P **P** 22 25 35.5 -0.4
KNK **Knik Glacier** 85.71 14 P **P** 22 25 34.6 -0.5
KNK IAmb IAmb 22 25 37.7
comp=Z,30nm,1.0s
KNK **Knik Glacier** 85.71 14 P **P** 22 25 33.9 -1.2
baz=208,SNR=5.6
PMR **Palmer** 85.72 14 P **P** 22 25 34.1 -0.9
PMR IAmb IAmb 22 25 37.6
comp=Z,67nm,1.4s
PMR **Palmer** 85.72 14 P **P** 22 25 33.8 -1.2
baz=207,SNR=11
PMR **Palmer** 85.72 14 P **P** 22 25 35.9 +0.8
PMR **Palmer** 85.72 14 P **P** 22 25 34.1 -0.9
PMR pmax pmax
comp=Z,67nm,1.4s
HAWA **Hanford** 85.76 37 P **P** 22 25 34.9 -0.8
HAWA IAmb IAmb 22 25 39.7
comp=Z,35nm,1.0s
ENH **Enshi** 85.89 304 P **P** 22 25 37.0 +0.2
ENH **Enshi** 85.89 304 P **P** 22 25 38.3 +1.6
BJT **Baijiatuau** 85.89 316 P **P** 22 25 37.5 +1.1
BJT IAmb IAmb 22 25 40.2
comp=Z,63nm,1.8s
BJT **Baijiatuau** 85.89 316 P **P** 22 25 38.0 +1.5
BJT **Baijiatuau** 85.89 316 P **P** 22 25 37.6 +1.1
BJT pmax pmax
comp=Z,63nm,1.8s
MVU **Marysvale** 85.89 46 P **P** 22 25 36.3 -0.5
BJI **Beijing** 85.90 316 P **P** 22 25 36.9 +0.4
BJI pmax pmax
comp=Z,8.0nm,1.5s

BJI pmax pmax
comp=Z,43nm,3.5s
GHO Glory Hole Cre 85.92 14 P **P 22 25 35.9 -0.2**
MSU Marysvale 85.92 46 P **P 22 25 36.7 -0.2**
MSU Marysvale 85.92 46 P **P 22 25 36.7 -0.2**
V35K Ketchikan 85.96 25 P **P 22 25 36.5 +0.1**
V35K Ketchikan 85.96 25 P **P 22 25 35.0 -1.3**
baz=223
U33K Whale Pass 85.96 24 P **P 22 25 34.8 -1.5**
baz=222
ZAIG Zacatecas 85.97 64 P **P 22 25 36.8 -0.8**
BERG Berg Lake 85.99 17 P **P 22 25 35.8 -0.7**
BERG IAmb IAmb 22 25 39.6
comp=Z,39nm,1.1s
ELIB Princess Elisa 86.00 187 *d*P **P 22 25 36.3 -0.4**
comp=Z,26nm,0.9s
J18K Innoko River 86.00 10 P **P 22 25 36.0 -0.5**
J18K IAmb IAmb 22 25 39.3
comp=Z,22nm,1.1s
J18K Innoko River 86.00 10 P **P 22 25 35.4 -1.0**
baz=200
E08A Dider Farm, El 86.08 37 P **P 22 25 37.5 +0.3**
E08A IAmb IAmb 22 25 40.5
comp=Z,25nm,1.1s
SML Sawmill 86.08 14 P **P 22 25 36.2 -0.7**
SML Sawmill 86.08 14 P **P 22 25 36.2 -0.7**
baz=208
121A Cookes Peak, D 86.12 53 P **P 22 25 36.6 -1.4**
BMO Blue Mountains 86.13 39 P **P 22 25 37.2 -0.4**
BMO Blue Mountains 86.13 39 P **P 22 25 37.2 -0.4**
BMO pmax pmax
comp=Z,12nm,1.2s
MFID Camas Ranch 86.20 41 P **P 22 25 37.9 -0.1**
MFID IAmb IAmb 22 25 41.7
comp=Z,38nm,1.4s
M23K Glacier View 86.21 14 P **P 22 25 36.6 -0.9**
baz=209
BMRM Bremner River 86.25 16 P **P 22 25 36.1 -1.7**
baz=212
PPLA Purkeypile 86.26 12 P **P 22 25 35.6 -2.3**
baz=204
MESA MESA 86.29 17 P **P 22 25 35.3 -2.8**
baz=214
SCM Sheep Creek Mo 86.33 14 P **P 22 25 37.5 -0.6**
SCM Sheep Creek Mo 86.33 14 P **P 22 25 35.9 -2.2**
baz=209,SNR=13
SCM Sheep Creek Mo 86.33 14 P **P 22 25 37.5 -0.6**
K20K Telida 86.34 11 P **P 22 25 38.0 -0.1**
K20K IAmb IAmb 22 25 40.9
comp=Z,53nm,1.4s
K20K Telida 86.34 11 P **P 22 25 36.2 -1.9**
baz=203
DUG Dugway, Tooele 86.37 44 P **P 22 25 38.3 -0.6**
DUG Dugway, Tooele 86.37 44 P **P 22 25 38.3 -0.6**
DUG pmax pmax
comp=Z,5.0nm,1.2s
KLU Klutina 86.37 15 P **P 22 25 38.4 0.0**
KLU IAmb IAmb 22 25 41.1
comp=Z,38nm,1.2s
KLU Klutina 86.37 15 P **P 22 25 36.8 -1.6**
baz=210,SNR=7.1
H16K Elim 86.38 7 P **P 22 25 36.8 -1.4**
baz=195
GYA Guiyang 86.44 300 P **P 22 25 42.3 +2.8**
GYA pmax pmax
comp=Z,21nm,1.1s
CRQM Cirque 86.45 17 P **P 22 25 39.7 +0.9**
CRQM IAmb IAmb 22 25 41.8
comp=Z,39nm,1.1s
CRQE Cirque 86.46 17 P **P 22 25 36.8 -2.0**
baz=213
WRAK Wrangell Islan 86.48 24 P **P 22 25 37.0 -1.8**
baz=222
D08A Wollman Farm, 86.49 36 P **P 22 25 39.7 +0.6**
D08A IAmb IAmb 22 25 43.0
comp=Z,29nm,1.0s
G15K Niukluk 86.53 6 P **P 22 25 37.1 -1.7**
baz=194
TGL Tana Glacier 86.53 17 P **P 22 25 39.0 -0.2**
TGL IAmb IAmb 22 25 42.2
comp=Z,35nm,1.0s
SLVN Son La 86.59 294 P **P 22 25 39.9 -0.4**
SLVN Son La 86.59 294 P **P 22 25 42.7 +2.4**
E09A Wood Farm, Sta 86.60 37 P **P 22 25 39.6 -0.1**
E09A IAmb IAmb 22 25 43.8
comp=Z,43nm,1.3s
HMU Henry Mountain 86.61 47 P **P 22 25 38.6 -1.6**
BGU Big Grassy Mou 86.61 44 P **P 22 25 39.0 -1.0**
PNL Peninsula 86.61 19 P **P 22 25 37.7 -1.7**
baz=216
PNL Peninsula 86.61 19 P **P 22 25 41.0 +1.6**
J19K Poorman 86.67 10 P **P 22 25 39.2 -0.4**
J19K IAmb IAmb 22 25 42.7
comp=Z,38nm,1.6s
J19K Poorman 86.67 10 P **P 22 25 38.5 -1.1**
baz=201
PINM Pinnacle 86.71 18 P **P 22 25 38.2 -1.7**
baz=215
EPT El Paso 86.73 54 P **P 22 25 40.4 -0.4**
EPT IAmb IAmb 22 25 45.0
comp=Z,52nm,1.4s
TNA Tin City 86.75 4 P **P 22 25 38.7 -1.2**
baz=190
CAST Castle Rocks 86.76 12 P **P 22 25 37.9 -2.1**
CAST IAmb IAmb 22 25 41.3
comp=Z,32nm,0.9s
CAST Castle Rocks 86.76 12 P **P 22 25 38.5 -1.6**
baz=205,SNR=24
VRDI Verde Repeater 86.77 16 P **P 22 25 39.4 -1.0**
VRDI IAmb IAmb 22 25 43.3
comp=Z,64nm,1.4s
BCPM Bancas Point 86.77 18 P **P 22 25 39.5 -0.6**
BCPM IAmb IAmb 22 25 43.3
comp=Z,47nm,1.2s
F14K Arctic Creek 86.79 5 P **P 22 25 38.8 -1.3**
baz=191
N25K Chitina, Valde 86.80 16 P **P 22 25 39.9 -0.4**
N25K Chitina, Valde 86.80 16 P **P 22 25 39.1 -1.2**
baz=211,SNR=10
Q16A Castle Valley 86.81 46 P **P 22 25 39.8 -1.3**
GRNC Granite Creek 86.81 17 P **P 22 25 40.3 -0.2**
SEY Seymchan 86.81 347 *ce*P **P 22 25 39.5 -0.7**
SEY pmax pmax
comp=Z,60nm,2.3s
F10A Beach Ranch, E 86.81 38 P **P 22 25 40.2 -0.6**
M24K Tolsona, Glenn 86.84 15 P **P 22 25 40.4 -0.1**
M24K IAmb IAmb 22 25 43.7
comp=Z,24nm,0.8s
M24K Tolsona, Glenn 86.84 15 P **P 22 25 39.2 -1.3**
baz=210
GLB Gilahina Butte 86.86 16 P **P 22 25 39.7 -0.8**
GLB IAmb IAmb 22 25 43.4
comp=Z,73nm,1.6s
WAT6 Susitna Watana 86.90 14 P **P 22 25 39.1 -1.8**
baz=209,SNR=16
WAT1 Susitna Watana 86.94 13 P **P 22 25 39.3 -1.6**
baz=208
H17K Granite Mounta 86.95 8 P **P 22 25 40.4 -0.5**
H17K Granite Mounta 86.95 8 P **P 22 25 39.5 -1.3**
baz=197
MCARA McCarthy VSAT 87.01 16 P **P 22 25 41.5 +0.2**
MCARA IAmb IAmb 22 25 45.0
comp=Z,39nm,1.1s
MCARA McCarthy VSAT 87.01 16 P **P 22 25 40.1 -1.2**
baz=213,SNR=8.5
PLID Pearl Lake 87.03 39 P **P 22 25 41.6 -0.4**
PLID IAmb IAmb 22 25 45.6
comp=Z,55nm,1.5s
B08A Colville Reser 87.03 35 P **P 22 25 41.0 -0.8**
B08A IAmb IAmb 22 25 44.8
comp=Z,33nm,1.1s
J20K Nowinta River 87.09 10 P **P 22 25 40.7 -0.8**
J20K IAmb IAmb 22 25 44.3
comp=Z,46nm,1.6s
J20K Nowinta River 87.09 10 P **P 22 25 40.5 -1.0**
baz=203
LLLB Lillooet 87.09 32 P **P 22 25 41.6 -0.3**
P29M Windy Craggy 87.09 19 IAmb IAmb 22 25 45.4
comp=Z,24nm,0.9s
P29M Windy Craggy 87.09 19 P **P 22 25 40.3 -1.4**
baz=218
R32K Eaglecrest 87.09 22 P **P 22 25 40.1 -1.5**
baz=220
LOGN Logan Glacier 87.09 17 P **P 22 25 41.6 -0.3**
LOGN IAmb IAmb 22 25 44.9
comp=Z,44nm,1.1s

G16K Koyuk River 87.10 7 P **P 22 25 40.9 -0.7**
G16K Koyuk River 87.10 7 P **P 22 25 39.8 -1.7**
baz=195
KTH Kantishna Hill 87.10 12 P **P 22 25 39.7 -2.0**
KTH IAmb IAmb 22 25 43.2
comp=Z,26nm,0.9s
CTG Chitna Glacier 87.11 17 P **P 22 25 40.5 -1.4**
baz=214
CTGM Chitina Glacie 87.11 17 P **P 22 25 41.5 -0.4**
CTGM IAmb IAmb 22 25 44.9
comp=Z,25nm,0.8s
TRF Thorofare Moun 87.14 12 P **P 22 25 40.0 -2.0**
baz=206
CHUM Lake Minchumin 87.14 11 P **P 22 25 39.7 -2.0**
baz=204,SNR=10.0
HLID Hailey 87.14 41 P **P 22 25 42.2 -0.3**
TROLL Troll, Antarti 87.15 180 ⇑P **P 22 25 41.8 -0.3**
comp=Z,577nm,0.6s
TROLL ⇑pP **pP 22 27 44.6 +3.6**
comp=Z,398nm,0.9s
F15K North Star Dit 87.17 6 P **P 22 25 40.2 -1.6**
baz=193
SPUT South Promonto 87.18 44 P **P 22 25 42.4 -0.3**
GCSA Galena City Sc 87.19 9 P **P 22 25 41.0 -1.0**
baz=200,SNR=5.3
HVU Hansel Valley 87.22 43 P **P 22 25 42.3 -0.6**
HVU Hansel Valley 87.22 43 P **P 22 25 42.3 -0.6**
HVU pmax pmax
comp=Z,28nm,1.6s
O28M Mount Upton 87.28 18 P **P 22 25 41.0 -1.9**
baz=215
C09A Chrisman Ranch 87.28 36 P **P 22 25 43.2 +0.3**
C09A IAmb IAmb 22 25 46.4
comp=Z,38nm,1.1s
CTU Camp Tracy 87.32 44 P **P 22 25 41.8 -1.6**
TLIG Tlapa 87.32 70 P **P 22 25 43.8 0.0**
TLIG IAmb IAmb 22 25 48.3
comp=Z,36nm,1.6s
HARP HAARP 87.34 15 P **P 22 25 41.4 -1.4**
baz=211,SNR=5.2
SRU San Rafael Swe 87.34 46 P **P 22 25 42.6 -1.0**
SRU IAmb IAmb 22 25 47.1
comp=Z,19nm,1.0s
SRU San Rafael Swe 87.34 46 P **P 22 25 42.6 -1.0**
SRU pmax pmax
comp=Z,19nm,1.0s
H18K Honhosa River 87.36 8 P **P 22 25 41.2 -1.6**
baz=199
O29M Mount Kennedy 87.37 19 P **P 22 25 43.1 0.0**
O29M IAmb IAmb 22 25 46.6
comp=Z,22nm,1.1s
O29M Mount Kennedy 87.37 19 P **P 22 25 41.6 -1.5**
baz=217
PLBC Pleasant Camp 87.39 20 P **P 22 25 41.3 -1.7**
baz=219
G17K Kiwalik Mounta 87.40 7 P **P 22 25 41.5 -1.4**
baz=197
DHY Denali Highway 87.42 14 P **P 22 25 41.8 -1.4**
DHY IAmb IAmb 22 25 45.7
comp=Z,44nm,1.5s
DHY Denali Highway 87.42 14 P **P 22 25 41.9 -1.4**
baz=209
SNAA Sanae 87.45 179 P **P 22 25 42.5 -0.9**
SNAA Sanae 87.45 179 ⇑P **P 22 25 41.2 -2.2**
comp=Z,78nm,0.6s
SNAA ⇑pP **pwP 22 27 44.5 +0.1**
comp=Z,41nm,0.7s
SNAA Sanae 87.45 179 P **P 22 25 43.1 -0.3**
comp=Z,3.6nm,0.7s,baz=211,slow=12,SNR=9.5
SNAA pP **pP 22 27 43.1 +0.8**
comp=Z,2.0nm,0.9s,baz=250,slow=7.2,SNR=3.0
SNAA S **SKSac 22 35 17.9 -0.9**
comp=Z,2.6nm,1.1s,baz=191,slow=22,SNR=6.4
comp=Z,3.6nm,0.7s
SNAA Sanae 87.45 179 *i* P **P 22 25 43.8 +0.4**
SNAA pmax pmax
comp=Z,14nm,1.6s
VHRN Van Horn 87.46 56 P **P 22 25 42.6 -1.7**
VHRN IAmb IAmb 22 25 48.5
comp=Z,23nm,1.0s
VHRN **pwP 22 27 48.1 +2.1**
JLU Jordanelle 87.47 45 P **P 22 25 43.8 -0.5**
BPAW Bear Paw Mtn. 87.59 12 P **P 22 25 42.9 -1.1**
BPAW Bear Paw Mtn. 87.59 12 P **P 22 25 42.6 -1.3**
baz=206
VNA3 Neumayer Olymp 87.60 176 ⇑P **P 22 25 43.6 -0.5**
comp=Z,32nm,0.8s
VNA3 ⇑pP **pwP 22 27 47.4 +2.0**
comp=Z,12nm,0.8s
I20K Naaghedeneel 87.61 10 IAmb IAmb 22 25 46.9
comp=Z,43nm,1.1s
I20K Naaghedeneel 87.61 10 P **P 22 25 43.0 -0.9**
baz=202
MCK McKinley 87.66 13 P **P 22 25 43.4 -0.9**
MCK McKinley 87.66 13 P **P 22 25 43.4 -0.9**
baz=208
MCK McKinley 87.66 13 P **P 22 25 43.4 -0.9**
MCK pmax pmax
comp=Z,51nm,1.0s
T35M Bob Quinn 87.68 24 P **P 22 25 43.2 -1.3**
baz=224
P30M Million Dollar 87.72 19 P **P 22 25 43.8 -0.9**
baz=218
SKAG Skagway 87.72 21 P **P 22 25 45.1 +0.5**
SKAG Skagway 87.72 21 P **P 22 25 44.0 -0.5**
baz=220
SKAG Skagway 87.72 21 P **P 22 25 45.7 +1.1**
BNM Barren Site 87.73 52 P **P 22 25 44.5 -1.1**
PAX Paxson 87.76 14 P **P 22 25 44.8 0.0**
baz=211,SNR=6.4
TCUT Toone Canyon 87.76 44 P **P 22 25 45.3 -0.3**
P18A Preston Nutter 87.78 46 P **P 22 25 45.2 -0.6**
YUK8 Steele Glacier 87.82 18 P **P 22 25 44.8 -0.5**
baz=216,SNR=18
TX31 Lajitas Ar. Si 87.85 58 P **P 22 25 45.8 -0.3**
TX31 IAmb IAmb 22 25 50.5
comp=Z,22nm,1.1s
TXAR Lajitas Array 87.85 58 P **P 22 25 46.6 +0.5**
TXAR Lajitas Array 87.85 58 P **P 22 25 46.9 +0.8**
comp=Z,12nm,0.9s,baz=217,slow=4.7,SNR=38
TXAR pP **pP 22 27 46.1 +1.1**
comp=Z,2.6nm,1.1s,baz=208,slow=5.1,SNR=6.2
TXAR PKKPbc **PKKPbc 22 43 29.5 -0.1**
comp=Z,1.8nm,0.7s,baz=113,slow=2.3,SNR=14
TXAR PKPPKP **P'P'df 22 51 34.8 -2.0**
baz=52,slow=21,SNR=1.5
comp=Z,12nm,0.9s
TXAR Lajitas Array 87.85 58 P **P 22 25 46.6 +0.5**
M26K Nabesna, AK 87.87 16 P **P 22 25 45.2 -0.1**
M26K IAmb IAmb 22 25 48.5
comp=Z,30nm,1.0s
M26K Nabesna, AK 87.87 16 P **P 22 25 45.2 -0.1**
baz=213
BSUT Blindstream Ca 87.89 45 P **P 22 25 46.3 -0.1**
BSUT IAmb IAmb 22 25 50.4
comp=Z,23nm,1.3s
HWUT Hardware Ranch 87.91 44 P **P 22 25 45.4 -0.8**
HWUT IAmb IAmb 22 25 51.4
comp=Z,30nm,1.9s
YUK6 Outpost Mounta 87.95 18 P **P 22 25 44.7 -1.2**
baz=217
H19K Roundabout Mou 87.98 9 IAmb IAmb 22 25 48.6
comp=Z,24nm,0.9s
H19K Roundabout Mou 87.98 9 P **P 22 25 45.8 +0.2**
baz=201
XLT XiLinHaoTe 88.00 319 *e*P **P 22 25 46.0 -0.4**
XLT pmax pmax
comp=Z,12nm,1.1s
XLT pmax pmax
comp=Z,150nm,7.8s
YUK3 Moose Creek 88.02 17 P **P 22 25 45.0 -1.2**
baz=215,SNR=38
S34M Telegraph Cree 88.02 23 P **P 22 25 46.3 +0.3**
S34M IAmb IAmb 22 25 50.1
comp=Z,33nm,0.9s
S34M Telegraph Cree 88.02 23 P **P 22 25 45.7 -0.3**
baz=223,SNR=6.5
G18K Tagagawik 88.03 8 P **P 22 25 45.1 -0.8**
baz=198
XAN Xi'an 88.03 308 ⇓P **P 22 25 47.1 +0.4**
XAN pmax pmax
comp=Z,52nm,1.1s
XAN pmax pmax
comp=Z,200nm,4.6s
VNA2 Neumayer--Watz 88.03 177 ⇑P **P 22 25 45.3 -0.8**
comp=Z,20nm,0.8s,baz=26,slow=1.7

VNA2 ⇑pP **pwP 22 27 49.5 +1.9**
comp=Z,20nm,0.8s,baz=48,slow=6.7
SRDT SRDT 88.06 286 P **P 22 25 50.1 +2.9**
HYT Haines Junctio 88.11 19 P **P 22 25 46.6 +0.1**
HYT IAmb IAmb 22 25 49.9
comp=Z,20nm,0.9s
HYT Haines Junctio 88.11 19 P **P 22 25 45.9 -0.6**
baz=218,SNR=6.8
NVL N'lazarevskaya 88.11 183 *e*P **P 22 25 47.7 +1.3**
NVL pmax pmax
comp=Z,17nm,0.7s
M27K Edge Creek, AK 88.12 16 P **P 22 25 45.6 -1.0**
baz=214
MENT Mentasta 88.15 15 P **P 22 25 46.3 -0.3**
MENT IAmb IAmb 22 25 49.6
comp=Z,17nm,0.8s
MENT Mentasta 88.15 15 P **P 22 25 48.0 +1.4**
NEW Newport 88.18 36 P **P 22 25 47.0 -0.1**
NEW Newport 88.18 36 P **P 22 25 46.3 -0.8**
comp=Z,5.8nm,0.9s,baz=234,slow=4.2,SNR=10.0
comp=Z,5.8nm,0.9s
NEW Newport 88.18 36 P **P 22 25 47.0 -0.1**
NEW pmax pmax
comp=Z,9.0nm,1.0s
YUK4 Talbot Arm 88.19 18 P **P 22 25 46.8 -0.2**
baz=217,SNR=6.2
H20K Anotleneega Mo 88.19 10 P **P 22 25 46.2 -0.5**
baz=202
ANMO Albuquerque 88.22 51 P **P 22 25 47.8 0.0**
ANMO IAmb IAmb 22 25 51.5
comp=Z,16nm,1.1s
ANMO Albuquerque 88.22 51 P **P 22 25 47.8 0.0**
ANMO pmax pmax
comp=Z,16nm,1.2s
F17K Baldwin Pennin 88.23 7 P **P 22 25 46.0 -0.8**
F17K IAmb IAmb 22 25 49.5
comp=Z,20nm,1.0s
F17K Baldwin Pennin 88.23 7 P **P 22 25 46.4 -0.4**
baz=196
VNA1 Neumayer--Stat 88.27 177 ⇑P **P 22 25 44.7 -2.4**
comp=Z,19nm,0.8s
VNA1 ⇑pP **pwP 22 27 50.9 +2.2**
comp=Z,14nm,1.0s
PV07 Paradox Valley 88.29 48 P **P 22 25 47.0 -1.1**
PV07 IAmb IAmb 22 25 51.4
comp=Z,24nm,1.5s
L26K Log Cabin Wild 88.31 15 P **P 22 25 47.2 -0.1**
L26K IAmb IAmb 22 25 50.3
comp=Z,18nm,1.1s
L26K Log Cabin Wild 88.31 15 P **P 22 25 46.7 -0.6**
baz=212,SNR=6.5
ALPN Alpine 88.32 57 P **P 22 25 47.3 -1.0**
ALPN IAmb IAmb 22 25 51.7
comp=Z,13nm,0.8s
P32M Atlin 88.36 21 P **P 22 25 47.5 -0.2**
P32M IAmb IAmb 22 25 51.3
comp=Z,16nm,1.0s
P32M Atlin 88.36 21 P **P 22 25 46.6 -1.0**
baz=221
PV15 Paradox Valley 88.36 48 P **P 22 25 47.2 -1.3**
Q32M Nakina River 88.38 22 P **P 22 25 47.1 -0.9**
baz=222
I21K Tanana 88.39 11 P **P 22 25 46.3 -1.3**
I21K Tanana 88.39 11 P **P 22 25 47.4 -0.2**
baz=205,SNR=28
NEA2 Nenana 88.40 12 IAmb IAmb 22 25 49.6
comp=Z,11nm,0.7s
NEA2 Nenana 88.40 12 P **P 22 25 46.8 -0.9**
baz=207,SNR=16
K24K Donnelly Dome 88.41 14 P **P 22 25 47.0 -0.7**
baz=210,SNR=14
BVCY Beaver Creek 88.44 17 P **P 22 25 46.9 -1.0**
baz=215,SNR=15
G19K Purcell Mounta 88.47 9 IAmb IAmb 22 25 50.7
comp=Z,22nm,0.9s
G19K Purcell Mounta 88.47 9 P **P 22 25 46.9 -1.0**
baz=200
MLY Manley 88.47 11 IAmb IAmb 22 25 49.7
comp=Z,26nm,1.1s
MLY Manley 88.47 11 P **P 22 25 46.9 -1.2**
baz=206,SNR=21
O30N Mendenhall 88.50 19 IAmb IAmb 22 25 51.6
comp=Z,18nm,0.8s
O30N Mendenhall 88.50 19 P **P 22 25 46.7 -1.6**
baz=219,SNR=11
RIDG Independent Ri 88.56 14 IAmb IAmb 22 25 51.2
comp=Z,24nm,1.0s
RIDG Independent Ri 88.56 14 P **P 22 25 47.2 -1.3**
baz=211,SNR=8.2
F18K Selawik 88.57 7 P **P 22 25 47.4 -0.9**
baz=198
PHRA Phrae 88.65 290 P **P 22 25 50.9 +1.0**
HDA Harding Lake 88.68 13 P **P 22 25 47.4 -1.6**
baz=209,SNR=28
H21K Melozitna Rive 88.68 10 IAmb IAmb 22 25 51.7
comp=Z,16nm,0.9s
H21K Melozitna Rive 88.68 10 P **P 22 25 47.2 -1.8**
baz=204,SNR=15
RDMU Red Mountain 88.70 45 P **P 22 25 49.9 0.0**
RDMU IAmb IAmb 22 25 53.4
comp=Z,19nm,1.1s
L27K Beaver Creek, 88.72 16 P **P 22 25 47.8 -1.5**
baz=214
N30M Aishikik Lake 88.73 19 P **P 22 25 48.4 -1.0**
baz=218
BCAR Beaver Creek A 88.74 16 P **P 22 25 49.0 -0.3**
E17K Hotham Inlet 88.79 6 P **P 22 25 49.1 -0.3**
baz=196,SNR=7.0
WHY Whitehorse 88.79 20 P **P 22 25 49.8 +0.1**
WHY IAmb IAmb 22 25 53.1
comp=Z,21nm,0.9s
WHY Whitehorse 88.79 20 P **P 22 25 49.7 -0.1**
baz=220,SNR=6.1
AHID Auburn Hatcher 88.79 43 P **P 22 25 50.5 +0.2**
AHID IAmb IAmb 22 25 54.0
comp=Z,20nm,1.1s
DLBC Dease Lake 88.81 23 P **P 22 25 49.3 -0.5**
DLBC IAmb IAmb 22 25 53.5
comp=Z,27nm,1.1s
DLBC Dease Lake 88.81 23 P **P 22 25 49.6 -0.2**
baz=224
IMAR Indian Mountai 88.82 10 P **P 22 25 49.0 -0.6**
I23K Minto, Yukon-K 88.84 12 IAmb IAmb 22 25 49.6
comp=Z,8.5nm,0.6s
I23K Minto, Yukon-K 88.84 12 P **P 22 25 48.8 -0.9**
baz=207,SNR=7.4
COLA College 88.90 13 P **P 22 25 49.0 -0.9**
COLA College 88.90 13 P **P 22 25 49.4 -0.5**
baz=208
COLA College 88.90 13 P **P 22 25 50.0 +0.1**
COLA College 88.90 13 P **P 22 25 49.0 -0.9**
COLA pmax pmax
comp=Z,50nm,0.8s
CLNB Carlsbad 88.95 55 P **P 22 25 50.8 -0.3**
SCRK Sand Creek 88.97 15 IAmb IAmb 22 25 53.3
comp=Z,15nm,1.0s
SCRK Sand Creek 88.97 15 P **P 22 25 50.1 -0.4**
baz=212,SNR=13
ILAR Eielson Array 89.01 13 P **P 22 25 49.4 -1.1**
comp=Z,10nm,0.7s,baz=218,slow=5.3,SNR=113
ILAR PKiKP **PKiKP 22 30 44.4 -1.1**
comp=Z,0.5nm,0.6s,baz=270,slow=3.5,SNR=6.9
comp=Z,10nm,0.7s
IL03 Eielson Array 89.01 13 P **P 22 25 49.8 -0.7**
F19K Shaleruckik Mo 89.03 8 IAmb IAmb 22 25 53.0
comp=Z,18nm,0.8s
F19K Shaleruckik Mo 89.03 8 P **P 22 25 50.1 -0.4**
baz=199
CLN7 Carlsbad 7 89.07 55 P **P 22 25 51.7 0.0**
KMI Kunming 89.10 297 ⇓P **P 22 25 53.8 +1.7**
KMI pmax pmax
comp=Z,24nm,1.6s
M29M Somme Creek 89.12 17 P **P 22 25 51.5 +0.3**
baz=217,SNR=28
P33M Teslin, Yukon 89.12 21 P **P 22 25 52.1 +0.9**
P33M Teslin, Yukon 89.12 21 P **P 22 25 51.8 +0.5**
baz=222,SNR=5.2
H22K Ishtalitna Cre 89.14 11 P **P 22 25 50.8 -0.3**
baz=205,SNR=29
N31M Braeburn, Yuko 89.15 19 IAmb IAmb 22 25 54.6
comp=Z,28nm,0.9s
N31M Braeburn, Yuko 89.15 19 P **P 22 25 51.4 +0.2**
baz=219,SNR=5.5
R33M Jennings River 89.16 22 IAmb IAmb 22 25 55.9
comp=Z,31nm,1.4s
R33M Jennings River 89.16 22 P **P 22 25 51.5 0.0**
baz=224

MSO	Missoula	89.18	38	P	P	22 25 51.1	-0.8
MSO				IAmb	IAmb	22 25 54.8	
	comp=Z,39nm,1.7s						
J25K	Salcha River,	89.20	14	IAmb	IAmb	22 25 53.9	
	comp=Z,19nm,0.9s						
J25K	Salcha River,	89.20	14	P	P	22 25 51.2	-0.2
	baz=211,SNR=15						
POKR	Poker Plat Res	89.20	13	IAmb	IAmb	22 25 53.1	
	comp=Z,30nm,1.1s						
POKR	Poker Plat Res	89.20	13	P	P	22 25 50.5	-0.8
	baz=209,SNR=8.0						
DLMT	Dillon	89.20	40	P	P	22 25 51.8	-0.2
DLMT				IAmb	IAmb	22 25 56.0	
	comp=Z,24nm,1.1s						
S22A	4UR Ranch, Cre	89.23	49	P	P	22 25 51.8	-0.8
	baz=242						
E18K	Tukpahlearik C	89.25	7	IAmb	IAmb	22 25 54.4	
	comp=Z,26nm,1.0s						
E18K	Tukpahlearik C	89.25	7	P	P	22 25 51.7	+0.2
	baz=197,SNR=5.5						
TPAW	Teton Pass	89.25	42	P	P	22 25 51.9	-0.6
TPAW				IAmb	IAmb	22 25 56.4	
	comp=Z,16nm,1.1s						
BPMT	Black Pine Rid	89.26	39	P	P	22 25 51.9	-0.6
D17K	Noatak River	89.26	6	P	P	22 25 51.8	+0.2
	baz=194						
FXWY	Fox Creek	89.28	42	P	P	22 25 52.5	-0.1
FXWY				IAmb	IAmb	22 25 56.6	
	comp=Z,27nm,1.6s						
SAND	Sanderson	89.33	58	P	P	22 25 52.0	-0.9
SAND				IAmb	IAmb	22 25 56.3	
	comp=Z,14nm,1.1s						
HHC	Hu-ho-hao-te	89.35	315	eP	P	22 25 55.3	+2.5
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,100nm,4.1s						
G21K	Allakaket	89.35	10	P	P	22 25 52.1	0.0
	baz=203						
SNOW	Snow King Moun	89.36	42	P	P	22 25 52.6	-0.4
O20A	White River Ci	89.38	46	P	P	22 25 52.5	-0.6
O20A				IAmb	IAmb	22 25 56.4	
	comp=Z,14nm,1.1s						
H23K	Yukon River	89.41	12	P	P	22 25 51.5	-0.9
	baz=207						
MNHN	Monahans	89.42	56	P	P	22 25 52.9	-0.3
J26L	Joseph Creek	89.51	14	P	P	22 25 53.2	+0.3
	baz=212,SNR=33						
MOOW	Moose Ponds	89.51	42	P	P	22 25 52.9	-0.8
MOOW				IAmb	IAmb	22 25 57.2	
	comp=Z,44nm,1.9s						
F20K	Avaraart Lake	89.52	9	P	P	22 25 52.8	+0.1
	baz=201						
LOHW	Long Hollow	89.53	42	P	P	22 25 53.4	-0.4
LOHW				IAmb	IAmb	22 25 57.3	
	comp=Z,35nm,1.6s						
BILL	Bilibino	89.55	354	P	P	22 25 54.0	+1.1
BILL				IAmb	IAmb	22 25 55.8	
	comp=Z,20nm,1.3s						
BILL	Bilibino	89.55	354	ceP	P	22 25 54.7	+1.8
BILL				pmax	pmax		
	comp=Z,15nm,1.3s						
RDOG	Red Dog Mine	89.62	6	P	P	22 25 52.9	-0.4
	baz=195						
C16K	Lisburne Hills	89.63	5	P	P	22 25 53.2	0.0
	baz=192						
QLMT	Earthquake Lak	89.63	41	P	P	22 25 55.1	+1.0
E19K	Redstone River	89.69	8	P	P	22 25 53.7	+0.1
	baz=200						
M30M	Minto, Yukon	89.70	18	P	P	22 25 53.9	+0.1
	baz=218,SNR=24						
FLWY	Flagg Ranch	89.71	42	P	P	22 25 54.7	+0.2
N32M	Quiet Lake	89.74	20	P	P	22 25 53.9	-0.1
N32M				IAmb	IAmb	22 25 58.2	
	comp=Z,19nm,1.1s						
N32M	Quiet Lake	89.74	20	P	P	22 25 54.4	+0.4
	baz=222						
H24K	Noodor Dome	89.74	12	P	P	22 25 53.9	0.0
	baz=208						
L29M	L29M	89.74	17	P	P	22 25 54.4	+0.4
L29M	L29M	89.74	17	P	P	22 25 53.9	-0.1
	baz=217						
CM31	Chiang Mai Arr	89.77	290	P	P	22 25 56.9	+1.8
CMAR	Chiang Mai Arr	89.77	290	P	P	22 25 55.9	+0.8
CMAR	Chiang Mai Arr	89.77	290	P	P	22 25 56.3	+1.2
	comp=Z,22nm,1.0s,baz=118,slow=2.8,SNR=42						
CMAR				PP	PP	22 29 37.9	+0.2
	comp=Z,0.6nm,0.4s,baz=128,slow=5.8,SNR=3.9						
	comp=Z,22nm,1.0s						
CMAR	Chiang Mai Arr	89.77	290	ceP	P	22 25 56.5	+1.4
CMAR				pmax	pmax		
	comp=Z,23nm,1.0s						
PD31	Pinedale Array	89.78	43	P	P	22 25 54.5	-0.4
PD31				IAmb	IAmb	22 25 57.9	
	comp=Z,14nm,0.9s						
PDAR	Pinedale Array	89.78	43	P	P	22 25 54.8	-0.2
	comp=Z,14nm,0.9s,baz=210,slow=3.8,SNR=52						
PDAR				PKKPbc	PKKPbc	22 43 24.8	-0.9
	comp=Z,1.1nm,0.8s,baz=74,slow=3.9,SNR=9.2						
PDAR				PKPPKP	P'P'df	22 51 33.6	+1.3
	comp=Z,0.7nm,0.9s,baz=90,slow=3.6,SNR=3.7						
	comp=Z,14nm,0.9s						
YHL	Hebgen Lake	89.80	41	P	P	22 25 54.4	+0.4
YHL				IAmb	IAmb	22 25 59.4	
	comp=Z,36nm,1.3s						
YFT	Old Faithful	89.81	42	P	P	22 25 54.9	-0.1
YFT				IAmb	IAmb	22 26 00.0	
	comp=Z,14nm,0.9s						
OVMT	Ovando	89.85	39	P	P	22 25 54.2	-0.8
CHTO	Chiang Mai	89.90	290	P	P	22 25 56.3	+0.6
CHTO	Chiang Mai	89.90	290	P	P	22 25 56.3	+0.6
CHTO				pmax	pmax		
	comp=Z,36nm,1.2s						
BOZ	Bozeman (W)	89.90	40	P	P	22 25 54.1	-1.2
BOZ				IAmb	IAmb	22 25 59.2	
	comp=Z,13nm,1.0s						
BOZ	Bozeman (W)	89.90	40	P	P	22 25 54.1	-1.2
BOZ				pmax	pmax		
	comp=Z,13nm,1.0s						
ODSA	Odessa	89.91	55	P	P	22 25 55.6	+0.1
ODSA				IAmb	IAmb	22 25 59.5	
	comp=Z,27nm,1.2s						
H17A	Grant Village	89.94	42	P	P	22 25 55.7	0.0
H17A				IAmb	IAmb	22 26 00.4	
	comp=Z,17nm,1.0s						
PRP	Porcupine Dome	89.94	13	IAmb	IAmb	22 25 58.0	
	comp=Z,34nm,1.5s						
PRP	Porcupine Dome	89.94	13	P	P	22 25 54.6	-0.4
	baz=211,SNR=13						
YHH	Holmes Hill	89.97	41	P	P	22 25 55.7	-0.1
C17K	DeLong Mountai	90.01	6	P	P	22 25 55.3	+0.3
	baz=194						
F21K	Alatna River	90.01	10	P	P	22 25 54.6	-0.5
	baz=203						
YNR	Norris Junctio	90.04	41	P	P	22 25 55.6	-0.5
YNR				IAmb	IAmb	22 26 15.1	
	comp=Z,30nm,1.7s						
G22K	Bettles	90.05	10	P	P	22 25 55.6	+0.3
	baz=205						
G23K	Bananza Creek	90.12	11	IAmb	IAmb	22 25 58.5	
	comp=Z,25nm,1.4s						
G23K	Bananza Creek	90.12	11	P	P	22 25 55.9	+0.2
	baz=206						
M31M	Drury Creek, Y	90.12	19	P	P	22 25 56.1	+0.3
M31M	Drury Creek, Y	90.12	19	P	P	22 25 55.3	-0.4
	baz=220						
SDCO	Great Sand Dun	90.17	49	P	P	22 25 56.6	-0.3
SDCO				IAmb	IAmb	22 26 00.3	
	comp=Z,21nm,1.4s						
DAWY	Dawson	90.17	16	P	P	22 25 55.2	-0.7
DAWY				IAmb	IAmb	22 25 59.0	
	comp=Z,24nm,0.9s						
DAWY	Dawson	90.17	16	P	P	22 25 56.1	+0.2
	baz=216,SNR=25						
LYMT	Lyon Mountain	90.22	39	P	P	22 25 56.6	-0.3
BTO	Baotou	90.27	314	eP	P	22 25 58.0	+1.0
BTO				pP	pP	22 27 57.8	+1.7
BTO				sP	sP	22 28 50.8	+0.1
BTO				PP	PP	22 29 45.6	+4.3
BTO				pmax	pmax		
	comp=Z,15nm,1.6s						
BTO				pmax	pmax		
	comp=Z,300nm,7.2s						
I26K	Coal Creek Min	90.28	14	P	P	22 25 56.3	-0.1
	baz=213						
DRIO	Del Rio	90.31	59	P	P	22 25 57.5	+0.1
DRIO				IAmb	IAmb	22 26 00.8	
	comp=Z,20nm,0.9s						
EGAK	Eagle	90.31	15	P	P	22 25 55.2	-1.3
EGAK				IAmb	IAmb	22 25 59.3	
	comp=Z,25nm,0.9s						
EGAK	Eagle	90.31	15	P	P	22 25 56.7	+0.2
	baz=214,SNR=17						
C18K	Utukok River	90.37	6	P	P	22 25 57.1	+0.3
	baz=196						
CMIG	Matias Romero	90.40	72	P	P	22 25 58.2	+0.2
	comp=Z,4.4nm,0.8s,baz=240,slow=6.2,SNR=4.1						
	comp=Z,4.4nm,0.8s						
FARO	Faro, Yukon	90.46	19	P	P	22 25 57.2	-0.1
FARO	Faro, Yukon	90.46	19	P	P	22 25 58.1	+0.7
	baz=222						
PZH	PanZhiHua	90.47	298	P	P	22 25 58.9	+0.5
PZH				pmax	pmax		
	comp=Z,20nm,1.1s						
PZH				pmax	pmax		
	comp=Z,170nm,5.9s						
F22K	John River	90.48	10	P	P	22 25 57.5	+0.3
	baz=204						
K29M	Barlow Dome	90.49	17	IAmb	IAmb	22 26 00.8	
	comp=Z,24nm,0.9s						
K29M	Barlow Dome	90.49	17	P	P	22 25 57.4	-0.1
	baz=218						
OZNA	Ozona	90.52	57	P	P	22 25 58.4	0.0
MSTX	Muleshoe	90.52	54	P	P	22 25 58.2	-0.2
MSTX				IAmb	IAmb	22 26 01.5	
	comp=Z,13nm,1.0s						
H25L	Birch Creek	90.53	13	P	P	22 25 56.9	-0.5
	baz=210						
COLD	Coldfoot	90.55	11	P	P	22 25 57.4	-0.2
	baz=206,SNR=16						
D19K	Kuna River	90.56	7	P	P	22 25 56.8	-0.8
D19K	Kuna River	90.56	7	P	P	22 25 58.0	+0.3
	baz=199						
G24K	Hadweenzic Riv	90.58	12	P	P	22 25 57.1	-0.7
	baz=209						
E20K	Nigu River	90.58	8	P	P	22 25 58.2	+0.4
	baz=201						
YNE	Yellowstone No	90.60	41	P	P	22 25 57.9	-0.8
YNE				IAmb	IAmb	22 26 02.2	
	comp=Z,18nm,1.2s						
CD2	Chengdu	90.62	303	P	P	22 26 00.5	+1.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
T25A	Trinidad	90.68	50	P	P	22 25 58.2	-0.9
MAYO	Mayo, Yukon	90.75	18	P	P	22 25 59.5	+0.9
MAYO	Mayo, Yukon	90.75	18	P	P	22 25 59.2	+0.6
	baz=219						
J29N	Klondike Camp	90.79	16	P	P	22 25 58.5	-0.3
J29N				IAmb	IAmb	22 26 02.3	
	comp=Z,25nm,1.0s						
J29N	Klondike Camp	90.79	16	P	P	22 25 59.4	+0.5
	baz=217						
I27K	Kandik River	90.89	14	P	P	22 25 58.8	-0.5
	baz=214						
G25K	Bearman Lake	90.91	12	P	P	22 25 59.1	0.0
	baz=210						
TOAD	Toad River Com	90.91	25	P	P	22 25 59.0	-0.5
	baz=228						
D20K	Etivluk River	90.96	8	P	P	22 25 59.7	+0.2
	baz=200						
Q24A	Divide	90.96	48	P	P	22 25 59.1	-1.4
Q24A				IAmb	IAmb	22 26 04.2	
	comp=Z,20nm,1.6s						
Q24A	Divide	90.96	48	P	P	22 26 00.1	-0.4
	baz=243						
C19K	Lookout Ridge	90.98	7	P	P	22 25 59.6	+0.1
C19K	Lookout Ridge	90.98	7	P	P	22 25 59.5	-0.1
	baz=198						
B18K	Kokolik River	91.00	6	P	P	22 26 00.1	+0.5
	baz=196						
E21K	Killik River	91.06	9	P	P	22 26 00.3	+0.4
	baz=203						
POST	Post	91.11	55	P	P	22 25 59.5	-1.5
POST				IAmb	IAmb	22 26 03.8	
	comp=Z,9.4nm,0.9s						
E22K	Anaktuvuk Pass	91.11	10	IAmb	IAmb	22 26 03.0	
	comp=Z,21nm,1.1s						
E22K	Anaktuvuk Pass	91.11	10	P	P	22 25 60.0	-0.2
	baz=205						
RLMT	Red Lodge	91.11	41	P	P	22 25 59.3	-1.7
I28M	Miner Creek	91.16	15	IAmb	IAmb	22 26 03.0	
	comp=Z,12nm,0.8s						
I28M	Miner Creek	91.16	15	P	P	22 26 00.2	-0.4
	baz=216						
F24K	Squaw Lake	91.22	11	P	P	22 26 00.1	-0.6
F24K	Squaw Lake	91.22	11	P	P	22 26 01.1	+0.3
	baz=208						
N23A	Red Feather La	91.28	46	P	P	22 26 02.1	+0.2
N23A				IAmb	IAmb	22 26 05.6	
	comp=Z,15nm,1.1s						
N23A	Red Feather La	91.28	46	P	P	22 26 01.1	-0.9
	baz=243						
J30M	Hart River	91.39	17	P	P	22 26 01.5	-0.1
	baz=219						
E23K	Chandalar	91.40	11	P	P	22 26 01.0	-0.6
E23K				IAmb	IAmb	22 26 04.4	
	comp=Z,16nm,1.1s						
E23K	Chandalar	91.40	11	P	P	22 26 02.1	+0.5
	baz=207						
HNDO	Hondo	91.42	59	P	P	22 26 01.6	-0.9
HNDO				IAmb	IAmb	22 26 06.3	
	comp=Z,19nm,1.0s						
H27K	Steamboat Moun	91.43	14	P	P	22 26 02.0	+0.2
	baz=214						
SN05	Snyder 5	91.50	55	P	P	22 26 02.0	-0.9
SN05				IAmb	IAmb	22 26 05.0	
	comp=Z,9.9nm,0.9s						
G26K	Porcupine Rive	91.54	13	P	P	22 26 02.6	+0.5
	baz=212,SNR=15						
SN07	Snyder 07	91.58	55	P	P	22 26 02.1	-1.1
SN07				IAmb	IAmb	22 26 06.4	
	comp=Z,18nm,1.5s						
E24K	Your Creek	91.61	11	P	P	22 26 02.4	-0.2
	baz=208						
C21K	Knifeblade Rid	91.61	8	P	P	22 26 02.4	0.0
	baz=202						
TGTN	Hyland Airport	91.62	22	P	P	22 26 02.5	-0.2
	baz=226						
D22K	Ayikyak River	91.66	9	P	P	22 26 02.4	-0.3
D22K				IAmb	IAmb	22 26 05.8	
	comp=Z,20nm,1.1s						
D22K	Ayikyak River	91.66	9	P	P	22 26 02.8	+0.1
	baz=204						
F25K	Christian Rive	91.71	12	P	P	22 26 03.2	+0.2
	baz=210						
BMAR	Burnt Mountain	91.78	12	P	P	22 26 02.3	-1.0
G27K	Doyon Strip	91.88	14	P	P	22 26 03.8	0.0
G27K				IAmb	IAmb	22 26 43.2	
	comp=Z,21nm,1.8s						
G27K	Doyon Strip	91.88	14	P	P	22 26 04.4	+0.6
	baz=214						
A19K	Wainwright	91.88	6	P	P	22 26 04.5	+0.8
	baz=196						
I30M	Mount Dempster	91.89	16	P	P	22 26 03.6	-0.3
I30M				IAmb	IAmb	22 26 06.7	
	comp=Z,17nm,0.9s						
I30M	Mount Dempster	91.89	16	P	P	22 26 03.9	0.0
	baz=219						
TOLK	Toolik Lake Re	91.93	10	P	P	22 26 04.6	+0.6
TOLK				IAmb	IAmb	22 26 06.8	
	comp=Z,36nm,1.6s						
TOLK	Toolik Lake Re	91.93	10	P	P	22 26 04.6	+0.6
	baz=207						
D23K	Nanushuk River	92.04	10	P	P	22 26 04.5	+0.1
D23K				IAmb	IAmb	22 26 07.7	
	comp=Z,16nm,1.1s						
D23K	Nanushuk River	92.04	10	P	P	22 26 04.7	+0.3
	baz=206						
B21K	Ikpikpuk River	92.07	8	P	P	22 26 04.8	+0.3
	baz=202						
F26K	Sheenjek River	92.10	12	P	P	22 26 04.2	-0.5
F26K				IAmb	IAmb	22 26 10.3	
	comp=Z,28nm,1.9s						
F26K	Sheenjek River	92.10	12	P	P	22 26 04.8	0.0
	baz=212						
B20K	Meade River	92.11	7	P	P	22 26 04.9	+0.2
	baz=200						
H29M	Whitestone	92.17	15	P	P	22 26 05.1	0.0
	baz=217						
KOTAN	Kotaneelee Air	92.21	24	P	P	22 26 05.4	0.0
	baz=230						
APMT	Aspermont	92.27	55	P	P	22 26 05.7	-0.7
APMT				IAmb	IAmb	22 26 08.7	
	comp=Z,6.7nm,0.7s						
BRDY	Brady	92.33	57	P	P	22 26 03.5	-3.2
YAK	Yakutsk	92.44	338	P	P	22 26 04.3	-2.0
YAK	Yakutsk	92.44	338	i P	P	22 26 06.3	0.0
YAK				pmax	pmax		
	comp=Z,21nm,0.7s						
D24K	Happy Valley	92.51	10	P	P	22 26 06.9	+0.4
	baz=208						
TNCH	TengChong	92.59	296	eP	P	22 26 10.8	+2.6
TNCH				pmax	pmax		
	comp=Z,120nm,5.3s						
LZH	Lanzhou	92.67	308	eP	P	22 26 09.3	+1.0
LZH				sP	sP	22 29 02.0	0.0
LZH				pmax	pmax		
	comp=Z,26nm,0.8s						
EPYK	Eagle Plains	92.70	16	P	P	22 26 06.9	-0.6
EPYK	Eagle Plains	92.70	16	P	P	22 26 07.9	+0.4
	baz=218						
KSCO	Kaye Shedlock'	92.75	49	P	P	22 26 07.3	-1.3
KSCO				IAmb	IAmb	22 26 11.9	
	comp=Z,18nm,0.9s						
G29M	Pine Creek	92.81	15	P	P	22 26 07.1	-0.9
G29M				IAmb	IAmb	22 26 10.6	
	comp=Z,9.3nm,0.9s						
G29M	Pine Creek	92.81	15	P	P	22 26 08.1	+0.1
	baz=217						
C23K	Itkillik River	92.84	9	P	P	22 26 08.3	+0.2
C23K	Itkillik River	92.84	9	P	P	22 26 08.4	+0.4
	baz=206						
H31M	Peel River	92.88	17	P	P	22 26 08.6	+0.3
	baz=221						
B22K	Teshekpuk Lake	92.89	8	P	P	22 26 07.8	-0.5
B22K	Teshekpuk Lake	92.89	8	P	P	22 26 08.5	+0.2
	baz=203						
F28M	Old Crow	92.94	14	P	P	22 26 08.1	-0.5
F28M	Old Crow	92.94	14	P	P	22 26 08.7	+0.1
	baz=216						
C24K	Franklin Bluff	93.03	10	P	P	22 26 09.2	+0.3
	baz=208						
E27K	Coleen River	93.04	13	P	P	22 26 09.4	+0.3
	baz=214						
D25K	Kavik River	93.08	11	P	P	22 26 09.5	+0.3
	baz=210						
G30M	tAoh Zraii Nji	93.30	15	P	P	22 26 10.3	0.0
	baz=219						
A22K	Sinclair Lake	93.31	8	P	P	22 26 10.6	+0.4
	baz=202						
PLPT	Palo Pinto	93.46	56	P	P	22 26 10.7	-1.1
PLPT				IAmb	IAmb	22 26 14.9	
	comp=Z,10nm,0.9s						
G31M	Satah River	93.75	16	P	P	22 26 11.1	-1.2
G31M	Satah River	93.75	16	P	P	22 26 12.2	0.0
	baz=221						
E28M	Babbage River	93.82	13	P	P	22 26 12.1	-0.5
E28M				IAmb	IAmb	22 26 15.4	
	comp=Z,10nm,0.9s						
E28M	Babbage River	93.82	13	P	P	22 26 12.6	0.0
	baz=216						
C27K	Jago River	93.83	12	P	P	22 26 12.1	-0.5
C27K				IAmb	IAmb	22 26 15.5	
	comp=Z,6.7nm,0.8s						
C27K	Jago River	93.83	12	P	P	22 26 12.6	0.0
	baz=212						
C26K	Camden Bay	93.86	11	P	P	22 26 13.1	+0.4
	baz=211						
F30M	Barrier River	93.90	15	P	P	22 26 13.0	+0.1
	baz=219						
E29M	Blow River	94.01	14	P	P	22 26 12.3	-1.2
E29M	Blow River	94.01	14	P	P	22 26 13.6	+0.1
	baz=218						
D27M	Malcolm River	94.04	13	P	P	22 26 14.5	+0.8
	baz=215						
F31M	Tsiigehtchic	94.28	16	P	P	22 26 14.8	+0.2
	baz=221						
D28M	Stokes Point	94.58	13	P	P	22 26 16.0	0.0
	baz=217						
INK	Inuvik	94.98	15	IAmb	IAmb	22 26 19.6	
	comp=Z,11nm,1.1s						
INK	Inuvik	94.98	15	P	P	22 26 18.3	+0.5
	baz=222						
ULN	Ulaanbaatar	95.42	319	ceP	P	22 26 22.1	+1.6
ULN				pmax	pmax		
	comp=Z,8.0nm,1.9s						
SONM	Songino Array	95.81	319	P	P	22 26 20.7	-1.5
	comp=Z,1.2nm,1.1s,baz=66,slow=3.7,SNR=5.4						
SONM				PP	PP	22 30 22.7	-1.2
	comp=Z,0.9nm,0.9s,baz=116,slow=6.8,SNR=3.8						
	comp=Z,1.2nm,1.1s						
GTA	Gaotai	96.89	309	eP	P	22 26 29.6	+2.3
GTA				pP	pP	22 28 26.3	-0.7
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s						
YKA	Yellowknife Ar	97.28	25	P	Pdif	22 26 27.9	-0.4
	comp=Z,1.6nm,0.8s,baz=251,slow=4.7,SNR=4.5						
	comp=Z,1.6nm,0.8s						
C36M	Paulatuk	98.17	17	P	P	22 26 32.4	+0.3
	baz=230						
A36M	Sachs Harbour	99.58	15	P	Pdif	22 26 39.1	+0.8
	baz=229						
WMQ	Urumqi	106.87	311	Pdif	Pdif	22 27 11.8	+0.3
ZSN	Zaisan	109.55	314	ePKiKP	PKiKP	22 31 21.6	-1.2
ZALV	Zalesovo Beam	110.58	321	PKiKP	PKiKP	22 31 23.1	-1.3
	comp=Z,6.5nm,0.6s,baz=163,slow=0.8,SNR=24						
NRIK	Noril'sk	110.88	338	PKiKP	PKiKP	22 31 23.9	-0.8
	comp=Z,2.8nm,0.5s,baz=106,slow=3.3,SNR=4.2						
MK31	Makanchi Array	111.18	313	c iPKiKP	PKiKP	22 31 25.4	-0.5
MKAR	Makanchi Array	111.18	313	PKiKP	PKiKP	22 31 24.6	-1.3
	comp=Z,4.5nm,0.8s,baz=103,slow=0.5,SNR=29						
MKAR				PKKPbc	PKKPbc	22 42 23.0	-1.6
	comp=Z,0.7nm,0.8s,baz=259,slow=4.5,SNR=5.7						
MAKZ	Makanchi	111.39	313	⇑PKiKP	PKiKP	22 31 25.1	-1.2
SHLS	Shalkode	112.64	309	ePKiKP	PKiKP	22 31 26.9	-2.0
SHLS	Shalkode	112.64	309	i PKiKP	PKiKP	22 31 26.9	-2.0
UZB	Uzynbulak	112.95	309	ePKiKP	PKiKP	22 31 27.9	-1.7
UZB	Uzynbulak	112.95	309	i PKiKP	PKiKP	22 31 27.9	-1.7
SEM	Semipalatinsk	112.97	317	ePKiKP	PKiKP	22 31 27.9	-1.6
SEM	Semipalatinsk	112.97	317	i PKiKP	PKiKP	22 31 27.9	-1.6
KPKS	Kokpek	113.24	309	ePKiKP	PKiKP	22 31 28.6	-1.4
KPKS	Kokpek	113.24	309	i PKiKP	PKiKP	22 31 28.6	-1.4
SATY	Saty	113.39	309	ePKiKP	PKiKP	22 31 28.6	-1.9
SATY	Saty	113.39	309	i PKiKP	PKiKP	22 31 28.5	-1.9
KURK	Kurchatov	114.03	317	c iPKiKP	PKPdf	22 31 30.4	-0.8
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KURBB	Kurchatov Arra	114.08	317	PKiKP	PKPdf	22 31 29.6	-1.6
	comp=Z,6.1nm,0.7s,baz=91,slow=1.8,SNR=22						
KURBB				PP	PP	22 32 35.1	-1.4
	comp=Z,0.8nm,0.5s,baz=91,slow=7.4,SNR=5.3						
MDOK	Medeo	114.39	309	ePKiKP	PKPdf	22 31 30.6	-1.8
MDOK	Medeo	114.39	309	i PKiKP	PKPdf	22 31 30.5	-1.9
TNSS	Tian-Shan	114.45	309	ePKiKP	PKPdf	22 31 30.7	-2.1
TNSS	Tian-Shan	114.45	309	i PKiKP	PKPdf	22 31 30.6	-2.2
AAA	Alma-Ata	114.49	309	ePKiKP	PKPdf	22 31 30.9	-1.6
AAA	Alma-Ata	114.49	309	i PKiKP	PKPdf	22 31 30.8	-1.6
KSH	Kashi	114.75	305	PKP	PKiKP	22 31 35.0	+1.9
SGDS	Sogindy	116.17	309	ePKiKP	PKPdf	22 31 34.4	-1.3
SGDS	Sogindy	116.17	309	i PKiKP	PKPdf	22 31 34.4	-1.3
AAK	Ala-Archa	116.20	308	PKPdf	PKPdf	22 31 35.2	-0.7
AAK	Ala-Archa	116.20	308	PKiKP	PKPdf	22 31 35.2	-0.7
BTLS	Baital	116.71	311	ePKiKP	PKPdf	22 31 35.6

SPB3 Spitsbergen Ar 122.41 356 PKPdf **PKPdf 22 31 45.9 -0.8**
ILULI Ilulissat 122.48 20 *e*P **PKPdf 22 31 45.9 -1.0**
SUR Sutherland 123.68 200 **PKiKP 22 31 51.6 +0.6**
SUMG Summit 123.85 13 PKPdf **PKPdf 22 31 47.6 -2.4**
SUMG Summit 123.85 13 PKIKP **PKPdf 22 31 47.6 -2.4**
SUMG Summit 123.85 13 *i* P **PKPdf 22 31 48.0 -2.0**
SVE Sverdlovsk 124.14 325 *e*PKIKP **PKPdf 22 31 50.2 -0.2**
SVE pmax pmax
comp=Z,29nm,0.8s
ARTI Arti 125.45 325 PKPdf **PKPdf 22 31 52.5 -0.5**
ARTI Arti 125.45 325 *i* PKIKP **PKPdf 22 31 53.0 0.0**
ARTI 22 33 50.5
ARTI 22 38 13.7
DY2G Dye2 125.45 21 *e*P **PKPdf 22 31 52.7 -0.3**
BOSA Boshof 125.48 206 PKP **PKPdf 22 31 54.3 +0.1**
comp=Z,7.7nm,0.8s,baz=129,slow=0.7,SNR=9.8
ICESG Greenland Ices 125.92 17 *e*P **PKPdf 22 31 52.7 -1.2**
ABKAR Akbulak array 126.11 316 PKPdf **PKPdf 22 31 53.9 -0.5**
WSAR Wadi Sarin 127.23 284 PKP **PKPdf 22 31 57.1 -0.3**
comp=Z,2.9nm,0.7s,baz=5.5,slow=4.7,SNR=4.0
KIRV Kirov 129.18 330*c* *i* PKIKP **PKPdf 22 32 00.2 +0.2**
SOHO SOHO 129.27 284 *i* PKiKP **PKPdf 22 32 00.6 -0.7**
SNR=17
ARA0 ARCESS Array S 129.38 349 *e*PKPdf **PKPdf 22 31 59.5 -0.6**
ARCES ARCESS Array B 129.38 349 PKhKP PKPpre 22 31 53.5
comp=Z,7.4nm,0.5s,baz=118,slow=1.1,SNR=5.1
ARCES PKP **PKPdf 22 31 59.5 -0.6**
comp=Z,12nm,0.6s,baz=9.0,slow=1.4,SNR=43
ARCES ARCESS Array B 129.38 349 PKIKP **PKPdf 22 31 59.9 -0.2**
HATD Hatta, Dubai 129.72 285 *i* PKiKP **PKPdf 22 32 01.8 -0.3**
SNR=14
MSFE Esma-Masafi 129.77 286 *i* PKiKP **PKPdf 22 32 02.4 +0.2**
SNR=7.6
ASHO Ashiyiah 129.77 285 *i* PKiKP **PKPdf 22 32 01.3 -0.9**
SNR=11
ALNE Al Ain 129.97 284 *i* PKPdf **PKPdf 22 32 01.6 -1.0**
SNR=22
NAZ Nazwa, Dubai 130.17 285 PKiKP **PKPdf 22 32 02.4 -0.5**
KTK1 Kautokeino 130.23 350 *e*PKPdf **PKPdf 22 32 01.1 -0.7**
TRO Tromso 130.29 352 *e*PKPdf **PKPdf 22 32 00.6 -1.1**
ASUD Al Ashush, Dub 130.42 285 PKiKP **PKPdf 22 32 02.7 -0.7**
MZR Muzera 131.88 282 *i* PKPdf **PKPdf 22 32 04.5 -1.7**
SNR=15
KLMR Klimovskoe 132.18 336 *e*PKIKP **PKPdf 22 32 04.8 -0.8**
KLMR *e* 22 34 38.2
KLMR pmax pmax
comp=Z,47nm,1.5s
LSZ Lusaka 135.30 218 PKPdf **PKPdf 22 32 08.2 -4.8**
LSZ Lusaka 135.30 218 PKIKP **PKPdf 22 32 08.2 -4.8**
DRN Derbent 135.52 309 *e*PKHKP PKPpre 22 32 02.8
DRN pmax pmax
comp=Z,12nm,0.4s
KSMR Kasumkent 135.76 308 *e*PKHKP PKPpre 22 32 02.9
KSMR pmax pmax
comp=Z,3.0nm,0.2s
SGKR Sergokala 135.91 310 *e*PKIKP **PKPdf 22 32 12.3 -0.9**
SGKR pmax pmax
comp=Z,1.0nm,0.4s
URKR Urkarakh 136.00 309 *e*PKIKP **PKPdf 22 32 09.9 -3.6**
URKR pmax pmax
comp=Z,5.0nm,0.3s
NSS Namsos 136.00 353 *e*PKPdf PKPpre 22 32 05.6
AKT Akhty 136.08 308 *e*PKIKP **PKPdf 22 32 14.3 +0.6**
AKT *e* 22 34 20.4
AKT *e* 22 35 02.5
AKT *e* 22 35 11.9
AKT pmax pmax
comp=Z,14nm,0.8s
MOS Moscow 136.13 331 *e*PKHKP PKPpre 22 32 06.4
MOS pmax pmax
comp=Z,27nm,0.7s
FINES FINESS Array B 136.16 343 PKhKP PKPpre 22 31 59.5
comp=Z,0.5nm,0.3s,baz=33,slow=3.3,SNR=6.3
FINES PKP **PKiKP 22 32 14.0 -0.9**
comp=Z,8.0nm,0.6s,baz=54,slow=2.4,SNR=16
FINES SKPbc **SKPbc 22 34 55.3 +1.4**
comp=Z,11nm,0.8s,baz=59,slow=3.6,SNR=14
FINES FINESS Array B 136.16 343*c* *i* PKIKP **PKiKP 22 32 14.1 -0.7**
FINES pmax pmax
comp=Z,8.0nm,0.6s
ARKR Arakani 136.34 310 *e*PKIKP **PKiKP 22 32 23.5 +7.6**
ARKR pmax pmax
comp=Z,7.0nm,0.7s
KRNR Karanay 136.35 310 *e*PKIKP **PKiKP 22 32 20.9 +4.9**
KRNR pmax pmax
comp=Z,5.0nm,0.6s
DBC Dubki 136.35 311 *e*PKIKP **PKiKP 22 32 20.6 +4.7**
DBC pmax pmax
comp=Z,7.0nm,0.6s
KMKR Kumukh 136.39 309 *e*PKIKP **PKiKP 22 32 15.5 -0.7**
KMKR pmax pmax
comp=Z,2.0nm,0.3s
GNBR Gunib 136.42 310 *e*PKIKP **PKiKP 22 32 23.7 +7.6**
GNBR pmax pmax
comp=Z,9.0nm,0.6s
UNCR Uncukul 136.46 310 *e*PKIKP **PKiKP 22 32 20.2 +4.1**
UNCR pmax pmax
comp=Z,15nm,0.7s
DLMR Dylym 136.48 311 *e*PKIKP **PKiKP 22 32 18.9 +2.8**
DLMR pmax pmax
comp=Z,11nm,0.5s
VRH Novokhopyorsk 136.53 324 *e*PKIKP **PKiKP 22 32 15.0 -0.9**
VRH pmax pmax
comp=Z,30nm,0.6s
HNZR Khunzah 136.56 310 *e*PKIKP **PKiKP 22 32 20.2 +3.7**
HNZR pmax pmax
comp=Z,13nm,0.7s
BTLR Botlikh 136.88 310 *e*PKIKP **PKPdf 22 32 12.6 -2.5**
BTLR pmax pmax
comp=Z,5.0nm,0.1s
OBN Obninsk 136.99 331 PKPdf **PKiKP 22 32 16.1 -0.6**
OBN Obninsk 136.99 331*ce*PKIKP **PKPdf 22 32 14.0 -0.7**
OBN *e* 22 34 18.0
OBN *e* 22 35 06.6
OBN *i* 22 35 15.9
OBN PS **PS 22 45 40.0 -0.6**
OBN pmax pmax
comp=Z,13nm,1.1s
OBN pmax pmax
comp=Z,54nm,2.3s
LPSR Galich'ya Gora 137.31 327 *e*PKIKP **PKPdf 22 32 15.8 +0.4**
LPSR pmax pmax
comp=Z,20nm,1.0s
VORR Voronezh 137.66 325 *e*PKIKP **PKiKP 22 32 17.2 -1.0**
VORR pmax pmax
comp=Z,33nm,0.5s
VSR Storozhevoye 137.92 325 *e*PKIKP **PKPdf 22 32 15.8 -0.8**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 137.98 325 *e*PKIKP **PKPdf 22 32 15.8 -0.9**
VORD pmax pmax
comp=Z,20nm,0.5s
GOF Gofitskoye 138.31 315 *e*PKIKP **PKiKP 22 32 20.9 +1.1**
GNI Garni 138.60 307*c* *i* PKIKP **PKiKP 22 32 21.5 +0.8**
GNI pmax pmax
comp=Z,33nm,1.7s
DOMB Dombas 138.73 355 *e*PKPdf PKPpre 22 32 10.1
KBZ Khabaz 138.87 313 PKP **PKPdf 22 32 16.6 -2.0**
comp=Z,2.4nm,0.9s,baz=77,slow=5.0,SNR=4.5
KBZ Khabaz 138.87 313*c* *i* PKIKP **PKiKP 22 32 22.6 +1.7**
KIV Kislovodsk 138.94 313 **PKiKP 22 32 21.1 -0.1**
KIV Kislovodsk 138.94 313 *e*PKIKP **PKiKP 22 32 20.7 -0.5**
KIV pmax pmax
comp=Z,9.0nm,1.1s
ATD Arta Tunnel 139.19 263 PKPdf **PKPdf 22 32 19.9 -0.2**
RAYN Ar Rayn 139.23 282 PKPdf **PKPdf 22 32 19.4 -0.5**
RAYN Ar Rayn 139.23 282 *i* PKPdf **PKPdf 22 32 18.6 -1.3**
SNR=6.3
RAYN Ar Rayn 139.23 282 PKIKP **PKPdf 22 32 19.4 -0.5**
NC303 NORSAR Array S 139.28 353 PKPdf **PKiKP 22 32 20.9 -0.3**
NB2 NORSAR Subarra139.48 353 PKP PKPpre 22 32 10.6
comp=Z,4.0nm,0.8s,baz=16,slow=3.2
NB2 SKPa **SKPbc 22 35 05.2 +1.8**
comp=Z,1.6nm,0.7s,baz=13,slow=2.9
NOA NORSAR Array B 139.48 353 PKhKP PKPpre 22 32 10.3
comp=Z,4.5nm,0.7s,baz=9.6,slow=2.3,SNR=22
NOA SKPbc **SKPbc 22 35 03.9 +0.5**
comp=Z,2.2nm,0.7s,baz=14,slow=4.3,SNR=7.6
NC602 NORSAR Array S 139.74 352 *e*PKPdf PKPpre 22 32 11.9
SUE Sulen 139.99 357 *e*PKPdf PKPpre 22 32 12.2
HFS Hagfors 140.02 350 PKhKP PKPpre 22 32 11.8
comp=Z,8.0nm,0.4s,baz=68,slow=4.0,SNR=95
HFS SKPbc **SKPbc 22 35 05.2 +0.5**
comp=Z,4.7nm,0.8s,baz=20,slow=4.6,SNR=6.6

KONO Kongsberg 141.03 353 PKPpre 22 32 17.1
KONO Kongsberg 141.03 353 *e*PKPdf PKPpre 22 32 15.9
KONO Kongsberg 141.03 353 ⇑PKHKP PKPpre 22 32 16.3
ODD1 Odda 141.03 356 *e*PKPdf PKPpre 22 32 16.1
MNK Minsk 141.07 336 *i* PKP **PKPdf 22 32 20.2 -2.0**
comp=Z,15nm,0.8s,baz=42
MNK *i* PKP **PKPdf 22 32 20.2 -2.0**
comp=E,14nm,0.7s
MNK *i* PKP **PKPdf 22 32 20.2 -2.0**
comp=N,14nm,0.9s
MNK *j* pPKP **pPKPdf 22 34 25.0 -4.9**
MNK *i* PP **PP 22 35 29.7 -1.0**
MNK *i* PPP PPP 22 38 26.3
MNK *i* SKS SKSac 22 39 16.9 +30
MNK *i* SKKS **SKKSdf 22 47 57.7 -8.0**
MNK *i* SS **SS 22 53 17.3 +2.4**
MNK *i* SSS SSS 22 59 05.6
MNK Minsk 141.07 336 *i* PKIKP **PKPdf 22 32 20.2 -2.0**
MNK *i* 22 34 24.9
MNK *i* 22 35 29.6
MNK *i* SS SS 22 53 17.3 +2.4
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=E,14nm,0.7s
NACGM Naroch 141.18 337 *e*PKP **PKPdf 22 32 18.2 -4.2**
comp=Z,58nm,1.2s,baz=41
KMY Karmoy 141.81 357 *e*PKPdf **PKPdf 22 32 20.8 -2.5**
HOMB Homborsund 142.50 354 *e*PKPdf **PKPdf 22 32 21.0 -3.6**
HOMB Homborsund 142.50 354 *i* P **PKPdf 22 32 19.0 -5.6**
LODK Lodwar 142.59 247 PKPdf **PKPdf 22 32 24.0 -2.2**
SUW Suwalki 143.17 339 *e*PKP PKPab 22 32 23.4 -0.4
AKASG Malin Array Be 143.24 330 PKhKP PKPpre 22 32 23.1
comp=Z,51nm,0.6s,baz=44,slow=4.3,SNR=201
AKASG SKPbc **SKiKP 22 35 13.9 -0.1**
comp=Z,3.0nm,0.9s,baz=49,slow=2.9,SNR=6.2
KIEV Kiev 143.25 330 PKPdf PKPab 22 32 23.2 -1.0
KIEV Kiev 143.25 330 *i* PKPbc PKPab 22 32 22.7 -1.5
SNR=53
KIEV Kiev 143.25 330 ⇑P PKPab 22 32 23.5 -0.7
KIEV Kiev 143.25 330 ⇑PKIKP PKPab 22 32 23.5 -0.7
MCD Coleburn Disti 143.38 4 *e*P PKPab 22 32 23.7 -0.8
KPL Plockton 143.42 6 *e*P PKPab 22 32 23.8 -0.8
DEL Delary 143.46 348 *i* P PKPab 22 32 23.0 -1.8
SIM Simferopol' 144.06 319 *e*PKIKP PKPbc 22 32 27.3 0.0
SIM *e* 22 35 50.2
SIM pmax pmax
comp=Z,150nm,0.8s
SIM pmax pmax
comp=Z,55nm,18.4s
MBAR Mbarara 144.12 237 **PKPdf 22 32 29.4 +0.3**
MBAR Mbarara 144.12 237 PKIKP **PKPdf 22 32 29.4 +0.3**
MUD Monsted U'grnd 144.20 353 *e*P PKPbc 22 32 27.0 -0.3
LUNU Lund 144.33 348 *i* P PKPbc 22 32 25.0 -2.7
LAWE Loch Awe, Argy 144.51 7 *e*P **PKPdf 22 32 27.1 -1.0**
BSD Bornholm Skovb 144.52 347 *e*P **PKPdf 22 32 27.0 -1.3**
PGBU Glenifferbraes 145.04 6 *e*P **PKPdf 22 32 28.2 -0.9**
SORM Soroca 145.39 328 ⇑P **PKPbc 22 32 30.8 -0.4**
SORM Soroca 145.39 328 ⇑PKIKP **PKPbc 22 32 30.8 -0.4**
PURM Purcari 145.63 324 ⇑P **PKPbc 22 32 31.3 -0.6**
EKA Eskdalemuir Ar 145.63 5 PKPbc **PKPdf 22 32 29.9 -0.2**
comp=Z,32nm,0.8s,baz=346,slow=2.5,SNR=30
GKP Gorka Klasztor 145.64 343 *e*PKP **PKPbc 22 32 31.7 0.0**
ESK Eskdalemuir 145.64 5 **PKPab 22 32 32.8 -0.4**
ESK Eskdalemuir 145.64 5 *e*P **PKPdf 22 32 30.1 -0.1**
ESK Eskdalemuir 145.64 5 PKP2 **PKPab 22 32 32.8 -0.4**
NEWG New Galloway 145.75 6 *e*P **PKPdf 22 32 30.7 +0.3**
MILM Milestii Mici 145.95 326 ⇑P **PKPbc 22 32 32.5 -0.3**
MILM Milestii Mici 145.95 326 ⇑PKIKP **PKPbc 22 32 32.5 -0.3**
EDMD Edmundbyers 146.21 3 *e*P **PKPdf 22 32 32.0 +0.8**
IASR Iasi 146.42 327 ⇑P **PKPbc 22 32 34.0 -0.1**
BSEG Bad Segeberg 146.50 350 *e*PKPbc **PKPbc 22 32 33.8 -0.3**
baz=12,slow=2.4
BSEG *e*PKPab **PKPab 22 32 36.5 -0.1**
baz=12,slow=2.4
IOMK Kirk Michael 146.57 6 *e*P **PKPbc 22 32 33.1 -1.2**
WIM Isle of Man 146.67 6 *e*P **PKPbc 22 32 33.9 -0.7**
BRTR Keskin Array B 146.79 311 **PKPdf 22 32 33.2 +0.5**
BRTR Keskin Array B 146.79 311 PKPbc **PKPdf 22 32 33.5 +0.7**
comp=Z,22nm,0.8s,baz=38,slow=0.6,SNR=61
BRTR pPKPbc pPKPab 22 34 43.2 +2.4
comp=Z,0.9nm,0.9s,baz=96,slow=1.4,SNR=1.8
BRTR Keskin Array B 146.79 311 PKIKP **PKPdf 22 32 33.3 +0.5**
KIRS Kirsehir-Merke 146.84 310 ⇑P **PKPbc 22 32 35.6 0.0**
KWP Kalwaria Pacla 146.86 334 *e*PKP **PKPbc 22 32 35.1 -0.1**
PRAR RASCA 146.97 328 ⇑P **PKPbc 22 32 35.2 -0.4**
VLDR Vladesti 147.03 325 ⇑P **PKPbc 22 32 36.3 +0.5**
TLCR 147.03 323 ⇓P **PKPbc 22 32 35.3 -0.5**
TLCR 147.03 323 ⇓PKP2 **PKPbc 22 32 35.3 -0.5**
VARL Varlezi 147.12 325 ⇓P **PKPbc 22 32 36.5 +0.5**
SCTR Scanteiesti 147.18 325 ⇑P **PKPdf 22 32 34.4 +1.4**
TATR Tatarca 147.20 324 ⇑P **PKPbc 22 32 36.5 +0.3**
RUE Ruedersdorf 147.22 346 *e*PKPbc **PKPbc 22 32 35.9 -0.1**
baz=12,slow=2.4
RUE *e*PKPab **PKPab 22 32 40.7 +1.1**
baz=12,slow=2.4
GHRR 147.25 326 ⇑P **PKiKP 22 32 37.4 -0.7**
JURR Jurilovca 147.25 323 ⇑P **PKPbc 22 32 36.4 0.0**
BURAR Bucovina Array 147.28 330 **PKPbc 22 32 35.4 -1.2**
BURAR Bucovina Array 147.28 330 ⇑P **PKPbc 22 32 37.0 +0.5**
BURAR Bucovina Array 147.28 330 ⇑PKP2 **PKPbc 22 32 37.0 +0.5**
ANTO Ankara 147.32 312 **PKPdf 22 32 34.3 +0.7**
ANTO Ankara 147.32 312 ⇑P **PKPdf 22 32 34.5 +0.9**
ANTO Ankara 147.32 312 ⇑PKIKP **PKPdf 22 32 34.5 +0.9**
NEGRR Negrea 147.33 324 ⇑P **PKPbc 22 32 37.1 +0.6**
TESR Tescani 147.34 327 ⇑P **PKPbc 22 32 36.7 +0.1**
TUDR 147.41 325 ⇑P **PKiKP 22 32 38.0 -0.4**
CFR Carcaliu 147.42 324 ⇑P **PKPbc 22 32 36.9 +0.1**
CFR Carcaliu 147.42 324 ⇑PKP2 **PKPbc 22 32 36.9 +0.1**
COSR Cosmesti PH 147.43 325 ⇓P **PKPbc 22 32 36.9 +0.1**
TPGR Topolog 147.46 323 ⇑P **PKPbc 22 32 37.3 +0.3**
OJC Ojcow 147.49 338 *e*PKP **PKPbc 22 32 37.0 +0.1**
PANC Panciu 147.51 326 ⇑P **PKPbc 22 32 37.7 +0.7**
WLF1 Llynfaes 147.54 6 *e*P **PKPbc 22 32 36.0 -0.8**
KOLS Kolonicke sedl 147.59 334 *e*PKIKP **PKPdf 22 32 35.1 +1.5**
KOLS Kolonicke sedl 147.59 334 *e*PKP **PKPdf 22 32 35.1 +1.5**
KOLS *e* 22 32 37.8
ONER Baraj Valea Uz 147.59 327 ⇓P **PKPbc 22 32 38.0 +0.8**
MMAI Mount Meron Ar 147.59 299 PKPbc **PKPbc 22 32 37.9 +0.1**
comp=Z,53nm,0.6s,baz=71,slow=6.3,SNR=56
MMAI pPKPbc **pPKPab 22 34 46.6 +2.7**
comp=Z,9.9nm,1.0s,baz=42,slow=4.5,SNR=4.2
STHS Stebnicka Huta 147.61 336 *e*PKP2 **PKPbc 22 32 36.9 -0.3**
STHS Stebnicka Huta 147.61 336 *e*PKP **PKPbc 22 32 36.9 -0.3**
ODBI Odobesti 147.63 326 ⇑P **PKiKP 22 32 38.3 -0.6**
VRI Vrincioaia 147.73 326 ⇑P **PKPbc 22 32 37.5 -0.1**
VRI Vrincioaia 147.73 326 ⇑PKP2 **PKPbc 22 32 37.5 -0.1**
PLOR Plostina 147.78 326 ⇑P **PKPbc 22 32 37.6 -0.2**
PLOR Plostina 147.78 326 ⇑PKP2 **PKPbc 22 32 37.6 -0.2**
HARR Harsova 147.84 323 ⇑P **PKPbc 22 32 38.3 +0.4**
HARR Harsova 147.84 323 ⇑PKP2 **PKPbc 22 32 38.3 +0.4**
TLBR Topalu 147.86 323 ⇑P **PKPbc 22 32 38.4 +0.4**
MFTR Murfatlar 147.87 322 ⇓P **PKPbc 22 32 38.3 +0.3**
FLTG Flechtingen 147.88 349 *e*PKPbc **PKPbc 22 32 37.5 -0.3**
baz=12,slow=2.4
NRDL Niedersach Rie 147.92 350 *e*PKPbc **PKPbc 22 32 36.9 -0.9**
baz=12,slow=2.4
NRDL *e*PKPab **PKiKP 22 32 39.8 +0.6**
baz=12,slow=2.4
BISRR Bisoca 147.95 325 ⇓P **PKPbc 22 32 37.6 -0.7**
NIE Niedzica 147.97 336 *e*PKP **PKiKP 22 32 39.1 -0.4**
TURR Turia 147.97 327 ⇑P **PKPbc 22 32 38.8 +0.5**
MANR Mangalia 147.99 321 ⇑P **PKPbc 22 32 38.0 -0.3**
CVDA Cernavoda 148.00 323 ⇑P **PKPbc 22 32 38.4 +0.1**
COVR Voineasa-Covas 148.02 326 ⇑P **PKPbc 22 32 37.9 -0.6**
BMR Baia Mare 148.03 331 ⇑P **PKPbc 22 32 38.5 +0.2**
BMR Baia Mare 148.03 331 ⇑PKP2 **PKPbc 22 32 38.5 +0.2**
FOEL Foel Wylfa 148.05 5 *e*P **PKPbc 22 32 37.4 -0.9**
OZUR 148.06 327 ⇑P **PKPbc 22 32 38.9 +0.4**
ARCR ARCALIA 148.06 330 ⇑P **PKPbc 22 32 38.9 +0.4**
KSP Ksiaz 148.07 342 *e*PKP **PKPbc 22 32 38.6 +0.3**
PGOR Pogoanele 148.22 324 ⇑P **PKPbc 22 32 37.5 -1.3**
NEHR Nehoiu 148.25 326 ⇑P **PKPbc 22 32 38.9 -0.1**
ICOR Ion Corvin 148.26 322 ⇑P **PKPbc 22 32 39.5 +0.5**
ISR Istrita 148.32 325 ⇑P **PKPbc 22 32 39.4 +0.2**
ISR Istrita 148.32 325 ⇑PKP2 **PKPbc 22 32 39.4 +0.2**
OSTC Ostas 148.35 342 *e*PKPDF **PKPdf 22 32 35.5 +0.7**
OSTC ⇑*e*PKP **PKiKP 22 32 40.0 -0.3**
OSTC Ostas 148.35 342 *e*PKHKP PKPpre 22 32 35.5
DOPR Dopca 148.35 327 ⇑P **PKiKP 22 32 40.0 -0.4**

OKC Ostrava-Krasne 148.37 339⇑*e*PKP **PKPbc 22 32 39.5 +0.4**
OKC Ostrava-Krasne 148.37 339 *e*PKP2 **PKPbc 22 32 39.5 +0.4**
MLR Muntele Rosu 148.39 326 ⇑P **PKPbc 22 32 40.1 +0.6**
MLR Muntele Rosu 148.39 326 ⇑PKP2 **PKPbc 22 32 40.1 +0.6**
WACR West Acre 148.41 1 *e*P **PKiKP 22 32 40.6 +0.4**
IBBN Ibbenburen 148.44 353 *e*PKPbc **PKPbc 22 32 38.6 -0.6**
baz=12,slow=2.4
IBBN *e*PKPab **PKPab 22 32 44.1 -0.5**
baz=12,slow=2.4
UPC Upice 148.45 342⇑*e*PKP **PKPbc 22 32 39.8 +0.5**
UPC Upice 148.45 342 *e*PKP2 **PKPbc 22 32 39.8 +0.5**
CLL Collm 148.49 346 *e*PKHKP PKPpre 22 32 37.0
CLL *i* 22 32 46.3
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL pmax pmax
comp=Z,83nm,0.9s
CLL pmax pmax
comp=Z,36nm,0.8s
CLL Collm 148.49 346 *e*PKPbc **PKPbc 22 32 39.4 +0.1**
baz=12,slow=2.4
CLL *e*PKPab **PKPab 22 32 47.2 +2.3**
baz=12,slow=2.4
CLL Collm 148.49 346 *e*PKPdf **PKPdf 22 32 37.0 +2.0**
comp=Z,9.0nm,1.1s
CLL *i* PKPbc **PKiKP 22 32 41.3 +0.8**
comp=Z,83nm,0.9s
CLL *i* PKPab **PKPab 22 32 46.3 +1.5**
comp=Z,36nm,0.8s
CLL *e*pPKPab **pPKPab 22 34 47.0 0.0**
LANS Liptovska Anna 148.50 337 *e*PKP2 **PKiKP 22 32 40.6 0.0**
LANS Liptovska Anna 148.50 337 *e*PKP **PKiKP 22 32 40.6 0.0**
DPC Dobruska-Polom 148.50 342 *e*PKPDF **PKPdf 22 32 35.4 +0.3**
DPC ⇑*e*PKP **PKPbc 22 32 40.0 +0.5**
DPC Dobruska-Polom 148.50 342 *e*PKHKP PKPpre 22 32 35.4
CLZ Clausthal 148.51 349 *e*PKPbc **PKPbc 22 32 39.0 -0.5**
baz=12,slow=2.4
CLZ *e*PKPab **PKPab 22 32 45.2 +0.3**
baz=12,slow=2.4
LEHL Lehliu 148.59 324 ⇑P **PKPbc 22 32 39.7 -0.1**
KRLC Kraliky 148.60 341⇑*e*PKP **PKPbc 22 32 40.0 +0.2**
KRLC Kraliky 148.60 341 *e*PKP2 **PKPbc 22 32 40.0 +0.2**
MORC Moravsky Berou 148.62 340 *e*PKP **PKPbc 22 32 39.6 -0.2**
MORC Moravsky Berou 148.62 340 ⇑P **PKPbc 22 32 40.3 +0.5**
MORC Moravsky Berou 148.62 340 ⇑PKP2 **PKPbc 22 32 40.3 +0.5**
KECS Kecovo 148.66 335 *e*PKP2 **PKiKP 22 32 40.6 -0.3**
KECS Kecovo 148.66 335 *e*PKP **PKiKP 22 32 40.6 -0.3**
MESR Meseseni 148.66 331 ⇑P **PKPbc 22 32 39.3 -0.6**
BRG Berggiesshubel 148.67 345 *e*PKP PKPdf 22 32 22.8 -12
BRG Amp 22 32 23.8
comp=Z,5.5nm,1.4s
BRG Berggiesshubel 148.67 345 P **PKPbc 22 32 40.2 +0.4**
BRG Amp 22 32 43.0
comp=Z,30nm,0.8s
BRG Berggiesshubel 148.67 345 P **PKPab 22 32 47.5 +1.9**
BRG Amp 22 32 48.2
comp=Z,16nm,0.8s
BRG pPKP **pPKPdf 22 34 43.3 -0.1**
BRG Amp 22 34 45.3
comp=Z,3.5nm,1.0s
BRG Berggiesshubel 148.67 345 *e*PKPbc **PKPbc 22 32 40.2 +0.4**
baz=12,slow=2.4
CBBR Cluj-Babes-Bol 148.67 330 ⇑P **PKPbc 22 32 40.0 +0.1**
CJR Cluj-Napoca 148.69 330 ⇑P **PKPbc 22 32 40.5 +0.4**
CJR Cluj-Napoca 148.69 330 ⇑PKP2 **PKPbc 22 32 40.5 +0.4**
MDB Medias 148.73 328 ⇑P **PKPbc 22 32 38.7 -1.4**
MDB Medias 148.73 328 ⇑PKHKP PKPpre 22 32 38.7
NEUB Neuenburg 148.85 347 *e*PKPbc **PKPbc 22 32 40.2 -0.1**
baz=12,slow=2.4
NEUB *e*PKPab **PKPab 22 32 48.1 +1.7**
baz=12,slow=2.4
GTTG Gottingen 148.86 350 *e*PKPbc **PKPbc 22 32 39.7 -0.5**
baz=12,slow=2.4
RICC Richard 148.94 344⇑*e*PKP **PKPbc 22 32 40.9 +0.4**
MARR Marisel-Cluj 148.94 330 ⇑P **PKPbc 22 32 40.4 -0.4**
DRGR 149.04 331 ⇑P **PKPbc 22 32 39.3 -1.7**
DRGR 149.04 331 ⇑PKHKP PKPpre 22 32 39.3
MONM Monmouth 149.13 5 *e*P **PKPbc 22 32 40.1 -0.8**
TNR Turnu Rosu 149.13 328 ⇑P **PKiKP 22 32 42.0 0.0**
TNR Turnu Rosu 149.13 328 ⇑PKP2 **PKiKP 22 32 42.0 0.0**
ARR Arges 149.15 327 ⇑P **PKiKP 22 32 42.3 +0.1**
VYHS Vyhne 149.27 337 *e*PKHKP PKPpre 22 32 38.0
VYHS Vyhne 149.27 337 *e*PKP **PKPdf 22 32 38.0 +1.6**
VYHS *e* 22 32 41.6
PRU Pruhonice 149.33 343⇑*e*PKP **PKPbc 22 32 41.5 +0.1**
PRU Pruhonice 149.33 343 *e*PKHKP PKPpre 22 32 41.5
GOPC GO Pecny, Ondr 149.33 343⇑*e*PKP **PKPbc 22 32 41.7 +0.2**
GOPC GO Pecny, Ondr 149.33 343 *e*PKHKP PKPpre 22 32 41.7
VRAC Vranov 149.34 340 *e*PKP **PKPbc 22 32 40.9 -0.6**
VRAC Vranov 149.34 340 ⇑P **PKPbc 22 32 41.9 +0.4**
VRAC Vranov 149.34 340 ⇑PKHKP PKPpre 22 32 41.9
PSZ Piszkesteto 149.35 335 ⇑P **PKPbc 22 32 41.7 0.0**
PSZ Piszkesteto 149.35 335 ⇑PKHKP PKPpre 22 32 41.7
BUG Bochum--Univer 149.35 353 *e*PKPbc **PKPbc 22 32 41.0 -0.4**
baz=12,slow=2.4
JAVC Velka Javorina 149.38 339 *e*PKP **PKiKP 22 32 42.8 +0.3**
MOX Moxa 149.41 347 *e*PKPbc **PKPbc 22 32 41.7 +0.1**
baz=12,slow=2.4
MOX *e*PKPab **PKPab 22 32 50.5 +1.8**
baz=12,slow=2.4
KASTN Kahler Asten 149.44 351 *e*PKPbc **PKPbc 22 32 40.8 -0.9**
baz=12,slow=2.4
TANN Tannenbergstha 149.45 346 *e*PKPbc **PKPbc 22 32 42.1 +0.3**
baz=12,slow=2.4
TANN *e*PKPab **PKPab 22 32 50.9 +1.9**
baz=12,slow=2.4
LOT Lotru 149.52 328 ⇑P **PKPbc 22 32 41.5 -0.7**
HUMR Humele 149.54 326 ⇑P **PKPbc 22 32 41.7 -0.4**
UBBA Unterbreizbach 149.56 349 *e*PKPbc **PKPbc 22 32 41.9 +0.1**
baz=12,slow=2.4
KRUC Moravsky 149.62 340 *e*PKP **PKPbc 22 32 41.3 -0.9**
NKC Novy Kostel 149.62 346⇑*e*PKP **PKPbc 22 32 42.3 +0.1**
NKC Novy Kostel 149.62 346 *e*PKHKP PKPpre 22 32 42.3
DEV Deva 149.63 330 ⇑P **PKPbc 22 32 42.4 +0.1**
DEV Deva 149.63 330 ⇑PKHKP PKPpre 22 32 42.4
SMOL Smolenice 149.75 339 *e*PKHKP PKPpre 22 32 43.4
SIRR Siria 149.91 331 ⇑P **PKiKP 22 32 43.4 -0.2**
ZVC Zvikov 149.92 343⇑*e*PKP **PKPbc 22 32 43.0 +0.1**
MODS Modra-Piesok 149.93 339 *e*PKHKP PKPpre 22 32 43.7
MODS Modra-Piesok 149.93 339 *e*PKP **PKiKP 22 32 43.7 +0.1**
MANZ Manzenberg 149.93 346 *e*PKPbc **PKPbc 22 32 43.1 +0.1**
baz=12,slow=2.4
SRO Srobarova 150.04 337 *e*PKHKP **PKiKP 22 32 43.8 0.0**
SRO Srobarova 150.04 337 *e*PKP **PKiKP 22 32 43.8 0.0**
GZR Gura Zlata 150.05 329 ⇑P **PKPbc 22 32 43.2 -0.2**
GZR Gura Zlata 150.05 329 ⇑PKIKP **PKPbc 22 32 43.2 -0.2**
SURR Surduc 150.09 330 ⇑P **PKPbc 22 32 43.3 -0.1**
ELND Elena 150.10 322 ⇑P **PKPbc 22 32 42.8 -0.7**
ROTZ Rotzenmuhle 150.11 346 *e*PKPbc **PKPbc 22 32 43.6 +0.2**
baz=12,slow=2.4
ROTZ *e*PKPab **PKPab 22 32 54.0 +2.3**
baz=12,slow=2.4
SBD Saint Breward 150.19 8 *e*P **PKPbc 22 32 42.1 -1.3**
BAND Balkesir-Ban 150.24 316 ⇑P **PKPbc 22 32 43.2 -0.7**
UCC Uccle 150.25 356 *d*PKP **PKPbc 22 32 43.3 -0.3**
MEM Membach 150.31 354 *d*PKPdf **PKPdf 22 32 37.5 -0.4**
MEM *d*PKP **PKPbc 22 32 43.2 -0.5**
BTNL Ternell 150.32 354 *d*PKP **PKPbc 22 32 43.5 -0.3**
SRE Strehaia 150.37 328 ⇑P **PKiKP 22 32 44.6 0.0**
SRE Strehaia 150.37 328 ⇑PKIKP **PKiKP 22 32 44.6 0.0**
KHC Kasperske Hory 150.37 344 *e*PKPDF **PKPdf 22 32 39.4 +1.3**
KHC ⇑*e*PKP **PKPbc 22 32 44.0 0.0**
KHC *ex* x 22 34 55.1
KHC Kasperske Hory 150.37 344 *e*PKIKP **PKPdf 22 32 39.4 +1.3**
BSTI Sart Tilman 150.37 355 *d*PKP **PKPbc 22 32 43.6 -0.3**
TNS Taunus Mts 150.39 351 *e*PKPbc **PKPbc 22 32 43.7 -0.3**
baz=12,slow=2.4
GRF Grafenberg Arr 150.40 347 *e*PKPbc **PKPbc 22 32 43.7 -0.3**
baz=12,slow=2.4
GRFO Grafenberg 150.40 347 **PKiKP 22 32 44.3 -0.2**
GRFO Grafenberg 150.40 347 PKIKP **PKiKP 22 32 44.3 -0.2**
DYA Yadsworthy 150.41 7 *e*P **PKPbc 22 32 42.7 -1.2**
BZS Buzias 150.43 331 ⇑P **PKPbc 22 32 44.2

BCLA				*d*PKP	**PKPab**	**22 32 52.5**	**-1.0**
GEC2	**GERESS Array S**	**150.60**	**343**	*ep*PKPbc	pPKPbc	22 34 55.4	+4.0
GERES	**GERESS Array B**	**150.60**	**343**	PKP	**PKPdf**	**22 32 38.0**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=350,slow=4.9,SNR=8.8						
GERES				PKPbc	**PKPbc**	**22 32 44.1**	**-0.5**
	comp=Z,25nm,0.8s,baz=20,slow=3.1,SNR=50						
GERES				pPKPbc	**pPKPab**	**22 34 54.5**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=24,slow=5.4,SNR=4.1						
HERR	**Herculane**	**150.60**	**329**	⇓P	**PKPbc**	**22 32 44.5**	**-0.1**
BMRD	**Maredsous**	**150.72**	**356**	*d*PKP	**PKPbc**	**22 32 43.7**	**-0.9**
CONA	**Conrad Observa**	**150.78**	**340**	*e*PKP	**PKPdf**	**22 32 40.1**	**+1.2**
	comp=Z,10nm,1.8s						
CONA				*i* PKP	**PKPbc**	**22 32 45.1**	**+0.1**
	comp=Z,18nm,0.6s,SNR=17						
BANR	**Banloc**	**150.82**	**331**	⇑P	**PKiKP**	**22 32 45.9**	**+0.4**
RCHB	**Rochefort**	**150.83**	**355**	*d*PKPdf	**PKPdf**	**22 32 40.0**	**+1.3**
RCHB				*d*PKP	**PKPbc**	**22 32 44.5**	**-0.4**
RONA	**Rosalia, Austr**	**150.84**	**339**	*e*PKP	**PKPdf**	**22 32 40.0**	**+1.1**
	comp=Z,4.8nm,1.1s						
RONA				*i* PKP	**PKPbc**	**22 32 45.2**	**+0.1**
	comp=Z,29nm,0.5s,SNR=20						
DOU	**Dourbes**	**150.93**	**356**	*d*PKPdf	**PKPdf**	**22 32 38.9**	**0.0**
DOU				*d*PKP	**PKPab**	**22 32 53.6**	**-1.4**
MDVR	**Moldovita**	**151.01**	**329**	⇑P	**PKPbc**	**22 32 45.5**	**-0.1**
WLF	**Walferdange**	**151.23**	**354**	*e*PKPbc	**PKPbc**	**22 32 45.5**	**-0.4**
	baz=12,slow=2.4						
WLF	**Walferdange**	**151.23**	**354**	*d*PKP	**PKiKP**	**22 32 46.1**	**-0.1**
MORH	**Mrgy, Hungar**	**151.23**	**335**	⇑P	**PKPbc**	**22 32 45.9**	**-0.1**
MOA	**Molln**	**151.34**	**342**	*e*PKP	**PKPbc**	**22 32 45.7**	**-0.5**
	comp=Z,8.0nm,0.5s						
ARSA	**Arzberg**	**151.49**	**340**	*i* PKP	**PKPdf**	**22 32 40.8**	**+1.0**
	comp=Z,1.3nm,0.5s						
ARSA				*e*PKP	**PKPbc**	**22 32 46.2**	**-0.4**
	comp=Z,7.1nm,0.9s						
FRGS	**Fruska Gora**	**151.59**	**332**	*e*P	**PKPbc**	**22 32 45.1**	**-1.8**
BIOA	**Bad Ischl, Aus**	**151.67**	**342**	*e*PKP	**PKPdf**	**22 32 39.2**	**-0.9**
	comp=Z,5.8nm,1.2s						
BIOA				*i* PKP	**PKPbc**	**22 32 46.1**	**-0.9**
	comp=Z,17nm,0.8s						
BIOA				*e*PKP	**PKPab**	**22 32 57.7**	**-0.5**
	comp=Z,41nm,1.2s						
STU	**Stuttgart**	**151.67**	**349**	*e*PKPbc	**PKPbc**	**22 32 46.3**	**-0.6**
	baz=12,slow=2.4						
FUR	**Furstenfeldbru**	**151.83**	**346**	*e*PKPbc	**PKPbc**	**22 32 47.2**	**-0.1**
	baz=12,slow=2.4						
FUR				*e*PKPab	**PKPab**	**22 33 00.9**	**+2.0**
	baz=12,slow=2.4						
BOVS	**Bovan**	**151.85**	**328**	⇑P	**PKPbc**	**22 32 46.8**	**-0.7**
RJOB	**Jochberg**	**151.85**	**344**	*e*PKPbc	**PKPbc**	**22 32 47.1**	**-0.3**
	baz=12,slow=2.4						
RJOB				*e*PKPab	**PKPab**	**22 33 01.8**	**+2.7**
	baz=12,slow=2.4						
RJOB				*ep*PKPbc	**pPKPab**	**22 34 58.2**	**-2.5**
KOGS	**Kog**	**151.94**	**338**	*i* PKPbc	**PKiKP**	**22 32 48.6**	**+0.9**
KOGS				*i* PKPab	**PKPab**	**22 33 00.9**	**+1.5**
SOKA	**Soboth**	**152.15**	**340**	*e*PKP	**PKPdf**	**22 32 42.0**	**+1.1**
	comp=Z,6.0nm,1.1s						
SOKA				*i* PKP	**PKPbc**	**22 32 47.2**	**-0.9**
	comp=Z,4.6nm,0.5s,SNR=5.2						
PERS	**Pernice**	**152.16**	**339**	*i* PKPbc	**PKPbc**	**22 32 47.2**	**-1.0**
PERS				*i*		22 32 49.2	
LESA	**Schwarzleotal**	**152.17**	**343**	*e*PKP	**PKPdf**	**22 32 40.2**	**-0.7**
	comp=Z,6.7nm,1.1s						
LESA				*i* PKP	**PKPbc**	**22 32 47.7**	**-0.5**
	comp=Z,13nm,0.6s						
LESA				*e*PKP	**PKPab**	**22 33 02.1**	**+1.6**
	comp=Z,14nm,0.8s						
TEKS	**Tekeris**	**152.19**	**331**	*e*P	**PKPbc**	**22 32 46.7**	**-1.5**
BFO	**Black Forest**	**152.25**	**350**		**PKPbc**	**22 32 47.8**	**-0.4**
BFO	**Black Forest**	**152.25**	**350**	PKIKP	**PKPbc**	**22 32 47.8**	**-0.4**
KBA	**Koelnbreinsper**	**152.31**	**342**	*e*PKP	**PKPdf**	**22 32 40.0**	**-1.2**
	comp=Z,7.1nm,1.3s						
KBA				*i* PKP	**PKPbc**	**22 32 47.4**	**-1.2**
	comp=Z,29nm,0.9s						
OBKA	**Obir**	**152.46**	**340**	*e*PKP	**PKPdf**	**22 32 42.7**	**+1.3**
	comp=Z,1.9nm,0.7s						
OBKA	**Obir**	**152.46**	**340**	*e*P	**PKPbc**	**22 32 46.8**	**-2.0**
PEHC	**Pehcevo**	**152.52**	**324**	*i* P	**PKPbc**	**22 32 47.9**	**-1.3**
ECH	**Echery**	**152.53**	**352**		**PKiKP**	**22 32 50.2**	**+1.2**
ECH				PKPab	**PKPab**	**22 33 00.8**	**-1.1**
ECH	**Echery**	**152.53**	**352**	PKIKP	**PKiKP**	**22 32 50.2**	**+1.2**
ECH						22 33 00.8	
WATA	**Walderalm**	**152.54**	**345**	*e*PKP	**PKPdf**	**22 32 43.0**	**+1.5**
	comp=Z,7.0nm,1.0s						
WATA				*i* PKP	**PKPbc**	**22 32 48.6**	**-0.5**
	comp=Z,36nm,1.0s,SNR=5.9						
WATA				*e*PKP	**PKPab**	**22 33 02.4**	**+0.3**
	comp=Z,16nm,0.8s						
UBR	**Ueberruh**	**152.54**	**347**	*e*PKPbc	**PKPbc**	**22 32 48.7**	**-0.3**
	baz=12,slow=2.4						
RETA	**Reutte**	**152.58**	**346**	*e*PKP	**PKPbc**	**22 32 48.8**	**-0.2**
	comp=Z,6.6nm,0.7s						
RETA				*i* PKP	**PKPab**	**22 33 02.5**	**+0.3**
	comp=Z,24nm,1.2s						
WTTA	**Wattenberg**	**152.59**	**345**	*i* PKP	**PKPdf**	**22 32 41.3**	**-0.3**
	comp=Z,6.8nm,0.8s						
WTTA				*i* PKP	**PKPbc**	**22 32 48.7**	**-0.5**
	comp=Z,38nm,0.8s						
MYKA	**Terra Mystica**	**152.63**	**341**	*i* PKP	**PKPbc**	**22 32 48.0**	**-1.2**
	comp=Z,16nm,0.6s						
MOTA	**Moosalm**	**152.64**	**346**	*e*PKP	**PKPdf**	**22 32 41.0**	**-0.7**
	comp=Z,14nm,1.1s						
MOTA				*i* PKP	**PKPbc**	**22 32 48.9**	**-0.4**
	comp=Z,11nm,0.7s						
MOTA				*e*PKP	**PKPab**	**22 33 01.8**	**-0.8**
	comp=Z,16nm,0.8s						
SQTA	**Sankt Quirin**	**152.73**	**345**	*e*PKP	**PKPdf**	**22 32 41.2**	**-0.6**
	comp=Z,4.6nm,0.9s						
SQTA				*i* PKP	**PKPbc**	**22 32 48.9**	**-0.6**
	comp=Z,13nm,0.7s						
SQTA				*i* PKP	**PKPab**	**22 33 04.5**	**+1.5**
	comp=Z,24nm,1.7s						
CRES	**Cresnjevec Ost**	**152.75**	**338**	*e*P	**PKPbc**	**22 32 48.3**	**-1.1**
BBLS	**Lazi&#263i**	**152.78**	**331**	*e*P	**PKPbc**	**22 32 48.6**	**-1.0**
PRED	**Cave del Predi**	**152.82**	**341**	PKPab	**PKPab**	**22 33 02.2**	**-1.1**
ABTA	**Abfaltersbach**	**152.84**	**343**	*e*PKP	**PKPdf**	**22 32 40.9**	**-1.0**
	comp=Z,15nm,1.0s						
ABTA				*i* PKP	**PKPbc**	**22 32 48.6**	**-1.1**
	comp=Z,17nm,0.6s						
LJU	**Ljubljana**	**152.88**	**340**	*i* PKPdf	**PKPdf**	**22 32 41.6**	**-0.3**
LJU				*i* PKPbc	**PKPbc**	**22 32 49.1**	**-0.5**
LJU				*i*		22 32 51.1	
A051A	**Mrakovica**	**152.91**	**335**	*e*P	**PKPbc**	**22 32 48.5**	**-1.3**
SJES	**Sjenica**	**152.98**	**329**	*e*P	**PKPdf**	**22 32 44.3**	**+2.0**
RUDO	**Rudo**	**152.99**	**330**	*e*P	**PKPbc**	**22 32 48.8**	**-1.2**
BLY	**Banja Luka**	**153.02**	**335**	*e*P	**PKPbc**	**22 32 47.0**	**-3.0**
FETA	**Feichten**	**153.03**	**346**	*e*PKP	**PKPdf**	**22 32 42.0**	**-0.3**
	comp=Z,4.8nm,0.8s						
FETA				*i* PKP	**PKPbc**	**22 32 49.8**	**-0.4**
	comp=Z,19nm,0.8s						
CEY	**Cerknica**	**153.18**	**339**	*i* PKPbc	**PKPbc**	**22 32 49.8**	**-0.5**
CEY				*i*		22 32 51.7	
CEY	**Cerknica**	**153.18**	**339**	*e*P	**PKPbc**	**22 32 49.4**	**-0.9**
SABO	**M.te Sabotino**	**153.22**	**341**	PKPdf	**PKPdf**	**22 32 43.4**	**+0.9**
SABO				PKPbc	**PKiKP**	**22 32 51.0**	**+0.5**
CIMO	**Cimolais**	**153.26**	**343**	PKPbc	**PKPbc**	**22 32 49.7**	**-0.8**
SKDS	**Skadanscina**	**153.48**	**340**	*e*P	**PKPbc**	**22 32 49.2**	**-1.8**
A050A	**Klekovaca**	**153.50**	**335**	*e*P	**PKPdf**	**22 32 44.0**	**+1.1**
UPM	**Unac-Piva**	**153.52**	**330**	*e*P	**PKPbc**	**22 32 50.2**	**-1.2**
CTI	**Castel Tesino**	**153.72**	**344**	PKPdf	**PKPdf**	**22 32 44.5**	**+1.3**
CTI				PKPbc	**PKiKP**	**22 32 52.7**	**+1.1**
CTI	**Castel Tesino**	**153.72**	**344**	PKIKP	**PKiKP**	**22 32 52.7**	**+1.1**
TUE	**Stuetta**	**153.85**	**347**	PKPbc	**PKiKP**	**22 32 52.6**	**+0.6**
TUE				PKPab	**PKPab**	**22 33 08.9**	**+1.0**
BRY	**Bratogost**	**153.93**	**330**	*e*P	**PKPbc**	**22 32 48.4**	**-3.8**
PDG	**Podgorica**	**153.95**	**329**	*e*P	**PKPbc**	**22 32 50.3**	**-1.7**
PDG	**Podgorica**	**153.95**	**329**	⇑P	**PKPbc**	**22 32 51.3**	**-0.7**
OHR	**Ohrid**	**154.13**	**325**	*i* P	**PKPbc**	**22 32 52.1**	**-0.4**
TREB	**Trebinje**	**154.16**	**330**	*e*P	**PKPbc**	**22 32 49.0**	**-3.5**
HCY	**Herceg Novi**	**154.30**	**330**	*e*P	**PKPdf**	**22 32 48.0**	**+4.0**
SENIN	**Lac Senin/Sane**	**154.32**	**351**	PKPdf	**PKPdf**	**22 32 46.3**	**+2.1**
STON	**Ston**	**154.33**	**332**	*e*P	**PKiKP**	**22 32 50.6**	**-2.2**
BNI	**Bardonecchia**	**155.70**	**351**	PKPdf	**PKPdf**	**22 32 45.4**	**-0.6**
BNI	**Bardonecchia**	**155.70**	**351**	PKIKP	**PKPdf**	**22 32 45.4**	**-0.6**
NRCA	**Norcia**	**156.19**	**338**	PKPab	**PKPab**	**22 33 18.7**	**+0.9**
CAMP	**Campotosto**	**156.34**	**337**	PKPab	**PKPab**	**22 33 19.5**	**+0.9**
PBRG	**Braganca**	**158.23**	**17**	*e*PKPab	**PKPab**	**22 33 26.5**	**-0.2**
MVO	**Moncorvo**	**158.75**	**18**	*e*PKPdf	**PKPdf**	**22 32 52.7**	**+2.9**
MVO	**Moncorvo**	**158.75**	**18**	*e*PKPab	**PKPab**	**22 33 30.9**	**+1.9**
PCAS	**Casmilo, Conde**	**159.29**	**22**	*e*PKPab	**PKPab**	**22 33 31.3**	**0.0**
MTE	**Manteigas**	**159.29**	**20**	*e*PKPdf	**PKPdf**	**22 32 52.8**	**+2.4**
PCBR	**Castelo Branco**	**159.82**	**20**	*e*PKPdf	**PKPdf**	**22 32 51.5**	**+0.6**
PCBR	**Castelo Branco**	**159.82**	**20**	*e*PKPab	**PKPab**	**22 33 35.1**	**+1.5**
PMRV	**Marv??o**	**160.22**	**20**	*e*PKPdf	**PKPdf**	**22 32 53.5**	**+2.1**
PMTG	**Montargil**	**160.26**	**23**	*e*PKPab	**PKPab**	**22 33 33.3**	**-2.3**
PESTR	**Estremoz**	**160.66**	**22**	*e*PKPab	**PKPab**	**22 33 38.5**	**+1.1**
EVO	**Evora**	**160.81**	**23**	*e*PKPab	**PKPab**	**22 33 38.9**	**+0.9**
ESDC	**Sonseca Array**	**160.91**	**13**	PKPdf	**PKPdf**	**22 32 53.9**	**+1.6**
ESDC				PKPab	**PKPab**	**22 33 38.1**	**-0.3**
ESDC	**Sonseca Array**	**160.91**	**13**	PKP	**PKPdf**	**22 32 51.4**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=344,slow=2.5,SNR=8.4						
ESDC				PKPab	**PKPab**	**22 33 37.7**	**-0.7**
	comp=Z,9.6nm,1.0s,baz=342,slow=4.0,SNR=19						
ESDC				PP	**PP**	**22 37 22.1**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=319,slow=5.9,SNR=4.4						
PAB	**San Pablo**	**160.95**	**14**	⇓PKIKP	**PKPdf**	**22 32 52.6**	**+0.3**
PBEJ	**Beja**	**161.31**	**23**	*e*PKPdf	**PKPdf**	**22 32 55.5**	**+2.9**
MESJ	**Messejana**	**161.34**	**24**	*e*PKPdf	**PKPdf**	**22 32 55.5**	**+2.9**
MESJ	**Messejana**	**161.34**	**24**	*e*PKPab	**PKPab**	**22 33 42.2**	**+1.8**
PTEO	**Sao Teotonio**	**161.40**	**26**	*e*PKPdf	**PKPdf**	**22 32 48.6**	**-4.1**
PBAR	**Barrancos**	**161.47**	**21**	*e*PKPdf	**PKPdf**	**22 32 55.4**	**+2.6**
PBAR	**Barrancos**	**161.47**	**21**	*e*PKPab	**PKPab**	**22 33 43.0**	**+2.1**
PVAQ	**Vaqueiros**	**161.92**	**24**	*e*PKPab	**PKPab**	**22 33 44.1**	**+1.2**
KEST	**Kesra**	**163.82**	**336**	PKP	**PKPdf**	**22 32 55.1**	**-0.1**
	comp=Z,4.2nm,1.0s,baz=335,slow=4.7,SNR=3.5						
KEST				PKPab	**PKPab**	**22 33 50.8**	**-0.6**
	comp=Z,8.3nm,0.9s,baz=352,slow=5.6,SNR=7.2						
DBIC	**Dimbokro**	**164.45**	**156**	PKP	**PKPdf**	**22 32 55.7**	**-0.6**
	comp=Z,16nm,0.9s,baz=239,slow=1.7,SNR=14						
TORD	**Torodi Ar. Bea**	**172.10**	**182**		**PKPdf**	**22 33 00.0**	**-1.2**
TORD				PKPab	**PKPab**	**22 34 28.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**172.10**	**182**	PKP	**PKPdf**	**22 32 59.7**	**-1.5**
	comp=Z,9.1nm,0.9s,baz=355,slow=1.5,SNR=35						
TORD				PKPab	**PKPab**	**22 34 27.4**	**-0.9**
	comp=Z,4.3nm,0.8s,baz=162,slow=3.2,SNR=11						
TORD				PP	**PP**	**22 38 19.1**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=128,slow=7.3,SNR=2.9						

IDC 22 22:14:13.8±17.0, 33°.90N×83°.96E, h0km, mb3.5/3, mbtmp3.6/5, ML2.9/2, Error ellipse: s-maj=381.9km s-min=76.0km az=109.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.94**	**355**	Pn	Pn	22 17 18.1	-0.9
	0.1nm,0.3s,baz=171,slow=13,SNR=2.1						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**17.18**	**348**	P	P	22 18 16.6	-0.2
	0.1nm,0.3s,baz=167,slow=11,SNR=2.2						
	1.2nm,0.2s						
BVAR	**Borovoye Array**	**21.44**	**337**	P	P	22 19 03.0	-0.4
	0.4nm,0.5s,baz=158,slow=8.9,SNR=3.6						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**45.63**	**325**	P	P	22 22 35.8	+0.1
	1.0nm,0.7s,baz=123,slow=12,SNR=4.1						
	1.0nm,0.7s						
NB2	**NORSAR Subarra**	**52.77**	**324**	P	P	22 23 29.9	-0.5
	comp=Z,3.8nm,1.1s,baz=86,slow=7.9						
NOA	**NORSAR Array B**	**52.77**	**324**	P	P	22 23 30.1	-0.3
	comp=Z,0.8nm,0.8s,baz=86,slow=7.4,SNR=3.9						
	comp=Z,0.8nm,0.8s						

*JMA **22** 22:26:11.7±0.2, 24°.N±1°×122°.4E±0°.6, h19km, MV2.6/12, TAIWAN REGION*
*TAP **22** 22:26:12.4, 24°.06N×122°.35E, h25km, ML2.8, D*
ISC 22 22:26:11.8±1.0, 23°.96N±0°.03×122°.35E±0°.02, h24km±7km, n60, σ0°.55/92, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.16**	**350**	*i* P	**Pb**	**22 26 16.5**	**-0.1**
EOS4				S	**Sb**	**22 26 19.8**	**0.0**
EOS3	**EOS3**	**0.33**	**355**	*i* P	**Pb**	**22 26 19.0**	**-0.1**
EOS3				S	**Sb**	**22 26 24.2**	**+0.1**
EOS2	**EOS2**	**0.47**	**347**	P	**Pb**	**22 26 21.7**	**+0.3**
EAHA	**Aohua**	**0.67**	**304**	*e*P	**Pb**	**22 26 24.8**	**-0.1**
ETL	**Fush Village**	**0.69**	**287**	*e*P	**Pb**	**22 26 25.8**	**+0.5**
TWD	**Chiawan**	**0.70**	**280**	*e*P	**Pb**	**22 26 25.3**	**-0.1**
TWD				*e*S	**Sb**	**22 26 35.3**	**+0.7**
EWUT	**Wuta**	**0.71**	**313**	*e*P	**Pb**	**22 26 25.1**	**-0.4**
EWUT				*e*S	**Sb**	**22 26 33.9**	**-1.0**
NACB	**Ninganchiao**	**0.72**	**287**	P	**Pb**	**22 26 25.6**	**-0.1**
NACB				*e*S	**Sn**	**22 26 36.4**	**-0.4**
SHUL	**Shoufeng**	**0.74**	**257**	*e*S	**Sn**	**22 26 37.8**	**+0.6**
ESAO	**Su ao**	**0.77**	**323**	*e*P	**Pb**	**22 26 26.0**	**-0.5**
ETM	**Tongmen**	**0.78**	**271**	*e*P	**Pb**	**22 26 26.3**	**-0.5**
ETM				*e*S	**Sb**	**22 26 37.5**	**+0.5**
YOJ	**Yonaguni jima**	**0.78**	**50**	*e*P	**Pb**	**22 26 26.8**	**-0.1**
YOJ				*e*S	**Sn**	**22 26 37.8**	**-0.5**
TWC	**Suao**	**0.79**	**325**	*e*P	**Pb**	**22 26 26.0**	**-0.9**
TWC				*e*S	**Sb**	**22 26 36.2**	**-1.0**
ETLH	**Xiulin Townshi**	**0.83**	**287**	*e*P	**Pb**	**22 26 27.3**	**-0.3**
ETLH				*e*S	**Sn**	**22 26 39.7**	**+0.1**
LXIB	**Xiulin Townshi**	**0.86**	**274**	P	**Pb**	**22 26 27.8**	**-0.3**
LXIB				*e*S	**Sb**	**22 26 39.9**	**+0.6**
NDS	**Dongshan**	**0.88**	**319**	*e*P	**Pn**	**22 26 28.2**	**-0.5**
EGFH	**Guangfu**	**0.89**	**251**	*e*S	**Sn**	**22 26 41.1**	**+0.1**
WARBT	**Fenglin Townsh**	**0.91**	**255**	*e*P	**Pn**	**22 26 28.2**	**-1.0**
HGSD	**Ruisui**	**0.97**	**241**	*e*P	**Pn**	**22 26 30.0**	**+0.1**
HGSD				*e*S	**Sb**	**22 26 42.4**	**+0.1**
TWE	**Neicheng**	**0.98**	**321**	*e*P	**Pn**	**22 26 30.0**	**0.0**
ENTT	**Nioudou**	**0.98**	**314**	*e*P	**Pn**	**22 26 30.1**	**0.0**
NNSB	**Datong**	**1.00**	**298**	P	**Pn**	**22 26 30.4**	**0.0**
NNSB				*e*S	**Sn**	**22 26 43.9**	**+0.1**
WHF	**Hehuan Shan**	**1.01**	**281**	*i* P	**Pn**	**22 26 30.6**	**-0.3**
WHF				*e*S	**Sb**	**22 26 44.2**	**+0.4**
NNS	**Nan Shan**	**1.01**	**298**	*e*P	**Pn**	**22 26 30.4**	**-0.3**
NNS				*e*S	**Sn**	**22 26 44.9**	**+0.7**
ECBN	**Changbin**	**1.04**	**232**	*e*S	**Sn**	**22 26 44.6**	**-0.1**
FUSS	**Fushou**	**1.05**	**286**	*e*P	**Pn**	**22 26 31.3**	**0.0**
FUSB	**Fushanzhiwuyua**	**1.05**	**319**	P	**Pb**	**22 26 31.5**	**0.0**
FUSB				*e*S	**Sb**	**22 26 45.6**	**+0.6**
OWD	**Renai**	**1.07**	**270**	*e*P	**Pn**	**22 26 31.3**	**-0.2**
OWD				*e*S	**Sn**	**22 26 44.9**	**-0.8**
TIPB	**Shuangxi**	**1.11**	**335**	*e*P	**Pn**	**22 26 31.7**	**-0.2**
TIPB				*e*S	**Sb**	**22 26 46.5**	**-0.1**
YULB	**Yu-li**	**1.12**	**240**	*e*P	**Pn**	**22 26 31.9**	**-0.1**
YULB				*e*S	**Sn**	**22 26 45.5**	**-1.1**
NWLT	**Wulai**	**1.12**	**317**	*e*P	**Pn**	**22 26 32.1**	**+0.1**
NWLT				*e*S	**Sb**	**22 26 47.3**	**+0.5**
EYUL	**Yuli**	**1.12**	**237**	*e*S	**Sb**	**22 26 47.3**	**+0.4**
VWDT	**VWDT**	**1.12**	**260**	*e*P	**Pn**	**22 26 32.3**	**+0.3**
VWDT				*e*S	**Sb**	**22 26 47.0**	**+0.2**
TDCB	**Techi**	**1.13**	**285**	*e*P	**Pb**	**22 26 32.8**	**+0.1**
WUSB	**Renai**	**1.13**	**272**	*e*P	**Pn**	**22 26 32.4**	**+0.2**
YHNB	**Yeheng**	**1.13**	**309**		**Pn**	**22 26 32.6**	**+0.3**
YHNB	**Yeheng**	**1.13**	**309**	*e*P	**Pn**	**22 26 32.3**	**+0.1**
YHNB				*e*S	**Sb**	**22 26 47.9**	**+0.7**
TWF1	**Yuli**	**1.14**	**238**	*e*P	**Pn**	**22 26 32.1**	**-0.2**
TWF1				*e*S	**Sn**	**22 26 47.4**	**+0.2**
NSK	**Sanguang**	**1.15**	**308**	*e*P	**Pn**	**22 26 32.5**	**0.0**
SXI1	**Grass Mountain**	**1.21**	**339**	P	**Pn**	**22 26 32.8**	**-0.5**
CHKT	**Chengkung**	**1.25**	**227**	*e*S	**Sn**	**22 26 48.2**	**-1.5**
SSLB	**Suanglung**	**1.29**	**263**	*e*P	**Pb**	**22 26 35.6**	**+0.2**
NFF	**Wufeng Townshi**	**1.31**	**301**	*e*P	**Pb**	**22 26 35.6**	**-0.2**
IRIF	**Iriomote-Funau**	**1.32**	**73**	*e*P	**Pb**	**22 26 35.8**	**0.0**
IRIF				*e*S	**Sb**	**22 26 53.5**	**+1.2**
WCS	**Beigang Elemen**	**1.32**	**274**	*e*P	**Pn**	**22 26 35.4**	**+0.7**
WCS				*e*S	**Sb**	**22 26 53.0**	**+0.7**
WHP	**Taichung City**	**1.32**	**284**	*e*P	**Pb**	**22 26 36.5**	**+0.5**
WHP				*e*S	**Sb**	**22 26 53.5**	**+1.0**
SMLT	**Sun Moon Lake**	**1.33**	**267**	*e*P	**Pn**	**22 26 35.1**	**+0.2**
HATJ	**Hateruma jima**	**1.34**	**86**	*e*S	**Sb**	**22 26 53.1**	**+0.2**
KSHI	**Guanxi Townshi**	**1.34**	**307**	*e*P	**Pb**	**22 26 36.5**	**+0.1**
LIOB	**Emei**	**1.39**	**300**	*e*P	**Pb**	**22 26 37.2**	**0.0**
NSTT	**Nanjuang**	**1.40**	**299**	*e*P	**Pb**	**22 26 37.3**	**0.0**
NSTT				*e*S	**Sb**	**22 26 55.2**	**+0.5**
JKRS	**Kuro-shima**	**1.54**	**79**	*e*P	**Pb**	**22 26 39.3**	**-0.4**
JKRS				*e*S	**Sb**	**22 26 59.6**	**+0.8**
WCKO	**Fanlu**	**1.68**	**252**	*e*P	**Pb**	**22 26 41.9**	**-0.2**
WCKO				*e*S	**Sb**	**22 27 03.4**	**+0.6**
JIJ	**Ishigaki jima**	**1.69**	**76**	*e*P	**Pn**	**22 26 39.3**	**-0.5**
JIJ				*e*S	**Sn**	**22 27 01.4**	**+0.8**
TPUB	**Ta-pu**	**1.71**	**248**	*e*P	**Pb**	**22 26 42.0**	**-0.5**
TPUB				*e*S	**Sb**	**22 27 03.8**	**+0.1**
CHN4	**Tsaushan**	**1.72**	**250**	*e*S	**Sb**	**22 27 05.5**	**+1.5**
CHN1	**Nanshi**	**1.84**	**246**	*e*S	**Sb**	**22 27 08.1**	**+0.6**
TWK	**Hsinying**	**1.84**	**248**	*e*P	**Pb**	**22 26 43.8**	**-1.1**
TWK				*e*S	**Sb**	**22 27 07.9**	**+0.4**
SNST	**Tainan City**	**1.85**	**247**	*e*S	**Sb**	**22 27 08.4**	**+0.6**
JISG	**Ishigakijimahi**	**1.90**	**70**	*e*P	**Pn**	**22 26 43.4**	**+0.7**
JISG				*e*S	**Sn**	**22 27 05.0**	**-0.9**

*DJA **22** 22:50:03.4±0.7, 3°.N±4°×12°.5E±°, h294km±9km, M4.3/13, mb4.3/5, mB4.9/3, MLv4.2/13, Mw(mB)4.2/3*
*NEIC **22** 22:50:03.1±1.3, 3°.4N±0°.1×124°.55E±0°.09, h301km±12km, mb4.1/14, Error ellipse: s-maj=16.6km s-min=11.5km az=214.0*
*IDC **22** 22:50:09.0±2.8, 3°.22N×124°.65E, h382km±32km, mb3.3/10, mbtmp4.2/12, Error ellipse: s-maj=31.1km s-min=9.7km az=71.0*
ISC 22 22:50:01.6±0.5, 3°.24N±0°.06×124°.59E±0°.07, h296km, n44, σ1°.65/49, mb3.9/16, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**2.72**	**193**	P	**Pn**	**22 50 56.7**	**+2.3**
TNTI	**Ternate**	**3.70**	**131**	Pn	**Pn**	**22 51 06.8**	**+2.3**
TNTI	**Ternate**	**3.70**	**131**	P	**Pn**	**22 51 06.1**	**+1.7**
TNTI				S	**S**	**22 51 55.9**	**+1.2**
TOLI2	**Tolitoli**	**4.35**	**241**	Pn	**Pn**	**22 51 13.1**	**+1.4**
LUWI	**Luwuk**	**4.63**	**203**	Pn	**Pn**	**22 51 16.1**	**+1.4**
LUWI	**Luwuk**	**4.63**	**203**	P	**Pn**	**22 51 15.8**	**+1.1**
LBMI	**Labuha**	**4.83**	**143**	P	**Pn**	**22 51 18.4**	**+1.3**
LBMI				S	**S**	**22 52 17.4**	**-0.2**
APSI	**Ampana**	**5.07**	**216**	P	**Pn**	**22 51 20.7**	**+0.9**
	40nm,0.9s,0.2nm						
SANI	**Sanana**	**5.44**	**165**	P	**Pn**	**22 51 23.6**	**-0.6**
SANI				S	**S**	**22 52 25.7**	**-4.9**
MYLDM	**Lahad Datu**	**6.37**	**288**		**Pn**	**22 51 37.1**	**+1.8**
NLAI	**Namlea**	**6.91**	**159**	P	**Pn**	**22 51 43.4**	**+1.5**
NLAI				S	**S**	**22 53 02.3**	**-0.6**
KKM	**Kota Kinabalu**	**8.80**	**289**	Pn	**Pn**	**22 52 05.4**	**+0.2**
FAKI	**Fak Fak**	**9.80**	**129**	Pn	**P**	**22 52 20.6**	**-0.8**
SBUM	**Sibu**	**12.38**	**267**	P	**P**

OK048	**Pawnee Station**	**0.93**	**121**		Pg	23 02 09.8	0.0
OK048				IAML		23 02 22.7	
	comp=N,439nm,0.2s						
OK048				IAML		23 02 24.3	
	comp=N,612nm,0.3s						
OK051	**E0350 and S346**	**0.97**	**114**		Pg	23 02 10.6	+0.1
OK051				IAML		23 02 23.9	
	comp=N,1μm,0.2s						
OK051				IAML		23 02 31.1	
	comp=N,945nm,0.2s						
T35A	**Sooner Cattle**	**1.14**	**89**		Pg	23 02 13.6	-0.2
OK029	**Liberty Lake**	**1.17**	**161**		Pg	23 02 14.0	-0.5
OK029				IAML		23 02 34.0	
	comp=N,479nm,0.4s						
OK029				IAML		23 02 34.5	
	comp=N,373nm,0.4s						
QUOK	**Quay**	**1.23**	**126**		Pg	23 02 15.2	-0.4
OK052	**Battle Ridge R**	**1.29**	**135**		Pg	23 02 16.2	-0.4
OK052				Sg	Sb	23 02 33.9	+0.1
OK031	**S. Brethren Rd**	**1.30**	**137**		Pg	23 02 16.4	-0.4
OK031					Sg	23 02 33.6	0.0
ADOK	**Arcadia Dam**	**1.33**	**160**		Pn	23 02 17.0	-0.5
CSTR	**Hydro, Custer**	**1.40**	**206**		Pn	23 02 18.1	-0.4
ELIS	**Ellis County**	**1.46**	**235**		Pn	23 02 19.1	-0.2
ELIS					Sn	23 02 39.8	+0.7
DEOK	**Depew**	**1.57**	**132**		Pn	23 02 20.0	-0.8
DEOK					Sn	23 02 41.7	+0.1
R32A	**Long Quarter,**	**1.64**	**338**		Pn	23 02 22.1	+0.4
FNO	**Franklin**	**1.70**	**165**		Pn	23 02 22.9	+0.3
TUL3	**Leonard**	**1.99**	**119**	IAmb_Lg		23 02 58.8	
	comp=Z,61nm,0.8s						
WMOK	**Wichita Mounta**	**2.27**	**198**		Pn	23 02 31.0	+0.5
X34A	**Smith Ranch, M**	**2.30**	**178**		Pn	23 02 31.1	+0.3
X34A				IAmb_Lg		23 03 08.4	
	comp=Z,54nm,0.8s						
CBKS	**Cedar Bluff**	**2.38**	**324**		Pn	23 02 31.1	-0.9
KSU1	**Kansas State U**	**2.43**	**25**		Pn	23 02 32.3	-0.2
KSU1				IAmb_Lg		23 03 13.4	
	comp=Z,56nm,0.8s						
RLO	**Rose Lookout**	**2.46**	**107**		Pn	23 02 33.1	+0.2
SMWD	**Samnorwood**	**2.60**	**227**		Pn	23 02 35.8	+0.9
U38A	**Gravette**	**2.89**	**98**		Pn	23 02 39.8	+0.9
LOOK	**Love County**	**2.97**	**168**		Pn	23 02 40.0	0.0
LOOK				IAmb_Lg		23 03 29.3	
	comp=Z,17nm,0.8s						
WTFS	**Witchita Falls**	**3.16**	**188**		Pn	23 02 42.7	0.0
HHAR	**Hobbs**	**3.27**	**100**		Pn	23 02 44.8	+0.6
Z35A	**Perchaven, San**	**3.61**	**171**	Pn	Pn	23 02 48.8	0.0
AMTX	**Amarillo**	**3.65**	**238**	Pn	Pn	23 02 49.4	-0.1
AMTX				IAmb_Lg		23 03 57.1	
	comp=Z,37nm,0.8s						
S39A	**Bolivar**	**3.76**	**77**		Pn	23 02 50.4	-0.4
FW03	**Perrin-Whitt E**	**3.86**	**182**	Pn	Pn	23 02 51.6	-0.7
KSCO	**Kaye Shedlock'**	**4.26**	**301**	IAmb_Lg		23 04 09.6	
	comp=Z,32nm,0.8s						
L34A	**Svendsen Farm,**	**5.20**	**13**	IAmb_Lg		23 04 44.9	
	comp=Z,20nm,0.7s						

*KRNET **22** 23:37:45.9±0.1, 41°.12N×75°.23E, h26km, mb3.7*
*KNET **22** 23:37:46.8±0.9, 41°.20N×75°.19E, h9km±5km, ml3.3, Error ellipse: s-maj=7.0km s-min=4.0km az=174.0*
*SOME **22** 23:37:46.2, 41°.13N×75°.23E, h15km*
*NNC **22** 23:37:48.1±0.8, 41°.18N×75°.28E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=6.1km s-min=4.1km az=175.0*

ISC 22 23:37:46.5±1.2, 41°.16N±0°.03×75°.20E±0°.02, h1km±10km, n94, σ1§38/151, 60C-31D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.66**	**65**	⇑*eP*	**Pg**	**23 37 57.9**	**-1.4**
NRN				⇑*eS*	**Sg**	**23 38 06.8**	**-1.0**
ARLS	**Aral**	**0.96**	**317**	↓*iP*	**Pg**	**23 38 04.6**	**-0.4**
ARLS				↓*eS*	**Sg**	**23 38 18.1**	**+0.6**
SALK	**Salom-Alik**	**1.08**	**256**	⇓*eP*	**Pg**	**23 38 06.1**	**-1.1**
SALK				⇑*eS*	**Sg**	**23 38 20.6**	**-0.6**
UCH	**Uchtor**	**1.19**	**335**	⇓P	**Pg**	**23 38 09.2**	**-0.1**
	303nm,0.2s,SNR=65						
UCH				⇑S	**Sn**	**23 38 26.4**	**-1.4**
	138nm,0.2s						
UCH	**Uchtor**	**1.19**	**335**	⇑*eP*	**Pg**	**23 38 08.9**	**-0.4**
UCH				⇑*eS*	**Sb**	**23 38 25.4**	**-0.8**
ULHL	**Ulahol**	**1.34**	**35**	⇓P	**Pn**	**23 38 11.1**	**-1.5**
	27nm,0.1s,SNR=136						
ULHL				⇑S	**Sb**	**23 38 29.3**	**-1.1**
	269nm,0.2s						
ULHL	**Ulahol**	**1.34**	**35**	⇑*eP*	**Pn**	**23 38 10.8**	**-1.8**
ULHL				⇑*eS*	**Sb**	**23 38 28.9**	**-1.4**
BOOM	**Boomskoye usch**	**1.44**	**22**	↓*eP*	**Pn**	**23 38 12.8**	**-1.2**
BOOM				↓*eS*	**Sb**	**23 38 32.5**	**-0.8**
AML	**Almayashu**	**1.49**	**311**	⇓P	**Pn**	**23 38 14.3**	**-0.5**
	70nm,0.2s,SNR=232						
AML				⇑S	**Sg**	**23 38 34.6**	**+0.2**
	177nm,0.3s						
AML	**Almayashu**	**1.49**	**311**	⇑*eP*	**Pn**	**23 38 14.0**	**-0.9**
AML				⇑*eS*	**Sb**	**23 38 34.4**	**-0.5**
KBK	**Karagaybulak**	**1.51**	**353**	⇓P	**Pb**	**23 38 15.2**	**-0.3**
	277nm,0.1s,SNR=368						
KBK				⇑S	**Sg**	**23 38 36.3**	**+1.2**
	566nm,0.2s						
KBK	**Karagaybulak**	**1.51**	**353**	⇑*eP*	**Pn**	**23 38 14.1**	**-0.9**
KBK				⇑*eS*	**Sb**	**23 38 34.6**	**-0.6**
AAK	**Ala-Archa**	**1.57**	**341**	⇑P	**Pb**	**23 38 16.1**	**-0.4**
	88nm,0.1s,SNR=294						
AAK				⇑S	**Sg**	**23 38 37.7**	**+0.8**
	250nm,0.3s						
AAK	**Ala-Archa**	**1.57**	**341**	⇑*eP*	**Pn**	**23 38 15.2**	**-0.6**
AAK				⇑*eS*	**Sb**	**23 38 36.6**	**-0.4**
ARSB	**Arslanbob**	**1.68**	**276**	↓*eP*	**Pn**	**23 38 16.8**	**-0.5**
ARSB				↓*eS*	**Sb**	**23 38 39.2**	**-0.9**
FRU1	**Bishkek**	**1.71**	**346**	⇑*eP*	**Pb**	**23 38 17.6**	**-1.2**
FRU1				⇑*eS*	**Sb**	**23 38 40.5**	**-0.3**
SFK	**Sufi-Kurgan**	**1.73**	**229**	⇑*eP*	**Pn**	**23 38 17.2**	**-0.8**
SFK				⇑*eS*	**Sn**	**23 38 39.6**	**-1.2**
KDJ	**Kajisay**	**1.77**	**56**	↓*eP*	**Pn**	**23 38 17.8**	**-0.8**
KDJ				↓*eS*	**Sn**	**23 38 41.1**	**-0.8**
TKM2	**Tokmak 2**	**1.79**	**9**	⇓P	**Pb**	**23 38 19.8**	**-0.5**
	64nm,0.2s,SNR=127						
TKM2				⇑S	**Sg**	**23 38 45.1**	**+1.2**
	227nm,0.1s						
TKM2	**Tokmak 2**	**1.79**	**9**	⇓Pn	**Pb**	**23 38 19.7**	**-0.5**
	68nm,0.5s						
TKM2				⇑Sn	**Sg**	**23 38 44.0**	**+0.1**
	172nm,0.4s						
TKM2	**Tokmak 2**	**1.79**	**9**	⇑*eP*	**Pn**	**23 38 18.4**	**-0.4**
TKM2				⇑*eS*	**Sb**	**23 38 41.9**	**-1.4**
EKS2	**Erkin-Say**	**1.84**	**325**	P	**Pb**	**23 38 20.9**	**-0.2**
	34nm,0.2s,SNR=70						
EKS2				⇓S	**Sg**	**23 38 46.0**	**+0.3**
	81nm,0.3s						
EKS2	**Erkin-Say**	**1.84**	**325**	⇑*eP*	**Pn**	**23 38 19.2**	**-0.2**
EKS2				⇑*eS*	**Sb**	**23 38 43.4**	**-1.3**
CHMS	**Chumysh**	**1.87**	**350**	⇓P	**Pb**	**23 38 21.5**	**-0.1**
	230nm,0.4s,SNR=131						
CHMS				⇑S	**Sg**	**23 38 47.1**	**+0.5**
	280nm,0.3s						
CHMS	**Chumysh**	**1.87**	**350**	⇑Pn	**Pb**	**23 38 21.9**	**+0.3**
	250nm,0.6s						
CHMS				⇓Sn	**Sg**	**23 38 47.4**	**+0.8**
	192nm,0.5s						
CHMS	**Chumysh**	**1.87**	**350**	⇓*eP*	**Pn**	**23 38 19.4**	**-0.4**
CHMS				⇓*eS*	**Sb**	**23 38 43.9**	**-1.6**
OHH	**Osh**	**1.94**	**252**	⇓*eP*	**Pn**	**23 38 20.2**	**-0.5**
OHH				⇑*eS*	**Sn**	**23 38 44.9**	**-0.9**
KST	**Kastek**	**1.97**	**17**	Pg	**Pb**	**23 38 23.1**	**-0.2**
	67nm,0.3s						
KST				Lg	Lg	23 38 49.8	
	382nm,0.4s						
KST	**Kastek**	**1.97**	**17**	*eP*	**Pb**	**23 38 23.1**	**-0.2**
	67nm,0.3s						
KST				*eS*	**Sg**	**23 38 49.8**	**0.0**
	382nm,0.4s						
DGS	**Degeres**	**2.13**	**11**	Pg	**Pb**	**23 38 26.1**	**+0.2**
	172nm,0.5s						
DGS				Lg	Lg	23 38 55.1	
	270nm,0.5s						
DGS	**Degeres**	**2.13**	**11**	*eP*	**Pb**	**23 38 26.1**	**+0.2**
	172nm,0.5s						
DGS				*eS*	**Sg**	**23 38 55.1**	**+0.2**
	270nm,0.5s						
MRKS	**Merke**	**2.16**	**318**	Pg	**Pb**	**23 38 26.9**	**+0.3**
	56nm,0.2s						
MRKS				Lg	Lg	23 38 56.5	
	208nm,0.4s						
MRKS	**Merke**	**2.16**	**318**	*eP*	**Pb**	**23 38 26.9**	**+0.3**
	56nm,0.2s						
MRKS				*eS*	**Sg**	**23 38 56.5**	**+0.4**
	208nm,0.4s						
USP	**Ospenovka**	**2.17**	**346**	⇓P	**Pb**	**23 38 26.0**	**-0.6**
	152nm,0.2s,SNR=352						
USP				⇓S	**Sg**	**23 38 55.9**	**-0.4**
	305nm,0.3s						
USP	**Ospenovka**	**2.17**	**346**	⇑*eP*	**Pn**	**23 38 23.7**	**-0.2**
USP				⇑*eS*	**Sn**	**23 38 51.1**	**-0.4**
MTBS	**Maitube**	**2.17**	**24**	Pg	**Pb**	**23 38 27.1**	**+0.4**
	51nm,0.3s						
MTBS				Lg	Lg	23 38 56.6	
	394nm,0.3s						
MTBS	**Maitube**	**2.17**	**24**	*eP*	**Pb**	**23 38 26.6**	**-0.2**
	28nm,0.2s						
MTBS				*eS*	**Sg**	**23 38 55.4**	**-1.0**
	394nm,0.2s						
TNSS	**Tian-Shan**	**2.28**	**34**	Pg	**Pb**	**23 38 29.0**	**+0.2**
	68nm,0.5s						
TNSS				Lg	Lg	23 39 00.0	
	70nm,0.4s						
TNSS	**Tian-Shan**	**2.28**	**34**	*eP*	**Pb**	**23 38 29.0**	**+0.2**
	68nm,0.5s						
TNSS				*eS*	**Sg**	**23 39 00.0**	**+0.1**
	70nm,0.4s						
KASK	**Kaskelen**	**2.32**	**27**	⇑Pn	**Pb**	**23 38 29.1**	**-0.1**
	125nm,0.6s						
KASK				⇓Lg	Lg	23 39 00.9	
SGDS	**Sogindy**	**2.33**	**350**	Pg	**Pb**	**23 38 29.7**	**+0.2**
	88nm,0.4s						
SGDS				Lg	Lg	23 39 01.1	
	567nm,0.4s						
AAA	**Alma-Ata**	**2.41**	**31**	Pg	**Pg**	**23 38 32.0**	**-0.8**
	196nm,0.3s						
AAA				Lg	Lg	23 39 04.9	
	31nm,0.4s						
AAA	**Alma-Ata**	**2.41**	**31**	*eP*	**Pb**	**23 38 30.6**	**-0.2**
	196nm,0.3s						
AAA				*eS*	**Sb**	**23 39 02.3**	**+1.1**
	206nm,0.4s						
MNAS	**Manas**	**2.41**	**304**	⇓*eP*	**Pn**	**23 38 27.2**	**-0.1**
MNAS				⇓*eS*	**Sn**	**23 38 57.2**	**-0.4**
MDOK	**Medeo**	**2.43**	**34**	⇓Pn	**Pb**	**23 38 29.8**	**-1.4**
	58nm,0.5s						
MDOK				Pg	**Pb**	**23 38 31.6**	**+0.5**
	82nm,0.5s						
MDOK				⇓Lg	Lg	23 39 03.9	
	99nm,0.6s						
MDOK				Lg	Lg	23 39 04.5	
	113nm,0.5s						
MDOK	**Medeo**	**2.43**	**34**	*eP*	**Pb**	**23 38 31.6**	**+0.5**
	82nm,0.5s						
MDOK				*eS*	**Sg**	**23 39 04.5**	**-0.1**
	113nm,0.5s						
KNDC	**Almaty**	**2.44**	**32**	⇑Pn	**Pb**	**23 38 30.6**	**-0.7**
	251nm,0.5s						
KNDC				⇑Lg	Lg	23 39 05.0	
	333nm,0.5s						
ANVS	**Anan'yevo**	**2.45**	**48**	⇑*eP*	**Pn**	**23 38 27.3**	**-0.6**
ANVS				⇑*eS*	**Sn**	**23 38 57.4**	**-1.3**
ARK	**Arkit**	**2.52**	**286**	⇑*eP*	**Pn**	**23 38 28.4**	**-0.3**
ARK				⇑*eS*	**Sn**	**23 38 59.4**	**-0.7**
PRZ	**Przheval'sk**	**2.73**	**60**	⇑*eP*	**Pn**	**23 38 31.2**	**-0.6**
PRZ				⇑*eS*	**Sn**	**23 39 04.1**	**-1.5**
KTBS	**Karatobe**	**2.78**	**23**	Pg	**Pb**	**23 38 37.7**	**+0.6**
	72nm,0.3s						
KTBS				Lg	Lg	23 39 15.1	
	349nm,0.4s						
KTBS	**Karatobe**	**2.78**	**23**	*eP*	**Pb**	**23 38 37.7**	**+0.6**
	72nm,0.3s						
KTBS				*eS*	**Sg**	**23 39 15.1**	**-0.7**
	349nm,0.4s						
CHKK	**Chushkaly**	**3.00**	**26**	Pg	**Pb**	**23 38 41.9**	**+1.0**
	38nm,0.4s						
CHKK				Lg	Lg	23 39 22.0	
	360nm,0.5s						
CHKK	**Chushkaly**	**3.00**	**26**	*eP*	**Pb**	**23 38 41.9**	**+1.0**
	38nm,0.4s						
CHKK				*eS*	**Sg**	**23 39 22.0**	**-0.9**
	360nm,0.5s						
SATY	**Saty**	**3.05**	**50**	Pg	**Pb**	**23 38 42.3**	**+0.6**
	39nm,0.4s						
SATY				Lg	Lg	23 39 22.7	
	267nm,0.4s						
SATY	**Saty**	**3.05**	**50**	*eP*	**Pb**	**23 38 42.3**	**+0.6**
	39nm,0.4s						
SATY				*eS*	**Sg**	**23 39 22.7**	**-1.8**
	267nm,0.4s						
TRKS	**Terek-Say**	**3.08**	**278**	⇑*eP*	**Pn**	**23 38 36.2**	**-0.3**
TRKS				⇑*eS*	**Sn**	**23 39 13.1**	**-1.0**
DRK	**Karamyk**	**3.09**	**238**	⇑*eP*	**Pn**	**23 38 36.1**	**-0.7**
DRK				⇑*eS*	**Sn**	**23 39 12.7**	**-1.9**
ZHN	**Zhinishke**	**3.13**	**49**	Pg	**Pb**	**23 38 43.4**	**+0.3**
	17nm,0.4s						
ZHN				Lg	Lg	23 39 24.5	
	275nm,0.2s						
ZHN	**Zhinishke**	**3.13**	**49**	*eP*	**Pb**	**23 38 43.4**	**+0.3**
	17nm,0.4s						
ZHN				*eS*	**Sg**	**23 39 24.5**	**-2.7**
	275nm,0.2s						
KURS	**Kuram**	**3.21**	**42**	Pg	**Pb**	**23 38 45.5**	**+1.2**
	18nm,0.6s						
KURS				Lg	Lg	23 39 28.1	
	55nm,0.7s						
KURS	**Kuram**	**3.21**	**42**	*eP*	**Pb**	**23 38 44.0**	**-0.3**
	18nm,0.6s						
KURS				*eS*	**Sb**	**23 39 25.4**	**+1.4**
	28nm,0.3s						
KPKS	**Kokpek**	**3.46**	**47**	Pg	**Pb**	**23 38 49.1**	**+0.3**
	3.9nm,0.3s						
KPKS				Lg	Lg	23 39 34.2	
	119nm,0.6s						
KPKS	**Kokpek**	**3.46**	**47**	*eP*	**Pb**	**23 38 49.1**	**+0.3**
	3.9nm,0.3s						
KPKS				*eS*	**Sb**	**23 39 34.2**	**+2.8**
	119nm,0.6s						
UZB	**Uzynbulak**	**3.47**	**54**	Pg	**Pb**	**23 38 48.3**	**-0.5**
	11nm,0.5s						
UZB				Lg	Lg	23 39 32.9	
	96nm,0.4s						
UZB	**Uzynbulak**	**3.47**	**54**	*eP*	**Pb**	**23 38 48.3**	**-0.5**
	11nm,0.5s						
UZB				*eS*	**Sb**	**23 39 32.9**	**+1.4**
	96nm,0.4s						
BTK	**Batken**	**3.51**	**253**	⇑*eP*	**Pn**	**23 38 42.0**	**-0.4**
BTK				⇑*eS*	**Sn**	**23 39 22.8**	**-1.8**
ARXS	**Arharly**	**3.62**	**32**	Pg	**Pb**	**23 38 51.4**	**+0.1**
	66nm,0.6s						
ARXS				Lg	Lg	23 39 39.0	
	99nm,0.3s						
ARXS	**Arharly**	**3.62**	**32**	*eP*	**Pb**	**23 38 51.4**	**+0.1**
	66nm,0.6s						
ARXS				*eS*	**Sb**	**23 39 38.0**	**+2.2**
	106nm,0.3s						
SHLS	**Shalkode**	**3.75**	**56**	Pg	**Pg**	**23 38 59.6**	**+1.3**
	10nm,0.4s						
SHLS				Lg	Lg	23 39 52.2	
	149nm,0.7s						
SHLS	**Shalkode**	**3.75**	**56**	*eP*	**Pg**	**23 38 59.6**	**+1.3**
	10nm,0.4s						
SHLS				*eS*	**Sg**	**23 39 52.2**	**+5.4**
	149nm,0.7s						
BLB	**Baldybastay**	**3.81**	**38**	Pg	**Pb**	**23 38 54.8**	**+0.2**
	61nm,0.4s						
BLB				Lg	Lg	23 39 43.8	
	95nm,0.6s						
PDGK	**Podgornoye**	**3.85**	**54**	⇓Pg	**Pb**	**23 38 57.4**	**+2.0**
	24nm,0.6s						
PDGK				⇓Lg	Lg	23 39 46.8	
	104nm,0.6s						
BTLS	**Baital**	**3.97**	**348**	Pg	**Pb**	**23 38 58.9**	**+1.5**
	10.0nm,0.4s						
BTLS				Lg	Lg	23 39 51.1	
	4.0nm,0.7s						
BTLS	**Baital**	**3.97**	**348**	*eP*	**Pb**	**23 38 58.9**	**+1.5**
	10.0nm,0.4s						
BTLS				*eS*	**Sg**	**23 39 51.1**	**-3.1**
	4.0nm,0.7s						
KK31	**Karatay Array**	**3.99**	**301**	⇑Pg	**Pg**	**23 39 01.3**	**-1.8**
	5.2nm,0.4s,baz=111,slow=16,SNR=11						
KK31				Lg	Lg	23 39 55.6	
	22nm,0.6s,baz=115,slow=25,SNR=8.0						
KKAR	**Karatay Array**	**3.99**	**301**	⇑*eP*	**Pn**	**23 38 48.9**	**0.0**
KKAR				⇑*eS*	**Sn**	**23 39 34.9**	**-1.5**
IUG	**Iuzhnay**	**4.00**	**286**	Pg	**Pb**	**23 39 00.3**	**+2.4**
	22nm,0.4s						
IUG				Lg	Lg	23 39 53.2	
	112nm,0.6s						
IUG	**Iuzhnay**	**4.00**	**286**	*eP*	**Pb**	**23 39 00.3**	**+2.4**
	22nm,0.4s						
IUG				*eS*	**Sg**	**23 39 53.2**	**-1.7**
	112nm,0.6s						
GAR	**Garm**	**4.32**	**242**	⇓*eP*	**Pn**	**23 38 53.2**	**-0.4**
GAR				⇓*eS*	**Sn**	**23 39 42.1**	**-2.6**
BRLS	**Borolday**	**4.41**	**297**	Pg	**Pb**	**23 39 07.4**	**+2.6**
	4.6nm,0.6s						
BRLS				Lg	Lg	23 40 06.2	
	18nm,0.3s						
BRLS	**Borolday**	**4.41**	**297**	*eP*	**Pb**	**23 39 07.4**	**+2.6**
	4.6nm,0.6s						
BRLS				*eS*	**Sg**	**23 40 06.2**	**-1.9**
	18nm,0.3s						
TDK	**Taldyqorghan**	**4.50**	**30**	Pg	**Pb**	**23 39 07.4**	**+1.0**
	30nm,0.5s						
TDK				Lg	Lg	23 40 05.6	
	135nm,0.5s						
TDK	**Taldyqorghan**	**4.50**	**30**	*eP*	**Pb**	**23 39 08.7**	**+2.3**
	30nm,0.4s						
TDK				*eS*	**Sg**	**23 40 07.5**	**-3.6**
	91nm,0.3s						
DJR	**Jarkent**	**4.63**	**45**	Pg	**Pb**	**23 39 10.2**	**+1.5**
	3.6nm,0.5s						
DJR				Lg	Lg	23 40 10.2	
	30nm,0.4s						
DJR	**Jarkent**	**4.63**	**45**	*eP*	**Pb**	**23 39 10.2**	**+1.5**
	3.6nm,0.5s						
DJR				*eS*	**Sg**	**23 40 10.2**	**-5.2**
	30nm,0.4s						
KAPS	**Kapalarasan**	**5.12**	**35**	Pg	**Pb**	**23 39 18.7**	**+1.8**
	9.4nm,0.5s						
KAPS				Lg	Lg	23 40 25.1	
	29nm,0.3s						
KAPS	**Kapalarasan**	**5.12**	**35**	*eP*	**Pb**	**23 39 20.1**	**+3.1**
	9.4nm,0.5s						
KAPS				*eS*	**Sg**	**23 40 27.6**	**-3.5**
	27nm,0.2s						
MAKZ	**Makanchi**	**7.47**	**39**	⇓Pg	Pg	23 40 03.9	-5.6
	2.8nm,0.7s						
MAKZ				⇑Lg	Lg	23 41 44.0	
	7.6nm,1.1s						
MK31	**Makanchi Array**	**7.61**	**40**	Pn	**Pn**	**23 39 38.7**	**+0.2**
	0.2nm,0.3s,baz=217,slow=15,SNR=12						
MK31				⇑Pg	Pg	23 40 07.2	-5.0
	1.3nm,0.5s,baz=225,slow=13,SNR=11						
MK31				⇑Lg	Lg	23 41 48.2	
	5.1nm,0.8s,baz=224,slow=30,SNR=4.3						
KURK	**Kurchatov**	**9.85**	**13**	⇑Lg	Lg	23 42 59.8	
	20nm,0.8s						
BVA0	**Borovoye Array**	**12.31**	**346**	⇑Lg	Lg	23 44 18.9	
	8.7nm,1.2s,baz=159,slow=14,SNR=5.1						
BRVK	**Borovoye**	**12.36**	**346**	⇑Lg	Lg	23 44 20.7	
	12nm,1.1s						
AB31	**Akbulak array**	**13.45**	**312**	Pn	**Pn**	**23 41 01.7**	**+3.3**
	0.8nm,0.6s,baz=114,slow=13,SNR=8.2						

*IDC **22** 23:38:52.9±1.7, 10°.77S×124°.29E, h0km, mb3.4/1, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=72.3km s-min=17.3km az=51.0*
*DJA **22** 23:38:56.4±1.4, 11°.S±4°.×12°.4E±°., h22km±14km, M3.8/7, mb4.0/1, MLv3.7/7*

ISC 22 23:38:54.2±0.8, 10°.96S±0°.06×124°.2E±0°.1, h10km, n10, σ1§73/14, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.92**	**324**	Pn	**Pg**	**23 39 12.0**	**+0.1**
	63nm,0.3s,baz=132,slow=6.2,SNR=27						
BATI				Sn	**Sn**	**23 39 26.2**	**-0.2**
	95nm,0.3s,baz=252,slow=20,SNR=7.0						
BATI	**Baumata**	**0.92**	**324**	P	**Pg**	**23 39 11.8**	**-0.1**
SOEI	**Soe**	**1.19**	**3**	P	**Pb**	**23 39 17.2**	**+0.2**
SOEI				S	**Sg**	**23 39 33.2**	**+0.6**
BASI	**Baing, Sumba**	**3.65**	**281**	P	**Pn**	**23 39 49.2**	**-1.5**
WBSI	**Waikabubak, Su**	**4.92**	**285**	P	**Pn**	**23 40 07.2**	**-1.1**
PLAI	**Plampang**	**6.68**	**288**	P	**Pn**	**23 40 32.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**7.24**	**169**	Pn	**Pn**	**23 40 43.1**	**+3.1**
	1.1nm,0.3s,baz=355,slow=9.4,SNR=29						
FITZ				Sn	**Sn**	**23 42 01.8**	**-0.5**
	1.9nm,0.3s,baz=253,slow=21,SNR=9.1						
	2.5nm,0.3s						
WRA	**Warramunga Arr**	**13.23**	**134**	Pn	**Pn**	**23 42 03.0**	**+0.8**
	0.3nm,0.3s,baz=305,slow=15,SNR=21						
WRA				Sn	Sn	23 44 24.4	-5.1
	0.4nm,0.3s,baz=302,slow=24,SNR=3.7						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**15.66**	**145**	Pn	**Pn**	**23 42 35.9**	**+0.9**
	0.4nm,0.3s,baz=318,slow=12,SNR=21						
ASAR				Sn	**Sn**	**23 45 24.5**	**-4.2**
	0.2nm,0.3s,baz=318,slow=22,SNR=9.4						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**68.60**	**330**	P	**P**	**23 49 56.8**	**-0.5**
	0.2nm,0.5s,baz=139,slow=7.0,SNR=4.3						
	0.2nm,0.5s						

*IDC **23** 00:25:34.3±0.8, 49°.38N×28°.49W, h0km, mb3.8/12, mbtmp3.8/14, ML3.5/2, MS3.9/38, Error ellipse: s-maj=26.2km s-min=17.5km az=171.0*
*GCMT **23** 00:25:34.6±0.4, 49°.32N±0°.07×28°.42W±0°.04, h14km±1km, MW4.7/70, Moment Tensor Solution. s14,c17; s70,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=-1.21±.14; $M_{\theta\theta}$0.12±.09; $M_{\phi\phi}$1.09±.09; $M_{r\theta}$0.07±.26; $M_{\theta\phi}$-0.03±.06; $M_{\phi r}$0.32±.20; Best double couple: M_0=1.19600×10^{16} NP1:ϕ_s182.00000°, δ53.00000°, λ-86.00000°. NP2: ϕ_s355.00000°, δ37.00000°, λ-95.00000°. Principal axes: T 1.1340, Plg8.0000°, Azm269.0000°; N 0.1250, Plg3.0000°, Azm360.0000°; P -1.2580, Plg82.0000°, Azm112.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **23** 00

SQTA	**Sankt Quirin**	26.37	79	*i* P		P	00 31 12.8 +1.0
	comp=Z,8.0nm,1.3s						
WATA	**Walderalm**	26.57	79	*i* P		P	00 31 14.8 +1.2
	comp=Z,2.0nm,0.5s						
WTTA	**Wattenberg**	26.63	79	*i* P		P	00 31 15.6 +1.3
	comp=Z,9.6nm,1.4s						
LESA	**Schwarzleotal**	27.24	78	*e*P		P	00 31 24.0 +4.4
	comp=Z,5.8nm,1.6s						
GERES	**GERESS Array B**	27.44	75	P		P	00 31 21.6 +0.2
	comp=Z,0.8nm,0.8s,baz=272,slow=6.8,SNR=4.8						
	comp=Z,0.8nm,0.8s						
BIOA	**Bad Ischl, Aus**	27.77	77	*i* P		P	00 31 24.5 +0.2
	comp=Z,6.9nm,1.3s						
MYKA	**Terra Mystica**	28.14	79	*i* P		P	00 31 28.3 +0.7
	comp=Z,2.8nm,0.5s						
OBKA	**Obir**	28.77	79	*i* P		P	00 31 33.2 -0.1
	comp=Z,3.0nm,0.9s						
SOKA	**Soboth**	29.01	79	*i* P		P	00 31 35.0 -0.5
	comp=Z,5.1nm,1.3s						
CONA	**Conrad Observa**	29.10	76	*e*P		P	00 31 36.8 +0.6
	comp=Z,4.5nm,1.5s						
VRAC	**Vranov**	29.11	73	LR		LR	00 42 57.5
	comp=Z,196nm,18.1s,baz=318,slow=36						
ARSA	**Arzberg**	29.12	77	*i* P		P	00 31 36.5 +0.2
	comp=Z,1.7nm,0.7s						
RONA	**Rosalia, Austr**	29.45	76	*i* P		P	00 31 41.0 +1.8
	comp=Z,2.5nm,1.0s						
KEST	**Kesra**	30.78	102	LR		LR	00 42 05.8
	comp=Z,165nm,21.9s,baz=21,slow=32						
FINES	**FINESS Array B**	32.27	47	P		P	00 32 04.0 +0.1
	comp=Z,2.4nm,0.9s,baz=271,slow=8.2,SNR=4.5						
FINES				LR		LR	00 43 20.6
	comp=Z,259nm,19.9s,baz=290,slow=33						
	comp=Z,2.4nm,0.9s						
ARCES	**ARCESS Array B**	32.48	32	LR		LR	00 44 23.0
	comp=Z,106nm,19.0s,baz=279,slow=35						
VAE	**Valguarnera**	33.01	95	LR		LR	00 45 27.1
	comp=Z,184nm,18.3s,baz=328,slow=36						
SADO	**Sadowa**	34.17	282	LR		LR	00 44 31.6
	comp=Z,294nm,21.4s,baz=60,slow=33						
BUR08	**Bucovina Ar. S**	35.06	72	P		P	00 32 28.5 +0.1
EUNU	**Eureka**	36.26	346	P		P	00 32 37.9 -0.4
EUNU				IAmb		IAmb	00 32 49.3
	comp=Z,9.2nm,1.4s						
AKASG	**Malin Array Be**	36.34	65	P		P	00 32 38.3 -1.0
	comp=Z,0.2nm,0.2s,baz=288,slow=9.2,SNR=8.2						
AKASG				LR		LR	00 47 49.4
	comp=Z,240nm,18.9s,baz=294,slow=37						
	comp=Z,0.2nm,0.2s						
MLR	**Muntele Rosu**	36.43	75	LR		LR	00 47 05.0
	comp=Z,164nm,20.1s,baz=334,slow=36						
P53A	**Whipple**	38.23	275	P		P	00 32 56.1 +0.7
OBN	**Obninsk**	38.99	56	LR		LR	00 48 30.8
	comp=Z,236nm,18.8s,baz=345,slow=35						
TKL	**Tuckaleechee C**	41.97	272	LR		LR	00 49 22.3
	comp=Z,409nm,18.7s,baz=32,slow=34						
SJG	**San Juan**	43.40	237	LR		LR	00 48 20.7
	comp=Z,68nm,21.2s,baz=0.5,slow=31						
TORD	**Torodi Ar. Bea**	43.93	135	P		P	00 33 41.7 -0.8
	comp=Z,0.5nm,0.6s,baz=334,slow=9.2,SNR=4.9						
TORD				LR		LR	00 51 07.3
	comp=Z,116nm,18.2s,baz=12,slow=35						
	comp=Z,0.5nm,0.6s						
BRTR	**Keskin Array B**	44.24	78	LR		LR	00 51 07.8
	comp=Z,89nm,22.0s,baz=312,slow=35						
BELG	**Belogornoye**	46.08	56	LR		LR	00 52 08.3
	comp=Z,107nm,19.6s,baz=315,slow=35						
DBIC	**Dimbokro**	47.08	147	LR		LR	00 52 45.2
	comp=Z,100nm,18.3s,baz=311,slow=35						
PCRV	**Puerto La Cruz**	49.24	230	LR		LR	00 50 31.0
	comp=Z,116nm,21.5s,slow=30						
ARTI	**Arti**	49.58	47	LR		LR	00 55 09.8
	comp=Z,93nm,19.6s,baz=327,slow=36						
GNI	**Garni**	50.97	71	LR		LR	01 00 17.1
	comp=Z,65nm,18.5s,baz=330,slow=41						
N23A	**Red Feather La**	52.94	292	P		P	00 34 51.3 -0.8
N23A				IAmb		IAmb	00 35 08.3
	comp=Z,12nm,1.2s						
WHTX	**Lake Whitney,**	53.15	278	P		P	00 34 52.0 -1.3
WHTX				IAmb		IAmb	00 34 55.2
	comp=Z,5.5nm,1.0s						
SDV	**Santo Domingo**	53.44	235	LR		LR	00 53 46.6
	comp=Z,114nm,20.5s,baz=318,slow=32						
PDAR	**Pinedale Array**	53.97	296	P		P	00 35 00.5 +1.0
	comp=Z,1.0nm,0.9s,baz=74,slow=9.6,SNR=7.7						
	comp=Z,1.0nm,0.9s						
RDMU	**Red Mountain**	55.32	294	P		P	00 35 09.5 +0.2
RDMU				IAmb		IAmb	00 35 12.3
	comp=Z,5.8nm,1.2s						
O30N	**Mendenhall**	55.69	325	P		P	00 35 09.6 -1.9
O30N				IAmb		IAmb	00 35 13.0
	comp=Z,7.4nm,0.8s						
ILAR	**Eielson Array**	56.51	333	P		P	00 35 17.9 +0.7
	comp=Z,0.7nm,1.0s,baz=51,slow=6.8,SNR=2.5						
	comp=Z,0.7nm,1.0s						
BVAR	**Borovoye Array**	57.19	45	P		P	00 35 23.4 +1.2
	comp=Z,0.9nm,0.6s,baz=316,slow=6.9,SNR=7.8						
BVAR				LR		LR	00 59 25.3
	comp=Z,83nm,19.4s,baz=336,slow=36						
	comp=Z,0.9nm,0.6s						
DUG	**Dugway, Tooele**	57.48	295	P		P	00 35 24.0 -0.7
DUG				IAmb		IAmb	00 35 28.4
	comp=Z,6.9nm,1.4s						
MVU	**Marysvale**	58.21	293	P		P	00 35 30.2 +0.3
H10N2	**ASCENSION HYDR**	58.34	163	T		T	01 38 30.7
	baz=349,slow=75,SNR=6.3						
H10N3	**ASCENSION HYDR**	58.35	163	T		T	01 38 31.4
	baz=349,slow=75,SNR=6.3						
H10N1	**ASCENSION HYDR**	58.36	163	T		T	01 38 27.4
	baz=349,slow=75,SNR=8.2						
ROSC	**El Rosal**	58.80	236	LR		LR	00 58 41.2
	comp=Z,88nm,20.7s,baz=27,slow=34						
TXAR	**Lajitas Array**	58.91	280	P		P	00 35 36.9 +2.1
	comp=Z,0.3nm,0.8s,baz=50,slow=7.5,SNR=3.4						
TXAR				LR		LR	00 59 02.1
	comp=Z,182nm,21.2s,baz=24,slow=34						
	comp=Z,0.3nm,0.8s						
CMIG	**Matias Romero**	61.79	263	LR		LR	01 00 58.7
	comp=Z,86nm,20.5s,baz=71,slow=34						
YBH	**Yreka Blue Hor**	62.13	302	LR		LR	01 03 38.5
	comp=Z,245nm,19.7s,baz=26,slow=37						
KURBB	**Kurchatov Arra**	62.54	43	P		P	00 35 58.9 -0.1
	comp=Z,1.0nm,0.2s,baz=317,slow=7.7,SNR=5.6						
	comp=Z,1.0nm,0.2s						
GAR	**Garm**	66.70	57	P		P	00 36 26.0 -0.6
GAR				IAmb		IAmb	00 36 35.8
	comp=Z,6.8nm,1.1s						
LPIG	**La Paz**	66.80	280	LR		LR	01 04 46.9
	comp=Z,209nm,18.9s,baz=27,slow=35						
MAKZ	**Makanchi**	66.88	44	P		P	00 36 28.0 +0.5
MAKZ				IAmb		IAmb	00 36 35.7
	comp=Z,3.9nm,1.2s						
BDFB	**Brasilia**	67.02	200	LR		LR	01 01 05.8
	comp=Z,114nm,19.7s,baz=328,slow=32						
MKAR	**Makanchi Array**	67.04	44	P		P	00 36 27.2 -1.2
MKAR	**Makanchi Array**	67.04	44	P		P	00 36 28.4 0.0
	comp=Z,1.4nm,0.9s,baz=323,slow=5.3,SNR=8.1						
MKAR				LR		LR	01 05 10.9
	comp=Z,144nm,19.8s,baz=340,slow=36						
	comp=Z,1.4nm,0.9s						
NRN	**Naryn**	67.96	52	P		P	00 36 35.5 +0.8
SDPT	**Sand Point**	68.11	333	P		P	00 36 35.0 0.0
S12K	**Black Hills**	68.27	334	P		P	00 36 36.0 0.0
FURI	**Furi**	68.58	102	LR		LR	01 05 46.0
	comp=Z,18nm,19.6s,baz=350,slow=35						
TARG	**Taragay, Kyrgy**	68.66	50	P		P	00 36 38.7 -0.5
TARG				IAmb		IAmb	00 37 00.2
	comp=Z,2.7nm,1.0s						
MBAR	**Mbarara**	71.05	115	LR		LR	01 08 09.6
	comp=Z,71nm,19.4s,baz=321,slow=36						
LPAZ	**La Paz**	74.17	219	P		P	00 37 12.3 -0.5
LPAZ				IAmb		IAmb	00 37 18.3
	comp=Z,6.8nm,1.5s						
LPAZ	**La Paz**	74.17	219	P		P	00 37 13.3 +0.4
	comp=Z,3.0nm,1.2s,baz=324,slow=2.1,SNR=2.7						
LPAZ				LR		LR	01 05 34.6
	comp=Z,86nm,20.6s,baz=19,slow=32						
	comp=Z,3.0nm,1.2s						
BOSA	**Boshof**	91.29	135	LR		LR	01 21 46.0
	comp=Z,70nm,18.4s,baz=349,slow=37						
SUR	**Sutherland**	92.55	140	LR		LR	01 15 53.6
	comp=Z,44nm,20.6s,baz=300,slow=33						
CMAR	**Chiang Mai Arr**	98.02	49	LR		LR	01 26 43.4
	comp=Z,58nm,19.5s,baz=335,slow=37						
ASAR	**Alice Springs**	150.85	34	PKPbc		PKPbc	00 45 27.4 -0.7
	comp=Z,0.8nm,0.8s,baz=347,slow=3.2,SNR=6.9						

DJA 23 00:37:12.0±0.7, 10°S±12°×10°9E±°, h97km±56km, M3.8/9, mb4.1/1, MLv3.7/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	2.69	24	P	Pn	00 37 54.0	+0.4
UGM				S	Sn	00 38 26.7	+1.2
CMJI	**Cimerak**	2.75	340	P	Pn	00 37 53.5	-0.9
CMJI				S	Sn	00 38 27.6	+0.7
PCJI	**Pacitan**	2.79	39	P	Pn	00 37 54.9	+0.1
PCJI				S	Sn	00 38 27.6	-0.2
PWJI	**Pagerwojo**	3.33	45	P	Pn	00 38 02.2	+0.1
PWJI				S	Sn	00 38 40.2	-0.6
CNJI	**Cibinong**	3.79	323	P	Pn	00 38 05.2	-3.2
GMJI	**Gumukmas**	4.50	63	P	Pn	00 38 18.1	+0.2
JAGI	**Jajag, Banyuwa**	5.05	68	P	Pn	00 38 24.9	-0.5

*NEIC **23** 00:41:04.5±1.6, 64°.99N±0°.04×153°.26W±0°.03, h10km±2km, Error ellipse: s-maj=6.0km s-min=3.0km az=353.0*
*AEIC **23** 00:41:05.4±1.3, 64°.97N±0°.03×153°.19W±0°.09, h12km±6km, ML3.3, ML3.5/99(NEIC), Error ellipse: s-maj=5.5km s-min=4.8km az=84.0*

ISC 23 00:41:04.5±1.1, 64°.98N±0°.02×153°.21W±0°.02, h9km±10km, n118, σ1°.03/125, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I21K	**Tanana**	0.56	68		Pg	00 41 15.7	+0.4
I21K	**Tanana**	0.56	68	P	Pb	00 41 16.4	0.0
I21K	baz=250			S	Sb	00 41 25.3	+0.9
I21K	baz=250			S	Sb	00 41 25.3	+0.9
I20K	**Naaghedeneel**	0.57	252	P	Pg	00 41 16.0	+0.5
I20K	baz=70			S	Sb	00 41 24.5	-0.2
H21K	**Melozitna Rive**	0.70	14	P	Pg	00 41 18.8	+0.7
H21K	baz=196			S	Sb	00 41 28.4	-0.3
H21K	baz=196			S	Sb	00 41 28.4	-0.3
H20K	**Anotleneega Mo**	0.87	307	P	Pg	00 41 21.7	+0.5
H20K	baz=126			S	Sg	00 41 33.2	+0.6
J20K	**Nowinta River**	0.90	207	P	Pg	00 41 21.6	-0.2
J20K	baz=25			S	Sg	00 41 33.6	+0.1
J20K	baz=25			S	Sg	00 41 33.6	+0.1
IMAR	**Indian Mountai**	1.03	348	Pn	Pg	00 41 24.7	+0.3
MLY	**Manley**	1.05	86		Pb	00 41 25.1	+0.3
MLY				Sg	Sb	00 41 39.2	+0.5
MLY	comp=N,2μm,0.4s			IAML		00 41 41.2	
MLY	**Manley**	1.05	86	P	Pb	00 41 25.1	+0.3
MLY	baz=269			S	Sb	00 41 39.4	+0.7
CHUM	**Lake Minchumin**	1.17	160	P	Pg	00 41 27.5	+0.7
CHUM	baz=340			S	Sn	00 41 43.2	+0.3
H22K	**Ishtalitna Cre**	1.20	39	P	Pn	00 41 27.6	+0.2
BPAW	**Bear Paw Mtn.**	1.30	132		Pn	00 41 29.1	+0.2
BPAW					Sn	00 41 46.8	+0.4
BPAW	comp=N,910nm,0.5s			IAML		00 41 47.5	
BPAW	comp=E,791nm,0.6s			IAML		00 41 47.5	
BPAW	**Bear Paw Mtn.**	1.30	132	P	Pn	00 41 29.0	+0.2
J19K	**Poorman**	1.44	228	P	Pn	00 41 30.1	-0.5
H19K	**Roundabout Mou**	1.47	294	P	Pn	00 41 30.9	-0.2
H19K	baz=111			S	Sb	00 41 51.3	+0.7
G21K	**Allakaket**	1.55	356	P	Pn	00 41 32.6	+0.4
GCSA	**Galena City Sc**	1.58	263	P	Pn	00 41 32.9	+0.3
GCSA	baz=80			S	Sb	00 41 54.6	+0.7
I23K	**Minto, Yukon-K**	1.64	82		Pn	00 41 33.3	-0.1
I23K					Sb	00 41 56.9	+1.3
I23K	comp=N,510nm,0.7s			IAML		00 41 59.2	
I23K	comp=E,528nm,0.8s			IAML		00 42 03.0	
I23K	**Minto, Yukon-K**	1.64	82	P	Pn	00 41 33.3	-0.1
CAST	**Castle Rocks**	1.64	162	Pn	Pn	00 41 34.0	+0.6
CAST				IAML		00 41 58.3	
CAST	comp=N,399nm,0.4s						
CAST	**Castle Rocks**	1.64	162	P	Pn	00 41 33.5	+0.1
K20K	**Telida**	1.67	193		Pn	00 41 33.8	-0.1
K20K	comp=N,617nm,0.6s			IAML		00 42 01.2	
K20K	**Telida**	1.67	193	P	Pn	00 41 33.7	-0.1
H23K	**Yukon River**	1.75	59	P	Pn	00 41 35.3	+0.3
BWN	**Browne**	1.81	115		Pn	00 41 36.1	+0.4
NEA2	**Nenana**	1.81	100		Pn	00 41 35.9	0.0
NEA2				Sn	Sb	00 42 01.9	+1.4
NEA2	comp=N,380nm,1.0s			IAML		00 42 03.4	
NEA2	comp=E,331nm,0.5s			IAML		00 42 05.2	
NEA2	**Nenana**	1.81	100	P	Pn	00 41 35.7	-0.2
G19K	**Purcell Mounta**	1.99	308		Pn	00 41 38.1	-0.1
G19K	**Purcell Mounta**	1.99	308	P	Pn	00 41 38.3	0.0
PPLA	**Purkeypile**	2.14	167	P	Pn	00 41 41.0	+0.6
J18K	**Innoko River**	2.16	227	Pn	Pn	00 41 40.2	-0.3
J18K	comp=N,359nm,0.4s			IAML		00 42 14.1	
J18K	comp=E,302nm,0.4s			IAML		00 42 16.3	
J18K	**Innoko River**	2.16	227	P	Pn	00 41 39.9	-0.6
G23K	**Bananza Creek**	2.18	36		Pn	00 41 41.4	+0.5
G23K	**Bananza Creek**	2.18	36	P	Pn	00 41 41.2	+0.4
H18K	**Honhosa River**	2.19	277		Pb	00 41 43.9	-0.3
H18K	comp=N,403nm,0.7s			IAML		00 42 13.1	
H18K	comp=E,233nm,0.6s			IAML		00 42 13.5	
H18K	**Honhosa River**	2.19	277	P	Pn	00 41 40.8	-0.2
MCK	**McKinley**	2.24	122	P	Pn	00 41 42.0	+0.3
WRH	**Wood River Hil**	2.25	101	Pn	Pn	00 41 41.4	-0.5
WRH	comp=E,195nm,0.6s			IAML		00 42 18.3	
F21K	**Alatna River**	2.26	357	P	Pn	00 41 42.6	+0.7
COLA	**College**	2.29	90	Pn	Pn	00 41 42.2	-0.1
F20K	**Avaraart Lake**	2.32	335	P	Pn	00 41 43.6	+0.9
CCB	**Clear Creek Bu**	2.34	96	Pn	Pn	00 41 42.8	-0.2
CCB	comp=E,189nm,0.5s			IAML		00 42 20.4	
TTA	**Tatalina**	2.40	212	Pn	Pn	00 41 43.9	0.0
TTA	comp=N,303nm,0.6s			IAML		00 42 23.8	
TTA	comp=E,233nm,0.8s			IAML		00 42 25.8	
TTA	**Tatalina**	2.40	212	P	Pn	00 41 43.8	-0.1
POKR	**Poker Plat Res**	2.45	84		Pn	00 41 44.8	+0.2
POKR	comp=E,226nm,0.5s			IAML		00 42 25.7	
POKR	comp=N,208nm,1.0s			IAML		00 42 26.8	
POKR	**Poker Plat Res**	2.45	84	P	Pn	00 41 44.7	+0.1
RND	**Reindeer**	2.47	128		Pn	00 41 44.6	-0.3
COLD	**Coldfoot**	2.57	27	P	Pn	00 41 46.4	+0.2
F19K	**Shaleruckik Mo**	2.64	317		Pn	00 41 47.3	+0.2
F19K	**Shaleruckik Mo**	2.64	317	P	Pn	00 41 47.5	+0.4
IL31		2.71	92		Pn	00 41 47.6	-0.4
ILAR	**Eielson Array**	2.71	92	Pg	Pg	00 41 55.8	-0.5
HDA	**Harding Lake**	2.75	99		Pg	00 41 57.3	+0.2
HDA				IAML		00 42 34.1	
HDA	comp=N,241nm,0.5s			IAML		00 42 34.1	
L19K	**White Mountain**	2.90	195	P	Pn	00 41 51.4	+0.6
G24K	**Hadweenzic Riv**	2.92	51	P	Pn	00 41 50.9	-0.2
E19K	**Redstone River**	2.98	329	P	Pn	00 41 52.9	+1.1
WAT1	**Susitna Watana**	2.98	134	P	Pn	00 41 53.1	+1.2
SKT	**Skwentna**	3.10	165	P	Pn	00 41 54.7	+1.2
F18K	**Selawik**	3.11	304	P	Pn	00 41 54.1	+0.5
DHY	**Denali Highway**	3.20	124		Pg	00 42 05.4	-0.3
DHY	**Denali Highway**	3.20	124	P	Pn	00 41 56.3	+1.3
K17K	**Iditarod**	3.20	227	P	Pn	00 41 54.2	-0.6
PRP	**Porcupine Dome**	3.28	77	Pn	Pn	00 41 55.4	-0.7
PRP	comp=E,130nm,0.9s			IAML		00 42 54.1	
PRP	**Porcupine Dome**	3.28	77	P	Pn	00 41 55.6	-0.4
F24K	**Squaw Lake**	3.34	38	P	Pn	00 41 57.2	+0.4
E23K	**Chandalar**	3.41	23		Pb	00 42 03.6	-1.4
E23K	comp=E,81nm,0.7s			IAML		00 42 54.3	
WAT6	**Susitna Watana**	3.42	132	P	Pn	00 41 58.9	+0.9
I17K	**Unalakleet**	3.43	255		Pn	00 41 57.6	-0.3
I17K	comp=E,130nm,0.5s			IAML		00 42 52.2	
I17K	comp=N,82nm,1.0s			IAML		00 42 58.6	
I17K	**Unalakleet**	3.43	255	P	Pn	00 41 57.7	-0.3
M22K	**Willow**	3.52	155		Pn	00 41 58.6	-0.6
L17K	**Donlin**	3.65	221	P	Pn	00 42 01.0	0.0
FYU	**Fort Yukon**	3.66	61	Pn	Pn	00 42 00.6	-0.5
FYU	comp=E,92nm,1.0s			IAML		00 43 16.9	
FYU	comp=N,93nm,1.1s			IAML		00 43 17.5	
M18K	**Stony River**	3.69	200	P	Pn	00 42 01.9	+0.3
SUA	**Susitna One**	3.70	161	Pn	Pn	00 42 02.7	+0.9
SUA	comp=N,68nm,1.2s			IAML		00 43 04.0	
SUA	comp=E,64nm,1.2s			IAML		00 43 11.8	
GHO	**Glory Hole Cre**	3.75	147	Pn	Pn	00 42 02.8	+0.3
GHO	comp=E,58nm,0.7s			IAML		00 43 07.2	
RIDG	**Independent Ri**	3.84	105		Pb	00 42 08.8	-3.6
RIDG	comp=E,85nm,0.7s			IAML		00 43 09.0	
RIDG	comp=N,87nm,0.7s			IAML		00 43 12.3	
PMR	**Palmer**	3.87	150	Pn	Pn	00 42 06.8	+2.8
SML	**Sawmill**	3.87	143	Pn	Pn	00 42 07.8	+3.8
SML	comp=E,50nm,0.8s			IAML		00 43 13.3	
SML	comp=N,53nm,1.1s			IAML		00 43 18.7	
E18K	**Tukpahlearik C**	3.87	313	P	Pn	00 42 05.1	+1.0
H16K	**Elim**	3.88	269	P	Pn	00 42 04.9	+0.8
G16K	**Koyuk River**	3.88	280	P	Pn	00 42 04.3	+0.1
D22K	**Ayikyak River**	3.93	3	P	Pn	00 42 06.5	+1.7
TOLK	**Toolik Lake Re**	3.95	20	IAML		00 43 15.7	
	comp=E,84nm,0.9s						
TOLK	**Toolik Lake Re**	3.95	20		Pb	00 42 11.6	-2.6
D20K	**Etivluk River**	3.98	342	P	Pn	00 42 07.0	+1.4
D19K	**Kuna River**	4.03	333	IAML		00 43 19.0	
D19K	comp=E,43nm,0.8s			IAML		00 43 21.5	
D19K	comp=N,47nm,1.1s			IAML		00 43 15.0	
SVW2	**Sparrevohn**	4.04	197	IAML		00 43 16.6	
	comp=E,87nm,0.6s						
M17K	**Holitna River**	4.07	210	P	Pn	00 42 06.9	+0.1
E17K	**Hotham Inlet**	4.10	305	P	Pn	00 42 07.9	+0.7
SCRK	**Sand Creek**	4.12	100		Pn	00 42 10.8	+3.3
SCRK	comp=N,41nm,0.6s			IAML		00 43 16.6	
SCM	**Sheep Creek Mo**	4.12	137	Pn	Pn	00 42 10.7	+3.1
SCM	comp=N,49nm,1.1s			IAML		00 43 17.6	
SCM	comp=E,42nm,0.9s			IAML		00 43 25.7	
J26L	**Joseph Creek**	4.16	92	P	Pn	00 42 08.4	+0.2
KNK	**Knik Glacier**	4.17	147	Pn	Pn	00 42 12.2	+3.9
KNK	comp=E,62nm,0.9s			IAML		00 43 18.1	
KNK	comp=N,39nm,0.6s			IAML		00 43 19.8	
RC01	**Rabbit Creek A**	4.21	156		Pn	00 42 06.3	-2.4
N19K	**Bonanza Creek**	4.22	189	P	Pn	00 42 09.2	+0.2
I26K	**Coal Creek Min**	4.26	81		Pn	00 42 09.1	-0.2
M24K	**Tolsona, Glenn**	4.27	129	Pn	Pn	00 42 07.9	-1.7
M24K	comp=E,53nm,1.1s			IAML		00 43 38.7	
BMAR	**Burnt Mountain**	4.28	51	Pg	Pg	00 42 24.6	-1.7
CAPN	**Captain Cook N**	4.33	167	Pn	Pn	00 42 08.6	-1.7
N18K	**Kilae Creek**	4.49	197	P	Pn	00 42 12.7	+0.1
MENT	**Mentasta**	4.66	112	IAML		00 43 42.3	
	comp=N,46nm,0.8s						
M16K	**Timber Creek**	4.76	216	IAML		00 43 50.1	
	comp=E,50nm,0.9s						
KLU	**Klutina**	4.80	133	IAML		00 43 35.5	
	comp=N,24nm,1.0s						
N17K	**Nushagak Hills**	4.83	204	P	Pn	00 42 17.4	+0.3
C18K	**Utukok River**	4.85	323	P	Pn	00 42 17.9	+0.3
C24K	**Franklin Bluff**	5.07	18	IAML		00 43 49.4	
C24K	comp=E,25nm,1.2s			IAML		00 44 01.1	
	comp=N,30nm,1.1s						
G27K	**Doyon Strip**	5.08	64	P	Pn	00 42 21.2	+0.6
J14K	**Nanvaranak Lak**	5.09	249	P	Pn	00 42 20.9	+0.1
D25K	**Kavik River**	5.11	28	IAML		00 43 52.3	
	comp=E,19nm,0.8s						
EGAK	**Eagle**	5.14	87	P	Pn	00 42 21.9	+0.4
N16K	**Nishlik Lake**	5.19	212	P	Pn	00 42 22.4	+0.2
ANM	**Nome**	5.22	271	P	Pn	00 42 22.8	+0.2
M26K	**Nabesna, AK**	5.23	115	IAML		00 43 47.1	
	comp=E,26nm,0.6s						
O17K	**Koliganek Bris**	5.53	201	P	Pn	00 42 26.8	0.0
F14K	**Arctic Creek**	5.54	281	P	Pn	00 42 27.5	+0.6
I28M	**Miner Creek**	5.61	79	P	Pn	00 42 27.9	0.0
N15K	**Kwethluk River**	5.78	217	P	Pn	00 42 30.1	-0.2
M14K	**Bethel**	5.83	227	P	Pn	00 42 30.8	-0.1

*IDC **23** 00:45:42.7±1.7, 5°.94S×130°.56E, h0km, mb4.0/2, mbtmp4.3/6, ML4.4/4, Error ellipse: s-maj=53.3km s-min=24.4km az=85.0*
*DJA **23** 00:45:56.3±0.5, 6°.S±3°.×13°.0E±°, h147km±16km, M4.5/10, mb4.5/5, mB5.0/3, MLv4.6/10, Mw(mB)4.3/3*
ISC 23 00:45:57.0±0.7, 6°.39S±0°.05×130°.19E±0°.06, h150km, n28, σ2°66/33, mb4.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.87**	**351**	P	**Pn**	**00 46 30.5**	**-0.2**
SAUI	**Saumlaki**	**1.93**	**145**	P	**Pn**	**00 46 30.2**	**-1.1**
SAUI	**Saumlaki**	**1.93**	**145**	P	**Pn**	**00 46 29.9**	**-1.4**
FAKI	**Fak Fak**	**4.01**	**31**	P	**Pn**	**00 46 56.6**	**-0.8**
FAKI	**Fak Fak**	**4.01**	**31**	P	**Pn**	**00 46 56.2**	**-1.2**
FAKI				S	**Sn**	**00 47 40.1**	**-4.2**
KMPI	**Kaimana, Papua**	**4.42**	**52**	P	**Pn**	**00 47 02.7**	**-0.1**
KMPI				S	**Sn**	**00 47 51.8**	**-2.2**
DRS	**Darwin Rock St**	**6.05**	**173**	P	**Pn**	**00 47 24.2**	**-0.2**
MTN	**Manton Dam**	**6.48**	**172**	P	**Pn**	**00 47 29.5**	**-0.7**
KDU	**Kakadu**	**6.65**	**160**	P	**Pn**	**00 47 31.6**	**-0.8**
SOEI	**Soe**	**6.75**	**240**	P	**Pn**	**00 47 34.5**	**+0.6**
SOEI	**Soe**	**6.75**	**240**	P	**Pn**	**00 47 34.2**	**+0.3**
	120nm,1.0s,0.4nm						
BATI	**Baumata**	**7.49**	**239**	Pn	**Pn**	**00 47 42.2**	**-1.5**
	20nm,0.3s,baz=182,slow=1.7,SNR=16						
BATI				Sn	**Sn**	**00 49 03.9**	**-3.6**
	5.0nm,0.3s,baz=89,slow=4.9,SNR=1.8						
	68nm,0.4s						
BATI	**Baumata**	**7.49**	**239**	P	**Pn**	**00 47 43.7**	**0.0**
BATI				S	**Sn**	**00 49 05.6**	**-1.9**
FITZ	**Fitzroy Crossi**	**12.46**	**200**	Pn	**Pn**	**00 48 47.6**	**-1.7**
	0.8nm,0.3s,baz=20,slow=11,SNR=29						
FITZ				Sn	Sn	00 50 55.5	-12
	3.5nm,0.3s,baz=186,slow=8.3,SNR=10						
	2.8nm,0.2s						
PLAI	**Plampang**	**12.54**	**258**	P	**P**	**00 48 52.0**	**-4.0**
WRA	**Warramunga Arr**	**14.07**	**164**	Pn	**Pn**	**00 49 07.7**	**-2.1**
	1.9nm,0.3s,baz=347,slow=12,SNR=49						
WRA				Sn	Sn	00 51 35.4	-10
	2.5nm,0.3s,baz=341,slow=23,SNR=10						
	2.9nm,0.4s						
COEN	**Coen**	**14.82**	**122**	P	**P**	**00 49 22.1**	**+0.8**
QIS	**Mount Isa**	**16.79**	**148**	P	**Pn**	**00 49 46.1**	**+2.7**
ASAR	**Alice Springs**	**17.55**	**169**	P	**Pn**	**00 49 53.5**	**+1.0**
	1.0nm,0.3s,baz=348,slow=11,SNR=23						
ASAR				S	**S**	**00 52 59.4**	**-7.0**
	3.8nm,0.8s,baz=347,slow=21,SNR=11						
	2.6nm,0.5s						
PSA00	**Pilbara Seismi**	**18.11**	**213**	P	**Pn**	**00 49 59.9**	**+0.7**
WRKA	**Warakurna**	**18.64**	**185**	P	**Pn**	**00 50 06.3**	**+0.9**
OOD	**Oodnadatta**	**21.92**	**167**	P	**P**	**00 50 41.0**	**+2.5**
MEEK	**Meekatharra**	**22.96**	**207**	P	**P**	**00 50 52.7**	**+4.2**
	16nm,1.5s						
MULG	**Mulgathing**	**24.05**	**172**	P	**P**	**00 51 02.1**	**+3.8**
FORT	**Forrest**	**24.35**	**184**	P	**P**	**00 51 04.9**	**+3.9**
LCRK	**Leigh Creek**	**25.10**	**163**	P	**P**	**00 51 11.4**	**+3.6**
MKAR	**Makanchi Array**	**67.82**	**327**	P	**P**	**00 56 41.9**	**+3.0**
	1.2nm,0.5s,baz=125,slow=6.7,SNR=14						
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**72.09**	**328**	P	**P**	**00 57 07.2**	**+2.4**
	0.4nm,0.5s,baz=130,slow=4.9,SNR=5.8						
	0.4nm,0.5s						

*IDC **23** 00:48:35.4±1.4, 10°.70S×163°.25E, h0km, mb3.9/6, mbtmp3.9/8, ML3.6/2, MS3.4/8, Error ellipse: s-maj=32.4km s-min=29.9km az=149.0*
*NOU **23** 00:48:38.0, 10°.50S×163°.13E, h6km, MLv4.3/5, Solomon Islands*
ISC 23 00:48:37.4±0.8, 10°.7S±0°.1×163°.31E±0°.08, h16km, n25, σ1°02/14, mb3.9/6, MS3.2/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**1.40**	**277**	P	**Pn**	**00 49 00.5**	**-1.8**
LUES	**Luesalemba Tem**	**2.56**	**91**	P	**Pb**	**00 49 22.6**	**-0.4**
ALEG	**Aligegeo Malai**	**3.19**	**306**	P	**Pn**	**00 49 25.2**	**-1.8**
NGOA	**Tingoa Renbel**	**3.32**	**254**	P	**Pn**	**00 49 28.7**	**0.0**
HNR	**Honiara**	**3.53**	**290**	Pn	**Pn**	**00 49 31.3**	**-0.4**
	27nm,0.3s,baz=204,slow=6.6,SNR=1.7						
HNR				Sn	**Sn**	**00 50 13.9**	**+0.8**
	40nm,0.3s,baz=174,slow=14,SNR=1.7						
	156nm,0.6s						
TATA	**Tatamba Isabel**	**4.13**	**303**	P	**Pn**	**00 49 38.9**	**-1.0**
DZM	**Mont Dzumac**	**11.75**	**166**	Pn	**Pn**	**00 51 24.1**	**-0.5**
	0.1nm,0.3s,baz=121,slow=24,SNR=1.3						
DZM				LR	LR	00 55 19.5	
	comp=Z,90nm,21.9s,baz=354,slow=34						
	1.7nm,0.8s						
MSVF	**Nonsavu**	**15.92**	**118**	LR	LR	00 57 18.2	
	comp=Z,265nm,18.9s,baz=354,slow=33						
PMG	**Port Moresby**	**15.96**	**273**	LR	LR	00 57 57.2	
	comp=Z,142nm,19.0s,baz=124,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.14**	**7**	T	T	01 25 34.3	
	baz=188,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**29.15**	**7**	T	T	01 25 19.2	
	baz=188,slow=76,SNR=6.9						
H11S1	**WAKE ISLAND Hy**	**29.16**	**7**	T	T	01 25 35.6	
	baz=188,slow=76,SNR=8.0						
WRA	**Warramunga Arr**	**29.39**	**248**	P	**P**	**00 54 39.7**	**-0.6**
	0.4nm,0.5s,baz=77,slow=9.1,SNR=1.4						
WRA				LR	LR	01 05 53.7	
	comp=Z,93nm,19.5s,baz=218,slow=35						
	0.4nm,0.5s						
GUMO	**Guam**	**30.25**	**322**	LR	LR	01 05 41.5	
	comp=Z,55nm,21.1s,baz=70,slow=34						
H11N1	**WAKE ISLAND Hy**	**30.37**	**7**	T	T	01 26 42.6	
	baz=188,slow=76,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**30.38**	**7**	T	T	01 26 48.0	
	baz=188,slow=76,SNR=4.7						
H11N2	**WAKE ISLAND Hy**	**30.39**	**7**	T	T	01 26 41.8	
	baz=188,slow=76,SNR=4.2						
ASAR	**Alice Springs**	**30.86**	**241**	P	**P**	**00 54 52.9**	**-0.3**
	0.8nm,0.5s,baz=73,slow=8.9,SNR=2.0						
	0.8nm,0.5s						
FITZ	**Fitzroy Crossi**	**37.18**	**254**	LR	LR	01 09 18.5	
	comp=Z,43nm,19.6s,baz=160,slow=34						
JNU	**Nakatsue**	**53.39**	**326**	LR	LR	01 18 19.2	
	comp=Z,74nm,19.8s,baz=26,slow=33						
KSRS	**Korea Array**	**58.23**	**327**	LR	LR	01 18 59.8	
	comp=Z,22nm,21.9s,baz=130,slow=31						
CMAR	**Chiang Mai Arr**	**69.77**	**294**	P	**P**	**00 59 48.0**	**+0.5**
	1.0nm,0.3s,baz=106,slow=6.3,SNR=1.8						
	1.0nm,0.3s						
SONM	**Songino Array**	**76.95**	**325**	P	**P**	**01 00 29.6**	**+0.3**
	0.5nm,0.6s,baz=121,slow=5.5,SNR=1.6						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**83.91**	**19**	P	**P**	**01 01 07.2**	**+0.9**
	1.1nm,0.8s,baz=225,slow=5.0,SNR=8.4						
	1.1nm,0.8s						
MKAR	**Makanchi Array**	**91.60**	**317**	P	**P**	**01 01 44.8**	**+1.0**
	0.3nm,0.5s,baz=102,slow=4.8,SNR=4.6						
	0.3nm,0.5s						

*BER **23** 00:50:17.7±1.4, 81°.56N×3°.79W, h10km, mb(Pn)3.3, ML1.7(DNK), Confirmed Earthquake*
*DNK **23** 00:50:18.2±2.6, 81°.61N×3°.23W, h36km±21km, ML1.7*
*FCIAR **23** 00:50:20.0, 81°.65N×1°.51W, h10km, station OMEGA has station magnitude of 3.60 station ZFI2 has station magnitude of 3.80*
ISC 23 00:50:14.0±1.3, 81°.52N±0°.08×3°.57W±0°.05, h10km, n21, σ2°17/25, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.93**	**279**	*i* P	**Pn**	**00 50 47.6**	**+0.8**
NOR				*i* S	**Sn**	**00 51 11.0**	**-0.1**
NOR				IAML		00 51 14.4	
	comp=Z,4.9nm,0.3s						
NOR	**Nord**	**1.93**	**279**	*i* P	**Pn**	**00 50 47.6**	**+0.8**
NOR				*i* S	**Sn**	**00 51 11.0**	**-0.1**
NOR				IAML		00 51 14.4	
	comp=Z,4.9nm,0.3s						
KBS	**Kingsbay**	**3.70**	**127**	*e*P	**Pn**	**00 51 13.5**	**+2.5**
KBS				*e*S	**Sn**	**00 51 51.8**	**-2.8**
KBS				IAML		00 51 58.5	
	comp=Z,6.5nm,0.3s						
KBS	**Kingsbay**	**3.70**	**127**	*e*P	**Pn**	**00 51 13.2**	**+2.1**
KBS				*e*S	**Sn**	**00 51 54.1**	**-0.5**
KBS	**Kingsbay**	**3.70**	**127**	*i* P	**Pn**	**00 51 13.6**	**+2.5**
KBS				*e*S	**Sn**	**00 51 51.8**	**-2.8**
SPA0	**Spitsbergen Ar**	**4.84**	**123**	*e*P	**Pn**	**00 51 29.6**	**+3.0**
SPA0				*e*S	**Sn**	**00 52 21.1**	**-1.6**
SPA0				IAML		00 52 27.1	
	comp=Z,3.6nm,0.4s						
SPA0	**Spitsbergen Ar**	**4.84**	**123**	*e*P	**Pn**	**00 51 29.3**	**+2.6**
SPA0				*e*S	**Sn**	**00 52 21.4**	**-1.2**
DAG	**Danmarks Havn**	**5.53**	**218**	*i* P	**Pn**	**00 51 37.6**	**+1.4**
DAG				*i* S	**Sn**	**00 52 36.9**	**-2.8**
DAG				IAML		00 52 47.2	
	comp=Z,6.1nm,0.2s						
DAG	**Danmarks Havn**	**5.53**	**218**	*i* P	**Pn**	**00 51 37.6**	**+1.4**
DAG				*i* S	**Sn**	**00 52 36.9**	**-2.8**
DAG				IAML		00 52 47.2	
	comp=Z,6.1nm,0.2s						
HSPB	**Hornsund (broa**	**5.73**	**132**	*e*P	**Pn**	**00 51 42.4**	**+3.4**
HOPEN	**Hopen**	**7.31**	**118**	*e*P	**Pn**	**00 52 03.0**	**+2.5**
HOPEN				*e*S	**Sn**	**00 53 20.3**	**-3.0**
ZFI2	**Zemlya Franca-**	**7.69**	**69**	*e*P	**Pn**	**00 52 05.7**	**0.0**
ZFI2				*e*S	Sn	00 53 25.2	-7.6
	comp=Z,26nm,3.0s						
OMEGA	**Omega**	**7.71**	**70**	*e*P	**Pn**	**00 52 05.5**	**-0.6**
OMEGA				*e*S	Sn	00 53 25.0	-8.3
	comp=Z,17nm,3.2s						
DBG	**Daneborg**	**7.99**	**214**	*i* P	**Pn**	**00 52 11.0**	**+1.1**
DBG				*i* S	Sn	00 53 33.7	-6.4
DBG				IAML		00 53 41.3	
	comp=Z,2.4nm,0.2s						
DBG	**Daneborg**	**7.99**	**214**	*i* P	**Pn**	**00 52 11.0**	**+1.1**
DBG				*i* S	Sn	00 53 33.7	-6.4
DBG				IAML		00 53 41.3	
	comp=Z,2.4nm,0.2s						
NEEM	**North Greenlan**	**9.28**	**270**	*i* S	Sn	00 54 03.8	-8.4
NEEM				IAML		00 54 07.2	
	comp=Z,1.2nm,0.3s						
NEEM	**North Greenlan**	**9.28**	**270**	*i* S	Sn	00 54 03.8	-8.4
NEEM				IAML		00 54 07.2	
	comp=Z,1.2nm,0.3s						
SUMG	**Summit**	**11.58**	**239**	*i* S	Sn	00 54 57.5	-11
SUMG				IAML		00 55 05.0	
	comp=Z,0.8nm,0.2s						
SUMG	**Summit**	**11.58**	**239**	*i* S	Sn	00 54 57.5	-11
SUMG				IAML		00 55 05.0	
	comp=Z,0.8nm,0.2s						
KULLO	**Kullorsuaq**	**12.47**	**266**	*i* P	Pn	00 53 09.4	-1.7
KULLO				*e*S	Sn	00 55 13.2	-17
KULLO				IAML		00 55 46.7	
	comp=Z,1.3nm,0.3s						
KULLO	**Kullorsuaq**	**12.47**	**266**	*i* P	Pn	00 53 09.4	-1.7
KULLO				*e*S	Sn	00 55 13.2	-17
KULLO				IAML		00 55 46.7	
	comp=Z,1.3nm,0.3s						

ATH 23 01:02:49.5, 37°.27N×20°.59E, h12km±1km, ML2.8/9, Error ellipse: s-maj=2.2km s-min=1.0km az=38.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.49**	**24**	P	Pg	01 02 58.8	-0.3
LTHK				S	Sg	01 03 05.5	0.0
LTHK				AML	AML	01 03 06.3	
	comp=N,7694μm,0.1s						
LTHK				AML	AML	01 03 06.5	
	comp=E,10370μm,0.2s						
LTHK	**Lithakia**	**0.49**	**24**	P	Pg	01 02 59.1	0.0
LTHK				S	Sg	01 03 05.3	-0.2
LTHK				AML	AML	01 03 06.3	
	comp=N,7694μm,0.1s						
LTHK				AML	AML	01 03 06.5	
	comp=E,10370μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.85**	**360**	P	Pg	01 03 05.7	-0.2
PSDA				S	Sg	01 03 17.2	+0.2
PSDA	**Pessada-Kefalo**	**0.85**	**360**	P	Pg	01 03 05.0	-0.9
PSDA				S	Sg	01 03 17.0	0.0
VLS	**Valsamata**	**0.91**	**0**	P	Pg	01 03 06.4	-0.7
VLS				S	Sg	01 03 18.9	0.0
VLS				AML	AML	01 03 23.7	
	comp=N,952μm,0.5s						
VLS				AML	AML	01 03 25.4	
	comp=E,1503μm,0.3s						
VLS	**Valsamata**	**0.91**	**0**	P	Pg	01 03 06.2	-0.9
VLS				S	Sg	01 03 18.9	-0.1
VLS				AML	AML	01 03 23.7	
	comp=N,952μm,0.5s						
VLS				AML	AML	01 03 25.4	
	comp=E,1503μm,0.3s						
AMT	**Artemida-Makis**	**0.93**	**73**	P	Pg	01 03 07.3	-0.2
AMT				S	Sb	01 03 20.2	+0.2
AMT				AML	AML	01 03 31.9	
	comp=N,3263μm,0.5s						
AMT				AML	AML	01 03 32.6	
	comp=E,2337μm,0.5s						
AMT	**Artemida-Makis**	**0.93**	**73**	P	Pg	01 03 07.2	-0.3
AMT				S	Sb	01 03 20.3	+0.4
AMT				AML	AML	01 03 31.9	
	comp=N,3263μm,0.5s						
AMT				AML	AML	01 03 32.6	
	comp=E,2337μm,0.5s						
SMHA	**Samh**	**0.98**	**3**	P	Pb	01 03 08.3	-0.2
SMHA				S	Sg	01 03 20.8	-0.6
SMHA				AML	AML	01 03 26.3	
	comp=N,5405μm,0.4s						
SMHA				AML	AML	01 03 26.4	
	comp=E,4300μm,0.5s						
SMHA	**Samh**	**0.98**	**3**	P	Pb	01 03 07.6	-0.9
SMHA				S	Sg	01 03 20.5	-0.9
SMHA				AML	AML	01 03 26.3	
	comp=N,5403μm,0.4s						
SMHA				AML	AML	01 03 26.4	
	comp=E,4304μm,0.5s						
DMLN	**Damoulianata-K**	**0.99**	**350**	P	Pg	01 03 08.6	+0.1
DMLN				S	Sb	01 03 21.7	+0.2
DMLN	**Damoulianata-K**	**0.99**	**350**	P	Pb	01 03 07.3	-1.3
DMLN				S	Sg	01 03 21.2	-0.2
PYL	**PYLOS**	**0.99**	**111**	P	Pb	01 03 07.0	-1.7
PYL				S	Sg	01 03 21.5	-0.1
PYL				AML	AML	01 03 25.6	
	comp=E,362μm,0.3s						
PYL				AML	AML	01 03 28.6	
	comp=N,354μm,0.6s						
PYL	**PYLOS**	**0.99**	**111**	P	Pb	01 03 06.7	-1.9
PYL				S	Sg	01 03 20.7	-1.0
PYL				AML	AML	01 03 24.2	
	comp=N,253μm,0.5s						
PYL				AML	AML	01 03 25.6	
	comp=E,362μm,0.3s						
RLS	**Riolos of Patr**	**1.05**	**41**	P	Pb	01 03 08.7	-1.0
RLS				S	Sb	01 03 23.5	+0.1
RLS				AML	AML	01 03 30.4	
	comp=E,461μm,0.9s						
RLS				AML	AML	01 03 31.2	
	comp=N,354μm,0.4s						
RLS	**Riolos of Patr**	**1.05**	**41**	P	Pb	01 03 08.8	-0.8
RLS				S	Sg	01 03 24.0	+0.5
RLS				AML	AML	01 03 30.4	
	comp=E,461μm,0.9s						
RLS				AML	AML	01 03 31.2	
	comp=N,354μm,0.4s						
ITM	**Ithomi**	**1.07**	**94**	P	Pb	01 03 08.7	-1.2
ITM				S	Sg	01 03 24.5	+0.3
ITM				AML	AML	01 03 29.0	
	comp=E,406μm,0.7s						
ITM				AML	AML	01 03 30.3	
	comp=N,442μm,0.3s						
ITM	**Ithomi**	**1.07**	**94**	P	Pb	01 03 08.7	-1.3
ITM				S	Sg	01 03 24.5	+0.3
ITM				AML	AML	01 03 29.0	
	comp=E,406μm,0.7s						
ITM				AML	AML	01 03 30.3	
	comp=N,442μm,0.3s						
DRO	**Drossia**	**1.12**	**52**	P	Pb	01 03 10.1	-0.7
DRO				S	Sb	01 03 25.2	-0.2
DRO				AML	AML	01 03 35.8	
	comp=N,693μm,0.4s						
DRO				AML	AML	01 03 39.0	
	comp=E,963μm,0.5s						
DRO	**Drossia**	**1.12**	**52**	P	Pb	01 03 10.2	-0.7
DRO				S	Sn	01 03 26.5	0.0
DRO				AML	AML	01 03 39.0	
	comp=E,785μm,0.4s						
DRO				AML	AML	01 03 46.5	
	comp=N,1045μm,0.5s						
FSK	**Fiskardo**	**1.19**	**359**	P	Pn	01 03 11.6	-0.3
FSK				S	Sb	01 03 27.2	-0.2
FSK				AML	AML	01 03 34.6	
	comp=N,505μm,0.5s						
FSK				AML	AML	01 03 35.8	
	comp=E,932μm,0.6s						
FSK	**Fiskardo**	**1.19**	**359**	P	Pn	01 03 11.0	-1.0
FSK				S	Sb	01 03 27.5	+0.1
FSK				AML	AML	01 03 34.6	
	comp=N,505μm,0.5s						
FSK				AML	AML	01 03 35.8	
	comp=E,932μm,0.6s						

*ATH **23** 01:05:54.2, 37°.16N×20°.55E, h10km±1km, ML3.5/11, Error ellipse: s-maj=1.7km s-min=0.8km az=49.0*
*THE **23** 01:05:55.2, 37°.20N×20°.63E, h0km±2km, ML3.4/16, Error ellipse: s-maj=3.3km s-min=1.0km az=223.0*
ISC 23 01:05:54.6±2.0, 37°.18N±0°.07×20°.59E±0°.07, h5km±11km, n21, σ0°65/37, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.51**	**21**	P	**Pg**	**01 06 03.7**	**-0.8**
KRI1				S	**Sg**	**01 06 12.4**	**+1.2**
	14μm,0.5s						
LTHK	**Lithakia**	**0.56**	**20**	P	**Pg**	**01 06 05.2**	**-0.3**
LTHK				S	**Sg**	**01 06 13.1**	**+0.3**
LTHK				AML	AML	01 06 14.1	
	comp=N,13982μm,0.2s						
LTHK				AML	AML	01 06 14.2	
	comp=E,20804μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.93**	**360**	P	**Pg**	**01 06 12.3**	**-0.2**
PSDA				S	**Sg**	**01 06 25.3**	**+0.8**
AMT	**Artemida-Makis**	**0.96**	**68**	P	**Pg**	**01 06 13.3**	**+0.3**
AMT				S	**Sb**	**01 06 26.5**	**-0.2**
AMT				AML	AML	01 06 32.1	
	comp=N,19100μm,0.4s						
AMT				AML	AML	01 06 32.3	
	comp=E,22622μm,0.5s						
PYL	**PYLOS**	**0.97**	**107**	P	**Pg**	**01 06 12.8**	**-0.4**
PYL				S	**Sb**	**01 06 26.7**	**-0.2**
PYL				AML	AML	01 06 31.1	
	comp=E,4782μm,0.5s						
PYL				AML	AML	01 06 32.8	
	comp=N,2536μm,0.4s						
VLS	**Valsamata**	**0.99**	**0**	P	**Pg**	**01 06 13.2**	**-0.5**
VLS				S	**Sg**	**01 06 27.2**	**+0.6**
VLS				AML	AML	01 06 31.2	
	comp=E,3829μm,0.5s						
VLS				AML	AML	01 06 36.8	
	comp=N,3399μm,0.4s						
ITM	**Ithomi**	**1.07**	**90**	P	**Pg**	**01 06 14.8**	**-0.3**
ITM				S	**Sg**	**01 06 29.4**	**+0.4**
ITM				AML	AML	01 06 31.7	
	comp=N,4381μm,0.3s						
ITM				AML	AML	01 06 34.6	
	comp=E,5324μm,0.4s						
DMLN	**Damoulianata-K**	**1.07**	**351**	P	**Pg**	**01 06 15.2**	**0.0**
DMLN				S	**Sg**	**01 06 29.5**	**+0.5**
SMHA	**Samh**	**1.07**	**2**	P	**Pg**	**01 06 14.1**	**-1.0**
SMHA				S	**Sg**	**01 06 29.6**	**+0.6**
SMHA				AML	AML	01 06 31.3	
	comp=E,11410μm,0.5s						
SMHA				AML	AML	01 06 37.6	
	comp=N,14119μm,0.5s						
RLS	**Riolos of Patr**	**1.12**	**38**	P	**Pg**	**01 06 14.9**	**-1.2**
RLS				S	**Sb**	**01 06 31.5**	**+0.2**
RLS				AML	AML	01 06 39.7	
	comp=E,1529μm,0.5s						
RLS				AML	AML	01 06 40.2	
	comp=N,1589μm,0.6s						
DRO	**Drossia**	**1.18**	**49**	P	**Pg**	**01 06 16.2**	**-1.0**
DRO				S	**Sb**	**01 06 33.0**	**0.0**
DRO				AML	AML	01 06 36.6	
	comp=N,4372μm,0.4s						
DRO				AML	AML	01 06 38.7	
	comp=E,3848μm,0.5s						
FSK	**Fiskardo**	**1.28**	**359**	P	**Pn**	**01 06 18.4**	**-0.6**
FSK				S	**Sg**	**01 06 35.5**	**-0.1**
FSK				AML	AML	01 06 43.0	
	comp=E,2003μm,0.5s						
FSK				AML	AML	01 06 43.6	
	comp=N,1868μm,0.5s						
EVGI	**Lefkada island**	**1.44**	**2**	P	**Pn**	**01 06 20.5**	**-0.8**
EVGI				S	**Sb**	**01 06 40.3**	**-0.2**
KLV	**Kalavryta, Ach**	**1.51**	**55**	P	**Pn**	**01 06 22.0**	**-0.4**
KLV				S	**Sn**	**01 06 42.4**	**0.0**
KLV				AML	AML	01 06 52.5	
	comp=E,998μm,0.9s						
KLV				AML	AML	01 06 58.9	
	comp=N,770μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.53**	**3**	P	**Pn**	**01 06 22.2**	**-0.4**
NYDR				S	**Sn**	**01 06 43.1**	**+0.3**
GUR	**Goura**	**1.58**	**61**	P	**Pn**	**01 06 23.3**	**-0.1**
GUR				S	**Sb**	**01 06 44.8**	**0.0**
GUR				AML	AML	01 06 52.9	
	comp=N,3013μm,0.6s						
GUR				AML	AML	01 07 02.4	
	comp=E,2320μm,0.5s						
EFP	**Efpalio**	**1.62**	**40**	P	**Pn**	**01 06 24.2**	**+0.3**
KALE	**Kalithea**	**1.72**	**45**	P	**Pn**	**01 06 25.9**	**+0.6**
ANX	**Ano Chora**	**1.76**	**36**	P	**Pn**	**01 06 26.3**	**+0.5**
OHR	**Ohrid**	**3.93**	**2**	*i* Pn	**Pn**	**01 06 57.3**	**+1.7**
PEHC	**Pehcevo**	**4.93**	**21**	*i* Pn	**Pn**	**01 07 08.5**	**-0.9**

ATH 23 01:21:43.1, 37°.81N×23°.44E, h22km±5km, ML1.1/5, Error ellipse: s-maj=5.7km s-min=1.7km az=21.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATH	**Athens Observa**	**0.27**	**53**	P	Pb	01 21 48.5	-0.9
ATH				S	Sb	01 21 53.6	-0.2
ATH				AML	AML	01 21 54.1	
	comp=N,147μm,0.6s						
ATH				AML	AML	01 21 59.0	
	comp=E,140μm,0.3s						
VLY	**Voula,Athens**	**0.28**	**81**	P	Pb	01 21 49.8	+0.2
VLY				S	Sb	01 21 54.7	+0.6
VLY				AML	AML	01 21 55.6	
	comp=E,58μm,0.2s						
VLY				AML	AML	01 21 58.9	
	comp=N,63μm,0.6s						
ATHU	**Athens Univers**	**0.32**	**60**	P	Pb	01 21 49.7	-0.4
ATHU				S	Sb	01 21 55.1	+0.2
ATHU				AML	AML	01 21 56.1	
	comp=E,26μm,0.3s						
ATHU				AML	AML	01 21 56.9	
	comp=N,38μm,0.5s						
VIL2	**Platees**	**0.42**	**341**	P	Pb	01 21 51.0	-0.9
VIL2				S	Sb	01 21 56.6	-1.2
VIL2				AML	AML	01 22 01.5	
	comp=N,94μm,0.5s						
VIL2				AML	AML	01 22 02.0	
	comp=E,100μm,0.4s						
DION	**Dionisos Attik**	**0.47**	**55**	P	Pb	01 21 52.3	-0.5
DION				S	Sb	01 21 59.3	0.0
DION				AML	AML	01 22 01.6	
	comp=N,161μm,0.9s						
DION				AML	AML	01 22 02.3	
	comp=E,120μm,0.6s						
KARY	**Karystos**	**0.82**	**74**	P	Pb	01 21 58.3	-0.3
KARY				S	Sb	01 22 09.6	+0.4

*IDC **23** 01:21:44.4±1.5, 37°.77N×20°.48E, h0km, m

LTHK				AML	AML	01 21 51.4
	comp=E,48022μm,0.2s					
LTHK				AML	AML	01 21 56.1
	comp=N,34816μm,0.3s					
RTZL	**Ratzakli, Kefa**	**0.46**	**13**	P	**Pg**	**01 21 54.1 +0.2**
RTZL				S	**Sb**	**01 22 01.7 -0.8**
	comp=N,4μm,0.2s					
PSDA	**Pessada-Kefalo**	**0.49**	**355**	P	**Pg**	**01 21 54.8 +0.3**
PSDA				S	**Sg**	**01 22 01.8 +1.0**
	comp=N,6μm,0.5s					
PSDA	**Pessada-Kefalo**	**0.49**	**355**	P	**Pg**	**01 21 54.8 +0.3**
PSDA				S	**Sg**	**01 22 01.9 +1.0**
VLS	**Valsamata**	**0.55**	**356**	P	**Pg**	**01 21 55.8 +0.2**
VLS				S	**Sb**	**01 22 04.3 -0.9**
	comp=N,3μm,0.5s					
VLS	**Valsamata**	**0.55**	**356**	P	**Pg**	**01 21 55.8 +0.2**
VLS				S	**Sg**	**01 22 03.9 +1.0**
VLS				AML	AML	01 22 04.7
	comp=E,5151μm,0.4s					
VLS				AML	AML	01 22 07.8
	comp=N,4623μm,0.5s					
LXR1	**Lixouri, Cepha**	**0.59**	**344**	P	**Pg**	**01 21 57.1 +0.6**
LXR1				S	**Sb**	**01 22 06.1 -0.3**
	comp=N,13μm,0.5s					
SMHA	**Samh**	**0.62**	**0**	P	**Pg**	**01 21 56.7 -0.4**
SMHA				S	**Sg**	**01 22 06.0 +0.8**
SMHA				AML	AML	01 22 09.8
	comp=N,19360μm,0.4s					
SMHA				AML	AML	01 22 11.1
	comp=E,18170μm,0.7s					
DMLN	**Damoulianata-K**	**0.65**	**341**	P	**Pg**	**01 21 57.8 +0.3**
DMLN				S	**Sb**	**01 22 08.1 +0.2**
	comp=E,5μm,0.4s					
DMLN	**Damoulianata-K**	**0.65**	**341**	P	**Pg**	**01 21 57.7 +0.3**
DMLN				S	**Sg**	**01 22 06.8 +0.9**
RLS	**Riolos of Patr**	**0.78**	**56**	P	**Pg**	**01 22 00.1 0.0**
RLS				S	**Sb**	**01 22 11.7 -0.1**
	comp=E,1μm,0.8s					
RLS	**Riolos of Patr**	**0.78**	**56**	P	**Pg**	**01 22 00.1 0.0**
RLS				S	**Sb**	**01 22 11.8 -0.1**
RLS				AML	AML	01 22 15.5
	comp=E,1323μm,0.4s					
RLS				AML	AML	01 22 19.2
	comp=N,1949μm,1.0s					
VSK1	**VASILIKIADES**	**0.78**	**356**	P	**Pg**	**01 21 59.8 -0.3**
VSK1				S	**Sb**	**01 22 11.9 0.0**
	comp=N,3μm,0.5s					
FSK	**Fiskardo**	**0.83**	**356**	P	**Pg**	**01 22 00.6 -0.4**
FSK				S	**Sb**	**01 22 13.0 -0.3**
	comp=N,2μm,0.6s					
FSK	**Fiskardo**	**0.83**	**356**	P	**Pg**	**01 22 00.4 -0.6**
FSK				S	**Sg**	**01 22 12.4 +0.6**
FSK				AML	AML	01 22 19.6
	comp=N,3107μm,0.5s					
FSK				AML	AML	01 22 25.5
	comp=E,3574μm,0.4s					
AMT	**Artemida-Makis**	**0.85**	**96**	P	**Pg**	**01 22 01.8 +0.4**
AMT				S	**Sb**	**01 22 13.9 0.0**
AMT				AML	AML	01 22 20.7
	comp=N,5964μm,0.4s					
AMT				AML	AML	01 22 21.2
	comp=E,5452μm,0.5s					
DRO	**Drossia**	**0.91**	**69**	P	**Pg**	**01 22 02.4 0.0**
DRO	**Drossia**	**0.91**	**69**	P	**Pg**	**01 22 02.8 +0.4**
DRO				S	**Sb**	**01 22 15.6 +0.2**
DRO				AML	AML	01 22 22.7
	comp=E,2453μm,0.4s					
DRO				AML	AML	01 22 27.4
	comp=N,1838μm,0.6s					
EVGI	**Lefkada island**	**0.99**	**1**	P	**Pg**	**01 22 03.3 -0.8**
EVGI	**Lefkada island**	**0.99**	**1**	P	**Pg**	**01 22 03.5 -0.6**
EVGI				S	**Sb**	**01 22 17.9 0.0**
NYDR	**Nydri-Lefkada**	**1.09**	**2**	P	**Pg**	**01 22 04.8 -1.1**
NYDR				S	**Sn**	**01 22 23.2 +1.2**
	comp=N,950nm,0.6s					
NYDR	**Nydri-Lefkada**	**1.09**	**2**	P	**Pg**	**01 22 05.1 -0.7**
NYDR				S	**Sb**	**01 22 20.9 +0.4**
ITM	**Ithomi**	**1.12**	**113**	P	**Pg**	**01 22 04.8 -1.6**
ITM				S	**Sb**	**01 22 21.5 +0.1**
	comp=N,482nm,0.7s					
ITM	**Ithomi**	**1.12**	**113**	P	**Pb**	**01 22 06.7 0.0**
ITM				S	**Sb**	**01 22 22.1 +0.7**
ITM				AML	AML	01 22 31.1
	comp=E,790μm,0.8s					
ITM				AML	AML	01 22 33.1
	comp=N,1139μm,0.6s					
UPR	**University Cam**	**1.12**	**54**	P	**Pn**	**01 22 07.2 +0.1**
UPR				S	**Sn**	**01 22 23.8 +1.0**
PYL	**PYLOS**	**1.14**	**129**	P	**Pg**	**01 22 06.4 -0.5**
PYL	**PYLOS**	**1.14**	**129**	P	**Pg**	**01 22 06.5 -0.5**
PYL				S	**Sb**	**01 22 22.6 +0.4**
PYL				AML	AML	01 22 26.4
	comp=E,1296μm,0.9s					
PYL				AML	AML	01 22 28.8
	comp=N,884μm,0.7s					
LKD2	**Lefkada island**	**1.16**	**1**	P	**Pg**	**01 22 07.4 +0.1**
LKD2				S	**Sn**	**01 22 28.1 +4.2**
TSLK	**Tsoukalades, L**	**1.20**	**0**	P	**Pg**	**01 22 07.0 -1.0**
TSLK				S	**Sn**	**01 22 26.3 +1.6**
	comp=N,2μm,0.6s					
KLV	**Kalavryta, Ach**	**1.27**	**70**	P	**Pn**	**01 22 08.6 -0.6**
KLV				S	**Sb**	**01 22 26.2 +0.4**
KLV				AML	AML	01 22 40.6
	comp=E,673μm,0.8s					
KLV				AML	AML	01 22 42.9
	comp=N,476μm,1.0s					
EFP	**Efpalio**	**1.28**	**51**	P	**Pn**	**01 22 08.1 -1.2**
EFP	**Efpalio**	**1.28**	**51**	P	**Pn**	**01 22 08.5 -0.9**
EFP				S	**Sg**	**01 22 26.3 +0.2**
EFP				AML	AML	01 22 38.2
	comp=N,1764μm,1.1s					
EFP				AML	AML	01 22 39.9
	comp=E,1082μm,0.8s					
GUR	**Goura**	**1.38**	**77**	P	**Pn**	**01 22 10.9 0.0**
GUR				S	**Sn**	**01 22 29.9 +0.4**
GUR				AML	AML	01 22 41.9
	comp=E,1299μm,0.7s					
GUR				AML	AML	01 22 42.6
	comp=N,956μm,0.4s					
ANX	**Ano Chora**	**1.40**	**46**	P	**Pn**	**01 22 10.5 -0.6**
KALE	**Kalithea**	**1.41**	**57**	P	**Pn**	**01 22 10.5 -0.7**
MAKR	**Makrakomi, Fth**	**1.81**	**40**	P	**Pb**	**01 22 18.2 -0.4**
IGT	**Igoumenitsa**	**1.92**	**353**	P	**Pn**	**01 22 18.8 +0.6**
OHR	**Ohrid**	**3.48**	**2**	*i* Pn	**Pb**	**01 22 43.7 -3.4**
PEHC	**Pehcevo**	**4.50**	**22**	*i* Pn	**Pn**	**01 22 53.9 +0.2**
HFS	**Hagfors**	**22.96**	**351**	P	**P**	**01 26 47.7 -2.1**
	comp=N,0.7nm,0.5s,baz=156,slow=9.3,SNR=5.0					
	comp=N,0.7nm,0.5s					
FINES	**FINESS Array B**	**24.08**	**6**	P	**P**	**01 27 00.3 -0.5**
	comp=N,1.7nm,0.8s,baz=168,slow=9.8,SNR=5.9					
	comp=N,1.7nm,0.8s					
NOA	**NORSAR Array B**	**24.18**	**349**	P	**P**	**01 27 01.0 -0.8**
	comp=N,0.3nm,0.6s,baz=161,slow=9.7,SNR=7.9					
	comp=N,0.3nm,0.6s					
TORD	**Torodi Ar. Bea**	**29.66**	**220**	P	**P**	**01 27 52.2 +0.7**
	comp=N,0.5nm,0.7s,baz=24,slow=9.7,SNR=3.6					
	comp=N,0.5nm,0.7s					
MKAR	**Makanchi Array**	**45.51**	**58**	P	**P**	**01 30 04.9 -0.2**
	comp=N,0.1nm,0.3s,baz=281,slow=8.3,SNR=2.0					
	comp=N,0.1nm,0.3s					
ZALV	**Zalesovo Beam**	**45.99**	**48**	P	**P**	**01 30 09.5 +0.8**
	comp=N,0.5nm,0.3s,baz=267,slow=6.3,SNR=2.2					
	comp=N,0.5nm,0.3s					

*ISN **23** 01:32:44.2±0.6, 34°.63N×46°.29E, h9km±8km, ML2.6*
*TEH **23** 01:32:45.4, 34°.64N×46°.27E, h10km±40km, ML2.8*
ISC 23 01:32:45.8±1.1, 34°.68N±0°.05×46°.30E±0°.04, h12km±7km, n12, σ0s94/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.08**	**77**	Pg	**Pg**	**01 32 48.4**	**-0.3**
IDHR				Sg	**Sg**	**01 32 51.3**	**+0.6**
IGHG	**Ghaleghazi**	**0.42**	**147**	Pg	**Pg**	**01 32 53.9**	**-0.3**
ILIN	**Lien**	**0.60**	**66**	Pg	**Pg**	**01 32 55.6**	**-1.9**
KGS1	**Ghasr-e-Shirin**	**0.61**	**253**	Pg	**Pg**	**01 32 57.1**	**-0.7**
GLG1	**Gilan-e-Gharb**	**0.65**	**210**	Pg	**Pg**	**01 32 57.1**	**-1.4**
KCHF	**Cheshme Sefid,**	**0.74**	**123**	Pg	**Pg**	**01 32 59.4**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.06**	**184**	Pg	**Pg**	**01 33 04.8**	**-1.4**
IBDR	**Badra**	**1.60**	**191**	*e*Pn	**Pn**	**01 33 14.0**	**+0.1**
IBDR				*e*Sn	**Sn**	**01 33 35.0**	**+0.6**
IBDR				AML	AML	01 33 41.5
	comp=E,107nm,0.6s					
IBDR				AML	AML	01 33 42.9
	comp=N,70nm,0.5s					
IKFM	**Kafar-mosalman**	**1.73**	**131**	Pg	**Pg**	**01 33 18.7**	**-0.3**
IKRK	**Kirkuk**	**1.76**	**295**	*e*Pn	**Pn**	**01 33 16.5**	**+0.4**
IKRK				*e*Sn	**Sb**	**01 33 40.8**	**+0.8**
IDOB	**Doab**	**1.80**	**119**	Pg	**Pg**	**01 33 19.9**	**-0.4**
BHD	**Baghdad**	**2.13**	**229**	*e*Pn	**Pn**	**01 33 21.0**	**-0.1**
BHD				*e*Sn	**Sn**	**01 33 48.0**	**+0.5**

NEIC 23 01:53:53.1±1.7, 34°.070N±0°.010×97°.45W±0°.02, h5km±1km, mb_Lg2.6/17, ML2.7/20, Error ellipse: s-maj=3.5km s-min=2.9km az=71.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOOK	**Love County**	**0.24**	**109**		Pg	01 53 58.9	+1.1
LOOK				Sg	Sg	01 54 02.4	+1.5
LOOK				IAML		01 54 04.1	
	comp=E,2μm,0.3s						
X34A	**Smith Ranch, M**	**0.61**	**330**	Pg	Pb	01 54 06.7	+0.3
X34A				Sg	Sb	01 54 16.4	+1.1
X34A				IAML		01 54 21.2	
	comp=E,424nm,0.8s						
Z35A	**Perchaven, San**	**0.76**	**167**	Pg	Pg	01 54 07.7	+0.1
Z35A				Sg	Sg	01 54 17.7	+0.3
Z35A				IAML		01 54 18.3	
	comp=N,296nm,0.2s						
Z35A				IAML		01 54 18.8	
	comp=E,281nm,0.3s						
WTFS	**Witchita Falls**	**0.89**	**250**		Pg	01 54 10.4	+0.2
WTFS				Sg	Sb	01 54 23.2	-0.1
FW06	**Azle**	**1.10**	**185**		Pg	01 54 14.2	+0.1
FW06				Sg	Sb	01 54 29.1	-0.1
FW03	**Perrin-Whitt E**	**1.15**	**207**		Pg	01 54 14.9	-0.2
FW03				IAML		01 54 40.6	
	comp=E,175nm,0.2s						
W35A	**Tecumseh**	**1.18**	**24**		Pg	01 54 15.7	0.0
W35A				IAML		01 54 37.5	
	comp=E,161nm,0.6s						
W35A				IAML		01 54 37.6	
	comp=N,195nm,0.4s						
FNO	**Franklin**	**1.19**	**2**		Pb	01 54 16.0	-0.1
FNO				IAML		01 54 39.5	
	comp=N,143nm,0.3s						
WMOK	**Wichita Mounta**	**1.28**	**302**		Pg	01 54 16.5	-1.2
FW07	**Weatherford**	**1.39**	**192**		Pg	01 54 19.9	+0.1
PLPT	**Palo Pinto**	**1.45**	**210**		Pn	01 54 19.9	0.0
FW16	**Waxahatchie**	**1.65**	**163**		Pb	01 54 24.1	+0.1
FW16				IAmb_Lg		01 54 46.2	
	comp=Z,22nm,0.9s						
OK029	**Liberty Lake**	**1.72**	**360**		Pb	01 54 24.7	-0.5
TREL	**Terrell**	**1.76**	**139**		Pb	01 54 25.5	-0.3
CSTR	**Hydro, Custer**	**1.87**	**327**		Pb	01 54 27.7	-0.1
DEOK	**Depew**	**1.94**	**24**		Pn	01 54 27.6	+1.0
OK031	**S. Brethren Rd**	**1.94**	**15**		Pn	01 54 27.8	+1.0
OK052	**Battle Ridge R**	**1.99**	**15**		Pn	01 54 28.2	+0.7
WHTX	**Lake Whitney,**	**2.07**	**180**		Pb	01 54 30.0	-1.2
QUOK	**Quay**	**2.18**	**16**		Pn	01 54 30.5	+0.4
QUOK				IAmb_Lg		01 55 03.2	
	comp=Z,15nm,0.8s						
TUL3	**Leonard**	**2.29**	**36**	Pn	Pn	01 54 32.2	+0.7
ABTX	**Abilene, Hawle**	**2.33**	**232**		Pn	01 54 33.4	+1.3
ABTX				IAmb_Lg		01 55 09.1	
	comp=Z,26nm,0.8s						
APMT	**Aspermont**	**2.34**	**252**		Pn	01 54 33.5	+1.2
237A	**Washetta, Mont**	**2.48**	**146**		Pn	01 54 35.2	+1.0
SMWD	**Samnorwood**	**2.52**	**295**		Pn	01 54 34.4	-0.3
NOKA	**Waynoka**	**2.83**	**335**	Pn	Pn	01 54 39.5	+0.5
DKNS	**Dickens**	**2.92**	**263**		Pn	01 54 41.0	+0.8
DKNS				IAmb_Lg		01 55 26.8	
	comp=Z,34nm,0.8s						
T35A	**Sooner Cattle**	**2.94**	**15**	Pn	Pn	01 54 40.9	+0.4
BRDY	**Brady**	**3.07**	**206**		Pn	01 54 42.8	+0.6
BRDY				IAmb_Lg		01 55 35.7	
	comp=Z,24nm,0.8s						
MIAR	**Mount Ida**	**3.24**	**81**		Pn	01 54 44.2	-0.4
U38A	**Gravette**	**3.45**	**46**		Pn	01 54 48.1	+0.6
HHAR	**Hobbs**	**3.63**	**52**		Pn	01 54 50.4	+0.5
X40A	**Basin Creek Fa**	**3.85**	**82**	Pn	Pn	01 54 54.2	+1.3
JCT	**Junction City**	**4.09**	**210**	IAmb_Lg		01 56 08.7	
	comp=Z,14nm,0.8s						
OZNA	**Ozona**	**4.41**	**226**		Pn	01 55 00.8	0.0
MSTX	**Muleshoe**	**4.42**	**270**	Pn	Pn	01 55 02.2	+1.3
FCAR	**Ozark Folk Cen**	**4.74**	**66**		Pn	01 55 05.7	+0.5
HNDO	**Hondo**	**4.79**	**199**		Pn	01 55 06.5	+0.6
HNDO				IAmb_Lg		01 56 30.4	
	comp=Z,16nm,0.8s						
S39A	**Bolivar**	**4.93**	**42**	Pn	Pn	01 55 08.7	+0.8
MNHN	**Monahans**	**5.24**	**240**	IAmb_Lg		01 56 43.4	
	comp=Z,13nm,0.8s						
ALPN	**Alpine**	**6.41**	**237**	IAmb_Lg		01 57 32.6	
	comp=Z,13nm,1.2s						

*ISN **23** 01:56:20.5±0.4, 34°.67N×46°.26E, h5km±3km, ML3.0*
*TEH **23** 01:56:22.4, 34°.66N×46°.27E, h10km±34km, ML2.9*
ISC 23 01:56:22.7±1.0, 34°.66N±0°.04×46°.25E±0°.05, h8km±10km, n12, σ0s58/17, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.12**	**70**	Pg	**Pg**	**01 56 25.4**	**-0.2**
IDHR				Sg	**Sg**	**01 56 28.3**	**+0.7**
IGHG	**Ghaleghazi**	**0.42**	**141**	Pg	**Pg**	**01 56 30.7**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.57**	**255**	Pg	**Pb**	**01 56 34.7**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.61**	**207**	Pg	**Pg**	**01 56 34.6**	**0.0**
ILIN	**Lien**	**0.64**	**66**	Pg	**Pg**	**01 56 34.8**	**-0.4**
KCHF	**Cheshme Sefid,**	**0.76**	**120**	Pg	**Pg**	**01 56 36.6**	**-0.8**
ILBA	**Ilam Banvizeh**	**1.03**	**182**	Pg	**Pg**	**01 56 42.5**	**-0.1**
IBDR	**Badra**	**1.57**	**190**	*e*Pn	**Pn**	**01 56 51.0**	**+0.2**
IBDR				*e*Sn	**Sg**	**01 57 13.0**	**-0.1**
IBDR				AML	AML	01 57 18.8	
	comp=E,249nm,0.4s						
IBDR				AML	AML	01 57 24.8	
	comp=N,171nm,0.5s						
SDS1	**Sardasht. Az.**	**1.61**	**337**	Pg	**Pb**	**01 56 52.8**	**-0.1**
IKRK	**Kirkuk**	**1.73**	**296**	*e*Pn	**Pn**	**01 56 53.0**	**-0.1**
IKRK				*e*Sn	**Sb**	**01 57 17.0**	**+0.3**
IKRK				AML	AML	01 57 23.5	
	comp=N,435nm,0.7s						
IKRK				AML	AML	01 57 27.4	
	comp=E,280nm,0.2s						
BHD	**Baghdad**	**2.08**	**229**	*e*Pn	**Pn**	**01 56 58.0**	**+0.1**
BHD				*e*Sn	**Sb**	**01 57 25.5**	**-1.2**
RAFI	**Al-Rafai**	**2.93**	**182**	*e*Pn	**Pn**	**01 57 10.0**	**+0.4**
RAFI				*e*Sn	**Sn**	**01 57 46.0**	**+1.1**
RAFI				AML	AML	01 57 56.5	
	comp=E,40nm,0.4s						
RAFI				AML	AML	01 57 56.6	
	comp=N,48nm,0.4s						

KRNET 23 02:34:01.3±0.1, 40°.17N×71°.44E, h17km, mb2.2, 13C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.49**	**258**	⇓*i*P	Pg	02 34 10.8	-0.4
BTK				⇓*i*S	Sg	02 34 17.6	-0.3
DRK	**Karamyk**	**0.74**	**158**	⇓*e*P	Pg	02 34 15.3	-0.5
DRK				⇓*e*S	Sg	02 34 25.6	0.0
OHH	**Osh**	**1.09**	**70**	⇓*e*P	Pb	02 34 21.7	0.0
OHH				⇑*e*S	Sn	02 34 36.3	-0.2
TRKS	**Terek-Say**	**1.38**	**351**	⇑*i*P	Pn	02 34 26.0	0.0
TRKS				⇑*i*S	Sn	02 34 43.5	-0.5
GAR	**Garm**	**1.45**	**217**	⇑*i*P	Pb	02 34 28.4	+0.4
GAR				⇑*i*S	Sg	02 34 47.6	-0.7
SFK	**Sufi-Kurgan**	**1.59**	**95**	⇓*e*P	Pb	02 34 30.6	+0.3
SFK				⇓*e*S	Sg	02 34 52.0	-0.5
ARSB	**Arslanbob**	**1.65**	**45**	⇓*e*P	Pb	02 34 31.7	+0.4
ARSB				⇓*e*S	Sg	02 34 53.4	-1.0
ARK	**Arkit**	**1.68**	**13**	⇑*i*P	Pb	02 34 32.3	+0.5
ARK				⇑*i*S	Sg	02 34 54.7	-0.7
SALK	**Salom-Alik**	**1.95**	**68**	⇓*e*P	Pb	02 34 36.6	+0.2
SALK				⇓*e*S	Sg	02 35 02.3	-1.8
MNAS	**Manas**	**2.45**	**19**	⇑*i*P	Pb	02 34 43.9	-1.1
MNAS				⇑*i*S	Sb	02 35 14.4	-0.6
ARLS	**Aral**	**2.76**	**51**	⇑*e*P	Pb	02 34 48.0	-2.3
ARLS				⇑*e*S	Sb	02 35 22.2	-1.7
KK31	**Karatay Array**	**3.02**	**347**	⇑Pn	Pb	02 34 56.0	+1.4
	0.3nm,0.2s,baz=168,slow=14,SNR=6.5						
KK31				⇓Sn	Sg	02 35 35.7	-2.6
	0.8nm,0.2s,baz=164,slow=24,SNR=5.7						

ISU 23 02:34:35.2, 40°.14N×71°.40E, h11km, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRG	**Fergana**	**0.38**	**51**	P	Pg	02 34 43.1	+0.4
FRG				S	Sb	02 34 49.1	-0.7
MINT	**Mingtut**	**0.46**	**315**	P	Pb	02 34 44.9	-0.5
MINT				S	Sb	02 34 52.0	-0.3

*JMA **23** 02:44:54.2±0.3, 34°.6N±0°.9×14°.0E±°, h78km±3km, MV3.0/29, SE OFF BOSO PENINSULA*
*IDC **23** 02:44:58.0±1.8, 34°.11N×138°.57E, h67km±32km, mb3.2/2, mbtmp3.4/3, ML2.3/1, MS3.9/1, Error ellipse: s-maj=52.5km s-min=6.6km az=66.0*
ISC 23 02:44:54.4±1.1, 34°.64N±0°.05×140°.19E±0°.06, h82km±8km, n15, σ0s85/23, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.31**	**58**	*i* P	**Pn**	**02 45 06.7**	**0.0**
BSO3				*e*X		02 45 16.9	
BSO4	**Boso 4**	**0.37**	**19**	P	**Pn**	**02 45 07.4**	**+0.1**
BSO4				X		02 45 18.1	
TATJ	**Tateyama 2**	**0.46**	**328**	P	**Pn**	**02 45 08.4**	**+0.4**
TATJ				*e*S	**Sn**	**02 45 19.6**	**+1.5**
KTR	**Katsuura**	**0.52**	**12**	*e*P	**Pn**	**02 45 08.4**	**-0.1**
KTR				*e*S	**Sn**	**02 45 19.5**	**+0.5**
JKUC	**kamogawauchiur**	**0.52**	**1**	P	**Pn**	**02 45 08.2**	**-0.3**
JKUC				*e*S	**Sn**	**02 45 19.1**	**+0.2**
JIM2	**Oshima 3**	**0.63**	**278**	P	**Pn**	**02 45 09.1**	**-0.5**
JIM2				S	**Sn**	**02 45 19.9**	**-0.8**
BSO1	**Boso 1**	**0.65**	**88**	P	**Pn**	**02 45 09.2**	**+0.1**
JTHY	**Toshimahigashi**	**0.75**	**262**	P	**Pn**	**02 45 10.9**	**+0.1**
JTHY				S	**Sn**	**02 45 23.3**	**+0.4**
JMYK	**Miyake Tsubota**	**0.78**	**223**	P	**Pn**	**02 45 11.5**	**+0.4**
JMYK				S	**Sn**	**02 45 24.0**	**+0.6**
JOD2	**Odawara 2**	**1.10**	**305**	P	**Pn**	**02 45 14.3**	**-0.5**
JOD2				S	**Sn**	**02 45 29.3**	**-0.7**
JHJ	**Hachijo jima 2**	**1.55**	**193**	P	**Pn**	**02 45 21.5**	**+1.0**
	baz=90,slow=20						
JHJ				S	**Sn**	**02 45 40.1**	**0.0**
	baz=90,slow=20						
MJAR	**Matsushiro Arr**	**2.49**	**320**	P	**Pn**	**02 45 34.0**	**+1.0**
	0.7nm,0.3s,baz=174,slow=13,SNR=16						
MJAR				S	**Sn**	**02 46 04.9**	**+2.4**
	9.5nm,0.5s,baz=172,slow=25,SNR=9.8						
	3.0nm,0.3s						
MKAR	**Makanchi Array**	**44.59**	**304**	P	**P**	**02 52 57.6**	**-0.8**
	0.7nm,0.6s,baz=89,slow=8.5,SNR=5.5						
	0.7nm,0.6s						
KDAK	**Kodiak Island**	**49.55**	**40**	LR	LR	03 14 21.9	
	comp=Z,116nm,21.1s,baz=258,slow=35						
WRA	**Warramunga Arr**	**54.56**	**187**	P	**P**	**02 54 13.9**	**-0.4**
	0.2nm,0.5s,baz=1.5,slow=7.5,SNR=4.8						
	0.2nm,0.5s						

*IDC **23** 03:25:13.7±3.1, 4°.81S×102°.28E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=138.8km s-min=22.3km az=52.0*
ISC 23 03:25:19.9±3.4, 4°.8S±0°.6×102°.4E±0°.8, h44km, n17, σ0s21/8, mb4.0/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**29.81**	**263**	T	T	04 03 00.9	
	baz=86,slow=74						
H08S3	**Diego Garcia H**	**29.82**	**263**	T	T	04 02 55.8	
	baz=86,slow=74						
H08S1	**Diego Carcia H**	**29.83**	**263**	T	T	04 03 15.8	
	baz=86						
H01W3	**Cape Leeuwin H**	**31.87**	**161**	T	T	04 05 35.4	
	baz=339						
H01W2	**Cape Leeuwin H**	**31.89**	**161**	T	T	04 05 35.7	
	baz=339						
H01W1	**Cape Leeuwin H**	**31.89**	**161**	T	T	04 05 39.3	
	baz=339						
WRA	**Warramunga Arr**	**34.59**	**119**	P	**P**	**03 32 04.9**	**0.0**
	0.3nm,0.6s,baz=293,slow=8.3,SNR=1.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**35.74**	**125**	P	**P**	**03 32 14.8**	**+0.1**
	0.2nm,0.5s,baz=297,slow=8.2,SNR=1.4						
	0.2nm,0.5s						
SONM	**Songino Array**	**52.52**	**3**	P	**P**	**03 34 28.9**	**0.0**
	1.1nm,0.6s,baz=183,slow=7.7,SNR=9.1						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**54.34**	**343**	P	**P**	**03 34 42.4**	**+0.3**
	1.4nm,0.8s,baz=155,slow=7.2,SNR=10						
	1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**58.88**	**343**	P	**P**	**03 35 14.3**	**+0.1**
	0.3nm,0.4s,baz=159,slow=7.0,SNR=4.2						
	0.3nm,0.4s						
H04N2	**CROZET ISLANDS**	**60.02**	**218**	T	T	04 41 06.3	
	baz=62,slow=75,SNR=6.1						
H04N1	**CROZET ISLANDS**	**60.03**	**218**	T	T	04 41 06.4	
	baz=62,slow=75,SNR=3.7						
H04N3	**CROZET ISLANDS**	**60.03**	**218**	T	T	04 41 03.9	
	baz=62,slow=75,SNR=4.8						
ZALV	**Zalesovo Beam**	**60.34**	**348**	P	**P**	**03 35 23.9**	**-0.2**
	1.2nm,0.5s,baz=158,slow=7.0,SNR=8.1						
	1.2nm,0.5s						
BVAR	**Borovoye Array**	**63.60**	**339**	P	**P**	**03 35 46.0**	**-0.2**
	0.7nm,0.6s,baz=147,slow=8.5,SNR=4.6						
	0.7nm,0.6s						
TXAR	**Lajitas Array**	**145.33**	**42**	PKPbc	**PKPbc**	**03 44 53.6**	**-0.1**
	0.4nm,0.7s,baz=222,slow=1.9,SNR=5.4						

NOU 23 04:22:16.8, 14°.38S×166°.52E, h0km, mb4.0/6, Vanuatu Islands, Vanuatu Islands

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

3.2nm,0.9s,baz=119,slow=8.4,SNR=6.2
3.2nm,0.9s

HFS	Hagfors	43.10	322	P	P	04 37 44.2	+0.3
	2.0nm,0.5s,baz=99,slow=8.0,SNR=14					
	2.0nm,0.5s					
NB2	NORSAR Subarra	44.41	323	P	P	04 37 54.1	-0.3
	comp=Z,0.6nm,0.5s,baz=97,slow=7.9					
NOA	NORSAR Array B	44.41	323	P	P	04 37 54.6	+0.2
	comp=Z,0.8nm,0.5s,baz=104,slow=7.3,SNR=8.9					
	comp=Z,0.8nm,0.5s					
TORD	Torodi Ar. Bea	65.94	269	P	P	04 40 28.2	-1.5
	comp=Z,0.5nm,0.4s,baz=49,slow=6.2,SNR=13					
	comp=Z,0.5nm,0.4s					

NNC 23 04:35:35.5±7.3, 53°.48N×90°.31E, h0^{km}, mb3.6, mpv3.3, 10C-5D, Error ellipse: s-maj=54.9km s-min=37.3km az=59.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	3.30	280	⇑Pn	Pb	04 36 32.7	-2.1
	1.2nm,0.6s						
ZAA0				⇓Sn	Sn	04 37 08.2	-0.1
	2.6nm,0.8s						
ZAA0				⇑Lg	Lg	04 37 23.1	
	18nm,1.1s						
KURK	Kurchatov	7.71	254	⇑Pn	Pn	04 37 24.2	-4.7
	3.2nm,0.9s						
KURK				⇑Sn	Sn	04 38 57.4	+0.4
	14nm,0.8s						
KURK				⇓Lg	Lg	04 39 45.0	
	28nm,1.0s						
KURBB	Kurchatov Arra	7.80	253	⇓Pn	Pn	04 37 22.1	-8.2
	1.7nm,0.4s						
KURBB				⇑Sn	Sn	04 39 00.4	+1.2
	45nm,0.8s						
KURBB				⇑Lg	Lg	04 39 48.5	
	64nm,1.0s						
MK31	Makanchi Array	8.44	221	⇑Pn	Pn	04 37 47.2	+8.2
	1.3nm,0.6s,baz=35,slow=13,SNR=4.1						
MK31				⇓Sn	Sn	04 39 19.1	+4.2
	3.0nm,0.8s,baz=41,slow=29,SNR=4.3						
MK31				⇓Lg	Lg	04 40 07.0	
	10nm,0.9s,baz=21,slow=34,SNR=5.8						
MAKZ	Makanchi	8.55	222	⇑Pn	Pn	04 37 40.8	+0.3
	1.2nm,0.8s						
MAKZ				⇑Sn	Sn	04 39 19.4	+1.7
	3.9nm,1.0s						
MAKZ				⇑Lg	Lg	04 40 11.4	
	10nm,1.1s						

*NEIC **23** 04:39:56.9±1.8, 9°.89N±0°.04×84°.18W±0°.04, h10^{km}±2^{km}, ML3.8/18, Error ellipse: s-maj=8.8km s-min=4.4km az=45.0*
*UPA **23** 04:39:56.5±0.9, 10°.06N×84°.03W, h0^{km}±3^{km}, MW4.3*
*UCR **23** 04:39:56.7±0.8, 9°.98N×84°.02W, h9^{km}±1^{km}, MW4.1, Fault plane solution: NP1:ϕ=75.35000°, δ75.06000°, λ-1.34000°.*
*CATAC **23** 04:39:57.5±0.2, 9°.99N×83°.98W, h2^{km}±2^{km}, ML4.0*
ISC 23 04:39:57.5±0.7, 9°.97N±0°.02×84°.02W±0°.02, h10^{km}±3km, n96, σ0°81/138, 27C-16D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORON	Coronado	0.02	91	⇑eP	Pg	04 39 59.0	-0.4
CORON				eS	Sg	04 40 00.9	0.0
LUPE	Guadalupe	0.04	231	⇓eP	Pg	04 39 59.0	-0.5
LUPE				eS	Sg	04 40 00.6	-0.4
SJS	Escuela Geolog	0.04	221	⇓eP	Pg	04 39 59.1	-0.5
SJS3	Mercedes San J	0.04	218	⇓eP	Pg	04 39 59.2	-0.3
SJS3				eS	Sg	04 40 00.8	-0.3
TIBA	Tibas	0.05	257	eP	Pg	04 39 59.2	-0.4
DOMI	Santo Domingo	0.07	278	⇑eP	Pg	04 39 59.5	-0.3
DOMI				eS	Sg	04 40 01.5	0.0
LUJA	Lujan	0.07	225	⇓eP	Pg	04 40 00.3	+0.5
LUJA				eS	Sg	04 40 02.1	+0.6
CENT	San Jose	0.07	232	⇓eP	Pg	04 40 00.4	+0.5
CENT				eS	Sg	04 40 02.4	+0.9
MEXI	Barrio Mexico	0.07	242	⇓eP	Pg	04 39 59.4	-0.4
TRIO	Tres Rios	0.07	156	⇑eP	Pg	04 39 59.4	-0.5
AMPA	Desamparados	0.09	206	⇓eP	Pg	04 39 59.4	-0.6
AMPA				eS	Sg	04 40 01.3	-0.5
HDC	Heredia	0.09	288		Pg	04 39 59.9	-0.2
HDC				Sg	Sg	04 40 02.1	+0.2
HDC				IAML		04 40 02.4	
	comp=E,35μm,0.4s						
HDC				IAML		04 40 02.4	
	comp=N,45μm,0.6s						
CVIMO	Finca Echandi	0.09	57	⇓eP	Pg	04 39 59.9	-0.3
TAGO	Cartago	0.14	137	⇑eP	Pg	04 40 00.5	-0.4
BELE	Belen	0.16	271	⇑eP	Pg	04 40 00.8	-0.2
BELE				eS	Sg	04 40 03.7	+0.1
SANTA	Santa Ana	0.16	256	eP	Pg	04 40 00.8	-0.3
VICA	Volcano Irazu	0.18	86	⇑eP	Pg	04 40 01.1	-0.4
REPA	Paraso	0.21	133	⇑eP	Pg	04 40 01.8	-0.2
PCAYA	Pacayas	0.22	105	⇑eP	Pg	04 40 01.9	-0.2
ACOS	Acosta	0.22	218	⇓eP	Pg	04 40 01.9	-0.3
ACOS				eS	Sg	04 40 05.5	+0.1
LCR2	La Lucha 2	0.23	175	⇓eP	Pg	04 40 02.0	-0.4
LCR2				eS	Sg	04 40 05.4	-0.2
VTLA	Turrialba Volc	0.25	83	⇑eP	Pg	04 40 02.4	-0.3
CVTQ	Turrialba Volc	0.26	83	⇑eP	Pg	04 40 02.7	-0.2
VTR0	Volcan Turrial	0.26	80	eP	Pg	04 40 02.7	-0.3
CVTR	Volcan Turrial	0.27	80	⇑eP	Pg	04 40 02.8	-0.2
ABE2	San Pablo	0.27	186	⇓eP	Pg	04 40 02.5	-0.5
ABE2				eS	Sg	04 40 06.7	0.0
CVTV	Tajo	0.27	83	⇑eP	Pg	04 40 02.9	-0.2
VINA	Juan Vinas	0.28	106	⇑eP	Pg	04 40 03.1	-0.2
VTCV	VTCV, Calle Va	0.29	88	⇑eP	Pg	04 40 03.2	-0.3
VPS6	Volcano Poas	0.30	317	⇑eP	Pg	04 40 03.5	-0.1
GREC	Grecia	0.30	290	⇑eP	Pg	04 40 03.7	+0.2
RAZU	San Marcos de	0.31	180	eP	Pg	04 40 03.1	-0.7
SARCI	Sarchi	0.34	290	⇑eP	Pg	04 40 04.4	+0.2
TURIB	Turrialba	0.34	101	⇑eP	Pg	04 40 03.9	-0.4
NARAN	Naranjo de Ala	0.37	290	eP	Pg	04 40 04.9	0.0
RVSTA	Santa Teresita	0.37	90	eP	Pg	04 40 04.9	+0.1
ZARE	Zarcero	0.42	300	⇑eP	Pg	04 40 05.9	+0.1
TRB2	Turrubares	0.42	262	⇑eP	Pg	04 40 05.2	-0.5
RVLA	Villa Bonita	0.45	73	eP	Pg	04 40 06.5	+0.2
RAMO	San Ramon	0.45	285	⇑eP	Pg	04 40 06.0	-0.4
SRA1	San Ramn	0.46	284	⇑eP	Pg	04 40 06.1	-0.5
SARA	Sarapiqu	0.48	0	eP	Pg	04 40 07.0	+0.2
BUS1	Rivas	0.50	147	⇑eP	Pg	04 40 06.7	-0.6
BUS1				eS	Sg	04 40 13.7	-0.3
LLNJ	Naranjito	0.50	189	⇓eP	Pg	04 40 07.3	0.0
IRES	Siquirres	0.53	77	⇓eP	Pg	04 40 07.9	+0.2
ITAL	Pital	0.53	333	⇑eP	Pg	04 40 07.6	-0.3
RITA	Parrita	0.54	214	⇓eP	Pg	04 40 08.2	+0.2
ARZA	Esparza	0.64	272	⇑eP	Pg	04 40 09.0	-0.8
TRT2	Tortugero	0.65	26	iP	Pg	04 40 09.2	-0.8
TRT2				iS	Sg	04 40 18.2	-0.3
TRT2				IAML		04 40 23.1	
	comp=Z,3μm,1.0s						
ZELE	Perez Zeledon	0.67	152	eP	Pg	04 40 09.7	-0.8
TAAN	Batan	0.68	80	⇓eP	Pb	04 40 10.8	-0.5
SOCE	Pocosol	0.71	305		Pg	04 40 10.9	-0.4
SOCE	Pocosol	0.71	305	iP	Pg	04 40 10.9	-0.4
SOCE				iS	Sb	04 40 22.9	+1.0
SOCE				IAML		04 40 25.6	
	comp=Z,5μm,1.0s						
SOCE	Pocosol	0.71	305	eP	Pg	04 40 10.7	-0.6
VACR	Volcan Arenal	0.81	308	⇑eP	Pg	04 40 12.4	-0.7
COVE	Coope Vega, Sa	0.83	333	iP	Pg	04 40 12.9	-0.6
COVE				iS	Sb	04 40 24.7	-0.6
COVE				IAML		04 40 29.8	
	comp=Z,3μm,1.0s						
MTEVE	Monteverde	0.86	294	eP	Pg	04 40 13.1	-1.1
OCHAL	Ojochal	0.95	157	iP	Pg	04 40 15.2	-0.5
OCHAL				iS	Sb	04 40 29.1	+0.5
OCHAL				IAML		04 40 34.6	
	comp=Z,4μm,1.0s						
JTS	Las Juntas de	0.97	289		Pg	04 40 14.5	-1.6
JTS				Sn	Sg	04 40 27.6	-1.1
JTS				IAML		04 40 30.9	
	comp=Z,2μm,0.4s						
JTS	Las Juntas de	0.97	289	eP	Pg	04 40 14.8	-1.3
JTS				eS	Sb	04 40 30.2	+1.0
JTS	Las Juntas de	0.97	289	⇑eP	Pg	04 40 14.4	-1.7
BURE	Buenos Aires	1.04	140	eP	Pg	04 40 15.7	-1.9
INDI	Punta indio, G	1.46	266	iP	Pn	04 40 23.0	-0.9
INDI				iS	Sn	04 40 42.9	-0.2
INDI				IAML		04 40 46.7	
	comp=Z,100μm,1.0s						
CNI2	El Empalme, Bo	1.62	109	eP	Pn	04 40 25.4	-0.8
CNI2				eS	Sn	04 40 47.1	-0.1
MLIR3	Monte Lirio, C	1.67	135	eP	Pb	04 40 27.9	-0.5
MLIR3				eS	Sg	04 40 51.1	-0.1
PIRO	Carate, Puerto	1.70	156	eP	Pn	04 40 27.8	+0.5
PIRO				eS	Sg	04 40 52.1	-0.1
BRU2	Volcan	1.76	132		Pn	04 40 28.4	+0.1
BRU2	Volcan	1.76	132	iP	Pn	04 40 28.8	+0.6
BRU2				iS	Sb	04 40 53.0	+0.8
BRU2				IAML		04 40 55.4	
	comp=Z,2μm,1.0s						
BRU2	Volcan	1.76	132	eP	Pn	04 40 28.7	+0.5
BRU2				eS	Sb	04 40 53.1	+0.9
CDITO	Canoas	1.80	141	iP	Pn	04 40 28.5	-0.1
CDITO				iS	Sn	04 40 52.2	+0.8
CDITO				IAML		04 41 08.5	
	comp=Z,2μm,1.0s						
CARN	Rivas	1.90	309	iP	Pn	04 40 29.7	-0.3
CARN				IAML		04 40 30.8	
	comp=Z,580nm,1.0s						
CARN				iS	Sb	04 40 56.4	+0.2
BCO2	Palmira	1.93	130	eP	Pn	04 40 31.3	+0.7
BCO2				eS	Sb	04 40 57.6	+0.4
PTAR3	Potrerillos Ar	1.97	130	eP	Pn	04 40 32.1	+1.0
PTAR3				eS	Sb	04 40 58.2	-0.1
BLUN	Bluefields	2.03	7	iP	Pn	04 40 31.9	+0.1
BLUN				iS	Sn	04 40 57.5	+0.2
BLUN				IAML		04 41 00.2	
	comp=Z,970nm,1.0s						
PTPM	Petroterminale	2.09	147	eP	Pn	04 40 33.4	+0.8
PTPM				eS	Sb	04 41 02.3	+0.7
DVD	David	2.18	134	eP	Pn	04 40 34.6	+0.8
DVD				⇓eS	Sb	04 41 03.2	-0.9
LOCO3	Loma Colorada,	2.22	134	eP	Pn	04 40 35.4	+1.0
LOCO3				eS	Sb	04 41 04.2	-1.1
ESPN	Las Esperanzas	2.23	353		Pn	04 40 33.8	-0.6
ESPN				IAML		04 41 05.3	
	comp=E,709nm,0.6s						
ESPN				IAML		04 41 05.7	
	comp=N,620nm,0.4s						
ESPN	Las Esperanzas	2.23	353	iP	Pn	04 40 34.5	+0.1
ESPN				iS	Sn	04 41 03.1	+1.1
ESPN				IAML		04 41 13.9	
	comp=Z,790nm,1.0s						
MORN	Al O del Volca	2.23	315	iP	Pn	04 40 36.3	+1.7
MORN				IAML		04 40 36.8	
	comp=Z,57nm,1.0s						
MORN				iS	Sb	04 41 06.3	+0.6
JAPN	Al SSO del Vol	2.24	314	iP	Pb	04 40 36.5	-1.6
JAPN				IAML		04 40 37.4	
	comp=Z,1μm,1.0s						
ACON	Acoyapa	2.28	330		Pn	04 40 34.2	-1.0
ACON				IAML		04 41 07.7	
	comp=E,458nm,0.8s						
ACON	Acoyapa	2.28	330	iP	Pn	04 40 34.6	-0.6
ACON				iS	Sb	04 41 06.5	-0.6
ACON				IAML		04 41 16.5	
	comp=Z,380nm,1.0s						
NANN	Nandasmo	2.84	314	iP	Pb	04 40 47.7	-0.6
NANN				IAML		04 40 53.4	
	comp=Z,3μm,1.0s						
NANN				iS	Sn	04 41 18.2	+1.0
MACN	El Madrono	3.59	314	iP	Pn	04 40 55.6	+2.3
MACN				IAML		04 40 56.2	
	comp=Z,110nm,1.0s						
CNGA	Al SSO del Vol	3.63	314	iP	Pn	04 40 56.4	+2.6
CNGA				IAML		04 40 57.4	
	comp=Z,150nm,1.0s						
LIMN	Finca el Limon	3.83	323	iP	Pn	04 40 56.1	-0.6
LIMN				iS	Sb	04 41 52.7	+0.8
LIMN				IAML		04 41 57.3	
	comp=Z,110nm,1.0s						
PKGN	Cerro Pekin	3.94	313	iP	Pn	04 41 00.3	+2.2
PKGN				IAML		04 41 01.0	
	comp=Z,140nm,1.0s						
CRIN	San Cristobal	4.02	313		Pn	04 40 59.7	+0.5
CRIN				IAML		04 41 37.0	
	comp=N,147nm,0.2s						
CRIN				IAML		04 41 52.6	
	comp=E,107nm,0.2s						
RCPN	Sur Rio San Ju	4.07	330	iP	Pn	04 41 00.0	0.0
RCPN				iS	Sn	04 41 49.1	+1.3
RCPN				IAML		04 42 02.1	
	comp=Z,0.6nm,1.0s						
RCVN	Varilla2	4.17	330	iP	Pn	04 41 01.8	+0.4
RCVN				iS	Sn	04 41 52.3	+2.0
RCVN				IAML		04 42 16.4	
	comp=Z,2μm,1.0s						
BCIP	Isla Barro Col	4.21	101	Pn	Pn	04 41 01.4	-0.3
BCIP	Isla Barro Col	4.21	101	eP	Pn	04 41 01.8	+0.1
BCIP				eS	Sn	04 41 52.0	+1.0
AZU	Azuero	4.29	120	eP	Pn	04 41 03.8	+0.9
AZU				eS	Sn	04 41 54.6	+1.6
TGUH	Tegucigalpa,Un	5.16	322	Pn	Pn	04 41 12.6	-2.3
TGUH				IAML		04 42 53.3	
	comp=Z,36nm,1.2s						
TGUH				IAML		04 43 05.0	
	comp=Z,43nm,1.7s						
MTO3	Montecristo	6.82	311	Pn	Pn	04 41 40.3	+2.4

*VAO **23** 05:31:03.1±1.0, 22°.10S×68°.70W, h101^{km}±6^{km}, mb4.6*
*IDC **23** 05:31:04.7±3.7, 22°.15S×68°.44W, h109^{km}±30^{km}, mb3.6/7, mbtmp4.0/9, Error ellipse: s-maj=31.2km s-min=21.7km az=28.0*
*NEIC **23** 05:31:04.7±2.1, 22°.23S±0°.06×68°.72W±0°.07, h122^{km}±7^{km}, mb4.5/11, Error ellipse: s-maj=9.4km s-min=8.2km az=105.0*
*GUC **23** 05:31:06.2±0.7, 22°.12S×68°.65W, h118^{km}±3^{km}, ML3.9*
ISC 23 05:31:04.4±0.6, 22°.21S±0°.03×68°.70W±0°.05, h123^{km}±6km, n91, σ1°50/104, mb3.9/8, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.65	309		Pn	05 31 24.6	+0.7
PB09	IPOC Station P	0.65	309	⇑iP	Pn	05 31 25.0	+1.1
PB09				eS	Sn	05 31 39.3	+0.6
PB09				IAML		05 31 40.3	
	comp=N,5μm,0.5s						
AF01	San Pedro de A	0.88	147	Pn	Pn	05 31 26.9	+1.0
AF01	San Pedro de A	0.88	147	⇓iP	Pn	05 31 27.4	+1.4
AF01				eS	Sn	05 31 43.9	+1.7
PB04	IPOC Station P	1.35	265	Pn	Pn	05 31 31.2	+0.7
PB04	IPOC Station P	1.35	265	⇑iP	Pn	05 31 31.9	+1.4
PB04				eS	Sn	05 31 51.7	+1.4
PB04				IAML		05 31 54.9	
	comp=E,2μm,0.2s						
PB01	IPOC Station P	1.38	328		Pn	05 31 30.9	+0.1
PB01	IPOC Station P	1.38	328	⇑iP	Pn	05 31 31.1	+0.4
PB01				eS	Sn	05 31 50.1	-0.6
PB01				IAML		05 31 51.7	
	comp=N,3μm,0.2s						
PX03	IPOC Station P	2.00	334	eP	Pn	05 31 37.8	-0.3
PX03				eS	Sn	05 32 02.9	-1.0
PX03				IAML		05 32 05.5	
	comp=N,1μm,0.4s						
PB08	IPOC Station P	2.10	348		Pn	05 31 40.4	+0.7
PB08	IPOC Station P	2.10	348	eP	Pn	05 31 40.6	+0.9
PB08				eS	Sn	05 32 06.3	-0.4
PB08				IAML		05 32 08.8	
	comp=E,860nm,0.6s						
TA01	Diego Aracena	2.14	320	Pn	Pn	05 31 39.3	-0.4
TA01	Diego Aracena	2.14	320	eP	Pn	05 31 39.8	0.0
TA01				eS	Sn	05 32 05.9	-1.0
TA01				IAML		05 32 09.0	
	comp=N,2μm,0.4s						
HMBC	Humberstone	2.22	330		Pn	05 31 40.2	-0.7
TA02	Huaiquique	2.35	325		Pn	05 31 42.7	+0.3
GO01	Chusmiza	2.57	350	Pn	Pn	05 31 46.2	+0.4
GO01	Chusmiza	2.57	350	eP	Pn	05 31 46.3	+0.6
GO01				eS	Sn	05 32 16.9	-0.6
PB14	IPOC Station P	2.87	213	Pn	Pn	05 31 50.6	+1.3
PB14	IPOC Station P	2.87	213	eP	Pn	05 31 50.7	+1.3
PB14				eS	Sn	05 32 20.7	-3.2
YJA	Yavi	2.95	90	eP	Pn	05 31 52.6	+2.0
YJA				eS	Sn	05 32 27.4	+1.2
GO02	Mina Guanaco	3.05	195	Pn	Pn	05 31 52.2	+0.5
GO02	Mina Guanaco	3.05	195	⇑eP	Pn	05 31 53.1	+1.4
GO02				eS	Sn	05 32 24.2	-3.9
PB12	IPOC Station P	3.89	337		Pn	05 32 01.4	-1.3
PB12	IPOC Station P	3.89	337	eP	Pn	05 32 02.5	-0.2
PB12				eS	Sn	05 32 43.8	-4.1
AC01	Pan de Azucar	4.28	203	Pn	Pn	05 32 07.2	-0.6
AC01	Pan de Azucar	4.28	203	eP	Pn	05 32 07.7	-0.1
AC01				eS	Sn	05 32 55.1	-1.9
AC06	Mina Casimiro	5.34	196		Pn	05 32 21.1	-0.8
GO03	Copiapo	5.54	194	Pn	Pn	05 32 23.9	-0.7
LPAZ	La Paz	5.92	5	Pn	Pn	05 32 31.9	+1.5
LPAZ	La Paz	5.92	5	P	Pn	05 32 30.9	+0.6
	comp=N,3.7nm,0.5s,baz=184,slow=6.5,SNR=21						
LPAZ				S	Sn	05 33 24.3	-13
	comp=N,7.3nm,0.7s,baz=217,slow=9.8,SNR=5.4						
LPAZ	La Paz	5.92	5	eP	Pn	05 32 27.6	-2.7
AC04	Llanos de Chal	6.34	199	Pn	Pn	05 32 33.0	-2.4
AC05	El Transito	6.75	192		Pn	05 32 40.0	-1.0
LCO	Las Campanas	7.00	195	Pn	Pn	05 32 42.4	-2.3
FDPY	Filadelfia	8.11	92	eP	Pn	05 32 58.0	-1.4
CO03	El Pedregal	8.77	191	Pn	Pn	05 33 05.6	-2.8
BBSD	Serra de San D	9.11	58	eP	Pn	05 33 09.5	-3.4
SIV	San Ignacio	9.50	51	P	Pn	05 33 14.7	-3.5
	comp=N,20nm,0.4s,baz=245,slow=8.2,SNR=150						
SIV				S	Sn	05 34 52.4	-11
	comp=N,2.9nm,0.6s,baz=308,slow=22,SNR=1.7						
BDQN	Bodoquena, MS	11.28	83	eP	Pn	05 33 38.8	-3.1
PTLB	Pontes e Lacer	11.28	55	Pn	Pn	05 33 39.0	-3.0
PTLB	Pontes e Lacer	11.28	55	eP	Pn	05 33 39.8	-2.2
AQDB	Aquidauana	12.24	84	Pn	Pn	05 33 54.4	-0.3
AQDB	Aquidauana	12.24	84	eP	Pn	05 33 54.6	0.0
VILB	Vilhena	12.26	43	Pn	Pn	05 33 52.7	-2.3
VILB	Vilhena	12.26	43	eP	Pn	05 33 53.4	-1.6
ETMB	Extrema	12.55	11	eP	Pn	05 33 56.2	-2.6
AMBA	Amambai (Brazi	12.69	96	eP	Pn	05 34 00.2	-0.3
SALV	Santo Antonio	13.80	65	eP	Pn	05 34 14.3	-0.7
SAML	Samuel	14.21	23	Pn	Pn	05 34 17.3	-2.9
PTGB	Pitanga	15.47	103	eP	P	05 34 38.3	+0.5
PDRB	Porto dos Gac	15.55	49	eP	Pn	05 34 36.2	-0.9
ITAB	Concordia	15.86	112		Pn	05 34 40.8	0.0
ITAB				IAmb	IAmb	05 34 43.3	
	comp=Z,19nm,0.6s						
CPSB	Cacapava Do Su	15.92	124	eP	P	05 34 43.4	+0.8
LDASE	Londrina, Braz	16.26	98	eP	P	05 34 46.6	+0.1
CLDB	Colider	16.72	50	eP	P	05 34 52.0	+0.4
TRQA	Tornquist	16.82	161	P	Pn	05 34 53.5	+1.1
ARAG	Araguaiana, MT	17.23	71	eP	Pn	05 34 57.6	0.0
ITRB	Iturama	17.31	85	eP	Pn	05 34 58.6	0.0
FRTB	Fartura	17.69	97	eP	Pn	05 35 02.5	-0.6
TBTG	Tabatinga, AM	17.96	356	eP	Pn	05 35 05.1	-1.2
BB19B	Bebedouro	18.79	90	eP	Pn	05 35 15.3	-0.9
SNDB	Serra Nova Dou	19.49	61	eP	P	05 35 20.6	-1.3
RCLB	Rio Claro- Sao	19.59	95	eP	P	05 35 22.8	-0.2
SPB	Sao Paulo	19.64	98	P	P	05 35 22.9	-0.6
SPB				IAmb	IAmb	05 35 24.7	
	comp=Z,15nm,0.8s						
IPMB	Ipameri, GO	19.69	81	eP	P	05 35 24.2	0.0
NPGB	Novo Progresso	19.82	42	eP	P	05 35 24.7	-0.9
VAO	Valinhos	20.08	96	P	P	05 35 27.2	-1.2
VAO				IAmb	IAmb	05 35 29.0	
	comp=Z,34nm,0.8s						
VAO	Valinhos	20.08	96	eP	P	05 35 27.7	-0.6
MACA	Manacapuru-AM	20.48	23	P	P	05 35 31.0	-1.5
MACA	Manacapuru-AM	20.48	23	eP	P	05 35 31.8	-0.7
BDFB	Brasilia	20.62	75	P	P	05 35 33.7	-0.5
BDFB				IAmb	IAmb	05 35 36.1	
	comp=Z,10nm,0.8s						
BDFB	Brasilia	20.62	75	P	P	05 35 32.4	-1.9
	comp=Z,8.9nm,0.5s,baz=235,slow=10,SNR=24						
	comp=Z,8.9nm,0.5s						
PMNB	Patos De Minas	21.18	84	eP	P	05 35 39.7	-0.6
ITTB	Itaituba	21.74	37	eP	P	05 35 44.9	-1.1
JANB	Januaria	24.16	77	eP	P	05 36 09.7	+0.4
PRPB	Parauapebas	24.23	52	eP	P	05 36 09.7	-0.2
SMTB	Santa Maria do	24.24	60	eP	P	05 36 10.9	+0.8
MAL2	Monte Alegre,	24.54	37	P	P	05 36 13.1	+0.4
MAL2				IAmb	IAmb	05 36 14.7	
	comp=Z,22nm,1.1s						
SDBA	SAO DESIDERIO	24.69	71	eP	P	05 36 15.1	+0.9
BOAV	Boa Vista	25.73	19	P	P	05 36 24.3	+0.8
BOAV				IAmb	IAmb	05 36 27.3	
	comp=Z,7.8nm,1.3s						
TMAB	Tom-Au,PA,Br	28.10	48	eP	P	05 36 45.4	+0.7
GDU01	Guandu, BA	28.92	78	eP	P	05 36 51.4	-0.7
RCBR	Riachuelo	35.62	68	P	P	05 37 49.9	-0.7
TXAR	Lajitas Array	61.32	325	P	P	05 41 08.5	+1.3
	comp=Z,0.3nm,0.6s,baz=148,slow=7.0,SNR=5.0						
	comp=Z,0.3nm,0.6s						
QSPA	South Pole Qui	67.98	180	P	P	05 41 52.3	+2.3
	comp=Z,1.0nm,0.8s,baz=80,slow=2.1,SNR=6.0						
	comp=Z,1.0nm,0.8s						
DBIC	Dimbokro	68.75	73	P	P	05 41 55.6	+0.1
	comp=Z,2.3nm,0.6s,baz=267,slow=5.0,SNR=4.1						
	comp=Z,2.3nm,0.6s						
PDAR	Pinedale Array	74.82	330	P	P	05 42 33.4	+2.0
	comp=Z,0.4nm,0.7s,baz=126,slow=9.0,SNR=3.6						
	comp=Z,0.4nm,0.7s						
NVAR	Mina Array Bea	76.17	322	P	P	05 42 42.3	+3.1
	comp=Z,0.5nm,0.9s,baz=146,slow=6.6,SNR=2.0						
	com

1.2nm,0.4s
WRA Warramunga Arr 48.48 259 P P 06 10 38.5 -0.8
0.6nm,0.6s,baz=95,slow=7.3,SNR=7.1
0.6nm,0.6s
ASAR Alice Springs 48.59 254 P P 06 10 40.7 +0.6
6.4nm,0.6s,baz=89,slow=8.2,SNR=79
6.4nm,0.6s

IDC 23 06:02:14.5±2.9, 12°.21N×145°.12E, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=166.3km s-min=21.2km az=89.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.39**	**350**	Pn	Pn	06 02 41.2	0.0
	151nm,0.3s,baz=121,slow=1.4,SNR=40						
GUMO				Sn	Sg	06 02 56.2	-3.1
	239nm,0.3s,baz=332,slow=23,SNR=10.0						
WRA	**Warramunga Arr**	**33.67**	**199**	P	P	06 08 57.6	+0.2
	2.1nm,0.7s,baz=22,slow=9.6,SNR=17						
	2.1nm,0.7s						
ASAR	**Alice Springs**	**37.31**	**197**	P	P	06 09 28.3	-0.3
	0.3nm,0.4s,baz=17,slow=13,SNR=10						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**43.97**	**184**	P	P	06 10 23.3	-0.3
	1.2nm,0.4s,baz=338,slow=5.4,SNR=3.3						
	1.2nm,0.4s						

IDC 23 06:41:48.8±1.8, 10°.48S×163°.25E, h0km, mb3.4/3, mbtmp3.6/4, ML3.3/1, MS3.0/1, Error ellipse: s-maj=49.7km s-min=34.4km az=127.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.93**	**166**	Pn	Pn	06 44 41.2	+0.9
	0.2nm,0.3s,baz=129,slow=21,SNR=8.9						
DZM				LR	LR	06 48 10.9	
	comp=Z,75nm,20.5s,baz=22,slow=32						
	6.6nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**28.98**	**7**	T	T	07 18 55.0	
	baz=188,slow=76,SNR=8.9						
H11S3	**WAKE ISLAND Hy**	**28.99**	**7**	T	T	07 18 50.7	
	baz=188,slow=76,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**29.00**	**7**	T	T	07 18 46.7	
	baz=188,slow=76,SNR=5.0						
WRA	**Warramunga Arr**	**29.39**	**248**	P	P	06 47 53.9	-0.2
	0.4nm,0.8s,baz=81,slow=9.1,SNR=2.4						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**30.88**	**241**	P	P	06 48 07.2	0.0
	0.2nm,0.4s,baz=66,slow=10,SNR=6.4						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**83.77**	**19**	P	P	06 54 19.4	-0.1
	0.2nm,0.6s,baz=234,slow=5.4,SNR=4.1						
	0.2nm,0.6s						

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*BEO **23** 06:46:19.3±1.1, 40°.00N×16°.32E, h0km, ML3.0/6*
ROM 23 06:46:18.1±0.1, 39°.493N±0°.005×16°.598E±0°.008, h28km, ML2.6/48, 2C-2D, Error ellipse: s-maj=0.7km s-min=0.3km az=59.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIPA	**Pietrapaola**	**0.17**	**93**	P	Pb	06 46 24.2	+0.3
PIPA				S	Sb	06 46 28.7	+0.9
PIPA				AML	AML		
	comp=E,3940μm,0.3s						
PIPA				AML	AML		
	comp=N,4525μm,1.6s						
PIPA				AML	AML		
	comp=N,4530μm,1.6s						
PIPA				AML	AML		
	comp=N,4765μm,1.6s						
PIPA				AML	AML		
	comp=N,4765μm,0.4s						
PIPA				AML	AML		
	comp=N,4530μm,0.4s						
PIPA				AML	AML		
	comp=E,3920μm,0.3s						
PIPA				AML	AML		
	comp=E,3940μm,0.3s						
PIPA				AML	AML		
	comp=E,3940μm,0.3s						
PIPA				AML	AML		
	comp=N,4131μm,0.4s						
PIPA				AML	AML		
	comp=N,4251μm,0.4s						
PIPA				AML	AML		
	comp=E,3922μm,0.3s						
TDS	**Terranova Siba**	**0.26**	**310**	P	Pb	06 46 24.9	0.0
TDS				S	Sb	06 46 30.1	+0.5
TDS				AML	AML		
	comp=E,978μm,0.9s						
TDS				AML	AML		
	comp=N,628μm,0.7s						
TDS				AML	AML		
	comp=E,893μm,0.5s						
TDS				AML	AML		
	comp=N,542μm,0.5s						
SPS2	**Spezzano della**	**0.28**	**225**	P	Pb	06 46 25.0	-0.3
SPS2				S	Sb	06 46 30.6	+0.5
SPS2				AML	AML		
	comp=E,810μm,1.5s						
SPS2				AML	AML		
	comp=N,1004μm,1.6s						
SPS2				AML	AML		
	comp=N,1004μm,0.4s						
SPS2				AML	AML		
	comp=E,750μm,0.4s						
SPS2				AML	AML		
	comp=N,971μm,0.3s						
TIP	**Timpagrande**	**0.34**	**158**	⇑P	Pb	06 46 25.9	-0.1
TIP				S	Sn	06 46 32.3	-0.8
TIP				AML	AML		
	comp=E,500μm,0.6s						
TIP				AML	AML		
	comp=N,450μm,0.6s						
TIP				AML	AML		
	comp=N,451μm,0.6s						
TIP				AML	AML		
	comp=E,500μm,0.6s						
TIP				AML	AML		
	comp=E,574μm,0.6s						
TIP				AML	AML		
	comp=N,546μm,0.6s						
TIP				AML	AML		
	comp=N,546μm,1.4s						
TIP				AML	AML		
	comp=N,451μm,1.4s						
TIP				AML	AML		
	comp=E,574μm,1.4s						
TIP				AML	AML		
	comp=N,546μm,0.6s						
TIP				AML	AML		
	comp=E,575μm,0.6s						
TIP				AML	AML		
	comp=N,451μm,0.6s						
TIP				AML	AML		
	comp=E,500μm,0.6s						
LADO	**San Nicola del**	**0.36**	**125**	P	Pb	06 46 26.2	-0.1
LADO				S	Sb	06 46 32.5	+0.5
LADO				AML	AML		
	comp=E,70μm,0.3s						
LADO				AML	AML		
	comp=N,72μm,1.1s						
LADO				AML	AML		
	comp=E,70μm,0.3s						
LADO				AML	AML		
	comp=N,72μm,0.4s						
CAR1	**CAROLEI**	**0.38**	**231**	⇓P	Pb	06 46 26.5	-0.2
CAR1				S	Sb	06 46 33.2	+0.6
CAR1				AML	AML		
	comp=E,1490μm,0.5s						
CAR1				AML	AML		
	comp=N,1335μm,0.3s						
CAR1				AML	AML		
	comp=N,1300μm,0.4s						
CAR1				AML	AML		
	comp=N,1335μm,1.7s						
CAR1				AML	AML		
	comp=E,1745μm,0.5s						
CAR1				AML	AML		
	comp=E,1490μm,0.6s						
CAR1				AML	AML		
	comp=N,1298μm,0.4s						
CAR1				AML	AML		
	comp=E,1489μm,0.6s						
CAR1				AML	AML		
	comp=N,1338μm,0.3s						
CAR1				AML	AML		
	comp=E,1745μm,0.5s						
SALB	**San Lorenzo Be**	**0.43**	**333**	⇑P	Pb	06 46 27.1	-0.4
SALB				AML	AML		
	comp=N,702μm,0.7s						
SALB				AML	AML		
	comp=E,975μm,0.3s						
SALB				AML	AML		
	comp=N,703μm,0.7s						
SALB				AML	AML		
	comp=E,974μm,0.3s						
CET2	**Cetraro**	**0.50**	**274**	⇓P	Pb	06 46 28.5	0.0
CET2				AML	AML		
	comp=N,1870μm,0.7s						
CET2				AML	AML		
	comp=N,1870μm,1.3s						
CET2				AML	AML		
	comp=E,1052μm,1.3s						
CET2				AML	AML		
	comp=N,1873μm,0.7s						
CET2				AML	AML		
	comp=E,1034μm,0.4s						
ORI	**Oriolo Calabro**	**0.58**	**349**	P	Pb	06 46 30.0	+0.1
ORI				AML	AML		
	comp=E,1680μm,0.4s						
ORI				AML	AML		
	comp=N,1470μm,0.4s						
ORI				AML	AML		
	comp=E,1680μm,1.6s						
ORI				AML	AML		
	comp=N,1473μm,0.4s						
ORI				AML	AML		
	comp=E,1677μm,0.4s						
MMN	**Mormanno**	**0.61**	**310**	P	Pn	06 46 31.4	+0.4
MMN				AML	AML		
	comp=N,1485μm,0.8s						
MMN				AML	AML		
	comp=E,1085μm,0.6s						
MMN				AML	AML		
	comp=N,1484μm,0.8s						
MMN				AML	AML		
	comp=E,1084μm,0.6s						
GRI	**Girifalco**	**0.68**	**192**	P	Pb	06 46 31.7	+0.1
CUC	**Castrocucco**	**0.78**	**310**	P	Pb	06 46 33.1	-0.2
CUC				AML	AML		
	comp=E,608μm,0.5s						
CUC				AML	AML		
	comp=N,342μm,1.5s						
CUC				AML	AML		
	comp=E,748μm,0.5s						
CUC				AML	AML		
	comp=N,390μm,0.9s						
CUC				AML	AML		
	comp=E,608μm,0.5s						
CUC				AML	AML		
	comp=E,748μm,1.5s						
CUC				AML	AML		
	comp=E,608μm,1.5s						
CUC				AML	AML		
	comp=N,342μm,0.5s						
CUC				AML	AML		
	comp=E,748μm,0.5s						
CUC				AML	AML		
	comp=E,608μm,0.5s						
CUC				AML	AML		
	comp=N,391μm,0.9s						
CUC				AML	AML		
	comp=N,329μm,0.7s						
SIRI	**Monte Sirino -**	**0.89**	**321**	P	Pn	06 46 34.5	-0.3
SIRI				AML	AML		
	comp=N,488μm,0.4s						
SIRI				AML	AML		
	comp=E,558μm,0.3s						
SIRI				AML	AML		
	comp=E,568μm,0.3s						
SIRI				AML	AML		
	comp=N,508μm,0.4s						
SIRI				AML	AML		
	comp=N,508μm,0.4s						
SIRI				AML	AML		
	comp=N,489μm,0.4s						
SIRI				AML	AML		
	comp=E,559μm,0.3s						
SIRI				AML	AML		
	comp=E,568μm,0.3s						
MTSN	**Montesano sull**	**1.01**	**320**	P	Pn	06 46 36.7	+0.2
MTSN				AML	AML		
	comp=N,381μm,1.4s						
MTSN				AML	AML		
	comp=E,398μm,0.9s						
MTSN				AML	AML		
	comp=N,381μm,0.6s						
MTSN				AML	AML		
	comp=E,398μm,0.9s						
MTSN				AML	AML		
	comp=N,364μm,0.6s						
MGR	**Morigerati**	**1.03**	**309**	P	Pb	06 46 37.3	-0.1
MGR				AML	AML		
	comp=E,625μm,0.7s						
MGR				AML	AML		
	comp=N,497μm,1.1s						
MGR				AML	AML		
	comp=E,625μm,0.7s						
MGR				AML	AML		
	comp=N,497μm,1.1s						
MGR				AML	AML		
	comp=E,238μm,0.5s						
MGR				AML	AML		
	comp=N,236μm,0.4s						
MGR				AML	AML		
	comp=N,497μm,0.9s						
MGR				AML	AML		
	comp=E,625μm,1.3s						
MGR				AML	AML		
	comp=N,237μm,0.4s						
MGR				AML	AML		
	comp=N,455μm,0.8s						
MGR				AML	AML		
	comp=E,238μm,0.5s						
MGR				AML	AML		
	comp=E,625μm,0.7s						
MCEL	**Monticello**	**1.03**	**324**	P	Pb	06 46 38.3	+0.9
MCEL				AML	AML		
	comp=E,266μm,0.6s						
MCEL				AML	AML		
	comp=E,259μm,0.6s						
MCEL				AML	AML		
	comp=N,274μm,1.0s						
MCEL				AML	AML		
	comp=E,259μm,1.4s						
MCEL				AML	AML		
	comp=E,266μm,1.4s						
MCEL				AML	AML		
	comp=N,256μm,1.0s						
MCEL				AML	AML		
	comp=N,274μm,1.0s						
MCEL				AML	AML		
	comp=E,266μm,0.6s						
MCEL				AML	AML		
	comp=N,257μm,1.0s						
MCEL				AML	AML		
	comp=E,259μm,0.6s						
JOPP	**Joppolo**	**1.04**	**212**	P	Pb	06 46 38.1	+0.5
JOPP				AML	AML		
	comp=E,250μm,0.8s						
JOPP				AML	AML		
	comp=N,242μm,1.5s						
JOPP				AML	AML		
	comp=E,204μm,0.7s						
JOPP				AML	AML		
	comp=N,226μm,0.6s						
PLAC	**Placanica**	**1.05**	**187**	P	Pb	06 46 38.0	+0.3
PLAC				AML	AML		
	comp=E,610μm,0.7s						
PLAC				AML	AML		
	comp=N,366μm,0.7s						
PLAC				AML	AML		
	comp=N,604μm,0.6s						
PLAC				AML	AML		
	comp=E,610μm,1.3s						
PLAC				AML	AML		
	comp=N,604μm,1.4s						
PLAC				AML	AML		
	comp=E,380μm,0.7s						
PLAC				AML	AML		
	comp=N,605μm,0.6s						
PLAC				AML	AML		
	comp=N,366μm,0.7s						
PLAC				AML	AML		
	comp=E,610μm,0.7s						
BULG	**Bulgheria - Ca**	**1.11**	**302**	P	Pb	06 46 38.5	-0.2
BULG				AML	AML		
	comp=E,391μm,0.5s						
BULG				AML	AML		
	comp=N,490μm,1.6s						
BULG				AML	AML		
	comp=N,490μm,0.4s						
BULG				AML	AML		
	comp=N,469μm,0.4s						
BULG				AML	AML		
	comp=E,377μm,0.5s						
BULG				AML	AML		
	comp=E,391μm,0.5s						
BULG				AML	AML		
	comp=N,448μm,0.4s						
MIGL	**Miglionico**	**1.12**	**354**	P	Pb	06 46 39.0	+0.1
MIGL				AML	AML		
	comp=E,1310μm,0.6s						
MIGL				AML	AML		
	comp=N,1285μm,0.6s						
MIGL				AML	AML		
	comp=N,1286μm,0.6s						
MIGL				AML	AML		
	comp=E,1311μm,0.6s						
LTRZ	**Laterza**	**1.12**	**9**	P	Pn	06 46 38.3	+0.3
LTRZ				AML	AML		
	comp=E,406μm,0.9s						
LTRZ				AML	AML		
	comp=N,698μm,0.4s						
LTRZ				AML	AML		
	comp=N,698μm,1.6s						
LTRZ				AML	AML		
	comp=E,418μm,0.4s						
LTRZ				AML	AML		
	comp=N,699μm,0.4s						
LTRZ				AML	AML		
	comp=E,371μm,0.3s						
LTRZ				AML	AML		
	comp=N,147μm,1.1s						
MATE	**Matera**	**1.16**	**4**	P	Pb	06 46 39.0	-0.5
MATE				AML	AML		
	comp=N,375μm,0.6s						
MATE				AML	AML		
	comp=E,295μm,1.3s						
MATE				AML	AML		
	comp=N,375μm,1.4s						
MATE				AML	AML		
	comp=N,375μm,0.6s						
MATE				AML	AML		
	comp=E,290μm,0.4s						
TAR1	**Taranto**	**1.16**	**27**	P	Pb	06 46 39.0	-0.5
TAR1				AML	AML		
	comp=E,328μm,0.4s						
TAR1				AML	AML		
	comp=N,458μm,0.5s						
TAR1				AML	AML		
	comp=N,458μm,1.5s						
TAR1				AML	AML		
	comp=N,458μm,0.5s						
TAR1				AML	AML		
	comp=E,328μm,0.4s						
CMPR	**Campora**	**1.29**	**310**	AML	AML		
	comp=N,170μm,0.7s						
CMPR				AML	AML		
	comp=N,170μm,0.7s						
CMPR				AML	AML		
	comp=E,144μm,0.5s						
ACER	**Acerenza**	**1.39**	**339**	AML	AML		
	comp=E,325μm,0.6s						
ACER				AML	AML		
	comp=N,402μm,0.7s						
ACER				AML	AML		
	comp=E,314μm,0.6s						
ACER				AML	AML		
	comp=N,290μm,0.7s						
ACER				AML	AML		
	comp=E,314μm,0.6s						
ACER				AML	AML		
	comp=N,290μm,0.7s						
ACER				AML	AML		
	comp=N,401μm,0.7s						
ACER				AML	AML		
	comp=E,325μm,0.6s						
CDRU	**Civita di Ruta**	**1.41**	**315**	AML	AML		
	comp=E,90μm,0.2s						
CDRU				AML	AML		
	comp=N,63μm,0.9s						
CDRU				AML	AML		
	comp=E,90μm,1.8s						
CDRU				AML	AML		
	comp=N,63μm,1.1s						
CDRU				AML	AML		
	comp=E,90μm,0.2s						
CDRU				AML	AML		
	comp=N,57μm,0.3s						
SCTE	**Santa Cesarea**	**1.55**	**68**	AML	AML		
	comp=N,186μm,0.4s						
SCTE				AML	AML		
	comp=E,144μm,0.8s						
SCTE				AML	AML		
	comp=N,186μm,0.4s						
MRVN	**Minervino Murg**	**1.60**	**349**	AML	AML		
	comp=N,99μm,1.6s						
MRVN				AML	AML		
	comp=N,99μm,0.4s						
MRVN				AML	AML		
	comp=E,107μm,1.0s						
MRVN				AML	AML		
	comp=E,94μm,0.7s						
MRVN				AML	AML		
	comp=N,99μm,0.4s						
APRC	**Apricena**	**2.40**	**341**	AML	AML		
	comp=E,114μm,0.7s						
APRC				AML	AML		
	comp=E,114μm,0.7s						
APRC				AML	AML		
	comp=E,114μm,1.3s						
APRC				AML	AML		
	comp=N,117μm,0.6s						
APRC				AML	AML		
	comp=N,896μm,0.8s						
APRC				AML	AML		
	comp=N,117μm,0.6s						
APRC				AML	AML		
	comp=E,146μm,1.1s						
VVLD	**Villa Vallelon**	**3.28**	**317**	AML	AML		
	comp=E,18μm,1.6s						
VVLD				AML	AML		
	comp=N,21μm,1.6s						
VVLD				AML	AML		
	comp=N,21μm,0.4s						
STON	**Ston**	**3.48**	**13**	*e*Pn	Pn	06 47 09.7	-0.6
SJES	**Sjenica**	**4.54**	**33**	*e*Pn	Pn	06 47 26.3	+1.3
SJES				*e*Sn	Sn	06 48 15.5	-1.4
BBLS	**Lazi&#263i**	**4.85**	**25**	*e*Pn	Pn	06 47 26.7	-2.5
BBLS				*e*Sn	Sn	06 48 20.1	-4.3
IVAS	**Ivanjica**	**4.87**	**32**	*e*Pn	Pn	06 47 28.4	-1.2
IVAS				*e*Sn	Sn	06 48 20.8	-4.2
SELS	**Selova**	**5.04**	**41**	*e*Pn	Pn	06 47 32.9	+1.0
SELS				*e*Sn	Sn	06 48 28.2	-1.0

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*CATAC **23** 07:05:06.4±0.4, 13°.58N×90°.84W, h12km±2km, ML3.6*
*SNET **23** 07:05:07.8±0.9, 13°.64N×90°.87W, h41km±132km, ML3.8*
*GCG **23** 07:05:11.2±0.6, 13°.86N×90°.94W, h43km±28km, MD3.3*
ISC 23 07:05:07.2±1.5, 13°.58N±0°.06×90°.89W±0°.04, h25km±14km, n64,σ0s77/105, 4C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.85**	**19**	*e*P	**Pn**	**07 05 24.1**	**+0.3**
FAME	**Alcaldia de Sa**	**0.89**	**73**	*i* P	**Pn**	**07 05 23.4**	**-0.7**
FAME				IAML		07 05 27.4	
	comp=Z,2.5nm,1.0s						
FAME				*i* S	**Sb**	**07 05 34.8**	**-0.8**
SULM	**Suchitepequez,**	**0.97**	**318**	*e*P	**Pb**	**07 05 26.5**	**+1.1**
SULM				*e*S	**Sb**	**07 05 36.3**	**-1.5**
GCG4	**OSOP**	**1.06**	**19**	*i* P	**Pn**	**07 05 25.9**	**-0.7**
GCG4				*i* S	**Sn**	**07 05 41.2**	**+0.6**

GCG4 IAML 07 05 47.2
comp=Z,510nm,1.0s
GUMI Mixco 1.08 15 *i* P **Pn 07 05 27.1 +0.2**
GUMI *i* S **Sb 07 05 42.0 +0.9**
GUMI IAML 07 05 46.1
comp=Z,720nm,1.0s
NUBE Las Nubes 1.13 73 *e*P **Pn 07 05 26.7 -0.8**
NUBE *e*S **Sn 07 05 40.7 -1.6**
NUBE Las Nubes 1.13 73 *i* P **Pn 07 05 26.8 -0.7**
NUBE *i* S **Sn 07 05 41.0 -1.3**
NUBE IAML 07 05 42.3
comp=Z,1μm,1.0s
NBG Las Nubes 1.13 28 *e*P **Pb 07 05 28.9 +0.7**
NBG *e*S **Sb 07 05 43.8 +1.1**
LOAL Lomas de Alarc 1.16 69 *e*P **Pn 07 05 27.6 -0.3**
LOAL Lomas de Alarc 1.16 69 *i* P **Pn 07 05 27.3 -0.5**
LOAL IAML 07 05 27.8
comp=Z,3μm,1.0s
LOAL *i* S **Sn 07 05 42.8 -0.1**
SLOZ Alcaldia de Sa 1.17 68⇑ *e*P **Pn 07 05 27.4 -0.5**
SLOZ *e*S **Sn 07 05 42.4 -0.6**
RTAL Retalhuleu 1.22 320 *i* P **Pb 07 05 29.4 -0.2**
RTAL *i* S **Sb 07 05 44.8 -0.1**
RTAL IAML 07 05 53.0
comp=Z,410nm,1.0s
RTR El Retiro 1.25 75⇑ *e*P **Pn 07 05 29.0 -0.2**
CEVE Cerro Verde 1.26 79⇑ *e*P **Pn 07 05 28.8 -0.5**
CEVE IAML 07 05 53.0
comp=Z,2μm,0.3s
CEVE Cerro Verde 1.26 79 *i* P **Pn 07 05 28.7 -0.7**
CEVE *i* S **Sn 07 05 45.2 -0.4**
CEVE IAML 07 05 52.9
comp=Z,2μm,1.0s
SBLS San Blas 1.26 78 *e*P **Pn 07 05 28.8 -0.6**
SNJE San Jose 1.28 77 *e*P **Pn 07 05 29.2 -0.5**
STG3 Santiaguito 3, 1.30 330 *e*P **Pn 07 05 29.8 -0.2**
STG3 *e*S **Sn 07 05 44.6 -2.0**
SOKI Kika Raxquin 1.33 338 *i* P **Pb 07 05 31.2 -0.5**
SOKI *i* S **Sn 07 05 47.8 +0.2**
SOKI IAML 07 05 51.4
comp=Z,460nm,1.0s
UNIC Universidad Ca 1.36 73 *i* P **Pn 07 05 30.6 -0.1**
UNIC IAML 07 05 30.8
comp=Z,430nm,1.0s
UNIC *i* S **Sn 07 05 47.0 -1.0**
JUAM Asuncion Mita 1.38 57 *i* P **Pn 07 05 29.9 -0.9**
JUAM *i* S **Sn 07 05 48.5 +0.3**
JUAM IAML 07 05 50.4
comp=Z,570nm,1.0s
JAYA Jayaque - finc 1.41 87 *e*P **Pn 07 05 30.6 -0.8**
JAYA IAML 07 05 50.0
comp=Z,2μm,0.2s
JAYA Jayaque - finc 1.41 87 *i* P **Pn 07 05 30.7 -0.6**
JAYA *i* S **Sn 07 05 48.7 -0.4**
JAYA IAML 07 05 51.5
comp=Z,3μm,1.0s
CEDA San Andres 1.47 81 *e*P **Pn 07 05 31.6 -0.5**
CEDA San Andres 1.47 81 *i* P **Pn 07 05 31.2 -0.9**
CEDA *i* S **Sn 07 05 50.3 -0.3**
CEDA IAML 07 05 58.3
comp=Z,1μm,1.0s
LALI Alcalda de L 1.53 93 *e*P **Pn 07 05 31.5 -1.4**
LALI Alcalda de L 1.53 93 *i* P **Pn 07 05 32.4 -0.5**
LALI *i* S **Sn 07 05 51.6 -0.4**
LALI IAML 07 05 56.4
comp=Z,170nm,1.0s
PMON Piamonte 1.54 85 *e*P **Pn 07 05 32.7 -0.4**
PMON Piamonte 1.54 85 *i* P **Pn 07 05 33.2 +0.1**
PMON *i* S **Sn 07 05 51.8 -0.6**
PMON IAML 07 05 56.9
comp=Z,2μm,1.0s
ITCA Escuela Especi 1.57 86 *i* P **Pn 07 05 33.2 -0.4**
ITCA *i* S **Sn 07 05 52.5 -0.7**
ITCA IAML 07 05 59.6
comp=Z,2μm,1.0s
BOQS Boqueron 1.57 84 *e*P **Pn 07 05 33.6 -0.1**
UEES Universidad Ev 1.61 85 *i* P **Pn 07 05 33.5 -0.6**
UEES *i* S **Sn 07 05 54.1 -0.1**
UEES IAML 07 05 55.8
comp=Z,760nm,1.0s
SNET Serv Nac Est T 1.62 86 *e*P **Pn 07 05 33.9 -0.3**
SNET Serv Nac Est T 1.62 86 *i* P **Pn 07 05 33.7 -0.5**
SNET IAML 07 05 34.5
comp=Z,1μm,1.0s
SNET *i* S **Sn 07 05 53.8 -0.5**
SEMO Seminario San 1.63 86 *i* P **Pn 07 05 33.7 -0.6**
SEMO *i* S **Sn 07 05 54.5 0.0**
SEMO IAML 07 05 56.8
comp=Z,3μm,1.0s
LOMA Loma Larga 1.68 88 *e*P **Pn 07 05 34.8 -0.2**
LOMA Loma Larga 1.68 88 *i* P **Pn 07 05 34.9 -0.1**
LOMA *i* S **Sn 07 05 55.3 -0.5**
LOMA IAML 07 05 58.2
comp=Z,720nm,1.0s
IGN Direccin Gen 1.68 85 *i* P **Pn 07 05 34.9 -0.1**
IGN *i* S **Sb 07 05 57.2 -1.0**
IGN IAML 07 06 28.3
comp=Z,3μm,1.0s
UDBS Universidad Do 1.69 85 *i* P **Pn 07 05 34.7 -0.5**
UDBS *i* S **Sn 07 05 56.4 +0.3**
UDBS IAML 07 05 57.8
comp=Z,550nm,1.0s
MTO3 Montecristo 1.69 61 *e*P **Pn 07 05 34.4 -1.0**
MTO3 Montecristo 1.69 61 *i* P **Pn 07 05 34.5 -0.9**
MTO3 *i* S **Sn 07 05 56.4 0.0**
MTO3 IAML 07 05 58.5
comp=Z,230nm,1.0s
LFRS El Faro 1.78 88 *e*P **Pn 07 05 36.5 +0.1**
ESQI Esquipulas 1.79 57⇑ *e*P **Pn 07 05 35.9 -0.8**
ESQI Esquipulas 1.79 57 *i* P **Pn 07 05 35.8 -0.8**
ESQI *i* S **Sn 07 06 00.0 +1.4**
ESQI IAML 07 06 02.5
comp=Z,240nm,1.0s
HUEH Huehuetenango 1.83 341 *i* P **Pn 07 05 38.6 +1.4**
HUEH *i* S **Sb 07 06 02.2 -0.4**
HUEH IAML 07 06 26.8
comp=Z,260nm,1.0s
PAVA Las Pavas 1.91 86 *e*P **Pn 07 05 37.9 -0.3**
PAVA Las Pavas 1.91 86 *i* P **Pn 07 05 38.0 -0.2**
PAVA IAML 07 05 39.6
comp=Z,440nm,1.0s
PAVA *i* S **Sn 07 06 02.7 +1.3**
COEG Centro de Oper 1.96 89 *e*P **Pn 07 05 38.9 0.0**
COEG Centro de Oper 1.96 89 *i* P **Pn 07 05 38.7 -0.1**
COEG IAML 07 05 39.7
comp=Z,300nm,1.0s
COEG *i* S **Sn 07 06 03.1 +0.5**
LLGN La Laguna 1.98 73 *i* P **Pn 07 05 38.3 -0.9**
LLGN *i* S **Sn 07 06 03.5 +0.3**
LLGN IAML 07 06 32.1
comp=Z,800nm,1.0s
UESV Universidad de 2.05 88 *i* P **Pn 07 05 40.0 0.0**
UESV *i* S **Sn 07 06 06.3 +1.5**
UESV IAML 07 06 11.2
comp=Z,250nm,1.0s
TECO Alcaldia de Te 2.05 91 *i* P **Pn 07 05 39.7 -0.4**
TECO *i* S **Sn 07 06 05.1 +0.1**
TECO IAML 07 06 06.7
comp=Z,140nm,1.0s
SCLA Alcaldia de Sa 2.11 86 *i* P **Pn 07 05 40.8 -0.1**
SCLA IAML 07 05 45.6
comp=Z,69nm,1.0s
SCLA *i* S **Sn 07 06 07.7 +1.4**
PQSS Presa 15 de Se 2.27 89 *e*P **Pn 07 05 42.8 -0.2**
PQSS Presa 15 de Se 2.27 89 IAML 07 05 43.1
comp=Z,140nm,1.0s
PQSS *i* P **Pn 07 05 43.3 +0.3**
PQSS *i* S **Sn 07 06 11.8 +1.6**
PACA Pacayal 2.50 92 *i* P **Pn 07 05 46.9 +0.5**
PACA IAML 07 06 36.4
comp=Z,750nm,1.0s
RANC El Ranchito 2.54 93 *i* P **Pn 07 05 48.0 +1.1**
RANC IAML 07 06 49.1
comp=Z,260nm,1.0s
LCND La Caada 2.93 95 *i* P **Pn 07 05 52.4 +0.2**
LCND *i* S **Sn 07 06 27.4 +0.7**
LCND IAML 07 06 38.5
comp=Z,130nm,1.0s
CNCH Conchagua 2.99 95 *i* P **Pn 07 05 52.8 -0.3**
CNCH *i* S **Sn 07 06 29.4 +1.1**
CNCH IAML 07 06 35.2
comp=Z,330nm,1.0s
COMHN El Horno 3.35 75 *i* P **Pn 07 05 56.6 -1.5**

PKGN Cerro Pekin 3.92 103 *i* P **Pn 07 06 05.2 -0.6**
PKGN *i* S **Sn 07 06 52.1 +1.1**
PKGN IAML 07 06 59.0
comp=Z,140nm,1.0s
YUSH Yuscaran 3.95 84 *i* P **Pn 07 06 05.9 -0.4**
YUSH *i* S **Sn 07 06 54.0 +2.0**
MACN El Madrono 4.26 105 *i* P **Pn 07 06 10.6 +0.1**
MACN IAML 07 06 15.0
comp=Z,24nm,1.0s
MACN *i* S **Sn 07 07 00.0 +0.6**
RCVN Varilla2 4.57 89 *i* P **Pn 07 06 14.4 -0.5**
RCVN IAML 07 06 14.7
comp=Z,620nm,1.0s

*IDC **23** 07:19:48.7±0.6, 29°.26N×142°.50E, h0km, mb4.2/19, mbtmp4.1/23, ML3.3/3, MS3.2/5, Error ellipse: s-maj=18.5km s-min=13.7km az=74.0*
*MOS **23** 07:19:48.9±1.2, 29°.24N×142°.50E, h13km, mb4.8/12, Error ellipse: s-maj=15.7km s-min=7.1km az=117.7*
*BJI **23** 07:19:49.5, 29°.33N×142°.24E, h8km, mb4.4/23, mB4.9/11, Ms4.8/1, Ms7 4.5/1*
*NEIC **23** 07:19:50.7±1.5, 29°.25N±0°.06×142°.4E±0°.1, h10km±1km, mb4.7/37, Error ellipse: s-maj=20.6km s-min=9.8km az=83.0*
ISC 23 07:19:50.1±0.5, 29°.20N±0°.05×142°.40E±0°.09, h10km, n116, σ1$39/122, mb4.6/48, MS3.6/3, 8C-7D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.10**	**185**		**Pn**	**07 20 24.8**	**-0.6**
JCJ	**Chichijima**	**2.10**	**185**	Pn	**Pn**	**07 20 25.1**	**-0.2**
baz=225,slow=0.0							
JCJ				Sn	**Sn**	**07 20 49.3**	**-2.3**
baz=225,slow=0.0							
JHJ2	**Mitsune**	**4.48**	**331**	Pn	**Pn**	**07 20 55.2**	**-2.9**
JHJ	**Hachijo jima 2**	**4.50**	**331**	Pn	**Pn**	**07 20 57.5**	**-0.8**
264nm,1.1s,baz=90,slow=18							
JHJ				Sn	Sn	07 21 40.5	-10
baz=270,slow=20							
INU	**Inuyama**	**7.64**	**325**	Pn	**Pn**	**07 21 38.3**	**-3.1**
JGF	**Kuroka**	**7.67**	**328**	Pn	**Pn**	**07 21 39.5**	**-2.5**
MJAR	**Matsushiro Arr**	**8.12**	**335**	Pn	**Pn**	**07 21 47.3**	**-0.8**
0.4nm,0.3s,baz=155,slow=11,SNR=16							
MJAR				Sn	**Sn**	**07 23 15.9**	**-4.1**
0.1nm,0.3s,baz=164,slow=18,SNR=1.8							
MJAR				LR	LR	07 24 52.7	
comp=Z,91nm,19.2s,baz=131,slow=38							
5.1nm,0.6s							
MAJO	**Matsushiro**	**8.13**	**335**	Pn	**Pn**	**07 21 47.4**	**-0.8**
MAJO	**Matsushiro**	**8.13**	**335**	*ce*P	**Pn**	**07 21 47.9**	**-0.2**
MJB9	**Matsu-Tunnel**	**8.13**	**335**	Pn	**Pn**	**07 21 46.9**	**-1.3**
JMM	**Marumori**	**8.75**	**352**		**Pn**	**07 21 54.0**	**-2.6**
KSRS	**Korea Array**	**14.62**	**308**	Pn	**Pn**	**07 23 19.2**	**+2.2**
0.3nm,0.3s,baz=114,slow=13,SNR=6.8							
1.6nm,0.5s							
KSAR	**Wonju Array Be**	**14.64**	**308**	Pn	**Pn**	**07 23 13.9**	**-3.4**
KSAR	**Wonju Array Be**	**14.64**	**308**	P	**Pn**	**07 23 13.9**	**-3.4**
ASAJ	**Asahikawa**	**14.89**	**1**	LR	LR	07 30 46.6	
comp=Z,98nm,20.6s,baz=159,slow=44							
USRK	**Ussuriysk Ar.**	**17.12**	**334**	P	**Pn**	**07 23 49.5**	**+0.2**
0.1nm,0.3s,baz=146,slow=14,SNR=1.2							
USRK				LR	LR	07 30 40.3	
comp=Z,61nm,18.7s,baz=318,slow=38							
0.9nm,0.7s							
MDJ	**Mudanjiang**	**18.45**	**330**	P	**P**	**07 24 05.8**	**+0.1**
MDJ				pmax	pmax		
comp=Z,8.0nm,0.7s							
BNX	**BinXian**	**20.30**	**329**	⇑P	**P**	**07 24 26.0**	**0.0**
BNX				pmax	pmax		
comp=Z,26nm,0.7s							
NJ2	**Nanjing**	**20.45**	**284**	*e*P	**P**	**07 24 27.3**	**-0.5**
NJ2				pmax	pmax		
comp=Z,5.0nm,0.6s							
KLR	**Kul'dur**	**21.60**	**341**	P	**P**	**07 24 40.1**	**+0.2**
3.7nm,0.7s,baz=139,slow=8.8,SNR=8.6							
3.7nm,0.7s							
KLR	**Kul'dur**	**21.60**	**341**	⇓*e*P	**P**	**07 24 42.3**	**+2.3**
KLR				pmax	pmax		
comp=Z,13nm,1.9s							
ZEA	**Zeya**	**26.90**	**340**	*e*P	**P**	**07 25 24.5**	**-6.6**
ZEA				*e*		07 25 31.8	
HHC	**Hu-ho-hao-te**	**27.66**	**303**	*e*P	**P**	**07 25 34.8**	**-3.4**
HHC				pmax	pmax		
comp=Z,12nm,0.7s							
HHC				pmax	pmax		
comp=Z,110nm,5.6s							
BTO	**Baotou**	**28.73**	**302**	*e*P	**P**	**07 25 48.3**	**+0.5**
BTO				pP	**sP**	**07 25 52.8**	**+3.1**
BTO				sP	**pwP**	**07 25 55.3**	**-1.2**
BTO				S	**S**	**07 30 38.8**	**+1.7**
BTO				pmax	pmax		
comp=Z,24nm,0.7s							
BTO				pmax	pmax		
comp=Z,200nm,4.4s							
BTO				LR	LR		
comp=Z,290nm,5.7s							
BTO				LR	LR		
comp=Z,430nm,5.1s							
BTO				LR	LR		
comp=Z,340nm,5.6s							
ULN	**Ulaanbaatar**	**32.96**	**314**	P	**P**	**07 26 24.7**	**-0.3**
ULN	**Ulaanbaatar**	**32.96**	**314**	⇓*i*P	**P**	**07 26 27.2**	**+2.1**
ULN				pmax	pmax		
comp=Z,15nm,2.4s							
SONM	**Songino Array**	**33.36**	**314**	P	**P**	**07 26 28.7**	**+0.1**
SONM	**Songino Array**	**33.36**	**314**	P	**P**	**07 26 29.3**	**+0.8**
comp=Z,3.1nm,0.8s,baz=116,slow=7.9,SNR=18							
comp=Z,3.1nm,0.8s							
PZH	**PanZhiHua**	**35.92**	**276**	P	**P**	**07 26 51.8**	**+0.9**
PZH				pmax	pmax		
comp=Z,10.0nm,0.6s							
PZH				pmax	pmax		
comp=Z,110nm,5.3s							
PHRA	**Phrae**	**39.82**	**264**	P	**P**	**07 27 24.4**	**+0.6**
CHTO	**Chiang Mai**	**40.82**	**265**	P	**P**	**07 27 32.6**	**+0.5**
CHTO				IAmb	IAmb	07 27 57.0	
comp=Z,18nm,1.5s							
CHTO	**Chiang Mai**	**40.82**	**265**	P	**P**	**07 27 32.6**	**+0.5**
CHTO				pmax	pmax		
comp=Z,18nm,1.5s							
CM31	**Chiang Mai Arr**	**40.96**	**265**	P	**P**	**07 27 33.6**	**+0.4**
CM31				IAmb	IAmb	07 27 53.2	
comp=Z,26nm,1.0s							
CMAR	**Chiang Mai Arr**	**40.96**	**265**	P	**P**	**07 27 33.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**40.96**	**265**	P	**P**	**07 27 34.1**	**+0.9**
comp=Z,0.9nm,0.2s,baz=52,slow=8.8,SNR=5.9							
comp=Z,0.9nm,0.2s							
CMAR	**Chiang Mai Arr**	**40.96**	**265**	*ce*P	**P**	**07 27 35.5**	**+2.3**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MTN	**Manton Dam**	**43.19**	**196**	P	**P**	**07 27 51.4**	**+0.1**
MTN				IAmb	IAmb	07 28 08.5	
comp=Z,28nm,1.1s							
KNRA	**Kununurra**	**46.52**	**198**	P	**P**	**07 28 18.5**	**+0.7**
ZAA0	**Zalesovo Array**	**48.04**	**318**	P	**P**	**07 28 28.9**	**-0.5**
ZAA0				IAmb	IAmb	07 28 43.6	
comp=Z,2.5nm,0.6s							
ZALV	**Zalesovo Beam**	**48.04**	**318**	P	**P**	**07 28 28.9**	**-0.5**
ZALV	**Zalesovo Beam**	**48.04**	**318**	P	**P**	**07 28 29.7**	**+0.3**
comp=Z,1.6nm,0.4s,baz=99,slow=6.6,SNR=6.3							
comp=Z,1.6nm,0.4s							
K15K	**Wolf Creek Mou**	**48.92**	**31**	P	**P**	**07 28 36.0**	**0.0**
CTA	**Charters Tower**	**49.14**	**175**	LR	LR	07 48 42.7	
comp=Z,32nm,18.3s,baz=360,slow=35							
MK31	**Makanchi Array**	**49.30**	**308**	P	**P**	**07 28 38.3**	**-0.9**
MK31	**Makanchi Array**	**49.30**	**308**	*d*P	**P**	**07 28 39.6**	**+0.3**
MKAR	**Makanchi Array**	**49.30**	**308**	P	**P**	**07 28 39.5**	**+0.3**
MKAR	**Makanchi Array**	**49.30**	**308**	P	**P**	**07 28 40.0**	**+0.7**
comp=Z,3.0nm,0.7s,baz=92,slow=9.4,SNR=24							
comp=Z,3.0nm,0.7s							
MKAR	**Makanchi Array**	**49.30**	**308**	P	**P**	**07 28 40.0**	**+0.7**
WR0	**Warramunga Arr**	**49.46**	**190**	P	**P**	**07 28 41.2**	**+0.6**
WR0				IAmb	IAmb	07 28 42.2	
comp=Z,9.8nm,0.9s							
WRAB	**Tennant Creek**	**49.46**	**190**	⇑*i*P	**P**	**07 28 41.4**	**+0.8**
WRAB				pmax	pmax		
comp=Z,11nm,0.9s							
WRA	**Warramunga Arr**	**49.47**	**190**	P	**P**	**07 28 40.7**	**+0.1**
WRA	**Warramunga Arr**	**49.47**	**190**	P	**P**	**07 28 41.6**	**+0.9**
comp=Z,6.6nm,0.7s,baz=9.5,slow=8.1,SNR=44							
WRA				PcP	**PcP**	**07 30 04.3**	**+1.6**
comp=Z,1.2nm,0.5s,baz=0.7,slow=3.7,SNR=5.4							
comp=Z,6.6nm,0.7s							
MAKZ Makanchi 49.52 308				P	**P**	**07 28 41.1**	**+0.2**
MAKZ				IAmb	IAmb	07 28 43.3	
comp=Z,2.9nm,0.6s							
MAKZ Makanchi 49.52 308				P	**P**	**07 28 41.1**	**+0.2**
MAKZ				pmax	pmax		
comp=Z,3.0nm,0.6s							
FITZ Fitzroy Crossi 49.73 201				P	**P**	**07 28 43.5**	**+0.9**
J17K VABM Dome 50.29 30				P	**P**	**07 28 46.5**	**+0.1**
J17K				IAmb	IAmb	07 28 47.4	
comp=Z,6.4nm,1.1s							
M17K Holitna River 50.60 33				P	**P**	**07 28 48.4**	**-0.4**
NRIK Noril'sk 50.77 338⇑				*e*P	**P**	**07 28 51.7**	**+1.7**
NRIK				pmax	pmax		
comp=Z,8.0nm,1.6s							
L18K Granite Mounta 51.10 32				P	**P**	**07 28 51.8**	**-0.8**
L18K				IAmb	IAmb	07 28 53.2	
comp=Z,8.7nm,1.3s							
O18K Koktuh Hills 51.43 35				P	**P**	**07 28 55.6**	**+0.5**
O18K				IAmb	IAmb	07 29 38.9	
comp=Z,24nm,1.4s							
KURK Kurchatov 51.67 313				P	**P**	**07 28 57.7**	**+0.7**
KURBB Kurchatov Arra 51.72 313				P	**P**	**07 28 57.7**	**+0.3**
comp=Z,4.1nm,0.5s,baz=93,slow=7.4,SNR=27							
comp=Z,4.1nm,0.5s							
C19K Lookout Ridge 51.74 23				P	**P**	**07 28 57.2**	**-0.2**
C19K				IAmb	IAmb	07 29 00.9	
comp=Z,20nm,1.2s							
J20K Nowinta River 52.60 30				P	**P**	**07 29 03.7**	**0.0**
AS31 Alice Springs 53.19 190				P	**P**	**07 29 09.1**	**+0.6**
ASAR Alice Springs 53.19 190				P	**P**	**07 29 09.0**	**+0.4**
ASAR Alice Springs 53.19 190				P	**P**	**07 29 08.5**	**0.0**
comp=Z,1.5nm,0.8s,baz=1.7,slow=4.8,SNR=19							
comp=Z,1.5nm,0.8s							
ASAR Alice Springs 53.19 190				P	**P**	**07 29 09.0**	**+0.4**
B21K Ikpikpuk River 53.58 23				P	**P**	**07 29 10.9**	**+0.1**
I21K Tanana 53.68 29				P	**P**	**07 29 11.4**	**-0.3**
I21K				IAmb	IAmb	07 29 25.5	
comp=Z,14nm,1.5s							
SCM Sheep Creek Mo 55.44 33				P	**P**	**07 29 23.8**	**-0.8**
SCM Sheep Creek Mo 55.44 33				P	**P**	**07 29 23.8**	**-0.8**
SCM				pmax	pmax		
comp=Z,19nm,1.2s							
ILAR Eielson Array 55.79 29				P	**P**	**07 29 25.6**	**-1.4**
comp=Z,0.9nm,0.7s,baz=256,slow=6.4,SNR=11							
comp=Z,0.9nm,0.7s							
D25K Kavik River 56.38 24				P	**P**	**07 29 31.3**	**+0.1**
BVAR Borovoye Array 56.64 317				P	**P**	**07 29 34.0**	**+0.8**
comp=Z,6.6nm,0.7s,baz=93,slow=8.6,SNR=21							
comp=Z,6.6nm,0.7s							
BRVK Borovoye 56.70 317				P	**P**	**07 29 33.8**	**+0.2**
BRVK				IAmb	IAmb	07 29 35.2	
comp=Z,3.9nm,0.8s							
BRVK Borovoye 56.70 317				⇑*i*P	**P**	**07 29 34.5**	**+0.8**
BRVK				pmax	pmax		
comp=Z,5.0nm,0.8s							
BMAR Burnt Mountain 56.89 26				P	**P**	**07 29 35.3**	**+0.5**
C27K Jago River 57.35 24				P	**P**	**07 29 38.0**	**0.0**
C27K				IAmb	IAmb	07 29 52.0	
comp=Z,8.2nm,0.8s							
KKAR Karatay Array 58.02 305				P	**P**	**07 29 43.0**	**-0.2**
KKAR Karatay Array 58.02 305				P	**P**	**07 29 43.4**	**+0.2**
KKAR				IAmb	IAmb	07 29 45.0	
comp=Z,3.9nm,0.8s							
KKAR Karatay Array 58.02 305				P	**P**	**07 29 43.0**	**-0.2**
KKAR						07 29 43.4	
KKAR				pmax	pmax		
comp=Z,4.0nm,0.8s							
GAR Garm 59.08 300				P	**P**	**07 29 50.7**	**-0.1**
GAR				IAmb	IAmb	07 30 27.4	
comp=Z,7.7nm,0.9s							
G29M Pine Creek 59.45 27				P	**P**	**07 29 52.7**	**0.0**
EPYK Eagle Plains 60.00 27				P	**P**	**07 29 56.5**	**0.0**
STKA Stephens Creek 60.74 181				⇓*e*P	**P**	**07 30 01.1**	**-0.8**
ARTI Arti 62.99 322				P	**P**	**07 30 16.3**	**-0.6**
ARTI Arti 62.99 322				*c i*P	**P**	**07 30 17.2**	**+0.3**
ARTI						07 30 55.0	
ARTI						07 32 32.6	
ARTI				S	**S**	**07 38 50.1**	**+3.1**
ARTI				SS	**SS**	**07 42 54.7**	**+2.7**
ARTI				pmax	pmax		
comp=Z,10.0nm,0.8s							
ABKAR Akbulak array 63.78 314				P	**P**	**07 30 21.8**	**-0.4**
ABKAR Akbulak array 63.78 314				P	**P**	**07 30 21.4**	**-0.7**
ABKAR				IAmb	IAmb	07 30 23.1	
comp=Z,2.7nm,0.6s							
KIRV Kirov 67.07 325				⇓*e*P	**P**	**07 30 44.4**	**+1.1**
YKA Yellowknife Ar 70.21 29				P	**P**	**07 31 02.0**	**-0.9**
comp=Z,0.4nm,0.6s,baz=298,slow=6.9,SNR=2.0							
comp=Z,0.4nm,0.6s							
YKA Yellowknife Ar 70.21 29				P	**P**	**07 31 02.0**	**-0.9**
AKT Akhty 74.53 309				*e*P	**P**	**07 31 29.9**	**+0.7**
AKT				pmax	pmax		
comp=Z,6.0nm,1.0s							
OBN Obninsk 74.92 325				⇓*e*P	**P**	**07 31 32.0**	**+1.0**
OBN				*e*		07 31 46.3	
OBN				*e*PPP	PPP	07 36 06.1	
OBN				pmax	pmax		
comp=Z,40nm,1.7s							
OBN				MLR	MLR		
comp=Z,66nm,14.0s							
KBZ Khabaz 76.72 313				P	**P**	**07 31 42.1**	**+0.6**
comp=Z,1.0nm,0.4s,baz=111,slow=9.8,SNR=4.0							
comp=Z,1.0nm,0.4s							
KBZ Khabaz 76.72 313				⇑*e*P	**P**	**07 31 42.2**	**+0.7**
KBZ				pmax	pmax		
comp=Z,8.0nm,2.0s							
NVAR Mina Array Bea 79.08 52				P	**P**	**07 31 55.6**	**+0.5**
comp=Z,1.9nm,0.7s,baz=291,slow=5.2,SNR=15							
comp=Z,1.9nm,0.7s							
R11B Troy Canyon, C 80.98 51				P	**P**	**07 32 05.7**	**+0.3**
AKASG Malin Array Be 81.04 324				P	**P**	**07 32 05.0**	**-0.1**
comp=Z,0.2nm,0.3s,baz=55,slow=4.7,SNR=2.0							
comp=Z,0.2nm,0.3s							
AKASG Malin Array Be 81.04 324				P	**P**	**07 32 05.0**	**-0.1**
HFS Hagfors 81.57 337				P	**P**	**07 32 06.1**	**-1.7**
comp=Z,1.3nm,0.8s,baz=46,slow=4.2,SNR=1.9							
comp=Z,1.3nm,0.8s							
NB2 NORSAR Subarra 81.73 338				P	**P**	**07 32 08.2**	**-0.5**
comp=Z,0.6nm,0.8s,baz=43,slow=5.6							
NOA NORSAR Array B 81.73 338				P	**P**	**07 32 07.6**	**-1.1**
comp=Z,1.0nm,0.8s,baz=42,slow=5.5,SNR=3.7							
NOA				LR	LR	08 14 04.5	
comp=Z,27nm,18.2s,baz=300,slow=40							
comp=Z,1.0nm,0.8s							
PDAR Pinedale Array 82.59 45				P	**P**	**07 32 12.9**	**-0.9**
comp=Z,1.2nm,1.0s,baz=300,slow=3.3,SNR=4.6							
comp=Z,1.2nm,1.0s							
LCMT Little Creek M 83.26 51				P	**P**	**07 32 18.0**	**+0.7**
LCMT				IAmb	IAmb	07 32 30.9	
comp=Z,3.8nm,0.8s							
KNB Kanab 83.55 51				P	**P**	**07 32 19.8**	**+1.0**
KNB				IAmb	IAmb	07 32 33.2	
comp=Z,6.0nm,0.9s							
KNB Kanab 83.55 51				P	**P**	**07 32 19.8**	**+1.0**
KNB				pmax	pmax		
comp=Z,6.0nm,0.9s							
BR131 Keskin Array S 84.72 313				⇓*e*P	**P**	**07 32 25.7**	**+1.1**
BRTR Keskin Array B 84.72 313				P	**P**	**07 32 25.3**	**+0.6**
comp=Z,1.8nm,0.7s,baz=90,slow=5.3,SNR=7.0							
comp=Z,1.8nm,0.7s							
BORG Borgarnes 85.50 353				*i* P	**P**	**07 32 28.6**	**+0.7**
N23A Red Feather La 85.88 45				P	**P**	**07 32 31.6**	**+1.0**
N23A				IAmb	IAmb	07 32 32.3	
comp=Z,4.3nm,0.8s							
TXAR Lajitas Array 94.20 53				P	**P**	**07 33 10.4**	**+0.6**
TXAR Lajitas Array 94.20 53				P	**P**	**07 33 10.9**	**+1.1**
comp=Z,0.9nm,0.6s,baz=307,slow=3.5,SNR=14							
comp=Z,0.9nm,0.6s							
TORD Torodi Ar. Bea 123.33 312				PKP	**PKPdf**	**07 38 47.7**	**-0.4**
comp=Z,0.3nm,0.4s,baz=34,slow=1.2,SNR=2.8							
LPAZ La Paz 149.16 72				PKPbc	**PKPbc**	**07 39 40.8**	**+0.6**
comp=Z,2.2nm,0.8s,baz=265,slow=3.5,SNR=8.3							

**IDC 23 07:26:05.8±2.3, 19°.48S×174°.15E, h0km, mb3.7/4, m

0.6nm,0.5s
ILAR Eielson Array 89.15 16 P P 07 39 02.5 -0.3
0.4nm,0.7s,baz=224,slow=5.3,SNR=4.4
0.4nm,0.7s
TXAR Lajitas Array 92.84 60 P P 07 39 21.0 +0.1
0.6nm,0.7s,baz=213,slow=6.1,SNR=8.9
0.6nm,0.7s

IDC 23 07:26:55.5±60.0, 17°.65S×178°.68E, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=1082.0km s-min=145.3km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.34**	**240**	P	P	07 34 02.1	+0.8
	1.6nm,0.4s,baz=61,slow=8.1,SNR=7.9						
	1.6nm,0.4s						
WRA	**Warramunga Arr**	**41.95**	**260**	P	P	07 34 47.8	-0.7
	0.9nm,0.6s,baz=97,slow=7.8,SNR=5.3						
	0.9nm,0.6s						
ASAR	**Alice Springs**	**42.19**	**254**	P	P	07 34 50.0	-0.4
	6.6nm,0.4s,baz=90,slow=7.9,SNR=42						
	6.6nm,0.4s						

*IDC **23** 07:27:07.3±1.6, 23°.45S×179°.71W, h471km±16km, mb3.3/8, mbtmp4.1/11, Error ellipse: s-maj=20.3km s-min=17.2km az=127.0*
*NEIC **23** 07:27:08.4±1.8, 23°.7S±0°.1×179°.7W±0°.1, h470km±8km, mb4.5/26, Error ellipse: s-maj=19.9km s-min=15.9km az=133.0*

ISC 23 07:27:06.5±0.5, 23°.74S±0°.08×179°.74W±0°.09, h450km, n53, σ1§90/55, mb4.2/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.73**	**164**	P	P	07 28 40.6	+2.7
MSVF	**Nonsavu**	**6.32**	**341**	P	P	07 28 42.4	-2.0
	9.7nm,0.8s,baz=282,slow=23,SNR=8.7						
MSVF				S	S	07 29 46.4	-18
	10nm,0.9s,baz=144,slow=9.3,SNR=6.9						
NIUE	**Niue**	**10.25**	**65**	P	P	07 29 27.1	+0.6
PINNC	**Pines Island,**	**11.84**	**273**	P	P	07 29 47.5	+3.9
AFI	**Afiamalu**	**12.34**	**39**	P	P	07 29 51.8	+2.5
DZM	**Mont Dzumac**	**12.84**	**275**	P	P	07 29 54.8	+0.2
	3.0nm,0.9s,baz=93,slow=16,SNR=1.8						
URZ	**Urewera**	**14.72**	**190**	P	P	07 30 17.3	+2.8
	9.2nm,0.6s,baz=55,slow=2.1,SNR=7.7						
URZ				S	S	07 32 44.3	-5.6
	4.1nm,0.4s,baz=192,slow=8.8,SNR=2.7						
RTZ	**Ruatahuna**	**15.09**	**190**	P	P	07 30 19.6	+1.1
RTZ				IAmb	IAmb	07 30 36.1	
	comp=Z,17nm,1.3s						
BHW	**Baring Head**	**18.19**	**193**	P	P	07 30 51.4	+0.5
BHW				IAmb	IAmb	07 31 30.9	
	comp=Z,31nm,1.3s						
QRZ	**Quartz Range**	**18.23**	**199**	P	P	07 30 52.6	+1.2
NNZ	**Nelson**	**18.36**	**197**	P	P	07 30 52.5	-0.1
DSZ	**Denniston Nort**	**19.29**	**199**	P	P	07 31 02.0	+0.6
ARMA	**Armidale**	**26.30**	**249**	P	P	07 32 06.0	+1.4
ARMA				IAmb	IAmb	07 32 23.2	
	comp=Z,23nm,1.4s						
EIDS	**Eidsvold**	**26.57**	**260**	P	P	07 32 06.9	0.0
EIDS				IAmb	IAmb	07 32 17.9	
	comp=Z,11nm,1.2s						
CAN	**Canberra**	**29.43**	**240**	P	P	07 32 32.9	+1.0
CAN				IAmb	IAmb	07 32 33.8	
	comp=Z,30nm,1.3s						
CTAO	**Charters Tower**	**31.71**	**270**	P	P	07 32 52.6	+0.7
CTAO				IAmb	IAmb	07 32 53.9	
	comp=Z,11nm,0.5s						
TAU	**Tasmania Unive**	**33.22**	**227**	P	P	07 33 05.2	+0.8
STKA	**Stephens Creek**	**35.00**	**248**	P	P	07 33 20.4	+0.7
STKA	**Stephens Creek**	**35.00**	**248**	P	P	07 33 20.1	+0.4
	comp=Z,1.9nm,0.5s,baz=80,slow=11,SNR=5.6						
	comp=Z,1.9nm,0.5s						
BBOO	**Buckleboo**	**39.72**	**247**	P	P	07 33 58.2	-0.5
BBOO				IAmb	IAmb	07 34 41.6	
	comp=Z,28nm,1.3s						
AS31	**Alice Springs**	**42.29**	**260**	P	P	07 34 19.0	-0.4
ASAR	**Alice Springs**	**42.29**	**260**	P	P	07 34 19.0	-0.4
ASAR	**Alice Springs**	**42.29**	**260**	P	P	07 34 19.6	+0.2
	comp=Z,2.9nm,0.5s,baz=99,slow=6.9,SNR=30						
ASAR				ScP	ScP	07 39 06.5	-4.1
	comp=Z,1.5nm,0.8s,baz=109,slow=4.0,SNR=10						
	comp=Z,2.9nm,0.5s						
WB2	**Warramunga Arr**	**42.64**	**266**	P	P	07 34 21.4	-0.8
WB2				IAmb	IAmb	07 34 22.6	
	comp=Z,6.4nm,0.7s						
WRA	**Warramunga Arr**	**42.65**	**266**	P	P	07 34 21.8	-0.5
WRA	**Warramunga Arr**	**42.65**	**266**	P	P	07 34 22.1	-0.2
	comp=Z,6.4nm,0.6s,baz=96,slow=8.4,SNR=199						
WRA				ScP	ScP	07 39 08.2	-3.8
	comp=Z,1.1nm,0.7s,baz=100,slow=3.6,SNR=6.8						
	comp=Z,6.4nm,0.6s						
FORT	**Forrest**	**46.59**	**249**	P	P	07 34 51.9	-0.8
KNRA	**Kununurra**	**48.92**	**270**	P	P	07 35 10.1	-0.4
QSPA	**South Pole Qui**	**66.34**	**180**	P	P	07 37 10.1	+1.0
QSPA	**South Pole Qui**	**66.34**	**180**	P	P	07 37 10.2	+1.1
	comp=Z,1.7nm,0.6s,baz=10,slow=0.5,SNR=15						
	comp=Z,1.7nm,0.6s						
O02D	**Mt. Diablo Mer**	**82.78**	**40**	P	P	07 38 40.9	-1.5
O02D				IAmb	IAmb	07 39 19.5	
	comp=Z,24nm,1.4s						
NVAR	**Mina Array Bea**	**84.47**	**44**	P	P	07 38 49.2	-1.8
	comp=Z,0.2nm,0.5s,baz=230,slow=7.0,SNR=1.3						
	comp=Z,0.2nm,0.5s						
SNAA	**Sanae**	**84.82**	**179**	P	P	07 38 50.8	-1.3
SNAA				IAmb	IAmb	07 39 03.9	
	comp=Z,8.5nm,1.5s						
SNAA	**Sanae**	**84.82**	**179**	P	P	07 38 50.8	-1.3
	comp=Z,0.5nm,0.4s,baz=210,slow=14,SNR=1.1						
	comp=Z,0.5nm,0.4s						
N15K	**Kwethluk River**	**85.14**	**10**	P	P	07 38 55.1	+1.7
N15K				IAmb	IAmb	07 39 13.6	
	comp=Z,24nm,1.4s						
O18K	**Koktuh Hills**	**85.69**	**12**	P	P	07 38 56.9	+0.7
O18K				IAmb	IAmb	07 39 09.7	
	comp=Z,22nm,1.4s						
M19K	**Big River Lodg**	**87.74**	**12**	P	P	07 39 07.1	+1.2
M19K				IAmb	IAmb	07 39 36.9	
	comp=Z,9.7nm,1.4s						
L19K	**White Mountain**	**87.91**	**11**	P	P	07 39 08.0	+1.3
SUA	**Susitna One**	**88.07**	**13**	P	P	07 39 07.6	0.0
GHO	**Glory Hole Cre**	**88.74**	**14**	P	P	07 39 11.7	+1.0
GHO				IAmb	IAmb	07 39 19.5	
	comp=Z,12nm,1.4s						
ILAR	**Eielson Array**	**91.82**	**13**	P	P	07 39 22.0	-2.8
	comp=Z,0.6nm,1.0s,baz=220,slow=5.4,SNR=2.8						
	comp=Z,0.6nm,1.0s						
PDAR	**Pinedale Array**	**92.41**	**44**	P	P	07 39 26.1	-2.2
	comp=Z,0.4nm,0.7s,baz=242,slow=3.8,SNR=1.5						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**138.37**	**342**	PKP	**PKPdf**	07 45 37.6	-1.6
	comp=Z,1.2nm,0.7s,baz=11,slow=2.8,SNR=3.5						
HFS	**Hagfors**	**142.43**	**349**	PKP	**PKPdf**	07 45 42.8	-3.7
	comp=Z,2.6nm,0.4s,baz=81,slow=4.7,SNR=15						
KONO	**Kongsberg**	**143.52**	**352**		PKPab	07 45 45.9	-0.7
AKASG	**Malin Array Be**	**144.96**	**328**	PKP	**PKPdf**	07 45 50.9	-0.3
	comp=Z,0.6nm,0.3s,baz=45,slow=4.0,SNR=10						
AKBB	**Malin Array Si**	**144.96**	**328**	PKPdf	**PKPdf**	07 45 50.4	-0.8
KIEV	**Kiev**	**144.97**	**328**	PKPdf	**PKPdf**	07 45 49.9	-1.4
BRTR	**Keskin Array B**	**147.67**	**307**	PKPdf	**PKPdf**	07 45 54.7	-1.7
BRTR	**Keskin Array B**	**147.67**	**307**	PKPbc	**PKPdf**	07 45 56.6	+0.3
	comp=Z,0.9nm,0.7s,baz=89,slow=3.3,SNR=2.8						
MMAI	**Mount Meron Ar**	**147.85**	**295**	PKPbc	**PKPdf**	07 45 56.6	-0.2
	comp=Z,1.7nm,0.5s,baz=132,slow=2.1,SNR=1.9						
EKA	**Eskdalemuir Ar**	**148.34**	**4**	PKPbc	**PKPdf**	07 46 00.2	+3.5
	comp=Z,0.5nm,0.4s,baz=339,slow=2.8,SNR=4.4						
GERES	**GERESS Array B**	**152.78**	**340**	PKPbc	**PKPdf**	07 46 07.2	+3.3
	comp=Z,0.3nm,0.3s,baz=349,slow=4.1,SNR=4.0						

*IDC **23** 07:29:55.7±1.3, 49°.72N×81°.57E, h0km, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=17.5km s-min=9.4km az=55.0*
*NNC **23** 07:29:55.7±1.1, 49°.94N×81°.89E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=14.9km s-min=3.0km az=49.0, Suspected Mining explosion.*

ISC 23 07:29:50.7±1.5, 49°.89N±0°.05×82°.05E±0°.07, h0km, n7, σ0§57/9, 3C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**2.34**	**292**	⇑Pn	**Pb**	**07 30 33.7**	**-0.1**
	5.1nm,0.5s						
KURK				⇓Sn	**Sb**	**07 31 03.3**	**+0.1**
	9.2nm,0.5s						
KURBB	**Kurchatov Arra**	**2.37**	**289**	⇑Pn	**Pb**	**07 30 34.2**	**0.0**
	12nm,0.8s						
KURBB				⇓Sn	**Sb**	**07 31 03.9**	**-0.1**
	27nm,0.7s						
KURBB	**Kurchatov Arra**	**2.37**	**289**	Pg	**Pb**	**07 30 34.2**	**0.0**
	0.4nm,0.3s,baz=112,slow=18,SNR=23						
KURBB				Lg	Lg	07 31 04.4	
	0.7nm,0.3s,baz=116,slow=30,SNR=28						
MK31	**Makanchi Array**	**3.10**	**177**	⇑Pn	**Pb**	**07 30 47.0**	**+0.2**
	0.5nm,0.3s,baz=353,slow=12,SNR=27						
MK31				⇓Sn	**Sb**	**07 31 26.0**	**+0.9**
	1.7nm,0.3s,baz=351,slow=28,SNR=15						
MKAR	**Makanchi Array**	**3.10**	**177**	Pn	**Pb**	**07 30 45.7**	**-1.1**
	1.1nm,0.3s,baz=351,slow=13,SNR=28						
MKAR				Lg	Lg	07 31 27.1	
	1.5nm,0.3s,baz=353,slow=28,SNR=21						
	1.5nm,0.3s						
I46RU	**ZALESOVO INFRA**	**4.41**	**22**	I	I	07 58 00.0	
	baz=198,slow=300,SNR=3.2						
ZALV	**Zalesovo Beam**	**4.41**	**22**	Pn	**Pb**	**07 31 08.8**	**-0.1**
	0.1nm,0.3s,baz=204,slow=12,SNR=1.8						
ZALV				Lg	Lg	07 32 22.8	
	0.4nm,0.3s,baz=209,slow=31,SNR=8.6						
	0.4nm,0.3s						

*OSPL **23** 07:39:46.4±1.5, 19°.67N×71°.26W, h0km±11km, ML2.4*
*SDD **23** 07:39:47.2±1.3, 19°.51N×71°.21W, h64km±15km, MD3.1, ML2.8, MW3.3*
*SSNC **23** 07:39:47.8±2.2, 19°.73N×71°.37W, h5km±15km, MD3.0, ML2.7*

ISC 23 07:39:44.7±0.9, 19°.68N±0°.03×71°.25W±0°.03, h24km±8km, n23, σ1§07/40, 6C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.18**	**17**	*i* P	**Pb**	**07 39 50.4**	**+0.3**
LOPP1				*e*S	**Sb**	**07 39 54.1**	**+0.4**
LOPP1				IAML		07 39 55.2	
	comp=Z,1μm,0.3s						
LODA1	**ITESIL, Dajabo**	**0.45**	**253**	*i* P	**Pb**	**07 39 52.2**	**-1.8**
LODA1				*e*S	**Sb**	**07 39 59.2**	**-1.1**
LODA1				IAML		07 40 01.1	
	comp=Z,821nm,1.7s						
SC01	**Santiago de Io**	**0.56**	**117**	*i* P	**Pb**	**07 39 55.9**	**0.0**
SC01				*e*S	**Sb**	**07 40 04.5**	**+1.0**
SC01				IAML		07 40 11.9	
	comp=Z,180nm,0.7s						
SDDR	**Presa de Saban**	**0.69**	**183**	*e*Pg	**Pb**	**07 39 58.5**	**+0.2**
SDDR				*e*Sg	**Sb**	**07 40 07.7**	**+0.2**
SDDR				IAML		07 40 08.4	
	comp=N,364nm,0.3s						
SDDR	**Presa de Saban**	**0.69**	**183**	*i* P	**Pb**	**07 39 58.2**	**-0.1**
SDDR				*e*S	**Sb**	**07 40 07.6**	**+0.2**
SDDR				IAML		07 40 08.6	
	comp=Z,181nm,0.3s						
ABDR	**Alto Bandera**	**1.05**	**145**	*e*Pg	**Pn**	**07 40 03.7**	**-0.5**
ABDR				⇓*e*Sg	**Sb**	**07 40 16.0**	**-1.9**
ABDR				IAML		07 40 19.2	
	comp=N,98nm,0.2s						
LONE3	**El Aguacate, B**	**1.09**	**190**	*i* P	**Pb**	**07 40 05.3**	**+0.3**
LONE3				*e*S	**Sn**	**07 40 19.9**	**+1.0**
LONE3				IAML		07 40 21.6	
	comp=Z,56nm,0.2s						
CADR	**Cabrera**	**1.24**	**90**	⇑*e*Pg	**Pn**	**07 40 06.8**	**+0.2**
CADR				⇑*e*Sg	**Sn**	**07 40 21.5**	**-1.0**
CADR				IAML		07 40 25.7	
	comp=N,300nm,0.3s						
LODU1	**El Espartillar**	**1.34**	**189**	*i* P	**Pb**	**07 40 09.8**	**+0.7**
LODU1				IAML		07 40 27.3	
	comp=Z,104nm,2.6s						
PODR	**Polo**	**1.50**	**181**	*i* P	**Pb**	**07 40 12.4**	**+0.2**
PODR				IAML		07 40 37.0	
	comp=Z,50nm,0.3s						
PAPH	**Port-au-Prince**	**1.52**	**221**	*e*P	**Pb**	**07 40 12.2**	**0.0**
PAPH				*e*S	**Sb**	**07 40 33.2**	**+2.2**
PAPH				IAML		07 40 39.0	
	comp=N,39nm,0.2s						
PAPH				IAML		07 40 40.1	
	comp=E,36nm,0.2s						
PAPH	**Port-au-Prince**	**1.52**	**221**	⇑*e*Pg	**Pn**	**07 40 09.8**	**-0.6**
PAPH				⇑*e*Sg	**Sn**	**07 40 27.0**	**-2.4**
PAPH				IAML		07 40 41.3	
	comp=N,87nm,0.8s						
PAPH	**Port-au-Prince**	**1.52**	**221**	*i* P	**Pb**	**07 40 12.6**	**+0.4**
PAPH				IAML		07 40 40.6	
	comp=Z,28nm,0.8s						
GRTK	**Grand Turk**	**1.83**	**4**	*e*P	**Pb**	**07 40 17.1**	**-0.4**
GRTK				*e*S	**Sb**	**07 40 40.0**	**+0.1**
GRTK				IAML		07 40 43.6	
	comp=Z,64nm,0.3s						
GRTK				IAML		07 40 43.8	
	comp=Z,75nm,0.2s						
GRTK	**Grand Turk**	**1.83**	**4**	⇑*e*Pg	**Pb**	**07 40 16.7**	**-0.8**
GRTK				⇑*e*Sg	**Sb**	**07 40 40.6**	**+0.6**
GRTK				IAML		07 40 44.2	
	comp=N,82nm,0.2s						
GRTK	**Grand Turk**	**1.83**	**4**	*i* P	**Pb**	**07 40 17.0**	**-0.4**
GRTK				*e*S	**Sb**	**07 40 40.0**	**+0.1**
GRTK				IAML		07 40 42.1	
	comp=Z,23nm,1.4s						
LOBH	**Bahia de las A**	**1.84**	**191**	*i* P	**Pb**	**07 40 17.6**	**-0.2**
LOBH				IAML		07 40 51.1	
	comp=Z,27nm,1.7s						
LOVI	**El Cajuil, Ovi**	**1.87**	**183**	*i* P	**Pb**	**07 40 18.4**	**+0.1**
LOVI				IAML		07 40 47.3	
	comp=Z,69nm,1.2s						
MASC	**Masc**	**2.84**	**280**	*e*P	**Pn**	**07 40 29.9**	**+1.2**
MASC				*e*S	**Sn**	**07 41 04.5**	**+2.4**
MASC				IAML		07 41 14.8	
	comp=E,33nm,0.6s						
MASC				IAML		07 41 16.2	
	comp=N,28nm,0.5s						
QMBU	**Quimbuelo**	**3.39**	**279**	*e*P	**Pn**	**07 40 35.8**	**-0.4**
QMBU				*e*S	**Sn**	**07 41 16.0**	**+0.4**
QMBU				IAML		07 41 28.4	
	comp=E,24nm,0.4s						
QMBU				IAML		07 41 32.0	
	comp=N,21nm,0.4s						
GTBY	**Guantanamo Bay**	**3.64**	**275**	*e*P	**Pn**	**07 40 38.9**	**-0.6**
GTBY				*e*S	**Sn**	**07 41 23.4**	**+1.7**
RCC	**Rio Carpintero**	**4.19**	**275**	*e*P	**Pn**	**07 40 48.5**	**+1.4**
PINC	**Pinares de May**	**4.34**	**281**	*e*P	**Pn**	**07 40 48.5**	**-0.6**
PINC				*e*S	**Sn**	**07 41 37.1**	**-1.9**

*THE **23** 07:44:47.2, 40°.51N×21°.64E, h16km±1km, ML2.5/5, Error ellipse: s-maj=1.2km s-min=0.5km az=282.0*
*ATH **23** 07:44:47.4, 40°.51N×21°.66E, h18km±2km, ML2.6/3, Error ellipse: s-maj=2.8km s-min=1.4km az=53.0*
*SKO **23** 07:44:48.6, 40°.49N×21°.65E, h2km, ML2.5*
*BEO **23** 07:44:48.8±1.0, 40°.80N×21°.81E, h5km±8km, ML2.0/4*

ISC 23 07:44:47.5±0.8, 40°.51N±0°.02×21°.65E±0°.03, h15km±6km, n26, σ1§16/44, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.22**	**155**	P	**Pg**	**07 44 52.5**	**0.0**
KZN				S	**Sg**	**07 44 56.1**	**+0.3**
	4μm,0.3s						
KZN	**Kozani**	**0.22**	**155**	P	**Pg**	**07 44 52.5**	**0.0**
KZN				S	**Sg**	**07 44 56.5**	**+0.7**
KZN				AML	AML	07 44 57.1	
	comp=N,8259μm,0.4s						
KZN				AML	AML	07 44 58.2	
	comp=E,6346μm,0.3s						
FNA	**Florina**	**0.35**	**323**	P	**Pg**	**07 44 54.1**	**-0.6**
FNA				S	**Sg**	**07 44 59.4**	**-0.2**
	comp=E,948nm,0.2s						
FNA	**Florina**	**0.35**	**323**	*e*Pg	**Pg**	**07 44 54.0**	**-0.6**
FNA				*e*Sg	**Sg**	**07 44 59.8**	**+0.2**
FNA	**Florina**	**0.35**	**323**	*i* Pg	**Pg**	**07 44 54.2**	**-0.6**
FNA				*i* Sg	**Sg**	**07 44 59.9**	**+0.3**
FNA	**Florina**	**0.35**	**323**	P	**Pg**	**07 44 54.1**	**-0.6**
FNA				S	**Sg**	**07 44 59.7**	**+0.1**
FNA				AML	AML	07 45 00.4	
	comp=E,2399μm,0.2s						
FNA				AML	AML	07 45 00.8	
	comp=N,1372μm,0.2s						
KTI	**Kastanea**	**0.37**	**107**	P	**Pg**	**07 44 54.7**	**-0.5**
PENT	**Pentalofos**	**0.50**	**232**	P	**Pb**	**07 44 57.0**	**-1.1**
PENT				S	**Sb**	**07 45 03.7**	**-1.5**
PENT	**Pentalofos**	**0.50**	**232**	P	**Pb**	**07 44 57.1**	**-1.1**
PENT				S	**Sb**	**07 45 05.3**	**+0.1**
KPRO	**Kipourio**	**0.59**	**202**	P	**Pb**	**07 44 58.6**	**-1.1**
KPRO				S	**Sb**	**07 45 07.6**	**-0.3**
	comp=N,485nm,0.3s						
KPRO	**Kipourio**	**0.59**	**202**	P	**Pb**	**07 44 58.9**	**-0.8**
KPRO				S	**Sb**	**07 45 07.9**	**0.0**
KPRO				AML	AML	07 45 10.7	
	comp=E,1078μm,0.3s						
KPRO				AML	AML	07 45 12.8	
	comp=N,858μm,0.3s						
LIT	**Litokhoron**	**0.76**	**122**	P	**Pg**	**07 45 01.6**	**-0.7**
LIT				S	**Sb**	**07 45 13.1**	**+0.5**
	comp=N,412nm,0.2s						
LIT	**Litokhoron**	**0.76**	**122**	*i* Pg	**Pg**	**07 45 01.8**	**-0.5**
LIT				*i* Sg	**Sb**	**07 45 13.2**	**+0.6**
OHR	**Ohrid**	**0.89**	**313**	*e*Pg	**Pg**	**07 45 04.1**	**-0.6**
OHR				*e*Sg	**Sb**	**07 45 17.2**	**+0.8**
OHR	**Ohrid**	**0.89**	**313**	*i* Pg	**Pg**	**07 45 04.2**	**-0.5**
OHR				*i* Sg	**Sn**	**07 45 19.2**	**+1.0**
OHR				*e*Lg	Lg	07 45 20.6	
	comp=N,122nm,0.5s						
THL	**Klokotos Trika**	**0.98**	**163**	P	**Pg**	**07 45 04.9**	**-1.6**
THL				S	**Sn**	**07 45 19.8**	**-0.6**
	comp=N,132nm,0.5s						
THL	**Klokotos Trika**	**0.98**	**163**	P	**Pg**	**07 45 04.8**	**-1.6**
HORT	**Hortiatis**	**1.11**	**85**	P	**Pg**	**07 45 08.2**	**-0.8**
KNT	**Kendrikon**	**1.15**	**55**	*i* Pg	**Pb**	**07 45 08.4**	**-0.8**
KNT				*i* Sg	**Sn**	**07 45 26.1**	**+1.4**
SOH	**Sokhos**	**1.33**	**76**	*i* Pg	**Pb**	**07 45 12.8**	**+0.5**
IGT	**Igoumenitsa**	**1.40**	**227**	*i* Pg	**Pg**	**07 45 17.3**	**+2.8**
BOSS	**Bosilegrad**	**2.08**	**17**	*e*Pg	**Pn**	**07 45 22.0**	**0.0**
BOSS				*e*Sg	**Sn**	**07 45 46.4**	**-1.3**
BARS	**Barje**	**2.31**	**3**	*e*Pg	**Pn**	**07 45 24.3**	**-0.8**
BARS				*e*Sg	**Sn**	**07 45 51.0**	**-2.4**
SELS	**Selova**	**2.74**	**352**	*e*Pg	**Pn**	**07 45 31.4**	**+0.4**
ZAPS	**Zavoj**	**2.86**	**15**	*e*Pg	**Pn**	**07 45 35.7**	**+3.0**
ZAGS	**Zajecar**	**3.33**	**7**	*e*Pg	**Pn**	**07 45 42.0**	**+2.9**

IDC 23 07:48:12.5±3.3, 53°.77N×88°.24E, h0km, mbtmp2.8/3, ML2.1/2, Error ellipse: s-maj=27.3km s-min=17.7km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.04**	**276**	I	I	08 04 21.7	
	baz=92,slow=335,SNR=2.2						
ZALV	**Zalesovo Beam**	**2.04**	**276**	Pn	Pb	07 48 49.1	-1.1
	1.2nm,0.3s,baz=92,slow=12,SNR=27						
ZALV				Lg	Lg	07 49 17.2	
	2.6nm,0.3s,baz=92,slow=24,SNR=27						
	4.3nm,0.5s						
KURBB	**Kurchatov Arra**	**6.75**	**246**	Pn	Pn	07 49 52.6	-0.1
	0.1nm,0.3s,baz=59,slow=12,SNR=2.7						
KURBB				Lg	Lg	07 51 44.4	
	baz=60,slow=34,SNR=5.5						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.95**	**211**	Pn	Pn	07 50 10.5	+1.3
	0.2nm,0.4s,baz=26,slow=15,SNR=1.5						
MKAR				Sn	Sn	07 51 40.0	0.0
	0.1nm,0.3s,baz=31,slow=26,SNR=4.4						
MKAR				Lg	Lg	07 52 22.4	
	baz=26,slow=30,SNR=1.9						

IDC 23 07:50:55.3±1.7, 2°.62N×128°.12E, h0km, mb3.7/5, mbtmp3.7/5, MS3.2/1, Error ellipse: s-maj=137.8km s-min=20.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.82**	**56**	LR	LR	08 01 13.0	
	comp=Z,68nm,19.4s,baz=55,slow=31						
WRA	**Warramunga Arr**	**23.24**	**165**	P	P	07 56 05.1	+0.7
	0.6nm,0.3s,baz=344,slow=10.0,SNR=12						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**26.73**	**168**	P	P	07 56 36.6	-0.1
	0.3nm,0.4s,baz=355,slow=7.8,SNR=13						
	0.3nm,0.4s						
STKA	**Stephens Creek**	**36.62**	**161**	P	P	07 58 02.1	-1.4
	0.6nm,0.4s,baz=338,slow=11,SNR=4.2						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**59.25**	**325**	P	P	08 00 59.2	+0.5
	0.5nm,0.6s,baz=118,slow=7.8,SNR=2.9						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**63.42**	**327**	P	P	08 01 26.9	+0.1
	0.7nm,0.5s,baz=126,slow=5.9,SNR=4.4						
	0.7nm,0.5s						

*IDC **23** 07:53:19.3±1.9, 17°.77S×178°.19W, h646km±23km, mb3.0/7, mbtmp4.0/9, Error ellipse: s-maj=31.6km s-min=21.7km az=154.0*

ISC 23 07:53:19.8±1.0, 17°.7S±0°.3×178°.3W±0°.2, h650km, n9, σ0§85/9, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.52**	**269**	P	P	**07 54 45.5**	**-0.6**
	5.7nm,0.5s,baz=180,slow=13,SNR=6.4						
DZM	**Mont Dzumac**	**15.03**	**251**	P	P	**07 56 26.6**	**+0.2**
	6.7nm,0.9s,baz=69,slow=17,SNR=6.8						
STKA	**Stephens Creek**	**38.85**	**241**	P	P	**07 59 52.7**	**+0.6**
	1.1nm,0.5s,baz=80,slow=10,SNR=5.8						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**44.81**	**259**	P	P	**08 00 38.9**	**+0.1**
	2.7nm,0.6s,baz=94,slow=7.3,SNR=71						
	2.7nm,0.6s						
ASAR	**Alice Springs**	**44.98**	**254**	P	P	**08 00 40.4**	**+0.2**
	4.9nm,0.5s,baz=91,slow=7.4,SNR=98						
	4.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.20**	**260**	P	P	**08 01 40.6**	**+0.4**
	2.3nm,0.7s,baz=85,slow=7.4,SNR=1.8						
	2.3nm,0.7s						
QSPA	**South Pole Qui**	**72.34**	**180**	P	P	**08 03 40.9**	**

KSRS Korea Array 26.49 323 P P 08 02 58.8 +2.5
comp=Z,1.6nm,0.6s,baz=151,slow=9.2,SNR=6.3
comp=Z,1.6nm,0.6s
HNR Honiara 29.27 155 LR LR 08 14 02.2
comp=Z,64nm,20.9s,baz=336,slow=34
USRK Ussuriysk Ar. 29.83 337 P **P 08 03 29.0 +2.9**
comp=Z,1.5nm,0.7s,baz=131,slow=10,SNR=2.1
comp=Z,1.5nm,0.7s
NJ2 Nanjing 29.86 305 *eP* **P 08 03 27.4 +0.8**
NJ2 pmax pmax
comp=Z,11nm,0.5s
COEN Coen 31.46 188 P **P 08 03 40.8 0.0**
KNRA Kununurra 37.78 211 P **P 08 04 35.6 +0.2**
HHC Hu-ho-hao-te 38.86 315 *eP* **P 08 04 43.3 -1.2**
HHC pP sP 08 04 48.0 +1.5
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,100nm,4.5s
WB2 Warramunga Arr 39.34 200 P **P 08 04 48.5 0.0**
WRA Warramunga Arr 39.34 200 P **P 08 04 48.3 -0.2**
comp=Z,0.9nm,0.6s,baz=21,slow=8.6,SNR=7.4
comp=Z,0.9nm,0.6s
FITZ Fitzroy Crossi 41.40 213 P **P 08 05 05.9 +0.4**
FITZ Fitzroy Crossi 41.40 213 P **P 08 05 06.0 +0.4**
comp=Z,1.3nm,0.4s,baz=44,slow=6.0,SNR=7.5
comp=Z,1.3nm,0.4s
ASAR Alice Springs 42.97 199 P **P 08 05 19.9 +1.6**
ASAR Alice Springs 42.97 199 P **P 08 05 17.9 -0.5**
comp=Z,0.3nm,0.7s,baz=18,slow=8.4,SNR=2.6
ASAR PcP **PcP 08 07 09.7 +0.8**
comp=Z,0.4nm,0.5s,baz=20,slow=3.0,SNR=5.3
comp=Z,0.3nm,0.7s
PZH PanZhiHua 43.38 290 P **P 08 05 22.6 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,140nm,5.2s
ULN Ulaanbaatar 44.96 322 P **P 08 05 33.8 -0.5**
SONM Songino Array 45.34 321 P **P 08 05 37.3 0.0**
SONM Songino Array 45.34 321 P **P 08 05 39.4 +2.1**
comp=Z,2.7nm,0.6s,baz=135,slow=8.5,SNR=9.7
SONM PcP **PcP 08 07 16.9 +0.1**
comp=Z,0.5nm,0.5s,baz=131,slow=4.3,SNR=1.9
comp=Z,2.7nm,0.6s
CMAR Chiang Mai Arr 46.28 279 P **P 08 05 43.6 -1.3**
CMAR Chiang Mai Arr 46.28 279 P **P 08 05 46.3 +1.4**
comp=Z,1.8nm,0.3s,baz=73,slow=6.2,SNR=3.2
comp=Z,1.8nm,0.3s
STKA Stephens Creek 49.33 187 P **P 08 06 07.5 -0.8**
STKA Stephens Creek 49.33 187 P **P 08 06 08.2 -0.1**
comp=Z,2.5nm,1.1s,baz=16,slow=7.4,SNR=3.9
comp=Z,2.5nm,1.1s
KIP Kipapa 51.17 76 P **P 08 06 22.8 +0.3**
J16K Anvik River 57.84 25 P **P 08 07 10.9 +0.6**
J16K IAmb IAmb 08 07 43.6
comp=Z,9.0nm,1.2s
J17K VABM Dome 58.50 25 P **P 08 07 15.7 +0.7**
J17K IAmb IAmb 08 07 18.6
comp=Z,5.4nm,1.1s
F17K Baldwin Pennin 59.13 21 P **P 08 07 19.3 0.0**
N19K Bonanza Creek 59.47 29 P **P 08 07 22.0 +0.1**
N19K IAmb IAmb 08 07 34.6
comp=Z,12nm,1.4s
TTA Tatalina 59.57 26 P **P 08 07 22.1 -0.5**
TTA IAmb IAmb 08 07 23.9
comp=Z,4.7nm,1.2s
E18K Tukpahlearik C 59.84 21 P **P 08 07 25.0 +0.8**
E18K IAmb IAmb 08 07 33.4
comp=Z,10.0nm,1.2s
ZAA0 Zalesovo Array 60.20 323 P **P 08 07 26.5 -0.4**
ZAA0 IAmb IAmb 08 07 28.8
comp=Z,4.3nm,0.6s
ZALV Zalesovo Beam 60.20 323 P **P 08 07 27.0 +0.2**
ZALV Zalesovo Beam 60.20 323 P **P 08 07 28.2 +1.3**
comp=Z,4.8nm,0.6s,baz=109,slow=8.3,SNR=15
comp=Z,4.8nm,0.6s
H19K Roundabout Mou 60.45 23 P **P 08 07 28.5 +0.2**
H19K IAmb IAmb 08 07 30.3
comp=Z,3.3nm,0.8s
MKAR Makanchi Array 60.73 314 P **P 08 07 29.3 -1.3**
MKAR Makanchi Array 60.73 314 P **P 08 07 31.7 +1.0**
comp=Z,0.6nm,0.5s,baz=93,slow=8.0,SNR=7.2
MKAR PcP **PcP 08 08 15.2 +0.5**
comp=Z,0.7nm,0.5s,baz=98,slow=4.7,SNR=4.8
comp=Z,0.6nm,0.5s
BRLK Bradley Lake 60.84 31 P **P 08 07 30.1 -1.1**
MAKZ Makanchi 60.94 314 P **P 08 07 32.7 +0.6**
MAKZ IAmb IAmb 08 07 45.9
comp=Z,4.9nm,1.3s
CAST Castle Rocks 61.41 26 P **P 08 07 35.1 +0.1**
CAST IAmb IAmb 08 07 36.6
comp=Z,4.8nm,0.9s
IMAR Indian Mountai 61.65 23 P **P 08 07 36.4 -0.2**
H21K Melozitna Rive 61.89 24 P **P 08 07 38.9 +0.6**
H21K IAmb IAmb 08 07 40.1
comp=Z,3.5nm,0.8s
I21K Tanana 62.05 25 P **P 08 07 39.1 -0.2**
I21K IAmb IAmb 08 07 57.6
comp=Z,7.3nm,1.2s
BPAW Bear Paw Mtn. 62.09 26 P **P 08 07 40.0 +0.3**
BPAW IAmb IAmb 08 07 41.0
comp=Z,4.6nm,0.8s
MLY Manley 62.49 25 P **P 08 07 42.6 +0.3**
MLY IAmb IAmb 08 07 44.0
comp=Z,2.2nm,0.8s
SML Sawmill 62.59 29 P **P 08 07 43.0 -0.1**
NEA2 Nenana 63.04 26 P **P 08 07 45.7 -0.2**
D22K Ayikyak River 63.14 21 P **P 08 07 47.1 +0.6**
WRH Wood River Hil 63.41 26 P **P 08 07 48.1 -0.3**
WRH IAmb IAmb 08 07 49.0
comp=Z,3.3nm,0.9s
NRIK Noril'sk 63.48 340 P **P 08 07 49.4 +0.6**
comp=Z,2.2nm,0.5s,baz=99,slow=10.0,SNR=5.4
comp=Z,2.2nm,0.5s
KURK Kurchatov 63.50 318 P **P 08 07 48.9 -0.2**
KURK IAmb IAmb 08 07 51.4
comp=Z,4.6nm,0.9s
KURBB Kurchatov Arra 63.55 318 P **P 08 07 50.8 +1.3**
comp=Z,3.8nm,0.7s,baz=97,slow=6.7,SNR=37
comp=Z,3.8nm,0.7s
H24K Noodor Dome 63.88 24 P **P 08 07 51.8 +0.3**
H24K IAmb IAmb 08 07 53.4
comp=Z,4.9nm,1.1s
ILAR Eielson Array 63.99 26 P **P 08 07 51.4 -0.8**
comp=Z,1.3nm,0.8s,baz=259,slow=6.1,SNR=12
comp=Z,1.3nm,0.8s
TOLK Toolik Lake Re 64.11 21 P **P 08 07 53.4 +0.4**
TOLK IAmb IAmb 08 08 30.3
comp=Z,4.8nm,1.2s
G24K Hadweenzic Riv 64.28 24 P **P 08 07 54.4 +0.4**
G24K IAmb IAmb 08 08 13.9
comp=Z,4.6nm,1.0s
SCRK Sand Creek 65.03 27 P **P 08 07 59.0 -0.1**
F25K Christian Rive 65.21 23 P **P 08 08 01.1 +0.9**
F25K IAmb IAmb 08 08 02.3
comp=Z,4.1nm,1.0s
J26L Joseph Creek 65.32 26 P **P 08 08 00.8 -0.2**
BMAR Burnt Mountain 65.57 23 P **P 08 08 03.6 +1.2**
BCAR Beaver Creek A 65.84 28 P **P 08 08 04.3 0.0**
BVAR Borovoye Array 68.68 321 P **P 08 08 23.8 +1.3**
comp=Z,9.9nm,0.7s,baz=93,slow=7.6,SNR=36
comp=Z,9.9nm,0.7s
BRVK Borovoye 68.75 321 P **P 08 08 23.4 +0.5**
BRVK IAmb IAmb 08 08 25.1
comp=Z,7.0nm,0.9s
KKAR Karatay Array 69.05 310 P **P 08 08 26.0 +1.0**
G31M Satah River 69.46 24 P **P 08 08 27.3 +0.4**
G31M IAmb IAmb 08 08 44.6
comp=Z,9.5nm,1.4s
A36M Sachs Harbour 72.69 19 P **P 08 08 47.0 +0.5**
ABKAR Akbulak array 75.58 317 P **P 08 09 03.8 -0.1**
NVAR Mina Array Bea 82.45 52 P **P 08 09 40.4 -1.6**
comp=Z,0.4nm,0.5s,baz=268,slow=5.1,SNR=2.5
comp=Z,0.4nm,0.5s
ARCES ARCESS Array B 84.31 343 P **P 08 09 50.5 -0.2**
comp=Z,4.5nm,1.0s,baz=39,slow=5.8,SNR=2.1
comp=Z,4.5nm,1.0s
PDAR Pinedale Array 87.38 46 P **P 08 10 05.0 -1.8**
comp=Z,0.1nm,0.4s,baz=282,slow=4.5,SNR=2.1
comp=Z,0.1nm,0.4s
FINES FINESS Array B 88.85 336 P **P 08 10 12.5 -0.5**
comp=Z,1.3nm,0.4s,baz=62,slow=5.6,SNR=13
comp=Z,1.3nm,0.4s
TXAR Lajitas Array 97.00 56 LR LR 08 50 14.6
comp=Z,68nm,19.0s,baz=32,slow=33
TORD Torodi Ar. Bea 134.74 310 PKP **PKPdf 08 16 36.2 -2.6**
comp=Z,0.2nm,0.5s,baz=14,slow=3.7,SNR=1.7
DBIC Dimbokro 143.84 309 PKP PKPab 08 16 52.7 +0.3
comp=Z,1.9nm,0.5s,baz=47,slow=2.4,SNR=5.0
LPAZ La Paz 145.73 94 PKPbc **PKPdf 08 16 59.1 -0.2**
comp=Z,1.4nm,0.6s,baz=27,slow=2.6,SNR=6.7

DJA 23 08:02:31.1±0.3, 3°S±3°×13°0E±°, h10km, M3.9/9, mb4.3/2, MLv3.7/9, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.81**	**225**	P	Pg	08 02 46.0	-0.7
AAI	**Ambon**	**1.59**	**235**	P	Pn	08 02 59.5	+0.2
BNDI	**Bandanaira**	**1.79**	**167**	P	Pn	08 03 01.7	-0.3
NLAI	**Namlea**	**2.44**	**259**	P	Pn	08 03 11.6	+0.5
NLAI				S	Sb	08 03 43.8	-1.5
SWI	**Sorong**	**2.58**	**43**	P	Pn	08 03 13.1	+0.1
SWI				S	Sn	08 03 45.4	+0.9
SANI	**Sanana**	**3.58**	**281**	P	Pn	08 03 26.7	0.0
APSI	**Ampana**	**8.06**	**283**	P	Pn	08 04 27.7	-0.6

*IDC **23** 08:07:06.4±3.1, 16°.45N×99°.95W, h0km, mb3.2/3, mbtmp3.0/6, ML2.9/3, MS3.4/2, Error ellipse: s-maj=55.8km s-min=18.0km az=14.0*
*MEX **23** 08:07:14.9±0.9, 16°.82N×100°.10W, h4km±6km, MD4.3*
ISC 23 08:07:11.8±1.2, 16°.74N±0°.04×100°.11W±0°.02, h14km±8km, n71, σ2°16/126, mb3.0/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.26**	**58**	*eP*	**Pb**	**08 07 19.5**	**+1.3**
ACP2				*eS*	**Sb**	**08 07 23.1**	**+0.6**
CAIG	**El Cayaco**	**0.34**	**335**	*eP*	**Pb**	**08 07 20.0**	**+0.3**
CAIG				*eS*	**Sg**	**08 07 24.0**	**+0.3**
DAIG	**Los Arroyos**	**0.53**	**57**	*i P*	**Pb**	**08 07 23.6**	**+0.7**
DAIG				*i S*	**Sg**	**08 07 30.2**	**+0.9**
ATYC	**Atoyac**	**0.56**	**327**	*eP*	**Pg**	**08 07 23.2**	**+0.3**
ATYC				*eS*	**Sg**	**08 07 30.2**	**-0.3**
CRIG	**Cruz Grande**	**0.94**	**90**	*eP*	**Pn**	**08 07 30.7**	**+0.2**
CRIG				*i S*	**Sb**	**08 07 42.5**	**+0.3**
MGIG	**Malinaltepec**	**1.50**	**71**	*eP*	**Pb**	**08 07 39.4**	**-0.2**
MGIG				*i S*	**Sb**	**08 07 59.7**	**+1.2**
ARIG	**Puente Sto Nin**	**1.55**	**352**	*eP*	**Pn**	**08 07 39.5**	**+0.4**
ARIG				*eS*	**Sn**	**08 07 59.5**	**+0.5**
ZIIG	**Zihuatanejo**	**1.56**	**304**	*eP*	**Pb**	**08 07 40.0**	**-0.4**
ZIIG				*eS*	**Sn**	**08 07 57.9**	**-1.1**
TLIG	**Tlapa**	**1.69**	**61**	*eP*	**Pn**	**08 07 42.1**	**+1.1**
TLIG				*i S*	**Sn**	**08 08 01.7**	**-0.9**
PLIG	**Platanillo**	**1.75**	**19**	*eP*	**Pn**	**08 07 42.7**	**+0.9**
PLIG				*eS*	**Sn**	**08 08 03.9**	**0.0**
PNIG	**Pinotepa**	**1.94**	**100**	*eP*	**Pn**	**08 07 45.1**	**+0.8**
PNIG				*i S*	**Sn**	**08 08 06.0**	**-2.4**
FTIG	**Fresnillo de T**	**2.22**	**58**	*eP*	**Pn**	**08 07 49.4**	**+1.1**
FTIG				*i S*	**Sb**	**08 08 19.7**	**+0.5**
MAVM	**Malinalco, Edo**	**2.29**	**15**	*eP*	Pn	08 07 36.2	-13
MAVM				*i S*	Sn	08 08 05.3	-12
TXIG	**Tlaxiaco**	**2.30**	**77**	*i P*	**Pn**	**08 07 51.0**	**+1.4**
TXIG				*eS*	**Sb**	**08 08 24.1**	**+2.4**
YAIG	**Yautepec**	**2.34**	**25**	*eP*	**Pn**	**08 07 49.9**	**-0.1**
YAIG				*i S*	**Sn**	**08 08 20.9**	**+2.3**
HLIG	**Huajuapan de L**	**2.46**	**63**	*eP*	**Pn**	**08 07 52.9**	**+1.2**
HLIG				*i S*	**Sn**	**08 08 22.8**	**+1.1**
YOIG	**Yosondua**	**2.46**	**87**	*eP*	**Pn**	**08 07 53.3**	**+1.5**
YOIG				*eS*	**Sn**	**08 08 21.0**	**-0.8**
TLVM	**San Miguel Top**	**2.62**	**20**	*eP*	**Pn**	**08 07 55.6**	**+1.5**
TLVM				*i S*	**Sn**	**08 08 26.6**	**+0.7**
AOVM	**Tlapan**	**2.63**	**17**	*eP*	**Pn**	**08 07 56.0**	**+1.7**
AOVM				*eS*	**Sb**	**08 08 29.9**	**-1.4**
INVM	**La Marquesa**	**2.63**	**15**	*eP*	**Pn**	**08 07 56.4**	**+2.1**
INVM				*i S*	**Sb**	**08 08 29.8**	**-1.6**
PBXN	**Popocatepetl**	**2.65**	**31**	*eP*	Pn	08 07 39.9	-15
PBXN				*eP*	**Pb**	**08 07 55.4**	**-4.0**
PBXN				*i S*	Sn	08 08 15.9	-11
PBXN				*i S*	**Sb**	**08 08 26.5**	**-5.5**
MPVM	**San Francisco**	**2.67**	**23**	*eP*	**Pn**	**08 07 54.0**	**-0.5**
MPVM				*eS*	**Sb**	**08 08 31.6**	**-0.6**
XCVM	**Xochimilco**	**2.68**	**21**	*eP*	**Pn**	**08 07 57.1**	**+2.4**
XCVM				*i S*	**Sn**	**08 08 27.4**	**+0.3**
PBCV	**Popocatepetl**	**2.69**	**33**	*eP*	**Pn**	**08 07 55.0**	**+0.1**
PBCV				*i S*	**Sb**	**08 08 32.5**	**-0.3**
CNCY	**Coyoacan**	**2.72**	**19**	*eP*	**Pn**	**08 07 56.0**	**+0.8**
CNCY				*i S*	**Sn**	**08 08 30.2**	**+2.1**
PPM	**Popocatepetl**	**2.72**	**31**	*eP*	**Pn**	**08 07 55.6**	**+0.1**
PPM				*i S*	**Sb**	**08 08 32.7**	**-1.2**
CJVM	**Cuajimalpa**	**2.73**	**17**	*eP*	**Pn**	**08 07 57.7**	**+2.3**
CJVM				*i S*	**Sn**	**08 08 27.6**	**-0.7**
UNM	**Universidad Na**	**2.73**	**19**	*eP*	**Pb**	**08 07 59.4**	**-1.1**
UNM				*eS*	**Sb**	**08 08 31.8**	**-2.2**
COVM	**Coyoacan**	**2.76**	**19**	*eP*	**Pn**	**08 07 53.6**	**-2.2**
COVM				*i S*	**Sn**	**08 08 28.9**	**-0.1**
BJVM	**Benito Juarez**	**2.77**	**19**	*eP*	**Pn**	**08 07 56.2**	**+0.1**
BJVM				*i S*	**Sn**	**08 08 29.9**	**+0.5**
THVM	**De Xico**	**2.78**	**23**	*eP*	**Pn**	**08 07 56.5**	**+0.4**
THVM				*i S*	**Sb**	**08 08 34.3**	**-1.2**
MHVM	**Bosque de Chap**	**2.79**	**18**	*eP*	**Pb**	**08 08 01.4**	**-0.3**
MHVM				*i S*	**Sb**	**08 08 35.9**	**+0.1**
PBVM	**Pinon**	**2.86**	**20**	*eP*	**Pn**	**08 07 53.9**	**-3.1**
PBVM				*i S*	**Sn**	**08 08 32.5**	**+1.2**
APVM	**Azcapotzalco**	**2.87**	**17**	*eP*	Pn	08 07 49.8	-7.6
APVM				*i S*	**Sb**	**08 08 36.7**	**-1.3**
TXVM	**Universitario**	**2.91**	**23**	*eP*	**Pn**	**08 08 00.7**	**+2.7**
TXVM				*i S*	**Sn**	**08 08 32.8**	**-0.2**
PEIG	**Puerto Escondi**	**2.94**	**104**	*eP*	**Pn**	**08 07 59.9**	**+1.8**
PEIG				*i S*	**Sn**	**08 08 30.5**	**-2.8**
MOIG	**Morelia**	**3.10**	**341**	*eP*	**Pb**	**08 08 04.8**	**-2.0**
MOIG				*i S*	**Sb**	**08 08 42.2**	**-2.5**
TPIG	**Tehuac#an**	**3.11**	**57**	*eP*	**Pn**	**08 08 01.3**	**+0.6**
TPIG				*i S*	**Sn**	**08 08 38.5**	**+0.8**
TOIG	**Toxpalan**	**3.21**	**65**	*eP*	**Pn**	**08 08 02.8**	**+0.9**
TOIG				*eS*	**Sb**	**08 08 44.4**	**-3.2**
ACIG	**Acambay**	**3.23**	**4**	*eP*	**Pn**	**08 08 04.3**	**+2.0**
ACIG				*eS*	**Sn**	**08 08 43.1**	**+2.4**
VHO	**Vista Hermosa**	**3.25**	**84**	*eP*	**Pn**	**08 08 04.5**	**+1.9**
VHO				*i S*	**Sn**	**08 08 41.6**	**+0.4**
MMIG	**Aquila**	**3.45**	**297**	*eP*	**Pn**	**08 08 06.7**	**+1.6**
MMIG				*i S*	**Sn**	**08 08 46.3**	**+0.5**
DEIG	**Demacu**	**3.69**	**16**	*eP*	**Pb**	**08 08 13.5**	**-3.5**
DEIG				*i S*	**Sn**	**08 08 56.2**	**+4.1**
JRQG	**Juriquilla Cam**	**3.96**	**355**	*eP*	**Pn**	**08 08 16.2**	**+3.8**
JRQG				*eS*	**Sn**	**08 09 00.7**	**+2.0**
HUIG	**Huatulco**	**3.96**	**103**	*eP*	**Pn**	**08 08 16.9**	**+4.7**
HUIG				*eS*	**Sn**	**08 09 02.1**	**+3.6**
JAUV	**Jalcomulco**	**4.09**	**50**	*eP*	**Pn**	**08 08 13.0**	**-1.0**
JAUV				*eP*	**Pn**	**08 08 15.2**	**+1.2**
JAUV				*eS*	**Sn**	**08 09 02.7**	**+1.0**
CXUV	**Coxquihui**	**4.17**	**35**	*eP*	**Pn**	**08 08 17.6**	**+2.5**
CXUV				*eS*	**Sn**	**08 09 04.6**	**+0.9**
COIG	**Colima**	**4.18**	**306**	*eP*	**Pn**	**08 08 19.1**	**+3.8**
COIG				*i S*	**Sb**	**08 09 12.5**	**-3.2**
NEUV	**Arroyo Zacate**	**4.23**	**76**	*eP*	**Pn**	**08 08 18.1**	**+2.2**
NEUV				*eS*	**Sn**	**08 09 04.4**	**-0.7**
EZ5V		**4.30**	**310**	*eP*	**Pn**	**08 08 21.6**	**+4.6**
MNGA	**Volcan de Coli**	**4.30**	**310**	*eP*	**Pn**	**08 08 20.8**	**+3.7**
MNGA				*eS*	**Sn**	**08 09 07.8**	**+0.7**
CDAR	**Ciudad de Arme**	**4.31**	**301**	*eP*	**Pn**	**08 08 16.4**	**-0.6**
CDAR				*i S*	**Sn**	**08 09 06.8**	**-0.2**
INCO	**Volcan de Coli**	**4.33**	**310**	*eP*	**Pn**	**08 08 19.7**	**+2.1**
INCO				*i S*	**Sn**	**08 09 11.1**	**+3.1**
SOMAC	**Volcano de Col**	**4.34**	**310**	*eP*	**Pn**	**08 08 20.4**	**+2.7**
SOMAC				*eS*	**Sn**	**08 09 07.6**	**-0.8**
CEGR	**Campo Tres**	**4.43**	**307**	*eP*	**Pn**	**08 08 22.8**	**+4.0**
CEGR				*eS*	**Sb**	**08 09 18.9**	**-4.0**
CTUV	**Llano Grande**	**5.00**	**19**	*eP*	**Pn**	**08 08 28.8**	**+2.4**
CTUV				*i S*	**Sn**	**08 09 24.9**	**+1.0**
CMIG	**Matias Romero**	**5.02**	**85**	Pn	**Pn**	**08 08 22.6**	**-4.0**
	0.3nm,0.3s,baz=255,slow=18,SNR=9.6						
CMIG				Pg	Pb	08 08 34.0	-5.5
	1.1nm,0.3s,baz=157,slow=4.7,SNR=9.2						
CMIG				Sn	**Sn**	**08 09 19.1**	**-5.4**
	2.5nm,0.3s,baz=278,slow=16,SNR=5.5						
CMIG				Lg	Lg	08 09 41.4	
	4.7nm,0.3s,baz=355,slow=6.4,SNR=5.6						
CMIG				LR	LR	08 10 36.2	
	comp=Z,177nm,18.0s,baz=180,slow=43						
	1.1nm,0.4s						
CMIG	**Matias Romero**	**5.02**	**85**	*eP*	**Pn**	**08 08 29.3**	**+2.7**
CMIG				*i S*	**Sn**	**08 09 26.6**	**+2.1**
CIHU	**Emiliano Zapat**	**5.07**	**300**	*eP*	**Pn**	**08 08 30.4**	**+3.0**
CIHU				*i S*	**Sn**	**08 09 23.6**	**-2.1**
RPIG	**Rio Verde**	**5.12**	**1**	*eP*	**Pn**	**08 08 29.9**	**+1.7**
RPIG				*eS*	**Sn**	**08 09 29.3**	**+2.1**
CJM	**Chamela**	**5.43**	**301**	*eP*	**Pn**	**08 08 33.2**	**+0.8**
CJM				*i S*	**Sn**	**08 09 40.3**	**+5.6**
AAIG	**Aguscalientes**	**5.63**	**338**	*eP*	**Pn**	**08 08 36.9**	**+1.6**
AAIG				*i S*	**Sn**	**08 09 43.1**	**+3.3**
TEIG	**Tepich**	**11.75**	**71**	Pn	**Pn**	**08 09 55.1**	**-4.0**
	baz=305,slow=24,SNR=1.1						
	0.1nm,0.4s						
TXAR	**Lajitas Array**	**12.96**	**346**	Pn	**Pn**	**08 10 18.3**	**+2.7**
	baz=159,slow=13,SNR=2.1						
TXAR				Lg	Lg	08 14 06.2	
	baz=168,slow=34,SNR=4.1						
	0.1nm,0.6s						
NVAR	**Mina Array Bea**	**26.86**	**327**	P	**P**	**08 12 51.1**	**-1.3**
	0.1nm,0.3s,baz=149,slow=11,SNR=1.1						
	0.1nm,0.3s						
PDAR	**Pinedale Array**	**27.17**	**345**	P	**P**	**08 12 53.9**	**-1.1**
	0.2nm,0.6s,baz=161,slow=11,SNR=2.6						
	0.2nm,0.6s						
SIV	**San Ignacio**	**50.40**	**128**	LR	LR	08 33 56.0	
	comp=Z,104nm,21.3s,baz=29,slow=32						
H03N2	**Juan Fernandez**	**53.84**	**158**	T	T	09 14 43.8	
	baz=338,slow=78,SNR=26						
H03N1	**Juan Fernandez**	**53.84**	**158**	T	T	09 14 47.5	
	baz=338,slow=78,SNR=22						
H03N3	**Juan Fernandez**	**53.85**	**158**	T	T	09 14 40.3	
	baz=338,slow=78,SNR=24						
ILAR	**Eielson Array**	**57.33**	**338**	P	**P**	**08 16 59.5**	**+0.5**
	0.6nm,1.0s,baz=141,slow=7.3,SNR=4.7						
	0.6nm,1.0s						

*JMA **23** 08:10:19.1±0.2, 25°.N±3°×122°.9E±0°.8, h98km±2km, MV1.9/11, NW OFF ISHIGAKIJIMA IS*
*TAP **23** 08:10:19.8, 24°.60N×122°.83E, h115km±1km, ML2.6, D*
ISC 23 08:10:18.0±1.9, 24°.66N±0°.07×122°.94E±0°.03, h118km±12km, n36, σ1°00/66, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.21**	**178**	*eS*	**Sn**	**08 10 44.5**	**-2.2**
YOJ	**Yonaguni jima**	**0.21**	**162**	*eP*	**Pn**	**08 10 36.0**	**+1.6**
EOS3	**EOS3**	**0.68**	**237**	P	**Pn**	**08 10 37.6**	**+0.8**
EOS3				S	**Sn**	**08 10 51.4**	**+0.5**
EOS2	**EOS2**	**0.69**	**249**	*eP*	**Pn**	**08 10 38.7**	**+1.8**
EOS2				S	**Sn**	**08 10 51.0**	**-0.1**
EOS4	**EOS4**	**0.78**	**226**	P	**Pn**	**08 10 38.8**	**+1.4**
EOS4				S	**Sn**	**08 10 51.9**	**-0.1**
IRIF	**Iriomote-Funau**	**0.79**	**114**	*eP*	**Pn**	**08 10 37.6**	**-0.3**
IRIF				*eS*	**Sn**	**08 10 52.0**	**-0.8**
TWC	**Suao**	**0.99**	**267**	P	**Pn**	**08 10 39.3**	**-0.4**
TWC				S	**Sn**	**08 10 54.3**	**-1.8**
HATJ	**Hateruma jima**	**0.99**	**127**	*eP*	**Pn**	**08 10 40.8**	**+1.0**
HATJ				*eS*	**Sn**	**08 10 56.6**	**+0.4**
SXI1	**Grass Mountain**	**1.06**	**294**	*eP*	**Pn**	**08 10 39.9**	**-0.6**
TIPB	**Shuangxi**	**1.06**	**287**	*eP*	**Pn**	**08 10 40.8**	**+0.4**
TIPB				*eS*	**Sn**	**08 10 58.0**	**+0.6**
JKRS	**Kuro-shima**	**1.06**	**113**	*eP*	**Pn**	**08 10 41.0**	**+0.6**
JKRS				*eS*	**Sn**	**08 10 57.3**	**-0.1**
ENA	**Nanau**	**1.11**	**258**	*eP*	**Pn**	**08 10 40.9**	**-0.1**
ENA				*eS*	**Sn**	**08 10 57.8**	**-0.6**
JIJ	**Ishigaki jima**	**1.14**	**105**	P	**Pn**	**08 10 41.4**	**+0.2**
JIJ				*eS*	**Sn**	**08 10 58.2**	**-0.6**
FUSB	**Fushanzhiwuyua**	**1.23**	**275**	*eP*	**Pn**	**08 10 43.4**	**+1.0**
FUSB				*i S*	**Sn**	**08 11 00.5**	**-0.2**
JISG	**Ishigakijimahi**	**1.25**	**93**	P	**Pn**	**08 10 42.7**	**+0.3**
JISG				*eS*	**Sn**	**08 10 59.9**	**-1.1**
NWLT	**Wulai**	**1.31**	**275**	*eP*	**Pn**	**08 10 43.8**	**+0.7**
NWLT				*eS*	**Sn**	**08 11 02.2**	**0.0**
NACB	**Ninganchiao**	**1.32**	**249**	*eP*	**Pn**	**08 10 43.1**	**0.0**
NACB				*eS*	**Sn**	**08 11 00.8**	**-1.5**
ETLH	**Xiulin Townshi**	**1.40**	**251**	*eP*	**Pn**	**08 10 43.5**	**-0.7**
ETLH				*eS*	**Sn**	**08 11 02.9**	**-1.3**
YHNB	**Yeheng**	**1.42**	**271**	P	**Pn**	**08 10 45.5**	**+1.1**
YHNB				*eS*	**Sn**	**08 11 04.1**	**-0.4**
NNSB	**Datong**	**1.44**	**261**	*eP*	**Pn**	**08 10 45.3**	**+0.7**
NNSB				*eS*	**Sn**	**08 11 03.5**	**-1.4**
NSK	**Sanguang**	**1.44**	**271**	P	**Pn**	**08 10 45.2**	**+0.6**
NSK				S	**Sn**	**08 11 03.8**	**-1.1**
ETM	**Tongmen**	**1.49**	**243**	*eP*	**Pn**	**08 10 45.6**	**+0.5**
ETM				*eS*	**Sn**	**08 11 04.3**	**-1.5**
SHUL	**Shoufeng**	**1.53**	**236**	*eP*	**Pn**	**08 10 45.8**	**+0.2**
SHUL				*eS*	**Sn**	**08 11 06.8**	**+0.2**
LXIB	**Xiulin Townshi**	**1.53**	**246**	P	**Pn**	**08 10 46.6**	**+0.8**
LXIB				S	**Sn**	**08 11 06.1**	**-0.8**
JTJ	**Tarama**	**1.61**	**90**	*eS*	**Sn**	**08 11 07.7**	**-0.5**
WHF	**Hehuan Shan**	**1.61**	**252**	P	**Pn**	**08 10 47.2**	**+0.2**
WHF				*eS*	**Sn**	**08 11 07.6**	**-1.4**
NFF	**Wufeng Townshi**	**1.66**	**269**	*eP*	**Pn**	**08 10 48.6**	**+1.4**
NFF				*eS*	**Sn**	**08 11 08.9**	**-0.5**
TWT	**Tachien**	**1.66**	**256**	*eP*	**Pn**	**08 10 48.7**	**+1.4**
TWT				*eS*	**Sn**	**08 11 09.2**	**-0.4**
WARBT	**Fenglin Townsh**	**1.70**	**237**	P	**Pn**	**08 10 48.0**	**+0.3**
WARBT				S	**Sn**	**08 11 09.1**	**-1.3**
OWD	**Renai**	**1.75**	**247**	*eP*	**Pn**	**08 10 49.5**	**+1.0**
OWD				S	**Sn**	**08 11 10.6**	**-1.1**
WUSB	**Renai**	**1.79**	**248**	P	**Pn**	**08 10 49.9**	**+1.0**
WUSB				S	**Sn**	**08 11 10.8**	**-1.6**
HGSD	**Ruisui**	**1.81**	**230**	*eP*	**Pn**	**08 10 49.1**	**+0.1**
HGSD				*eS*	**Sn**	**08 11 11.4**	**-1.3**
WHP	**Taichung City**	**1.85**	**258**	*eP*	**Pn**	**08 10 51.1**	**+1.5**
WHP				*eS*	**Sn**	**08 11 14.0**	**+0.3**
VWDT	**VWDT**	**1.87**	**241**	*i P*	**Pn

3.0nm,0.3s,baz=186,slow=26,SNR=24
MAKZ Makanchi 2.05 358 ⇑Pn Pb 09 03 44.6 -0.3
3.2nm,0.5s
MAKZ ⇓Sn Sg 09 04 13.0 +0.5
7.7nm,0.5s
KNOS Konyrlen 2.13 260 Pg **Pb 09 03 46.3 -0.1**
2.2nm,0.1s
KNOS Lg Lg 09 04 14.2
7.0nm,0.5s
SHLS Shalkode 2.49 231 Pg **Pn 09 03 49.0 +0.2**
5.7nm,0.2s
SHLS Lg Lg 09 04 18.5
7.3nm,0.2s
SHLS Shalkode 2.49 231 *eP* **Pn 09 03 49.0 +0.2**
5.6nm,0.3s
SHLS *eS* **Sn 09 04 18.5 -1.5**
14nm,0.3s
KPKS Kokpek 2.78 243 Pg **Pb 09 03 57.3 -0.2**
1.9nm,0.1s
KPKS Lg Lg 09 04 32.8
7.1nm,0.3s
KPKS Kokpek 2.78 243 *eP* **Pb 09 03 57.8 +0.3**
1.9nm,0.1s
KPKS *eS* **Sb 09 04 33.5 +1.4**
10.0nm,0.4s
SATY Saty 3.17 239 Pg **Pb 09 04 03.6 -0.4**
0.7nm,0.2s
SATY Lg Lg 09 04 43.6
3.0nm,0.2s
SATY Saty 3.17 239 *eP* **Pb 09 04 04.2 +0.1**
0.7nm,0.1s
SATY *eS* **Sb 09 04 44.6 +1.3**
7.7nm,0.3s

*IDC **23** 09:35:15.0±1.4, 37°.97N×20°.92E, h0km, mb3.6/6, mbtmp3.5/8, ML0.7/1, MS3.4/1, Error ellipse: s-maj=29.9km s-min=22.1km az=95.0*
*ATH **23** 09:35:15.2, 37°.63N×20°.24E, h10km±4km, ML3.3/9, Error ellipse: s-maj=4.6km s-min=1.6km az=28.0*
*THE **23** 09:35:16.3, 37°.66N×20°.36E, h0km±5km, ML3.2/12, Error ellipse: s-maj=6.4km s-min=0.8km az=227.0*
ISC 23 09:35:13.6±1.9, 37°.60N±0°.05×20°.22E±0°.08, h17km±9km, n37, σ1°11/54, mb3.5/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.48**	**82**	P	**Pg**	**09 35 23.4**	**+0.2**
KRI1				S	**Sg**	**09 35 28.7**	**-0.9**
	12μm,0.5s						
LTHK	**Lithakia**	**0.50**	**77**	P	**Pg**	**09 35 23.5**	**-0.1**
LTHK				S	**Sg**	**09 35 29.3**	**-1.1**
	9μm,0.4s						
LTHK	**Lithakia**	**0.50**	**77**	P	**Pg**	**09 35 23.6**	**-0.1**
LTHK				S	**Sg**	**09 35 29.7**	**-0.7**
LTHK				AML	AML	09 35 30.0	
	comp=E,22473μm,0.4s						
LTHK				AML	AML	09 35 31.3	
	comp=N,13038μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.59**	**29**	P	**Pg**	**09 35 25.6**	**+0.3**
PSDA				S	**Sg**	**09 35 32.8**	**-0.4**
	comp=N,4μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.59**	**29**	P	**Pg**	**09 35 25.5**	**+0.3**
PSDA				S	**Sg**	**09 35 33.2**	**0.0**
RTZL	**Ratzakli, Kefa**	**0.64**	**42**	P	**Pg**	**09 35 25.9**	**-0.4**
RTZL				S	**Sg**	**09 35 34.4**	**-0.5**
	comp=N,2μm,0.5s						
VLS	**Valsamata**	**0.65**	**27**	P	**Pg**	**09 35 26.5**	**+0.1**
VLS				S	**Sg**	**09 35 34.3**	**-0.7**
	comp=N,3μm,0.3s						
VLS	**Valsamata**	**0.65**	**27**	P	**Pg**	**09 35 26.2**	**-0.2**
VLS				S	**Sg**	**09 35 35.0**	**0.0**
VLS				AML	AML	09 35 35.4	
	comp=N,6463μm,0.4s						
VLS				AML	AML	09 35 39.3	
	comp=E,4591μm,0.4s						
DMLN	**Damoulianata-K**	**0.65**	**10**	P	**Pb**	**09 35 27.4**	**+0.8**
DMLN				S	**Sb**	**09 35 36.0**	**+0.6**
	comp=E,4μm,0.5s						
DMLN	**Damoulianata-K**	**0.65**	**10**	P	**Pb**	**09 35 27.3**	**+0.8**
DMLN				S	**Sb**	**09 35 35.7**	**+0.3**
SMHA	**Samh**	**0.73**	**27**	P	**Pg**	**09 35 27.8**	**-0.2**
SMHA				S	**Sg**	**09 35 37.4**	**-0.2**
VSK1	**VASILIKIADES**	**0.85**	**18**	P	**Pg**	**09 35 30.5**	**+0.3**
VSK1				S	**Sg**	**09 35 41.6**	**+0.1**
	comp=E,2μm,0.4s						
FSK	**Fiskardo**	**0.90**	**17**	P	**Pg**	**09 35 31.2**	**0.0**
FSK				S	**Sb**	**09 35 43.8**	**+1.3**
	comp=E,2μm,0.6s						
FSK	**Fiskardo**	**0.90**	**17**	P	**Pg**	**09 35 31.2**	**0.0**
FSK				AML	AML	09 35 51.1	
	comp=N,2555μm,0.6s						
FSK				AML	AML	09 35 51.3	
	comp=E,3832μm,0.5s						
EVGI	**Lefkada island**	**1.08**	**18**	P	**Pb**	**09 35 34.5**	**+0.7**
EVGI				S	**Sb**	**09 35 48.4**	**+0.8**
	comp=E,1μm,0.3s						
EVGI	**Lefkada island**	**1.08**	**18**	P	**Pb**	**09 35 34.5**	**+0.7**
RLS	**Riolos of Patr**	**1.09**	**65**	P	**Pb**	**09 35 34.5**	**+0.5**
RLS				S	**Sb**	**09 35 48.8**	**+0.9**
	comp=E,1μm,0.7s						
RLS	**Riolos of Patr**	**1.09**	**65**	P	**Pb**	**09 35 34.4**	**+0.5**
RLS				S	**Sg**	**09 35 49.5**	**+0.6**
RLS				AML	AML	09 35 56.1	
	comp=N,1912μm,1.0s						
RLS				AML	AML	09 35 57.5	
	comp=E,1942μm,1.0s						
NYDR	**Nydri-Lefkada**	**1.17**	**18**	P	**Pn**	**09 35 36.4**	**+1.1**
NYDR				S	**Sn**	**09 35 52.9**	**+2.0**
	comp=E,920nm,0.5s						
AMT	**Artemida-Makis**	**1.18**	**93**	P	**Pg**	**09 35 37.2**	**+0.7**
AMT				AML	AML	09 35 60.0	
	comp=N,7414μm,0.8s						
AMT				AML	AML	09 36 02.6	
	comp=E,9152μm,0.8s						
DRO	**Drossia**	**1.23**	**73**	P	**Pg**	**09 35 38.0**	**+0.6**
DRO				AML	AML	09 36 05.2	
	comp=N,3300μm,0.5s						
DRO				AML	AML	09 36 09.0	
	comp=E,2941μm,0.7s						
LKD2	**Lefkada island**	**1.24**	**16**	P	**Pg**	**09 35 39.2**	**+1.7**
TSLK	**Tsoukalades, L**	**1.27**	**15**	P	**Pg**	**09 35 38.5**	**+0.3**
TSLK				S	**Sg**	**09 35 56.4**	**+1.6**
	comp=E,1μm,0.5s						
PYL	**PYLOS**	**1.40**	**120**	P	**Pg**	**09 35 41.3**	**+0.7**
PYL				AML	AML	09 36 08.2	
	comp=N,846μm,0.5s						
PYL				AML	AML	09 36 10.2	
	comp=E,855μm,0.6s						
ITM	**Ithomi**	**1.42**	**107**	P	**Pg**	**09 35 41.7**	**+0.7**
ITM				AML	AML	09 36 06.1	
	comp=E,876μm,0.7s						
ITM				AML	AML	09 36 13.1	
	comp=N,1420μm,1.0s						
KLV	**Kalavryta, Ach**	**1.59**	**73**	P	**Pg**	**09 35 44.3**	**0.0**
GUR	**Goura**	**1.71**	**78**	P	**Pb**	**09 35 45.1**	**+0.4**
GUR	**Goura**	**1.71**	**78**	P	**Pb**	**09 35 46.3**	**+1.5**
GUR				AML	AML	09 36 15.7	
	comp=E,1526μm,0.6s						
GUR				AML	AML	09 36 25.7	
	comp=N,1478μm,0.9s						
IDI	**Anoyia**	**4.41**	**120**	Pn	**Pn**	**09 36 21.9**	**+2.0**
	comp=N,0.2nm,0.3s,baz=354,slow=10,SNR=1.5						
IDI				Sn	**Sn**	**09 37 12.1**	**+1.2**
	comp=N,0.9nm,0.3s,baz=297,slow=18,SNR=2.3						
	comp=N,23nm,1.2s						
AKASG	**Malin Array Be**	**14.59**	**23**	Pn	**Pn**	**09 38 36.2**	**-3.0**
	comp=N,0.1nm,0.3s,baz=216,slow=13,SNR=1.8						
HFS	**Hagfors**	**22.94**	**352**	P	**P**	**09 40 17.0**	**+0.3**
	comp=N,0.6nm,0.5s,baz=174,slow=16,SNR=3.0						
	comp=N,0.6nm,0.5s						
FINES	**FINESS Array B**	**24.15**	**7**	P	**P**	**09 40 29.7**	**+1.2**
	comp=N,1.2nm,0.5s,baz=171,slow=9.8,SNR=9.8						
	comp=N,1.2nm,0.5s						
BELG	**Belogornoye**	**24.18**	**44**	LR	LR	09 49 53.7	
	comp=N,88nm,21.2s,baz=244,slow=37						
TORD	**Torodi Ar. Bea**	**29.43**	**219**	P	P	09 41 26.1	+10
	comp=N,0.6nm,0.6s,baz=18,slow=10,SNR=4.0						
	comp=N,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**42.76**	**53**	P	**P**	**09 43 08.6**	**-1.4**
	comp=N,0.3nm,0.5s,baz=276,slow=8.6,SNR=2.3						
	comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.81**	**58**	P	**P**	**09 43 31.6**	**-2.8**
	comp=N,0.3nm,0.7s,baz=270,slow=7.0,SNR=2.1						
	comp=N,0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**46.25**	**48**	P	**P**	**09 43 34.7**	**-3.1**
	comp=N,0.9nm,0.5s,baz=272,slow=7.3,SNR=3.1						
	comp=N,0.9nm,0.5s						

*SKHL **23** 09:37:43.3±0.3, 42°.20N×142°.80E, h53km±6km, mb4.7/2*
*JMA **23** 09:37:43.8±0.2, 42°.3N±0°.7×142°.8E±0°.6, h45km±1km, MV3.3/40, HIDAKA REGION*
*IDC **23** 09:37:46.1±2.4, 42°.29N×142°.82E, h76km±21km, mb3.2/4, mbtmp3.5/6, Error ellipse: s-maj=44.5km s-min=16.9km az=95.0*
ISC 23 09:37:44.1±0.9, 42°.27N±0°.06×142°.87E±0°.04, h48km±7km, n28, σ1°27/32, mb3.3/4, 5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.09**	**279**	P	**Pn**	**09 37 50.5**	**-1.1**
JNBK				S	**Sn**	**09 37 56.8**	**-0.3**
JTHR	**Tokachihiroo**	**0.32**	**85**	⇓P	**Pn**	**09 37 52.9**	**-0.3**
JTHR				⇓S	**Sn**	**09 38 00.1**	**+0.4**
JEM	**Erimo**	**0.33**	**140**	P	**Pn**	**09 37 52.8**	**-0.4**
JSHD	**Hidakashinhida**	**0.33**	**296**	P	**Pn**	**09 37 52.2**	**-1.2**
JCH	**Churui**	**0.50**	**46**	⇓P	**Pn**	**09 37 54.6**	**-0.6**
JCH				⇓S	**Sn**	**09 38 03.2**	**0.0**
JBT2	**Biratori 2**	**0.64**	**324**	P	**Pn**	**09 37 55.7**	**-1.2**
JIAM	**Iburiatsuma**	**0.79**	**297**	P	**Pn**	**09 37 58.9**	**0.0**
JFR	**Furan**	**0.92**	**347**	P	**Pn**	**09 37 59.4**	**-1.3**
JOB	**Onbets**	**0.95**	**48**	⇓P	**Pn**	**09 38 01.4**	**+0.3**
JEW	**Eniwo**	**1.20**	**299**	P	**Pn**	**09 38 03.8**	**-0.6**
JEW				*eS*	**Sn**	**09 38 19.0**	**-0.5**
JAR	**Ashorobuto**	**1.22**	**32**	P	**Pn**	**09 38 04.1**	**-0.7**
JAR				*eS*	**Sn**	**09 38 20.2**	**0.0**
AKK	**Akkeshi**	**1.64**	**62**	*eP*	**Pn**	**09 38 10.1**	**-0.3**
AKK				*eS*	**Sn**	**09 38 30.3**	**+0.1**
ASAJ	**Asahikawa**	**1.86**	**354**	P	**Pn**	**09 38 13.7**	**+0.2**
	31nm,0.3s,baz=170,slow=12,SNR=146						
ASAJ				S	**Sn**	**09 38 38.9**	**+3.1**
	50nm,0.5s,baz=136,slow=10,SNR=6.6						
NMR	**Nemuro--Hokkai**	**2.37**	**61**	*eP*	**Pn**	**09 38 19.4**	**-1.0**
NMR				*eS*	**Sn**	**09 38 46.8**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**2.81**	**50**	*eP*	**Pn**	**09 38 27.6**	**+1.1**
YUK				AMB	AMB	09 38 32.8	
	160nm,0.2s						
YUK				*eS*	**Sn**	**09 39 00.1**	**+1.0**
YUK				A	A	09 39 03.4	
	220nm,0.3s						
YUK				A	A	09 39 03.4	
	140nm,0.3s						
SHO	**Shikotan**	**3.31**	**60**	*eP*	**Pn**	**09 38 33.1**	**-0.2**
SHO				AMB	AMB	09 38 40.2	
	30nm,0.3s						
SHO				*eS*	**Sn**	**09 39 11.1**	**-0.3**
SHO				A	A	09 39 12.7	
	130nm,0.4s						
SHO				A	A	09 39 12.7	
	120nm,0.4s						
MJAR	**Matsushiro Arr**	**6.76**	**214**	P	**Pn**	**09 39 22.3**	**+1.6**
	0.6nm,0.3s,baz=25,slow=16,SNR=6.3						
KSRS	**Korea Array**	**12.45**	**252**	P	**Pn**	**09 40 41.9**	**+3.4**
	1.5nm,0.5s,baz=63,slow=14,SNR=5.1						
SONM	**Songino Array**	**26.20**	**295**	P	**P**	**09 43 12.0**	**-2.1**
	0.3nm,0.4s,baz=96,slow=4.3,SNR=1.3						
	0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**30.28**	**130**	T	T	10 15 22.1	
	baz=324,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**30.29**	**131**	T	T	10 15 23.2	
	baz=324,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**30.30**	**130**	T	T	10 15 24.1	
	baz=324,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**31.16**	**132**	T	T	10 16 27.7	
	baz=325,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**31.16**	**132**	T	T	10 16 31.5	
	baz=325,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**31.17**	**132**	T	T	10 16 30.8	
	baz=325,slow=76,SNR=15						
MKAR	**Makanchi Array**	**42.49**	**298**	P	**P**	**09 45 33.5**	**-0.9**
	0.2nm,0.6s,baz=69,slow=9.2,SNR=2.2						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**43.84**	**304**	P	**P**	**09 45 43.6**	**-1.5**
	0.4nm,0.2s,baz=78,slow=8.8,SNR=1.4						
	0.4nm,0.2s						
WRA	**Warramunga Arr**	**62.40**	**189**	P	**P**	**09 48 01.6**	**-0.3**
	0.2nm,0.7s,baz=9.5,slow=6.3,SNR=1.2						
	0.2nm,0.7s						

*IDC **23** 09:57:34.4±1.5, 35°.74N×141°.34E, h0km, mb3.2/3, mbtmp3.2/5, ML2.0/1, Error ellipse: s-maj=25.0km s-min=21.9km az=64.0*
*JMA **23** 09:57:39.1±0.2, 35°.7N±0°.5×14°.1E±°, h15km±1km, MV3.4/38, NEAR CHOSHI CITY*
ISC 23 09:57:39.2±1.1, 35°.64N±0°.04×141°.04E±0°.09, h33km, n23, σ0°69/19, mb3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSMT	**Sammumatsuo**	**0.48**	**270**	P	**Pb**	**09 57 48.8**	**-0.7**
JIHU	**Itakohorinouch**	**0.53**	**308**	P	**Pb**	**09 57 49.9**	**-0.4**
JIHU				S	**Sn**	**09 57 58.0**	**-0.2**
JCN	**Nagara**	**0.72**	**252**	*eP*	**Pb**	**09 57 53.4**	**+0.1**
KTR	**Katsuura**	**0.77**	**231**	P	**Pb**	**09 57 53.9**	**-0.3**
BSO4	**Boso 4**	**0.87**	**222**	P	**Pb**	**09 57 56.1**	**+0.4**
JYT	**Yasato**	**0.90**	**311**	*eP*	**Pn**	**09 57 55.2**	**-0.3**
JYT				S	**Sn**	**09 58 06.7**	**-0.8**
BSO3	**Boso 3**	**0.94**	**208**	P	**Pb**	**09 57 56.6**	**-0.3**
BSO1	**Boso 1**	**0.99**	**183**	P	**Pn**	**09 57 56.6**	**+0.4**
JHO	**Hitachi**	**1.04**	**339**	P	**Pn**	**09 57 57.6**	**+0.2**
MJAR	**Matsushiro Arr**	**2.46**	**292**	Pn	**Pn**	**09 58 18.3**	**+1.3**
	0.3nm,0.3s,baz=94,slow=8.8,SNR=13						
MJAR				Pg	**Pb**	**09 58 23.4**	**+0.6**
	1.2nm,0.3s,baz=104,slow=14,SNR=10						
MJAR				Sn	**Sb**	**09 58 52.7**	**-0.1**
	0.6nm,0.3s,baz=102,slow=40,SNR=5.9						
	2.4nm,0.4s						
JHJ	**Hachijo jima 2**	**2.72**	**203**	Pn	**Pn**	**09 58 21.0**	**+0.4**
	117nm,0.7s						
JHJ				Sn	**Sn**	**09 58 50.8**	**-1.6**
	baz=90,slow=20						
H11N2	**WAKE ISLAND Hy**	**27.73**	**118**	T	T	10 32 21.1	
	baz=310,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**27.73**	**118**	T	T	10 32 19.2	
	baz=310,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**27.75**	**118**	T	T	10 32 22.7	
	baz=310,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**28.39**	**120**	T	T	10 33 11.9	
	baz=312,slow=75,SNR=299						
H11S3	**WAKE ISLAND Hy**	**28.39**	**120**	T	T	10 33 11.5	
	baz=312,slow=75,SNR=259						
H11S2	**WAKE ISLAND Hy**	**28.40**	**120**	T	T	10 33 12.7	
	baz=312,slow=75,SNR=267						
MKAR	**Makanchi Array**	**44.62**	**303**	P	**P**	**10 05 47.9**	**-0.4**
	0.3nm,0.9s,baz=72,slow=9.3,SNR=2.2						
	0.3nm,0.9s						
ILAR	**Eielson Array**	**50.83**	**32**	P	**P**	**10 06 36.1**	**0.0**
	0.1nm,0.6s,baz=273,slow=7.1,SNR=2.1						
	0.1nm,0.6s						
WRA	**Warramunga Arr**	**55.64**	**188**	P	**P**	**10 07 12.8**	**+0.8**
	0.4nm,0.7s,baz=4.1,slow=7.6,SNR=6.2						
	0.4nm,0.7s						
H03N2	**Juan Fernandez**	**147.15**	**98**	T	T	13 01 41.4	
	baz=290,slow=76,SNR=23						
H03N3	**Juan Fernandez**	**147.16**	**98**	T	T	13 01 42.5	
	baz=290,slow=76,SNR=20						
H03N1	**Juan Fernandez**	**147.17**	**98**	T	T	13 01 41.9	
	baz=290,slow=76,SNR=21						

*FUNV **23** 10:10:20.3, 11°.24N×61°.83W, h29km, MW3.4*
*TRN **23** 10:10:20.3, 11°.33N×61°.38W, h12km, MD2.9, North of Trinidad.*
ISC 23 10:10:19.0±1.3, 11°.22N±0°.03×61°.99W±0°.06, h30km±13km, n13, σ0°77/22, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSKH	**Kent House, Po**	**0.70**	**139**	*eP*	**Pn**	**10 10 33.6**	**+0.6**
PSKH				*eS*	**Sn**	**10 10 42.5**	**-0.3**
PSMG	**Mucurapo Girls**	**0.70**	**140**	*eP*	**Pn**	**10 10 33.7**	**+0.7**
PSMG				*eS*	**Sn**	**10 10 42.8**	**0.0**
PSQC	**Port of Spain**	**0.71**	**140**	*eP*	**Pn**	**10 10 33.8**	**+0.7**
PSQC				*eS*	**Sn**	**10 10 43.1**	**+0.1**
PSGH	**Port of Spain**	**0.73**	**139**	*eP*	**Pn**	**10 10 33.9**	**+0.6**
PSGH				*eS*	**Sb**	**10 10 42.6**	**-0.3**
TRN	**Trinidad (W)**	**0.81**	**134**	*eP*	**Pb**	**10 10 34.3**	**-0.3**
TRN				*eS*	**Sb**	**10 10 44.0**	**-1.1**
GRFF	**Grenada Fort F**	**0.86**	**17**	*eP*	**Pb**	**10 10 36.8**	**+1.2**
GRFF				*eS*	**Sn**	**10 10 47.3**	**+0.5**
GRGR	**Grenville**	**0.97**	**20**	*eP*	**Pn**	**10 10 36.4**	**-0.3**
GRGR				*eS*	**Sn**	**10 10 49.4**	**0.0**
GRW	**Mount Saint Ca**	**0.99**	**19**	*eP*	**Pn**	**10 10 37.0**	**0.0**
GRW				*eS*	**Sn**	**10 10 50.2**	**+0.1**
GRSS	**Sisters**	**1.14**	**19**	*eP*	**Pn**	**10 10 39.0**	**0.0**
GRSS				*eS*	**Sb**	**10 10 53.9**	**-0.7**
TOSP	**Speyside**	**1.43**	**87**	*eP*	Pn	10 10 36.5	-6.5
SVB	**Belmont**	**2.17**	**19**	*eP*	**Pn**	**10 10 52.6**	**-0.5**
SVB				*eS*	**Sn**	**10 11 18.3**	**-0.7**
CACV	**CAICARA DEL OR**	**5.77**	**231**	*eP*	Pn	10 11 38.7	-4.0
CACV				*eS*	Sn	10 12 37.0	-11
BAUV	**El Baul**	**6.37**	**250**	*eP*	**Pn**	**10 11 52.0**	**+1.1**
BAUV				*eS*	**Sn**	**10 13 01.0**	**-1.8**

*SOME **23** 10:19:53.0, 44°.40N×82°.88E, h10km*
*NNC **23** 10:19:54.9±1.9, 44°.25N×82°.79E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=17.0km s-min=5.8km az=127.0*
ISC 23 10:19:52.3±2.6, 44°.27N±0°.09×83°.2E±0°.1, h17km, n13, σ0°94/20, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.43**	**273**	Pg	**Pb**	**10 20 35.0**	**-0.7**
	5.4nm,0.3s						
DJR				Lg	Lg	10 21 05.7	
	5.5nm,0.3s						
DJR	**Jarkent**	**2.43**	**273**	*eP*	**Pb**	**10 20 35.0**	**-0.7**
	5.3nm,0.2s						
DJR				*eS*	**Sb**	**10 21 05.7**	**+0.2**
	5.5nm,0.4s						
MK31	**Makanchi Array**	**2.60**	**346**	⇑Pn	**Pb**	**10 20 37.9**	**-0.6**
	0.1nm,0.1s,baz=172,slow=16,SNR=53						
MK31				⇑Sn	**Sb**	**10 21 09.9**	**-0.3**
	1.4nm,0.3s,baz=167,slow=28,SNR=15						
MAKZ	**Makanchi**	**2.68**	**342**	⇑Pn	**Pb**	**10 20 38.6**	**-1.2**
	1.4nm,0.5s						
MAKZ				⇓Sn	**Sb**	**10 21 12.6**	**+0.3**
	1.6nm,0.5s						
KNOS	**Konyrlen**	**2.87**	**273**	Pg	**Pb**	**10 20 42.1**	**-1.1**
	2.8nm,0.2s						
KNOS				Lg	Lg	10 21 17.6	
	4.9nm,0.3s						
SHLS	**Shalkode**	**2.91**	**249**	Pg	**Pn**	**10 20 39.5**	**+1.4**
	7.6nm,0.2s						
SHLS				Lg	Lg	10 21 12.7	
	19nm,0.3s						
SHLS	**Shalkode**	**2.91**	**249**	*eP*	**Pn**	**10 20 39.3**	**+1.3**
	7.6nm,0.2s						
SHLS				*eS*	**Sn**	**10 21 12.5**	**-0.2**
	18nm,0.3s						
UZB	**Uzynbulak**	**3.21**	**251**	Pg	**Pb**	**10 20 48.0**	**-1.0**
	1.8nm,0.2s						
UZB				Lg	Lg	10 21 27.7	
	2.7nm,0.3s						
UZB	**Uzynbulak**	**3.21**	**251**	*eP*	**Pb**	**10 20 48.0**	**-1.0**
	1.8nm,0.2s						
UZB				*eS*	**Sb**	**10 21 27.5**	**-0.4**
	3.6nm,0.2s						
KPKS	**Kokpek**	**3.35**	**258**	Pg	**Pb**	**10 20 50.1**	**-1.2**
	1.7nm,0.1s						
KPKS				Lg	Lg	10 21 30.9	
	4.8nm,0.4s						
KPKS	**Kokpek**	**3.35**	**258**	*eP*	**Pb**	**10 20 50.0**	**-1.3**
	1.7nm,0.1s						
KPKS				*eS*	**Sb**	**10 21 30.9**	**-0.8**
	7.3nm,0.4s						
ARXS	**Arharly**	**3.84**	**271**	Pg	**Pb**	**10 20 59.3**	**-0.4**
	4.7nm,0.3s						
ARXS				Lg	Lg	10 21 46.9	
	3.5nm,0.4s						
ARXS	**Arharly**	**3.84**	**271**	*eP*	**Pb**	**10 20 59.2**	**-0.5**
	4.7nm,0.4s						
ARXS				*eS*	**Sb**	**10 21 46.9**	**+0.8**
	3.5nm,0.4s						

MEX 23 10:20:53.9±0.9, 16°.00N×98°.69W, h17km±41km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.67**	**54**	*eP*	Pg	10 21 04.0	-3.0
PNIG				*eS*	Sg	10 21 13.1	-2.8
CRIG	**Cruz Grande**	**0.85**	**330**	*eP*	Pb	10 21 07.1	-3.2
CRIG				*eS*	Sb	10 21 17.3	-4.2
MGIG	**Malinaltepec**	**1.23**	**2**	*eP*	Pn	10 21 12.7	-3.9
MGIG				*i S*	Sb	10 21 27.3	-5.3
DAIG	**Los Arroyos**	**1.38**	**318**	*eP*	Pn	10 21 14.6	-3.8
DAIG				*eS*	Sn	10 21 30.4	-6.0
YOIG	**Yosondua**	**1.39**	**52**	*eP*	Pn	10 21 15.1	-3.8
YOIG				*eS*	Sn	10 21 33.4	-3.6
ACP2	**Acapulco**	**1.45**	**307**	*eP*	Pn	10 21 15.6	-3.8
ACP2				*i P*	Pg	10 21 22.1	+0.3
ACP2				*i S*	Sn	10 21 33.3	-4.7
PEIG	**Puerto Escondi**	**1.48**	**90**	*eP*	Pn	10 21 16.5	-3.3
PEIG				*i S*	Sn	10 21 33.6	-5.2
TXIG	**Tlaxiaco**	**1.53**	**35**	*eP*	Pn	10 21 17.1	-3.7
TXIG				*i S*	Sn	10 21 36.8	-3.7
TLIG	**Tlapa**	**1.56**	**4**	*eP*	Pn	10 21 17.8	-3.3
TLIG				*eS*	Sn	10 21 37.0	-4.1
HMTT	**Tlapaneco**	**1.80**	**4**	*i P*	Pn	10 21 21.1	-3.2
HMTT				*eS*	Sn	10 21 43.6	-3.2
CAIG	**El Cayaco**	**1.84**	**305**	*eP*	Pn	10 21 21.6	-3.2
CAIG				*i S*	Sn	10 21 43.8	-4.0
FTIG	**Fresnillo de T**	**1.97**	**15**	*eP*	Pn	10 21 23.9	-2.9
FTIG				*eS*	Sn	10 21 46.8	-4.4
HLIG	**Huajuapan de L**	**2.01**	**25**	*eP*	Pn	10 21 24.7	-2.6
HLIG				*i S*	Sn	10 21 49.3	-2.9
VHO	**Vista Hermosa**	**2.16**	**60**	*eP*	Pn	10 21 26.7	-2.6
VHO				*eS*	Sn	10 21 52.0	-3.9
HUIG	**Huatulco**	**2.49**	**95**	*eP*	Pn	10 21 30.7	-3.1
HUIG				*i S*	Sn	10 21 56.4	-7.4
PLIG	**Platanillo**	**2.51**	**342**	*eP*	Pn	10 21 30.1	-4.0
PLIG				*i S*	Sn	10 22 00.6	-3.8
TOIG	**Toxpalan**	**2.60**	**36**	*eP*	Pn	10 21 32.7	-2.7
TOIG				*eS*	Sn	10 22 03.6	-3.1
TPIG	**Tehuac#an**	**2.72**	**27**	*eP*	Pn	10 21 34.5	-2.6
TPIG				*eS*	Sn	10 22 08.0	-1.8
ARIG	**Puente Sto Nin**	**2.77**	**325**	*eP*	Pn	10 21 36.1	-1.6

PUZ	**Puketiti**	**0.54**	**27**	P	Pb	10 28 56.5 +0.2
PUZ				S	Sn	10 29 05.9 -1.1
MHGZ	**Makaha Peninsul**	**0.60**	**184**	P	Pb	10 28 57.8 +0.4
PKGZ	**Pakihiroa**	**0.69**	**8**	P	Pb	10 28 58.9 0.0
PKGZ				S	Sn	10 29 09.9 -1.0
URZ	**Urewera**	**0.72**	**294**	P	Pb	10 28 59.5 0.0
URZ				S	Sn	10 29 10.4 -1.2
RTZ	**Ruatahuna**	**0.77**	**265**	P	Pb	10 29 00.4 +0.2
RTZ				S	Sn	10 29 12.2 -0.6
WHHZ	**Waihua**	**0.77**	**227**	P	Pb	10 29 00.3 +0.1
RAHZ	**Arahi**	**0.77**	**242**	P	Pb	10 29 00.4 +0.1
HAZ	**Te Kaha**	**0.81**	**350**	P	Pb	10 29 00.4 -0.4
WMGZ	**Waiomatatini S**	**0.82**	**27**	P	Pb	10 29 01.0 0.0
WMGZ				S	Sn	10 29 14.5 +0.6
MTHZ	**Maungataniwha**	**0.92**	**251**	P	Pb	10 29 02.6 -0.2
MUGZ	**Murupara**	**0.93**	**274**	P	Pb	10 29 03.1 +0.1
MUGZ				S	Sn	10 29 16.3 -0.5
MXZ	**Matakaoa Point**	**1.03**	**16**	P	Pb	10 29 04.0 -0.6
ARHZ	**Aropaoanui**	**1.03**	**226**	P	Pb	10 29 04.1 -0.6
WHRZ	**Whale Island**	**1.04**	**312**	P	Pn	10 29 05.0 -0.1
NMHZ	**Naumai**	**1.05**	**238**	P	Pb	10 29 04.4 -0.7
EDRZ	**Edgecumbe**	**1.05**	**295**	P	Pb	10 29 05.1 -0.1
RRRZ	**Republican Roa**	**1.15**	**280**	P	Pb	10 29 07.0 +0.3
TARZ	**Mount Tarawera**	**1.18**	**285**	P	Pb	10 29 07.4 +0.1
WIZ	**White Island**	**1.19**	**329**	P	Pn	10 29 06.4 -0.8
PRRZ	**Plateau Road**	**1.23**	**272**	P	Pb	10 29 08.1 0.0
MRHZ	**Matea Rd**	**1.23**	**256**	P	Pn	10 29 07.4 -0.5
MKRZ	**Makatiti**	**1.24**	**289**	P	Pn	10 29 07.0 -1.0
ALRZ	**Allen Road**	**1.26**	**269**	P	Pn	10 29 08.2 -0.1
HLRZ	**Highlands Stat**	**1.29**	**283**	P	Pg	10 29 10.5 +0.4
BKZ	**Black Stump Fm**	**1.29**	**241**	P	Pn	10 29 07.6 -1.1
CKHZ	**Cape Kidnapper**	**1.30**	**211**	P	Pn	10 29 06.8 -1.9
OPRZ	**Ohinepanea**	**1.31**	**302**	P	Pn	10 29 07.6 -1.2
HRRZ	**Handcock Road**	**1.32**	**277**	P	Pb	10 29 09.5 -0.1
OMRZ	**Omania**	**1.32**	**289**	P	Pg	10 29 10.9 +0.2
MCHZ	**McNeill Hill**	**1.32**	**227**	P	Pn	10 29 07.9 -1.2
HSRZ	**Hossack Road**	**1.36**	**280**	P	Pn	10 29 09.6 0.0
WPRZ	**Whakapapatarin**	**1.41**	**271**	P	Pg	10 29 12.7 +0.4
KARZ	**Kaharoa**	**1.45**	**291**	P	Pn	10 29 10.2 -0.5
NGRZ	**Ngongotaha**	**1.46**	**287**	P	Pn	10 29 11.1 +0.1
KWHZ	**Kaweka Forest**	**1.48**	**233**	P	Pn	10 29 09.9 -1.3
KRHZ	**Kereru**	**1.65**	**228**	P	Pn	10 29 11.8 -1.7
RITZ	**Rihia Road**	**1.69**	**255**	P	Pb	10 29 16.0 0.0
RATZ	**Rangitukua**	**1.74**	**259**	P	Pg	10 29 18.5 0.0
KATZ	**Kakaramea**	**1.82**	**256**	P	Pg	10 29 19.6 -0.5
TMVZ	**Te Maari**	**1.84**	**252**	P	Pn	10 29 17.4 +1.0
ETVZ	**East Tongariro**	**1.85**	**251**	P	Pn	10 29 17.2 +0.8
NTVZ	**North Tongarir**	**1.86**	**252**	P	Pn	10 29 16.1 -0.5
KRVZ	**Karewarewa**	**1.89**	**253**	P	Pn	10 29 17.9 +1.0
OTVZ	**Oturere**	**1.89**	**250**	P	Pb	10 29 18.5 -0.9
TLZ	**Tolley Road**	**1.91**	**276**	P	Pn	10 29 17.6 +0.5
SNVZ	**South Ngauruho**	**1.91**	**250**	P	Pb	10 29 18.7 -1.2
MOVZ	**Moawhango**	**1.92**	**243**	P	Pg	10 29 21.0 -0.9
NNVZ	**North Ngauruho**	**1.92**	**252**	P	Pg	10 29 21.0 -0.9
WTVZ	**West Tongariro**	**1.93**	**252**	P	Pb	10 29 21.0 +0.9
TUVZ	**Tukino**	**1.93**	**248**	P	Pb	10 29 20.3 +0.1
NGZ	**Ngauruhoe**	**1.94**	**251**	P	Pb	10 29 19.1 -1.2
COVZ	**Chateau Observ**	**1.99**	**250**	P	Pg	10 29 22.3 -1.1
PRHZ	**Porangahau**	**1.99**	**210**	P	Pn	10 29 15.7 -2.6
WNVZ	**Wahianoa**	**1.99**	**246**	P	Pb	10 29 20.2 -1.0
HIZ	**Hauiti**	**2.43**	**270**	P	Pn	10 29 25.6 +1.3
LREZ	**Lake Rotokare**	**2.91**	**251**	P	Pb	10 29 35.3 -1.4

*VIE **23** 10:41:14.5±0.8, 51°.39N×16°.39E, h0km, mb2.4/1, ml2.7/1, Error ellipse: s-maj=5.7km s-min=5.2km az=58.0, Suspected Mining induced.*
*PRU **23** 10:41:16.2, 51°.36N×16°.22E, h0km*
ISC 23 10:41:12.4±0.8, 51°.52N±0°.03×16°.33E±0°.03, h0km, n27, σ1§75/50, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**182**	*e*Pg	**Pg**	**10 41 25.5**	**+0.2**
KSP				*e*Sg	**Sg**	**10 41 33.2**	**-1.0**
CHVC	**Chvalec**	**0.95**	**190**	*e*PG	**Pg**	**10 41 30.7**	**+0.2**
CHVC				*e*SG	**Sg**	**10 41 42.0**	**-0.8**
OSTC	**Ostas**	**0.97**	**184**	*e*PG	**Pg**	**10 41 31.1**	**+0.2**
OSTC				*e*SG	**Sg**	**10 41 43.2**	**-0.2**
UPC	**Upice**	**1.03**	**191**	*e*PG	**Pg**	**10 41 31.9**	**-0.2**
UPC				*e*SG	**Sg**	**10 41 44.7**	**-0.8**
	comp=Z,72nm,0.5s						
DPC	**Dobruska-Polom**	**1.17**	**180**	*e*PG	**Pg**	**10 41 34.5**	**-0.3**
DPC				*e*SG	**Sg**	**10 41 48.7**	**-1.2**
KRLC	**Kraliky**	**1.47**	**168**	*e*PG	**Pn**	**10 41 40.2**	**0.0**
PVCC	**Panska Ves**	**1.49**	**229**	*e*PG	**Pn**	**10 41 40.4**	**0.0**
PVCC				*e*SG	**Sg**	**10 41 59.2**	**-1.0**
BRG	**Berggiesshubel**	**1.63**	**248**	Pg	**Pb**	**10 41 43.8**	**+0.5**
BRG				Sg	**Sn**	**10 42 04.3**	**+0.3**
BRG				Amp		10 42 05.2	
	comp=Z,17nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.88**	**212**	*e*PN	**Pb**	**10 41 47.1**	**-0.5**
PRU	**Pruhonice**	**1.91**	**217**	*e*PG	**Pb**	**10 41 47.6**	**-0.4**
PRU				*e*SG	**Sn**	**10 42 11.4**	**+0.6**
	comp=Z,9.7nm,0.3s						
MORC	**Moravsky Berou**	**1.91**	**156**	*e*PN	**Pn**	**10 41 46.1**	**-0.1**
MORC				*e*SG	**Sn**	**10 42 09.9**	**-1.1**
HSKC	**Hora Svate Kat**	**2.04**	**245**	*e*SG	**Sb**	**10 42 15.7**	**-0.6**
	comp=Z,18nm,0.3s						
OKC	**Ostrava-Krasne**	**2.04**	**145**	*e*SG	**Sb**	**10 42 16.8**	**+0.5**
	comp=Z,16nm,0.4s						
CLL	**Collm**	**2.09**	**265**	*i* Pn	**Pb**	**10 41 52.3**	**+1.1**
	comp=Z,9.0nm,0.4s						
CLL				*i* Pg	**Pg**	**10 41 54.7**	**+2.2**
CLL				*i* (Sn)	**Sn**	**10 42 07.5**	**-7.9**
CLL				*i* Sg	**Sg**	**10 42 20.1**	**+0.6**
	comp=Z,13nm,0.4s						
VRAC	**Vranov**	**2.22**	**175**	*e*PN	**Pn**	**10 41 51.4**	**+0.9**
VRAC				*e*SG	**Sb**	**10 42 21.1**	**-0.3**
TREC	**Trest**	**2.29**	**194**	*e*SG	**Sb**	**10 42 22.4**	**-1.0**
KRUC	**Moravsky**	**2.46**	**179**	*e*SG	**Sb**	**10 42 28.9**	**+0.6**
OJC	**Ojcow**	**2.56**	**119**	*e*Pg	**Pg**	**10 42 01.3**	**-0.1**
OJC				*e*Sg	**Sg**	**10 42 36.0**	**+1.5**
NKC	**Novy Kostel**	**2.77**	**244**	*e*PN	**Pn**	**10 41 58.4**	**+0.3**
NKC				*e*PG	**Pb**	**10 42 04.5**	**+1.7**
NKC				*e*SG	**Sb**	**10 42 39.1**	**+1.8**
	comp=Z,12nm,0.3s						
KHC	**Kasperske Hory**	**2.97**	**217**	*e*PN	**Pn**	**10 42 00.0**	**-0.8**
KHC				*e*PG	**Pb**	**10 42 06.8**	**+0.6**
KHC				*e*SG	**Sb**	**10 42 44.8**	**+1.8**
	comp=Z,5.6nm,0.4s						
CKRC	**Cesky Krumlov**	**3.00**	**206**	*e*PG	**Pb**	**10 42 07.7**	**+1.1**
CKRC				*e*SG	**Sb**	**10 42 44.3**	**+0.5**
LANS	**Liptovska Anna**	**3.11**	**138**	*e*SG	**Sg**	**10 42 52.7**	**+0.4**
MODS	**Modra-Piesok**	**3.21**	**169**	*e*SG	**Sg**	**10 42 57.2**	**+1.8**
CONA	**Conrad Observa**	**3.61**	**185**	*i* Pn	**Pn**	**10 42 09.6**	**0.0**
	comp=Z,0.2nm,0.2s						
CONA				*i* Sn	**Sn**	**10 42 53.6**	**+0.7**
	comp=Z,3.3nm,0.4s						
BSD	**Bornholm Skovb**	**3.70**	**347**	*i* P	**Pn**	**10 42 12.4**	**+1.7**
BSD				*e*S	**Sn**	**10 42 51.8**	**-3.2**
BSD				IAML		10 42 58.0	
	comp=Z,0.9nm,0.2s						
BLEU	**Blekinge**	**4.80**	**357**	*i* P	**Pn**	**10 42 27.3**	**+1.4**
BLEU				*e*S	**Sn**	**10 43 18.3**	**-3.9**
DEL	**Delary**	**5.17**	**345**	*i* P	**Pn**	**10 42 32.1**	**+1.2**
DEL				*e*S	**Sn**	**10 43 27.3**	**-3.8**

*IDC **23** 10:47:54.0±2.1, 37°.29N×141°.70E, h48km±19km, mb3.6/10, mbtmp3.9/15, ML3.2/4, MS3.2/5, Error ellipse: s-maj=21.7km s-min=15.6km az=86.0*
*NIED **23** 10:47:53.3, 37°.39N×141°.69E, h44km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}7.25; $M_{\theta\theta}$-1.89; $M_{\phi\phi}$-5.36; $M_{r\theta}$0.73; $M_{\phi\phi}$-2.45; $M_{\phi r}$4.51; Fault plane solution: $M_0$8.29000×10^14^ NP1:ϕ_s18.00000°, δ62.00000°, λ82.00000°. NP2:ϕ_s215.00000°, δ29.00000°, λ105.00000°.*
*JMA **23** 10:47:53.3±0.2, 37°.4N±0°.4×14°.2E±°, h44km±2km, MD3.9/38, MV3.9/38, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NEIC **23** 10:47:54.0±1.5, 37°.38N±0°.06×141°.78E±0°.10, h43km±7km, mb4.4/16, Error ellipse: s-maj=11.3km s-min=8.8km az=83.0*
ISC 23 10:47:51.6±1.9, 37°.36N±0°.05×141°.75E±0°.07, h27km±12km, n75, σ1§16/67, mb4.2/18, 14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.69**	**271**	⇓*i*P	**Pn**	**10 48 06.2**	**+0.5**
JFK				⇓S	**Sn**	**10 48 15.3**	**-0.4**
JFK	**Kawauchi**	**0.69**	**271**	A	A	10 48 06.2	
	comp=E,7.0nm,0.4s,comp=N,4.0nm,4.2s						
JMST	**Minamisoumatoc**	**0.78**	**299**	⇓P	**Pn**	**10 48 07.1**	**+0.3**
JMST				⇓S	**Sb**	**10 48 16.9**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.80**	**252**	⇓*i*P	**Pn**	**10 48 07.7**	**+0.5**
ONAJ				⇓*e*S	**Sn**	**10 48 17.7**	**-0.5**
ONAJ	**Iwakimizuishiy**	**0.80**	**252**	A	A	10 48 07.7	
	comp=E,15nm,0.3s,comp=N,22nm,0.3s						
JMM	**Marumori**	**0.91**	**304**		**Pb**	**10 48 09.1**	**+0.2**
JMM	**Marumori**	**0.91**	**304**	⇓*i*P	**Pb**	**10 48 09.1**	**+0.2**
JFFD	**Fukushimafurud**	**0.98**	**255**	⇓*i*P	**Pb**	**10 48 10.3**	**+0.3**
JIO	**Ouri**	**1.14**	**344**	⇓*i*P	**Pb**	**10 48 12.3**	**-0.4**
JIO				⇓S	**Sn**	**10 48 25.4**	**-1.1**
JOTO	**OTAMA OYAMA**	**1.14**	**281**	*i* P	**Pb**	**10 48 13.2**	**+0.4**
JOU	**Okura**	**1.32**	**320**	⇓P	**Pb**	**10 48 15.1**	**-0.7**
JOU				⇓*e*S	**Sb**	**10 48 31.7**	**-0.7**
JOU	**Okura**	**1.32**	**320**	A	A	10 48 15.1	
	comp=E,3.0nm,1.0s,comp=N,5.0nm,3.9s						
JSB	**Shiboa**	**1.51**	**256**	A	A	10 48 18.1	
	comp=E,6.0nm,1.0s,comp=N,5.0nm,1.0s						
JYS	**Shiratake**	**1.59**	**304**	P	**Pb**	**10 48 19.2**	**-1.1**
JFY	**Yanaizu**	**1.63**	**272**	⇓P	**Pb**	**10 48 19.9**	**-1.1**
JMK	**Ichoseki**	**1.65**	**346**	⇓*i*P	**Pn**	**10 48 19.8**	**+1.0**
JYK	**Kaneyama**	**1.90**	**325**	P	**Pn**	**10 48 23.6**	**+1.2**
JSD	**Sado**	**2.85**	**285**		**Pn**	**10 48 36.5**	**+1.2**
MJAR	**Matsushiro Arr**	**2.95**	**255**	P	**Pn**	**10 48 38.9**	**+2.1**
	comp=N,1.7nm,0.3s,baz=90,slow=11,SNR=60						
MJAR				S	**Sb**	**10 49 16.8**	**-2.2**
	comp=N,12nm,0.4s,baz=125,slow=47,SNR=2.4						
MJAR				LR	LR	10 50 03.5	
	comp=N,180nm,20.7s,baz=72,slow=45						
	comp=N,13nm,0.5s						
MAJO	**Matsushiro**	**2.95**	**255**		**Pn**	**10 48 38.7**	**+1.9**
MJB9	**Matsu-Tunnel**	**2.95**	**255**		**Pn**	**10 48 38.4**	**+1.6**
JTM	**Tenmabayashi**	**3.47**	**351**		**Pn**	**10 48 46.4**	**+2.5**
JGF	**Kuroka**	**3.95**	**245**		**Pn**	**10 48 53.1**	**+2.6**
INU	**Inuyama**	**4.31**	**244**		**Pn**	**10 48 56.6**	**+1.2**
JHJ2	**Mitsune**	**4.52**	**201**	Pn	**Pn**	**10 48 59.4**	**+1.1**
JHJ	**Hachijo jima 2**	**4.52**	**201**	P	**Pn**	**10 48 59.0**	**+0.7**
	comp=N,72nm,0.3s,baz=90,slow=18						
JHJ				S	**Sn**	**10 49 48.1**	**-1.9**
	baz=90,slow=20						
ERM	**Erimo**	**4.78**	**13**	Pn	**Pn**	**10 49 02.9**	**+1.1**
ASAJ	**Asahikawa**	**6.79**	**5**	P	**Pn**	**10 49 30.2**	**+0.9**
	comp=N,0.9nm,0.3s,baz=209,slow=12,SNR=12						
	comp=N,9.9nm,0.8s						
JKA	**Kamikawa-asahi**	**6.79**	**5**	Pn	**Pn**	**10 49 31.0**	**+1.6**
JMN	**Monobe**	**7.36**	**243**	Pn	**Pn**	**10 49 40.4**	**+3.0**
JNU	**Nakatsue**	**9.84**	**248**	LR	LR	10 54 25.1	
	comp=N,77nm,21.9s,baz=120,slow=40						
USRK	**Ussuriysk Ar.**	**10.07**	**316**	P	**Pn**	**10 50 14.5**	**+0.1**
	comp=N,0.1nm,0.3s,baz=134,slow=12,SNR=1.4						
	comp=N,0.9nm,0.6s						
KSRS	**Korea Array**	**11.00**	**275**	P	**Pn**	**10 50 29.3**	**+2.2**
	comp=N,0.1nm,0.3s,baz=92,slow=15,SNR=4.9						
KSRS				LR	LR	10 54 33.6	
	comp=N,56nm,19.4s,baz=90,slow=36						
	comp=N,1.7nm,0.9s						
SONM	**Songino Array**	**27.83**	**303**	P	**P**	**10 53 39.3**	**+0.5**
SONM	**Songino Array**	**27.83**	**303**	P	**P**	**10 53 37.7**	**-1.0**
	comp=N,1.2nm,0.5s,baz=101,slow=9.2,SNR=9.2						
	comp=N,1.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.09**	**122**	T	T	11 23 17.4	
	baz=314,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**28.10**	**122**	T	T	11 23 11.9	
	baz=314,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**28.11**	**122**	T	T	11 23 21.0	
	baz=314,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**28.82**	**124**	T	T	11 24 16.4	
	baz=316,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**28.82**	**124**	T	T	11 24 16.3	
	baz=316,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**28.83**	**124**	T	T	11 24 18.6	
	baz=316,slow=76,SNR=13						
CMAR	**Chiang Mai Arr**	**41.83**	**255**	P	**P**	**10 55 38.9**	**-0.5**
	comp=N,0.5nm,0.3s,baz=42,slow=7.3,SNR=1.2						
	comp=N,0.5nm,0.3s						
ZAA0	**Zalesovo Array**	**41.89**	**312**	P	**P**	**10 55 38.9**	**-0.6**
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**10 55 39.4**	**0.0**
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**10 55 39.7**	**+0.2**
	comp=N,1.4nm,0.7s,baz=82,slow=12,SNR=6.6						
	comp=N,1.4nm,0.7s						
MK31	**Makanchi Array**	**44.17**	**302**	P	**P**	**10 55 58.4**	**+0.4**
MK31				IAmb	IAmb	10 55 59.2	
	comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**10 55 58.4**	**+0.3**
MKAR	**Makanchi Array**	**44.17**	**302**	P	**P**	**10 55 57.9**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=86,slow=10,SNR=22						
MKAR				LR	LR	11 14 59.4	
	comp=Z,169nm,18.7s,baz=19,slow=37						
	comp=Z,2.3nm,0.7s						
KURK	**Kurchatov**	**45.94**	**308**	P	**P**	**10 56 11.7**	**-0.2**
KURK				IAmb	IAmb	10 56 12.6	
	comp=Z,6.2nm,0.8s						
KURBB	**Kurchatov Arra**	**46.01**	**308**	P	**P**	**10 56 12.4**	**-0.1**
	comp=Z,2.6nm,0.5s,baz=83,slow=7.9,SNR=25						
	comp=Z,2.6nm,0.5s						
C23K	**Itkillik River**	**47.79**	**26**	P	**P**	**10 56 24.5**	**-1.7**
RC01	**Rabbit Creek A**	**47.94**	**38**	P	**P**	**10 56 26.0**	**-1.5**
H23K	**Yukon River**	**47.95**	**31**	P	**P**	**10 56 26.4**	**-1.1**
H23K				IAmb	IAmb	10 56 39.7	
	comp=Z,3.3nm,1.2s						
ILAR	**Eielson Array**	**49.08**	**33**	P	**P**	**10 56 36.4**	**+0.2**
ILAR	**Eielson Array**	**49.08**	**33**	P	**P**	**10 56 37.0**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=272,slow=6.5,SNR=7.4						
	comp=Z,0.7nm,0.8s						
BVAR	**Borovoye Array**	**50.55**	**312**	P	**P**	**10 56 47.6**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=77,slow=6.4,SNR=4.3						
	comp=Z,1.2nm,0.6s						
I28M	**Miner Creek**	**51.95**	**31**	P	**P**	**10 56 57.5**	**-0.5**
I30M	**Mount Dempster**	**53.46**	**31**	P	**P**	**10 57 09.5**	**+0.4**
I30M				IAmb	IAmb	10 57 43.6	
	comp=Z,7.9nm,1.4s						
G31M	**Satah River**	**53.97**	**29**	P	**P**	**10 57 13.9**	**+1.2**
KNRA	**Kununurra**	**54.15**	**195**	P	**P**	**10 57 15.3**	**+0.9**
WB0	**Warramunga Arr**	**57.24**	**188**	P	**P**	**10 57 36.7**	**+0.1**
WB0				IAmb	IAmb	10 58 01.4	
	comp=Z,8.3nm,1.4s						
WRAB	**Tennant Creek**	**57.41**	**188**	P	**P**	**10 57 37.9**	**+0.1**
WRAB				IAmb	IAmb	10 58 21.7	
	comp=Z,8.7nm,1.4s						
WR0	**Warramunga Arr**	**57.41**	**188**	P	**P**	**10 57 37.9**	**0.0**
WR0				IAmb	IAmb	10 58 17.3	
	comp=Z,5.4nm,1.4s						
WB2	**Warramunga Arr**	**57.41**	**188**	P	**P**	**10 57 37.9**	**0.0**
WB2				IAmb	IAmb	10 58 21.0	
	comp=Z,5.4nm,1.2s						
WRA	**Warramunga Arr**	**57.42**	**188**	P	**P**	**10 57 36.8**	**-1.2**
WRA	**Warramunga Arr**	**57.42**	**188**	P	**P**	**10 57 37.5**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=5.9,slow=7.1,SNR=29						
	comp=Z,1.1nm,0.5s						
ABKAR	**Akbulak array**	**57.94**	**310**	P	**P**	**10 57 41.3**	**-0.1**
ASAR	**Alice Springs**	**61.14**	**188**	P	**P**	**10 58 04.3**	**+0.6**
ASAR	**Alice Springs**	**61.14**	**188**	P	**P**	**10 58 01.4**	**-2.3**
	comp=Z,0.5nm,0.7s,baz=356,slow=3.5,SNR=7.2						
	comp=Z,0.5nm,0.7s						
PDAR	**Pinedale Array**	**77.25**	**46**	P	**P**	**10 59 44.5**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=306,slow=3.5,SNR=3.4						
	comp=Z,0.2nm,0.6s						
ESK	**Eskdalemuir**	**82.94**	**341**	P	**P**	**11 00 14.0**	**+0.2**
ATD	**Arta Tunnel**	**90.05**	**284**	LR	LR	11 44 25.7	
	comp=Z,15nm,18.2s,baz=188,slow=38						
H03N2	**Juan Fernandez**	**146.79**	**96**	T	T	13 51 48.2	
	baz=289						
H03N3	**Juan Fernandez**	**146.80**	**96**	T	T	13 51 59.0	
	baz=289						
H03N1	**Juan Fernandez**	**146.81**	**96**	T	T	13 52 10.9	
	baz=289						

*MOS **23** 10:51:58.2±1.1, 56°.29S×27°.01W, h83km, mb5.8/11, Error ellipse: s-maj=16.0km s-min=10.2km az=109.8*
*NEIC **23** 10:51:58.6±1.7, 56°.30S±0°.08×27°.0W±0°.1, h76km±1km, mb5.6/148, Mww5.6/22, Error ellipse: s-maj=14.6km s-min=11.8km az=235.0*
*NEIC **23** 10:51:58.5, 56°.38S×26°.57W, h100km, Moment Tensor Solution. Duration: 2§9 Moment tensor: Scale 10^17^Nm; M_{rr}0.47; $M_{\theta\theta}$1.93; $M_{\phi\phi}$-2.39; $M_{r\theta}$-1.77; $M_{\phi\theta}$-0.64; $M_{\phi r}$1.09; Fault plane solution: $M_0$3.05000×10^17^ NP1: ϕ_s325.46000°, δ79.67000°, λ39.29000°. NP2: ϕ_s227.12000°, δ51.46000°, λ166.75000°. Principal axes: T 3.3382, Plg35.0000°, Azm194.0000°; N -0.5798, Plg50.0000°, Azm338.0000°; P -2.7585, Plg18.0000°, Azm91.0000°;*
*NEIC **23** 10:51:58.5, 56°.28S×26°.93W, h100km*
*GCMT **23** 10:52:01.5±0.1, 56°.37S±0°.01×26°.65W±0°.01, h88km±1km, MW5.6/159, Moment Tensor Solution. s148,c264; s159,c306; Duration: 1§6 Moment tensor: Scale 10^17^ Nm; M_{rr}-0.59±.04; $M_{\theta\theta}$2.62±.04; $M_{\phi\phi}$-2.04±.04; $M_{r\theta}$-2.00±.03; $M_{\phi\theta}$0.80±.04; $M_{\phi r}$1.55±.03; Best double couple: $M_0$3.56800×10^17^ NP1:ϕ_s122.00000°, δ84.00000°, λ-46.00000°. NP2:ϕ_s219.00000°, δ44.00000°, λ-171.00000°. Principal axes: T 3.5800, Plg25.0000°, Azm179.0000°; N -0.0340, Plg43.0000°, Azm296.0000°; P -3.5550, Plg36.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **23** 10:52:02.1±1.0, 56°.26S×26°.81W, h106km±7km, mb5.2/14, mbtmp5.5/16, MS4.4/39 Error ellipse: s-maj=14.4km s-min=10.6km az=49.0*
ISC 23 10:51:59.8±0.3, 56°.38S±0°.04×26°.96W±0°.04, h93km±2km, h93km:pP-P, n778, σ1§40/867, mb5.6/99, 23C-25D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.83**	**287**	Pn	**Pn**	**10 53 23.9**	**+0.3**
HOPE	**Hope Point**	**5.83**	**287**	P	**Pn**	**10 53 23.9**	**+0.3**
VNA1	**Neumayer--Stat**	**16.44**	**158**	⇑P	**P**	**10 55 45.4**	**-0.1**
	comp=Z,957nm,0.8s						
VNA1				⇑S	**Sn**	**10 58 40.4**	**-5.9**
	comp=Z,24nm,0.6s						
VNA1				⇑ScP	**ScP**	**11 03 57.3**	**+1.2**
	comp=Z,122nm,1.0s						
VNA3	**Neumayer Olymp**	**16.64**	**160**	⇑P	**P**	**10 55 47.9**	**+0.2**
	comp=Z,612nm,0.6s						
VNA3				⇑S	**Sn**	**10 58 41.3**	**-10**
	comp=Z,27nm,0.6s						
VNA3				⇑ScP	**ScP**	**11 03 57.0**	**+0.5**
	comp=Z,70nm,0.8s						
VNA2	**Neumayer--Watz**	**16.84**	**158**	⇑P	**P**	**10 55 50.2**	**+0.2**
	comp=Z,190nm,0.6s,baz=314,slow=12						
VNA2				⇑S	Sn	10 58 43.0	-13
	comp=Z,31nm,0.7s,baz=109,slow=4.8						
VNA2				⇑ScP	**ScP**	**11 03 57.8**	**+0.9**
	comp=Z,66nm,0.7s,baz=327,slow=3.1						
SNAA	**Sanae**	**18.39**	**156**	*e*P	**Pn**	**10 56 08.4**	**+0.2**
SNAA	**Sanae**	**18.39**	**156**	⇑P	**Pn**	**10 56 08.4**	**+0.2**
	comp=Z,9μm,0.6s						
SNAA				⇑S	**S**	**10 59 25.0**	**-6.7**
	comp=Z,525nm,0.5s						
SNAA				⇑ScP	**ScP**	**11 03 59.7**	**-0.6**
	comp=Z,558nm,0.8s						
SNAA	**Sanae**	**18.39**	**156**	P	**Pn**	**10 56 08.2**	**0.0**
	comp=Z,81nm,0.6s,baz=304,slow=9.2,SNR=195						
SNAA				S	**S**	**10 59 25.5**	**-6.3**
	comp=Z,23nm,0.7s,baz=332,slow=21,SNR=2.9						
SNAA				LR	LR	11 02 33.7	
	comp=Z,576nm,18.7s,baz=326,slow=34						
SNAA				ScP	**ScP**	**11 04 00.1**	**-0.2**
	comp=Z,57nm,1.1s,baz=319,slow=1.8,SNR=24						
SNAA				ScS	**ScS**	**11 07 41.2**	**+0.4**
	comp=Z,13nm,1.2s,baz=172,slow=22,SNR=17						
SNAA	**Sanae**	**18.39**	**156**	*c iP*	**Pn**	**10 56 08.3**	**+0.2**
SNAA				pmax	pmax		
	comp=Z,567nm,1.7s						
EFI	**East Falkland**	**18.77**	**271**	P	**Pn**	**10 56 12.0**	**-0.7**
EFI	**East Falkland**	**18.77**	**271**	⇓*i*P	**Pn**	**10 56 12.6**	**-0.1**
EFI				pmax	pmax		
	comp=Z,59nm,1.1s						
PMSA	**Palmer Station**	**19.78**

SPB	Sao Paulo	36.02 327	eP	P	P	10 58 53.7 +2.0
DUB01	Friburgo-RJ	36.10 335	eP	P	P	10 58 54.1 +1.6
VAS01	Vassouras-RJ	36.16 334	eP	P	P	10 58 54.9 +1.9
CAM01	Campos-RJ	36.18 336	eP	P	P	10 58 54.7 +1.6
ML02	Panimavida	36.25 286	P	P	P	10 58 52.0 -1.7
ML02				IAmb	IAmb	10 59 52.9
	comp=Z,72nm,1.3s					
VAO	Valinhos	36.43 328	P	P	P	10 58 53.3 -2.1
VAO	Valinhos	36.43 328	eP	P	P	10 58 57.9 +2.5
PTGB	Pitanga	36.52 320	eP	P	P	10 58 56.7 +0.6
BO02	Sierra Bellavi	36.64 287	P	P	P	10 58 56.8 -0.3
FRTB	Fartura	36.92 324	eP	P	P	10 59 01.5 +2.0
LMEL	Las Melosas	37.06 289	P	P	P	10 58 59.1 -1.7
GO05	Hualane	37.09 286	P	P	P	10 58 59.4 -1.5
BO01	Tunca	37.11 287	P	P	P	10 59 00.9 -0.1
CPUP	Villa Florida	37.12 311	P	P	P	10 59 00.3 -0.8
CPUP				IAmb	IAmb	10 59 34.2
	comp=Z,98nm,1.1s					
CPUP	Villa Florida	37.12 311	P	P	P	10 59 01.2 +0.1
	comp=Z,48nm,0.9s,baz=151,slow=7.7,SNR=70					
CPUP				PcP	PcP	11 01 20.1 +0.6
	comp=Z,5.5nm,0.5s,baz=194,slow=2.5,SNR=3.0					
CPUP				ScP	ScP	11 04 56.4 -1.3
	comp=Z,25nm,1.0s,baz=157,slow=5.1,SNR=10					
CPUP				LR	LR	11 15 15.9
	comp=Z,333nm,18.6s,baz=160,slow=38					
	comp=Z,48nm,0.9s					
CPUP	Villa Florida	37.12 311	eP	P	P	10 59 01.1 0.0
CPUP	Villa Florida	37.12 311	P	P	P	10 59 00.9 -0.3
CPUP			pP	pP	pP	10 59 20.7 -1.7
CPUP			sP	sP	sP	10 59 32.5 -0.5
CPUP			PcP	PcP	PcP	11 01 20.4 +0.9
CPUP			ScP	ScP	ScP	11 04 55.2 -2.5
ALF01	Guarapari-ES	37.15 338	eP	P	P	10 59 02.5 +1.1
BO04	La Punta	37.17 288	P	P	P	10 59 00.8 -0.7
MT13	San Alfonso	37.19 289	P	P	P	10 59 01.4 -0.4
MT08	Bocatoma Ro	37.28 290	P	P	P	10 59 02.8 +0.1
LDASE	Londrina, Braz	37.40 322	eP	P	P	10 59 04.7 +1.1
MT03	Universidad Ad	37.50 289	P	P	P	10 59 02.8 -1.6
MT03				IAmb	IAmb	10 59 45.0
	comp=Z,50nm,0.8s					
MT09	Talagante	37.53 288	P	P	P	10 59 03.6 -1.1
MT09				IAmb	IAmb	11 00 10.8
	comp=Z,56nm,0.9s					
MT16	CCHEN	37.56 289	P	P	P	10 59 04.6 -0.2
MT16				IAmb	IAmb	11 00 10.4
	comp=Z,71nm,0.8s					
MT01	Popeta	37.60 288	P	P	P	10 59 04.0 -1.2
BSCB	Bom Sucesso	37.73 332	eP	P	P	10 59 08.3 +1.9
PEL	Peldehue	37.86 289	P	P	P	10 59 07.0 -0.4
PEL				IAmb	IAmb	10 59 43.2
	comp=Z,103nm,1.0s					
PEL	Peldehue	37.86 289	P	P	P	10 59 07.0 -0.4
PEL				pmax	pmax	
	comp=Z,103nm,1.0s					
PEL	Peldehue	37.86 289	P	P	P	10 59 06.8 -0.6
PEL			pP	pP	pP	10 59 27.4 -0.9
PEL			PcP	PcP	PcP	11 01 22.1 +0.3
VA05	Santo Domingo	37.96 288	P	P	P	10 59 06.8 -1.3
VA05				IAmb	IAmb	10 59 46.4
	comp=Z,89nm,0.9s					
ZON	Zonda	38.08 293	P	P	P	10 59 08.5 -0.8
ZON				IAmb	IAmb	10 59 47.1
	comp=Z,47nm,0.7s					
ZON	Zonda	38.08 293	P	P	P	10 59 08.5 -0.8
ZON				pmax	pmax	
	comp=Z,47nm,0.7s					
VA03	San Esteban	38.09 290	P	P	P	10 59 09.1 -0.3
VA03				IAmb	IAmb	10 59 45.8
	comp=Z,74nm,0.8s					
RIB01	Linhares ES	38.35 339	eP	P	P	10 59 12.3 +0.7
BB19B	Bebedouro	38.73 327	eP	P	P	10 59 15.8 +1.1
SJMB	Sao Joao De Ma	39.10 336	eP	P	P	10 59 17.8 0.0
AMBA	Amambai (Brazi	39.23 317	eP	P	P	10 59 18.6 -0.3
PAPY	Pozo Azul	39.48 312	eP	P	P	10 59 21.4 +0.5
CO03	El Pedregal	39.68 291	P	P	P	10 59 22.2 -0.4
CO03				IAmb	IAmb	10 59 48.6
	comp=Z,63nm,1.1s					
MATJ	Matjiesfontein	39.80 75	eP	P	P	10 59 23.9 +0.2
MATJ				IAmb	IAmb	10 59 25.1
	comp=Z,339nm,1.1s					
MAW	Mawson	39.81 143	P	P	P	10 59 24.9 +1.7
	comp=Z,89nm,1.1s,baz=236,slow=8.4,SNR=64					
MAW				PcP	PcP	11 01 27.9 +0.7
	comp=Z,13nm,0.9s,baz=200,slow=14,SNR=2.2					
MAW				ScP	ScP	11 05 06.1 -1.2
	comp=Z,13nm,0.9s,baz=253,slow=4.0,SNR=6.9					
MAW				LR	LR	11 13 37.2
	comp=Z,486nm,20.0s,baz=254,slow=32					
	comp=Z,89nm,1.1s					
DIAM	Diamantina, MG	40.05 335	eP	P	P	10 59 26.6 +0.8
CO01	Juntas del Tor	40.06 293	P	P	P	10 59 26.0 0.0
CO01				IAmb	IAmb	10 59 50.1
	comp=Z,100nm,1.2s					
GO04	Tololo Observa	40.27 292	P	P	P	10 59 26.5 -1.2
GO04				IAmb	IAmb	10 59 50.4
	comp=Z,107nm,1.1s					
PMNB	Patos De Minas	40.52 331	eP	P	P	10 59 31.4 +1.7
ITRB	Iturama	40.58 325	eP	P	P	10 59 31.2 +1.2
SUR	Sutherland	40.60 74	P	P	P	10 59 29.4 -1.0
SUR	Sutherland	40.60 74	⇓iP	P	P	10 59 31.4 +1.0
SUR				IAmb	IAmb	10 59 32.4
	comp=Z,826nm,1.9s					
SUR	Sutherland	40.60 74	LR	LR	LR	11 13 21.8
	comp=Z,1μm,18.4s,baz=209,slow=32					
SUR	Sutherland	40.60 74	⇓P	P	P	10 59 31.3 +1.0
CO05	La Serena	40.70 292	P	P	P	10 59 30.4 -0.6
CO05				IAmb	IAmb	11 00 05.8
	comp=Z,80nm,0.8s					
GUA01	Guaratinga, BA	40.90 341	eP	P	P	10 59 33.2 +0.5
RPRD	Ribas do Rio P	40.99 320	eP	P	P	10 59 33.8 +0.4
AC05	El Transito	41.07 294	P	P	P	10 59 33.4 -0.8
LCO	Las Campanas	41.15 293	P	P	P	10 59 33.7 -1.3
LCO				IAmb	IAmb	10 59 57.7
	comp=Z,178nm,1.6s					
LCO	Las Campanas	41.15 293	P	P	P	10 59 33.7 -1.3
LCO				pmax	pmax	
	comp=Z,178nm,1.6s					
LCO	Las Campanas	41.15 293	P	P	P	10 59 34.2 -0.8
LCO			pP	pP	pP	10 59 55.0 -1.3
MURT	Porto Murtinho	41.40 314	eP	P	P	10 59 35.8 -1.0
IPMB	Ipameri, GO	41.54 329	eP	P	P	10 59 39.8 +1.7
AQDB	Aquidauana	41.73 317	P	P	P	10 59 38.4 -1.0
AQDB				IAmb	IAmb	11 00 15.9
	comp=Z,97nm,1.1s					
AQDB	Aquidauana	41.73 317	eP	P	P	10 59 39.0 -0.5
FDPY	Filadelfia	41.80 311	eP	P	P	10 59 40.6 +0.5
AC04	Llanos de Chal	41.99 293	P	P	P	10 59 41.5 -0.1
AC04				IAmb	IAmb	10 59 48.2
	comp=Z,101nm,0.7s					
CMC01	Camacan, BA	42.05 342	eP	P	P	10 59 42.8 +0.7
GO03	Copiapo	42.07 295	P	P	P	10 59 41.5 -0.7
GO03				IAmb	IAmb	11 00 23.3
	comp=Z,61nm,0.8s					
BDQN	Bodoquena, MS	42.15 316	eP	P	P	10 59 42.0 -0.9
AC06	Mina Casimiro	42.32 295	P	P	P	10 59 43.6 -0.7
AC06			pP	pP	pP	11 00 05.3 -0.3
AC06				IAmb	IAmb	11 00 06.8
	comp=Z,201nm,1.4s					
GRHM	Grahamstown, E	42.94 81	P	P	P	10 59 49.0 -0.2
GRHM				IAmb	IAmb	10 59 50.0
	comp=Z,148nm,1.1s					
JANB	Januaria	43.32 335	eP	P	P	10 59 53.5 +1.1
PANT	Pantanal (Braz	43.43 317	eP	P	P	10 59 53.9 +0.7
AC01	Pan de Azucar	43.44 296	P	P	P	10 59 52.8 -0.5
AC01			pP	pP	pP	11 00 14.5 -0.2
SHEL	Horse Pasture	43.45 30	P	P	P	10 59 53.1 -0.4
SHEL	Horse Pasture	43.45 30	eP	P	P	10 59 54.1 +0.7
SHEL	Horse Pasture	43.45 30	P	P	P	10 59 53.1 -0.4
SHEL				pmax	pmax	
	comp=Z,898nm,1.0s					
SHEL	Horse Pasture	43.45 30	P	P	P	10 59 54.5 +1.0
SHEL				ScP	ScP	11 05 25.6 +3.0
GDU01	Guandu, BA	43.66 342	eP	P	P	10 59 55.3 +0.2
BDFB	Brasilia	43.71 330	P	P	P	10 59 56.0 +0.3
BDFB	Brasilia	43.71 330	P	P	P	10 59 56.7 +1.1
	comp=Z,8.0nm,0.7s,baz=112,slow=3.7,SNR=10.0					
BDFB				LR	LR	11 18 23.5
	comp=Z,488nm,18.0s,baz=159,slow=36					
	comp=Z,8.0nm,0.7s					
GO02	Mina Guanaco	43.76 297	P	P	P	10 59 56.2 +0.1
GO02			pP	pP	pP	11 00 18.1 +0.4
PB14	IPOC Station P	44.61 297	P	P	P	11 00 01.9 -1.0
ARAG	Araguaiana, MT	44.79 325	eP	P	P	11 00 05.3 +1.2
SBA	Scott Base	45.76 184	P	P	P	11 00 13.2 +2.1
SBA				IAmb	IAmb	11 00 16.8
	comp=Z,136nm,1.1s					
SBA	Scott Base	45.76 184	P	P	P	11 00 13.2 +2.1
SBA				pmax	pmax	
	comp=Z,136nm,1.1s					
SBA	Scott Base	45.76 184	P	P	P	11 00 13.6 +2.5
SBA				PcP	PcP	11 01 49.5 +2.4
SBA				ScP	ScP	11 05 32.9 +1.7
SALV	Santo Antonio	45.92 320	eP	P	P	11 00 13.4 +0.4
BOSA	Boshof	45.93 75	P	P	P	11 00 12.7 -0.5
BOSA	Boshof	45.93 75	eP	P	P	11 00 10.9 -2.2
BOSA	Boshof	45.93 75	P	P	P	11 00 13.0 -0.2
	comp=Z,104nm,1.0s,baz=215,slow=8.2,SNR=77					
BOSA				PcP	PcP	11 01 49.4 +0.8
	comp=Z,6.5nm,0.8s,baz=225,slow=6.9,SNR=1.4					
BOSA				LR	LR	11 16 27.9
	comp=Z,2μm,19.2s,baz=219,slow=32					
	comp=Z,104nm,1.0s					
BOSA	Boshof	45.93 75	P	P	P	11 00 12.9 -0.2
BOSA				ScP	ScP	11 05 32.5 -0.3
SDBA	SAO DESIDERIO	46.02 335	eP	P	P	11 00 14.4 +0.6
NBLA	Lagarto - SE	46.06 345	eP	P	P	11 00 14.2 +0.1
PB04	IPOC Station P	46.41 299	P	P	P	11 00 16.4 -0.6
PB04			pP	pP	pP	11 00 38.7 -0.1
BBSD	Serra de San D	46.63 313	eP	P	P	11 00 18.6 0.0
WIN	Windhoek	46.64 62	P	P	P	11 00 18.6 -0.3
WIN	Windhoek	46.64 62	P	P	P	11 00 18.6 -0.3
WIN				pmax	pmax	
	comp=Z,729nm,1.9s					
NBAN	Anadia - AL	47.16 347	eP	P	P	11 00 22.4 -0.3
PB01	IPOC Station P	47.19 301	P	P	P	11 00 23.4 +0.4
H04S2	CROZET ISLANDS	47.30 114	T	T	T	11 51 58.0
	baz=230,slow=75,SNR=8.0					
H04S3	CROZET ISLANDS	47.31 114	T	T	T	11 52 09.8
	baz=230,slow=75,SNR=12					
H04S1	CROZET ISLANDS	47.32 114	T	T	T	11 52 07.9
	baz=230,slow=75,SNR=9.9					
CCD	Concordia, Ant	47.33 170	⇑P	P	P	11 00 25.3 +1.4
CCD				ScP	ScP	11 05 38.3 0.0
PTLB	Pontes e Lacer	47.62 316	P	P	P	11 00 26.2 0.0
PTLB				IAmb	IAmb	11 01 05.6
	comp=Z,104nm,1.1s					
PTLB	Pontes e Lacer	47.62 316	eP	P	P	11 00 26.4 +0.1
KOOLE	Kule	47.83 66	iP	P	P	11 00 28.3 +0.3
SIV	San Ignacio	47.89 313	ScP	ScP	P	11 05 39.8 -1.2
	comp=Z,42nm,0.9s,baz=136,slow=4.7,SNR=30					
SIV				ScS	ScS	11 10 10.2 -2.2
	comp=Z,0.5nm,0.4s,baz=329,slow=20,SNR=6.0					
SIV				LR	LR	11 20 19.9
	comp=Z,340nm,21.4s,baz=252,slow=36					
TA01	Diego Aracena	47.93 300	IAmb	IAmb	IAmb	11 00 30.0
	comp=Z,70nm,1.0s					
HMBC	Humberstone	48.03 301	IAmb	IAmb	IAmb	11 00 30.8
	comp=Z,82nm,0.8s					
SNDB	Serra Nova Dou	48.14 327	eP	P	P	11 00 31.6 +1.3
TA02	Huaiquique	48.16 300	IAmb	IAmb	IAmb	11 00 31.7
	comp=Z,110nm,0.8s					
H10S2	ASCENSION HYDR	48.28 16	T	T	T	11 52 20.8
	baz=190,slow=74,SNR=17					
H10S3	ASCENSION HYDR	48.28 16	T	T	T	11 52 21.1
	baz=30,slow=74,SNR=36					
SKOMA	Sekoma	48.51 71	iP	P	P	11 00 32.9 -0.3
NBCA	Caruaru-PE	48.55 348	eP	P	P	11 00 34.2 +0.6
KGCAE	Kacgae	48.97 68	iP	P	P	11 00 37.0 +0.2
LBTB	Lobatse	48.98 73	P	P	P	11 00 36.5 -0.3
LBTB	Lobatse	48.98 73	⇓iP	P	P	11 00 36.6 -0.3
LBTB	Lobatse	48.98 73	LR	LR	LR	11 18 26.9
	comp=Z,587nm,18.2s,baz=217,slow=32					
LBTB	Lobatse	48.98 73	P	P	P	11 00 36.5 -0.3
LBTB				pmax	pmax	
	comp=Z,226nm,1.1s					
LBTB	Lobatse	48.98 73	P	P	P	11 00 36.7 -0.3
MRCO	Marico , North	49.04 74	⇓iP	P	P	11 00 37.1 -0.2
H10N1	ASCENSION HYDR	49.40 16	T	T	T	11 54 40.7
	baz=189,slow=75,SNR=54					
HRAO	HartRAO	49.40 75	eP	P	P	11 00 39.7 -0.3
H10N3	ASCENSION HYDR	49.40 16	T	T	T	11 54 39.6
	baz=189,slow=75,SNR=84					
H10N2	ASCENSION HYDR	49.41 16	T	T	T	11 54 39.6
	baz=189,slow=75,SNR=93					
PB12	IPOC Station P	49.67 301	P	P	P	11 00 40.9 -1.2
GRTLG	Ghanzi	49.70 66	iP	P	P	11 00 42.2 -0.2
TSUM	Tsumeb	49.73 60	LR	LR	LR	11 18 14.3
	comp=Z,574nm,19.8s,baz=208,slow=32					
NYAT	Nyati, Northwe	49.75 75	eP	P	P	11 00 42.4 -0.3
NYAT				IAmb	IAmb	11 00 44.0
	comp=Z,297nm,1.4s					
KDWAN	Kaudwane	49.81 71	iP	P	P	11 00 43.4 +0.2
NHAM	Northam, North	49.98 74	⇓iP	P	P	11 00 43.9 -0.5
NHAM				IAmb	IAmb	11 00 45.2
	comp=Z,195nm,1.1s					
TSWA	Tswaing Meteor	49.98 75	⇓iP	P	P	11 00 44.3 -0.1
TSWA				IAmb	IAmb	11 00 45.7
	comp=Z,316nm,1.1s					
SMTB	Santa Maria do	50.08 333	eP	P	P	11 00 46.3 +1.2
PDRB	Porto dos Gac	50.26 321	eP	P	P	11 00 46.1 -0.3
VILB	Vilhena	50.31 316	IAmb	IAmb	IAmb	11 00 47.6
	comp=Z,57nm,0.8s					
VILB	Vilhena	50.31 316	eP	P	P	11 00 46.9 +0.1
RUST	Rust De Winter	50.37 76	⇓iP	P	P	11 00 47.2 -0.1
POGA	Pongola	50.43 80	P	P	P	11 00 47.1 -0.6
LPHEP	Lephephe	50.46 72	iP	P	P	11 00 48.2 +0.1
CLDB	Colider	50.62 322	eP	P	P	11 00 49.5 +0.3
LPAZ	La Paz	50.67 305	IAmb	IAmb	IAmb	11 00 52.2
	comp=Z,86nm,0.8s					
LPAZ	La Paz	50.67 305	P	P	P	11 00 51.1 +0.9
	comp=Z,76nm,0.6s,baz=143,slow=5.8,SNR=273					
LPAZ				ScP	ScP	11 05 51.8 -1.8
	comp=Z,15nm,0.8s,baz=171,slow=2.8,SNR=8.2					
LPAZ				S	S	11 07 55.5 -3.1
	comp=Z,5.5nm,0.8s,baz=114,slow=10.0,SNR=5.0					
LPAZ				ScS	ScS	11 10 31.9 -0.5
	comp=Z,2.8nm,1.0s,baz=204,slow=19,SNR=3.8					
LPAZ				LR	LR	11 25 15.5
	comp=Z,159nm,18.6s,baz=164,slow=39					
	comp=Z,76nm,0.6s					
LPAZ	La Paz	50.67 305	eP	P	P	11 00 51.1 +0.9
LPAZ	La Paz	50.67 305	P	P	P	11 00 51.2 +0.9
LPAZ			pP	pP	pP	11 01 12.4 +0.1
LPAZ			PcP	PcP	PcP	11 02 07.8 +1.4
LPAZ			ScP	ScP	ScP	11 05 51.4 -2.2
MTLB	Matlabas, Limp	50.73 73	⇓iP	P	P	11 00 49.9 -0.2
RCBR	Riachuelo	50.91 349	LR	LR	LR	11 19 28.7
	comp=Z,80nm,19.6s,baz=186,slow=32					
RCBR	Riachuelo	50.91 349	eP	P	P	11 00 51.7 +0.3
CKGRV	CKGRV	50.98 68	iP	P	P	11 00 51.9 -0.1
DULL	Dullstroom, Mp	51.16 77	eP	P	P	11 00 51.8 -1.7
QNGWA	Qangwa	51.22 64	iP	P	P	11 00 54.1 +0.3
WTBG	Waterberg Wild	51.38 75	⇓iP	P	P	11 00 54.1 -0.9
WTBG				IAmb	IAmb	11 00 55.1
	comp=Z,100nm,1.1s					
MREMI	Moremi	51.95 73	iP	P	P	11 00 59.6 +0.4
XAUDM	Khaudum	52.14 64	iP	P	P	11 01 01.3 +0.7
CRAIL	Swartwater, Li	52.18 74	eP	P	P	11 00 59.0 -1.9
PHDHD	Phuduhudu	52.38 68	iP	P	P	11 01 02.6 +0.2
SOOWA	Sowa	52.95 70	iP	P	P	11 01 06.8 +0.3
BROLN	Tlhalogang	53.09 71	iP	P	P	11 01 07.3 -0.3
PRPB	Parauapebas	53.24 331	eP	P	P	11 01 09.8 +1.2
CASY	Casey	53.56 160	P	P	P	11 01 12.0 +1.7
CASY				IAmb	IAmb	11 01 13.5
	comp=Z,113nm,1.1s					
NPGB	Novo Progresso	54.06 324	eP	P	P	11 01 14.8 +0.2
MATP	Matopo	54.26 72	LR	LR	LR	11 21 31.1
	comp=Z,184nm,19.3s,baz=236,slow=33					
BLWY	Bulawayo	54.55 72	⇑iP	P	P	11 01 17.9 -0.5
KSANE	Kasane	54.70 67	iP	P	P	11 01 19.7 +0.4
SAML	Samuel	55.12 315	P	P	P	11 01 22.1 -0.2
SAML			pP	pP	pP	11 01 42.7 -2.1
SAML				IAmb	IAmb	11 01 43.9
	comp=Z,64nm,1.1s					
SAML	Samuel	55.12 315	eP	P	P	11 01 22.4 +0.1
ETMB	Extrema	55.58 311	eP	P	P	11 01 25.6 +0.1
TMAB	Tom-Au,PA,Br	56.45 334	eP	P	P	11 01 33.1 +1.4
ITTB	Itaituba	56.70 325	eP	P	P	11 01 34.0 +0.5
DRV	Dumont d'Urvil	56.89 174	P	P	P	11 01 35.2 +1.1
DRV			PcP	PcP	PcP	11 02 30.4 +1.8
LSZ	Lusaka	58.37 68	P	P	P	11 01 45.2 -0.3
LSZ	Lusaka	58.37 68	⇓iP	P	P	11 01 45.4 0.0
LSZ				IAmb	IAmb	11 01 46.4
	comp=Z,272nm,0.9s					
LSZ	Lusaka	58.37 68	P	P	P	11 01 45.2 -0.3
LSZ				pmax	pmax	
	comp=Z,314nm,1.0s					
LSZ	Lusaka	58.37 68	P	P	P	11 01 45.4 0.0
MAL2	Monte Alegre,	58.44 328	P	P	P	11 01 44.2 -1.4
MAL2			pP	pP	pP	11 02 07.1 -1.2
MAL2				IAmb	IAmb	11 02 10.7
	comp=Z,66nm,1.0s					
NNA	Nana	58.52 299	P	P	P	11 01 46.0 -0.4
NNA	Nana	58.52 299	P	P	P	11 01 46.7 +0.4
	comp=Z,51nm,0.8s,baz=152,slow=6.0,SNR=16					
NNA				LR	LR	11 25 38.2
	comp=Z,252nm,21.7s,baz=143,slow=34					
	comp=Z,51nm,0.8s					
NNA	Nana	58.52 299	P	P	P	11 01 46.7 +0.4
MACA	Manacapuru-AM	59.50 320	IAmb	IAmb	IAmb	11 02 26.0
	comp=Z,75nm,0.9s					
MACA	Manacapuru-AM	59.50 320	eP	P	P	11 01 52.6 -0.5
CZSB	Cruzeiro do Su	60.28 305	eP	P	P	11 01 58.3 -0.2
FOMA	Nahampoana Res	60.75 92	P	P	P	11 02 01.7 +0.2
VOI	Vohitsoka	63.08 89	P	P	P	11 02 18.3 +1.0
VOI				IAmb	IAmb	11 02 20.4
	comp=Z,92nm,1.2s					
VOI	Vohitsoka	63.08 89	eP	P	P	11 02 14.1 -3.2
ATAH	Atahualpa	63.47 300	P	P	P	11 02 22.5 +2.2
	comp=Z,113nm,1.0s,baz=157,slow=5.0,SNR=44					
ATAH				LR	LR	11 29 59.3
	comp=Z,176nm,20.6s,baz=131,slow=36					
	comp=Z,113nm,1.0s					
RPN	Rapa Nui	63.73 260	LR	LR	LR	11 25 17.7
	comp=Z,188nm,21.9s,baz=136,slow=31					
BOAV	Boa Vista	64.62 322	P	P	P	11 02 26.4 -0.8
BOAV	Boa Vista	64.62 322	eP	P	P	11 02 26.9 -0.4
MDP	Montagnes des	64.79 332	LR	LR	LR	11 28 59.6
	comp=Z,245nm,20.3s,baz=113,slow=34					
DBIC	Dimbokro	65.41 24	P	P	P	11 02 32.1 -0.3
DBIC				IAmb	IAmb	11 02 32.8
	comp=Z,62nm,0.8s					
DBIC	Dimbokro	65.41 24	P	P	P	11 02 32.2 -0.2
	comp=Z,53nm,0.9s,baz=180,slow=7.1,SNR=49					
DBIC				LR	LR	11 25 11.1
	comp=Z,480nm,20.1s,baz=180,slow=30					
	comp=Z,53nm,0.9s					
DBIC	Dimbokro	65.41 24	P	P	P	11 02 31.9 -0.5
DBIC			pP	pP	pP	11 02 54.1 -1.0
DBIC			PcP	PcP	PcP	11 03 03.5 -0.1
ACRG	Accra	65.59 29	P	P	P	11 02 33.5 0.0
ACRG				IAmb	IAmb	11 02 34.7
	comp=Z,196nm,1.5s					
ABPO	Ambohimpanom	65.63 88	P	P	P	11 02 34.4 +0.3
ABPO				IAmb	IAmb	11 02 37.4
	comp=Z,95nm,1.2s					
ABPO	Ambohimpanom	65.63 88	eP	P	P	11 02 33.4 -0.7
ABPO	Ambohimpanom	65.63 88	P	P	P	11 02 34.4 +0.3
ABPO				pmax	pmax	
	comp=Z,95nm,1.3s					
ABPO	Ambohimpanom	65.63 88	P	P	P	11 02 35.9 +1.8
ABPO			PcP	sP	sP	11 03 06.8 +1.0
OPO	Ambohidratompo	65.97 88	LR	LR	LR	11 27 07.2
	comp=Z,406nm,18.7s,baz=350,slow=32					
COHC	Cochancay	67.95 301	IAmb	IAmb	IAmb	11 02 50.9
	comp=Z,52nm,0.7s					
MCQ	Macquarie Isla	69.38 184	IAmb	IAmb	IAmb	11 03 00.6
	comp=Z,133nm,1.0s					
MCQ	Macquarie Isla	69.38 184	P	P	P	11 02 58.6 +1.7
	comp=Z,152nm,1.1s					
OTAV	Otavalo	69.94 304	P	P	P	11 03 01.8 +0.3
OTAV				IAmb	IAmb	11 03 05.3
	comp=Z,167nm,1.4s					
OTAV	Otavalo	69.94 304	P	P	P	11 03 01.8 +0.3
OTAV				pmax	pmax	
	comp=Z,167nm,1.4s					
OTAV	Otavalo	69.94 304	eP	P	P	11 03 02.6 +1.2
OTAV	Otavalo	69.94 304	P	P	P	11 03 02.3 +0.8
OTAV			PcP	PcP	PcP	11 03 23.3 0.0
BBTS	Babate	71.31 11	LR	LR	LR	11 26 48.7
	comp=Z,288nm,21.2s,baz=133,slow=29					
MBAR	Mbarara	72.19 63	P	P	P	11 03 16.0 +1.3
MBAR				IAmb	IAmb	11 03 18.7
	comp=Z,182nm,1.4s					
MBAR	Mbarara	72.19 63	LR	LR	LR	11 33 11.7
	comp=Z,392nm,18.3s,baz=213,slow=34					
MBAR	Mbarara	72.19 63	iP	P	P	11 03 17.2 +2.5
MBAR				pmax	pmax	
	comp=Z,149nm,1.4s					
ROSC	El Rosal	72.19 310	P	P	P	11 03 13.6 -1.3
ROSC	El Rosal	72.19 310	P	P	P	11 03 15.8 +0.9
	comp=Z,46nm,0.8s,baz=110,slow=5.4,SNR=14					
ROSC				S	S	11 12 26.8 -3.4
	comp=Z,5.7nm,0.5s,baz=156,slow=20,SNR=5.8					
ROSC				LR	LR	11 35 14.5
	comp=Z,385nm,20.7s,baz=197,slow=36					
	comp=Z,46nm,0.8s					
TORD	Torodi Ar. Bea	73.28 29	P	P	P	11 03 20.9 +0.1
	comp=Z,76nm,0.9s,baz=204,slow=5.0,SNR=278					
TORD				LR	LR	11 30 36.3
	comp=Z,302nm,19.3s,baz=184,slow=32					
	comp=Z,76nm,0.9s					
PCRV	Puerto La Cruz	73.28 321	LR	LR	LR	11 36 59.2
	comp=Z,180nm,20.3s,slow=37					
BAUV	El Baul	73.38 317	P	P	P	11 03 20.6 -0.8
BAUV			pP	pP	pP	11 03 43.9 -1.3
BAUV				IAmb	IAmb	11 03 47.0
	comp=Z,87nm,0.9s					
SDV	Santo Domingo	74.33 315	P	P	P	11 03 27.6 +0.4
SDV			pP	pP	pP	11 03 49.0 -2.0
SDV	Santo Domingo	74.33 315	S	S	S	11 12 52.8 -1.2
	comp=Z,4.2nm,0.4s,baz=210,slow=20,SNR=6.6					
SDV				LR	LR	11 39 37.3
	comp=Z,212nm,18.4s,baz=172,slow=38					
SDV	Santo Domingo	74.33 315	eP	P	P	11 03 27.9 +0.7
KIBK	Kibwezi	74.42 70	IAmb	IAmb	IAmb	11 03 32.9
	comp=Z,176nm,1.6s					
KM

comp=Z,91nm,19.0s,baz=154,slow=38
HOWZ Holdsworth Sta 81.24 197 P **P 11 04 06.6 +1.5**
NNZ Nelson 81.26 195 P **P 11 04 06.2 +1.0**
NNZ IAmb IAmb 11 04 09.2
comp=Z,81nm,1.1s
NNZ Nelson 81.26 195 P **P 11 04 05.9 +0.7**
TIWZ Tintock 81.30 197 P **P 11 04 07.6 +2.1**
BFZ Birch Farm 81.33 198 IAmb IAmb 11 04 09.0
comp=Z,139nm,1.2s
BFZ Birch Farm 81.33 198 P **P 11 04 06.7 +1.1**
MLPR Magueyes Islan 81.35 322 P **P 11 04 06.2 +0.4**
MLPR IAmb IAmb 11 04 07.8
comp=Z,105nm,1.4s
KIW Kapiti Island 81.37 197 P **P 11 04 07.7 +1.9**
CRPR Cabo Rojo, PR 81.41 322 P **P 11 04 06.1 0.0**
MRZ Mangatainoka R 81.46 197 IAmb IAmb 11 04 08.9
comp=Z,63nm,1.0s
MRZ Mangatainoka R 81.46 197 P **P 11 04 07.1 +0.8**
TKNZ Takaka Hill 81.50 195 P **P 11 04 06.5 0.0**
DUWZ D'Urville Isla 81.59 196 P **P 11 04 07.8 +0.9**
PRHZ Porangahau 81.67 198 P **P 11 04 09.3 +2.0**
DVHZ Dannevirke 81.72 198 P **P 11 04 08.6 +0.9**
QRZ Quartz Range 81.77 195 P **P 11 04 08.4 +0.5**
QRZ IAmb IAmb 11 04 09.7
comp=Z,190nm,1.7s
QRZ Quartz Range 81.77 195 P **P 11 04 06.4 -1.5**
JTS Las Juntas de 81.80 303 P **P 11 04 08.6 +0.4**
JTS IAmb IAmb 11 04 10.5
comp=Z,98nm,1.2s
JTS Las Juntas de 81.80 303 LR LR 11 41 49.1
comp=Z,105nm,21.5s,baz=138,slow=36
JTS Las Juntas de 81.80 303 *c iP* **P 11 04 08.7 +0.4**
JTS pmax pmax
comp=Z,97nm,1.2s
KAHZ Kahuranaki 82.09 198 P **P 11 04 11.9 +2.3**
WAZ Wanganui 82.44 197 P **P 11 04 13.7 +2.2**
WNVZ Wahianoa 82.76 197 P **P 11 04 14.6 +1.3**
BKZ Black Stump Fm 82.76 198 IAmb IAmb 11 04 16.9
comp=Z,105nm,1.4s
BKZ Black Stump Fm 82.76 198 P **P 11 04 14.5 +1.3**
TUVZ Tukino 82.81 198 P **P 11 04 15.1 +1.6**
FWVZ Far West T-bar 82.84 197 P **P 11 04 16.6 +2.8**
PKVZ Pokaka 82.84 197 P **P 11 04 16.6 +3.0**
SNVZ South Ngauruho 82.89 198 P **P 11 04 16.4 +2.4**
COVZ Chateau Observ 82.89 197 P **P 11 04 16.5 +2.6**
NGZ Ngauruhoe 82.91 197 P **P 11 04 15.8 +1.7**
OTVZ Oturere 82.91 198 P **P 11 04 15.1 +1.0**
ETVZ East Tongariro 82.93 198 P **P 11 04 15.3 +1.2**
NNVZ North Ngauruho 82.95 198 P **P 11 04 13.7 -0.6**
TMVZ Te Maari 82.95 198 P **P 11 04 15.2 +1.0**
WTVZ West Tongariro 82.97 197 P **P 11 04 16.7 +2.4**
NTVZ North Tongarir 82.97 198 P **P 11 04 16.1 +1.8**
KHEZ Kahui Hut 83.05 196 P **P 11 04 15.1 +0.4**
NEZ North Egmont 83.06 196 P **P 11 04 15.9 +1.1**
NBEZ Newall Road No 83.09 196 P **P 11 04 15.9 +1.1**
VRZ Vera Road 83.09 197 P **P 11 04 15.1 +0.3**
DREZ Durham Road 83.12 196 P **P 11 04 15.7 +0.7**
MHEZ Mangahewa 83.21 197 P **P 11 04 17.8 +2.4**
ACON Acoyapa 83.36 303 IAmb IAmb 11 04 17.5
comp=Z,98nm,0.9s
URZ Urewera 83.54 199 LR LR 11 38 33.8
comp=Z,257nm,18.7s,baz=250,slow=33
HIZ Hauiti 83.68 197 IAmb IAmb 11 04 20.1
comp=Z,129nm,1.4s
SDDR Presa de Saban 83.81 318 P **P 11 04 18.6 +0.1**
SDDR IAmb IAmb 11 05 00.9
comp=Z,112nm,1.9s
FURI Furi 84.31 65 LR LR 11 39 22.7
comp=Z,384nm,20.7s,baz=207,slow=34
TOZ Tahuroa Road 84.33 198 IAmb IAmb 11 04 23.6
comp=Z,48nm,1.0s
NWAO Narrogin (SRO) 85.98 150 LR LR 11 39 13.9
comp=Z,157nm,20.7s,baz=3.0,slow=33
NMDO Nuevo Mundo 86.64 316 IAmb IAmb 11 05 12.7
comp=Z,47nm,1.2s
TBI Tubuai 86.98 231 *e*P **P 11 04 32.4 -2.0**
comp=Z,882nm,32.2s
TBI Tubuai 86.98 231 *e*PP **PP 11 07 56.8 -1.3**
comp=Z,497nm,30.8s
TBI *e*S **S 11 15 01.1 -4.2**
comp=Z,1μm,34.8s
TBI *e*SS **SS 11 20 49.0 +0.2**
comp=Z,1μm,26.8s
TBI *e*LQ LQ 11 28 33.5
comp=Z,5μm,30.8s
TBI *e*LR LR 11 32 13.3
comp=Z,1μm,32.5s
TBI *e*LR LR 11 32 19.4
comp=Z,9μm,31.2s
MTO3 Montecristo 87.45 301 P **P 11 04 37.2 +0.3**
ESQI Esquipulas 87.58 301 P **P 11 04 38.0 +0.6**
PETF Flores 89.87 302 IAmb IAmb 11 05 29.0
comp=Z,68nm,1.4s
BBOO Buckleboo 90.00 166 P **P 11 04 49.4 +0.8**
BBOO IAmb IAmb 11 04 52.9
comp=Z,39nm,0.9s
CCIG Comitan 90.41 299 IAmb IAmb 11 05 22.2
comp=Z,45nm,1.4s
MDT Midelt 90.86 19 LR LR 11 41 25.8
comp=Z,410nm,19.5s,baz=192,slow=33
STKA Stephens Creek 91.56 170 P **P 11 04 57.3 +1.4**
STKA Stephens Creek 91.56 170 P **P 11 04 56.9 +1.0**
comp=Z,14nm,0.7s,baz=163,slow=5.6,SNR=15
STKA PP **PP 11 08 34.2 +0.1**
comp=Z,4.5nm,0.7s,baz=172,slow=6.9,SNR=3.8
STKA LR LR 11 44 38.8
comp=Z,340nm,19.9s,baz=194,slow=34
comp=Z,14nm,0.7s
STKA Stephens Creek 91.56 170 P **P 11 04 57.3 +1.4**
STKA pmax pmax
comp=Z,4.0nm,0.9s
TEIG Tepich 92.00 304 P **P 11 04 58.0 +0.2**
PPT2 Papeete2 92.09 234 *e*P **P 11 04 59.5 +0.9**
comp=Z,112nm,27.0s
PPT2 Papeete2 92.09 234 *e*PP **PP 11 08 36.3 -2.6**
comp=Z,105nm,25.2s
PPT2 *e*S **S 11 15 57.0 +3.9**
comp=Z,450nm,31.0s
PPT2 *e*SS **SS 11 22 05.0 +1.8**
comp=Z,166nm,25.0s
PPT2 *e*LQ LQ 11 30 43.0
comp=Z,759nm,29.2s
PPT2 *e*LR LR 11 34 36.9
comp=Z,3μm,30.8s
PPT2 *e*LR LR 11 34 38.3
comp=Z,2μm,32.5s
PPT Papeete 92.11 234 LR LR 11 40 32.0
comp=Z,153nm,18.5s,baz=153,slow=32
CMIG Matias Romero 92.45 297 LR LR 11 41 39.4
comp=Z,102nm,21.5s,baz=144,slow=32
RAR Rarotonga 93.09 223 LR LR 11 40 52.3
comp=Z,222nm,19.2s,baz=143,slow=31
PFVI Vila Bisbo 94.42 14 *e*P **P 11 05 10.9 +2.4**
MORF Marmelete 94.61 15 *e*P **P 11 05 11.4 +1.9**
MORF Marmelete 94.61 15 *e*P **P 11 05 10.8 +1.3**
MORF IAmb IAmb 11 05 11.8
comp=Z,31nm,1.1s
MORF Marmelete 94.61 15 *e*P **P 11 05 10.8 +1.3**
TLIG Tlapa 94.69 295 P **P 11 05 11.7 +1.3**
TLIG IAmb IAmb 11 05 12.7
comp=Z,29nm,0.9s
PVAQ Vaqueiros 94.84 15 *e*P **P 11 05 12.6 +2.1**
PCVE Castro Verde 95.02 15 *e*P **P 11 05 13.4 +2.1**
PCVE A A 11 05 16.5
comp=Z,59nm,1.7s
TAOE Nuku Hiva Isla 95.13 246 *e*P **P 11 05 10.3 -2.3**
comp=Z,79nm,25.5s
TAOE Nuku Hiva Isla 95.13 246 *e*PP **PP 11 09 05.3 +2.3**
comp=Z,95nm,26.3s
TAOE *e*S **S 11 16 18.7 -1.2**
comp=Z,260nm,27.7s
TAOE Nuku Hiva Isla 95.13 246 *e*LR LR 11 36 04.8
comp=Z,899nm,30.8s
MESJ Messejana 95.19 15 *e*P **P 11 05 13.7 +1.6**
MESJ A A 11 05 15.6
comp=Z,47nm,1.6s
MESJ Messejana 95.19 15 *e*P **P 11 05 13.4 +1.3**
MESJ IAmb IAmb 11 05 15.2
comp=Z,27nm,1.1s
MESJ Messejana 95.19 15 *e*P **P 11 05 13.4 +1.3**
PBEJ Beja 95.43 15 *e*P **P 11 05 15.4 +2.2**
PBAR Barrancos 95.70 16 *e*P **P 11 05 16.2 +1.8**
ESDC Sonseca Array 97.65 18 P Pdif 11 05 24.2 +0.9
comp=Z,4.0nm,0.9s,baz=188,slow=4.4,SNR=17
comp=Z,4.0nm,0.9s

EIDS Eidsvold 98.56 178 P Pdif 11 05 28.3 +0.3
EIDS IAmb IAmb 11 05 28.4
comp=Z,40nm,1.6s
ASAR Alice Springs 98.64 162 P Pdif 11 05 28.8 +0.5
comp=Z,18nm,0.8s,baz=190,slow=3.9,SNR=34
ASAR PP **PP 11 09 30.8 +1.6**
comp=Z,8.8nm,1.0s,baz=181,slow=7.3,SNR=12
ASAR S **SKSac 11 15 54.0 -3.9**
comp=Z,2.0nm,0.9s,baz=169,slow=5.7,SNR=7.2
ASAR PKKP **PKKPdf 11 21 55.4 -0.4**
comp=Z,0.7nm,0.8s,baz=21,slow=2.5,SNR=7.1
ASAR LR LR 11 49 51.0
comp=Z,260nm,18.4s,baz=194,slow=35
comp=Z,18nm,0.8s
VAE Valguarnera 99.87 32 LR LR 11 46 05.4
comp=Z,315nm,18.9s,baz=174,slow=32
DZM Mont Dzumac 101.04 193 *e*P **Pdif 11 05 41.7 +2.6**
comp=Z,66nm,29.5s
DZM Mont Dzumac 101.04 193 *e*PP **PP 11 09 44.2 -3.3**
comp=Z,56nm,23.1s
DZM Mont Dzumac 101.04 193 *e*LR LR 11 38 48.7
comp=Z,667nm,23.9s
WRA Warramunga Arr 102.36 162 P **Pdif 11 05 45.1 +0.2**
comp=Z,2.2nm,0.7s,baz=195,slow=3.8,SNR=14
WRA PP **PP 11 09 54.8 -2.5**
comp=Z,7.2nm,1.2s,baz=194,slow=6.2,SNR=6.3
WRA S **SKSac 11 16 12.9 -3.0**
comp=Z,6.0nm,1.2s,baz=204,slow=4.0,SNR=9.4
WRA PKKPbc **PKKPbc 11 21 43.7 +0.4**
comp=Z,0.6nm,0.4s,baz=357,slow=2.8,SNR=26
WRAB Tennant Creek 102.37 162 *e*P **Pdif 11 05 47.5 +2.6**
WRAB pmax pmax
comp=Z,32nm,2.7s
TXAR Lajitas Array 107.06 297 Pdiff **Pdif 11 06 06.0 +0.5**
comp=Z,0.8nm,0.9s,baz=158,slow=4.0,SNR=6.4
TXAR PKIKP **PKiKP 11 10 14.3 -0.1**
comp=Z,0.5nm,1.0s,baz=165,slow=3.7,SNR=2.9
TXAR PP **PP 11 10 34.6 +1.2**
comp=Z,1.2nm,1.0s,baz=134,slow=8.8,SNR=5.0
CEY Cerknica 107.51 29 *i* PP **PP 11 10 34.5 -2.0**
PERS Pernice 108.52 29 *i* PP **PP 11 10 38.5 -5.4**
BRTR Keskin Array B 108.56 45 PP **PP 11 10 45.3 +0.9**
comp=Z,4.3nm,1.0s,baz=162,slow=8.6,SNR=7.7
GERES GERESS Array B 110.19 27 PP **PP 11 10 54.9 -1.1**
comp=Z,5.3nm,1.1s,baz=205,slow=5.6,SNR=7.4
CLL Collm 112.29 26 *e*PP **PP 11 11 10.0 -0.8**
CLL *e*PS **PS 11 20 48.0 +3.6**
CLL *e*SS SS 11 26 48.0 +5.1
ANMO Albuquerque 112.99 299 ‖ *i*PKIKP **PKiKP 11 10 27.7 +2.2**
SOC Sochi 114.26 47 *i* PKIKP **PKiKP 11 10 30.1 +2.7**
SOC *e* 11 11 30.4
SOC *e*PPP PPP 11 13 53.4
SOC *e*SS SS 11 27 14.0 +4.9
SOC *e*SSS SSS 11 31 34.5
PMG Port Moresby 114.28 174 PP **PP 11 11 26.7 +2.6**
comp=Z,7.3nm,0.8s,baz=262,slow=2.5,SNR=4.4
KBZ Khabaz 115.69 49 PP **PP 11 11 32.5 -2.6**
comp=Z,6.3nm,1.0s,baz=124,slow=3.6,SNR=4.8
KIV Kislovodsk 115.79 49 *i* PKIKP **PKiKP 11 10 31.7 +1.2**
KIV *e*PS **PS 11 21 18.0 +1.1**
KIV *e*SS SS 11 27 32.1 +2.7
KIV pmax pmax
comp=Z,9.0nm,1.1s
AKASG Malin Array Be 116.39 36 PKP **PKPdf 11 10 30.4 -0.9**
comp=Z,0.2nm,0.3s,baz=254,slow=1.0,SNR=4.9
AKASG PP **PP 11 11 40.4 +0.6**
comp=Z,1.0nm,0.6s,baz=210,slow=6.7,SNR=6.3
MAK Makhachkala 117.06 53 *d iP* **Pdif 11 06 43.5 -5.9**
MAK *i* 11 10 33.5
MAK *e* 11 10 55.9
MAK *e* 11 11 44.3
MAK *e*PPP PPP 11 14 13.3
MAK *e* 11 17 16.9
MAK *e*PS **PKKPdf 11 21 22.9 -1.3**
MAK *e*SS SS 11 27 46.5 +0.7
MAK *e*SSS SSS 11 32 13.1
MAK pmax pmax
comp=Z,159nm,1.1s
SHPR Sheep Range 118.56 294 PKPdf **PKiKP 11 10 36.9 +0.7**
MSU Marysvale 118.61 297 PKPdf **PKiKP 11 10 37.6 +1.3**
MSU Marysvale 118.61 297 PKIKP **PKiKP 11 10 37.6 +1.3**
MVU Marysvale 118.62 297 **PKiKP 11 10 37.3 +0.9**
RSSD Black Hills 119.14 307 PKPdf **PKPdf 11 10 36.4 -0.7**
RSSD Black Hills 119.14 307 PKIKP **PKPdf 11 10 36.4 -0.7**
PRN Pahroc Range 119.20 294 PKPdf **PKPdf 11 10 36.5 -0.8**
MNK Minsk 119.22 33 *i* PKiKP **PKiKP 11 10 37.6 +1.0**
MNK *i* PKiKP **PKiKP 11 10 37.6 +1.0**
MNK *i* PKiKP **PKiKP 11 10 37.6 +1.0**
baz=211
MNK *i* pPKiKP **pPKPdf 11 10 59.5 -2.1**
MNK *i* PP **PP 11 11 58.6 -0.8**
MNK *i* PPP PPP 11 14 29.2
MNK *i* SKS **SKSdf 11 17 43.1 +3.7**
MNK *i* SS **SS 11 28 15.2 +1.8**
MNK *i* SKKS **SKKSdf 11 28 25.4 +1.5**
MNK *i* SSS SSS 11 32 40.1
MNK *i* LQ LQ 11 54 52.5
MNK *i* LR LR 11 58 11.9
MNK *i* LRM MLR 12 00 02.5
comp=N,478nm,16.9s
MNK *i* LRM MLR 12 00 04.6
comp=E,365nm,19.0s
MNK *i* LRM MLR 12 00 15.4
comp=Z,186nm,15.8s
MNK Minsk 119.22 33 *i* PKIKP **PKiKP 11 10 37.6 +1.0**
MNK *i* 11 10 59.5
MNK *i* 11 11 58.5
MNK *i* PPP PPP 11 14 29.2
MNK *i* 11 17 43.1
MNK *i* SS SS 11 28 15.2 +1.8
MNK *i* 11 28 25.3
MNK *i* SSS SSS 11 32 40.0
MNK MLR MLR
comp=N,478nm,17.0s
MNK MLR MLR
comp=E,365nm,19.0s
MNK MLR MLR
comp=Z,186nm,16.0s
DUG Dugway, Tooele 120.22 298 PKPdf **PKiKP 11 10 39.8 +0.5**
DUG Dugway, Tooele 120.22 298 PKIKP **PKiKP 11 10 39.8 +0.5**
HFS Hagfors 120.54 22 PKP **PKPdf 11 10 37.3 -1.6**
comp=Z,1.8nm,0.7s,baz=165,slow=6.0,SNR=2.8
HFS PP **PP 11 12 05.6 -2.8**
comp=Z,8.7nm,1.1s,baz=236,slow=1.6,SNR=4.3
HFS SKP **SKPdf 11 14 04.4 -1.1**
comp=Z,1.8nm,0.7s,baz=99,slow=8.9,SNR=2.8
ULM Lac du Bonnet 120.57 316 PKP **PKPdf 11 10 37.7 -1.6**
comp=Z,3.3nm,0.6s,baz=105,slow=2.8,SNR=3.5
ULM SKP **SKPdf 11 14 03.9 -2.0**
comp=Z,4.6nm,0.6s,baz=171,slow=1.3,SNR=3.7
PDAR Pinedale Array 120.62 302 PKP **PKPdf 11 10 39.1 -0.9**
comp=Z,0.7nm,0.5s,baz=136,slow=5.1,SNR=11
PDAR SKP **SKPdf 11 14 04.2 -2.4**
comp=Z,1.4nm,0.8s,baz=136,slow=5.0,SNR=4.6
NB2 NORSAR Subarra120.87 21 PKPdf **PKPdf 11 10 39.5 -0.1**
comp=Z,5.2nm,1.2s,baz=202,slow=1.9
NB2 PKKP **PKKPbc 11 20 44.6 +1.1**
comp=Z,1.1nm,0.8s,baz=27,slow=4.4
NOA NORSAR Array B 120.87 21 PKP **PKPdf 11 10 38.6 -1.0**
comp=Z,1.0nm,0.7s,baz=206,slow=2.1,SNR=3.9
NOA SKP **SKPdf 11 14 05.0 -1.2**
comp=Z,0.6nm,0.6s,baz=208,slow=2.1,SNR=2.6
NOA PKKPbc **PKKPbc 11 20 44.0 +0.4**
comp=Z,2.2nm,0.8s,baz=24,slow=3.0,SNR=6.0
NVAR Mina Array Bea 121.64 293 PKP **PKiKP 11 10 42.7 +0.5**
comp=Z,0.9nm,0.5s,baz=151,slow=2.1,SNR=1.0
NVAR SKP **SKPdf 11 14 08.6 -0.1**
comp=Z,1.9nm,0.7s,baz=165,slow=3.6,SNR=4.9
NVAR PKKPbc **PKKPab 11 20 41.7 +0.9**
comp=Z,0.9nm,0.9s,baz=275,slow=5.4,SNR=4.5
LOHW Long Hollow 121.76 302 **PKPdf 11 10 42.1 -0.1**
OBN Obninsk 122.53 38 ‖ *e*PKIKP **PKPdf 11 10 42.9 0.0**
OBN *e* 11 11 05.7
OBN *e* 11 12 19.3
OBN *e*PPP PPP 11 14 58.5
OBN pmax pmax
comp=Z,6.0nm,0.7s
SIMJ Simiganj 124.21 70 **PKPdf 11 10 46.1 -0.8**
FINES FINESS Array B 124.61 28 PKP **PKPdf 11 10 46.5 -0.2**
comp=Z,4.1nm,0.6s,baz=162,slow=2.4,SNR=26
FINES SKP **SKPdf 11 14 11.6 -1.6**
comp=Z,2.7nm,0.7s,baz=129,slow=2.7,SNR=3.7
CMAR Chiang Mai Arr 124.83 111 PKP **PKiKP 11 10 49.1 +0.2**
comp=Z,5.0nm,0.8s,baz=238,slow=3.5,SNR=10
CMAR PP **PP 11 12 39.6 +2.1**

comp=Z,1.1nm,0.7s,baz=226,slow=5.4,SNR=4.4
CMAR SKP **SKPdf 11 14 14.4 -0.8**
comp=Z,0.6nm,0.3s,baz=251,slow=2.8,SNR=2.2
CMAR PKKPbc **PKKPab 11 20 28.9 -0.6**
comp=Z,0.6nm,0.3s,baz=54,slow=3.6,SNR=4.0
BTK Batken 126.19 70 **PKiKP 11 10 51.2 +0.2**
BTK Batken 126.19 70 PKIKP **PKiKP 11 10 51.2 +0.2**
G08A Pilot Rock 127.03 298 PKPdf **PKPdf 11 10 51.6 -0.4**
CHM Chimkent 127.20 68 *e*PKIKP **PKPdf 11 10 52.2 -0.2**
CHM Chimkent 127.20 68 *i* PKIKP **PKPdf 11 10 52.1 -0.2**
IUG Iuzhnay 127.29 68 *e*PKIKP **PKPdf 11 10 52.7 0.0**
IUG *e*PP **PP 11 12 52.9 -1.3**
IUG Iuzhnay 127.29 68 *i* PKIKP **PKPdf 11 10 52.6 0.0**
IUG *e* 11 12 52.8
BRLS Boroldoy 127.83 67 *e*PKiKP **PKPdf 11 10 52.8 -0.8**
BRLS *e*PP **PP 11 12 55.0 -2.5**
BRLS Boroldoy 127.83 67 *i* PKIKP **PKPdf 11 10 52.7 -0.8**
BRLS *e* 11 12 55.0
KLMR Klimovskoe 128.02 35 *e*PKIKP **PKPdf 11 10 52.0 -1.2**
KLMR *e* 11 12 58.6
KLMR pmax pmax
comp=Z,38nm,1.4s
DZA Taraz 128.50 68 *e*PKiKP **PKiKP 11 10 55.6 +0.1**
DZA Taraz 128.50 68 *i* PKIKP **PKiKP 11 10 55.6 +0.1**
KSH Kashi 128.53 70 PKP **PKPdf 11 10 53.8 -1.3**
B08A Colville Reser 129.38 300 S **PKiKP 11 10 57.6 +0.5**
KIRV Kirov 129.74 41 *d i*PKIKP **PKPdf 11 10 55.8 -0.7**
AAK Ala-Archa 129.97 71 PKPdf **PKiKP 11 10 58.5 -0.1**
AAK Ala-Archa 129.97 71 PKIKP **PKiKP 11 10 58.5 -0.1**
TNCH TengChong 129.98 105 PKP **PKiKP 11 11 03.0 +3.8**
TNCH SKKS 11 19 55.1
TNCH AMB AMB
comp=Z,150nm,7.3s
TNCH LR LR
comp=Z,170nm,4.1s
TNCH LR LR
comp=Z,230nm,5.2s
TNCH LR LR
comp=Z,120nm,11.9s
SGDS Sogindy 130.61 70 *e*PKiKP **PKiKP 11 10 59.5 -0.2**
SGDS Sogindy 130.61 70 *i* PKIKP **PKiKP 11 10 59.5 -0.2**
ARCES ARCESS Array B 131.20 22 PKP **PKPdf 11 10 58.7 -0.4**
comp=Z,5.6nm,0.7s,baz=208,slow=3.3,SNR=9.6
ARCES SKPbc **SKPbc 11 14 12.9 -2.3**
comp=Z,8.5nm,1.0s,baz=184,slow=2.5,SNR=2.2
BTLS Baital 131.40 68 *e*PKiKP **PKiKP 11 11 01.2 -0.1**
BTLS *e*PP **PP 11 13 19.8 -0.9**
BTLS Baital 131.40 68 *i* PKIKP **PKiKP 11 11 01.1 -0.1**
BTLS *e* 11 13 19.7
TNSS Tian-Shan 131.54 72 *e*PKiKP **PKPdf 11 11 00.9 -0.2**
TNSS Tian-Shan 131.54 72 *i* PKIKP **PKPdf 11 11 00.9 -0.2**
MDOK Medeo 131.68 72 *e*PKiKP **PKiKP 11 11 01.8 -0.2**
MDOK *e*PP **PP 11 13 21.7 -1.1**
MDOK Medeo 131.68 72 *i* PKIKP **PKiKP 11 11 01.8 -0.2**
MDOK *e* 11 13 21.6
ARTI Arti 131.72 48 PKPdf **PKiKP 11 11 01.1 -0.3**
ARTI pPKPdf **pPKPdf 11 11 24.6 -0.8**
ARTI Arti 131.72 48 *i* PKIKP **PKPdf 11 10 59.5 -0.9**
SATY Saty 132.33 73 *e*PKiKP **PKiKP 11 11 03.4 +0.1**
SATY Saty 132.33 73 *i* PKIKP **PKiKP 11 11 03.4 +0.1**
UZB Uzynbulak 132.72 73 *e*PKiKP **PKiKP 11 11 04.2 0.0**
UZB Uzynbulak 132.72 73 *i* PKIKP **PKiKP 11 11 04.1 0.0**
KPKS Kokpek 132.75 73 *e*PKiKP **PKiKP 11 11 03.7 -0.4**
KPKS Kokpek 132.75 73 *i* PKIKP **PKiKP 11 11 03.7 -0.4**
PZH PanZhiHua 132.89 107 PKP **PKiKP 11 11 05.6 +0.6**
SHLS Shalkode 132.96 74 *e*PKiKP **PKiKP 11 11 04.7 +0.1**
SHLS Shalkode 132.96 74 *i* PKIKP **PKiKP 11 11 04.7 +0.1**
TDK Taldyqorghan 133.65 71 *e*PKiKP **PKiKP 11 11 05.5 -0.3**
TDK Taldyqorghan 133.65 71 *i* PKIKP **PKiKP 11 11 05.4 -0.3**
BRVK Borovoye 134.82 58 PKPdf **PKPdf 11 11 07.1 +0.7**
BRVK Borovoye 134.82 58 *de*PKIKP **PKPdf 11 11 06.4 0.0**
BVAR Borovoye Array 134.85 58 PKP **PKPdf 11 11 07.0 +0.6**
comp=Z,8.1nm,0.8s,baz=248,slow=1.6,SNR=25
BVAR PP **PP 11 13 43.0 +0.3**
comp=Z,2.8nm,0.8s,baz=198,slow=4.2,SNR=3.9
BVAR SKPbc **SKPbc 11 14 26.2 -1.9**
comp=Z,4.2nm,0.7s,baz=260,slow=3.0,SNR=4.3
BVAR SKKPbc **SKKPbc 11 23 31.7 -3.0**
comp=Z,3.1nm,0.7s,baz=72,slow=2.8,SNR=7.4
YKA Yellowknife Ar 136.50 318 PKP **PKPdf 11 11 09.3 +0.1**
comp=Z,5.7nm,0.7s,baz=133,slow=1.8,SNR=16
YKA PP **PP 11 13 53.3 +0.5**
comp=Z,2.3nm,0.9s,baz=121,slow=6.4,SNR=5.8
YKA SKPbc **SKPbc 11 14 30.9 -1.9**
comp=Z,17nm,0.8s,baz=128,slow=1.8,SNR=24
GOMU GeErMu 136.52 92 PKP **PKiKP 11 11 11.6 -0.7**
GOMU PP **PP 11 13 54.8 +1.1**
GOMU SS SS 11 31 53.3 +4.3
MAKZ Makanchi 136.71 71 **PKPdf 11 11 09.8 -0.4**
MAKZ Makanchi 136.71 71 PKIKP **PKPdf 11 11 09.8 -0.4**
GUMO Guam 136.84 168 SKPbc **SKPbc 11 14 34.2 -1.2**
comp=Z,125nm,0.9s,baz=219,slow=6.9,SNR=5.1
MK31 Makanchi Array 136.87 72 *c i*PKIKP **PKPdf 11 11 10.1 -0.4**
MKAR Makanchi Array 136.87 72 PKhKP PKPpre 11 10 57.6
comp=Z,0.4nm,0.7s,baz=224,slow=2.3,SNR=2.3
MKAR PKP **PKPdf 11 11 09.9 -0.6**
comp=Z,2.1nm,0.9s,baz=260,slow=7.3,SNR=4.6
MKAR SKPbc **SKPbc 11 14 33.2 -1.4**
comp=Z,2.7nm,0.8s,baz=225,slow=2.9,SNR=7.0
MKAR SKKPbc **SKKPbc 11 23 23.6 -3.0**
comp=Z,0.6nm,0.6s,baz=58,slow=3.6,SNR=3.6
KURBB Kurchatov Arra 137.33 65 PKhKP PKPpre 11 10 59.4
comp=Z,0.7nm,0.7s,baz=231,slow=3.0,SNR=6.9
KURBB PKP **PKPdf 11 11 10.6 -0.5**
comp=Z,3.1nm,0.9s,baz=232,slow=2.7,SNR=9.8
KURBB PP **PP 11 13 59.0 +0.8**
comp=Z,1.9nm,0.9s,baz=246,slow=6.2,SNR=6.2
KURBB SKPbc **SKPbc 11 14 34.0 -1.6**
comp=Z,11nm,1.2s,baz=241,slow=3.2,SNR=15
KURBB SKKPbc **SKKPbc 11 23 22.2 -2.8**
comp=Z,3.8nm,0.8s,baz=54,slow=3.5,SNR=19
KURK Kurchatov 137.43 65 PKPdf **PKPdf 11 11 11.0 -0.3**
KURK Kurchatov 137.43 65 PKIKP **PKPdf 11 11 10.6 -0.7**
CD2 Chengdu 137.45 106 PKP **PKPdf 11 11 12.8 +0.7**
WMQ Urumqi 137.85 79 *e*PKP **PKPdf 11 11 10.8 -1.6**
WMQ LR LR
comp=Z,340nm,23.8s
RES Resolute Bay 138.21 338 **PKiKP 11 11 13.7 -0.4**
RES Resolute Bay 138.21 338 PKIKP **PKiKP 11 11 13.7 -0.4**
GTA Gaotai 141.58 93 *e*PKP **PKPdf 11 11 14.3 -5.1**
GTA sPKP 11 11 43.3
ZALV Zalesovo Beam 142.40 64 PKhKP PKPpre 11 11 15.1
comp=Z,2.0nm,0.4s,baz=242,slow=3.1,SNR=13
ZALV PP **PP 11 14 28.5 -0.8**
comp=Z,4.3nm,1.0s,baz=250,slow=4.3,SNR=6.7
ZALV SKP **SKPdf 11 14 45.2 -0.7**
comp=Z,1.9nm,0.8s,baz=224,slow=4.0,SNR=2.6
ZALV SKKPbc **SKKPbc 11 23 02.5 -2.7**
comp=Z,3.1nm,0.8s,baz=50,slow=4.6,SNR=6.2
XAN Xi'an 142.62 108 PKP **PKPdf 11 11 17.5 -3.9**
XAN pPKP pPKPdf 11 11 48.6 +2.3
XAN sPKP 11 11 59.8
XAN PP **PP 11 14 31.1 +0.4**
XAN SS SS 11 33 00.6 +0.9
XAN AMB AMB
comp=Z,400nm,6.9s
WHN Wuhan 142.64 117 PKPbc **PKPdf 11 11 15.0 -6.4**
P30M Million Dollar 144.55 306 P PKPbc 11 11 23.4 +0.5
baz=116,SNR=8.9
N31M Braeburn, Yuko 144.60 308 P PKPbc 11 11 23.1 +0.1
baz=114,SNR=17
P29M Windy Craggy 144.69 305 P PKPbc 11 11 23.6 +0.3
baz=116
LYN LuoYang 144.88 111 PKP **PKPdf 11 11 25.1 -0.1**
LYN pPKP pPKPdf 11 11 51.5 +1.3
HYT Haines Junctio 145.09 307 P **PKPdf 11 11 25.6 +0.7**
baz=114
N30M Aishikik Lake 145.17 308 P **PKPab 11 11 25.8 +0.9**
baz=114
O29M Mount Kennedy 145.35 305 P **PKPab 11 11 26.0 +0.2**
baz=114
PNL Peninsula 145.46 304 P **PKPab 11 11 26.0 0.0**
baz=115
M30M Minto, Yukon 145.48 310 P **PKPab 11 11 25.9 -0.2**
baz=112,SNR=38
MAYO Mayo, Yukon 145.49 312 P **PKPbc 11 11 25.7 +0.1**
baz=112,SNR=8.4
YUK6 Outpost Mounta 145.52 307 P **PKPab 11 11 26.7 +0.2**
baz=114
H31M Peel River 145.65 316 P **PKPab 11 11 26.4 -0.2**
baz=110
YUK4 Talbot Arm 145.81 307 P **PKPab 11 11 27.6 0.0**
baz=113
F31M Tsiigehtchic 145.96 319 P **PKPbc 11 11 27.2 +0.2**

baz=108,SNR=35
G31M Satah River 145.99 318 P PKPbc 11 11 27.3 +0.3
baz=108,SNR=51
J30M Hart River 146.02 313 P PKPbc 11 11 27.6 +0.2
baz=110
PINM Pinnacle 146.03 305 P PKPab 11 11 28.2 -0.1
baz=114
NJ2 Nanjing 146.06 121 ePKPbc PKPab 11 11 29.3 +0.2
NJ2 pPKP pPKPab 11 11 55.8 +2.6
INK Inuvik 146.14 320 P PKPab 11 11 27.9 -0.4
baz=107,SNR=62
M29M Somme Creek 146.15 309 P PKPbc 11 11 28.2 +0.3
baz=112
L29M L29M 146.25 310 P PKPab 11 11 28.8 -0.2
baz=111
K29M Barlow Dome 146.25 312 P PKPbc 11 11 28.3 +0.2
baz=110,SNR=28
I30M Mount Dempster 146.25 314 P PKPbc 11 11 28.5 +0.4
baz=109
O28M Mount Upton 146.27 306 P PKPbc 11 11 28.5 0.0
baz=113
YUK8 Steele Glacier 146.28 307 P PKPbc 11 11 28.7 +0.3
baz=112
G30M tAoh Zraii Nji 146.74 317 P PKPbc 11 11 28.9 -0.4
baz=107,SNR=38
J29N Klondike Camp 146.75 313 P PKPbc 11 11 29.8 +0.4
baz=109,SNR=16
EPYK Eagle Plains 146.75 316 P PKPbc 11 11 28.8 -0.5
baz=107,SNR=37
F30M Barrier River 146.76 319 P PKPbc 11 11 29.4 +0.1
baz=106,SNR=40
YUK3 Moose Creek 146.77 307 P PKPbc 11 11 29.4 -0.4
baz=111
MESA MESA 146.84 304 P PKPbc 11 11 30.7 +0.7
baz=113
CTG Chitna Glacier 146.87 306 P PKPbc 11 11 30.4 +0.4
baz=112
DAWY Dawson 147.10 312 P PKPbc 11 11 30.4 0.0
baz=109,SNR=23
BVCY Beaver Creek 147.18 308 P PKPbc 11 11 30.3 -0.3
baz=110
H29M Whitestone 147.34 316 P PKPbc 11 11 30.8 -0.2
baz=106,SNR=24
G29M Pine Creek 147.40 317 P PKPbc 11 11 31.1 0.0
baz=105
KRAR Krasnoyarsk 147.46 65 ⇓ ePKP2 PKPbc 11 11 30.8 -0.7
CRQE Cirque 147.59 305 P PKPbc 11 11 31.9 0.0
baz=111
M27K Edge Creek, AK 147.60 308 P PKPbc 11 11 30.8 -1.2
baz=110
E29M Blow River 147.72 320 P PKPbc 11 11 31.6 -0.4
baz=103
I28M Miner Creek 147.75 314 P PKPbc 11 11 31.8 -0.4
baz=106,SNR=20
MCARA McCarthy VSAT 147.78 306 P PKPbc 11 11 33.1 +0.8
baz=110
BCAR Beaver Creek A 147.80 309 PKPbc PKiKP 11 11 33.4 -0.8
L27K Beaver Creek, 147.81 309 P PKPbc 11 11 32.8 +0.5
baz=108
KAIM Kayak Island 147.90 303 P PKiKP 11 11 33.7 -0.7
baz=112
BTO Baotou 148.04 101 ePKPbc PKPbc 11 11 34.3 +0.5
BTO PKPab PKPab 11 11 41.3 +4.5
BTO pPKP pPKPab 11 12 01.0 +0.1
BTO sPKP 11 12 11.0
BTO LR LR
comp=Z,350nm,5.7s
BTO LR LR
comp=Z,250nm,5.1s
BTO LR LR
comp=Z,300nm,4.7s
EGAK Eagle 148.05 312 P PKiKP 11 11 34.1 -0.4
baz=106,SNR=10
M26K Nabesna, AK 148.11 308 P PKPbc 11 11 34.0 +0.8
baz=109
HNS HongShan 148.22 110 ⇓ PKPbc PKPbc 11 11 34.5 +0.3
HNS PKPab PKPab 11 11 41.9 +4.4
HNS pPKP pPKPab 11 12 01.3 -0.2
HNS sPKP 11 12 07.6
D28M Stokes Point 148.22 321 P PKPbc 11 11 33.9 +0.8
baz=101
F28M Old Crow 148.27 318 P PKPbc 11 11 34.0 +0.6
baz=103,SNR=45
BMRM Bremner River 148.35 305 P PKPbc 11 11 34.5 +0.6
baz=110
E28M Babbage River 148.36 320 P PKiKP 11 11 34.7 -0.4
baz=102
I27K Kandik River 148.46 314 P PKPbc 11 11 34.7 +0.7
baz=105
L26K Log Cabin Wild 148.46 309 P PKPbc 11 11 34.3 +0.3
baz=108,SNR=10
TIA Tai'an 148.55 115 ePKPbc PKPbc 11 11 33.5 -1.6
N25K Chitina, Valde 148.57 306 P PKPbc 11 11 35.0 +0.5
baz=109
H27K Steamboat Moun 148.58 315 P PKPbc 11 11 34.3 0.0
baz=104,SNR=48
EYAK Cordova Ski Ar 148.74 303 P PKiKP 11 11 35.6 -0.5
baz=110
G27K Doyon Strip 148.77 316 P PKiKP 11 11 35.5 -0.6
baz=103
J26L Joseph Creek 148.97 311 P PKPbc 11 11 35.8 +0.4
baz=105
D27M Malcolm River 148.99 321 PKPbc PKiKP 11 11 36.2 -0.3
D27M Malcolm River 148.99 321 P PKPbc 11 11 35.7 +0.5
baz=99
I26K Coal Creek Min 149.01 313 P PKPbc 11 11 35.6 +0.2
baz=104
SCRK Sand Creek 149.01 310 P PKPbc 11 11 36.0 +0.5
baz=106,SNR=10
E27K Coleen River 149.03 319 PKPbc PKiKP 11 11 36.4 -0.2
E27K Coleen River 149.03 319 P PKPbc 11 11 35.9 +0.6
baz=101
HHC Hu-ho-hao-te 149.05 102 ePKPbc PKPdf 11 11 29.8 -2.3
HARP HAARP 149.07 307 P PKiKP 11 11 36.8 0.0
baz=107
KLU Klutina 149.13 305 P PKiKP 11 11 36.9 -0.1
baz=108,SNR=15
NRIK Noril'sk 149.18 39 PKPbc PKPbc 11 11 36.0 +0.4
comp=Z,33nm,0.9s,baz=248,slow=3.5,SNR=36
NRIK SKKPbc 11 22 34.5
comp=Z,1.4nm,0.5s,baz=78,slow=5.8,SNR=3.9
RIDG Independent Ri 149.31 310 P PKiKP 11 11 36.9 -0.4
baz=105,SNR=26
P23K Montague Islan 149.32 302 P PKPbc 11 11 36.2 -0.1
baz=110,SNR=6.7
PAX Paxson 149.37 308 P PKPbc 11 11 36.8 +0.4
baz=106,SNR=13
M24K Tolsona, Glenn 149.43 306 P PKiKP 11 11 38.1 +0.4
baz=107,SNR=9.5
GLI Glacier Island 149.47 304 P PKiKP 11 11 37.3 -0.3
baz=109
G26K Porcupine Rive 149.62 316 P PKiKP 11 11 37.4 -0.3
baz=101
MOY Mondy 149.68 77 ePKP2 PKPbc 11 11 37.5 -0.1
MOY pmax pmax
comp=Z,73nm,3.7s
K24K Donnelly Dome 149.73 310 P PKiKP 11 11 37.8 -0.3
baz=105
J25K Salcha River, 149.76 311 P PKiKP 11 11 37.9 -0.3
baz=104
SCM Sheep Creek Mo 149.87 305 P PKPbc 11 11 37.7 +0.1
baz=107,SNR=13
F26K Sheenjek River 149.89 317 P PKiKP 11 11 38.3 -0.1
baz=99
C27K Jago River 150.00 321 P PKiKP 11 11 38.6 +0.1
baz=96
BMAR Burnt Mountain 150.01 317 PKiKP 11 11 38.9 +0.3
PRP Porcupine Dome 150.02 313 PKiKP 11 11 38.9 +0.1
PRP Porcupine Dome 150.02 313 P PKiKP 11 11 38.7 -0.1
baz=102,SNR=8.6
M23K Glacier View 150.04 305 P PKiKP 11 11 38.8 0.0
baz=107,SNR=12
PWL Port Wells 150.04 303 P PKPbc 11 11 38.4 +0.4
baz=108,SNR=13
DHY Denali Highway 150.24 308 P PKiKP 11 11 39.4 +0.1
baz=105,SNR=14
KNK Knik Glacier 150.27 304 P PKiKP 11 11 39.0 -0.3
baz=107,SNR=6.8
WAT6 Susitna Watana 150.27 307 P PKPbc 11 11 39.0 +0.3
baz=105,SNR=12
H25L Birch Creek 150.29 314 P PKiKP 11 11 39.3 +0.1
baz=100,SNR=8.8
SML Sawmill 150.32 305 P PKiKP 11 11 39.2 -0.2
baz=106,SNR=13
SEW Seward 150.33 301 P PKPbc 11 11 39.0 +0.4
baz=108,SNR=5.1
HDA Harding Lake 150.37 310 P PKPbc 11 11 38.8 +0.1
baz=103,SNR=6.2
ILAR Eielson Array 150.43 311 PKPbc PKPbc 11 11 38.9 +0.1
comp=Z,32nm,0.8s,baz=141,slow=2.1,SNR=4.7
F25K Christian Rive 150.44 317 P PKiKP 11 11 39.8 +0.3
baz=98
C26K Camden Bay 150.45 322 P PKiKP 11 11 39.6 +0.2
baz=95
O22K Cooper Landing 150.58 302 P PKiKP 11 11 40.2 +0.3
baz=108
SONM Songino Array 150.62 87 PKPbc PKPbc 11 11 39.9 0.0
comp=Z,18nm,0.6s,baz=233,slow=0.7,SNR=110
SONM PKPab PKPab 11 11 47.3 +0.1
comp=Z,20nm,1.0s,baz=226,slow=3.4,SNR=15
PMR Palmer 150.63 304 P PKiKP 11 11 39.9 0.0
baz=106,SNR=11
WAT1 Susitna Watana 150.69 307 P PKiKP 11 11 40.3 +0.2
baz=104
POKR Poker Plat Res 150.73 312 P PKiKP 11 11 40.8 +0.7
baz=101,SNR=7.7
RC01 Rabbit Creek A 150.76 303 PKiKP 11 11 40.4 +0.1
RC01 Rabbit Creek A 150.76 303 P PKiKP 11 11 40.7 +0.4
baz=107,SNR=13
BRSE Bradley Lake S 150.83 300 P PKPbc 11 11 40.2 +0.3
baz=108,SNR=12
COLA College 150.85 311 PKPbc 11 11 39.6 -0.1
COLA PKPab PKPab 11 11 48.5 +1.1
COLA College 150.85 311 P PKiKP 11 11 40.4 0.0
baz=101
COLA College 150.85 311 cePKIKP PKPbc 11 11 39.5 -0.2
BRLK Bradley Lake 150.91 300 PKiKP 11 11 40.7 +0.1
BRLK PKPab PKPab 11 11 47.9 0.0
D25K Kavik River 150.91 320 P PKiKP 11 11 40.8 +0.3
baz=95
BJT Baijiatuau 150.93 109 PKiKP 11 11 41.5 +0.2
BJT PKPab PKPab 11 11 50.2 +1.7
BJT Baijiatuau 150.93 109 PKIKP PKiKP 11 11 41.5 +0.2
BJI Beijing 150.95 108 PKPbc PKPbc 11 11 40.8 0.0
CNPM China Poot 151.00 300 PKiKP 11 11 41.0 +0.2
CNPM PKPab PKPab 11 11 48.9 +0.6
ULN Ulaanbaatar 151.00 87 PKPbc 11 11 40.6 -0.3
ULN PKPab PKPab 11 11 48.5 -0.4
ULN Ulaanbaatar 151.00 87 ⇓ ⇓ PKIKP PKPbc 11 11 40.0 -0.9
G24K Hadweenzic Riv 151.02 315 PKiKP 11 11 40.8 +0.1
G24K Hadweenzic Riv 151.02 315 P PKiKP 11 11 40.8 +0.1
baz=98
H24K Noodor Dome 151.04 313 PKiKP 11 11 40.7 -0.1
H24K Noodor Dome 151.04 313 P PKPbc 11 11 40.5 +0.2
baz=100
KDAK Kodiak Island 151.08 296 PKiKP 11 11 41.0 0.0
KDAK PKPab PKPab 11 11 50.3 +1.7
KDAK Kodiak Island 151.08 296 P PKiKP 11 11 40.9 0.0
baz=111
MCK McKinley 151.08 309 P PKPbc 11 11 40.6 +0.3
baz=102,SNR=37
M22K Willow 151.12 304 PKiKP 11 11 41.3 +0.4
M22K Willow 151.12 304 P PKiKP 11 11 41.4 +0.4
baz=105,SNR=15
OHAK Old Harbor 151.23 294 PKiKP 11 11 41.5 +0.2
OHAK PKPab PKPab 11 11 50.0 +0.8
OHAK Old Harbor 151.23 294 P PKiKP 11 11 41.6 +0.3
baz=111,SNR=7.9
HOM Homer 151.24 300 P PKiKP 11 11 42.4 +1.2
baz=108
Q20K Shuyak Island 151.27 297 P PKiKP 11 11 41.3 0.0
baz=109
F24K Squaw Lake 151.28 317 P PKiKP 11 11 41.7 +0.4
baz=96
NEA2 Nenana 151.31 310 P PKPbc 11 11 40.9 +0.1
baz=101,SNR=21
CAPN Captain Cook N 151.34 302 P PKPbc 11 11 41.1 +0.1
baz=106
SUA Susitna One 151.34 304 P PKiKP 11 11 41.6 -0.1
baz=105,SNR=11
SII Sitkinak Islan 151.44 293 P PKiKP 11 11 42.1 +0.2
baz=112
I23K Minto, Yukon-K 151.53 312 P PKPbc 11 11 41.4 +0.1
baz=100,SNR=8.5
E24K Your Creek 151.57 318 P PKiKP 11 11 42.1 +0.3
baz=95
TRF Thorofare Moun 151.61 308 P PKiKP 11 11 42.4 +0.2
baz=102,SNR=18
H23K Yukon River 151.72 313 P PKiKP 11 11 42.6 +0.4
baz=98
IRK Irkutsk 151.74 78 ePKIKP PKPdf 11 11 35.7 -0.1
IRK e 11 12 08.6
IRK pmax pmax
comp=Z,47nm,1.3s
C24K Franklin Bluff 151.75 321 P PKiKP 11 11 43.2 +1.1
baz=92
D24K Happy Valley 151.77 320 P PKiKP 11 11 43.1 +0.9
baz=93
SKT Skwentna 151.83 305 P PKiKP 11 11 42.8 +0.3
baz=104,SNR=18
O20K Slope Mountain 151.84 300 P PKiKP 11 11 43.9 +1.3
baz=107
CHIR Chirikof Islan 151.90 291 P PKPbc 11 11 41.3 -1.2
baz=113
R18K Karluk 151.94 295 P PKPbc 11 11 42.6 +0.1
baz=110
N20K Mount Spurr 151.95 303 P PKPbc 11 11 42.2 -0.3
baz=105
SPCR Spurr Chakacha 151.95 303 P PKPbc 11 11 42.4 -0.2
baz=105
Q19K Cape Douglas, 151.99 298 P PKiKP 11 11 42.9 -0.1
baz=108
E23K Chandalar 151.99 318 P PKiKP 11 11 43.2 +0.4
baz=94
P19K Oil Pt 152.01 299 P PKiKP 11 11 43.1 +0.2
baz=107
TOLK Toolik Lake Re 152.01 319 P PKiKP 11 11 43.0 +0.3
baz=93
G23K Bananza Creek 152.02 315 P PKiKP 11 11 42.9 +0.1
baz=96
BPAW Bear Paw Mtn. 152.04 309 P PKiKP 11 11 42.8 -0.1
baz=100,SNR=36
MLY Manley 152.09 311 P PKiKP 11 11 43.5 +0.5
baz=99,SNR=7.3
COLD Coldfoot 152.15 316 P PKiKP 11 11 43.4 +0.4
baz=95
JNU Nakatsue 152.16 137 PKPbc 11 11 44.0 +0.2
PPLA Purkeypile 152.33 306 P PKiKP 11 11 44.4 +0.7
baz=102,SNR=7.8
CAST Castle Rocks 152.39 307 PKPbc 11 11 43.4 0.0
CAST Castle Rocks 152.39 307 P PKiKP 11 11 44.7 +1.1
baz=101,SNR=17
C23K Itkillik River 152.41 321 PKPbc PKiKP 11 11 43.8 +0.4
C23K Itkillik River 152.41 321 P PKiKP 11 11 45.1 +1.6
baz=90
D23K Nanushuk River 152.43 320 P PKiKP 11 11 44.6 +1.1
baz=91
H22K Ishtalitna Cre 152.47 313 P PKiKP 11 11 44.6 +0.9
baz=97
M20K Styx River 152.54 304 PKPbc 11 11 43.9 0.0
M20K Styx River 152.54 304 P PKiKP 11 11 45.3 +1.2
baz=103
Q18K Katmai Hardscr 152.57 297 P PKPbc 11 11 44.0 -0.1
baz=108
CHUM Lake Minchumin 152.58 308 P PKiKP 11 11 44.4 +0.5
baz=100,SNR=13
G22K Bettles 152.63 315 P PKiKP 11 11 44.7 +0.7
baz=94
I21K Tanana 152.63 311 P PKiKP 11 11 44.6 +0.6
baz=98
O19K Port Alsworth 152.69 300 P PKPbc 11 11 44.1 +0.1
baz=105
E22K Anaktuvuk Pass 152.82 318 P PKiKP 11 11 45.1 +0.7
baz=92
Q17K Contact Creek 152.89 296 P PKiKP 11 11 45.8 +0.9
baz=108,SNR=6.2
P18K Big Mountain, 152.91 298 P PKiKP 11 11 45.4 +0.5
baz=106
N19K Bonanza Creek 152.92 301 P PKiKP 11 11 45.5 +0.6
baz=104
F22K John River 152.93 316 P PKiKP 11 11 46.0 +1.4
baz=93
R17L Mt. Peulik Vol 152.93 294 P PKiKP 11 11 45.3 +0.4
baz=109
L20K Farewell, AK 153.01 305 P PKiKP 11 11 45.5 +0.6
baz=101
O18K Koktuh Hills 153.02 299 P PKiKP 11 11 45.9 +0.8
baz=105
H21K Melozitna Rive 153.03 312 P PKiKP 11 11 45.7 +0.9
baz=96
M19K Big River Lodg 153.13 304 P PKiKP 11 11 46.5 +1.3
baz=102
D22K Ayikyak River 153.15 319 P PKiKP 11 11 46.0 +1.0
baz=90
K20K Telida 153.26 307 P PKiKP 11 11 46.3 +0.9
baz=99
B22K Teshekpuk Lake 153.36 323 PKPdf PKPdf 11 11 37.4 -0.2
B22K PKiKP 11 11 46.2 +0.9
B22K PKPab PKPab 11 11 59.3 +1.4
B22K Teshekpuk Lake 153.36 323 P PKiKP 11 11 46.8 +1.4
baz=86
G21K Allakaket 153.39 314 PKPdf PKPdf 11 11 38.4 +0.6
G21K PKiKP 11 11 46.0 +0.5
G21K PKPab PKPab 11 11 56.6 -1.6
L19K White Mountain 153.40 304 PKPdf PKPdf 11 11 37.2 -0.8
L19K PKPbc PKiKP 11 11 47.0 +1.3
L19K PKPab 11 11 58.6 +0.3
L19K White Mountain 153.40 304 P PKiKP 11 11 47.5 +1.8
baz=101
Q16K King Salmon 153.40 296 P PKiKP 11 11 46.9 +1.1
baz=107
J20K Nowinta River 153.42 309 PKPdf PKPdf 11 11 37.7 -0.2
J20K PKPbc PKiKP 11 11 47.3 +1.6
J20K PKPab PKPab 11 11 58.2 -0.1
J20K Nowinta River 153.42 309 P PKiKP 11 11 47.1 +1.4
baz=98
F21K Alatna River 153.42 316 PKPdf PKPdf 11 11 38.0 +0.1
F21K PKiKP 11 11 45.7 0.0
F21K PKPab PKPab 11 11 59.9 +1.6
F21K Alatna River 153.42 316 P PKiKP 11 11 47.3 +1.7
baz=92
P17K Kvichak River 153.44 297 P PKiKP 11 11 47.5 +1.7
baz=106
IMAR Indian Mountai 153.45 313 PKiKP 11 11 45.8 +0.1
R16K Pilot Point 153.53 293 P PKiKP 11 11 47.9 +1.8
baz=108
CHGN Chignik 153.53 290 P PKiKP 11 11 48.2 +2.1
baz=110
N18K Kilae Creek 153.56 301 P PKiKP 11 11 47.5 +1.4
baz=103
XLT XiLinHaoTe 153.58 102 ePKPbc PKPdf 11 11 38.3 -0.6
XLT PKPab PKPab 11 12 00.1 +0.4
CHNA Chernabura Isl 153.60 287 P PKiKP 11 11 48.8 +2.5
baz=113
E21K Killik River 153.62 318 P PKiKP 11 11 47.8 +1.8
baz=89
I20K Naaghedeneel 153.64 310 P PKiKP 11 11 48.3 +2.2
baz=96
M18K Stony River 153.71 302 P PKiKP 11 11 48.8 +2.4
baz=102
A22K Sinclair Lake 153.81 324 P PKiKP 11 11 48.8 +2.5
baz=83
B21K Ikpikpuk River 153.81 321 PKPdf PKPdf 11 11 37.9 -0.3
B21K PKiKP 11 11 47.8 +1.5
B21K PKPab pPKPdf 11 12 01.9 -1.6
B21K Ikpikpuk River 153.81 321 P PKiKP 11 11 48.2 +1.9
baz=86
H20K Anotleneega Mo 153.88 312 P PKiKP 11 11 48.5 +1.9
baz=94
C21K Knifeblade Rid 153.90 320 P PKiKP 11 11 48.8 +2.2
baz=87
O17K Koliganek Bris 153.92 298 P PKiKP 11 11 47.9 +1.1
baz=104,SNR=7.4
J19K Poorman 154.04 308 PKPdf PKPdf 11 11 38.2 -0.6
J19K PKiKP 11 11 49.1 +2.2
J19K PKPab PKPab 11 12 01.4 +0.5
J19K Poorman 154.04 308 P PKiKP 11 11 49.2 +2.3
baz=97
TTA Tatalina 154.06 306 PKPdf PKPdf 11 11 38.0 -1.0
TTA PKiKP 11 11 47.7 +0.5
TTA PKPab PKPab 11 12 01.1 -0.1
TTA Tatalina 154.06 306 P PKiKP 11 11 49.5 +2.3
baz=99
TTA Tatalina 154.06 306 PKP2 PKPab 11 12 01.1 -0.1
TTA 12 11 38.0
N17K Nushagak Hills 154.15 300 P PKiKP 11 11 50.1 +2.8
baz=103
P16K Nushagak River 154.17 296 P PKiKP 11 11 50.2 +2.9
baz=105
L18K Granite Mounta 154.25 304 P PKiKP 11 11 49.1 +1.6
baz=100
F20K Avaraart Lake 154.29 315 P PKiKP 11 11 50.6 +3.2
baz=91
A21K Barrow 154.30 325 P PKiKP 11 11 49.7 +2.4
baz=81
O16K Kokwok River B 154.37 298 P PKiKP 11 11 50.6 +2.9
baz=104
M17K Holitna River 154.45 302 P PKiKP 11 11 50.6 +2.7
baz=101
E20K Nigu River 154.45 318 P PKiKP 11 11 50.2 +2.4
baz=88
J18K Innoko River 154.45 307 P PKiKP 11 11 50.8 +3.0
baz=97
H19K Roundabout Mou 154.53 312 P PKiKP 11 11 50.7 +2.8
baz=93
D20K Etivluk River 154.59 319 P PKiKP 11 11 50.8 +2.8
baz=86
GCSA Galena City Sc 154.66 310 P PKiKP 11 11 51.5 +3.3
baz=94
B20K Meade River 154.66 322 P PKiKP 11 11 50.8 +2.7
baz=83
KSRS Korea Array 154.70 128 PKPbc PKiKP 11 11 50.9 +1.8
comp=Z,2.3nm,0.8s,baz=258,slow=1.4,SNR=4.5
KSRS PKPab PKPab 11 12 05.0 +0.5
comp=Z,3.5nm,1.0s,baz=227,slow=3.9,SNR=5.4
G19K Purcell Mounta 154.82 313 P PKiKP 11 11 51.2 +2.7
baz=91
E19K Redstone River 154.87 316 P PKiKP 11 11 51.5 +2.9
baz=88
N16K Nishlik Lake 154.90 300 P PKiKP 11 11 51.6 +2.7
baz=102
L17K Donlin 154.98 303 P PKiKP 11 11 51.3 +2.4
baz=99
K17K Iditarod 155.07 305 P PKPdf 11 11 52.1 +12
baz=98
F19K Shaleruckik Mo 155.10 315 P PKPdf 11 11 51.7 +12
baz=89
M16K Timber Creek 155.10 301 P PKPdf 11 11 51.7 +11
baz=101
O15K Ungalikthiuk R 155.12 296 P PKPdf 11 11 52.3 +12
baz=104
D19K Kuna River 155.15 319 P PKPdf 11 11 51.5 +11
baz=85
S12K Black Hills 155.24 287 P PKPdf 11 11 52.2 +11
baz=110
H18K Honhosa River 155.31 311 P PKPdf 11 11 52.6 +12
baz=92
G18K Tagagawik 155.45 312 P PKPab 11 12 09.1 +2.2
baz=90
L16K Owhat River 155.47 302 P PKPab 11 12 09.1 +2.0
baz=99
N15K Kwethluk River 155.48 298 P PKPab 11 12 09.2 +2.0
baz=102
J17K VABM Dome 155.50 306 P PKPab 11 12 09.2 +2.0
baz=96
C19K Lookout Ridge 155.62 320 P PKPab 11 12 09.0 +1.4
baz=82
F18K Selawik 155.85 314 P PKPab 11 12 09.7 +1.1
baz=88
O14K Tigyukauivet M 155.86 296 P PKPab 11 12 09.7 +0.9
baz=103
M15K Kasigluk River 155.87 300 P PKPab 11 12 10.3 +1.4
baz=100
A19K Wainwright 155.95 323 P PKPab 11 12 10.8 +1.9
baz=78
H17K Granite Mounta 155.96 310 P PKPab 11 12 10.8 +1.7
baz=91
E18K Tukpahlearik C 156.17 316 P PKPab 11 12 11.5 +1.4
baz=85
J16K Anvik River 156.18 306 P PKPab 11 12 11.8 +1.7
baz=94
N14K Kuskokwak Cree 156.21 297 P PKPab 11 12 11.7 +1.3
baz=101
C18K Utukok River 156.26 319 P PKPab 11 12 12.2 +1.8
baz=82
I17K Unalakleet 156.26 307 P PKPab 11 12 12.4 +1.9
baz=93
G17K Kiwalik Mounta 156.28 311 P PKPab 11 12 12.7 +2.2
baz=89
B18K Kokolik River 156.36 321 P PKPab 11 12 12.1 +1.4
baz=80
L15K Ungalak Mounta 156.41 302 P PKPab 11 12 12.4 +1.2
baz=98
F17K Baldwin Pennin 156.50 314 P PKPab 11 12 12.8 +1.4
baz=87
M14K Bethel 156.50 299 P PKPab 11 12 12.9 +1.4
baz=99
K15K Wolf Creek Mou 156.50 303 P PKPab 11 12 13.6 +2.0
baz=96
E17K Hotham Inlet 156.68 315 P PKPab 11 12 13.4 +1.2
baz=85

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIT	**Chita**	**156.73**	**84**	*e*PKP2	**PKPab**	**11 12 14.0**	**+1.1**
CIT				pmax	pmax		
	comp=Z,100nm,1.8s						
L14K	**Kuka Creek**	**156.93**	**301**	P	**PKPab**	**11 12 14.6**	**+1.2**
	baz=97						
H16K	**Elim**	**156.96**	**309**	P	**PKPab**	**11 12 14.8**	**+1.3**
	baz=90						
UNV	**Unalaska Valle**	**156.96**	**281**	P	**PKPab**	**11 12 14.7**	**+1.0**
	baz=112						
RDOG	**Red Dog Mine**	**156.97**	**318**	P	**PKPab**	**11 12 14.9**	**+1.4**
	baz=81						
G16K	**Koyuk River**	**156.99**	**311**	P	**PKPab**	**11 12 14.8**	**+1.2**
	baz=88						
C17K	**DeLong Mountai**	**157.00**	**319**	P	**PKPab**	**11 12 14.7**	**+1.1**
	baz=80						
D17K	**Noatak River**	**157.09**	**317**	P	**PKPab**	**11 12 15.7**	**+1.8**
	baz=82						
M13K	**Dall Lake**	**157.12**	**298**	P	**PKPab**	**11 12 16.1**	**+1.9**
	baz=99						
J14K	**Nanvaranak Lak**	**157.48**	**304**	P	**PKPab**	**11 12 16.9**	**+1.2**
	baz=93						
G15K	**Niukluk**	**157.72**	**310**	P	**PKPab**	**11 12 18.1**	**+1.4**
	baz=87						
MJAR	**Matsushiro Arr**	**157.78**	**147**	PKPab	**PKPab**	**11 12 18.6**	**+0.8**
	comp=Z,4.8nm,0.8s,baz=173,slow=4.3,SNR=5.3						
C16K	**Lisburne Hills**	**157.83**	**319**	P	**PKPab**	**11 12 19.0**	**+1.9**
	baz=78						
F15K	**North Star Dit**	**157.93**	**312**	P	**PKPab**	**11 12 19.5**	**+1.8**
	baz=85						
K13K	**Kusilvak Mount**	**157.93**	**302**	P	**PKPab**	**11 12 19.7**	**+2.0**
	baz=94						
CN2	**Changchun**	**158.46**	**114**	PKP	**PKPdf**	**11 11 45.0**	**-0.2**
HIA	**Hailar**	**158.82**	**96**	PKPdf	**PKPdf**	**11 11 44.0**	**-1.5**
HIA					**PKPab**	**11 12 22.1**	**0.0**
HIA	**Hailar**	**158.82**	**96**	PKP2	**PKPab**	**11 12 22.1**	**0.0**
HIA						12 11 44.0	
BOD	**Bodaibo**	**158.94**	**70**	*e*PKP2	**PKPab**	**11 12 22.0**	**-0.3**
BOD				pmax	pmax		
	comp=Z,16nm,1.1s						
MDJ	**Mudanjiang**	**161.11**	**119**	PKP	**PKPdf**	**11 11 48.8**	**+0.6**
MDJ				PP	PP	11 16 24.6	+8.8
MDJ				AMB	AMB		
	comp=Z,180nm,4.8s						
MDJ				LR	LR		
	comp=Z,330nm,19.6s						
TIXI	**Tiksi**	**161.61**	**24**	PKPdf	**PKPdf**	**11 11 48.5**	**+0.6**
TIXI				PKPab	**PKPab**	**11 12 34.2**	**+0.7**
TIXI	**Tiksi**	**161.61**	**24**	PKP2	**PKPab**	**11 12 34.2**	**+0.7**
TIXI						12 11 48.5	
ADK	**Adak**	**161.78**	**268**	PKPdf	**PKPdf**	**11 11 50.2**	**+1.6**
ADK					**PKPab**	**11 12 34.3**	**-0.5**
ADK	**Adak**	**161.78**	**268**	PKIKP	**PKPdf**	**11 11 50.2**	**+1.6**
ADK						11 12 34.3	
YAK	**Yakutsk**	**166.81**	**55**	PKPdf	**PKPdf**	**11 11 53.1**	**+0.4**
YAK				PKPab	**PKPab**	**11 12 56.7**	**+0.1**
PETK	**Petropavlovsk-**	**175.76**	**221**	PKP	**PKPdf**	**11 11 57.8**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=130,slow=6.2,SNR=3.6						
PETK				PKPab	**PKPab**	**11 13 37.8**	**+1.2**
	comp=Z,6.8nm,0.8s,baz=134,slow=11,SNR=4.2						

HEL 23 10:59:48.7±0.2, 61°.40N×26°.59E, h0km, ML1.1, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIA0	**FINESS Array S**	**0.25**	**280**	PG	Pb	10 59 55.4	-0.7
KAF	**Kangasniemi**	**0.73**	**349**	PG	Pg	11 00 01.3	-1.3
	baz=169						
KAF				SG	Sg	11 00 11.1	-0.9
KAF				MSG		11 00 11.5	
	comp=Z,1.6nm,0.2s						
PVF	**Pernaja**	**0.93**	**203**	PG	Pg	11 00 05.2	-1.3
PVF				MSG		11 00 17.2	
	comp=Z,1.5nm,0.2s						
KEF	**Keuruu**	**1.12**	**314**	PG	Pg	11 00 08.8	-1.4
KEF				MSG		11 00 22.9	
	comp=Z,1.0nm,0.2s						
RUF	**Ruokolahti**	**1.14**	**88**	PB	Pg	11 00 09.1	-1.3
RUF				MSG		11 00 23.2	
	comp=Z,1.2nm,0.2s						
RUF				SN	Sn	11 00 29.1	+1.1
NUR	**Nurmijarvi**	**1.30**	**227**	MSG		11 00 28.1	
	comp=Z,1.3nm,0.2s						
NUR				SN	Sn	11 00 35.0	+2.8
SUF	**Sumiainen**	**1.34**	**351**	PG	Pg	11 00 12.5	-1.8
SUF				MSG		11 00 29.1	
	comp=Z,0.9nm,0.2s						
SUF				SG	Sg	11 00 30.3	-1.3
KPF	**Kankaanpaa**	**2.20**	**283**	PG	Pb	11 00 28.4	-1.0
RAF	**Rauma**	**2.37**	**263**	MSG		11 00 58.7	
	comp=Z,1.0nm,0.2s						
RAF				SG	Sb	11 01 02.3	+0.4
JOF	**Joensuu**	**2.69**	**53**	SG	Sb	11 01 10.6	-0.5

*KOLA **23** 11:00:18.2, 68°.10N×33°.23E, h0km, ML2.0, Error ellipse: s-maj=3.0km s-min=1.6km az=80.0, Olenegorsk City, Mines*

HEL 23 11:00:17.5±0.2, 68°.04N×33°.12E, h0km, ML1.7, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.44**	**187**	P	Pb	11 00 27.0	-1.1
APA0				S	Sg	11 00 33.3	+1.7
APA	**Apatity**	**0.49**	**167**	P	Pb	11 00 27.9	-1.1
APA				S	Sb	11 00 35.2	-1.4
LVZ	**Lovozero**	**0.59**	**103**	P	Pg	11 00 27.8	-1.0
LVZ				S	Sg	11 00 35.8	-0.8
LVZ	**Lovozero**	**0.59**	**103**	PG	Pg	11 00 28.4	-0.5
LVZ				SG	Sg	11 00 35.4	-1.2
VRF	**Varrio**	**1.36**	**259**	PN	Pg	11 00 43.0	-0.6
VRF				MSG		11 00 58.5	
	comp=Z,4.6nm,0.2s						
VRF				SB	Sg	11 01 01.2	0.0
PRVG	**Vayda Guba**	**1.75**	**349**	P	Pn	11 00 49.1	+0.1
PRVG				S	Sn	11 01 10.5	-1.4
RAJF	**Raja-Jooseppi**	**1.84**	**286**	PG	Pn	11 00 50.5	+0.2
RAJF				SN	Sn	11 01 13.8	-0.6
OLKF	**Oulanka, Finla**	**2.26**	**222**	PG	Pb	11 00 57.9	-1.2
OLKF				MSG		11 01 24.4	
	comp=Z,2.1nm,0.2s						
OLKF				SG	Sb	11 01 27.7	+0.2
KU6	**Riekki**	**2.39**	**214**	PG	Pb	11 01 00.3	-1.0
	baz=32						
KU6				MSG		11 01 28.2	
	comp=Z,1.5nm,0.2s						
VADS	**Vadso**	**2.49**	**329**	P	Pn	11 00 58.5	-0.6
VADS				S	Sn	11 01 29.6	-0.6
MSF	**Maaselka**	**2.67**	**219**	PB	Pb	11 01 05.5	-0.7
MSF	**Maaselka**	**2.67**	**219**	PG	Pb	11 01 05.5	-0.7
MSF				SG	Sb	11 01 41.3	+1.8
KEV	**Kevo**	**2.80**	**311**	PN	Pn	11 01 03.5	0.0
KEV				SN	Sn	11 01 37.8	-0.1
KEV				MSG		11 01 40.2	
	comp=Z,6.9nm,0.2s						
RNF	**Rovaniemi**	**3.11**	**246**	PB	Pn	11 01 08.5	+0.8
	baz=62						
ARCES	**ARCESS Array B**	**3.15**	**302**	P	Pn	11 01 08.0	-0.3
ARCES				S	Sn	11 01 45.6	-0.9
RANF	**Ranua**	**3.21**	**234**	PG	Pn	11 01 10.2	+1.1
RANF				SB	Sg	11 02 03.3	+2.8
RANF	**Ranua**	**3.21**	**234**	PN	Pn	11 01 10.2	+1.1
RANF				SG	Sb	11 01 55.8	+0.8
HEF	**Hetta**	**3.55**	**280**	PN	Pn	11 01 13.3	-0.5
HEF				SN	Sn	11 01 55.0	-1.3
KLF	**Kolari**	**3.59**	**261**	PN	Pn	11 01 14.7	+0.3
KTK1	**Kautokeino**	**3.76**	**290**	PN	Pn	11 01 16.4	-0.3
KTK1				SG	Sb	11 02 12.1	+1.3
PAJU	**Pajala**	**3.98**	**260**	PN	Pn	11 01 20.2	+0.6
PAJU				SN	Sn	11 02 06.4	-0.5
KALU	**Kalix**	**4.42**	**245**	SN	Sn	11 02 17.1	-0.6
ERTU	**Ertsjaerv**	**4.49**	**256**	PN	Pn	11 01 26.6	-0.1
ERTU				SN	Sn	11 02 18.9	-0.7

*IDC **23** 11:24:11.3±1.4, 13°.17N×124°.93E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=65.2km s-min=20.1km az=64.0*

ISC 23 11:24:16.8±1.4, 13°.1N±0°.2×124°.9E±0°.4, h41km, n6, σ0°.85/6, mb3.6/6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**25.53**	**285**	P	**P**	**11 29 42.0**	**+0.1**
	0.7nm,0.4s,baz=98,slow=7.7,SNR=5.3						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**34.16**	**164**	P	**P**	**11 30 57.4**	**-0.9**
	0.3nm,0.6s,baz=344,slow=9.2,SNR=2.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**37.62**	**166**	P	**P**	**11 31 28.9**	**+0.9**
	0.6nm,0.6s,baz=348,slow=7.2,SNR=11						
	0.6nm,0.6s						
SONM	**Songino Array**	**37.88**	**340**	P	**P**	**11 31 30.3**	**+0.2**
	1.2nm,0.8s,baz=141,slow=7.1,SNR=3.7						
	1.2nm,0.8s						
MKAR	**Makanchi Array**	**48.96**	**322**	P	**P**	**11 32 58.6**	**-0.7**
	0.4nm,0.7s,baz=129,slow=5.7,SNR=2.6						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**52.98**	**325**	P	**P**	**11 33 29.5**	**+0.2**
	1.0nm,0.8s,baz=124,slow=8.0,SNR=7.4						
	1.0nm,0.8s						

*IDC **23** 12:01:03.2±0.9, 53°.94N×35°.27W, h0km, mb3.7/10, mbtmp3.7/12, ML3.6/2, MS3.8/3, Error ellipse: s-maj=31.7km s-min=16.8km az=8.0*

*NEIC **23** 12:01:04.8±1.9, 54°.0N±0°.1×35°.0W±0°.2, h10km±2km, mb4.4/60, Error ellipse: s-maj=22.1km s-min=17.0km az=198.0*

ISC 23 12:01:05.6±0.6, 54°.1N±0°.1×35°.10W±0°.06, h14km, n82, σ0°.96/78, mb4.4/38, MS3.7/3, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**9.01**	**326**	Pn	**Pn**	**12 03 14.7**	**-0.3**
ILULI	**Ilulissat**	**16.90**	**340**	Pn	**Pn**	**12 04 59.7**	**-1.6**
SCHQ	**Schefferville**	**18.39**	**285**	P	**Pn**	**12 05 20.0**	**+0.1**
SCHQ				IAmb	IAmb	12 05 39.3	
	comp=Z,58nm,1.5s						
SCHQ	**Schefferville**	**18.39**	**285**	P	**P**	**12 05 19.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=68,slow=9.6,SNR=4.3						
	comp=Z,3.3nm,0.6s						
EKA	**Eskdalemuir Ar**	**18.42**	**73**	P	**Pn**	**12 05 21.3**	**+1.1**
	baz=283,slow=9.4						
	comp=Z,1.4nm,0.7s						
NB201	**NORSAR Array S**	**25.37**	**55**	P	**P**	**12 06 30.4**	**-1.6**
NB201				IAmb	IAmb	12 07 12.2	
	comp=Z,19nm,1.4s						
NC303	**NORSAR Array S**	**25.39**	**55**	P	**P**	**12 06 30.2**	**-1.9**
NC303				IAmb	IAmb	12 06 39.5	
	comp=Z,12nm,1.4s						
ESDC	**Sonseca Array**	**25.43**	**112**	P	**P**	**12 06 33.0**	**+0.3**
	comp=Z,2.4nm,0.8s,baz=311,slow=8.9,SNR=13						
ESDC				LR	LR	12 14 05.9	
	comp=Z,198nm,18.8s,baz=333,slow=31						
	comp=Z,2.4nm,0.8s						
NC602	**NORSAR Array S**	**25.52**	**56**	P	**P**	**12 06 31.2**	**-2.0**
NC602				IAmb	IAmb	12 06 39.3	
	comp=Z,12nm,1.2s						
HNH	**Hanover**	**26.27**	**262**	P	**P**	**12 06 39.5**	**-0.6**
LONY	**Lake Ozonia**	**27.08**	**266**	P	**P**	**12 06 47.3**	**-0.2**
CLL	**Collm**	**28.84**	**76**	*e*Px	Px	12 07 06.0	
CLL				*ex*	x	12 07 11.0	
DAVOX	**Davos/Dischmat**	**29.15**	**86**	LR	LR	12 16 37.7	
	comp=Z,119nm,18.3s,baz=266,slow=32						
K57A	**Scipio Center**	**29.33**	**264**	P	**P**	**12 07 06.8**	**-0.7**
FUORN	**Ofenpass-Fuorn**	**29.46**	**86**	P	**P**	**12 07 07.0**	**-2.0**
SADO	**Sadowa**	**29.68**	**270**	LR	LR	12 17 46.0	
	comp=Z,180nm,19.4s,baz=38,slow=34						
FCC	**Fort Churchill**	**32.04**	**303**	P	**P**	**12 07 31.2**	**0.0**
FCC				IAmb	IAmb	12 07 41.5	
	comp=Z,9.0nm,1.2s						
FINES	**FINESS Array B**	**32.33**	**52**	P	**P**	**12 07 32.0**	**-1.8**
FIA1	**FINESS Array S**	**32.33**	**52**	P	**P**	**12 07 33.4**	**-0.4**
EYMN	**Ely**	**35.18**	**284**	P	**P**	**12 07 59.7**	**+0.9**
AKASG	**Malin Array Be**	**38.20**	**68**	P	**P**	**12 08 24.9**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=295,slow=8.6,SNR=5.1						
	comp=Z,0.4nm,0.4s						
S44A	**Carbondale**	**40.03**	**269**	P	**P**	**12 08 40.4**	**+0.5**
S44A				IAmb	IAmb	12 08 58.6	
	comp=Z,15nm,1.2s						
WVT	**Waverly**	**40.26**	**266**	P	**P**	**12 08 42.6**	**+0.8**
WVT				IAmb	IAmb	12 08 50.8	
	comp=Z,11nm,1.3s						
ECSD	**EROS Data Cent**	**40.51**	**281**	P	**P**	**12 08 44.1**	**+0.2**
Y49A	**Blount Mountai**	**41.01**	**262**	P	**P**	**12 08 48.9**	**+0.9**
Y49A				IAmb	IAmb	12 09 21.0	
	comp=Z,7.0nm,1.0s						
LRAL	**Lakeview Retre**	**41.94**	**261**	P	**P**	**12 08 54.8**	**-0.8**
LRAL				IAmb	IAmb	12 09 11.1	
	comp=Z,11nm,1.2s						
LCAR	**Lake Charles**	**42.25**	**268**	P	**P**	**12 08 58.1**	**0.0**
S39A	**Bolivar**	**42.43**	**272**	P	**P**	**12 08 59.5**	**-0.1**
WHAR	**Wooly Hollow**	**43.46**	**268**	P	**P**	**12 09 08.6**	**+0.6**
WHAR				IAmb	IAmb	12 09 11.7	
	comp=Z,9.8nm,1.3s						
F31M	**Tsiigehtchic**	**44.68**	**327**	P	**P**	**12 09 17.4**	**+0.1**
MIAR	**Mount Ida**	**44.73**	**269**	P	**P**	**12 09 18.6**	**+0.4**
G31M	**Satah River**	**45.15**	**327**	P	**P**	**12 09 20.8**	**-0.2**
G31M				IAmb	IAmb	12 09 28.4	
	comp=Z,4.2nm,1.1s						
G30M	**tAoh Zraii Nji**	**45.74**	**327**	P	**P**	**12 09 26.1**	**+0.3**
G30M				IAmb	IAmb	12 09 30.9	
	comp=Z,12nm,1.5s						
H31M	**Peel River**	**45.82**	**325**	P	**P**	**12 09 26.9**	**+0.4**
G29M	**Pine Creek**	**46.35**	**328**	P	**P**	**12 09 30.7**	**+0.1**
G29M				IAmb	IAmb	12 09 38.6	
	comp=Z,5.3nm,1.3s						
F28M	**Old Crow**	**46.48**	**329**	P	**P**	**12 09 31.4**	**-0.2**
E27K	**Coleen River**	**46.63**	**330**	P	**P**	**12 09 33.2**	**+0.4**
E27K				IAmb	IAmb	12 09 42.1	
	comp=Z,4.4nm,1.2s						
I30M	**Mount Dempster**	**46.85**	**325**	P	**P**	**12 09 34.9**	**+0.3**
H29M	**Whitestone**	**46.88**	**327**	P	**P**	**12 09 35.0**	**+0.2**
D25K	**Kavik River**	**47.23**	**333**	P	**P**	**12 09 37.6**	**+0.2**
D25K				IAmb	IAmb	12 09 54.7	
	comp=Z,4.6nm,1.3s						
BRTR	**Keskin Array B**	**47.23**	**78**	P	**P**	**12 09 40.0**	**+2.1**
	comp=Z,1.6nm,0.8s,baz=297,slow=5.4,SNR=5.2						
	comp=Z,1.6nm,0.8s						
J30M	**Hart River**	**47.23**	**325**	P	**P**	**12 09 38.6**	**+1.0**
J30M				IAmb	IAmb	12 09 48.1	
	comp=Z,2.9nm,1.0s						
FARO	**Faro, Yukon**	**47.62**	**321**	P	**P**	**12 09 43.0**	**+2.5**
I28M	**Miner Creek**	**47.87**	**327**	P	**P**	**12 09 42.9**	**+0.3**
I28M				IAmb	IAmb	12 09 58.7	
	comp=Z,4.2nm,1.1s						
K29M	**Barlow Dome**	**48.09**	**324**	P	**P**	**12 09 46.1**	**+1.7**
K29M				IAmb	IAmb	12 10 03.1	
	comp=Z,5.7nm,1.5s						
F25K	**Christian Rive**	**48.18**	**331**	P	**P**	**12 09 45.9**	**+1.0**
F25K				IAmb	IAmb	12 10 15.5	
	comp=Z,5.3nm,1.4s						
PDAR	**Pinedale Array**	**48.49**	**289**	P	**P**	**12 09 47.5**	**-0.3**
PDAR	**Pinedale Array**	**48.49**	**289**	P	**P**	**12 09 46.9**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=52,slow=7.9,SNR=6.6						
	comp=Z,0.6nm,0.6s						
D23K	**Nanushuk River**	**48.59**	**334**	P	**P**	**12 09 49.2**	**+1.3**
D23K				IAmb	IAmb	12 09 58.1	
	comp=Z,6.7nm,1.3s						
E24K	**Your Creek**	**48.64**	**333**	P	**P**	**12 09 49.6**	**+1.2**
E24K				IAmb	IAmb	12 09 58.3	
	comp=Z,6.2nm,1.3s						
DLBC	**Dease Lake**	**48.67**	**316**	P	**P**	**12 09 50.1**	**+1.3**
L29M	**L29M**	**48.78**	**324**	P	**P**	**12 09 49.1**	**-0.4**
L29M				IAmb	IAmb	12 10 05.4	
	comp=Z,5.6nm,1.4s						
WHTX	**Lake Whitney,**	**48.83**	**269**	P	**P**	**12 09 49.1**	**-1.2**
I26K	**Coal Creek Min**	**48.98**	**328**	P	**P**	**12 09 51.9**	**+0.9**
I26K				IAmb	IAmb	12 10 23.1	
	comp=Z,4.7nm,1.4s						
B21K	**Ikpikpuk River**	**49.09**	**336**	P	**P**	**12 09 52.8**	**+1.1**
TORD	**Torodi Ar. Bea**	**50.03**	**130**	P	**P**	**12 09 59.1**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=329,slow=7.4,SNR=4.8						
	comp=Z,1.0nm,0.8s						
BCAR	**Beaver Creek A**	**50.05**	**325**	P	**P**	**12 10 00.0**	**+0.7**
BRDY	**Brady**	**50.25**	**270**	P	**P**	**12 10 00.2**	**-0.9**
BRDY				IAmb	IAmb	12 10 04.1	
	comp=Z,6.2nm,1.4s						
HWUT	**Hardware Ranch**	**50.37**	**289**	P	**P**	**12 10 01.9**	**-0.3**
HWUT				IAmb	IAmb	12 10 43.0	
	comp=Z,10nm,1.5s						
ILAR	**Eielson Array**	**50.50**	**329**	P	**P**	**12 10 02.9**	**+0.3**
ILAR	**Eielson Array**	**50.50**	**329**	P	**P**	**12 10 03.3**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=35,slow=6.9,SNR=2.7						
	comp=Z,0.4nm,0.9s						
H23K	**Yukon River**	**50.53**	**331**	P	**P**	**12 10 03.1**	**+0.3**
HDA	**Harding Lake**	**50.78**	**329**	P	**P**	**12 10 06.5**	**+1.8**
F20K	**Avaraart Lake**	**51.30**	**334**	P	**P**	**12 10 09.6**	**+1.1**
F20K				IAmb	IAmb	12 10 13.9	
	comp=Z,5.0nm,1.2s						
E19K	**Redstone River**	**51.36**	**335**	P	**P**	**12 10 09.8**	**+0.8**
H21K	**Melozitna River**	**51.57**	**332**	P	**P**	**12 10 11.5**	**+0.9**
IMAR	**Indian Mountai**	**51.59**	**333**	P	**P**	**12 10 10.9**	**+0.2**
H19K	**Roundabout Mou**	**52.66**	**333**	P	**P**	**12 10 19.7**	**+1.0**
H19K				IAmb	IAmb	12 10 23.0	
	comp=Z,4.7nm,1.2s						
J20K	**Nowinta River**	**53.07**	**331**	P	**P**	**12 10 22.8**	**+1.1**
H18K	**Honhosa River**	**53.45**	**334**	P	**P**	**12 10 25.7**	**+1.1**
K20K	**Telida**	**53.68**	**331**	P	**P**	**12 10 27.0**	**+0.8**
K20K				IAmb	IAmb	12 11 07.6	
	comp=Z,9.0nm,1.5s						
J18K	**Innoko River**	**54.34**	**332**	P	**P**	**12 10 31.8**	**+0.7**
J18K				IAmb	IAmb	12 10 39.8	
	comp=Z,6.2nm,1.4s						
TXAR	**Lajitas Array**	**54.42**	**272**	P	**P**	**12 10 32.0**	**-0.2**
TXAR	**Lajitas Array**	**54.42**	**272**	P	**P**	**12 10 31.6**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=53,slow=9.3,SNR=5.1						
	comp=Z,0.3nm,0.6s						
TX31	**Lajitas Ar. Si**	**54.42**	**272**	P	**P**	**12 10 32.9**	**+0.6**
BVAR	**Borovoye Array**	**56.72**	**44**	P	**P**	**12 10 49.8**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=322,slow=9.1,SNR=3.6						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**61.82**	**41**	P	**P**	**12 11 24.2**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=325,slow=7.1,SNR=4.8						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**66.38**	**42**	P	**P**	**12 11 53.7**	**0.0**
MKAR	**Makanchi Array**	**66.38**	**42**	P	**P**	**12 11 53.2**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=346,slow=5.4,SNR=4.3						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**143.95**	**180**	PKP	PKPbc	12 20 35.8	-1.1
	comp=Z,1.0nm,1.1s,baz=189,slow=1.4,SNR=1.5						
WRA	**Warramunga Arr**	**144.99**	**17**	PKPbc	**PKPab**	**12 20 41.1**	**-0.4**
	comp=Z,0.5nm,1.1s,baz=352,slow=2.6,SNR=2.4						
ASAR	**Alice Springs**	**148.54**	**20**	PKPbc	**PKPbc**	**12 20 51.6**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=358,slow=2.4,SNR=15						

*SOME **23** 12:15:36.1, 41°.67N×73°.78E, h10km*

*KRNET **23** 12:15:36.6±0.1, 41°.70N×73°.79E, h17km, mb2.5*

*KNET **23** 12:15:37.5±1.1, 41°.78N×73°.96E, h0km, ml1.9, Error ellipse: s-maj=7.5km s-min=3.7km az=26.0*

*NNC **23** 12:15:37.8±1.5, 41°.75N×73°.81E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=12.9km s-min=6.2km az=178.0*

ISC 23 12:15:36.8±1.1, 41°.72N±0°.02×73°.80E±0°.02, h6km±10km, n50, σ0°.99/89, 30C-17D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**0.41**	**70**	↑*i*P	**Pg**	**12 15 44.9**	**0.0**
ARLS				↑*i*S	**Sg**	**12 15 50.8**	**+0.5**
AML	**Almayashu**	**0.42**	**349**	↓P	**Pg**	**12 15 45.1**	**0.0**
	55nm,0.1s						
AML				↑S	**Sg**	**12 15 51.4**	**+0.8**
	99nm,0.3s						
AML	**Almayashu**	**0.42**	**349**	↑*i*P	**Pg**	**12 15 45.0**	**0.0**
AML				↑*i*S	**Sg**	**12 15 51.5**	**+0.9**
ARSB	**Arslanbob**	**0.73**	**238**	↑*e*P	**Pg**	**12 15 50.4**	**-0.5**
ARSB				↑*e*S	**Sg**	**12 16 00.4**	**0.0**
SALK	**Salom-Alik**	**0.84**	**179**	↑*e*P	**Pg**	**12 15 51.8**	**-1.1**
SALK				↑*e*S	**Sg**	**12 16 03.3**	**-0.4**
EKS2	**Erkin-Say**	**0.94**	**359**	↑P	**Pg**	**12 15 54.6**	**-0.4**
	5.2nm,0.2s,SNR=21						
EKS2				↓S	**Sb**	**12 16 07.8**	**-0.7**
	12nm,0.2s						
EKS2	**Erkin-Say**	**0.94**	**359**	↑*i*P	**Pg**	**12 15 54.5**	**-0.4**
EKS2				↑*i*S	**Sb**	**12 16 07.7**	**-0.7**
MRKS	**Merke**	**1.11**	**337**	P	**Pg**	**12 15 57.7**	**-0.5**
	4.2nm,0.1s						
MRKS				S	**Sg**	**12 16 12.6**	**0.0**
	56nm,0.3s						
MRKS	**Merke**	**1.11**	**337**	*e*P	**Pg**	**12 15 57.4**	**-0.7**
	4.3nm,0.2s						
MRKS				*e*S	**Sg**	**12 16 12.6**	**0.0**
	56nm,0.3s						
MRKS	**Merke**	**1.11**	**337**	*e*P	**Pg**	**12 15 57.4**	**-0.7**
MRKS				*e*S	**Sg**	**12 16 12.6**	**0.0**
MNAS	**Manas**	**1.23**	**309**	↓*i*P	**Pb**	**12 15 59.9**	**-0.8**
MNAS				↓*i*S	**Sb**	**12 16 16.5**	**-0.4**
KBK	**Karagaybulak**	**1.27**	**42**	↓P	**Pn**	**12 16 00.7**	**-0.6**
	3.2nm,0.1s,SNR=7.7						
KBK				↑S	**Sn**	**12 16 18.1**	**-0.5**
	20nm,0.2s						
KBK	**Karagaybulak**	**1.27**	**42**	↓*i*P	**Pn**	**12 16 00.4**	**-0.9**
KBK				↓*i*S	**Sn**	**12 16 17.8**	**-0.9**
CHMS	**Chumysh**	**1.46**	**29**	↑*i*P	**Pb**	**12 16 04.0**	**-0.4**
CHMS				↑*i*S	**Sg**	**12 16 23.7**	**0.0**
USP	**Ospenovka**	**1.63**	**18**	↓P	**Pb**	**12 16 07.0**	**-0.3**
	5.9nm,0.2s,SNR=12						
USP				↑S	**Sg**	**12 16 29.5**	**+0.3**
	14nm,0.3s						
USP	**Ospenovka**	**1.63**	**18**	↓*i*P	**Pb**	**12 16 07.0**	**-0.3**
USP				↓*i*S	**Sg**	**12 16 29.0**	**-0.2**
NRN	**Naryn**	**1.67**	**99**	↑*i*P	**Pn**	**12 16

MDOK eS **Sg** **12 17 06.5 -0.3**
9.3nm,0.5s
KK31 Karatay Array 2.80 301 ⇓Pn **Pb** **12 16 27.3 0.0**
0.9nm,0.3s,baz=127,slow=17,SNR=17
KK31 Sn **Sg** **12 17 06.0 -0.9**
7.5nm,0.6s,baz=128,slow=28,SNR=10
IUG luzhnay 2.85 280 Pg **Pb** **12 16 27.1 -1.0**
3.3nm,0.1s
IUG Lg Lg 12 17 04.7
15nm,0.4s
IUG luzhnay 2.85 280 eP **Pb** **12 16 27.5 -0.6**
4.3nm,0.1s
IUG eS **Sb** **12 17 04.7 +1.5**
11nm,0.3s
CHKK Chushkaly 3.17 47 Pg **Pb** **12 16 34.6 +1.0**
1.8nm,0.1s
CHKK Lg Lg 12 17 16.5
5.5nm,0.3s
CHKK Chushkaly 3.17 47 eP **Pb** **12 16 34.5 +0.9**
1.8nm,0.1s
CHKK eS **Sg** **12 17 16.5 -2.1**
8.5nm,0.3s
BRLS Borolday 3.22 295 Pg **Pb** **12 16 36.5 +2.1**
1.1nm,0.3s
BRLS Lg Lg 12 17 20.3
4.0nm,0.4s
BRLS Borolday 3.22 295 eP **Pb** **12 16 36.5 +2.1**
1.1nm,0.3s
BRLS eS **Sg** **12 17 20.3 +0.1**
3.8nm,0.4s
BTLS Baital 3.32 3 Pg **Pb** **12 16 36.5 +0.3**
1.0nm,0.3s
BTLS Lg Lg 12 17 20.7
7.1nm,0.3s
BTLS Baital 3.32 3 eP **Pb** **12 16 36.8 +0.6**
1.0nm,0.2s
BTLS eS **Sg** **12 17 20.7 -2.9**
7.1nm,0.5s
SATY Saty 3.66 67 Pg **Pb** **12 16 42.2 +0.1**
1.1nm,0.1s
SATY Lg Lg 12 17 30.4
5.5nm,0.3s
SATY Saty 3.66 67 eP **Pb** **12 16 42.6 +0.6**
1.1nm,0.1s
SATY eS **Sb** **12 17 30.4 +3.6**
5.5nm,0.3s
KPKS Kokpek 4.00 63 Pg **Pb** **12 16 49.3 +1.5**
1.1nm,0.2s
KPKS Lg Lg 12 17 43.5
7.3nm,0.5s
KPKS Kokpek 4.00 63 eP **Pb** **12 16 50.1 +2.3**
2.5nm,0.3s
KPKS eS **Sg** **12 17 43.5 -1.9**
7.7nm,0.5s

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*IDC **23** 12:20:34.1±6.0, 69°.79N×145°.17W, h0km, mb3.2/1, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=83.4km s-min=33.4km az=139.0*
*AEIC **23** 12:20:34.8±2.1, 69°.56N±0°.02×144°.65W±0°.03, h13km±6km, ML3.0, ML3.1/120(NEIC), Error ellipse: s-maj=3.2km s-min=1.4km az=159.0*
*NEIC **23** 12:20:35.1±1.6, 69°.55N±0°.02×144°.62W±0°.04, h10km±2km, Error ellipse: s-maj=3.6km s-min=3.0km az=20.0*
ISC 23 12:20:35.4±0.8,**69°.58N**±0°.04×**144°.64W**±0°.03,**h14**km, **n123**,σ1§**35**/128,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C27K	**Jago River**	**0.33**	**81**		**Pg**	**12 20 41.1**	**-1.1**
C27K				Sg	**Sg**	**12 20 46.2**	**-0.6**
C27K				IAML		12 20 46.7	
	comp=E,2μm,0.6s						
C26K	**Camden Bay**	**0.36**	**345**		**Pg**	**12 20 42.0**	**-0.7**
C26K					**Sg**	**12 20 48.1**	**+0.5**
C26K				IAML		12 20 49.2	
	comp=E,1μm,0.6s						
C26K				IAML		12 20 49.6	
	comp=N,2μm,0.5s						
D25K	**Kavik River**	**0.66**	**248**		**Pg**	**12 20 46.4**	**-2.0**
D25K					**Sg**	**12 20 56.6**	**-0.5**
D27M	**Malcolm River**	**1.34**	**103**		**Pn**	**12 20 59.4**	**-0.4**
D27M					**Sg**	**12 21 19.8**	**+1.2**
D27M				IAML		12 21 25.7	
	comp=E,218nm,0.8s						
C24K	**Franklin Bluff**	**1.43**	**278**		**Pb**	**12 21 01.6**	**-0.1**
C24K				IAML		12 21 24.1	
	comp=N,356nm,0.9s						
D24K	**Happy Valley**	**1.54**	**256**		**Pb**	**12 21 03.0**	**-0.7**
E27K	**Coleen River**	**1.78**	**140**		**Pb**	**12 21 07.1**	**-0.7**
F26K	**Sheenjek River**	**1.90**	**174**		**Pn**	**12 21 06.7**	**-0.7**
F26K				IAML		12 21 36.0	
	comp=E,141nm,0.7s						
TOLK	**Toolik Lake Re**	**2.00**	**244**		**Pn**	**12 21 07.3**	**-1.5**
TOLK				IAML		12 21 47.8	
	comp=E,164nm,1.1s						
TOLK				IAML		12 21 52.7	
	comp=N,129nm,0.7s						
F25K	**Christian Rive**	**2.02**	**191**		**Pn**	**12 21 09.0**	**-0.1**
E24K	**Your Creek**	**2.06**	**225**	Pn	**Pn**	**12 21 08.2**	**-1.4**
E28M	**Babbage River**	**2.08**	**116**		**Pn**	**12 21 08.8**	**-1.0**
C23K	**Itkillik River**	**2.10**	**280**		**Pn**	**12 21 11.0**	**+0.9**
D28M	**Stokes Point**	**2.10**	**94**		**Pn**	**12 21 08.6**	**-1.4**
D28M				IAML		12 21 51.4	
	comp=E,134nm,0.7s						
BMAR	**Burnt Mountain**	**2.16**	**179**		**Pn**	**12 21 10.2**	**-0.8**
D23K	**Nanushuk River**	**2.23**	**257**	Pn	**Pn**	**12 21 12.2**	**+0.2**
D23K				IAML		12 21 58.9	
	comp=N,103nm,1.0s						
D23K				IAML		12 22 02.8	
	comp=E,92nm,1.0s						
E23K	**Chandalar**	**2.36**	**232**		**Pn**	**12 21 14.1**	**+0.2**
E23K				IAML		12 21 57.6	
	comp=N,93nm,0.9s						
E23K				IAML		12 21 59.3	
	comp=E,98nm,0.9s						
F24K	**Squaw Lake**	**2.39**	**212**	Pn	**Pn**	**12 21 15.4**	**+1.4**
F28M	**Old Crow**	**2.63**	**136**		**Pn**	**12 21 18.7**	**+1.2**
F28M				IAML		12 22 03.0	
	comp=N,69nm,0.6s						
G26K	**Porcupine Rive**	**2.66**	**173**		**Pn**	**12 21 19.8**	**+2.0**
E29M	**Blow River**	**2.71**	**113**		**Pn**	**12 21 19.7**	**+1.2**
E29M				IAML		12 22 16.1	
	comp=N,60nm,0.7s						
E29M				IAML		12 22 17.1	
	comp=E,52nm,0.9s						
G25K	**Bearman Lake**	**2.88**	**192**		**Pn**	**12 21 22.2**	**+1.5**
D22K	**Ayikyak River**	**2.95**	**260**		**Pn**	**12 21 22.7**	**+0.9**
E22K	**Anaktuvuk Pass**	**2.98**	**244**		**Pn**	**12 21 21.4**	**-0.8**
E22K				IAML		12 22 17.1	
	comp=N,49nm,0.9s						
G27K	**Doyon Strip**	**3.00**	**157**		**Pn**	**12 21 19.9**	**-2.5**
FYU	**Fort Yukon**	**3.03**	**184**		**Pn**	**12 21 22.1**	**-0.8**
FYU				IAML		12 22 32.5	
	comp=N,61nm,1.2s						
G24K	**Hadweenzic Riv**	**3.08**	**201**		**Pn**	**12 21 22.6**	**-1.0**
G24K				IAML		12 22 19.6	
	comp=E,62nm,1.2s						
B22K	**Teshekpuk Lake**	**3.12**	**288**		**Pn**	**12 21 25.0**	**+0.9**
B22K				IAML		12 22 18.2	
	comp=E,70nm,0.9s						
COLD	**Coldfoot**	**3.13**	**224**	Pn	**Pn**	**12 21 22.4**	**-1.9**
H25L	**Birch Creek**	**3.35**	**188**		**Pn**	**12 21 28.9**	**+1.6**
B21K	**Ikpikpuk River**	**3.49**	**275**	Pn	**Pn**	**12 21 30.7**	**+1.5**
G23K	**Bananza Creek**	**3.51**	**218**	Pn	**Pn**	**12 21 28.6**	**-1.0**
G23K				IAML		12 22 32.5	
	comp=N,34nm,1.1s						
G23K				IAML		12 22 38.5	
	comp=E,37nm,1.1s						
E21K	**Killik River**	**3.55**	**256**		**Pn**	**12 21 30.3**	**+0.3**
E21K				IAML		12 22 42.5	
	comp=E,44nm,0.9s						
C21K	**Knifeblade Rid**	**3.62**	**268**		**Pn**	**12 21 32.9**	**+2.0**
G29M	**Pine Creek**	**3.64**	**134**		**Pn**	**12 21 31.8**	**+0.5**
H24K	**Noodor Dome**	**3.95**	**200**		**Pn**	**12 21 36.5**	**+0.9**
H24K				IAML		12 22 50.0	
	comp=E,20nm,1.0s						
F21K	**Alatna River**	**4.03**	**238**		**Pn**	**12 21 36.2**	**-0.5**
F21K				IAML		12 22 55.7	
	comp=E,22nm,0.9s						
F21K				IAML		12 22 57.6	
	comp=N,26nm,1.1s						
G30M	**tAoh Zraii Nji**	**4.07**	**126**	Pn	**Pn**	**12 21 39.0**	**+1.8**
G30M				IAML		12 23 00.7	
	comp=E,19nm,1.2s						
G30M				IAML		12 23 06.4	
	comp=N,18nm,0.9s						
PRP	**Porcupine Dome**	**4.09**	**185**		**Pn**	**12 21 36.1**	**-1.5**
PRP				IAML		12 22 48.1	
	comp=N,17nm,0.8s						
H29M	**Whitestone**	**4.12**	**142**	Pn	**Pn**	**12 21 39.7**	**+1.8**
H29M				IAML		12 22 50.6	
	comp=N,22nm,1.1s						
H29M				IAML		12 23 06.7	
	comp=E,28nm,1.1s						
H23K	**Yukon River**	**4.20**	**209**		**Pn**	**12 21 39.2**	**+0.2**
H23K				IAML		12 22 53.6	
	comp=N,19nm,0.9s						
INK	**Inuvik**	**4.21**	**102**		**Pn**	**12 21 40.7**	**+1.7**
I26K	**Coal Creek Min**	**4.33**	**172**		**Pn**	**12 21 40.3**	**-0.4**
B20K	**Meade River**	**4.36**	**282**	Pn	**Pn**	**12 21 39.8**	**-1.4**
EPYK	**Eagle Plains**	**4.39**	**133**		**Pn**	**12 21 41.6**	**+0.1**
I28M	**Miner Creek**	**4.52**	**154**	Pn	**Pn**	**12 21 43.8**	**+0.4**
I28M				IAML		12 23 07.0	
	comp=E,20nm,1.1s						
I28M				IAML		12 23 10.9	
	comp=N,17nm,1.2s						
G21K	**Allakaket**	**4.53**	**231**		**Pn**	**12 21 40.8**	**-2.6**
G21K				IAML		12 23 15.4	
	comp=N,23nm,1.1s						
G21K				IAML		12 23 16.6	
	comp=E,22nm,1.0s						
F31M	**Tsiigehtchic**	**4.54**	**113**		**Pn**	**12 21 44.2**	**+0.6**
F31M				IAML		12 23 07.8	
	comp=E,16nm,1.0s						
POKR	**Poker Plat Res**	**4.61**	**195**	Pn	**Pn**	**12 21 42.8**	**-1.7**
POKR				IAML		12 22 43.1	
	comp=N,11nm,0.5s						
POKR				IAML		12 23 07.7	
	comp=E,14nm,0.8s						
G31M	**Satah River**	**4.69**	**120**		**Pn**	**12 21 47.5**	**+1.9**
G31M				IAML		12 23 11.4	
	comp=N,16nm,1.0s						
G31M				IAML		12 23 28.2	
	comp=E,14nm,1.1s						
I23K	**Minto, Yukon-K**	**4.80**	**205**		**Pn**	**12 21 48.8**	**+1.5**
I23K				IAML		12 23 16.1	
	comp=E,19nm,1.2s						
I23K				IAML		12 23 20.0	
	comp=N,17nm,1.2s						
F20K	**Avaraart Lake**	**4.83**	**244**		**Pn**	**12 21 45.5**	**-2.0**
F20K				IAML		12 23 14.8	
	comp=E,11nm,0.8s						
F20K				IAML		12 23 19.4	
	comp=N,18nm,1.2s						
COLA	**College**	**4.88**	**196**	Pn	**Pn**	**12 21 48.8**	**+0.5**
IL31		**4.90**	**191**		**Pn**	**12 21 49.0**	**+0.5**
ILAR	**Eielson Array**	**4.90**	**191**	Pn	**Pn**	**12 21 48.0**	**-0.7**
ILAR	**Eielson Array**	**4.90**	**191**	Pn	**Pn**	**12 21 50.0**	**+1.4**
	comp=N,0.5nm,0.3s,baz=2.9,slow=12,SNR=32						
ILAR				Sn	**Sn**	**12 22 47.9**	**+2.8**
	comp=N,0.5nm,0.3s,baz=6.5,slow=23,SNR=5.4						
ILAR				Lg	Lg	12 23 09.8	
	comp=N,0.6nm,0.3s,baz=11,slow=30,SNR=5.3						
	comp=N,1.3nm,0.5s						
D19K	**Kuna River**	**4.96**	**264**		**Pn**	**12 21 50.7**	**+1.3**
IMAR	**Indian Mountai**	**4.99**	**228**	Pn	**Pn**	**12 21 48.1**	**-1.7**
J25K	**Salcha River,**	**4.99**	**184**		**Pn**	**12 21 49.5**	**-0.4**
J25K				IAML		12 23 21.6	
	comp=E,10nm,1.1s						
J25K				IAML		12 23 26.4	
	comp=N,9.0nm,1.0s						
EGAK	**Eagle**	**5.01**	**163**		**Pn**	**12 21 51.1**	**+1.1**
EGAK				IAML		12 23 25.2	
	comp=N,14nm,1.1s						
EGAK				IAML		12 23 31.6	
	comp=N,13nm,1.1s						
H21K	**Melozitna Rive**	**5.02**	**222**		**Pn**	**12 21 50.1**	**-0.1**
H21K				IAML		12 23 22.9	
	comp=E,14nm,1.1s						
H21K				IAML		12 23 32.4	
	comp=N,14nm,1.0s						
E19K	**Redstone River**	**5.09**	**251**		**Pn**	**12 21 51.4**	**+0.2**
E19K				IAML		12 23 38.6	
	comp=N,16nm,1.1s						
E19K				IAML		12 23 38.9	
	comp=E,14nm,1.1s						
CCB	**Clear Creek Bu**	**5.10**	**195**		**Pn**	**12 21 52.2**	**+0.9**
J26L	**Joseph Creek**	**5.12**	**175**		**Pn**	**12 21 52.8**	**+1.2**
J26L				IAML		12 22 60.0	
	comp=N,8.9nm,0.6s						
J26L				IAML		12 23 13.3	
	comp=E,11nm,0.8s						
MLY	**Manley**	**5.14**	**210**	Pn	**Pn**	**12 21 53.6**	**+1.8**
I21K	**Tanana**	**5.24**	**216**		**Pn**	**12 21 54.3**	**+1.1**
HDA	**Harding Lake**	**5.27**	**191**		**Pn**	**12 21 55.0**	**+1.4**
HDA				IAML		12 23 41.6	
	comp=N,12nm,1.1s						
NEA2	**Nenana**	**5.29**	**201**		**Pn**	**12 21 54.5**	**+0.5**
WRH	**Wood River Hil**	**5.30**	**196**		**Pn**	**12 21 55.6**	**+1.5**
WRH				IAML		12 23 31.1	
	comp=N,7.2nm,0.7s						
WRH				IAML		12 23 39.5	
	comp=E,8.3nm,1.1s						
C19K	**Lookout Ridge**	**5.31**	**272**	Pn	**Pn**	**12 21 54.7**	**+0.4**
C19K				IAML		12 23 05.7	
	comp=E,9.4nm,1.1s						
C19K				IAML		12 23 50.7	
	comp=N,10nm,1.0s						
I30M	**Mount Dempster**	**5.41**	**140**	Pn	**Pn**	**12 21 57.1**	**+1.5**
H31M	**Peel River**	**5.45**	**129**		**Pn**	**12 21 56.1**	**0.0**
F19K	**Shaleruckik Mo**	**5.61**	**247**	Pn	**Pn**	**12 21 58.1**	**-0.1**
SCRK	**Sand Creek**	**5.63**	**177**		**Pn**	**12 21 58.6**	**-0.1**
J29N	**Klondike Camp**	**5.72**	**151**		**Pn**	**12 21 58.2**	**-1.7**
BWN	**Browne**	**5.75**	**202**	Pn	**Pn**	**12 21 57.5**	**-2.7**
G19K	**Purcell Mounta**	**5.83**	**240**	Pn	**Pn**	**12 22 01.8**	**+0.6**
RIDG	**Independent Ri**	**5.86**	**181**		**Pn**	**12 21 59.1**	**-2.7**
DAWY	**Dawson**	**5.91**	**157**		**Pn**	**12 22 01.1**	**-1.3**
J30M	**Hart River**	**5.97**	**143**		**Pn**	**12 22 03.1**	**-0.3**
C18K	**Utukok River**	**5.99**	**269**	Pn	**Pn**	**12 22 04.2**	**+0.6**
BPAW	**Bear Paw Mtn.**	**6.04**	**207**	Pn	**Pn**	**12 22 04.8**	**+0.6**
H19K	**Roundabout Mou**	**6.07**	**234**	Pn	**Pn**	**12 22 05.5**	**+0.9**
MCK	**McKinley**	**6.11**	**198**	Pn	**Pn**	**12 22 05.4**	**+0.2**
E18K	**Tukpahlearik C**	**6.25**	**257**		**Pn**	**12 22 08.0**	**+1.0**
K29M	**Barlow Dome**	**6.41**	**151**	Pn	**Pn**	**12 22 11.5**	**+2.1**
G18K	**Tagagawik**	**6.47**	**242**		**Pn**	**12 22 10.8**	**+0.6**
J20K	**Nowinta River**	**6.58**	**219**	Pn	**Pn**	**12 22 13.1**	**+1.5**
L26K	**Log Cabin Wild**	**6.60**	**175**	Pn	**Pn**	**12 22 12.2**	**+0.3**
DHY	**Denali Highway**	**6.62**	**191**	Pn	**Pn**	**12 22 11.2**	**-1.1**
BCAR	**Beaver Creek A**	**6.64**	**169**	Pn	**Pn**	**12 22 13.3**	**+0.8**
L27K	**Beaver Creek,**	**6.64**	**169**	Pn	**Pn**	**12 22 12.4**	**-0.1**
A36M	**Sachs Harbour**	**6.83**	**60**	Pn	**Pn**	**12 22 14.9**	**0.0**
CAST	**Castle Rocks**	**6.86**	**209**	Pn	**Pn**	**12 22 14.7**	**-0.7**
H18K	**Honhosa River**	**6.90**	**237**	Pn	**Pn**	**12 22 15.0**	**-1.0**
MAYO	**Mayo, Yukon**	**6.94**	**146**	Pn	**Pn**	**12 22 14.0**	**-2.5**
F17K	**Baldwin Pennin**	**6.97**	**251**	Pn	**Pn**	**12 22 16.7**	**-0.2**
L29M	**L29M**	**7.00**	**155**	Pn	**Pn**	**12 22 19.2**	**+1.8**
J19K	**Poorman**	**7.08**	**223**	Pn	**Pn**	**12 22 18.0**	**-0.4**
C36M	**Paulatuk**	**7.23**	**82**	Pn	**Pn**	**12 22 19.2**	**-1.3**
M26K	**Nabesna, AK**	**7.24**	**174**		**Pn**	**12 22 18.9**	**-1.7**
M27K	**Edge Creek, AK**	**7.33**	**170**		**Pn**	**12 22 21.9**	**-0.2**
H17K	**Granite Mounta**	**7.51**	**239**	Pn	**Pn**	**12 22 22.2**	**-2.2**
M29M	**Somme Creek**	**7.59**	**158**		**Pn**	**12 22 26.0**	**+0.4**
M30M	**Minto, Yukon**	**7.71**	**152**	Pn	**Pn**	**12 22 29.1**	**+2.0**
G16K	**Koyuk River**	**7.97**	**247**	Pn	**Pn**	**12 22 30.1**	**-0.5**
YUK2	**White River**	**7.98**	**167**		**Pn**	**12 22 33.6**	**+2.8**
SKT	**Skwentna**	**8.13**	**204**	Pn	**Pn**	**12 22 32.5**	**-0.4**
VRDI	**Verde Repeater**	**8.40**	**176**	Pn	**Pn**	**12 22 35.1**	**-1.6**
J17K	**VABM Dome**	**8.45**	**230**	Pn	**Pn**	**12 22 36.9**	**-0.3**
M20K	**Styx River**	**8.47**	**208**	Pn	**Pn**	**12 22 39.1**	**+1.6**
M31M	**Drury Creek, Y**	**8.49**	**146**	Pn	**Pn**	**12 22 37.9**	**0.0**
M19K	**Big River Lodg**	**8.67**	**212**	Pn	**Pn**	**12 22 41.6**	**+1.4**
FARO	**Faro, Yukon**	**8.68**	**143**	Pn	**Pn**	**12 22 42.0**	**+1.5**
L18K	**Granite Mounta**	**8.86**	**219**	Pn	**Pn**	**12 22 42.4**	**-0.5**
TGL	**Tana Glacier**	**8.89**	**174**	Pn	**Pn**	**12 22 41.8**	**-1.6**
HYT	**Haines Junctio**	**9.28**	**158**	Pn	**Pn**	**12 22 47.1**	**-1.6**
TABL	**Table Mountain**	**9.29**	**169**	Pn	**Pn**	**12 22 47.7**	**-1.2**
O30N	**Mendenhall**	**9.53**	**154**	Pn	**Pn**	**12 22 49.9**	**-2.2**
WRGLY	**Wrigley**	**10.56**	**117**	Pn	**Pn**	**12 23 06.8**	**+0.7**
M14K	**Bethel**	**11.41**	**228**	Pn	**Pn**	**12 23 18.8**	**+1.2**
YKA	**Yellowknife Ar**	**13.97**	**106**	Pn	**Pn**	**12 23 49.9**	**-2.7**
	comp=N,0.1nm,0.3s,baz=312,slow=31,SNR=4.0						
	comp=N,0.3nm,0.5s						
PDAR	**Pinedale Array**	**32.32**	**128**	P	**P**	**12 27 07.7**	**+3.7**
	comp=N,0.2nm,0.6s,baz=347,slow=5.8,SNR=2.3						
	comp=N,0.2nm,0.6s						

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*IDC **23** 13:03:26.9±2.0, 34°.65N×45°.43E, h0km, mb3.8/8, mbtmp3.7/9, ML4.1/1, Error ellipse: s-maj=43.0km s-min=23.1km az=171.0*
*ISN **23** 13:03:27.9±1.0, 34°.68N×45°.53E, h6km±21km, ML3.5*
*TEH **23** 13:03:29.6, 34°.66N×45°.54E, h9km±35km, ML3.5*
ISC 23 13:03:30.3±0.7,**34°.64N**±0°.03×**45°.51E**±0°.04,**h18**km,**n42**, σ1§**55**/45,**mb3.6**/8,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.14**	**153**	Pg	**Pb**	**13 03 33.8**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.62**	**147**	Pg	**Pb**	**13 03 41.8**	**-0.8**
IDHR	**Dehrash**	**0.73**	**85**	Pg	**Pb**	**13 03 43.0**	**-1.6**
IGHG	**Ghaleghazi**	**0.93**	**109**	Pg	**Pb**	**13 03 48.3**	**+0.2**
ILBA	**Ilam Banvizeh**	**1.16**	**150**	Pg	**Pn**	**13 03 51.4**	**-0.4**
IKRK	**Kirkuk**	**1.23**	**309**	ePg	**Pb**	**13 03 53.0**	**0.0**
IKRK				eSg	**Sg**	**13 04 10.7**	**+0.6**
IKRK				AML	AML	13 04 13.6	
	comp=N,3μm,0.5s						
IKRK				AML	AML	13 04 17.2	
	comp=E,2μm,0.8s						
ILIN	**Lien**	**1.23**	**76**	Pg	**Pn**	**13 03 52.4**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.32**	**105**	Pg	**Pn**	**13 03 54.9**	**+0.9**
SDS1	**Sardasht. Az.**	**1.51**	**359**	Pg	**Pn**	**13 03 57.9**	**+1.2**
IBDR	**Badra**	**1.56**	**167**	ePn	**Pn**	**13 03 58.0**	**+0.8**
IBDR				eSn	**Sg**	**13 04 21.0**	**+0.3**
IBDR				AML	AML	13 04 27.0	
	comp=N,336nm,0.7s						
IBDR				AML	AML	13 04 36.0	
	comp=E,438nm,0.7s						
BHD	**Baghdad**	**1.65**	**215**	ePn	**Pb**	**13 04 00.5**	**+0.2**
BHD				eSn	**Sg**	**13 04 23.0**	**-0.7**
BHD				AML	AML	13 04 26.4	
	comp=E,2μm,0.2s						
SNQR	**Sonqor, Kerman**	**1.76**	**82**	Pg	**Pn**	**13 04 02.4**	**+2.2**
MAHB	**Mahabad**	**2.13**	**4**	Pn	**Pn**	**13 04 07.3**	**+2.1**
IKFM	**Kafar-mosalman**	**2.23**	**119**	Pn	**Pn**	**13 04 08.7**	**+2.3**
IDOB	**Doab**	**2.37**	**110**	Pn	**Pn**	**13 04 10.2**	**+1.7**
HSAM	**Samen**	**2.59**	**99**	Pn	**Pn**	**13 04 13.5**	**+1.9**
BDRS	**Dareh Seyedi**	**2.87**	**103**	Pn	**Pn**	**13 04 17.1**	**+1.6**
RAFI	**Al-Rafai**	**2.95**	**170**	ePn	**Pn**	**13 04 18.0**	**+1.7**
RAFI				eSn	**Sn**	**13 04 54.0**	**+2.8**
RAFI				AML	AML	13 05 18.0	
	comp=E,162nm,0.7s						
RAFI				AML	AML	13 05 21.8	
	comp=N,119nm,0.7s						
HAGD	**Aghdareh**	**3.00**	**85**	Pn	**Pn**	**13 04 19.2**	**+2.0**
IHSH	**Hashtrud**	**3.02**	**28**	Pn	**Pn**	**13 04 19.6**	**+2.0**
IAZR	**Azarshahr**	**3.06**	**7**	Pn	**Pn**	**13 04 19.8**	**+1.7**
ISRB	**Sarab**	**3.63**	**28**	Pn	**Pn**	**13 04 27.9**	**+2.0**
IRAZ	**Razeghan**	**3.71**	**77**	Pn	**Pn**	**13 04 28.7**	**+1.8**
GRMI	**Germi**	**4.58**	**24**	Pn	**Pn**	**13 04 40.9**	**+2.0**
IQOM	**Qom**	**4.58**	**86**	Pn	**Pn**	**13 04 40.2**	**+1.2**
QAMS	**Qamsar**	**4.96**	**99**	Pn	**Pn**	**13 04 46.3**	**+2.1**
IVRN	**Varamin**	**5.13**	**84**	Pn	**Pn**	**13 04 47.4**	**+1.0**
IKLH	**Kolahrood**	**5.21**	**103**	Pn	**Pn**	**13 04 50.1**	**+2.4**
KRSH	**Karshahi**	**5.53**	**95**	Pn	**Pn**	**13 04 53.9**	**+2.0**
ISFB	**Sefidab**	**5.57**	**91**	Pn	**Pn**	**13 04 53.5**	**+1.2**
IFIR	**Firoozkooh**	**6.02**	**78**	Pn	**Pn**	**13 05 00.8**	**+2.1**
IRAM	**Ramesheh**	**6.41**	**114**	Pn	**Pn**	**13 05 05.9**	**+1.8**
MMAI	**Mount Meron Ar**	**8.56**	**262**	Lg	Lg	13 07 52.8	
	comp=N,1.0nm,0.3s,baz=130,slow=51,SNR=1.5						
AKASG	**Malin Array Be**	**19.96**	**329**	P	**P**	**13 08 01.0**	**-0.3**
	comp=N,0.5nm,0.3s,baz=142,slow=9.8,SNR=2.8						
	comp=N,0.3nm,0.4s						
BVAR	**Borovoye Array**	**25.48**	**36**	P	**P**	**13 08 57.0**	**-0.2**
	comp=N,1.0nm,0.7s,baz=229,slow=11,SNR=5.5						
	comp=N,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**28.77**	**46**	P	**P**	**13 09 26.6**	**-0.3**
	comp=N,0.2nm,0.3s,baz=250,slow=9.3,SNR=1.5						
	comp=N,0.2nm,0.3s						
FINES	**FINESS Array B**	**29.56**	**341**	P	**P**	**13 09 32.6**	**-1.2**
	comp=N,2.3nm,0.9s,baz=161,slow=9.7,SNR=5.1						
	comp=N,2.3nm,0.9s						
MKAR	**Makanchi Array**	**30.14**	**55**	P	**P**	**13 09 39.7**	**+0.7**
	comp=N,0.6nm,0.6s,baz=254,slow=9.6,SNR=9.5						
	comp=N,0.6nm,0.6s						
HFS	**Hagfors**	**32.81**	**331**	P	**P**	**13 10 01.6**	**-0.8**
	comp=N,3.2nm,0.4s,baz=131,slow=8.1,SNR=19						
	comp=N,3.2nm,0.4s						
ZALV	**Zalesovo Beam**	**33.54**	**43**	P	**P**	**13 10 06.9**	**-2.0**
	comp=N,0.4nm,0.4s,baz=255,slow=8.8,SNR=1.9						
	comp=N,0.4nm,0.4s						
NOA	**NORSAR Array B**	**34.33**	**331**	P	**P**	**13 10 13.9**	**-1.8**
	comp=N,0.3nm,0.5s,baz=126,slow=8.7,SNR=1.9						
	comp=N,0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**44.97**	**253**	P	**P**	**13 11 43.4**	**-1.3**
	comp=N,0.3nm,0.7s,baz=44,slow=6.9,SNR=0.9						
	comp=N,0.3nm,0.7s						

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*IDC **23** 13:08:02.0±1.1, 32°.47N×89°.72E, h0km, mb3.7/5, mbtmp3.6/9, ML3.1/3, MS3.2/3, Error ellipse: s-maj=49.0km s-min=17.9km az=65.0*
ISC 23 13:08:03.4±0.8,**32°.63N**±0°.06×**90°.0E**±0°.1,**h10**km,**n15**, σ1§**54**/14,**mb3.6**/5,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.09**	**161**	Pn	**Pg**	**13 09 01.0**	**-1.6**
LSA				Sn	**Sg**	**13 09 45.4**	**+2.7**
LSA				smax	smax		
	comp=N,65nm,0.6s						
GOMU	**GeErMu**	**5.35**	**47**	P	**Pb**	**13 09 35.9**	**-1.3**
GOMU				pmax	pmax		
	comp=Z,24nm,1.4s						
GOMU				LR	LR		
	comp=N,980nm,6.4s						
GOMU				LR	LR		
	comp=E,770nm,6.0s						
GOMU				LR	LR		
	comp=Z,820nm,7.3s						
WMQ	**Urumqi**	**11.31**	**352**	eP	**Pn**	**13 10 45.3**	**+0.1**
WMQ				smax	smax		

CMIG	**Matias Romero**	**1.59**	**360**	LR	LR	13 29 25.6		
	comp=Z,276nm,18.9s,baz=214,slow=36							
CMIG	**Matias Romero**	**1.59**	**360**	*e*P	**Pn**	**13 28 48.4**	**+0.5**	
CMIG				*e*S	**Sn**	**13 29 06.8**	**-1.8**	
PCIG		**1.61**	**82**	*e*P	**Pn**	**13 28 49.4**	**+1.3**	
PCIG				*e*P	**Pb**	**13 28 50.0**	**+0.7**	
PCIG				*e*S	**Sn**	**13 29 08.8**	**-0.4**	
PCIG				*e*S	**Sb**	**13 29 08.9**	**-0.9**	
UXUV	**UXUV**	**1.94**	**21**	*i* P	**Pn**	**13 28 54.6**	**+1.8**	
UXUV				*i* S	**Sn**	**13 29 17.0**	**-0.5**	
TGIG		**2.11**	**53**	*e*P	**Pb**	**13 28 57.5**	**-0.5**	
TGIG				*e*S	**Sn**	**13 29 22.3**	**+0.5**	
TGBT	**Tuxtla Gutierr**	**2.14**	**53**	*e*P	**Pn**	**13 28 57.2**	**+1.8**	
TGBT				*i* S	**Sn**	**13 29 23.4**	**+1.2**	
PEIG	**Puerto Escondi**	**2.24**	**283**	*e*P	**Pn**	**13 28 58.2**	**+1.3**	
PEIG				*e*S	**Sn**	**13 29 20.7**	**-4.2**	
OXBJ	**Oaxaca**	**2.37**	**312**	*e*S	**Sn**	**13 29 29.9**	**+1.7**	
VHO	**Vista Hermosa**	**2.38**	**312**	*e*P	**Pn**	**13 29 00.3**	**+1.4**	
VHO				*e*S	**Sn**	**13 29 27.9**	**-0.5**	
NEUV	**Arroyo Zacate**	**2.38**	**338**	*i* P	**Pn**	**13 28 59.0**	**+0.2**	
NEUV				*e*S	**Sn**	**13 29 27.4**	**-0.7**	
TUIG	**Tuzandepetl**	**2.56**	**10**	*e*P	**Pn**	**13 29 03.3**	**+2.1**	
TUIG				*i* S	**Sn**	**13 29 32.8**	**+0.1**	
CHUJ	**Union Juarez**	**2.70**	**98**	*e*P	**Pn**	**13 29 05.4**	**+2.0**	
CHUJ				*e*S	**Sn**	**13 29 36.3**	**-0.2**	
CCIG	**Comitan**	**2.75**	**73**	*e*P	**Pb**	**13 29 08.7**	**-0.2**	
CCIG				*e*S	**Sn**	**13 29 39.0**	**+1.4**	
YOIG	**Yosondua**	**2.90**	**298**	*e*P	**Pn**	**13 29 09.5**	**+3.3**	
YOIG				*e*S	**Sn**	**13 29 38.7**	**-2.8**	
PMUV	**Sontecomapan**	**3.04**	**356**	*e*P	**Pn**	**13 29 08.0**	**0.0**	
PMUV				*i* S	**Sn**	**13 29 42.0**	**-2.6**	
RTAL	**Retalhuleu**	**3.22**	**107**	*i* S	**Sn**	**13 29 46.0**	**-3.0**	
PNIG	**Pinotepa**	**3.25**	**286**	*i* P	**Pn**	**13 29 12.9**	**+2.1**	
PNIG				*e*S	**Sn**	**13 29 46.1**	**-3.7**	
HUEH	**Huehuetenango**	**3.26**	**93**	*i* P	**Pb**	**13 29 16.4**	**-1.2**	
HUEH				*e*S	**Sn**	**13 29 52.4**	**+2.2**	
TXIG	**Tlaxiaco**	**3.28**	**303**	*e*P	**Pn**	**13 29 15.4**	**+4.0**	
TXIG				*e*S	**Sn**	**13 29 48.4**	**-2.4**	
TOIG	**Toxpalan**	**3.33**	**321**	*e*P	**Pn**	**13 29 16.3**	**+4.4**	
TOIG				*e*S	**Sn**	**13 29 50.5**	**-1.3**	
HLIG	**Huajuapan de L**	**3.64**	**310**	*e*P	**Pn**	**13 29 20.7**	**+4.4**	
HLIG				*i* S	**Sn**	**13 29 58.2**	**-1.5**	
TPIG	**Tehuac#an**	**3.76**	**321**	*e*P	**Pn**	**13 29 17.4**	**-0.5**	
TPIG				*e*S	**Sn**	**13 30 04.0**	**+1.5**	
FTIG	**Fresnillo de T**	**3.94**	**308**	*e*P	**Pn**	**13 29 24.2**	**+3.9**	
FTIG				*e*S	**Sn**	**13 30 05.2**	**-1.6**	
MGIG	**Malinaltepec**	**4.00**	**296**	*e*P	**Pn**	**13 29 25.0**	**+3.8**	
MGIG				*e*S	**Sn**	**13 30 05.9**	**-2.6**	
TLIG	**Tlapa**	**4.09**	**301**	*e*P	**Pn**	**13 29 24.8**	**+2.3**	
TLIG				*i* S	**Sn**	**13 30 10.0**	**-0.7**	
JAUV	**Jalcomulco**	**4.27**	**335**	*e*P	**Pn**	**13 29 24.7**	**-0.1**	
JAUV				*e*S	**Sn**	**13 30 12.4**	**-2.5**	
CRIG	**Cruz Grande**	**4.27**	**287**	*e*P	**Pn**	**13 29 27.1**	**+2.3**	
CRIG				*e*S	**Sn**	**13 30 09.6**	**-5.3**	
DAIG	**Los Arroyos**	**4.83**	**289**	*i* P	**Pn**	**13 29 35.0**	**+2.5**	
DAIG				*e*S	**Sn**	**13 30 23.7**	**-5.0**	
SCIG	**Sabancuy**	**4.94**	**45**	*e*P	**Pn**	**13 29 35.0**	**+1.1**	
SCIG				*e*S	**Sn**	**13 30 26.4**	**-4.9**	
PBCV	**Popocatepetl**	**4.94**	**315**	*e*P	Pn	13 29 39.8	+5.5	
PBCV				*i* S	**Sn**	**13 30 37.6**	**+5.6**	
PETF	**Flores**	**5.01**	**73**	*e*P	**Pn**	**13 29 35.0**	**-0.1**	
PETF				*e*S	**Sn**	**13 30 30.9**	**-2.4**	
PBXN	**Popocatepetl**	**5.03**	**315**	*e*P	Pn	13 29 26.3	-9.3	
PBXN				*e*P	Pb	13 29 39.4	-8.5	
PBXN				*i* S	Sn	13 30 24.0	-10	
PBXN				*i* S	Sb	13 30 38.6	-10	
PPM	**Popocatepetl**	**5.05**	**315**	*e*P	Pn	13 29 41.7	+5.8	
PPM				*e*S	**Sn**	**13 30 39.8**	**+5.0**	
YAIG	**Yautepec**	**5.22**	**310**	*e*P	**Pn**	**13 29 41.9**	**+3.9**	
YAIG				*e*S	**Sn**	**13 30 34.9**	**-3.7**	
PLIG	**Platanillo**	**5.28**	**304**	*e*P	Pn	13 29 44.1	+5.3	
PLIG				*e*S	**Sn**	**13 30 37.1**	**-2.9**	
CXUV	**Coxquihui**	**5.32**	**331**	*e*P	**Pn**	**13 29 40.7**	**+1.4**	
CXUV				*e*S	**Sn**	**13 30 38.1**	**-2.8**	
CAIG	**El Cayaco**	**5.40**	**287**	*e*P	**Pn**	**13 29 43.4**	**+3.0**	
CAIG				*e*S	**Sn**	**13 30 36.5**	**-6.3**	
AOVM	**Tlapan**	**5.67**	**312**	*e*P	Pn	13 29 50.9	+6.5	
AOVM				*e*S	**Sn**	**13 30 47.7**	**-2.3**	
TXAR	**Lajitas Array**	**15.98**	**331**	Pn	**P**	**13 32 08.4**	**0.0**	
	0.1nm,0.3s,baz=146,slow=13,SNR=8.1 0.9nm,0.8s							
SDV	**Santo Domingo**	**24.57**	**103**	LR	LR	13 44 43.0		
	comp=Z,112nm,18.7s,baz=298,slow=40							
SJG	**San Juan**	**27.61**	**81**	LR	LR	13 44 37.1		
	comp=Z,68nm,20.1s,baz=12,slow=36							
NVAR	**Mina Array Bea**	**30.78**	**322**	P	**P**	**13 34 38.1**	**+2.3**	
	0.6nm,0.7s,baz=123,slow=9.8,SNR=5.2 0.6nm,0.7s							
YBH	**Yreka Blue Hor**	**35.49**	**323**	LR	LR	13 50 30.4		
	comp=Z,205nm,18.1s,baz=34,slow=37							
EKA	**Eskdalemuir Ar**	**78.38**	**36**	P	**P**	**13 40 20.2**	**-0.3**	
	0.7nm,0.6s,baz=279,slow=5.0,SNR=1.5 0.7nm,0.6s							
ESDC	**Sonseca Array**	**80.97**	**51**	P	**P**	**13 40 35.0**	**+0.1**	
	1.3nm,0.9s,baz=290,slow=5.3,SNR=6.8 1.3nm,0.9s							
WRA	**Warramunga Arr**	**133.04**	**257**	PKP	**PKPdf**	**13 47 34.5**	**-2.0**	
	0.3nm,0.8s,baz=84,slow=2.1,SNR=2.1							

*NEIC **23** 13:45:34.2±1.6, 15°.12S±0°.09×174°.54W±0°.08, h202km±7km, mb4.3/28, Error ellipse: s-maj=12.9km s-min=11.2km az=176.0*
*IDC **23** 13:45:38.8±3.1, 14°.99S×174°.78W, h241km±28km, mb3.8/11, mbtmp4.4/12, Error ellipse: s-maj=22.6km s-min=13.8km az=131.0*

ISC 23 13:45:34.0±0.4, 15°.10S±0°.08×174°.57W±0°.07, h200km, n87, σ1°09/87, mb4.3/26, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.96**	**67**		**Pn**	**13 46 24.7**	**+1.5**
AFI				Sn	**Sn**	**13 47 01.9**	**+0.3**
FUTU	**Fugatoga**	**3.52**	**283**		**Pn**	**13 46 32.3**	**+2.4**
NIUE	**Niue**	**5.95**	**132**		**Pn**	**13 47 02.0**	**+1.4**
NIUE				Sn	**Sn**	**13 48 07.6**	**-1.5**
MSVF	**Nonsavu**	**7.55**	**249**	Pn	**Pn**	**13 47 25.0**	**+3.5**
MSVF	**Nonsavu**	**7.55**	**249**	P	**Pn**	**13 47 25.2**	**+3.7**
	51nm,1.1s,baz=92,slow=9.8,SNR=17						
FUNA	**Funafuti**	**8.94**	**316**	Pn	**Pn**	**13 47 41.5**	**+1.9**
DZM	**Mont Dzumac**	**19.27**	**246**	P	**Pn**	**13 49 47.1**	**-0.1**
	4.4nm,0.9s,baz=103,slow=18,SNR=1.5						
WHZ	**Wether Hill Ro**	**34.03**	**202**	P	**P**	**13 51 59.1**	**+0.1**
CTAO	**Charters Tower**	**37.61**	**257**	P	**P**	**13 52 28.3**	**-1.5**
CTAO				IAmb	IAmb	13 52 45.0	
	comp=Z,13nm,1.3s						
H11S2	**WAKE ISLAND Hy**	**38.14**	**330**	T	T	14 34 44.2	
	baz=147						
H11S3	**WAKE ISLAND Hy**	**38.15**	**330**	T	T	14 34 33.6	
	baz=147						
H11S1	**WAKE ISLAND Hy**	**38.16**	**330**	T	T	14 34 36.8	
	baz=147						
COEN	**Coen**	**40.87**	**266**	P	**P**	**13 52 57.0**	**+0.2**
COEN				IAmb	IAmb	13 52 58.6	
	comp=Z,12nm,1.4s						
STKA	**Stephens Creek**	**43.21**	**239**	P	**P**	**13 53 14.5**	**-1.1**
	comp=Z,2.4nm,0.8s,baz=84,slow=9.2,SNR=1.9 comp=Z,2.4nm,0.8s						
BBOO	**Buckleboo**	**47.98**	**239**	P	**P**	**13 53 51.9**	**-1.1**
BBOO				IAmb	IAmb	13 54 13.7	
	comp=Z,34nm,1.4s						
WR0	**Warramunga Arr**	**48.62**	**257**	P	**P**	**13 53 56.5**	**-1.4**
WB0	**Warramunga Arr**	**48.77**	**257**	P	**P**	**13 53 57.9**	**-1.2**
WB2	**Warramunga Arr**	**48.80**	**257**	P	**P**	**13 53 58.1**	**-1.2**
WB2				IAmb	IAmb	13 54 15.1	
	comp=Z,9.9nm,1.4s						
WRAB	**Tennant Creek**	**48.80**	**257**	P	**P**	**13 53 57.6**	**-1.7**
WRA	**Warramunga Arr**	**48.81**	**257**	P	**P**	**13 53 57.5**	**-2.0**
	comp=Z,1.3nm,0.4s,baz=91,slow=7.5,SNR=43						
WRA				PcP	**PcP**	**13 55 20.6**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=88,slow=3.6,SNR=11 comp=Z,1.3nm,0.4s						
AS31	**Alice Springs**	**49.13**	**252**	P	**P**	**13 54 00.7**	**-1.1**
AS31				IAmb	IAmb	13 54 01.7	
	comp=Z,5.2nm,0.6s						
ASAR	**Alice Springs**	**49.13**	**252**	P	**P**	**13 53 59.9**	**-2.0**
	comp=Z,19nm,0.5s,baz=88,slow=7.8,SNR=405						
ASAR				PcP	**PcP**	**13 55 21.9**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=104,slow=3.3,SNR=5.4 comp=Z,19nm,0.5s						
MTN	**Manton Dam**	**52.63**	**265**	P	**P**	**13 54 27.1**	**-0.8**
FORT	**Forrest**	**54.54**	**243**	P	**P**	**13 54 39.2**	**-2.5**
PEA0B	**Petropavlovsk-**	**72.01**	**343**	P	**P**	**13 56 35.4**	**-0.4**
PETK	**Petropavlovsk-**	**72.01**	**343**	P	**P**	**13 56 34.8**	**-1.0**
	comp=Z,6.2nm,0.9s,baz=103,slow=10,SNR=8.8 comp=Z,6.2nm,0.9s						
PLK4	**Peulik 4**	**74.02**	**10**	P	**P**	**13 56 47.3**	**-0.3**
KDAK	**Kodiak Island**	**74.86**	**12**	P	**P**	**13 56 52.2**	**-0.1**
KDAK				IAmb	IAmb	13 57 15.2	
	comp=Z,16nm,1.3s						
NVAR	**Mina Array Bea**	**74.87**	**43**	P	**P**	**13 56 54.5**	**+1.4**
	comp=Z,0.9nm,0.7s,baz=232,slow=9.9,SNR=9.3 comp=Z,0.9nm,0.7s						
QSPA	**South Pole Qui**	**74.94**	**180**	P	**P**	**13 56 53.9**	**+1.0**
QSPA	**South Pole Qui**	**74.94**	**180**	P	**P**	**13 56 53.9**	**+1.0**
	comp=Z,10nm,0.7s,baz=359,slow=0.6,SNR=84 comp=Z,10nm,0.7s						
NV11	**Mina Array Sit**	**74.97**	**43**	P	**P**	**13 56 54.2**	**+0.7**
TXAR	**Lajitas Array**	**81.39**	**57**	P	**P**	**13 57 30.1**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=234,slow=3.9,SNR=5.6 comp=Z,0.5nm,0.8s						
HDA	**Harding Lake**	**82.04**	**12**	P	**P**	**13 57 31.5**	**0.0**
CCB	**Clear Creek Bu**	**82.09**	**11**		**P**	**13 57 31.6**	**-0.1**
CCB				IAmb	IAmb	13 57 32.5	
	comp=Z,3.5nm,0.6s						
ILAR	**Eielson Array**	**82.38**	**12**	P	**P**	**13 57 32.4**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=227,slow=6.2,SNR=20 comp=Z,0.6nm,0.5s						
PD31	**Pinedale Array**	**82.81**	**42**	P	**P**	**13 57 36.6**	**+0.4**
PDAR	**Pinedale Array**	**82.81**	**42**	P	**P**	**13 57 36.4**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=212,slow=3.4,SNR=14 comp=Z,1.9nm,0.8s						
J26L	**Joseph Creek**	**82.82**	**13**	P	**P**	**13 57 35.6**	**+0.1**
L29M	**L29M**	**82.95**	**16**	P	**P**	**13 57 36.1**	**-0.1**
L29M				IAmb	IAmb	13 57 39.6	
	comp=Z,12nm,1.4s						
E22K	**Anaktuvuk Pass**	**84.63**	**8**	P	**P**	**13 57 44.8**	**+0.1**
E22K				IAmb	IAmb	13 57 46.0	
	comp=Z,8.4nm,1.2s						
F24K	**Squaw Lake**	**84.67**	**10**	P	**P**	**13 57 45.2**	**+0.4**
F24K				IAmb	IAmb	13 58 05.4	
	comp=Z,5.5nm,1.4s						
I30M	**Mount Dempster**	**85.12**	**15**	P	**P**	**13 57 46.7**	**-0.5**
I30M				IAmb	IAmb	13 57 48.3	
	comp=Z,4.0nm,0.9s						
BMAR	**Burnt Mountain**	**85.18**	**11**	P	**P**	**13 57 48.6**	**+1.3**
H29M	**Whitestone**	**85.45**	**14**	P	**P**	**13 57 49.1**	**+0.4**
H29M				IAmb	IAmb	13 57 49.9	
	comp=Z,6.3nm,0.8s						
D23K	**Nanushuk River**	**85.56**	**8**	P	**P**	**13 57 49.4**	**+0.3**
D23K				IAmb	IAmb	13 58 02.3	
	comp=Z,8.9nm,1.5s						
IPM	**Ipoh**	**85.76**	**276**	P	**P**	**13 57 50.9**	**-0.5**
G29M	**Pine Creek**	**86.10**	**14**	P	**P**	**13 57 52.3**	**+0.4**
C23K	**Itkillik River**	**86.38**	**8**	P	**P**	**13 57 53.2**	**+0.1**
C23K				IAmb	IAmb	13 58 22.7	
	comp=Z,7.4nm,1.3s						
MAW	**Mawson**	**87.71**	**199**	P	**P**	**13 58 00.1**	**+0.4**
	comp=Z,12nm,0.7s,baz=135,slow=5.4,SNR=32 comp=Z,12nm,0.7s						
PZH	**PanZhiHua**	**91.13**	**297**	P	**P**	**13 58 16.1**	**-0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,6.7s						
CMAR	**Chiang Mai Arr**	**91.45**	**289**	P	**P**	**13 58 18.3**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=84,slow=2.8,SNR=9.1 comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**109.81**	**315**	PKiKP	**PKiKP**	**14 03 39.8**	**-1.5**
	comp=Z,0.8nm,0.6s,baz=119,slow=0.8,SNR=8.9						
BVAR	**Borovoye Array**	**116.95**	**322**	PKP	**PKPdf**	**14 03 53.6**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=18,slow=1.9,SNR=6.8						
MORC	**Moravsky Berou**	**144.04**	**347**	*e*PKP	**PKPab**	**14 04 44.1**	**+0.4**
LANS	**Liptovska Anna**	**144.15**	**344**	*e*PKP	PKPbc	14 04 45.3	+0.7
KMBO	**Kilima Mbogo**	**144.63**	**246**	PKP	**PKPdf**	**14 04 48.1**	**0.0**
	comp=Z,6.6nm,0.9s,baz=164,slow=2.3,SNR=9.7						
VRAC	**Vranov**	**144.69**	**347**	*e*PKP	**PKPab**	**14 04 46.3**	**+0.2**
JAVC	**Velka Javorina**	**144.87**	**346**	*e*PKP	**PKPdf**	**14 04 48.1**	**+0.8**
VYHS	**Vyhne**	**144.92**	**344**	*e*PKP	**PKPab**	**14 04 47.3**	**+0.3**
KRUC	**Moravsky**	**144.96**	**347**	*e*PKP	PKPbc	14 04 47.1	+0.1
ZVC	**Zvikov**	**145.01**	**350**	*e*PKP	**PKPab**	**14 04 47.6**	**+0.3**
MLR	**Muntele Rosu**	**145.12**	**334**		**PKPbc**	**14 04 47.8**	**0.0**
BRTR	**Keskin Array B**	**145.21**	**320**	PKPbc	**PKPdf**	**14 04 47.5**	**-0.7**
	comp=Z,4.5nm,0.9s,baz=95,slow=1.4,SNR=12						
KHC	**Kasperske Hory**	**145.41**	**351**	*e*PKP	**PKPdf**	**14 04 48.5**	**+0.3**
MODS	**Modra-Piesok**	**145.41**	**346**	*e*PKP	**PKPab**	**14 04 49.5**	**+0.6**
CKRC	**Cesky Krumlov**	**145.59**	**350**	*e*PKP	**PKPdf**	**14 04 48.5**	**0.0**
GERES	**GERESS Array B**	**145.67**	**350**	PKPbc	**PKPdf**	**14 04 49.1**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=19,slow=4.5,SNR=12						
CONA	**Conrad Observa**	**146.15**	**347**	*i* PKP	**PKPbc**	**14 04 51.3**	**+0.5**
	comp=Z,6.8nm,0.7s						
RONA	**Rosalia, Austr**	**146.27**	**347**	*i* PKP	**PKPbc**	**14 04 50.8**	**-0.3**
	comp=Z,12nm,1.1s						
MOA	**Molln**	**146.54**	**349**	*i* PKP	**PKPdf**	**14 04 51.2**	**+1.1**
	comp=Z,9.9nm,1.4s						
BIOA	**Bad Ischl, Aus**	**146.80**	**350**	*i* PKP	**PKPdf**	**14 04 51.5**	**+1.0**
	comp=Z,4.0nm,0.8s						
ARSA	**Arzberg**	**146.86**	**347**	*i* PKP	**PKPdf**	**14 04 51.5**	**+0.8**
	comp=Z,1.9nm,0.8s						
LESA	**Schwarzleotal**	**147.22**	**351**	*i* PKP	**PKPbc**	**14 04 53.7**	**-0.2**
	comp=Z,2.5nm,0.5s						
RETA	**Reutte**	**147.41**	**353**	*i* PKP	**PKPbc**	**14 04 54.6**	**+0.2**
	comp=Z,6.4nm,0.8s						
KBA	**Koelnbreinsper**	**147.44**	**350**	*i* PKP	**PKPbc**	**14 04 54.1**	**-0.5**
	comp=Z,4.2nm,0.5s						
WATA	**Walderalm**	**147.46**	**352**	*i* PKP	**PKPbc**	**14 04 53.8**	**-0.8**
	comp=Z,2.3nm,0.4s						
MMAI	**Mount Meron Ar**	**147.50**	**309**	PKPbc	**PKPbc**	**14 04 55.0**	**-0.1**
	comp=Z,4.1nm,0.6s,baz=46,slow=2.4,SNR=8.7						
MOTA	**Moosalm**	**147.51**	**353**	*i* PKP	**PKPbc**	**14 04 54.1**	**-0.7**
	comp=Z,7.2nm,1.0s						
SOKA	**Soboth**	**147.51**	**348**	*i* PKP	**PKPbc**	**14 04 54.3**	**-0.4**
	comp=Z,5.7nm,0.8s						
WTTA	**Wattenberg**	**147.52**	**352**	*i* PKP	**PKPbc**	**14 04 54.4**	**-0.4**
	comp=Z,8.9nm,0.7s						
SQTA	**Sankt Quirin**	**147.62**	**353**	*i* PKP	**PKPbc**	**14 04 54.4**	**-0.6**
	comp=Z,7.9nm,0.9s						
DAVA	**Damuels**	**147.70**	**354**	*i* PKP	**PKPbc**	**14 04 54.8**	**-0.5**
	comp=Z,8.8nm,1.0s						
MYKA	**Terra Mystica**	**147.83**	**349**	*i* PKP	**PKPbc**	**14 04 54.8**	**-0.7**
	comp=Z,5.9nm,0.7s						
FETA	**Feichten**	**147.87**	**353**	*i* PKP	**PKPdf**	**14 04 54.3**	**+1.8**
	comp=Z,7.4nm,1.2s						
ABTA	**Abfaltersbach**	**147.90**	**351**	*i* PKP	**PKPbc**	**14 04 55.3**	**-0.4**
	comp=Z,12nm,1.2s						
ESDC	**Sonseca Array**	**154.18**	**17**	PKPbc	**PKPbc**	**14 05 10.2**	**-0.3**
	comp=Z,1.8nm,1.1s,baz=337,slow=2.9,SNR=5.1						
ESDC				PKPab	**PKPab**	**14 05 23.5**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=356,slow=2.7,SNR=4.9						

*THE **23** 13:49:02.6, 37°.62N×20°.71E, h4km±15km, ML3.0/3, Error ellipse: s-maj=16.1km s-min=0.9km az=83.0*
*ATH **23** 13:49:02.1, 37°.61N×20°.81E, h12km±1km, ML2.8/13, Error ellipse: s-maj=2.2km s-min=0.8km az=29.0*

ISC 23 13:49:00.9±1.3, 37°.59N±0°.05×20°.76E±0°.06, h16km±5km, n20, σ0°65/32, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.09**	**35**	P	**Pg**	**13 49 04.6**	**+0.5**
KRI1				S	**Sg**	**13 49 06.0**	**-0.2**
	32μm,0.3s						
LTHK	**Lithakia**	**0.13**	**29**	P	**Pg**	**13 49 04.8**	**+0.1**
LTHK				S	**Sg**	**13 49 06.3**	**-0.9**
LTHK				AML	AML	13 49 06.7	
LTHK				AML	AML	13 49 06.9	
	comp=E,66845μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.54**	**345**	P	**Pb**	**13 49 12.2**	**+0.2**
PSDA				S	**Sb**	**13 49 19.9**	**+0.4**
VLS	**Valsamata**	**0.60**	**347**	P	**Pb**	**13 49 13.0**	**0.0**
VLS				S	**Sb**	**13 49 21.2**	**-0.2**
VLS				AML	AML	13 49 22.9	
	comp=N,5002μm,0.2s						
VLS				AML	AML	13 49 22.9	
	comp=E,7736μm,0.2s						
DMLN	**Damoulianata-K**	**0.71**	**335**	P	**Pn**	**13 49 15.7**	**-0.7**
DMLN				S	**Sn**	**13 49 25.8**	**-1.3**
RLS	**Riolos of Patr**	**0.73**	**50**	P	**Pg**	**13 49 14.3**	**-0.8**
RLS				S	**Sg**	**13 49 24.3**	**-0.5**
RLS				AML	AML	13 49 27.1	
	comp=N,655μm,0.4s						
RLS				AML	AML	13 49 27.1	
	comp=E,1222μm,0.4s						
AMT	**Artemida-Makis**	**0.76**	**94**	P	**Pg**	**13 49 16.0**	**+0.3**
AMT				S	**Sg**	**13 49 25.9**	**+0.1**
AMT				AML	AML	13 49 30.4	
	comp=E,5876μm,0.4s						
AMT				AML	AML	13 49 31.4	
	comp=N,5226μm,0.3s						
VSK1	**VASILIKIADES**	**0.83**	**350**	P	**Pb**	**13 49 17.1**	**+0.1**
VSK1				S	**Sn**	**13 49 29.3**	**-0.7**
	comp=N,1μm,0.6s						
DRO	**Drossia**	**0.84**	**64**	P	**Pg**	**13 49 16.9**	**-0.3**
DRO				S	**Sg**	**13 49 28.3**	**+0.1**
DRO				AML	AML	13 49 39.3	
	comp=N,1643μm,0.4s						
DRO				AML	AML	13 49 42.6	
	comp=E,1147μm,0.6s						
FSK	**Fiskardo**	**0.88**	**350**	P	**Pb**	**13 49 17.8**	**-0.1**
FSK				S	**Sn**	**13 49 30.4**	**-0.7**
FSK				AML	AML	13 49 35.9	
	comp=E,1497μm,0.4s						
FSK				AML	AML	13 49 37.8	
	comp=N,1093μm,0.4s						
ITM	**Ithomi**	**1.02**	**113**	P	**Pg**	**13 49 20.7**	**+0.1**
ITM				S	**Sg**	**13 49 33.7**	**-0.2**
ITM				AML	AML	13 49 41.8	
	comp=N,518μm,0.4s						
ITM				AML	AML	13 49 45.3	
	comp=E,489μm,0.9s						
EVGI	**Lefkada island**	**1.03**	**356**	P	**Pn**	**13 49 20.8**	**0.0**
PYL	**PYLOS**	**1.05**	**131**	P	**Pg**	**13 49 21.1**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.12**	**358**	P	**Pn**	**13 49 22.7**	**+0.8**
KLV	**Kalavryta, Ach**	**1.19**	**67**	P	**Pn**	**13 49 22.8**	**-0.3**
KLV				AML	AML	13 49 52.5	
	comp=N,180μm,0.5s						
KLV				AML	AML	13 49 52.6	
	comp=E,226μm,0.7s						
LKD2	**Lefkada island**	**1.20**	**356**	P	**Pg**	**13 49 24.7**	**+0.7**
LKD2				S	**Sn**	**13 49 41.2**	**+2.1**
	comp=E,420nm,0.6s						
LKD2	**Lefkada island**	**1.20**	**356**	P	**Pg**	**13 49 24.3**	**+0.3**
LKD2				AML	AML	13 49 48.3	
	comp=E,888μm,0.5s						
LKD2				AML	AML	13 49 48.3	
	comp=N,794μm,0.8s						
EFP	**Efpalio**	**1.23**	**47**	P	**Pn**	**13 49 23.6**	**+0.1**
EFP				AML	AML	13 49 49.7	
	comp=N,384μm,0.7s						
EFP				AML	AML	13 49 50.0	
	comp=E,321μm,0.6s						
GUR	**Goura**	**1.30**	**74**	P	**Pn**	**13 49 25.2**	**+0.6**
GUR				AML	AML	13 49 55.1	
	comp=N,543μm,0.5s						
GUR				AML	AML	13 49 55.2	
	comp=E,440μm,0.6s						
ANX	**Ano Chora**	**1.36**	**42**	P	**Pn**	**13 49 25.6**	**+0.2**
ANX				AML	AML	13 49 52.3	
	comp=E,872μm,0.7s						
ANX				AML	AML	13 49 53.3	
	comp=N,935μm,0.8s						

IDC 23 13:50:50.9±1.5, 13°.27N×120°.29E, h0km, mb3.8/3, mbtmp3.8/3, MS3.2/2, Error ellipse: s-maj=32.5km s-min=11.8km az=117.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.04**	**37**	Pg	Pg	13 51 10.6	-0.3
	163nm,0.3s,baz=254,slow=7.4,SNR=16						
TGY				Lg	Lg	13 51 25.6	
	325nm,0.3s,baz=198,slow=20,SNR=5.7						
DAV	**Davao City (W)**	**8.07**	**139**	LR	LR	13 56 43.0	
	comp=Z,70nm,18.9s,baz=317,slow=44						
CMAR	**Chiang Mai Arr**	**21.16**	**287**	P	P	13 55 37.9	0.0
	0.4nm,0.3s,baz=95,slow=10.0,SNR=1.7 0.4nm,0.3s						
WRA	**Warramunga Arr**	**35.79**	**157**	P	P	13 57 51.7	-0.4
	1.9nm,0.6s,baz=336,slow=9.6,SNR=18 1.9nm,0.6s						
ASAR	**Alice Springs**	**39.05**	**160**	P	P	13 58 19.9	+0.2
	0.9nm,0.4s,baz=339,sl

ILA	Ilan	0.64	4	eP	Pn	13 57 51.4	+0.3
FUSB	Fushanzhiwuyua	0.64	351	eP	Pn	13 57 50.7	-0.5
FUSB				eS	Sn	13 57 59.3	-1.1
NWLT	Wulai	0.67	345	eP	Pn	13 57 51.2	-0.5
NWLT				S	Sn	13 58 00.3	-0.8
HGSD	Ruisui	0.68	202	eP	Pn	13 57 50.6	-1.1
HGSD				eS	Sn	13 58 01.3	0.0
WHP	Taichung City	0.70	282	eP	Pn	13 57 51.8	-0.4
WHP				S	Sn	13 58 01.7	-0.3
EHY	Hungye	0.71	209	eP	Pn	13 57 50.0	-2.1
EHY				eS	Sn	13 58 02.2	+0.2
EHYH	Wanrong	0.71	207	eP	Pn	13 57 50.1	-2.0
EHYH				eS	Sn	13 58 00.3	-1.7
WCS	Beigang Elemen	0.72	265	P	Pn	13 57 51.9	-0.4
WCS				eS	Sn	13 58 02.1	-0.2
NFF	Wufeng Townshi	0.73	314	eP	Pn	13 57 52.4	-0.1
NFF				S	Sn	13 58 02.2	-0.5
EGS		0.75	16	eP	Pn	13 57 51.6	-1.0
SSLB	Suanglung	0.76	244	⇓P	Pn	13 57 52.0	-0.9
SSLB				eS	Sn	13 58 01.8	-1.5
SMLT	Sun Moon Lake	0.77	252	⇓iP	Pn	13 57 51.5	-1.6
SMLT				i S	Sn	13 58 02.0	-1.7
TYC	Yuchr	0.80	254	⇓P	Pn	13 57 52.8	-0.6
TYC				S	Sn	13 58 04.4	+0.2
KSHI	Guanxi Townshi	0.80	324	eP	Pn	13 57 53.8	+0.4
KSHI				eS	Sn	13 58 04.3	-0.1
LIOB	Emei	0.81	310	⇓P	Pn	13 57 54.1	+0.6
LIOB				eS	Sn	13 58 04.2	-0.4
NSTT	Nanjuang	0.81	308	⇓P	Pn	13 57 54.0	+0.5
NSTT				eS	Sn	13 58 04.5	0.0
YULB	Yu-li	0.82	207	eP	Pn	13 57 51.2	-2.4
ECBN	Changbin	0.84	196	eP	Pn	13 57 53.2	-0.7
ECBN				eS	Sn	13 58 05.7	+0.5
TIPB	Shuangxi	0.85	8	eP	Pn	13 57 54.3	+0.2
EYUL	Yuli	0.85	204	eP	Pn	13 57 53.4	-0.6
EYUL				eS	Sn	13 58 04.3	-1.2
TWF1	Yuli	0.85	206	eP	Pn	13 57 52.0	-2.2
TWQ1	Liyutan	0.87	285	eP	Pn	13 57 55.1	+0.7
TWQ1				eS	Sn	13 58 06.8	+0.7
WHYT	Xinyi Township	0.89	241	i P	Pn	13 57 54.6	+0.1
WHYT				eS	Sn	13 58 06.8	+0.4
NSY	Sanyi	0.90	289	eP	Pn	13 57 55.2	+0.4
NSY				eS	Sn	13 58 07.8	+1.0
TWB1	Santiao Chiao	0.92	17	eP	Pn	13 57 55.7	+0.7
TWB1				eS	Sn	13 58 08.2	+1.1
NMLH	Miaoli	0.92	296	eP	Pn	13 57 55.9	+0.8
NMLH				eS	Sn	13 58 08.6	+1.3
SBCB	Hsinchu	0.93	316	eP	Pn	13 57 55.5	+0.4
SBCB				eS	Sn	13 58 09.3	+1.9
WJS	Zhushan	0.94	251	eP	Pn	13 57 55.8	+0.5
WJS				eS	Sn	13 58 09.0	+1.3
NWF	Wu-fen Shan	0.94	5	eP	Pn	13 57 55.4	-0.1
NWF				eS	Sn	13 58 07.3	-0.6
WFSB	Wu-fen Shan	0.94	5	eP	Pn	13 57 55.3	-0.1
WFSB				eS	Sn	13 58 07.3	-0.5
HSN	Hsinchu	0.94	315	eP	Pn	13 57 56.0	+0.7
HSN				i S	Sn	13 58 09.0	+1.1
NCUH	Zhongli	0.96	331	eP	Pn	13 57 56.1	+0.5
NCUH				S	Sn	13 58 09.8	+1.6
WNT	Mingjian	0.96	255	eP	Pn	13 57 56.2	+0.6
WNT				eS	Sn	13 58 09.7	+1.5
CHKH	Chenggong	0.97	197	eP	Pn	13 57 56.0	+0.2
CHKH				eS	Sn	13 58 08.3	-0.2
SXI1	Grass Mountain	0.98	9	eP	Pn	13 57 56.4	+0.5
SXI1				eS	Sn	13 58 09.5	+0.8
WDJ	Dajia District	0.99	283	eP	Pn	13 57 56.8	+0.8
WDJ				S	Sn	13 58 10.2	+1.2
FULB	Fuli	1.00	202	eP	Pn	13 57 55.0	-0.1
FULB				eS	Sn	13 58 09.9	+0.7
TWS1	Kuangyinshan	1.00	345	eP	Pn	13 57 55.2	-1.0
TWS1				eS	Sn	13 58 09.5	+0.2
YM01	YM01	1.02	353	eP	Pn	13 57 55.9	-0.6
YM01				eS	Sn	13 58 09.7	-0.1
ALS	Alishan	1.02	233	P	Pn	13 57 56.6	-0.1
ALS				eS	Sn	13 58 10.5	+0.3
WCHH	Zhanghua	1.04	268	eP	Pn	13 57 57.5	+0.8
WCHH				S	Sn	13 58 11.5	+1.3
WCH1	Changhua City	1.05	267	eP	Pn	13 57 56.8	-0.1
WCH1				eS	Sn	13 58 12.2	+1.7
NTST	Danshui	1.06	348	eP	Pn	13 57 56.4	-0.6
NTST				eS	Sn	13 58 11.4	+0.8
YM08	YM08	1.06	355	eP	Pn	13 57 56.2	-0.8
YM08				eS	Sn	13 58 10.3	-0.5
ANP	Anpu	1.07	351	eP	Pn	13 57 57.5	+0.4
CHKT	Chengkung	1.07	197	eP	Pn	13 57 56.2	-0.8
CHKT				eS	Sn	13 58 10.6	-0.2
CHN5	Tsauling	1.07	241	eP	Pn	13 57 57.8	+0.6
CHN5				i S	Sn	13 58 13.0	+1.9
EHD	Haiduan	1.07	205	eP	Pn	13 57 56.6	-0.5
ECS	Chishang	1.12	203	eP	Pn	13 57 58.5	+0.7
ECS				eS	Sn	13 58 12.6	+0.5
ELDTW	Lidau	1.12	214	eP	Pn	13 57 56.4	-1.6
ELDTW				eS	Sn	13 58 12.0	-0.4
WGK	Gukeng	1.13	247	eP	Pn	13 57 58.9	+1.0
WGK				S	Sn	13 58 14.4	+2.0
WDL	Douliou City	1.14	249	eP	Pn	13 57 59.1	+1.1
TWY	Chenhua	1.15	355	eP	Pn	13 57 58.1	-0.1
TWY				eS	Sn	13 58 12.8	0.0
WDLH	Douliu	1.15	248	eP	Pn	13 57 58.3	+0.1
WDLH				eS	Sn	13 58 13.4	+0.6
JYNG	Yonagunijimaku	1.18	74	P	Pn	13 57 59.0	+0.3
JYNG				S	Sn	13 58 14.4	+0.7
WCKO	Fanlu	1.21	236	eP	Pn	13 57 59.7	+0.6
WCKO				eS	Sn	13 58 16.4	+1.9
YOJ	Yonaguni jima	1.24	74	P	Pn	13 57 59.8	+0.4
YOJ				eS	Sn	13 58 16.0	+0.8
CHN4	Tsaushan	1.27	233	eP	Pn	13 58 01.2	+1.3
CHN4				i S	Sn	13 58 18.5	+2.5
STYH	Taoyuan	1.27	222	i P	Pn	13 58 00.3	+0.4
STYH				eS	Sn	13 58 16.1	+0.2
WTK	Tuku	1.28	250	eP	Pn	13 58 01.1	+1.2
WTK				eS	Sn	13 58 18.4	+2.4
TPUB	Ta-pu	1.28	230	eP	Pn	13 58 00.8	+0.8
TPUB				eS	Sn	13 58 17.8	+1.7
WTCT	Ta-ch'eng	1.32	259	eP	Pn	13 58 01.1	+0.6
WTCT				eS	Sn	13 58 18.8	+1.7
CHY	Chiayi	1.32	242	eP	Pn	13 58 01.2	+0.7
CHY				i S	Sn	13 58 19.7	+2.5
WTP	Ta-pu	1.33	229	eP	Pn	13 58 01.5	+0.8
WTP				eS	Sn	13 58 18.4	+1.1
TWK	Hsinying	1.40	233	eP	Pn	13 58 02.5	+0.8
TWK				eS	Sn	13 58 21.6	+2.4
TWG	Pinlang	1.42	204	eP	Pn	13 57 59.4	-2.5
TWGBT	Beinan	1.42	204	eP	Pn	13 57 59.2	-2.8
SNST	Tainan City	1.43	231	eP	Pn	13 58 03.2	+1.2
SNST				eS	Sn	13 58 22.1	+2.4
CHN1	Nanshi	1.43	229	eP	Pn	13 58 02.9	+0.9
CHN1				eS	Sn	13 58 22.1	+2.3
WSF	Szhu	1.44	250	eP	Pn	13 58 02.6	+0.5
WSF				eS	Sn	13 58 21.9	+2.0
SGST	Jiashian	1.46	225	P	Pn	13 58 02.5	0.0
SGST				i S	Sn	13 58 22.4	+1.8
LDUT	Ludao	1.46	188	eP	Pn	13 58 01.5	-1.0
WSL	Shuilin Townsh	1.48	246	eP	Pn	13 58 04.0	+1.3
WSL				eS	Sn	13 58 23.9	+3.0
ICHU	Yijhu	1.51	240	eP	Pn	13 58 04.4	+1.3
ICHU				eS	Sn	13 58 23.8	+2.1
PCYT	Pengchaiyu	1.53	13	eP	Pn	13 58 04.5	+1.1
PCYT				eS	Sn	13 58 23.5	+1.1
CHN8	Yiju	1.57	241	eP	Pn	13 58 04.2	+0.3
CHN8				eS	Sn	13 58 25.8	+2.6
SCST	Cishan	1.66	222	eP	Pn	13 58 07.0	+1.8
SCST				i S	Sb	13 58 29.3	+0.7
ECL	Taimali	1.67	204	eP	Pn	13 58 05.4	0.0
SCLT	Jiali	1.67	236	eP	Pn	13 58 07.5	+2.1
SCLT				eS	Sn	13 58 28.7	+2.9
TSMG	Majia	1.71	215	eP	Pn	13 58 07.1	+1.2
TWM1	Shoushan	1.75	222	eP	Pn	13 58 08.6	+2.2
TSCK	Chigu Township	1.77	237	eP	Pn	13 58 07.1	+0.4
TSCK				eS	Sn	13 58 30.0	+1.8
MASBT	Mashibuluo	1.80	213	eP	Pn	13 58 08.3	+1.2
MASBT				eS	Sn	13 58 30.6	+1.7
IRIF	Iriomote-Funau	1.87	83	P	Pn	13 58 08.1	+0.1
IRIF				S	Sn	13 58 30.6	+0.1
EAST	Anshuo	1.90	204	eP	Pn	13 58 09.1	+0.4
SCZT	Fangliau	2.01	210	eP	Pn	13 58 11.1	+1.1
SCZT				eS	Sn	13 58 34.5	+0.4
PHUB	P'eng-hu	2.04	253	eP	Pn	13 58 10.2	-0.2
PHUB				i S	Sn	13 58 35.1	+0.2
PNG	Penghu	2.04	255	eP	Pn	13 58 10.0	-0.4
PNG				eS	Sn	13 58 34.3	-0.6
WDGT	Dungji	2.06	246	eP	Pn	13 58 09.9	-0.7
WDGT				eS	Sn	13 58 35.5	+0.2
SLIU	Shizi	2.07	204	eP	Pn	13 58 12.3	+1.4
SLIU				eS	Sn	13 58 37.1	+1.4
JKRS	Kuro-shima	2.11	87	eP	Pn	13 58 12.2	+0.8
JKRS				S	Sn	13 58 37.6	+1.0
LYUB	Lan-yu	2.12	183	eP	Pn	13 58 09.0	-2.5
VWUC	VWUC	2.22	293	eP	Pn	13 58 12.2	-0.7
JIJ	Ishigaki jima	2.24	83	P	Pn	13 58 13.3	0.0
JIJ				S	Sn	13 58 38.9	-1.0
VCHM	Qimei	2.27	247	eP	Pn	13 58 13.6	0.0
VCHM				eS	Sn	13 58 40.5	-0.1
JISG	Ishigakijimahi	2.42	79	eP	Pn	13 58 15.4	-0.3
JISG				eS	Sn	13 58 43.4	-0.9
PTMZ	Houxiangcun	2.52	292	eP	Pn	13 58 16.1	-0.9
MATB	Ma-tsu	2.57	322	eP	Pn	13 58 16.7	-1.0
LYJJ	Jianjiangzhen	2.98	324	eP	Pn	13 58 22.1	-1.3
KNMB	Chin-men Tao	3.04	277	eP	Pn	13 58 23.2	-0.9
XPSS	Dashiqiu	3.11	334	eP	Pn	13 58 23.1	-2.0
MHZQ	Yeshan	3.12	310	eP	Pn	13 58 23.9	-1.3
AXDP	Jialang	3.48	284	eP	Pn	13 58 29.7	-0.6

*IDC **23** 14:08:10.8±2.0, 15°.12S×168°.15E, h0km, mb4.1/4, mbtmp4.1/5, ML3.7/1, Error ellipse: s-maj=55.9km s-min=31.3km az=132.0*
*NOU **23** 14:08:16.5, 15°.45S×168°.00E, h0km, MLv4.2/11, Vanuatu Islands*

ISC 23 14:08:16.9±1.4, 15°.3S±0°.1×168°.0E±0°.2, h35km, n13, σ1§28/14, mb4.2/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	1.00	214	P	Pn	14 08 32.7	-1.8
DVP	Devils Point	2.45	176	P	Pn	14 08 55.0	+0.6
KOUNC	Koumac, New Ca	6.33	213	P	Pn	14 09 49.7	+1.9
YATNC	Mamie plateau,	6.84	189	P	Pn	14 09 55.2	+0.4
DZM	Mont Dzumac	6.93	192	Pn	Pn	14 09 55.3	-0.8
	1.3nm,0.3s,baz=84,slow=8.0,SNR=18						
DZM				Sn	Sn	14 11 12.2	-1.5
	0.1nm,0.3s,baz=94,slow=21,SNR=1.5						
	5.4nm,0.5s						
DZM	Mont Dzumac	6.93	192	P	Pn	14 09 55.5	-0.6
NOUC	Port Laguerre	6.99	193	P	Pn	14 09 57.4	+0.6
OUENC	Ouen Island, N	7.20	189	P	Pn	14 10 01.0	+1.3
PINNC	Pines Island,	7.33	184	P	Pn	14 10 02.6	+1.2
WRA	Warramunga Arr	32.38	257	P	P	14 14 43.4	-0.2
	0.8nm,0.4s,baz=84,slow=8.7,SNR=7.4						
	0.8nm,0.4s						
ASAR	Alice Springs	33.15	250	P	P	14 14 50.8	+0.5
	2.3nm,0.5s,baz=77,slow=9.0,SNR=25						
	2.3nm,0.5s						
FITZ	Fitzroy Crossi	40.61	260	P	P	14 15 55.0	+1.3
	3.8nm,0.5s,baz=70,slow=8.1,SNR=5.8						
	3.8nm,0.5s						
ILAR	Eielson Array	86.82	18	P	P	14 20 55.9	-1.4
	0.5nm,0.7s,baz=236,slow=4.9,SNR=6.1						
	0.5nm,0.7s						

*IDC **23** 14:14:35.1±1.1, 25°.72S×69°.95E, h0km, mb3.7/8, mbtmp3.7/8, MS3.6/6, Error ellipse: s-maj=39.3km s-min=27.0km az=78.0*

ISC 23 14:14:38.6±1.1, 25°.8S±0°.2×70°.0E±0°.3, h21km, n26, σ1§06/8, mb3.5/8, MS3.6/6, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	18.16	8	T	T	14 37 08.2	
	baz=188,slow=76,SNR=16						
H08S2	Diego Garcia H	18.16	8	T	T	14 37 07.8	
	baz=188,slow=76,SNR=32						
H08S3	Diego Garcia H	18.18	8	T	T	14 37 05.8	
	baz=188,slow=76,SNR=21						
H04N2	CROZET ISLANDS	25.01	211	T	T	14 46 20.9	
	baz=42,slow=74,SNR=293						
H04N1	CROZET ISLANDS	25.02	211	T	T	14 46 21.7	
	baz=42,slow=74,SNR=498						
H04N3	CROZET ISLANDS	25.03	211	T	T	14 46 20.1	
	baz=42,slow=74,SNR=487						
H04S1	CROZET ISLANDS	25.47	210	T	T	14 47 03.4	
	baz=39,slow=80,SNR=4.1						
H04S3	CROZET ISLANDS	25.48	210	T	T	14 47 01.6	
	baz=39,slow=80,SNR=7.3						
H04S2	CROZET ISLANDS	25.49	210	T	T	14 47 03.2	
	baz=39,slow=80,SNR=4.0						
H01W2	Cape Leeuwin H	38.95	114	T	T	15 03 46.1	
	baz=271						
H01W3	Cape Leeuwin H	38.95	114	T	T	15 03 43.7	
	baz=271						
H01W1	Cape Leeuwin H	38.97	114	T	T	15 03 43.3	
	baz=271						
BOSA	Boshof	39.70	256	LR	LR	14 36 25.1	
	comp=Z,126nm,20.7s,baz=32,slow=33						
PSI	Prapat	39.90	49	LR	LR	14 34 29.5	
	comp=Z,53nm,20.2s,baz=208,slow=30						
LBTB	Lobatse	39.94	261	LR	LR	14 35 42.7	
	comp=Z,65nm,20.6s,baz=80,slow=32						
MAW	Mawson	42.10	184	LR	LR	14 37 46.7	
	comp=Z,61nm,18.4s,baz=236,slow=33						
SUR	Sutherland	43.16	249	LR	LR	14 37 49.0	
	comp=Z,109nm,18.2s,baz=130,slow=32						
CMAR	Chiang Mai Arr	52.20	36	P	P	14 23 49.6	+1.5
	0.3nm,0.3s,baz=224,slow=6.3,SNR=5.2						
	0.3nm,0.3s						
ASAR	Alice Springs	57.62	103	P	P	14 24 26.9	-0.6
	0.4nm,0.8s,baz=243,slow=6.1,SNR=3.6						
	0.4nm,0.8s						
WRA	Warramunga Arr	59.12	99	P	P	14 24 37.0	-0.9
	0.3nm,0.8s,baz=258,slow=5.9,SNR=1.6						
	0.3nm,0.8s						
TGY	Tagaytay City	63.49	57	LR	LR	14 50 58.3	
	comp=Z,83nm,18.9s,baz=251,slow=34						
QSPA	South Pole Qui	64.39	180	P	P	14 25 13.6	+0.7
	2.1nm,0.9s,baz=258,slow=3.2,SNR=5.9						
	2.1nm,0.9s						
MKAR	Makanchi Array	73.06	9	P	P	14 26 06.6	-0.2
	0.4nm,0.8s,baz=197,slow=7.5,SNR=3.2						
	0.4nm,0.8s						
KURBB	Kurchatov Arra	76.41	6	P	P	14 26 25.8	-0.3
	0.2nm,0.4s,baz=198,slow=5.4,SNR=1.7						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	80.40	9	P	P	14 26 46.9	-1.2
	0.2nm,0.4s,baz=197,slow=4.5,SNR=1.7						
	0.2nm,0.4s						
KEST	Kesra	83.75	315	P	P	14 27 05.9	-0.3
	6.9nm,1.2s,baz=132,slow=2.7,SNR=2.1						
	6.9nm,1.2s						

DJA 23 14:15:23.2±0.7, 1°.5±2°.×12°.4E±°, h11km±6km, M4.3/17, mb4.5/3, mB5.0/1, MLv4.2/17, Mw(mB)4.3/1, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	Luwuk	0.96	279	P	Pg	14 15 41.6	-0.1
LUWI				S	Sb	14 15 54.9	+0.3
KMSI	Cibinong	1.78	8	P	Pn	14 15 54.0	0.0
APSI	Ampana	2.09	278	P	Pn	14 15 58.2	0.0
SANI	Sanana	2.42	110	P	Pn	14 15 59.5	-3.2
MRSI	Marisa	2.44	313	P	Pn	14 16 01.2	-1.8
MRSI				S	Sn	14 16 32.7	-0.1
KDI	Kendari	2.95	202	P	Pn	14 16 10.4	+0.3
PCI	Palu	3.89	274	P	Pn	14 16 23.7	+0.7
NLAI	Namlea	3.94	121	P	Pn	14 16 22.8	-0.8
TTSI	Tana Toraja	4.31	245	P	Pn	14 16 25.6	-3.1
SPSI	Sidrap Palu	4.81	235	P	Pn	14 16 37.0	+1.4
BNSI	Bone	4.81	229	P	Pn	14 16 36.5	+0.9
BSSI	Bau Bau, Buton	5.87	213	P	Pn	14 16 51.2	+0.9

*IDC **23** 14:16:26.2±1.6, 25°.70S×69°.92E, h0km, mb3.6/7, mbtmp3.6/7, Error ellipse: s-maj=52.2km s-min=30.0km az=81.0*

ISC 23 14:16:29.7±1.5, 25°.7S±0°.2×70°.0E±0°.4, h21km, n16, σ0§58/7, mb3.6/7, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	18.11	8	T	T	14 39 06.7	
	baz=188,slow=76,SNR=7.4						
H08S2	Diego Garcia H	18.11	8	T	T	14 38 56.2	
	baz=188,slow=76,SNR=8.6						
H08S3	Diego Garcia H	18.13	8	T	T	14 39 02.2	
	baz=188,slow=76,SNR=7.1						
H04N2	CROZET ISLANDS	25.05	211	T	T	14 48 18.5	
	baz=42,slow=74,SNR=24						
H04N1	CROZET ISLANDS	25.06	211	T	T	14 48 14.1	
	baz=42,slow=74,SNR=24						
H04N3	CROZET ISLANDS	25.07	211	T	T	14 48 14.2	
	baz=42,slow=74,SNR=22						
H01W2	Cape Leeuwin H	38.97	114	T	T	15 05 32.9	
	baz=271,slow=76						
H01W3	Cape Leeuwin H	38.97	114	T	T	15 05 37.5	
	baz=271,slow=76						
H01W1	Cape Leeuwin H	38.98	114	T	T	15 05 35.4	
	baz=271,slow=76						
CMAR	Chiang Mai Arr	52.16	36	P	P	14 25 38.5	-0.4
	0.2nm,0.4s,baz=222,slow=8.0,SNR=1.7						
	0.2nm,0.4s						
ASAR	Alice Springs	57.62	103	P	P	14 26 19.4	+0.8
	0.5nm,0.8s,baz=250,slow=5.5,SNR=3.5						
	0.5nm,0.8s						
WRA	Warramunga Arr	59.12	99	P	P	14 26 28.5	-0.5
	0.7nm,1.0s,baz=252,slow=5.3,SNR=3.6						
	0.7nm,1.0s						
QSPA	South Pole Qui	64.43	180	P	P	14 27 04.1	-0.2
	1.6nm,0.9s,baz=272,slow=4.0,SNR=2.2						
	1.6nm,0.9s						
MKAR	Makanchi Array	73.01	9	P	P	14 27 57.4	-0.2
	0.6nm,0.8s,baz=192,slow=5.5,SNR=3.6						
	0.6nm,0.8s						
KURBB	Kurchatov Arra	76.36	6	P	P	14 28 17.2	+0.3
	0.2nm,0.5s,baz=184,slow=3.4,SNR=1.7						
	0.2nm,0.5s						
SONM	Songinc Array	80.19	24	P	P	14 28 38.8	+0.4
	0.3nm,0.5s,baz=204,slow=3.2,SNR=2.0						
	0.3nm,0.5s						

*MOS **23** 14:30:11.7±0.9, 37°.12N×141°.19E, h41km, mb5.4/65, Error ellipse: s-maj=6.2km s-min=3.7km az=111.1*
*BJI **23** 14:30:12.9, 37°.13N×141°.12E, h60km, mb5.1/81, mB5.1/37, Ms4.3/63, Ms7.4.2/63*
*JMA **23** 14:30:14.1±0.1, 37°.1N±0°.3×141°.2E±0°.7, h50km, MD5.0/35, MW4.8/35, E OFF FUKUSHIMA PREF*
JMA Felt IV J1 at E OFF FUKUSHIMA PREF .
*IDC **23** 14:30:14.9±1.4, 37°.09N×141°.16E, h56km±11km, mb4.6/33, mbtmp4.8/40, MS4.0/53, Error ellipse: s-maj=11.8km s-min=8.3km az=129.0*
*NEIC **23** 14:30:14.7, 37°.13N×141°.16E, h50km*
*NEIC **23** 14:30:14.7, 37°.13N×141°.16E, h47km*
*NEIC **23** 14:30:14.7, 37°.13N×141°.04E, h50km, Moment Tensor Solution. Duration: 1§4 Moment tensor: Scale 10^{16}Nm; M_{rr}1.74; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-1.61; $M_{r\theta}$0.25; $M_{\theta\phi}$-0.69; $M_{\phi r}$1.17; Fault plane solution: $M_0$2.17000×10^{16} NP1:ϕ_s16.06000°, δ61.81000°, λ84.57000°. NP2:ϕ_s207.44000°, δ28.66000°, λ100.01000°. Principal axes: T 2.1079, Plg73.0000°, Azm273.0000°; N 0.1334, Plg5.0000°, Azm19.0000°; P -2.2413, Plg17.0000°, Azm110.0000°;*
*NEIC **23** 14:30:14.7±2.2, 37°.14N±0°.06×141°.21E±0°.09, h48km±5km, mb5.2/110, Mwr4.7/26, Mww4.8/18 Error ellipse: s-maj=11.4km s-min=8.1km az=114.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.57; $M_{\theta\theta}$-0.10; $M_{\phi\phi}$-0.47; $M_{r\theta}$0.45; $M_{\theta\phi}$-0.46; $M_{\phi r}$1.36; Fault plane solution: $M_0$1.60000×10^{16} NP1:ϕ_s18.81000°, δ78.03000°, λ81.08000°. NP2:ϕ_s235.91000°, δ14.89000°, λ126.17000°. Principal axes: T 1.5178, Plg56.0000°, Azm277.0000°; N 0.1457, Plg9.0000°, Azm21.0000°; P -1.6635, Plg32.0000°, Azm116.0000°;*
*NIED **23** 14:30:14.1, 37°.07N×141°.17E, h50km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.34; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$-1.08; $M_{r\theta}$0.63; $M_{\theta\phi}$-0.51; $M_{\phi r}$1.59; Fault plane solution: $M_0$2.17000×10^{16} NP1:ϕ_s22.00000°, δ71.00000°, λ88.00000°. NP2:ϕ_s208.00000°, δ19.00000°, λ96.00000°.*
*GCMT **23** 14:30:16.6±0.3, 37°.09N±0°.02×141°.29E±0°.02, h50km±1km, MW4.9/103, Moment Tensor Solution. s54,c65; s103,c144; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.41±.11; $M_{\theta\theta}$-0.31±.08; $M_{\phi\phi}$-2.10±.08; $M_{r\theta}$0.51±.06; $M_{\theta\phi}$-0.77±.06; $M_{\phi r}$1.43±.06; Best double couple: $M_0$2.83900×10^{16} NP1:ϕ_s20.00000°, δ61.00000°, λ90.00000°. NP2:ϕ_s201.00000°, δ29.00000°, λ91.00000°. Principal axes: T 2.8510, Plg74.0000°, Azm289.0000°; N -0.0260, Plg0.0000°, Azm20.0000°; P -2.8270, Plg16.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **23** 14:30:16.3, 36°.94N×141°.09E, h60km, mb5.1*

ISC 23 14:30:14.6±0.4, 37°.10N±0°.03×141°.18E±0°.04, h52km±2km, h52km:pP-P, n1065, σ1§34/1095, mb5.1/229, MS4.2/66, 59C-56D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.31	270	⇓P	Pn	14 30 23.2	-0.9
ONAJ				⇓S	Sn	14 30 29.5	-1.3
ONAJ	Iwakimizuishiy	0.31	270	A	A	14 30 23.2	
	comp=E,631nm,0.8s,comp=N,405nm,0.3s						
JFK	Kawauchi	0.36	317	⇓P	Pn	14 30 23.8	-0.7
JFK				⇓S	Sn	14 30 30.7	-1.0
JFK	Kawauchi	0.36	317	A	A	14 30 23.8	
	comp=E,350nm,1.0s,comp=N,222nm,0.4s						
JFFD	Fukushimafurud	0.50	269	⇓iP	Pn	14 30 25.2	-0.8
JFFD				⇓S	Sn	14 30 32.9	-1.3
JFFD	Fukushimafurud	0.50	269	A	A	14 30 25.2	
	comp=E,187

comp=E,43nm,0.6s,comp=N,63nm,1.0s
JMK Ichinoseki 1.85 1 A A 14 30 44.6
comp=E,16nm,1.1s,comp=N,12nm,0.7s
JCN Nagara 1.86 206 A A 14 30 43.8
comp=E,46nm,2.7s,comp=N,45nm,2.4s
JYA Atsumi 1.89 322 A A 14 30 45.0
comp=E,43nm,1.2s,comp=N,53nm,0.7s
I30JP ISUMI INFRASON 1.92 202 I I 14 41 30.0
baz=15,slow=316,SNR=0.6
JYK Kaneyama 1.93 340 A A 14 30 45.7
comp=E,13nm,1.6s,comp=N,11nm,0.8s
OFUJ Ofunato 2.01 11 A A 14 30 46.9
comp=E,10.0nm,0.8s,comp=N,11nm,0.9s
JIZZ Izumozaki 2.02 283 A A 14 30 46.6
comp=E,29nm,1.0s,comp=N,39nm,2.0s
JKUC kamogawauchiur 2.10 203 A A 14 30 47.2
comp=E,22nm,3.8s,comp=N,21nm,4.9s
JGK Kuni 2.11 256 A A 14 30 47.7
comp=E,19nm,1.3s,comp=N,35nm,4.1s
JRY Ryogami san 2.13 240 A A 14 30 47.9
comp=E,9.0nm,1.0s,comp=N,13nm,1.5s
JYYZ Yamagatayuza 2.15 333 A A 14 30 48.8
comp=E,42nm,3.5s,comp=N,44nm,2.9s
JSGW Sagamiharawaka 2.19 227 A A 14 30 48.6
comp=E,17nm,3.5s,comp=N,15nm,1.1s
JYO Yokosk 2.24 214 A A 14 30 49.3
comp=E,32nm,1.8s,comp=N,24nm,1.5s
TATJ Tateyama 2 2.32 207 A A 14 30 50.3
comp=E,41nm,4.1s,comp=N,75nm,2.1s
JRG Rokugo 2.33 349 A A 14 30 51.5
comp=E,14nm,1.3s,comp=N,16nm,1.2s
JOM Ohasama 2.37 2 A A 14 30 52.0
comp=E,16nm,0.3s,comp=N,12nm,0.2s
JJN Nakama 2.42 271 A A 14 30 52.1
comp=E,18nm,4.7s,comp=N,12nm,2.0s
MJAR Matsushiro Arr 2.45 258 P **Pn** **14 30 52.5 +0.3**
comp=N,136nm,0.3s,baz=83,slow=17,SNR=501
MJAR S **Sn** **14 31 21.7 +0.8**
comp=N,521nm,0.6s,baz=56,slow=24,SNR=6.4
MJAR LR LR 14 32 10.2
comp=N,4μm,21.0s,baz=72,slow=47
MAJO Matsushiro 2.45 258 Pn **Pn** **14 30 53.0 +0.8**
MAJO Matsushiro 2.45 258 P **Pn** **14 30 53.0 +0.8**
MAJO Matsushiro 2.45 258 P **Pn** **14 30 53.0 +0.8**
MJB9 Matsu-Tunnel 2.45 258 Pn **Pn** **14 30 52.8 +0.7**
JOD2 Odawara 2 2.50 223 A A 14 30 53.0
comp=E,12nm,1.8s,comp=N,20nm,2.2s
JSD Sado 2.50 293 Pn **Pn** **14 30 52.2 -0.6**
JSD Sado 2.50 293 P **Pn** **14 30 52.6 -0.2**
JYW Yuwa 2.55 343 A A 14 30 54.6
comp=E,38nm,1.9s,comp=N,33nm,2.4s
JSZI Iwateshizukuis 2.64 356 A A 14 30 55.8
comp=E,21nm,2.3s,comp=N,17nm,2.3s
JYN Shimob 2.67 234 A A 14 30 55.4
comp=E,31nm,1.4s,comp=N,26nm,1.7s
JNT Takato 2.74 244 A A 14 30 56.6
comp=E,7.0nm,2.5s,comp=N,14nm,1.3s
JHTM Izuhatsuma 2.77 220 A A 14 30 56.8
comp=E,35nm,1.0s,comp=N,40nm,0.9s
JIM2 Oshima 3 2.77 211 A A 14 30 56.8
comp=E,19nm,1.0s,comp=N,17nm,1.4s
JFNN Fujinakano 2.78 227 A A 14 30 57.0
comp=E,19nm,2.4s,comp=N,16nm,2.4s
JTH Tanohata 2.88 10 A A 14 30 59.3
comp=E,9.0nm,1.7s,comp=N,7.0nm,0.5s
JIZS Izushimoda 3.03 219 A A 14 31 00.4
comp=E,12nm,0.9s,comp=N,8.0nm,1.2s
JKEN Kujiedanarisaw 3.13 7 A A 14 31 02.7
comp=E,23nm,0.5s,comp=N,29nm,1.1s
JTT Ttatey 3.13 262 A A 14 31 02.1
comp=E,9.0nm,3.9s,comp=N,9.0nm,2.6s
SHZ3 Shizuoka 3 3.15 231 A A 14 31 02.2
comp=E,11nm,1.0s,comp=N,15nm,1.0s
JNY Yasuok 3.20 238 A A 14 31 03.0
comp=E,20nm,3.1s,comp=N,22nm,1.5s
JGF Kuroka 3.43 245 Pn **Pn** **14 31 06.8 +1.2**
JGF Kuroka 3.43 245 P **Pn** **14 31 07.0 +1.4**
JSG Sagara 3.43 226 **Pn** **14 31 07.9 +2.4**
JSG Sagara 3.43 226 P **Pn** **14 31 08.2 +2.6**
JAO Obara 3.67 241 A A 14 31 09.6
comp=E,9.0nm,2.8s,comp=N,8.0nm,2.1s
JTM Tenmabayashi 3.68 359 Pn **Pn** **14 31 10.2 +1.3**
JTM Tenmabayashi 3.68 359 P **Pn** **14 31 10.4 +1.5**
INU Inuyama 3.80 244 Pn **Pn** **14 31 11.4 +0.9**
INU Inuyama 3.80 244 P **Pn** **14 31 12.2 +1.7**
JICN Ichinomiyachia 3.94 244 A A 14 31 13.5
comp=E,10.0nm,2.3s,comp=N,10.0nm,1.6s
JHJ2 Mitsune 4.13 196 **Pn** **14 31 14.4 -0.8**
JHJ Hachijo jima 2 4.14 197 P **Pn** **14 31 15.0 -0.2**
comp=N,573nm,0.3s
JHJ S **Sn** **14 31 58.6 -3.6**
JAHD Aomorihigashid 4.16 2 A A 14 31 17.2
comp=E,25nm,0.6s,comp=N,23nm,1.4s
ERM Erimo 5.14 17 Pn **Pn** **14 31 28.1 -0.7**
ERM Erimo 5.14 17 P **Pn** **14 31 29.3 +0.4**
ERM Erimo 5.14 17 P **Pn** **14 31 28.2 -0.7**
JMN Monobe 6.85 243 **Pn** **14 31 53.7 +1.3**
JMN Monobe 6.85 243 P **Pn** **14 31 53.7 +1.3**
ASAJ Asahikawa 7.09 8 P **Pn** **14 31 55.2 -0.4**
comp=N,44nm,0.3s,baz=217,slow=10.0,SNR=233
ASAJ S **Sn** **14 33 14.9 +0.1**
comp=N,60nm,0.5s,baz=225,slow=28,SNR=1.8
JKA Kamikawa-asahi 7.09 8 **Pn** **14 31 54.9 -0.7**
NMR Nemuro--Hokkai 7.16 28⇑ *i*P **Pn** **14 31 53.9 -2.7**
NMR *e*S **Sn** **14 33 09.4 -7.1**
RUSJ Misakicho 7.65 23 *e*P **Pn** **14 32 02.6 -0.7**
RUSJ *e*S **Sn** **14 33 24.1 -4.3**
YUK Yuzh-Kuril'sk 7.79 26 *e*P **Pn** **14 32 02.7 -2.4**
YUK *e*S **Sn** **14 33 25.1 -6.7**
YUK pmax pmax
comp=N,104nm,0.2s
YUK pmax pmax
comp=E,141nm,0.2s
YUK pmax pmax
comp=Z,404nm,0.2s
SHO Shikotan 8.01 31 P **Pn** **14 32 06.4 -1.8**
SHO pmax pmax
comp=Z,88nm,0.4s
SHO pmax pmax
comp=E,40nm,0.3s
SHO pmax pmax
comp=N,18nm,0.1s
TEY Ternei 8.65 338 *e*P **Pn** **14 32 19.3 +2.4**
TEY *e* 14 33 51.7
TEY pmax pmax
comp=N,200nm,0.7s
TEY pmax pmax
comp=E,100nm,0.7s
TEY pmax pmax
comp=Z,100nm,0.7s
VLA Vladivostok 9.32 313*c i*P **Pn** **14 32 29.8 +3.7**
JNU Nakatsue 9.33 248 **Pn** **14 32 28.0 +1.6**
JNU Nakatsue 9.33 248 P **Pn** **14 32 27.6 +1.3**
comp=Z,38nm,0.7s,baz=57,slow=6.0,SNR=33
JNU LR LR 14 36 51.2
comp=Z,494nm,18.6s,baz=82,slow=43
JNU Nakatsue 9.33 248 P **Pn** **14 32 28.5 +2.1**
MSHR Mys Shultsa 9.45 308*ce*P **Pn** **14 32 30.7 +2.7**
MSHR pmax pmax
comp=Z,479nm,1.3s
KUR Kuril'sk 9.55 30 *e*P **Pn** **14 32 30.0 +0.6**
KUR *e*S **Sn** **14 34 09.8 -5.4**
KUR pmax pmax
comp=Z,121nm,0.7s
KUR smax smax
comp=E,251nm,0.5s
KUR smax smax
comp=N,111nm,0.6s
PSTR Posyet 9.71 308*d i*P **Pn** **14 32 35.5 +4.0**
YSS Yuzh-Sakhalins 9.91 6 **Pn** **14 32 30.3 -3.9**
YSS Yuzh-Sakhalins 9.91 6 P **Pn** **14 32 34.1 -0.2**
YSS Yuzh-Sakhalins 9.91 6 *e*P **Pn** **14 32 33.9 -0.4**
YSS *e*S **Sn** **14 34 21.5 -2.5**
YSS pmax pmax
comp=Z,40nm,0.8s
YSS MLR MLR
comp=Z,100nm,16.0s
USA0B Ussuriysk Arra 9.95 318*d i*P **Pn** **14 32 38.1 +3.3**
USRK Ussuriysk Ar. 9.95 318 P **Pn** **14 32 35.7 +0.9**
comp=Z,70nm,0.8s,baz=135,slow=14,SNR=114
USRK LR LR 14 36 12.6
comp=Z,1μm,19.5s,baz=136,slow=36
JCJ Chichijima 10.01 175 P Pn 14 32 27.1 -8.7
baz=180,slow=0.0
JCJ S Sn 14 34 07.5 -19
baz=0.0,slow=0.0

KSRS Korea Array 10.57 276 P **Pn** **14 32 46.5 +3.2**
comp=Z,46nm,0.8s,baz=88,slow=13,SNR=44
KSRS LR LR 14 36 34.6
comp=Z,1μm,20.0s,baz=85,slow=36
KS19 Wonju Array Si 10.62 276 **Pn** **14 32 46.6 +2.7**
TJN Taejon 11.12 270 **Pn** **14 32 52.7 +2.0**
TJN Taejon 11.12 270 P **Pn** **14 32 52.6 +1.9**
TJN Taejon 11.12 270*de*P **Pn** **14 32 54.0 +3.3**
MDJ Mudanjiang 11.54 314 Pn **Pn** **14 33 00.8 +4.3**
MDJ Mudanjiang 11.54 314 P **Pn** **14 33 00.8 +4.3**
MDJ pmax pmax
comp=Z,120nm,1.2s
MDJ LR LR
comp=Z,760nm,16.8s
MDJ LR LR
comp=Z,650nm,22.0s
MDJ LR LR
comp=Z,1μm,22.0s
MDJ Mudanjiang 11.54 314 P **Pn** **14 32 58.6 +2.1**
INCN Inchon 11.60 276 Pn **Pn** **14 32 57.1 -0.3**
INCN Inchon 11.60 276 P **Pn** **14 32 57.9 +0.5**
INCN P **Pn** **14 32 57.9 +0.5**
INCN Inchon 11.60 276 P **Pn** **14 32 58.7 +1.3**
INCN Inchon 11.60 276 P **Pn** **14 32 57.1 -0.3**
BNX BinXian 13.45 314⇓ P **Pn** **14 33 21.9 -0.7**
BNX S **Sn** **14 35 53.6 +3.2**
BNX pmax pmax
comp=Z,16nm,1.1s
BNX LR LR
comp=Z,470nm,18.9s
BNX LR LR
comp=Z,560nm,18.4s
BNX LR LR
comp=Z,790nm,20.3s
CN2 Changchun 13.71 304 P **Pn** **14 33 26.9 +0.7**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,700nm,15.0s
CN2 LR LR
comp=Z,700nm,20.0s
TYV Tymovskoe 13.80 4 *e*P **P** **14 33 31.4 -2.8**
TYV *e*S Sn 14 36 08.0 +9.2
TYV pmax pmax
comp=Z,600nm,3.5s
TYV pmax pmax
comp=Z,67nm,1.2s
TYV smax smax
comp=N,13nm,1.7s
TYV smax smax
comp=E,14nm,1.7s
TYV smax smax
comp=N,2μm,4.9s
TYV smax smax
comp=E,2μm,4.9s
KLR Kul'dur 13.93 333 P **Pn** **14 33 28.4 -0.7**
comp=E,2.4nm,0.4s,baz=156,slow=12,SNR=11
KLR LR LR 14 38 48.9
comp=E,603nm,18.7s,baz=146,slow=37
KLR Kul'dur 13.93 333 *e*P **P** **14 33 33.2 -2.4**
KLR pmax pmax
comp=Z,38nm,1.3s
GRNR Gornyy 14.08 347⇓ *i*P **Pn** **14 33 30.0 -1.1**
GRNR pmax pmax
comp=Z,10.0nm,0.7s
GRNR MLR MLR
comp=E,300nm,19.0s
GRNR MLR MLR
comp=N,360nm,17.0s
GRNR MLR MLR
comp=Z,450nm,20.0s
SNY Shenyang 14.39 295⇓ P **P** **14 33 42.3 +1.5**
SNY S Sn 14 35 57.6 -16
SNY pmax pmax
comp=Z,54nm,0.9s
SNY pmax pmax
comp=Z,180nm,3.9s
SNY LR LR
comp=N,410nm,14.2s
SNY LR LR
comp=E,760nm,15.4s
SNY LR LR
comp=Z,810nm,16.8s
JOW Kunigami 14.98 231 LR LR 14 39 32.9
comp=Z,379nm,21.7s,baz=116,slow=37
DL2 Dalian 15.52 283 P **P** **14 33 53.6 +0.2**
DL2 pmax pmax
comp=Z,140nm,0.8s
DL2 LR LR
comp=Z,810nm,17.5s
DL2 LR LR
comp=Z,920nm,18.2s
HEH HeiHe 16.46 327 *e*P **Pn** **14 33 58.8 -2.9**
HEH LR LR
comp=Z,430nm,17.1s
HEH LR LR
comp=Z,470nm,18.4s
HEH LR LR
comp=Z,730nm,22.0s
SSE Sheshan 17.60 256 P **Pn** **14 34 14.3 -1.8**
SSE S **Sn** **14 37 29.3 -1.9**
SSE pmax pmax
comp=Z,16nm,1.0s
SSE pmax pmax
comp=Z,120nm,4.1s
SSE LR LR
comp=Z,200nm,16.5s
SSE LR LR
comp=Z,250nm,16.2s
NJ2 Nanjing 19.05 261 *e*P **P** **14 34 30.8 -1.6**
NJ2 pP **pP** **14 34 44.6 +0.2**
NJ2 pmax pmax
comp=Z,40nm,0.9s
NJ2 LR LR
comp=Z,390nm,21.8s
NJ2 LR LR
comp=Z,720nm,20.7s
NJ2 LR LR
comp=Z,810nm,18.0s
ZEA Zeya 19.24 334 *e*P **P** **14 34 33.0 -1.3**
ZEA *e* 14 38 14.0
ZEA pmax pmax
comp=E,20nm,1.0s
ZEA pmax pmax
comp=N,50nm,0.8s
ZEA pmax pmax
comp=Z,60nm,0.8s
ZEA MLR MLR
comp=N,300nm,15.0s
ZEA MLR MLR
comp=Z,300nm,15.0s
TIA Tai'an 19.32 275 P **Pn** **14 34 36.0 -0.8**
TIA pmax pmax
comp=Z,110nm,1.2s
TIA LR LR
comp=Z,290nm,14.8s
TIA LR LR
comp=Z,560nm,16.2s
TIA LR LR
comp=Z,610nm,20.8s
PETK Petropavlovsk- 19.72 31 P **P** **14 34 40.5 +0.9**
comp=Z,3.2nm,0.7s,baz=248,slow=23,SNR=10.0
PETK LR LR 14 42 32.5
comp=Z,73nm,19.4s,baz=221,slow=37
HIA Hailar 19.73 315 P **P** **14 34 38.3 -1.4**
BJI Beijing 19.76 286 P **P** **14 34 39.4 -0.7**
BJI pmax pmax
comp=Z,17nm,0.7s
BJT Baijiatuau 19.76 286 P **P** **14 34 40.4 +0.3**
PET Petropavlovsk 20.06 32*de*P **P** **14 34 44.4 +1.2**
PET pmax pmax
comp=Z,63nm,1.2s
XLT XiLinHaoTe 20.22 297 *e*P **P** **14 34 42.5 -2.7**
XLT PcP **PcP** **14 38 59.3 +1.8**
XLT pmax pmax
comp=Z,97nm,0.8s
XLT pmax pmax
comp=Z,220nm,4.0s
XLT LR LR
comp=Z,620nm,16.5s
XLT LR LR
comp=Z,690nm,16.1s
HNS HongShan 21.06 279⇓ P **P** **14 34 51.3 -2.9**
HNS *e*S **S** **14 38 42.8 -2.9**

HNS pmax pmax
comp=Z,170nm,0.9s
HNS LR LR
comp=Z,280nm,17.1s
HNS LR LR
comp=Z,550nm,19.2s
HNS LR LR
comp=Z,570nm,18.0s
WHN Wuhan 23.19 262 P **P** **14 35 15.0 -1.8**
WHN S **S** **14 39 22.3 -2.2**
WHN pmax pmax
comp=Z,250nm,1.4s
WHN LR LR
comp=Z,780nm,4.1s
WHN LR LR
comp=Z,740nm,9.3s
WHN LR LR
comp=Z,2μm,20.8s
HHC Hu-ho-hao-te 23.28 288 *e*P **P** **14 35 15.4 -2.3**
HHC pP pP 14 35 27.3 -2.9
HHC *e*S **S** **14 39 17.8 -8.3**
HHC sS Sn 14 39 42.5 -5.1
HHC SS **SnSn** **14 40 08.1 +3.8**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,170nm,4.7s
HHC LR LR
comp=Z,230nm,12.6s
HHC LR LR
comp=Z,150nm,13.7s
HHC LR LR
comp=Z,270nm,13.1s
MA2 Magadan 23.33 12 P **P** **14 35 17.8 -0.1**
comp=Z,37nm,0.7s,baz=201,slow=10,SNR=13
MA2 LR LR 14 44 02.8
comp=Z,192nm,19.4s,baz=154,slow=36
comp=Z,37nm,0.7s
LYN LuoYang 23.39 272 P **P** **14 35 18.1 -0.5**
LYN pP pP 14 35 32.3 +1.0
LYN sP sP 14 35 39.3 +1.5
LYN S **S** **14 39 23.1 -4.6**
LYN pmax pmax
comp=Z,53nm,0.7s
LYN LR LR
comp=Z,310nm,17.5s
LYN LR LR
comp=Z,680nm,19.9s
LYN LR LR
comp=Z,780nm,19.6s
GUMO Guam 23.65 171 LR LR 14 47 20.3
comp=Z,51nm,18.2s,baz=20,slow=43
BTO Baotou 24.45 288 *e*P **P** **14 35 28.3 -0.3**
BTO pP **pP** **14 35 40.8 -1.2**
BTO sP **sP** **14 35 49.0 +0.7**
BTO PP **PnPn** **14 36 02.6 +1.3**
BTO S **S** **14 39 44.5 -0.6**
BTO pmax pmax
comp=Z,33nm,0.7s
BTO pmax pmax
comp=Z,400nm,4.6s
BTO LR LR
comp=Z,420nm,8.3s
BTO LR LR
comp=Z,550nm,11.4s
BTO LR LR
comp=Z,430nm,9.7s
CIT Chita 24.50 316 *e*P **P** **14 35 28.6 -0.2**
CIT *e* 14 35 41.0
CIT *e* 14 36 05.4
CIT pmax pmax
comp=Z,92nm,1.4s
CNSH ChangSha 25.32 258 P **P** **14 35 35.8 -0.6**
CNSH pmax pmax
comp=Z,37nm,1.0s
YAK Yakutsk 25.96 348 P **P** **14 35 41.2 -0.6**
YAK IAmb IAmb 14 35 44.2
comp=Z,79nm,0.8s
YAK Yakutsk 25.96 348 P **P** **14 35 41.7 -0.2**
comp=Z,67nm,0.5s,baz=22,slow=1.3,SNR=30
YAK LR LR 14 46 06.7
comp=Z,353nm,19.9s,baz=128,slow=37
comp=Z,67nm,0.5s
YAK Yakutsk 25.96 348 *e*P **P** **14 35 41.4 -0.4**
YAK *e**PP **pP** **14 35 55.8 +0.7**
YAK *e* 14 36 20.3
YAK *e* 14 39 04.4
YAK *e*S **S** **14 40 08.0 -0.4**
YAK *e*SS **SnSn** **14 41 10.3 +0.9**
YAK *e* 14 46 30.4
YAK pmax pmax
comp=Z,122nm,1.4s
YAK pmax pmax
comp=N,31nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,230nm,4.2s
YAK pmax pmax
comp=N,169nm,3.3s
YAK pmax pmax
comp=E,481nm,5.9s
YAK smax smax
comp=N,243nm,4.3s
YAK smax smax
comp=E,136nm,3.8s
XAN Xi'an 26.35 273 P **P** **14 35 44.1 -1.7**
XAN S **S** **14 40 12.0 -3.2**
XAN pmax pmax
comp=E,47nm,0.7s
XAN pmax pmax
comp=E,270nm,5.0s
XAN LR LR
comp=E,470nm,13.9s
XAN LR LR
comp=E,280nm,13.9s
XAN LR LR
comp=E,570nm,17.3s
SEY Seymchan 26.76 11 P **P** **14 35 50.3 +1.3**
comp=E,33nm,1.0s,baz=201,slow=8.4,SNR=27
comp=E,33nm,1.0s
ENH Enshi 27.16 265 P **P** **14 35 52.1 -0.9**
ULN Ulaanbaatar 27.16 304 P **P** **14 35 52.7 -0.4**
ULN IAmb IAmb 14 35 57.2
comp=Z,35nm,0.7s
ULN Ulaanbaatar 27.16 304 P **P** **14 35 52.9 -0.1**
ULN P **P** **14 35 52.9 -0.1**
ULN Ulaanbaatar 27.16 304 P **P** **14 35 52.7 -0.4**
ULN pmax pmax
comp=Z,35nm,0.7s
BOD Bodaibo 27.37 328 *e*P **P** **14 35 54.2 -0.4**
BOD pmax pmax
comp=Z,46nm,0.9s
SONM Songino Array 27.59 304 P **P** **14 35 56.1 -0.8**
comp=Z,20nm,0.5s,baz=108,slow=8.5,SNR=66
SONM PcP **PcP** **14 39 13.8 +0.5**
comp=Z,3.8nm,0.6s,baz=144,slow=3.1,SNR=6.4
SONM ScP **ScP** **14 42 48.5 -0.9**
comp=Z,0.4nm,0.4s,baz=124,slow=2.1,SNR=4.2
SONM LR LR 14 47 21.6
comp=Z,258nm,19.2s,baz=118,slow=37
comp=Z,20nm,0.5s
SHEM Shemya Is, Ala 27.75 45 LR LR 14 44 41.4
comp=Z,119nm,20.4s,baz=262,slow=31
H11N2 WAKE ISLAND Hy 28.34 121 T T 15 06 09.1
baz=314,slow=75,SNR=734
H11N1 WAKE ISLAND Hy 28.35 121 T T 15 06 02.5
baz=314,slow=75,SNR=674
H11N3 WAKE ISLAND Hy 28.36 121 T T 15 06 21.1
baz=314,slow=75,SNR=642
GULI GuiLin 28.75 255 P **P** **14 36 07.0 -0.2**
H11S1 WAKE ISLAND Hy 29.05 123 T T 15 06 58.8
baz=314,slow=75,SNR=867
H11S3 WAKE ISLAND Hy 29.05 123 T T 15 06 59.8
baz=314,slow=75,SNR=900
H11S2 WAKE ISLAND Hy 29.07 123 T T 15 06 58.1
baz=314,slow=75,SNR=518
LZH Lanzhou 29.87 279 *e*P **P** **14 36 17.8 +0.5**
LZH sP sP 14 36 35.4 -1.6
LZH PcP **PcP** **14 39 20.1 +0.8**
LZH ScP **ScP** **14 42 56.1 -0.8**
LZH pmax pmax
comp=Z,53nm,1.0s
LZH pmax pmax
comp=Z,160nm,3.6s
LZH LR LR

comp=Z,220nm,15.8s
LZH LR LR
comp=Z,620nm,14.6s
LZH LR LR
comp=Z,800nm,19.1s
GYA Guiyang 31.05 260 ⇓P **P** **14 36 26.8 -0.9**
GYA pmax pmax
comp=Z,52nm,0.7s
GYA LR LR
comp=Z,620nm,24.0s
CD2 Chengdu 31.49 270 P **P** **14 36 30.3 -1.2**
CD2 pP pP 14 36 42.9 -2.1
CD2 S **S** **14 41 35.8 -0.2**
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,110nm,5.2s
CD2 LR LR
comp=Z,350nm,14.9s
CD2 LR LR
comp=Z,370nm,14.1s
CD2 LR LR
comp=Z,560nm,16.5s
MOY Mondy 31.75 310 *e*P **P** **14 36 33.4 -0.2**
GTA Gaotai 32.37 287 *e*P **P** **14 36 38.6 -0.6**
GTA PcP **PcP** **14 39 26.6 +0.8**
GTA S **S** **14 41 51.4 +1.7**
GTA PcS **PcS** **14 43 11.0 +0.1**
GTA pmax pmax
comp=Z,21nm,0.9s
GTA LR LR
comp=Z,170nm,15.3s
GTA LR LR
comp=Z,170nm,16.4s
GTA LR LR
comp=Z,280nm,20.0s
QIZ Qiongzhong 32.79 245 P **P** **14 36 43.6 +0.7**
QIZ S **S** **14 41 58.8 +2.5**
QIZ LR LR
comp=Z,320nm,7.3s
QIZ LR LR
comp=Z,200nm,7.5s
QIZ LR LR
comp=Z,190nm,8.4s
BILL Bilibino 34.01 17 ⇓*i*P **P** **14 36 53.0 0.0**
BILL *i* *PP **pP** **14 37 07.3 +0.9**
BILL pmax pmax
comp=Z,41nm,3.1s
BILL Bilibino 34.01 17 P **P** **14 36 53.6 +0.6**
BILL pP **pP** **14 37 07.9 +1.5**
BILL PcP **PcP** **14 39 30.8 +1.1**
KMI Kunming 34.79 261 ⇑P **P** **14 36 59.4 -1.1**
KMI pmax pmax
comp=Z,31nm,1.1s
KMI LR LR
comp=Z,250nm,23.1s
KMI LR LR
comp=Z,420nm,20.8s
KMI LR LR
comp=Z,550nm,21.6s
PZH PanZhiHua 34.93 264 P **P** **14 37 00.3 -1.2**
PZH S **S** **14 42 30.0 +0.5**
PZH pmax pmax
comp=Z,50nm,0.8s
PZH pmax pmax
comp=Z,140nm,5.9s
PZH LR LR
comp=Z,520nm,19.0s
PZH LR LR
comp=Z,690nm,19.4s
PZH LR LR
comp=Z,1μm,19.6s
TIXI Tiksi 35.20 353 P **P** **14 37 02.8 -0.4**
TIXI IAmb IAmb 14 37 03.7
comp=Z,28nm,1.3s
TIXI Tiksi 35.20 353 P **P** **14 37 02.7 -0.4**
comp=Z,9.0nm,0.6s,baz=162,slow=5.6,SNR=36
TIXI LR LR 14 52 26.6
comp=Z,142nm,18.4s,baz=160,slow=38
comp=Z,9.0nm,0.6s
TIXI Tiksi 35.20 353 P **P** **14 37 02.8 -0.4**
TIXI pmax pmax
comp=Z,28nm,1.3s
TIXI Tiksi 35.20 353 P **P** **14 37 02.7 -0.5**
SLVN Son La 35.87 255 P **P** **14 37 09.2 -0.4**
GOMU GeErMu 36.93 283 P **P** **14 37 18.1 -0.8**
GOMU PcP **PcP** **14 39 40.3 +0.9**
GOMU S **S** **14 43 01.3 +0.9**
GOMU pmax pmax
comp=Z,58nm,0.9s
GOMU pmax pmax
comp=Z,320nm,5.3s
GOMU LR LR
comp=Z,300nm,16.8s
GOMU LR LR
comp=Z,320nm,16.4s
GOMU LR LR
comp=Z,560nm,18.2s
KRAR Krasnoyarsk 37.29 316 ⇓*e*P **P** **14 37 21.2 0.0**
TNCH TengChong 38.18 264 P **P** **14 37 28.9 -0.4**
TNCH pP pP 14 37 41.4 -1.6
TNCH sP sP 14 37 46.4 -2.8
TNCH PP **PnPn** **14 39 00.3 +1.0**
TNCH S **S** **14 43 11.6 -7.7**
TNCH sS sS 14 43 42.3 +0.1
TNCH pmax pmax
comp=Z,63nm,0.8s
TNCH pmax pmax
comp=Z,240nm,4.1s
TNCH LR LR
comp=Z,150nm,5.4s
TNCH LR LR
comp=Z,76nm,4.6s
TNCH LR LR
comp=Z,190nm,10.4s
SWI Sorong 38.88 196 P **P** **14 37 37.7 +2.7**
comp=Z,30nm,0.6s,comp=Z,634nm
PHRA Phrae 40.32 254 P **P** **14 37 45.9 -1.1**
TOLI2 Tolitoli 40.47 212 P **P** **14 37 47.7 -0.5**
MRSI Marisa 40.55 210 P **P** **14 37 49.5 +0.6**
comp=Z,29nm,0.9s
WMQ Urumqi 40.65 297 *e*P **P** **14 37 50.4 +0.9**
WMQ PcP **PcP** **14 39 51.9 +1.4**
WMQ pmax pmax
comp=Z,110nm,0.9s
WMQ pmax pmax
comp=Z,190nm,4.1s
WMQ LR LR
comp=Z,310nm,24.2s
CHTO Chiang Mai 41.13 255 P **P** **14 37 53.0 -0.7**
CHTO Chiang Mai 41.13 255 P **P** **14 37 53.0 -0.7**
CHTO pmax pmax
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 41.34 255 P **P** **14 37 54.4 -1.0**
comp=Z,4.0nm,0.6s,baz=44,slow=7.7,SNR=36
CMAR PcP **PcP** **14 39 53.3 +0.2**
comp=Z,2.2nm,0.7s,baz=12,slow=2.0,SNR=8.2
CMAR LR LR 14 56 18.7
comp=Z,190nm,19.6s,baz=60,slow=38
comp=Z,4.0nm,0.6s
SANI Sanana 41.43 203 P **P** **14 37 55.1 -1.0**
ZAA0 Zalesovo Array 41.73 312 P **P** **14 37 57.8 -0.4**
ZALV Zalesovo Beam 41.73 312 P **P** **14 37 58.3 +0.1**
comp=Z,67nm,0.5s,baz=93,slow=7.0,SNR=248
ZALV PcP **PcP** **14 39 53.5 -0.2**
comp=Z,11nm,0.6s,baz=105,slow=2.9,SNR=9.5
ZALV ScP **ScP** **14 43 39.7 +0.2**
comp=Z,2.4nm,0.8s,baz=108,slow=4.7,SNR=5.7
ZALV LR LR 14 55 53.0
comp=Z,223nm,19.9s,baz=76,slow=37
comp=Z,67nm,0.5s
J14K Nanvaranak Lak 42.02 34 P **P** **14 38 01.9 +1.5**
baz=259
LSA Lhasa 42.02 275 P **P** **14 38 02.0 +0.6**
LSA Lhasa 42.02 275 P **P** **14 38 02.1 +0.6**
LSA pmax pmax
comp=Z,30nm,1.1s
LSA Lhasa 42.02 275 P **P** **14 38 00.7 -0.7**
LSA P **P** **14 38 00.7 -0.7**
ZSN Zaisan 42.09 303 *e*P **P** **14 38 01.2 -0.1**
comp=Z,47nm,0.9s
ZSN Zaisan 42.09 303 *e*P **P** **14 38 01.1 -0.1**
ZSN pmax pmax
comp=Z,47nm,0.9s
L14K Kuka Creek 42.18 37 P **P** **14 38 03.1 +1.4**
baz=261

M14K Bethel 42.45 38 P **P** **14 38 05.3 +1.4**
baz=263
N14K Kuskokwak Cree 42.48 39 P **P** **14 38 05.0 +0.8**
baz=264
L15K Ungalak Mounta 42.80 36 P **P** **14 38 08.2 +1.4**
baz=262
K15K Wolf Creek Mou 42.86 35 P **P** **14 38 09.2 +1.9**
baz=262
H16K Elim 42.97 32 P **P** **14 38 09.8 +1.7**
baz=258
M15K Kasigluk River 43.06 38 P **P** **14 38 09.9 +1.0**
baz=264
G16K Koyuk River 43.08 31 P **P** **14 38 10.1 +1.1**
baz=257
NRIK Noril'sk 43.13 335 P **P** **14 38 08.7 -0.6**
NRIK IAmb IAmb 14 38 10.2
comp=Z,48nm,1.5s
NRIK Noril'sk 43.13 335 P **P** **14 38 08.7 -0.6**
comp=Z,5.1nm,0.4s,baz=104,slow=9.5,SNR=13
NRIK PcP **PcP** **14 39 57.2 -0.9**
comp=Z,12nm,0.9s,baz=106,slow=4.2,SNR=4.3
NRIK LR LR 14 57 40.0
comp=Z,259nm,18.3s,baz=153,slow=38
comp=Z,5.1nm,0.4s
NRIK Noril'sk 43.13 335 P **P** **14 38 08.7 -0.6**
NRIK pmax pmax
comp=Z,48nm,1.5s
SHL Shillong 43.22 269 P **P** **14 38 09.2 -1.7**
SHL IAmb IAmb 14 38 33.9
comp=Z,25nm,0.4s
SHL Shillong 43.22 269 P **P** **14 38 10.6 -0.3**
SHL Shillong 43.22 269 P **P** **14 38 09.2 -1.7**
SHL pmax pmax
comp=Z,25nm,0.4s
N15K Kwethluk River 43.30 39 P **P** **14 38 12.3 +1.4**
baz=265
D17K Noatak River 43.37 27 P **P** **14 38 13.5 +2.2**
baz=254,SNR=5.3
CHNA Chernabura Isl 43.40 46 P **P** **14 38 12.4 +0.8**
baz=271
J16K Anvik River 43.44 34 P **P** **14 38 12.2 +0.3**
baz=261
I17K Unalakleet 43.49 33 P **P** **14 38 14.0 +1.7**
baz=261
RDOG Red Dog Mine 43.53 27 P **P** **14 38 14.3 +1.7**
baz=254
C17K DeLong Mountai 43.55 26 P **P** **14 38 13.6 +0.9**
baz=253
SBUM Sibu 43.58 225 P **P** **14 38 12.9 -0.7**
SBUM Sibu 43.58 225 P **P** **14 38 14.0 +0.4**
E17K Hotham Inlet 43.68 28 P **P** **14 38 15.8 +2.0**
baz=256
SRDT SRDT 43.68 250 P **P** **14 38 14.7 +0.3**
F17K Baldwin Pennin 43.75 29 P **P** **14 38 16.0 +1.6**
baz=257
L16K Owhat River 43.75 36 P **P** **14 38 16.2 +1.8**
baz=264
G17K Kiwalik Mounta 43.80 31 P **P** **14 38 15.3 +0.5**
baz=259
MK31 Makanchi Array 43.93 302 P **P** **14 38 15.9 -0.2**
MK31 IAmb IAmb 14 38 17.1
comp=Z,26nm,0.8s
MK31 Makanchi Array 43.93 302 *i* P **P** **14 38 16.0 -0.1**
MKAR Makanchi Array 43.93 302 P **P** **14 38 16.0 -0.1**
comp=Z,36nm,0.9s,baz=87,slow=10,SNR=180
MKAR PcP **PcP** **14 40 01.0 -0.3**
comp=Z,4.1nm,0.6s,baz=77,slow=5.5,SNR=3.7
comp=Z,36nm,0.9s
M16K Timber Creek 43.94 37 P **P** **14 38 17.6 +1.6**
M16K IAmb IAmb 14 39 23.6
comp=Z,73nm,1.8s
M16K Timber Creek 43.94 37 P **P** **14 38 17.5 +1.5**
baz=265
N16K Nishlik Lake 43.98 38 P **P** **14 38 17.9 +1.5**
baz=266
H17K Granite Mounta 44.00 32 P **P** **14 38 18.3 +1.8**
H17K Granite Mounta 44.00 32 P **P** **14 38 18.0 +1.5**
baz=260
J17K VABM Dome 44.13 34 P **P** **14 38 19.1 +1.6**
J17K VABM Dome 44.13 34 P **P** **14 38 19.2 +1.8**
baz=263
MAKZ Makanchi 44.14 302 P **P** **14 38 17.6 -0.1**
MAKZ IAmb IAmb 14 38 18.9
comp=Z,32nm,0.8s
MAKZ Makanchi 44.14 302 P **P** **14 38 17.7 -0.1**
MAKZ Makanchi 44.14 302 P **P** **14 38 17.8 0.0**
MAKZ PcP **PcP** **14 40 00.6 -1.4**
E18K Tukpahlearik C 44.22 28 P **P** **14 38 19.9 +1.8**
baz=257
O16K Kokwok River B 44.27 39 P **P** **14 38 20.2 +1.5**
baz=268
B18K Kokolik River 44.28 25 P **P** **14 38 20.4 +1.8**
baz=254
C18K Utukok River 44.30 26 P **P** **14 38 20.4 +1.5**
C18K IAmb IAmb 14 38 21.1
comp=Z,25nm,0.7s
C18K Utukok River 44.30 26 P **P** **14 38 20.2 +1.4**
baz=255
P16K Nushagak River 44.30 40 P **P** **14 38 20.7 +1.8**
baz=268
L17K Donlin 44.35 36 P **P** **14 38 21.0 +1.7**
baz=265
KDI Kendari 44.36 207 P **P** **14 38 21.8 +2.0**
K17K Iditarod 44.41 35 P **P** **14 38 21.7 +2.0**
K17K Iditarod 44.41 35 P **P** **14 38 21.9 +2.2**
baz=264,SNR=6.6
F18K Selawik 44.41 29 P **P** **14 38 21.0 +1.4**
baz=259
G18K Tagagawik 44.68 30 P **P** **14 38 23.6 +1.7**
baz=260
H18K Honhosa River 44.68 32 P **P** **14 38 23.7 +1.8**
H18K Honhosa River 44.68 32 P **P** **14 38 23.6 +1.7**
baz=262
M17K Holitna River 44.70 37 P **P** **14 38 23.9 +1.8**
baz=266
SEM Semipalatinsk 44.76 307 *e*P **P** **14 38 22.1 -0.8**
comp=Z,10nm,0.4s
SEM Semipalatinsk 44.76 307 *e*P **P** **14 38 22.1 -0.8**
SEM pmax pmax
comp=Z,10.0nm,0.4s
A19K Wainwright 44.76 24 P **P** **14 38 24.6 +2.3**
baz=254
N17K Nushagak Hills 44.77 38 P **P** **14 38 24.3 +1.7**
baz=267
O17K Koliganek Bris 44.79 39 P **P** **14 38 24.6 +1.9**
baz=268
C19K Lookout Ridge 44.98 26 P **P** **14 38 25.5 +1.2**
baz=256
Q16K King Salmon 44.99 41 P **P** **14 38 26.6 +2.2**
baz=270
L18K Granite Mounta 45.11 36 P **P** **14 38 27.6 +2.3**
baz=266
P17K Kvichak River 45.11 40 P **P** **14 38 27.6 +2.3**
baz=269
R17L Mt. Peulik Vol 45.15 42 P **P** **14 38 26.8 +1.1**
baz=271
F19K Shaleruckik Mo 45.19 29 P **P** **14 38 27.0 +1.2**
baz=260
J18K Innoko River 45.20 34 P **P** **14 38 27.3 +1.4**
baz=265
GCSA Galena City Sc 45.26 32 P **P** **14 38 27.4 +1.0**
baz=263
G19K Purcell Mounta 45.35 30 P **P** **14 38 28.4 +1.3**
baz=262
D19K Kuna River 45.37 27 P **P** **14 38 28.9 +1.6**
baz=258
Q17K Contact Creek 45.40 41 P **P** **14 38 28.8 +1.0**
baz=271
N18K Kilae Creek 45.42 38 P **P** **14 38 29.0 +1.2**
baz=268
KSM Kuching 45.47 226 P **P** **14 38 29.7 +1.0**
TTA Tatalina 45.47 35 P **P** **14 38 29.9 +1.6**
baz=266
M18K Stony River 45.48 37 P **P** **14 38 30.0 +1.8**
baz=268
E19K Redstone River 45.50 28 P **P** **14 38 30.4 +2.1**
baz=260
H19K Roundabout Mou 45.53 31 P **P** **14 38 30.5 +2.0**
baz=263
J19K Poorman 45.73 33 P **P** **14 38 32.1 +1.9**
baz=265
BNSI Bone 45.73 210 P **P** **14 38 31.9 +1.2**
comp=Z,50nm,1.0s
P18K Big Mountain, 45.73 40 P **P** **14 38 32.1 +1.8**
baz=270
O18K Koktuh Hills 45.74 39 P **P** **14 38 31.6 +1.2**
baz=270

KURK Kurchatov 45.75 308 P **P** **14 38 30.0 -0.4**
KURK Kurchatov 45.75 308 P **P** **14 38 30.2 -0.2**
KURK P **P** **14 38 30.2 -0.2**
KURK Kurchatov 45.75 308 P **P** **14 38 30.6 +0.1**
KURK 14 40 06.8
KURK Kurchatov 45.75 308 P **P** **14 38 30.1 -0.4**
KURK pP **pP** **14 38 44.1 -0.3**
KURK PcP **PcP** **14 40 07.0 -0.5**
KURBB Kurchatov Arra 45.81 308 P **P** **14 38 30.6 -0.4**
comp=Z,30nm,0.5s,baz=84,slow=8.1,SNR=304
KURBB PcP **PcP** **14 40 06.8 -0.9**
comp=Z,6.7nm,0.7s,baz=89,slow=3.7,SNR=5.5
comp=Z,30nm,0.5s
Q18K Katmai Hardscr 45.85 41 P **P** **14 38 32.6 +1.2**
baz=271
D20K Etivluk River 45.95 27 P **P** **14 38 33.2 +1.4**
baz=260
L19K White Mountain 45.97 36 P **P** **14 38 33.4 +1.3**
baz=268
B20K Meade River 46.01 25 P **P** **14 38 34.0 +1.8**
B20K IAmb IAmb 14 38 49.4
comp=Z,56nm,1.1s
B20K Meade River 46.01 25 P **P** **14 38 33.2 +1.0**
baz=258
F20K Avaraart Lake 46.02 29 P **P** **14 38 33.2 +0.8**
baz=262
E20K Nigu River 46.02 27 P **P** **14 38 33.9 +1.4**
baz=261
M19K Big River Lodg 46.17 36 P **P** **14 38 35.3 +1.6**
baz=268
H20K Anotleneega Mo 46.18 31 P **P** **14 38 35.2 +1.5**
baz=265
O19K Port Alsworth 46.19 39 P **P** **14 38 35.8 +2.0**
baz=270
I20K Naaghedeneel 46.29 32 P **P** **14 38 36.5 +2.0**
baz=266
K20K Telida 46.38 34 P **P** **14 38 37.4 +2.1**
K20K IAmb IAmb 14 38 38.1
comp=Z,14nm,0.7s
K20K Telida 46.38 34 P **P** **14 38 37.2 +1.9**
baz=267
SII Sitkinak Islan 46.38 44 P **P** **14 38 37.6 +2.1**
baz=274
J20K Nowinta River 46.39 33 P **P** **14 38 36.8 +1.4**
J20K Nowinta River 46.39 33 P **P** **14 38 37.5 +2.2**
baz=266,SNR=6.8
KAPI Kappang 46.43 210 P **P** **14 38 36.2 0.0**
KAPI Kappang 46.43 210 P **P** **14 38 37.2 +1.0**
KAPI P **P** **14 38 37.2 +1.0**
KAPI Kappang 46.43 210 P **P** **14 38 36.9 +0.7**
KAPI Kappang 46.43 210 P **P** **14 38 36.2 0.0**
KAPI pmax pmax
comp=Z,45nm,0.8s
KAPI Kappang 46.43 210 P **P** **14 38 36.6 +0.5**
KAPI pP **pP** **14 38 51.3 +1.2**
L20K Farewell, AK 46.43 36 P **P** **14 38 38.0 +2.2**
baz=268
Q19K Cape Douglas, 46.55 40 P **P** **14 38 38.4 +1.6**
baz=272
BKSI Bulukumba 46.56 210 P **P** **14 38 38.0 +0.8**
comp=Z,35nm,0.9s
SHLS Shalkode 46.64 298 *e*P **P** **14 38 35.3 -2.6**
SHLS Shalkode 46.64 298 *e*P **P** **14 38 35.2 -2.6**
C21K Knifeblade Rid 46.67 26 P **P** **14 38 39.1 +1.6**
baz=261
M20K Styx River 46.77 36 P **P** **14 38 40.1 +1.6**
baz=270
B21K Ikpikpuk River 46.81 26 P **P** **14 38 40.0 +1.5**
baz=261
OHAK Old Harbor 46.83 43 P **P** **14 38 40.1 +1.3**
baz=274
G21K Allakaket 46.83 30 P **P** **14 38 40.3 +1.5**
G21K Allakaket 46.83 30 P **P** **14 38 40.5 +1.7**
baz=265,SNR=5.4
E21K Killik River 46.86 27 P **P** **14 38 40.3 +1.2**
baz=263
F21K Alatna River 46.91 29 P **P** **14 38 40.4 +1.0**
baz=264
A22K Sinclair Lake 46.92 24 P **P** **14 38 40.7 +1.3**
baz=259
TDK Taldyqorghan 46.94 300 *e*P **P** **14 38 39.9 -0.1**
comp=Z,22nm,0.6s
TDK Taldyqorghan 46.94 300 *e*P **P** **14 38 39.8 -0.1**
TDK pmax pmax
comp=Z,21nm,0.6s
UZB Uzynbulak 46.96 298 *e*P **P** **14 38 40.1 -0.2**
comp=Z,10nm,0.6s
UZB Uzynbulak 46.96 298 *e*P **P** **14 38 40.1 -0.2**
UZB pmax pmax
comp=Z,10.0nm,0.6s
O20K Slope Mountain 47.04 39 P **P** **14 38 41.6 +1.0**
baz=272
H21K Melozitna Rive 47.05 31 P **P** **14 38 41.9 +1.3**
baz=266
SRIT Nakonsritamara 47.11 244 P **P** **14 38 42.0 +0.4**
SRIT Nakonsritamara 47.11 244 P **P** **14 38 42.4 +0.8**
KPKS Kokpek 47.12 298 *e*P **P** **14 38 41.4 -0.1**
comp=Z,28nm,2.0s
KPKS Kokpek 47.12 298 *e*P **P** **14 38 41.4 -0.1**
KPKS pmax pmax
comp=Z,28nm,2.0s
KDAK Kodiak Island 47.17 42 P **P** **14 38 40.0 -1.5**
comp=Z,7.1nm,0.7s,baz=190,slow=3.4,SNR=18
KDAK LR LR 14 59 02.9
comp=Z,104nm,21.4s,baz=101,slow=37
comp=Z,7.1nm,0.7s
KDAK Kodiak Island 47.17 42 P **P** **14 38 42.4 +0.9**
baz=274
KDAK Kodiak Island 47.17 42 P **P** **14 38 40.0 -1.5**
KDAK Kodiak Island 47.17 42 P **P** **14 38 41.2 -0.3**
KDAK pP **pP** **14 38 56.0 +0.5**
CHUM Lake Minchumin 47.18 34 P **P** **14 38 43.3 +1.8**
baz=268,SNR=5.3
N20K Mount Spurr 47.22 37 P **P** **14 38 44.2 +2.2**
baz=271,SNR=6.4
SPCR Spurr Chakacha 47.22 37 P **P** **14 38 44.0 +2.0**
baz=271
PPLA Purkeypile 47.22 35 P **P** **14 38 44.1 +2.1**
baz=270
Q20K Shuyak Island 47.22 41 P **P** **14 38 43.1 +1.2**
baz=273
CAST Castle Rocks 47.27 34 P **P** **14 38 43.9 +1.6**
CAST Castle Rocks 47.27 34 P **P** **14 38 44.0 +1.7**
baz=269,SNR=6.0
B22K Teshekpuk Lake 47.32 25 P **P** **14 38 43.8 +1.3**
B22K IAmb IAmb 14 39 03.3
comp=Z,36nm,1.2s
B22K Teshekpuk Lake 47.32 25 P **P** **14 38 43.9 +1.4**
baz=261
WUS Wushi 47.34 295 P **P** **14 38 44.0 +0.8**
I21K Tanana 47.37 32 P **P** **14 38 44.6 +1.7**
I21K Tanana 47.37 32 P **P** **14 38 45.0 +2.0**
baz=268
D22K Ayikyak River 47.39 27 P **P** **14 38 44.9 +1.8**
baz=264
SATY Saty 47.41 298 *e*P **P** **14 38 43.7 -0.2**
SATY Saty 47.41 298 *e*P **P** **14 38 43.6 -0.2**
F22K John River 47.44 29 P **P** **14 38 45.3 +1.8**
baz=265
SKT Skwentna 47.53 36 P **P** **14 38 45.8 +1.5**
baz=271
E22K Anaktuvuk Pass 47.63 28 P **P** **14 38 46.6 +1.6**
E22K IAmb IAmb 14 39 02.2
comp=Z,17nm,0.8s
E22K Anaktuvuk Pass 47.63 28 P **P** **14 38 46.5 +1.5**
baz=265,SNR=16
H22K Ishtalitna Cre 47.65 31 P **P** **14 38 46.7 +1.5**
baz=268
G22K Bettles 47.66 29 P **P** **14 38 46.5 +1.4**
baz=266,SNR=9.1
BPAW Bear Paw Mtn. 47.77 33 P **P** **14 38 47.8 +1.6**
BPAW Bear Paw Mtn. 47.77 33 P **P** **14 38 47.6 +1.4**
baz=270
MLY Manley 47.89 32 P **P** **14 38 48.8 +1.7**
MLY Manley 47.89 32 P **P** **14 38 48.7 +1.7**
baz=269,SNR=12
SUA Susitna One 47.91 37 P **P** **14 38 48.2 +0.8**
SUA Susitna One 47.91 37 P **P** **14 38 48.5 +1.1**
baz=272
BRSE Bradley Lake S 48.00 39 P **P** **14 38 49.5 +1.5**
baz=274
TRF Thorofare Moun 48.08 34 P **P** **14 38 50.0 +1.2**
baz=271
D23K Nanushuk River 48.12 27 P **P** **14 38 50.3 +1.6**
baz=265
COLD Coldfoot 48.18 29 P **P** **14 38 50.6 +1.3**

baz=267
M22K Willow 48.20 36 P P 14 38 50.9 +1.5
baz=272
CHKK Chushkaly 48.20 299 eP P 14 38 49.6 -0.2
CHKK Chushkaly 48.20 299 eP P 14 38 49.6 -0.2
C23K Itkillik River 48.22 26 P P 14 38 51.2 +1.7
baz=265
G23K Bananza Creek 48.23 30 P P 14 38 51.3 +1.6
baz=268
MDOK Medeo 48.35 298 eP P 14 38 51.0 -0.1
MDOK Medeo 48.35 298 P P 14 38 51.4 +0.3
H23K Yukon River 48.40 31 P P 14 38 53.2 +2.2
H23K IAmb IAmb 14 39 08.6
comp=Z,21nm,1.1s
H23K Yukon River 48.40 31 P P 14 38 52.4 +1.4
baz=269,SNR=11
RC01 Rabbit Creek A 48.42 37 P P 14 38 52.8 +1.6
baz=273
AAA Alma-Ata 48.43 298 eP P 14 38 51.4 -0.3
comp=Z,13nm,0.6s
AAA Alma-Ata 48.43 298 eP P 14 38 51.3 -0.3
AAA pmax pmax
comp=Z,13nm,0.6s
BWN Browne 48.44 33 P P 14 38 53.9 +2.6
E23K Chandalar 48.45 28 P P 14 38 53.0 +1.6
baz=267
TNSS Tian-Shan 48.45 298 eP P 14 38 51.8 -0.5
TNSS Tian-Shan 48.45 298 eP P 14 38 51.7 -0.5
I23K Minto, Yukon-K 48.48 32 P P 14 38 53.1 +1.6
I23K IAmb IAmb 14 39 08.1
comp=Z,30nm,1.6s
I23K Minto, Yukon-K 48.48 32 P P 14 38 53.2 +1.7
baz=270
TOLK Toolik Lake Re 48.49 27 P P 14 38 53.3 +1.6
baz=267
NEA2 Nenana 48.60 33 P P 14 38 54.3 +1.8
baz=271,SNR=9.2
SEW Seward 48.62 39 P P 14 38 53.8 +1.1
baz=274
KUU Kurty 48.65 299 eP P 14 38 53.2 -0.1
comp=Z,10nm,0.9s
KUU Kurty 48.65 299 eP P 14 38 53.1 -0.1
KUU pmax pmax
comp=Z,10.0nm,0.9s
MCK McKinley 48.68 34 P P 14 38 54.3 +1.2
baz=272
PMR Palmer 48.68 37 P P 14 38 54.1 +1.0
baz=273,SNR=5.1
PMR Palmer 48.68 37 P P 14 38 53.7 +0.6
KULM Kulim 48.69 239 P P 14 38 53.9 +0.1
D24K Happy Valley 48.79 27 P P 14 38 55.2 +1.2
baz=267
C24K Franklin Bluff 48.87 26 P P 14 38 56.1 +1.6
baz=267,SNR=10
E24K Your Creek 48.87 28 P P 14 38 56.8 +2.2
baz=268,SNR=8.9
WAT1 Susitna Watana 48.89 35 P P 14 38 55.5 +0.7
baz=273
KNK Knik Glacier 49.01 37 P P 14 38 56.6 +0.8
baz=274
IPM Ipoh 49.02 238 P P 14 38 55.8 -0.6
IPM IAmb IAmb 14 38 56.8
comp=Z,15nm,0.7s
IPM Ipoh 49.02 238 P P 14 38 55.7 -0.6
SML Sawmill 49.05 36 P P 14 38 57.3 +1.2
SML IAmb IAmb 14 39 17.5
comp=Z,16nm,0.9s
SML Sawmill 49.05 36 P P 14 38 57.6 +1.6
baz=274
F24K Squaw Lake 49.09 29 P P 14 38 58.0 +1.7
baz=269
H24K Noodor Dome 49.09 31 P P 14 38 58.7 +2.4
baz=271
PWL Port Wells 49.12 38 P P 14 38 58.4 +1.8
baz=275
COLA College 49.12 32 P P 14 38 58.1 +1.7
COLA College 49.12 32 P P 14 38 58.4 +2.0
baz=272
COLA College 49.12 32 P P 14 38 56.3 -0.1
COLA College 49.12 32 P P 14 38 58.1 +1.7
COLA pmax pmax
comp=Z,10.0nm,0.9s
COLA College 49.12 32 P P 14 38 58.0 +1.5
CCB Clear Creek Bu 49.15 33 P P 14 38 57.2 +0.5
SOEI Soe 49.24 202 P P 14 38 59.6 +1.5
G24K Hadweenzic Riv 49.24 30 P P 14 38 58.6 +1.2
baz=270
WAT6 Susitna Watana 49.27 35 P P 14 38 58.8 +0.9
baz=274
POKR Poker Plat Res 49.29 32 P P 14 39 00.0 +2.2
baz=272,SNR=13
M23K Glacier View 49.34 36 P P 14 38 59.1 +0.9
baz=274
DHY Denali Highway 49.41 35 P P 14 38 59.6 +0.7
baz=274
TKM2 Tokmak 2 49.44 298 P P 14 39 00.2 +0.7
SNR=40
TKM2 Tokmak 2 49.44 298 P P 14 38 59.8 +0.3
SCM Sheep Creek Mo 49.52 36 P P 14 39 00.4 +0.7
baz=275
HNR Honiara 49.52 155 LR LR 14 56 49.8
comp=Z,106nm,21.8s,baz=347,slow=32
HDA Harding Lake 49.53 33 P P 14 39 00.5 +0.9
baz=273,SNR=8.5
IL31 49.53 32 P P 14 39 00.5 +0.9
ILAR Eielson Array 49.53 32 P P 14 39 00.1 +0.4
comp=Z,7.2nm,0.7s,baz=268,slow=6.1,SNR=91
comp=Z,7.2nm,0.7s
D25K Kavik River 49.67 26 P P 14 39 02.2 +1.5
baz=269,SNR=10
GLI Glacier Island 49.72 38 P P 14 39 01.3 +0.1
baz=276
G25K Bearman Lake 49.79 30 P P 14 39 02.6 +1.1
baz=272
BATI Baumata 49.85 203 LR LR 14 57 25.2
comp=Z,41nm,21.0s,baz=82,slow=33
BATI Baumata 49.85 203 P P 14 39 06.8 +4.2
comp=Z,87nm,0.9s
H25L Birch Creek 49.92 30 P P 14 39 04.7 +2.1
baz=272
BTLS Baital 49.92 301 eP P 14 39 02.6 -0.4
BTLS Baital 49.92 301 eP P 14 39 02.5 -0.4
F25K Christian Rive 49.95 29 P P 14 39 05.0 +2.1
baz=271
SGDS Sogindy 49.96 299 eP P 14 39 03.1 -0.2
SGDS Sogindy 49.96 299 eP P 14 39 03.1 -0.2
KBK Karagaybulak 49.97 298 P P 14 39 04.0 +0.5
SNR=34
CHMS Chumysh 50.01 299 P P 14 39 03.4 -0.2
SNR=8.7
M24K Tolsona, Glenn 50.04 36 P P 14 39 05.3 +1.7
baz=275
PRP Porcupine Dome 50.07 31 P P 14 39 05.3 +1.4
baz=273
K24K Donnelly Dome 50.08 34 P P 14 39 04.8 +1.0
baz=274
USP Ospenovka 50.11 299 P P 14 39 04.3 -0.1
SNR=18
C26K Camden Bay 50.19 26 P P 14 39 06.2 +1.7
baz=270
J25K Salcha River, 50.20 33 P P 14 39 06.1 +1.3
baz=274
KDU Kakadu 50.20 191 P P 14 39 05.3 +0.2
KSH Kashi 50.21 294 P P 14 39 09.3 +4.0
KSH pP pP 14 39 21.9 +2.4
KSH pmax pmax
comp=Z,14nm,1.0s
KSH LR LR
comp=Z,340nm,14.4s
KSH LR LR
comp=Z,220nm,13.1s
KSH LR LR
comp=Z,450nm,15.1s
KLU Klutina 50.22 37 P P 14 39 06.6 +1.6
KLU IAmb IAmb 14 39 20.9
comp=Z,28nm,1.5s
KLU Klutina 50.22 37 P P 14 39 06.1 +1.1
baz=276
Q23K Middleton Isla 50.26 39 P P 14 39 06.2 +1.0
baz=278
PAX Paxson 50.28 35 P P 14 39 06.7 +1.2
baz=275
AAK Ala-Archa 50.30 298 P P 14 39 05.2 -0.8
SNR=8.4
AAK Ala-Archa 50.30 298 P P 14 39 05.2 -0.8
AAK Ala-Archa 50.30 298 i P P 14 39 06.0 0.0
SNR=15
AAK Ala-Archa 50.30 298 LR LR 15 01 41.4
comp=Z,460nm,19.7s,baz=68,slow=38
AAK Ala-Archa 50.30 298 P P 14 39 06.0 0.0
AAK P P 14 39 06.0 0.0
AAK Ala-Archa 50.30 298 c i P P 14 39 05.8 -0.2
AAK pmax pmax
comp=Z,9.0nm,0.7s
AAK Ala-Archa 50.30 298 P P 14 39 06.0 0.0
AAK PcP **PcP 14 40 24.2 +0.1**
BVA0 Borovoye Array 50.39 312 i P P 14 39 05.8 -0.5
BVAR Borovoye Array 50.39 312 P P 14 39 06.2 -0.1
comp=Z,30nm,0.7s,baz=73,slow=7.0,SNR=158
BVAR PcP **PcP 14 40 24.3 +0.2**
comp=Z,23nm,0.6s,baz=83,slow=3.5,SNR=13
comp=Z,30nm,0.7s
EYAK Cordova Ski Ar 50.41 38 P P 14 39 07.6 +1.3
baz=277
TPI Tanjungpandan 50.43 226 P P 14 39 08.8 +1.8
comp=Z,42nm,1.1s
BRVK Borovoye 50.45 312 P P 14 39 06.4 -0.3
BRVK IAmb IAmb 14 39 08.2
comp=Z,34nm,0.8s
BRVK Borovoye 50.45 312 P P 14 39 06.6 -0.2
BRVK P P 14 39 06.6 -0.2
BRVK Borovoye 50.45 312 P P 14 39 06.4 -0.3
BRVK pmax pmax
comp=Z,34nm,0.8s
BRVK Borovoye 50.45 312 P P 14 39 06.5 -0.2
BRVK PcP **PcP 14 40 24.3 0.0**
HARP HAARP 50.48 35 P P 14 39 08.2 +1.3
baz=276
RIDG Independent Ri 50.49 34 P P 14 39 08.0 +1.0
baz=275
F26K Sheenjek River 50.52 28 P P 14 39 09.3 +2.2
baz=273
C27K Jago River 50.61 26 P P 14 39 09.4 +1.6
baz=271
G26K Porcupine Rive 50.70 29 P P 14 39 09.9 +1.6
baz=274
EKS2 Erkin-Say 50.79 298 P P 14 39 09.7 0.0
SNR=16
COEN Coen 50.82 178 P P 14 39 11.3 +1.4
COEN IAmb IAmb 14 39 25.1
comp=Z,25nm,1.1s
COEN Coen 50.82 178 P P 14 39 10.5 +0.6
N25K Chitina, Valde 50.84 36 P P 14 39 10.8 +1.2
baz=277
SCRK Sand Creek 50.85 33 P P 14 39 10.6 +0.8
SCRK IAmb IAmb 14 39 30.9
comp=Z,16nm,1.0s
SCRK Sand Creek 50.85 33 P P 14 39 10.9 +1.1
baz=276,SNR=9.6
BMRM Bremner River 50.92 37 P P 14 39 10.6 +0.4
baz=278
J26L Joseph Creek 50.98 33 P P 14 39 11.3 +0.6
baz=276
AML Almayashu 51.01 298 P P 14 39 12.3 +0.6
SNR=54
I26K Coal Creek Min 51.08 32 P P 14 39 12.0 +0.7
baz=275
MENT Mentasta 51.08 35 P P 14 39 13.6 +2.2
MENT IAmb IAmb 14 39 28.2
comp=Z,23nm,1.3s
MENT Mentasta 51.08 35 P P 14 39 11.5 +0.1
L26K Log Cabin Wild 51.24 34 P P 14 39 14.5 +1.9
baz=277,SNR=5.9
E27K Coleen River 51.45 28 P P 14 39 15.9 +1.8
baz=274
M26K Nabesna, AK 51.48 35 P P 14 39 16.3 +1.9
baz=278
G27K Doyon Strip 51.55 30 P P 14 39 17.0 +2.1
baz=276
D27M Malcolm River 51.60 26 P P 14 39 16.4 +1.2
baz=274
MCARA McCarthy VSAT 51.62 37 P P 14 39 16.9 +1.5
baz=279
H27K Steamboat Moun 51.66 30 P P 14 39 17.1 +1.4
baz=276
PSI Prapat 51.67 239 LR LR 15 02 57.6
comp=Z,39nm,18.9s,baz=45,slow=38
PSI Prapat 51.67 239 P P 14 39 16.7 +0.2
CRQE Cirque 51.68 37 P P 14 39 18.0 +2.0
baz=279
I27K Kandik River 51.69 31 P P 14 39 17.7 +1.8
baz=276
ARSB Arslanbob 51.78 297 P P 14 39 17.8 +0.7
ARSB IAmb IAmb 14 39 18.8
comp=Z,29nm,1.6s
ARSB Arslanbob 51.78 297 P P 14 39 17.8 +0.7
ARSB pmax pmax
comp=Z,29nm,1.6s
L27K Beaver Creek, 51.92 34 P P 14 39 19.1 +1.4
baz=278
EGAK Eagle 51.98 32 P P 14 39 19.0 +0.9
baz=278
M27K Edge Creek, AK 52.01 35 P P 14 39 20.3 +1.9
baz=279
F28M Old Crow 52.15 28 P P 14 39 21.1 +1.8
F28M Old Crow 52.15 28 P P 14 39 21.4 +2.0
baz=276
E28M Babbage River 52.17 27 P P 14 39 21.5 +2.1
baz=276
MESA MESA 52.34 38 P P 14 39 22.8 +1.8
baz=280
D28M Stokes Point 52.38 26 P P 14 39 22.8 +1.9
baz=276
I28M Miner Creek 52.40 31 P P 14 39 23.0 +1.7
baz=278
DZA Taraz 52.43 299 eP P 14 39 21.8 0.0
comp=Z,7.5nm,0.5s
DZA Taraz 52.43 299 eP P 14 39 21.8 0.0
DZA pmax pmax
comp=Z,8.0nm,0.5s
BVCY Beaver Creek 52.46 35 P P 14 39 23.5 +1.8
baz=280,SNR=7.5
CTG Chitna Glacier 52.49 37 P P 14 39 23.1 +1.1
baz=280
PWJI Pagerwojo 52.65 218 P P 14 39 23.6 +0.1
comp=Z,94nm,0.8s
YUK3 Moose Creek 52.76 36 P P 14 39 25.7 +1.5
baz=280
E29M Blow River 52.80 27 P P 14 39 26.5 +2.5
baz=278,SNR=9.2
DAWY Dawson 52.84 33 P P 14 39 26.2 +1.6
baz=280
H29M Whitestone 52.92 30 P P 14 39 27.0 +1.9
baz=279
KK31 Karatay Array 52.93 300 P P 14 39 24.9 -0.6
G29M Pine Creek 52.96 29 P P 14 39 27.2 +1.9
baz=279
O28M Mount Upton 53.08 37 P P 14 39 28.2 +1.6
baz=281
YUK8 Steele Glacier 53.18 36 P P 14 39 28.9 +1.6
baz=281
J29N Klondike Camp 53.28 32 P P 14 39 29.7 +1.9
baz=280
BRLS Borolday 53.42 300 eP P 14 39 30.4 +1.3
BRLS Borolday 53.42 300 eP P 14 39 30.3 +1.3
KPJI Karang Pucung 53.52 221 P P 14 39 30.5 +0.5
comp=Z,56nm,0.9s
M29M Somme Creek 53.55 35 P P 14 39 31.7 +1.9
baz=282
EPYK Eagle Plains 53.56 30 P P 14 39 31.4 +1.7
EPYK IAmb IAmb 14 39 51.8
comp=Z,31nm,1.1s
EPYK Eagle Plains 53.56 30 P P 14 39 31.4 +1.7
baz=280,SNR=9.7
L29M L29M 53.57 34 P P 14 39 31.9 +2.0
baz=281
IUG Iuzhnay 53.58 299 eP P 14 39 30.2 -0.2
comp=Z,22nm,0.8s
IUG Iuzhnay 53.58 299 eP P 14 39 30.2 -0.2
IUG pmax pmax
comp=Z,22nm,0.8s
G30M tAoh Zraii Nji 53.65 29 P P 14 39 32.0 +1.6
baz=280
GSI Gunungsitoli 53.68 239 P P 14 39 30.8 -0.4
GSI Gunungsitoli 53.68 239 P P 14 39 31.4 +0.2
GSI Gunungsitoli 53.68 239 P P 14 39 31.3 +0.1
comp=Z,122nm,1.2s
K29M Barlow Dome 53.70 33 P P 14 39 32.8 +1.9
baz=281
PNL Peninsula 53.70 38 P P 14 39 32.7 +1.9
baz=283
YUK4 Talbot Arm 53.70 36 P P 14 39 33.0 +2.0
baz=282
F30M Barrier River 53.70 28 P P 14 39 32.7 +2.0
baz=280
BTK Batken 53.76 296 P P 14 39 31.5 -0.1
BTK IAmb IAmb 14 39 36.3
comp=Z,17nm,0.9s
BTK Batken 53.76 296 P P 14 39 31.5 -0.1
BTK pmax pmax
comp=Z,17nm,1.0s
LEM Lembang 53.80 223 LR LR 15 02 52.3
comp=Z,92nm,19.9s,baz=0.5,slow=36
I30M Mount Dempster 53.91 31 P P 14 39 34.3 +1.9
baz=281
YUK6 Outpost Mounta 53.92 37 P P 14 39 34.5 +1.9
baz=283
O29M Mount Kennedy 53.96 37 P P 14 39 35.0 +2.2
baz=283
J30M Hart River 54.06 32 P P 14 39 35.1 +1.5
baz=282
M30M Minto, Yukon 54.28 34 P P 14 39 36.6 +1.5
baz=283,SNR=6.1
HYT Haines Junctio 54.35 37 P P 14 39 37.6 +1.9
HYT IAmb IAmb 14 39 53.1
comp=Z,43nm,1.4s
HYT Haines Junctio 54.35 37 P P 14 39 37.8 +2.1
baz=284,SNR=5.6
INK Inuvik 54.41 27 P P 14 39 37.0 +1.2
INK IAmb IAmb 14 39 37.8
comp=Z,24nm,1.6s
INK Inuvik 54.41 27 P P 14 39 37.0 +1.2
baz=282,SNR=6.5
INK Inuvik 54.41 27 P P 14 39 37.0 +1.2
INK pmax pmax
comp=Z,24nm,1.6s
G31M Satah River 54.41 29 P P 14 39 36.8 +1.0
G31M IAmb IAmb 14 39 40.4
comp=Z,32nm,1.5s
G31M Satah River 54.41 29 P P 14 39 37.0 +1.2
baz=282,SNR=5.5
NIL Nilore 54.42 288 P P 14 39 36.9 +0.4
NIL Nilore 54.42 288 P P 14 39 37.1 +0.6
NIL Nilore 54.42 288 P P 14 39 36.9 +0.4
NIL pmax pmax
comp=Z,79nm,0.7s
NIL Nilore 54.42 288 P P 14 39 36.9 +0.4
NIL PcP **PcP 14 40 39.3 -0.3**
GAR Garm 54.50 295 P P 14 39 37.1 0.0
F31M Tsiigehtchic 54.51 28 P P 14 39 37.4 +0.9
F31M IAmb IAmb 14 39 57.9
comp=Z,40nm,1.6s
F31M Tsiigehtchic 54.51 28 P P 14 39 37.9 +1.4
baz=282,SNR=6.0
P29M Windy Craggy 54.52 38 P P 14 39 38.6 +1.7
baz=284
H31M Peel River 54.62 30 P P 14 39 39.1 +1.6
baz=283
P30M Million Dollar 54.78 37 P P 14 39 40.5 +1.7
baz=284
SVE Sverdlovsk 54.98 319 d i P P 14 39 40.5 +0.4
SVE pmax pmax
comp=Z,107nm,0.9s
N31M Braeburn, Yuko 55.01 36 P P 14 39 42.2 +1.9
baz=284
MTSU Mount Surprise 55.02 176 P P 14 39 41.3 +0.5
O30N Mendenhall 55.04 36 P P 14 39 42.5 +1.9
baz=285
PLBC Pleasant Camp 55.25 38 P P 14 39 44.3 +2.3
baz=285
M31M Drury Creek, Y 55.46 35 P P 14 39 45.2 +1.6
baz=285,SNR=5.4
SIMJ Simiganj 55.58 295 P P 14 39 44.7 -0.2
SIMJ Simiganj 55.58 295 P P 14 39 44.7 -0.2
WHY Whitehorse 55.64 36 P P 14 39 46.3 +1.3
WHY IAmb IAmb 14 40 02.0
comp=Z,36nm,1.7s
WHY Whitehorse 55.64 36 P P 14 39 47.3 +2.3
baz=286
S31K Pelican 55.72 40 P P 14 39 46.8 +1.4
baz=286
SKAG Skagway 55.76 38 P P 14 39 47.3 +1.7
baz=286
FARO Faro, Yukon 55.92 34 P P 14 39 48.6 +1.7
baz=286
A36M Sachs Harbour 56.27 22 P P 14 39 50.9 +1.8
baz=286,SNR=14
ARTI Arti 56.29 318 P P 14 39 49.1 -0.4
ARTI Arti 56.29 318 LR LR 15 06 04.1
comp=Z,239nm,18.9s,baz=63,slow=38
ARTI Arti 56.29 318 c i P P 14 39 49.3 -0.2
ARTI *PP **pP 14 40 02.1 -1.9**
ARTI 14 40 45.2
ARTI S **S 14 47 36.7 +1.1**
ARTI pmax pmax
comp=Z,135nm,0.8s
ARTI Arti 56.29 318 P P 14 39 49.4 -0.2
N32M Quiet Lake 56.35 36 P P 14 39 51.6 +1.6
baz=287
R32K Eaglecrest 56.50 39 P P 14 39 52.6 +1.5
baz=288
P33M Teslin, Yukon 56.75 37 P P 14 39 54.4 +1.6
P33M IAmb IAmb 14 40 10.0
comp=Z,26nm,1.4s
P33M Teslin, Yukon 56.75 37 P P 14 39 54.5 +1.6
baz=288,SNR=5.2
FITZ Fitzroy Crossi 56.83 198 P P 14 39 53.9 +0.2
WRAB Tennant Creek 57.09 188 ⇓ i P P 14 39 54.7 -0.9
WRAB pmax pmax
comp=Z,9.0nm,0.8s
WB2 Warramunga Arr 57.10 188 P P 14 39 54.9 -0.8
WB2 IAmb IAmb 14 40 10.4
comp=Z,17nm,0.8s
WB2 Warramunga Arr 57.10 188 P P 14 39 54.4 -1.2
WRA Warramunga Arr 57.10 188 P P 14 39 54.6 -1.0
comp=Z,3.9nm,0.5s,baz=4.6,slow=7.4,SNR=16
WRA LR LR 15 04 27.9
comp=Z,48nm,18.7s,baz=1.5,slow=36
comp=Z,3.9nm,0.5s
WB1 Warramunga Ar. 57.12 188 P P 14 39 54.9 -0.8
KBL Kabul 57.22 291 P P 14 39 56.0 -0.7
KBL Kabul 57.22 291 P P 14 39 56.5 -0.3
SNR=24
KBL P **P 14 39 56.5 -0.3**
SNR=24
KBL Kabul 57.22 291 P P 14 39 56.1 -0.7
KBL pmax pmax
comp=Z,75nm,1.3s
QIS Mount Isa 57.37 182 P P 14 39 56.8 -0.8
comp=Z,16nm,1.2s
QIS Mount Isa 57.37 182 P P 14 39 56.7 -0.8
Q32M Nakina River 57.41 38 P P 14 39 58.5 +0.8
baz=289
C36M Paulatuk 57.45 25 P P 14 39 58.8 +1.3
baz=289,SNR=5.3
AB31 Akbulak array 57.76 310 i P P 14 39 59.6 -0.4
HYB Hyderabad 58.02 268 eP P 14 40 02.1 -0.3
HYB IVmB_BB 14 40 02.5
comp=Z,400nm,0.8s
HYB *e*PcP **PcP 14 40 53.6 -0.3**
HYB *e*ScP **ScP 14 44 49.8 +0.3**
HYB *e*PcS **PcS 14 44 55.7 +0.1**
HYB *e* 14 47 41.3
HYB *e*S **S 14 47 59.7 +0.3**
HYB *e* 14 48 13.8
HYB *e*ScS **ScS 14 49 49.2 +1.5**
S34M Telegraph Cree 58.32 39 P P 14 40 06.0 +2.2
baz=290
AKTO Aktyubinsk 58.49 312 LR LR 15 06 29.9
comp=Z,216nm,19.8s,baz=110,slow=37
AKTO Aktyubinsk 58.49 312 P P 14 40 04.2 -1.0
DLBC Dease Lake 58.69 38 P P 14 40 08.5 +2.0
baz=291
T35M Bob Quinn 59.10 40 P P 14 40 12.0 +2.7
baz=291
KIRV Kirov 60.08 323 c i P P 14 40 16.0 +0.1
LIRD Liard River Hi 60.21 36 P P 14 40 19.2 +2.3
baz=293
SPITS Spitsbergen Ar 60.42 349 P P 14 40 18.7 +0.7
comp=Z,1.8nm,0.4s,baz=79,slow=9.5,SNR=6.6
comp=Z,1.8nm,0.4s
ASAR Alice Springs 60.83 188 P P 14 40 20.7 -0.7
comp=Z,2.3nm,0.8s,baz=7.0,slow=6.8,SNR=8.4
ASAR LR LR 15 06 13.4
comp=Z,24nm,19.3s,baz=346,slow=36
comp=Z,2.3nm,0.8s
TOAD Toad River Com 60.85 36 P P 14 40 22.7 +1.5
baz=294
KOTAN Kotaneelee Air 60.87 35 P P 14 40 22.9 +1.5
baz=294

NOR	Nord	60.97	356	*i* P	P	14 40 21.0	-0.7
NOR				IAmb	IAmb	14 40 40.9	
	comp=Z,8.5nm,0.9s						
BBB	Bella Bella	62.14	44	LR	LR	15 11 20.7	
	comp=Z,35nm,18.0s,baz=286,slow=40						
HRA	Herat	62.32	294	P	P	14 40 31.9	+0.1
HRA				IAmb	IAmb	14 40 33.1	
	comp=Z,30nm,1.0s						
APA	Apatity	62.55	336	⇓*i* P	P	14 40 30.4	-2.1
APA				*i*		14 41 07.2	
APA				*i*		14 42 47.4	
APA				*i* S	S	14 48 51.1	-4.8
APA				*i* SS	SS	14 53 06.0	+6.1
APA				MLR	MLR		
	comp=Z,3μm,16.0s						
RES	Resolute Bay	62.58	14	P	P	14 40 33.0	+0.4
RES				IAmb	IAmb	14 40 33.8	
	comp=Z,34nm,1.4s						
RES	Resolute Bay	62.58	14	P	P	14 40 33.0	+0.4
RES				pmax	pmax		
	comp=Z,34nm,1.5s						
WRKA	Warakurna	62.99	193	P	P	14 40 35.2	-0.7
	comp=Z,19nm,0.6s						
QLP	Quilpie	63.41	177	P	P	14 40 39.3	+0.7
DZM	Mont Dzumac	63.49	154	*e*P	P	14 40 39.5	+0.1
	comp=Z,59nm,1.4s						
DZM				*e*S	S	14 49 11.7	+2.9
	comp=Z,62nm,27.6s						
KLMR	Klimovskoe	63.60	328	*e*P	P	14 40 36.8	-2.8
KLMR				pmax	pmax		
	comp=Z,54nm,1.4s						
BELG	Belogornoye	63.62	317	LR	LR	15 10 45.8	
	comp=Z,207nm,18.2s,baz=120,slow=38						
BELG	Belogornoye	63.62	317	*c i* P	P	14 40 39.6	-0.2
BELG				pmax	pmax		
	comp=Z,22nm,1.0s						
YKA	Yellowknife Ar	63.84	30	P	P	14 40 41.5	+0.3
	comp=Z,2.4nm,0.8s,baz=306,slow=7.5,SNR=8.4						
YKA				LR	LR	15 09 54.8	
	comp=Z,118nm,18.6s,baz=300,slow=37						
	comp=Z,2.4nm,0.8s						
ARCES	ARCESS Array B	63.87	339	P	P	14 40 40.1	-1.1
	comp=Z,3.1nm,0.6s,baz=57,slow=7.0,SNR=15						
ARCES				LR	LR	15 11 17.6	
	comp=Z,164nm,18.9s,baz=18,slow=39						
	comp=Z,3.1nm,0.6s						
INKA	Innaminka	64.50	180	P	P	14 40 45.8	+0.1
MSVF	Nonsavu	64.67	141	LR	LR	15 02 41.7	
	comp=Z,129nm,21.3s,baz=351,slow=30						
OOD	Oodnadatta	64.76	185	P	P	14 40 47.6	+0.2
NEEM	North Greenlan	65.47	3	*i* P	P	14 40 51.7	-0.2
NEEM				IAmb	IAmb	14 41 06.5	
	comp=Z,9.9nm,0.8s						
DAG	Danmarks Havn	65.69	355	*i* P	P	14 40 52.0	-0.9
DAG				IAmb	IAmb	14 41 11.9	
	comp=Z,13nm,0.8s						
JOF	Joensuu	65.82	332	*e*P	P	14 40 53.5	-0.4
MOS	Moscow	67.09	323	*e*P	P	14 41 00.7	-1.5
MOS				*e*S	S	14 49 44.2	-7.8
MOS				pmax	pmax		
	comp=Z,50nm,0.9s						
VRH	Novokhopyorsk	67.41	318	*e*P	P	14 41 03.9	-0.4
VRH				pmax	pmax		
	comp=Z,42nm,0.8s						
NGCH	Negor - Chabah	67.61	285	P	P	14 41 05.7	-0.3
OBN	Obninsk	67.93	323	LR	LR	15 11 00.2	
	comp=Z,134nm,20.7s,baz=3.5,slow=36						
OBN	Obninsk	67.93	323	*ce*P	P	14 41 06.8	-0.7
OBN				*e**PP	pP	14 41 21.9	-0.2
OBN				*e*		14 41 33.3	
OBN				*e*		14 43 33.3	
OBN				*e*PPP	PPP	14 45 15.6	
OBN				*e*S	S	14 50 05.0	+2.9
OBN				*e*SS	SS	14 54 26.8	+2.9
OBN				pmax	pmax		
	comp=Z,29nm,0.7s						
OBN				MLR	MLR		
	comp=Z,153nm,16.0s						
OBN	Obninsk	67.93	323	P	P	14 41 07.3	-0.2
	comp=Z,51nm,2.0s						
LPSR	Galich'ya Gora	68.13	320	*e*P	P	14 41 08.8	0.0
LPSR				pmax	pmax		
	comp=Z,57nm,0.9s						
VORR	Voronezh	68.49	319	*e*P	P	14 41 11.1	0.0
VORR				pmax	pmax		
	comp=Z,40nm,0.7s						
STKA	Stephens Creek	68.62	180	P	P	14 41 11.9	-0.1
STKA	Stephens Creek	68.62	180	P	P	14 41 13.1	+1.1
	comp=Z,2.6nm,2.6s						
STKA	Stephens Creek	68.62	180	P	P	14 41 11.2	-0.8
	comp=Z,4.3nm,0.8s,baz=326,slow=11,SNR=4.7						
	comp=Z,4.3nm,0.8s						
STKA	Stephens Creek	68.62	180	⇑*e*P	P	14 41 13.6	+1.6
FORT	Forrest	68.64	192	P	P	14 41 11.9	-0.2
FORT				IAmb	IAmb	14 41 25.8	
	comp=Z,41nm,0.9s						
FORT	Forrest	68.64	192	P	P	14 41 12.2	+0.1
	comp=Z,40nm,0.7s						
KEF	Keuruu	68.65	333	*e*P	P	14 41 10.7	-1.2
FIA1	FINESS Array S	68.67	332	P	P	14 41 11.9	-0.1
FINES	FINESS Array B	68.67	332	P	P	14 41 12.1	+0.1
	comp=Z,26nm,0.7s,baz=51,slow=8.3,SNR=51						
FINES				LR	LR	15 13 52.9	
	comp=Z,177nm,18.5s,baz=43,slow=38						
	comp=Z,26nm,0.7s						
VSR	Storozhevoye	68.76	319	*e*P	P	14 41 11.5	-1.3
VSR				pmax	pmax		
	comp=Z,40nm,0.7s						
VORD	Divnogorie	68.83	318	*e*P	P	14 41 11.5	-1.7
VORD				pmax	pmax		
	comp=Z,30nm,0.8s						
VAF	Ylistaro	68.86	335	*e*P	P	14 41 13.1	0.0
AKT	Akhty	68.89	306	*e*P	P	14 41 13.3	-0.6
AKT				*e**PP	pP	14 41 27.8	-0.9
AKT				*e*		14 41 37.1	
AKT				*e**SS	sS	14 50 39.5	+0.3
AKT				pmax	pmax		
	comp=Z,32nm,0.6s						
JASK	Jask - Hormozg	69.85	288	P	P	14 41 19.4	-0.6
ARBE	Arbavere	69.98	331	*e*P	P	14 41 19.6	-0.5
MEF	Metsahovi	70.09	332	*e*P	P	14 41 20.6	-0.2
VSU	Vasula	70.30	329	*ce*P	P	14 41 22.3	+0.2
VSU				pmax	pmax		
	comp=Z,34nm,0.8s						
NCK	Nalchik	70.42	310	⇓*e*P	P	14 41 23.2	0.0
NCK				pmax	pmax		
	comp=Z,14nm,0.4s						
RAF	Rauma	70.53	333	*e*P	P	14 41 22.8	-0.6
SUMG	Summit	70.62	360	P	P	14 41 25.3	+0.9
SUMG	Summit	70.62	360	P	P	14 41 25.3	+0.9
SUMG				pmax	pmax		
	comp=Z,20nm,1.1s						
SUMG	Summit	70.62	360	*i* P	P	14 41 25.0	+0.6
SUMG				IAmb	IAmb	14 41 26.6	
	comp=Z,17nm,1.0s						
JLN	Jalan Bani Buh	70.66	283	P	P	14 41 24.9	-0.1
JLN				P	P	14 41 24.9	-0.1
WSAR	Wadi Sarin	70.67	285	LR	LR	15 14 48.7	
	comp=Z,56nm,20.4s,baz=102,slow=38						
KBZ	Khabaz	70.72	311	P	P	14 41 25.1	+0.2
	comp=Z,30nm,0.9s,baz=32,slow=3.1,SNR=37						
KBZ				LR	LR	15 16 34.9	
	comp=Z,103nm,19.3s,baz=39,slow=39						
	comp=Z,30nm,0.9s						
KIV	Kislovodsk	70.72	311	P	P	14 41 23.9	-1.2
KIV	Kislovodsk	70.72	311	*i* P	P	14 41 25.5	+0.3
	SNR=5.6						
KIV	Kislovodsk	70.72	311	P	P	14 41 24.4	-0.8
KIV				P	P	14 41 24.4	-0.8
KIV	Kislovodsk	70.72	311	*e*P	P	14 41 25.4	+0.3
KIV				pmax	pmax		
	comp=Z,83nm,1.1s						
KIV	Kislovodsk	70.72	311	P	P	14 41 25.6	+0.5
KIV				sP	sP	14 41 47.8	+2.1
WBK	Wadi Bani Khal	70.75	284	P	P	14 41 26.0	+0.5
SHA1	Shidzhatmaz	70.86	311	*ce*P	P	14 41 26.3	+0.2
BIDO	Bidbid	70.91	285	P	P	14 41 27.1	+0.6
BANOM	Banah	71.01	288	*i* P	P	14 41 27.7	+0.6
	SNR=15						
BANOM	Banah	71.01	288	P	P	14 41 27.2	+0.1
BANOM				P	P	14 41 27.2	+0.1
ERBR	Yeremizino-Bor	71.06	313	*e*P	P	14 41 24.4	-2.6
ERBR				*e**PP	pP	14 41 37.3	-4.4
ERBR				*e*S	S	14 50 36.4	-2.9
ERBR				pmax	pmax		
	comp=Z,71nm,0.8s						
SHME	Shamm	71.06	289	*i* P	P	14 41 27.7	+0.4
	SNR=12						
SHME	Shamm	71.06	289	P	P	14 41 27.3	0.0
SHME				P	P	14 41 27.3	0.0
SMDO	Samad	71.22	285	P	P	14 41 29.0	+0.5
	SNR=5.1						
SMDO				P	P	14 41 29.0	+0.5
	SNR=5.1						
MTSE	Matsula	71.30	331	*e*P	P	14 41 27.9	-0.2
MDH	Madha	71.35	288	P	P	14 41 28.1	-1.0
MASF	Masafi	71.42	288	P	P	14 41 30.2	+0.7
	SNR=5.1						
MSFE	Esma-Masafi	71.42	288	*i* P	P	14 41 30.1	+0.5
	SNR=9.1						
HOQ	Hoqain	71.50	286	P	P	14 41 30.4	+0.3
HOQ				P	P	14 41 30.4	+0.3
GNI	Garni	71.52	307	P	P	14 41 28.8	-1.3
GNI				IAmb	IAmb	14 41 39.4	
	comp=Z,20nm,0.9s						
GNI	Garni	71.52	307	LR	LR	15 13 43.2	
	comp=Z,101nm,21.0s,baz=46,slow=36						
GNI	Garni	71.52	307	*c i* P	P	14 41 30.4	+0.3
GNI				pmax	pmax		
	comp=Z,29nm,1.1s						
GNI	Garni	71.52	307	P	P	14 41 30.8	+0.7
	comp=Z,28nm,0.9s						
LABN	Labinsk	71.52	312	*e*P	P	14 41 27.7	-2.1
LABN				*e**PP	pP	14 41 41.8	-2.7
LABN				*e*S	S	14 50 42.6	-2.0
LABN				pmax	pmax		
	comp=Z,65nm,1.0s						
JMDO	Jabal Madar	71.55	284	P	P	14 41 30.7	+0.3
JMDO				P	P	14 41 30.7	+0.3
HATD	Hatta, Dubai	71.73	288	*i* P	P	14 41 32.1	+0.6
	SNR=18						
HATD	Hatta, Dubai	71.73	288	P	P	14 41 32.0	+0.6
	SNR=8.5						
SOHO	SOHO	71.80	287	*i* P	P	14 41 33.0	+1.2
	SNR=6.3						
SOHO	SOHO	71.80	287	P	P	14 41 31.9	+0.1
SOHO				P	P	14 41 31.9	+0.1
ASHO	Ashiyiah	71.86	287	*i* P	P	14 41 32.4	+0.1
	SNR=9.9						
ASHO	Ashiyiah	71.86	287	P	P	14 41 32.5	+0.3
	SNR=6.1						
NAZ	Nazwa, Dubai	72.00	288	P	P	14 41 33.4	+0.4
BSY	Bisya	72.05	285	P	P	14 41 33.8	+0.4
FAQ	Al Faqa, Dubai	72.19	288	*i* P	P	14 41 34.0	-0.1
	SNR=7.5						
FAQ	Al Faqa, Dubai	72.19	288	P	P	14 41 34.1	-0.1
ARQ	Araqi	72.24	286	P	P	14 41 35.0	+0.5
	SNR=6.5						
ARQ				P	P	14 41 35.0	+0.5
	SNR=6.5						
MNK	Minsk	72.33	326	*i* P	P	14 41 34.8	+0.3
	comp=E,32nm,0.9s						
MNK				*i* P	P	14 41 34.8	+0.3
	comp=N,25nm,1.0s						
MNK				*i* P	P	14 41 34.8	+0.3
	comp=Z,62nm,0.9s,baz=50						
MNK				*i* pP	pP	14 41 50.4	+1.1
MNK				*i* PP	PP	14 44 14.7	-0.5
MNK				*i* PPP	PPP	14 45 59.9	
MNK				*i* S	S	14 50 55.4	+1.8
MNK				*i* sS	sS	14 51 19.3	+0.5
MNK				*i* SS	SS	14 55 35.2	+3.6
MNK				*i* SSS	SSS	14 58 56.4	
MNK				*i* LQ	LQ	15 08 43.1	
MNK				*i* LR	LR	15 13 44.4	
MNK				*i* LRM	MLR	15 16 34.0	
	comp=Z,209nm,14.8s						
MNK				*i* LRM	MLR	15 16 39.8	
	comp=E,106nm,15.2s						
MNK				*i* LRM	MLR	15 16 48.5	
	comp=N,125nm,13.6s						
MNK	Minsk	72.33	326	*i* P	P	14 41 34.8	+0.3
MNK				*i* *PP	pP	14 41 50.4	+1.1
MNK				*i*		14 44 14.7	
MNK				*i* PPP	PPP	14 45 59.8	
MNK				*i* S	S	14 50 55.4	+1.8
MNK				*i* *SS	sS	14 51 19.2	+0.5
MNK				*i* SS	SS	14 55 35.1	+3.6
MNK				pmax	pmax		
	comp=N,25nm,1.0s						
MNK				pmax	pmax		
	comp=Z,62nm,0.9s						
MNK				pmax	pmax		
	comp=E,32nm,0.9s						
MNK				MLR	MLR		
	comp=Z,209nm,15.0s						
MNK				MLR	MLR		
	comp=E,106nm,15.0s						
MNK				MLR	MLR		
	comp=N,125nm,14.0s						
MHTO	MHTO	72.42	283	P	P	14 41 35.6	+0.1
	SNR=8.9						
MHTO				P	P	14 41 35.6	+0.1
	SNR=8.9						
ALNE	Al Ain	72.44	287	*i* P	P	14 41 35.8	+0.2
	SNR=14						
ALNE	Al Ain	72.44	287	P	P	14 41 35.9	+0.2
	SNR=10						
ASUD	Al Ashush, Dub	72.45	288	*i* P	P	14 41 36.1	+0.4
	SNR=7.9						
ASUD	Al Ashush, Dub	72.45	288	P	P	14 41 36.0	+0.4
NACGM	Naroch	72.57	327	*e*P	P	14 41 36.1	+0.3
	comp=E,2μm,1.0s						
SOC	Sochi	72.72	312	*e*P	P	14 41 35.6	-1.4
SOC				*e*		14 44 17.8	
SOC				*e*PPP	PPP	14 46 00.7	
SOC				*e*S	S	14 50 58.2	-0.1
SOC				*e*SS	SS	14 55 37.8	-0.1
SOC				MLR	MLR		
	comp=Z,104nm,15.0s						
AJN	Ajban	72.75	288	P	P	14 41 36.9	-0.5
NWAO	Narrogin (SRO)	73.17	201	P	P	14 41 39.6	+0.1
ANN	Anapa	73.35	314	*e*P	P	14 41 38.2	-2.5
ANN				*e**PP	pP	14 41 53.2	-2.3
ANN				*e*S	S	14 51 03.2	-2.3
ANN				*e*SS	SS	14 55 47.7	+0.2
ANN				pmax	pmax		
	comp=Z,46nm,1.3s						
PABE	Paberze	73.38	328	P	P	14 41 40.7	0.0
PABE	Paberze	73.38	328	*e*P	P	14 41 40.4	-0.3
UMZA	Um Al Zommool	73.63	286	P	P	14 41 42.1	-0.6
FFC	Flin Flon	73.75	33	P	P	14 41 43.1	+0.3
FFC				IAmb	IAmb	14 41 48.3	
	comp=Z,42nm,1.8s						
FFC	Flin Flon	73.75	33	P	P	14 41 43.1	+0.3
FFC				pmax	pmax		
	comp=Z,42nm,1.8s						
NC405	NORSAR Array S	73.84	337	P	P	14 41 42.9	-0.4
NC405				IAmb	IAmb	14 41 44.4	
	comp=Z,35nm,1.0s						
HFS	Hagfors	73.95	336	P	P	14 41 43.8	-0.2
	comp=Z,11nm,0.7s,baz=57,slow=5.5,SNR=25						
HFS				LR	LR	15 16 23.3	
	comp=Z,207nm,18.1s,baz=66,slow=37						
	comp=Z,11nm,0.7s						
NC204	NORSAR Array S	74.01	338	P	P	14 41 43.8	-0.5
NC204				IAmb	IAmb	14 41 45.5	
	comp=Z,36nm,0.8s						
FCC	Fort Churchill	74.02	26	P	P	14 41 44.3	-0.1
FCC				IAmb	IAmb	14 41 48.0	
	comp=Z,47nm,1.6s						
FCC	Fort Churchill	74.02	26	P	P	14 41 44.3	-0.1
FCC				pmax	pmax		
	comp=Z,47nm,1.7s						
NB2	NORSAR Subarra	74.05	337	P	P	14 41 44.3	-0.3
	comp=Z,16nm,0.7s,baz=39,slow=6.2						
NB2	NORSAR Subarra	74.05	337	P	P	14 41 44.3	-0.3
	baz=39,slow=6.2						
NOA	NORSAR Array B	74.05	337	P	P	14 41 44.6	0.0
	comp=Z,14nm,0.8s,baz=39,slow=5.8,SNR=64						
	comp=Z,14nm,0.8s						
AK03	Malin Array Si	74.12	322	P	P	14 41 44.3	-0.8
ICESG	Greenland Ices	74.12	0	*i* P	P	14 41 44.3	-0.9
ICESG				IAmb	IAmb	14 41 47.1	
	comp=Z,10nm,0.8s						
AKASG	Malin Array Be	74.13	322	P	P	14 41 44.8	-0.4
	comp=Z,12nm,0.4s,baz=48,slow=6.2,SNR=136						
AKASG				LR	LR	15 17 03.6	
	comp=Z,186nm,19.1s,baz=46,slow=38						
	comp=Z,12nm,0.4s						
AKBB	Malin Array Si	74.13	322	P	P	14 41 44.7	-0.4
AKBB	Malin Array Si	74.13	322	P	P	14 41 44.7	-0.4
AKBB				pmax	pmax		
	comp=Z,65nm,1.1s						
AKBB	Malin Array Si	74.13	322	P	P	14 41 44.1	-1.0
AK23	Malin Array Si	74.14	322	P	P	14 41 44.8	-0.4
KIEV	Kiev	74.14	322	P	P	14 41 44.7	-0.5
KIEV	Kiev	74.14	322	*i* P	P	14 41 44.9	-0.3
	SNR=24						
KIEV	Kiev	74.14	322	⇑P	P	14 41 45.1	-0.2
KIEV	Kiev	74.14	322	P	P	14 41 45.0	-0.2
KIEV	Kiev	74.14	322	P	P	14 41 44.3	-0.9
	comp=Z,195nm,0.9s						
JRN	Qarnain Island	74.16	289	P	P	14 41 45.0	-0.8
JRN				P	P	14 41 45.0	-0.8
AK10	Malin Array Si	74.18	322	P	P	14 41 45.0	-0.5
NC602	NORSAR Array S	74.19	337	P	P	14 41 45.1	-0.2
DLMT	Dillon	74.42	45	P	P	14 41 47.6	+0.5
GHWR	Ruwais	74.68	289	P	P	14 41 48.3	-0.5
GHWR				P	P	14 41 48.3	-0.5
SUW	Suwalki	74.73	327	*e*P	P	14 41 47.2	-1.3
SUW	Suwalki	74.73	327	*e*P	P	14 41 48.5	-0.1
MI28	Mi28,Pidlybu	74.74	323	P	P	14 41 48.5	-0.2
	comp=Z,354nm,0.9s						
MZR	Muzera	74.76	287	*i* P	P	14 41 48.7	-0.6
	SNR=20						
MZR	Muzera	74.76	287	P	P	14 41 49.1	-0.2
	SNR=6.5						
KVN	Kaiserville	74.86	52	P	P	14 41 50.3	+0.4
KVN	Kaiserville	74.86	52	P	P	14 41 50.3	+0.4
KVN				pmax	pmax		
	comp=Z,14nm,1.1s						
SHMA	Al-Shehemyia	75.06	291	P	P	14 41 50.5	-0.5
NVAR	Mina Array Bea	75.09	53	P	P	14 41 52.1	+0.9
	comp=Z,1.5nm,0.7s,baz=282,slow=6.2,SNR=13						
	comp=Z,1.5nm,0.7s						
SIM	Simferopol'	75.15	315	*e*P	P	14 41 51.0	-0.2
SIM				pmax	pmax		
	comp=Z,44nm,1.0s						
RNPP9	Sopachiv	75.27	324	P	P	14 41 51.5	-0.2
SAKB	Bahrain	75.31	291	P	P	14 41 51.9	-0.5
RNPP8	Varash	75.33	324	P	P	14 41 52.0	-0.1
LUBAR	Lubar, Ukraine	75.35	322	P	P	14 41 51.4	-0.8
TRNA	Turayna	75.50	290	P	P	14 41 52.8	-0.7
SLWR	Sila	75.52	289	P	P	14 41 53.4	-0.2
SLWR				P	P	14 41 53.4	-0.2
KONO	Kongsberg	75.64	337	P	P	14 41 53.1	-0.6
KONO				IAmb	IAmb	14 42 48.7	
	comp=Z,65nm,1.8s						
KONO	Kongsberg	75.64	337	P	P	14 41 53.1	-0.6
KONO				pmax	pmax		
	comp=Z,65nm,1.8s						
BAL3X	Bal3x, Balta	75.71	320	P	P	14 41 53.6	-0.7
SMRA	Abu-Samra	75.79	290	P	P	14 41 54.2	-0.9
NE56	Odesa	75.83	318	P	P	14 41 53.2	-1.8
SORM	Soroca	76.22	321	⇑P	P	14 41 56.6	-0.6
SORM	Soroca	76.22	321	P	P	14 41 56.7	-0.5
SORM	Soroca	76.22	321	P	P	14 41 56.7	-0.5
	comp=Z,35nm,0.9s						
NDNU	Novodnistrovsk	76.42	321	P	P	14 41 57.9	-0.4
DY2G	Dye2	76.59	3	*i* P	P	14 41 58.8	-0.5
DY2G				IAmb	IAmb	14 42 03.2	
	comp=Z,36nm,1.5s						
DMTO	DMTO	76.60	282	P	P	14 41 59.6	-0.2
DMTO				P	P	14 41 59.6	-0.2
DOK	Doka	76.73	283	P	P	14 42 00.1	-0.4
DOK				P	P	14 42 00.1	-0.4
R11B	Troy Canyon, C	76.86	52	P	P	14 42 02.7	+1.4
	baz=307						
KMPD	K-Podol'skiy	76.89	322	P	P	14 42 00.2	-0.8
BSD	Bornholm Skovb	77.30	332	*e*P	P	14 42 03.0	-0.2
RBK	Rabkut	77.31	282	P	P	14 42 03.3	-0.6
WHFO	Wadi Hawf	77.41	283	P	P	14 42 03.5	-0.9
WHFO				P	P	14 42 03.5	-0.9
KSV	Kosov	77.74	322	P	P	14 42 04.9	-0.9
STNU	Starunia	77.75	323	P	P	14 42 05.8	0.0
PDAR	Pinedale Array	77.75	45	P	P	14 42 07.2	+0.9
	comp=Z,1.7nm,0.6s,baz=286,slow=1.7,SNR=19						
	comp=Z,1.7nm,0.6s						
MORS	Morshin	77.75	323	P	P	14 42 04.1	-1.7
VLDR	Vladesti	77.86	319	⇓P	P	14 42 06.5	0.0
BNN	Bunyan	77.87	310	P	P	14 42 07.0	+0.2
SHIU	Shidnytsya	77.94	324	P	P	14 42 07.4	+0.5
VARL	Varlezi	77.95	319	⇑P	P	14 42 06.5	-0.5
KWP	Kalwaria Pacla	77.97	324	*e*P	P	14 42 07.7	+0.6
KWP	Kalwaria Pacla	77.97	324	P	P	14 42 07.6	+0.6
	comp=Z,76nm,1.4s						
ABTO	Aybut	78.10	283	P	P	14 42 07.9	-0.5
BUR08	Bucovina Ar. S	78.13	322	P	P	14 42 08.1	0.0
BUR08				IAmb	IAmb	14 42 09.4	
	comp=Z,17nm,0.9s						
BURAR	Bucovina Array	78.14	322	⇑P	P	14 42 08.5	+0.4
BURAR	Bucovina Array	78.14	322	P	P	14 42 08.5	+0.4
JURR	Jurilovca	78.15	318	⇑P	P	14 42 08.2	+0.2
TESR	Tescani	78.16	320	⇓P	P	14 42 08.2	+0.1
TESR	Tescani	78.16	320	P	P	14 42 07.7	-0.5
	comp=Z,57nm,1.2s						
CFR	Carcaliu	78.27	318	⇓P	P	14 42 08.4	-0.4
CFR	Carcaliu	78.27	318	P	P	14 42 08.3	-0.4
PANC	Panciu	78.33	319	⇓P	P	14 42 09.3	+0.2
TPGR	Topolog	78.33	318	⇓P	P	14 42 09.1	0.0
MEZ	Mezhgor'ye	78.36	323	P	P	14 42 10.0	+0.8
RAKU	Rahkiv	78.38	322	P	P	14 42 08.9	-0.4
ONER	Baraj Valea Uz	78.41	320	⇑P	P	14 42 10.3	+0.7
VRI	Vrincioaia	78.56	320	⇑P	P	14 42 11.0	+0.6
VRI	Vrincioaia	78.56	320	P	P	14 42 12.0	+1.6
VRI	Vrincioaia	78.56	320	P	P	14 42 11.1	+0.7
	comp=Z,28nm,0.8s						
PLOR5	Plostina Array	78.60	320	P	P	14 42 11.4	+0.7
	comp=Z,19nm,0.7s						
PLOR	Plostina	78.61	320	⇓P	P	14 42 11.3	+0.6
PLOR	Plostina	78.61	320	P	P	14 42 11.3	+0.6
PLOR3	Plostina Array	78.61	320	P	P	14 42 10.5	-0.2
	comp=Z,16nm,1.2s						
KOLS	Kolonicke sedl	78.66	324	*e*P	P	14 42 11.7	+0.8
KOLS				pmax	pmax		
	comp=Z,15nm,0.9s						
KOLS	Kolonicke sedl	78.66	324	*e*P	P	14 42 11.7	+0.8
BR131	Keskin Array S	78.67	311	P	P	14 42 10.8	-0.5
BR131	Keskin Array S	78.67	311	*c i* P	P	14 42 11.2	-0.1
BRTR	Keskin Array B	78.67	311	P	P	14 42 11.1	-0.2
BRTR	Keskin Array B	78.67	311	P	P	14 42 11.3	+0.1
	comp=Z,8.1nm,0.7s,baz=99,slow=4.1,SNR=24						
BRTR				LR	LR	15 23 23.0	
	comp=Z,52nm,18.1s,baz=352,slow=40						
	comp=Z,8.1nm,0.7s						
BR106	Keskin Array S	78.68	311	P	P	14 42 11.4	+0.1
	comp=Z,10nm,1.1s,comp=Z,83nm						
BR104	Keskin Array S	78.68	311	P	P	14 42 11.5	+0.2
	comp=Z,15nm,0.8s,comp=Z,91nm						
BR105	Keskin Array S

PFO Pinyon Flats O 79.15 56 LR LR 15 10 02.6
comp=Z,108nm,20.2s,baz=342,slow=30
ICOR Ion Corvin 79.16 318 ⇓P **P 14 42 14.8 +1.2**
DOPR Dopca 79.18 320 ⇓P **P 14 42 13.8 0.0**
MLR Muntele Rosu 79.21 320 P **P 14 42 14.3 +0.2**
MLR Muntele Rosu 79.21 320 LR LR 15 20 22.6
comp=Z,266nm,18.3s,baz=50,slow=38
MLR Muntele Rosu 79.21 320 ⇑P **P 14 42 14.8 +0.7**
MLR Muntele Rosu 79.21 320 P **P 14 42 14.8 +0.7**
NIE Niedzica 79.23 325 *eP* **P 14 42 15.5 +1.5**
NIE Niedzica 79.23 325 P **P 14 42 15.1 +1.1**
comp=Z,11nm,1.4s
SRU San Rafael Swe 79.50 49 P **P 14 42 15.9 +0.1**
SRU San Rafael Swe 79.50 49 P **P 14 42 16.0 +0.1**
SRU pmax pmax
comp=Z,12nm,1.2s
CJR Cluj-Napoca 79.57 322 ⇑P **P 14 42 16.8 +0.8**
CJR Cluj-Napoca 79.57 322 P **P 14 42 16.7 +0.8**
LANS Liptovska Anna 79.80 325 *eP* **P 14 42 18.3 +1.2**
LANS pmax pmax
comp=Z,9.0nm,0.8s
LANS Liptovska Anna 79.80 325 *eP* **P 14 42 18.3 +1.2**
KECS Kecovo 79.81 324 *eP* **P 14 42 17.9 +0.7**
KECS pmax pmax
comp=Z,18nm,1.0s
KECS Kecovo 79.81 324 *eP* **P 14 42 17.9 +0.7**
MARR Marisel-Cluj 79.83 322 ⇓P **P 14 42 17.6 +0.2**
BSEG Bad Segeberg 79.92 333 *eP* **P 14 42 17.9 +0.3**
comp=Z,16nm,0.9s,baz=38,slow=5.2
KSP Ksiaz 79.95 328 *eP* **P 14 42 18.6 +0.7**
KSP Ksiaz 79.95 328 P **P 14 42 18.0 +0.2**
comp=Z,32nm,1.0s
DRGR 79.95 322 ⇑P **P 14 42 18.6 +0.5**
DRGR 79.95 322 P **P 14 42 18.5 +0.5**
TNR Turnu Rosu 79.96 321 ⇑P **P 14 42 17.8 -0.3**
TNR Turnu Rosu 79.96 321 P **P 14 42 17.7 -0.3**
ARR Arges 79.97 320 ⇑P **P 14 42 19.3 +1.2**
MORC Moravsky Berou 80.20 327 P **P 14 42 19.6 +0.3**
MORC IAmb IAmb 14 42 20.8
comp=Z,26nm,1.1s
MORC Moravsky Berou 80.20 327 *eP* **P 14 42 19.7 +0.4**
MORC Moravsky Berou 80.20 327 ⇑P **P 14 42 19.9 +0.6**
MORC Moravsky Berou 80.20 327 P **P 14 42 19.9 +0.6**
CHVC Chvalec 80.24 328 *eP* **P 14 42 20.2 +0.8**
CHVC Chvalec 80.24 328 *eP* **P 14 42 20.2 +0.8**
DPC Dobruska-Polom 80.30 328 *eP* **P 14 42 20.8 +1.0**
DPC Dobruska-Polom 80.30 328 *eP* **P 14 42 20.8 +1.0**
DPC Dobruska-Polom 80.30 328 P **P 14 42 20.5 +0.7**
comp=Z,20nm,1.9s
KRLC Kraliky 80.31 327 *eP* **P 14 42 20.5 +0.6**
KRLC Kraliky 80.31 327 *eP* **P 14 42 20.5 +0.6**
RAR Rarotonga 80.35 126 LR LR 15 14 24.3
comp=Z,142nm,18.8s,baz=300,slow=33
LOT Lotru 80.36 321 ⇓P **P 14 42 20.3 0.0**
RAYN Ar Rayn 80.46 292 P **P 14 42 21.1 -0.1**
RAYN IAmb IAmb 14 42 21.5
comp=Z,23nm,0.6s
RAYN Ar Rayn 80.46 292 *i P* **P 14 42 21.0 -0.1**
SNR=20
RAYN Ar Rayn 80.46 292 P **P 14 42 21.2 +0.1**
RAYN Ar Rayn 80.46 292 P **P 14 42 21.1 -0.1**
RAYN pmax pmax
comp=Z,23nm,0.6s
PSZ Piszkesteto 80.50 324 *eP* **P 14 42 20.9 0.0**
PSZ Piszkesteto 80.50 324 ⇓P **P 14 42 21.7 +0.7**
PSZ Piszkesteto 80.50 324 P **P 14 42 21.6 +0.7**
VYHS Vyhne 80.56 325 *eP* **P 14 42 21.9 +0.7**
VYHS pmax pmax
comp=Z,19nm,1.3s
VYHS Vyhne 80.56 325 *eP* **P 14 42 21.9 +0.7**
JAVC Velka Javorina 80.82 326 *eP* **P 14 42 24.0 +1.4**
SIRR Siria 80.83 322 ⇓P **P 14 42 23.1 +0.4**
FLTG Flechtingen 80.84 332 *eP* **P 14 42 22.2 -0.3**
comp=Z,21nm,1.0s,baz=38,slow=5.2
GZR Gura Zlata 80.90 321 ⇑P **P 14 42 23.4 +0.3**
GZR Gura Zlata 80.90 321 P **P 14 42 23.4 +0.3**
BRG Berggiesshubel 80.90 329 *i P* **P 14 42 23.5 +0.5**
BRG Amp 14 42 24.2
comp=Z,18nm,1.1s
BRG Berggiesshubel 80.90 329 *i P* **P 14 42 23.4 +0.5**
BRG pmax pmax
comp=Z,18nm,1.1s
BRG Berggiesshubel 80.90 329 *eP* **P 14 42 23.1 +0.2**
comp=Z,18nm,1.1s,baz=38,slow=5.2
PVCC Panska Ves 80.91 329 *eP* **P 14 42 24.0 +1.0**
PVCC Panska Ves 80.91 329 *eP* **P 14 42 24.0 +1.0**
CLL Collm 80.95 330 ⇑*iP* **P 14 42 22.8 -0.4**
CLL pmax pmax
comp=Z,31nm,0.9s
CLL Collm 80.95 330 *eP* **P 14 42 23.0 -0.1**
comp=Z,26nm,0.9s,baz=38,slow=5.2
CLL Collm 80.95 330 ⇑*iP* **P 14 42 22.8 -0.4**
comp=Z,31nm,0.9s
CLL Collm 80.95 330 P **P 14 42 23.0 -0.1**
comp=Z,33nm,1.0s
VRAC Vranov 80.96 327 LR LR 15 20 39.9
comp=Z,116nm,18.4s,baz=20,slow=37
VRAC Vranov 80.96 327 *eP* **P 14 42 23.9 +0.6**
VRAC Vranov 80.96 327 ⇓P **P 14 42 24.0 +0.6**
VRAC Vranov 80.96 327 P **P 14 42 23.9 +0.6**
SURR Surduc 80.97 322 ⇑P **P 14 42 23.8 +0.5**
ELND Elena 80.99 318 ⇑P **P 14 42 23.6 0.0**
N23A Red Feather La 81.02 45 P **P 14 42 25.4 +1.3**
baz=312
NRDL Niedersach Rie 81.14 332 *eP* **P 14 42 24.2 +0.1**
comp=Z,9.4nm,0.9s,baz=38,slow=5.2
SMOL Smolenice 81.19 326 *eP* **P 14 42 25.8 +1.3**
SMOL pmax pmax
comp=Z,15nm,1.3s
RETH Rethem/Aller, 81.22 333 *eP* **P 14 42 24.8 +0.3**
comp=Z,20nm,1.0s,baz=38,slow=5.2
KRUC Moravsky 81.23 327 *eP* **P 14 42 25.0 +0.2**
GOPC GO Pecny, Ondr 81.28 328 *eP* **P 14 42 25.7 +0.7**
GOPC GO Pecny, Ondr 81.28 328 *eP* **P 14 42 25.7 +0.7**
SRO Srobarova 81.30 325 *eP* **P 14 42 26.4 +1.3**
SRO pmax pmax
comp=Z,28nm,0.8s
SRO Srobarova 81.30 325 *eP* **P 14 42 26.4 +1.3**
HSKC Hora Svate Kat 81.31 325 *eP* **P 14 42 25.8 +0.6**
BZS Buzias 81.32 322 ⇑P **P 14 42 25.7 +0.5**
BZS Buzias 81.32 322 P **P 14 42 25.7 +0.5**
PRU Pruhonice 81.33 328 *eP* **P 14 42 25.9 +0.7**
PRU Pruhonice 81.33 328 *eP* **P 14 42 25.9 +0.7**
MODS Modra-Piesok 81.36 326 *eP* **P 14 42 26.3 +0.8**
MODS pmax pmax
comp=Z,52nm,1.2s
MODS Modra-Piesok 81.36 326 *eP* **P 14 42 26.2 +0.8**
HERR Herculane 81.44 321 ⇑P **P 14 42 25.6 -0.3**
BAND Balkesir-Ban 81.50 315 ⇑P **P 14 42 25.9 -0.4**
NEUB Neuenburg 81.51 331 *eP* **P 14 42 26.2 +0.1**
comp=Z,32nm,1.1s,baz=38,slow=5.2
CLZ Clausthal 81.55 332 *eP* **P 14 42 26.7 +0.3**
comp=Z,28nm,1.1s,baz=38,slow=5.2
MMAI Mount Meron Ar 81.78 305 P **P 14 42 28.2 +0.2**
comp=Z,15nm,0.7s,baz=52,slow=6.8,SNR=26
MMAI LR LR 15 22 20.2
comp=Z,124nm,19.0s,baz=348,slow=38
comp=Z,15nm,0.7s
TANN Tannenbergstha 81.86 330 *eP* **P 14 42 28.2 +0.1**
comp=Z,6.0nm,1.0s,baz=38,slow=5.2
MDVR Moldovita 81.86 321 ⇓P **P 14 42 28.1 -0.1**
CSS Mathiatis 81.88 308 P **P 14 42 28.5 +0.1**
comp=Z,31nm,1.0s
ZVC Zvikov 81.89 328 *eP* **P 14 42 28.8 +0.6**
PLN Plauen 81.92 330 *eP* **P 14 42 28.4 +0.1**
comp=Z,6.7nm,0.9s,baz=38,slow=5.2
GTTG Gottingen 81.94 332 *eP* **P 14 42 28.6 +0.2**
comp=Z,19nm,1.0s,baz=38,slow=5.2
URZ Urewera 81.99 152 LR LR 15 14 07.6
comp=Z,94nm,21.0s,baz=68,slow=32
MOX Moxa 82.01 330 *eP* **P 14 42 28.9 0.0**
comp=Z,8.5nm,0.9s,baz=38,slow=5.2
MPLH Magyarpolny 82.13 325 P **P 14 42 29.6 +0.1**
comp=Z,46nm,1.1s
IBBN Ibbenburen 82.15 333 *eP* **P 14 42 29.4 0.0**
comp=Z,26nm,0.9s,baz=38,slow=5.2
RONA Rosalia, Austr 82.30 326 *i P* **P 14 42 31.4 +1.0**
comp=Z,18nm,0.8s,SNR=8.0
CKRC Cesky Krumlov 82.32 328 *eP* **P 14 42 31.0 +0.5**
CKRC Cesky Krumlov 82.32 328 *eP* **P 14 42 31.0 +0.5**
CONA Conrad Observa 82.32 326 *eP* **P 14 42 31.4 +0.8**
comp=Z,14nm,0.9s,SNR=8.3
MORH Mrgy, Hungar 82.32 324 ⇑P **P 14 42 30.0 -0.5**
MORH Mrgy, Hungar 82.32 324 P **P 14 42 30.3 -0.2**
comp=Z,7.5nm,2.3s
MANZ Manzenberg 82.33 330 *eP* **P 14 42 30.8 +0.2**
comp=Z,2.9nm,1.0s,baz=38,slow=5.2
KHC Kasperske Hory 82.39 328 P **P 14 42 30.8 -0.1**
KHC IAmb IAmb 14 42 32.3
comp=Z,19nm,0.9s
KHC Kasperske Hory 82.39 328 *eP* **P 14 42 31.4 +0.5**
KHC Kasperske Hory 82.39 328 *eP* **P 14 42 31.4 +0.5**
KHC Kasperske Hory 82.39 328 P **P 14 42 30.9 0.0**
comp=Z,24nm,1.4s
ROTZ Rotzenmuhle 82.46 329 *eP* **P 14 42 31.7 +0.5**
comp=Z,12nm,1.6s,baz=38,slow=5.2
FRGS Fruska Gora 82.53 322 *eP* **P 14 42 30.9 -0.8**
GERES GERESS Array B 82.56 328 P **P 14 42 32.0 +0.2**
comp=Z,6.3nm,0.6s,baz=35,slow=4.9,SNR=29
comp=Z,6.3nm,0.6s
S22A 4UR Ranch, Cre 82.60 48 P **P 14 42 33.8 +1.3**
baz=312
WET Wettzell 82.67 329 *eP* **P 14 42 32.6 +0.3**
comp=Z,10nm,0.9s,baz=38,slow=5.2
BOVS Bovan 82.68 320 ⇓P **P 14 42 32.0 -0.4**
Q24A Divide 82.76 46 P **P 14 42 34.7 +1.3**
baz=313
ARSA Arzberg 82.98 326 *i P* **P 14 42 34.1 +0.1**
comp=Z,7.2nm,0.8s
EKA Eskdalemuir Ar 83.01 340 P **P 14 42 34.1 +0.2**
comp=Z,3.3nm,0.6s,baz=25,slow=4.7,SNR=9.2
EKA PP **PP 14 45 44.6 +0.3**
comp=Z,3.4nm,0.9s,baz=23,slow=7.7,SNR=3.5
comp=Z,3.3nm,0.6s
MOA Molln 83.08 327 *i P* **P 14 42 34.8 +0.3**
comp=Z,14nm,1.2s
TEKS Tekeris 83.11 322⇑*iP* **P 14 42 33.4 -1.3**
BIOA Bad Ischl, Aus 83.47 327 *i P* **P 14 42 37.0 +0.5**
comp=Z,16nm,0.8s,SNR=6.9
PERS Pernice 83.63 326 *i P* **P 14 42 37.1 -0.2**
SOKA Soboth 83.64 326 *i P* **P 14 42 37.5 +0.1**
comp=Z,29nm,1.0s,SNR=16
BBLS Lazi&#263i 83.67 322⇑*iP* **P 14 42 37.7 0.0**
HAPS Han Pijesak,Bl 83.73 322⇑*iP* **P 14 42 38.2 +0.2**
RJOB Jochberg 83.80 328 *eP* **P 14 42 38.6 +0.4**
comp=Z,21nm,0.9s,baz=38,slow=5.2
SJES Sjenica 83.83 321⇑*iP* **P 14 42 38.6 +0.1**
RUDO Rudo 83.87 322⇑*iP* **P 14 42 38.3 -0.3**
OBKA Obir 83.98 326 *i P* **P 14 42 38.9 -0.3**
comp=Z,5.0nm,0.6s
OBKA Obir 83.98 326⇑*iP* **P 14 42 38.5 -0.7**
A051A Mrakovica 84.03 324⇑*iP* **P 14 42 38.9 -0.6**
KBA Koelnbreinsper 84.07 327 *i P* **P 14 42 39.6 -0.2**
comp=Z,12nm,1.0s
CRES Cresnjevec Ost 84.09 325⇑*iP* **P 14 42 38.8 -0.9**
LESA Schwarzleotal 84.09 328 *i P* **P 14 42 40.0 +0.2**
comp=Z,7.5nm,0.6s
BLY Banja Luka 84.10 324 *eP* **P 14 42 40.3 +0.6**
FUR Furstenfeldbru 84.10 329 *eP* **P 14 42 39.9 +0.2**
comp=Z,46nm,1.0s,baz=38,slow=5.2
BTNL Ternell 84.14 333 *dP* **P 14 42 40.1 +0.3**
comp=Z,8.6nm,1.0s
MEM Membach 84.17 333 *dP* **P 14 42 38.8 -1.1**
EIL Elat 84.19 303 LR LR 15 22 49.6
comp=Z,57nm,19.2s,baz=69,slow=38
MYKA Terra Mystica 84.29 327 *i P* **P 14 42 40.1 -0.7**
comp=Z,5.3nm,0.5s
UPM Unac-Piva 84.40 322 *eP* **P 14 42 41.1 -0.4**
T25A Trinidad 84.43 47 P **P 14 42 43.3 +1.5**
baz=313
BOJS Bojanci 84.43 325 *i P* **P 14 42 40.9 -0.5**
BOJS Bojanci 84.43 325⇑*iP* **P 14 42 39.6 -1.8**
STU Stuttgart 84.46 330 *eP* **P 14 42 41.5 0.0**
comp=Z,76nm,1.0s,baz=38,slow=5.2
BCLA Clavier 84.58 333 *dP* **P 14 42 42.0 0.0**
A050A Klekovaca 84.61 324⇑*iP* **P 14 42 42.2 -0.2**
CEY Cerknica 84.62 326 *i P* **P 14 42 41.5 -0.9**
CEY Cerknica 84.62 326⇑*iP* **P 14 42 41.5 -0.9**
WATA Walderalm 84.63 328 *i P* **P 14 42 42.5 0.0**
comp=Z,5.7nm,0.8s
WTTA Wattenberg 84.66 328 *eP* **P 14 42 42.3 -0.5**
comp=Z,7.3nm,1.0s
ANMO Albuquerque 84.68 50⇑*eP* **P 14 42 44.6 +1.5**
ABTA Abfaltersbach 84.69 327 *i P* **P 14 42 41.9 -0.9**
comp=Z,14nm,1.2s
PUK Puka 84.75 320 P **P 14 42 43.3 +0.1**
PUK IAmb IAmb 14 42 48.8
comp=Z,13nm,0.7s
LIT Litokhoron 84.78 317 P **P 14 42 42.6 -0.7**
LIT Litokhoron 84.78 317 P **P 14 42 42.6 -0.7**
LIT pmax pmax
comp=Z,51nm,0.8s
PDG Podgorica 84.80 321⇑*iP* **P 14 42 43.1 -0.2**
PDG Podgorica 84.80 321 ⇑P **P 14 42 43.4 +0.1**
BRY Bratogost 84.81 322 *eP* **P 14 42 41.8 -1.7**
MOTA Moosalm 84.82 329 *i P* **P 14 42 43.3 -0.2**
comp=Z,15nm,1.2s
RCHB Rochefort 84.82 333 *dP* **P 14 42 43.3 0.0**
comp=Z,9.8nm,1.0s
PPT Papeete 84.83 116 LR LR 15 14 32.3
comp=Z,71nm,20.3s,baz=316,slow=31
PPT2 Papeete2 84.84 116 *e*LR LR 15 09 11.9
comp=Z,246nm,26.2s
PPT2 *e*LR LR 15 09 22.2
comp=Z,189nm,30.2s
RETA Reutte 84.85 329 *i P* **P 14 42 43.7 +0.1**
comp=Z,23nm,1.0s,SNR=9.2
BMRD Maredsous 84.86 334 *dP* **P 14 42 43.4 0.0**
comp=Z,14nm,1.0s
SQTA Sankt Quirin 84.87 328 *i P* **P 14 42 43.8 0.0**
comp=Z,5.2nm,0.6s
SKDS Skadanscina 84.96 326⇑*iP* **P 14 42 41.9 -2.2**
DOU Dourbes 85.10 334 *dP* **P 14 42 44.3 -0.3**
BFO Black Forest 85.16 331 P **P 14 42 45.1 +0.1**
BFO Black Forest 85.16 331 P **P 14 42 45.1 +0.1**
BFO pmax pmax
comp=Z,34nm,1.0s
BFO Black Forest 85.16 331 *eP* **P 14 42 44.8 -0.2**
comp=Z,35nm,1.0s,baz=38,slow=5.2
HCY Herceg Novi 85.16 321 *eP* **P 14 42 45.0 -0.1**
FETA Feichten 85.23 329 *i P* **P 14 42 45.5 -0.1**
comp=Z,10nm,0.8s
STON Ston 85.24 322⇑*iP* **P 14 42 44.3 -1.2**
TIR Tirane 85.27 320 P **P 14 42 45.9 +0.2**
comp=Z,45nm,1.1s
SCHQ Schefferville 85.32 16 P **P 14 42 46.0 +0.3**
comp=Z,9.6nm,1.0s,baz=77,slow=17,SNR=3.2
comp=Z,9.6nm,1.0s
DAVA Damuels 85.37 329 *eP* **P 14 42 46.1 -0.2**
comp=Z,36nm,1.0s,SNR=6.7
ECH Echery 85.70 331 P **P 14 42 47.2 -0.5**
ECH IAmb IAmb 14 42 48.5
comp=Z,22nm,1.0s
ECH Echery 85.70 331 P **P 14 42 47.2 -0.5**
ECH pmax pmax
comp=Z,22nm,1.0s
DSB Dublin 85.72 341 P **P 14 42 47.9 +0.2**
FUORN Ofenpass-Fuorn 85.74 329 P **P 14 42 48.7 +0.4**
FUORN IAmb IAmb 14 42 49.4
comp=Z,17nm,0.9s
DAVOX Davos/Dischmat 85.78 329 LR LR 15 24 16.0
comp=Z,184nm,18.2s,baz=78,slow=38
TUE Stuetta 86.24 329 P **P 14 42 50.7 0.0**
TUE IAmb IAmb 14 42 53.6
comp=Z,44nm,1.8s
TUE Stuetta 86.24 329 P **P 14 42 50.6 -0.1**
comp=Z,50nm,1.1s
TAOE Nuku Hiva Isla 86.36 104 *e*LR LR 15 10 09.9
comp=Z,261nm,25.9s
FDMO Fiordimonte 87.32 325 P **P 14 42 54.5 -1.3**
MATE Matera 87.40 321 ⇓P **P 14 42 55.8 -0.3**
NRCA Norcia 87.46 325 P **P 14 42 56.2 -0.3**
NRCA IAmb IAmb 14 42 57.6
comp=Z,20nm,1.0s
TIP Timpagrande 88.47 320 ⇑P **P 14 43 01.4 0.0**
TIP Timpagrande 88.47 320 P **P 14 43 01.0 -0.4**
comp=Z,12nm,1.2s
TBI Tubuai 88.72 121 *e*LR LR 15 11 14.9
comp=Z,1μm,27.2s
LPIG La Paz 89.31 60 LR LR 15 14 08.6
comp=Z,68nm,20.2s,baz=36,slow=30
CEL Celeste 89.61 320 P **P 14 43 05.9 -0.8**
TXAR Lajitas Array 90.22 52 P **P 14 43 10.8 +1.0**
comp=Z,1.5nm,0.6s,baz=307,slow=3.0,SNR=21
comp=Z,1.5nm,0.6s
VAE Valguarnera 90.97 320 LR LR 15 29 05.8
comp=Z,154nm,19.2s,baz=42,slow=39
FURI Furi 94.52 285 LR LR 15 30 23.5
comp=Z,34nm,18.3s,baz=120,slow=38
KEST Kesra 94.86 323 LR LR 15 29 56.1
comp=Z,120nm,20.3s,baz=295,slow=38
ESDC Sonseca Array 97.15 334 P **P 14 43 40.9 -0.4**
comp=Z,1.2nm,0.8s,baz=10.0,slow=5.2,SNR=7.3
ESDC LR LR 15 31 12.0
comp=Z,196nm,18.9s,baz=357,slow=38
comp=Z,1.2nm,0.8s
SBV Sambava 98.98 260 P **P 14 43 49.7 -0.1**
LODK Lodwar 100.49 282 P **Pdif 14 43 56.9 +0.2**
TORD Torodi Ar. Bea 117.15 315 PKP **PKPdf 14 48 53.4 -1.0**
comp=Z,1.0nm,0.5s,baz=18,slow=1.7,SNR=9.1
TORD PP **PP 14 50 01.7 -2.4**
comp=Z,3.5nm,1.0s,baz=21,slow=8.6,SNR=9.6
LBTB Lobatse 124.46 263 PKPdf **PKiKP 14 49 08.5 0.0**
LBTB Lobatse 124.46 263 PKIKP **PKiKP 14 49 08.5 0.0**
SDV Santo Domingo 125.39 40 *eP* **PKiKP 14 49 11.6 +0.8**
DBIC Dimbokro 126.11 317 PKP **PKPdf 14 49 11.1 -0.5**
comp=Z,5.8nm,0.7s,baz=7.8,slow=2.4,SNR=7.4
BOSA Boshof 126.41 259 PKP **PKPdf 14 49 11.8 0.0**
comp=Z,5.7nm,0.9s,baz=83,slow=4.1,SNR=7.4
QSPA South Pole Qui 126.84 180 PKPdf **PKPdf 14 49 11.5 +0.1**
QSPA South Pole Qui 126.84 180 PKP **PKPdf 14 49 10.6 -0.8**
comp=Z,2.4nm,0.8s,baz=282,slow=1.2,SNR=14
CZSB Cruzeiro do Su 137.56 55 *eP* **PKiKP 14 49 34.8 -0.3**
SNAA Sanae 140.76 197 PKhKP PKPpre 14 49 22.1
comp=Z,0.5nm,0.6s,baz=33,slow=22,SNR=1.2
LPAZ La Paz 146.82 59 PKPbc **PKPbc 14 49 52.8 +0.7**
comp=Z,9.9nm,0.5s,baz=350,slow=2.7,SNR=25
H03N2 Juan Fernandez 147.21 96 T T 17 34 50.4
baz=291,slow=76,SNR=80
H03N3 Juan Fernandez 147.22 96 T T 17 34 47.8
baz=291,slow=76,SNR=79
H03N1 Juan Fernandez 147.23 96 T T 17 34 51.7
baz=291,slow=76,SNR=93
PDRB Porto dos Gac 149.94 37 *eP* **PKPdf 14 49 56.2 +1.5**
SMTB Santa Maria do 150.78 18 *eP* **PKPdf 14 49 57.0 +1.0**
NBCA Caruaru-PE 151.14 354 *eP* **PKPdf 14 49 57.8 +1.2**
PTLB Pontes e Lacer 151.89 45 *eP* **PKPdf 14 49 59.6 +2.0**
BBSD Serra de San D 152.38 50 *eP* **PKPdf 14 49 60.0 +1.7**
SNDB Serra Nova Dou 152.58 27 *eP* **PKPdf 14 50 00.4 +1.7**

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*IDC **23** 14:33:32.3±2.1,5.19S×151.60E,h133km±16km,mb3.8/16, mbtmp4.2/17,Error ellipse: s-maj=25.9km s-min=12.0km az=111.0*
*NEIC **23** 14:33:32.6±0.9,5.23S±0.08×151.66E±0.09,h135km±4km, mb4.3/31,Error ellipse: s-maj=13.6km s-min=11.5km az=110.0*
ISC 23 14:33:32.1±0.6,**5.20S**±0.07×**151.61E**±0.09,**h129**km,**n63,** σ1**34**/69,**mb4.2**/30,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.14**	**29**	Pn	**Pn**	**14 33 57.4**	**+1.0**
RABL				Sn	**Sn**	**14 34 16.0**	**+1.2**
MANU	**Manus Island**	**5.27**	**306**	Pn	**Pn**	**14 34 50.0**	**+1.1**
PMG	**Port Moresby**	**6.08**	**226**		**Pn**	**14 35 00.5**	**+0.7**
PMG	**Port Moresby**	**6.08**	**226**	P	**Pn**	**14 35 01.0**	**+1.2**
	30nm,0.5s,baz=43,slow=7.2,SNR=27						
PMG				S	**Sn**	**14 36 07.0**	**-1.2**
	306nm,0.9s,baz=185,slow=13,SNR=16						
PMG	**Port Moresby**	**6.08**	**226**	P	**Pn**	**14 35 01.2**	**+1.4**
COEN	**Coen**	**12.04**	**223**	Pn	**Pn**	**14 36 20.7**	**+1.0**
MTSU	**Mount Surprise**	**14.70**	**208**	P	**P**	**14 37 00.3**	**+3.7**
CTAO	**Charters Tower**	**15.69**	**199**		**Pn**	**14 37 04.0**	**-2.3**
QIS	**Mount Isa**	**19.22**	**216**	P	**Pn**	**14 37 49.4**	**+0.8**
FAKI	**Fak Fak**	**19.44**	**276**	P	**P**	**14 37 49.5**	**+0.7**
FAKI				IAmb	IAmb	14 38 13.6	
	comp=Z,21nm,0.9s						
KDU	**Kakadu**	**20.30**	**247**	P	**P**	**14 37 57.3**	**-0.8**
MTN	**Manton Dam**	**21.59**	**248**	P	**P**	**14 38 10.5**	**-1.4**
MTN				IAmb	IAmb	14 38 14.0	
	comp=Z,24nm,0.8s						
MTN	**Manton Dam**	**21.59**	**248**	P	**P**	**14 38 12.1**	**+0.2**
DRS	**Darwin Rock St**	**21.68**	**249**	P	**P**	**14 38 13.2**	**+0.4**
WB0	**Warramunga Arr**	**22.15**	**228**	P	**P**	**14 38 17.1**	**-0.6**
WB0				IAmb	IAmb	14 38 19.1	
	comp=Z,11nm,1.0s						
WR0	**Warramunga Arr**	**22.16**	**227**	P	**P**	**14 38 17.3**	**-0.5**
WRAB	**Tennant Creek**	**22.29**	**227**	P	**P**	**14 38 17.9**	**-1.2**
WRAB				IAmb	IAmb	14 38 20.3	
	comp=Z,9.4nm,0.8s						
WB2	**Warramunga Arr**	**22.29**	**227**	P	**P**	**14 38 18.1**	**-1.0**
WB2				IAmb	IAmb	14 38 20.4	
	comp=Z,8.7nm,0.7s						
WRA	**Warramunga Arr**	**22.30**	**227**	P	**P**	**14 38 18.3**	**-0.9**
	comp=Z,7.4nm,0.7s,baz=48,slow=10,SNR=50						
WRA				S	**S**	**14 42 12.1**	**-3.5**
	comp=Z,2.1nm,0.9s,baz=50,slow=17,SNR=5.9						
WRA				ScP	**ScP**	**14 45 36.0**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=53,slow=2.7,SNR=9.1						
	comp=Z,7.4nm,0.7s						
KNRA	**Kununurra**	**24.73**	**243**	P	**P**	**14 38 41.8**	**0.0**
KNRA				IAmb	IAmb	14 38 47.1	
	comp=Z,18nm,0.8s						
AS31	**Alice Springs**	**25.07**	**221**	P	**P**	**14 38 45.0**	**+0.3**
ASAR	**Alice Springs**	**25.07**	**221**	P	**P**	**14 38 45.0**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=55,slow=8.9,SNR=31						
ASAR				S	**S**	**14 42 58.8**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=35,slow=20,SNR=1.3						
ASAR				ScP	**ScP**	**14 45 43.4**	**-0.1**
	comp=Z,1.0nm,1.0s,baz=34,slow=2.6,SNR=4.7						
	comp=Z,1.9nm,0.3s						
SOEI	**Soe**	**27.48**	**259**	P	**P**	**14 39 13.0**	**+6.3**
STKA	**Stephens Creek**	**28.15**	**198**	P	**P**	**14 39 12.2**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=360,slow=14,SNR=2.2						
	comp=Z,2.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.43**	**241**	P	**P**	**14 39 13.4**	**-1.5**
MBWA	**Marble Bar**	**34.75**	**240**	P	**P**	**14 40 09.2**	**-1.1**
PSA00	**Pilbara Seismi**	**34.81**	**239**	P	**P**	**14 40 10.2**	**-0.6**
MORW	**Morawa**	**41.18**	**231**	P	**P**	**14 41 03.5**	**-0.7**
KSRS	**Korea Array**	**47.83**	**334**	P	**P**	**14 41 56.7**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=160,slow=8.3,SNR=3.4						
	comp=Z,1.0nm,0.7s						
KULM	**Kulim**	**51.94**	**281**	P	**P**	**14 42 27.2**	**-1.1**
KULM				IAmb	IAmb	14 42 28.0	
	comp=Z,3.9nm,0.8s						
KLR	**Kul'dur**	**56.90**	**345**	P	**P**	**14 43 03.0**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=269,slow=4.9,SNR=4.3						
	comp=Z,1.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**56.98**	**296**	P	**P**	**14 43 05.3**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=121,slow=5.1,SNR=14						
	comp=Z,1.4nm,0.5s						
PETK	**Petropavlovsk-**	**58.31**	**4**	P	**P**	**14 43 12.4**	**-0.9**
	comp=Z,3.7nm,1.0s,baz=146,slow=7.9,SNR=1.5						
	comp=Z,3.7nm,1.0s						
SONM	**Songino Array**	**66.03**	**328**	P	**P**	**14 44 05.7**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=149,slow=5.3,SNR=11						
	comp=Z,2.3nm,0.6s						
K15K	**Wolf Creek Mou**	**76.19**	**21**	P	**P**	**14 45 05.5**	**-0.4**
L16K	**Owhat River**	**76.54**	**22**	P	**P**	**14 45 07.5**	**-0.3**
L16K				IAmb	IAmb	14 45 22.4	
	comp=Z,15nm,1.4s						
Q19K	**Cape Douglas,**	**77.22**	**26**	P	**P**	**14 45 10.4**	**-1.4**
L19K	**White Mountain**	**78.57**	**23**	P	**P**	**14 45 19.4**	**+0.2**
L19K				IAmb	IAmb	14 45 57.2	
	comp=Z,6.5nm,1.2s						
CNPM	**China Poot**	**78.58**	**26**	P	**P**	**14 45 19.7**	**+0.4**
J19K	**Poorman**	**79.34**	**21**	P	**P**	**14 45 23.0**	**-0.3**
J19K				IAmb	IAmb	14 45 26.2	
	comp=Z,8.2nm,1.4s						
MK31	**Makanchi Array**	**79.84**	**319**	P	**P**	**14 45 25.0**	**-1.5**
MKAR	**Makanchi Array**	**79.84**	**319**	P	**P**	**14 45 26.1**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=101,slow=7.9,SNR=8.1						
	comp=Z,1.7nm,0.8s						
J20K	**Nowinta River**	**79.98**	**21**	P	**P**	**14 45 26.3**	**-0.4**
MAKZ	**Makanchi**	**80.05**	**319**	P	**P**	**14 45 25.7**	**-1.9**
MAKZ				IAmb	IAmb	14 45 28.1	
	comp=Z,5.7nm,1.1s						
CAST	**Castle Rocks**	**80.31**	**22**	P	**P**	**14 45 26.9**	**-1.7**
F19K	**Shaleruckik Mo**	**80.36**	**18**	P	**P**	**14 45 28.3**	**-0.5**
F19K				IAmb	IAmb	14 45 52.7	
	comp=Z,10.0nm,1.5s						
ZALV	**Zalesovo Beam**	**80.83**	**327**	P	**P**	**14 45 30.3**	**-1.2**
	comp=Z,2.4nm,0.6s,baz=125,slow=4.9,SNR=8.2						
	comp=Z,2.4nm,0.6s						
E19K	**Redstone River**	**80.92**	**18**	P	**P**	**14 45 32.1**	**+0.4**
E19K				IAmb	IA

ILAR	**Eielson Array**	**82.97**	**22**	P	**P**		**14 45 41.5**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=252,slow=5.2,SNR=22							
	comp=Z,1.1nm,0.6s							
KURBB	**Kurchatov Arra**	**83.38**	**322**	P	**P**		**14 45 43.1**	**-1.7**
	comp=Z,1.6nm,0.9s,baz=108,slow=4.4,SNR=5.9							
	comp=Z,1.6nm,0.9s							
J25K	**Salcha River,**	**83.48**	**23**	P	**P**		**14 45 45.0**	**-0.1**
J25K				IAmb	IAmb		14 45 45.9	
	comp=Z,3.3nm,0.6s							
QSPA	**South Pole Qui**	**84.77**	**180**	P	**P**		**14 45 51.3**	**-0.6**
QSPA				IAmb	IAmb		14 45 58.9	
	comp=Z,5.6nm,1.4s							
QSPA	**South Pole Qui**	**84.77**	**180**	P	**P**		**14 45 51.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=191,slow=5.2,SNR=1.2							
	comp=Z,0.4nm,0.7s							
BMAR	**Burnt Mountain**	**85.03**	**20**	P	**P**		**14 45 53.8**	**+0.8**
BVAR	**Borovoye Array**	**88.85**	**323**	P	**P**		**14 46 10.5**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=108,slow=6.3,SNR=8.7							
	comp=Z,1.7nm,0.5s							
NVAR	**Mina Array Bea**	**93.26**	**52**	P	**P**		**14 46 33.7**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=264,slow=5.7,SNR=5.3							
	comp=Z,0.9nm,0.8s							
PDAR	**Pinedale Array**	**99.99**	**48**	P	**Pdif**		**14 47 03.1**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=232,slow=4.4,SNR=2.2							
	comp=Z,0.2nm,0.6s							
GERES	**GERESS Array B**	**123.76**	**328**	PKP	**PKPdf**		**14 52 14.8**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=117,slow=1.8,SNR=4.7							
EKA	**Eskdalemuir Ar**	**126.06**	**342**	PKP	**PKiKP**		**14 52 19.3**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=203,slow=39,SNR=2.2							
TORD	**Torodi Ar. Bea**	**149.29**	**287**	PKPbc	**PKPbc**		**14 53 06.2**	**-0.6**
	comp=Z,5.9nm,0.7s,baz=56,slow=3.2,SNR=30							

*ATH **23** 14:34:02.3, 37.°51N×20.°74E, h11km±1km, ML3.1/14, Error ellipse: s-maj=1.9km s-min=0.7km az=3.0*
*THE **23** 14:34:02.2, 37.°46N×20.°73E, h0km±3km, ML3.2/3, Error ellipse: s-maj=5.0km s-min=2.3km az=152.0*

ISC 23 14:34:01.0±1.6, 37.°46N±0.°06×20.°72E±0.°05, h14km±8km, n22, σ0s81/39, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.21**	**22**	P	**Pb**	**14 34 06.2**	**-0.6**
KRI1				S	**Sg**	**14 34 09.3**	**+0.2**
	28μm,0.4s						
LTHK	**Lithakia**	**0.27**	**21**	P	**Pg**	**14 34 06.9**	**+0.2**
LTHK				S	**Sg**	**14 34 10.2**	**-0.2**
LTHK				AML	AML	14 34 11.2	
	comp=E,36880μm,0.3s						
LTHK				AML	AML	14 34 11.3	
	comp=N,92149μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.66**	**351**	P	**Pb**	**14 34 14.1**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.66**	**351**	P	**Pb**	**14 34 13.9**	**-0.5**
PSDA				S	**Sg**	**14 34 23.1**	**+0.4**
VLS	**Valsamata**	**0.72**	**352**	P	**Pb**	**14 34 14.7**	**-0.7**
VLS				S	**Sg**	**14 34 25.4**	**+0.7**
VLS				AML	AML	14 34 30.4	
	comp=N,1716μm,0.4s						
VLS				AML	AML	14 34 32.9	
	comp=E,1107μm,0.3s						
AMT	**Artemida-Makis**	**0.79**	**85**	P	**Pn**	**14 34 16.7**	**-1.1**
AMT				S	**Sb**	**14 34 27.9**	**+0.7**
AMT				AML	AML	14 34 35.5	
	comp=N,11884μm,0.3s						
AMT				AML	AML	14 34 36.3	
	comp=E,8764μm,0.3s						
DMLN	**Damoulianata-K**	**0.82**	**341**	P	**Pn**	**14 34 17.1**	**-1.2**
DMLN				S	**Sg**	**14 34 27.8**	**0.0**
RLS	**Riolos of Patr**	**0.84**	**45**	P	**Pb**	**14 34 16.9**	**-0.6**
RLS				S	**Sb**	**14 34 27.7**	**-1.0**
RLS				AML	AML	14 34 33.4	
	comp=N,1357μm,0.4s						
RLS				AML	AML	14 34 34.8	
	comp=E,1767μm,0.5s						
DRO	**Drossia**	**0.93**	**58**	P	**Pb**	**14 34 18.3**	**-0.7**
DRO				S	**Sb**	**14 34 31.2**	**0.0**
DRO				AML	AML	14 34 43.5	
	comp=N,3176μm,0.5s						
DRO				AML	AML	14 34 45.8	
	comp=E,4106μm,0.4s						
VSK1	**VASILIKIADES**	**0.95**	**353**	P	**Pn**	**14 34 20.1**	**0.0**
VSK1				S	**Sn**	**14 34 34.2**	**+0.7**
	comp=E,872nm,1.0s						
PYL	**PYLOS**	**0.99**	**124**	P	**Pn**	**14 34 20.7**	**+0.1**
PYL				S	**Sn**	**14 34 35.3**	**+0.7**
FSK	**Fiskardo**	**1.00**	**353**	P	**Pg**	**14 34 20.3**	**-0.1**
FSK				S	**Sb**	**14 34 33.5**	**+0.1**
FSK				AML	AML	14 34 38.0	
	comp=E,944μm,0.4s						
FSK				AML	AML	14 34 38.3	
	comp=N,2136μm,0.8s						
ITM	**Ithomi**	**1.00**	**106**	P	**Pn**	**14 34 20.8**	**0.0**
ITM				S	**Sn**	**14 34 34.9**	**+0.1**
ITM				AML	AML	14 34 38.6	
	comp=E,1147μm,0.5s						
ITM				AML	AML	14 34 42.2	
	comp=N,1686μm,0.7s						
EVGI	**Lefkada island**	**1.16**	**358**	P	**Pg**	**14 34 22.9**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.25**	**359**	P	**Pg**	**14 34 24.6**	**-0.5**
KLV	**Kalavryta, Ach**	**1.28**	**62**	P	**Pg**	**14 34 25.3**	**-0.3**
KLV				S	**Sn**	**14 34 41.2**	**-0.4**
KLV				AML	AML	14 34 51.7	
	comp=N,806μm,0.7s						
KLV				AML	AML	14 34 51.8	
	comp=E,446μm,0.4s						
LKD2	**Lefkada island**	**1.33**	**358**	P	**Pg**	**14 34 27.4**	**+0.8**
LKD2				S	**Sg**	**14 34 47.1**	**+3.3**
	comp=E,625nm,0.8s						
EFP	**Efpalio**	**1.35**	**44**	P	**Pg**	**14 34 26.4**	**-0.6**
EFP				S	**Sn**	**14 34 43.7**	**+0.6**
EFP				AML	AML	14 34 49.1	
	comp=E,760μm,0.4s						
EFP				AML	AML	14 34 50.9	
	comp=N,969μm,0.7s						
TSLK	**Tsoukalades, L**	**1.36**	**358**	P	**Pg**	**14 34 26.4**	**-0.8**
TSLK				AML	AML	14 34 47.6	
	comp=E,1048μm,1.2s						
TSLK				AML	AML	14 34 50.1	
	comp=N,1469μm,0.5s						
GUR	**Goura**	**1.37**	**69**	P	**Pb**	**14 34 26.2**	**-0.4**
GUR				S	**Sb**	**14 34 45.0**	**+0.9**
GUR				AML	AML	14 34 53.6	
	comp=N,1793μm,0.6s						
GUR				AML	AML	14 34 56.1	
	comp=E,1610μm,0.7s						
ANX	**Ano Chora**	**1.48**	**40**	P	**Pb**	**14 34 28.6**	**+0.2**
ANX				S	**Sn**	**14 34 47.1**	**+0.5**
ANX				AML	AML	14 34 54.7	
	comp=E,1646μm,0.5s						
ANX				AML	AML	14 34 56.8	
	comp=N,2318μm,0.8s						
EVR	**Evrytania**	**1.69**	**30**	P	**Pb**	**14 34 32.1**	**+0.1**
EVR				AML	AML	14 35 04.0	
	comp=E,502μm,0.9s						
EVR				AML	AML	14 35 07.4	
	comp=N,708μm,0.5s						

ROM 23 14:40:09.1±0.3, 36.°71N±0.°01×14.°63E±0.°01, h25km±2km, ML2.0/6, Error ellipse: s-maj=1.5km s-min=0.3km az=16.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROCE	**Santa Croce Ca**	**0.14**	**327**	P	Pb	14 40 14.1	0.0
CROCE				S	Sb	14 40 17.7	+0.3
CROCE				AML	AML		
	comp=E,234μm,0.3s						
CROCE				AML	AML		
	comp=N,391μm,0.3s						
CROCE				AML	AML		
	comp=E,220μm,0.1s						
CROCE				AML	AML		
	comp=N,204μm,0.2s						
HMDC	**Modica**	**0.27**	**27**	P	Pb	14 40 15.9	+0.1
HMDC				S	Sb	14 40 20.8	+0.5
HMDC				AML	AML		
	comp=E,754μm,0.5s						
HMDC				AML	AML		
	comp=N,720μm,0.7s						
HMDC				AML	AML		
	comp=N,572μm,0.2s						
HMDC				AML	AML		
	comp=E,699μm,0.2s						
HPAC	**Pachino**	**0.39**	**92**	P	Pb	14 40 16.6	-0.9
HPAC				S	Sb	14 40 22.6	-0.5
HPAC				AML	AML		
	comp=E,377μm,0.1s						
HPAC				AML	AML		
	comp=N,402μm,0.2s						
HPAC				AML	AML		
	comp=E,377μm,0.1s						
HPAC				AML	AML		
	comp=N,402μm,0.2s						
RAFF	**Raffo Rosso**	**0.55**	**337**	P	Pb	14 40 20.4	+0.2
SSY	**Sortino**	**0.56**	**39**	P	Pb	14 40 20.2	-0.2
SSY				S	Sb	14 40 28.8	+0.7
SSY				AML	AML		
	comp=E,345μm,1.2s						
SSY				AML	AML		
	comp=N,566μm,0.8s						
SSY				AML	AML		
	comp=N,538μm,0.2s						
SSY				AML	AML		
	comp=E,333μm,0.1s						
CLTA	**Licata**	**0.69**	**310**	P	Pn	14 40 23.2	-0.1
HAGA	**Augusta**	**0.71**	**36**	P	Pn	14 40 23.6	0.0
AGST	**Augusta-Monte**	**0.72**	**41**	P	Pb	14 40 22.2	-0.9
WDD	**Wied Dalam**	**0.88**	**186**	P	Pb	14 40 25.5	-0.2

ATH 23 14:40:33.5, 37.°72N×20.°29E, h7km±2km, ML2.5/9, Manual Solution by A.Andreou This location: 2020/07/03 17:24:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSDA	**Pessada-Kefalo**	**0.46**	**30**	P	Pg	14 40 42.4	+0.1
PSDA				S	Sg	14 40 48.8	+0.5
VLS	**Valsamata**	**0.51**	**27**	P	Pg	14 40 43.7	+0.2
VLS				S	Sg	14 40 50.5	+0.3
DMLN	**Damoulianata-K**	**0.52**	**7**	P	Pg	14 40 43.5	0.0
DMLN				S	Sg	14 40 50.5	+0.1
SMHA	**Samh**	**0.60**	**28**	P	Pg	14 40 45.5	+0.5
EVGI	**Lefkada island**	**0.94**	**18**	P	Pg	14 40 51.9	+0.2
RLS	**Riolos of Patr**	**0.99**	**70**	P	Pg	14 40 52.2	-0.2
NYDR	**Nydri-Lefkada**	**1.04**	**18**	P	Pg	14 40 53.4	-0.1
ITM	**Ithomi**	**1.41**	**112**	P	Pb	14 41 00.0	-0.1
KLV	**Kalavryta, Ach**	**1.51**	**77**	P	Pn	14 41 00.8	-0.2

NEIC 23 14:43:09.3±1.4, 31.°06N±0.°01×103.°32W±0.°01, h5km±1km, mb_Lg3.1/41, ML3.4/76, Error ellipse: s-maj=2.8km s-min=2.2km az=163.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNHN	**Monahans**	**0.55**	**59**		Pg	14 43 19.8	-0.2
MNHN				Sg	Sg	14 43 27.6	+0.4
PECS	**Pecos**	**0.56**	**304**		Pg	14 43 20.6	+0.4
PECS				Sg	Sg	14 43 28.6	+1.1
PECS				IAML		14 43 34.2	
	1μm,0.5s						
ALPN	**Alpine**	**0.73**	**202**		Pg	14 43 23.4	0.0
ALPN				Sg	Sg	14 43 31.1	-1.8
ODSA	**Odessa**	**1.25**	**32**	Pg	Pg	14 43 32.3	-0.9
ODSA				Sg	Sb	14 43 49.6	-0.2
ODSA				IAML		14 44 06.7	
	475nm,0.8s						
VHRN	**Van Horn**	**1.46**	**260**	Pg	Pn	14 43 36.5	+0.1
VHRN				Sg	Sb	14 43 55.6	-0.2
VHRN				IAML		14 44 00.1	
	281nm,0.6s						
VHRN				IAML		14 44 01.5	
	290nm,0.5s						
SAND	**Sanderson**	**1.51**	**137**	Pg	Pb	14 43 37.4	-0.4
SAND					Sg	14 43 57.8	0.0
SAND				IAML		14 44 04.5	
	260nm,0.6s						
TX31	**Lajitas Ar. Si**	**1.75**	**190**		Pb	14 43 41.4	-0.4
TXAR	**Lajitas Array**	**1.75**	**190**		Pb	14 43 41.4	-0.4
OZNA	**Ozona**	**1.89**	**94**		Pb	14 43 43.6	-0.6
OZNA					Sb	14 44 08.8	+0.6
SGCY	**Sterling City**	**2.06**	**65**		Pn	14 43 45.8	+1.2
SGCY					Sb	14 44 12.7	-0.4
SGCY				IAmb_Lg		14 44 18.6	
	comp=Z,90nm,1.2s						
POST	**Post**	**2.53**	**37**		Pn	14 43 51.5	+0.5
POST				IAmb_Lg		14 44 32.6	
	comp=Z,92nm,0.9s						
POST				IAML		14 44 32.7	
	comp=Z,190nm,0.8s						
POST				IAML		14 44 40.6	
	comp=Z,248nm,0.7s						
SN05	**Snyder 5**	**2.75**	**48**		Pn	14 43 53.7	-0.4
SN05				IAML		14 44 38.6	
	comp=Z,272nm,0.4s						
SN05				IAML		14 44 40.0	
	comp=Z,250nm,0.5s						
EPT	**El Paso**	**2.82**	**285**	Pn	Pn	14 43 54.6	-0.4
DRIO	**Del Rio**	**2.85**	**124**		Pn	14 43 56.5	+1.1
DRIO				IAmb_Lg		14 44 40.3	
	comp=Z,68nm,0.8s						
SN07	**Snyder 07**	**2.89**	**45**		Pn	14 43 56.0	0.0
MSTX	**Muleshoe**	**2.94**	**9**		Pn	14 43 56.5	-0.3
MSTX				IAML		14 44 52.8	
	comp=E,183nm,0.6s						
MSTX				IAML		14 44 54.3	
	comp=N,205nm,0.9s						
JCT	**Junction City**	**3.08**	**100**		Pn	14 43 58.9	+0.2
JCT				IAmb_Lg		14 44 53.2	
	comp=Z,57nm,0.9s						
DKNS	**Dickens**	**3.30**	**37**		Pn	14 43 60.0	-1.7
DKNS				IAmb_Lg		14 44 57.5	
	comp=Z,72nm,1.0s						
DKNS				IAML		14 45 05.0	
	comp=Z,150nm,0.6s						
ABTX	**Abilene, Hawle**	**3.50**	**63**		Pn	14 44 03.8	-0.6
ABTX				IAmb_Lg		14 45 06.1	
	comp=Z,46nm,0.9s						
APMT	**Aspermont**	**3.53**	**49**		Pn	14 44 03.1	-1.7
APMT				IAML		14 45 10.2	
	comp=Z,155nm,0.6s						
APMT				IAmb_Lg		14 45 11.1	
	comp=Z,69nm,1.1s						
BRDY	**Brady**	**3.71**	**85**		Pn	14 44 07.6	+0.3
BRDY				IAmb_Lg		14 45 15.9	
	comp=Z,56nm,0.8s						
HNDO	**Hondo**	**3.81**	**113**		Pn	14 44 08.2	-0.5
AMTX	**Amarillo**	**4.05**	**19**		Pn	14 44 10.8	-1.3
AMTX				IAmb_Lg		14 45 26.2	
	comp=Z,41nm,0.7s						
121A	**Cookes Peak, D**	**4.08**	**292**		Pn	14 44 13.9	+1.4
121A				IAML		14 45 23.5	
	comp=N,43nm,0.9s						
121A				IAML		14 45 31.5	
	comp=E,31nm,0.8s						
HPIG		**4.59**	**207**		Pn	14 44 19.3	-0.3
HPIG				IAML		14 45 39.3	
	comp=E,30nm,0.7s						
PLPT	**Palo Pinto**	**4.60**	**66**		Pn	14 44 16.8	-2.6
PLPT				IAmb_Lg		14 45 43.8	
	comp=Z,55nm,1.2s						
ANMO	**Albuquerque**	**4.69**	**327**		Pn	14 44 20.8	-0.1
ANMO				IAML		14 45 38.1	
	comp=Z,14nm,0.9s						
ANMO				IAML		14 45 54.6	
	comp=Z,13nm,4.7s						
SMWD	**Samnorwood**	**4.79**	**32**		Pn	14 44 21.8	-0.3
SMWD				IAmb_Lg		14 45 43.3	
	comp=Z,36nm,0.9s						
FW03	**Perrin-Whitt E**	**4.88**	**65**		Pn	14 44 22.5	-0.8
FW03				IAmb_Lg		14 45 54.9	
	comp=Z,55nm,1.0s						
WTFS	**Witchita Falls**	**4.91**	**55**		Pn	14 44 23.8	0.0
435B	**Jarrell**	**4.94**	**92**		Pn	14 44 23.9	-0.2
FW07	**Weatherford**	**4.98**	**69**		Pn	14 44 24.4	-0.4
FW07				IAmb_Lg		14 45 59.2	
	comp=Z,37nm,0.8s						
WHTX	**Lake Whitney,**	**5.09**	**78**		Pn	14 44 26.3	+0.1
FW13	**Cleburne**	**5.18**	**74**		Pn	14 44 26.7	-0.8
FW06	**Azle**	**5.25**	**67**		Pn	14 44 27.5	-1.0
FW06				IAmb_Lg		14 46 02.9	
	comp=Z,29nm,0.7s						
WMOK	**Wichita Mounta**	**5.29**	**45**		Pn	14 44 29.4	+0.4
WMOK				IAML		14 46 02.5	
	comp=Z,30nm,0.9s						
WMOK				IAML		14 46 17.4	
	comp=Z,24nm,0.7s						
RTBA	**Rita Blanca**	**5.39**	**5**		Pn	14 44 32.4	+2.0
FW16	**Waxahatchie**	**5.65**	**74**	IAmb_Lg		14 46 21.3	
	comp=Z,34nm,0.7s						
X34A	**Smith Ranch, M**	**5.81**	**51**	IAmb_Lg		14 46 25.5	
	comp=Z,27nm,0.8s						
LOOK	**Love County**	**5.95**	**59**		Pn	14 44 38.7	+0.7
T35A	**Sooner Cattle**	**8.13**	**42**		Pn	14 45 06.7	-1.3
FCAR	**Ozark Folk Cen**	**10.52**	**60**		Pn	14 45 39.4	-1.2
MGMO	**Mountain Grove**	**10.99**	**53**		Pn	14 45 45.2	-2.0

*TEH **23** 15:03:19.8, 38.°30N×47.°55E, h6km±58km, ML3.0*
*AZER **23** 15:03:21.1, 38.°39N×47.°66E, h10km, ml3.1*

ISC 23 15:03:20.7±1.2, 38.°33N±0.°02×47.°56E±0.°02, h6km±10km, n39, σ1s72/68, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.41**	**269**	Pg	**Pb**	**15 03 29.4**	**-1.1**
IHRS				Sg	**Sb**	**15 03 36.1**	**-1.0**
ISRB	**Sarab**	**0.51**	**171**	Pg	**Pb**	**15 03 30.9**	**-1.2**
ISRB				Sg	**Sb**	**15 03 38.4**	**-1.5**
LRK	**Lerik**	**0.69**	**62**	P	**Pb**	**15 03 34.0**	**-1.1**
LRK				S	**Sb**	**15 03 43.7**	**-1.3**
YRD	**Yardimli**	**0.79**	**42**	P	**Pg**	**15 03 35.9**	**-0.1**
YRD				S	**Sb**	**15 03 47.3**	**-0.8**
ASTR	**Astara**	**0.99**	**76**	P	**Pg**	**15 03 39.3**	**-0.4**
ASTR				S	**Sb**	**15 03 53.5**	**0.0**
GAS1	**Astara - Iran**	**1.01**	**86**	Pg	**Pg**	**15 03 39.5**	**-0.5**
LKRN	**Lenkeran, Azer**	**1.03**	**68**	P	**Pg**	**15 03 39.9**	**-0.5**
LKRN				S	**Sn**	**15 03 55.1**	**-1.2**
IHSH	**Hashtrud**	**1.05**	**193**	Pg	**Pb**	**15 03 40.5**	**-1.0**
IHSH				Sg	**Sn**	**15 03 55.2**	**-2.0**
GLBA	**Cliilabad**	**1.12**	**35**	P	**Pn**	**15 03 42.8**	**-0.1**
GLBA				S	**Sn**	**15 03 59.8**	**+1.2**
QRD	**Qoradiz**	**1.15**	**351**	P	**Pn**	**15 03 43.0**	**-0.3**
QRD				S	**Sn**	**15 03 59.6**	**+0.2**
ORD	**Ordubad**	**1.37**	**297**	Pn	**Pg**	**15 03 46.4**	**-0.5**
ORD				Sn	**Sn**	**15 04 05.0**	**+0.2**
BLQ	**Beylaqan**	**1.39**	**360**	Pn	**Pg**	**15 03 47.5**	**+0.1**
BLQ				Sn	**Sg**	**15 04 07.4**	**+2.0**
IAZR	**Azarshahr**	**1.41**	**243**	Pg	**Pg**	**15 03 48.3**	**+0.6**
IMRD	**Marand**	**1.51**	**285**	Pg	**Pg**	**15 03 49.9**	**+0.3**
ISHB	**Shabestar**	**1.53**	**269**	Pg	**Pg**	**15 03 50.0**	**-0.1**
AGDM	**Agdam**	**1.81**	**349**	Pn	**Pg**	**15 03 54.7**	**-0.8**
AGDM				Sn	**Sg**	**15 04 20.4**	**+1.4**
NAX	**Nakhchivan**	**1.82**	**298**	Pn	**Pg**	**15 03 55.3**	**-0.4**
NAX				Sn	**Sg**	**15 04 20.8**	**+1.5**
SBZ	**Shahbuz**	**1.90**	**305**	Pn	**Pg**	**15 03 56.4**	**-0.7**
SBZ				Sn	**Sg**	**15 04 22.8**	**+1.1**
ZRD	**Zardab**	**1.95**	**3**	Pn	**Pb**	**15 03 56.4**	**-0.2**
ZRD				Sn	**Sg**	**15 04 22.6**	**-0.8**
BRDA	**Brd**	**1.96**	**351**	Pn	**Pg**	**15 03 57.9**	**-0.3**
BRDA				Sn	**Sg**	**15 04 26.0**	**+2.4**
ALIB	**&Aumlli-Bayram**	**1.98**	**34**	Pn	**Pg**	**15 03 59.2**	**+0.6**
ALIB				Sn	**Sg**	**15 04 30.6**	**+6.3**
KDMR	**Kurdemir**	**2.10**	**13**	Pn	**Pb**	**15 03 59.5**	**+0.3**
KDMR				Sn	**Sg**	**15 04 28.3**	**+0.1**
MAHB	**Mahabad**	**2.15**	**224**	Pn	**Pb**	**15 03 59.4**	**-0.6**
JIR1	**Jirandeh**	**2.41**	**132**	Pn	**Pb**	**15 04 03.4**	**-1.0**
GBS	**Qobustan**	**2.45**	**25**	Pn	**Pb**	**15 04 04.6**	**-0.6**
GBS				Sn	**Sg**	**15 04 37.6**	**-1.8**
MNGR	**Mingechevir, A**	**2.47**	**352**	Sn	**Sg**	**15 04 38.7**	**-1.3**
IML	**Ismayilli**	**2.51**	**11**	Pn	**Pb**	**15 04 04.3**	**-1.8**
IML				Sn	**Sb**	**15 04 38.4**	**+1.1**
HYR	**Heyderabad**	**2.53**	**304**	Pn	**Pb**	**15 04 06.2**	**-0.3**
HYR				Sn	**Sb**	**15 04 38.8**	**+0.9**
PQL	**Pirkuli**	**2.58**	**18**	Pn	**Pb**	**15 04 06.3**	**-1.2**
PQL				Sn	**Sb**	**15 04 38.5**	**-1.0**
QBL	**Gabala**	**2.62**	**5**	Pn	**Pb**	**15 04 05.6**	**-2.5**
QBL				Sn	**Sb**	**15 04 38.7**	**-1.9**
ATGJ	**Altiaghaj**	**2.75**	**22**	Pn	**Pb**	**15 04 09.3**	**-0.9**
ATGJ				Sn	**Sb**	**15 04 41.2**	**+2.4**
GDB	**GEDABAY**	**2.77**	**330**	Pn	**Pb**	**15 04 09.1**	**-1.6**
GDB				Sn	**Sb**	**15 04 43.3**	**-1.7**
XNQ	**Khinaliq**	**2.88**	**9**	Pn	**Pb**	**15 04 10.2**	**-2.3**
XNQ				Sn	**Sb**	**15 04 45.7**	**-2.3**
SEKA	**Sheki**	**2.89**	**355**	Pn	**Pb**	**15 04 10.0**	**-2.7**
SEKA				Sn	**Sn**	**15 04 44.8**	**+2.4**
SIZA	**Siyzn**	**2.93**	**20**	Pn	**Pb**	**15 04 11.9**	**-1.5**
SIZA				Sn	**Sb**	**15 04 47.1**	**-2.4**
QABG	**Abgarm-Qazvin**	**3.07**	**148**	Pn	**Pb**	**15 04 12.6**	**-3.3**
QZX	**Qazax, Azerbai**	**3.21**	**329**	Pn	**Pb**	**15 04 14.5**	**-3.5**
QZX				Sn	**Sn**	**15 04 53.3**	**+3.1**
IRAZ	**Razeghan**	**3.48**	**146**	Pn	**Pn**	**15 04 17.7**	**+2.2**
IPRN	**Peran**	**4.34**	**117**	Pn	**Pn**	**15 04 29.8**	**+2.6**

*IDC **23** 15:05:57.3±1.2, 46.°98N×152.°86E, h0km, mb3.6/9, mbtmp3.6/9, Error ellipse: s-maj=34.4km s-min=28.2km az=138.0*

ISC 23 15:06:04.0±1.1, 46.°7N±0.°1×152.°7E±0.°2, h50km, n19, σ1s91/11, mb3.6/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.14**	**25**	Pn	**Pn**	**15 07 45.5**	**-0.3**
	0.2nm,0.3s,baz=168,slow=14,SNR=10.0						
PETK				Sn	**Sn**	**15 09 09.3**	**+3.8**
	baz=209,slow=23						
H11N2	**WAKE ISLAND Hy**	**29.34**	**152**	T	T	15 43 30.3	
	baz=341,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**29.35**	**152**	T	T	15 43 28.6	
	baz=341,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**29.36**	**152**	T	T	15 43 52.6	
	baz=341,slow=76,SNR=13						
H11S1	**WAKE ISLAND Hy**	**30.42**	**153**	T	T	15 45 14.8	
	baz=341,slow=76,SNR=56						
H11S3	**WAKE ISLAND Hy**	**30.43**	**153**	T	T	15 44 43.3	
	baz=341,slow=76,SNR=68						
H11S2	**WAKE ISLAND Hy**	**30.44**	**153**	T	T	15 44 45.7	
	baz=341,slow=76,SNR=75						
ILAR	**Eielson Array**	**36.73**	**39**	P	**P**	**15 13 04.3**	**-1.7**
	0.1nm,0.5s,baz=263,slow=6.8,SNR=1.1						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**47.23**	**303**	P	**P**	**15 14 31.4**	**-0.2**
	0.4nm,0.7s,baz=67,slow=8.8,SNR=3.4						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**52.09**	**256**	P	**P**	**15 15 09.6**	**+0.6**
	0.3nm,0.3s,baz=34,slow=8.2,SNR=1.8						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**63.93**	**335**	P	**P**	**15 16 30.6**	**-0.6**
	3.0nm,1.0s,baz=26,slow=7.7,SNR=1.7						
	3.0nm,1.0s						
NOA	**NORSAR Array B**	**68.15**	**341**	P	**P**	**15 16 57.9**	**-0.5**
	0.4nm,0.6s,baz=25,slow

41nm,0.2s,baz=92,slow=35,SNR=6.3
MKAR Makanchi Array 0.70 292 P **Pb 15 21 12.0 -0.3**
MKAR S **Sn 15 21 21.9 -3.7**
MAKZ Makanchi 0.91 288 ⇓P **Pb 15 21 15.5 -0.3**
2.3nm,0.2s
MAKZ ⇑S **Sn 15 21 28.2 -2.5**
49nm,0.2s
MAKZ Makanchi 0.91 288 P **Pn 15 21 15.8 -1.3**
MAKZ S **Sn 15 21 28.4 -2.4**
ZSN Zaisan 1.45 50 P Pn 15 21 21.7 -2.8
23nm,0.1s
ZSN S **Sn 15 21 37.9 -6.1**
100nm,0.6s
ZSN Zaisan 1.45 50 *eP* Pn 15 21 21.7 -2.8
23nm,0.1s
ZSN *eS* **Sn 15 21 37.9 -6.1**
100nm,0.6s
KAPS Kapalarasan 2.98 247 Pg **Pg 15 21 53.3 -1.2**
4.0nm,0.1s
KAPS Lg Lg 15 22 33.6
23nm,0.5s
KAPS Kapalarasan 2.98 247 *eP* **Pg 15 21 53.4 -1.2**
3.5nm,0.1s
KAPS *eS* **Sg 15 22 33.1 0.0**
20nm,0.3s
DJR Jarkent 3.27 229 Pg **Pg 15 22 00.9 +0.8**
2.9nm,0.3s
DJR Lg Lg 15 22 44.4
13nm,0.4s
DJR Jarkent 3.27 229 *eP* **Pg 15 22 00.9 +0.8**
2.9nm,0.3s
DJR *eS* **Sg 15 22 44.4 +1.9**
14nm,0.5s
SHLS Shalkode 4.31 220 Pg **Pb 15 22 16.3 +2.5**
4.7nm,0.2s
SHLS Lg Lg 15 23 11.0
29nm,0.5s
SHLS Shalkode 4.31 220 *eP* **Pb 15 22 16.3 +2.5**
4.7nm,0.2s
SHLS *eS* **Sg 15 23 11.0 -4.8**
29nm,0.5s
SEM Semipalatinsk 4.36 334 Pg **Pb 15 22 17.6 +2.9**
3.9nm,0.3s
SEM Lg Lg 15 23 12.8
30nm,0.4s
SEM Semipalatinsk 4.36 334 *eP* **Pb 15 22 15.1 +0.4**
1.9nm,0.1s
SEM *eS* **Sb 15 23 11.1 +3.4**
13nm,0.2s
KPKS Kokpek 4.45 228 Pg **Pg 15 22 21.3 -1.3**
0.9nm,0.1s
KPKS Lg Lg 15 23 20.1
19nm,0.7s
KPKS Kokpek 4.45 228 *eP* **Pg 15 22 21.3 -1.3**
0.9nm,0.1s
KPKS *eS* **Sg 15 23 20.1 -0.2**
19nm,0.7s
UZB Uzynbulak 4.52 223 Pg **Pg 15 22 23.6 -0.4**
1.3nm,0.1s
UZB Lg Lg 15 23 23.5
8.3nm,0.3s
UZB Uzynbulak 4.52 223 *eP* **Pg 15 22 23.6 -0.4**
1.3nm,0.1s
UZB *eS* **Sg 15 23 23.5 +0.9**
8.3nm,0.3s
UKR Ust'-Kan 4.53 12 P **Pn 15 22 07.0 +0.1**
UKR S **Sb 15 23 15.7 +3.3**
KURS Kuram 4.71 232 Pg **Pg 15 22 26.8 -0.7**
1.2nm,0.2s
KURS Lg Lg 15 23 28.6
3.9nm,0.3s
KURS Kuram 4.71 232 *eP* **Pg 15 22 26.9 -0.7**
1.2nm,0.2s
KURS *eS* **Sg 15 23 28.6 +0.1**
3.9nm,0.3s
CHBI Chibit, Altay 4.73 35 Pn **Pn 15 22 10.1 +0.4**
CHBI Pg **Pb 15 22 22.8 +1.8**
CHBI Sg **Sb 15 23 20.6 +2.3**
AKAR Aktash 4.78 36 Pn **Pn 15 22 10.6 +0.1**
AKAR Pg **Pb 15 22 24.7 +2.8**
AKAR Sg **Sb 15 23 24.3 +4.4**
SATY Saty 4.88 226 Pg **Pg 15 22 30.1 -0.9**
1.7nm,0.1s
SATY Lg Lg 15 23 34.6
9.3nm,0.3s
SATY Saty 4.88 226 *eP* **Pg 15 22 30.1 -0.9**
1.7nm,0.1s
SATY *eS* **Sg 15 23 34.6 +0.4**
9.3nm,0.3s
CUR Chagan-Uzun 4.94 42 Pn **Pn 15 22 12.1 -0.5**
CUR Pg **Pb 15 22 27.1 +2.5**
CUR Sg **Sb 15 23 27.3 +2.9**
KURBB Kurchatov Arra 5.15 324 ⇓Pg **Pb 15 22 29.1 +1.1**
1.7nm,0.4s
KURBB ⇑Sn **Sn 15 23 15.8 +0.6**
6.1nm,0.6s
KURBB ⇑Lg Lg 15 23 38.0
36nm,0.6s
ULGR Ulagan, Altay 5.16 36 Pn **Pn 15 22 13.6 -2.0**
ULGR Pg **Pb 15 22 29.9 +1.6**
ULGR Sg **Sb 15 23 32.0 +1.4**
KURK Kurchatov 5.18 326 ⇓Pg **Pb 15 22 29.1 +0.4**
1.7nm,0.4s
KURK ⇓Sn **Sn 15 23 15.5 -0.6**
1.2nm,0.4s
KURK ⇑Lg Lg 15 23 37.9
14nm,0.5s
KURK Kurchatov 5.18 326 P **Pn 15 22 18.2 +2.4**
KURK Pg **Pb 15 22 29.9 +1.2**
KURK Sg **Sg 15 23 37.1 -6.7**
KTBS Karatobe 5.43 241 Pg **Pg 15 22 39.8 -1.5**
2.4nm,0.6s
KTBS Lg Lg 15 23 51.2
10nm,0.5s
KTBS Karatobe 5.43 241 *eP* **Pg 15 22 39.8 -1.5**
2.4nm,0.6s
KTBS *eS* **Sg 15 23 51.2 -0.4**
10nm,0.5s
ARTR Artybash 5.90 25 Pg **Pn 15 22 25.6 -0.1**
ARTR Sg **Sb 15 23 55.5 +3.7**
TEL Teeli 6.43 43 Pn **Pn 15 22 30.7 -2.2**
TEL Pg Pg 15 22 58.9 -1.6
TEL Sg **Sb 15 24 15.9 +8.7**

*IDC **23** 15:21:05.3±1.6, 17°.16N×145°.88E, h346km±15km, mb2.8/10, mbtmp3.5/11, Error ellipse: s-maj=29.9km s-min=15.3km az=84.0*
ISC 23 15:21:05.5±0.9, 17°.14N±0°.10×145°.9E±0°.2, h350km, n11, σ0°.83/12, mb3.0/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.66**	**196**	P	**Pn**	**15 22 12.4**	**+1.2**
	38nm,0.3s,baz=0.0,slow=18,SNR=16						
GUMO				S	**S**	**15 23 02.8**	**-1.3**
	27nm,0.3s,baz=0.0,slow=1.0,SNR=1.9						
KSRS	**Korea Array**	**25.69**	**326**	P	**P**	**15 26 04.9**	**0.0**
	0.5nm,0.6s,baz=144,slow=8.3,SNR=2.0						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**38.55**	**198**	P	**P**	**15 27 56.3**	**+0.4**
	0.3nm,0.3s,baz=13,slow=8.3,SNR=20						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**42.21**	**196**	P	**P**	**15 28 25.7**	**+0.2**
	0.2nm,0.6s,baz=9.5,slow=6.5,SNR=5.9						
	0.2nm,0.6s						
SONM	**Songino Array**	**44.48**	**322**	P	**P**	**15 28 43.9**	**+0.5**
	0.6nm,0.7s,baz=134,slow=6.9,SNR=2.8						
	0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.62**	**279**	P	**P**	**15 28 43.8**	**-1.0**
	0.3nm,0.3s,baz=90,slow=6.8,SNR=1.6						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**59.36**	**323**	P	**P**	**15 30 32.0**	**+0.1**
	0.5nm,0.4s,baz=104,slow=10,SNR=2.2						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**59.67**	**315**	P	**P**	**15 30 34.9**	**+0.8**
	0.2nm,0.5s,baz=106,slow=9.2,SNR=1.7						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**62.60**	**319**	P	**P**	**15 30 53.0**	**-0.4**
	0.5nm,0.6s,baz=98,slow=7.5,SNR=6.6						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**64.96**	**26**	P	**P**	**15 31 08.9**	**+0.4**
	0.3nm,1.1s,baz=268,slow=5.9,SNR=1.4						
	0.3nm,1.1s						
NVAR	**Mina Array Bea**	**83.96**	**52**	P	**P**	**15 32 56.7**	**-1.0**
	0.1nm,0.3s,baz=312,slow=4.7,SNR=1.8						
	0.1nm,0.3s						

IDC 23 15:23:24.4±2.1, 11°.60S×166°.64E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=56.8km s-min=47.4km az=29.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.12**	**251**	P	P	15 29 53.7	-0.2
	0.4nm,0.8s,baz=84,slow=9.1,SNR=3.0						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**33.34**	**244**	P	P	15 30 04.6	+0.1
	0.4nm,0.8s,baz=74,slow=9.3,SNR=5.7						
ASAR				PcP	PcP	15 32 45.9	-0.7
	0.2nm,0.5s,baz=72,slow=2.4,SNR=4.9						
	0.4nm,0.8s						
QSPA	**South Pole Qui**	**78.41**	**180**	P	P	15 35 27.1	+0.3
	0.8nm,0.6s,baz=29,slow=1.9,SNR=8.0						
	0.8nm,0.6s						
MKAR	**Makanchi Array**	**94.53**	**317**	P	P	15 36 46.8	-0.1
	0.3nm,0.5s,baz=98,slow=4.4,SNR=3.5						
	0.3nm,0.5s						

HEL 23 15:37:34.9±0.0, 64°.43N×20°.74E, h19km, ML0.7, 2C-2D, Confirmed Earthquake, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODEU	**Stanfors**	**0.02**	**206⇑**	*eP*	Pg	15 37 38.0	-0.3
ODEU				*eS*	Sg	15 37 40.4	-0.1
BURU	**Burvik**	**0.32**	**60⇓**	*eP*	Pg	15 37 41.2	-0.6
BURU				*eS*	Sg	15 37 45.8	-0.7
SVAU	**Svanoeiden**	**0.51**	**278⇓**	*eP*	Pb	15 37 44.1	-1.0
SVAU				*eS*	Sg	15 37 51.1	-1.0
UMAU	**Umeaa**	**0.55**	**183⇑**	*eP*	Pb	15 37 45.0	-0.7
UMAU				*eS*	Sb	15 37 52.2	-0.9
LILU	**Lilltraesk**	**0.94**	**337**	*eP*	Pb	15 37 51.4	-1.1
BREU	**Bredtraesk**	**1.09**	**241**	*eP*	Pn	15 37 54.1	-1.0
BREU				*eS*	Sb	15 38 08.4	-0.5
SJUU	**Sjulsmark**	**1.15**	**18**	*eP*	Pn	15 37 55.0	-0.9
SJUU				*eS*	Sb	15 38 09.7	-0.8
HUSU	**Husum**	**1.28**	**212**	*eS*	Sb	15 38 14.3	0.0
OBF0	**Syolatti, Pyha**	**1.52**	**86**	*e*	Pn	15 37 55.9	-5.1
OBF0				*eS*	Sn	15 38 20.3	+0.1
OBF0				MSG		15 38 22.0	
	comp=Z,0.5nm,0.1s						
OUF	**Merijarvi**	**1.74**	**90**	*eS*	Sn	15 38 24.9	-0.6
OUF				MSG		15 38 28.2	
	comp=Z,0.4nm,0.1s						
TOF	**Tornio**	**2.24**	**41**	*eS*	Sn	15 38 39.1	+1.1
TOF				MSG		15 38 42.5	
	comp=Z,0.2nm,0.1s						

IDC 23 15:44:13.2±4.9, 3°.90S×150°.94E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=155.3km s-min=36.6km az=106.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.72**	**224**	P	P	15 49 18.2	+1.3
	0.3nm,0.4s,baz=47,slow=9.5,SNR=11						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**25.63**	**218**	P	P	15 49 43.3	-1.4
	0.3nm,0.9s,baz=50,slow=8.4,SNR=5.7						
	0.3nm,0.9s						
ZALV	**Zalesovo Beam**	**79.38**	**327**	P	P	15 56 21.3	+0.3
	0.4nm,0.5s,baz=104,slow=6.1,SNR=2.2						
	0.4nm,0.5s						

*BJI **23** 16:00:12.2, 2°.99N×124°.87E, h46km, mB5.0/10, mb4.6/39, Ms4.6/1, Ms7 4.3/1*
*DJA **23** 16:00:12.6±1.4, 3°N±3°×12°5E±°, h21km±11km, M4.6/21, mB5.0/7, mb4.7/21, MLv4.8/15, Mw(mB)4.4/7*
*NEIC **23** 16:00:14.4±1.8, 3°.30N±0°.09×125°.03E±0°.08, h50km±8km, mb4.9/43, Error ellipse: s-maj=14.0km s-min=10.2km az=215.0*
*IDC **23** 16:00:15.4±2.3, 3°.30N×125°.03E, h69km±21km, mb4.1/18, mbtmp4.4/19, MS3.3/11, Error ellipse: s-maj=25.5km s-min=9.8km az=78.0*
ISC 23 16:00:14.0±0.3, 3°.26N±0°.05×125°.02E±0°.06, h50km, n132, σ1°.43/132, mb4.7/50, MS3.2/9, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**2.87**	**201**	P	**Pn**	**16 00 56.6**	**-0.7**
TNTI	**Ternate**	**3.41**	**137**	Pn	**Pn**	**16 01 04.4**	**-0.3**
TNTI	**Ternate**	**3.41**	**137**	P	**Pn**	**16 01 05.9**	**+1.2**
DAV	**Davao City (W)**	**3.82**	**8**	P	**Pn**	**16 01 13.2**	**+2.7**
	136nm,0.3s,baz=275,slow=16,SNR=1.1						
DAV				S	**Sn**	**16 01 55.5**	**+1.3**
	247nm,0.4s,baz=162,slow=20,SNR=6.0						
DAV				LR	LR	16 02 53.6	
	comp=Z,896nm,20.0s,baz=146,slow=42						
MRSI	**Marisa**	**4.14**	**228**	P	**Pn**	**16 01 13.1**	**-1.7**
TOLI2	**Tolitoli**	**4.75**	**243**	Pn	**Pn**	**16 01 19.9**	**-3.2**
LUWI	**Luwuk**	**4.83**	**208**	Pn	**Pn**	**16 01 25.9**	**+1.7**
LUWI	**Luwuk**	**4.83**	**208**	P	**Pn**	**16 01 26.7**	**+2.4**
APSI	**Ampana**	**5.34**	**219**	P	**Pn**	**16 01 34.4**	**+3.1**
	201nm,0.9s,2μm1.7nm						
SANI	**Sanana**	**5.36**	**170**	P	**Pn**	**16 01 31.5**	**-0.1**
PCI	**Palu**	**6.63**	**231**	P	**Pn**	**16 01 46.0**	**-3.0**
	105nm,0.8s,0.7nm						
NLAI	**Namlea**	**6.78**	**162**	P	**Pn**	**16 01 51.1**	**+0.1**
	29nm,0.8s,0.2nm						
SWI	**Sorong**	**7.46**	**123**	P	Pn	16 02 10.9	+11
KDI	**Kendari**	**7.56**	**199**	P	**Pn**	**16 02 03.5**	**+1.8**
	35nm,0.8s,0.1nm						
SPSI	**Sidrap Palu**	**8.89**	**216**	P	**Pn**	**16 02 24.1**	**+4.1**
	27nm,0.8s,0.1nm						
BNSI	**Bone**	**9.06**	**213**	P	**Pn**	**16 02 24.4**	**+2.1**
	31nm,1.0s						
KKM	**Kota Kinabalu**	**9.20**	**288**	Pn	**Pn**	**16 02 24.6**	**+0.3**
MTKI	**Muara Teweh, K**	**10.95**	**248**	P	**Pn**	**16 02 47.3**	**-0.9**
TGY	**Tagaytay City**	**11.50**	**340**	P	Pn	16 03 06.8	+11
	114nm,0.3s,baz=158,slow=19,SNR=2.0						
SBUM	**Sibu**	**12.81**	**267**	Pn	**Pn**	**16 03 13.5**	**-0.1**
BATI	**Baumata**	**13.45**	**186**	P	**P**	**16 03 27.7**	**-2.5**
	42nm,0.8s,baz=39,slow=20,SNR=3.6						
BATI				LR	LR	16 08 31.7	
	comp=Z,181nm,21.5s,baz=336,slow=37						
STKI	**Sintang**	**13.91**	**257**	P	**Pn**	**16 03 30.3**	**+1.7**
	33nm,1.1s						
PLAI	**Plampang**	**14.02**	**211**	P	**P**	**16 03 38.0**	**+1.4**
KSM	**Kuching**	**14.81**	**263**	P	**P**	**16 03 47.3**	**+1.9**
DRS	**Darwin Rock St**	**16.65**	**160**	P	**Pn**	**16 04 03.2**	**-0.8**
MTN	**Manton Dam**	**17.11**	**159**	P	**Pn**	**16 04 07.6**	**-2.2**
KDU	**Kakadu**	**17.49**	**155**	P	**Pn**	**16 04 12.1**	**-2.4**
KNRA	**Kununurra**	**19.18**	**169**	P	**P**	**16 04 32.3**	**-1.4**
KNRA				IAmb	IAmb	16 04 35.0	
	comp=Z,67nm,1.2s						
MYKOM	**Kota Tinggi**	**21.20**	**267**	P	**P**	**16 04 56.3**	**+0.6**
MYKOM				IAmb	IAmb	16 05 06.6	
	comp=Z,30nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.23**	**178**	P	**P**	**16 04 55.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**21.23**	**178**	P	**P**	**16 04 55.2**	**-0.7**
	comp=Z,16nm,0.5s,baz=352,slow=8.0,SNR=50						
	comp=Z,16nm,0.5s						
IPM	**Ipoh**	**23.97**	**274**	P	**P**	**16 05 22.9**	**-1.2**
KULM	**Kulim**	**24.39**	**276**	P	**P**	**16 05 27.9**	**0.0**
WB0	**Warramunga Arr**	**24.67**	**158**	P	**P**	**16 05 29.8**	**-0.5**
WRAB	**Tennant Creek**	**24.80**	**159**	P	**P**	**16 05 31.6**	**0.0**
WRA	**Warramunga Arr**	**24.81**	**159**	P	**P**	**16 05 31.4**	**-0.3**
WRA	**Warramunga Arr**	**24.81**	**159**	P	**P**	**16 05 30.9**	**-0.8**
	comp=Z,76nm,0.7s,baz=341,slow=9.9,SNR=275						
WRA				PcP	**PcP**	**16 09 07.1**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=331,slow=2.5,SNR=6.1						
WRA				S	**S**	**16 09 52.3**	**+1.3**
	comp=Z,4.2nm,1.0s,baz=337,slow=19,SNR=9.6						
WB2	**Warramunga Arr**	**24.81**	**159**	P	**P**	**16 05 31.3**	**-0.4**
COEN	**Coen**	**24.84**	**134**	P	**P**	**16 05 31.8**	**-0.1**
WR0	**Warramunga Arr**	**24.90**	**158**	P	**P**	**16 05 32.1**	**-0.4**
WR0				IAmb	IAmb	16 05 34.2	
	comp=Z,46nm,0.7s						
PMG	**Port Moresby**	**25.40**	**120**	LR	LR	16 17 32.2	
	comp=Z,25nm,20.6s,baz=326,slow=41						
QIS	**Mount Isa**	**27.66**	**149**	P	**P**	**16 05 58.1**	**+0.7**
AS31	**Alice Springs**	**28.13**	**163**	P	**P**	**16 06 01.8**	**+0.2**
ASAR	**Alice Springs**	**28.13**	**163**	P	**P**	**16 06 01.5**	**-0.1**
ASAR	**Alice Springs**	**28.13**	**163**	P	**P**	**16 06 01.2**	**-0.4**
	comp=Z,5.0nm,0.9s,baz=338,slow=7.2,SNR=42						
ASAR				PcP	**PcP**	**16 09 14.7**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=345,slow=2.2,SNR=7.2						
ASAR				S	**S**	**16 10 42.4**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=345,slow=21,SNR=2.9						
ASAR				LR	LR	16 17 16.5	
	comp=Z,38nm,22.0s,baz=319,slow=36						
	comp=Z,5.0nm,0.9s						
WRKA	**Warakurna**	**28.31**	**174**	P	**P**	**16 06 03.6**	**+0.4**
PHRA	**Phrae**	**28.61**	**304**	P	**P**	**16 06 09.0**	**+3.1**
GYA	**Guiyang**	**29.01**	**324**	P	**P**	**16 06 12.9**	**+3.4**
GYA				pmax	pmax		
	comp=Z,15nm,0.6s						
NJ2	**Nanjing**	**29.22**	**349**	*eP*	**P**	**16 06 12.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**29.66**	**303**	P	**P**	**16 06 17.3**	**+2.0**
CMAR	**Chiang Mai Arr**	**29.66**	**303**	P	**P**	**16 06 16.2**	**+1.0**
	comp=Z,2.9nm,0.9s,baz=120,slow=5.4,SNR=19						
CMAR				PcP	**PcP**	**16 09 18.7**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=130,slow=1.4,SNR=5.8						
CMAR				LR	LR	16 18 37.4	
	comp=Z,31nm,18.6s,baz=70,slow=37						
	comp=Z,2.9nm,0.9s						
CHTO	**Chiang Mai**	**29.83**	**303**	P	**P**	**16 06 19.1**	**+2.4**
KMI	**Kunming**	**30.54**	**317**	⇓P	**P**	**16 06 26.3**	**+3.1**
KMI				pP	sP	16 06 38.8	-1.3
KMI				pmax	pmax		
	comp=Z,11nm,1.2s						
CTAO	**Charters Tower**	**31.19**	**139**	P	**P**	**16 06 28.9**	**+0.2**
CTAO				IAmb	IAmb	16 06 31.2	
	comp=Z,16nm,1.0s						
PZH	**PanZhiHua**	**32.12**	**318**	P	**P**	**16 06 38.4**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,130nm,4.1s						
OOD	**Oodnadatta**	**32.54**	**162**	P	**P**	**16 06 40.3**	**-0.1**
TNCH	**TengChong**	**33.45**	**313**	P	**P**	**16 06 50.4**	**+1.7**
TNCH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
TNCH				pmax	pmax		
	comp=Z,98nm,4.3s						
FORT	**Forrest**	**33.97**	**175**	P	**P**	**16 06 53.3**	**+0.4**
CD2	**Chengdu**	**34.05**	**326**	P	**P**	**16 06 53.8**	**+0.1**
XAN	**Xi'an**	**34.10**	**336**	P	**P**	**16 06 54.0**	**-0.1**
XAN				pP	pP	16 07 06.0	+0.2
XAN				pmax	pmax		
	comp=Z,17nm,0.7s						
XAN				pmax	pmax		
	comp=Z,120nm,4.8s						
XAN	**Xi'an**	**34.10**	**336**	P	**P**	**16 06 53.9**	**-0.2**
XAN				pP	**pP**	**16 07 06.0**	**+0.3**
KSRS	**Korea Array**	**34.13**	**4**	LR	LR	16 22 33.0	
	comp=Z,40nm,19.3s,baz=185,slow=39						
INKA	**Innaminka**	**34.34**	**155**	P	**P**	**16 06 57.1**	**+0.9**
MULG	**Mulgathing**	**34.45**	**166**	P	**P**	**16 06 57.4**	**+0.3**
LCRK	**Leigh Creek**	**35.81**	**160**	P	**P**	**16 07 08.6**	**-0.2**
BBOO	**Buckleboo**	**37.37**	**165**	P	**P**	**16 07 22.3**	**+0.3**
EIDS	**Eidsvold**	**38.06**	**140**	P	**P**	**16 07 27.7**	**-0.3**
EIDS				IAmb	IAmb	16 07 29.1	
	comp=Z,28nm,1.1s						
LZH	**Lanzhou**	**38.07**	**332**	*eP*	**P**	**16 07 29.6**	**+1.4**
LZH				pP	pP	16 07 41.8	+1.9
LZH				pmax	pmax		
	comp=Z,33nm,1.0s						
STKA	**Stephens Creek**	**38.33**	**157**	P	**P**	**16 07 29.2**	**-1.0**
STKA	**Stephens Creek**	**38.33**	**157**	P	**P**	**16 07 29.4**	**-0.7**
	comp=Z,7.9nm,0.6s,baz=337,slow=10,SNR=14						
	comp=Z,7.9nm,0.6s						
STKA	**Stephens Creek**	**38.33**	**157**	P	**P**	**16 07 31.2**	**+1.0**
HTT	**Hallett**	**38.79**	**161**	P	**P**	**16 07 35.5**	**+1.5**
HHC	**Hu-ho-hao-te**	**39.34**	**344**	*eP*	**P**	**16 07 39.9**	**+1.3**
HHC				pP	pP	16 07 52.1	+1.6
HHC				sP	pwP	16 07 57.8	+1.4
HHC				pmax	pmax		
	comp=Z,14nm,0.5s						
HHC				pmax	pmax		
	comp=Z,130nm,5.1s						
USA0B	**Ussuriysk Arra**	**41.23**	**8**	P	**P**	**16 07 51.5**	**-2.6**
USA0B				IAmb	IAmb	16 07 53.7	
	comp=Z,50nm,2.0s						
USRK	**Ussuriysk Ar.**	**41.23**	**8**	P	**P**	**16 07 52.3**	**-1.7**
USRK	**Ussuriysk Ar.**	**41.23**	**8**	P	**P**	**16 07 52.4**	**-1.6**
	comp=Z,3.1nm,0.8s,baz=189,slow=5.4,SNR=5.2						
USRK				LR	LR	16 26 11.1	
	comp=Z,31nm,19.9s,baz=111,slow=38						
	comp=Z,3.1nm,0.8s						
MDJ	**Mudanjiang**	**41.38**	**5**	P	**P**	**16 07 58.3**	**+3.0**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.8s						
ARMA	**Armidale**	**42.04**	**145**	P	**P**	**16 08 00.9**	**-0.2**
ARMA				IAmb	IAmb	16 08 03.5	
	comp=Z,12nm,0.8s						
GTA	**Gaotai**	**42.65**	**331**	*eP*	**P**	**16 08 06.6**	**+0.7**
GTA				pP	pP	16 08 16.6	-1.2
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GOMU	**GeErMu**	**43.02**	**323**	P	**P**	**16 08 10.6**	**+1.3**
GOMU				pP	pP	16 08 23.0	+1.8
GOMU				pmax	pmax		
	comp=Z,12nm,1.0s						
ASAJ	**Asahikawa**	**43.55**	**18**	P	**P**	**16 08 12.7**	**-0.3**
	comp=Z,15nm,0.7s,baz=218,slow=13,SNR=3.0						
ASAJ				LR	LR	16 27 56.9	
	comp=Z,39nm,18.7s,baz=143,slow=38						
	comp=Z,15nm,0.7s						
JKA	**Kamikawa-asahi**	**43.55**	**18**	P	**P**	**16 08 10.9**	**-2.0**
JKA				IAmb	IAmb	16 08 26.3	
	comp=Z,43nm,1.1s						
CAN	**Canberra**	**44.48**	**152**	P	**P**	**16 08 18.7**	**-1.9**
CAN	**Canberra**	**44.48**	**152**	P	**P**	**16 08 22.4**	**+1.8**
KLR	**Kul'dur**	**46.16**	**6**	P	**P**	**16 08 32.8**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=252,slow=6.4,SNR=2.4						
	comp=Z,1.1nm,0.7s						
SONM	**Songino Array**	**47.22**	**343**	P	**P**	**16 08 41.1**	**-1.0**
SONM	**Songino Array**	**47.22**	**343**	P	**P**	**16 08 40.7**	**-1.4**
	comp=Z,1.2nm,0.8s,baz=150,slow=7.7,SNR=5.9						
	comp=Z,1.2nm,0.8s						
NOUC	**Port Laguerre**	**47.57**	**124**	P	**P**	**16 08 46.2**	**+1.1**
NOUC				pP	**pP**	**16 08 58.5**	**+1.1**
DZM	**Mont Dzumac**	**47.67**	**124**	P	**P**	**16 08 47.3**	**+1.3**
WMQ	**Urumqi**	**52.15**	**326**	*eP*	**P**	**16 09 22.1**	**+2.5**
MSVF	**Nonsavu**	**56.28**	**114**	P	**P**	**16 09 51.9**	**+1.8**
MSVF				pP	**pP**	**16 10 04.4**	**+1.7**
PETK	**Petropavlovsk-**	**56.51**	**23**	P	**P**	**16 09 50.3**	**-0.8**
	comp=Z,7.9nm,0.9s,baz=226,slow=9.5,SNR=3.5						
	comp=Z,7.9nm,0.9s						
MK31	**Makanchi Array**	**56.98**	**326**	P	**P**	**16 09 54.9**	**+0.3**
MK31				IAmb	IAmb	16 10 08.4	
	comp=Z,25nm,1.9s						
MKAR	**Makanchi Array**	**56.98**	**326**	P	**P**	**16 09 54.5**	**-0.1**
MKAR	**Makanchi Array**	**56.98**	**326**	P	**P**	**16 09 53.4**	**-1.2**
	comp=Z,3.2nm,0.8s,baz=128,slow=8.1,SNR=23						
	comp=Z,3.2nm,0.8s						
MAKZ	**Makanchi**	**57.16**	**326**	P	**P**	**16 09 55.6**	**-0.2**
MAKZ				IAmb	IAmb	16 10 51.7	
	comp=Z,27nm,1.8s						
MAKZ	**Makanchi**	**57.16**	**326**	P	**P**	**16 09 55.8**	**-0.1**
MAKZ				pP	**pP**	**16 10 08.8**	**+0.5**
KSH	**Kashi**	**57.18**	**316**	P	**P**	**16 09 58.0**	**+1.7**
KSH				pP	pP	16 10 10.4	+1.8
KSH				pmax	pmax		
	comp=Z,4.0nm,1.4s						
YAK	**Yakutsk**	**58.74**	**3**	LR	LR	16 36 25.9	
	comp=Z,40nm,19.8s,baz=76,slow=37						
MA2	**Magadan**	**59.58**	**15**	P	**P**	**16 10 11.0**	**-1.4**
	comp=Z,31nm,1.1s,baz=176,slow=14,SNR=1.2						
	comp=Z,31nm,1.1s						
ZALV	**Zalesovo Beam**

TIXI	Tiksi	68.34	1	LR	LR	16 43 22.8	
	comp=Z,35nm,19.0s,baz=178,slow=38						
NRIK	Noril'sk	70.48	347	P	P	16 11 20.9	-2.1
	comp=Z,2.6nm,0.6s,baz=139,slow=6.0,SNR=6.6						
	comp=Z,2.6nm,0.6s						
ABKAR	Akbulak array	71.44	321	P	P	16 11 27.9	-1.3
ABKAR	Akbulak array	71.44	321	P	P	16 11 28.3	-0.9
ABKAR				IAmb	IAmb	16 11 28.9	
	comp=Z,3.9nm,0.9s						
J18K	Innoko River	81.85	26	IAmb	IAmb	16 12 29.3	
	comp=Z,32nm,1.8s						
O18K	Koktuh Hills	82.05	30	P	P	16 12 27.0	-1.9
O18K				IAmb	IAmb	16 14 28.3	
	comp=Z,29nm,1.4s						
G19K	Purcell Mounta	82.14	24	IAmb	IAmb	16 12 30.5	
	comp=Z,8.4nm,0.9s						
H19K	Roundabout Mou	82.29	24	IAmb	IAmb	16 12 31.8	
	comp=Z,36nm,1.6s						
E19K	Redstone River	82.31	22	P	P	16 12 29.4	-0.7
E19K				IAmb	IAmb	16 12 31.6	
	comp=Z,7.9nm,0.8s						
M19K	Big River Lodg	82.70	28	P	P	16 12 31.2	-1.1
M19K				IAmb	IAmb	16 14 47.8	
	comp=Z,25nm,1.5s						
MAW	Mawson	82.73	200	P	P	16 12 31.6	-0.6
	comp=Z,1.9nm,0.8s,baz=75,slow=6.6,SNR=4.0						
	comp=Z,1.9nm,0.8s						
M20K	Styx River	83.29	28	P	P	16 12 36.0	+0.6
C23K	Itkillik River	85.01	20	P	P	16 12 43.9	+0.1
C23K				IAmb	IAmb	16 12 58.2	
	comp=Z,13nm,0.9s						
E23K	Chandalar	85.25	22	IAmb	IAmb	16 13 00.5	
	comp=Z,10nm,1.2s						
D24K	Happy Valley	85.60	21	P	P	16 12 46.9	+0.1
D24K				IAmb	IAmb	16 13 01.4	
	comp=Z,6.9nm,0.8s						
FURI	Furi	85.90	279	LR	LR	16 49 27.7	
	comp=Z,28nm,21.4s,baz=64,slow=34						
PPT2	Papeete2	86.59	108	eLR	LR	16 40 23.9	
	comp=Z,65nm,22.8s						
TBI	Tubuai	87.16	113	eLR	LR	16 40 28.9	
	comp=Z,655nm,45.8s						
BRTR	Keskin Array B	89.00	310	P	P	16 13 02.1	-2.0
	comp=Z,0.5nm,0.8s,baz=97,slow=7.4,SNR=2.8						
	comp=Z,0.5nm,0.8s						
QSPA	South Pole Qui	93.17	180	P	P	16 13 21.0	-1.7
QSPA				IAmb	IAmb	16 13 59.5	
	comp=Z,6.1nm,1.2s						
QSPA	South Pole Qui	93.17	180	P	P	16 13 23.0	+0.3
	comp=Z,1.4nm,0.7s,baz=348,slow=2.1,SNR=16						
	comp=Z,1.4nm,0.7s						
TORD	Torodi Ar. Bea	121.44	287	PKP	PKPdf	16 19 01.8	-1.2
	comp=Z,1.1nm,0.8s,baz=44,slow=1.3,SNR=6.5						
TXAR	Lajitas Array	123.23	52	PKP	PKPdf	16 19 05.9	-0.3
	comp=Z,0.8nm,0.8s,baz=237,slow=3.1,SNR=7.1						

*KOLA **23** 16:03:31.2, 79°.74N×21°.23E, h0km, ML2.8, Spitsbergen, Barentz Sea*
*FCIAR **23** 16:03:31.0, 79°.81N×22°.00E, h10km, station ZFI2 has station magnitude of 3.40 station OMEGA has station magnitude of 3.30*
*BER **23** 16:03:32.0±2.3, 79°.87N×23°.01E, h22km±9km, ML3.0, ML3.0(NAO), Confirmed Earthquake*
*NAO **23** 16:03:32.0±3.4, 79°.70N×22°.62E, h20km±15km, ML3.0*
ISC 23 16:03:28.4±1.5, 79°.91N±0°.05×22°.83E±0°.04, h13km±11km, n24, σ1§43/49, 3D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPA0	Spitsbergen Ar	2.14	219	Pn	Pn	16 04 03.5	-0.2
	baz=39,slow=14						
SPA0				Pg	Pg	16 04 08.4	-0.9
	baz=35,slow=16						
SPA0				Sn	Sn	16 04 28.8	-1.2
	baz=33,slow=28						
SPA0				Lg	Lg	16 04 34.9	
	baz=42,slow=28						
SPA0	Spitsbergen Ar	2.14	219	Pn	Pn	16 04 03.5	-0.2
	baz=39,slow=14						
SPA0				Pg	Pg	16 04 08.4	-0.9
	baz=35,slow=16						
SPA0				Sn	Sn	16 04 28.8	-1.2
	baz=33,slow=28						
SPA0				Sg	Sb	16 04 34.9	+1.7
	baz=42,slow=28						
SPA0				IAML		16 04 38.2	
	comp=Z,190nm,0.8s						
SPA0	Spitsbergen Ar	2.14	219	↓iP	Pn	16 04 03.5	-0.2
SPA0				i S	Sn	16 04 28.3	-1.7
SPITS	Spitsbergen Ar	2.14	219	P	Pn	16 04 03.4	-0.2
SPITS				S	Sn	16 04 28.1	-1.9
KBS	Kingsbay	2.24	249	Pn	Pn	16 04 05.7	+0.6
KBS				Pg	Pg	16 04 11.3	0.0
KBS				Lg	Lg	16 04 39.5	
KBS	Kingsbay	2.24	249	P	Pn	16 04 05.3	+0.2
KBS	Kingsbay	2.24	249	↓iP	Pn	16 04 05.6	+0.6
KBS				ePg	Pg	16 04 11.3	0.0
KBS				eSg	Sg	16 04 39.8	-0.5
KBS				IAML		16 04 42.7	
	comp=Z,143nm,0.4s						
KBS	Kingsbay	2.24	249	↓iP	Pn	16 04 05.6	+0.6
KBS				eS	Sn	16 04 31.3	-1.2
BRBB	Barentsburg B	2.46	226	Pn	Pn	16 04 08.3	+0.2
BRBB				Sn	Sn	16 04 37.0	-1.0
BRBB				Lg	Lg	16 04 45.0	
BRBB	Barentsburg B	2.46	226	P	Pn	16 04 08.1	0.0
BRBB				S	Sn	16 04 36.2	-1.8
BRBB	Barentsburg B	2.46	226	eP	Pn	16 04 08.3	+0.2
BRBA	Barentsburg A	2.49	226	Pn	Pn	16 04 08.8	+0.3
BRBA				Sn	Sn	16 04 37.7	-1.0
BRBA				Lg	Lg	16 04 45.9	
BRBA	Barentsburg A	2.49	226	eP	Pn	16 04 08.7	+0.3
BRBA				eS	Sn	16 04 38.1	-0.5
BRBA				eSg	Sg	16 04 46.1	-2.1
BRBA				IAML		16 04 48.3	
	comp=Z,213nm,0.3s						
HSPB	Hornsund (broa	3.27	210	Pn	Pn	16 04 20.5	+1.3
HSPB				Pg	Pg	16 04 28.9	-2.0
HSPB				Lg	Lg	16 05 09.3	
HSPB	Hornsund (broa	3.27	210	P	Pn	16 04 20.4	+1.3
HSPB	Hornsund (broa	3.27	210	eP	Pn	16 04 20.5	+1.3
HSPB				eSg	Sb	16 05 08.2	+2.4
HSPB				IAML		16 05 10.3	
	comp=Z,102nm,0.4s						
HOPEN	Hopen	3.45	171	Pn	Pn	16 04 22.5	+0.8
HOPEN				Pg	Pb	16 04 31.4	+2.2
HOPEN				Sn	Sn	16 04 59.8	-2.5
HOPEN				Lg	Lg	16 05 11.9	
HOPEN	Hopen	3.45	171	ePg	Pb	16 04 31.7	+2.5
HOPEN				eS	Sn	16 05 00.7	-1.6
HOPEN				eSg	Sb	16 05 12.2	+1.2
HOPEN				IAML		16 05 17.1	
	comp=Z,133nm,0.4s						
HOPEN	Hopen	3.45	171	eP	Pn	16 04 22.3	+0.6
HOPEN				eS	Sn	16 05 00.7	-1.6
ZFI2	Zemlya Franca-	4.24	66	eP	Pn	16 04 32.4	-0.2
ZFI2				eS	Sn	16 05 19.9	-1.9
	comp=Z,31nm,4.2s						
OMEGA	Omega	4.26	66	eP	Pn	16 04 32.4	-0.4
OMEGA				eS	Sn	16 05 19.7	-2.4
	comp=Z,28nm,2.0s						
DAG	Danmarks Havn	8.78	271	eP	Pn	16 05 39.2	+4.5
DAG				e		16 05 52.4	
DAG				eS	Sn	16 07 09.5	-3.7
ARA0	ARCESS Array S	10.46	175	Pn	Pn	16 05 56.7	-1.0
	baz=349,slow=9.3						
ARA0				Sn	Sn	16 07 43.8	-11
	slow=22						
ARA0	ARCESS Array S	10.46	175	Pn	Pn	16 05 56.7	-1.0
	baz=349,slow=9.3						
ARA0				Sn	Sn	16 07 43.8	-11
	slow=22						

*NIED **23** 16:03:39.8, 41°.57N×142°.06E, h66km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}2.63; $M_{\theta\theta}$-0.33; $M_{\phi\phi}$-2.30; $M_{r\theta}$1.34; $M_{\theta\phi}$-0.50; $M_{r\phi}$2.87; Fault plane solution: $M_0$4.05000×10^{15} NP1:ϕ_s22.00000°, δ71.00000°, λ,95.00000°. NP2:ϕ_s187.00000°, δ20.00000°, λ,75.00000°.*
*JMA **23** 16:03:39.8±0.2, 41°.6N±0°.5×142°.1E±0°.7, h66km±2km, MV3.6/39, E OFF AOMORI PREF*

JMA Felt II J1 at E OFF AOMORI PREF .
*NEIC **23** 16:03:40.3±1.3, 41°.58N±0°.07×142°.1E±0°.1, h61km±11km, mb4.3/5, Error ellipse: s-maj=15.6km s-min=3.6km az=132.0*
*IDC **23** 16:03:41.4±1.6, 41°.58N×142°.11E, h72km±13km, mb3.7/19, mbtmp4.0/24, MS3.5/21, Error ellipse: s-maj=17.0km s-min=10.8km az=111.0*
ISC 23 16:03:40.9±0.8, 41°.56N±0°.04×142°.10E±0°.04, h65km±7km, n75, σ1§32/75, mb4.1/22, 13D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAHD	Aomorihigashid	0.64	243	↓P	Pn	16 03 54.0	-0.9
JAHD				↓S	Sn	16 04 04.3	-0.8
JARK	Aomorirokkasho	0.78	225	↓iP	Pn	16 03 55.1	-1.3
JARK				↓S	Sn	16 04 06.5	-1.3
JOT	Ohata	0.81	258	↓iP	Pn	16 03 55.4	-1.4
JKB	Kayabe	0.86	293	↓P	Pn	16 03 55.5	-1.9
JNBK	Urakawa-nobuka	0.87	34	P	Pn	16 03 56.1	-1.4
ERM	Erimo	0.91	60		Pn	16 03 57.1	-1.0
JEM	Erimo	0.91	60	i P	Pn	16 03 57.2	-0.9
JEM				S	Sn	16 04 10.1	-0.6
JIAM	Iburiatsuma	1.07	353	i P	Pn	16 03 59.9	-0.1
JIAM				eS	Sn	16 04 15.2	+0.9
JTM	Tenmabayashi	1.10	225	Pn	Pn	16 03 59.6	-0.8
JTM	Tenmabayashi	1.10	225	↓iP	Pn	16 03 59.6	-0.8
JTM				↓eS	Sn	16 04 13.9	-1.0
JNB	Noboribetsu	1.20	319	↓iP	Pn	16 04 00.0	-1.8
JNB				↓eS	Sn	16 04 15.6	-1.8
JBT2	Biratori 2	1.23	9	P	Pn	16 04 01.7	-0.5
JBT2				eS	Sn	16 04 18.4	+0.4
JSR	Shiriuchi	1.26	269	P	Pn	16 04 01.6	-1.0
JANG	Nango	1.27	201	i P	Pn	16 04 01.8	-0.9
JANG				S	Sn	16 04 17.7	-1.2
JEW	Eniwo	1.36	340	↓iP	Pn	16 04 03.1	-0.8
JEW				↓S	Sn	16 04 20.4	-0.8
JYM2	Yakumo 2	1.41	294	↓iP	Pn	16 04 03.6	-0.8
JCH	Churui	1.41	41	i P	Pn	16 04 04.5	0.0
JCH				S	Sn	16 04 22.6	+0.3
JOMM	Oshimamatsumae	1.57	269	P	Pn	16 04 05.8	-0.9
JOSM	Okushiri--Mats	2.03	286	P	Pn	16 04 11.3	-1.5
ASAJ	Asahikawa	2.58	8	P	Pn	16 04 20.6	+0.3
	48nm,0.4s,baz=192,slow=20,SNR=67						
ASAJ				S	Sn	16 04 51.2	+0.7
	123nm,0.8s,baz=187,slow=16,SNR=8.6						
ASAJ				LR	LR	16 05 42.5	
	comp=Z,493nm,22.0s,baz=236,slow=47						
JKA	Kamikawa-asahi	2.58	8		Pn	16 04 20.6	+0.3
JMM	Marumori	3.83	196	Pn	Pn	16 04 37.9	+0.6
MJB9	Matsu-Tunnel	5.85	212		Pn	16 05 05.6	+0.5
MAJO	Matsushiro	5.86	212		Pn	16 05 05.0	-0.1
MJAR	Matsushiro Arr	5.86	212	P	Pn	16 05 06.7	+1.5
	1.7nm,0.4s,baz=25,slow=14,SNR=12						
MJAR				LR	LR	16 07 07.5	
	comp=Z,89nm,20.2s,baz=27,slow=35						
INU	Inuyama	7.37	214	Pn	Pn	16 05 25.1	-0.7
USA0B	Ussuriysk Arra	7.88	293		Pn	16 05 31.0	-1.7
USRK	Ussuriysk Ar.	7.88	293	Pn	Pn	16 05 31.6	-1.1
USRK	Ussuriysk Ar.	7.88	293	P	Pn	16 05 32.3	-0.4
	4.3nm,0.5s,baz=93,slow=13,SNR=18						
USRK				LR	LR	16 08 27.3	
	comp=Z,246nm,21.9s,baz=137,slow=36						
KLR	Kul'dur	10.56	320	P	Pn	16 06 11.4	+2.0
	3.3nm,0.9s,baz=138,slow=13,SNR=6.9						
KLR				LR	LR	16 10 16.1	
	comp=Z,203nm,19.4s,baz=126,slow=37						
KSRS	Korea Array	11.69	254	P	Pn	16 06 29.2	+4.4
	3.4nm,0.5s,baz=62,slow=14,SNR=17						
KSRS				S	Sn	16 08 40.6	+7.0
	2.8nm,0.6s,baz=68,slow=24,SNR=5.6						
KSRS				LR	LR	16 10 38.1	
	comp=Z,59nm,18.2s,baz=65,slow=36						
KS19	Wonju Array Si	11.71	254	Pn	Pn	16 06 26.5	+1.4
KSAR	Wonju Array Be	11.72	254	Pn	Pn	16 06 28.6	+3.4
JNU	Nakatsue	12.27	230	P	Pn	16 06 33.5	+0.8
	7.1nm,0.8s,baz=53,slow=20,SNR=4.5						
JNU				LR	LR	16 11 16.1	
	comp=Z,79nm,20.4s,baz=112,slow=37						
YAK	Yakutsk	21.81	344	LR	LR	16 18 03.2	
	comp=Z,80nm,18.8s,baz=109,slow=40						
SONM	Songino Array	25.98	296	P	P	16 09 06.2	-1.2
SONM	Songino Array	25.98	296	P	P	16 09 07.7	+0.3
	1.1nm,0.5s,baz=86,slow=8.6,SNR=6.1						
SONM				LR	LR	16 19 56.0	
	comp=Z,100nm,18.0s,baz=44,slow=38						
	1.1nm,0.5s						
H11N2	WAKE ISLAND Hy	30.28	128	T	T	16 42 17.5	
	baz=321,slow=74						
H11N1	WAKE ISLAND Hy	30.29	128	T	T	16 41 53.7	
	baz=321,slow=74						
H11N3	WAKE ISLAND Hy	30.30	128	T	T	16 41 07.0	
	baz=321						
TIXI	Tiksi	30.88	352	LR	LR	16 25 18.4	
	comp=Z,53nm,18.1s,baz=11,slow=42						
H11S1	WAKE ISLAND Hy	31.13	130	T	T	16 43 20.1	
	baz=323,slow=76						
H11S3	WAKE ISLAND Hy	31.13	130	T	T	16 42 13.2	
	baz=323						
H11S2	WAKE ISLAND Hy	31.15	130	T	T	16 43 05.2	
	baz=323,slow=76						
ZAA0	Zalesovo Array	39.39	308	P	P	16 11 03.1	-0.8
ZAA0				IAmb	IAmb	16 11 05.3	
	comp=Z,4.0nm,0.9s						
ZALV	Zalesovo Beam	39.39	308	P	P	16 11 02.8	-1.1
ZALV	Zalesovo Beam	39.39	308	P	P	16 11 03.5	-0.4
	comp=Z,2.8nm,0.6s,baz=88,slow=7.8,SNR=9.8						
ZALV				PcP	PcP	16 13 11.1	+0.2
	comp=Z,1.0nm,0.6s,baz=92,slow=2.3,SNR=3.2						
ZALV				LR	LR	16 26 58.7	
	comp=Z,81nm,18.4s,baz=32,slow=36						
	comp=Z,2.8nm,0.6s						
NRIK	Noril'sk	39.43	333	P	P	16 11 04.2	+0.2
	comp=Z,1.5nm,0.4s,baz=112,slow=5.1,SNR=3.8						
NRIK				LR	LR	16 27 51.3	
	comp=Z,112nm,20.0s,baz=73,slow=37						
	comp=Z,1.5nm,0.4s						
G18K	Tagagawik	40.52	33	P	P	16 11 12.3	-0.8
G18K				IAmb	IAmb	16 11 50.2	
	comp=Z,8.8nm,1.4s						
H19K	Roundabout Mou	41.39	34	P	P	16 11 20.7	+0.5
MKAR	Makanchi Array	42.31	298	P	P	16 11 27.7	-0.4
	comp=Z,1.0nm,0.7s,baz=77,slow=12,SNR=2.1						
MKAR				PcP	PcP	16 13 19.7	-0.9
	comp=Z,0.4nm,0.6s,baz=68,slow=4.7,SNR=1.7						
	comp=Z,1.0nm,0.7s						
CMAR	Chiang Mai Arr	43.31	251	P	P	16 11 37.1	+0.7
	comp=Z,0.3nm,0.4s,baz=49,slow=7.3,SNR=5.3						
CMAR				LR	LR	16 30 05.0	
	comp=Z,37nm,19.5s,baz=40,slow=37						
	comp=Z,0.3nm,0.4s						
KDAK	Kodiak Island	43.45	45	LR	LR	16 30 42.8	
	comp=Z,38nm,18.4s,baz=105,slow=37						
KURBB	Kurchatov Arra	43.76	304	P	P	16 11 38.8	-0.8
	comp=Z,2.5nm,0.5s,baz=78,slow=8.8,SNR=12						
KURBB				PcP	PcP	16 13 24.7	-0.6
	comp=Z,0.4nm,0.4s,baz=87,slow=3.4,SNR=2.3						
	comp=Z,2.5nm,0.5s						
NEA2	Nenana	44.51	35	P	P	16 11 45.3	-0.2
NEA2				IAmb	IAmb	16 11 47.1	
	comp=Z,2.8nm,0.6s						
ILAR	Eielson Array	45.43	35	P	P	16 11 52.5	-0.3
	comp=Z,1.4nm,1.0s,baz=255,slow=6.4,SNR=38						
	comp=Z,1.4nm,1.0s						
BVAR	Borovoye Array	48.01	310	P	P	16 12 13.1	-0.1
	comp=Z,2.4nm,0.4s,baz=74,slow=8.7,SNR=18						
BVAR				PcP	PcP	16 13 40.5	+0.4
	comp=Z,0.9nm,0.5s,baz=64,slow=3.4,SNR=2.1						
BVAR				LR	LR	16 31 59.5	
	comp=Z,87nm,18.3s,baz=1.7,slow=35						
	comp=Z,2.4nm,0.4s						
ARTI	Arti	53.49	317	LR	LR	16 37 51.8	
	comp=Z,113nm,18.8s,baz=32,slow=38						
BATI	Baumata	54.23	203	LR	LR	16 34 15.0	
	comp=Z,26nm,22.0s,baz=210,slow=34						
BELG	Belogornoye	60.89	316	LR	LR	16 42 31.4	
	comp=Z,111nm,18.3s,baz=51,slow=38						
WRA	Warramunga Arr	61.61	188	P	P	16 13 50.5	-1.2
	comp=Z,0.6nm,0.4s,baz=7.0,slow=7.6,SNR=16						
	comp=Z,0.6nm,0.4s						
FINES	FINESS Array B	65.07	332	P	P	16 14 13.4	-0.7
	comp=Z,2.5nm,0.5s,baz=39,slow=9.0,SNR=18						
	comp=Z,2.5nm,0.5s						
ASAR	Alice Springs	65.34	188	P	P	16 14 16.1	-0.1
	comp=Z,0.3nm,0.5s,baz=7.1,slow=7.3,SNR=5.5						
	comp=Z,0.3nm,0.5s						
KBZ	Khabaz	68.39	310	P	P	16 14 35.7	+0.3
	comp=Z,1.6nm,0.7s,baz=27,slow=2.3,SNR=2.0						
	comp=Z,1.6nm,0.7s						
HFS	Hagfors	70.19	335	P	P	16 14 45.7	-0.7
	comp=Z,1.4nm,0.4s,baz=39,slow=7.4,SNR=11						
	comp=Z,1.4nm,0.4s						
NB2	NORSAR Subarra	70.23	337	P	P	16 14 46.2	-0.4
	comp=Z,0.6nm,0.5s,baz=35,slow=6.5						
NOA	NORSAR Array B	70.23	337	P	P	16 14 46.1	-0.4
	comp=Z,0.9nm,0.7s,baz=35,slow=6.3,SNR=4.8						
NOA				LR	LR	16 48 13.6	
	comp=Z,40nm,22.0s,baz=30,slow=38						
	comp=Z,0.9nm,0.7s						
AKASG	Malin Array Be	71.06	322	P	P	16 14 50.5	-1.2
	comp=Z,1.1nm,0.5s,baz=45,slow=6.6,SNR=8.4						
	comp=Z,1.1nm,0.5s						
NVAR	Mina Array Bea	71.89	55	P	P	16 14 58.4	+1.1
	comp=Z,0.1nm,0.4s,baz=316,slow=6.3,SNR=1.7						
	comp=Z,0.1nm,0.4s						
PDAR	Pinedale Array	74.14	47	P	P	16 15 10.5	-0.1
	comp=Z,0.2nm,0.5s,baz=273,slow=3.5,SNR=2.1						
	comp=Z,0.2nm,0.5s						
BRTR	Keskin Array B	76.26	311	P	P	16 15 22.8	+0.1
	comp=Z,0.7nm,0.7s,baz=46,slow=4.2,SNR=3.3						
	comp=Z,0.7nm,0.7s						
VRAC	Vranov	77.62	327	LR	LR	16 55 46.7	
	comp=Z,99nm,18.8s,baz=336,slow=40						
EKA	Eskdalemuir Ar	79.04	341	P	P	16 15 36.1	-1.6
	comp=Z,1.1nm,0.7s,baz=32,slow=4.2,SNR=2.2						
	comp=Z,1.1nm,0.7s						
ANMO	Albuquerque	81.29	51	LR	LR	16 52 37.3	
	comp=Z,36nm,19.9s,baz=200,slow=36						
DAVOX	Davos/Dischmat	82.32	329	LR	LR	16 58 50.7	
	comp=Z,75nm,19.3s,baz=268,slow=40						

*ATH **23** 16:06:09.9, 37°.16N×20°.62E, h13km±1km, ML3.3/17, Error ellipse: s-maj=2.3km s-min=1.0km az=31.0*
*IDC **23** 16:06:10.8±1.2, 37°.59N×20°.98E, h0km, mb3.6/7, mbtmp3.6/11, ML1.6/2, MS3.1/1, Error ellipse: s-maj=22.6km s-min=21.3km az=50.0*
ISC 23 16:06:12.4±1.3, 37°.34N±0°.04×20°.78E±0°.04, h17km±8km, n33, σ1§73/42, mb3.5/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.38	7	P	Pg	16 06 21.0	+0.8
LTHK				S	Sg	16 06 28.5	+3.0
LTHK				AML	AML	16 06 29.8	
	comp=N,9545μm,0.3s						
LTHK				AML	AML	16 06 29.9	
	comp=E,17745μm,0.6s						
AMT	Artemida-Makis	0.77	75	P	Pb	16 06 28.1	+0.8
AMT				S	Sn	16 06 41.0	+1.4
AMT				AML	AML	16 06 45.5	
	comp=E,11130μm,0.4s						
AMT				AML	AML	16 06 52.3	
	comp=N,14423μm,0.7s						
PSDA	Pessada-Kefalo	0.79	349	P	Pb	16 06 27.8	+0.1
PSDA				S	Sn	16 06 40.8	+0.6
VLS	Valsamata	0.85	350	P	Pb	16 06 28.7	0.0
VLS				S	Sn	16 06 42.2	+0.5
VLS				AML	AML	16 06 44.7	
	comp=E,3973μm,0.6s						
VLS				AML	AML	16 06 50.0	
	comp=N,3404μm,0.4s						
PYL	PYLOS	0.89	119	P	Pg	16 06 27.5	-2.2
PYL				AML	AML	16 06 44.3	
	comp=N,1639μm,0.5s						
PYL				AML	AML	16 06 44.5	
	comp=E,3621μm,0.4s						
RLS	Riolos of Patr	0.91	37	P	Pn	16 06 30.5	+0.2
RLS				S	Sn	16 06 46.0	+3.0
RLS				AML	AML	16 06 52.4	
	comp=N,1479μm,0.4s						
RLS				AML	AML	16 06 55.9	
	comp=E,1031μm,0.7s						
ITM	Ithomi	0.93	99	P	Pg	16 06 29.0	-1.4
ITM				S	Sb	16 06 43.4	+1.3
ITM				AML	AML	16 06 48.0	
	comp=E,3198μm,0.4s						
ITM				AML	AML	16 06 48.4	
	comp=N,3045μm,0.5s						
DMLN	Damoulianata-K	0.96	341	P	Pg	16 06 29.9	-1.1
DMLN				S	Sn	16 06 45.6	+1.3
DRO	Drossia	0.96	50	P	Pn	16 06 31.4	+0.3
DRO				S	Sn	16 06 46.8	+2.4
DRO				AML	AML	16 06 53.1	
	comp=N,3946μm,0.5s						
DRO				AML	AML	16 06 59.5	
	comp=E,4046μm,0.4s						
FSK	Fiskardo	1.14	351	P	Pn	16 06 33.7	+0.3
FSK				AML	AML	16 06 54.7	
	comp=N,3591μm,0.3s						
FSK				AML	AML	16 06 56.1	
	comp=E,3815μm,0.4s						
EVGI	Lefkada island	1.29	356	P	Pn	16 06 36.3	+0.7
KLV	Kalavryta, Ach	1.30	57	P	Pn	16 06 37.0	+1.2
KLV				AML	AML	16 07 09.5	
	comp=N,820μm,0.9s						
KLV				AML	AML	16 07 15.5	
	comp=E,725μm,1.1s						
NYDR	Nydri-Lefkada	1.38	357	P	Pg	16 06 37.5	-1.5
GUR	Goura	1.38	64	P	Pb	16 06 37.8	0.0
GUR				AML	AML	16 07 07.5	
	comp=E,1235μm,0.6s						
GUR				AML	AML	16 07 11.9	
	comp=N,1769μm,0.6s						
EFP	Efpalio	1.41	39	P	Pg	16 06 39.2	-0.3
EFP				AML	AML	16 07 11.7	
	comp=E,913μm,0.6s						
EFP				AML	AML	16 07 18.4	
	comp=N,928μm,0.7s						
LKD2	Lefkada island	1.46	356	P	Pg	16 06 39.5	-0.9
LKD2				S	Sn	16 07 00.1	+3.5
LKD2				AML	AML	16 07 16.2	
	comp=E,2155μm,0.7s						
LKD2				AML	AML	16 07 16.6	
	comp=N,2565μm,0.7s						
TSLK	Tsoukalades, L	1.49	356	P	Pg	16 06 40.0	-1.1
KALE	Kalithea	1.51	45	P	Pg	16 06 41.3	-0.1
KALE				AML	AML	16 07 14.0	
	comp=N,897μm,0.7s						
KALE				AML	AML	16 07 14.4	
	comp=E,1239μm,0.5s						
ANX	Ano Chora	1.55	35	P	Pg	16 06 41.6	-0.6
ANX				AML	AML

comp=E,0.6nm,0.7s
MKAR Makanchi Array 45.57 58 P P 16 14 29.5 -1.8
comp=E,0.2nm,0.4s,baz=277,slow=7.5,SNR=2.1
comp=E,0.2nm,0.4s
ZALV Zalesovo Beam 46.11 48 P P 16 14 33.8 -1.5
comp=E,0.7nm,0.5s,baz=274,slow=8.4,SNR=4.2
comp=E,0.7nm,0.5s

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*UCR **23** 16:26:26.5±1.0, 9.°47N×82.°85W, h26km±3km, MW3.6*
*UPA **23** 16:26:26.4±0.4, 9.°36N×82.°90W, h3km±4km, MW3.1*
ISC 23 16:26:27.0±1.0, 9.°42N±0.°04×82.°87W±0.°04, h32km±9km, n25, σ0.°76/30, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRIBI	**Bribri**	**0.20**	**5**	*eP*	**Pb**	**16 26 33.2**	**-0.3**
BRIBI				*eS*	**Sb**	**16 26 39.1**	**+1.3**
RGM0	**Gandoca**	**0.31**	**57**	*eP*	**Pb**	**16 26 34.6**	**-0.1**
CNI2	**El Empalme, Bo**	**0.39**	**89**	*eP*	**Pb**	**16 26 34.6**	**-1.2**
CNI2				*eS*	**Sb**	**16 26 41.0**	**-0.9**
EDP2	**Potrero Grande**	**0.50**	**217**	*eP*	**Pb**	**16 26 37.4**	**-0.2**
EDP2				*eS*	**Sn**	**16 26 45.6**	**0.0**
BURE	**Buenos Aires**	**0.52**	**242**	*eP*	**Pb**	**16 26 37.2**	**-0.7**
BRU2	**Volcan**	**0.65**	**164**	*eP*	**Pb**	**16 26 39.4**	**-0.6**
BRU2				*eS*	**Sb**	**16 26 49.0**	**+0.1**
BRU2	**Volcan**	**0.65**	**164**	*eP*	**Pb**	**16 26 39.2**	**-0.8**
BCO2	**Palmira**	**0.77**	**154**	*eP*	**Pb**	**16 26 41.3**	**-0.8**
BCO2				*eS*	**Sn**	**16 26 53.5**	**+1.0**
PTAR3	**Potrerillos Ar**	**0.81**	**153**	*eP*	**Pb**	**16 26 42.7**	**-0.1**
CHGR2	**Aguacate**	**0.86**	**124**	*eP*	**Pb**	**16 26 43.5**	**0.0**
BUS1	**Rivas**	**0.88**	**279**	*eP*	**Pb**	**16 26 42.9**	**-1.1**
RVSTA	**Santa Teresita**	**0.95**	**306**	*eP*	**Pn**	**16 26 43.6**	**-0.6**
VTCV	**VTCV, Calle Va**	**1.01**	**304**	*eP*	**Pn**	**16 26 44.9**	**-0.4**
CVTV	**Tajo**	**1.04**	**304**	*eP*	**Pn**	**16 26 45.5**	**-0.3**
CVTQ	**Turrialba Volc**	**1.06**	**303**	*eP*	**Pn**	**16 26 45.7**	**-0.2**
VTR0	**Volcan Turrial**	**1.06**	**304**	*eP*	**Pn**	**16 26 45.5**	**-0.6**
CVTR	**Volcan Turrial**	**1.06**	**304**	*eP*	**Pn**	**16 26 45.5**	**-0.5**
DVD	**David**	**1.06**	**157**	*eP*	**Pn**	**16 26 45.4**	**-0.3**
VTLA	**Turrialba Volc**	**1.06**	**303**	*eP*	**Pn**	**16 26 45.8**	**-0.2**
LOCO3	**Loma Colorada,**	**1.10**	**156**	*eP*	**Pn**	**16 26 46.6**	**+0.5**
VICA	**Volcano Irazu**	**1.11**	**300**	*eP*	**Pn**	**16 26 46.4**	**-0.4**
LCR2	**La Lucha 2**	**1.17**	**286**	*eP*	**Pn**	**16 26 47.3**	**0.0**
ABE2	**San Pablo**	**1.20**	**284**	*eP*	**Pn**	**16 26 48.3**	**+0.5**
PTPM	**Petroterminale**	**1.21**	**180**	*eP*	**Pn**	**16 26 47.8**	**+0.1**
JTS	**Las Juntas de**	**2.23**	**293**	*eP*	**Pn**	**16 27 03.9**	**+2.1**

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*IDC **23** 16:27:47.4±1.1, 22.°29N×121.°46E, h0km, mb3.4/8, mbtmp3.4/8, MS3.0/4, Error ellipse: s-maj=38.2km s-min=19.8km az=70.0*
*ASIES **23** 16:27:50.5, 22.°25N×121.°02E, h11km, ML3.6, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}1.25; $M_{\theta\theta}$-0.68; $M_{\phi\phi}$0.18; $M_{r\theta}$1.77; $M_{\theta\phi}$0.07; $M_{\phi r}$0.99; Fault plane solution: $M_0$2.27000×10^{21} NP1:ϕ_s65.06000°, δ78.38000°, λ79.89000°. NP2:ϕ_s286.58000°, δ15.35000°, λ130.49000°. Principal axes: T Plg55.5110°, Azm322.4020°; N Plg9.8970°, Azm67.1150°; P Plg32.6510°, Azm163.5340°;*
*TAP **23** 16:27:50.5, 22.°25N×121.°02E, h11km, ML3.6, B*
ISC 23 16:27:50.4±0.9, 22.°25N±0.°02×121.°06E±0.°02, h14km±6km, n124, σ0.°93/154, mb3.5/8, 8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAWH	**Dawu Township**	**0.18**	**301**	⇓*iP*	**Pb**	**16 27 55.1**	**-0.4**
TAWH				S	**Sg**	**16 27 58.0**	**+0.5**
TAW	**Tawu**	**0.18**	**307**	⇓*iP*	**Pb**	**16 27 55.1**	**-0.5**
TAW				*i* S	**Sg**	**16 27 57.8**	**+0.1**
EAST	**Anshuo**	**0.23**	**306**	⇓*iP*	**Pb**	**16 27 55.9**	**-0.5**
EAST				S	**Sg**	**16 27 59.6**	**+0.6**
SLIU	**Shizi**	**0.24**	**263**	⇓*iP*	**Pb**	**16 27 55.8**	**-0.7**
SLIU				*eS*	**Sg**	**16 27 59.1**	**0.0**
SMST	**Manzhou Townsh**	**0.30**	**222**	⇓P	**Pb**	**16 27 57.3**	**-0.3**
SMST				*eS*	**Sb**	**16 28 01.9**	**-0.5**
ECL	**Taimali**	**0.36**	**345**	⇓*iP*	**Pg**	**16 27 58.1**	**+0.4**
ECL				*eS*	**Sb**	**16 28 03.9**	**-0.2**
TWKBT	**Hengchun**	**0.38**	**217**	*i* P	**Pb**	**16 27 58.8**	**0.0**
TWKBT				*eS*	**Sb**	**16 28 04.3**	**-0.2**
HEN	**Hengchun**	**0.38**	**231**	*eP*	**Pb**	**16 27 59.0**	**+0.1**
HEN				*eS*	**Sb**	**16 28 04.5**	**0.0**
TWK1	**Hengchun**	**0.38**	**218**	P	**Pb**	**16 27 58.8**	**-0.1**
TWK1				*eS*	**Sb**	**16 28 04.7**	**0.0**
SCZT	**Fangliau**	**0.42**	**287**	⇓*iP*	**Pb**	**16 27 59.1**	**-0.5**
SCZT				S	**Sb**	**16 28 05.5**	**-0.3**
LAY	**Lan-yu**	**0.50**	**114**	*eP*	**Pg**	**16 28 00.9**	**+0.6**
LAY				*eS*	**Sb**	**16 28 09.8**	**+1.6**
TTN	**Taitung**	**0.51**	**10**	*eP*	**Pg**	**16 28 00.4**	**-0.1**
MASBT	**Mashibuluo**	**0.53**	**313**	⇓*iP*	**Pb**	**16 28 01.3**	**-0.2**
MASBT				*eS*	**Sb**	**16 28 08.2**	**-0.9**
LYUB	**Lan-yu**	**0.55**	**116**	*eP*	**Pg**	**16 28 00.3**	**-0.9**
TWGBT	**Beinan**	**0.57**	**2**	*i* P	**Pg**	**16 28 01.5**	**-0.1**
TWGBT				S	**Sg**	**16 28 09.8**	**+0.6**
TWG	**Pinlang**	**0.57**	**2**	*i* P	**Pg**	**16 28 01.5**	**-0.1**
TWG				*eS*	**Sg**	**16 28 09.5**	**+0.2**
LDUT	**Ludao**	**0.57**	**42**	*eP*	**Pb**	**16 28 02.7**	**+0.5**
LDUT				*eS*	**Sb**	**16 28 11.2**	**+1.0**
TSMG	**Majia**	**0.59**	**320**	*eP*	**Pb**	**16 28 02.2**	**-0.3**
TSMG				*eS*	**Sg**	**16 28 10.0**	**0.0**
LONT	**Longtian**	**0.66**	**6**	*eP*	**Pg**	**16 28 03.0**	**-0.4**
LONT				*i* S	**Sg**	**16 28 12.2**	**+0.1**
SGLT	**Jiouru**	**0.71**	**313**	*eP*	**Pn**	**16 28 05.5**	**-0.4**
EDH	**Donghe**	**0.76**	**18**	*eP*	**Pg**	**16 28 05.0**	**-0.1**
EDH				*eS*	**Sb**	**16 28 16.0**	**+0.4**
TWM1	**Shoushan**	**0.82**	**315**	*eP*	**Pn**	**16 28 08.3**	**+0.8**
SCST	**Cishan**	**0.82**	**321**	*eP*	**Pn**	**16 28 07.6**	**+0.1**
SCST				*eS*	**Sn**	**16 28 21.2**	**+1.8**
WSSB	**Gushan**	**0.83**	**298**	*eP*	**Pn**	**16 28 07.9**	**+0.2**
ECS	**Chishang**	**0.86**	**10**	*eP*	**Pg**	**16 28 06.1**	**-1.0**
ECS				*eS*	**Sg**	**16 28 18.0**	**-0.4**
CHKT	**Chengkung**	**0.90**	**19**	*eP*	**Pg**	**16 28 07.3**	**-0.5**
CHKT				S	**Sg**	**16 28 19.5**	**-0.1**
EHD	**Haiduan**	**0.91**	**9**	*eP*	**Pg**	**16 28 06.1**	**-1.9**
ELDTW	**Lidau**	**0.94**	**358**	*eP*	**Pg**	**16 28 07.3**	**-1.3**
ELDTW				*eS*	**Sg**	**16 28 19.2**	**-1.8**
SGST	**Jiashian**	**0.94**	**332**	*i* P	**Pb**	**16 28 08.6**	**+0.1**
SGST				*eS*	**Sb**	**16 28 21.7**	**+0.9**
STYH	**Taoyuan**	**0.96**	**344**	*eP*	**Pb**	**16 28 09.0**	**+0.3**
STYH				*eS*	**Sn**	**16 28 22.8**	**+0.1**
FULB	**Fuli**	**0.97**	**13**	*eP*	**Pg**	**16 28 08.3**	**-0.9**
FULB				S	**Sb**	**16 28 22.4**	**+0.6**
CHKH	**Chenggong**	**0.99**	**18**	*eP*	**Pg**	**16 28 08.4**	**-1.2**
CHKH				*eS*	**Sg**	**16 28 21.7**	**-0.9**
CHN3	**Shinhua**	**1.04**	**322**	*eP*	**Pn**	**16 28 11.8**	**+1.2**
CHN1	**Nanshi**	**1.05**	**333**	*eP*	**Pn**	**16 28 11.7**	**+1.0**
CHN1				*eS*	**Sn**	**16 28 28.1**	**+2.9**
WTP	**Ta-pu**	**1.07**	**338**	*eP*	**Pn**	**16 28 12.2**	**+1.2**
WTP				*eS*	**Sn**	**16 28 27.8**	**+2.0**
SNST	**Tainan City**	**1.10**	**332**	*eP*	**Pn**	**16 28 12.3**	**+1.0**
SNST				*eS*	**Sn**	**16 28 28.6**	**+2.3**
TPUB	**Ta-pu**	**1.12**	**340**	*eP*	**Pn**	**16 28 12.7**	**+1.0**
TPUB				*eS*	**Sn**	**16 28 26.9**	**0.0**
EYUL	**Yuli**	**1.12**	**12**	*eP*	**Pb**	**16 28 11.5**	**-0.1**
ECBN	**Changbin**	**1.13**	**19**	*eP*	**Pb**	**16 28 11.9**	**+0.2**
ECBN				*eS*	**Sb**	**16 28 25.5**	**-0.7**
TWK	**Hsinying**	**1.14**	**333**	*eP*	**Pn**	**16 28 13.2**	**+1.2**
YUL2	**Yu-li**	**1.16**	**11**	*eP*	**Pg**	**16 28 09.9**	**-2.3**
CHN4	**Tsaushan**	**1.18**	**339**	*eP*	**Pg**	**16 28 13.8**	**+0.7**
SCLT	**Jiali**	**1.22**	**319**	*eP*	**Pn**	**16 28 12.7**	**-0.3**
WCKO	**Fanlu**	**1.26**	**341**	*eP*	**Pg**	**16 28 14.4**	**-0.2**
WCKO				*eS*	**Sn**	**16 28 33.1**	**+2.8**
TSCK	**Chigu Township**	**1.27**	**315**	*eP*	**Pn**	**16 28 13.8**	**+0.2**
TSCK				*eS*	**Sg**	**16 28 31.9**	**+0.6**
EHY	**Hungye**	**1.28**	**11**	*eP*	**Pn**	**16 28 13.4**	**-0.4**
ALS	**Alishan**	**1.28**	**350**	*eP*	**Pn**	**16 28 14.2**	**+0.1**
HGSD	**Ruisui**	**1.29**	**15**	*eP*	**Pn**	**16 28 12.1**	**-1.8**
ICHU	**Yijhu**	**1.32**	**327**	*eP*	**Pn**	**16 28 14.6**	**+0.2**
CHN8	**Yiju**	**1.34**	**325**	*eP*	**Pb**	**16 28 15.2**	**-0.1**
CHY	**Chiayi**	**1.38**	**335**	P	**Pg**	**16 28 16.4**	**-0.5**
CHY				*eS*	**Sn**	**16 28 33.7**	**+0.5**
WHYT	**Xinyi Township**	**1.46**	**353**	*eP*	**Pb**	**16 28 17.4**	**+0.1**
WHYT				*eS*	**Sg**	**16 28 36.8**	**-0.6**
EGFH	**Guangfu**	**1.46**	**14**	*eP*	**Pb**	**16 28 17.4**	**+0.1**
WSL	**Shuilin Townsh**	**1.48**	**329**	*eP*	**Pb**	**16 28 17.6**	**-0.1**
WARBT	**Fenglin Townsh**	**1.50**	**12**	*eP*	**Pn**	**16 28 16.7**	**-0.2**
VWDT	**VWDT**	**1.50**	**3**	*eP*	**Pn**	**16 28 16.5**	**-0.4**
WGK	**Gukeng**	**1.50**	**343**	*eP*	**Pb**	**16 28 18.1**	**+0.1**
WDLH	**Douliu**	**1.51**	**342**	*eP*	**Pn**	**16 28 17.3**	**+0.2**
SSLB	**Suanglung**	**1.54**	**357**	*eP*	**Pb**	**16 28 18.9**	**+0.2**
WTK	**Tuku**	**1.56**	**337**	P	**Pb**	**16 28 18.7**	**-0.4**
WTK				*eS*	**Sg**	**16 28 40.5**	**-0.3**
WSF	**Szhu**	**1.58**	**331**	*eP*	**Pn**	**16 28 18.0**	**0.0**
WJS	**Zhushan**	**1.60**	**349**	*eP*	**Pb**	**16 28 20.3**	**+0.6**
WJS				*eS*	**Sg**	**16 28 41.5**	**-0.4**
ESL	**Shilin**	**1.60**	**13**	*eP*	**Pn**	**16 28 18.6**	**+0.3**
SHUL	**Shoufeng**	**1.60**	**17**	*eP*	**Pn**	**16 28 18.2**	**-0.1**
SHUL				*eS*	**Sn**	**16 28 39.6**	**+0.8**
SMLT	**Sun Moon Lake**	**1.64**	**355**	*eP*	**Pn**	**16 28 19.5**	**+0.7**
WDGT	**Dungji**	**1.64**	**308**	*eP*	**Pn**	**16 28 18.0**	**-0.7**
WDGT				*i* S	**Sn**	**16 28 38.7**	**-0.9**
WNT	**Mingjian**	**1.66**	**348**	*eP*	**Pb**	**16 28 20.6**	**-0.2**
TYC	**Yuchr**	**1.66**	**354**	*eP*	**Pb**	**16 28 21.2**	**+0.5**
OWD	**Renai**	**1.70**	**4**	*eP*	**Pn**	**16 28 19.5**	**-0.3**
WUSB	**Renai**	**1.74**	**2**	*eP*	**Pn**	**16 28 20.3**	**0.0**
ETM	**Tongmen**	**1.76**	**13**	*eP*	**Pn**	**16 28 20.1**	**-0.4**
VCHM	**Qimei**	**1.78**	**303**	*eP*	**Pn**	**16 28 20.1**	**-0.6**
LXIB	**Xiulin Townshi**	**1.80**	**11**	*eP*	**Pn**	**16 28 20.4**	**-0.7**
WCS	**Beigang Elemen**	**1.81**	**356**	*eP*	**Pb**	**16 28 23.2**	**-0.1**
PHUB	**P'eng-hu**	**1.86**	**313**	*eP*	**Pn**	**16 28 21.4**	**-0.4**
WCHH	**Zhanghua**	**1.88**	**346**	*eP*	**Pb**	**16 28 24.1**	**-0.5**
TWD	**Chiawan**	**1.89**	**15**	*eP*	**Pn**	**16 28 23.3**	**+1.0**
WHF	**Hehuan Shan**	**1.90**	**6**	*eP*	**Pn**	**16 28 22.8**	**0.0**
PNG	**Penghu**	**1.91**	**314**	*eP*	**Pn**	**16 28 21.9**	**-0.5**
NACB	**Ninganchiao**	**1.98**	**14**	*eP*	**Pn**	**16 28 24.2**	**+0.7**
ETLH	**Xiulin Townshi**	**1.99**	**11**	*eP*	**Pn**	**16 28 23.4**	**-0.3**
FUSS	**Fushou**	**2.00**	**5**	*eP*	**Pn**	**16 28 24.3**	**+0.4**
TDCB	**Techi**	**2.00**	**3**	*eP*	**Pn**	**16 28 24.6**	**+0.7**
WHP	**Taichung City**	**2.02**	**357**	*eP*	**Pn**	**16 28 25.8**	**+1.7**
TWQ1	**Liyutan**	**2.11**	**353**	*eP*	**Pb**	**16 28 27.2**	**-1.2**
NSY	**Sanyi**	**2.18**	**353**	*eP*	**Pn**	**16 28 27.5**	**+1.3**
NNSB	**Datong**	**2.19**	**8**	*eP*	**Pn**	**16 28 27.6**	**+1.0**
EOS4	**EOS4**	**2.20**	**32**	*eP*	**Pn**	**16 28 26.2**	**0.0**
ENA	**Nanau**	**2.26**	**16**	*eP*	**Pn**	**16 28 27.2**	**-0.2**
EWUT	**Wuta**	**2.29**	**17**	*eP*	**Pn**	**16 28 28.1**	**+0.5**
EOS3	**EOS3**	**2.34**	**30**	*eP*	**Pn**	**16 28 29.2**	**+0.9**
NSTT	**Nanjuang**	**2.38**	**359**	*eP*	**Pb**	**16 28 31.5**	**-1.5**
NFF	**Wufeng Townshi**	**2.38**	**1**	*eP*	**Pn**	**16 28 31.1**	**+2.2**
LIOB	**Emei**	**2.39**	**359**	*eP*	**Pn**	**16 28 30.8**	**+1.7**
ENTT	**Nioudou**	**2.43**	**11**	*eP*	**Pn**	**16 28 30.1**	**+0.4**
YHNB	**Yeheng**	**2.43**	**7**	*eP*	**Pn**	**16 28 30.2**	**+0.5**
NSK	**Sanguang**	**2.44**	**7**	*eP*	**Pn**	**16 28 30.4**	**+0.6**
KSHI	**Guanxi Townshi**	**2.52**	**3**	*eP*	**Pn**	**16 28 31.5**	**+0.6**
FUSB	**Fushanzhiwuyua**	**2.55**	**11**	*eP*	**Pn**	**16 28 30.7**	**-0.6**
NWLT	**Wulai**	**2.55**	**9**	*eP*	**Pn**	**16 28 31.6**	**+0.2**
TIPB	**Shuangxi**	**2.80**	**14**	*eP*	**Pn**	**16 28 36.2**	**+1.4**
SXI1	**Grass Mountain**	**2.93**	**15**	*eP*	**Pn**	**16 28 37.2**	**+0.6**
VWUC	**VWUC**	**3.10**	**332**	*eP*	**Pn**	**16 28 38.7**	**-0.2**
KNM	**Kinmen**	**3.24**	**312**	*eP*	**Pn**	**16 28 41.7**	**+1.0**
KNMB	**Chin-men Tao**	**3.30**	**313**	*eP*	**Pn**	**16 28 41.2**	**-0.4**
PTMZ	**Houxiangcun**	**3.30**	**328**	*eP*	**Pn**	**16 28 41.6**	**+0.1**
ZPLA	**Ao Xicun**	**3.47**	**299**	*eP*	**Pn**	**16 28 44.7**	**+0.7**
JOW	**Kunigami**	**8.00**	**54**	LR	LR	16 32 22.0	
	comp=Z,82nm,19.0s,baz=122,slow=36						
KSRS	**Korea Array**	**16.28**	**20**	LR	LR	16 37 42.2	
	comp=Z,24nm,19.0s,baz=170,slow=37						
CMAR	**Chiang Mai Arr**	**21.07**	**264**	P	**P**	**16 32 36.0**	**+1.7**
	0.3nm,0.6s,baz=70,slow=7.8,SNR=4.5						
	0.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**23.69**	**20**	P	**P**	**16 32 57.6**	**-4.0**
	1.3nm,0.7s,baz=149,slow=27,SNR=2.9						
	1.3nm,0.7s						
SONM	**Songino Array**	**28.11**	**339**	P	**P**	**16 33 43.0**	**+1.1**
	0.3nm,0.6s,baz=140,slow=7.2,SNR=2.3						
SONM				LR	LR	16 46 41.5	
	comp=Z,49nm,19.1s,baz=116,slow=40						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**41.81**	**328**	P	**P**	**16 35 39.4**	**0.0**
	0.5nm,0.5s,baz=133,slow=12,SNR=1.9						
	0.5nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**42.75**	**85**	T	T	17 21 37.3	
	baz=282,slow=74,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**42.75**	**85**	T	T	17 21 35.5	
	baz=282,slow=74,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**42.77**	**85**	T	T	17 21 36.0	
	baz=282,slow=74,SNR=3.5						
H11S3	**WAKE ISLAND Hy**	**42.82**	**86**	T	T	17 21 41.9	
	baz=284,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**42.83**	**86**	T	T	17 21 40.7	
	baz=284,slow=74,SNR=6.9						
H11S2	**WAKE ISLAND Hy**	**42.84**	**86**	T	T	17 21 40.9	
	baz=284,slow=74,SNR=5.6						
KURBB	**Kurchatov Arra**	**43.52**	**321**	P	**P**	**16 35 54.5**	**+1.1**
	0.7nm,0.6s,baz=118,slow=7.4,SNR=7.1						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**43.89**	**162**	P	**P**	**16 35 54.8**	**-1.9**
	0.4nm,0.8s,baz=344,slow=8.9,SNR=2.5						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**47.32**	**164**	P	**P**	**16 36 22.9**	**-0.8**
	0.3nm,0.8s,baz=346,slow=7.9,SNR=8.0						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**49.10**	**322**	P	**P**	**16 36 38.6**	**+1.3**
	0.4nm,0.5s,baz=103,slow=9.5,SNR=3.1						
	0.4nm,0.5s						
DZM	**Mont Dzumac**	**62.42**	**132**	LR	LR	17 03 31.4	
	comp=Z,27nm,18.1s,baz=72,slow=34						

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*IDC **23** 16:29:04.0±0.8, 24.°83N×125.°21E, h0km, mb3.7/12, mbtmp3.7/13, ML3.6/1, Error ellipse: s-maj=19.8km s-min=17.3km az=79.0*
*JMA **23** 16:29:10.8±0.2, 24.°8N±0.°8×125.°4E±0.°7, h49km±1km, MD3.8/11, MV4.2/11, NEAR MIYAKOJIMA ISLAND .*
JMA Felt II J1 at NEAR MIYAKOJIMA ISLAND .
*NIED **23** 16:29:10.8, 24.°81N×125.°37E, h49km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-5.14; $M_{\theta\theta}$-1.73; $M_{\phi\phi}$6.87; $M_{r\theta}$1.08; $M_{\theta\phi}$-4.00; $M_{\phi r}$0.62; Fault plane solution: $M_0$7.10000×10^{14} NP1: ϕ_s183.00000°, δ52.00000°, λ-55.00000°. NP2: ϕ_s314.00000°, δ50.00000°, λ-126.00000°.*
ISC 23 16:29:10.3±0.8, 24.°89N±0.°09×125.°37E±0.°06, h49km±5km, n30, σ1.°02/32, mb3.7/12, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.12**	**286**	*i* P	**Pn**	**16 29 18.7**	**+0.7**
JIKM				*eS*	**Sn**	**16 29 24.7**	**+1.1**
JIKM	**Ikemajima**	**0.12**	**286**	A	A	16 29 18.7	
	comp=E,18nm,1.8s,comp=N,10.0nm,0.5s						
JOGS	**Gusukube**	**0.13**	**167**	P	**Pn**	**16 29 18.3**	**+0.2**
JOGS				S	**Sn**	**16 29 24.0**	**+0.4**
JOGS	**Gusukube**	**0.13**	**167**	A	A	16 29 18.3	
	comp=E,23nm,0.9s,comp=N,59nm,0.6s						
JMJ2	**Miyako jima3**	**0.16**	**196**	*i* P	**Pn**	**16 29 18.3**	**+0.1**
JMJ2				S	**Sn**	**16 29 23.9**	**+0.1**
JMJ2	**Miyako jima3**	**0.16**	**196**	A	A	16 29 18.3	
	comp=E,19nm,0.6s,comp=N,43nm,1.0s						
JIRB	**Irabujima**	**0.19**	**251**	*i* P	**Pn**	**16 29 18.7**	**+0.3**
JIRB				S	**Sn**	**16 29 24.1**	**-0.1**
JIRB	**Irabujima**	**0.19**	**251**	A	A	16 29 18.7	
	comp=E,43nm,1.1s,comp=N,60nm,0.3s						
JTJ	**Tarama**	**0.66**	**248**	P	**Pn**	**16 29 23.8**	**+0.3**
JTJ				S	**Sn**	**16 29 33.3**	**+0.3**
JTJ	**Tarama**	**0.66**	**248**	A	A	16 29 23.8	
	comp=E,53nm,0.5s,comp=N,48nm,0.3s						
JISG	**Ishigakijimahi**	**1.01**	**253**	*i* P	**Pn**	**16 29 28.2**	**0.0**
JISG				S	**Sn**	**16 29 41.4**	**0.0**
JISG	**Ishigakijimahi**	**1.01**	**253**	A	A	16 29 28.2	
	comp=E,9.0nm,1.4s,comp=N,6.0nm,0.6s						
JIJ	**Ishigaki jima**	**1.24**	**245**	*i* P	**Pn**	**16 29 31.7**	**+0.4**
JIJ				S	**Sn**	**16 29 47.3**	**+0.5**
JIJ	**Ishigaki jima**	**1.24**	**245**	A	A	16 29 31.7	
	comp=E,5.0nm,1.2s,comp=N,6.0nm,0.7s						
JKRS	**Kuro-shima**	**1.40**	**243**	*i* P	**Pn**	**16 29 34.5**	**+1.1**
JKRS				S	**Sn**	**16 29 52.9**	**+2.0**
IRIF	**Iriomote-Funau**	**1.60**	**250**	P	**Pn**	**16 29 36.4**	**+0.3**
HATJ	**Hateruma jima**	**1.65**	**240**	P	**Pn**	**16 29 39.3**	**+2.3**
JOW	**Kunigami**	**3.25**	**53**	Pn	**Pn**	**16 29 59.5**	**+0.6**
	comp=N,10nm,0.3s,baz=227,slow=14,SNR=33						
JOW				Sn	**Sn**	**16 30 37.4**	**+1.1**
	comp=N,24nm,0.3s,baz=292,slow=19,SNR=2.3						
JOW				Lg	Lg	16 30 50.3	
	comp=N,21nm,0.3s,baz=320,slow=17,SNR=1.9						
	comp=N,30nm,0.4s						
CMAR	**Chiang Mai Arr**	**25.36**	**261**	P	**P**	**16 34 30.4**	**-2.6**
	comp=N,0.1nm,0.3s,baz=103,slow=20,SNR=2.7						
	comp=N,0.1nm,0.3s						
SONM	**Songino Array**	**27.39**	**332**	P	**P**	**16 34 50.2**	**-1.0**
	comp=N,0.4nm,0.5s,baz=147,slow=9.8,SNR=2.7						
	comp=N,0.4nm,0.5s						
MKAR	**Makanchi Array**	**40.55**	**314**	P	**P**	**16 36 44.9**	**+0.1**
	comp=N,0.5nm,0.5s,baz=99,slow=9.7,SNR=9.8						
	comp=N,0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**41.80**	**325**	P	**P**	**16 36 55.5**	**+0.5**
	comp=N,0.6nm,0.5s,baz=119,slow=9.4,SNR=2.6						
	comp=N,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**44.08**	**318**	P	**P**	**16 37 13.2**	**-0.3**
	comp=N,0.5nm,0.7s,baz=110,slow=9.3,SNR=3.6						
	comp=N,0.5nm,0.7s						
WRA	**Warramunga Arr**	**45.41**	**168**	P	**P**	**16 37 24.0**	**-0.4**
	comp=N,1.7nm,0.8s,baz=348,slow=8.7,SNR=11						
	comp=N,1.7nm,0.8s						
ASAR	**Alice Springs**	**48.97**	**170**	P	**P**	**16 37 52.5**	**+0.4**
	comp=N,0.6nm,0.5s,baz=354,slow=7.4,SNR=22						
	comp=N,0.6nm,0.5s						
BVAR	**Borovoye Array**	**49.58**	**319**	P	**P**	**16 37 57.4**	**+0.9**
	comp=N,0.4nm,0.5s,baz=94,slow=8.7,SNR=2.3						
	comp=N,0.4nm,0.5s						
FINES	**FINESS Array B**	**72.75**	**330**	P	**P**	**16 40 34.1**	**+1.0**
	comp=N,1.6nm,0.8s,baz=90,slow=6.9,SNR=5.3						
	comp=N,1.6nm,0.8s						
AKASG	**Malin Array Be**	**74.86**	**319**	P	**P**	**16 40 46.1**	**+0.4**
	comp=N,0.4nm,0.3s,baz=65,slow=6.2,SNR=4.9						
	comp=N,0.4nm,0.3s						
BRTR	**Keskin Array B**	**75.80**	**307**	P	**P**	**16 40 50.0**	**-1.6**
	comp=N,1.2nm,1.0s,baz=85,slow=6.2,SNR=4.4						
	comp=N,1.2nm,1.0s						
HFS	**Hagfors**	**78.79**	**332**	P	**P**	**16 41 08.7**	**+1.0**
	comp=N,2.0nm,1.0s,baz=64,slow=6.6,SNR=1.3						
	comp=N,2.0nm,1.0s						

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*IDC **23** 16:32:58.0±7.7, 36.°73N×20.°13E, h0km, mb3.6/3, mbtmp3.5/4, MS3.9/2, Error ellipse: s-maj=137.1km s-min=62.6km az=54.0*
*ATH **23** 16:33:09.4, 37.°44N×20.°70E, h10km±1km, ML3.0/16, Error ellipse: s-maj=2.1km s-min=0.9km az=40.0*
ISC 23 16:33:09.1±2.1, 37.°41N±0.°08×20.°66E±0.°07, h22km±9km, n24, σ0.°93/34, mb3.4/3, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.33**	**25**	P	**Pb**	**16 33 14.9**	**-1.4**
LTHK				S	**Sb**	**16 33 18.8**	**-2.5**
LTHK				AML	AML	16 33 19.5	
	comp=E,29672μm,0.2s						
LTHK				AML	AML	16 33 19.6	
	comp=N,67597μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.71**	**355

JIO ⇊S **Sn** **16 37 16.0 0.0**
JMK Ichinoseki 0.69 298 ⇊*i*P **Pn** **16 37 10.7 +0.9**
JMK ⇊S **Sn** **16 37 19.8 +0.1**
JOM Ohasama 1.00 327 ⇊*i*P **Pn** **16 37 15.3 +1.0**
JOM ⇊*e*S **Sn** **16 37 26.7 -0.9**
JOU Okura 1.08 256 ⇊*i*P **Pn** **16 37 15.8 +0.5**
JMM Marumori 1.22 232 ⇊*i*P **Pb** **16 37 17.4 -0.6**
JMM ⇊S **Sn** **16 37 31.9 -0.9**
JRG Rokugo 1.31 306 P **Pb** **16 37 19.2 -0.4**
JYK Kaneyama 1.31 283 ⇊*i*P **Pb** **16 37 19.1 -0.5**
MJAR Matsushiro Arr 3.66 236 Pn **Pn** **16 37 53.3 +2.5**
0.2nm,0.3s,baz=34,slow=14,SNR=14
MJAR Lg Lg 16 38 44.4
0.1nm,0.3s,baz=36,slow=31,SNR=1.4
2.3nm,0.4s
MKAR Makanchi Array 43.68 301 P **P** **16 44 57.4 -1.1**
0.2nm,0.5s,baz=89,slow=11,SNR=5.1
0.2nm,0.5s
KURBB Kurchatov Arra 45.40 307 P **P** **16 45 10.9 -1.1**
1.0nm,0.4s,baz=79,slow=8.2,SNR=8.5
1.0nm,0.4s
WRA Warramunga Arr 58.70 188 P P 16 47 03.7 +12
0.1nm,0.4s,baz=6.0,slow=7.0,SNR=2.3
0.1nm,0.4s
ASAR Alice Springs 62.43 188 P P 16 47 27.4 +11
0.2nm,0.8s,baz=357,slow=5.0,SNR=1.7
0.2nm,0.8s

*MOS **23** 16:49:03.2±0.6, 49.°38N×156.°37E, h68km, mb4.3/6, Error ellipse: s-maj=23.2km s-min=4.9km az=79.3*
*KRSC **23** 16:49:09.4±1.3, 49.°84N×156.°98E, h59km±24km, Ml4.5*
*IDC **23** 16:49:12.3±2.4, 50.°07N×156.°34E, h108km±21km, mb3.3/8, mbtmp3.7/12, Error ellipse: s-maj=26.5km s-min=15.0km az=142.0*

ISC 23 16:49:10.4±1.1, 49.°88N±0.°08×156.°51E±0.°08, h90km±7km, n70, σ1°13/81, mb3.8/11, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.85**	**343**	*e*P	**Pn**	**16 49 28.5**	**+0.1**
SKR				*e*S	**Sn**	**16 49 41.5**	**-0.3**
SKR	**Severo-Kuril's**	**0.85**	**343**	⇊*i*PN	**Pn**	**16 49 28.1**	**-0.3**
SKR				*e*S	**Sn**	**16 49 40.7**	**-1.2**
SKR				pmax	pmax		
comp=Z,597nm,0.7s
SKR smax smax
comp=N,2μm,0.3s
SKR smax smax
comp=E,3μm,0.4s
PAU Pauzhetka 1.60 7 *e*P **Pn** **16 49 37.9 +0.4**
PAU *e*S **Sn** **16 49 58.5 +0.5**
PAU Pauzhetka 1.60 7 PN **Pn** **16 49 37.8 +0.4**
PAU S **Sn** **16 49 58.4 +0.5**
KDTR Khodutka, Kamc 2.17 27 *e*P **Pn** **16 49 44.7 -0.2**
KDTR *e*S **Sn** **16 50 09.8 -1.5**
KDTR Khodutka, Kamc 2.17 27 PN **Pn** **16 49 44.7 -0.2**
KDTR S **Sn** **16 50 09.7 -1.5**
ASAK Asacha 2.66 19 *e*P **Pn** **16 49 52.0 +0.6**
ASAK Asacha 2.66 19 PN **Pn** **16 49 52.0 +0.6**
MTVR Mutnovka 2.81 21 *e*P **Pn** **16 49 54.1 +0.6**
MTVR *e*S **Sn** **16 50 26.5 -0.2**
MTVR Mutnovka 2.81 21 PN **Pn** **16 49 54.1 +0.6**
MTVR S **Sn** **16 50 26.4 -0.2**
GRL Gorelyy 2.85 20 *e*P **Pn** **16 49 55.1 +1.0**
GRL *e*S **Sn** **16 50 27.6 -0.1**
GRL Gorelyy 2.85 20 PN **Pn** **16 49 55.0 +1.0**
GRL S **Sn** **16 50 27.5 -0.1**
RUS Russkaya 2.85 25 *e*P **Pn** **16 49 53.7 -0.2**
RUS *e*S **Sn** **16 50 25.6 -1.8**
RUS Russkaya 2.85 25 PN **Pn** **16 49 53.7 -0.2**
APC Apacha 3.08 7 *e*P **Pn** **16 49 58.2 +1.2**
APC Apacha 3.08 7 PN **Pn** **16 49 58.1 +1.2**
KRMR Karymshinskiy 3.13 18 *e*P **Pn** **16 49 58.6 +1.0**
KRMR *e*S **Sn** **16 50 36.2 +2.2**
KRMR Karymshinskiy 3.13 18 PN **Pn** **16 49 58.6 +1.0**
KRMR S **Sn** **16 50 36.2 +2.2**
PETK Petropavlovsk- 3.32 12 P **Pn** **16 50 00.6 +0.4**
comp=E,26nm,0.4s,baz=184,slow=12,SNR=86
PETK S **Sn** **16 50 37.8 -0.9**
comp=E,8.1nm,0.6s,baz=190,slow=12,SNR=1.8
PET Petropavlovsk 3.42 22 *e*P **Pn** **16 50 01.9 +0.3**
PET *e*S **Sn** **16 50 41.4 +0.3**
PET Petropavlovsk 3.42 22 *e*PN **Pn** **16 50 02.2 +0.6**
PET *e*S **Sn** **16 50 41.6 +0.5**
PET smax smax
comp=N,239nm,0.4s
PET smax smax
comp=E,166nm,0.7s
DALK Dalny 3.46 23 *e*P **Pn** **16 50 02.5 +0.5**
DALK *e*S **Sn** **16 50 41.6 -0.4**
DALK Dalny 3.46 23 PN **Pn** **16 50 02.5 +0.5**
UGLR Uglovaya 3.64 22 *e*P **Pn** **16 50 05.7 +1.1**
UGLR Uglovaya 3.64 22 PN **Pn** **16 50 05.7 +1.1**
AVH Avacha 3.67 21 *e*P **Pn** **16 50 06.5 +1.5**
AVH Avacha 3.67 21 PN **Pn** **16 50 06.4 +1.5**
KOK Koryaka 3.67 20 *e*P **Pn** **16 50 06.9 +1.8**
KOK Koryaka 3.67 20 PN **Pn** **16 50 06.8 +1.8**
SMAR Somma 3.68 22 *e*P **Pn** **16 50 06.2 +0.9**
SMAR Somma 3.68 22 PN **Pn** **16 50 06.1 +0.9**
KRER Koryakskii 3.71 21 *e*P **Pn** **16 50 07.0 +1.3**
KRER Koryakskii 3.71 21 PN **Pn** **16 50 06.9 +1.3**
SDLR Sedlovina 3.71 23 *e*P **Pn** **16 50 06.1 +0.4**
SDLR Sedlovina 3.71 23 PN **Pn** **16 50 06.0 +0.4**
KRX Arik 3.73 20 *e*P **Pn** **16 50 07.4 +1.4**
KRX Arik 3.73 20 PN **Pn** **16 50 07.3 +1.4**
SPN Mys Shipunski 3.90 33 *e*P **Pn** **16 50 07.8 -0.2**
SPN *e*S **Sn** **16 50 50.5 -2.2**
SPN Mys Shipunski 3.90 33 PN **Pn** **16 50 07.8 -0.2**
KMNR Kamenistaya 6.31 20 *e*P **Pn** **16 50 41.9 +1.0**
KMNR Kamenistaya 6.31 20 PN **Pn** **16 50 41.8 +1.0**
YUK Yuzh-Kuril'sk 9.33 235 *d*PN **Pn** **16 51 23.3 +1.3**
ASAJ Asahikawa 11.11 244 P **Pn** **16 51 47.2 +1.0**
comp=E,17nm,1.2s,baz=59,slow=18,SNR=1.9
KLR Kul'dur 16.07 277 P **P** **16 52 51.8 -0.7**
comp=E,1.6nm,0.6s,baz=52,slow=12,SNR=2.3
MJAR Matsushiro Arr 18.79 232 P **P** **16 53 21.9 -0.7**
comp=E,1.0nm,0.5s,baz=35,slow=8.8,SNR=1.7
H11N2 WAKE ISLAND Hy 31.20 161 T T 17 29 11.9
baz=348,slow=76,SNR=4.1
H11N3 WAKE ISLAND Hy 31.21 161 T T 17 29 12.8
baz=348,slow=76,SNR=7.5
H11N1 WAKE ISLAND Hy 31.21 161 T T 17 29 19.3
baz=348,slow=76,SNR=2.8
COLA College 32.28 41⇑*e*P **P** **16 55 31.1 +1.0**
COLA pmax pmax
comp=Z,4.0nm,0.8s
H11S1 WAKE ISLAND Hy 32.34 162 T T 17 30 16.0
baz=347
H11S3 WAKE ISLAND Hy 32.35 162 T T 17 30 07.6
baz=347,slow=74
H11S2 WAKE ISLAND Hy 32.36 162 T T 17 30 02.3
baz=347,slow=74
ILAR Eielson Array 32.69 41 P **P** **16 55 33.9 +0.1**
comp=Z,0.5nm,0.8s,baz=266,slow=7.2,SNR=7.7
comp=Z,0.5nm,0.8s
ILAR Eielson Array 32.69 41 *e*P **P** **16 55 34.5 +0.8**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 42.68 304 P **P** **16 56 55.8 -2.1**
comp=Z,0.4nm,0.4s,baz=51,slow=7.8,SNR=2.6
comp=Z,0.4nm,0.4s
MKAR Makanchi Array 47.55 296 P **P** **16 57 34.9 -1.7**
comp=Z,0.5nm,0.4s,baz=52,slow=6.0,SNR=13
comp=Z,0.5nm,0.4s
MKAR Makanchi Array 47.55 296 *e*P **P** **16 57 35.3 -1.3**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
KURK Kurchatov 47.56 303 P **P** **16 57 35.1 -1.4**
KURBB Kurchatov Arra 47.65 303 P **P** **16 57 35.1 -2.1**
comp=Z,0.5nm,0.4s,baz=59,slow=8.0,SNR=5.2
comp=Z,0.5nm,0.4s
BVAR Borovoye Array 50.65 309 P **P** **16 57 58.4 -1.6**
comp=Z,0.3nm,0.4s,baz=46,slow=10,SNR=3.0
comp=Z,0.3nm,0.4s
ARTI Arti 54.35 317 *c i*P **P** **16 58 26.3 -1.0**
ARTI S **S** **17 05 56.8 -1.3**
ARTI SS **SS** **17 09 41.4 +0.8**
ARTI pmax pmax
comp=Z,11nm,1.7s
CMAR Chiang Mai Arr 55.30 257 P **P** **16 58 35.1 +0.5**
comp=Z,1.1nm,0.7s,baz=29,slow=7.4,SNR=11
comp=Z,1.1nm,0.7s
CMAR Chiang Mai Arr 55.30 257 *e*P **P** **16 58 35.8 +1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
OBN Obninsk 63.99 326 *e*P **P** **16 59 32.2 -1.5**
OBN *e* 17 00 08.4
OBN *e* 17 01 54.6
OBN pmax pmax
comp=Z,5.0nm,1.0s
BORG Borgarnes 65.70 359 *i*P **P** **16 59 47.1 +2.4**
TXAR Lajitas Array 74.02 64 P **P** **17 00 35.8 -0.6**
comp=Z,0.4nm,0.6s,baz=305,slow=3.2,SNR=4.6
comp=Z,0.4nm,0.6s
ASAR Alice Springs 75.92 201 P **P** **17 00 48.1 +1.0**
comp=Z,0.3nm,0.9s,baz=9.4,slow=4.6,SNR=1.7
comp=Z,0.3nm,0.9s
H03N2 Juan Fernandez 136.47 89 T T 19 40 34.7
baz=313,slow=77,SNR=5.0
H03N1 Juan Fernandez 136.49 89 T T 19 40 50.5
baz=313,slow=77,SNR=6.5
H03N3 Juan Fernandez 136.49 89 T T 19 40 49.6
baz=313,slow=77,SNR=6.3

IDC 23 16:59:53.3±1.1, 49.°06S×126.°94E, h0km, mb3.9/5, mbtmp3.9/5, MS3.3/4, Error ellipse: s-maj=81.2km s-min=20.7km az=97.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**17.02**	**322**	T	T	17 20 38.9	
baz=150,slow=75,SNR=24
H01W2 Cape Leeuwin H 17.02 322 T T 17 20 44.1
baz=150,slow=75,SNR=14
H01W3 Cape Leeuwin H 17.04 322 T T 17 20 40.7
baz=150,slow=75,SNR=14
NWAO Narrogin (SRO) 17.68 332 LR LR 17 08 32.0
comp=Z,62nm,19.4s,baz=252,slow=29
ASAR Alice Springs 25.93 15 P P 17 05 27.4 +0.2
3.0nm,0.8s,baz=196,slow=8.5,SNR=35
3.0nm,0.8s
WRA Warramunga Arr 29.65 14 P P 17 05 59.8 -0.7
0.7nm,0.9s,baz=194,slow=9.6,SNR=5.7
0.7nm,0.9s
FITZ Fitzroy Crossi 30.91 358 LR LR 17 17 51.8
comp=Z,48nm,20.3s,baz=172,slow=35
BATI Baumata 38.83 355 LR LR 17 22 45.6
comp=Z,42nm,21.4s,baz=232,slow=35
QSPA South Pole Qui 41.06 180 P P 17 07 38.7 +0.5
2.6nm,0.9s,baz=330,slow=5.5,SNR=8.7
2.6nm,0.9s
SNAA Sanae 54.45 197 P P 17 09 20.8 -1.0
2.8nm,1.1s,baz=142,slow=12,SNR=2.5
SNAA LR LR 17 31 44.2
comp=Z,50nm,20.6s,baz=190,slow=35
2.8nm,1.1s
CMAR Chiang Mai Arr 71.69 332 P P 17 11 17.3 +0.5
0.2nm,0.3s,baz=190,slow=3.7,SNR=4.8
0.2nm,0.3s

*IDC **23** 17:40:45.5±0.5, 6.°85N×77.°91W, h0km, mb4.4/21, mbtmp4.4/25, ML3.9/4, MS3.9/29, Error ellipse: s-maj=17.6km s-min=13.7km az=40.0*
*VAO **23** 17:40:46.9±0.8, 6.°96N×77.°86W, h10km, mb4.9*
*NEIC **23** 17:40:46.5±2.3, 7.°06N±0.°05×77.°94W±0.°06, h10km±1km, mb4.9/140, Error ellipse: s-maj=11.0km s-min=8.3km az=234.0*
*RSNC **23** 17:40:47.5±0.0, 7.°N±1.°×7.°8W±.°, h11km±2km, M4.4, mb5.3, mB5.2, ML4.0, Mw(mB)4.5*
*UPA **23** 17:40:47.5±1.9, 7.°00N×78.°11W, h3km±6km, MW4.7*
*GCMT **23** 17:40:52.5±0.4, 7.°11N±0.°03×78.°03W±0.°02, h12km, MW4.9/77, Moment Tensor Solution. s25,c25; s77,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.16±.06; $M_{\theta\theta}$0.06±.06; $M_{\phi\phi}$-1.22±.06; $M_{r\theta}$-0.52±.21; $M_{\theta\phi}$0.40±.04; $M_{\phi r}$-2.16±.18; Best double couple: $M_0$2.55200×10^{16} NP1:ϕ_s189.00000°, δ77.00000°, λ104.00000°. NP2: ϕ_s323.00000°, δ19.00000°, λ45.00000°. Principal axes: T 2.6050, Plg56.0000°, Azm117.0000°; N -0.1030, Plg13.0000°, Azm6.0000°; P -2.4990, Plg30.0000°, Azm268.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 17:40:44.8±1.7, 6.°94N±0.°02×78.°04W±0.°02, h3km±10km, n351, σ1°86/348, mb4.8/100, MS3.9/24, 1C-9D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.31**	**47**	P	**Pb**	**17 40 54.3**	**+1.4**
PTAC S **Sb** **17 40 58.6** **+0.2**
PTAC Punta Ardita, 0.31 47 *i*P **Pb** **17 40 54.4** **+1.4**
PTAC *i*S **Sb** **17 40 58.7** **+0.3**
SOLC Bahia Solano 0.94 139 P **Pb** **17 41 04.5** **+0.7**
SOLC S **Sb** **17 41 15.8** **-0.9**
UPD2 Meteti 1.60 1 *e*P **Pb** **17 41 15.7** **+0.7**
UPD2 *e*S **Sg** **17 41 37.4** **+1.0**
APAC Apartado, Choc 1.73 56 P **Pb** **17 41 17.7** **+0.4**
APAC S **Sg** **17 41 41.9** **+1.4**
DBBC Dabeiba 1.81 87 P **Pn** **17 41 17.4** **+0.4**
DBBC S **Sn** **17 41 40.3** **-0.3**
CAPC Capurgana 1.82 22 P **Pn** **17 41 17.9** **+0.9**
CAPC S **Sb** **17 41 42.7** **+0.7**
PIZC Pizarro, Choco 2.07 161 P **Pn** **17 41 20.9** **+0.4**
ACHO3 Achotines, Los 2.17 283 *i*P **Pn** **17 41 23.1** **+1.2**
ACHO3 *e*S **Sn** **17 41 50.0** **+0.6**
PCRI3 Pocri, Los San 2.19 289 ⇊*i*P **Pn** **17 41 23.5** **+1.4**
PCRI3 *e*S **Sn** **17 41 48.0** **-1.7**
CBOC Ciudad Bolivar 2.27 118 P **Pn** **17 41 22.9** **-0.6**
CBOC S **Sn** **17 41 52.9** **+0.8**
AZU Azuero 2.38 291 P **Pn** **17 41 25.7** **+1.0**
AZU S **Sn** **17 41 52.0** **-2.4**
AZU Azuero 2.38 291 ⇊*i*P **Pn** **17 41 26.2** **+1.5**
AZU *e*S **Sn** **17 41 53.6** **-0.8**
CNTA3 Canitas, Panam 2.42 340 *e*P **Pn** **17 41 26.4** **+1.1**
CNTA3 *e*S **Sn** **17 41 57.1** **+1.6**
TOSI3 Tonosi 2.43 281 *e*P **Pn** **17 41 26.9** **+1.4**
CHPO Chepo, Panama 2.46 334 *i*S **Sn** **17 41 56.8** **+0.3**
UPA Univ. de Panam 2.52 324 *e*P **Pn** **17 41 27.3** **+0.7**
UPA *e*S **Sn** **17 41 57.5** **-0.4**
LCBC Los crdobas, 2.52 41 P **Pb** **17 41 29.7** **-1.1**
LCBC S **Sb** **17 42 02.9** **+0.6**
LCBC Los crdobas, 2.52 41 *e*P **Pb** **17 41 30.1** **-0.7**
LCBC *e*S **Sb** **17 42 00.9** **-1.4**
CHIT3 Chitre 2.57 293 ⇊*i*P **Pn** **17 41 29.0** **+1.6**
CHIT3 ⇊*i*S **Sn** **17 41 58.4** **-0.8**
HELC Santa Helena 2.60 106 P **Pn** **17 41 28.9** **+0.8**
HELC S **Sb** **17 42 03.7** **-1.1**
UREC San Jos de Ur 2.61 72 P **Pn** **17 41 29.6** **+1.6**
UREC S **Sb** **17 42 02.9** **-1.9**
UREC San Jos de Ur 2.61 72 *e*P **Pn** **17 41 29.9** **+2.0**
UREC *e*S **Sb** **17 42 04.5** **-0.3**
PLMC San Jos del P 2.67 139 P **Pn** **17 41 27.7** **-1.1**
PLMC S **Sn** **17 42 00.4** **-1.3**
ZANG Zanguenga, Cho 2.71 318 *e*P **Pn** **17 41 30.4** **+1.1**
PNME Penonome 2.74 304 *e*P **Pn** **17 41 31.1** **+1.4**
PNME *e*Sn **Sb** **17 42 08.2** **-0.4**
CACAO El Cacao, Vera 2.83 278 P **Pn** **17 41 31.8** **+0.8**
CACAO S **Sn** **17 42 01.7** **-4.0**
CACAO El Cacao, Vera 2.83 278 ⇊*i*P **Pn** **17 41 31.9** **+0.8**
CACAO *e*S **Sn** **17 42 05.6** **-0.1**
BCIP Isla Barro Col 2.84 321 Pn **Pn** **17 41 31.2** **+0.1**
BCIP Sn **Sn** **17 42 05.0** **-1.0**
BCIP Isla Barro Col 2.84 321 P **Pn** **17 41 31.6** **+0.4**
BCIP S **Sn** **17 42 06.4** **+0.4**
BCIP Isla Barro Col 2.84 321 ⇊*i*P **Pn** **17 41 31.8** **+0.6**
BCIP *e*S **Sn** **17 42 05.7** **-0.3**
CRIS3 El Cristo, Coc 2.88 297 *e*P **Pn** **17 41 33.0** **+1.4**
MALC Bahia Malaga 2.99 166 P **Pn** **17 41 36.8** **+3.7**
MALC S **Sn** **17 42 08.1** **-1.4**
STIA3 Santiago, Vera 3.13 292 *e*P **Pn** **17 41 37.3** **+2.2**
GUY2C Guyana, Caldas 3.15 123 P **Pn** **17 41 37.2** **+1.4**
GUY2C S **Sb** **17 42 18.0** **-2.9**
ZARC Zaragoza, Cauc 3.20 80 P **Pn** **17 41 37.7** **+1.6**
ZARC S **Sn** **17 42 16.3** **+1.5**
GMAL Guarumal, Vera 3.28 285 P **Pn** **17 41 39.2** **+2.1**
GMAL S **Sn** **17 42 17.3** **+0.7**
GMAL Guarumal, Vera 3.28 285 *e*P **Pn** **17 41 39.4** **+2.3**
GMAL *e*S **Sn** **17 42 17.3** **+0.7**
RECRC Villamaria, Ca 3.31 126 P **Pn** **17 41 42.0** **+3.9**
RECRC S **Sb** **17 42 25.0** **-0.5**
YOTC Yotoco, Valle 3.38 150 P **Pn** **17 41 40.2** **+1.5**
NORC Norcasia 3.43 113 P **Pn** **17 41 40.5** **+1.2**
NORC S **Sb** **17 42 26.3** **-2.2**
PTBC PUERTO BERRIO, 3.58 96 P **Pn** **17 41 44.1** **+2.9**
PTBC S **Sb** **17 42 30.1** **-2.5**
GR1C Gorgona, Isla 3.91 182 P **Pn** **17 41 48.4** **+2.6**
JAMC Jamundi, Valle 3.94 160 P **Pn** **17 41 50.4** **+4.0**
SJCC San Jacinto, C 4.08 44 P **Pn** **17 41 50.3** **+2.1**
SJCC S **Sn** **17 42 38.1** **+1.6**
ORTC Ortega, Tolima 4.09 137 P **Pn** **17 41 51.1** **+2.7**
ORTC S **Sb** **17 42 45.2** **-2.3**
SPBC San Pablo de B 4.14 108 P **Pn** **17 41 51.6** **+2.5**
SPBC S **Sn** **17 42 41.6** **+3.5**
ROSC El Rosal 4.24 119 Pn **Pn** **17 41 51.1** **+0.3**
ROSC El Rosal 4.24 119 Pn **Pn** **17 41 54.1** **+3.4**
16nm,0.3s,baz=330,slow=20,SNR=12
ROSC Sn **Sb** **17 42 53.6** **+1.5**
18nm,0.3s,baz=285,slow=17,SNR=5.1
BRJC Barrancabermej 4.26 89 P **Pn** **17 41 53.7** **+3.1**
BRJC S **Sb** **17 42 47.7** **-4.6**
PRAC Prado 4.48 135 P **Pn** **17 41 57.7** **+4.0**
CVER Cruz Verde, Cu 4.61 121 P **Pn** **17 41 59.8** **+3.9**
ARGC Ariguani, Magd 4.74 52 P **Pb** **17 42 05.8** **-2.8**
ARGC S **Sn** **17 42 56.9** **+4.1**
BARC Barichara 4.83 94 P **Pn** **17 42 00.8** **+2.1**
BARC S **Sn** **17 43 00.2** **+4.9**
OCAC Ocana 4.85 74 P **Pn** **17 42 00.6** **+1.7**
OCAC S **Sn** **17 42 56.9** **+1.2**
BBAC Balboa, Cauca 4.95 171 P **Pn** **17 42 03.0** **+2.7**
BBAC S **Sn** **17 42 59.9** **+1.8**
BRU2 Volcan 4.97 292 **Pn** **17 42 03.0** **+2.5**
VILC Villavicencio, 5.15 123 P **Pn** **17 42 07.4** **+4.4**
URMC La Uribe, Meta 5.17 135 P **Pn** **17 42 06.6** **+3.4**
PAMC Pamplona, Colo 5.31 85 P **Pn** **17 42 07.8** **+2.3**
PAMC S **Sn** **17 43 10.6** **+3.1**
CRUC La Cruz 5.44 168 P **Pn** **17 42 11.5** **+4.3**
CRUC S **Sn** **17 43 10.9** **+0.3**
GCUF Volcan Galeras 5.71 173 P **Pn** **17 42 15.5** **+4.4**
GCUF S **Sn** **17 43 15.3** **-2.2**
FLOC Florencia 5.83 156 P **Pn** **17 42 15.0** **+2.8**
FLOC S **Sn** **17 43 22.8** **+3.2**
TULM Tulcn-Chalpat 6.18 178 P Pn 17 42 24.9 +7.4
TAMC Tame, Arauca 6.22 94 P **Pn** **17 42 19.4** **+1.7**
229nm,0.7s,3μm
TAMC S **Sn** **17 43 32.7** **+3.3**
229nm,0.7s,3μm
BONI La Bonita 6.46 176 P Pn 17 42 29.2 +8.1
PTGC Puerto Gaitan, 6.47 115 P **Pn** **17 42 21.9** **+0.8**
132nm,0.8s,2μm
CRJC Cerrejon, Guaj 6.51 51 P **Pn** **17 42 22.8** **+1.1**
CRJC S **Sn** **17 43 37.6** **+1.1**
CUSE Cuicocha Este 6.60 183 P Pn 17 42 28.4 +5.2
OTAV Otavalo 6.67 184 Pn **Pn** **17 42 27.5** **+3.3**
OTAV Sn **Sn** **17 43 40.1** **-0.8**
OTAV Otavalo 6.67 184 P **Pn** **17 42 27.0** **+2.8**
OTAV Otavalo 6.67 184 *e*P **Pn** **17 42 26.9** **+2.8**
HDC Heredia 6.74 297 Pn **Pn** **17 42 26.5** **+1.6**
SOCE Pocosol 7.35 298 Pn **Pn** **17 42 35.5** **+2.3**
SDV Santo Domingo 7.58 75 Pn **Pn** **17 42 36.8** **+0.3**
SDV Santo Domingo 7.58 75 Pn **Pn** **17 42 38.1** **+1.6**
15nm,0.3s,baz=270,slow=13,SNR=26
SDV Sn **Sn** **17 44 04.5** **+1.3**
21nm,0.3s,baz=198,slow=20,SNR=6.6
SDV LR LR 17 45 54.0
comp=Z,2μm,18.3s,baz=244,slow=41
53nm,0.4s
SDV Santo Domingo 7.58 75 P **Pn** **17 42 38.4** **+1.9**
218nm,0.8s,1μm
SDV Santo Domingo 7.58 75 *e*P **Pn** **17 42 35.4** **-1.1**
JTS Las Juntas de 7.61 296 **Pn** **17 42 37.2** **+0.5**
JTS Las Juntas de 7.61 296 Pn **Pn** **17 42 39.9** **+3.2**
1.6nm,0.3s,baz=90,slow=20,SNR=8.1
18nm,0.9s
URIC Uribia, Colomb 7.61 51 P **Pn** **17 42 38.5** **+1.8**
ESPN Las Esperanzas 8.09 311 **Pn** **17 42 43.3** **0.0**
ACON Acoyapa 8.63 306 **Pn** **17 42 51.4** **+0.7**
COHC Cochancay 9.42 187 Pn **Pn** **17 43 00.7** **-0.8**
BAUV El Baul 10.10 78 Pn **Pn** **17 43 08.7** **-2.2**
HATO Hato, Curacao 10.36 59 **Pn** **17 43 12.7** **-1.7**
MTDJ Mount Denham 11.23 2 Pn **Pn** **17 43 24.7** **-1.8**
PAPH Port-au-Prince 12.80 25 Pn Pn 17 43 41.8 -6.1
PAPH **Sn** **17 46 05.2** **-5.8**
MTO3 Montecristo 13.37 305 Pn **Pn** **17 43 53.9** **-1.9**
PCRV Puerto La Cruz 13.63 75 Pn **Pn** **17 43 58.5** **-0.8**
3.0nm,0.3s,baz=253,slow=3.2,SNR=11
PCRV LR LR 17 50 27.9
comp=Z,563nm,18.6s,slow=43
7.6nm,0.4s
SDDR Presa de Saban 13.65 28 Pn **Pn** **17 43 58.1** **-1.4**
SDDR **Sn** **17 46 26.8** **-5.1**
TBTG Tabatinga, AM 13.71 143 *e*P **Pn** **17 44 00.8** **+0.6**
NMDO Nuevo Mundo 13.86 12 Pn **Pn** **17 43 58.2** **-4.1**
ATAH Atahualpa 13.98 181 Pn **Pn** **17 44 05.3** **+0.9**
0.2nm,0.3s,baz=336,slow=20,SNR=1.2
ATAH LR LR 17 50 01.9
comp=Z,297nm,19.1s,baz=12,slow=40
1.6nm,0.4s
CRPR Cabo Rojo, PR 15.31 43 Pn **Pn** **17 44 19.3** **-2.8**
MLPR Magueyes Islan 15.33 43 Pn **Pn** **17 44 20.0** **-2.3**
PRSN Puerto Rico Se 15.44 42 **Pn** **17 44 20.2** **-3.5**
CZSB Cruzeiro do Su 15.51 160 *e*P **Pn** **17 44 27.3** **+2.6**
OBIP Obispado Ponce 15.68 44 **Pn** **17 44 22.4** **-4.5**
CELP Cerrillos 15.72 44 Pn **Pn** **17 44 23.7** **-3.8**
UUPR Utuado, UPR, P 15.75 43 **Pn** **17 44 23.8** **-4.0**
AOPR Arecibo Observ 15.79 43 **Pn** **17 44 24.2** **-4.1**
AOPR IAmb IAmb 17 44 32.2
comp=Z,44nm,0.8s
GRTK Grand Turk 15.95 24 Pn **Pn** **17 44 26.4** **-4.0**
SJG San Juan 16.05 45 **Pn** **17 44 26.4** **-5.3**
SJG San Juan 16.05 45 LR LR 17 51 11.1
comp=Z,413nm,21.1s,baz=210,slow=39
PDPR Patillas Dam, 16.08 46 **Pn** **17 44 27.3** **-4.7**
GCPR Guaynabo City 16.23 45 **Pn** **17 44 29.9** **-4.1**
HUMP Col San Antoni 16.28 46 Pn **Pn** **17 44 30.9** **-3.8**
BOAV Boa Vista 18.02 104 P **Pn** **17 44 55.3** **-1.3**
BOAV Boa Vista 18.02 104 *e*P **Pn** **17 44 55.6** **-1.0**
SMRT St. Maarten 18.29 51 P **Pn** **17 44 56.2** **-3.7**
SMRT IAmb IAmb 17 45 04.5
comp=Z,42nm,0.5s
GDSD La Dsirade Is 19.04 59 P **P** **17 45 05.8** **-2.4**
GDSD IAmb IAmb 17 45 13.7
comp=Z,72nm,1.2s
ANWB Willy Bob 19.11 55 P **Pn** **17 45 11.2** **+1.4**
CMIG Matías Romero 19.31 303 LR LR 17 53 35.7
comp=Z,235nm,20.6s,baz=122,slow=40
MACA Manacapuru-AM 20.02 120 **P** **17 45 17.0** **-2.0**
MACA Manacapuru-AM 20.02 120 *e*P **P** **17 45 19.0** **0.0**
ETMB Extrema 20.39 145 P **P** **17 45 22.2** **-0.8**
ETMB IAmb IAmb 17 45 26.2
comp=Z,42nm,0.9s
ETMB Extrema 20.39 145 *e*P **P** **17 45 23.4** **+0.4**
SAML Samuel 21.64 137 P **P** **17 45 35.0** **-1.5**
SAML IAmb IAmb 17 45 39.8
comp=Z,48nm,0.7s
SAML Samuel 21.64 137 *e*P **P** **17 45 35.2** **-1.3**
TLIG Tlapa 22.65 300 P **P** **17 45 45.8** **-1.6**
TLIG IAmb IAmb 17 46 01.7
comp=Z,28nm,1.0s
ITTB Itaituba 24.93 116 *e*P **P** **17 46 08.7** **-0.9**
LPAZ La Paz 25.07 157 P **P** **17 46 10.8** **-0.7**
LPAZ La Paz 25.07 157 P **P** **17 46 12.2** **+0.8**
comp=Z,6.7nm,0.9s,baz=338,slow=12,SNR=9.4
comp=Z,6.7nm,0.9s
LPAZ La Paz 25.07 157 *e*P **P** **17 46 10.3** **-1.1**
MDP Montagnes des 25.32 93 LR LR 17 56 29.1
comp=Z,785nm,18.6s,baz=284,slow=38
MAL2 Monte Alegre, 25.41 110 P **P** **17 46 13.1** **-0.9**
PB12 IPOC Station P 26.50 163 P **P** **17 46 24.5** **+0.7**
PB12 IAmb IAmb 17 46 28.5
comp=Z,26nm,0.9s
VILB Vilhena 26.54 138 P **P** **17 46 24.2** **0.0**
VILB Vilhena 26.54 138 *e*P **P** **17 46 24.7** **+0.5**
NPGB Novo Progresso 26.55 121 *e*P **P** **17 46 24.2** **0.0**
PDRB Porto dos Gac 28.09 131 *e*P **P** **17 46 37.7** **-0.3**
CLDB Colider 28.34 128 *e*P **P** **17 46 39.8** **-0.5**
HKT Hockley 28.36 326 P **P** **17 46 37.9** **-2.3**
ZAIG Zacatecas 28.38 306 P **P** **17 46 38.0** **-3.0**
Y45A Yeager Farm, C 28.84 340 P **P** **17 46 41.4** **-3.1**
PB01 IPOC Station P 29.05 163 P **P** **17 46 46.0** **-0.5**
PB01 IAmb IAmb 17 46 54.8
comp=Z,23nm,1.1s
TKL Tuckaleechee C 29.07 350 LR LR 17 59 23.1
comp=Z,225nm,19.1s,baz=266,slow=38
PTLB Pontes e Lacer 29.07 140 P **P** **17 46 44.6** **-2.2**

PTLB Pontes e Lacer 29.07 140 *eP* **P 17 46 46.6 -0.1**
BBSD Serra de San D 29.52 144 *eP* **P 17 46 50.8 +0.1**
V48A Smith Brothers 29.78 346 P **P 17 46 51.7 -1.2**
V48A IAmb IAmb 17 47 07.5
comp=Z,14nm,1.0s
HNDO Hondo 30.09 321 P **P 17 46 54.9 -0.8**
PRPB Parauapebas 31.02 114 *eP* **P 17 47 03.9 -0.2**
BRDY Brady 31.16 324 P **P 17 47 03.9 -1.3**
SALV Santo Antonio 31.69 136 *eP* **P 17 47 10.0 0.0**
R50A Paris 31.72 351 P **P 17 47 08.7 -1.3**
R50A IAmb IAmb 17 48 09.4
comp=Z,26nm,1.5s
PBMO Poplar Bluff 31.79 341 P **P 17 47 10.7 +0.2**
PLPT Palo Pinto 31.91 326 P **P 17 47 11.2 -0.5**
PLPT IAmb IAmb 17 47 25.5
comp=Z,29nm,1.4s
SSFO Shawnee State 31.96 352 P **P 17 47 09.6 -2.4**
SNDB Serra Nova Dou 32.56 125 *eP* **P 17 47 17.6 -0.1**
MGMO Mountain Grove 32.76 339 P **P 17 47 17.5 -1.6**
MGMO IAmb IAmb 17 47 19.4
comp=Z,13nm,1.3s
TXAR Lajitas Array 32.86 316 P **P 17 47 19.6 -0.6**
TXAR Lajitas Array 32.86 316 P **P 17 47 22.6 +2.4**
comp=Z,0.9nm,0.6s,baz=133,slow=7.5,SNR=14
TXAR PcP **PcP 17 50 07.7 +2.5**
comp=Z,0.9nm,0.9s,baz=116,slow=4.1,SNR=3.9
comp=Z,0.9nm,0.6s
TX31 Lajitas Ar. Si 32.86 316 P **P 17 47 18.8 -1.4**
TX31 IAmb IAmb 17 47 35.9
comp=Z,37nm,1.9s
FVM French Village 32.89 342 P **P 17 47 18.5 -1.7**
FVM IAmb IAmb 17 47 32.4
comp=Z,14nm,0.9s
HPIG 32.94 310 P **P 17 47 20.5 -0.6**
HPIG IAmb IAmb 17 47 35.5
comp=Z,18nm,1.4s
U38A Gravette 32.95 335 P **P 17 47 20.1 -0.7**
BLO Bloomington 32.99 348 P **P 17 47 20.4 -0.8**
BLO IAmb IAmb 17 47 35.2
comp=Z,16nm,0.8s
TUL3 Leonard 33.11 333 P **P 17 47 19.8 -2.4**
TUL3 IAmb IAmb 17 47 26.9
comp=Z,14nm,1.0s
CCM Cathedral Cave 33.22 341 P **P 17 47 21.6 -1.5**
CCM IAmb IAmb 17 47 34.2
comp=Z,14nm,0.8s
FNO Franklin 33.34 330 P **P 17 47 22.9 -1.4**
ALPN Alpine 33.48 317 P **P 17 47 25.6 -0.1**
S39A Bolivar 33.62 338 P **P 17 47 27.3 +0.7**
S39A IAmb IAmb 17 47 47.6
comp=Z,16nm,1.4s
SMTB Santa Maria do 34.16 117 *eP* **P 17 47 31.9 +0.2**
T35A Sooner Cattle 34.27 333 P **P 17 47 30.8 -1.5**
BDQN Bodoquena, MS 34.33 143 *eP* **P 17 47 32.7 -0.2**
ARAG Araguaiana, MT 34.36 131 *eP* **P 17 47 32.7 -0.6**
MURT Porto Murtinho 34.77 145 *eP* **P 17 47 36.3 -0.5**
AQDB Aquidauana 34.99 142 P **P 17 47 37.9 -0.8**
AQDB IAmb IAmb 17 47 40.8
comp=Z,14nm,1.1s
AQDB Aquidauana 34.99 142 *eP* **P 17 47 38.6 -0.1**
LPIG La Paz 35.33 302 LR LR 18 01 19.8
comp=Z,99nm,20.5s,baz=148,slow=35
RPRD Ribas do Rio P 36.26 139 *eP* **P 17 47 49.8 +0.2**
BDFB Brasilia 37.25 127 LR LR 18 04 05.2
comp=Z,577nm,18.6s,baz=315,slow=38
AMBA Amambai (Brazi 37.27 143 *eP* **P 17 47 58.1 -0.2**
121A Cookes Peak, D 37.60 317 P **P 17 47 59.9 -1.2**
121A IAmb IAmb 17 48 16.2
comp=Z,47nm,1.9s
319A Douglas 37.99 314 P **P 17 48 03.0 -1.4**
ITRB Iturama 37.99 135 *eP* **P 17 48 06.3 +1.9**
SDBA SAO DESIDERIO 38.13 120 *eP* **P 17 48 05.6 -0.1**
ANMO Albuquerque 38.22 321 P **P 17 48 04.8 -1.5**
ANMO IAmb IAmb 17 48 20.6
comp=Z,29nm,1.6s
ANMO Albuquerque 38.22 321 LR LR 18 05 58.7
comp=Z,78nm,19.4s,baz=254,slow=39
IPMB Ipameri, GO 38.47 130 *eP* **P 17 48 08.3 -0.2**
CPUP Villa Florida 38.70 150 P **P 17 48 08.5 -1.7**
comp=Z,2.8nm,0.7s,baz=325,slow=17,SNR=7.1
CPUP LR LR 18 05 32.9
comp=Z,242nm,19.1s,baz=336,slow=39
comp=Z,2.8nm,0.7s
CPUP Villa Florida 38.70 150 *eP* **P 17 48 08.8 -1.4**
TUC Tucson 39.57 314 P **P 17 48 15.9 -1.7**
JANB Januaria 39.94 123 *eP* **P 17 48 20.1 -0.7**
LDASE Londrina, Braz 40.01 140 *eP* **P 17 48 21.7 +0.4**
PMNB Patos De Minas 40.15 130 *eP* **P 17 48 22.5 -0.1**
ITQB Itaqui 41.81 152 *eP* **P 17 48 35.7 -0.3**
DIAM Diamantina, MG 42.17 127 *eP* **P 17 48 39.3 +0.1**
U15A North Rim 42.89 318 P **P 17 48 43.9 -1.2**
U15A IAmb IAmb 17 49 00.7
comp=Z,28nm,1.6s
SRU San Rafael Swe 43.38 323 P **P 17 48 47.4 -1.5**
MTPU Mount Pierson 43.75 320 P **P 17 48 52.1 0.0**
RCBR Riachuelo 43.91 106 LR LR 18 08 37.2
comp=Z,135nm,21.9s,baz=290,slow=38
V12A Nelson 44.24 316 P **P 17 48 55.6 -0.2**
V12A IAmb IAmb 17 49 09.6
comp=Z,16nm,1.0s
PFO Pinyon Flats O 44.34 312 LR LR 18 08 32.0
comp=Z,199nm,20.9s,baz=82,slow=38
NBAN Anadia - AL 44.75 111 *eP* **P 17 48 59.3 -0.8**
PDAR Pinedale Array 45.22 327 P **P 17 49 06.4 +2.7**
comp=Z,1.2nm,0.9s,baz=130,slow=8.4,SNR=7.3
comp=Z,1.2nm,0.9s
RPN Rapa Nui 45.44 221 LR LR 18 03 54.8
comp=Z,95nm,18.5s,baz=58,slow=31
ULM Lac du Bonnet 45.68 344 P **P 17 49 08.7 +1.8**
comp=Z,3.2nm,0.6s,baz=144,slow=18,SNR=3.5
comp=Z,3.2nm,0.6s
SPR3 Spring Creek 3 45.68 320 P **P 17 49 08.1 +0.7**
R11B Troy Canyon, C 46.13 318 P **P 17 49 11.0 +0.1**
NV11 Mina Array Sit 47.90 317 P **P 17 49 23.7 -1.0**
PLCA Paso Flores 47.93 172 P **P 17 49 26.3 +1.6**
PLCA Paso Flores 47.93 172 *eP* **P 17 49 24.4 -0.3**
NVAR Mina Array Bea 47.99 317 P **P 17 49 25.7 +0.2**
NVAR Mina Array Bea 47.99 317 P **P 17 49 28.9 +3.4**
comp=Z,7.2nm,0.8s,baz=127,slow=6.9,SNR=28
NVAR PcP **PcP 17 50 55.8 +2.1**
comp=Z,1.0nm,0.8s,baz=134,slow=3.9,SNR=1.8
comp=Z,7.2nm,0.8s
KVN Kaiserville 48.17 318 P **P 17 49 27.3 +0.5**
KVN IAmb IAmb 17 49 40.1
comp=Z,9.5nm,0.9s
SCHQ Schefferville 48.60 9 P **P 17 49 31.9 +2.3**
comp=Z,5.8nm,1.0s,baz=198,slow=20,SNR=1.8
comp=Z,5.8nm,1.0s
WVOR Wild Horse Val 50.31 321 P **P 17 49 44.2 +1.2**
NEW Newport 52.83 328 LR LR 18 17 40.2
comp=Z,78nm,18.6s,baz=50,slow=42
BBTS Babate 60.75 77 LR LR 18 17 08.5
comp=Z,56nm,18.8s,baz=148,slow=36
YKA Yellowknife Ar 61.55 342 P **P 17 51 03.8 +0.8**
comp=Z,3.5nm,0.8s,baz=134,slow=6.9,SNR=15
comp=Z,3.5nm,0.8s
TAOE Nuku Hiva Isla 63.86 257 *eLR* LR 18 10 21.4
comp=Z,175nm,27.5s
PFVI Vila Bisbo 69.28 53 *eP* **P 17 51 55.9 +2.2**
MORF Marmelete 69.44 53 *eP* **P 17 51 56.7 +2.0**
MORF Marmelete 69.44 53 *eP* **P 17 51 56.6 +1.8**
SUMG Summit 69.82 12 P **P 17 51 56.6 -0.3**
M30M Minto, Yukon 69.83 335 P **P 17 51 58.1 +1.5**
MESJ Messejana 69.85 52 *eP* **P 17 51 58.9 +1.7**
MESJ Messejana 69.85 52 *eP* **P 17 51 58.8 +1.7**
PCAS Casmilo, Conde 69.92 50 *eP* **P 17 51 59.5 +1.9**
PMTG Montargil 70.00 51 *eP* **P 17 51 59.3 +1.2**
PBDV Barranco-do-Ve 70.01 53 *eP* **P 17 51 59.8 +1.6**
EVO Evora 70.09 52 *eP* **P 17 51 59.6 +0.9**
PBEJ Beja 70.15 52 *eP* **P 17 52 01.0 +2.0**
PBEJ A A 17 52 01.6
comp=Z,19nm,1.5s
PESTR Estremoz 70.46 51 P **P 17 52 01.1 +0.1**
PESTR Estremoz 70.46 51 *eP* **P 17 52 02.3 +1.3**
PESTR A A 17 52 03.5
comp=Z,23nm,1.3s
PVIS Viseu 70.47 49 *eP* **P 17 52 02.5 +1.5**
M29M Somme Creek 70.48 335 P **P 17 52 01.1 +0.4**
M29M IAmb IAmb 17 52 18.0
comp=Z,7.5nm,1.1s
L29M L29M 70.61 335 P **P 17 52 01.3 -0.2**
L29M IAmb IAmb 17 52 13.5
comp=Z,10nm,0.8s
PCBR Castelo Branco 70.67 50 *eP* **P 17 52 03.5 +1.3**

PCBR A A 17 52 08.0
comp=Z,29nm,1.9s
K29M Barlow Dome 70.67 336 IAmb IAmb 17 52 19.8
comp=Z,11nm,1.1s
PMRV Marv??o 70.69 51 *eP* **P 17 52 03.5 +1.2**
MTE Manteigas 70.69 50 *eP* **P 17 52 03.4 +1.0**
MTE A A 17 52 11.1
comp=Z,39nm,1.8s
PBAR Barrancos 70.81 52 *eP* **P 17 52 04.7 +1.6**
I30M Mount Dempster 70.83 338 IAmb IAmb 17 52 14.5
comp=Z,5.9nm,0.9s
MVO Moncorvo 71.18 49 *eP* **P 17 52 06.8 +1.5**
MVO A A 17 52 38.0
comp=Z,27nm,2.0s
J29N Klondike Camp 71.21 337 P **P 17 52 05.5 +0.4**
J29N IAmb IAmb 17 52 19.0
comp=Z,10nm,0.9s
DAWY Dawson 71.52 336 IAmb IAmb 17 52 19.9
comp=Z,11nm,1.3s
H29M Whitestone 72.01 338 IAmb IAmb 17 52 28.5
comp=Z,15nm,1.2s
BCAR Beaver Creek A 72.14 335 P **P 17 52 11.6 +1.0**
L27K Beaver Creek, 72.15 335 IAmb IAmb 17 52 25.4
comp=Z,10nm,0.9s
G29M Pine Creek 72.18 339 IAmb IAmb 17 52 13.4
comp=Z,11nm,1.1s
I28M Miner Creek 72.28 337 IAmb IAmb 17 52 29.1
comp=Z,8.7nm,0.9s
MDT Midelt 72.35 58 LR LR 18 25 21.6
comp=Z,45nm,18.2s,baz=308,slow=37
GLB Gilahina Butte 72.48 333 P **P 17 52 13.5 +0.7**
GLB IAmb IAmb 17 52 27.3
comp=Z,14nm,1.2s
EGAK Eagle 72.50 336 IAmb IAmb 17 52 27.6
comp=Z,8.3nm,1.1s
DBIC Dimbokro 72.59 85 P **P 17 52 14.9 +0.8**
comp=Z,5.8nm,0.6s,baz=281,slow=4.2,SNR=6.9
DBIC LR LR 18 21 12.4
comp=Z,81nm,20.8s,baz=270,slow=34
comp=Z,5.8nm,0.6s
E29M Blow River 72.78 340 IAmb IAmb 17 52 25.4
comp=Z,13nm,1.0s
L26K Log Cabin Wild 72.79 334 IAmb IAmb 17 52 34.4
comp=Z,9.5nm,1.2s
N25K Chitina, Valde 72.89 333 P **P 17 52 16.0 +0.8**
N25K IAmb IAmb 17 52 27.3
comp=Z,10nm,0.9s
F28M Old Crow 73.12 339 IAmb IAmb 17 52 40.4
comp=Z,12nm,1.5s
ESDC Sonseca Array 73.35 51 P **P 17 52 18.4 +0.1**
ESDC Sonseca Array 73.35 51 P **P 17 52 19.6 +1.3**
comp=Z,5.7nm,0.9s,baz=260,slow=6.4,SNR=30
ESDC LR LR 18 22 08.3
comp=Z,50nm,20.0s,baz=273,slow=34
comp=Z,5.7nm,0.9s
J26L Joseph Creek 73.37 336 IAmb IAmb 17 52 30.7
comp=Z,6.6nm,0.8s
SCRK Sand Creek 73.37 335 P **P 17 52 18.7 +0.6**
SCRK IAmb IAmb 17 52 20.9
comp=Z,24nm,1.8s
E28M Babbage River 73.42 340 IAmb IAmb 17 52 31.0
comp=Z,9.9nm,1.0s
KLU Klutina 73.47 332 IAmb IAmb 17 52 30.0
comp=Z,8.7nm,0.9s
RIDG Independent Ri 73.66 335 P **P 17 52 20.1 +0.5**
E27K Coleen River 73.95 340 IAmb IAmb 17 52 34.8
comp=Z,12nm,1.2s
J25K Salcha River, 74.15 336 IAmb IAmb 17 52 34.9
comp=Z,8.7nm,0.8s
PRP Porcupine Dome 74.49 336 IAmb IAmb 17 52 39.1
comp=Z,9.7nm,1.0s
KNK Knik Glacier 74.62 332 IAmb IAmb 17 52 39.3
comp=Z,15nm,1.0s
PPT Papeete 74.70 250 LR LR 18 18 14.5
comp=Z,40nm,20.1s,baz=28,slow=30
PPT2 Papeete2 74.71 250 *eLR* LR 18 15 24.4
comp=Z,208nm,28.2s
BMAR Burnt Mountain 74.74 338 P **P 17 52 26.7 +0.8**
ILAR Eielson Array 74.82 336 P **P 17 52 26.6 +0.3**
ILAR Eielson Array 74.82 336 P **P 17 52 27.8 +1.4**
comp=Z,3.1nm,0.9s,baz=109,slow=4.9,SNR=26
ILAR LR LR 18 28 26.3
comp=Z,90nm,19.3s,baz=80,slow=38
comp=Z,3.1nm,0.9s
H24K Noodor Dome 75.51 336 IAmb IAmb 17 52 43.7
comp=Z,16nm,1.4s
G24K Hadweenzic Riv 75.60 337 P **P 17 52 32.1 +1.3**
G24K IAmb IAmb 17 52 37.9
comp=Z,12nm,1.1s
NEA2 Nenana 75.67 335 IAmb IAmb 17 52 44.9
comp=Z,9.9nm,0.9s
EKA Eskdalemuir Ar 75.73 35 P **P 17 52 32.3 +0.6**
comp=Z,5.2nm,0.8s,baz=257,slow=4.8,SNR=8.1
comp=Z,5.2nm,0.8s
TBI Tubuai 75.92 244 *eLR* LR 18 15 57.4
comp=Z,668nm,30.2s
I23K Minto, Yukon-K 75.93 336 IAmb IAmb 17 52 44.2
comp=Z,7.3nm,0.8s
SKT Skwentna 76.18 332 IAmb IAmb 17 52 45.5
comp=Z,8.7nm,0.8s
BPAW Bear Paw Mtn. 76.37 334 P **P 17 52 35.7 +0.4**
MLY Manley 76.47 335 IAmb IAmb 17 52 47.4
comp=Z,7.5nm,0.9s
G23K Bananza Creek 76.58 337 IAmb IAmb 17 52 50.9
comp=Z,16nm,1.3s
CAST Castle Rocks 76.71 334 P **P 17 52 37.9 +0.7**
CAST IAmb IAmb 17 52 51.9
comp=Z,8.6nm,0.9s
D24K Happy Valley 76.76 340 IAmb IAmb 17 52 52.0
comp=Z,10nm,1.1s
I21K Tanana 77.02 335 IAmb IAmb 17 52 50.3
comp=Z,11nm,1.0s
H21K Melozitna Rive 77.45 336 P **P 17 52 41.8 +0.5**
K20K Telida 77.58 333 IAmb IAmb 17 52 55.9
comp=Z,10nm,1.1s
O18K Koktuh Hills 77.59 330 P **P 17 52 43.2 +1.0**
J20K Nowinta River 77.75 334 IAmb IAmb 17 52 56.5
comp=Z,10nm,1.0s
G21K Allakaket 77.89 337 IAmb IAmb 17 52 56.5
comp=Z,7.7nm,0.9s
F21K Alatna River 78.02 337 IAmb IAmb 17 52 59.3
comp=Z,12nm,1.1s
D22K Ayikyak River 78.05 339 IAmb IAmb 17 53 04.3
comp=Z,10nm,1.1s
CLF Chambon-Foret 78.39 42 P **P 17 52 45.9 -0.9**
TORD Torodi Ar. Bea 78.49 78 P **P 17 52 47.1 -0.9**
TORD Torodi Ar. Bea 78.49 78 P **P 17 52 48.9 +0.8**
comp=Z,2.2nm,0.4s,baz=270,slow=4.3,SNR=18
comp=Z,2.2nm,0.4s
B21K Ikpikpuk River 78.87 340 IAmb IAmb 17 53 04.2
comp=Z,18nm,1.1s
H19K Roundabout Mou 78.92 335 IAmb IAmb 17 53 04.3
comp=Z,12nm,1.0s
G18K Tagagawik 79.87 336 IAmb IAmb 17 53 06.6
comp=Z,8.4nm,0.8s
DOU Dourbes 79.99 40 *dP* **P 17 52 57.1 +1.5**
BCLA Clavier 80.45 40 *dP* **P 17 52 59.5 +1.4**
WLF Walferdange 81.00 41 *dP* **P 17 53 00.2 -0.8**
comp=Z,9.6nm,0.9s
TAM Tamanrasset 81.43 68 P **P 17 53 03.1 -0.9**
DAVA Damuels 83.54 43 *i* pP **P 17 53 17.0 +2.4**
comp=Z,15nm,1.4s
DAVOX Davos/Dischmat 83.57 44 P **P 17 53 16.2 +1.4**
comp=Z,3.3nm,0.7s,baz=263,slow=8.1,SNR=4.6
DAVOX LR LR 18 24 16.1
comp=Z,36nm,20.9s,baz=236,slow=31
comp=Z,3.3nm,0.7s
NB2 NORSAR Subarra 83.62 29 P **P 17 53 16.0 +1.4**
comp=Z,1.3nm,0.7s,baz=272,slow=5.1
NOA NORSAR Array B 83.62 29 P **P 17 53 16.2 +1.6**
comp=Z,4.0nm,0.9s,baz=274,slow=5.1,SNR=8.9
NOA LR LR 18 29 18.0
comp=Z,30nm,18.3s,baz=0.0,slow=35
comp=Z,4.0nm,0.9s
KEST Kera 83.88 55 P **P 17 53 18.4 +1.9**
comp=Z,5.1nm,0.8s,baz=284,slow=4.2,SNR=3.9
comp=Z,5.1nm,0.8s
RETA Reutte 84.13 43 *i* P **P 17 53 17.6 +0.1**
comp=Z,9.8nm,1.4s
FETA Feichten 84.14 43 *i* pP **P 17 53 20.1 +2.4**
comp=Z,6.0nm,1.1s
MOTA Moosalm 84.37 43 *eP* **P 17 53 18.0 -0.9**
comp=Z,4.6nm,1.1s
WATA Walderalm 84.69 43 *eP* **P 17 53 20.4 -0.1**
comp=Z,4.8nm,1.3s
RAR Rarotonga 84.84 248 LR LR 18 23 06.0
comp=Z,73nm,18.9s,baz=76,slow=30
HFS Hagfors 84.90 30 P **P 17 53 21.7 +0.7**
comp=Z,3.4nm,0.9s,baz=255,slow=8.8,SNR=3.4
HFS LR LR 18 26 38.8
comp=Z,64nm,20.4s,baz=254,slow=32
comp=Z,3.4nm,0.9s
CLL Collm 85.29 39 *eP* **P 17 53 25.0 +1.8**
CLL *ex* x 17 53 35.0
ABTA Abfaltersbach 85.38 44 *i* PcP **P 17 53 24.9 +1.0**
comp=Z,4.4nm,0.9s
LESA Schwarzleotal 85.43 43 *i* PcP **P 17 53 25.3 +1.2**
comp=Z,7.3nm,1.2s
KHC Kasperske Hory 85.86 41 P **P 17 53 25.3 -0.8**
KHC IAmb IAmb 17 53 29.3
comp=Z,14nm,1.5s
KHC Kasperske Hory 85.86 41 *eP* **P 17 53 28.5 +2.3**
KBA Koelnbreinsper 85.91 43 *i* PcP **P 17 53 27.1 +0.5**
comp=Z,9.5nm,1.5s
GEC2 GERESS Array S 85.97 41 IAmb IAmb 17 53 29.4
comp=Z,9.5nm,1.2s
GERES GERESS Array B 85.97 41 P **P 17 53 25.8 -1.0**
GERES GERESS Array B 85.97 41 P **P 17 53 28.4 +1.6**
comp=Z,1.6nm,0.8s,baz=298,slow=4.3,SNR=8.3
comp=Z,1.6nm,0.8s
BIOA Bad Ischl, Aus 86.05 43 *eP* **P 17 53 27.3 +0.2**
comp=Z,7.5nm,1.0s
MYKA Terra Mystica 86.16 44 *e*PcP **P 17 53 29.0 +1.3**
comp=Z,3.5nm,0.8s
ZVC Zvikov 86.23 41 *eP* **P 17 53 30.0 +2.1**
MOA Molln 86.45 42 *i* P **P 17 53 29.4 +0.3**
comp=Z,3.1nm,0.8s
SOKA Soboth 87.11 44 *i* P **P 17 53 32.0 -0.4**
comp=Z,3.0nm,0.9s
ARSA Arzberg 87.37 43 *i* PcP **P 17 53 34.4 +0.9**
comp=Z,4.1nm,1.0s
CONA Conrad Observa 87.51 42 *i* PcP **P 17 53 35.3 +1.0**
comp=Z,5.4nm,1.0s
VRAC Vranov 87.81 41 P **P 17 53 37.0 +1.4**
comp=Z,1.1nm,0.3s,baz=262,slow=7.2,SNR=3.4
VRAC LR LR 18 32 42.9
comp=Z,48nm,19.3s,baz=304,slow=36
comp=Z,1.1nm,0.3s
FINES FINESS Array B 90.64 28 P **P 17 53 49.4 +0.8**
comp=Z,2.3nm,0.7s,baz=270,slow=2.8,SNR=8.4
comp=Z,2.3nm,0.7s
SNAA Sanae 91.92 162 LR LR 18 34 32.5
comp=Z,47nm,21.8s,baz=13,slow=35
QSPA South Pole Qui 96.94 180 P **P 17 54 19.1 +1.5**
comp=Z,1.1nm,0.8s,baz=161,slow=1.3,SNR=3.7
comp=Z,1.1nm,0.8s
TSUM Tsumeb 97.53 108 LR LR 18 34 58.2
comp=Z,114nm,21.3s,baz=328,slow=33
TIXI Tiksi 99.59 352 LR LR 18 45 34.0
comp=Z,34nm,18.2s,baz=48,slow=39
DZM Mont Dzumac 116.20 249 *e*LR LR 18 34 38.7
comp=Z,54nm,29.0s
ZALV Zalesovo Beam 117.64 11 PKP **PKiKP 17 59 32.8 +0.4**
comp=Z,0.6nm,0.7s,baz=296,slow=2.5,SNR=3.7
KURBB Kurchatov Arra 119.19 17 PKP **PKiKP 17 59 36.5 +0.9**
comp=Z,0.7nm,0.2s,baz=325,slow=2.3,SNR=4.4
MKAR Makanchi Array 123.72 16 PKP **PKPdf 17 59 44.6 +0.2**
comp=Z,0.7nm,0.6s,baz=311,slow=2.1,SNR=7.4
MJAR Matsushiro Arr 125.01 324 PKP **PKiKP 17 59 48.8 +1.3**
comp=Z,0.9nm,0.5s,baz=342,slow=1.6,SNR=9.0
SONM Songino Array 125.33 356 PKP **PKiKP 17 59 48.5 +0.6**
comp=Z,0.7nm,0.7s,baz=345,slow=1.6,SNR=5.7
KSRS Korea Array 129.62 333 PKP **PKiKP 17 59 57.2 +0.6**
comp=Z,1.4nm,0.9s,baz=360,slow=2.8,SNR=3.2
HHC Hu-ho-hao-te 131.64 350 *eP* **PKPdf 17 59 55.1 -4.7**
NJ2 Nanjing 138.01 338 *eP* **PKPdf 18 00 10.0 -1.8**
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
AS31 Alice Springs 145.12 238 **PKPbc 18 00 22.7 -1.5**
ASAR Alice Springs 145.12 238 **PKPbc 18 00 23.6 -0.6**
ASAR Alice Springs 145.12 238 PKPbc **PKPbc 18 00 24.7 +0.5**
comp=Z,6.8nm,0.8s,baz=119,slow=3.9,SNR=44
WRAB Tennant Creek 146.04 244 **PKPdf 18 00 26.2 -0.1**
WRA Warramunga Arr 146.05 244 **PKPdf 18 00 26.5 +0.1**
WRA Warramunga Arr 146.05 244 PKPbc **PKPbc 18 00 27.5 +0.3**
comp=Z,3.6nm,0.9s,baz=102,slow=2.5,SNR=22
PZH PanZhiHua 146.76 0 PKPbc **PKPbc 18 00 29.4 +0.1**
KMI Kunming 148.12 359 ⇑PKPbc **PKPbc 18 00 33.3 +0.1**
CMAR Chiang Mai Arr 154.59 7 **PKPdf 18 00 36.4 -3.4**
CMAR PKPab **PKPab 18 00 59.9 -2.6**
CMAR Chiang Mai Arr 154.59 7 PKP **PKPdf 18 00 41.3 +1.5**
comp=Z,0.8nm,0.3s,baz=318,slow=1.2,SNR=6.6
CMAR PKPbc **PKiKP 18 00 49.0 +0.7**
comp=Z,2.9nm,0.8s,baz=329,slow=2.7,SNR=16

TAP 23 17:49:03.6, 23°50N×121°74E, h33km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.28**	**320**	*eP*	Pb	17 49 11.0	0.0
TEGC				*eS*	Sn	17 49 16.6	+0.2
HGSD	**Ruisui**	**0.29**	**269**	P	Pb	17 49 10.5	-0.6
HGSD				*eS*	Sb	17 49 15.7	-0.6
ECBN	**Changbin**	**0.32**	**236**	P	Pb	17 49 11.7	+0.2
ECBN				*i* S	Sb	17 49 17.0	+0.1
EGFH	**Guangfu**	**0.33**	**301**	*eP*	Pb	17 49 11.7	-0.1
EGFH				S	Sb	17 49 17.3	0.0
SHUL	**Shoufeng**	**0.33**	**331**	P	Pb	17 49 11.6	-0.1
SHUL				*i* S	Sn	17 49 17.6	-0.2
EHY	**Hungye**	**0.38**	**272**	*eP*	Pb	17 49 12.4	0.0
EHY				*eS*	Sb	17 49 18.3	-0.1
WARBT	**Fenglin Townsh**	**0.39**	**305**	*i* P	Pb	17 49 12.2	-0.4
WARBT				*eS*	Sb	17 49 18.1	-0.6
EYUL	**Yuli**	**0.41**	**249**	P	Pb	17 49 12.8	-0.1
EYUL				S	Sn	17 49 19.8	+0.1
YULB	**Yu-li**	**0.42**	**256**	*eP*	Pb	17 49 13.0	+0.1
YULB				S	Sn	17 49 19.8	-0.1
ESL	**Shilin**	**0.42**	**319**	P	Pb	17 49 12.3	-0.7
ESL				*i* S	Sb	17 49 18.9	-0.6
TWF1	**Yuli**	**0.43**	**251**	*i* P	Pb	17 49 12.5	-0.6
TWF1				*eS*	Sn	17 49 20.2	0.0
FULB	**Fuli**	**0.50**	**234**	*eP*	Pb	17 49 13.4	-0.8
FULB				*eS*	Sb	17 49 21.5	0.0
ETM	**Tongmen**	**0.52**	**335**	*i* P	Pb	17 49 14.1	-0.4
ETM				*eS*	Sn	17 49 23.2	+0.7
CHKT	**Chengkung**	**0.52**	**221**	*eP*	Pb	17 49 13.5	-1.0
CHKT				*eS*	Sb	17 49 20.1	-1.9
LXIB	**Xiulin Townshi**	**0.60**	**331**	P	Pb	17 49 15.2	-0.8
LXIB				S	Sb	17 49 24.2	-0.2
VWDT	**VWDT**	**0.60**	**295**	*eP*	Pn	17 49 16.1	+0.3
VWDT				*eS*	Sn	17 49 24.6	0.0
EDH	**Donghe**	**0.66**	**217**	*i* P	Pn	17 49 15.5	-1.1
EDH				*eS*	Sb	17 49 24.0	-1.6
NACB	**Ninganchiao**	**0.69**	**349**	P	Pn	17 49 16.2	-0.9
OWD	**Renai**	**0.69**	**312**	P	Pn	17 49 16.8	-0.4
OWD				*eS*	Sb	17 49 25.8	-0.9
ELDTW	**Lidau**	**0.73**	**245**	*i* P	Pn	17 49 17.0	-0.7
ELDTW				*i* S	Sb	17 49 26.6	-1.2
ETLH	**Xiulin Townshi**	**0.75**	**342**	P	Pn	17 49 17.5	-0.5
ETLH				S	Sn	17 49 27.3	-0.9
WUSB	**Renai**	**0.75**	**311**	*eP*	Pn	17 49 18.1	0.0
WUSB				*i* S	Sn	17 49 28.2	-0.2
SSLB	**Suanglung**	**0.77**	**292**	*eP*	Pb	17 49 18.8	0.0
SSLB				S	Sn	17 49 28.4	-0.4
WHYT	**Xinyi Township**	**0.83**	**284**	*eP*	Pb	17 49 19.5	-0.2
WHYT				*eS*	Sb	17 49 30.6	-0.1
ALS	**Alishan**	**0.85**	**271**	*eP*	Pb	17 49 20.0	-0.2
ALS				*eS*	Sb	17 49 31.4	-0.1
SMLT	**Sun Moon Lake**	**0.86**	**297**	*eP*	Pn	17 49 19.8	+0.3
SMLT				*eS*	Sn	17 49 30.9	-0.2
FUSS	**Fushou**	**0.87**	**329**	P	Pn	17 49 18.8	-1.1
FUSS				S	Sb	17 49 31.9	-0.2
NNSB	**Datong**	**0.98**	**341**	*eS*	Sn	17 49 33.7	-0.4

TAP 23 17:49:10.0, 24°52N×121°78E, h32km±1km, ML1.3, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.07**	**182**	P	Pb	17 49 15.9	+0.5
EWUT				*i* S	Sb	17 49 19.9	+0.7
ESAO	**Su ao**	**0.08**	**46**	*i* P	Pb	17 49 15.7	+0.2
ESAO				S	Sb	17 49 19.8	+0.5
ENA	**Nanau**	**0.10**	**202**	*eP*	Pb	17 49 16.2	+0.6
ENA				*i* S	Sb	17 49 20.2	+0.8
TWC	**Suao**	**0.11**	**35**	P	Pb	17 49 16.1	+0.4
TWC				*eS*	Sb	17 49 21.6	+2.0
NDS	**Dongshan**	**0.13**	**332**	P	Pn	17 49 15.1	-0.7
NDS				S	Sb	17 49 20.3	+0.5
EHP	**Heping Village**	**0.21**	**190**	*i* P	Pn	17 49 16.9	0.0
EHP				S	Sn	17 49 22.2	+0.9

TWE	**Neicheng**	**0.23 333**	*i* P		Pn	17 49 17.0	-0.1
TWE			S		Sn	17 49 22.4	+0.7
ENTT	**Nioudou**	**0.23 301**	*i* P		Pn	17 49 17.1	-0.1
ENTT			*e*S		Sn	17 49 22.1	+0.3
NNSB	**Datong**	**0.37 256**	*e*P		Pn	17 49 21.4	+2.2
NNSB			*e*S		Sn	17 49 26.9	+1.4
NACB	**Ninganchiao**	**0.38 206**	*i* P		Pn	17 49 19.2	-0.1
EOS2	**EOS2**	**0.42 104**	*e*S		Sb	17 49 24.6	-1.0

*SCB **23** 17:52:58.1±1.4, 21°.34S×66°.79W, h233km±12km, ML3.3/3, Error ellipse: s-maj=11.4km s-min=8.9km az=0.0*
*SJA **23** 17:52:59.0, 21°.53S×66°.89W, h230km, ML3.0*
ISC 23 17:53:00.4±1.3, 21°.40S±0°.06×66°.78W±0°.06, h207km, n18, σ1§30/21, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.07**	**82**	Pg	**Pn**	**17 53 33.2**	**+1.2**
MOCB				Sg	**S**	**17 53 58.3**	**+2.1**
MOCB				IAML		17 53 58.7	
	164nm,0.5s						
YJA	**Yavi**	**1.40**	**124**	*i* P	**Pn**	**17 53 35.6**	**+1.2**
PB09	**IPOC Station P**	**2.33**	**260**	Pg	**Pn**	**17 53 43.2**	**+0.1**
PB01	**IPOC Station P**	**2.56**	**278**	*i* P	**Pn**	**17 53 45.4**	**-0.1**
PB01	**IPOC Station P**	**2.56**	**278**	Pg	**Pn**	**17 53 46.1**	**+0.6**
PB01				Sg	**S**	**17 54 20.8**	**+0.7**
PB01				IAML		17 54 23.5	
	69nm,0.2s						
GO01	**Chusmiza**	**2.85**	**307**	*i* P	**Pn**	**17 53 50.2**	**+1.0**
AZAP	**Zapla**	**3.22**	**151**	*i* P	**Pn**	**17 53 53.5**	**+0.2**
PB04	**IPOC Station P**	**3.27**	**253**	*i* P	**Pn**	**17 53 52.8**	**-1.0**
PB04	**IPOC Station P**	**3.27**	**253**	Pg	**Pn**	**17 53 53.5**	**-0.3**
PB04				Sg	**S**	**17 54 34.2**	**-0.8**
PB04				IAML		17 54 35.8	
	42nm,0.4s						
TA01	**Diego Aracena**	**3.29**	**284**	*i* P	**Pn**	**17 53 52.3**	**-1.5**
SOET	**ToroToro**	**3.39**	**16**	Pg	**Pn**	**17 53 54.6**	**-0.9**
AOEA	**Aiquile**	**3.52**	**25**	Pg	**Pn**	**17 53 55.2**	**-1.8**
ALOL	**LOMAS DE OLMED**	**3.52**	**133**	*i* P	**Pn**	**17 53 56.3**	**-0.4**
PB12	**IPOC Station P**	**4.34**	**309**	*i* P	**Pn**	**17 54 05.5**	**-1.4**
GO02	**Mina Guanaco**	**4.55**	**214**	*i* P	**Pn**	**17 54 08.1**	**-1.5**
PB14	**IPOC Station P**	**4.63**	**225**	*i* P	**Pn**	**17 54 09.1**	**-1.6**
LPAZ	**La Paz**	**5.25**	**346**	*i* P	**Pn**	**17 54 20.3**	**+1.5**
BBSD	**Serra de San D**	**7.17**	**55**	Pg	**Pn**	**17 54 41.1**	**-2.0**

*DJA **23** 18:01:40.2±0.5, 7°.5S×73°.13E±°, h162km±14km, M4.0/10, mb3.9/5, mB4.5/1, MLv4.1/10, Mw(mB)3.7/1*
*IDC **23** 18:01:42.9±10.0, 7°.15S×130°.38E, h155km±107km, mb3.0/1, mbtmp3.7/5, Error ellipse: s-maj=107.9km s-min=32.3km az=46.0*
ISC 23 18:01:40.1±1.0, 6°.87S±0°.07×130°.42E±0°.08, h150km, n17, σ2§02/18, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.42**	**142**	P	**Pn**	**18 02 09.2**	**+0.4**
SAUI	**Saumlaki**	**1.42**	**142**	P	**Pn**	**18 02 09.4**	**+0.6**
BNDI	**Bandanaira**	**2.38**	**348**	P	**Pn**	**18 02 19.7**	**-0.1**
FAKI	**Fak Fak**	**4.32**	**25**	P	**Pn**	**18 02 42.8**	**-1.8**
FAKI	**Fak Fak**	**4.32**	**25**	P	**Pn**	**18 02 43.2**	**-1.4**
KMPI	**Kaimana, Papua**	**4.57**	**46**	P	**Pn**	**18 02 48.2**	**+0.4**
DRS	**Darwin Rock St**	**5.55**	**175**	P	**Pn**	**18 03 01.2**	**+0.4**
MTN	**Manton Dam**	**5.98**	**173**	P	**Pn**	**18 03 07.2**	**+0.6**
SWI	**Sorong**	**6.02**	**8**	P	**Pn**	**18 03 05.1**	**-2.0**
	17nm,0.5s,713nm0.2nm						
KDU	**Kakadu**	**6.13**	**161**	P	**Pn**	**18 03 08.2**	**-0.3**
SOEI	**Soe**	**6.73**	**244**	P	**Pn**	**18 03 19.6**	**+3.0**
SOEI	**Soe**	**6.73**	**244**	P	**Pn**	**18 03 18.9**	**+2.3**
BATI	**Baumata**	**7.46**	**243**	P	**Pn**	**18 03 28.1**	**+1.8**
	7.7nm,0.4s,baz=79,slow=10,SNR=2.2						
BATI				S	**Sn**	**18 04 46.0**	**-3.7**
	11nm,0.4s,baz=316,slow=8.2,SNR=2.5						
FITZ	**Fitzroy Crossi**	**12.10**	**202**	P	**Pn**	**18 04 25.7**	**-2.0**
	2.8nm,0.5s,baz=27,slow=11,SNR=36						
FITZ				S	Sn	18 06 29.5	-12
	2.6nm,0.8s,baz=194,slow=12,SNR=1.7						
WRA	**Warramunga Arr**	**13.55**	**164**	P	**Pn**	**18 04 44.4**	**-1.9**
	0.6nm,0.6s,baz=344,slow=14,SNR=20						
WRA				S	Sn	18 07 05.1	-11
	1.1nm,0.4s,baz=342,slow=22,SNR=8.7						
ASAR	**Alice Springs**	**17.04**	**169**	P	**Pn**	**18 05 30.1**	**+0.6**
	0.4nm,0.4s,baz=349,slow=9.5,SNR=20						
ASAR				S	S	18 08 25.4	-14
	0.6nm,1.0s,baz=348,slow=25,SNR=2.2						
MKAR	**Makanchi Array**	**68.34**	**327**	P	**P**	**18 12 28.6**	**+3.4**
	0.2nm,0.5s,baz=111,slow=7.8,SNR=2.3						
	0.2nm,0.5s						

*NEIC **23** 18:22:01.7±1.3, 5°.64S±0°.08×154°.37E±0°.10, h140km±6km, mb4.4/43, Error ellipse: s-maj=14.0km s-min=11.4km az=90.0*
*IDC **23** 18:22:04.6±3.1, 5°.69S×154°.45E, h174km±27km, mb3.7/13, mbtmp4.2/15, Error ellipse: s-maj=20.0km s-min=13.3km az=86.0*
ISC 23 18:22:01.9±0.5, 5°.55S±0°.06×154°.41E±0°.07, h150km, n91, σ1§20/90, mb4.3/30, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.61**	**301**		**Pn**	**18 22 44.1**	**-0.3**
RABL				Sn	**Sn**	**18 23 11.9**	**-5.3**
TATA	**Tatamba Isabel**	**6.05**	**118**	P	**Pn**	**18 23 28.7**	**-0.6**
PMG	**Port Moresby**	**8.15**	**242**		**Pn**	**18 23 57.4**	**+0.1**
PMG					**Sn**	**18 25 28.7**	**+0.7**
PMG	**Port Moresby**	**8.15**	**242**	P	**Pn**	**18 24 00.4**	**+3.2**
	44nm,0.8s,baz=345,slow=3.0,SNR=26						
PMG				S	**Sn**	**18 25 29.5**	**+1.5**
	4.6nm,0.4s,baz=306,slow=19,SNR=1.7						
PMG	**Port Moresby**	**8.15**	**242**	P	Pn	18 24 01.5	+4.2
PMG	**Port Moresby**	**8.15**	**242**	P	Pn	18 24 01.3	+4.0
NGOA	**Tingoa Renbel**	**8.18**	**137**	P	**Pn**	**18 23 57.2**	**-0.4**
PATS	**Pohnpei**	**12.90**	**18**	Pn	**Pn**	**18 24 59.0**	**-0.9**
EIDS	**Eidsvold**	**19.96**	**189**	P	**P**	**18 26 22.0**	**-0.5**
EIDS				IAmb	IAmb	18 26 57.4	
	comp=Z,18nm,1.3s						
DZM	**Mont Dzumac**	**20.13**	**146**		**P**	**18 26 23.5**	**-1.0**
DZM				IAmb	IAmb	18 26 25.0	
	comp=Z,8.3nm,0.5s						
DZM	**Mont Dzumac**	**20.13**	**146**	P	**P**	**18 26 24.3**	**-0.1**
	comp=Z,6.7nm,0.4s,baz=342,slow=20,SNR=29						
DZM	**Mont Dzumac**	**20.13**	**146**	P	**P**	**18 26 24.1**	**-0.3**
ONTNC	**Ouen Toro**	**20.33**	**146**	P	**P**	**18 26 26.8**	**+0.4**
ONTNC				IAmb	IAmb	18 26 34.2	
	comp=Z,20nm,1.0s						
QIS	**Mount Isa**	**20.72**	**223**	P	Pn	18 26 32.9	-1.9
PINNC	**Pines Island,**	**21.13**	**145**	P	**P**	**18 26 35.8**	**+0.9**
KDU	**Kakadu**	**22.78**	**250**	P	**P**	**18 26 51.2**	**-0.5**
WR0	**Warramunga Arr**	**24.05**	**232**	P	**P**	**18 27 02.7**	**-0.7**
WR0				IAmb	IAmb	18 27 04.3	
	comp=Z,11nm,1.1s						
WB0	**Warramunga Arr**	**24.06**	**232**	P	**P**	**18 27 02.9**	**-0.6**
WB0				IAmb	IAmb	18 27 04.2	
	comp=Z,12nm,1.0s						
MTN	**Manton Dam**	**24.08**	**251**	P	**P**	**18 27 03.4**	**-0.2**
MTN				IAmb	IAmb	18 27 36.1	
	comp=Z,20nm,1.3s						
MTN	**Manton Dam**	**24.08**	**251**	P	**P**	**18 27 03.4**	**-0.2**
WRAB	**Tennant Creek**	**24.19**	**232**	P	**P**	**18 27 04.3**	**-0.3**
WRAB				IAmb	IAmb	18 27 05.3	
	comp=Z,6.7nm,0.7s						
WB2	**Warramunga Arr**	**24.19**	**232**	P	**P**	**18 27 04.0**	**-0.6**
WB2				IAmb	IAmb	18 27 05.5	
	comp=Z,5.9nm,0.7s						
WRA	**Warramunga Arr**	**24.20**	**232**	P	**P**	**18 27 03.0**	**-1.7**
WRA	**Warramunga Arr**	**24.20**	**232**	P	**P**	**18 27 04.5**	**-0.2**
	comp=Z,5.0nm,0.5s,baz=57,slow=10.0,SNR=74						
WRA				PcP	**PcP**	**18 30 41.4**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=45,slow=2.3,SNR=1.7						
	comp=Z,5.0nm,0.5s						
INKA	**Innaminka**	**25.61**	**209**	P	**P**	**18 27 16.6**	**-0.8**
AS31	**Alice Springs**	**26.73**	**226**	P	**P**	**18 27 26.2**	**-1.3**
ASAR	**Alice Springs**	**26.73**	**226**	P	**P**	**18 27 26.6**	**-0.9**
ASAR	**Alice Springs**	**26.73**	**226**	P	**P**	**18 27 26.9**	**-0.6**
	comp=Z,2.1nm,0.3s,baz=56,slow=9.4,SNR=61						
ASAR				PcP	**PcP**	**18 30 47.0**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=58,slow=2.3,SNR=1.9						
	comp=Z,2.1nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**26.78**	**27**	T	T	18 55 36.5	
	baz=207,slow=70,SNR=11						
H11S2	**WAKE ISLAND Hy**	**26.79**	**27**	T	T	18 55 35.6	
	baz=207,slow=70,SNR=10						
H11S1	**WAKE ISLAND Hy**	**26.80**	**27**	T	T	18 55 36.5	
	baz=207,slow=70,SNR=11						
KNRA	**Kununurra**	**27.11**	**246**	P	**P**	**18 27 30.2**	**-0.7**
KNRA				IAmb	IAmb	18 27 36.6	
	comp=Z,21nm,1.2s						
STKA	**Stephens Creek**	**28.81**	**203**	P	**P**	**18 27 44.9**	**-1.1**
STKA	**Stephens Creek**	**28.81**	**203**	P	**P**	**18 27 44.7**	**-1.2**
	comp=Z,2.1nm,0.5s,baz=25,slow=13,SNR=6.1						
	comp=Z,2.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**30.73**	**244**	P	**P**	**18 28 02.2**	**-0.8**
BBOO	**Buckleboo**	**32.07**	**210**	P	**P**	**18 28 13.3**	**-1.4**
TOLI2	**Tolitoli**	**34.23**	**280**	P	**P**	**18 28 33.2**	**-0.4**
TOLI2				IAmb	IAmb	18 28 52.8	
	comp=Z,8.4nm,0.8s						
FORT	**Forrest**	**35.26**	**221**	P	**P**	**18 28 41.0**	**-1.2**
MBWA	**Marble Bar**	**37.01**	**242**	P	**P**	**18 28 56.4**	**-0.9**
BKZ	**Black Stump Fm**	**38.97**	**152**	P	**P**	**18 29 13.0**	**-0.6**
TSZ	**Takapari Road**	**39.45**	**154**	P	**P**	**18 29 16.0**	**-1.5**
TCW	**Tory Channel**	**39.70**	**156**	P	**P**	**18 29 19.7**	**+0.2**
TCW	**Tory Channel**	**39.70**	**156**	P	**P**	**18 29 19.8**	**+0.3**
OGWZ	**Otaki Gorge**	**39.74**	**155**	P	**P**	**18 29 19.4**	**-0.4**
TUWZ	**Tuamarina**	**39.76**	**157**	P	**P**	**18 29 20.2**	**+0.3**
MRZ	**Mangatainoka R**	**39.78**	**155**	P	**P**	**18 29 19.4**	**-0.7**
HOWZ	**Holdsworth Sta**	**39.95**	**155**	P	**P**	**18 29 20.8**	**-0.8**
BFZ	**Birch Farm**	**40.09**	**154**	P	**P**	**18 29 21.9**	**-0.8**
BFZ	**Birch Farm**	**40.09**	**154**	P	**P**	**18 29 22.0**	**-0.7**
BHW	**Baring Head**	**40.11**	**156**	P	**P**	**18 29 22.3**	**-0.5**
MTW	**Mount Morrison**	**40.16**	**155**	P	**P**	**18 29 22.5**	**-0.8**
LTZ	**Lake Taylor**	**40.32**	**160**	P	**P**	**18 29 24.7**	**+0.2**
KHZ	**Kahutara**	**40.45**	**158**	P	**P**	**18 29 25.2**	**-0.4**
GVZ	**Greta Valley S**	**40.75**	**159**	P	**P**	**18 29 27.1**	**-0.9**
GVZ	**Greta Valley S**	**40.75**	**159**	P	**P**	**18 29 27.5**	**-0.6**
MQZ	**McQueen's Vall**	**41.26**	**160**	P	**P**	**18 29 31.8**	**-0.5**
MORW	**Morawa**	**43.15**	**233**	P	**P**	**18 29 46.4**	**-1.4**
MORW				IAmb	IAmb	18 30 28.2	
	comp=Z,18nm,1.2s						
TPUB	**Ta-pu**	**43.71**	**312**	P	**P**	**18 29 53.3**	**+0.9**
JNU	**Nakatsue**	**44.47**	**331**	P	**P**	**18 29 58.8**	**+0.5**
JSD	**Sado**	**45.89**	**342**	P	**P**	**18 30 10.6**	**+1.3**
KSRS	**Korea Array**	**49.40**	**332**	P	**P**	**18 30 37.0**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=155,slow=7.5,SNR=3.0						
	comp=Z,0.9nm,0.7s						
PETK	**Petropavlovsk-**	**58.50**	**2**	P	**P**	**18 31 43.4**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=150,slow=6.2,SNR=13						
	comp=Z,0.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**59.64**	**295**	P	**P**	**18 31 52.6**	**+1.9**
	comp=Z,1.2nm,0.4s,baz=130,slow=4.8,SNR=15						
	comp=Z,1.2nm,0.4s						
SONM	**Songino Array**	**67.81**	**327**	P	**P**	**18 32 45.2**	**+1.4**
SONM	**Songino Array**	**67.81**	**327**	P	**P**	**18 32 45.3**	**+1.5**
	comp=Z,0.8nm,0.5s,baz=148,slow=5.4,SNR=8.7						
	comp=Z,0.8nm,0.5s						
SHL	**Shillong**	**68.07**	**300**	P	**P**	**18 32 46.4**	**+0.5**
SHL				IAmb	IAmb	18 32 47.7	
	comp=Z,6.7nm,1.0s						
OHAK	**Old Harbor**	**75.49**	**26**	P	**P**	**18 33 30.6**	**+1.3**
OHAK				IAmb	IAmb	18 33 49.0	
	comp=Z,13nm,1.2s						
K15K	**Wolf Creek Mou**	**75.56**	**20**	P	**P**	**18 33 31.8**	**+2.2**
L19K	**White Mountain**	**77.84**	**22**	P	**P**	**18 33 44.1**	**+1.7**
L19K				IAmb	IAmb	18 34 06.7	
	comp=Z,12nm,1.5s						
M19K	**Big River Lodg**	**77.84**	**22**	P	**P**	**18 33 44.4**	**+1.9**
M19K				IAmb	IAmb	18 34 05.1	
	comp=Z,11nm,1.4s						
J20K	**Nowinta River**	**79.32**	**20**	P	**P**	**18 33 52.0**	**+1.5**
CAST	**Castle Rocks**	**79.60**	**22**	P	**P**	**18 33 52.7**	**+0.6**
PWL	**Port Wells**	**79.64**	**25**	P	**P**	**18 33 53.3**	**+0.9**
PWL				IAmb	IAmb	18 33 54.9	
	comp=Z,8.6nm,1.1s						
E19K	**Redstone River**	**80.42**	**17**	P	**P**	**18 33 58.4**	**+2.0**
E19K				IAmb	IAmb	18 34 14.9	
	comp=Z,7.8nm,1.3s						
IMAR	**Indian Mountai**	**80.56**	**19**	P	**P**	**18 33 58.6**	**+1.4**
RND	**Reindeer**	**80.80**	**22**	P	**P**	**18 33 59.5**	**+0.9**
MK31	**Makanchi Array**	**81.94**	**319**	P	**P**	**18 34 05.8**	**+0.9**
MKAR	**Makanchi Array**	**81.94**	**319**	P	**P**	**18 34 05.6**	**+0.7**
MKAR	**Makanchi Array**	**81.94**	**319**	P	**P**	**18 34 05.8**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=95,slow=8.0,SNR=7.4						
	comp=Z,0.4nm,0.5s						
ILAR	**Eielson Array**	**82.25**	**22**	P	**P**	**18 34 06.0**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=244,slow=5.5,SNR=8.4						
	comp=Z,0.5nm,0.6s						
D22K	**Ayikyak River**	**82.64**	**17**	P	**P**	**18 34 09.6**	**+1.6**
D22K				IAmb	IAmb	18 34 40.0	
	comp=Z,12nm,1.5s						
ZALV	**Zalesovo Beam**	**82.66**	**326**	P	**P**	**18 34 08.1**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=93,slow=7.2,SNR=3.6						
	comp=Z,0.5nm,0.6s						
D23K	**Nanushuk River**	**83.28**	**17**	P	**P**	**18 34 13.3**	**+2.0**
QSPA	**South Pole Qui**	**84.42**	**180**	P	**P**	**18 34 16.9**	**-0.5**
QSPA				IAmb	IAmb	18 34 18.1	
	comp=Z,5.7nm,0.9s						
QSPA	**South Pole Qui**	**84.42**	**180**	P	**P**	**18 34 17.2**	**-0.1**
	comp=Z,4.5nm,0.7s,baz=23,slow=0.4,SNR=28						
	comp=Z,4.5nm,0.7s						
MAW	**Mawson**	**85.50**	**203**	P	**P**	**18 34 22.1**	**-0.4**
	comp=Z,3.2nm,0.6s,baz=108,slow=9.7,SNR=12						
	comp=Z,3.2nm,0.6s						
C27K	**Jago River**	**85.74**	**18**	P	**P**	**18 34 25.6**	**+1.9**
C27K				IAmb	IAmb	18 34 37.2	
	comp=Z,5.3nm,1.4s						
G29M	**Pine Creek**	**86.47**	**21**	P	**P**	**18 34 28.8**	**+1.4**
H31M	**Peel River**	**87.46**	**23**	P	**P**	**18 34 33.2**	**+1.1**
H31M				IAmb	IAmb	18 34 56.0	
	comp=Z,6.7nm,1.4s						
BVAR	**Borovoye Array**	**90.80**	**323**	P	**P**	**18 34 46.8**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=112,slow=6.4,SNR=2.9						
	comp=Z,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**152.06**	**288**	PKPbc	**PKPbc**	**18 41 39.1**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=74,slow=2.7,SNR=1.5						

*SJA **23** 18:28:12.8±0.9, 24°.05S×66°.99W, h219km±5km, ML4.4, MW4.4*
*NEIC **23** 18:28:12.7±2.1, 24°.06S±0°.05×66°.81W±0°.05, h177km±5km, mb4.6/147, Error ellipse: s-maj=7.9km s-min=5.7km az=158.0*
*IDC **23** 18:28:14.5±1.7, 23°.95S×66°.81W, h185km±14km, mb4.0/15, mbtmp4.5/20, Error ellipse: s-maj=15.8km s-min=10.4km az=60.0*
*GUC **23** 18:28:14.8±0.7, 24°.00S×67°.05W, h202km±10km, ML4.8*
*VAO **23** 18:28:15.6±0.3, 23°.95S×66°.76W, h189km, mb4.5*
ISC 23 18:28:13.8±0.6, 24°.03S±0°.03×67°.04W±0°.03, h190km±5km, n297, σ1§57/306, mb4.5/75, 11C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.50**	**316**	Pn	**Pn**	**18 28 47.5**	**+0.5**
AF01				Sn	**Sn**	**18 29 13.7**	**+1.0**
AF01	**San Pedro de A**	**1.50**	**316**	*e*P	**Pn**	**18 28 50.0**	**+2.9**
AF01	**San Pedro de A**	**1.50**	**316**	*e*P	**Pn**	**18 28 49.4**	**+2.3**
AF01				*e*S	**Sn**	**18 29 16.8**	**+4.1**
AF01				IAML		18 29 22.9	
	comp=Z,1μm,0.5s						
SLA	**San Lorenzo**	**1.56**	**116**	⇓*i*P	**Pn**	**18 28 49.2**	**+1.8**
SLA				*i* S	**Sn**	**18 29 13.0**	**-0.4**
SLA	**San Lorenzo**	**1.56**	**116**	*e*P	**Pn**	**18 28 49.2**	**+1.8**
SLA				*e*S	**Sn**	**18 29 15.3**	**+1.9**
SLA				IAML		18 29 16.1	
	comp=Z,637nm,1.2s						
AZAP	**Zapla**	**1.81**	**96**	*e*P	**Pn**	**18 28 51.1**	**+1.1**
AZAP				*e*S	**Sn**	**18 29 20.4**	**+2.5**
AZAP				IAML		18 29 30.4	
	comp=Z,1μm,1.1s						
FSA	**Cafayete**	**2.28**	**155**	*e*P	**Pn**	**18 28 56.1**	**+1.2**
FSA				*e*S	**Sn**	**18 29 27.4**	**+0.4**
YJA	**Yavi**	**2.32**	**38**	*e*P	**Pn**	**18 28 56.8**	**+1.2**
YJA				*e*S	**Sn**	**18 29 29.3**	**+1.2**
YJA	**Yavi**	**2.32**	**38**	*e*P	**Pn**	**18 28 57.1**	**+1.5**
YJA				*e*S	**Sn**	**18 29 30.1**	**+2.0**
GO02	**Mina Guanaco**	**2.58**	**244**	Pn	**Pn**	**18 29 00.0**	**+1.7**
GO02				Sn	**Sn**	**18 29 34.2**	**+1.2**
GO02	**Mina Guanaco**	**2.58**	**244**	⇑*i*P	**Pn**	**18 29 00.5**	**+2.1**
GO02				*e*S	**Sn**	**18 29 34.9**	**+1.8**
GO02				IAML		18 29 36.4	
	comp=N,5μm,0.3s						
GO02	**Mina Guanaco**	**2.58**	**244**	*e*P	**Pn**	**18 29 00.5**	**+2.1**
GO02				*e*S	**Sn**	**18 29 34.9**	**+1.8**
ALOL	**LOMAS DE OLMED**	**2.81**	**86**	*e*P	**Pn**	**18 29 01.5**	**+0.8**
PB09	**IPOC Station P**	**3.01**	**317**		**Pn**	**18 29 05.2**	**+1.8**
PB09				Sn	**Sn**	**18 29 42.6**	**+0.7**
PB09	**IPOC Station P**	**3.01**	**317**	⇑*i*P	**Pn**	**18 29 05.5**	**+2.1**
PB09				*e*S	**Sn**	**18 29 42.8**	**+0.8**
PB09				IAML		18 29 51.0	
	comp=E,514nm,0.3s						
PB09	**IPOC Station P**	**3.01**	**317**	*e*P	**Pn**	**18 29 05.4**	**+2.1**
PB09				*e*S	**Sn**	**18 29 44.1**	**+2.1**
PB09				IAML		18 29 49.9	
	comp=Z,592nm,0.2s						
PB14	**IPOC Station P**	**3.12**	**258**	Pn	**Pn**	**18 29 06.0**	**+1.2**
PB14				Sn	**Sn**	**18 29 43.0**	**-1.5**
PB14	**IPOC Station P**	**3.12**	**258**	⇑*i*P	**Pn**	**18 29 06.3**	**+1.5**
PB14				*i* S	**Sn**	**18 29 44.6**	**+0.1**
PB14	**IPOC Station P**	**3.12**	**258**	*e*P	**Pn**	**18 29 06.3**	**+1.5**
PB14				*e*S	**Sn**	**18 29 45.5**	**+0.9**
PB14				IAML		18 29 49.0	
	comp=Z,869nm,0.2s						
AHML	**Horco Molle**	**3.14**	**151**	*e*P	**Pn**	**18 29 05.6**	**+0.8**
AHML				*e*S	**Sn**	**18 29 44.1**	**-0.6**
PB04	**IPOC Station P**	**3.32**	**300**	Pn	**Pn**	**18 29 08.4**	**+1.3**
PB04				Sn	**Sn**	**18 29 48.0**	**-0.7**
PB04	**IPOC Station P**	**3.32**	**300**	⇑*i*P	**Pn**	**18 29 08.5**	**+1.4**
PB04				*i* S	**Sn**	**18 29 48.4**	**-0.3**
PB04	**IPOC Station P**	**3.32**	**300**	*e*P	**Pn**	**18 29 08.5**	**+1.4**
PB04				*e*S	**Sn**	**18 29 49.2**	**+0.5**
PB04				IAML		18 29 54.7	
	comp=Z,1μm,0.2s						
PB01	**IPOC Station P**	**3.74**	**322**		**Pn**	**18 29 12.5**	**+0.4**
PB01				Sn	**Sn**	**18 29 56.5**	**-1.3**
PB01	**IPOC Station P**	**3.74**	**322**	⇑*i*P	**Pn**	**18 29 13.0**	**+0.8**
PB01				*i* S	**Sn**	**18 29 56.8**	**-1.0**
PB01	**IPOC Station P**	**3.74**	**322**	*e*P	**Pn**	**18 29 13.2**	**+1.1**
PB01				*e*S	**Sn**	**18 29 58.2**	**+0.4**
PB01				IAML		18 30 02.1	
	comp=Z,571nm,0.2s						
AC01	**Pan de Azucar**	**3.85**	**236**	Pn	**Pn**	**18 29 13.3**	**-0.1**
AC01				Sn	**Sn**	**18 29 58.4**	**-1.8**
AC01	**Pan de Azucar**	**3.85**	**236**	⇑*i*P	**Pn**	**18 29 13.9**	**+0.5**
AC01	**Pan de Azucar**	**3.85**	**236**	*e*P	**Pn**	**18 29 13.9**	**+0.5**
AC01				*e*S	**Sn**	**18 29 59.6**	**-0.5**
AC01				IAML		18 30 00.0	
	comp=Z,482nm,0.6s						
GUSE	**Guasayan**	**4.32**	**153**	*e*P	**Pn**	**18 29 19.8**	**+0.5**
PX03	**IPOC Station P**	**4.34**	**326**	*e*P	**Pn**	**18 29 19.3**	**-0.4**
PB08	**IPOC Station P**	**4.34**	**333**		**Pn**	**18 29 21.1**	**+1.1**
PB08				Sn	**Sn**	**18 30 11.0**	**-0.9**
AC06	**Mina Casimiro**	**4.46**	**221**		**Pn**	**18 29 21.0**	**-0.1**
AC06				Sn	**Sn**	**18 30 10.8**	**-3.3**
AC06	**Mina Casimiro**	**4.46**	**221**	*e*P	**Pn**	**18 29 21.2**	**+0.1**
TA01	**Diego Aracena**	**4.51**	**319**	Pn	**Pn**	**18 29 21.1**	**-0.7**
TA01				Sn	**Sn**	**18 30 11.9**	**-3.3**
TA01	**Diego Aracena**	**4.51**	**319**	*e*P	**Pn**	**18 29 21.9**	**+0.1**
TA01				*i* S	**Sn**	**18 30 12.2**	**-3.0**
TA01	**Diego Aracena**	**4.51**	**319**	*e*P	**Pn**	**18 29 21.9**	**+0.1**
TA01				*e*S	**Sn**	**18 30 15.9**	**+0.7**
TA01				IAML		18 30 22.9	
	comp=Z,182nm,0.7s						
CYA	**Choya**	**4.53**	**166**	*e*P	**Pn**	**18 29 22.4**	**+0.4**
CYA				*e*S	**Sn**	**18 30 13.4**	**-2.3**
GO03	**Copiapo**	**4.57**	**218**	Pn	**Pn**	**18 29 22.2**	**-0.3**
GO03				Sn	**Sn**	**18 30 13.3**	**-3.3**
GO03	**Copiapo**	**4.57**	**218**	⇑*i*P	**Pn**	**18 29 22.6**	**+0.1**
GO03	**Copiapo**	**4.57**	**218**	*e*P	**Pn**	**18 29 22.7**	**+0.2**
GO03				*e*S	**Sn**	**18 30 14.9**	**-1.6**
HMBC	**Humberstone**	**4.58**	**324**		**Pn**	**18 29 21.9**	**-0.9**
HMBC				Sn	**Sn**	**18 30 13.5**	**-3.4**
TA02	**Huaiquique**	**4.71**	**322**		**Pn**	**18 29 23.3**	**-1.0**
GO01	**Chusmiza**	**4.78**	**335**	Pn	**Pn**	**

comp=Z,29nm,1.2s
CLDB Colider 16.91 41 *eP* **Pn 18 31 58.3 -1.3**
PLCA Paso Flores 16.91 189 P 18 31 56.5 -1.9
PLCA Paso Flores 16.91 189 *eP* **Pn 18 32 01.9 +2.4**
CZSB Cruzeiro do Su 17.10 341 P **P 18 31 59.6 -0.9**
CZSB IAmb IAmb 18 32 11.2
comp=Z,24nm,0.8s
CZSB Cruzeiro do Su 17.10 341 *eP* **Pn 18 32 02.2 +0.4**
LL04 Puerto Octay 17.42 194 P **P 18 32 00.8 -3.1**
LL03 Petrohue 17.64 193 P **P 18 32 03.5 -2.7**
SPB Sao Paulo 17.95 93 P **P 18 32 06.2 -3.6**
SPB IAmb IAmb 18 32 15.8
comp=Z,19nm,0.7s
SPB Sao Paulo 17.95 93 *eP* **Pn 18 32 09.9 -1.9**
RCLB Rio Claro- Sao 18.00 89 *eP* **Pn 18 32 10.4 -2.1**
LL05 Los Muermos 18.14 196 P **P 18 32 09.6 -2.1**
VAO Valinhos 18.44 91 P **P 18 32 12.1 -3.1**
VAO Valinhos 18.44 91 *eP* **P 18 32 14.3 -1.0**
IPMB Ipameri, GO 18.57 75 *eP* **P 18 32 15.9 -0.8**
LL01 San Ignacio de 18.83 192 P **P 18 32 17.8 -1.4**
LL01 IAmb IAmb 18 32 24.4
comp=Z,36nm,1.1s
LL06 Loncomilla 18.94 195 P **P 18 32 18.8 -1.6**
SNDB Serra Nova Dou 19.16 54 *eP* **P 18 32 22.2 -0.8**
LL02 Futaleuf 19.52 191 P **P 18 32 26.0 -0.6**
PARB Paraibuna 19.63 92 *eP* **P 18 32 26.9 -1.1**
BDFB Brasilia 19.73 68 P **P 18 32 26.8 -2.5**
BDFB Brasilia 19.73 68 P **P 18 32 28.6 -0.7**
comp=Z,40nm,0.7s,baz=244,slow=11,SNR=40
GO07 Milladeo Hill, 19.80 194 P **P 18 32 29.1 -0.6**
TBTG Tabatinga, AM 19.92 352 P **P 18 32 31.5 +0.3**
TBTG Tabatinga, AM 19.92 352 *eP* **P 18 32 33.2 +2.0**
PMNB Patos De Minas 19.95 78 *eP* **P 18 32 30.4 -1.3**
SLP01 Ubatuba-SP 20.05 92 *eP* **P 18 32 32.0 -0.7**
NPGB Novo Progresso 20.27 35 *eP* **P 18 32 32.9 -2.1**
BSCB Bom Sucesso 20.79 86 *eP* **P 18 32 39.8 -0.7**
MACA Manacapuru-AM 21.64 17 P **P 18 32 46.9 -2.5**
MACA IAmb IAmb 18 32 50.2
comp=Z,12nm,0.6s
MACA Manacapuru-AM 21.64 17 *eP* **P 18 32 50.3 +0.9**
VAS01 Vassouras-RJ 21.76 90 *eP* **P 18 32 50.2 -0.4**
COYC Coyhaique 21.88 190 P **P 18 32 50.3 -1.1**
COYC IAmb IAmb 18 32 53.8
comp=Z,22nm,1.0s
ITTB Itaituba 22.38 31 *eP* **P 18 32 56.0 -0.6**
DIAM Diamantina, MG 22.51 80 *eP* **P 18 32 57.4 -0.5**
DUB01 Friburgo-RJ 22.77 90 *eP* **P 18 33 00.4 +0.3**
AY02 Valle Explorad 22.94 191 P **P 18 33 01.0 -0.3**
JANB Januaria 23.18 72 *eP* **P 18 33 02.4 -1.4**
CAM01 Campos-RJ 23.47 90 *eP* **P 18 33 05.2 -1.2**
SMTB Santa Maria do 23.94 54 *eP* **P 18 33 10.5 -0.2**
SDBA SAO DESIDERIO 23.95 65 *eP* **P 18 33 09.8 -1.1**
PRPB Parauapebas 24.27 46 *eP* **P 18 33 13.9 +0.2**
COHC Cochancay 24.48 329 P **P 18 33 17.4 +1.9**
ALF01 Guarapari-ES 24.57 87 *eP* **P 18 33 15.6 -0.8**
SJMB Sao Joao De Ma 24.64 83 *eP* **P 18 33 15.9 -1.2**
RIB01 Linhares ES 25.18 84 *eP* **P 18 33 21.1 -0.9**
GUA01 Guaratinga, BA 26.56 79 *eP* **P 18 33 33.6 -0.7**
BOAV Boa Vista 27.02 14 *eP* **P 18 33 39.1 +0.7**
CMC01 Camacan, BA 27.27 77 *eP* **P 18 33 39.8 -0.9**
GDU01 Guandu, BA 27.89 73 *eP* **P 18 33 44.7 -1.5**
NBLA Lagarto - SE 30.68 70 *eP* **P 18 34 09.5 -1.4**
NBPB Pedra_Branca-C 32.17 60 *eP* **P 18 34 23.5 -0.5**
MDP Montagnes des 32.18 28 P **P 18 34 23.0 -1.0**
comp=Z,7.3nm,0.9s,baz=218,slow=12,SNR=1.8
comp=Z,7.3nm,0.9s
NBAN Anadia - AL 32.62 69 *eP* **P 18 34 27.3 -0.6**
BAUV El Baul 32.79 358 P **P 18 34 28.1 -1.1**
BAUV IAmb IAmb 18 34 30.2
comp=Z,19nm,0.9s
NBCA Caruaru-PE 33.58 67 *eP* **P 18 34 35.8 -0.4**
RCBR Riachuelo 34.97 64 P **P 18 34 48.0 -0.2**
comp=Z,2.2nm,0.5s,baz=254,slow=20,SNR=4.3
comp=Z,2.2nm,0.5s
PMSA Palmer Station 40.78 178 *eP* **P 18 35 39.7 +3.7**
OBIP Obispado Ponce 41.82 1 P **P 18 35 43.6 -1.4**
OBIP IAmb IAmb 18 35 46.0
comp=Z,31nm,0.9s
CELP Cerrillos 41.85 1 P **P 18 35 43.8 -1.5**
CELP IAmb IAmb 18 35 44.7
comp=Z,17nm,0.9s
MTO3 Montecristo 43.99 328 P **P 18 36 04.2 +1.4**
MTO3 IAmb IAmb 18 36 05.8
comp=Z,10nm,0.8s
BELA Belgrano 2 56.01 172 P **P 18 37 32.6 +0.4**
BELA IAmb IAmb 18 37 34.8
comp=Z,5.9nm,0.8s
VNA3 Neumayer Olymp 57.13 161 ⇑P **P 18 37 39.3 -0.8**
comp=Z,7.5nm,0.6s
VNA2 Neumayer--Watz 57.70 160 ⇑P **P 18 37 45.8 +1.7**
comp=Z,7.5nm,0.4s,baz=265,slow=6.5
SNAA Sanae 59.33 161 P **P 18 37 55.6 +0.2**
SNAA IAmb IAmb 18 37 59.6
comp=Z,14nm,1.5s
SNAA Sanae 59.33 161 ⇑P **P 18 37 56.3 +0.9**
comp=Z,94nm,0.7s
SNAA Sanae 59.33 161 P **P 18 37 56.4 +0.9**
comp=Z,3.9nm,0.7s,baz=284,slow=8.0,SNR=16
comp=Z,3.9nm,0.7s
LRAL Lakeview Retre 59.85 341 P **P 18 37 59.4 +0.1**
LRAL IAmb IAmb 18 38 28.4
comp=Z,26nm,1.5s
LRAL **S 18 45 57.5 +1.6**
833A Chaparral WMA, 60.67 327 P **P 18 38 05.4 +0.4**
X51A Calhoun 60.68 343 P **P 18 38 05.1 +0.1**
TROLL Troll, Antarti 61.05 161 ⇑P **P 18 38 08.6 +1.5**
comp=Z,299nm,0.6s
X48A Hartselle 61.19 341 P **P 18 38 08.6 +0.3**
SWET Sewanee 61.59 342 P **P 18 38 11.0 0.0**
HNDO Hondo 61.61 328 P **P 18 38 12.2 +0.9**
HNDO IAmb IAmb 18 38 13.8
comp=Z,11nm,0.7s
DRIO Del Rio 62.18 327 P **P 18 38 15.2 0.0**
DRIO IAmb IAmb 18 38 17.4
comp=Z,14nm,1.3s
V48A Smith Brothers 62.33 342 P **P 18 38 15.6 -0.3**
JCT Junction City 62.65 328 P **P 18 38 18.5 +0.2**
BRDY Brady 62.95 329 P **P 18 38 20.7 +0.5**
BRDY IAmb IAmb 18 38 22.1
comp=Z,7.8nm,0.7s
WVT Waverly 62.98 341 P **P 18 38 20.4 +0.2**
SAND Sanderson 63.38 326 P **P 18 38 23.6 +0.5**
SAND IAmb IAmb 18 38 25.9
comp=Z,8.2nm,0.9s
T47A Sharon Grove 63.57 342 P **P 18 38 23.9 -0.2**
TXAR Lajitas Array 63.68 324 P **P 18 38 26.8 +1.6**
comp=Z,1.7nm,0.8s,baz=148,slow=8.6,SNR=15
comp=Z,1.7nm,0.8s
TX31 Lajitas Ar. Si 63.68 324 P **P 18 38 25.7 +0.6**
LCAR Lake Charles 63.98 338 IAmb IAmb 18 38 28.0
comp=Z,5.8nm,1.0s
PBMO Poplar Bluff 64.38 339 P **P 18 38 29.9 +0.5**
ALPN Alpine 64.49 325 P **P 18 38 31.4 +0.9**
ALPN IAmb IAmb 18 38 32.6
comp=Z,8.6nm,1.1s
MNHN Monahans 64.81 326 P **P 18 38 33.9 +1.5**
HHAR Hobbs 65.15 336 P **P 18 38 35.1 +0.7**
HHAR IAmb IAmb 18 38 36.2
comp=Z,12nm,1.0s
APMT Aspermont 65.17 330 P **P 18 38 35.8 +1.2**
APMT IAmb IAmb 18 38 36.9
comp=Z,13nm,0.8s
MGMO Mountain Grove 65.34 338 IAmb IAmb 18 38 37.5
comp=Z,9.8nm,1.0s
FVM French Village 65.48 340 P **P 18 38 36.5 0.0**
FVM IAmb IAmb 18 38 38.0
comp=Z,13nm,0.8s
VHRN Van Horn 65.53 324 IAmb IAmb 18 38 39.9
comp=Z,9.7nm,0.8s
POST Post 65.60 329 P **P 18 38 38.0 +0.6**
CCM Cathedral Cave 65.81 339 P **P 18 38 39.1 +0.5**
QSPA South Pole Qui 66.17 180 P **P 18 38 41.7 +0.9**
QSPA IAmb IAmb 18 38 43.7
comp=Z,8.7nm,0.7s
QSPA South Pole Qui 66.17 180 P **P 18 38 42.4 +1.7**
comp=Z,8.6nm,0.6s,baz=164,slow=1.5,SNR=70
comp=Z,8.6nm,0.6s
SMWD Samnorwood 66.71 331 P **P 18 38 45.1 +0.6**
P40A Paris 67.41 339 IAmb IAmb 18 38 50.2
comp=Z,19nm,1.0s
DBIC Dimbokro 67.85 72 P **P 18 38 51.7 -0.3**
comp=Z,4.3nm,0.8s,baz=220,slow=5.2,SNR=5.6
comp=Z,4.3nm,0.8s
N41A Harden Midland 68.11 341 P **P 18 38 53.0 -0.1**

121A Cookes Peak, D 68.38 324 IAmb IAmb 18 38 59.1
comp=Z,12nm,0.9s
RTBA Rita Blanca 68.94 330 IAmb IAmb 18 39 01.7
comp=Z,13nm,1.1s
ANMO Albuquerque 69.55 326 P **P 18 39 04.5 +2.1**
ANMO IAmb IAmb 18 39 05.3
comp=Z,9.8nm,1.1s
TUC Tucson 69.89 321 P **P 18 39 06.2 +1.9**
TUC IAmb IAmb 18 39 07.9
comp=Z,9.0nm,1.1s
T25A Trinidad 70.29 329 IAmb IAmb 18 39 10.1
comp=Z,5.3nm,0.8s
BGNE Belgrade 71.22 336 P **P 18 39 13.1 +1.1**
X16A Lo Mia Camp, P 71.81 322 IAmb IAmb 18 39 19.9
comp=Z,8.8nm,1.1s
WUAZ Wupatki 72.58 323 P **P 18 39 22.5 +2.0**
WUAZ IAmb IAmb 18 39 24.5
comp=Z,11nm,0.9s
ECSD EROS Data Cent 72.70 338 IAmb IAmb 18 39 22.7
comp=Z,24nm,1.1s
BLYC Blythe 73.09 320 P **P 18 39 24.5 +1.2**
BLYC IAmb IAmb 18 39 27.2
comp=Z,9.3nm,1.1s
U15A North Rim 73.76 323 IAmb IAmb 18 39 31.7
comp=Z,8.1nm,0.9s
KNB Kanab 74.48 323 IAmb IAmb 18 39 35.9
comp=Z,19nm,1.0s
O20A White River Ci 74.49 328 P **P 18 39 33.1 +1.6**
O20A IAmb IAmb 18 39 35.1
comp=Z,10nm,0.9s
V12A Nelson 74.68 321 IAmb IAmb 18 39 36.3
comp=Z,7.8nm,1.0s
LCMT Little Creek M 74.71 323 P **P 18 39 34.4 +1.6**
SRU San Rafael Swe 74.83 326 IAmb IAmb 18 39 36.8
comp=Z,8.3nm,0.8s
P18A Preston Nutter 75.08 327 IAmb IAmb 18 39 38.7
comp=Z,5.9nm,0.7s
MVU Marysvale 75.25 325 P **P 18 39 37.8 +1.8**
RDMU Red Mountain 75.47 328 IAmb IAmb 18 39 40.4
comp=Z,7.2nm,0.8s
GSC Goldstone, Bar 75.52 320 P **P 18 39 39.0 +1.6**
BSUT Blindstream Ca 76.03 327 IAmb IAmb 18 39 44.2
comp=Z,9.3nm,0.9s
GWY Greenwater Val 76.05 321 IAmb IAmb 18 39 44.0
comp=Z,8.3nm,0.9s
TPNV Topopah Spring 76.34 321 IAmb IAmb 18 39 46.2
comp=Z,8.9nm,1.0s
WCT Wildcat Mounta 76.45 321 IAmb IAmb 18 39 46.8
comp=Z,7.5nm,1.0s
TORD Torodi Ar. Bea 76.61 69 P **P 18 39 43.0 -0.9**
TORD Torodi Ar. Bea 76.61 69 P **P 18 39 43.6 -0.3**
comp=Z,3.4nm,0.6s,baz=259,slow=5.3,SNR=24
comp=Z,3.4nm,0.6s
ISA Isabella, Lake 76.76 319 P **P 18 39 45.4 +1.0**
ISA IAmb IAmb 18 39 48.2
comp=Z,7.1nm,0.9s
R11B Troy Canyon, C 76.96 323 IAmb IAmb 18 39 49.7
comp=Z,12nm,1.4s
Q12A Willow Creek R 77.04 324 IAmb IAmb 18 39 49.6
comp=Z,8.8nm,1.0s
PDAR Pinedale Array 77.16 329 P **P 18 39 48.2 +1.6**
comp=Z,1.1nm,0.6s,baz=125,slow=7.8,SNR=12
comp=Z,1.1nm,0.6s
MDND Maddock 77.31 338 P **P 18 39 48.5 +1.5**
MZP Montezuma Peak 77.51 321 P **P 18 39 50.5 +1.8**
AHID Auburn Hatcher 77.89 328 IAmb IAmb 18 39 53.7
comp=Z,10nm,0.8s
HVU Hansel Valley 77.97 327 P **P 18 39 52.1 +1.1**
ULM Lac du Bonnet 78.25 342 P **P 18 39 53.0 +0.9**
comp=Z,9.1nm,0.7s,baz=155,slow=7.8,SNR=8.5
comp=Z,9.1nm,0.7s
OMMB Old Mammoth Mi 78.39 320 IAmb IAmb 18 39 57.1
comp=Z,8.9nm,0.9s
NV11 Mina Array Sit 78.46 321 IAmb IAmb 18 39 57.4
comp=Z,10nm,1.4s
SCHQ Schefferville 78.54 0 P **P 18 39 53.9 +0.2**
comp=Z,5.5nm,0.9s,baz=209,slow=8.5,SNR=2.0
comp=Z,5.5nm,0.9s
NVAR Mina Array Bea 78.54 321 P **P 18 39 56.5 +2.2**
comp=Z,1.6nm,0.7s,baz=141,slow=5.8,SNR=13
comp=Z,1.6nm,0.7s
KVN Kaiserville 78.85 322 IAmb IAmb 18 39 59.2
comp=Z,6.7nm,0.8s
RLMT Red Lodge 78.85 331 IAmb IAmb 18 39 58.8
comp=Z,7.4nm,0.9s
YNE Yellowstone No 79.10 331 IAmb IAmb 18 40 00.5
comp=Z,11nm,1.0s
YMR Madison River 79.27 330 IAmb IAmb 18 40 02.1
comp=Z,8.6nm,0.8s
DGMT Dagmar 79.47 336 P **P 18 40 00.1 +1.1**
PNTR Pine Nut 79.73 321 IAmb IAmb 18 40 04.7
comp=Z,12nm,0.8s
PAHR Pah Rah Range 80.03 322 IAmb IAmb 18 40 06.1
comp=Z,13nm,1.0s
HLID Hailey 80.10 327 IAmb IAmb 18 40 06.5
comp=Z,11nm,0.9s
BOSA Boshof 80.75 117 P **P 18 40 06.6 +0.1**
comp=Z,1.7nm,0.6s,baz=278,slow=4.7,SNR=4.1
comp=Z,1.7nm,0.6s
ORV Oroville 81.14 320 P **P 18 40 08.8 +0.8**
ORV IAmb IAmb 18 40 12.1
comp=Z,9.3nm,1.1s
EGMT Eagleton 81.33 333 IAmb IAmb 18 40 11.4
comp=Z,15nm,1.1s
MAW Mawson 81.42 163 P **P 18 40 10.7 +1.7**
comp=Z,6.9nm,0.8s,baz=217,slow=9.3,SNR=12
comp=Z,6.9nm,0.8s
PLID Pearl Lake 81.98 327 IAmb IAmb 18 40 15.7
comp=Z,10nm,0.8s
J08A Circle Bar Ran 82.03 325 P **P 18 40 14.0 +1.3**
J08A IAmb IAmb 18 40 16.1
comp=Z,8.0nm,0.8s
F10A Beach Ranch, E 83.22 327 IAmb IAmb 18 40 25.7
comp=Z,5.8nm,0.8s
ESDC Sonseca Array 86.44 44 P **P 18 40 35.2 +0.2**
ESDC Sonseca Array 86.44 44 P **P 18 40 35.8 +0.8**
comp=Z,2.2nm,0.9s,baz=246,slow=4.7,SNR=9.9
comp=Z,2.2nm,0.9s
YKA Yellowknife Ar 94.14 340 P **P 18 41 11.5 +1.3**
comp=Z,3.8nm,0.8s,baz=134,slow=4.3,SNR=16
comp=Z,3.8nm,0.8s
ASAR Alice Springs 128.41 205 PKP **PKiKP 18 46 59.2 0.0**
comp=Z,3.3nm,0.7s,baz=138,slow=1.9,SNR=22
WRA Wawmunga Arr 131.58 207 PKP **PKiKP 18 47 05.8 +0.1**
comp=Z,1.9nm,0.5s,baz=154,slow=1.8,SNR=33
WRA SKPbc **SKPab 18 50 12.8 -0.3**
comp=Z,2.9nm,1.1s,baz=155,slow=3.6,SNR=7.6
PETK Petropavlovsk- 135.62 323 PKP **PKiKP 18 47 12.2 -0.5**
comp=Z,3.4nm,0.8s,baz=96,slow=3.2,SNR=6.7
BVAR Borovoye Array 136.84 37 PKP **PKiKP 18 47 14.3 -0.9**
comp=Z,0.9nm,0.5s,baz=315,slow=2.0,SNR=6.2
KURBB Kurchatov Arra 142.43 36 PKP **PKiKP 18 47 24.5 -2.2**
comp=Z,1.0nm,0.2s,baz=286,slow=3.0,SNR=4.0
ZAA0 Zalesovo Array 143.44 28 PKPdf PKPbc 18 47 22.6 -0.5
ZALV Zalesovo Beam 143.44 28 PKPdf **PKPdf 18 47 23.6 -1.7**
ZALV Zalesovo Beam 143.44 28 PKP **PKPdf 18 47 24.4 -0.9**
comp=Z,9.5nm,0.7s,baz=300,slow=3.7,SNR=41
NIL Nilore 144.10 65 PKPdf PKPbc 18 47 25.4 -0.4
SOEI Soe 144.65 200 PKPdf PKPbc 18 47 27.6 -0.4
NRN Naryn 144.72 52 PKPdf **PKPdf 18 47 27.4 -0.9**
KSH Kashi 145.25 55 PKPbc **PKPab 18 47 29.8 +0.3**
KDJ Kajisay 145.33 50 **PKPab 18 47 30.4 +0.6**
PRZ Przheval'sk 146.05 49 **PKPab 18 47 31.6 -1.0**
MAKZ Makanchi 146.38 40 **PKPbc 18 47 32.0 -0.3**
MKAR Makanchi Array 146.57 40 PKPbc **PKPbc 18 47 32.6 -0.1**
comp=Z,8.3nm,0.6s,baz=356,slow=2.4,SNR=54
WUS Wushi 147.08 50 **PKPbc 18 47 33.4 -1.1**
HEH HeiHe 151.51 340 *eP* **PKiKP 18 47 45.6 +0.2**
HEH pmax pmax
comp=Z,14nm,0.9s
MJAR Matsushiro Arr 154.97 306 PKPab **PKPab 18 48 11.0 +1.7**
comp=Z,5.7nm,1.0s,baz=46,slow=3.5,SNR=7.1
SONM Songino Array 155.68 11 PKP **PKPdf 18 47 45.9 +1.0**
comp=Z,1.0nm,0.9s,baz=11,slow=1.5,SNR=5.9
SONM PKPab **PKPab 18 48 13.2 +1.2**
comp=Z,1.4nm,0.7s,baz=327,slow=4.3,SNR=9.1
HHC Hu-ho-hao-te 163.19 4 *eP* **PKPdf 18 47 54.6 +0.9**
CMAR Chiang Mai Arr 165.81 110 PKP **PKPdf 18 47 57.8 +1.3**
comp=Z,0.3nm,0.3s,baz=262,slow=3.5,SNR=5.5
CMAR PKPab **PKPab 18 48 57.2 +0.1**
comp=Z,0.2nm,0.3s,baz=269,slow=3.6,SNR=1.0
PZH PanZhiHua 169.55 74 PKP **PKPdf 18 47 58.4 -0.7**
NJ2 Nanjing 170.47 328 *eP* **PKPdf 18 47 59.1 -0.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s

DJA 23 18:41:43.1±1.5, 8°S±4°×11°8E±°, h21km±15km, M3.9/15, mb3.8/2, mB4.8/1, MLv3.9/15, Mw(mB)4.0/1, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.79**	**182**	P	Pb	18 41 58.5	+0.3
WBSI	**Waikabubak, Su**	**2.24**	**136**	P	Pn	18 42 19.3	+0.3
SRBI	**Singaraja**	**2.57**	**269**	P	Pn	18 42 23.4	-0.1
WSI	**Waingapu**	**2.95**	**124**	P	Pn	18 42 29.1	+0.4
BKSI	**Bulukumba**	**3.54**	**41**	P	Pn	18 42 36.1	-0.7
ABJI	**Asem Bagus**	**3.55**	**274**	P	Pn	18 42 36.9	-0.1
JAGI	**Jajag, Banyuwa**	**3.65**	**263**	P	Pn	18 42 38.2	-0.2
KMMI	**Kalianget**	**3.93**	**284**	P	Pn	18 42 42.4	+0.1
BNSI	**Bone**	**4.27**	**32**	P	Pn	18 42 48.2	+1.3
GMJI	**Gumukmas**	**4.33**	**266**	P	Pn	18 42 47.9	+0.2
MMRI	**Maumere**	**4.42**	**98**	P	Pn	18 42 48.4	-0.6
TTSI	**Tana Toraja**	**5.34**	**22**	P	Pn	18 43 02.6	+1.0

12nm,1.3s,833nm0.1nm

RSNC 23 18:44:15.8±0.0, 6°N±1°×7°4W±°, h78km±2km, mb3.8, ML3.1, MLv3.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRJC	**Barrancabermej**	**0.48**	**354**	P	Pn	18 44 32.6	+3.3
BRJC				S	Sn	18 44 44.7	+5.6
BARC	**Barichara**	**0.52**	**79**	P	Pn	18 44 33.6	+3.8
BARC				P	Pn	18 44 33.6	+3.8
BARC				S	Sn	18 44 45.9	+5.8
BARC				S	Sn	18 44 45.9	+5.8
VMM09	**Lebrija**	**0.75**	**32**	P	Pn	18 44 35.2	+3.2
VMM09				S	Sn	18 44 49.3	+5.3
PTBC	**PUERTO BERRIO,**	**0.76**	**274**	P	Pn	18 44 34.1	+2.1
PTBC				S	Sn	18 44 47.1	+3.0
RUSC	**La Rusia**	**0.85**	**135**	P	Pn	18 44 36.5	+3.1
RUSC				S	Sn	18 44 50.8	+4.3
VMM07	**Puerto Wilches**	**0.88**	**349**	P	Pn	18 44 36.5	+3.2
VMM07				S	Sn	18 44 50.9	+4.5
SPBC	**San Pablo de B**	**0.92**	**205**	P	Pn	18 44 36.5	+2.6
SPBC				S	Sn	18 44 52.2	+4.9
PAMC	**Pamplona, Colo**	**1.30**	**49**	P	Pn	18 44 41.3	+2.4
PAMC				S	Sn	18 44 59.9	+3.7
VMM05	**San Martn**	**1.41**	**5**	P	Pn	18 44 42.8	+2.8
VMM05				S	Sn	18 45 03.7	+5.6
NORC	**Norcasia**	**1.49**	**232**	P	Pn	18 44 42.7	+1.7
NORC				S	Sn	18 45 03.6	+3.6
ZARC	**Zaragoza, Cauc**	**1.53**	**311**	P	Pn	18 44 43.7	+2.3
ZARC				S	Sn	18 45 04.1	+3.3
ROSC	**El Rosal**	**1.75**	**201**	P	Pn	18 44 48.2	+3.4
ROSC				S	Sn	18 45 11.8	+5.1
OCAC	**Ocana**	**1.78**	**12**	P	Pn	18 44 46.4	+1.5
OCAC				S	Sn	18 45 10.1	+3.3
CHIC	**Chingaza**	**1.85**	**181**	P	Pn	18 44 48.4	+2.3
CHIC				S	Sn	18 45 13.8	+4.9
HELC	**Santa Helena**	**1.85**	**261**	P	Pn	18 44 48.3	+2.3
HELC				S	Sn	18 45 11.0	+2.1
TAMC	**Tame, Arauca**	**1.89**	**92**	P	Pn	18 44 48.4	+2.2
TAMC				S	Sn	18 45 12.1	+2.8
CVER	**Cruz Verde, Cu**	**1.99**	**191**	P	Pn	18 44 51.5	+3.5
CVER				S	Sn	18 45 17.2	+4.8
AGCC	**Aguachica**	**2.01**	**3**	P	Pn	18 44 49.0	+1.1
AGCC				S	Sn	18 45 15.7	+3.4
GUY2C	**Guyana, Caldas**	**2.09**	**233**	P	Pn	18 44 52.0	+2.7
GUY2C				S	Sn	18 45 17.4	+2.7
UREC	**San Jos de Ur**	**2.22**	**305**	P	Pn	18 44 51.2	+0.6
NIZA	**Niza - Manizal**	**2.27**	**231**	P	Pn	18 44 55.2	+3.6
NIZA				S	Sn	18 45 25.7	+6.8
VILC	**Villavicencio,**	**2.36**	**180**	P	Pn	18 44 55.6	+2.9
VILC				S	Sn	18 45 24.8	+4.0
CBOC	**Ciudad Bolivar**	**2.39**	**255**	P	Pn	18 44 56.0	+2.9
CBOC				S	Sn	18 45 24.1	+2.5
DBBC	**Dabeiba**	**2.56**	**282**	P	Pn	18 44 57.0	+1.8
DBBC				S	Sn	18 45 27.5	+2.0
ANIL	**Santa Ana**	**2.62**	**221**	P	Pn	18 45 00.0	+3.8
ANIL				S	Sn	18 45 32.8	+5.6
PTGC	**Puerto Gaitan,**	**2.75**	**146**	P	Pn	18 44 54.2	-3.6
PTGC				S	Sn	18 45 30.9	+0.8
LL8C	**La Loma 8 Chim**	**2.83**	**358**	P	Pn	18 44 59.9	+1.0
LL8C				S	Sn	18 45 34.7	+2.7
ORTC	**Ortega, Tolima**	**3.00**	**211**	P	Pn	18 45 03.3	+2.2
ORTC				S	Sn	18 45 39.5	+3.4
PRAC	**Prado**	**3.00**	**203**	P	Pn	18 45 03.2	+1.9
PRAC				S	Sn	18 45 41.0	+4.7
PLMC	**San Jos del P**	**3.02**	**239**	P	Pn	18 45 03.5	+2.0
PLMC				S	Sn	18 45 39.5	+2.8
APAC	**Apartado, Choc**	**3.19**	**296**	P	Pn	18 45 03.8	+0.1
APAC				S	Sn	18 45 40.6	-0.1
URMC	**La Uribe, Meta**	**3.29**	**192**	P	Pn	18 45 08.0	+2.8
URMC				S	Sn	18 45 47.0	+3.6
ARGC	**Ariguani, Magd**	**3.39**	**351**	P	Pn	18 45 09.3	+2.8
ARGC				S	Sn	18 45 50.0	+4.4
LCBC	**Los crdobas,**	**3.55**	**312**	P	Pn	18 45 12.7	+4.1
LCBC				S	Sn	18 45 51.5	+2.1
YOTC	**Yotoco, Valle**	**3.63**	**227**	P	Pn	18 45 11.6	+1.7
YOTC				S	Sn	18 45 56.1	+4.4
SJCC	**San Jacinto, C**	**3.69**	**337**	P	Pn	18 45 11.1	+0.5
SJCC				S	Sn	18 45 52.1	-0.9
SDV	**Santo Domingo**	**3.85**	**52**	P	Pn	18 45 13.8	+0.9
SDV				S	Sn	18 45 58.1	+1.0
CAPC	**Capurgana**	**4.21**	**301**	P	Pn	18 45 15.7	-1.9
CAPC				S	Sn	18 46 02.5	-3.1
MACC	**Macarena, Meta**	**4.32**	**182**	P	Pn	18 45 20.7	+1.6
MACC				S	Sn	18 46 06.3	-2.0
JAMC	**Jamundi, Valle**	**4.41**	**223**	P	Pn	18 45 23.0	+2.5
JAMC				S	Sn	18 46 21.2	+10
CRJC	**Cerrejon, Guaj**	**4.57**	**10**	P	Pn	18 45 22.8	+0.2
CRJC				S	Sn	18 46 15.1	+0.5
URIC	**Uribia, Colomb**	**5.44**	**18**	P	Pn	18 45 34.4	0.0
URIC				S	Sn	18 46 34.5	-1.2

*ATH **23** 18:48:18.8, 37°.55N×20°.43E, h11km±1km, ML3.2/17, Error ellipse: s-maj=2.0km s-min=0.8km az=39.0*
*TIR **23** 18:48:22.6, 37°.92N×19°.68E, h20km±1km, Md3.5, Ml3.4*
ISC 23 18:48:14.3±1.9, 37°.51N±0°.06×20°.19E±0°.06, h7km±10km, n25, σ1°21/37, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.55**	**68**	P	**Pg**	**18 48 26.0**	**+1.1**
LTHK				S	**Sg**	**18 48 30.8**	**-1.3**
LTHK				AML	AML	18 48 31.6	
	comp=E,30256μm,0.6s						
LTHK				AML	AML	18 48 31.9	
	comp=N,11902μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.68**	**27**	P	**Pn**	**18 48 29.7**	**-0.7**
PSDA				S	**Sb**	**18 48 37.6**	**-0.6**
VLS	**Valsamata**	**0.74**	**25**	P	**Pn**	**18 48 30.7**	**-0.6**
VLS				S	**Sb**	**18 48 39.1**	**-0.9**
VLS				AML	AML	18 48 44.5	
	comp=N,5262μm,0.5s						
VLS				AML	AML	18 48 45.2	
	comp=E,5588μm,0.2s						
DMLN	**Damoulianata-K**	**0.74**	**11**	P	**Pn**	**18 48 31.8**	**+0.5**
DMLN				S	**Sn**	**18 48 41.8**	**-1.2**
FSK	**Fiskardo**	**1.00**	**17**	P	**Pn**	**18 48 35.6**	**+0.9**
FSK				S	**Sn**	**18 48 48.9**	**-0.2**
FSK				AML	AML	18 48 54.0	
	comp=N,1938μm,0.5s						
FSK				AML	AML	18 48 55.1	
	comp=E,3262μm,0.4s						
RLS	**Riolos of Patr**	**1.15**	**61**	P	**Pb**	**18 48 36.8**	**+0.2**
RLS				S	**Sg**	**18 48 49.9**	**-1.4**
RLS				AML	AML	18 48 54.7	
	comp=E,2808μm,0.5s						
RLS				AML	AML	18 48 56.5	
	comp=N,1278μm,0.5s						
EVGI	**Lefkada island**	**1.17**	**18**	P	**Pn**	**18 48 39.0**	**+1.8**
EVGI				S	**Sn**	**18 48 54.1**	**+0.7**
AMT	**Artemida-Makis**	**1.21**	**88**	P	**Pg**	**18 48 37.9**	**+0.5**
AMT				S	**Sg**	**18 48 51.7**	**-1.4**
AMT				AML	AML	18 48 58.7	
	comp=N,5906μm,0.3s						
AMT				AML	AML	18 49 00.2	
	comp=E,5702μm,0.4s						
NYDR	**Nydri-Lefkada**	**1.27**	**18**	P	**Pn**	**18 48 40.3**	**+1.8**
NYDR				S	**Sn**	**18 48 56.6**	**+0.8**
DRO	**Drossia**	**1.28**	**69**	P	**Pb**	**18 48 39.2**	**+0.4**

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     comp=N,3801µm,0.7s
DRO                                  AML   AML     18 49 01.1
     comp=E,5189µm,0.5s
LKD2 Lefkada island       1.33  16   P     Pn      18 48 44.6 +5.2
LKD2                                 AMP
     comp=N,5.8nm,0.5s,baz=41
LKD2 Lefkada island       1.33  16   P     Pn      18 48 42.3 +2.9
LKD2                                 AML   AML     18 49 05.7
     comp=E,4280µm,0.7s
LKD2                                 AML   AML     18 49 06.0
     comp=N,3864µm,0.8s
TSLK Tsoukalades, L       1.37  15   P     Pg      18 48 42.5 +1.9
TSLK                                 AML   AML     18 49 05.1
     comp=E,3700µm,0.5s
TSLK                                 AML   AML     18 49 06.6
     comp=N,3225µm,0.8s
PYL  PYLOS                1.38 116   P     Pn      18 48 41.6 +1.6
PYL                                  S     Sn      18 48 57.8 -0.7
PYL                                  AML   AML     18 49 04.6
     comp=E,418µm,0.6s
PYL                                  AML   AML     18 49 08.5
     comp=N,361µm,0.7s
ITM  Ithomi               1.42 103   P     Pn      18 48 41.8 +1.2
ITM                                  S     Sn      18 48 57.9 -1.7
ITM                                  AML   AML     18 49 13.4
     comp=E,654µm,0.7s
ITM                                  AML   AML     18 49 22.1
     comp=N,562µm,0.5s
EFP  Efpalio              1.64  55   P     Pb      18 48 45.1 +0.3
EFP                                  AML   AML     18 49 15.0
     comp=N,1598µm,0.5s
EFP                                  AML   AML     18 49 15.3
     comp=E,1173µm,0.6s
KLV  Kalavryta, Ach       1.64  70   P     Pb      18 48 45.3 +0.4
KLV                                  S     Sn      18 49 03.8 -1.3
KLV                                  AML   AML     18 49 16.0
     comp=N,719µm,0.7s
KLV                                  AML   AML     18 49 20.1
     comp=E,646µm,0.7s
ANX  Ano Chora            1.74  51   P     Pg      18 48 47.2 -0.5
ANX                                  AML   AML     18 49 14.7
     comp=N,3842µm,0.5s
ANX                                  AML   AML     18 49 16.6
     comp=E,2375µm,0.7s
GUR  Goura                1.76  75   P     Pb      18 48 46.9 -0.1
GUR                                  S     Sn      18 49 08.0  0.0
GUR                                  AML   AML     18 49 19.7
     comp=N,997µm,0.4s
GUR                                  AML   AML     18 49 25.2
     comp=E,1233µm,0.5s
KALE Kalithea             1.77  60   P     Pb      18 48 47.4 +0.1
KALE                                 AML   AML     18 49 22.6
     comp=N,1199µm,0.7s
KALE                                 AML   AML     18 49 23.4
     comp=E,904µm,0.6s
IGT  Igoumenitsa          2.03   3   P     Pg      18 48 54.1 +1.0
IGT                                  AMP
     comp=E,0.8nm,0.5s,baz=17
IGT  Igoumenitsa          2.03   3   P     Pg      18 48 53.4 +0.2
IGT                                  AML   AML     18 49 24.2
     comp=E,597µm,0.5s
IGT                                  AML   AML     18 49 28.9
     comp=N,454µm,0.7s
LSK  Leskovik             2.66   7   AMP
     comp=E,1.1nm,0.6s,baz=17
SCTE Santa Cesarea        2.90 333   P     Pb      18 49 04.1 -2.2
SCTE                                 AMP
     comp=N,0.5nm,0.7s,baz=337
FNA  Florina              3.40  15   P     Pb      18 49 15.7 +0.7
FNA                                  AMP
     comp=N,0.1nm,0.8s,baz=24
```

IDC ***23*** *19:07:16.0±1.9, 7°.36S×127°.28E, h0km, mb3.4/1, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=128.9km s-min=31.5km az=64.0*
DJA ***23*** *19:08:16.5±0.6, 9°.5±7°.×12°.5E±°, h39km±12km, M3.8/7, mb4.8/2, mB5.3/1, MLv3.3/7, Mw(mB)4.7/1*
ISC 23 19:07:17.2±1.6, 7°.4S±0°.2×127°.4E±0°.1, h10km, n8, σ1°.35/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.87**	**232**	P	Pg	19 08 40.1	+8.7
BATI	**Baumata**	**4.61**	**232**	P	Pg	19 08 49.3	+3.7
MMRI	**Maumere**	**5.22**	**256**	P	**Pg**	**19 08 58.3**	**+1.0**
WSI	**Waingapu**	**7.34**	**251**	P	**Pb**	**19 09 25.2**	**+0.3**
WBSI	**Waikabubak, Su**	**8.19**	**253**	P	**Pb**	**19 09 37.4**	**-2.0**
	43nm,1.7s,0.2nm						
WRA	**Warramunga Arr**	**14.21**	**152**	Pn	**Pn**	**19 10 39.1**	**+0.4**
	0.4nm,0.3s,baz=330,slow=12,SNR=18						
WRA				Sn	Sn	19 13 01.3	-15
	1.1nm,0.3s,baz=328,slow=22,SNR=10						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**17.38**	**160**	P	**P**	**19 11 20.8**	**-0.6**
	0.6nm,0.3s,baz=341,slow=11,SNR=60						
ASAR				S	Sn	19 14 17.8	-16
	0.7nm,0.7s,baz=317,slow=18,SNR=2.5						
	2.2nm,0.5s						
MKAR	**Makanchi Array**	**67.12**	**328**	P	**P**	**19 18 11.3**	**+0.1**
	0.2nm,0.6s,baz=123,slow=8.3,SNR=5.6						
	0.2nm,0.6s						

BEO ***23*** *19:15:54.8±5.1, 36°.87N×20°.28E, h90km±5km, ML3.7/9*
TIR ***23*** *19:15:58.0, 37°.55N×20°.72E, h23km, Md3.7, Ml4.0*
IDC ***23*** *19:15:58.4±1.2, 37°.66N×20°.78E, h0km, mb3.7/7, mbtmp3.6/10, ML3.7/2, MS3.4/2, Error ellipse: s-maj=23.4km s-min=22.6km az=86.0*
ATH ***23*** *19:16:00.1, 37°.62N×20°.65E, h10km±1km, ML3.5/17, Error ellipse: s-maj=2.3km s-min=0.8km az=31.0*
ISC 23 19:15:60.0±1.1, 37°.65N±0°.04×20°.67E±0°.03, h13km±6km, n56, σ1°.39/70, mb3.7/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.15**	**66**	P	**Pg**	**19 16 03.6**	**+0.1**
LTHK				S	**Sg**	**19 16 06.0**	**-0.1**
LTHK				AML	AML	19 16 06.9	
LTHK				AML	AML	19 16 08.4	
PSDA	**Pessada-Kefalo**	**0.47**	**352**	P	**Pb**	**19 16 09.5**	**-0.5**
PSDA				S	**Sb**	**19 16 16.9**	**-0.1**
VLS	**Valsamata**	**0.53**	**353**	P	**Pg**	**19 16 10.4**	**0.0**
VLS				S	**Sg**	**19 16 18.1**	**+0.6**
VLS				AML	AML	19 16 19.7	
	comp=E,7714µm,0.4s						
VLS				AML	AML	19 16 20.2	
	comp=N,8367µm,0.2s						
SMHA	**Samh**	**0.60**	**358**	P	**Pg**	**19 16 11.4**	**-0.3**
DMLN	**Damoulianata-K**	**0.63**	**338**	P	**Pb**	**19 16 12.6**	**-0.3**
DMLN				S	**Sb**	**19 16 21.6**	**-0.1**
RLS	**Riolos of Patr**	**0.75**	**57**	P	**Pb**	**19 16 15.0**	**+0.1**
RLS				S	**Sb**	**19 16 24.9**	**-0.2**
RLS				AML	AML	19 16 28.2	
	comp=E,9363µm,0.5s						
RLS				AML	AML	19 16 30.5	
	comp=N,4822µm,0.6s						
FSK	**Fiskardo**	**0.81**	**354**	P	**Pg**	**19 16 15.4**	**-0.4**
FSK				S	**Sb**	**19 16 27.2**	**+0.3**
FSK				AML	AML	19 16 33.9	
	comp=E,5306µm,0.6s						
FSK				AML	AML	19 16 37.0	
	comp=N,6021µm,1.0s						
AMT	**Artemida-Makis**	**0.83**	**98**	P	**Pb**	**19 16 16.2**	**-0.1**
AMT				S	**Sb**	**19 16 27.9**	**+0.4**
AMT				AML	AML	19 16 34.3	
	comp=E,14742µm,0.2s						
AMT				AML	AML	19 16 35.0	
	comp=N,19061µm,0.2s						
DRO	**Drossia**	**0.88**	**70**	P	**Pn**	**19 16 17.3**	**-0.8**
DRO				S	**Sb**	**19 16 29.1**	**+0.3**
DRO				AML	AML	19 16 33.9	
	comp=E,8989µm,0.3s						
DRO				AML	AML	19 16 37.5	
	comp=N,5377µm,0.5s						
EVGI	**Lefkada island**	**0.97**	**359**	P	**Pg**	**19 16 18.2**	**-0.5**
NYDR	**Nydri-Lefkada**	**1.06**	**1**	P	**Pg**	**19 16 19.9**	**-0.5**
ITM	**Ithomi**	**1.11**	**115**	P	**Pn**	**19 16 20.8**	**-0.3**
ITM				S	**Sn**	**19 16 36.3**	**0.0**
ITM				AML	AML	19 16 44.8	
	comp=N,2076µm,1.0s						
ITM				AML	AML	19 16 55.6	
	comp=E,2552µm,1.1s						
LKD2	**Lefkada island**	**1.14**	**360**	P	**Pb**	**19 16 21.4**	**-0.1**
LKD2				AMP			
	comp=N,21nm,0.7s,baz=358						
LKD2	**Lefkada island**	**1.14**	**360**	P	**Pn**	**19 16 22.3**	**+0.7**
LKD2				AML	AML	19 16 46.4	
	comp=N,11370µm,0.7s						
LKD2				AML	AML	19 16 48.9	
	comp=E,5306µm,0.7s						
PYL	**PYLOS**	**1.14**	**131**	P	**Pb**	**19 16 21.0**	**-0.5**
PYL				S	**Sb**	**19 16 35.8**	**-0.4**
PYL				AML	AML	19 16 41.0	
	comp=E,2453µm,0.9s						
PYL				AML	AML	19 16 44.5	
	comp=N,1432µm,0.7s						
TSLK	**Tsoukalades, L**	**1.17**	**360**	P	**Pb**	**19 16 21.7**	**-0.5**
TSLK				AML	AML	19 16 47.3	
	comp=E,4372µm,0.7s						
TSLK				AML	AML	19 16 47.7	
	comp=N,6740µm,0.8s						
KLV	**Kalavryta, Ach**	**1.24**	**71**	P	**Pg**	**19 16 23.8**	**+0.1**
KLV				S	**Sn**	**19 16 40.2**	**+0.5**
KLV				AML	AML	19 16 53.1	
	comp=N,2322µm,1.1s						
KLV				AML	AML	19 16 57.0	
	comp=E,1641µm,1.0s						
EFP	**Efpalio**	**1.25**	**51**	P	**Pg**	**19 16 23.6**	**-0.4**
EFP				AML	AML	19 16 52.4	
	comp=E,2273µm,1.3s						
EFP				AML	AML	19 16 53.2	
	comp=N,3555µm,0.6s						
GUR	**Goura**	**1.36**	**77**	P	**Pg**	**19 16 26.0**	**0.0**
GUR				S	**Sg**	**19 16 43.4**	**-0.3**
GUR				AML	AML	19 16 56.3	
	comp=E,3574µm,0.6s						
GUR				AML	AML	19 16 58.8	
	comp=N,4437µm,0.5s						
ANX	**Ano Chora**	**1.36**	**46**	P	**Pg**	**19 16 25.4**	**-0.8**
ANX				AML	AML	19 16 52.8	
	comp=N,7027µm,0.6s						
ANX				AML	AML	19 16 56.8	
	comp=E,7336µm,0.6s						
KALE	**Kalithea**	**1.38**	**57**	P	**Pg**	**19 16 25.6**	**-0.8**
KALE				AML	AML	19 16 58.5	
	comp=N,3802µm,0.8s						
KALE				AML	AML	19 16 59.6	
	comp=E,3350µm,0.8s						
IGT	**Igoumenitsa**	**1.90**	**352**	P	**Pb**	**19 16 34.0**	**-0.5**
IGT				AMP			
	comp=E,1.6nm,1.1s,baz=352						
IGT	**Igoumenitsa**	**1.90**	**352**	P	**Pb**	**19 16 33.8**	**-0.6**
IGT				AML	AML	19 17 08.5	
	comp=E,1094µm,0.7s						
IGT				AML	AML	19 17 19.0	
	comp=N,1015µm,0.8s						
SRN	**Sarande**	**2.29**	**347**	P	**Pb**	**19 16 40.1**	**-1.0**
SRN				AMP			
	comp=E,0.8nm,0.9s,baz=347						
LSK	**Leskovik**	**2.50**	**359**	P	**Pb**	**19 16 42.8**	**-2.0**
LSK				AMP			
	comp=E,3.2nm,0.8s,baz=358						
SCTE	**Santa Cesarea**	**2.97**	**325**	P	**Pn**	**19 16 47.9**	**+1.1**
SCTE				AMP			
	comp=E,1.1nm,0.7s,baz=326						
FNA	**Florina**	**3.18**	**10**	P	**Pn**	**19 16 52.8**	**+3.1**
FNA				AMP			
	comp=N,0.3nm,0.7s,baz=8.0						
FNA	**Florina**	**3.18**	**10**	*e*Pn	**Pn**	**19 16 52.6**	**+2.9**
OHR	**Ohrid**	**3.46**	**2**	*e*Pn	**Pn**	**19 16 57.0**	**+3.4**
OHR	**Ohrid**	**3.46**	**2**	*i* Pn	**Pb**	**19 16 57.6**	**-3.5**
THE	**Thessaloniki**	**3.47**	**30**	P	**Pn**	**19 16 56.5**	**+2.8**
TIR	**Tirane**	**3.75**	**351**	AMP			
	comp=E,0.6nm,1.2s,baz=351						
VAY	**Valandovo**	**3.95**	**21**	*i* Pn	**Pn**	**19 16 59.5**	**-0.8**
IDI	**Anoyia**	**4.14**	**123**	Pn	**Pn**	**19 17 03.8**	**+0.9**
	comp=E,13nm,0.8s,baz=327,slow=15,SNR=1.7						
IDI				Sn	**Sn**	**19 17 51.1**	**-0.1**
	comp=E,0.8nm,0.3s,baz=308,slow=17,SNR=2.3						
SRS	**Serrai**	**4.14**	**32**	*e*Pn	**Pn**	**19 17 04.6**	**+1.7**
PEHC	**Pehcevo**	**4.47**	**22**	*i* Pn	**Pn**	**19 17 11.7**	**+4.2**
VAE	**Valguarnera**	**4.97**	**270**	Sn	**Sn**	**19 18 11.6**	**-0.2**
	comp=E,1.0nm,0.3s,baz=193,slow=19,SNR=2.1						
BOSS	**Bosilegrad**	**5.04**	**15**	*e*Pn	**Pn**	**19 17 17.4**	**+2.2**
BARS	**Barje**	**5.24**	**9**	*e*Pn	**Pn**	**19 17 19.8**	**+1.9**
VTS	**Vitosha**	**5.34**	**21**	*e*Pn	**Pn**	**19 17 21.8**	**+2.3**
SELS	**Selova**	**5.58**	**3**	*e*Pn	**Pn**	**19 17 24.2**	**+1.6**
SELS				*e*Sn	**Sn**	**19 18 24.3**	**-2.3**
SJES	**Sjenica**	**5.63**	**355**	*e*Pn	**Pn**	**19 17 23.1**	**-0.4**
SJES				*e*Sn	**Sn**	**19 18 28.4**	**+0.3**
ZAPS	**Zavoj**	**5.81**	**14**	*e*Pn	**Pn**	**19 17 28.4**	**+2.5**
GRUS	**Gruza**	**6.23**	**0**	*e*Pn	**Pn**	**19 17 33.4**	**+1.8**
BBLS	**Lazi&#263i**	**6.28**	**352**	*e*Pn	**Pn**	**19 17 31.7**	**-0.7**
DIVS	**Divibare**	**6.46**	**356**	*e*Pn	**Pn**	**19 17 36.6**	**+1.7**
DIVS				*e*Sn	**Sn**	**19 18 46.5**	**-2.0**
MLR	**Muntele Rosu**	**8.77**	**25**	Pn	Pn	19 18 14.1	+7.5
	comp=E,0.2nm,0.3s,baz=149,slow=15,SNR=5.9						
MLR				LR	LR	19 22 29.0	
	comp=E,210nm,18.1s,baz=201,slow=45						
AKASG	**Malin Array Be**	**14.41**	**22**	Pn	**Pn**	**19 19 23.7**	**+0.2**
	comp=E,0.2nm,0.3s,baz=210,slow=8.8,SNR=2.0						
AKASG				LR	LR	19 25 59.2	
	comp=E,144nm,19.4s,baz=278,slow=42						
	comp=E,0.2nm,0.5s						
ESDC	**Sonseca Array**	**19.33**	**284**	P	**Pn**	**19 20 26.1**	**+0.1**
	comp=E,0.1nm,0.3s,baz=77,slow=11,SNR=2.4						
	comp=E,0.6nm,0.8s						
HFS	**Hagfors**	**22.94**	**351**	P	**P**	**19 21 03.6**	**0.0**
	comp=E,2.0nm,0.8s,baz=181,slow=13,SNR=5.0						
	comp=E,2.0nm,0.8s						
FINES	**FINESS Array B**	**24.06**	**6**	P	**P**	**19 21 14.2**	**-0.4**
	comp=E,5.8nm,1.0s,baz=181,slow=9.7,SNR=4.7						
	comp=E,5.8nm,1.0s						
NOA	**NORSAR Array B**	**24.16**	**349**	P	**P**	**19 21 17.3**	**+1.6**
	comp=E,0.4nm,0.6s,baz=161,slow=12,SNR=2.8						
	comp=E,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.70**	**220**	P	**P**	**19 22 06.6**	**+0.8**
	comp=E,0.4nm,0.6s,baz=32,slow=9.6,SNR=1.6						
	comp=E,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**42.45**	**53**	P	**P**	**19 23 54.0**	**-0.4**
	comp=E,0.8nm,0.2s,baz=277,slow=8.6,SNR=1.0						
	comp=E,0.8nm,0.2s						
MKAR	**Makanchi Array**	**45.48**	**58**	P	**P**	**19 24 17.6**	**-1.2**
	comp=E,0.1nm,0.3s,baz=274,slow=8.3,SNR=2.6						
	comp=E,0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**45.96**	**48**	P	**P**	**19 24 21.9**	**-0.5**
	comp=E,1.7nm,0.6s,baz=274,slow=7.3,SNR=4.4						
	comp=E,1.7nm,0.6s						

ROM 23 19:16:28.7±0.0, 43°.320N±0°.003×12°.680E±0°.004, h9km, ML2.2/54, 14C-8D, Error ellipse: s-maj=0.3km s-min=0.2km az=225.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOSV	**Fossato di Vic**	**0.06**	**113**	P	Pg	19 16 31.1	+0.3
FOSV				S	Sg	19 16 32.5	+0.2
FOSV				AML	AML		
	comp=E,3735µm,0.4s						
FOSV				AML	AML		
	comp=N,3485µm,0.5s						
FOSV				AML	AML		
	comp=E,2832µm,0.3s						
FOSV				AML	AML		
	comp=N,3273µm,0.4s						
ATFO	**Monte Foce - G**	**0.09**	**300**	⇓P	Pg	19 16 31.5	+0.3
ATFO				S	Sg	19 16 33.5	+0.5
ATFO				AML	AML		
	comp=E,4475µm,1.3s						
ATFO				AML	AML		
	comp=N,3110µm,0.5s						
ATFO				AML	AML		
	comp=E,4475µm,0.7s						
ATFO				AML	AML		
	comp=N,2799µm,0.1s						
ATFO				AML	AML		
	comp=E,4340µm,0.2s						
MURB	**Monte Urbino**	**0.13**	**243**	⇑P	Pg	19 16 32.2	+0.6
MURB				S	Sg	19 16 34.8	+1.0
MURB				AML	AML		
	comp=N,10640µm,0.3s						
MURB				AML	AML		
	comp=N,9775µm,0.3s						
MURB				AML	AML		
	comp=E,17500µm,0.3s						
MURB				AML	AML		
	comp=N,9775µm,0.2s						
MURB				AML	AML		
	comp=E,16650µm,0.2s						
MURB				AML	AML		
	comp=N,9751µm,0.3s						
MURB				AML	AML		
	comp=E,16621µm,0.2s						
MURB				AML	AML		
	comp=E,17492µm,0.3s						
MURB				AML	AML		
	comp=N,10652µm,0.3s						
ATCC	**AVT- Casa Cast**	**0.14**	**192**	⇑P	Pg	19 16 32.4	+0.6
ATCC				S	Sg	19 16 35.2	+1.2
ATCC				AML	AML		
	comp=N,5370µm,0.8s						
ATCC				AML	AML		
	comp=E,7235µm,0.9s						
ATCC				AML	AML		
	comp=E,7235µm,1.1s						
ATCC				AML	AML		
	comp=E,6109µm,0.2s						
ATCC				AML	AML		
	comp=N,5353µm,0.2s						
SSFR	**Montelago di S**	**0.14**	**33**	⇓P	Pg	19 16 32.3	+0.5
SSFR				S	Sg	19 16 35.2	+1.1
SSFR				AML	AML		
	comp=N,7390µm,0.1s						
SSFR				AML	AML		
	comp=E,6375µm,0.1s						
SSFR				AML	AML		
	comp=E,6375µm,0.2s						
SSFR				AML	AML		
	comp=N,6120µm,0.1s						
SSFR				AML	AML		
	comp=E,5280µm,0.9s						
SSFR				AML	AML		
	comp=N,6115µm,0.1s						
SSFR				AML	AML		
	comp=E,6376µm,0.1s						
SSFR				AML	AML		
	comp=E,4823µm,0.3s						
SSFR				AML	AML		
	comp=N,7393µm,0.1s						
FRON	**Frontone**	**0.20**	**10**	P	Pg	19 16 33.3	+0.5
SNTG	**Esanatoglia**	**0.20**	**109**	⇑P	Pg	19 16 33.5	+0.6
SNTG				S	Sg	19 16 37.2	+1.4
SNTG				AML	AML		
	comp=E,1236µm,0.5s						
SNTG				AML	AML		
	comp=N,2015µm,0.2s						
SNTG				AML	AML		
	comp=E,1132µm,1.6s						
SNTG				AML	AML		
	comp=N,1965µm,0.2s						
SNTG				AML	AML		
	comp=E,1132µm,0.4s						
SNTG				AML	AML		
	comp=E,1078µm,0.2s						
SNTG				AML	AML		
	comp=N,1964µm,0.2s						
SNTG				AML	AML		
	comp=N,2015µm,0.2s						
SNTG				AML	AML		
	comp=E,1054µm,0.2s						
ATVO	**AVT- Monte Val**	**0.21**	**287**	⇑P	Pg	19 16 33.5	+0.5
ATVO				S	Sg	19 16 37.2	+1.2
ATVO				AML	AML		
	comp=E,1150µm,0.5s						
ATVO				AML	AML		
	comp=N,1101µm,0.6s						
ATVO				AML	AML		
	comp=E,1023µm,0.3s						
ATVO				AML	AML		
	comp=N,828µm,0.3s						
PIEI	**Pieia**	**0.24**	**334**	⇑P	Pg	19 16 34.0	+0.4
PIEI				AML	AML		
	comp=E,1375µm,1.1s						
PIEI				AML	AML		
	comp=N,906µm,0.7s						
PIEI				AML	AML		
	comp=E,1375µm,0.9s						
PIEI				AML	AML		
	comp=N,728µm,0.3s						
PIEI				AML	AML		
	comp=E,1191µm,0.2s						
ATPI	**Pietralunga -**	**0.24**	**303**	P	Pg	19 16 34.2	+0.6
ATPI				AML	AML		
	comp=E,855µm,0.5s						
ATPI				AML	AML		
	comp=N,842µm,1.3s						
ATPI				AML	AML		
	comp=N,842µm,0.7s						
ATPI				AML	AML		
	comp=N,812µm,0.4s						
ATPI				AML	AML		
	comp=E,855µm,0.5s						
ARVD	**Arcevia**	**0.26**	**47**	⇑P	Pg	19 16 34.5	+0.6
ARVD				AML	AML		
	comp=E,1220µm,0.7s						
ARVD				AML	AML		
	comp=N,718µm,0.3s						
ARVD				AML	AML		
	comp=N,553µm,0.2s						
ARVD				AML	AML		
	comp=E,779µm,0.1s						
MMUR	**Monte Murano**	**0.26**	**62**	P	Pg	19 16 34.5	+0.5
SEF1	**Sefro**	**0.26**	**131**	P	Pg	19 16 34.7	+0.8
ATTE	**AVT- Monte Tez**	**0.27**	**243**	⇑P	Pg	19 16 34.5	+0.4
ATTE				AML	AML		
	comp=N,1004µm,0.4s						
ATTE				AML	AML		
	comp=E,843µm,1.0s						
ATTE				AML	AML		
	comp=E,843µm,1.0s						
ATTE				AML	AML		
	comp=N,1005µm,0.4s						
ATTE				AML	AML		
	comp=E,809µm,0.2s						
ASSB	**Assisi San Ben**	**0.28**	**183**	⇑P	Pg	19 16 34.6	+0.4
ASSB				AML	AML		
	comp=E,1515µm,1.1s						
ASSB				AML	AML		
	comp=N,2345µm,0.3s						
ASSB				AML	AML		
	comp=N,1625µm,0.2s						
ASSB				AML	AML		
	comp=E,1448µm,0.2s						
APEC	**Apecchio**	**0.30**	**322**	⇓P	Pg	19 16 35.4	+0.7
APEC				AML	AML		
	comp=E,672µm,0.6s						
APEC				AML	AML		
	comp=N,708µm,0.2s						
APEC				AML	AML		
	comp=E,672µm,1.4s						
APEC				AML	AML		
	comp=N,917µm,0.6s						
APEC				AML	AML		
	comp=E,625µm,0.3s						
APEC				AML	AML		
	comp=E,754µm,0.5s						
APEC				AML	AML		
	comp=N,708µm,0.2s						
EL6	**Elcito**	**0.31**	**88**	⇑P	Pg	19 16 35.4	+0.6
EL6				AML	AML		
	comp=E,2485µm,0.2s						
EL6				AML	AML		
	comp=N,2645µm,0.2s						
EL6				AML	AML		
	comp=E,2483µm,0.2s						
EL6				AML	AML		
	comp=N,2647µm,0.2s						
MPAG	**Monte Paganucc**	**0.31**	**11**	⇑P	Pg	19 16 35.5	+0.5
MPAG				S	Sb	19 16 40.8	-0.9
MPAG				AML	AML		
	comp=E,946µm,1.0s						
MPAG				AML	AML		
	comp=N,705µm,1.5s						
MPAG				AML	AML		
	comp=N,680µm,0.4s						
MPAG				AML	AML		
	comp=E,946µm,1.0s						
MPAG				AML	AML		
	comp=N,705µm,1.5s						
MPAG				AML	AML		
	comp=E,871µm,0.4s						
MPAG				AML	AML		
	comp=N,705µm,0.5s						
MPAG				AML	AML		
	comp=E,871µm,1.6s						
MPAG				AML	AML		
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	comp=N,680μm,1.6s					
MPAG				AML	AML	
	comp=E,615μm,0.2s					
MPAG				AML	AML	
	comp=E,624μm,0.2s					
MPAG				AML	AML	
	comp=N,650μm,0.3s					
MPAG				AML	AML	
	comp=N,583μm,0.3s					
CESI	**CESI - Serrava**	**0.35**	**152**	⇑P	Pg	19 16 36.1 +0.4
CESI				S	Sb	19 16 42.0 -0.9
CESI				AML	AML	
	comp=N,410μm,0.6s					
CESI				AML	AML	
	comp=E,595μm,0.7s					
CESI				AML	AML	
	comp=N,410μm,1.4s					
CESI				AML	AML	
	comp=E,366μm,0.2s					
CESI				AML	AML	
	comp=N,356μm,0.1s					
BADI	**Badiali**	**0.37**	**301**	⇓P	Pg	19 16 36.7 +0.7
BADI				S	Sb	19 16 42.6 -0.7
BADI				AML	AML	
	comp=N,623μm,0.2s					
BADI				AML	AML	
	comp=E,609μm,0.3s					
BADI				AML	AML	
	comp=E,609μm,1.7s					
BADI				AML	AML	
	comp=N,623μm,0.2s					
BADI				AML	AML	
	comp=E,609μm,0.3s					
PE3	**Peglio**	**0.40**	**340**	⇓P	Pb	19 16 37.5 -0.4
PE3				AML	AML	
	comp=E,1210μm,0.5s					
PE3				AML	AML	
	comp=N,2295μm,0.4s					
PE3				AML	AML	
	comp=N,2295μm,1.6s					
PE3				AML	AML	
	comp=N,2294μm,0.4s					
PE3				AML	AML	
	comp=E,1209μm,0.5s					
PARC	**Parchiule**	**0.46**	**316**	⇑P	Pg	19 16 38.3 +0.6
PARC				AML	AML	
	comp=E,294μm,0.4s					
PARC				AML	AML	
	comp=N,274μm,0.8s					
PARC				AML	AML	
	comp=N,274μm,1.2s					
PARC				AML	AML	
	comp=N,272μm,0.2s					
PARC				AML	AML	
	comp=E,293μm,0.4s					
SSP9	**Sansepolcro**	**0.47**	**303**	P	Pg	19 16 38.4 +0.5
SSP9				AML	AML	
	comp=N,184μm,0.4s					
SSP9				AML	AML	
	comp=E,245μm,0.4s					
CAFI	**Castiglion Fio**	**0.52**	**271**	⇓P	Pg	19 16 39.4 +0.6
CAFI				AML	AML	
	comp=E,182μm,0.1s					
CAFI				AML	AML	
	comp=N,156μm,0.5s					
CAFI				AML	AML	
	comp=E,196μm,0.1s					
CAFI				AML	AML	
	comp=E,182μm,0.1s					
CAFI				AML	AML	
	comp=N,364μm,0.9s					
CAFI				AML	AML	
	comp=N,143μm,0.3s					
MOMA	**Monte Martano**	**0.52**	**189**	⇑P	Pg	19 16 39.0 +0.2
MOMA				AML	AML	
	comp=E,556μm,0.2s					
MOMA				AML	AML	
	comp=N,316μm,0.3s					
MOMA				AML	AML	
	comp=N,686μm,1.0s					
MOMA				AML	AML	
	comp=E,557μm,0.2s					
MOMA				AML	AML	
	comp=E,497μm,0.2s					
MOMA				AML	AML	
	comp=N,316μm,0.3s					
MC2	**Monte Cornacci**	**0.55**	**137**	P	Pg	19 16 39.9 +0.4
MGAB	**Montegabbione**	**0.58**	**226**	⇑P	Pg	19 16 40.3 +0.3
MGAB				AML	AML	
	comp=N,850μm,0.3s					
MGAB				AML	AML	
	comp=N,871μm,0.6s					
MGAB				AML	AML	
	comp=E,475μm,0.4s					
MGAB				AML	AML	
	comp=E,533μm,0.2s					
MGAB				AML	AML	
	comp=N,860μm,0.3s					
MGAB				AML	AML	
	comp=E,533μm,0.2s					
MGAB				AML	AML	
	comp=E,475μm,0.4s					
MGAB				AML	AML	
	comp=N,849μm,0.3s					
CRE	**Caprese Michel**	**0.61**	**300**	⇓P	Pb	19 16 41.2 -0.4
CRE				AML	AML	
	comp=N,316μm,0.3s					
CRE				AML	AML	
	comp=E,194μm,0.3s					
CRE				AML	AML	
	comp=E,194μm,0.3s					
CRE				AML	AML	
	comp=N,316μm,0.3s					
PESA	**Pesaro**	**0.63**	**11**	⇓P	Pb	19 16 41.6 -0.2
PESA				AML	AML	
	comp=N,797μm,0.8s					
PESA				AML	AML	
	comp=E,675μm,0.2s					
PESA				AML	AML	
	comp=E,675μm,0.2s					
PESA				AML	AML	
	comp=N,724μm,0.3s					
MMO1	**Montemonaco**	**0.63**	**131**	P	Pg	19 16 41.2 +0.3
MF5	**Montefalcone A**	**0.66**	**120**	P	Pb	19 16 42.1 -0.3
MF5				AML	AML	
	comp=N,316μm,0.4s					
MF5				AML	AML	
	comp=E,326μm,1.0s					
MF5				AML	AML	
	comp=N,317μm,0.5s					
MF5				AML	AML	
	comp=E,300μm,0.4s					
LNSS	**Leonessa**	**0.76**	**160**	P	Pg	19 16 43.5 +0.1
LNSS				AML	AML	
	comp=E,267μm,0.4s					
LNSS				AML	AML	
	comp=N,278μm,1.4s					
LNSS				AML	AML	
	comp=N,278μm,0.6s					
LNSS				AML	AML	
	comp=E,245μm,0.5s					
LNSS				AML	AML	
	comp=E,241μm,0.3s					
LNSS				AML	AML	
	comp=N,243μm,0.2s					
LNSS				AML	AML	
	comp=N,269μm,0.5s					
RM33	**Pellescritta (**	**0.90**	**154**	P	Pg	19 16 45.9 -0.1
RM33				AML	AML	
	comp=E,1836μm,0.5s					
RM33				AML	AML	
	comp=E,166μm,1.6s					
RM33				AML	AML	
	comp=N,156μm,0.4s					
RM33				AML	AML	
	comp=N,1458μm,1.2s					
RM33				AML	AML	
	comp=E,166μm,0.4s					
RM33				AML	AML	
	comp=N,1457μm,0.5s					
RM33				AML	AML	
	comp=E,164μm,0.3s					
RM33				AML	AML	
	comp=E,1838μm,0.5s					
RM33				AML	AML	
	comp=N,156μm,0.4s					
TERO	**Teramo**	**0.97**	**135**	P	Pg	19 16 47.3 -0.1
TERO				AML	AML	
	comp=E,84μm,0.6s					
TERO				AML	AML	
	comp=N,63μm,0.3s					
TERO				AML	AML	
	comp=E,84μm,1.4s					
TERO				AML	AML	
	comp=N,63μm,0.3s					
TERO				AML	AML	
	comp=E,77μm,0.4s					
TERO				AML	AML	
	comp=E,350μm,2.3s					
TERO				AML	AML	
	comp=N,80μm,0.6s					
OBKA	**Obir**	**3.45**	**22**	*i* Pn	Pn	19 17 22.8 +0.1
	comp=N,0.1nm,0.1s					
OBKA				*i* Sn	Sn	19 18 02.3 -1.4
	comp=N,2.8nm,0.5s					
SLCN	**Sala Consilina**	**3.67**	**142**	AML	AML	
	comp=E,170μm,1.0s					
SLCN				AML	AML	
	comp=N,115μm,0.9s					
SOKA	**Soboth**	**3.75**	**26**	*i* Sn	Sn	19 18 12.0 +1.0
	comp=N,0.6nm,0.5s					
SOKA				*e*Sg	Sg	19 18 32.1 +3.0
	comp=N,2.0nm,0.6s					
KBA	**Koelnbreinsper**	**3.79**	**7**	*i* Pn	Pn	19 17 29.1 +1.8
	comp=N,0.6nm,0.2s					
KBA				*i* Sn	Sn	19 18 11.0 -1.0
	comp=N,0.4nm,0.2s					
SQTA	**Sankt Quirin**	**4.04**	**346**	*i* Pn	Pn	19 17 31.4 +0.7
	comp=N,0.6nm,0.1s					
LESA	**Schwarzleotal**	**4.10**	**360**	*e*Pn	Pn	19 17 33.3 +1.7
	comp=N,1.4nm,0.3s					
LESA				*i* Sn	Sn	19 18 23.2 +3.5
	comp=N,1.1nm,0.3s					

ROM 23 19:16:42.2±0.1, 43°.320N±0°.004×12°.681E±0°.005, h10km, ML2.4/12, 1C, Error ellipse: s-maj=0.4km s-min=0.1km az=154.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOSV	**Fossato di Vic**	**0.06**	**113**	P	Pg	19 16 44.8	+0.4
FOSV				S	Sg	19 16 46.1	+0.1
ATFO	**Monte Foce - G**	**0.09**	**301**	P	Pg	19 16 45.3	+0.5
ATFO				S	Sg	19 16 47.0	+0.3
ATFO				AML	AML		
	comp=N,1829μm,0.1s						
ATFO				AML	AML		
	comp=E,2084μm,0.2s						
MURB	**Monte Urbino**	**0.13**	**244**	⇑P	Pg	19 16 45.9	+0.7
MURB				S	Sg	19 16 48.3	+0.9
MURB				AML	AML		
	comp=N,3593μm,0.2s						
MURB				AML	AML		
	comp=E,4073μm,0.2s						
MURB				AML	AML		
	comp=N,3447μm,0.2s						
MURB				AML	AML		
	comp=E,4188μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.14**	**193**	P	Pg	19 16 45.9	+0.5
SSFR	**Montelago di S**	**0.14**	**32**	P	Pg	19 16 46.1	+0.6
SSFR				S	Sg	19 16 48.6	+0.9
SSFR				AML	AML		
	comp=E,1952μm,0.2s						
SSFR				AML	AML		
	comp=N,2013μm,0.2s						
SSFR				AML	AML		
	comp=N,2408μm,0.1s						
SSFR				AML	AML		
	comp=E,1952μm,1.8s						
SSFR				AML	AML		
	comp=E,2162μm,0.1s						
SNTG	**Esanatoglia**	**0.20**	**109**	P	Pb	19 16 47.4	-0.6
SNTG				S	Sg	19 16 50.6	+1.3
FRON	**Frontone**	**0.20**	**9**	P	Pg	19 16 47.0	+0.6
FRON				S	Sg	19 16 50.5	+1.1
ATVO	**AVT- Monte Val**	**0.21**	**287**	P	Pb	19 16 47.6	-0.5
ATPI	**Pietralunga -**	**0.24**	**303**	P	Pb	19 16 48.0	-0.7
ARVD	**Arcevia**	**0.26**	**47**	P	Pg	19 16 48.2	+0.7
ARVD				S	Sb	19 16 52.7	-0.8
MMUR	**Monte Murano**	**0.26**	**62**	P	Pb	19 16 48.3	-0.7
ATTE	**AVT- Monte Tez**	**0.27**	**243**	P	Pg	19 16 48.0	+0.4
ATTE				S	Sg	19 16 52.5	+1.2
ASSB	**Assisi San Ben**	**0.28**	**183**	P	Pg	19 16 48.1	+0.3
MPAG	**Monte Paganucc**	**0.32**	**10**	P	Pg	19 16 48.3	-0.2
FDMO	**Fiordimonte**	**0.41**	**133**	P	Pg	19 16 50.3	+0.1
RM33	**Pellescritta (**	**0.90**	**154**	AML	AML		
	comp=E,164μm,0.3s						
RM33				AML	AML		
	comp=E,1837μm,0.5s						
RM33				AML	AML		
	comp=N,1457μm,1.2s						
RM33				AML	AML		
	comp=E,1838μm,0.5s						
RM33				AML	AML		
	comp=N,1456μm,1.2s						
RM33				AML	AML		
	comp=E,166μm,1.6s						
RM33				AML	AML		
	comp=N,156μm,0.4s						
RM33				AML	AML		
	comp=E,1838μm,0.5s						
RM33				AML	AML		
	comp=N,1457μm,0.5s						
RM33				AML	AML		
	comp=E,164μm,1.7s						
MAGO	**Bibbona**	**1.48**	**269**	AML	AML		
	comp=N,63μm,0.8s						
MAGO				AML	AML		
	comp=E,104μm,1.2s						
NDIM	**Novi di Modena**	**2.03**	**321**	AML	AML		
	comp=E,895μm,0.1s						
NDIM				AML	AML		
	comp=N,1350μm,0.5s						
NDIM				AML	AML		
	comp=N,429μm,0.4s						
NDIM				AML	AML		
	comp=E,873μm,0.1s						
VAGA	**Valle Agricola**	**2.22**	**148**	AML	AML		
	comp=E,23μm,1.0s						

*IDC **23** 19:27:05.9±2.2, 8°.72S×122°.16E, h0km, mb3.5/1, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=237.2km s-min=30.6km az=54.0*
*DJA **23** 19:27:08.3±0.4, 10°.S±4°.×12°.1E±°, h12km±4km, M3.8/12, mb4.1/1, MLv3.7/12*
ISC 23 19:27:09.9±1.0, 9°.90S±0°.06×120°.73E±0°.04, h35km, n13, σ1§71/16, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.35**	**204**	P	**Pn**	**19 27 18.1**	**-0.4**
BASI				S	**Sn**	**19 27 23.9**	**-0.5**
WSI	**Waingapu**	**0.48**	**298**	P	**Pn**	**19 27 20.2**	**0.0**
WBSI	**Waikabubak, Su**	**1.34**	**281**	P	**Pn**	**19 27 32.4**	**+0.3**
WBSI				S	**Sn**	**19 27 51.5**	**+2.7**
MMRI	**Maumere**	**1.95**	**50**	P	**Pn**	**19 27 38.6**	**-1.9**
BATI	**Baumata**	**2.91**	**96**	P	**Pn**	**19 27 55.3**	**+1.5**
BATI				S	**Sn**	**19 28 30.4**	**+2.8**
PLAI	**Plampang**	**3.10**	**290**	P	**Pn**	**19 27 57.5**	**+1.2**
SOEI	**Soe**	**3.49**	**88**	P	**Pn**	**19 28 03.2**	**+1.3**
BSSI	**Bau Bau, Buton**	**3.74**	**356**	P	**Pn**	**19 28 05.0**	**-0.1**
BKSI	**Bulukumba**	**4.58**	**352**	P	**Pn**	**19 28 16.6**	**-0.2**
BNSI	**Bone**	**5.50**	**354**	P	**Pn**	**19 28 30.1**	**+0.8**
WRA	**Warramunga Arr**	**16.50**	**129**	Pn	**Pn**	**19 30 55.7**	**-3.2**
	baz=309,slow=15,SNR=1.5						
WRA				Sn	Sn	19 33 45.9	-15
	0.1nm,0.3s,baz=308,slow=24,SNR=2.0						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**18.60**	**139**	P	**P**	**19 31 25.4**	**+1.1**
	0.1nm,0.3s,baz=320,slow=12,SNR=7.8						
ASAR				S	Sn	19 34 39.2	-13
	0.5nm,0.8s,baz=316,slow=25,SNR=3.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**66.03**	**332**	P	**P**	**19 37 52.1**	**-0.9**
	0.2nm,0.5s,baz=148,slow=7.7,SNR=4.9						
	0.2nm,0.5s						

*IDC **23** 19:36:21.7±1.5, 37°.64N×20°.81E, h0km, mb3.4/6, mbtmp3.4/6, MS3.1/4, Error ellipse: s-maj=46.9km s-min=28.0km az=128.0*
*ATH **23** 19:36:23.0, 37°.60N×20°.58E, h8km±2km, ML3.2/13, Error ellipse: s-maj=2.6km s-min=0.8km az=41.0*
ISC 23 19:36:23.3±1.3, 37°.64N±0°.05×20°.65E±0°.05, h14km±7km, n29, σ0§67/36, mb3.2/6, MS3.0/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.16**	**65**	P	**Pg**	**19 36 27.2**	**-0.1**
LTHK				S	**Sg**	**19 36 30.0**	**+0.1**
LTHK				AML	AML	19 36 30.7	
	comp=E,43393μm,0.1s						
LTHK				AML	AML	19 36 33.8	
	comp=N,35784μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.48**	**354**	P	**Pb**	**19 36 33.0**	**-0.5**
PSDA				S	**Sb**	**19 36 40.1**	**-0.3**
VLS	**Valsamata**	**0.54**	**355**	P	**Pb**	**19 36 34.0**	**-0.6**
VLS				S	**Sb**	**19 36 42.0**	**-0.2**
VLS				AML	AML	19 36 42.7	
	comp=N,6964μm,0.5s						
VLS				AML	AML	19 36 43.6	
	comp=E,2849μm,0.3s						
SMHA	**Samh**	**0.61**	**360**	P	**Pg**	**19 36 34.9**	**-0.4**
SMHA				S	**Sb**	**19 36 44.7**	**+0.4**
DMLN	**Damoulianata-K**	**0.64**	**340**	P	**Pg**	**19 36 35.3**	**-0.5**
DMLN				S	**Sg**	**19 36 44.3**	**+0.1**
RLS	**Riolos of Patr**	**0.77**	**57**	P	**Pb**	**19 36 38.6**	**+0.1**
RLS				S	**Sn**	**19 36 50.4**	**-0.8**
RLS				AML	AML	19 36 51.4	
	comp=E,4007μm,0.5s						
RLS				AML	AML	19 36 52.2	
	comp=N,3360μm,0.4s						
FSK	**Fiskardo**	**0.82**	**355**	P	**Pg**	**19 36 38.9**	**-0.4**
FSK				S	**Sb**	**19 36 51.1**	**+0.8**
FSK				AML	AML	19 36 57.0	
	comp=E,4168μm,0.6s						
FSK				AML	AML	19 37 00.0	
	comp=N,2995μm,1.0s						
AMT	**Artemida-Makis**	**0.85**	**97**	P	**Pn**	**19 36 39.9**	**-1.1**
AMT				S	**Sn**	**19 36 51.9**	**-1.3**
AMT				AML	AML	19 36 57.5	
	comp=N,6258μm,0.2s						
AMT				AML	AML	19 37 00.3	
	comp=E,11121μm,0.6s						
DRO	**Drossia**	**0.90**	**69**	P	**Pn**	**19 36 41.3**	**-0.2**
DRO				S	**Sn**	**19 36 53.8**	**-0.6**
DRO				AML	AML	19 36 57.2	
	comp=E,5172μm,0.5s						
DRO				AML	AML	19 36 57.7	
	comp=N,3740μm,0.5s						
EVGI	**Lefkada island**	**0.98**	**0**	P	**Pb**	**19 36 41.9**	**-0.2**
EVGI				S	**Sb**	**19 36 56.3**	**+1.4**
NYDR	**Nydri-Lefkada**	**1.07**	**2**	P	**Pb**	**19 36 43.6**	**-0.1**
NYDR				S	**Sb**	**19 36 58.7**	**+1.1**
ITM	**Ithomi**	**1.12**	**114**	P	**Pn**	**19 36 44.8**	**+0.2**
ITM				AML	AML	19 37 10.2	
	comp=E,658μm,0.8s						
ITM				AML	AML	19 37 11.3	
	comp=N,1822μm,0.7s						
PYL	**PYLOS**	**1.15**	**130**	P	**Pn**	**19 36 44.8**	**-0.2**
PYL				AML	AML	19 37 07.0	
	comp=N,781μm,0.7s						
PYL				AML	AML	19 37 11.3	
	comp=E,942μm,0.9s						
LKD2	**Lefkada island**	**1.15**	**0**	P	**Pg**	**19 36 44.8**	**-0.7**
LKD2				AML	AML	19 37 09.5	
	comp=N,6584μm,0.6s						
LKD2				AML	AML	19 37 09.8	
	comp=E,2420μm,0.7s						
TSLK	**Tsoukalades, L**	**1.18**	**0**	P	**Pb**	**19 36 45.6**	**+0.1**
KLV	**Kalavryta, Ach**	**1.25**	**71**	P	**Pn**	**19 36 47.6**	**+1.0**
KLV				AML	AML	19 37 13.2	
	comp=E,618μm,0.8s						
KLV				AML	AML	19 37 15.9	
	comp=N,876μm,0.8s						
EFP	**Efpalio**	**1.27**	**51**	P	**Pn**	**19 36 47.4**	**+0.7**
EFP				AML	AML	19 37 16.4	
	comp=N,1665μm,1.5s						
EFP				AML	AML	19 37 18.4	
	comp=E,1436μm,0.7s						
GUR	**Goura**	**1.37**	**77**	P	**Pb**	**19 36 49.3**	**+0.4**
GUR				AML	AML	19 37 19.5	
	comp=E,1537μm,0.5s						
GUR				AML	AML	19 37 21.7	
	comp=N,1761μm,0.5s						
EVR	**Evrytania**	**1.57**	**35**	P	**Pg**	**19 36 53.0**	**-0.4**
EVR				AML	AML	19 37 25.4	
	comp=E,995μm,1.2s						
EVR				AML	AML	19 37 26.8	
	comp=N,944μm,0.8s						
MDT	**Midelt**	**21.16**	**264**	LR	LR	19 48 53.1	
	comp=N,25nm,20.6s,baz=170,slow=35						
FINES	**FINESS Array B**	**24.07**	**6**	P	**P**	**19 41 37.9**	**-0.1**
	comp=N,2.4nm,0.9s,baz=170,slow=8.5,SNR=1.1						
	comp=N,2.4nm,0.9s						
NOA	**NORSAR Array B**	**24.16**	**349**	P	**P**	**19 41 39.9**	**+1.0**
	comp=N,0.7nm,0.9s,baz=152,slow=11,SNR=1.5						
	comp=N,0.7nm,0.9s						
AKTO	**Aktyubinsk**	**29.43**	**52**	LR	LR	19 55 49.0	
	comp=N,26nm,18.3s,baz=282,slow=40						
TORD	**Torodi Ar. Bea**	**29.68**	**220**	P	**P**	**19 42 29.8**	**+1.0**
	comp=N,0.3nm,0.7s,baz=21,slow=8.9,SNR=2.5						
	comp=N,0.3nm,0.7s						
JMIC	**Jan Mayen**	**36.70**	**345**	LR	LR	19 57 09.0	
	comp=N,42nm,22.0s,baz=188,slow=34						
KURBB	**Kurchatov Arra**	**42.47**	**53**	P	**P**	**19 44 17.1**	**-0.6**
	comp=N,0.1nm,0.5s,baz=277,slow=8.8,SNR=2.1						
	comp=N,0.1nm,0.5s						
MKAR	**Makanchi Array**	**45.50**	**58**	P	**P**	**19 44 41.5**	**-0.7**
	comp=N,0.2nm,0.8s,baz=276,slow=6.4,SNR=1.4						
	comp=N,0.2nm,0.8s						
ZALV	**Zalesovo Beam**	**45.98**	**48**	P	**P**	**19 44 45.9**	**+0.1**
	comp=N,0.6nm,0.6s,baz=293,slow=7.5,SNR=1.9						
	comp=N,0.6nm,0.6s						
OPO	**Ambohidratompo**	**61.24**	**151**	LR	LR	20 15 31.4	
	comp=N,41nm,18.5s,baz=348,slow=38						

HEL 23 20:04:37.2±0.6, 66°.24N×24°.50E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOF	**Tornio**	**0.18**	**204**	PG	Pg	20 04 41.0	+0.4
TOF				SG	Sg	20 04 42.7	-0.2
KALU	**Kalix**	**0.61**	**231**	SG	Sg	20 04 55.5	-1.1
RNF	**Rovaniemi**	**0.71**	**58**	SG	Sg	20 04 58.4	-1.6
RANF	**Ranua**	**0.96**	**103**	SB	Sg	20 05 08.7	+0.8
MSF	**Maaselka**	**1.88**	**98**	SG	Sn	20 05 34.3	-0.6
HEF	**Hetta**	**2.20**	**352**	PB	Pb	20 05 16.7	-1.1
HEF				MSG		20 05 42.2	
	comp=Z,0.4nm,0.2s						
KU6	**Riekki**	**2.20**	**93**	MSG		20 05 42.5	
	comp=Z,0.5nm,0.2s						
VRF	**Varrio**	**2.51**	**51**	MSG		20 05 51.3	
	comp=Z,2.3nm,0.2s						
KEF	**Keuruu**	**4.10**	**178**	SG	Sb	20 06 40.2	+0.1

*SDD **23** 20:25:52.9±1.7, 20°.12N×73°.00W, h21km±999km, MD4.1, ML4.1, MW3.9*
*SSNC **23** 20:25:53.5±2.0, 20°.14N×72°.98W, h5km±7km, MD3.6, ML4.0*
*OSPL **23** 20:25:56.0±3.3, 20°.08N×72°.96W, h19km±32km, ML3.5*
ISC 23 20:25:51.2±1.3, 20°.11N±0°.03×72°.89W±0°.03, h16km±11km, n40, σ1§32/61, 5C-4D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	**Montecristi**	**1.18**	**100**	⇑*e*Pg	**Pg**	**20 26 16.0**	**+1.9**
MCDR				IAML		20 26 39.8	
	comp=E,2μm,0.5s						
MCDR				IAML		20 26 40.9	
	comp=N,2μm,0.1s						
LODA1	**ITESIL, Dajabo**	**1.25**	**117**	⇓*e*Pg	**Pb**	**20 26 14.5**	**+0.1**
LODA1				IAML		20 26 34.8	
	comp=N,9μm,0.3s						
LODA1	**ITESIL, Dajabo**	**1.25**	**117**	*i* P	**Pg**	**20 26 15.8**	**+0.4**
LODA1				*e*S	**Sb**	**20 26 30.6**	**+0.2**
MASC	**Masc**	**1.26**	**273**	*e*P	**Pg**	**20 26 15.3**	**-0.3**
MASC				*e*S	**Sb**	**20 26 31.0**	**+0.4**
MASC				IAML		20 26 32.9	
	comp=E,2μm,0.2s						
MASC				IAML		20 26 33.1	
	comp=N,1μm,0.1s						
MASC	**Masc**	**1.26**	**273**	*i* P	**Pg**	**20 26 15.4**	**-0.2**

MASC			*e*S	**Sn**	**20 26 31.6**	**+0.8**
MASC			IAML		20 26 33.4	
comp=Z,1μm,0.2s						
PAPH	**Port-au-Prince**	**1.68 160**	*e*P	**Pb**	**20 26 22.2**	**+0.5**
PAPH			*e*S	**Sb**	**20 26 43.7**	**+1.1**
PAPH			IAML		20 26 46.7	
comp=E,766nm,0.4s						
PAPH			IAML		20 26 49.0	
comp=N,710nm,0.2s						
PAPH	**Port-au-Prince**	**1.68 160**⇓	*e*Pg	**Pb**	**20 26 22.3**	**+0.5**
PAPH			IAML		20 26 45.6	
comp=N,1μm,0.3s						
PAPH			IAML		20 26 46.8	
comp=E,2μm,0.2s						
PAPH	**Port-au-Prince**	**1.68 160**	*i* P	**Pb**	**20 26 22.4**	**+0.6**
PAPH			IAML		20 26 46.2	
comp=Z,459nm,0.3s						
REDR	**Restauracion**	**1.70 123**	*e*Pg	**Pn**	**20 26 18.2**	**-1.9**
REDR			IAML		20 26 39.7	
comp=E,7μm,0.2s						
REDR			IAML		20 26 40.1	
comp=N,5μm,0.2s						
QMBU	**Quimbuelo**	**1.81 273**	*e*P	**Pn**	**20 26 22.6**	**+0.8**
QMBU			*e*S	**Sn**	**20 26 43.9**	**-0.4**
QMBU			IAML		20 26 47.9	
comp=E,2μm,0.3s						
QMBU			IAML		20 26 48.3	
comp=N,2μm,0.3s						
SDDR	**Presa de Saban**	**1.88 126**	*e*P	**Pb**	**20 26 25.8**	**+0.5**
SDDR			*e*S	**Sb**	**20 26 49.6**	**+1.0**
SDDR			IAML		20 26 56.6	
comp=N,764nm,0.6s						
SDDR			IAML		20 26 56.7	
comp=N,668nm,0.6s						
SDDR	**Presa de Saban**	**1.88 126**⇑	*e*Pg	**Pb**	**20 26 26.2**	**+0.9**
SDDR			IAML		20 26 56.4	
comp=E,794nm,0.5s						
SDDR			IAML		20 26 58.9	
comp=N,915nm,0.3s						
SDDR	**Presa de Saban**	**1.88 126**	*i* P	**Pb**	**20 26 26.2**	**+0.9**
SDDR			*e*S	**Sb**	**20 26 49.4**	**+0.8**
SDDR			IAML		20 26 57.7	
comp=Z,813nm,0.5s						
JIDR	**Jimani**	**1.89 148**	*e*Pg	**Pb**	**20 26 26.0**	**+0.7**
JIDR		⇑	*e*Sg	**Sb**	**20 26 50.6**	**+1.9**
JIDR			IAML		20 26 51.6	
comp=N,2μm,0.3s						
JIDR			IAML		20 26 52.0	
comp=E,1μm,0.5s						
NMDO	**Nuevo Mundo**	**2.01 283**	*e*P	**Pn**	**20 26 25.0**	**+0.5**
NMDO			*e*S	**Sn**	**20 26 49.9**	**+0.5**
NMDO			IAML		20 26 58.5	
comp=N,630nm,0.2s						
NMDO			IAML		20 27 00.7	
comp=E,567nm,0.4s						
MOAC	**Moa**	**2.02 286**	*e*P	**Pn**	**20 26 25.0**	**+0.4**
MOAC			*e*S	**Sn**	**20 26 49.4**	**-0.1**
MOAC			IAML		20 26 57.0	
comp=E,238nm,0.1s						
MOAC			IAML		20 26 57.5	
comp=N,600nm,0.3s						
LONE3	**El Aguacate, B**	**2.02 138**	*i* P	**Pb**	**20 26 27.7**	**+0.1**
GTBY	**Guantanamo Bay**	**2.10 265**	*e*P	**Pn**	**20 26 26.5**	**+0.8**
GTBY			*e*S	**Sn**	**20 26 50.9**	**-0.5**
GTBY			IAML		20 26 53.2	
comp=N,200nm,0.3s						
GTBY			IAML		20 26 57.8	
comp=N,282nm,0.3s						
GTBY	**Guantanamo Bay**	**2.10 265**⇑	*e*Pg	**Pn**	**20 26 26.6**	**+1.0**
GTBY			IAML		20 27 00.4	
comp=N,291nm,0.6s						
GTBY			IAML		20 27 00.8	
comp=E,282nm,0.5s						
GTBY	**Guantanamo Bay**	**2.10 265**	*i* P	**Pn**	**20 26 26.8**	**+1.1**
GTBY			IAML		20 27 03.6	
comp=Z,233nm,0.4s						
GRTK	**Grand Turk**	**2.15 49**	*e*P	**Pb**	**20 26 29.7**	**-0.2**
GRTK			*e*S	**Sb**	**20 26 57.0**	**+0.6**
GRTK			IAML		20 27 01.4	
comp=Z,334nm,0.2s						
GRTK			IAML		20 27 03.4	
comp=Z,299nm,0.5s						
GRTK	**Grand Turk**	**2.15 49**⇓	*e*Pg	**Pb**	**20 26 29.9**	**+0.1**
GRTK		⇑	*e*Sg	**Sg**	**20 26 58.2**	**-2.4**
GRTK			IAML		20 27 05.8	
comp=E,370nm,0.5s						
GRTK			IAML		20 27 22.2	
comp=N,508nm,0.4s						
GRTK	**Grand Turk**	**2.15 49**	*i* P	**Pb**	**20 26 30.0**	**+0.1**
GRTK			*e*S	**Sb**	**20 26 57.2**	**+0.9**
GRTK			IAML		20 27 14.1	
comp=Z,173nm,0.6s						
PODR	**Polo**	**2.46 142**	*e*Pg	**Pb**	**20 26 34.4**	**-0.9**
PODR			IAML		20 27 15.9	
comp=E,816nm,0.5s						
PODR			IAML		20 27 19.9	
comp=N,472nm,0.3s						
ABDR	**Alto Bandera**	**2.50 121**	*e*Pg	**Pb**	**20 26 36.2**	**+0.2**
ABDR			IAML		20 27 16.4	
comp=N,776nm,0.2s						
ABDR			IAML		20 27 17.4	
comp=E,728nm,0.3s						
LOBH	**Bahia de las A**	**2.53 152**	*i* P	**Pb**	**20 26 35.6**	**-0.7**
LOBA2	**Hotel Casa Bon**	**2.64 140**⇓	*e*Pg	**Pb**	**20 26 37.8**	**-0.4**
RCC	**Rio Carpintero**	**2.64 268**	*e*P	**Pn**	**20 26 33.7**	**+0.5**
RCC			*e*S	**Sn**	**20 27 04.3**	**-0.6**
RCC			IAML		20 27 09.9	
comp=E,219nm,0.7s						
RCC			IAML		20 27 10.0	
comp=N,6μm,0.1s						
LOVI	**El Cajuil, Ovi**	**2.72 148**	*i* P	**Pb**	**20 26 39.0**	**-0.5**
PINC	**Pinares de May**	**2.75 278**	*e*P	**Pn**	**20 26 34.6**	**0.0**
PINC			*e*S	**Sn**	**20 27 11.0**	**+3.5**
PINC			IAML		20 27 15.8	
comp=E,217nm,0.4s						
PINC			IAML		20 27 17.1	
comp=N,332nm,0.3s						
MARVS	**Santiago de Cu**	**2.83 268**	*e*P	**Pn**	**20 26 36.2**	**+0.4**
MARVS			*e*S	**Sn**	**20 27 09.1**	**-0.5**
MARVS			IAML		20 27 11.6	
comp=N,125nm,0.1s						
MARVS			IAML		20 27 12.7	
comp=E,113nm,0.3s						
DR08	**Loma La Naviza**	**2.94 112**	IAML		20 27 28.1	
comp=E,4μm,0.2s						
DR08			IAML		20 27 28.2	
comp=N,7μm,0.2s						
BANI	**BANI**	**2.94 125**	*e*Pg	**Pb**	**20 26 42.6**	**-0.8**
BANI			IAML		20 27 30.3	
comp=E,698nm,0.9s						
BANI			IAML		20 27 30.6	
comp=N,614nm,0.3s						
HLGC	**Holguin**	**3.07 285**	*e*P	**Pn**	**20 26 41.2**	**+2.1**
HLGC			*e*S	**Sn**	**20 27 17.1**	**+1.6**
HLGC			IAML		20 27 24.3	
comp=N,35nm,0.4s						
HLGC			IAML		20 27 24.4	
comp=E,41nm,0.3s						
CHIV	**Chivirico**	**3.32 268**	*e*P	**Pn**	**20 26 42.2**	**-0.2**
CHIV			*e*S	**Sn**	**20 27 21.0**	**-0.5**
CHIV			IAML		20 27 22.1	
comp=E,2μm,0.1s						
CHIV			IAML		20 27 22.7	
comp=N,2μm,0.2s						
LMGC	**Las Mercedes**	**3.87 270**	*e*P	**Pn**	**20 26 50.7**	**+0.7**
LMGC			*e*S	**Sn**	**20 27 33.2**	**-2.0**
LMGC			IAML		20 27 35.1	
comp=E,2μm,0.1s						
LMGC			IAML		20 27 35.4	
comp=N,2μm,0.1s						
LTUP	**Las Tunas**	**3.95 283**	*e*P	**Pn**	**20 26 49.7**	**-1.5**
LTUP			*e*S	**Sn**	**20 27 34.7**	**-2.4**
LTUP			IAML		20 27 37.8	
comp=N,11μm,0.1s						
LTUP			IAML		20 27 41.1	
comp=E,19μm,0.4s						
GWJ	**Greenwich**	**4.16 241**	*i* P	**Pn**	**20 26 55.1**	**+1.0**
STH	**Stony Hill**	**4.22 242**	*i* P	**Pn**	**20 26 55.5**	**+0.5**
MTDJ	**Mount Denham**	**4.77 248**	*e*P	**Pn**	**20 27 03.0**	**+0.4**
MTDJ			*e*S	**Sn**	**20 27 51.9**	**-5.8**
MTDJ			IAML		20 27 58.0	
comp=E,36nm,0.6s						
MTDJ			IAML		20 27 58.1	
comp=E,40nm,0.2s						

NEIC ***23*** *20:35:33.9±2.0, 44°.01N±0°.05×105°.5W±0°.1, h0km±1km, ML3.1/38, Error ellipse: s-maj=17.1km s-min=8.5km az=255.0*
IDC ***23*** *20:35:37.1±1.5, 44°.41N×105°.92W, h0km, mbtmp3.2/2, ML3.1/2, Error ellipse: s-maj=55.5km s-min=9.8km az=144.0*
ISC 23 20:35:34.1±1.3,**43°.87N**±0°.07×**105°.28W**±0°.07,**h0km**,**n24**, σ1§**43**/23,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**74**		**Pn**	**20 35 54.0**	**-0.7**
K22A	**Casper**	**1.52**	**217**		**Pg**	**20 36 04.4**	**+1.2**
K22A				IAML		20 36 31.2	
comp=E,171nm,0.3s							
LAO	**LASA Array**	**2.90**	**347**	Pn	**Pn**	**20 36 20.1**	**-1.5**
N23A	**Red Feather La**	**3.01**	**190**	Pn	**Pn**	**20 36 23.2**	**0.0**
N23A				IAML		20 37 30.4	
comp=N,34nm,0.8s							
N23A				IAML		20 38 04.8	
comp=E,38nm,2.1s							
RLMT	**Red Lodge**	**3.12**	**295**		**Pn**	**20 36 25.4**	**+0.7**
RLMT				IAML		20 37 21.5	
comp=E,44nm,2.2s							
PD31	**Pinedale Array**	**3.31**	**252**		**Pn**	**20 36 28.3**	**+0.9**
PDAR	**Pinedale Array**	**3.31**	**252**		**Pn**	**20 36 28.8**	**+1.4**
PDAR	**Pinedale Array**	**3.31**	**252**	Pn	**Pn**	**20 36 30.4**	**+3.1**
comp=E,3.0nm,0.3s,baz=66,slow=18,SNR=38							
PDAR				Lg	Lg	20 37 14.8	
comp=E,3.2nm,0.3s,baz=58,slow=32,SNR=17							
comp=E,1.6nm,0.3s							
YNE	**Yellowstone No**	**3.57**	**290**	Pn	**Pn**	**20 36 30.7**	**-0.2**
YNE				IAML		20 37 01.6	
comp=N,33nm,0.8s							
YNE				IAML		20 37 01.7	
comp=E,29nm,0.9s							
YMP	**Mirror Lake Pl**	**3.61**	**286**	Pn	**Pn**	**20 36 30.6**	**-0.9**
YMP				IAML		20 37 35.5	
comp=N,34nm,3.0s							
YMP				IAML		20 37 55.2	
comp=E,44nm,4.9s							
H17A	**Grant Village**	**3.85**	**280**		**Pn**	**20 36 34.0**	**-0.8**
H17A				IAML		20 37 41.0	
comp=E,22nm,2.1s							
LOHW	**Long Hollow**	**3.87**	**268**		**Pn**	**20 36 34.4**	**-0.6**
LOHW				IAML		20 37 53.6	
comp=E,23nm,4.8s							
FLWY	**Flagg Ranch**	**3.92**	**275**		**Pn**	**20 36 34.5**	**-1.2**
MOOW	**Moose Ponds**	**3.96**	**270**	Pn	**Pn**	**20 36 37.6**	**+1.4**
YNR	**Norris Junctio**	**3.97**	**284**		**Pn**	**20 36 35.7**	**-0.7**
YNR				IAML		20 37 45.5	
comp=E,21nm,4.2s							
SNOW	**Snow King Moun**	**3.99**	**266**		**Pn**	**20 36 37.1**	**+0.4**
TPAW	**Teton Pass**	**4.13**	**267**		**Pn**	**20 36 38.2**	**-0.4**
TPAW				IAML		20 38 00.2	
comp=E,28nm,3.8s							
TPAW				IAML		20 38 06.1	
comp=E,28nm,5.0s							
YHL	**Hebgen Lake**	**4.34**	**285**		**Pn**	**20 36 41.1**	**-0.5**
YHL				IAML		20 38 04.7	
comp=N,24nm,2.4s							
YHL				IAML		20 38 32.0	
comp=E,22nm,2.9s							
AHID	**Auburn Hatcher**	**4.39**	**257**		**Pn**	**20 36 39.8**	**-2.3**
AHID				IAML		20 38 06.7	
comp=E,24nm,3.8s							
AHID				IAML		20 38 14.0	
comp=E,21nm,4.9s							
RDMU	**Red Mountain**	**4.58**	**226**		**Pn**	**20 36 43.0**	**-1.8**
RDMU				IAML		20 38 05.9	
comp=E,18nm,1.4s							
RDMU				IAML		20 38 21.6	
comp=N,20nm,2.1s							
BSUT	**Blindstream Ca**	**5.26**	**233**		**Pn**	**20 36 51.9**	**-2.3**
BSUT				IAML		20 38 42.1	
comp=E,14nm,4.9s							
TCUT	**Toone Canyon**	**5.30**	**241**		**Pn**	**20 36 53.0**	**-1.7**
I10CA	**LAC DU BONNET**	**8.95**	**42**	I	I	21 29 59.2	
comp=E,0.1nm,1.8s,baz=224,slow=312,SNR=3.4							
ULM	**Lac du Bonnet**	**9.05**	**42**	Pn	**Pn**	**20 37 46.4**	**+0.5**
comp=E,0.4nm,0.3s,baz=227,slow=9.4,SNR=1.3							
ULM				Lg	Lg	20 40 14.6	
comp=E,0.3nm,0.3s,baz=144,slow=19,SNR=1.7							
comp=E,0.7nm,0.3s							

IDC ***23*** *20:35:42.2±1.7, 3°.01S×147°.83E, h0km, mb4.0/5, mbtmp4.0/6, ML1.5/1, MS3.4/12, Error ellipse: s-maj=50.2km s-min=23.4km az=102.0*
ISC 23 20:35:45.3±1.3,**2°.84S**±0°.10×**147°.7E**±0°.2,**h10km**,**n31**, σ3§**09**/15,**mb3.9**/5,**MS3.4**/9,**Admiralty Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.55**	**185**	Pn	**Pn**	**20 37 19.3**	**-2.4**
0.7nm,0.3s,baz=43,slow=10,SNR=2.6							
PMG				Sn	**Sn**	**20 38 33.7**	**-2.9**
1.0nm,0.3s,baz=32,slow=19,SNR=1.4							
PMG				LR	LR	20 39 52.9	
comp=Z,343nm,18.2s,baz=20,slow=39 4.2nm,0.5s							
PMG	**Port Moresby**	**6.55**	**185**	P	Pn	20 37 29.2	+7.5
GENI	**Genyem**	**7.53**	**272**	P	Pb	20 37 48.5	-7.6
MTSU	**Mount Surprise**	**15.56**	**192**	P	**Pn**	**20 39 28.2**	**+3.2**
TV1H	**Townsville Har**	**16.35**	**183**	P	**P**	**20 39 39.1**	**+1.1**
GUMO	**Guam**	**16.56**	**350**	LR	LR	20 45 18.7	
comp=Z,40nm,22.0s,baz=152,slow=34							
CTA	**Charters Tower**	**17.20**	**185**	LR	LR	20 46 12.2	
comp=Z,180nm,20.1s,baz=360,slow=37							
KDU	**Kakadu**	**17.97**	**236**	P	**P**	**20 39 57.6**	**+1.6**
QIS	**Mount Isa**	**19.30**	**204**	P	**P**	**20 40 12.3**	**+1.7**
WRA	**Warramunga Arr**	**21.43**	**217**	P	**P**	**20 40 31.1**	**-2.6**
4.7nm,0.9s,baz=41,slow=10,SNR=25							
WRA				LR	LR	20 50 23.8	
comp=Z,73nm,19.0s,baz=313,slow=41 4.7nm,0.9s							
QLP	**Quilpie**	**23.84**	**188**	P	**P**	**20 41 02.9**	**+4.1**
ASAR	**Alice Springs**	**24.64**	**212**	P	**P**	**20 41 03.5**	**-2.8**
2.7nm,0.7s,baz=37,slow=7.3,SNR=27							
ASAR				LR	LR	20 51 43.5	
comp=Z,84nm,19.6s,baz=42,slow=39 2.7nm,0.7s							
INKA	**Innaminka**	**25.64**	**194**	P	**P**	**20 41 18.9**	**+3.7**
DZM	**Mont Dzumac**	**26.40**	**138**	LR	LR	20 50 08.8	
comp=Z,204nm,19.0s,baz=278,slow=33							
FITZ	**Fitzroy Crossi**	**26.41**	**233**	P	**P**	**20 41 20.4**	**-2.0**
11nm,0.9s,baz=79,slow=7.5,SNR=8.2 11nm,0.9s							
AULRC	**Lightning Ridg**	**26.45**	**179**	P	**P**	**20 41 27.9**	**+5.4**
H11S3	**WAKE ISLAND Hy**	**28.26**	**41**	T	T	21 10 57.8	
baz=222,slow=76,SNR=56							
H11S2	**WAKE ISLAND Hy**	**28.27**	**41**	T	T	21 10 58.1	
baz=222,slow=76,SNR=63							
H11S1	**WAKE ISLAND Hy**	**28.28**	**41**	T	T	21 11 00.7	
baz=222,slow=76,SNR=75							
H11N1	**WAKE ISLAND Hy**	**29.28**	**39**	T	T	21 12 16.5	
baz=221,slow=76,SNR=36							
H11N3	**WAKE ISLAND Hy**	**29.30**	**39**	T	T	21 12 17.7	
baz=221,slow=76,SNR=38							
H11N2	**WAKE ISLAND Hy**	**29.30**	**39**	T	T	21 12 17.5	
baz=221,slow=76,SNR=73							
STKA	**Stephens Creek**	**29.45**	**191**	LR	LR	20 54 41.4	
comp=Z,96nm,18.3s,baz=15,slow=39							
JOW	**Kunigami**	**34.96**	**329**	LR	LR	20 54 03.8	
comp=Z,79nm,20.7s,baz=96,slow=31							
JNU	**Nakatsue**	**39.15**	**337**	LR	LR	20 58 13.9	
comp=Z,31nm,18.5s,baz=122,slow=34							
MJAR	**Matsushiro Arr**	**40.16**	**348**	LR	LR	20 57 56.9	
comp=Z,37nm,20.5s,baz=167,slow=33							
URZ	**Urewera**	**44.33**	**146**	LR	LR	20 59 05.2	
comp=Z,90nm,21.2s,baz=34,slow=32							
CMAR	**Chiang Mai Arr**	**52.45**	**296**	P	**P**	**20 44 59.5**	**+0.8**
0.4nm,0.3s,baz=104,slow=6.6,SNR=5.5 0.4nm,0.3s							
KLR	**Kul'dur**	**53.67**	**347**	LR	LR	21 06 19.8	
comp=Z,33nm,19.5s,baz=190,slow=34							
ILAR	**Eielson Array**	**82.32**	**23**	P	**P**	**20 48 05.8**	**-1.2**
0.6nm,1.1s,baz=244,slow=5.9,SNR=3.0 0.6nm,1.1s							
TORD	**Torodi Ar. Bea**	**144.87**	**289**	PKPbc	**PKPab**	**20 55 20.8**	**-2.0**
1.0nm,1.0s,baz=77,slow=3.2,SNR=3.7							

IDC ***23*** *20:41:07.2±0.6, 42°.33N×84°.59E, h0km, mb4.0/15, mbtmp3.9/22, ML3.2/7, MS3.4/11, Error ellipse: s-maj=18.1km s-min=10.9km az=49.0*
MOS ***23*** *20:41:07.4±1.2, 42°.26N×84°.58E, h11km, mb4.5/7, Error ellipse: s-maj=8.6km s-min=5.8km az=128.2*
NEIC ***23*** *20:41:08.9±1.6, 42°.30N±0°.06×84°.7E±0°.1, h10km±1km, mb4.4/28, Error ellipse: s-maj=12.9km s-min=10.8km az=82.0*
NNC ***23*** *20:41:09.0±2.3, 42°.41N×84°.57E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=19.9km s-min=11.1km az=152.0*
BJI ***23*** *20:41:09.9, 42°.39N×84°.67E, h23km, mb4.1/21, mB4.6/10, ML4.5/11, Ms3.9/5, Ms7 3.6/4*
SOME ***23*** *20:41:14.0, 42°.88N×84°.48E, h0km, MS3.8*
ISC 23 20:41:08.6±0.4,**42°.39N**±0°.04×**84°.65E**±0°.03,**h10km**,**n172**, σ2§**25**/190,**mb4.2**/32,**MS3.5**/6,**18C-12D**,**Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.65**	**56**	Pn	**Pb**	**20 41 56.5**	**+0.3**
WMQ				Sn	**Sb**	**20 42 30.6**	**+1.8**
WMQ				smax	smax		
comp=N,870nm,1.3s							
WMQ				smax	smax		
comp=E,930nm,1.1s							
SHLS	**Shalkode**	**3.90**	**283**	Pg	**Pn**	**20 42 11.9**	**+3.2**
54nm,0.5s							
SHLS				Lg	Lg	20 43 03.0	
561nm,0.8s							
SHLS	**Shalkode**	**3.90**	**283**	*e*P	**Pb**	**20 42 17.3**	**-0.2**
74nm,0.6s							
SHLS				*e*S	**Sb**	**20 43 03.0**	**-1.8**
561nm,0.8s							
DJR	**Jarkent**	**4.04**	**300**	Pg	**Pb**	**20 42 18.5**	**-1.4**
7.3nm,0.3s							
DJR				Lg	Lg	20 43 13.7	
171nm,0.4s							
DJR	**Jarkent**	**4.04**	**300**	*e*P	**Pb**	**20 42 23.6**	**+3.7**
17nm,0.3s							
DJR				*e*S	**Sb**	**20 43 13.7**	**+4.8**
171nm,0.4s							
UZB	**Uzynbulak**	**4.21**	**282**	Pg	**Pb**	**20 42 22.4**	**-0.5**
17nm,0.4s							
UZB				Lg	Lg	20 43 21.1	
215nm,0.7s							
UZB	**Uzynbulak**	**4.21**	**282**	*e*P	**Pg**	**20 42 28.6**	**-0.7**
18nm,0.3s							
UZB				*e*S	**Sg**	**20 43 21.8**	**-2.1**
224nm,0.7s							
WUS	**Wushi**	**4.23**	**256**	Pn	**Pn**	**20 42 15.6**	**+2.3**
KPKS	**Kokpek**	**4.51**	**286**	Pg	**Pb**	**20 42 28.4**	**+0.4**
12nm,0.3s							
KPKS				Lg	Lg	20 43 31.3	
366nm,0.7s							
KPKS	**Kokpek**	**4.51**	**286**	*e*P	**Pg**	**20 42 34.0**	**-1.1**
21nm,0.4s							
KPKS				*e*S	**Sg**	**20 43 31.6**	**-1.9**
366nm,0.7s							
PRZ	**Przheval'sk**	**4.63**	**273**	Pn	**Pn**	**20 42 21.1**	**+2.3**
PRZ	**Przheval'sk**	**4.63**	**273**	P	**Pn**	**20 42 21.1**	**+2.3**
ZHN	**Zhinishke**	**4.64**	**282**	Pg	**Pb**	**20 42 32.4**	**+2.2**
37nm,0.4s							
ZHN				Lg	Lg	20 43 38.2	
304nm,0.6s							
ZHN	**Zhinishke**	**4.64**	**282**	*e*P	**Pg**	**20 42 37.5**	**0.0**
21nm,0.1s							
ZHN				*e*S	**Sg**	**20 43 37.8**	**+0.1**
210nm,0.3s							
SATY	**Saty**	**4.65**	**280**	Pg	**Pb**	**20 42 31.3**	**+0.9**
29nm,0.2s							
SATY				Lg	Lg	20 43 36.2	
325nm,0.8s							
SATY	**Saty**	**4.65**	**280**	*e*P	**Pg**	**20 42 37.0**	**-0.7**
28nm,0.4s							
SATY				*e*S	**Sg**	**20 43 36.2**	**-1.7**
240nm,0.7s							
MK31	**Makanchi Array**	**4.72**	**340**	⇓Pn	**Pn**	**20 42 22.5**	**+2.7**
0.6nm,0.2s,baz=155,slow=12,SNR=572							
MK31				⇓Pg	**Pb**	**20 42 35.2**	**+3.8**
127nm,0.8s,baz=150,slow=17,SNR=59							
MK31				⇑Lg	Lg	20 43 38.3	
149nm,0.7s,baz=161,slow=29,SNR=6.6							
MK31	**Makanchi Array**	**4.72**	**340**		**Pn**	**20 42 22.4**	**+2.6**
MK31	**Makanchi Array**	**4.72**	**340**⇑	*e*P	**Pn**	**20 42 22.5**	**+2.6**
MKAR	**Makanchi Array**	**4.72**	**340**	Pn	**Pn**	**20 42 21.7**	**+1.9**
MKAR	**Makanchi Array**	**4.72**	**340**	Pn	**Pn**	**20 42 22.5**	**+2.7**
0.9nm,0.3s,baz=158,slow=13,SNR=14							
MKAR				Sn	**Sn**	**20 43 10.0**	**-4.6**
9.6nm,0.3s,baz=153,slow=20,SNR=4.9							
MKAR				Lg	Lg	20 43 37.1	
29nm,0.3s,baz=161,slow=32,SNR=8.3							
MKAR				LR	LR	20 44 27.3	
comp=Z,354nm,18.4s,baz=169,slow=42 1.5nm,0.3s							
KAPS	**Kapalarasan**	**4.80**	**309**	Pg	**Pb**	**20 42 33.8**	**+1.0**
24nm,0.5s							
KAPS				Lg	Lg	20 43 40.6	
122nm,0.4s							
KAPS	**Kapalarasan**	**4.80**	**309**	*e*P	**Pg**	**20 42 38.5**	**-2.0**
25nm,0.4s							
KAPS				*e*S	**Sg**	**20 43 39.1**	**-3.6**
117nm,0.2s							
MAKZ	**Makanchi**	**4.82**	**338**	⇑Pn	**Pn**	**20 42 25.5**	**+4.3**
MAKZ				⇑Pg	**Pb**	**20 42 37.8**	**+4.8**
142nm,0.8s							
MAKZ				⇑Lg	Lg	20 43 42.2	
253nm,1.0s							
MAKZ	**Makanchi**	**4.82**	**338**		**Pn**	**20 42 23.8**	**+2.6**
MAKZ	**Makanchi**	**4.82**	**338**	P	**Pn**	**20 42 23.8**	**+2.6**
BLB	**Baldybastay**	**4.82**	**293**	Pg	**Pb**	**20 42 31.9**	**-1.4**
89nm,0.3s							
BLB				Lg	Lg	20 43 39.5	
300nm,0.6s							
KURS	**Kuram**	**4.89**	**285**	Pg	**Pb**	**20 42 35.8**	**+1.6**
29nm,0.8s							
KURS				Lg	Lg	20 43 44.0	
166nm,0.9s							
KURS	**Kuram**	**4.89**	**285**	*e*P	**Pg**	**20 42 40.8**	**-1.4**
29nm,0.8s							
KURS				*e*S	**Sg**	**20 43 43.4**	**-2.0**
171nm,1.1s							
ZSN	**Zaisan**	**5.07**	**2**	Pg	**Pb**	**20 42 34.3**	**-3.0**
10nm,0.2s							
ZSN				Lg	Lg	20 43 40.8	
88nm,0.8s							
ZSN	**Zaisan**	**5.07**	**2**	*e*P	**Pb**	**20 42 39.0**	**+1.7**
42nm,1.1s							
ZSN				*e*S	**Sb**	**20 43 40.2**	**+2.0**
88nm,0.8s							
TDK	**Taldyqorghan**	**5.23**	**302**	Pg	**Pb**	**20 42 43.5**	**+3.4**
58nm,0.5s							
TDK				Lg	Lg	20 43 57.2	
450nm,0.7s							
TDK	**Taldyqorghan**	**5.23**	**302**	*e*P	**Pg**	**20 42 47.1**	**-1.6**
108nm,0.6s							
TDK				*e*S	**Sg**	**20 43 54.5**	**-2.0**
614nm,1.1s							
ARXS	**Arharly**	**5.31**	**292**	Pg	**Pb**	**20 42 40.7**	**-0.8**
23nm,0.4s							
ARXS				Lg	Lg	20 43 52.8	
217nm,0.7s							
ARXS	**Arharly**	**5.31**	**292**	*e*P	**Pb**	**20 42 46.1**	**+4.7**
14nm,0.4s							
ARXS				*e*S	**Sb**	**20 43 52.9**	**+7.6**
217nm,0.7s							
ARXS	**Arharly**	**5.31**	**292**	*e*P	**Pn**	**20 42 30.3**	**+2.3**
KDJ

15nm,0.4s
TNSS *e*S **Sg** **20 44 10.9 -1.1**
56nm,0.7s
KNDC Almaty 5.72 281 ⇓Pg **Pg** **20 42 57.7 -0.3**
79nm,0.7s
KNDC ⇓Lg Lg 20 44 10.6
562nm,1.1s
AAA Alma-Ata 5.75 281 Pg **Pb** **20 42 50.0 +0.9**
18nm,0.3s
AAA Lg Lg 20 44 09.1
179nm,0.7s
AAA Alma-Ata 5.75 281 *e*P **Pg** **20 42 56.1 -2.6**
34nm,0.2s
AAA *e*S **Sg** **20 44 09.1 -4.1**
179nm,0.7s
CHKK Chushkaly 5.80 287 Pg **Pb** **20 42 52.8 +3.0**
10nm,0.8s
CHKK Lg Lg 20 44 13.4
102nm,0.6s
CHKK Chushkaly 5.80 287 *e*P **Pg** **20 42 58.6 -1.0**
9.7nm,0.4s
CHKK *e*S **Sg** **20 44 13.4 -1.3**
99nm,0.7s
KTBS Karatobe 5.99 285 Pg **Pb** **20 42 55.7 +2.6**
6.2nm,0.3s
KTBS Lg Lg 20 44 18.5
125nm,1.0s
KTBS Karatobe 5.99 285 *e*P **Pg** **20 43 01.8 -1.5**
14nm,0.7s
KTBS *e*S **Sg** **20 44 18.5 -2.3**
125nm,1.0s
MTBS Maitube 6.10 280 Pg **Pb** **20 42 57.5 +2.5**
12nm,0.3s
MTBS Lg Lg 20 44 21.2
59nm,0.7s
MTBS Maitube 6.10 280 *e*P **Pg** **20 43 02.8 -2.5**
7.5nm,0.3s
MTBS *e*S **Sg** **20 44 21.2 -3.2**
59nm,0.7s
KUU Kurty 6.27 287 Pg **Pb** **20 42 59.2 +1.4**
11nm,0.6s
KUU Lg Lg 20 44 24.1
122nm,1.0s
KUU Kurty 6.27 287 *e*P Pg 20 43 04.5 -4.0
3.6nm,0.1s
KUU *e*S **Sg** **20 44 24.1 -5.6**
109nm,0.8s
KST Kastek 6.44 279 Pg **Pb** **20 43 04.7 +4.0**
16nm,0.6s
KST Lg Lg 20 44 32.7
158nm,0.8s
KST Kastek 6.44 279 *e*P **Pg** **20 43 09.6 -2.2**
15nm,0.7s
KST *e*S **Sg** **20 44 32.7 -2.4**
158nm,0.8s
NRN Naryn 6.53 265 Pn **Pn** **20 42 45.4 +0.5**
NRN Naryn 6.53 265 P **Pn** **20 42 45.4 +0.5**
TKM2 Tokmak 2 6.70 278 ⇑Pn **Pn** **20 42 49.1 +1.9**
9.2nm,0.5s
TKM2 ⇑Pg **Pg** **20 43 15.1 -1.8**
36nm,1.0s
TKM2 ⇑Lg Lg 20 44 41.8
130nm,0.9s
KSH Kashi 7.17 249 Pn Pn 20 43 01.9 +8.3
FRU1 Bishkek 7.41 277 Pn **Pn** **20 42 57.0 +0.2**
FRU1 Bishkek 7.41 277 P **Pn** **20 42 57.0 +0.2**
SGDS Sogindy 7.43 282 Pg Pb 20 43 23.7 +6.0
4.7nm,0.4s
SGDS Lg Lg 20 45 06.1
36nm,0.8s
AAK Ala-Archa 7.51 275 Pn **Pn** **20 42 58.0 -0.3**
AAK Ala-Archa 7.51 275 Pn **Pn** **20 42 59.3 +1.0**
0.9nm,0.3s,baz=130,slow=6.8,SNR=8.2
AAK Lg Lg 20 45 05.0
0.7nm,0.3s,baz=307,slow=23,SNR=2.2
AAK LR LR 20 46 10.3
comp=Z,186nm,18.4s,baz=192,slow=41
2.4nm,0.3s
AAK Ala-Archa 7.51 275 *ce*P **Pn** **20 43 00.9 +2.6**
AAK pmax pmax
comp=Z,6.0nm,1.3s
BTLS Baital 8.13 293 Pg Pb 20 43 37.0 +7.5
comp=Z,8.4nm,0.5s
BTLS Lg Lg 20 45 29.1
comp=Z,11nm,0.8s
BTLS Baital 8.13 293 *e*P **Pg** **20 43 40.7 -3.5**
comp=Z,4.2nm,0.5s
BTLS *e*S **Sg** **20 45 25.7 -3.6**
comp=Z,12nm,0.9s
SEM Semipalatinsk 8.58 341 Pg Pg 20 43 42.8 -10
comp=Z,13nm,0.3s
SEM Lg Lg 20 45 38.9
comp=Z,57nm,1.2s
SEM Semipalatinsk 8.58 341 *e*P Pg 20 43 47.9 -4.9
comp=Z,17nm,0.6s
SEM *e*S **Sg** **20 45 38.3 -5.5**
comp=Z,48nm,1.1s
KURBB Kurchatov Arra 9.25 335 Pn **Pn** **20 43 23.2 +1.3**
comp=Z,0.1nm,0.3s,baz=147,slow=13,SNR=8.5
KURBB Lg Lg 20 46 01.1
comp=Z,0.4nm,0.3s,baz=156,slow=32,SNR=5.5
comp=Z,0.3nm,0.3s
KURK Kurchatov 9.31 336 ⇑Pn Pn 20 43 28.4 +5.7
comp=Z,7.6nm,1.3s
KURK ⇑Pg 20 43 59.7
comp=Z,12nm,1.1s
KURK ⇑Lg Lg 20 45 59.7
comp=Z,80nm,0.8s
KURK Kurchatov 9.31 336 Pn **Pn** **20 43 24.1 +1.4**
KURK Kurchatov 9.31 336 ⇑*e*P **Pn** **20 43 25.4 +2.7**
GOMU GeErMu 10.01 125 P **Pn** **20 43 33.5 +0.8**
GOMU S **Sn** **20 45 18.5 -6.7**
DRK Karamyk 10.15 258 **Pn** **20 43 35.0 +0.4**
DRK Karamyk 10.15 258 P **Pn** **20 43 35.0 +0.4**
KK31 Karatay Array 10.43 279 Pg Pn 20 44 30.6 +52
comp=Z,3.4nm,0.9s,baz=84,slow=16,SNR=3.9
KK31 ⇓Lg Lg 20 46 42.8
comp=Z,26nm,0.8s,baz=86,slow=26,SNR=5.6
KKAR Karatay Array 10.43 279 Pn **Pn** **20 43 38.4 +0.2**
KKAR Karatay Array 10.43 279 P **Pn** **20 43 38.4 +0.2**
BTK Batken 10.68 262 Pn **Pn** **20 43 41.4 -0.3**
BTK Batken 10.68 262 P **Pn** **20 43 41.4 -0.3**
GAR Garm 11.40 258 Pn **Pn** **20 43 51.5 -0.1**
ZAA0 Zalesovo Array 11.57 0 ⇓Pn **Pn** **20 43 54.4 +0.7**
comp=Z,1.4nm,0.8s
ZAA0 ⇑Sn **Sn** **20 45 58.4 -4.4**
comp=Z,4.4nm,0.8s
ZAA0 Zalesovo Array 11.57 0 **Pn** **20 43 53.8 +0.2**
ZALV Zalesovo Beam 11.57 0 **Pn** **20 43 53.5 -0.2**
ZALV Zalesovo Beam 11.57 0 Pn **Pn** **20 43 53.6 0.0**
comp=Z,0.7nm,0.3s,baz=182,slow=13,SNR=13
ZALV Sn **Sn** **20 45 59.6 -3.3**
comp=Z,1.3nm,0.3s,baz=187,slow=23,SNR=7.6
ZALV LR LR 20 48 40.6
comp=Z,144nm,18.7s,baz=192,slow=39
comp=Z,1.6nm,0.3s
ZALV Zalesovo Beam 11.57 0 *e*P **Pn** **20 43 55.4 +1.7**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
GTA Gaotai 11.85 99 *e*P **Pn** **20 43 58.3 +0.5**
GTA sP 20 44 09.5
GTA pmax pmax
comp=Z,2.0nm,1.2s
SIMJ Simiganj 12.47 258 Pn **Pn** **20 44 04.0 -2.2**
NIL Nilore 12.52 230 Pn **Pn** **20 44 04.3 -2.4**
NIL Nilore 12.52 230 P **Pn** **20 44 04.3 -2.4**
LSA Lhasa 13.70 155 Pn **Pn** **20 44 20.6 -2.8**
LSA Lhasa 13.70 155 P **Pn** **20 44 20.6 -2.8**
BVAR Borovoye Array 14.30 323 Pn **Pn** **20 44 30.8 -0.2**
baz=128,slow=16,SNR=7.2
BVAR Lg Lg 20 48 42.1
baz=124,slow=29,SNR=2.7
BVAR LR LR 20 50 33.0
comp=Z,122nm,19.3s,baz=139,slow=40
comp=Z,0.8nm,0.5s
BRVK Borovoye 14.38 323 **Pn** **20 44 33.6 +1.6**
BRVK Borovoye 14.38 323 ⇓*e*P **Pn** **20 44 34.0 +2.0**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
KBL Kabul 14.51 242 Pn **Pn** **20 44 33.1 -1.1**
KBL Kabul 14.51 242 P **Pn** **20 44 33.1 -1.1**
SONM Songino Array 16.27 63 Pn **Pn** **20 44 56.6 -0.6**
SONM Songino Array 16.27 63 Pn **P** **20 44 59.4 -0.8**
comp=Z,0.1nm,0.3s,baz=256,slow=12,SNR=12
SONM Lg Lg 20 49 46.9
baz=274,slow=29
SONM LR LR 20 51 25.6
comp=Z,123nm,18.4s,baz=245,slow=38
comp=Z,4.2nm,1.1s
SONM Songino Array 16.27 63 *e*P **P** **20 45 03.1 +2.9**
ULN Ulaanbaatar 16.70 63 ⇓*i*P **P** **20 45 06.9 +1.8**
ULN pmax pmax
comp=Z,7.0nm,1.3s
SHL Shillong 17.80 158 **Pn** **20 45 15.3 -1.4**
SHL Shillong 17.80 158 P **Pn** **20 45 15.3 -1.4**
SHL pmax pmax
comp=Z,13nm,1.0s
ABKAR Akbulak array 18.49 300 P **P** **20 45 22.9 -1.7**
ABKAR Akbulak array 18.49 300 **P** **20 45 22.5 -2.2**
BTO Baotou 19.07 87 *e*P **P** **20 45 30.8 -0.4**
BTO PP **PnPn** **20 45 50.3 +5.9**
BTO S **S** **20 49 06.8 -0.7**
BTO SS **SnSn** **20 49 26.9 +7.6**
BTO pmax pmax
comp=Z,11nm,0.5s
BTO pmax pmax
comp=Z,180nm,4.6s
BTO LR LR
comp=Z,340nm,5.5s
BTO LR LR
comp=Z,310nm,5.0s
BTO LR LR
comp=Z,270nm,6.1s
HRA Herat 19.26 253 P **P** **20 45 31.0 -2.4**
AKTO Aktyubinsk 19.97 303 P **P** **20 45 41.0 +0.1**
comp=Z,0.3nm,0.3s,baz=82,slow=11,SNR=3.9
comp=Z,1.8nm,0.7s
AKTO Aktyubinsk 19.97 303 P **P** **20 45 41.0 +0.1**
HHC Hu-ho-hao-te 20.15 85 *e*P **P** **20 45 41.4 -1.6**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,120nm,4.8s
TNCH TengChong 20.75 142 P Pn 20 45 51.9 -0.2
TNCH PP **PnPn** **20 46 12.5 +4.8**
TNCH pmax pmax
comp=Z,14nm,0.9s
TNCH pmax pmax
comp=Z,84nm,3.8s
XAN Xi'an 20.76 106 P **P** **20 45 48.8 -0.8**
XAN pmax pmax
comp=Z,10.0nm,1.0s
SVE Sverdlovsk 21.08 322 *e*P **P** **20 45 54.1 +1.3**
SVE pmax pmax
comp=Z,20nm,0.8s
PZH PanZhiHua 21.14 133 P **P** **20 45 58.5 +4.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,5.1s
ARTI Arti 21.92 319 P **P** **20 46 01.3 -0.5**
ARTI IAmb IAmb 20 46 16.2
comp=Z,14nm,1.1s
ARTI Arti 21.92 319 LR LR 20 55 04.1
comp=Z,72nm,19.4s,baz=58,slow=38
ARTI Arti 21.92 319 *c i*P **P** **20 46 03.1 +1.2**
ARTI 20 46 23.9
ARTI S **S** **20 50 04.8 +1.0**
ARTI pmax pmax
comp=Z,8.0nm,0.8s
ENH Enshi 23.29 113 P **P** **20 46 16.1 -0.4**
ENH IAmb IAmb 20 46 48.7
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 26.77 149 P **P** **20 46 50.2 +1.6**
comp=Z,2.6nm,0.8s,baz=324,slow=9.3,SNR=22
comp=Z,2.6nm,0.8s
NRIK Noril'sk 27.06 2 P **P** **20 46 51.9 +1.1**
NRIK IAmb IAmb 20 47 08.7
comp=Z,5.4nm,0.8s
NRIK Noril'sk 27.06 2 ⇓*e*P P 20 46 58.8 +8.0
NRIK pmax pmax
comp=Z,12nm,2.3s
PHRA Phrae 27.25 146 P **P** **20 46 52.5 -0.4**
KBZ Khabaz 30.31 287 P **P** **20 47 19.9 -0.1**
comp=Z,1.5nm,0.8s,baz=100,slow=12,SNR=2.0
comp=Z,1.5nm,0.8s
YAK Yakutsk 32.95 38 P **P** **20 47 43.4 +0.5**
YAK IAmb IAmb 20 47 58.6
comp=Z,7.2nm,0.6s
OBN Obninsk 33.48 309 LR LR 21 02 06.6
comp=Z,155nm,19.5s,baz=180,slow=38
OBN Obninsk 33.48 309 *e* P **P** **20 47 50.4 +2.7**
OBN 20 49 01.5
OBN *e*PPP PPP 20 49 12.3
OBN *e* 20 50 31.4
OBN pmax pmax
comp=Z,3.0nm,0.9s
USRK Ussuriysk Ar. 34.13 70 LR LR 21 02 46.1
comp=Z,72nm,19.6s,baz=3.3,slow=38
TIXI Tiksi 36.36 22 P **P** **20 48 12.4 +0.1**
TIXI IAmb IAmb 20 48 47.2
comp=Z,2.5nm,0.8s
TIXI Tiksi 36.36 22 LR LR 21 04 34.0
comp=Z,109nm,19.7s,baz=204,slow=39
TIXI Tiksi 36.36 22 ⇑*e*P P 20 48 19.0 +6.6
TIXI pmax pmax
comp=Z,16nm,3.0s
RAYN Ar Rayn 37.45 252 P **P** **20 48 22.7 +0.5**
RAYN IAmb IAmb 20 48 32.9
comp=Z,6.0nm,1.1s
RAYN Ar Rayn 37.45 252 P **P** **20 48 22.7 +0.5**
RAYN pmax pmax
comp=Z,6.0nm,1.2s
BRTR Keskin Array B 38.09 284 P **P** **20 48 26.6 -1.0**
BRTR Keskin Array B 38.09 284 P **P** **20 48 29.1 +1.5**
comp=Z,1.8nm,0.8s,baz=93,slow=8.6,SNR=9.6
comp=Z,1.8nm,0.8s
AKBB Malin Array Si 38.22 302 ⇑*e*P **P** **20 48 28.8 +0.5**
FINES FINESS Array B 39.23 320 P **P** **20 48 37.0 +0.3**
comp=Z,1.4nm,0.8s,baz=103,slow=10,SNR=0.9
comp=Z,1.4nm,0.8s
ARCES ARCESS Array B 40.33 332 P **P** **20 48 46.4 +0.6**
comp=Z,3.6nm,0.9s,baz=94,slow=7.2,SNR=1.2
comp=Z,3.6nm,0.9s
BUR08 Bucovina Ar. S 41.46 298 P **P** **20 48 55.6 +0.1**
BUR08 IAmb IAmb 20 48 57.3
comp=Z,9.9nm,1.4s
MLR Muntele Rosu 41.58 295 **P** **20 48 56.1 -0.4**
MLR IAmb IAmb 20 49 10.9
comp=Z,4.4nm,0.7s
MLR Muntele Rosu 41.58 295 P **P** **20 48 56.8 +0.3**
comp=Z,3.4nm,0.8s,baz=148,slow=9.4,SNR=7.0
comp=Z,3.4nm,0.8s
KWP Kalwaria Pacla 42.54 302 P **P** **20 49 05.5 +1.3**
KWP IAmb IAmb 20 49 22.5
comp=Z,17nm,1.3s
KWP Kalwaria Pacla 42.54 302 P **P** **20 49 05.5 +1.3**
KWP pmax pmax
comp=Z,17nm,1.3s
NMR Nemuro--Hokkai 43.87 67 ⇓*i*P **P** **20 49 16.6 +1.6**
SHO Shikotan 44.44 66 *e*P P 20 49 15.1 -4.4
SHO pmax pmax
comp=Z,19nm,0.3s
HFS Hagfors 45.38 318 P **P** **20 49 27.1 +0.3**
comp=Z,0.4nm,0.3s,baz=90,slow=8.6,SNR=5.5
comp=Z,0.4nm,0.3s
LIT Litokhoron 45.87 289 P **P** **20 49 30.4 -0.6**
LIT Litokhoron 45.87 289 P **P** **20 49 30.4 -0.6**
LIT pmax pmax
comp=Z,29nm,1.3s
NC405 NORSAR Array S 46.16 320 P **P** **20 49 33.8 +0.8**
NC303 NORSAR Array S 46.30 320 P **P** **20 49 34.8 +0.7**
NC303 IAmb IAmb 20 50 10.9
comp=Z,9.3nm,1.1s
NC602 NORSAR Array S 46.31 319 P **P** **20 49 34.9 +0.7**
NB201 NORSAR Array S 46.37 320 P **P** **20 49 34.8 +0.2**
NB2 NORSAR Subarra 46.41 320 P **P** **20 49 35.3 +0.3**
comp=Z,1.1nm,0.5s,baz=79,slow=8.6
NOA NORSAR Array B 46.41 320 P **P** **20 49 35.2 +0.2**
comp=Z,0.6nm,0.6s,baz=104,slow=8.6,SNR=2.8
NOA LR LR 21 08 57.6
comp=Z,37nm,19.2s,baz=30,slow=36
comp=Z,0.6nm,0.6s
NC204 NORSAR Array S 46.58 320 P **P** **20 49 36.2 -0.1**
NAO01 NORSAR Array S 46.60 320 P **P** **20 49 37.1 +0.7**
PUK Puka 46.89 293 P **P** **20 49 39.3 +0.3**
PUK IAmb IAmb 20 49 55.4
comp=Z,3.8nm,0.9s
PDG Podgorica 47.17 293 P **P** **20 49 41.5 +0.4**
PETK Petropavlovsk- 48.23 51 LR LR 21 11 53.8
comp=Z,64nm,21.6s,baz=339,slow=38
ESDC Sonseca Array 63.84 301 P **P** **20 51 39.8 -1.4**
comp=Z,0.7nm,0.7s,baz=47,slow=5.6,SNR=5.4
comp=Z,0.7nm,0.7s
ILAR Eielson Array 65.83 22 P **P** **20 51 53.0 -0.7**
comp=Z,0.3nm,0.9s,baz=316,slow=5.2,SNR=2.6
comp=Z,0.3nm,0.9s
ILAR Eielson Array 65.83 22 *e*P P 20 52 00.2 +6.5
ILAR pmax pmax
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 76.10 275 P **P** **20 52 56.1 -0.6**
comp=Z,1.4nm,0.8s,baz=25,slow=6.0,SNR=9.2
comp=Z,1.4nm,0.8s
WRA Warramunga Arr 77.10 133 P **P** **20 53 02.3 +0.1**
comp=Z,0.6nm,0.6s,baz=331,slow=5.2,SNR=7.7
comp=Z,0.6nm,0.6s
WRA Warramunga Arr 77.10 133 *e*P **P** **20 53 02.8 +0.6**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WB2 Warramunga Arr 77.11 133 P **P** **20 53 02.3 +0.1**
WB2 IAmb IAmb 20 53 33.6
comp=Z,7.5nm,1.5s
WR0 Warramunga Arr 77.23 132 P **P** **20 53 03.0 +0.1**
WR0 IAmb IAmb 20 53 07.3
comp=Z,4.8nm,1.3s
ASAR Alice Springs 79.90 135 P **P** **20 53 17.3 -0.3**
comp=Z,1.2nm,0.9s,baz=321,slow=5.4,SNR=6.1
comp=Z,1.2nm,0.9s
DBIC Dimbokro 85.19 275 P **P** **20 53 44.6 -0.8**
comp=Z,3.6nm,0.8s,baz=81,slow=2.8,SNR=3.6
comp=Z,3.6nm,0.8s
STKA Stephens Creek 90.53 135 P **P** **20 54 10.5 -0.1**
comp=Z,1.9nm,0.7s,baz=28,slow=5.0,SNR=3.1
comp=Z,1.9nm,0.7s
LPAZ La Paz 145.08 310 PKPbc **PKPbc** **21 00 46.2 -0.5**
comp=Z,1.0nm,0.7s,baz=62,slow=5.7,SNR=3.6
CPUP Villa Florida 145.10 285 PKPbc **PKPbc** **21 00 45.3 -0.5**
comp=Z,2.4nm,1.0s,baz=63,slow=2.3,SNR=4.0

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*DJA **23** 20:41:14.3±0.2, 1°S±2°×11°9E±°, h10km, M4.7/24, mb4.7/11, mB5.4/5, MLv4.6/24, Mw(mB)4.9/5*
*NEIC **23** 20:41:17.6±1.8, 1°54S±0°06×119°58E±0°05, h48km±7km, mb4.4/33, Error ellipse: s-maj=8.8km s-min=7.8km az=187.0*
*IDC **23** 20:41:26.2±5.6, 1°29S×120°24E, h129km±53km, mb3.9/13, mbtmp4.3/14, MS3.4/1, Error ellipse: s-maj=38.6km s-min=12.8km az=58.0*
ISC 23 20:41:16.4±0.4, 1°46S±0°04×119°55E±0°06, h37km, n86, σ1°30/87, mb4.4/24, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.62**	**27**	P	P		**Pn**	**20 41 27.4**	**-1.4**
PCI					S		**Sn**	**20 41 38.1**	**+0.6**
TTSI	**Tana Toraja**	**1.60**	**170**	P	P		**Pn**	**20 41 41.9**	**-0.2**
TTSI					S		**Sn**	**20 42 04.4**	**+3.0**
APSI	**Ampana**	**2.17**	**75**	P	P		**Pn**	**20 41 52.7**	**+2.8**
SPSI	**Sidrap Palu**	**2.50**	**175**	P	P		**Pn**	**20 41 54.5**	**0.0**
SMKI	**Samarinda**	**2.55**	**293**	P	P		**Pn**	**20 41 54.2**	**-1.0**
BKB	**Balikpapan**	**2.66**	**274**				**Pn**	**20 41 56.7**	**0.0**
BKB	**Balikpapan**	**2.66**	**274**	P			**Pn**	**20 41 54.5**	**-2.2**
TOLI2	**Tolitoli**	**2.83**	**26**				**Pn**	**20 42 02.2**	**+3.1**
BNSI	**Bone**	**2.97**	**169**	P			**Pn**	**20 42 02.2**	**+1.2**
MRSI	**Marisa**	**3.07**	**51**	P			**Pn**	**20 42 02.7**	**+0.4**
LUWI	**Luwuk**	**3.25**	**83**				**Pn**	**20 42 06.4**	**+1.6**
LUWI	**Luwuk**	**3.25**	**83**	P			**Pn**	**20 42 06.9**	**+2.2**
KAPI	**Kappang**	**3.54**	**177**				**Pn**	**20 42 08.3**	**-0.5**
BKSI	**Bulukumba**	**3.88**	**172**	P			**Pn**	**20 42 13.9**	**+0.4**
KDI	**Kendari**	**3.94**	**129**	P			**Pn**	**20 42 14.6**	**+0.3**
MTKI	**Muara Teweh, K**	**4.68**	**276**	P			**Pn**	**20 42 23.7**	**-0.8**
BSSI	**Bau Bau, Buton**	**4.75**	**169**	P			**Pn**	**20 42 28.8**	**+3.4**
KMSI	**Cibinong**	**4.87**	**66**	P			Pn	20 42 31.0	+4.0
BBSI	**Bau Bau**	**5.01**	**143**	P			**Pn**	**20 42 31.3**	**+2.3**
	89nm,0.8s,0.5nm								
SANI	**Sanana**	**6.46**	**95**	P			**Pn**	**20 42 48.6**	**-0.3**
	49nm,0.7s,0.2nm								
MYLDM	**Lahad Datu**	**6.68**	**351**				**Pn**	**20 42 52.7**	**+0.7**
PLAI	**Plampang**	**7.53**	**194**	P			**Pn**	**20 43 03.0**	**-0.7**
NLAI	**Namlea**	**7.75**	**103**	P			**Pn**	**20 43 09.1**	**+2.5**
	52nm,0.8s,0.2nm								
KMMI	**Kalianget**	**7.87**	**225**	P			**Pn**	**20 43 06.2**	**-2.0**
	47nm,2.0s								
TNTI	**Ternate**	**8.12**	**74**	Pn			**Pn**	**20 43 11.8**	**0.0**
WBSI	**Waikabubak, Su**	**8.13**	**181**	P			**Pn**	**20 43 11.6**	**-0.3**
	65nm,0.9s								
KKM	**Kota Kinabalu**	**8.16**	**336**	Pn			**Pn**	**20 43 13.7**	**+1.2**
STKI	**Sintang**	**8.22**	**281**	P			**Pn**	**20 43 12.3**	**-0.8**
	25nm,0.7s,4μm								
SBUM	**Sibu**	**8.30**	**298**	Pn			**Pn**	**20 43 17.8**	**+3.6**
SOEI	**Soe**	**9.48**	**151**	Pn			**Pn**	**20 43 30.4**	**-0.2**
KSM	**Kuching**	**9.69**	**287**	Pn			**Pn**	**20 43 36.4**	**+3.0**
FAKI	**Fak Fak**	**12.77**	**97**	Pn			**Pn**	**20 44 16.4**	**+0.9**
MTN	**Manton Dam**	**16.11**	**135**				**P**	**20 45 03.3**	**+0.3**
MTN					IAmb		IAmb	20 45 05.4	
	comp=Z,30nm,1.4s								
KNRA	**Kununurra**	**16.80**	**148**	Pn			**Pn**	**20 45 07.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**17.58**	**160**				**Pn**	**20 45 17.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**17.58**	**160**	P			**P**	**20 45 20.7**	**+1.3**
	comp=Z,3.2nm,0.7s,baz=356,slow=15,SNR=2.0								
IPM	**Ipoh**	**19.43**	**288**	P			**P**	**20 45 39.5**	**-0.3**
IPM					IAmb		IAmb	20 46 01.3	
	comp=Z,21nm,1.4s								
PSA00	**Pilbara Seismi**	**19.99**	**179**	P			**P**	**20 45 44.7**	**-1.2**
KULM	**Kulim**	**20.04**	**290**	P			**P**	**20 45 46.5**	**+0.1**
RPSI	**Rantau Prapat**	**21.03**	**281**	P			**P**	20 46 07.9	+11
RPSI	**Rantau Prapat**	**21.03**	**281**	P			**P**	**20 45 58.2**	**+1.0**
RPSI					IAmb		IAmb	20 46 10.4	
	comp=Z,7.9nm,0.8s								
PSI	**Prapat**	**21.05**	**282**	P			P	20 46 07.9	+10
	comp=Z,7.9nm,0.7s,baz=47,slow=7.5,SNR=4.7								
PSI					LR		LR	20 55 18.7	
	comp=Z,99nm,18.3s,baz=56,slow=38								
	comp=Z,7.9nm,0.7s								
GSI	**Gunungsitoli**	**22.15**	**277**	P			**P**	**20 46 09.2**	**+0.1**
GSI					IAmb		IAmb	20 46 22.8	
	comp=Z,36nm,1.2s								
WB0	**Warramunga Arr**	**23.28**	**142**	P			**P**	**20 46 19.9**	**-1.1**
WB0					IAmb		IAmb	20 46 27.0	
	comp=Z,9.0nm,0.7s								
WRA	**Warramunga Arr**	**23.38**	**143**	P			**P**	**20 46 21.1**	**-0.9**
WRA	**Warramunga Arr**	**23.38**	**143**	P			**P**	**20 46 20.9**	**-1.1**
	comp=Z,5.4nm,0.8s,baz=321,slow=11,SNR=38								
	comp=Z,5.4nm,0.8s								
WRAB	**Tennant Creek**	**23.38**	**143**	P			**P**	**20 46 20.4**	**-1.5**
WRAB					IAmb		IAmb	20 46 28.2	
	comp=Z,8.0nm,0.8s								
WB2	**Warramunga Arr**	**23.39**	**143**	P			**P**	**20 46 20.8**	**-1.2**
WB2					IAmb		IAmb	20 46 21.9	
	comp=Z,9.6nm,0.8s								
WR0	**Warramunga Arr**	**23.51**	**142**	P			**P**	**20 46 22.2**	**-1.0**
WR0					IAmb		IAmb	20 46 29.8	
	comp=Z,16nm,0.7s								
SSLB	**Suanglung**	**25.13**	**3**	P			**P**	**20 46 38.9**	**+0.8**
YOJ	**Yonaguni jima**	**25.98**	**7**	P			**P**	**20 46 45.4**	**-0.3**
AS31	**Alice Springs**	**26.09**	**149**	P			**P**	**20 46 46.6**	**-0.2**
ASAR	**Alice Springs**	**26.09**	**149**				**P**	**20 46 46.4**	**-0.5**
ASAR	**Alice Springs**	**26.09**	**149**	P			**P**	**20 46 46.3**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=343,slow=15,SNR=22								
ASAR					PcP		**PcP**	**20 50 13.7**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=336,slow=1.9,SNR=3.0								
	comp=Z,2.3nm,0.8s								
COEN	**Coen**	**26.45**	**119**	P			**P**	**20 46 49.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**28.33**	**315**	PcP			**PcP**	**20 50 19.3**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=132,slow=1.3,SNR=4.6								
STKA	**Stephens Creek**	**36.71**	**148**	P			**P**	**20 48 18.3**	**-1.8**
STKA	**Stephens Creek**	**36.71**	**148**	P			**P**	**20 48 19.4**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=321,slow=10,SNR=4.5								
	comp=Z,1.9nm,0.6s								
TOO	**Toolangi**	**43.14**	**149**	P			**P**	**20 49 13.4**	**0.0**
TOO					IAmb		IAmb	20 49 16.7	
	comp=Z,8.5nm,1.1s								
MDJ	**Mudanjiang**	**46.74**	**10**	P			**P**	**20 49 43.0**	**+1.1**
USRK	**Ussuriysk Ar.**	**46.80**	**12**	P			**P**	**20 49 42.3**	**0.0**
TAU	**Tasmania Unive**	**48.16**	**153**	P			**P**	**20 49 50.9**	**-2.0**
SONM	**Songino Array**	**50.42**	**349**	P			**P**	**20 50 09.7**	**-0.6**
SONM					IAmb		IAmb	20 50 30.6	
	comp=Z,3.7nm,1.0s								
SONM	**Songino Array**	**50.42**	**349**	P			**P**	**20 50 11.2**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=171,slow=7.5,SNR=8.1								
	comp=Z,2.9nm,0.8s								
HEH	**HeiHe**	**51.95**	**6**	*e*P			**P**	**20 50 20.9**	**-0.7**
HEH					pmax		pmax		
	comp=Z,16nm,1.2s								
MKAR	**Makanchi Array**	**58.11**	**331**	P			**P**	**20 51 07.9**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=129,slow=8.1,SNR=6.0								
MKAR					PcP		**PcP**	**20 51 58.0**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=124,slow=3.2,SNR=1.9								

comp=Z,1.4nm,0.6s
ZAA0 Zalesovo Array 62.28 338 P **P 20 51 34.8 +0.3**
ZAA0 IAmb IAmb 20 51 36.8
comp=Z,3.1nm,0.9s
ZALV Zalesovo Beam 62.28 338 P **P 20 51 34.9 +0.4**
ZALV Zalesovo Beam 62.28 338 P **P 20 51 34.4 -0.1**
comp=Z,3.4nm,0.8s,baz=132,slow=5.7,SNR=7.5
comp=Z,3.4nm,0.8s
KURBB Kurchatov Arra 62.55 332 P **P 20 51 37.3 +0.9**
comp=Z,1.9nm,0.6s,baz=132,slow=6.2,SNR=8.5
comp=Z,1.9nm,0.6s
KURK Kurchatov 62.58 332 P **P 20 51 37.2 +0.6**
YAK Yakutsk 63.79 5 P **P 20 51 43.5 -0.8**
BVAR Borovoye Array 68.00 330 P **P 20 52 11.9 +0.3**
comp=Z,4.1nm,1.0s,baz=128,slow=9.3,SNR=4.4
comp=Z,4.1nm,1.0s
BRVK Borovoye 68.07 330 P **P 20 52 13.4 +1.3**
BRVK IAmb IAmb 20 52 22.5
comp=Z,4.8nm,1.1s
ABKAR Abkulak array 71.81 323 P **P 20 52 35.0 -0.2**
ABKAR Abkulak array 71.81 323 P **P 20 52 35.5 +0.3**
ABKAR IAmb IAmb 20 52 37.2
comp=Z,4.4nm,1.1s
TIXI Tiksi 73.23 3 P **P 20 52 42.3 -0.9**
TIXI IAmb IAmb 20 52 45.0
comp=Z,5.6nm,0.9s
NRIK Noril'sk 73.91 349 P **P 20 52 46.7 -0.5**
NRIK IAmb IAmb 20 52 48.6
comp=Z,5.2nm,0.9s
NRIK Noril'sk 73.91 349 P **P 20 52 46.4 -0.8**
comp=Z,3.4nm,0.6s,baz=113,slow=5.1,SNR=6.6
comp=Z,3.4nm,0.6s
MMAI Mount Meron Ar 85.88 303 P **P 20 53 54.5 +1.6**
comp=Z,1.5nm,0.6s,baz=95,slow=10,SNR=4.2
comp=Z,1.5nm,0.6s
BR131 Keskin Array S 87.78 310 P **P 20 54 01.1 -0.9**
BR131 IAmb IAmb 20 54 02.8
comp=Z,3.9nm,0.9s
BRTR Keskin Array B 87.78 310 P **P 20 54 00.4 -1.6**
BRTR Keskin Array B 87.78 310 P **P 20 54 02.0 0.0**
comp=Z,1.6nm,0.8s,baz=128,slow=6.2,SNR=9.5
comp=Z,1.6nm,0.8s
QSPA South Pole Qui 88.48 180 P **P 20 54 04.0 -0.8**
QSPA IAmb IAmb 20 54 37.8
comp=Z,5.0nm,1.4s
QSPA South Pole Qui 88.48 180 P **P 20 54 04.4 -0.4**
comp=Z,2.4nm,0.9s,baz=310,slow=1.5,SNR=8.5
comp=Z,2.4nm,0.9s
BPAW Bear Paw Mtn. 91.06 26 P **P 20 54 17.1 +0.3**

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*IDC **23** 20:55:12.5±2.1, 20°.76S×169°.17E, h0km, mb3.6/2, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=103.7km s-min=23.1km az=154.0*
ISC 23 20:55:15.5±1.2, 20°.9S±0°.5×169°.2E±0°.2, h25km, n6, σ0°21/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.88**	**244**	Pn	**Pn**	**20 55 59.6**	**-0.2**
	1.6nm,0.3s,baz=140,slow=8.6,SNR=81						
DZM				Sn	**Sn**	**20 56 33.9**	**+0.2**
	3.8nm,0.3s,baz=87,slow=22,SNR=6.3						
	5.0nm,0.2s						
MSVF	**Nonsavu**	**8.88**	**71**	Pn	**Pn**	**20 57 22.4**	**0.0**
	11nm,1.1s,baz=265,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**32.69**	**265**	P	**P**	**21 01 46.1**	**0.0**
	0.5nm,0.8s,baz=96,slow=7.7,SNR=5.0						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**32.77**	**258**	P	**P**	**21 01 47.0**	**+0.2**
	0.8nm,0.7s,baz=78,slow=9.3,SNR=11						
	0.8nm,0.7s						
EKA	**Eskdalemuir Ar**	**145.09**	**352**	PKPbc	**PKPbc**	**21 14 49.7**	**-0.2**
	0.9nm,0.4s,baz=11,slow=2.7,SNR=13						
GERES	**GERESS Array B**	**145.90**	**331**	PKPbc	**PKPab**	**21 14 53.4**	**+0.1**
	0.5nm,0.5s,baz=35,slow=3.6,SNR=3.1						

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*NEIC **23** 21:15:24.7±2.3, 6°.73S±0°.09×128°.79E±0°.08, h207km±13km, mb4.2/7, Error ellipse: s-maj=13.2km s-min=10.8km az=159.0*
*IDC **23** 21:15:27.9±5.9, 6°.91S×128°.49E, h248km±58km, mb3.4/4, mbtmp4.2/7, MS3.3/1, Error ellipse: s-maj=65.0km s-min=17.2km az=54.0*
ISC 23 21:15:23.7±0.8, 6°.84S±0°.07×128°.74E±0°.07, h200km, n27, σ1°87/31, mb4.1/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.78**	**114**	Pn	**Pn**	**21 16 12.2**	**+1.5**
SAUI				Sn	**Sn**	**21 16 48.3**	**+0.9**
FAKI	**Fak Fak**	**5.23**	**42**	Pn	**Pn**	**21 16 40.0**	**-1.2**
SOEI	**Soe**	**5.29**	**237**	Pn	**Pn**	**21 16 44.8**	**+2.8**
BATI	**Baumata**	**6.03**	**236**	P	**Pn**	**21 16 53.8**	**+2.3**
	46nm,0.4s,baz=87,slow=19,SNR=13						
BATI				S	**Sn**	**21 18 02.2**	**+1.3**
	26nm,0.3s,baz=90,slow=20,SNR=6.5						
MTN	**Manton Dam**	**6.41**	**159**	Pn	**Pn**	**21 16 58.3**	**+2.0**
KNRA	**Kununurra**	**8.78**	**180**		**Sn**	**21 19 03.5**	**-2.2**
FITZ	**Fitzroy Crossi**	**11.59**	**195**	P	**Pn**	**21 18 03.9**	**+0.5**
	4.3nm,0.3s,baz=14,slow=8.5,SNR=42						
FITZ				S	**Sn**	**21 20 07.6**	**-5.1**
	2.8nm,0.4s,baz=18,slow=20,SNR=3.0						
WB0	**Warramunga Arr**	**13.97**	**157**		**Pn**	**21 18 33.1**	**-0.3**
WRAB	**Tennant Creek**	**14.10**	**158**		**P**	**21 18 38.1**	**+1.3**
WRA	**Warramunga Arr**	**14.11**	**158**		**Pn**	**21 18 35.9**	**+0.9**
WRA	**Warramunga Arr**	**14.11**	**158**	P	**Pn**	**21 18 34.1**	**-0.9**
	5.8nm,0.3s,baz=331,slow=12,SNR=71						
WRA				S	S	21 21 04.5	-7.7
	1.6nm,0.7s,baz=335,slow=23,SNR=5.0						
WB2	**Warramunga Arr**	**14.11**	**158**		**Pn**	**21 18 35.2**	**0.0**
WR0	**Warramunga Arr**	**14.20**	**157**		**Pn**	**21 18 36.6**	**+0.4**
COEN	**Coen**	**15.85**	**118**	P	**P**	**21 18 57.0**	**+0.9**
COEN				IAmb	IAmb	21 18 58.9	
	comp=Z,4.2nm,0.5s						
AS31	**Alice Springs**	**17.45**	**164**	P	**P**	**21 19 15.8**	**+2.2**
AS31				IAmb	IAmb	21 19 18.5	
	comp=Z,5.0nm,0.5s						
ASAR	**Alice Springs**	**17.45**	**164**	P	**P**	**21 19 15.7**	**+2.1**
ASAR	**Alice Springs**	**17.45**	**164**	P	**P**	**21 19 15.6**	**+2.0**
	comp=Z,8.3nm,0.4s,baz=344,slow=11,SNR=173						
ASAR				S	**S**	**21 22 21.2**	**-3.5**
	comp=Z,0.8nm,0.7s,baz=343,slow=22,SNR=4.0						
BBOO	**Buckleboo**	**26.72**	**166**	P	**P**	**21 20 45.0**	**+0.4**
BBOO				IAmb	IAmb	21 21 02.8	
	comp=Z,5.3nm,1.1s						
STKA	**Stephens Creek**	**27.64**	**156**	P	**P**	**21 20 53.2**	**+0.3**
STKA	**Stephens Creek**	**27.64**	**156**	P	**P**	**21 20 53.0**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=328,slow=8.1,SNR=4.1						
STKA				LR	LR	21 33 49.0	
	comp=Z,51nm,18.1s,baz=23,slow=40						
	comp=Z,1.8nm,0.5s						
KULM	**Kulim**	**30.52**	**293**	P	**P**	**21 21 17.6**	**-0.9**
KULM				IAmb	IAmb	21 21 22.5	
	comp=Z,8.1nm,1.0s						
MGBR	**Mount Gambier**	**32.57**	**162**	P	**P**	**21 21 38.4**	**+2.3**
CAN	**Canberra**	**33.91**	**150**	P	**P**	**21 21 49.4**	**+1.6**
CAN				IAmb	IAmb	21 21 59.0	
	comp=Z,6.9nm,0.9s						
KOUNC	**Koumac, New Ca**	**37.01**	**115**	P	**P**	**21 22 14.8**	**+0.3**
MKAR	**Makanchi Array**	**67.42**	**327**	P	**P**	**21 25 56.5**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=114,slow=8.2,SNR=12						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**71.73**	**329**	P	**P**	**21 26 22.5**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=127,slow=4.9,SNR=4.8						
	comp=Z,0.5nm,0.4s						
QSPA	**South Pole Qui**	**83.13**	**180**	P	**P**	**21 27 26.1**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=351,slow=2.3,SNR=1.9						
	comp=Z,0.7nm,0.9s						

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*IDC **23** 21:55:56.5±6.5, 6°.67S×154°.27E, h86km±51km, mb3.4/4, mbtmp3.9/6, ML1.8/1, MS3.0/5, Error ellipse: s-maj=58.8km s-min=34.6km az=125.0*
ISC 23 21:15:52.3±1.4, 6°.6S±0°.2×154°.5E±0°.1, h48km, n10, σ1°60/8, mb3.6/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.11**	**118**	LR	LR	21 19 54.5	
	comp=Z,169nm,18.7s,baz=218,slow=38						
PMG	**Port Moresby**	**7.75**	**249**	P	**Pn**	**21 17 44.7**	**+2.2**
	0.8nm,0.3s,baz=79,slow=9.9,SNR=6.3						
PMG				S	**Sn**	**21 19 07.6**	**-1.3**
	4.1nm,0.3s,baz=9.1,slow=19,SNR=1.6						
PMG				LR	LR	21 20 45.9	
	comp=Z,59nm,21.2s,baz=86,slow=38						
	9.7nm,0.6s						
JAY	**Jayapura**	**14.31**	**286**	P	**Pn**	**21 19 11.5**	**-0.7**
	10nm,0.7s,baz=120,slow=8.1,SNR=2.2						
CTA	**Charters Tower**	**15.58**	**210**	LR	LR	21 25 35.3	
	comp=Z,49nm,18.6s,baz=40,slow=38						
WRA	**Warramunga Arr**	**23.60**	**234**	P	**P**	**21 20 58.4**	**-0.7**
	3.3nm,0.9s,baz=57,slow=9.4,SNR=9.1						
WRA				LR	LR	21 30 40.5	
	comp=Z,60nm,18.5s,baz=3.0,slow=38						
	3.3nm,0.9s						
ASAR	**Alice Springs**	**26.03**	**227**	P	**P**	**21 21 20.7**	**-0.5**
	0.3nm,0.4s,baz=59,slow=8.2,SNR=2.1						
	0.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**30.33**	**245**	LR	LR	21 34 00.4	
	comp=Z,34nm,19.6s,baz=130,slow=36						
MKAR	**Makanchi Array**	**82.78**	**319**	P	**P**	**21 28 12.6**	**+1.3**
	0.3nm,0.7s,baz=111,slow=7.1,SNR=1.9						
	0.3nm,0.7s						
NVAR	**Mina Array Bea**	**91.90**	**52**	P	**P**	**21 28 55.9**	**-0.2**
	0.4nm,0.7s,baz=249,slow=4.4,SNR=2.6						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**152.42**	**286**	PKPbc	**PKPbc**	**21 35 42.4**	**-1.8**
	1.0nm,0.7s,baz=79,slow=1.9,SNR=6.7						

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*IDC **23** 21:19:42.6±1.6, 23°.95S×115°.50W, h0km, mb3.8/2, mbtmp3.8/2, MS3.8/28, Error ellipse: s-maj=74.4km s-min=41.8km az=14.0*
*GCMT **23** 21:19:47.0±0.3, 24°.38S±0°.02×115°.72W±0°.02, h20km±1km, MW4.9/98, Moment Tensor Solution. s34,c37; s98,c133; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.31±.10; $M_{\theta\theta}$-1.64±.09; $M_{\phi\phi}$1.94±.10; $M_{r\theta}$-0.31±.16; $M_{\theta\phi}$1.79±.08; $M_{\phi r}$0.21±.17; Best double couple: $M_0$2.56400×10^{16} NP1:ϕ_s158.00000°, δ84.00000°, λ-172.00000°. NP2: ϕ_s67.00000°, δ82.00000°, λ-6.00000°. Principal axes: T 2.6830, Plg1.0000°, Azm292.0000°; N -0.2440, Plg80.0000°, Azm194.0000°; P -2.4450, Plg10.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*
ISC 23 21:19:45.1±1.6, 24°.0S±0°.5×115°.6W±0°.3, h21km, n38, σ0°29/6, MS3.8/27, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.41**	**120**	LR	LR	21 23 14.2	
	comp=Z,2μm,19.1s,baz=332,slow=33						
H03N2	**Juan Fernandez**	**33.31**	**115**	T	T	22 01 37.5	
	baz=281,slow=75,SNR=73						
H03N3	**Juan Fernandez**	**33.32**	**115**	T	T	22 01 37.2	
	baz=281,slow=75,SNR=98						
H03N1	**Juan Fernandez**	**33.33**	**115**	T	T	22 01 30.6	
	baz=281,slow=75,SNR=110						
NNA	**Nana**	**38.59**	**79**	LR	LR	21 38 57.7	
	comp=Z,228nm,19.3s,baz=244,slow=30						
ATAH	**Atahualpa**	**39.37**	**71**	LR	LR	21 39 13.7	
	comp=Z,210nm,20.8s,baz=245,slow=30						
RAR	**Rarotonga**	**40.79**	**265**	LR	LR	21 39 31.2	
	comp=Z,45nm,20.5s,baz=102,slow=29						
LPAZ	**La Paz**	**45.01**	**89**	P	**P**	**21 28 00.1**	**-0.1**
	2.3nm,0.9s,baz=262,slow=5.1,SNR=6.3						
LPAZ				LR	LR	21 42 25.6	
	comp=Z,102nm,19.4s,baz=248,slow=30						
	2.3nm,0.9s						
JTS	**Las Juntas de**	**45.37**	**45**	LR	LR	21 41 59.3	
	comp=Z,106nm,21.4s,baz=238,slow=30						
CMIG	**Matias Romero**	**45.59**	**28**	LR	LR	21 43 19.5	
	comp=Z,45nm,18.0s,baz=192,slow=31						
LPIG	**La Paz**	**48.12**	**6**	LR	LR	21 44 07.6	
	comp=Z,75nm,20.0s,baz=42,slow=30						
ROSC	**El Rosal**	**49.37**	**60**	LR	LR	21 46 18.4	
	comp=Z,101nm,18.8s,baz=192,slow=32						
CPUP	**Villa Florida**	**52.36**	**106**	LR	LR	21 47 05.9	
	comp=Z,126nm,20.0s,baz=194,slow=31						
TXAR	**Lajitas Array**	**54.28**	**13**	LR	LR	21 47 45.7	
	comp=Z,64nm,18.2s,baz=38,slow=31						
SDV	**Santo Domingo**	**54.72**	**59**	LR	LR	21 48 13.6	
	comp=Z,77nm,19.7s,baz=256,slow=31						
PFO	**Pinyon Flats O**	**57.33**	**359**	LR	LR	21 47 32.2	
	comp=Z,91nm,21.7s,baz=210,slow=29						
URZ	**Urewera**	**58.19**	**239**	LR	LR	21 49 08.7	
	comp=Z,51nm,20.8s,baz=186,slow=30						
ANMO	**Albuquerque**	**59.29**	**9**	LR	LR	21 50 21.1	
	comp=Z,39nm,18.3s,baz=308,slow=31						
PCRV	**Puerto La Cruz**	**60.24**	**62**	LR	LR	21 51 57.9	
	comp=Z,60nm,18.8s,slow=32						
MSVF	**Nonsavu**	**61.86**	**262**	LR	LR	21 49 48.7	
	comp=Z,64nm,20.3s,baz=351,slow=29						
NVAR	**Mina Array Bea**	**62.19**	**358**	LR	LR	21 51 42.5	
	comp=Z,52nm,21.5s,baz=97,slow=31						
SJG	**San Juan**	**63.85**	**54**	LR	LR	21 53 15.5	
	comp=Z,53nm,21.5s,baz=124,slow=32						
TKL	**Tuckaleechee C**	**66.56**	**28**	LR	LR	21 57 29.9	
	comp=Z,52nm,18.5s,baz=358,slow=34						
PDAR	**Pinedale Array**	**66.70**	**5**	P	**P**	**21 30 34.7**	**+0.1**
	0.5nm,0.8s,baz=173,slow=8.2,SNR=1.7						
PDAR				LR	LR	21 54 40.5	
	comp=Z,34nm,18.6s,baz=38,slow=32						
	0.5nm,0.8s						
DZM	**Mont Dzumac**	**70.87**	**254**	LR	LR	21 54 20.1	
	comp=Z,61nm,20.5s,baz=212,slow=29						
NEW	**Newport**	**71.98**	**359**	LR	LR	21 56 49.7	
	comp=Z,50nm,21.6s,baz=56,slow=31						
SADO	**Sadowa**	**76.12**	**26**	LR	LR	22 03 31.9	
	comp=Z,70nm,18.9s,baz=289,slow=35						
HNR	**Honiara**	**81.23**	**264**	LR	LR	22 00 01.9	
	comp=Z,62nm,20.8s,baz=118,slow=30						
H11S2	**WAKE ISLAND Hy**	**86.75**	**292**	T	T	23 08 35.1	
	baz=117,slow=75,SNR=102						
H11S1	**WAKE ISLAND Hy**	**86.77**	**292**	T	T	23 08 25.0	
	baz=117,slow=75,SNR=61						
H11S3	**WAKE ISLAND Hy**	**86.77**	**292**	T	T	23 08 35.7	
	baz=117,slow=75,SNR=52						
KDAK	**Kodiak Island**	**87.19**	**341**	LR	LR	22 04 53.3	
	comp=Z,61nm,18.4s,baz=281,slow=31						
MAW	**Mawson**	**88.63**	**179**	LR	LR	22 08 44.7	
	comp=Z,63nm,18.7s,baz=221,slow=33						
PMG	**Port Moresby**	**92.79**	**259**	LR	LR	22 08 07.8	
	comp=Z,67nm,19.4s,baz=285,slow=31						
ZALV	**Zalesovo Beam**	**146.44**	**338**	PKPbc	**PKPab**	**21 39 24.9**	**-0.3**
	0.4nm,0.5s,baz=50,slow=4.5,SNR=2.1						
CMAR	**Chiang Mai Arr**	**147.42**	**267**	PKPbc	**PKPbc**	**21 39 28.2**	**+0.1**
	0.3nm,0.4s,baz=122,slow=1.2,SNR=1.6						
BRTR	**Keskin Array B**	**149.71**	**52**	PKPbc	**PKiKP**	**21 39 35.0**	**+0.4**
	0.9nm,0.9s,baz=316,slow=0.4,SNR=2.8						
KURBB	**Kurchatov Arra**	**151.29**	**341**	PKPbc	**PKiKP**	**21 39 37.2**	**-0.1**
	0.6nm,0.7s,baz=34,slow=1.7,SNR=6.2						

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*IDC **23** 21:30:25.8±3.0, 9°.83S×114°.67E, h0km, mb3.4/5, mbtmp3.5/6, ML3.6/1, Error ellipse: s-maj=157.5km s-min=21.2km az=50.0*
*DJA **23** 21:30:36.0±1.0, 10°S±4°×11°5E±°, h28km±11km, M4.0/18, mb4.0/3, MLv3.9/18*
ISC 23 21:30:32.7±0.9, 9°.79S±0°.08×115°.04E±0°.06, h35km, n20, σ2°58/21, mb3.5/5, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**1.11**	**9**	P	**Pn**	**21 30 53.4**	**+1.6**
DNP				S	**Sn**	**21 31 06.3**	**+0.3**
JAGI	**Jajag, Banyuwa**	**1.58**	**326**	P	**Pn**	**21 30 59.3**	**+1.1**
SRBI	**Singaraja**	**1.70**	**6**	P	**Pn**	**21 31 01.9**	**+2.0**
ABJI	**Asem Bagus**	**2.13**	**338**	P	**Pn**	**21 31 08.4**	**+2.5**
GMJI	**Gumukmas**	**2.18**	**313**	P	**Pn**	**21 31 08.3**	**+1.8**
BLJI	**Banyuglugur**	**2.48**	**325**	P	**Pn**	**21 31 13.6**	**+2.9**
PLAI	**Plampang**	**2.86**	**71**	P	**Pn**	**21 31 19.1**	**+3.2**
KMMI	**Kalianget**	**2.92**	**339**	P	**Pn**	**21 31 19.0**	**+2.3**
PWJI	**Pagerwojo**	**3.65**	**298**	P	**Pn**	**21 31 29.5**	**+2.8**
PCJI	**Pacitan**	**4.13**	**292**	P	**Pn**	**21 31 36.2**	**+2.8**
WBSI	**Waikabubak, Su**	**4.29**	**88**	P	**Pn**	**21 31 38.4**	**+2.9**
UGM	**Wanagama**	**4.84**	**292**	P	**Pn**	**21 31 46.7**	**+3.6**
BSSI	**Bau Bau, Buton**	**6.50**	**57**	P	**Pn**	**21 32 08.7**	**+2.8**
	32nm,1.6s						
KPJI	**Karang Pucung**	**6.52**	**291**	P	**Pn**	**21 32 10.1**	**+3.9**
FITZ	**Fitzroy Crossi**	**13.19**	**130**	Pn	**Pn**	**21 33 35.9**	**-1.7**
	0.2nm,0.3s,baz=287,slow=11,SNR=5.7						
FITZ				Sn	Sn	21 35 53.0	-10
	0.2nm,0.3s,baz=167,slow=22,SNR=6.5						
	3.0nm,0.9s						
WRA	**Warramunga Arr**	**21.18**	**121**	P	**P**	**21 35 16.2**	**+0.9**
	0.4nm,0.8s,baz=297,slow=12,SNR=2.0						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**22.69**	**130**	P	**P**	**21 35 32.3**	**+0.9**
	0.3nm,0.4s,baz=302,slow=8.8,SNR=7.6						
	0.3nm,0.4s						
SONM	**Songino Array**	**57.88**	**353**	P	**P**	**21 40 19.7**	**-1.4**
	0.2nm,0.4s,baz=169,slow=9.3,SNR=2.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**63.46**	**335**	P	**P**	**21 40 57.3**	**-1.8**
	0.3nm,0.4s,baz=149,slow=6.3,SNR=7.2						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**68.46**	**341**	P	**P**	**21 41 28.2**	**-2.8**
	0.4nm,0.3s,baz=142,slow=7.3,SNR=2.4						
	0.4nm,0.3s						

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*IDC **23** 21:39:44.8±0.8, 35°.49S×53°.93E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=33.8km s-min=21.5km az=27.0*
ISC 23 21:39:47.5±0.8, 35°.5S±0°.2×53°.9E±0°.2, h17km, n18, σ0°83/9, mb4.0/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**10.79**	**188**	T	T	21 53 10.2	
	baz=9.6,slow=76						
H04N2	**CROZET ISLANDS**	**10.79**	**188**	T	T	21 53 10.2	
	baz=9.6,slow=76						
H04N3	**CROZET ISLANDS**	**10.80**	**188**	T	T	21 53 10.2	
	baz=9.6,slow=76						
BOSA	**Boshof**	**25.17**	**278**	P	**P**	**21 45 12.4**	**+0.3**
	3.4nm,0.9s,baz=93,slow=11,SNR=4.7						
	3.4nm,0.9s						
H08S1	**Diego Carcia H**	**32.52**	**36**	T	T	22 20 31.4	
	baz=208,slow=76,SNR=40						
H08S2	**Diego Garcia H**	**32.53**	**36**	T	T	22 20 31.5	
	baz=208,slow=76,SNR=32						
H08S3	**Diego Garcia H**	**32.54**	**36**	T	T	22 20 32.8	
	baz=208,slow=76,SNR=36						
MAW	**Mawson**	**32.58**	**174**	P	**P**	**21 46 17.6**	**+0.1**
	1.1nm,0.4s,baz=302,slow=9.5,SNR=3.5						
	1.1nm,0.4s						
H01W2	**Cape Leeuwin H**	**48.54**	**108**	T	T	22 40 28.5	
	baz=250,slow=75,SNR=97						
H01W3	**Cape Leeuwin H**	**48.54**	**108**	T	T	22 40 29.1	
	baz=250,slow=75,SNR=83						
H01W1	**Cape Leeuwin H**	**48.55**	**108**	T	T	22 40 29.8	
	baz=250,slow=75,SNR=91						
CMAR	**Chiang Mai Arr**	**68.56**	**46**	P	**P**	**21 50 50.6**	**+1.2**
	0.2nm,0.4s,baz=239,slow=7.9,SNR=4.1						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**68.87**	**105**	P	**P**	**21 50 51.4**	**-0.1**
	0.7nm,0.6s,baz=234,slow=6.0,SNR=7.5						
	0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**69.11**	**305**	P	**P**	**21 50 53.4**	**+0.5**
	1.3nm,0.7s,baz=121,slow=5.1,SNR=10						
	1.3nm,0.7s						
WRA	**Warramunga Arr**	**71.13**	**101**	P	**P**	**21 51 04.8**	**-0.6**
	1.7nm,0.8s,baz=235,slow=5.0,SNR=7.7						
	1.7nm,0.8s						
BRTR	**Keskin Array B**	**77.14**	**344**	P	**P**	**21 51 40.0**	**0.0**
	0.7nm,0.8s,baz=167,slow=6.0,SNR=4.7						
	0.7nm,0.8s						
AKASG	**Malin Array Be**	**88.53**	**345**	P	**P**	**21 52 37.3**	**-1.3**
	0.3nm,0.4s,baz=167,slow=4.1,SNR=1.8						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**148.12**	**17**	PKPbc	**PKPbc**	**21 59 30.8**	**-0.5**
	0.5nm,0.7s,baz=306,slow=4.1,SNR=6.2						

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*IDC **23** 21:41:01.3±0.7, 56°.52S×25°.41W, h0km, mb4.7/6, mbtmp4.6/7, ML3.7/1, MS3.9/5, Error ellipse: s-maj=34.9km s-min=17.9km az=58.0*
*NEIC **23** 21:41:07.3±1.6, 56°.71S±0°.09×25°.81W±0°.09, h36km±5km, mb4.8/58, Error ellipse: s-maj=14.1km s-min=5.1km az=159.0*
ISC 23 21:41:05.9±0.4, 56°.67S±0°.08×25°.71W±0°.09, h29km, n136, σ0°78/127, mb4.8/32, MS3.8/5, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.58**	**287**	Pn	**Pn**	**21 42 40.8**	**+0.3**
VNA1	**Neumayer--Stat**	**15.92**	**159**	⇑P	**Pn**	**21 44 47.0**	**-0.4**
	comp=Z,23μm,0.0s						
VNA3	**Neumayer Olymp**	**16.14**	**161**	⇑P	**Pn**	**21 44 50.0**	**-0.3**
	comp=Z,14nm,0.7s						
VNA2	**Neumayer--Watz**	**16.31**	**158**	⇑P	**Pn**	**21 44 53.0**	**+0.6**
	comp=Z,7.3nm,0.5s,baz=324,slow=14						
SNAA	**Sanae**	**17.84**	**156**	P	**P**	**21 45 12.7**	**+0.5**
SNAA	**Sanae**	**17.84**	**156**	⇑P	**P**	**21 45 12.0**	**-0.2**
	comp=Z,132nm,0.6s						
SNAA	**Sanae**	**17.84**	**156**	P	**P**	**21 45 12.7**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=313,slow=9.7,SNR=15						
	comp=Z,7.4nm,0.7s						
TROLL	**Troll, Antarti**	**19.33**	**154**	⇑P	**Pn**	**21 45 28.9**	**-0.8**
	comp=Z,181nm,0.7s						
EFI	**East Falkland**	**19.47**	**271**	P	**P**	**21 45 29.6**	**-0.4**
PMSA	**Palmer Station**	**20.13**	**231**		Pn	21 45 38.5	-0.5
PMSA				IAmb	IAmb	21 45 54.9	
	comp=Z,65nm,1.1s						
PMSA	**Palmer Station**	**20.13**	**231**	P	Pn	21 45 42.4	+3.3
	comp=Z,39nm,0.9s,baz=83,slow=8.2,SNR=6.2						
PMSA				LR	LR	21 52 22.8	
	comp=Z,422nm,18.5s,baz=117,slow=34						
BELA	**Belgrano 2**	**21.53**	**185**	P	**P**	**21 45 51.8**	**-0.4**
BELA				IAmb	IAmb	21 45 55.5	
	comp=Z,48nm,0.7s						
MG04	**Isla Riesco**	**26.34**	**259**	P	**P**	**21 46 40.9**	**+2.0**
GO08	**Villa O'Higgin**	**29.12**	**266**	P	**P**	**21 47 02.8**	**-1.0**
TRQA	**Tornquist**	**30.32**	**292**	P	**P**	**21 47 13.8**	**-0.9**
PLTB	**Pedras Alt

GO04	Tololo Observa	41.02 291	P	P	21 48 47.2	+0.7
PMNB	Patos De Minas	41.12 329	eP	P	21 48 47.9	+0.7
RPRD	Ribas do Rio P	41.66 319	eP	P	21 48 52.1	+0.5
AC05	El Transito	41.82 293	P	P	21 48 52.5	-0.6
AC05			IAmb	IAmb	21 48 53.8	
	comp=Z,13nm,0.8s					
LCO	Las Campanas	41.90 292	P	P	21 48 52.7	-1.2
MURT	Porto Murtinho	42.10 313	eP	P	21 48 54.5	-0.6
IPMB	Ipameri, GO	42.16 327	eP	P	21 48 55.6	-0.1
SOE	Somerset East	42.30 78	P	P	21 48 57.4	+0.6
AQDB	Aquidauana	42.41 316	P	P	21 48 56.1	-1.7
AQDB	Aquidauana	42.41 316	eP	P	21 48 57.6	-0.1
AC04	Llanos de Chal	42.74 292	P	P	21 49 00.1	-0.3
AC04			IAmb	IAmb	21 49 00.8	
	comp=Z,16nm,0.6s					
BDQN	Bodoquena, MS	42.85 315	eP	P	21 49 00.3	-0.9
AC06	Mina Casimiro	43.07 294	P	P	21 49 02.2	-0.9
JANB	Januaria	43.88 334	eP	P	21 49 10.0	+0.3
AC01	Pan de Azucar	44.19 294	P	P	21 49 11.9	-0.2
AC01			IAmb	IAmb	21 49 26.5	
	comp=Z,21nm,1.1s					
BDFB	Brasilia	44.31 328	P	P	21 49 14.1	+0.9
BDFB			IAmb	IAmb	21 49 29.8	
	comp=Z,8.2nm,0.8s					
BDFB	Brasilia	44.31 328	P	P	21 49 13.0	-0.2
	comp=Z,5.9nm,0.7s,baz=118,slow=16,SNR=6.0					
	comp=Z,5.9nm,0.7s					
GO02	Mina Guanaco	44.50 296	P	P	21 49 14.3	-0.6
GO02			IAmb	IAmb	21 49 15.7	
	comp=Z,12nm,0.6s					
BOSA	Boshof	45.34 74	LR	LR	22 04 49.0	
	comp=Z,224nm,18.7s,baz=206,slow=32					
PB14	IPOC Station P	45.35 296	P	P	21 49 20.7	-1.1
PB14			IAmb	IAmb	21 49 21.7	
	comp=Z,14nm,1.1s					
SALV	Santo Antonio	46.59 319	eP	P	21 49 31.6	+0.5
CCD	Concordia, Ant	46.92 169	P	P	21 49 33.6	0.0
PB04	IPOC Station P	47.16 298	P	P	21 49 35.9	+0.2
PB09	IPOC Station P	47.17 299	P	P	21 49 36.2	+0.3
BBSD	Serra de San D	47.33 312	eP	P	21 49 37.0	+0.1
PB01	IPOC Station P	47.93 299	P	P	21 49 42.1	+0.4
PTLB	Pontes e Lacer	48.31 315	P	P	21 49 42.9	-1.6
PTLB			IAmb	IAmb	21 49 45.6	
	comp=Z,14nm,0.9s					
PTLB	Pontes e Lacer	48.31 315	eP	P	21 49 44.4	-0.1
H10S2	ASCENSION HYDR	48.37 15	T	T	22 42 46.9	
	baz=32,slow=74,SNR=20					
H10S3	ASCENSION HYDR	48.38 15	T	T	22 42 45.5	
	baz=188,slow=74,SNR=23					
LBTB	Lobatse	48.41 71	LR	LR	22 06 59.8	
	comp=Z,93nm,18.7s,baz=212,slow=32					
PB08	IPOC Station P	48.54 300	P	P	21 49 47.1	+0.4
TA01	Diego Aracena	48.67 299	P	P	21 49 46.1	-1.2
TA01			IAmb	IAmb	21 49 47.9	
	comp=Z,17nm,1.0s					
SNDB	Serra Nova Dou	48.77 326	eP	P	21 49 49.3	+1.3
HMBC	Humberstone	48.78 300	P	P	21 49 48.1	-0.1
GO01	Chusmiza	48.97 301	P	P	21 49 50.7	+0.6
H10N1	ASCENSION HYDR	49.49 15	T	T	22 43 52.3	
	baz=181,slow=71,SNR=4.2					
H10N3	ASCENSION HYDR	49.49 15	T	T	22 44 14.1	
	baz=181,slow=71,SNR=17					
H10N2	ASCENSION HYDR	49.51 15	T	T	22 44 14.8	
	baz=181,slow=71,SNR=10					
PB12	IPOC Station P	50.41 300	P	P	21 50 01.0	+0.3
PB12			IAmb	IAmb	21 50 04.8	
	comp=Z,11nm,1.0s					
PB18	Visviri	50.90 302	P	P	21 50 05.9	+1.1
PDRB	Porto dos Gac	50.92 319	eP	P	21 50 04.7	+0.3
LPAZ	La Paz	51.40 304	P	P	21 50 09.6	+0.7
LPAZ	La Paz	51.40 304	P	P	21 50 09.4	+0.7
	comp=Z,28nm,0.7s,baz=147,slow=5.0,SNR=98					
	comp=Z,28nm,0.7s					
LPAZ	La Paz	51.40 304	eP	P	21 50 09.4	+0.7
LPAZ	La Paz	51.40 304	P	P	21 50 09.2	+0.5
LPAZ			pP	sP	21 50 17.9	-1.5
SAML	Samuel	55.82 313	P	P	21 50 40.2	-0.2
SAML			IAmb	IAmb	21 50 41.3	
	comp=Z,5.3nm,0.8s					
SAML	Samuel	55.82 313	eP	P	21 50 40.3	-0.1
ETMB	Extrema	56.29 310	P	P	21 50 44.2	+0.4
ETMB			IAmb	IAmb	21 50 44.5	
	comp=Z,7.5nm,0.9s					
ETMB	Extrema	56.29 310	eP	P	21 50 43.9	+0.1
TMAB	Tom-Au,PA,Br	57.02 333	eP	P	21 50 50.7	+1.8
MAL2	Monte Alegre,	59.06 326	P	P	21 51 04.7	+1.5
CZSB	Cruzeiro do Su	61.01 304	eP	P	21 51 16.4	-0.2
BOAV	Boa Vista	65.27 321	eP	P	21 51 44.7	-0.1
COHC	Cochancay	68.69 300	P	P	21 52 07.5	+1.0
COHC			IAmb	IAmb	21 52 08.2	
	comp=Z,4.7nm,0.8s					
OTAV	Otavalo	70.68 303	P	P	21 52 20.8	+1.3
OTAV			IAmb	IAmb	21 52 29.3	
	comp=Z,15nm,1.1s					
OTAV	Otavalo	70.68 303	eP	P	21 52 19.5	+0.1
OTAV	Otavalo	70.68 303	P	P	21 52 20.7	+1.3
OTAV			pP	sP	21 52 28.9	-1.4
ROSC	El Rosal	72.91 309	LR	LR	22 27 42.9	
	comp=Z,42nm,18.1s,baz=124,slow=38					
TORD	Torodi Ar. Bea	73.20 28	P	P	21 52 33.3	-0.5
TORD	Torodi Ar. Bea	73.20 28	P	P	21 52 32.9	-1.0
	comp=Z,1.5nm,0.7s,baz=199,slow=5.2,SNR=10					
	comp=Z,1.5nm,0.7s					
BAUV	El Baul	74.07 316	P	P	21 52 39.5	+0.5
BAUV			IAmb	IAmb	21 52 40.2	
	comp=Z,15nm,0.9s					
SDV	Santo Domingo	75.03 314	eP	P	21 52 45.2	+0.5
LTZ	Lake Taylor	79.77 193	P	P	21 53 11.3	+0.4
LTZ			IAmb	IAmb	21 53 13.1	
	comp=Z,20nm,1.1s					
BSWZ	Blackbirch Sta	80.60 195	P	P	21 53 16.4	+1.0
THZ	Tophouse	80.69 194	P	P	21 53 16.6	+0.7
NNZ	Nelson	81.16 194	P	P	21 53 18.2	-0.1
MRZ	Mangatainoka R	81.38 196	P	P	21 53 19.4	-0.2
MRZ			IAmb	IAmb	21 53 32.9	
	comp=Z,12nm,1.1s					
BKZ	Black Stump Fm	82.70 197	P	P	21 53 27.2	+0.7
BKZ			IAmb	IAmb	21 53 36.6	
	comp=Z,11nm,1.1s					
TOO	Toolangi	85.83 173	P	P	21 53 42.5	0.0
TOO			IAmb	IAmb	21 53 48.3	
	comp=Z,4.5nm,1.1s					
TBI	Tubuai	87.32 230	eLR	LR	22 21 27.8	
	comp=Z,564nm,28.8s					
MTO3	Montecristo	88.20 300	P	P	21 53 54.4	+0.1
MTO3			IAmb	IAmb	21 54 11.1	
	comp=Z,5.1nm,1.0s					
MORW	Morawa	88.66 147	P	P	21 53 55.8	-0.4
BBOO	Buckleboo	89.54 165	P	P	21 53 59.4	-0.9
BBOO			IAmb	IAmb	21 54 04.1	
	comp=Z,10nm,1.1s					
PPT2	Papeete2	92.46 232	eLR	LR	22 23 49.5	
	comp=Z,121nm,27.0s					
PPT2			eLR	LR	22 23 54.1	
	comp=Z,151nm,26.8s					
DZM	Mont Dzumac	100.90 191	eLR	LR	22 27 43.6	
	comp=Z,62nm,26.2s					
PDAR	Pinedale Array	121.37 301	PKP	PKPdf	21 59 54.6	-1.0
	comp=Z,0.2nm,0.5s,baz=166,slow=4.5,SNR=2.7					
HWUT	Hardware Ranch	121.44 299	PKPdf	PKiKP	21 59 55.6	-0.3
ANGG	Ammassalik, Gr	122.30 354	PKPdf	PKiKP	21 59 57.2	+0.7
FXWY	Fox Creek	122.73 301	PKPdf	PKiKP	21 59 58.2	-0.2
KVN	Kaiserville	122.76 292	PKPdf	PKiKP	21 59 58.1	-0.5
CMAR	Chiang Mai Arr	124.08 109	PKP	PKiKP	22 00 00.8	-0.7
	comp=Z,0.5nm,0.3s,baz=229,slow=4.3,SNR=5.3					
FINES	FINESS Array B	124.55 27	PKP	PKPdf	21 59 59.7	-1.0
	comp=Z,5.0nm,1.1s,baz=157,slow=7.5,SNR=4.9					
PZH	PanZhiHua	132.14 106	PKP	PKiKP	22 00 18.1	+0.5
YKA	Yellowknife Ar	137.18 317	PKP	PKPdf	22 00 24.2	-0.4
	comp=Z,1.8nm,0.8s,baz=133,slow=2.0,SNR=6.0					
SONM	Songino Array	149.95 86	PKPbc	PKPbc	22 00 51.6	-0.9
	comp=Z,3.1nm,0.7s,baz=232,slow=2.8,SNR=20					
ILAR	Eielson Array	151.14 311	PKPbc	PKiKP	22 00 54.5	-0.6
	comp=Z,6.2nm,0.9s,baz=148,slow=3.3,SNR=38					

*IDC **23** 21:42:58.8±1.2,56°.61S×25°.81W,h0km,mb4.1/4,*
mbtmp4.0/5,ML3.2/1, Error ellipse: s-maj=46.9km
s-min=26.7km az=63.0
*NEIC **23** 21:43:00.1±1.5,56°.61S±0°.09×25°.7W±0°.3,h10km±2km,*
mb4.5/13, Error ellipse: s-maj=28.9km s-min=5.3km
az=59.0

ISC 23 21:43:00.2±0.9,**56°.6S**±0°.1×**26°.0W**±0°.1,**h10**km,**n20,**
σ0 93/20,**mb4.5/8,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.42	287	Pn	Pn	21 44 34.8	0.0
SNAA	Sanae	17.94	156		P	21 47 09.4	-0.6
SNAA	Sanae	17.94	156	P	P	21 47 10.6	+0.5
	0.1nm,0.3s,baz=310,slow=16,SNR=1.0						
	1.2nm,0.7s						
PMSA	Palmer Station	20.04	230	P	P	21 47 33.0	+0.1
BELA	Belgrano 2	21.56	185	P	P	21 47 49.6	+0.4
QSPA	South Pole Qui	33.62	180	P	P	21 49 40.7	+0.1
QSPA				IAmb	IAmb	21 49 41.4	
	comp=Z,3.2nm,0.6s						
QSPA	South Pole Qui	33.62	180	P	P	21 49 40.6	+0.1
	comp=Z,2.8nm,0.5s,baz=251,slow=0.8,SNR=2.5						
	comp=Z,2.8nm,0.5s						
GO06	Curarrehue	34.07	280	P	P	21 49 44.5	-0.1
ITQB	Itaqui	34.48	308	P	P	21 49 45.6	-2.5
CPUP	Villa Florida	37.70	310	P	P	21 50 16.2	+0.5
CPUP				IAmb	IAmb	21 50 18.4	
	comp=Z,8.9nm,1.5s						
CPUP	Villa Florida	37.70	310	P	P	21 50 16.1	+0.5
	comp=Z,1.2nm,0.6s,baz=145,slow=10,SNR=2.3						
	comp=Z,1.2nm,0.6s						
CO03	El Pedregal	40.28	291	P	P	21 50 37.8	+0.5
CO03				IAmb	IAmb	21 50 49.9	
	comp=Z,22nm,1.4s						
CO01	Juntas del Tor	40.66	292	P	P	21 50 40.7	0.0
CO01				IAmb	IAmb	21 50 59.7	
	comp=Z,5.3nm,1.1s						
PB01	IPOC Station P	47.78	300	P	P	21 51 36.9	-0.8
PB01				IAmb	IAmb	21 51 39.2	
	comp=Z,6.0nm,0.9s						
PB08	IPOC Station P	48.40	301	P	P	21 51 43.8	+1.0
PB08				IAmb	IAmb	21 51 44.7	
	comp=Z,5.2nm,0.8s						
GO01	Chusmiza	48.82	301	P	P	21 51 46.6	+0.5
LPAZ	La Paz	51.26	304	P	P	21 52 05.5	+0.7
LPAZ				IAmb	IAmb	21 52 07.1	
	comp=Z,4.4nm,0.7s						
LPAZ	La Paz	51.26	304	P	P	21 52 05.7	+0.9
	comp=Z,3.1nm,0.5s,baz=143,slow=5.0,SNR=4.0						
	comp=Z,3.1nm,0.5s						
TORD	Torodi Ar. Bea	73.23	28	P	P	21 54 31.9	+0.7
	comp=Z,0.3nm,0.4s,baz=190,slow=5.5,SNR=1.1						
	comp=Z,0.3nm,0.4s						
SONM	Songino Array	150.09	87	PKPbc	PKPbc	22 02 48.5	-1.7
	comp=Z,0.4nm,0.4s,baz=219,slow=3.5,SNR=1.8						

*IDC **23** 21:48:42.7±0.7,0°.59S×124°.28E,h0km,mb4.0/12,*
mbtmp3.9/13,ML3.6/1,MS3.1/6, Error ellipse:
s-maj=36.1km s-min=16.1km az=70.0
*DJA **23** 21:48:51.8±1.3,1°.S±2°.×12°.5E±°,h32km±20km,M4.5/21,*
mb4.6/7,mB5.3/2,MLv4.4/21,Mw(mB)4.7/2

ISC 23 21:48:50.5±0.6,**0°.67S**±0°.05×**124°.56E**±0°.05,**h60**km,**n37,**
σ1 36/37,**mb4.0/13,MS3.1/4,Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.37	335	P	Pn	21 49 14.1	+0.7
LUWI	Luwuk	1.83	258	P	Pn	21 49 21.0	+1.4
LUWI				S	Sn	21 49 42.6	+0.8
SANI	Sanana	1.98	134	P	Pn	21 49 20.2	-1.4
MRSI	Marisa	2.86	293	P	Pn	21 49 34.1	+0.4
APSI	Ampana	2.92	265	P	Pn	21 49 35.0	+0.4
TNTI	Ternate	3.15	63	P	Pn	21 49 40.7	+3.1
NLAI	Namlea	3.60	135	P	Pn	21 49 44.0	+0.2
KDI	Kendari	3.80	211	P	Pn	21 49 46.3	-0.3
AAI	Ambon	4.71	130	P	Pn	21 50 00.3	+1.3
PCI	Palu	4.73	267	P	Pn	21 50 01.7	+2.3
MSAI	Masohi	5.11	121	P	Pn	21 50 06.7	+2.2
	110nm,0.9s,0.5nm						
BBSI	Bau Bau	5.18	203	P	Pn	21 50 05.8	+0.3
	39nm,1.0s,0.1nm						
TTSI	Tana Toraja	5.30	243	P	Pn	21 50 08.4	+1.3
	62nm,0.6s,1μm0.3nm						
BNSI	Bone	5.79	230	P	Pn	21 50 14.4	+0.5
	36nm,0.7s,0.2nm						
SPSI	Sidrap Palu	5.80	236	P	Pn	21 50 15.5	+1.5
	46nm,0.4s,0.2nm						
BNDI	Bandanaira	6.56	126	P	Pn	21 50 25.8	+1.3
BSSI	Bau Bau, Buton	6.79	217	P	Pn	21 50 28.0	+0.5
DAV	Davao City (W)	7.75	7	LR	LR	21 53 50.9	
	comp=Z,108nm,21.4s,baz=86,slow=40						
BATI	Baumata	9.52	185	LR	LR	21 54 50.3	
	comp=Z,73nm,21.4s,baz=138,slow=38						
FITZ	Fitzroy Crossi	17.35	177	Pn	Pn	21 52 49.5	+0.9
	0.2nm,0.3s,baz=0.0,slow=9.1,SNR=1.2						
	2.0nm,0.9s						
WRA	Warramunga Arr	21.41	154	P	P	21 53 33.1	-0.5
	0.4nm,0.4s,baz=331,slow=11,SNR=4.2						
WRA				PcP	PcP	21 57 36.4	+1.0
	0.3nm,0.7s,baz=342,slow=1.6,SNR=2.0						
	0.4nm,0.4s						
ASAR	Alice Springs	24.59	159	P	P	21 54 06.0	+0.8
	1.4nm,0.8s,baz=345,slow=11,SNR=11						
ASAR				PcP	PcP	21 57 43.5	+1.6
	0.9nm,0.4s,baz=358,slow=2.0,SNR=8.3						
	1.4nm,0.8s						
PSI	Prapat	25.86	278	LR	LR	22 05 04.7	
	comp=Z,64nm,18.1s,baz=64,slow=38						
CTA	Charters Tower	28.69	134	LR	LR	22 07 51.5	
	comp=Z,36nm,19.8s,baz=102,slow=40						
CMAR	Chiang Mai Arr	31.55	308	P	P	21 55 05.1	-2.3
	0.5nm,0.7s,baz=129,slow=7.1,SNR=4.5						
CMAR				PcP	PcP	21 58 00.7	+1.7
	0.3nm,0.6s,baz=108,slow=2.9,SNR=4.2						
CMAR				LR	LR	22 08 07.9	
	comp=Z,18nm,21.9s,baz=120,slow=37						
	0.5nm,0.7s						
NWAO	Narrogin (SRO)	32.82	191	LR	LR	22 10 22.9	
	comp=Z,55nm,18.5s,baz=300,slow=40						
MJAR	Matsushiro Arr	39.13	18	P	P	21 56 11.9	-0.4
	1.5nm,0.8s,baz=189,slow=9.1,SNR=4.4						
	1.5nm,0.8s						
USRK	Ussurýsk Ar.	45.16	8	P	P	21 57 01.8	+0.5
	1.2nm,0.6s,baz=189,slow=6.7,SNR=4.3						
	1.2nm,0.6s						
SONM	Songino Array	50.84	344	P	P	21 57 44.0	-1.2
	1.6nm,0.7s,baz=163,slow=8.2,SNR=10.0						
	1.6nm,0.7s						
MKAR	Makanchi Array	60.01	328	P	P	21 58 49.8	-1.2
	1.8nm,0.3s,baz=123,slow=8.4,SNR=35						
MKAR				PcP	PcP	21 59 36.6	+0.1
	0.8nm,0.6s,baz=129,slow=4.9,SNR=3.9						
	1.8nm,0.3s						
PETK	Petropavlovsk-	60.29	22	P	P	21 58 53.9	+1.1
	4.4nm,0.8s,baz=164,slow=2.3,SNR=2.8						
	4.4nm,0.8s						
ZALV	Zalesovo Beam	63.57	335	P	P	21 59 12.5	-2.2
	0.7nm,0.5s,baz=134,slow=7.7,SNR=3.7						
	0.7nm,0.5s						
KURBB	Kurchatov Arra	64.33	329	P	P	21 59 18.2	-1.6
	2.1nm,0.6s,baz=137,slow=6.5,SNR=36						
	2.1nm,0.6s						
BVAR	Borovoye Array	69.86	329	P	P	21 59 53.0	-1.9
	1.0nm,0.5s,baz=141,slow=7.4,SNR=6.4						
	1.0nm,0.5s						
MMAI	Mount Meron Ar	89.66	303	P	P	22 01 42.8	+0.4
	0.4nm,0.4s,baz=101,slow=7.5,SNR=5.0						
	0.4nm,0.4s						
SPITS	Spitsbergen Ar	94.34	349	P	P	22 02 03.0	-0.1
	13nm,1.1s,baz=78,slow=7.8,SNR=5.1						
TORD	Torodi Ar. Bea	122.09	285	PKP	PKPdf	22 07 39.1	-0.3
	0.5nm,0.7s,baz=153,slow=1.5,SNR=3.6						

*IDC **23** 21:48:53.3±0.9,56°.51S×25°.41W,h0km,mb4.4/4,*
mbtmp4.2/5,ML3.2/1, Error ellipse: s-maj=39.8km
s-min=22.9km az=64.0
*NEIC **23** 21:48:54.3±2.0,56°.5S±0°.1×25°.1W±0°.1,h10km±1km,*
mb4.7/15, Error ellipse: s-maj=23.5km s-min=10.7km
az=189.0

ISC 23 21:48:53.7±0.6,**56°.5S**±0°.1×**25°.1W**±0°.1,**h10**km,**n35,**
σ1 33/35,**mb4.6**/10,**4C,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	6.84	284	Pn	Pn	21 50 35.1	+1.1
VNA1	Neumayer--Stat	15.97	159	⇑P	P	21 52 40.7	-1.0
	comp=Z,8.9nm,0.9s						
VNA3	Neumayer Olymp	16.21	162	⇑P	P	21 52 45.0	+0.6
	comp=Z,5.1nm,0.8s						
SNAA	Sanae	17.89	157		P	21 53 03.8	+0.9
SNAA	Sanae	17.89	157	⇑P	Pn	21 53 02.4	+0.1
	comp=Z,51nm,0.5s						
SNAA	Sanae	17.89	157	P	P	21 53 04.7	+1.8
	comp=Z,0.1nm,0.3s,baz=308,slow=11,SNR=4.3						
	comp=Z,1.4nm,0.6s						
TROLL	Troll, Antarti	19.35	154	⇑P	Pn	21 53 20.3	+0.2
	comp=Z,72nm,0.7s						
PMSA	Palmer Station	20.50	230	P	P	21 53 32.0	+0.5
PMSA				IAmb	IAmb	21 53 36.2	
	comp=Z,53nm,1.0s						
BELA	Belgrano 2	21.75	185	P	P	21 53 44.3	-0.5
MG04	Isla Riesco	26.71	258	P	P	21 54 34.0	+1.3
TRQA	Tornquist	30.56	291	P	P	21 55 06.2	-1.1
PLTB	Pedras Altas	31.66	309	P	P	21 55 17.4	+0.4
PLTB				IAmb	IAmb	21 55 20.6	
	comp=Z,8.4nm,1.1s						
QSPA	South Pole Qui	33.77	180	P	P	21 55 35.9	+0.6
QSPA				IAmb	IAmb	21 55 36.8	
	comp=Z,6.3nm,0.6s						
QSPA	South Pole Qui	33.77	180	P	P	21 55 35.8	+0.5
	comp=Z,4.2nm,0.5s,baz=212,slow=3.2,SNR=44						
	comp=Z,4.2nm,0.5s						
CPUP	Villa Florida	37.97	309	P	P	21 56 11.3	-0.2
	comp=Z,3.2nm,0.7s,baz=147,slow=5.5,SNR=6.1						
	comp=Z,3.2nm,0.7s						
PB01	IPOC Station P	48.13	299	P	P	21 57 34.3	+0.4
PB01				IAmb	IAmb	21 57 35.0	
	comp=Z,8.3nm,0.9s						
PTLB	Pontes e Lacer	48.42	314	P	P	21 57 36.1	+0.1
PTLB				IAmb	IAmb	21 57 37.5	
	comp=Z,4.3nm,0.9s						
PB08	IPOC Station P	48.74	300	P	P	21 57 39.1	+0.2
PB08				IAmb	IAmb	21 57 40.2	
	comp=Z,8.1nm,0.7s						
HMBC	Humberstone	48.98	299		P	21 57 40.1	-0.3
HMBC				IAmb	IAmb	21 57 55.3	
	comp=Z,10nm,1.1s						
GO01	Chusmiza	49.16	300	P	P	21 57 42.5	+0.3
LPAZ	La Paz	51.58	303	P	P	21 58 01.1	+0.4
LPAZ				IAmb	IAmb	21 58 02.2	
	comp=Z,12nm,0.9s						
LPAZ	La Paz	51.58	303	P	P	21 58 01.4	+0.7
	comp=Z,5.4nm,0.5s,baz=156,slow=6.9,SNR=27						
	comp=Z,5.4nm,0.5s						
TBTG	Tabatinga, AM	63.06	308	P	P	21 59 20.0	-1.1
BOAV	Boa Vista	65.34	320	P	P	21 59 35.6	-0.4
BOAV				IAmb	IAmb	21 59 39.7	
	comp=Z,3.3nm,1.0s						
TORD	Torodi Ar. Bea	72.88	27	P	P	22 00 25.0	+2.3
TORD	Torodi Ar. Bea	72.88	27	P	P	22 00 24.6	+1.9
	comp=Z,0.7nm,0.6s,baz=200,slow=5.9,SNR=5.3						
	comp=Z,0.7nm,0.6s						
KHLH	Kahului Airpor	129.61	246	PKPdf	PKiKP	22 08 03.9	+0.6
DHH	Diamond Head	130.60	245	PKPdf	PKPdf	22 08 01.0	-3.5
ARCES	ARCESS Array B	130.92	21	PKPpre	PKPpre	22 07 54.7	
ARCES				PKPdf	PKPdf	22 08 03.7	+0.1
B04A	Port Angeles	132.17	296	PKPdf	PKPdf	22 08 05.5	-1.1
YULB	Yu-li	138.86	129	PKPdf	PKPdf	22 08 15.5	-4.4
GRNB	Grenville Isla	138.97	299	PKPdf	PKPdf	22 08 18.1	-1.0
SSLB	Suanglung	139.06	129	PKPdf	PKPdf	22 08 21.1	+0.8
SONM	Songino Array	149.60	86	PKPbc	PKiKP	22 08 43.8	+0.2
	comp=Z,0.9nm,0.7s,baz=229,slow=2.4,SNR=6.4						
ILAR	Eielson Array	151.27	311	PKPbc	PKPbc	22 08 46.2	+0.4
	comp=Z,1.8nm,0.9s,baz=130,slow=2.2,SNR=15						

*TIR **23** 21:58:40.0,37°.21N×20°.27E,h10km±31km,Md4.2,Ml4.0*
*IDC **23** 21:58:46.1±0.9,37°.65N×20°.53E,h0km,mb3.8/10,*
mbtmp3.7/17,ML3.7/6,MS3.2/3, Error ellipse:
s-maj=20.3km s-min=14.6km az=163.0
*NEIC **23** 21:58:47.4±1.8,37°.46N±0°.07×20°.38E±0°.07,h10km±2km,*
mb4.4/7, Error ellipse: s-maj=12.3km s-min=8.2km
az=202.0
*ATH **23** 21:58:48.5,37°.63N×20°.36E,h13km±1km,ML3.6/8, Error*
ellipse: s-maj=2.7km s-min=1.0km az=39.0

ISC 23 21:58:49.1±1.2,**37°.63N**±0°.04×**20°.40E**±0°.04,**h23**km±9km,
n121,σ2 17/128,**mb3.8**/10,**6C-12D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.36	77	P	Pb	21 58 56.2	-0.7
LTHK				S	Sb	21 59 01.6	-0.6
LTHK				AML	AML	21 59 01.9	
	comp=E,89594μm,0.3s						
LTHK				AML	AML	21 59 02.3	
	comp=N,42027μm,0.2s						
PSDA	Pessada-Kefalo	0.50	17	P	Pb	21 58 58.5	-0.8
PSDA				S	Sb	21 59 05.4	-0.8
VLS	Valsamata	0.56	15	P	Pb	21 58 59.2	-1.2
VLS				S	Sb	21 59 07.8	-0.3
VLS				AML	AML	21 59 09.3	
	comp=N,11352μm,0.2s						
VLS				AML	AML	21 59 13.2	
	comp=E,10193μm,0.3s						
DMLN	Damoulianata-K	0.61	358	P	Pb	21 59 00.4	-0.8
DMLN				S	Sb	21 59 08.9	-0.3
SMHA	Samh	0.65	18	P	Pb	21 59 00.4	-1.4
FSK	Fiskardo	0.84	9	P	Pb	21 59 04.1	-0.9
FSK				S	Sb	21 59 16.6	+0.7
FSK				AML	AML	21 59 21.3	
	comp=E,8456μm,0.4s						
FSK				AML	AML	21 59 22.0	
	comp=N,5524μm,0.4s						
RLS	Riolos of Patr	0.95	63	P	Pb	21 59 06.5	-0.4
RLS				S	Sn	21 59 20.0	+0.2
RLS				AML	AML	21 59 25.7	
	comp=N,8971μm,0.6s						
RLS				AML	AML	21 59 29.7	
	comp=E,6012μm,0.9s						
EVGI	Lefkada island	1.01	12	P	Pb	21 59 07.4	-0.5
AMT

TIR Tirane 3.73 354 Pn 21 59 48.1 +2.7
VAY Valandovo 4.05 24 *i* Pn Pn 21 59 52.2 +2.5
CUC Castrocucco 4.29 305 Pn 21 59 53.9 +1.0
IDI Anoyia 4.31 122 Pn Pn 21 59 54.8 +1.4
comp=E,0.9nm,0.3s,baz=310,slow=16,SNR=2.3
IDI Sn Sn 22 00 43.6 +0.8
comp=E,5.3nm,0.3s,baz=320,slow=22,SNR=9.2
PUK Puka 4.42 355 P Pn 21 59 56.3 +1.5
PUK S Sb 22 00 58.4 -0.7
PUK AMP
comp=E,0.3nm,0.7s,baz=357
PUK Puka 4.42 355 Pn 21 59 56.8 +2.0
PEHC Pehcevo 4.57 24 *i* Pn Pn 21 59 59.3 +2.5
MMB Musomishta 4.69 32 P Pn 22 00 01.1 +2.6
KKB Krupnik 4.70 26 P Pn 22 00 00.8 +2.2
BCI Bajram Curri 4.74 357 S Sn 22 00 55.9 +2.6
VAE Valguarnera 4.76 270 Pn Pn 22 00 00.9 +1.4
comp=E,6.7nm,0.5s,baz=99,slow=18,SNR=3.0
VAE Sn Sn 22 00 56.5 +2.6
comp=E,3.7nm,0.3s,baz=60,slow=20,SNR=3.6
RAFF Raffo Rosso 4.82 267 Pn 21 59 59.5 -0.8
PDG Podgorica 4.87 350 Pn Pn 22 00 03.9 +2.9
PDG Podgorica 4.87 350 *e*Pn Pn 22 00 01.9 +1.0
HCY Herceg Novi 5.03 344 P Pn 22 00 07.6 +4.5
HCY Herceg Novi 5.03 344 *e*Pn Pn 22 00 07.1 +4.0
WDD Wied Dalam 5.05 251 Pn Pn 22 00 02.9 -0.5
RZN Rozhen 5.26 38 P Pn 22 00 08.7 +2.2
RDO Rodhopi 5.31 47 Pn 22 00 08.3 +1.4
TREB Trebinje 5.32 343 *e*Pn Pn 22 00 06.1 -1.0
PLNA Plana 5.37 25 P Pn 22 00 10.4 +2.5
VTS Vitosha 5.43 23 P Pn 22 00 10.9 +2.1
BRY Bratogost 5.45 345 *e*Pn Pn 22 00 14.1 +5.0
ALN Alexandroupoli 5.46 52 Pn Pn 22 00 10.3 +1.2
TRAN Tran 5.47 18 P Pn 22 00 11.3 +2.0
KDZ Kurdzhali 5.52 42 P Pn 22 00 12.1 +2.2
STON Ston 5.63 339 *e*Pn Pn 22 00 11.0 -0.3
SJES Sjenica 5.63 357 *e*Pn Pn 22 00 12.9 +1.4
UPM Unac-Piva 5.68 349 *e*Pn Pn 22 00 16.5 +4.3
DIM Dimitrovgrad 5.94 41 P Pn 22 00 18.2 +2.6
RUDO Rudo 6.03 353 *e*Pn Pn 22 00 15.1 -1.8
BOVS Bovan 6.08 9 ⇓P Pn 22 00 17.8 +0.3
MPEP Malo Peshtene 6.26 23 P Pn 22 00 22.7 +2.7
BBLS Lazi&#263i 6.27 353 *e*Pn Pn 22 00 21.9 +1.6
HAPS Han Pijesak,BI 6.54 351 *e*Pn Pn 22 00 24.9 +0.9
ELND Elena 6.75 37 ⇑P Pn 22 00 28.6 +1.9
MDVR Moldovita 7.21 7 ⇓P Pn 22 00 25.9 -7.2
A050A Klekovaca 7.44 338 *e*Pn Pn 22 00 37.7 +1.4
BLY Banja Luka 7.51 342 *e*Pn Pn 22 00 39.2 +2.0
NRCA Norcia 7.62 315 Pn 22 00 40.4 +1.6
HUMR Humele 7.71 25 ⇑P Pn 22 00 41.7 +1.9
FDMO Fiordimonte 7.76 316 Pn Pn 22 00 42.5 +1.8
A051A Mrakovica 7.83 342 *e*Pn Pn 22 00 41.6 0.0
GZR Gura Zlata 7.96 12 ⇑P Pn 22 00 43.4 +0.1
ARR Arges 8.36 21 ⇓P Pn 22 00 49.8 +1.0
BOJS Bojanci 8.76 336 *e*Pn Pn 22 00 53.8 -0.5
ISR Istrita 8.79 30 ⇓P Pn 22 00 57.3 +2.5
MLR Muntele Rosu 8.88 26 Pn 22 00 58.9 +2.8
MLR Muntele Rosu 8.88 26 Pn Pn 22 00 59.7 +3.6
comp=E,1.0nm,0.3s,baz=218,slow=12,SNR=19
MLR LR LR 22 05 06.2
comp=E,128nm,20.9s,baz=140,slow=43
MLR Muntele Rosu 8.88 26 ⇓P Pn 22 01 01.0 +4.9
NEHR Nehoiu 8.95 28 ⇓P Pn 22 01 00.3 +3.3
CRES Cresnjevec Ost 8.98 337 *e*Pn Pn 22 00 56.8 -0.5
KEST Kesra 9.08 261 Pn Pn 22 00 59.9 +1.1
comp=E,0.5nm,0.3s,baz=46,slow=5.9,SNR=7.1
KEST LR LR 22 04 58.7
comp=E,94nm,18.6s,baz=274,slow=41
comp=E,1.9nm,0.5s
DOPR Dopca 9.12 23 ⇑P Pn 22 01 02.7 +3.4
BISRR Bisoca 9.21 29 ⇓P Pn 22 01 03.3 +2.8
CEY Cerknica 9.25 333 *e*Pn Pn 22 01 06.6 +5.6
COVR Voineasa-Covas 9.28 26 ⇓P Pn 22 01 04.7 +3.2
OZUR 9.36 24 ⇓P Pn 22 01 04.4 +1.8
TURR Turia 9.40 25 ⇑P Pn 22 01 08.1 +5.0
PLOR Plostina 9.45 28 ⇓P Pn 22 01 08.1 +4.3
VRI Vrincioaia 9.49 28 ⇑P Pn 22 01 09.4 +5.1
SOKA Soboth 9.88 338 *e*Pn Pn 22 01 10.2 +0.5
comp=E,2.8nm,0.5s
SOKA *i* Sn Sn 22 02 52.9 -6.9
comp=E,2.6nm,0.7s
OBKA Obir 9.88 336 *i* Pn Pn 22 01 13.3 +3.6
comp=E,0.6nm,0.3s
OBKA *i* Sn Sn 22 02 54.3 -5.5
comp=E,7.1nm,0.6s
OBKA Obir 9.88 336 *e*Pn Pn 22 01 12.7 +3.0
VLDR Vladesti 10.01 33 ⇓P Pn 22 01 07.4 -4.0
KBA Koelnbreinsper 10.78 333 *i* Sn Sn 22 03 19.1 -3.0
comp=E,1.8nm,0.5s
ABTA Abfaltersbach 10.82 330 *e*Sn Sn 22 03 19.4 -3.6
comp=E,6.2nm,0.9s
MOA Molln 11.16 338 *i* Pn Pn 22 01 29.2 +2.1
comp=E,1.0nm,0.4s
MOA *e*Sn Sn 22 03 26.8 -4.3
comp=E,0.6nm,0.3s
BIOA Bad Ischl, Aus 11.21 336 *i* Pn Pn 22 01 29.9 +2.0
comp=E,1.2nm,0.4s
LESA Schwarzleotal 11.32 332 *e*Pn Pn 22 01 31.9 +2.5
comp=E,2.0nm,0.4s
LESA *e*Sn Sn 22 03 32.1 -3.0
comp=E,2.0nm,0.5s
WTTA Wattenberg 11.59 329 *e*Sn Sn 22 03 39.9 -2.1
comp=E,3.6nm,0.5s
GERES GERESS Array B 12.22 339 Pn Pn 22 01 43.6 +1.9
comp=E,0.2nm,0.3s,baz=158,slow=16,SNR=1.6
comp=E,0.3nm,0.4s
MMAI Mount Meron Ar 13.09 106 Pn Pn 22 01 52.9 -0.8
comp=E,0.4nm,0.3s,baz=263,slow=12,SNR=1.3
comp=E,1.1nm,0.7s
EIL Elat 14.48 119 Pn Pn 22 02 11.0 -1.6
comp=E,0.3nm,0.3s,baz=286,slow=7.4,SNR=1.7
comp=E,2.2nm,0.7s
AKASG Malin Array Be 14.50 23 Pn Pn 22 02 11.4 -1.4
comp=E,0.5nm,0.3s,baz=217,slow=11,SNR=1.3
comp=E,0.2nm,0.2s
PABE Paberze 18.04 7 P Pn 22 02 56.9 -1.2
PABE IAmb IAmb 22 02 58.4
comp=Z,23nm,0.7s
ESDC Sonseca Array 19.12 284 P Pn 22 03 11.1 -0.4
comp=Z,0.1nm,0.3s,baz=75,slow=12,SNR=5.0
comp=Z,1.4nm,0.9s
MDT Midelt 20.96 264 P Pn 22 03 32.4 -0.9
comp=Z,2.2nm,1.0s,baz=105,slow=13,SNR=4.2
comp=Z,2.2nm,1.0s
HFS Hagfors 22.92 351 P P 22 03 51.1 -0.1
comp=Z,1.8nm,0.6s,baz=141,slow=14,SNR=1.9
comp=Z,1.8nm,0.6s
EKA Eskdalemuir Ar 23.82 326 P P 22 04 01.1 +1.0
comp=Z,1.2nm,0.7s,baz=126,slow=9.7,SNR=4.0
comp=Z,1.2nm,0.7s
FINES FINESS Array B 24.10 7 P P 22 04 02.4 -0.2
comp=Z,2.6nm,0.5s,baz=174,slow=14,SNR=23
comp=Z,2.6nm,0.5s
TORD Torodi Ar. Bea 29.55 219 P P 22 04 53.2 +1.2
comp=Z,0.9nm,0.9s,baz=27,slow=10,SNR=8.8
comp=Z,0.9nm,0.9s
BVAR Borovoye Array 37.55 49 P P 22 06 01.5 +0.2
comp=Z,0.6nm,0.6s,baz=275,slow=7.1,SNR=3.9
comp=Z,0.6nm,0.6s
KURBB Kurchatov Arra 42.63 53 P P 22 06 42.8 -0.7
comp=Z,0.6nm,0.6s,baz=276,slow=8.6,SNR=6.5
comp=Z,0.6nm,0.6s
MK31 Makanchi Array 45.67 58 P P 22 07 07.6 -0.3
MKAR Makanchi Array 45.67 58 P P 22 07 07.3 -0.6
comp=Z,0.7nm,0.5s,baz=266,slow=7.6,SNR=20
comp=Z,0.7nm,0.5s
ZAA0 Zalesovo Array 46.13 48 P P 22 07 10.9 -0.4
ZAA0 IAmb IAmb 22 07 11.8
comp=Z,2.5nm,0.5s
ZALV Zalesovo Beam 46.13 48 P P 22 07 11.2 -0.2
ZALV Zalesovo Beam 46.13 48 P P 22 07 11.1 -0.3
comp=Z,2.1nm,0.5s,baz=276,slow=8.5,SNR=16
comp=Z,2.1nm,0.5s
CMAR Chiang Mai Arr 70.06 82 P P 22 09 59.8 +0.2
comp=Z,0.4nm,0.4s,baz=312,slow=5.9,SNR=1.1
comp=Z,0.4nm,0.4s
SIV San Ignacio 93.05 252 LR LR 22 53 33.3
comp=Z,28nm,19.4s,baz=356,slow=35

*VAO **23** 22:04:12.0±0.7, 14°.86S×73°.81W, h66km±6km, mb4.8*
*NEIC **23** 22:04:13.5±2.6, 14°.81S±0°.07×73°.96W±0°.09, h93km±7km, mb4.6/49, Error ellipse: s-maj=14.2km s-min=9.0km az=59.0*

*IDC **23** 22:04:14.9±0.6, 14°.75S×73°.87W, h101km±4km, mb4.0/10, mbtmp4.3/12, MS3.4/3, Error ellipse: s-maj=22.9km s-min=12.7km az=54.0*
ISC 23 22:04:12.8±0.4, 14°.83S±0°.05×73°.89W±0°.06, h89km, n152, σ1§32/158, mb4.6/26, 5C, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	Nana	4.03	314	Pn	Pn	22 05 11.2	-1.2
NNA	Nana	4.03	314	P	Pn	22 05 11.0	-1.3
306nm,0.3s,baz=161,slow=11,SNR=41							
NNA				S	Sn	22 05 56.2	-2.2
266nm,0.3s,baz=210,slow=16,SNR=4.4							
AP01	Chacalluta	4.90	136	Pn	Pn	22 05 24.6	+0.5
AP01	Chacalluta	4.90	136	*i* P	Pn	22 05 24.1	0.0
PB18	Visviri	5.05	124	Pn	Pn	22 05 27.5	+0.9
PB18	Visviri	5.05	124	*e*P	Pn	22 05 28.1	+1.5
PB12	IPOC Station P	5.08	138		Pn	22 05 25.9	-0.8
PB12	IPOC Station P	5.08	138	*i* P	Pn	22 05 25.6	-1.1
PB12				*i* S	Sn	22 06 19.4	-4.7
LPAZ	La Paz	5.74	105		Pn	22 05 38.5	+2.4
LPAZ	La Paz	5.74	105	P	Pn	22 05 39.5	+3.4
192nm,0.3s,baz=284,slow=7.5,SNR=458							
LPAZ				LR	LR	22 07 56.0	
comp=Z,263nm,20.0s,baz=285,slow=38							
LPAZ	La Paz	5.74	105	*e*P	Pn	22 05 34.2	-1.9
TA02	Huaiquique	6.49	147		Pn	22 05 44.7	-1.1
GO01	Chusmiza	6.58	138	Pn	Pn	22 05 46.7	-0.7
HMBC	Humberstone	6.63	145		Pn	22 05 46.3	-1.4
TA01	Diego Aracena	6.71	149		Pn	22 05 47.5	-1.2
PB08	IPOC Station P	6.95	140		Pn	22 05 51.5	-0.9
CZSB	Cruzeiro do Su	7.15	9	Pn	Pn	22 05 54.0	-0.8
CZSB	Cruzeiro do Su	7.15	9	*e*P	Pn	22 05 54.2	-0.6
PB01	IPOC Station P	7.47	146		Pn	22 05 57.6	-1.6
PB09	IPOC Station P	8.22	148		Pn	22 06 08.7	-0.8
PB04	IPOC Station P	8.26	155	Pn	Pn	22 06 08.1	-2.0
ATAH	Atahualpa	8.83	330	P	Pn	22 06 18.9	+0.8
5.1nm,0.4s,baz=142,slow=8.1,SNR=14							
ATAH				S	Sn	22 07 57.1	+0.9
18nm,0.7s,baz=68,slow=19,SNR=1.7							
ETMB	Extrema	9.01	57	Pn	Pn	22 06 20.3	+0.2
ETMB	Extrema	9.01	57	*e*P	Pn	22 06 19.9	-0.2
PB14	IPOC Station P	10.28	162	Pn	Pn	22 06 36.6	-1.2
GO02	Mina Guanaco	11.04	159	Pn	Pn	22 06 47.0	-1.1
TBTG	Tabatinga, AM	11.28	21	*e*P	Pn	22 06 51.1	+0.1
SAML	Samuel	12.00	62	Pn	Pn	22 06 59.1	-1.7
SAML	Samuel	12.00	62	*e*P	Pn	22 06 58.3	-2.5
SIV	San Ignacio	12.42	97	P	Pn	22 07 04.6	-1.9
37nm,0.6s,baz=290,slow=9.1,SNR=96							
SIV				S	Sn	22 09 27.8	+4.8
15nm,0.8s,baz=190,slow=18,SNR=2.1							
BBSD	Serra de San D	12.98	102	*e*P	Pn	22 07 11.8	-2.2
GO03	Copiapo	13.15	166	Pn	Pn	22 07 09.6	-6.5
COHC	Cochancay	13.38	336		Pn	22 07 18.7	-0.4
VILB	Vilhena	13.43	84	Pn	Pn	22 07 18.2	-1.6
VILB	Vilhena	13.43	84	*e*P	Pn	22 07 17.6	-2.3
PTLB	Pontes e Lacer	14.26	94	Pn	Pn	22 07 28.3	-2.3
AC05	El Transito	14.34	167		Pn	22 07 30.7	-1.0
LCO	Las Campanas	14.42	169	Pn	Pn	22 07 32.0	-0.9
FDPY	Filadelfia	15.15	121	*e*P	Pn	22 07 40.4	-1.6
CO01	Juntas del Tor	15.48	168		Pn	22 07 45.2	-1.1
GO04	Tololo Observa	15.53	170	Pn	Pn	22 07 45.9	-1.2
GO04				IAmb	IAmb	22 07 52.6	
comp=Z,53nm,1.0s							
OTAV	Otavalo	15.63	343		Pn	22 07 47.1	-1.5
OTAV	Otavalo	15.63	343	*e*P	Pn	22 07 48.0	-0.7
CO06	Fray Jorge	15.91	173	P	P	22 07 54.7	+1.3
CO06				IAmb	IAmb	22 08 07.2	
comp=Z,75nm,1.5s							
CO03	El Pedregal	16.20	170	P	P	22 07 57.1	+0.3
CO03				IAmb	IAmb	22 08 00.0	
comp=Z,50nm,1.4s							
MURT	Porto Murtinho	16.88	116	*e*P	Pn	22 08 01.6	-2.0
PDRB	Porto dos Gac	17.01	81	*e*P	Pn	22 08 04.0	-1.3
PANT	Pantanal (Braz	17.04	106	*e*P	Pn	22 08 04.5	-1.1
BDQN	Bodoquena, MS	17.26	111	*e*P	Pn	22 08 06.9	-1.5
ZON	Zonda	17.31	165	P	P	22 08 09.1	+0.1
MACA	Manacapuru-AM	17.44	50		Pn	22 08 09.9	-0.6
MACA	Manacapuru-AM	17.44	50	*e*P	Pn	22 08 10.8	+0.3
SALV	Santo Antonio	17.58	96	*e*P	Pn	22 08 11.6	-0.7
CLDB	Colider	18.07	80	*e*P	Pn	22 08 18.1	-0.2
VA03	San Esteban	18.11	171	P	P	22 08 16.9	-0.9
VA03				IAmb	IAmb	22 08 27.8	
comp=Z,25nm,0.8s							
AQDB	Aquidauana	18.22	111	P	Pn	22 08 19.8	-0.1
AQDB	Aquidauana	18.22	111	*e*P	Pn	22 08 19.7	-0.1
VA01	Torpederas	18.23	174	P	P	22 08 18.4	-0.5
PEL	Peldehue	18.46	171	P	Pn	22 08 22.7	-0.1
PEL				IAmb	IAmb	22 08 31.2	
comp=Z,40nm,0.9s							
MT02	Curacav	18.52	173	P	Pn	22 08 23.9	+0.5
MT02				IAmb	IAmb	22 08 28.4	
comp=Z,51nm,1.3s							
MT08	Bocatoma Ro	18.86	170		Pn	22 08 29.2	+1.5
MT08				IAmb	IAmb	22 08 35.9	
comp=Z,37nm,0.9s							
MT09	Talagante	19.05	173	P	P	22 08 27.8	-0.3
MT09				IAmb	IAmb	22 08 30.3	
comp=Z,20nm,0.7s							
MT01	Popeta	19.10	173	P	Pn	22 08 29.2	-1.1
MT13	San Alfonso	19.11	171	P	Pn	22 08 29.6	-0.9
LMEL	Las Melosas	19.23	171	P	P	22 08 28.8	-1.3
LMEL				IAmb	IAmb	22 08 43.7	
comp=Z,26nm,0.6s							
CPUP	Villa Florida	19.25	129	P	Pn	22 08 31.3	-0.8
comp=Z,3.2nm,0.8s,baz=300,slow=14,SNR=4.7							
BO04	La Punta	19.31	172	P	P	22 08 31.3	+0.5
BO04				IAmb	IAmb	22 08 38.2	
comp=Z,31nm,0.9s							
AMBA	Amambai (Brazi	19.60	117	*e*P	Pn	22 08 35.6	-0.7
BO01	Tunca	19.64	173	P	Pn	22 08 35.4	-1.2
NPGB	Novo Progresso	19.76	69	*e*P	P	22 08 35.6	-0.3
RPRD	Ribas do Rio P	20.04	109	*e*P	Pn	22 08 39.6	-1.9
BO02	Sierra Bellavi	20.07	173	P	Pn	22 08 41.0	-0.8
BO02				IAmb	IAmb	22 08 43.2	
comp=Z,26nm,0.8s							
GO05	Hualane	20.17	175	P	P	22 08 40.9	+0.7
GO05				IAmb	IAmb	22 08 42.9	
comp=Z,48nm,1.1s							
ITTB	Itaituba	20.68	62	*e*P	P	22 08 45.7	-0.1
ML02	Panimavida	20.96	174	P	P	22 08 49.1	+0.4
ARAG	Araguaiana, MT	21.32	95	*e*P	P	22 08 50.8	-1.9
BOAV	Boa Vista	21.64	39	P	P	22 08 57.4	+1.3
BOAV				IAmb	IAmb	22 09 03.5	
comp=Z,25nm,0.9s							
BOAV	Boa Vista	21.64	39	*e*P	P	22 08 56.9	+0.9
ITQB	Itaqui	21.72	136	P	P	22 08 58.4	+1.6
ITQB				IAmb	IAmb	22 09 01.2	
comp=Z,31nm,0.9s							
ITQB	Itaqui	21.72	136	*e*P	P	22 08 59.1	+2.3
BI02	San Fabin de	21.87	174	P	P	22 08 59.0	+0.6
BI02				IAmb	IAmb	22 09 01.6	
comp=Z,38nm,1.4s							
PSAL	Palomas, Salto	22.01	140	*e*P	P	22 09 01.3	+1.4
SNDB	Serra Nova Dou	22.16	85	*e*P	P	22 09 00.9	-0.8
PTGB	Pitanga	22.74	119	*e*P	P	22 09 07.7	-0.2
ITRB	Iturama	22.98	106	*e*P	P	22 09 10.5	+0.3
LDASE	Londrina, Braz	23.12	115	*e*P	P	22 09 10.7	-0.8
MAL2	Monte Alegre,	23.25	59	P	P	22 09 13.3	+0.6
ITAB	Concordia	23.72	125	P	P	22 09 17.1	+0.2
ITAB	Concordia	23.72	125	*e*P	P	22 09 16.7	-0.2
BAUV	El Baul	24.32	14	P	P	22 09 21.2	-1.1
BAUV				IAmb	IAmb	22 09 48.9	
comp=Z,27nm,0.8s							
CPSB	Cacapava Do Su	24.36	133	*e*P	P	22 09 23.2	+0.6
FRTB	Fartura	24.47	114	*e*P	P	22 09 23.7	-0.1
GO06	Curarrehue	24.75	176	P	P	22 09 27.0	+0.8
IPMB	Ipameri, GO	24.83	101	*e*P	P	22 09 27.6	+0.5
BB19B	Bebedouro	24.90	108	*e*P	P	22 09 28.6	+1.0
BDFB	Brasilia	24.98	95	P	P	22 09 33.0	+4.5
comp=Z,2.5nm,0.5s,baz=255,slow=8.7,SNR=5.8							
PLTB	Pedras Altas	25.05	136	*e*P	P	22 09 29.7	+0.8
TRQA	Tornquist	25.43	158	P	P	22 09 32.3	+0.1
TRQA	Tornquist	25.43	158	*e*P	P	22 09 32.2	-0.1
CNLB	Canela	25.69	128	*e*P	P	22 09 35.4	+0.6
PLCA	Paso Flores	25.97	174	P	P	22 09 37.6	+0.4
PLCA	Paso Flores	25.97	174	*e*P	P	22 09 38.2	+1.0
SMTB	Santa Maria do	26.40	80	*e*P	P	22 09 40.9	-0.4
SPB	Sao Paulo	26.43	113	P	P	22 09 42.5	+1.1
SPB				IAmb	IAmb	22 09 48.1	
comp=Z,19nm,1.2s							
RIB01	Linhares ES	32.30	103	*e*P	P	22 10 33.7	+0.2
CMIG	Matias Romero	37.88	326	LR	LR	22 24 36.1	
comp=Z,64nm,18.5s,baz=1.0,slow=32							
TXAR	Lajitas Array	52.48	327	P	P	22 13 16.9	0.0
comp=Z,0.2nm,0.5s,baz=153,slow=10,SNR=2.4							
TXAR				pP	pP	22 13 42.1	+2.0
comp=Z,2.2nm,0.7s,baz=149,slow=9.1,SNR=13							
comp=Z,0.2nm,0.5s							
SMWD	Samnorwood	55.60	334	P	P	22 13 38.6	-0.9
SDCO	Great Sand Dun	60.14	331	P	P	22 14 11.9	+0.4
SDCO				IAmb	IAmb	22 14 39.0	
comp=Z,9.2nm,1.4s							
BELA	Belgrano 2	65.99	172	P	P	22 14 49.4	0.0
BELA				IAmb	IAmb	22 14 51.3	
comp=Z,5.7nm,0.7s							
PDAR	Pinedale Array	66.01	332	P	P	22 14 50.8	+0.6
comp=Z,0.8nm,1.0s,baz=114,slow=9.0,SNR=2.5							
PDAR				pP	pP	22 15 14.6	+0.3
comp=Z,0.1nm,0.3s,baz=145,slow=6.4,SNR=2.6							
comp=Z,0.8nm,1.0s							
NVAR	Mina Array Bea	67.35	323	P	P	22 14 59.3	+0.5
comp=Z,0.2nm,0.4s,baz=170,slow=6.0,SNR=2.9							
NVAR				pP	pP	22 15 24.0	+1.2
comp=Z,1.0nm,0.8s,baz=164,slow=4.2,SNR=3.8							
comp=Z,0.2nm,0.4s							
VNA3	Neumayer Olymp	67.87	162	⇑P	P	22 15 02.1	+0.8
comp=Z,9.9nm,1.0s							
VNA1	Neumayer--Stat	68.11	161	⇑P	P	22 15 02.5	-0.2
comp=Z,16nm,0.9s							
VNA2	Neumayer--Watz	68.47	161	⇑P	P	22 15 05.6	+0.5
comp=Z,9.5nm,0.7s,baz=286,slow=6.3							
MFID	Camas Ranch	69.51	329	P	P	22 15 12.9	+0.9
MFID				IAmb	IAmb	22 15 40.6	
comp=Z,11nm,1.4s							
SNAA	Sanae	70.08	161	P	P	22 15 16.1	+1.0
SNAA	Sanae	70.08	161	⇑P	P	22 15 16.1	+1.0
comp=Z,237nm,0.6s							
SNAA	Sanae	70.08	161	P	P	22 15 16.1	+1.0
comp=Z,15nm,0.9s,baz=274,slow=6.8,SNR=59							
comp=Z,15nm,0.9s							
DBIC	Dimbokro	71.68	78	P	P	22 15 24.9	-0.8
comp=Z,5.3nm,0.9s,baz=216,slow=8.7,SNR=4.4							
comp=Z,5.3nm,0.9s							
TROLL	Troll, Antarti	71.80	161	⇑P	P	22 15 26.7	+1.1
comp=Z,369nm,0.9s							
QSPA	South Pole Qui	75.32	180	P	P	22 15 47.7	+1.4
comp=Z,11nm,0.8s,baz=167,slow=1.1,SNR=56							
comp=Z,11nm,0.8s							
TORD	Torodi Ar. Bea	79.81	73	P	P	22 16 11.8	-0.1
TORD	Torodi Ar. Bea	79.81	73	P	P	22 16 11.9	-0.1
comp=Z,2.7nm,0.8s,baz=271,slow=4.9,SNR=16							
TORD				pP	pP	22 16 38.8	+2.0
comp=Z,2.0nm,0.8s,baz=270,slow=5.1,SNR=4.6							
comp=Z,2.7nm,0.8s							
YKA	Yellowknife Ar	83.39	342	P	P	22 16 29.7	-0.1
comp=Z,2.0nm,0.8s,baz=142,slow=5.1,SNR=9.5							
comp=Z,2.0nm,0.8s							
ESDC	Sonseca Array	84.58	47	P	P	22 16 37.5	+1.0
ESDC	Sonseca Array	84.58	47	P	P	22 16 37.8	+1.3
comp=Z,3.6nm,0.9s,baz=256,slow=5.3,SNR=19							
comp=Z,3.6nm,0.9s							
SUMG	Summit	90.30	10	P	P	22 17 04.2	+0.5
MAW	Mawson	92.01	165	P	P	22 17 12.3	+0.9
comp=Z,3.2nm,0.8s,baz=254,slow=6.8,SNR=5.8							
comp=Z,3.2nm,0.8s							
L29M	L29M	92.03	336	P	P	22 17 11.4	-0.1
LBTB	Lobatse	92.16	116	LR	LR	22 54 52.5	
comp=Z,16nm,21.4s,baz=232,slow=33							
I30M	Mount Dempster	92.43	338	P	P	22 17 14.5	+1.1
I30M				IAmb	IAmb	22 17 14.7	
comp=Z,4.7nm,1.2s							
CRQM	Cirque	93.06	333	P	P	22 17 13.2	-3.3
BCAR	Beaver Creek A	93.48	335	P	P	22 17 18.8	+0.6
L27K	Beaver Creek,	93.50	335	P	P	22 17 18.9	+0.7
L27K				IAmb	IAmb	22 17 56.4	
comp=Z,2.6nm,1.3s							
H29M	Whitestone	93.64	338	P	P	22 17 19.1	+0.2
G29M	Pine Creek	93.86	339	P	P	22 17 20.1	+0.2
G29M				IAmb	IAmb	22 17 42.4	
comp=Z,2.2nm,1.1s							
E29M	Blow River	94.54	340	P	P	22 17 22.9	0.0
E29M				IAmb	IAmb	22 17 23.2	
comp=Z,1.8nm,0.9s							
J26L	Joseph Creek	94.81	336	P	P	22 17 24.9	+0.6
J25K	Salcha River,	95.57	336	P	P	22 17 28.3	+0.5
MSSA	Maissana	95.59	46	P	P	22 17 25.9	-2.4
KBZ	Khabaz	119.42	48	PKP	PKiKP	22 22 52.8	+0.7
comp=Z,1.4nm,0.7s,baz=202,slow=5.4,SNR=2.2							
BVAR	Borovoye Array	132.61	29	PKP	PKiKP	22 23 17.7	-0.5
comp=Z,0.5nm,0.5s,baz=302,slow=2.8,SNR=3.7							
ASAR	Alice Springs	133.07	216	PKP	PKPdf	22 23 18.7	-0.2
comp=Z,0.8nm,0.6s,baz=127,slow=1.9,SNR=9.3							
WRA	Warramunga Arr	135.67	220	PKP	PKPdf	22 23 24.1	+0.2
comp=Z,0.9nm,0.6s,baz=143,slow=1.8,SNR=11							
WRA				pPKP	pPKPdf	22 23 51.0	+1.0
comp=Z,0.4nm,0.6s,baz=132,slow=2.1,SNR=2.1							
ZALV	Zalesovo Beam	137.54	19	PKP	PKiKP	22 23 26.9	-1.3
comp=Z,4.3nm,0.9s,baz=307,slow=3.0,SNR=15							
ZALV				pPKP	pPKPdf	22 23 55.1	+2.5
comp=Z,1.3nm,0.7s,baz=250,slow=4.3,SNR=2.8							
KURBB	Kurchatov Arra	137.91	26	PKP	PKiKP	22 23 28.0	-1.0
comp=Z,0.9nm,0.6s,baz=310,slow=2.7,SNR=12							
MKAR	Makanchi Array	142.44	27	PKhKP	PKPpre	22 23 30.9	
comp=Z,0.6nm,0.8s,baz=284,slow=1.9,SNR=2.5							
KSH	Kashi	143.92	41	PKP	PKPdf	22 23 37.6	-0.8
SONM	Songino Array	147.09	360	PKPbc	PKPab	22 23 46.3	-1.2
comp=Z,3.6nm,0.8s,baz=338,slow=2.0,SNR=19							
SONM				pPKPbc	pPKPab	22 24 13.0	0.0
comp=Z,2.1nm,0.7s,baz=321,slow=2.4,SNR=5.2							
KSRS	Korea

NOA NORSAR Array B 44.37 323 P **P 22 23 31.2 +0.8**
0.7nm,0.7s,baz=100,slow=8.1,SNR=2.8
0.7nm,0.7s
TORD Torodi Ar. Bea 65.99 269 P **P 22 26 05.3 -1.1**
0.1nm,0.4s,baz=38,slow=6.9,SNR=1.6
0.1nm,0.4s

KRSC 23 22:41:14.9±1.7, 48°.93N×157°.10E, h32km±29km, MI3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.55**	**356**	*eP*	Pb	22 41 57.1	-2.9
PAU				*eS*	Sb	22 42 27.8	-3.1
KDTR	**Khodutka, Kamc**	**2.95**	**12**	*eP*	Pb	22 42 03.8	-3.0
KDTR				*eS*	Sb	22 42 38.5	-3.9
ASAK	**Asacha**	**3.50**	**8**	*eP*	Pn	22 42 11.4	+4.3
MTVR	**Mutnovka**	**3.63**	**10**	*eP*	Pn	22 42 12.4	+3.5
MTVR				*eS*	Sn	22 42 56.1	+5.5
GRL	**Gorelyy**	**3.68**	**9**	*eP*	Pn	22 42 13.6	+3.9
UGLR	**Uglovaya**	**4.42**	**14**	*eP*	Pn	22 42 24.4	+4.6
AVH	**Avacha**	**4.47**	**13**	*eP*	Pn	22 42 25.3	+5.0
SMAR	**Somma**	**4.47**	**13**	*eP*	Pn	22 42 25.8	+5.2
KOK	**Koryaka**	**4.48**	**12**	*eP*	Pn	22 42 25.6	+5.1
SDLR	**Sedlovina**	**4.50**	**14**	*eP*	Pn	22 42 24.7	+3.8
KRX	**Arik**	**4.54**	**12**	*eP*	Pn	22 42 26.3	+4.8
KBTR	**Krutoberegovo**	**8.08**	**23**	*eP*	Pn	22 43 14.4	+4.5

IDC 23 23:00:32.8±2.1, 21°.63S×179°.05W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=62.2km s-min=45.3km az=26.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.32**	**258**	P	P	23 08 36.5	-0.4
	1.0nm,0.7s,baz=92,slow=6.5,SNR=9.7						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**43.49**	**263**	P	P	23 08 38.2	0.0
	0.5nm,0.4s,baz=96,slow=8.1,SNR=19						
	0.5nm,0.4s						
QSPA	**South Pole Qui**	**68.45**	**180**	P	P	23 11 36.3	-0.2
	1.2nm,0.8s,baz=17,slow=7.9,SNR=2.6						
	1.2nm,0.8s						
BRTR	**Keskin Array B**	**146.84**	**310**	PKPbc	PKPbc	23 20 17.2	-0.2
	0.5nm,0.6s,baz=56,slow=3.4,SNR=2.4						
MMAI	**Mount Meron Ar**	**147.49**	**298**	PKPbc	PKPbc	23 20 18.5	-0.9
	0.4nm,0.4s,baz=64,slow=6.6,SNR=4.1						

*SJA **23** 23:02:41.5±0.6, 24°.00S×66°.82W, h207km±5km, ML3.5, MW3.8*
*GUC **23** 23:02:42.1±0.6, 23°.99S×67°.20W, h240km±12km, ML3.8*
ISC 23 23:02:38.5±1.9, 24°.01S±0°.04×66°.85W±0°.05, h235km±16km, n26, σ1°.77/48, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.42**	**120**	*eP*	**Pn**	**23 03 16.1**	**+1.1**
SLA				*eS*	**S**	**23 03 41.3**	**-2.2**
AF01	**San Pedro de A**	**1.61**	**310**	*eS*	**S**	**23 03 47.9**	**+1.4**
AF01				IAML		23 04 08.5	
	comp=Z,116nm,0.6s						
AZAP	**Zapla**	**1.65**	**98**	*eP*	**Pn**	**23 03 17.7**	**+0.9**
AZAP				*eS*	**S**	**23 03 44.5**	**-2.3**
YJA	**Yavi**	**2.20**	**34**	*eP*	**Pn**	**23 03 23.9**	**+1.8**
YJA				*eS*	**S**	**23 03 55.2**	**-1.2**
FSA	**Cafayete**	**2.24**	**160**	*eP*	**Pn**	**23 03 24.0**	**+1.8**
FSA				*eS*	**S**	**23 03 54.9**	**-1.7**
ALOL	**LOMAS DE OLMED**	**2.63**	**86**	*eP*	**Pn**	**23 03 27.6**	**+1.5**
GO02	**Mina Guanaco**	**2.75**	**245**	*eP*	**Pn**	**23 03 29.5**	**+1.9**
GO02				*eS*	**S**	**23 04 05.0**	**-1.1**
GO02				IAML		23 04 07.8	
	comp=N,376nm,0.1s						
GO02	**Mina Guanaco**	**2.75**	**245**	*eP*	**Pn**	**23 03 29.6**	**+1.9**
GO02				*eS*	**S**	**23 04 05.7**	**-0.5**
PB09	**IPOC Station P**	**3.12**	**314**	*eP*	**Pn**	**23 03 33.5**	**+1.9**
PB09				*i* S	**S**	**23 04 12.2**	**-1.1**
PB09				IAML		23 04 13.1	
	comp=N,100nm,0.4s						
PB09	**IPOC Station P**	**3.12**	**314**	*eP*	**Pn**	**23 03 33.9**	**+2.3**
PB09				*eS*	**S**	**23 04 12.4**	**-0.9**
PB09				IAML		23 04 12.7	
	comp=Z,83nm,0.5s						
PB14	**IPOC Station P**	**3.30**	**259**	*eP*	**Pn**	**23 03 34.6**	**+0.9**
PB14				*eS*	**S**	**23 04 14.6**	**-2.6**
PB14				IAML		23 04 20.8	
	comp=N,58nm,0.7s						
PB14	**IPOC Station P**	**3.30**	**259**	*eP*	**Pn**	**23 03 35.4**	**+1.6**
PB14				*eS*	**S**	**23 04 14.9**	**-2.3**
PB14				IAML		23 04 16.5	
	comp=Z,59nm,0.3s						
PB04	**IPOC Station P**	**3.46**	**298**	*eP*	**Pn**	**23 03 37.0**	**+1.4**
PB04				*eS*	**S**	**23 04 17.5**	**-2.9**
PB04	**IPOC Station P**	**3.46**	**298**	*eP*	**Pn**	**23 03 37.3**	**+1.8**
PB04				*eS*	**S**	**23 04 18.7**	**-1.7**
PB04				IAML		23 04 21.1	
	comp=Z,149nm,0.1s						
PB01	**IPOC Station P**	**3.83**	**320**	*eP*	**Pn**	**23 03 41.3**	**+1.6**
PB01				*i* S	**S**	**23 04 25.0**	**-3.0**
PB01	**IPOC Station P**	**3.83**	**320**	*eP*	**Pn**	**23 03 41.3**	**+1.6**
PB01				*eS*	**S**	**23 04 27.2**	**-0.9**
PB01				IAML		23 04 30.2	
	comp=Z,56nm,0.2s						
AC01	**Pan de Azucar**	**4.01**	**237**	*eP*	**Pn**	**23 03 43.1**	**+1.3**
AC01				*eS*	**S**	**23 04 29.5**	**-2.3**
AC01	**Pan de Azucar**	**4.01**	**237**	*eP*	**Pn**	**23 03 43.1**	**+1.3**
AC01				*eS*	**S**	**23 04 30.1**	**-1.6**
AC01				IAML		23 04 35.3	
	comp=Z,22nm,1.7s						
PB08	**IPOC Station P**	**4.40**	**331**	*eP*	**Pn**	**23 03 48.0**	**+1.0**
PB08	**IPOC Station P**	**4.40**	**331**	*eP*	**Pn**	**23 03 47.8**	**+0.9**
PB08				*eS*	**S**	**23 04 40.3**	**-0.7**
PB08				IAML		23 04 43.1	
	comp=Z,32nm,0.1s						
AC06	**Mina Casimiro**	**4.59**	**223**	*eP*	**Pn**	**23 03 50.4**	**+1.6**
TA01	**Diego Aracena**	**4.61**	**317**	*eP*	**Pn**	**23 03 50.3**	**+1.2**
TA01				*i* S	**S**	**23 04 41.6**	**-3.3**
TA01	**Diego Aracena**	**4.61**	**317**	*eP*	**Pn**	**23 03 50.6**	**+1.6**
TA01				*eS*	**S**	**23 04 42.9**	**-2.0**
TA01				IAML		23 04 44.5	
	comp=Z,34nm,0.5s						
GO03	**Copiapo**	**4.70**	**220**	*eP*	**Pn**	**23 03 51.7**	**+1.7**
GO03				*i* S	**S**	**23 04 45.6**	**-1.3**
GO03	**Copiapo**	**4.70**	**220**	*eP*	**Pn**	**23 03 51.8**	**+1.7**
GO03				*eS*	**S**	**23 04 45.7**	**-1.3**
GO01	**Chusmiza**	**4.83**	**333**	*eP*	**Pn**	**23 03 52.8**	**+0.5**
GO01				*eS*	**S**	**23 04 50.1**	**-0.7**

*KEA **23** 23:16:41.9, 38°.72N×127°.10E, h5km, ML3.2/3*
*KMA **23** 23:16:44.9±0.2, 38°.69N×127°.16E, h10km±1km, Error ellipse: s-maj=1.5km s-min=0.8km az=151.0*
ISC 23 23:16:43.5±1.2, 38°.71N±0°.03×127°.12E±0°.03, h11km±13km, n32, σ0°.91/58, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WOSN	**Wonsan**	**0.51**	**27**	Pg	**Pg**	**23 16 53.1**	**-0.4**
WOSN				Sg	**Sg**	**23 16 59.7**	**-0.5**
GMHB	**Gimhwa**	**0.52**	**153**	P	**Pb**	**23 16 54.6**	**0.0**
GMHB				P	**Pb**	**23 16 54.6**	**0.0**
	SNR=112						
GMHB				S	**Sb**	**23 17 01.3**	**-0.9**
GMHB				S	**Sb**	**23 17 01.3**	**-0.9**
HWCB	**Hwacheon**	**0.65**	**138**	P	**Pb**	**23 16 57.0**	**0.0**
HWCB				P	**Pb**	**23 16 57.0**	**0.0**
HWCB				S	**Sb**	**23 17 05.5**	**-0.6**
HWCB				S	**Sb**	**23 17 05.5**	**-0.6**
YNCB	**YEONCHEON**	**0.69**	**193**	P	**Pb**	**23 16 58.0**	**+0.5**
YNCB				P	**Pb**	**23 16 58.0**	**+0.5**
	SNR=98						
KSCWO	**Cheorwon**	**0.70**	**153**	P	**Pb**	**23 16 58.0**	**+0.2**
KSCWO				P	**Pb**	**23 16 58.0**	**+0.2**
KSCWO				S	**Sb**	**23 17 07.0**	**-0.4**
KSCWO				S	**Sb**	**23 17 07.0**	**-0.4**
KSDDC	**Dongducheon**	**0.81**	**184**	P	**Pb**	**23 17 00.2**	**+0.5**
	SNR=38						
HWCA	**Hwacheon Acc B**	**0.82**	**141**	P	**Pb**	**23 17 00.2**	**+0.3**
	SNR=64						
KSMUS	**Musan**	**0.87**	**199**	P	**Pn**	**23 17 01.4**	**-0.4**
	SNR=32						
KSMUS				P	**Pn**	**23 17 01.4**	**-0.4**
	SNR=32						
SGMA	**Sangmyun**	**0.89**	**171**	P	**Pn**	**23 17 01.9**	**-0.2**
	SNR=112						
GAPB	**Gapyeong**	**0.91**	**161**	P	**Pn**	**23 17 02.0**	**-0.3**
	SNR=75						
KOSB	**Goseong**	**0.98**	**96**	P	**Pb**	**23 17 02.8**	**+0.3**
	SNR=96						
KOSB				P	**Pb**	**23 17 02.8**	**+0.3**
	SNR=96						
SEHB	**SEOHWA**	**0.99**	**116**	P	**Pb**	**23 17 03.0**	**+0.3**
	SNR=73						
SEHB				P	**Pb**	**23 17 03.0**	**+0.3**
	SNR=73						
KSNOW	**Nowan**	**1.02**	**182**	P	**Pn**	**23 17 04.3**	**+0.4**
	SNR=42						
GEJB	**geojin**	**1.03**	**106**	P	**Pn**	**23 17 03.9**	**-0.2**
	SNR=115						
GEJB				P	**Pn**	**23 17 03.9**	**-0.2**
	SNR=115						
KSIJA	**INJE**	**1.06**	**133**	P	**Pn**	**23 17 04.6**	**+0.2**
	SNR=30						
KSIJA				P	**Pn**	**23 17 04.6**	**+0.2**
	SNR=30						
KSIJA				P	**Pn**	**23 17 04.6**	**+0.2**
	SNR=28						
KSIJA				P	**Pn**	**23 17 04.6**	**+0.2**
	SNR=28						
KSCHC	**Chuncheon**	**1.08**	**149**	P	**Pn**	**23 17 05.0**	**+0.3**
	SNR=196						
KSCHC				P	**Pn**	**23 17 05.0**	**+0.3**
	SNR=196						
KSJUR	**Jungrangju**	**1.10**	**181**	P	**Pn**	**23 17 05.8**	**+0.9**
	SNR=23						
IJBA	**Injebuk**	**1.11**	**122**	P	**Pn**	**23 17 05.6**	**+0.5**
	SNR=14						
PYAG	**Pyongyang**	**1.12**	**288**	Pg	**Pb**	**23 17 05.2**	**+0.3**
PYAG				Sg	**Sb**	**23 17 20.0**	**+0.5**
PYAG				AML	AML		
	comp=N,588nm,0.5s						
PYAG				AML	AML		
	comp=E,765nm,0.4s						
PYAG				AML	AML		
	comp=Z,904nm,0.5s						
PYS	**Pyongsong**	**1.12**	**299**	Pg	**Pg**	**23 17 04.8**	**-0.3**
PYS				Sg	**Sg**	**23 17 19.3**	**-0.5**
PYS				AML	AML		
	comp=N,2μm,0.7s						
PYS				AML	AML		
	comp=E,1μm,0.5s						
PYS				AML	AML		
	comp=Z,458nm,0.5s						
KSGAH	**Ganghwa**	**1.13**	**208**	P	**Pn**	**23 17 06.2**	**+0.8**
	SNR=17						
KSGAH				P	**Pn**	**23 17 06.2**	**+0.8**
	SNR=17						
KSSOD	**Songwoldong**	**1.14**	**186**	P	**Pn**	**23 17 06.7**	**+1.1**
	SNR=7.3						
NCNA	**Naechon**	**1.17**	**139**	P	**Pn**	**23 17 06.7**	**+0.7**
	SNR=12						
KSSKC	**Sokcho**	**1.18**	**111**	P	**Pn**	**23 17 06.6**	**+0.6**
	SNR=62						
KSSKC				P	**Pn**	**23 17 06.6**	**+0.6**
	SNR=62						
KSGSG	**Gangseo**	**1.18**	**191**	P	**Pn**	**23 17 07.5**	**+1.4**
	SNR=9.2						
HOCA	**Hongcheon**	**1.19**	**150**	P	**Pn**	**23 17 07.0**	**+0.9**
	SNR=35						
IJAA	**Inje Acc Boreh**	**1.22**	**128**	P	**Pn**	**23 17 07.4**	**+0.8**
	SNR=26						
KSSEO	**Seoul**	**1.23**	**188**	P	**Pg**	**23 17 08.0**	**+0.8**
	SNR=26						
KSSEO				P	**Pg**	**23 17 08.0**	**+0.8**
	SNR=26						
CGUB	**Chungun**	**1.24**	**158**	P	**Pg**	**23 17 08.0**	**+0.6**
	SNR=90						
CGUB				P	**Pg**	**23 17 08.0**	**+0.6**
	SNR=90						
GODA	**Kyodong**	**1.24**	**158**	P	**Pb**	**23 17 06.2**	**-0.8**
	SNR=20						
GMPB	**Gimpo**	**1.44**	**203**	P	**Pn**	**23 17 06.0**	**-3.6**
	SNR=39						
GMPB				P	**Pn**	**23 17 06.0**	**-3.6**
	SNR=39						
SUJ	**Sinuiju**	**2.46**	**305**	Pg	**Pb**	**23 17 29.4**	**+1.5**
SUJ				AML	AML		
	comp=N,282nm,0.7s						
SUJ				AML	AML		
	comp=E,180nm,0.5s						
SUJ				AML	AML		
	comp=Z,105nm,0.7s						

*IDC **23** 23:23:16.8±0.6, 27°.96N×139°.97E, h473km±7km, mb3.4/20, mbtmp4.2/24, Error ellipse: s-maj=14.9km s-min=9.4km az=74.0*
ISC 23 23:23:17.1±0.6, 27°.91N±0°.09×140°.0E±0°.1, h478km, n26, σ0°.85/30, mb3.6/20, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.11**	**112**	P	**P**	**23 24 20.0**	**-0.8**
	171nm,0.3s,baz=0.0,slow=0.0						
JCJ				S	**S**	**23 25 11.5**	**-0.9**
	baz=225,slow=17						
MJAR	**Matsushiro Arr**	**8.73**	**351**	P	**P**	**23 25 21.4**	**+0.7**
	2.3nm,0.5s,baz=262,slow=7.7,SNR=4.6						
MJAR				S	**S**	**23 27 02.3**	**+0.1**
	1.5nm,0.5s,baz=116,slow=14,SNR=2.4						
JNU	**Nakatsue**	**9.42**	**306**	P	**P**	**23 25 29.6**	**+1.7**
	7.0nm,0.8s,baz=140,slow=6.8,SNR=4.1						
KSRS	**Korea Array**	**13.91**	**316**	P	**P**	**23 26 15.6**	**-0.4**
	1.0nm,0.5s,baz=129,slow=10,SNR=2.1						
USRK	**Ussuriysk Ar.**	**17.48**	**341**	P	**P**	**23 26 54.0**	**+0.8**
	6.5nm,0.8s,baz=171,slow=10,SNR=10.0						
SONM	**Songino Array**	**32.78**	**316**	P	**P**	**23 29 09.3**	**-0.3**
	1.1nm,0.4s,baz=136,slow=9.9,SNR=7.1						
SONM				ScP	**ScP**	**23 34 37.4**	**-1.9**
	0.9nm,0.4s,baz=142,slow=5.4,SNR=2.9						
	1.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**38.74**	**265**	P	**P**	**23 30 00.1**	**+0.6**
	0.7nm,0.3s,baz=52,slow=7.7,SNR=6.7						
	0.7nm,0.3s						
ZALV	**Zalesovo Beam**	**47.60**	**319**	P	**P**	**23 31 07.6**	**-0.8**
	1.9nm,0.4s,baz=111,slow=7.5,SNR=9.9						
	1.9nm,0.4s						
WRA	**Warramunga Arr**	**47.89**	**187**	P	**P**	**23 31 11.4**	**+0.5**
	4.1nm,0.4s,baz=3.2,slow=7.7,SNR=97						
WRA				PcP	**PcP**	**23 32 30.9**	**+0.4**
	0.5nm,0.7s,baz=5.5,slow=4.2,SNR=2.3						
	4.1nm,0.4s						
MKAR	**Makanchi Array**	**48.45**	**309**	P	**P**	**23 31 14.8**	**-0.2**
	0.8nm,0.4s,baz=86,slow=9.8,SNR=31						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**51.08**	**314**	P	**P**	**23 31 33.7**	**-0.5**
	5.6nm,0.4s,baz=91,slow=8.2,SNR=29						
	5.6nm,0.4s						
NRIK	**Noril'sk**	**51.18**	**339**	P	**P**	**23 31 34.5**	**-0.2**
	1.3nm,0.3s,baz=109,slow=9.2,SNR=6.0						
	1.3nm,0.3s						
ASAR	**Alice Springs**	**51.62**	**187**	P	**P**	**23 31 39.0**	**+0.5**
	1.7nm,0.5s,baz=16,slow=13,SNR=17						
	1.7nm,0.5s						
BVAR	**Borovoye Array**	**56.12**	**317**	P	**P**	**23 32 09.9**	**-0.2**
	5.9nm,0.4s,baz=91,slow=7.1,SNR=41						
	5.9nm,0.4s						
ILAR	**Eielson Array**	**57.94**	**29**	P	**P**	**23 32 22.4**	**0.0**
	0.6nm,0.6s,baz=252,slow=5.9,SNR=12						
	0.6nm,0.6s						
STKA	**Stephens Creek**	**59.48**	**178**	P	**P**	**23 32 33.4**	**+0.3**
	1.3nm,0.5s,baz=27,slow=4.5,SNR=3.2						
	1.3nm,0.5s						
ARCES	**ARCESS Array B**	**72.13**	**340**	P	**P**	**23 33 52.0**	**+0.1**
	5.6nm,1.0s,baz=66,slow=6.8,SNR=5.0						
	5.6nm,1.0s						
YKA	**Yellowknife Ar**	**72.34**	**28**	P	**P**	**23 33 53.4**	**+0.2**
	0.8nm,0.7s,baz=14,slow=6.1,SNR=5.7						
	0.8nm,0.7s						
KBZ	**Khabaz**	**76.02**	**312**	P	**P**	**23 34 14.1**	**-0.3**
	0.7nm,0.6s,baz=114,slow=18,SNR=1.4						
	0.7nm,0.6s						
FINES	**FINESS Array B**	**76.35**	**333**	P	**P**	**23 34 15.4**	**-0.5**
	2.6nm,0.3s,baz=70,slow=5.2,SNR=51						
	2.6nm,0.3s						
AKASG	**Malin Array Be**	**80.80**	**323**	P	**P**	**23 34 38.9**	**-1.1**
	0.3nm,0.3s,baz=112,slow=15,SNR=2.9						
	0.3nm,0.3s						
NVAR	**Mina Array Bea**	**81.53**	**51**	P	**P**	**23 34 46.1**	**+1.7**
	0.5nm,0.6s,baz=300,slow=4.1,SNR=4.7						
	0.5nm,0.6s						
HFS	**Hagfors**	**81.90**	**336**	P	**P**	**23 34 44.4**	**-1.1**
	6.4nm,1.0s,baz=131,slow=4.1,SNR=6.3						
	6.4nm,1.0s						
NB2	**NORSAR Subarra**	**82.12**	**337**	P	**P**	**23 34 45.7**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=49,slow=4.6						
NOA	**NORSAR Array B**	**82.12**	**337**	P	**P**	**23 34 45.6**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=46,slow=5.0,SNR=4.6						
	comp=Z,0.8nm,0.6s						
TXAR	**Lajitas Array**	**96.66**	**52**	P	**P**	**23 35 55.9**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=316,slow=5.0,SNR=2.5						
	comp=Z,0.1nm,0.5s						

*SOME **23** 23:38:57.2, 41°.02N×78°.65E, h0km*
*KRNET **23** 23:38:58.3±0.1, 41°.11N×78°.72E, h19km, mb2.5*
*NNC **23** 23:38:59.8±2.4, 41°.05N×78°.81E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=15.9km s-min=11.9km az=155.0*
ISC 23 23:39:02.2±2.4, 41°.03N±0°.10×78°.70E±0°.06, h29km±15km, n43, σ1°.75/72, 16C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.48**	**351**	⇑*i*P	**Pn**	**23 39 24.4**	**-2.6**
PRZ				⇑*i*S	**Sn**	**23 39 43.3**	**-2.1**
KDJ	**Kajisay**	**1.59**	**315**	⇑*i*P	**Pn**	**23 39 26.4**	**-2.2**
KDJ				⇑*i*S	**Sn**	**23 39 47.1**	**-1.1**
ANVS	**Anan'yevo**	**1.92**	**337**	⇑*i*P	**Pn**	**23 39 32.2**	**-0.9**
ANVS				⇑*i*S	**Sn**	**23 39 56.8**	**+0.4**
SATY	**Saty**	**2.04**	**354**	Pg	**Pb**	**23 39 37.3**	**-1.4**
	7.4nm,0.3s						
SATY				Lg	Lg	23 40 06.2	
	31nm,0.6s						
SATY	**Saty**	**2.04**	**354**	*eP*	**Pb**	**23 39 37.3**	**-1.4**
	7.4nm,0.3s						
SATY				*eS*	**Sb**	**23 40 06.2**	**+2.4**
	35nm,0.6s						
NRN	**Naryn**	**2.08**	**282**	⇑*i*P	**Pn**	**23 39 35.4**	**0.0**
NRN				⇑*i*S	**Sn**	**23 40 02.7**	**+2.2**
UZB	**Uzynbulak**	**2.13**	**6**	Pg	**Pb**	**23 39 38.6**	**-1.7**
	2.9nm,0.1s						
UZB				Lg	Lg	23 40 07.9	
	17nm,0.3s						
UZB	**Uzynbulak**	**2.13**	**6**	*eP*	**Pb**	**23 39 38.3**	**-2.0**
	6.4nm,0.4s						
UZB				*eS*	**Sb**	**23 40 07.9**	**+1.5**
	17nm,0.3s						
ZHN	**Zhinishke**	**2.15**	**355**	Pg	**Pb**	**23 39 39.2**	**-1.4**
	4.8nm,0.2s						
ZHN				Lg	Lg	23 40 08.9	
	44nm,0.2s						
ZHN	**Zhinishke**	**2.15**	**355**	*eP*	**Pb**	**23 39 39.1**	**-1.4**
	4.8nm,0.2s						
ZHN				*eS*	**Sb**	**23 40 08.9**	**+2.1**
	44nm,0.2s						
SHLS	**Shalkode**	**2.20**	**15**	Pg	**Pb**	**23 39 40.8**	**-0.7**
	15nm,0.2s						
SHLS				Lg	Lg	23 40 12.6	
	138nm,0.3s						
SHLS	**Shalkode**	**2.20**	**15**	*eP*	**Pb**	**23 39 41.0**	**-0.4**
	15nm,0.2s						
SHLS				*eS*	**Sb**	**23 40 12.6**	**+4.2**
	138nm,0.3s						
ULHL	**Ulahol**	**2.21**	**304**	⇓*i*P	**Pn**	**23 39 36.6**	**-0.5**
ULHL				⇓*i*S	**Sn**	**23 40 04.6**	**+1.0**
TNSS	**Tian-Shan**	**2.40**	**328**	*eP*	**Pb**	**23 39 42.9**	**-2.0**
	8.4nm,0.3s						
TNSS				*eS*	**Sb**	**23 40 15.6**	**+1.4**
	11nm,0.4s						
KPKS	**Kokpek**	**2.44**	**360**	Pg	**Pb**	**23 39 43.0**	**-2.4**
	2.5nm,0.2s						
KPKS				Lg	Lg	23 40 15.5	
	19nm,0.3s						
KPKS	**Kokpek**	**2.44**	**360**	*eP*	**Pb**	**23 39 42.8**	**-2.7**
	2.5nm,0.2s						
KPKS				*eS*	**Sb**	**23 40 15.5**	**+0.4**
	25nm,0.3s						
MDOK	**Medeo**	**2.47**	**331**	Pn	**Pn**	**23 39 42.5**	**+1.9**
	5.6nm,0.4s						
MDOK				Pg	**Pb**	**23 39 43.7**	**-2.2**
	8.9nm,0.4s						
MDOK				⇑Sn	**Sb**	**23 40 16.2**	**+0.3**
	15nm,0.7s						
MDOK				Lg	Lg	23 40 17.1	
	15nm,0.6s						
MDOK	**Medeo**	**2.47**	**331**	*eP*	**Pb**	**23 39 43.7**	**-2.2**
	9.0nm,0.3s						
MDOK				*eS*	**Sb**	**23 40 17.1**	**+1.1**
	15nm,0.6s						
KURS	**Kuram**	**2.49**	**351**	Pg	**Pb**	**23 39 44.8**	**-1.5**
	3.7nm,0.4s						
KURS				Lg	Lg	23 40 18.6	
	22nm,0.7s						
KURS	**Kuram**	**2.49**	**351**	*eP*	**Pb**	**23 39 44.6**	**-1.7**
	3.7nm,0.4s						
KURS				*eS*	**Sb**	**23 40 18.6**	**+2.0**
	22nm,0.7s						
KOTS	**Kotyrbulak**	**2.50**	**332**	*eP*	**Pb**	**23 39 44.4**	**-2.2**
	8.5nm,0.5s						
KOTS				*eS*	**Sb**	**23 40 18.5**	**+1.5**
	38nm,0.3s						
BOOM	**Boomskoye usch**	**2.53**	**306**	⇑*e*P	**Pn**	**23 39 41.4**	**-0.1**
BOOM				⇑*e*S	**Sn**	**23 40 12.5**	**+1.0**
MTBS	**Maitube**	**2.70**	**322**	Pg	**Pb**	**23 39 47.4**	**-2.5**
	1.2nm,0.1s						
MTBS				Lg	Lg	23 40 23.0	
	13nm,0.3s						
MTBS	**Maitube**	**2.70**	**322**	*eP*	**Pb**	**23 39 47.3**	**-2.5**
	1.2nm,0.1s						
MTBS				*eS*	**Sb**	**23 40 23.0**	**+0.4**
	13nm,0.4s						
KST	**Kastek**	**2.87**	**316**	Pg	**Pb**	**23 39 50.8**	**-2.0**
	2.0nm,0.2s						
KST				Lg	Lg	23 40 29.6	
	7.1nm,0.5s						
KST	**Kastek**	**2.87**	**316**	*eP*	**Pb**	**23 39 50.8**	**-2.0**
	2.0nm,0.2s						
KST				*eS*	**Sb**	**23 40 29.6**	**+2.1**
	7.1nm,0.5s						
TKM2	**Tokmak 2**	**2.99**	**310**	⇑Pn	**Pn**	**23 39 50.8**	**+3.0**
	2.2nm,0.6s						
TKM2				⇓Sn	**Sb**	**23 40 32.3**	**+1.2**
	10nm,0.6s						
TKM2	**Tokmak 2**	**2.99**	**310**	⇓*i*P	**Pn**	**23 39 47.4**	**-0.5**
TKM2				⇓*i*S	**Sn**	**23 40 23.2**	**+0.3**
BLB	**Baldybastay**	**3.08**	**357**	Pg	**Pb**	**23 39 54.7**	**-1.6**
	5.1nm,0.2s						
BLB				Lg	Lg	23 40 35.5	
	8.7nm,0.3s						
KTBS	**Karatobe**	**3.08**	**332**	Pg	**Pb**	**23 39 54.5**	**-1.7**

DJR *e*S **Sb** **23 40 45.2 +2.5**
12nm,0.3s
USP Ospenovka 3.84 307 ⇑*i*P **Pn** **23 39 59.2 -0.2**
USP ⇑*i*S **Sn** **23 40 43.6 -0.1**
SGDS Sogindy 3.88 310 Pg **Pb** **23 40 08.7 -1.2**
1.0nm,0.3s
SGDS Lg Lg 23 40 59.8
3.1nm,0.3s
AML Almayashu 3.92 288 ⇑*i*P **Pn** **23 40 00.7 0.0**
AML ⇑*i*S **Sn** **23 40 46.3 +0.4**
EKS2 Erkin-Say 4.03 296 ⇓*i*P **Pn** **23 40 01.8 -0.2**
EKS2 ⇓*i*S **Sn** **23 40 48.4 +0.1**

TAP 23 23:41:23.1, 24°.43N×121°.82E, h11km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.04**	**286**	*i* P	Pg	23 41 25.1	-1.0
EWUT				S	Sg	23 41 26.6	0.0
ENA	**Nanau**	**0.07**	**265**	*i* P	Pg	23 41 25.4	-0.1
ENA				*i* S	Sg	23 41 27.1	-0.1
EAHA	**Aohua**	**0.13**	**216**	P	Pg	23 41 26.1	-0.1
EAHA				*e*S	Sg	23 41 28.4	0.0
ESAO	**Su ao**	**0.14**	**8**	*e*P	Pg	23 41 24.6	-1.9
TWC	**Suao**	**0.18**	**8**	P	Pg	23 41 26.8	-0.2
TWC				S	Sg	23 41 29.4	-0.3
NDS	**Dongshan**	**0.22**	**334**	*e*P	Pg	23 41 27.3	-0.5
NDS				S	Sg	23 41 31.1	+0.2
ENTT	**Nioudou**	**0.31**	**312**	P	Pg	23 41 29.5	+0.1
ENTT				S	Sg	23 41 33.8	+0.2
ENTT	**Nioudou**	**0.31**	**312**	*i* P	Pg	23 41 29.5	+0.1
ENTT				S	Sg	23 41 33.8	+0.2
TWE	**Neicheng**	**0.32**	**334**	P	Pg	23 41 29.6	0.0
TWE				S	Sg	23 41 33.8	0.0
NACB	**Ninganchiao**	**0.33**	**219**	P	Pg	23 41 29.4	-0.4
NACB				S	Sg	23 41 34.4	+0.2
EOS2	**EOS2**	**0.38**	**92**	*e*P	Pg	23 41 30.8	+0.3
EOS2				S	Sb	23 41 36.9	-0.7
ETLH	**Xiulin Townshi**	**0.38**	**234**	P	Pg	23 41 30.3	-0.4
ETLH				*e*S	Sg	23 41 36.6	+0.8
ETLH	**Xiulin Townshi**	**0.38**	**234**	*e*P	Pg	23 41 29.9	-0.8
FUSB	**Fushanzhiwuyua**	**0.39**	**327**	P	Pg	23 41 30.7	-0.1
FUSB				*e*S	Sg	23 41 36.0	0.0
NNSB	**Datong**	**0.40**	**269**	*e*P	Pg	23 41 31.0	-0.1
NNSB				*e*S	Sg	23 41 36.8	+0.4
NNS	**Nan Shan**	**0.41**	**271**	*e*S	Sg	23 41 36.8	+0.1
YHNB	**Yeheng**	**0.47**	**300**	*e*S	Sg	23 41 39.0	+0.4
NSK	**Sanguang**	**0.49**	**300**	*e*S	Sg	23 41 39.3	+0.2
LXIB	**Xiulin Townshi**	**0.56**	**222**	P	Pg	23 41 33.3	-0.6
LXIB				S	Sg	23 41 42.0	+0.7
WHF	**Hehuan Shan**	**0.58**	**241**	*e*P	Pg	23 41 34.2	-0.4
WHF				*e*S	Sg	23 41 42.3	0.0
WUSB	**Renai**	**0.78**	**236**	*e*P	Pg	23 41 37.5	-0.7
WUSB				*e*S	Sg	23 41 48.5	+0.1

TAP 23 23:41:24.4, 24°.45N×121°.36E, h6km±1km, ML1.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNS	**Nan Shan**	**0.01**	**123**	P	Pg	23 41 25.5	-0.2
NNS				S	Sg	23 41 26.4	-0.1
NNSB	**Datong**	**0.03**	**133**	*i* P	Pg	23 41 25.4	-0.3
YHNB	**Yeheng**	**0.22**	**3**	*i* P	Pg	23 41 28.9	+0.1
YHNB				*i* S	Sg	23 41 32.0	+0.1
NSK	**Sanguang**	**0.23**	**359**	P	Pg	23 41 29.0	+0.1
NSK				S	Sg	23 41 32.1	+0.1

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*IDC **23** 23:52:58.2±5.9, 3°.59S×101°.72E, h0km, mb3.6/6, mbtmp3.6/6, MS3.1/2, Error ellipse: s-maj=311.0km s-min=21.3km az=51.0*
*DJA **23** 23:53:12.4±0.9, 4°.5S±5°×10°.2E±°, h56km±26km, M3.5/6, MLv3.5/6*
ISC 23 23:53:10.6±0.9, 3°.4S±0°.2×102°.1E±0°.1, h100km, n18, σ1§46/13, mb3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.55**	**117**	P	**Pn**	**23 53 26.8**	**0.0**
KSI				S	**Sn**	**23 53 35.0**	**-3.9**
MNAI	**Manna**	**1.27**	**138**	P	**Pn**	**23 53 34.4**	**+0.2**
MNAI				S	**Sn**	**23 53 51.9**	**-0.1**
PPSI	**Pulau Pagai**	**2.19**	**287**	P	**Pn**	**23 53 45.6**	**0.0**
PPSI				S	**Sn**	**23 54 10.6**	**-1.8**
SISI	**Saibi**	**3.65**	**304**	P	**Pn**	**23 54 05.7**	**+0.6**
DAV	**Davao City (W)**	**25.64**	**66**	LR	LR	00 09 45.5	
	comp=Z,25nm,19.4s,baz=138,slow=39						
H08S2	**Diego Garcia H**	**29.77**	**261**	T	T	00 29 08.5	
	baz=83						
H08S3	**Diego Garcia H**	**29.77**	**261**	T	T	00 29 09.5	
	baz=83						
H08S1	**Diego Carcia H**	**29.79**	**261**	T	T	00 28 53.3	
	baz=83						
WRA	**Warramunga Arr**	**35.47**	**120**	P	**P**	**23 59 58.6**	**+0.8**
	0.4nm,0.4s,baz=295,slow=9.1,SNR=10						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**36.73**	**126**	P	**P**	**00 00 09.4**	**+0.9**
	0.3nm,0.5s,baz=299,slow=7.4,SNR=2.1						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**52.96**	**343**	P	**P**	**00 02 17.4**	**+0.6**
	0.3nm,0.5s,baz=160,slow=9.2,SNR=8.2						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**57.50**	**342**	P	**P**	**00 02 49.2**	**0.0**
	0.3nm,0.5s,baz=135,slow=6.4,SNR=1.4						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**58.95**	**348**	P	**P**	**00 02 59.9**	**+0.7**
	0.4nm,0.4s,baz=151,slow=6.3,SNR=2.4						
	0.4nm,0.4s						
H04N2	**CROZET ISLANDS**	**60.95**	**218**	T	T	01 08 30.7	
	baz=59						
H04N1	**CROZET ISLANDS**	**60.96**	**218**	T	T	01 08 36.9	
	baz=59						
H04N3	**CROZET ISLANDS**	**60.97**	**218**	T	T	01 08 27.9	
	baz=59						
BVAR	**Borovoye Array**	**62.23**	**339**	P	**P**	**00 03 21.5**	**-0.2**
	0.4nm,0.4s,baz=134,slow=6.2,SNR=5.0						
	0.4nm,0.4s						
BELG	**Belogornoye**	**72.01**	**328**	LR	LR	00 41 58.8	
	comp=Z,18nm,18.3s,baz=66,slow=41						

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*IDC **24** 00:07:19.8±2.3, 6°.42S×103°.42E, h0km, mb3.8/9, mbtmp3.8/9, Error ellipse: s-maj=90.6km s-min=20.6km az=52.0*
*DJA **24** 00:07:24.9±2.6, 6°.5±4°×10°.4E±°, h23km±27km, M4.2/9, mb4.3/3, MLv4.0/9*
ISC 24 00:07:25.1±1.1, 6°.46S±0°.09×103°.6E±0°.1, h35km, n24, σ0§86/20, mb3.8/9, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.26**	**43**	P	**Pn**	**00 07 45.6**	**-0.6**
KASI				S	**Sn**	**00 08 01.9**	**0.0**
LWLI	**Liwa**	**1.49**	**16**	P	**Pn**	**00 07 50.3**	**+0.8**
LWLI				S	**Sn**	**00 08 08.5**	**+0.7**
MNAI	**Manna**	**2.19**	**342**	P	**Pn**	**00 07 59.8**	**+0.7**
KSI	**Kapahiang**	**2.97**	**339**	P	**Pn**	**00 08 10.6**	**+0.7**
CNJI	**Cibinong**	**3.57**	**104**	P	**Pn**	**00 08 17.0**	**-1.0**
CMJI	**Cimerak**	**4.95**	**106**	P	**Pn**	**00 08 37.3**	**+0.2**
UGM	**Wanagama**	**6.98**	**102**	P	**Pn**	**00 09 05.9**	**+0.9**
	82nm,1.2s						
PCJI	**Pacitan**	**7.67**	**103**	P	**Pn**	**00 09 14.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**25.18**	**349**	P	**P**	**00 12 46.6**	**-0.9**
	1.1nm,0.5s,baz=184,slow=10,SNR=5.7						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**32.68**	**117**	P	**P**	**00 13 55.6**	**+1.2**
	0.7nm,0.9s,baz=287,slow=12,SNR=4.3						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**33.74**	**124**	P	**P**	**00 14 05.0**	**+1.3**
	0.3nm,0.6s,baz=315,slow=8.0,SNR=5.1						
	0.3nm,0.6s						
SONM	**Songino Array**	**54.11**	**2**	P	**P**	**00 16 46.4**	**-0.3**
	0.7nm,0.7s,baz=176,slow=5.5,SNR=5.9						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**56.30**	**343**	P	**P**	**00 17 01.3**	**-1.1**
	0.7nm,0.6s,baz=148,slow=9.0,SNR=9.6						
	0.7nm,0.6s						
USRK	**Ussurisyk Ar.**	**56.53**	**24**	P	**P**	**00 17 04.0**	**0.0**
	1.4nm,0.5s,baz=204,slow=6.3,SNR=3.0						
	1.4nm,0.5s						
H04N2	**CROZET ISLANDS**	**59.53**	**219**	T	T	01 21 51.6	
	baz=64,slow=75,SNR=55						
H04N1	**CROZET ISLANDS**	**59.54**	**219**	T	T	01 21 50.6	
	baz=64,slow=75,SNR=70						
H04N3	**CROZET ISLANDS**	**59.55**	**219**	T	T	01 21 55.4	
	baz=64,slow=75,SNR=66						
H04S1	**CROZET ISLANDS**	**59.75**	**219**	T	T	01 22 05.4	
	baz=64,slow=75,SNR=5.2						
H04S3	**CROZET ISLANDS**	**59.76**	**219**	T	T	01 22 05.0	
	baz=64,slow=75,SNR=16						
H04S2	**CROZET ISLANDS**	**59.77**	**219**	T	T	01 22 06.3	
	baz=64,slow=75,SNR=6.7						
KURBB	**Kurchatov Arra**	**60.85**	**342**	P	**P**	**00 17 32.5**	**-1.4**
	0.2nm,0.6s,baz=154,slow=6.5,SNR=3.1						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**62.23**	**348**	P	**P**	**00 17 42.9**	**-0.3**
	0.9nm,0.4s,baz=162,slow=5.5,SNR=7.1						
	0.9nm,0.4s						
BVAR	**Borovoye Array**	**65.61**	**339**	P	**P**	**00 18 04.6**	**-0.8**
	0.8nm,0.5s,baz=133,slow=10.0,SNR=4.6						
	0.8nm,0.5s						
TXAR	**Lajitas Array**	**145.64**	**45**	PKPbc	**PKPab**	**00 27 01.8**	**+0.6**
	0.5nm,0.5s,baz=290,slow=0.5,SNR=8.0						

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*IDC **24** 00:12:07.4±1.6, 6°.92S×129°.13E, h0km, mb3.6/4, mbtmp3.6/7, ML3.9/3, Error ellipse: s-maj=86.9km s-min=24.6km az=77.0*
ISC 24 00:12:23.4±1.2, 7.75S±0°.09×128°.6E±0°.2, h150km, n7, σ1§59/10, mb3.3/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.69**	**196**	Pn	**Pn**	**00 14 53.5**	**+0.8**
	0.6nm,0.3s,baz=9.9,slow=9.8,SNR=19						
FITZ				Sn	**Sn**	**00 16 49.4**	**-1.6**
	0.7nm,0.3s,baz=90,slow=17,SNR=2.7						
	1.3nm,0.2s						
WRA	**Warramunga Arr**	**13.32**	**156**	Pn	**Pn**	**00 15 25.9**	**-0.9**
	0.7nm,0.3s,baz=343,slow=13,SNR=40						
WRA				Sn	**Sn**	**00 17 53.9**	**-0.5**
	0.6nm,0.3s,baz=339,slow=19,SNR=7.4						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**16.61**	**163**	P	**Pn**	**00 16 11.0**	**+3.3**
	0.2nm,0.3s,baz=337,slow=12,SNR=8.7						
ASAR				S	**Sn**	**00 19 13.8**	**+0.4**
	0.2nm,0.4s,baz=322,slow=15,SNR=2.0						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**68.12**	**328**	P	**P**	**00 23 07.3**	**+0.1**
	0.2nm,0.3s,baz=110,slow=8.2,SNR=5.7						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**71.66**	**334**	P	**P**	**00 23 27.0**	**-1.6**
	0.4nm,0.3s,baz=143,slow=6.7,SNR=2.7						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**72.45**	**329**	P	**P**	**00 23 33.1**	**-0.2**
	0.5nm,0.8s,baz=126,slow=4.6,SNR=4.9						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**77.98**	**328**	P	**P**	**00 24 04.6**	**-0.4**
	0.2nm,0.4s,baz=119,slow=3.6,SNR=1.6						
	0.2nm,0.4s						

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*NEIC **24** 00:18:00.3±0.8, 19°.11N±0°.03×155°.39W±0°.03, h42km±3km, Error ellipse: s-maj=5.7km s-min=2.9km az=130.0*
HVO 24 00:18:01.6±0.9, 19°.09N±0°.04×155°.39W±0°.04, h39km±3km, ML2.4/4, ML2.7/35(NEIC), Error ellipse: s-maj=7.7km s-min=3.0km az=143.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.15**	**358**		Pn	00 18 08.0	-1.7
HLP	**Hilina Pali**	**0.22**	**21**	Pn	Pn	00 18 06.1	-3.5
HLP				IAML		00 18 18.2	
	comp=N,862nm,0.6s						
KHU	**Kahuku**	**0.26**	**307**	IAML		00 18 14.7	
	comp=E,767nm,0.9s						
KHU	**Kahuku**	**0.26**	**307**		Pn	00 18 08.6	-1.3
KHU					Sn	00 18 13.6	-2.6
SDHHI	**Sand Hill**	**0.32**	**17**		Pn	00 18 09.1	-1.1
SDHHI					Sn	00 18 14.7	-1.7
RIM	**Rim**	**0.33**	**20**		Pn	00 18 09.1	-1.1
PUH	**Pauahi**	**0.33**	**30**	Pn	Pn	00 18 09.0	-1.3
PUH				IAML		00 18 17.5	
	comp=E,447nm,0.5s						
KKO	**Keanakako'i**	**0.33**	**21**		Pn	00 18 09.2	-1.0
KKO					Sn	00 18 15.1	-1.5
UWE	**Uwekahuna**	**0.34**	**16**	Pn	Pn	00 18 09.4	-1.0
BYL	**Byron's Ledge**	**0.35**	**21**	Pn	Pn	00 18 08.6	-1.8
BYL				IAML		00 18 12.7	
	comp=E,400nm,3.4s						
HATHI	**Halema'uma'u T**	**0.36**	**21**	Pn	Pn	00 18 09.6	-1.0
HATHI				IAML		00 18 17.1	
	comp=N,394nm,1.0s						
HATHI				IAML		00 18 21.5	
	comp=E,521nm,0.8s						
KNHH	**Kane Nui o Ham**	**0.36**	**36**	Pn	Pn	00 18 09.0	-1.5
RSD	**Rainshed**	**0.39**	**16**	Pn	Pn	00 18 10.6	-0.3
STCH	**Steam Cracks**	**0.39**	**41**		Pn	00 18 09.7	-1.1
STCH	**Steam Cracks**	**0.39**	**41**	IAML		00 18 16.2	
	comp=N,345nm,0.6s						
STCH				IAML		00 18 21.8	
	comp=E,365nm,0.5s						
JCUZ	**Jacuzzi**	**0.40**	**43**		Pn	00 18 10.0	-1.0
MLH	**Mauna Loa**	**0.40**	**1**	Pn	Pn	00 18 10.3	-0.9
MLH				IAML		00 18 16.6	
	comp=E,444nm,0.4s						
MLH	**Mauna Loa**	**0.40**	**1**		Sn	00 18 16.5	-1.6
NPOC	**North of Pu'u**	**0.41**	**41**		Pn	00 18 10.0	-1.1
MWH	**Mokuaweoweo**	**0.44**	**334**	Pn	Pn	00 18 09.6	-2.3
MWH				IAML		00 18 17.5	
	comp=N,478nm,0.4s						
MWH				IAML		00 18 20.8	
	comp=E,501nm,0.5s						
JOKA	**Jonika Flow**	**0.50**	**47**		Pn	00 18 11.0	-1.3
JOKA	**Jonika Flow**	**0.50**	**47**	IAML		00 18 18.5	
JOKA				IAML		00 18 26.0	
	comp=N,380nm,0.7s						
HMH	**Humu'ula Sheep**	**0.52**	**351**		Pn	00 18 11.3	-1.6
HMH				IAML		00 18 19.3	
	comp=E,539nm,0.5s						
HMH	**Humu'ula Sheep**	**0.52**	**351**		Sn	00 18 18.8	-1.9
PAH	**Pahoa**	**0.58**	**46**	Pn	Pn	00 18 11.9	-1.6
HUH	**Hualalai**	**0.73**	**325**	Pn	Pn	00 18 14.6	-1.0

IDC 24 00:22:10.3±4.0, 23°.62S×179°.04W, h0km, mb4.0/2, mbtmp4.0/2, Error ellipse: s-maj=212.9km s-min=43.7km az=154.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.95**	**260**	P	P	00 30 10.8	-0.5
	1.4nm,0.6s,baz=88,slow=6.9,SNR=16						
	1.4nm,0.6s						
WRA	**Warramunga Arr**	**43.30**	**266**	P	P	00 30 14.3	+0.1
	1.1nm,0.4s,baz=103,slow=7.8,SNR=12						
	1.1nm,0.4s						
NB2	**NORSAR Subarra**	**141.93**	**352**	PKP	PKPdf	00 41 41.5	-2.2
	comp=Z,0.5nm,0.6s,baz=20,slow=3.8						
NOA	**NORSAR Array B**	**141.93**	**352**	PKP	PKPdf	00 41 41.4	-2.3
	comp=Z,1.1nm,0.8s,baz=16,slow=5.1,SNR=4.6						
HFS	**Hagfors**	**142.44**	**350**	PKP	PKPdf	00 41 43.1	-1.4
	comp=Z,3.3nm,0.6s,baz=61,slow=3.6,SNR=10						
AKASG	**Malin Array Be**	**145.20**	**328**	PKPbc	PKPbc	00 41 48.8	-0.4
	comp=Z,0.5nm,0.4s,baz=41,slow=4.9,SNR=5.5						
BRTR	**Keskin Array B**	**148.10**	**308**	PKPbc	PKiKP	00 41 59.4	-0.7
	comp=Z,0.7nm,0.8s,baz=110,slow=3.3,SNR=4.4						
MMAI	**Mount Meron Ar**	**148.38**	**295**	PKPbc	PKPdf	00 41 57.4	+1.7
	comp=Z,1.6nm,0.5s,baz=83,slow=6.8,SNR=9.7						

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*IDC **24** 00:40:04.2±1.5, 7°.43S×130°.40E, h0km, mb4.0/3, mbtmp4.0/7, ML4.0/4, Error ellipse: s-maj=40.1km s-min=23.7km az=92.0*
ISC 24 00:40:08.0±1.3, 7.71S±0°.09×130°.5E±0°.1, h27km, n7, σ2§45/11, mb3.8/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.19**	**249**	Pn	**Pn**	**00 41 51.9**	**+0.5**
	6.3nm,0.3s,baz=95,slow=11,SNR=1.9						
BATI				Sn	**Sn**	**00 43 13.6**	**+1.2**
	8.3nm,0.3s,baz=89,slow=20,SNR=4.6						
	14nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.35**	**204**	Pn	**Pn**	**00 42 51.0**	**+2.4**
	1.5nm,0.3s,baz=25,slow=11,SNR=35						
FITZ				Sn	**Sn**	**00 44 51.0**	**-3.5**
	1.4nm,0.3s,baz=230,slow=15,SNR=8.1						
	3.9nm,0.3s						
WRA	**Warramunga Arr**	**12.71**	**163**	Pn	**Pn**	**00 43 10.9**	**+3.8**
	0.4nm,0.3s,baz=345,slow=14,SNR=29						
WRA				Sn	**Sn**	**00 45 25.8**	**-2.1**
	1.8nm,0.3s,baz=351,slow=22,SNR=11						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**16.20**	**169**	Pn	**P**	**00 43 56.4**	**-0.4**
	0.2nm,0.3s,baz=346,slow=8.8,SNR=8.8						
ASAR				Sn	**Sn**	**00 46 50.9**	**-1.9**
	0.4nm,0.3s,baz=351,slow=26,SNR=8.3						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**69.09**	**327**	P	**P**	**00 51 10.8**	**-0.8**
	1.9nm,0.6s,baz=119,slow=7.6,SNR=20						
	1.9nm,0.6s						
ZALV	**Zalesovo Beam**	**72.44**	**334**	P	**P**	**00 51 30.4**	**-1.4**
	0.6nm,0.6s,baz=120,slow=8.5,SNR=4.3						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**73.37**	**328**	P	**P**	**00 51 35.7**	**-1.7**
	0.3nm,0.3s,baz=129,slow=5.1,SNR=8.9						
	0.3nm,0.3s						

IDC 24 01:07:08.0±2.4, 15°.23S×173°.83W, h0km, mb3.9/3, mbtmp3.9/3, MS2.9/5, Error ellipse: s-maj=67.2km s-min=47.4km az=31.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.18**	**251**	LR	LR	01 11 40.1	
	comp=Z,60nm,20.1s,baz=121,slow=33						
RAR	**Rarotonga**	**14.62**	**116**	LR	LR	01 14 50.3	
	comp=Z,24nm,20.7s,baz=310,slow=32						
DZM	**Mont Dzumac**	**19.88**	**247**	LR	LR	01 17 48.0	
	comp=Z,64nm,18.6s,baz=359,slow=32						
URZ	**Urewera**	**24.30**	**198**	LR	LR	01 20 39.5	
	comp=Z,78nm,21.5s,baz=112,slow=33						
PMG	**Port Moresby**	**38.51**	**274**	LR	LR	01 29 28.8	
	comp=Z,14nm,19.4s,baz=146,slow=35						
WRA	**Warramunga Arr**	**49.48**	**257**	P	P	01 16 00.1	-0.4
	0.3nm,0.7s,baz=90,slow=6.4,SNR=1.7						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**49.77**	**252**	P	P	01 16 02.8	0.0
	2.4nm,0.8s,baz=87,slow=8.1,SNR=22						
	2.4nm,0.8s						
QSPA	**South Pole Qui**	**74.81**	**180**	P	P	01 18 50.2	+0.1
	2.7nm,0.9s,baz=35,slow=2.0,SNR=6.8						
	2.7nm,0.9s						
BRTR	**Keskin Array B**	**145.76**	**321**	PKPbc	PKPdf	01 26 48.8	-0.4
	0.5nm,0.6s,baz=106,slow=3.1,SNR=4.1						

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*NOU **24** 01:29:07.3, 40°.83S×172°.79E, h239km, MLv3.6/11, Off W. Coast of S. Island, N.Z.*
*WEL **24** 01:29:10.6±0.7, 41°.5±5°×17°.3E±°, h205km±5km, M3.2/24, MLv3.2/24, Error ellipse: s-maj=6.9km s-min=5.1km az=140.4, confirmed*
ISC 24 01:29:06.7±1.7, 40°.85S±0°.05×172°.80E±0°.06, h234km±9km, n132, σ1§19/146, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSFS	**Takaka Scotts**	**0.02**	**79**	P	**Pn**	**01 29 37.2**	**+0.2**
QRZ	**Quartz Range**	**0.20**	**278**	P	**Pn**	**01 29 38.6**	**+1.5**
QRZ				S	**S**	**01 29 59.8**	**-1.1**
QRZ	**Quartz Range**	**0.20**	**278**	P	**Pn**	**01 29 38.6**	**+1.5**
TKNZ	**Takaka Hill**	**0.22**	**145**	P	**Pn**	**01 29 38.5**	**+1.4**
TKNZ				S	**S**	**01 30 00.3**	**-0.7**
MOTS	**Motueka DOC wo**	**0.32**	**149**	P	**Pn**	**01 29 38.8**	**+1.6**
KHLK	**Kaihoka Lakes**	**0.33**	**335**	P	**Pn**	**01 29 38.8**	**+1.5**
KHLK				S	**S**	**01 30 00.8**	**-0.5**
MRNZ	**Matariki Terra**	**0.55**	**183**	P	**Pn**	**01 29 39.2**	**+1.4**
MRNZ				S	**S**	**01 30 01.7**	**-0.8**
NELH	**Nelson Hospita**	**0.57**	**140**	P	**Pn**	**01 29 38.4**	**+0.5**
NNZ	**Nelson**	**0.57**	**130**	P	**Pn**	**01 29 39.4**	**+1.5**
NNZ				S	**S**	**01 30 01.6**	**-0.9**
MATW	**Matariki Wadsw**	**0.58**	**187**	P	**Pn**	**01 29 39.6**	**+1.6**
BTWS	**Nelson Brightw**	**0.59**	**155**	P	**Pn**	**01 29 38.4**	**+0.4**
DUWZ	**D'Urville Isla**	**0.86**	**87**	P	**Pn**	**01 29 40.7**	**+1.5**
DUWZ				S	**S**	**01 30 03.7**	**-1.0**
HAVS	**Havelock**	**0.86**	**120**	P	**Pn**	**01 29 40.7**	**+1.5**
WVFS	**Wairau Valley**	**0.87**	**151**	P	**Pn**	**01 29 39.8**	**+0.5**
THZ	**Tophouse**	**0.91**	**175**	P	**Pn**	**01 29 41.3**	**+1.7**
THZ				S	**S**	**01 30 04.6**	**-0.9**
TUWZ	**Tuamarina**	**1.04**	**124**	P	**Pn**	**01 29 41.9**	**+1.7**
TUWZ				S	**S**	**01 30 05.7**	**-0.8**
DSZ	**Denniston Nort**	**1.16**	**220**	P	**Pn**	**01 29 42.5**	**+1.5**
DSZ				S	**S**	**01 30 06.6**	**-1.4**
TCW	**Tory Channel**	**1.18**	**108**	P	**Pn**	**01 29 42.5**	**+1.4**
TCW				S	**S**	**01 30 06.2**	**-1.8**
BSWZ	**Blackbirch Sta**	**1.19**	**137**	P	**Pn**	**01 29 42.5**	**+1.4**
CMWZ	**Cape Campbell**	**1.39**	**130**	P	**Pn**	**01 29 44.2**	**+1.6**
SNZO	**South Karori**	**1.51**	**108**	P	**Pn**	**01 29 44.6**	**+1.1**
WEL	**Wellington**	**1.55**	**107**	P	**Pn**	**01 29 45.0**	**+1.2**
KIW	**Kapiti Island**	**1.60**	**91**	P	**Pn**	**01 29 45.6**	**+1.2**
KIW				S	**S**	**01 30 11.8**	**-2.0**
KHZ	**Kahutara**	**1.66**	**161**	P	**Pn**	**01 29 45.7**	**+1.0**
KHZ				S	**S**	**01 30 12.7**	**-1.9**
KHZ	**Kahutara**	**1.66**	**161**	P	**Pn**	**01 29 45.7**	**+1.0**
BHW	**Baring Head**	**1.66**	**110**	P	**Pn**	**01 29 45.8**	**+1.0**
NBEZ	**Newall Road No**	**1.79**	**28**	P	**Pn**	**01 29 47.4**	**+1.5**
OGWZ	**Otaki Gorge**	**1.80**	**90**	P	**Pn**	**01 29 47.5**	**+1.5**
OGWZ				S	**S**	**01 30 15.1**	**-1.7**
KHEZ	**Kahui Hut**	**1.82**	**31**	P	**Pn**	**01 29 47.6**	**+1.3**
KHEZ	**Kahui Hut**	**1.82**	**31**	P	**Pn**	**01 29 47.5**	**+1.2**
NEZ	**North Egmont**	**1.87**	**33**	P	**Pn**	**01 29 47.7**	**+0.9**
PKE	**Pukeiti**	**1.89**	**29**	P	**Pn**	**01 29 48.3**	**+1.4**
MSWZ	**Moikau Station**	**1.94**

WATZ	Wairara	3.12	48	P	Pn	01 30 00.5 +1.0
KWHZ	Kaweka Forest	3.13	64	P	Pn	01 30 00.7 +1.0
RPZ	Rata Peaks	3.14	204	P	Pn	01 30 00.9 +1.2
RPZ	Rata Peaks	3.14	204	P	Pn	01 30 01.2 +1.5
WACZ	Wakanui South	3.17	193	P	Pn	01 30 01.9 +2.0
PXZ	Pawanui	3.21	76	P	Pn	01 30 02.2 +1.7
TLZ	Tolley Road	3.29	41	P	Pn	01 30 01.8 +0.2
KAHZ	Kahuranaki	3.29	73	P	Pn	01 30 03.4 +1.8
BKZ	Black Stump Fm	3.30	61	P	Pn	01 30 02.2 +0.5
MCHZ	McNeill Hill	3.31	66	P	Pn	01 30 03.2 +1.5
ARCZ	Arundel	3.32	201	P	Pn	01 30 02.7 +1.0
MRHZ	Matea Rd	3.44	55	P	Pn	01 30 03.3 0.0
FOZ	Fox Glacier	3.47	219	P	Pn	01 30 04.1 +0.7
CKHZ	Cape Kidnapper	3.49	71	P	Pn	01 30 05.7 +1.9
NMHZ	Naumai	3.55	62	P	Pn	01 30 06.0 +1.5
ARHZ	Aropaoanui	3.59	65	P	Pn	01 30 06.3 +1.3
MTHZ	Maungataniwha	3.70	59	P	Pn	01 30 06.7 +0.4
TMZ	Timaru	3.77	200	P	Pn	01 30 08.2 +1.3
RAHZ	Arahi	3.83	61	P	Pn	01 30 08.7 +1.0
WHHZ	Waihua	3.84	64	P	Pn	01 30 09.4 +1.4
MUGZ	Murupara	3.88	54	P	Pn	01 30 08.9 +0.6
RTZ	Ruatahuna	3.92	57	P	Pn	01 30 09.1 +0.1
LBZ	Lake Benmore	4.02	208	P	Pn	01 30 10.5 +0.5
SNGZ	Shannon Statio	4.07	61	P	Pn	01 30 12.2 +1.6
KNZ	Kokohu	4.17	66	P	Pn	01 30 12.6 +0.8
URZ	Urewera	4.22	54	P	Pn	01 30 12.4 -0.1
URZ	Urewera	4.22	54	P	Pn	01 30 12.7 +0.2
RAGZ	Rawiri	4.27	58	P	Pn	01 30 14.1 +1.0
PRGZ	Paritu Road	4.36	65	P	Pn	01 30 15.3 +1.1
JCZ	Jackson Bay	4.38	221	P	Pn	01 30 15.0 +0.8
JCZ	Jackson Bay	4.38	221	P	Pn	01 30 15.1 +0.8
RIGZ	Rimuhau	4.39	62	P	Pn	01 30 15.3 +0.8
MWZ	Matawai	4.44	57	P	Pn	01 30 15.2 +0.1
ODZ	Otahua Downs	4.48	200	P	Pn	01 30 16.8 +1.4
ODZ	Otahua Downs	4.48	200	P	Pn	01 30 16.6 +1.2
CNGZ	Carnagh Statio	4.80	62	P	Pn	01 30 20.8 +1.4
TWGZ	Tauwhareparae	4.82	58	P	Pn	01 30 20.4 +0.7
WKZ	Wanaka	4.85	214	P	Pn	01 30 20.3 +0.3
HAZ	Te Kaha	4.95	53	P	Pn	01 30 20.6 -0.8
EAZ	Earnscleugh	5.07	209	P	Pn	01 30 22.6 -0.1
WMGZ	Waiomatatini S	5.31	57	P	Pn	01 30 25.7 -0.1
MXZ	Matakaoa Point	5.40	54	P	Pn	01 30 27.0 +0.1
MXZ	Matakaoa Point	5.40	54	P	Pn	01 30 27.4 +0.5
TUZ	Tuapeka	5.59	203	P	Pn	01 30 30.0 +0.8
MLZ	Mavora Lakes	5.66	216	P	Pn	01 30 31.4 +1.3
WHZ	Wether Hill Ro	6.15	213	P	Pn	01 30 36.2 -0.1

*GUC **24** 01:30:23.9±0.8, 31°.42S×70°.61W, h115km±5km, ML2.8*
*SJA **24** 01:30:23.0, 31°.42S×70°.72W, h109km, ML2.7*
ISC 24 01:30:23.0±1.6, 31°.43S±0°.03×70°.66W±0°.06, h116km±11km, n31, σ0s81/36, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CO03	El Pedregal	0.59	358		eP	Pn	01 30 41.6	+0.2
CO03					eS	Sn	01 30 54.8	-0.3
CO03				IAML			01 30 55.7	
comp=E,489nm,0.1s								
CO03	El Pedregal	0.59	358	i P		Pn	01 30 40.9	-0.5
CO04	Los Peladeros	0.67	203	eP		Pn	01 30 42.1	0.0
CO04					eS	Sn	01 30 56.0	-0.5
CO04				IAML			01 30 59.3	
comp=E,223nm,0.1s								
CO06	Fray Jorge	1.12	312	eP		Pn	01 30 47.0	+1.0
CO06					eS	Sn	01 31 04.1	+0.7
RTLS	Leoncito	1.22	108	i P		Pn	01 30 47.5	+0.1
GO04	Tololo Observa	1.26	355	eP		Pn	01 30 48.0	+0.2
GO04					eS	Sn	01 31 06.2	-0.3
GO04				IAML			01 31 08.7	
comp=E,236nm,0.5s								
GO04	Tololo Observa	1.26	355	i P		Pn	01 30 47.4	-0.4
VA03	San Esteban	1.33	176	eP		Pn	01 30 48.9	+0.4
VA03					eS	Sn	01 31 08.0	+0.3
VA03				IAML			01 31 09.6	
comp=E,286nm,0.1s								
VA03	San Esteban	1.33	176	i P		Pn	01 30 48.4	0.0
DOCA	Reserva Natura	1.44	71	i P		Pn	01 30 48.9	-1.0
CO01	Juntas del Tor	1.53	19	i P		Pn	01 30 51.0	+0.1
CO05	La Serena	1.59	342	eS		Sn	01 31 12.6	-0.1
CO05				IAML			01 31 13.7	
comp=E,119nm,0.2s								
ACCO	Cerro Coronel	1.61	59	i P		Pn	01 30 52.1	+0.3
MT02	Curacav	1.87	192	i P		Pn	01 30 54.0	-0.6
RTLL	Cerro Villicun	1.88	87	i P		Pn	01 30 53.6	-1.2
ASAL	Salagasta	1.94	127	i P		Pn	01 30 56.6	+1.0
MT04	Ro Olivares	2.02	167	i P		Pn	01 30 57.7	+0.9
ARCO	CERRO ARCO	2.03	134	i P		Pn	01 30 58.9	+2.0
MT03	Universidad Ad	2.06	176	i P		Pn	01 30 57.7	+0.5
AAGR	Agrelo	2.27	137	i P		Pn	01 31 01.5	+1.7
LCO	Las Campanas	2.41	359	eP		Pn	01 31 02.1	+0.2
LCO	Las Campanas	2.41	359	i P		Pn	01 31 01.4	-0.5
MT01	Popeta	2.48	191	i P		Pn	01 31 01.9	-0.5
AVFE	Valle Fertil	2.86	75	i P		Pn	01 31 07.1	-0.4
BO01	Tunca	2.97	187	i P		Pn	01 31 08.1	-0.8
AC04	Llanos de Chal	3.24	354	i P		Pn	01 31 13.9	+1.5
BO02	Sierra Bellavi	3.35	182	i P		Pn	01 31 13.8	-0.1
VCA	Vinchina	3.43	39	i P		Pn	01 31 15.1	0.0
GO05	Hualane	3.72	196	i P		Pn	01 31 17.3	-1.5
ACLC	CERRO LA CRUZ	3.78	59	i P		Pn	01 31 19.1	-0.6
AC01	Pan de Azucar	5.26	1	i P		Pn	01 31 39.7	+0.1

*OSPL **24** 01:40:26.2±1.2, 19°.72N×71°.39W, h0km±5km, ML2.2*
*SDD **24** 01:40:27.2±1.8, 19°.69N×71°.25W, h15km±86km, MD2.5, ML2.3, MW2.7*
ISC 24 01:40:24.1±0.9, 19°.74N±0°.03×71°.31W±0°.03, h14km±7km, n16, σ0s46/27, 8C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LOPP1	Punta Rusia, P	0.15	41	i P		Pg	01 40 27.6	-0.4
LOPP1					eS	Sg	01 40 31.0	+0.5
LOPP1				IAML			01 40 32.3	
comp=Z,850nm,1.3s								
MCDR	Montecristi	0.36	295	⇑	ePg	Pn	01 40 34.9	0.0
MCDR				⇑	eSg	Sn	01 40 41.9	0.0
MCDR				IAML			01 40 44.6	
comp=N,159nm,0.5s								
MCDR				IAML			01 40 44.8	
comp=N,144nm,0.1s								
LODA1	ITESIL, Dajabo	0.42	243	i P		Pg	01 40 32.5	-0.1
LODA1					eS	Sg	01 40 38.0	-0.3
LODA1				IAML			01 40 39.5	
comp=Z,1μm,3.3s								
REDR	Restauracion	0.58	188	⇓	ePg	Pb	01 40 36.8	+0.8
REDR				⇑	eSg	Sb	01 40 44.9	+0.9
REDR				IAML			01 40 45.4	
comp=E,771nm,0.2s								
REDR				IAML			01 40 46.1	
comp=N,510nm,0.1s								
SC01	Santiago de lo	0.63	120	i P		Pn	01 40 38.6	+0.1
SC01					eS	Sn	01 40 47.8	-0.6
SC01				IAML			01 40 55.1	
comp=Z,76nm,0.5s								
SDDR	Presa de Saban	0.75	179	⇑	ePg	Pn	01 40 40.2	-0.2
SDDR				⇑	eSg	Sb	01 40 48.9	-0.3
SDDR				IAML			01 40 50.8	
comp=N,96nm,0.3s								
SDDR				IAML			01 40 51.3	
comp=E,79nm,0.3s								
SDDR	Presa de Saban	0.75	179	i P		Pb	01 40 39.2	+0.1
SDDR					eS	Sb	01 40 49.3	+0.1
SDDR				IAML			01 40 50.1	
comp=Z,54nm,0.2s								
ABDR	Alto Bandera	1.12	145	⇑	ePg	Pg	01 40 46.4	+0.5
ABDR				IAML			01 41 06.5	
comp=E,55nm,0.6s								
ABDR				IAML			01 41 07.1	
comp=N,47nm,1.1s								
LONE3	El Aguacate, B	1.14	187	i P		Pg	01 40 46.1	0.0
LONE3					eS	Sg	01 41 00.8	-0.1
LONE3				IAML			01 41 03.4	
comp=Z,22nm,0.7s								
JIDR	Jimani	1.34	203	eP		Pg	01 40 49.8	-0.2
JIDR				⇑	eSg	Sg	01 41 08.4	+0.9
JIDR				IAML			01 41 09.2	
comp=N,87nm,0.6s								
JIDR				IAML			01 41 13.7	
comp=E,12nm,0.1s								
LODU1	El Espartillar	1.39	187	i P		Pg	01 40 50.7	-0.1
LODU1				IAML			01 41 24.8	
comp=Z,42nm,2.6s								
PODR	Polo	1.56	179	i P		Pg	01 40 53.6	-0.6
PODR					eS	Sg	01 41 14.8	+0.2
PODR				IAML			01 41 18.4	
comp=Z,19nm,1.4s								
BANI	BANI	1.61	146	IAML			01 41 22.8	
comp=N,52nm,0.5s								
GRTK	Grand Turk	1.77	5	i P		Pb	01 40 56.5	+0.2
GRTK				IAML			01 41 22.4	
comp=Z,19nm,0.7s								
LOBH	Bahia de las A	1.89	190	i P		Pb	01 40 57.6	-0.9
LOBH				IAML			01 41 32.8	
comp=Z,24nm,2.0s								
HATOM	Hato Mayor del	2.05	117	ePg		Pb	01 41 00.9	-0.2
HATOM				IAML		Sb	01 41 26.6	+0.1
comp=E,17nm,1.2s								
HATOM				⇑	eSg	Sb	01 41 26.6	+0.1
HATOM				IAML			01 41 33.4	
comp=N,15nm,1.4s								

TRN 24 01:44:44.4, 16°.15N×61°.53W, h27km, MD3.6, South of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TBG	Guadaloupe-3	0.31	200		eP	Pn	01 44 52.8	-0.4
TBG					eS	Sn	01 44 59.2	+0.3
DSLB	Salisbury	0.71	171		eP	Pn	01 45 00.5	+1.7
DSLB					eS	Sn	01 45 10.7	+1.7
MBWH		0.87	313		eP	Pn	01 45 03.2	+2.3
MBWH					eS	Sn	01 45 15.4	+2.6
MBFL	Flemmings, Mon	0.89	313		eP	Pb	01 45 03.5	+2.3
MBFL					eS	Sn	01 45 15.9	+2.7
ANBD	Bethesda, Anti	0.92	346		eP	Pb	01 45 03.5	+1.6
ANBD					eS	Sn	01 45 15.9	+1.8
ANWB	Willy Bob	1.53	351		eP	Pb	01 45 12.4	+0.2
ANWB					eS	Sb	01 45 31.5	+0.3
SKI	Saint Kitts	1.65	316		eP	Pn	01 45 12.9	+1.2
SKI					eS	Sb	01 45 34.1	-0.6
BIM	Bigot	1.68	165		eP	Pb	01 45 14.3	-0.4
BIM					eS	Sb	01 45 35.6	+0.1
SLBI	Saint Lucia, B	2.18	166		eP	Pb	01 45 21.2	-2.0

*OSPL **24** 01:50:38.8±1.9, 19°.75N×71°.39W, h5km±15km, ML2.1*
*SDD **24** 01:50:40.9±2.2, 19°.67N×71°.29W, h16km±83km, MD3.2, ML2.2, MW2.9*
ISC 24 01:50:36.8±1.3, 19°.76N±0°.04×71°.28W±0°.04, h14km±10km, n13, σ0s53/24, 9C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MCDR	Montecristi	0.38	291	⇓	ePg	Pn	01 50 48.5	+0.8
MCDR				⇑	eSg	Sn	01 50 54.7	-0.2
MCDR				IAML			01 50 57.1	
comp=E,115nm,0.3s								
MCDR				IAML			01 50 57.7	
comp=N,239nm,0.1s								
LODA1	ITESIL, Dajabo	0.45	242	i P		Pg	01 50 45.8	0.0
LODA1				IAML			01 50 51.4	
comp=Z,862nm,1.0s								
LODA1					eS	Sg	01 50 51.5	-0.4
REDR	Restauracion	0.60	190	⇑	ePg	Pn	01 50 50.2	-0.6
REDR				⇓	eSg	Sb	01 50 58.1	+0.7
REDR				IAML			01 50 58.9	
comp=N,368nm,0.1s								
REDR				IAML			01 50 59.1	
comp=E,292nm,0.2s								
SC01	Santiago de lo	0.62	122	i P		Pn	01 50 51.2	+0.1
SC01					eS	Sn	01 51 01.4	+0.6
SC01				IAML			01 51 11.6	
comp=Z,63nm,0.3s								
SDDR	Presa de Saban	0.77	180	⇓	ePg	Pn	01 50 53.0	-0.3
SDDR				⇑	eSg	Sb	01 51 01.9	-0.5
SDDR				IAML			01 51 02.7	
comp=N,83nm,0.8s								
SDDR				IAML			01 51 03.0	
comp=E,79nm,0.7s								
SDDR	Presa de Saban	0.77	180	i P		Pn	01 50 52.6	-0.7
SDDR					eS	Sg	01 51 02.4	+0.4
SDDR				IAML			01 51 05.8	
comp=Z,54nm,0.3s								
ABDR	Alto Bandera	1.13	147	⇑	ePg	Pg	01 50 58.8	+0.2
ABDR				⇑	eSg	Sb	01 51 12.2	-0.6
ABDR				IAML			01 51 17.8	
comp=E,42nm,1.0s								
ABDR				IAML			01 51 17.8	
comp=N,33nm,0.6s								
LONE3	El Aguacate, B	1.16	188	i P		Pg	01 50 59.2	0.0
LONE3					eS	Sb	01 51 13.4	-0.3
LONE3				IAML			01 51 17.7	
comp=Z,18nm,0.9s								
LODU1	El Espartillar	1.41	187	i P		Pg	01 51 04.2	+0.3
LODU1				IAML			01 51 27.2	
comp=Z,40nm,1.8s								
PODR	Polo	1.58	180	⇑	ePg	Pb	01 51 06.4	+0.5
PODR				⇑	eSg	Sg	01 51 27.5	-0.3
PODR				IAML			01 51 34.7	
comp=E,24nm,1.6s								
PODR				IAML			01 51 45.1	
comp=N,26nm,4.2s								
PODR	Polo	1.58	180	i P		Pg	01 51 06.8	-0.5
PODR					eS	Sb	01 51 25.7	-0.2
PODR				IAML			01 51 30.5	
comp=Z,14nm,1.4s								
BANI	BANI	1.62	147	⇑	ePg	Pg	01 51 07.9	0.0
BANI				⇓	eSg	Sg	01 51 29.0	+0.1
BANI				IAML			01 51 29.4	
comp=E,37nm,1.2s								
BANI				IAML			01 51 54.6	
comp=N,47nm,2.0s								
GRTK	Grand Turk	1.75	5	eS		Sb	01 51 29.4	-1.1
GRTK				IAML			01 51 35.5	
comp=Z,36nm,1.9s								

*SDD **24** 02:05:53.1±1.9, 19°.95N×70°.46W, h22km±999km, MD3.1, ML2.3, MW3.0*
*OSPL **24** 02:06:07.5±0.9, 19°.71N×71°.42W, h0km±7km, ML1.7*
ISC 24 02:06:03.4±1.1, 19°.75N±0°.05×71°.36W±0°.09, h10km, n11, σ1s82/15, 4C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MCDR	Montecristi	0.32	297	⇓	ePg	Pb	02 06 11.5	+0.3
MCDR				IAML			02 06 25.9	
comp=N,68nm,0.1s								
MCDR				IAML			02 06 32.4	
comp=E,42nm,1.2s								
REDR	Restauracion	0.58	183	⇓	ePg	Pn	02 06 17.9	+0.1
REDR				IAML			02 06 27.6	
comp=E,213nm,0.2s								
REDR				IAML			02 06 37.4	
comp=N,32nm,0.1s								
SC01	Santiago de lo	0.68	118	eS		Sn	02 06 29.8	+0.1
SC01				IAML			02 06 31.4	
comp=Z,24nm,0.4s								
SDDR	Presa de Saban	0.77	175	⇑	ePg	Pg	02 06 14.0	-4.3
SDDR				⇓	e		02 06 16.1	
SDDR				⇓	eSg	Sb	02 06 30.2	+0.8
SDDR				IAML			02 06 31.5	
comp=E,25nm,0.3s								
SDDR				IAML			02 06 32.0	
comp=N,32nm,0.3s								
SDDR	Presa de Saban	0.77	175	i P		Pn	02 06 20.2	-0.1
SDDR					eS	Sb	02 06 30.4	+0.9
SDDR				IAML			02 06 32.6	
comp=Z,19nm,0.4s								
LONE3	El Aguacate, B	1.14	185	i P		Pn	02 06 27.1	+1.5
LONE3					eS	Sn	02 06 42.0	+0.6
LONE3				IAML			02 06 43.6	
comp=Z,15nm,1.5s								
JIDR	Jimani	1.34	201	⇑	ePg	Pn	02 06 25.8	-2.3
JIDR				IAML			02 06 54.2	
comp=N,19nm,0.3s								
JIDR				IAML			02 06 57.3	
comp=E,18nm,0.3s								
LODU1	El Espartillar	1.40	185	i P		Pg	02 06 32.1	+1.9
PODR	Polo	1.58	177	⇑	ePg	Pn	02 06 25.4	-6.3
PODR				⇑	eSg	Sn	02 06 49.9	-2.3
PODR				IAML			02 06 53.6	
comp=E,21nm,0.8s								
PODR				IAML			02 07 19.9	
comp=N,23nm,1.4s								
PODR	Polo	1.58	177	i P		Pg	02 06 34.8	+1.1
PODR					eS	Sg	02 06 55.4	+1.1
PODR				IAML			02 06 58.1	
comp=Z,12nm,1.4s								
GRTK	Grand Turk	1.76	7	eS		Sg	02 07 00.7	+0.5
GRTK				IAML			02 07 05.9	
comp=Z,25nm,1.4s								

IDC 24 02:14:39.3±1.1, 6°.01N×125°.40E, h0km, mb3.6/4, mbtmp3.6/4, MS2.6/2, Error ellipse: s-maj=40.2km s-min=11.9km az=94.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	1.07	10		Pg	Pg	02 14 59.7	-0.1
68nm,0.3s,baz=342,slow=6.4,SNR=7.1								
DAV					Lg	Lg	02 15 14.9	
94nm,0.3s,baz=276,slow=21,SNR=7.6								
PSI	Prapat	26.58	264		LR	LR	02 30 57.0	
comp=Z,12nm,20.3s,baz=72,slow=37								
WRA	Warramunga Arr	27.25	161		P	P	02 20 25.0	-0.3
0.3nm,0.6s,baz=343,slow=10,SNR=1.8								
0.3nm,0.6s								
ASAR	Alice Springs	30.64	165		P	P	02 20 56.0	+0.5
0.5nm,0.5s,baz=342,slow=7.0,SNR=11								
0.5nm,0.5s								
NWAO	Narrogin (SRO)	39.49	191		LR	LR	02 40 04.2	
comp=Z,9.4nm,18.7s,baz=250,slow=39								
MKAR	Makanchi Array	54.94	325		P	P	02 24 13.1	+1.0
0.5nm,0.5s,baz=115,slow=7.2,SNR=8.0								
0.5nm,0.5s								
KURBB	Kurchatov Arra	59.12	327		P	P	02 24 40.2	-1.4
0.6nm,0.7s,baz=125,slow=5.9,SNR=7.5								
0.6nm,0.7s								

*SSNC **24** 02:20:31.3±2.4, 19°.74N×71°.19W, h7km±18km, MD3.6, ML3.1, MW2.7*
*OSPL **24** 02:20:32.2±1.9, 19°.69N×71°.35W, h0km±14km, ML2.7*
*SDD **24** 02:20:32.2±2.3, 19°.70N×71°.33W, h13km±19km, MD2.7, ML3.0, MW3.3*
ISC 24 02:20:30.4±0.9, 19°.71N±0°.02×71°.33W±0°.02, h10km±8km, n30, σ0s90/56, 14C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LOPP1	Punta Rusia, P	0.19	42	i P		Pg	02 20 32.8	-1.7
LOPP1					eS	Sg	02 20 37.3	+0.1
LOPP1				IAML			02 20 38.6	
comp=Z,2μm,0.8s								
MAO1	Mao	0.29	124	⇓	ePg	Pg	02 20 36.8	+0.5
MAO1				⇑	eSg	Sg	02 20 41.0	+0.9
MCDR	Montecristi	0.35	300	eP		Pb	02 20 39.1	+0.3
MCDR				⇓	ePg	Pg	02 20 39.3	+1.9
MCDR				IAML			02 20 49.5	
comp=N,1μm,0.1s								
MCDR				IAML			02 20 49.6	
comp=N,1μm,0.1s								
MCDR				IAML			02 20 50.8	
comp=E,846nm,0.4s								
LODA1	ITESIL, Dajabo	0.39	245	i P		Pg	02 20 37.1	-0.9
LODA1				IAML			02 20 43.1	
comp=Z,1μm,1.1s								
LODA1					eS	Sg	02 20 43.3	0.0
REDR	Restauracion	0.55	186	⇑	ePg	Pb	02 20 42.2	+0.1
REDR				⇑	eSg	Sb	02 20 50.2	+0.2
REDR				IAML			02 20 50.6	
comp=E,4μm,0.2s								
REDR				IAML			02 20 50.9	
comp=N,3μm,0.1s								
REDR				IAML			02 20 51.0	
comp=N,3μm,0.1s								
SC01	Santiago de lo	0.64	116	eP		Pg	02 20 43.2	+0.5
SC01					eSg	Sb	02 20 53.3	+0.7
SC01				IAML			02 20 56.0	
comp=N,292nm,0.5s								
SC01				IAML			02 20 56.0	
comp=N,292nm,0.5s								
SC01				IAML			02 20 59.9	
comp=E,364nm,0.6s								
SC01	Santiago de lo	0.64	116	i P		Pg	02 20 43.1	+0.3
SC01					eS	Sb	02 20 52.7	+0.1
SC01				IAML			02 20 60.0	
comp=Z,234nm,0.4s								
SODR	Sosua Marina B	0.71	87	⇑	ePg	Pg	02 20 43.1	-1.1
SODR				⇑	eSg	Sb	02 20 55.0	+0.2
SODR				IAML			02 21 04.4	
comp=E,492nm,0.8s								
SODR				IAML			02 21 13.5	
comp=N,414nm,1.6s								
SODR				IAML			02 21 13.5	
comp=N,414nm,1.6s								
SDDR	Presa de Saban	0.73	177	eP		Pg	02 20 44.1	-0.4
SDDR				i S		Sg	02 20 54.2	+0.2
SDDR				IAML			02 20 56.3	
comp=Z,1μm,1.0s								
SDDR	Presa de Saban	0.73	177	⇑	ePg	Pg	02 20 44.4	-0.1
SDDR				⇓	eSg	Sg	02 20 54.5	+0.5
SDDR				IAML			02 20 54.9	
comp=N,719nm,0.8s								
SDDR				IAML			02 20 55.0	
comp=N,713nm,0.8s								
SDDR				IAML			02 20 56.4	
comp=E,580nm,0.5s								
SDDR	Presa de Saban	0.73	177	i P		Pg	02 20 44.4	-0.1
SDDR					eS	Sg	02 20 53.8	-0.3
SDDR				IAML			02 20 56.4	
comp=Z,437nm,0.5s								
LONE3	El Aguacate, B	1.11	186	i P		Pb	02 20 51.1	-0.6
LONE3					eS	Sb	02 21 06.1	-0.2
LONE3				IAML			02 21 11.6	
comp=Z,151nm,0.8s								
JIDR	Jimani	1.31	202	eP		Pb	02 20 55.3	+0.2
JIDR				⇑	eSg	Sb	02 21 11.1	-0.9
JIDR				IAML			02 21 18.4	
comp=N,244nm,0.5s								
JIDR				IAML			02 21 18.4	
comp=N,244nm,0.5s								
JIDR				IAML			02 21 21.5	
comp=E,230nm,0.6s								
LODU1	El Espartillar	1.36	186	i P		Pn	02 20 55.7	+0.3
LODU1				IAML			02 21 21.4	
comp=Z,174nm,0.6s								
NADR	Nagua	1.44	104	⇑	ePg	Pb	02 20 57.4	+0.1
NADR				⇑	eSg	Sg	02 21 17.0	+0.3
NADR				IAML			02 21 26.9	
comp=E,271nm,0.7s								
NADR				IAML			02 21 29.8	
comp=N,391nm,0.3s								
NADR				IAML			02 21 29.8	
comp=N,391nm,0.3s								
PAPH	Port-au-Prince	1.50	218	i P		Pb	02 20 58.7	+0.4
PAPH				i S		Sg	02 21 19.5	+0.9
PAPH				IAML			02 21 30.0	
comp=N,104nm,0.3s								
PAPH				IAML			02 21 31.9	
comp=E,102nm,0.4s								
PAPH	Port-au-Prince	1.50	218	i P		Pn	02 20 57.8	+0.5
PAPH				IAML			02 21 29.9	
comp=Z,58nm,0.7s			

LOBH	Bahia de las A	1.86	189	*i* P		Pb	02 21 04.0	-0.5
LOBH				IAML			02 21 43.3	
	comp=Z,48nm,1.3s							
LOVI	El Cajuil, Ovi	1.91	181	*i* P		Pb	02 21 04.7	-0.5
LOVI				IAML			02 21 40.4	
	comp=Z,76nm,0.8s							
HATOM	Hato Mayor del	2.06	116	*e*Pg		Pn	02 21 06.2	+1.1
HATOM				⇑*e*Sg		Sb	02 21 32.4	-1.3
HATOM				IAML			02 21 36.7	
	comp=N,65nm,0.3s							
HATOM				IAML			02 21 36.8	
	comp=N,65nm,0.3s							
HATOM				IAML			02 21 43.8	
	comp=E,48nm,0.6s							
MASC	Masc	2.77	280	*i* P		Pn	02 21 14.6	-0.2
MASC				*i* S		Sn	02 21 49.8	+1.6
MASC				IAML			02 21 58.4	
	comp=E,48nm,0.3s							
MASC				IAML			02 21 59.0	
	comp=N,77nm,0.7s							
QMBU	Quimbuelo	3.31	279	*i* P		Pn	02 21 23.6	+1.3
QMBU				*e*S		Sn	02 22 00.6	-1.1
QMBU				*e*Sg		Sb	02 22 07.3	-2.2
QMBU				IAML			02 22 12.8	
	comp=N,52nm,0.2s							
QMBU				IAML			02 22 13.3	
	comp=E,64nm,0.3s							
MOAC	Moa	3.53	286	*i* P		Pn	02 21 25.5	+0.1
MOAC				*i* S		Sn	02 22 05.6	-1.6
MOAC				IAML			02 22 24.9	
	comp=N,20nm,0.5s							
MOAC				IAML			02 22 27.0	
	comp=E,15nm,0.6s							
GTBY	Guantanamo Bay	3.56	274	*i* P		Pn	02 21 26.2	+0.5
GTBY				*i* S		Sn	02 22 08.1	+0.2
GTBY				IAML			02 22 16.5	
	comp=E,15nm,0.5s							
GTBY				IAML			02 22 17.5	
	comp=E,16nm,0.5s							
RCC	Rio Carpintero	4.12	275	*i* P		Pn	02 21 35.1	+1.8
RCC				*i* S		Sn	02 22 21.3	-0.3
RCC				IAML			02 22 31.0	
	comp=N,6.0nm,0.8s							
RCC				IAML			02 22 31.7	
	comp=E,11nm,0.7s							
PINC	Pinares de May	4.26	281	*i* P		Pn	02 21 36.2	+0.9
PINC				*i* S		Sn	02 22 22.9	-2.2
PINC				IAML			02 22 35.9	
	comp=N,9.1nm,0.5s							
PINC				IAML			02 22 38.6	
	comp=E,8.4nm,1.8s							

*OSPL **24** 02:29:08.7±1.4, 19°.72N×71°.36W, h0km±7km, ML2.1*
*SDD **24** 02:29:09.5±2.2, 19°.69N×71°.27W, h18km±28km, MD2.7, ML2.2, MW3.0*
ISC 24 02:29:06.4±1.2, 19°.73N±0°.03×71°.30W±0°.04, h15km±10km, n17, σ0°66/29, 12C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	Punta Rusia, P	0.16	37	*e*S	Sb	02 29 14.0	-0.2
LOPP1				IAML		02 29 14.8	
	comp=Z,865nm,1.2s						
MCDR	Montecristi	0.37	296	⇑*e*Pg	Pn	02 29 17.0	-0.2
MCDR				⇑*e*S	Sn	02 29 24.2	0.0
MCDR				IAML		02 29 27.1	
	comp=N,196nm,0.5s						
MCDR				IAML		02 29 29.6	
	comp=E,181nm,0.2s						
LODA1	ITESIL, Dajabo	0.42	245	*e*S	Sg	02 29 20.0	-0.6
LODA1				IAML		02 29 22.0	
	comp=Z,515nm,1.7s						
REDR	Restauracion	0.56	189	⇑*e*Pg	Pn	02 29 19.2	-0.6
REDR				⇑*e*Sg	Sn	02 29 27.4	-1.4
REDR				IAML		02 29 28.2	
	comp=N,433nm,0.1s						
REDR				IAML		02 29 28.4	
	comp=E,595nm,0.2s						
SC01	Santiago de lo	0.62	119	*i* P	Pn	02 29 20.5	-0.1
SC01				*e*S	Sn	02 29 29.9	-0.3
SC01				IAML		02 29 37.5	
	comp=Z,54nm,0.5s						
SDDR	Presa de Saban	0.74	179	⇑*e*Pg	Pb	02 29 21.5	+0.5
SDDR				IAML		02 29 31.8	
	comp=E,68nm,0.5s						
SDDR				⇑*e*Sg	Sb	02 29 31.9	+1.0
SDDR				IAML		02 29 33.1	
	comp=N,62nm,0.3s						
SDDR	Presa de Saban	0.74	179	*i* P	Pb	02 29 21.5	+0.5
SDDR				*e*S	Sb	02 29 31.1	+0.2
SDDR				IAML		02 29 32.9	
	comp=Z,57nm,0.6s						
ABDR	Alto Bandera	1.11	145	⇑*e*Pg	Pb	02 29 27.3	-0.2
ABDR				⇓*e*Sg	Sb	02 29 41.9	+0.1
ABDR				IAML		02 29 43.9	
	comp=E,41nm,2.4s						
ABDR				IAML		02 29 49.4	
	comp=N,47nm,0.3s						
LONE3	El Aguacate, B	1.12	188	*i* P	Pg	02 29 28.3	+0.1
LONE3				IAML		02 29 46.8	
	comp=Z,26nm,1.1s						
JIDR	Jimani	1.33	203	*e*Pg	Pg	02 29 31.7	-0.4
JIDR				⇑*e*Sg	Sg	02 29 50.4	+1.0
JIDR				IAML		02 29 51.6	
	comp=N,96nm,0.5s						
JIDR				IAML		02 29 58.7	
	comp=E,55nm,0.4s						
LODU1	El Espartillar	1.38	187	*i* P	Pg	02 29 33.2	+0.4
LODU1				IAML		02 29 57.9	
	comp=Z,44nm,0.4s						
PODR	Polo	1.55	179	⇑*e*Pg	Pg	02 29 35.7	-0.6
PODR				⇑*e*Sg	Sb	02 29 55.0	+0.5
PODR				IAML		02 30 05.8	
	comp=E,34nm,0.3s						
PODR				IAML		02 30 11.0	
	comp=N,24nm,1.1s						
PODR	Polo	1.55	179	*i* P	Pg	02 29 35.9	-0.4
PODR				*e*S	Sg	02 29 56.0	-0.4
PODR				IAML		02 29 58.8	
	comp=Z,22nm,0.5s						
BANI	BANI	1.60	146	⇓*e*Pg	Pg	02 29 36.5	-0.7
BANI				⇑*e*Sg	Sg	02 29 58.2	+0.3
BANI				IAML		02 30 03.7	
	comp=E,51nm,0.7s						
BANI				IAML		02 30 09.5	
	comp=N,31nm,0.5s						
GRTK	Grand Turk	1.78	5	*i* P	Pb	02 29 39.3	+0.5
GRTK				*e*S	Sb	02 30 01.3	+0.4
GRTK				IAML		02 30 06.1	
	comp=Z,11nm,1.2s						
LOBH	Bahia de las A	1.88	190	*i* P	Pb	02 29 41.1	+0.7
LOBH				IAML		02 30 07.4	
	comp=Z,20nm,1.7s						
HATOM	Hato Mayor del	2.04	117	⇓*e*Pg	Pb	02 29 43.7	+0.5
HATOM				⇑*e*Sg	Sb	02 30 09.9	+1.5
HATOM				IAML		02 30 20.2	
	comp=N,13nm,0.7s						
HATOM				IAML		02 30 30.4	
	comp=E,12nm,2.3s						

*CATAC **24** 02:58:12.2±0.4, 13°.20N×89°.59W, h27km±2km, ML4.5*
*IDC **24** 02:58:14.1±1.8, 13°.32N×89°.45W, h83km±18km, mb3.4/8, mbtmp3.7/10, MS2.9/8, Error ellipse: s-maj=40.1km s-min=12.1km az=36.0*
*NEIC **24** 02:58:14.4±2.2, 13°.30N±0°.06×89°.47W±0°.06, h55km±13km, mb4.0/20, Error ellipse: s-maj=9.8km s-min=7.8km az=218.0*
*GCG **24** 02:58:16.8±0.3, 13°.56N×89°.75W, h93km±12km, MD4.1*
ISC 24 02:58:12.9±0.8, 13°.28N±0°.05×89°.56W±0°.03, h60km±6km, n135, σ1s17/173, mb3.9/13, MS3.0/5, 1C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	Alcalda de L	0.31	48	⇓*i* P	Pn	02 58 22.6	-0.5
LALI	Alcalda de L	0.31	48	*i* P	Pn	02 58 22.4	-0.6
LALI				*i* S	Sn	02 58 29.7	-0.7
LALI				IAML		02 58 32.4	
	comp=Z,11μm,1.0s						
JAYA	Jayaque - finc	0.39	16	*i* P	Pn	02 58 23.5	-0.4
JAYA	Jayaque - finc	0.39	16	*i* P	Pn	02 58 23.4	-0.5
JAYA				*i* S	Sn	02 58 31.6	-0.3
JAYA				IAML		02 58 32.3	
	comp=Z,110μm,1.0s						
ITCA	Escuela Especi	0.48	35	*e*P	Pn	02 58 24.5	-0.2
ITCA	Escuela Especi	0.48	35	*i* P	Pn	02 58 24.5	-0.2
ITCA				*i* S	Sn	02 58 33.7	+0.4
ITCA				IAML		02 58 35.8	
	comp=Z,53μm,1.0s						
PMON	Piamonte	0.49	29	*i* P	Pn	02 58 24.8	-0.1
PMON				*i* S	Sn	02 58 33.9	+0.4
PMON				IAML		02 58 37.9	
	comp=Z,54μm,1.0s						
PANCS	Alcalda de	0.50	48	*i* P	Pn	02 58 24.5	-0.3
PANCS				*i* S	Sn	02 58 32.9	-0.6
PANCS				IAML		02 58 33.4	
	comp=Z,94μm,1.0s						
SNET	Serv Nac Est T	0.52	38		Pn	02 58 24.9	-0.2
SNET	Serv Nac Est T	0.52	38	*i* P	Pn	02 58 24.9	-0.2
SNET				*i* S	Sn	02 58 34.3	+0.4
SNET				IAML		02 58 36.3	
	comp=Z,54μm,1.0s						
LOMA	Loma Larga	0.52	46	*e*P	Pn	02 58 25.1	-0.1
LOMA	Loma Larga	0.52	46	*i* P	Pn	02 58 25.1	-0.1
LOMA				*i* S	Sn	02 58 34.6	+0.4
LOMA				IAML		02 58 36.7	
	comp=Z,30μm,1.0s						
BOQS	Boqueron	0.53	31	*i* P	Pn	02 58 25.4	0.0
SEMO	Seminario San	0.53	38	*i* P	Pn	02 58 25.1	-0.2
SEMO				*i* S	Sn	02 58 34.5	+0.2
SEMO				IAML		02 58 41.7	
	comp=Z,52μm,1.0s						
UEES	Universidad Ev	0.54	36	*i* P	Pn	02 58 25.2	-0.1
UEES				*i* S	Sn	02 58 34.9	+0.6
UEES				IAML		02 58 37.0	
	comp=Z,21μm,1.0s						
CEDA	San Andres	0.55	17	*e*P	Pn	02 58 25.5	+0.1
CEDA	San Andres	0.55	17	*i* P	Pn	02 58 25.5	+0.1
CEDA				*i* S	Sn	02 58 35.5	+1.1
CEDA				IAML		02 58 35.9	
	comp=Z,160μm,1.0s						
UTEC	Universidad Te	0.55	40	*i* P	Pn	02 58 25.4	0.0
UTEC				*i* S	Sn	02 58 35.0	+0.5
UTEC				IAML		02 58 36.1	
	comp=Z,40μm,1.0s						
CEVE	Cerro Verde	0.55	353	*e*P	Pn	02 58 25.6	0.0
CEVE	Cerro Verde	0.55	353	*i* P	Pn	02 58 25.6	0.0
CEVE				*i* S	Sn	02 58 35.9	+1.0
CEVE				IAML		02 58 41.4	
	comp=Z,20μm,1.0s						
IGN	Direccin Gen	0.57	41	*i* P	Pn	02 58 25.9	+0.1
IGN	Direccin Gen	0.57	41	*i* P	Pn	02 58 25.8	+0.1
IGN				*i* S	Sn	02 58 35.7	+0.7
IGN				IAML		02 58 39.0	
	comp=Z,110μm,1.0s						
LFRS	El Faro	0.59	55	*i* P	Pn	02 58 25.9	0.0
AEIL	Aeropuerto Ilo	0.60	46	*e*P	Pn	02 58 26.4	+0.5
LFU	La Fuente	0.64	43	*i* P	Pn	02 58 26.8	+0.3
NUBE	Las Nubes	0.66	341	*i* P	Pn	02 58 26.6	-0.1
NUBE	Las Nubes	0.66	341	*i* P	Pn	02 58 26.6	-0.1
NUBE				*i* S	Sn	02 58 36.9	0.0
NUBE				IAML		02 58 37.7	
	comp=Z,46μm,1.0s						
UNIC	Universidad Ca	0.70	1	*i* P	Pn	02 58 27.6	+0.4
UNIC				IAML		02 58 28.0	
	comp=Z,13μm,1.0s						
UNIC				*i* S	Sn	02 58 39.4	+1.8
FAME	Alcaldia de Sa	0.71	322	*i* S	Sn	02 58 37.6	-0.3
COEG	Centro de Oper	0.74	63	*i* P	Pn	02 58 27.7	0.0
COEG				*e*S	Sn	02 58 39.1	+0.5
COEG	Centro de Oper	0.74	63	*i* P	Pn	02 58 27.7	0.0
COEG				*i* S	Sn	02 58 39.4	+0.9
COEG				IAML		02 58 42.3	
	comp=Z,26μm,1.0s						
PAVA	Las Pavas	0.74	54	*i* P	Pn	02 58 28.3	+0.6
PAVA				*i* S	Sn	02 58 40.3	+1.7
PAVA				IAML		02 58 41.1	
	comp=Z,68μm,1.0s						
LOAL	Lomas de Alarc	0.75	343	*e*P	Pn	02 58 28.2	+0.5
LOAL	Lomas de Alarc	0.75	343	*i* P	Pn	02 58 28.1	+0.4
LOAL				*i* S	Sn	02 58 39.2	+0.6
LOAL				IAML		02 58 41.5	
	comp=Z,20μm,1.0s						
TECO	Alcaldia de Te	0.80	71	*i* P	Pn	02 58 28.0	-0.3
TECO				*i* S	Sn	02 58 39.7	0.0
TECO				IAML		02 58 43.2	
	comp=Z,7μm,1.0s						
UESV	Universidad de	0.83	65	*i* P	Pn	02 58 28.9	+0.1
UESV				*i* S	Sn	02 58 41.8	+1.4
UESV				IAML		02 58 47.2	
	comp=Z,8μm,1.0s						
SCLA	Alcaldia de Sa	0.91	62	*i* P	Pn	02 58 30.3	+0.5
SCLA				IAML		02 58 30.8	
	comp=Z,2μm,1.0s						
SCLA				*i* S	Sn	02 58 44.2	+1.9
PQSS	Presa 15 de Se	1.03	70	*i* P	Pn	02 58 31.7	+0.4
PQSS				IAML		02 58 32.0	
	comp=Z,12μm,1.0s						
PQSS				*i* S	Sn	02 58 45.2	+0.3
JUAM	Asuncion Mita	1.06	352	*i* P	Pn	02 58 32.2	+0.4
JUAM				IAML		02 58 32.5	
	comp=Z,4μm,1.0s						
JUAM				*i* S	Sn	02 58 47.4	+1.7
LLGN	La Laguna	1.06	34	*i* P	Pn	02 58 32.3	+0.4
LLGN	La Laguna	1.06	34	*i* P	Pn	02 58 32.2	+0.4
LLGN				IAML		02 58 33.4	
	comp=Z,3μm,1.0s						
MTO3	Montecristo	1.13	10		Pn	02 58 33.3	+0.5
MTO3				Sn	Sn	02 58 48.4	+0.8
MTO3	Montecristo	1.13	10	*i* P	Pn	02 58 33.4	+0.5
MTO3	Montecristo	1.13	10	*i* P	Pn	02 58 33.4	+0.5
MTO3				IAML		02 58 33.5	
	comp=Z,4μm,1.0s						
PACA	Pacayal	1.22	81	*e*P	Pn	02 58 34.5	+0.5
PACA	Pacayal	1.22	81	*i* P	Pn	02 58 34.4	+0.5
PACA				*i* S	Sn	02 58 51.5	+1.9
PACA				IAML		02 58 54.6	
	comp=Z,52μm,1.0s						
LCY	Lacayo	1.24	83	*i* P	Pn	02 58 34.4	+0.3
RANC	El Ranchito	1.25	83	*i* P	Pn	02 58 34.5	+0.2
RANC				*i* S	Sn	02 58 51.6	+1.3
RANC				IAML		02 58 57.0	
	comp=Z,6μm,1.0s						
ESQI	Esquipulas	1.29	9		Pn	02 58 35.8	+0.9
ESQI				Sn	Sn	02 58 47.7	-3.6
ESQI	Esquipulas	1.29	9	*i* P	Pn	02 58 35.8	+0.9
ESQI	Esquipulas	1.29	9	*i* P	Pn	02 58 35.7	+0.9
ESQI				IAML		02 58 35.9	
	comp=Z,3μm,1.0s						
BLLM	Bellamira	1.30	83	*e*P	Pn	02 58 35.1	+0.2
CNRM	Centro Naciona	1.36	82	*i* P	Pn	02 58 36.2	+0.5
CNRM				*i* S	Sn	02 58 55.5	+2.6
CNRM				IAML		02 58 57.6	
	comp=Z,17μm,1.0s						
CAHU	Cacacuatique	1.40	69	*i* P	Pn	02 58 36.7	+0.3
NBG	Las Nubes	1.51	330	⇓*e*P	Pn	02 58 39.9	+1.9
LCND	La Caada	1.62	89	*e*P	Pn	02 58 39.7	+0.5
LCND	La Caada	1.62	89	*i* P	Pn	02 58 39.5	+0.3
LCND				*i* S	Sn	02 59 00.8	+1.6
LCND				IAML		02 59 04.8	
	comp=Z,4μm,1.0s						
ESSG	Sabana Grande	1.65	312	*i* P	Pn	02 58 40.1	+0.4
ESSG				*i* S	Sn	02 59 00.0	0.0
ESSG				IAML		02 59 07.9	
	comp=Z,4μm,1.0s						
CNCH	Conchagua	1.68	90	*e*P	Pn	02 58 40.3	+0.2
CNCH	Conchagua	1.68	90	*i* P	Pn	02 58 40.2	+0.2
CNCH				*i* S	Sn	02 59 02.3	+1.6
CNCH				IAML		02 59 06.3	
	comp=Z,8μm,1.0s						
FUG	Fuego 3	1.70	313	⇓*e*P	Pn	02 58 41.8	+1.3
FUG				*e*S	Sn	02 59 01.5	+0.2
INTHN	La Esperanza I	1.75	54	*i* P	Pn	02 58 41.8	+0.6
MRL	Marmol	1.80	356	⇓*i* P	Pn	02 58 43.8	+2.0
CSGN	Cosiguina Volc	1.97	99	*i* P	Pn	02 58 44.0	0.0
CSGN				*i* S	Sn	02 59 08.4	+0.7
CSGN				IAML		02 59 19.5	
	comp=Z,550nm,1.0s						
POTN	Potosi Cosigui	2.02	98	*i* P	Pn	02 58 45.0	+0.4
POTN				*i* S	Sn	02 59 09.8	+1.1
POTN				IAML		02 59 22.4	
	comp=Z,480nm,1.0s						
CHIHN	Chmisales	2.21	32	*i* P	Pn	02 58 48.6	+1.2
COMHN	El Horno	2.26	59	*i* P	Pn	02 58 47.8	-0.3
TGUH	Tegucigalpa,Un	2.35	71		Pn	02 58 49.6	+0.4
TGUH	Tegucigalpa,Un	2.35	71	*i* P	Pn	02 58 49.5	+0.2
TGUH				IAML		02 59 08.0	
	comp=Z,990nm,1.0s						
SOKI	Kika Raxquin	2.36	311	*i* S	Sn	02 59 19.3	+1.7
RTAL	Retalhuleu	2.42	301		Pn	02 58 53.0	+3.0
RTAL				Sn	Sn	02 59 20.3	+1.9
RTAL	Retalhuleu	2.42	301	*i* P	Pn	02 58 51.1	+1.1
RTAL				IAML		02 59 27.4	
	comp=Z,960nm,1.0s						
STG3	Santiaguito 3,	2.42	306	⇓*e*P	Pn	02 58 51.5	+1.3
STG3				⇑*i*S	Sn	02 59 18.4	-0.4
CRIN	San Cristobal	2.51	103		Pn	02 58 50.2	-1.1
CRIN	San Cristobal	2.51	103	*i* P	Pn	02 58 51.8	+0.4
CRIN				*i* S	Sn	02 59 23.6	+2.7
CRIN				IAML		02 59 37.1	
	comp=Z,3μm,1.0s						
PKGN	Cerro Pekin	2.59	103	*i* P	Pn	02 58 52.4	0.0
PKGN				IAML		02 59 35.4	
	comp=Z,4μm,1.0s						
YUSH	Yuscaran	2.73	75	*i* P	Pn	02 58 54.6	+0.3
TELN	Telica	2.74	104	*i* P	Pn	02 58 54.5	-0.1
TELN				IAML		02 59 51.9	
	comp=Z,190nm,1.0s						
POLN	Al Sur del Vol	2.75	103	*i* P	Pn	02 58 55.3	+0.7
POLN				IAML		02 59 05.1	
	comp=Z,8.4nm,1.0s						
HUEH	Huehuetenango	2.77	317		Pn	02 58 56.7	+1.7
PACN	Al O del Volca	2.81	106	*i* P	Pn	02 58 54.7	-0.7
PACN				IAML		02 59 34.8	
	comp=Z,1μm,1.0s						
ILCN	San Idelfonso	2.87	104	*i* P	Pn	02 58 56.4	+0.1
ILCN				IAML		02 59 42.8	
	comp=Z,250nm,1.0s						
CNGA	Al SSO del Vol	2.89	105	*i* P	Pn	02 58 56.8	+0.2
CNGA				IAML		02 59 48.9	
	comp=Z,1μm,1.0s						
MACN	El Madrono	2.93	106	*i* P	Pn	02 58 57.2	+0.2
MACN				*i* S	Sn	02 59 30.6	-0.4
MACN				IAML		02 59 42.0	
	comp=Z,740nm,1.0s						
MOMN	Momotombo	3.07	106	*i* P	Pn	02 58 59.6	+0.6
MOMN				*i* S	Sn	02 59 33.2	-1.3
MOMN				IAML		02 59 36.0	
	comp=Z,28nm,1.0s						
LIMN	Finca el Limon	3.12	94	*i* P	Pn	02 58 59.7	0.0
LIMN				IAML		02 59 52.3	
	comp=Z,270nm,1.0s						
MGAN	Managua	3.42	109	Pn	Pn	02 59 04.0	+0.2
PETF	Flores	3.63	355		Pn	02 59 08.5	+1.9
CCIG	Comitan	3.89	320		Pn	02 59 13.3	+3.0
ACON	Acoyapa	4.47	106		Pn	02 59 17.4	-0.8
ESPN	Las Esperanzas	5.24	101	Pn	Pn	02 59 30.1	+1.4
JTS	Las Juntas de	5.40	123	Pn	Pn	02 59 32.0	+1.1
JTS	Las Juntas de	5.40	123	P	Pn	02 59 32.0	+1.1
	comp=Z,5.2nm,0.4s,baz=100,slow=23,SNR=12						
JTS				S	Sn	03 00 31.9	+0.1
	comp=Z,5.5nm,0.3s,baz=313,slow=22,SNR=0.9						
JTS				LR	LR	03 01 00.0	
	comp=Z,15nm,20.6s,baz=288,slow=31						
SOCE	Pocosol	5.63	120	Pn	Pn	02 59 35.1	+1.1
CMIG	Matias Romero	6.39	307	P	Pn	02 59 46.2	+1.8
	comp=Z,5.5nm,0.6s,baz=94,slow=10.0,SNR=21						
CMIG				S	Sn	03 00 57.1	+1.2
	comp=Z,8.1nm,0.3s,baz=70,slow=20,SNR=8.3						
CMIG				LR	LR	03 02 06.0	
	comp=Z,69nm,21.8s,baz=104,slow=36						
TEIG	Tepich	7.02	10		Pn	02 59 54.5	+1.5
TLIG	Tlapa	9.67	297	Pn	Pn	03 00 33.0	+3.5
SOR	Soroa	11.32	32	Pn	Pn	03 00 54.8	+2.8
061Z	Ochoppi	14.93	32	Pn	Pn	03 01 40.8	+0.3
ZAIG	Zacatecas	15.55	309	Pn	Pn	03 01 51.1	+2.3
833A	Chaparral WMA,	17.55	330	P	P	03 02 16.2	+2.4
833A				IAmb	IAmb	03 02 47.0	
	comp=Z,9.9nm,1.4s						
HNDO	Hondo	18.51	332	P	P	03 02 25.5	+1.1
SDV	Santo Domingo	19.07	101	LR	LR	03 10 27.4	
	comp=Z,46nm,19.0s,baz=180,slow=39						
BRDY	Brady	19.92	336		P	03 02 40.6	+0.9
BRDY				IAmb	IAmb	03 02 41.8	
	comp=Z,3.9nm,0.8s						
WHTX	Lake Whitney,	19.99	340	P	P	03 02 40.8	+0.4
TREL	Terrell	20.26	344	P	P	03 02 44.8	+1.4
TREL				IAmb	IAmb	03 02 45.6	
	comp=Z,7.2nm,0.8s						
Y45A	Yeager Farm, C	20.50	0	P	P	03 02 47.4	+1.5
OZNA	Ozona	20.54	331	P	P	03 02 47.3	+0.7
TX31	Lajitas Ar. Si	20.65	323	P	P	03 02 49.3	+1.4
TXAR	Lajitas Array	20.65	323	P	P	03 02 49.5	+1.6
	comp=Z,1.0nm,0.5s,baz=143,slow=11,SNR=45						
TXAR				LR	LR	03 11 29.6	
	comp=Z,28nm,19.7s,baz=22,slow=38						
	comp=Z,1.0nm,0.5s						
Y49A	Blount Mountai	20.69	7	P	P	03 02 48.6	+0.6
Y49A				IAmb	IAmb	03 02 59.4	
	comp=Z,15nm,1.4s						
GOGA	Godfrey	20.80	14	P	P	03 02 50.8	+1.6
PLPT	Palo Pinto	21.03	339	P	P	03 02 51.2	-0.6
PLPT				IAmb	IAmb	03 03 17.7	
	comp=Z,8.7nm,0.9s						
MIAR	Mount Ida	21.48	351	P	P	03 02 58.2	+1.6
MIAR				IAmb	IAmb	03 03 21.9	
	comp=Z,8.1nm,1.2s						
MNHN	Monahans	21.70	328	P	P	03 03 02.1	+3.1
MNHN				IAmb	IAmb	03 03 02.8	
	comp=Z,2.9nm,0.5s						
APMT	Aspermont	22.16	336	P	P	03 03 03.0	-0.9
APMT				IAmb	IAmb	03 03 03.4	
	comp=Z,3.7nm,0.7s						
VHRN	Van Horn	22.49	323	P	P	03 03 09.5	+1.8
TKL	Tuckaleechee C	22.89	12	P	P	03 03 11.5	-0.1
TKL				IAmb	IAmb	03 03 37.5	
	comp=Z,7.8nm,0.9s						
TKL	Tuckaleechee C	22.89	12	P	P	03 03 10.8	-0.8
	comp=Z,5.8nm,1.0s,baz=173,slow=5.4,SNR=5.0						
TKL				LR	LR	03 11 14.1	
	comp=Z,63nm,21.6s,baz=102,slow=34						
	comp=Z,5.8nm,1.0s						
WMOK	Wichita Mounta	22.94	340	P	P	03 03 11.0	-1.2
WMOK				IAmb	IAmb	03 03 29.0	
	comp=Z,9.0nm,1.5s						
SJG	San Juan	23.03	75	LR	LR	03 12 47.7	
	comp=Z,56nm,20.7s,baz=215,slow=38						
PFO	Pinyon Flats O	31.75	314	LR	LR	03 18 38.7	
	comp=Z,59nm,19.3s,baz=50,slow=38						
PDAR	Pinedale Array	34.09	333	P	P	03 04 51.3	-0.7
	comp=Z,0.2nm,0.3s,baz=129,slow=13,SNR=2.1						
PDAR				PcP	PcP	03 07 26.9	-1.5
	comp=Z,0.3nm,0.5s,baz=123,slow=5.5,SNR=3.8						
	comp=Z,0.2nm,0.3s						
SAML	Samuel	34.26	129	P	P	03 04 52.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.49**	**322**	*eP*	**Pn**	**03 15 13.3**	**+1.0**
AF01	**San Pedro de A**	**1.49**	**322**	*eP*	**Pn**	**03 15 13.7**	**+1.3**
AF01				*eS*	**Sn**	**03 15 39.2**	**-0.1**
AF01				IAML		03 15 58.0	
	comp=Z,125nm,1.4s						
SLA	**San Lorenzo**	**1.64**	**111**	*eP*	**Pn**	**03 15 14.0**	**+0.5**
SLA	**San Lorenzo**	**1.64**	**111**	*eP*	**Pn**	**03 15 14.1**	**+0.5**
SLA				*eS*	**Sn**	**03 15 39.7**	**-1.8**
FSA	**Cafayete**	**2.25**	**151**	*eP*	**Pn**	**03 15 20.4**	**+0.9**
GO02	**Mina Guanaco**	**2.41**	**244**	*eP*	**Pn**	**03 15 22.7**	**+1.4**
GO02				*i* S	**Sn**	**03 15 55.2**	**-0.3**
GO02				IAML		03 15 56.7	
	comp=N,333nm,0.4s						
GO02	**Mina Guanaco**	**2.41**	**244**	*eP*	**Pn**	**03 15 22.7**	**+1.4**
GO02				*eS*	**Sn**	**03 15 55.1**	**-0.4**
YJA	**Yavi**	**2.49**	**39**	*eP*	**Pn**	**03 15 23.2**	**+0.8**
YJA				*i* S	**Sn**	**03 15 55.5**	**-1.8**
YJA	**Yavi**	**2.49**	**39**	*eP*	**Pn**	**03 15 23.6**	**+1.3**
YJA				*eS*	**Sn**	**03 15 56.2**	**-1.1**
PB14	**IPOC Station P**	**2.97**	**260**	*eP*	**Pn**	**03 15 28.7**	**+1.1**
PB14	**IPOC Station P**	**2.97**	**260**	*eP*	**Pn**	**03 15 28.7**	**+1.1**
PB14				*eS*	**Sn**	**03 16 06.0**	**-0.7**
PB14				IAML		03 16 09.3	
	comp=Z,80nm,0.4s						
PB09	**IPOC Station P**	**3.00**	**321**	*eP*	**Pn**	**03 15 29.5**	**+1.6**
PB09				*i* S	**Sn**	**03 16 06.1**	**-1.2**
PB09				IAML		03 16 07.9	
	comp=N,162nm,0.5s						
PB09	**IPOC Station P**	**3.00**	**321**	*eP*	**Pn**	**03 15 29.4**	**+1.6**
PB09				*eS*	**Sn**	**03 16 05.9**	**-1.3**
PB09				IAML		03 16 12.4	
	comp=Z,128nm,0.7s						
AHML	**Horco Molle**	**3.12**	**148**	*eP*	**Pn**	**03 15 30.2**	**+1.1**
AHML				*eS*	**Sn**	**03 16 09.1**	**-0.6**
PB04	**IPOC Station P**	**3.26**	**303**	*eP*	**Pn**	**03 15 32.0**	**+1.1**
PB04				*i* S	**Sn**	**03 16 10.6**	**-2.1**
PB04				IAML		03 16 17.1	
	comp=N,356nm,0.5s						
PB04	**IPOC Station P**	**3.26**	**303**	*eP*	**Pn**	**03 15 32.6**	**+1.7**
PB04				*eS*	**Sn**	**03 16 11.7**	**-1.0**
PB04				IAML		03 16 15.3	
	comp=Z,182nm,0.2s						
AC01	**Pan de Azucar**	**3.68**	**236**	*eP*	**Pn**	**03 15 36.3**	**+0.6**
AC01				*i* S	**Sn**	**03 16 19.2**	**-2.3**
AC01	**Pan de Azucar**	**3.68**	**236**	*eP*	**Pn**	**03 15 36.3**	**+0.6**
AC01				*eS*	**Sn**	**03 16 19.7**	**-1.7**
AC01				IAML		03 16 24.8	
	comp=Z,44nm,0.5s						
PB01	**IPOC Station P**	**3.74**	**325⇓**	*eP*	**Pn**	**03 15 37.3**	**+0.8**
PB01				*i* S	**Sn**	**03 16 20.7**	**-2.3**
PB01	**IPOC Station P**	**3.74**	**325**	*eP*	**Pn**	**03 15 37.4**	**+0.8**
PB01				*eS*	**Sn**	**03 16 20.9**	**-2.1**
PB01				IAML		03 16 24.6	
	comp=Z,55nm,0.2s						
PB08	**IPOC Station P**	**4.37**	**335**	*eP*	**Pn**	**03 15 47.4**	**+2.7**
PB08				*eS*	**Sn**	**03 16 36.7**	**-0.8**
PB08				IAML		03 16 38.1	
	comp=Z,32nm,0.4s						
GO03	**Copiapo**	**4.40**	**218**	*eP*	**Pn**	**03 15 46.1**	**+1.5**
GO03				*eS*	**Sn**	**03 16 36.4**	**-1.2**
TA01	**Diego Aracena**	**4.50**	**322**	*eP*	**Pn**	**03 15 47.0**	**+1.0**
TA01				*eS*	**Sn**	**03 16 37.6**	**-2.3**
TA01				IAML		03 16 41.9	
	comp=Z,38nm,0.8s						
GO01	**Chusmiza**	**4.82**	**337**	*eP*	**Pn**	**03 15 53.5**	**+3.0**
GO01				*eS*	**Sn**	**03 16 46.6**	**-1.2**
ACLC	**CERRO LA CRUZ**	**5.27**	**178**	*eP*	**Pn**	**03 15 58.4**	**+2.7**
ACLC				IAML		03 17 00.7	
	comp=Z,9.3nm,4.1s						
AC04	**Llanos de Chal**	**5.34**	**220**	*eP*	**Pn**	**03 15 56.6**	**+0.1**
AC04				*eS*	**Sn**	**03 16 57.6**	**-1.4**
AC04				IAML		03 16 59.7	
	comp=Z,49nm,3.5s						

*IDC **24** 03:27:54.4±3.7, 36°.29N×70°.82E, h181km±32km, mb3.5/15, mbtmp4.1/20, MS2.9/1, Error ellipse: s-maj=23.8km s-min=15.4km az=28.0*
*MOS **24** 03:27:58.1±0.8, 36°.59N×70°.91E, h212km, mb4.1/7, Error ellipse: s-maj=13.8km s-min=5.8km az=79.7*
*NEIC **24** 03:27:59±2.0, 36°.58N±0°.07×70°.82E±0°.08, h213km±6km, mb4.2/19, Error ellipse: s-maj=9.5km s-min=9.4km az=156.0*
*NNC **24** 03:28:03.2±2.7, 36°.99N×70°.91E, h204km±31km, mb3.1, mpv4.2, Error ellipse: s-maj=24.0km s-min=18.1km az=30.0*

ISC 24 03:27:57.7±0.5, 36°.55N±0°.05×70°.92E±0°.06, h200km, n109, σ1§62/120, mb4.0/24, 7C-9D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.50**	**349**	Pn	**Pn**	**03 28 43.2**	**+1.6**
GAR				Sn	**Sn**	**03 29 14.5**	**-1.5**
KBL	**Kabul**	**2.52**	**218**	Pn	**Pn**	**03 28 44.0**	**+1.9**
KBL	**Kabul**	**2.52**	**218**	PN	**Pn**	**03 28 44.0**	**+1.9**
SIMJ	**Simiganj**	**2.60**	**325**	Pn	**Pn**	**03 28 44.0**	**+1.2**
DRK	**Karamyk**	**3.01**	**13**		**Pn**	**03 28 49.6**	**+2.0**
DRK	**Karamyk**	**3.01**	**13**	PN	**Pn**	**03 28 49.7**	**+2.0**
NIL	**Nilore**	**3.46**	**146**	Pn	**Pn**	**03 28 55.6**	**+2.7**
NIL	**Nilore**	**3.46**	**146**	PN	**Pn**	**03 28 55.6**	**+2.7**
BTK	**Batken**	**3.51**	**359**	Pn	**Pn**	**03 28 55.5**	**+2.1**
BTK	**Batken**	**3.51**	**359**	PN	**Pn**	**03 28 55.5**	**+2.1**
KSH	**Kashi**	**4.97**	**52**	P	**Pn**	**03 29 08.4**	**-3.3**
KSH				S	Sn	03 30 00.0	-10
KSH				pmax	pmax		
	comp=Z,150nm,0.4s						
JMU	**Jammu**	**5.03**	**138**	*ex*	x	03 29 40.8	
JMU				*eS*	**Sn**	**03 30 11.2**	**-0.3**
THN	**Thein Dam**	**5.70**	**135**	*eP*	**Pn**	**03 29 21.3**	**+0.3**
THN				IAML		03 30 27.9	
	comp=E,96nm,0.7s						
THN				*eS*	**Sn**	**03 30 31.1**	**+4.1**
THN				IAML		03 30 36.0	
	comp=E,79nm,0.4s						
AML	**Almayashu**	**5.97**	**20**	P	**Pn**	**03 29 25.7**	**+0.8**
	SNR=106						
DHRM	**DHARAMSHALA**	**6.17**	**132**	*eP*	**Pn**	**03 29 29.6**	**+2.2**
DHRM				*ex*	x	03 30 38.0	
DHRM				IAML		03 30 39.0	
	comp=E,160nm,0.4s						
DHRM				*eS*	**Sn**	**03 30 40.2**	**+1.9**
DHRM				IAML		03 30 42.4	
	comp=E,182nm,0.8s						
NRN	**Naryn**	**6.28**	**37**	Pn	**Pn**	**03 29 28.0**	**-0.8**
NRN	**Naryn**	**6.28**	**37**	PN	**Pn**	**03 29 28.0**	**-0.8**
EKS2	**Erkin-Say**	**6.49**	**19**	P	**Pn**	**03 29 32.7**	**+1.4**
	SNR=11						
KK31	**Karatay Array**	**6.56**	**357**	⇑P	**Pn**	**03 29 32.3**	**+0.3**
	comp=E,5.0nm,0.4s,baz=187,slow=13,SNR=67						
KK31				⇓S	**Sn**	**03 30 42.7**	**-4.3**
	comp=E,59nm,0.7s,baz=189,slow=25,SNR=25						
KKAR	**Karatay Array**	**6.56**	**357**	Pn	**Pn**	**03 29 32.4**	**+0.3**
KKAR	**Karatay Array**	**6.56**	**357**	Pn	**Pn**	**03 29 32.5**	**+0.4**
KKAR	**Karatay Array**	**6.56**	**357**	PN	**Pn**	**03 29 32.5**	**+0.4**
AAK	**Ala-Archa**	**6.68**	**23**	Pn	**Pn**	**03 29 35.0**	**+1.2**
AAK	**Ala-Archa**	**6.68**	**23**	P	**Pn**	**03 29 34.9**	**+1.2**
	comp=E,12nm,0.4s,baz=195,slow=6.5,SNR=28						
AAK				S	**Sn**	**03 30 47.9**	**-2.1**
	comp=E,22nm,0.5s,baz=246,slow=13,SNR=4.6						
AAK				LR	LR	03 32 33.4	
	comp=E,111nm,21.6s,baz=202,slow=40						
AAK	**Ala-Archa**	**6.68**	**23**	PN	**Pn**	**03 29 35.0**	**+1.2**
KBK	**Karagaybulak**	**6.85**	**26**	P	**Pn**	**03 29 37.5**	**+1.5**
	SNR=10						
BHK	**Bhakra**	**6.85**	**137**	*ex*	x	03 30 52.3	
FRU1	**Bishkek**	**6.88**	**23**	Pn	**Pn**	**03 29 36.8**	**+0.5**
FRU1	**Bishkek**	**6.88**	**23**	PN	**Pn**	**03 29 36.8**	**+0.5**
ULHL	**Ulahol**	**7.02**	**34**	P	**Pn**	**03 29 38.4**	**+0.1**
	SNR=8.5						
CHMS	**Chumysh**	**7.08**	**23**	⇓P	**Pn**	**03 29 39.3**	**+0.4**
	comp=E,5.2nm,0.5s						
CHMS				⇓S	**Sn**	**03 30 56.4**	**-3.0**
	comp=E,22nm,1.1s						
USP	**Ospenovka**	**7.25**	**21**	P	**Pn**	**03 29 42.0**	**+0.9**
	SNR=10						
TKM2	**Tokmak 2**	**7.31**	**28**	P	**Pn**	**03 29 43.0**	**+0.9**
	SNR=19						
TKM2	**Tokmak 2**	**7.31**	**28**	⇓P	**Pn**	**03 29 42.9**	**+0.9**
	comp=E,26nm,0.6s						
TKM2				⇑S	**Sn**	**03 31 01.6**	**-3.4**
	comp=E,22nm,0.8s						
KDJ	**Kajisay**	**7.39**	**39**	Pn	**Pn**	**03 29 43.1**	**+0.1**
KDJ	**Kajisay**	**7.39**	**39**	PN	**Pn**	**03 29 43.1**	**+0.1**
HRA	**Herat**	**7.40**	**256**	Pn	**Pn**	**03 29 43.4**	**+0.1**
TARG	**Taragay, Kyrgy**	**7.44**	**44**		**Pn**	**03 29 43.8**	**-0.1**
TARG	**Taragay, Kyrgy**	**7.44**	**44**	PN	**Pn**	**03 29 43.8**	**-0.1**
SMLA	**Simla**	**7.49**	**134**	*eP*	**Pn**	**03 29 45.7**	**+1.3**
SMLA				*eS*	**Sn**	**03 31 07.0**	**-2.1**
SMLA				IAML		03 31 11.2	
	comp=E,86nm,0.8s						
SMLA				IAML		03 31 12.3	
	comp=E,59nm,0.6s						
KLP	**Kalpa**	**7.87**	**127**	*eP*	**Pn**	**03 29 51.4**	**+1.8**
KLP				*eS*	**Sn**	**03 31 15.3**	**-3.2**
KLP				IAML		03 31 19.2	
	comp=N,104nm,0.7s						
KLP				IAML		03 31 19.8	
	comp=E,116nm,0.9s						
WUS	**Wushi**	**7.96**	**52**	Pn	**Pn**	**03 29 50.7**	**+0.2**
KUDL	**Kundal**	**9.61**	**149**	*eS*	**Sn**	**03 31 51.7**	**-7.7**
MAKZ	**Makanchi**	**13.15**	**35**		**Pn**	**03 30 57.0**	**+0.1**
MAKZ	**Makanchi**	**13.15**	**35**	P	**Pn**	**03 30 57.0**	**+0.1**
MK31	**Makanchi Array**	**13.29**	**36**	Pn	**Pn**	**03 30 59.0**	**+0.4**
MK31	**Makanchi Array**	**13.29**	**36**	P	**Pn**	**03 30 59.0**	**+0.4**
MKAR	**Makanchi Array**	**13.29**	**36**	P	**P**	**03 30 59.5**	**-1.9**
	comp=E,3.6nm,0.7s,baz=224,slow=15,SNR=18						
WMQ	**Urumqi**	**14.72**	**55**	*eP*	**P**	**03 31 18.3**	**+0.9**
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
AB31	**Akbulak array**	**15.01**	**331**	⇓P	**Pn**	**03 31 19.2**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=145,slow=13,SNR=46						
AB31				⇓S	**S**	**03 34 04.9**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=148,slow=21,SNR=3.6						
ABKAR	**Akbulak array**	**15.01**	**331**	P	**Pn**	**03 31 18.6**	**-1.2**
ABKAR	**Akbulak array**	**15.01**	**331**		**Pn**	**03 31 18.5**	**-1.3**
KURBB	**Kurchatov Arra**	**15.10**	**19**	P	**Pn**	**03 31 20.1**	**-0.7**
	comp=Z,1.8nm,0.2s,baz=208,slow=12,SNR=7.2						
KURK	**Kurchatov**	**15.21**	**19**	P	**P**	**03 31 22.5**	**-0.1**
KURK	**Kurchatov**	**15.21**	**19**	*c iP*	**P**	**03 31 22.9**	**+0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BVAR	**Borovoye Array**	**16.48**	**359**	P	**Pn**	**03 31 37.5**	**0.0**
	comp=Z,5.0nm,0.4s,baz=160,slow=8.7,SNR=26						
BRVK	**Borovoye**	**16.52**	**359**	P	**Pn**	**03 31 36.7**	**-1.3**
BRVK				IAmb	IAmb	03 31 43.1	
	comp=Z,4.1nm,0.6s						
BRVK	**Borovoye**	**16.52**	**359**	⇓*eP*	**Pn**	**03 31 38.5**	**+0.6**
AKTO	**Aktyubinsk**	**16.71**	**330**	⇑P	**Pn**	**03 31 39.9**	**-0.4**
	comp=Z,2.5nm,0.5s						
AKTO				⇑S	**S**	**03 34 41.1**	**-2.2**
	comp=Z,2.8nm,1.4s						
AKTO	**Aktyubinsk**	**16.71**	**330**	P	**Pn**	**03 31 39.4**	**-0.9**
	comp=Z,8.7nm,0.8s,baz=138,slow=7.3,SNR=20						
WSAR	**Wadi Sarin**	**16.99**	**222**	P	**Pn**	**03 31 42.6**	**-1.3**
	comp=Z,3.3nm,0.7s,baz=53,slow=7.1,SNR=5.5						
ZAA0	**Zalesovo Array**	**19.90**	**25**	P	**P**	**03 32 13.6**	**-0.1**
ZALV	**Zalesovo Beam**	**19.90**	**25**	P	**P**	**03 32 13.5**	**-0.2**
ZALV	**Zalesovo Beam**	**19.90**	**25**	P	**P**	**03 32 14.0**	**+0.3**
	comp=Z,7.7nm,0.5s,baz=219,slow=11,SNR=44						
	comp=Z,7.7nm,0.5s						
SHL	**Shillong**	**20.98**	**116**	P	**P**	**03 32 27.4**	**+1.7**
SHL				IAmb	IAmb	03 32 29.2	
	comp=Z,4.9nm,0.6s						
SHL	**Shillong**	**20.98**	**116**	P	**P**	**03 32 27.4**	**+1.7**
SHL				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ARTI	**Arti**	**21.58**	**341**	P	**P**	**03 32 31.4**	**0.0**
	comp=Z,2.0nm,0.4s,baz=142,slow=20,SNR=3.6						
	comp=Z,2.0nm,0.4s						
ARTI	**Arti**	**21.58**	**341**	*d iP*	**P**	**03 32 32.2**	**+0.8**
ARTI						03 33 12.7	
ARTI				S	**S**	**03 36 20.6**	**+3.8**
ARTI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
PZH	**PanZhiHua**	**28.01**	**102**	P	**P**	**03 33 31.1**	**+0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,130nm,5.3s						
SONM	**Songino Array**	**28.36**	**55**	P	**P**	**03 33 33.2**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=260,slow=8.7,SNR=4.8						
	comp=Z,0.8nm,0.7s						
SONM	**Songino Array**	**28.36**	**55**	*eP*	**P**	**03 33 34.9**	**+1.8**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**31.80**	**70**	*eP*	**P**	**03 34 06.5**	**+3.0**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,76nm,6.5s						
NRIK	**Noril'sk**	**34.09**	**10**	P	**P**	**03 34 23.8**	**+1.1**
NRIK				IAmb	IAmb	03 34 25.3	
	comp=Z,6.5nm,1.0s						
NRIK	**Noril'sk**	**34.09**	**10**	P	**P**	**03 34 23.6**	**+0.8**
	comp=Z,3.2nm,0.4s,baz=178,slow=4.8,SNR=6.7						
	comp=Z,3.2nm,0.4s						
NRIK	**Noril'sk**	**34.09**	**10**	⇓*iP*	**P**	**03 34 24.6**	**+1.8**
NRIK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
FINES	**FINESS Array B**	**37.41**	**326**	P	**P**	**03 34 50.9**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=101,slow=9.9,SNR=5.9						
	comp=Z,1.7nm,0.7s						
FINES	**FINESS Array B**	**37.41**	**326**	*eP*	**P**	**03 34 51.9**	**+0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**03 35 21.4**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=110,slow=7.9,SNR=9.8						
	comp=Z,1.9nm,0.5s						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**03 35 21.5**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,15nm,1.2s						
HFS	**Hagfors**	**42.99**	**322**	P	**P**	**03 35 37.3**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=82,slow=11,SNR=2.6						
	comp=Z,1.7nm,0.8s						
NB2	**NORSAR Subarra**	**44.31**	**323**	P	**P**	**03 35 47.7**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.31**	**323**	P	**P**	**03 35 47.9**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=94,slow=4.4,SNR=3.8						
	comp=Z,0.4nm,0.5s						
KLR	**Kul'dur**	**45.17**	**54**	⇑*eP*	**P**	**03 35 52.4**	**-1.9**
KLR				pmax	pmax		
	comp=Z,15nm,2.0s						
TIXI	**Tiksi**	**45.75**	**22**	P	**P**	**03 35 59.1**	**+0.6**
TIXI	**Tiksi**	**45.75**	**22**	P	**P**	**03 35 59.1**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SPITS	**Spitsbergen Ar**	**47.43**	**347**	P	**P**	**03 36 11.6**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=110,slow=12,SNR=5.7						
	comp=Z,0.9nm,0.4s						
SPITS	**Spitsbergen Ar**	**47.43**	**347**	P	**P**	**03 36 12.2**	**+0.7**
SPITS				pmax	pmax		
	comp=Z,76nm,1.4s						
SKR	**Severo-Kuril's**	**59.98**	**47**	*ceP*	**P**	**03 37 44.1**	**+1.4**
TORD	**Torodi Ar. Bea**	**65.66**	**269**	P	**P**	**03 38 19.5**	**-1.3**
TORD	**Torodi Ar. Bea**	**65.66**	**269**	P	**P**	**03 38 18.4**	**-2.4**
	comp=Z,0.4nm,0.5s,baz=51,slow=6.1,SNR=8.8						
	comp=Z,0.4nm,0.5s						
C19K	**Lookout Ridge**	**68.30**	**17**	P	**P**	**03 38 37.7**	**+1.0**
TOLK	**Toolik Lake Re**	**70.89**	**15**	P	**P**	**03 38 53.3**	**+0.8**
TOLK				IAmb	IAmb	03 38 57.1	
	comp=Z,6.3nm,1.2s						
A36M	**Sachs Harbour**	**71.16**	**5**	P	**P**	**03 38 54.6**	**+0.7**
A36M				IAmb	IAmb	03 38 55.6	
	comp=Z,4.2nm,0.9s						
IMAR	**Indian Mountai**	**72.15**	**18**	P	**P**	**03 39 00.0**	**0.0**
BMAR	**Burnt Mountain**	**72.91**	**14**	P	**P**	**03 39 05.1**	**+0.6**
E29M	**Blow River**	**73.18**	**11**	P	**P**	**03 39 06.9**	**+0.9**
C36M	**Paulatuk**	**73.84**	**5**	P	**P**	**03 39 10.2**	**+0.4**
INK	**Inuvik**	**73.87**	**9**	P	**P**	**03 39 10.8**	**+0.8**
INK				IAmb	IAmb	03 39 11.6	
	comp=Z,7.9nm,1.4s						
INK	**Inuvik**	**73.87**	**9**	P	**P**	**03 39 10.8**	**+0.8**
INK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
L16K	**Owhat River**	**73.93**	**22**	P	**P**	**03 39 11.7**	**+1.2**
L16K				IAmb	IAmb	03 39 24.6	
	comp=Z,8.7nm,1.2s						
ILAR	**Eielson Array**	**74.75**	**16**	P	**P**	**03 39 15.1**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=316,slow=3.9,SNR=4.4						
	comp=Z,0.4nm,0.7s						
H29M	**Whitestone**	**75.10**	**12**	P	**P**	**03 39 18.0**	**+0.9**
BCAR	**Beaver Creek A**	**77.33**	**15**	P	**P**	**03 39 30.6**	**+0.8**
YKA	**Yellowknife Ar**	**81.20**	**3**	P	**P**	**03 39 51.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=339,slow=9.3,SNR=8.6						
	comp=Z,0.2nm,0.3s						
WRA	**Warramunga Arr**	**82.07**	**122**	P	**P**	**03 39 54.2**	**-1.6**
	comp=Z,0.7nm,0.4s,baz=324,slow=5.0,SNR=18						
	comp=Z,0.7nm,0.4s						
WB2	**Warramunga Arr**	**82.08**	**122**	P	**P**	**03 39 54.8**	**-1.0**
WB2				IAmb	IAmb	03 40 21.5	
	comp=Z,8.9nm,1.4s						
WR0	**Warramunga Arr**	**82.22**	**122**	P	**P**	**03 39 55.3**	**-1.3**
WR0				IAmb	IAmb	03 40 20.7	
	comp=Z,5.8nm,1.5s						
ASAR	**Alice Springs**	**84.33**	**125**	P	**P**	**03 40 06.6**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=310,slow=5.1,SNR=6.5						
	comp=Z,0.6nm,0.5s						
ULM	**Lac du Bonnet**	**92.79**	**352**	P	**P**	**03 40 47.6**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=190,slow=15,SNR=3.0						
	comp=Z,2.2nm,0.6s						

*SJA **24** 03:31:43.8±0.5, 24°.24S×67°.18W, h202km±7km, ML3.3, MW3.2*
*GUC **24** 03:31:45.3±0.7, 24°.24S×67°.41W, h214km±12km, ML3.5*

ISC 24 03:31:45.9±1.3, 24°.22S±0°.04×67°.30W±0°.06, h178km, n24, σ1§17/36, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.50**	**327**	*eP*	**Pn**	**03 32 19.4**	**+1.3**
SLA	**San Lorenzo**	**1.71**	**107**	*eP*	**Pn**	**03 32 19.4**	**-0.6**
FSA	**Cafayete**	**2.23**	**148**	*eP*	**Pn**	**03 32 25.0**	**-0.6**
GO02	**Mina Guanaco**	**2.29**	**245**	*eP*	**Pn**	**03 32 27.4**	**+1.1**
GO02				*eS*	**Sn**	**03 32 59.3**	**+1.6**
GO02				IAML		03 33 01.4	
	comp=N,265nm,0.5s						
GO02	**Mina Guanaco**	**2.29**	**245**	*eP*	**Pn**	**03 32 27.6**	**+1.3**
GO02				*eS*	**Sn**	**03 32 59.6**	**+1.9**
YJA	**Yavi**	**2.61**	**39**	*eP*	**Pn**	**03 32 30.2**	**-0.1**
PB14	**IPOC Station P**	**2.86**	**261**	*eP*	**Pn**	**03 32 33.8**	**+0.7**
PB14				*eS*	**Sn**	**03 33 10.0**	**+0.2**
PB14				IAML		03 33 11.5	
	comp=E,49nm,0.5s						
PB14	**IPOC Station P**	**2.86**	**261**	*eP*	**Pn**	**03 32 33.8**	**+0.7**
PB14				*eS*	**Sn**	**03 33 10.4**	**+0.7**
PB14				IAML		03 33 16.5	
	comp=Z,35nm,0.9s						
PB09	**IPOC Station P**	**3.00**	**323⇑**	*eP*	**Pn**	**03 32 35.8**	**+1.1**
PB09				*eS*	**Sn**	**03 33 13.6**	**+0.9**
PB09				IAML		03 33 15.4	
	comp=N,42nm,0.3s						
PB09	**IPOC Station P**	**3.00**	**323**	*eP*	**Pn**	**03 32 35.8**	**+1.1**
PB09				*eS*	**Sn**	**03 33 12.8**	**+0.1**
PB09				IAML		03 33 16.7	
	comp=Z,30nm,1.5s						
AHML	**Horco Molle**	**3.11**	**146**	*eP*	**Pn**	**03 32 39.1**	**+3.3**
PB04	**IPOC Station P**	**3.22**	**305**	*eP*	**Pn**	**03 32 37.8**	**+0.4**
PB04				*i* S	**Sn**	**03 33 17.2**	**-0.3**
PB04	**IPOC Station P**	**3.22**	**305**	*eP*	**Pn**	**03 32 38.2**	**+0.8**
PB04				IAML		03 33 23.0	
	comp=Z,71nm,0.3s						
AC01	**Pan de Azucar**	**3.56**	**237**	*eP*	**Pn**	**03 32 41.0**	**-0.4**
AC01	**Pan de Azucar**	**3.56**	**237**	*eP*	**Pn**	**03 32 40.3**	**-1.0**
AC01				IAML		03 33 28.0	
	comp=Z,26nm,0.5s						
PB01	**IPOC Station P**	**3.75**	**327**	*eP*	**Pn**	**03 32 43.4**	**-0.5**
PB01				*i* S	**Sn**	**03 33 27.4**	**-1.8**
PB01	**IPOC Station P**	**3.75**	**327**	*eP*	**Pn**	**03 32 43.7**	**-0.2**
PB01				*eS*	**Sn**	**03 33 28.1**	**-1.2**
PB01				IAML		03 33 29.9	
	comp=Z,34nm,0.2s						
GO03	**Copiapo**	**4.28**	**218**	*eP*	**Pn**	**03 32 49.7**	**-0.9**
PATCX	**Punta Patache**	**4.29**	**321**	*eP*	**Pn**	**03 32 50.6**	**-0.2**
PB08	**IPOC Station P**	**4.41**	**337**	*eP*	**Pn**	**03 32 52.9**	**+0.4**
PB08				*eS*	**Sn**	**03 33 43.6**	**-1.1**
TA01	**Diego Aracena**	**4.51**	**323**	*eP*	**Pn**	**03 32 53.8**	**+0.3**
TA01				*eS*	**Sn**	**03 33 45.9**	**-0.5**
GO01	**Chusmiza**	**4.86**	**338**	*eP*	**Pn**	**03 32 58.7**	**+0.2**
AC04	**Llanos de Chal**	**5.22**	**220**	*eP*	**Pn**	**03 33 01.5**	**-1.2**
AC04	**Llanos de Chal**	**5.22**	**220**	*eP*	**Pn**	**03 33 01.3**	**-1.4**
AC04				*eS*	**Sn**	**03 34 00.6**	**-2.4**
AC04				IAML		03 34 02.4	
	comp=Z,26nm,1.9s						

*IPEC **24** 03:49:01.8±0.2, 50°.13N×19°.11E, h1km, ML2.5/4, Error ellipse: s-maj=2.5km s-min=1.0km az=165.0*
*VIE **24** 03:49:01.9±0.4, 50°.15N×19°.13E, h0km, mb2.5/3, ml2.5/2, Error ellipse: s-maj=4.3km s-min=2.6km az=157.0, Susp

BRG				Sg	Sg	03 50 50.6	+0.7
BRG				Amp		03 50 58.6	
	comp=Z,9.4nm,0.4s						
CKRC	Cesky Krumlov	3.40	249	eSG	Sg	03 50 50.3	-0.2
KHC	Kasperske Hory	3.73	256	ePN	Pn	03 50 00.1	-0.2
KHC				eSG	Sg	03 51 00.9	-0.4
	comp=Z,11nm,0.6s						
GERES	GERESS Array B	3.75	252	Pn	Pn	03 50 02.0	+1.3
	comp=Z,0.2nm,0.3s,baz=64,slow=15,SNR=4.8						
GERES				Lg	Lg	03 51 00.6	
	comp=Z,3.4nm,0.3s,baz=65,slow=28,SNR=6.0						
	comp=Z,0.5nm,0.3s						
MOA	Molln	3.93	236	i Pn	Pn	03 50 02.9	-0.1
	comp=Z,0.3nm,0.2s						
MOA				i Sn	Sn	03 50 51.6	+1.8
	comp=Z,1.9nm,0.4s						
CLL	Collm	4.05	289	i Pn	Pg	03 50 19.3	+0.3
CLL				i Sg	Sg	03 51 14.9	+3.4
	comp=Z,6.0nm,0.4s						
AKASG	Malin Array Be	6.49	81	Pn	Pn	03 50 42.3	+4.1
	comp=Z,0.4nm,0.3s,baz=264,slow=21,SNR=1.2						
AKASG				Sn	Sn	03 51 54.9	+2.1
	comp=Z,0.3nm,0.3s,baz=230,slow=40,SNR=1.3						
AKASG				Lg	Lg	03 52 24.0	
	comp=Z,0.7nm,0.3s,baz=323,slow=20,SNR=1.9						
	comp=Z,0.1nm,0.3s						
DAVOX	Davos/Dischmat	7.00	245	Pn	Pn	03 50 46.2	+0.9
	comp=Z,0.2nm,0.3s,baz=357,slow=20,SNR=1.5						
DAVOX				Sn	Sn	03 52 05.5	-0.1
	comp=Z,0.1nm,0.3s,baz=151,slow=19,SNR=0.9						
DAVOX				Lg	Lg	03 52 43.0	
	comp=Z,0.2nm,0.3s,baz=205,slow=21,SNR=2.3						
	comp=Z,0.8nm,0.4s						
FINES	FINESS Array B	11.98	16	Pn	Pn	03 51 50.4	-2.9
	comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=5.3						
	comp=Z,4.7nm,1.1s						

*DNK **24** 04:15:38.6±0.5, 67°.17N×20°.66E, h0km, ML2.9(UPP), Suspected explosion*
*UPP **24** 04:15:38.5±0.1, 67°.17N×20°.66E, h5km±3km, ML2.9, Confirmed Induced event*
*HEL **24** 04:15:38.4±0.4, 67°.18N×20°.53E, h0km, ML1.0, Suspected explosion*

ISC 24 04:15:38.0±0.9, 67°.17N±0°.03×20°.70E±0°.03, h0km, n26, σ0°.45/33, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.07	226	P	Pg	04 15 39.7	+0.4
DUNU				S	Sg	04 15 40.8	+0.6
DUNU	Dundret	0.07	226	P	Pg	04 15 39.7	+0.4
DUNU				S	Sg	04 15 40.8	+0.6
RATU	Laukkuluspa	0.78	328	P	Pg	04 15 52.7	-0.3
RATU	Laukkuluspa	0.78	328	P	Pg	04 15 52.7	-0.3
KUA	Kurravaara	0.80	350	P	Pg	04 15 53.5	+0.1
KUA	Kurravaara	0.80	350	P	Pg	04 15 53.5	+0.1
ERTU	Ertsjaerv	0.85	136	P	Pg	04 15 54.2	-0.2
ERTU	Ertsjaerv	0.85	136	P	Pg	04 15 54.2	-0.2
ERTU	Ertsjaerv	0.85	136	PG	Pg	04 15 54.2	-0.2
ERTU				SG	Sg	04 16 06.0	+0.6
SALU	Saltoluokta	0.88	285	P	Pg	04 15 54.3	-0.5
SALU	Saltoluokta	0.88	285	P	Pg	04 15 54.3	-0.5
PAJU	Pajala	0.96	98	P	Pg	04 15 56.5	+0.1
PAJU	Pajala	0.96	98	P	Pg	04 15 56.5	+0.1
PAJU	Pajala	0.96	98	PG	Pg	04 15 56.7	+0.4
PAJU				SB	Sb	04 16 10.2	-0.5
HARU	Harads	1.02	174	P	Pg	04 15 57.0	-0.4
HARU	Harads	1.02	174	P	Pg	04 15 57.0	-0.4
KLF	Kolari	1.27	86	MSG		04 16 18.8	
	comp=Z,0.7nm,0.2s						
KLF				SG	Sb	04 16 19.9	+0.1
HEF	Hetta	1.68	41	PG	Pn	04 16 08.9	+0.2
HEF				MSG		04 16 29.7	
	comp=Z,1.0nm,0.2s						
HEF				SN	Sg	04 16 32.4	+0.4
KALU	Kalix	1.69	140	P	Pb	04 16 09.4	-0.6
KALU	Kalix	1.69	140	P	Pb	04 16 09.4	-0.6
KALU	Kalix	1.69	140	PG	Pb	04 16 09.7	-0.3
KALU				SN	Sg	04 16 33.5	+1.2
SJUU	Sjulsmark	1.71	167	P	Pn	04 16 09.2	+0.1
SJUU	Sjulsmark	1.71	167	P	Pn	04 16 09.2	+0.1
TOF	Tornio	1.81	125	PG	Pb	04 16 11.7	-0.3
TOF				MSG		04 16 34.1	
	comp=Z,0.7nm,0.2s						
TOF				SG	Sg	04 16 36.1	-0.2
KTK1	Kautokeino	2.08	26	SG	Sb	04 16 43.6	+0.6
RNF	Rovaniemi	2.17	103	SG	Sg	04 16 47.2	-0.6

HEL 24 04:18:06.7±0.3, 67°.56N×33°.54E, h0km, ML1.1, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	Lovozero	0.54	51	PG	Pg	04 18 16.4	-0.7
VRF	Varrio	1.52	279	MSG		04 18 52.1	
	comp=Z,1.2nm,0.2s						
VRF				SG	Sg	04 18 54.0	-1.2
OLKF	Oulanka, Finla	2.05	235	PG	Pn	04 18 43.4	+1.0
OLKF				MSG		04 19 07.6	
	comp=Z,0.9nm,0.2s						
OLKF				SG	Sb	04 19 11.4	+0.7
KU6	Riekki	2.11	225	PG	Pn	04 18 43.8	+0.6
KU6				MSG		04 19 09.4	
	comp=Z,0.5nm,0.2s						
KU6				SG	Sb	04 19 12.9	+0.4
RAJF	Raja-Jooseppi	2.17	297	SN	Sn	04 19 11.7	+0.1
MSF	Maaselka	2.44	229	PG	Pn	04 18 49.4	+1.7
MSF				SG	Sg	04 19 23.5	-1.3
HEF	Hetta	3.82	287	PG	Pb	04 19 13.4	-1.4
HEF				SB	Sb	04 19 58.8	-2.7
OUL	Oulu	3.96	235	SB	Sb	04 20 04.1	-1.5

*DNK **24** 04:19:42.5±0.6, 67°.17N×20°.68E, h0km, ML2.8(UPP), Suspected explosion*

UPP 24 04:19:42.0±0.1, 67°.18N×20°.69E, h0km, ML2.8, Confirmed Induced event, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.07	220	P	Pg	04 19 43.7	+0.4
DUNU				S	Sg	04 19 44.9	+0.6
DUNU	Dundret	0.07	220	P	Pg	04 19 43.7	+0.4
DUNU				S	Sg	04 19 44.9	+0.6
MASU	Masugnsbyn	0.58	60	S	Sg	04 20 01.2	+0.6
MASU	Masugnsbyn	0.58	60	S	Sg	04 20 01.2	+0.6
RATU	Laukkuluspa	0.78	328	P	Pg	04 19 56.2	-0.6
RATU	Laukkuluspa	0.78	328	P	Pg	04 19 56.2	-0.6
KUA	Kurravaara	0.79	350	P	Pg	04 19 57.4	+0.2
KUA	Kurravaara	0.79	350	P	Pg	04 19 57.4	+0.2
ERTU	Ertsjaerv	0.86	136	P	Pg	04 19 57.9	-0.5
ERTU	Ertsjaerv	0.86	136	P	Pg	04 19 57.9	-0.5
PAJU	Pajala	0.96	98	P	Pg	04 20 00.1	-0.3
PAJU	Pajala	0.96	98	P	Pg	04 20 00.1	-0.3
PAJU	Pajala	0.96	98	SN	Pg	04 20 00.1	-0.3
HARU	Harads	1.02	173	P	Pg	04 20 01.0	-0.6
HARU	Harads	1.02	173	P	Pg	04 20 01.0	-0.6
KALU	Kalix	1.70	140	SB	Pg	04 20 14.0	-0.5
SJUU	Sjulsmark	1.72	167	P	Pn	04 20 13.2	+0.1
SJUU	Sjulsmark	1.72	167	P	Pn	04 20 13.2	+0.1

*DJA **24** 04:27:27.3±0.6, 0°.5S±3°.3×13°.2E±°, h12km±3km, M4.5/11, mb4.4/2, mB4.9/1, MLv4.6/11, Mw(mB)4.1/1*
*IDC **24** 04:27:28.2±0.7, 0°.43S×131°.80E, h24km±4km, mb3.8/8, mbtmp4.0/10, ML4.5/2, MS3.2/13, Error ellipse: s-maj=44.1km s-min=13.6km az=77.0*
*NEIC **24** 04:27:32.0±2.5, 0°.7S±0°.1×131°.84E±0°.07, h39km±7km, mb4.6/13, Error ellipse: s-maj=15.7km s-min=9.1km az=196.0*

ISC 24 04:27:30.3±0.5, 0°.56S±0°.06×131°.58E±0°.05, h35km, n62, σ1°.94/58, mb4.4/12, MS3.1/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	Sorong	0.44	227	P	Pn	04 27 38.2	-1.9
SWI				S	Sn	04 27 46.3	-0.6
FAKI	Fak Fak	2.44	164	Pn	Pn	04 28 07.2	-0.5
FAKI	Fak Fak	2.44	164	P	Pn	04 28 08.1	+0.5
FAKI	Fak Fak	2.44	164	P	Pn	04 28 07.3	-0.3
RKPI	Ransiki, Papua	2.76	110	P	Pn	04 28 13.0	+0.9
KMPI	Kaimana, Papua	3.74	145	P	Pn	04 28 27.7	+2.1
MSAI	Masohi	3.83	224	P	Pn	04 28 28.0	+1.2
MSAI				S	Sn	04 29 15.0	+4.3
BNDI	Bandanaira	4.28	203	P	Pn	04 28 35.5	+2.6
BNDI	Bandanaira	4.28	203	P	Pn	04 28 35.3	+2.4
AAI	Ambon	4.59	227	P	Pn	04 28 38.5	+1.2
NLAI	Namlea	5.21	239	P	Pn	04 28 45.8	+0.1
	43nm,0.5s,1μm0.3nm						
SANI	Sanana	5.78	255	P	Pn	04 28 52.9	-0.7
SAUI	Saumlaki	7.38	182	Pn	Pn	04 29 15.2	-0.4
DAV	Davao City (W)	9.66	322	LR	LR	04 33 57.1	
	comp=Z,116nm,18.4s,baz=163,slow=40						
DRS	Darwin Rock St	11.81	183	P	Pn	04 30 14.3	-2.1
KDU	Kakadu	12.08	176	P	Pn	04 30 17.6	-2.4
MTN	Manton Dam	12.21	182	Pn	Pn	04 30 19.7	-2.2
MTN	Manton Dam	12.21	182	P	Pn	04 30 19.9	-2.0
BATI	Baumata	12.40	219	LR	LR	04 35 55.2	
	comp=Z,86nm,18.8s,baz=32,slow=40						
KNRA	Kununurra	15.28	190	Pn	Pn	04 30 59.2	-4.2
KNRA				IAmb	IAmb	04 31 09.9	
	comp=Z,32nm,0.7s						
COEN	Coen	17.58	140		Pn	04 31 30.9	-1.7
PMG	Port Moresby	17.82	120	LR	LR	04 39 47.5	
	comp=Z,87nm,18.3s,baz=290,slow=42						
FITZ	Fitzroy Crossi	18.38	198	P	Pn	04 31 42.1	-0.3
	comp=Z,1.0nm,0.3s,baz=35,slow=13,SNR=13						
	comp=Z,4.3nm,0.5s						
GUMO	Guam	19.26	43	LR	LR	04 38 23.5	
	comp=Z,23nm,20.0s,baz=140,slow=34						
WB0	Warramunga Arr	19.29	172	P	P	04 31 50.5	-1.7
WB0				IAmb	IAmb	04 31 54.1	
	comp=Z,25nm,1.3s						
WRA	Warramunga Arr	19.45	172	P	P	04 31 53.7	-0.4
	comp=Z,1.3nm,0.3s,baz=351,slow=11,SNR=59						
WRA				S	S	04 35 19.5	-13
	comp=Z,3.0nm,0.7s,baz=6.9,slow=22,SNR=5.2						
	comp=Z,5.2nm,0.5s						
WB1	Warramunga Ar.	19.47	172	P	P	04 31 54.0	-0.3
	comp=Z,15nm,1.6s						
WR0	Warramunga Arr	19.50	172		P	04 31 53.7	-0.9
RABL	Rabaul	20.88	100	P	Pn	04 32 09.1	-3.2
QIS	Mount Isa	21.37	159	P	P	04 32 15.1	+0.3
AS31	Alice Springs	23.08	175	P	P	04 32 32.8	-0.2
ASAR	Alice Springs	23.08	175	P	P	04 32 33.3	+0.2
ASAR	Alice Springs	23.08	175	P	P	04 32 32.9	-0.2
	comp=Z,5.8nm,0.7s,baz=347,slow=9.4,SNR=50						
ASAR				PcP	PcP	04 36 20.7	-0.9
	comp=Z,0.4nm,0.4s,baz=2.6,slow=2.0,SNR=3.0						
ASAR				S	S	04 36 46.1	+4.3
	comp=Z,2.4nm,0.9s,baz=355,slow=25,SNR=5.7						
ASAR				LR	LR	04 43 23.9	
	comp=Z,59nm,18.3s,baz=350,slow=41						
	comp=Z,5.8nm,0.7s						
CTA	Charters Tower	24.14	144	LR	LR	04 43 20.7	
	comp=Z,54nm,18.8s,baz=293,slow=40						
WRKA	Warakurna	24.54	187	P	P	04 32 47.7	+0.8
STKA	Stephens Creek	32.56	164	P	P	04 33 58.3	0.0
	comp=Z,1.4nm,0.4s,baz=329,slow=10,SNR=4.1						
STKA				LR	LR	04 49 14.9	
	comp=Z,49nm,19.2s,baz=16,slow=40						
	comp=Z,1.4nm,0.4s						
MJAR	Matsushiro Arr	37.42	9	LR	LR	04 47 58.4	
	comp=Z,16nm,19.6s,baz=216,slow=33						
KSRS	Korea Array	37.97	355	LR	LR	04 49 18.4	
	comp=Z,17nm,20.3s,baz=175,slow=35						
DZM	Mont Dzumac	40.12	125	LR	LR	04 52 49.6	
	comp=Z,27nm,19.2s,baz=118,slow=38						
ASAJ	Asahikawa	45.55	11	LR	LR	04 51 30.9	
	comp=Z,35nm,21.6s,baz=138,slow=32						
MSVF	Nonsavu	48.75	113	LR	LR	04 55 48.4	
	comp=Z,33nm,18.6s,baz=162,slow=35						
ULN	Ulaanbaatar	52.74	339	P	P	04 36 44.5	+2.6
ULN				IAmb	IAmb	04 36 50.6	
	comp=Z,7.5nm,1.1s						
URZ	Urewera	56.12	137	LR	LR	05 01 52.2	
	comp=Z,62nm,19.1s,baz=54,slow=37						
MKAR	Makanchi Array	63.83	325	P	P	04 38 01.3	+2.1
MKAR	Makanchi Array	63.83	325	P	P	04 37 59.4	+0.2
	comp=Z,0.6nm,0.6s,baz=113,slow=9.1,SNR=2.8						
MKAR				pP	pP	04 38 07.2	-2.0
	comp=Z,0.9nm,0.6s,baz=116,slow=8.5,SNR=5.2						
	comp=Z,0.6nm,0.6s						
MAKZ	Makanchi	64.02	324	P	P	04 38 03.6	+3.2
MAKZ				IAmb	IAmb	04 38 11.6	
	comp=Z,9.8nm,1.4s						
ZALV	Zalesovo Beam	66.60	332	P	P	04 38 17.8	+0.8
ZALV	Zalesovo Beam	66.60	332	P	P	04 38 17.0	+0.1
	comp=Z,0.4nm,0.4s,baz=72,slow=4.7,SNR=1.6						
ZALV				pP	pP	04 38 23.4	-3.6
	comp=Z,1.1nm,0.7s,baz=111,slow=8.1,SNR=3.7						
	comp=Z,0.4nm,0.4s						
KURK	Kurchatov	67.95	327	P	P	04 38 29.6	+4.0
KURK				IAmb	IAmb	04 38 34.8	
	comp=Z,9.8nm,1.3s						
KURBB	Kurchatov Arra	67.95	327	P	P	04 38 25.2	-0.4
	comp=Z,0.8nm,0.7s,baz=127,slow=6.0,SNR=8.8						
KURBB				pP	pP	04 38 32.8	-2.8
	comp=Z,3.8nm,0.9s,baz=121,slow=5.8,SNR=15						
	comp=Z,0.8nm,0.7s						
SIMJ	Simiganj	69.23	312	P	P	04 38 36.7	+2.6
SIMJ				IAmb	IAmb	04 38 42.5	
	comp=Z,7.9nm,1.4s						
KKAR	Karatay Array	69.65	317	P	P	04 38 38.6	+2.2
BVAR	Borovoye Array	73.54	327	P	P	04 38 58.4	-1.2
	comp=Z,0.7nm,0.7s,baz=115,slow=9.7,SNR=2.8						
BVAR				pP	pP	04 39 07.4	-2.3
	comp=Z,1.6nm,0.7s,baz=119,slow=9.2,SNR=6.6						
	comp=Z,0.7nm,0.7s						
ABKAR	Akbulak array	78.52	321	P	P	04 39 31.5	+3.5
E19K	Redstone River	83.37	22	P	P	04 39 53.9	+0.4
RND	Reindeer	85.82	26	P	P	04 40 05.0	-1.1
ILAR	Eielson Array	86.88	25	P	P	04 40 09.7	-1.5
	comp=Z,0.3nm,0.7s,baz=242,slow=3.9,SNR=4.3						
ILAR				pP	pP	04 40 17.9	-3.6
	comp=Z,1.3nm,0.7s,baz=251,slow=5.1,SNR=9.3						
	comp=Z,0.3nm,0.7s						
BMAR	Burnt Mountain	88.14	23	P	P	04 40 17.0	-0.2
QSPA	South Pole Qui	89.38	180	P	P	04 40 22.8	-0.4
QSPA				IAmb	IAmb	04 40 24.8	
	comp=Z,4.6nm,1.2s						
QSPA	South Pole Qui	89.38	180	P	P	04 40 22.5	-0.6
	comp=Z,1.7nm,0.8s,baz=316,slow=2.4,SNR=5.6						
	comp=Z,1.7nm,0.8s						
TORD	Torodi Ar. Bea	128.82	286	PKP	PKiKP	04 46 34.5	-1.4
	comp=Z,0.3nm,0.7s,baz=13,slow=3.7,SNR=1.8						
CPUP	Villa Florida	151.92	163	PKPbc	PKPbc	04 47 20.8	-1.6
	comp=Z,0.8nm,0.5s,baz=270,slow=4.0,SNR=3.6						

*NEIC **24** 04:28:23.0±0.6, 19°.33N±0°.02×155°.18W±0°.01, h5km±1km, Error ellipse: s-maj=4.2km s-min=2.7km az=333.0*

HVO 24 04:28:22.7±0.5, 19°.33N±0°.02×155°.18W±0°.01, h6km±3km, ML2.6/42, ML2.5/34(NEIC), Error ellipse: s-maj=2.3km s-min=1.3km az=162.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	Kane Nui o Ham	0.05	15		Pg	04 28 24.7	+0.5
PUH	Pauahi	0.05	326		Pg	04 28 24.7	+0.5
KKO	Keanakako'i	0.10	311		Pg	04 28 25.4	+0.4
KKO					Sg	04 28 27.7	+1.2
RIM	Rim	0.11	308		Pg	04 28 25.5	+0.4
RIM					Sg	04 28 27.6	+0.9
BYL	Byron's Ledge	0.11	319		Pg	04 28 25.4	+0.3
BYL				IAML		04 28 28.0	
	comp=N,1μm,1.0s						
BYL				IAML		04 28 28.1	
	comp=E,2μm,0.7s						
HATHI	Halema'uma'u T	0.12	322		Pg	04 28 25.6	+0.4
HATHI				IAML		04 28 28.0	
	comp=N,2μm,0.3s						
HATHI				IAML		04 28 28.1	
	comp=E,2μm,0.6s						
SDHHI	Sand Hill	0.12	300		Pg	04 28 25.6	+0.4
SDHHI					Sg	04 28 27.9	+0.9
HLP	Hilina Pali	0.12	254		Pg	04 28 25.8	+0.6
HLP				IAML		04 28 28.5	
	comp=N,2μm,0.7s						
HLP				IAML		04 28 29.2	
	comp=E,2μm,0.3s						
SBLHI	Steaming Bluff	0.13	321		Pg	04 28 25.6	+0.3
SBLHI					Sg	04 28 27.9	+0.8
OBL	Observatory Le	0.13	313		Pg	04 28 25.8	+0.4
UWB	Uwekahuna Bluf	0.13	317		Pg	04 28 25.7	+0.3
UWB					Sg	04 28 28.2	+0.9
WRMHI	West Rim	0.13	305		Pg	04 28 25.8	+0.3
WRMHI					Sg	04 28 28.5	+1.1
JOKA	Jonika Flow	0.20	58		Pg	04 28 26.6	0.0
JOKA				IAML		04 28 33.2	
	comp=N,613nm,0.7s						
HTC	Hot Caves	0.22	246		Pg	04 28 27.6	+0.6
MLH	Mauna Loa	0.25	311		Pg	04 28 27.9	+0.3
MLH				IAML		04 28 36.0	
	comp=N,446nm,0.6s						
PAH	Pahoa	0.28	54	Pg	Pg	04 28 28.5	+0.4
HMH	Humu'ula Sheep	0.39	314		Pg	04 28 30.4	0.0
HMH					Sg	04 28 36.4	+0.9
HMH				IAML		04 28 37.5	
	comp=E,1μm,0.3s						
KHU	Kahuku	0.42	259	Pg	Pg	04 28 30.9	+0.1
KHU	Kahuku	0.42	259		Sg	04 28 37.0	+0.8
KHU	Kahuku	0.42	259	IAML		04 28 42.5	
	comp=N,449nm,0.6s						
KHU				IAML		04 28 42.8	
	comp=E,637nm,0.4s						
MWH	Mokuaweoweo	0.42	292		Pg	04 28 31.1	+0.1
MWH	Mokuaweoweo	0.42	292		Sb	04 28 38.2	-1.4
MWH	Mokuaweoweo	0.42	292	IAML		04 28 38.5	
	comp=N,1μm,0.4s						
MWH				IAML		04 28 38.9	
	comp=E,1μm,0.7s						
MLOA	Mauna Loa Obse	0.42	299		Pg	04 28 31.3	+0.3
MLOA	Mauna Loa Obse	0.42	299		Sg	04 28 37.8	+1.2
MLOA	Mauna Loa Obse	0.42	299	IAML		04 28 36.9	
	comp=N,26nm,1.0s						
MLOA				IAML		04 28 36.9	
	comp=E,32nm,1.0s						
ALEP	Alea Permanent	0.48	296		Pg	04 28 31.6	-0.5
ALEP					Sg	04 28 39.1	+0.7
POHA	Pohakuloa	0.54	322		Sg	04 28 40.1	0.0
POHA	Pohakuloa	0.54	322	Pg	Pg	04 28 32.8	-0.3
POHA				IAML		04 28 40.9	
	comp=E,1μm,0.5s						
POHA				IAML		04 28 41.3	
	comp=E,1μm,0.6s						
HUH	Hualalai	0.71	300		Pg	04 28 36.6	+0.3

*TIR **24** 04:35:42.5, 42°.29N×19°.55E, h19km, Md3.4, Ml2.5*
*PDG **24** 04:35:43.4±0.2, 42°.29N×19°.56E, h12km±1km, MD2.8/3, ML2.7/12, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*BEO **24** 04:35:43.5±0.3, 42°.31N×19°.65E, h7km±2km, ML2.3/14*
*RHSSO **24** 04:35:44.3±0.6, 42°.37N×19°.58E, h8km±2km, ML2.6/11*
*SKO **24** 04:35:44.6, 42°.33N×19°.55E, h10km, ML2.5*

ISC 24 04:35:42.8±0.9, 42°.32N±0°.02×19°.61E±0°.02, h12km±8km, n81, σ1°.05/142, 25C-21D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	Podgorica	0.29	293	ePg	Pg	04 35 49.1	+0.4
PDG				eSg	Sb	04 35 54.1	-0.6
PDG	Podgorica	0.29	293	⇑iPg	Pb	04 35 49.3	-0.6
PDG				eSg	Sb	04 35 54.1	-0.6
PDG	Podgorica	0.29	293	⇓P	Pb	04 35 49.3	-0.6
PDG				⇑S	Sb	04 35 54.3	-0.4
PDG	Podgorica	0.29	293	i Pg	Pb	04 35 49.4	-0.5
PDG				i Sg	Sb	04 35 54.4	-0.4
PDG	Podgorica	0.29	293	⇓iPg	Pg	04 35 48.9	+0.2
PDG				i Sg	Sg	04 35 53.3	+0.7
BCI	Bajram Curri	0.34	82	AMP			
	comp=E,2.9nm,0.4s,baz=78						
DRME	Dracevica, Mon	0.34	248	⇑iPg	Pg	04 35 49.6	-0.1
DRME				i Sg	Sg	04 35 54.0	-0.4
PUK	Puka	0.34	143	AMP			
	comp=N,2.4nm,0.1s,baz=134						
PVY	Plav	0.38	43	⇓iPg	Pb	04 35 51.6	0.0
PVY				i Sg	Sb	04 35 58.0	+0.6
ULC	Ulcinj	0.45	218	i Pg	Pg	04 35 51.0	-0.6
ULC	Ulcinj	0.45	218	⇑iPg	Pg	04 35 50.9	-0.7
ULC				i Sg	Sg	04 35 57.0	-0.6
BUM	Brajici-Budva	0.53	268	⇑iPg	Pg	04 35 53.0	-0.3
BUM				i Sg	Sg	04 36 00.9	+0.6
KOME	Kolasin	0.54	352	⇓iPg	Pb	04 35 54.2	-0.1
KOME				i Sg	Sb	04 36 02.8	+0.8
CEME	Cevo	0.56	294	⇓iPg	Pg	04 35 53.6	-0.2
CEME				i Sg	Sb	04 36 02.4	-0.3
BEY	Berane	0.59	20	i Pg	Pb	04 35 55.5	+0.4
IVA	Berane	0.59	20	⇓iPg	Pb	04 35 55.4	+0.2
IVA				i Sg	Sb	04 36 04.8	+1.2
NKME	Niksic	0.66	313	⇑iPg	Pg	04 35 55.5	-0.2
NKME				i Sg	Sb	04 36 05.8	+0.2
HCY	Herceg Novi	0.84	279	⇑iPg	Pg	04 35 58.3	-0.7
HCY				eSg	Sb	04 36 10.4	-0.2
HCY	Herceg Novi	0.84	279	⇓iPg	Pg	04 35 58.3	-0.7
HCY				i Sg	Sb	04 36 10.9	+0.3
SJES	Sjenica	0.98	16	ePg	Pn	04 36 02.2	-0.3
SJES				eSg	Sn	04 36 16.5	+0.1
SJES	Sjenica	0.98	16	⇑iPg	Pb	04 36 01.6	-0.2
SJES				eSg	Sg	04 36 13.8	-0.7
BRY	Bratogost	0.98	307	⇑iPg	Pg	04 36 00.9	-0.9
BRY				eSg	Sg	04 36 14.2	-0.5
BRY	Bratogost	0.98	307	⇑iPg	Pg	04 36 01.5	-0.3
BRY				i Sg	Sn	04 36 16.8	+0.2
TIR	Tirane	0.99	169	AMP			
	comp=E,0.7nm,0.3s,baz=165						
TIR	Tirane	0.99	169	ePg	Pg	04 36 00.6	-1.2
TIR				eSg	Sn	04 36 16.2	-0.2
TIR	Tirane	0.99	169	⇓P	Pg	04 36 01.8	0.0
TIR				⇑S	Sb	04 36 15.7	+0.8
TREB	Trebinje	1.01	294	ePg	Pg	04 36 02.2	-0.2
TREB				eSg	Sn	04 36 16.5	-0.6
TREB	Trebinje	1.01	294	⇑iPg	Pg	04 36 02.0	-0.4
TREB				eSg	Sb	04 36 15.6	0.0
PLE	Pljevlja	1.02	351	⇑iPg	P

TEKS	**Tekeris**	**2.23**	**358**	*e*Pn	**Pn**	**04 36 20.9**	**+1.2**
TEKS				*e*Sn	**Sn**	**04 36 47.6**	**+0.4**
TEKS	**Tekeris**	**2.23**	**358**	*e*Pn	**Pn**	**04 36 20.9**	**+1.2**
TEKS				*e*Sn	**Sn**	**04 36 48.4**	**+1.2**
LSK	**Leskovik**	**2.29**	**161**	P	**Pb**	**04 36 22.9**	**-1.2**
LSK				S	**Sb**	**04 36 53.0**	**+0.6**
ZAPS	**Zavoj**	**2.42**	**66**	*e*Pn	**Pn**	**04 36 23.6**	**+1.3**
ZAPS				*e*Sn	**Sn**	**04 36 51.9**	**+0.1**
ZAGS	**Zajecar**	**2.43**	**51**	*e*Pn	**Pn**	**04 36 22.7**	**+0.3**
BLKB	**Belogradchik**	**2.60**	**59**	⇊S	**Sn**	**04 36 57.6**	**+1.4**
MATE	**Matera**	**2.75**	**234**	⇊P	**Pn**	**04 36 25.1**	**-1.6**
MATE				⇈S	**Sn**	**04 36 57.3**	**-2.5**
FRGS	**Fruska Gora**	**2.84**	**3**	*e*Pn	**Pn**	**04 36 28.9**	**+0.8**
FRGS				*e*Sn	**Sn**	**04 37 03.0**	**+0.8**
KJIV	**Kijevo**	**2.89**	**307**	*e*Pn	**Pn**	**04 36 31.0**	**+2.3**
BLY	**Banja Luka**	**3.00**	**325**	*e*Pn	**Pn**	**04 36 31.3**	**+1.1**
BLY				*e*Sn	**Sn**	**04 37 07.0**	**+0.8**
A050A	**Klekovaca**	**3.12**	**315**	*e*Pn	**Pn**	**04 36 32.9**	**+1.0**
A050A				*e*Sn	**Sn**	**04 37 10.1**	**+1.0**
ZIRJ	**Zirje**	**3.20**	**296**	*e*Pn	**Pn**	**04 36 33.8**	**+0.9**
ZIRJ				Sn	**Sn**	**04 37 12.4**	**+1.4**
MORI	**Morici**	**3.25**	**300**	*e*Pn	**Pn**	**04 36 35.0**	**+1.4**
MORI				Sn	**Sn**	**04 37 14.2**	**+2.0**
HERR	**Herculane**	**3.27**	**38**	⇊P	**Pn**	**04 36 33.8**	**-0.1**
HERR				⇈S	**Sn**	**04 37 11.8**	**-1.0**
A051A	**Mrakovica**	**3.33**	**325**	*e*Pn	**Pn**	**04 36 35.7**	**+0.9**
A051A				*e*Sn	**Sn**	**04 37 14.6**	**+0.2**
BZS	**Buzias**	**3.60**	**23**	⇈P	**Pn**	**04 36 37.2**	**-1.2**
BZS				⇊S	**Sn**	**04 37 19.6**	**-1.3**
GZR	**Gura Zlata**	**3.83**	**36**	⇈P	**Pn**	**04 36 41.1**	**-0.6**
GZR				⇊S	**Sn**	**04 37 25.7**	**-1.0**
PLIT	**Plitvice**	**3.87**	**313**	*i* Pn	**Pn**	**04 36 44.6**	**+2.5**
PLIT				Sn	**Sn**	**04 37 30.8**	**+3.3**
VIRC	**Vir**	**3.87**	**302**	*e*Pn	**Pn**	**04 36 43.1**	**+1.0**
VIRC				Sn	**Sn**	**04 37 28.8**	**+1.3**
SURR	**Surduc**	**3.88**	**27**	⇊P	**Pn**	**04 36 42.2**	**-0.2**
SURR				⇊S	**Sn**	**04 37 26.1**	**-1.8**
MOSL	**Moslavina**	**3.89**	**329**	*e*Pn	**Pn**	**04 36 43.9**	**+1.5**
MORH	**Mrgy, Hungar**	**3.96**	**350**	⇈P	**Pn**	**04 36 42.7**	**-0.6**
MORH				⇈S	**Sn**	**04 37 28.3**	**-1.4**
NVLJ	**Novalja**	**4.12**	**305**	*e*Pn	**Pn**	**04 36 46.5**	**+1.0**
NVLJ				Sn	**Sn**	**04 37 34.4**	**+0.8**
SIRR	**Siria**	**4.21**	**20**	⇊P	**Pn**	**04 36 45.9**	**-0.9**
SIRR				⇊S	**Sn**	**04 37 35.3**	**-0.7**
CRES	**Cresnjevec Ost**	**4.61**	**321**	*e*Pn	**Pn**	**04 36 53.3**	**+1.0**
DRGR		**4.99**	**25**	⇈P	**Pn**	**04 36 57.6**	**0.0**
DRGR				⇈S	**Sn**	**04 37 53.3**	**-2.0**
MARR	**Marisel-Cluj**	**5.03**	**29**	⇊P	Pn	04 36 52.9	-5.3
MARR				⇈S	**Sn**	**04 37 51.7**	**-4.5**
VYHS	**Vyhne**	**6.20**	**355**	*e*PN	**Pn**	**04 37 16.7**	**+2.5**

*IDC **24** 04:49:07.3±0.8, 6°.00N×125°.81E, h142km±6km, mb3.8/12, mbtmp4.2/12, MS3.1/2, Error ellipse: s-maj=36.5km s-min=11.5km az=75.0*
*DJA **24** 04:49:08.1±0.4, 6°N±3°×12°6E±°, h108km±4km, M4.7/15, mB5.2/6, mb4.8/15, MLv4.8/10, Mw(mB)4.6/6*
*NEIC **24** 04:49:08.4±0.9, 6°.10N±0°.09×126°.2E±0°.2, h131km±9km, mb4.5/57, Error ellipse: s-maj=23.9km s-min=10.6km az=70.0*
ISC 24 04:49:08.7±0.5, **6°.06N**±0°.06×**126°.23E**±0°.09, **h150**km, **n265,** σ1**§78**/256, **mb4.5**/46, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.20**	**327**	P		**Pn**		**04 49 32.4**	**-2.9**
	652nm,0.3s,baz=253,slow=3.5,SNR=13								
DAV				LR		LR		04 49 32.9	
	comp=Z,55nm,18.8s,baz=124,slow=24								
DAV				S		**Sn**		**04 49 50.9**	**-4.7**
	2μm,0.2s,baz=258,slow=5.6,SNR=6.2								
DAV	**Davao City (W)**	**1.20**	**327**	P		**Pn**		**04 49 34.3**	**-1.0**
TNTI	**Ternate**	**5.37**	**168**	Pn		**Pn**		**04 50 26.6**	**-0.4**
TNTI	**Ternate**	**5.37**	**168**	P		**Pn**		**04 50 24.8**	**-2.3**
TNTI	**Ternate**	**5.37**	**168**	P		**Pn**		**04 50 24.3**	**-2.8**
	208nm,0.5s,4μm0.8nm								
KMSI	**Cibinong**	**5.89**	**203**	P		**Pn**		**04 50 33.3**	**-0.7**
MRSI	**Marisa**	**7.01**	**218**	P		**Pn**		**04 50 47.4**	**-1.5**
	72nm,0.5s,1μm								
TOLI2	**Tolitoli**	**7.33**	**228**	Pn		**Pn**		**04 50 50.9**	**-2.3**
TOLI2	**Tolitoli**	**7.33**	**228**	P		**Pn**		**04 50 50.8**	**-2.4**
MYLDM	**Lahad Datu**	**7.75**	**264**	P		**Pn**		**04 51 00.1**	**+1.3**
SANI	**Sanana**	**8.06**	**182**	P		**Pn**		**04 50 59.7**	**-3.2**
SANI	**Sanana**	**8.06**	**182**	P		**Pn**		**04 50 58.8**	**-4.1**
NLAI	**Namlea**	**9.27**	**175**	P		**Pn**		**04 51 16.9**	**-2.2**
TTSI	**Tana Toraja**	**11.08**	**215**	P		**Pn**		**04 51 43.3**	**+0.2**
	48nm,0.9s								
SPSI	**Sidrap Palu**	**11.87**	**213**	P		**Pn**		**04 51 53.1**	**-0.2**
	16nm,0.6s								
BNSI	**Bone**	**12.06**	**211**	P		**Pn**		**04 51 55.8**	**0.0**
	43nm,0.6s								
KAPI	**Kappang**	**12.76**	**211**	P		**Pn**		**04 52 05.7**	**+0.8**
	18nm,0.9s								
SBUM	**Sibu**	**14.43**	**256**			**P**		**04 52 29.1**	**+0.4**
SBUM	**Sibu**	**14.43**	**256**	P		**P**		**04 52 29.4**	**+0.7**
SOEI	**Soe**	**15.83**	**187**	P		**Pn**		**04 52 44.0**	**+0.4**
SOEI	**Soe**	**15.83**	**187**	P		**P**		**04 52 45.7**	**+1.4**
	60nm,0.9s								
BATI	**Baumata**	**16.36**	**189**	P		**P**		**04 52 50.9**	**+0.8**
	48nm,0.4s,baz=21,slow=3.1,SNR=4.4								
BATI				LR		LR		04 59 30.5	
	comp=Z,26nm,19.4s,baz=81,slow=38								
PLAI	**Plampang**	**17.02**	**210**	P		**Pn**		**04 52 58.1**	**+0.1**
PLAI	**Plampang**	**17.02**	**210**	P		**P**		**04 52 57.0**	**-0.4**
	65nm,0.9s								
MTN	**Manton Dam**	**19.40**	**165**	P		**P**		**04 53 25.0**	**+1.7**
MTN				IAmb		IAmb		04 53 26.0	
	comp=Z,14nm,0.5s								
MTN	**Manton Dam**	**19.40**	**165**	P		**P**		**04 53 24.8**	**+1.5**
KDU	**Kakadu**	**19.63**	**162**	P		**P**		**04 53 27.6**	**+1.9**
KNRA	**Kununurra**	**21.74**	**173**	P		**P**		**04 53 49.9**	**+1.6**
COEN	**Coen**	**26.04**	**140**	P		**P**		**04 54 29.0**	**+0.8**
NJ2	**Nanjing**	**26.77**	**346**	*e*P		**P**		**04 54 35.6**	**+1.1**
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.5s								
WB0	**Warramunga Arr**	**26.89**	**163**	P		**P**		**04 54 36.6**	**+0.9**
WRAB	**Tennant Creek**	**27.03**	**163**	P		**P**		**04 54 39.1**	**+2.0**
WRA	**Warramunga Arr**	**27.04**	**163**	P		**P**		**04 54 37.3**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=338,slow=10,SNR=23								
WRA				S		**S**		**04 59 01.2**	**-2.7**
	comp=Z,0.6nm,0.8s,baz=343,slow=15,SNR=2.1								
WRA				ScP		**ScP**		**05 01 22.0**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=338,slow=3.6,SNR=4.5								
	comp=Z,0.7nm,0.3s								
WB2	**Warramunga Arr**	**27.04**	**163**	P		**P**		**04 54 38.5**	**+1.3**
WB2				IAmb		IAmb		04 54 42.4	
	comp=Z,19nm,1.5s								
WR0	**Warramunga Arr**	**27.11**	**163**	P		**P**		**04 54 39.3**	**+1.5**
ASAR	**Alice Springs**	**30.48**	**166**	P		**P**		**04 55 08.8**	**+1.2**
	comp=Z,3.3nm,0.4s,baz=341,slow=7.0,SNR=53								
ASAR				S		**S**		**04 59 57.2**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=330,slow=12,SNR=4.7								
ASAR				ScP		**ScP**		**05 01 33.4**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=356,slow=3.1,SNR=5.7								
	comp=Z,3.3nm,0.4s								
PZH	**PanZhiHua**	**30.96**	**314**	P		**P**		**04 55 14.3**	**+2.3**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
PZH				pmax		pmax			
	comp=Z,130nm,5.5s								
TIA	**Tai'an**	**31.15**	**346**	P		**P**		**04 55 14.9**	**+1.5**
TIA				pmax		pmax			
	comp=Z,11nm,2.1s								
HHC	**Hu-ho-hao-te**	**37.05**	**341**	*e*P		**P**		**04 56 06.8**	**+2.5**
HHC				sP		sP		04 56 47.1	-6.5
HHC				pmax		pmax			
	comp=Z,12nm,0.5s								
HHC				pmax		pmax			
	comp=Z,120nm,5.6s								
CN2	**Changchun**	**37.60**	**359**	*e*P		**P**		**04 56 08.1**	**-0.6**
CN2				*e*pP		pP		04 56 36.3	-5.1
USRK	**Ussuriysk Ar.**	**38.33**	**7**	P		**P**		**04 56 15.8**	**+0.9**
	comp=Z,6.5nm,0.7s,baz=196,slow=8.0,SNR=8.6								
	comp=Z,6.5nm,0.7s								
MDJ	**Mudanjiang**	**38.52**	**4**	P		**P**		**04 56 17.8**	**+1.4**
MDJ				pmax		pmax			
	comp=Z,13nm,1.3s								
SONM	**Songino Array**	**44.95**	**341**	P		**P**		**04 57 07.2**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=183,slow=7.8,SNR=1.4								
MKAR	**Makanchi Array**	**55.38**	**325**	P		**P**		**04 58 24.3**	**-3.0**
	comp=Z,0.3nm,0.4s,baz=118,slow=7.9,SNR=5.6								
	comp=Z,0.3nm,0.4s								
ZALV	**Zalesovo Beam**	**58.31**	**333**	P		**P**		**04 58 47.4**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=143,slow=45,SNR=1.6								
	comp=Z,0.3nm,0.3s								
KURBB	**Kurchatov Arra**	**59.53**	**327**	P		**P**		**04 58 54.3**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=125,slow=6.2,SNR=2.2								
	comp=Z,0.4nm,0.3s								
BVAR	**Borovoye Array**	**65.12**	**327**	P		**P**		**04 59 32.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=132,slow=6.2,SNR=1.9								
	comp=Z,0.2nm,0.3s								
NRIK	**Noril'sk**	**68.07**	**346**	P		**P**		**04 59 50.8**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=135,slow=10.0,SNR=1.7								
	comp=Z,1.2nm,0.4s								
F14K	**Arctic Creek**	**75.25**	**23**	P		**P**		**05 00 36.3**	**+1.5**
	baz=252								
L14K	**Kuka Creek**	**75.69**	**28**	P		**P**		**05 00 39.0**	**+1.7**
	baz=256								
N14K	**Kuskokwak Cree**	**75.84**	**30**	P		**P**		**05 00 40.6**	**+2.4**
	baz=258								
M15K	**Kasigluk River**	**76.49**	**29**	P		**P**		**05 00 43.4**	**+1.6**
	baz=258								
C16K	**Lisburne Hills**	**76.50**	**21**	P		**P**		**05 00 43.1**	**+1.3**
	baz=252								
CHGN	**Chignik**	**76.87**	**34**	P		**P**		**05 00 46.0**	**+2.0**
	baz=261								
J16K	**Anvik River**	**77.07**	**26**	P		**P**		**05 00 46.9**	**+1.8**
	baz=258								
D17K	**Noatak River**	**77.15**	**22**	P		**P**		**05 00 47.3**	**+1.9**
	baz=254								
I17K	**Unalakleet**	**77.17**	**26**	P		**P**		**05 00 47.4**	**+1.8**
	baz=257								
L16K	**Owhat River**	**77.27**	**28**	P		**P**		**05 00 47.5**	**+1.3**
	baz=259								
RDOG	**Red Dog Mine**	**77.31**	**21**	P		**P**		**05 00 47.9**	**+1.6**
	baz=254								
C17K	**DeLong Mountai**	**77.33**	**21**	P		**P**		**05 00 47.9**	**+1.5**
	baz=254								
N16K	**Nishlik Lake**	**77.38**	**29**	P		**P**		**05 00 49.1**	**+2.3**
	baz=260								
M16K	**Timber Creek**	**77.38**	**29**	P		**P**		**05 00 49.1**	**+2.2**
	baz=260								
E17K	**Hotham Inlet**	**77.46**	**22**	P		**P**		**05 00 49.1**	**+2.0**
	baz=256								
R16K	**Pilot Point**	**77.51**	**32**	P		**P**		**05 00 49.7**	**+2.1**
	baz=262								
F17K	**Baldwin Pennin**	**77.52**	**23**	P		**P**		**05 00 49.5**	**+2.0**
	baz=256								
G17K	**Kiwalik Mounta**	**77.54**	**24**	P		**P**		**05 00 49.7**	**+2.0**
	baz=257								
O16K	**Kokwok River B**	**77.56**	**30**	P		**P**		**05 00 49.6**	**+1.8**
	baz=261								
H17K	**Granite Mounta**	**77.72**	**25**	P		**P**		**05 00 50.4**	**+1.7**
	baz=258								
J17K	**VAAM Dome**	**77.77**	**26**	P		**P**		**05 00 51.2**	**+2.2**
	baz=259								
L17K	**Donlin**	**77.89**	**28**	P		**P**		**05 00 51.6**	**+2.0**
	baz=260								
K17K	**Iditarod**	**77.99**	**27**	P		**P**		**05 00 52.1**	**+1.9**
	baz=260								
E18K	**Tukpahlearik C**	**78.00**	**22**	P		**P**		**05 00 52.1**	**+1.9**
	baz=257								
B18K	**Kokolik River**	**78.04**	**20**	P		**P**		**05 00 51.6**	**+1.3**
	baz=255								
C18K	**Utukok River**	**78.08**	**21**	P		**P**		**05 00 52.3**	**+1.6**
	baz=256								
M17K	**Holitna River**	**78.17**	**29**	P		**P**		**05 00 53.3**	**+2.1**
	baz=261								
F18K	**Selawik**	**78.18**	**23**	P		**P**		**05 00 52.6**	**+1.5**
	baz=258								
P17K	**Kvichak River**	**78.34**	**31**	P		**P**		**05 00 52.7**	**+0.6**
	baz=262								
CHIR	**Chirikof Islan**	**78.36**	**34**	P		**P**		**05 00 53.5**	**+1.2**
	baz=264								
H18K	**Honhosa River**	**78.41**	**25**	P		**P**		**05 00 53.9**	**+1.4**
	baz=259								
G18K	**Tagagawik**	**78.43**	**24**	P		**P**		**05 00 54.0**	**+1.4**
	baz=259								
A19K	**Wainwright**	**78.50**	**19**	P		**P**		**05 00 54.3**	**+1.4**
	baz=256								
L18K	**Granite Mounta**	**78.65**	**28**	P		**P**		**05 00 56.3**	**+2.4**
	baz=261								
C19K	**Lookout Ridge**	**78.75**	**21**	P		**P**		**05 00 56.7**	**+2.4**
	baz=257								
J18K	**Innoko River**	**78.83**	**26**	P		**P**		**05 00 56.5**	**+1.7**
	baz=261								
M18K	**Stony River**	**78.95**	**29**	P		**P**		**05 00 57.3**	**+1.8**
	baz=262								
GCSA	**Galena City Sc**	**78.96**	**25**	P		**P**		**05 00 57.5**	**+2.0**
	baz=261								
Q18K	**Katmai Hardscr**	**79.00**	**31**	P		**P**		**05 00 57.6**	**+1.6**
	baz=264								
G19K	**Purcell Mounta**	**79.11**	**24**	P		**P**		**05 00 57.9**	**+1.6**
	baz=260								
D19K	**Kuna River**	**79.15**	**21**	P		**P**		**05 00 58.3**	**+1.9**
	baz=259								
H19K	**Roundabout Mou**	**79.27**	**24**	P		**P**		**05 00 59.2**	**+2.1**
H19K				IAmb		IAmb		05 00 59.9	
	comp=Z,8.7nm,0.8s								
H19K	**Roundabout Mou**	**79.27**	**24**	P		**P**		**05 00 59.2**	**+2.1**
	baz=261								
E19K	**Redstone River**	**79.28**	**22**	P		**P**		**05 00 58.7**	**+1.5**
E19K				IAmb		IAmb		05 01 00.4	
	comp=Z,12nm,1.1s								
E19K	**Redstone River**	**79.28**	**22**	P		**P**		**05 00 59.4**	**+2.2**
	baz=260								
J19K	**Poorman**	**79.39**	**26**	P		**P**		**05 01 00.1**	**+2.3**
	baz=262								
L19K	**White Mountain**	**79.50**	**28**	P		**P**		**05 01 00.5**	**+2.0**
	baz=263								
N19K	**Bonanza Creek**	**79.51**	**29**	P		**P**		**05 01 00.7**	**+2.0**
	baz=264								
M19K	**Big River Lodg**	**79.68**	**28**	P		**P**		**05 01 01.6**	**+2.1**
	baz=264								
D20K	**Etivluk River**	**79.73**	**21**	P		**P**		**05 01 01.1**	**+1.5**
	baz=260								
Q19K	**Cape Douglas,**	**79.74**	**31**	P		**P**		**05 01 01.4**	**+1.5**
	baz=265								
B20K	**Meade River**	**79.77**	**20**	P		**P**		**05 01 01.8**	**+2.1**
	baz=260								
F20K	**Avaraart Lake**	**79.79**	**23**	P		**P**		**05 01 01.8**	**+1.9**
F20K				IAmb		IAmb		05 01 03.1	
	comp=Z,12nm,1.4s								
F20K	**Avaraart Lake**	**79.79**	**23**	P		**P**		**05 01 02.0**	**+2.1**
	baz=261								
E20K	**Nigu River**	**79.81**	**22**	P		**P**		**05 01 02.1**	**+2.0**
	baz=261								
H20K	**Anotleneega Mo**	**79.91**	**25**	P		**P**		**05 01 02.3**	**+1.7**
	baz=262								
I20K	**Naaghsdeneel**	**79.99**	**25**	P		**P**		**05 01 03.3**	**+2.3**
	baz=263								
K20K	**Telida**	**79.99**	**27**	P		**P**		**05 01 03.6**	**+2.5**
	baz=264								
J20K	**Nowinta River**	**80.06**	**26**	P		**P**		**05 01 03.7**	**+2.3**
J20K				IAmb		IAmb		05 01 04.2	
	comp=Z,5.5nm,0.6s								
J20K	**Nowinta River**	**80.06**	**26**	P		**P**		**05 01 03.7**	**+2.3**
	baz=263								
A21K	**Barrow**	**80.18**	**19**	P		**P**		**05 01 03.4**	**+1.5**
	baz=260								
KDAK	**Kodiak Island**	**80.20**	**32**	P		**P**		**05 01 03.4**	**+1.1**
	comp=Z,8.0nm,0.9s,baz=252,slow=6.4,SNR=5.8								
	comp=Z,8.0nm,0.9s								
M20K	**Styx River**	**80.27**	**28**	P		**P**		**05 01 04.0**	**+1.2**
	baz=265								
Q20K	**Shuyak Island**	**80.36**	**32**	P		**P**		**05 01 04.7**	**+1.6**
	baz=266								
C21K	**Knifeblade Rid**	**80.45**	**21**	P		**P**		**05 01 04.7**	**+1.3**
	baz=262								
B21K	**Ikpikpuk River**	**80.58**	**20**	P		**P**		**05 01 06.1**	**+2.0**
B21K	**Ikpikpuk River**	**80.58**	**20**	P		**P**		**05 01 06.3**	**+2.3**
	baz=262								
G21K	**Allakaket**	**80.59**	**24**	IAmb		IAmb		05 01 06.9	
	comp=Z,11nm,1.1s								
G21K	**Allakaket**	**80.59**	**24**	P		**P**		**05 01 06.4**	**+2.2**
	baz=264								
E21K	**Killik River**	**80.65**	**22**	IAmb		IAmb		05 01 06.8	
	comp=Z,8.3nm,0.8s								
E21K	**Killik River**	**80.65**	**22**	P		**P**		**05 01 06.7**	**+2.1**
	baz=263								
A22K	**Sinclair Lake**	**80.66**	**19**	P		**P**		**05 01 06.3**	**+1.8**
	baz=261								
H21K	**Melozitna Rive**	**80.78**	**25**	P		**P**		**05 01 07.2**	**+1.9**
H21K	**Melozitna Rive**	**80.78**	**25**	P		**P**		**05 01 07.2**	**+1.9**
	baz=264								
PPLA	**Purkeypile**	**80.80**	**27**	P		**P**		**05 01 07.3**	**+1.7**
	baz=265								
HOM	**Homer**	**80.82**	**31**	P		**P**		**05 01 07.3**	**+1.8**
	baz=266								
CHUM	**Lake Minchumin**	**80.83**	**26**	P		**P**		**05 01 07.6**	**+2.1**
	baz=265								
CAST	**Castle Rocks**	**80.89**	**27**	P		**P**		**05 01 07.4**	**+1.5**
	baz=265,SNR=6.9								
B22K	**Teshekpuk Lake**	**81.08**	**20**	P		**P**		**05 01 08.4**	**+1.7**
	baz=263								
I21K	**Tanana**	**81.08**	**25**	P		**P**		**05 01 08.6**	**+1.7**
	baz=265								
D22K	**Ayikyak River**	**81.17**	**21**	P		**P**		**05 01 09.3**	**+2.0**
	baz=264								
F22K	**John River**	**81.22**	**23**	P		**P**		**05 01 09.7**	**+2.1**
	baz=265								
H22K	**Ishtalitna Cre**	**81.39**	**24**	P		**P**		**05 01 10.6**	**+2.1**
	baz=266								
E22K	**Anaktuvuk Pass**	**81.41**	**22**	P		**P**		**05 01 10.4**	**+1.8**
	baz=265								
G22K	**Bettles**	**81.42**	**23**	P		**P**		**05 01 10.0**	**+1.4**
	baz=265								
BPAW	**Bear Paw Mtn.**	**81.43**	**26**	P		**P**		**05 01 10.2**	**+1.5**
BPAW	**Bear Paw Mtn.**	**81.43**	**26**	P		**P**		**05 01 10.6**	**+1.8**
	baz=266,SNR=5.2								
MLY	**Manley**	**81.60**	**25**	P		**P**		**05 01 11.3**	**+1.7**
MLY				IAmb		IAmb		05 01 12.0	
	comp=Z,9.6nm,0.8s								
MLY	**Manley**	**81.60**	**25**	P		**P**		**05 01 11.3**	**+1.7**
	baz=266,SNR=8.1								
TRF	**Thorofare Moun**	**81.70**	**27**	P		**P**		**05 01 11.1**	**+0.8**
	baz=267								
D23K	**Nanushuk River**	**81.90**	**21**	IAmb		IAmb		05 01 14.2	
	comp=Z,8.5nm,0.9s								
D23K	**Nanushuk River**	**81.90**	**21**	P		**P**		**05 01 13.4**	**+2.3**
	baz=266								
SEW	**Seward**	**81.95**	**30**	P		**P**		**05 01 12.7**	**+1.2**
	baz=268								
COLD	**Coldfoot**	**81.96**	**23**	P		**P**		**05 01 13.3**	**+1.9**
	baz=266,SNR=8.4								
C23K	**Itkillik River**	**81.99**	**20**	IAmb		IAmb		05 01 15.1	
	comp=Z,7.8nm,0.9s								
C23K	**Itkillik River**	**81.99**	**20**	P		**P**		**05 01 13.7**	**+2.2**
	baz=266								
G23K	**Bananza Creek**	**81.99**	**24**	P		**P**		**05 01 14.0**	**+2.3**
G23K	**Bananza Creek**	**81.99**	**24**	P		**P**		**05 01 13.8**	**+2.2**
	baz=267,SNR=6.3								
BWN	**Browne**	**82.10**	**26**	P		**P**		**05 01 14.0**	**+1.8**
H23K	**Yukon River**	**82.14**	**24**	IAmb		IAmb		05 01 15.3	
	comp=Z,6.7nm,0.7s								
H23K	**Yukon River**	**82.14**	**24**	P		**P**		**05 01 14.4**	**+2.0**
	baz=267								
I23K	**Minto, Yukon-K**	**82.19**	**25**	P		**P**		**05 01 14.6**	**+1.9**
I23K				IAmb		IAmb		05 01 15.6	
	comp=Z,6.5nm,0.7s								
I23K	**Minto, Yukon-K**	**82.19**	**25**	P		**P**		**05 01 14.4**	**+1.8**
	baz=268,SNR=12								
E23K	**Chandalar**	**82.23**	**22**	P		**P**		**05 01 15.0**	**+2.0**
	baz=267,SNR=5.4								
TOLK	**Toolik Lake Re**	**82.28**	**22**	P		**P**		**05 01 15.0**	**+1.9**
TOLK	**Toolik Lake Re**	**82.28**	**22**	P		**P**		**05 01 15.4**	**+2.3**
	baz=267,SNR=5.5								
NEA2	**Nenana**	**82.29**	**26**	P		**P**		**05 01 14.0**	**+0.8**
NEA2				IAmb		IAmb		05 01 15.6	
	comp=Z,9.2nm,1.0s								
NEA2	**Nenana**	**82.29**	**26**	P		**P**		**05 01 14.5**	**+1.3**
	baz=268,SNR=5.5								
MCK	**McKinley**	**82.31**	**27**	P		**P**		**05 01 14.5**	**+1.1**
	baz=268,SNR=6.9								
WAT1	**Susitna Watana**	**82.46**	**27**	P		**P**		**05 01 15.3**	**+1.1**
	baz=269								
PWL	**Port Wells**	**82.52**	**29**	P		**P**		**05 01 15.7**	**+1.2**
	baz=269								
SML	**Sawmill**	**82.54**	**29**	P		**P**		**05 01 15.8**	**+1.2**
	baz=269								
D24K	**Happy Valley**	**82.57**	**21**	P		**P**		**05 01 16.4**	**+1.8**
	baz=268								
C24K	**Franklin Bluff**	**82.64**	**21**	P		**P**		**05 01 16.4**	**+1.5**
	baz=268								
E24K	**Your Creek**	**82.65**	**22**	P		**P**		**05 01 17.5**	**+2.4**
	baz=268								
WRH	**Wood River Hil**	**82.71**	**26**	P		**P**		**05 01 16.3**	**+0.9**
WRH				IAmb		IAmb		05 01 17.5	
	comp=Z,6.4nm,0.8s								
H24K	**Noodor Dome**	**82.83**	**24**	I

TGL	Tana Glacier	85.22	30	P	P	05 01 29.9	+1.6
E27K	Coleen River	85.23	22	P	P	05 01 30.0	+1.9
	baz=274						
SNH	Sunshine Point	85.25	30	P	P	05 01 30.6	+2.2
G27K	Doyon Strip	85.31	23	P	P	05 01 30.4	+1.9
	baz=274						
D27M	Malcolm River	85.38	21	P	P	05 01 30.7	+1.9
	baz=275						
H27K	Steamboat Moun	85.41	24	P	P	05 01 31.3	+2.2
	baz=275						
I27K	Kandik River	85.42	25	P	P	05 01 31.4	+2.3
	baz=275						
L27K	Beaver Creek,	85.53	27	P	P	05 01 31.8	+2.0
	baz=275						
BCAR	Beaver Creek A	85.55	27	P	P	05 01 31.9	+2.0
M27K	Edge Creek, AK	85.56	28	P	P	05 01 31.8	+1.8
	baz=275						
EGAK	Eagle	85.68	25	P	P	05 01 31.8	+1.4
EGAK				IAmb	IAmb	05 01 47.7	
	comp=Z,13nm,1.5s						
EGAK	Eagle	85.68	25	P	P	05 01 32.2	+1.8
	baz=275						
GRNC	Granite Creek	85.75	30	P	P	05 01 32.9	+1.8
GRNC				IAmb	IAmb	05 02 04.4	
	comp=Z,7.9nm,1.1s						
CTG	Chitna Glacier	85.93	29	P	P	05 01 33.3	+1.4
	baz=275						
F28M	Old Crow	85.93	23	P	P	05 01 33.3	+1.7
F28M				IAmb	IAmb	05 01 34.4	
	comp=Z,6.1nm,0.7s						
F28M	Old Crow	85.93	23	P	P	05 01 33.2	+1.7
	baz=276						
CTGM	Chitina Glacie	85.93	29	P	P	05 01 33.5	+1.6
CTGM				IAmb	IAmb	05 01 34.5	
	comp=Z,5.0nm,0.7s						
E28M	Babbage River	85.95	22	P	P	05 01 33.3	+1.7
	baz=276						
BVCY	Beaver Creek	86.03	28	P	P	05 01 33.3	+1.1
	baz=276						
LOGN	Logan Glacier	86.11	29	P	P	05 01 34.4	+1.6
LOGN				IAmb	IAmb	05 01 40.5	
	comp=Z,11nm,1.3s						
I28M	Miner Creek	86.13	25	P	P	05 01 34.5	+1.7
	baz=276						
O28M	Mount Upton	86.51	29	P	P	05 01 36.7	+1.8
	baz=276						
DAWY	Dawson	86.52	26	P	P	05 01 36.1	+1.5
DAWY	Dawson	86.52	26	P	P	05 01 36.1	+1.5
	baz=277						
PINM	Pinnacle	86.55	30	P	P	05 01 36.9	+2.1
	baz=276						
E29M	Blow River	86.58	22	P	P	05 01 35.8	+1.1
	baz=278						
YUK8	Steele Glacier	86.66	29	P	P	05 01 37.1	+1.5
	baz=276						
H29M	Whitestone	86.68	24	P	P	05 01 36.8	+1.5
	baz=278						
SBA	Scott Base	86.69	172	P	P	05 01 34.8	-0.2
G29M	Pine Creek	86.73	23	IAmb	IAmb	05 01 37.4	
	comp=Z,6.6nm,0.8s						
G29M	Pine Creek	86.73	23	P	P	05 01 36.8	+1.3
	baz=278						
J29N	Klondike Camp	86.98	26	P	P	05 01 38.3	+1.5
	baz=278						
M29M	Somme Creek	87.13	28	P	P	05 01 39.6	+1.9
	baz=278						
L29M	L29M	87.19	27	IAmb	IAmb	05 01 41.6	
	comp=Z,4.8nm,0.9s						
L29M	L29M	87.19	27	P	P	05 01 40.0	+2.1
	baz=278						
EPYK	Eagle Plains	87.32	24	P	P	05 01 39.6	+1.2
	baz=279						
K29M	Barlow Dome	87.36	26	P	P	05 01 40.4	+1.7
	baz=278						
G30M	tAoh Zraii Nji	87.42	23	P	P	05 01 39.3	+0.4
	baz=279						
F30M	Barrier River	87.48	22	P	P	05 01 40.1	+1.1
	baz=280						
I30M	Mount Dempster	87.64	25	P	P	05 01 41.5	+1.4
	baz=279						
J30M	Hart River	87.77	25	P	P	05 01 42.3	+1.6
	baz=279						
M30M	Minto, Yukon	87.88	27	P	P	05 01 42.7	+1.5
M30M	Minto, Yukon	87.88	27	P	P	05 01 42.6	+1.5
	baz=279						
SPITS	Spitsbergen Ar	88.12	349	P	P	05 01 41.5	-0.5
	comp=Z,24nm,1.1s,baz=74,slow=11,SNR=3.2						
MAYO	Mayo, Yukon	88.12	26	P	P	05 01 43.7	+1.5
	baz=280						
BRTR	Keskin Array B	88.17	310	LR	LR	05 47 33.4	
	comp=Z,24nm,18.8s,baz=296,slow=40						
INK	Inuvik	88.19	21	P	P	05 01 44.4	+2.0
	baz=282						
F31M	Tsiigehtchic	88.29	22	P	P	05 01 43.4	+0.5
F31M	Tsiigehtchic	88.29	22	P	P	05 01 43.4	+0.5
	baz=282						
WHY	Whitehorse	89.11	29	P	P	05 01 48.4	+1.4
	baz=281						
FARO	Faro, Yukon	89.52	27	P	P	05 01 50.3	+1.5
	baz=282						
FINES	FINESS Array B	89.56	332	P	P	05 01 46.3	-2.7
	comp=Z,3.4nm,1.0s,baz=51,slow=7.3,SNR=2.2						
	comp=Z,3.4nm,1.0s						
R32K	Eaglecrest	89.74	31	P	P	05 01 51.1	+1.2
	baz=281						
LIRD	Liard River Hi	93.69	29	P	P	05 02 09.1	+1.0
	baz=288						
YKA	Yellowknife Ar	97.59	24	P	Pdif	05 02 26.5	+0.7
	comp=Z,0.9nm,0.7s,baz=301,slow=3.9,SNR=4.3						
	comp=Z,0.9nm,0.7s						

*ISK **24** 04:59:12.2, 34°.84N×30°.76E, h101km±2km, ML3.2/25*
*AFAD **24** 04:59:14.8±0.0, 35°.40N×30°.84E, h8km±4km, ML2.4*
*NIC **24** 04:59:17.7, 35°.59N×30°.94E, h50km±13km, Ml2.7/7*
*GII **24** 04:59:22.3±0.3, 35°.117N±0°.002×31°.107E±0°.001, h80km, Mws2.7, confirmed*

ISC 24 04:59:17.9±1.2, 35°.16N±0°.04×30°.76E±0°.04, h55km±38km, n82, σ1§26/95, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	Akamas	1.30	96	P	Pn	04 59 39.5	-0.3
AKMS				S	Sn	04 59 56.1	0.0
AKMS				AML	AML	05 00 04.8	
	1.2nm,0.7s						
AKMS				AML	AML	05 00 05.0	
	0.9nm,0.4s						
AKAS	Kas	1.43	319	Pn	Pn	04 59 41.6	0.0
NATA	Nata	1.53	104	P	Pn	04 59 43.0	+0.1
NATA				S	Sn	05 00 03.6	+1.8
NATA				AML	AML	05 00 16.3	
	1.6nm,0.4s						
NATA				AML	AML	05 00 33.6	
	1.1nm,0.9s						
ELL	Elmali	1.73	337	Pn	Pn	04 59 46.2	+0.4
TROD	Troodos	1.74	96	P	Pn	04 59 45.1	-0.8
TROD				S	Sn	05 00 06.7	-0.4
TROD				AML	AML	05 00 20.4	
	0.3nm,0.8s						
TROD				AML	AML	05 00 27.2	
	0.3nm,0.6s						
ANTB	Antalya	1.74	357	Pn	Pn	04 59 46.6	+0.9
APOL	The Sanctuary	1.79	105	P	Pn	04 59 46.7	+0.2
APOL				S	Sn	05 00 09.5	+1.3
APOL				AML	AML	05 00 32.8	
	0.2nm,0.6s						
APOL				AML	AML	05 00 35.0	
	0.2nm,0.8s						
AKDN	Akdeniz- Kıbrı	1.81	85	Pn	Pn	04 59 44.1	-2.6
KORT	Korkueli	1.87	350	Pn	Pn	04 59 49.9	+2.3
FETY	Fethiye	2.01	318	Pn	Pn	04 59 49.2	-0.2
ASGA	Asgata	2.08	100	P	Pn	04 59 50.2	-0.1
ASGA				S	Sn	05 00 15.7	+0.7
ASGA				AML	AML	05 00 36.5	
	0.2nm,0.8s						
ASGA				AML	AML	05 00 37.8	
	0.2nm,0.7s						
CSS	Mathiatis	2.12	95	Pn	Pn	04 59 47.4	-3.5
CSS	Mathiatis	2.12	95	P	Pn	04 59 50.5	-0.4
CSS				S	Sn	05 00 14.8	-1.2
CSS				AML	AML	05 00 32.9	
	0.2nm,1.3s						
CSS				AML	AML	05 00 33.1	
	0.2nm,0.6s						
CAME	Cameli-Denizli	2.14	327	Pn	Pn	04 59 51.4	+0.1
TEKE	Tekeli-Mersin	2.15	62	Pn	Pn	04 59 50.1	-1.3
TEKE				Sn	Sn	05 00 17.7	+0.8
HDMB	Hadim	2.28	37	Pn	Pn	04 59 53.1	-0.2
BERE	Bereket-Mersin	2.33	59	Pn	Pn	04 59 52.7	-1.2
BERE				Sn	Sn	05 00 22.2	+0.8
MVOU	Mavrovouni	2.36	93	S	Sn	05 00 20.7	-1.2
MVOU				AML	AML	05 00 52.7	
	0.1nm,0.6s						
MVOU				AML	AML	05 00 54.7	
	0.2nm,0.9s						
DALY	Dalyan (Mula)	2.38	315	Pn	Pn	04 59 54.0	-0.5
ARG	Arkhangelos	2.39	297	Pn	Pn	04 59 53.1	-1.5
SEYD	Seydisehir-KON	2.40	21	Pn	Pn	04 59 54.9	0.0
GULN	MERSIN_Gulnar	2.48	65	P	Pn	04 59 55.5	-0.4
GULN				S	Sn	05 00 26.8	+1.8
GULN				*i* AML	AML	05 00 37.0	
	comp=E,30nm,0.6s						
GULN				*i* AML	AML	05 00 38.0	
	comp=N,44nm,0.5s						
APMY	Acipayam-Deniz	2.59	333	Pn	Pn	04 59 57.6	+0.1
TURN	Turunc	2.60	309	Pn	Pn	04 59 56.6	-0.9
ISP	Isparta	2.67	356	Pn	Pn	04 59 58.9	+0.4
KKBE	Karaman, Kazim	2.71	40	P	Pn	04 59 59.4	+0.3
KKBE				S	Sn	05 00 31.8	+1.1
KKBE				*i* AML	AML	05 00 43.0	
	comp=E,32nm,1.0s						
KKBE				*i* AML	AML	05 00 45.0	
	comp=N,32nm,0.9s						
EREN	Erenkoy	2.81	81	Pn	Pn	04 59 57.6	-2.7
YER	Yerkesik	2.81	315	Pn	Pn	04 59 59.7	-0.8
DAT	Datca	3.02	302	Pn	Pn	05 00 01.8	-1.6
KONT	Konya--Tatoy	3.06	24	Pn	Pn	05 00 03.9	0.0
YAZI	Mula-Dat§a-	3.09	300	P	Pn	05 00 05.1	+1.0
YAZI				S	Sn	05 00 38.0	-1.8
YAZI				*i* AML	AML	05 01 05.0	
	comp=N,26nm,1.5s						
YAZI				*i* AML	AML	05 01 16.0	
	comp=E,20nm,2.0s						
AFYN	Afyon-Dinar-K	3.11	356	P	Pn	05 00 04.1	-0.5
AFYN				S	Sn	05 00 41.3	+0.6
AFYN				*i* AML	AML	05 01 01.0	
	comp=E,27nm,1.0s						
AFYN				*i* AML	AML	05 01 32.0	
	comp=N,29nm,2.4s						
YVAC	Isparta, Yalva	3.13	7	P	Pn	05 00 05.2	+0.3
YVAC				S	Sn	05 00 40.2	-0.9
YVAC				*i* AML	AML	05 01 00.0	
	comp=E,12nm,0.8s						
YVAC				*i* AML	AML	05 01 04.0	
	comp=N,9.5nm,1.0s						
PASA	Karahalli, USA	3.34	343	P	Pn	05 00 07.5	-0.2
PASA				S	Sn	05 00 43.5	-2.7
PASA				*i* AML	AML	05 00 50.0	
	comp=E,8.9nm,0.4s						
PASA				*i* AML	AML	05 00 57.0	
	comp=N,11nm,1.3s						
BODT	Bodrum	3.38	305	Pn	Pn	05 00 06.8	-1.4
UCKU	Afyonkarahisar	3.51	9	P	Pn	05 00 10.1	+0.1
UCKU				S	Sn	05 00 49.6	-0.8
UCKU				*i* AML	AML	05 01 01.0	
	comp=N,9.2nm,0.6s						
UCKU				*i* AML	AML	05 01 04.0	
	comp=E,9.9nm,1.0s						
KDHN	Kadinhani	3.53	18	P	Pn	05 00 10.0	-0.3
KDHN				*i* AML	AML	05 01 01.0	
	comp=E,5.4nm,0.4s						
KDHN				*i* AML	AML	05 01 28.0	
	comp=N,9.2nm,1.3s						
BNAZ	Uak-Banaz	3.58	349	P	Pn	05 00 11.6	+0.5
BNAZ				S	Sn	05 00 52.5	+0.3
BNAZ				*i* AML	AML	05 01 09.0	
	comp=N,44nm,0.8s						
BNAZ				*i* AML	AML	05 01 12.0	
	comp=E,28nm,0.8s						
KULA	Kula-Manisa	3.75	334	Pn	Pn	05 00 13.0	-0.3
GCAM	G?zelcaml?	3.81	313	Pn	Pn	05 00 12.9	-1.2
HNTI	Hanita	4.20	118	S	Sn	05 01 04.6	-2.7
HNTI	Hanita	4.20	118	P	Pn	05 00 20.5	+1.1
OFRI	`Ofer	4.33	125	S	Sn	05 01 09.5	-0.9
OFRI	`Ofer	4.33	125	P	Pn	05 00 22.7	+1.5
MMC7	Mount Meron ar	4.39	118	P	Pn	05 00 23.2	+1.1
MMA0B	Mount Meron ar	4.40	118	P	Pn	05 00 23.6	+1.3
MMA0B	Mount Meron ar	4.40	118	S	Sn	05 01 10.9	-1.4
BLGI	Bet Lehem HaGe	4.41	122	P	Pn	05 00 23.8	+1.5
BLGI	Bet Lehem HaGe	4.41	122	S	Sn	05 01 10.9	-1.3
GEM	Giv'at Ha'Em	4.50	114	P	Pn	05 00 24.4	+0.8
GEM	Giv'at Ha'Em	4.50	114	S	Sn	05 01 13.1	-1.6
NATI	Neve Ativ	4.54	113	S	Sn	05 01 13.0	-2.4
NATI	Neve Ativ	4.54	113	P	Pn	05 00 24.7	+0.7
SLTI	Sal'it	4.60	128	P	Pn	05 00 26.4	+1.4
SLTI	Sal'it	4.60	128	S	Sn	05 01 15.8	-1.3
KSHT	Keshet	4.72	116	S	Sn	05 01 18.9	-1.2
KSHT	Keshet	4.72	116	P	Pn	05 00 27.6	+1.0
MMLI	Mount Malkishu	4.73	124	Pn	Pn	05 00 20.3	-6.5
MMLI	Mount Malkishu	4.73	124	P	Pn	05 00 28.2	+1.4
MMLI	Mount Malkishu	4.73	124	S	Sn	05 01 19.3	-1.1
IDI	Anoyia	4.81	273	Pn	Pn	05 00 23.6	-4.2
HMDT	Nahal Hemdat	4.92	125	P	Pn	05 00 30.5	+1.3
HMDT	Nahal Hemdat	4.92	125	S	Sn	05 01 23.8	-1.0
AMAZ	Amatzia	5.01	135	P	Pn	05 00 32.4	+1.8
AMAZ	Amatzia	5.01	135	S	Sn	05 01 26.8	-0.5
KZIT	Kziot	5.22	143	P	Pn	05 00 35.4	+1.9
KZIT	Kziot	5.22	143	S	Sn	05 01 32.1	-0.3
YTIR	Yattir	5.26	135	P	Pn	05 00 35.7	+1.7
YTIR	Yattir	5.26	135	S	Sn	05 01 33.1	-0.2
DSI	Dead Sea	5.27	132	P	Pn	05 00 35.3	+1.2
DSI	Dead Sea	5.27	132	S	Sn	05 01 32.4	-1.0
IMMV	Iera Moni Meta	5.55	275	Pn	Pn	05 00 33.8	-4.2
PRNI	Paran	5.98	142	S	Sn	05 01 51.1	+0.1
PRNI	Paran	5.98	142	P	Pn	05 00 45.1	+1.2
KRMI	Paran Flat	6.04	145	P	Pn	05 00 46.6	+1.9
KRMI	Paran Flat	6.04	145	S	Sn	05 01 52.8	+0.4
HRFI	Mount Harif	6.25	144	S	Sn	05 01 57.9	+0.2
HRFI	Mount Harif	6.25	144	P	Pn	05 00 49.4	+1.8
MBRI	Mt Berech	6.40	146	P	Pn	05 00 51.2	+1.6
MBRI	Mt Berech	6.40	146	S	Sn	05 02 01.6	+0.3
EIL	Elat	6.52	146	P	Pn	05 00 52.8	+1.6
EIL	Elat	6.52	146	S	Sn	05 02 03.5	-0.7

*NEIC **24** 04:59:26.5±1.6, 37°.47N±0°.07×72°.3E±0°.1, h212km±4km, mb4.2/8, Error ellipse: s-maj=12.5km s-min=9.6km az=87.0*
*IDC **24** 04:59:29.2±9.2, 37°.34N×72°.48E, h243km±109km, mb3.3/5, mbtmp3.8/9, Error ellipse: s-maj=74.0km s-min=50.6km az=97.0*
*NNC **24** 04:59:29.6±6.3, 37°.76N×71°.97E, h184km±75km, mb2.9, mpv3.9, Error ellipse: s-maj=56.5km s-min=34.4km az=11.0*

ISC 24 04:59:25.9±1.1, 37°.53N±0°.09×72°.32E±0°.07, h200km, n40, σ1§79/44, mb3.8/7, 4C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	Karamyk	1.99	348	Pn	Pn	05 00 07.3	+2.7
GAR	Garm	2.15	314		Pn	05 00 08.2	+2.0
BTK	Batken	2.78	336	Pn	Pn	05 00 16.1	+3.0
SIMJ	Simiganj	2.84	294		Pn	05 00 15.4	+1.5
ARSB	Arslanbob	3.82	8	Pn	Pn	05 00 27.2	+1.6
NIL	Nilore	3.94	169		Pn	05 00 28.8	+1.7
KBL	Kabul	3.99	223	Pn	Pn	05 00 27.1	-0.7
AML	Almayashu	4.72	13	P	Pn	05 00 38.8	+1.8
	SNR=89						
NRN	Naryn	4.83	35	Pn	Pn	05 00 38.8	+0.5
EKS2	Erkin-Say	5.25	12	P	Pn	05 00 45.8	+2.3
	SNR=12						
AAK	Ala-Archa	5.37	17	Pn	Pn	05 00 47.4	+2.3
KBK	Karagaybulak	5.50	21	P	Pn	05 00 49.9	+3.1
	SNR=5.7						
KK31	Karatay Array	5.74	347	⇑P	Pn	05 00 51.1	+1.4
	3.4nm,0.3s,baz=172,slow=12,SNR=111						
KK31				⇑S	Sn	05 01 54.5	-1.5
	7.4nm,0.4s,baz=175,slow=24,SNR=13						
KKAR	Karatay Array	5.74	347	Pn	Pn	05 00 51.3	+1.6
CHMS	Chumysh	5.77	18	P	Pn	05 00 52.5	+2.3
	SNR=5.8						
CHMS	Chumysh	5.77	18	⇓P	Pn	05 00 52.3	+2.1
	4.8nm,0.3s						
CHMS				⇓S	Sn	05 01 56.0	-0.9
	9.9nm,0.7s						
KDJ	Kajisay	5.92	38	Pn	Pn	05 00 53.3	+1.0
TKM2	Tokmak 2	5.94	24	P	Pn	05 00 54.5	+2.0
	SNR=16						
TKM2	Tokmak 2	5.94	24	⇑P	Pn	05 00 53.8	+1.3
	9.7nm,0.6s						
TKM2				⇓S	Sn	05 02 01.6	+0.6
	2.3nm,0.7s						
TARG	Taragay, Kyrgy	5.96	44	Pn	Pn	05 00 53.5	+0.6
USP	Ospenovka	5.97	16	P	Pn	05 00 55.1	+2.4
	SNR=5.4						
MKAR	Makanchi Array	11.84	35	P	P	05 02 12.8	-0.8
	0.7nm,0.9s,baz=217,slow=19,SNR=2.2						
KURBB	Kurchatov Arra	13.82	17	P	P	05 02 36.2	+0.7
	0.9nm,0.7s,baz=201,slow=10,SNR=5.4						
AB31	Akbulak array	14.75	327	P	P	05 02 45.9	+0.1
	0.5nm,0.4s,baz=132,slow=13,SNR=20						
AB31				⇑S	S	05 05 23.5	-5.1
	1.4nm,0.7s,baz=139,slow=23,SNR=4.1						
ABKAR	Akbulak array	14.75	327	P	P	05 02 45.6	-0.3
BVAR	Borovoye Array	15.55	356	P	Pn	05 02 56.9	+2.2
	1.4nm,0.6s,baz=154,slow=8.4,SNR=4.7						
AKTO	Aktyubinsk	16.46	326	⇓P	Pn	05 03 06.4	+0.8
	1.8nm,0.5s						
AKTO				⇓S	S	05 06 04.5	-2.2
	1.2nm,1.1s						
ZAA0	Zalesovo Array	18.55	24	P	Pn	05 03 29.1	-1.0
ZAA0				IAmb	IAmb	05 03 29.9	
	comp=Z,4.9nm,0.7s						
ZALV	Zalesovo Beam	18.55	24	P	Pn	05 03 29.0	-1.0
	comp=Z,5.9nm,0.6s,baz=223,slow=10,SNR=27						
FINES	FINESS Array B	37.23	325	P	P	05 06 19.1	+1.3
	comp=Z,0.5nm,0.3s,baz=120,slow=9.8,SNR=8.2						
	comp=Z,0.5nm,0.3s						
ARCES	ARCESS Array B	40.61	337	P	P	05 06 46.8	+1.1
	comp=Z,2.7nm,0.7s,baz=105,slow=8.9,SNR=5.5						
	comp=Z,2.7nm,0.7s						
HFS	Hagfors	42.92	321	P	P	05 07 05.7	+1.2
	comp=Z,1.6nm,0.5s,baz=98,slow=11,SNR=11						
	comp=Z,1.6nm,0.5s						
NC303	NORSAR Array S	44.14	323	P	P	05 07 14.2	-0.1
NC303				IAmb	IAmb	05 07 17.6	
	comp=Z,19nm,1.2s						
NB201	NORSAR Array S	44.16	322	P	P	05 07 14.4	-0.1
NB2	NORSAR Subarra	44.20	322	P	P	05 07 15.7	+0.9
	comp=Z,0.5nm,0.5s,baz=93,slow=7.4						
NOA	NORSAR Array B	44.20	322	P	P	05 07 15.8	+0.9
	comp=Z,0.5nm,0.5s,baz=105,slow=6.9,SNR=5.9						
	comp=Z,0.5nm,0.5s						
NC204	NORSAR Array S	44.44	323	P	P	05 07 16.6	0.0
NC204				IAmb	IAmb	05 07 30.7	
	comp=Z,20nm,1.4s						
TORD	Torodi Ar. Bea	66.80	269	P	P	05 09 55.7	-0.5
	comp=Z,0.3nm,0.5s,baz=49,slow=5.8,SNR=4.2						
	comp=Z,0.3nm,0.5s						
D19K	Kuna River	67.84	18	P	P	05 10 03.0	+1.0
SCRK	Sand Creek	74.83	16	P	P	05 10 42.1	-1.9

NOU 24 05:07:09.4, 14°.90S×167°.43E, h117km, MLv4.5/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	1.20	180	P	Pn	05 07 33.8	+0.6
DVP	Devils Point	2.90	166	P	Pn	05 07 54.2	-0.1
LUES	Luesalemba Tem	4.46	340	P	Pn	05 08 14.9	-0.3
KOUNC	Koumac, New Ca	6.37	208	P	Pn	05 08 41.0	+0.2
YATNC	Mamie plateau,	7.14	184	P	Pn	05 08 50.8	-0.4
DZM	Mont Dzumac	7.19	187	P	Pn	05 08 51.2	-0.9
NOUC	Port Laguerre	7.24	188	P	Pn	05 08 53.1	+0.5
NGOA	Tingoa Renbel	7.91	294	P	Pn	05 09 01.3	-0.4
TATA	Tatamba Isabel	9.88	310	P	Pn	05 09 29.0	+0.6

DJA 24 05:09:23.5±0.4, 9°S±3°×12°0E±°, h30km±6km, M4.0/13, mb4.2/3, MLv3.8/13, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	Waingapu	0.38	179	P	Pn	05 09 33.8	+0.9
WSI				S	Sn	05 09 40.3	+1.1
WBSI	Waikabubak, Su	0.95	248	P	Pn	05 09 40.0	-0.9
WBSI				S	Sn	05 09 50.5	-3.0
BASI	Baing, Sumba	0.97	163	P	Pb	05 09 41.7	0.0
BASI				S	Sb	05 09 54.1	0.0
MMRI	Maumere	2.03	71	P	Pn	05 09 56.1	+0.4
MMRI				S	Sn	05 10 20.0	-0.1
PLAI	Plampang	2.52	280	P	Pn	05 10 02.3	-0.2
BSSI	Bau Bau, Buton	3.13	4	P	Pn	05 10 10.3	-0.6
BATI	Baumata	3.45	106	P	Pn	05 10 14.6	-0.6
BKSI	Bulukumba	3.95	358	P	Pn	05 10 21.6	-0.5
SOEI	Soe	3.95	97	P	Pn	05 10 21.2	-1.0
JAGI	Jajag, Banyuwa	6.12	277	P	Pn	05 10 51.6	-0.4
	32nm,1.0s						
GMJI	Gumukmas	6.84	278	P	Pn	05 11 01.8	-0.1

*OSPL **24** 05:26:14.7±1.3, 19°.79N×71°.37W, h0km±6km, ML1.9*
*SDD **24** 05:26:17.4±2.0, 19°.71N×71°.27W, h15km±42km, MD2.4, ML2.0, MW2.6*

ISC 24 05:26:14.5±1.6, 19°.76N±0°.05×71°.30W±0°.04, h14km±12km, n11, σ0§63/20, 7C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCDR	Montecristi	0.36	291	*e*Pg	Pb	05 26 24.1	+1.3
MCDR				⇑*e*Sg	Sn	05 26 31.7	-0.7
MCDR				IAML		05 26 35.3	
	comp=N,59nm,0.6s						
MCDR				IAML		05 26 39.5	
	comp=E,33nm,0.1s						
REDR	Restauracion	0.60	189	⇓*e*Pg	Pb	05 26 27.1	+0.4
REDR				⇑*e*Sg	Sb	05 26 35.1	0.0
REDR				IAML		05 26 36.0	
	comp=N,123nm,0.1s						
REDR				IAML		05 26 36.9	
	comp=E,167nm,0.2s						
SC01	Santiago de lo	0.63	122	*i* P	Pb	05 26 27.6	+0.3
SC01				IAML		05 26 44.0	
	comp=Z,33nm,1.5s						
SDDR	Presa de Saban	0.77	179	*i* P	Pg	05 26 29.6	0.0
SDDR				*e*S	Sg	05 26 39.2	-0.5
SDDR				IAML		05 26 40.1	
	comp=Z,15nm,0.4s						
LONE3	El Aguacate, B	1.16	188	*i* P	Pb	05 26 36.4	-0.1
LONE3				*e*S	Sb	05 26 51.2	-0.2
LONE3				IAML		05 26 52.6	
	comp=Z,22nm,2.3s						
JIDR	Jimani	1.37	203	⇑*e*Pg	Pg	05 26 41.1	+0.3
JIDR				⇑*e*Sg	Sg	05 26 58.4	-0.2
JIDR				IAML		05 27 03.4	
	comp=E,26nm,1.9s						
JIDR				IAML		05 27 07.4	
	comp=N,18nm,0.5s						
LODU

ISC 24 05:27:34.5±0.9, 45°68N±0°01×16°19E±0°01, h8km±8km, n252, σ1°38/388, 13C-16D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZAG	**Zagreb**	**0.20**	**316**	*i* Pg	**Pg**	**Pn**	**05 27 38.9**	**+0.3**
ZAG				Sg	**Sg**	**Sg**	**05 27 42.1**	**+0.7**
ZAG	**Zagreb**	**0.20**	**316**	Pg	**Pg**	**Pg**	**05 27 38.5**	**-0.1**
ZAG				Pg	Pg	Pg	05 27 38.9	+0.2
ZAG				Lg	Lg	Lg	05 27 42.1	
ZAG				Lg	Lg	Lg	05 27 42.3	
PTJ	**Puntijarka**	**0.28**	**326**	*i* Pg	**Pg**	**Pg**	**05 27 39.7**	**-0.3**
PTJ	**Puntijarka**	**0.28**	**326**	Pg	**Pg**	**Pg**	**05 27 39.2**	**-0.8**
PTJ				Pg	**Pg**	**Pg**	**05 27 39.7**	**-0.3**
PTJ				Lg	Lg	Lg	05 27 42.9	
MOSL	**Moslavina**	**0.40**	**99**	*i* Pg	**Pb**	**Pb**	**05 27 43.3**	**-0.5**
MOSL				Sg	**Sb**	**Sb**	**05 27 49.3**	**-0.9**
MOSL	**Moslavina**	**0.40**	**99**	Pg	**Pb**	**Pb**	**05 27 43.3**	**-0.5**
MOSL				Lg	Lg	Lg	05 27 49.3	
GCIS	**Gornji Cirnik**	**0.44**	**296**	Pg	**Pg**	**Pg**	**05 27 43.0**	**0.0**
GCIS				Lg	Lg	Lg	05 27 48.9	
GCIS				*i* AML	AML	AML	05 27 49.7	
	178nm,0.2s							
GCIS	**Gornji Cirnik**	**0.44**	**296**	⇓*i* Pg	**Pg**	**Pg**	**05 27 43.0**	**0.0**
GCIS				*e*Sg	**Sg**	**Sg**	**05 27 48.9**	**+0.2**
GCIS				IAML		AML	05 27 49.7	
	comp=Z,178nm,0.2s							
LOBO	**Lobor**	**0.48**	**350**	*i* Pg	**Pg**	**Pg**	**05 27 43.9**	**0.0**
LOBO	**Lobor**	**0.48**	**350**	Pg	**Pg**	**Pg**	**05 27 43.9**	**0.0**
KALN	**Kalnik**	**0.49**	**22**	*i* Pg	**Pg**	**Pg**	**05 27 44.2**	**+0.3**
KALN	**Kalnik**	**0.49**	**22**	Pg	**Pg**	**Pg**	**05 27 44.2**	**+0.3**
OZLJ	**Ozalj**	**0.51**	**263**	*i* Pg	**Pg**	**Pg**	**05 27 44.1**	**-0.2**
OZLJ				Sg	**Sg**	**Sg**	**05 27 50.5**	**-0.6**
OZLJ	**Ozalj**	**0.51**	**263**	Pg	**Pg**	**Pg**	**05 27 44.1**	**-0.2**
OZLJ				Lg	Lg	Lg	05 27 50.5	
GOLS	**Golise**	**0.52**	**310**	Pg	**Pg**	**Pg**	**05 27 44.3**	**-0.2**
GOLS				*i* AML		AML	05 27 56.3	
	comp=Z,185nm,0.2s							
GOLS	**Golise**	**0.52**	**310**	⇓*i* Pg	**Pg**	**Pg**	**05 27 44.3**	**-0.2**
GOLS				IAML			05 27 56.3	
	comp=Z,185nm,0.2s							
CRES	**Cresnjevec Ost**	**0.53**	**286**	Pg	**Pg**	**Pg**	**05 27 44.3**	**-0.5**
CRES				Pb	**Pg**	**Pg**	**05 27 44.6**	**-0.2**
CRES				Pg	**Pn**	**Pn**	**05 27 45.2**	**-3.2**
CRES				x	x	x	05 27 46.0	
CRES				*i* AML	AML	AML	05 27 53.6	
	comp=Z,167nm,0.2s							
CRES	**Cresnjevec Ost**	**0.53**	**286**	⇑*e*Pg	**Pg**	**Pg**	**05 27 44.6**	**-0.2**
CRES				IAML			05 27 53.6	
	comp=Z,167nm,0.2s							
CRES	**Cresnjevec Ost**	**0.53**	**286**	⇓*i* Pg	**Pg**	**Pg**	**05 27 44.6**	**-0.2**
CRES				*e*Sg	**Sg**	**Sg**	**05 27 52.0**	**+0.2**
LEGS	**Legarje**	**0.67**	**294**	Pg	**Pg**	**Pg**	**05 27 47.3**	**0.0**
LEGS	**Legarje**	**0.67**	**294**	⇓*e*Pg	**Pg**	**Pg**	**05 27 47.3**	**0.0**
BOJS	**Bojanci**	**0.68**	**255**	*e*Pg	**Pg**	**Pg**	**05 27 46.2**	**-1.4**
BOJS				*e*Sg	**Sg**	**Sg**	**05 27 55.4**	**-1.1**
DOBS	**Dobrina**	**0.69**	**313**	Pg	**Pg**	**Pg**	**05 27 47.7**	**-0.1**
DOBS				*i* AML	AML	AML	05 28 01.8	
	comp=Z,210nm,0.2s							
DOBS	**Dobrina**	**0.69**	**313**	⇓*e*Pg	**Pg**	**Pg**	**05 27 47.7**	**-0.1**
DOBS				IAML			05 28 01.8	
	comp=Z,210nm,0.2s							
KOGS	**Kog**	**0.77**	**3**	Pg	**Pg**	**Pg**	**05 27 49.3**	**0.0**
KOGS				Pb	**Pb**	**Pb**	**05 27 49.5**	**-0.6**
KOGS				x	x	x	05 27 51.2	
PRIJ	**Prijedor**	**0.80**	**152**	*e*Pg	**Pg**	**Pg**	**05 27 50.0**	**+0.2**
PRIJ				*e*Sg	**Sb**	**Sb**	**05 28 01.3**	**-0.2**
A051A	**Mrakovica**	**0.84**	**143**	⇑*i* Pg	**Pg**	**Pg**	**05 27 50.2**	**-0.4**
A051A				*e*Sg	**Sb**	**Sb**	**05 28 03.2**	**+0.4**
BEHE	**Becsehely**	**0.89**	**27**	Pg	**Pb**	**Pb**	**05 27 52.4**	**+0.2**
BEHE				Pb	**Pn**	**Pn**	**05 27 52.9**	**-0.4**
BEHE				Pn	**Pg**	**Pg**	**05 27 53.7**	**+2.2**
BEHE				Sn	**Sn**	**Sn**	**05 28 07.5**	**+1.2**
BEHE	**Becsehely**	**0.89**	**27**	⇓*i* Pg	**Pb**	**Pb**	**05 27 52.4**	**+0.2**
BEHE				*e*Sg	**Sn**	**Sn**	**05 28 06.1**	**-0.3**
PLIT	**Plitvice**	**0.90**	**207**	*e*Pg	**Pg**	**Pg**	**05 27 51.4**	**-0.3**
PLIT				Sg	**Sg**	**Sg**	**05 28 03.1**	**-0.2**
PLIT	**Plitvice**	**0.90**	**207**	Pg	**Pg**	**Pg**	**05 27 51.4**	**-0.3**
PLIT				Lg	Lg	Lg	05 28 03.1	
A264A	**Tarany**	**0.90**	**58**	Pn	**Pn**	**Pn**	**05 27 53.5**	**0.0**
A264A				Lg	Lg	Lg	05 28 06.8	
A021A	**Deutsch Goritz**	**1.11**	**347**	Pn	**Pg**	**Pg**	**05 27 55.5**	**-0.2**
A021A				Sn	**Sn**	**Sn**	**05 28 12.0**	**+0.3**
A273A	**Marcsa**	**1.16**	**78**	Pg	**Pn**	**Pn**	**05 27 58.9**	**+1.9**
A273A				Sn	**Sn**	**Sn**	**05 28 13.2**	**+0.1**
BLY	**Banja Luka**	**1.17**	**143**	*e*Pg	**Pg**	**Pg**	**05 27 56.4**	**-0.5**
BLY				*e*Sg	**Sn**	**Sn**	**05 28 13.5**	**+0.3**
BLY	**Banja Luka**	**1.17**	**143**	Pn	**Pg**	**Pg**	**05 27 56.2**	**-0.7**
BLY				Pg	**Pg**	**Pg**	**05 27 56.4**	**-0.5**
BLY				Pg	**Pn**	**Pn**	**05 27 56.8**	**-0.3**
BLY				Lg	Lg	Lg	05 28 13.0	
BLY				Sn	**Sn**	**Sn**	**05 28 13.5**	**+0.3**
BLY	**Banja Luka**	**1.17**	**143**	⇓*i* Pg	**Pg**	**Pg**	**05 27 56.0**	**-0.9**
BLY				*e*Sg	**Sn**	**Sn**	**05 28 13.2**	**0.0**
UDBI	**Udbina**	**1.19**	**195**	*e*Pg	**Pg**	**Pg**	**05 27 56.8**	**-0.6**
UDBI	**Udbina**	**1.19**	**195**	Pn	**Pg**	**Pg**	**05 27 56.8**	**-0.6**
A262A	**Szaknyer**	**1.21**	**11**	Pn	**Pg**	**Pg**	**05 27 57.7**	**0.0**
A262A				Sn	**Sn**	**Sn**	**05 28 14.9**	**+0.6**
A050A	**Klekovaca**	**1.22**	**168**	⇑*i* Pg	**Pb**	**Pb**	**05 27 57.7**	**-0.2**
A050A				*e*Sg	**Sg**	**Sg**	**05 28 13.6**	**-0.2**
CEY	**Cerknica**	**1.24**	**273**	⇑*i* Pg	**Pb**	**Pb**	**05 27 57.4**	**-0.7**
CEY				*e*Sg	**Sb**	**Sb**	**05 28 12.8**	**-1.4**
A263A	**Hollad**	**1.24**	**39**	Pn	**Pn**	**Pn**	**05 27 57.4**	**-0.7**
A263A				Lg	Lg	Lg	05 28 17.0	
RIY	**Rijeka**	**1.25**	**254**	*e*Pg	**Pn**	**Pn**	**05 27 57.9**	**-0.4**
RIY	**Rijeka**	**1.25**	**254**	Pn	**Pn**	**Pn**	**05 27 57.9**	**-0.4**
SOKA	**Soboth**	**1.28**	**322**	*e*Pg	**Pn**	**Pn**	**05 27 58.2**	**-0.6**
	comp=Z,58nm,0.4s,SNR=78							
SOKA				*e*Sg	**Sb**	**Sb**	**05 28 14.9**	**-0.7**
	comp=Z,54nm,0.3s							
SOKA	**Soboth**	**1.28**	**322**	Pn	**Pn**	**Pn**	**05 27 58.2**	**-0.6**
	comp=Z,58nm,0.4s							
SOKA				Sn	**Sb**	**Sb**	**05 28 14.9**	**-0.7**
	comp=Z,54nm,0.3s							
A265A	**Kaposfured**	**1.34**	**56**	Pn	**Pn**	**Pn**	**05 27 59.0**	**-0.5**
A265A				Lg	Lg	Lg	05 28 21.1	
KOVH	**Kovagotottos**	**1.39**	**72**	Pn	**Pn**	**Pn**	**05 27 59.3**	**-1.0**
KOVH				Pg	**Pb**	**Pb**	**05 27 59.6**	**-1.2**
KOVH				Pn	**Pg**	**Pg**	**05 28 00.0**	**-1.2**
KOVH				Sn	**Sb**	**Sb**	**05 28 17.5**	**-1.2**
OBKA	**Obir**	**1.41**	**307**	*e*Pg	**Pn**	**Pn**	**05 28 00.4**	**-0.2**
	comp=Z,66nm,0.4s,SNR=113							
OBKA				*e*Sg	**Sn**	**Sn**	**05 28 19.6**	**+0.1**
	comp=Z,202nm,0.5s							
OBKA	**Obir**	**1.41**	**307**	Pn	**Pn**	**Pn**	**05 28 00.0**	**-0.5**
OBKA				Pg	**Pn**	**Pn**	**05 28 00.4**	**-0.2**
	comp=Z,66nm,0.4s							
OBKA				Pb	**Pg**	**Pg**	**05 28 00.9**	**-0.7**
OBKA				Pg	Pg	Pg	05 28 01.6	+0.1
OBKA				Sn	**Sn**	**Sn**	**05 28 19.5**	**+0.1**
OBKA				Sn	**Sn**	**Sn**	**05 28 19.6**	**+0.1**
	comp=Z,202nm,0.5s							
OBKA				Sn	**Sg**	**Sg**	**05 28 20.0**	**+0.1**
OBKA	**Obir**	**1.41**	**307**	⇑*i* Pg	**Pn**	**Pn**	**05 28 00.1**	**-0.5**
OBKA				*e*Sg	**Sn**	**Sn**	**05 28 19.6**	**+0.1**
A261A	**Ohid**	**1.44**	**27**	Pn	**Pn**	**Pn**	**05 28 00.6**	**-0.2**
A261A				Sn	**Sn**	**Sn**	**05 28 18.5**	**-1.3**
NVLJ	**Novalja**	**1.46**	**220**	*e*Pg	**Pb**	**Pb**	**05 28 01.7**	**-0.1**
NVLJ	**Novalja**	**1.46**	**220**	Pn	**Pb**	**Pb**	**05 28 01.7**	**-0.1**
VIRC	**Vir**	**1.60**	**211**	*e*Pn	**Pb**	**Pb**	**05 28 04.2**	**-0.2**
VIRC	**Vir**	**1.60**	**211**	Pn	**Pb**	**Pb**	**05 28 04.2**	**-0.2**
ARSA	**Arzberg**	**1.64**	**344**	*e*Pn	**Pn**	**Pn**	**05 28 03.2**	**-0.4**
	comp=Z,64nm,0.5s,SNR=34							
ARSA				*e*Sn	**Sb**	**Sb**	**05 28 25.4**	**-0.4**
	comp=Z,65nm,0.5s							
ARSA	**Arzberg**	**1.64**	**344**	Pn	**Pn**	**Pn**	**05 28 03.2**	**-0.4**
	comp=Z,64nm,0.5s							
ARSA				Pn	**Pn**	**Pn**	**05 28 03.3**	**-0.4**
ARSA				Pn	**Pg**	**Pg**	**05 28 03.6**	**-2.3**
ARSA				Sn	**Sb**	**Sb**	**05 28 25.4**	**-0.4**
	comp=Z,65nm,0.5s							
ARSA	**Arzberg**	**1.64**	**344**	*e*Pn	**Pb**	**Pb**	**05 28 05.2**	**+0.3**
ARSA				*e*Sn	**Sg**	**Sg**	**05 28 26.7**	**-0.4**
A260A	**Vassurany**	**1.64**	**12**	Pn	**Pn**	**Pn**	**05 28 03.6**	**-0.1**
A260A				Sn	**Sg**	**Sg**	**05 28 27.1**	**-0.2**
A266A	**Gyulaj**	**1.67**	**59**	Pn	**Pn**	**Pn**	**05 28 03.3**	**-0.8**
A266A				Lg	Lg	Lg	05 28 30.6	
KIJV	**Kijevo**	**1.68**	**175**	*e*Pn	**Pb**	**Pb**	**05 28 05.1**	**-0.6**
KIJV				Sn	**Sb**	**Sb**	**05 28 27.5**	**+0.5**
KIJV	**Kijevo**	**1.68**	**175**	Pn	**Pb**	**Pb**	**05 28 05.1**	**-0.6**
KIJV				Sn	**Sb**	**Sb**	**05 28 27.5**	**+0.5**
TIH	**Tihany**	**1.70**	**43**	Pn	**Pn**	**Pn**	**05 28 03.8**	**-0.7**
TIH				Pg	**Pg**	**Pg**	**05 28 07.6**	**+0.6**
MPLH	**Magyarpolny**	**1.76**	**32**	Pn	**Pn**	**Pn**	**05 28 04.3**	**-1.0**
MPLH				Pn	**Pb**	**Pb**	**05 28 04.9**	**-2.1**
MORH	**Mrgy, Hungar**	**1.79**	**72**	Pn	**Pn**	**Pn**	**05 28 04.6**	**-1.1**
MORH				Pg	**Pn**	**Pn**	**05 28 04.7**	**-1.0**
MORH				Pn	**Pg**	**Pg**	**05 28 05.1**	**-3.7**
MORH				Pb	Pb	Pb	05 28 06.9	-0.7
MORH	**Mrgy, Hungar**	**1.79**	**72**	*e*Pn	**Pb**	**Pb**	**05 28 07.6**	**0.0**
MORH				*e*Sn	**Sg**	**Sg**	**05 28 31.9**	**-0.2**
MORH	**Mrgy, Hungar**	**1.79**	**72**	⇓P	**Pn**	**Pn**	**05 28 04.7**	**-1.0**
MORI	**Morici**	**1.85**	**191**	*e*Pn	**Pb**	**Pb**	**05 28 07.8**	**-0.6**
MORI	**Morici**	**1.85**	**191**	Pn	**Pb**	**Pb**	**05 28 07.8**	**-0.6**
DUGI	**Dugi Otok**	**1.87**	**206**	*e*Pn	**Pb**	**Pb**	**05 28 08.1**	**-0.8**
DUGI				Sn	**Sb**	**Sb**	**05 28 32.5**	**+0.1**
DUGI	**Dugi Otok**	**1.87**	**206**	Pn	**Pb**	**Pb**	**05 28 08.1**	**-0.8**
DUGI				Sn	**Sb**	**Sb**	**05 28 32.5**	**+0.1**
EGYH	**Egyhazaskeszo**	**1.91**	**24**	Pn	**Pn**	**Pn**	**05 28 07.1**	**-0.2**
EGYH				Pn	**Pb**	**Pb**	**05 28 07.2**	**-2.3**
EGYH				Pg	**Pg**	**Pg**	**05 28 12.7**	**+1.7**
A019A	**Kaintal**	**1.92**	**337**	Pn	**Pn**	**Pn**	**05 28 08.1**	**+0.5**
A019A				Lg	Lg	Lg	05 28 36.6	
A012A	**Langenwang**	**1.97**	**348**	Pn	**Pn**	**Pn**	**05 28 08.7**	**+0.4**
A012A				Lg	Lg	Lg	05 28 40.2	
MYKA	**Terra Mystica**	**2.01**	**299**	*e*Pn	**Pn**	**Pn**	**05 28 09.0**	**+0.2**
	comp=Z,7.7nm,0.3s,SNR=6.5							
MYKA				*e*Sn	**Sn**	**Sn**	**05 28 34.9**	**+0.8**
	comp=Z,8.0nm,0.3s							
MYKA				*e*Sg	**Sg**	**Sg**	**05 28 41.0**	**+1.9**
	comp=Z,45nm,0.5s							
MYKA	**Terra Mystica**	**2.01**	**299**	Pn	**Pn**	**Pn**	**05 28 09.0**	**+0.2**
	comp=Z,7.7nm,0.3s							
MYKA				Sn	**Sn**	**Sn**	**05 28 34.9**	**+0.8**
	comp=Z,8.0nm,0.3s							
MYKA				Lg	Lg	Lg	05 28 41.0	
	comp=Z,45nm,0.5s							
SOP	**Sopron**	**2.02**	**7**	Pn	**Pn**	**Pn**	**05 28 08.5**	**-0.3**
SOP				Pn	**Pb**	**Pb**	**05 28 08.7**	**-2.7**
SOP				Pn	**Pg**	**Pg**	**05 28 11.5**	**-1.7**
RONA	**Rosalia, Austr**	**2.02**	**2**	*e*Pn	**Pn**	**Pn**	**05 28 08.9**	**0.0**
	comp=Z,48nm,0.2s,SNR=72							
RONA				Sg	**Sg**	**Sg**	**05 28 43.2**	**+3.8**
	comp=Z,24nm,0.3s							
RONA	**Rosalia, Austr**	**2.02**	**2**	Pn	**Pn**	**Pn**	**05 28 08.9**	**0.0**
	comp=Z,48nm,0.2s							
RONA				Lg	Lg	Lg	05 28 43.2	
	comp=Z,24nm,0.3s							
A267A	**Kaloz**	**2.03**	**51**	Pn	**Pn**	**Pn**	**05 28 08.4**	**-0.6**
ZIRJ	**Zirje**	**2.06**	**191**	*i* Pn	**Pb**	**Pb**	**05 28 11.0**	**-1.2**
ZIRJ	**Zirje**	**2.06**	**191**	*e*Pn	**Pb**	**Pb**	**05 28 11.0**	**-1.2**
A268A	**Rede**	**2.12**	**34**	Pn	**Pb**	**Pb**	**05 28 12.6**	**-0.5**
A268A				Lg	Lg	Lg	05 28 43.4	
CSKK	**Cskako**	**2.21**	**40**	Pg	**Pg**	**Pg**	**05 28 19.7**	**+2.9**
CONA	**Conrad Observa**	**2.26**	**354**	*e*Pn	**Pn**	**Pn**	**05 28 12.2**	**0.0**
	comp=Z,7.1nm,0.3s,SNR=27							
CONA				Sg	**Sg**	**Sg**	**05 28 49.6**	**+2.6**
	comp=Z,33nm,0.6s							
CONA	**Conrad Observa**	**2.26**	**354**	Pn	**Pn**	**Pn**	**05 28 12.1**	**-0.1**
CONA				Pg	**Pn**	**Pn**	**05 28 12.2**	**0.0**
	comp=Z,7.1nm,0.3s							
CONA				Pn	Pg	Pg	05 28 12.6	-5.2
CONA				Lg	Lg	Lg	05 28 49.6	
	comp=Z,33nm,0.6s							
A004A	**Ebreichsdorf**	**2.29**	**3**	Pn	**Pn**	**Pn**	**05 28 13.4**	**+0.9**
KBA	**Koelnbreinsper**	**2.42**	**306**	*e*Pn	**Pn**	**Pn**	**05 28 14.6**	**+0.2**
	comp=Z,2.3nm,0.3s,SNR=5.1							
KBA				*e*Sn	**Sn**	**Sn**	**05 28 45.1**	**+0.8**
	comp=Z,33nm,0.5s							
KBA				*e*Sg	**Sg**	**Sg**	**05 28 54.0**	**+1.9**
	comp=Z,33nm,0.5s							
KBA	**Koelnbreinsper**	**2.42**	**306**	Pn	**Pn**	**Pn**	**05 28 14.6**	**+0.2**
	comp=Z,2.3nm,0.3s							
KBA				Sn	**Sn**	**Sn**	**05 28 45.1**	**+0.8**
	comp=Z,33nm,0.5s							
KBA				Lg	Lg	Lg	05 28 54.0	
	comp=Z,33nm,0.5s							
HAPS	**Han Pijesak,BI**	**2.53**	**128**	*e*Pn	**Pn**	**Pn**	**05 28 16.5**	**+0.6**
HAPS				*e*Sn	**Sb**	**Sb**	**05 28 50.2**	**-1.3**
HAPS	**Han Pijesak,BI**	**2.53**	**128**	Pn	**Pn**	**Pn**	**05 28 16.5**	**+0.6**
HAPS				Sn	**Sb**	**Sb**	**05 28 50.2**	**-1.3**
HAPS	**Han Pijesak,BI**	**2.53**	**128**	*e*Pn	**Pn**	**Pn**	**05 28 17.6**	**+1.7**
HAPS				*e*Sn	**Sb**	**Sb**	**05 28 49.6**	**-1.9**
MOA	**Molln**	**2.54**	**329**	*e*Pn	**Pn**	**Pn**	**05 28 16.7**	**+0.7**
	comp=Z,8.5nm,0.3s,SNR=22							
MOA				Sn	**Sn**	**Sn**	**05 28 46.4**	**-0.8**
	comp=Z,33nm,0.7s							
MOA	**Molln**	**2.54**	**329**	*e*Pn	**Pn**	**Pn**	**05 28 16.4**	**+0.3**
MOA	**Molln**	**2.54**	**329**	Pn	**Pn**	**Pn**	**05 28 16.4**	**+0.3**
MOA				Pg	**Pn**	**Pn**	**05 28 16.7**	**+0.7**
	comp=Z,8.5nm,0.3s							
MOA				Sn	**Sn**	**Sn**	**05 28 46.4**	**-0.8**
	comp=Z,33nm,0.7s							
SRO	**Srobarova**	**2.58**	**34**	*e*PN	**Pn**	**Pn**	**05 28 17.2**	**+0.6**
SRO				*e*PG	**Pg**	**Pg**	**05 28 24.4**	**+0.4**
FRGS	**Fruska Gora**	**2.60**	**100**	*e*Pn	**Pb**	**Pb**	**05 28 19.3**	**-2.1**
FRGS				*e*Sn	**Sb**	**Sb**	**05 28 51.7**	**-1.8**
FRGS	**Fruska Gora**	**2.60**	**100**	Pn	**Pb**	**Pb**	**05 28 19.3**	**-2.1**
FRGS				Sn	**Sb**	**Sb**	**05 28 51.7**	**-1.8**
FRGS	**Fruska Gora**	**2.60**	**100**	*e*Pn	**Pb**	**Pb**	**05 28 19.6**	**-1.8**
FRGS				*e*Sn	**Sb**	**Sb**	**05 28 51.7**	**-1.8**
TEKS	**Tekeris**	**2.62**	**114**	*e*Pn	**Pn**	**Pn**	**05 28 19.2**	**+2.1**
TEKS	**Tekeris**	**2.62**	**114**	Pn	**Pn**	**Pn**	**05 28 19.2**	**+2.1**
TEKS	**Tekeris**	**2.62**	**114**	*e*Pn	**Pb**	**Pb**	**05 28 19.5**	**-2.2**
TEKS				*e*Sn	**Sb**	**Sb**	**05 28 51.8**	**-2.2**
BUD	**Budapest**	**2.66**	**46**	Pg	**Pg**	**Pg**	**05 28 25.1**	**-0.3**
BIOA	**Bad Ischl, Aus**	**2.67**	**320**	*e*Pn	**Pn**	**Pn**	**05 28 18.0**	**+0.2**
	comp=Z,8.3nm,0.3s,SNR=12							
BIOA				*e*Sn	**Sn**	**Sn**	**05 28 48.6**	**-1.8**
	comp=Z,22nm,0.4s							
BIOA	**Bad Ischl, Aus**	**2.67**	**320**	Pn	**Pn**	**Pn**	**05 28 18.0**	**+0.2**
	comp=Z,8.3nm,0.3s							
BIOA				Sn	**Sn**	**Sn**	**05 28 48.6**	**-1.8**
	comp=Z,22nm,0.4s							
KALIN	**Kalinovik**	**2.71**	**143**	*e*Pn	**Pn**	**Pn**	**05 28 19.9**	**+1.5**
KALIN				*e*Sn	**Sn**	**Sn**	**05 28 53.4**	**+2.0**
A008A	**Tiefenfucha**	**2.71**	**352**	Pn	**Pn**	**Pn**	**05 28 19.2**	**+0.8**
A008A				Sn	**Sn**	**Sn**	**05 28 51.3**	**-0.1**
A338A	**Semerovo**	**2.77**	**32**	Pn	**Pn**	**Pn**	**05 28 20.1**	**+1.0**
ABTA	**Abfaltersbach**	**2.77**	**294**	*e*Pn	**Pn**	**Pn**	**05 28 19.7**	**+0.5**
	comp=Z,1.6nm,0.4s							
ABTA				*e*Pg	**Pg**	**Pg**	**05 28 27.6**	**+0.1**
	comp=Z,12nm,0.5s							
ABTA				*e*Sg	**Sg**	**Sg**	**05 29 03.4**	**0.0**
	comp=Z,36nm,0.6s							
ABTA	**Abfaltersbach**	**2.77**	**294**	Pn	**Pn**	**Pn**	**05 28 19.7**	**+0.5**
	comp=Z,1.6nm,0.4s							
ABTA				Pg	**Pg**	**Pg**	**05 28 27.6**	**+0.1**
	comp=Z,12nm,0.5s							
ABTA				Lg	Lg	Lg	05 29 03.4	
	comp=Z,36nm,0.6s							
MODS	**Modra-Piesok**	**2.79**	**15**	Pn	**Pn**	**Pn**	**05 28 18.8**	**-0.8**
MODS				Pn	**Pn**	**Pn**	**05 28 19.0**	**-0.5**
MODS	**Modra-Piesok**	**2.79**	**15**	*e*PN	**Pn**	**Pn**	**05 28 19.0**	**-0.5**
MODS				*e*PG	**Pg**	**Pg**	**05 28 28.9**	**+0.9**
BBLS	**Lazi&#263i**	**2.92**	**127**	*e*Pn	**Pn**	**Pn**	**05 28 22.2**	**+0.9**
BBLS				*e*Sn	**Sn**	**Sn**	**05 28 58.5**	**+1.9**
BBLS	**Lazi&#263i**	**2.92**	**127**	Pn	**Pn**	**Pn**	**05 28 22.2**	**+0.9**
BBLS				Pn	**Pn**	**Pn**	**05 28 22.5**	**+1.2**
BBLS				Pg	**Pg**	**Pg**	**05 28 31.4**	**+1.0**
BBLS				Sn	**Sn**	**Sn**	**05 28 58.5**	**+1.9**
BBLS	**Lazi&#263i**	**2.92**	**127**	*e*Pn	**Pn**	**Pn**	**05 28 23.6**	**+2.3**
BBLS				*e*Sn	**Sn**	**Sn**	**05 28 58.4**	**+1.9**
LSTV	**Lastovo**	**2.96**	**170**	*e*Pn	**Pn**	**Pn**	**05 28 23.0**	**+1.3**
LSTV	**Lastovo**	**2.96**	**170**	Pn	**Pn**	**Pn**	**05 28 23.0**	**+1.3**
LESA	**Schwarzleotal**	**2.99**	**307**	*e*Pn	**Pn**	**Pn**	**05 28 22.5**	**+0.3**
	comp=Z,4.9nm,0.4s							
LESA				*e*Sn	**Sn**	**Sn**	**05 28 59.6**	**+1.4**
	comp=Z,33nm,0.5s							
LESA	**Schwarzleotal**	**2.99**	**307**	Pn	**Pn**	**Pn**	**05 28 22.5**	**+0.3**
	comp=Z,4.9nm,0.4s							
LESA				Sn	**Sn**	**Sn**	**05 28 59.6**	**+1.4**
	comp=Z,33nm,0.5s							
STON	**Ston**	**3.01**	**158**	*e*Pn	**Pn**	**Pn**	**05 28 24.5**	**+2.1**
STON	**Ston**	**3.01**	**158**	Pn	**Pn**	**Pn**	**05 28 24.5**	**+2.1**
STON	**Ston**	**3.01**	**158**	*e*Pn	**Pn**	**Pn**	**05 28 24.1**	**+1.7**
STON				*e*Sn	**Sn**	**Sn**	**05 28 59.9**	**+1.2**
A001A	**Falkenstein**	**3.06**	**5**	Pn	**Pn**	**Pn**	**05 28 24.1**	**+0.9**
RUDO	**Rudo**	**3.07**	**131**	*e*Pn	**Pn**	**Pn**	**05 28 25.0**	**+1.8**
RUDO				*e*Sn	**Sn**	**Sn**	**05 29 01.6**	**+1.5**
DIVS	**Divibare**	**3.13**	**119**	*e*Pn	**Pn**	**Pn**	**05 28 25.6**	**+1.4**
DIVS	**Divibare**	**3.13**	**119**	Pn	**Pn**	**Pn**	**05 28 25.6**	**+1.4**
A335A	**Lovce**	**3.13**	**27**	Pn	**Pn**	**Pn**	**05 28 23.8**	**-0.3**
A335A				Sn	**Sn**	**Sn**	**05 29 02.1**	**+0.4**
UPM	**Unac-Piva**	**3.15**	**141**	*e*Pn	**Pn**	**Pn**	**05 28 25.5**	**+1.0**
A336A	**Medovarce**	**3.20**	**36**	Pn	**Pn**	**Pn**	**05 28 25.3**	**+0.2**
BRY	**Bratogost**	**3.25**	**148**	P	**Pn**	**Pn**	**05 28 28.6**	**+2.7**
BRY	**Bratogost**	**3.25**	**148**	Pn	**Pn**	**Pn**	**05 28 28.6**	**+2.7**
BRY	**Bratogost**	**3.25**	**148**	*e*Pn	**Pn**	**Pn**	**05 28 27.6**	**+1.7**
PLE	**Pljevlja**	**3.28**	**135**	P	**Pb**	**Pb**	**05 28 33.3**	**+0.3**
PLE	**Pljevlja**	**3.28**	**135**	Pg	**Pb**	**Pb**	**05 28 33.3**	**+0.3**
JAVC	**Velka Javorina**	**3.34**	**17**	Pn	**Pn**	**Pn**	**05 28 26.8**	**-0.2**
JAVC				Pn	**Pn**	**Pn**	**05 28 27.5**	**+0.5**
TREB	**Trebinje**	**3.34**	**152**	*e*Pn	**Pn**	**Pn**	**05 28 29.3**	**+2.2**
TREB	**Trebinje**	**3.34**	**152**	Pn	**Pn**	**Pn**	**05 28 29.3**	**+2.2**
TREB	**Trebinje**	**3.34**	**152**	*e*Pn	**Pn**	**Pn**	**05 28 29.0**	**+1.9**
TREB				*e*Sn	**Sn**	**Sn**	**05 29 08.5**	**+1.5**
VYHS	**Vyhne**	**3.34**	**32**	Pn	**Pn**	**Pn**	**05 28 26.6**	**-0.5**
VYHS				Pn	**Pn**	**Pn**	**05 28 29.1**	**+2.0**
VYHS	**Vyhne**	**3.34**	**32**	*

comp=E,9.2nm,0.6s
DAVA Lg Lg 05 30 06.4
comp=E,11nm,0.5s
DRGR 4.66 74 Pn **Pn 05 28 46.4 +1.2**
DRGR Pn **Pn 05 28 46.6 +1.5**
DRGR Pg Pg 05 29 09.9 +6.2
comp=E,8.3nm,0.8s
DRGR 4.66 74 ⇓P **Pn 05 28 46.4 +1.2**
NIE Niedzica 4.66 35 Pg Pg 05 29 08.6 +4.9
comp=E,9.6nm,1.0s
DPC Dobruska-Polom 4.67 1 *e*PN **Pn 05 28 44.4 -1.0**
DPC Dobruska-Polom 4.67 1 Pn **Pn 05 28 44.4 -1.0**
UPC Upice 4.83 359 *e*PN **Pn 05 28 47.6 +0.1**
UPC Upice 4.83 359 Pn **Pn 05 28 47.6 +0.1**
OSTC Ostas 4.88 0 *e*PN **Pn 05 28 48.2 0.0**
OSTC Ostas 4.88 0 Pn **Pn 05 28 48.2 0.0**
MARR Marisel-Cluj 4.91 76 Pn **Pn 05 28 46.8 -1.9**
MARR Marisel-Cluj 4.91 76 ⇑P **Pn 05 28 46.8 -1.9**
BARS Barje 4.95 123 *e*Pn **Pn 05 28 49.7 +0.5**
BARS Barje 4.95 123 Pn **Pn 05 28 49.7 +0.5**
PVCC Panska Ves 4.97 348 *e*PN **Pn 05 28 49.1 -0.3**
PVCC Panska Ves 4.97 348 Pn **Pn 05 28 49.1 -0.3**
TRPA Tarpa 4.99 58 Pg **Pg 05 29 10.5 +0.5**
TRPA Pg Pg 05 29 16.0 +5.9
comp=E,6.5nm,0.8s
MATE Matera 5.04 176 Pn **Pn 05 28 50.3 -0.1**
STHS Stebnicka Huta 5.07 41 *e*PN Pn 05 28 56.2 +5.5
KSP Ksiaz 5.17 1 Pn **Pn 05 28 52.0 -0.1**
KSP Pg **Pb 05 29 08.4 +3.4**
comp=E,8.9nm,1.2s
ZAPS Zavoj 5.20 115 *e*Pn **Pn 05 28 52.3 -0.3**
ZAPS Zavoj 5.20 115 Pn **Pn 05 28 52.3 -0.3**
KOLS Kolonicke sedl 5.26 50 Pg Pg 05 29 24.7 +9.5
KOLS Kolonicke sedl 5.26 50 *e*PG Pg 05 29 20.4 +5.2
LOT Lotru 5.33 90 Pg **Pb 05 29 07.7 -0.2**
LOT Lotru 5.33 90 ⇑P **Pb 05 29 07.7 -0.2**
BRG Berggiesshubel 5.41 345 Pn **Pn 05 28 56.0 +0.6**
BRG Amp 05 28 56.6
comp=Z,5.5nm,0.7s
BRG Berggiesshubel 5.41 345 Sn **Sn 05 29 56.6 -1.2**
BRG Sg **Sg 05 30 27.2 -0.8**
BRG Amp 05 30 42.2
comp=Z,12nm,0.8s
BRG Berggiesshubel 5.41 345 Pn **Pn 05 28 56.0 +0.6**
BRG x x 05 28 56.6
comp=Z,5.5nm,0.7s
BRG Sn **Sn 05 29 56.6 -1.2**
BRG Lg Lg 05 30 27.2
BRG x x 05 30 42.2
comp=Z,12nm,0.8s
ARR Arges 5.94 90 Pn **Pn 05 28 59.1 -3.7**
ARR Arges 5.94 90 ⇑P **Pn 05 28 59.1 -3.7**
CLL Collm 6.02 341 *i* Pn **Pn 05 29 03.9 +0.2**
comp=Z,4.0nm,0.4s
CLL *i* Sg **Sg 05 30 45.9 -1.6**
comp=Z,19nm,0.8s
BURAR Bucovina Array 6.51 69 Pn **Pn 05 29 12.7 +2.1**
BURAR Bucovina Array 6.51 69 ⇓P **Pn 05 29 12.7 +2.1**

*IDC **24** 05:32:03.8±1.4, 37.°58N×20.°65E, h0km, mb3.6/6, mbtmp3.5/8, ML2.9/1, MS3.6/2, Error ellipse: s-maj=32.2km s-min=23.2km az=153.0*
*ATH **24** 05:32:05.9, 37.°55N×20.°39E, h8km±3km, ML3.1/6, Error ellipse: s-maj=4.1km s-min=1.3km az=42.0*
*THE **24** 05:32:06.2, 37.°58N×20.°44E, h0km±2km, ML3.3/8, Error ellipse: s-maj=3.4km s-min=0.5km az=225.0*
ISC 24 05:32:06.6±1.4, 37.°59N±0.°05×20.°48E±0.°05, h16km±7km, n39, σ0°66/51, mb3.5/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.28**	**75**	P	**Pg**	**05 32 12.5**	**-0.2**
KRI1				S	**Sg**	**05 32 17.1**	**+0.3**
12μm,0.6s							
LTHK	**Lithakia**	**0.31**	**68**	P	**Pg**	**05 32 13.0**	**-0.2**
LTHK				S	**Sb**	**05 32 18.0**	**-0.7**
11μm,0.7s							
PSDA	**Pessada-Kefalo**	**0.53**	**9**	P	**Pg**	**05 32 16.9**	**-0.2**
PSDA				S	**Sb**	**05 32 25.0**	**0.0**
4μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.53**	**9**	P	**Pg**	**05 32 16.7**	**-0.4**
PSDA				S	**Sb**	**05 32 24.7**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.54**	**26**	P	**Pg**	**05 32 17.0**	**-0.3**
RTZL				S	**Sb**	**05 32 25.6**	**+0.3**
2μm,0.3s							
VLS	**Valsamata**	**0.59**	**9**	P	**Pg**	**05 32 17.7**	**-0.6**
VLS				S	**Sb**	**05 32 26.6**	**-0.3**
2μm,0.7s							
VLS	**Valsamata**	**0.59**	**9**	P	**Pg**	**05 32 18.0**	**-0.3**
VLS				S	**Sb**	**05 32 26.9**	**0.0**
VLS				AML	AML	05 32 31.9	
comp=E,4140μm,0.4s							
VLS				AML	AML	05 32 33.1	
comp=N,5466μm,0.6s							
DMLN	**Damoulianata-K**	**0.65**	**353**	P	**Pg**	**05 32 19.2**	**-0.2**
DMLN	**Damoulianata-K**	**0.65**	**353**	P	**Pg**	**05 32 19.0**	**-0.5**
DMLN				S	**Sb**	**05 32 28.3**	**-0.3**
SMHA	**Samh**	**0.67**	**12**	P	**Pg**	**05 32 18.9**	**-0.9**
SMHA				S	**Sb**	**05 32 29.2**	**+0.1**
VSK1	**VASILIKIADES**	**0.82**	**5**	P	**Pg**	**05 32 22.1**	**-0.5**
FSK	**Fiskardo**	**0.87**	**5**	P	**Pg**	**05 32 22.9**	**-0.6**
FSK				S	**Sb**	**05 32 35.9**	**+1.1**
comp=N,2μm,0.7s							
RLS	**Riolos of Patr**	**0.91**	**59**	P	**Pg**	**05 32 23.8**	**-0.5**
RLS	**Riolos of Patr**	**0.91**	**59**	P	**Pg**	**05 32 24.1**	**-0.3**
RLS				S	**Sn**	**05 32 37.9**	**+0.2**
RLS				AML	AML	05 32 41.7	
comp=E,2563μm,0.7s							
RLS				AML	AML	05 32 44.6	
comp=N,1958μm,0.6s							
EVGI	**Lefkada island**	**1.04**	**8**	P	**Pg**	**05 32 25.9**	**-0.8**
EVGI				S	**Sn**	**05 32 41.9**	**+1.1**
comp=N,2μm,0.4s							
EVGI	**Lefkada island**	**1.04**	**8**	P	**Pg**	**05 32 26.0**	**-0.7**
EVGI				S	**Sn**	**05 32 41.3**	**+0.5**
DRO	**Drossia**	**1.04**	**69**	P	**Pg**	**05 32 26.2**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.13**	**9**	P	**Pb**	**05 32 27.4**	**-0.5**
NYDR				S	**Sn**	**05 32 44.4**	**+1.2**
comp=N,1μm,0.6s							
NYDR	**Nydri-Lefkada**	**1.13**	**9**	P	**Pg**	**05 32 28.0**	**-0.5**
LKD2	**Lefkada island**	**1.20**	**7**	P	**Pb**	**05 32 29.0**	**-0.1**
LKD2				AML	AML	05 32 52.8	
comp=E,4412μm,0.8s							
LKD2				AML	AML	05 32 53.1	
comp=N,4693μm,0.8s							
ITM	**Ithomi**	**1.23**	**109**	P	**Pn**	**05 32 29.5**	**+0.3**
ITM	**Ithomi**	**1.23**	**109**	P	**Pn**	**05 32 29.5**	**+0.3**
ITM				AML	AML	05 32 56.3	
comp=N,991μm,0.7s							
ITM				AML	AML	05 32 58.0	
comp=E,814μm,0.7s							
TSLK	**Tsoukalades, L**	**1.24**	**7**	P	**Pg**	**05 32 30.1**	**-0.4**
KLV	**Kalavryta, Ach**	**1.40**	**71**	P	**Pn**	**05 32 32.3**	**+0.7**
KLV	**Kalavryta, Ach**	**1.40**	**71**	P	**Pn**	**05 32 32.4**	**+0.7**
KLV				AML	AML	05 33 03.1	
comp=N,1068μm,0.7s							
KLV				AML	AML	05 33 07.3	
comp=E,881μm,0.7s							
EFP	**Efpalio**	**1.40**	**53**	P	**Pb**	**05 32 32.4**	**-0.1**
ANX	**Ano Chora**	**1.52**	**48**	P	**Pb**	**05 32 34.4**	**-0.1**
GUR	**Goura**	**1.52**	**76**	P	**Pb**	**05 32 34.9**	**+0.4**
EVR	**Evrytania**	**1.69**	**38**	P	**Pb**	**05 32 37.9**	**+0.4**
EVR				AML	AML	05 33 14.6	
comp=E,606μm,0.7s							
EVR				AML	AML	05 33 19.9	
comp=N,731μm,0.9s							
BRTR	**Keskin Array B**	**10.51**	**74**	Pn	**Pn**	**05 34 37.1**	**+0.3**
comp=N,0.1nm,0.3s,baz=265,slow=14,SNR=1.7							
comp=N,0.3nm,0.6s							
ESDC	**Sonseca Array**	**19.19**	**284**	P	**P**	**05 36 30.6**	**+0.8**
comp=N,0.7nm,0.9s,baz=83,slow=11,SNR=4.2							
OBN	**Obninsk**	**20.66**	**27**	LR	LR	05 45 36.8	
comp=N,135nm,19.0s,baz=336,slow=39							
HFS	**Hagfors**	**22.97**	**351**	P	**P**	**05 37 10.6**	**+0.3**
comp=N,1.3nm,0.7s,baz=185,slow=15,SNR=1.8							
comp=N,1.3nm,0.7s							
EKA	**Eskdalemuir Ar**	**23.89**	**326**	P	**P**	**05 37 19.7**	**+0.3**
comp=N,1.2nm,0.8s,baz=128,slow=15,SNR=3.1							
comp=N,1.2nm,0.8s							
FINES	**FINESS Array B**	**24.13**	**7**	P	**P**	**05 37 20.3**	**-1.3**
comp=N,1.0nm,0.8s,baz=198,slow=13,SNR=1.1							
comp=N,1.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**29.55**	**219**	P	**P**	**05 38 11.0**	**+0.2**
comp=N,0.6nm,0.7s,baz=26,slow=10.0,SNR=4.0							
comp=N,0.6nm,0.7s							
MKAR	**Makanchi Array**	**45.64**	**58**	P	**P**	**05 40 23.9**	**-2.5**
comp=N,0.4nm,0.6s,baz=303,slow=6.7,SNR=1.8							
comp=N,0.4nm,0.6s							
ZALV	**Zalesovo Beam**	**46.11**	**48**	P	**P**	**05 40 29.9**	**+0.1**
comp=N,0.7nm,0.6s,baz=286,slow=7.6,SNR=4.0							
comp=N,0.7nm,0.6s							
MATP	**Matopo**	**58.20**	**171**	LR	LR	06 06 43.8	
comp=N,74nm,21.0s,baz=241,slow=36							

*KRSC **24** 05:38:58.8±1.3, 56.°92N×163.°29E, h35km±14km, Ml4.4*
*MOS **24** 05:39:01.4±1.0, 56.°97N×163.°06E, h44km, mb4.3/8, Error ellipse: s-maj=9.6km s-min=4.3km az=71.0*
*IDC **24** 05:39:05.3±3.2, 56.°93N×162.°80E, h59km±31km, mb3.5/14, mbtmp3.8/15, ML2.3/1, MS3.0/8, Error ellipse: s-maj=19.2km s-min=16.6km az=152.0*
*NEIC **24** 05:39:06.3±1.0, 56.°8N±0.°2×162.°9E±0.°2, h75km±11km, mb4.1/24, Error ellipse: s-maj=30.6km s-min=11.9km az=156.0*
ISC 24 05:39:00.5±1.6, 56.°90N±0.°04×163.°20E±0.°04, h22km±12km, n149, σ1°82/155, mb4.1/28, MS2.9/5, 4C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.70**	**203**	*e*P	**Pn**	**05 39 12.8**	**-2.2**
KBG				*e*S	**Sn**	**05 39 23.7**	**-1.5**
KBG	**Krutoberegovo**	**0.70**	**203**	PN	**Pn**	**05 39 12.8**	**-2.2**
KBG				S	**Sn**	**05 39 23.7**	**-1.5**
KBTR	**Krutoberegovo**	**0.73**	**197**	*i* P	**Pn**	**05 39 13.5**	**-1.9**
KBTR	**Krutoberegovo**	**0.73**	**197**	PN	**Pn**	**05 39 13.4**	**-1.9**
SMKR	**Semkarok**	**1.01**	**252**	*e*P	**Pn**	**05 39 17.3**	**-2.1**
SMKR				*e*S	**Sn**	**05 39 31.7**	**-1.2**
SMKR	**Semkarok**	**1.01**	**252**	PN	**Pn**	**05 39 17.2**	**-2.1**
SMKR				S	**Sn**	**05 39 31.7**	**-1.2**
SRKR	**Sorokina**	**1.15**	**258**	*e*P	**Pn**	**05 39 20.2**	**-1.1**
SRKR	**Sorokina**	**1.15**	**258**	PN	**Pn**	**05 39 20.1**	**-1.1**
KLY	**Klyuchi**	**1.53**	**248**	*e*P	**Pn**	**05 39 24.0**	**-2.4**
KLY				*e*S	**Sn**	**05 39 42.7**	**-2.9**
KLY	**Klyuchi**	**1.53**	**248**	PN	**Pn**	**05 39 24.0**	**-2.4**
KLY				S	**Sn**	**05 39 42.7**	**-2.9**
CIRR	**Tsirk**	**1.57**	**241**	*e*P	**Pn**	**05 39 27.1**	**-0.1**
CIRR	**Tsirk**	**1.57**	**241**	PN	**Pn**	**05 39 27.0**	**-0.1**
ZLN	**Zelenaya**	**1.60**	**237**	*e*P	**Pn**	**05 39 27.6**	**0.0**
ZLN	**Zelenaya**	**1.60**	**237**	PN	**Pn**	**05 39 27.5**	**0.0**
KRSR	**Krestovskiy**	**1.61**	**246**	*e*P	**Pn**	**05 39 27.0**	**-0.8**
KRSR				*e*S	**Sn**	**05 39 49.1**	**+1.2**
KRSR	**Krestovskiy**	**1.61**	**246**	PN	**Pn**	**05 39 26.9**	**-0.8**
KRSR				S	**Sn**	**05 39 49.0**	**+1.2**
BZGR	**Bezymyannyi-Gr**	**1.69**	**236**	*e*P	**Pn**	**05 39 28.8**	**0.0**
BZGR	**Bezymyannyi-Gr**	**1.69**	**236**	PN	**Pn**	**05 39 28.8**	**0.0**
BZWR	**Bezymyannyi-We**	**1.77**	**239**	*e*S	**Sb**	**05 39 54.4**	**+0.1**
BZP	**Bezymyannyi-Pe**	**1.78**	**237**	*e*P	**Pn**	**05 39 30.3**	**+0.3**
BZMR	**Bezymyannaya**	**1.79**	**238**	*e*P	**Pn**	**05 39 30.3**	**+0.1**
BZMR	**Bezymyannaya**	**1.79**	**238**	PN	**Pn**	**05 39 30.3**	**+0.1**
KIRR	**Kirishev**	**1.85**	**240**	*e*P	**Pn**	**05 39 31.1**	**0.0**
KIRR				*e*S	**Sn**	**05 39 55.3**	**+1.5**
KIRR	**Kirishev**	**1.85**	**240**	PN	**Pn**	**05 39 31.0**	**0.0**
KIRR				S	**Sn**	**05 39 55.3**	**+1.5**
KPT	**Kopyto**	**1.90**	**242**	*e*P	**Pn**	**05 39 31.8**	**+0.1**
KPT	**Kopyto**	**1.90**	**242**	PN	**Pn**	**05 39 31.7**	**+0.1**
KMNR	**Kamenistaya**	**2.01**	**236**	*i* P	**Pn**	**05 39 34.4**	**+1.2**
KMNR	**Kamenistaya**	**2.01**	**236**	PN	**Pn**	**05 39 34.3**	**+1.2**
SRDR	**Sredinnyy**	**2.02**	**255**	*e*P	**Pn**	**05 39 33.0**	**-0.1**
SRDR	**Sredinnyy**	**2.02**	**255**	PN	**Pn**	**05 39 33.0**	**-0.1**
KOZ	**Kozyrevsk**	**2.03**	**247**	*e*P	**Pn**	**05 39 33.9**	**+0.6**
KOZ				*e*S	**Sn**	**05 40 00.3**	**+2.3**
KOZ	**Kozyrevsk**	**2.03**	**247**	PN	**Pn**	**05 39 33.9**	**+0.6**
KOZ				S	**Sn**	**05 40 00.3**	**+2.3**
BKI	**Bering**	**2.30**	**136**	*e*P	**Pn**	**05 39 37.3**	**+0.2**
BKI				*e*S	**Sn**	**05 40 05.0**	**+0.4**
BKI	**Bering**	**2.30**	**136**	PN	**Pn**	**05 39 37.2**	**+0.2**
BKI				S	**Sn**	**05 40 05.0**	**+0.4**
TUMD	**Tumrok D**	**2.32**	**224**	*e*P	**Pn**	**05 39 39.0**	**+1.7**
TUMD				*e*S	**Sn**	**05 40 07.3**	**+2.2**
OSSR	**Ossora**	**2.36**	**358**	*e*P	**Pn**	**05 39 36.1**	**-1.6**
OSSR	**Ossora**	**2.36**	**358**	PN	**Pn**	**05 39 36.1**	**-1.6**
TUMR	**Tumrok**	**2.36**	**228**	*e*P	**Pn**	**05 39 40.2**	**+2.3**
TUMR	**Tumrok**	**2.36**	**228**	PN	**Pn**	**05 39 40.2**	**+2.3**
TIGL	**Tigil**	**2.61**	**291**	*e*P	**Pn**	**05 39 42.6**	**+1.4**
ESO	**Esso**	**2.69**	**251**	*e*P	**Pn**	**05 39 42.0**	**-0.3**
ESO	**Esso**	**2.69**	**251**	PN	**Pn**	**05 39 42.0**	**-0.3**
PALN	**Palana**	**2.79**	**323**	*e*P	**Pn**	**05 39 45.1**	**+1.4**
PALN	**Palana**	**2.79**	**323**	PN	**Pn**	**05 39 45.1**	**+1.4**
SPN	**Mys Shipunski**	**4.23**	**207**	*e*P	**Pn**	**05 40 03.8**	**+0.3**
SPN				*e*S	**Sn**	**05 40 52.3**	**+0.2**
SPN	**Mys Shipunski**	**4.23**	**207**	PN	**Pn**	**05 40 03.8**	**+0.3**
NLC	**Nalytchevo**	**4.35**	**212**	*e*S	**Sn**	**05 40 57.5**	**+2.5**
SDLR	**Sedlovina**	**4.40**	**216**	*e*P	**Pn**	**05 40 07.7**	**+1.8**
SDLR	**Sedlovina**	**4.40**	**216**	PN	**Pn**	**05 40 07.7**	**+1.8**
GNL	**Ganaly**	**4.40**	**225**	*e*P	**Pn**	**05 40 08.0**	**+2.0**
GNL	**Ganaly**	**4.40**	**225**	PN	**Pn**	**05 40 07.9**	**+2.0**
KRX	**Arik**	**4.41**	**218**	*e*P	**Pn**	**05 40 08.8**	**+2.6**
KRX	**Arik**	**4.41**	**218**	PN	**Pn**	**05 40 08.7**	**+2.6**
SMAR	**Somma**	**4.44**	**217**	*e*P	**Pn**	**05 40 08.4**	**+1.8**
SMAR	**Somma**	**4.44**	**217**	PN	**Pn**	**05 40 08.3**	**+1.8**
AVH	**Avacha**	**4.46**	**217**	*e*P	**Pn**	**05 40 09.4**	**+2.7**
AVH	**Avacha**	**4.46**	**217**	PN	**Pn**	**05 40 09.4**	**+2.7**
KOK	**Koryaka**	**4.47**	**218**	*e*P	**Pn**	**05 40 09.8**	**+2.9**
KOK	**Koryaka**	**4.47**	**218**	PN	**Pn**	**05 40 09.8**	**+2.9**
UGLR	**Uglovaya**	**4.48**	**216**	*e*P	**Pn**	**05 40 09.1**	**+2.0**
UGLR	**Uglovaya**	**4.48**	**216**	PN	**Pn**	**05 40 09.0**	**+2.0**
PET	**Petropavlovsk**	**4.69**	**216**	Pn	**Pn**	**05 40 12.6**	**+2.8**
PET	**Petropavlovsk**	**4.69**	**216**	*e*P	**Pn**	**05 40 13.4**	**+3.6**
PET	**Petropavlovsk**	**4.69**	**216**	*e*PN	**Pn**	**05 40 13.5**	**+3.7**
PET				*e*S	**Sn**	**05 41 06.0**	**+2.6**
PET				smax	smax		
comp=N,67nm,0.7s							
PET				smax	smax		
comp=E,72nm,0.7s							
PET				MLR	MLR		
comp=Z,100nm,11.0s							
PEA0B	**Petropavlovsk-**	**4.95**	**222**	Pn	**Pn**	**05 40 15.8**	**+2.4**
PEA0B	**Petropavlovsk-**	**4.95**	**222**	PN	**Pn**	**05 40 15.8**	**+2.4**
PETK	**Petropavlovsk-**	**4.95**	**222**	Pn	**Pn**	**05 40 15.5**	**+2.1**
PETK	**Petropavlovsk-**	**4.95**	**222**	P	**Pn**	**05 40 15.9**	**+2.5**
comp=Z,0.6nm,0.3s,baz=59,slow=15,SNR=2.3							
PETK				S	**Sn**	**05 41 10.4**	**+0.5**
comp=Z,8.5nm,0.9s,baz=84,slow=26,SNR=1.3							
PETK				LR	LR	05 42 13.8	
comp=Z,83nm,18.2s,baz=27,slow=39							
comp=Z,2.6nm,0.7s							
KRMR	**Karymshinskiy**	**5.02**	**218**	*e*P	**Pn**	**05 40 17.9**	**+3.5**
KRMR	**Karymshinskiy**	**5.02**	**218**	PN	**Pn**	**05 40 17.8**	**+3.5**
GRL	**Gorelyy**	**5.28**	**216**	*e*P	**Pn**	**05 40 21.3**	**+3.2**
GRL	**Gorelyy**	**5.28**	**216**	PN	**Pn**	**05 40 21.2**	**+3.2**
MTVR	**Mutnovka**	**5.30**	**215**	*e*P	**Pn**	**05 40 20.8**	**+2.5**
MTVR	**Mutnovka**	**5.30**	**215**	PN	**Pn**	**05 40 20.8**	**+2.5**
ASAK	**Asacha**	**5.47**	**216**	*e*P	**Pn**	**05 40 23.9**	**+3.2**
ASAK	**Asacha**	**5.47**	**216**	PN	**Pn**	**05 40 23.9**	**+3.2**
MA2	**Magadan**	**7.09**	**297**	LR	LR	05 43 20.8	
comp=Z,55nm,21.1s,baz=54,slow=37							
SEY	**Seymchan**	**8.12**	**323**	*i* PN	**Pn**	**05 40 55.1**	**-1.8**
SEY				pmax	pmax		
comp=Z,2.0nm,0.1s							
BILL	**Bilibino**	**11.27**	**6⇑**	*e*PN	**Pn**	**05 41 37.7**	**-2.2**
BILL				pmax	pmax		
comp=Z,2.0nm,1.0s							
ATKA	**Atka Island**	**13.90**	**100**	Pn	**P**	**05 42 21.2**	**-2.8**
YAK	**Yakutsk**	**17.65**	**301**	LR	LR	05 49 13.3	
comp=Z,36nm,18.8s,baz=122,slow=35							
YAK	**Yakutsk**	**17.65**	**301**	*i* P	**Pn**	**05 43 02.9**	**-1.6**
YAK				pmax	pmax		
comp=Z,6.0nm,0.9s							
G18K	**Tagagawik**	**20.03**	**48**	P	Pn	05 43 34.6	+1.3
G18K				IAmb	IAmb	05 44 03.8	
comp=Z,14nm,1.5s							
TIXI	**Tiksi**	**20.53**	**329**	P	**P**	**05 43 38.0**	**+1.3**
TIXI	**Tiksi**	**20.53**	**329**	LR	LR	05 51 17.1	
comp=Z,35nm,19.4s,baz=192,slow=36							
TIXI	**Tiksi**	**20.53**	**329**	P	**P**	**05 43 38.1**	**+1.3**
TIXI				pmax	pmax		
comp=Z,6.0nm,0.9s							
F19K	**Shaleruckik Mo**	**20.53**	**45**	P	Pn	05 43 39.4	+0.3
F19K				IAmb	IAmb	05 43 44.0	
comp=Z,10nm,1.1s							
ZEA	**Zeya**	**20.55**	**276**	*e*P	Pn	05 43 39.5	0.0
L18K	**Granite Mounta**	**20.74**	**58**	P	Pn	05 43 44.3	+2.7
L18K				IAmb	IAmb	05 43 56.1	
comp=Z,20nm,1.5s							
D19K	**Kuna River**	**20.76**	**41**	P	Pn	05 43 42.3	+0.5
D19K				IAmb	IAmb	05 43 52.3	
comp=Z,17nm,1.4s							
J19K	**Poorman**	**21.18**	**53**	P	**P**	**05 43 46.5**	**+2.6**
J19K				IAmb	IAmb	05 43 55.2	
comp=Z,14nm,1.5s							
B20K	**Meade River**	**21.51**	**37**	P	**P**	**05 43 49.2**	**+1.9**
IMAR	**Indian Mountai**	**22.04**	**48**	P	**P**	**05 43 55.7**	**+2.6**
B21K	**Ikpikpuk River**	**22.26**	**38**	P	**P**	**05 43 57.1**	**+1.7**
D22K	**Ayikyak River**	**22.78**	**41**	P	**P**	**05 44 04.1**	**+3.0**
D22K				IAmb	IAmb	05 44 24.3	
comp=Z,9.5nm,1.3s							
B22K	**Teshekpuk Lake**	**22.83**	**37**	P	**P**	**05 44 03.3**	**+1.9**
B22K				IAmb	IAmb	05 44 24.2	
comp=Z,19nm,1.4s							
E22K	**Anaktuvuk Pass**	**22.99**	**43**	P	**P**	**05 44 05.1**	**+1.8**
MLY	**Manley**	**23.28**	**51**	P	**P**	**05 44 08.8**	**+2.6**
C23K	**Itkillik River**	**23.67**	**39**	P	**P**	**05 44 12.7**	**+2.8**
TOLK	**Toolik Lake Re**	**23.88**	**42**	P	**P**	**05 44 13.5**	**+1.6**
TOLK				IAmb	IAmb	05 44 26.0	
comp=Z,12nm,1.5s							
RND	**Reindeer**	**24.22**	**55**	P	**P**	**05 44 16.4**	**+1.2**
RND				IAmb	IAmb	05 44 18.7	
comp=Z,11nm,1.5s							
RND	**Reindeer**	**24.22**	**55**	P	**P**	**05 44 16.4**	**+1.2**
RND				pmax	pmax		
comp=Z,11nm,1.5s							
E24K	**Your Creek**	**24.23**	**43**	P	**P**	**05 44 16.9**	**+1.7**
E24K				IAmb	IAmb	05 44 28.7	
comp=Z,8.0nm,1.3s							
CCB	**Clear Creek Bu**	**24.55**	**51**	P	**P**	**05 44 20.5**	**+2.4**
G24K	**Hadweenzic Riv**	**24.59**	**46**	P	**P**	**05 44 20.2**	**+1.8**
ILAR	**Eielson Array**	**24.93**	**51**	P	**P**	**05 44 24.1**	**+2.5**
ILAR	**Eielson Array**	**24.93**	**51**	P	**P**	**05 44 22.9**	**+1.3**
comp=Z,1.1nm,0.8s,baz=264,slow=9.0,SNR=11							
comp=Z,1.1nm,0.8s							
D25K	**Kavik River**	**25.08**	**40**	P	**P**	**05 44 25.1**	**+2.2**
D25K				IAmb	IAmb	05 44 29.8	
comp=Z,8.6nm,1.4s							
SCM	**Sheep Creek Mo**	**25.16**	**58**	P	**P**	**05 44 25.2**	**+1.4**
SCM	**Sheep Creek Mo**	**25.16**	**58**	P	**P**	**05 44 25.2**	**+1.4**
SCM				pmax	pmax		
comp=Z,20nm,1.3s							
M24K	**Tolsona, Glenn**	**25.64**	**57**	P	**P**	**05 44 30.6**	**+2.5**
BMAR	**Burnt Mountain**	**25.71**	**45**	P	**P**	**05 44 30.6**	**+2.0**
MJAR	**Matsushiro Arr**	**26.35**	**230**	LR	LR	05 55 15.6	
comp=Z,33nm,18.5s,baz=42,slow=37							
M27K	**Edge Creek, AK**	**27.55**	**56**	P	**P**	**05 44 47.6**	**+2.2**
M27K				IAmb	IAmb	05 44 50.2	
comp=Z,6.8nm,1.4s							
KSRS	**Korea Array**	**30.38**	**245**	LR	LR	05 56 18.2	
comp=Z,25nm,20.0s,baz=5.0,slow=34							
SONM	**Songino Array**	**34.90**	**280**	P	**P**	**05 45 48.3**	**-1.8**
comp=Z,0.2nm,0.5s,baz=59,slow=5.9,SNR=1.8							
comp=Z,0.2nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**37.22**	**174**	T	T	06 25 03.0	
baz=357,slow=76,SNR=72							
H11N3	**WAKE ISLAND Hy**	**37.23**	**174**	T	T	06 25 12.3	
baz=357,slow=76,SNR=45							
H11N1	**WAKE ISLAND Hy**	**37.23**	**174**	T	T	06 25 11.1	
baz=357,slow=76,SNR=47							
ZALV	**Zalesovo Beam**	**42.30**	**301**	P	**P**	**05 46 51.0**	**-0.9**
comp=Z,0.3nm,0.4s,baz=76,slow=12,SNR=1.6							
comp=Z,0.3nm,0.4s							
KURK	**Kurchatov**	**47.29**	**301**	P	**P**	**05 47 31.0**	**-0.8**
KURK	**Kurchatov**	**47.29**	**301**	P	**P**	**05 47 31.7**	**0.0**
KURBB	**Kurchatov Arra**	**47.40**	**300**	P	**P**	**05 47 31.7**	**-0.8**
comp=Z,2.2nm,0.6s,baz=53,slow=7.9,SNR=20							
comp=Z,2.2nm,0.6s							
MK31	**Makanchi Array**	**48.16**	**294**	P	**P**	**05 47 37.5**	**-1.1**
MK31	**Makanchi Array**	**48.16**	**294**	P	**P**	**05 47 37.5**	**-1.1**
MK31				pmax	pmax		
comp=Z,8.0nm,1.5s							
MKAR	**Makanchi Array**	**48.16**	**294**	P	**P**	**05 47 37.5**	**-1.2**
MKAR	**Makanchi Array**	**48.16**	**294**	P	**P**	**05 47 37.2**	**-1.5**
comp=Z,0.5nm,0.5s,baz=53,slow=4.9,SNR=4.2							
comp=Z,0.5nm,0.5s							
MKAR	**Makanchi Array**	**48.16**	**294**	*e*P	**P**	**05 47 38.2**	**-0.4**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**49.46**	**307**	P

GO04	Tololo Observa	0.63	118	*e*P		Pn	05 44 57.2 -1.3
GO04				*i* S		Sn	05 45 06.1 -1.5
GO04				IAML			05 45 06.9
comp=E,1μm,0.4s							
GO04	Tololo Observa	0.63	118	*i* P		Pn	05 44 56.8 -1.7
CO06	Fray Jorge	0.81	192	*e*P		Pn	05 45 00.9 +0.2
CO06				*i* S		Sn	05 45 11.8 +0.2
CO06				IAML			05 45 14.0
comp=E,210nm,0.2s							
LCO	Las Campanas	1.08	37	*e*P		Pn	05 45 03.6 -1.1
LCO				*i* S		Sn	05 45 17.5 -1.1
LCO	Las Campanas	1.08	37	*i* P		Pn	05 45 03.3 -1.3
CO03	El Pedregal	1.16	146	*e*P		Pn	05 45 04.7 -0.8
CO03				*i* S		Sn	05 45 18.9 -1.3
CO03				IAML			05 45 19.3
comp=E,319nm,0.1s							
CO03	El Pedregal	1.16	146	*i* P		Pn	05 45 04.0 -1.5
CO01	Juntas del Tor	1.17	95	*e*P		Pn	05 45 05.5 -0.4
CO01				*i* S		Sn	05 45 19.9 -0.9
CO01	Juntas del Tor	1.17	95	*i* P		Pn	05 45 04.9 -1.0
AC05	El Transito	1.46	45	*e*P		Pn	05 45 09.6 -0.1
AC05				*i* S		Sn	05 45 27.5 -0.1
AC04	Llanos de Chal	1.70	11	*i* P		Pn	05 45 13.1 +0.2
ACCO	Cerro Coronel	2.17	110	*i* P		Pn	05 45 22.4 +2.7
DOCA	Reserva Natura	2.30	118	*i* P		Pn	05 45 22.8 +1.4
RTLS	Leoncito	2.66	137	*i* P		Pn	05 45 29.2 +2.9
VA03	San Esteban	2.97	165	*i* P		Pn	05 45 31.8 +1.3
VCA	Vinchina	3.05	69	*i* P		Pn	05 45 35.3 +3.7
MT02	Curacav	3.38	176	*i* P		Pn	05 45 36.9 +0.9
AVFE	Valle Fertil	3.53	104	*i* P		Pn	05 45 39.8 +1.6
MT04	Ro Olivares	3.69	163	*i* P		Pn	05 45 43.5 +3.1
ACLC	CERRO LA CRUZ	3.93	84	*i* P		Pn	05 45 45.1 +1.4
MT01	Popeta	3.98	178	*i* P		Pn	05 45 45.3 +1.1
BO01	Tunca	4.51	176	*i* P		Pn	05 45 52.6 +1.1
GO05	Hualane	5.13	184	*i* P		Pn	05 45 59.1 -0.9

*IDC **24** 06:19:04.8±2.3, 4°.88S×102°.19E, h0km, mb3.9/8, mbtmp3.9/8, Error ellipse: s-maj=104.8km s-min=18.2km az=54.0*

ISC 24 06:19:11.3±2.4, 4°.8S±0°.4×102°.3E±0°.6, h44km, n18, σ0°30/10, mb4.0/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	23.34	352	P	P	06 24 15.6	-0.4
1.4nm,0.3s,baz=172,slow=9.0,SNR=4.5							
1.4nm,0.3s							
H08S2	Diego Garcia H	29.79	263	T	T	06 57 10.5	
baz=86							
H08S3	Diego Garcia H	29.80	263	T	T	06 57 09.6	
baz=86							
H08S1	Diego Garcia H	29.81	263	T	T	06 57 08.7	
baz=86							
H01W3	Cape Leeuwin H	31.88	161	T	T	06 59 18.1	
baz=339							
H01W2	Cape Leeuwin H	31.89	161	T	T	06 59 23.0	
baz=339							
H01W1	Cape Leeuwin H	31.89	161	T	T	06 59 20.8	
baz=339							
WRA	Warramunga Arr	34.61	119	P	P	06 25 56.2	-0.3
0.3nm,0.6s,baz=307,slow=9.7,SNR=9.1							
0.3nm,0.6s							
ASAR	Alice Springs	35.75	125	P	P	06 26 06.6	+0.2
0.2nm,0.4s,baz=301,slow=7.9,SNR=10							
ASAR				PcP	PcP	06 28 33.8	0.0
0.2nm,0.4s,baz=290,slow=2.4,SNR=1.9							
0.2nm,0.4s							
SONM	Songino Array	52.52	3	P	P	06 28 20.6	+0.3
1.2nm,0.7s,baz=187,slow=9.3,SNR=6.9							
1.2nm,0.7s							
MKAR	Makanchi Array	54.34	343	P	P	06 28 33.9	+0.4
1.2nm,0.6s,baz=142,slow=7.7,SNR=5.9							
1.2nm,0.6s							
KURBB	Kurchatov Arra	58.88	343	P	P	06 29 05.3	-0.3
0.5nm,0.2s,baz=162,slow=6.2,SNR=4.4							
0.5nm,0.2s							
H04N2	CROZET ISLANDS	60.00	218	T	T	07 34 44.9	
baz=62,slow=75,SNR=7.6							
H04N1	CROZET ISLANDS	60.02	218	T	T	07 34 50.9	
baz=62,slow=75,SNR=7.2							
H04N3	CROZET ISLANDS	60.02	218	T	T	07 34 43.5	
baz=62,slow=75,SNR=5.9							
ZALV	Zalesovo Beam	60.34	348	P	P	06 29 15.7	+0.1
2.4nm,0.4s,baz=161,slow=6.5,SNR=13							
2.4nm,0.4s							
BVAR	Borovoye Array	63.59	339	P	P	06 29 37.4	-0.1
0.5nm,0.5s,baz=142,slow=4.9,SNR=3.0							
0.5nm,0.5s							
TXAR	Lajitas Array	145.34	42	PKPbc	PKPab	06 38 45.3	0.0
0.3nm,0.4s,baz=304,slow=0.5,SNR=15							

*ATH **24** 06:31:30.9, 37°.62N×20°.30E, h8km±3km, ML2.8/6, Error ellipse: s-maj=3.9km s-min=1.1km az=37.0*
*THE **24** 06:31:32.1, 37°.66N×20°.39E, h3km±1km, ML3.2/7, Error ellipse: s-maj=2.0km s-min=0.5km az=40.0*
*IDC **24** 06:31:33.4±4.9, 38°.01N×21°.08E, h0km, mb3.5/5, mbtmp3.6/6, ML0.3/1, MS3.3/1, Error ellipse: s-maj=99.1km s-min=26.2km az=55.0*

ISC 24 06:31:31.7±1.7, 37°.66N±0°.06×20°.39E±0°.07, h17km±7km, n35, σ0°76/47, mb3.6/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.34	90	P	Pg	06 31 38.6	-0.2
KRI1				S	Sg	06 31 43.2	-0.5
19μm,0.4s							
LTHK	Lithakia	0.36	83	P	Pg	06 31 38.9	-0.2
LTHK				S	Sg	06 31 43.9	-0.3
26μm,0.2s							
PSDA	Pessada-Kefalo	0.47	19	P	Pg	06 31 41.4	+0.1
PSDA				S	Sb	06 31 48.3	-0.1
3μm,0.2s							
PSDA	Pessada-Kefalo	0.47	19	P	Pg	06 31 41.4	+0.1
PSDA				S	Sb	06 31 49.2	+0.8
RTZL	Ratzakli, Kefa	0.51	36	P	Pg	06 31 42.1	+0.2
RTZL				S	Sb	06 31 49.6	+0.2
1μm,0.2s							
VLS	Valsamata	0.54	17	P	Pg	06 31 42.4	0.0
VLS				S	Sb	06 31 49.9	-0.3
1μm,0.3s							
VLS	Valsamata	0.54	17	P	Pg	06 31 42.3	-0.2
VLS				S	Sb	06 31 50.8	+0.7
VLS				AML	AML	06 31 51.8	
comp=E,2569μm,0.2s							
VLS				AML	AML	06 31 51.9	
comp=N,2366μm,0.2s							
DMLN	Damoulianata-K	0.57	359	P	Pb	06 31 43.0	-0.3
DMLN	Damoulianata-K	0.57	359	P	Pb	06 31 43.0	-0.3
DMLN				S	Sb	06 31 51.4	+0.2
SMHA	Samh	0.62	19	P	Pb	06 31 43.4	-0.7
SMHA				S	Sn	06 31 53.4	-1.9
FSK	Fiskardo	0.81	10	P	Pb	06 31 47.0	-0.3
FSK				S	Sn	06 31 59.3	-0.6
comp=N,1μm,0.4s							
RLS	Riolos of Patr	0.94	65	P	Pb	06 31 49.6	+0.1
RLS				S	Sn	06 32 03.7	+0.5
comp=N,1μm,0.7s							
RLS	Riolos of Patr	0.94	65	P	Pg	06 31 49.8	-0.1
RLS				AML	AML	06 32 08.0	
comp=E,1672μm,0.7s							
RLS				AML	AML	06 32 08.3	
comp=N,2601μm,0.7s							
EVGI	Lefkada island	0.98	12	P	Pb	06 31 50.5	+0.3
EVGI	Lefkada island	0.98	12	P	Pb	06 31 50.5	+0.3
NYDR	Nydri-Lefkada	1.08	13	P	Pn	06 31 52.3	+0.3
NYDR	Nydri-Lefkada	1.08	13	P	Pn	06 31 52.3	+0.3
DRO	Drossia	1.08	74	P	Pn	06 31 52.3	+0.1
LKD2	Lefkada island	1.14	11	P	Pb	06 31 53.1	+0.1
LKD2				AML	AML	06 32 17.3	
comp=E,1133μm,0.3s							
LKD2				AML	AML	06 32 17.6	
comp=N,1230μm,0.5s							
TSLK	Tsoukalades, L	1.18	10	P	Pb	06 31 53.9	+0.3
ITM	Ithomi	1.32	111	P	Pn	06 31 56.1	+0.8
ITM				S	Sg	06 32 14.6	+0.3
ITM				AML	AML	06 32 18.5	
comp=N,303μm,0.4s							
ITM				AML	AML	06 32 19.1	
comp=E,474μm,0.5s							
EFP	Efpalio	1.42	57	P	Pb	06 31 58.2	+0.5
KLV	Kalavryta, Ach	1.45	74	P	Pb	06 31 58.3	+0.1
KLV	Kalavryta, Ach	1.45	74	P	Pb	06 31 58.3	+0.1
KLV				AML	AML	06 32 26.3	
comp=N,363μm,0.5s							
KLV				AML	AML	06 32 26.7	
comp=E,453μm,0.6s							
ANX	Ano Chora	1.52	52	P	Pn	06 31 58.9	+0.6
EVR	Evrytania	1.68	41	P	Pb	06 32 02.5	+0.3
EVR				AML	AML	06 32 36.5	
comp=E,316μm,0.4s							
EVR				AML	AML	06 32 37.1	
comp=N,393μm,0.5s							
AXAR	Agios Charalam	2.10	58	P	Pb	06 32 08.4	-1.0
IDI	Anoyia	4.33	122	Pn	Pn	06 32 38.0	+1.1
comp=N,0.1nm,0.3s,baz=210,slow=8.3,SNR=2.0							
IDI				Sn	Sn	06 33 26.3	-0.8
comp=N,0.9nm,0.3s,baz=305,slow=19,SNR=6.3							
comp=N,14nm,1.0s							
MLR	Muntele Rosu	8.86	26	Pn	Pn	06 33 41.5	+2.5
comp=N,0.3nm,0.3s,baz=157,slow=18,SNR=4.6							
HFS	Hagfors	22.89	351	P	P	06 36 36.0	+1.7
comp=N,2.5nm,1.0s,baz=148,slow=12,SNR=2.0							
comp=N,2.5nm,1.0s							
FINES	FINESS Array B	24.07	7	P	P	06 36 46.1	+0.2
comp=N,1.0nm,0.6s,baz=159,slow=11,SNR=7.1							
comp=N,1.0nm,0.6s							
WSAR	Wadi Sarin	35.70	103	LR	LR	06 55 25.7	
comp=N,41nm,19.0s,baz=254,slow=41							
KURBB	Kurchatov Arra	42.62	53	P	P	06 39 25.8	-1.0
comp=N,0.2nm,0.4s,baz=275,slow=8.9,SNR=2.1							
comp=N,0.2nm,0.4s							
MKAR	Makanchi Array	45.66	58	P	P	06 39 51.2	-0.2
comp=N,0.3nm,0.5s,baz=266,slow=8.3,SNR=5.2							
comp=N,0.3nm,0.5s							
ZALV	Zalesovo Beam	46.11	48	P	P	06 39 53.0	-1.8
comp=N,0.6nm,0.4s,baz=280,slow=7.7,SNR=4.5							
comp=N,0.6nm,0.4s							

*SNET **24** 06:38:12.8±0.8, 14°.01N×90°.33W, h109km±7km, ML3.5*
*CATAC **24** 06:38:13.8±0.4, 13°.98N×90°.41W, h92km±4km, ML3.1*

ISC 24 06:38:14.0±1.6, 13°.98N±0°.09×90°.41W±0°.05, h97km±10km, n39, σ0°79/57, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	Alcaldia de Sa	0.40	109	*i* S	Sn	06 38 40.1	+0.3
LOAL	Lomas de Alarc	0.61	88	*i* P	Pn	06 38 30.1	-0.2
LOAL				IAML		06 39 16.1	
comp=Z,2μm,1.0s							
NUBE	Las Nubes	0.61	97	*i* P	Pn	06 38 30.0	-0.5
NUBE				*e*S	Sn	06 38 43.6	+0.7
NUBE	Las Nubes	0.61	97	*i* P	Pn	06 38 29.8	-0.7
NUBE				IAML		06 38 30.5	
comp=Z,470nm,1.0s							
NUBE				*i* S	Sn	06 38 43.3	+0.5
JUAM	Asuncion Mita	0.77	62	*i* P	Pn	06 38 31.2	-0.6
JUAM				IAML		06 38 31.4	
comp=Z,400nm,1.0s							
JUAM				*i* S	Sn	06 38 45.4	+0.3
CEVE	Cerro Verde	0.77	101	*i* P	Pn	06 38 31.6	-0.5
CEVE				*e*S	Sn	06 38 46.8	+1.2
CEVE				IAML		06 38 56.7	
comp=Z,862nm,0.3s							
CEVE	Cerro Verde	0.77	101	*i* P	Pn	06 38 31.6	-0.5
CEVE				*i* S	Sn	06 38 46.8	+1.2
CEVE				IAML		06 38 56.6	
comp=Z,800nm,1.0s							
UNIC	Universidad Ca	0.83	90	*i* P	Pn	06 38 31.8	-0.6
UNIC				IAML		06 38 32.0	
comp=Z,440nm,1.0s							
JAYA	Jayaque - finc	0.98	109	*e*P	Pn	06 38 33.5	-0.7
JAYA				*e*S	Sn	06 38 49.0	-0.2
JAYA				IAML		06 38 54.4	
comp=Z,976nm,0.2s							
JAYA	Jayaque - finc	0.98	109	*i* P	Pn	06 38 33.3	-0.8
JAYA				*i* S	Sn	06 38 49.1	-0.2
JAYA				IAML		06 38 54.3	
comp=Z,2μm,1.0s							
CEDA	San Andres	1.00	100	*i* P	Pn	06 38 33.3	-0.9
CEDA				IAML		06 39 02.0	
comp=Z,790nm,1.0s							
PMON	Piamonte	1.09	104	*i* P	Pn	06 38 34.5	-0.8
PMON				*i* S	Sn	06 38 53.1	+1.7
PMON				IAML		06 38 59.7	
comp=Z,760nm,1.0s							
MTO3	Montecristo	1.10	67	*i* P	Pn	06 38 34.9	-0.6
MTO3	Montecristo	1.10	67	*i* P	Pn	06 38 34.9	-0.6
MTO3				IAML		06 38 34.9	
comp=Z,500nm,1.0s							
BOQS	Boqueron	1.12	102	*e*P	Pn	06 38 35.1	-0.6
LALI	Alcalda de L	1.16	115	*i* P	Pn	06 38 35.2	-0.8
LALI				*i* S	Sn	06 38 52.4	-0.1
LALI				IAML		06 38 56.7	
comp=Z,180nm,1.0s							
UEES	Universidad Ev	1.16	103	*i* P	Pn	06 38 35.6	-0.5
UEES				*i* S	Sn	06 38 53.5	+0.7
UEES				IAML		06 39 00.5	
comp=Z,260nm,1.0s							
SNET	Serv Nac Est T	1.18	104	*i* S	Sn	06 38 53.6	+0.6
ESQI	Esquipulas	1.18	61	*i* P	Pn	06 38 36.1	-0.2
ESQI				IAML		06 38 36.2	
comp=Z,340nm,1.0s							
LOMA	Loma Larga	1.24	105	*i* P	Pn	06 38 37.6	+0.5
LOMA				*i* S	Sn	06 38 56.1	+1.6
LOMA				IAML		06 38 59.8	
comp=Z,400nm,1.0s							
PANCS	Alcalda de	1.25	107	*i* P	Pn	06 38 36.4	-0.6
PANCS				*i* S	Sn	06 38 55.2	+0.8
PANCS				IAML		06 38 57.9	
comp=Z,2μm,1.0s							
SOKI	Kika Raxquin	1.28	311	*i* P	Pn	06 38 36.2	-1.6
SOKI				*i* S	Sn	06 38 55.2	-0.6
SOKI				IAML		06 39 05.5	
comp=Z,220nm,1.0s							
RTAL	Retalhuleu	1.36	294	*i* S	Sn	06 38 57.9	+1.0
LLGN	La Laguna	1.43	82	*i* P	Pn	06 38 38.4	-0.9
LLGN				IAML		06 39 42.6	
comp=Z,1μm,1.0s							
PAVA	Las Pavas	1.45	100	*i* P	Pn	06 38 38.9	-0.7
PAVA				IAML		06 38 39.2	
comp=Z,600nm,1.0s							
PAVA				*i* S	Sn	06 38 59.7	+0.8
QUIS	Sacapulas	1.47	333	*i* P	Pn	06 38 40.0	+0.2
QUIS				IAML		06 39 26.3	
comp=Z,260nm,1.0s							
COEG	Centro de Oper	1.52	103	*i* P	Pn	06 38 39.8	-0.6
COEG				*e*S	Sn	06 39 00.4	-0.1
COEG	Centro de Oper	1.52	103	*i* P	Pn	06 38 39.9	-0.6
COEG				IAML		06 38 40.0	
comp=Z,130nm,1.0s							
COEG				*i* S	Sn	06 39 00.9	+0.4
TECO	Alcaldia de Te	1.64	105	*i* S	Sn	06 39 02.6	-0.4
SCLA	Alcaldia de Sa	1.65	99	*i* P	Pn	06 38 41.5	-0.5
SCLA				IAML		06 38 41.7	
comp=Z,48nm,1.0s							
SCLA				*i* S	Sn	06 39 04.2	+0.9
PQSS	Presa 15 de Se	1.83	101	*i* P	Pn	06 38 43.4	-0.8
PQSS				IAML		06 39 14.1	
comp=Z,80nm,1.0s							
SMCA	Catarina	1.84	299	*i* S	Sn	06 39 08.4	+0.9
INTHN	La Esperanza I	2.26	81	*i* P	Pn	06 38 49.4	-0.6
COMHN	El Horno	2.80	80	*i* P	Pn	06 38 55.3	-1.9
CCIG	Comitan	2.84	324	*i* P	Pn	06 38 57.7	0.0
CCIG				IAML		06 39 46.8	
comp=Z,39nm,1.0s							
CSGN	Cosiguina Volc	2.94	109	*i* P	Pn	06 38 59.9	+0.9
CSGN				*i* S	Sn	06 39 34.0	+0.4
CSGN				IAML		06 39 39.7	
comp=Z,36nm,1.0s							
PETF	Flores	2.97	10	*i* P	Pn	06 38 59.3	+0.1
PETF				IAML		06 39 35.6	
comp=Z,24nm,1.0s							
TGUH	Tegucigalpa,Un	3.04	88	*i* P	Pn	06 38 59.3	-1.0
TGUH				IAML		06 38 59.5	
comp=Z,42nm,1.0s							
LIMN	Finca el Limon	4.03	103	*i* P	Pn	06 39 13.4	-0.3
LIMN				IAML		06 39 43.5	
comp=Z,20nm,1.0s							

*NOU **24** 06:57:37.9, 38°.79S×176°.43E, h86km, MLv3.6/10, North Island, New Zealand*
*WEL **24** 06:57:39.5±0.3, 39°.5±2°.×17°.6E±°, h68km±4km, M3.2/72, ML3.5/73, MLv3.2/72, Error ellipse: s-maj=3.2km s-min=2.9km az=121.9, confirmed*

ISC 24 06:57:37.6±1.4, 38°.73S±0°.03×176°.37E±0°.04, h93km±7km, n139, σ1°02/148, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRHZ	Matea Rd	0.11	160	P	Pn	06 57 50.9	0.0
MRHZ				S	Sn	06 57 59.4	-1.3
ALRZ	Allen Road	0.17	353	P	Pn	06 57 50.7	-0.2
ALRZ				S	Sn	06 57 59.3	-1.5
PRRZ	Plateau Road	0.23	5	P	Pn	06 57 51.0	-0.1
PRRZ				S	Sn	06 58 00.5	-0.6
WPRZ	Whakapapatarin	0.26	322	P	Pn	06 57 51.2	-0.1
WHTZ	Whakaora	0.33	281	P	Pn	06 57 52.2	+0.6
HRRZ	Handcock Road	0.34	349	P	Pn	06 57 51.7	0.0
MTHZ	Maungataniwha	0.39	109	P	Pn	06 57 52.4	+0.4
MTHZ				S	Sn	06 58 02.5	-0.2
MUGZ	Murupara	0.40	52	P	Pn	06 57 51.7	-0.3
MUGZ				S	Sn	06 58 02.0	-0.7
RRRZ	Republican Roa	0.41	17	P	Pn	06 57 51.9	-0.2
HSRZ	Hossack Road	0.43	347	P	Pn	06 57 52.3	+0.1
HSRZ				S	Sn	06 58 03.1	0.0
GRRZ	Galatos Road	0.43	332	P	Pn	06 57 52.5	+0.3
BKZ	Black Stump Fm	0.45	167	P	Pn	06 57 53.0	+0.5
BKZ				S	Sn	06 58 03.5	+0.1
BKZ	Black Stump Fm	0.45	167	P	Pn	06 57 52.9	+0.5
RITZ	Rihia Road	0.47	238	P	Pn	06 57 53.4	+0.9
HLRZ	Highlands Stat	0.48	359	P	Pn	06 57 53.4	+0.8
RATZ	Rangitukua	0.48	253	P	Pn	06 57 53.1	+0.4
KUTZ	Kaahu Road	0.49	299	P	Pn	06 57 52.9	+0.3
RTZ	Ruatahuna	0.49	77	P	Pn	06 57 52.9	+0.2
RTZ				S	Sn	06 58 03.8	-0.2
WATZ	Wairara	0.50	272	P	Pn	06 57 53.0	+0.3
NMHZ	Naumai	0.50	137	P	Pn	06 57 54.3	+1.5
NMHZ				S	Sn	06 58 06.1	+1.9
TARZ	Mount Tarawera	0.50	12	P	Pn	06 57 52.9	+0.1
UTU	Utuhina	0.57	346	P	Pn	06 57 53.7	+0.4
KATZ	Kakaramea	0.58	245	P	Pn	06 57 54.2	+0.7
RAHZ	Arahi	0.59	109	P	Pn	06 57 54.4	+1.0
MKRZ	Makatiti	0.59	8	P	Pn	06 57 54.2	+0.6
OMRZ	Omania	0.62	0	P	Pn	06 57 53.8	0.0
NGRZ	Ngongotaha	0.64	347	P	Pn	06 57 54.3	+0.4
TMVZ	Te Maari	0.65	233	P	Pn	06 57 54.9	+0.9
ETVZ	East Tongariro	0.65	231	P	Pn	06 57 55.0	+0.9
NTVZ	North Tongarir	0.65	235	P	Pn	06 57 54.8	+0.7
KRVZ	Karewarewa	0.67	237	P	Pn	06 57 55.1	+0.8
EDRZ	Edgecumbe	0.69	25	P	Pn	06 57 54.1	-0.3
KWHZ	Kaweka Forest	0.69	176	P	Pn	06 57 55.7	+1.3
OTVZ	Oturere	0.70	231	P	Pn	06 57 55.6	+1.0
NNVZ	North Ngauruho	0.71	235	P	Pn	06 57 55.7	+1.0
KARZ	Kaharoa	0.71	352	P	Pn	06 57 54.9	+0.3
WTVZ	West Tongariro	0.72	237	P	Pn	06 57 55.5	+0.8
ARHZ	Aropaoanui	0.72	138	P	Pn	06 57 56.0	+1.4
SNVZ	South Ngauruho	0.73	231	P	Pn	06 57 55.9	+1.0
NGZ	Ngauruhoe	0.75	233	P	Pn	06 57 56.0	+1.0
URZ	Urewera	0.75	51	P	Pn	06 57 54.8	0.0
URZ	Urewera	0.75	51	P	Pn	06 57 54.6	-0.2
MCHZ	McNeill Hill	0.76	160	P	Pn	06 57 56.8	+1.8
WHHZ	Waihua	0.76	117	P	Pn	06 57 56.1	+1.1
SNGZ	Shannon Statio	0.76	94	P	Pn	06 57 55.9	+0.9
TLZ	Tolley Road	0.76	301	P	Pn	06 57 55.6	+0.6
TUVZ	Tukino	0.77	226	P	Pn	06 57 56.3	+1.0
COVZ	Chateau Observ	0.80	234	P	Pn	06 57 56.3	+0.8
TWVZ	Taurewa	0.80	245	P	Pn	06 57 56.3	+0.8
WHVZ	Whangaehu Hut	0.82	227	P	Pn	06 57 56.9	+1.0
FWVZ	Far West T-bar	0.82	230	P	Pn	06 57 56.8	+0.9
MAVZ	Matarangi	0.83	229	P	Pn	06 57 57.0	+1.0
MOVZ	Moawhango	0.83	215	P	Pn	06 57 56.5	+0.8
WNVZ	Wahianoa	0.85	225	P	Pn	06 57 57.0	+1.0
RAGZ	Rawiri	0.85	74	P	Pn	06 57 56.5	+0.5
OPRZ	Ohinepanea	0.90	10	P	Pn	06 57 56.3	-0.1
KRHZ	Kereru	0.91	180	P	Pn	06 57 57.8	+1.2
KMRZ	Kaimai	0.94	339	P	Pn	06 57 57.4	+0.4
MTVZ	Mangateitei	0.96	227	P	Pn	06 57 58.4	+1.3
PKVZ	Pokaka	0.97	235	P	Pn	06 57 57.4	+0.1
MWZ	Matawai	0.99	67	P	Pn	06 57 57.8	+0.3
WHRZ	Whale Island	0.99	29	P	Pn	06 57 58.3	+0.8
TGRZ	Tauranga	1.00	355	P	Pn	06 57 57.6	0.0
KNZ	Kokohu	1.06	106	P	Pn	06 57 58.8	+0.6
CKHZ	Cape Kidnapper	1.08	149	P	Pn	06 57 59.8	+1.4
RIGZ	Rimuhau	1.09	89	P	Pn	06 57 59.3	+0.7
KAHZ	Kahuranaki	1.14	160	P	Pn	06 58 00.4	+1.3
TKGZ	Te Karaka	1.20	76	P	Pn	06 58 01.2	+1.4
PRGZ	Paritu Road	1.20	100	P	Pn	06 58 00.9	+1.1
HIZ	Hauiti	1.20	280	P	Pn	06 58 00.9	+1.1
HIZ	Hauiti	1.20	280	P	Pn	06 58 00.9	+1.1
TOZ	Tahuroa Road	1.21	325	P	Pn	06 58 00.6	+0.7
MHGZ	Mahia Peninsul	1.27	110	P	Pn	06 58 01.8	+1.1
VRZ	Vera Road	1.32	252	P	Pn	06 58 02.5	+1.3
WPHZ	Waipukurau	1.33	178	P	Pn	06 58 02.3	+0.8
PXZ	Pawanui	1.35	164	P	Pn	06 58 02.6	+0.9
WIZ	White Island	1.36	29	P	Pn	06 58 01.8	+0.0
TSZ	Takapari Road	1.36	193	P	Pn	06 58 02.6	+0.7
TWGZ	Tauwhareparae	1.38	67	P	Pn	06 58 03.4	+1.3
CNGZ	Carnagh Statio	1.46	81	P	Pn	06 58 04.3	+1.3
HAZ	Te Kaha	1.48	49	P	Pn	06 58 03.0	-0.2
WAZ	Wanganui	1.48	226	P	Pn	06 58 06.0	+2.7
PRHZ	Porangahau	1.55	172	P	Pn	06 58 04.7	+0.6
DVHZ	Dannevirke	1.58	186	P	Pn	06 58 04.7	+0.2
OHWZ	Ohakea	1.69	209	P	Pn	06 58 07.2	+1.4
LREZ	Lake Rotokare	1.69	244	P	Pn	06 58 07.9	+2.0
POWZ	Post Office Ro	1.72	195	P	Pn	06 58 06.9	+0.6
ANWZ	Angora Road	1.73	177	P	Pn	06 58 06.9	+0.5
PREZ	Palmer Road	1.83	250	P	Pn	06 58 10.1	+2.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**1.48**	**73**	*eP*	**Pn**	**06 58 14.9**	**+0.3**
PSGH	**Port of Spain**	**1.50**	**73**	*eP*	**Pn**	**06 58 15.9**	**+1.0**
TRN	**Trinidad (W)**	**1.60**	**75**	*eP*	**Pn**	**06 58 16.6**	**+0.5**
TRN				*eS*	**Sn**	**06 58 37.8**	**+1.2**
PCRV	**Puerto La Cruz**	**1.64**	**268**	*eP*	**Pn**	**06 58 16.1**	**-0.6**
PCRV	**Puerto La Cruz**	**1.64**	**268**	*eP*	**Pn**	**06 58 16.1**	**-0.6**
PCRV				*eS*	**Sn**	**06 58 38.0**	**+0.5**
GRFF	**Grenada Fort F**	**2.18**	**34**	*eP*	**Pn**	**06 58 24.0**	**+0.3**
GRFF				*eS*	**Sn**	**06 58 50.1**	**0.0**
GRGR	**Grenville**	**2.29**	**34**	*eP*	**Pn**	**06 58 25.4**	**+0.2**
GRGR				*eS*	**Sn**	**06 58 52.3**	**-0.4**
GRW	**Mount Saint Ca**	**2.31**	**34**	*eP*	**Pn**	**06 58 26.4**	**+0.9**
GRW				*eS*	**Sn**	**06 58 52.7**	**-0.6**
GRSS	**Sisters**	**2.45**	**33**	*eP*	**Pn**	**06 58 27.4**	**+0.1**
GRSS				*eS*	**Sn**	**06 58 56.0**	**-0.5**
TOSP	**Speyside**	**2.62**	**66**	*eP*	**Pn**	**06 58 31.1**	**+1.6**
TOSP				*eS*	**Sn**	**06 59 00.6**	**0.0**
GCMP	**Grenada, Carri**	**2.71**	**34**	*eP*	**Pn**	**06 58 31.1**	**+0.4**
GCMP				*eS*	**Sn**	**06 59 02.7**	**0.0**
SVOC	**Richmond Hill,**	**3.37**	**30**	*eP*	**Pn**	**06 58 41.3**	**+1.6**
SVT	**Saint Vincent**	**3.38**	**30**	*eP*	**Pn**	**06 58 39.9**	**+0.2**
SVB	**Belmont**	**3.46**	**29**	*eP*	**Pn**	**06 58 41.4**	**+0.5**
SVV	**Soufriere Volc**	**3.52**	**29**	*eP*	**Pn**	**06 58 43.2**	**+1.5**
SSV	**Crater Summit**	**3.54**	**29**	*eP*	**Pn**	**06 58 43.5**	**+1.5**
MCLT	**Moule a Chique**	**3.99**	**30**	*eP*	**Pn**	**06 58 48.5**	**+0.4**
MCLT				*eS*	**Sn**	**06 59 31.1**	**-2.7**
TACV	**Tcata**	**3.99**	**269**	*eP*	**Pn**	**06 58 49.9**	**+1.8**
TACV				*eS*	**Sn**	**06 59 35.7**	**+1.8**
SLBI	**Saint Lucia, B**	**4.25**	**27**	*eP*	**Pn**	**06 58 51.4**	**-0.1**
SLBI				*eS*	**Sn**	**06 59 38.3**	**-1.6**
CACV	**CAICARA DEL OR**	**4.41**	**233**	*eP*	**Pn**	**06 58 51.1**	**-2.6**
CACV				*eS*	**Sn**	**06 59 36.4**	**-7.5**
BBGH	**Gun Hill**	**4.42**	**49**	*eP*	**Pn**	**06 58 54.0**	**+0.1**
BENV	**Beln**	**4.56**	**267**	*eP*	**Pn**	**06 58 58.3**	**+2.4**
BENV				*eS*	**Sn**	**06 59 48.5**	**+0.8**
LUEV	**Luepa**	**4.61**	**161**	*eP*	**Pn**	**06 58 58.4**	**+1.7**
LUEV				*eS*	**Sn**	**06 59 49.8**	**+0.6**
BIM	**Bigot**	**4.65**	**23**	*eP*	**Pn**	**06 58 57.6**	**+0.5**
BIM				*eS*	**Sn**	**06 59 47.2**	**-2.6**
BAUV	**El Baul**	**5.16**	**256**	*eP*	**Pn**	**06 59 04.9**	**+0.9**
BAUV				*eS*	**Sn**	**07 00 01.8**	**-0.4**
BAUV	**El Baul**	**5.16**	**256**	*eP*	**Pn**	**06 59 04.8**	**+0.9**
DSLB	**Salisbury**	**5.39**	**16**	*eP*	**Pn**	**06 59 07.7**	**+0.6**
MAPV	**Macapo**	**5.41**	**266**	*eP*	**Pn**	**06 59 09.1**	**+1.6**
MAPV				*eS*	**Sn**	**07 00 09.0**	**+0.5**
TBG	**Guadaloupe-3**	**5.73**	**13**	*eP*	**Pn**	**06 59 12.4**	**+0.6**
JACV	**Jacura**	**5.82**	**279**	*eP*	**Pn**	**06 59 14.6**	**+1.6**
TEPV	**Terepaima**	**6.13**	**268**	*eP*	**Pn**	**06 59 18.3**	**+1.1**
TEPV				*eS*	**Sn**	**07 00 25.3**	**-0.6**
MBFL	**Flemmings, Mon**	**6.52**	**6**	*eP*	**Pn**	**06 59 22.8**	**+0.3**
ANBD	**Bethesda, Anti**	**6.88**	**10**	*eP*	**Pn**	**06 59 28.0**	**+0.7**
SKI	**Saint Kitts**	**7.06**	**2**	*eP*	**Pn**	**06 59 30.9**	**+0.9**
SJG	**San Juan**	**8.41**	**339**	*eP*	**Pn**	**06 59 48.7**	**+0.4**
AOPR	**Arecibo Observ**	**8.86**	**336**	*eP*	**Pn**	**06 59 55.0**	**+0.5**
CAPV	**Capacho**	**9.52**	**256**	*eP*	**Pn**	**07 00 04.3**	**+0.7**

IDC 24 07:06:34.1±8.5, 4°.81S×145°.64E, h134km±88km, mb3.5/3, mbtmp3.8/5, Error ellipse: s-maj=79.6km s-min=25.5km az=142.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.81**	**162**	P	Pn	07 07 44.5	-0.3
	5.3nm,0.3s,baz=307,slow=19,SNR=1.0						
PMG				S	Sn	07 08 40.0	+0.2
	8.4nm,0.5s,baz=288,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**18.64**	**215**	P	P	07 10 42.1	+0.5
	1.0nm,0.6s,baz=40,slow=12,SNR=13						
ASAR	**Alice Springs**	**21.90**	**210**	P	P	07 11 16.9	+0.3
	0.7nm,0.3s,baz=37,slow=8.3,SNR=14						
	0.7nm,0.3s						
FITZ	**Fitzroy Crossi**	**23.60**	**234**	P	P	07 11 32.3	-0.6
	3.7nm,0.6s,baz=40,slow=10,SNR=12						
	3.7nm,0.6s						
ILAR	**Eielson Array**	**84.93**	**23**	P	P	07 18 54.0	+0.2
	0.6nm,0.7s,baz=243,slow=4.9,SNR=7.9						
	0.6nm,0.7s						

*IGIL **24** 07:35:38.9, 37°.35N×9°.19W, h29km, ML1.4*
*MDD **24** 07:35:38.5±1.1, 37°.31N×9°.19W, h35km±7km, mb_Lg2.3/7, Error ellipse: s-maj=11.1km s-min=5.5km az=41.0*
*INMG **24** 07:35:38.5±1.3, 37°.35N×9°.23W, h25km±4km, ML1.7, Error ellipse: s-maj=7.2km s-min=4.2km az=75.0*
*SFS **24** 07:35:39.3, 37°.44N×9°.05W, h19km, ML2.0/11, ML2.5/8, MLv1.8/11*
*CNRM **24** 07:35:41.9, 36°.93N×8°.63W, h6km, ML1.3*

ISC 24 07:35:35.9±1.8, 37°.30N±0°.04×9°.27W±0°.08, h35km, n40, σ1°.30/63, 2C-1D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.39**	**114**	*i* Pg	**Pn**	**07 35 46.8**	**+1.7**
PFVI				*e*Sg	**Sn**	**07 35 52.1**	**+0.7**
PFVI				A	A	07 35 52.6	
	53nm,0.1s						
PFVI	**Vila Bisbo**	**0.39**	**114**	P	**Pn**	**07 35 46.8**	**+1.7**
PFVI	**Vila Bisbo**	**0.39**	**114**	S	**Sn**	**07 35 50.9**	**-0.5**
MORF	**Marmelete**	**0.50**	**89**	*e*P	**Pn**	**07 35 47.7**	**+1.1**
MORF				*e*S	**Sn**	**07 35 53.9**	**-0.1**
MORF				A	A	07 35 54.5	
	62nm,0.1s						
MORF	**Marmelete**	**0.50**	**89**	*e*P	**Pn**	**07 35 47.7**	**+1.1**
MORF				*e*S	**Sn**	**07 35 53.7**	**-0.2**
MORF				IAML		07 35 54.1	
	comp=E,77nm,0.1s						
PTEO	**Sao Teotonio**	**0.51**	**60**	*e*P	**Pn**	**07 35 47.6**	**+1.0**
PTEO				*e*S	**Sn**	**07 35 54.1**	**0.0**
PTEO				A	A	07 35 55.0	
	comp=E,17nm,0.2s						
MESJ	**Messejana**	**1.00**	**57**	*e*P	**Pn**	**07 35 54.3**	**+0.9**
MESJ				*e*S	**Sn**	**07 36 04.9**	**-1.4**
MESJ				A	A	07 36 06.3	
	comp=E,4.1nm,0.4s						
MESJ	**Messejana**	**1.00**	**57**	*e*P	**Pn**	**07 35 54.3**	**+0.9**
MESJ				*e*S	**Sn**	**07 36 05.6**	**-0.7**
MESJ				IAML		07 36 07.5	
	comp=N,2.6nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.07**	**92**	*e*P	**Pn**	**07 35 56.4**	**+1.9**
PBDV				*e*S	**Sn**	**07 36 09.1**	**+0.9**
PBDV				A	A	07 36 11.0	
	comp=N,5.9nm,0.3s						
PVAQ	**Vaqueiros**	**1.25**	**85**	*e*P	**Pn**	**07 35 58.3**	**+1.5**
PVAQ				*e*S	**Sn**	**07 36 12.0**	**-0.4**
PVAQ				A	A	07 36 14.4	
	comp=N,6.4nm,0.3s						
PVAQ	**Vaqueiros**	**1.25**	**85**	Pn	**Pn**	**07 35 58.3**	**+1.5**
PVAQ				Sn	**Sn**	**07 36 11.8**	**-0.6**
PVAQ	**Vaqueiros**	**1.25**	**85**	P	**Pn**	**07 35 58.5**	**+1.7**
PVAQ	**Vaqueiros**	**1.25**	**85**	S	**Sn**	**07 36 10.7**	**-1.7**
PBEJ	**Beja**	**1.33**	**56**	*e*P	**Pn**	**07 35 58.8**	**+0.7**
PBEJ				*e*S	**Sn**	**07 36 15.5**	**+0.9**
EGRO	**El Granado**	**1.45**	**80**	Pn	**Pn**	**07 36 00.7**	**+1.1**
EGRO				Sn	**Sn**	**07 36 16.3**	**-1.0**
EGRO	**El Granado**	**1.45**	**80**	Pg	**Pn**	**07 36 00.7**	**+1.1**
EGRO				Sg	**Sn**	**07 36 16.3**	**-1.0**
EGRO				*i* Vmb_Lg		07 36 26.5	
EVO	**Evora**	**1.59**	**39**	*e*P	**Pn**	**07 36 02.4**	**+0.8**
EVO				*e*S	**Sn**	**07 36 19.4**	**-1.5**
EVO				A	A	07 36 22.1	
	comp=N,5.3nm,0.1s						
EVO	**Evora**	**1.59**	**39**	Pn	**Pn**	**07 36 02.3**	**+0.8**
EVO				Sn	**Sn**	**07 36 19.4**	**-1.5**
PMAFR	**Mafra**	**1.66**	**360**	Pn	**Pn**	**07 36 04.4**	**+1.9**
PMTG	**Montargil**	**1.96**	**25**	*e*P	**Pn**	**07 36 07.7**	**+1.1**
PMTG				*e*S	**Sn**	**07 36 29.2**	**-0.7**
PBAR	**Barrancos**	**1.98**	**63**	*e*P	**Pn**	**07 36 07.9**	**+1.0**
PBAR				*e*S	**Sn**	**07 36 30.5**	**0.0**
PBAR	**Barrancos**	**1.98**	**63**	Pn	**Pn**	**07 36 07.9**	**+1.0**
PESTR	**Estremoz**	**2.06**	**40**	*e*S	**Sn**	**07 36 31.5**	**-1.0**
PESTR	**Estremoz**	**2.06**	**40**	Pn	**Pn**	**07 36 08.4**	**+0.4**
EMIN	**Mina Concepcio**	**2.12**	**76**	Pn	**Pn**	**07 36 09.9**	**+1.0**
EMIN	**Mina Concepcio**	**2.12**	**76**	Pg	**Pn**	**07 36 10.4**	**+1.5**
EMIN				Sg	**Sn**	**07 36 33.4**	**-0.6**
EMIN				*i* Vmb_Lg		07 36 36.8	
EBAD	**Badajoz**	**2.31**	**50**	Pn	**Pn**	**07 36 11.8**	**+0.4**
EBAD	**Badajoz**	**2.31**	**50**	Pg	**Pn**	**07 36 11.8**	**+0.4**
EBAD				Sg	**Sn**	**07 36 37.7**	**-0.9**
EBAD				*i* Vmb_Lg		07 36 41.1	
ESPR	**Espera**	**2.77**	**98**	Sn	**Sn**	**07 36 49.5**	**-0.4**
ECAB	**El Cabril**	**3.16**	**75**	Pn	**Pn**	**07 36 24.4**	**+1.3**
ECAB	**El Cabril**	**3.16**	**75**	Pn	**Pn**	**07 36 24.4**	**+1.3**
ECAB				Sn	**Sn**	**07 36 57.8**	**-1.8**
ECAB				*i* Vmb_Lg		07 37 03.4	
EPLA	**Plasencia**	**3.73**	**41**	Sn	**Sn**	**07 37 12.4**	**-1.3**
EPLA				*i* Vmb_Lg		07 37 13.9	
EADA	**Adamuz**	**3.82**	**75**	Pn	**Pn**	**07 36 33.1**	**+0.7**
EADA				Sn	**Sn**	**07 37 13.8**	**-2.2**
EADA	**Adamuz**	**3.82**	**75**	Pn	**Pn**	**07 36 33.1**	**+0.7**
EADA				Sn	**Sn**	**07 37 15.6**	**-0.5**
EADA				*i* Vmb_Lg		07 37 17.7	
PAB	**San Pablo**	**4.47**	**58**	Pn	**Pn**	**07 36 42.1**	**+0.8**
PAB				Sn	**Sn**	**07 37 29.9**	**-2.2**
PAB				*i* Vmb_Lg		07 37 50.9	
PSIM	**Granatula de C**	**4.61**	**69**	Pn	**Pn**	**07 36 44.1**	**+0.9**
PSIM				Sn	**Sn**	**07 37 35.0**	**-0.6**
MD31	**MD31**	**5.76**	**139**	P	**Pn**	**07 36 59.9**	**+0.9**
MD31	**MD31**	**5.76**	**139**	S	**Sn**	**07 38 00.6**	**-3.4**
MDT	**Midelt**	**5.88**	**138**	P	**Pn**	**07 37 01.5**	**+0.8**
MDT	**Midelt**	**5.88**	**138**	S	**Sn**	**07 38 03.4**	**-3.6**

*NEIC **24** 07:48:25.9±1.1, 19°.49N±0°.07×64°.81W±0°.06, h35km±2km, ML2.9/32, Md3.7/14(RSPR), Error ellipse: s-maj=13.4km s-min=8.3km az=207.0*
*RSPR **24** 07:48:26.1±0.7, 19°.5N±0°.1×64°.81W±0°.08, h46km±10km, Error ellipse: s-maj=18.3km s-min=10.7km az=190.0*

ISC 24 07:48:26.2±2.1, 19°.5N±0°.1×64°.85W±0°.04, h35km, n33, σ0°.89/33, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.64**	**216**		**Pn**	**07 48 52.2**	**-0.4**
HUMP					**Sn**	**07 49 13.0**	**+0.5**
HUMP	**Col San Antoni**	**1.64**	**216**	IAML		07 49 15.3	
	comp=N,136nm,0.2s						
HUMP				IAML		07 49 19.7	
	comp=E,168nm,0.2s						
GCPR	**Guaynabo City**	**1.66**	**225**		**Pn**	**07 48 52.3**	**-0.5**
PDPR	**Patillas Dam,**	**1.84**	**218**		**Pn**	**07 48 54.4**	**-1.0**
SJG	**San Juan**	**1.84**	**222**		**Pn**	**07 48 55.1**	**-0.4**
SJG	**San Juan**	**1.84**	**222**	IAML		07 49 23.6	
	comp=E,73nm,0.4s						
SJG				IAML		07 49 24.3	
	comp=E,78nm,0.4s						
SJG	**San Juan**	**1.84**	**222**	*e*P	**Pn**	**07 48 55.0**	**-0.4**
EMPR	**Esperanza - Ma**	**1.88**	**238**		**Sn**	**07 49 19.1**	**+0.6**
EMPR	**Esperanza - Ma**	**1.88**	**238**		**Pn**	**07 48 54.7**	**-1.3**
EMPR	**Esperanza - Ma**	**1.88**	**238**	IAML		07 49 30.8	
	comp=N,113nm,0.6s						
EMPR				IAML		07 49 32.3	
	comp=E,170nm,0.5s						
AOPR	**Arecibo Observ**	**2.13**	**238**		**Pn**	**07 48 59.4**	**-0.1**
AOPR	**Arecibo Observ**	**2.13**	**238**	IAML		07 49 35.0	
	comp=N,120nm,0.7s						
AOPR	**Arecibo Observ**	**2.13**	**238**	*e*P	**Pn**	**07 48 59.3**	**-0.1**
UUPR	**Utuado, UPR, P**	**2.16**	**236**		**Pn**	**07 48 59.1**	**-0.6**
CELP	**Cerrillos**	**2.16**	**230**		**Pn**	**07 48 59.9**	**+0.1**
CELP					**Sn**	**07 49 25.9**	**+0.6**
CELP	**Cerrillos**	**2.16**	**230**	IAML		07 49 33.7	
	comp=E,50nm,0.6s						
CELP				IAML		07 49 33.8	
	comp=N,44nm,0.4s						
OBIP	**Obispado Ponce**	**2.20**	**230**		**Pn**	**07 49 00.5**	**+0.2**
OBIP					**Sn**	**07 49 26.9**	**+0.6**
OBIP	**Obispado Ponce**	**2.20**	**230**	IAML		07 49 30.7	
	comp=N,42nm,0.6s						
OBIP				IAML		07 49 36.1	
	comp=E,48nm,0.5s						
AGPR	**Aguadilla, PR**	**2.37**	**245**		**Pn**	**07 49 02.3**	**-0.3**
AGPR	**Aguadilla, PR**	**2.37**	**245**	IAML		07 49 55.7	
	comp=N,61nm,2.0s						
AGPR				IAML		07 50 31.9	
	comp=E,42nm,2.2s						
SABA	**Saba**	**2.40**	**140**	Pn	**Pn**	**07 49 01.9**	**-1.1**
SABA				IAML		07 49 52.7	
	comp=N,102nm,0.7s						
LSP	**Las Mesas**	**2.49**	**239**		**Pn**	**07 49 04.5**	**+0.1**
LSP					**Sn**	**07 49 34.1**	**+0.6**
PRSN	**Puerto Rico Se**	**2.52**	**240**	Pn	**Pn**	**07 49 02.6**	**-2.1**
PRSN				IAML		07 49 30.3	
	comp=N,104nm,0.3s						
PRSN				IAML		07 49 41.4	
	comp=E,71nm,0.2s						
MLPR	**Magueyes Islan**	**2.57**	**234**		**Pn**	**07 49 05.5**	**+0.1**
MLPR					**Sn**	**07 49 35.5**	**0.0**
CRPR	**Cabo Rojo, PR**	**2.60**	**236**		**Pn**	**07 49 06.0**	**+0.2**
IDE	**Isla Desecheo**	**2.72**	**247**		**Sn**	**07 49 40.3**	**+1.1**
SKI	**Saint Kitts**	**2.93**	**137**	*e*P	**Pn**	**07 49 08.6**	**-1.8**
SKI				*e*S	**Sn**	**07 49 46.7**	**+2.3**
ANWB	**Willy Bob**	**3.42**	**121**	*e*P	**Pn**	**07 49 18.1**	**+1.1**
ANWB				*e*S	**Sn**	**07 49 57.0**	**+0.6**
PCDR	**Punta Cana, DR**	**3.48**	**254**		**Pn**	**07 49 17.4**	**-0.6**
PCDR	**Punta Cana, DR**	**3.48**	**254**		**Sn**	**07 49 58.1**	**+0.1**
MBFL	**Flemmings, Mon**	**3.70**	**137**	*e*P	Pn	07 49 25.1	+4.2
ANBD	**Bethesda, Anti**	**3.80**	**129**	*e*P	**Pn**	**07 49 22.0**	**-0.4**
ANBD				*e*S	**Sn**	**07 50 05.3**	**-0.5**
GDHS	**Morne Mazeau,**	**4.34**	**137**	Pn	**Pn**	**07 49 28.9**	**-0.9**

*THE **24** 07:56:03.9, 37°.62N×20°.65E, h8km±1km, ML3.4/10, Error ellipse: s-maj=1.8km s-min=0.6km az=45.0*
*ATH **24** 07:56:03.5, 37°.60N×20°.61E, h11km±1km, ML3.2/18, Error ellipse: s-maj=1.7km s-min=0.8km az=48.0*

ISC 24 07:56:03.6±1.2, 37°.64N±0°.04×20°.65E±0°.04, h13km±6km, n38, σ0°.58/67, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.13**	**79**	P	**Pb**	**07 56 07.2**	**-0.8**
KRI1				S	**Sg**	**07 56 09.0**	**-0.3**
	66μm,0.3s						
LTHK	**Lithakia**	**0.16**	**63**	P	**Pg**	**07 56 07.6**	**+0.2**
LTHK				S	**Sg**	**07 56 09.9**	**-0.1**
	61μm,0.3s						
LTHK	**Lithakia**	**0.16**	**63**	P	**Pg**	**07 56 07.5**	**+0.2**
LTHK				S	**Sg**	**07 56 10.4**	**+0.4**
LTHK				AML	AML	07 56 10.5	
	comp=E,67837μm,0.2s						
LTHK				AML	AML	07 56 10.8	
RTZL	**Ratzakli, Kefa**	**0.45**	**12**	P	**Pb**	**07 56 12.8**	**-0.6**
RTZL				S	**Sb**	**07 56 19.6**	**-0.4**
	comp=E,5μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.48**	**353**	P	**Pb**	**07 56 13.5**	**-0.4**
PSDA				S	**Sb**	**07 56 20.9**	**0.0**
	comp=E,7μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.48**	**353**	P	**Pb**	**07 56 13.6**	**-0.3**
PSDA				S	**Sb**	**07 56 20.5**	**-0.4**
VLS	**Valsamata**	**0.54**	**355**	P	**Pg**	**07 56 14.3**	**+0.1**
VLS				S	**Sb**	**07 56 22.4**	**-0.3**
	comp=E,3μm,0.3s						
VLS	**Valsamata**	**0.54**	**355**	P	**Pg**	**07 56 14.3**	**+0.1**
VLS				S	**Sb**	**07 56 23.0**	**+0.3**
VLS				AML	AML	07 56 28.0	
	comp=N,6234μm,0.7s						
VLS				AML	AML	07 56 29.9	
	comp=E,4922μm,0.6s						
DMLN	**Damoulianata-K**	**0.64**	**340**	P	**Pg**	**07 56 16.2**	**+0.1**
DMLN				S	**Sb**	**07 56 26.1**	**+0.5**
	comp=E,5μm,0.5s						
DMLN	**Damoulianata-K**	**0.64**	**340**	P	**Pb**	**07 56 16.3**	**-0.3**
DMLN				S	**Sb**	**07 56 25.7**	**+0.2**
RLS	**Riolos of Patr**	**0.77**	**57**	P	**Pb**	**07 56 18.6**	**-0.2**
RLS				S	**Sb**	**07 56 29.7**	**+0.5**
	comp=E,1μm,0.5s						
RLS	**Riolos of Patr**	**0.77**	**57**	P	**Pb**	**07 56 18.7**	**-0.1**
RLS				S	**Sn**	**07 56 30.7**	**-0.9**
RLS				AML	AML	07 56 32.1	
	comp=E,2916μm,0.5s						
RLS				AML	AML	07 56 34.8	
	comp=N,2059μm,0.6s						
VSK1	**VASILIKIADES**	**0.77**	**355**	P	**Pg**	**07 56 18.4**	**-0.2**
VSK1				S	**Sb**	**07 56 29.7**	**+0.3**
	comp=N,4μm,0.6s						
FSK	**Fiskardo**	**0.82**	**355**	P	**Pg**	**07 56 19.3**	**-0.3**
FSK				S	**Sb**	**07 56 32.0**	**+1.1**
	comp=N,2μm,0.6s						
FSK	**Fiskardo**	**0.82**	**355**	P	**Pg**	**07 56 19.2**	**-0.3**
FSK				S	**Sb**	**07 56 31.9**	**+1.1**
FSK				AML	AML	07 56 36.1	
	comp=E,3487μm,0.7s						
FSK				AML	AML	07 56 38.0	
	comp=N,3957μm,1.2s						
AMT	**Artemida-Makis**	**0.84**	**97**	P	**Pb**	**07 56 20.2**	**+0.1**
AMT				S	**Sb**	**07 56 31.4**	**-0.1**
AMT				AML	AML	07 56 39.3	
	comp=E,5076μm,0.4s						
AMT				AML	AML	07 56 44.7	
	comp=N,8077μm,0.5s						
DRO	**Drossia**	**0.89**	**69**	P	**Pb**	**07 56 20.7**	**-0.3**
DRO				S	**Sn**	**07 56 34.8**	**0.0**
DRO				AML	AML	07 56 42.2	
	comp=N,3611μm,0.6s						
DRO				AML	AML	07 56 44.4	
	comp=E,3580μm,0.5s						
EVGI	**Lefkada island**	**0.98**	**0**	P	**Pg**	**07 56 22.0**	**-0.5**
EVGI	**Lefkada island**	**0.98**	**0**	P	**Pg**	**07 56 22.1**	**-0.4**
EVGI				S	**Sn**	**07 56 37.1**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.07**	**2**	P	**Pb**	**07 56 23.6**	**-0.5**
NYDR				S	**Sn**	**07 56 40.7**	**+1.5**
	comp=E,1μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.07**	**2**	P	**Pb**	**07 56 23.5**	**-0.5**
NYDR				S	**Sn**	**07 56 40.3**	**+1.1**
UPR	**University Cam**	**1.10**	**54**	P	**Pn**	**07 56 25.8**	**+1.0**
UPR				S	**Sn**	**07 56 39.8**	**-0.1**
ITM	**Ithomi**	**1.11**	**114**	P	**Pb**	**07 56 24.5**	**-0.2**
ITM				S	**Sg**	**07 56 39.3**	**-0.2**
ITM				AML	AML	07 56 55.7	
	comp=N,1289μm,0.6s						
ITM				AML	AML	07 56 59.2	
	comp=E,1403μm,0.8s						
PYL	**PYLOS**	**1.14**	**130**	P	**Pb**	**07 56 24.7**	**-0.5**
PYL				S	**Sn**	**07 56 40.8**	**0.0**
PYL				AML	AML	07 56 44.3	
	comp=E,1255μm,0.5s						
PYL				AML	AML	07 56 50.1	
	comp=N,866μm,0.8s						
LKD2	**Lefkada island**	**1.15**	**0**	P	**Pg**	**07 56 26.0**	**+0.3**
LKD2	**Lefkada island**	**1.15**	**0**	P	**Pn**	**07 56 25.5**	**0.0**
LKD2				S	**Sg**	**07 56 40.8**	**+0.1**
LKD2				AML	AML	07 56 49.9	
	comp=N,6825μm,0.7s						
LKD2				AML	AML	07 56 52.5	
	comp=E,2842μm,0.7s						
TSLK	**Tsoukalades, L**	**1.19**	**0**	P	**Pn**	**07 56 25.6**	**-0.3**
TSLK	**Tsoukalades, L**	**1.19**	**0**	P	**Pb**	**07 56 25.9**	**-0.1**
TSLK				S	**Sn**	**07 56 43.4**	**+1.5**
TSLK				AML	AML	07 56 50.1	
	comp=E,3488μm,0.6s						
TSLK				AML	AML	07 56 51.3	
	comp=N,4437μm,0.8s						
KLV	**Kalavryta, Ach**	**1.25**	**71**	P	**Pg**	**07 56 27.3**	**-0.4**
KLV				AML	AML	07 56 57.8	
	comp=N,1135μm,0.8s						
KLV				AML	AML	07 57 00.8	
	comp=E,825μm,1.2s						
EFP	**Efpalio**	**1.27**	**51**	P	**Pb**	**07 56 27.2**	**-0.1**
EFP				S	**Sg**	**07 56 45.4**	**+1.0**
EFP				AML	AML	07 56 57.1	
	comp=N,971μm,1.0s						
EFP				AML	AML	07 57 05.1	
	comp=E,1016μm,0.7s						
GUR	**Goura**	**1.37**	**77**	P	**Pg**	**07 56 29.6**	**-0.3**
GUR				S	**Sg**	**07 56 47.2**	**-0.6**
GUR				AML	AML	07 56 59.4	
	comp=N,1374μm,0.7s						
GUR				AML	AML	07 57 01.6	
	comp=E,938μm,0.6s						
ANX	**Ano Chora**	**1.38**	**46**	P	**Pn**	**07 56 28.8**	**+0.1**
KALE	**Kalithea**	**1.39**	**57**	P	**Pb**	**07 56 29.2**	**-0.4**
EVR	**Evrytania**	**1.57**	**35**	P	**Pg**	**07 56 33.7**	**0.0**
EVR				S	**Sg**	**07 56 53.7**	**-0.4**
EVR				AML	AML	07 57 04.3	
	comp=E,956μm,1.1s						
EVR				AML	AML	07 57 20.5	
	comp=N,782μm,1.0s						
IGT	**Igoumenitsa**	**1.91**	**353**	P	**Pb**	**07 56 37.3**	**-1.0**
IGT				S	**Sg**	**07 57 03.6**	**-1.4**
VLI	**Veliai**	**2.04**	**116**	P	**Pb**	**07 56 40.6**	**0.0**
VLI				AML	AML	07 57 33.5	
	comp=E,469μm,1.5s						
VLI				AML	AML	07 57 37.5	
	comp=N,409μm,0.9s						
THL	**Klokotos Trika**	**2.20**	**29**	P	**Pb**	**07 56 42.7**	**-0.6**
THL				AML	AML	07 57 28.8	
	comp=E,394μm,1.3s						
THL				AML	AML	07 57 29.6	
	comp=N,300μm,1.6s						
TYRN	**Tyrnavos**	**2.41**	**30**	P	**Pb**	**07 56 45.8**	**-1.0**

*MEX **24** 08:44:53.9±1.0, 15°.40N×92°.03W, h207km±7km, MD4.4*
*CATAC **24** 08:44:53.6±0.4, 15°.34N×92°.04W, h183km±3km, mb4.2, ML3.5*

ISC 24 08:44:52.2±1.6, 15°.38N±0°.06×92°.00W±0°.06, h202km±10km, n51, σ2°.11/91, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHUJ	**Union Juar

CMIG	**Matias Romero**	**3.25**	**302**	*e*P	**Pn**	**08 45 45.7**	**+0.8**
CMIG				*e*S	**S**	**08 46 24.6**	**-1.0**
SCIG	**Sabancuy**	**3.65**	**12**	*e*P	**Pn**	**08 45 49.7**	**-0.1**
HUIG	**Huatulco**	**3.98**	**276**	*e*P	**Pn**	**08 45 53.9**	**+0.1**
HUIG				*e*S	**S**	**08 46 38.3**	**-3.3**
PACA	**Pacayal**	**4.04**	**118**	*i* P	**Pn**	**08 45 55.1**	**+0.3**
PACA				IAML		08 45 59.7	
comp=Z,390nm,1.0s							
NEUV	**Arroyo Zacate**	**4.32**	**303**	*e*P	**Pn**	**08 45 58.9**	**+0.8**
NEUV				*e*S	**S**	**08 46 47.9**	**-1.4**
PMUV	**Sontecomapan**	**4.34**	**317**	*e*P	**Pn**	**08 45 59.8**	**+1.5**
PMUV				*e*S	**S**	**08 46 47.9**	**-2.0**
VHO	**Vista Hermosa**	**4.84**	**291**	*e*P	**Pn**	**08 46 07.5**	**+2.5**
VHO				*e*S	**S**	**08 47 00.8**	**-0.9**
PEIG	**Puerto Escondi**	**4.99**	**278**	*e*P	**Pn**	**08 46 07.6**	**+0.9**
PEIG				*e*S	**S**	**08 47 03.7**	**-1.2**
YOIG	**Yosondua**	**5.53**	**286**	*e*P	**Pn**	**08 46 16.2**	**+2.5**
YOIG				*e*S	**S**	**08 47 18.2**	**+0.6**
TOIG	**Toxpalan**	**5.55**	**300**	*e*P	**Pn**	**08 46 16.0**	**+2.2**
TOIG				*e*S	**S**	**08 47 17.3**	**-0.7**
TXIG	**Tlaxiaco**	**5.84**	**289**	*e*P	**Pn**	**08 46 20.6**	**+2.9**
TXIG				*e*S	**S**	**08 47 24.7**	**-0.3**
TPIG	**Tehuac#an**	**5.95**	**301**	*e*P	**Pn**	**08 46 21.9**	**+2.8**
TPIG				*e*S	**S**	**08 47 25.2**	**-2.3**
PNIG	**Pinotepa**	**5.98**	**280**	*e*P	**Pn**	**08 46 21.3**	**+2.0**
PNIG				*e*S	**S**	**08 47 25.8**	**-2.1**
JAUV	**Jalcomulco**	**6.06**	**312**	*e*P	**Pn**	**08 46 21.2**	**+0.9**
JAUV				*i* S	**S**	**08 47 25.7**	**-4.1**
HLIG	**Huajuapan de L**	**6.07**	**294**	*e*P	**Pn**	**08 46 23.8**	**+3.2**
HLIG				*e*S	**S**	**08 47 26.1**	**-4.3**
FTIG	**Fresnillo de T**	**6.39**	**294**	*e*P	**Pn**	**08 46 27.9**	**+3.2**
FTIG				*e*S	**S**	**08 47 35.3**	**-2.4**
MGIG	**Malinaltepec**	**6.63**	**287**	*e*P	**Pn**	**08 46 30.9**	**+3.1**
MGIG				*e*S	**S**	**08 47 43.0**	**-0.4**
TLIG	**Tlapa**	**6.66**	**290**	*e*P	**Pn**	**08 46 31.6**	**+3.4**
TLIG				*e*S	**S**	**08 47 42.4**	**-1.7**
TLIG	**Tlapa**	**6.66**	**290**	*i* P	**Pn**	**08 46 31.7**	**+3.5**
TLIG				IAmb	IAmb	08 46 32.6	
comp=Z,21nm,0.5s							
TLIG				*i* S	**S**	**08 47 42.2**	**-1.9**
TLIG				IAML		08 47 50.2	
comp=Z,42nm,1.0s							
CRIG	**Cruz Grande**	**6.99**	**282**	*e*P	**Pn**	**08 46 34.5**	**+2.2**
CRIG				*e*S	**S**	**08 47 48.6**	**-3.0**
CXUV	**Coxquihui**	**7.14**	**313**	*e*P	**Pn**	**08 46 37.8**	**+3.4**
CXUV				*e*S	**S**	**08 47 53.7**	**-1.7**
PPM	**Popocatepetl**	**7.31**	**301**	*e*P	Pn	08 46 42.0	+4.9
PPM				*e*S	**S**	**08 47 57.4**	**-2.8**
DAIG	**Los Arroyos**	**7.53**	**284**	*e*P	**Pn**	**08 46 42.1**	**+2.8**
DAIG				*e*S	**S**	**08 47 58.9**	**-5.6**
YAIG	**Yautepec**	**7.59**	**298**	*e*P	**Pn**	**08 46 44.1**	**+3.8**
YAIG				*e*S	**S**	**08 48 01.8**	**-4.4**
PLIG	**Platanillo**	**7.78**	**294**	*e*P	**Pn**	**08 46 46.7**	**+4.0**
PLIG				*e*S	**S**	**08 48 07.2**	**-3.5**
MAVM	**Malinalco, Edo**	**7.99**	**297**	*e*P	Pn	08 46 34.3	-11
MAVM				*e*S	S	08 48 01.6	-14
CAIG	**El Cayaco**	**8.11**	**283**	*e*P	**Pn**	**08 46 49.2**	**+2.3**
CAIG				*e*S	**S**	**08 48 16.4**	**-2.0**
ARIG	**Puente Sto Nin**	**8.49**	**291**	*e*P	**Pn**	**08 46 56.1**	**+4.1**
ARIG				*e*S	**S**	**08 48 23.1**	**-4.5**

NNC 24 08:45:29.2±5.3, 39°50N×68°20E, h31km±41km, mb3.5, mpv3.1, 7C-3D, Error ellipse: s-maj=37.5km s-min=16.0km az=9.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.00**	**25**	⇓Pn	Pn	08 46 28.8	+0.3
0.6nm,0.3s,baz=205,slow=14,SNR=12							
KK31				⇓Lg	Lg	08 47 36.6	
7.5nm,0.5s,baz=207,slow=28,SNR=9.1							
CHMS	**Chumysh**	**6.05**	**53**	⇑Pn	Pn	08 46 53.9	-2.7
1.3nm,0.5s							
CHMS				⇓Sn	Sn	08 48 05.6	+0.8
7.0nm,0.9s							
TKM2	**Tokmak 2**	**6.54**	**56**	⇑Pn	Pn	08 47 06.4	+2.9
0.9nm,0.5s							
TKM2				⇑Sn	Sn	08 48 17.0	-0.2
1.9nm,1.1s							
AB31	**Akbulak array**	**11.40**	**332**	⇑Pn	Pn	08 48 08.4	-1.4
0.3nm,0.3s,baz=163,slow=11,SNR=24							
AB31				⇑Sn	Sn	08 50 18.8	+2.9
1.1nm,0.7s,baz=152,slow=24,SNR=3.0							
AKTO	**Aktyubinsk**	**13.08**	**330**	⇑Pn	Pn	08 48 32.3	-0.6
0.5nm,0.5s							
AKTO				⇑Sn	Sn	08 50 57.5	+0.3
1.0nm,0.7s							

*NEIC **24** 08:54:39.0±2.6, 84°5N±0°1×10°9E±°, h10km±2km, mb4.2/29, Error ellipse: s-maj=25.3km s-min=20.3km az=159.0*
*IDC **24** 08:54:40.3±1.4, 84°42N×112°14E, h0km, mb4.0/4, mbtmp4.0/4, MS3.3/6, Error ellipse: s-maj=63.1km s-min=25.4km az=136.0*

ISC 24 08:54:40.7±0.7, 84°6N±0°1×110°68E±0°07, h10km, n45, σ1°51/41, mb4.2/19, MS3.3/5, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**8.32**	**278**	*e*P	**Pn**	**08 56 42.7**	**+1.5**
ZFI2				*e*S	**Sn**	**08 58 15.4**	**+0.4**
OMEGA	**Omega**	**8.34**	**278**	P	**Pn**	**08 56 42.4**	**+1.0**
OMEGA				*e*S	**Sn**	**08 58 15.2**	**-0.1**
SPB2	**Spitsbergen Ar**	**13.43**	**298**	Pn	**Pn**	**08 57 48.5**	**-2.4**
EUNU	**Eureka**	**15.28**	**11**	Pn	**Pn**	**08 58 15.4**	**-0.6**
NRIK	**Noril'sk**	**15.93**	**211**	LR	LR	09 05 26.3	
comp=Z,87nm,19.8s,baz=318,slow=41							
B20K	**Meade River**	**21.00**	**74**	P	**P**	**08 59 22.8**	**-0.9**
B20K				IAmb	IAmb	08 59 51.4	
comp=Z,22nm,1.4s							
B22K	**Teshekpuk Lake**	**21.02**	**70**	P	**P**	**08 59 22.0**	**-1.8**
B22K				IAmb	IAmb	08 59 45.3	
comp=Z,17nm,1.3s							
LVZ	**Lovozero**	**21.55**	**269**	P	**P**	**08 59 24.8**	**-4.8**
B21K	**Ikpikpuk River**	**21.61**	**71**	P	**P**	**08 59 30.2**	**+0.1**
B21K				IAmb	IAmb	09 00 02.5	
comp=Z,17nm,1.4s							
A36M	**Sachs Harbour**	**21.62**	**44**	P	**P**	**08 59 32.1**	**+1.8**
C19K	**Lookout Ridge**	**21.66**	**76**	P	**P**	**08 59 30.6**	**-0.2**
C19K				IAmb	IAmb	09 00 05.8	
comp=Z,19nm,1.3s							
C23K	**Itkillik River**	**21.75**	**68**	P	**P**	**08 59 30.6**	**-1.2**
C23K				IAmb	IAmb	09 00 04.8	
comp=Z,15nm,1.4s							
D19K	**Kuna River**	**22.39**	**75**	P	**P**	**08 59 37.3**	**-1.3**
D22K	**Ayikyak River**	**22.50**	**70**	P	**P**	**08 59 40.0**	**+0.2**
D22K				IAmb	IAmb	09 00 19.5	
comp=Z,8.8nm,1.2s							
D23K	**Nanushuk River**	**22.59**	**68**	P	**P**	**08 59 40.1**	**-0.7**
E21K	**Killik River**	**22.81**	**72**	P	**P**	**08 59 41.2**	**-1.9**
E21K				IAmb	IAmb	08 59 53.0	
comp=Z,13nm,1.4s							
E22K	**Anaktuvuk Pass**	**23.31**	**70**	P	**P**	**08 59 48.4**	**+0.2**
E22K				IAmb	IAmb	09 00 03.0	
comp=Z,9.4nm,1.4s							
E19K	**Redstone River**	**23.48**	**75**	P	**P**	**08 59 49.5**	**-0.3**
E19K				IAmb	IAmb	09 00 25.8	
comp=Z,14nm,1.5s							
E23K	**Chandalar**	**23.57**	**68**	P	**P**	**08 59 50.9**	**-0.1**
E23K				IAmb	IAmb	09 00 19.0	
comp=Z,7.7nm,1.4s							
F20K	**Avaraart Lake**	**24.02**	**74**	P	**P**	**08 59 54.0**	**-1.1**
E29M	**Blow River**	**24.23**	**57**	P	**P**	**08 59 58.2**	**+1.2**
C36M	**Paulatuk**	**24.30**	**45**	P	**P**	**08 59 59.2**	**+1.5**
C36M				IAmb	IAmb	09 00 36.4	
comp=Z,9.2nm,1.4s							
INK	**Inuvik**	**24.65**	**53**	P	**P**	**09 00 01.6**	**+0.8**
F31M	**Tsiigehtchic**	**25.49**	**54**	P	**P**	**09 00 09.1**	**+0.7**
H21K	**Melozitna Rive**	**25.64**	**72**	P	**P**	**09 00 09.4**	**-0.5**
H21K				IAmb	IAmb	09 00 17.3	
comp=Z,11nm,1.4s							
G29M	**Pine Creek**	**25.67**	**58**	P	**P**	**09 00 11.2**	**+1.0**
G29M				IAmb	IAmb	09 00 14.3	
comp=Z,8.0nm,1.2s							
H23K	**Yukon River**	**25.77**	**69**	P	**P**	**09 00 12.6**	**+1.6**
H23K				IAmb	IAmb	09 00 24.3	
comp=Z,8.3nm,1.4s							
I30M	**Mount Dempster**	**27.47**	**57**	P	**P**	**09 00 27.4**	**+0.9**
RIDG	**Independent Ri**	**28.23**	**66**	P	**P**	**09 00 33.8**	**+0.6**
FINES	**FINESS Array B**	**28.68**	**275**	P	**P**	**09 00 34.1**	**-2.9**
FINES	**FINESS Array B**	**28.68**	**275**	P	**P**	**09 00 38.9**	**+1.9**
comp=Z,2.5nm,0.9s,baz=29,slow=8.8,SNR=2.0							
comp=Z,2.5nm,0.9s							
BCAR	**Beaver Creek A**	**29.15**	**63**	P	**P**	**09 00 41.8**	**+0.4**
L27K	**Beaver Creek,**	**29.15**	**63**	P	**P**	**09 00 41.0**	**-0.4**
ARTI	**Arti**	**30.74**	**239**	LR	LR	09 14 24.9	
comp=Z,58nm,18.6s,baz=360,slow=38							
BVAR	**Borovoye Array**	**33.18**	**226**	LR	LR	09 17 07.1	
comp=Z,32nm,18.8s,baz=321,slow=41							
AKTO	**Aktyubinsk**	**36.67**	**238**	P	**P**	**09 01 49.3**	**+2.3**
comp=Z,1.3nm,0.5s,baz=26,slow=8.7,SNR=4.2							
comp=Z,1.3nm,0.5s							
MKAR	**Makanchi Array**	**38.69**	**212**	P	**P**	**09 02 03.9**	**-0.2**
comp=Z,1.3nm,0.8s,baz=10,slow=7.4,SNR=5.4							
comp=Z,1.3nm,0.8s							
USA0B	**Ussuriysk Arra**	**40.97**	**157**	P	**P**	**09 02 21.7**	**-1.4**
USRK	**Ussuriysk Ar.**	**40.97**	**157**	P	**P**	**09 02 21.7**	**-1.4**
NEW	**Newport**	**45.72**	**44**	LR	LR	09 25 24.3	
comp=Z,41nm,18.0s,baz=46,slow=40							
YBH	**Yreka Blue Hor**	**51.83**	**50**	LR	LR	09 25 32.5	
comp=Z,18nm,21.2s,baz=18,slow=36							
VHRN	**Van Horn**	**63.84**	**34**	P	**P**	**09 05 14.1**	**+1.2**
OZNA	**Ozona**	**63.90**	**30**	P	**P**	**09 05 14.5**	**+1.3**
OZNA				IAmb	IAmb	09 05 50.9	
comp=Z,3.5nm,1.5s							
TXAR	**Lajitas Array**	**65.35**	**33**	P	**P**	**09 05 24.6**	**+1.8**
comp=Z,0.7nm,0.6s,baz=352,slow=4.2,SNR=11							
comp=Z,0.7nm,0.6s							
JTS	**Las Juntas de**	**85.01**	**15**	LR	LR	09 46 32.3	
comp=Z,34nm,18.0s,baz=40,slow=36							

*NEIC **24** 09:27:44.9±1.9, 17°5S±0°1×178°8W±0°1, h542km±8km, mb4.2/69, Error ellipse: s-maj=16.8km s-min=14.7km az=145.0*
*IDC **24** 09:27:45.1±0.8, 17°81S×178°59W, h546km±8km, mb3.6/15, mbtmp4.5/16, Error ellipse: s-maj=15.3km s-min=12.1km az=137.0*

ISC 24 09:27:44.6±0.4, 17°59S±0°08×178°71W±0°08, h547km, n99, σ1°28/91, mb4.2/53, 4C-1d, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.09**	**267**	P	**P**	**09 29 00.2**	**+0.1**
MSVF	**Nonsavu**	**3.09**	**267**	P	**P**	**09 29 00.3**	**+0.2**
191nm,0.9s,baz=113,slow=5.5,SNR=56							
MSVF				S	**S**	**09 30 04.6**	**+3.1**
55nm,1.1s,baz=356,slow=23,SNR=18							
FUTU	**Fugatoga**	**3.31**	**10**	P	**P**	**09 28 59.7**	**-1.8**
AFI	**Afiamalu**	**7.61**	**62**	P	**P**	**09 29 34.6**	**-4.0**
NIUE	**Niue**	**8.47**	**101**	P	**P**	**09 29 45.2**	**-1.8**
FUNA	**Funafuti**	**9.24**	**347**	P	**P**	**09 29 52.5**	**-2.4**
DZM	**Mont Dzumac**	**14.66**	**250**	P	**P**	**09 30 49.9**	**-0.9**
KOUNC	**Koumac, New Ca**	**16.34**	**257**	P	**P**	**09 31 07.0**	**-0.5**
URZ	**Urewera**	**20.91**	**189**	P	**P**	**09 31 45.8**	**-3.1**
8.0nm,0.6s,baz=353,slow=3.1,SNR=13							
8.0nm,0.6s							
THZ	**Tophouse**	**25.14**	**195**	P	**P**	**09 32 26.4**	**-0.3**
PPT	**Papeete**	**27.76**	**94**	P	**P**	**09 32 49.1**	**-0.9**
15nm,0.7s,baz=98,slow=4.7,SNR=6.1							
15nm,0.7s							
EIDS	**Eidsvold**	**29.11**	**249**	P	**P**	**09 33 01.2**	**-0.4**
MLZ	**Mavora Lakes**	**29.80**	**199**	P	**P**	**09 33 07.5**	**+0.1**
ARMA	**Armidale**	**29.85**	**239**	P	**P**	**09 33 08.6**	**+0.5**
ARMA				IAmb	IAmb	09 33 34.1	
comp=Z,12nm,1.1s							
CTAO	**Charters Tower**	**33.22**	**260**	P	**P**	**09 33 34.1**	**-2.7**
CTAO				IAmb	IAmb	09 33 37.3	
comp=Z,5.2nm,1.0s							
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**09 34 20.7**	**+0.1**
comp=Z,2.1nm,0.7s,baz=109,slow=13,SNR=3.7							
comp=Z,2.1nm,0.7s							
BBOO	**Buckleboo**	**43.31**	**241**	P	**P**	**09 34 58.8**	**+0.2**
WB0	**Warramunga Arr**	**44.37**	**260**	P	**P**	**09 35 05.9**	**-1.2**
WB2	**Warramunga Arr**	**44.40**	**259**	P	**P**	**09 35 05.2**	**-2.0**
WRAB	**Tennant Creek**	**44.40**	**259**	P	**P**	**09 35 06.4**	**-0.8**
WRA	**Warramunga Arr**	**44.41**	**259**	P	**P**	**09 35 06.3**	**-1.0**
WRA	**Warramunga Arr**	**44.41**	**259**	P	**P**	**09 35 07.0**	**-0.3**
comp=Z,0.6nm,0.6s,baz=96,slow=7.5,SNR=9.0							
WRA				PcP	**PcP**	**09 36 40.0**	**+0.8**
comp=Z,0.2nm,0.4s,baz=92,slow=3.3,SNR=6.9							
WRA				ScP	**ScP**	**09 39 41.7**	**+2.3**
comp=Z,0.5nm,0.7s,baz=92,slow=3.9,SNR=3.8							
comp=Z,0.6nm,0.6s							
AS31	**Alice Springs**	**44.60**	**254**	P	**P**	**09 35 06.9**	**-1.9**
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**09 35 07.2**	**-1.5**
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**09 35 09.1**	**+0.3**
comp=Z,7.2nm,0.7s,baz=89,slow=8.1,SNR=70							
ASAR				PcP	**PcP**	**09 36 40.7**	**+0.8**
comp=Z,1.7nm,0.7s,baz=104,slow=4.2,SNR=6.5							
comp=Z,7.2nm,0.7s							
FORT	**Forrest**	**49.88**	**244**	P	**P**	**09 35 48.0**	**-0.3**
FAKI	**Fak Fak**	**50.23**	**281**	P	**P**	**09 35 48.8**	**-2.4**
SBA	**Scott Base**	**60.72**	**183**	P	**P**	**09 37 04.1**	**+1.3**
SBA				IAmb	IAmb	09 37 33.4	
comp=Z,8.5nm,1.1s							
JSG	**Sagara**	**66.18**	**322**	P	**P**	**09 37 37.8**	**-0.7**
CASY	**Casey**	**66.30**	**205**	P	**P**	**09 37 39.4**	**+0.8**
CASY				IAmb	IAmb	09 37 40.8	
comp=Z,11nm,0.8s							
QSPA	**South Pole Qui**	**72.46**	**180**	P	**P**	**09 38 16.5**	**+0.8**
QSPA	**South Pole Qui**	**72.46**	**180**	P	**P**	**09 38 16.0**	**+0.3**
comp=Z,13nm,0.8s,baz=334,slow=0.5,SNR=66							
comp=Z,13nm,0.8s							
PETK	**Petropavlovsk-**	**73.30**	**345**	P	**P**	**09 38 21.4**	**+0.9**
comp=Z,3.9nm,0.8s,baz=101,slow=7.7,SNR=4.1							
comp=Z,3.9nm,0.8s							
S12K	**Black Hills**	**74.36**	**10**	P	**P**	**09 38 26.3**	**0.0**
CHGN	**Chignik**	**75.57**	**12**	P	**P**	**09 38 33.1**	**+0.1**
KMRM	**Mail Ridge**	**76.96**	**40**	P	**P**	**09 38 43.0**	**+1.8**
KMRM				IAmb	IAmb	09 39 08.9	
comp=Z,16nm,1.0s							
OHAK	**Old Harbor**	**77.50**	**14**	P	**P**	**09 38 44.5**	**+0.9**
OHAK				IAmb	IAmb	09 39 09.8	
comp=Z,18nm,1.1s							
CMB	**Columbia Colle**	**77.81**	**43**	P	**P**	**09 38 46.9**	**+1.1**
YBH	**Yreka Blue Hor**	**78.46**	**39**	P	**P**	**09 38 50.8**	**+1.4**
PNTR	**Pine Nut**	**78.90**	**43**	P	**P**	**09 38 53.6**	**+1.7**
N15K	**Kwethluk River**	**78.94**	**9**	P	**P**	**09 38 52.1**	**+0.8**
N15K				IAmb	IAmb	09 39 03.0	
comp=Z,20nm,1.1s							
L04D	**Klamath Falls**	**78.99**	**39**	P	**P**	**09 38 53.3**	**+1.1**
L04D				IAmb	IAmb	09 38 54.2	
comp=Z,14nm,0.9s							
DSP	**Deep Springs**	**79.06**	**45**	P	**P**	**09 38 54.1**	**+1.7**
DSP				IAmb	IAmb	09 38 54.8	
comp=Z,6.5nm,1.0s							
NVAR	**Mina Array Bea**	**79.40**	**44**	P	**P**	**09 38 55.5**	**+1.0**
comp=Z,3.4nm,0.7s,baz=224,slow=9.3,SNR=29							
comp=Z,3.4nm,0.7s							
GMN	**Gold Mountain**	**79.50**	**45**	P	**P**	**09 38 56.6**	**+1.4**
O18K	**Koktuh Hills**	**79.50**	**12**	P	**P**	**09 38 54.6**	**+0.2**
KVN	**Kaiserville**	**79.86**	**44**	P	**P**	**09 38 57.9**	**+0.9**
KVN				IAmb	IAmb	09 38 58.2	
comp=Z,4.2nm,0.7s							
TPH	**Tonopah**	**79.93**	**45**	P	**P**	**09 38 58.4**	**+1.1**
TPH				IAmb	IAmb	09 39 03.2	
comp=Z,12nm,1.0s							
J05D	**Fort Rock, OR**	**80.25**	**39**	P	**P**	**09 39 00.3**	**+1.4**
J05D				IAmb	IAmb	09 39 01.0	
comp=Z,11nm,0.7s							
PINE	**Pine Mountain**	**80.72**	**38**	P	**P**	**09 39 02.7**	**+1.4**
PINE				IAmb	IAmb	09 39 03.1	
comp=Z,7.7nm,0.9s							
TIA	**Tai'an**	**80.82**	**312**	P	**P**	**09 39 01.5**	**-0.3**
TIA				pmax	pmax		
comp=Z,9.0nm,2.4s							
PRN	**Pahroc Range**	**81.06**	**46**	P	**P**	**09 39 03.6**	**+0.5**
PRN				IAmb	IAmb	09 39 05.6	
comp=Z,5.1nm,0.9s							
J08A	**Circle Bar Ran**	**81.96**	**40**	P	**P**	**09 39 08.3**	**+0.7**
J08A				IAmb	IAmb	09 39 09.5	
comp=Z,8.6nm,1.1s							
J17K	**VABM Dome**	**82.17**	**9**	P	**P**	**09 39 08.7**	**+0.7**
J17K				IAmb	IAmb	09 39 36.1	
comp=Z,5.8nm,1.1s							
X16A	**Lo Mia Camp, P**	**82.20**	**50**	IAmb	IAmb	09 39 11.7	
comp=Z,5.4nm,0.9s							
KNB	**Kanab**	**82.43**	**47**	IAmb	IAmb	09 39 12.5	
comp=Z,5.3nm,0.9s							
PSUT	**Pine Spring**	**82.44**	**46**	P	**P**	**09 39 11.3**	**+1.0**
PSUT				IAmb	IAmb	09 39 12.1	
comp=Z,4.4nm,0.8s							
319A	**Douglas**	**82.47**	**54**	P	**P**	**09 39 11.9**	**+1.4**
319A				IAmb	IAmb	09 39 13.4	
comp=Z,6.9nm,0.9s							
BELA	**Belgrano 2**	**82.51**	**173**	P	**P**	**09 39 10.0**	**+0.3**
U15A	**North Rim**	**82.52**	**48**	IAmb	IAmb	09 39 13.3	
comp=Z,7.0nm,0.8s							
J18K	**Innoko River**	**82.60**	**10**	P	**P**	**09 39 11.0**	**+0.9**
J18K				IAmb	IAmb	09 39 11.7	
comp=Z,3.9nm,0.7s							
ELK	**Elko**	**82.62**	**43**	IAmb	IAmb	09 39 13.0	
comp=Z,4.5nm,0.9s							
G08A	**Pilot Rock**	**82.74**	**38**	P	**P**	**09 39 12.7**	**+1.2**
G08A				IAmb	IAmb	09 39 12.9	
comp=Z,5.7nm,1.0s							
WUAZ	**Wupatki**	**82.76**	**49**	IAmb	IAmb	09 39 14.3	
comp=Z,6.7nm,1.1s							
HAWA	**Hanford**	**83.02**	**37**	P	**P**	**09 39 13.9**	**+1.1**
CAST	**Castle Rocks**	**83.38**	**12**	IAmb	IAmb	09 39 13.9	
comp=Z,9.0nm,0.8s							
N25K	**Chitina, Valde**	**83.47**	**16**	P	**P**	**09 39 15.4**	**+0.7**
RND	**Reindeer**	**84.03**	**13**	P	**P**	**09 39 17.9**	**+0.6**
MAW	**Mawson**	**84.06**	**200**	P	**P**	**09 39 17.8**	**+0.3**
comp=Z,3.6nm,0.6s,baz=138,slow=5.6,SNR=8.7							
comp=Z,3.6nm,0.6s							
M26K	**Nabesna, AK**	**84.56**	**16**	IAmb	IAmb	09 39 21.9	
comp=Z,7.6nm,1.0s							
HLID	**Hailey**	**84.58**	**41**	IAmb	IAmb	09 39 23.3	
comp=Z,3.4nm,0.9s							
S34M	**Telegraph Cree**	**84.87**	**23**	IAmb	IAmb	09 39 23.7	
comp=Z,6.7nm,0.8s							
HDA	**Harding Lake**	**85.32**	**13**	IAmb	IAmb	09 39 24.6	
comp=Z,4.4nm,0.5s							
ILAR	**Eielson Array**	**85.64**	**13**	P	**P**	**09 39 24.8**	**-0.3**
comp=Z,1.6nm,0.6s,baz=224,slow=5.2,SNR=29							
comp=Z,1.6nm,0.6s							
TX31	**Lajitas Ar. Si**	**86.07**	**58**	IAmb	IAmb	09 39 30.7	
comp=Z,4.3nm,0.9s							
TXAR	**Lajitas Array**	**86.07**	**58**	P	**P**	**09 39 30.2**	**+2.1**
TXAR	**Lajitas Array**	**86.07**	**58**	P	**P**	**09 39 30.1**	**+2.0**
comp=Z,2.4nm,0.7s,baz=216,slow=6.3,SNR=36							
comp=Z,2.4nm,0.7s							
DLMT	**Dillon**	**86.60**	**40**	IAmb	IAmb	09 39 32.3	
comp=Z,3.6nm,0.8s							
HHC	**Hu-ho-hao-te**	**86.85**	**315**	*e*P	**P**	**09 39 31.1**	**-0.4**
HHC				sP	sP	09 42 23.1	-2.1
HHC				pmax	pmax		
comp=Z,8.0nm,0.7s							
HHC				pmax	pmax		
comp=Z,150nm,5.6s							
YHL	**Hebgen Lake**	**87.24**	**41**	IAmb	IAmb	09 39 36.3	
comp=Z,5.1nm,0.8s							
PDAR	**Pinedale Array**	**87.32**	**44**	P	**P**	**09 39 34.6**	**+0.7**
comp=Z,1.4nm,0.5s,baz=214,slow=3.2,SNR=22							
comp=Z,1.4nm,0.5s							
BMAR	**Burnt Mountain**	**88.41**	**13**	P	**P**	**09 39 39.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**88.51**	**290**	P	**P**	**09 39 42.0**	**+2.4**
comp=Z,0.6nm,0.3s,baz=106,slow=2.5,SNR=6.2							
comp=Z,0.6nm,0.3s							
PZH	**PanZhiHua**	**88.75**	**298**	P	**P**	**09 39 41.0**	**+0.2**
PZH				pmax	pmax		
comp=Z,10.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,130nm,4.9s							
ELIB	**Princess Elisa**	**89.44**	**187**	*d*P	**P**	**09 39 43.2**	**0.0**
comp=Z,8.5nm,0.7s							
TROLL	**Troll, Antarti**	**90.62**	**180**	⇑P	**P**	**09 39 48.4**	**-0.2**
comp=Z,327nm,0.5s							
SNAA	**Sanae**	**90.92**	**179**	⇑P	**P**	**09 39 48.6**	**-1.4**
comp=Z,56nm,0.5s							
SNAA	**Sanae**	**90.92**	**179**	P	**P**	**09 39 49.6**	**-0.3**
comp=Z,2.1nm,0.5s,baz=197,slow=12,SNR=16							
comp=Z,2.1nm,0.5s							
VNA3	**Neumayer Olymp**	**91.07**	**176**	⇑P	**P**	**09 39 50.5**	**0.0**
comp=Z,16nm,0.7s							
VNA1	**Neumayer--Stat**	**91.74**	**177**	⇑P	**P**	**09 39 54.2**	**+0.6**
comp=Z,17nm,1.1s							
YKA	**Yellowknife Ar**	**94.17**	**25**	P	**P**	**09 40 04.8**	**+0.2**
comp=Z,1.0nm,0.8s,baz=251,slow=4.5,SNR=4.9							
comp=Z,1.0nm,0.8s							
DRK	**Karamyk**	**115.88**	**306**		**PKPdf**	**09 45 25.3**	**-0.7**
BRTR	**Keskin Array B**	**144.36**	**315**	PKP	**PKPab**	**09 46 19.9**	**+0.5**
comp=Z,1.8nm,0.8s,baz=69,slow=1.7,SNR=8.8							
CLL	**Collm**	**145.09**	**347**	*i* PKPbc	**P

KNRA Kununurra 17.38 176 P P 09 45 45.5 +0.5
KNRA IAmb IAmb 09 45 48.8
comp=Z,6.6nm,0.7s
FITZ Fitzroy Crossi 19.85 186 P P 09 46 11.0 -0.9
comp=Z,0.8nm,0.3s,baz=299,slow=9.5,SNR=1.6
COEN Coen 21.95 136 P P 09 46 34.0 -0.4
WB0 Warramunga Arr 22.42 163 P P 09 46 39.1 +0.1
WRAB Tennant Creek 22.56 163 P P 09 46 40.5 +0.3
WRA Warramunga Arr 22.57 163 P P 09 46 39.1 -1.3
WRA Warramunga Arr 22.57 163 P P 09 46 40.3 -0.1
comp=Z,10nm,0.6s,baz=337,slow=10,SNR=87
WRA PcP **PcP 09 50 28.5 -0.2**
comp=Z,0.3nm,0.4s,baz=335,slow=2.2,SNR=2.4
WRA S **S 09 50 38.4 +1.8**
comp=Z,0.5nm,0.7s,baz=338,slow=20,SNR=4.0
comp=Z,10nm,0.6s
WB2 Warramunga Arr 22.57 163 P P 09 46 40.6 +0.2
WR0 Warramunga Arr 22.64 163 P P 09 46 41.1 +0.1
WR0 IAmb IAmb 09 46 41.9
comp=Z,5.8nm,0.8s
MBWA Marble Bar 24.07 198 P P 09 46 54.1 0.0
MBWA IAmb IAmb 09 46 54.9
comp=Z,9.5nm,0.9s
PSA00 Pilbara Seismi 24.42 198 P P 09 46 57.4 +0.1
PSA00 IAmb IAmb 09 47 04.9
comp=Z,11nm,1.1s
AS31 Alice Springs 26.02 167 P P 09 47 11.3 -0.5
AS31 IAmb IAmb 09 47 17.7
comp=Z,1.7nm,0.3s
ASAR Alice Springs 26.02 167 P P 09 47 11.3 -0.5
ASAR Alice Springs 26.02 167 P P 09 47 11.7 -0.1
comp=Z,1.1nm,0.3s,baz=342,slow=7.4,SNR=37
ASAR PcP **PcP 09 50 36.0 -0.1**
comp=Z,0.6nm,0.6s,baz=357,slow=2.4,SNR=6.0
comp=Z,1.1nm,0.3s
EIDS Eidsvold 35.27 141 P P 09 48 31.9 -1.2
EIDS IAmb IAmb 09 48 54.7
comp=Z,5.2nm,1.1s
BBOO Buckleboo 35.31 168 P P 09 48 32.9 -0.3
NWAO Narrogin (SRO) 35.89 195 P P 09 48 37.8 -0.4
STKA Stephens Creek 36.00 160 P P 09 48 39.5 +0.4
STKA Stephens Creek 36.00 160 P P 09 48 40.0 +0.8
comp=Z,2.8nm,0.5s,baz=329,slow=8.3,SNR=6.0
comp=Z,2.8nm,0.5s
BJT Baijiatuan 39.47 346 P P 09 49 07.1 -1.1
BJT IAmb IAmb 09 49 09.0
comp=Z,2.7nm,0.6s
HIA Hailar 47.79 353 P P 09 50 12.8 -1.8
HIA IAmb IAmb 09 50 13.1
comp=Z,4.2nm,0.5s
SONM Songino Array 49.42 341 P P 09 50 28.2 +0.9
comp=Z,0.3nm,0.5s,baz=155,slow=7.6,SNR=1.8
comp=Z,0.3nm,0.5s
MKAR Makanchi Array 59.66 326 P P 09 51 41.6 +0.6
comp=Z,0.9nm,0.4s,baz=116,slow=7.6,SNR=15
comp=Z,0.9nm,0.4s
KURBB Kurchatov Arra 63.86 328 P P 09 52 08.9 0.0
comp=Z,1.2nm,0.5s,baz=129,slow=5.9,SNR=9.1
comp=Z,1.2nm,0.5s
BRVK Borovoye 69.51 327 P P 09 52 44.3 -0.4

*IDC **24** 09:47:05.6±0.7, 6°.53S×150°.71E, h0km, mb4.5/19, mbtmp4.6/20, ML2.8/1, MS3.5/23, Error ellipse: s-maj=21.2km s-min=13.8km az=103.0*
*NEIC **24** 09:47:08.7±1.4, 6°.60S±0°.07×150°.59E±0°.08, h10km±1km, mb5.0/106, Error ellipse: s-maj=16.7km s-min=6.7km az=131.0*
*DJA **24** 09:47:16.7±1.8, 7°S±9°×15°0E±1°1, h58km±13km, M5.1/19, mb4.8/19, mB5.6/4, MLv5.2/1, Mw(mB)5.0/4, MwMwp5.5/2, Mwp5.7/2*
ISC 24 09:47:11.5±0.4, 6°.71S±0°.05×150°.66E±0°.06, h33km, n207, σ1s76/150, mb5.0/91, MS3.5/21, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BULU	**Kimbe**	**1.21**	**344**	P		**Pn**		**09 47 30.5**	**-1.7**
RABL	**Rabaul**	**2.92**	**31**			**Pn**		**09 47 55.1**	**-0.6**
PMG	**Port Moresby**	**4.38**	**232**			**Pn**		**09 48 15.8**	**0.0**
PMG	**Port Moresby**	**4.38**	**232**	Pn		**Pn**		**09 48 16.5**	**+0.7**
	33nm,0.3s,baz=63,slow=8.4,SNR=100								
PMG				Sn		**Sn**		**09 49 05.0**	**-0.7**
	94nm,0.3s,baz=335,slow=17,SNR=18								
	348nm,0.8s								
PMG	**Port Moresby**	**4.38**	**232**	P		**Pn**		**09 48 17.0**	**+1.2**
PMG	**Port Moresby**	**4.38**	**232**	P		**Pn**		**09 48 16.9**	**+1.2**
MANU	**Manus Island**	**5.68**	**325**			**Pn**		**09 48 35.6**	**+1.9**
TATA	**Tatamba Isabel**	**9.22**	**101**	P		Pn		09 49 29.7	+7.4
HNR	**Honiara**	**9.59**	**107**	LR		LR		09 52 55.7	
	comp=Z,200nm,18.4s,baz=262,slow=36								
ALEG	**Aligegeo Malai**	**10.15**	**102**	P		Pn		09 49 42.4	+7.3
COEN	**Coen**	**10.30**	**225**	Pn		**Pn**		**09 49 37.5**	**+0.4**
COEN	**Coen**	**10.30**	**225**	P		**Pn**		**09 49 37.2**	**+0.1**
	comp=Z,10nm,1.1s								
COEN	**Coen**	**10.30**	**225**	S		**Sn**		**09 51 25.3**	**-6.2**
JAY	**Jayapura**	**10.76**	**292**	LR		LR		09 54 15.9	
	comp=Z,459nm,19.0s,baz=92,slow=40								
MTSU	**Mount Surprise**	**12.93**	**208**	P		**Pn**		**09 50 14.4**	**+1.3**
	comp=Z,8.1nm,0.9s								
CTA	**Charters Tower**	**13.97**	**197**	LR		LR		09 55 14.5	
	comp=Z,157nm,21.2s,baz=12,slow=35								
CTAO	**Charters Tower**	**13.97**	**197**	Pn		**Pn**		**09 50 27.3**	**0.0**
QIS	**Mount Isa**	**17.44**	**217**	P		**Pn**		**09 51 11.8**	**-0.7**
	comp=Z,36nm,1.3s								
QIS	**Mount Isa**	**17.44**	**217**	P		**Pn**		**09 51 13.2**	**+0.7**
EIDS	**Eidsvold**	**18.56**	**179**	P		**P**		**09 51 26.7**	**+0.9**
EIDS	**Eidsvold**	**18.56**	**179**	P		**Pn**		**09 51 27.8**	**+1.7**
	comp=Z,56nm,1.0s								
EIDS	**Eidsvold**	**18.56**	**179**	P		**Pn**		**09 51 27.8**	**+1.7**
FAKI	**Fak Fak**	**18.72**	**281**	P		**Pn**		**09 51 27.4**	**-0.8**
FAKI	**Fak Fak**	**18.72**	**281**	P		**Pn**		**09 51 27.4**	**-0.8**
KDU	**Kakadu**	**18.88**	**250**	P		**P**		**09 51 28.4**	**-0.8**
	comp=Z,24nm,1.0s								
MTN	**Manton Dam**	**20.17**	**251**	P		**P**		**09 51 43.1**	**-0.4**
MTN	**Manton Dam**	**20.17**	**251**	P		**P**		**09 51 43.7**	**+0.2**
	comp=Z,63nm,1.5s								
SWI	**Sorong**	**20.20**	**286**	P		**P**		**09 51 43.1**	**-0.6**
	comp=Z,21nm,0.9s,comp=Z,1μm								
DRS	**Darwin Rock St**	**20.29**	**252**	P		Pn		09 51 46.1	-0.7
WRAB	**Tennant Creek**	**20.58**	**229**	P		**P**		**09 51 47.1**	**-0.7**
WRAB				IAmb		IAmb		09 52 00.4	
	comp=Z,84nm,1.0s								
WB2	**Warramunga Arr**	**20.58**	**229**			**P**		**09 51 47.3**	**-0.6**
WB2				IAmb		IAmb		09 52 00.5	
	comp=Z,90nm,1.1s								
WB2	**Warramunga Arr**	**20.58**	**229**	P		**P**		**09 51 47.7**	**-0.2**
WRA	**Warramunga Arr**	**20.59**	**229**	P		**P**		**09 51 46.6**	**-1.4**
WRA	**Warramunga Arr**	**20.59**	**229**	P		**P**		**09 51 47.8**	**-0.2**
	comp=Z,51nm,0.9s,baz=51,slow=11,SNR=91								
WRA				LR		LR		10 00 40.2	
	comp=Z,91nm,19.3s,baz=50,slow=39								
	comp=Z,51nm,0.9s								
QLP	**Quilpie**	**20.69**	**196**	P		**P**		**09 51 50.1**	**+1.1**
	comp=Z,114nm,1.1s								
QLP	**Quilpie**	**20.69**	**196**	P		**P**		**09 51 51.2**	**+2.2**
BNDI	**Bandanaira**	**20.76**	**275**	P		**P**		**09 51 47.4**	**-2.5**
GUMO	**Guam**	**20.97**	**344**	LR		LR		09 59 13.4	
	comp=Z,62nm,18.9s,baz=176,slow=35								
DZM	**Mont Dzumac**	**21.58**	**137**	P		**P**		**09 52 00.4**	**+1.8**
DZM	**Mont Dzumac**	**21.58**	**137**	*e*S		**S**		**09 55 50.9**	**-5.3**
	comp=Z,104nm,27.1s								
DZM				*e*LR		LR		09 57 10.3	
	comp=Z,252nm,25.2s								
DZM	**Mont Dzumac**	**21.58**	**137**	P		**P**		**09 51 58.2**	**-0.5**
	comp=Z,10nm,0.8s,baz=280,slow=5.7,SNR=2.4								
	comp=Z,10nm,0.8s								
DZM	**Mont Dzumac**	**21.58**	**137**	P		**P**		**09 52 04.1**	**+5.4**
INKA	**Innaminka**	**22.93**	**203**	P		**P**		**09 52 15.6**	**+2.6**
KNRA	**Kununurra**	**23.23**	**246**	P		**P**		**09 52 15.0**	**-1.1**
KNRA	**Kununurra**	**23.23**	**246**	P		**P**		**09 52 15.0**	**-1.1**
	comp=Z,27nm,0.9s								
AS31	**Alice Springs**	**23.31**	**222**	P		**P**		**09 52 16.2**	**-0.7**
ASAR	**Alice Springs**	**23.31**	**222**	P		**P**		**09 52 16.4**	**-0.5**
ASAR	**Alice Springs**	**23.31**	**222**	P		**P**		**09 52 16.4**	**-0.4**
	comp=Z,23nm,0.7s,baz=58,slow=9.0,SNR=83								
ASAR				LR		LR		10 02 12.7	
	comp=Z,118nm,19.6s,baz=36,slow=39								
	comp=Z,23nm,0.7s								
ARMA	**Armidale**	**23.60**	**178**	P		**P**		**09 52 20.2**	**+0.5**
ARMA	**Armidale**	**23.60**	**178**	P		**P**		**09 52 20.5**	**+0.8**
	comp=Z,27nm,0.9s								
ARMA	**Armidale**	**23.60**	**178**	P		**P**		**09 52 23.9**	**+4.2**
SANI	**Sanana**	**25.02**	**280**	P		**P**		**09 52 28.6**	**-4.2**
	comp=Z,27nm,1.0s								
CMSA	**Cobar Meteorol**	**25.14**	**190**	P		**P**		**09 52 35.2**	**+1.6**
	comp=Z,33nm,1.1s								
CMSA	**Cobar Meteorol**	**25.14**	**190**	P		**P**		**09 52 35.8**	**+2.1**
OOD	**Oodnadatta**	**25.32**	**212**	P		**P**		**09 52 37.5**	**+2.1**
SOEI	**Soe**	**26.29**	**262**	P		**P**		**09 52 43.3**	**-1.1**
SOEI						IAmb	IAmb	09 53 19.5	
	comp=Z,40nm,0.9s								
SOEI	**Soe**	**26.29**	**262**	P		**P**		**09 52 43.4**	**-1.1**
	comp=Z,36nm,1.0s								
LCRK	**Leigh Creek**	**26.35**	**205**	P		**P**		**09 52 46.8**	**+2.1**
STKA	**Stephens Creek**	**26.43**	**198**	P		**P**		**09 52 45.3**	**-0.2**
STKA	**Stephens Creek**	**26.43**	**198**	P		**P**		**09 52 45.9**	**+0.5**
	comp=Z,7.7nm,1.3s								
STKA	**Stephens Creek**	**26.43**	**198**	P		**P**		**09 52 45.0**	**-0.4**
	comp=Z,15nm,0.8s,baz=351,slow=7.5,SNR=17								
STKA				LR		LR		10 03 06.5	
	comp=Z,104nm,18.8s,baz=28,slow=36								
	comp=Z,15nm,0.8s								
STKA	**Stephens Creek**	**26.43**	**198**	P		**P**		**09 52 46.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**26.88**	**243**	P		**P**		**09 52 49.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**26.88**	**243**	P		**P**		**09 52 49.4**	**-0.2**
	comp=Z,5.3nm,1.5s								
FITZ	**Fitzroy Crossi**	**26.88**	**243**	P		**P**		**09 52 49.5**	**-0.2**
	comp=Z,19nm,0.9s,baz=79,slow=7.4,SNR=21								
FITZ				LR		LR		10 03 46.8	
	comp=Z,116nm,18.7s,baz=49,slow=37								
	comp=Z,19nm,0.9s								
FITZ	**Fitzroy Crossi**	**26.88**	**243**	P		**P**		**09 52 49.5**	**-0.2**
BATI	**Baumata**	**26.92**	**261**	P		**P**		**09 52 49.8**	**-0.2**
	comp=Z,16nm,0.4s,baz=137,slow=4.2,SNR=3.7								
	comp=Z,16nm,0.4s								
YNG	**Young**	**27.54**	**184**	P		**P**		**09 52 57.1**	**+1.7**
	comp=Z,0.0nmcomp=Z,103nm,1.5s								
YNG	**Young**	**27.54**	**184**	P		**P**		**09 52 58.2**	**+2.9**
KDI	**Kendari**	**28.05**	**274**	P		**P**		**09 53 00.4**	**+0.3**
	comp=Z,21nm,0.8s,comp=Z,2μm								
WRKA	**Warakurna**	**28.11**	**227**	P		**P**		**09 53 00.4**	**-0.2**
	comp=Z,34nm,2.4s								
WRKA	**Warakurna**	**28.11**	**227**	P		**P**		**09 53 01.7**	**+1.1**
MULG	**Mulgathing**	**28.16**	**212**	P		**P**		**09 53 00.6**	**-0.4**
MMRI	**Maumere**	**28.23**	**264**	P		**P**		**09 53 01.4**	**-0.4**
MMRI	**Maumere**	**28.23**	**264**	P		**P**		**09 53 02.0**	**+0.3**
CAN	**Canberra**	**28.52**	**183**	P		**P**		**09 53 06.7**	**+2.5**
CAN	**Canberra**	**28.52**	**183**	P		**P**		**09 53 05.4**	**+1.3**
	comp=Z,40nm,1.6s								
DAV	**Davao City (W)**	**28.52**	**298**	LR		LR		10 01 46.2	
	comp=Z,35nm,20.7s,baz=144,slow=31								
HTT	**Hallett**	**28.73**	**201**	P		**P**		**09 53 07.0**	**+0.9**
	comp=Z,36nm,2.5s								
HTT	**Hallett**	**28.73**	**201**	P		**P**		**09 53 07.3**	**+1.2**
MSVF	**Nonsavu**	**28.88**	**115**	LR		LR		10 03 57.6	
	comp=Z,78nm,18.1s,baz=240,slow=35								
BBOO	**Buckleboo**	**29.31**	**206**	P		**P**		**09 53 09.0**	**-2.1**
BBOO	**Buckleboo**	**29.31**	**206**	P		**P**		**09 53 11.3**	**+0.2**
BSSI	**Bau Bau, Buton**	**29.98**	**269**	P		P		09 53 29.2	+12
BNSI	**Bone**	**30.49**	**273**	P		P		09 53 31.7	+10
KAPI	**Kappang**	**30.79**	**271**	P		**P**		**09 53 23.4**	**-1.0**
KAPI						IAmb	IAmb	09 53 24.9	
	comp=Z,20nm,1.0s								
ARPS	**Mount Arapiles**	**30.99**	**194**	P		**P**		**09 53 26.5**	**+0.6**
ARPS	**Mount Arapiles**	**30.99**	**194**	P		**P**		**09 53 29.3**	**+3.4**
FORT	**Forrest**	**31.97**	**219**	P		**P**		**09 53 34.1**	**-0.6**
FORT	**Forrest**	**31.97**	**219**	P		**P**		**09 53 33.7**	**-0.9**
	comp=Z,110nm,1.0s								
FORT	**Forrest**	**31.97**	**219**	P		**P**		**09 53 36.3**	**+1.6**
PLAI	**Plampang**	**32.64**	**264**	P		**P**		**09 53 39.4**	**-1.4**
MBWA	**Marble Bar**	**33.18**	**241**	P		**P**		**09 53 44.6**	**-0.8**
MBWA						IAmb	IAmb	09 53 58.4	
	comp=Z,33nm,1.2s								
PSA00	**Pilbara Seismi**	**33.23**	**240**	P		**P**		**09 53 45.5**	**-0.4**
MEEK	**Meekatharra**	**36.36**	**233**	P		**P**		**09 54 13.7**	**+0.9**
	comp=Z,25nm,2.8s								
MEEK	**Meekatharra**	**36.36**	**233**	P		**P**		**09 54 13.0**	**+0.2**
KMBL	**Kambalda**	**36.41**	**224**	P		**P**		**09 54 13.9**	**+0.8**
	comp=Z,33nm,1.0s								
KLBR	**Kellerberrin**	**39.45**	**227**	P		**P**		**09 54 38.5**	**-0.4**
	comp=Z,64nm,0.9s								
KLBR	**Kellerberrin**	**39.45**	**227**	P		**P**		**09 54 40.0**	**+1.1**
URZ	**Urewera**	**39.50**	**147**	LR		LR		10 08 24.7	
	comp=Z,104nm,19.8s,baz=38,slow=32								
NWAO	**Narrogin (SRO)**	**40.54**	**225**	LR		LR		10 13 20.9	
	comp=Z,164nm,18.3s,baz=218,slow=39								
MUN	**Mundaring**	**40.78**	**227**	P		**P**		**09 54 49.8**	**-0.1**
	comp=Z,42nm,1.3s								
KPJI	**Karang Pucung**	**41.41**	**267**	P		P		09 55 06.7	+11
BBJI	**Bungbulang**	**42.67**	**266**	P		**P**		**09 55 05.4**	**-0.3**
LEM	**Lembang**	**42.73**	**267**	P		**P**		**09 55 05.7**	**-0.5**
	comp=Z,15nm,0.4s,baz=63,slow=16,SNR=3.7								
	comp=Z,15nm,0.4s								
MJAR	**Matsushiro Arr**	**44.58**	**346**	P		**P**		**09 55 18.2**	**-2.3**
	comp=Z,3.5nm,1.0s,baz=152,slow=8.9,SNR=4.8								
	comp=Z,3.5nm,1.0s								
LWLI	**Liwa**	**46.37**	**269**	P		P		09 55 44.9	+10
KSRS	**Korea Array**	**48.80**	**336**	P		**P**		**09 55 51.8**	**-1.8**
	comp=Z,7.2nm,0.9s,baz=151,slow=8.6,SNR=15								
KSRS				LR		LR		10 13 51.6	
	comp=Z,22nm,21.2s,baz=150,slow=33								
	comp=Z,7.2nm,0.9s								
NJ2	**Nanjing**	**49.04**	**324**	*e*P		P		09 56 03.4	+7.9
NJ2				pmax		pmax			
	comp=Z,9.0nm,0.5s								
RAR	**Rarotonga**	**50.00**	**112**	LR		LR		10 14 35.6	
	comp=Z,20nm,18.6s,baz=194,slow=33								
PPI	**Padang Panjang**	**50.51**	**275**	P		**P**		**09 56 06.7**	**-0.4**
TIA	**Tai'an**	**53.03**	**326**	P		**P**		**09 56 26.5**	**+1.0**
USRK	**Ussuriysk Ar.**	**53.40**	**343**	P		**P**		**09 56 25.8**	**-2.2**
	comp=Z,2.7nm,0.7s,baz=154,slow=7.9,SNR=5.2								
	comp=Z,2.7nm,0.7s								
CN2	**Changchun**	**55.20**	**338**	*e*P		**P**		**09 56 40.9**	**-0.3**
CN2				*es*P		pwP		09 56 58.8	+1.3
BNX	**BinXian**	**56.20**	**341**	||P		**P**		**09 56 46.8**	**-1.5**
BNX				pmax		pmax			
	comp=Z,10.0nm,1.3s								
XAN	**Xi'an**	**56.58**	**319**	P		**P**		**09 56 52.9**	**+1.6**
XAN				pmax		pmax			
	comp=Z,8.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**56.80**	**297**	P		**P**		**09 56 52.7**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=113,slow=5.3,SNR=9.1								
	comp=Z,0.5nm,0.3s								
PZH	**PanZhiHua**	**57.76**	**307**	P		**P**		**09 57 01.5**	**+1.6**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
PZH				pmax		pmax			
	comp=Z,130nm,5.1s								
KLR	**Kul'dur**	**58.11**	**346**	LR		LR		10 21 06.5	
	comp=Z,30nm,18.4s,baz=126,slow=35								
PPT2	**Papeete2**	**59.21**	**106**	*e*LR		LR		10 14 22.8	
	comp=Z,85nm,27.8s								
PPT2				*e*LR		LR		10 14 31.5	
	comp=Z,40nm,23.5s								
HHC	**Hu-ho-hao-te**	**59.39**	**326**	*e*P		**P**		**09 57 13.8**	**+2.8**
HHC				pmax		pmax			
	comp=Z,9.0nm,0.7s								
HHC				pmax		pmax			
	comp=Z,110nm,4.1s								
PETK	**Petropavlovsk-**	**59.89**	**5**	P		**P**		**09 57 11.8**	**-2.2**
	comp=Z,7.6nm,1.1s,baz=178,slow=6.5,SNR=2.2								
PETK				LR		LR		10 17 42.6	
	comp=Z,54nm,19.9s,baz=212,slow=31								
	comp=Z,7.6nm,1.1s								
BTO	**Baotou**	**60.09**	**325**	*e*P		**P**		**09 57 19.3**	**+3.5**
BTO				pP		**pwP**		**09 57 33.4**	**+1.4**
BTO				sP		sP		09 57 36.4	+10
BTO				PP		**PP**		**09 59 29.8**	**+1.1**
BTO				S		**S**		**10 05 33.3**	**+6.5**
BTO				SS		**SS**		**10 09 27.0**	**+2.7**
BTO				pmax		pmax			
	comp=Z,20nm,0.6s								
BTO				pmax		pmax			
	comp=Z,190nm,4.7s								
BTO				LR		LR			
	comp=Z,340nm,5.0s								
BTO				LR		LR			
	comp=Z,290nm,4.7s								
BTO				LR		LR			
	comp=Z,220nm,6.1s								
ULN	**Ulaanbaatar**	**66.52**	**330**	P		**P**		**09 57 57.1**	**-1.2**
SONM	**Songino Array**	**66.83**	**329**	P		**P**		**09 57 58.8**	**-1.4**
SONM	**Songino Array**	**66.83**	**329**	P		**P**		**09 57 58.9**	**-1.4**
	comp=Z,4.7nm,0.9s,baz=150,slow=4.8,SNR=19								
SONM				LR		LR		10 26 44.7	
	comp=Z,23nm,19.9s,baz=99,slow=36								
	comp=Z,4.7nm,0.9s								
YAK	**Yakutsk**	**70.43**	**350**	LR		LR		10 34 03.2	
	comp=Z,11nm,18.5s,baz=296,slow=40								
WMQ	**Urumqi**	**75.71**	**318**	*e*P		**P**		**09 58 56.4**	**+2.4**
M14K	**Bethel**	**76.75**	**22**	P		**P**		**09 58 60.0**	**+0.6**
CNPM	**China Poot**	**80.35**	**26**	P		**P**		**09 59 19.9**	**+0.6**
MKAR	**Makanchi Array**	**80.37**	**320**	P		**P**		**09 59 17.8**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=100,slow=8.0,SNR=6.1								
	comp=Z,0.7nm,0.5s								
ZALV	**Zalesovo Beam**	**81.56**	**327**	P		**P**		**09 59 23.2**	**-2.7**
	comp=Z,1.7nm,0.6s,baz=114,slow=5.1,SNR=4.8								
	comp=Z,1.7nm,0.6s								
CAST	**Castle Rocks**	**82.07**	**22**	P		**P**		**09 59 27.9**	**-0.4**
CAST				IAmb		IAmb		09 59 29.9	
	comp=Z,14nm,1.1s								
PWL	**Port Wells**	**82.28**	**26**	P		**P**		**09 59 29.3**	**-0.2**
KDJ	**Kajisay**	**82.38**	**314**	P		**P**		**09 59 30.2**	**-0.5**
E19K	**Redstone River**	**82.64**	**18**	IAmb		IAmb		09 59 33.3	
	comp=Z,22nm,1.4s								
SML	**Sawmill**	**82.73**	**25**	IAmb		IAmb		09 59 33.0	
	comp=Z,14nm,0.8s								
MAW	**Mawson**	**83.00**	**203**	LR		LR		10 35 34.7	
	comp=Z,31nm,18.4s,baz=203,slow=35								
QSPA	**South Pole Qui**	**83.26**	**180**	P		**P**		**09 59 35.3**	**+0.6**
	comp=Z,3.3nm,0.7s,baz=286,slow=0.7,SNR=24								
	comp=Z,3.3nm,0.7s								
MLY	**Manley**	**83.42**	**21**	IAmb		IAmb		09 59 36.8	
	comp=Z,18nm,1.3s								
KLU	**Klutina**	**83.61**	**26**	IAmb		IAmb		09 59 39.1	
	comp=Z,17nm,1.0s								
DHY	**Denali Highway**	**83.73**	**24**	IAmb		IAmb		09 59 38.7	
	comp=Z,7.7nm,0.9s								
NEA2	**Nenana**	**83.81**	**22**	IAmb		IAmb		09 59 37.9	
	comp=Z,13nm,1.2s								
I23K	**Minto, Yukon-K**	**83.98**	**22**	IAmb		IAmb		10 00 14.3	
	comp=Z,24nm,1.7s								
KURBB	**Kurchatov Arra**	**83.99**	**322**	P		**P**		**09 59 36.2**	**-2.3**
	comp=Z,1.2nm,0.7s,baz=111,slow=4.5,SNR=7.0								
	comp=Z,1.2nm,0.7s								
WRH	**Wood River Hil**	**84.12**	**22**	IAmb		IAmb		09 59 39.6	
	comp=Z,15nm,1.2s								
E21K	**Killik River**	**84.22**	**18**	IAmb		IAmb		09 59 41.8	
	comp=Z,12nm,1.2s								
CCB	**Clear Creek Bu**	**84.31**	**22**	IAmb		IAmb		09 59 40.8	
	comp=Z,7.5nm,0.8s								
COLA	**College**	**84.41**	**22**	P		**P**		**09 59 39.6**	**-0.7**
COLA				IAmb		IAmb		09 59 40.3	
	comp=Z,12nm,0.8s								
AAK	**Ala-Archa**	**84.43**	**314**	P		**P**		**09 59 40.9**	**-0.3**
GLB	**Gilahina Butte**	**84.50**	**26**	P		**P**		**09 59 41.6**	**+0.6**
GLB				IAmb		IAmb		10 00 07.0	
	comp=Z,11nm,1.1s								
HDA	**Harding Lake**	**84.53**	**23**	IAmb		IAmb		09 59 44.0	
	comp=Z,15nm,1.4s								
G23K	**Bananza Creek**	**84.55**	**20**	IAmb		IAmb		09 59 51.7	
	comp=Z,7.5nm,0.8s								
E22K	**Anaktuvuk Pass**	**84.71**	**19**	IAmb		IAmb		09 59 43.3	
	comp=Z,7.1nm,0.9s								
IL31		**84.72**	**22**	IAmb		IAmb		09 59 43.1	
	comp=Z,8.5nm,0.8s								
ILAR	**Eielson Array**	**84.72**	**22**	P		**P**		**09 59 40.4**	**-1.6**
ILAR	**Eielson Array**	**84.72**	**22**	P		**P**		**09 59 39.9**	**-2.1**
	comp=Z,8.6nm,0.9s,baz=248,slow=4.7,SNR=48								
ILAR				LR		LR		10 35 17.1	
	comp=Z,25nm,21.0s,baz=258,slow=34								
	comp=Z,8.6nm,0.9s								
D22K	**Ayikyak River**	**84.85**	**18**	IAmb		IAmb		09 59 45.9	
	comp=Z,12nm,1.0s								
L26K	**Log Cabin Wild**	**85.36**	**25**	IAmb		IAmb		09 59 46.6	
	comp=Z,5.5nm,0.6s								
E23K	**Chandalar**	**85.38**	**19**	IAmb		IAmb		09 59 48.4	
	comp=Z,12nm,1.1s								
CTGM	**Chitina Glacie**	**85.40**	**27**	IAmb		IAmb		09 59 47.5	
	comp=Z,10.0nm,1.0s								
G24K	**Hadweenzic Riv**	**85.42**	**21**	IAmb		IAmb		09 59 48.3	
	comp=Z,15nm,1.1s								
SCRK	**Sand Creek**	**85.50**	**24**	P		**P**		**09 59 45.8**	**-0.2**
D23K	**Nanushuk River**	**85.51**	**18**	P		**P**		**09 59 46.5**	**+0.7**
F24K	**Squaw Lake**	**85.68**	**20**	IAmb		IAmb		09 59 49.0	
	comp=Z,10nm,0.9s								
TOLK	**Toolik Lake Re**	**85.69**	**19**	IAmb		IAmb		09 59 48.7	
	comp=Z,8.6nm,1.1s								
M27K	**Edge Creek, AK**	**85.71**	**26**	IAmb		IAmb		09 59

comp=Z,1.4nm,0.6s,baz=38,slow=2.2,SNR=5.4
EKA Eskdalemuir Ar 127.19 342 PKP **PKiKP 10 06 13.0 0.0**
comp=Z,1.3nm,0.6s,baz=27,slow=3.8,SNR=3.5
TORD Torodi Ar. Bea 148.79 284 PKPbc **PKPbc 10 06 56.6 -0.1**
comp=Z,9.3nm,0.8s,baz=35,slow=3.4,SNR=40
BDFB Brasilia 151.10 140 PKPbc **PKPbc 10 07 01.8 -0.7**
comp=Z,2.2nm,0.6s,baz=84,slow=24,SNR=2.4
DBIC Dimbokro 155.68 271 PKPab **PKPab 10 07 28.5 -1.0**
comp=Z,2.3nm,0.6s,baz=348,slow=2.4,SNR=2.7

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*IDC **24** 10:26:36.0±1.4, 14°.95N×147°.02E, h0km, mb3.8/9, mbtmp3.8/10, ML3.7/1, MS3.0/5, Error ellipse: s-maj=37.8km s-min=19.8km az=104.0*
ISC 24 10:26:40.7±1.3, 14°.9N±0°.1×147°.0E±0°.2, h32km, n14, σ0°60/11, mb3.9/9, MS2.7/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.47**	**238**	Pn	**Pn**	**10 27 17.6**	**-1.1**
	14nm,0.3s,baz=78,slow=4.1,SNR=11						
GUMO				Sn	**Sn**	**10 27 48.7**	**+0.9**
	22nm,0.3s,baz=88,slow=12,SNR=5.1						
	26nm,0.3s						
JOW	**Kunigami**	**21.12**	**307**	LR	LR	10 38 41.7	
	comp=Z,63nm,20.7s,baz=162,slow=34						
JNU	**Nakatsue**	**23.31**	**324**	LR	LR	10 39 43.7	
	comp=Z,26nm,19.0s,baz=103,slow=34						
KSRS	**Korea Array**	**28.13**	**326**	P	**P**	**10 32 29.9**	**+0.1**
	0.5nm,0.6s,baz=140,slow=8.9,SNR=1.9						
KSRS				LR	LR	10 42 19.6	
	comp=Z,16nm,21.8s,baz=110,slow=34						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**36.82**	**200**	P	**P**	**10 33 45.9**	**0.0**
	0.5nm,0.8s,baz=23,slow=8.1,SNR=2.9						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**40.43**	**199**	P	**P**	**10 34 17.0**	**+0.7**
	0.4nm,0.9s,baz=20,slow=8.1,SNR=2.3						
	0.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**46.09**	**281**	LR	LR	10 54 28.3	
	comp=Z,7.7nm,18.4s,baz=80,slow=36						
SONM	**Songino Array**	**46.90**	**323**	P	**P**	**10 35 08.5**	**+0.3**
	0.5nm,0.4s,baz=114,slow=9.1,SNR=5.1						
	0.5nm,0.4s						
RAO	**Raoul Island**	**55.45**	**142**	LR	LR	10 57 22.0	
	comp=Z,48nm,19.1s,baz=320,slow=33						
ZALV	**Zalesovo Beam**	**61.79**	**324**	P	**P**	**10 36 56.3**	**+0.1**
	0.4nm,0.3s,baz=106,slow=5.1,SNR=1.7						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**62.01**	**315**	P	**P**	**10 36 58.0**	**+0.1**
	0.5nm,0.5s,baz=92,slow=7.9,SNR=2.3						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**64.98**	**319**	P	**P**	**10 37 17.2**	**-0.2**
	1.3nm,0.5s,baz=98,slow=6.9,SNR=10.0						
	1.3nm,0.5s						
ILAR	**Eielson Array**	**66.48**	**25**	P	**P**	**10 37 26.7**	**-0.2**
	1.9nm,1.3s,baz=252,slow=6.4,SNR=2.5						
	1.9nm,1.3s						
BVAR	**Borovoye Array**	**70.19**	**321**	P	**P**	**10 37 50.6**	**+0.2**
	1.2nm,0.6s,baz=91,slow=7.4,SNR=5.5						
	1.2nm,0.6s						

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*IGIL **24** 10:58:00.9, 35°.51N×10°.24W, h17km, ML2.4*
*MDD **24** 10:58:01.2±1.0, 35°.41N×10°.18W, h30km±16km, Mb4.0/6, M_mb3.4/6, Error ellipse: s-maj=14.3km s-min=4.6km az=73.0*
*CNRM **24** 10:58:01.4, 35°.12N×10°.03W, h58km*
*INMG **24** 10:58:02.2±1.2, 35°.51N×10°.27W, h29km, ML2.3, Error ellipse: s-maj=7.9km s-min=5.4km az=104.0*
ISC 24 10:57:58.6±2.2, 35°.37N±0°.05×10°.2W±0°.1, h35km, n52, σ1°98/64, 6C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.08**	**32**	*e*P	**Pn**	**10 58 32.1**	**+1.2**
PFVI				*e*S	**Sn**	**10 58 54.5**	**-1.1**
PFVI				A	A	10 58 56.3	
	22nm,0.2s						
MORF	**Marmelete**	**2.30**	**32**	*e*P	**Pn**	**10 58 35.1**	**+1.1**
MORF				*e*S	**Sn**	**10 59 00.1**	**-0.9**
MORF				A	A	10 59 02.4	
	32nm,0.1s						
MORF	**Marmelete**	**2.30**	**32**	*e*P	**Pn**	**10 58 35.1**	**+1.1**
MORF				*e*S	**Sn**	**10 58 60.0**	**-1.1**
MORF				IAML		10 59 01.8	
	comp=N,48nm,0.1s						
PTEO	**Sao Teotonio**	**2.47**	**28**	*e*P	**Pn**	**10 58 37.4**	**+1.1**
PTEO				*e*S	**Sn**	**10 59 04.5**	**-0.8**
PTEO				A	A	10 59 09.2	
	comp=N,11nm,0.6s						
PBDV	**Barranco-do-Ve**	**2.61**	**44**	*e*P	**Pn**	**10 58 40.0**	**+1.7**
PBDV				*e*S	**Sn**	**10 59 08.2**	**-0.7**
PBDV				A	A	10 59 11.5	
	comp=N,5.7nm,0.3s						
PCVE	**Castro Verde**	**2.85**	**37**	*e*P	**Pn**	**10 58 43.3**	**+1.8**
PCVE				*e*S	**Sn**	**10 59 13.9**	**-0.7**
PCVE				A	A	10 59 17.3	
	comp=N,7.0nm,0.1s						
PVAQ	**Vaqueiros**	**2.85**	**44**	*e*P	**Pn**	**10 58 43.1**	**+1.6**
PVAQ				*e*S	**Sn**	**10 59 13.8**	**-0.8**
PVAQ				A	A	10 59 20.8	
	comp=N,6.5nm,0.1s						
PVAQ	**Vaqueiros**	**2.85**	**44**	Pn	**Pn**	**10 58 43.0**	**+1.5**
PVAQ				Sn	**Sn**	**10 59 14.0**	**-0.6**
PVAQ	**Vaqueiros**	**2.85**	**44**	P	**Pn**	**10 58 44.1**	**+2.5**
PVAQ	**Vaqueiros**	**2.85**	**44**	S	**Sn**	**10 59 20.0**	**+5.4**
MESJ	**Messejana**	**2.93**	**32**	*e*P	**Pn**	**10 58 44.8**	**+2.1**
MESJ				*e*S	**Sn**	**10 59 17.1**	**+0.4**
MESJ				A	A	10 59 18.0	
	comp=N,6.9nm,0.5s						
MESJ	**Messejana**	**2.93**	**32**	*e*P	**Pn**	**10 58 43.9**	**+1.2**
MESJ				*e*S	**Sn**	**10 59 15.4**	**-1.3**
MESJ				IAML		10 59 17.3	
	comp=N,5.6nm,0.2s						
EGRO	**El Granado**	**3.07**	**45**	Pn	**Pn**	**10 58 46.2**	**+1.6**
EGRO				Sn	**Sn**	**10 59 19.2**	**-0.9**
EGRO	**El Granado**	**3.07**	**45**	Pn	**Pn**	**10 58 46.2**	**+1.6**
EGRO				⇑*i*Vmb_V		10 58 50.2	
	comp=N,274nm,SNR=1.9						
EGRO				Sn	**Sn**	**10 59 19.9**	**-0.2**
AVE	**Averroes**	**3.09**	**131**	Pn	**Pn**	**10 58 46.8**	**+1.9**
PBEJ	**Beja**	**3.25**	**35**	*e*S	**Sn**	**10 59 24.3**	**-0.1**
PBEJ				A	A	10 59 25.5	
	comp=N,4.1nm,0.3s						
ZHG	**ZHG**	**3.51**	**122**	P	Pn	10 58 51.1	+0.4
ZHG	**ZHG**	**3.51**	**122**	S	**Sn**	**10 59 28.8**	**-2.2**
EVO	**Evora**	**3.61**	**28**	*e*P	**Pn**	**10 58 55.8**	**+3.9**
EVO				*e*S	**Sn**	**10 59 31.3**	**-2.0**
EVO				A	A	10 59 33.4	
	comp=N,8.1nm,0.1s						
EVO	**Evora**	**3.61**	**28**	Sn	**Sn**	**10 59 30.9**	**-2.4**
PMAFR	**Mafra**	**3.65**	**11**	*e*S	**Sn**	**10 59 31.6**	**-2.8**
EMIN	**Mina Concepcio**	**3.71**	**49**	Pn	**Pn**	**10 58 54.7**	**+1.4**
EMIN				Sn	**Sn**	**10 59 34.5**	**-1.3**
EMIN	**Mina Concepcio**	**3.71**	**49**	Pn	**Pn**	**10 58 55.3**	**+1.9**
EMIN				⇑*i*Vmb_V		10 58 56.3	
	comp=N,125nm,SNR=1.3						
EMIN				Sn	**Sn**	**10 59 34.6**	**-1.2**
PBAR	**Barrancos**	**3.77**	**41**	*e*P	**Pn**	**10 58 55.8**	**+1.6**
PBAR				*e*S	**Sn**	**10 59 36.4**	**-1.0**
PBAR	**Barrancos**	**3.77**	**41**	Pn	**Pn**	**10 58 55.7**	**+1.4**
ESPR	**Espera**	**3.82**	**66**	⇑*i*Vmb_V		10 58 55.9	
	comp=N,152nm,SNR=1.8						
ESPR				Pn	**Pn**	**10 58 56.6**	**+1.8**
ESPR				Sn	**Sn**	**10 59 38.8**	**+0.3**
PMTG	**Montargil**	**4.01**	**22**	*e*P	**Pn**	**10 58 58.3**	**+0.8**
PMTG				*e*S	**Sn**	**10 59 40.8**	**-2.5**
PMTG				A	A	10 59 43.1	
	comp=N,6.5nm,0.5s						
PESTR	**Estremoz**	**4.06**	**30**	*e*S	**Sn**	**10 59 42.4**	**-2.2**
PESTR	**Estremoz**	**4.06**	**30**	P	Pn	10 59 05.2	+6.9
EBAD	**Badajoz**	**4.23**	**36**	Pn	**Pn**	**10 59 02.7**	**+2.2**
EBAD				Sn	**Sn**	**10 59 46.6**	**-2.0**
PSBE	**So Bento**	**4.28**	**15**	*e*S	**Sn**	**10 59 48.0**	**-2.0**
IFR	**Ifrane**	**4.58**	**112**	Pn	**Pn**	**10 59 06.6**	**+1.1**
IFR				Sn	**Sn**	**10 59 55.2**	**-2.3**
OUK	**Oukaimeden**	**4.59**	**154**	P	Pn	10 59 06.5	+0.8
OUK	**Oukaimeden**	**4.59**	**154**	S	Sn	10 59 54.8	-3.1
ECAB	**El Cabril**	**4.69**	**53**	Pn	**Pn**	**10 59 08.2**	**+1.4**
ECAB				Sn	**Sn**	**10 59 56.5**	**-3.5**
ECAB	**El Cabril**	**4.69**	**53**	Pn	**Pn**	**10 59 08.6**	**+1.7**
ECAB				⇑*i*Vmb_V		10 59 09.5	
	comp=N,140nm,SNR=1.9						
ECAB				Sn	**Sn**	**10 59 56.9**	**-3.2**
TISM	**Timmit**	**4.80**	**138**	P	Pn	10 59 06.8	-1.5
TISM	**Timmit**	**4.80**	**138**	S	Sn	10 59 59.6	-3.2
TTIG	**Tnine Tigouga,**	**5.03**	**162**	P	Pn	10 59 09.7	-1.9
TTIG	**Tnine Tigouga,**	**5.03**	**162**	S	Sn	11 00 04.8	-3.8
TIO	**Tiouine**	**5.07**	**150**	Pn	Pn	10 59 12.7	+0.6
TIO	**Tiouine**	**5.07**	**150**	P	Pn	10 59 10.9	-1.3
TIO	**Tiouine**	**5.07**	**150**	S	Sn	11 00 06.9	-2.7
MD31	**MD31**	**5.15**	**117**	P	Pn	10 59 12.9	-0.4
MD31	**MD31**	**5.15**	**117**	S	**Sn**	**11 00 09.6**	**-2.0**
MDT	**Midelt**	**5.29**	**117**	P	Pn	10 59 15.3	+0.1
MDT	**Midelt**	**5.29**	**117**	S	Sn	11 00 11.8	-3.2
EADA	**Adamuz**	**5.30**	**57**	Pn	**Pn**	**10 59 16.8**	**+1.6**
EADA				Sn	**Sn**	**11 00 13.1**	**-2.0**
EADA	**Adamuz**	**5.30**	**57**	Pn	**Pn**	**10 59 17.0**	**+1.7**
EADA				⇑*i*Vmb_V		10 59 20.5	
	comp=N,104nm,SNR=1.2						
EADA				Sn	**Sn**	**11 00 12.7**	**-2.5**
PSIM	**Granatula de C**	**6.19**	**54**	Pn	**Pn**	**10 59 29.1**	**+1.6**
PSIM				Sn	**Sn**	**11 00 34.9**	**-2.2**
PAB	**San Pablo**	**6.24**	**46**	Pn	**Pn**	**10 59 29.7**	**+1.5**
PAB				⇑*i*Vmb_V		10 59 33.5	
	comp=N,88nm,SNR=1.1						
PAB				Sn	**Sn**	**11 00 35.6**	**-2.8**
MVO	**Moncorvo**	**6.30**	**22**	*e*S	**Sn**	**11 00 36.0**	**-3.7**

DJA 24 11:03:56.7±0.4, 6°S±2°×13°0E±°, h151km±7km, M4.2/12, mb4.2/5, mB4.9/4, MLv4.2/12, Mw(mB)4.2/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.71**	**352**	P	Pn	11 04 29.1	+0.5
BNDI				S	Sn	11 04 54.2	+1.0
SAUI	**Saumlaki**	**2.09**	**146**	P	Pn	11 04 33.5	+0.5
SAUI				S	Sn	11 05 01.0	+0.1
MSAI	**Masohi**	**3.10**	**337**	P	Pn	11 04 46.6	+1.1
MSAI				S	Sn	11 05 22.1	-1.1
FAKI	**Fak Fak**	**3.91**	**33**	P	Pn	11 04 55.5	-0.3
KMPI	**Kaimana, Papua**	**4.38**	**55**	P	Pn	11 05 02.9	+0.9
KMPI				S	Sn	11 05 52.4	-0.4
SWI	**Sorong**	**5.45**	**12**	P	Pn	11 05 16.4	+0.3
	12nm,0.5s,1μm0.3nm						
RKPI	**Ransiki, Papua**	**6.19**	**41**	P	Pn	11 05 25.6	-0.4

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*NEIC **24** 11:09:38.5±1.5, 23°.05S±0°.2×179°.5W±0°.2, h520km±20km, mb4.4/21, Error ellipse: s-maj=33.7km s-min=22.4km az=224.0*
*IDC **24** 11:09:40.5±4.5, 23°.31S×179°.93W, h504km±52km, mb3.4/7, mbtmp4.3/9, Error ellipse: s-maj=31.9km s-min=21.0km az=42.0*
ISC 24 11:09:44.3±1.2, 23°.5S±0°.1×179°.9E±0°.1, h550km, n35, σ1°07/34, mb4.3/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.01**	**343**	P	P	11 11 11.7	-12
PINNC	**Pines Island,**	**11.53**	**272**	P	**P**	**11 12 19.7**	**+1.7**
DZM	**Mont Dzumac**	**12.53**	**274**	P	**P**	**11 12 25.4**	**-3.0**
	8.5nm,1.1s,baz=94,slow=21,SNR=1.8						
URZ	**Urewera**	**14.90**	**189**	P	**P**	**11 12 51.6**	**-0.9**
	7.9nm,0.5s,baz=143,slow=2.1,SNR=7.0						
URZ				S	**S**	**11 15 25.4**	**-2.2**
	5.3nm,0.8s,baz=200,slow=17,SNR=1.4						
RTZ	**Ruatahuna**	**15.27**	**189**	P	**P**	**11 12 57.3**	**+0.9**
RTZ				IAmb	IAmb	11 13 15.3	
	comp=Z,24nm,1.3s						
THZ	**Tophouse**	**19.13**	**196**	P	**P**	**11 13 33.5**	**+1.2**
RPZ	**Rata Peaks**	**21.45**	**198**	P	**P**	**11 13 54.3**	**+1.1**
	comp=Z,5.1nm,0.9s,baz=16,slow=18,SNR=1.1						
	comp=Z,5.1nm,0.9s						
WHZ	**Wether Hill Ro**	**24.36**	**201**	P	**P**	**11 14 20.1**	**+1.0**
WHZ				IAmb	IAmb	11 14 39.2	
	comp=Z,31nm,1.4s						
EIDS	**Eidsvold**	**26.31**	**260**	P	**P**	**11 14 37.7**	**+1.0**
EIDS				IAmb	IAmb	11 15 07.2	
	comp=Z,15nm,1.4s						
CAN	**Canberra**	**29.29**	**239**	P	**P**	**11 15 03.9**	**+1.2**
CTAO	**Charters Tower**	**31.41**	**270**	P	**P**	**11 15 21.7**	**+0.7**
TOO	**Toolangi**	**32.61**	**236**	P	**P**	**11 15 31.8**	**+0.8**
PMG	**Port Moresby**	**34.31**	**289**	P	**P**	**11 15 44.9**	**-0.7**
	comp=Z,8.2nm,0.6s,baz=129,slow=4.5,SNR=4.4						
	comp=Z,8.2nm,0.6s						
STKA	**Stephens Creek**	**34.81**	**248**	P	**P**	**11 15 50.5**	**+0.9**
STKA	**Stephens Creek**	**34.81**	**248**	P	**P**	**11 15 51.0**	**+1.4**
	comp=Z,3.0nm,0.5s,baz=90,slow=10,SNR=8.1						
	comp=Z,3.0nm,0.5s						
COEN	**Coen**	**35.99**	**279**	P	**P**	**11 15 59.4**	**-0.2**
BBOO	**Buckleboo**	**39.54**	**246**	P	**P**	**11 16 28.1**	**-0.2**
BBOO				IAmb	IAmb	11 17 11.4	
	comp=Z,23nm,1.4s						
AS31	**Alice Springs**	**42.04**	**260**	P	**P**	**11 16 48.8**	**+0.5**
ASAR	**Alice Springs**	**42.04**	**260**	P	**P**	**11 16 48.1**	**-0.2**
ASAR	**Alice Springs**	**42.04**	**260**	P	**P**	**11 16 48.8**	**+0.5**
	comp=Z,5.3nm,0.5s,baz=94,slow=7.4,SNR=99						
	comp=Z,5.3nm,0.5s						
WR0	**Warramunga Arr**	**42.19**	**266**	P	**P**	**11 16 48.7**	**-0.7**
WR0				IAmb	IAmb	11 16 49.4	
	comp=Z,3.8nm,0.6s						
WB2	**Warramunga Arr**	**42.36**	**266**	P	**P**	**11 16 50.4**	**-0.5**
WB2				IAmb	IAmb	11 16 51.3	
	comp=Z,7.2nm,0.8s						
WB0	**Warramunga Arr**	**42.36**	**266**	P	**P**	**11 16 50.6**	**-0.2**
WB0				IAmb	IAmb	11 16 51.3	
	comp=Z,8.4nm,0.7s						
WRAB	**Tennant Creek**	**42.37**	**266**	P	**P**	**11 16 50.6**	**-0.2**
WRAB				IAmb	IAmb	11 16 51.2	
	comp=Z,7.6nm,0.8s						
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**11 16 50.5**	**-0.4**
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**11 16 50.6**	**-0.3**
	comp=Z,5.9nm,0.5s,baz=104,slow=8.3,SNR=201						
	comp=Z,5.9nm,0.5s						
FORT	**Forrest**	**46.39**	**249**	P	**P**	**11 17 21.3**	**-0.4**
MTN	**Manton Dam**	**47.37**	**274**	P	**P**	**11 17 28.0**	**-1.2**
MTN				IAmb	IAmb	11 17 29.4	
	comp=Z,14nm,1.4s						
KNRA	**Kununurra**	**48.63**	**269**	P	**P**	**11 17 38.4**	**-0.2**
KNRA				IAmb	IAmb	11 18 20.0	
	comp=Z,17nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.80**	**265**	P	**P**	**11 17 54.9**	**+0.3**
MBWA	**Marble Bar**	**55.38**	**260**	P	**P**	**11 18 26.3**	**-0.7**
MBWA				IAmb	IAmb	11 18 47.1	
	comp=Z,12nm,1.2s						
QSPA	**South Pole Qui**	**66.58**	**180**	P	**P**	**11 19 41.0**	**+1.0**
QSPA	**South Pole Qui**	**66.58**	**180**	P	**P**	**11 19 40.9**	**+1.0**
	comp=Z,1.0nm,1.1s,baz=0.0,slow=3.0,SNR=2.1						
	comp=Z,1.0nm,1.1s						
TXAR	**Lajitas Array**	**90.28**	**58**	P	**P**	**11 21 46.5**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=221,slow=6.3,SNR=6.9						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**142.15**	**349**	PKhKP	PKPpre	11 28 08.2	
	comp=Z,1.0nm,0.3s,baz=83,slow=4.6,SNR=12						

IDC 24 11:27:09.4±4.4, 23°.46S×179°.38W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=240.7km s-min=43.7km az=155.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.67**	**260**	P	P	11 35 07.6	-0.6
	0.6nm,0.4s,baz=94,slow=7.4,SNR=18						
	0.6nm,0.4s						
WRA	**Warramunga Arr**	**43.01**	**265**	P	P	11 35 11.3	+0.4
	1.3nm,0.5s,baz=103,slow=7.8,SNR=20						
	1.3nm,0.5s						
HFS	**Hagfors**	**142.22**	**349**	PKP	PKPdf	11 46 41.6	-1.7
	0.6nm,0.3s,baz=36,slow=1.7,SNR=11						
BRTR	**Keskin Array B**	**147.76**	**308**	PKPbc	PKPbc	11 46 55.6	-1.0
	0.3nm,0.3s,baz=67,slow=3.2,SNR=1.9						
EKA	**Eskdalemuir Ar**	**148.04**	**4**	PKPbc	PKPbc	11 46 56.2	-0.3
	0.6nm,0.6s,baz=350,slow=3.2,SNR=1.9						

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*IDC **24** 11:38:07.5±1.7, 40°.97N×142°.78E, h0km, mb3.6/7, mbtmp3.6/7, ML2.9/1, MS2.8/3, Error ellipse: s-maj=54.4km s-min=20.1km az=78.0*
*JMA **24** 11:38:10.1±0.2, 41°.0N±0°.7×14°.3E±°, h26km, MV3.3/36, E OFF AOMORI PREF*
ISC 24 11:38:10.6±1.0, 41°.00N±0°.05×143°.11E±0°.10, h30km, n33, σ1°25/28, mb3.5/7, 1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.01**	**2**	P	**Pn**	**11 38 28.3**	**-0.5**
JEM				S	**Sn**	**11 38 41.6**	**-0.3**
JTHR	**Tokachihiroo**	**1.29**	**6**	*e*P	**Pn**	**11 38 32.4**	**-0.2**
JTHR				*e*S	**Sn**	**11 38 48.8**	**-0.1**
JNBK	**Urakawa-nobuka**	**1.30**	**348**	P	**Pn**	**11 38 32.9**	**+0.1**
JNBK				*e*S	**Sb**	**11 38 50.5**	**-0.4**
JANG	**Nango**	**1.37**	**243**	*i*P	**Pb**	**11 38 34.8**	**-0.7**
JTM	**Tenmabayashi**	**1.56**	**263**	P	**Pb**	**11 38 37.8**	**-1.1**
JOT	**Ohata**	**1.60**	**284**	P	**Pb**	**11 38 37.9**	**-1.6**
JCH	**Churui**	**1.62**	**7**	P	**Pn**	**11 38 36.8**	**-0.3**
JKB	**Kayabe**	**1.80**	**300**	P	**Pb**	**11 38 40.3**	**-2.4**
JIAM	**Iburiatsuma**	**1.85**	**332**	*e*P	**Pb**	**11 38 43.6**	**0.0**
JBT2	**Biratori 2**	**1.86**	**343**	P	**Pn**	**11 38 41.7**	**+1.3**
JOB	**Onbets**	**1.97**	**16**	P	**Pn**	**11 38 41.6**	**-0.3**
JAH	**Hinai**	**2.05**	**247**	P	**Pb**	**11 38 45.6**	**-1.5**
JOM	**Ohasama**	**2.07**	**223**	P	**Pb**	**11 38 46.0**	**-1.4**
JEW	**Eniwo**	**2.22**	**326**	P	**Pb**	**11 38 47.9**	**-2.1**
JAK	**Akkeshi**	**2.32**	**30**	P	**Pn**	**11 38 45.7**	**-0.9**
JAR	**Ashorobuto**	**2.34**	**12**	⇓P	**Pn**	**11 38 46.4**	**-0.7**
ASAJ	**Asahikawa**	**3.13**	**353**	Pn	**Pn**	**11 38 59.1**	**+1.3**
	1.0nm,0.3s,baz=216,slow=12,SNR=13						
ASAJ				Sn	**Sn**	**11 39 37.6**	**+3.4**
	0.8nm,0.3s,baz=319,slow=15,SNR=1.9						
USRK	**Ussuriysk Ar.**	**8.80**	**295**	LR	LR	11 43 59.3	
	comp=Z,35nm,18.5s,baz=195,slow=41						
KSRS	**Korea Array**	**12.30**	**258**	LR	LR	11 45 42.2	
	comp=Z,27nm,18.2s,baz=55,slow=38						
SONM	**Songino Array**	**26.91**	**297**	P	**P**	**11 43 48.9**	**-0.1**
	0.3nm,0.4s,baz=92,slow=9.7,SNR=2.5						
	0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**29.34**	**129**	T	T	12 15 00.6	
	baz=322,slow=75,SNR=8.6						
H11N1	**WAKE ISLAND Hy**	**29.35**	**129**	T	T	12 15 02.2	
	baz=322,slow=75,SNR=7.4						
H11N3	**WAKE ISLAND Hy**	**29.36**	**129**	T	T	12 15 04.8	
	baz=322,slow=75,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**30.18**	**131**	T	T	12 16 12.4	
	baz=324,slow=76,SNR=6.7						
H11S3	**WAKE ISLAND Hy**	**30.19**	**131**	T	T	12 16 19.0	
	baz=324,slow=76,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**30.20**	**131**	T	T	12 16 13.8	
	baz=324,slow=76,SNR=6.9						
ZALV	**Zalesovo Beam**	**40.33**	**309**	P	**P**	**11 45 44.9**	**-0.1**
	0.4nm,0.4s,baz=85,slow=8.5,SNR=1.4						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**43.25**	**299**	P	**P**	**11 46 08.3**	**-0.7**
	0.4nm,0.6s,baz=75,slow=8.8,SNR=2.1						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**44.70**	**305**	P	**P**	**11 46 20.5**	**-0.1**
	0.7nm,0.4s,baz=80,slow=8.1,SNR=2.5						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**61.18**	**189**	P	**P**	**11 48 23.2**	**+0.9**
	0.2nm,0.4s,baz=7.1,slow=7.1,SNR=7.5						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**64.90**	**189**	P	**P**	**11 48 48.6**	**+1.5**
	0.1nm,0.3s,baz=12,slow=4.7,SNR=2.1						
	0.1nm,0.3s						
FINES	**FINESS Array B**	**65.93**	**332**	P	**P**	**11 48 53.5**	**+0.3**
	1.3nm,0.6s,baz=53,slow=7.3,SNR=3.6						
	1.3nm,0.6s						
ELK	**Elko**	**72.01**	**51**	LR	LR	12 16 31.3	
	comp=Z,18nm,21.9s,baz=32,slow=32						

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*NEIC **24** 11:50:51.6±0.7, 29°.1S±0°.2×176°.10W±0°.09, h10km±2km, mb4.4/22, Error ellipse: s-maj=35.3km s-min=12.7km az=359.0*
*IDC **24** 11:51:06.0±2.6, 30°.38S×177°.61W, h42km±20km, mb4.0/6, mbtmp4.2/8, ML4.6/2, MS3.3/9, Error ellipse: s-maj=28.6km s-min=15.5km az=98.0*
ISC 24 11:51:04.4±0.7, 30°.51S±0°.05×177°.8W±0°.1, h35km, n73, σ2°30/86, mb4.4/17, MS3.3/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.25**	**355**	P	**Pn**	**11 51 23.5**	**-1.9**
GLKZ				S	**Sn**	**11 51 39.4**	**-1.6**
RAO	**Raoul Island**	**1.26**	**355**		**Pn**	**11 51 24.2**	**-1.4**
RAO				Sn	**Sn**	**11 51 40.6**	**-0.7**
RAO	**Raoul Island**	**1.26**	**355**	P	**Pn**	**11 51 24.5**	**-1.1**
	5μm,0.2s,baz=103,slow=8.0,SNR=147						
RAO				S	**Sn**	**11 51 40.4**	**-0.9**
	7μm,0.3s,baz=83,slow=22,SNR=28						
RAO				LR	LR	11 51 51.2	
	comp=Z,348nm,19.7s,baz=322,slow=39						
RIZ	**Raoul Island**	**1.27**	**355**	P	**Pn**	**11 51 24.1**	**-1.6**
RIZ				S	**Sn**	**11 51 40.8**	**-0.7**
MXZ	**Matakaoa Point**	**7.74**	**204**	P	**Pn**	**11 52 51.4**	**-3.1**
MXZ				S	**Sn**	**11 54 20.9**	**0.0**
WMGZ	**Waiomatatini S**	**7.93**	**202**	P	**Pn**	**11 52 53.9**	**-3.3**
WMGZ				S	**

PMG	**Port Moresby**	**38.81 295**	P	**P**	**11 58 21.6**	**-4.5**
PMG			IAmb	IAmb	11 58 24.6	
	comp=Z,6.2nm,0.9s					
BBOO	**Buckleboo**	**39.10 254**	P	**P**	**11 58 31.2**	**+2.7**
BBOO			IAmb	IAmb	11 58 45.3	
	comp=Z,10nm,0.9s					
COEN	**Coen**	**39.47 286**	P	**P**	**11 58 29.4**	**-2.2**
COEN			IAmb	IAmb	11 58 31.1	
	comp=Z,8.5nm,1.1s					
AS31	**Alice Springs**	**43.27 267**	P	**P**	**11 59 05.9**	**+3.0**
ASAR	**Alice Springs**	**43.27 267**	P	**P**	**11 59 03.1**	**+0.2**
ASAR	**Alice Springs**	**43.27 267**	P	**P**	**11 59 04.9**	**+2.0**
	comp=Z,1.4nm,0.5s,baz=104,slow=7.1,SNR=27					
ASAR			LR	LR	12 16 39.4	
	comp=Z,70nm,18.4s,baz=128,slow=35					
	comp=Z,1.4nm,0.5s					
WR0	**Warramunga Arr**	**44.09 272**	P	**P**	**11 59 09.9**	**+0.4**
WR0			IAmb	IAmb	11 59 15.7	
	comp=Z,3.5nm,0.7s					
WB2	**Warramunga Arr**	**44.26 272**	P	**P**	**11 59 12.2**	**+1.4**
WRAB	**Tennant Creek**	**44.27 272**	P	**P**	**11 59 12.2**	**+1.3**
WRA	**Warramunga Arr**	**44.27 272**	P	**P**	**11 59 12.1**	**+1.1**
WRA	**Warramunga Arr**	**44.27 272**	P	**P**	**11 59 12.0**	**+1.1**
	comp=Z,3.4nm,0.4s,baz=110,slow=8.1,SNR=58					
WRA			LR	LR	12 16 39.8	
	comp=Z,37nm,20.4s,baz=130,slow=34					
	comp=Z,3.4nm,0.4s					
WB0	**Warramunga Arr**	**44.30 272**	P	**P**	**11 59 12.0**	**+0.9**
FORT	**Forrest**	**46.18 255**	P	**P**	**11 59 29.5**	**+3.6**
SBA	**Scott Base**	**47.94 184**	P	**P**	**11 59 41.5**	**+2.6**
SBA			IAmb	IAmb	12 00 10.3	
	comp=Z,6.6nm,1.1s					
MTN	**Manton Dam**	**50.17 279**	P	**P**	**11 59 56.4**	**-0.5**
MTN			IAmb	IAmb	12 00 05.2	
	comp=Z,6.4nm,1.1s					
KNRA	**Kununurra**	**50.88 274**	P	**P**	**12 00 02.8**	**+0.6**
KNRA			IAmb	IAmb	12 00 26.0	
	comp=Z,7.0nm,1.0s					
FITZ	**Fitzroy Crossi**	**52.53 270**	P	**P**	**12 00 15.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**52.53 270**	LR	LR	12 21 08.8	
	comp=Z,37nm,22.0s,baz=154,slow=34					
BATI	**Baumata**	**57.84 277**	LR	LR	12 26 03.4	
	comp=Z,85nm,18.3s,baz=139,slow=36					
RPN	**Rapa Nui**	**59.24 105**	LR	LR	12 23 09.6	
	comp=Z,4.7nm,18.0s,baz=244,slow=32					
QSPA	**South Pole Qui**	**59.60 180**	P	**P**	**12 01 05.3**	**+0.8**
QSPA	**South Pole Qui**	**59.60 180**	P	**P**	**12 01 06.8**	**+2.2**
	comp=Z,0.7nm,0.6s,baz=274,slow=1.4,SNR=8.3					
	comp=Z,0.7nm,0.6s					
SNAA	**Sanae**	**78.04 178**	P	**P**	**12 02 57.4**	**-1.7**
SNAA			IAmb	IAmb	12 03 20.1	
	comp=Z,2.1nm,1.0s					
SNAA	**Sanae**	**78.04 178**	P	**P**	**12 03 00.2**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=277,slow=18,SNR=1.9					
	comp=Z,1.0nm,0.9s					
H03S2	**Juan Fernandez**	**80.26 123**	T	T	13 32 45.1	
	baz=238,slow=74,SNR=8.3					
H03S1	**Juan Fernandez**	**80.27 123**	T	T	13 32 43.1	
	baz=238,slow=74,SNR=7.9					
H03S3	**Juan Fernandez**	**80.28 123**	T	T	13 32 24.8	
	baz=238,slow=74,SNR=6.1					
PETK	**Petropavlovsk-**	**85.96 345**	P	**P**	**12 03 40.8**	**+0.2**
	comp=Z,2.7nm,1.0s,baz=137,slow=4.7,SNR=1.6					
	comp=Z,2.7nm,1.0s					
BVAR	**Borovoye Array**	**126.61 316**	PKP	**PKiKP**	**12 10 03.7**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=95,slow=2.2,SNR=3.4					
ARCES	**ARCESS Array B**	**138.74 348**	PKP	**PKiKP**	**12 10 27.1**	**-0.9**
	comp=Z,5.4nm,1.0s,baz=8.6,slow=3.0,SNR=1.7					
FINES	**FINESS Array B**	**145.31 340**	PKPbc	**PKPab**	**12 10 37.5**	**-0.2**
	comp=Z,4.0nm,0.4s,baz=49,slow=1.6,SNR=79					
KBZ	**Khabaz**	**145.32 304**	PKPbc	**PKPab**	**12 10 39.4**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=56,slow=21,SNR=1.9					
NB2	**NORSAR Subarra**	**148.89 352**	PKP	**PKPbc**	**12 10 47.5**	**-0.3**
	comp=Z,5.1nm,0.8s,baz=14,slow=4.3					
NOA	**NORSAR Array B**	**148.89 352**	PKPbc	**PKiKP**	**12 10 47.9**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=19,slow=2.7,SNR=3.0					
HFS	**Hagfors**	**149.39 349**	PKPbc	**PKPbc**	**12 10 48.7**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=27,slow=2.7,SNR=6.9					
AKASG	**Malin Array Be**	**151.49 323**	PKPbc	**PKiKP**	**12 10 54.3**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=47,slow=3.2,SNR=7.3					
AKASG			PKPab	**PKPab**	**12 11 02.2**	**-0.6**
	comp=Z,3.8nm,0.5s,baz=50,slow=2.8,SNR=17					
MMAI	**Mount Meron Ar**	**151.72 284**	PKPbc	**PKiKP**	**12 10 56.9**	**+0.9**
	comp=Z,1.2nm,0.4s,baz=90,slow=2.4,SNR=5.3					
MMAI			PKPab	**PKPab**	**12 11 04.7**	**+0.2**
	comp=Z,4.0nm,0.5s,baz=74,slow=6.3,SNR=9.4					
BRTR	**Keskin Array B**	**152.80 298**	PKPbc	**PKiKP**	**12 10 58.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=86,slow=2.6,SNR=4.0					
BRTR			PKPab	**sPKPdf**	**12 11 05.5**	**+1.1**
	comp=Z,1.3nm,0.4s,baz=88,slow=4.7,SNR=6.6					

*KRNET **24** 12:21:09.9±0.1, 41°.90N×77°.37E, h18km, mb4.2*
*SOME **24** 12:21:10.1, 41°.92N×77°.33E, h15km, MS2.9*
*NNC **24** 12:21:11.2±0.6, 41°.98N×77°.42E, h0km, mb4.6, mpv4.6, Error ellipse: s-maj=3.9km s-min=2.8km az=172.0*
*KNET **24** 12:21:12.2±0.4, 42°.01N×77°.26E, h11km±1km, ml3.7, Error ellipse: s-maj=5.1km s-min=2.2km az=22.0*
*IDC **24** 12:21:18.0±4.9, 42°.27N×78°.26E, h0km, mb3.2/1, mbtmp3.4/3, ML2.8/2, MS2.8/2, Error ellipse: s-maj=74.6km s-min=36.9km az=96.0*

ISC 24 12:21:11.1±1.1, 41°.96N±0°.03×77°.34E±0°.02, h10km±7km, n95, σ1§20/166, 38C-40D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.20**	**326**	⇓*iP*	**Pg**	**12 21 15.0**	**-0.5**
KDJ				⇓*iS*	**Sg**	**12 21 19.4**	**+0.9**
ANVS	**Anan'yevo**	**0.86**	**17**	⇑*iP*	**Pg**	**12 21 26.9**	**-0.7**
ANVS				⇑*iS*	**Sb**	**12 21 39.0**	**-0.9**
ULHL	**Ulahol**	**0.86**	**290**	⇑P	**Pg**	**12 21 27.2**	**-0.6**
ULHL	95nm,0.1s			⇑S	**Sg**	**12 21 39.7**	**+0.7**
	454nm,0.2s						
ULHL	**Ulahol**	**0.86**	**290**	⇑*iP*	**Pg**	**12 21 26.8**	**-0.9**
ULHL				⇑*iS*	**Sg**	**12 21 38.9**	**-0.1**
PRZ	**Przheval'sk**	**0.95**	**56**	⇑*iP*	**Pg**	**12 21 28.1**	**-1.2**
PRZ				⇑*iS*	**Sg**	**12 21 41.1**	**-0.6**
TNSS	**Tian-Shan**	**1.11**	**345**	P	**Pg**	**12 21 32.1**	**-0.4**
	265nm,0.2s						
TNSS				S	**Sb**	**12 21 47.7**	**+0.2**
	295nm,0.2s						
TNSS	**Tian-Shan**	**1.11**	**345**	*eP*	**Pg**	**12 21 31.9**	**-0.6**
	265nm,0.2s						
TNSS				*eS*	**Sb**	**12 21 47.7**	**+0.2**
	423nm,0.2s						
TNSS	**Tian-Shan**	**1.11**	**345**	*eP*	**Pg**	**12 21 31.9**	**-0.6**
TNSS				*eS*	**Sb**	**12 21 47.6**	**+0.2**
NRN	**Naryn**	**1.13**	**243**	⇓*iP*	**Pb**	**12 21 31.3**	**-1.6**
NRN				⇓*iS*	**Sg**	**12 21 46.8**	**-0.8**
BOOM	**Boomskoye usch**	**1.16**	**297**	⇓*eP*	**Pb**	**12 21 32.0**	**-1.4**
BOOM				⇓*eS*	**Sb**	**12 21 48.5**	**-0.2**
MDOK	**Medeo**	**1.22**	**350**	⇓P	**Pb**	**12 21 33.6**	**-0.8**
	571nm,0.5s						
MDOK				Pg	**Pb**	**12 21 33.8**	**-0.6**
	899nm,0.2s						
MDOK				⇓S	**Sn**	**12 21 50.5**	**-0.6**
	385nm,0.4s						
MDOK				Lg	Lg	12 21 50.7	
	624nm,0.3s						
MDOK	**Medeo**	**1.22**	**350**	*eP*	**Pb**	**12 21 33.8**	**-0.6**
	382nm,0.1s						
MDOK				*eS*	**Sn**	**12 21 50.7**	**-0.4**
	624nm,0.3s						
MDOK	**Medeo**	**1.22**	**350**	*eP*	**Pb**	**12 21 33.8**	**-0.6**
MDOK				*eS*	**Sn**	**12 21 50.7**	**-0.4**
KOTS	**Kotyrbulak**	**1.28**	**353**	P	**Pb**	**12 21 35.4**	**-0.1**
	2μm,0.1s						
KOTS				S	**Sn**	**12 21 53.1**	**+0.5**
	795nm,0.3s						
KOTS	**Kotyrbulak**	**1.28**	**353**	*eP*	**Pb**	**12 21 35.2**	**-0.3**
	2μm,0.1s						
KOTS				*eS*	**Sn**	**12 21 53.1**	**+0.5**
	795nm,0.3s						
KOTS	**Kotyrbulak**	**1.28**	**353**	*eP*	**Pb**	**12 21 35.2**	**-0.3**
KOTS				*eS*	**Sn**	**12 21 53.1**	**+0.5**
AAA	**Alma-Ata**	**1.28**	**346**	P	**Pg**	**12 21 35.7**	**-0.1**
	3μm,0.3s						
AAA				S	**Sn**	**12 21 53.5**	**+0.9**
	528nm,0.3s						
AAA	**Alma-Ata**	**1.28**	**346**	*eP*	**Pg**	**12 21 35.7**	**-0.1**
	2μm,0.1s						
AAA				*eS*	**Sn**	**12 21 53.5**	**+0.9**
	456nm,0.1s						
KNDC	**Almaty**	**1.28**	**348**	⇓P	**Pg**	**12 21 35.5**	**-0.3**
	819nm,0.3s						
KNDC				⇑S	**Sn**	**12 21 53.9**	**+1.4**
	2μm,0.6s						
MTBS	**Maitube**	**1.35**	**330**	P	**Pn**	**12 21 36.2**	**+0.1**
	632nm,0.2s						
MTBS				S	**Sg**	**12 21 54.7**	**+0.2**
	824nm,0.2s						
MTBS	**Maitube**	**1.35**	**330**	*eP*	**Pn**	**12 21 36.2**	**+0.1**
	632nm,0.2s						
MTBS				*eS*	**Sg**	**12 21 54.7**	**+0.2**
	824nm,0.2s						
MTBS	**Maitube**	**1.35**	**330**	*eP*	**Pn**	**12 21 36.2**	**+0.1**
MTBS				*eS*	**Sg**	**12 21 54.7**	**+0.2**
SATY	**Saty**	**1.35**	**35**	P	**Pn**	**12 21 35.6**	**-0.6**
	563nm,0.3s						
SATY				S	**Sg**	**12 21 53.9**	**-0.8**
	936nm,0.3s						
SATY	**Saty**	**1.35**	**35**	*eP*	**Pn**	**12 21 35.6**	**-0.6**
	267nm,0.1s						
SATY				*eS*	**Sg**	**12 21 53.9**	**-0.8**
	3μm,0.1s						
SATY	**Saty**	**1.35**	**35**	*eP*	**Pn**	**12 21 35.6**	**-0.6**
SATY				*eS*	**Sg**	**12 21 53.9**	**-0.8**
KASK	**Kaskelen**	**1.36**	**338**	⇓P	**Pb**	**12 21 36.5**	**-0.1**
	409nm,0.3s						
KASK				⇓S	**Sg**	**12 21 55.7**	**+0.9**
	725nm,0.6s						
ZHN	**Zhinishke**	**1.45**	**34**	P	**Pn**	**12 21 37.4**	**-0.2**
	514nm,0.3s						
ZHN				S	**Sg**	**12 21 56.8**	**-1.1**
	2μm,0.2s						
ZHN	**Zhinishke**	**1.45**	**34**	*eP*	**Pn**	**12 21 37.5**	**-0.2**
	514nm,0.3s						
ZHN				*eS*	**Sg**	**12 21 56.8**	**-1.1**
	3μm,0.2s						
ZHN	**Zhinishke**	**1.45**	**34**	*eP*	**Pn**	**12 21 37.5**	**-0.2**
ZHN				*eS*	**Sg**	**12 21 56.8**	**-1.1**
KST	**Kastek**	**1.48**	**317**	P	**Pb**	**12 21 38.7**	**-0.1**
	421nm,0.5s						
KST				S	**Sg**	**12 21 59.7**	**+0.9**
	911nm,0.4s						
KST	**Kastek**	**1.48**	**317**	*eP*	**Pb**	**12 21 38.7**	**-0.1**
	103nm,0.2s						
KST				*eS*	**Sg**	**12 21 59.7**	**+0.9**
	911nm,0.4s						
TKM2	**Tokmak 2**	**1.60**	**307**	⇑P	**Pb**	**12 21 40.9**	**-0.1**
	92nm,0.1s,SNR=115						
TKM2				⇓S	**Sg**	**12 22 03.1**	**+0.4**
	644nm,0.2s						
TKM2	**Tokmak 2**	**1.60**	**307**	⇑P	**Pb**	**12 21 40.7**	**-0.3**
	53nm,0.3s						
TKM2				⇑S	**Sg**	**12 22 03.2**	**+0.4**
	371nm,0.5s						
TKM2	**Tokmak 2**	**1.60**	**307**	⇓*iP*	**Pn**	**12 21 39.9**	**+0.2**
TKM2				⇓*iS*	**Sb**	**12 22 02.0**	**+0.6**
KURS	**Kuram**	**1.65**	**22**	*eP*	**Pb**	**12 21 41.1**	**-0.5**
	221nm,0.3s						
KURS				*eS*	**Sg**	**12 22 03.8**	**-0.2**
	552nm,0.2s						
KURS	**Kuram**	**1.65**	**22**	*eP*	**Pb**	**12 21 41.1**	**-0.5**
KURS				*eS*	**Sg**	**12 22 03.8**	**-0.2**
UZB	**Uzynbulak**	**1.72**	**46**	P	**Pb**	**12 21 41.9**	**-1.0**
	286nm,0.3s						
UZB				S	**Sb**	**12 22 04.6**	**-0.1**
	1μm,0.3s						
UZB	**Uzynbulak**	**1.72**	**46**	*eP*	**Pb**	**12 21 41.9**	**-1.0**
	286nm,0.3s						
UZB				*eS*	**Sb**	**12 22 04.6**	**-0.1**
	2μm,0.1s						
UZB	**Uzynbulak**	**1.72**	**46**	*eP*	**Pb**	**12 21 41.9**	**-1.0**
UZB				*eS*	**Sb**	**12 22 04.6**	**-0.1**
DGS	**Degeres**	**1.72**	**318**	P	**Pb**	**12 21 42.9**	**0.0**
	169nm,0.5s						
DGS				S	**Sg**	**12 22 06.6**	**+0.1**
	571nm,0.4s						
DGS	**Degeres**	**1.72**	**318**	*eP*	**Pb**	**12 21 42.9**	**0.0**
	75nm,0.1s						
DGS				*eS*	**Sg**	**12 22 06.6**	**+0.1**
	730nm,0.2s						
DGS	**Degeres**	**1.72**	**318**	*eP*	**Pb**	**12 21 42.9**	**0.0**
DGS				*eS*	**Sg**	**12 22 06.6**	**+0.1**
KPKS	**Kokpek**	**1.80**	**33**	*eP*	**Pb**	**12 21 43.5**	**-0.7**
	809nm,0.2s						
KPKS				*eS*	**Sg**	**12 22 07.4**	**-1.6**
	3μm,0.5s						
KTBS	**Karatobe**	**1.81**	**345**	P	**Pb**	**12 21 44.6**	**+0.2**
	421nm,0.3s						
KTBS				S	**Sg**	**12 22 09.6**	**+0.1**
	2μm,0.4s						
KTBS	**Karatobe**	**1.81**	**345**	*eP*	**Pb**	**12 21 44.6**	**+0.2**
	421nm,0.3s						
KTBS				*eS*	**Sg**	**12 22 09.6**	**+0.1**
	2μm,0.4s						
KBK	**Karagaybulak**	**1.90**	**292**	⇓P	**Pb**	**12 21 46.1**	**+0.1**
	132nm,0.3s,SNR=33						
KBK				⇑S	**Sg**	**12 22 12.6**	**+0.3**
	866nm,0.5s						
KBK	**Karagaybulak**	**1.90**	**292**	⇓*iP*	**Pn**	**12 21 44.8**	**+1.0**
KBK				⇓*iS*	**Sb**	**12 22 10.0**	**+0.1**
SHLS	**Shalkode**	**1.97**	**52**	Pg	**Pg**	**12 21 50.8**	**+1.9**
	167nm,0.4s						
SHLS				Lg	Lg	12 22 20.6	
	2μm,0.3s						
SHLS	**Shalkode**	**1.97**	**52**	*eP*	**Pg**	**12 21 50.9**	**+1.9**
	167nm,0.4s						
SHLS				*eS*	**Sg**	**12 22 20.6**	**+6.0**
	3μm,0.2s						
KUU	**Kurty**	**2.06**	**340**	Pg	**Pb**	**12 21 48.8**	**+0.1**
	423nm,0.5s						
KUU				Lg	Lg	12 22 16.6	
	620nm,0.4s						
KUU	**Kurty**	**2.06**	**340**	*eP*	**Pb**	**12 21 48.8**	**+0.1**
	423nm,0.5s						
KUU				*eS*	**Sg**	**12 22 16.6**	**-0.8**
	1μm,0.3s						
UCH	**Uchtor**	**2.12**	**278**	⇓P	**Pb**	**12 21 50.0**	**+0.1**
	40nm,0.3s,SNR=14						
UCH				⇓S	**Sg**	**12 22 19.1**	**-0.1**
	42nm,0.3s						
UCH	**Uchtor**	**2.12**	**278**	⇓*iP*	**Pn**	**12 21 47.8**	**+0.8**
UCH				⇓*iS*	**Sn**	**12 22 15.2**	**+1.6**
CHMS	**Chumysh**	**2.17**	**299**	⇑P	**Pb**	**12 21 50.0**	**-0.5**
	51nm,0.3s,SNR=43						
CHMS				⇓S	**Sg**	**12 22 19.7**	**-1.3**
	323nm,0.4s						
CHMS	**Chumysh**	**2.17**	**299**	⇓Pn	**Pb**	**12 21 50.3**	**-0.3**
	24nm,0.5s						
CHMS				⇑Sn	**Sb**	**12 22 19.4**	**+1.8**
	280nm,0.8s						
CHMS	**Chumysh**	**2.17**	**299**	⇓*iP*	**Pn**	**12 21 48.5**	**+1.1**
CHMS				⇓*iS*	**Sb**	**12 22 17.0**	**-0.6**
FRU1	**Bishkek**	**2.18**	**294**	⇓*iP*	**Pn**	**12 21 48.5**	**+1.0**
FRU1				⇓*iS*	**Sb**	**12 22 16.7**	**-1.0**
ARLS	**Aral**	**2.25**	**268**	⇑*iP*	**Pn**	**12 21 49.2**	**+0.6**
ARLS				⇑*iS*	**Sn**	**12 22 17.9**	**+1.4**
ARXS	**Arharly**	**2.28**	**9**	Pg	**Pb**	**12 21 51.8**	**-0.6**
	240nm,0.5s						
ARXS				Lg	Lg	12 22 22.1	
	1μm,0.5s						
ARXS	**Arharly**	**2.28**	**9**	*eP*	**Pb**	**12 21 51.8**	**-0.6**
	240nm,0.5s						
ARXS				*eS*	**Sg**	**12 22 22.1**	**-2.2**
	743nm,0.2s						
BLB	**Baldybastay**	**2.29**	**21**	Pg	**Pb**	**12 21 52.1**	**-0.5**
	2μm,0.3s						
BLB				Lg	Lg	12 22 23.2	
	1μm,0.5s						
USP	**Ospenovka**	**2.47**	**303**	⇑P	**Pb**	**12 21 54.6**	**-0.9**
	60nm,0.2s,SNR=32						
USP	**Ospenovka**	**2.47**	**303**	⇓*iP*	**Pn**	**12 21 52.3**	**+0.9**
USP				⇓*iS*	**Sb**	**12 22 24.1**	**-1.9**
SGDS	**Sogindy**	**2.49**	**308**	Pg	**Pb**	**12 21 55.3**	**-0.6**
	95nm,0.4s						
SGDS				Lg	Lg	12 22 27.5	
	517nm,0.5s						
AML	**Almayashu**	**2.72**	**275**	⇑*iP*	**Pn**	**12 21 56.0**	**+0.8**
AML				⇑*iS*	**Sn**	**12 22 29.5**	**+1.2**
EKS2	**Erkin-Say**	**2.73**	**286**	⇑*iP*	**Pn**	**12 21 56.0**	**+0.9**
EKS2				⇑*iS*	**Sn**	**12 22 29.6**	**+1.3**
KNOS	**Konyrlen**	**2.75**	**29**	Pg	**Pb**	**12 21 58.1**	**-2.4**
	59nm,0.3s						
KNOS				Lg	Lg	12 22 32.5	
	247nm,0.5s						
SALK	**Salom-Alik**	**2.85**	**249**	⇑*eP*	**Pn**	**12 21 57.1**	**+0.2**
SALK				⇑*eS*	**Sn**	**12 22 31.9**	**+0.5**
DJR	**Jarkent**	**2.97**	**36**	Pg	**Pb**	**12 22 03.2**	**-1.0**
	90nm,0.4s						
DJR				Lg	Lg	12 22 41.3	
	435nm,0.3s						
DJR	**Jarkent**	**2.97**	**36**	*eP*	**Pb**	**12 22 02.9**	**-1.3**
	20nm,0.3s						
DJR				*eS*	**Sb**	**12 22 40.9**	**+0.3**
	435nm,0.3s						
MRKS	**Merke**	**3.15**	**286**	Pg	**Pb**	**12 22 08.2**	**+1.0**
	30nm,0.3s						
MRKS				Lg	Lg	12 22 50.8	
	392nm,0.3s						
MRKS	**Merke**	**3.15**	**286**	*eP*	**Pb**	**12 22 08.2**	**+1.0**
	19nm,0.3s						
MRKS				*eS*	**Sg**	**12 22 50.2**	**-1.9**
	392nm,0.3s						
MNAS	**Manas**	**3.63**	**280**	⇑*iP*	**Pn**	**12 22 08.4**	**+0.9**
MNAS				⇑*iS*	**Sn**	**12 22 51.2**	**+0.8**
OHH	**Osh**	**3.72**	**249**	⇑*iP*	**Pn**	**12 22 09.3**	**+0.6**
OHH				⇑*iS*	**Sn**	**12 22 52.8**	**+0.2**
BTLS	**Baital**	**3.90**	**323**	Pg	**Pb**	**12 22 20.4**	**+0.5**
	43nm,0.5s						
BTLS				Lg	Lg	12 23 10.9	
	21nm,0.4s						
BTLS	**Baital**	**3.90**	**323**	*eP*	**Pb**	**12 22 21.4**	**+1.4**
	14nm,0.2s						
BTLS				*eS*	**Sg**	**12 23 12.3**	**-4.0**
	67nm,0.4s						
ARK	**Arkit**	**4.01**	**269**	⇓*iP*	**Pn**	**12 22 13.9**	**+1.1**
ARK				⇓*iS*	**Sn**	**12 23 00.3**	**+0.4**
KK31	**Karatay Array**	**5.17**	**285**	⇑Pn	Pn	12 22 33.9	+5.4
	0.3nm,0.4s,baz=92,slow=12,SNR=5.2						
KK31				⇑Pg	**Pg**	**12 22 47.8**	**-2.3**
	7.7nm,0.5s,baz=98,slow=16,SNR=49						
KK31				⇑Lg	Lg	12 23 53.1	
	153nm,1.0s,baz=97,slow=27,SNR=12						
KKAR	**Karatay Array**	**5.17**	**285**	⇑*iP*	**Pn**	**12 22 29.7**	**+1.1**
KKAR				⇑*eS*	**Sn**	**12 23 27.9**	**-0.4**
IUG	**Iuzhnay**	**5.44**	**274**	Pg	**Pg**	**12 22 55.3**	**0.0**
	37nm,1.3s						
IUG				Lg	Lg	12 24 09.4	
	77nm,0.8s						
IUG	**Iuzhnay**	**5.44**	**274**	*eP*	**Pb**	**12 22 50.8**	**+4.5**
	12nm,0.4s						
IUG				*eS*	**Sg**	**12 24 02.9**	**-2.9**
	97nm,0.6s						
BRLS	**Borolday**	**5.65**	**283**	Pg	**Pg**	**12 22 59.6**	**+0.4**
	5.3nm,0.8s						
BRLS				Lg	Lg	12 24 16.1	
	19nm,0.5s						
BRLS	**Borolday**	**5.65**	**283**	*eP*	**Pg**	**12 22 55.9**	**-3.3**
	2.7nm,0.3s						
BRLS				*eS*	**Sg**	**12 24 12.2**	**-0.1**
	20nm,0.3s						
MAKZ	**Makanchi**	**5.88**	**33**	⇓Pg	**Pb**	**12 22 56.7**	**+3.1**
	7.6nm,0.5s						
MAKZ				⇑Lg	Lg	12 24 15.5	
	23nm,0.7s						
MK31	**Makanchi Array**	**6.00**	**35**	⇓Pn	**Pn**	**12 22 42.6**	**+2.7**
	5.9nm,0.6s,baz=210,slow=14,SNR=111						
MK31				⇑Lg	Lg	12 24 18.2	
	23nm,0.7s,baz=219,slow=24,SNR=5.3						
MKAR	**Makanchi Array**	**6.00**	**35**	Pn	**Pn**	**12 22 41.4**	**+1.5**
	0.7nm,0.3s,baz=210,slow=16,SNR=33						
MKAR				Lg	Lg	12 24 08.6	
	3.7nm,0.3s,baz=217,slow=26,SNR=7.3						
MKAR				LR	LR	12 24 20.0	
	comp=Z,29nm,20.6s,baz=232,slow=34						
	1.0nm,0.4s						
GAR	**Garm**	**6.11**	**243**	⇓*eP*	**Pn**	**12 22 42.4**	**+0.8**
GAR				⇓*iS*	**Sn**	**12 23 49.8**	**-1.9**
WMQ	**Urumqi**	**7.83**	**73**	P	Pn	12 23 10.3	+5.2
KURBB	**Kurchatov Arra**	**8.70**	**5**	⇓Pn	**Pn**	**12 23 17.2**	**+0.2**
	1.8nm,0.3s						
KURBB				⇓Lg	Lg	12 25 46.9	
	75nm,0.7s						
KURK	**Kurchatov**	**8.80**	**5**	⇑Pn	**Pn**	**12 23 17.2**	**-1.1**
	1.9nm,0.5s						
KURK				⇓Lg	Lg	12 25 45.3	
	34nm,0.8s						
BVA0	**Borovoye Array**	**12.02**	**339**	⇑Pn	**Pn**	**12 24 03.0**	**+0.6**
	1.6nm,0.5s,baz=152,slow=13,SNR=12						
BVA0				⇓Lg	Lg	12 27 37.5	
	17nm,1.0s,baz=143,slow=25,SNR=4.2						
BRVK	**Borovoye**	**12.07**	**339**	⇓Pn	**Pn**	**12 24 04.9**	**+1.8**
	2.4nm,0.5s						
BRVK				⇑Lg	Lg	12 27 33.7	
	13nm,0.8s						
ZALV	**Zalesovo Beam**	**12.99**	**20**	Pn	**Pn**	**12 24 17.2**	**+1.6**
	0.1nm,0.3s,baz=197,slow=14,SNR=2.8						
ZALV				Sn	**Sn**	**12 26 36.9**	**-3.2**
	0.3nm,0.3s,baz=201,slow=25,SNR=4.1						
ZALV				Lg	Lg	12 27 54.4	
	0.3nm,0.3s,baz=207,slow=32,SNR=1.6						
	0.4nm,0.3s						
SONM	**Songino Array**	**21.33**	**64**	P	**P**	**12 25 58.3**	**0.0**
	1.0nm,0.7s,baz=260,slow=12,SNR=9.7						
	1.0nm,0.7s						
KVAR	**Kislovodsk Arr**	**25.32**	**286**	LR	LR	12 39 43.5	
	comp=Z,58nm,20.4s,baz=88,slow=43						

IDC 24 12:27:24.1±2.7, 22°.88N×11°.77W, h0km, mb3.9/1, mbtmp3.8/2, ML3.5/1, Error ellipse: s-maj=86.0km s-min=64.2km az=76.0, Mauritania

|

comp=E,2μm,0.7s
PYL PYLOS 0.97 112 P Pg 12 41 01.2 -1.8
PYL S **Sg 12 41 16.0 +0.5**
PYL AML AML 12 41 19.2
comp=E,2621μm,0.3s
PYL AML AML 12 41 23.9
comp=N,3878μm,0.7s
SMHA Samh 0.99 1 P **Pg 12 41 02.6 -0.7**
SMHA S **Sb 12 41 16.9 -0.5**
DMLN Damoulianata-K 0.99 349 P **Pg 12 41 02.1 -1.3**
RLS Riolos of Patr 1.04 40 P **Pg 12 41 03.5 -0.8**
RLS Riolos of Patr 1.04 40 P **Pg 12 41 03.5 -0.8**
RLS S **Sn 12 41 20.6 -0.1**
RLS AML AML 12 41 27.3
comp=E,1401μm,0.5s
RLS AML AML 12 41 30.4
comp=N,1749μm,0.7s
ITM Ithomi 1.05 94 P **Pg 12 41 03.5 -0.9**
ITM S **Sg 12 41 19.4 +1.4**
comp=N,1μm,0.4s
ITM Ithomi 1.05 94 P **Pg 12 41 03.7 -0.7**
ITM S **Sg 12 41 19.9 +1.9**
ITM AML AML 12 41 22.0
comp=E,2286μm,0.3s
ITM AML AML 12 41 26.8
comp=N,2666μm,0.4s
DRO Drossia 1.11 51 P **Pg 12 41 04.7 -0.8**
DRO Drossia 1.11 51 P **Pg 12 41 04.8 -0.8**
DRO S **Sn 12 41 23.5 +1.1**
DRO AML AML 12 41 32.7
comp=N,3680μm,0.3s
DRO AML AML 12 41 36.2
comp=E,4190μm,0.4s
FSK Fiskardo 1.20 358 P **Pg 12 41 06.2 -1.1**
FSK S **Sn 12 41 24.4 -0.2**
comp=E,2μm,0.7s
FSK Fiskardo 1.20 358 P **Pg 12 41 05.8 -1.5**
FSK S **Sn 12 41 25.0 +0.4**
FSK AML AML 12 41 33.7
comp=E,3580μm,0.7s
FSK AML AML 12 41 39.1
comp=N,3018μm,0.7s
EVGI Lefkada island 1.36 1 P **Pn 12 41 08.9 -1.2**
UPR University Cam 1.38 42 P **Pn 12 41 10.5 +0.2**
KLV Kalavryta, Ach 1.45 57 P **Pn 12 41 10.1 -1.3**
KLV Kalavryta, Ach 1.45 57 P **Pn 12 41 10.5 -0.9**
KLV AML AML 12 41 41.7
comp=E,760μm,0.8s
KLV AML AML 12 41 51.6
comp=N,926μm,1.3s
NYDR Nydri-Lefkada 1.45 2 P **Pn 12 41 10.8 -0.6**
NYDR Nydri-Lefkada 1.45 2 P **Pn 12 41 10.8 -0.6**
LKD2 Lefkada island 1.52 1 P **Pg 12 41 15.5 +1.9**
LKD2 AMP
comp=E,5.4nm,0.9s,baz=24
LKD2 Lefkada island 1.52 1 P **Pb 12 41 13.5 +0.3**
LKD2 AML AML 12 41 49.8
comp=E,2044μm,1.3s
LKD2 AML AML 12 41 51.1
comp=N,2060μm,0.6s
GUR Goura 1.53 63 P **Pn 12 41 11.7 -0.8**
GUR Goura 1.53 63 P **Pn 12 41 11.4 -1.1**
GUR AML AML 12 41 49.4
comp=E,1259μm,0.8s
GUR AML AML 12 41 54.9
comp=N,1819μm,0.7s
EFP Efpalio 1.55 41 P **Pn 12 41 12.3 -0.3**
EFP Efpalio 1.55 41 P **Pn 12 41 12.4 -0.3**
EFP AML AML 12 41 51.1
comp=N,1044μm,0.6s
EFP AML AML 12 41 54.6
comp=E,870μm,0.8s
TSLK Tsoukalades, L 1.56 1 P **Pn 12 41 12.8 -0.1**
TSLK AML AML 12 41 46.1
comp=E,2498μm,0.9s
TSLK AML AML 12 41 52.4
comp=N,2060μm,0.6s
KALE Kalithea 1.65 46 P **Pn 12 41 13.8 -0.4**
KALE AML AML 12 41 55.5
comp=E,984μm,0.5s
KALE AML AML 12 41 55.7
comp=N,1078μm,0.6s
ANX Ano Chora 1.68 37 P **Pn 12 41 14.2 -0.4**
ANX Ano Chora 1.68 37 P **Pn 12 41 14.6 -0.1**
ANX AML AML 12 41 53.5
comp=E,1406μm,0.5s
ANX AML AML 12 42 03.4
comp=N,1941μm,0.6s
EVR Evrytania 1.90 29 P **Pn 12 41 19.4 +1.8**
EVR AML AML 12 41 56.6
comp=E,749μm,1.0s
EVR AML AML 12 42 03.0
comp=N,739μm,0.9s
VLI Veliai 1.93 106 P **Pn 12 41 18.2 +0.1**
VLI AML AML 12 42 05.8
comp=N,846μm,0.9s
VLI AML AML 12 42 13.7
comp=E,1028μm,1.0s
MAKR Makrakomi, Fth 2.12 34 P **Pn 12 41 22.6 +2.1**
MAKR AML AML 12 42 08.3
comp=E,1476μm,0.9s
MAKR AML AML 12 42 08.7
comp=N,1644μm,0.6s
AXAR Agios Charalam 2.20 46 P **Pn 12 41 22.8 +1.0**
AXAR AML AML 12 42 09.1
comp=E,1375μm,0.9s
AXAR AML AML 12 42 18.7
comp=N,1456μm,1.0s
IGT Igoumenitsa 2.28 354 P **Pn 12 41 24.6 +1.8**
IGT AMP
comp=E,0.7nm,1.8s,baz=9.0
ANKY Antikythira Is 2.57 122 P **Pn 12 41 26.6 -0.1**
SRN Sarande 2.66 350 P **Pn 12 41 29.8 +1.8**
LSK Leskovik 2.88 360 AMP
comp=N,1.5nm,0.8s,baz=11
SCTE Santa Cesarea 3.27 330 P **Pn 12 41 34.5 -1.9**
SCTE AMP
comp=E,0.6nm,0.8s,baz=339
FNA Florina 3.57 9 P **Pb 12 41 45.1 -2.9**
FNA AMP
comp=N,0.1nm,0.7s,baz=18
IDI Anoyia 3.97 118 Pn **Pn 12 41 48.4 +2.2**
comp=N,2.6nm,0.3s,baz=238,slow=8.3,SNR=7.2
IDI Sn **Sn 12 42 32.1 -1.1**
comp=N,1.7nm,0.3s,baz=163,slow=20,SNR=1.8
MLR Muntele Rosu 9.14 24 Pn Pn 12 42 52.5 -4.6
comp=N,0.1nm,0.3s,baz=38,slow=16,SNR=1.9
comp=N,1.2nm,0.7s
HFS Hagfors 23.32 351 P **P 12 45 54.0 +0.8**
comp=N,1.7nm,0.7s,baz=162,slow=11,SNR=6.6
HFS LR LR 12 55 40.7
comp=N,89nm,18.2s,baz=205,slow=39
comp=N,1.7nm,0.7s
EKA Eskdalemuir Ar 24.22 326 P **P 12 46 05.3 +3.3**
comp=N,1.1nm,0.7s,baz=127,slow=9.1,SNR=2.8
comp=N,1.1nm,0.7s
FINES FINESS Array B 24.45 6 P **P 12 46 04.2 +0.3**
comp=N,3.8nm,1.0s,baz=180,slow=9.4,SNR=2.1
comp=N,3.8nm,1.0s
NOA NORSAR Array B 24.53 349 P **P 12 46 07.0 +2.2**
comp=N,0.6nm,0.7s,baz=160,slow=9.3,SNR=3.6
comp=N,0.6nm,0.7s
KURBB Kurchatov Arra 42.72 53 P **P 12 48 40.9 -1.4**
comp=N,0.3nm,0.5s,baz=277,slow=8.7,SNR=1.9
comp=N,0.3nm,0.5s
MKAR Makanchi Array 45.72 58 P **P 12 49 05.0 -1.5**
comp=N,1.2nm,0.8s,baz=276,slow=8.9,SNR=2.1
comp=N,1.2nm,0.8s

*IDC **24** 12:47:54.9±1.2,36°.52N×71°.23E,h0km,mb3.8/7, mbtmp3.7/11,ML3.3/4,MS3.5/1,Error ellipse: s-maj=26.0km s-min=23.2km az=82.0*
*NNC **24** 12:48:14.0±3.5,37°.50N×71°.28E,h204km±41km,mb3.1, mpv4.4,Error ellipse: s-maj=31.8km s-min=21.4km az=22.0*

ISC 24 12:48:18.7±0.8,37°.78N±0°.08×71°.39E±0°.09,h200km,n22, σ1°**98**/23**,mb3.2**/7**,7C-2D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=58	**4.69**	**21**	P	**Pn**	**12 49 28.1**	**-1.4**
EKS2	**Erkin-Say** SNR=13	**5.21**	**20**	P	**Pn**	**12 49 35.9**	**+0.2**
KK31	**Karatay Array** 11nm,0.3s,baz=178,slow=12,SNR=275	**5.36**	**353**	⇓P	**Pn**	**12 49 36.1**	**-1.5**
KK31	17nm,0.6s,baz=187,slow=25,SNR=9.1			⇑S	**Sn**	**12 50 42.5**	**+2.5**
CHMS	**Chumysh** SNR=31	**5.81**	**25**	P	**Pn**	**12 49 43.0**	**-0.4**
CHMS	**Chumysh** 22nm,0.4s	**5.81**	**25**	⇑P	**Pn**	**12 49 42.4**	**-1.0**
CHMS	6.4nm,0.7s			⇑S	**Sn**	**12 50 54.3**	**+3.8**
USP	**Ospenovka** SNR=9.2	**5.97**	**22**	P	**Pn**	**12 49 44.6**	**-0.9**
TKM2	**Tokmak 2** SNR=10	**6.05**	**31**	P	**Pn**	**12 49 46.0**	**-0.8**
TKM2	**Tokmak 2** 11nm,0.5s	**6.05**	**31**	⇑P	**Pn**	**12 49 45.8**	**-1.0**
TKM2	8.8nm,0.9s			⇑S	**Sn**	**12 50 58.0**	**+1.5**
MKAR	**Makanchi Array** 0.4nm,0.3s,baz=223,slow=16,SNR=18	**12.08**	**38**	Pn	**Pn**	**12 51 05.7**	**+1.2**
KURBB	**Kurchatov Arra** 1.6nm,0.5s 0.1nm,0.3s,baz=219,slow=12,SNR=1.7	**13.81**	**19**	Pn	**Pn**	**12 51 25.1**	**-0.9**
AB31	**Akbulak array** 0.2nm,0.3s	**14.14**	**328**	⇑P	**Pn**	**12 51 28.9**	**-1.3**
AB31	0.4nm,0.3s,baz=139,slow=15,SNR=33			S	**S**	**12 54 06.9**	**-0.4**
BVAR	**Borovoye Array** 4.8nm,0.8s,baz=157,slow=24,SNR=9.6	**15.26**	**358**	Pn	**Pn**	**12 51 45.3**	**+1.4**
	0.1nm,0.3s,baz=174,slow=13,SNR=6.4 1.0nm,0.5s						
AKTO	**Aktyubinsk** 1.2nm,0.5s	**15.85**	**327**	⇓P	**P**	**12 51 49.2**	**-1.5**
AKTO	3.9nm,1.1s			⇑S	**S**	**12 54 44.7**	**-1.8**
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=220,slow=10,SNR=11	**18.62**	**25**	P	**Pn**	**12 52 26.0**	**+2.3**
	1.8nm,0.4s						
FINES	**FINESS Array B** 2.4nm,1.0s,baz=107,slow=8.6,SNR=6.9	**36.60**	**325**	P	P	12 55 10.7	+5.5
	2.4nm,1.0s						
ARCES	**ARCESS Array B** 8.3nm,1.1s,baz=112,slow=8.8,SNR=2.6	**40.08**	**337**	P	P	12 55 40.1	+5.9
	8.3nm,1.1s						
HFS	**Hagfors** 2.7nm,0.9s,baz=87,slow=8.3,SNR=5.0	**42.26**	**321**	P	P	12 55 57.1	+5.1
	2.7nm,0.9s						
NOA	**NORSAR Array B** 0.7nm,0.8s,baz=97,slow=8.1,SNR=1.9	**43.55**	**322**	P	**P**	**12 56 06.5**	**+4.1**
	0.7nm,0.8s						
VAE	**Valguarnera** comp=Z,53nm,18.2s,baz=348,slow=39	**44.51**	**288**	LR	LR	13 16 52.6	
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=64,slow=7.3,SNR=2.1	**66.06**	**268**	P	**P**	**12 58 43.6**	**-0.7**
	0.3nm,0.6s						
WRA	**Warramunga Arr** 0.2nm,0.9s,baz=310,slow=5.1,SNR=1.8	**82.41**	**122**	P	**P**	**13 00 16.8**	**-1.8**
	0.2nm,0.9s						
ASAR	**Alice Springs** 0.2nm,0.8s,baz=300,slow=5.4,SNR=1.8	**84.74**	**125**	P	**P**	**13 00 27.2**	**-3.2**
	0.2nm,0.8s						

*ISN **24** 12:51:44.2±1.0,33°.10N×46°.13E,h8km,ML2.2*

TEH 24 12:51:41.5,33°.09N×46°.12E,h8km±88km,ML2.5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra** baz=95	**0.16**	**277**	*e*Pg	Pg	12 51 50.0	+5.1
IBDR				*e*Sg	Sg	12 51 52.4	+5.2
IBDR	comp=E,265nm,0.8s			AML	AML	12 52 04.1	
IBDR	comp=N,254nm,0.6s			AML	AML	12 52 04.8	
ILBA	**Ilam Banvizeh**	**0.54**	**8**	Pg	Pg	12 51 52.4	+0.5
GLG1	**Gilan-e-Gharb**	**1.04**	**350**	Pg	Pn	12 52 02.5	0.0
IGHG	**Ghaleghazi**	**1.29**	**17**	Pg	Pg	12 52 07.7	+1.3
IGHG				Sg	Sn	12 52 26.2	+2.5
IDHR	**Dehrash**	**1.62**	**8**	Pg	Pg	12 52 12.9	+0.3

FUNV 24 13:15:13.8,10°.37N×62°.18W,h5km,MW3.6,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCRV	**Puerto La Cruz**	**2.42**	**266**	*e*P	Pn	13 15 52.9	-1.3
PCRV				*e*S	Sn	13 16 22.0	-2.3
LUEV	**Luepa**	**4.55**	**171**	*e*P	Pn	13 16 22.0	-1.6
LUEV				*e*S	Sn	13 17 13.2	-3.8
CACV	**CAICARA DEL OR**	**5.13**	**237**	*e*P	Pn	13 16 24.2	-7.1
CACV				*e*S	Sn	13 17 16.2	-15
BENV	**Beln**	**5.35**	**266**	*e*P	Pn	13 16 32.0	-2.5
BENV				*e*S	Sn	13 17 31.5	-5.1
BAUV	**El Baul**	**5.95**	**257**	*e*P	Pn	13 16 40.2	-2.4
BAUV				*e*S	Sn	13 17 44.7	-6.5

*IDC **24** 13:17:08.4±6.8,3°.23N×123°.52E,h464km±95km,mb3.0/6, mbtmp3.9/6,Error ellipse: s-maj=55.6km s-min=24.0km az=68.0*

ISC 24 13:17:07.6±1.1,3°.3N±0°.1×123°.6E±0°.3,h450km,n7, σ0°**93**/8**,mb3.6**/6**,Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata** 80nm,0.7s,baz=351,slow=1.1,SNR=15	**13.44**	**180**	P	**P**	**13 20 02.5**	**+0.3**
BATI	13nm,0.5s,baz=320,slow=20,SNR=2.3			S	**S**	**13 22 27.0**	**+0.7**
FITZ	**Fitzroy Crossi** 2.7nm,0.4s,baz=8.2,slow=7.2,SNR=24	**21.38**	**175**	P	**P**	**13 21 20.8**	**-0.8**
	2.7nm,0.4s						
WRA	**Warramunga Arr** 0.9nm,0.5s,baz=335,slow=9.7,SNR=12	**25.41**	**156**	P	**P**	**13 21 56.4**	**-1.5**
	0.9nm,0.5s						
ASAR	**Alice Springs** 0.3nm,0.6s,baz=342,slow=7.8,SNR=6.2	**28.64**	**160**	P	**P**	**13 22 25.9**	**-0.5**
	0.3nm,0.6s						
STKA	**Stephens Creek** 1.4nm,0.4s,baz=334,slow=7.4,SNR=5.4	**38.96**	**155**	P	**P**	**13 23 53.6**	**+0.1**
	1.4nm,0.4s						
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=125,slow=7.6,SNR=2.0	**56.15**	**327**	P	**P**	**13 26 02.9**	**-0.3**
	0.3nm,0.4s						
PETK	**Petropavlovsk-** 3.1nm,1.0s,baz=204,slow=3.2,SNR=1.7	**57.02**	**24**	P	**P**	**13 26 09.8**	**+0.7**
	3.1nm,1.0s						

*MOS **24** 13:56:00.8±0.8,33°.91S×56°.11E,h10km,mb5.3/42, MS4.4/6,Error ellipse: s-maj=13.3km s-min=6.6km az=95.8*
*BJI **24** 13:56:00.4,33°.79S×56°.34E,h5km,mb5.2/62,mB5.4/31, Ms5.1/40,Ms7 4.7/43*
*IDC **24** 13:56:01.0±0.4,33°.87S×56°.15E,h0km,mb4.8/28, mbtmp4.8/29,ML4.8/1,MS4.3/61,Error ellipse: s-maj=17.2km s-min=13.0km az=57.0*
*NEIC **24** 13:56:02.1±2.1,33°.82S±0°.08×56°.20E±0°.10,h10km±1km, mb5.3/78,Mwb5.2/8,Mww5.1/21,Error ellipse: s-maj=17.3km s-min=9.2km az=221.0,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=5.97; $M_{\theta\theta}$=6.38; $M_{\phi\phi}$=-0.41; $M_{r\theta}$=0.38; $M_{\theta\phi}$=-1.53; $M_{\phi r}$=-3.15; Fault plane solution: $M_0$7.12000×10^{16} NP1:ϕ_s=304.89000°, δ54.53000°,λ=-60.13000°. NP2:ϕ_s=80.19000°,δ45.07000°, λ=-124.95000°. Principal axes: T 6.8082, Plg5.0000°, Azm14.0000°; N 0.5922, Plg24.0000°, Azm106.0000°; P -7.4004, Plg65.0000°, Azm273.0000°;*
*NEIC **24** 13:56:02.1,33°.82S×56°.20E,h14km*
*NEIC **24** 13:56:02.1,33°.82S×56°.20E,h10km*
*NEIC **24** 13:56:02.1,33°.82S×56°.08E,h14km,Moment Tensor Solution. Duration: 1±1.0 Moment tensor: Scale 10^{16} Nm; M_{rr}=5.37; $M_{\theta\theta}$=5.43; $M_{\phi\phi}$=-0.05; $M_{r\theta}$=2.22; $M_{\theta\phi}$=-0.16; $M_{\phi r}$=2.62; Fault plane solution: $M_0$6.35000×10^{16} NP1: ϕ_s=69.68000°,δ59.87000°,λ=-113.11000°. NP2: ϕ_s=290.05000°,δ37.31000°,λ=-55.93000°. Principal axes: T 5.8857, Plg12.0000°, Azm176.0000°; N 0.9225, Plg20.0000°, Azm82.0000°; P -6.8083, Plg67.0000°, Azm295.0000°;*
*GCMT **24** 13:56:04.1±0.1,33°.79S±0°.01×56°.00E±0°.02,h12km, MW5.1/136,Moment Tensor Solution. s76,c94; s136,c208; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=5.41±.08; $M_{\theta\theta}$=5.11±.07; $M_{\phi\phi}$=0.30±.09; $M_{r\theta}$=1.48±.24; $M_{\theta\phi}$=-0.32±.07; $M_{\phi r}$=1.33±.31; Best double couple: M_0=5.62100×10^{16} NP1:ϕ_s=105.00000°,δ54.00000°, λ=-77.00000°. NP2:ϕ_s=263.00000°,δ38.00000°, λ=-108.00000°. Principal axes: T 5.3640, Plg8.0000°, Azm186.0000°; N 0.5150, Plg11.0000°, Azm277.0000°; P -5.8780, Plg76.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 13:56:02.6±0.6,33°.75S±0°.05×56°.04E±0°.05,h8km±3km, n707,σ1°**18**/669**,mb5.2**/164**,MS4.5**/81**,34C-17D, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOMA	**Nahampoana Res**	**11.78**	**316**	Pn	**Pn**	**13 58 51.0**	**0.0**
RER	**Riviere de l'E**	**12.55**	**359**	Pn	**Pn**	**13 58 59.4**	**-2.1**
H04N2	**CROZET ISLANDS** baz=17,slow=75	**12.81**	**193**	T	T	14 11 53.6	
H04N1	**CROZET ISLANDS** baz=17,slow=75	**12.82**	**193**	T	T	14 11 55.0	
H04N3	**CROZET ISLANDS** baz=17,slow=75	**12.83**	**193**	T	T	14 11 53.9	
VOI	**Vohitsoka**	**14.35**	**323**	Pn	**Pn**	**13 59 26.8**	**+0.5**
VOI	**Vohitsoka**	**14.35**	**323**	*e*P	**Pn**	**13 59 26.7**	**+0.5**
ROCAM	**Rodrigues Isla**	**15.39**	**27**	Pn	**Pn**	**13 59 36.5**	**-3.6**
ROCAM	comp=Z,256nm,1.0s			IAmb	IAmb	13 59 46.8	
ABPO	**Ambohimpanom**	**16.65**	**330**	P	**P**	**13 59 58.6**	**-0.4**
ABPO	**Ambohimpanom**	**16.65**	**330**	*e*P	**P**	**13 59 59.1**	**+0.1**
ABPO	comp=Z,20nm,0.6s			IAmb	IAmb	14 00 04.8	
ABPO	**Ambohimpanom**	**16.65**	**330**	P	**P**	**13 59 58.6**	**-0.4**
ABPO	comp=Z,46nm,1.0s			pmax	pmax		
OPO	**Ambohidratompo** comp=Z,0.4nm,0.3s,baz=138,slow=12,SNR=30	**17.07**	**330**	P	**P**	**14 00 03.2**	**-0.4**
OPO	comp=Z,1μm,18.4s,baz=21,slow=32 comp=Z,11nm,0.4s			LR	LR	14 05 09.7	
AIS	**Amsterdam Isla**	**17.92**	**109**	Pn	Pn	14 00 03.1	-9.1
AIS	comp=Z,332nm,1.3s			IAmb	IAmb	14 00 17.9	
SBV	**Sambava** SNR=10	**20.95**	**343**	P	Pn	14 00 50.3	+1.7
TEMBE	**Tembe Elephant**	**21.41**	**282**	*e*P	P	14 01 00.1	+9.2
POGA	**Pongola**	**21.88**	**280**	P	**P**	**14 00 51.2**	**-4.8**
POGA	comp=Z,119nm,1.2s			IAmb	IAmb	14 01 06.3	
POGA	**Pongola**	**21.88**	**280**	*e*P	**P**	**14 00 56.4**	**+0.4**
POGA	comp=Z,118nm,1.2s			IAmb	IAmb	14 01 06.0	
PMBG	**Pietermaritzbu**	**22.13**	**274**	*e*P	**P**	**14 01 02.6**	**+3.9**
KSTD	**Kokstad**	**22.82**	**271**	*e*P	**P**	**14 01 06.2**	**0.0**
KSTD	comp=Z,125nm,1.6s			IAmb	IAmb	14 01 15.7	
PILG	**Pilgrimsrest,**	**23.72**	**285**	*e*P	**P**	**14 01 12.6**	**-2.8**
CRLN	**Carolina, Mapu**	**23.81**	**282**	*e*P	**P**	**14 01 15.0**	**-1.2**
CRLN	comp=Z,50nm,1.0s			IAmb	IAmb	14 01 24.9	
MOPA	**Mopani**	**23.86**	**289**	*e*P	**P**	**14 01 16.1**	**-0.4**
MOPA	comp=Z,194nm,1.3s			IAmb	IAmb	14 01 25.1	
DULL	**Dullstroom, Mp**	**23.96**	**284**	*e*P	**P**	**14 01 21.8**	**+4.1**
DULL	comp=Z,49nm,1.1s			IAmb	IAmb	14 01 26.2	
GRHM	**Grahamstown, E**	**24.70**	**263**	*e*P	**P**	**14 01 25.4**	**+1.1**
GRHM	comp=Z,88nm,1.0s			IAmb	IAmb	14 01 33.2	
SNKL	**Senekal, Frees**	**24.80**	**275**	*e*P	**P**	**14 01 27.6**	**+2.2**
RUST	**Rust De Winter**	**25.35**	**282**	*e*P	**P**	**14 01 32.5**	**+2.3**
WTBG	**Waterberg Wild**	**25.53**	**285**	*e*P	**P**	**14 01 32.5**	**+0.6**
PRYS	**Parys**	**25.62**	**278**	*e*P	**P**	**14 01 30.1**	**-2.7**
TSWA	**Tswaing Meteor**	**25.64**	**281**	*e*P	**P**	**14 01 35.0**	**+2.2**
MUSN	**Musina, Limpop**	**25.71**	**290**	*e*P	**P**	**14 01 32.9**	**-0.5**
MUSN	comp=Z,58nm,1.2s			IAmb	IAmb	14 01 43.7	
HRAO	**HartRAO**	**25.76**	**280**	*e*P	**P**	**14 01 32.7**	**-1.3**
WDLM	**Western Deep L**	**25.76**	**279**	*e*P	**P**	**14 01 31.2**	**-2.9**
WDLM	comp=Z,74nm,1.2s			IAmb	IAmb	14 01 41.0	
HVD	**Gariep Dam**	**26.00**	**269**	*e*P	**P**	**14 01 36.2**	**0.0**
HVD	comp=Z,51nm,1.3s			IAmb	IAmb	14 02 17.4	
GRAF	**Camdeboo Natio**	**26.45**	**264**	*e*P	**P**	**14 01 41.2**	**+1.1**
GRAF	comp=Z,47nm,1.1s			IAmb	IAmb	14 01 48.6	
NHAM	**Northam, North**	**26.48**	**282**	*e*P	**P**	**14 01 40.0**	**-0.5**
LEPH	**Lephalale, Lim**	**26.57**	**284**	*e*P	**P**	**14 01 41.0**	**-0.3**
LEPH	comp=Z,61nm,1.1s			IAmb	IAmb	14 01 48.6	
CRAIL	**Swartwater, Li**	**26.72**	**287**	*e*P	**P**	**14 01 41.4**	**-1.4**
BOSA	**Boshof**	**26.78**	**273**	P	**P**	**14 01 42.7**	**-0.6**
BOSA	**Boshof**	**26.78**	**273**	*e*P	**P**	**14 01 42.6**	**-0.6**
BOSA	**Boshof** comp=Z,4.1nm,1.0s,baz=135,slow=6.2,SNR=5.4	**26.78**	**273**	P	**P**	**14 01 42.6**	**-0.6**
BOSA	comp=Z,363nm,20.2s,baz=118,slow=32 comp=Z,4.1nm,1.0s			LR	LR	14 10 29.0	
BOSA	**Boshof**	**26.78**	**273**	P	**P**	**14 01 42.7**	**-0.6**
BOSA	comp=Z,20nm,1.1s			pmax	pmax		
MRCO	**Marico , North**	**26.99**	**280**	*e*P	**P**	**14 01 50.0**	**+4.9**
MTLB	**Matlabas, Limp**	**27.19**	**284**	*e*P	**P**	**14 01 50.0**	**+3.1**
SWZ	**Schweizer**	**27.20**	**276**	*e*P	**P**	**14 01 48.1**	**+1.0**
SWZ	comp=Z,21nm,1.2s			IAmb	IAmb	14 01 53.8	
BFON	**Badsfontein, M**	**27.22**	**265**	*e*P	**P**	**14 01 53.1**	**+6.0**
BFON	comp=Z,395nm,2.8s			IAmb	IAmb	14 02 04.0	
MATP	**Matopo** comp=Z,391nm,20.8s,baz=71,slow=33	**27.78**	**291**	LR	LR	14 11 14.8	
LBTB	**Lobatse**	**27.84**	**280**	P	**P**	**14 01 52.5**	**-0.3**
LBTB	comp=Z,41nm,1.1s			IAmb	IAmb	14 01 59.9	
LBTB	**Lobatse** comp=Z,321nm,21.4s,baz=107,slow=32	**27.84**	**280**	LR	LR	14 10 59.9	
LBTB	**Lobatse**	**27.84**	**280**	P	**P**	**14 01 52.5**	**-0.3**
LBTB	comp=Z,41nm,1.1s			pmax	pmax		
BROLN	**Tlhalogang**	**28.33**	**289**	*i* P	**P**	**14 01 56.4**	**-0.7**
ALKP	**Alkanpan, Nort**	**28.88**	**268**	*e*P	**P**	**14 02 03.8**	**+1.8**
MSEY	**Mahe Island**	**28.93**	**359**	*e*P	**P**	**14 02 06.0**	**+3.6**
MSEY	**Mahe Island**	**28.93**	**359**	P	**P**	**14 02 04.9**	**+2.5**
MSEY				P	**P**	**14 02 04.9**	**+2.5**
FRAZ	**Fraserburg**	**29.08**	**264**	*e*P	**P**	**14 02 03.5**	**-0.3**
FRAZ	comp=Z,67nm,1.5s			IAmb	IAmb	14 02 10.8	
KRI	**Karoi**	**29.11**	**299**	*e*P	**P**	**14 02 04.1**	**0.0**
KDWAN	**Kaudwane**	**29.33**	**282**	*i* P	**P**	**14 02 07.3**	**+1.2**
SUR	**Sutherland**	**29.47**	**263**	*e*P	**P**	**14 02 06.2**	**-1.1**
SUR	comp=Z,486nm,2.9s			IAmb	IAmb	14 02 34.1	
SUR	**Sutherland** comp=Z,470nm,21.7s,baz=110,slow=31	**29.47**	**263**	LR	LR	14 11 29.0	
H08S1	**Diego Carcia H** baz=207,slow=76,SNR=782	**30.09**	**34**	T	T	14 33 22.4	
H08S2	**Diego Garcia H** baz=207,slow=76,SNR=404	**30.10**	**34**	T	T	14 33 22.3	
H08S3	**Diego Garcia H** baz=207,slow=76,SNR=588	**30.11**	**34**	T	T	14 33 22.8	
DGAR	**Diego Garcia**	**30.29**	**34**	*i* P	**P**	**14 02 13.0**	**-1.3**
KEIM	**Keimoes**	**30.32**	**270**	*e*P	**P**	**14 02 13.1**	**-1.6**
KEIM	comp=Z,31nm,1.0s			IAmb	IAmb	14 02 22.3	
CER	**Ceres**	**30.53**	**260**	*e*P	**P**	**14 02 15.7**	**-0.7**
CER	comp=Z,13nm,0.9s			IAmb	IAmb	14 02 24.0	
PRTV	**Porterville,We**	**30.75**	**261**	*e*P	**P**	**14 02 22.4**	**+4.0**
AUGR	**Augrabies**	**30.88**	**270**	*e*P	**P**	**14 02 19.2**	**-0.4**
AUGR	comp=Z,33nm,1.2s			IAmb	IAmb	14 02 27.7	
LSZ	**Lusaka**	**31.16**	**299**	*e*P	**P**	**14 02 24.9**	**+2.7**
KGCAE	**Kacgae**	**31.58**	**281**	*i* P	**P**	**14 02 26.8**	**+0.8**
KOOLE	**Kule**	**33.16**	**279**	*i* P	**P**	**14 02 39.4**	**-0.5**
QNGWA	**Qangwa**	**34.05**	**286**	*i* P	**P**	**14 02 48.1**	**+0.5**
MAW	**Mawson** comp=Z,7.1nm,0.9s,baz=342,slow=9.8,SNR=6.3	**34.13**	**175**	P	**P**	**14 02 44.6**	**-2.9**
MAW	comp=Z,987nm,21.1s,baz=358,slow=30 comp=Z,7.1nm,0.9s			LR	LR	14 12 57.8	
KIBK	**Kibwezi**	**35.49**	**328**	P	**P**	**14 03 00.8**	**+0.8**

KIBK	**Kibwezi**	35.49	328	P	P	14 03 01.9 +1.9
	SNR=6.5					
WIN	**Windhoek**	35.91	278	P	P	14 03 02.9 -0.8
WIN	**Windhoek**	35.91	278	P	P	14 03 02.9 -0.8
WIN				pmax	pmax	
	comp=Z,35nm,1.5s					
KMBO	**Kilima Mbogo**	36.92	328	P	P	14 03 13.6 +1.2
KMBO	**Kilima Mbogo**	36.92	328	*e*P	P	14 03 14.9 +2.5
KMBO				IAmb	IAmb	14 03 17.8
	comp=Z,51nm,1.1s					
KMBO	**Kilima Mbogo**	36.92	328	P	P	14 03 13.6 +1.2
	comp=Z,4.9nm,0.8s,baz=146,slow=11,SNR=11					
KMBO				LR	LR	14 16 50.0
	comp=Z,859nm,19.5s,baz=102,slow=34					
	comp=Z,4.9nm,0.8s					
KMBO	**Kilima Mbogo**	36.92	328	*d*P	P	14 03 13.9 +1.5
TSUM	**Tsumeb**	37.12	283	LR	LR	14 17 22.1
	comp=Z,515nm,18.5s,baz=144,slow=34					
MBAR	**Mbarara**	40.63	319	LR	LR	14 20 13.8
	comp=Z,1μm,18.2s,baz=148,slow=36					
LODK	**Lodwar**	41.81	328	P	P	14 03 49.7 -3.3
LODK	**Lodwar**	41.81	328	P	P	14 03 55.7 +2.6
	SNR=11					
ELIB	**Princess Elisa**	41.92	195	*d*P	P	14 03 52.9 -0.5
	comp=Z,15nm,1.3s					
NVL	**N'lazarevskaya**	43.97	199	*e*P	P	14 04 07.3 -2.5
NVL				pmax	pmax	
	comp=Z,53nm,1.3s					
CASY	**Casey**	45.45	152	P	P	14 04 18.3 -3.4
CASY				IAmb	IAmb	14 04 24.6
	comp=Z,62nm,1.2s					
FURI	**Furi**	45.51	336	LR	LR	14 20 50.2
	comp=Z,794nm,21.8s,baz=171,slow=33					
ATD	**Arta Tunnel**	46.75	342	P	P	14 04 30.5 -2.0
ATD	**Arta Tunnel**	46.75	342	LR	LR	14 22 03.6
	comp=Z,25nm,18.8s,baz=166,slow=33					
TROLL	**Troll, Antarti**	47.19	200	⇑P	P	14 04 34.5 -1.0
	comp=Z,371nm,1.1s					
TROLL				⇑PcP	PcP	14 06 07.3 +0.5
	comp=Z,687nm,0.9s					
H01W2	**Cape Leeuwin H**	47.39	109	T	T	14 55 05.7
	baz=253,slow=75,SNR=31					
H01W3	**Cape Leeuwin H**	47.40	109	T	T	14 55 10.9
	baz=253,slow=75,SNR=29					
H01W1	**Cape Leeuwin H**	47.41	109	T	T	14 55 06.9
	baz=253,slow=75,SNR=29					
SNAA	**Sanae**	48.64	201	P	P	14 04 45.8 -0.8
SNAA				IAmb	IAmb	14 04 54.5
	comp=Z,57nm,1.3s					
SNAA	**Sanae**	48.64	201	⇑P	P	14 04 45.7 -0.8
	comp=Z,315nm,0.9s					
SNAA				⇑PcP	PcP	14 06 11.0 -0.9
	comp=Z,125nm,1.0s					
SNAA	**Sanae**	48.64	201	P	P	14 04 45.8 -0.8
	comp=Z,19nm,1.1s,baz=78,slow=6.8,SNR=31					
SNAA				LR	LR	14 21 30.8
	comp=Z,237nm,21.1s,baz=12,slow=32					
	comp=Z,19nm,1.1s					
SNAA	**Sanae**	48.64	201	P	P	14 04 45.8 -0.8
SNAA				pmax	pmax	
	comp=Z,57nm,1.3s					
VNA2	**Neumayer--Watz**	49.85	203	⇑P	P	14 04 55.3 -0.5
	comp=Z,14nm,1.0s,baz=69,slow=9.2					
VNA2				⇑PcP	PcP	14 06 17.0 +0.7
	comp=Z,13nm,0.7s,baz=72,slow=4.5					
MUN	**Mundaring**	49.93	106	P	P	14 04 58.6 +1.6
VNA1	**Neumayer--Stat**	50.08	203	⇑P	P	14 04 57.9 +0.4
	comp=Z,17nm,1.1s					
NWAO	**Narrogin (SRO)**	50.44	107	LR	LR	14 21 40.5
	comp=Z,420nm,19.8s,baz=208,slow=31					
VNA3	**Neumayer Olymp**	50.65	202	⇑P	P	14 05 00.6 -1.2
	comp=Z,12nm,0.8s					
VNA3				⇑PcP	PcP	14 06 19.6 +0.5
	comp=Z,13nm,0.8s					
MORW	**Morawa**	50.80	102	P	P	14 05 05.2 +1.6
ABTO	**Aybut**	50.88	357	P	P	14 05 04.9 +0.7
ABTO				P	P	14 05 04.9 +0.7
WHFO	**Wadi Hawf**	51.42	357	P	P	14 05 09.2 +1.0
DOK	**Doka**	52.11	358	P	P	14 05 14.0 +0.7
DOK				P	P	14 05 14.0 +0.7
MEEK	**Meekatharra**	53.83	100	P	P	14 05 27.5 +1.3
BBJI	**Bungbulang**	54.23	73	P	P	14 05 29.8 +0.5
PSI	**Prapat**	54.34	57	LR	LR	14 23 42.2
	comp=Z,180nm,19.9s,baz=222,slow=31					
PSI	**Prapat**	54.34	57	P	P	14 05 29.9 -0.2
MHTO	**MHTO**	54.46	2	P	P	14 05 30.8 +0.2
MHTO				P	P	14 05 30.8 +0.2
LEM	**Lembang**	54.58	73	LR	LR	14 23 14.8
	comp=Z,256nm,21.1s,baz=356,slow=30					
HYB	**Hyderabad**	55.23	26	*e*P	P	14 05 36.0 -0.2
HYB				IVmB_BB		14 05 37.0
	comp=Z,379nm,2.7s					
HYB				IVMs_BB	IVMs_BB	14 25 58.3
	comp=Z,258nm,15.4s					
JLN	**Jalan Bani Buh**	55.68	4	P	P	14 05 39.8 +0.4
JMDO	**Jabal Madar**	55.84	2	P	P	14 05 41.0 +0.4
WBK	**Wadi Bani Khal**	56.12	3	P	P	14 05 42.7 +0.2
UMZA	**Um Al Zommool**	56.16	359	P	P	14 05 42.9 +0.2
UMZA				P	P	14 05 42.9 +0.2
BSY	**Bisya**	56.19	1	P	P	14 05 43.4 +0.3
QSPA	**South Pole Qui**	56.43	180	P	P	14 05 42.6 -1.9
QSPA	**South Pole Qui**	56.43	180	P	P	14 05 43.4 -1.1
	comp=Z,34nm,1.0s,baz=281,slow=1.6,SNR=46					
QSPA				LR	LR	14 27 42.1
	comp=Z,400nm,20.5s,baz=265,slow=34					
	comp=Z,34nm,1.0s					
MZR	**Muzera**	56.49	357	P	P	14 05 46.4 +1.3
SMDO	**Samad**	56.53	2	P	P	14 05 45.8 +0.3
SMDO				P	P	14 05 45.8 +0.3
WSAR	**Wadi Sarin**	56.73	3	LR	LR	14 25 26.6
	comp=Z,716nm,18.3s,baz=205,slow=31					
ARQ	**Araqi**	56.77	1	P	P	14 05 47.6 +0.4
ARQ				P	P	14 05 47.6 +0.4
IPM	**Ipoh**	57.00	57	P	P	14 05 46.4 -2.6
IPM				IAmb	IAmb	14 05 58.3
	comp=Z,38nm,1.1s					
IPM	**Ipoh**	57.00	57	P	P	14 05 50.3 +1.3
HOQ	**Hoqain**	57.03	1	P	P	14 05 50.3 +1.4
MYKOM	**Kota Tinggi**	57.17	62	P	P	14 05 50.5 +0.3
PWJI	**Pagerwojo**	57.25	77	P	P	14 05 52.5 +1.6
	comp=Z,66nm,1.0s					
ALNE	**Al Ain**	57.49	360	P	P	14 05 53.7 +1.4
ALNE				P	P	14 05 53.7 +1.4
SOHO	**SOHO**	57.57	1	P	P	14 05 52.8 0.0
SOHO				P	P	14 05 52.8 0.0
SOHO				P	pP	14 05 53.5 -0.8
SOHO				P	pP	14 05 53.5 -0.8
SLWR	**Sila**	57.65	355	P	P	14 05 54.9 +1.6
RAYN	**Ar Rayn**	57.83	349	P	P	14 05 55.4 +0.7
RAYN				IAmb	IAmb	14 06 09.0
	comp=Z,32nm,1.1s					
RAYN	**Ar Rayn**	57.83	349	P	P	14 05 56.1 +1.4
RAYN	**Ar Rayn**	57.83	349	P	P	14 05 55.4 +0.7
RAYN				pmax	pmax	
	comp=Z,33nm,1.1s					
ASHO	**Ashiyiah**	58.11	0	P	P	14 05 57.3 +0.6
ASHO				P	P	14 05 57.3 +0.6
HATD	**Hatta, Dubai**	58.25	0	P	P	14 05 58.1 +0.5
MASF	**Masafi**	58.80	0	P	P	14 06 02.0 +0.6
MASF				P	P	14 06 02.0 +0.6
JAGI	**Jajag, Banyuwa**	58.91	79	P	P	14 06 03.8 +1.3
PLAI	**Plampang**	61.69	81	P	P	14 06 22.6 +1.1
PLAI	**Plampang**	61.69	81	P	P	14 06 23.1 +1.6
KSM	**Kuching**	61.81	67	IAmb	IAmb	14 06 31.1
	comp=Z,31nm,1.3s					
STKI	**Sintang**	61.83	69	P	P	14 06 24.2 +1.7
	comp=Z,23nm,0.7s					
WRKA	**Warakurna**	62.41	103	P	P	14 06 28.4 +2.0
WBSI	**Waikabubak, Su**	62.58	83	P	P	14 06 31.6 +4.0
FITZ	**Fitzroy Crossi**	63.45	95	P	P	14 06 34.9 +1.7
SBUM	**Sibu**	63.90	68	IAmb	IAmb	14 06 44.9
	comp=Z,20nm,1.4s					
SBUM	**Sibu**	63.90	68	P	P	14 06 36.9 +0.6
KAPI	**Kappang**	65.44	79	P	P	14 06 45.8 -0.5
KAPI				IAmb	IAmb	14 06 47.8
	comp=Z,24nm,0.9s					
KAPI	**Kappang**	65.44	79	P	P	14 06 46.6 +0.3
KAPI	**Kappang**	65.44	79	P	P	14 06 45.8 -0.5
KAPI				pmax	pmax	
	comp=Z,25nm,1.0s					
BKSI	**Bulukumba**	65.57	80	P	P	14 06 47.1 0.0
	comp=Z,31nm,1.1s,comp=Z,455nm					
BATI	**Baumata**	65.82	86	LR	LR	14 32 41.8
	comp=Z,93nm,18.3s,baz=317,slow=34					
SPSI	**Sidrap Palu**	66.05	78	P	P	14 06 53.2 +2.9
	comp=Z,23nm,1.2s					
BNSI	**Bone**	66.08	79	P	P	14 06 51.7 +1.3
	comp=Z,29nm,1.0s					
CMAR	**Chiang Mai Arr**	66.09	45	P	P	14 06 50.3 0.0
	comp=Z,18nm,0.9s,baz=232,slow=7.0,SNR=127					
CMAR				LR	LR	14 32 39.7
	comp=Z,355nm,18.5s,baz=225,slow=33					
	comp=Z,18nm,0.9s					
EIL	**Elat**	66.16	340	LR	LR	14 32 59.7
	comp=Z,322nm,19.0s,baz=154,slow=34					
CHTO	**Chiang Mai**	66.37	45	P	P	14 06 49.4 -2.7
CHTO				IAmb	IAmb	14 07 00.4
	comp=Z,18nm,1.1s					
CHTO	**Chiang Mai**	66.37	45	P	P	14 06 49.4 -2.7
CHTO				pmax	pmax	
	comp=Z,17nm,1.2s					
AUMBR	**Murray Bridge**	66.60	118	P	P	14 06 55.0 +1.5
TTSI	**Tana Toraja**	66.62	77	P	P	14 06 54.3 +0.4
	comp=Z,40nm,1.2s					
KNRA	**Kununurra**	67.24	94	P	P	14 06 54.1 -3.7
KNRA				IAmb	IAmb	14 06 59.5
	comp=Z,21nm,0.8s					
ASAR	**Alice Springs**	67.58	104	P	P	14 06 58.6 -1.4
	comp=Z,18nm,1.1s,baz=236,slow=5.4,SNR=41					
ASAR				LR	LR	14 32 21.7
	comp=Z,176nm,19.5s,baz=263,slow=32					
	comp=Z,18nm,1.1s					
AS31	**Alice Springs**	67.58	104	P	P	14 06 58.2 -1.9
ARPS	**Mount Arapiles**	67.75	120	P	P	14 07 02.6 +1.8
SHL	**Shillong**	68.12	35	P	P	14 07 01.3 -2.0
	SNR=18					
KDI	**Kendari**	68.39	80	P	P	14 07 05.7 +0.6
	comp=Z,31nm,1.1s					
BRAT	**Ballarat**	68.90	122	P	P	14 07 10.6 +2.6
NIL	**Nilore**	68.97	15	P	P	14 07 06.3 -2.0
NIL				IAmb	IAmb	14 07 40.4
	comp=Z,16nm,0.9s					
NIL	**Nilore**	68.97	15	P	P	14 07 06.3 -2.0
NIL				pmax	pmax	
	comp=Z,16nm,1.0s					
KBL	**Kabul**	69.02	11	P	P	14 07 09.2 +0.4
KBL	**Kabul**	69.02	11	P	P	14 07 10.0 +1.2
	SNR=7.5					
KBL	**Kabul**	69.02	11	P	P	14 07 09.2 +0.4
KBL				pmax	pmax	
	comp=Z,14nm,1.0s					
MMAI	**Mount Meron Ar**	69.19	342	P	P	14 07 10.9 +1.2
	comp=Z,4.6nm,0.8s,baz=150,slow=8.7,SNR=5.1					
MMAI				LR	LR	14 33 56.4
	comp=Z,464nm,21.0s,baz=104,slow=33					
	comp=Z,4.6nm,0.8s					
TORD	**Torodi Ar. Bea**	69.63	302	P	P	14 07 13.3 +0.6
	comp=Z,4.1nm,0.9s,baz=112,slow=4.9,SNR=22					
TORD				LR	LR	14 38 30.3
	comp=Z,242nm,18.2s,baz=137,slow=37					
	comp=Z,4.1nm,0.9s					
WB1	**Warramunga Ar.**	69.72	101	P	P	14 07 14.6 +1.2
WRA	**Warramunga Arr**	69.73	101	P	P	14 07 12.7 -0.7
	comp=Z,30nm,1.0s,baz=239,slow=5.2,SNR=47					
WRA				LR	LR	14 33 25.1
	comp=Z,91nm,21.4s,baz=8.5,slow=32					
	comp=Z,30nm,1.0s					
WRAB	**Tennant Creek**	69.74	101	P	P	14 07 10.6 -2.9
WRAB	**Tennant Creek**	69.74	101	*i* P	P	14 07 12.7 -0.8
STKA	**Stephens Creek**	69.78	115	P	P	14 07 13.6 0.0
	comp=Z,21nm,1.1s,baz=246,slow=3.6,SNR=14					
STKA				LR	LR	14 32 50.8
	comp=Z,125nm,18.2s,baz=211,slow=32					
	comp=Z,21nm,1.1s					
STKA	**Stephens Creek**	69.78	115	P	P	14 07 14.7 +1.1
TOLI2	**Tolitoli**	69.83	74	P	P	14 07 11.8 -2.2
TOLI2	**Tolitoli**	69.83	74	P	P	14 07 13.9 -0.1
WR0	**Warramunga Arr**	69.88	101	IAmb	IAmb	14 07 16.0
	comp=Z,28nm,1.1s					
DBIC	**Dimbokro**	70.20	293	P	P	14 07 17.6 +1.3
	comp=Z,12nm,0.9s,baz=128,slow=8.7,SNR=12					
DBIC				LR	LR	14 36 33.9
	comp=Z,231nm,19.3s,baz=102,slow=35					
	comp=Z,12nm,0.9s					
MYLDM	**Lahad Datu**	70.48	70	P	P	14 07 19.3 +1.3
TNCH	**TengChong**	71.05	40	P	P	14 07 21.4 0.0
TNCH				pP	sP	14 07 24.6 +1.0
TNCH				pmax	pmax	
	comp=Z,24nm,1.0s					
INKA	**Innaminka**	71.08	111	P	P	14 07 23.1 +1.5
SLVN	**Son La**	71.27	47	IAmb	IAmb	14 07 31.0
	comp=Z,19nm,0.9s					
SLVN	**Son La**	71.27	47	P	P	14 07 23.5 +0.8
PMSA	**Palmer Station**	71.30	203	LR	LR	14 34 22.7
	comp=Z,441nm,20.0s,baz=87,slow=32					
LSA	**Lhasa**	71.31	32	P	P	14 07 24.0 +0.7
LSA				pmax	pmax	
	comp=Z,27nm,1.1s					
KDU	**Kakadu**	71.85	93	P	P	14 07 27.9 +1.5
SANI	**Sanana**	72.23	80	P	P	14 07 29.7 +1.1
	comp=Z,13nm,1.2s					
GEVA	**Gevas**	72.71	349	P	P	14 07 30.3 -0.8
CMSA	**Cobar Meteorol**	73.01	117	P	P	14 07 35.2 +2.1
SIMJ	**Simiganj**	73.04	11	P	P	14 07 31.6 -1.4
SIMJ				IAmb	IAmb	14 07 35.2
	comp=Z,40nm,1.1s					
QIZ	**Qiongzhong**	73.36	53	P	P	14 07 34.3 -0.9
QIZ				S	S	14 17 05.1 +0.6
QIZ				LR	LR	
	comp=Z,320nm,9.6s					
KMI	**Kunming**	73.47	43	⇑P	P	14 07 36.3 +0.3
KMI				pP	sP	14 07 38.6 +0.5
KMI				pmax	pmax	
	comp=Z,15nm,0.6s					
KMI				LR	LR	
	comp=Z,450nm,15.3s					
KMI				LR	LR	
	comp=Z,380nm,16.1s					
KMI				LR	LR	
	comp=Z,430nm,22.5s					
YNG	**Young**	73.63	120	P	P	14 07 39.4 +2.7
QIS	**Mount Isa**	73.70	104	P	P	14 07 37.6 +0.2
PZH	**PanZhiHua**	73.98	42	P	P	14 07 37.9 -0.9
PZH				S	S	14 17 13.9 +2.4
PZH				pmax	pmax	
	comp=Z,20nm,1.2s					
PZH				pmax	pmax	
	comp=Z,190nm,4.9s					
PZH				LR	LR	
	comp=Z,560nm,20.4s					
PZH				LR	LR	
	comp=Z,540nm,21.6s					
PZH				LR	LR	
	comp=Z,680nm,22.5s					
KARP	**Karpathos**	74.05	336	P	P	14 07 40.5 +1.6
	comp=Z,110nm,1.1s					
GNI	**Garni**	74.27	351	LR	LR	14 37 42.7
	comp=Z,632nm,21.1s,baz=168,slow=34					
DRK	**Karamyk**	74.31	13	IAmb	IAmb	14 07 54.4
	comp=Z,33nm,1.2s					
QLP	**Quilpie**	74.35	112	P	P	14 07 41.8 +0.7
BNN	**Bunyan**	74.63	344	IAmb	IAmb	14 07 57.4
	comp=Z,32nm,0.9s					
KSH	**Kashi**	75.20	16	P	P	14 07 43.3 -2.3
KSH				pP	pwP	14 07 51.3 -0.2
KSH				pmax	pmax	
	comp=Z,27nm,0.9s					
KSH				LR	LR	
	comp=Z,340nm,15.1s					
KSH				LR	LR	
	comp=Z,320nm,12.4s					
KSH				LR	LR	
	comp=Z,380nm,17.9s					
AKT	**Akhty**	75.25	354	*e*P	P	14 07 44.4 -1.4
AKT				*e*		14 07 57.4
AKT				pmax	pmax	
	comp=Z,49nm,1.4s					
KIRS	**Kirsehir-Merke**	75.36	342	⇑P	P	14 07 47.3 +0.8
AULRC	**Lightning Ridg**	75.77	116	P	P	14 07 51.5 +2.3
BR104	**Keskin Array S**	75.97	342	P	P	14 07 50.0 0.0
	comp=Z,12nm,1.0s,comp=Z,80nm					
BR105	**Keskin Array S**	75.99	342	P	P	14 07 50.1 0.0
	comp=Z,15nm,1.0s,comp=Z,106nm					
BR131	**Keskin Array S**	75.99	342	IAmb	IAmb	14 08 03.2
	comp=Z,18nm,1.0s					
BRTR	**Keskin Array B**	75.99	342	P	P	14 07 49.9 -0.3
BRTR	**Keskin Array B**	75.99	342	P	P	14 07 50.4 +0.2
	comp=Z,6.8nm,0.9s,baz=168,slow=7.2,SNR=27					
BRTR				LR	LR	14 38 47.6
	comp=Z,157nm,20.3s,baz=157,slow=34					
	comp=Z,6.8nm,0.9s					
BR106	**Keskin Array S**	76.01	342	P	P	14 07 50.2 0.0
	comp=Z,14nm,1.0s,comp=Z,100nm					
ANTO	**Ankara**	76.34	342	P	P	14 07 52.1 0.0
	comp=Z,5.5nm,0.5s					
IUG	**Iuzhnay**	76.61	11	*e*P	P	14 07 54.1 +0.5
	comp=Z,10nm,0.8s					
IUG	**Iuzhnay**	76.61	11	*e*P	P	14 07 54.0 +0.5
IUG				pmax	pmax	
	comp=Z,10.0nm,0.8s					
MAK	**Makhachkala**	76.74	354	*d*P	P	14 07 49.2 -4.9
MAK				*e*S	S	14 17 34.3 -6.8
MAK				pmax	pmax	
	comp=Z,302nm,1.3s					
MAK				MLR	MLR	
	comp=Z,192nm,17.0s					
GYA	**Guiyang**	76.77	45	P	P	14 07 55.0 +0.1
GYA				pmax	pmax	
	comp=Z,17nm,0.9s					
FAKI	**Fak Fak**	76.92	85	P	P	14 07 53.2 -2.7
FAKI				IAmb	IAmb	14 07 59.2
	comp=Z,31nm,0.9s					
FAKI	**Fak Fak**	76.92	85	P	P	14 07 56.2 +0.3
FAKI	**Fak Fak**	76.92	85	P	P	14 07 56.8 +0.9
	comp=Z,42nm,1.0s					
AUPHS	**Peel High Scho**	77.06	119	P	P	14 07 59.1 +2.6
DAV	**Davao City (W)**	77.20	72	LR	LR	14 38 39.8
	comp=Z,58nm,19.5s,baz=291,slow=33					
AML	**Almayashu**	77.23	13	P	P	14 07 58.2 +0.7
	SNR=16					
SWI	**Sorong**	77.24	82	P	P	14 07 58.1 +0.4
	comp=Z,53nm,0.9s					
DZA	**Taraz**	77.55	11	*e*P	P	14 07 59.2 +0.5
	comp=Z,11nm,0.8s					
DZA	**Taraz**	77.55	11	*e*P	P	14 07 59.2 +0.5
DZA				pmax	pmax	
	comp=Z,11nm,0.8s					
EKS2	**Erkin-Say**	77.76	13	P	P	14 08 01.3 +1.3
	SNR=23					
AAK	**Ala-Archa**	77.88	14	P	P	14 08 01.7 +0.9
AAK				IAmb	IAmb	14 08 03.4
	comp=Z,36nm,1.1s					
AAK	**Ala-Archa**	77.88	14	LR	LR	14 40 01.8
	comp=Z,300nm,19.7s,baz=197,slow=34					
AAK	**Ala-Archa**	77.88	14	P	P	14 08 02.3 +1.5
AAK				P	P	14 08 02.3 +1.5
AAK	**Ala-Archa**	77.88	14	*ce*P	P	14 08 01.9 +1.2
AAK				pmax	pmax	
	comp=Z,28nm,1.1s					
TGY	**Tagaytay City**	77.93	64	LR	LR	14 38 56.0
	comp=Z,136nm,19.9s,baz=4.0,slow=33					
ARMA	**Armidale**	77.96	118	P	P	14 08 03.7 +2.0
KBK	**Karagaybulak**	77.99	14	P	P	14 08 02.8 +1.4
	SNR=5.3					
KBZ	**Khabaz**	78.04	350	P	P	14 08 02.7 +1.3
	comp=Z,5.0nm,1.0s,baz=175,slow=3.8,SNR=8.4					
KBZ				LR	LR	14 40 21.3
	comp=Z,347nm,20.9s,baz=159,slow=34					
	comp=Z,5.0nm,1.0s					
FRU1	**Bishkek**	78.07	14	IAmb	IAmb	14 08 04.2
	comp=Z,51nm,1.2s					
SHA1	**Shidzhatmaz**	78.08	350	*i* P	P	14 08 01.8 -0.1
KIV	**Kislovodsk**	78.29	350	P	P	14 08 03.1 +0.2
KIV				IAmb	IAmb	14 08 17.5
	comp=Z,54nm,1.4s					
KIV	**Kislovodsk**	78.29	350	P	P	14 08 03.9 +1.0
KIV				P	P	14 08 03.9 +1.0
KIV	**Kislovodsk**	78.29	350	⇑P	P	14 08 03.9 +1.0
KIV	**Kislovodsk**	78.29	350	*e*P	P	14 08 03.1 +0.2
KIV				*e*S	S	14 17 59.2 +1.1
KIV				pmax	pmax	
	comp=Z,19nm,1.1s					
KIV	**Kislovodsk**	78.29	350	P	P	14 08 03.8 +0.9
	comp=Z,22nm,1.3s					
TKM2	**Tokmak 2**	78.38	15	P	P	14 08 04.2 +0.7
	SNR=11					
SOC	**Sochi**	78.40	348	*e*P	P	14 08 02.2 -1.1
SOC				*e*		14 10 59.3
SOC				*e*S	S	14 17 59.0 -0.1
SOC				*e*SS	SS	14 23 01.1 -1.7
SOC				*e*SSS	SSS	14 26 29.4
SOC				MLR	MLR	
	comp=Z,237nm,21.0s					
GOMU	**GeErMu**	78.45	31	P	P	14 08 05.0 +0.7
GOMU				pP	sP	14 08 07.8 +1.3
GOMU				PcP	PcP	14 08 12.6 -0.9
GOMU				S	S	14 18 03.1 +2.3
GOMU				pmax	pmax	
	comp=Z,8.0nm,1.1s					
GOMU				pmax	pmax	
	comp=Z,200nm,4.9s					
GOMU				LR	LR	
	comp=Z,150nm,18.6s					
GOMU				LR	LR	
	comp=Z,140nm,17.5s					
GOMU				LR	LR	
	comp=Z,200nm,17.7s					
USP	**Ospenovka**	78.48	14	P	P	14 08 04.8 +0.8
	SNR=15					
CD2	**Chengdu**	78.51	40	P	P	14 08 04.3 -0.1
CD2				pP	sP	14 08 07.3 +0.7
CD2				S	S	14 18 02.5 +1.5
CD2				pmax	pmax	
	comp=Z,30nm,0.8s					
CD2				pmax	pmax	
	comp=Z,210nm,5.2s					
CD2				LR	LR	
	comp=Z,340nm,17.1s					
CD2				LR	LR	
	comp=Z,370nm,11.9s					
CD2				LR	LR	
	comp=Z,320nm,17.0s					
SGDS	**Sogindy**	78.69	14	*e*P	P	14 08 05.6 +0.5
SGDS	**Sogindy**	78.69	14	*e*P	P	14 08 05.6 +0.5
MTSU	**Mount Surprise**	78.76	104	P	P	14 08 08.2 +2.0
TNSS	**Tian-Shan**	78.78	15	*e*P	P	14 08 06.2 +0.2
TNSS	**Tian-Shan**	78.78	15	*e*P	P	14 08 06.2 +0.2
MDOK	**Medeo**	78.92	16	*e*P	P	14 08 07.0 +0.5
MDOK	**Medeo**	78.92	16	*e*P	P	14 08 06.9 +0.5
AAA	**Alma-Ata**	78.93	15	*e*P	P	14 08 07.1 +0.7
	comp=Z,14nm,0.6s					
AAA	**Alma-Ata**	78.93	15	*e*P	P	14 08 07.1 +0.7
AAA				pmax	pmax	
	comp=Z,14nm,0.6s					
SATY	**Saty**	79.13	16	*e*P	P	14 08 08.2 +0.6
SATY	**Saty**	79.13	16	*e*P	P	14 08 08.2 +0.6
CTA	**Charters Tower**	79.28	107	P	P	14 08 10.9 +1.9
CTAO	**Charters Tower**	79.28	107	P	P	14 08 10.7 +1.7
UZB	**Uzynbulak**	79.36	17	*e*P	P	14 08 09.4 +0.4
	comp=Z,20nm,1.0s					
UZB	**Uzynbulak**	79.36	17	*e*P	P	14 08 09.3 +0.4
UZB				pmax	pmax	
	comp=Z,20nm,1.0s					
SHLS	**Shalkode**	79.48	17	*e*P	P	14 08 10.5 +1.0
	comp=Z,9.4nm,0.6s					
SHLS	**Shalkode**	79.48	17	*e*P	P	14 08 10.5 +1.0
SHLS				pmax	pmax	
	comp=Z,9.0nm,0.6s					
BTLS	**Baital**	80.11	13	*e*P	P	14 08 13.2 +0.5
BTLS	**Baital**	80.11	13	*e*P	P	14 08 13.2 +0.5
EIDS	**Eidsvold**	80.25	114	P	P

comp=Z,150nm,14.1s
LZH LR LR
ABKAR Akbulak array 82.71 3 IAmb IAmb 14 08 27.9
comp=Z,16nm,1.0s
RPZ Rata Peaks 82.80 139 LR LR 14 39 11.2
comp=Z,315nm,18.0s,baz=211,slow=31
GTA Gaotai 83.31 33 P **P 14 08 30.3 +0.4**
GTA sP pwP 14 08 37.8 +1.9
GTA S **SKSac 14 18 51.5 -0.9**
GTA pmax pmax
comp=Z,45nm,1.2s
GTA pmax pmax
comp=Z,190nm,4.9s
GTA LR LR
comp=Z,170nm,19.3s
GTA LR LR
comp=Z,150nm,21.5s
GTA LR LR
comp=Z,310nm,22.5s
MLR Muntele Rosu 83.45 339 P **P 14 08 30.9 +0.3**
comp=Z,6.4nm,0.7s,baz=179,slow=4.8,SNR=9.4
MLR LR LR 14 43 42.1
comp=Z,210nm,21.9s,baz=178,slow=34
comp=Z,6.4nm,0.7s
MLR Muntele Rosu 83.45 339 ⇑P **P 14 08 30.8 +0.3**
MLR Muntele Rosu 83.45 339 P **P 14 08 30.6 +0.1**
comp=Z,19nm,1.4s
MAKZ Makanchi 83.53 18 ⇑P **P 14 08 31.6 +0.9**
GHRR 83.55 340 P **P 14 08 31.6 +0.8**
PLOR5 Plostina Array 83.57 340 P **P 14 08 32.2 +1.2**
comp=Z,43nm,1.2s
VRI Vrincioaia 83.57 340 ⇑P **P 14 08 31.3 +0.4**
VRI Vrincioaia 83.57 340 ⇑P **P 14 08 31.3 +0.4**
VRI Vrincioaia 83.57 340 P **P 14 08 31.0 +0.1**
comp=Z,37nm,1.2s
PLOR Plostina 83.58 340 ⇑P **P 14 08 31.3 +0.3**
PLOR Plostina 83.58 340 ⇑P **P 14 08 31.3 +0.3**
PLOR3 Plostina Array 83.58 340 P **P 14 08 30.8 -0.2**
comp=Z,38nm,0.9s
MK31 Makanchi Array 83.59 18 *de*P **P 14 08 31.4 +0.4**
MKAR Makanchi Array 83.59 18 P **P 14 08 31.6 +0.5**
comp=Z,6.1nm,0.8s,baz=208,slow=4.1,SNR=20
MKAR LR LR 14 43 51.0
comp=Z,65nm,18.5s,baz=192,slow=34
comp=Z,6.1nm,0.8s
COVR Voineasa-Covas 83.70 340 ⇑P **P 14 08 31.3 -0.3**
XAN Xi'an 83.72 42 P **P 14 08 31.9 -0.1**
XAN pP pwP 14 08 39.3 +1.3
XAN pmax pmax
comp=Z,26nm,1.2s
XAN pmax pmax
comp=Z,520nm,5.5s
XAN LR LR
comp=Z,350nm,22.0s
XAN LR LR
comp=Z,460nm,20.8s
XAN LR LR
comp=Z,500nm,18.0s
ARR Arges 83.74 338 ⇓P **P 14 08 31.6 -0.3**
AKTO Aktyubinsk 83.84 1 LR LR 14 45 47.4
comp=Z,274nm,18.4s,baz=180,slow=36
DOPR Dopca 84.05 339 ⇑P **P 14 08 33.1 -0.3**
BBTS Babate 84.12 292 LR LR 14 42 51.8
comp=Z,112nm,21.8s,baz=326,slow=33
SSLB Suanglung 84.16 57 P **P 14 08 35.1 +0.6**
GZR Gura Zlata 84.35 337 ⇓P **P 14 08 35.6 +0.6**
GZR Gura Zlata 84.35 337 P **P 14 08 35.6 +0.6**
WHN Wuhan 84.38 48 P **P 14 08 36.3 +0.9**
WHN sP **pwP 14 08 42.8 +1.5**
WHN S **S 14 19 07.9 +6.2**
WHN pmax pmax
comp=Z,50nm,0.5s
WHN pmax pmax
comp=Z,840nm,3.8s
WHN LR LR
comp=Z,910nm,14.0s
SURR Surduc 84.88 337 ⇓P **P 14 08 38.0 +0.4**
BZS Buzias 84.93 337 ⇑P **P 14 08 37.9 +0.1**
BZS Buzias 84.93 337 ⇑P **P 14 08 37.9 +0.1**
ARCR ARCALIA 85.37 339 ⇓P **P 14 08 40.7 +0.7**
MARR Marisel-Cluj 85.38 338 ⇓P **P 14 08 40.6 +0.4**
VRH Novokhopyorsk 85.52 351 *e*P **P 14 08 40.7 +0.1**
VRH pmax pmax
comp=Z,17nm,0.9s
BURAR Bucovina Array 85.59 340 ⇓P **P 14 08 41.9 +0.7**
BURAR Bucovina Array 85.59 340 P **P 14 08 41.9 +0.7**
DRGR 85.61 338 ⇑P **P 14 08 41.8 +0.5**
DRGR 85.61 338 ⇑P **P 14 08 41.8 +0.5**
VORD Divnogorie 85.64 349 *e*P **P 14 08 39.7 -1.5**
VORD pmax pmax
comp=Z,10.0nm,0.8s
PMG Port Moresby 85.77 98 LR LR 14 43 19.8
comp=Z,137nm,20.3s,baz=244,slow=33
VSR Storozhevoye 85.90 349 *e*P **P 14 08 39.8 -2.7**
VSR pmax pmax
comp=Z,10.0nm,0.9s
LYN LuoYang 86.09 44 P **P 14 08 44.3 +0.4**
LYN S **S 14 19 23.4 +4.9**
LYN pmax pmax
comp=Z,37nm,1.1s
LYN pmax pmax
comp=Z,350nm,4.8s
LYN LR LR
comp=Z,530nm,20.0s
LYN LR LR
comp=Z,370nm,15.5s
LYN LR LR
comp=Z,740nm,17.3s
BELG Belogornoye 86.10 355 P **P 14 08 43.3 -0.1**
comp=Z,46nm,0.9s,baz=125,slow=1.7,SNR=16
BELG LR LR 14 48 33.9
comp=Z,147nm,19.6s,baz=175,slow=37
comp=Z,46nm,0.9s
KURBB Kurchatov Arra 86.33 14 P **P 14 08 44.3 -0.4**
comp=Z,8.5nm,0.9s,baz=208,slow=5.3,SNR=12
KURBB LR LR 14 41 54.5
comp=Z,102nm,21.9s,baz=180,slow=32
comp=Z,8.5nm,0.9s
VORR Voronezh 86.33 350 *e*P **P 14 08 45.3 +0.7**
VORR pmax pmax
comp=Z,34nm,1.4s
KURK Kurchatov 86.43 14 P **P 14 08 44.7 -0.5**
KURK IAmb IAmb 14 08 47.1
comp=Z,37nm,1.4s
KURK Kurchatov 86.43 14 P **P 14 08 44.9 -0.3**
KURK P **P 14 08 44.9 -0.3**
KURK Kurchatov 86.43 14 *ce*P **P 14 08 45.3 +0.1**
KURK pmax pmax
comp=Z,23nm,1.3s
MORH Mrgy, Hungar 86.47 335 ⇓P **P 14 08 45.7 +0.3**
SEM Semipalatinsk 86.49 15 *e*P **P 14 08 46.1 +0.3**
SEM Semipalatinsk 86.49 15 *e*P **P 14 08 46.0 +0.3**
AK10 Malin Array Si 87.26 343 P **P 14 08 49.0 -0.2**
LPSR Galich'ya Gora 87.28 350 *e*P **P 14 08 49.5 +0.3**
LPSR pmax pmax
comp=Z,21nm,0.9s
BVAR Borovoye Array 87.31 9 P **P 14 08 49.8 +0.4**
comp=Z,17nm,0.8s,baz=181,slow=5.1,SNR=67
BVAR LR LR 14 46 13.4
comp=Z,172nm,19.9s,baz=190,slow=34
comp=Z,17nm,0.8s
BRVK Borovoye 87.33 9 P **P 14 08 48.5 -1.0**
BRVK IAmb IAmb 14 08 51.4
comp=Z,17nm,0.9s
BRVK Borovoye 87.33 9 P **P 14 08 49.7 +0.2**
BRVK P **P 14 08 49.7 +0.2**
BRVK Borovoye 87.33 9 *ce*P **P 14 08 49.4 -0.1**
BRVK pmax pmax
comp=Z,14nm,1.0s
KIEV Kiev 87.36 343 P **P 14 08 49.3 -0.3**
KIEV IAmb IAmb 14 08 50.7
comp=Z,21nm,1.1s
KIEV Kiev 87.36 343 ⇓P **P 14 08 49.5 -0.1**
KIEV Kiev 87.36 343 ⇓P **P 14 08 49.5 -0.1**
AKASG Malin Array Be 87.36 343 P **P 14 08 49.4 -0.3**
comp=Z,8.1nm,0.9s,baz=172,slow=4.5,SNR=37
AKASG LR LR 14 46 17.6
comp=Z,86nm,21.6s,baz=139,slow=34
comp=Z,8.1nm,0.9s
AKBB Malin Array Si 87.36 343 IAmb IAmb 14 08 50.7
comp=Z,23nm,1.1s
AKBB Malin Array Si 87.36 343 *ce*P **P 14 08 49.3 -0.4**
AKBB pmax pmax
comp=Z,13nm,1.1s
MDT Midelt 87.39 313 P **P 14 08 51.7 +1.3**
comp=Z,5.8nm,0.8s,baz=166,slow=3.7,SNR=2.6
MDT LR LR 14 48 49.1
comp=Z,591nm,19.4s,baz=156,slow=36
comp=Z,5.8nm,0.8s
PSZ Piszkesteto 87.52 337 IAmb IAmb 14 08 51.6
comp=Z,14nm,1.1s
PSZ Piszkesteto 87.52 337 ⇑P **P 14 08 50.8 +0.2**
PSZ Piszkesteto 87.52 337 P **P 14 08 50.8 +0.2**
KOLS Kolonicke sedl 87.65 338 *e*P **P 14 08 52.0 +0.8**
KOLS pmax pmax
comp=Z,12nm,1.0s
KOLS Kolonicke sedl 87.65 338 *e*P **P 14 08 52.0 +0.8**
DIAM Diamantina, MG 87.77 250 *e*P **P 14 08 54.1 +1.3**
CPSB Cacapava Do Su 87.80 235 *e*P **P 14 08 54.8 +2.2**
KECS Kecovo 87.81 337 *e*P **P 14 08 52.9 +1.0**
KECS Kecovo 87.81 337 *e*P **P 14 08 52.9 +1.0**
SRO Srobarova 87.96 336 *e*P **P 14 08 53.1 +0.5**
SRO pmax pmax
comp=Z,35nm,1.6s
SRO Srobarova 87.96 336 *e*P **P 14 08 53.1 +0.5**
SOKA Soboth 88.17 333 *i*P **P 14 08 54.3 +0.5**
comp=Z,10nm,1.0s
NJ2 Nanjing 88.21 49 *e*P **P 14 08 54.4 +0.2**
NJ2 pmax pmax
comp=Z,11nm,0.5s
OBKA Obir 88.22 333 *i*P **P 14 08 54.7 +0.6**
comp=Z,16nm,0.9s
TRQA Tornquist 88.25 224 P **P 14 08 54.3 -0.4**
TRQA IAmb IAmb 14 09 02.1
comp=Z,20nm,1.1s
TRQA Tornquist 88.25 224 P **P 14 08 54.3 -0.4**
TRQA pmax pmax
comp=Z,20nm,1.1s
VYHS Vyhne 88.37 336 *e*P **P 14 08 55.0 +0.4**
VYHS pmax pmax
comp=Z,17nm,1.1s
VYHS Vyhne 88.37 336 *e*P **P 14 08 55.0 +0.4**
STHS Stebnicka Huta 88.39 338 *e*P **P 14 08 54.2 -0.5**
STHS pmax pmax
comp=Z,8.0nm,0.9s
STHS Stebnicka Huta 88.39 338 *e*P **P 14 08 54.2 -0.5**
RCBR Riachuelo 88.42 264 LR LR 14 42 33.6
comp=Z,35nm,18.8s,baz=80,slow=32
ARSA Arzberg 88.47 334 *i*P **P 14 08 55.9 +0.7**
comp=Z,12nm,1.1s
RONA Rosalia, Austr 88.57 334 *i*P **P 14 08 56.4 +0.8**
comp=Z,15nm,1.0s
MYKA Terra Mystica 88.67 332 *i*P **P 14 08 57.7 +1.5**
comp=Z,11nm,1.5s
NIE Niedzica 88.69 338 *e*P **P 14 08 57.1 +1.0**
LANS Liptovska Anna 88.73 337 *e*P **P 14 08 57.3 +1.0**
LANS pmax pmax
comp=Z,11nm,1.2s
LANS Liptovska Anna 88.73 337 *e*P **P 14 08 57.3 +1.0**
MODS Modra-Piesok 88.80 335 *e*P **P 14 08 56.6 0.0**
MODS pmax pmax
comp=Z,34nm,1.2s
MODS Modra-Piesok 88.80 335 *e*P **P 14 08 56.6 0.0**
CONA Conrad Observa 88.92 334 *i*P **P 14 08 57.8 +0.5**
comp=Z,14nm,1.1s
JAVC Velka Javorina 89.08 336 *e*P **P 14 08 58.8 +0.8**
KBA Koelnbreinsper 89.15 332 *i*P **P 14 08 59.1 +0.6**
comp=Z,6.5nm,1.2s
BTO Baotou 89.17 38 *e*P **P 14 08 58.4 -0.3**
BTO pP **sP 14 09 01.3 +0.4**
BTO sP **pwP 14 09 05.6 +1.0**
BTO PP **PP 14 12 26.8 -2.6**
BTO S **S 14 19 49.8 +1.9**
BTO SS **SS 14 25 39.1 -3.5**
BTO pmax pmax
comp=Z,33nm,0.6s
BTO pmax pmax
comp=Z,280nm,4.6s
BTO LR LR
comp=Z,540nm,10.0s
BTO LR LR
comp=Z,180nm,4.6s
BTO LR LR
comp=Z,320nm,18.6s
ABTA Abfaltersbach 89.20 332 *i*P **P 14 08 59.6 +0.9**
comp=Z,9.3nm,1.0s
HNS HongShan 89.39 43 ⇑P **P 14 08 59.8 +0.2**
HNS pmax pmax
comp=Z,25nm,1.1s
HNS pmax pmax
comp=Z,210nm,4.7s
HNS LR LR
comp=Z,290nm,21.6s
HNS LR LR
comp=Z,290nm,22.1s
HNS LR LR
comp=Z,350nm,22.1s
MOA Molln 89.44 333 *i*P **P 14 09 00.4 +0.7**
comp=Z,10nm,0.9s
MAUC Maruska 89.46 336 *e*P **P 14 09 00.8 +1.1**
BIOA Bad Ischl, Aus 89.55 333 *i*P **P 14 09 00.4 +0.2**
comp=Z,6.6nm,1.1s
OJC Ojcow 89.55 338 *e*P **P 14 09 00.5 +0.4**
OJC Ojcow 89.55 338 IAmb IAmb 14 09 01.2
comp=Z,21nm,1.2s
KRUC Moravsky 89.69 335 *e*P **P 14 09 00.4 -0.4**
LESA Schwarzleotal 89.69 332 *i*P **P 14 09 01.4 +0.4**
comp=Z,6.9nm,0.9s
ARTI Arti 89.81 1 P **P 14 08 60.0 -1.1**
ARTI Arti 89.81 1 *d*P **P 14 09 01.5 +0.4**
ARTI S **SKSac 14 19 31.3 -0.2**
ARTI pmax pmax
comp=Z,43nm,1.2s
VRAC Vranov 89.83 335 LR LR 14 52 34.2
comp=Z,59nm,18.4s,baz=152,slow=38
VRAC Vranov 89.83 335 *e*P **P 14 09 01.1 -0.3**
URZ Urewera 89.86 138 LR LR 14 44 30.4
comp=Z,216nm,18.1s,baz=298,slow=32
MORC Moravsky Berou 89.91 336 IAmb IAmb 14 09 02.5
comp=Z,21nm,1.6s
MORC Moravsky Berou 89.91 336 *e*P **P 14 09 01.5 -0.3**
TIA Tai'an 89.97 45 P **P 14 09 01.9 -0.5**
TIA pmax pmax
comp=Z,10.0nm,0.8s
WTTA Wattenberg 89.97 332 *i*P **P 14 09 02.7 +0.4**
comp=Z,11nm,1.5s
WATA Walderalm 90.06 332 *i*P **P 14 09 03.1 +0.3**
comp=Z,11nm,1.6s
OBN Obninsk 90.08 349 P **P 14 09 02.9 +0.6**
comp=Z,10nm,0.4s,baz=150,slow=4.9,SNR=6.7
OBN LR LR 14 48 26.5
comp=Z,147nm,21.2s,baz=176,slow=35
comp=Z,10nm,0.4s
OBN Obninsk 90.08 349 *e*P **P 14 09 02.5 +0.1**
OBN *i* 14 09 06.6
OBN *i* 14 12 35.4
OBN pmax pmax
comp=Z,16nm,1.1s
OBN MLR MLR
comp=Z,136nm,20.0s
SQTA Sankt Quirin 90.11 331 *i*P **P 14 09 03.4 +0.5**
comp=Z,12nm,1.7s
JANB Januaria 90.11 252 *e*P **P 14 09 05.6 +1.9**
FETA Feichten 90.14 331 *i*P **P 14 09 03.7 +0.5**
comp=Z,5.7nm,1.2s
HHC Hu-ho-hao-te 90.14 39 *e*P **P 14 09 03.3 0.0**
HHC sP pwP 14 09 10.6 +1.4
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,95nm,5.5s
HHC LR LR
comp=Z,170nm,15.5s
HHC LR LR
comp=Z,160nm,19.0s
MOTA Moosalm 90.25 331 *i*P **P 14 09 04.4 +0.7**
comp=Z,7.5nm,1.4s
DAVOX Davos/Dischmat 90.30 330 P **P 14 09 04.1 +0.2**
comp=Z,2.3nm,0.7s,baz=140,slow=15,SNR=4.4
DAVOX LR LR 14 53 06.2
comp=Z,94nm,18.0s,baz=143,slow=38
comp=Z,2.3nm,0.7s
SVE Sverdlovsk 90.31 3 *e*P **P 14 09 03.9 +0.5**
SVE pmax pmax
comp=Z,30nm,1.3s
GEC2 GERESS Array S 90.48 334 IAmb IAmb 14 09 11.8
comp=Z,21nm,1.9s
GERES GERESS Array B 90.48 334 P **P 14 09 04.6 0.0**
comp=Z,0.6nm,0.5s,baz=134,slow=12,SNR=5.5
comp=Z,0.6nm,0.5s
RETA Reutte 90.50 331 *i*P **P 14 09 05.4 +0.6**
comp=Z,3.8nm,1.0s
MOS Moscow 90.52 350 *e*P **P 14 09 03.9 -0.5**
DAVA Damuels 90.70 331 *i*P **P 14 09 06.1 +0.4**
comp=Z,5.7nm,1.1s
KHC Kasperske Hory 90.76 334 *e*P **P 14 09 04.5 -1.3**
KHC Kasperske Hory 90.76 334 *e*P **P 14 09 04.5 -1.3**
ZVC Zvikov 90.79 334 *e*P **P 14 09 06.5 +0.6**
ZALV Zalesovo Beam 90.82 17 P **P 14 09 04.8 -1.1**
comp=Z,3.1nm,0.8s,baz=207,slow=4.4,SNR=12
ZALV LR LR 14 46 39.0
comp=Z,151nm,22.0s,baz=124,slow=33
comp=Z,3.1nm,0.8s
MNK Minsk 91.19 344 *i*P **P 14 09 06.4 -1.2**
comp=E,8.0nm,0.8s
MNK *i*P **P 14 09 06.4 -1.2**
comp=N,12nm,0.8s
MNK *i*P **P 14 09 06.4 -1.2**
comp=Z,10.0nm,0.7s,baz=157
MNK *i*PP **PP 14 12 43.2 -1.9**
MNK *i*PPP PPP 14 14 41.3
MNK *i*S **SKSac 14 19 38.2 -1.3**
MNK *i*PS **PS 14 21 09.1 -6.2**
MNK *i*SS **SS 14 26 10.9 -0.2**
MNK *i*SSS SSS 14 29 48.6
MNK *i*LQ LQ 14 45 16.3
MNK *i*LR LR 14 48 21.8
MNK *i*LRM MLR 14 49 47.8
comp=Z,159nm,17.2s
MNK *i*LRM MLR 14 50 21.3
comp=N,65nm,16.5s
MNK *i*LRM MLR 14 50 53.8
comp=E,72nm,18.6s
MNK Minsk 91.19 344 *i*P **P 14 09 06.3 -1.2**
MNK *i* 14 12 43.1
MNK *i*PPP PPP 14 14 41.2
MNK *i*S **SKSac 14 19 38.2 -1.3**
MNK *i*SS **SS 14 26 10.9 -0.2**
MNK *i*SSS SSS 14 29 48.5
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK pmax pmax
comp=Z,10.0nm,0.7s
MNK pmax pmax
comp=N,12nm,0.8s
MNK MLR MLR
comp=Z,159nm,17.0s
MNK MLR MLR
comp=N,65nm,16.0s
MNK MLR MLR
comp=E,72nm,19.0s
KSP Ksiaz 91.23 336 *e*P **P 14 09 09.0 +1.1**
ESDC Sonseca Array 91.73 318 P **P 14 09 11.1 +0.5**
comp=E,2.6nm,1.1s,baz=126,slow=3.0,SNR=8.0
ESDC LR LR 14 52 24.0
comp=E,499nm,18.6s,baz=137,slow=37
comp=E,2.6nm,1.1s
SUW Suwalki 91.91 341 *e*P **P 14 09 11.2 +0.3**
BRG Berggiesshubel 92.07 335 *e*P **P 14 09 11.6 -0.3**
BRG Amp 14 09 13.8
comp=Z,8.6nm,1.3s
BRG Berggiesshubel 92.07 335 P P 14 09 20.1 +8.3
BRG Amp 14 09 21.3
comp=Z,5.2nm,1.2s
BRG Berggiesshubel 92.07 335 *e*P **P 14 09 11.5 -0.3**
BRG 14 09 20.1
BRG pmax pmax
comp=Z,9.0nm,1.3s
BRG pmax pmax
comp=Z,5.0nm,1.2s
SDBA SAO DESIDERIO 92.09 254 *e*P **P 14 09 13.5 +0.5**
KIRV Kirov 92.15 357 LR LR 14 51 15.2
comp=Z,181nm,19.6s,baz=183,slow=36
KIRV Kirov 92.15 357 *ce*P **P 14 09 12.2 +0.3**
BDFB Brasilia 92.68 249 LR LR 14 45 04.3
comp=Z,137nm,18.1s,baz=142,slow=32
CLL Collm 92.77 335 *i*P **P 14 09 15.9 +0.9**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL MLR MLR
comp=Z,200nm,18.8s
CLL Collm 92.77 335 *i*P **P 14 09 15.9 +0.9**
comp=Z,8.0nm,1.1s
CLL *i*x x 14 09 23.5
CLL *e*SKSac **SKSac 14 19 48.0 -0.6**
CLL *e*PS **PS 14 21 33.0 0.0**
CLL *e*SS SS 14 26 54.0 +20
CLL AMS AMS 14 56 00.0
comp=Z,200nm,18.8s
SONM Songino Array 92.89 31 P **P 14 09 15.6 -0.3**
comp=Z,3.4nm,0.9s,baz=213,slow=3.0,SNR=14
SONM LR LR 14 48 55.7
comp=Z,516nm,19.8s,baz=204,slow=34
comp=Z,3.4nm,0.9s
CPUP Villa Florida 93.02 236 LR LR 14 44 37.7
comp=Z,101nm,19.0s,baz=170,slow=31
ULN Ulaanbaatar 93.20 32 P **P 14 09 16.4 -1.0**
ULN P **P 14 09 16.4 -1.0**
ULN Ulaanbaatar 93.20 32 *ce*P **P 14 09 16.6 -0.7**
ULN pmax pmax
comp=Z,6.0nm,1.0s
DZM Mont Dzumac 93.60 119 *e*SS SS 14 26 36.9 -9.0
comp=Z,179nm,30.1s
DZM Mont Dzumac 93.60 119 *e*LR LR 14 39 14.5
comp=Z,299nm,24.2s
DZM Mont Dzumac 93.60 119 LR LR 14 45 01.8
comp=Z,172nm,18.3s,baz=204,slow=32
XLT XiLinHaoTe 94.66 39 *e*P P 14 09 30.4 +6.3
XLT pmax pmax
comp=Z,10.0nm,1.2s
XLT LR LR
comp=N,18nm,15.0s
XLT LR LR
comp=Z,130nm,15.0s
VSU Vasula 95.08 345 *i*P **P 14 09 26.2 +0.8**
VSU pmax pmax
comp=Z,13nm,0.9s
KLMR Klimovskoe 95.23 352 *e*P **P 14 09 23.4 -2.7**
KLMR *e* 14 13 16.9
KLMR pmax pmax
comp=Z,7.0nm,0.9s
BO02 Sierra Bellavi 95.56 221 P **P 14 09 27.5 -1.1**
GUMO Guam 96.46 78 LR LR 14 46 34.1
comp=Z,27nm,21.8s,baz=260,slow=32
JNU Nakatsue 96.77 55 LR LR 14 51 16.8
comp=Z,86nm,18.3s,baz=239,slow=34
KSRS Korea Array 97.39 50 P **P 14 09 35.5 -1.0**
comp=Z,2.0nm,0.9s,baz=240,slow=5.0,SNR=5.2
comp=Z,2.0nm,0.9s
FINES FINESS Array B 97.94 346 LR LR 14 54 33.0
comp=Z,84nm,19.2s,baz=151,slow=36
HFS Hagfors 99.82 340 LR LR 14 55 57.3
comp=Z,142nm,19.7s,baz=103,slow=36
TIXI Tiksi 116.53 20 *i*PKIKP **PKPdf 14 14 45.7 -0.3**
TBI Tubuai 118.24 153 *e*SS SS 14 32 16.5 -3.7
comp=Z,1μm,32.2s
TBI Tubuai 118.24 153 *e*LR LR 14 50 33.2
comp=Z,1μm,38.2s
PPT2 Papeete2 123.40 150 *e*SS SS 14 33 26.0 -0.7
comp=Z,100nm,30.0s
PPT2 Papeete2 123.40 150 *e*LR LR 14 52 59.8
comp=Z,148nm,22.5s
PPT2 *e*LR LR 14 53 04.0
comp=Z,150nm,22.8s
BILL Bilibino 128.37 27 *i*PKIKP **PKPdf 14 15 08.9 +0.1**
BILL pmax pmax
comp=Z,5.0nm,1.1s
TAOE Nuku Hiva Isla 134.92 157 *e*SS SS 14 35 47.2 -1.7
comp=Z,59nm,25.3s
TAOE Nuku Hiva Isla 134.92 157 *e*LR LR 14 58 26.5
comp=Z,211nm,22.0s
D19K Kuna River 140.20 19 P **PKiKP 14 15 34.2 +0.8**
baz=313
B21K Ikpikpuk River 140.27 16 P **PKiKP 14 15 34.4 +0.9**
baz=318
G16K Koyuk River 140.86 24 P **PKiKP 14 15 35.5 +0.7**
baz=305
C23K Itkillik River 140.98 14 P **PKiKP 14 15 36.2 +1.3**
baz=323
F18K Selawik 141.01 22 P **PKiKP 14 15 35.7 +0.6**
baz=309
SPIA Saint Paul Isl 141.02 39 P **PKiKP 14 15 36.0 +0.6**
baz=286
E19K Redstone River 141.15 20 P **PKiKP 14 15 35.9 +0.5**
baz=313

D22K	Ayikyak River	141.28	16	P	PKiKP	14 15 36.3	+0.6
	baz=320						
E21K	Killik River	141.31	17	P	PKiKP	14 15 36.2	+0.5
	baz=318						
H16K	Elim	141.33	25	P	PKiKP	14 15 36.2	+0.4
	baz=304						
G17K	Kiwalik Mounta	141.37	24	P	PKiKP	14 15 36.4	+0.5
	baz=307						
F19K	Shaleruckik Mo	141.42	21	P	PKiKP	14 15 36.4	+0.5
	baz=312						
C24K	Franklin Bluff	141.46	14	P	PKiKP	14 15 36.5	+0.6
	baz=326						
P08K	Saint George I	141.55	39	P	PKiKP	14 15 36.7	+0.2
	baz=287						
D23K	Nanushuk River	141.66	15	P	PKiKP	14 15 37.0	+0.6
	baz=323						
A36M	Sachs Harbour	141.69	1	P	PKiKP	14 15 36.9	+0.5
	baz=358						
G18K	Tagagawik	141.77	22	P	PKiKP	14 15 36.3	-0.4
	baz=310						
K13K	Kusilvak Mount	141.81	30	P	PKiKP	14 15 36.4	-0.5
	baz=298						
M11K	Mekoryuk	141.84	33	P	PKiKP	14 15 36.4	-0.5
	baz=295						
J14K	Nanvaranak Lak	141.85	28	P	PKiKP	14 15 36.6	-0.3
	baz=300						
F20K	Avaraart Lake	141.86	20	P	PKiKP	14 15 36.8	0.0
	baz=314						
D24K	Happy Valley	141.90	14	P	PKiKP	14 15 36.8	-0.1
	baz=325						
H17K	Granite Mounta	141.96	24	P	PKiKP	14 15 37.1	0.0
	baz=307						
C26K	Camden Bay	141.97	12	P	PKiKP	14 15 37.5	+0.5
	baz=331						
E22K	Anaktuvuk Pass	142.06	17	P	PKiKP	14 15 37.2	-0.1
	baz=320						
G19K	Purcell Mounta	142.09	21	P	PKiKP	14 15 37.2	-0.1
	baz=312						
TOLK	Toolik Lake Re	142.16	15	P	PKiKP	14 15 37.5	0.0
	baz=324						
D25K	Kavik River	142.23	13	P	PKiKP	14 15 37.8	+0.1
	baz=328						
I17K	Unalakleet	142.31	26	P	PKiKP	14 15 37.8	0.0
	baz=305						
F21K	Alatna River	142.34	18	P	PKiKP	14 15 37.7	-0.2
	baz=318						
H18K	Honhosa River	142.34	23	P	PKiKP	14 15 37.9	0.0
	baz=309						
C27K	Jago River	142.43	11	P	PKiKP	14 15 37.9	-0.1
	baz=332						
F22K	John River	142.46	17	P	PKiKP	14 15 38.2	+0.1
	baz=320						
E23K	Chandalar	142.63	16	P	PKiKP	14 15 38.2	-0.3
	baz=323						
J16K	Anvik River	142.70	26	P	PKiKP	14 15 38.2	-0.5
	baz=305						
H19K	Roundabout Mou	142.70	22	P	PKiKP	14 15 38.2	-0.4
	baz=312						
G21K	Allakaket	142.86	19	P	PKiKP	14 15 38.6	-0.3
	baz=317						
E24K	Your Creek	142.86	15	P	PKiKP	14 15 38.7	-0.2
	baz=325						
NIKH	Nikolski High	142.88	45	P	PKiKP	14 15 38.9	-0.5
	baz=283						
K15K	Wolf Creek Mou	142.89	28	P	PKiKP	14 15 39.0	-0.1
	baz=302						
L14K	Kuka Creek	142.93	30	P	PKiKP	14 15 39.1	0.0
	baz=300						
G22K	Bettles	143.07	18	P	PKiKP	14 15 39.5	+0.2
	baz=320						
GCSA	Galena City Sc	143.09	23	P	PKiKP	14 15 39.5	+0.2
	baz=311						
M13K	Dall Lake	143.09	32	P	PKiKP	14 15 39.4	-0.1
	baz=298						
COLD	Coldfoot	143.16	17	P	PKiKP	14 15 40.0	+0.5
	baz=322						
IMAR	Indian Mountai	143.18	20		PKPbc	14 15 33.9	+0.6
J17K	VABM Dome	143.19	26	P	PKiKP	14 15 39.6	-0.1
	baz=307						
D27M	Malcolm River	143.20	10	P	PKiKP	14 15 40.2	+0.6
	baz=336						
H20K	Anotleneega Mo	143.20	21	P	PKiKP	14 15 40.2	+0.5
	baz=302						
L15K	Ungalak Mounta	143.24	29	P	PKiKP	14 15 40.4	+0.5
	baz=302						
D28M	Stokes Point	143.42	9	P	PKPdf	14 15 35.5	-1.1
	baz=339						
F24K	Squaw Lake	143.45	15	P	PKPdf	14 15 35.5	-1.3
	baz=325						
G23K	Bananza Creek	143.61	17	P	PKPbc	14 15 35.3	+0.8
	baz=322						
H21K	Melozitna Rive	143.68	20	P	PKPbc	14 15 35.8	+1.0
	baz=317						
I20K	Naaghedeneel	143.81	22	P	PKPdf	14 15 36.7	-0.7
	baz=314						
F25K	Christian Rive	143.86	14	P	PKPdf	14 15 36.6	-1.0
	baz=328						
K17K	Iditarod	143.88	26	P	PKPbc	14 15 36.4	+1.0
	baz=307,SNR=5.4						
H22K	Ishtalitna Cre	143.90	19	P	PKPdf	14 15 36.6	-1.0
	baz=319						
J18K	Innoko River	143.98	24	P	PKPbc	14 15 36.5	+0.8
	baz=310						
E28M	Babbage River	143.99	10	P	PKPbc	14 15 36.4	+0.8
	baz=337						
J19K	Poorman	144.00	23	P	PKPdf	14 15 37.1	-0.7
	baz=312						
UNV	Unalaska Valle	144.01	43	P	PKPdf	14 15 37.3	-0.8
	baz=286						
L16K	Owhat River	144.03	28	P	PKPdf	14 15 37.2	-0.8
	baz=304						
F26K	Sheenjek River	144.06	13	P	PKPdf	14 15 37.6	-0.3
	baz=330						
N14K	Kuskokwak Cree	144.06	32	P	PKPdf	14 15 37.3	-0.7
	baz=299						
E27K	Coleen River	144.06	11	P	PKPbc	14 15 36.8	+1.0
	baz=334						
M15K	Kasigluk River	144.09	30	P	PKPdf	14 15 37.4	-0.7
	baz=302						
BMAR	Burnt Mountain	144.21	13	PKPdf	PKPab	14 15 35.9	-0.1
G24K	Hadweenzic Riv	144.22	16	P	PKPbc	14 15 37.1	+0.7
	baz=325						
L17K	Donlin	144.23	27	P	PKPdf	14 15 37.7	-0.5
	baz=306						
I21K	Tanana	144.27	20	P	PKPbc	14 15 37.2	+0.6
	baz=318						
J20K	Nowinta River	144.35	22	P	PKPbc	14 15 37.3	+0.5
	baz=314						
C36M	Paulatuk	144.35	0	P	PKPbc	14 15 37.4	+0.7
	baz=360,SNR=8.7						
E29M	Blow River	144.41	9	P	PKPab	14 15 36.5	-0.1
	baz=340						
H23K	Yukon River	144.43	18	P	PKPab	14 15 36.6	-0.2
	baz=322						
G25K	Bearman Lake	144.47	15	P	PKPab	14 15 37.0	+0.1
	baz=327						
TTA	Tatalina	144.57	25	P	PKPbc	14 15 37.7	+0.1
	baz=310,SNR=8.0						
O14K	Tigyukauivet M	144.58	32	P	PKPbc	14 15 37.8	+0.2
	baz=299						
M16K	Timber Creek	144.62	29	P	PKPab	14 15 37.3	-0.3
	baz=304						
N15K	Kwethluk River	144.62	31	P	PKPab	14 15 37.2	-0.5
	baz=302						
MLY	Manley	144.73	19	P	PKPab	14 15 37.8	-0.1
	baz=319,SNR=17						
L18K	Granite Mounta	144.78	26	P	PKPbc	14 15 38.3	0.0
	baz=308						
G26K	Porcupine Rive	144.78	13	P	PKPbc	14 15 38.3	+0.2
	baz=330						
H24K	Noodor Dome	144.83	17	P	PKPab	14 15 38.3	0.0
	baz=324						
F28M	Old Crow	144.86	11	P	PKPbc	14 15 38.4	0.0
	baz=336						
K20K	Telida	144.94	23	P	PKPab	14 15 38.6	-0.1
	baz=313,SNR=14						
H25L	Birch Creek	144.95	15	P	PKPdf	14 15 39.0	-0.4
	baz=327						
INK	Inuvik	144.97	6	P	PKPab	14 15 38.5	-0.2
	baz=346,SNR=70						
M17K	Holitna River	145.00	28	P	PKPab	14 15 39.2	+0.2
	baz=306						
N16K	Nishlik Lake	145.01	30	P	PKPdf	14 15 39.5	-0.3
	baz=304						
I23K	Minto, Yukon-K	145.01	18	P	PKPbc	14 15 38.6	-0.2
	baz=321,SNR=19						
CHUM	Lake Minchumin	145.12	22	P	PKPbc	14 15 39.3	0.0
	baz=316,SNR=43						
O15K	Ungalikthiuk R	145.26	32	P	PKPdf	14 15 40.1	0.0
	baz=301						
G27K	Doyon Strip	145.30	12	P	PKPbc	14 15 39.9	+0.1
	baz=333						
BPAW	Bear Paw Mtn.	145.36	21	P	PKPbc	14 15 40.0	-0.1
	baz=318,SNR=12						
F30M	Barrier River	145.41	8	P	PKPbc	14 15 40.1	-0.1
	baz=342						
L19K	White Mountain	145.46	25	P	PKPdf	14 15 40.1	-0.3
	baz=311						
NEA2	Nenana	145.52	19	P	PKPdf	14 15 40.0	-0.5
	baz=321						
CAST	Castle Rocks	145.53	22	P	PKPbc	14 15 40.6	0.0
	baz=316,SNR=12						
M18K	Stony River	145.56	27	P	PKPdf	14 15 40.6	0.0
	baz=309						
L20K	Farewell, AK	145.60	24	P	PKPdf	14 15 40.6	-0.1
	baz=312						
COLA	College	145.62	18		PKPdf	14 15 40.1	-0.4
COLA	College	145.62	18	P	PKPdf	14 15 40.6	0.0
	baz=323						
COLA	College	145.62	18	PKP2	PKPdf	14 15 40.2	-0.4
N17K	Nushagak Hills	145.62	29	P	PKPbc	14 15 41.0	0.0
	baz=306						
PRP	Porcupine Dome	145.65	16	P	PKPbc	14 15 41.1	0.0
	baz=327,SNR=72						
O16K	Kokwok River B	145.78	31	P	PKPdf	14 15 41.0	0.0
	baz=304						
G29M	Pine Creek	145.78	10	P	PKPdf	14 15 40.5	-0.3
	baz=339						
F31M	Tsiigehtchic	145.79	7	P	PKPbc	14 15 41.0	-0.2
	baz=345,SNR=22						
S12K	Black Hills	145.79	38	P	PKPdf	14 15 40.8	-0.4
	baz=294						
M19K	Big River Lodg	145.81	25	P	PKPdf	14 15 40.8	-0.3
	baz=311						
H27K	Steamboat Moun	145.84	13	P	PKPbc	14 15 41.4	-0.2
	baz=333,SNR=15						
PPLA	Purkeypile	145.87	23	P	PKPdf	14 15 41.2	-0.1
	baz=315,SNR=6.6						
ILAR	Eielson Array	145.94	17	PKPbc	PKPdf	14 15 40.7	-0.5
	comp=Z,8.1nm,0.8s,baz=315,slow=3.6,SNR=63						
G30M	tAoh Zraii Nji	145.96	9	P	PKPbc	14 15 41.6	-0.3
	baz=341						
N18K	Kilae Creek	146.04	28	P	PKPdf	14 15 41.6	+0.1
	baz=308						
TRF	Thorofare Moun	146.06	21	P	PKPdf	14 15 41.5	-0.1
	baz=318,SNR=9.6						
O17K	Koliganek Bris	146.10	30	P	PKPdf	14 15 41.7	+0.2
	baz=305						
P16K	Nushagak River	146.14	31	P	PKPdf	14 15 41.5	-0.1
	baz=303						
HDA	Harding Lake	146.23	18	P	PKPdf	14 15 42.2	+0.5
	baz=324,SNR=9.8						
MCK	McKinley	146.23	20	P	PKPdf	14 15 42.1	+0.3
	baz=320,SNR=6.8						
G31M	Satah River	146.24	7	P	PKPbc	14 15 42.3	-0.3
	baz=344						
M20K	Styx River	146.27	25	P	PKPdf	14 15 42.3	+0.4
	baz=313						
I26K	Coal Creek Min	146.34	14	P	PKPbc	14 15 42.7	-0.4
	baz=330						
H29M	Whitestone	146.38	11	P	PKPbc	14 15 42.6	-0.6
	baz=338,SNR=23						
I27K	Kandik River	146.39	13	P	PKPbc	14 15 43.4	+0.1
	baz=333						
J25K	Salcha River,	146.44	17	P	PKPbc	14 15 43.3	-0.2
	baz=326						
EPYK	Eagle Plains	146.47	9	P	PKPbc	14 15 42.9	-0.6
	baz=340,SNR=17						
N19K	Bonanza Creek	146.49	27	P	PKPdf	14 15 42.9	+0.6
	baz=310						
P17K	Kvichak River	146.71	30	P	PKPbc	14 15 43.5	-0.8
	baz=325						
SKT	Skwentna	146.74	23	P	PKPdf	14 15 43.5	+0.8
	baz=315						
O18K	Koktuh Hills	146.81	29	P	PKPdf	14 15 43.7	+0.9
	baz=308						
I28M	Miner Creek	146.83	12	PKPdf	PKPbc	14 15 44.0	-0.6
I28M	Miner Creek	146.83	12	P	PKPbc	14 15 43.8	-0.9
	baz=335,SNR=11						
Q16K	King Salmon	146.91	31	P	PKPbc	14 15 44.1	-0.8
	baz=304						
O19K	Port Alsworth	146.95	28	P	PKPbc	14 15 44.5	-0.5
	baz=309						
J26L	Joseph Creek	146.96	15	P	PKPbc	14 15 44.7	-0.2
	baz=329						
K24K	Donnelly Dome	147.02	18	P	PKPbc	14 15 45.1	-0.1
	baz=325,SNR=14						
WAT1	Susitna Watana	147.04	21	P	PKPbc	14 15 45.3	+0.1
	baz=320						
N20K	Mount Spurr	147.06	25	P	PKPbc	14 15 45.3	0.0
	baz=313						
SPCR	Spurr Chakacha	147.06	25	P	PKPbc	14 15 45.5	+0.1
	baz=313						
P18K	Big Mountain,	147.09	29	P	PKPbc	14 15 44.9	-0.5
	baz=307						
DHY	Denali Highway	147.19	20	P	PKPbc	14 15 45.3	-0.4
	baz=322,SNR=9.9						
EGAK	Eagle	147.21	14	P	PKPbc	14 15 45.3	-0.3
	baz=333,SNR=17						
RIDG	Independent Ri	147.30	17	P	PKPbc	14 15 45.4	-0.5
	baz=326						
SCRK	Sand Creek	147.31	16	P	PKPbc	14 15 45.5	-0.5
	baz=328,SNR=12						
H31M	Peel River	147.31	8	P	PKPbc	14 15 45.6	-0.3
	baz=344						
CHGN	Chignik	147.36	36	P	PKPbc	14 15 45.3	-0.8
	baz=299						
M22K	Willow	147.37	23	P	PKPbc	14 15 45.5	-0.5
	baz=317						
SUA	Susitna One	147.38	24	P	PKPbc	14 15 45.4	-0.9
	baz=316						
CHNA	Chernabura Isl	147.44	39	P	PKPbc	14 15 45.7	-0.8
	baz=295						
WAT6	Susitna Watana	147.47	20	P	PKPbc	14 15 45.8	-0.8
	baz=321						
Q17K	Contact Creek	147.48	31	P	PKPbc	14 15 45.7	-1.0
	baz=305						
I30M	Mount Dempster	147.61	10	P	PKPbc	14 15 45.7	-1.1
	baz=340						
R17L	Mt. Peulik Vol	147.63	33	P	PKPbc	14 15 46.0	-0.9
	baz=303						
Q18K	Katmai Hardscr	147.63	30	P	PKPdf	14 15 45.7	+1.4
	baz=306						
O20K	Slope Mountain	147.67	27	P	PKPbc	14 15 45.9	-1.2
	baz=311						
P19K	Oil Pt	147.72	28	P	PKPbc	14 15 46.3	-0.9
	baz=310						
PAX	Paxson	147.78	18	P	PKPbc	14 15 46.7	-0.7
	baz=325,SNR=10						
PMR	Palmer	147.81	22	P	PKPbc	14 15 46.3	-0.9
	baz=318						
SML	Sawmill	147.90	22	P	PKPbc	14 15 46.9	-0.7
	baz=319						
RC01	Rabbit Creek A	147.98	23	P	PKPbc	14 15 47.8	0.0
	baz=317						
Q19K	Cape Douglas,	148.02	29	P	PKPbc	14 15 47.9	-0.1
	baz=309						
J29N	Klondike Camp	148.04	12	P	PKPbc	14 15 48.4	+0.4
	baz=337,SNR=8.9						
FCC	Fort Churchill	148.05	331		PKPbc	14 15 47.9	-0.1
FCC	Fort Churchill	148.05	331	PKP2	PKPbc	14 15 47.9	-0.1
M23K	Glacier View	148.09	21	P	PKPbc	14 15 47.9	-0.1
	baz=320						
KNK	Knik Glacier	148.16	22	P	PKPbc	14 15 48.0	-0.2
	baz=319						
P49A	Miami Univ. Ec	148.17	292	P	PKPbc	14 15 48.6	-0.4
	baz=92						
SCM	Sheep Creek Mo	148.18	21	P	PKPbc	14 15 48.3	-0.1
	baz=321						
DAWY	Dawson	148.19	13	P	PKPbc	14 15 48.2	-0.1
	baz=335,SNR=26						
J30M	Hart River	148.23	10	P	PKPbc	14 15 48.4	-0.1
	baz=340						
L26K	Log Cabin Wild	148.27	17	P	PKPbc	14 15 48.6	+0.1
	baz=328,SNR=12						
M24K	Tolsona, Glenn	148.29	20	P	PKPbc	14 15 48.8	+0.2
	baz=323						
HOM	Homer	148.32	27	P	PKPbc	14 15 48.5	-0.2
	baz=312						
HARP	HAARP	148.34	19	P	PKPbc	14 15 48.7	0.0
	baz=325						
O22K	Cooper Landing	148.43	24	P	PKPbc	14 15 49.4	+0.5
	baz=316						
R18K	Karluk	148.51	32	P	PKPbc	14 15 49.3	+0.1
	baz=306						
O48B	Farmland	148.53	293	PKPab	PKPab	14 15 53.5	+0.1
O48B	Farmland	148.53	293	P	PKPbc	14 15 50.0	+0.1
	baz=91						
L27K	Beaver Creek,	148.59	16	P	PKPbc	14 15 49.4	+0.1
	baz=330						
BRSE	Bradley Lake S	148.60	26	P	PKPbc	14 15 49.3	-0.1
	baz=314						
BCAR	Beaver Creek A	148.60	16		PKPbc	14 15 49.5	+0.1
PWL	Port Wells	148.61	23	P	PKPbc	14 15 49.6	+0.1
	baz=318						
Q20K	Shuyak Island	148.72	29	P	PKPbc	14 15 50.1	+0.3
	baz=310						
K29M	Barlow Dome	148.73	12	P	PKPbc	14 15 49.9	+0.1
	baz=338						
SEW	Seward	148.80	25	P	PKPbc	14 15 50.1	+0.2
	baz=316						
KLU	Klutina	148.86	20	P	PKPbc	14 15 50.2	0.0
	baz=323						
M26K	Nabesna, AK	148.89	17	P	PKPbc	14 15 50.1	0.0
	baz=328						
CHIR	Chirikof Islan	148.95	35	P	PKPbc	14 15 50.2	-0.2
	baz=302						
GLI	Glacier Island	148.99	22	P	PKPbc	14 15 50.3	-0.1
	baz=320						
N25K	Chitina, Valde	149.14	19	P	PKPbc	14 15 50.9	0.0
	baz=325						
KDAK	Kodiak Island	149.17	30	P	PKPbc	14 15 50.3	-0.6
	baz=309						
M27K	Edge Creek, AK	149.19	16	P	PKPbc	14 15 50.9	-0.2
	baz=330						
SII	Sitkinak Islan	149.21	33	P	PKPbc	14 15 50.9	-0.2
	baz=305						
MAYO	Mayo, Yukon	149.22	10	P	PKPbc	14 15 50.9	0.0
	baz=340						
OHAK	Old Harbor	149.22	31	P	PKPbc	14 15 50.9	-0.2
	baz=307						
L29M	L29M	149.30	13	P	PKPbc	14 15 50.7	-0.5
	baz=336						
BVCY	Beaver Creek	149.38	15	P	PKPbc	14 15 51.4	0.0
	baz=331						
P23K	Montague Islan	149.57	23	P	PKPbc	14 15 51.4	-0.4
	baz=319						
BMRM	Bremner River	149.66	20	P	PKPbc	14 15 51.6	-0.6
	baz=324						
EYAK	Cordova Ski Ar	149.66	21	P	PKPbc	14 15 51.8	-0.2
	baz=322						
MCARA	McCarthy VSAT	149.75	18	P	PKPbc	14 15 52.3	0.0
	baz=327						
M29M	Somme Creek	149.85	13	P	PKPbc	14 15 52.8	+0.2
	baz=335						
M30M	Minto, Yukon	150.03	12	P	PKPbc	14 15 53.0	0.0
	baz=338						
YUK3	Moose Creek	150.03	16	P	PKPbc	14 15 52.9	-0.4
	baz=332						
CRQE	Cirque	150.26	19	P	PKPbc	14 15 53.1	-0.6
	baz=326						
Q23K	Middleton Isla	150.35	23	P	PKPbc	14 15 53.2	-0.5
	baz=320						
WRGLY	Wrigley	150.50	360	P	PKiKP	14 15 54.5	-0.2
	baz=0.6						
CTG	Chitna Glacier	150.53	17	P	PKPbc	14 15 53.8	-0.5
	baz=329						
L44A	Lake County Fo	150.54	297	P	PKPbc	14 15 54.6	-0.2
	baz=86						
YUK8	Steele Glacier	150.62	16	P	PKPbc	14 15 54.8	+0.1
	baz=332						
YKA	Yellowknife Ar	150.63	351	PKP	PKPdf	14 15 47.9	-1.0
	comp=Z,1.7nm,1.0s,baz=358,slow=1.4,SNR=6.6						
YKA				PKPbc	PKPbc	14 15 54.5	+0.1
	comp=Z,17nm,0.8s,baz=4.9,slow=2.1,SNR=53						
M31M	Drury Creek, Y	150.76	10	P	PKPbc	14 15 54.8	+0.1
	baz=342						
YUK4	Talbot Arm	150.81	15	P	PKPbc	14 15 54.9	-0.2
	baz=334						
FARO	Faro, Yukon	150.88	9	P	PKiKP	14 15 55.4	-0.2
	baz=344						
O28M	Mount Upton	150.98	16	P	PKPbc	14 15 55.6	0.0
	baz=331						
N30M	Aishikik Lake	151.01	13	P	PKPbc	14 15 55.6	+0.2
	baz=337						
N31M	Braeburn, Yuko	151.22	12	P	PKPbc	14 15 56.1	+0.2
	baz=339						
YUK6	Outpost Mounta	151.23	15	P	PKPbc	14 15 56.2	+0.1
	baz=334						
HYT	Haines Junctio	151.52	14	P	PKiKP	14 15 57.3	+0.2
	baz=336						
PINM	Pinnacle	151.56	17	P	PKiKP	14 15 57.2	+0.1
	baz=330						
O29M	Mount Kennedy	151.76	15	P	PKiKP	14 15 57.7	0.0
	baz=333						
O30N	Mendenhall	151.84	13	P	PKiKP	14 15 57.9	+0.2
	baz=338						
N32M	Quiet Lake	151.96	9	P	PKPbc	14 15 57.6	+0.1
	baz=343						
PNL	Peninsula	152.14	17	P	PKPbc	14 15 58.1	+0.1
	baz=331						
WHY	Whitehorse	152.15	12	P	PKiKP	14 15 58.2	-0.1
	baz=340						
P30M	Million Dollar	152.27	14	P	PKiKP	14 15 58.6	+0.1
	baz=336						
P29M	Windy Craggy	152.56	15	P	PKiKP	14 15 59.6	+0.5
	baz=334						
P33M	Teslin, Yukon	152.90	10	P	PKiKP	14 16 00.1	+0.2
	baz=343						
PLBC	Pleasant Camp	153.00	14	P	PKiKP	14 16 00.3	+0.3
	baz=336						
LCAR	Lake Charles	153.07	284	PKPab	PKPab	14 16 12.1	-0.2
SKAG	Skagway	153.20	13	P	PKiKP	14 16 00.7	+0.3
	baz=338						
P32M	Atlin	153.36	11	P	PKiKP	14 16 01.2	+0.4
	baz=341						
WTLY	Watson Lake, Y	153.44	5	P	PKiKP	14 16 01.3	+0.3
	baz=351						
KOTAN	Kotaneelee Air	153.61	0	P	PKiKP	14 16 01.4	+0.2
	baz=360						
ULM	Lac du Bonnet	153.63	317	PKP	PKPdf	14 15 53.2	-0.5
	comp=Z,3.3nm,0.9s,baz=323,slow=4.5,SNR=2.7						
ULM				PKPbc	PKPbc	14 16 01.2	-0.3
	comp=Z,6.4nm,0.9s,baz=239,slow=1.2,SNR=5.4						
R33M	Jennings River	153.93	8	P	PKiKP	14 16 02.2	+0.1
	baz=346						
Q32M	Nakina River	154.18	10	P	PKiKP	14 16 02.9	+0.1
	baz=344						
S31K	Pelican	154.40	15	P	PKPbc	14 16 02.8	0.0
	baz=336						
R32K	Eaglecrest	154.46	13	P	PKiKP	14 16 03.1	+0.1
	baz=339						
TOAD	Toad River Com	154.88	2	P	PKPbc	14 16 03.6	-0.3
	baz=357						
DLBC	Dease Lake	154.97	8	P	PKPbc	14 16 04.2	0.0
	baz=348						
S32K	Killisnoo	155.20	14	P	PKPdf	14 16 04.6	+9.0
	baz=338						
S34M	Telegraph Cree	155.35	9	P	PKPab	14 16 21.5	+0.4
	baz=345						
SIT	Sitka	155.43	15	P	PKPab	14 16 22.2	+0.7
	baz=336						
T35M	Bob Quinn	156.37	9	P	PKPab	14 16 25.2	-0.5
	baz=346						
CRAG	Craig	157.36	14	P	PKPab	14 16 27.8	-2.1
	baz=340						
TXAR	Lajitas Array	162.16	261	PKP	PKPdf	14 16 05.0	0.0
	comp=Z,1.4nm,1.1s,baz=129,slow=1.8,SNR=4.7						
T25A	Trinidad	163.72	288	P	PKPab	14 16 58.4	-0.2
	baz=84						
Q24A	Divide	163.99	294	P	PKPab	14 16 59.0	-0.9
	baz=77						
N23A	Red Feather La	164.01	302	P	PKPab	14 16 60.0	+0.1
	baz=69						
PDAR	Pinedale Array	165.56	313	PKP	PKPdf	14 16 07.0	-1.0
	comp=Z,1.5nm,0.9s,baz=135,slow=0.4,SNR=9.4						
NVAR	Mina Array Bea	173.46	317	PKP	PKPdf	14 16 14.0	+1.2
	comp=Z,1.6nm,0.9s,baz=180,slow=1.7,SNR=8.2						

*ATH **24** 14:03:

KRI1	**kERI**	**0.63**	**17**	P	**Pg**	**14 03 49.5**	**+0.5**
KRI1				S	**Sg**	**14 03 57.7**	**+0.5**
9μm,0.6s							
LTHK	**Lithakia**	**0.68**	**17**	P	**Pg**	**14 03 50.2**	**+0.2**
LTHK				S	**Sg**	**14 03 59.0**	**+0.2**
10μm,0.3s							
LTHK	**Lithakia**	**0.68**	**17**	P	**Pg**	**14 03 50.1**	**+0.2**
LTHK				S	**Sg**	**14 03 59.2**	**+0.4**
LTHK				AML	AML	14 04 00.2	
comp=E,16909μm,0.3s							
LTHK				AML	AML	14 04 00.3	
comp=N,21708μm,0.3s							
PYL	**PYLOS**	**0.94**	**100**	P	**Pg**	**14 03 55.0**	**0.0**
PYL				S	**Sb**	**14 04 07.9**	**-0.3**
comp=N,2μm,0.5s							
PYL	**PYLOS**	**0.94**	**100**	P	**Pg**	**14 03 54.9**	**0.0**
PYL				S	**Sg**	**14 04 07.5**	**+0.4**
PYL				AML	AML	14 04 14.5	
comp=N,2957μm,0.5s							
PYL				AML	AML	14 04 15.0	
comp=E,3523μm,0.5s							
AMT	**Artemida-Makis**	**1.01**	**62**	P	**Pg**	**14 03 56.4**	**+0.1**
AMT				AML	AML	14 04 20.1	
comp=N,14057μm,0.5s							
AMT				AML	AML	14 04 20.4	
comp=E,16733μm,0.5s							
RTZL	**Ratzakli, Kefa**	**1.03**	**8**	P	**Pg**	**14 03 56.3**	**-0.3**
RTZL				S	**Sg**	**14 04 10.1**	**+0.2**
comp=E,1μm,0.3s							
PSDA	**Pessada-Kefalo**	**1.05**	**360**	P	**Pg**	**14 03 57.2**	**0.0**
PSDA				S	**Sb**	**14 04 12.3**	**+0.8**
comp=E,2μm,0.4s							
PSDA	**Pessada-Kefalo**	**1.05**	**360**	P	**Pg**	**14 03 57.1**	**0.0**
PSDA				S	**Sb**	**14 04 11.5**	**0.0**
ITM	**Ithomi**	**1.08**	**83**	P	**Pg**	**14 03 57.5**	**-0.1**
ITM				S	**Sb**	**14 04 11.7**	**-0.5**
comp=E,2μm,0.4s							
ITM	**Ithomi**	**1.08**	**83**	P	**Pg**	**14 03 57.1**	**-0.5**
ITM				S	**Sb**	**14 04 12.2**	**0.0**
ITM				AML	AML	14 04 13.7	
comp=N,3877μm,0.3s							
ITM				AML	AML	14 04 17.5	
comp=E,2471μm,0.4s							
VLS	**Valsamata**	**1.12**	**0**	P	**Pg**	**14 03 58.1**	**-0.2**
VLS				S	**Sb**	**14 04 13.8**	**+0.4**
comp=E,1μm,0.4s							
VLS	**Valsamata**	**1.12**	**0**	P	**Pg**	**14 03 57.6**	**-0.7**
VLS				S	**Sb**	**14 04 13.6**	**+0.2**
VLS				AML	AML	14 04 21.0	
comp=N,2404μm,0.3s							
VLS				AML	AML	14 04 21.9	
comp=E,1517μm,0.5s							
DMLN	**Damoulianata-K**	**1.19**	**352**	P	**Pg**	**14 03 59.2**	**-0.5**
DMLN	**Damoulianata-K**	**1.19**	**352**	P	**Pg**	**14 03 59.8**	**0.0**
DMLN				S	**Sb**	**14 04 16.3**	**+0.9**
SMHA	**Samh**	**1.19**	**2**	P	**Pg**	**14 03 59.0**	**-0.8**
SMHA				S	**Sb**	**14 04 16.1**	**+0.6**
RLS	**Riolos of Patr**	**1.22**	**35**	P	**Pg**	**14 03 59.6**	**-0.6**
RLS	**Riolos of Patr**	**1.22**	**35**	P	**Pg**	**14 03 59.6**	**-0.6**
RLS				S	**Sb**	**14 04 16.6**	**+0.4**
RLS				AML	AML	14 04 24.1	
comp=N,1768μm,0.5s							
RLS				AML	AML	14 04 30.1	
comp=E,1189μm,0.7s							
DRO	**Drossia**	**1.26**	**45**	P	**Pg**	**14 04 00.5**	**-0.6**
DRO	**Drossia**	**1.26**	**45**	P	**Pg**	**14 04 00.3**	**-0.9**
DRO				S	**Sb**	**14 04 17.5**	**-0.1**
DRO				AML	AML	14 04 24.7	
comp=N,3011μm,0.6s							
DRO				AML	AML	14 04 29.4	
comp=E,3351μm,0.4s							
VSK1	**VASILIKIADES**	**1.35**	**359**	P	**Pg**	**14 04 01.8**	**-1.0**
FSK	**Fiskardo**	**1.40**	**359**	P	**Pn**	**14 04 03.1**	**+0.2**
FSK				S	**Sn**	**14 04 22.5**	**+0.9**
comp=E,920nm,0.7s							
FSK	**Fiskardo**	**1.40**	**359**	P	**Pn**	**14 04 03.0**	**+0.1**
FSK				S	**Sg**	**14 04 21.5**	**-0.3**
FSK				AML	AML	14 04 27.5	
comp=N,1478μm,0.6s							
FSK				AML	AML	14 04 32.8	
comp=E,2064μm,0.8s							
EVGI	**Lefkada island**	**1.56**	**2**	P	**Pn**	**14 04 05.5**	**+0.4**
EVGI				S	**Sg**	**14 04 27.0**	**-0.1**
comp=E,672nm,0.4s							
EVGI	**Lefkada island**	**1.56**	**2**	P	**Pn**	**14 04 05.4**	**+0.2**
KLV	**Kalavryta, Ach**	**1.58**	**51**	P	**Pn**	**14 04 05.8**	**+0.3**
KLV	**Kalavryta, Ach**	**1.58**	**51**	P	**Pn**	**14 04 06.5**	**+1.0**
KLV				AML	AML	14 04 39.4	
comp=N,518μm,0.8s							
KLV				AML	AML	14 04 41.7	
comp=E,555μm,0.7s							
GUR	**Goura**	**1.65**	**57**	P	**Pn**	**14 04 06.5**	**+0.1**
GUR	**Goura**	**1.65**	**57**	P	**Pn**	**14 04 06.7**	**+0.3**
GUR				AML	AML	14 04 43.4	
comp=E,1316μm,0.6s							
GUR				AML	AML	14 04 55.0	
comp=N,1425μm,0.5s							
NYDR	**Nydri-Lefkada**	**1.65**	**3**	P	**Pn**	**14 04 07.1**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.65**	**3**	P	**Pn**	**14 04 07.1**	**+0.7**
EFP	**Efpalio**	**1.72**	**37**	P	**Pn**	**14 04 07.7**	**+0.4**
EFP	**Efpalio**	**1.72**	**37**	P	**Pn**	**14 04 07.7**	**+0.4**
EFP				AML	AML	14 04 42.6	
comp=N,715μm,1.2s							
EFP				AML	AML	14 04 48.9	
comp=E,732μm,0.7s							
LKD2	**Lefkada island**	**1.73**	**2**	P	**Pn**	**14 04 08.0**	**+0.5**
LKD2	**Lefkada island**	**1.73**	**2**	P	**Pb**	**14 04 09.4**	**+0.4**
LKD2				AML	AML	14 04 41.6	
comp=E,1307μm,0.5s							
LKD2				AML	AML	14 04 43.2	
comp=N,1446μm,0.6s							
TSLK	**Tsoukalades, L**	**1.76**	**2**	P	**Pn**	**14 04 08.6**	**+0.7**
TSLK				AML	AML	14 04 43.9	
comp=N,1641μm,0.6s							
TSLK				AML	AML	14 04 44.5	
comp=E,1273μm,0.6s							
KALE	**Kalithea**	**1.81**	**42**	P	**Pn**	**14 04 08.6**	**-0.1**
KALE	**Kalithea**	**1.81**	**42**	P	**Pn**	**14 04 09.9**	**+1.2**
KALE				AML	AML	14 04 39.7	
comp=N,768μm,0.7s							
KALE				AML	AML	14 04 40.9	
comp=E,694μm,0.5s							
ANX	**Ano Chora**	**1.86**	**34**	P	**Pn**	**14 04 09.6**	**+0.2**
ANX	**Ano Chora**	**1.86**	**34**	P	**Pn**	**14 04 10.3**	**+0.9**
ANX				AML	AML	14 04 48.8	
comp=N,1864μm,0.6s							
ANX				AML	AML	14 04 49.0	
comp=E,1265μm,0.6s							
VLI	**Veliai**	**1.91**	**100**	P	**Pn**	**14 04 12.0**	**+2.1**
VLI				AML	AML	14 04 48.1	
comp=E,598μm,0.6s							
VLI				AML	AML	14 04 57.2	
comp=N,571μm,0.5s							
EVR	**Evrytania**	**2.09**	**27**	P	**Pb**	**14 04 15.2**	**-0.1**
EVR				AML	AML	14 04 50.9	
comp=E,942μm,0.8s							
EVR				AML	AML	14 04 52.7	
comp=N,1029μm,1.2s							
LTK	**Loutraki**	**2.12**	**62**	P	**Pn**	**14 04 13.7**	**+0.8**
MAKR	**Makrakomi, Fth**	**2.30**	**32**	P	**Pb**	**14 04 17.8**	**-1.0**
MAKR				AML	AML	14 05 06.9	
comp=N,1342μm,1.0s							
MAKR				AML	AML	14 05 07.6	
comp=E,1066μm,0.8s							
AXAR	**Agios Charalam**	**2.36**	**43**	P	**Pn**	**14 04 18.3**	**+2.1**
AXAR				AML	AML	14 05 01.9	
comp=E,962μm,0.6s							
AXAR				AML	AML	14 05 05.6	
comp=N,1169μm,0.8s							
ANKY	**Antikythira Is**	**2.49**	**118**	P	**Pb**	**14 04 21.3**	**-0.7**
HFS	**Hagfors**	**23.51**	**351**	P	**P**	**14 08 45.9**	**-1.4**
comp=N,2.0nm,0.6s,baz=142,slow=12,SNR=7.8							
comp=N,2.0nm,0.6s							
EKA	**Eskdalemuir Ar**	**24.38**	**326**	P	**P**	**14 08 55.9**	**+0.3**
comp=N,0.3nm,0.5s,baz=111,slow=10.0,SNR=1.3							
comp=N,0.3nm,0.5s							
FINES	**FINESS Array B**	**24.65**	**6**	P	**P**	**14 08 56.7**	**-1.2**
comp=N,2.6nm,0.8s,baz=165,slow=12,SNR=5.6							
comp=N,2.6nm,0.8s							
NB2	**NORSAR Subarra**	**24.72**	**349**	P	**P**	**14 08 57.7**	**-1.0**
comp=Z,0.8nm,0.8s,baz=162,slow=9.3							
NOA	**NORSAR Array B**	**24.72**	**349**	P	**P**	**14 08 57.8**	**-1.0**
comp=Z,0.6nm,0.8s,baz=157,slow=9.0,SNR=3.9							
comp=Z,0.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**29.20**	**220**	P	P	14 09 47.6	+8.3
comp=Z,0.8nm,0.8s,baz=30,slow=10,SNR=3.0							
comp=Z,0.8nm,0.8s							

*TRN **24** 14:05:20.4, 10°.34N×62°.19W, h13km, MD3.5, Gulf of Paria. Felt in Trinidad, MMI IV.*
*FUNV **24** 14:05:22.6, 10°.37N×62°.15W, h24km, MW3.7*

ISC 24 14:05:19.9±1.8, 10°.29N±0°.05×62°.22W±0°.04, h17km±14km, n14, σ1§34/21, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSKH	**Kent House, Po**	**0.79**	**61**	*eS*	**Sb**	**14 05 45.8**	**+0.1**
PSGH	**Port of Spain**	**0.79**	**62**	*eP*	**Pb**	**14 05 35.1**	**-0.2**
TRN	**Trinidad (W)**	**0.88**	**66**	*eP*	**Pg**	**14 05 36.6**	**-0.5**
TRN				*eS*	**Sb**	**14 05 48.4**	**+0.1**
GRFF	**Grenada Fort F**	**1.81**	**15**	*eP*	**Pn**	**14 05 50.3**	**-0.1**
GRGR	**Grenville**	**1.91**	**17**	*eP*	**Pn**	**14 05 52.8**	**+1.0**
GRGR				*eS*	**Sn**	**14 06 14.9**	**-0.6**
TOSP	**Speyside**	**1.94**	**59**	*eP*	**Pn**	**14 05 52.3**	**+0.2**
TOSP				*eS*	**Sn**	**14 06 16.8**	**+0.7**
GRSS	**Sisters**	**2.08**	**17**	*eP*	**Pn**	**14 05 55.6**	**+1.4**
GCMP	**Grenada, Carri**	**2.32**	**20**	*eP*	**Pn**	**14 05 57.6**	**+0.2**
GCMP				*eS*	**Sn**	**14 06 26.0**	**+0.5**
PCRV	**Puerto La Cruz**	**2.38**	**267**	*eP*	**Pn**	**14 05 59.3**	**+1.1**
PCRV				*eS*	**Sn**	**14 06 26.8**	**-0.3**
PCRV	**Puerto La Cruz**	**2.38**	**267**	*eP*	**Pn**	**14 06 00.1**	**+1.8**
LUEV	**Luepa**	**4.48**	**170**	*eP*	**Pn**	**14 06 29.0**	**+1.7**
LUEV				*eS*	**Sn**	**14 07 17.6**	**-1.6**
CACV	**CAICARA DEL OR**	**5.05**	**238**	*eP*	Pn	14 06 30.9	-4.1
CACV				*eS*	Sn	14 07 22.1	-11
BENV	**Beln**	**5.30**	**267**	*eP*	**Pn**	**14 06 40.3**	**+1.7**
BENV				*eS*	**Sn**	**14 07 37.3**	**-2.1**
BAUV	**El Baul**	**5.89**	**257**	*eP*	**Pn**	**14 06 47.8**	**+1.3**
BAUV				*eS*	**Sn**	**14 07 51.1**	**-2.6**

*IDC **24** 14:18:51.0±1.5, 7°.52S×114°.15E, h0km, mb3.8/5, mbtmp3.9/5, MS4.0/3, Error ellipse: s-maj=94.2km s-min=19.1km az=55.0*
*DJA **24** 14:18:55.0±0.2, 7°.5±2°.×114°.4E±°, h10km, M4.5/24, mb4.6/7, mB5.3/2, MLv4.4/24, Mw(mB)4.7/2*

ISC 24 14:18:56.8±0.8, 7°.44S±0°.05×114°.37E±0°.05, h35km, n30, σ1§31/28, mb3.9/5, MS4.1/3, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABJI	**Asem Bagus**	**0.38**	**200**	P	**Pn**	**14 19 04.3**	**-1.5**
KMMI	**Kalianget**	**0.56**	**314**	P	**Pn**	**14 19 07.0**	**-1.3**
BLJI	**Banyuglugur**	**0.82**	**248**	P	**Pn**	**14 19 10.6**	**-1.3**
JAGI	**Jajag, Banyuwa**	**1.04**	**192**	P	**Pn**	**14 19 14.4**	**-0.6**
SRBI	**Singaraja**	**1.05**	**127**	P	**Pn**	**14 19 13.9**	**-1.2**
GMJI	**Gumukmas**	**1.23**	**228**	P	**Pn**	**14 19 18.0**	**+0.4**
DNP	**Denpasar**	**1.48**	**146**	P	**Pn**	**14 19 22.7**	**+1.6**
GRJI	**Gresik**	**1.94**	**286**	P	**Pn**	**14 19 27.0**	**-0.4**
TBJI	**Tambak Boyo**	**2.58**	**284**	P	**Pn**	**14 19 35.5**	**-0.6**
PWJI	**Pagerwojo**	**2.60**	**257**	P	**Pn**	**14 19 38.4**	**+1.9**
NGJI	**Ngawi**	**2.88**	**271**	P	Pn	14 19 44.9	+4.6
PCJI	**Pacitan**	**3.25**	**256**	P	**Pn**	**14 19 47.4**	**+2.1**
UWJI	**Ujung Watu**	**3.54**	**286**	P	**Pn**	**14 19 48.6**	**-0.8**
PLAI	**Plampang**	**3.65**	**112**	P	**Pn**	**14 19 51.5**	**+0.7**
UGM	**Wanagama**	**3.84**	**263**	P	**Pn**	**14 19 54.5**	**+1.0**
SMRI	**Semarang**	**3.91**	**275**	P	**Pn**	**14 19 54.2**	**-0.3**
KPJI	**Karang Pucung**	**5.39**	**271**	P	**Pn**	**14 20 15.8**	**+1.0**
26nm,0.6s,0.2nm							
WBSI	**Waikabubak, Su**	**5.43**	**114**	P	**Pn**	**14 20 16.8**	**+1.4**
59nm,1.0s,0.3nm							
BSSI	**Bau Bau, Buton**	**6.22**	**78**	P	**Pn**	**14 20 27.0**	**+0.8**
BNSI	**Bone**	**6.46**	**62**	P	**Pn**	**14 20 29.0**	**-0.5**
21nm,0.4s,0.1nm							
MTKI	**Muara Teweh, K**	**6.48**	**5**	P	**Pn**	**14 20 31.5**	**+1.7**
STKI	**Sintang**	**8.00**	**339**	P	**Pn**	**14 20 53.3**	**+2.7**
WRA	**Warramunga Arr**	**23.01**	**125**	P	**P**	**14 23 58.8**	**-0.1**
0.6nm,0.6s,baz=298,slow=12,SNR=6.4							
WRA				PcP	**PcP**	**14 27 46.1**	**-2.0**
0.4nm,0.9s,baz=311,slow=2.1,SNR=2.3							
0.6nm,0.6s							
ASAR	**Alice Springs**	**24.73**	**133**	P	**P**	**14 24 15.9**	**+0.7**
1.7nm,0.6s,baz=307,slow=8.8,SNR=19							
ASAR				PcP	**PcP**	**14 27 50.8**	**-0.9**
0.5nm,0.7s,baz=307,slow=1.2,SNR=5.2							
1.7nm,0.6s							
CMAR	**Chiang Mai Arr**	**29.90**	**330**	P	**P**	**14 25 01.8**	**+0.3**
2.8nm,1.0s,baz=160,slow=7.8,SNR=14							
2.8nm,1.0s							
STKA	**Stephens Creek**	**35.13**	**137**	P	**P**	**14 25 48.4**	**+1.2**
1.1nm,0.8s,baz=325,slow=12,SNR=1.6							
1.1nm,0.8s							
USRK	**Ussuriysk Ar.**	**53.81**	**16**	LR	LR	14 54 06.2	
comp=Z,55nm,18.4s,baz=245,slow=39							
SONM	**Songino Array**	**55.49**	**353**	P	**P**	**14 28 27.3**	**-1.0**
2.0nm,0.7s,baz=174,slow=8.6,SNR=11							
2.0nm,0.7s							
KLR	**Kul'dur**	**58.45**	**13**	LR	LR	14 58 40.2	
comp=Z,142nm,18.7s,baz=245,slow=41							
YAK	**Yakutsk**	**70.28**	**8**	LR	LR	15 01 50.8	
comp=Z,224nm,19.7s,baz=254,slow=37							

*IDC **24** 14:26:55.2±0.6, 30°.38N×140°.60E, h0km, mb4.0/20, mbtmp4.0/22, ML3.6/1, MS2.8/2, Error ellipse: s-maj=21.6km s-min=15.4km az=75.0*
*JMA **24** 14:27:04.7±0.2, 31°.N±1°.×14°.1E±°, h57km, MV4.5/33, NEAR TORISHIMA IS*
*NEIC **24** 14:27:06.5±1.7, 30°.39N±0°.07×140°.7E±0°.1, h89km±9km, mb4.4/10, Error ellipse: s-maj=18.1km s-min=4.2km az=56.0*

ISC 24 14:27:06.0±0.5, 30°.42N±0°.05×140°.84E±0°.09, h91km, n73, σ1§80/69, mb4.2/25, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.23**	**336**	P	**Pn**	**14 27 41.4**	**0.0**
JHCJ	**Hachijojimakas**	**2.79**	**342**	P	**Pn**	**14 27 48.3**	**-0.4**
JHCJ				*eS*	**Sn**	**14 28 17.7**	**-3.8**
JHJ2	**Mitsune**	**2.82**	**342**	Pn	**Pn**	**14 27 48.7**	**-0.4**
JHJ2	**Mitsune**	**2.82**	**342**	P	**Pn**	**14 27 48.8**	**-0.3**
JHJ2	**Mitsune**	**2.82**	**342**	P	**Pn**	**14 27 48.5**	**-0.6**
CBIJ	**Chichi jima**	**3.52**	**160**	P	**Pn**	**14 27 58.2**	**-0.3**
CBIJ				*eS*	**Sn**	**14 28 38.2**	**-0.9**
CBIJ	**Chichi jima**	**3.52**	**160**	A	A	14 27 58.2	
comp=E,5.0nm,4.7s,comp=N,6.0nm,8.1s							
JCJ	**Chichijima**	**3.52**	**160**	Pn	**Pn**	**14 27 58.1**	**-0.5**
JCJ	**Chichijima**	**3.52**	**160**	Pn	Pn	14 27 52.5	-6.1
comp=N,74nm,0.2s							
JCJ				Sn	**Sn**	**14 28 31.6**	**-7.6**
JCJ	**Chichijima**	**3.52**	**160**	P	**Pn**	**14 27 59.1**	**+0.5**
JHH2	**Haha-jima-NKT2**	**3.95**	**162**	*eS*	**Sn**	**14 28 50.2**	**+0.5**
BSO1	**Boso 1**	**4.22**	**2**	*eP*	**Pn**	**14 28 06.1**	**-1.4**
BSO3	**Boso 3**	**4.38**	**356**	P	**Pn**	**14 28 08.5**	**-1.4**
BSO3				S	**Sn**	**14 28 56.1**	**-3.4**
JSG	**Sagara**	**4.79**	**333**	Pn	**Pn**	**14 28 15.2**	**-0.6**
JHMK	**Hamakita**	**5.09**	**330**	P	**Pn**	**14 28 21.8**	**+2.0**
JAO	**Obara**	**5.69**	**329**	P	**Pn**	**14 28 30.6**	**+2.5**
JYT	**Yasato**	**5.82**	**355**	P	**Pn**	**14 28 28.3**	**-1.4**
INU	**Inuyama**	**5.87**	**328**		**Pn**	**14 28 31.3**	**+0.8**
INU	**Inuyama**	**5.87**	**328**	P	**Pn**	**14 28 33.1**	**+2.7**
JGF	**Kuroka**	**5.93**	**331**		**Pn**	**14 28 34.0**	**+2.6**
JGF	**Kuroka**	**5.93**	**331**	P	**Pn**	**14 28 34.2**	**+2.8**
MJAR	**Matsushiro Arr**	**6.49**	**341**	Pn	**Pn**	**14 28 40.4**	**+1.6**
comp=N,0.5nm,0.3s,baz=161,slow=13,SNR=35							
MAJO	**Matsushiro**	**6.49**	**341**		**Pn**	**14 28 40.0**	**+1.1**
MAJO	**Matsushiro**	**6.49**	**341**	P	**Pn**	**14 28 39.7**	**+0.8**
MJB9	**Matsu-Tunnel**	**6.49**	**341**		**Pn**	**14 28 39.6**	**+0.7**
JMN	**Monobe**	**6.76**	**301**	Pn	**Pn**	**14 28 43.6**	**+0.9**
JTO	**Tosashimizu**	**7.27**	**292**	P	**Pn**	**14 28 51.0**	**+1.5**
JMM	**Marumori**	**7.43**	**360**		**Pn**	**14 28 48.8**	**-2.8**
JMM	**Marumori**	**7.43**	**360**	P	**Pn**	**14 28 48.9**	**-2.8**
JNU	**Nakatsue**	**8.89**	**290**	Pn	**Pn**	**14 29 13.6**	**+1.9**
comp=N,0.5nm,0.3s,baz=119,slow=9.6,SNR=8.6							
JNU				LR	LR	14 32 25.0	
comp=N,90nm,20.3s,baz=108,slow=38							
JSJ	**Shimokoshiki**	**9.62**	**280**	P	**Pn**	**14 29 24.6**	**+3.0**
KSRS	**Korea Array**	**12.81**	**307**	Pn	**Pn**	**14 30 05.1**	**+0.5**
baz=112,slow=13,SNR=2.8							
KSRS				LR	LR	14 34 56.7	
comp=N,27nm,18.2s,baz=155,slow=38							
ASAJ	**Asahikawa**	**13.74**	**5**	Pn	**Pn**	**14 30 13.2**	**-3.6**
comp=N,0.4nm,0.3s,baz=207,slow=9.0,SNR=2.0							
ASAJ				Sn	Sn	14 32 32.5	-15
comp=N,0.2nm,0.3s,baz=156,slow=24,SNR=1.7							
comp=N,12nm,1.1s							
KLR	**Kul'dur**	**20.01**	**342**	P	**P**	**14 31 31.0**	**-0.3**
comp=N,2.0nm,0.7s,baz=162,slow=10,SNR=2.8							
comp=N,2.0nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**25.83**	**108**	T	T	14 59 49.0	
baz=300							
H11N1	**WAKE ISLAND Hy**	**25.84**	**108**	T	T	15 00 09.6	
baz=300							
H11N3	**WAKE ISLAND Hy**	**25.85**	**108**	T	T	15 00 03.6	
baz=300							
H11S3	**WAKE ISLAND Hy**	**26.29**	**111**	T	T	15 00 16.5	
baz=303,slow=74							
H11S1	**WAKE ISLAND Hy**	**26.29**	**111**	T	T	15 00 25.2	
baz=303,slow=74							
H11S2	**WAKE ISLAND Hy**	**26.30**	**111**	T	T	15 00 24.0	
baz=303							
SONM	**Songino Array**	**31.54**	**313**	P	**P**	**14 33 18.8**	**-0.9**
comp=N,0.3nm,0.4s,baz=107,slow=7.8,SNR=3.0							
comp=N,0.3nm,0.4s							
PHRA	**Phrae**	**38.63**	**262**	P	**P**	**14 34 19.7**	**-0.9**
CMAR	**Chiang Mai Arr**	**39.75**	**262**	P	**P**	**14 34 29.4**	**-0.6**
comp=N,0.4nm,0.6s,baz=54,slow=6.9,SNR=1.6							
comp=N,0.4nm,0.6s							
MKAR	**Makanchi Array**	**47.49**	**307**	P	**P**	**14 35 31.0**	**-0.8**
comp=N,0.4nm,0.6s,baz=88,slow=11,SNR=2.0							
comp=N,0.4nm,0.6s							
NRIK	**Noril'sk**	**49.13**	**338**	P	**P**	**14 35 43.8**	**-0.2**
comp=N,1.7nm,0.5s,baz=99,slow=7.6,SNR=2.7							
comp=N,1.7nm,0.5s							
KURBB	**Kurchatov Arra**	**49.90**	**312**	P	**P**	**14 35 49.1**	**-1.1**
comp=N,0.9nm,0.5s,baz=92,slow=9.5,SNR=9.4							
comp=N,0.9nm,0.5s							
J17K	**VABM Dome**	**49.92**	**31**	P	**P**	**14 35 51.2**	**+1.1**
WB0	**Warramunga Arr**	**50.28**	**188**	P	**P**	**14 35 53.6**	**+0.3**
WB0				IAmb	IAmb	14 36 30.6	
comp=Z,4.2nm,1.4s							
WRAB	**Tennant Creek**	**50.45**	**188**	P	**P**	**14 35 54.1**	**-0.5**
WRAB				IAmb	IAmb	14 36 35.1	
comp=Z,4.5nm,1.2s							
WR0	**Warramunga Arr**	**50.45**	**188**	P	**P**	**14 35 54.4**	**-0.2**
WR0				IAmb	IAmb	14 36 18.5	
comp=Z,5.3nm,1.2s							
WB2	**Warramunga Arr**	**50.46**	**188**	P	**P**	**14 35 52.6**	**-2.0**
WRA	**Warramunga Arr**	**50.46**	**188**	P	**P**	**14 35 54.6**	**-0.1**
WRA	**Warramunga Arr**	**50.46**	**188**	P	**P**	**14 35 54.0**	**-0.6**
comp=Z,0.9nm,0.3s,baz=6.3,slow=7.7,SNR=42							
comp=Z,0.9nm,0.3s							
H18K	**Honhosa River**	**50.60**	**29**	P	**P**	**14 35 56.2**	**+1.0**
H18K				IAmb	IAmb	14 36 36.6	
comp=Z,11nm,1.3s							
ASAR	**Alice Springs**	**54.19**	**188**	P	**P**	**14 36 21.7**	**-0.5**
comp=Z,0.3nm,0.4s,baz=359,slow=4.7,SNR=17							
comp=Z,0.3nm,0.4s							
BVAR	**Borovoye Array**	**54.82**	**316**	P	**P**	**14 36 25.9**	**-0.7**
comp=Z,2.3nm,0.5s,baz=97,slow=7.8,SNR=16							
comp=Z,2.3nm,0.5s							
ILAR	**Eielson Array**	**55.40**	**30**	P	**P**	**14 36 31.6**	**+1.1**
comp=Z,1.6nm,1.0s,baz=272,slow=6.2,SNR=8.5							
comp=Z,1.6nm,1.0s							
BMAR	**Burnt Mountain**	**56.40**	**27**	P	**P**	**14 36 38.8**	**+1.2**
SCRK	**Sand Creek**	**56.66**	**31**	P	**P**	**14 36 41.4**	**+1.8**
SCRK				IAmb	IAmb	14 36 42.9	
comp=Z,4.2nm,1.2s							
J26L	**Joseph Creek**	**56.83**	**30**	P	**P**	**14 36 41.3**	**+0.5**
J26L				IAmb	IAmb	14 36 42.8	
comp=Z,2.9nm,0.7s							
ABKAR	**Akbulak array**	**61.95**	**313**	P	**P**	**14 37 15.7**	**-0.4**
ARCES	**ARCESS Array B**	**70.02**	**340**	P	**P**	**14 38 08.1**	**+0.6**
comp=Z,4.9nm,1.0s,baz=61,slow=7.3,SNR=1.3							
comp=Z,4.9nm,1.0s							
FINES	**FINESS Array B**	**74.45**	**333**	P	**P**	**14 38 34.9**	**+0.9**
comp=Z,1.2nm,0.4s,baz=50,slow=3.0,SNR=20							
comp=Z,1.2nm,0.4s							
KBZ	**Khabaz**	**74.90**	**312**	P	**P**	**14 38 37.5**	**+0.6**
comp=Z,3.3nm,0.8s,baz=96,slow=3.5,SNR=10							
comp=Z,3.3nm,0.8s							
AKASG	**Malin Array Be**	**79.25**	**323**	P	**P**	**14 39 01.5**	**+0.4**
comp=Z,1.0nm,0.5s,baz=49,slow=6.0,SNR=8.3							
comp=Z,1.0nm,0.5s							
NVAR	**Mina Array Bea**	**79.39**	**52**	P	**P**	**14 39 04.9**	**+2.4**
comp=Z,0.9nm,0.6s,baz=286,slow=5.6,SNR=7.4							
comp=Z,0.9nm,0.6s							
HFS	**Hagfors**	**79.91**	**336**	P	**P**	**14 39 05.6**	**+1.0**
comp=Z,1.8nm,0.8s,baz=52,slow=2.4,SNR=2.0							
comp=Z,1.8nm,0.8s							
NOA	**NORSAR Array B**	**80.09**	**338**	P	**P**	**14 39 05.6**	**0.0**
comp=Z,0.4nm,0.6s,baz=35,slow=5.4,SNR=1.7							
comp=

3.3nm,0.4s
H11N2 WAKE ISLAND Hy 28.00 120 T T 15 37 29.8
baz=313
H11N1 WAKE ISLAND Hy 28.01 120 T T 15 37 56.7
baz=313
H11N3 WAKE ISLAND Hy 28.02 120 T T 15 37 56.6
baz=313
H11S1 WAKE ISLAND Hy 28.70 123 T T 15 38 51.6
baz=314,slow=75,SNR=10
H11S3 WAKE ISLAND Hy 28.70 123 T T 15 38 53.3
baz=314,slow=75,SNR=9.7
H11S2 WAKE ISLAND Hy 28.72 123 T T 15 38 52.7
baz=314,slow=75,SNR=5.3
MKAR Makanchi Array 44.27 302 P P 15 10 22.0 +7.3
0.5nm,0.7s,baz=94,slow=7.8,SNR=2.1
0.5nm,0.7s
KURBB Kurchatov Arra 46.18 308 P P 15 10 35.5 +5.9
0.5nm,0.3s,baz=83,slow=8.1,SNR=2.4
0.5nm,0.3s
WRA Warramunga Arr 56.80 188 P **P** **15 11 49.5 0.0**
0.2nm,0.6s,baz=6.0,slow=7.4,SNR=5.6
0.2nm,0.6s

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*FUNV **24** 15:24:56.1, 11°.27N×61°.81W, h26km, MW3.3*
*TRN **24** 15:24:56.4, 11°.24N×61°.79W, h63km, MD3.1, North-west of Trinidad.*
ISC 24 15:24:54.6±1.7, 11°.22N±0°.04×61°.83W±0°.06, h77km±17km, n14, σ1°.21/25, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMG	**Mucurapo Girls**	**0.62**	**152**	*e*P	**Pn**	**15 25 09.2**	**-0.1**
PSMG				*e*S	**Sn**	**15 25 19.6**	**-0.5**
PSGH	**Port of Spain**	**0.64**	**150**	*e*P	**Pn**	**15 25 10.2**	**+0.7**
PSGH				*e*S	**Sn**	**15 25 19.7**	**-0.7**
TRN	**Trinidad (W)**	**0.71**	**143**	*e*P	**Pn**	**15 25 11.1**	**+0.9**
TRN				*e*S	**Sn**	**15 25 21.2**	**-0.5**
GRFF	**Grenada Fort F**	**0.83**	**6**	*e*P	**Pn**	**15 25 11.7**	**+0.2**
GRFF				*e*S	**Sn**	**15 25 23.8**	**-0.2**
GRGR	**Grenville**	**0.92**	**11**	*e*P	**Pn**	**15 25 12.5**	**-0.1**
GRGR				*e*S	**Sn**	**15 25 25.4**	**-0.6**
GRW	**Mount Saint Ca**	**0.95**	**10**	*e*P	**Pn**	**15 25 13.3**	**+0.3**
GRW				*e*S	**Sn**	**15 25 26.6**	**-0.1**
GRSS	**Sisters**	**1.09**	**11**	*e*P	**Pn**	**15 25 15.1**	**+0.4**
GRSS				*e*S	**Sn**	**15 25 30.0**	**+0.3**
TOSP	**Speyside**	**1.27**	**86**	*e*P	**Pn**	**15 25 17.4**	**+0.4**
TOSP				*e*S	**Sn**	**15 25 33.5**	**-0.2**
GCMP	**Grenada, Carri**	**1.32**	**18**	*e*P	**Pn**	**15 25 17.6**	**+0.1**
GCMP				*e*S	**Sn**	**15 25 34.5**	**-0.2**
PCRV	**Puerto La Cruz**	**2.94**	**250**	*e*P	**Pn**	**15 25 40.8**	**+1.6**
PCRV				*e*S	**Sn**	**15 26 14.1**	**+0.5**
PCRV	**Puerto La Cruz**	**2.94**	**250**	*e*P	**Pn**	**15 25 42.1**	**+2.8**
MERV	**Las Mercedes**	**4.81**	**246**	*e*P	**Pn**	**15 26 05.3**	**+0.7**
MERV				*e*S	**Sn**	**15 26 57.0**	**-2.1**
CACV	**CAICARA DEL OR**	**5.90**	**232**	*e*P	Pn	15 26 15.7	-3.7
CACV				*e*S	Sn	15 27 14.0	-12
BAUV	**El Baul**	**6.52**	**250**	*e*P	**Pn**	**15 26 28.4**	**+0.4**
BAUV				*e*S	**Sn**	**15 27 37.5**	**-3.4**

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*NEIC **24** 15:42:00.6, 21°.28S×175°.83W, h18km, Moment Tensor Solution. Duration: 3s1 Moment tensor: Scale 10^{17}Nm; M_{rr}2.04; $M_{\theta\theta}$-0.32; $M_{\phi\phi}$-1.72; $M_{r\theta}$1.45; $M_{r\phi}$0.38; $M_{\theta\phi}$-1.76; Fault plane solution: $M_0$2.97000×10^{17} NP1: ϕ_s147.70000°, δ70.28000°, λ79.51000°. NP2: ϕ_s356.45000°, δ22.24000°, λ116.92000°. Principal axes: T 3.1735, Plg63.0000°, Azm41.0000°; N -0.4000, Plg10.0000°, Azm151.0000°; P -2.7735, Plg25.0000°, Azm246.0000°;*
*BJI **24** 15:42:00.0, 21°.10S×175°.60W, h5km, mb4.8/24, mB5.8/23, Ms5.2/28, Ms7 5.0/32*
*IDC **24** 15:42:00.1±0.5, 21°.31S×175°.92W, h0km, mb4.5/14, mbtmp4.4/18, ML3.7/3, MS5.0/59, Error ellipse: s-maj=21.2km s-min=15.3km az=152.0*
*NEIC **24** 15:42:00.6±2.7, 21°.1S±0°.1×175°.79W±0°.09, h10km±1km, mb5.2/43, Ms_20 5.3/320, Mww5.6/21, Error ellipse: s-maj=20.9km s-min=13.8km az=183.0*
*NEIC **24** 15:42:00.6, 21°.18S×175°.83W, h18km*
*MOS **24** 15:42:02.0±1.9, 21°.32S×175°.91W, h11km, mb5.2/19, MS5.2/12, Error ellipse: s-maj=13.3km s-min=10.3km az=19.6*
*GCMT **24** 15:42:05.6±0.1, 21°.24S±0°.01×175°.62W±0°.01, h12km, MW5.5/166, Moment Tensor Solution. s141,c266; s166,c308; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}2.44±.02; $M_{\theta\theta}$-1.06±.02; $M_{\phi\phi}$-1.38±.02; $M_{r\theta}$0.00±.05; $M_{\theta\phi}$0.42±.02; $M_{\phi r}$-0.40±.05; Best double couple: $M_0$2.08800×10^{17} NP1:ϕ_s150.00000°, δ50.00000°, λ95.00000°. NP2:ϕ_s322.00000°, δ40.00000°, λ84.00000°. Principal axes: T 2.4820, Plg84.0000°, Azm96.0000°; N -0.7880, Plg4.0000°, Azm327.0000°; P -1.6940, Plg5.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 24 15:42:01.6±0.6, 21°.42S±0°.06×175°.72W±0°.05, h12km±3km, h12km:pP-P, n441, σ2s18/286, mb5.1/60, MS5.3/239, 45C-24D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.91**	**68**	Pn	**Pn**	**15 43 25.8**	**-3.2**
MSVF	**Nonsavu**	**6.93**	**301**	Pn	**Pn**	**15 43 39.1**	**-3.9**
MSVF	**Nonsavu**	**6.93**	**301**	Pn	**Pn**	**15 43 42.1**	**-1.0**
	19nm,0.7s,baz=127,slow=12,SNR=24						
MSVF				LR	LR	15 46 10.2	
	comp=Z,25μm,18.1s,baz=91,slow=37						
MSVF	**Nonsavu**	**6.93**	**301**	*i* P	**Pn**	**15 43 43.3**	**+0.3**
RAR	**Rarotonga**	**14.86**	**92**	Pn	**Pn**	**15 45 33.9**	**+2.3**
	2.4nm,0.3s,baz=258,slow=9.3,SNR=5.5						
RAR				Sn	Sn	15 48 03.5	-13
	1.1nm,0.3s,baz=351,slow=8.8,SNR=1.4						
RAR				LR	LR	15 51 45.8	
	comp=Z,3μm,18.3s,baz=275,slow=39						
	6.3nm,0.6s						
DZM	**Mont Dzumac**	**16.59**	**264**	P	**Pn**	**15 45 51.8**	**-2.4**
DZM	**Mont Dzumac**	**16.59**	**264**	*e*P	**P**	**15 45 57.7**	**+1.0**
	167nm,1.4s						
DZM				*e*S	**S**	**15 49 04.5**	**-5.6**
	9μm,27.6s						
DZM				*e*LR	LR	15 49 47.7	
	20μm,24.8s						
DZM	**Mont Dzumac**	**16.59**	**264**	Pn	**Pn**	**15 45 54.0**	**-0.2**
	0.1nm,0.3s,baz=97,slow=18,SNR=3.5						
DZM				LR	LR	15 51 22.5	
	comp=Z,14μm,19.1s,baz=105,slow=34						
	3.8nm,0.9s						
URZ	**Urewera**	**17.89**	**199**	P	**P**	**15 46 11.0**	**+0.2**
	0.6nm,0.3s,baz=54,slow=6.4,SNR=3.8						
URZ				LR	LR	15 52 18.6	
	comp=Z,22μm,19.3s,baz=104,slow=34						
	12nm,0.8s						
KOUNC	**Koumac, New Ca**	**18.70**	**269**		**P**	**15 46 16.6**	**-3.2**
BFZ	**Birch Farm**	**20.38**	**198**	IAMs_20	IAMs_20	15 53 44.0	
	comp=Z,12μm,20.0s						
MRZ	**Mangatainoka R**	**20.56**	**199**	IAMs_20	IAMs_20	15 53 46.5	
	comp=Z,12μm,19.0s						
SNZO	**South Karori**	**21.42**	**200**	IAMs_20	IAMs_20	15 54 11.2	
	comp=Z,12μm,20.0s						
PLWZ	**Palliser**	**21.49**	**199**	P	**P**	**15 46 46.8**	**-3.3**
QRZ	**Quartz Range**	**21.76**	**205**	IAMs_20	IAMs_20	15 54 40.6	
	comp=Z,14μm,20.0s						
THZ	**Tophouse**	**22.44**	**203**	IAMs_20	IAMs_20	15 55 12.7	
	comp=Z,10μm,18.0s						
DSZ	**Denniston Nort**	**22.83**	**205**	IAMs_20	IAMs_20	15 55 22.9	
	comp=Z,13μm,19.0s						
GVZ	**Greta Valley S**	**23.45**	**201**	IAMs_20	IAMs_20	15 55 13.9	
	comp=Z,8μm,21.0s						
LTZ	**Lake Taylor**	**23.55**	**203**	IAMs_20	IAMs_20	15 56 08.3	
	comp=Z,13μm,19.0s						
INZ	**Inchbonnie**	**23.81**	**204**	IAMs_20	IAMs_20	15 56 02.9	
	comp=Z,13μm,18.0s						
OXZ	**Oxford**	**24.11**	**202**	P	**P**	**15 47 15.9**	**-1.3**
OXZ				IAMs_20	IAMs_20	15 56 26.2	
	comp=Z,10μm,19.0s						
TBI	**Tubuai**	**24.34**	**99**	*e*P	**P**	**15 47 13.5**	**-5.9**
	comp=Z,3μm,38.2s						
TBI				*e*S	**S**	**15 51 37.1**	**-1.5**
	comp=Z,25μm,26.8s						
TBI				*e*LR	LR	15 53 11.9	
	comp=Z,47μm,28.0s						
TBI				*e*LR	LR	15 53 15.4	
	comp=Z,10μm,26.8s						
RPZ	**Rata Peaks**	**24.81**	**203**	LR	LR	15 57 06.9	
	comp=Z,14μm,18.5s,baz=32,slow=36						
PPT2	**Papeete2**	**24.92**	**86**	*e*P	**P**	**15 47 19.6**	**-5.2**
	comp=Z,454nm,25.8s						
PPT2				*e*S	**S**	**15 51 44.2**	**-4.0**
	comp=Z,5μm,25.2s						
PPT2				*e*LR	LR	15 53 22.8	
	comp=Z,13μm,26.8s						
PPT2				*e*LR	LR	15 53 29.6	
	comp=Z,8μm,27.0s						
PPT	**Papeete**	**24.93**	**86**	P	**P**	**15 47 27.6**	**+2.8**
	comp=Z,31nm,1.0s,baz=258,slow=2.1,SNR=5.2						
PPT				LR	LR	15 56 31.4	
	comp=Z,2μm,18.3s,baz=262,slow=35						
	comp=Z,31nm,1.0s						
ODZ	**Otahua Downs**	**26.10**	**202**	IAMs_20	IAMs_20	15 57 38.8	
	comp=Z,10μm,19.0s						
HNR	**Honiara**	**26.27**	**293**	P	**P**	**15 47 31.4**	**-5.6**
HNR				IAmb	IAmb	15 47 48.5	
	comp=Z,52nm,1.0s						
HNR	**Honiara**	**26.27**	**293**	LR	LR	15 57 24.2	
	comp=Z,2μm,18.6s,baz=139,slow=36						
HNR	**Honiara**	**26.27**	**293**	P	**P**	**15 47 31.4**	**-5.6**
HNR				pmax	pmax		
	comp=Z,52nm,1.0s						
WKZ	**Wanaka**	**26.52**	**205**	P	**P**	**15 47 38.8**	**-0.3**
CAN	**Canberra**	**33.80**	**238**	IAMs_20	IAMs_20	16 00 53.6	
	comp=Z,4μm,18.0s						
CTA	**Charters Tower**	**35.53**	**265**	LR	LR	16 02 17.7	
	comp=Z,4μm,19.0s,baz=96,slow=34						
CTAO	**Charters Tower**	**35.53**	**265**	P	**P**	**15 48 56.2**	**-2.5**
CTAO	**Charters Tower**	**35.53**	**265**	P	**P**	**15 48 56.2**	**-2.5**
CTAO				pmax	pmax		
	comp=Z,99nm,1.9s						
CTAO				MLR	MLR		
	comp=Z,4μm,19.0s						
TAOE	**Nuku Hiva Isla**	**36.44**	**75**	*e*P	P	15 49 00.7	-5.9
	comp=Z,158nm,31.1s						
TAOE				*e*S	**S**	**15 54 41.2**	**-7.2**
	comp=Z,630nm,26.3s						
TAOE				*e*LR	LR	15 58 43.5	
	comp=Z,8μm,26.3s						
PMG	**Port Moresby**	**37.63**	**283**	IAMs_20	IAMs_20	16 03 16.1	
	comp=Z,4μm,18.0s						
PMG	**Port Moresby**	**37.63**	**283**	LR	LR	16 03 35.9	
	comp=Z,5μm,18.2s,baz=112,slow=35						
PMG	**Port Moresby**	**37.63**	**283**	*ce*P	**P**	**15 49 16.6**	**0.0**
PMG				pmax	pmax		
	comp=Z,25nm,1.2s						
JOHN	**Johnston Islan**	**38.40**	**10**	IAMs_20	IAMs_20	16 00 43.2	
	comp=Z,4μm,19.0s						
STKA	**Stephens Creek**	**39.33**	**246**	P	**P**	**15 49 31.0**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=84,slow=9.2,SNR=3.0						
STKA				LR	LR	16 04 08.0	
	comp=Z,5μm,18.3s,baz=89,slow=34						
	comp=Z,1.3nm,0.7s						
STKA	**Stephens Creek**	**39.33**	**246**	P	**P**	**15 49 31.0**	**+0.2**
COEN	**Coen**	**39.77**	**274**	P	**P**	**15 49 30.5**	**-4.2**
COEN				IAmb	IAmb	15 49 43.7	
	comp=Z,107nm,1.7s						
JAY	**Jayapura**	**46.36**	**288**	LR	LR	16 08 04.1	
	comp=Z,1μm,20.9s,baz=108,slow=34						
AS31	**Alice Springs**	**46.39**	**257**	P	**P**	**15 50 25.5**	**-2.8**
ASAR	**Alice Springs**	**46.39**	**257**	P	**P**	**15 50 26.8**	**-1.5**
	comp=Z,10.0nm,1.0s,baz=91,slow=8.3,SNR=22						
ASAR				PcP	**PcP**	**15 52 05.0**	**+1.8**
	comp=Z,1.4nm,0.9s,baz=95,slow=4.9,SNR=4.9						
ASAR				LR	LR	16 09 03.4	
	comp=Z,3μm,18.7s,baz=111,slow=35						
	comp=Z,10.0nm,1.0s						
WB0	**Warramunga Arr**	**46.58**	**263**	P	**P**	**15 50 27.2**	**-2.5**
WB0				IAmb	IAmb	15 51 07.8	
	comp=Z,38nm,1.9s						
WB2	**Warramunga Arr**	**46.58**	**262**	P	**P**	**15 50 27.9**	**-1.9**
WB2				IAmb	IAmb	15 50 34.0	
	comp=Z,57nm,2.0s						
WRAB	**Tennant Creek**	**46.58**	**262**	*i* P	**P**	**15 50 32.5**	**+2.8**
WRAB				pmax	pmax		
	comp=Z,73nm,3.2s						
WRA	**Warramunga Arr**	**46.59**	**262**	P	**P**	**15 50 27.9**	**-1.9**
	comp=Z,2.0nm,0.8s,baz=98,slow=5.9,SNR=13						
WRA				PcP	**PcP**	**15 52 03.7**	**-0.2**
	comp=Z,1.2nm,1.2s,baz=101,slow=2.7,SNR=1.7						
WRA				LR	LR	16 09 37.5	
	comp=Z,2μm,18.8s,baz=125,slow=36						
	comp=Z,2.0nm,0.8s						
GUMO	**Guam**	**52.04**	**308**	LR	LR	16 10 40.7	
	comp=Z,883nm,21.3s,baz=138,slow=33						
SAUI	**Saumlaki**	**52.72**	**276**	P	**P**	**15 51 14.3**	**-2.3**
FAKI	**Fak Fak**	**53.78**	**283**	P	**P**	**15 51 22.4**	**-2.0**
FAKI				IAmb	IAmb	15 51 27.8	
	comp=Z,35nm,1.5s						
FITZ	**Fitzroy Crossi**	**55.02**	**262**	P	**P**	**15 51 30.3**	**-3.0**
FITZ	**Fitzroy Crossi**	**55.02**	**262**	LR	LR	16 14 48.8	
	comp=Z,3μm,18.4s,baz=94,slow=36						
SBA	**Scott Base**	**57.11**	**184**	P	**P**	**15 51 48.2**	**+0.8**
SBA	**Scott Base**	**57.11**	**184**	P	**P**	**15 51 48.2**	**+0.8**
SBA				pmax	pmax		
	comp=Z,23nm,1.4s						
SOEI	**Soe**	**58.66**	**271**	P	**P**	**15 51 58.5**	**-0.9**
BATI	**Baumata**	**59.08**	**271**	LR	LR	16 18 42.7	
	comp=Z,2μm,18.3s,baz=120,slow=37						
NWAO	**Narrogin (SRO)**	**59.87**	**244**	IAMs_20	IAMs_20	16 16 14.9	
	comp=Z,3μm,20.0s						
NWAO	**Narrogin (SRO)**	**59.87**	**244**	LR	LR	16 16 46.1	
	comp=Z,2μm,19.2s,baz=58,slow=35						
RPN	**Rapa Nui**	**60.17**	**110**	LR	LR	16 11 07.6	
	comp=Z,1μm,21.7s,baz=261,slow=29						
DAV	**Davao City (W)**	**64.15**	**290**	LR	LR	16 19 16.0	
	comp=Z,458nm,18.4s,baz=120,slow=35						
QSPA	**South Pole Qui**	**68.65**	**180**	P	**P**	**15 53 06.1**	**+1.5**
QSPA	**South Pole Qui**	**68.65**	**180**	P	**P**	**15 53 06.1**	**+1.5**
	comp=Z,3.9nm,0.9s,baz=57,slow=2.7,SNR=12						
QSPA				LR	LR	16 18 52.5	
	comp=Z,816nm,21.4s,baz=35,slow=32						
	comp=Z,3.9nm,0.9s						
MYLDM	**Lahad Datu**	**69.63**	**284**	P	**P**	**15 53 11.3**	**0.0**
TGY	**Tagaytay City**	**71.48**	**294**	LR	LR	16 24 44.6	
	comp=Z,445nm,19.3s,baz=116,slow=36						
MJAR	**Matsushiro Arr**	**72.22**	**322**	P	**P**	**15 53 27.1**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=162,slow=5.3,SNR=4.3						
MJAR				LR	LR	16 19 32.5	
	comp=Z,231nm,21.7s,baz=124,slow=31						
	comp=Z,2.4nm,0.9s						
JOW	**Kunigami**	**72.40**	**309**	LR	LR	16 22 28.0	
	comp=Z,455nm,19.7s,baz=134,slow=34						
ERM	**Erimo**	**73.69**	**329**	IAMs_20	IAMs_20	16 19 34.6	
	comp=Z,1μm,21.0s						
JTM	**Tenmabayashi**	**73.78**	**327**	IAMs_20	IAMs_20	16 21 30.1	
	comp=Z,2μm,21.0s						
SHEM	**Shemya Is, Ala**	**74.37**	**354**	LR	LR	16 23 04.8	
	comp=Z,1μm,18.5s,baz=138,slow=33						
JNU	**Nakatsue**	**74.42**	**316**	LR	LR	16 21 20.1	
	comp=Z,446nm,21.9s,baz=127,slow=32						
LEM	**Lembang**	**75.15**	**268**	LR	LR	16 25 53.4	
	comp=Z,1μm,21.6s,baz=126,slow=35						
JKA	**Kamikawa-asahi**	**75.56**	**330**	IAMs_20	IAMs_20	16 23 10.5	
	comp=Z,1μm,20.0s						
ASAJ	**Asahikawa**	**75.56**	**330**	LR	LR	16 23 12.3	
	comp=Z,1μm,20.6s,baz=162,slow=33						
SMAI	**San Martin Ant**	**76.98**	**159**	P	**P**	**15 53 55.6**	**+1.8**
SAO	**San Andreas Ge**	**77.26**	**42**	IAMs_20	IAMs_20	16 19 39.9	
	comp=Z,2μm,21.0s						
MCCM	**Marconi Confer**	**77.26**	**40**	IAMs_20	IAMs_20	16 19 29.8	
	comp=Z,2μm,19.0s						
PET	**Petropavlovsk**	**77.40**	**344**	*e*P	**P**	**15 53 55.9**	**-0.3**
PET				*e*S	**S**	**16 03 43.5**	**-2.8**
PET				*e*PS	**PnS**	**16 04 27.9**	**+1.6**
PET				pmax	pmax		
	comp=Z,600nm,6.8s						
PET				pmax	pmax		
	comp=Z,1μm,6.7s						
PET				MLR	MLR		
	comp=Z,300nm,23.0s						
YSS	**Yuzh-Sakhalins**	**77.69**	**332**	*de*P	**P**	**15 54 00.3**	**+2.4**
YSS				*e*S	**S**	**16 03 52.8**	**+3.2**
YSS				*e*SS	**SS**	**16 08 51.9**	**+1.8**
YSS				pmax	pmax		
	comp=Z,600nm,4.2s						
YSS				smax	smax		
	comp=N,400nm,8.2s						
YSS				smax	smax		
	comp=E,300nm,5.6s						
YSS				MLR	MLR		
	comp=N,500nm,17.0s						
YSS				MLR	MLR		
	comp=E,400nm,17.0s						
YSS				MLR	MLR		
	comp=Z,600nm,17.0s						
PETK	**Petropavlovsk-**	**77.72**	**344**	P	**P**	**15 53 57.6**	**-0.4**
	comp=Z,19nm,1.1s,baz=100,slow=8.1,SNR=7.5						
PETK				LR	LR	16 21 35.1	
	comp=Z,968nm,20.8s,baz=154,slow=31						
	comp=Z,19nm,1.1s						
PASC	**Pasadena Art C**	**77.78**	**46**	IAMs_20	IAMs_20	16 20 03.2	
	comp=Z,1μm,21.0s						
LPIG	**La Paz**	**78.06**	**58**	LR	LR	16 19 40.6	
	comp=Z,2μm,21.9s,baz=217,slow=29						
SLBS	**Sierra La Lagu**	**78.14**	**59**	IAMs_20	IAMs_20	16 19 20.8	
	comp=Z,2μm,22.0s						
PFO	**Pinyon Flats O**	**78.61**	**47**	LR	LR	16 20 28.2	
	comp=Z,1μm,21.9s,baz=251,slow=29						
QZH	**Quanzhou**	**78.70**	**302**	P	**P**	**15 54 05.9**	**+1.8**
QZH				S	**S**	**16 04 02.3**	**+0.8**
QZH				pmax	pmax		
	comp=Z,720nm,5.8s						
QZH				LR	LR		
	comp=Z,740nm,19.6s						
ORV	**Oroville**	**78.99**	**40**	IAMs_20	IAMs_20	16 20 12.6	
	comp=Z,1μm,22.0s						
KSRS	**Korea Array**	**79.00**	**318**	LR	LR	16 22 42.0	
	comp=Z,383nm,21.8s,baz=130,slow=31						
TEY	**Ternei**	**79.12**	**328**	*e*P	**P**	**15 54 02.0**	**-3.9**
PMSA	**Palmer Station**	**79.59**	**156**	LR	LR	16 24 42.0	
	comp=Z,229nm,18.7s,baz=263,slow=32						
YBH	**Yreka Blue Hor**	**79.70**	**37**	IAMs_20	IAMs_20	16 21 17.9	
	comp=Z,2μm,22.0s						
YBH	**Yreka Blue Hor**	**79.70**	**37**	LR	LR	16 21 19.1	
	comp=Z,2μm,21.6s,baz=245,slow=30						
DSP	**Deep Springs**	**79.82**	**43**	P	**P**	**15 54 08.1**	**-1.8**
HATC	**Hat Creek Radi**	**79.82**	**39**	IAMs_20	IAMs_20	16 21 24.4	
	comp=Z,2μm,20.0s						
SSE	**Sheshan**	**79.92**	**309**	P	**P**	**15 54 11.0**	**+0.4**
SSE				S	**S**	**16 04 17.3**	**+3.1**
SSE				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SSE				pmax	pmax		
	comp=Z,230nm,6.4s						
HUMO	**Hull Mountain**	**80.13**	**37**	IAMs_20	IAMs_20	16 20 58.3	
	comp=Z,2μm,22.0s						
NVAR	**Mina Array Bea**	**80.25**	**42**	P	**P**	**15 54 14.2**	**+1.7**
	comp=Z,4.4nm,0.7s,baz=224,slow=8.6,SNR=20						
NVAR				LR	LR	16 21 49.2	
	comp=Z,1μm,21.3s,baz=241,slow=30						
	comp=Z,4.4nm,0.7s						
TPNV	**Topopah Spring**	**80.68**	**44**	IAMs_20	IAMs_20	16 21 04.0	
	comp=Z,2μm,22.0s						
USRK	**Ussuriysk Ar.**	**80.93**	**325**	LR	LR	16 25 32.3	
	comp=Z,1μm,21.3s,baz=136,slow=32						
SHPR	**Sheep Range**	**81.14**	**45**	P	**P**	**15 54 14.5**	**-2.7**
KDAK	**Kodiak Island**	**81.23**	**12**	LR	LR	16 22 38.4	
	comp=Z,1μm,21.8s,baz=60,slow=30						
MAW	**Mawson**	**81.41**	**199**	P	**P**	**15 54 19.3**	**+1.3**
	comp=Z,2.6nm,0.6s,baz=140,slow=8.5,SNR=9.1						
MAW				LR	LR	16 29 32.4	
	comp=Z,1μm,18.2s,baz=110,slow=35						
	comp=Z,2.6nm,0.6s						
R11B	**Troy Canyon, C**	**81.92**	**44**	IAMs_20	IAMs_20	16 21 55.7	
	comp=Z,1μm,21.0s						
O16K	**Kokwok River B**	**82.01**	**9**	IAMs_20	IAMs_20	16 23 28.9	
	comp=Z,1μm,20.0s						
SYI	**Shuyak Island**	**82.04**	**12**	IAMs_20	IAMs_20	16 21 57.1	
	comp=Z,2μm,21.0s						
NJ2	**Nanjing**	**82.11**	**309**	*e*P	**P**	**15 54 21.5**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
N15K	**Kwethluk River**	**82.29**	**8**	IAMs_20	IAMs_20	16 25 34.4	
	comp=Z,2μm,19.0s						
MDJ	**Mudanjiang**	**82.50**	**324**	P	**P**	**15 54 24.4**	**+0.4**
MDJ				PP	**PP**	**15 57 39.6**	**+5.9**
MDJ				S	**S**	**16 04 47.5**	**+7.0**
MDJ				pmax	pmax		
	comp=Z,11nm,1.4s						
MDJ				LR	LR		
	comp=Z,600nm,16.2s						
MDJ				LR	LR		
	comp=Z,680nm,21.7s						
MDJ				LR	LR		
	comp=Z,970nm,20.5s						
O18K	**Koktuh Hills**	**82.70**	**10**	IAMs_20	IAMs_20	16 21 53.9	
	comp=Z,1μm,22.0s						
U15A	**North Rim**	**83.02**	**47**	IAmb	IAmb	15 54 33.5	
	comp=Z,13nm,1.0s						
N17K	**Nushagak Hills**	**83.03**	**9**	IAMs_20	IAMs_20	16 23 49.1	
	comp=Z,1μm,20.0s						
O19K	**Port Alsworth**	**83.17**	**11**	IAMs_20	IAMs_20	16 24 04.4	
	comp=Z,1μm,20.0s						
QIZ	**Qiongzhong**	**83.18**	**293**	P	**P**	**15 54 27.8**	**-0.3**
QIZ				S	**SKSac**	**16 04 48.6**	**-1.9**
QIZ				SS	**SS**	**16 10 15.0**	**+1.7**
QIZ				LR	LR		
	comp=Z,310nm,8.2s						
QIZ				LR	LR		
	comp=Z,310nm,8.4s						
QIZ				LR	LR		
	comp=Z,390nm,12.6s						
M16K	**Timber Creek**	**83.26**	**8**	IAMs_20	IAMs_20	16 25 01.1	
	comp=Z,1μm,20.0s						
BRLK	**Bradley Lake**	**83.41**	**12**	IAMs_20	IAMs_20	16 23 22.8	
	comp=Z,2μm,22.0s						
ELK	**Elko**	**83.53**	**42**	IAMs_20	IAMs_20	16 23 19.8	
	comp=Z,1μm,21.0s						
ELK	**Elko**	**83.53**	**42**	LR	LR	16 23 41.7	
	comp=Z,2μm,21.7s,baz=247,slow=30						
H03S2	**Juan Fernandez**	**83.71**	**124**	T	T	17 26 58.4	
	baz=247,slow=74,SNR=831						
H03S1	**Juan Fernandez**	**83.72**	**124**	T	T	17 26 59.5	
	baz=247,slow=74,SNR=734						
H03S3	**Juan Fernandez**	**83.73**	**124**	T	T	17 26 58.3	
	baz=247,slow=74,SNR=573						
N19K	**Bonanza Creek**	**83.73**	**10**	IAMs_20	IAMs_20	16 24 52.1	
	comp=Z,1μm,20.0s						
M17K	**Holitna River**	**83.83**	**9**	IAMs_20	IAMs_20	16 25 18.3	
	comp=Z,1μm,20.0s						
H03N2	**Juan Fernandez**	**83.85**	**123**	T	T	17 27 03.5	

comp=Z,610nm,15.7s
BNX LR LR
comp=Z,870nm,20.6s
KLR Kul'dur 84.41 328 LR LR 16 26 34.2
comp=Z,896nm,21.7s,baz=124,slow=32
WHN Wuhan 84.71 306 P **P** **15 54 39.0 +3.3**
WHN pmax pmax
comp=Z,1μm,8.2s
MFID Camas Ranch 84.72 39 IAMs_20 IAMs_20 16 23 36.2
comp=Z,1μm,22.0s
BMO Blue Mountains 84.72 37 IAMs_20 IAMs_20 16 24 45.9
comp=Z,2μm,20.0s
L18K Granite Mounta 84.73 9 IAMs_20 IAMs_20 16 25 00.8
comp=Z,1μm,20.0s
EPT El Paso 84.75 53 IAMs_20 IAMs_20 16 23 29.1
comp=Z,2μm,21.0s
M19K Big River Lodg 84.78 10 IAMs_20 IAMs_20 16 23 59.2
comp=Z,1μm,22.0s
PWL Port Wells 84.93 13 IAMs_20 IAMs_20 16 25 47.6
comp=Z,1μm,19.0s
M20K Styx River 84.96 11 IAMs_20 IAMs_20 16 26 11.7
comp=Z,1μm,20.0s
K17K Iditarod 84.98 8 IAMs_20 IAMs_20 16 27 15.6
comp=Z,1μm,20.0s
UNM Universidad Na 85.10 67 IAMs_20 IAMs_20 16 23 13.6
comp=Z,1μm,22.0s
GLI Glacier Island 85.22 14 IAMs_20 IAMs_20 16 25 56.2
comp=Z,1μm,20.0s
FID Port Fidalgo 85.24 14 IAMs_20 IAMs_20 16 24 20.5
comp=Z,2μm,21.0s
MA2 Magadan 85.25 344 LR LR 16 26 32.5
comp=Z,797nm,21.7s,baz=138,slow=31
SKT Skwentna 85.33 11 IAMs_20 IAMs_20 16 26 25.1
comp=Z,1μm,20.0s
M22K Willow 85.39 12 IAMs_20 IAMs_20 16 25 45.6
comp=Z,2μm,21.0s
KNK Knik Glacier 85.41 13 IAMs_20 IAMs_20 16 25 16.2
comp=Z,1μm,22.0s
TIA Tai'an 85.47 312 P **P** **15 54 38.5 -0.9**
TIA S **S** **16 05 06.6 -4.2**
J17K VABM Dome 85.54 7 IAMs_20 IAMs_20 16 26 54.3
comp=Z,1μm,20.0s
S31K Pelican 85.64 20 IAMs_20 IAMs_20 16 24 48.8
comp=Z,2μm,20.0s
GHO Glory Hole Cre 85.64 12 IAMs_20 IAMs_20 16 31 25.2
comp=Z,930nm,19.0s
HLID Hailey 85.65 40 IAMs_20 IAMs_20 16 24 16.7
comp=Z,1μm,20.0s
TXAR Lajitas Array 85.77 56 P **P** **15 54 41.6 +0.5**
comp=Z,5.9nm,1.0s,baz=224,slow=5.2,SNR=26
TXAR LR LR 16 24 35.4
comp=Z,698nm,21.7s,baz=238,slow=30
comp=Z,5.9nm,1.0s
S32K Killisnoo 85.78 21 IAMs_20 IAMs_20 16 25 05.7
comp=Z,1μm,21.0s
SML Sawmill 85.79 13 IAMs_20 IAMs_20 16 25 50.3
comp=Z,1μm,21.0s
J18K Innoko River 85.91 8 IAMs_20 IAMs_20 16 26 32.2
comp=Z,1μm,20.0s
ELIB Princess Elisa 85.96 186 *d*P **P** **15 54 41.7 +0.2**
comp=Z,7.4nm,1.3s
MVCO Mesa Verde 86.02 48 IAMs_20 IAMs_20 16 25 00.7
comp=Z,1μm,18.0s
KLU Klutina 86.02 14 IAMs_20 IAMs_20 16 25 41.5
comp=Z,2μm,20.0s
SCM Sheep Creek Mo 86.03 13 IAMs_20 IAMs_20 16 24 39.4
comp=Z,2μm,22.0s
K20K Telida 86.20 10 IAmb IAmb 15 54 52.4
comp=Z,43nm,1.8s
HWUT Hardware Ranch 86.30 43 IAMs_20 IAMs_20 16 24 48.5
comp=Z,2μm,21.0s
ANMO Albuquerque 86.33 50 IAMs_20 IAMs_20 16 25 15.4
comp=Z,1μm,21.0s
ANMO Albuquerque 86.33 50 LR LR 16 25 04.7
comp=Z,849nm,21.6s,baz=48,slow=30
ANMO Albuquerque 86.33 50*ce*P **P** **15 54 43.8 -0.1**
ANMO pmax pmax
comp=Z,3.0nm,1.1s
VRDI Verde Repeater 86.36 15 IAMs_20 IAMs_20 16 25 56.6
comp=Z,1μm,19.0s
N25K Chitina, Valde 86.42 14 IAMs_20 IAMs_20 16 24 48.2
comp=Z,2μm,22.0s
GLB Gilahina Butte 86.47 15 IAMs_20 IAMs_20 16 24 13.2
comp=Z,1μm,22.0s
M24K Tolsona, Glenn 86.52 13 IAMs_20 IAMs_20 16 24 42.5
comp=Z,1μm,20.0s
J19K Poorman 86.57 9 IAMs_20 IAMs_20 16 27 32.6
comp=Z,1μm,21.0s
CAST Castle Rocks 86.58 10 IAMs_20 IAMs_20 16 27 52.3
comp=Z,1μm,20.0s
MCARA McCarthy VSAT 86.60 15 IAMs_20 IAMs_20 16 24 38.9
comp=Z,2μm,22.0s
RPSI Rantau Prapat 86.66 274 IAMs_20 IAMs_20 16 34 52.6
comp=Z,1μm,21.0s
PSI Prapat 86.69 274 LR LR 16 34 54.3
comp=Z,1μm,21.1s,baz=140,slow=37
TROLL Troll, Antarti 86.81 179 ⇑P **P** **15 54 46.2 +0.5**
comp=Z,117nm,0.7s
NEW Newport 86.89 35 LR LR 16 25 31.4
comp=Z,2μm,22.0s,baz=222,slow=30
SNAA Sanae 87.02 178 IAMs_20 IAMs_20 16 33 56.2
comp=Z,864nm,19.0s
SNAA Sanae 87.02 178 LR LR 16 34 34.0
comp=Z,451nm,18.0s,baz=191,slow=36
SNAA Sanae 87.02 178 *i* P **P** **15 54 50.0 +3.4**
SNAA pmax pmax
comp=Z,12nm,1.6s
VNA3 Neumayer Olymp 87.07 176 ⇑P **P** **15 54 50.4 +3.6**
comp=Z,5.2nm,0.8s
PLCA Paso Flores 87.09 133 P **P** **15 54 51.9 +4.3**
PLCA IAmb IAmb 15 54 54.0
comp=Z,22nm,1.3s
PLCA Paso Flores 87.09 133 P **P** **15 54 51.9 +4.3**
PLCA pmax pmax
comp=Z,22nm,1.3s
H18K Honhosa River 87.33 7 IAMs_20 IAMs_20 16 27 49.4
comp=Z,1μm,19.0s
BPAW Bear Paw Mtn. 87.39 11 IAMs_20 IAMs_20 16 31 44.0
comp=Z,868nm,18.0s
GSI Gunungsitoli 87.41 272 IAMs_20 IAMs_20 16 33 28.6
comp=Z,2μm,22.0s
M26K Nabesna, AK 87.49 15 P **P** **15 54 50.4 +1.6**
M26K IAmb IAmb 15 54 52.6
comp=Z,23nm,1.5s
M26K IAMs_20 IAMs_20 16 25 45.4
comp=Z,2μm,22.0s
VNA2 Neumayer--Watz 87.54 176 ⇑P P 15 54 54.2 +5.1
comp=Z,6.2nm,0.9s,baz=192,slow=7.0
TPAW Teton Pass 87.70 41 IAMs_20 IAMs_20 16 26 46.2
comp=Z,1μm,18.0s
M27K Edge Creek, AK 87.72 15 IAMs_20 IAMs_20 16 25 05.5
comp=Z,1μm,22.0s
HNS HongShan 87.75 312 ⇓P **P** **15 54 52.8 +2.3**
HNS *e*S **S** **16 05 35.6 +2.9**
HNS pmax pmax
comp=Z,570nm,8.0s
HNS LR LR
comp=Z,210nm,19.9s
HNS LR LR
comp=Z,480nm,20.7s
HNS LR LR
comp=Z,510nm,20.6s
VNA1 Neumayer--Stat 87.75 176 ⇑P **P** **15 54 51.2 +1.2**
comp=Z,7.3nm,0.9s
SEY Seymchan 87.77 346*ce*P **P** **15 54 51.1 +1.2**
SEY pmax pmax
comp=Z,57nm,2.5s
H19K Roundabout Mou 87.92 8 IAMs_20 IAMs_20 16 27 58.2
comp=Z,1μm,20.0s
CMIG Matias Romero 87.94 71 LR LR 16 24 32.9
comp=Z,919nm,21.6s,baz=246,slow=29
L26K Log Cabin Wild 87.95 14 IAMs_20 IAMs_20 16 26 20.5
comp=Z,2μm,21.0s
LYN LuoYang 87.99 308 P **P** **15 54 52.1 +0.4**
LYN SKS **SKSac** **16 05 21.1 +0.9**
LYN S **ScS** **16 05 40.0 -1.6**
LYN SS **SS** **16 11 27.3 +3.6**
LYN LR LR
comp=Z,440nm,18.0s
LYN LR LR
comp=Z,520nm,16.9s
LYN LR LR
comp=Z,740nm,17.3s
G18K Tagagawik 88.01 7 IAMs_20 IAMs_20 16 29 53.9
comp=Z,987nm,19.0s
BJI Beijing 88.05 315 P **P** **15 54 56.4 +4.6**
BJI pmax pmax
comp=Z,260nm,4.6s
BJI LR LR
comp=Z,130nm,19.1s
BJI LR LR
comp=Z,130nm,22.1s
BJI LR LR
comp=Z,170nm,19.2s
DLBC Dease Lake 88.08 22 LR LR 16 29 54.5
comp=Z,605nm,18.0s,baz=230,slow=33
PDAR Pinedale Array 88.18 42 P **P** **15 54 53.3 +0.6**
comp=Z,1.0nm,0.8s,baz=205,slow=2.4,SNR=9.2
PDAR LR LR 16 26 31.5
comp=Z,500nm,20.6s,baz=228,slow=30
comp=Z,1.0nm,0.8s
I21K Tanana 88.23 10 IAmb IAmb 15 54 55.4
comp=Z,12nm,1.1s
I21K IAMs_20 IAMs_20 16 27 02.6
comp=Z,977nm,21.0s
RIDG Independent Ri 88.25 13 IAMs_20 IAMs_20 16 26 53.3
comp=Z,2μm,20.0s
L27K Beaver Creek, 88.34 15 IAMs_20 IAMs_20 16 26 32.7
comp=Z,2μm,20.0s
HDA Harding Lake 88.42 12 IAMs_20 IAMs_20 16 27 07.6
comp=Z,1μm,21.0s
G19K Purcell Mounta 88.43 7 IAMs_20 IAMs_20 16 28 44.7
comp=Z,892nm,20.0s
CCB Clear Creek Bu 88.47 12 IAMs_20 IAMs_20 16 26 59.8
comp=Z,2μm,21.0s
P33M Teslin, Yukon 88.50 20 IAMs_20 IAMs_20 16 26 08.5
comp=Z,1μm,18.0s
SCRK Sand Creek 88.64 13 IAMs_20 IAMs_20 16 26 20.6
comp=Z,2μm,22.0s
COLA College 88.66 12 IAMs_20 IAMs_20 16 27 27.0
comp=Z,2μm,20.0s
COLA College 88.66 12 *i* P **P** **15 54 54.8 +0.7**
COLA pmax pmax
comp=Z,8.0nm,0.9s
ILAR Eielson Array 88.75 12 P **P** **15 54 54.9 +0.3**
comp=Z,2.3nm,0.9s,baz=213,slow=5.6,SNR=10
ILAR LR LR 16 27 29.4
comp=Z,866nm,21.6s,baz=202,slow=31
comp=Z,2.3nm,0.9s
J25K Salcha River, 88.91 13 IAmb IAmb 15 54 59.1
comp=Z,35nm,1.9s
J25K IAMs_20 IAMs_20 16 26 34.7
comp=Z,945nm,21.0s
J26L Joseph Creek 89.19 13 IAmb IAmb 15 55 01.1
comp=Z,13nm,0.9s
J26L IAMs_20 IAMs_20 16 28 14.2
comp=Z,1μm,21.0s
H23K Yukon River 89.23 10 IAMs_20 IAMs_20 16 27 26.4
comp=Z,1μm,22.0s
LHMI Lhok Sumawe 89.41 276 IAMs_20 IAMs_20 16 40 42.5
comp=Z,1μm,19.0s
F20K Avaraart Lake 89.46 8 IAMs_20 IAMs_20 16 29 37.0
comp=Z,1μm,20.0s
ZEA Zeya 89.48 330 *e*P **P** **15 54 57.4 -0.8**
ZEA *e*S **S** **16 05 48.9 +0.5**
ZEA *e* 16 06 55.2
ZEA pmax pmax
comp=Z,300nm,4.7s
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA pmax pmax
comp=E,100nm,8.5s
ZEA pmax pmax
comp=Z,200nm,8.6s
ZEA smax smax
comp=E,200nm,9.5s
ZEA smax smax
comp=N,300nm,9.1s
TIY Taiyuan 89.48 311 P **P** **15 55 00.5 +1.7**
TIY pmax pmax
comp=N,430nm,5.5s
F21K Alatna River 89.92 8 IAMs_20 IAMs_20 16 28 36.1
comp=Z,939nm,21.0s
EGAK Eagle 89.96 14 IAMs_20 IAMs_20 16 27 35.6
comp=Z,2μm,21.0s
I26K Coal Creek Min 89.98 13 IAmb IAmb 15 55 08.2
comp=Z,26nm,1.6s
I26K IAMs_20 IAMs_20 16 31 11.0
comp=Z,1μm,19.0s
XLT XiLinHaoTe 90.05 318 *e*P P 15 54 54.3 -7.0
XLT sP PcP 15 55 01.8 -0.7
XLT PP **PP** **15 58 28.0 -6.8**
XLT pmax pmax
comp=Z,9.0nm,0.8s
XLT pmax pmax
comp=Z,290nm,7.2s
XLT LR LR
comp=N,16nm,14.2s
XLT LR LR
comp=E,180nm,16.2s
XLT LR LR
comp=Z,270nm,21.8s
K29M Barlow Dome 90.05 16 IAmb IAmb 15 55 05.4
comp=Z,34nm,1.9s
735A Kenedy 90.18 59 IAMs_20 IAMs_20 16 25 39.7
comp=Z,1μm,22.0s
BILL Biiibino 90.18 353 IAMs_20 IAMs_20 16 32 01.6
comp=Z,2μm,20.0s
BILL Biiibino 90.18 353 *i* P **P** **15 55 02.2 +1.0**
BILL pmax pmax
comp=Z,6.0nm,1.3s
ABTX Abilene, Hawle 90.32 55 IAMs_20 IAMs_20 16 26 46.8
comp=Z,2μm,22.0s
G24K Hadweenzic Riv 90.38 11 IAMs_20 IAMs_20 16 27 49.4
comp=Z,2μm,21.0s
C18K Utukok River 90.43 5 IAMs_20 IAMs_20 16 35 01.1
comp=Z,828nm,18.0s
D19K Kuna River 90.58 6 IAMs_20 IAMs_20 16 33 47.8
comp=Z,898nm,20.0s
FYU Fort Yukon 90.67 12 IAMs_20 IAMs_20 16 29 09.1
comp=Z,1μm,21.0s
HIA Hailar 90.69 324 IAMs_20 IAMs_20 16 34 05.1
comp=Z,1μm,20.0s
I28M Miner Creek 90.81 14 P **P** **15 55 01.6 -2.8**
I28M IAmb IAmb 15 55 10.7
comp=Z,21nm,1.9s
E21K Killik River 91.00 8 IAMs_20 IAMs_20 16 30 45.7
comp=Z,1μm,20.0s
E22K Anaktuvuk Pass 91.01 9 IAMs_20 IAMs_20 16 28 51.8
comp=Z,1μm,20.0s
C19K Lookout Ridge 91.02 6 IAMs_20 IAMs_20 16 32 34.6
comp=Z,888nm,20.0s
F24K Squaw Lake 91.05 10 IAMs_20 IAMs_20 16 28 53.5
comp=Z,1μm,20.0s
I30M Mount Dempster 91.47 15 P **P** **15 55 06.6 -0.8**
I30M IAmb IAmb 15 55 31.9
comp=Z,14nm,1.6s
HHC Hu-ho-hao-te 91.53 314 *e*P **P** **15 55 07.4 -0.9**
HHC pP pP 15 55 10.5 -1.6
HHC PP **PP** **15 58 43.8 -2.9**
HHC *e*S **S** **16 06 01.4 -6.7**
HHC sS sS 16 06 14.6 +0.2
HHC SS **SS** **16 12 16.0 +1.0**
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,350nm,5.8s
HHC LR LR
comp=Z,280nm,19.0s
HHC LR LR
comp=Z,390nm,20.0s
HHC LR LR
comp=Z,680nm,21.2s
BMAR Burnt Mountain 91.55 12 P **P** **15 55 06.0 -1.7**
D22K Ayikyak River 91.58 8 IAMs_20 IAMs_20 16 34 21.1
comp=Z,968nm,19.0s
G27K Doyon Strip 91.59 13 IAMs_20 IAMs_20 16 30 18.5
comp=Z,1μm,20.0s
KMI Kunming 91.67 296 ⇓P **P** **15 55 14.0 +4.5**
KMI PP **PP** **15 58 51.6 +3.3**
KMI pmax pmax
comp=Z,11nm,1.0s
KMI pmax pmax
comp=Z,410nm,5.9s
KMI LR LR
comp=Z,350nm,21.9s
KMI LR LR
comp=Z,440nm,21.0s
KMI LR LR
comp=Z,640nm,23.7s
WHTX Lake Whitney, 91.74 56 IAMs_20 IAMs_20 16 27 40.6
comp=Z,2μm,22.0s
TOLK Toolik Lake Re 91.80 9 IAMs_20 IAMs_20 16 29 35.9
comp=Z,941nm,20.0s
H29M Whitestone 91.81 14 IAmb IAmb 15 55 12.7
comp=Z,12nm,1.1s
D23K Nanushuk River 91.94 9 IAMs_20 IAMs_20 16 30 14.5
comp=Z,2μm,22.0s
B21K Ikpikpuk River 92.04 7 IAMs_20 IAMs_20 16 31 15.1
comp=Z,2μm,20.0s
B20K Meade River 92.13 6 IAMs_20 IAMs_20 16 30 48.9
comp=Z,895nm,20.0s
EPYK Eagle Plains 92.32 15 IAMs_20 IAMs_20 16 28 23.9
comp=Z,1μm,21.0s
RSSD Black Hills 92.35 43 P **P** **15 55 13.7 +1.5**
RSSD IAmb IAmb 15 55 16.5
comp=Z,8.8nm,1.0s
RSSD Black Hills 92.35 43 IAMs_20 IAMs_20 16 28 36.5
comp=Z,1μm,21.0s
RSSD Black Hills 92.35 43 P **P** **15 55 13.7 +1.5**
RSSD pmax pmax
comp=Z,9.0nm,1.0s
RSSD MLR MLR
comp=Z,1μm,21.0s
CMAR Chiang Mai Arr 92.43 289 P **P** **15 55 12.4 -0.4**
comp=Z,2.0nm,1.1s,baz=118,slow=2.9,SNR=12
CMAR LR LR 16 36 49.5
comp=Z,264nm,19.2s,baz=105,slow=36
comp=Z,2.0nm,1.1s
CMAR Chiang Mai Arr 92.43 289*ce*P **P** **15 55 15.8 +3.0**
CMAR pmax pmax
comp=Z,2.0nm,1.0s
Z35A Perchaven, San 92.44 55 IAMs_20 IAMs_20 16 28 24.9
comp=Z,1μm,21.0s
BTO Baotou 92.47 313 *e*P **P** **15 55 13.5 +0.9**
BTO pP **pwP** **15 55 18.6 +2.2**
BTO sP **sP** **15 55 20.4 +2.6**
BTO PP **PP** **15 58 54.8 +0.7**
BTO SKS **SKSac** **16 05 48.1 +2.0**
BTO S **ScS** **16 06 19.1 +0.4**
BTO SS **SS** **16 12 29.4 +0.9**
BTO pmax pmax
comp=Z,14nm,0.6s
BTO LR LR
comp=Z,540nm,14.6s
BTO LR LR
comp=Z,480nm,15.6s
BTO LR LR
comp=Z,490nm,11.5s
F28M Old Crow 92.64 13 IAmb IAmb 15 55 16.8
comp=Z,27nm,2.0s
F28M IAMs_20 IAMs_20 16 31 12.4
comp=Z,1μm,20.0s
C23K Itkillik River 92.75 8 IAMs_20 IAMs_20 16 31 22.9
comp=Z,1μm,20.0s
E27K Coleen River 92.78 12 IAmb IAmb 15 55 17.5
comp=Z,18nm,1.6s
B22K Teshekpuk Lake 92.86 7 IAMs_20 IAMs_20 16 30 54.7
comp=Z,1μm,20.0s
C24K Franklin Bluff 92.92 9 IAMs_20 IAMs_20 16 30 34.4
comp=Z,879nm,21.0s
D25K Kavik River 92.92 10 IAMs_20 IAMs_20 16 33 25.5
comp=Z,1μm,20.0s
G30M tAoh Zrail Nji 92.93 15 IAmb IAmb 15 55 17.6
comp=Z,13nm,1.1s
G30M IAMs_20 IAMs_20 16 28 43.1
comp=Z,2μm,22.0s
PZH PanZhiHua 93.03 297 P **P** **15 55 15.3 -0.3**
PZH S **S** **16 06 26.1 +3.9**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,250nm,7.1s
PZH LR LR
comp=Z,630nm,24.5s
PZH LR LR
comp=Z,930nm,24.5s
PZH LR LR
comp=Z,530nm,23.5s
CD2 Chengdu 93.08 302 P **P** **15 55 14.5 -1.1**
CD2 S **S** **16 06 25.8 +3.5**
CD2 SS **SS** **16 12 40.9 +3.3**
CD2 LR LR
comp=Z,260nm,13.0s
CD2 LR LR
comp=Z,390nm,18.6s
CD2 LR LR
comp=Z,310nm,16.5s
E28M Babbage River 93.54 13 P **P** **15 55 13.9 -2.9**
E28M IAmb IAmb 15 55 46.1
comp=Z,20nm,1.9s
E28M IAMs_20 IAMs_20 16 28 46.2
comp=Z,1μm,22.0s
E29M Blow River 93.70 13 IAMs_20 IAMs_20 16 31 45.5
comp=Z,1μm,20.0s
NNA Nana 93.77 104 LR LR 16 27 09.2
comp=Z,883nm,22.0s,baz=245,slow=29
YAK Yakutsk 93.77 337 LR LR 16 32 06.9
comp=Z,365nm,21.6s,baz=107,slow=32
YAK Yakutsk 93.77 337 *e*P **P** **15 55 19.2 +1.3**
YAK pmax pmax
comp=Z,4.0nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.3s
D27M Malcolm River 93.80 12 IAMs_20 IAMs_20 16 30 18.0
comp=Z,1μm,22.0s
F31M Tsiigehtchic 93.88 15 P **P** **15 55 16.6 -1.7**
ATAH Atahualpa 94.19 99 LR LR 16 27 51.3
comp=Z,874nm,21.1s,baz=258,slow=29
JTS Las Juntas de 94.40 81 LR LR 16 27 41.4
comp=Z,544nm,20.7s,baz=250,slow=29
INK Inuvik 94.61 15 LR LR 16 30 29.7
comp=Z,918nm,21.6s,baz=224,slow=31
LZH Lanzhou 95.03 307 *e*P **P** **15 55 24.6 0.0**
LZH sP pwP 15 55 29.6 +1.2
LZH pmax pmax
comp=Z,9.0nm,1.5s
LZH pmax pmax
comp=Z,120nm,5.5s
LZH LR LR
comp=Z,240nm,17.2s
LZH LR LR
comp=Z,390nm,15.8s
LZH LR LR
comp=Z,510nm,16.1s
YKA Yellowknife Ar 96.47 24 P **P** **15 55 31.9 +1.6**
comp=Z,1.0nm,0.8s,baz=246,slow=4.6,SNR=7.1
YKA LR LR 16 33 56.9
comp=Z,703nm,18.6s,baz=251,slow=32
comp=Z,1.0nm,0.8s
OTAV Otavalo 96.85 92 IAMs_20 IAMs_20 16 28 08.0
comp=Z,908nm,22.0s
ULN Ulaanbaatar 97.46 319 *i* P Pdif 15 55 36.2 +0.8
ULN pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 97.85 318 LR LR 16 36 53.5
comp=Z,162nm,20.3s,baz=118,slow=34
A36M Sachs Harbour 99.24 14 IAMs_20 IAMs_20 16 35 06.8
comp=Z,1μm,18.0s
ULM Lac du Bonnet 99.96 40 LR LR 16 33 56.0
comp=Z,2μm,21.7s,baz=263,slow=31
TIXI Tiksi 100.19 345 IAMs_20 IAMs_20 16 37 18.9
comp=Z,1μm,20.0s
TIXI Tiksi 100.19 345*ce*P **Pdif** **15 55 48.2 +1.4**
TIXI pmax pmax
comp=Z,2.0nm,1.2s
WMQ Urumqi 109.14 310 Pdif **Pdif** **15 56 28.0 +0.6**
WMQ LR LR
comp=Z,460nm,20.5s
SDDR Presa de Saban 109.70 77 IAMs_20 IAMs_20 16 35 38.9
comp=Z,1μm,22.0s
KAAM Kaadhehdhoo 109.96 262 IAMs_20 IAMs_20 16 43 07.5
comp=Z,1μm,20.0s
KURK Kurchatov 116.12 317 PKIKP **PKPdf** **16 00 44.3 -0.1**
KURBB Kurchatov Arra 116.17 317 PKP **PKPdf** **16 00 44.3 -0.3**
comp=Z,0.4nm,0.5s,baz=103,slow=1.3,SNR=4.1
AAK Ala-Archa 118.55 308*c i* PKIKP **PKiKP** **16 00 50.8 +1.1**
AAK pmax pmax
comp=Z,6.0nm,2.5s
BVAR Borovoye Array 121.16 320 PKP **PKPdf** **16 00 54.2 +0.1**
comp=Z,1.4nm,0.6s,baz=106,slow=3.2,SNR=6.6
BRVK Borovoye 121.22 320 IAMs_20 IAMs_20 16 56 33.9
comp=Z,552nm,19.0s
BRVK Borovoye 121.22 320*c i* PKIKP **PKiKP** **16 00 54.8 +0.5**
BRVK pmax pmax
comp=Z,10.0nm,2.5s
ARTI Arti 127.27 326 IAMs_20 IAMs_20 16 56 11.5
comp=Z,728nm,20.0s
ARTI Arti 127.27 326 *i* PKIKP **PKiKP** **16 01 07.4 +1.2**
ARTI 16 03 05.2

ARTI						16 08 18.5	
ARTI				MLR	MLR		
	comp=Z,550nm,20.0s						
ARCES	**ARCESS Array B**	**130.19 350**		PKP	**PKPdf**	**16 01 10.4**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=11,slow=0.5,SNR=5.8						
LSZ	**Lusaka**	**136.64 215**		IAMs_20	IAMs_20	16 54 51.1	
	comp=Z,749nm,20.0s						
MAK	**Makhachkala**	**138.16 311**		*i* P	**Pdif**	**15 58 34.7**	**-1.6**
MAK				*e*PPP	PPP	16 07 13.6	
MAK				*e*		16 08 35.6	
MAK				*e*SS	SS	16 22 23.8	-3.3
MAK				*e*SSS	SSS	16 27 32.0	
MAK				pmax	pmax		
	comp=Z,266nm,1.3s						
OBN	**Obninsk**	**138.57 332**		*i* PKIKP	**PKPdf**	**16 01 27.0**	**+0.1**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIBK	**Kibwezi**	**139.40 239**		IAMs_20	IAMs_20	16 58 38.9	
	comp=Z,566nm,20.0s						
VSU	**Vasula**	**139.60 342**		*i* PKIKP	**PKPdf**	**16 01 29.9**	**+1.2**
KIV	**Kislovodsk**	**141.12 314**		IAMs_20	IAMs_20	17 03 07.8	
	comp=Z,605nm,21.0s						
KIV	**Kislovodsk**	**141.12 314**		*i* PKIKP	**PKPdf**	**16 01 32.8**	**+0.7**
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,373nm,24.0s						
ATD	**Arta Tunnel**	**141.83 261**		IAMs_20	IAMs_20	16 58 37.0	
	comp=Z,550nm,20.0s						
MNK	**Minsk**	**142.46 337**		*i* PKP	**PKPdf**	**16 01 33.3**	**-0.7**
	comp=E,14nm,0.9s						
MNK				*i* PKP	**PKPdf**	**16 01 33.3**	**-0.7**
	comp=N,12nm,1.1s						
MNK				*i* PKP	**PKPdf**	**16 01 33.3**	**-0.7**
	comp=Z,12nm,0.9s,baz=37						
MNK				*i* PP	**PP**	**16 04 40.6**	**-0.3**
MNK				*i* PPP	PPP	16 07 48.3	
MNK				*i* SKS	**SKSdf**	**16 08 43.2**	**-0.4**
MNK				*i* SKKS	**SKKSdf**	**16 18 01.7**	**-2.2**
MNK				*i* SS	**SS**	**16 23 17.1**	**+1.2**
MNK				*i* SSS	SSS	16 28 36.1	
MNK				*i* LQ	LQ	16 55 51.6	
MNK				*i* LR	LR	17 03 56.4	
MNK				*i* LRM	MLR	17 07 24.8	
	comp=Z,656nm,19.4s						
MNK				*i* LRM	MLR	17 07 55.4	
	comp=E,437nm,19.6s						
MNK				*i* LRM	MLR	17 07 55.4	
	comp=N,272nm,18.6s						
MNK	**Minsk**	**142.46 337**		*i* PKIKP	**PKPdf**	**16 01 33.3**	**-0.7**
MNK				*i*		16 04 40.6	
MNK				*i* PPP	PPP	16 07 48.2	
MNK				*i*		16 08 43.1	
MNK				*i* SS	SS	16 23 17.1	+1.2
MNK				*i* SSS	SSS	16 28 36.0	
MNK				pmax	pmax		
	comp=Z,12nm,0.9s						
MNK				pmax	pmax		
	comp=N,12nm,1.1s						
MNK				pmax	pmax		
	comp=E,14nm,0.9s						
NACGM	**Naroch**	**142.52 339**		*e*PKP	**PKPdf**	**16 01 33.4**	**-0.7**
SOC	**Sochi**	**143.24 315**		*i* PKIKP	**PKiKP**	**16 01 39.2**	**+0.2**
SOC				*e*		16 04 47.2	
SOC				*e*SS	SS	16 23 25.8	-0.4
SOC				MLR	MLR		
	comp=Z,564nm,22.0s						
ANN	**Anapa**	**144.13 318**		*e*PKHKP	PKPpre	16 01 33.4	
ANN				*i*		16 01 40.2	
ANN				pmax	pmax		
	comp=Z,178nm,1.2s						
ANN				pmax	pmax		
	comp=Z,82nm,0.9s						
AKASG	**Malin Array Be**	**144.83 332**		PKP	**PKPab**	**16 01 37.3**	**+0.1**
	comp=Z,10nm,0.7s,baz=43,slow=4.4,SNR=24						
AKBB	**Malin Array Si**	**144.83 332**		*i* PKIKP	**PKPdf**	**16 01 38.0**	**-0.3**
KIEV	**Kiev**	**144.85 332**		PKPdf	**PKPab**	**16 01 35.3**	**-2.0**
KIEV	**Kiev**	**144.85 332**	⇑	P	**PKPab**	**16 01 35.6**	**-1.8**
KIEV	**Kiev**	**144.85 332**	⇑	PKHKP	PKPpre	16 01 35.6	
KIEV	**Kiev**	**144.85 332**		PKP	**PKPab**	**16 01 35.5**	**-1.8**
LODK	**Lodwar**	**144.90 244**		IAMs_20	IAMs_20	17 08 37.8	
	comp=Z,384nm,19.0s						
MI28	**Mi28,Pidlybu**	**145.32 334**		PKP	**PKPbc**	**16 01 37.1**	**-1.8**
EKA	**Eskdalemuir Ar**	**145.68 8**		PKPbc	**PKPdf**	**16 01 37.9**	**-1.7**
	comp=Z,0.8nm,0.7s,baz=300,slow=3.1,SNR=6.9						
SIM	**Simferopol'**	**146.06 321**		*e*PKP2	**PKPab**	**16 01 42.5**	**+0.5**
SIM				pmax	pmax		
	comp=Z,31nm,0.9s						
SIM				pmax	pmax		
	comp=Z,530nm,7.1s						
GKP	**Gorka Klasztor**	**146.69 346**		*e*PKP	**PKiKP**	**16 01 47.0**	**+1.3**
SORM	**Soroca**	**147.09 330**	⇓	P	**PKPdf**	**16 01 42.7**	**+0.5**
SORM	**Soroca**	**147.09 330**	⇓	PKIKP	**PKPdf**	**16 01 42.7**	**+0.5**
GAZ	**Gaziantep**	**147.47 306**		IAMs_20	IAMs_20	17 15 41.9	
	comp=Z,548nm,20.0s						
KWP	**Kalwaria Pacla**	**148.28 337**		*e*PKP	**PKPbc**	**16 01 47.3**	**-0.3**
OJC	**Ojcow**	**148.76 341**		*e*PKP	**PKPbc**	**16 01 49.3**	**+0.5**
BUR08	**Bucovina Ar. S**	**148.88 332**			**PKiKP**	**16 01 50.4**	**-0.3**
BURAR	**Bucovina Array**	**148.89 332**	⇓	P	**PKPbc**	**16 01 49.1**	**-0.2**
BURAR	**Bucovina Array**	**148.89 332**	⇓	PKP2	**PKPbc**	**16 01 49.1**	**-0.2**
KOLS	**Kolonicke sedl**	**149.02 337**		*e*PKP2	**PKPbc**	**16 01 49.4**	**-0.1**
KOLS	**Kolonicke sedl**	**149.02 337**		*e*PKP	**PKPbc**	**16 01 49.4**	**-0.1**
BR131	**Keskin Array S**	**149.03 313**			**PKPbc**	**16 01 48.7**	**-1.3**
BR131	**Keskin Array S**	**149.03 313**		PKIKP	**PKPbc**	**16 01 48.7**	**-1.3**
BRTR	**Keskin Array B**	**149.03 313**			**PKPbc**	**16 01 48.4**	**-1.6**
BRTR	**Keskin Array B**	**149.03 313**		PKPbc	**PKPbc**	**16 01 49.0**	**-1.0**
	comp=Z,7.1nm,0.8s,baz=169,slow=4.6,SNR=31						
BRTR	**Keskin Array B**	**149.03 313**		PKIKP	**PKPbc**	**16 01 49.0**	**-1.0**
KIRS	**Kirsehir-Merke**	**149.11 311**	⇑	P	**PKPbc**	**16 01 48.8**	**-1.4**
JURR	**Jurilovca**	**149.13 325**	⇓	P	**PKPab**	**16 01 52.9**	**-1.2**
KSP	**Ksiaz**	**149.16 345**		*e*PKP	**PKPbc**	**16 01 48.5**	**-1.3**
CFR	**Carcaliu**	**149.25 326**	⇑	P	**PKPbc**	**16 01 49.5**	**-0.6**
CFR	**Carcaliu**	**149.25 326**	⇑	PKIKP	**PKPbc**	**16 01 49.5**	**-0.6**
NIE	**Niedzica**	**149.30 339**		*e*PKP	**PKPbc**	**16 01 50.0**	**-0.2**
TPGR	**Topolog**	**149.32 325**	⇑	P	**PKPbc**	**16 01 49.9**	**-0.5**
CLL	**Collm**	**149.40 349**			**PKPbc**	**16 01 51.0**	**+0.7**
CLL				IAMs_20	IAMs_20	17 13 16.8	
	comp=Z,534nm,19.0s						
CLL	**Collm**	**149.40 349**		*i* PKIKP	**PKPbc**	**16 01 48.8**	**-1.5**
CLL				*i*		16 01 52.9	
CLL				pmax	pmax		
	comp=Z,11nm,1.2s						
CLL				pmax	pmax		
	comp=Z,24nm,0.9s						
CLL	**Collm**	**149.40 349**		*i* PKPdf	**PKPbc**	**16 01 48.8**	**-1.5**
	comp=Z,11nm,1.2s						
CLL				*i* PKPbc	**pPKPbc**	**16 01 52.9**	**-1.3**
	comp=Z,24nm,0.9s						
CLL				*e*PKPab	**PKPab**	**16 01 56.0**	**+1.0**
CLL				*e*PPPP		16 10 48.0	
CLL				*e*PSKS		16 15 42.0	
CLL				*e*SKKSdf	SKKSdf	16 17 54.0	+3.7
CLL				*e*SS	SS	16 24 54.0	+20
CLL				*e*SSS	SSS	16 30 00.0	
CLL				*e*SSSS		16 34 48.0	
CLL				AMS	AMS	17 13 00.0	
	comp=Z,500nm,20.3s						
OSTC	**Ostas**	**149.44 345**	⇑	*e*PKP	**PKiKP**	**16 01 51.6**	**0.0**
OSTC				AMS	AMS	17 06 50.0	
	comp=Z,700nm,17.0s						
OSTC	**Ostas**	**149.44 345**		*e*PKP2	**PKiKP**	**16 01 51.6**	**0.0**
OSTC				MLR	MLR		
	comp=Z,700nm,17.0s						
VRI	**Vrincioaia**	**149.49 328**	⇑	P	**PKPbc**	**16 01 49.7**	**-1.0**
VRI	**Vrincioaia**	**149.49 328**	⇑	PKIKP	**PKPbc**	**16 01 49.7**	**-1.0**
PLOR	**Plostina**	**149.53 328**	⇑	P	**PKiKP**	**16 01 53.4**	**+1.4**
PLOR	**Plostina**	**149.53 328**	⇑	PKP2	**PKiKP**	**16 01 53.4**	**+1.4**
UPC	**Upice**	**149.54 345**	⇑	*e*PKP	**PKiKP**	**16 01 53.4**	**+1.6**
UPC				AMS	AMS	17 07 20.0	
	comp=Z,800nm,22.0s						
UPC	**Upice**	**149.54 345**		*e*PKP2	**PKiKP**	**16 01 53.4**	**+1.6**
UPC				MLR	MLR		
	comp=Z,800nm,22.0s						
OKC	**Ostrava-Krasne**	**149.59 342**		AMS	AMS	17 06 50.0	
	comp=Z,600nm,21.6s						
DPC	**Dobruska-Polom**	**149.61 345**	⇑	*e*PKP	**PKiKP**	**16 01 52.1**	**+0.1**
DPC				AMS	AMS	17 07 10.0	
	comp=Z,500nm,18.2s						
DPC	**Dobruska-Polom**	**149.61 345**		*e*PKP2	**PKiKP**	**16 01 52.1**	**+0.1**
DPC				MLR	MLR		
	comp=Z,500nm,18.2s						
BRG	**Berggiesshubel**	**149.64 348**		*e*PKP	**PKiKP**	**16 01 52.8**	**+0.7**
BRG				Amp		16 01 54.9	
	comp=Z,18nm,1.1s						
BRG	**Berggiesshubel**	**149.64 348**		P	**PKPab**	**16 01 57.4**	**+1.4**
BRG				Amp		16 01 59.2	
	comp=Z,44nm,1.8s						
BRG	**Berggiesshubel**	**149.64 348**		*e*PKP2	**PKiKP**	**16 01 52.7**	**+0.7**
BRG				pmax	pmax		
	comp=Z,19nm,1.1s						
BRG				pmax	pmax		
	comp=Z,44nm,1.8s						
BRG				pmax	pmax		
	comp=Z,8.0nm,1.2s						
HARR	**Harsova**	**149.69 325**	⇓	P	**PKPab**	**16 01 54.6**	**-1.7**
HARR	**Harsova**	**149.69 325**	⇓	PKP2	**PKPab**	**16 01 54.7**	**-1.7**
TURR	**Turia**	**149.69 329**	⇑	P	**PKiKP**	**16 01 54.4**	**+2.1**
KRLC	**Kraliky**	**149.75 344**	⇑	*e*PKP	**PKiKP**	**16 01 53.2**	**+0.9**
KRLC	**Kraliky**	**149.75 344**		*e*PKP2	**PKiKP**	**16 01 53.2**	**+0.9**
COVR	**Voineasa-Covas**	**149.75 329**	⇑	P	**PKiKP**	**16 01 54.5**	**+2.0**
LANS	**Liptovska Anna**	**149.80 340**		*e*PKP2	**PKiKP**	**16 01 53.4**	**+1.0**
LANS	**Liptovska Anna**	**149.80 340**		*e*PKP	**PKiKP**	**16 01 53.4**	**+1.0**
MORC	**Moravsky Berou**	**149.82 343**		*e*PKP	**PKPdf**	**16 01 46.2**	**-0.5**
PVCC	**Panska Ves**	**149.84 347**		AMS	AMS	17 08 30.0	
	comp=Z,700nm,20.8s						
HSKC	**Hora Svate Kat**	**150.00 348**	⇑	*e*PKP	**PKiKP**	**16 01 53.8**	**+1.0**
HSKC				AMS	AMS	17 07 50.0	
	comp=Z,600nm,20.1s						
MAUC	**Maruska**	**150.11 342**	⇑	*e*PKP	**PKiKP**	**16 01 53.5**	**+0.4**
MMAI	**Mount Meron Ar**	**150.12 299**		PKPbc	**PKPbc**	**16 01 51.0**	**-1.9**
	comp=Z,20nm,0.8s,baz=64,slow=3.8,SNR=20						
MLR	**Muntele Rosu**	**150.14 329**	⇑	P	**PKPbc**	**16 01 52.0**	**-0.5**
MLR	**Muntele Rosu**	**150.14 329**	⇑	PKHKP	PKPpre	16 01 52.0	
PRU	**Pruhonice**	**150.36 347**	⇑	*e*PKP	**PKiKP**	**16 01 54.0**	**+0.5**
PRU				AMS	AMS	17 08 20.0	
	comp=Z,800nm,21.0s						
PRU	**Pruhonice**	**150.36 347**		*e*PKIKP	**PKiKP**	**16 01 54.0**	**+0.5**
PRU				MLR	MLR		
	comp=Z,800nm,21.0s						
GOPC	**GO Pecny, Ondr**	**150.38 346**		AMS	AMS	17 08 00.0	
	comp=Z,700nm,22.3s						
GHAJ	**Ghor Haditha**	**150.38 296**		IAMs_20	IAMs_20	17 10 56.2	
	comp=Z,538nm,21.0s						
VRAC	**Vranov**	**150.50 344**		*e*PKP	**PKPdf**	**16 01 47.3**	**-0.5**
MARR	**Marisel-Cluj**	**150.52 333**	⇓	P	**PKiKP**	**16 01 56.3**	**+2.2**
VYHS	**Vyhne**	**150.58 340**		*e*PKIKP	**PKPbc**	**16 01 53.6**	**+0.3**
VYHS	**Vyhne**	**150.58 340**		*e*PKP	**PKPbc**	**16 01 53.6**	**+0.3**
VYHS				*e*		16 02 02.9	
DRGR		**150.60 334**	⇑	P	**PKPdf**	**16 01 50.5**	**+2.4**
DRGR		**150.60 334**	⇑	PKIKP	**PKPdf**	**16 01 50.5**	**+2.4**
JAVC	**Velka Javorina**	**150.61 342**		*e*PKP	**PKPdf**	**16 01 47.6**	**-0.4**
BEBN	**Eben Emael**	**150.66 358**		*d*PKP	**PKPbc**	**16 01 53.8**	**+0.5**
UCC	**Uccle**	**150.68 360**		*d*PKP	**PKiKP**	**16 01 55.9**	**+1.8**
PSZ	**Piszkesteto**	**150.73 338**		IAMs_20	IAMs_20	17 10 34.7	
	comp=Z,611nm,21.0s						
KRUC	**Moravsky**	**150.78 344**		*e*PKP	**PKPdf**	**16 01 47.4**	**-0.8**
MEM	**Membach**	**150.84 358**		*d*PKP	**PKiKP**	**16 01 56.5**	**+2.0**
ARR	**Arges**	**150.85 330**	⇑	P	**PKPbc**	**16 01 54.3**	**+0.2**
BSTI	**Sart Tilman**	**150.88 358**		*d*PKP	**PKiKP**	**16 01 56.8**	**+2.3**
ZVC	**Zvikov**	**150.95 347**		*e*PKPDF	**PKPdf**	**16 01 51.1**	**+2.7**
ZVC			⇑	*e*PKP	**pPKPbc**	**16 01 56.9**	**-1.1**
BCLA	**Clavier**	**151.05 359**		*d*PKP	**PKPbc**	**16 01 52.8**	**-1.5**
MODS	**Modra-Piesok**	**151.16 342**		*e*PKIKP	**PKiKP**	**16 01 58.2**	**+3.0**
MODS				*e*		16 02 04.4	
MODS	**Modra-Piesok**	**151.16 342**		*e*PKP	**PKiKP**	**16 01 58.2**	**+3.0**
MODS				*e*		16 02 04.4	
BMRD	**Maredsous**	**151.18 359**		*d*PKP	**PKiKP**	**16 01 57.1**	**+1.9**
GRA1	**Grafenberg Arr**	**151.26 351**		IAMs_20	IAMs_20	17 09 23.5	
	comp=Z,521nm,20.0s						
GRFO	**Grafenberg**	**151.26 351**		IAMs_20	IAMs_20	17 14 00.5	
	comp=Z,562nm,21.0s						
RCHB	**Rochefort**	**151.31 359**		*d*PKP	**PKiKP**	**16 01 57.3**	**+1.9**
KHC	**Kasperske Hory**	**151.38 347**		*e*PKPDF	**PKPdf**	**16 01 50.5**	**+1.4**
KHC			⇑	*e*PKP	**PKiKP**	**16 01 56.8**	**+1.1**
KHC				AMS	AMS	17 09 30.0	
	comp=Z,900nm,19.7s						
KHC	**Kasperske Hory**	**151.38 347**		*e*PKIKP	**PKPdf**	**16 01 50.5**	**+1.4**
KHC				*e*		16 01 56.8	
KHC				MLR	MLR		
	comp=Z,900nm,19.7s						
DOU	**Dourbes**	**151.38 360**		*d*PKP	**PKPbc**	**16 01 53.5**	**-1.6**
DOU				*d*PKPab	**pPKPbc**	**16 01 57.8**	**-1.1**
SIRR	**Siria**	**151.45 334**	⇑	P	**PKPbc**	**16 01 55.2**	**-0.2**
CKRC	**Cesky Krumlov**	**151.51 346**		*e*PKPDF	**PKPbc**	**16 01 52.9**	**-2.6**
CKRC			⇑	*e*PKP	**PKiKP**	**16 01 56.7**	**+0.8**
CKRC				AMS	AMS	17 06 20.0	
	comp=Z,700nm,22.3s						
CKRC	**Cesky Krumlov**	**151.51 346**		*e*PKIKP	**PKPbc**	**16 01 52.9**	**-2.6**
CKRC				*e*		16 01 56.7	
CKRC				MLR	MLR		
	comp=Z,700nm,22.3s						
GERES	**GERESS Array B**	**151.62 347**		PKPbc	**PKPbc**	**16 01 55.0**	**-0.8**
	comp=Z,5.1nm,0.9s,baz=29,slow=3.0,SNR=8.2						
GZR	**Gura Zlata**	**151.68 332**	⇑	P	**PKiKP**	**16 01 58.3**	**+1.8**
GZR	**Gura Zlata**	**151.68 332**	⇑	PKIKP	**PKiKP**	**16 01 58.3**	**+1.8**
WLF	**Walferdange**	**151.78 357**		*d*PKP	**PKPbc**	**16 01 54.7**	**-1.3**
CONA	**Conrad Observa**	**151.96 343**		*i* pPKP	**PKiKP**	**16 01 58.6**	**+1.6**
	comp=Z,5.2nm,0.7s						
CONA				*i* pPKP	**pPKPab**	**16 02 07.4**	**-2.2**
	comp=Z,10nm,0.9s						
BZS	**Buzias**	**152.00 334**	⇓	P	**PKiKP**	**16 01 59.6**	**+2.6**
BZS	**Buzias**	**152.00 334**	⇓	PKIKP	**PKiKP**	**16 01 59.6**	**+2.6**
RONA	**Rosalia, Austr**	**152.05 343**		*i* pPKiKP	**PKiKP**	**16 01 59.9**	**+2.8**
	comp=Z,8.2nm,0.8s						
RONA				*i* pPKP	**PKPab**	**16 02 07.6**	**+1.4**
	comp=Z,14nm,0.9s						
ISP	**Isparta**	**152.07 312**		IAMs_20	IAMs_20	17 21 01.8	
	comp=Z,630nm,20.0s						
ISP	**Isparta**	**152.07 312**	*c*	*i* PKIKP	**PKPbc**	**16 01 57.2**	**-0.1**
ISP				pmax	pmax		
	comp=Z,15nm,0.7s						
STU	**Stuttgart**	**152.43 353**		IAMs_20	IAMs_20	17 10 47.3	
	comp=Z,498nm,21.0s						
MOA	**Molln**	**152.43 345**		*i* pPKP	**PKiKP**	**16 01 59.6**	**+1.7**
	comp=Z,12nm,1.9s						
MOA				*i* pPKP	**PKPab**	**16 02 09.2**	**+1.5**
	comp=Z,6.6nm,1.2s						
MORH	**Mrgy, Hungar**	**152.63 338**	⇑	P	**PKiKP**	**16 02 00.6**	**+2.4**
ARSA	**Arzberg**	**152.67 343**		*i* PKiKP	**PKPbc**	**16 01 57.6**	**-0.5**
	comp=Z,1.4nm,0.5s						
BIOA	**Bad Ischl, Aus**	**152.73 346**		*i* pPKP	**PKiKP**	**16 01 59.7**	**+1.2**
	comp=Z,3.3nm,0.7s						
BIOA				*i* pPKP	**PKPab**	**16 02 10.2**	**+1.2**
	comp=Z,8.8nm,0.9s						
ECH	**Echery**	**153.17 356**		IAMs_20	IAMs_20	17 05 24.4	
	comp=Z,620nm,22.0s						
LESA	**Schwarzleotal**	**153.19 347**		*i* pPKP	**PKiKP**	**16 02 01.2**	**+1.6**
	comp=Z,3.3nm,1.1s						
LESA				*i* pPKP	**PKPab**	**16 02 11.9**	**+0.9**
	comp=Z,10nm,1.5s						
ALN	**Alexandroupoli**	**153.23 321**		IAMs_20	IAMs_20	17 22 05.5	
	comp=Z,524nm,19.0s						
SOKA	**Soboth**	**153.33 343**		*i* pPKP	**PKiKP**	**16 02 01.9**	**+2.1**
	comp=Z,4.1nm,0.9s						
SOKA				*i* PKP	**PKPab**	**16 02 09.0**	**-2.6**
	comp=Z,17nm,1.9s						
RDO	**Rodhopi**	**153.36 322**		IAMs_20	IAMs_20	17 22 45.7	
	comp=Z,548nm,19.0s						
KBA	**Koelnbreinsper**	**153.37 346**		*i* pPKiKP	**PKiKP**	**16 02 02.8**	**+2.7**
	comp=Z,4.9nm,1.0s						
WATA	**Walderalm**	**153.48 349**		*i* pPKP	**PKiKP**	**16 02 01.7**	**+1.5**
	comp=Z,7.6nm,1.2s						
WATA				*i* PKP	**PKPab**	**16 02 08.7**	**-3.6**
	comp=Z,4.2nm,0.7s						
WTTA	**Wattenberg**	**153.54 349**		*i* pPKP	**PKiKP**	**16 02 02.3**	**+1.9**
	comp=Z,6.4nm,0.9s						
MOTA	**Moosalm**	**153.56 350**		*i* pPKiKP	**PKiKP**	**16 02 02.8**	**+2.4**
	comp=Z,9.1nm,1.3s						
SQTA	**Sankt Quirin**	**153.66 349**		*i* pPKiKP	**PKiKP**	**16 02 03.0**	**+2.4**
	comp=Z,6.4nm,1.0s						
DAVA	**Damuels**	**153.80 351**		*i* pPKiKP	**PKiKP**	**16 02 03.3**	**+2.4**
	comp=Z,9.9nm,1.1s						
DAVA				*i* PKP	**PKPab**	**16 02 11.0**	**-2.7**
	comp=Z,13nm,1.6s						
ABTA	**Abfaltersbach**	**153.87 347**		*i* pPKP	**PKiKP**	**16 02 02.9**	**+2.0**
	comp=Z,8.0nm,0.9s						
ABTA				*i* PKP	**PKPab**	**16 02 11.4**	**-2.5**
	comp=Z,5.4nm,1.3s						
FETA	**Feichten**	**153.93 350**		*i* pPKiKP	**PKiKP**	**16 02 03.8**	**+2.6**
	comp=Z,4.1nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**154.40 350**		IAMs_20	IAMs_20	17 15 04.6	
	comp=Z,413nm,20.0s						
PDG	**Podgorica**	**155.57 332**		IAMs_20	IAMs_20	17 11 09.3	
	comp=Z,477nm,21.0s						
ITM	**Ithomi**	**158.07 320**		IAMs_20	IAMs_20	17 29 51.8	
	comp=Z,455nm,22.0s						

*IDC **24** 15:47:57.0±1.4, 30°.72N×70°.26E, h0km, mb3.6/5, mbtmp3.6/7, ML3.4/2, MS3.4/1, Error ellipse: s-maj=30.8km s-min=28.5km az=53.0*

ISC 24 15:48:02.7±1.3, 31°.0N±0°.1×70°.4E±0°.2, h35km, n8, σ2°.9/8, mb3.7/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**12.10**	**15**	Pn	**Pn**	**15 50 52.8**	**+0.1**
	0.3nm,0.3s,baz=200,slow=4.8,SNR=6.2						
AAK				Sn	**Sn**	**15 53 03.9**	**-2.5**
	0.1nm,0.3s,baz=354,slow=22,SNR=1.7						
	1.2nm,0.5s						
MKAR	**Makanchi Array**	**18.28**	**27**	P	**Pn**	**15 52 13.6**	**+0.1**
	0.1nm,0.3s,baz=208,slow=11,SNR=2.3						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**22.04**	**0**	P	**P**	**15 52 57.4**	**+3.4**
	0.4nm,0.4s,baz=167,slow=9.3,SNR=2.3						
	0.4nm,0.4s						
GNI	**Garni**	**22.72**	**301**	LR	LR	16 05 07.0	
	comp=Z,90nm,18.6s,baz=232,slow=45						
KBZ	**Khabaz**	**25.16**	**308**	P	**P**	**15 53 25.3**	**+0.7**
	1.5nm,0.7s,baz=138,slow=12,SNR=4.3						
	1.5nm,0.7s						
AKASG	**Malin Array Be**	**36.25**	**315**	P	**P**	**15 55 02.7**	**+0.3**
	0.6nm,0.5s,baz=99,slow=7.2,SNR=6.0						
	0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.18**	**271**	P	**P**	**15 58 38.7**	**-2.0**
	0.6nm,0.6s,baz=46,slow=6.6,SNR=5.2						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**81.56**	**124**	P	**P**	**16 00 17.1**	**0.0**
	0.3nm,0.8s,baz=305,slow=5.2,SNR=6.3						
	0.3nm,0.8s						

*IDC **24** 15:59:27.1±4.2, 22°.76N×107°.85W, h0km, mb3.7/1, mbtmp3.6/7, ML3.5/5, MS3.9/3, Error ellipse: s-maj=61.8km s-min=26.0km az=141.0*
*MEX **24** 15:59:31.2±0.6, 22°.90N×107°.92W, h16km±47km, MD4.3*

ISC 24 15:59:29.6±1.4, 22°.94N±0°.09×107°.75W±0°.05, h10km, n19, σ1°.91/21, Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAIG	**Mazatlaan**	**1.25**	**78**	*e*P	**Pn**	**15 59 52.6**	**-0.5**
MAIG				*e*S	**Sb**	**16 00 08.4**	**-1.1**
SSIG	**Sanalona**	**1.96**	**17**	*e*P	**Pn**	**16 00 01.6**	**-1.3**
SSIG				*e*S	**Sn**	**16 00 22.8**	**-4.7**
LPIG	**La Paz**	**2.62**	**297**	Pn	**Pn**	**16 00 10.5**	**-1.5**
	59nm,0.6s,baz=180,slow=6.1,SNR=5.3						
LPIG				Sn	Sn	16 00 32.2	-12
	15nm,0.3s,baz=156,slow=20,SNR=18						
LPIG				LR	LR	16 01 07.4	
	comp=Z,441nm,19.0s,baz=120,slow=38						
TSIG	**Topolobambo**	**2.90**	**336**	*e*P	**Pn**	**16 00 18.1**	**+2.2**
TSIG				*e*S	**Sn**	**16 00 51.7**	**+0.9**
PDIG	**Papasquiaro**	**3.00**	**45**	*e*P	**Pn**	**16 00 18.8**	**+1.3**
PDIG				*e*S	**Sn**	**16 00 51.8**	**-1.9**
CSIG	**Choix**	**3.92**	**352**	*e*P	**Pn**	**16 00 28.0**	**-1.8**
CSIG				*e*S	**Sn**	**16 01 14.7**	**-1.2**
HPIG		**4.41**	**25**	*e*P	**Pn**	**16 00 38.6**	**+1.8**
HPIG				*e*S	**Sn**	**16 01 28.0**	**-0.3**
ZAIG	**Zacatecas**	**4.79**	**91**	*e*P	**Pn**	**16 00 43.5**	**+1.4**
ZAIG				*e*S	**Sn**	**16 01 37.0**	**-0.8**
TXAR	**Lajitas Array**	**7.35**	**29**	Pn	**Pn**	**16 01 19.3**	**+2.2**
	0.3nm,0.3s,baz=209,slow=13,SNR=19						
TXAR				Lg	Lg	16 03 24.0	
	1.2nm,0.3s,baz=218,slow=24,SNR=11						
	1.2nm,0.6s						
ANMO	**Albuquerque**	**12.02**	**5**	Pn	**Pn**	**16 02 24.6**	**+3.3**
	0.1nm,0.3s,baz=345,slow=13,SNR=4.0		

	comp=Z,0.3nm,0.2s						
CONA				*e*Sg	**Sg**	**16 06 33.3**	**-0.4**
	comp=Z,4.0nm,0.3s						
RONA	**Rosalia, Austr**	**3.65**	**179**	*e*Sg	**Sg**	**16 06 39.3**	**-1.5**
	comp=Z,3.0nm,0.5s						
MOA	**Molln**	**3.71**	**200**	*i* Pn	**Pn**	**16 05 42.5**	**+0.4**
	comp=Z,0.6nm,0.3s						
MOA				*e*Pg	**Pg**	**16 05 53.7**	**-1.0**
	comp=Z,1.5nm,0.3s						
MOA				*e*Sg	**Sg**	**16 06 42.9**	**+0.1**
	comp=Z,5.8nm,0.4s						
ARSA	**Arzberg**	**4.12**	**186**	*e*Sg	**Sg**	**16 06 55.0**	**-0.9**
	comp=Z,2.9nm,0.5s						

GUC 24 16:12:12.8±0.8, 32°.78S×71°.83W, h38km±2km, ML3.7, 3C-15D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.29**	**148**	*i* P	Pn	16 12 19.9	-1.1
VA01				*i* S	Sn	16 12 24.4	-3.5
VA06	**Catapilco**	**0.50**	**65**	⇓*i* P	Pn	16 12 23.1	-0.3
VA06				*i* S	Sn	16 12 29.2	-1.6
VA06				IAML		16 12 33.2	
	comp=E,15μm,0.4s						
MT02	**Curacav**	**0.76**	**130**	⇓*i* P	Pn	16 12 26.6	-0.3
VA05	**Santo Domingo**	**0.90**	**168**	*i* P	Pn	16 12 29.1	+0.2
VA05				*i* S	Sn	16 12 40.2	-0.4
VA05				IAML		16 12 43.0	
	comp=E,4μm,0.3s						
CO04	**Los Peladeros**	**1.03**	**45**	⇓*i* P	Pn	16 12 31.6	+0.6
CO04				*i* S	Sn	16 12 45.0	+0.8
CO04				IAML		16 12 48.1	
	comp=N,4μm,0.3s						
PEL	**Peldehue**	**1.03**	**111**	*i* P	Pn	16 12 31.1	+0.3
PEL				*i* S	Sn	16 12 44.1	+0.2
PEL				IAML		16 12 47.8	
	comp=E,3μm,0.4s						
VA03	**San Esteban**	**1.08**	**90**	⇓*i* P	Pn	16 12 31.9	+0.4
VA03				*i* S	Sn	16 12 45.5	+0.3
VA03				IAML		16 12 48.3	
	comp=N,3μm,0.4s						
MT05	**Renca**	**1.10**	**124**	⇓*i* P	Pn	16 12 32.5	+0.7
MT05				*i* S	Sn	16 12 47.0	+1.2
MT05				IAML		16 12 51.9	
	comp=E,3μm,0.3s						
MT01	**Popeta**	**1.19**	**156**	⇓*i* P	Pn	16 12 33.6	+0.7
MT01				*i* S	Sn	16 12 48.4	+0.6
MT01				IAML		16 12 50.2	
	comp=E,2μm,0.3s						
MT10	**Hacienda Santa**	**1.19**	**115**	*i* P	Pn	16 12 33.9	+0.8
MT10				*i* S	Sn	16 12 49.6	+1.5
MT10				IAML		16 12 52.5	
	comp=E,6μm,0.7s						
MT09	**Talagante**	**1.22**	**145**	⇓*i* P	Pn	16 12 34.4	+0.9
MT09				*i* S	Sn	16 12 49.7	+0.9
MT09				IAML		16 12 53.8	
	comp=N,3μm,0.2s						
MT14	**Cerro Calı¡n**	**1.25**	**120**	⇓*i* P	Pn	16 12 34.9	+1.1
MT14				*i* S	Sn	16 12 52.5	+3.0
MT14				IAML		16 12 53.7	
	comp=N,3μm,0.4s						
MT16	**CCHEN**	**1.27**	**121**	⇓*i* P	Pn	16 12 35.3	+1.2
MT16				*i* S	Sn	16 12 52.0	+2.0
MT16				IAML		16 12 54.5	
	comp=E,2μm,0.5s						
MT03	**Universidad Ad**	**1.32**	**123**	*i* P	Pn	16 12 36.0	+1.3
MT03				*i* S	Sn	16 12 53.2	+2.0
MT03				IAML		16 13 00.1	
	comp=N,3μm,0.3s						
MT15	**Las Vizcachas**	**1.38**	**127**	*i* P	Pn	16 12 37.0	+1.4
MT15				*e*S	Sn	16 12 55.0	+2.3
MT15				IAML		16 12 59.6	
	comp=E,4μm,0.5s						
FCH	**Farellones**	**1.40**	**113**	⇓*i* P	Pn	16 12 37.3	+1.2
FCH				*i* S	Sn	16 12 54.9	+1.3
FCH				IAML		16 12 59.2	
	comp=E,1μm,0.2s						
MT12	**Pirque**	**1.44**	**132**	⇓*i* P	Pn	16 12 38.0	+1.7
MT12				*i* S	Sn	16 12 56.4	+2.4
MT04	**Ro Olivares**	**1.55**	**114**	⇓*i* P	Pn	16 12 39.6	+1.5
MT04				*i* S	Sn	16 12 59.1	+2.0
MT04				IAML		16 13 05.0	
	comp=N,1μm,0.5s						
BO04	**La Punta**	**1.58**	**140**	⇓*i* P	Pn	16 12 40.1	+1.7
BO04				*i* S	Sn	16 13 00.5	+2.9
BO04				IAML		16 13 06.1	
	comp=E,1μm,0.4s						
MT13	**San Alfonso**	**1.61**	**127**	⇓*i* P	Pn	16 12 40.9	+2.1
MT13				*i* S	Sn	16 13 01.8	+3.3
MT13				IAML		16 13 04.5	
	comp=E,3μm,0.3s						
MT08	**Bocatoma Ro**	**1.66**	**114**	⇓*i* P	Pn	16 12 41.6	+2.0
MT08				*i* S	Sn	16 13 03.1	+3.3
MT08				IAML		16 13 06.7	
	comp=N,828nm,0.5s						
BO03	**Pichilemu**	**1.72**	**184**	⇑*i* P	Pn	16 12 40.6	+0.4
BO03				*i* S	Sn	16 13 00.3	-0.6
BO01	**Tunca**	**1.73**	**159**	⇑*i* P	Pn	16 12 41.4	+1.1
BO01				*i* S	Sn	16 13 02.2	+1.1
LMEL	**Las Melosas**	**1.73**	**129**	*i* P	Pn	16 12 42.8	+2.3
LMEL				*i* S	Sn	16 13 04.9	+3.5
LMEL				IAML		16 13 10.4	
	comp=N,2μm,0.3s						
CO06	**Fray Jorge**	**2.10**	**5**	*i* P	Pn	16 12 46.3	+0.8
CO06				*i* S	Sn	16 13 10.9	+0.6
CO03	**El Pedregal**	**2.16**	**27**	⇑*i* P	Pn	16 12 48.4	+2.1
CO03				*i* S	Sn	16 13 14.7	+2.8
CO03				IAML		16 13 20.9	
	comp=E,584nm,0.6s						
BO02	**Sierra Bellavi**	**2.19**	**157**	*i* P	Pn	16 12 48.5	+1.7
BO02				*i* S	Sn	16 13 15.2	+2.5
BO02				IAML		16 13 22.4	
	comp=E,953nm,0.7s						
GO05	**Hualane**	**2.23**	**182**	*e*P	Pn	16 12 47.6	+0.4
GO05				IAML		16 13 29.0	
	comp=N,489nm,0.9s						
GO04	**Tololo Observa**	**2.74**	**19**	*e*P	Pn	16 12 56.2	+1.7
GO04				*e*S	Sn	16 13 28.9	+2.4
CO05	**La Serena**	**2.89**	**10**	*e*P	Pn	16 12 58.0	+1.7
CO05				*e*S	Sn	16 13 32.6	+2.8
CO05				IAML		16 13 45.2	
	comp=E,515nm,0.6s						
CO01	**Juntas del Tor**	**3.16**	**28**	*e*P	Pn	16 13 02.6	+2.4
CO01				*e*S	Sn	16 13 39.9	+3.1
CO01				IAML		16 13 51.4	
	comp=N,125nm,0.4s						

IDC 24 16:13:16.3±4.6, 17°.87S×178°.37W, h562km±23km, mb3.0/3, mbtmp3.9/4, Error ellipse: s-maj=151.1km s-min=27.6km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.41**	**272**	P	P	16 14 35.1	+0.1
	17nm,0.7s,baz=134,slow=6.1,SNR=22						
WRA	**Warramunga Arr**	**44.67**	**259**	P	P	16 20 39.6	-0.5
	0.4nm,0.3s,baz=97,slow=6.8,SNR=26						
WRA				PcP	PcP	16 22 10.4	-0.1
	0.2nm,0.7s,baz=100,slow=3.3,SNR=2.1						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**44.84**	**254**	P	P	16 20 41.2	0.0
	4.6nm,0.6s,baz=89,slow=8.4,SNR=124						
ASAR				PcP	PcP	16 22 11.1	+0.1
	0.4nm,1.0s,baz=109,slow=3.5,SNR=2.0						
	4.6nm,0.6s						
ILAR	**Eielson Array**	**85.84**	**13**	P	P	16 24 56.2	-0.2
	0.2nm,0.4s,baz=218,slow=3.6,SNR=13						
	0.2nm,0.4s						

IDC 24 16:22:20.0±0.8, 36°.88N×142°.25E, h0km, mb3.7/10, mbtmp3.7/12, ML3.6/2, Error ellipse: s-maj=21.5km s-min=18.9km az=126.0
JMA 24 16:22:24.4±0.3, 37°.0N±0°.7×14°.2E±°, h43km±4km, MV3.8/40, E OFF FUKUSHIMA PREF
ISC 24 16:22:23.4±0.8, 36°.98N±0°.06×142°.05E±0°.06, h19km, n34, σ1§04/32, mb3.7/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.01**	**277**	P	**Pb**	**16 22 41.5**	**-0.8**
JFK	**Kawauchi**	**1.01**	**292**	P	**Pb**	**16 22 41.6**	**-0.7**
JFK				S	**Sb**	**16 22 54.4**	**-0.9**
JMST	**Minamisoumatoc**	**1.19**	**309**	*i* P	**Pn**	**16 22 44.5**	**-0.5**
JMST				*e*S	**Sb**	**16 22 59.3**	**-0.8**
JFFD	**Fukushimafurud**	**1.20**	**276**	P	**Pn**	**16 22 44.0**	**-1.1**
JMM	**Marumori**	**1.33**	**312**	*i* P	**Pn**	**16 22 46.7**	**-0.2**
JOTO	**OTAMA OYAMA**	**1.48**	**293**	*i* P	**Pn**	**16 22 49.6**	**+0.5**
JOTO				S	**Sn**	**16 23 08.1**	**+0.1**
JIO	**Ouri**	**1.57**	**339**	*i* P	**Pn**	**16 22 50.1**	**-0.1**
JOU	**Okura**	**1.76**	**322**	P	**Pn**	**16 22 53.8**	**+0.9**
JOU				*e*S	**Sn**	**16 23 15.9**	**+1.0**
JFY	**Yanaizu**	**1.92**	**283**	P	**Pn**	**16 22 56.0**	**+0.9**
JYS	**Shirataka**	**2.00**	**309**	P	**Pn**	**16 22 57.6**	**+1.4**
JMK	**Ichinoseki**	**2.07**	**342**	*i* P	**Pn**	**16 22 58.2**	**+1.2**
JAG	**Ashikaga**	**2.16**	**256**	P	**Pn**	**16 22 58.5**	**+0.1**
JKT	**Katashina**	**2.26**	**265**	*e*P	**Pn**	**16 23 01.0**	**+1.3**
JNS	**Sasagawa**	**2.33**	**292**	*e*P	**Pb**	**16 23 03.2**	**-1.5**
MJAR	**Matsushiro Arr**	**3.12**	**263**	Pn	**Pn**	**16 23 12.5**	**+1.0**
	1.5nm,0.3s,baz=88,slow=16,SNR=43						
MJAR				Sn	**Sb**	**16 23 54.0**	**-1.8**
	0.9nm,0.3s,baz=79,slow=16,SNR=2.7						
	32nm,0.7s						
ASAJ	**Asahikawa**	**7.14**	**3**	Pn	**Pn**	**16 24 06.3**	**-0.4**
	1.7nm,0.3s,baz=197,slow=11,SNR=16						
ASAJ				Sn	**Sn**	**16 25 26.1**	**-1.1**
	0.2nm,0.3s,baz=133,slow=22,SNR=2.0						
	6.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**10.50**	**316**	Pn		16 24 58.8	+6.0
	0.2nm,0.3s,baz=132,slow=13,SNR=9.9						
KSRS	**Korea Array**	**11.28**	**277**	Pn		16 25 11.0	+7.6
	0.1nm,0.3s,baz=91,slow=14,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**27.69**	**122**	T		16 57 26.9	
	baz=314,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**27.69**	**122**	T		16 57 32.3	
	baz=314,slow=75,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**27.70**	**122**	T		16 57 36.6	
	baz=314,slow=75,SNR=10.0						
SONM	**Songino Array**	**28.23**	**304**	P	**P**	**16 28 16.2**	**+1.0**
	0.9nm,0.7s,baz=94,slow=10.0,SNR=4.5						
	0.9nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**28.41**	**124**	T		16 58 27.8	
	baz=316,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.41**	**124**	T		16 58 37.2	
	baz=316,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.42**	**124**	T		16 58 38.4	
	baz=316,slow=76,SNR=9.2						
CMAR	**Chiang Mai Arr**	**41.98**	**256**	P	**P**	**16 30 14.4**	**+1.1**
	0.4nm,0.6s,baz=50,slow=4.8,SNR=1.8						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**44.58**	**302**	P	**P**	**16 30 36.4**	**+2.3**
	0.6nm,0.8s,baz=88,slow=10,SNR=1.9						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**46.43**	**308**	P	**P**	**16 30 49.1**	**+0.5**
	0.8nm,0.5s,baz=83,slow=8.2,SNR=5.0						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**49.26**	**32**	P	**P**	**16 31 09.8**	**-0.6**
	1.0nm,0.7s,baz=266,slow=6.2,SNR=12						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**57.09**	**189**	P	**P**	**16 32 06.9**	**-1.5**
	0.6nm,0.5s,baz=6.0,slow=6.8,SNR=12						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**60.81**	**189**	P	**P**	**16 32 33.4**	**-0.9**
	0.6nm,0.8s,baz=9.2,slow=5.7,SNR=6.8						
	0.6nm,0.8s						
AKASG	**Malin Array Be**	**74.65**	**323**	P	**P**	**16 34 01.1**	**-0.2**
	0.3nm,0.5s,baz=46,slow=6.4,SNR=1.7						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**77.34**	**46**	P	**P**	**16 34 17.1**	**0.0**
	0.2nm,0.7s,baz=289,slow=3.6,SNR=1.6						
	0.2nm,0.7s						
TXAR	**Lajitas Array**	**89.75**	**53**	P	**P**	**16 35 21.3**	**+0.5**
	0.5nm,0.7s,baz=312,slow=4.1,SNR=5.7						
	0.5nm,0.7s						

CATAC 24 16:23:23.8±0.5, 12°.46N×87°.79W, h33km±4km, ML3.3
SNET 24 16:23:24.9±0.4, 12°.50N×87°.96W, h15km±999km, ML3.6
ISC 24 16:23:23.2±2.0, 12°.40N±0°.08×87°.83W±0°.07, h32km±12km, n24, σ0§54/43, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**0.63**	**25**	*i* P	**Pn**	**16 23 36.1**	**+0.1**
CSGN				*i* S	**Sn**	**16 23 45.5**	**+0.5**
CSGN				IAML		16 23 49.9	
	comp=Z,180nm,1.0s						
POTN	**Potosi Cosigui**	**0.67**	**28**	*i* P	**Pb**	**16 23 36.3**	**-0.2**
POTN				*i* S	**Sn**	**16 23 46.4**	**+0.5**
POTN				IAML		16 23 47.0	
	comp=Z,610nm,1.0s						
EVIJ	**El Viejo**	**0.74**	**70**	*i* P	**Pb**	**16 23 38.0**	**+0.4**
EVIJ				*i* S	**Sn**	**16 23 47.2**	**-0.3**
EVIJ				IAML		16 24 22.4	
	comp=Z,5μm,1.0s						
CRIN	**San Cristobal**	**0.81**	**69**	*i* P	**Pb**	**16 23 39.5**	**+0.6**
CRIN				*i* S	**Sb**	**16 23 51.5**	**+1.8**
CRIN				IAML		16 23 54.0	
	comp=Z,2μm,1.0s						
CNCH	**Conchagua**	**0.87**	**360**	*e*P	**Pb**	**16 23 39.5**	**-0.4**
CNCH				*e*S	**Sb**	**16 23 51.3**	**0.0**
CNCH				IAML		16 23 53.5	
	comp=Z,2μm,0.5s						
CNCH	**Conchagua**	**0.87**	**360**	*i* P	**Pn**	**16 23 39.3**	**0.0**
CNCH				*i* S	**Sb**	**16 23 51.1**	**-0.2**
CNCH				IAML		16 23 52.8	
	comp=Z,2μm,1.0s						
PKGN	**Cerro Pekin**	**0.87**	**72**	*i* P	**Pb**	**16 23 39.9**	**+0.1**
PKGN				*i* S	**Sb**	**16 23 52.0**	**+0.8**
PKGN				IAML		16 23 54.0	
	comp=Z,4μm,1.0s						
LCND	**La Caada**	**0.90**	**356**	*e*P	**Pn**	**16 23 39.9**	**+0.2**
LCND	**La Caada**	**0.90**	**356**	*i* P	**Pn**	**16 23 39.6**	**-0.1**
LCND				*i* S	**Sb**	**16 23 51.7**	**-0.4**
TELN	**Telica**	**0.99**	**78**	*i* S	**Sb**	**16 23 54.1**	**-0.7**
HERN	**Volcan Telica**	**0.99**	**78**	*i* P	**Pn**	**16 23 40.9**	**-0.1**
HERN				*i* S	**Sb**	**16 23 53.9**	**-0.9**
HERN				IAML		16 23 56.4	
	comp=Z,860nm,1.0s						
PACN	**Al O del Volca**	**1.02**	**84**	*i* P	**Pn**	**16 23 40.2**	**-1.0**
PACN				*i* S	**Sn**	**16 23 54.1**	**-0.4**
PACN				IAML		16 23 56.4	
	comp=Z,640nm,1.0s						
POLN	**Al Sur del Vol**	**1.02**	**76**	*i* S	**Sb**	**16 23 54.5**	**-1.0**
PLRN	**Geotermica Pol**	**1.05**	**80**	*i* P	**Pn**	**16 23 41.7**	**0.0**
PLRN				*i* S	**Sn**	**16 23 55.1**	**-0.2**
CNGA	**Al SSO del Vol**	**1.10**	**85**	*i* P	**Pn**	**16 23 43.0**	**+0.5**
CNGA				*i* S	**Sn**	**16 23 56.7**	**0.0**
CNGA				IAML		16 24 03.7	
	comp=Z,670nm,1.0s						
ILCN	**San Idelfonso**	**1.11**	**81**	*i* P	**Pn**	**16 23 43.0**	**+0.4**
ILCN				*i* S	**Sb**	**16 23 57.3**	**-0.8**
ILCN				IAML		16 23 58.6	
	comp=Z,180nm,1.0s						
RANC	**El Ranchito**	**1.12**	**336**	*i* S	**Sn**	**16 23 56.9**	**-0.3**
MACN	**El Madrono**	**1.13**	**87**	*i* P	**Pn**	**16 23 42.9**	**+0.1**
MACN				*i* S	**Sn**	**16 23 57.0**	**-0.3**
MACN				IAML		16 24 05.0	
	comp=Z,320nm,1.0s						
PACA	**Pacayal**	**1.17**	**336**	*e*P	**Pn**	**16 23 43.8**	**+0.4**
PACA				*e*S	**Sn**	**16 23 58.4**	**+0.1**
PACA	**Pacayal**	**1.17**	**336**	*i* P	**Pn**	**16 23 43.8**	**+0.4**
PACA				*i* S	**Sn**	**16 23 58.5**	**+0.2**
PACA				IAML		16 23 58.7	
	comp=Z,3μm,1.0s						
BC86	**Nagarote**	**1.24**	**96**	*i* S	**Sn**	**16 24 00.2**	**+0.2**
MOMN	**Momotombo**	**1.26**	**90**	*i* P	**Pn**	**16 23 45.1**	**+0.5**
MOMN				*i* S	**Sn**	**16 24 00.3**	**-0.2**
MOMN				IAML		16 24 03.0	
	comp=Z,21nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.73**	**18**	*i* P	**Pn**	**16 23 51.4**	**+0.2**
TGUH				*i* S	**Sn**	**16 24 12.0**	**-0.3**
TGUH				IAML		16 24 16.3	
	comp=Z,120nm,1.0s						
YUSH	**Yuscaran**	**1.82**	**32**	*i* P	**Pn**	**16 23 52.6**	**+0.2**
YUSH				*i* S	**Sn**	**16 24 13.9**	**-0.5**

GUC 24 16:35:37.2±0.6, 21°.65S×68°.74W, h117km±3km, ML3.3
SJA 24 16:35:37.0, 21°.61S×68°.83W, h102km, ML3.4
ISC 24 16:35:37.4±1.6, 21°.63S±0°.04×68°.80W±0°.07, h116km±12km, n19, σ0§63/25, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.45**	**248**	⇑*i* P	**Pn**	**16 35 55.0**	**+0.1**
PB09				*e*S	**Sn**	**16 36 07.8**	**-0.1**
PB09				IAML		16 36 09.1	
	comp=N,821nm,0.4s						
PB09	**IPOC Station P**	**0.45**	**248**	*i* P	**Pn**	**16 35 54.3**	**-0.5**
PB01	**IPOC Station P**	**0.87**	**312**	*e*P	**Pn**	**16 35 57.9**	**0.0**
PB01				*e*S	**Sn**	**16 36 13.7**	**+0.3**
PB01				IAML		16 36 15.3	
	comp=E,1μm,0.2s						
PB01	**IPOC Station P**	**0.87**	**312**	*i* P	**Pn**	**16 35 57.5**	**-0.5**
AF01	**San Pedro de A**	**1.44**	**157**	*e*S	**Sn**	**16 36 23.6**	**-0.8**
AF01				IAML		16 36 28.1	
	comp=N,393nm,0.5s						
PB04	**IPOC Station P**	**1.44**	**241**	*e*P	**Pn**	**16 36 03.9**	**-0.2**
PB04				*e*S	**Sn**	**16 36 24.6**	**+0.4**
PB04				IAML		16 36 30.9	
	comp=N,245nm,0.2s						
PB04	**IPOC Station P**	**1.44**	**241**	*i* P	**Pn**	**16 36 03.6**	**-0.4**
PATCX	**Punta Patache**	**1.50**	**302**	⇑*e*P	**Pn**	**16 36 05.1**	**+0.4**
PATCX	**Punta Patache**	**1.50**	**302**	*i* P	**Pn**	**16 36 04.6**	**0.0**
TA01	**Diego Aracena**	**1.67**	**309**	*e*P	**Pn**	**16 36 06.6**	**0.0**
TA01				*e*S	**Sn**	**16 36 29.4**	**+0.5**
TA01				IAML		16 36 30.7	
	comp=E,564nm,0.3s						
TA01	**Diego Aracena**	**1.67**	**309**	*i* P	**Pn**	**16 36 06.2**	**-0.5**
HMBC	**Humberstone**	**1.69**	**323**	*e*P	**Pn**	**16 36 06.8**	**-0.2**
HMBC				*e*S	**Sn**	**16 36 30.0**	**+0.6**
HMBC				IAML		16 36 32.0	
	comp=E,630nm,0.2s						
HMBC	**Humberstone**	**1.69**	**323**	*i* P	**Pn**	**16 36 06.5**	**-0.5**
GO01	**Chusmiza**	**1.99**	**349**	*e*P	**Pn**	**16 36 11.3**	**+0.3**
GO01				*e*S	**Sn**	**16 36 37.2**	**+0.6**
GO01	**Chusmiza**	**1.99**	**349**	*i* P	**Pn**	**16 36 11.1**	**+0.1**
YJA	**Yavi**	**3.10**	**101**	*i* P	**Pn**	**16 36 25.7**	**+0.4**
PB12	**IPOC Station P**	**3.33**	**334**	*i* P	**Pn**	**16 36 26.4**	**-1.7**
PB14	**IPOC Station P**	**3.33**	**206**	*i* P	**Pn**	**16 36 29.4**	**+1.2**
GO02	**Mina Guanaco**	**3.59**	**192**	*i* P	**Pn**	**16 36 30.9**	**-0.9**

RSNC 24 16:36:28.3±0.0, 7°.7N±2°.7×7°.8W±°, h15km±4km, M2.7, mb4.3, mB6.1, ML2.4, Mw(mB)5.8, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.37**	**50**	P	Pg	16 36 34.5	-1.3
PTAC				S	Sg	16 36 39.1	-1.8
SOLC	**Bahia Solano**	**0.96**	**135**	P	Pb	16 36 45.5	-1.1
SOLC				S	Sb	16 36 58.6	-0.5
APAC	**Apartado, Choc**	**1.79**	**57**	P	Pn	16 36 59.0	+0.3
APAC				S	Sb	16 37 24.1	+0.9
CAPC	**Capurgana**	**1.86**	**23**	P	Pn	16 37 00.2	+0.5
CAPC				S	Sn	16 37 23.2	+0.2
DBBC	**Dabeiba**	**1.87**	**87**	P	Pn	16 36 58.0	-1.9
DBBC				S	Sn	16 37 21.0	-2.3
PIZC	**Pizarro, Choco**	**2.06**	**159**	P	Pn	16 37 00.6	-1.9
PIZC				S	Sn	16 37 24.6	-3.3
CBOC	**Ciudad Bolivar**	**2.31**	**117**	P	Pn	16 37 03.5	-2.5
AZU	**Azuero**	**2.34**	**292**	P	Pn	16 37 06.0	-0.2
AZU				S	Sn	16 37 33.0	-1.7
LCBC	**Los crdobas,**	**2.58**	**41**	P	Pn	16 37 10.1	+0.5
HELC	**Santa Helena**	**2.64**	**106**	P	Pn	16 37 09.3	-1.5
HELC				S	Sn	16 37 43.9	+1.1
UREC	**San Jos de Ur**	**2.67**	**72**	P	Pn	16 37 10.2	-0.6
PLMC	**San Jos del P**	**2.68**	**138**	P	Pn	16 37 09.1	-2.0
CACAO	**El Cacao, Vera**	**2.78**	**279**	P	Pn	16 37 11.5	-0.9
BCIP	**Isla Barro Col**	**2.83**	**322**	P	Pn	16 37 12.5	-0.5
BCIP				S	Sn	16 37 46.3	-0.6
GUY2C	**Guyana, Caldas**	**3.19**	**122**	P	Pn	16 37 17.8	-0.5
GUY2C				S	Sn	16 37 58.4	+2.1
ZARC	**Zaragoza, Cauc**	**3.26**	**80**	P	Pn	16 37 16.4	-2.5
PTBC	**PUERTO BERRIO,**	**3.63**	**96**	P	Pn	16 37 24.0	0.0
PTBC				S	Sn	16 38 06.7	+0.1
SJCC	**San Jacinto, C**	**4.13**	**44**	P	Pn	16 37 31.6	+0.6
SJCC				S	Sn	16 38 19.1	-0.1
RUSC	**La Rusia**	**5.08**	**101**	P	Pn	16 37 44.6	+0.2
RUSC				S	Sn	16 38 41.7	-1.3
CRJC	**Cerrejon, Guaj**	**6.57**	**51**	P	Pn	16 38 03.5	-1.0
CRJC				S	Sn	16 39 15.8	-3.5

IDC 24 16:38:54.4±1.4, 1°.19S×121°.20E, h0km, mb3.3/4, mbtmp3.4/4, Error ellipse: s-maj=427.9km s-min=24.2km az=60.0
DJA 24 16:38:56.7±0.2, 1°.5±2°.×12°.1E±°, h10km, M4.0/19, mb4.0/3, MLv3.9/19
ISC 24 16:38:57.3±1.0, 1°.37S±0°.06×120°.62E±0°.06, h23km, n19, σ1§76/19, mb3.4/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**0.91**	**301**	P	**Pb**	**16 39 11.8**	**-2.5**
APSI	**Ampana**	**1.13**	**66**	P	**Pn**	**16 39 18.6**	**+1.0**
TTSI	**Tana Toraja**	**1.85**	**206**	P	**Pn**	**16 39 29.4**	**+1.9**
LUWI	**Luwuk**	**2.18**	**81**	P	**Pn**	**16 39 33.5**	**+1.4**
MRSI	**Marisa**	**2.26**	**36**	P	**Pn**	**16 39 33.1**	**-0.2**
SPSI	**Sidrap Palu**	**2.71**	**198**	P	**Pn**	**16 39 41.2**	**+1.7**
BNSI	**Bone**	**3.05**	**190**	P	**Pn**	**16 39 47.2**	**+3.0**
KDI	**Kendari**	**3.26**	**142**	P	**Pn**	**16 39 47.1**	**+0.1**
BKB	**Balikpapan**	**3.72**	**272**	P	**Pn**	**16 39 53.9**	**+0.5**
KMSI	**Cibinong**	**3.88**	**60**	P	**Pn**	**16 39 58.3**	**+2.8**
BKSI	**Bulukumba**	**3.96**	**187**	P	**Pn**	**16 39 57.0**	**+0.4**
BBSI	**Bau Bau**	**4.53**	**155**	P	**Pn**	**16 40 05.9**

EAK			S	Sg	17 24 06.4	+2.0
EAK			*i* AML	AML	17 24 18.0	
	comp=E,27nm,1.5s					
EAK			*i* AML	AML	17 24 23.0	
	comp=N,35nm,1.1s					
IBDR	**Badra**	**4.83 191**	*e*Pn	**Pn**	**17 23 14.0**	**0.0**
IBDR			*e*Sn	**Sn**	**17 24 11.0**	**+0.5**
BHD	**Baghdad**	**5.07 206**	*e*Pn	**Pn**	**17 23 17.0**	**-0.3**
BHD			*e*Sn	**Sn**	**17 24 16.0**	**-0.3**
QAMS	**Qamsar**	**5.45 138**	Pn	**Pn**	**17 23 23.3**	**+0.5**
RAFI	**Al-Rafai**	**6.17 187**	*e*Pn	**Pn**	**17 23 33.0**	**+0.5**
RAFI			*e*Sn	**Sn**	**17 24 44.0**	**+0.4**
RAFI			AML	AML	17 24 53.5	
	comp=N,61nm,0.7s					
RAFI			AML	AML	17 25 23.9	
	comp=E,52nm,0.0s					

IDC 24 17:44:02.6±1.2, 18°.78N×143°.92E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=49.7km s-min=20.3km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy 21.57**	**87**		T	T	18 10 10.8	
	baz=275,slow=74,SNR=261						
H11S1	**WAKE ISLAND Hy 21.59**	**87**		T	T	18 10 12.2	
	baz=275,slow=74,SNR=187						
H11S2	**WAKE ISLAND Hy 21.59**	**87**		T	T	18 10 09.6	
	baz=275,slow=74,SNR=129						
H11N1	**WAKE ISLAND Hy 21.70**	**84**		T	T	18 10 23.5	
	baz=272,slow=75,SNR=17						
H11N2	**WAKE ISLAND Hy 21.71**	**84**		T	T	18 10 20.7	
	baz=272,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy 21.72**	**84**		T	T	18 10 24.6	
	baz=272,slow=75,SNR=20						
KSRS	**Korea Array**	**23.29**	**326**	P	P	17 49 11.8	-0.1
	0.7nm,0.6s,baz=145,slow=8.8,SNR=7.2						
	0.7nm,0.6s						
WRA	**Warramunga Arr**	**39.61**	**194**	P	P	17 51 36.3	+0.2
	0.9nm,0.8s,baz=11,slow=8.5,SNR=5.8						
WRA				PcP	PcP	17 53 42.7	-0.8
	0.3nm,0.7s,baz=9.7,slow=3.9,SNR=1.8						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**43.31**	**193**	P	P	17 52 06.0	-0.4
	0.5nm,0.7s,baz=1.6,slow=6.5,SNR=7.8						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**60.13**	**318**	P	P	17 54 12.2	+0.3
	1.1nm,0.8s,baz=96,slow=7.3,SNR=9.3						
	1.1nm,0.8s						
ILAR	**Eielson Array**	**64.32**	**26**	P	P	17 54 39.5	-0.2
	0.3nm,0.7s,baz=266,slow=4.9,SNR=4.1						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**65.34**	**320**	P	P	17 54 46.8	+0.2
	3.5nm,0.8s,baz=91,slow=7.4,SNR=17						
	3.5nm,0.8s						

*JMA **24** 17:51:20.6±0.2, 43°.3N±0°.8×14°7E±°, h41km, MV3.8/29, E OFF HOKKAIDO*
*SKHL **24** 17:51:22.0±0.9, 43°.30N×147°.40E, h47km±6km, mb4.8/2*
*IDC **24** 17:51:27.0±7.4, 45°.29N×146°.50E, h0km, mb3.8/5, mbtmp3.7/6, ML2.9/1, MS2.9/1, Error ellipse: s-maj=157.0km s-min=31.3km az=141.0*
ISC 24 17:51:20.7±2.2, 43°.3N±0°.1×147°.5E±0°.1, h47km±16km, n30, σ0§84/38, mb3.6/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.73**	**322**	*i* P	**Pn**	**17 51 34.8**	**+0.1**
SHO				AMB	AMB	17 51 35.2	
	340nm,0.3s						
SHO				*e*S	**Sn**	**17 51 44.9**	**0.0**
SHO				A	A	17 51 45.7	
	2μm,0.2s						
SHO				A	A	17 51 45.7	
	3μm,0.2s						
NEM2	**Nemuro 2**	**1.25**	**274**	P	**Pn**	**17 51 41.4**	**-0.2**
NEM2				S	**Sn**	**17 51 57.2**	**0.0**
NMR	**Nemuro--Hokkai**	**1.26**	**274**	*i* P	**Pn**	**17 51 41.9**	**+0.1**
NMR				*e*S	**Sn**	**17 51 57.1**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**1.37**	**303**	*i* P	**Pn**	**17 51 43.1**	**-0.2**
YUK				AMB	AMB	17 51 43.4	
	340nm,0.2s						
YUK				*e*S	**Sn**	**17 51 59.5**	**-0.8**
YUK				A	A	17 52 01.1	
	1μm,0.2s						
YUK				A	A	17 52 01.1	
	2μm,0.2s						
JKHN	**Kushirohamanak**	**1.69**	**264**	P	**Pn**	**17 51 48.2**	**+0.5**
JKHN				*e*S	**Sn**	**17 52 07.8**	**-0.2**
JRA	**Rausu**	**1.81**	**292**	P	**Pn**	**17 51 49.6**	**+0.3**
JRA				S	**Sn**	**17 52 11.1**	**0.0**
JNSB	**Nemuroshibetsu**	**1.84**	**286**	P	**Pn**	**17 51 50.1**	**+0.3**
JNSB				S	**Sn**	**17 52 11.7**	**-0.2**
AKK	**Akkeshi**	**1.93**	**263**	*i* P	**Pn**	**17 51 51.0**	**+0.1**
AKK				*e*S	**Sn**	**17 52 13.1**	**-0.8**
KUR	**Kuril'sk**	**1.97**	**9**	*e*P	**Pn**	**17 51 52.3**	**+0.8**
KUR				*e*S	**Sn**	**17 52 14.0**	**-0.9**
KUR				A	A	17 52 15.5	
	220nm,0.2s						
KUR				A	A	17 52 15.5	
	140nm,0.2s						
JNK	**Nakash**	**2.01**	**279**	*i* P	**Pn**	**17 51 52.0**	**-0.1**
JNK				S	**Sn**	**17 52 15.6**	**-0.4**
JAK	**Akkeshi**	**2.04**	**263**	P	**Pn**	**17 51 52.4**	**-0.1**
JAK				S	**Sn**	**17 52 15.6**	**-1.0**
JTKR	**Abashiri--Toko**	**2.66**	**286**	P	**Pn**	**17 52 02.1**	**+1.1**
JTKR				*e*S	**Sn**	**17 52 32.9**	**+0.9**
JAR	**Ashorobuto**	**2.69**	**271**	P	**Pn**	**17 52 02.0**	**+0.7**
JAR				S	**Sn**	**17 52 32.9**	**+0.3**
JMP	**Maruseppu**	**3.05**	**285**	P	**Pn**	**17 52 07.7**	**+1.3**
JCH	**Churui**	**3.07**	**259**	P	**Pn**	**17 52 07.5**	**+0.8**
JCH				*e*S	**Sn**	**17 52 41.4**	**-0.8**
JFR	**Furan**	**3.55**	**270**	P	**Pn**	**17 52 14.6**	**+1.4**
ASAJ	**Asahikawa**	**3.61**	**285**	Pn	**Pn**	**17 52 16.1**	**+2.0**
	1.2nm,0.3s,baz=216,slow=17,SNR=6.5						
ASAJ				Sn	**Sn**	**17 52 53.0**	**-2.5**
	0.8nm,0.3s,baz=121,slow=16,SNR=3.6						
	3.7nm,0.3s						
KLR	**Kul'dur**	**12.37**	**304**	LR	LR	17 58 19.5	
	comp=Z,66nm,21.5s,baz=327,slow=38						
H11N2	**WAKE ISLAND Hy 28.61**	**139**		T	T	18 28 12.3	
	baz=330,slow=76,SNR=10.0						
H11N1	**WAKE ISLAND Hy 28.62**	**139**		T	T	18 28 10.1	
	baz=330,slow=76,SNR=9.0						
H11N3	**WAKE ISLAND Hy 28.63**	**139**		T	T	18 28 02.1	
	baz=330,slow=76,SNR=9.2						
SONM	**Songino Array**	**28.85**	**294**	P	**P**	**17 57 15.1**	**+0.5**
	1.1nm,0.8s,baz=88,slow=9.0,SNR=6.4						
	1.1nm,0.8s						
H11S1	**WAKE ISLAND Hy 29.57**	**141**		T	T	18 29 23.2	
	baz=331,slow=76,SNR=19						
H11S3	**WAKE ISLAND Hy 29.58**	**141**		T	T	18 29 14.0	
	baz=331,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy 29.59**	**141**		T	T	18 29 21.0	
	baz=331,slow=76,SNR=11						
MKAR	**Makanchi Array**	**44.99**	**298**	P	**P**	**17 59 31.4**	**+0.2**
	0.5nm,0.5s,baz=70,slow=7.4,SNR=4.7						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**46.05**	**304**	P	**P**	**17 59 39.1**	**-0.3**
	0.4nm,0.5s,baz=80,slow=9.1,SNR=2.5						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**65.38**	**333**	P	**P**	**18 01 57.3**	**-0.5**
	1.0nm,0.6s,baz=45,slow=9.2,SNR=5.5						
	1.0nm,0.6s						
NB2	**NORSAR Subarra**	**70.11**	**339**	P	**P**	**18 02 26.8**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**70.11**	**339**	P	**P**	**18 02 27.1**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=32,slow=6.6,SNR=5.5						
	comp=Z,0.5nm,0.6s						

IDC 24 18:03:01.8±55.0, 16°.39S×179°.24W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1012.0km s-min=161.6km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.69**	**239**	P	P	18 10 27.4	-0.2
	1.0nm,0.4s,baz=61,slow=10,SNR=2.9						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**44.15**	**258**	P	P	18 11 12.4	-0.1
	0.3nm,0.3s,baz=92,slow=7.7,SNR=13						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**44.46**	**253**	P	P	18 11 14.9	-0.1
	2.5nm,0.4s,baz=89,slow=7.9,SNR=24						
	2.5nm,0.4s						

*NEIC **24** 18:18:36.9±1.6, 46°.8N±0°.1×153°.1E±0°.2, h53km±6km, mb4.2/16, Error ellipse: s-maj=22.3km s-min=9.2km az=138.0*
*MOS **24** 18:18:36.8±1.3, 47°.02N×152°.87E, h54km, mb4.4/1, Error ellipse: s-maj=15.1km s-min=8.0km az=56.2*
*SKHL **24** 18:18:36.6±0.5, 46°.80N×152°.90E, h119km±8km, mb4.9/4, msha5.7/6*
*IDC **24** 18:18:40.4±2.8, 46°.95N×152°.93E, h75km±25km, mb3.5/13, mbtmp3.8/17, MS3.1/2, Error ellipse: s-maj=24.5km s-min=15.8km az=143.0*
ISC 24 18:18:36.1±0.7, 46°.70N±0°.09×153°.16E±0°.09, h50km, n76, σ1§66/73, mb4.1/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.97**	**250**	*e*P	**Pn**	**18 19 36.1**	**+1.7**
KUR				AMB	AMB	18 19 37.1	
	100nm,0.3s						
KUR				*e*S	**Sn**	**18 20 21.0**	**+1.3**
KUR				A	A	18 20 36.0	
	350nm,0.7s						
KUR				A	A	18 20 36.0	
	450nm,0.7s						
KUR	**Kuril'sk**	**3.97**	**250**	*e*PN	**Pn**	**18 19 34.4**	**0.0**
KUR				*e*S	**Sn**	**18 20 22.2**	**+2.5**
SKR	**Severo-Kuril's**	**4.44**	**25**	*e*P	**Pn**	**18 19 41.6**	**+0.9**
SKR				AMB	AMB	18 19 42.8	
	50nm,0.7s						
SKR				*e*S	**Sn**	**18 20 29.8**	**-1.2**
SKR				A	A	18 20 37.1	
	390nm,0.6s						
SKR				A	A	18 20 37.1	
	260nm,0.6s						
SKR	**Severo-Kuril's**	**4.44**	**25**	*e*PN	**Pn**	**18 19 40.2**	**-0.5**
SKR				*e*S	**Sn**	**18 20 27.3**	**-3.7**
SKR				smax	smax		
	comp=N,388nm,0.7s						
SKR				smax	smax		
	comp=E,256nm,0.6s						
SHO	**Shikotan**	**5.29**	**240**	*e*P	**Pn**	**18 19 52.6**	**+0.1**
SHO				AMB	AMB	18 19 53.8	
	comp=E,40nm,0.7s						
SHO				*e*S	**Sn**	**18 20 50.0**	**-2.1**
SHO				A	A	18 21 02.8	
	comp=E,80nm,0.7s						
SHO				A	A	18 21 02.8	
	comp=E,110nm,0.7s						
SHO	**Shikotan**	**5.29**	**240**	*e*PN	**Pn**	**18 19 54.1**	**+1.6**
SHO				pmax	pmax		
	comp=Z,33nm,0.3s						
PAU	**Pauzhetka**	**5.34**	**25**	*e*P	**Pn**	**18 19 54.8**	**+1.8**
PAU				*e*S	**Sn**	**18 20 53.4**	**+0.3**
PAU				A	A	18 20 54.3	
	comp=Z,90nm,0.3s						
PAU				A	A	18 20 54.3	
	comp=Z,90nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.79**	**245**	*e*P	**Pn**	**18 19 59.8**	**+0.4**
YUK				AMB	AMB	18 20 03.9	
	comp=Z,120nm,0.5s						
YUK				*e*S	**Sn**	**18 21 04.1**	**-0.3**
YUK				A	A	18 21 10.9	
	comp=Z,340nm,1.0s						
YUK				A	A	18 21 10.9	
	comp=Z,300nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**5.79**	**245**	*e*PN	**Pn**	**18 19 59.8**	**+0.4**
YUK				pmax	pmax		
	comp=Z,87nm,0.5s						
RUSJ	**Misakicho**	**6.15**	**248**	*e*PN	**Pn**	**18 20 05.9**	**+1.7**
NMR	**Nemuro--Hokkai**	**6.23**	**240**	*e*P	**Pn**	**18 20 03.9**	**-1.5**
NMR				*e*S	**Sn**	**18 21 10.0**	**-5.2**
NMR	**Nemuro--Hokkai**	**6.23**	**240**	*e*PN	**Pn**	**18 20 02.9**	**-2.5**
AKK	**Akkeshi**	**6.97**	**241**	*e*P	**Pn**	**18 20 15.9**	**+0.5**
PEA0B	**Petropavlovsk-**	**7.05**	**23**	Pn	**Pn**	**18 20 17.1**	**+0.6**
PEA0B	**Petropavlovsk-**	**7.05**	**23**	PN	**Pn**	**18 20 17.1**	**+0.6**
PETK	**Petropavlovsk-**	**7.05**	**23**	Pn	**Pn**	**18 20 16.4**	**-0.1**
PETK	**Petropavlovsk-**	**7.05**	**23**	P	**Pn**	**18 20 17.5**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=196,slow=8.5,SNR=4.5						
YSS	**Yuzh-Sakhalins**	**7.14**	**276**	Pn	**Pn**	**18 20 17.9**	**+0.1**
YSS	**Yuzh-Sakhalins**	**7.14**	**276**	*e*P	**Pn**	**18 20 20.5**	**+2.6**
PET	**Petropavlovsk**	**7.25**	**27**	Pn	**Pn**	**18 20 18.4**	**-0.8**
PET				Sn	**Sn**	**18 21 36.5**	**-3.6**
PET	**Petropavlovsk**	**7.25**	**27**	*e*S	**Sn**	**18 21 36.9**	**-3.3**
ASAJ	**Asahikawa**	**7.87**	**255**	P	**Pn**	**18 20 30.3**	**+2.4**
	comp=Z,16nm,0.8s,baz=79,slow=14,SNR=2.1						
TYV	**Tymovskoe**	**8.09**	**305**	*e*PN	Pn	18 20 39.1	+8.3
TYV				pmax	pmax		
	comp=Z,14nm,1.3s						
TYV				pmax	pmax		
	comp=Z,200nm,4.8s						
ERM	**Erimo**	**8.56**	**240**	Pn	**Pn**	**18 20 37.3**	**0.0**
ERM				Sn	**Sn**	**18 22 08.7**	**-3.7**
JTM	**Tenmabayashi**	**10.55**	**240**	Pn	**Pn**	**18 21 01.4**	**-3.2**
MA2	**Magadan**	**12.97**	**355**	LR	LR	18 26 04.0	
	comp=Z,56nm,20.4s,baz=88,slow=35						
KLR	**Kul'dur**	**14.56**	**288**	LR	LR	18 27 52.6	
	comp=Z,99nm,18.7s,baz=28,slow=38						
USRK	**Ussuriysk Ar.**	**15.06**	**268**	Pn	**Pn**	**18 22 03.1**	**-2.5**
USRK	**Ussuriysk Ar.**	**15.06**	**268**	P	**Pn**	**18 22 06.2**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=82,slow=13,SNR=2.4						
MJAR	**Matsushiro Arr**	**15.08**	**233**	P	**P**	**18 22 10.5**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=34,slow=8.2,SNR=11						
MJB9	**Matsu-Tunnel**	**15.08**	**233**	P	**P**	**18 22 11.6**	**+1.4**
MAJO	**Matsushiro**	**15.08**	**233**	P	**P**	**18 22 10.5**	**+0.3**
MAJO	**Matsushiro**	**15.08**	**233**	P	**P**	**18 22 10.5**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,11nm,1.4s						
JGF	**Kuroka**	**16.24**	**233**	P	**P**	**18 22 23.2**	**+0.2**
JGF				IAmb	IAmb	18 23 03.9	
	comp=Z,19nm,1.4s						
YAK	**Yakutsk**	**20.38**	**327**	P	**P**	**18 23 08.7**	**+0.5**
YAK				IAmb	IAmb	18 23 09.6	
	comp=Z,5.9nm,0.8s						
YAK	**Yakutsk**	**20.38**	**327**	P	**P**	**18 23 07.8**	**-0.4**
	comp=Z,5.7nm,0.7s,baz=98,slow=3.0,SNR=4.2						
	comp=Z,5.7nm,0.7s						
KSRS	**Korea Array**	**20.82**	**253**	P	Pn	18 23 16.5	+0.5
	comp=Z,1.2nm,0.7s,baz=54,slow=10,SNR=6.8						
	comp=Z,1.2nm,0.7s						
H11N2	**WAKE ISLAND Hy 29.16**	**153**		T	T	18 55 58.5	
	baz=340,slow=76,SNR=44						
H11N1	**WAKE ISLAND Hy 29.18**	**153**		T	T	18 55 59.9	
	baz=340,slow=76,SNR=38						
H11N3	**WAKE ISLAND Hy 29.18**	**153**		T	T	18 55 58.7	
	baz=340,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy 30.25**	**154**		T	T	18 57 25.5	
	baz=341,slow=76,SNR=42						
H11S3	**WAKE ISLAND Hy 30.26**	**154**		T	T	18 57 20.4	
	baz=341,slow=76,SNR=52						
H11S2	**WAKE ISLAND Hy 30.27**	**154**		T	T	18 57 44.5	
	baz=341,slow=76,SNR=47						
G18K	**Tagagawik**	**31.79**	**36**	P	**P**	**18 24 55.8**	**+0.5**
D19K	**Kuna River**	**32.67**	**31**	P	**P**	**18 25 03.6**	**+0.6**
E19K	**Redstone River**	**32.72**	**33**	P	**P**	**18 25 04.0**	**+0.6**
SII	**Sitkinak Islan**	**33.35**	**53**	P	**P**	**18 25 07.7**	**-1.4**
B20K	**Meade River**	**33.45**	**28**	P	**P**	**18 25 09.8**	**+0.1**
IMAR	**Indian Mountai**	**33.78**	**36**	P	**P**	**18 25 14.2**	**+1.5**
ILAR	**Eielson Array**	**36.56**	**39**	P	**P**	**18 25 39.3**	**+2.7**
	comp=Z,0.6nm,0.9s,baz=256,slow=7.3,SNR=4.5						
	comp=Z,0.6nm,0.9s						
D25K	**Kavik River**	**36.99**	**31**	P	**P**	**18 25 40.4**	**+0.1**
D25K				IAmb	IAmb	18 25 49.9	
	comp=Z,3.2nm,0.9s						
BERG	**Berg Lake**	**38.36**	**46**	P	**P**	**18 25 48.9**	**-2.9**
BCAR	**Beaver Creek A**	**38.91**	**41**	P	**P**	**18 25 56.9**	**+0.4**
G31M	**Satah River**	**41.58**	**35**	P	**P**	**18 26 19.1**	**+0.7**
INK	**Inuvik**	**41.67**	**32**	P	**P**	**18 26 20.3**	**+1.2**
INK				IAmb	IAmb	18 26 22.2	
	comp=Z,4.9nm,1.3s						
INK	**Inuvik**	**41.67**	**32**	P	**P**	**18 26 20.3**	**+1.2**
INK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
A36M	**Sachs Harbour**	**43.88**	**26**	P	**P**	**18 26 38.4**	**+1.5**
A36M				IAmb	IAmb	18 26 54.9	
	comp=Z,6.8nm,1.2s						
C36M	**Paulatuk**	**44.84**	**30**	P	**P**	**18 26 45.6**	**+1.0**
C36M				IAmb	IAmb	18 26 46.8	
	comp=Z,3.3nm,0.7s						
MKAR	**Makanchi Array**	**46.99**	**297**	P	**P**	**18 27 00.9**	**-1.1**
MKAR	**Makanchi Array**	**46.99**	**297**	P	**P**	**18 27 00.9**	**-1.1**
KURK	**Kurchatov**	**47.42**	**304**	P	**P**	**18 27 04.4**	**-0.8**
KURBB	**Kurchatov Arra**	**47.51**	**304**	P	**P**	**18 27 04.3**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=71,slow=8.7,SNR=2.4						
	comp=Z,0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**52.39**	**256**	P	**P**	**18 27 44.8**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=27,slow=6.8,SNR=8.0						
	comp=Z,0.6nm,0.6s						
FINES	**FINESS Array B**	**64.10**	**335**	P	**P**	**18 29 03.8**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=34,slow=8.5,SNR=13						
	comp=Z,1.0nm,0.4s						
PDAR	**Pinedale Array**	**64.75**	**54**	P	**P**	**18 29 10.8**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=276,slow=1.6,SNR=3.8						
	comp=Z,0.4nm,0.8s						
NB2	**NORSAR Subarra**	**68.28**	**341**	P	**P**	**18 29 30.7**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.28**	**341**	P	**P**	**18 29 31.1**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=27,slow=6.2,SNR=7.3						
	comp=Z,1.8nm,0.7s						
HFS	**Hagfors**	**68.51**	**340**	P	**P**	**18 29 32.2**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=49,slow=6.7,SNR=15						
	comp=Z,2.9nm,0.6s						
AKASG	**Malin Array Be**	**71.60**	**326**	P	**P**	**18 29 51.1**	**-0.7**
	comp=Z,1.2nm,0.4s,baz=36,slow=6.5,SNR=14						
	comp=Z,1.2nm,0.4s						
ASAR	**Alice Springs**	**72.17**	**199**	P	**P**	**18 29 56.9**	**+1.5**
	comp=Z,0.6nm,0.9s,baz=0.0,slow=5.0,SNR=3.1						
	comp=Z,0.6nm,0.9s						
BUR08	**Bucovina Ar. S**	**75.63**	**327**	P	**P**	**18 30 15.4**	**-0.2**
BUR08				IAmb	IAmb	18 30 16.5	
	comp=Z,3.2nm,0.9s						
TXAR	**Lajitas Array**	**77.49**	**61**	P	**P**	**18 30 27.7**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=304,slow=4.2,SNR=9.0						
	comp=Z,0.4nm,0.5s						
BRTR	**Keskin Array B**	**78.45**	**317**	P	**P**	**18 30 32.5**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=43,slow=5.6,SNR=4.6						
	comp=Z,0.8nm,0.8s						
H03N2	**Juan Fernandez**	**138.72**	**90**	T	T	21 13 00.9	
	baz=308,slow=76						
H03N1	**Juan Fernandez**	**138.73**	**90**	T	T	21 13 03.6	
	baz=308,slow=76						
H03N3	**Juan Fernandez**	**138.73**	**90**	T	T	21 13 15.4	
	baz=308						

IGQ 24 18:25:02.0±0.4, 4°S±2°×8°0W±°, h26km, M4.1/34, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACH2	**Ecuador-Machal**	**0.40**	**48**	P	Pb	18 25 11.1	+0.4
ACH2				S	Sn	18 25 18.8	0.0
LAMO	**ALAMOR**	**0.49**	**170**	P	Pn	18 25 14.4	+0.9
ISPG	**Isla Puna-Puer**	**0.56**	**354**	P	Pn	18 25 15.5	+1.2
ISPG				S	Sn	18 25 27.1	+4.2
PCRA	**Pucara 2**	**0.68**	**62**	P	Pb	18 25 15.7	0.0
PCRA				S	Sn	18 25 26.6	+0.2
AMCR	**Ecuador-Macara**	**0.85**	**170**	P	Pb	18 25 17.7	-0.5
MCRA	**Macar, Loja**	**0.85**	**170**	P	Pb	18 25 17.6	-0.6
GONZ	**Gonzanam**	**1.00**	**135**	P	Pn	18 25 20.3	-0.5
ALJ1	**Ecuador-Loja-U**	**1.01**	**117**	P	Pn	18 25 19.8	-1.1
ALJ1				S	Sb	18 25 33.7	-0.5
ACUE	**Ecuador-Cuenca**	**1.30**	**62**	P	Pn	18 25 24.3	-0.6
COHC	**Cochancay**	**1.36**	**39**	P	Pn	18 25 24.1	-1.2
COHC				S	Sn	18 25 41.3	-1.1
MILO	**Milagro-Astudi**	**1.36**	**24**	P	Pn	18 25 25.3	0.0
AC07	**Ecuador-Guayaq**	**1.38**	**5**	P	Pn	18 25 24.5	-1.1
GYE3	**Ecuador-Guayaq**	**1.38**	**9**	P	Pn	18 25 24.4	-1.2
BIBL	**Biblin**	**1.44**	**58**	P	Pn	18 25 26.7	-0.1
AGUAY	**Guayaquil**	**1.47**	**6**	P	Pn	18 25 25.3	-1.6
SALI	**Salinas**	**1.60**	**327**	P	Pn	18 25 27.9	-0.7
ZUMB	**Zumba**	**1.64**	**144**	P	Pn	18 25 29.9	+0.6
BOSC	**San Juan Bosco**	**1.65**	**77**	P	Pn	18 25 29.4	-0.2
MONB	**Balzapamba Mon**	**1.97**	**28**	P	Pn	18 25 31.0	-2.9
PPLP	**Puerto Lpez**	**2.08**	**341**	P	Pn	18 25 34.4	-0.9
JSCH	**Cashca Tororas**	**2.12**	**32**	P	Pn	18 25 33.7	-2.5
SANGA	**Volcan Sangay**	**2.27**	**50**	P	Pn	18 25 37.7	-0.6
CHSH	**Refugio Sur-Vo**	**2.37**	**31**	P	Pn	18 25 37.9	-1.9
TAMH	**Tambohuasha Ch**	**2.38**	**34**	P	Pn	18 25 38.3	-1.4
PORT	**Chimborazo Vol**	**2.45**	**33**	P	Pn	18 25 39.6	-1.2
ISPT	**Isla de la Pla**	**2.45**	**337**	P	Pn	18 25 39.5	-0.9
IGUA	**Igualata**	**2.50**	**36**	P	Pn	18 25 40.4	-1.2
BMAS	**Trigal station**	**2.59**	**39**	P	Pn	18 25 41.1	-1.5
ARRY	**Arrayan**	**2.60**	**39**	P	Pn	18 25 42.1	-0.6
TUYU	**Q. Yuibug Volc**	**2.61**	**39**	P	Pn	18 25 42.6	-0.3
BPAT	**Tungurahua Vol**	**2.62**	**40**	P	Pn	18 25 42.7	-0.4
BBIL	**Ulba Tungurahu**	**2.62**	**38**	P	Pn	18 25 43.0	-0.1
JUI6	**Juive**	**2.66**	**38**	P	Pn	18 25 43.3	-0.1
POND	**Pondoa**	**2.67**	**38**	P	Pn	18 25 43.6	-0.1
BULB	**Ulba Tungurahu**	**2.68**	**39**	P	Pn	18 25 43.2	-0.7
PUYO	**Puyo, Santa Ro**	**2.90**	**46**	P	Pn	18 25 45.9	-0.8
ILLI	**Illinizas Sur**	**3.12**	**26**	P	Pn	18 25 50.1	+0.1
FLF1	**Flavio Alfaro-**	**3.16**	**5**	P	Pn	18 25 49.0	-1.2
BRRN	**Barrancas-Volc**	**3.18**	**31**	P	Pn	18 25 50.4	-0.4
VCES	**Cotopaxi**	**3.21**	**32**	P	Pn	18 25 52.6	+1.4
SLOR	**San Lorenzo -**	**3.21**	**30**	P	Pn	18 25 51.9	+0.7
**C

NISR	**Nisiros**	**0.42**	**213**	P	**Pg**	**18 39 27.0**	**+0.4**
NISR				S	**Sb**	**18 39 33.2**	**-0.4**
DIDI	**Didim-Aydin**	**0.43**	**342**	Pg	**Pg**	**18 39 27.1**	**+0.2**
DDIM	**Aydin, Didim**	**0.51**	**345**	P	**Pg**	**18 39 28.4**	**+0.1**
DDIM				S	**Sb**	**18 39 36.3**	**-0.1**
DDIM				*i* AML	AML	18 39 40.0	
	comp=N,651nm,0.4s						
DDIM				*i* AML	AML	18 39 41.0	
	comp=E,567nm,0.4s						
TURN	**Turunc**	**0.69**	**105**	P	**Pg**	**18 39 31.5**	**-0.3**
TURN				S	**Sb**	**18 39 42.5**	**+0.8**
TURN	**Turunc**	**0.69**	**105**	Pg	**Pg**	**18 39 31.4**	**-0.3**
TURN				Sg	**Sb**	**18 39 42.6**	**+1.0**
YER	**Yerkesik**	**0.72**	**76**	Pg	**Pg**	**18 39 32.4**	**+0.2**
YER	**Yerkesik**	**0.72**	**76**	P	**Pg**	**18 39 32.1**	**-0.1**
YER				S	**Sg**	**18 39 41.6**	**-0.1**
GCAM	**G?zelcaml?**	**0.75**	**349**	P	**Pg**	**18 39 32.6**	**-0.2**
GCAM				S	**Sb**	**18 39 44.5**	**+1.3**
GCAM				*i* AML	AML	18 39 48.0	
	comp=N,326nm,0.2s						
GCAM				*i* AML	AML	18 39 49.0	
	comp=E,388nm,0.2s						
GCAM	**G?zelcaml?**	**0.75**	**349**	Pg	**Pg**	**18 39 33.0**	**+0.2**
MULA	**Mugla, Merkez-**	**0.78**	**68**	P	**Pg**	**18 39 34.0**	**+0.5**
MULA				S	**Sg**	**18 39 44.4**	**+0.6**
SMG	**Samos**	**0.87**	**329**	P	**Pg**	**18 39 35.0**	**-0.2**
SMG				S	**Sb**	**18 39 48.1**	**+1.3**
	932nm,0.3s						
SMG	**Samos**	**0.87**	**329**	P	**Pg**	**18 39 35.2**	**0.0**
SMG				S	**Sb**	**18 39 47.3**	**+0.5**
SMG				AML	AML	18 39 50.1	
	comp=E,2311μm,0.3s						
SMG				AML	AML	18 39 51.6	
	comp=N,1408μm,0.3s						
ARG	**Arkhangelos**	**0.94**	**142**	Pg	**Pb**	**18 39 36.3**	**-0.1**
ARG	**Arkhangelos**	**0.94**	**142**	P	**Pb**	**18 39 36.0**	**-0.4**
ARG				S	**Sn**	**18 39 49.8**	**-0.6**
	comp=N,520nm,0.5s						
ARG	**Arkhangelos**	**0.94**	**142**	P	**Pg**	**18 39 36.7**	**+0.2**
ARG				S	**Sn**	**18 39 50.7**	**+0.3**
ARG				AML	AML	18 39 52.7	
	comp=N,1017μm,0.6s						
ARG				AML	AML	18 39 54.6	
	comp=E,1053μm,0.5s						
DALY	**Dalyan (Mula)**	**1.01**	**98**	Pg	**Pn**	**18 39 38.2**	**+0.2**
ESEN	**Aydn-Nazilli**	**1.12**	**42**	P	**Pb**	**18 39 38.9**	**-0.5**
ESEN				S	**Sb**	**18 39 52.5**	**-1.4**
DGB	**zmir**	**1.17**	**339**	P	**Pn**	**18 39 40.0**	**-0.2**
NAZL	**Nazilli-Aydin**	**1.22**	**35**	Pn	**Pn**	**18 39 41.2**	**+0.2**
IZMR	**zmir-demi**	**1.25**	**20**	P	**Pn**	**18 39 41.4**	**0.0**
IZMR				S	**Sb**	**18 39 57.9**	**+0.3**
IZMR				*i* AML	AML	18 40 05.0	
	comp=E,139nm,0.6s						
FETY	**Fethiye**	**1.38**	**103**	Pn	**Pb**	**18 39 44.1**	**+0.2**
KARP	**Karpathos**	**1.43**	**188**	Pn	**Pn**	**18 39 43.5**	**-0.3**
BLCB	**Balcova**	**1.45**	**348**	Pn	**Pn**	**18 39 44.0**	**-0.1**
BLCB	**Balcova**	**1.45**	**348**	P	**Pn**	**18 39 43.7**	**-0.4**
APE	**Apeiranthos**	**1.51**	**275**	Pn	**Pn**	**18 39 45.0**	**0.0**
APE	**Apeiranthos**	**1.51**	**275**	P	**Pn**	**18 39 44.9**	**-0.1**
APE				S	**Sn**	**18 40 03.3**	**-1.1**
CAME	**Cameli-Denizli**	**1.52**	**90**	Pn	**Pn**	**18 39 45.8**	**+0.6**
APMY	**Acipayam-Deniz**	**1.59**	**71**	Pn	**Pb**	**18 39 47.4**	**-0.2**
CHOS	**Chios island**	**1.78**	**323**	P	**Pn**	**18 39 49.5**	**+0.7**
KULA	**Kula-Manisa**	**1.84**	**32**	P	**Pn**	**18 39 49.2**	**-0.4**

IDC 24 18:42:56.6±2.8, 6°.20S×149°.73E, h0km, mb3.7/3, mbtmp3.9/4, ML1.7/1, Error ellipse: s-maj=83.4km s-min=40.0km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.08**	**219**	Pn	Pn	18 44 01.3	+0.9
	3.9nm,0.3s,baz=89,slow=4.0,SNR=17						
PMG				Sn	Sn	18 44 45.2	-3.7
	37nm,0.3s,baz=42,slow=22,SNR=22						
	14nm,0.3s						
WRA	**Warramunga Arr**	**20.26**	**226**	P	P	18 47 33.0	-0.9
	1.9nm,0.6s,baz=52,slow=11,SNR=16						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**23.10**	**220**	P	P	18 48 03.7	-0.6
	0.8nm,0.6s,baz=55,slow=9.2,SNR=14						
	0.8nm,0.6s						
STKA	**Stephens Creek**	**26.66**	**196**	P	P	18 48 37.6	+0.4
	5.6nm,1.3s,baz=16,slow=15,SNR=2.9						
	5.6nm,1.3s						
TORD	**Torodi Ar. Bea**	**147.77**	**285**	PKPbc	PKPbc	19 02 44.3	-0.3
	1.0nm,0.6s,baz=75,slow=2.6,SNR=8.0						

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*IDC **24** 18:47:07.0±3.7, 36°.45N×71°.25E, h164km±34km, mb3.5/13, mbtmp4.0/19, Error ellipse: s-maj=25.8km s-min=13.8km az=31.0*

*NEIC **24** 18:47:11.1±1.8, 36°.68N±0°.05×71°.29E±0°.06, h194km±6km, mb4.1/35, Error ellipse: s-maj=8.8km s-min=5.1km az=225.0*

*NNC **24** 18:47:14.2±5.4, 37°.04N×70°.98E, h157km±86km, mb3.1, mpv3.8, Error ellipse: s-maj=45.1km s-min=33.1km az=24.0*

ISC 24 18:47:11.0±0.5, 36°.73N±0°.05×71°.32E±0°.05, h200km, n93, σ1ˢ59/106, mb4.0/27, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.40**	**341**	Pn	**Pn**	**18 47 53.8**	**-0.1**
GAR				Sn	**Sn**	**18 48 24.9**	**-2.6**
SIMJ	**Simiganj**	**2.66**	**317**	Pn	**Pn**	**18 47 56.2**	**-0.6**
SIMJ				Sn	**Sn**	**18 48 29.2**	**-3.4**
DRK	**Karamyk**	**2.77**	**8**		**Pn**	**18 47 58.6**	**+0.4**
DRK				Sn	**Sn**	**18 48 32.8**	**-2.5**
KBL	**Kabul**	**2.87**	**221**	Pn	**Pn**	**18 47 58.0**	**-1.3**
KBL				Sn	**Sn**	**18 48 32.1**	**-4.9**
BTK	**Batken**	**3.35**	**353**	Pn	**Pn**	**18 48 05.7**	**+0.9**
BTK				Sn	**Sn**	**18 48 45.0**	**-2.1**
NIL	**Nilore**	**3.46**	**152**	Pn	**Pn**	**18 48 05.8**	**-0.3**
NIL				Sn	**Sn**	**18 48 46.0**	**-3.3**
KSH	**Kashi**	**4.60**	**51**	Pn	**Pn**	**18 48 16.4**	**-4.0**
KSH				Sn	Sn	18 49 03.9	-11
KSH				smax	smax		
	comp=N,260nm,0.6s						
KSH				smax	smax		
	comp=E,94nm,0.5s						
NRN	**Naryn**	**5.94**	**36**	Pn	**Pn**	**18 48 36.9**	**-0.8**
AAK	**Ala-Archa**	**6.39**	**22**	P	**Pn**	**18 48 43.9**	**+0.5**
	comp=E,2.1nm,0.3s						
AAK				S	**Sn**	**18 49 53.8**	**-2.7**
	comp=E,36nm,0.7s						
AAK	**Ala-Archa**	**6.39**	**22**	Pn	**Pn**	**18 48 43.8**	**+0.5**
AAK	**Ala-Archa**	**6.39**	**22**	P	**Pn**	**18 48 44.2**	**+0.9**
	comp=E,5.3nm,0.4s,baz=188,slow=7.8,SNR=36						
AAK				S	**Sn**	**18 49 54.2**	**-2.3**
	comp=E,20nm,0.7s,baz=140,slow=23,SNR=17						
KK31	**Karatay Array**	**6.40**	**355**	⇓P	**Pn**	**18 48 43.3**	**0.0**
	comp=E,19nm,0.5s,baz=187,slow=14,SNR=407						
KK31				⇑S	**Sn**	**18 49 52.6**	**-4.0**
	comp=E,36nm,0.5s,baz=181,slow=21,SNR=37						
KKAR	**Karatay Array**	**6.40**	**355**	Pn	**Pn**	**18 48 43.1**	**-0.2**
KKAR	**Karatay Array**	**6.40**	**355**	Pn	**Pn**	**18 48 43.1**	**-0.2**
FRU1	**Bishkek**	**6.58**	**22**	Pn	**Pn**	**18 48 47.0**	**+1.2**
CHMS	**Chumysh**	**6.79**	**22**	P	**Pn**	**18 48 48.5**	**0.0**
CHMS	comp=E,2.0nm,0.5s			S	**Sn**	**18 50 03.1**	**-2.7**
	comp=E,15nm,0.7s						
TKM2	**Tokmak 2**	**7.00**	**27**	⇑P	**Pn**	**18 48 51.5**	**+0.2**
	comp=E,1.8nm,0.5s						
TKM2				⇑S	**Sn**	**18 50 09.3**	**-1.7**
	comp=E,8.6nm,0.8s						
KDJ	**Kajisay**	**7.04**	**38**	Pn	**Pn**	**18 48 49.9**	**-2.0**
MK31	**Makanchi Array**	**12.95**	**36**	Pn	**Pn**	**18 50 06.4**	**-1.3**
MKAR	**Makanchi Array**	**12.95**	**36**	Pn	**Pn**	**18 50 06.4**	**-1.3**
MKAR	**Makanchi Array**	**12.95**	**36**	P	**P**	**18 50 10.1**	**-1.0**
	comp=E,0.4nm,0.3s,baz=202,slow=11,SNR=9.4						
KURBB	**Kurchatov Arra**	**14.82**	**18**	P	**P**	**18 50 32.8**	**+1.1**
	comp=E,0.4nm,0.2s,baz=207,slow=10,SNR=2.0						
AB31	**Akbulak array**	**15.01**	**330**	⇑P	**P**	**18 50 35.4**	**+1.6**
	comp=E,1.0nm,0.3s,baz=146,slow=11,SNR=47						
AB31				⇓S	**S**	**18 53 13.3**	**-6.4**
	comp=E,4.3nm,0.7s,baz=151,slow=22,SNR=7.8						
ABKAR	**Akbulak array**	**15.01**	**330**	P	**Pn**	**18 50 32.1**	**-1.0**
ABKAR				IAmb	IAmb	18 50 36.1	
	comp=Z,4.2nm,0.6s						
ABKAR	**Akbulak array**	**15.01**	**330**	P	**Pn**	**18 50 32.4**	**-0.8**
BVAR	**Borovoye Array**	**16.31**	**358**	P	**Pn**	**18 50 50.1**	**+1.4**
	comp=Z,1.5nm,0.5s,baz=155,slow=8.3,SNR=7.6						
BRVK	**Borovoye**	**16.34**	**358**	P	**P**	**18 50 47.7**	**-0.8**
AKTO	**Aktyubinsk**	**16.71**	**329**	⇓P	**Pn**	**18 50 53.4**	**-0.2**
	comp=Z,3.3nm,0.4s						
AKTO				⇓S	**S**	**18 53 56.1**	**-0.7**
	comp=Z,3.6nm,1.0s						
AKTO	**Aktyubinsk**	**16.71**	**329**	P	**Pn**	**18 50 54.0**	**+0.4**
	comp=Z,8.7nm,0.3s,baz=140,slow=7.2,SNR=32						
LSA	**Lhasa**	**17.99**	**107**	P	**P**	**18 51 05.6**	**-1.7**
LSA				IAmb	IAmb	18 51 13.1	
	comp=Z,5.5nm,0.7s						
ZALV	**Zalesovo Beam**	**19.60**	**24**	P	**Pn**	**18 51 26.0**	**-1.6**
	comp=Z,1.9nm,0.3s,baz=218,slow=9.1,SNR=2.6						
SHL	**Shillong**	**20.78**	**117**	P	**P**	**18 51 36.2**	**-0.7**
ARTI	**Arti**	**21.51**	**340**	P	**P**	**18 51 44.7**	**+0.7**
ARTI	**Arti**	**21.51**	**340**	P	**P**	**18 51 45.2**	**+1.2**
	comp=Z,3.0nm,0.6s,baz=169,slow=7.9,SNR=5.2						
	comp=Z,3.0nm,0.6s						
PZH	**PanZhiHua**	**27.74**	**103**	P	**P**	**18 52 43.5**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
BR131	**Keskin Array S**	**29.61**	**287**	P	**P**	**18 52 59.1**	**+1.5**
BRTR	**Keskin Array B**	**29.61**	**287**	P	**P**	**18 52 58.8**	**+1.2**
BRTR	**Keskin Array B**	**29.61**	**287**	P	**P**	**18 52 58.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=99,slow=7.0,SNR=3.1						
	comp=Z,0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.34**	**119**	P	**P**	**18 53 04.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=291,slow=8.8,SNR=4.8						
	comp=Z,0.4nm,0.7s						
HHC	**Hu-ho-hao-te**	**31.44**	**70**	*e*P	**P**	**18 53 14.5**	**+0.9**
HHC				pmax	pmax		
	comp=Z,21nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,5.3s						
AK09	**Malin Array Si**	**32.95**	**308**	P	**P**	**18 53 27.6**	**+1.1**
AK10	**Malin Array Si**	**32.97**	**308**	P	**P**	**18 53 27.5**	**+0.8**
AK08	**Malin Array Si**	**32.98**	**308**	P	**P**	**18 53 27.5**	**+0.8**
AK07	**Malin Array Si**	**32.99**	**308**	P	**P**	**18 53 28.0**	**+1.1**
AK06	**Malin Array Si**	**33.00**	**308**	P	**P**	**18 53 28.1**	**+1.1**
AKASG	**Malin Array Be**	**33.01**	**308**	P	**P**	**18 53 27.7**	**+0.8**
AKASG	**Malin Array Be**	**33.01**	**308**	P	**P**	**18 53 27.9**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=82,slow=6.9,SNR=21						
	comp=Z,1.4nm,0.5s						
AKBB	**Malin Array Si**	**33.01**	**308**	P	**P**	**18 53 28.0**	**+1.0**
AKBB				IAmb	IAmb	18 53 28.6	
	comp=Z,3.9nm,0.8s						
AKBB	**Malin Array Si**	**33.01**	**308**	P	**P**	**18 53 27.8**	**+0.8**
AK05	**Malin Array Si**	**33.01**	**308**	P	**P**	**18 53 28.1**	**+1.1**
AK02	**Malin Array Si**	**33.01**	**308**	P	**P**	**18 53 28.0**	**+1.0**
AK03	**Malin Array Si**	**33.01**	**309**	P	**P**	**18 53 27.8**	**+0.8**
AK01	**Malin Array Si**	**33.01**	**308**	P	**P**	**18 53 27.9**	**+0.9**
KIEV	**Kiev**	**33.01**	**308**	P	**P**	**18 53 28.0**	**+0.9**
KIEV				IAmb	IAmb	18 53 28.6	
	comp=Z,3.5nm,0.8s						
KIEV	**Kiev**	**33.01**	**308**	P	**P**	**18 53 27.8**	**+0.8**
AK11	**Malin Array Si**	**33.04**	**308**	P	**P**	**18 53 28.1**	**+0.9**
AK12	**Malin Array Si**	**33.04**	**308**	P	**P**	**18 53 28.4**	**+1.1**
AK04	**Malin Array Si**	**33.05**	**309**	P	**P**	**18 53 28.1**	**+0.8**
AK15	**Malin Array Si**	**33.07**	**308**	P	**P**	**18 53 28.5**	**+1.0**
AK14	**Malin Array Si**	**33.07**	**308**	P	**P**	**18 53 28.6**	**+1.1**
AK16	**Malin Array Si**	**33.08**	**308**	P	**P**	**18 53 28.4**	**+0.8**
MLR	**Muntele Rosu**	**34.90**	**299**	P	**P**	**18 53 45.6**	**+2.1**
MLR				IAmb	IAmb	18 53 47.3	
	comp=Z,4.1nm,0.8s						
BUR08	**Bucovina Ar. S**	**35.39**	**303**	P	**P**	**18 53 48.5**	**+0.8**
KAAM	**Kaadhehdhoo**	**36.09**	**177**	P	**P**	**18 53 54.8**	**+1.1**
TIA	**Tai'an**	**36.56**	**77**	P	**P**	**18 53 57.9**	**+0.3**
LVZ	**Lovozero**	**37.34**	**338**	P	**P**	**18 54 04.8**	**+1.0**
FIA1	**FINESS Array S**	**37.44**	**326**	P	**P**	**18 54 06.1**	**+1.5**
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**18 54 05.8**	**+1.2**
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**18 54 06.0**	**+1.4**
	comp=Z,1.6nm,0.3s,baz=119,slow=9.4,SNR=27						
	comp=Z,1.6nm,0.3s						
FNA	**Florina**	**38.74**	**292**	P	**P**	**18 54 15.9**	**0.0**
FNA				IAmb	IAmb	18 54 27.1	
	comp=Z,5.6nm,1.2s						
PSZ	**Piszkesteto**	**38.96**	**303**	P	**P**	**18 54 19.3**	**+1.7**
PSZ				IAmb	IAmb	18 54 23.7	
	comp=Z,9.7nm,1.4s						
KEV	**Kevo**	**40.69**	**338**	P	**P**	**18 54 32.9**	**+1.5**
ARCES	**ARCESS Array B**	**41.03**	**337**	P	**P**	**18 54 36.1**	**+1.8**
	comp=Z,2.6nm,0.5s,baz=111,slow=7.2,SNR=18						
	comp=Z,2.6nm,0.5s						
HFS	**Hagfors**	**43.05**	**322**	P	**P**	**18 54 51.7**	**+1.1**
	comp=Z,4.3nm,0.4s,baz=89,slow=12,SNR=29						
	comp=Z,4.3nm,0.4s						
NC405	**NORSAR Array S**	**44.12**	**323**	P	**P**	**18 55 00.2**	**+1.0**
NC405				IAmb	IAmb	18 55 29.9	
	comp=Z,9.3nm,1.1s						
NC602	**NORSAR Array S**	**44.17**	**322**	P	**P**	**18 55 00.3**	**+0.7**
NC602				IAmb	IAmb	18 55 00.9	
	comp=Z,18nm,1.4s						
NB2	**NORSAR Subarra**	**44.35**	**323**	P	**P**	**18 55 01.8**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.35**	**323**	P	**P**	**18 55 01.9**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=106,slow=7.2,SNR=13						
	comp=Z,2.2nm,0.6s						
NC204	**NORSAR Array S**	**44.59**	**323**	P	**P**	**18 55 03.9**	**+0.9**
NC204				IAmb	IAmb	18 55 13.9	
	comp=Z,24nm,1.5s						
CTI	**Castel Tesino**	**44.78**	**301**	P	**P**	**18 55 05.2**	**+0.4**
CTI				IAmb	IAmb	18 55 20.2	
	comp=Z,8.2nm,1.3s						
KONO	**Kongsberg**	**45.07**	**321**	P	**P**	**18 55 06.7**	**0.0**
KONO				IAmb	IAmb	18 55 07.1	
	comp=Z,20nm,1.3s						
TIXI	**Tiksi**	**45.46**	**22**	P	**P**	**18 55 10.5**	**+1.0**
FUORN	**Ofenpass-Fuorn**	**45.62**	**302**	P	**P**	**18 55 12.1**	**+0.6**
SENIN	**Lac Senin/Sane**	**47.68**	**303**	P	**P**	**18 55 27.5**	**+0.1**
BNI	**Bardonecchia**	**48.40**	**301**	P	**P**	**18 55 33.7**	**+0.8**
BNI				IAmb	IAmb	18 55 57.0	
	comp=Z,7.2nm,1.2s						
ESDC	**Sonseca Array**	**57.58**	**298**	P	**P**	**18 56 40.5**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=50,slow=7.9,SNR=7.0						
	comp=Z,0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**65.98**	**269**	P	**P**	**18 57 34.5**	**-1.7**
	comp=Z,1.6nm,0.5s,baz=49,slow=5.9,SNR=24						
	comp=Z,1.6nm,0.5s						
D19K	**Kuna River**	**68.85**	**17**	P	**P**	**18 57 54.6**	**+1.2**
C36M	**Paulatuk**	**73.62**	**6**	P	**P**	**18 58 22.7**	**+0.9**
C36M				IAmb	IAmb	18 58 32.8	
	comp=Z,2.9nm,1.0s						
H29M	**Whitestone**	**74.85**	**12**	P	**P**	**18 58 30.3**	**+1.2**
YKA	**Yellowknife Ar**	**81.00**	**3**	P	**P**	**18 59 04.2**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=348,slow=5.8,SNR=4.5						
	comp=Z,0.6nm,0.7s						
WRA	**Warramunga Arr**	**81.89**	**122**	P	**P**	**18 59 06.7**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=327,slow=5.3,SNR=4.7						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**84.17**	**125**	P	**P**	**18 59 18.9**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=322,slow=5.2,SNR=2.8						
	comp=Z,0.3nm,0.8s						

IDC 24 18:49:42.9±5.1, 10°.22N×126°.00E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=266.6km s-min=27.4km az=94.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**28.45**	**21**	P	P	18 55 39.5	0.0
	0.7nm,0.8s,baz=194,slow=7.7,SNR=4.8						
	0.7nm,0.8s						
WRA	**Warramunga Arr**	**31.07**	**165**	P	P	18 56 02.7	-0.3
	0.6nm,0.6s,baz=343,slow=9.6,SNR=6.4						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**34.55**	**167**	P	P	18 56 33.5	+0.2
	0.6nm,0.6s,baz=3.5,slow=10.0,SNR=11						
	0.6nm,0.6s						

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*GUC **24** 19:10:10.0±0.6, 22°.49S×67°.81W, h192km±9km, ML3.5*

*SCB **24** 19:10:12.3±1.2, 22°.22S×67°.56W, h154km±15km, ML2.8/3, Error ellipse: s-maj=16.7km s-min=4.1km az=0.0*

ISC 24 19:10:08.6±3.1, 22°.55±0°.1×67°.60W±0°.06, h177km±24km, n11, σ1ˢ41/20, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.66**	**294**	*e*P	**Pn**	**19 10 42.9**	**+0.7**
PB09				*e*S	**Sn**	**19 11 07.8**	**-0.2**
PB09	**IPOC Station P**	**1.66**	**294**	Pg	**Pn**	**19 10 44.6**	**+2.4**
PB09				Sg	**Sn**	**19 11 08.6**	**+0.5**
PB09				IAML		19 11 11.4	
	51nm,0.3s						
MOCB	**Mochara**	**2.20**	**57**	Pg	**Pn**	**19 10 48.8**	**+0.6**
MOCB				Sg	**Sn**	**19 11 17.1**	**-1.7**
MOCB				IAML		19 11 20.8	
	18nm,0.4s						
PB01	**IPOC Station P**	**2.26**	**309**	*e*P	**Pn**	**19 10 49.0**	**+0.5**
PB01				*e*S	**Sn**	**19 11 19.1**	**-0.4**
PB01				IAML		19 11 20.3	
	comp=E,190nm,0.2s						
PB01	**IPOC Station P**	**2.26**	**309**	Pg	**Pn**	**19 10 49.3**	**+0.8**
PB01				Sg	**Sn**	**19 11 18.0**	**-1.5**
PB01				IAML		19 11 19.8	
	comp=E,132nm,0.2s						
PB04	**IPOC Station P**	**2.36**	**273**	*e*P	**Pn**	**19 10 50.1**	**+0.4**
PB04				*e*S	**Sn**	**19 11 19.9**	**-1.6**
PB04				IAML		19 11 22.1	
	comp=N,171nm,0.2s						
HMBC	**Humberstone**	**3.05**	**315**	*e*P	**Pn**	**19 10 57.7**	**-0.3**
HMBC				*e*S	**Sn**	**19 11 34.0**	**-2.3**
HMBC				IAML		19 11 36.1	
	comp=N,88nm,0.1s						
TA01	**Diego Aracena**	**3.06**	**308**	*e*P	**Pn**	**19 10 58.2**	**+0.3**
TA01				*e*S	**Sn**	**19 11 34.1**	**-2.2**
TA01				IAML		19 11 39.0	
	comp=E,55nm,0.2s						
GO01	**Chusmiza**	**3.17**	**332**	*e*P	**Pn**	**19 11 00.8**	**+1.2**
GO01				*e*S	**Sn**	**19 11 40.0**	**+0.5**
GO01				IAML		19 11 43.7	
	comp=N,136nm,0.1s						
GO01	**Chusmiza**	**3.17**	**332**	Pg	**Pn**	**19 11 00.9**	**+1.2**
PB12	**IPOC Station P**	**4.62**	**326**	Pg	**Pn**	**19 11 19.2**	**+1.5**

IDC 24 19:14:57.5±1.1, 18°.67N×143°.84E, h0km, mb3.7/7, mbtmp3.6/8, ML2.5/1, MS2.7/2, Error ellipse: s-maj=45.1km s-min=18.9km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**16.48**	**302**	LR	LR	19 24 22.3	
	comp=Z,35nm,19.8s,baz=130,slow=34						
MJAR	**Matsushiro Arr**	**18.48**	**346**	P	P	19 19 13.4	-1.7
	baz=172,slow=7.5,SNR=4.4						
	0.5nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**21.66**	**87**	T	T	19 41 37.0	
	baz=274,slow=74						
H11S1	**WAKE ISLAND Hy**	**21.67**	**87**	T	T	19 41 37.8	
	baz=274						
H11S2	**WAKE ISLAND Hy**	**21.68**	**87**	T	T	19 41 40.6	
	baz=274,slow=74						
H11N1	**WAKE ISLAND Hy**	**21.80**	**83**	T	T	19 41 52.1	
	baz=273,slow=75						
H11N2	**WAKE ISLAND Hy**	**21.80**	**83**	T	T	19 41 49.0	
	baz=273,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**21.81**	**83**	T	T	19 41 51.8	
	baz=273,slow=75						
KSRS	**Korea Array**	**23.34**	**327**	P	P	19 20 07.1	-0.3
	0.9nm,0.6s,baz=146,slow=8.9,SNR=8.4						
	0.9nm,0.6s						
WRA	**Warramunga Arr**	**39.49**	**194**	P	P	19 22 30.3	+0.4
	0.4nm,0.5s,baz=14,slow=8.7,SNR=5.5						
WRA				PcP	PcP	19 24 37.8	-0.1
	0.3nm,0.9s,baz=15,slow=3.5,SNR=1.4						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**42.48**	**277**	LR	LR	19 39 18.5	
	comp=Z,8.2nm,21.5s,baz=355,slow=34						
ASAR	**Alice Springs**	**43.18**	**193**	P	P	19 22 59.4	-0.9
	0.4nm,0.6s,baz=18,slow=8.8,SNR=9.7						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**57.22**	**314**	P	P	19 24 47.0	+0.5
	0.4nm,0.6s,baz=97,slow=6.1,SNR=1.2						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**60.16**	**318**	P	P	19 25 07.0	0.0
	0.5nm,0.2s,baz=96,slow=7.6,SNR=4.1						
	0.5nm,0.2s						
ILAR	**Eielson Array**	**64.45**	**26**	P	P	19 25 35.6	+0.1
	0.5nm,0.8s,baz=254,slow=4.8,SNR=6.7						
	0.5nm,0.8s						
BVAR	**Borovoye Array**	**65.38**	**320**	P	P	19 25 42.0	+0.2
	2.5nm,0.8s,baz=92,slow=7.5,SNR=12						
	2.5nm,0.8s						

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*IDC **24** 19:19:56.3±1.5, 36°.43N×138°.04E, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=16.1km s-min=6.7km az=63.0*

JMA 24 19:19:47.8±0.0, 36°.2N±0°.1×137°.6E±0°.1, h4km, MV1.4/20, HIDA MOUNTAINS REGION, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.20**	**268**	P	Pg	19 19 51.9	+0.2
JGN				S	Sg	19 19 54.8	+0.4

CMIG	**Matias Romero**	**1.60 1**			**Pn**	**19 55 04.1**	**-2.2**
CMIG					**Sn**	**19 55 22.0**	**-3.8**
CMIG	**Matias Romero**	**1.60 1**	*eP*		**Pn**	**19 55 04.1**	**-2.2**
CMIG			*eS*		**Sn**	**19 55 22.0**	**-3.8**
PCIG		**1.65 82**			**Pn**	**19 55 05.6**	**-1.3**
PCIG		**1.65 82**	*eP*		**Pn**	**19 55 05.6**	**-1.3**
PCIG			*eS*		**Sn**	**19 55 24.5**	**-2.4**
UXUV	**UXUV**	**1.97 22**	*eP*		**Pn**	**19 55 10.2**	**-1.2**
UXUV			*eS*		**Sn**	**19 55 31.7**	**-3.2**
TGIG		**2.15 53**			**Pn**	**19 55 13.6**	**-0.4**
TGIG					**Sn**	**19 55 38.9**	**-0.5**
TGIG		**2.15 53**	*eP*		**Pn**	**19 55 13.6**	**-0.4**
TGIG			*eS*		**Sn**	**19 55 38.9**	**-0.5**
TGBT	**Tuxtla Gutierr**	**2.18 53**			**Pn**	**19 55 14.4**	**+0.2**
TGBT					**Sn**	**19 55 39.1**	**-0.8**
TGBT	**Tuxtla Gutierr**	**2.18 53**	*eP*		**Pn**	**19 55 14.4**	**+0.2**
TGBT			*eS*		**Sn**	**19 55 39.1**	**-0.8**
PEIG	**Puerto Escondi**	**2.21 284**			**Pn**	**19 55 13.5**	**-1.2**
PEIG	**Puerto Escondi**	**2.21 284**	*eP*		**Pn**	**19 55 13.5**	**-1.2**
PEIG			*eS*		**Sn**	**19 55 36.6**	**-4.2**
OXBJ	**Oaxaca**	**2.35 313**			**Pn**	**19 55 17.2**	**+0.5**
OXBJ					**Sn**	**19 55 44.5**	**0.0**
OXBJ	**Oaxaca**	**2.35 313**	*eP*		**Pn**	**19 55 17.2**	**+0.5**
OXBJ			*eS*		**Sn**	**19 55 44.5**	**0.0**
OXIG	**Oaxaca**	**2.36 312**			**Pn**	**19 55 17.5**	**+0.6**
OXIG					**Sn**	**19 55 44.2**	**-0.6**
VHO	**Vista Hermosa**	**2.36 312**	*eP*		**Pn**	**19 55 17.5**	**+0.6**
VHO			*eS*		**Sn**	**19 55 44.2**	**-0.6**
NEUV	**Arroyo Zacate**	**2.38 339**	*eP*		**Pn**	**19 55 15.2**	**-1.8**
NEUV			*eS*		**Sn**	**19 55 42.4**	**-2.5**
TUIG	**Tuzandepetl**	**2.59 10**	*eP*		**Pn**	**19 55 17.6**	**-2.2**
TUIG			*eS*		**Sn**	**19 55 50.7**	**+0.7**
THIG		**2.62 102**			**Pn**	**19 55 20.1**	**-0.2**
THIG		**2.62 102**	*eP*		**Pn**	**19 55 20.1**	**-0.2**
THIG			*eS*		**Sn**	**19 55 47.9**	**-2.9**
CCIG	**Comitan**	**2.79 73**			**Pn**	**19 55 22.5**	**-0.3**
CCIG	**Comitan**	**2.79 73**	*eP*		**Pn**	**19 55 24.0**	**+1.2**
CCIG			*eS*		**Sn**	**19 55 57.4**	**+2.1**
YOIG	**Yosondua**	**2.88 299**			**Pn**	**19 55 24.0**	**-0.1**
YOIG					**Sn**	**19 55 58.6**	**+1.0**
YOIG	**Yosondua**	**2.88 299**	*eP*		**Pn**	**19 55 24.0**	**-0.1**
YOIG			*eS*		**Sn**	**19 55 58.6**	**+1.0**
PMUV	**Sontecomapan**	**3.06 356**	*eP*		**Pn**	**19 55 23.3**	**-3.1**
PMUV			*eS*		**Sn**	**19 55 57.2**	**-4.5**
PNIG	**Pinotepa**	**3.22 287**			**Pn**	**19 55 28.0**	**-0.6**
PNIG	**Pinotepa**	**3.22 287**	*eP*		**Pn**	**19 55 28.0**	**-0.6**
PNIG			*eS*		**Sn**	**19 56 00.5**	**-5.2**
RTAL	**Retalhuleu**	**3.25 107**			**Pn**	**19 55 32.0**	**+3.0**
TXIG	**Tlaxiaco**	**3.26 303**			**Pn**	**19 55 30.5**	**+1.2**
TXIG					**Sn**	**19 56 07.0**	**0.0**
TXIG	**Tlaxiaco**	**3.26 303**	*eP*		**Pn**	**19 55 30.5**	**+1.2**
TXIG			*eS*		**Sn**	**19 56 07.0**	**0.0**
HUEH	**Huehuetenango**	**3.29 92**			**Pn**	**19 55 30.9**	**+1.2**
TOIG	**Toxpalan**	**3.32 322**			**Pn**	**19 55 31.8**	**+1.7**
TOIG					**Sn**	**19 56 09.1**	**+0.8**
TOIG	**Toxpalan**	**3.32 322**	*eP*		**Pn**	**19 55 31.8**	**+1.7**
TOIG			*eS*		**Sn**	**19 56 09.1**	**+0.8**
HLIG	**Huajuapan de L**	**3.63 311**			**Pn**	**19 55 36.4**	**+2.1**
HLIG	**Huajuapan de L**	**3.63 311**	*eP*		**Pn**	**19 55 36.4**	**+2.1**
HLIG			*eS*		**Sn**	**19 56 11.6**	**-4.4**
TPIG	**Tehuac#an**	**3.75 322**	*eP*		Pn	19 55 45.4	+9.4
TPIG			*eS*		Sn	19 56 30.4	+11
FTIG	**Fresnillo de T**	**3.92 309**			**Pn**	**19 55 40.0**	**+1.8**
FTIG					**Sn**	**19 56 21.0**	**-2.0**
FTIG	**Fresnillo de T**	**3.92 309**	*eP*		**Pn**	**19 55 40.0**	**+1.8**
FTIG			*eS*		**Sn**	**19 56 21.0**	**-2.0**
TLIG	**Tlapa**	**4.07 301**	Pn		**Pn**	**19 55 41.6**	**+1.3**
TLIG	**Tlapa**	**4.07 301**	*eP*		**Pn**	**19 55 41.1**	**+0.8**
TLIG			*eS*		**Sn**	**19 56 24.4**	**-2.4**
CRIG	**Cruz Grande**	**4.24 288**			**Pn**	**19 55 42.5**	**0.0**
CRIG	**Cruz Grande**	**4.24 288**	*eP*		**Pn**	**19 55 42.5**	**0.0**
CRIG			*eS*		**Sn**	**19 56 24.4**	**-6.5**
JAUV	**Jalcomulco**	**4.27 335**	*eP*		**Pn**	**19 55 39.9**	**-3.1**
JAUV			*eS*		**Sn**	**19 56 26.6**	**-4.9**
DAIG	**Los Arroyos**	**4.80 289**			**Pn**	**19 55 50.1**	**-0.2**
DAIG	**Los Arroyos**	**4.80 289**	*eP*		**Pn**	**19 55 50.1**	**-0.2**
DAIG			*eS*		**Sn**	**19 56 38.4**	**-6.4**
PBCV	**Popocatepetl**	**4.93 316**	*eP*		**Pn**	**19 55 54.7**	**+2.3**
PBCV			*eS*		**Sn**	**19 56 50.1**	**+1.8**
SCIG	**Sabancuy**	**4.97 45**	*eP*		Pn	19 55 47.0	-5.6
SCIG			*eS*		**Sn**	**19 56 43.0**	**-6.0**
PBXN	**Popocatepetl**	**5.01 315**	*eP*		Pn	19 55 41.2	-12
PBXN			*eP*			19 55 56.7	
PBXN			*eS*		Sn	19 56 30.3	-20
PBXN			*eS*			19 56 49.3	
PBPN	**Popocatepetl**	**5.01 315**	*eP*		**Pn**	**19 55 56.1**	**+2.4**
PBPN			*eP*			19 55 56.7	
PBPN			*eS*		**Sn**	**19 56 49.9**	**-0.8**
PBPN			*eS*			19 56 50.5	
PPM	**Popocatepetl**	**5.03 316**	*eP*		**Pn**	**19 55 57.4**	**+3.4**
PPM			*eS*		**Sn**	**19 56 53.3**	**+2.3**
PETF	**Flores**	**5.06 73**	Pn		**Pn**	**19 55 54.4**	**+0.6**
YAIG	**Yautepec**	**5.21 311**			**Pn**	**19 55 58.3**	**+2.3**
YAIG					**Sn**	**19 56 51.4**	**-3.5**
YAIG	**Yautepec**	**5.21 311**	*eP*		**Pn**	**19 55 58.3**	**+2.3**
YAIG			*eS*		**Sn**	**19 56 51.4**	**-3.5**
PLIG	**Platanillo**	**5.26 304**			**Pn**	**19 55 58.6**	**+1.9**
PLIG					**Sn**	**19 56 52.4**	**-3.8**
PLIG	**Platanillo**	**5.26 304**	*eP*		**Pn**	**19 55 58.6**	**+1.9**
PLIG			*eS*		**Sn**	**19 56 52.4**	**-3.8**
CXUV	**Coxquihui**	**5.32 332**	*eP*		**Pn**	**19 55 56.4**	**-1.1**
CXUV			*eS*		**Sn**	**19 56 54.6**	**-2.9**
CAIG	**El Cayaco**	**5.37 288**			**Pn**	**19 55 58.3**	**+0.1**
CAIG	**El Cayaco**	**5.37 288**	*eP*		**Pn**	**19 55 58.3**	**+0.1**
CAIG			*eS*		**Sn**	**19 56 50.0**	**-8.8**
ESQI	**Esquipulas**	**5.46 99**			**Pn**	**19 56 02.6**	**+3.2**
MTO3	**Montecristo**	**5.47 101**			**Pn**	**19 56 01.3**	**+1.5**
MAVM	**Malinalco, Edo**	**5.58 309**	*eP*		Pn	19 55 44.6	-17
UNM	**Universidad Na**	**5.59 314**	Pn		**Pn**	**19 56 02.1**	**+0.7**
ARIG	**Puente Sto Nin**	**5.90 299**			**Pn**	**19 56 07.7**	**+2.3**
ARIG					**Sn**	**19 57 08.5**	**-3.3**
ARIG	**Puente Sto Nin**	**5.90 299**	*eP*		**Pn**	**19 56 07.7**	**+2.3**
ARIG			*eS*		**Sn**	**19 57 08.5**	**-3.3**
ZIIG	**Zihuatanejo**	**6.63 290**			**Pn**	**19 56 16.4**	**+1.0**
ZIIG	**Zihuatanejo**	**6.63 290**	*eP*		**Pn**	**19 56 16.4**	**+1.0**
MOIG	**Morelia**	**7.30 306**	Pn		**Pn**	**19 56 27.6**	**+2.8**
TGUH	**Tegucigalpa,Un**	**7.53 100**	Pn		**Pn**	**19 56 30.7**	**+2.8**
TEIG	**Tepich**	**7.89 52**	Pn		**Pn**	**19 56 30.2**	**-2.5**
MMIG	**Aquila**	**8.54 290**			**Pn**	**19 56 42.7**	**+1.1**
MMIG	**Aquila**	**8.54 290**	*eP*		**Pn**	**19 56 42.7**	**+1.1**
MMIG			*eS*		**Sn**	**19 56 20.4**	**+3.6**
ZAIG	**Zacatecas**	**10.24 316**	Pn		**Pn**	**19 57 05.8**	**+0.6**
ESPN	**Las Esperanzas**	**10.81 106**	Pn		**Pn**	**19 57 15.9**	**+3.1**
JTS	**Las Juntas de**	**10.99 117**	Pn		**Pn**	**19 57 19.1**	**+3.7**
SOR	**Soroa**	**13.39 55**	Pn		**Pn**	**19 57 46.4**	**-1.7**
HNDO	**Hondo**	**14.55 345**			**Pn**	**19 58 04.2**	**+0.3**
435B	**Jarrell**	**15.43 351**	Pn		**Pn**	**19 58 15.8**	**+0.3**
435B			IAmb		IAmb	19 58 24.2	
	comp=Z,16nm,0.7s						
JCT	**Junction City**	**15.59 344**	Pn		**Pn**	**19 58 17.6**	**-0.1**
JCT			IAmb		IAmb	19 58 26.7	
	comp=Z,7.2nm,0.8s						
TX31	**Lajitas Ar. Si**	**15.98 331**			**P**	**19 58 24.0**	**-1.8**
TXAR	**Lajitas Array**	**15.98 331**	Pn		**Pn**	**19 58 23.4**	**+0.8**
BRDY	**Brady**	**16.17 347**			**Pn**	**19 58 25.6**	**+0.5**
OZNA	**Ozona**	**16.39 341**	P		**P**	**19 58 28.9**	**-1.5**
OZNA			IAmb		IAmb	19 58 36.9	
	comp=Z,8.2nm,0.8s						
WHTX	**Lake Whitney,**	**16.60 352**	P		**P**	**19 58 31.4**	**-1.2**
WHTX			IAmb		IAmb	19 58 34.4	
	comp=Z,12nm,0.8s						
ALPN	**Alpine**	**16.85 333**	P		**P**	**19 58 34.7**	**-0.9**
ALPN			IAmb		IAmb	19 58 36.2	
	comp=Z,6.1nm,0.7s						
SGCY	**Sterling City**	**17.32 342**			**P**	**19 58 40.2**	**-0.3**
SGCY			IAmb		IAmb	19 58 42.7	
	comp=Z,8.6nm,0.7s						
ABTX	**Abilene, Hawle**	**17.60 347**	P		**P**	**19 58 43.2**	**-0.5**
ABTX			IAmb		IAmb	19 58 47.6	
	comp=Z,12nm,0.9s						
VHRN	**Van Horn**	**17.82 331**			**P**	**19 58 46.7**	**+0.5**
OK052	**Battle Ridge R**	**20.50 356**	P		**P**	**19 59 15.5**	**+0.1**
PKCU	**Pink Cliffs**	**26.77 328**	P		**P**	**20 00 17.5**	**+0.3**

*IDC **24** 20:01:37.8±7.4, 29°.50S×179°.61W, h362km±58km, mb3.1/4, mbtmp4.0/5, Error ellipse: s-maj=79.1km s-min=24.6km az=39.0*

ISC 24 20:01:35.9±2.2, 29°.4S±0°.2×179°.5W±0°.3, h350km, n6, σ0°40/6, mb3.3/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.31**	**197**	P	**Pn**	**20 03 45.7**	**+0.2**
	7.0nm,0.3s,baz=360,slow=1.6,SNR=16						
URZ				S	S	20 05 21.3	-10
	2.8nm,0.4s,baz=3.3,slow=22,SNR=7.7						
STKA	**Stephens Creek**	**33.45**	**256**	P	**P**	**20 07 43.6**	**+0.2**
	0.7nm,0.4s,baz=112,slow=8.0,SNR=4.1						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**41.87**	**266**	P	**P**	**20 08 53.0**	**-0.3**
	0.3nm,0.3s,baz=105,slow=7.1,SNR=8.5						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**42.76**	**272**	P	**P**	**20 09 00.2**	**-0.2**
	0.8nm,0.4s,baz=111,slow=7.7,SNR=13						
	0.8nm,0.4s						
QSPA	**South Pole Qui**	**60.74**	**180**	P	**P**	**20 11 11.1**	**-0.3**
	0.9nm,0.6s,baz=18,slow=20,SNR=6.4						
	0.9nm,0.6s						
FINES	**FINESS Array B**	**143.72**	**339**	PKP	**PKPdf**	**20 20 29.3**	**+0.4**
	1.9nm,0.9s,baz=29,slow=3.2,SNR=6.2						

*IDC **24** 20:05:16.5±0.7, 6°.38S×30°.35E, h0km, mb3.8/10, mbtmp3.9/13, ML2.7/2, MS3.3/8, Error ellipse: s-maj=25.9km s-min=9.9km az=99.0*

*NEIC **24** 20:05:17.1±1.3, 6°.54S±0°.07×31°.0E±0°.1, h10km±1km, mb4.2/9, Error ellipse: s-maj=19.5km s-min=10.9km az=280.0*

ISC 24 20:05:17.1±0.5, 6°.54S±0°.04×30°.55E±0°.07, h10km, n41, σ2°57/43, mb4.0/10, MS3.3/3, 1C, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSMZ	**Kasama**	**3.67**	**170**	*i* P	**Pn**	**20 06 15.9**	**+1.8**
KSMZ				*i* S	**Sn**	**20 06 57.3**	**-0.3**
DODT	**Dodoma, Tanzan**	**5.18**	**86**	*i* P	Pn	20 06 29.0	-5.9
DODT				*i* S	**Sb**	**20 07 46.0**	**-4.3**
MBAR	**Mbarara**	**5.90**	**2**	Pn	**Pn**	**20 06 44.1**	**-0.7**
	41nm,0.3s,baz=354,slow=21,SNR=71						
MBAR				Sn	**Sn**	**20 07 50.4**	**-2.1**
	236nm,0.3s,baz=215,slow=22,SNR=6.0						
MBAR				Lg	Lg	20 08 14.9	
	186nm,0.3s,baz=107,slow=19,SNR=8.4						
MBAR				LR	LR	20 09 05.1	
	comp=Z,273nm,18.5s,baz=176,slow=40						
KIBK	**Kibwezi**	**8.56**	**61**	Pn	Pn	20 07 15.2	-6.0
KMBO	**Kilima Mbogo**	**8.58**	**51**	Pn	Pn	20 07 17.9	-3.8
	3.4nm,0.3s,baz=226,slow=17,SNR=32						
KMBO				Sn	**Sn**	**20 08 59.0**	**+0.3**
	7.3nm,0.3s,baz=193,slow=21,SNR=5.6						
KMBO				LR	LR	20 10 49.3	
	comp=Z,117nm,18.5s,baz=88,slow=38						
LSZ	**Lusaka**	**8.99**	**195**	Pn	**Pn**	**20 07 29.1**	**+1.9**
LODK	**Lodwar**	**11.00**	**26**	Pn	Pn	20 07 48.7	-6.0
KSANE	**Kasane**	**12.37**	**205**	*i* P	**Pn**	**20 08 14.7**	**+1.3**
MATP	**Matopo**	**13.95**	**188**	Pn	**Pn**	**20 08 35.6**	**+0.6**
	0.3nm,0.3s,baz=13,slow=14,SNR=13						
MATP				Sn	**Sn**	**20 11 09.1**	**-1.0**
	0.6nm,0.3s,baz=94,slow=19,SNR=2.3						
MATP				Lg	Lg	20 12 13.0	
	1.5nm,0.3s,baz=287,slow=19,SNR=1.2						
MATP				LR	LR	20 14 38.5	
	comp=Z,70nm,18.6s,baz=243,slow=40						
	1.9nm,0.6s						
PHDHD	**Phuduhudu**	**14.78**	**203**	*i* P	**Pn**	**20 08 44.8**	**-1.6**
BROLN	**Tlhalogang**	**14.81**	**192**	*i* P	Pn	20 08 43.9	-2.9
BROLN				⇑*i* S	**Sn**	**20 11 26.2**	**-4.9**
BROLN				IAML		20 13 25.6	
	comp=N,21nm,0.5s						
XAUDM	**Khaudum**	**14.93**	**216**	*i* P	**Pn**	**20 08 50.0**	**+1.5**
QNGWA	**Qangwa**	**15.80**	**214**	*i* P	**Pn**	**20 09 01.3**	**+1.3**
CKGRV	**CKGRV**	**16.17**	**203**	*i* P	**Pn**	**20 09 04.7**	**0.0**
CKGRV				IAML		20 14 09.5	
	comp=N,180nm,0.8s						
MREMI	**Moremi**	**16.22**	**190**	*i* P	**Pn**	**20 09 01.4**	**-3.9**
MREMI				*i* S	**Sn**	**20 11 57.7**	**-7.7**
GRTLG	**Ghanzi**	**17.28**	**211**	*i* P	**Pn**	**20 09 19.4**	**+0.6**
GRTLG				IAML		20 14 57.6	
	comp=N,19nm,0.8s						
FURI	**Furi**	**17.34**	**28**	LR	LR	20 16 05.8	
	comp=N,82nm,19.0s,baz=40,slow=38						
KDWAN	**Kaudwane**	**17.68**	**198**	*i* P	**Pn**	**20 09 21.6**	**-2.1**
KDWAN				IAML		20 14 58.3	
	comp=N,25nm,0.8s						
TSUM	**Tsumeb**	**17.82**	**224**	P	**Pn**	**20 09 24.7**	**-0.7**
	comp=N,0.6nm,0.3s,baz=37,slow=14,SNR=8.7						
TSUM				S	**Sn**	**20 12 38.3**	**-6.0**
	comp=N,4.3nm,0.7s,baz=135,slow=20,SNR=2.1						
TSUM				Lg	Lg	20 14 39.1	
	comp=N,0.3nm,0.3s,baz=108,slow=20,SNR=1.1						
TSUM				LR	LR	20 16 37.8	
	comp=N,158nm,20.3s,baz=328,slow=38						
	comp=N,1.8nm,0.5s						
LBTB	**Lobatse**	**18.98**	**194**		**P**	**20 09 39.4**	**+0.6**
LBTB				IAmb	IAmb	20 10 06.3	
	comp=Z,7.4nm,0.8s						
LBTB	**Lobatse**	**18.98**	**194**	P	**Pn**	**20 09 42.5**	**+3.0**
	comp=Z,2.5nm,0.5s,baz=9.4,slow=13,SNR=6.7						
LBTB				S	**S**	**20 13 17.3**	**+2.8**
	comp=Z,4.0nm,0.6s,baz=292,slow=15,SNR=2.0						
LBTB				Lg	Lg	20 15 11.9	
	comp=Z,0.4nm,0.3s,baz=274,slow=21,SNR=6.5						
OPO	**Ambohidratompo**	**20.15**	**128**	P	**P**	**20 09 54.0**	**+2.2**
	comp=Z,4.1nm,0.9s,baz=324,slow=14,SNR=4.3						
OPO				LR	LR	20 16 13.9	
	comp=Z,128nm,21.1s,baz=154,slow=32						
	comp=Z,4.1nm,0.9s						
POGA	**Pongola**	**20.72**	**177**	Pn	**P**	**20 09 59.3**	**+1.5**
POGA				IAmb	IAmb	20 10 09.1	
	comp=Z,20nm,1.2s						
VOI	**Vohitsoka**	**21.90**	**136**	P	P	20 10 05.3	-5.4
BOSA	**Boshof**	**22.52**	**192**	P	**P**	**20 10 18.5**	**+1.2**
BOSA	**Boshof**	**22.52**	**192**	P	**P**	**20 10 18.9**	**+1.6**
	comp=Z,4.2nm,0.9s,baz=22,slow=10,SNR=6.7						
BOSA				S	**S**	**20 14 29.7**	**+5.2**
	comp=Z,3.2nm,0.8s,baz=97,slow=16,SNR=2.5						
BOSA				Lg	Lg	20 17 01.9	
	comp=Z,0.2nm,0.3s,baz=113,slow=20,SNR=5.4						
BOSA				LR	LR	20 19 05.5	
	comp=Z,118nm,19.8s,baz=22,slow=37						
	comp=Z,4.2nm,0.9s						
SUR	**Sutherland**	**27.27**	**198**	LR	LR	20 22 01.6	
	comp=Z,116nm,19.4s,baz=22,slow=37						
TORD	**Torodi Ar. Bea**	**34.70**	**304**	P	**P**	**20 12 09.4**	**+2.0**
TORD	**Torodi Ar. Bea**	**34.70**	**304**	P	**P**	**20 12 07.9**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=110,slow=7.6,SNR=6.9						
	comp=Z,0.9nm,0.8s						
BR131	**Keskin Array S**	**46.12**	**3**	P	**P**	**20 13 40.8**	**-0.9**
BR131				IAmb	IAmb	20 13 50.9	
	comp=Z,2.2nm,0.8s						
BRTR	**Keskin Array B**	**46.12**	**3**	P	**P**	**20 13 41.7**	**0.0**
BRTR	**Keskin Array B**	**46.12**	**3**	P	**P**	**20 13 40.9**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=181,slow=9.3,SNR=4.5						
	comp=Z,0.6nm,0.7s						
MLR	**Muntele Rosu**	**51.96**	**356**	P	**P**	**20 14 26.8**	**+0.4**
MLR				IAmb	IAmb	20 14 49.2	
	comp=Z,5.9nm,1.3s						
AKASG	**Malin Array Be**	**57.02**	**359**	P	**P**	**20 15 01.1**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=184,slow=6.5,SNR=4.1						
	comp=Z,0.1nm,0.3s						
GEC2	**GERESS Array S**	**57.09**	**347**	P	**P**	**20 15 03.8**	**+0.1**
GEC2				IAmb	IAmb	20 15 12.8	
	comp=Z,1.4nm,0.9s						
GERES	**GERESS Array B**	**57.09**	**347**	P	**P**	**20 15 02.3**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=169,slow=11,SNR=2.6						
	comp=Z,0.3nm,0.4s						
KKAR	**Karatay Array**	**61.27**	**32**	P	**P**	**20 15 30.5**	**-2.1**
HFS	**Hagfors**	**67.79**	**351**	P	**P**	**20 16 14.6**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=189,slow=7.2,SNR=1.6						
	comp=Z,1.3nm,0.6s						
FINES	**FINESS Array B**	**67.87**	**358**	P	**P**	**20 16 14.7**	**-0.6**
	comp=Z,3.3nm,0.9s,baz=167,slow=9.2,SNR=2.5						
	comp=Z,3.3nm,0.9s						
MKAR	**Makanchi Array**	**70.09**	**35**	P	**P**	**20 16 31.3**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=242,slow=5.3,SNR=2.2						
	comp=Z,0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**71.84**	**68**	P	**P**	**20 16 43.9**	**+3.1**
	comp=Z,1.7nm,0.8s,baz=262,slow=7.1,SNR=13						
	comp=Z,1.7nm,0.8s						

*IDC **24** 20:21:02.2±1.1, 11°.14S×77°.43W, h93km±13km, mb3.2/4, mbtmp3.6/6, MS3.0/4, Error ellipse: s-maj=73.2km s-min=9.7km az=71.0*

*VAO **24** 20:21:07.6±1.6, 10°.91S×76°.97W, h80km±13km, mb4.2*

ISC 24 20:21:02.7±0.8, 11°.16S±0°.07×77°.4W±0°.1, h100km, n31, σ1°25/21, mb3.6/4, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.00**	**146**	P	**Pn**	**20 21 22.6**	**-0.6**
	1μm,0.4s,baz=294,slow=0.8,SNR=265						
NNA				S	**Sn**	**20 21 37.8**	**-0.8**
	5μm,0.5s,baz=131,slow=14,SNR=200						
ATAH	**Atahualpa**	**4.11**	**346**	P	**Pn**	**20 22 03.7**	**-0.1**
	39nm,0.3s,baz=165,slow=4.1,SNR=82						
ATAH				S	**Sn**	**20 22 51.1**	**0.0**
	45nm,0.3s,baz=259,slow=23,SNR=8.6						
ATAH				LR	LR	20 23 13.7	
	comp=Z,51nm,19.1s,baz=185,slow=32						
CZSB	**Cruzeiro do Su**	**5.76**	**54**	*eP*	**Pn**	**20 22 24.3**	**-1.5**
LPAZ	**La Paz**	**10.36**	**121**	P	**Pn**	**20 23 29.7**	**+0.7**
	0.3nm,0.3s,baz=297,slow=4.5,SNR=1.5						
LPAZ				LR	LR	20 28 30.7	
	comp=Z,82nm,21.3s,baz=248,slow=43						
ETMB	**Extrema**	**11.10**	**84**	*eP*	**Pn**	**20 23 38.1**	**-0.3**
OTAV	**Otavalo**	**11.37**	**355**	*eP*	**Pn**	**20 23 44.6**	**+2.1**
SAML	**Samuel**	**14.19**	**82**	*eP*	**Pn**	**20 24 17.4**	**-1.8**
SIV	**San Ignacio**	**16.60**	**109**	LR	LR	20 32 03.0	
	comp=Z,92nm,21.6s,baz=112,slow=40						
BBSD	**Serra de San D**	**17.36**	**112**	*eP*	**Pn**	**20 24 59.5**	**+0.7**
PTLB	**Pontes e Lacer**	**18.29**	**105**	*eP*	**Pn**	**20 25 11.9**	**+1.9**
PDRB	**Porto dos Gac**	**20.29**	**93**	*eP*	Pn	20 25 32.4	-1.2
NPGB	**Novo Progresso**	**22.16**	**81**	*eP*	**P**	**20 25 52.4**	**+1.7**
H03N1	**Juan Fernandez**	**22.22**	**183**	T	T	20 48 42.7	
	baz=2.0,slow=75						
H03N2	**Juan Fernandez**	**22.22**	**183**	T	T	20 48 44.7	
	baz=2.0,slow=75						
H03N3	**Juan Fernandez**	**22.24**	**183**	T	T	20 48 41.1	
	baz=2.0,slow=75						
ITTB	**Itaituba**	**22.51**	**74**	*eP*	**P**	**20 25 56.4**	**+2.1**
CPUP	**Villa Florida**	**24.23**	**131**	LR	LR	20 38 20.2	
	comp=Z,102nm,21.5s,baz=230,slow=43						
TXAR	**Lajitas Array**	**47.56**	**328**	P	**P**	**20 29 28.1**	**-0.4**
	0.1nm,0.5s,baz=156,slow=6.9,SNR=1.8						
	0.1nm,0.5s						
PDAR	**Pinedale Array**	**61.19**	**333**	P	**P**	**20 31 06.0**	**-1.2**
	0.3nm,0.7s,baz=120,slow=8.8,SNR=1.7						
	0.3nm,0.7s						
QSPA	**South Pole Qui**	**78.97**	**180**	P	**P**	**20 32 56.6**	**+1.3**
	0.8nm,0.6s,baz=144,slow=2.2,SNR=7.6						
	0.8nm,0.6s						
ILAR	**Eielson Array**	**91.50**	**336**	P	**P**	**20 33 56.3**	**-1.3**
	0.6nm,1.0s,baz=116,slow=3.1,SNR=3.0						
	0.6nm,1.0s						
H11N3	**WAKE ISLAND Hyl**	**17.71**	**286**	T	T	22 48 04.2	
	baz=94						
H11N2	**WAKE ISLAND Hyl**	**17.72**	**286**	T	T	22 48 01.7	
	baz=94						
H11N1	**WAKE ISLAND Hyl**	**17.73**	**286**	T	T	22 48 05.9	
	baz=94						
H11S2	**WAKE ISLAND Hyl**	**17.84**	**285**	T	T	22 48 06.3	
	baz=94,slow=74						
H11S1	**WAKE ISLAND Hyl**	**17.85**	**285**	T	T	22 48 02.9	
	baz=94,slow=74						
H11S3	**WAKE ISLAND Hyl**	**17.86**	**285**	T	T	22 48 06.6	
	baz=94						
ASAR	**Alice Springs**	**133.78**	**221**	PKP	**PKPdf**	**20 40 08.6**	**-0.2**
	0.4nm,0.7s,baz=114,slow=2.1,SNR=7.8						
KURBB	**Kurchatov Arra**	**135.97**	**22**	PKP	**PKPdf**	**20 40 11.7**	**-0.3**
	0.6nm,0.8s,baz=339,slow=2.3,SNR=4.8						
WRA	**Warramunga Arr**	**136.04**	**226**	PKP	**PK

EVR AML AML 20 38 14.8
comp=N,905μm,1.0s
EVR AML AML 20 38 18.5
comp=E,916μm,0.7s
IGT Igoumenitsa 1.82 347 P **Pn 20 37 48.7 +1.0**
IGT Igoumenitsa 1.82 347 P **Pb 20 37 49.7 -0.1**
IGT AML AML 20 38 33.8
comp=E,380μm,0.7s
IGT AML AML 20 38 33.9
comp=N,328μm,0.6s
IDI Anoyia 4.07 126 Pn **Pn 20 38 20.4 +1.9**
comp=N,22nm,1.2s,baz=300,slow=14,SNR=2.6
IDI Sn **Sn 20 39 06.2 0.0**
comp=N,0.4nm,0.3s,baz=172,slow=15,SNR=1.4
VAE Valguarnera 5.14 269 Sn **Sn 20 39 34.6 +2.0**
comp=N,0.7nm,0.3s,baz=348,slow=19,SNR=2.0
MLR Muntele Rosu 8.61 25 Pn **Pn 20 39 20.7 -0.3**
baz=189,slow=16,SNR=2.9
comp=N,0.9nm,0.9s
HFS Hagfors 22.86 351 P **P 20 42 18.8 -0.7**
comp=N,1.7nm,0.6s,baz=163,slow=10,SNR=5.3
comp=N,1.7nm,0.6s
EKA Eskdalemuir Ar 23.93 325 P **P 20 42 30.6 +0.4**
comp=N,1.4nm,0.7s,baz=136,slow=7.6,SNR=4.2
comp=N,1.4nm,0.7s
FINES FINESS Array B 23.93 6 P **P 20 42 30.6 +0.5**
comp=N,2.6nm,1.0s,baz=195,slow=10,SNR=2.6
comp=N,2.6nm,1.0s
NOA NORSAR Array B 24.09 348 P **P 20 42 31.8 +0.2**
comp=N,0.3nm,0.6s,baz=152,slow=10,SNR=3.8
comp=N,0.3nm,0.6s
KURBB Kurchatov Arra 42.26 53 P **P 20 45 08.9 -0.6**
comp=N,0.4nm,0.3s,baz=280,slow=8.9,SNR=4.1
comp=N,0.4nm,0.3s
MKAR Makanchi Array 45.28 58 P **P 20 45 33.1 -0.9**
comp=N,0.8nm,0.8s,baz=270,slow=8.6,SNR=1.8
comp=N,0.8nm,0.8s
ZALV Zalesovo Beam 45.77 48 P **P 20 45 36.2 -1.4**
comp=N,1.2nm,0.3s,baz=284,slow=5.8,SNR=1.7
comp=N,1.2nm,0.3s
CMAR Chiang Mai Arr 69.67 82 P **P 20 48 26.1 -0.2**
comp=N,0.6nm,0.8s,baz=288,slow=6.9,SNR=4.2
comp=N,0.6nm,0.8s

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*IDC **24** 20:41:09.9±0.3, 9.50N×70.56W, h0km, mb4.5/27, mbtmp4.6/31, ML4.6/5, MS4.5/72, Error ellipse: s-maj=10.8km s-min=7.3km az=94.0*
*MOS **24** 20:41:09.8±0.9, 9.32N×70.68W, h10km, mb5.4/56, MS4.6/8, Error ellipse: s-maj=6.6km s-min=4.7km az=92.7*
*VAO **24** 20:41:12.9±0.8, 9.28N×70.75W, h16km±3km, mb5.3*
*NEIC **24** 20:41:13.1, 9.31N×70.67W, h30km*
*RSNC **24** 20:41:13.4±0.4, 9°N±2°×7°W±°, h20km±3km, M5.4, mB6.0, mb5.9, ML5.2, Mw(mB)5.6, MwMwp4.9, Mwp5.1*
*NEIC **24** 20:41:13.4±1.6, 9.31N±0.04×70.67W±0.06, h19km±3km, mb5.3/217, Mww5.2/45, Error ellipse: s-maj=8.8km s-min=6.0km az=85.0*
*NEIC **24** 20:41:13.1, 9.21N×70.77W, h30km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 1016Nm; Mrr6.02; Mθθ-5.37; Mφφ-0.65; Mrθ-2.43; Mθφ-2.66; Mφr-0.37; Fault plane solution: M0 6.76000×1016 NP1: φs251.86000°, δ55.60000°, λ97.20000°. NP2: φs59.26000°, δ35.05000°, λ79.63000°. Principal axes: T 6.5223, Plg78.0000°, Azm187.0000°; N 0.4772, Plg6.0000°, Azm68.0000°; P -6.9995, Plg10.0000°, Azm337.0000°;*
*GCMT **24** 20:41:14.9±0.1, 9.34N±0.01×70.70W±0.01, h28km, MW5.2/122, Moment Tensor Solution. s101, c151; s122, c193; Duration: 1s0 Moment tensor: Scale 1017 Nm; Mrr0.67±.02; Mθθ-0.63±.01; Mφφ-0.03±.01; Mrθ-0.43±.02; Mφφ-0.23±.01; Mφr-0.03±.02; Best double couple: M0 0.81300×1017 NP1: φs259.00000°, δ61.00000°, λ98.00000°. NP2: φs63.00000°, δ30.00000°, λ76.00000°. Principal axes: T 0.8000, Plg73.0000°, Azm188.0000°; N 0.0260, Plg7.0000°, Azm75.0000°; P -0.8260, Plg16.0000°, Azm343.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*FUNV **24** 20:41:14.3, 9.31N×70.68W, h4km, MW5.1*
*BGR **24** 20:41:17.9, 9.86N×70.17W, h24km, mb5.0, Ms5.3*
ISC 24 20:41:12.7±0.4, 9.32N±0.02×70.63W±0.02, h20km±1km, h20km:pP-P, n1068, c1938/1100, mb5.2/206, MS4.6/84, 32C-36D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.43**	**181**	Pg	**Pb**	**20 41 22.4**	**+0.5**
SDV				Sg	**Sb**	**20 41 28.5**	**+0.4**
SDV	**Santo Domingo**	**0.43**	**181**	Pg	**Pb**	**20 41 22.5**	**+0.7**
	2μm,0.3s,baz=174,slow=20,SNR=3152						
SDV				Lg	Lg	20 41 36.4	
	3μm,0.3s,baz=210,slow=5.1,SNR=8.1						
SDV	**Santo Domingo**	**0.43**	**181**	P	**Pb**	**20 41 22.6**	**+0.7**
SDV				S	**Sb**	**20 41 28.7**	**+0.6**
SDV	**Santo Domingo**	**0.43**	**181**	*e*P	**Pb**	**20 41 22.7**	**+0.7**
SDV				*e*S	**Sb**	**20 41 29.4**	**+1.3**
SOCV	**Socops**	**1.06**	**192⇑**	*e*P	**Pg**	**20 41 33.2**	**-0.1**
SOCV				*e*S	**Sn**	**20 41 46.5**	**-0.2**
TEPV	**Terepaima**	**1.55**	**66**	*e*P	**Pg**	**20 41 43.3**	**+0.6**
TEPV				*e*S	**Sg**	**20 42 04.3**	**+1.4**
MCQV	**Machiques**	**2.02**	**291**	*e*P	**Pn**	**20 41 46.6**	**+0.9**
MCQV				*e*S	**Sb**	**20 42 12.3**	**-1.2**
MAPV	**Macapo**	**2.20**	**77**	*e*P	**Pb**	**20 41 52.2**	**+0.4**
MAPV				*e*S	**Sb**	**20 42 19.2**	**+0.5**
CAPV	**Capacho**	**2.21**	**229⇑**	*e*P	**Pb**	**20 41 50.6**	**-1.6**
CAPV				*e*S	**Sb**	**20 42 17.6**	**-1.7**
JACV	**Jacura**	**2.49**	**45**	*e*P	**Pb**	**20 41 56.0**	**-0.8**
JACV				*e*S	**Sb**	**20 42 25.8**	**-1.2**
BAUV	**El Baul**	**2.58**	**98**	Pn	**Pn**	**20 41 56.0**	**+2.6**
BAUV	**El Baul**	**2.58**	**98**	*e*P	**Pb**	**20 41 56.5**	**-1.8**
BAUV				*e*S	**Sb**	**20 42 27.7**	**-1.9**
BAUV	**El Baul**	**2.58**	**98**	*e*	**Pb**	**20 41 57.1**	**-1.2**
URIC	**Uribia, Colomb**	**2.72**	**330**	P	**Pn**	**20 41 55.1**	**-0.2**
URIC				S	**Sb**	**20 42 35.7**	**+2.0**
CRJC	**Cerrejon, Guaj**	**2.79**	**307**	P	**Pn**	**20 41 56.9**	**+0.5**
CRJC				S	**Sn**	**20 42 30.2**	**+0.7**
PAMC	**Pamplona, Colo**	**2.85**	**226**	P	**Pn**	**20 41 59.6**	**+2.1**
PAMC				S	**Sn**	**20 42 33.3**	**+1.8**
OCAC	**Ocana**	**2.87**	**248**	P	**Pn**	**20 41 59.1**	**+1.5**
OCAC				S	**Sb**	**20 42 40.6**	**+2.3**
TURV	**Turiamo**	**2.96**	**68**	*e*P	**Pn**	**20 42 01.7**	**+3.0**
TURV				*e*S	**Sn**	**20 42 37.3**	**+3.6**
BENV	**Beln**	**3.05**	**78**	*e*P	**Pn**	**20 42 03.3**	**+3.4**
BENV				*e*S	**Sn**	**20 42 39.4**	**+3.4**
TAMC	**Tame, Arauca**	**3.09**	**202**	P	**Pn**	**20 42 03.6**	**+3.1**
TAMC				S	**Sb**	**20 42 42.1**	**-2.4**
HATO	**Hato, Curacao**	**3.28**	**30**	Pn	**Pn**	**20 42 04.3**	**+1.3**
ARGC	**Ariguani, Magd**	**3.61**	**279**	P	**Pn**	**20 42 09.0**	**+1.4**
ARGC				S	**Sn**	**20 42 48.7**	**-1.0**
TACV	**Tcata**	**3.64**	**77**	*e*P	**Pn**	**20 42 11.4**	**+3.4**
TACV				*e*S	**Sn**	**20 42 53.8**	**+3.3**
BARC	**Barichara**	**3.71**	**223**	P	**Pn**	**20 42 12.1**	**+2.9**
BRJC	**Barrancabermej**	**3.87**	**233**	P	**Pn**	**20 42 13.2**	**+2.0**
BRJC				S	**Sn**	**20 42 58.8**	**+2.7**
FUNV	**FUNVISIS**	**3.93**	**73**	*e*P	**Pn**	**20 42 15.8**	**+3.7**
FUNV				*e*S	**Sn**	**20 43 00.1**	**+2.5**
RUSC	**La Rusia**	**4.19**	**216**	P	**Pn**	**20 42 18.0**	**+2.0**
RUSC				S	**Sn**	**20 43 06.2**	**+1.5**
MERV	**Las Mercedes**	**4.27**	**91⇑**	*e*P	**Pn**	**20 42 19.8**	**+3.1**
MERV				*e*S	**Sn**	**20 43 07.2**	**+1.2**
CACV	**CAICARA DEL OR**	**4.40**	**113⇑**	*e*P	**Pb**	**20 42 27.8**	**-1.6**
CACV				*e*S	**Sb**	**20 43 22.2**	**+0.1**
SJCC	**San Jacinto, C**	**4.53**	**278**	P	**Pn**	**20 42 21.7**	**+1.4**
SJCC				S	**Sn**	**20 43 13.2**	**+0.8**
ZARC	**Zaragoza, Cauc**	**4.57**	**247**	P	**Pn**	**20 42 21.6**	**+0.8**
PTBC	**PUERTO BERRIO,**	**4.70**	**234**	P	**Pn**	**20 42 22.9**	**+0.4**
PTBC				S	**Sn**	**20 43 17.1**	**+0.6**
SPBC	**San Pablo de B**	**5.00**	**223**	P	**Pn**	**20 42 29.1**	**+2.3**
SPBC				S	**Sn**	**20 43 25.2**	**+1.1**
UREC	**San Jos de Ur**	**5.10**	**253**	P	**Pn**	**20 42 29.6**	**+1.5**
	964nm,0.4s,16μm7μm						
PTGC	**Puerto Gaitan,**	**5.31**	**196**	P	**Pn**	**20 42 31.9**	**+1.0**
	6μm,0.8s,64μm						
PTGC				S	**Sn**	**20 43 31.4**	**-0.2**
	6μm,0.8s,64μm						
CHIC	**Chingaza**	**5.59**	**214**	P	**Pn**	**20 42 36.5**	**+1.3**
	3μm,0.9s,22μm18μm						
CHIC				S	**Sn**	**20 43 38.8**	**-0.3**
	3μm,0.9s,22μm18μm						
NORC	**Norcasia**	**5.63**	**229**	P	**Pn**	**20 42 35.9**	**+0.5**
	2μm,0.8s,15μm9μm						
NORC				S	**Sn**	**20 43 37.7**	**-1.8**
	2μm,0.8s,15μm9μm						
LCBC	**Los crdobas,**	**5.69**	**266**	P	**Pn**	**20 42 37.1**	**+0.9**
	1μm,0.8s,18μm14μm						
LCBC				S	**Sn**	**20 43 40.2**	**-0.8**
	1μm,0.8s,18μm14μm						
ROSC	**El Rosal**	**5.77**	**220**	Pn	**Pn**	**20 42 39.2**	**+1.6**
ROSC	**El Rosal**	**5.77**	**220**	Pn	**Pn**	**20 42 38.4**	**+0.8**
	77nm,0.3s,baz=48,slow=5.0,SNR=73						
ROSC				Sn	**Sn**	**20 43 41.7**	**-1.8**
	119nm,0.3s,baz=151,slow=23,SNR=3.7						
ROSC				Lg	Lg	20 44 14.8	
	145nm,0.3s,baz=188,slow=21,SNR=4.1						
ROSC				LR	LR	20 45 18.2	
	comp=Z,6μm,20.4s,baz=1.0,slow=42						
	257nm,0.4s						
ROSC	**El Rosal**	**5.77**	**220**	P	**Pn**	**20 42 40.2**	**+2.6**
ROSC				S	**Sn**	**20 43 48.6**	**+5.1**
ROSC	**El Rosal**	**5.77**	**220**	P	**Pn**	**20 42 39.3**	**+1.6**
HELC	**Santa Helena**	**5.77**	**238**	P	**Pn**	**20 42 39.2**	**+1.6**
	1μm,1.4s,11μm9μm						
HELC				S	**Sn**	**20 43 47.1**	**+3.6**
	1μm,1.4s,11μm9μm						
MEDEC	**Medelln, Ant**	**5.78**	**239**	P	**Pn**	**20 42 40.8**	**+3.2**
CVER	**Cruz Verde, Cu**	**5.87**	**216**	P	**Pn**	**20 42 42.0**	**+2.9**
CVER				S	**Sn**	**20 43 50.6**	**+4.4**
PCRV	**Puerto La Cruz**	**5.96**	**81**	*e*P	**Pn**	**20 42 43.0**	**+3.1**
PCRV				*e*S	**Sn**	**20 43 48.0**	**+0.2**
PCRV	**Puerto La Cruz**	**5.96**	**81**	Pn	**Pn**	**20 42 40.3**	**+0.4**
	19nm,0.3s,baz=299,slow=2.4,SNR=172						
PCRV				Sn	**Sn**	**20 43 45.7**	**-2.1**
	27nm,0.3s,baz=96,slow=19,SNR=1.6						
PCRV				Lg	Lg	20 44 19.2	
	baz=35,slow=17						
PCRV				LR	LR	20 45 40.3	
	comp=Z,14μm,18.1s,slow=46						
	48nm,0.4s						
PCRV	**Puerto La Cruz**	**5.96**	**81**	*e*	**Pn**	**20 42 43.1**	**+3.1**
DBBC	**Dabeiba**	**5.99**	**248**	P	**Pn**	**20 42 41.7**	**+1.4**
DBBC				S	**Sn**	**20 43 49.7**	**+1.3**
VILC	**Villavicencio,**	**6.01**	**211**	P	**Pn**	**20 42 42.0**	**+1.3**
	3μm,0.7s,20μm634nm						
VILC				S	**Sn**	**20 43 50.9**	**+1.9**
	3μm,0.7s,20μm634nm						
APAC	**Apartado, Choc**	**6.06**	**257**	P	**Pn**	**20 42 42.7**	**+1.5**
	1μm,0.7s,19μm6μm						
GUY2C	**Guyana, Caldas**	**6.22**	**229**	P	**Pn**	**20 42 45.7**	**+1.8**
	3μm,0.7s,27μm7μm						
GUY2C				S	**Sn**	**20 43 55.8**	**+1.1**
	3μm,0.7s,27μm7μm						
CBOC	**Ciudad Bolivar**	**6.35**	**238**	P	**Pn**	**20 42 47.6**	**+2.2**
	1μm,1.1s,9μm						
CBOC				S	**Sn**	**20 44 05.8**	**+8.3**
	1μm,1.1s,9μm						
RECRC	**Villamaria, Ca**	**6.39**	**228**	P	**Pn**	**20 42 48.5**	**+2.2**
RECRC				S	**Sn**	**20 44 00.5**	**+1.6**
NIZA	**Niza - Manizal**	**6.41**	**229**	P	**Pn**	**20 42 49.5**	**+3.2**
CAPC	**Capurgana**	**6.68**	**265**	P	**Pn**	**20 42 48.1**	**-1.7**
ANIL	**Santa Ana**	**6.75**	**225**	P	**Pn**	**20 42 52.8**	**+1.8**
	3μm,0.6s,30μm						
PRAC	**Prado**	**7.00**	**217**	P	**Pn**	**20 42 55.6**	**+1.4**
	768nm,1.2s,12μm5μm						
GUVC	**San Jose del G**	**7.02**	**197**	P	**Pn**	**20 42 55.6**	**+1.1**
ORTC	**Ortega, Tolima**	**7.07**	**221**	P	**Pn**	**20 42 56.0**	**+0.8**
	1μm,0.6s,12μm5μm						
URMC	**La Uribe, Meta**	**7.10**	**212**	P	**Pn**	**20 42 57.7**	**+2.1**
	2μm,0.8s,17μm						
PLMC	**San Jos del P**	**7.13**	**232**	P	**Pn**	**20 42 58.1**	**+2.1**
	741nm,0.4s,11μm						
PTAC	**Punta Ardita,**	**7.43**	**254**	P	**Pn**	**20 43 00.9**	**+0.8**
	1μm,0.7s,14μm						
YOTC	**Yotoco, Valle**	**7.77**	**227**	P	**Pn**	**20 43 05.7**	**+0.8**
	311nm,0.8s,3μm3μm						
MACC	**Macarena, Meta**	**7.82**	**204**	P	**Pn**	**20 43 06.3**	**+0.8**
	1μm,0.8s,25μm						
PIZC	**Pizarro, Choco**	**7.96**	**238**	P	**Pn**	**20 43 09.9**	**+2.5**
	2μm,1.4s,23μm						
MALC	**Bahia Malaga**	**8.50**	**232**	P	**Pn**	**20 43 18.0**	**+3.2**
JAMC	**Jamundi, Valle**	**8.54**	**225**	P	**Pn**	**20 43 16.1**	**+0.5**
	253nm,0.7s,5μm3μm						
POPC	**Popayan, Colom**	**9.03**	**222**	P	**Pn**	**20 43 23.1**	**+0.8**
BCIP	**Isla Barro Col**	**9.10**	**270**	P	**Pn**	**20 43 23.6**	**+0.6**
	217nm,0.6s,3μm						
GRFF	**Grenada Fort F**	**9.14**	**72**	*e*	Pn	20 43 34.5	+11
FLOC	**Florencia**	**9.17**	**213**	P	**Pn**	**20 43 24.0**	**-0.1**
	868nm,1.2s,7μm4μm						
TRN	**Trinidad (W)**	**9.18**	**81**	*e*	**Pn**	**20 43 26.6**	**+2.5**
GRGR	**Grenville**	**9.25**	**72**	*e*	Pn	20 43 32.8	+7.8
GRW	**Mount Saint Ca**	**9.25**	**71**	*e*	Pn	20 43 41.0	+16
MLPR	**Magueyes Islan**	**9.27**	**22**	Pn	**Pn**	**20 43 25.1**	**-0.2**
CRPR	**Cabo Rojo, PR**	**9.28**	**21**	Pn	**Pn**	**20 43 25.9**	**+0.4**
GRHS	**Sauteurs**	**9.28**	**71**	*e*	Pn	20 43 31.3	+5.8
PAPH	**Port-au-Prince**	**9.29**	**350**	Pn	**Pn**	**20 43 26.7**	**+1.1**
GRSS	**Sisters**	**9.33**	**71**	*e*	Pn	20 43 37.3	+11
PCDR	**Punta Cana, DR**	**9.39**	**13**	Pn	**Pn**	**20 43 27.6**	**+0.6**
PRSN	**Puerto Rico Se**	**9.46**	**21**		**Pn**	**20 43 27.6**	**-0.4**
OBIP	**Obispado Ponce**	**9.51**	**24**	Pn	**Pn**	**20 43 28.2**	**-0.4**
CELP	**Cerrillos**	**9.54**	**24**	Pn	**Pn**	**20 43 28.9**	**-0.3**
GCMP	**Grenada, Carri**	**9.56**	**70**	*e*	**Pn**	**20 43 33.0**	**+3.7**
SDDR	**Presa de Saban**	**9.62**	**356**	Pn	**Pn**	**20 43 31.6**	**+1.3**
SDDR	**Presa de Saban**	**9.62**	**356**	*i* P	**Pn**	**20 43 33.1**	**+2.9**
SDDR	**Presa de Saban**	**9.62**	**356**	P	**Pn**	**20 43 33.2**	**+2.9**
SDDR	**Presa de Saban**	**9.62**	**356**	*e*	**Pn**	**20 43 32.8**	**+2.5**
UUPR	**Utuado, UPR, P**	**9.65**	**23**		**Pn**	**20 43 30.0**	**-0.6**
AZU	**Azuero**	**9.66**	**262**	P	**Pn**	**20 43 32.5**	**+1.7**
	101nm,0.8s,2μm						
AGPR	**Aguadilla, PR**	**9.71**	**20**		**Pn**	**20 43 31.3**	**0.0**
LUEV	**Luepa**	**9.72**	**110**	*e*P	**Pn**	**20 43 32.1**	**+0.4**
LUEV				*e*S	**Sn**	**20 45 14.6**	**-5.8**
AOPR	**Arecibo Observ**	**9.72**	**22**		**Pn**	**20 43 31.9**	**+0.3**
AOPR	**Arecibo Observ**	**9.72**	**22**	*e*	**Pn**	**20 43 32.4**	**+0.8**
PDPR	**Patillas Dam,**	**9.73**	**27**		**Pn**	**20 43 31.2**	**-0.4**
SJG	**San Juan**	**9.76**	**26**	Pn	**Pn**	**20 43 32.2**	**+0.2**
SJG	**San Juan**	**9.76**	**26**	Pn	**Pn**	**20 43 31.3**	**-0.7**
	42nm,0.3s,baz=197,slow=14,SNR=77						
SJG				Sn	**Sn**	**20 45 14.7**	**-6.3**
	8.3nm,0.3s,baz=30,slow=20,SNR=1.8						
SJG				LR	LR	20 47 40.1	
	comp=Z,2μm,20.3s,baz=229,slow=41						
SJG	**San Juan**	**9.76**	**26**	P	**Pn**	**20 43 33.1**	**+1.1**
	103nm,0.6s,1μm1μm						
SJG	**San Juan**	**9.76**	**26**	P	**Pn**	**20 43 32.3**	**+0.2**
SJG	**San Juan**	**9.76**	**26**	*e*	**Pn**	**20 43 32.2**	**+0.2**
GR1C	**Gorgona, Isla**	**9.78**	**231**	P	**Pn**	**20 43 32.8**	**+0.5**
BBAC	**Balboa, Cauca**	**9.80**	**223**	P	**Pn**	**20 43 34.6**	**+1.8**
	325nm,0.9s,3μm3μm						
HUMP	**Col San Antoni**	**9.92**	**27**		**Pn**	**20 43 34.3**	**+0.1**
EMPR	**Esperanza - Ma**	**9.93**	**23**		**Pn**	**20 43 34.6**	**+0.2**
CRUC	**La Cruz**	**9.95**	**220**	P	**Pn**	**20 43 38.9**	**+3.9**
GCPR	**Guaynabo City**	**9.96**	**26**		**Pn**	**20 43 34.4**	**-0.4**
SVT	**Saint Vincent**	**9.96**	**67**	*e*	**Pn**	**20 43 35.4**	**+0.5**
SVB	**Belmont**	**9.99**	**66**	*e*	**Pn**	**20 43 37.1**	**+1.8**
TOSP	**Speyside**	**10.12**	**78**	*e*	Pn	20 43 24.1	-13
RNCC	**Cayo Roncador,**	**10.20**	**295**	P	**Pn**	**20 43 38.7**	**+0.7**
	529nm,0.8s,5μm						
GWJ	**Greenwich**	**10.53**	**326**	*i* P	**Pn**	**20 43 43.5**	**+0.8**
SLBI	**Saint Lucia, B**	**10.54**	**63**	*e*	Pn	20 43 37.5	-5.3
STH	**Stony Hill**	**10.57**	**326**	*i* P	**Pn**	**20 43 44.4**	**+1.1**
GMAL	**Guarumal, Vera**	**10.61**	**262**	P	**Pn**	**20 43 45.6**	**+1.9**
	71nm,0.6s,9μm						
BIM	**Bigot**	**10.68**	**60**	*e*	Pn	20 43 51.4	+6.7
FDF	**Fort de France**	**10.71**	**59**		**Pn**	**20 43 44.9**	**-0.3**
FDF	**Fort de France**	**10.71**	**59**	P	**Pn**	**20 43 44.9**	**-0.3**
SERC	**Banco Serrana,**	**10.73**	**298**	P	**Pn**	**20 43 47.2**	**+1.8**
	176nm,0.8s,5μm						
DSLB	**Salisbury**	**10.85**	**55**	*e*	**Pn**	**20 43 43.5**	**-3.5**
TBG	**Guadaloupe-3**	**10.90**	**53**	*e*	Pn	20 43 54.8	+7.1
CBE	**Ff, Capester**	**11.06**	**52**	Pn	**Pn**	**20 43 50.1**	**+0.2**
GDHS	**Morne Mazeau,**	**11.06**	**50**	Pn	**Pn**	**20 43 50.5**	**+0.5**
MTDJ	**Mount Denham**	**11.10**	**324**	Pn	**Pn**	**20 43 49.7**	**-0.8**
MTDJ	**Mount Denham**	**11.10**	**324**	*i* P	**Pn**	**20 43 50.7**	**+0.1**
PRVC	**Isla de Provid**	**11.27**	**292**	P	**Pn**	**20 43 50.7**	**-2.1**
SMRT	**St. Maarten**	**11.36**	**39**	Pn	**Pn**	**20 43 53.6**	**-0.3**
ABD	**La Joyeuse, An**	**11.39**	**50**	Pn	**Pn**	**20 43 54.8**	**+0.3**
GTBY	**Guantanamo Bay**	**11.40**	**338**	Pn	**Pn**	**20 43 54.2**	**-0.3**
GTBY	**Guantanamo Bay**	**11.40**	**338**	*i* P	**Pn**	**20 43 55.6**	**+1.0**
GTBY	**Guantanamo Bay**	**11.40**	**338**	P	**Pn**	**20 43 55.5**	**+1.0**
	108nm,0.7s,4μm						
BBGH	**Gun Hill**	**11.50**	**70**	*e*	**Pn**	**20 44 00.0**	**+4.1**
GDSD	**La Desirade Is**	**11.62**	**52**	Pn	**Pn**	**20 43 56.7**	**-0.9**
CUSE	**Cuicocha Este**	**11.84**	**221**	P	**Pn**	**20 44 02.7**	**+1.7**
	106nm,1.1s,2μm52μm						
OTAV	**Otavalo**	**11.92**	**221**		**Pn**	**20 44 01.9**	**-0.3**
OTAV	**Otavalo**	**11.92**	**221**	P	**Pn**	**20 44 01.9**	**-0.3**
OTAV	**Otavalo**	**11.92**	**221**	*e*P	**Pn**	**20 44 01.9**	**-0.3**
OTAV				*e*S	**Sn**	**20 46 13.9**	**-1.1**
BRU2	**Volcan**	**11.93**	**268**	Pn	**Pn**	**20 44 02.1**	**+0.1**
NMDO	**Nuevo Mundo**	**11.94**	**340**		**Pn**	**20 44 01.4**	**-0.5**
GRTK	**Grand Turk**	**12.13**	**358**	Pn	**Pn**	**20 44 03.2**	**-1.3**
BOAV	**Boa Vista**	**12.18**	**124**		**Pn**	**20 44 05.4**	**+0.2**
BOAV	**Boa Vista**	**12.18**	**124**	P	**Pn**	**20 44 06.6**	**+1.4**
	172nm,1.0s,1μm3μm						
BOAV	**Boa Vista**	**12.18**	**124**	*e*P	**Pn**	**20 44 04.9**	**-0.3**
HDC	**Heredia**	**13.32**	**274**	Pn	**Pn**	**20 44 20.1**	**-0.8**
TBTG	**Tabatinga, AM**	**13.44**	**177**		**Pn**	**20 44 19.9**	**-2.5**
TBTG	**Tabatinga, AM**	**13.44**	**177**	P	**Pn**	**20 44 23.7**	**+1.2**
	719nm,0.9s,7μm						
TBTG	**Tabatinga, AM**	**13.44**	**177**	*e*P	**Pn**	**20 44 21.1**	**-1.4**
ESPN	**Las Esperanzas**	**13.73**	**283**		**Pn**	**20 44 24.7**	**-1.8**
SOCE	**Pocosol**	**13.83**	**276**		**Pn**	**20 44 26.5**	**-1.3**
JTS	**Las Juntas de**	**14.15**	**275**		**Pn**	**20 44 32.8**	**+0.5**
JTS	**Las Juntas de**	**14.15**	**275**	Pn	**Pn**	**20 44 35.1**	**+2.8**
	3.8nm,0.3s,baz=8.3,slow=11,SNR=9.0						
JTS				Sn	**Sn**	**20 47 06.6**	**-2.3**
	1.3nm,0.3s,baz=223,slow=18,SNR=1.2						
JTS				LR	LR	20 50 17.1	
	comp=Z,1μm,21.4s,baz=71,slow=38						
JTS	**Las Juntas de**	**14.15**	**275**	P	**P**	**20 44 38.0**	**-1.7**
JTS	**Las Juntas de**	**14.15**	**275**	P	**Pn**	**20 44 32.8**	**+0.5**
COHC	**Cochancay**	**14.53**	**217**		**Pn**	**20 44 36.0**	**-1.4**
ACON	**Acoyapa**	**14.54**	**282**		**Pn**	**20 44 36.5**	**-1.0**
ACON	**Acoyapa**	**14.54**	**282**	P	**P**	**20 44 43.2**	**-0.7**
PPLP	**Puerto Lpez**	**14.79**	**224**	P	**P**	**20 44 46.7**	**-0.1**
MGAN	**Managua**	**15.60**	**282**	Pn	**Pn**	**20 44 50.7**	**-1.0**
MACA	**Manacapuru-AM**	**15.87**	**141**		**Pn**	**20 44 53.2**	**-2.0**
MACA	**Manacapuru-AM**	**15.87**	**141**	*e*P	**Pn**	**20 44 55.2**	**0.0**
CRIN	**San Cristobal**	**16.47**	**283**		**Pn**	**20 45 01.1**	**-1.7**
MCRA	**Macar, Loja**	**16.48**	**215**	P	**Pn**	**20 45 04.1**	**+1.1**
TGUH	**Tegucigalpa,Un**	**16.96**	**288**		**Pn**	**20 45 08.2**	**-1.1**
TGUH	**Tegucigalpa,Un**	**16.96**	**288**	P	**P**	**20 45 16.0**	**+5.0**
CZSB	**Cruzeiro do Su**	**17.07**	**187**		**Pn**	**20 45 08.2**	**-2.1**
CZSB	**Cruzeiro do Su**	**17.07**	**187**	P	**Pn**	**20 45 07.7**	**-2.7**
CZSB	**Cruzeiro do Su**	**17.07**	**187**	*e*P	**Pn**	**20 45 08.9**	**-1.5**
CAMR	**Camarioca**	**17.10**	**324**		**Pn**	**20 45 08.9**	**-1.9**
CAMR				IAmb	IAmb	20 45 19.8	
	comp=Z,234nm,1.4s						
SOR	**Soroa**	**17.90**	**320**		**Pn**	**20 45 19.2**	**-1.4**
SOR	**Soroa**	**17.90**	**320**	P	**Pn**	**20 45 19.2**	**-1.4**
SOR				pmax	pmax		
	comp=Z,135nm,1.8s						
ATAH	**Atahualpa**	**18.09**	**206**	P	**P**	**20 45 24.3**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=38,slow=6.4,SNR=33						
ATAH				S	**S**	**20 48 53.7**	**+3.0**
	comp=Z,19nm,0.9s,baz=324,slow=23,SNR=1.4						
ATAH				LR	LR	20 53 26.6	
	comp=Z,3μm,21.2s,baz=40,slow=40						
	comp=Z,57nm,0.8s						
MDP	**Montagnes des**	**18.32**	**102**	P	**P**	**20 45 25.9**	**-0.1**
	comp=Z,2.6nm,0.3s,baz=285,slow=13,SNR=16						
MDP				S	**Sn**	**20 48 42.1**	**-8.1**
	comp=Z,15nm,0.6s,baz=197,slow=17,SNR=1.3						
MDP				Lg	Lg	20 50 49.5	
	comp=Z,2.1nm,0.3s,baz=9.5,slow=18,SNR=2.5						
MDP				LR	LR	20 53 48.6	
	comp=Z,678nm,18.2s,baz=284,slow=42						
	comp=Z,15nm,0.5s						
MTO3	**Montecristo**	**19.01**	**287**	P

HMBC IAmb IAmb 20 48 13.2
comp=Z,42nm,0.9s
PB01 IPOC Station P 30.20 178 P **P 20 47 20.4 -1.7**
PB01 IAmb IAmb 20 47 50.6
comp=Z,58nm,1.3s
WVT Waverly 30.94 332 P **P 20 47 28.8 +0.4**
WVT Waverly 30.94 332 P **P 20 47 28.8 +0.4**
WVT pmax pmax
comp=Z,19nm,0.9s
ARAG Araguaiana, MT 31.07 143 *e*P **P 20 47 31.1 +1.3**
HKT Hockley 31.24 315 P **P 20 47 31.0 -0.1**
HKT Hockley 31.24 315 *i* P **P 20 47 31.8 +0.7**
HKT pmax pmax
comp=Z,12nm,1.3s
CCAR Cane Creek 31.26 325 P **P 20 47 31.4 +0.1**
MOIG Morelia 31.27 293 P **P 20 47 31.6 -0.3**
MOIG IAmb IAmb 20 48 35.2
comp=Z,41nm,0.6s
LUPA Lehigh Univers 31.43 353 P **P 20 47 34.0 +1.3**
LUPA IAmb IAmb 20 47 47.4
comp=Z,39nm,0.9s
HBVL Hebbronville 31.83 307 P **P 20 47 36.9 +0.5**
HBVL IAmb IAmb 20 48 01.4
comp=Z,38nm,0.9s
WCI Wyandotte Cave 32.05 336 P **P 20 47 37.7 -0.5**
WCI IAmb IAmb 20 47 47.7
comp=Z,28nm,1.0s
WCI Wyandotte Cave 32.05 336 P **P 20 47 37.7 -0.5**
WCI pmax pmax
comp=Z,28nm,1.0s
M65A Busby, Falmout 32.11 360 P **P 20 47 40.4 +1.7**
baz=180
AF01 San Pedro de A 32.17 176 P **P 20 47 39.1 -0.5**
KSPA Keystone Colle 32.42 353 P **P 20 47 42.5 +1.1**
KSPA IAmb IAmb 20 48 35.1
comp=Z,42nm,1.3s
BDQN Bodoquena, MS 32.58 155 *e*P **P 20 47 43.9 +0.9**
P49A Miami Univ. Ec 32.61 340 P **P 20 47 43.8 +0.7**
P49A IAmb IAmb 20 47 56.3
comp=Z,37nm,1.1s
P49A Miami Univ. Ec 32.61 340 P **P 20 47 44.9 +1.8**
baz=154
ACSO Alum Creek Sta 32.69 342 P **P 20 47 45.1 +1.4**
MIAR Mount Ida 32.75 323 P **P 20 47 44.5 +0.1**
MIAR Mount Ida 32.75 323 P **P 20 47 44.5 +0.1**
MIAR pmax pmax
comp=Z,18nm,0.9s
SIUC Southern Illin 32.87 332 P **P 20 47 46.4 +1.0**
SIUC IAmb IAmb 20 47 57.5
comp=Z,40nm,0.7s
435B Jarrell 32.96 314 P **P 20 47 47.5 +1.2**
baz=125
L61B Northampton 33.05 357 P **P 20 47 49.0 +2.1**
baz=176
AQDB Aquidauana 33.05 154 P **P 20 47 47.2 +0.1**
ZAIG Zacatecas 33.39 297 P **P 20 47 50.6 +0.1**
O48B Farmland 33.41 340 P **P 20 47 51.9 +1.8**
baz=153
BDFB Brasilia 33.42 138 P **P 20 47 50.5 -0.1**
BDFB IAmb IAmb 20 48 03.4
comp=Z,58nm,1.0s
BDFB Brasilia 33.42 138 P **P 20 47 51.7 +1.2**
comp=Z,21nm,1.0s,baz=314,slow=9.8,SNR=18
BDFB LR LR 21 02 22.9
comp=Z,1µm,21.0s,baz=313,slow=38
comp=Z,21nm,1.0s
SDBA SAO DESIDERIO 33.46 130 *e*P **P 20 47 52.6 +1.7**
FVM French Village 33.65 331 P **P 20 47 52.5 +0.3**
FVM French Village 33.65 331 P **P 20 47 52.5 +0.3**
FVM pmax pmax
comp=Z,50nm,0.8s
PB14 IPOC Station P 33.74 180 P **P 20 47 52.3 -1.1**
PB14 IAmb IAmb 20 48 02.2
comp=Z,123nm,2.0s
RPRD Ribas do Rio P 33.98 151 *e*P **P 20 47 56.7 +1.5**
CCM Cathedral Cave 34.10 330 P **P 20 47 56.6 +0.4**
CCM IAmb IAmb 20 48 28.3
comp=Z,64nm,1.4s
CCM Cathedral Cave 34.10 330 P **P 20 47 56.6 +0.4**
CCM pmax pmax
comp=Z,64nm,1.4s
GO02 Mina Guanaco 34.29 178 P **P 20 47 57.3 -0.9**
JCT Junction City 34.40 312 P **P 20 47 58.7 -0.1**
JCT IAmb IAmb 20 48 35.6
comp=Z,30nm,1.1s
JCT Junction City 34.40 312 P **P 20 47 58.7 -0.1**
JCT pmax pmax
comp=Z,30nm,1.2s
AAM Ann Arbor 34.79 343 P **P 20 48 02.8 +0.8**
AAM IAmb IAmb 20 48 04.8
comp=Z,102nm,1.6s
AAM Ann Arbor 34.79 343 P **P 20 48 02.8 +0.8**
AAM pmax pmax
comp=Z,102nm,1.6s
LBNH Lisbon 34.80 358 P **P 20 48 03.0 +0.9**
LBNH Lisbon 34.80 358 P **P 20 48 03.0 +0.9**
LBNH pmax pmax
comp=Z,21nm,1.0s
IPMB Ipameri, GO 35.02 141 *e*P **P 20 48 05.3 +1.0**
ITRB Iturama 35.08 145 *e*P **P 20 48 06.2 +1.5**
W35A Tecumseh 35.15 321 **P 20 48 05.3 0.0**
W35A IAmb IAmb 20 48 13.6
comp=Z,49nm,1.2s
HDIL Hopedale 35.25 335 P **P 20 48 05.7 -0.3**
HDIL IAmb IAmb 20 48 37.7
comp=Z,20nm,0.6s
DEOK Depew 35.38 322 **P 20 48 07.3 +0.1**
AMBA Amambai (Brazi 35.52 155 *e*P **P 20 48 09.3 +0.8**
JANB Januaria 35.59 133 *e*P **P 20 48 10.5 +1.2**
P40A Paris 35.65 331 P **P 20 48 09.1 -0.4**
P40A IAmb IAmb 20 48 41.1
comp=Z,62nm,1.4s
WBO Williamsburg 35.77 354 P **P 20 48 11.1 +0.7**
WBO IAmb IAmb 20 48 20.8
comp=Z,28nm,1.0s
GGN Saint George 35.81 5 P **P 20 48 12.0 +1.3**
GGN IAmb IAmb 20 48 21.6
comp=Z,49nm,1.1s
SADO Sadowa 36.08 350 LR LR 21 03 03.5
comp=Z,933nm,19.9s,baz=204,slow=37
L44A Lake County Fo 36.09 338 P **P 20 48 14.6 +1.4**
baz=150
WMOK Wichita Mounta 36.11 319 P **P 20 48 13.0 -0.5**
WMOK Wichita Mounta 36.11 319 P **P 20 48 13.0 -0.5**
WMOK pmax pmax
comp=Z,16nm,0.9s
APMT Aspermont 36.17 316 P **P 20 48 14.5 +0.4**
APMT IAmb IAmb 20 48 32.0
comp=Z,31nm,0.8s
AC06 Mina Casimiro 36.46 180 P **P 20 48 16.9 +0.3**
AC06 IAmb IAmb 20 48 26.3
comp=Z,37nm,1.2s
PMNB Patos De Minas 36.55 139 *e*P **P 20 48 18.6 +1.1**
GO03 Copiapo 36.70 179 P **P 20 48 17.8 -0.8**
GO03 IAmb IAmb 20 48 28.5
comp=Z,53nm,1.4s
TXAR Lajitas Array 36.79 307 P **P 20 48 19.9 +0.4**
comp=Z,3.0nm,0.5s,baz=131,slow=8.5,SNR=55
TXAR PcP **PcP 20 50 41.8 +0.2**
comp=Z,3.5nm,0.8s,baz=128,slow=5.8,SNR=3.5
TXAR LR LR 21 07 13.0
comp=Z,214nm,18.6s,baz=114,slow=43
comp=Z,3.0nm,0.5s
TX31 Lajitas Ar. Si 36.79 307 P **P 20 48 20.0 +0.5**
TX31 IAmb IAmb 20 48 37.5
comp=Z,53nm,1.7s
GBN Guysborough 36.80 11 P **P 20 48 20.5 +1.3**
GBN IAmb IAmb 20 49 09.2
comp=Z,88nm,1.3s
BB19B Bebedouro 37.20 144 *e*P **P 20 48 23.8 +0.9**
HPIG 37.45 303 P **P 20 48 25.8 +0.5**
JFWS Jewell Farm 37.61 336 P **P 20 48 26.4 +0.2**
JFWS Jewell Farm 37.61 336 P **P 20 48 26.4 +0.2**
JFWS pmax pmax
comp=Z,89nm,1.0s
LDASE Londrina, Braz 37.70 150 *e*P **P 20 48 28.1 +0.9**
CPUP Villa Florida 37.72 160 P **P 20 48 26.7 -0.5**
comp=Z,1.5nm,0.4s,baz=356,slow=10,SNR=4.0
CPUP LR LR 21 05 00.4
comp=Z,3µm,19.4s,baz=336,slow=38
comp=Z,1.5nm,0.4s
RCBR Riachuelo 37.74 112 LR LR 21 04 22.6
comp=Z,713nm,18.6s,baz=304,slow=37
AC05 El Transito 37.94 179 P **P 20 48 28.4 -0.8**
AC05 IAmb IAmb 20 48 45.5
comp=Z,26nm,0.7s
SCIA State Center 38.07 332 P **P 20 48 29.8 -0.2**
LMQ La Malbaie 38.09 0 P **P 20 48 31.5 +1.3**
LCO Las Campanas 38.11 180 P **P 20 48 29.2 -1.6**
LCO IAmb IAmb 20 48 41.7
comp=Z,106nm,1.6s
LCO Las Campanas 38.11 180 P **P 20 48 29.2 -1.6**
LCO pmax pmax
comp=Z,106nm,1.6s
DIAM Diamantina, MG 38.22 136 *e*P **P 20 48 32.7 +0.9**
GDU01 Guandu, BA 38.39 126 *e*P **P 20 48 34.6 +1.6**
NBLA Lagarto - SE 38.39 121 *e*P **P 20 48 34.0 +0.9**
FRTB Fartura 38.45 148 *e*P **P 20 48 34.7 +1.2**
RCLB Rio Claro- Sao 38.83 145 *e*P **P 20 48 37.9 +1.2**
NBAN Anadia - AL 39.05 118 *e*P **P 20 48 39.8 +1.1**
CO01 Juntas del Tor 39.08 179 P **P 20 48 38.3 -0.6**
CO01 IAmb IAmb 20 48 49.8
comp=Z,148nm,1.8s
GO04 Tololo Observa 39.27 180 P **P 20 48 40.1 -0.4**
CBKS Cedar Bluff 39.27 323 P **P 20 48 40.2 -0.1**
CBKS IAmb IAmb 20 48 50.9
comp=Z,68nm,1.4s
CBKS Cedar Bluff 39.27 323 P **P 20 48 40.2 -0.1**
CBKS pmax pmax
comp=Z,68nm,1.4s
CMC01 Camacan, BA 39.39 128 *e*P **P 20 48 43.2 +1.8**
BSCB Bom Sucesso 39.41 140 *e*P **P 20 48 43.4 +1.7**
VAO Valinhos 39.61 145 P **P 20 48 43.9 +0.7**
VAO Valinhos 39.61 145 *e*P **P 20 48 44.5 +1.3**
SPB Sao Paulo 39.81 146 P **P 20 48 44.3 -0.5**
SPB Sao Paulo 39.81 146 *e*P **P 20 48 45.8 +1.0**
GUA01 Guaratinga, BA 39.90 130 *e*P **P 20 48 47.2 +1.5**
CO03 El Pedregal 39.93 180 P **P 20 48 45.6 -0.3**
CO03 IAmb IAmb 20 48 56.9
comp=Z,188nm,1.8s
SLBS Sierra La Lagu 40.16 296 P **P 20 48 47.8 -0.1**
SLBS IAmb IAmb 20 49 02.0
comp=Z,52nm,1.1s
SJMB Sao Joao De Ma 40.24 134 *e*P **P 20 48 49.6 +1.2**
ITAB Concordia 40.52 154 P **P 20 48 49.8 -0.8**
ITAB Concordia 40.52 154 *e*P **P 20 48 50.6 -0.1**
LPIG La Paz 40.58 296 LR LR 21 07 41.0
comp=Z,627nm,19.9s,baz=132,slow=39
ZON Zonda 40.68 177 P **P 20 48 51.3 -0.7**
ZON Zonda 40.68 177 P **P 20 48 51.3 -0.7**
ZON pmax pmax
comp=Z,265nm,1.9s
SLP01 Ubatuba-SP 40.91 143 *e*P **P 20 48 55.5 +1.4**
ITQB Itaqui 41.05 161 P **P 20 48 53.9 -1.1**
ITQB IAmb IAmb 20 49 05.7
comp=Z,60nm,1.0s
ITQB Itaqui 41.05 161 *e*P **P 20 48 54.1 -0.8**
ECSD EROS Data Cent 41.07 331 P **P 20 48 53.6 -1.4**
RIB01 Linhares ES 41.20 134 *e*P **P 20 48 56.7 +0.3**
T25A Trinidad 41.21 318 P **P 20 48 58.0 +1.4**
baz=124
121A Cookes Peak, D 41.36 309 P **P 20 48 58.4 +0.6**
121A Cookes Peak, D 41.36 309 P **P 20 48 59.1 +1.3**
baz=116,SNR=7.2
Y22D IRIS PASSCAL I 41.41 312 P **P 20 48 59.2 +1.1**
baz=118
ANMO Albuquerque 41.49 313 P **P 20 48 58.9 +0.1**
ANMO Albuquerque 41.49 313 LR LR 21 09 02.1
comp=Z,269nm,19.9s,baz=280,slow=40
ANMO Albuquerque 41.49 313 *c*e**P P 20 48 59.8 +1.0**
ANMO pmax pmax
comp=Z,8.0nm,1.1s
DUB01 Friburgo-RJ 41.73 139 *e*P **P 20 49 01.6 +0.8**
VA03 San Esteban 41.85 180 P **P 20 49 00.8 -0.8**
319A Douglas 42.05 307 P **P 20 49 03.9 +0.5**
319A IAmb IAmb 20 49 32.1
comp=Z,40nm,0.9s
PSAL Palomas, Salto 42.07 163 *e*P **P 20 49 02.0 -1.3**
EYMN Ely 42.34 339 P **P 20 49 05.1 -0.3**
EYMN IAmb IAmb 20 49 14.1
comp=Z,40nm,0.8s
MT02 Curacav 42.35 181 P **P 20 49 05.6 0.0**
MT02 IAmb IAmb 20 49 06.4
comp=Z,63nm,1.4s
MT08 Bocatoma Ro 42.53 179 P **P 20 49 06.5 -0.9**
HSIG 42.55 303 P **P 20 49 06.9 -0.5**
MT03 Universidad Ad 42.58 180 P **P 20 49 07.0 -0.5**
MT03 IAmb IAmb 20 49 23.2
comp=Z,69nm,1.1s
Q24A Divide 42.72 319 P **P 20 49 10.7 +1.7**
baz=125
CPSB Cacapava Do Su 42.81 158 *e*P **P 20 49 08.4 -1.0**
MT13 San Alfonso 42.83 180 P **P 20 49 09.2 -0.4**
MT09 Talagante 42.86 180 P **P 20 49 09.6 -0.3**
MT09 IAmb IAmb 20 49 21.5
comp=Z,28nm,0.7s
BO04 La Punta 43.07 180 P **P 20 49 11.0 -0.5**
SRIG Santa Rosalia 43.12 300 P **P 20 49 11.8 -0.2**
SRIG IAmb IAmb 20 49 24.2
comp=Z,138nm,1.6s
S22A 4UR Ranch, Cre 43.16 317 P **P 20 49 14.0 +1.4**
baz=122
BO01 Tunca 43.48 181 P **P 20 49 14.5 -0.2**
TUC Tucson 43.59 308 P **P 20 49 16.0 +0.2**
TUC Tucson 43.59 308 P **P 20 49 16.0 +0.2**
TUC pmax pmax
comp=Z,22nm,1.2s
BO02 Sierra Bellavi 43.88 180 P **P 20 49 17.4 -0.6**
BO02 IAmb IAmb 20 49 31.9
comp=Z,37nm,0.8s
PLTB Pedras Altas 43.98 159 P **P 20 49 18.0 -0.8**
PLTB IAmb IAmb 20 49 19.1
comp=Z,59nm,1.1s
PLTB Pedras Altas 43.98 159 *e*P **P 20 49 18.1 -0.8**
AGMN Agassiz Nation 44.28 336 P **P 20 49 21.3 +0.3**
N23A Red Feather La 44.32 321 P **P 20 49 23.0 +1.2**
baz=125
RSSD Black Hills 45.17 326 P **P 20 49 28.0 -0.5**
RSSD Black Hills 45.17 326 P **P 20 49 28.0 -0.5**
RSSD pmax pmax
comp=Z,17nm,1.0s
WUAZ Wupatki 45.33 312 P **P 20 49 30.3 +0.5**
WUAZ IAmb IAmb 20 49 43.2
comp=Z,26nm,0.9s
SCHQ Schefferville 45.49 3 P **P 20 49 31.2 +0.7**
SCHQ Schefferville 45.49 3 P **P 20 49 30.6 0.0**
comp=Z,5.5nm,0.6s,baz=200,slow=5.4,SNR=8.2
SCHQ LR LR 21 07 18.4
comp=Z,723nm,20.8s,baz=225,slow=35
comp=Z,5.5nm,0.6s
BI02 San Fabin de 45.75 181 P **P 20 49 31.6 -1.3**
BI02 IAmb IAmb 20 49 43.5
comp=Z,48nm,1.1s
ULM Lac du Bonnet 45.85 338 P **P 20 49 32.9 -0.6**
ULM Lac du Bonnet 45.85 338 P **P 20 49 32.6 -0.9**
comp=Z,19nm,0.6s,baz=146,slow=7.5,SNR=26
ULM LR LR 21 10 32.4
comp=Z,1µm,18.0s,baz=101,slow=38
comp=Z,19nm,0.6s
ULM Lac du Bonnet 45.85 338 *i* P **P 20 49 34.2 +0.7**
HMU Henry Mountain 45.95 315 P **P 20 49 34.7 -0.1**
HMU IAmb IAmb 20 49 47.0
comp=Z,39nm,1.1s
P18A Preston Nutter 46.42 317 P **P 20 49 39.3 +0.7**
P18A IAmb IAmb 20 49 53.4
comp=Z,44nm,1.4s
GLA Glamis 47.03 307 P **P 20 49 43.1 0.0**
GLA IAmb IAmb 20 49 56.0
comp=Z,33nm,0.9s
GLA Glamis 47.03 307 P **P 20 49 43.1 0.0**
GLA pmax pmax
comp=Z,33nm,1.0s
BLYC Blythe 47.04 308 P **P 20 49 42.8 -0.3**
PD31 Pinedale Array 47.60 321 P **P 20 49 47.5 -0.1**
PD31 IAmb IAmb 20 49 56.9
comp=Z,41nm,1.1s
PDAR Pinedale Array 47.60 321 P **P 20 49 48.0 +0.3**
comp=Z,5.1nm,0.5s,baz=124,slow=10.0,SNR=54
PDAR LR LR 21 12 39.1
comp=Z,320nm,18.4s,baz=90,slow=40
comp=Z,5.1nm,0.5s
TRQA Tornquist 47.82 171 P **P 20 49 48.8 -0.3**
TRQA Tornquist 47.82 171 P **P 20 49 48.8 -0.3**
TRQA pmax pmax
comp=Z,10.0nm,1.1s
HWUT Hardware Ranch 48.27 319 P **P 20 49 52.8 0.0**
HWUT IAmb IAmb 20 50 05.6
comp=Z,48nm,1.4s
SHPR Sheep Range 48.53 311 P **P 20 49 55.9 +1.1**
GO06 Curarrehue 48.66 181 P **P 20 49 54.8 -0.8**
LOHW Long Hollow 48.70 322 P **P 20 49 56.7 +0.6**
LOHW IAmb IAmb 20 50 09.2
comp=Z,28nm,0.9s
YMP Mirror Lake Pl 49.05 323 P **P 20 49 59.2 +0.3**
YMP IAmb IAmb 20 50 22.8
comp=Z,34nm,1.1s
LR05 Currie 49.32 181 P **P 20 49 59.7 -0.8**
GSC Goldstone, Bar 49.34 309 P **P 20 50 01.3 +0.3**
GSC IAmb IAmb 20 50 24.7
comp=Z,31nm,1.2s
GSC Goldstone, Bar 49.34 309 P **P 20 50 01.3 +0.3**
GSC pmax pmax
comp=Z,31nm,1.3s
TPNV Topopah Spring 49.51 311 P **P 20 50 02.9 +0.5**
TPNV Topopah Spring 49.51 311 P **P 20 50 02.9 +0.5**
TPNV pmax pmax
comp=Z,16nm,0.9s
R11B Troy Canyon, C 49.57 313 P **P 20 50 02.8 0.0**
R11B Troy Canyon, C 49.57 313 P **P 20 50 03.8 +1.0**
baz=114
PLCA Paso Flores 49.80 180 P **P 20 50 03.8 -0.5**
PLCA Paso Flores 49.80 180 P **P 20 50 03.8 -0.5**
PLCA pmax pmax
comp=Z,67nm,1.0s
PLCA Paso Flores 49.80 180 *e*P **P 20 50 03.6 -0.7**
LL04 Puerto Octay 50.01 182 P **P 20 50 04.3 -1.4**
ELK Elko 50.32 316 P **P 20 50 08.8 +0.2**
ELK Elko 50.32 316 LR LR 21 15 00.2
comp=Z,401nm,18.6s,baz=127,slow=40
ELK Elko 50.32 316 P **P 20 50 08.8 +0.2**
ELK pmax pmax
comp=Z,10.0nm,0.8s
BOZ Bozeman (W) 50.39 323 P **P 20 50 09.5 +0.6**
BOZ Bozeman (W) 50.39 323 P **P 20 50 09.5 +0.6**
BOZ pmax pmax
comp=Z,23nm,1.1s
TPH Tonopah 50.65 312 P **P 20 50 11.3 +0.3**
TPH IAmb IAmb 20 50 38.2
comp=Z,50nm,0.9s
TPH Tonopah 50.65 312 P **P 20 50 11.3 +0.3**
TPH pmax pmax
comp=Z,50nm,0.9s
EGMT Eagleton 50.71 327 P **P 20 50 11.9 +0.8**
EGMT IAmb IAmb 20 50 20.5
comp=Z,56nm,1.1s
HLID Hailey 51.06 320 P **P 20 50 15.0 +1.0**
LL06 Loncomilla 51.36 183 P **P 20 50 14.9 -1.0**
NV11 Mina Array Sit 51.46 312 P **P 20 50 17.2 +0.1**
LL01 San Ignacio de 51.48 182 P **P 20 50 15.6 -1.1**
LL01 IAmb IAmb 20 50 16.7
comp=Z,60nm,1.0s
LYMT Lyon Mountain 51.52 324 P **P 20 50 18.3 +0.9**
NVAR Mina Array Bea 51.57 312 P **P 20 50 18.5 +0.5**
comp=Z,1.7nm,0.7s,baz=121,slow=6.8,SNR=9.4
comp=Z,1.7nm,0.7s
FFC Flin Flon 51.68 337 P **P 20 50 17.9 -0.3**
FFC IAmb IAmb 20 50 30.2
comp=Z,87nm,1.4s
FFC Flin Flon 51.68 337 P **P 20 50 17.9 -0.3**
FFC pmax pmax
comp=Z,87nm,1.5s
BPMT Black Pine Rid 51.91 323 P **P 20 50 20.7 +0.3**
RPN Rapa Nui 52.16 225 LR LR 21 09 38.5
comp=Z,356nm,18.1s,baz=58,slow=33
GO07 Milladeo Hill, 52.26 183 P **P 20 50 21.8 -0.8**
LL02 Futaleuf 52.27 181 P **P 20 50 21.9 -0.8**
LL02 IAmb IAmb 20 50 23.1
comp=Z,62nm,1.0s
MSO Missoula 52.41 324 P **P 20 50 24.4 +0.5**
FCC Fort Churchill 52.47 345 P **P 20 50 23.5 -0.5**
FCC IAmb IAmb 20 50 31.8
comp=Z,25nm,0.9s
FCC Fort Churchill 52.47 345 P **P 20 50 23.5 -0.5**
FCC pmax pmax
comp=Z,25nm,0.9s
BBTS Babate 53.08 79 LR LR 21 11 23.2
comp=Z,220nm,20.9s,baz=140,slow=34
WVOR Wild Horse Val 53.34 317 P **P 20 50 31.6 +0.7**
WVOR IAmb IAmb 20 50 43.8
comp=Z,33nm,1.1s
WVOR Wild Horse Val 53.34 317 P **P 20 50 31.6 +0.7**
WVOR pmax pmax
comp=Z,33nm,1.1s
BMO Blue Mountains 53.51 320 P **P 20 50 31.9 -0.1**
BMO Blue Mountains 53.51 320 P **P 20 50 31.9 -0.1**
BMO pmax pmax
comp=Z,6.0nm,0.9s
J08A Circle Bar Ran 53.62 318 P **P 20 50 33.3 +0.4**
J08A IAmb IAmb 20 50 45.6
comp=Z,54nm,1.8s
MACI Morro de la Ar 54.12 62 P **P 20 50 37.9 +1.0**
FRB Frobisher Bay 54.35 1 LR LR 21 13 20.2
comp=Z,1µm,20.0s,baz=179,slow=36
HATC Hat Creek Radi 54.70 314 P **P 20 50 41.5 +0.7**
HATC IAmb IAmb 20 51 58.9
comp=Z,38nm,1.0s
NRS Narsarsuaq 54.99 15 *i* P P 20 50 49.6 +7.2
NRS IAmb IAmb 20 50 52.0
comp=Z,198nm,1.6s
NEW Newport 54.99 324 LR LR 21 16 39.5
comp=Z,556nm,18.3s,baz=119,slow=39
PINE Pine Mountain 55.43 317 P **P 20 50 47.0 +0.8**
YBH Yreka Blue Hor 55.90 315 LR LR 21 18 53.2
comp=Z,232nm,18.4s,baz=128,slow=40
NUUK Nuuk 56.38 10 *i* P **P 20 50 54.0 +1.6**
NUUK IAmb IAmb 20 51 08.0
comp=Z,16nm,0.8s
KSXB Camp Six Broad 56.75 314 P **P 20 50 55.9 +0.3**
KSXB IAmb IAmb 20 51 08.7
comp=Z,38nm,1.1s
SFJD Kangerlussuaq 59.17 9 LR LR 21 14 34.8
comp=Z,811nm,21.3s,baz=206,slow=34
DY2G Dye2 59.45 11 *i* P **P 20 51 13.9 -0.2**
DY2G IAmb IAmb 20 51 23.3
comp=Z,180nm,1.6s
ANGG Ammassalik, Gr 60.65 15 *i* P **P 20 51 26.5 +4.5**
ANGG IAmb IAmb 20 51 31.0
comp=Z,96nm,1.4s
EFI East Falkland 61.71 171 P **P 20 51 28.8 -0.6**
EFI East Falkland 61.71 171 P **P 20 51 28.8 -0.6**
EFI pmax pmax
comp=Z,50nm,0.9s
YKA Yellowknife Ar 61.82 339 P **P 20 51 29.6 -0.5**
comp=Z,1.7nm,0.7s,baz=123,slow=7.0,SNR=16
YKA LR LR 21 19 50.8
comp=Z,606nm,18.1s,baz=112,slow=38
comp=Z,1.7nm,0.7s
PTEO Sao Teotonio 62.15 52 *e*P **P 20 51 29.7 -3.1**
PTEO A A 20 51 29.8
comp=Z,120nm,1.5s
MORF Marmelete 62.16 53 *e*P **P 20 51 31.5 -1.4**
MORF A A 20 51 44.1
comp=Z,119nm,1.3s
AVE Averroes 62.58 57 P **P 20 51 37.2 +1.4**
AVE IAmb IAmb 20 53 52.9
comp=Z,36nm,1.0s
PCAS Casmilo, Conde 62.78 50 *e*pP **P 20 51 38.7 +1.7**
EVO Evora 62.87 51 *e*pP **P 20 51 38.9 +1.3**
ICESG Greenland Ices 63.00 12 *i* P **P 20 51 37.2 -1.1**
ICESG IAmb IAmb 20 51 47.1
comp=Z,74nm,1.2s
BBB Bella Bella 63.04 324 LR LR 21 21 40.2
comp=Z,420nm,18.9s,baz=152,slow=39
PESTR Estremoz 63.26 51 P **P 20 51 40.8 +0.6**
PESTR Estremoz 63.26 51 *e*pP **P 20 51 41.6 +1.4**
PESTR A A 20 51 51.1
comp=Z,52nm,1.7s
PVIS Viseu 63.36 49 *e*pP **P 20 51 42.2 +1.3**
PCBR Castelo Branco 63.52 50 *i* LQ LQ 20 51 51.8
PVRL Vila Real 63.60 49 *e*P **P 20 51 40.8 -1.7**
PVRL *i* LQ LQ 20 51 52.4
PVRL A A 20 51 52.4
comp=Z,92nm,1.4s
MVO Moncorvo 64.09 49 *e*pP **P 20 51 47.0 +1.3**
MVO A A 20 51 56.0
comp=Z,61nm,1.4s
TOAD Toad River Com 64.24 332 P **P 20 51 47.4 +1.1**
baz=117
KOTAN Kotaneelee Air 64.30 334 P **P 20 51 48.1 +1.5**
baz=118
PBRG Braganca 64.42 48 *e*P P 20 51 41.6 -6.3
PBRG A A 20 51 43.1
comp=Z,47nm,2.3s
MDT Midelt 64.87 58 P **P 20 51 50.1 -0.9**

comp=Z,7.5nm,1.0s,baz=302,slow=6.2,SNR=7.4
MDT LR LR 21 17 38.5
comp=Z,132nm,20.1s,baz=286,slow=34
comp=Z,7.5nm,1.0s
LIRD Liard River Hi 64.89 332 P **P 20 51 52.1 +1.6**
baz=116
BORG Borgarnes 65.07 21 P **P 20 51 52.4 +0.9**
BORG Borgarnes 65.07 21 LR LR 21 18 24.8
comp=Z,70nm,19.1s,baz=234,slow=34
BORG Borgarnes 65.07 21 P **P 20 51 52.4 +0.9**
BORG pmax pmax
comp=Z,87nm,1.5s
DBIC Dimbokro 65.11 87 P **P 20 51 52.5 -0.1**
DBIC IAmb IAmb 20 53 14.8
comp=Z,19nm,1.1s
DBIC Dimbokro 65.11 87 P **P 20 51 51.9 -0.8**
comp=Z,8.2nm,1.0s,baz=267,slow=6.8,SNR=7.6
DBIC LR LR 21 19 23.5
comp=Z,156nm,20.1s,baz=254,slow=35
comp=Z,8.2nm,1.0s
DBIC Dimbokro 65.11 87 P **P 20 51 52.6 -0.1**
DBIC pmax pmax
comp=Z,19nm,1.2s
U35K Hyder 65.43 328 P **P 20 51 55.6 +1.6**
baz=111
WRGLY Wrigley 65.57 337 P **P 20 51 56.3 +1.5**
baz=120
KULLO Kullorsuaq 65.67 4 *i* P **P 20 51 53.6 -1.7**
KULLO IAmb IAmb 20 52 03.7
comp=Z,55nm,1.5s
PAB San Pablo 65.85 51 P **P 20 51 57.7 +0.5**
PAB IAmb IAmb 20 52 06.4
comp=Z,41nm,1.6s
PAB San Pablo 65.85 51 P **P 20 51 57.7 +0.5**
PAB pmax pmax
comp=Z,41nm,1.6s
T35M Bob Quinn 65.92 329 P **P 20 51 58.7 +1.5**
baz=111
SUMG Summit 66.10 10 P **P 20 51 58.3 -0.3**
SUMG Summit 66.10 10 P **P 20 51 58.3 -0.3**
SUMG pmax pmax
comp=Z,59nm,1.2s
SUMG Summit 66.10 10 *i* P **P 20 51 57.9 -0.6**
SUMG IAmb IAmb 20 52 07.8
comp=Z,90nm,1.4s
ESDC Sonseca Array 66.16 51 P **P 20 51 59.0 -0.2**
comp=Z,3.0nm,0.8s,baz=266,slow=6.0,SNR=24
ESDC LR LR 21 16 54.4
comp=Z,155nm,20.2s,baz=256,slow=32
comp=Z,3.0nm,0.8s
DLBC Dease Lake 66.35 330 P **P 20 52 00.8 +0.8**
DLBC IAmb IAmb 20 52 13.3
comp=Z,16nm,0.8s
DLBC Dease Lake 66.35 330 LR LR 21 22 25.5
comp=Z,869nm,20.1s,baz=110,slow=37
DLBC Dease Lake 66.35 330 P **P 20 52 01.3 +1.2**
baz=112
S34M Telegraph Cree 66.70 330 P **P 20 52 03.7 +1.5**
baz=111
TGTN Hyland Airport 66.77 334 P **P 20 52 04.1 +1.4**
baz=115
RES Resolute Bay 66.78 353 P **P 20 52 01.5 -0.9**
comp=Z,2.0nm,1.0s,baz=177,slow=8.0,SNR=3.7
RES LR LR 21 20 00.1
comp=Z,345nm,22.0s,baz=177,slow=35
comp=Z,2.0nm,1.0s
WRAK Wrangell Islan 66.82 328 P **P 20 52 04.1 +1.2**
baz=109
CRAG Craig 66.93 327 P **P 20 52 04.3 +0.6**
baz=108
U33K Whale Pass 67.13 327 P **P 20 52 06.5 +1.6**
baz=108
R33M Jennings River 67.16 331 P **P 20 52 06.0 +0.8**
baz=112
Q32M Nakina River 67.63 330 P **P 20 52 09.6 +1.3**
baz=110
S32K Killisnoo 68.31 329 P **P 20 52 13.1 +0.8**
baz=108
P33M Teslin, Yukon 68.32 332 P **P 20 52 13.6 +1.1**
P33M Teslin, Yukon 68.32 332 P **P 20 52 13.4 +0.9**
baz=110
R32K Eaglecrest 68.52 329 P **P 20 52 14.8 +1.1**
baz=108
P32M Atlin 68.54 331 P **P 20 52 15.2 +1.3**
baz=109
SIT Sitka 68.58 328 P **P 20 52 14.2 +0.2**
baz=107
N32M Quiet Lake 68.77 333 P **P 20 52 15.9 +0.7**
baz=110
NEEM North Greenlan 68.87 5 *i* P **P 20 52 14.9 -1.0**
NEEM IAmb IAmb 20 52 24.9
comp=Z,62nm,1.4s
C36M Paulatuk 68.96 342 P **P 20 52 17.2 +1.0**
baz=122
FARO Faro, Yukon 69.26 334 P **P 20 52 19.2 +0.9**
baz=110
SKAG Skagway 69.28 330 P **P 20 52 20.0 +1.6**
baz=108
S31K Pelican 69.30 329 P **P 20 52 19.3 +0.8**
baz=106
WHY Whitehorse 69.44 332 P **P 20 52 20.5 +1.0**
baz=108
ESK Eskdalemuir 69.59 34 P **P 20 52 20.6 +0.2**
ESK IAmb IAmb 20 52 29.5
comp=Z,40nm,1.2s
ESK Eskdalemuir 69.59 34 P **P 20 52 20.6 +0.2**
ESK pmax pmax
comp=Z,40nm,1.2s
EKA Eskdalemuir Ar 69.62 34 P **P 20 52 20.2 -0.4**
comp=Z,4.4nm,0.8s,baz=256,slow=5.4,SNR=9.6
comp=Z,4.4nm,0.8s
M31M Drury Creek, Y 69.71 333 P **P 20 52 21.7 +0.7**
M31M IAmb IAmb 20 52 31.5
comp=Z,18nm,1.1s
M31M Drury Creek, Y 69.71 333 P **P 20 52 22.5 +1.4**
baz=109
PLBC Pleasant Camp 69.79 330 P **P 20 52 22.8 +1.3**
baz=107
O30N Mendenhall 70.04 332 P **P 20 52 24.1 +1.0**
baz=107
N31M Braeburn, Yuko 70.11 332 P **P 20 52 24.9 +1.4**
baz=108
P30M Million Dollar 70.27 331 P **P 20 52 25.6 +1.1**
baz=106
CEST Esterri de Car 70.42 48 P **P 20 52 26.4 +0.5**
CEST IAmb IAmb 20 52 36.1
comp=Z,30nm,1.2s
P29M Windy Craggy 70.51 330 P **P 20 52 27.5 +1.6**
baz=105
A36M Sachs Harbour 70.69 344 P **P 20 52 26.2 -0.6**
A36M IAmb IAmb 20 52 34.9
comp=Z,30nm,0.8s
A36M Sachs Harbour 70.69 344 P **P 20 52 28.1 +1.4**
baz=122
N30M Aishikik Lake 70.70 332 P **P 20 52 28.3 +1.1**
baz=107
HYT Haines Junctio 70.72 331 P **P 20 52 28.0 +0.6**
HYT IAmb IAmb 20 52 38.4
comp=Z,30nm,1.3s
HYT Haines Junctio 70.72 331 P **P 20 52 28.1 +0.7**
baz=106
MAYO Mayo, Yukon 70.82 335 P **P 20 52 28.7 +1.0**
baz=108
TORD Torodi Ar. Bea 70.83 79 P **P 20 52 28.7 0.0**
comp=Z,4.6nm,0.6s,baz=285,slow=6.6,SNR=46
TORD LR LR 21 21 50.2
comp=Z,205nm,21.7s,baz=272,slow=34
comp=Z,4.6nm,0.6s
M30M Minto, Yukon 70.89 333 P **P 20 52 29.5 +1.2**
baz=107
H31M Peel River 70.93 337 P **P 20 52 29.2 +0.8**
baz=111
O29M Mount Kennedy 71.09 331 P **P 20 52 29.8 +0.2**
baz=105
EUNU Eureka 71.12 357 P **P 20 52 29.8 +0.4**
YUK6 Outpost Mounta 71.16 331 P **P 20 52 30.8 +0.6**
baz=105
F31M Tsiigehtchic 71.30 339 P **P 20 52 31.5 +0.9**
baz=112,SNR=6.7
G31M Satah River 71.30 338 P **P 20 52 31.1 +0.6**
baz=111,SNR=5.8
J30M Hart River 71.31 335 P **P 20 52 31.3 +0.4**
baz=108
PNL Peninsula 71.33 330 P **P 20 52 32.1 +1.1**
baz=104
YUK4 Talbot Arm 71.39 332 P **P 20 52 31.8 +0.3**
baz=105
I30M Mount Dempster 71.53 336 P **P 20 52 32.8 +0.6**
baz=108
INK Inuvik 71.54 340 P **P 20 52 31.8 -0.2**
INK IAmb IAmb 20 52 40.6
comp=Z,26nm,1.1s
INK Inuvik 71.54 340 LR LR 21 25 39.6
comp=Z,554nm,18.8s,baz=90,slow=37
INK Inuvik 71.54 340 P **P 20 52 33.1 +1.0**
baz=112
INK Inuvik 71.54 340 P **P 20 52 31.8 -0.2**
INK pmax pmax
comp=Z,26nm,1.1s
TAOE Nuku Hiva Isla 71.54 257 *e*LR LR 21 14 23.9
comp=Z,488nm,23.0s
K29M Barlow Dome 71.58 335 P **P 20 52 32.7 +0.1**
baz=107
M29M Somme Creek 71.60 333 P **P 20 52 32.8 +0.1**
baz=106
L29M 71.64 334 P **P 20 52 32.8 0.0**
baz=106
CLF Chambon-Foret 71.68 43 P **P 20 52 33.5 +0.2**
PINM Pinnacle 71.85 330 P **P 20 52 33.0 -1.2**
baz=103
YUK8 Steele Glacier 71.90 332 P **P 20 52 34.0 -0.7**
baz=104
O28M Mount Upton 71.98 331 P **P 20 52 35.5 +0.3**
baz=104
EPYK Eagle Plains 72.03 337 P **P 20 52 35.4 +0.3**
baz=108
G30M tAoh Zraii Nji 72.04 338 P **P 20 52 35.9 +0.7**
baz=109
J29N Klondike Camp 72.05 335 P **P 20 52 36.4 +1.1**
baz=106
F30M Barrier River 72.09 339 P **P 20 52 35.5 +0.1**
baz=110
YUK3 Moose Creek 72.34 332 P **P 20 52 37.4 +0.2**
baz=104
JMIC Jan Mayen 72.34 18 LR LR 21 19 22.3
comp=Z,220nm,21.5s,baz=244,slow=32
DAWY Dawson 72.44 335 P **P 20 52 38.2 +0.6**
DAWY Dawson 72.44 335 P **P 20 52 37.8 +0.2**
baz=105
MAHO Mahon 72.50 51 P **P 20 52 38.8 +0.4**
CTG Chitna Glacier 72.57 331 P **P 20 52 38.8 +0.2**
baz=102
H29M Whitestone 72.62 337 P **P 20 52 39.1 +0.5**
baz=107
BVCY Beaver Creek 72.67 333 P **P 20 52 39.2 +0.2**
baz=103
G29M Pine Creek 72.69 338 P **P 20 52 39.7 +0.7**
baz=107
DAG Danmarks Havn 72.74 11 *i* P **P 20 52 38.0 -1.1**
DAG IAmb IAmb 20 52 47.6
comp=Z,41nm,1.6s
SSB Saint Sauveur 73.00 46 P **P 20 52 41.7 +0.4**
SSB IAmb IAmb 20 52 51.3
comp=Z,34nm,1.3s
SSB Saint Sauveur 73.00 46 P **P 20 52 41.7 +0.4**
SSB pmax pmax
comp=Z,34nm,1.3s
I28M Miner Creek 73.03 336 P **P 20 52 41.7 +0.6**
baz=105
E29M Blow River 73.10 339 P **P 20 52 42.1 +0.8**
baz=108
M27K Edge Creek, AK 73.12 333 P **P 20 52 42.2 +0.4**
baz=102
BCAR Beaver Creek A 73.24 333 P **P 20 52 43.0 +0.7**
TGL Tana Glacier 73.24 331 P **P 20 52 43.4 +1.0**
L27K Beaver Creek, 73.25 333 P **P 20 52 43.5 +1.1**
baz=103
UCC Uccle 73.34 40 *dx* x 20 52 51.4
EGAK Eagle 73.36 335 P **P 20 52 43.1 +0.2**
EGAK IAmb IAmb 20 52 55.9
comp=Z,45nm,1.4s
EGAK Eagle 73.36 335 P **P 20 52 43.6 +0.7**
baz=104,SNR=5.9
CRQE Cirque 73.37 331 P **P 20 52 43.7 +0.5**
baz=101
DOU Dourbes 73.42 41 *d*P **P 20 52 44.3 +0.7**
DOU *dx* x 20 52 51.9
MCARA McCarthy VSAT 73.46 331 P **P 20 52 44.7 +1.1**
baz=101
F28M Old Crow 73.58 338 P **P 20 52 45.5 +1.2**
baz=106
M26K Nabesna, AK 73.64 332 P **P 20 52 45.5 +0.8**
baz=102
D28M Stokes Point 73.67 340 P **P 20 52 45.4 +0.8**
baz=108
TAM Tamanrasset 73.74 69 P **P 20 52 46.3 +0.1**
TAM IAmb IAmb 20 52 57.0
comp=Z,58nm,1.9s
TAM Tamanrasset 73.74 69 P **P 20 52 46.3 +0.1**
TAM pmax pmax
comp=Z,59nm,1.9s
E28M Babbage River 73.74 339 P **P 20 52 45.6 +0.5**
baz=106
I27K Kandik River 73.74 336 P **P 20 52 46.0 +0.7**
baz=104,SNR=5.9
BGES Gesves 73.76 40 *d*P **P 20 52 46.2 +0.6**
BGES *dx* x 20 52 53.6
RCHB Rochefort 73.83 40 *d*P **P 20 52 46.9 +0.9**
comp=Z,14nm,1.3s
H27K Steamboat Moun 73.86 336 P **P 20 52 46.6 +0.7**
baz=104
KAIM Kayak Island 73.87 330 P **P 20 52 47.0 +0.9**
baz=100
BCLA Clavier 73.91 40 *d*P P 20 52 54.9 +8.4
L26K Log Cabin Wild 73.92 333 P **P 20 52 47.4 +1.1**
baz=101
G27K Dixon Strip 74.05 337 P **P 20 52 47.4 +0.4**
baz=104
PMSA Palmer Station 74.05 177 LR LR 21 28 45.4
comp=Z,606nm,18.6s,baz=339,slow=38
BSTI Sart Tilman 74.09 40 *dx* x 20 52 56.2
BMRM Bremner River 74.14 331 P **P 20 52 47.8 +0.2**
baz=100
BEBN Eben Emael 74.17 40 *d*P **P 20 52 48.6 +0.7**
BEBN *dx* x 20 52 56.8
N25K Chitina, Valde 74.24 331 P **P 20 52 48.8 +0.5**
baz=100
I26K Coal Creek Min 74.30 335 P **P 20 52 48.8 +0.4**
baz=102
J26L Joseph Creek 74.31 335 P **P 20 52 49.2 +0.5**
baz=102
E27K Coleen River 74.36 338 P **P 20 52 49.5 +0.7**
baz=104
MEM Membach 74.37 40 *d*P **P 20 52 48.2 -0.9**
MEM *dx* x 20 52 58.1
SCRK Sand Creek 74.39 334 P **P 20 52 49.7 +0.5**
baz=101,SNR=6.0
WLF Walferdange 74.39 41 P **P 20 52 49.8 +0.5**
WLF IAmb IAmb 20 52 59.1
comp=Z,44nm,1.1s
WLF Walferdange 74.39 41 P **P 20 52 49.8 +0.5**
WLF pmax pmax
comp=Z,44nm,1.1s
WLF Walferdange 74.39 41 *e*P **P 20 52 50.1 +0.8**
comp=Z,42nm,1.5s,baz=270,slow=5.6
WLF *e*PcP **pP 20 52 57.3 +1.3**
baz=270,slow=5.6
WLF Walferdange 74.39 41 *d*P **P 20 52 50.1 +0.8**
WLF *dx* x 20 52 58.0
D27M Malcolm River 74.41 340 P **P 20 52 49.8 +0.7**
baz=105
BTNL Ternell 74.44 40 *d*P P 20 52 56.3 +6.6
BNI Bardonecchia 74.50 46 P **P 20 52 50.9 +0.7**
BNI IAmb IAmb 20 53 00.6
comp=Z,32nm,1.1s
BNI Bardonecchia 74.50 46 P **P 20 52 50.9 +0.7**
BNI pmax pmax
comp=Z,32nm,1.1s
EYAK Cordova Ski Ar 74.62 330 P **P 20 52 51.0 +0.6**
baz=98
HARP HAARP 74.63 332 P **P 20 52 51.3 +0.8**
baz=100
Q23K Middleton Isla 74.77 329 P **P 20 52 51.9 +0.7**
baz=98
KLU Klutina 74.85 331 P **P 20 52 52.5 +0.7**
baz=98
PAX Paxson 74.87 333 P **P 20 52 52.3 +0.4**
baz=99
G26K Porcupine Rive 74.90 337 P **P 20 52 52.4 +0.5**
baz=102
ECH Echery 74.97 43 P **P 20 52 52.8 +0.1**
ECH IAmb IAmb 20 53 02.1
comp=Z,36nm,1.1s
ECH Echery 74.97 43 P **P 20 52 52.8 +0.1**
ECH pmax pmax
comp=Z,36nm,1.1s
SENIN Lac Senin/Sane 74.98 45 P **P 20 52 53.6 +0.6**
M24K Tolsona, Glenn 75.06 332 P **P 20 52 54.0 +1.0**
baz=98
J25K Salcha River, 75.10 335 P **P 20 52 53.9 +0.7**
baz=100
K24K Donnelly Dome 75.14 334 P **P 20 52 54.3 +0.9**
baz=99
F26K Sheenjek River 75.19 338 P **P 20 52 54.2 +0.6**
baz=102
BUG Bochum--Univer 75.22 39 *e*P **P 20 52 54.6 +0.6**
comp=Z,16nm,1.2s,baz=270,slow=5.6
BUG *e*PcP **pP 20 53 01.9 +1.1**
baz=270,slow=5.6
BMAR Burnt Mountain 75.30 337 P **P 20 52 54.2 -0.1**
PRP Porcupine Dome 75.32 335 P **P 20 52 54.6 +0.1**
PRP Porcupine Dome 75.32 335 P **P 20 52 54.7 +0.2**
baz=100,SNR=5.8
GLI Glacier Island 75.33 331 P **P 20 52 55.0 +0.5**
baz=97
P23K Montague Islan 75.37 330 P **P 20 52 55.2 +0.5**
baz=97
FYU Fort Yukon 75.39 337 P **P 20 52 54.5 -0.2**
FYU IAmb IAmb 20 53 04.6
comp=Z,25nm,1.2s
C27K Jago River 75.44 340 P **P 20 52 55.7 +0.7**
baz=103
SCM Sheep Creek Mo 75.56 332 P **P 20 52 56.4 +0.5**
SCM Sheep Creek Mo 75.56 332 P **P 20 52 56.5 +0.6**
baz=97
SCM Sheep Creek Mo 75.56 332 P **P 20 52 56.4 +0.5**
SCM pmax pmax
comp=Z,60nm,1.2s
H25L Birch Creek 75.57 336 P **P 20 52 56.9 +1.2**
baz=100
IBBN Ibbenburen 75.58 38 *e*PcP **PcP 20 53 03.9 -5.0**
baz=270,slow=5.6
F25K Christian Rive 75.73 338 P **P 20 52 57.9 +1.1**
baz=100
HDA Harding Lake 75.74 334 P **P 20 52 57.4 +0.6**
baz=98
M23K Glacier View 75.74 331 P **P 20 52 57.5 +0.7**
baz=97
DHY Denali Highway 75.74 333 P **P 20 52 57.3 +0.3**
baz=98
BFO Black Forest 75.75 43 P **P 20 52 57.0 -0.3**
BFO Black Forest 75.75 43 P **P 20 52 57.0 -0.3**
BFO pmax pmax
comp=Z,17nm,1.2s
G25K Bearman Lake 75.76 337 P **P 20 52 57.6 +0.8**
baz=100
ILAR Eielson Array 75.77 335 P **P 20 52 56.5 -0.4**
comp=Z,1.8nm,1.0s,baz=87,slow=3.4,SNR=9.7
ILAR LR LR 21 28 32.4
comp=Z,637nm,18.1s,baz=94,slow=38
comp=Z,1.8nm,1.0s
NOR Nord 75.84 7 *i* P **P 20 52 55.9 -1.2**
NOR IAmb IAmb 20 53 05.9
comp=Z,24nm,1.3s
WAT6 Susitna Watana 75.84 332 P **P 20 52 58.3 +0.7**
baz=97,SNR=5.2
TNS Taunus Mts 75.90 41 *e*P **P 20 52 58.7 +0.7**
comp=Z,16nm,1.1s,baz=270,slow=5.6
TNS *e*PcP **pP 20 53 05.9 +1.1**
baz=270,slow=5.6
C26K Camden Bay 75.91 340 P **P 20 52 59.2 +1.5**
baz=102
PWL Port Wells 75.92 330 P **P 20 52 58.4 +0.4**
baz=96
SML Sawmill 76.03 331 P **P 20 52 58.2 -0.3**
SML Sawmill 76.03 331 P **P 20 52 59.2 +0.6**
baz=96
KNK Knik Glacier 76.05 331 P **P 20 52 59.3 +0.7**
baz=96
POKR Poker Plat Res 76.05 335 P **P 20 52 59.1 +0.5**
baz=98
COLA College 76.19 335 *i* P **P 20 53 00.4 +1.1**
COLA pmax pmax
comp=Z,9.0nm,1.0s
G24K Hadweenzic Riv 76.29 337 P **P 20 53 00.6 +0.6**
baz=98
D25K Kavik River 76.31 339 P **P 20 53 00.6 +0.7**
baz=100
H24K Noodor Dome 76.33 336 P **P 20 53 00.9 +0.7**
baz=98
STU Stuttgart 76.34 42 P **P 20 53 00.7 +0.2**
STU IAmb IAmb 20 53 09.9
comp=Z,42nm,1.1s
STU Stuttgart 76.34 42 P **P 20 53 00.7 +0.2**
STU pmax pmax
comp=Z,42nm,1.1s
STU Stuttgart 76.34 42 *e*P **P 20 53 00.8 +0.2**
comp=Z,66nm,1.2s,baz=270,slow=5.6
STU *e*PcP **pP 20 53 07.9 +0.7**
baz=270,slow=5.6
PMR Palmer 76.38 331 P **P 20 53 01.0 +0.5**
baz=96
SEW Seward 76.40 330 P **P 20 53 00.9 +0.4**
baz=95
TUE Stuetta 76.40 44 P **P 20 53 01.2 0.0**
TUE IAmb IAmb 20 53 11.2
comp=Z,28nm,0.9s
VSL Villasalto 76.44 52 P **P 20 53 01.9 +0.6**
VSL IAmb IAmb 20 53 14.2
comp=Z,31nm,0.9s
KEST Kesra 76.50 55 P **P 20 53 02.1 +0.3**
comp=Z,12nm,1.0s,baz=194,slow=3.9,SNR=8.4
KEST LR LR 21 23 14.7
comp=Z,114nm,20.7s,baz=284,slow=33
comp=Z,12nm,1.0s
MCK McKinley 76.52 333 P **P 20 53 02.1 +0.8**
baz=96
F24K Squaw Lake 76.57 337 P **P 20 53 02.4 +0.9**
baz=98
O22K Cooper Landing 76.57 330 P **P 20 53 02.5 +0.9**
baz=95
RETH Rethem/Aller, 76.58 38 *e*P **P 20 53 02.7 +1.0**
comp=Z,17nm,1.3s,baz=270,slow=5.6
RETH *e*PcP **sP 20 53 09.9 -1.2**
baz=270,slow=5.6
RC01 Rabbit Creek A 76.63 331 P **P 20 53 02.4 +0.5**
baz=95
MUD Monsted U'grnd 76.65 34 *i* P **P 20 53 02.6 +0.6**
MUD IAmb IAmb 20 53 12.2
comp=Z,206nm,1.9s
NEA2 Nenana 76.67 334 P **P 20 53 03.0 +0.9**
baz=96
DAVOX Davos/Dischmat 76.77 44 LR LR 21 22 39.6
comp=Z,274nm,20.4s,baz=277,slow=32
DAVA Damuels 76.78 44 *e*P **P 20 53 04.6 +1.4**
comp=Z,30nm,1.5s,SNR=6.9
DAVA *i* sP **sP 20 53 12.3 -0.4**
comp=Z,72nm,1.5s
I23K Minto, Yukon-K 76.86 335 P **P 20 53 04.0 +0.9**
baz=96
M22K Willow 76.87 331 P **P 20 53 04.0 +0.8**
baz=95
E24K Your Creek 76.87 338 P **P 20 53 04.3 +1.1**
baz=98
GTTG Gottingen 76.91 39 *e*P **P 20 53 04.5 +0.8**
comp=Z,11nm,1.0s,baz=270,slow=5.6
GTTG *e*PcP **pP 20 53 11.7 +1.3**
baz=270,slow=5.6
H23K Yukon River 77.01 335 P **P 20 53 05.1 +1.1**
baz=96
BRSE Bradley Lake S 77.02 329 P **P 20 53 05.3 +1.2**
baz=94
NRDL Niedersach Rie 77.02 38 *e*P **P 20 53 05.3 +1.1**
comp=Z,20nm,1.4s,baz=270,slow=5.6
NRDL *e*PcP **sP 20 53 12.4 -1.2**
baz=270,slow=5.6
FUORN Ofenpass-Fuorn 77.03 44 P **P 20 53 04.7 -0.2**
FUORN IAmb IAmb 20 53 14.8
comp=Z,45nm,1.2s
TRF Thorofare Moun 77.09 333 P **P 20 53 06.3 +1.6**
baz=95
D24K Happy Valley 77.14 339 P **P 20 53 04.9 +0.2**
baz=98
SUA Susitna One 77.14 331 P **P 20 53 06.0 +1.1**
baz=94
CLZ Clausthal 77.17 39 *e*P **P 20 53 06.1 +0.9**
comp=Z,22nm,1.6s,baz=270,slow=5.6
CLZ *e*PcP **pP 20 53 13.1 +1.2**
baz=270,slow=5.6
C24K Franklin Bluff 77.18 340 P **P 20 53 05.1 +0.3**
baz=98
BSEG Bad Segeberg 77.19 37 *e*P **P 20 53 05.8 +0.6**
comp=Z,16nm,1.2s,baz=270,slow=5.6

BSEG *e*PcP **pP** **20 53 13.0 +1.2**
baz=270,slow=5.6
E23K Chandalar 77.29 338 P **P** **20 53 06.2 +0.6**
baz=97
CAPN Captain Cook N 77.29 330 P **P** **20 53 06.2 +0.6**
baz=94
G23K Bananza Creek 77.30 336 P **P** **20 53 06.0 +0.3**
baz=96
SMAI San Martin Ant 77.30 179 P **P** **20 53 05.5 +0.1**
SMAI IAmb IAmb 20 53 13.8
comp=Z,45nm,1.2s
TOLK Toolik Lake Re 77.34 338 P **P** **20 53 06.2 +0.4**
baz=97
FETA Feichten 77.36 44 *i* P **P** **20 53 07.5 +1.0**
comp=Z,36nm,1.2s,SNR=16
FETA *i* sP **sP** **20 53 15.5 -0.4**
comp=Z,71nm,1.1s
RETA Reutte 77.38 43 *e*P **P** **20 53 07.0 +0.5**
comp=Z,19nm,1.3s,SNR=7.0
RETA *i* sP **sP** **20 53 15.4 -0.6**
comp=Z,46nm,1.4s
COLD Coldfoot 77.42 337 P **P** **20 53 06.9 +0.7**
baz=96
MLY Manley 77.43 335 P **P** **20 53 06.5 +0.1**
MLY IAmb IAmb 20 53 18.4
comp=Z,62nm,1.7s
MLY Manley 77.43 335 P **P** **20 53 06.7 +0.3**
baz=95
BPAW Bear Paw Mtn. 77.46 334 P **P** **20 53 06.6 +0.1**
baz=95
ZCCA Zocca 77.55 47 P **P** **20 53 08.4 +0.9**
SKT Skwentna 77.55 331 P **P** **20 53 07.1 0.0**
baz=94
MOTA Moosalm 77.61 44 *i* P **P** **20 53 08.7 +0.8**
comp=Z,15nm,1.2s
MOTA *i* sP **sP** **20 53 16.7 -0.6**
comp=Z,48nm,1.4s
SQTA Sankt Quirin 77.68 44 *i* P **P** **20 53 09.3 +1.0**
comp=Z,25nm,1.3s,SNR=6.6
SQTA *i* sP **sP** **20 53 17.1 -0.6**
comp=Z,56nm,1.2s
FLTG Flechtingen 77.71 38 *e*P **P** **20 53 08.5 +0.4**
comp=Z,26nm,1.5s,baz=270,slow=5.6
FLTG *e*PcP **pP** **20 53 15.6 +0.8**
baz=270,slow=5.6
NBO00 NORSAR Array S 77.73 30 P **P** **20 53 09.0 +0.9**
NBO00 IAmb IAmb 20 53 18.3
comp=Z,52nm,1.3s
H22K Ishtalitna Cre 77.77 335 P **P** **20 53 09.3 +1.1**
baz=95
D23K Nanushuk River 77.78 339 P **P** **20 53 08.4 +0.2**
baz=96
Q20K Shuyak Island 77.81 328 P **P** **20 53 08.5 0.0**
baz=92
N20K Mount Spurr 77.83 331 P **P** **20 53 09.1 +0.4**
baz=93
SPCR Spurr Chakacha 77.83 331 P **P** **20 53 09.1 +0.4**
baz=93
C23K Itkillik River 77.85 340 P **P** **20 53 09.5 +1.0**
baz=96
KDAK Kodiak Island 77.89 327 LR LR 21 28 16.3
comp=Z,502nm,22.0s,baz=285,slow=36
KDAK Kodiak Island 77.89 327 P **P** **20 53 09.7 +0.7**
baz=92
CAST Castle Rocks 77.90 333 P **P** **20 53 09.3 +0.3**
baz=94,SNR=6.9
G22K Bettles 77.90 337 P **P** **20 53 09.8 +0.9**
baz=95
PPLA Purkeypile 77.91 332 P **P** **20 53 10.0 +0.7**
baz=93,SNR=5.3
WATA Walderalm 77.93 44 *i* P **P** **20 53 09.9 +0.2**
comp=Z,14nm,1.2s
WATA *i* sP **sP** **20 53 18.1 -1.0**
comp=Z,26nm,1.2s
NB2 NORSAR Subarra 77.95 30 P **P** **20 53 10.4 +1.1**
comp=Z,44nm,1.1s,baz=269,slow=5.9
NB2 NORSAR Subarra 77.95 30 P **P** **20 53 10.4 +1.1**
baz=269,slow=5.9
NOA NORSAR Array B 77.95 30 P **P** **20 53 10.4 +1.1**
comp=Z,4.7nm,0.9s,baz=270,slow=5.6,SNR=13
NOA LR LR 21 22 23.7
comp=Z,139nm,21.7s,baz=260,slow=32
comp=Z,4.7nm,0.9s
I21K Tanana 77.96 335 P **P** **20 53 09.9 +0.6**
baz=94
WTTA Wattenberg 77.97 44 *i* P **P** **20 53 10.8 +0.8**
comp=Z,8.1nm,0.8s
WTTA *i* sP **sP** **20 53 18.7 -0.7**
comp=Z,40nm,1.3s
O20K Slope Mountain 77.99 330 P **P** **20 53 10.0 +0.4**
baz=92
CTI Castel Tesino 78.00 45 P **P** **20 53 10.0 0.0**
CTI IAmb IAmb 20 53 19.2
comp=Z,33nm,1.0s
CTI Castel Tesino 78.00 45 P **P** **20 53 10.0 0.0**
CTI pmax pmax
comp=Z,33nm,1.0s
CHUM Lake Minchumin 78.03 333 P **P** **20 53 10.2 +0.6**
baz=93
NEUB Neuenburg 78.04 40 *e*P **P** **20 53 10.7 +0.7**
comp=Z,28nm,1.4s,baz=270,slow=5.6
NEUB *e*PcP **pP** **20 53 17.9 +1.2**
baz=270,slow=5.6
E22K Anaktuvuk Pass 78.12 338 P **P** **20 53 10.8 +0.6**
baz=95
F22K John River 78.21 337 P **P** **20 53 10.8 +0.1**
baz=94
OHAK Old Harbor 78.25 327 P **P** **20 53 11.0 0.0**
baz=91
MANZ Manzenberg 78.26 41 *e*P **P** **20 53 12.2 +0.9**
comp=Z,4.8nm,1.1s,baz=270,slow=5.6
MANZ *e*PcP **pP** **20 53 19.3 +1.3**
baz=270,slow=5.6
P19K Oil Pt 78.28 329 P **P** **20 53 11.6 +0.4**
baz=92
PLN Plauen 78.28 40 *e*P **P** **20 53 12.0 +0.6**
comp=Z,12nm,1.2s,baz=270,slow=5.6
PLN *e*PcP **pP** **20 53 19.1 +1.0**
baz=270,slow=5.6
M20K Styx River 78.30 331 P **P** **20 53 11.3 0.0**
baz=92
ROTZ Rotzenmuhle 78.32 41 *e*PcP **PcP** **20 53 19.7 -1.2**
baz=270,slow=5.6
H21K Melozitna Rive 78.34 335 P **P** **20 53 11.7 +0.3**
baz=93
NKC Novy Kostel 78.47 41 *e*P **P** **20 53 13.5 +1.0**
NKC *e*pP **PcP** **20 53 21.6 0.0**
NKC Novy Kostel 78.47 41 *e*P **P** **20 53 13.5 +1.0**
NKC *e**PP **PcP** **20 53 21.6 0.0**
Q19K Cape Douglas, 78.47 328 P **P** **20 53 12.5 +0.2**
baz=91
TANN Tannenbergstha 78.48 40 *e*P **P** **20 53 13.4 +0.8**
comp=Z,14nm,1.2s,baz=270,slow=5.6
TANN *e*PcP **pP** **20 53 20.5 +1.2**
baz=270,slow=5.6
D22K Ayikyak River 78.50 339 P **P** **20 53 12.6 +0.4**
baz=94
ABTA Abfaltersbach 78.58 44 *i* P **P** **20 53 14.4 +1.2**
comp=Z,20nm,1.3s,SNR=5.1
ABTA *i* sP **PcP** **20 53 22.0 -0.2**
comp=Z,39nm,1.1s
G21K Allakaket 78.67 336 P **P** **20 53 13.9 +0.7**
baz=93
L20K Farewell, AK 78.67 332 P **P** **20 53 14.3 +0.9**
baz=92
LESA Schwarzleotal 78.68 43 *i* P **P** **20 53 14.4 +0.7**
comp=Z,17nm,1.4s
LESA *i* sP **PcP** **20 53 22.3 -0.3**
comp=Z,35nm,1.2s
F21K Alatna River 78.69 337 P **P** **20 53 14.9 +1.5**
baz=93
SII Sitkinak Islan 78.74 326 P **P** **20 53 14.8 +1.1**
baz=90
IMAR Indian Mountai 78.74 336 P **P** **20 53 13.9 +0.3**
WET Wettzell 78.77 42 *e*P **P** **20 53 14.7 +0.5**
comp=Z,22nm,1.6s,baz=270,slow=5.6
WET *e*PcP **PcP** **20 53 22.1 -0.9**
baz=270,slow=5.6
K20K Telida 78.79 333 P **P** **20 53 14.9 +1.0**
baz=92
CLL Collm 78.81 39 P **P** **20 53 14.9 +0.7**
CLL IAmb IAmb 20 53 23.9
comp=Z,29nm,1.2s
CLL Collm 78.81 39 *i* P **P** **20 53 15.3 +1.1**
CLL *i* *PP **PcP** **20 53 22.6 -0.4**
CLL *e*S **S** **21 03 09.0 -2.2**
CLL pmax pmax
comp=Z,22nm,1.6s

CLL Collm 78.81 39 *e*P **P** **20 53 14.7 +0.5**
comp=Z,28nm,1.6s,baz=270,slow=5.6
CLL *e*PcP **pP** **20 53 22.0 +1.0**
baz=270,slow=5.6
CLL Collm 78.81 39 *i* P **P** **20 53 15.3 +1.1**
comp=Z,22nm,1.6s
CLL *i* pP **pP** **20 53 21.3 +0.3**
comp=Z,64nm,1.7s
CLL *i* (PcP) **sP** **20 53 25.7 +2.0**
CLL *e*S **S** **21 03 11.0 -0.2**
CLL *e*PS **PnS** **21 03 54.0 -0.5**
CLL *e*SS **SS** **21 08 19.0 +3.3**
CLL AMS AMS 21 27 00.0
comp=Z,200nm,19.7s
O19K Port Alsworth 78.84 330 P **P** **20 53 15.2 +1.0**
baz=91
J20K Nowinta River 78.84 334 P **P** **20 53 14.8 +0.6**
baz=92,SNR=8.4
B22K Teshekpuk Lake 78.85 340 P **P** **20 53 15.1 +1.0**
baz=94
R18K Karluk 78.89 327 P **P** **20 53 14.7 +0.2**
baz=90
M19K Big River Lodg 78.90 331 P **P** **20 53 15.3 +0.7**
baz=91
N19K Bonanza Creek 78.93 330 P **P** **20 53 15.7 +0.8**
baz=91
E21K Killik River 78.94 338 P **P** **20 53 15.8 +1.1**
baz=93
L19K Wiz=Mountain 79.12 332 P **P** **20 53 16.2 +0.4**
baz=91
KBA Koelnbreinsper 79.14 44 *i* P **P** **20 53 17.9 +1.5**
comp=Z,23nm,1.3s,SNR=6.6
KBA *i* sP **PcP** **20 53 25.0 +0.2**
comp=Z,33nm,1.1s
HFS Hagfors 79.15 30 P **P** **20 53 16.1 +0.1**
comp=Z,1.2nm,0.6s,baz=222,slow=2.0,SNR=7.5
HFS LR LR 21 22 48.9
comp=Z,246nm,21.7s,baz=256,slow=32
comp=Z,1.2nm,0.6s
Q18K Katmai Hardscr 79.18 328 P **P** **20 53 16.8 +0.5**
baz=90
H20K Anotleneega Mo 79.19 335 P **P** **20 53 16.6 +0.5**
baz=91
B21K Ikpikpuk River 79.22 339 P **P** **20 53 16.8 +0.7**
baz=92
KHC Kasperske Hory 79.23 42 P **P** **20 53 17.3 +0.6**
KHC IAmb IAmb 20 53 26.5
comp=Z,26nm,1.1s
KHC Kasperske Hory 79.23 42 *e*P **P** **20 53 17.8 +1.1**
KHC *e*pP **pP** **20 53 23.9 +0.5**
KHC AMS AMS 21 24 30.0
comp=Z,300nm,18.1s
KHC Kasperske Hory 79.23 42 *e*P **P** **20 53 17.8 +1.1**
KHC *e**PP **pP** **20 53 23.9 +0.5**
KHC MLR MLR
comp=Z,300nm,18.1s
C21K Knifeblade Rid 79.27 339 P **P** **20 53 17.1 +0.6**
baz=92
O18K Koktuh Hills 79.28 329 P **P** **20 53 17.1 +0.4**
baz=90
P18K Big Mountain, 79.29 329 P **P** **20 53 16.7 -0.1**
baz=90
BIOA Bad Ischl, Aus 79.32 43 *i* P **P** **20 53 17.2 0.0**
comp=Z,10nm,1.3s,SNR=5.9
BIOA *i* sP **PcP** **20 53 25.6 +0.3**
comp=Z,33nm,1.4s
GEC2 GERESS Array S 79.32 42 P **P** **20 53 17.9 +0.7**
GEC2 IAmb IAmb 20 53 26.6
comp=Z,24nm,1.1s
GEC2 GERESS Array S 79.32 42 *e*P **P** **20 53 17.7 +0.4**
comp=Z,6.5nm,0.8s,baz=270,slow=5.6
GEC2 *e*PcP **PcP** **20 53 24.9 -0.5**
baz=270,slow=5.6
GERES GERESS Array B 79.32 42 P **P** **20 53 17.7 +0.4**
comp=Z,4.8nm,0.8s,baz=280,slow=3.9,SNR=19
GERES LR LR 21 24 02.7
comp=Z,167nm,20.8s,baz=266,slow=32
comp=Z,4.8nm,0.8s
MYKA Terra Mystica 79.36 44 *i* P **P** **20 53 17.2 -0.3**
comp=Z,6.4nm,0.7s
MYKA *i* sP **PcP** **20 53 26.0 +0.4**
comp=Z,20nm,0.8s
A22K Sinclair Lake 79.40 341 P **P** **20 53 17.4 +0.3**
baz=92
BRG Berggiesshubel 79.41 40 *e*P **P** **20 53 18.4 +0.8**
BRG Amp 20 53 19.7
comp=Z,6.2nm,1.0s
BRG pP **sP** **20 53 26.6 -0.4**
BRG Amp 20 53 27.4
comp=Z,19nm,1.1s
BRG Amp 21 22 05.0
comp=Z,0.3nm,20.6s
BRG Amp 21 22 06.0
comp=N,0.1nm,17.5s
BRG Amp 21 22 12.0
comp=E,0.2nm,16.1s
BRG Berggiesshubel 79.41 40 *e*P **P** **20 53 18.4 +0.8**
BRG 20 53 26.6
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,19nm,1.1s
BRG MLR MLR
comp=Z,316nm,20.6s
BRG MLR MLR
comp=N,122nm,17.5s
BRG MLR MLR
comp=E,190nm,16.1s
BRG Berggiesshubel 79.41 40 *e*P **P** **20 53 18.4 +0.8**
comp=E,9.3nm,1.2s,baz=270,slow=5.6
BRG *e*PcP **PcP** **20 53 25.5 -0.2**
baz=270,slow=5.6
CADS Cadrg 79.44 45 *i* P **P** **20 53 18.5 +0.5**
CADS *i* pP **PcP** **20 53 26.7 +0.8**
J19K Poorman 79.49 333 P **P** **20 53 18.3 +0.5**
baz=90
CHIR Chirikof Islan 79.55 325 P **P** **20 53 18.2 0.0**
baz=89
F20K Avaraart Lake 79.56 337 P **P** **20 53 18.9 +0.9**
baz=91
M18K Stony River 79.58 331 P **P** **20 53 18.7 +0.5**
baz=90
N18K Kilae Creek 79.62 330 P **P** **20 53 18.7 +0.2**
baz=90
ZVC Zvikov 79.62 41 *e*P **P** **20 53 20.5 +1.7**
Q17K Contact Creek 79.65 328 P **P** **20 53 19.1 +0.3**
baz=89
TTA Tatalina 79.66 332 P **P** **20 53 18.7 -0.1**
baz=90
CKRC Cesky Krumlov 79.72 42 *e*P **P** **20 53 19.8 +0.5**
CKRC Cesky Krumlov 79.72 42 *e*P **P** **20 53 19.8 +0.5**
MOA Molln 79.74 43 *e*P **P** **20 53 20.1 +0.7**
comp=E,16nm,1.4s,SNR=6.2
MOA *i* sP **PcP** **20 53 27.8 +0.7**
comp=E,37nm,1.4s
E20K Nigu River 79.76 338 P **P** **20 53 19.2 0.0**
baz=91
PVCC Panska Ves 79.82 40 AMS AMS 21 23 50.0
comp=E,400nm,20.8s
PRU Pruhonice 79.83 41 AMS AMS 21 22 10.0
comp=E,400nm,21.9s
H19K Roundabout Mou 79.85 335 P **P** **20 53 19.5 -0.1**
baz=90
P17K Kvichak River 79.92 329 P **P** **20 53 20.1 0.0**
baz=89
D20K Etivluk River 79.92 338 P **P** **20 53 20.1 +0.1**
baz=90
A21K Barrow 79.94 341 P **P** **20 53 20.5 +0.5**
baz=91
CEY Cerknica 79.95 45 *e*P **P** **20 53 21.6 +1.0**
J18K Innoko River 79.98 333 P **P** **20 53 20.6 +0.2**
baz=89
L18K Granite Mounta 79.98 332 P **P** **20 53 20.1 -0.3**
baz=89
GOPC GO Pecny, Ondr 79.99 41 AMS AMS 21 22 40.0
comp=E,300nm,15.8s
OBKA Obir 79.99 44 *i* P **P** **20 53 21.3 +0.3**
comp=E,18nm,1.5s
OBKA *i* sP **PcP** **20 53 29.5 +1.1**
comp=E,16nm,1.0s
OBKA Obir 79.99 44 *e*P P 20 53 29.1 +8.2
LJU Ljubljana 80.00 45 *i* P **P** **20 53 22.0 +1.1**
LJU *i* pP **sP** **20 53 30.0 -0.4**
GCSA Galena City Sc 80.03 334 P **P** **20 53 20.6 0.0**
baz=89
G19K Purcell Mounta 80.11 336 P **P** **20 53 22.1 +1.0**
baz=90

B20K Meade River 80.12 340 P **P** **20 53 20.7 -0.3**
baz=90
E19K Redstone River 80.15 337 P **P** **20 53 22.0 +0.7**
baz=90
O17K Koliganek Bris 80.24 329 P **P** **20 53 22.1 +0.2**
baz=88
N17K Nushagak Hills 80.26 330 P **P** **20 53 22.4 +0.4**
baz=88
SOKA Soboth 80.32 44 *i* P **P** **20 53 22.4 -0.3**
comp=E,4.0nm,0.8s
SOKA *i* sP **PcP** **20 53 30.8 +1.0**
comp=E,7.2nm,0.9s
SPITS Spitsbergen Ar 80.32 12 P **P** **20 53 22.0 0.0**
comp=E,9.5nm,0.9s,baz=282,slow=2.7,SNR=1.9
SPITS LR LR 21 28 37.7
comp=E,328nm,20.4s,baz=249,slow=36
comp=E,9.5nm,0.9s
SPITS Spitsbergen Ar 80.32 12 P **P** **20 53 22.0 0.0**
PDKS Podkum 80.33 45 *i* P **P** **20 53 23.9 +1.1**
M17K Holitna River 80.36 331 P **P** **20 53 23.0 +0.6**
baz=88
F19K Shaleruckik Mo 80.37 336 P **P** **20 53 23.0 +0.6**
baz=89
D19K Kuna River 80.47 338 P **P** **20 53 23.7 +0.7**
baz=89
VAE Valguarnera 80.48 53 LR LR 21 26 37.1
comp=E,438nm,19.1s,baz=320,slow=34
BOJS Bojanci 80.54 45 *e*P **P** **20 53 27.7 +3.9**
ARSA Arzberg 80.62 44 *e*P **P** **20 53 24.7 +0.5**
comp=E,5.0nm,0.8s,SNR=6.2
ARSA *i* sP **sP** **20 53 32.6 -1.1**
comp=E,35nm,1.7s
H18K Honhosa River 80.66 335 P **P** **20 53 24.3 +0.2**
baz=88
CRES Cresnjevec Ost 80.66 45 *e*P **P** **20 53 25.3 +0.8**
K17K Iditarod 80.72 332 P **P** **20 53 24.8 +0.5**
baz=88
P16K Nushagak River 80.72 328 P **P** **20 53 25.3 +0.9**
baz=88
L17K Donlin 80.74 332 P **P** **20 53 24.9 +0.4**
baz=88
UPC Upice 80.74 40 AMS AMS 21 22 40.0
comp=E,400nm,20.9s
O16K Kokwok River B 80.75 329 P **P** **20 53 25.5 +0.9**
baz=88
G18K Tagagawik 80.75 335 P **P** **20 53 25.8 +1.2**
baz=88
CHVC Chvalec 80.77 40 *e*P **P** **20 53 25.9 +1.0**
CHVC Chvalec 80.77 40 *e*P **P** **20 53 25.9 +1.0**
CONA Conrad Observa 80.81 43 *e*P **P** **20 53 25.8 +0.6**
comp=E,15nm,1.5s,SNR=6.0
CONA *i* sP **sP** **20 53 34.0 -0.8**
comp=E,44nm,1.5s
OSTC Ostas 80.87 40 *e*P **P** **20 53 26.5 +1.0**
OSTC *e*pP **sP** **20 53 34.5 -0.4**
OSTC Ostas 80.87 40 *e*P **P** **20 53 26.5 +1.0**
OSTC *e**PP **sP** **20 53 34.5 -0.4**
KSP Ksiaz 80.90 40 *e*P **P** **20 53 26.7 +1.1**
DPC Dobruska-Polom 80.95 40 *e*P **P** **20 53 27.1 +1.1**
DPC *e*pP **pP** **20 53 33.4 +0.7**
DPC AMS AMS 21 22 40.0
comp=E,300nm,17.8s
DPC Dobruska-Polom 80.95 40 *e*P **P** **20 53 27.1 +1.1**
DPC *e**PP **pP** **20 53 33.4 +0.7**
DPC MLR MLR
comp=Z,300nm,17.8s
C19K Lookout Ridge 80.99 339 P **P** **20 53 26.8 +1.0**
baz=88
J17K VABM Dome 81.04 333 P **P** **20 53 27.0 +1.0**
baz=87
N16K Nishlik Lake 81.05 330 P **P** **20 53 26.1 -0.1**
baz=87
KRUC Moravsky 81.08 42 *e*P **P** **20 53 27.4 +0.8**
KRUC *e* 20 53 35.4
CHGN Chignik 81.09 326 P **P** **20 53 26.3 -0.1**
baz=87
M16K Timber Creek 81.11 330 P **P** **20 53 26.6 +0.1**
baz=87
RONA Rosalia, Austr 81.11 43 *e*P **P** **20 53 27.5 +0.6**
comp=Z,17nm,1.3s,SNR=6.1
RONA *i* sP **sP** **20 53 35.7 -0.7**
comp=Z,41nm,1.4s
F18K Selawik 81.13 336 P **P** **20 53 27.0 +0.6**
baz=87
VRAC Vranov 81.20 41 LR LR 21 28 13.9
comp=Z,111nm,18.7s,baz=275,slow=35
VRAC Vranov 81.20 41 *e*P **P** **20 53 28.1 +0.9**
VRAC *e* 20 53 36.0
VRAC Vranov 81.20 41 ⇓P P 20 53 36.8 +10
VRAC Vranov 81.20 41 ⇓P P 20 53 36.8 +10
KRLC Kraliky 81.27 41 *e*P **P** **20 53 28.3 +0.7**
KRLC *e*pP **pP** **20 53 35.1 +0.7**
KRLC Kraliky 81.27 41 *e*P **P** **20 53 28.3 +0.7**
KRLC *e**PP **pP** **20 53 35.1 +0.7**
L16K Owhat River 81.32 331 P **P** **20 53 27.8 +0.2**
baz=87
H17K Granite Mounta 81.32 334 P **P** **20 53 28.5 +1.0**
baz=87
GKP Gorka Klasztor 81.33 37 *e*P **P** **20 53 29.5 +1.7**
CUC Castrocucco 81.37 51 P **P** **20 53 27.9 -0.5**
CUC IAmb IAmb 20 53 37.2
comp=Z,50nm,1.3s
A19K Wainwright 81.45 340 P **P** **20 53 28.4 +0.3**
baz=86
E18K Tukpahlearik C 81.45 337 P **P** **20 53 28.7 +0.5**
baz=86
A050A Klekovaca 81.52 46 *e*P **P** **20 53 30.1 +1.0**
BEHE Becsehely 81.53 44 P **P** **20 53 29.6 +0.6**
C18K Utukok River 81.59 338 P **P** **20 53 29.6 +0.6**
baz=86
G17K Kiwalik Mounta 81.60 335 P **P** **20 53 30.5 +1.5**
baz=86
O15K Ungalikthiuk R 81.66 329 P **P** **20 53 31.0 +1.6**
baz=86
MODS Modra-Piesok 81.72 42 *e*P **P** **20 53 31.3 +1.3**
MODS *e* 20 53 37.8
MODS pmax pmax
comp=Z,46nm,1.3s
MODS Modra-Piesok 81.72 42 *e*P **P** **20 53 31.3 +1.3**
MODS *e* 20 53 37.8
N15K Kwethluk River 81.72 330 P **P** **20 53 31.1 +1.3**
baz=86
I17K Unalakleet 81.73 333 P **P** **20 53 30.7 +1.0**
baz=86
J16K Anvik River 81.73 333 P **P** **20 53 31.9 +2.1**
baz=86
A051A Mrakovica 81.74 46 *e*P **P** **20 53 31.5 +1.2**
B18K Kokolik River 81.76 339 P **P** **20 53 32.3 +2.5**
baz=86
F17K Baldwin Pennin 81.78 336 P **P** **20 53 30.2 +0.3**
baz=86
MORC Moravsky Berou 81.78 41 P **P** **20 53 31.0 +0.7**
MORC IAmb IAmb 20 53 40.5
comp=Z,37nm,1.4s
MORC Moravsky Berou 81.78 41 *e*P **P** **20 53 31.6 +1.3**
MORC *e* 20 53 39.4
MORC Moravsky Berou 81.78 41 ⇑P **P** **20 53 31.8 +1.5**
MORC Moravsky Berou 81.78 41 ⇑P **P** **20 53 31.8 +1.5**
CHNA Chernabura Isl 81.86 324 P **P** **20 53 30.6 0.0**
baz=86
JAVC Velka Javorina 81.94 42 *e*P **P** **20 53 33.3 +2.1**
JAVC *e* 20 53 41.1
E17K Hotham Inlet 81.95 337 P **P** **20 53 31.8 +1.0**
baz=85
BLY Banja Luka 81.96 46 *e*P **P** **20 53 31.0 -0.4**
M15K Kasigluk River 81.98 330 P **P** **20 53 32.0 +0.9**
baz=85
MAUC Maruska 82.00 41 *e*P **P** **20 53 33.3 +1.8**
MAUC *e*pP **pP** **20 53 38.8 +0.5**
TIP Timpagrande 82.17 52 P **P** **20 53 32.0 -0.6**
TIP Timpagrande 82.17 52 ⇑P P 20 53 40.6 +7.9
K15K Wolf Creek Mou 82.24 332 P **P** **20 53 33.8 +1.4**
baz=85
L15K Ungalak Mounta 82.28 331 P **P** **20 53 34.0 +1.4**
baz=85
RDOG Red Dog Mine 82.28 338 P **P** **20 53 34.5 +2.0**
baz=84
G16K Koyuk River 82.32 335 P **P** **20 53 34.2 +1.4**
baz=85
C17K DeLong Mountai 82.33 338 P **P** **20 53 34.3 +1.5**
baz=84
H16K Elim 82.34 334 P **P** **20 53 34.3 +1.4**
baz=85
D17K Noatak River 82.38 337 P **P** **20 53 34.6 +1.6**
baz=84
O14K Tigyukauivet M 82.39 329 P **P** **20 53 33.9 +0.6**

baz=85
PPT Papeete 82.41 251 LR LR 21 22 24.2
comp=Z,233nm,20.9s,baz=36,slow=30
PPT2 Papeete2 82.41 251 *e*P **P 20 53 32.8 -1.5**
comp=Z,48nm,24.0s
PPT2 Papeete2 82.41 251 *e*S **S 21 03 51.9 +1.8**
comp=Z,84nm,25.2s
PPT2 *e*SS **SS 21 09 01.3 -10**
comp=Z,523nm,40.8s
PPT2 Papeete2 82.41 251 *e*LR LR 21 19 18.3
comp=Z,381nm,24.5s
PPT2 *e*LR LR 21 19 23.3
comp=Z,410nm,22.8s
SRO Srobarova 82.46 43 *e*P **P 20 53 35.0 +1.1**
SRO Srobarova 82.46 43 *e*P **P 20 53 35.0 +1.1**
N14K Kuskokwak Cree 82.54 329 P **P 20 53 35.4 +1.4**
baz=84
M14K Bethel 82.59 330 P **P 20 53 35.7 +1.4**
baz=84
VYHS Vyhne 82.74 42 *e*P **P 20 53 36.6 +1.2**
VYHS *e* 20 53 44.3
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 82.74 42 *e*P **P 20 53 36.6 +1.2**
VYHS *e* 20 53 44.3
MORH Mrgy, Hungar 82.84 44 ⇓P **P 20 53 37.4 +1.5**
L14K Kuka Creek 82.88 331 P **P 20 53 36.9 +1.1**
baz=84
G15K Niukluk 83.07 335 P **P 20 53 37.6 +0.9**
baz=83
LANS Liptovska Anna 83.09 41 *e*P **P 20 53 39.0 +1.8**
LANS pmax pmax
comp=Z,4.0nm,1.1s
LANS Liptovska Anna 83.09 41 *e*P **P 20 53 39.0 +1.8**
BRY Bratogost 83.12 48 *e*P **P 20 53 38.4 +0.8**
J14K Nanvaranak Lak 83.13 332 P **P 20 53 37.9 +0.9**
baz=83
C16K Lisburne Hills 83.16 338 P **P 20 53 38.1 +1.0**
baz=82
OJC Ojcow 83.18 40 *e*P **P 20 53 39.1 +1.4**
OJC Ojcow 83.18 40 P **P 20 53 37.8 +0.2**
OJC IAmb IAmb 20 53 47.7
comp=Z,42nm,1.2s
OJC Ojcow 83.18 40 P **P 20 53 37.8 +0.2**
OJC pmax pmax
comp=Z,42nm,1.2s
S12K Black Hills 83.18 325 P **P 20 53 37.7 +0.2**
baz=84
HAPS Han Pijesak,BI 83.29 47 *e*P **P 20 53 39.2 +0.8**
ARCES ARCESS Array B 83.48 21 P **P 20 53 38.6 -0.1**
comp=Z,5.8nm,1.0s,baz=317,slow=5.0,SNR=5.3
ARCES LR LR 21 24 45.7
comp=Z,137nm,21.7s,baz=302,slow=31
comp=Z,5.8nm,1.0s
PSZ Piszkesteto 83.51 43 P **P 20 53 39.6 +0.2**
PSZ IAmb IAmb 20 53 49.5
comp=Z,28nm,1.4s
PSZ Piszkesteto 83.51 43 P **P 20 53 39.6 +0.2**
PSZ pmax pmax
comp=Z,28nm,1.4s
TBI Tubuai 83.56 245 *e*LR LR 21 19 53.1
comp=Z,835nm,24.8s
NIE Niedzica 83.60 41 *e*P **P 20 53 42.6 +2.8**
BBLS Lazi&#263i 83.64 47 *e*P **P 20 53 39.8 -0.4**
ANM Nome 83.69 334 P **P 20 53 39.6 -0.3**
baz=82
K13K Kusilvak Mount 83.74 332 P **P 20 53 41.0 +0.7**
baz=82
FRGS Fruska Gora 83.77 45 *e*P P 20 53 34.6 -6.2
F14K Arctic Creek 83.95 335 P **P 20 53 41.4 +0.2**
baz=81
SJES Sjenica 84.12 47 *e*P **P 20 53 44.1 +1.4**
STHS Stebnicka Huta 84.21 41 *e*P **P 20 53 44.4 +1.5**
STHS *e* 20 53 51.9
STHS pmax pmax
comp=Z,5.0nm,1.0s
STHS Stebnicka Huta 84.21 41 *e*P **P 20 53 44.4 +1.5**
STHS *e* 20 53 51.9
PUK Puka 84.22 48 P **P 20 53 43.0 -0.2**
SUW Suwalki 84.76 36 *e*P **P 20 53 46.1 +0.6**
SUW Suwalki 84.76 36 P **P 20 53 45.8 +0.2**
SUW Suwalki 84.76 36 P **P 20 53 45.8 +0.2**
SUW pmax pmax
comp=Z,42nm,0.4s
SIRR Siria 84.92 44 ⇑P **P 20 53 49.3 +2.7**
BZS Buzias 84.98 45 ⇓P **P 20 53 49.3 +2.4**
PABE Paberze 84.98 35 P **P 20 53 46.8 +0.2**
OHR Ohrid 85.01 49 *i* P **P 20 53 49.6 +2.4**
FINES FINESS Array B 85.08 29 P **P 20 53 46.5 -0.5**
comp=Z,2.2nm,0.6s,baz=232,slow=2.2,SNR=13
FINES LR LR 21 26 36.9
comp=Z,155nm,21.1s,baz=271,slow=32
comp=Z,2.2nm,0.6s
FIA1 FINESS Array S 85.08 29 P **P 20 53 47.0 0.0**
KWP Kalwaria Pacla 85.12 41 *e*P **P 20 53 49.4 +1.9**
KWP Kalwaria Pacla 85.12 41 P **P 20 53 48.6 +1.1**
KWP IAmb IAmb 20 54 04.3
comp=Z,31nm,1.1s
KWP Kalwaria Pacla 85.12 41 P **P 20 53 48.6 +1.1**
KWP pmax pmax
comp=Z,31nm,1.1s
MDVR Moldovita 85.16 46 ⇑P P 20 53 57.7 +10
SURR Surduc 85.31 45 ⇓P **P 20 53 50.8 +2.3**
BOVS Bovan 85.32 47 ⇑P **P 20 53 51.1 +2.5**
FNA Florina 85.49 50 P **P 20 53 49.8 +0.2**
FNA Florina 85.49 50 P **P 20 53 49.8 +0.2**
FNA pmax pmax
comp=Z,29nm,0.9s
DRGR 85.56 43 ⇓P **P 20 53 52.1 +2.3**
DRGR 85.56 43 ⇓P **P 20 53 52.1 +2.3**
HERR Herculane 85.64 45 ⇑P **P 20 53 52.4 +2.2**
DJES Djerdap 85.75 46 ⇓P P 20 54 00.2 +9.4
MARR Marisel-Cluj 85.85 44 ⇑P **P 20 53 53.0 +1.7**
BMR Baia Mare 85.94 43 ⇑P **P 20 53 54.9 +3.3**
BMR Baia Mare 85.94 43 ⇑P **P 20 53 54.9 +3.3**
VSU Vasula 85.96 32 *ce*P **P 20 53 51.7 +0.3**
VSU pmax pmax
comp=Z,21nm,1.3s
UNV Unalaska Valle 86.00 324 P **P 20 53 51.6 -0.1**
baz=80
SRE Strehaia 86.23 46 ⇓P **P 20 53 55.8 +2.7**
SRE Strehaia 86.23 46 ⇓P **P 20 53 55.8 +2.7**
PEHC Pehcevo 86.48 48 *i* P **P 20 53 56.2 +1.7**
VTS Vitosha 86.59 48 *e*P P 20 54 03.8 +8.7
KKB Krupnik 86.64 48 *e*P P 20 54 04.1 +8.9
NACGM Naroch 86.68 35 *e*P **P 20 53 55.4 +0.3**
comp=E,952nm,1.1s
BUR08 Bucovina Ar. S 87.08 42 P **P 20 53 57.6 +0.2**
BUR08 IAmb IAmb 20 54 07.0
comp=Z,25nm,1.4s
LVZ Lovozero 87.10 21 P **P 20 53 56.6 -0.3**
LVZ Lovozero 87.10 21 P **P 20 53 56.6 -0.3**
LVZ pmax pmax
comp=Z,283nm,1.9s
ARR Arges 87.11 45 ⇓P **P 20 53 58.6 +1.1**
MMB Musomishta 87.14 49 *e*P P 20 54 06.0 +8.3
P08K Saint George I 87.17 327 P **P 20 53 57.6 +0.2**
baz=78
MNK Minsk 87.39 35 *i* P **P 20 53 59.5 +1.0**
comp=E,13nm,1.0s
MNK *i* P **P 20 53 59.5 +1.0**
comp=N,14nm,1.1s
MNK *i* P **P 20 53 59.5 +1.0**
comp=Z,22nm,1.0s,baz=282
MNK *i* pP **sP 20 54 07.3 -0.8**
MNK *i* PP **PP 20 57 23.7 +1.0**
MNK *i* PPP PPP 20 59 18.6
MNK *i* S **SKSac 21 04 24.8 -0.4**
MNK *i* SS **SS 21 10 24.8 +2.3**
MNK *i* SSS SSS 21 13 58.1
MNK *i* LR LR 21 29 05.5
MNK *i* LRM MLR 21 33 38.0
comp=E,91nm,18.6s
MNK *i* LRM MLR 21 33 51.4
comp=N,163nm,17.7s
MNK *i* LRM MLR 21 33 53.3
comp=Z,170nm,17.2s
MNK Minsk 87.39 35 *i* P **P 20 53 59.5 +1.0**
MNK *i* *PP **sP 20 54 07.2 -0.8**
MNK *i* 20 57 23.7
MNK *i* PPP PPP 20 59 18.5
MNK *i* S **SKSac 21 04 24.8 -0.4**
MNK *i* SS **SS 21 10 24.8 +2.3**
MNK *i* SSS SSS 21 13 58.0
MNK pmax pmax
comp=E,13nm,1.0s
MNK pmax pmax
comp=Z,22nm,1.0s
MNK pmax pmax
comp=N,14nm,1.1s
MNK MLR MLR
comp=E,91nm,19.0s
MNK MLR MLR
comp=N,163nm,18.0s
MNK MLR MLR
comp=Z,170nm,17.0s
DOPR Dopca 87.52 44 ⇓P **P 20 54 01.7 +2.3**
NIKH Nikolski High 87.55 323 P **P 20 53 58.9 -0.4**
baz=78
OZUR 87.77 44 ⇑P **P 20 54 03.6 +3.0**
RZN Rozhen 87.85 48 *e*P P 20 54 09.2 +7.9
MLR Muntele Rosu 88.00 44 P **P 20 54 02.7 +0.9**
MLR Muntele Rosu 88.00 44 LR LR 21 29 07.4
comp=Z,223nm,21.8s,baz=282,slow=33
MLR Muntele Rosu 88.00 44 ⇓P **P 20 54 03.9 +2.1**
MLR Muntele Rosu 88.00 44 ⇓P **P 20 54 03.9 +2.1**
COVR Voineasa-Covas 88.11 44 ⇓P **P 20 54 04.5 +2.3**
TESR Tescani 88.28 43 ⇑P P 20 54 12.9 +10
DIM Dimitrovgrad 88.40 48 *e*P P 20 54 12.3 +8.7
PLOR Plostina 88.41 44 ⇑P P 20 54 11.1 +7.4
ELND Elena 88.44 47 ⇓P **P 20 54 04.8 +1.0**
SZH Strazhitsa 88.45 47 *e*P P 20 54 12.1 +8.2
VRI Vrincioaia 88.46 44 ⇓P P 20 54 11.1 +7.2
VRI Vrincioaia 88.46 44 ⇓P P 20 54 11.1 +7.2
BISRR Bisoca 88.51 44 ⇑P **P 20 54 06.1 +1.9**
RDO Rodhopi 88.54 49 P **P 20 54 04.6 +0.3**
RDO IAmb IAmb 20 54 13.7
comp=Z,20nm,1.2s
AKASG Malin Array Be 89.03 39 P **P 20 54 05.6 -0.8**
comp=Z,0.7nm,0.5s,baz=278,slow=4.2,SNR=7.7
AKASG LR LR 21 29 29.2
comp=Z,258nm,21.7s,baz=264,slow=33
comp=Z,0.7nm,0.5s
AKASG Malin Array Be 89.03 39 *ce*P **P 20 54 06.0 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKBB Malin Array Si 89.03 39 *i* P **P 20 54 07.2 +0.8**
AKBB pmax pmax
comp=Z,19nm,1.5s
SORM Soroca 89.06 41 ⇑P **P 20 54 06.4 -0.2**
SORM Soroca 89.06 41 ⇑P **P 20 54 06.4 -0.2**
IDI Anoyia 89.14 55 P **P 20 54 07.6 +0.3**
BELA Belgrano 2 89.34 173 P **P 20 54 06.9 -0.3**
VNA3 Neumayer Olymp 89.84 164 ⇑P **P 20 54 09.5 -0.2**
comp=Z,11nm,0.8s
VNA1 Neumayer--Stat 89.95 163 ⇑P **P 20 54 10.3 +0.2**
comp=Z,15nm,0.8s
VNA2 Neumayer--Watz 90.34 163 ⇑P **P 20 54 11.0 -1.0**
comp=Z,6.6nm,0.5s,baz=296,slow=5.2
TSUM Tsumeb 91.34 109 LR LR 21 34 34.6
comp=Z,233nm,18.2s,baz=324,slow=35
KLMR Klimovskoe 91.49 27 *e*P P 20 54 12.9 -4.8
KLMR *e*PPP PPP 20 59 53.4
KLMR pmax pmax
comp=Z,38nm,1.5s
SNAA Sanae 91.98 163 P **P 20 54 18.8 -0.9**
SNAA IAmb IAmb 20 54 28.4
comp=Z,7.6nm,0.9s
SNAA Sanae 91.98 163 ⇑P **P 20 54 18.8 -0.9**
comp=Z,103nm,0.9s
SNAA Sanae 91.98 163 P **P 20 54 18.9 -0.8**
comp=Z,5.0nm,0.9s,baz=265,slow=3.7,SNR=7.9
SNAA LR LR 21 35 11.7
comp=Z,948nm,20.9s,baz=11,slow=35
comp=Z,5.0nm,0.9s
SNAA Sanae 91.98 163 *ce*P **P 20 54 19.4 -0.3**
SNAA pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 92.06 33 P **P 20 54 20.5 +0.1**
OBN Obninsk 92.06 33 LR LR 21 29 49.6
comp=Z,171nm,20.9s,baz=354,slow=32
OBN Obninsk 92.06 33 *e*P **P 20 54 21.0 +0.6**
OBN *i* 20 54 27.9
OBN pmax pmax
comp=Z,19nm,1.3s
OBN MLR MLR
comp=Z,172nm,18.0s
MOS Moscow 92.41 33 *e*P P 20 54 28.0 +6.0
RAR Rarotonga 92.53 249 LR LR 21 28 03.8
comp=Z,162nm,18.4s,baz=80,slow=30
BILL Bilibino 93.07 342 ⇓P **P 20 54 26.3 +1.4**
TROLL Troll, Antarti 93.68 163 ⇑P **P 20 54 27.1 -0.5**
comp=Z,291nm,0.8s
LPSR Galich'ya Gora 94.24 35 P P 20 54 37.0 +6.5
LPSR pmax pmax
comp=Z,44nm,1.6s
VORR Voronezh 94.74 36 P P 20 54 39.3 +6.5
VORR pmax pmax
comp=Z,20nm,1.4s
BR131 Keskin Array S 94.88 49 *i* P **P 20 54 34.2 +0.2**
BRTR Keskin Array B 94.88 49 P **P 20 54 33.0 -1.0**
BRTR Keskin Array B 94.88 49 P **P 20 54 33.0 -1.0**
comp=Z,1.5nm,1.0s,baz=255,slow=4.7,SNR=5.4
BRTR LR LR 21 35 01.9
comp=Z,104nm,19.9s,baz=295,slow=34
comp=Z,1.5nm,1.0s
BRTR Keskin Array B 94.88 49 *ce*P **P 20 54 34.0 0.0**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
SUR Sutherland 96.13 122 LR LR 21 36 21.3
comp=Z,467nm,18.0s,baz=268,slow=34
NVL N'lazarevskaya 96.25 161 *e*P **P 20 54 41.8 +2.6**
NVL pmax pmax
comp=Z,11nm,1.0s
NVL MLR MLR
comp=Z,565nm,18.0s
VRH Novokhopyorsk 96.37 36 P P 20 54 46.8 +6.5
VRH pmax pmax
comp=Z,25nm,2.4s
KIRV Kirov 96.99 27 LR LR 21 34 20.7
comp=Z,129nm,21.1s,baz=309,slow=33
SHEM Shemya Is, Ala 97.38 326 LR LR 21 41 56.7
comp=Z,195nm,18.5s,baz=82,slow=38
SOC Sochi 97.97 43 *e*P **P 20 54 46.3 -1.4**
SOC *e* 20 58 45.0
SOC *e*S **SKSac 21 05 23.9 -0.7**
SOC *e*SS **SS 21 12 58.6 +3.8**
SOC *e*SSS SSS 21 16 48.2
SOC MLR MLR
comp=Z,108nm,18.0s
MMAI Mount Meron Ar 98.14 55 LR LR 21 39 40.0
comp=Z,23nm,19.4s,baz=246,slow=36
TIXI Tiksi 98.17 354 LR LR 21 38 30.8
comp=Z,324nm,22.0s,baz=20,slow=35
TIXI Tiksi 98.17 354 *i* P **P 20 54 47.6 -0.3**
TIXI pmax pmax
comp=Z,3.0nm,1.1s
EIL Elat 98.71 58 LR LR 21 43 44.3
comp=Z,56nm,18.2s,baz=256,slow=38
BELG Belogornoye 99.15 33 LR LR 21 35 53.6
comp=Z,173nm,19.5s,baz=290,slow=33
QSPA South Pole Qui 99.32 180 **Pdif 20 54 51.9 -1.4**
QSPA IAmb IAmb 20 55 01.1
comp=Z,13nm,1.2s
QSPA South Pole Qui 99.32 180 P **Pdif 20 54 52.8 -0.5**
comp=Z,3.9nm,1.0s,baz=154,slow=1.0,SNR=7.1
QSPA LR LR 21 42 19.9
comp=Z,352nm,19.6s,baz=170,slow=37
comp=Z,3.9nm,1.0s
LBTB Lobatse 99.48 114 LR LR 21 38 25.2
comp=Z,396nm,18.5s,baz=260,slow=34
BOSA Boshof 99.53 118 LR LR 21 39 19.2
comp=Z,272nm,18.0s,baz=244,slow=35
KIV Kislovodsk 99.83 42 *e*P **Pdif 20 54 56.4 +0.3**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 100.06 42 LR LR 21 37 16.3
comp=Z,70nm,21.2s,baz=314,slow=34
NRIK Noril'sk 100.06 8 LR LR 21 43 33.2
comp=Z,217nm,18.8s,baz=333,slow=38
NRIK Noril'sk 100.06 8 *i* P **Pdif 20 54 57.3 +0.8**
NRIK pmax pmax
comp=Z,3.0nm,1.5s
MAK Makhachkala 103.43 42 *i* P **Pdif 20 55 02.7 -9.3**
MAK *i* 20 59 25.1
MAK *e*PPP PPP 21 01 37.2
MAK *e* 21 05 45.3
MAK *e*SS SS 21 14 05.7 -4.9
MAK *e*SSS SSS 21 18 01.7
MAK pmax pmax
comp=Z,219nm,1.0s
MAK MLR MLR
comp=Z,288nm,16.0s
KURK Kurchatov 114.52 21 *i* PKIKP **PKiKP 20 59 51.1 -0.4**
KURBB Kurchatov Arra 114.56 21 PKiKP **PKiKP 20 59 50.9 -0.6**
comp=Z,0.5nm,0.8s,baz=318,slow=2.3,SNR=3.2
ZEA Zeya 115.38 348 *e*P **Pdif 20 56 01.9 -3.0**
ZEA pmax pmax
comp=Z,10.0nm,2.2s
ZEA pmax pmax
comp=Z,100nm,4.0s
MKAR Makanchi Array 119.13 21 PKP **PKPdf 20 59 60.0 -0.6**
comp=Z,0.4nm,0.5s,baz=306,slow=2.2,SNR=4.6
MKAR Makanchi Array 119.13 21 *c* *i* PKIKP **PKPdf 21 00 00.6 0.0**
ULN Ulaanbaatar 123.03 2 *i* PKIKP **PKPdf 21 00 05.7 -2.5**
SONM Songino Array 123.03 2 PKhKP PKPpre 20 59 59.9
comp=Z,0.3nm,0.7s,baz=79,slow=3.2,SNR=3.6
SONM PKP **PKPdf 21 00 07.0 -1.2**
comp=Z,0.6nm,0.5s,baz=326,slow=1.7,SNR=4.8
SONM Songino Array 123.03 2 PKIKP **PKPdf 21 00 07.0 -1.2**
WMQ Urumqi 123.56 19 *e*PKP **PKPdf 21 00 09.4 +0.2**
WMQ LR LR
comp=Z,130nm,15.5s
DZM Mont Dzumac 123.91 250 *e*LR LR 21 39 53.5
comp=Z,170nm,24.8s
MJAR Matsushiro Arr 126.93 331 PKP **PKPdf 21 00 15.3 -0.5**
comp=Z,1.0nm,0.9s,baz=111,slow=1.3,SNR=2.5
HHC Hu-ho-hao-te 130.04 358 *e*PKP **PKPdf 21 00 19.1 -2.7**
KSRS Korea Array 130.33 341 PKP **PKPdf 21 00 21.6 -0.6**
comp=Z,0.9nm,0.7s,baz=40,slow=2.4,SNR=3.3
GTA Gaotai 130.71 10 *e*PKP **PKPdf 21 00 22.9 -0.2**
GTA LR LR
comp=Z,170nm,21.8s
GTA LR LR
comp=Z,150nm,23.6s
GTA LR LR
comp=Z,230nm,21.1s
GOMU GeErMu 132.69 16 PKP **PKPdf 21 00 26.8 -0.5**
GOMU LR LR
comp=Z,140nm,15.8s
GOMU LR LR
comp=Z,66nm,14.8s
GOMU LR LR
comp=Z,230nm,17.2s
TIA Tai'an 134.12 351 PKP **PKPdf 21 00 29.3 -0.2**
LZH Lanzhou 134.53 6 *e*PKP **PKPdf 21 00 30.3 -0.2**
LZH sPKP 21 00 45.0
LZH LR LR
comp=Z,220nm,14.1s
LZH LR LR
comp=Z,100nm,13.1s
LZH LR LR
comp=Z,260nm,14.8s
XAN Xi'an 136.87 1 P **PKiKP 21 00 42.3 +5.8**
XAN pmax pmax
comp=Z,7.0nm,0.9s
LSA Lhasa 137.42 24 PKPdf **PKPdf 21 00 35.2 -1.2**
LSA Lhasa 137.42 24 PKIKP **PKPdf 21 00 35.2 -1.2**
NJ2 Nanjing 137.87 348 *e*PKP **PKPdf 21 00 34.6 -1.9**
CD2 Chengdu 139.63 7 PKP **PKPdf 21 00 38.3 -1.6**
CD2 LR LR
comp=Z,220nm,17.3s
CD2 LR LR
comp=Z,210nm,17.8s
CD2 LR LR
comp=Z,290nm,16.7s
SHL Shillong 141.36 26 PKPdf **PKPdf 21 00 41.9 -1.4**
SHL Shillong 141.36 26 PKIKP **PKPdf 21 00 41.9 -1.4**
STKA Stephens Creek 142.65 228 PKhKP PKPpre 21 00 40.8
comp=Z,8.9nm,0.9s,baz=83,slow=4.8,SNR=7.3
PZH PanZhiHua 143.62 12 PKP PKPab 21 00 43.8 +0.1
TNCH TengChong 144.25 17 PKP **PKPab 21 00 46.4 +0.2**
TNCH pPKP PKiKP 21 00 52.6 +0.6
GYA Guiyang 144.34 4 ⇑PKP **PKPab 21 00 46.0 -0.4**
GYA pPKP pPKPdf 21 00 54.0 -1.4
GYA AMB AMB
comp=Z,200nm,4.5s
KMI Kunming 145.16 11 ⇓PKPbc **PKPbc 21 00 47.9 -1.6**
KMI LR LR
comp=Z,200nm,17.2s
KMI LR LR
comp=Z,110nm,12.6s
KMI LR LR
comp=Z,260nm,23.9s
BBOO Buckleboo 146.04 223 PKPdf **PKPdf 21 00 50.8 -0.2**
COEN Coen 146.60 259 **PKPdf 21 00 53.2 +0.7**
CHTO Chiang Mai 150.21 20 **PKPbc 21 01 01.6 -1.8**
CHTO Chiang Mai 150.21 20 PKIKP **PKPbc 21 01 01.6 -1.8**
CM31 Chiang Mai Arr 150.54 20 PKPdf **PKPdf 21 00 58.0 -0.8**
CMAR Chiang Mai Arr 150.54 20 PKP **PKPdf 21 00 58.5 -0.3**
comp=Z,0.8nm,0.5s,baz=297,slow=2.4,SNR=10
CMAR PKPbc **PKPbc 21 01 03.7 -0.4**
comp=Z,7.5nm,0.9s,baz=318,slow=3.7,SNR=40
ASAR Alice Springs 152.56 236 PKP **PKPdf 21 01 01.4 -0.3**
comp=Z,8.6nm,0.9s,baz=121,slow=1.9,SNR=47
ASAR PKPbc **PKPbc 21 01 08.1 -0.7**
comp=Z,47nm,0.8s,baz=119,slow=2.5,SNR=90
WR0 Warramunga Arr 153.50 244 PKPdf **PKPdf 21 01 02.6 -0.6**
WR0 PKPbc **pPKPdf 21 01 10.2 -0.2**
WRA Warramunga Arr 153.68 244 PKP **PKPdf 21 01 03.1 -0.4**
comp=Z,8.8nm,0.9s,baz=95,slow=1.2,SNR=41
WRA PKPbc **pPKPdf 21 01 10.8 +0.2**
comp=Z,24nm,0.6s,baz=108,slow=1.7,SNR=69
MTN Manton Dam 158.37 259 PKPdf **PKPdf 21 01 08.2 -1.6**

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*IDC **24** 20:43:06.7±7.0, 25°.79S×179°.98E, h455km±57km, mb3.3/4, mbtmp4.2/6, Error ellipse: s-maj=83.0km s-min=21.7km az=45.0*

*NEIC **24** 20:43:08.8±1.3, 26°.0S±0°.1×180°.0W±0°.2, h472km±17km, mb4.1/11, Error ellipse: s-maj=32.5km s-min=12.7km az=60.0*

ISC 24 20:43:08.3±1.5, **25°.9S**±0°.1×**180°.0E**±0°.2, **h475**km, **n22**, σ0°69/23, **mb3.9/9, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.33**	**347**	P	**P**	**20 45 07.4**	**-0.4**
PINNC	**Pines Island,**	**11.89**	**283**	P	**P**	**20 45 46.6**	**+0.8**
URZ	**Urewera**	**12.55**	**190**	P	**P**	**20 45 52.1**	**-0.7**
	3.0nm,0.4s,baz=349,slow=3.9,SNR=10						
URZ				S	**S**	**20 48 08.1**	**-0.2**
	4.1nm,0.6s,baz=108,slow=20,SNR=1.5						
DZM	**Mont Dzumac**	**12.94**	**284**	P	**P**	**20 45 58.0**	**+0.7**
DZM	**Mont Dzumac**	**12.94**	**284**	P	**P**	**20 45 56.7**	**-0.6**
	4.2nm,0.8s,baz=99,slow=18,SNR=2.0						
QRZ	**Quartz Range**	**16.12**	**201**	P	**P**	**20 46 30.5**	**0.0**
MRNZ	**Matariki Terra**	**16.57**	**199**	P	**P**	**20 46 34.7**	**-0.6**
LTZ	**Lake Taylor**	**17.98**	**199**	P	**P**	**20 46 49.2**	**-0.4**
LTZ				IAmb	IAmb	20 46 59.2	
	comp=Z,12nm,1.2s						
EIDS	**Eidsvold**	**26.04**	**265**	P	**P**	**20 48 03.3**	**+0.8**
EIDS				IAmb	IAmb	20 48 04.3	
	comp=Z,7.3nm,0.7s						
CTAO	**Charters Tower**	**31.52**	**274**	P	**P**	**20 48 50.9**	**+0.4**
CTAO				IAmb	IAmb	20 48 54.9	
	comp=Z,9.2nm,1.1s						
STKA	**Stephens Creek**	**34.00**	**251**	P	**P**	**20 49 11.6**	**+0.1**
STKA	**Stephens Creek**	**34.00**	**251**	P	**P**	**20 49 11.8**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=113,slow=15,SNR=4.0						
	comp=Z,0.8nm,0.3s						
AS31	**Alice Springs**	**41.73**	**263**	P	**P**	**20 50 15.0**	**+0.1**
AS31				IAmb	IAmb	20 50 16.5	
	comp=Z,1.2nm,0.5s						
ASAR	**Alice Springs**	**41.73**	**263**	P	**P**	**20 50 14.7**	**-0.2**
ASAR	**Alice Springs**	**41.73**	**263**	P	**P**	**20 50 14.4**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=90,slow=7.3,SNR=52						
	comp=Z,1.7nm,0.4s						
WR0	**Warramunga Arr**	**42.10**	**268**	P	**P**	**20 50 16.8**	**-1.1**
WR0				IAmb	IAmb	20 50 18.4	
	comp=Z,1.5nm,0.6s						
WRA	**Warramunga Arr**	**42.29**	**268**	P	**P**	**20 50 18.8**	**-0.5**
WRA	**Warramunga Arr**	**42.29**	**268**	P	**P**	**20 50 18.9**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=104,slow=7.9,SNR=27						
	comp=Z,1.8nm,0.6s						
FORT	**Forrest**	**45.62**	**251**	P	**P**	**20 50 43.8**	**-1.4**
KNRA	**Kununurra**	**48.69**	**272**	P	**P**	**20 51 08.8**	**+0.2**
KNRA				IAmb	IAmb	20 51 10.8	
	comp=Z,12nm,0.9s						
QSPA	**South Pole Qui**	**64.19**	**180**	P	**P**	**20 52 56.2**	**+1.1**
QSPA				IAmb	IAmb	20 52 57.0	
	comp=Z,3.0nm,0.8s						
QSPA	**South Pole Qui**	**64.19**	**180**	P	**P**	**20 52 56.1**	**+0.9**
	comp=Z,2.1nm,0.7s,baz=41,slow=0.8,SNR=12						
	comp=Z,2.1nm,0.7s						

*DJA **24** 20:59:46.8±0.4, 8°.S±3°.×12°.4E±°, h168km±5km, M4.0/12, mb4.7/3, mB5.1/1, MLv3.6/12, Mw(mB)4.5/1*
*IDC **24** 20:59:55.5±6.2, 7°.58S×125°.48E, h309km±68km, mb3.0/1, mbtmp3.7/3, Error ellipse: s-maj=173.7km s-min=18.6km az=62.0*
ISC 24 20:59:45.9±1.2, 8°.16S±0°.08×124°.03E±0°.10, h150km, n14, σ2S52/14, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.61**	**171**	P	**Pn**	**21 00 20.0**	**+3.2**
MMRI	**Maumere**	**1.83**	**255**	P	**Pn**	**21 00 21.5**	**+2.4**
BATI	**Baumata**	**2.07**	**190**	P	**Pn**	**21 00 24.8**	**+2.9**
BATI				S	**Sn**	**21 00 52.4**	**+2.7**
BBSI	**Bau Bau**	**3.02**	**331**	P	**Pn**	**21 00 34.4**	**+0.8**
BASI	**Baing, Sumba**	**3.97**	**239**	P	**Pn**	**21 00 45.8**	**-0.1**
WSI	**Waingapu**	**3.98**	**248**	P	**Pn**	**21 00 44.8**	**-1.1**
BSSI	**Bau Bau, Buton**	**4.04**	**299**	P	**Pn**	**21 00 46.7**	**0.0**
KDI	**Kendari**	**4.40**	**341**	P	**Pn**	**21 00 50.8**	**-0.7**
BKSI	**Bulukumba**	**4.79**	**306**	P	**Pn**	**21 00 56.9**	**+0.3**
WBSI	**Waikabubak, Su**	**4.81**	**252**	P	**Pn**	**21 00 59.7**	**+2.8**
MRSI	**Marisa**	**8.82**	**346**	P	**Pn**	**21 01 53.8**	**+3.4**
WRA	**Warramunga Arr**	**15.40**	**141**	P	**Pn**	**21 03 11.8**	**-3.6**
	1.6nm,0.6s,baz=319,slow=12,SNR=5.0						
WRA				S	Sn	21 05 52.0	-15
	0.4nm,0.6s,baz=155,slow=9.9,SNR=1.9						
ASAR	**Alice Springs**	**18.10**	**150**	P	**P**	**21 03 44.5**	**-1.9**
	0.9nm,0.5s,baz=328,slow=13,SNR=3.1						
ASAR				S	S	21 06 54.5	-12
	0.3nm,0.8s,baz=4.9,slow=19,SNR=2.2						
MKAR	**Makanchi Array**	**66.10**	**330**	P	P	21 10 11.4	-5.5
	0.7nm,0.8s,baz=145,slow=8.0,SNR=1.5						
	0.7nm,0.8s						

*IDC **24** 21:03:19.6±0.8, 27°.19N×97°.09E, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=46.4km s-min=16.4km az=57.0*
*NEIC **24** 21:03:22.3±1.6, 27°.32N±0°.08×97°.19E±0°.10, h10km±1km, mb4.3/20, Error ellipse: s-maj=19.3km s-min=6.4km az=47.0*
ISC 24 21:03:23.4±0.6, 27°.44N±0°.05×97°.10E±0°.04, h10km, n47, σ2S16/55, mb4.1/18, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**1.12**	**265**	*e*P	**Pb**	**21 03 46.6**	**+1.7**
LKP				IAML		21 04 06.9	
	comp=E,4μm,0.4s						
LKP				*e*S	**Sn**	**21 04 09.2**	**+8.6**
TNCH	**TengChong**	**2.72**	**152**	Pn	**Pn**	**21 04 06.8**	**-0.6**
TNCH				Pg	**Pb**	**21 04 11.8**	**-0.6**
TNCH				Sg	**Sn**	**21 04 39.6**	**-0.9**
TNCH				smax	smax		
	comp=N,280nm,1.3s						
TNCH				smax	smax		
	comp=E,250nm,1.1s						
ZIRO	**ZIRO**	**2.89**	**272**	*e*P	**Pn**	**21 04 08.9**	**-0.7**
ZIRO				*e*S	**Sn**	**21 04 47.1**	**+2.6**
ZIRO				IAML		21 05 07.5	
	comp=E,2μm,0.2s						
ZIRO				IAML		21 05 08.4	
	comp=N,729nm,0.4s						
KOHI	**KOHIMA**	**3.18**	**238**	*e*P	**Pn**	**21 04 14.4**	**+0.7**
IMP	**Imphal**	**3.85**	**228**	*e*P	**Pn**	**21 04 23.2**	**+0.5**
IMP				*e*S	**Sb**	**21 05 17.4**	**-0.7**
IMP				IAML		21 05 20.0	
	comp=N,135nm,0.3s						
PZH	**PanZhiHua**	**4.25**	**102**	Pn	**Pn**	**21 04 28.6**	**+0.3**
PZH				Pg	**Pb**	**21 04 40.8**	**+2.5**
PZH				Sg	**Sb**	**21 05 33.3**	**+3.5**
PZH				smax	smax		
	comp=N,30nm,0.8s						
PZH				smax	smax		
	comp=E,30nm,1.0s						
SHL	**Shillong**	**5.03**	**249**	Pn	**Pn**	**21 04 38.1**	**-1.0**
SHL	**Shillong**	**5.03**	**249**	*e*P	**Pn**	**21 04 38.0**	**-1.1**
SHL				IAML		21 05 37.8	
	comp=E,148nm,0.3s						
SHL				IAML		21 05 37.9	
	comp=N,150nm,0.7s						
SHL				*e*S	**Sn**	**21 05 39.6**	**+2.1**
AZL	**Aizawl**	**5.43**	**228**	*e*P	**Pn**	**21 04 46.0**	**+1.5**
AZL				IAML		21 05 52.9	
	comp=E,147nm,0.2s						
AZL				*e*S	**Sn**	**21 05 54.1**	**+6.9**
AZL				IAML		21 05 59.6	
	comp=E,142nm,0.7s						
LSA	**Lhasa**	**5.69**	**295**	Pn	**Pn**	**21 04 49.6**	**+1.1**
LSA	**Lhasa**	**5.69**	**295**	Pn	**Pn**	**21 04 50.9**	**+2.4**
LSA				Sn	**Sn**	**21 05 53.1**	**-1.1**
LSA				smax	smax		
	comp=N,14nm,0.7s						
GTK	**Tadong**	**7.55**	**271**	*e*P	**Pn**	**21 05 12.9**	**-0.9**
GTK				*e*S	**Sn**	**21 06 37.8**	**-1.7**
CMAR	**Chiang Mai Arr**	**9.11**	**169**	Pn	**Pn**	**21 05 36.1**	**+1.1**
	comp=N,0.2nm,0.3s,baz=333,slow=13,SNR=4.2						
CMAR				Lg	Lg	21 08 04.4	
	comp=N,0.2nm,0.3s,baz=12,slow=12,SNR=1.3						
BOK	**Bokaro**	**10.75**	**253**	*e*P	**Pn**	**21 05 56.2**	**-1.3**
BOK				*e*S	**Sn**	**21 07 54.7**	**-3.2**
HHC	**Hu-ho-hao-te**	**17.91**	**38**	*e*P	**P**	**21 07 37.6**	**+4.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,5.1s						
HHC				LR	LR		
	comp=N,170nm,9.7s						
HHC				LR	LR		
	comp=Z,150nm,12.0s						
WMQ	**Urumqi**	**18.02**	**338**	*e*P	**Pn**	**21 07 35.3**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,170nm,3.7s						
WUS	**Wushi**	**20.10**	**318**	P	**P**	**21 07 57.9**	**+0.5**
WUS				IAmb	IAmb	21 08 01.2	
	comp=Z,18nm,0.9s						
KSH	**Kashi**	**21.28**	**310**	P	**P**	**21 08 13.0**	**+2.8**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.4s						
NIL	**Nilore**	**21.43**	**293**	P	**P**	**21 08 10.7**	**-1.0**
NIL				IAmb	IAmb	21 08 15.0	
	comp=Z,7.2nm,0.7s						
SONM	**Songino Array**	**21.61**	**17**	P	**P**	**21 08 13.8**	**+0.2**
SONM	**Songino Array**	**21.61**	**17**	P	**P**	**21 08 13.0**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=199,slow=9.7,SNR=13						
	comp=Z,2.5nm,0.7s						
MK31	**Makanchi Array**	**22.57**	**333**	P	**P**	**21 08 22.9**	**-0.9**
MKAR	**Makanchi Array**	**22.57**	**333**	P	**P**	**21 08 23.0**	**-0.8**
MKAR	**Makanchi Array**	**22.57**	**333**	P	**P**	**21 08 23.9**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=138,slow=13,SNR=11						
	comp=Z,3.6nm,0.8s						
AAK	**Ala-Archa**	**23.82**	**315**	P	**P**	**21 08 36.4**	**-0.3**
AAK				IAmb	IAmb	21 08 42.5	
	comp=Z,7.3nm,1.2s						
KBL	**Kabul**	**25.02**	**293**	P	**P**	**21 08 46.7**	**-1.1**
KBL				IAmb	IAmb	21 08 50.0	
	comp=Z,7.2nm,0.8s						
GAR	**Garm**	**25.10**	**304**	P	**P**	**21 08 47.4**	**-1.1**
GAR				IAmb	IAmb	21 08 58.0	
	comp=Z,6.5nm,0.8s						
BTK	**Batken**	**25.11**	**307**	P	**P**	**21 08 48.8**	**+0.3**
SIMJ	**Simiganj**	**25.97**	**303**	P	**P**	**21 08 55.7**	**-0.7**
KURBB	**Kurchatov Arra**	**27.12**	**334**	P	**P**	**21 09 07.2**	**+0.7**
	comp=Z,7.8nm,0.8s,baz=146,slow=11,SNR=46						
KURBB				PcP	**PcP**	**21 12 24.4**	**-2.7**
	comp=Z,0.7nm,0.7s,baz=167,slow=2.1,SNR=2.9						
	comp=Z,7.8nm,0.8s						
KURK	**Kurchatov**	**27.16**	**334**	P	**P**	**21 09 07.5**	**+0.7**
BVAR	**Borovoye Array**	**32.34**	**329**	P	**P**	**21 09 53.0**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=125,slow=9.3,SNR=5.8						
BVAR				PcP	**PcP**	**21 12 38.0**	**-2.4**
	comp=Z,1.3nm,0.6s,baz=152,slow=3.2,SNR=6.7						
	comp=Z,2.0nm,0.8s						
ABKAR	**Akbulak array**	**35.86**	**318**	P	**P**	**21 10 23.3**	**-0.1**
ABKAR				IAmb	IAmb	21 10 25.3	
	comp=Z,4.6nm,0.7s						
ABKAR	**Akbulak array**	**35.86**	**318**	P	**P**	**21 10 23.5**	**+0.2**
ARTI	**Arti**	**39.94**	**327**	P	**P**	**21 10 57.6**	**0.0**
ARTI				IAmb	IAmb	21 11 24.4	
	comp=Z,8.8nm,1.4s						
BRTR	**Keskin Array B**	**53.27**	**301**	P	P	21 12 40.3	-2.3
	comp=Z,0.3nm,0.6s,baz=128,slow=9.3,SNR=2.1						
	comp=Z,0.3nm,0.6s						
AKASG	**Malin Array Be**	**55.48**	**314**	P	**P**	**21 12 56.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=79,slow=6.4,SNR=4.1						
	comp=Z,0.1nm,0.3s						
ELL	**Elmali**	**56.64**	**298**	P	**P**	**21 13 05.3**	**-1.8**
FINES	**FINESS Array B**	**57.25**	**327**	P	**P**	**21 13 10.1**	**-0.7**
	comp=Z,1.7nm,1.0s,baz=117,slow=16,SNR=4.0						
	comp=Z,1.7nm,1.0s						
WB0	**Warramunga Arr**	**59.22**	**138**	P	P	21 13 21.7	-3.4
WB0				IAmb	IAmb	21 13 22.7	
	comp=Z,4.0nm,0.9s						
WRA	**Warramunga Arr**	**59.33**	**139**	P	P	21 13 22.2	-3.6
	comp=Z,1.1nm,0.6s,baz=328,slow=7.6,SNR=13						
	comp=Z,1.1nm,0.6s						
WB2	**Warramunga Arr**	**59.33**	**139**	P	P	21 13 22.8	-3.1
ASAR	**Alice Springs**	**62.00**	**142**	P	P	21 13 40.9	-3.1
	comp=Z,0.9nm,0.7s,baz=325,slow=6.9,SNR=16						
	comp=Z,0.9nm,0.7s						
D25K	**Kavik River**	**73.29**	**19**	P	**P**	**21 14 54.6**	**-0.1**
D25K				IAmb	IAmb	21 15 06.3	
	comp=Z,3.5nm,1.2s						
BMAR	**Burnt Mountain**	**74.92**	**21**	P	**P**	**21 15 04.1**	**-0.2**
E28M	**Babbage River**	**75.69**	**18**	P	**P**	**21 15 08.1**	**-0.6**
G30M	**tAoh Zraii Nji**	**77.72**	**19**	P	P	21 15 18.0	-2.2

*IDC **24** 21:23:56.4±9.1, 17°.76S×178°.34W, h617km±112km, mb3.0/7, mbtmp4.0/7, Error ellipse: s-maj=42.6km s-min=30.7km az=100.0*
ISC 24 21:23:55.0±0.9, 17°.7S±0°.3×178°.3W±0°.2, h600km, n7, σ0S44/8, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.80**	**241**	P	**P**	**21 30 30.3**	**+0.4**
	2.1nm,0.5s,baz=82,slow=8.5,SNR=8.2						
	2.1nm,0.5s						
WRA	**Warramunga Arr**	**44.77**	**259**	P	**P**	**21 31 16.4**	**-0.5**
	0.7nm,0.3s,baz=95,slow=7.4,SNR=40						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**44.94**	**254**	P	**P**	**21 31 18.2**	**+0.1**
	4.8nm,0.6s,baz=86,slow=8.8,SNR=101						
ASAR				PcP	**PcP**	**21 32 45.9**	**-0.5**
	0.2nm,0.5s,baz=104,slow=3.9,SNR=1.9						
	4.8nm,0.6s						
QSPA	**South Pole Qui**	**72.31**	**180**	P	**P**	**21 34 20.8**	**0.0**
	1.5nm,0.8s,baz=281,slow=4.9,SNR=6.4						
	1.5nm,0.8s						
ILAR	**Eielson Array**	**85.70**	**13**	P	**P**	**21 35 31.6**	**+0.5**
	0.3nm,0.4s,baz=220,slow=5.0,SNR=7.9						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**85.82**	**58**	P	**P**	**21 35 32.5**	**-0.1**
	0.3nm,0.8s,baz=224,slow=5.2,SNR=3.8						
	0.3nm,0.8s						
PDAR	**Pinedale Array**	**87.16**	**43**	P	**P**	**21 35 38.5**	**-0.2**
	0.3nm,0.7s,baz=241,slow=7.1,SNR=3.8						
	0.3nm,0.7s						

*IDC **24** 21:47:58.7±0.7, 18°.98N×144°.78E, h0km, mb4.1/16, mbtmp4.1/17, MS3.6/3, Error ellipse: s-maj=25.5km s-min=14.6km az=84.0*
ISC 24 21:48:02.8±0.7, 19°.0N±0°.1×144°.7E±0°.2, h27km, n26, σ0S88/20, mb4.2/16, MS3.5/3, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**18.40**	**343**	P	**P**	**21 52 14.7**	**-1.1**
	1.4nm,0.8s,baz=167,slow=11,SNR=4.3						
H11S3	**WAKE ISLAND Hy**	**20.82**	**88**	T	T	22 14 16.1	
	baz=275,slow=74						
H11S1	**WAKE ISLAND Hy**	**20.83**	**88**	T	T	22 14 15.5	
	baz=275,slow=74						
H11S2	**WAKE ISLAND Hy**	**20.84**	**88**	T	T	22 14 16.3	
	baz=275,slow=74						
H11N1	**WAKE ISLAND Hy**	**20.94**	**84**	T	T	22 14 31.4	
	baz=272						
H11N2	**WAKE ISLAND Hy**	**20.95**	**84**	T	T	22 14 23.6	
	baz=272						
H11N3	**WAKE ISLAND Hy**	**20.96**	**84**	T	T	22 14 26.2	
	baz=272						
DAV	**Davao City (W)**	**22.05**	**240**	LR	LR	21 59 25.4	
	comp=Z,58nm,21.6s,baz=329,slow=31						
KSRS	**Korea Array**	**23.54**	**325**	P	**P**	**21 53 09.8**	**-1.0**
	2.6nm,0.8s,baz=149,slow=8.4,SNR=9.0						
	2.6nm,0.8s						
WRA	**Warramunga Arr**	**40.00**	**195**	P	**P**	**21 55 35.5**	**-0.1**
	2.5nm,0.8s,baz=16,slow=9.0,SNR=12						
WRA				PcP	**PcP**	**21 57 40.7**	**+0.2**
	0.5nm,0.8s,baz=8.6,slow=3.3,SNR=4.6						
	2.5nm,0.8s						
SONM	**Songino Array**	**42.33**	**322**	P	**P**	**21 55 54.3**	**-0.3**
	0.9nm,0.9s,baz=123,slow=7.2,SNR=3.1						
	0.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**43.25**	**277**	P	**P**	**21 56 01.4**	**-0.9**
	0.3nm,0.8s,baz=64,slow=10,SNR=1.9						
CMAR				PcP	**PcP**	**21 57 52.5**	**+1.3**
	0.3nm,0.3s,baz=83,slow=1.6,SNR=4.5						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**43.69**	**194**	P	**P**	**21 56 04.9**	**-0.7**
	1.1nm,0.7s,baz=16,slow=9.4,SNR=16						
ASAR				PcP	**PcP**	**21 57 53.4**	**+0.8**
	0.5nm,0.8s,baz=15,slow=3.8,SNR=3.9						
	1.1nm,0.7s						
LEM	**Lembang**	**44.66**	**238**	LR	LR	22 19 32.9	
	comp=Z,205nm,18.2s,baz=326,slow=42						
STKA	**Stephens Creek**	**50.66**	**183**	P	**P**	**21 56 59.5**	**-0.4**
	4.4nm,0.9s,baz=5.8,slow=7.8,SNR=6.4						
	4.4nm,0.9s						
ZALV	**Zalesovo Beam**	**57.22**	**323**	P	**P**	**21 57 48.2**	**+0.6**
	1.6nm,0.5s,baz=98,slow=10,SNR=5.5						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**57.59**	**314**	P	**P**	**21 57 52.0**	**+1.7**
	1.6nm,0.8s,baz=82,slow=8.7,SNR=5.2						
	1.6nm,0.8s						
KDAK	**Kodiak Island**	**59.63**	**33**	LR	LR	22 25 23.6	
	comp=Z,31nm,18.1s,baz=80,slow=38						
KURBB	**Kurchatov Arra**	**60.48**	**318**	P	**P**	**21 58 10.9**	**+0.6**
	3.3nm,0.8s,baz=96,slow=7.6,SNR=21						
	3.3nm,0.8s						
NRIK	**Noril'sk**	**61.02**	**340**	P	**P**	**21 58 13.5**	**-0.1**
	3.3nm,0.8s,baz=112,slow=9.2,SNR=4.5						
	3.3nm,0.8s						
ILAR	**Eielson Array**	**63.80**	**26**	P	**P**	**21 58 31.7**	**-0.6**
	2.2nm,0.9s,baz=260,slow=5.3,SNR=12						
	2.2nm,0.9s						
BVAR	**Borovoye Array**	**65.66**	**320**	P	**P**	**21 58 45.4**	**+0.8**
	12nm,0.8s,baz=92,slow=7.4,SNR=45						
	12nm,0.8s						
YKA	**Yellowknife Ar**	**78.17**	**28**	P	**P**	**21 59 59.8**	**+0.3**
	0.9nm,0.8s,baz=290,slow=5.4,SNR=5.3						
	0.9nm,0.8s						
NVAR	**Mina Array Bea**	**83.70**	**52**	P	**P**	**22 00 29.9**	**+0.1**
	1.3nm,0.8s,baz=261,slow=4.9,SNR=5.8						
	1.3nm,0.8s						
KBZ	**Khabaz**	**85.28**	**315**	P	**P**	**22 00 38.6**	**+1.3**
	2.0nm,0.9s,baz=332,slow=4.3,SNR=3.8						
	2.0nm,0.9s						
FINES	**FINESS Array B**	**86.23**	**335**	P	**P**	**22 00 41.0**	**-0.7**
	2.2nm,0.9s,baz=88,slow=3.2,SNR=3.7						
	2.2nm,0.9s						

*IDC **24** 21:58:19.9±2.7, 18°.61N×145°.59E, h175km±26km, mb3.6/11, mbtmp4.1/13, Error ellipse: s-maj=24.6km s-min=12.5km az=89.0*
*NEIC **24** 21:58:21.2±1.4, 18°.58N±0°.09×145°.6E±0°.1, h176km±9km, mb4.4/20, Error ellipse: s-maj=20.1km s-min=12.5km az=93.0*
ISC 24 21:58:22.4±0.5, 18°.50N±0°.06×145°.5E±0°.1, h200km, n39, σ1S18/41, mb4.2/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.92**	**188**	Pn	**Pn**	**21 59 35.1**	**-0.8**
GUMO				Sn	**Sn**	**22 00 32.9**	**-0.9**
GUMO	**Guam**	**4.92**	**188**	P	**Pn**	**21 59 34.0**	**-1.8**
	47nm,0.3s,baz=156,slow=2.1,SNR=13						
GUMO				S	**Sn**	**22 00 30.8**	**-2.9**
	27nm,0.3s,baz=0.0,slow=20,SNR=1.8						
PATS	**Pohnpei**	**17.00**	**131**		**Pn**	**22 02 09.1**	**+0.4**
MJAR	**Matsushiro Arr**	**19.10**	**342**	P	**P**	**22 02 28.8**	**-1.3**
	0.6nm,0.4s,baz=169,slow=9.1,SNR=7.4						
MAJO	**Matsushiro**	**19.11**	**342**	P	**Pn**	**22 02 31.2**	**-2.2**
MAJO				IAmb	IAmb	22 02 50.2	
	comp=Z,13nm,1.3s						
JAY	**Jayapura**	**21.41**	**193**	P	**P**	**22 02 55.1**	**+0.2**
	comp=Z,5.5nm,0.7s,baz=55,slow=10,SNR=4.1						
	comp=Z,5.5nm,0.7s						
KSRS	**Korea Array**	**24.39**	**324**	P	**P**	**22 03 22.7**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=141,slow=11,SNR=2.2						
	comp=Z,0.4nm,0.5s						
FAKI	**Fak Fak**	**24.98**	**213**	P	**P**	**22 03 29.7**	**+1.8**
FAKI				IAmb	IAmb	22 03 34.1	
	comp=Z,8.1nm,0.7s						
MTN	**Manton Dam**	**34.23**	**206**	P	**P**	**22 04 50.4**	**+1.1**
MTN				IAmb	IAmb	22 04 55.5	
	comp=Z,24nm,1.4s						
KNRA	**Kununurra**	**37.76**	**207**	P	**P**	**22 05 21.0**	**+1.7**
KNRA				IAmb	IAmb	22 05 27.9	
	comp=Z,23nm,1.4s						
WB0	**Warramunga Arr**	**39.57**	**197**	P	**P**	**22 05 35.2**	**+0.9**
WB0				IAmb	IAmb	22 05 35.9	
	comp=Z,6.2nm,0.8s						
WRA	**Warramunga Arr**	**39.75**	**197**	P	**P**	**22 05 36.6**	**+0.9**
WRA	**Warramunga Arr**	**39.75**	**197**	P	**P**	**22 05 36.5**	**+0.7**
	comp=Z,5.5nm,0.8s,baz=14,slow=8.0,SNR=43						
	comp=Z,5.5nm,0.8s						
ULN	**Ulaanbaatar**	**42.84**	**322**	P	**P**	**22 06 02.6**	**+1.8**
AS31	**Alice Springs**	**43.42**	**196**	P	**P**	**22 06 06.2**	**+0.6**
ASAR	**Alice Springs**	**43.42**	**196**	P	**P**	**22 06 06.3**	**+0.7**
ASAR	**Alice Springs**	**43.42**	**196**	P	**P**	**22 06 06.9**	**+1.4**
	comp=Z,1.4nm,0.6s,baz=25,slow=9.3,SNR=22						
	comp=Z,1.4nm,0.6s						
DZM	**Mont Dzumac**	**45.21**	**152**	P	**P**	**22 06 20.1**	**+0.3**
	comp=Z,4.5nm,0.9s,baz=300,slow=20,SNR=1.1						
	comp=Z,4.5nm,0.9s						
FORT	**Forrest**	**51.80**	**199**	P	**P**	**22 07 11.5**	**+1.7**
S12K	**Black Hills**	**54.01**	**34**	P	**P**	**22 07 26.0**	**+0.3**
M14K	**Bethel**	**56.05**	**28**	P	**P**	**22 07 40.6**	**+0.4**
M14K				IAmb	IAmb	22 08 03.8	
	comp=Z,23nm,1.3s						
K15K	**Wolf Creek Mou**	**56.90**	**26**	P	**P**	**22 07 46.5**	**+0.3**
CNPM	**China Poot**	**60.71**	**31**	P	**P**	**22 08 12.4**	**-0.1**
SKT	**Skwentna**	**61.19**	**29**	P	**P**	**22 08 15.4**	**-0.3**
SKT				IAmb	IAmb	22 08 37.5	
	comp=Z,17nm,1.5s						
CAST	**Castle Rocks**	**61.34**	**27**	P	**P**	**22 08 17.2**	**+0.5**
CAST				IAmb	IAmb	22 08 18.4	
	comp=Z,6.6nm,1.2s						
KURBB	**Kurchatov Arra**	**61.37**	**318**	P	**P**	**22 08 16.8**	**-0.2**
	comp=Z,1.0nm,0.2s,baz=119,slow=7.6,SNR=4.8						
	comp=Z,1.0nm,0.2s						
IMAR	**Indian Mountai**	**61.46**	**24**	P	**P**	**22 08 18.1**	**+0.7**
E23K	**Chandalar**	**63.65**	**22**	P	**P**	**22 08 33.3**	**+1.3**
E23K				IAmb	IAmb	22 08 48.9	
	comp=Z,6.2nm,1.5s						
ILAR	**Eielson Array**	**63.89**	**26**	P	**P**	**22 08 32.2**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=252,slow=6.1,SNR=12						
	comp=Z,0.6nm,0.5s						
SCRK	**Sand Creek**	**64.98**	**27**	P	**P**	**22 08 40.8**	**+0.1**
SCRK				IAmb	IAmb	22 08 59.4	
	comp=Z,2.9nm,1.1s						
BVAR	**Borovoye Array**	**66.54**	**320**	P	**P**	**22 08 50.7**	**0.0**
	comp=Z,0.8nm,0.5s,baz=85,slow=7.2,SNR=2.2						
	comp=Z,0.8nm,0.5s						
ABKAR	**Akbulak array**	**73.39**	**317**	P	**P**	**22 09 31.9**	**-0.6**
ABKAR	**Akbulak array**	**73.39**	**317**	P	**P**	**22 09 31.8**	**-0.6**
ABKAR				IAmb	IAmb	22 09 59.6	
	comp=Z,2.6nm,1.4s						
YKA	**Yellowknife Ar**	**78.24**	**28**	P	**P**	**22 09 59.5**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=290,slow=6.2,SNR=6.4						
	comp=Z,0.7nm,0.7s						
NVAR	**Mina Array Bea**	**83.38**	**52**	P	**P**	**22 10 29.0**	**+1.3**
NVAR	**Mina Array Bea**	**83.38**	**52**	P	**P**	**22 10 28.4**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=265,slow=5.8,SNR=15						
	comp=Z,2.4nm,0.7s						
WCT	**Wildcat Mounta**	**85.17**	**53**	P	**P**	**22 10 37.2**	**+0.7**
FINES	**FINESS Array B**	**87.01**	**335**	P	**P**	**22 10 43.0**	**-1.8**
	comp=Z,1.8nm,0.9s,baz=74,slow=4.9,SNR=5.1						
	comp=Z,1.8nm,0.9s						
LPAZ	**La Paz**	**147.82**	**91**	PKPbc	**PKiKP**	**22 17 45.4**	**-1.7**
	comp=Z,1.7nm,0.5s,baz=239,slow=1.8,SNR=5.8						

*NEIC **24** 21:59:46.5±2.4, 12°.39S±0°.09×166°.5E±0°.1, h35km±2km, mb4.5/14, Error ellipse: s-maj=19.8km s-min=12.8km az=63.0*
*IDC **24** 21:59:50.7±2.6, 12°.66S×166°.29E, h56km±22km, mb3.9/8, mbtmp4.2/11, ML5.2/2, MS3.5/5, Error ellipse: s-maj=23.8km s-min=15.9km az=54.0*
ISC 24 21:59:50.7±0.7, 12°.67S±0°.08×166°.30E±0°.09, h59km, n35, σ0S93/32, mb4.3/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.01**	**297**	Pn	Pn	22 01 25.2	-5.5
HNR	**Honiara**	**7.01**	**297**	P	**Pn**	**22 01 31.6**	**+0.8**
	10nm,0.3s,baz=339,slow=1.3,SNR=8.0						
HNR				S	**Sn**	**22 02 49.6**	**+0.5**
	33nm,0.3s,baz=311,slow=20,SNR=1.2						
	93nm,0.6s						
KOUNC	**Koumac, New Ca**	**8.07**	**194**	Pn	**Pn**	**22 01 44.4**	**-0.9**
DZM	**Mont Dzumac**	**9.35**	**179**	Pn	**Pn**	**22 02 01.5**	**-1.4**
DZM	**Mont Dzumac**	**9.35**	**179**	P	**Pn**	**22 02 03.8**	**+0.9**
	2.6nm,0.3s,baz=306,slow=21,SNR=17						
DZM				S	**Sn**	**22 03 46.2**	**-0.5**
	9.4nm,1.0s,baz=323,slow=20,SNR=1.2						
DZM				LR	LR	22 05 22.3	
	comp=Z,232nm,21.1s,baz=52,slow=35						
ONTNC	**Ouen Toro**	**9.59**	**179**	Pn	**Pn**	**22 02 06.0**	**0.0**
MSVF	**Nonsavu**	**12.41**	**115**	Pn	Pn	22 02

	comp=Z,1.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**164.98**	**274**	PKPab	**PKPab**	**22 20 46.0**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=86,slow=5.6,SNR=8.8						

*SOME **24** 22:06:15.1,41.°82N×81.°72E,h15km*
*NNC **24** 22:06:17.5±1.9,41.°75N×81.°44E,h0km,mb3.7,mpv3.4,*
Error ellipse: s-maj=14.6km s-min=10.3km az=175.0
ISC 24 22:06:15.4±2.8,41.°6N±0.°1×81.°32E±0.°09,h3km±14km,n28,
σ1§37/41,3C,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.07**	**319**	P	**Pn**	**22 06 51.4**	**+0.1**
	32nm,0.3s						
SHLS				S	**Sn**	**22 07 16.9**	**-0.8**
	93nm,0.4s						
SHLS	**Shalkode**	**2.07**	**319**	*e*P	**Pn**	**22 06 50.6**	**-0.7**
	17nm,0.2s						
SHLS				*e*S	**Sn**	**22 07 16.3**	**-1.4**
	93nm,0.4s						
UZB	**Uzynbulak**	**2.30**	**313**	Pg	**Pg**	**22 06 58.9**	**-0.6**
	13nm,0.5s						
UZB				Lg	Lg	22 07 30.4	
	20nm,0.4s						
UZB	**Uzynbulak**	**2.30**	**313**	*e*P	**Pg**	**22 06 58.9**	**-0.6**
	1.6nm,0.1s						
UZB				*e*S	**Sg**	**22 07 30.4**	**+1.2**
	13nm,0.2s						
SATY	**Saty**	**2.60**	**305**	Pg	**Pg**	**22 07 05.4**	**0.0**
	28nm,0.7s						
SATY				Lg	Lg	22 07 42.1	
	33nm,0.6s						
SATY	**Saty**	**2.60**	**305**	*e*P	**Pg**	**22 07 05.4**	**0.0**
	25nm,0.4s						
SATY				*e*S	**Sg**	**22 07 41.8**	**+2.7**
	33nm,0.2s						
ZHN	**Zhinishke**	**2.65**	**307**	Pg	**Pg**	**22 07 05.3**	**-0.9**
	16nm,0.7s						
ZHN				Lg	Lg	22 07 41.3	
	21nm,0.3s						
ZHN	**Zhinishke**	**2.65**	**307**	*e*P	**Pg**	**22 07 05.3**	**-0.9**
	2.6nm,0.1s						
ZHN				*e*S	**Sg**	**22 07 41.3**	**+0.9**
	34nm,0.2s						
DJR	**Jarkent**	**2.95**	**338**	Pg	**Pb**	**22 07 08.0**	**-0.6**
	0.8nm,0.0s						
DJR				Lg	Lg	22 07 45.9	
	45nm,0.5s						
DJR	**Jarkent**	**2.95**	**338**	*e*P	**Pb**	**22 07 08.0**	**-0.6**
	0.8nm,0.0s						
DJR				*e*S	**Sb**	**22 07 45.9**	**+0.8**
	45nm,0.5s						
KNOS	**Konyrlen**	**3.17**	**331**	Pg	**Pb**	**22 07 11.5**	**-1.0**
	4.2nm,0.2s						
KNOS				Lg	Lg	22 07 52.1	
	3.1nm,0.3s						
BLB	**Baldybastay**	**3.25**	**321**	Pg	**Pb**	**22 07 14.3**	**+0.4**
	11nm,0.2s						
BLB				Lg	Lg	22 07 57.0	
	12nm,0.3s						
KOTS	**Kotyrbulak**	**3.52**	**299**	Pg	**Pg**	**22 07 20.5**	**-2.3**
	12nm,1.1s						
KOTS				Lg	Lg	22 08 08.1	
	10nm,0.7s						
KOTS	**Kotyrbulak**	**3.52**	**299**	*e*P	**Pg**	**22 07 20.5**	**-2.3**
	4.1nm,0.2s						
KOTS				*e*S	**Sg**	**22 08 08.1**	**-0.3**
	36nm,0.5s						
MDOK	**Medeo**	**3.53**	**298**	Pg	**Pb**	**22 07 19.2**	**+0.6**
	29nm,1.6s						
MDOK				Lg	Lg	22 08 05.6	
	23nm,1.4s						
MDOK	**Medeo**	**3.53**	**298**	*e*P	**Pg**	**22 07 22.7**	**-0.3**
	29nm,1.1s						
MDOK				*e*S	**Sg**	**22 08 11.3**	**+2.6**
	11nm,0.5s						
TNSS	**Tian-Shan**	**3.55**	**295**	Pg	**Pg**	**22 07 22.3**	**-1.0**
	16nm,1.3s						
TNSS				Lg	Lg	22 08 10.6	
	6.0nm,0.8s						
TNSS	**Tian-Shan**	**3.55**	**295**	*e*P	**Pg**	**22 07 22.3**	**-1.0**
	4.1nm,0.3s						
TNSS				*e*S	**Sg**	**22 08 10.6**	**+1.3**
	5.7nm,0.3s						
ARXS	**Arharly**	**3.66**	**317**	Pg	**Pb**	**22 07 22.1**	**+1.3**
	1.8nm,0.2s						
ARXS				Lg	Lg	22 08 10.4	
	13nm,0.5s						
ARXS	**Arharly**	**3.66**	**317**	*e*P	**Pb**	**22 07 22.1**	**+1.3**
	0.5nm,0.1s						
ARXS				*e*S	**Sg**	**22 08 10.4**	**-2.5**
	20nm,0.3s						
MTBS	**Maitube**	**3.93**	**294**	Pg	**Pg**	**22 07 29.4**	**-1.3**
	1.1nm,0.3s						
MTBS				Lg	Lg	22 08 22.9	
	4.1nm,0.3s						
MTBS	**Maitube**	**3.93**	**294**	*e*P	**Pg**	**22 07 29.4**	**-1.3**
	1.1nm,0.3s						
MTBS				*e*S	**Sg**	**22 08 22.9**	**+1.1**
	1.3nm,0.1s						
KST	**Kastek**	**4.22**	**292**	Pg	**Pg**	**22 07 34.7**	**-1.7**
	13nm,1.9s						
KST				Lg	Lg	22 08 32.0	
	11nm,1.2s						
KST	**Kastek**	**4.22**	**292**	*e*P	**Pg**	**22 07 34.7**	**-1.7**
	1.0nm,0.1s						
KST				*e*S	**Sg**	**22 08 32.0**	**+0.9**
	3.3nm,0.3s						
DGS	**Degeres**	**4.42**	**294**	Pg	**Pg**	**22 07 38.4**	**-1.7**
	1.7nm,0.7s						
DGS				Lg	Lg	22 08 38.1	
	4.6nm,1.1s						
DGS	**Degeres**	**4.42**	**294**	*e*P	**Pg**	**22 07 38.4**	**-1.7**
	0.8nm,0.2s						
DGS				*e*S	**Sg**	**22 08 38.1**	**+0.7**
	6.4nm,0.4s						
MAKZ	**Makanchi**	**5.22**	**5**	⇑Pn	**Pn**	**22 07 35.6**	**+1.2**
	1.9nm,0.5s						
MAKZ				⇑Lg	Lg	22 08 53.3	
	3.2nm,0.8s						
MK31	**Makanchi Array**	**5.23**	**7**	⇑Pn	**Pn**	**22 07 36.0**	**+1.4**
	0.3nm,0.3s,baz=185,slow=13,SNR=22						
MK31				Lg	Lg	22 08 53.4	
	2.6nm,0.5s,baz=186,slow=30,SNR=3.4						

RSNC 24 22:06:34.0±0.0,7.°N±1.°×7.°8W±.°,h7km±2km,M3.1,mb3.7,
ML2.8,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.34**	**53**	P	Pg	22 06 40.0	-0.7
PTAC				S	Sg	22 06 44.6	-0.6
SOLC	**Bahia Solano**	**0.97**	**137**	P	Pg	22 06 51.2	-1.5
SOLC				S	Sg	22 07 04.3	-1.1
APAC	**Apartado, Choc**	**1.77**	**57**	P	Pn	22 07 04.3	-0.7
APAC				S	Sb	22 07 29.7	+0.5
CAPC	**Capurgana**	**1.83**	**23**	P	Pn	22 07 04.9	-1.0
CAPC				S	Sn	22 07 28.8	-0.6
DBBC	**Dabeiba**	**1.86**	**88**	P	Pn	22 07 03.7	-2.7
DBBC				S	Sn	22 07 29.2	-1.0
CBOC	**Ciudad Bolivar**	**2.32**	**117**	P	Pn	22 07 09.0	-3.8
CBOC				S	Sn	22 07 39.2	-2.4
AZU	**Azuero**	**2.33**	**291**	P	Pn	22 07 11.5	-1.3
AZU				S	Sn	22 07 37.8	-4.0
LCBC	**Los crdobas,**	**2.55**	**42**	P	Pn	22 07 16.3	+0.5
LCBC				S	Sn	22 07 47.1	0.0
HELC	**Santa Helena**	**2.64**	**106**	P	Pn	22 07 15.0	-2.4
HELC				S	Sn	22 07 48.6	-1.3
UREC	**San Jos de Ur**	**2.65**	**72**	P	Pn	22 07 15.5	-1.7
UREC				S	Sn	22 07 50.8	+1.1
CACAO	**El Cacao, Vera**	**2.79**	**278**	P	Pn	22 07 17.2	-1.9
CACAO				S	Sn	22 07 47.2	-5.8
BCIP	**Isla Barro Col**	**2.81**	**322**	P	Pn	22 07 17.9	-1.6
BCIP				S	Sn	22 07 52.1	-1.6
MALC	**Bahia Malaga**	**3.00**	**166**	P	Pn	22 07 21.0	-1.0
GUY2C	**Guyana, Caldas**	**3.19**	**122**	P	Pn	22 07 23.0	-2.1
GUY2C				S	Sn	22 08 05.2	+1.5
NIZA	**Niza - Manizal**	**3.20**	**126**	P	Pn	22 07 23.2	-1.8
GMAL	**Guarumal, Vera**	**3.23**	**285**	P	Pn	22 07 25.6	+0.4
GMAL				S	Sn	22 08 03.5	-0.5
ZARC	**Zaragoza, Cauc**	**3.24**	**80**	P	Pn	22 07 23.7	-1.7
ZARC				S	Sn	22 08 02.3	-2.0
YOTC	**Yotoco, Valle**	**3.41**	**149**	P	Pn	22 07 26.9	-0.8
PTBC	**PUERTO BERRIO,**	**3.62**	**96**	P	Pn	22 07 33.8	+3.2
PTBC				S	Sn	22 08 14.7	+1.1
PAMC	**Pamplona, Colo**	**5.35**	**85**	P	Pn	22 07 54.0	-0.8
FLOC	**Florencia**	**5.85**	**155**	P	Pn	22 08 00.9	-0.3

*ATH **24** 22:23:28.6,37.°62N×20.°35E,h8km±3km,ML2.9/9,Error*
ellipse: s-maj=3.5km s-min=1.3km az=41.0
*IDC **24** 22:23:28.7±36.0,37.°87N×20.°65E,h0km,mb3.7/3,*
mbtmp3.7/3,MS3.5/1,Error ellipse: s-maj=675.1km
s-min=69.5km az=43.0
ISC 24 22:23:27.6±2.4,37.°67N±0.°08×20.°4E±0.°1,h5km±15km,n14,
σ0§76/19,mb3.7/3,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSDA	**Pessada-Kefalo**	**0.48**	**20**	P	**Pb**	**22 23 38.7**	**+0.3**
PSDA				S	**Sb**	**22 23 46.1**	**+0.4**
VLS	**Valsamata**	**0.54**	**18**	P	**Pb**	**22 23 39.7**	**+0.2**
VLS				S	**Sb**	**22 23 48.1**	**+0.5**
VLS				AML	AML	22 23 54.5	
	comp=E,2131μm,0.3s						
VLS				AML	AML	22 23 55.4	
	comp=N,1766μm,0.3s						
DMLN	**Damoulianata-K**	**0.57**	**359**	P	**Pb**	**22 23 40.8**	**+0.7**
RLS	**Riolos of Patr**	**0.94**	**65**	P	**Pn**	**22 23 46.7**	**-0.8**
RLS				S	**Sn**	**22 24 00.6**	**-0.7**
RLS				AML	AML	22 24 05.0	
	comp=E,1531μm,0.5s						
RLS				AML	AML	22 24 05.8	
	comp=N,1312μm,0.6s						
EVGI	**Lefkada island**	**0.98**	**13**	P	**Pn**	**22 23 47.6**	**-0.3**
AMT	**Artemida-Makis**	**1.06**	**97**	P	**Pb**	**22 23 48.4**	**-0.1**
AMT				S	**Sn**	**22 24 03.8**	**-0.5**
AMT				AML	AML	22 24 08.8	
	comp=E,4414μm,0.3s						
AMT				AML	AML	22 24 10.3	
	comp=N,4579μm,0.7s						
LKD2	**Lefkada island**	**1.14**	**11**	P	**Pn**	**22 23 51.1**	**+0.9**
LKD2				AML	AML	22 24 18.7	
	comp=E,1014μm,0.5s						
LKD2				AML	AML	22 24 19.9	
	comp=N,996μm,0.6s						
TSLK	**Tsoukalades, L**	**1.18**	**11**	P	**Pn**	**22 23 51.2**	**+0.5**
TSLK				AML	AML	22 24 14.6	
	comp=E,1199μm,0.4s						
TSLK				AML	AML	22 24 16.7	
	comp=N,1719μm,0.6s						
ITM	**Ithomi**	**1.32**	**111**	P	**Pn**	**22 23 53.7**	**+1.0**
ITM				AML	AML	22 24 20.3	
	comp=E,455μm,0.6s						
ITM				AML	AML	22 24 21.3	
	comp=N,396μm,0.5s						
KLV	**Kalavryta, Ach**	**1.45**	**74**	P	**Pb**	**22 23 56.2**	**+1.1**
KLV				S	**Sn**	**22 24 15.3**	**+1.4**
KLV				AML	AML	22 24 26.5	
	comp=E,313μm,0.6s						
KLV				AML	AML	22 24 28.5	
	comp=N,386μm,0.8s						
IGT	**Igoumenitsa**	**1.86**	**359**	P	**Pg**	**22 24 02.9**	**-0.5**
IGT				AML	AML	22 24 36.2	
	comp=E,290μm,0.5s						
IGT				AML	AML	22 24 44.9	
	comp=N,234μm,0.6s						
FINES	**FINESS Array B**	**24.07**	**7**	P	**P**	**22 28 43.1**	**-0.3**
	comp=N,1.6nm,0.8s,baz=195,slow=10,SNR=4.7						
	comp=N,1.6nm,0.8s						
MKAR	**Makanchi Array**	**45.67**	**58**	P	**P**	**22 31 48.5**	**-0.6**
	comp=N,0.5nm,0.7s,baz=264,slow=7.7,SNR=2.0						
	comp=N,0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**46.12**	**48**	P	**P**	**22 31 52.0**	**-0.5**
	comp=N,0.6nm,0.3s,baz=266,slow=8.1,SNR=1.7						
ZALV				LR	LR	22 54 10.9	
	comp=N,51nm,20.1s,baz=66,slow=40						
	comp=N,0.6nm,0.3s						

*KRNET **24** 22:34:40.8±0.1,41.°10N×77.°16E,h12km,mb2.9*
*SOME **24** 22:34:40.5,41.°03N×77.°20E,h15km*
*NNC **24** 22:34:41.4±1.1,41.°08N×77.°27E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=7.1km s-min=5.1km az=8.0
ISC 24 22:34:39.9±2.1,41.°03N±0.°08×77.°13E±0.°04,h5km±15km,
n34,σ1§08/55,12C-4D,Kyrgyzstan-Xinjiang border
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.94**	**295**	⇑*i*P	**Pb**	**22 34 59.2**	**+0.2**
NRN				⇑*i*S	**Sg**	**22 35 12.7**	**+2.4**
KDJ	**Kajisay**	**1.10**	**2**	⇑*i*P	**Pb**	**22 35 00.5**	**-1.0**
KDJ				⇑*i*S	**Sb**	**22 35 14.8**	**-1.4**
ULHL	**Ulahol**	**1.38**	**331**	⇓*i*P	**Pn**	**22 35 06.2**	**+0.1**
ULHL				⇓*i*S	**Sb**	**22 35 24.8**	**+0.3**
BOOM	**Boomskoye usch**	**1.71**	**329**	⇑*e*P	**Pb**	**22 35 12.0**	**+0.1**
BOOM				⇑*e*S	**Sb**	**22 35 35.1**	**+1.3**
PRZ	**Przheval'sk**	**1.73**	**33**	⇑*e*P	**Pb**	**22 35 12.0**	**-0.3**
PRZ				⇑*e*S	**Sg**	**22 35 35.9**	**+0.3**
ANVS	**Anan'yevo**	**1.79**	**13**	⇓*e*P	**Pb**	**22 35 13.2**	**-0.2**
ANVS				⇓*i*S	**Sg**	**22 35 36.9**	**-0.7**
TNSS	**Tian-Shan**	**2.01**	**356**	Pg	**Pb**	**22 35 17.7**	**+0.6**
	19nm,0.4s						
TNSS				Lg	Lg	22 35 44.2	
	4.2nm,0.5s						
TNSS	**Tian-Shan**	**2.01**	**356**	*e*P	**Pb**	**22 35 17.7**	**+0.6**
	12nm,0.1s						
TNSS				*e*S	**Sg**	**22 35 44.7**	**+0.3**
	16nm,0.6s						
MDOK	**Medeo**	**2.13**	**358**	Pg	**Pb**	**22 35 19.7**	**+0.7**
	14nm,0.5s						
MDOK				Lg	Lg	22 35 48.8	
	9.6nm,0.5s						
MDOK	**Medeo**	**2.13**	**358**	*e*P	**Pb**	**22 35 19.8**	**+0.7**
	4.3nm,0.1s						
MDOK				*e*S	**Sg**	**22 35 47.9**	**-0.4**
	12nm,0.3s						
MTBS	**Maitube**	**2.16**	**346**	Pg	**Pb**	**22 35 20.7**	**+1.1**
	4.7nm,0.5s						
MTBS				Lg	Lg	22 35 49.8	
	2.5nm,0.1s						
MTBS	**Maitube**	**2.16**	**346**	*e*P	**Pb**	**22 35 20.7**	**+1.1**
	3.1nm,0.1s						
MTBS				*e*S	**Sg**	**22 35 49.8**	**+0.5**
	4.1nm,0.1s						
KST	**Kastek**	**2.19**	**337**	Pg	**Pb**	**22 35 21.0**	**+0.9**
	1.1nm,0.2s						
KST				Lg	Lg	22 35 50.3	
	0.9nm,0.1s						
KST	**Kastek**	**2.19**	**337**	*e*P	**Pb**	**22 35 21.0**	**+0.9**
	2.2nm,0.1s						
KST				*e*S	**Sg**	**22 35 50.3**	**0.0**
	2.2nm,0.1s						
KOTS	**Kotyrbulak**	**2.20**	**360**	Pg	**Pb**	**22 35 21.2**	**+0.8**
	13nm,0.1s						
KOTS				Lg	Lg	22 35 50.6	
	19nm,0.5s						
KOTS	**Kotyrbulak**	**2.20**	**360**	*e*P	**Pb**	**22 35 21.1**	**+0.8**
	6.0nm,0.1s						
KOTS				*e*S	**Sg**	**22 35 50.6**	**0.0**
	14nm,0.2s						
TKM2	**Tokmak 2**	**2.21**	**329**	⇑*i*P	**Pb**	**22 35 20.1**	**-0.3**
TKM2				⇑*i*S	**Sb**	**22 35 49.0**	**+0.8**
SATY	**Saty**	**2.24**	**25**	Pg	**Pb**	**22 35 20.9**	**0.0**
	60nm,1.5s						
SATY				Lg	Lg	22 35 50.2	
	49nm,1.0s						
SATY	**Saty**	**2.24**	**25**	*e*P	**Pb**	**22 35 20.9**	**0.0**
	62nm,1.4s						
SATY				*e*S	**Sg**	**22 35 50.2**	**-1.5**
	11nm,0.1s						
ZHN	**Zhinishke**	**2.34**	**24**	Pg	**Pb**	**22 35 23.0**	**+0.3**
	4.3nm,0.3s						
ZHN				Lg	Lg	22 35 53.5	
	16nm,0.2s						
ZHN	**Zhinishke**	**2.34**	**24**	*e*P	**Pb**	**22 35 23.0**	**+0.3**
	4.3nm,0.1s						
ZHN				*e*S	**Sg**	**22 35 53.5**	**-1.7**
	18nm,0.2s						
DGS	**Degeres**	**2.43**	**336**	Pg	**Pb**	**22 35 25.2**	**+1.1**
	2.4nm,0.5s						
DGS				Lg	Lg	22 35 58.0	
	7.1nm,0.5s						
DGS	**Degeres**	**2.43**	**336**	*e*P	**Pb**	**22 35 25.2**	**+1.1**
	1.4nm,0.3s						
DGS				*e*S	**Sg**	**22 35 57.6**	**-0.4**
	5.3nm,0.3s						
UZB	**Uzynbulak**	**2.54**	**33**	Pg	**Pb**	**22 35 26.5**	**+0.4**
	12nm,0.8s						
UZB				Lg	Lg	22 35 59.5	
	6.4nm,0.4s						
UZB	**Uzynbulak**	**2.54**	**33**	*e*P	**Pb**	**22 35 26.5**	**+0.4**
	2.7nm,0.1s						
UZB				*e*S	**Sg**	**22 35 59.5**	**-2.0**
	5.6nm,0.2s						
AAK	**Ala-Archa**	**2.54**	**310**	*i* P	**Pb**	**22 35 25.1**	**-1.0**
AAK				*i* S	**Sb**	**22 35 57.4**	**-0.3**
KTBS	**Karatobe**	**2.70**	**353**	*e*P	**Pb**	**22 35 30.1**	**+1.4**
	4.2nm,0.1s						
KTBS				*e*S	**Sg**	**22 36 05.7**	**-0.9**
	7.6nm,0.3s						
SHLS	**Shalkode**	**2.74**	**38**	Pg	**Pg**	**22 35 33.1**	**+0.7**
	5.9nm,0.4s						
SHLS				Lg	Lg	22 36 11.0	
	4.4nm,0.5s						
SHLS	**Shalkode**	**2.74**	**38**	*e*P	**Pg**	**22 35 33.1**	**+0.7**
	3.5nm,0.2s						
SHLS				*e*S	**Sg**	**22 36 11.0**	**+3.1**
	8.6nm,0.4s						
AML	**Almayashu**	**2.80**	**294**	⇑*i*P	**Pb**	**22 35 29.1**	**-1.6**
AML				⇑*i*S	**Sb**	**22 36 04.6**	**-0.9**
ARXS	**Arharly**	**3.22**	**9**	Pg	**Pg**	**22 35 40.1**	**-1.5**
	0.4nm,0.1s						
ARXS				Lg	Lg	22 36 22.9	
	5.7nm,0.3s						
ARXS	**Arharly**	**3.22**	**9**	*e*P	**Pb**	**22 35 39.5**	**+1.9**
	0.3nm,0.0s						
ARXS				*e*S	**Sg**	**22 36 21.8**	**-1.5**
	3.8nm,0.1s						
BLB	**Baldybastay**	**3.22**	**18**	Pg	**Pb**	**22 35 38.8**	**+1.2**
	6.2nm,0.1s						
BLB				Lg	Lg	22 36 20.6	
	12nm,0.3s						
DJR	**Jarkent**	**3.83**	**30**	Pg	**Pb**	**22 35 48.1**	**0.0**
	0.6nm,0.1s						
DJR				Lg	Lg	22 36 36.5	
	0.7nm,0.1s						

*SJA **24** 22:43:11.3±0.8,31.°01S×70.°22W,h120km±3km,ML3.3,*
MW3.3
*GUC **24** 22:43:12.5±0.7,31.°06S×70.°36W,h123km±3km,ML3.6*
ISC 24 22:43:10.4±1.5,31.°03S±0.°03×70.°28W±0.°03,h133km±9km,
n60,σ1§55/101,4C-8D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO03	**El Pedregal**	**0.40**	**299**	⇑*i*P	**Pn**	**22 43 29.5**	**+0.1**
CO03				*i* S	**Sn**	**22 43 42.2**	**-1.5**
CO03				IAML		22 43 44.2	
	comp=N,3μm,0.2s						
CO03	**El Pedregal**	**0.40**	**299**	*e*P	**Pn**	**22 43 29.6**	**+0.2**
CO03				*e*S	**Sn**	**22 43 42.9**	**-0.9**
CO03				IAML		22 43 43.3	
	comp=Z,1μm,0.1s						
GO04	**Tololo Observa**	**0.96**	**332**	⇑*i*P	**Pn**	**22 43 34.2**	**+0.6**
GO04				*i* S	**Sn**	**22 43 50.5**	**-0.5**
GO04				IAML		22 43 53.3	
	comp=E,2μm,0.3s						
GO04	**Tololo Observa**	**0.96**	**332**	*e*P	**Pn**	**22 43 34.1**	**+0.6**
GO04				*e*S	**Sn**	**22 43 50.8**	**-0.3**
DOCA	**Reserva Natura**	**1.03**	**86**	*e*P	**Pn**	**22 43 34.4**	**0.0**
DOCA				*e*S	**Sn**	**22 43 51.5**	**-0.9**
CO01	**Juntas del Tor**	**1.06**	**9**	⇓*i*P	**Pn**	**22 43 36.1**	**+1.6**
CO01				*i* S	**Sn**	**22 43 52.9**	**+0.1**
CO01	**Juntas del Tor**	**1.06**	**9**	*e*P	**Pn**	**22 43 36.1**	**+1.6**
CO01				*e*S	**Sn**	**22 43 53.5**	**+0.8**
CO01				IAML		22 43 54.5	
	comp=Z,151nm,0.2s						
RTLS	**Leoncito**	**1.14**	**132**	*e*P	**Pn**	**22 43 36.0**	**+0.8**
RTLS				*e*S	**Sn**	**22 43 54.0**	**0.0**
RTLS				IAML		22 43 56.6	
	comp=Z,1μm,0.3s						
ACCO	**Cerro Coronel**	**1.14**	**67**	*e*P	**Pn**	**22 43 36.1**	**+0.8**
ACCO				*e*S	**Sn**	**22 43 54.6**	**+0.5**
CO04	**Los Peladeros**	**1.17**	**210**	⇓*i*P	**Pn**	**22 43 35.4**	**-0.1**
CO04				*i* S	**Sn**	**22 43 53.1**	**-1.4**
CO06	**Fray Jorge**	**1.22**	**287**	⇑*i*P	**Pn**	**22 43 36.2**	**+0.5**
CO06				*i* S	**Sn**	**22 43 54.0**	**-0.8**
CO06				IAML		22 43 59.9	
	comp=E,846nm,0.2s						
CO05	**La Serena**	**1.38**	**323**	*i* P	**Pn**	**22 43 38.1**	**+0.7**
CO05				*i* S	**Sn**	**22 43 57.7**	**-0.3**
CO05				IAML		22 43 59.5	
	comp=N,796nm,0.3s						
ZON	**Zonda**	**1.47**	**111**	*e*P	**Pn**	**22 43 38.7**	**+0.3**
ZON				*e*S	**Sn**	**22 43 58.3**	**-1.4**
ZON				IAML		22 44 00.3	
	comp=Z,223nm,0.2s						
SJA	**San Juan**	**1.56**	**109**	*e*P	**Pn**	**22 43 40.1**	**+0.7**
SJA				*e*S	**Sn**	**22 44 01.1**	**-0.4**
RTLL	**Cerro Villicun**	**1.58**	**101**	*e*P	**Pn**	**22 43 39.7**	**+0.1**
RTLL				*e*S	**Sn**	**22 44 00.4**	**-1.6**
RTCV	**Cerro Valdivia**	**1.71**	**119**	*e*P	**Pn**	**22 43 41.7**	**+0.6**
VA03	**San Esteban**	**1.74**	**187**	⇓*i*P	**Pn**	**22 43 42.3**	**+0.7**
VA03				*e*S	**Sn**	**22 44 04.7**	**-0.7**
VA03				IAML		22 44 08.2	
	comp=E,643nm,0.1s						
VA03	**San Esteban**	**1.74**	**187**	*e*P	**Pn**	**22 43 42.4**	**+0.9**
VA03				*e*S	**Sn**	**22 44 07.0**	**+1.6**
VA03				IAML		22 44 07.8	
	comp=Z,213nm,0.1s						
VA06	**Catapilco**	**1.75**	**209**	⇓*i*P	**Pn**	**22 43 41.5**	**0.0**
VA06				*i* S	**Sn**	**22 44 03.7**	**-1.7**
VA06				IAML		22 44 07.5	
	comp=E,952nm,0.3s						
ASAL	**Salagasta**	**1.98**	**142**	*e*P	**Pn**	**22 43 45.6**	**+1.2**
ASAL				*e*S	Sn	22 43 59.4	-11
LCO	**Las Campanas**	**2.05**	**350**	*i* P	**Pn**	**22 43 46.4**	**+1.0**
LCO				*i* S	**Sn**	**22 44 12.1**	**0.0**
LCO	**Las Campanas**	**2.05**	**350**	*e*P	**Pn**	**22 43 46.7**	**+1.3**
LCO				*e*S	**Sn**	**22 44 12.7**	**+0.6**
LCO				IAML		22 44 12.9	
	comp=Z,486nm,0.7s						
PEL	**Peldehue**	**2.13**	**189**	⇑*i*P	**Pn**	**22 43 46.7**	**+0.5**
PEL				*e*S	**Sn**	**22 44 13.0**	**-0.7**
PEL				IAML		22 44 15.6	
	comp=N,215nm,0.2s						
PEL	**Peldehue**	**2.13**	**189**	*e*P	**Pn**	**22 43 46.9**	**+0.6**
PEL				*e*S	**Sn**	**22 44 14.9**	**+1.3**
ARCO	**CERRO ARCO**	**2.14**	**148**	*e*P	**Pn**	**22 43 48.0**	**+1.6**
ARCO				*e*S	**Sn**	**22 44 14.8**	**+0.8**
ARCO				IAML		22 44 18.2	
	comp=Z,141nm,0.2s						
MT10	**Hacienda Santa**	**2.24**	**185**	⇓*i*P	**Pn**	**22 43 48.5**	**+0.8**
MT10				*i* S	**Sn**	**22 44 15.8**	**-0.5**
MT10				IAML		22 44 19.5	
	comp=N,419nm,0.3s						
FCH	**Farellones**	**2.29**	**180**	⇓*e*P	**Pn**	**22 43 49.9**	**+1.5**
FCH				*e*S	**Sn**	**22 44 18.6**	**+1.0**
FCH				I

MT08 Bocatoma Ro 2.42 175 *e*S **Sn 22 44 20.3 0.0**
MT08 Bocatoma Ro 2.42 175 *e*P **Pn 22 43 51.9 +2.0**
MT08 *e*S **Sn 22 44 26.7 +6.4**
AVFE Valle Fertil 2.46 82 *e*P **Pn 22 43 50.6 +0.3**
AVFE *e*S **Sn 22 44 19.7 -1.2**
AVFE IAML 22 44 24.0
comp=Z,73nm,0.3s
MT03 Universidad Ad 2.46 184 *e*P **Pn 22 43 51.1 +0.8**
MT03 IAML 22 44 26.0
comp=E,377nm,0.2s
MT03 Universidad Ad 2.46 184 *e*P **Pn 22 43 51.8 +1.4**
MT03 *e*S **Sn 22 44 22.6 +1.5**
MT03 IAML 22 44 26.0
comp=Z,123nm,0.2s
MT15 Las Vizcachas 2.57 184 *e*P **Pn 22 43 52.4 +0.8**
MT15 *e*S **Sn 22 44 22.9 -0.5**
MT15 IAML 22 44 26.8
comp=E,264nm,0.2s
MT12 Pirque 2.70 185 *i*P **Pn 22 43 54.0 +0.6**
MT12 *e*S **Sn 22 44 25.8 -0.6**
MT12 IAML 22 44 28.3
comp=E,156nm,0.3s
MT13 San Alfonso 2.70 180 *e*P **Pn 22 43 54.6 +1.2**
MT13 *e*S **Sn 22 44 26.2 -0.4**
MT13 IAML 22 44 31.9
comp=E,123nm,0.3s
MT13 San Alfonso 2.70 180 *e*P **Pn 22 43 55.0 +1.5**
MT13 *e*S **Sn 22 44 28.2 +1.6**
MT13 *e*S 22 44 29.6
MT13 IAML 22 44 32.9
comp=Z,50nm,0.8s
MT09 Talagante 2.80 192 ||*i*P **Pn 22 43 54.6 -0.1**
MT09 *e*S **Sn 22 44 26.8 -2.1**
MT09 IAML 22 44 32.4
comp=N,123nm,0.2s
LMEL Las Melosas 2.81 179 *e*P **Pn 22 43 56.2 +1.4**
LMEL Las Melosas 2.81 179 *e*P **Pn 22 43 56.3 +1.5**
LMEL *e*S **Sn 22 44 31.8 +2.8**
VA05 Santo Domingo 2.85 203 *i*P **Pn 22 43 54.5 -0.7**
VA05 *e*S **Sn 22 44 26.4 -3.3**
VA05 IAML 22 44 29.9
comp=N,222nm,0.4s
AVIZ Vizcacheras 2.86 149 *e*P **Pn 22 43 57.7 +2.3**
AVIZ *e*S **Sn 22 44 23.7 -6.4**
AC04 Llanos de Chal 2.90 346 IAML 22 44 38.3
comp=Z,43nm,0.7s
VCA Vinchina 2.92 39 *e*S **Sn 22 44 29.1 -2.4**
VCA IAML 22 44 40.9
comp=Z,110nm,0.2s
MT01 Popeta 2.94 196 ||*i*P **Pn 22 43 56.1 -0.2**
MT01 Popeta 2.94 196 *e*S **Sn 22 44 30.7 -1.1**
APLL PUNTA DE LOS L 3.30 80 *e*P **Pn 22 44 00.0 -1.0**
ACLC CERRO LA CRUZ 3.30 62 IAML 22 44 41.4
comp=Z,88nm,0.3s
BO02 Sierra Bellavi 3.77 186 IAML 22 44 54.9
comp=Z,59nm,0.1s
MRA San Martin 4.13 111 IAML 22 45 22.7
comp=Z,14nm,0.6s
AC01 Pan de Azucar 4.88 357 IAML 22 45 33.1
comp=Z,21nm,4.0s

NEIC ***24*** *22:46:34.5±1.9,38°.88N±0°.07×142°.6E±0°.1, h24km±6km, mb4.3/18, Mwr3.9/20, Error ellipse: s-maj=16.1km s-min=7.3km az=114.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=7.13; Mθθ=0.18; Mφφ=7.32; Mrθ=1.95; Mφθ=1.05; Mφr=3.56; Fault plane solution: Mo=8.36000×10¹⁴ NP1:φs=171.60000°, δ59.20000°, λ=107.56000°. NP2:φs=23.32000°, δ35.02000°, λ=63.16000°. Principal axes: T 8.1879, Plg13.0000°, Azm274.0000°; N 0.3271, Plg15.0000°, Azm181.0000°; P -8.5150, Plg70.0000°, Azm42.0000°;*
JMA ***24*** *22:46:34.9±0.1, 39°.0N±0°.4×142°.4E±0°.8, h34km±1km, MD4.1/40, MV4.4/40, E OFF MIYAGI PREF*
JMA Felt II J1 at E OFF MIYAGI PREF .
NIED ***24*** *22:46:34.9, 38°.97N×142°.44E, h34km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=1.18; Mθθ=0.25; Mφφ=1.43; Mrθ=0.12; Mφθ=0.03; Mφr=0.32; Fault plane solution: Mo=1.35000×10¹⁵ NP1: φs=6.00000°, δ52.00000°, λ=81.00000°. NP2:φs=171.00000°, δ39.00000°, λ=102.00000°.*
NEIC ***24*** *22:46:35.3, 38°.91N×142°.53E, h28km*
IDC ***24*** *22:46:38.5±2.5, 38°.92N×142°.31E, h57km±22km, mb3.7/16, mbtmp4.0/21, ML3.4/5, MS3.2/9, Error ellipse: s-maj=18.7km s-min=14.4km az=97.0*
ISC 24 22:46:36.3±0.7, 38°.93N±0°.06×142°.43E±0°.08, h35km±6km, n89, σ1§13/79, mb4.2/26, MS3.3/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.61**	**284**	*i* P		**Pn**	**22 46 47.2**	**-1.4**
OFUJ				S		**Sn**	**22 46 55.6**	**-1.5**
OFUJ	**Ofunato**	**0.61**	**284**	A		A	22 46 47.2	
comp=E,7.0nm,2.6s,comp=N,9.0nm,0.3s								
JKMT	**Kesennumamotoy**	**0.76**	**261**	*i* P		**Pn**	**22 46 49.3**	**-1.1**
JKMT				S		**Sn**	**22 46 59.1**	**-1.5**
JKMT	**Kesennumamotoy**	**0.76**	**261**	A		A	22 46 49.3	
comp=E,6.0nm,0.7s,comp=N,10.0nm,0.2s								
MIYJ	**Miyakonagasawa**	**0.80**	**324**	*i* P		**Pn**	**22 46 49.2**	**-1.8**
MIYJ				S		**Sn**	**22 46 59.7**	**-2.0**
JMK	**Ichinoseki**	**0.94**	**271**	*i* P		**Pn**	**22 46 52.2**	**-0.8**
JMK				S		**Sn**	**22 47 04.5**	**-0.7**
JMK	**Ichinoseki**	**0.94**	**271**	A		A	22 46 52.2	
comp=E,4.0nm,1.0s,comp=N,8.0nm,0.2s								
JIO	**Ouri**	**0.97**	**241**	*i* P		**Pn**	**22 46 52.2**	**-1.2**
JIO				S		**Sn**	**22 47 03.4**	**-2.5**
JOM	**Ohasama**	**1.03**	**302**	*i* P		**Pn**	**22 46 53.5**	**-0.9**
JOM				S		**Sn**	**22 47 07.0**	**-0.6**
JOM	**Ohasama**	**1.03**	**302**	A		A	22 46 53.5	
comp=E,8.0nm,0.3s,comp=N,8.0nm,0.6s								
JTH	**Tanohata**	**1.09**	**337**	P		**Pn**	**22 46 53.6**	**-1.6**
JOFO	**Osakifurukawao**	**1.23**	**255**	A		A	22 46 56.6	
comp=E,22nm,1.0s,comp=N,17nm,0.9s								
JKZ	**Kuzumaki**	**1.35**	**321**	*i* P		**Pn**	**22 46 58.2**	**-0.5**
JKZ				*e*S		**Sn**	**22 47 14.8**	**-0.6**
JKEN	**Kujiedanarisaw**	**1.39**	**337**	A		A	22 46 58.3	
comp=E,9.0nm,0.5s,comp=N,12nm,1.0s								
JSZI	**Iwateshizukuis**	**1.40**	**306**	A		A	22 46 58.7	
comp=E,6.0nm,1.1s,comp=N,7.0nm,0.4s								
JRG	**Rokugo**	**1.47**	**289**	*i* P		**Pn**	**22 47 00.2**	**-0.1**
JRG				*e*S		**Sn**	**22 47 19.3**	**+1.1**
JRG	**Rokugo**	**1.47**	**289**	A		A	22 47 00.2	
comp=E,5.0nm,1.2s,comp=N,4.0nm,1.2s								
JOU	**Okura**	**1.49**	**248**	*i* P		**Pn**	**22 47 00.2**	**-0.4**
JOU	**Okura**	**1.49**	**248**	A		A	22 47 00.2	
comp=E,6.0nm,2.3s,comp=N,5.0nm,1.3s								
JANG	**Nango**	**1.60**	**334**	*i* P		**Pn**	**22 47 01.3**	**-0.8**
JYK	**Kaneyama**	**1.61**	**270**	*i* P		**Pn**	**22 47 02.2**	**-0.1**
JMM	**Marumori**	**1.67**	**231**	Pn		**Pn**	**22 47 02.2**	**-0.9**
JYW	**Yuwa**	**1.83**	**290**	A		A	22 47 05.1	
comp=E,6.0nm,1.0s,comp=N,8.0nm,1.3s								
JTM	**Tenmabayashi**	**2.13**	**331**	Pn		**Pn**	**22 47 09.3**	**0.0**
ERM	**Erimo**	**3.13**	**10**	Pn		**Pn**	**22 47 22.6**	**-0.4**
JSD	**Sado**	**3.39**	**256**			**Pn**	**22 47 26.3**	**-0.4**
MAJO	**Matsushiro**	**4.11**	**236**			**Pn**	**22 47 37.9**	**+1.3**
MJAR	**Matsushiro Arr**	**4.11**	**236**	P		**Pn**	**22 47 37.8**	**+1.2**
comp=N,0.8nm,0.3s,baz=42,slow=11,SNR=34								
MJAR				LR		LR	22 49 30.5	
comp=N,402nm,18.4s,baz=98,slow=43								
comp=N,8.4nm,0.6s								
MJB9	**Matsu-Tunnel**	**4.11**	**236**			**Pn**	**22 47 38.4**	**+1.8**
ASAJ	**Asahikawa**	**5.18**	**1**	P		**Pn**	**22 47 52.1**	**+0.9**
comp=N,3.3nm,0.3s,baz=220,slow=9.7,SNR=3.9								
ASAJ				S		**Sn**	**22 48 48.8**	**-1.0**
comp=N,5.5nm,0.3s,baz=273,slow=19,SNR=1.6								
ASAJ				LR		LR	22 50 27.0	
comp=N,164nm,20.2s,baz=170,slow=44								
comp=N,7.8nm,0.3s								
JKA	**Kamikawa-asahi**	**5.18**	**1**	Pn		**Pn**	**22 47 50.8**	**-0.5**
JGF	**Kuroka**	**5.24**	**232**	Pn		**Pn**	**22 47 53.4**	**+1.2**
INU	**Inuyama**	**5.61**	**232**	Pn		**Pn**	**22 47 57.9**	**+0.7**
JMN	**Monobe**	**8.63**	**236**	Pn		**Pn**	**22 48 39.3**	**+0.6**
USA0B	**Ussuriysk Arra**	**9.43**	**307**			**Pn**	**22 48 50.9**	**+1.3**
USRK	**Ussuriysk Ar.**	**9.43**	**307**			**Pn**	**22 48 50.8**	**+1.3**
USRK	**Ussuriysk Ar.**	**9.43**	**307**	P		**Pn**	**22 48 53.2**	**+3.7**
comp=N,5.0nm,0.8s,baz=120,slow=14,SNR=7.0								
JNU	**Nakatsue**	**11.00**	**242**	Pn		**Pn**	**22 49 12.1**	**+0.9**
JNU	**Nakatsue**	**11.00**	**242**	P		**Pn**	**22 49 12.8**	**+1.7**
comp=N,0.2nm,0.3s,baz=30,slow=8.1,SNR=1.6								
comp=N,5.3nm,0.8s								

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**11.51**	**267**	P		**Pn**	**22 49 21.1**	**+3.0**
comp=N,0.2nm,0.3s,baz=71,slow=14,SNR=5.4								
KSRS				LR		LR	22 53 26.8	
comp=N,122nm,18.5s,baz=60,slow=36								
comp=N,1.6nm,0.7s								
KLR	**Kul'dur**	**12.82**	**327**	P		**Pn**	**22 49 36.2**	**+0.2**
comp=N,0.1nm,0.3s,baz=135,slow=17,SNR=2.7								
comp=N,0.5nm,0.4s								
MA2	**Magadan**	**21.33**	**12**	LR		LR	23 00 28.3	
comp=N,62nm,20.7s,baz=176,slow=39								
NACB	**Ninganchiao**	**22.98**	**236**	P		**P**	**22 51 38.0**	**+0.2**
YULB	**Yu-li**	**23.73**	**235**	P		**P**	**22 51 45.4**	**+0.2**
YULB				IAmb		IAmb	22 52 00.5	
comp=Z,15nm,1.1s								
TPUB	**Ta-pu**	**24.22**	**236**	P		**P**	**22 51 48.6**	**-1.2**
GUMO	**Guam**	**25.34**	**174**	LR		LR	23 01 20.7	
comp=Z,20nm,21.4s,baz=94,slow=35								
SONM	**Songino Array**	**27.45**	**301**	P		**P**	**22 52 19.9**	**+0.9**
SONM	**Songino Array**	**27.45**	**301**	P		**P**	**22 52 18.8**	**-0.2**
comp=Z,0.4nm,0.6s,baz=108,slow=8.9,SNR=2.7								
comp=Z,0.4nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**28.51**	**125**	T		T	23 22 44.6	
baz=317,slow=75,SNR=267								
H11N1	**WAKE ISLAND Hy**	**28.52**	**125**	T		T	23 22 51.0	
baz=317,slow=75,SNR=177								
H11N3	**WAKE ISLAND Hy**	**28.53**	**125**	T		T	23 22 51.1	
baz=317,slow=75,SNR=202								
H11S1	**WAKE ISLAND Hy**	**29.29**	**127**	T		T	23 23 54.7	
baz=318,slow=76,SNR=78								
H11S3	**WAKE ISLAND Hy**	**29.29**	**127**	T		T	23 23 50.9	
baz=318,slow=76,SNR=115								
H11S2	**WAKE ISLAND Hy**	**29.31**	**127**	T		T	23 23 52.5	
baz=318,slow=76,SNR=75								
ZALV	**Zalesovo Beam**	**41.26**	**311**	P		**P**	**22 54 16.1**	**-1.6**
comp=Z,3.9nm,0.9s,baz=79,slow=7.5,SNR=5.6								
comp=Z,3.9nm,0.9s								
G18K	**Tagagawik**	**42.61**	**31**	P		**P**	**22 54 28.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**42.77**	**254**	P		**P**	**22 54 30.3**	**-0.2**
comp=Z,0.3nm,0.4s,baz=47,slow=7.9,SNR=1.2								
comp=Z,0.3nm,0.4s								
J19K	**Poorman**	**43.66**	**34**	P		**P**	**22 54 37.5**	**+0.3**
J19K				IAmb		IAmb	22 54 48.5	
comp=Z,4.7nm,1.1s								
MK31	**Makanchi Array**	**43.82**	**301**	P		**P**	**22 54 38.8**	**+0.1**
MK31				IAmb		IAmb	22 54 39.6	
comp=Z,3.8nm,0.9s								
MKAR	**Makanchi Array**	**43.82**	**301**	P		**P**	**22 54 38.8**	**0.0**
MKAR	**Makanchi Array**	**43.82**	**301**	P		**P**	**22 54 38.2**	**-0.5**
comp=Z,2.8nm,0.8s,baz=89,slow=9.4,SNR=8.7								
comp=Z,2.8nm,0.8s								
KURK	**Kurchatov**	**45.41**	**307**	P		**P**	**22 54 50.9**	**-0.4**
KURBB	**Kurchatov Arra**	**45.49**	**307**	P		**P**	**22 54 51.5**	**-0.4**
comp=Z,3.0nm,0.3s,baz=82,slow=8.1,SNR=47								
comp=Z,3.0nm,0.3s								
E22K	**Anaktuvuk Pass**	**45.55**	**29**	P		**P**	**22 54 52.5**	**+0.2**
E22K				IAmb		IAmb	22 54 54.7	
comp=Z,8.0nm,1.1s								
ILAR	**Eielson Array**	**47.47**	**33**	P		**P**	**22 55 07.6**	**+0.3**
comp=Z,1.6nm,0.8s,baz=266,slow=6.3,SNR=12								
comp=Z,1.6nm,0.8s								
BVAR	**Borovoye Array**	**49.91**	**311**	P		**P**	**22 55 25.2**	**-0.9**
comp=Z,1.2nm,0.3s,baz=78,slow=8.9,SNR=13								
comp=Z,1.2nm,0.3s								
BRVK	**Borovoye**	**49.96**	**311**	P		**P**	**22 55 26.7**	**+0.2**
BRVK				IAmb		IAmb	22 55 27.3	
comp=Z,2.9nm,0.8s								
INK	**Inuvik**	**52.33**	**28**	P		**P**	**22 55 43.8**	**-0.3**
F31M	**Tsiigehtchic**	**52.43**	**29**	P		**P**	**22 55 44.7**	**-0.1**
F31M				IAmb		IAmb	22 55 46.1	
comp=Z,2.9nm,1.1s								
H31M	**Peel River**	**52.55**	**31**	P		**P**	**22 55 46.6**	**+0.8**
H31M				IAmb		IAmb	22 55 48.0	
comp=Z,4.4nm,0.8s								
PSI	**Prapat**	**53.46**	**239**	LR		LR	23 20 39.9	
comp=Z,23nm,18.1s,baz=337,slow=38								
ARTI	**Arti**	**55.59**	**318**	P		**P**	**22 56 07.8**	**-0.3**
ARTI	**Arti**	**55.59**	**318**	P		**P**	**22 56 07.8**	**-0.3**
comp=Z,3.3nm,0.3s,baz=64,slow=4.0,SNR=14								
ARTI				LR		LR	23 21 53.7	
comp=Z,51nm,18.1s,baz=178,slow=38								
comp=Z,3.3nm,0.3s								
SIMJ	**Simiganj**	**55.69**	**295**	P		**P**	**22 56 08.6**	**-0.7**
SIMJ				IAmb		IAmb	22 56 10.4	
comp=Z,2.8nm,0.9s								
ABKAR	**Akbulak array**	**57.34**	**310**	P		**P**	**22 56 20.3**	**-0.3**
ABKAR				IAmb		IAmb	22 56 20.9	
comp=Z,2.0nm,0.8s								
ABKAR	**Akbulak array**	**57.34**	**310**	P		**P**	**22 56 20.2**	**-0.5**
AKTO	**Aktyubinsk**	**58.01**	**311**	P		**P**	**22 56 23.7**	**-1.6**
comp=Z,0.6nm,0.4s,baz=69,slow=14,SNR=2.3								
comp=Z,0.6nm,0.4s								
WB0	**Warramunga Arr**	**58.87**	**189**	P		**P**	**22 56 30.5**	**-1.1**
WR0	**Warramunga Arr**	**59.05**	**189**	P		**P**	**22 56 31.7**	**-1.1**
WR0				IAmb		IAmb	22 56 32.1	
comp=Z,3.5nm,0.8s								
WRA	**Warramunga Arr**	**59.05**	**189**	P		**P**	**22 56 31.3**	**-1.5**
WRA	**Warramunga Arr**	**59.05**	**189**	P		**P**	**22 56 31.6**	**-1.3**
comp=Z,4.0nm,0.7s,baz=6.5,slow=6.9,SNR=27								
comp=Z,4.0nm,0.7s								
YKA	**Yellowknife Ar**	**61.77**	**31**	P		**P**	**22 56 50.9**	**0.0**
comp=Z,0.7nm,0.9s,baz=296,slow=7.3,SNR=4.2								
comp=Z,0.7nm,0.9s								
ASAR	**Alice Springs**	**62.78**	**189**	P		**P**	**22 56 57.5**	**-0.6**
comp=Z,1.3nm,0.8s,baz=10,slow=5.6,SNR=16								
comp=Z,1.3nm,0.8s								
FINES	**FINESS Array B**	**67.51**	**332**	P		**P**	**22 57 27.8**	**-0.6**
comp=Z,1.9nm,0.8s,baz=63,slow=6.5,SNR=2.4								
comp=Z,1.9nm,0.8s								
HFS	**Hagfors**	**72.69**	**336**	P		**P**	**22 57 60.0**	**-0.2**
comp=Z,1.7nm,0.9s,baz=23,slow=7.8,SNR=4.4								
HFS				LR		LR	23 34 32.0	
comp=Z,27nm,18.4s,baz=64,slow=40								
comp=Z,1.7nm,0.9s								
NOA	**NORSAR Array B**	**72.74**	**337**	LR		LR	23 34 24.1	
comp=Z,19nm,18.8s,baz=280,slow=39								
NVAR	**Mina Array Bea**	**73.22**	**54**	P		**P**	**22 58 05.7**	**+1.8**
comp=Z,0.2nm,0.5s,baz=322,slow=5.7,SNR=2.2								
comp=Z,0.2nm,0.5s								
CLL	**Collm**	**79.84**	**330**	*i* P		**P**	**22 58 40.2**	**-0.7**
CLL				*es*P		**pP**	**22 58 53.0**	**+1.3**
TXAR	**Lajitas Array**	**88.33**	**53**	P		**P**	**22 59 25.0**	**+0.3**
comp=Z,0.6nm,1.0s,baz=222,slow=3.6,SNR=3.2								
comp=Z,0.6nm,1.0s								

NEIC 24 22:52:13.0±0.3, 36°.108N±0°.009×97°.85W±0°.01, h5km±1km, mb_Lg2.4/20, ML2.7/61, Error ellipse: s-maj=1.5km s-min=1.4km az=85.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.41**	**345**			Pg	22 52 21.6	+0.7
CROK					Sg	Sg	22 52 27.2	+0.9
CROK					IAML		22 52 31.4	
comp=N,1μm,0.2s								
OK029	**Liberty Lake**	**0.45**	**134**			Pg	22 52 22.0	+0.3
OK029					Sg	Sg	22 52 28.5	+1.0
OK029					IAML		22 52 28.7	
comp=N,539nm,0.5s								
OK029					IAML		22 52 28.7	
comp=N,626nm,0.4s								
ADOK	**Arcadia Dam**	**0.60**	**139**		Pg	Pg	22 52 24.9	+0.3
ADOK					Sg	Sg	22 52 33.2	+0.9
GC02	**Grant County #**	**0.74**	**360**		Pg	Pg	22 52 27.0	-0.3
OK048	**Pawnee Station**	**0.80**	**67**			Pg	22 52 28.3	0.0
OK038	**West end E0370**	**0.81**	**297**			Pg	22 52 28.6	+0.1
CSTR	**Hydro, Custer**	**0.82**	**236**			Pg	22 52 28.7	0.0
BLOK	**Blackwell**	**0.83**	**38**			Pg	22 52 29.1	+0.1
OK031	**S. Brethren Rd**	**0.84**	**100**			Pg	22 52 29.1	0.0
KAN14	**Manchester OK**	**0.85**	**354**			Pg	22 52 29.3	0.0
KAN14					IAML		22 52 47.0	
comp=N,210nm,0.1s								
KAN14					IAML		22 52 48.4	
comp=E,200nm,0.2s								
OK052	**Battle Ridge R**	**0.86**	**97**			Pg	22 52 29.5	0.0
OK051	**E0350 and S346**	**0.91**	**64**			Pg	22 52 30.4	-0.1
OK051					IAML		22 52 48.6	
comp=E,385nm,0.3s								
OK051					IAML		22 52 54.2	
comp=E,313nm,0.2s								
FNO	**Franklin**	**0.93**	**156**			Pg	22 52 30.6	-0.1
FNO					IAML		22 52 46.3	
comp=E,310nm,0.5s								
FNO					IAML		22 52 46.3	
comp=N,188nm,0.5s								
QUOK	**Quay**	**0.93**	**86**			Pg	22 52 30.8	0.0
QUOK					IAML		22 52 45.7	
comp=N,213nm,0.3s								
QUOK					IAML		22 52 50.7	
comp=E,187nm,0.2s								
KAN17	**Caldwell West**	**0.94**	**4**			Pg	22 52 31.0	0.0
KAN17					IAML		22 52 49.3	
comp=N,312nm,0.3s								
KAN17					IAML		22 52 58.7	
comp=E,296nm,0.2s								
KAN13	**South Haven SW**	**0.95**	**18**			Pg	22 52 31.2	-0.1
NOKA	**Waynoka**	**1.02**	**301**			Pg	22 52 32.3	-0.2
NOKA					IAML		22 52 53.4	
comp=E,280nm,0.3s								
KAN09	**Caldwell North**	**1.04**	**10**			Pg	22 52 32.8	-0.2
KAN01	**Argonia South**	**1.05**	**4**			Pg	22 52 32.9	-0.2
KAN01					IAML		22 52 51.2	
comp=E,138nm,0.2s								
KAN08	**Anthony NE Sta**	**1.12**	**355**			Pg	22 52 34.3	-0.3
DEOK	**Depew**	**1.13**	**103**			Pg	22 52 34.0	-0.7
DEOK					IAML		22 52 54.3	
comp=E,115nm,0.2s								
DEOK					IAML		22 52 54.5	
comp=N,120nm,0.3s								
KAN12	**Harper NE Stat**	**1.19**	**354**			Pg	22 52 35.4	-0.5
KAN12					IAML		22 53 00.9	
comp=E,255nm,0.4s								
W35A	**Tecumseh**	**1.24**	**140**			Pg	22 52 36.2	-0.6
W35A					IAML		22 52 57.4	
comp=N,186nm,0.3s								
ELIS	**Ellis County**	**1.27**	**269**			Pg	22 52 36.8	-0.6
ELIS					IAML		22 52 59.3	
comp=E,214nm,0.2s								
T35A	**Sooner Cattle**	**1.35**	**53**			Pn	22 52 38.1	-0.4
X34A	**Smith Ranch, M**	**1.50**	**179**			Pb	22 52 41.2	-0.3
WMOK	**Wichita Mounta**	**1.56**	**209**			Pn	22 52 41.5	0.0
TUL3	**Leonard**	**1.68**	**96**			Pn	22 52 43.3	+0.2
TUL3					IAmb_Lg		22 53 07.8	
comp=Z,31nm,0.8s								
LOOK	**Love County**	**2.18**	**165**		IAmb_Lg		22 53 27.8	
comp=Z,19nm,0.8s								
RLO	**Rose Lookout**	**2.29**	**88**			Pn	22 52 52.6	+1.1
WTFS	**Witchita Falls**	**2.39**	**192**			Pn	22 52 53.2	+0.3
U38A	**Gravette**	**2.82**	**82**			Pn	22 52 59.5	+0.7
CBKS	**Cedar Bluff**	**3.09**	**332**	Pn		Pn	22 53 03.2	+0.7
CBKS					IAmb_Lg		22 53 52.6	
comp=Z,9.4nm,0.7s								
HHAR	**Hobbs**	**3.17**	**86**		IAmb_Lg		22 54 00.4	
comp=Z,8.3nm,0.8s								
PLPT	**Palo Pinto**	**3.31**	**187**		IAmb_Lg		22 53 59.6	
comp=Z,8.5nm,1.1s								
MIAR	**Mount Ida**	**3.83**	**113**	Pn		Pn	22 53 13.7	+1.0
S39A	**Bolivar**	**3.96**	**65**			Pn	22 53 14.9	+0.4
SN05	**Snyder 5**	**4.08**	**219**		IAmb_Lg		22 54 26.7	
comp=Z,11nm,0.8s								
X40A	**Basin Creek Fa**	**4.41**	**110**			Pn	22 53 21.2	+0.5
X40A					IAmb_Lg		22 54 43.2	
comp=Z,8.8nm,0.7s								
MGMO	**Mountain Grove**	**4.61**	**75**		IAmb_Lg		22 54 45.2	
comp=Z,11nm,0.7s								
BRDY	**Brady**	**4.90**	**192**	Pn		Pn	22 53 26.5	-1.0

IDC ***24*** *22:54:00.5±1.1, 37°.25N×20°.95E, h0km, mb3.6/7, mbtmp3.5/16, ML3.3/6, MS3.0/1, Error ellipse: s-maj=20.0km s-min=15.7km az=12.0*
ATH ***24*** *22:54:01.6, 37°.17N×20°.59E, h14km±2km, ML3.6/12, Error ellipse: s-maj=2.1km s-min=1.1km az=326.0*
THE ***24*** *22:54:02.5, 37°.21N×20°.65E, h1km±1km, ML3.7/8, Error ellipse: s-maj=2.4km s-min=0.7km az=223.0*
BEO ***24*** *22:54:04.2±1.3, 37°.40N×20°.65E, h0km, ML3.6/13*
ISC 24 22:54:04.0±1.2, 37°.25N±0°.04×20°.72E±0°.03, h25km±10km, n85, σ1§44/105, mb3.7/8, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.42**	**11**		P	**Pb**	**22 54 11.9**	**-0.9**
KRI1					S	**Sb**	**22 54 18.6**	**-0.3**
19μm,0.7s								
RTZL	**Ratzakli, Kefa**	**0.82**	**3**		P	**Pb**	**22 54 18.7**	**-0.9**
RTZL					S	**Sn**	**22 54 31.8**	**+0.5**
5μm,0.8s								
AMT	**Artemida-Makis**	**0.84**	**70**		P	**Pb**	**22 54 19.7**	**-0.2**
AMT					S	**Sn**	**22 54 32.9**	**+1.1**
AMT					AML	AML	22 54 38.7	
comp=N,29982μm,0.5s								
AMT					AML	AML	22 54 45.0	
comp=E,33062μm,0.4s								
PSDA	**Pessada-Kefalo**	**0.87**	**353**		P	**Pb**	**22 54 19.7**	**-0.7**
PSDA					S	**Sn**	**22 54 33.1**	**+0.7**
comp=E,6μm,0.4s								
PSDA	**Pessada-Kefalo**	**0.87**	**353**		P	**Pb**	**22 54 19.4**	**-1.0**
PSDA					S	**Sn**	**22 54 31.8**	**-0.5**
VLS	**Valsamata**	**0.93**	**354**		P	**Pb**	**22 54 20.5**	**-0.9**
VLS					S	**Sn**	**22 54 35.0**	**+1.0**
comp=E,4μm,0.4s								
VLS	**Valsamata**	**0.93**	**354**		P	**Pb**	**22 54 20.1**	**-1.4**
VLS					S	**Sn**	**22 54 34.0**	**0.0**
VLS					AML	AML	22 54 38.2	
comp=N,7836μm,0.4s								
VLS					AML	AML	22 54 42.7	
comp=E,6838μm,0.5s								
ITM	**Ithomi**	**0.97**	**94**		P	**P

EVR				AML	AML	22 55 20.6
	comp=E,1578μm,0.6s					
IGT	**Igoumenitsa**	**2.30**	**353**	P	**Pb**	**22 54 43.0 -1.7**
IGT				AML	AML	22 55 27.5
	comp=E,1216μm,0.7s					
IGT				AML	AML	22 55 27.6
	comp=N,690μm,0.6s					
FNA	**Florina**	**3.56**	**8**	*e*Pn	**Pn**	**22 54 59.2 +1.5**
OHR	**Ohrid**	**3.85**	**1**	*e*Pn	**Pn**	**22 55 03.9 +2.2**
OHR	**Ohrid**	**3.85**	**1**	*i* Pn	**Pn**	**22 55 04.3 +2.6**
IDI	**Anoyia**	**3.90**	**119**	Pn	**Pn**	**22 55 00.7 -1.6**
	comp=N,4.7nm,0.8s,baz=301,slow=14,SNR=1.5					
IDI				Sn	**Sn**	**22 55 46.0 -1.4**
	comp=N,2.0nm,0.3s,baz=283,slow=19,SNR=3.6					
VAY	**Valandovo**	**4.31**	**19**	*e*Pn	**Pn**	**22 55 09.6 +1.7**
VAY	**Valandovo**	**4.31**	**19**	*i* Pn	**Pn**	**22 55 09.8 +1.9**
SRS	**Serrai**	**4.46**	**29**	*e*Pn	**Pn**	**22 55 11.3 +1.3**
PEHC	**Pehcevo**	**4.83**	**20**	*i* Pn	**Pn**	**22 55 16.5 +1.4**
VAE	**Valguarnera**	**5.03**	**274**	Pn	**Pn**	**22 55 20.3 +2.5**
	comp=N,11nm,0.6s,baz=148,slow=13,SNR=7.8					
VAE				Sn	**Sn**	**22 56 17.3 +2.1**
	comp=N,2.8nm,0.3s,baz=194,slow=20,SNR=3.8					
PDG	**Podgorica**	**5.29**	**348**	*e*Pn	**Pn**	**22 55 22.3 +0.9**
BOSS	**Bosilegrad**	**5.41**	**14**	*e*Pn	**Pn**	**22 55 23.8 +0.8**
BARS	**Barje**	**5.62**	**8**	*e*Pn	**Pn**	**22 55 26.0 +0.1**
VTS	**Vitosha**	**5.70**	**19**	*e*Pn	**Pn**	**22 55 27.9 +0.8**
TREB	**Trebinje**	**5.75**	**342**	*e*Pn	Pn	22 55 22.2 -5.5
SELS	**Selova**	**5.97**	**3**	*e*Pn	**Pn**	**22 55 29.8 -0.9**
SJES	**Sjenica**	**6.03**	**355**	*e*Pn	**Pn**	**22 55 32.3 +0.7**
SJES				*e*Sn	**Sn**	**22 56 39.1 -0.8**
SJES	**Sjenica**	**6.03**	**355**	*e*Pn	**Pn**	**22 55 30.9 +0.7**
STON	**Ston**	**6.07**	**339**	*e*Pn	**Pn**	**22 55 31.5 -0.6**
ZAPS	**Zavoj**	**6.19**	**13**	*e*Pn	**Pn**	**22 55 35.0 +1.2**
IVAS	**Ivanjica**	**6.33**	**356**	*e*Pn	**Pn**	**22 55 34.8 -0.9**
BOVS	**Bovan**	**6.42**	**6**	*e*Pn	**Pn**	**22 55 36.0 -0.9**
RUDO	**Rudo**	**6.44**	**351**	*e*Pn	**Pn**	**22 55 36.8 -0.4**
GRUS	**Gruza**	**6.63**	**360**	*e*Pn	**Pn**	**22 55 38.6 -1.1**
ZAGS	**Zajecar**	**6.65**	**10**	*e*Pn	**Pn**	**22 55 39.9 -0.2**
BBLS	**Lazi&#263i**	**6.68**	**352**	*e*Pn	**Pn**	**22 55 41.4 +0.9**
BBLS	**Lazi&#263i**	**6.68**	**352**	*e*Pn	**Pn**	**22 55 43.1 +2.6**
DIVS	**Divibare**	**6.86**	**356**	*e*Pn	**Pn**	**22 55 43.0 0.0**
DIVS				*e*Sn	**Sn**	**22 56 56.3 -4.0**
HAPS	**Han Pijesak,BI**	**6.96**	**349**	*e*Pn	**Pn**	**22 55 44.9 +0.5**
TEKS	**Tekeris**	**7.34**	**353**	*e*Pn	**Pn**	**22 55 51.0 +1.4**
TEKS	**Tekeris**	**7.34**	**353**	*e*Pn	**Pn**	**22 55 47.3 -2.3**
A050A	**Klekovaca**	**7.89**	**338**	*e*Pn	**Pn**	**22 55 56.1 -1.0**
FRGS	**Fruska Gora**	**7.93**	**355**	*e*Pn	**Pn**	**22 55 55.9 -1.7**
BLY	**Banja Luka**	**7.95**	**341**	*e*Pn	**Pn**	**22 55 57.3 -0.6**
A051A	**Mrakovica**	**8.27**	**341**	*e*Pn	**Pn**	**22 55 59.7 -2.6**
MLR	**Muntele Rosu**	**9.12**	**24**	Pn	**Pn**	**22 56 15.3 +1.3**
	baz=205,slow=19,SNR=2.1					
	comp=N,0.8nm,0.6s					
BOJS	**Bojanci**	**9.21**	**335**	*e*Pn	**Pn**	**22 56 12.4 -2.7**
KEST	**Kesra**	**9.28**	**264**	Pn	**Pn**	**22 56 17.3 +1.1**
	comp=N,0.1nm,0.3s,baz=63,slow=14,SNR=2.3					
KEST				Sn	**Sn**	**22 57 58.8 -1.1**
	comp=N,0.1nm,0.3s,baz=78,slow=20,SNR=1.5					
	comp=N,2.9nm,0.9s					
CRES	**Cresnjevec Ost**	**9.43**	**337**	*e*Pn	**Pn**	**22 56 18.2 +0.1**
CEY	**Cerknica**	**9.70**	**333**	*e*Pn	**Pn**	**22 56 22.0 +0.1**
SOKA	**Soboth**	**10.32**	**338**	*e*Pn	**Pn**	**22 56 30.0 -0.5**
	comp=N,2.2nm,0.5s					
OBKA	**Obir**	**10.32**	**336**	*e*Pn	**Pn**	**22 56 30.2 -0.3**
MOA	**Molln**	**11.60**	**338**	*e*Pn	**Pn**	**22 56 48.9 +1.0**
	comp=N,0.6nm,0.3s					
LESA	**Schwarzleotal**	**11.77**	**332**	*e*Pn	**Pn**	**22 56 51.8 +1.5**
	comp=N,0.8nm,0.4s					
DAVOX	**Davos/Dischmat**	**12.46**	**323**	Pn	**Pn**	**22 57 02.3 +2.5**
	comp=N,0.1nm,0.3s,baz=156,slow=17,SNR=2.1					
	comp=N,0.7nm,0.5s					
GERES	**GERESS Array B**	**12.66**	**338**	Pn	**Pn**	**22 57 04.8 +2.3**
	comp=N,0.1nm,0.3s,baz=140,slow=12,SNR=1.8					
	comp=N,0.2nm,0.5s					
MMAI	**Mount Meron Ar**	**12.74**	**105**	Pn	**Pn**	**22 57 02.6 -1.0**
	comp=N,0.6nm,0.3s,baz=293,slow=11,SNR=2.1					
	comp=N,0.3nm,0.3s					
EIL	**Elat**	**14.07**	**118**	Pn	**Pn**	**22 57 17.8 -3.9**
	comp=N,0.3nm,0.3s,baz=345,slow=20,SNR=1.9					
EIL				Sn	Sn	22 59 48.1 -9.0
	comp=N,0.2nm,0.3s,baz=8.3,slow=19,SNR=1.3					
	comp=N,1.0nm,0.4s					
AKASG	**Malin Array Be**	**14.76**	**22**	LR	LR	23 04 28.0
	comp=N,60nm,19.8s,baz=6.0,slow=43					
ESDC	**Sonseca Array**	**19.46**	**285**	P	**Pn**	**22 58 31.7 +1.6**
	comp=N,0.7nm,1.0s,baz=80,slow=11,SNR=1.7					
HFS	**Hagfors**	**23.34**	**351**	P	**P**	**22 59 09.3 -0.7**
	comp=N,1.9nm,0.6s,baz=165,slow=12,SNR=1.7					
	comp=N,1.9nm,0.6s					
BELG	**Belogornoye**	**24.17**	**43**	P	**P**	**22 59 17.0 -1.0**
	comp=N,40nm,0.7s,baz=266,slow=19,SNR=4.9					
EKA	**Eskdalemuir Ar**	**24.28**	**326**	P	**P**	**22 59 21.3 +2.3**
	comp=N,1.0nm,0.6s,baz=121,slow=9.8,SNR=4.4					
	comp=N,1.0nm,0.6s					
NOA	**NORSAR Array B**	**24.55**	**349**	P	**P**	**22 59 20.9 -0.6**
	comp=N,0.6nm,0.7s,baz=159,slow=9.2,SNR=2.1					
	comp=N,0.6nm,0.7s					
TORD	**Torodi Ar. Bea**	**29.42**	**220**	P	**P**	**23 00 06.8 +1.3**
	comp=N,0.2nm,0.6s,baz=28,slow=9.8,SNR=1.8					
	comp=N,0.2nm,0.6s					
KURBB	**Kurchatov Arra**	**42.66**	**53**	P	**P**	**23 01 57.2 -1.1**
	comp=N,0.6nm,0.6s,baz=279,slow=8.6,SNR=1.9					
	comp=N,0.6nm,0.6s					
MKAR	**Makanchi Array**	**45.66**	**58**	P	**P**	**23 02 20.6 -1.8**
	comp=N,1.2nm,0.9s,baz=289,slow=7.2,SNR=2.1					
	comp=N,1.2nm,0.9s					
ZALV	**Zalesovo Beam**	**46.20**	**47**	P	**P**	**23 02 25.3 -1.2**
	comp=N,0.9nm,0.4s,baz=268,slow=9.4,SNR=1.9					
	comp=N,0.9nm,0.4s					

NAO ***24*** *22:55:00.8, 44°.87N×38°.53E, h0km, mb3.5*
CFUSG ***24*** *22:55:02.0, 44°.88N×38°.72E, h10km, mb3.7/8, Krasnodar region Magtype MSH 3.9 from 8 stations*
IDC ***24*** *22:55:02.3±0.4, 44°.88N×38°.53E, h0km, mb4.0/15, mbtmp4.1/25, ML4.0/9, MS3.3/10, Error ellipse: s-maj=8.3km s-min=5.3km az=19.0*
NEIC ***24*** *22:55:03.8±1.5, 45°.01N±0°.06×38°.61E±0°.08, h10km±1km, mb4.4/36, Error ellipse: s-maj=9.9km s-min=9.0km az=179.0*
MOS ***24*** *22:55:04.4, 44°.87N×38°.69E, h15km, MPVA4.6, FELT I=III-IV MSK at Severskaya; I=III MSK at Krasnodar*
MCSM ***24*** *22:55:04.3±0.4, 45°.N±4°×3°.9E±°, h10km, mB4.6, mb4.7, MLv4.4, Mw(mB)3.8*

ISC 24 22:55:04.5±0.4, 44°.93N±0°.03×38°.65E±0°.02, h20km±4km, n346, σ1°99/416, mb4.3/37, MS3.5/4, 39C-32D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPGR	**Shapsug**	**0.45**	**245**	*e*Pg	**Pb**	**22 55 13.6**	**-0.1**
SPGR				*e*Sg	**Sn**	**22 55 22.1**	**-1.2**
GELR	**Gelenjik**	**0.59**	**234**	*i* Pg	**Pb**	**22 55 15.8**	**-0.4**
GELR				*e*Sg	**Sn**	**22 55 26.2**	**-0.4**
GELR	**Gelenjik**	**0.59**	**234**	⇓*i*PG	**Pb**	**22 55 16.0**	**-0.2**
GELR				*e*S	**Sb**	**22 55 25.5**	**+1.4**
SRGR	**Sergiyevskiy**	**0.61**	**37**	*i* Pg	**Pn**	**22 55 17.6**	**-0.4**
SRGR				*e*Sg	**Sn**	**22 55 27.2**	**-0.1**
SRGR	**Sergiyevskiy**	**0.61**	**37**	⇓*i*PG	**Pn**	**22 55 17.7**	**-0.3**
SRGR				*e*S	**Sb**	**22 55 25.9**	**+1.2**
GLDR	**Gladkovskiy**	**0.66**	**275**	*i* Pg	**Pb**	**22 55 18.1**	**+0.7**
GLDR				*e*Sg	**Sn**	**22 55 28.5**	**0.0**
GLDR	**Gladkovskiy**	**0.66**	**275**	⇓*e*PG	**Pb**	**22 55 18.1**	**+0.7**
GLDR				*e*		22 55 29.5	
GOYR	**Goytkh**	**0.86**	**143**	*e*Pg	**Pb**	**22 55 19.3**	**-1.4**
GOYR				*e*Sg	**Sb**	**22 55 32.3**	**+0.5**
GOYR	**Goytkh**	**0.86**	**143**	⇓*i*PG	**Pb**	**22 55 20.0**	**-0.7**
GOYR				*e*S	**Sn**	**22 55 32.8**	**-0.6**
ANN	**Anapa**	**0.88**	**262**	*i* Pg	**Pn**	**22 55 22.6**	**+1.0**
ANN				*e*Sg	**Sn**	**22 55 37.9**	**+4.1**
ANN	**Anapa**	**0.88**	**262**	*i* PG	**Pn**	**22 55 22.7**	**+1.0**
ANN				*i*		22 55 38.1	
ANN				pmax	pmax		
	comp=Z,340nm,0.3s						
ANN				smax	smax		
	comp=N,1μm,0.5s						
ANN				smax	smax		
	comp=N,859nm,0.4s						
SUKR	**Sukko**	**0.88**	**262**	*i* Pg	**Pb**	**22 55 20.8**	**-0.2**
SUKR				*e*Sg	**Sn**	**22 55 35.6**	**+1.7**
SUKR	**Sukko**	**0.88**	**262**	⇑*e*PG	**Pb**	**22 55 20.9**	**-0.2**
SUKR				*i*		22 55 35.8	
MRNR	**Maryino**	**1.16**	**149**	*i* Pg	**Pn**	**22 55 25.4**	**-0.2**
MRNR				*e*Sg	**Sn**	**22 55 41.2**	**+0.4**
MRNR	**Maryino**	**1.16**	**149**	⇑*i*PG	**Pn**	**22 55 25.8**	**+0.2**
MRNR				*e*S	**Sn**	**22 55 41.2**	**+0.4**
TMNR	**Tamanskiy**	**1.34**	**280**	*e*Pg	**Pb**	**22 55 31.2**	**+2.3**
TMNR				*e*Sg	**Sb**	**22 55 50.3**	**+4.7**
GUZR	**Guzeripl'**	**1.41**	**131**	*e*Pg	**Pn**	**22 55 28.6**	**-0.4**
GUZR				*e*Sg	**Sb**	**22 55 48.7**	**+1.1**
GUZR	**Guzeripl'**	**1.41**	**131**	*e*PG	**Pn**	**22 55 28.0**	**-1.0**
GUZR				*i*		22 55 50.9	
LABN	**Labinsk**	**1.50**	**100**	*e*Pg	**Pb**	**22 55 31.9**	**+0.2**
LABN				*e*Sg	**Sb**	**22 55 53.3**	**+2.9**
LABN	**Labinsk**	**1.50**	**100**	*i* PG	**Pb**	**22 55 32.1**	**+0.4**
LABN				*i*		22 55 54.6	
LABN				pmax	pmax		
	comp=Z,671nm,0.6s						
LABN				smax	smax		
	comp=N,2μm,0.8s						
ERBR	**Yeremizino-Bor**	**1.51**	**58**	*i* Pg	**Pb**	**22 55 31.8**	**0.0**
ERBR				*e*Sg	**Sb**	**22 55 52.9**	**+2.3**
ERBR	**Yeremizino-Bor**	**1.51**	**58**	*i* PG	**Pb**	**22 55 31.8**	**0.0**
ERBR				*i*		22 55 52.0	
ERBR				pmax	pmax		
	comp=Z,597nm,0.3s						
ERBR				smax	smax		
	comp=E,2μm,0.5s						
ERBR				smax	smax		
	comp=E,1μm,0.6s						
SOC	**Sochi**	**1.55**	**150**	*e*Pg	**Pn**	**22 55 31.2**	**+0.2**
SOC				*e*Sg	**Sb**	**22 55 51.8**	**+0.1**
SOC	**Sochi**	**1.55**	**150**	*e*PN	**Pn**	**22 55 30.6**	**-0.3**
SOC						22 55 56.1	
SOC				*e*		22 56 01.6	
SOC				pmax	pmax		
	comp=Z,173nm,0.5s						
SOC				smax	smax		
	comp=E,341nm,0.6s						
RPOR	**Krasnaya Polya**	**1.69**	**136**	*e*Pg	**Pn**	**22 55 33.0**	**+0.1**
RPOR				*e*Sg	**Sb**	**22 55 55.0**	**-0.8**
RPOR	**Krasnaya Polya**	**1.69**	**136**	⇓*e*PN	**Pn**	**22 55 33.7**	**+0.8**
RPOR				*i* S	**Sb**	**22 55 57.9**	**+2.1**
VSLR	**Vesyoloye**	**1.78**	**145**	*e*Pg	**Pn**	**22 55 34.1**	**0.0**
VSLR				*e*Sg	**Sb**	**22 55 59.1**	**+0.9**
VSLR	**Vesyoloye**	**1.78**	**145**	*i* PN	**Pn**	**22 55 34.4**	**+0.4**
GRYR	**Gornoye**	**1.93**	**114**	*e*Pg	**Pn**	**22 55 36.6**	**+0.4**
GRYR				*e*Sg	**Sb**	**22 56 01.7**	**-1.0**
FEO	**Feodosiya**	**2.31**	**273**	*ex*	x	22 55 41.7	
FEO				*e*Sn	**Sb**	**22 56 14.7**	**+1.0**
FEO				Snm		22 56 15.8	
	comp=N,129nm,0.4s						
FEO				Snm		22 56 15.8	
	comp=E,172nm,0.4s						
FEO	**Feodosiya**	**2.31**	**273**	*e*Pn	**Pn**	**22 55 41.4**	**0.0**
FEO				*e*Sn	**Sb**	**22 56 13.8**	**+0.1**
FEO	**Feodosiya**	**2.31**	**273**	*e*PN	**Pn**	**22 55 41.7**	**+0.3**
FEO				*e*		22 56 14.7	
FEO				smax	smax		
	comp=N,129nm,0.4s						
FEO				smax	smax		
	comp=E,172nm,0.4s						
SUDU	**Sudak**	**2.59**	**270**	⇑*e*Pn	**Pn**	**22 55 46.1**	**+0.8**
SUDU				Pnm		22 55 47.3	
	comp=Z,79nm,0.3s						
SUDU				*e*Sn	**Sb**	**22 56 19.8**	**-1.9**
SUDU				*i* Sn	**Sn**	**22 56 21.0**	**+4.8**
SUDU				Snm		22 56 22.5	
	comp=N,467nm,0.4s						
SUDU				Snm		22 56 22.5	
	comp=E,139nm,0.5s						
SUDU	**Sudak**	**2.59**	**270**	*e*Pn	**Pn**	**22 55 46.5**	**+1.2**
SUDU				*e*Sn	**Sb**	**22 56 20.2**	**-1.5**
SUDU	**Sudak**	**2.59**	**270**	⇑*e*PN	**Pn**	**22 55 46.1**	**+0.8**
SUDU				*e*		22 56 19.8	
SUDU				*i*		22 56 21.0	
SUDU				pmax	pmax		
	comp=Z,79nm,0.3s						
SUDU				smax	smax		
	comp=N,467nm,0.4s						
SUDU				smax	smax		
	comp=E,139nm,0.5s						
DOMR	**Dombai**	**2.70**	**126**	*e*Pn	**Pn**	**22 55 48.5**	**+1.7**
DOMR				*i* Sn	**Sn**	**22 56 20.3**	**+1.3**
DOMR	**Dombai**	**2.70**	**126**	*i* PN	**Pn**	**22 55 48.1**	**+1.2**
DOMR				*i* S	**Sb**	**22 56 22.0**	**-2.9**
DOMR				pmax	pmax		
	comp=Z,120nm,0.8s						
DOMR				smax	smax		
	comp=Z,80nm,0.9s						
DOMR				MLR	MLR		
	comp=Z,106nm,2.0s						
ALU	**Alushta**	**3.03**	**267**	*e*Pn	**Pn**	**22 55 52.0**	**+0.7**
ALU				Pnm		22 55 55.2	
	comp=Z,11nm,0.2s						
ALU				*i* Sn	**Sn**	**22 56 30.9**	**+3.9**
ALU				Snm		22 56 34.5	
	comp=N,319nm,0.5s						
ALU				Snm		22 56 34.5	
	comp=E,139nm,0.5s						
ALU	**Alushta**	**3.03**	**267**	*e*Pn	**Pn**	**22 55 51.8**	**+0.5**
ALU				*e*Sn	**Sn**	**22 56 30.5**	**+3.5**
ALU	**Alushta**	**3.03**	**267**	*e*PN	**Pn**	**22 55 52.0**	**+0.7**
ALU				*i*		22 56 30.9	
ALU				pmax	pmax		
	comp=Z,11nm,0.2s						
ALU				smax	smax		
	comp=N,319nm,0.5s						
ALU				smax	smax		
	comp=E,139nm,0.5s						
KIV	**Kislovodsk**	**3.05**	**107**	Pn	**Pn**	**22 55 53.2**	**+1.6**
KIV	**Kislovodsk**	**3.05**	**107**	⇑P	**Pn**	**22 55 53.7**	**+2.0**
KIV	**Kislovodsk**	**3.05**	**107**	*e*Pn	**Pn**	**22 55 53.3**	**+1.6**
KIV				*e*Sn	**Sn**	**22 56 29.6**	**+2.0**
KIV	**Kislovodsk**	**3.05**	**107**	*e*PN	**Pn**	**22 55 53.3**	**+1.6**
KIV				*e*S	**Sn**	**22 56 31.1**	**+3.5**
KIV				pmax	pmax		
	comp=Z,177nm,1.0s						
KIV				MLR	MLR		
	comp=Z,38nm,7.0s						
KIV	**Kislovodsk**	**3.05**	**107**	Pn	**Pn**	**22 55 53.4**	**+1.7**
KIV0	**Kislovodsk Arr**	**3.06**	**107**	*e*Pn	**Pn**	**22 55 53.5**	**+1.7**
KIV0				*e*Sn	**Sn**	**22 56 29.0**	**+1.2**
KVAR	**Kislovodsk Arr**	**3.06**	**107**	Pn	**Pn**	**22 55 54.5**	**+2.7**
	baz=255,slow=20						
KVAR				Pg	**Pb**	**22 56 00.9**	**+2.7**
	baz=270,slow=20						
KVAR				Sn	**Sn**	**22 56 29.9**	**+2.1**
	baz=14,slow=8.3						
	comp=Z,18nm,0.4s						
SHA1	**Shidzhatmaz**	**3.11**	**111**	*e*Pn	**Pn**	**22 55 54.2**	**+1.6**
SHA1				*e*Sn	**Sn**	**22 56 31.1**	**+1.8**
SHA1	**Shidzhatmaz**	**3.11**	**111**	*d i*PN	**Pn**	**22 55 54.3**	**+1.6**
GOF	**Gofitskoye**	**3.12**	**86**	*e*Pn	**Pn**	**22 55 54.5**	**+2.0**
GOF				*e*Sn	**Sn**	**22 56 30.7**	**+1.6**
GOF	**Gofitskoye**	**3.12**	**86**	*ce*PN	**Pb**	**22 56 00.8**	**+1.6**
GOF				*e*S	**Sb**	**22 56 43.5**	**+6.7**
BEYR	**Belyy Ugol+**	**3.12**	**106**	*e*Pn	**Pn**	**22 55 54.0**	**+1.5**
BEYR				*e*Sn	**Sn**	**22 56 31.9**	**+2.6**
SIM	**Simferopol'**	**3.22**	**272**	*e*Pn	**Pn**	**22 55 55.6**	**+1.7**
SIM				Pnm		22 55 57.7	
	comp=Z,104nm,0.3s						
SIM				*i* Sn	**Sn**	**22 56 36.1**	**+4.4**
SIM				Snm		22 56 37.5	
	comp=N,103nm,0.5s						
SIM				Snm		22 56 37.5	
	comp=E,162nm,0.4s						
SIM	**Simferopol'**	**3.22**	**272**	*e*Pn	**Pn**	**22 55 55.7**	**+1.9**
SIM				*e*Sn	**Sn**	**22 56 36.0**	**+4.4**
SIM	**Simferopol'**	**3.22**	**272**	*e*PN	**Pn**	**22 55 55.8**	**+1.9**
SIM				*e*S	**Sn**	**22 56 36.0**	**+4.4**
SIM				pmax	pmax		
	comp=Z,105nm,0.3s						
SIM				smax	smax		
	comp=E,136μm,0.3s						
SIM				smax	smax		
	comp=N,127μm,0.4s						
YAL	**Yalta**	**3.24**	**264**	*e*Pn	**Pn**	**22 55 55.3**	**+1.2**
YAL				Pnm		22 55 56.6	
	comp=Z,21nm,0.3s						
YAL				*i* Sn	**Sn**	**22 56 36.2**	**+4.2**
YAL				Snm		22 56 38.7	
	comp=N,88nm,0.5s						
YAL				Snm		22 56 38.7	
	comp=E,74nm,0.4s						
YAL	**Yalta**	**3.24**	**264**	*e*Pn	**Pn**	**22 55 55.4**	**+1.4**
YAL				*e*Sn	**Sn**	**22 56 35.5**	**+3.6**
YAL	**Yalta**	**3.24**	**264**	*e*PN	**Pn**	**22 55 55.3**	**+1.2**
YAL				*i*		22 56 36.2	
YAL				pmax	pmax		
	comp=Z,21nm,0.3s						
YAL				smax	smax		
	comp=N,88nm,0.5s						
YAL				smax	smax		
	comp=E,74nm,0.4s						
KBZ	**Khabaz**	**3.28**	**110**	Pn	**Pn**	**22 55 56.3**	**+1.6**
	comp=E,6.6nm,0.3s,baz=301,slow=11,SNR=139						
KBZ				Sn	**Sb**	**22 56 38.2**	**-3.1**
	comp=E,5.6nm,0.3s,baz=108,slow=19,SNR=4.8						
	comp=E,22nm,0.4s						
KBZ	**Khabaz**	**3.28**	**110**	*i* Pn	**Pn**	**22 55 56.2**	**+1.6**
KBZ				*e*Sn	**Sn**	**22 56 35.6**	**+2.6**
PYA1	**Pyatigorsk**	**3.30**	**104**	*e*Pn	**Pn**	**22 55 56.1**	**+1.1**
PYA1				*e*Sn	**Sn**	**22 56 33.4**	**-0.2**
PYA1	**Pyatigorsk**	**3.30**	**104**	*i* PN	**Pn**	**22 55 56.0**	**+1.0**
PYA1				*i* S	**Sn**	**22 56 35.0**	**+1.4**
PYA1				pmax	pmax		
	comp=Z,1.0nm,1.3s						
PYA1				smax	smax		
	comp=Z,1.0nm,1.4s						
PYA1				MLR	MLR		
	comp=Z,1.0nm,2.0s						
SEV	**Sevastopol'**	**3.57**	**266**	*e*Pn	**Pn**	**22 55 58.6**	**-0.1**
SEV				*i* Pn	Pb	22 55 58.9	-8.0
SEV				Pnm		22 55 59.9	
	comp=Z,17nm,0.2s						
SEV				*e*Sn	**Sn**	**22 56 42.5**	**+2.3**
SEV				*i* Sn	**Sb**	**22 56 43.4**	**-6.4**
SEV				Snm		22 56 45.2	
	comp=N,54nm,0.5s						
SEV				Snm		22 56 45.2	
	comp=E,85nm,0.4s						
SEV	**Sevastopol'**	**3.57**	**266**	*e*Pn	**Pn**	**22 55 58.6**	**-0.1**
SEV				*e*Sn	**Sn**	**22 56 42.6**	**+2.3**
SEV	**Sevastopol'**	**3.57**	**266**	*e*PN	**Pn**	**22 55 58.6**	**-0.1**
SEV				*i*		22 56 43.4	
SEV				pmax	pmax		
	comp=Z,17nm,0.2s						
SEV				smax	smax		
	comp=N,54nm,0.5s						
SEV				smax	smax		
	comp=E,85nm,0.4s						
KBTC	**Kuba-Taba**	**3.59**	**106**	*e*Pn	**Pn**	**22 56 01.6**	**+2.6**
KBTC				*e*Sn	**Sn**	**22 56 42.1**	**+1.3**
NCK	**Nalchik**	**3.83**	**110**	*e*Pn	**Pn**	**22 56 06.0**	**+3.6**
NCK				*e*Sn	**Sn**	**22 56 48.5**	**+1.6**
DNZ2	**Donuzlav2**	**3.87**	**278**	*e*Pn	**Pn**	**22 56 05.7**	**+2.9**
DNZ2				⇓*i*Pn	Pb	22 56 06.2	-5.8
DNZ2				Pnm		22 56 06.9	
	comp=Z,32nm,0.3s						
DNZ2				*i* Sn	**Sn**	**22 56 53.4**	**+5.8**
DNZ2				Snm		22 56 55.1	
	comp=N,164nm,0.6s						
DNZ2				Snm		22 56 55.1	
	comp=E,204nm,0.5s						
BATM	**Batumi**	**4.00**	**145**	⇑P	**Pn**	**22 56 05.8**	**+1.2**
BATM	**Batumi**	**4.00**	**145**	⇑PN	**Pn**	**22 56 05.8**	**+1.2**
KTUT	**Trabzon**	**4.03**	**168**	⇓P	**Pn**	**22 56 04.6**	**-0.4**
LSNR	**Lesken**	**4.08**	**112**	*e*Pn	**Pn**	**22 56 08.1**	**+2.3**
LSNR				*e*Sn	**Sn**	**22 56 54.5**	**+1.6**
DIGR	**Digorskoe uzhe**	**4.10**	**118**	*e*Pn	**Pn**	**22 56 08.4**	**+2.2**
DIGR				*e*Pn	**Sn**	**22 56 54.4**	**+0.7**
BCA	**Borcka**	**4.11**	**147**	⇓P	**Pn**	**22 56 06.3**	**+0.2**
DIKM	**Dikmen**	**4.11**	**218**	⇓P	**Pn**	**22 56 06.4**	**+0.3**
STDR	**Stavd-Durt**	**4.20**	**110**	*e*Pn	**Pn**	**22 56 09.8**	**+2.4**
STDR				*e*Sn	**Sn**	**22 56 57.0**	**+1.2**
PRTR	**Priterechnaya**	**4.21**	**104**	*e*Pn	**Pn**	**22 56 10.1**	**+2.6**
PRTR				*e*Sn	**Sn**	**22 56 57.3**	**+1.4**
KORR	**Kora**	**4.32**	**113**	*e*Pn	**Pn**	**22 56 11.5**	**+2.4**
KORR				*e*Sn	**Sn**	**22 56 57.8**	**-1.1**
TARU	**Tarkhankut**	**4.35**	**278**	*e*Pn	**Pn**	**22 56 12.1**	**+2.7**
TARU				*i* Sn	**Sn**	**22 57 04.6**	**+5.2**
TARU				Sm		22 57 09.6	
	comp=E,58nm,0.3s						
TARU	**Tarkhankut**	**4.35**	**278**	*e*Pn	**Pn**	**22 56 12.2**	**+2.7**
TARU				*e*Sn	**Sn**	**22 57 04.4**	**+5.0**
ARNR	**Ardon**	**4.42**	**111**	*e*Pn	**Pn**	**22 56 13.0**	**+2.5**
ARNR				*e*Sn	**Sn**	**22 57 00.7**	**-0.6**
BZK	**Bozkurt**	**4.50**	**230**	Pn	**Pn**	**22 56 12.2**	**+0.7**
BZK	**Bozkurt**	**4.50**	**230**	⇑P	**Pn**	**22 56 12.7**	**+1.2**
BZK	**Bozkurt**	**4.50**	**230**	Pn	**Pn**	**22 56 14.3**	**+2.8**
BTKR	**Batakoyurt**	**4.52**	**108**	*e*Pn	**Pn**	**22 56 12.7**	**+0.9**
BTKR				*e*Sn	**Sn**	**22 57 05.0**	**+1.3**
TRKR	**Terskaya**	**4.53**	**103**	*e*Pn	**Pn**	**22 56 14.1**	**+2.

SORM Soroca 7.79 298 ⇓P **Pn 22 56 58.2 +1.6**
SORM Soroca 7.79 298 ⇓P **Pn 22 56 58.2 +1.6**
SORM Soroca 7.79 298 Pn **Pn 22 56 57.3 +0.7**
ICOR Ion Corvin 7.80 268 ⇓P **Pn 22 56 57.1 +0.4**
BIR Birlad 7.85 284 ⇑P **Pn 22 56 58.9 +1.5**
BIR Birlad 7.85 284 ⇑P **Pn 22 56 58.9 +1.5**
GHRR 7.98 282 ⇓P **Pn 22 57 00.7 +1.5**
PANC Panciu 8.15 281 ⇓P **Pn 22 57 02.7 +1.1**
ODBI Odobesti 8.21 280 ⇓P **Pn 22 57 04.3 +1.9**
ODBI Odobesti 8.21 280 Pn **Pn 22 57 06.1 +3.7**
comp=Z,19nm,0.5s,comp=Z,268nm
SPBR Spulber 8.42 280 ⇑P **Pn 22 57 07.4 +2.0**
VRI Vrincioaia 8.44 281 ⇑P **Pn 22 57 07.8 +2.2**
VRI Vrincioaia 8.44 281 ⇑P **Pn 22 57 07.8 +2.2**
PLOR Plostina 8.50 280 ⇑P **Pn 22 57 08.3 +1.9**
PLOR Plostina 8.50 280 ⇑P **Pn 22 57 08.3 +1.9**
TESR Tescani 8.55 285 ⇑P **Pn 22 57 08.2 +1.2**
TESR Tescani 8.55 285 Pn **Pn 22 57 07.4 +0.4**
comp=Z,35nm,0.7s
AKASG Malin Array Be 8.57 316 **Pn 22 57 06.0 -1.3**
AKASG Malin Array Be 8.57 316 Pn **Pn 22 57 06.3 -1.0**
comp=Z,7.2nm,0.3s,baz=130,slow=13,SNR=18
AKASG Sn **Sn 22 58 38.8 -4.5**
comp=Z,6.8nm,0.3s,baz=129,slow=24,SNR=9.0
AKASG Lg Lg 22 59 31.1
comp=Z,3.6nm,0.3s,baz=127,slow=30,SNR=6.0
comp=Z,5.9nm,0.4s
AKBB Malin Array Si 8.57 316 Pn **Pn 22 57 06.2 -1.1**
AKBB Malin Array Si 8.57 316 P **Pn 22 57 06.2 -1.1**
KIEV Kiev 8.57 316 Pn **Pn 22 57 06.3 -1.0**
KIEV Kiev 8.57 316 P **Pn 22 57 06.3 -1.0**
KIEV Kiev 8.57 316 Pn **Pn 22 57 06.9 -0.5**
comp=Z,43nm,0.6s
ONER Baraj Valea Uz 8.70 284 ⇑P **Pn 22 57 10.7 +1.5**
NEHR Nehoiu 8.74 278 ⇑P **Pn 22 57 11.6 +1.9**
COVR Voineasa-Covas 8.81 280 ⇑P **Pn 22 57 12.3 +1.7**
SULR 8.82 273 ⇓P **Pn 22 57 12.0 +1.3**
TURR Turia 8.95 282 ⇓P **Pn 22 57 13.9 +1.4**
PRAR RASCA 8.96 290 ⇓P **Pn 22 57 15.1 +2.4**
MLR Muntele Rosu 8.99 278 Pn **Pn 22 57 14.0 +0.8**
MLR Muntele Rosu 8.99 278 Pn **Pn 22 57 14.5 +1.3**
comp=Z,0.9nm,0.3s,baz=145,slow=12,SNR=27
MLR Sn **Sn 22 58 51.7 -2.2**
comp=Z,0.1nm,0.3s,baz=311,slow=20,SNR=1.3
comp=Z,3.1nm,0.4s
MLR Muntele Rosu 8.99 278 ⇑P **Pn 22 57 15.0 +1.8**
KMPD K-Podol'skiy 9.12 298 Pn **Pn 22 57 14.1 -0.8**
comp=Z,10μm,0.9s
MI30 MI30,Zelenitsa 9.12 313 Pn **Pn 22 57 13.9 -1.0**
comp=Z,20nm,1.3s,comp=Z,3μm
JOSR Joseni 9.34 286 ⇑P **Pn 22 57 20.4 +2.4**
DOPR Dopca 9.38 281 ⇑P **Pn 22 57 20.5 +2.1**
MI28 Mi28,Pidlybu 9.50 313 Pn **Pn 22 57 19.2 -0.8**
comp=Z,371nm,0.6s
BELG Belogornoye 9.53 35 Pn **Pn 22 57 19.1 -1.3**
comp=Z,2.0nm,0.3s,baz=306,slow=1.0,SNR=14
BELG Sn **Sn 22 59 03.5 -3.3**
comp=Z,1.9nm,0.3s,baz=261,slow=21,SNR=5.6
BELG LR LR 23 01 23.8
comp=Z,82nm,19.0s,baz=222,slow=40
BELG Belogornoye 9.53 35 *i* P **Pn 22 57 19.4 -1.0**
BELG pmax pmax
comp=Z,6.0nm,0.7s
BURAR Bucovina Array 9.68 291 **Pn 22 57 22.4 -0.3**
BURAR Bucovina Array 9.68 291 ⇓P **Pn 22 57 23.9 +1.3**
BURAR Bucovina Array 9.68 291 ⇓P **Pn 22 57 23.9 +1.3**
BUR08 Bucovina Ar. S 9.70 291 Pn **Pn 22 57 22.5 -0.4**
ARR Arges 9.92 277 ⇑P **Pn 22 57 27.3 +1.4**
ARCR ARCALIA 10.18 287 ⇓P **Pn 22 57 30.4 +1.1**
OBN Obninsk 10.28 353 **Pn 22 57 30.1 -0.6**
OBN Obninsk 10.28 353 Pn **Pn 22 57 30.4 -0.3**
comp=Z,14nm,0.3s,baz=128,slow=19,SNR=14
OBN Sn **Sn 22 59 20.7 -4.5**
comp=Z,2.9nm,0.3s,baz=17,slow=19,SNR=1.6
comp=Z,36nm,0.3s
OBN Obninsk 10.28 353 *e*P **Pn 22 57 30.8 +0.1**
OBN pmax pmax
comp=Z,27nm,0.6s
OBN Obninsk 10.28 353 Pn **Pn 22 57 30.4 -0.3**
comp=Z,47nm,0.6s
RDO Rodhopi 10.32 253 Pn **Pn 22 57 32.5 +1.3**
CJR Cluj-Napoca 10.66 285 ⇑P **Pn 22 57 38.1 +2.1**
CJR Cluj-Napoca 10.66 285 ⇑P **Pn 22 57 38.1 +2.1**
BMR Baia Mare 10.84 290 ⇑P **Pn 22 57 40.6 +2.2**
BMR Baia Mare 10.84 290 ⇑P **Pn 22 57 40.6 +2.2**
MOS Moscow 10.84 357 *e*P Pn 22 57 32.0 -6.3
MOS *e*S **Sn 22 59 32.1 -6.8**
MARR Marisel-Cluj 10.98 285 ⇓P **Pn 22 57 41.5 +1.0**
DRGR 11.27 285 ⇑P **Pn 22 57 46.0 +1.6**
DRGR 11.27 285 ⇑P **Pn 22 57 46.0 +1.6**
KWP Kalwaria Pacla 11.80 299 **Pn 22 57 51.4 -0.1**
KWP Kalwaria Pacla 11.80 299 P **Pn 22 57 51.4 -0.1**
KWP Kalwaria Pacla 11.80 299 Pn **Pn 22 57 52.3 +0.8**
comp=Z,23nm,1.1s
KOLS Kolonicke sedl 11.89 295 *e*P **Pn 22 57 54.2 +1.5**
KOLS *e* 23 00 04.2
KOLS Kolonicke sedl 11.89 295 *e*PN **Pn 22 57 54.2 +1.5**
KOLS Kolonicke sedl 11.89 295 *e*SN **Sn 23 00 04.2 -0.5**
NACGM Naroch 12.55 327 *e*P Pn 22 57 54.6 -7.1
comp=E,682nm,0.8s
STHS Stebnicka Huta 12.66 297 *e*P **Pn 22 58 04.4 +1.1**
STHS *e* 23 00 21.8
STHS Stebnicka Huta 12.66 297 *e*PN **Pn 22 58 04.4 +1.1**
STHS Stebnicka Huta 12.66 297 *e*SN **Sn 23 00 21.8 -1.7**
NIE Niedzica 13.26 296 Pn **Pn 22 58 11.7 +0.2**
comp=E,9.4nm,1.0s
PSZ Piszkesteto 13.28 290 **Pn 22 58 11.1 -0.7**
PSZ Piszkesteto 13.28 290 P **Pn 22 58 11.1 -0.7**
LANS Liptovska Anna 13.74 295 *e*P **Pn 22 58 17.9 -0.1**
LANS Liptovska Anna 13.74 295 *e*PN **Pn 22 58 17.9 -0.1**
OJC Ojcow 13.77 299 **Pn 22 58 15.8 -2.6**
OJC Ojcow 13.77 299 P **Pn 22 58 15.8 -2.6**
VYHS Vyhne 14.05 292 *e*P **Pn 22 58 23.5 +1.3**
VYHS Vyhne 14.05 292 *e*PN **Pn 22 58 23.5 +1.3**
PABE Paberze 14.12 324 **Pn 22 58 19.3 -3.8**
PABE Paberze 14.12 324 *e*P **Pn 22 58 19.3 -3.8**
AKTO Aktyubinsk 14.14 60 Pn **Pn 22 58 20.4 -3.1**
comp=E,0.6nm,0.3s,baz=269,slow=11,SNR=9.8
AKTO Sn Sn 23 00 50.5 -9.2
comp=E,0.5nm,0.3s,baz=61,slow=17,SNR=4.0
comp=E,3.1nm,0.5s
VSVD Vaisvydziai 14.46 325 *e*P **Pn 22 58 23.6 -4.2**
MODS Modra-Piesok 15.07 291 *e*P **P 22 58 44.4 +3.2**
MODS Modra-Piesok 15.07 291 *e*P **P 22 58 44.4 +3.2**
MORC Moravsky Berou 15.09 296 **Pn 22 58 34.1 -2.3**
MORC Moravsky Berou 15.09 296 *e*P **Pn 22 58 34.5 -1.9**
MORC Moravsky Berou 15.09 296 P **Pn 22 58 34.1 -2.3**
MORC pmax pmax
comp=Z,3.0nm,0.8s
ABKAR Akbulak array 15.12 66 **Pn 22 58 34.4 -2.3**
ABKAR Akbulak array 15.12 66 **Pn 22 58 34.3 -2.5**
ABKAR IAmb IAmb 22 58 46.0
comp=Z,4.1nm,0.7s
KIRV Kirov 15.18 22 Pn **Pn 22 58 32.8 -4.6**
comp=Z,0.6nm,0.3s,baz=146,slow=7.5,SNR=5.1
KIRV LR LR 23 04 46.8
comp=Z,114nm,19.1s,baz=193,slow=38
comp=Z,8.2nm,0.7s
VSU Vasula 15.39 336 *i* P **Pn 22 58 36.9 -3.4**
VSU pmax pmax
comp=Z,21nm,1.1s
EIL Elat 15.51 192 LR LR 23 06 14.3
comp=Z,45nm,18.1s,baz=48,slow=44
KRLC Kraliky 15.63 297 *e*P **Pn 22 58 40.8 -2.6**
KRLC Kraliky 15.63 297 *e*P **Pn 22 58 40.8 -2.6**
KLMR Klimovskoe 15.96 2 *e*P **Pn 22 58 42.6 -4.9**
KLMR *e* 23 01 34.3
KLMR pmax pmax
comp=Z,23nm,0.6s
DPC Dobruska-Polom 15.97 298 *e*P **Pn 22 58 45.7 -2.1**
DPC Dobruska-Polom 15.97 298 *e*P **Pn 22 58 45.7 -2.1**
OSTC Ostas 16.08 298 *e*P **Pn 22 58 46.8 -2.4**
OSTC Ostas 16.08 298 *e*P **Pn 22 58 46.8 -2.4**
CHVC Chvalec 16.18 299 *e*P **Pn 22 58 48.7 -1.9**
CHVC Chvalec 16.18 299 *e*P **Pn 22 58 48.7 -1.9**
MTSE Matsula 16.51 332 *e*P **Pn 22 58 50.5 -4.1**
ARTI Arti 16.90 40 **Pn 22 58 54.5 -5.1**
ARTI Arti 16.90 40 Pn **Pn 22 58 54.4 -5.1**
comp=Z,0.6nm,0.3s,baz=233,slow=6.2,SNR=12
ARTI LR LR 23 06 11.6
comp=Z,33nm,18.4s,baz=222,slow=39
ARTI Arti 16.90 40 P **Pn 22 58 54.5 -5.1**
ARTI pmax pmax
comp=Z,6.0nm,0.7s
CKRC Cesky Krumlov 17.07 292 *e*P **Pn 22 59 01.7 0.0**
CKRC Cesky Krumlov 17.07 292 *e*P **Pn 22 59 01.7 0.0**
GERES GERESS Array B 17.47 292 Pn **Pn 22 59 06.5 -0.4**
GERES GERESS Array B 17.47 292 Pn **Pn 22 59 07.3 +0.5**
comp=Z,0.4nm,0.4s,baz=85,slow=14,SNR=0.8
MEF Metsahovi 17.52 336 *e*P **Pn 22 59 06.7 -0.6**
BRG Berggiesshubel 17.56 299 *e*P **P 22 59 14.5 +5.7**
BRG Amp 22 59 16.1
comp=Z,1.9nm,0.8s
BRG x x 23 04 40.8
BRG Amp 23 04 56.0
comp=Z,4.2nm,1.1s
BRG Berggiesshubel 17.56 299 *e*P **P 22 59 14.5 +5.7**
BRG pmax pmax
comp=Z,2.0nm,0.8s
BRG pmax pmax
comp=Z,4.0nm,1.1s
KHC Kasperske Hory 17.57 293 *e*P **P 22 59 09.2 +0.2**
KHC Kasperske Hory 17.57 293 *e*P **P 22 59 09.2 +0.2**
HSKC Hora Svate Kat 17.83 298 *e*P **Pn 22 59 09.3 -2.0**
FIA1 FINESS Array S 18.12 340 Pn **Pn 22 59 10.1 -4.5**
FINES FINESS Array B 18.12 340 Pn **Pn 22 59 09.9 -4.7**
FINES FINESS Array B 18.12 340 Pn **Pn 22 59 08.8 -5.8**
comp=Z,0.4nm,0.3s,baz=154,slow=12,SNR=14
FINES Sn Sn 23 02 23.0 -13
comp=Z,0.4nm,0.3s,baz=162,slow=23,SNR=2.4
FINES LR LR 23 06 05.4
comp=Z,101nm,18.2s,baz=198,slow=37
comp=Z,1.7nm,0.5s
SVE Sverdlovsk 18.18 41 *e*P **P 22 59 16.5 +0.9**
SVE *e*S **Sn 23 02 32.2 -5.4**
SVE pmax pmax
comp=Z,28nm,0.9s
CLL Collm 18.22 300 P **Pn 22 59 15.1 -0.8**
CLL Collm 18.22 300 *i* P **P 22 59 19.2 +3.1**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 18.22 300 *i* P **P 22 59 19.2 +3.1**
comp=Z,4.0nm,0.7s
BSD Bornholm Skovb 18.25 312 *i* P **Pn 22 59 15.1 -1.2**
BSD IAmb IAmb 22 59 33.1
comp=Z,0.7nm,0.3s
GUMA Gualdo di Mace 18.29 273 **Pn 22 59 16.0 -0.9**
GUMA IAmb IAmb 22 59 37.4
comp=Z,51nm,1.4s
BLEU Blekinge 18.32 317 *i* P **P 22 59 14.4 -2.7**
FDMO Fiordimonte 18.47 273 P **Pn 22 59 20.4 +1.3**
FDMO IAmb IAmb 22 59 35.9
comp=Z,20nm,1.3s
JOF Joensuu 18.51 349 *e*P **P 22 59 16.7 -2.5**
WTTA Wattenberg 18.85 287 *e*Pn **Pn 22 59 25.2 +1.4**
comp=Z,0.2nm,0.2s
WATA Walderalm 18.88 287 *e*Pn **Pn 22 59 25.2 +1.0**
comp=Z,0.5nm,0.2s
KEF Keuruu 19.03 340 *e*P **P 22 59 24.3 -0.6**
SQTA Sankt Quirin 19.14 287 *e*Pn **Pn 22 59 28.1 +0.8**
comp=Z,11nm,0.5s
MOTA Moosalm 19.20 287 *e*Pn **Pn 22 59 28.4 +0.3**
comp=Z,0.9nm,0.2s
LUNU Lund 19.23 313 *i* P **P 22 59 25.2 -1.9**
DEL Delary 19.36 315 *i* P **P 22 59 28.0 -0.5**
FETA Feichten 19.48 286 *i* Pn **Pn 22 59 31.7 +0.3**
comp=Z,1.9nm,0.4s
FUORN Ofenpass-Fuorn 19.83 285 P **Pn 22 59 35.7 0.0**
FUORN IAmb IAmb 22 59 37.4
comp=Z,20nm,0.6s
DAVA Damuels 20.04 287 *i* Pn Pn 22 59 37.7 -0.3
comp=Z,21nm,0.6s
DAVOX Davos/Dischmat 20.08 286 P Pn 22 59 38.4 -0.2
comp=Z,30nm,0.6s,baz=90,slow=8.6,SNR=66
comp=Z,30nm,0.6s
FABU Falkenberg 20.16 316 *i* P **P 22 59 34.2 -3.1**
VAF Ylistaro 20.32 339 *e*P **P 22 59 37.5 -1.5**
BORU Boraas 20.42 318 *i* P **P 22 59 39.0 -1.1**
TUE Stuetta 20.48 285 P **P 22 59 42.3 +1.3**
TUE Stuetta 20.48 285 P Pn 22 59 42.6 -0.6
comp=Z,148nm,0.7s
ONAU Onsala 20.73 317 *i* P Pn 22 59 51.5 +5.7
BFO Black Forest 21.03 290 P **P 22 59 47.0 +0.2**
BFO IAmb IAmb 22 59 55.4
comp=Z,13nm,1.1s
BFO Black Forest 21.03 290 P **P 22 59 47.0 +0.2**
BFO pmax pmax
comp=Z,13nm,1.1s
TJOU Tjoern 21.15 318 *i* P **P 22 59 46.7 -1.2**
HFS Hagfors 21.30 324 P **P 22 59 48.6 -1.0**
comp=Z,1.9nm,0.5s,baz=148,slow=12,SNR=6.7
comp=Z,1.9nm,0.5s
ECH Echery 21.82 290 P **P 22 59 54.8 -0.4**
ECH Echery 21.82 290 P **P 22 59 54.8 -0.4**
ECH pmax pmax
comp=Z,10.0nm,1.3s
SENIN Lac Senin/Sane 21.89 285 P **P 22 59 56.2 -0.1**
RAYN Ar Rayn 22.08 163 P **P 22 59 59.5 +1.2**
RAYN IAmb IAmb 23 00 13.7
comp=Z,25nm,1.5s
RAYN Ar Rayn 22.08 163 P **P 22 59 59.5 +1.2**
RAYN pmax pmax
comp=Z,25nm,1.5s
BRVK Borovoye 22.14 57 P **P 22 59 58.8 +0.1**
BRVK IAmb IAmb 23 00 04.4
comp=Z,15nm,0.8s
BRVK Borovoye 22.14 57 P **P 22 59 58.8 +0.1**
BRVK pmax pmax
comp=Z,15nm,0.8s
BVAR Borovoye Array 22.20 57 P **P 22 59 60.0 +0.7**
comp=Z,8.9nm,0.8s,baz=273,slow=12,SNR=23
BVAR LR LR 23 10 41.2
comp=Z,81nm,18.8s,baz=279,slow=42
comp=Z,8.9nm,0.8s
BVAR Borovoye Array 22.20 57 P **P 23 00 00.0 +0.7**
NC602 NORSAR Array S 22.52 324 P **P 23 00 01.7 -1.0**
NC602 IAmb IAmb 23 00 22.5
comp=Z,27nm,1.3s
BNI Bardonecchia 22.54 282 P **P 23 00 03.5 +0.3**
BNI Bardonecchia 22.54 282 P **P 23 00 03.5 +0.3**
BNI pmax pmax
comp=Z,6.0nm,0.8s
NC405 NORSAR Array S 22.66 325 P **P 23 00 03.7 -0.4**
NC405 IAmb IAmb 23 00 12.7
comp=Z,13nm,0.8s
NB2 NORSAR Subarra 22.82 325 P **P 23 00 05.8 -0.1**
comp=Z,1.4nm,0.6s,baz=123,slow=11
NOA NORSAR Array B 22.82 325 P **P 23 00 04.7 -1.2**
comp=Z,1.2nm,0.5s,baz=133,slow=12,SNR=11
comp=Z,1.2nm,0.5s
KKAR Karatay Array 22.91 83 P **P 23 00 06.8 -0.2**
KKAR Karatay Array 22.91 83 P **P 23 00 07.2 +0.2**
KKAR Karatay Array 22.91 83 P **P 23 00 07.2 +0.2**
SSB Saint Sauveur 23.98 283 P **P 23 00 17.6 +0.1**
SSB IAmb IAmb 23 00 18.9
comp=Z,10nm,0.6s
SSB Saint Sauveur 23.98 283 P **P 23 00 17.6 +0.1**
SSB pmax pmax
comp=Z,10.0nm,0.6s
KEST Kesra 24.05 258 P **P 23 00 18.6 +0.4**
comp=Z,2.9nm,1.1s,baz=56,slow=7.3,SNR=4.4
comp=Z,2.9nm,1.1s
GAR Garm 24.18 93 P **P 23 00 18.7 -0.8**
GAR IAmb IAmb 23 00 30.6
comp=Z,16nm,1.2s
ARCES ARCESS Array B 25.55 349 P **P 23 00 31.9 +0.5**
comp=Z,3.2nm,0.6s,baz=156,slow=9.3,SNR=10
ARCES LR LR 23 11 28.3
comp=Z,109nm,18.1s,baz=88,slow=38
comp=Z,3.2nm,0.6s
ARCES ARCESS Array B 25.55 349 P **P 23 00 32.0 +0.5**
KEV Kevo 25.57 351 P **P 23 00 32.5 +0.8**
KEV Kevo 25.57 351 P **P 23 00 32.5 +0.8**
KEV pmax pmax
comp=Z,52nm,1.4s
AAK Ala-Archa 25.85 82 P **P 23 00 35.1 +0.4**
AAK IAmb IAmb 23 00 43.6
comp=Z,5.5nm,1.1s
AAK Ala-Archa 25.85 82 P **P 23 00 35.1 +0.4**
AAK pmax pmax
comp=Z,6.0nm,1.1s
CEST Esterri de Car 26.95 278 P **P 23 00 45.0 +0.4**
CEST IAmb IAmb 23 01 14.1
comp=Z,7.7nm,1.3s
KURBB Kurchatov Arra 27.15 64 P **P 23 00 47.2 +1.1**
comp=Z,0.6nm,0.6s,baz=271,slow=9.3,SNR=11
comp=Z,0.6nm,0.6s
KURK Kurchatov 27.20 63 P **P 23 00 47.2 +0.6**
EKA Eskdalemuir Ar 28.34 307 P **P 23 00 57.4 +0.7**
comp=Z,2.7nm,1.0s,baz=97,slow=8.7,SNR=1.2
comp=Z,2.7nm,1.0s
MK31 Makanchi Array 30.16 71 P **P 23 01 13.4 +0.4**
MK31 IAmb IAmb 23 01 41.9
comp=Z,9.6nm,1.4s
MK31 Makanchi Array 30.16 71 P **P 23 01 13.4 +0.4**
MK31 pmax pmax
comp=Z,10.0nm,1.4s
MKAR Makanchi Array 30.16 71 P **P 23 01 13.4 +0.3**
MKAR Makanchi Array 30.16 71 P **P 23 01 14.3 +1.3**
comp=Z,1.0nm,0.8s,baz=267,slow=10,SNR=8.1
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 30.16 71 *i* P **P 23 01 14.5 +1.5**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 30.85 56 P **P 23 01 21.1 +2.2**
comp=Z,0.7nm,0.4s,baz=290,slow=9.0,SNR=1.4
comp=Z,0.7nm,0.4s
ESDC Sonseca Array 31.68 276 P **P 23 01 25.9 -0.6**
comp=Z,0.8nm,0.9s,baz=63,slow=8.7,SNR=3.4
comp=Z,0.8nm,0.9s
WMQ Urumqi 34.65 74 *e*P **P 23 01 53.9 +1.5**
WMQ pmax pmax
comp=Z,14nm,0.7s
TORD Torodi Ar. Bea 44.60 237 P **P 23 03 15.1 -0.3**
TORD Torodi Ar. Bea 44.60 237 P **P 23 03 15.4 0.0**
comp=Z,2.1nm,0.5s,baz=31,slow=9.2,SNR=31
comp=Z,2.1nm,0.5s
GTA Gaotai 44.73 75 *e*P **P 23 03 17.6 +1.3**
GTA pmax pmax
comp=Z,2.0nm,1.0s
LZH Lanzhou 49.14 76 *e*P **P 23 03 52.3 +1.4**
LZH pP pP 23 03 56.9 -0.4
LZH pmax pmax
comp=Z,10.0nm,1.1s
HHC Hu-ho-hao-te 51.91 67 *e*P **P 23 04 10.9 -0.8**
HHC sP pP 23 04 18.8 +0.7
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,100nm,5.0s
PZH PanZhiHua 53.10 88 P **P 23 04 20.4 -0.3**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.9s
DBIC Dimbokro 53.63 238 P **P 23 04 24.0 -0.5**
DBIC Dimbokro 53.63 238 P **P 23 04 23.9 -0.7**
comp=Z,1.6nm,0.4s,baz=38,slow=5.4,SNR=6.6
comp=Z,1.6nm,0.4s
DBIC Dimbokro 53.63 238 P **P 23 04 24.0 -0.5**
DBIC pmax pmax
comp=Z,11nm,1.3s
TIA Tai'an 58.08 69 P **P 23 04 59.3 +3.1**
TIA pmax pmax
comp=Z,4.0nm,0.6s
CN2 Changchun 59.05 57 *e*P **P 23 05 01.5 -1.4**
MA2 Magadan 61.98 32 LR LR 23 35 21.1
comp=Z,54nm,18.8s,baz=107,slow=39
KSRS Korea Array 64.31 62 LR LR 23 36 46.1
comp=Z,32nm,18.3s,baz=325,slow=39
D22K Ayikyak River 66.19 4 P **P 23 05 51.6 +1.4**
VOI Vohitsoka 66.93 172 P **P 23 05 55.4 0.0**
E24K Your Creek 67.19 3 P **P 23 05 57.8 +1.2**
E24K IAmb IAmb 23 06 19.6
comp=Z,4.8nm,1.4s
E19K Redstone River 67.29 7 P **P 23 05 58.1 +1.0**
F31M Tsiigehtchic 67.81 357 P **P 23 06 01.9 +1.6**
F31M IAmb IAmb 23 06 04.4
comp=Z,6.8nm,1.4s
G31M Satah River 68.34 357 P **P 23 06 04.8 +1.0**
G31M IAmb IAmb 23 06 09.2
comp=Z,4.0nm,1.4s
IMAR Indian Mountai 69.00 5 P **P 23 06 08.2 +0.3**
LBTB Lobatse 70.62 193 P **P 23 06 19.1 +0.7**
LBTB IAmb IAmb 23 06 31.1
comp=Z,3.5nm,1.1s
LBTB Lobatse 70.62 193 P **P 23 06 19.1 +0.7**
LBTB pmax pmax
comp=Z,4.0nm,1.1s
YKA Yellowknife Ar 70.80 347 P **P 23 06 20.1 +1.1**
comp=Z,0.6nm,0.6s,baz=18,slow=6.4,SNR=7.9
comp=Z,0.6nm,0.6s
BOSA Boshof 74.21 192 P **P 23 06 39.9 +0.2**
comp=Z,3.2nm,0.8s,baz=23,slow=6.0,SNR=5.9
comp=Z,3.2nm,0.8s

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*MEX **24** 22:59:27.0±0.7, 14°.51N×92°.60W, h61km±9km, MD3.8*
*GCG **24** 22:59:27.8±0.7, 15°.15N×92°.32W, h50km±155km, MD3.8*
ISC 24 22:59:27.6±1.6, 14°.63N±0°.09×92°.52W±0°.06, h51km±15km, n13, σ1°37/25, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
THIG		**0.37**	**42**	*i* P	**Pn**	**22 59 37.3**	**-0.2**
THIG				*e*S	**Sn**	**22 59 45.8**	**+1.2**
RTAL	**Retalhuleu**	**0.81**	**98**	*i* P	**Pn**	**22 59 41.9**	**-1.0**
RTAL				*i* S	**Sn**	**22 59 53.8**	**-0.1**
STG3	**Santiaguito 3,**	**0.92**	**85**	*e*P	**Pn**	**22 59 43.9**	**-0.7**
STG3				*e*S	**Sn**	**22 59 55.7**	**-1.3**
HUEH	**Huehuetenango**	**1.20**	**55**	*i* P	**Pn**	**22 59 47.8**	**-0.5**
HUEH				*e*S	**Sn**	**23 00 04.4**	**+0.9**
PCIG		**1.26**	**328**	*i* P	**Pn**	**22 59 48.1**	**-0.9**
PCIG				*i* S	**Sn**	**23 00 04.0**	**-0.8**
FUG	**Fuego 3**	**1.64**	**96**	*e*P	**Pn**	**22 59 54.7**	**+0.5**
FUG				*e*S	**Sn**	**23 00 14.7**	**+0.5**
CCIG	**Comitan**	**1.68**	**13**	*e*P	**Pn**	**22 59 54.0**	**-0.9**
CCIG				*i* S	**Sn**	**23 00 15.3**	**0.0**
PCG	**Pacaya**	**1.87**	**97**	*e*S	**Sn**	**23 00 21.0**	**+1.0**
CARR	**Arriaga**	**2.09**	**320**	*i* P	**Pn**	**23 00 00.7**	**+0.4**
CARR				*e*S	**Sn**	**23 00 25.9**	**+0.8**
TGIG		**2.21**	**345**	*i* P	**Pn**	**23 00 02.5**	**+0.5**
TGIG				*i* S	**Sn**	**23 00 28.5**	**+0.3**
UXUV	**UXUV**	**3.10**	**330**	*e*P	**Pn**	**23 00 13.4**	**-0.6**
UXUV				*e*S	**Sn**	**23 00 52.4**	**+2.6**
CMIG	**Matias Romero**	**3.34**	**317**	*e*P	**Pn**	**23 00 18.1**	**+0.7**
CMIG				*e*S	**Sn**	**23 00 54.9**	**-0.9**
NEUV	**Arroyo Zacate**	**4.40**	**315**	*i* P	**Pn**	**23 00 33.7**	**+1.8**
NEUV				*i* S	**Sn**	**23 01 17.6**	**-4.2**

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*IDC **24** 23:16:15.5±10.0, 30°.69S×178°.89W, h125km±89km, mb3.3/2, mbtmp3.7/3, ML3.0/1, Error ellipse: s-maj=75.6km s-min=45.1km az=11.0*
ISC 24 23:16:15.8±1.9, 30°.8S±0°.1×178°.6W±0°.4, h150km, n6, σ1°76/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.24**	**204**	P	**Pn**	**23 18 12.6**	**+0.3**
	0.2nm,0.3s,baz=358,slow=3.7,SNR=1.1						
URZ				S	**Sn**	**23 19 43.5**	**-0.4**
	2.2nm,0.3s,baz=334,slow=4.9,SNR=7.6						
	5.0nm,1.0s						
ASAR	**Alice Springs**	**42.59**	**268**	P	**P**	**23 23 57.2**	**-0.1**
	0.2nm,0.3s,baz=109,slow=7.8,SNR=5.9						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.62**	**273**	P	**P**	**23 24 05.4**	**-0.1**
	0.7nm,0.4s,baz=110,slow=8.1,SNR=14						
	0.7nm,0.4s						
FINES	**FINESS Array B**	**145.35**	**339**	PKPbc	**PKiKP**	**23 35 36.3**	**-2.7**
	0.9nm,0.4s,baz=64,slow=4.2,SNR=13						
MMAI	**Mount Meron Ar**	**151.14**	**283**	PKPbc	**PKiKP**	**23 35 54.0**	**+2.0**
	0.7nm,0.5s,baz=81,slow=8.9,SNR=2.1						
AKASG	**Malin Array Be**	**151.32**	**322**	PKPbc	**PKiKP**	**23 35 52.6**	**+0.9**
	0.6nm,0.7s,baz=52,slow=2.5,SNR=2.4						

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*TAP **24** 23:18:41.4, 24°.82N×122°.26E, h109km, ML3.9, C*
*JMA **24** 23:18:41.8±0.2, 25°.N±1°×122°.3E±0°.4, h109km±1km, MV2.8/13, TAIWAN REGION*
ISC 24 23:18:41.1±1.4, 24°.81N±0°.04×122°.27E±0°.03, h112km±6km, n127, σ0°74/202, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
EGS		**0.30**	**276**	P	**Pn**	**23 18 57.4**	**+0.3**
TWB1	**Santiao Chiao**	**0.32**	**308**	*i* P	**Pn**	**23 18 57.3**	**+0.1**
TWB1				*i* S	**Sn**	**23 19 08.7**	**-0.6**
EOS2	**EOS2**	**0.39**	**184**	*e*P	**Pn**	**23 18 58.1**	**+0.7**
EOS2				*e*S	**Sn**	**23 19 11.0**	**+1.3**
TIPB	**Shuangxi**	**0.43**	**292**	P	**Pn**	**23 18 57.9**	**+0.1**
TIPB				S	**Sn**	**23 19 09.4**	**-0.9**
TWC	**Suao**	**0.43**	**242**	P	**Pn**	**23 18 57.6**	**-0.1**

TWC			eS	Sn	23 19 09.3	-0.9
ESAO	**Su ao**	**0.45 238**	i P	Pn	23 18 58.0	+0.1
ESAO			eS	Sn	23 19 09.4	-1.0
SXI1	**Grass Mountain**	**0.45 308**	P	Pn	23 18 58.0	0.0
SXI1			eS	Sn	23 19 10.2	-0.5
ILA	**Ilan**	**0.47 264**	i P	Pn	23 18 58.4	+0.4
ILA			eS	Sn	23 19 10.6	-0.1
NWF	**Wu-fen Shan**	**0.51 300**	i P	Pn	23 18 58.5	+0.2
NWF			i S	Sn	23 19 10.8	-0.6
WFSB	**Wu-fen Shan**	**0.51 300**	P	Pn	23 18 58.5	+0.3
WFSB			S	Sn	23 19 10.8	-0.4
EOS3	**EOS3**	**0.53 175**	i P	Pn	23 18 59.1	+0.9
EOS3			eS	Sn	23 19 12.7	+1.7
NDS	**Dongshan**	**0.53 250**	i P	Pn	23 18 58.8	+0.3
TWE	**Neicheng**	**0.55 261**	i P	Pn	23 18 58.7	+0.2
TWE			S	Sn	23 19 11.2	-0.4
EWUT	**Wuta**	**0.57 231**	P	Pn	23 18 59.1	+0.3
EWUT			eS	Sn	23 19 11.8	-0.1
ENA	**Nanau**	**0.61 231**	P	Pn	23 18 59.3	+0.3
ENA			eS	Sn	23 19 12.4	-0.1
FUSB	**Fushanzhiwuyua**	**0.62 265**	P	Pn	23 18 59.1	-0.1
ENTT	**Nioudou**	**0.66 255**	P	Pn	23 18 59.7	+0.4
ENTT			eS	Sn	23 19 13.6	+0.4
EAHA	**Aohua**	**0.68 225**	P	Pn	23 18 59.7	+0.2
EAHA			S	Sn	23 19 13.6	+0.3
EOS4	**EOS4**	**0.69 176**	i P	Pn	23 18 59.4	+0.2
EOS4			eS	Sn	23 19 12.8	0.0
NWLT	**Wulai**	**0.69 267**	i P	Pn	23 18 59.8	+0.1
NWLT			eS	Sn	23 19 13.1	-0.6
YM01	**YM01**	**0.71 298⇑**	i P	Pn	23 18 60.0	+0.1
YM01			i S	Sn	23 19 13.1	-0.9
JYNG	**Yonagunijimaku**	**0.72 120**	P	Pn	23 19 00.1	+0.3
JYNG			S	Sn	23 19 13.2	-0.7
YM08	**YM08**	**0.72 301**	eP	Pn	23 18 59.9	0.0
YM08			eS	Sn	23 19 13.0	-1.0
TWY	**Chenhua**	**0.76 307**	i P	Pn	23 19 00.6	+0.4
TWY			eS	Sn	23 19 14.5	-0.1
YOJ	**Yonaguni jima**	**0.76 117**	P	Pn	23 19 00.6	+0.3
YOJ	**Yonaguni jima**	**0.76 117**	P	Pn	23 19 00.5	+0.3
YOJ			S	Sn	23 19 13.9	-0.7
YOJ	**Yonaguni jima**	**0.76 117**	P	Pn	23 19 00.4	+0.2
YOJ			i S	Sn	23 19 14.3	-0.3
NTST	**Danshui**	**0.82 295**	eP	Pn	23 19 01.1	+0.4
NTST			eS	Sn	23 19 15.1	-0.4
TWS1	**Kuangyinshan**	**0.82 291**	eP	Pn	23 19 00.0	-0.7
YHNB	**Yeheng**	**0.82 260**	P	Pn	23 19 01.2	+0.3
YHNB	**Yeheng**	**0.82 260**	i P	Pn	23 19 01.1	+0.3
YHNB			S	Sn	23 19 15.3	-0.4
PCYT	**Pengchaiyu**	**0.83 348**	eP	Pn	23 19 01.2	+0.3
NSK	**Sanguang**	**0.84 261**	P	Pn	23 19 01.3	+0.3
NSK			S	Sn	23 19 15.4	-0.5
ETL	**Fush Village**	**0.88 222**	P	Pn	23 19 01.1	-0.2
NACB	**Ninganchiao**	**0.88 224**	P	Pn	23 19 01.1	-0.2
NACB	**Ninganchiao**	**0.88 224**	i P	Pn	23 19 01.1	-0.2
NACB			S	Sn	23 19 15.9	-0.7
NNSB	**Datong**	**0.89 245**	P	Pn	23 19 02.1	+0.6
NNS	**Nan Shan**	**0.89 246**	P	Pn	23 19 02.2	+0.6
NNS			i S	Sn	23 19 17.0	0.0
ETLH	**Xiulin Townshi**	**0.94 230**	P	Pn	23 19 02.1	+0.1
TWD	**Chiawan**	**0.95 220**	i P	Pn	23 19 01.8	-0.2
TWD			i S	Sn	23 19 17.2	-0.5
NCUH	**Zhongli**	**0.99 279**	eP	Pn	23 19 03.1	+0.7
NCUH			eS	Sn	23 19 18.7	+0.2
HWA	**Hwalien**	**1.03 216**	eP	Pn	23 19 03.2	+0.4
NFF	**Wufeng Townshi**	**1.06 260**	P	Pn	23 19 03.4	+0.2
NFF			i S	Sn	23 19 19.3	-0.5
FUSS	**Fushou**	**1.09 239**	eP	Pn	23 19 04.4	+0.7
ETM	**Tongmen**	**1.10 220**	P	Pn	23 19 03.2	-0.4
LXIB	**Xiulin Townshi**	**1.11 225**	P	Pn	23 19 03.4	-0.4
TEYL	**Yanliau Villag**	**1.12 213**	P	Pn	23 19 03.8	0.0
WHF	**Hehuan Shan**	**1.13 234**	eP	Pn	23 19 04.6	+0.3
WHF			eS	Sn	23 19 21.9	+0.1
TWT	**Tachien**	**1.14 241**	eP	Pn	23 19 05.2	+1.1
TWT			S	Sn	23 19 21.9	+0.4
LIOB	**Emei**	**1.15 262**	P	Pn	23 19 04.5	+0.4
LIOB			S	Sn	23 19 20.8	-0.7
TDCB	**Techi**	**1.15 241**	eP	Pn	23 19 05.1	+0.9
TDCB			eS	Sn	23 19 21.9	+0.2
SBCB	**Hsinchu**	**1.16 269**	P	Pn	23 19 04.8	+0.6
SBCB			i S	Sn	23 19 21.9	+0.2
NSTT	**Nanjuang**	**1.16 261**	i P	Pn	23 19 04.5	+0.3
NSTT			eS	Sn	23 19 21.0	-0.7
HSN	**Hsinchu**	**1.18 270**	P	Pn	23 19 04.6	+0.2
HSN			S	Sn	23 19 21.3	-0.6
SHUL	**Shoufeng**	**1.21 212**	eP	Pn	23 19 04.8	+0.1
SHUL			eS	Sn	23 19 22.5	0.0
ESL	**Shilin**	**1.25 218**	eP	Pn	23 19 04.6	-0.6
OWD	**Renai**	**1.31 229**	P	Pn	23 19 06.5	+0.5
WHP	**Taichung City**	**1.31 246**	i P	Pn	23 19 07.1	+1.1
WHP			i S	Sn	23 19 25.1	+0.2
WUSB	**Renai**	**1.33 232**	P	Pn	23 19 07.0	+0.8
WARBT	**Fenglin Townsh**	**1.35 217**	P	Pn	23 19 05.4	-1.0
NMLH	**Miaoli**	**1.37 259**	i P	Pn	23 19 07.1	+0.6
EGFH	**Guangfu**	**1.37 214**	i P	Pn	23 19 06.3	-0.3
IRIF	**Iriomote-Funau**	**1.42 109**	eP	Pn	23 19 07.2	+0.1
IRIF			eS	Sn	23 19 26.3	-0.5
NSY	**Sanyi**	**1.43 254**	eP	Pn	23 19 07.6	+0.4
NSY			eS	Sn	23 19 27.4	+0.4
TWQ1	**Liyutan**	**1.44 251**	i P	Pn	23 19 07.8	+0.5
TWQ1			i S	Sn	23 19 27.1	-0.1
WCS	**Beigang Elemen**	**1.45 239**	eP	Pn	23 19 08.2	+0.8
VWDT	**VWDT**	**1.47 224**	P	Pn	23 19 08.3	+0.6
VWDT			eS	Sn	23 19 27.8	-0.1
HGSD	**Ruisui**	**1.52 210**	P	Pn	23 19 08.4	-0.5
WDJ	**Dajia District**	**1.55 253**	eP	Pn	23 19 09.3	+0.7
WDJ			eS	Sn	23 19 29.7	+0.1
SMLT	**Sun Moon Lake**	**1.55 234**	eP	Pn	23 19 08.8	0.0
SMLT			i S	Sn	23 19 30.7	+0.9
EHYH	**Wanrong**	**1.56 213**	eP	Pn	23 19 08.3	-0.5
EHY	**Hungye**	**1.56 214**	eP	Pn	23 19 08.1	-0.7
TYC	**Yuchr**	**1.57 235**	P	Pn	23 19 09.9	+1.0
TYC			eS	Sn	23 19 31.3	+1.2
SSLB	**Suanglong**	**1.57 230**	P	Pn	23 19 09.9	+0.9
SSLB	**Suanglong**	**1.57 230**	eP	Pn	23 19 09.8	+0.8
SSLB			eS	Sn	23 19 31.4	+1.3
ECBN	**Changbin**	**1.67 207**	eP	Pn	23 19 10.1	0.0
ECBN			eS	Sn	23 19 31.4	-0.6
YULB	**Yu-li**	**1.67 212**	P	Pn	23 19 09.6	-0.5
YULB	**Yu-li**	**1.67 212**	eP	Pn	23 19 09.2	-1.0
JKRS	**Kuro-shima**	**1.69 109**	eP	Pn	23 19 11.1	+0.8
JKRS			eS	Sn	23 19 32.6	0.0
EYUL	**Yuli**	**1.70 211**	eP	Pn	23 19 11.1	+0.6
WHYT	**Xinyi Township**	**1.70 229**	eP	Pn	23 19 11.8	+1.3
WHYT			eS	Sn	23 19 34.4	+1.4
TWF1	**Yuli**	**1.70 212**	eP	Pn	23 19 09.7	-0.8
WJS	**Zhushan**	**1.71 235**	eP	Pn	23 19 11.6	+1.0
WJS			eS	Sn	23 19 34.4	+1.3
WNT	**Mingjian**	**1.72 237**	eP	Pn	23 19 11.8	+1.1
WNT			eS	Sn	23 19 34.3	+1.1
WCHH	**Zhanghua**	**1.72 245**	eP	Pn	23 19 11.4	+0.7
WCHH			eS	Sn	23 19 33.2	0.0
JIJ	**Ishigaki jima**	**1.77 104**	P	Pn	23 19 11.8	+0.5
JIJ			S	Sn	23 19 33.7	-0.6
CHKH	**Chenggong**	**1.80 206**	eP	Pn	23 19 11.7	-0.1
FULB	**Fuli**	**1.84 209**	eP	Pn	23 19 12.4	+0.2
FULB			eS	Sn	23 19 36.1	+0.2
ALS	**Alishan**	**1.86 226**	P	Pn	23 19 14.0	+1.3
ALS			S	Sn	23 19 38.0	+1.1
JISG	**Ishigakijimahi**	**1.87 96**	eP	Pn	23 19 13.8	+1.2
JISG			eS	Sn	23 19 36.4	-0.3
CHN5	**Tsauling**	**1.89 230**	P	Pn	23 19 14.1	+1.2
CHN5			eS	Sn	23 19 38.2	+1.0
WGK	**Gukeng**	**1.92 235**	eP	Pn	23 19 14.4	+1.2
EHD	**Haiduan**	**1.92 211**	eP	Pn	23 19 12.5	-0.7
WDLH	**Douliu**	**1.93 235**	eP	Pn	23 19 13.4	0.0
WDLH			eS	Sn	23 19 37.6	-0.4
ELDTW	**Lidau**	**1.98 215**	eP	Pn	23 19 14.0	-0.1
EDH	**Donghe**	**2.03 206**	eP	Pn	23 19 14.4	-0.2
EDH			eS	Sn	23 19 38.5	-1.7
WCKO	**Fanlu**	**2.04 228**	eP	Pn	23 19 16.1	+1.3
WCKO			eS	Sn	23 19 41.8	+1.3
WTK	**Tuku**	**2.05 237**	eP	Pn	23 19 15.4	+0.6
WTK			eS	Sn	23 19 40.5	0.0
CHN4	**Tsaushan**	**2.11 227**	eP	Pn	23 19 16.6	+1.0
CHN4			eS	Sn	23 19 42.3	+0.3
TPUB	**Ta-pu**	**2.12 225**	eP	Pn	23 19 16.7	+0.9
STYH	**Taoyuan**	**2.13 220**	eP	Pn	23 19 17.0	+1.2
CHY	**Chiayi**	**2.13 232**	eP	Pn	23 19 16.9	+1.0
CHY			eS	Sn	23 19 42.8	+0.4
WTP	**Ta-pu**	**2.17 224**	eP	Pn	23 19 17.1	+0.7
WSF	**Szhu**	**2.20 238**	eS	Sn	23 19 44.2	+0.1
JTJ	**Tarama**	**2.22 94**	eS	Sn	23 19 45.2	+0.7
LDUT	**Ludao**	**2.25 199**	eP	Pn	23 19 16.8	-0.7
LDUT			eS	Sn	23 19 43.0	-2.2
WSL	**Shuilin Townsh**	**2.26 236**	eS	Sn	23 19 46.2	+0.8
TWGBT	**Beinan**	**2.26 209**	P	Pn	23 19 17.1	-0.5
TWGBT	**Beinan**	**2.26 209**	eP	Pn	23 19 16.8	-0.9
TWGBT			eS	Sn	23 19 43.7	-1.8
SNST	**Tainan City**	**2.27 226**	eP	Pn	23 19 18.7	+1.1
SNST			eS	Sn	23 19 46.2	+0.7
TWG	**Pinlang**	**2.27 209**	eP	Pn	23 19 16.8	-0.8
TWG			eS	Sn	23 19 43.7	-1.8
CHN1	**Nanshi**	**2.27 225**	eP	Pn	23 19 18.4	+0.7
CHN1			eS	Sn	23 19 46.3	+0.6
ICHU	**Yijhu**	**2.32 232**	eP	Pn	23 19 19.4	+1.0
ICHU			eS	Sn	23 19 47.0	+0.2
MATB	**Ma-tsu**	**2.48 303**	eP	Pn	23 19 20.8	+0.4
SCLT	**Jiali**	**2.50 230**	eS	Sn	23 19 52.0	+1.1
SCST	**Cishan**	**2.51 221**	eP	Pn	23 19 22.1	+1.3
VWUC	**VWUC**	**2.56 275**	eP	Pn	23 19 21.2	-0.2
TSMG	**Majia**	**2.57 216**	eP	Pn	23 19 22.8	+1.2
TSCK	**Chigu Township**	**2.59 231**	eP	Pn	23 19 22.5	+0.7
TSCK			eS	Sn	23 19 53.2	+0.1
MASBT	**Mashibuluo**	**2.65 215**	eP	Pn	23 19 23.7	+1.1
MASBT			eS	Sn	23 19 55.1	+0.6
PNG	**Penghu**	**2.77 244**	eP	Pn	23 19 23.6	-0.5
PNG			eS	Sn	23 19 55.0	-2.2
PHUB	**P'eng-hu**	**2.78 243**	eP	Pn	23 19 23.7	-0.6
PHUB			eS	Sn	23 19 55.1	-2.4
LAY	**Lan-yu**	**2.84 194**	eP	Pn	23 19 24.5	-0.6
PTMZ	**Houxiangcun**	**2.86 275**	eP	Pn	23 19 25.4	0.0
LYUB	**Lan-yu**	**2.87 193**	eP	Pn	23 19 24.4	-1.1
KNMB	**Chin-men Tao**	**3.54 265**	eP	Pn	23 19 33.9	-0.5
AXDP	**Jialang**	**3.90 272**	eP	Pn	23 19 39.3	+0.1

IDC ***24*** *23:25:41.5±1.7, 53°.65S×140°.37E, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=122.5km s-min=23.2km az=90.0*

ISC 24 23:25:42.6±1.3, 53°.6S±0°.1×140°.9E±0°.6, h10km, n32, σ0°69/24, mb4.0/4, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.75**	**2**	P	**P**	**23 30 35.0**	**+0.8**
	7.1nm,0.9s,baz=180,slow=11,SNR=8.0						
	7.1nm,0.9s						
H01W1	**Cape Leeuwin H**	**26.53**	**304**	T	T	23 58 50.9	
	baz=142,slow=75						
H01W2	**Cape Leeuwin H**	**26.54**	**304**	T	T	23 58 54.4	
	baz=142,slow=75						
H01W3	**Cape Leeuwin H**	**26.55**	**304**	T	T	23 58 52.4	
	baz=142,slow=75						
ASAR	**Alice Springs**	**30.39**	**347**	P	**P**	**23 31 55.0**	**+0.2**
	0.8nm,0.6s,baz=167,slow=9.9,SNR=20						
ASAR				PcP	**PcP**	**23 34 53.6**	**-0.9**
	0.4nm,1.0s,baz=161,slow=3.7,SNR=2.5						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**34.01**	**349**	P	**P**	**23 32 26.4**	**-0.1**
	1.8nm,0.7s,baz=173,slow=7.7,SNR=18						
	1.8nm,0.7s						
QSPA	**South Pole Qui**	**36.48**	**180**	P	**P**	**23 32 48.2**	**+0.7**
	1.9nm,1.0s,baz=343,slow=1.8,SNR=2.4						
	1.9nm,1.0s						
H04S1	**CROZET ISLANDS**	**53.74**	**238**	T	T	00 33 26.8	
	baz=131,slow=76,SNR=4.2						
H04S2	**CROZET ISLANDS**	**53.74**	**238**	T	T	00 33 24.3	
	baz=131,slow=76,SNR=4.6						
H04S3	**CROZET ISLANDS**	**53.75**	**238**	T	T	00 33 22.9	
	baz=131,slow=76,SNR=3.6						
H08S2	**Diego Garcia H**	**71.12**	**283**	T	T	00 54 22.9	
	baz=145,slow=76						
H08S1	**Diego Carcia H**	**71.13**	**283**	T	T	00 54 23.7	
	baz=145,slow=76						
H08S3	**Diego Garcia H**	**71.14**	**283**	T	T	00 54 24.4	
	baz=145,slow=76						
RONA	**Rosalia, Austr**	**145.16**	**283**	i PKP	**PKPdf**	**23 45 19.2**	**-0.3**
	1.7nm,0.5s						
SOKA	**Soboth**	**145.36**	**281**	i PKP	**PKPab**	**23 45 21.2**	**+1.3**
	9.1nm,1.5s						
ARSA	**Arzberg**	**145.38**	**282**	ePKP	**PKPab**	**23 45 20.3**	**+0.4**
	6.5nm,0.7s						
CONA	**Observa**	**145.53**	**283**	i PKP	**PKPdf**	**23 45 19.9**	**-0.2**
	0.7nm,0.6s						
FINES	**FINESS Array B**	**145.55**	**310**	PKPbc	**PKPdf**	**23 45 19.1**	**-0.4**
	2.0nm,0.9s,baz=141,slow=4.6,SNR=4.0						
MYKA	**Terra Mystica**	**146.15**	**280**	ePKP	**PKPab**	**23 45 23.8**	**+0.9**
	8.1nm,1.0s						
KBA	**Koelnbreinsper**	**146.56**	**280**	ePKP	**PKPbc**	**23 45 24.0**	**+0.5**
	0.6nm,0.4s						
BIOA	**Bad Ischl, Aus**	**146.70**	**282**	ePKP	**PKPbc**	**23 45 24.2**	**+0.5**
	0.6nm,0.3s						
ABTA	**Abfaltersbach**	**146.88**	**279**	i PKP	**PKPbc**	**23 45 24.5**	**+0.1**
	4.6nm,1.2s						
LESA	**Schwarzleotal**	**147.13**	**281**	ePKP	**PKPbc**	**23 45 24.6**	**-0.4**
	3.2nm,0.7s						
GERES	**GERESS Array B**	**147.23**	**283**	PKPbc	**PKPbc**	**23 45 24.1**	**-1.2**
	1.3nm,0.7s,baz=108,slow=3.2,SNR=7.2						
WTTA	**Wattenberg**	**147.66**	**280**	ePKP	**PKiKP**	**23 45 27.5**	**-1.1**
	2.3nm,0.8s						
WATA	**Walderalm**	**147.73**	**280**	ePKP	**PKiKP**	**23 45 27.6**	**-1.1**
	3.5nm,1.3s						
SQTA	**Sankt Quirin**	**147.88**	**279**	ePKP	**PKPbc**	**23 45 27.2**	**+0.1**
	0.5nm,0.3s						
MOTA	**Moosalm**	**148.01**	**279**	ePKP	**PKPbc**	**23 45 27.5**	**0.0**
	1.6nm,0.6s						
FETA	**Feichten**	**148.06**	**279**	ePKP	**PKPbc**	**23 45 28.0**	**+0.3**
	4.1nm,1.3s						
RETA	**Reutte**	**148.28**	**279**	i PKP	**PKPbc**	**23 45 28.2**	**+0.1**
	2.6nm,0.7s						
DAVA	**Damuels**	**148.70**	**279**	ePKP	**PKiKP**	**23 45 30.1**	**-0.7**
	0.5nm,0.3s						
ESDC	**Sonseca Array**	**152.45**	**254**	PKPbc	**PKPbc**	**23 45 38.1**	**-0.3**
	1.0nm,0.7s,baz=110,slow=1.5,SNR=7.2						

INMG ***24*** *23:32:07.6±2.1, 37°.06N×3°.64W, h3km±4km, ML2.2, Error ellipse: s-maj=3.3km s-min=2.5km az=133.0*

MDD ***24*** *23:32:08.2±0.3, 37°.07N×3°.67W, h10km, mb_Lg2.8/20, Error ellipse: s-maj=3.0km s-min=1.7km az=161.0*

CNRM ***24*** *23:32:09.6, 36°.92N×3°.67W, h92km, ML2.8*

ISC 24 23:32:05.7±0.8, 36°.99N±0°.02×3°.60W±0°.02, h11km±5km, n42, σ1°17/76, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELGU	**Los Guajares,**	**0.12**	**191**	Pg	**Pb**	**23 32 10.9**	**+0.7**
ELGU				Sg	**Sb**	**23 32 13.9**	**+2.9**
ELGU				i Vmb_Lg		23 32 16.1	
EXCAB	**Granada**	**0.19**	**1**	Pg	**Pg**	**23 32 09.8**	**-0.1**
EXCAB				Sg	**Sg**	**23 32 12.0**	**-0.7**
EXGRA	**Granada**	**0.20**	**358**	Pg	**Pg**	**23 32 09.9**	**-0.2**
EXGRA				Sg	**Sg**	**23 32 12.8**	**-0.3**
EQUE	**Quentar**	**0.25**	**30**	Pg	**Pg**	**23 32 11.0**	**0.0**
EQUE				Sg	**Sg**	**23 32 14.0**	**-0.4**
EQUE				i Vmb_Lg		23 32 15.1	
EGOR	**Sierra Gorda,**	**0.43**	**287**	Pg	**Pg**	**23 32 13.4**	**-0.8**
EGOR				Sg	**Sg**	**23 32 18.4**	**-1.5**
EGOR				i Vmb_Lg		23 32 22.7	
E0802	**Ubeda,Jaen**	**1.05**	**10**	Pg	**Pn**	**23 32 26.6**	**+0.1**
E0802				Sg	**Sg**	**23 32 39.8**	**+0.2**
EADA	**Adamuz**	**1.41**	**327**	Pg	**Pn**	**23 32 31.9**	**+0.5**
EADA				Sg	**Sn**	**23 32 49.1**	**-1.0**
EADA				i Vmb_Lg		23 32 54.4	
EJIF	**Jimena Fronter**	**1.60**	**251**	Pn	**Pn**	**23 32 34.7**	**+0.8**
EJIF				Sn	**Sn**	**23 32 55.4**	**+0.8**
PALE	**Palemas**	**1.79**	**189**	P	**Pb**	**23 32 39.0**	**+0.5**
PALE	**Palemas**	**1.79**	**189**	S	**Sb**	**23 33 00.3**	**-0.7**
ECAB	**El Cabril**	**1.81**	**307**	Pn	**Pn**	**23 32 37.1**	**+0.3**
ECAB				Pg	**Pb**	**23 32 39.2**	**+0.3**
ECAB				Sn	**Sn**	**23 32 58.4**	**-1.4**
ECAB				Sg	**Sb**	**23 33 02.3**	**+0.7**
ECAB				i Vmb_Lg		23 33 09.3	
ESPR	**Espera**	**1.81**	**267**	Pn	**Pn**	**23 32 38.1**	**+1.2**
ESPR				Sn	**Sn**	**23 32 59.3**	**-0.6**
ESPR				Sg	**Sg**	**23 33 04.8**	**+0.7**
ESPR				i Vmb_Lg		23 33 18.0	
GOG	**Mont Gurugu**	**1.83**	**164**	P	**Pb**	**23 32 39.1**	**-0.2**
GOG	**Mont Gurugu**	**1.83**	**164**	S	**Sb**	**23 33 01.9**	**-0.3**
PSIM	**Granatula de C**	**1.83**	**356**	Pn	**Pn**	**23 32 37.7**	**+0.5**
PSIM				Pg	**Pb**	**23 32 39.7**	**+0.4**
PSIM				Sn	**Sn**	**23 32 59.5**	**-0.9**
PSIM				Sg	**Sb**	**23 33 03.3**	**+1.0**
EMUR	**La Murta**	**2.06**	**65**	Pn	**Pb**	**23 32 42.4**	**-0.8**
EMUR				Sn	**Sn**	**23 33 06.5**	**+0.4**
EMUR				i Vmb_Lg		23 33 17.5	
CART	**Cartagena**	**2.15**	**73**	P	**Pb**	**23 32 45.1**	**+0.4**
CART	**Cartagena**	**2.15**	**73**	S	**Sg**	**23 33 12.4**	**-2.6**
TAF	**Taforalt**	**2.37**	**156**	P	**Pb**	**23 32 46.4**	**-2.1**
TAF	**Taforalt**	**2.37**	**156**	S	**Sn**	**23 33 15.0**	**+1.2**
AKLM	**AKL**	**2.48**	**185**	P	**Pn**	**23 32 47.1**	**+0.9**
AKLM	**AKL**	**2.48**	**185**	S	**Sn**	**23 33 14.5**	**-2.0**
EMIN	**Mina Concepcio**	**2.57**	**289**	Pn	**Pn**	**23 32 47.1**	**-0.2**
EMIN				Sn	**Sn**	**23 33 17.7**	**-0.9**
EMIN				Sg	**Sg**	**23 33 27.2**	**-1.1**
EMIN				i Vmb_Lg		23 33 32.3	
PAB	**San Pablo**	**2.62**	**347**	Pn	**Pn**	**23 32 48.3**	**+0.2**
PAB				Sn	**Sn**	**23 33 18.0**	**-1.9**
PAB				i Vmb_Lg		23 33 33.1	
ESDC	**Sonseca Array**	**2.70**	**354**	Pn	**Pn**	**23 32 49.2**	**+0.1**
ESDC				Pg	**Pb**	**23 32 54.3**	**+0.3**
ESDC				Sn	**Sn**	**23 33 20.7**	**-1.1**
ESDC				Sg	**Sg**	**23 33 30.7**	**-1.7**
PBAR	**Barrancos**	**2.98**	**294**	ePn	**Pn**	**23 32 54.0**	**+1.1**
PBAR				A	A	23 33 52.7	
	4.3nm,0.8s						
EVIV	**Cofrentes, Val**	**3.00**	**40**	Pn	**Pn**	**23 32 55.4**	**+2.1**
EVIV				Sn	**Sn**	**23 33 27.9**	**-1.3**
EVIV				Sg	**Sg**	**23 33 41.9**	**-0.1**
EVIV				i Vmb_Lg		23 33 49.4	
EBEN2	**Beniarda presa**	**3.18**	**57**	Pn	**Pn**	**23 32 58.0**	**+2.3**
EBEN2				Sn	**Sn**	**23 33 32.9**	**-0.8**
EBEN2				i Vmb_Lg		23 33 44.4	
EBAD	**Badajoz**	**3.23**	**304**	Pn	**Pn**	**23 32 56.6**	**+0.2**
EBAD				Sn	**Sn**	**23 33 31.7**	**-3.1**
EBAD				Sg	**Sg**	**23 33 48.4**	**-1.0**
EBAD				i Vmb_Lg		23 33 53.5	
PVAQ	**Vaqueiros**	**3.32**	**278**	ePn	**Pn**	**23 32 58.8**	**+1.2**
PVAQ				eSn	**Sn**	**23 33 37.8**	**+0.8**
PVAQ				A	A	23 33 47.6	
	6.2nm,0.8s						
PVAQ	**Vaqueiros**	**3.32**	**278**	P	**Pn**	**23 32 58.0**	**+0.5**
PVAQ	**Vaqueiros**	**3.32**	**278**	S	**Sn**	**23 33 37.5**	**+0.5**
ECHE	**Chera**	**3.32**	**38**	Pn	**Pn**	**23 32 59.3**	**+1.6**
ECHE				Sn	**Sn**	**23 33 36.0**	**-1.1**
ECHE				Sg	**Sg**	**23 33 53.6**	**+1.2**
ECHE				i Vmb_Lg		23 33 59.2	
PESTR	**Estremoz**	**3.67**	**302**	ePn	**Pn**	**23 33 04.0**	**+1.5**
PESTR				eSn	**Sn**	**23 33 45.8**	**0.0**
PESTR				A	A	23 34 11.9	
	5.4nm,0.8s						
PESTR	**Estremoz**	**3.67**	**302**	P	**Pn**	**23 33 03.9**	**+1.4**
PESTR	**Estremoz**	**3.67**	**302**	S	**Sn**	**23 33 46.6**	**+0.8**
MESJ	**Messejana**	**3.78**	**284**	ePn	**Pn**	**23 33 05.0**	**+1.1**
PCBR	**Castelo Branco**	**4.17**	**314**	ePn	**Pn**	**23 33 11.0**	**+1.7**
PCBR				eSn	**Sn**	**23 33 57.2**	**-0.8**
PMTG	**Montargil**	**4.20**	**301**	ePn	**Pn**	**23 33 11.2**	**+1.5**
PMTG				eSn	**Sn**	**23 33 58.9**	**+0.1**
PMTG				A	A	23 34 36.0	
	3.9nm,0.5s						
MD31	**MD31**	**4.22**	**193**	P	**Pn**	**23 33 10.4**	**+0.3**
MDT	**Midelt**	**4.25**	**192**	P	**Pn**	**23 33 11.3**	**+0.8**
PVIS	**Viseu**	**5.01**	**319**	ePn	**Pn**	**23 33 22.3**	**+1.4**

BJI ***24*** *23:42:37.9, 47°.73S×165°.94E, h3km, mb5.2/19, mB5.8/16, Ms5.6/35, Ms7 5.4/34*

WEL ***24*** *23:42:38.0±0.6, 48°.5±8°.×16°.5E±1°.0, h12km, M5.8/9, mB5.9/2, ML6.1/9, MLv5.8/9, Mw(mB)5.5/2, Error ellipse: s-maj=16.2km s-min=4.4km az=127.7, confirmed*

NEIC ***24*** *23:42:39.5±1.5, 47°.90S±0°.06×165°.4E±0°.1, h10km±1km, mb5.4/77, Ms_20 5.8/777, Mwb5.8/25, Mww5.8/51, Error ellipse: s-maj=13.3km s-min=9.8km az=118.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}0.28; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-0.40; $M_{r\theta}$0.62; $M_{\theta\phi

QTPS S **Sn** **23 44 20.1 +2.5**
TMBS Taieri Mouth B 3.67 62 P **Pn** **23 43 37.3 +1.4**
TMBS S **Sn** **23 44 20.0 +0.3**
EAZ Earnscleugh 3.72 46 P **Pn** **23 43 36.2 -0.4**
EAZ S **Sn** **23 44 23.4 +2.4**
WKZ Wanaka 3.90 39 **Pn** **23 43 39.9 +0.7**
WKZ Wanaka 3.90 39 P **Pn** **23 43 40.1 +0.9**
WKZ S **Sn** **23 44 29.7 +4.3**
HHSZ Highcliff Hill 4.01 62 P **Pn** **23 43 41.9 +1.3**
JCZ Jackson Bay 4.44 32 P **Pn** **23 43 48.8 +2.2**
ODZ Otahua Downs 4.53 53 **Pn** **23 43 46.2 -1.6**
ODZ Otahua Downs 4.53 53 P **Pn** **23 43 46.5 -1.3**
ODZ Otahua Downs 4.53 53 P **Pn** **23 43 50.8 +3.0**
LBZ Lake Benmore 4.77 44 **Pn** **23 43 49.5 -1.5**
LBZ Lake Benmore 4.77 44 P **Pn** **23 43 49.2 -1.8**
TMZ Timaru 5.17 49 P **Pn** **23 43 55.4 -1.2**
FOZ Fox Glacier 5.29 36 P **Pn** **23 43 59.2 +1.0**
ARCZ Arundel 5.57 47 P **Pn** **23 43 59.9 -2.2**
ARCZ S **Sn** **23 45 06.2 -0.4**
GCSZ Gaunt Creek Bo 5.68 38 P **Pn** **23 44 05.5 +2.0**
RPZ Rata Peaks 5.69 45 Pn **Pn** **23 44 00.8 -2.9**
13nm,0.3s,baz=190,slow=3.6,SNR=27
RPZ Sn **Sn** **23 45 05.5 -3.9**
98nm,0.3s,baz=43,slow=23,SNR=4.9
RPZ LR LR 23 46 45.0
comp=Z,89µm,18.7s,baz=257,slow=40
RPZ Rata Peaks 5.69 45 P **Pn** **23 44 00.9 -2.8**
RPZ Rata Peaks 5.69 45 P **Pn** **23 44 07.0 +3.4**
WACZ Wakanui South 5.91 50 P **Pn** **23 44 05.3 -1.4**
WVZ Waitaha Valley 6.05 39 P **Pn** **23 44 10.9 +2.4**
MHCZ Mount Hutt 6.07 46 P **Pn** **23 44 10.1 +1.1**
RACZ Rakaia 6.21 50 P **Pn** **23 44 09.7 -1.2**
OXZ Oxford 6.45 47 **Pn** **23 44 13.3 -0.8**
OXZ Oxford 6.45 47 P **Pn** **23 44 12.8 -1.4**
MQZ McQueen's Vall 6.50 52 **Pn** **23 44 13.3 -1.4**
MQZ McQueen's Vall 6.50 52 P **Pn** **23 44 13.1 -1.6**
AKCZ Akaroa Harbour 6.53 55 P **Pn** **23 44 14.2 -1.0**
INZ Inchbonnie 6.64 41 P **Pn** **23 44 18.5 +1.9**
OKCZ Okains Bay 6.71 54 P **Pn** **23 44 19.9 +2.2**
AMCZ Amberley 6.87 49 P **Pn** **23 44 19.1 -0.7**
LTZ Lake Taylor 6.97 45 **Pn** **23 44 19.6 -1.7**
LTZ Lake Taylor 6.97 45 P **Pn** **23 44 20.2 -1.1**
DSZ Denniston Nort 7.59 38 Pn **Pn** **23 44 29.2 -0.6**
DSZ Denniston Nort 7.59 38 P **Pn** **23 44 30.6 +0.8**
MCQ Macquarie Isla 7.79 210 Pn **Pn** **23 44 30.1 -2.5**
MCQ Macquarie Isla 7.79 210 P **Pn** **23 44 30.0 -2.5**
comp=Z,0.0nmcomp=Z,625nm,0.5s
MCQ Macquarie Isla 7.79 210 P **Pn** **23 44 31.1 -1.4**
MCQ S **Sn** **23 45 57.1 -4.1**
MCQ Macquarie Isla 7.79 210 P **Pn** **23 44 31.3 -1.2**
MCQ Macquarie Isla 7.79 210 P **Pn** **23 44 30.1 -2.5**
KHZ Kahutara 7.87 49 P **Pn** **23 44 33.6 +0.1**
THZ Tophouse 8.06 43 Pn **Pn** **23 44 36.2 0.0**
THZ Tophouse 8.06 43 P **Pn** **23 44 37.0 +0.7**
MRNZ Matariki Terra 8.28 41 P **Pn** **23 44 38.8 -0.5**
BSWZ Blackbirch Sta 8.56 47 **Pn** **23 44 44.0 +0.9**
BSWZ Blackbirch Sta 8.56 47 P **Pn** **23 44 47.4 +4.3**
QRZ Quartz Range 8.66 38 Pn **Pn** **23 44 44.1 -0.3**
QRZ Quartz Range 8.66 38 P **Pn** **23 44 44.3 -0.1**
QRZ Quartz Range 8.66 38 P **Pn** **23 44 49.1 +4.7**
TKNZ Takaka Hill 8.67 48 P **Pn** **23 44 46.7 +2.1**
NNZ Nelson 8.71 43 P **Pn** **23 44 47.5 +2.4**
TCW Tory Channel 9.14 46 **Pn** **23 44 51.8 +0.8**
TCW Tory Channel 9.14 46 P **Pn** **23 44 54.9 +3.9**
BHW Baring Head 9.28 49 P **Pn** **23 44 56.5 +3.5**
DUWZ D'Urville Isla 9.29 43 P **Pn** **23 44 54.5 +1.5**
MSWZ Moikau Station 9.47 50 P **Pn** **23 44 59.1 +3.5**
PAWZ Paruwai Farm 9.59 51 P **Pn** **23 45 00.9 +3.6**
KIW Kapiti Island 9.71 47 P **Pn** **23 45 01.4 +2.6**
TRWZ Traveller 9.71 52 P **Pn** **23 45 01.0 +2.1**
OGWZ Otaki Gorge 9.88 48 P **Pn** **23 45 04.2 +3.1**
HOWZ Holdsworth Sta 9.99 49 P **Pn** **23 45 05.7 +3.0**
TMWZ Te Maipa 10.03 51 P **Pn** **23 45 07.1 +3.8**
MRZ Mangatainoka R 10.20 48 Pn **Pn** **23 45 05.2 -0.2**
MRZ Mangatainoka R 10.20 48 P **Pn** **23 45 05.3 -0.2**
PRWZ Pori Road 10.47 49 P **Pn** **23 45 12.4 +3.1**
NBEZ Newall Road No 10.52 38 P **Pn** **23 45 11.7 +1.8**
BFZ Birch Farm 10.52 51 **Pn** **23 45 10.4 +0.4**
BFZ Birch Farm 10.52 51 P **Pn** **23 45 11.0 +1.0**
BFZ Birch Farm 10.52 51 P **Pn** **23 45 12.2 +2.2**
KHEZ Kahui Hut 10.56 39 P **Pn** **23 45 12.6 +2.0**
KHEZ Kahui Hut 10.56 39 P Pn 23 45 15.8 +5.2
PREZ Palmer Road 10.58 39 P **Pn** **23 45 13.4 +2.6**
LREZ Lake Rotokare 10.59 40 P **Pn** **23 45 13.4 +2.5**
WAZ Wanganui 10.61 43 P Pn 23 45 16.2 +5.0
NEZ North Egmont 10.62 39 P **Pn** **23 45 13.4 +2.1**
PKE Pukeiti 10.63 38 P **Pn** **23 45 13.3 +1.7**
DREZ Durham Road 10.73 39 P **Pn** **23 45 16.9 +4.1**
DVHZ Dannevirke 10.76 49 P **Pn** **23 45 18.1 +4.8**
MHEZ Mangahewa 10.88 39 P **Pn** **23 45 19.0 +4.2**
VRZ Vera Road 11.02 41 P **Pn** **23 45 18.1 +1.3**
PRHZ Porangahau 11.03 50 P **Pn** **23 45 19.3 +2.4**
PKVZ Pokaka 11.15 43 P **Pn** **23 45 23.0 +4.4**
WNVZ Wahianoa 11.24 44 P **Pn** **23 45 24.4 +4.5**
MOVZ Moawhango 11.25 45 P **Pn** **23 45 22.6 +2.6**
FWVZ Far West T-bar 11.28 44 P **Pn** **23 45 25.2 +4.7**
TUVZ Tukino 11.31 44 P Pn 23 45 25.9 +5.0
COVZ Chateau Observ 11.31 43 P **Pn** **23 45 25.0 +4.1**
KRHZ Kereru 11.36 47 P **Pn** **23 45 23.8 +2.3**
OTVZ Oturere 11.40 44 P **Pn** **23 45 24.0 +1.8**
ETVZ East Tongariro 11.44 44 P **Pn** **23 45 24.0 +1.3**
TMVZ Te Maari 11.46 44 P **Pn** **23 45 24.6 +1.8**
KAHZ Kahuranaki 11.50 49 P Pn 23 45 28.4 +5.0
HIZ Hauiti 11.57 39 P **Pn** **23 45 21.7 -2.6**
RATZ Rangitukua 11.69 43 P **Pn** **23 45 30.3 +4.3**
BKZ Black Stump Fm 11.79 46 Pn **Pn** **23 45 26.9 -0.4**
BKZ Black Stump Fm 11.79 46 P **Pn** **23 45 28.4 +1.0**
BKZ Black Stump Fm 11.79 46 P Pn 23 45 32.2 +4.8
TLZ Tolley Road 12.02 41 P **Pn** **23 45 30.5 0.0**
MTHZ Maungataniwha 12.21 46 P **Pn** **23 45 35.8 +2.8**
RAHZ Arahi 12.28 47 P **Pn** **23 45 38.3 +4.4**
RTZ Ruatahuna 12.46 46 P Pn 23 45 42.1 +5.6
KNZ Kokohu 12.49 49 P **Pn** **23 45 39.2 +2.4**
PRGZ Paritu Road 12.67 49 P Pn 23 45 44.6 +5.2
AWAZ Awhitu Peninsu 12.73 35 P **Pn** **23 45 44.1 +4.0**
RIGZ Rimuhau 12.78 48 P **Pn** **23 45 43.1 +2.3**
URZ Urewera 12.80 45 Pn **Pn** **23 45 40.7 -0.5**
comp=Z,1.7nm,0.3s,baz=270,slow=11,SNR=12
URZ Sn **Sn** **23 47 56.2 -7.9**
comp=Z,1.6nm,0.3s,baz=94,slow=19,SNR=1.8
URZ LR LR 23 51 25.6
comp=Z,91µm,19.5s,baz=304,slow=40
URZ Urewera 12.80 45 P **Pn** **23 45 41.1 -0.1**
URZ Urewera 12.80 45 P Pn 23 45 46.6 +5.5
WTAZ Waiatarua 12.82 35 P **Pn** **23 45 45.2 +3.8**
MKAZ Moumakai 12.90 37 P **Pn** **23 45 42.7 +0.3**
ETAZ East Tamaki Re 12.94 36 P **Pn** **23 45 47.5 +4.5**
MWZ Matawai 12.95 47 P **Pn** **23 45 45.6 +2.4**
MBAZ Motutapu North 13.09 35 P **Pn** **23 45 48.9 +3.9**
CTZ Chatham Island 13.12 78 Pn **Pn** **23 45 45.1 -0.3**
CTZ Chatham Island 13.12 78 P **Pn** **23 45 47.7 +2.4**
CTZ Chatham Island 13.12 78 P **Pn** **23 45 49.8 +4.4**
WIAZ Waiheke Island 13.16 36 P **Pn** **23 45 47.3 +1.3**
CNGZ Carnagh Statio 13.17 49 P **Pn** **23 45 49.5 +3.3**
ABAZ Army Bay 13.21 35 P P 23 45 51.9 -4.9
TWGZ Tauwhareparae 13.29 48 P **Pn** **23 45 50.4 +2.5**
KUZ Kuaotunu 13.44 38 P **Pn** **23 45 52.4 +2.7**
HAZ Te Kaha 13.52 46 P **Pn** **23 45 52.2 +1.3**
WCZ Waipu Caves 13.62 32 P **Pn** **23 45 55.1 +2.8**
TAU Tasmania Unive 13.73 285 Pn Pn 23 45 49.2 -4.6
TAU Tasmania Unive 13.73 285 P **Pn** **23 45 56.0 +2.2**
TAU Tasmania Unive 13.73 285 P Pn 23 45 49.2 -4.6
WMGZ Waiomatatini S 13.79 48 P **Pn** **23 45 55.5 +0.9**
MXZ Matakaoa Point 13.93 47 P **Pn** **23 45 58.9 +2.4**
OUZ Omahuta 14.02 28 P **Pn** **23 45 58.8 +1.1**
OUZ Omahuta 14.02 28 P **P** **23 46 02.4 -3.4**
MOO Moorlands 14.04 286 P **Pn** **23 45 55.8 -2.2**
comp=Z,0.0nmcomp=Z,117nm,1.2s
MOO Moorlands 14.04 286 P P 23 46 00.6 -5.5
CORO Coronation Par 14.58 289 P **P** **23 46 08.1 -3.9**
MILA Mila 16.20 306 P **Pn** **23 46 25.1 -1.8**
comp=Z,0.0nmcomp=Z,58nm,1.2s
AUUHS Ulladulla High 16.81 313 P **P** **23 46 37.1 +0.3**
AUSMG Snowy Mountain 16.96 306 P **P** **23 46 39.7 +1.0**
LHI Lord Howe Isla 17.09 341 Pn **Pn** **23 46 37.1 -1.0**
LHI IAmb IAmb 23 46 44.6
comp=Z,357nm,1.4s
WOLH Wollongong Har 17.39 316 P **P** **23 46 45.2 +2.0**
CNB Canberra Magne 17.41 310 P **Pn** **23 46 41.1 -1.0**
comp=Z,0.0nmcomp=Z,94nm,1.6s
CNB Canberra Magne 17.41 310 P **P** **23 46 43.7 +0.2**
CAN Canberra 17.59 310 **Pn** **23 46 43.3 -1.1**
CAN IAmb IAmb 23 46 52.6
comp=Z,636nm,1.7s
CAN Canberra 17.59 310 P **P** **23 46 44.4 -1.1**
comp=Z,0.0nmcomp=Z,168nm,1.6s
CAN Canberra 17.59 310 P **P** **23 46 46.0 +0.5**
CAN Canberra 17.59 310 P **Pn** **23 46 43.3 -1.1**
CAN pmax pmax
comp=Z,636nm,1.7s
RIV Riverview 17.73 317 P **P** **23 46 46.7 -0.3**
comp=Z,166nm,1.1s
RIV Riverview 17.73 317 P **P** **23 46 49.4 +2.4**
TOO Toolangi 17.94 298 P **Pn** **23 46 46.9 -1.8**
TOO Toolangi 17.94 298 P **P** **23 46 48.3 -1.1**
comp=Z,0.0nmcomp=Z,41nm,0.8s
TOO Toolangi 17.94 298 P **Pn** **23 46 46.9 -1.8**
TOO pmax pmax
comp=Z,180nm,2.0s
SYDH Sydney Hard Ro 17.98 316 P **P** **23 46 53.0 +3.2**
GEXS Deakin Univers 18.26 294 P **P** **23 46 56.1 +3.3**
MGCD Mangrove Creek 18.27 318 P **P** **23 46 52.7 -0.3**
comp=Z,66nm,0.9s
MGCD Mangrove Creek 18.27 318 P **P** **23 46 54.8 +1.8**
NTLH Newcastle Hard 18.28 320 P **P** **23 46 56.8 +3.8**
YNG Young 18.70 310 P **Pn** **23 46 58.1 +0.1**
comp=Z,505nm,3.0s
YNG Young 18.70 310 P **Pn** **23 47 01.5 +3.5**
BRAT Ballarat 18.89 295 P **Pn** **23 47 02.7 +2.4**
NFK Norfolk Island 18.92 6 P **Pn** **23 47 02.4 +1.8**
comp=Z,0.0nmcomp=Z,316nm,1.3s
AUPHS Peel High Scho 20.17 321 P Pn 23 47 15.3 -0.4
AUDCS Dubbo College 20.24 315 P Pn 23 47 17.4 +0.9
ARMA Armidale 20.47 324 P **P** **23 47 15.6 -1.5**
ARMA Armidale 20.47 324 P Pn 23 47 17.0 -2.2
comp=Z,0.0nmcomp=Z,73nm,2.0s
ARMA Armidale 20.47 324 P Pn 23 47 20.5 +1.3
ARPS Mount Arapiles 20.67 294 P Pn 23 47 20.0 -1.5
comp=Z,139nm,1.1s
ARPS Mount Arapiles 20.67 294 P Pn 23 47 22.2 +0.7
MGBR Mount Gambier 20.87 290 P **P** **23 47 19.6 -1.7**
GC1S Gold Coast 1 S 21.82 330 P **P** **23 47 35.7 +4.1**
CMSA Cobar Meteorol 22.26 310 P **P** **23 47 36.2 -0.1**
comp=Z,0.0nmcomp=Z,52nm,0.8s
CMSA Cobar Meteorol 22.26 310 P **P** **23 47 38.3 +1.9**
RAO Raoul Island 22.58 40 IAMs_20 IAMs_20 23 57 27.4
comp=Z,26µm,20.0s
RAO Raoul Island 22.58 40 LR LR 23 57 38.7
comp=Z,25µm,19.8s,baz=199,slow=39
AUWSH Wavell State H 22.68 330 P **P** **23 47 44.9 +4.1**
AULRC Lightning Ridg 22.89 317 P **P** **23 47 47.4 +4.4**
TW1H Toowoomba 1 Ha 22.92 328 P **P** **23 47 47.5 +4.1**
AUMBR Murray Bridge 23.31 294 P **P** **23 47 50.7 +3.4**
STKA Stephens Creek 24.22 303 P **P** **23 47 55.3 -0.9**
STKA Stephens Creek 24.22 303 P **P** **23 47 56.6 +0.4**
comp=Z,0.0nmcomp=Z,21nm,0.8s
STKA Stephens Creek 24.22 303 P **P** **23 47 56.6 +0.4**
comp=Z,41nm,0.7s,baz=128,slow=12,SNR=33
STKA LR LR 23 55 47.6
comp=Z,20µm,20.9s,baz=118,slow=33
comp=Z,41nm,0.7s
STKA Stephens Creek 24.22 303 P **P** **23 47 59.9 +3.7**
HTT Hallett 24.68 296 P **P** **23 48 00.2 -0.2**
comp=Z,0.0nmcomp=Z,111nm,0.7s
HTT Hallett 24.68 296 P **P** **23 48 03.5 +3.1**
EIDS Eidsvold 25.22 328 P **P** **23 48 05.2 0.0**
EIDS Eidsvold 25.22 328 P **P** **23 48 05.9 +0.6**
comp=Z,0.0nmcomp=Z,66nm,2.0s
EIDS Eidsvold 25.22 328 P **P** **23 48 07.1 +1.8**
ONTNC Ouen Toro 25.55 2 P **P** **23 48 07.9 -0.3**
ONTNC IAmb IAmb 23 48 27.7
comp=Z,110nm,1.2s
ONTNC Ouen Toro 25.55 2 P **P** **23 48 13.2 +5.0**
NOUC Port Laguerre 25.75 2 P **P** **23 48 14.7 +4.7**
WHYH Whyalla 25.77 295 P **P** **23 48 13.0 +2.8**
DZM Mont Dzumac 25.78 2 P **P** **23 48 10.1 -0.4**
DZM IAmb IAmb 23 48 26.8
comp=Z,86nm,1.1s
DZM Mont Dzumac 25.78 2 *e*P **P** **23 48 14.1 +3.6**
comp=Z,212nm,1.5s
DZM *e*LQ LQ 23 53 24.9
comp=Z,12µm,30.1s
DZM *e*LR LR 23 54 30.7
comp=Z,13µm,22.1s
DZM Mont Dzumac 25.78 2 LR LR 23 56 53.0
comp=Z,15µm,18.5s,baz=183,slow=33
DZM Mont Dzumac 25.78 2 P **P** **23 48 14.9 +4.4**
BBOO Buckleboo 26.85 293 P **P** **23 48 18.9 -1.1**
BBOO IAmb IAmb 23 48 53.6
comp=Z,140nm,1.6s
BBOO IAMs_20 IAMs_20 23 58 15.0
comp=Z,18µm,18.0s
BBOO Buckleboo 26.85 293 P **P** **23 48 19.6 -0.4**
comp=Z,0.0nmcomp=Z,56nm,1.6s
BBOO Buckleboo 26.85 293 P **P** **23 48 22.7 +2.7**
QLP Quilpie 27.05 314 P **P** **23 48 26.1 +4.3**
LCRK Leigh Creek 27.22 300 P **P** **23 48 27.1 +3.7**
KOUNC Koumac, New Ca 27.30 357 P **P** **23 48 23.5 -0.6**
KOUNC Koumac, New Ca 27.30 357 P **P** **23 48 28.3 +4.2**
INKA Innaminka 27.88 307 P **P** **23 48 33.1 +3.9**
MULG Mulgathing 29.83 295 P P 23 48 49.6 +3.0
SBA Scott Base 30.07 179 P **P** **23 48 48.2 0.0**
SBA IAmb IAmb 23 49 00.8
comp=Z,50nm,1.2s
SBA Scott Base 30.07 179 P **P** **23 48 48.2 0.0**
SBA pmax pmax
comp=Z,50nm,1.2s
SBA MLR MLR
comp=Z,7µm,18.0s
PVC Port Vila 30.16 5 P P 23 48 53.6 +4.0
OOD Oodnadatta 30.67 300 P P 23 48 57.8 +3.8
VLAKA Lakatoro 31.74 3 P P 23 49 08.2 +4.7
MSVF Nonsavu 31.78 23 P **P** **23 49 03.9 -0.1**
MSVF Nonsavu 31.78 23 LR LR 00 01 29.8
comp=Z,9µm,18.0s,baz=196,slow=35
MSVF Nonsavu 31.78 23 P **P** **23 49 03.9 -0.1**
MSVF pmax pmax
comp=Z,16nm,1.1s
MSVF MLR MLR
comp=Z,10µm,20.0s
CTA Charters Tower 31.84 324 LR LR 23 59 59.1
comp=Z,12µm,21.7s,baz=146,slow=33
CTA Charters Tower 31.84 324 P P 23 49 09.3 +4.9
CTAO Charters Tower 31.84 324 P **P** **23 49 03.8 -0.6**
CTAO Charters Tower 31.84 324 P P 23 49 09.0 +4.6
CTAO Charters Tower 31.84 324 P **P** **23 49 03.8 -0.6**
CTAO pmax pmax
comp=Z,18nm,1.1s
CTAO MLR MLR
comp=Z,11µm,21.0s
FORT Forrest 33.26 287 P **P** **23 49 15.6 -1.1**
FORT IAmb IAmb 23 49 24.8
comp=Z,64nm,1.0s
FORT Forrest 33.26 287 P **P** **23 49 18.3 +1.5**
comp=Z,65nm,1.0s
FORT Forrest 33.26 287 P P 23 49 19.5 +2.7
CASY Casey 33.63 217 P **P** **23 49 18.6 -1.0**
CASY IAmb IAmb 23 49 22.7
comp=Z,38nm,1.0s
MTSU Mount Surprise 34.38 322 P **P** **23 49 27.2 +0.6**
comp=Z,10nm,0.9s
MTSU Mount Surprise 34.38 322 P P 23 49 30.9 +4.3
QIS Mount Isa 34.38 313 P **P** **23 49 27.0 +0.3**
comp=Z,0.0nmcomp=Z,41nm,1.0s
QIS Mount Isa 34.38 313 P **P** **23 49 27.6 +1.0**
AS31 Alice Springs 34.86 303 P **P** **23 49 29.4 -1.4**
ASAR Alice Springs 34.86 303 P **P** **23 49 29.0 -1.8**
comp=Z,30nm,0.7s,baz=134,slow=6.3,SNR=50
ASAR PcP **PcP** **23 52 03.3 -0.5**
comp=Z,3.1nm,0.6s,baz=131,slow=4.1,SNR=2.8
ASAR LR LR 00 03 32.5
comp=Z,18µm,18.8s,baz=162,slow=36
comp=Z,30nm,0.7s
NGOA Tingoa Renbel 36.52 351 P P 23 49 49.1 +4.1
KMBL Kambalda 36.91 280 P **P** **23 49 47.9 -0.4**
comp=Z,38nm,1.7s
KMBL Kambalda 36.91 280 P **P** **23 49 50.8 +2.5**
WRKA Warakurna 37.13 295 P **P** **23 49 49.2 -1.1**
comp=Z,0.0nmcomp=Z,81nm,0.9s
WRKA Warakurna 37.13 295 P **P** **23 49 51.3 +1.0**
WR0 Warramunga Arr 37.48 307 P **P** **23 49 52.0 -1.2**
WR0 IAmb IAmb 23 49 58.6
comp=Z,188nm,1.8s
WB2 Warramunga Arr 37.60 307 P **P** **23 49 52.3 -1.9**
WB2 IAmb IAmb 23 49 59.6
comp=Z,42nm,0.8s
WB2 Warramunga Arr 37.60 307 P **P** **23 49 53.1 -1.1**
WRA Warramunga Arr 37.60 307 P **P** **23 49 52.2 -2.0**
WRA Warramunga Arr 37.60 307 P **P** **23 49 51.8 -2.4**
comp=Z,22nm,0.7s,baz=140,slow=7.9,SNR=47
WRA PcP **PcP** **23 52 12.9 +0.9**
comp=Z,5.2nm,0.8s,baz=145,slow=3.0,SNR=5.5
WRA LR LR 00 04 25.5
comp=Z,10µm,18.9s,baz=161,slow=35
comp=Z,22nm,0.7s
WRAB Tennant Creek 37.60 307 *i* P **P** **23 49 53.4 -0.8**
WRAB pmax pmax
comp=Z,39nm,0.9s
WB0 Warramunga Arr 37.72 307 P **P** **23 49 54.1 -1.1**
RAR Rarotonga 38.52 58 LR LR 00 04 57.1
comp=Z,9µm,20.3s,baz=221,slow=34
COEN Coen 38.61 324 P **P** **23 50 01.4 -1.3**
COEN IAMs_20 IAMs_20 00 03 55.7
comp=Z,11µm,21.0s
COEN Coen 38.61 324 P **P** **23 50 02.9 +0.2**
comp=Z,0.0nmcomp=Z,26nm,2.3s
COEN Coen 38.61 324 P **P** **23 50 05.8 +3.1**
HNR Honiara 38.63 351 P **P** **23 50 02.9 0.0**
HNR IAMs_20 IAMs_20 00 02 56.7
comp=Z,14µm,21.0s
HNR Honiara 38.63 351 LR LR 00 03 07.7
comp=Z,13µm,20.8s,baz=175,slow=32
HNR Honiara 38.63 351 P P 23 50 06.8 +4.0
HNR Honiara 38.63 351 P **P** **23 50 02.9 0.0**
HNR pmax pmax
comp=Z,142nm,1.0s
NWAO Narrogin (SRO) 39.05 275 P **P** **23 50 05.4 -0.9**
NWAO Narrogin (SRO) 39.05 275 P **P** **23 50 05.3 -1.0**
NWAO Narrogin (SRO) 39.05 275 LR LR 00 04 31.4
comp=Z,3µm,18.5s,baz=58,slow=34
NWAO Narrogin (SRO) 39.05 275 P **P** **23 50 08.5 +2.2**
NWAO Narrogin (SRO) 39.05 275 P **P** **23 50 05.4 -0.9**
NWAO pmax pmax
comp=Z,50nm,1.1s
NWAO MLR MLR
comp=Z,3µm,18.0s
KLBR Kellerberrin 39.52 277 P **P** **23 50 09.1 -1.2**
comp=Z,88nm,1.0s
KLBR Kellerberrin 39.52 277 P **P** **23 50 12.8 +2.6**
TATA Tatamba Isabel 39.68 351 P P 23 50 15.8 +4.2
H01W1 Cape Leeuwin H 39.97 270 T T 00 32 45.8
baz=125,slow=75
H01W2 Cape Leeuwin H 39.98 270 T T 00 32 34.5
baz=125,slow=75
H01W3 Cape Leeuwin H 39.99 270 T T 00 32 18.0
baz=125,slow=75
MUN Mundaring 40.32 275 P **P** **23 50 14.1 -2.7**
comp=Z,35nm,0.7s
MUN Mundaring 40.32 275 P **P** **23 50 19.3 +2.4**
BLDU Ballidu 40.83 277 P **P** **23 50 19.7 -1.4**
comp=Z,33nm,1.1s
BLDU Ballidu 40.83 277 P **P** **23 50 23.5 +2.4**
PMG Port Moresby 41.39 332 P **P** **23 50 25.0 -0.9**
PMG Port Moresby 41.39 332 LR LR 00 04 34.5
comp=Z,6µm,21.1s,baz=152,slow=32
PMG Port Moresby 41.39 332 P **P** **23 50 29.0 +3.2**
PMG Port Moresby 41.39 332 P **P** **23 50 29.1 +3.2**
PMG Port Moresby 41.39 332 *ce*P **P** **23 50 27.7 +1.9**
PMG pmax pmax
comp=Z,22nm,0.9s
MEEK Meekatharra 42.17 283 P **P** **23 50 31.1 -1.1**
comp=Z,63nm,1.6s
MEEK Meekatharra 42.17 283 P **P** **23 50 33.9 +1.7**
QSPA South Pole Qui 42.22 180 P **P** **23 50 33.1 +0.7**
QSPA IAmb IAmb 23 50 39.7
comp=Z,109nm,1.2s
QSPA South Pole Qui 42.22 180 P **P** **23 50 33.6 +1.2**
comp=Z,48nm,0.9s,baz=11,slow=4.3,SNR=54
QSPA LR LR 00 06 16.1
comp=Z,3µm,18.2s,baz=28,slow=34
comp=Z,48nm,0.9s
MORW Morawa 42.26 278 P **P** **23 50 31.3 -1.6**
MORW IAmb IAmb 23 50 38.3
comp=Z,74nm,1.2s
MORW Morawa 42.26 278 P **P** **23 50 32.2 -0.7**
comp=Z,67nm,1.9s
MORW Morawa 42.26 278 P P 23 50 35.7 +2.8
TBI Tubuai 43.21 72 *e*P **P** **23 50 40.2 -0.4**
comp=Z,917nm,23.8s
TBI *e*S **S** **23 57 10.5 +2.5**
comp=Z,11µm,28.0s
TBI *e*SS **SS** **00 00 20.8 +0.1**
comp=Z,51µm,30.5s
TBI *e*LR LR 00 02 37.0
comp=Z,8µm,28.8s
TBI *e*LR LR 00 02 42.0
comp=Z,47µm,29.2s
FITZ Fitzroy Crossi 44.00 299 P **P** **23 50 46.2 -0.8**
FITZ Fitzroy Crossi 44.00 299 LR LR 00 08 55.5
comp=Z,18µm,18.3s,baz=148,slow=36
KNRA Kununurra 44.13 304 P **P** **23 50 46.6 -1.4**
KNRA IAmb IAmb 23 50 53.9
comp=Z,116nm,1.6s
KNRA IAMs_20 IAMs_20 00 08 07.0
comp=Z,14µm,18.0s
KNRA Kununurra 44.13 304 P **P** **23 50 48.2 +0.2**
comp=Z,50nm,1.8s
KDU Kakadu 44.62 311 P **P** **23 50 51.0 -1.0**
comp=Z,0.0nmcomp=Z,60nm,0.9s
KDU Kakadu 44.62 311 P **P** **23 50 54.8 +2.8**
PSAD2 Pilbara Seismi 44.83 289 P **P** **23 50 52.9 -0.8**
comp=Z,55nm,1.1s
PSAC2 Pilbara Seismi 44.91 289 P **P** **23 50 53.0 -1.3**
comp=Z,49nm,0.9s
PSAB3 Pilbara Seismi 44.92 289 P **P** **23 50 53.1 -1.3**
comp=Z,53nm,1.0s
PSAD3 Pilbara Seismi 44.93 289 P **P** **23 50 53.5 -1.0**
comp=Z,67nm,0.4s
PSA00 Pilbara Seismi 44.94 289 P **P** **23 50 53.1 -1.4**
PSA00 IAmb IAmb 23 51 10.6
comp=Z,52nm,0.9s
PSA00 Pilbara Seismi 44.94 289 P **P** **23 50 52.8 -1.7**
PSA00 IAmb IAmb 23 51 10.5
comp=Z,24nm,0.9s
PSA00 Pilbara Seismi 44.94 289 P **P** **23 50 56.7 +2.2**
RABL Rabaul 45.04 341 P **P** **23 50 54.1 -1.2**
MTN Manton Dam 45.19 309 P **P** **23 50 55.0 -1.5**
MTN IAmb IAmb 23 51 02.5
comp=Z,52nm,0.8s
MTN IAMs_20 IAMs_20 00 09 03.2
comp=Z,14µm,22.0s
MTN Manton Dam 45.19 309 P **P** **23 50 54.9 -1.6**
comp=Z,0.0nmcomp=Z,79nm,1.0s
MTN Manton Dam 45.19 309 P **P** **23 50 58.7 +2.2**
MBWA Marble Bar 45.31 290 P **P** **23 50 56.3 -1.2**
MBWA IAmb IAmb 23 51 13.5
comp=Z,43nm,0.9s
MBWA Marble Bar 45.31 290 P **P** **23 50 56.7 -0.7**
comp=Z,52nm,1.2s
MBWA Marble Bar 45.31 290 P **P** **23 51 00.1 +2.6**
DRS Darwin Rock St 45.65 309 P **P** **23 51 02.8 +2.6**
PPT2 Papeete2 47.39 66 *e*P **P** **23 51 15.3 +1.4**
comp=Z,388nm,24.5s
PPT2 *e*S **S** **23 58 08.5 -0.3**
comp=Z,3µm,28.2s
PPT2 *e*SS **SS** **00 01 37.4 +1.2**
comp=Z,4µm,24.8s
PPT2 *e*LR LR 00 04 33.3
comp=Z,9µm,29.0s
PPT2 *e*LR LR 00 04 41.6
comp=Z,9µm,22.2s
PPTF Pamatai, Papee 47.40 66 P **P** **23 51 13.8 -0.1**
PPTF Pamatai, Papee 47.40 66 P P 23 51 17.8 +3.8
PPT Papeete 47.41 66 P P 23 51 19.9 +5.9
comp=Z,35nm,0.9s,baz=206,slow=0.6,SNR=7.4
PPT LR LR 00 10 44.9
comp=Z,5µm,18.1s,baz=223,slow=35
comp=Z,35nm,0.9s
MANU Manus Island 48.31 335 P **P** **23 51 20.7 -0.3**
MANU IAmb IAmb 23 51 30.0
comp=Z,36nm,0.8s
SAUI Saumlaki 49.23 313 P **P** **23 51 27.3 -0.8**
SAUI Saumlaki 49.23 313 P P 23 51 31.2 +3.1
TARA Tarawa 49.47 10 P **P** **23 51 30.0 +0.1**
JAY Jayapura 50.04 327 P **P** **23 51 35.3 +1.1**
comp=Z,7.3nm,1.0s,baz=175,slow=11,SNR=2.9
JAY LR LR 00 12 29.7
comp=Z,6µm,18.9s,baz=133,slow=36
comp=Z,7.3nm,1.0s
JAY Jayapura 50.04 327 P P 23 51 41.5 +7.3
comp=Z,29nm,1.3s,comp=Z,713nm

MAW	**Mawson**	**51.20 209**	P	**P**	**23 51 42.5**	**+0.2**	
	comp=Z,19nm,1.0s,baz=113,slow=7.0,SNR=13						
MAW			LR	LR	00 12 11.2		
	comp=Z,5μm,18.1s,baz=114,slow=35						
	comp=Z,19nm,1.0s						
BATI	**Baumata**	**51.44 303**	LR	LR	00 13 29.9		
	comp=Z,9μm,18.1s,baz=176,slow=36						
SOEI	**Soe**	**51.46 304**	P	**P**	**23 51 44.6**	**-0.5**	
SOEI			IAmb	IAmb	23 53 14.4		
	comp=Z,37nm,1.0s						
SOEI			IAMs_20	IAMs_20	00 16 00.4		
	comp=Z,9μm,20.0s						
FAKI	**Fak Fak**	**53.19 317**	P	**P**	**23 51 57.8**	**0.0**	
FAKI			IAMs_20	IAMs_20	00 15 19.6		
	comp=Z,7μm,19.0s						
MMRI	**Maumere**	**53.52 302**	P	**P**	**23 51 59.5**	**-0.8**	
MMRI			IAmb	IAmb	23 52 12.3		
	comp=Z,58nm,1.0s						
MMRI			IAMs_20	IAMs_20	00 14 09.9		
	comp=Z,8μm,20.0s						
BELA	**Belgrano 2**	**53.88 175**	P	**P**	**23 52 03.0**	**+0.9**	
BELA			IAmb	IAmb	23 52 11.4		
	comp=Z,32nm,1.2s						
WBSI	**Waikabubak, Su**	**54.36 299**	P	P	23 52 13.5	+7.1	
	comp=Z,62nm,0.8s						
NLAI	**Namlea**	**55.41 311**	P	P	23 52 20.4	+6.5	
	comp=Z,83nm,1.4s						
SWI	**Sorong**	**55.46 317**	P	P	23 52 21.0	+6.7	
	comp=Z,27nm,0.9s						
BBSI	**Bau Bau**	**55.92 305**	P	P	23 52 25.6	+8.0	
	comp=Z,70nm,1.1s,comp=Z,1μm						
BSSI	**Bau Bau, Buton**	**56.54 302**	P	P	23 52 27.5	+5.4	
SANI	**Sanana**	**56.99 311**	P	P	23 52 29.3	+4.0	
SANI	**Sanana**	**56.99 311**	P	P	23 52 30.3	+5.0	
	comp=Z,33nm,1.3s,comp=Z,728nm						
KDI	**Kendari**	**57.16 306**	P	P	23 52 29.8	+3.3	
BKSI	**Bulukumba**	**57.42 303**	P	**P**	**23 52 31.0**	**+2.7**	
	comp=Z,23nm,0.8s,comp=Z,608nm						
ELIB	**Princess Elisa**	**57.52 193**	*d*P	**P**	**23 52 29.4**	**+0.9**	
	comp=Z,36nm,0.9s						
SMAI	**San Martin Ant**	**57.80 159**	IAMs_20	IAMs_20	00 12 23.2		
	comp=Z,9μm,22.0s						
KAPI	**Kappang**	**57.88 303**	P	**P**	**23 52 30.9**	**-0.6**	
KAPI			IAmb	IAmb	23 52 44.1		
	comp=Z,53nm,1.1s						
KAPI	**Kappang**	**57.88 303**	P	P	23 52 35.2	+3.6	
KAPI	**Kappang**	**57.88 303**	P	**P**	**23 52 31.0**	**-0.6**	
KAPI			pmax	pmax			
	comp=Z,53nm,1.2s						
KAPI			MLR	MLR			
	comp=Z,5μm,20.0s						
BNSI	**Bone**	**58.19 303**	P	P	23 52 40.8	+7.1	
	comp=Z,61nm,1.9s,comp=Z,1μm						
JAGI	**Jajag, Banyuwa**	**58.43 295**	P	**P**	**23 52 34.8**	**-0.6**	
JAGI			IAmb	IAmb	23 52 59.9		
	comp=Z,41nm,1.1s						
JAGI			IAMs_20	IAMs_20	00 17 14.6		
	comp=Z,8μm,19.0s						
JAGI	**Jajag, Banyuwa**	**58.43 295**	P	P	23 52 39.3	+3.9	
SPSI	**Sidrap Palu**	**58.73 303**	P	P	23 52 40.6	+3.1	
	comp=Z,45nm,0.9s						
PAF	**Port-aux-Franc**	**58.75 230**	IAMs_20	IAMs_20	00 11 16.0		
	comp=Z,11μm,22.0s						
GMJI	**Gumukmas**	**59.01 294**	P	P	23 52 48.1	+8.6	
	comp=Z,58nm,1.0s,comp=Z,1μm						
TTSI	**Tana Toraja**	**59.46 304**	P	P	23 52 49.7	+7.2	
	comp=Z,19nm,0.8s						
LUWI	**Luwuk**	**59.52 308**	P	**P**	**23 52 43.1**	**+0.1**	
LUWI	**Luwuk**	**59.52 308**	P	P	23 52 47.1	+4.1	
TROLL	**Troll, Antarti**	**59.80 186**	⇑P	**P**	**23 52 44.2**	**-0.1**	
	comp=Z,767nm,0.7s						
TROLL	**Troll, Antarti**	**59.80 186**	⇑S	**S**	**00 00 57.4**	**+1.5**	
	comp=Z,0.1nm,0.1s						
TAOE	**Nuku Hiva Isla**	**59.92 68**	IAMs_20	IAMs_20	00 17 05.6		
	comp=Z,8μm,18.0s						
TAOE	**Nuku Hiva Isla**	**59.92 68**	*e*P	**P**	**23 52 47.3**	**+1.4**	
	comp=Z,255nm,24.2s						
TAOE			*e*S	**S**	**00 00 54.2**	**-4.7**	
	comp=Z,2μm,28.7s						
TAOE			*e*SS	**SS**	**00 04 57.4**	**+2.2**	
	comp=Z,2μm,26.7s						
TAOE			*e*LQ	LQ	00 07 47.9		
	comp=Z,5μm,26.5s						
TAOE			*e*LR	LR	00 10 23.1		
	comp=Z,8μm,22.0s						
NVL	**N'lazarevskaya**	**60.13 190**	*e*P	**P**	**23 52 46.0**	**-0.4**	
NVL			pmax	pmax			
	comp=Z,27nm,1.0s						
PWJI	**Pagerwojo**	**60.22 293**	P	P	23 52 56.5	+8.7	
	comp=Z,37nm,1.1s						
SNAA	**Sanae**	**60.45 184**	P	**P**	**23 52 48.7**	**0.0**	
SNAA	**Sanae**	**60.45 184**	⇑P	**P**	**23 52 48.8**	**+0.2**	
	comp=Z,463nm,0.8s						
SNAA	**Sanae**	**60.45 184**	⇓S	**S**	**00 01 07.6**	**+3.4**	
	comp=Z,3μm,3.6s						
SNAA	**Sanae**	**60.45 184**	P	**P**	**23 52 48.9**	**+0.2**	
	comp=Z,26nm,0.9s,baz=180,slow=6.9,SNR=30						
SNAA			LR	LR	00 18 43.3		
	comp=Z,3μm,18.3s,baz=178,slow=36						
	comp=Z,26nm,0.9s						
VNA3	**Neumayer Olymp**	**61.12 182**	⇑P	**P**	**23 52 53.6**	**+0.4**	
	comp=Z,18nm,0.8s						
VNA3	**Neumayer Olymp**	**61.12 182**	⇑S	S	00 01 19.3	+6.7	
	comp=Z,0.1nm,0.1s						
PMSA	**Palmer Station**	**61.22 158**	IAMs_20	IAMs_20	00 13 49.7		
	comp=Z,7μm,20.0s						
PMSA	**Palmer Station**	**61.22 158**	LR	LR	00 14 24.7		
	comp=Z,5μm,21.4s,baz=216,slow=31						
VNA2	**Neumayer--Watz**	**61.38 183**	⇑P	**P**	**23 52 55.7**	**+0.8**	
	comp=Z,16nm,0.7s,baz=158,slow=4.9						
VNA2	**Neumayer--Watz**	**61.38 183**	⇓S	**S**	**00 01 20.4**	**+4.4**	
	comp=Z,0.1nm,0.1s,baz=323,slow=34						
VNA1	**Neumayer--Stat**	**61.68 182**	⇑P	**P**	**23 52 57.5**	**+0.5**	
	comp=Z,27nm,0.8s						
SMRI	**Semarang**	**61.82 293**	P	**P**	**23 52 58.3**	**-0.4**	
TOLI2	**Tolitoli**	**62.39 307**	P	**P**	**23 53 01.8**	**-0.7**	
TOLI2			IAmb	IAmb	23 53 09.1		
	comp=Z,19nm,0.8s						
TOLI2	**Tolitoli**	**62.39 307**	P	P	23 53 05.8	+3.3	
KPJI	**Karang Pucung**	**62.54 291**	P	P	23 53 11.0	+7.5	
	comp=Z,48nm,1.0s,comp=Z,1μm						
BBJI	**Bungbulang**	**63.25 290**	P	P	23 53 11.7	+3.4	
LEM	**Lembang**	**63.76 290**	P	**P**	**23 53 11.0**	**-0.8**	
	comp=Z,15nm,0.4s,baz=142,slow=19,SNR=1.7						
LEM			LR	LR	00 20 34.7		
	comp=Z,3μm,20.0s,baz=132,slow=36						
	comp=Z,15nm,0.4s						
LEM	**Lembang**	**63.76 290**	P	**P**	**23 53 11.0**	**-0.8**	
DAV	**Davao City (W)**	**65.08 315**	LR	LR	00 23 07.9		
	comp=Z,2μm,19.1s,baz=135,slow=38						
STKI	**Sintang**	**66.80 298**	P	P	23 53 39.2	+7.9	
	comp=Z,45nm,1.2s						
RPN	**Rapa Nui**	**67.26 106**	LR	LR	00 18 31.1		
	comp=Z,1μm,18.9s,baz=201,slow=32						
MG01	**Puerto William**	**68.20 150**	IAMs_20	IAMs_20	00 18 43.5		
	comp=Z,6μm,19.0s						
SBUM	**Sibu**	**68.28 300**	P	**P**	**23 53 39.8**	**-0.8**	
SBUM	**Sibu**	**68.28 300**	P	P	23 53 45.0	+4.4	
PMBI	**Palembang**	**68.55 291**	IAMs_20	IAMs_20	00 24 15.7		
	comp=Z,4μm,20.0s						
KSM	**Kuching**	**68.61 298**	P	**P**	**23 53 42.5**	**-0.3**	
KSM			IAmb	IAmb	23 53 55.8		
	comp=Z,22nm,1.0s						
KSM	**Kuching**	**68.61 298**	P	P	23 53 47.1	+4.3	
H04S2	**CROZET ISLANDS**	**69.35 222**	T	T	01 10 05.1		
	baz=139,slow=75						
H04S1	**CROZET ISLANDS**	**69.35 222**	T	T	01 10 04.4		
	baz=139,slow=75						
H04S3	**CROZET ISLANDS**	**69.36 222**	T	T	01 10 03.4		
	baz=139,slow=75						
GO08	**Villa O'Higgin**	**71.61 143**	P	**P**	**23 54 01.0**	**+0.2**	
GO08			IAmb	IAmb	23 54 09.4		
	comp=Z,22nm,0.9s						
GO08			IAMs_20	IAMs_20	00 18 04.1		
	comp=Z,7μm,21.0s						
MYKOM	**Kota Tinggi**	**72.78 293**	P	**P**	**23 54 07.8**	**-0.4**	
PPI	**Padang Panjang**	**73.22 289**	P	P	23 54 15.7	+4.9	
	comp=Z,42nm,1.1s,comp=Z,864nm						
TGY	**Tagaytay City**	**73.40 315**	LR	LR	00 29 45.4		
	comp=Z,1μm,18.2s,baz=154,slow=39						
BKNI	**Bangkinang**	**73.42 290**	P	P	23 54 15.3	+3.4	
BKNI	**Bangkinang**	**73.42 290**	P	P	23 54 16.5	+4.6	
MNSI	**Mandailing Nat**	**74.70 289**	P	P	23 54 25.2	+5.8	
	comp=Z,16nm,0.6s						
PUH	**Pauahi**	**75.63 38**	IAMs_20	IAMs_20	00 23 35.0		
	comp=Z,4μm,22.0s						
HATHI	**Halema'uma'u T**	**75.66 38**	IAMs_20	IAMs_20	00 24 13.7		
	comp=Z,3μm,19.0s						
POHA	**Pohakuloa**	**75.85 38**	IAMs_20	IAMs_20	00 23 21.6		
	comp=Z,4μm,19.0s						
LL02	**Futaleuf**	**76.16 141**	P	**P**	**23 54 27.5**	**0.0**	
LL02			IAmb	IAmb	23 54 37.9		
	comp=Z,55nm,1.2s						
GSI	**Gunungsitoli**	**76.37 288**	P	**P**	**23 54 28.3**	**-0.7**	
GSI			IAmb	IAmb	23 54 38.0		
	comp=Z,46nm,0.9s						
GSI	**Gunungsitoli**	**76.37 288**	P	P	23 54 32.0	+3.0	
GSI	**Gunungsitoli**	**76.37 288**	P	P	23 54 32.8	+3.8	
	comp=Z,50nm,0.8s,comp=Z,2μm						
LL01	**San Ignacio de**	**76.57 140**	P	**P**	**23 54 29.7**	**-0.1**	
RPSI	**Rantau Prapat**	**76.58 289**	P	**P**	**23 54 28.8**	**-1.4**	
RPSI			IAMs_20	IAMs_20	00 32 37.6		
	comp=Z,3μm,18.0s						
PSI	**Prapat**	**76.66 290**	LR	LR	00 28 15.2		
	comp=Z,2μm,21.0s,baz=136,slow=36						
PSI	**Prapat**	**76.66 290**	P	P	23 54 33.7	+2.9	
PSI	**Prapat**	**76.66 290**	P	**P**	**23 54 28.8**	**-2.0**	
PSI			pmax	pmax			
	comp=Z,13nm,1.0s						
PSI			MLR	MLR			
	comp=Z,3μm,18.0s						
KULM	**Kulim**	**77.49 293**	P	**P**	**23 54 34.7**	**-0.7**	
KULM			IAmb	IAmb	23 55 05.1		
	comp=Z,69nm,1.7s						
PLCA	**Paso Flores**	**78.72 140**	P	**P**	**23 54 41.8**	**-0.2**	
PLCA			IAmb	IAmb	23 54 52.6		
	comp=Z,26nm,1.1s						
PLCA	**Paso Flores**	**78.72 140**	P	**P**	**23 54 41.8**	**-0.2**	
PLCA			pmax	pmax			
	comp=Z,26nm,1.2s						
GO06	**Curarrehue**	**79.26 139**	P	**P**	**23 54 43.5**	**-1.5**	
GO06			IAmb	IAmb	23 54 51.2		
	comp=Z,42nm,1.6s						
MLSI	**Meulaboh, Aceh**	**79.38 289**	P	P	23 54 52.7	+6.9	
H03S2	**Juan Fernandez**	**80.29 130**	T	T	01 24 02.0		
	baz=217,slow=74						
H03S1	**Juan Fernandez**	**80.30 130**	T	T	01 24 04.9		
	baz=217,slow=74						
H03S3	**Juan Fernandez**	**80.31 130**	T	T	01 23 57.8		
	baz=217,slow=74						
H03N3	**Juan Fernandez**	**80.59 130**	T	T	01 24 16.9		
	baz=219,slow=72						
H03N2	**Juan Fernandez**	**80.60 130**	T	T	01 24 12.9		
	baz=219,slow=72						
H03N1	**Juan Fernandez**	**80.61 130**	T	T	01 24 16.9		
	baz=219,slow=72						
SRIT	**Nakonsritamara**	**80.71 294**	P	**P**	**23 54 55.0**	**+2.1**	
YOJ	**Yonaguni jima**	**81.53 321**	IAMs_20	IAMs_20	00 27 26.0		
	comp=Z,4μm,22.0s						
JOW	**Kunigami**	**81.58 327**	IAMs_20	IAMs_20	00 28 11.5		
	comp=Z,4μm,22.0s						
JOW	**Kunigami**	**81.58 327**	LR	LR	00 28 44.0		
	comp=Z,3μm,21.4s,baz=157,slow=34						
BI02	**San Fabin de**	**81.74 137**	P	**P**	**23 54 57.9**	**-0.4**	
QIZ	**Qiongzhong**	**83.17 308**	P	**P**	**23 55 06.4**	**+0.7**	
QIZ			S	**SKSac**	**00 05 28.0**	**-0.6**	
QIZ			SS	**SS**	**00 10 55.6**	**+4.3**	
QIZ			LR	LR			
	comp=Z,700nm,14.7s						
QIZ			LR	LR			
	comp=Z,430nm,12.8s						
QIZ			LR	LR			
	comp=Z,1μm,16.2s						
BO02	**Sierra Bellavi**	**83.50 136**	P	**P**	**23 55 08.2**	**+0.7**	
MT01	**Popeta**	**84.05 136**	P	**P**	**23 55 10.7**	**+0.4**	
TRQA	**Tornquist**	**84.53 144**	P	**P**	**23 55 12.5**	**-0.1**	
TRQA			IAmb	IAmb	23 55 38.1		
	comp=Z,25nm,1.3s						
TRQA	**Tornquist**	**84.53 144**	P	**P**	**23 55 12.5**	**-0.1**	
TRQA			pmax	pmax			
	comp=Z,25nm,1.3s						
LMEL	**Las Melosas**	**84.55 136**	IAMs_20	IAMs_20	00 25 58.0		
	comp=Z,3μm,19.0s						
MT13	**San Alfonso**	**84.60 136**	P	**P**	**23 55 13.8**	**+0.6**	
SRDT	**SRDT**	**85.49 297**	P	P	23 55 21.8	+4.2	
H08S2	**Diego Garcia H**	**86.43 263**	T	T	01 30 10.5		
	baz=138,slow=76						
JNU	**Nakatsue**	**86.44 331**	P	**P**	**23 55 22.4**	**+0.5**	
JNU			IAmb	IAmb	23 55 31.3		
	comp=Z,46nm,1.3s						
JNU	**Nakatsue**	**86.44 331**	LR	LR	00 33 21.4		
	comp=Z,1μm,19.0s,baz=154,slow=35						
H08S1	**Diego Carcia H**	**86.44 263**	T	T	01 30 11.5		
	baz=138,slow=76						
H08S3	**Diego Garcia H**	**86.45 263**	T	T	01 30 12.0		
	baz=138,slow=76						
DGAR	**Diego Garcia**	**86.63 263**	IAMs_20	IAMs_20	00 25 45.9		
	comp=Z,3μm,19.0s						
INU	**Inuyama**	**86.72 337**	P	**P**	**23 55 23.8**	**+0.7**	
INU			IAmb	IAmb	23 55 57.5		
	comp=Z,20nm,1.0s						
MJAR	**Matsushiro Arr**	**87.54 338**	P	**P**	**23 55 28.5**	**+1.3**	
	comp=Z,1.3nm,0.8s,baz=162,slow=5.1,SNR=2.5						
MJAR			LR	LR	00 33 47.9		
	comp=Z,371nm,18.2s,baz=153,slow=35						
	comp=Z,1.3nm,0.8s						
MAJO	**Matsushiro**	**87.54 338**	P	**P**	**23 55 27.1**	**-0.1**	
MAJO	**Matsushiro**	**87.54 338**	P	**P**	**23 55 27.1**	**-0.1**	
MAJO			pmax	pmax			
	comp=Z,68nm,1.9s						
CO01	**Juntas del Tor**	**87.81 134**	P	**P**	**23 55 28.9**	**-0.4**	
CO01			IAmb	IAmb	23 55 43.2		
	comp=Z,31nm,1.2s						
SSE	**Sheshan**	**88.14 323**	P	P	23 55 34.3	+4.2	
SSE			pmax	pmax			
	comp=Z,8.0nm,0.5s						
SSE			pmax	pmax			
	comp=Z,190nm,3.1s						
SSE			LR	LR			
	comp=Z,510nm,28.8s						
SLVN	**Son La**	**88.26 305**	P	P	23 55 34.9	+3.9	
CMAR	**Chiang Mai Arr**	**88.81 299**	P	**P**	**23 55 33.1**	**-0.5**	
CMAR	**Chiang Mai Arr**	**88.81 299**	P	**P**	**23 55 34.8**	**+1.2**	
	comp=Z,2.2nm,0.6s,baz=166,slow=3.3,SNR=9.2						
CMAR			LR	LR	00 36 06.4		
	comp=Z,856nm,20.8s,baz=150,slow=36						
	comp=Z,2.2nm,0.6s						
CHTO	**Chiang Mai**	**89.08 300**	P	**P**	**23 55 34.9**	**0.0**	
CHTO			IAmb	IAmb	23 55 43.5		
	comp=Z,35nm,1.7s						
CHTO	**Chiang Mai**	**89.08 300**	P	**P**	**23 55 34.9**	**0.0**	
CHTO			pmax	pmax			
	comp=Z,35nm,1.7s						
CHTO			MLR	MLR			
	comp=Z,1μm,19.0s						
GO03	**Copiapo**	**89.72 133**	P	**P**	**23 55 37.9**	**-0.2**	
GO03			IAmb	IAmb	23 55 51.3		
	comp=Z,37nm,1.3s						
NJ2	**Nanjing**	**89.93 322**	*e*P	**P**	**23 55 40.5**	**+2.0**	
NJ2			pmax	pmax			
	comp=Z,7.0nm,0.5s						
WHN	**Wuhan**	**90.59 318**	P	P	23 55 46.1	+4.5	
WHN			SKS	**SKSac**	**00 06 18.5**	**+4.7**	
WHN			S	**S**	**00 06 33.1**	**-4.7**	
WHN			sS	sS	00 06 43.3	+5.5	
WHN			SS	**SS**	**00 12 44.5**	**+4.7**	
WHN			pmax	pmax			
	comp=Z,350nm,2.1s						
WHN			pmax	pmax			
	comp=Z,740nm,4.4s						
WHN			LR	LR			
	comp=Z,2μm,17.4s						
WHN			LR	LR			
	comp=Z,3μm,20.4s						
WHN			LR	LR			
	comp=Z,6μm,23.9s						
GRHM	**Grahamstown, E**	**91.29 213**	IAMs_20	IAMs_20	00 27 52.5		
	comp=Z,4μm,22.0s						
KSRS	**Korea Array**	**91.36 331**	P	**P**	**23 55 47.0**	**+1.9**	
	comp=Z,4.1nm,0.8s,baz=150,slow=5.3,SNR=12						
KSRS			LR	LR	00 32 44.7		
	comp=Z,1μm,21.5s,baz=165,slow=33						
	comp=Z,4.1nm,0.8s						
KSRS	**Korea Array**	**91.36 331**	P	**P**	**23 55 47.0**	**+1.9**	
KSAR	**Wonju Array Be**	**91.36 331**	P	**P**	**23 55 45.5**	**+0.5**	
KSAR	**Wonju Array Be**	**91.36 331**	P	**P**	**23 55 45.5**	**+0.5**	
VOI	**Vohitsoka**	**91.50 235**	P	**P**	**23 55 45.9**	**-0.6**	
ERM	**Erimo**	**91.70 344**	IAMs_20	IAMs_20	00 35 29.3		
	comp=Z,3μm,21.0s						
KMI	**Kunming**	**91.92 306**	⇓P	P	23 55 54.4	+6.1	
KMI			SKS	**SKSac**	**00 06 20.4**	**-1.8**	
KMI			S	**S**	**00 06 44.6**	**-6.1**	
KMI			pmax	pmax			
	comp=Z,13nm,1.7s						
KMI			LR	LR			
	comp=Z,950nm,23.0s						
KMI			LR	LR			
	comp=Z,1μm,25.1s						
KMI			LR	LR			
	comp=Z,2μm,26.2s						
SOE	**Somerset East**	**92.10 213**	P	**P**	**23 55 49.1**	**0.0**	
SOE			IAMs_20	IAMs_20	00 28 58.9		
	comp=Z,3μm,21.0s						
PZH	**PanZhiHua**	**93.56 306**	P	**P**	**23 55 57.0**	**+1.3**	
PZH			SKS	**SKSac**	**00 06 32.9**	**+1.9**	
PZH			S	**S**	**00 07 00.6**	**-4.4**	
PZH			SS	**SS**	**00 13 27.3**	**+4.3**	
PZH			pmax	pmax			
	comp=Z,10.0nm,0.7s						
PZH			pmax	pmax			
	comp=Z,180nm,6.1s						
PZH			LR	LR			
	comp=Z,970nm,24.5s						
PZH			LR	LR			
	comp=Z,1μm,23.0s						
PZH			LR	LR			
	comp=Z,2μm,24.5s						
ABPO	**Ambohimpanom**	**93.58 237**	P	**P**	**23 55 56.4**	**+0.2**	
ABPO			IAmb	IAmb	23 56 14.3		
	comp=Z,22nm,1.2s						
ABPO	**Ambohimpanom**	**93.58 237**	P	**P**	**23 55 56.4**	**+0.2**	
ABPO			pmax	pmax			
	comp=Z,22nm,1.2s						
JKA	**Kamikawa-asahi**	**93.83 344**	IAMs_20	IAMs_20	00 36 36.9		
	comp=Z,4μm,20.0s						
ASAJ	**Asahikawa**	**93.83 344**	LR	LR	00 32 58.0		
	comp=Z,2μm,21.3s,baz=176,slow=32						
OPO	**Ambohidratompo**	**93.96 237**	P	**P**	**23 55 59.5**	**+1.5**	
	comp=Z,3.7nm,1.0s,baz=115,slow=17,SNR=2.4						
OPO			LR	LR	00 30 13.3		
	comp=Z,945nm,19.7s,baz=6.5,slow=30						
	comp=Z,3.7nm,1.0s						
SUR	**Sutherland**	**94.05 209**	P	**P**	**23 55 57.9**	**-0.3**	
SUR	**Sutherland**	**94.05 209**	LR	LR	00 33 35.2		
	comp=Z,2μm,20.6s,baz=170,slow=33						
TNCH	**TengChong**	**94.19 303**	*e*P	**P**	**23 55 59.8**	**+1.1**	
TNCH			SKS	**SKSac**	**00 06 36.0**	**+1.4**	
TNCH			S	**ScS**	**00 07 09.6**	**-2.4**	
TNCH			SS	**SS**	**00 13 34.4**	**+2.4**	
TNCH			LR	LR			
	comp=Z,880nm,26.8s						
TNCH			LR	LR			
	comp=Z,720nm,22.1s						
TNCH			LR	LR			
	comp=Z,2μm,21.2s						
TIA	**Tai'an**	**94.24 323**	P	**P**	**23 55 55.4**	**-3.0**	
TIA			sP	**pwP**	**23 56 04.0**	**+2.2**	
TIA			pmax	pmax			
	comp=Z,4.0nm,0.4s						
TIA			pmax	pmax			
	comp=Z,70nm,3.5s						
TIA			LR	LR			
	comp=Z,1μm,20.6s						
TIA			LR	LR			
	comp=Z,400nm,18.2s						
TIA			LR	LR			
	comp=Z,2μm,21.6s						
DL2	**Dalian**	**94.85 327**	P	**P**	**23 56 02.3**	**+1.2**	
DL2			SKS	**SKSac**	**00 06 36.5**	**-0.5**	
DL2			S	**ScS**	**00 07 16.9**	**+0.5**	
DL2			pmax	pmax			
	comp=Z,38nm,1.6s						
DL2			pmax	pmax			
	comp=Z,430nm,7.8s						
DL2			LR	LR			
	comp=Z,1μm,20.2s						
DL2			LR	LR			
	comp=Z,1μm,19.2s						
DL2			LR	LR			
	comp=Z,2μm,23.5s						
MSHR	**Mys Shultsa**	**95.08 335**	*i* P	**P**	**23 56 00.8**	**-1.2**	
MSHR			pmax	pmax			
	comp=Z,39nm,1.5s						
MSHR			MLR	MLR			
	comp=Z,901nm,19.0s						
TA02	**Huaiquique**	**95.82 129**	IAMs_20	IAMs_20	00 28 32.4		
	comp=Z,3μm,21.0s						
BOSA	**Boshof**	**95.90 214**	P	**P**	**23 56 06.3**	**-0.3**	
BOSA			IAmb	IAmb	23 59 04.7		
	comp=Z,27nm,1.6s						
BOSA	**Boshof**	**95.90 214**	P	**P**	**23 56 07.0**	**+0.4**	
	comp=Z,6.5nm,1.1s,baz=170,slow=11,SNR=4.8						
BOSA			LR	LR	00 32 29.7		
	comp=Z,1μm,21.3s,baz=164,slow=31						
	comp=Z,6.5nm,1.1s						
CD2	**Chengdu**	**96.01 310**	P	**P**	**23 56 07.3**	**+0.6**	
CD2			pP	pwP	23 56 10.8	+0.7	
CD2			SKS	**SKSac**	**00 06 42.3**	**-1.5**	
CD2			S	**S**	**00 07 23.4**	**-2.6**	
CD2			sS	sS	00 07 34.3	+8.3	
CD2			SS	**SS**	**00 13 56.8**	**-0.8**	
CD2			LR	LR			
	comp=Z,1μm,20.2s						
CD2			LR	LR			
	comp=Z,840nm,18.6s						
CD2			LR	LR			
	comp=Z,1μm,21.6s						
XAN	**Xi'an**	**96.01 316**	P	P	23 56 13.1	+6.5	
XAN			SS	SS	00 14 02.0	+4.4	
XAN			pmax	pmax			
	comp=Z,9.0nm,0.6s						
XAN			pmax	pmax			
	comp=Z,150nm,5.8s						
XAN			LR	LR			
	comp=Z,1μm,23.7s						
XAN			LR	LR			
	comp=Z,1μm,21.5s						
XAN			LR	LR			
	comp=Z,2μm,23.4s						
USA0B	**Ussuriysk Arra**	**96.35 336**	*i* P	**P**	**23 56 07.8**	**0.0**	
BRDH	**Bariadhala**	**96.39 297**	LR	LR	00 44 50.1		
	comp=Z,2μm,18.8s,baz=138,slow=39						
YSS	**Yuzh-Sakhalins**	**96.54 345**	IAMs_20	IAMs_20	00 36 45.6		
	comp=Z,2μm,20.0s						
YSS	**Yuzh-Sakhalins**	**96.54 345**	*i* P	**P**	**23 56 08.7**	**+0.1**	
YSS			pmax	pmax			
	comp=Z,12nm,1.3s						
CPUP	**Villa Florida**	**96.67 142**	P	**P**	**23 56 09.5**	**-0.5**	
CPUP	**Villa Florida**	**96.67 142**	P	**P**	**23 56 12.3**	**+2.3**	
	comp=Z,4.9nm,0.9s,baz=204,slow=4.5,SNR=6.8						
CPUP			LR	LR	00 32 53.7		
	comp=Z,1μm,20.3s,baz=199,slow=31						
	comp=Z,4.9nm,0.9s						
PB12	**IPOC Station P**	**97.08 128**	IAMs_20	IAMs_20	00 29 59.9	

LZH				LR	LR				
	comp=Z,860nm,20.3s								
LZH				LR	LR				
	comp=Z,2µm,19.2s								
HHC	**Hu-ho-hao-te**	**100.47**	**321**	*e*P	**Pdif**	**23**	**56**	**29.3**	**+2.7**
HHC				pmax	pmax				
	comp=Z,6.0nm,0.6s								
HHC				pmax	pmax				
	comp=Z,120nm,4.8s								
HHC				LR	LR				
	comp=Z,830nm,19.4s								
HHC				LR	LR				
	comp=Z,640nm,19.4s								
HHC				LR	LR				
	comp=Z,1µm,18.8s								
KLR	**Kul'dur**	**101.07**	**338**	*i* P	**Pdif**	**23**	**56**	**27.5**	**-1.3**
KLR				pmax	pmax				
	comp=Z,8.0nm,1.7s								
KLR				MLR	MLR				
	comp=Z,724nm,18.0s								
SPB	**Sao Paulo**	**102.91**	**149**	IAMs_20	IAMs_20	00	44	50.5	
	comp=Z,2µm,19.0s								
VAO	**Valinhos**	**103.62**	**149**	IAMs_20	IAMs_20	00	38	09.1	
	comp=Z,2µm,20.0s								
SLBS	**Sierra La Lagu**	**103.68**	**70**	IAMs_20	IAMs_20	00	38	38.0	
	comp=Z,3µm,18.0s								
WIN	**Windhoek**	**104.35**	**210**	IAMs_20	IAMs_20	00	37	01.2	
	comp=Z,3µm,21.0s								
CZSB	**Cruzeiro do Su**	**104.60**	**119**	IAMs_20	IAMs_20	00	38	44.8	
	comp=Z,2µm,18.0s								
VTX	**Valle De La Tr**	**105.69**	**61**	IAMs_20	IAMs_20	00	37	20.2	
	comp=Z,3µm,20.0s								
TJX	**Tijuana**	**105.76**	**59**	IAMs_20	IAMs_20	00	37	48.2	
	comp=Z,3µm,19.0s								
SFX	**San Felipe**	**105.98**	**61**	IAMs_20	IAMs_20	00	43	28.0	
	comp=Z,3µm,18.0s								
ESJX	**Sierra Juarez**	**106.03**	**60**	IAMs_20	IAMs_20	00	37	29.4	
	comp=Z,3µm,20.0s								
BCW	**Bitter Crk WRg**	**106.20**	**56**	IAMs_20	IAMs_20	00	39	54.8	
	comp=Z,3µm,20.0s								
ELS	**Elsinore Mount**	**106.38**	**58**	IAMs_20	IAMs_20	00	39	03.5	
	comp=Z,3µm,18.0s								
PMPB	**Monarch Peak**	**106.38**	**54**	IAMs_20	IAMs_20	00	38	20.5	
	comp=Z,3µm,20.0s								
SAO	**San Andreas Ge**	**106.43**	**53**	IAMs_20	IAMs_20	00	38	50.9	
	comp=Z,3µm,19.0s								
LSZ	**Lusaka**	**106.50**	**223**	IAMs_20	IAMs_20	00	36	29.9	
	comp=Z,3µm,21.0s								
YUH	**Yuha Desert**	**106.52**	**60**	IAMs_20	IAMs_20	00	38	14.2	
	comp=Z,3µm,20.0s								
BBGB	**Big Mountain B**	**106.52**	**54**	IAMs_20	IAMs_20	00	39	40.1	
	comp=Z,3µm,20.0s								
MCCM	**Marconi Confer**	**106.69**	**51**	IAMs_20	IAMs_20	00	40	44.8	
	comp=Z,2µm,19.0s								
CPBX	**Cerro Prieto**	**106.71**	**60**	IAMs_20	IAMs_20	00	37	58.3	
	comp=Z,3µm,19.0s								
TLIG	**Tlapa**	**106.72**	**82**	IAMs_20	IAMs_20	00	37	00.3	
	comp=Z,2µm,20.0s								
PFO	**Pinyon Flats O**	**106.90**	**59**	IAMs_20	IAMs_20	00	38	51.5	
	comp=Z,3µm,19.0s								
ISA	**Isabella, Lake**	**107.25**	**56**	IAMs_20	IAMs_20	00	38	40.7	
	comp=Z,2µm,19.0s								
UNM	**Universidad Na**	**107.57**	**81**	IAMs_20	IAMs_20	00	38	15.8	
	comp=Z,3µm,19.0s								
KMPM	**Mount Pierce**	**107.75**	**49**	IAMs_20	IAMs_20	00	41	37.6	
	comp=Z,3µm,20.0s								
ZAIG	**Zacatecas**	**107.76**	**76**	IAMs_20	IAMs_20	00	39	37.2	
	comp=Z,2µm,18.0s								
KMRM	**Mail Ridge**	**107.81**	**49**	IAMs_20	IAMs_20	00	42	05.9	
	comp=Z,3µm,20.0s								
113A	**Mohawk Valley,**	**107.86**	**61**	IAMs_20	IAMs_20	00	38	28.8	
	comp=Z,3µm,20.0s								
CMB	**Columbia Colle**	**107.94**	**53**	IAMs_20	IAMs_20	00	40	34.8	
	comp=Z,2µm,19.0s								
JCC	**Jacoby Creek,**	**108.09**	**49**	IAMs_20	IAMs_20	00	42	06.7	
	comp=Z,3µm,19.0s								
BLYC	**Blythe**	**108.12**	**60**	IAMs_20	IAMs_20	00	41	05.7	
	comp=Z,2µm,18.0s								
KHMM	**Horse Mountain**	**108.28**	**49**	IAMs_20	IAMs_20	00	41	45.8	
	comp=Z,3µm,20.0s								
AFDM	**Forest Hills D**	**108.30**	**52**	IAMs_20	IAMs_20	00	43	04.2	
	comp=Z,3µm,19.0s								
KRPM	**Rodgers**	**108.35**	**49**	IAMs_20	IAMs_20	00	42	24.5	
	comp=Z,4µm,20.0s								
OMMB	**Old Mammoth Mi**	**108.38**	**54**	IAMs_20	IAMs_20	00	39	15.5	
	comp=Z,3µm,20.0s								
ORV	**Oroville**	**108.46**	**51**	IAMs_20	IAMs_20	00	41	31.6	
	comp=Z,2µm,19.0s								
GWY	**Greenwater Val**	**108.64**	**57**	IAMs_20	IAMs_20	00	45	38.4	
	comp=Z,2µm,19.0s								
KRMB	**Red Mountain**	**108.68**	**48**	IAMs_20	IAMs_20	00	42	36.2	
	comp=Z,3µm,20.0s								
HPIG		**108.70**	**70**	IAMs_20	IAMs_20	00	41	35.0	
	comp=Z,3µm,19.0s								
EMB	**Emerald Bay**	**108.78**	**52**	IAMs_20	IAMs_20	00	40	51.9	
	comp=Z,3µm,20.0s								
WAKR	**Walker**	**108.79**	**53**	IAMs_20	IAMs_20	00	40	16.3	
	comp=Z,3µm,19.0s								
GRAC	**Grapevine Rang**	**108.83**	**56**	IAMs_20	IAMs_20	00	41	19.5	
	comp=Z,3µm,20.0s								
KSXB	**Camp Six Broad**	**108.92**	**48**	IAMs_20	IAMs_20	00	43	11.6	
	comp=Z,3µm,19.0s								
KBO	**Bosley Butte**	**109.03**	**48**	IAMs_20	IAMs_20	00	42	54.5	
	comp=Z,3µm,20.0s								
MPK	**Martis Peak**	**109.05**	**52**	IAMs_20	IAMs_20	00	41	21.0	
	comp=Z,3µm,19.0s								
TBTG	**Tabatinga, AM**	**109.08**	**120**	IAMs_20	IAMs_20	00	41	35.6	
	comp=Z,2µm,18.0s								
LHV	**Little Huntoon**	**109.11**	**54**	IAMs_20	IAMs_20	00	40	18.9	
	comp=Z,3µm,19.0s								
PNTR	**Pine Nut**	**109.13**	**53**	IAMs_20	IAMs_20	00	40	55.3	
	comp=Z,2µm,20.0s								
Y14A	**Wickenburg**	**109.14**	**60**	IAMs_20	IAMs_20	00	41	09.6	
	comp=Z,3µm,19.0s								
YERR	**Yerington**	**109.25**	**53**	IAMs_20	IAMs_20	00	41	09.4	
	comp=Z,3µm,19.0s								
L02F	**Cave Junction**	**109.29**	**48**	IAMs_20	IAMs_20	00	42	46.4	
	comp=Z,3µm,20.0s								
RYN	**Ryan**	**109.38**	**54**	IAMs_20	IAMs_20	00	40	25.8	
	comp=Z,2µm,19.0s								
TPNV	**Topopah Spring**	**109.42**	**56**	IAMs_20	IAMs_20	00	41	58.0	
	comp=Z,3µm,19.0s								
YBH	**Yreka Blue Hor**	**109.44**	**49**	IAMs_20	IAMs_20	00	43	12.3	
	comp=Z,2µm,19.0s								
W13A	**Hualapai Mount**	**109.45**	**59**	IAMs_20	IAMs_20	00	40	03.8	
	comp=Z,2µm,20.0s								
PAHR	**Pah Rah Range**	**109.69**	**52**	IAMs_20	IAMs_20	00	41	59.2	
	comp=Z,3µm,19.0s								
SHPR	**Sheep Range**	**109.72**	**57**	IAMs_20	IAMs_20	00	42	05.0	
	comp=Z,2µm,19.0s								
HUEH	**Huehuetenango**	**109.86**	**89**	IAMs_20	IAMs_20	00	43	32.3	
	comp=Z,2µm,18.0s								
KVN	**Kaiserville**	**109.91**	**54**	IAMs_20	IAMs_20	00	41	02.9	
	comp=Z,2µm,19.0s								
HUMO	**Hull Mountain**	**109.95**	**48**	IAMs_20	IAMs_20	00	43	46.0	
	comp=Z,2µm,19.0s								
L04D	**Klamath Falls**	**110.00**	**49**	IAMs_20	IAMs_20	00	43	22.2	
	comp=Z,3µm,19.0s								
DBO	**Dodson Butte**	**110.19**	**48**	IAMs_20	IAMs_20	00	46	30.1	
	comp=Z,2µm,19.0s								
OHAK	**Old Harbor**	**110.19**	**22**	IAMs_20	IAMs_20	00	42	59.4	
	comp=Z,3µm,19.0s								
O14K	**Tigyukauivet M**	**110.20**	**17**	IAMs_20	IAMs_20	00	45	04.5	
	comp=Z,2µm,20.0s								
SNET	**Serv Nac Est T**	**110.22**	**92**	IAMs_20	IAMs_20	00	39	08.7	
	comp=Z,2µm,21.0s								
Q09A	**Carvers**	**110.25**	**54**	IAMs_20	IAMs_20	00	40	56.0	
	comp=Z,3µm,19.0s								
X16A	**Lo Mia Camp, P**	**110.40**	**61**	IAMs_20	IAMs_20	00	41	40.8	
	comp=Z,3µm,19.0s								
K04D	**Chiloquin, OR**	**110.57**	**49**	IAMs_20	IAMs_20	00	43	58.4	
	comp=Z,3µm,19.0s								
I02E	**Swisshome, OR**	**110.62**	**47**	IAMs_20	IAMs_20	00	42	41.5	
	comp=Z,4µm,20.0s								
JTS	**Las Juntas de**	**110.63**	**98**	IAMs_20	IAMs_20	00	42	20.3	
	comp=Z,2µm,18.0s								
J04A	**Umpqua Nationa**	**110.84**	**48**	IAMs_20	IAMs_20	00	44	14.5	
	comp=Z,2µm,19.0s								
KDAK	**Kodiak Island**	**110.87**	**22**	IAMs_20	IAMs_20	00	46	07.3	
	comp=Z,3µm,20.0s								
BRU2	**Volcan**	**111.04**	**100**	IAMs_20	IAMs_20	00	39	42.7	
	comp=Z,2µm,20.0s								
I04A	**Tendick Farm,**	**111.09**	**48**	IAMs_20	IAMs_20	00	47	17.1	
	comp=Z,2µm,20.0s								
LCMT	**Little Creek M**	**111.17**	**58**	IAMs_20	IAMs_20	00	42	24.2	
	comp=Z,3µm,18.0s								
O16K	**Kokwok River B**	**111.18**	**19**	IAMs_20	IAMs_20	00	41	31.3	
	comp=Z,2µm,20.0s								
WUAZ	**Wupatki**	**111.20**	**60**	IAMs_20	IAMs_20	00	40	42.2	
	comp=Z,3µm,20.0s								
N15K	**Kwethluk River**	**111.28**	**18**	IAMs_20	IAMs_20	00	45	46.0	
	comp=Z,2µm,20.0s								
U15A	**North Rim**	**111.31**	**59**	IAMs_20	IAMs_20	00	41	33.9	
	comp=Z,2µm,19.0s								
X18A	**Snowflake**	**111.36**	**62**	IAMs_20	IAMs_20	00	40	38.2	
	comp=Z,2µm,20.0s								
BMN	**Battle Mountai**	**111.37**	**53**	IAMs_20	IAMs_20	00	42	46.4	
	comp=Z,3µm,19.0s								
KNB	**Kanab**	**111.41**	**58**	IAMs_20	IAMs_20	00	41	14.6	
	comp=Z,3µm,19.0s								
Q19K	**Cape Douglas,**	**111.61**	**21**	IAMs_20	IAMs_20	00	40	08.9	
	comp=Z,3µm,21.0s								
TXAR	**Lajitas Array**	**111.63**	**70**	PKKPab	PKKPab	00	12	12.7	-2.9
	comp=Z,0.4nm,0.8s,baz=65,slow=4.3,SNR=3.4								
TXAR				PKKP	**PKKPdf**	**00**	**12**	**26.7**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=72,slow=4.1,SNR=3.8								
Q12A	**Willow Creek R**	**111.69**	**56**	IAMs_20	IAMs_20	00	44	53.1	
	comp=Z,3µm,20.0s								
ACON	**Acoyapa**	**111.70**	**96**	IAMs_20	IAMs_20	00	43	59.6	
	comp=Z,2µm,18.0s								
PINE	**Pine Mountain**	**111.83**	**48**	IAMs_20	IAMs_20	00	44	49.5	
	comp=Z,2µm,18.0s								
PKCU	**Pink Cliffs**	**112.00**	**58**	IAMs_20	IAMs_20	00	41	53.3	
	comp=Z,2µm,20.0s								
I05D	**Terrebonne, OR**	**112.02**	**48**	IAMs_20	IAMs_20	00	44	49.6	
	comp=Z,2µm,19.0s								
WVOR	**Wild Horse Val**	**112.04**	**51**	IAMs_20	IAMs_20	00	44	09.1	
	comp=Z,3µm,20.0s								
K13K	**Kusilvak Mount**	**112.06**	**15**	IAMs_20	IAMs_20	00	45	23.6	
	comp=Z,2µm,20.0s								
N17K	**Nushagak Hills**	**112.22**	**19**	IAMs_20	IAMs_20	00	42	03.9	
	comp=Z,2µm,20.0s								
KIBK	**Kibwezi**	**112.29**	**239**	IAMs_20	IAMs_20	00	37	38.1	
	comp=Z,3µm,22.0s								
F04D	**Rainier, OR**	**112.46**	**46**	IAMs_20	IAMs_20	00	44	35.2	
	comp=Z,3µm,20.0s								
MTPU	**Mount Pierson**	**112.49**	**58**	IAMs_20	IAMs_20	00	43	18.1	
	comp=Z,3µm,19.0s								
O19K	**Port Alsworth**	**112.57**	**20**	IAMs_20	IAMs_20	00	43	18.2	
	comp=Z,2µm,22.0s								
HOOD	**Mount Hood Mea**	**112.57**	**47**	IAMs_20	IAMs_20	00	40	55.2	
	comp=Z,3µm,20.0s								
ELK	**Elko**	**112.66**	**54**	IAMs_20	IAMs_20	00	43	10.7	
	comp=Z,3µm,19.0s								
ILSW	**Iliamna Southw**	**112.66**	**21**	IAMs_20	IAMs_20	00	43	58.7	
	comp=Z,3µm,20.0s								
I07A	**Izee**	**112.76**	**49**	IAMs_20	IAMs_20	00	45	31.2	
	comp=Z,3µm,18.0s								
K15K	**Wolf Creek Mou**	**112.95**	**16**	IAMs_20	IAMs_20	00	46	14.2	
	comp=Z,2µm,20.0s								
M17K	**Holitna River**	**112.95**	**18**	IAMs_20	IAMs_20	00	44	17.2	
	comp=Z,3µm,20.0s								
J14K	**Nanvaranak Lak**	**113.01**	**15**	IAMs_20	IAMs_20	00	46	02.7	
	comp=Z,3µm,21.0s								
N19K	**Bonanza Creek**	**113.08**	**20**	IAMs_20	IAMs_20	00	41	30.7	
	comp=Z,2µm,19.0s								
YAK	**Yakutsk**	**113.28**	**342**	IAMs_20	IAMs_20	00	43	53.3	
	comp=Z,2µm,22.0s								
DUG	**Dugway, Tooele**	**113.61**	**56**	IAMs_20	IAMs_20	00	44	42.0	
	comp=Z,3µm,19.0s								
GNW	**Green Mountain**	**113.62**	**45**	IAMs_20	IAMs_20	00	45	09.8	
	comp=Z,3µm,18.0s								
Q16A	**Castle Valley**	**113.67**	**58**	IAMs_20	IAMs_20	00	43	18.3	
	comp=Z,3µm,19.0s								
KMBO	**Kilima Mbogo**	**113.73**	**239**	IAMs_20	IAMs_20	00	38	30.6	
	comp=Z,3µm,21.0s								
D05A	**Enumclaw**	**113.75**	**45**	IAMs_20	IAMs_20	00	44	57.2	
	comp=Z,3µm,19.0s								
L18K	**Granite Mounta**	**113.84**	**18**	IAMs_20	IAMs_20	00	44	44.9	
	comp=Z,3µm,20.0s								
G08A	**Pilot Rock**	**113.89**	**48**	IAMs_20	IAMs_20	00	48	35.1	
	comp=Z,2µm,19.0s								
CLRS	**Cowichan Lake**	**113.91**	**43**	IAMs_20	IAMs_20	00	45	43.6	
	comp=Z,3µm,18.0s								
O22K	**Cooper Landing**	**113.95**	**22**	IAMs_20	IAMs_20	00	45	37.7	
	comp=Z,2µm,19.0s								
K17K	**Iditarod**	**113.96**	**17**	IAMs_20	IAMs_20	00	47	32.0	
	comp=Z,2µm,20.0s								
J16K	**Anvik River**	**114.03**	**16**	IAMs_20	IAMs_20	00	51	57.9	
	comp=Z,2µm,20.0s								
MVCO	**Mesa Verde**	**114.05**	**61**	IAMs_20	IAMs_20	00	42	41.5	
	comp=Z,2µm,18.0s								
WMQ	**Urumqi**	**114.07**	**309**	*e*PKP	**PKiKP**	**00**	**01**	**18.5**	**+0.2**
WMQ				LR	LR				
	comp=Z,560nm,17.3s								
WMQ				LR	LR				
	comp=Z,650nm,23.1s								
WMQ				LR	LR				
	comp=Z,610nm,18.7s								
PGC	**Sidney**	**114.10**	**43**	IAMs_20	IAMs_20	00	42	07.6	
	comp=Z,3µm,21.0s								
KVTX	**Kingsville**	**114.11**	**75**	IAMs_20	IAMs_20	00	46	33.2	
	comp=Z,2µm,18.0s								
MXC	**Moxie City**	**114.13**	**47**	IAMs_20	IAMs_20	00	45	40.4	
	comp=Z,3µm,20.0s								
SRU	**San Rafael Swe**	**114.17**	**58**	IAMs_20	IAMs_20	00	43	23.6	
	comp=Z,3µm,19.0s								
CBB	**Campbell River**	**114.23**	**41**	IAMs_20	IAMs_20	00	44	40.9	
	comp=Z,2µm,20.0s								
M20K	**Styx River**	**114.33**	**20**	IAMs_20	IAMs_20	00	49	04.8	
	comp=Z,2µm,20.0s								
E07A	**Sunnyside**	**114.33**	**47**	IAMs_20	IAMs_20	00	45	37.8	
	comp=Z,3µm,20.0s								
HAWA	**Hanford**	**114.38**	**47**	IAMs_20	IAMs_20	00	45	03.9	
	comp=Z,3µm,19.0s								
ANM	**Nome**	**114.41**	**13**	IAMs_20	IAMs_20	00	46	09.6	
	comp=Z,2µm,20.0s								
SUA	**Susitna One**	**114.54**	**21**	IAMs_20	IAMs_20	00	48	04.3	
	comp=Z,3µm,20.0s								
CTU	**Camp Tracy**	**114.55**	**56**	IAMs_20	IAMs_20	00	44	53.6	
	comp=Z,3µm,20.0s								
I17K	**Unalakleet**	**114.57**	**16**	IAMs_20	IAMs_20	00	51	02.9	
	comp=Z,2µm,20.0s								
SPUT	**South Promonto**	**114.58**	**55**	IAMs_20	IAMs_20	00	45	21.4	
	comp=Z,3µm,20.0s								
TTA	**Tatalina**	**114.62**	**18**	IAMs_20	IAMs_20	00	44	47.4	
	comp=Z,2µm,20.0s								
PWL	**Port Wells**	**114.63**	**23**	IAMs_20	IAMs_20	00	44	35.8	
	comp=Z,2µm,20.0s								
P18A	**Preston Nutter**	**114.67**	**58**	IAMs_20	IAMs_20	00	43	52.0	
	comp=Z,3µm,18.0s								
E08A	**Dider Farm, El**	**114.68**	**47**	IAMs_20	IAMs_20	00	45	13.9	
	comp=Z,2µm,19.0s								
HVU	**Hansel Valley**	**114.72**	**55**	IAMs_20	IAMs_20	00	43	49.2	
	comp=Z,2µm,20.0s								
SKT	**Skwentna**	**114.79**	**21**	IAMs_20	IAMs_20	00	45	08.0	
	comp=Z,2µm,20.0s								
JCT	**Junction City**	**114.86**	**72**	IAMs_20	IAMs_20	00	45	26.1	
	comp=Z,3µm,18.0s								
M22K	**Willow**	**114.94**	**22**	IAMs_20	IAMs_20	00	42	03.9	
	comp=Z,3µm,21.0s								
J18K	**Innoko River**	**114.95**	**18**	IAMs_20	IAMs_20	00	45	41.3	
	comp=Z,2µm,20.0s								
HLID	**Hailey**	**115.05**	**52**	IAMs_20	IAMs_20	00	47	01.8	
	comp=Z,2µm,19.0s								
PMR	**Palmer**	**115.05**	**22**	IAMs_20	IAMs_20	00	42	57.8	
	comp=Z,2µm,19.0s								
735A	**Kenedy**	**115.05**	**74**	IAMs_20	IAMs_20	00	44	24.1	
	comp=Z,3µm,18.0s								
D08A	**Wollman Farm,**	**115.14**	**47**	IAMs_20	IAMs_20	00	48	49.2	
	comp=Z,3µm,20.0s								
F10A	**Beach Ranch, E**	**115.24**	**49**	IAMs_20	IAMs_20	00	49	26.7	
	comp=Z,2µm,19.0s								
GHO	**Glory Hole Cre**	**115.25**	**22**	IAMs_20	IAMs_20	00	42	55.2	
	comp=Z,2µm,20.0s								
PLID	**Pearl Lake**	**115.26**	**50**	IAMs_20	IAMs_20	00	45	44.3	
	comp=Z,3µm,20.0s								
MSTX	**Muleshoe**	**115.33**	**67**	IAMs_20	IAMs_20	00	42	59.5	
	comp=Z,3µm,20.0s								
S22A	**4UR Ranch, Cre**	**115.39**	**61**	IAMs_20	IAMs_20	00	43	38.1	
	comp=Z,2µm,20.0s								
SML	**Sawmill**	**115.43**	**22**	IAMs_20	IAMs_20	00	46	14.0	
	comp=Z,2µm,18.0s								
SIT	**Sitka**	**115.52**	**31**	IAMs_20	IAMs_20	00	46	20.7	
	comp=Z,3µm,20.0s								
V35K	**Ketchikan**	**115.56**	**34**	IAMs_20	IAMs_20	00	42	49.8	
	comp=Z,2µm,20.0s								
U33K	**Whale Pass**	**115.59**	**33**	IAMs_20	IAMs_20	00	45	06.6	
	comp=Z,2µm,20.0s								
BILL	**Bilibino**	**115.61**	**0**	*i* PKIKP	**PKiKP**	**00**	**01**	**19.9**	**-0.5**
BILL				pmax	pmax				
	comp=Z,4.0nm,1.3s								
J19K	**Poorman**	**115.65**	**18**	IAMs_20	IAMs_20	00	45	52.6	
	comp=Z,2µm,20.0s								
G16K	**Koyuk River**	**115.66**	**14**	IAMs_20	IAMs_20	00	47	44.9	
	comp=Z,2µm,20.0s								
H17K	**Granite Mounta**	**115.67**	**16**	IAMs_20	IAMs_20	00	53	09.0	
	comp=Z,2µm,19.0s								
KLU	**Klutina**	**115.80**	**24**	IAMs_20	IAMs_20	00	44	25.8	
	comp=Z,2µm,20.0s								
B08A	**Colville Reser**	**115.84**	**46**	IAMs_20	IAMs_20	00	46	24.7	
	comp=Z,3µm,20.0s								
CRQM	**Cirque**	**115.97**	**25**	IAMs_20	IAMs_20	00	48	08.5	
	comp=Z,2µm,20.0s								
WRAK	**Wrangell Islan**	**116.11**	**33**	IAMs_20	IAMs_20	00	45	33.2	
	comp=Z,2µm,20.0s								
J20K	**Nowinta River**	**116.12**	**18**	IAMs_20	IAMs_20	00	45	04.0	
	comp=Z,2µm,20.0s								
O20A	**White River Ci**	**116.16**	**58**	IAMs_20	IAMs_20	00	45	55.3	
	comp=Z,2µm,19.0s								
SDCO	**Great Sand Dun**	**116.18**	**62**	IAMs_20	IAMs_20	00	44	14.9	
	comp=Z,2µm,20.0s								
N25K	**Chitina, Valde**	**116.25**	**24**	IAMs_20	IAMs_20	00	45	07.8	
	comp=Z,2µm,19.0s								
VRDI	**Verde Repeater**	**116.26**	**25**	IAMs_20	IAMs_20	00	49	02.0	
	comp=Z,2µm,21.0s								
AHID	**Auburn Hatcher**	**116.30**	**55**	IAMs_20	IAMs_20	00	48	28.0	
	comp=Z,2µm,20.0s								
GLB	**Gilahina Butte**	**116.34**	**24**	IAMs_20	IAMs_20	00	48	28.0	
	comp=Z,2µm,19.0s								
GRNC	**Granite Creek**	**116.35**	**26**	IAMs_20	IAMs_20	00	40	14.4	
	comp=Z,2µm,21.0s								
BCPM	**Bancas Point**	**116.37**	**27**	IAMs_20	IAMs_20	00	43	01.9	
	comp=Z,3µm,19.0s								
ABTX	**Abilene, Hawle**	**116.39**	**70**	IAMs_20	IAMs_20	00	43	14.6	
	comp=Z,3µm,21.0s								
I20K	**Naaghedeneel**	**116.59**	**18**	IAMs_20	IAMs_20	00	48	50.6	
	comp=Z,2µm,20.0s								
U35K	**Hyder**	**116.60**	**35**	IAMs_20	IAMs_20	00	42	59.4	
	comp=Z,3µm,22.0s								
LOGN	**Logan Glacier**	**116.65**	**26**	IAMs_20	IAMs_20	00	43	04.2	
	comp=Z,2µm,22.0s								
RND	**Reindeer**	**116.66**	**21**	IAMs_20	IAMs_20	00	47	22.3	
	comp=Z,3µm,20.0s								
CTGM	**Chitina Glacie**	**116.66**	**26**	IAMs_20	IAMs_20	00	43	27.5	
	comp=Z,2µm,22.0s								
P29M	**Windy Craggy**	**116.71**	**28**	IAMs_20	IAMs_20	00	46	18.1	
	comp=Z,2µm,20.0s								
R32K	**Eaglecrest**	**116.74**	**31**	IAMs_20	IAMs_20	00	47	26.8	
	comp=Z,3µm,19.0s								
F17K	**Baldwin Pennin**	**116.81**	**14**	IAMs_20	IAMs_20	00	48	30.2	
	comp=Z,2µm,20.0s								
TPAW	**Teton Pass**	**116.86**	**54**	IAMs_20	IAMs_20	00	52	27.8	
	comp=Z,2µm,19.0s	

P33M	Teslin, Yukon	118.77	30	IAMs_20	IAMs_20	00 48 40.5		
	comp=Z,2µm,19.0s							
R33M	Jennings River	118.81	32	IAMs_20	IAMs_20	00 45 25.5		
	comp=Z,3µm,20.0s							
C18K	Utukok River	118.83	13	IAMs_20	IAMs_20	00 49 59.5		
	comp=Z,2µm,20.0s							
RLMT	Red Lodge	118.84	54	IAMs_20	IAMs_20	00 47 21.3		
	comp=Z,2µm,18.0s							
J26L	Joseph Creek	118.89	23	IAMs_20	IAMs_20	00 46 24.3		
	comp=Z,2µm,21.0s							
MKAR	Makanchi Array	118.89	309	PKPdf	PKiKP	00 01 28.6	+1.1	
MKAR	Makanchi Array	118.89	309	PKP	PKiKP	00 01 29.4	+1.9	
	comp=Z,0.8nm,0.5s,baz=175,slow=2.6,SNR=9.5							
MKAR	Makanchi Array	118.89	309	PKIKP	PKiKP	00 01 28.6	+1.1	
F21K	Alatna River	118.92	17	IAMs_20	IAMs_20	00 50 35.8		
	comp=Z,2µm,20.0s							
H24K	Noodor Dome	118.93	20	IAMs_20	IAMs_20	00 51 25.4		
	comp=Z,3µm,20.0s							
G23K	Bananza Creek	119.19	19	IAMs_20	IAMs_20	00 47 21.1		
	comp=Z,2µm,20.0s							
D19K	Kuna River	119.19	14	IAMs_20	IAMs_20	00 50 38.1		
	comp=Z,2µm,20.0s							
PRP	Porcupine Dome	119.22	21	IAMs_20	IAMs_20	00 44 49.1		
	comp=Z,2µm,22.0s							
L29M	L29M	119.28	26	IAMs_20	IAMs_20	00 54 16.0		
	comp=Z,2µm,19.0s							
C19K	Lookout Ridge	119.50	14	IAMs_20	IAMs_20	00 50 31.2		
	comp=Z,2µm,20.0s							
I26K	Coal Creek Min	119.64	22	IAMs_20	IAMs_20	00 51 25.2		
	comp=Z,2µm,19.0s							
DAWY	Dawson	119.66	25	IAMs_20	IAMs_20	00 47 02.9		
	comp=Z,2µm,22.0s							
M31M	Drury Creek, Y	119.73	28	IAMs_20	IAMs_20	00 50 38.9		
	comp=Z,2µm,19.0s							
EGAK	Eagle	119.74	23	IAMs_20	IAMs_20	00 46 40.8		
	comp=Z,2µm,20.0s							
G24K	Hadweenzic Riv	119.74	20	IAMs_20	IAMs_20	00 52 12.8		
	comp=Z,2µm,20.0s							
Z38A	Mt. Pleasant	119.77	72	IAMs_20	IAMs_20	00 44 53.1		
	comp=Z,3µm,20.0s							
K29M	Barlow Dome	120.02	25	IAMs_20	IAMs_20	00 45 15.6		
	comp=Z,2µm,21.0s							
E22K	Anaktuvuk Pass	120.03	17	IAMs_20	IAMs_20	00 51 12.3		
	comp=Z,2µm,19.0s							
FYU	Fort Yukon	120.15	21	IAMs_20	IAMs_20	00 49 51.5		
	comp=Z,2µm,20.0s							
J29N	Klondike Camp	120.29	25	IAMs_20	IAMs_20	00 47 22.5		
	comp=Z,2µm,22.0s							
OGNE	Ogallala	120.29	61	IAMs_20	IAMs_20	00 46 47.8		
	comp=Z,3µm,20.0s							
F24K	Squaw Lake	120.33	19	IAMs_20	IAMs_20	00 48 58.2		
	comp=Z,2µm,21.0s							
EGMT	Eagleton	120.43	51	IAMs_20	IAMs_20	00 48 56.3		
	comp=Z,2µm,19.0s							
D22K	Ayikyak River	120.50	16	IAMs_20	IAMs_20	00 51 49.8		
	comp=Z,2µm,20.0s							
I28M	Miner Creek	120.59	23	IAMs_20	IAMs_20	00 48 01.4		
	comp=Z,3µm,21.0s							
E24K	Your Creek	120.66	18	IAMs_20	IAMs_20	00 48 19.0		
	comp=Z,2µm,22.0s							
B20K	Meade River	120.70	14	IAMs_20	IAMs_20	00 51 49.8		
	comp=Z,2µm,20.0s							
R32A	Long Quarter,	120.71	65	IAMs_20	IAMs_20	00 52 19.9		
	comp=Z,3µm,18.0s							
B21K	Ikpikpuk River	120.79	15	IAMs_20	IAMs_20	00 52 07.3		
	comp=Z,2µm,19.0s							
FURI	Furi	120.84	247	IAMs_20	IAMs_20	00 44 12.4		
	comp=Z,2µm,20.0s							
F25K	Christian Rive	120.89	20	IAMs_20	IAMs_20	00 52 56.1		
	comp=Z,2µm,19.0s							
TOLK	Toolik Lake Re	120.91	18	IAMs_20	IAMs_20	00 56 58.5		
	comp=Z,2µm,19.0s							
J30M	Hart River	120.92	25	IAMs_20	IAMs_20	00 52 40.2		
	comp=Z,2µm,18.0s							
D23K	Nanushuk River	120.96	17	IAMs_20	IAMs_20	00 56 04.9		
	comp=Z,2µm,18.0s							
G27K	Doyon Strip	121.20	22	IAMs_20	IAMs_20	00 49 50.6		
	comp=Z,2µm,20.0s							
WLAR	White Oak Lake	121.25	73	IAMs_20	IAMs_20	00 49 38.1		
	comp=Z,3µm,20.0s							
MTDJ	Mount Denham	121.30	97	IAMs_20	IAMs_20	00 50 18.8		
	comp=Z,2µm,18.0s							
F26K	Sheenjek River	121.31	20	IAMs_20	IAMs_20	00 50 09.2		
	comp=Z,2µm,20.0s							
I30M	Mount Dempster	121.39	25	IAMs_20	IAMs_20	00 51 28.6		
	comp=Z,2µm,20.0s							
LAO	LASA Array	121.48	54	IAMs_20	IAMs_20	00 47 19.1		
	comp=Z,2µm,20.0s							
D24K	Happy Valley	121.48	17	IAMs_20	IAMs_20	00 50 55.8		
	comp=Z,2µm,18.0s							
RLO	Rose Lookout	121.59	70	IAMs_20	IAMs_20	00 42 46.2		
	comp=Z,2µm,19.0s							
C23K	Itkillik River	121.70	16	IAMs_20	IAMs_20	00 52 19.6		
	comp=Z,2µm,19.0s							
143A	Socs Landing,	121.73	75	IAMs_20	IAMs_20	00 50 11.8		
	comp=Z,2µm,18.0s							
C24K	Franklin Bluff	121.98	17	IAMs_20	IAMs_20	00 57 51.8		
	comp=Z,2µm,19.0s							
TIXI	Tiksi	122.05	347	IAMs_20	IAMs_20	00 56 23.8		
	comp=Z,1µm,20.0s							
CAMR	Camarioca	122.08	90	IAMs_20	IAMs_20	00 50 55.8		
	comp=Z,2µm,18.0s							
D25K	Kavik River	122.13	18	IAMs_20	IAMs_20	00 54 08.8		
	comp=Z,2µm,20.0s							
G29M	Pine Creek	122.21	23	IAMs_20	IAMs_20	00 48 37.1		
	comp=Z,2µm,20.0s							
F28M	Old Crow	122.27	22	IAMs_20	IAMs_20	00 52 58.7		
	comp=Z,2µm,20.0s							
E27K	Coleen River	122.29	21	IAMs_20	IAMs_20	00 46 56.3		
	comp=Z,2µm,22.0s							
H31M	Peel River	122.40	25	IAMs_20	IAMs_20	00 48 59.2		
	comp=Z,2µm,21.0s							
G30M	tAoh Zraii Nji	122.74	23	IAMs_20	IAMs_20	00 48 42.1		
	comp=Z,2µm,21.0s							
BGNE	Belgrade	122.89	63	IAMs_20	IAMs_20	00 47 25.5		
	comp=Z,3µm,21.0s							
C27K	Jago River	122.94	19	IAMs_20	IAMs_20	00 50 53.3		
	comp=Z,2µm,20.0s							
E28M	Babbage River	123.11	21	IAMs_20	IAMs_20	00 47 30.8		
	comp=Z,2µm,21.0s							
KKAR	Karatay Array	123.16	299		PKiKP	00 01 35.4	-0.6	
KKAR	Karatay Array	123.16	299		PKiKP	00 01 35.1	-0.8	
KKAR	Karatay Array	123.16	299	PKIKP	PKiKP	00 01 35.2	-0.8	
KKAR						00 01 35.4		
KURBB	Kurchatov Arra	123.22	310	PKhKP	PKPpre	00 01 31.8		
	comp=Z,0.9nm,0.8s,baz=114,slow=1.8,SNR=5.1							
KURBB				PKP	pPKPdf	00 01 37.6	+2.0	
	comp=Z,1.8nm,0.7s,baz=116,slow=1.8,SNR=11							
KURK	Kurchatov	123.23	311	PKPdf	PKiKP	00 01 37.1	+1.3	
KURK	Kurchatov	123.23	311 *c*	*i* PKIKP	PKiKP	00 01 36.6	+0.8	
KURK				pmax	pmax			
	comp=Z,19nm,2.5s							
D27M	Malcolm River	123.26	20	IAMs_20	IAMs_20	00 47 06.7		
	comp=Z,2µm,22.0s							
RCBR	Riachuelo	123.27	154	IAMs_20	IAMs_20	00 51 49.2		
	comp=Z,1µm,18.0s							
E29M	Blow River	123.35	22	IAMs_20	IAMs_20	00 53 32.2		
	comp=Z,2µm,18.0s							
DGMT	Dagmar	123.65	53	IAMs_20	IAMs_20	00 49 06.5		
	comp=Z,1µm,20.0s							
F31M	Tsiigehtchic	123.74	24	IAMs_20	IAMs_20	00 50 40.6		
	comp=Z,2µm,22.0s							
WRGLY	Wrigley	124.08	31	IAMs_20	IAMs_20	00 51 36.8		
	comp=Z,2µm,18.0s							
451A	Vernon	124.12	81	IAMs_20	IAMs_20	00 40 47.1		
	comp=Z,2µm,18.0s							
L34A	Svendsen Farm,	124.29	63	IAMs_20	IAMs_20	00 48 17.5		
	comp=Z,3µm,20.0s							
INK	Inuvik	124.41	23	IAMs_20	IAMs_20	00 49 32.3		
	comp=Z,2µm,20.0s							
PAPH	Port-au-Prince	124.99	101	IAMs_20	IAMs_20	00 52 14.3		
	comp=Z,2µm,19.0s							
HALT	Halls	125.06	73	IAMs_20	IAMs_20	00 48 38.0		
	comp=Z,2µm,20.0s							
ECSD	EROS Data Cent	125.18	61	IAMs_20	IAMs_20	00 59 17.1		
	comp=Z,2µm,20.0s							
WVT	Waverly	126.16	74	IAMs_20	IAMs_20	00 48 54.3		
	comp=Z,3µm,20.0s							
F33A	5 Mile Ranch,	126.56	59	IAMs_20	IAMs_20	00 49 53.7		
	comp=Z,3µm,21.0s							
YKA	Yellowknife Ar	126.88	35	PKP	PKiKP	00 01 44.2	+1.6	
	comp=Z,0.6nm,0.8s,baz=234,slow=1.7,SNR=3.6							
N41A	Harden Midland	126.93	68	IAMs_20	IAMs_20	00 53 45.6		
	comp=Z,2µm,18.0s							
RAYN	Ar Rayn	127.07	265	IAMs_20	IAMs_20	00 47 18.7		
	comp=Z,2µm,21.0s							
CLTN	Cedars of Leba	127.11	75	IAMs_20	IAMs_20	00 50 41.4		
	comp=Z,2µm,20.0s							
W50A	Signal Mountai	127.24	76	IAMs_20	IAMs_20	01 05 37.9		
	comp=Z,3µm,22.0s							
PCDR	Punta Cana, DR	127.55	105	IAMs_20	IAMs_20	00 51 02.0		
	comp=Z,2µm,19.0s							
U49A	Red Boiling Sp	127.72	75	IAMs_20	IAMs_20	00 51 08.5		
	comp=Z,2µm,20.0s							
FFC	Flin Flon	128.27	48	IAMs_20	IAMs_20	00 53 19.5		
	comp=Z,2µm,18.0s							
WCI	Wyandotte Cave	128.39	73	IAMs_20	IAMs_20	00 52 50.3		
	comp=Z,2µm,20.0s							
T50A	Nancy	128.63	75	IAMs_20	IAMs_20	00 51 16.6		
	comp=Z,2µm,21.0s							
BVAR	Borovoye Array	128.76	310	PKP	PKiKP	00 01 47.4	+0.6	
	comp=Z,1.2nm,0.6s,baz=132,slow=2.1,SNR=6.2							
BRVK	Borovoye	128.83	310 *c*	*i* PKIKP	PKiKP	00 01 47.6	+0.7	
BRVK				pmax	pmax			
	comp=Z,13nm,1.7s							
V53A	Saluda	129.16	77	IAMs_20	IAMs_20	00 52 48.6		
	comp=Z,2µm,20.0s							
TZTN	Tazewell	129.19	76	IAMs_20	IAMs_20	00 52 05.4		
	comp=Z,2µm,20.0s							
E38A	The Farm, Brul	129.75	61	IAMs_20	IAMs_20	00 56 17.9		
	comp=Z,2µm,20.0s							
TDBA	Terre de Bas,	129.86	113	IAMs_20	IAMs_20	01 01 57.8		
	comp=Z,2µm,19.0s							
NRIK	Noril'sk	129.93	333	PKP	PKiKP	00 01 50.5	+1.9	
	comp=Z,2.0nm,0.7s,baz=220,slow=0.5,SNR=5.0							
NRIK	Noril'sk	129.93	333	*i* PKIKP	PKiKP	00 01 48.4	-0.2	
NRIK				MLR	MLR			
	comp=Z,2µm,20.0s							
SEUS	St. Eustatius	130.26	110	IAMs_20	IAMs_20	00 59 18.4		
	comp=Z,1µm,18.0s							
Q52A	Bidwell	131.40	74	IAMs_20	IAMs_20	00 54 39.0		
	comp=Z,3µm,20.0s							
BLA	Blacksburg	131.62	77	IAMs_20	IAMs_20	00 53 54.9		
	comp=Z,3µm,21.0s							
V58A	Windy Hill, Pi	131.67	80	IAMs_20	IAMs_20	00 55 21.1		
	comp=Z,2µm,20.0s							
O52A	Adamsville	132.31	73	IAMs_20	IAMs_20	00 53 41.1		
	comp=Z,2µm,20.0s							
CBN	Corbin Frederi	134.18	78	IAMs_20	IAMs_20	00 55 24.6		
	comp=Z,2µm,21.0s							
SVE	Sverdlovsk	135.49	311	*i* PKIKP	PKiKP	00 02 03.9	+3.7	
SVE				pmax	pmax			
	comp=Z,18nm,1.4s							
SVE				MLR	MLR			
	comp=Z,1µm,22.0s							
MEDO	Medina	136.06	71	IAMs_20	IAMs_20	00 55 49.2		
	comp=Z,2µm,20.0s							
ACRG	Accra	136.16	201	IAMs_20	IAMs_20	00 55 14.9		
	comp=Z,1µm,20.0s							
ARTI	Arti	136.49	309	*i* PKIKP	PKiKP	00 02 07.4	+5.1	
P61A	Hammonton	136.67	78	IAMs_20	IAMs_20	00 57 19.4		
	comp=Z,2µm,19.0s							
MAK	Makhachkala	137.27	287	*i* PKIKP	PKPdf	00 01 59.7	-2.7	
MAK				*e*		00 09 10.5		
MAK				*e*SS	SS	00 22 55.0	-0.6	
MAK				*e*SSS	SSS	00 28 06.0		
MAK				pmax	pmax			
	comp=Z,763nm,1.6s							
ODNJ	Ogdensburg	137.51	76	IAMs_20	IAMs_20	01 00 41.7		
	comp=Z,2µm,20.0s							
PAL	Palisades	137.93	77	IAMs_20	IAMs_20	00 59 15.8		
	comp=Z,2µm,20.0s							
RES	Resolute Bay	137.97	23	PKP	PKiKP	00 02 05.5	+0.7	
	comp=Z,2.6nm,0.8s,baz=284,slow=6.8,SNR=6.2							
DBIC	Dimbokro	138.11	194	PKhKP	PKPpre	00 01 58.2		
	comp=Z,4.0nm,1.0s,baz=227,slow=5.9,SNR=3.7							
GHAJ	Ghor Haditha	138.81	265	IAMs_20	IAMs_20	00 55 22.6		
	comp=Z,1µm,21.0s							
M63A	Gales Ferry	139.35	77	IAMs_20	IAMs_20	00 59 32.3		
	comp=Z,2µm,20.0s							
MMAI	Mount Meron Ar	139.96	267	PKP	PKiKP	00 02 09.6	-0.7	
	comp=Z,0.4nm,0.4s,baz=158,slow=4.7,SNR=1.6							
KBZ	Khabaz	140.60	286	PKP	PKiKP	00 02 10.3	-0.7	
	comp=Z,2.1nm,0.9s,baz=167,slow=5.2,SNR=3.6							
KIV	Kislovodsk	140.84	286	*i* PKIKP	PKPdf	00 02 08.4	-0.7	
KIV				pmax	pmax			
	comp=Z,7.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,434nm,24.0s							
GAZ	Gaziantep	141.12	274	IAMs_20	IAMs_20	00 56 51.0		
	comp=Z,1µm,20.0s							
KIRV	Kirov	141.75	311 *c*	*i* PKIKP	PKiKP	00 02 12.3	-0.6	
TORD	Torodi Ar. Bea	142.83	207		PKPdf	00 02 12.1	-1.3	
TORD	Torodi Ar. Bea	142.83	207	PKhKP	PKPpre	00 02 09.9		
	comp=Z,1.3nm,0.6s,baz=158,slow=1.3,SNR=10							
VRH	Novokhopyorsk	144.16	297	*e*PKIKP	PKPdf	00 02 13.5	-1.1	
VRH				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KIRS	Kirsehir-Merke	144.35	274	⇑P	PKiKP	00 02 16.6	-2.5	
BR131	Keskin Array S	144.84	275		PKPdf	00 02 14.4	-1.9	
BR131	Keskin Array S	144.84	275	PKIKP	PKPdf	00 02 14.4	-1.9	
BRTR	Keskin Array B	144.84	275		PKPdf	00 02 14.0	-2.4	
BRTR	Keskin Array B	144.84	275	PKP	PKPdf	00 02 14.5	-1.9	
	comp=Z,3.8nm,0.7s,baz=136,slow=4.2,SNR=24							
ANTO	Ankara	145.47	274	PKPbc	PKPab	00 02 16.2	-1.5	
ANTO	Ankara	145.47	274	⇓P	PKiKP	00 02 20.6	-0.7	
ANTO	Ankara	145.47	274	PKP2	PKPab	00 02 16.2	-1.5	
VORD	Divnogorie	145.56	296	*e*PKP2	PKPab	00 02 16.5	-1.0	
VORD				pmax	pmax			
	comp=Z,80nm,0.9s							
VSR	Storozhevoye	145.70	296	*e*PKP2	PKPab	00 02 16.7	-1.3	
VSR				pmax	pmax			
	comp=Z,100nm,1.0s							
ELL	Elmali	145.80	268	PKPdf	PKPab	00 02 17.9	-1.1	
ELL	Elmali	145.80	268	PKIKP	PKPab	00 02 17.9	-1.1	
VORR	Voronezh	145.80	297	*e*PKP2	PKiKP	00 02 18.3	-3.2	
VORR				pmax	pmax			
	comp=Z,158nm,1.4s							
NOR	Nord	146.16	1	*i* P	PKPdf	00 02 15.2	-2.0	
LPSR	Galich'ya Gora	146.20	298	*e*PKP2	PKPab	00 02 18.9	-1.0	
LPSR				pmax	pmax			
	comp=Z,150nm,0.9s							
SIM	Simferopol'	146.83	283	*e*PKP2	PKiKP	00 02 25.8	+1.9	
SIM				pmax	pmax			
	comp=Z,36nm,0.8s							
MDUB	Mudurnu	146.84	274	PKPdf	PKPab	00 02 20.4	-2.5	
KLMR	Klimovskoe	147.01	313	*e*PKP2	PKPab	00 02 21.1	-1.7	
KLMR				pmax	pmax			
	comp=Z,186nm,1.4s							
KLMR				MLR	MLR			
	comp=Z,1µm,21.0s							
NEEM	North Greenlan	147.14	14	*i* P	PKiKP	00 02 22.6	-1.4	
SCHQ	Scheffervilla	147.25	58	PKPbc	PKiKP	00 02 24.0	-0.4	
	comp=Z,6.3nm,0.7s,baz=277,slow=9.2,SNR=3.4							
SPITS	Spitsbergen Ar	147.46	349	PKPbc	PKiKP	00 02 22.0	-2.3	
	comp=Z,6.4nm,0.4s,baz=81,slow=6.2,SNR=21							
SPITS	Spitsbergen Ar	147.46	349	PKP2	PKiKP	00 02 22.0	-2.3	
SPB2	Spitsbergen Ar	147.46	349	PKPdf	PKPbc	00 02 21.0	-1.1	
MOS	Moscow	147.56	304	*i* PKP2	PKPab	00 02 23.5	-1.6	
MOS				pmax	pmax			
	comp=Z,31nm,0.7s							
KULLO	Kullorsuaq	147.66	20	*i* P	PKPab	00 02 23.4	-1.5	
OBN	Obninsk	148.06	302		PKPab	00 02 25.0	-2.1	
OBN	Obninsk	148.06	302	⇑P	PKPab	00 02 27.7	+0.6	
OBN	Obninsk	148.06	302	*e*PKIKP	PKPbc	00 02 21.1	-3.1	
OBN				*e*		00 05 52.4		
OBN				*e*		00 09 17.8		
OBN				pmax	pmax			
	comp=Z,138nm,1.1s							
IDI	Anoyia	148.34	261		PKiKP	00 02 24.9	-2.5	
UPNV	Upernavik	148.85	23	*i* P	PKPbc	00 02 24.5	-1.3	
PURM	Purcari	150.17	284	⇓P	PKPab	00 02 34.0	-2.0	
JURR	Jurilovca	150.21	280	⇑P	PKiKP	00 02 29.9	-0.9	
TAM	Tamanrasset	150.29	220		PKPbc	00 02 28.2	-2.9	
TAM	Tamanrasset	150.29	220	PKIKP	PKPbc	00 02 28.2	-2.9	
TLCR		150.40	281	⇑P	PKPab	00 02 39.3	+2.4	
ALN	Alexandroupoli	150.50	271	PKPbc	PKPbc	00 02 28.3	-2.5	
ALN	Alexandroupoli	150.50	271	PKIKP	PKPbc	00 02 28.3	-2.5	
TPGR	Topolog	150.54	280	⇑P	PKiKP	00 02 31.7	+0.1	
HARR	Harsova	150.81	280	⇓P	PKiKP	00 02 32.1	0.0	
HARR	Harsova	150.81	280	⇓PKIKP	PKiKP	00 02 32.1	0.0	
CFR	Carcaliu	150.85	281	⇑P	PKiKP	00 02 30.8	-1.3	
CFR	Carcaliu	150.85	281	⇑PKIKP	PKiKP	00 02 30.8	-1.3	
ARCES	ARCESS Array B	150.91	332		PKiKP	00 02 30.6	-0.9	
ARCES	ARCESS Array B	150.91	332	PKPbc	PKiKP	00 02 31.7	+0.2	
	comp=Z,12nm,0.8s,baz=83,slow=3.8,SNR=12							
ARCES	ARCESS Array B	150.91	332	PKIKP	PKiKP	00 02 30.7	-0.9	
RDO	Rodhopi	150.95	272		PKiKP	00 02 30.6	-1.9	
DAG	Danmarks Havn	150.97	2	*i* P	PKPbc	00 02 28.4	-2.5	
DAG	Danmarks Havn	150.97	2	*e*S	PKPdf	00 02 28.0	+2.9	
MILM	Milestii Mici	150.98	284	⇑P	PKiKP	00 02 30.9	-1.4	
MILM	Milestii Mici	150.98	284	⇑PKIKP	PKiKP	00 02 30.9	-1.4	
VLDR	Vladesti	151.12	282	⇑P	PKPab	00 02 38.8	-1.2	
ELND	Elena	151.50	275	⇑P	PKiKP	00 02 31.8	-1.8	
GHRR		151.63	282	⇓P	PKPab	00 02 37.6	-4.4	
SORM	Soroca	151.63	287	⇓P	PKiKP	00 02 32.3	-1.4	
SORM	Soroca	151.63	287	⇓PKIKP	PKiKP	00 02 32.3	-1.4	
AKASG	Malin Array Be	151.69	292		PKiKP	00 02 31.8	-1.9	
AKASG	Malin Array Be	151.69	292	PKPbc	PKiKP	00 02 32.5	-1.1	
	comp=Z,7.0nm,0.6s,baz=80,slow=2.5,SNR=23							
AKASG	Malin Array Be	151.69	292	PKIKP	PKiKP	00 02 31.8	-1.9	
AKBB	Malin Array Si	151.69	292		PKiKP	00 02 32.0	-1.6	
AKBB	Malin Array Si	151.69	292	PKIKP	PKiKP	00 02 32.0	-1.6	
KIEV	Kiev	151.70	292	IAMs_20	IAMs_20	01 20 35.6		
	comp=Z,1µm,22.0s							
KIEV	Kiev	151.70	292	⇑P	PKiKP	00 02 32.5	-1.2	
KIEV	Kiev	151.70	292	⇑PKIKP	PKiKP	00 02 32.5	-1.2	
VRI	Vrincioaia	152.01	281	⇑P	PKiKP	00 02 34.0	-0.6	
VRI	Vrincioaia	152.01	281	⇑PKIKP	PKiKP	00 02 34.0	-0.6	
PLOR	Plostina	152.06	281	⇑P	PKPab	00 02 46.5	+2.6	
NEHR	Nehoiu	152.15	280	⇑P	PKPab	00 02 37.7	-6.6	
TESR	Tescani	152.27	283	⇓P	PKiKP	00 02 34.6	-0.4	
COVR	Voineasa-Covas	152.35	281	⇑P	PKPab	00 02 39.2	-6.0	
ONER	Baraj Valea Uz	152.38	282	⇑P	PKiKP	00 02 35.7	+0.3	
MLR	Muntele Rosu	152.41	280		PKiKP	00 02 34.1	-1.4	
MLR	Muntele Rosu	152.41	280	⇑P	PKiKP	00 02 37.7	+2.1	
MLR	Muntele Rosu	152.41	280	PKIKP	PKiKP	00 02 34.1	-1.4	
DOPR	Dopca	152.93	281	⇓P	PKiKP	00 02 37.2	+0.7	
MNK	Minsk	153.00	300	*i* PKIKP	PKiKP	00 02 39.1	+2.8	
MNK				*i*		00 06 23.4		
MNK				*i*		00 09 38.2		
MNK				*i* PPP	PPP	00 09 50.2		
MNK				*i* SS	SS	00 25 57.5	+2.5	
MNK				*i* SSS	SSS	00 31 46.0		
MNK				pmax	pmax			
	comp=E,13nm,1.2s							
MNK				pmax	pmax			
	comp=Z,18nm,1.1s							
MNK				pmax	pmax			
	comp=N,11nm,1.1s							
ARR	Arges	153.23	279	⇓P	PKiKP	00 02 36.6	-0.5	
FIA1	FINESS Array S	153.44	316	PKPbc	PKiKP	00 02 36.2	-0.8	
FINES	FINESS Array B	153.44	316	PKPbc	PKiKP	00 02 36.7	-0.3	
	comp=N,5.1nm,0.7s,baz=91,slow=4.2,SNR=15							
BURAR	Bucovina Array	153.53	284	⇑P	PKPab	00 02 52.0	+1.9	
BURAR	Bucovina Array	153.53	284	⇑PKP2	PKPab	00 02 52.0	+1.9	
CJR	Cluj-Napoca	154.34	282	⇓P	PKPab	00 02 59.6	+6.0	
CJR	Cluj-Napoca	154.34	282	⇓PKP2	PKPab	00 02 59.6	+6.0	
MARR	Marisel-Cluj	154.64	281	⇑P	PKPab	00 02 56.5	+1.6	
SURR	Surduc	155.03	279	⇑P	PKPab	00 02 44.4	-12	
PABE	Paberze	155.27	302	IAMs_20	IAMs_20	01 16 51.1		
	comp=Z,2µm,22.0s							
WDD	Wied Dalam	155.44	251	IAMs_20	IAMs_20	01 03 39.2		
	comp=Z,2µm,20.0s							
KWP	Kalwaria Pacla	155.60	288	*e*PKP	PKPab	00 03 05.0	+6.1	
KWP	Kalwaria Pacla	155.60	288	IAMs_20	IAMs_20	01 20 06.2		
	comp=Z,1µm,19.0s							
SUW	Suwalki	155.74	299	*e*PKP	PKPab	00 03 04.0	+4.8	
SUW	Suwalki	155.74	299	IAMs_20	IAMs_20	01 17 02.3		
	comp=Z,2µm,21.0s							
KOLS

CLL			*ex*	x	00 22 36.0	
CLL			*e*SS	**SS**	**00 27 30.0**	**-0.7**
CLL			*e*SSS	SSS	00 33 36.0	
CLL			*e*SSSS		00 38 12.0	
NKC	**Novy Kostel**	**162.25 288**	AMS	AMS	01 20 30.0	
	comp=Z,2μm,20.0s					
WTTA	**Wattenberg**	**162.41 278**	*e*PKP	**PKPab**	**00 03 28.5**	**-0.2**
	comp=Z,11nm,1.5s					
WATA	**Walderalm**	**162.46 278**	*e*PKP	**PKPab**	**00 03 27.7**	**-1.2**
	comp=Z,7.5nm,1.4s					
SQTA	**Sankt Quirin**	**162.69 277**	*e*PKP	**PKPab**	**00 03 30.6**	**+0.7**
	comp=Z,15nm,1.6s					
MOTA	**Moosalm**	**162.78 278**	*e*PKP	**PKPab**	**00 03 30.6**	**+0.3**
	comp=Z,5.0nm,0.8s					
FETA	**Feichten**	**162.97 276**	*e*PKP	**PKPab**	**00 03 32.6**	**+1.5**
	comp=Z,10nm,1.2s					
RETA	**Reutte**	**163.03 278**	*e*PKP	**PKPab**	**00 03 32.8**	**+1.5**
	comp=Z,15nm,1.3s					
DAVA	**Damuels**	**163.59 277**	*ep*PKP	**PKPab**	**00 03 35.6**	**+1.8**
	comp=Z,12nm,1.3s					
SENIN	**Lac Senin/Sane**	**165.12 272**	PKPab	**PKPab**	**00 03 40.8**	**+0.1**
PVAQ	**Vaqueiros**	**168.40 208**	*e*PKPdf	PKPdf	00 02 57.5	+11
ESDC	**Sonseca Array**	**168.82 226**	PKPab	**PKPab**	**00 03 56.8**	**-0.2**
	comp=Z,3.1nm,1.1s,baz=153,slow=2.9,SNR=5.5					
MTE	**Manteigas**	**171.01 216**	*e*PKPdf	PKPdf	00 02 56.9	+9.3
MTE	**Manteigas**	**171.01 216**	*e*SS	SS	00 29 09.8	+8.0
MVO	**Moncorvo**	**171.43 221**	*e*PKPdf	PKPdf	00 02 57.7	+10
MVO	**Moncorvo**	**171.43 221**	*e*SS	SS	00 29 18.8	+13
PGAV	**Gavieira, Arco**	**172.62 219**	*e*PKPab	**PKPab**	**00 04 19.1**	**+5.4**

DNK 25 00:00:03.4±1.4, 71°.91N×28°.55W, h0km, ML1.9,
Presumed Glacial event, Eastern Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.58**	**121**	*i* P	Pn	00 00 45.2	-1.1
SCO				*i* S	Sn	00 01 18.1	-0.1
SCO				IAML		00 01 33.8	
	comp=Z,7.2nm,0.7s						
SUMG	**Summit**	**3.11**	**287**	*i* P	Pn	00 00 52.8	-1.1
SUMG				*i* S	Sn	00 01 31.0	-0.9
SUMG				IAML		00 02 52.6	
	comp=Z,6.7nm,1.0s						
DBG	**Daneborg**	**3.42**	**41**	*i* P	Pn	00 00 56.6	-1.3
DBG				IAML		00 02 54.7	
	comp=Z,16nm,0.7s						
SOEG	**Soedalen**	**3.85**	**196**	*i* P	Pg	00 01 17.9	+0.8
SOEG				*i* S	Sn	00 01 36.7	-13

ASRS ***25*** *00:00:17.6, 54°.2N±0°.5×86°.2E±0°.5, h3km, MLh3.7/18, confirmed*
NNC ***25*** *00:00:18.7±1.5, 54°.14N×86°.17E, h0km, mb4.2, mpv3.4, Error ellipse: s-maj=18.3km s-min=7.0km az=177.0, Suspected Mining explosion.*
ISC 25 00:00:18.8±0.7, 54°.23N±0°.02×86°.13E±0°.02, h0km, n31, σ1§03/61, 11C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJR2	**Bachatsky-2, K**	**0.05**	**358**	⇑Pg	**Pg**	**00 00 19.5**	**-0.2**
BJR2				Sg	**Sg**	**00 00 20.3**	**-0.1**
BJR1	**Bachatsky 1, K**	**0.05**	**277**	⇓Pg	**Pg**	**00 00 20.2**	**+0.5**
BJR1				Sg	**Sg**	**00 00 21.6**	**+1.1**
POMOR	**Pomortsevo, Ku**	**0.29**	**53**	⇑P	**Pg**	**00 00 24.3**	**-0.1**
POMOR				S	**Sg**	**00 00 29.2**	**+1.1**
VCHU	**Verkh-Chumysh,**	**0.33**	**146**	Pg	**Pg**	**00 00 25.6**	**+0.5**
VCHU				Sg	**Sb**	**00 00 31.5**	**-1.9**
KOTO	**Kotino, Kuzbas**	**0.47**	**95**	P	**Pb**	**00 00 28.8**	**-1.1**
KOTO				S	**Sb**	**00 00 36.3**	**-1.0**
ERU	**Erunakovo, Kuz**	**0.74**	**97**	P	**Pb**	**00 00 33.5**	**-1.1**
ERU				Sg	**Sb**	**00 00 44.5**	**-0.8**
ZAA0	**Zalesovo Array**	**0.82**	**250**	⇓P	**Pg**	**00 00 34.5**	**0.0**
	1.1nm,0.3s						
ZAA0				⇓S	**Sg**	**00 00 46.0**	**+0.9**
	38nm,0.6s						
ELT	**Eltsovka**	**0.97**	**176**	⇑P	**Pg**	**00 00 37.0**	**-0.4**
ELT				S	**Sb**	**00 00 51.3**	**-0.6**
KALT3	**Kaltan 3**	**1.06**	**132**	P	**Pb**	**00 00 39.6**	**-0.3**
KALT3				S	**Sb**	**00 00 54.4**	**+0.1**
MALIN	**Malinovka, Kuz**	**1.06**	**140**	P	**Pb**	**00 00 39.4**	**-0.5**
MALIN				S	**Sb**	**00 00 54.1**	**-0.2**
KALT2	**Kaltan 2**	**1.09**	**139**	P	**Pg**	**00 00 39.7**	**+0.1**
KALT2				S	**Sb**	**00 00 55.0**	**-0.3**
KEM	**Kemerovo**	**1.11**	**359**	P	**Pg**	**00 00 39.5**	**-0.6**
KEM				S	**Sb**	**00 00 55.5**	**-0.4**
KIYZ	**Kiyzas, Kuzbas**	**1.18**	**124**	P	**Pg**	**00 00 41.3**	**0.0**
KIYZ				S	**Sb**	**00 00 57.7**	**0.0**
BALAH	**Balahonka, Ku**	**1.39**	**357**	P	**Pg**	**00 00 43.9**	**-1.4**
BALAH				S	**Sg**	**00 01 03.4**	**+0.1**
KHAR	**Kharino, NSO,**	**1.53**	**285**	P	**Pn**	**00 00 47.4**	**+0.1**
KHAR				S	**Sg**	**00 01 09.3**	**+1.3**
NVSII	**Novosibirsk**	**1.79**	**291**	P	**Pn**	**00 00 51.7**	**+0.7**
NVSII				S	**Sg**	**00 01 17.2**	**+0.9**
NVS	**Novosibirsk**	**1.79**	**291**	P	**Pn**	**00 00 51.7**	**+0.7**
NVS				S	**Sg**	**00 01 16.9**	**+0.6**
ASR1	**Anjero-Sudjens**	**1.84**	**358**	P	**Pn**	**00 00 52.0**	**+0.4**
ASR1				S	**Sg**	**00 01 18.3**	**+0.4**
BRCR	**Berchikul'**	**1.90**	**41**	P	**Pn**	**00 00 52.4**	**+0.1**
BRCR				S	**Sb**	**00 01 18.7**	**+0.3**
NHES	**Novosibirsk, N**	**1.94**	**290**	P	**Pb**	**00 00 54.3**	**-0.6**
NHES				S	**Sg**	**00 01 20.5**	**-0.4**
BSTK	**Bystrovka, Nov**	**2.06**	**281**	P	**Pb**	**00 00 56.9**	**-0.1**
BSTK				S	**Sg**	**00 01 24.6**	**-0.2**
ALXA	**Alekseevka, NS**	**2.18**	**290**	P	**Pn**	**00 00 56.7**	**+0.4**
ALXA				Sg	**Sg**	**00 01 28.3**	**-0.5**
ARTR	**Artybash**	**2.54**	**164**	P	**Pb**	**00 01 03.1**	**-2.0**
ARTR				S	**Sb**	**00 01 36.8**	**0.0**
YALR	**Yailyu, Altay**	**2.62**	**159**	P	**Pb**	**00 01 05.4**	**-1.2**
YALR				S	**Sb**	**00 01 39.3**	**-0.1**
VEH	**Verkhnyaya Baz**	**2.67**	**110**	P	**Pb**	**00 01 05.5**	**-2.0**
VEH				S	**Sb**	**00 01 41.7**	**+0.8**
DJO	**Djoy, Khakassi**	**3.37**	**113**	P	**Pb**	**00 01 19.2**	**-0.1**
DJO				S	**Sb**	**00 02 01.5**	**+0.8**
UKR	**Ust'-Kan**	**3.40**	**195**	P	**Pn**	**00 01 15.0**	**+1.9**
UKR				S	**Sg**	**00 02 06.6**	**-1.4**
ULGR	**Ulagan, Altay**	**3.78**	**162**	P	**Pn**	**00 01 19.7**	**+1.3**
ULGR				S	**Sn**	**00 02 06.4**	**+2.8**
KURK	**Kurchatov**	**5.78**	**236**	⇑Pn	**Pn**	**00 01 47.3**	**+1.5**
	11nm,1.3s						
KURK				⇑Lg	Lg	00 03 22.6	
	13nm,0.8s						
KURBB	**Kurchatov Arra**	**5.89**	**235**	⇑Pn	**Pn**	**00 01 47.7**	**+0.6**
	4.6nm,0.3s						
KURBB				⇑Sn	**Sn**	**00 02 55.9**	**+0.6**
	7.6nm,0.5s						
KURBB				⇑Lg	Lg	00 03 26.1	
	23nm,0.7s						
MK31	**Makanchi Array**	**7.84**	**200**	⇑Pn	**Pn**	**00 02 10.5**	**-3.5**
	3.1nm,0.5s,baz=26,slow=13,SNR=98						
MK31				⇑Sn	**Sn**	**00 03 42.8**	**-0.6**
	3.5nm,0.8s,baz=24,slow=26,SNR=4.5						
MK31				⇑Lg	Lg	00 04 24.5	
	6.2nm,0.7s,baz=30,slow=31,SNR=3.9						

IDC ***25*** *00:05:46.8±0.5, 44°.87N×38°.57E, h0km, mb4.1/11, mbtmp4.1/23, ML4.0/11, MS3.0/5, Error ellipse: s-maj=7.7km s-min=5.8km az=14.0*
MED_RC ***25*** *00:05:47.0±0.7, 45°.08N×38°.73E, h20km±2km, MW4.2/9, Moment Tensor Solution. Mantle waves: s9, c10; Duration: 1§0 Moment tensor: Scale 10^{15}Nm; M_{rr}1.53±.66; $M_{\theta\theta}$-2.23±.42; $M_{\phi\phi}$0.70±.34; $M_{r\theta}$-0.91±.33; $M_{\theta\phi}$-0.91±.26; $M_{r\phi}$1.10±.41; Best double couple: $M_0$2.60000×10^{15} NP1:ϕ_s286.00000°, δ64.00000°, λ132.00000°. NP2: ϕ_d42.00000°, δ48.00000°, λ36.00000°. Principal axes: T 2.6200, Plg52.0000°, Azm246.0000°; N -0.0400, Plg37.0000°, Azm84.0000°; P -2.5800, Plg9.0000°, Azm347.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
CFUSG ***25*** *00:05:47.1, 44°.81N×38°.72E, h10km, mb3.6/7, Krasnodar region Magtype MSH 3.7 from 8 stations*
MOS ***25*** *00:05:48.7, 44°.88N×38°.68E, h13km, MPVA4.6, FELT I=III-IV MSK at Severskaya, Azovskaya, Ilyinsky*
NEIC ***25*** *00:05:48.2±1.5, 45°.03N±0°.07×38°.66E±0°.08, h10km±2km, mb4.3/25, Error ellipse: s-maj=12.3km s-min=9.4km az=189.0*
MCSM ***25*** *00:05:48.6±1.6, 45°N±3°×3°9E±°, h7km±13km, mB3.8, mb4.5, MLv4.2, Mw(mB)2.8*
NAO ***25*** *00:05:54.8, 44°.87N×38°.53E, h0km, mb3.8*
NNC ***25*** *00:05:58.6±7.0, 45°.23N×40°.10E, h0km, mb4.2, Error ellipse: s-maj=112.9km s-min=79.7km az=137.0*
ISC 25 00:05:49.3±1.0, 44°.95N±0°.03×38°.71E±0°.02, h24km±8km, n319, σ1§99/387, mb4.3/26, MS5.0/4, 20C-18D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPGR	**Shapsug**	**0.50**	**245**	*i* Pn	**Pb**	**00 05 58.4**	**-1.0**
SPGR				*e*Sg	**Sb**	**00 06 04.9**	**-1.3**
SRGR	**Sergiyevskiy**	**0.57**	**35**	*e*Pg	**Pn**	**00 06 02.2**	**+0.3**
SRGR				*e*Sg	**Sn**	**00 06 11.7**	**+1.1**
SRGR	**Sergiyevskiy**	**0.57**	**35**	⇓*i*P	**Pn**	**00 06 02.5**	**+0.6**
SRGR				*e*S	**Sn**	**00 06 11.9**	**+1.4**
GELR	**Gelenjik**	**0.63**	**234**	*i* Pg	**Pb**	**00 06 00.6**	**-1.1**
GELR				*i* Sg	**Sb**	**00 06 09.7**	**-0.4**
GELR	**Gelenjik**	**0.63**	**234**	⇑*i*P	**Pb**	**00 06 00.6**	**-1.1**
GELR				*i* S	**Sb**	**00 06 10.5**	**+0.4**
GLDR	**Gladkovskiy**	**0.70**	**273**	*i* Pg	**Pb**	**00 06 03.0**	**+0.1**
GLDR				*e*Sg	**Sn**	**00 06 13.3**	**-0.3**
GLDR	**Gladkovskiy**	**0.70**	**273**	⇓*e*P	**Pb**	**00 06 02.7**	**-0.1**
GLDR				*e*		00 06 14.1	
GOYR	**Goytkh**	**0.85**	**145**	*e*Pg	**Pb**	**00 06 03.9**	**-1.5**
GOYR				*e*Sg	**Sn**	**00 06 16.9**	**-0.5**
GOYR	**Goytkh**	**0.85**	**145**	*i* P	**Pb**	**00 06 04.6**	**-0.8**
GOYR				*e*S	**Sn**	**00 06 16.6**	**-0.8**
ANN	**Anapa**	**0.92**	**261**	*i* Pg	**Pn**	**00 06 07.3**	**+0.7**
ANN				*i* Sg	**Sn**	**00 06 22.0**	**+3.0**
ANN	**Anapa**	**0.92**	**261**	*e*P	**Pn**	**00 06 07.2**	**+0.7**
ANN				*e*		00 06 22.5	
ANN				pmax	pmax		
	comp=Z,206nm,0.3s						
ANN				smax	smax		
	comp=N,778nm,0.4s						
ANN				smax	smax		
	comp=N,868nm,0.4s						
SUKR	**Sukko**	**0.92**	**261**	*i* Pg	**Pb**	**00 06 05.5**	**-1.0**
SUKR				*e*Sg	**Sn**	**00 06 19.2**	**+0.1**
SUKR	**Sukko**	**0.92**	**261**	*i* P	**Pb**	**00 06 05.5**	**-1.0**
SUKR				*e*S	**Sn**	**00 06 19.2**	**+0.1**
MRNR	**Maryino**	**1.16**	**151**	*e*Pg	**Pn**	**00 06 10.0**	**+0.1**
MRNR				*e*Sg	**Sn**	**00 06 25.8**	**+0.9**
MRNR	**Maryino**	**1.16**	**151**	⇑*i*P	**Pb**	**00 06 10.3**	**-0.3**
MRNR				*e*S	**Sn**	**00 06 25.5**	**+0.6**
TMNR	**Tamanskiy**	**1.38**	**279**	*i* Pg	**Pb**	**00 06 16.4**	**+2.1**
TMNR				*e*Sg	**Sb**	**00 06 33.1**	**+1.7**
TMNR	**Tamanskiy**	**1.38**	**279**	⇓*i*P	**Pb**	**00 06 16.4**	**+2.1**
TMNR				*e*S	**Sb**	**00 06 33.1**	**+1.7**
GUZR	**Guzeripl'**	**1.39**	**133**	*i* Pg	**Pn**	**00 06 13.8**	**+0.6**
GUZR				*e*Sg	**Sb**	**00 06 33.1**	**+1.1**
GUZR	**Guzeripl'**	**1.39**	**133**	*i* P	**Pn**	**00 06 13.8**	**+0.6**
GUZR				*e*S	**Sb**	**00 06 33.1**	**+1.1**
ERBR	**Yeremizino-Bor**	**1.47**	**58**	*i* Pg	**Pb**	**00 06 16.5**	**+0.6**
ERBR				*i* Sg	**Sb**	**00 06 38.0**	**+3.9**
ERBR	**Yeremizino-Bor**	**1.47**	**58**	*e*P	**Pb**	**00 06 16.3**	**+0.4**
ERBR				*e*		00 06 38.3	
ERBR				pmax	pmax		
	comp=Z,447nm,0.5s						
ERBR				smax	smax		
	comp=E,4μm,0.7s						
ERBR				smax	smax		
	comp=E,2μm,0.4s						
LABN	**Labinsk**	**1.47**	**101**	*i* Pg	**Pb**	**00 06 16.3**	**+0.4**
LABN				*e*Sg	**Sb**	**00 06 36.4**	**+2.2**
LABN	**Labinsk**	**1.47**	**101**	*e*P	**Pb**	**00 06 16.3**	**+0.4**
LABN				*e*		00 06 37.8	
LABN				pmax	pmax		
	comp=Z,323nm,0.3s						
LABN				smax	smax		
	comp=N,3μm,0.5s						
LABN				smax	smax		
	comp=E,2μm,0.4s						
LABN				smax	smax		
	comp=N,3μm,0.5s						
SOC	**Sochi**	**1.55**	**152**	*i* Pg	**Pn**	**00 06 15.8**	**+0.5**
SOC				*i* Sg	**Sb**	**00 06 37.6**	**+1.2**
SOC	**Sochi**	**1.55**	**152**	*e*P	**Pn**	**00 06 15.1**	**-0.2**
SOC				*e*		00 06 36.8	
SOC				pmax	pmax		
	comp=Z,496nm,0.7s						
SOC				smax	smax		
	comp=E,713nm,0.6s						
RPOR	**Krasnaya Polya**	**1.68**	**138**	*i* Pg	**Pn**	**00 06 18.0**	**+0.9**
RPOR				*i* Sg	**Sb**	**00 06 41.1**	**+0.9**
RPOR	**Krasnaya Polya**	**1.68**	**138**	*i* P	**Pn**	**00 06 18.0**	**+0.9**
RPOR				*i* S	**Sb**	**00 06 41.1**	**+0.9**
VSLR	**Vesyoloye**	**1.77**	**147**	*i* Pg	**Pn**	**00 06 18.9**	**+0.6**
VSLR				*e*Sg	**Sb**	**00 06 42.7**	**-0.1**
VSLR	**Vesyoloye**	**1.77**	**147**	*i* P	**Pn**	**00 06 19.0**	**+0.6**
VSLR				*e*S	**Sb**	**00 06 42.7**	**-0.1**
GRYR	**Gornoye**	**1.90**	**115**	*i* Pg	**Pb**	**00 06 22.1**	**-1.2**
GRYR				*i* Sg	**Sb**	**00 06 45.9**	**-0.7**
SUDU	**Sudak**	**2.63**	**270**	*e*Pn	**Pn**	**00 06 30.6**	**+0.4**
SUDU				Pnm		00 06 32.3	
	comp=Z,58nm,0.2s						
SUDU				*e*Sn	**Sb**	**00 07 05.7**	**-1.9**
SUDU				Snm		00 07 07.4	
	comp=N,370nm,0.4s						
SUDU				Snm		00 07 07.4	
	comp=E,181nm,0.5s						
SUDU	**Sudak**	**2.63**	**270**	*e*Pn	**Pn**	**00 06 30.9**	**+0.7**
SUDU				*e*Sn	**Sn**	**00 07 03.5**	**+2.1**
SUDU	**Sudak**	**2.63**	**270**	*e*P	**Pn**	**00 06 30.6**	**+0.4**
SUDU				*e*		00 07 05.7	
SUDU				pmax	pmax		
	comp=Z,58nm,0.3s						
SUDU				smax	smax		
	comp=Z,370nm,0.4s						
SUDU				smax	smax		
	comp=E,181nm,0.5s						
DOMR	**Dombai**	**2.68**	**127**	*e*Pn	**Pn**	**00 06 32.8**	**+1.8**
DOMR				*e*Sn	**Sn**	**00 07 04.9**	**+2.1**
DOMR	**Dombai**	**2.68**	**127**	*e*P	**Pn**	**00 06 32.8**	**+1.8**
DOMR				*i* S	**Sn**	**00 07 04.4**	**+1.7**
KIV	**Kislovodsk**	**3.02**	**108**	Pn	**Pn**	**00 06 37.1**	**+1.5**
KIV	**Kislovodsk**	**3.02**	**108**	*e*Pn	**Pn**	**00 06 37.5**	**+1.9**
KIV				*e*Sn	**Sn**	**00 07 13.8**	**+2.8**
KIV	**Kislovodsk**	**3.02**	**108**	*e*P	**Pn**	**00 06 37.6**	**+1.9**
KIV				*e*S	**Sb**	**00 07 15.3**	**-3.5**
KIV				pmax	pmax		
	comp=Z,223nm,1.1s						
KIV				MLR	MLR		
	comp=Z,59nm,8.0s						
KIV	**Kislovodsk**	**3.02**	**108**	Pn	**Pn**	**00 06 38.1**	**+2.5**
KIV0	**Kislovodsk Arr**	**3.03**	**108**	*e*Pn	**Pn**	**00 06 37.7**	**+2.0**
KIV0				*e*Sn	**Sn**	**00 07 13.4**	**+2.2**
KVAR	**Kislovodsk Arr**	**3.03**	**108**	Pn	**Pn**	**00 06 38.5**	**+2.8**
	baz=102,slow=23						
KVAR				Sn	**Sn**	**00 07 14.8**	**+3.6**
	baz=251,slow=23						
	comp=Z,16nm,0.5s						
ALU	**Alushta**	**3.07**	**266**	*e*Pn	**Pn**	**00 06 36.6**	**+0.4**
ALU				Pnm		00 06 39.4	
	comp=Z,15nm,0.3s						
ALU				*i* Sn	**Sn**	**00 07 15.5**	**+3.3**
ALU				Snm		00 07 15.8	
	comp=N,116nm,0.3s						
ALU				Snm		00 07 15.8	
	comp=E,60nm,0.4s						
ALU	**Alushta**	**3.07**	**266**	*e*Pn	**Pn**	**00 06 36.3**	**+0.1**
ALU				*e*Sn	**Sn**	**00 07 14.1**	**+1.9**
ALU	**Alushta**	**3.07**	**266**	*e*P	**Pn**	**00 06 36.6**	**+0.4**
ALU				*i*		00 07 15.5	
ALU				pmax	pmax		
	comp=Z,15nm,0.3s						
ALU				smax	smax		
	comp=N,116nm,0.3s						
GOF	**Gofitskoye**	**3.08**	**86**	*e*Pn	**Pn**	**00 06 38.0**	**+1.7**
GOF				*e*Sn	**Sn**	**00 07 15.7**	**+3.3**
GOF	**Gofitskoye**	**3.08**	**86**	*e*P	**Pn**	**00 06 38.0**	**+1.7**
SHA1	**Shidzhatmaz**	**3.08**	**112**	*i* Pn	**Pn**	**00 06 39.3**	**+2.6**
SHA1				*e*Sn	**Sn**	**00 07 14.1**	**+1.3**
SHA1	**Shidzhatmaz**	**3.08**	**112**	*i* P	**Pn**	**00 06 39.5**	**+2.9**
SHA1				*e*S	**Sn**	**00 07 14.1**	**+1.3**
BEYR	**Belyy Ugol+**	**3.09**	**106**	*e*Pn	**Pn**	**00 06 38.2**	**+1.7**
BEYR				*e*Sn	**Sn**	**00 07 16.7**	**+4.0**
KBZ	**Khabaz**	**3.25**	**111**	Pn	**Pn**	**00 06 40.6**	**+2.0**
	comp=N,4.9nm,0.3s,baz=293,slow=18,SNR=147						
KBZ				Sn	**Sn**	**00 07 21.9**	**-3.3**
	comp=N,6.0nm,0.3s,baz=118,slow=15,SNR=5.5						
	comp=N,32nm,0.6s						
KBZ	**Khabaz**	**3.25**	**111**	*i* Pn	**Pn**	**00 06 41.2**	**+2.6**
KBZ				*e*Sn	**Sn**	**00 07 19.4**	**+2.9**
KBZ	**Khabaz**	**3.25**	**111**	*i* P	**Pn**	**00 06 41.2**	**+2.6**
KBZ				*e*S	**Sn**	**00 07 19.4**	**+2.9**
SIM	**Simferopol'**	**3.26**	**272**	*e*Pn	**Pn**	**00 06 40.3**	**+1.5**
SIM				Pnm		00 06 41.8	
	comp=Z,83nm,0.3s						
SIM				*e*Sn	**Sn**	**00 07 20.7**	**+3.9**
SIM				Snm		00 07 22.0	
	comp=N,42nm,0.5s						
SIM				Snm		00 07 22.0	
	comp=E,138nm,0.5s						
SIM	**Simferopol'**	**3.26**	**272**	*e*Pn	**Pn**	**00 06 40.2**	**+1.5**
SIM				*e*Sn	**Sn**	**00 07 19.0**	**+2.2**
SIM	**Simferopol'**	**3.26**	**272**	*e*P	**Pn**	**00 06 40.3**	**+1.5**
SIM				*e*		00 07 20.7	
SIM				pmax	pmax		
	comp=Z,83nm,0.3s						
SIM				smax	smax		
	comp=N,42nm,0.5s						
SIM				smax	smax		
	comp=E,138nm,0.5s						
PYA1	**Pyatigorsk**	**3.26**	**104**	*e*Pn	**Pn**	**00 06 40.8**	**+1.9**
PYA1				*e*Sn	**Sn**	**00 07 20.1**	**+3.1**
PYA1	**Pyatigorsk**	**3.26**	**104**	*i* P	**Pn**	**00 06 40.4**	**+1.5**
YAL	**Yalta**	**3.28**	**263**	*e*Pn	**Pn**	**00 06 39.8**	**+0.8**
YAL				Pnm		00 06 42.6	
	comp=Z,14nm,0.3s						
YAL				*e*Sn	**Sn**	**00 07 20.7**	**+3.5**
YAL				Snm		00 07 23.3	
	comp=N,44nm,0.3s						
YAL				Snm		00 07 23.3	
	comp=E,55nm,0.4s						
YAL	**Yalta**	**3.28**	**263**	*e*Pn	**Pn**	**00 06 39.7**	**+0.8**
YAL				*e*Sn	**Sn**	**00 07 20.0**	**+2.8**
YAL	**Yalta**	**3.28**	**263**	*e*P	**Pn**	**00 06 39.8**	**+0.8**
YAL				*e*		00 07 20.7	
YAL				pmax	pmax		
	comp=Z,14nm,0.3s						
YAL				smax	smax		
	comp=N,44nm,0.3s						
YAL				smax	smax		
	comp=E,55nm,0.4s						
KBTC	**Kuba-Taba**	**3.56**	**107**	*e*Pn	**Pn**	**00 06 46.1**	**+3.1**
KBTC				*e*Sn	**Sn**	**00 07 28.3**	**+4.0**
SEV	**Sevastopol'**	**3.61**	**265**	*e*Pn	**Pn**	**00 06 43.3**	**-0.3**
SEV				⇓*i*Pn	**Pn**	**00 06 43.8**	**+0.2**
SEV				Pnm		00 06 44.5	
	comp=Z,20nm,0.3s						
SEV				*e*Sn	**Sn**	**00 07 28.0**	**+2.5**
SEV				Snm		00 07 29.9	
	comp=N,46nm,0.5s						
SEV				Snm		00 07 29.9	
	comp=E,59nm,0.4s						
SEV	**Sevastopol'**	**3.61**	**265**	*e*Pn	**Pn**	**00 06 43.0**	**-0.6**
SEV				*e*Sn	**Sn**	**00 07 27.1**	**+1.6**
SEV	**Sevastopol'**	**3.61**	**265**	⇓*e*P	**Pn**	**00 06 43.3**	**-0.3**
SEV				*e*		00 07 28.0	
SEV				pmax	pmax		
	comp=Z,20nm,0.3s						
SEV				smax	smax		
	comp=N,46nm,0.5s						
SEV				smax	smax		
	comp=E,59nm,0.4s						
NCK	**Nalchik**	**3.81**	**111**	*e*Pn	**Pn**	**00 06 50.2**	**+3.9**
NCK				*e*Sn	**Sn**	**00 07 33.2**	**+2.8**
NCK	**Nalchik**	**3.81**	**111**	*i* P	**Pn**	**00 06 47.6**	**+1.3**
NCK				*i* S	**Sn**	**00 07 33.1**	**+2.8**
NCK				pmax	pmax		
	comp=Z,96nm,0.9s						
NCK				smax	smax		
	comp=Z,59nm,0.3s						
DNZ2	**Donuzlav2**	**3.91**	**278**	*e*Pn	**Pn**	**00 06 50.0**	**+2.3**
DNZ2				Pnm		00 06 52.6	
	comp=Z,26nm,0.3s						
DNZ2				*i* Sn	**Sn**	**00 07 37.8**	**+5.1**
DNZ2				Snm		00 07 40.1	
	comp=N,71nm,0.2s						
DNZ2				Snm		00 07 40.1	
	comp=E,108nm,0.5s						
ESPY	**Espiye-Giresun**	**4.03**	**180**	*e*P	**Pn**	**00 06 48.5**	**-1.0**
LSNR	**Lesken**	**4.05**	**113**	*e*Pn	**Pn**	**00 06 53.2**	**+3.4**
LSNR				*e*Sn	**Sn**	**00 07 39.4**	**+3.0**
DIGR	**Digorskoe uzhe**	**4.08**	**119**	*e*Pn	**Pn**	**00 06 53.0**	**+2.7**
DIGR				*e*Sn	**Sn**	**00 07 39.9**	**+2.6**
BCA	**Borcka**	**4.10**	**148**	*e*P	**Pn**	**00 06 50.6**	**+0.2**
CHOM	**Cayeli-Rize**	**4.14**	**158**	*e*P	**Pn**	**00 06 50.9**	**0.0**
DIKM	**Dikmen**	**4.15**	**219**	*e*P	**Pn**	**00 06 50.7**	**-0.4**
DIKM	**Dikmen**	**4.15**	**219**	Pn	**Pn**	**00 06 52.4**	**+1.3**
STDR	**Stavd-Durt**	**4.17**	**110**	*e*Pn	**Pn**	**00 06 54.2**	**+2.9**
STDR				*e*Sn	**Sn**	**00 07 42.3**	**+3.1**
PRTR	**Priterechnaya**	**4.18**	**105**	*e*Pn	**Pn**	**00 06 54.6**	**+3.2**
PRTR				*e*Sn	**Sn**	**00 07 42.3**	**+2.9**
KORR	**Kora**	**4.29**	**114**	*e*Pn	**Pn**	**00 06 55.5**	**+2.4**
KORR				*e*Sn	**Sn**	**00 07 42.7**	**+0.3**
KVT	**Kavak**	**4.33**	**208**	*e*P	**Pn**	**00 06 53.3**	**-0.3**
TARU	**Tarkhankut**	**4.39**	**278**	*ex*	x	00 06 56.4	
TARU				*e*Sn	**Sn**	**00 07 49.0**	**+4.4**
TARU				Snm		00 07 52.4	
	comp=E,55nm,0.4s						
TARU	**Tarkhankut**	**4.39**	**278**	*e*Pn

GNI LR LR 00 11 03.8
comp=Z,69nm,20.7s,baz=316,slow=48
GNI Garni 6.55 135 P Pb 00 07 53.7 +11
comp=Z,61nm,1.2s,comp=Z,709nm
VRH Novokhopyorsk 6.57 17 *e*P **Pn 00 07 24.8 +0.5**
VRH pmax pmax
comp=Z,30nm,0.8s
SVRC Sivrice-ELAZID 6.58 176 *e*P **Pn 00 07 24.8 +0.1**
ANTO Ankara 6.70 223 Pn **Pn 00 07 26.9 +0.8**
ANTO Ankara 6.70 223 P **Pn 00 07 27.0 +0.8**
VORR Voronezh 6.73 3 *e*P **Pn 00 07 26.4 -0.1**
VORR pmax pmax
comp=Z,30nm,1.0s
GURO Guroymak-BITLI 6.86 158 Pn **Pn 00 07 30.4 +2.0**
YUVA Yuva-Kibriscik 6.89 231 *e*P **Pn 00 07 28.9 +0.1**
JURR Jurilovca 6.99 272 ⇓P **Pn 00 07 31.3 +1.3**
TLCR 7.01 275 ⇑P **Pn 00 07 31.5 +1.2**
TLCR 7.01 275 P **Pn 00 07 31.5 +1.2**
MDUB Mudurnu 7.11 234 Pn **Pn 00 07 32.0 +0.1**
MILM Milestii Mici 7.17 289 ⇑P **Pn 00 07 34.2 +1.7**
MILM Milestii Mici 7.17 289 P **Pn 00 07 34.2 +1.7**
TPGR Topolog 7.30 273 ⇑P **Pn 00 07 35.3 +0.8**
MANR Mangalia 7.34 265 ⇑P **Pn 00 07 34.9 +0.1**
CFR Carcaliu 7.49 275 ⇓P **Pn 00 07 38.1 +1.2**
CFR Carcaliu 7.49 275 P **Pn 00 07 38.0 +1.2**
VLDR Vladesti 7.53 281 ⇑P **Pn 00 07 37.6 +0.1**
LPSR Galich'ya Gora 7.66 1 *e*P **Pn 00 07 39.6 +0.4**
LPSR pmax pmax
comp=Z,60nm,0.8s
HARR Harsova 7.67 272 ⇑P **Pn 00 07 39.5 +0.2**
HARR Harsova 7.67 272 P **Pn 00 07 39.5 +0.2**
SORM Soroca 7.82 298 ⇑P **Pn 00 07 42.0 +0.7**
SORM Soroca 7.82 298 P **Pn 00 07 42.0 +0.7**
SORM Soroca 7.82 298 Pn **Pn 00 07 41.5 +0.2**
ICOR Ion Corvin 7.84 268 ⇓P **Pn 00 07 41.7 0.0**
GHRR 8.02 282 ⇑P **Pn 00 07 45.1 +1.0**
VRI Vrincioaia 8.48 280 ⇓P **Pn 00 07 51.5 +1.0**
VRI Vrincioaia 8.48 280 P **Pn 00 07 51.4 +1.0**
VRI Vrincioaia 8.48 280 Pn **Pn 00 07 51.6 +1.1**
comp=Z,17nm,0.7s
BISRR Bisoca 8.49 278 Pn **Pn 00 07 54.4 +3.8**
comp=Z,50nm,0.8s
PLOR5 Plostina Array 8.52 280 Pn **Pn 00 07 53.0 +1.9**
comp=Z,15nm,0.8s
PLOR Plostina 8.53 280 ⇓P **Pn 00 07 53.2 +2.0**
PLOR Plostina 8.53 280 P **Pn 00 07 53.2 +2.0**
PLOR3 Plostina Array 8.54 280 Pn **Pn 00 07 53.8 +2.5**
comp=Z,10nm,1.1s
TESR Tescani 8.58 285 ⇓P **Pn 00 07 52.7 +0.8**
TESR Tescani 8.58 285 Pn **Pn 00 07 52.3 +0.5**
comp=Z,41nm,0.8s
AKASG Malin Array Be 8.59 315 **Pn 00 07 51.4 -0.5**
AKASG Malin Array Be 8.59 315 Pn **Pn 00 07 50.1 -1.8**
comp=Z,5.0nm,0.3s,baz=132,slow=12,SNR=17
AKASG Sn **Sn 00 09 24.2 -3.6**
comp=Z,2.5nm,0.3s,baz=129,slow=24,SNR=3.2
AKASG Lg Lg 00 10 15.6
comp=Z,2.9nm,0.3s,baz=127,slow=29,SNR=8.6
AKASG LR LR 00 11 31.8
comp=Z,92nm,20.7s,baz=88,slow=40
comp=Z,3.5nm,0.4s
AKBB Malin Array Si 8.59 315 **Pn 00 07 51.5 -0.4**
AKBB Malin Array Si 8.59 315 P **Pn 00 07 51.5 -0.4**
KIEV Kiev 8.59 315 **Pn 00 07 51.9 -0.1**
KIEV Kiev 8.59 315 P **Pn 00 07 51.9 -0.1**
ISR Istrita 8.62 275 Pn **Pn 00 07 55.0 +2.6**
comp=Z,19nm,0.7s
COVR Voineasa-Covas 8.84 280 ⇓P **Pn 00 07 56.5 +1.0**
MLR Muntele Rosu 9.03 278 Pn **Pn 00 07 58.7 +0.7**
comp=Z,0.6nm,0.3s,baz=63,slow=2.3,SNR=20
MLR Sn **Sn 00 09 39.5 +0.5**
comp=Z,1.0nm,0.3s,baz=259,slow=20,SNR=4.5
comp=Z,7.3nm,0.7s
MLR Muntele Rosu 9.03 278 ⇑P **Pn 00 07 59.4 +1.3**
MLR Muntele Rosu 9.03 278 Pn **Pn 00 08 01.2 +3.1**
comp=Z,15nm,1.2s
KMPD K-Podol'skiy 9.15 298 Pn **Pn 00 08 00.3 +0.7**
comp=Z,4μm,0.9s
DOPR Dopca 9.42 281 ⇓P **Pn 00 08 03.1 -0.2**
BELG Belogornoye 9.49 35 Pn **Pn 00 08 04.2 -0.2**
comp=Z,4.2nm,0.3s,baz=206,slow=2.8,SNR=31
BELG Sn **Sn 00 09 46.5 -3.6**
comp=Z,5.1nm,0.3s,baz=147,slow=7.1,SNR=7.3
BELG Lg Lg 00 11 04.6
comp=Z,0.6nm,0.3s,baz=131,slow=19,SNR=1.1
BELG LR LR 00 12 19.2
comp=Z,162nm,20.0s,baz=217,slow=41
comp=Z,64nm,0.8s
MI28 Mi28,Pidlybu 9.52 313 Pn **Pn 00 08 03.9 -0.7**
comp=Z,200nm,0.7s
BURAR Bucovina Array 9.71 291 **Pn 00 08 06.7 -0.7**
BURAR Bucovina Array 9.71 291 ⇓P **Pn 00 08 08.1 +0.6**
BURAR Bucovina Array 9.71 291 P **Pn 00 08 08.0 +0.6**
BUR08 Bucovina Ar. S 9.73 291 Pn **Pn 00 08 07.2 -0.5**
ARR Arges 9.95 277 ⇑P **Pn 00 08 11.1 +0.3**
ALN Alexandroupoli 10.13 251 Pn **Pn 00 08 12.8 -0.3**
ALN Alexandroupoli 10.13 251 P **Pn 00 08 12.8 -0.3**
OBN Obninsk 10.27 353 Pn **Pn 00 08 14.3 -0.6**
OBN Obninsk 10.27 353 Pn **Pn 00 08 14.8 0.0**
comp=Z,8.2nm,0.3s,baz=28,slow=15,SNR=10
OBN Sn **Sn 00 10 02.3 -6.7**
comp=Z,1.1nm,0.3s,baz=22,slow=24,SNR=1.0
OBN Lg Lg 00 11 17.5
comp=Z,1.3nm,0.3s,baz=325,slow=23,SNR=1.1
comp=Z,23nm,0.3s
OBN Obninsk 10.27 353 ⇓P **Pn 00 08 15.1 +0.2**
OBN Obninsk 10.27 353 ⇑*e*P **Pn 00 08 14.5 -0.4**
OBN *e*S **Sn 00 10 11.0 +2.0**
OBN pmax pmax
comp=Z,25nm,0.7s
OBN MLR MLR
comp=Z,114nm,13.0s
OBN Obninsk 10.27 353 Pn **Pn 00 08 14.8 0.0**
comp=Z,37nm,1.1s
OBN Obninsk 10.27 353 P **Pn 00 08 14.2 -0.7**
comp=Z,34nm,1.0s
RDO Rodhopi 10.36 253 Pn **Pn 00 08 15.1 -1.1**
CSS Mathiatis 10.79 204 Pn **Pn 00 08 23.0 +0.8**
MOS Moscow 10.82 357 *e*P **Pn 00 08 22.4 -0.1**
MOS *e*S **Sn 00 10 25.0 +2.3**
MARR Marisel-Cluj 11.02 285 ⇑P **Pn 00 08 25.8 +0.4**
KWP Kalwaria Pacla 11.82 299 **Pn 00 08 36.1 -0.1**
KWP Kalwaria Pacla 11.82 299 P **Pn 00 08 36.1 -0.1**
MNK Minsk 11.84 328 *i* P Pn 00 08 46.6 +10
comp=E,15nm,1.0s
MNK *i* P Pn 00 08 46.6 +10
comp=N,12nm,0.9s,baz=75
MNK *i* P Pn 00 08 46.6 +10
comp=Z,19nm,0.9s
MNK *i* PP 00 11 25.8
MNK *i* PPP PPP 00 13 09.4
MNK *i* S 00 18 07.7
MNK *i* SS 00 22 51.9
MNK *i* SSS SSS 00 26 07.5
MNK *i* LQ LQ 00 35 32.3
MNK *i* LR LR 00 38 56.1
MNK *i* LRM MLR 00 43 33.9
comp=E,3μm,15.7s
MNK *i* LRM MLR 00 44 10.9
comp=Z,4μm,15.7s
MNK *i* LRM MLR 00 44 13.5
comp=N,4μm,15.7s
KOLS Kolonicke sedl 11.91 295 *e*P **Pn 00 08 38.5 +1.0**
KOLS *e* 00 10 48.7
KOLS Kolonicke sedl 11.91 295 *e*PN **Pn 00 08 38.5 +1.0**
KOLS Kolonicke sedl 11.91 295 *e*SN **Sn 00 10 48.7 -0.8**
MMAI Mount Meron Ar 12.19 193 Pn **Pn 00 08 41.4 0.0**
comp=N,0.5nm,0.3s,baz=24,slow=22,SNR=1.4
comp=N,1.0nm,0.7s
NACGM Naroch 12.56 327 *e*P **Pn 00 08 48.7 +2.4**
comp=E,721nm,1.1s
NACGM Naroch 12.56 327 *e*P **Pn 00 08 43.0 -3.2**
comp=Z,13nm,1.0s,baz=137
STHS Stebnicka Huta 12.69 297 *e*P **Pn 00 08 48.8 +0.8**
STHS Stebnicka Huta 12.69 297 *e*PN **Pn 00 08 48.8 +0.8**
STHS *e* 00 09 24.0
KECS Kecovo 12.99 292 *e*P **Pn 00 08 52.4 +0.2**
KECS Kecovo 12.99 292 *e*PN **Pn 00 08 52.4 +0.2**
NIE Niedzica 13.29 296 Pn **Pn 00 08 55.0 -1.2**
comp=Z,4.2nm,1.1s
PSZ Piszkesteto 13.31 290 Pn **Pn 00 08 55.7 -0.9**
PSZ Piszkesteto 13.31 290 P **Pn 00 08 55.7 -0.9**
LANS Liptovska Anna 13.77 295 *e*P **Pn 00 09 02.6 -0.2**
LANS Liptovska Anna 13.77 295 *e*PN **Pn 00 09 02.5 -0.2**
LANS Liptovska Anna 13.77 295 *e*P P 00 09 25.0 +14
OJC Ojcow 13.79 299 Pn **Pn 00 09 00.8 -2.3**
OJC Ojcow 13.79 299 P **Pn 00 09 00.8 -2.3**
OJC Ojcow 13.79 299 Pn **Pn 00 09 00.6 -2.5**
VYHS Vyhne 14.08 292 *e*P **Pn 00 09 08.1 +1.1**
VYHS Vyhne 14.08 292 *e*PN **Pn 00 09 08.1 +1.1**
VYHS Vyhne 14.08 292 *e*P P 00 09 28.0 +13
VYHS *e* 00 09 35.9
AKTO Aktyubinsk 14.10 60 ⇑P **Pn 00 09 04.7 -2.6**
comp=Z,5.9nm,1.1s
AKTO ⇓S Sn 00 11 32.4 -11
comp=Z,3.9nm,0.7s
AKTO Aktyubinsk 14.10 60 Pn **Pn 00 09 05.2 -2.1**
comp=Z,1.0nm,0.3s,baz=259,slow=12,SNR=19
AKTO Sn Sn 00 11 33.3 -10
comp=Z,0.8nm,0.3s,baz=119,slow=13,SNR=4.2
comp=Z,5.1nm,0.5s
PABE Paberze 14.13 324 Pn **Pn 00 09 04.5 -3.2**
PABE Paberze 14.13 324 *e*P **Pn 00 09 05.0 -2.6**
PDG Podgorica 14.30 267 Pn **Pn 00 09 11.4 +1.4**
SRO Srobarova 14.36 289 *e*P P 00 09 31.8 +14
SRO *e* 00 09 39.3
AB31 Akbulak array 15.08 66 P **Pn 00 09 18.1 -2.4**
comp=Z,6.0nm,0.9s,baz=260,slow=14,SNR=36
AB31 ⇓S **Sn 00 11 58.8 -7.9**
comp=Z,2.5nm,0.7s,baz=266,slow=22,SNR=4.4
ABKAR Akbulak array 15.08 66 Pn **Pn 00 09 18.5 -2.1**
ABKAR Akbulak array 15.08 66 Pn **Pn 00 09 18.8 -1.7**
MODS Modra-Piesok 15.10 291 *e*P P 00 09 34.2 +8.3
MODS *e* 00 09 41.5
MORC Moravsky Berou 15.12 296 Pn **Pn 00 09 18.1 -3.0**
MORC Moravsky Berou 15.12 296 P **Pn 00 09 18.1 -3.0**
MORC pmax pmax
comp=Z,3.0nm,1.0s
KIRV Kirov 15.15 22 Pn **Pn 00 09 17.6 -3.8**
comp=Z,0.8nm,0.3s,baz=216,slow=3.0,SNR=6.1
KIRV Sn **Sn 00 11 59.0 -9.1**
comp=Z,0.3nm,0.3s,baz=302,slow=19,SNR=2.0
comp=Z,7.8nm,0.6s
VSU Vasula 15.39 336 *i* P **Pn 00 09 23.2 -1.4**
VSU pmax pmax
comp=Z,14nm,0.9s
EIL Elat 15.54 192 LR LR 00 15 45.9
comp=Z,131nm,18.8s,baz=54,slow=39
KRLC Kraliky 15.65 297 *e*P **Pn 00 09 25.1 -3.0**
KRLC Kraliky 15.65 297 *e*P **Pn 00 09 25.1 -3.0**
KLMR Klimovskoe 15.94 1 *e*P **Pn 00 09 27.2 -4.5**
KLMR *e* 00 12 23.0
KLMR pmax pmax
comp=Z,34nm,0.7s
DPC Dobruska-Polom 15.99 298 *e*P **Pn 00 09 30.7 -1.8**
DPC Dobruska-Polom 15.99 298 *e*P **Pn 00 09 30.7 -1.8**
CHVC Chvalec 16.21 298 *e*P **Pn 00 09 33.9 -1.4**
CHVC Chvalec 16.21 298 *e*P **Pn 00 09 33.9 -1.4**
MTSE Matsula 16.51 332 *e*P **Pn 00 09 40.9 +1.9**
ARTI Arti 16.86 40 Pn **Pn 00 09 39.3 -4.1**
ARTI Arti 16.86 40 Pn **Pn 00 09 39.5 -3.9**
comp=Z,0.9nm,0.3s,baz=246,slow=7.1,SNR=15
ARTI Sn Sn 00 12 37.5 -12
comp=Z,0.3nm,0.3s,baz=288,slow=23,SNR=1.9
ARTI Arti 16.86 40*c* *i* P Pn 00 09 36.7 -6.7
ARTI S **Sn 00 12 40.4 -9.4**
OBKA Obir 16.93 284 *e*Pn **Pn 00 09 44.5 +0.1**
comp=Z,1.5nm,0.6s
CKRC Cesky Krumlov 17.09 292 *e*P **P 00 09 51.7 +3.7**
CKRC Cesky Krumlov 17.09 292 *e*P **P 00 09 51.7 +3.7**
GERES GERESS Array B 17.50 292 P **Pn 00 09 52.2 +0.7**
comp=Z,0.1nm,0.3s,baz=101,slow=14,SNR=1.8
comp=Z,0.4nm,0.4s
MEF Metsahovi 17.52 336 *e*P **Pn 00 09 52.0 +0.3**
KHC Kasperske Hory 17.60 293 *e*P **P 00 09 55.7 +2.1**
KHC Kasperske Hory 17.60 293 *e*P **P 00 09 55.7 +2.1**
KBA Koelnbreinsper 17.72 286 *e*Pn **Pn 00 09 54.7 +0.3**
comp=Z,1.3nm,0.7s
FIA1 FINESS Array S 18.11 340 Pn **Pn 00 09 55.1 -3.8**
FIA1 IAmb IAmb 00 10 14.6
comp=Z,38nm,1.2s
FINES FINESS Array B 18.11 340 Pn **Pn 00 09 54.0 -4.9**
FINES FINESS Array B 18.11 340 P **Pn 00 09 54.2 -4.6**
comp=Z,1.7nm,0.7s,baz=115,slow=23,SNR=3.1
FINES S Sn 00 13 05.5 -15
comp=Z,2.7nm,0.9s,baz=157,slow=20,SNR=1.9
FINES FINESS Array B 18.11 340 *i* P **Pn 00 09 58.4 -0.5**
FINES pmax pmax
comp=Z,3.0nm,0.6s
SVE Sverdlovsk 18.14 41 *e*P **P 00 10 01.1 +1.6**
SVE *e*S **Sn 00 13 17.8 -3.1**
SVE pmax pmax
comp=Z,45nm,1.1s
CLL Collm 18.24 300 *i* P **P 00 10 04.7 +4.1**
CLL pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 18.24 300 *i* Px Px 00 10 04.7
comp=Z,5.0nm,1.0s
CLL *i* (PP) 00 10 15.7
JOF Joensuu 18.50 349 *e*P **P 00 10 00.9 -2.4**
FDMO Fiordimonte 18.51 273 P **Pn 00 10 04.3 +0.4**
FDMO IAmb IAmb 00 10 07.6
comp=Z,22nm,1.3s
NRCA Norcia 18.55 272 **Pn 00 10 05.7 +1.3**
NRCA IAmb IAmb 00 10 09.5
comp=Z,22nm,1.5s
WTTA Wattenberg 18.88 287 *e*Pn **Pn 00 10 09.2 +0.7**
comp=Z,2.0nm,0.5s
RAF Rauma 18.96 334 *e*P **P 00 10 07.2 -1.2**
KEF Keuruu 19.03 340 *e*P **P 00 10 06.4 -2.7**
SQTA Sankt Quirin 19.17 287 *e*Pn **Pn 00 10 12.8 +0.8**
comp=Z,6.3nm,0.4s
MOTA Moosalm 19.24 287 *i* Pn **Pn 00 10 13.3 +0.5**
comp=Z,1.5nm,0.3s
RETA Reutte 19.46 287 *e*Pn **Pn 00 10 15.7 +0.3**
comp=Z,2.8nm,0.5s
FETA Feichten 19.51 286 *i* Pn **Pn 00 10 16.3 +0.2**
comp=Z,1.7nm,0.4s
OSSC Osservatorio P 19.70 276 P **P 00 10 16.1 -0.5**
ZCCA Zocca 19.70 278 P **P 00 10 17.9 +1.1**
FUORN Ofenpass-Fuorn 19.86 285 P **Pn 00 10 20.1 -0.3**
FUORN IAmb IAmb 00 10 22.0
comp=Z,11nm,0.6s
DAVA Damuels 20.07 287 *e*Pn **P 00 10 21.9 +1.1**
comp=Z,9.4nm,0.5s
DAVOX Davos/Dischmat 20.11 285 P **P 00 10 22.4 +1.0**
comp=Z,17nm,0.6s,baz=65,slow=12,SNR=67
comp=Z,17nm,0.6s
VAF Ylistaro 20.32 339 *e*P **P 00 10 23.0 -0.2**
TUE Stuetta 20.51 285 P **P 00 10 26.7 +1.0**
TUE IAmb IAmb 00 10 27.9
comp=Z,13nm,0.7s
TUE Stuetta 20.51 285 P **P 00 10 27.0 +1.3**
comp=Z,79nm,0.9s
BFO Black Forest 21.06 290 P **P 00 10 31.0 -0.4**
BFO IAmb IAmb 00 10 40.1
comp=Z,13nm,1.3s
BFO Black Forest 21.06 290 P **P 00 10 31.0 -0.4**
BFO pmax pmax
comp=Z,13nm,1.3s
HFS Hagfors 21.31 324 P **P 00 10 34.5 +0.6**
comp=Z,4.2nm,0.7s,baz=125,slow=14,SNR=6.3
HFS S S 00 14 19.2 -10
comp=Z,1.4nm,0.7s,baz=114,slow=29,SNR=1.9
comp=Z,4.2nm,0.7s
SENIN Lac Senin/Sane 21.93 285 P **P 00 10 40.9 -0.1**
SENIN IAmb IAmb 00 11 04.3
comp=Z,17nm,0.9s
RAYN Ar Rayn 22.09 163 P **P 00 10 43.5 +0.9**
RAYN IAmb IAmb 00 10 51.9
comp=Z,6.7nm,0.9s
RAYN Ar Rayn 22.09 163 P **P 00 10 43.5 +0.9**
RAYN pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 22.10 57 ⇓P **P 00 10 43.7 +1.2**
comp=Z,17nm,0.8s
BRVK Borovoye 22.10 57 P **P 00 10 42.8 +0.3**
BRVK Borovoye 22.10 57 *i* P **P 00 10 43.1 +0.6**
BRVK pmax pmax
comp=Z,19nm,0.8s
BVA0 Borovoye Array 22.16 57 ⇑P **P 00 10 47.5 +4.4**
comp=Z,9.4nm,0.8s,baz=270,slow=12,SNR=35
BVAR Borovoye Array 22.16 57 P **P 00 10 44.2 +1.1**
comp=Z,11nm,0.8s,baz=276,slow=14,SNR=26
BVAR S **S 00 14 43.6 -2.2**
comp=Z,1.1nm,0.7s,baz=265,slow=17,SNR=3.0
comp=Z,11nm,0.8s
NC602 NORSAR Array S 22.53 324 P **P 00 10 46.2 -0.8**
BNI Bardonecchia 22.57 282 P **P 00 10 48.2 +0.4**
BNI IAmb IAmb 00 10 58.8
comp=Z,6.6nm,0.9s
BNI Bardonecchia 22.57 282 P **P 00 10 48.2 +0.4**
BNI pmax pmax
comp=Z,7.0nm,1.0s
NB2 NORSAR Subarra 22.83 325 P **P 00 10 50.5 +0.3**
comp=Z,3.8nm,0.8s,baz=123,slow=11
NOA NORSAR Array B 22.83 325 P **P 00 10 49.8 -0.4**
comp=Z,3.1nm,1.1s,baz=128,slow=9.7,SNR=6.3
comp=Z,3.1nm,1.1s
KK31 Karatay Array 22.87 83 ⇑P **P 00 10 51.9 +1.1**
comp=Z,3.3nm,0.7s,baz=306,slow=8.6,SNR=25
KKAR Karatay Array 22.87 83 P **P 00 10 51.5 +0.7**
KKAR Karatay Array 22.87 83 P **P 00 10 51.2 +0.4**
KKAR IAmb IAmb 00 10 54.5
comp=Z,3.3nm,0.8s
KKAR Karatay Array 22.87 83 P **P 00 10 51.5 +0.7**
LVZ Lovozero 23.10 356 P **P 00 10 53.4 +0.4**
LVZ Lovozero 23.10 356 P **P 00 10 53.4 +0.4**
LVZ pmax pmax
comp=Z,35nm,1.2s
SIMJ Simiganj 23.36 95 P **P 00 10 54.9 -1.1**
SSB Saint Sauveur 24.01 283 P **P 00 11 01.7 -0.3**
SSB Saint Sauveur 24.01 283 P **P 00 11 01.7 -0.3**
SSB pmax pmax
comp=Z,20nm,1.3s
GAR Garm 24.14 93 P **P 00 11 05.1 +1.7**
GAR IAmb IAmb 00 11 07.0
comp=Z,6.4nm,0.7s
ARCES ARCESS Array B 25.54 349 P **P 00 11 16.7 +1.1**
comp=Z,6.7nm,0.9s,baz=160,slow=5.6,SNR=6.1
comp=Z,6.7nm,0.9s
AAK Ala-Archa 25.81 82 P **P 00 11 19.0 +0.5**
AAK Ala-Archa 25.81 82 *i* P **P 00 11 19.4 +0.8**
AAK pmax pmax
comp=Z,21nm,2.2s
CEST Esterri de Car 26.99 278 P **P 00 11 29.6 +0.5**
CEST IAmb IAmb 00 11 46.5
comp=Z,11nm,1.3s
KURBB Kurchatov Arra 27.11 64 P **P 00 11 31.9 +1.9**
comp=Z,1.0nm,0.6s,baz=272,slow=9.4,SNR=10
comp=Z,1.0nm,0.6s
KURK Kurchatov 27.16 63 P **P 00 11 31.9 +1.5**
MK31 Makanchi Array 30.12 71 P **P 00 11 57.7 +0.8**
MK31 IAmb IAmb 00 12 20.8
comp=Z,8.3nm,1.4s
MK31 Makanchi Array 30.12 71 P **P 00 11 57.7 +0.8**
MK31 pmax pmax
comp=Z,8.0nm,1.4s
MKAR Makanchi Array 30.12 71 P **P 00 11 58.1 +1.2**
MKAR Makanchi Array 30.12 71 P **P 00 11 58.6 +1.7**
comp=Z,1.7nm,0.6s,baz=288,slow=7.6,SNR=10
comp=Z,1.7nm,0.6s
TORD Torodi Ar. Bea 44.64 237 P **P 00 14 00.1 +0.1**
comp=Z,1.2nm,0.6s,baz=34,slow=8.7,SNR=14
comp=Z,1.2nm,0.6s
LZH Lanzhou 49.10 76 *e*P **P 00 14 31.4 -3.4**
LZH sP pP 00 14 38.9 -3.4
LZH pmax pmax
comp=Z,20nm,1.0s
LZH LR LR
comp=N,940nm,18.9s
LZH LR LR
comp=E,880nm,18.2s
LZH LR LR
comp=Z,2μm,20.6s
HHC Hu-ho-hao-te 51.86 67 *e*P **P 00 14 56.0 +0.4**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,180nm,5.6s
HHC LR LR
comp=N,790nm,18.8s
HHC LR LR
comp=E,700nm,20.4s
HHC LR LR
comp=Z,1μm,19.6s
PZH PanZhiHua 53.06 88 P **P 00 15 06.8 +2.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
DBIC Dimbokro 53.68 238 P **P 00 15 08.7 -0.4**
comp=Z,1.0nm,0.3s,baz=40,slow=7.1,SNR=7.6
comp=Z,1.0nm,0.3s
CN2 Changchun 59.01 57 *e*P P 00 15 41.1 -5.7
CN2 *e*S S 00 23 42.9 -8.9
CN2 *e*sS pS 00 23 50.6 -10
CN2 LR LR
comp=N,180nm,17.0s
CN2 LR LR
comp=E,220nm,17.0s
YKA Yellowknife Ar 70.79 347 P **P 00 17 04.8 +1.7**
comp=E,0.8nm,0.7s,baz=15,slow=6.1,SNR=7.4
comp=E,0.8nm,0.7s
YKA Yellowknife Ar 70.79 347 *i* P **P 00 17 05.4 +2.3**
YKA pmax pmax
comp=Z,1.0nm,0.7s
BOSA Boshof 74.23 192 P **P 00 17 24.8 +0.7**
comp=Z,3.6nm,1.0s,baz=0.0,slow=1.0,SNR=3.1
comp=Z,3.6nm,1.0s
ULM Lac du Bonnet 77.30 332 LR LR 00 50 52.0
comp=Z,1μm,20.6s,baz=246,slow=35

CATAC ***25*** *00:06:06.9±0.5, 12°.77N×90°.39W, h7km±3km, ML3.5*
SNET ***25*** *00:06:08.5±0.6, 12°.82N×90°.36W, h35km±67km, ML3.3*
ISC 25 00:06:05.0±3.4, **12°.73N**±0°.08×**90°.39W**±0°.08, **h8**km±15km,
n40, σ**0**s**70/64, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.29**	**54**	*i* P	**Pn**	**00 06 30.3**	**+1.0**
LALI				IAML		00 06 46.0	
comp=Z,140nm,1.0s							
JAYA	**Jayaque - finc**	**1.30**	**45**	*e*P	**Pn**	**00 06 29.2**	**-0.4**
JAYA	**Jayaque - finc**	**1.30**	**45**	*i* P	**Pn**	**00 06 29.4**	**-0.2**
JAYA				IAML		00 06 52.4	
comp=Z,920nm,1.0s							
NUBE	**Las Nubes**	**1.31**	**27**	*e*P	**Pn**	**00 06 29.1**	**-0.7**
NUBE	**Las Nubes**	**1.31**	**27**	*i* P	**Pn**	**00 06 29.1**	**-0.7**
NUBE				*i* S	**Sg**	**00 06 47.0**	**-0.3**
NUBE				IAML		00 06 49.2	
comp=Z,500nm,1.0s							
CEVE	**Cerro Verde**	**1.33**	**34**	*e*P	**Pn**	**00 06 30.0**	**-0.1**
CEVE				*e*S	**Sg**	**00 06 47.3**	**-0.5**
CEVE				IAML		00 06 57.8	
comp=Z,842nm,0.5s							
CEVE	**Cerro Verde**	**1.33**	**34**	*i* P	**Pn**	**00 06 30.1**	**0.0**
CEVE				*i* S	**Sg**	**00 06 48.1**	**+0.3**
CEVE				IAML		00 06 54.0	
comp=Z,680nm,1.0s							
SBLS	**San Blas**	**1.34**	**34**	*e*P	**Pn**	**00 06 30.2**	**+0.1**
SNJE	**San Jose**	**1.37**	**34**	*e*P	**Pn**	**00 06 30.1**	**-0.5**
RTR	**El Retiro**	**1.37**	**32**	*e*P	**Pn**	**00 06 30.2**	**-0.5**
LOAL	**Lomas de Alarc**	**1.40**	**25**	*i* P	**Pn**	**00 06 31.5**	**+0.6**
LOAL				*i* S	**Sb**	**00 06 48.8**	**-0.6**
LOAL				IAML		00 06 53.1	
comp=Z,2μm,1.0s							
PMON	**Piamonte**	**1.44**	**47**	*e*P	**Pn**	**00 06 31.5**	**+0.1**
PMON	**Piamonte**	**1.44**	**47**	*i* P	**Pn**	**00 06 31.8**	**+0.4**
PMON				*i* S	**Sb**	**00 06 50.7**	**+0.1**
PMON				IAML		00 06 57.9	
comp=Z,700nm,1.0s							
PANCS	**Alcalda de**	**1.47**	**53**	*i* P	**Pn**	**00 06 32.2**	**+0.3**
PANCS				*i* S	**Sn**	**00 06 51.9**	**+0.5**
PANCS				IAML		00 07 00.6	
comp=Z,2μm,1.0s							
UEES	**Universidad Ev**	**1.49**	**49**	*i* P	**Pn**	**00 06 32.8**	**+0.6**
UEES				IAML		00 07 02.0	
comp=Z,330nm,1.0s							
UNIC	**Universidad Ca**	**1.49**	**33**	*i* P	**Pn**	**00 06 32.4**	**+0.2**
UNIC				IAML		00 06 50.0	
comp=Z,220nm,1.0s							
UNIC				*i* S	**Sn**	**00 06 51.9**	**0.0**
LOMA	**Loma Larga**	**1.50**	**52**	*e*P	**Pn**	**00 06 32.4**	**+0.1**
LOMA				*e*S	**Sn**	**00 06 50.6**	**-1.5**
LOMA	**Loma Larga**	**1.50**	**52**	*i* P	**Pn**	**00 06 32.2**	**-0.1**
LOMA				IAML		00 07 02.6	
comp=Z,330nm,1.0s							
COEG	**Centro de Oper**	**1.72**	**59**	*e*P	**Pn**	**00 06 35.1**	**-0.2**
COEG				*e*S	**Sn**	**00 06 56.2**	**-1.3**
COEG				IAML		00 07 05.8	
comp=Z,198nm,0.4s							
COEG	**Centro de Oper**	**1.72**	**59**	*i* P	**Pn**	**00 06 35.5**	**+0.2**
COEG				IAML		00 06 37.0	

comp=Z,310nm,1.0s
COEG *i* S **Sn** **00 06 56.5 -1.0**
PAVA Las Pavas 1.72 55 *e*P **Pn** **00 06 35.8 +0.4**
PAVA Las Pavas 1.72 55 *i* P **Pn** **00 06 36.1 +0.7**
PAVA IAML 00 06 37.9
comp=Z,690nm,1.0s
PAVA *i* S **Sn** **00 06 58.3 +0.6**
UESV Universidad de 1.81 60 *i* P **Pn** **00 06 36.9 +0.4**
UESV *i* S **Sn** **00 07 00.6 +1.0**
UESV IAML 00 07 16.1
comp=Z,240nm,1.0s
SCLA Alcaldia de Sa 1.89 59 *e*P **Pn** **00 06 37.9 +0.3**
SCLA *e*S **Sn** **00 07 00.8 -0.8**
SCLA Alcaldia de Sa 1.89 59 *i* P **Pn** **00 06 38.3 +0.7**
SCLA *i* S **Sn** **00 07 02.2 +0.6**
SCLA IAML 00 07 08.9
comp=Z,110nm,1.0s
MTO3 Montecristo 1.94 31 *e*P **Pn** **00 06 38.7 +0.2**
MTO3 Montecristo 1.94 31 *i* P **Pn** **00 06 38.9 +0.4**
MTO3 IAML 00 06 42.6
comp=Z,200nm,1.0s
MTO3 *i* S **Sn** **00 07 03.6 +0.4**
LLGN La Laguna 2.01 44 *i* P **Pn** **00 06 40.5 +1.2**
LLGN IAML 00 07 20.7
comp=Z,1μm,1.0s
ESQI Esquipulas 2.09 29 *i* P **Pn** **00 06 42.2 +1.8**
ESQI *i* S **Sn** **00 07 07.5 +0.8**
ESQI IAML 00 07 11.2
comp=Z,300nm,1.0s
PACA Pacayal 2.15 70 *i* P **Pn** **00 06 42.9 +1.7**
PACA *i* S **Sn** **00 07 08.1 0.0**
PACA IAML 00 07 24.6
comp=Z,1μm,1.0s
RANC El Ranchito 2.17 71 *i* P **Pn** **00 06 42.0 +0.5**
RANC *i* S **Sn** **00 07 08.9 +0.2**
RANC IAML 00 07 53.4
comp=Z,270nm,1.0s
LCND La Caada 2.51 76 *e*P **Pn** **00 06 46.4 +0.3**
LCND La Caada 2.51 76 *i* P **Pn** **00 06 46.6 +0.5**
LCND *i* S **Sn** **00 07 16.9 +0.1**
CNCH Conchagua 2.55 77 *i* P **Pn** **00 06 46.7 -0.1**
CNCH *i* S **Sn** **00 07 17.9 -0.2**
CNCH IAML 00 07 22.1
comp=Z,260nm,1.0s
QUIS Sacapulas 2.64 345 *i* P **Pn** **00 06 48.8 +0.8**
QUIS *i* S **Sn** **00 07 19.3 -1.0**
QUIS IAML 00 07 55.3
comp=Z,570nm,1.0s
CSGN Cosiguina Volc 2.77 85 *i* P **Pn** **00 06 50.2 +0.4**
CSGN *i* S **Sn** **00 07 24.5 +0.9**
CSGN IAML 00 07 31.3
comp=Z,26nm,1.0s
CRIN San Cristobal 3.26 90 *i* P **Pn** **00 06 56.8 +0.3**
CRIN *i* S **Sn** **00 07 34.3 -1.3**
CRIN IAML 00 07 49.1
comp=Z,170nm,1.0s
TGUH Tegucigalpa,Un 3.31 66 *i* P **Pn** **00 06 58.2 +0.9**
TGUH IAML 00 07 26.3
comp=Z,53nm,1.0s
PKGN Cerro Pekin 3.33 91 *i* P **Pn** **00 06 57.4 0.0**
PKGN *i* S **Sn** **00 07 36.0 -1.2**
PKGN IAML 00 07 42.2
comp=Z,210nm,1.0s
YUSH Yuscaran 3.66 70 *i* P **Pn** **00 07 02.5 +0.4**

*ATH **25** 00:09:43.5,37.°12N×20.°43E,h9km±2km,ML3.5/14,Error ellipse: s-maj=2.6km s-min=1.2km az=9.0*
*NAO **25** 00:09:44.1,37.°20N×20.°56E,h10km,mb4.0*
*THE **25** 00:09:44.5,37.°16N×20.°50E,h0km±2km,ML3.6/6,Error ellipse: s-maj=2.8km s-min=0.8km az=224.0*
*BEO **25** 00:09:45.6±4.5,37.°02N×20.°21E,h61km±1km,ML3.6/13*
*IDC **25** 00:09:51.0±2.1,37.°07N×20.°34E,h85km±25km,mb3.4/6, mbtmp3.7/11,Error ellipse: s-maj=23.9km s-min=19.9km az=16.0*
ISC 25 00:09:44.0±1.4,**37.°15N**±0.°04×**20.°45E**±0.°04,**h17**km±8km, **n85**,σ1**s57**/101,**mb3.7**/6,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.59**	**29**	P	**Pg**	**00 09 55.5**	**-0.1**
KRI1				S	**Sg**	**00 10 03.5**	**0.0**
22μm,0.4s							
RTZL	**Ratzakli, Kefa**	**0.96**	**15**	P	**Pb**	**00 10 01.8**	**-0.4**
RTZL				S	**Sn**	**00 10 16.4**	**+0.5**
3μm,1.0s							
PSDA	**Pessada-Kefalo**	**0.97**	**6**	P	**Pb**	**00 10 02.5**	**+0.2**
PSDA				S	**Sg**	**00 10 16.4**	**+0.9**
4μm,0.8s							
PSDA	**Pessada-Kefalo**	**0.97**	**6**	P	**Pb**	**00 10 02.1**	**-0.2**
PSDA				S	**Sb**	**00 10 15.6**	**+0.8**
VLS	**Valsamata**	**1.03**	**6**	P	**Pb**	**00 10 03.2**	**-0.2**
VLS				S	**Sb**	**00 10 17.8**	**+1.1**
3μm,0.7s							
VLS	**Valsamata**	**1.03**	**6**	P	**Pb**	**00 10 03.4**	**0.0**
VLS				S	**Sg**	**00 10 18.1**	**+0.5**
VLS				AML	AML	00 10 24.7	
comp=E,5420μm,0.4s							
VLS				AML	AML	00 10 31.2	
comp=N,5153μm,0.6s							
AMT	**Artemida-Makis**	**1.07**	**69**	P	**Pn**	**00 10 04.2**	**-0.1**
AMT				S	**Sn**	**00 10 18.7**	**-0.1**
AMT				AML	AML	00 10 29.4	
comp=E,17896μm,0.4s							
AMT				AML	AML	00 10 32.1	
comp=N,32267μm,0.4s							
DMLN	**Damoulianata-K**	**1.09**	**357**	P	**Pb**	**00 10 04.5**	**+0.1**
DMLN	**Damoulianata-K**	**1.09**	**357**	P	**Pb**	**00 10 04.5**	**+0.1**
DMLN				S	**Sb**	**00 10 19.9**	**+1.6**
ITM	**Ithomi**	**1.18**	**88**	P	**Pg**	**00 10 06.0**	**-0.7**
ITM				S	**Sn**	**00 10 22.5**	**+1.1**
comp=N,2μm,0.4s							
ITM	**Ithomi**	**1.18**	**88**	P	**Pg**	**00 10 06.0**	**-0.7**
ITM				S	**Sn**	**00 10 22.4**	**+1.1**
ITM				AML	AML	00 10 25.3	
comp=N,4444μm,0.3s							
ITM				AML	AML	00 10 31.1	
comp=E,5152μm,0.6s							
RLS	**Riolos of Patr**	**1.21**	**41**	P	**Pn**	**00 10 06.2**	**0.0**
RLS	**Riolos of Patr**	**1.21**	**41**	P	**Pn**	**00 10 06.1**	**0.0**
RLS				S	**Sg**	**00 10 22.7**	**-0.5**
RLS				AML	AML	00 10 31.6	
comp=N,2724μm,0.8s							
RLS				AML	AML	00 10 32.4	
comp=E,2529μm,0.6s							
EVGI	**Lefkada island**	**1.48**	**6**	P	**Pb**	**00 10 11.3**	**+0.3**
EVGI	**Lefkada island**	**1.48**	**6**	P	**Pb**	**00 10 11.1**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.57**	**7**	P	**Pb**	**00 10 12.9**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.57**	**7**	P	**Pb**	**00 10 12.9**	**+0.3**
KLV	**Kalavryta, Ach**	**1.62**	**56**	P	**Pb**	**00 10 13.2**	**-0.2**
KLV	**Kalavryta, Ach**	**1.62**	**56**	P	**Pb**	**00 10 13.2**	**-0.2**
KLV				S	**Sg**	**00 10 35.0**	**-1.1**
KLV				AML	AML	00 10 54.1	
comp=E,1489μm,0.8s							
KLV				AML	AML	00 10 55.1	
comp=N,1298μm,0.7s							
LKD2	**Lefkada island**	**1.64**	**6**	P	**Pb**	**00 10 13.8**	**0.0**
LKD2				AML	AML	00 10 43.7	
comp=E,2135μm,0.6s							
LKD2				AML	AML	00 10 53.6	
comp=N,2092μm,0.8s							
TSLK	**Tsoukalades, L**	**1.68**	**5**	P	**Pb**	**00 10 14.4**	**-0.1**
TSLK				S	**Sb**	**00 10 37.1**	**+1.8**
comp=N,2μm,1.0s							
TSLK	**Tsoukalades, L**	**1.68**	**5**	P	**Pb**	**00 10 14.5**	**+0.1**
TSLK				AML	AML	00 10 47.2	
comp=E,3775μm,1.2s							
TSLK				AML	AML	00 10 53.0	
comp=N,3768μm,0.6s							
KALE	**Kalithea**	**1.82**	**47**	P	**Pb**	**00 10 17.1**	**+0.2**
KALE				AML	AML	00 10 59.8	
comp=E,2894μm,0.7s							
KALE				AML	AML	00 11 04.4	
comp=N,1493μm,0.6s							
VLI	**Veliai**	**2.04**	**101**	P	**Pb**	**00 10 19.7**	**-0.8**
VLI	**Veliai**	**2.04**	**101**	P	**Pb**	**00 10 20.2**	**-0.3**
VLI				AML	AML	00 11 06.0	
comp=N,1238μm,0.7s							
VLI				AML	AML	00 11 10.8	
comp=E,1473μm,0.7s							
MAKR	**Makrakomi, Fth**	**2.28**	**35**	P	**Pb**	**00 10 23.9**	**-0.8**
MAKR				AML	AML	00 11 11.4	
comp=N,3147μm,1.3s							
MAKR				AML	AML	00 11 16.0	
comp=E,2445μm,0.7s							
IGT	**Igoumenitsa**	**2.38**	**358**	P	**Pb**	**00 10 25.7**	**-0.8**
IGT				AML	AML	00 11 11.8	
comp=E,696μm,0.5s							
IGT				AML	AML	00 11 16.6	
comp=N,734μm,0.5s							
KEK	**Kerkira**	**2.61**	**349**	P	**Pb**	**00 10 29.4**	**-1.0**
KEK				AML	AML	00 11 18.8	
comp=N,537μm,0.6s							
KEK				AML	AML	00 11 31.7	
comp=E,801μm,0.9s							
THL	**Klokotos Trika**	**2.71**	**27**	P	**Pb**	**00 10 30.9**	**-1.0**
THL				AML	AML	00 11 23.4	
comp=N,407μm,0.7s							
THL				AML	AML	00 11 26.6	
comp=E,640μm,0.8s							
FNA	**Florina**	**3.70**	**11**	*e*Pn	**Pn**	**00 10 42.5**	**+2.1**
OHR	**Ohrid**	**3.96**	**4**	*e*Pn	**Pn**	**00 10 45.8**	**+1.7**
OHR	**Ohrid**	**3.96**	**4**	*i* Pn	**Pn**	**00 10 47.3**	**+3.2**
IDI	**Anoyia**	**4.04**	**116**	P	**Pb**	**00 10 51.0**	**-3.8**
comp=E,2.5nm,0.3s,baz=258,slow=9.1,SNR=6.7							
IDI				S	**Sn**	**00 11 34.1**	**+2.0**
comp=E,15nm,0.4s,baz=337,slow=22,SNR=6.8							
VAY	**Valandovo**	**4.48**	**21**	*e*Pn	**Pn**	**00 10 52.7**	**+1.6**
VAY	**Valandovo**	**4.48**	**21**	*i* Pn	**Pn**	**00 10 53.4**	**+2.3**
SRS	**Serrai**	**4.65**	**31**	*e*Pn	**Pn**	**00 10 55.0**	**+1.5**
VAE	**Valguarnera**	**4.83**	**276**	P	Pn	00 11 02.2	+6.3
comp=E,8.7nm,0.6s,baz=123,slow=5.6,SNR=8.9							
VAE				S	**Sn**	**00 11 53.2**	**+1.7**
comp=E,15nm,0.6s,baz=253,slow=9.3,SNR=2.3							
PEHC	**Pehcevo**	**5.00**	**22**	*i* Pn	**Pn**	**00 11 01.3**	**+3.0**
PDG	**Podgorica**	**5.35**	**350**	*e*Pn	**Pn**	**00 11 03.4**	**+0.3**
BOSS	**Bosilegrad**	**5.56**	**16**	*e*Pn	**Pn**	**00 11 06.9**	**+0.9**
BARS	**Barje**	**5.75**	**10**	*e*Pn	**Pn**	**00 11 09.4**	**+0.8**
BARS				*e*Sn	**Sn**	**00 12 10.0**	**-4.3**
TREB	**Trebinje**	**5.79**	**344**	*e*Pn	**Pn**	**00 11 09.9**	**+0.8**
VTS	**Vitosha**	**5.87**	**21**	*e*Pn	**Pn**	**00 11 11.3**	**+1.0**
BRY	**Bratogost**	**5.93**	**346**	*e*Pn	**Pn**	**00 11 09.5**	**-1.6**
SELS	**Selova**	**6.08**	**5**	*e*Pn	**Pn**	**00 11 13.8**	**+0.6**
STON	**Ston**	**6.09**	**341**	*e*Pn	**Pn**	**00 11 11.4**	**-1.8**
SJES	**Sjenica**	**6.12**	**357**	*e*Pn	**Pn**	**00 11 14.3**	**+0.6**
SJES				*e*Sn	**Sn**	**00 12 18.8**	**-4.5**
SJES	**Sjenica**	**6.12**	**357**	*e*Pn	**Pn**	**00 11 14.0**	**+0.3**
ZAPS	**Zavoj**	**6.34**	**15**	*e*Pn	**Pn**	**00 11 18.1**	**+1.4**
IVAS	**Ivanjica**	**6.42**	**358**	*e*Pn	**Pn**	**00 11 18.0**	**+0.2**
RUDO	**Rudo**	**6.51**	**353**	*e*Pn	**Pn**	**00 11 18.7**	**-0.3**
BOVS	**Bovan**	**6.55**	**8**	*e*Pn	**Pn**	**00 11 19.7**	**+0.2**
GRUS	**Gruza**	**6.73**	**2**	*e*Pn	**Pn**	**00 11 22.7**	**+0.6**
BBLS	**Lazi&#263i**	**6.76**	**354**	*e*Pn	**Pn**	**00 11 23.4**	**+1.0**
BBLS	**Lazi&#263i**	**6.76**	**354**	*e*Pn	**Pn**	**00 11 22.4**	**0.0**
DIVS	**Divibare**	**6.95**	**357**	*e*Pn	**Pn**	**00 11 25.0**	**-0.1**
DIVS				*e*Sn	**Sn**	**00 12 37.8**	**-6.0**
HAPS	**Han Pijesak,Bl**	**7.02**	**351**	*e*Pn	**Pn**	**00 11 25.9**	**-0.2**
TEKS	**Tekeris**	**7.42**	**355**	*e*Pn	**Pn**	**00 11 30.3**	**-1.3**
TEKS	**Tekeris**	**7.42**	**355**	*e*Pn	**Pn**	**00 11 29.3**	**-2.3**
A050A	**Klekovaca**	**7.90**	**339**	*e*Pn	**Pn**	**00 11 39.7**	**+1.5**
BLY	**Banja Luka**	**7.98**	**343**	*e*Pn	**Pn**	**00 11 40.9**	**+1.7**
FRGS	**Fruska Gora**	**8.02**	**357**	*e*Pn	**Pn**	**00 11 38.0**	**-1.6**
FRGS	**Fruska Gora**	**8.02**	**357**	*e*Pn	**Pn**	**00 11 36.8**	**-2.8**
A051A	**Mrakovica**	**8.30**	**342**	*e*Pn	**Pn**	**00 11 42.2**	**-1.4**
BOJS	**Bojanci**	**9.21**	**337**	*e*Pn	**Pn**	**00 11 56.6**	**+0.5**
CRES	**Cresnjevec Ost**	**9.44**	**338**	*e*Pn	**Pn**	**00 11 58.9**	**-0.3**
CEY	**Cerknica**	**9.70**	**334**	*e*Pn	**Pn**	**00 12 03.9**	**+1.2**
OBKA	**Obir**	**10.33**	**337**	*e*Pn	**Pn**	**00 12 13.0**	**+1.5**
comp=E,0.9nm,0.2s							
OBKA	**Obir**	**10.33**	**337**	*e*Pn	**Pn**	**00 12 12.7**	**+1.2**
SOKA	**Soboth**	**10.34**	**339**	*e*Pn	**Pn**	**00 12 12.0**	**+0.5**
comp=E,1.4nm,0.3s							
KBA	**Koelnbreinsper**	**11.23**	**334**	*e*Pn	**Pn**	**00 12 26.1**	**+2.3**
comp=E,2.7nm,0.9s							
MOA	**Molln**	**11.62**	**339**	*e*Pn	**Pn**	**00 12 30.4**	**+1.3**
comp=E,1.2nm,0.4s							
BIOA	**Bad Ischl, Aus**	**11.67**	**337**	*e*Pn	**Pn**	**00 12 31.7**	**+2.0**
comp=E,1.4nm,0.4s							
LESA	**Schwarzleotal**	**11.76**	**333**	*e*Pn	**Pn**	**00 12 32.8**	**+1.7**
comp=E,1.3nm,0.5s							
WATA	**Walderalm**	**12.11**	**330**	*e*Pn	**Pn**	**00 12 38.3**	**+2.5**
comp=E,2.1nm,0.6s							
DAVOX	**Davos/Dischmat**	**12.42**	**324**	P	Pn	00 12 45.3	+5.2
comp=E,3.5nm,0.8s,baz=152,slow=13,SNR=4.9							
MMAI	**Mount Meron Ar**	**12.92**	**104**	P	**Pn**	**00 12 50.5**	**+3.6**
comp=E,0.3nm,0.3s,baz=300,slow=9.9,SNR=1.8							
AKASG	**Malin Array Be**	**14.93**	**22**	P	**P**	**00 13 17.5**	**-2.1**
comp=E,0.3nm,0.4s,baz=211,slow=9.3,SNR=2.9							
HFS	**Hagfors**	**23.41**	**351**	P	**P**	**00 14 52.5**	**+0.7**
comp=E,2.0nm,0.7s,baz=146,slow=10,SNR=4.3							
comp=E,2.0nm,0.7s							
FINES	**FINESS Array B**	**24.57**	**7**	P	**P**	**00 15 03.1**	**+0.4**
comp=E,3.7nm,0.9s,baz=185,slow=7.0,SNR=1.7							
comp=E,3.7nm,0.9s							
NB2	**NORSAR Subarra**	**24.61**	**349**	P	**P**	**00 15 02.7**	**-0.5**
comp=Z,7.7nm,1.0s,baz=162,slow=9.3							
NOA	**NORSAR Array B**	**24.61**	**349**	P	**P**	**00 15 02.4**	**-0.8**
comp=Z,0.9nm,0.9s,baz=158,slow=9.1,SNR=3.2							
comp=Z,0.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**29.20**	**220**	P	**P**	**00 15 43.0**	**-1.8**
comp=Z,0.7nm,1.0s,baz=19,slow=8.7,SNR=1.9							
comp=Z,0.7nm,1.0s							
MKAR	**Makanchi Array**	**45.89**	**58**	P	**P**	**00 18 06.5**	**+1.1**
comp=Z,0.3nm,0.6s,baz=275,slow=6.0,SNR=5.4							
comp=Z,0.3nm,0.6s							
ZALV	**Zalesovo Beam**	**46.42**	**47**	P	**P**	**00 18 10.7**	**+1.2**
comp=Z,1.4nm,0.5s,baz=260,slow=8.2,SNR=1.1							
comp=Z,1.4nm,0.5s							

*IDC **25** 00:10:41.5±0.8,13.°40N×125.°80E,h0km,mb3.9/10, mbtmp3.9/10,MS4.6/2,Error ellipse: s-maj=36.3km s-min=16.2km az=70.0*
ISC 25 00:10:45.5±0.9,**13.°4N**±0.°1×**125.°8E**±0.°3,**h27**km,**n12**, σ0**s59**/10,**mb3.9**/10,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**24.04**	**4**	P	**P**	**00 15 58.6**	**+0.3**
3.3nm,0.9s,baz=184,slow=10,SNR=8.7							
3.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**26.29**	**285**	P	**P**	**00 16 18.9**	**-0.2**
1.1nm,0.6s,baz=97,slow=7.6,SNR=6.6							
1.1nm,0.6s							
WRA	**Warramunga Arr**	**34.17**	**166**	P	**P**	**00 17 27.6**	**-1.1**
0.4nm,0.8s,baz=346,slow=9.2,SNR=2.5							
0.4nm,0.8s							
ASAR	**Alice Springs**	**37.67**	**168**	P	**P**	**00 17 59.5**	**+0.8**
1.3nm,0.8s,baz=344,slow=7.0,SNR=12							
1.3nm,0.8s							
SONM	**Songino Array**	**37.96**	**339**	P	**P**	**00 18 00.8**	**-0.2**
1.7nm,0.9s,baz=155,slow=9.2,SNR=7.3							
1.7nm,0.9s							
STKA	**Stephens Creek**	**47.49**	**162**	P	**P**	**00 19 18.6**	**+0.3**
2.1nm,0.6s,baz=326,slow=12,SNR=4.0							
2.1nm,0.6s							
MKAR	**Makanchi Array**	**49.29**	**321**	P	**P**	**00 19 32.2**	**+0.1**
1.1nm,0.7s,baz=104,slow=12,SNR=4.9							
1.1nm,0.7s							
DZM	**Mont Dzumac**	**53.21**	**131**	LR	LR	00 39 35.1	
comp=Z,337nm,21.5s,baz=200,slow=33							
KURBB	**Kurchatov Arra**	**53.27**	**324**	P	**P**	**00 20 01.9**	**0.0**
3.5nm,0.7s,baz=121,slow=7.5,SNR=24							
3.5nm,0.7s							
BVAR	**Borovoye Array**	**58.86**	**324**	P	**P**	**00 20 42.3**	**+0.5**
0.8nm,0.5s,baz=104,slow=6.1,SNR=4.0							
0.8nm,0.5s							
GNI	**Garni**	**74.70**	**308**	LR	LR	00 59 52.7	
comp=Z,694nm,19.6s,baz=144,slow=40							
ILAR	**Eielson Array**	**76.86**	**26**	P	**P**	**00 22 34.6**	**-0.2**
0.8nm,1.1s,baz=238,slow=5.2,SNR=5.3							
0.8nm,1.1s							

*MDD **25** 00:24:56.8±0.8,38.°19N×1.°22W,h10km±23km,mb_Lg2.4/8, Error ellipse: s-maj=4.0km s-min=2.4km az=150.0*
*SFS **25** 00:24:57.9,38.°12N×1.°15W,h14km,ML2.3/8,ML2.7/5, MLv2.1/8*
ISC 25 00:24:56.2±1.0,**38.°17N**±0.°03×**1.°17W**±0.°03,**h14**km±10km, **n18**,σ0**s35**/29,**Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**	**0.33**	**189**	Pg	**Pg**	**00 25 03.0**	**+0.1**
EMUR				Sg	**Sg**	**00 25 07.5**	**0.0**
EMUR	**La Murta**	**0.33**	**189**	Pg	**Pg**	**00 25 03.0**	**+0.1**
EMUR				Sg	**Sg**	**00 25 08.0**	**+0.5**
EMUR				*i* Vmb_Lg		00 25 12.1	
ETRV	**Los Montesinos**	**0.36**	**114**	Pg	**Pb**	**00 25 04.4**	**+0.1**
ETRV				Sg	**Sb**	**00 25 09.7**	**0.0**
ETRV				*i* Vmb_Lg		00 25 10.7	
EXBUL	**Bullas, Murcia**	**0.40**	**253**	Pg	**Pg**	**00 25 04.3**	**+0.1**
EXBUL				Sg	**Sg**	**00 25 09.6**	**-0.2**
EZAR	**Zarzadilla de**	**0.50**	**235**	Pg	**Pg**	**00 25 05.7**	**-0.5**
EZAR				Sg	**Sg**	**00 25 12.6**	**-0.3**
EZAR				*i* Vmb_Lg		00 25 17.3	
CART	**Cartagena**	**0.59**	**167**	Pg	**Pb**	**00 25 08.4**	**+0.1**
CART				Sg	**Sb**	**00 25 16.4**	**-0.2**
TLOR	**Lorca, Murcia**	**0.65**	**219**	Pg	**Pb**	**00 25 09.9**	**+0.5**
TLOR	**Lorca, Murcia**	**0.65**	**219**	Pg	**Pb**	**00 25 09.4**	**+0.1**
TLOR				Sg	**Sg**	**00 25 16.9**	**-0.7**
ELOR	**Lorca, Murcia**	**0.69**	**221**	Pg	**Pb**	**00 25 10.6**	**+0.5**
ELOR				Sg	**Sg**	**00 25 18.5**	**-0.4**
ELOR				*i* Vmb_Lg		00 25 24.4	
AFON	**Font Roja**	**0.70**	**45**	Pg	**Pb**	**00 25 10.3**	**0.0**
AFON				Sg	**Sb**	**00 25 20.1**	**+0.2**
AFON				*i* Vmb_Lg		00 25 26.7	
EBEN2	**Beniarda presa**	**0.92**	**56**	Pg	**Pb**	**00 25 14.2**	**+0.2**
EBEN2				Sg	**Sg**	**00 25 25.8**	**-0.3**
EBEN2				*i* Vmb_Lg		00 25 32.2	
EVIV	**Cofrentes, Val**	**1.10**	**2**	Pg	**Pn**	**00 25 17.8**	**+0.6**
EVIV				Sg	**Sb**	**00 25 30.8**	**-0.4**
EVIV				*i* Vmb_Lg		00 25 34.6	
ECHE	**Chera**	**1.43**	**6**	Sn	**Sg**	**00 25 42.4**	**+0.1**
E0802	**Ubeda,Jaen**	**1.74**	**266**	Sg	**Sb**	**00 25 50.1**	**+0.4**
EQTA	**Presa de Quent**	**2.04**	**243**	Sg	**Sg**	**00 26 01.3**	**-0.4**
EIBI	**Ibiza**	**2.15**	**66**	Pn	**Pn**	**00 25 31.3**	**-0.3**
UCM	**Universidad Co**	**2.67**	**324**	Sg	**Sg**	**00 26 21.8**	**-0.3**
EADA	**Adamuz**	**2.68**	**271**	Pn	**Pn**	**00 25 38.8**	**-0.2**

IDC 25 00:38:35.1±3.5,**46.°70S**×**166.°21E**,**h0**km,**mb3.4**/2, **mbtmp3.4**/3,**ML3.1**/1,**Error ellipse: s-maj=88.0km s-min=30.7km az=162.0**,**Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**4.54**	**51**	Pn	Pn	00 39 45.0	-0.1
0.9nm,0.3s,baz=63,slow=18,SNR=1.1							
RPZ				Sn	Sn	00 40 40.2	+1.6
0.9nm,0.3s,baz=64,slow=23,SNR=2.3							
6.0nm,0.6s							
ASAR	**Alice Springs**	**34.62**	**300**	P	P	00 45 26.7	+0.7
0.4nm,0.7s,baz=137,slow=6.7,SNR=7.8							
0.4nm,0.7s							
WRA	**Warramunga Arr**	**37.27**	**305**	P	P	00 45 47.7	-1.0
0.3nm,0.7s,baz=140,slow=8.0,SNR=5.6							
0.3nm,0.7s							
H01W1	**Cape Leeuwin H**	**40.45**	**268**	T	T	01 28 08.6	
baz=125,slow=76,SNR=6.8							
H01W2	**Cape Leeuwin H**	**40.46**	**268**	T	T	01 28 09.5	
baz=125,slow=76,SNR=6.8							
H01W3	**Cape Leeuwin H**	**40.47**	**268**	T	T	01 28 11.5	
baz=125,slow=76,SNR=7.4							
H04S2	**CROZET ISLANDS**	**70.54**	**222**	T	T	02 05 55.6	
baz=140,slow=75,SNR=4.8							
H04S1	**CROZET ISLANDS**	**70.54**	**222**	T	T	02 05 56.3	
baz=140,slow=75,SNR=5.4							
H04S3	**CROZET ISLANDS**	**70.56**	**222**	T	T	02 05 54.6	
baz=140,slow=75,SNR=4.8							
H08S2	**Diego Garcia H**	**87.04**	**262**	T	T	02 26 03.0	
baz=138,slow=76,SNR=67							
H08S1	**Diego Carcia H**	**87.05**	**262**	T	T	02 26 05.2	
baz=138,slow=76,SNR=53							
H08S3	**Diego Garcia H**	**87.06**	**262**	T	T	02 26 04.5	
baz=138,slow=76,SNR=68							
BRTR	**Keskin Array B**	**145.18**	**276**	PKPbc	PKPbc	00 58 13.2	-0.7
0.3nm,0.8s,baz=108,slow=4.7,SNR=1.8							

*VIE **25** 01:00:46.8±0.4,49.°86N×18.°56E,h0km,mb2.5/8,ml2.5/7, Error ellipse: s-maj=3.8km s-min=2.9km az=47.0, Suspected Mining induced.*
*IPEC **25** 01:00:47.2±0.3,49.°82N×18.°56E,h1km,ML2.3/4,Error ellipse: s-maj=2.1km s-min=1.6km az=77.0*
*PRU **25** 01:00:49.8,49.°84N×18.°38E,h0km,Mining Induced Event Csm, E=6.9e+05*
ISC 25 01:00:47.0±0.8,**49.°80N**±0.°03×**18.°55E**±0.°02,**h0**km,**n33**, σ1**s04**/61,**Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.27**	**279**	*e*PG	**Pg**	**01 00 52.9**	**+0.8**
OKC				*e*SG	**Sg**	**01 00 56.1**	**+0.6**
comp=Z,103nm,0.3s							
RAC	**Raciborz**	**0.37**	**321**	*e*PG	**Pg**	**01 00 54.9**	**+0.8**
RAC				*e*SG	**Sg**	**01 01 00.6**	**+1.8**
MORC	**Moravsky Berou**	**0.66**	**269**	*e*Pg	**Pg**	**01 00 59.7**	**+0.2**
baz=86							
MORC				*e*Sg	**Sg**	**01 01 07.9**	**-0.1**
53nm,0.4s,baz=86							
MORC	**Moravsky Berou**	**0.66**	**269**	*e*PG	**Pg**	**01 00 59.8**	**+0.2**
MORC				*e*SG	**Sg**	**01 01 08.0**	**-0.1**
OJC	**Ojcow**	**0.91**	**62**	*e*Pg	**Pg**	**01 01 03.7**	**-0.7**
OJC				*e*Sg	**Sb**	**01 01 17.7**	**-0.6**
JAVC	**Velka Javorina**	**1.10**	**212**	*e*Pg	**Pb**	**01 01 08.7**	**-0.3**
baz=31							
JAVC	**Velka Javorina**	**1.10**	**212**	*e*PG	**Pb**	**01 01 08.8**	**-0.3**
KRLC	**Kraliky**	**1.18**	**284**	*e*PG	**Pg**	**01 01 08.3**	**-1.3**
KRLC				*e*SG	**Sg**	**01 01 24.5**	**-0.3**
comp=Z,69nm,0.7s							
NIE	**Niedzica**	**1.20**	**108**	*e*Pg	**Pn**	**01 01 10.9**	**-0.1**
NIE				*e*Sg	**Sn**	**01 01 28.4**	**+0

comp=Z,0.3nm,0.2s
CLL Collm 3.85 295 *i* Pg **Pg 01 01 59.5 -1.2**
CLL *i* x x 01 02 07.2
CLL *e*Sg **Sb 01 02 46.0 +3.1**
CLL *i* Sg **Sg 01 02 49.0 -1.6**
comp=Z,5.0nm,0.4s
BIOA Bad Ischl, Aus 3.88 239 *e*Pn **Pn 01 01 48.7 +0.8**
comp=Z,0.6nm,0.3s
KBA Koelnbreinsper 4.41 234 *e*Pn **Pn 01 01 55.3 0.0**
comp=Z,1.0nm,0.6s

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*NIC **25** 01:05:47.2, 34°.41N×34°.52E, h7km±2km, MI1.7/6*
*GRAL **25** 01:05:49.1±0.3, 34°.43N×34°.82E, h20km±2km, MD3.1*
*GII **25** 01:05:50.9±0.4, 34°.21N±0°.03×34°.98E±0°.01, h1km, Mws2.1, confirmed*
ISC 25 01:05:46.8±1.2, 34°.58N±0°.06×34°.83E±0°.05, h31km±14km, n63, σ1°.07/75, 5C-1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.77**	**303**	⇓*i*P	**Pb**	**01 06 01.6**	**0.0**
PARAL				S	**Sb**	**01 06 11.5**	**-0.3**
PARAL				AML	AML	01 06 12.4	
	0.3nm,0.4s						
PARAL				AML	AML	01 06 12.5	
	0.2nm,0.3s						
BHL	**Bhannes**	**0.96**	**134**	*e*P	**Pn**	**01 06 04.3**	**+0.1**
BHL				*e*S	**Sb**	**01 06 15.6**	**-1.8**
HWQ	**Hawqa**	**0.97**	**108**	*e*P	**Pb**	**01 06 05.7**	**+0.6**
DQRL	**Deir Qamar**	**1.07**	**145**	*e*P	**Pn**	**01 06 05.7**	**0.0**
DQRL				*e*S	**Sn**	**01 06 17.9**	**-1.6**
MVOU	**Mavrovouni**	**1.07**	**294**	⇑*i*P	**Pn**	**01 06 05.1**	**-0.6**
MVOU				S	**Sn**	**01 06 17.7**	**-1.9**
MVOU				AML	AML	01 06 19.9	
	0.1nm,0.2s						
MVOU				AML	AML	01 06 20.2	
	0.1nm,0.2s						
BEIL	**Beino**	**1.12**	**92**	*e*P	**Pb**	**01 06 08.6**	**+1.0**
ZAHL	**Zahle**	**1.14**	**129**	*e*P	**Pn**	**01 06 07.4**	**+0.7**
QRWL	**Qaraoun**	**1.25**	**145**	*e*P	**Pn**	**01 06 08.7**	**+0.4**
CSS	**Mathiatis**	**1.29**	**288**	P	**Pn**	**01 06 08.3**	**-0.4**
CSS	**Mathiatis**	**1.29**	**288**	⇑*i*P	**Pn**	**01 06 08.4**	**-0.2**
CSS				S	**Sn**	**01 06 24.8**	**0.0**
CSS				AML	AML	01 06 29.7	
ASGA	**Asgata**	**1.32**	**279**	⇑*i*P	**Pn**	**01 06 08.5**	**-0.5**
ASGA				S	**Sn**	**01 06 24.9**	**-0.6**
ASGA				AML	AML	01 06 28.6	
ASGA				AML	AML	01 06 31.0	
FKH	**Fakeheh**	**1.35**	**104**	*e*P	**Pb**	**01 06 11.7**	**+0.2**
RCY	**Rachaya**	**1.37**	**142**	*e*P	**Pn**	**01 06 10.7**	**+0.8**
RCY				*e*S	**Sn**	**01 06 26.7**	**-0.3**
SHBL	**Chebaa**	**1.45**	**148**	*e*P	**Pn**	**01 06 11.7**	**+0.7**
NATI	**Neve Ativ**	**1.52**	**150**	P	**Pn**	**01 06 12.7**	**+0.9**
NATI	**Neve Ativ**	**1.52**	**150**	S	**Sn**	**01 06 29.1**	**-1.4**
NATI	**Neve Ativ**	**1.52**	**150**	P	**Pn**	**01 06 12.5**	**+0.8**
HNTI	**Hanita**	**1.52**	**169**	S	**Sn**	**01 06 28.7**	**-1.9**
HNTI	**Hanita**	**1.52**	**169**	P	**Pn**	**01 06 12.5**	**+0.6**
GEM	**Giv'at Ha'Em**	**1.53**	**153**	P	**Pn**	**01 06 13.1**	**+1.1**
GEM	**Giv'at Ha'Em**	**1.53**	**153**	S	**Sn**	**01 06 28.6**	**-2.3**
GEM	**Giv'at Ha'Em**	**1.53**	**153**	P	**Pn**	**01 06 12.5**	**+0.5**
MMC1	**Mount Meron ar**	**1.62**	**163**	P	**Pn**	**01 06 13.5**	**+0.2**
APOL	**The Sanctuary**	**1.62**	**274**	P	**Pn**	**01 06 13.1**	**-0.1**
APOL				S	**Sn**	**01 06 31.6**	**-1.4**
APOL				AML	AML	01 06 36.8	
	0.1nm,0.1s						
APOL				AML	AML	01 06 37.4	
	0.1nm,0.2s						
MMA0B	**Mount Meron ar**	**1.63**	**163**	P	**Pn**	**01 06 13.4**	**-0.1**
MMA0B	**Mount Meron ar**	**1.63**	**163**	S	**Sn**	**01 06 31.6**	**-1.9**
MMB1	**Mount Meron ar**	**1.64**	**163**	P	**Pn**	**01 06 13.6**	**+0.1**
TROD	**Troodos**	**1.66**	**283**	P	**Pn**	**01 06 14.0**	**+0.1**
TROD				S	**Sn**	**01 06 35.3**	**+1.1**
KSHT	**Keshet**	**1.79**	**153**	S	**Sn**	**01 06 37.1**	**-0.3**
KSHT	**Keshet**	**1.79**	**153**	P	**Pn**	**01 06 16.8**	**+1.2**
BLGI	**Bet Lehem HaGe**	**1.87**	**171**	P	**Pn**	**01 06 17.8**	**+1.2**
BLGI	**Bet Lehem HaGe**	**1.87**	**171**	S	**Sn**	**01 06 38.2**	**-1.0**
ALFC	**Alefka**	**1.92**	**288**	⇑*e*P	**Pn**	**01 06 17.8**	**+0.4**
ALFC				S	**Sn**	**01 06 41.6**	**+1.1**
ALFC				AML	AML	01 06 47.1	
ALFC				AML	AML	01 06 47.8	
ALFC				AML	AML	01 06 48.4	
OFRI	**`Ofer**	**1.96**	**176**	P	**Pn**	**01 06 18.4**	**+0.5**
OFRI	**`Ofer**	**1.96**	**176**	S	**Sn**	**01 06 40.3**	**-1.2**
OFRI	**`Ofer**	**1.96**	**176**	P	**Pn**	**01 06 19.2**	**+1.3**
SHMJ	**Saham**	**2.01**	**157**	P	**Pn**	**01 06 20.4**	**+1.8**
AKMS	**Akamas**	**2.10**	**283**	⇑*e*P	**Pn**	**01 06 20.7**	**+1.0**
AKMS				S	**Sn**	**01 06 46.0**	**+1.2**
MMLI	**Mount Malkishu**	**2.19**	**167**	P	**Pn**	**01 06 22.2**	**+1.1**
MMLI	**Mount Malkishu**	**2.19**	**167**	S	**Sn**	**01 06 46.2**	**-1.0**
MMLI	**Mount Malkishu**	**2.19**	**167**	P	**Pn**	**01 06 22.2**	**+1.1**
MMLI	**Mount Malkishu**	**2.19**	**167**	P	**Pn**	**01 06 22.2**	**+1.1**
MMLI				S	**Sn**	**01 06 46.8**	**-0.4**
SLTI	**Sal'it**	**2.34**	**176**	P	**Pn**	**01 06 24.3**	**+1.2**
SLTI	**Sal'it**	**2.34**	**176**	P	**Pn**	**01 06 24.5**	**+1.4**
SLTI	**Sal'it**	**2.34**	**176**	S	**Sn**	**01 06 50.2**	**-0.6**
HMDT	**Nahal Hemdat**	**2.40**	**166**	P	**Pn**	**01 06 25.2**	**+1.4**
HMDT	**Nahal Hemdat**	**2.40**	**166**	P	**Pn**	**01 06 25.1**	**+1.2**
HMDT	**Nahal Hemdat**	**2.40**	**166**	S	**Sn**	**01 06 51.9**	**-0.2**
DSI	**Dead Sea**	**3.04**	**171**	P	**Pn**	**01 06 33.7**	**+1.0**
DSI	**Dead Sea**	**3.04**	**171**	P	**Pn**	**01 06 33.8**	**+1.0**
DSI	**Dead Sea**	**3.04**	**171**	S	**Sn**	**01 07 06.9**	**-1.2**
AMAZ	**Amatzia**	**3.04**	**179**	P	**Pn**	**01 06 33.6**	**+0.8**
AMAZ	**Amatzia**	**3.04**	**179**	P	**Pn**	**01 06 33.1**	**+0.3**
AMAZ	**Amatzia**	**3.04**	**179**	S	**Sn**	**01 07 08.8**	**-0.3**
YTIR	**Yattir**	**3.22**	**176**	P	**Pn**	**01 06 36.7**	**+1.4**
YTIR	**Yattir**	**3.22**	**176**	S	**Sn**	**01 07 12.2**	**-0.5**
YTIR	**Yattir**	**3.22**	**176**	P	**Pn**	**01 06 36.9**	**+1.6**
MSBI	**Mazada**	**3.29**	**172**	P	**Pn**	**01 06 37.7**	**+1.5**
MSBI	**Mazada**	**3.29**	**172**	P	**Pn**	**01 06 37.6**	**+1.5**
MSBI	**Mazada**	**3.29**	**172**	S	**Sn**	**01 07 13.4**	**-0.7**
PRNI	**Paran**	**4.22**	**178**	P	**Pn**	**01 06 50.4**	**+1.4**
PRNI	**Paran**	**4.22**	**178**	S	**Sn**	**01 07 36.9**	**-0.3**
PRNI	**Paran**	**4.22**	**178**	P	**Pn**	**01 06 50.9**	**+1.9**

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*MOS **25** 01:06:59.4±1.3, 47°.51N×155°.10E, h10km, mb3.9/1, Error ellipse: s-maj=99.9km s-min=7.8km az=76.8*
*IDC **25** 01:07:08.3±2.9, 48°.25N×153°.92E, h91km±26km, mb3.4/7, mbtmp3.7/9, Error ellipse: s-maj=29.4km s-min=19.9km az=125.0*
*KRSC **25** 01:07:10.8±3.4, 48°.23N×156°.81E, h6km±41km, Ml4.3*
ISC 25 01:07:01.9±1.0, 47°.9N±0°.1×153°.8E±0°.2, h35km, n38, σ2°.59/31, mb3.7/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.21**	**27**	*e*P	**Pn**	**01 07 52.6**	**+2.8**
SKR				*e*S	**Sn**	**01 08 23.3**	**-3.4**
SKR	**Severo-Kuril's**	**3.21**	**27**	*e*PN	**Pn**	**01 07 52.8**	**+3.0**
SKR				pmax	pmax		
	comp=Z,38nm,0.6s						
PAU	**Pauzhetka**	**4.11**	**27**	*e*P	**Pn**	**01 08 04.6**	**+2.4**
PAU				*e*S	**Sn**	**01 08 46.2**	**-2.7**
PAU	**Pauzhetka**	**4.11**	**27**	PN	**Pn**	**01 08 04.5**	**+2.4**
KDTR	**Khodutka, Kamc**	**4.83**	**33**	*e*P	**Pn**	**01 08 11.1**	**-0.9**
KDTR	**Khodutka, Kamc**	**4.83**	**33**	PN	**Pn**	**01 08 11.0**	**-0.9**
ASAK	**Asacha**	**5.24**	**29**	*e*P	**Pn**	**01 08 18.6**	**+0.8**
ASAK	**Asacha**	**5.24**	**29**	PN	**Pn**	**01 08 18.6**	**+0.8**
GRL	**Gorelyy**	**5.44**	**29**	*e*P	**Pn**	**01 08 21.5**	**+1.0**
GRL	**Gorelyy**	**5.44**	**29**	PN	**Pn**	**01 08 21.5**	**+1.0**
PETK	**Petropavlovsk-**	**5.82**	**24**	P	**Pn**	**01 08 26.1**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=197,slow=8.0,SNR=12						
PETK				S	**Sn**	**01 09 37.5**	**+6.5**
	comp=Z,5.8nm,1.1s,baz=204,slow=24,SNR=1.8						
UGLR	**Uglovaya**	**6.24**	**29**	*e*P	**Pn**	**01 08 34.6**	**+3.0**
UGLR	**Uglovaya**	**6.24**	**29**	PN	**Pn**	**01 08 34.5**	**+3.0**
KOK	**Koryaka**	**6.25**	**28**	*e*P	**Pn**	**01 08 33.8**	**+2.1**
KOK	**Koryaka**	**6.25**	**28**	PN	**Pn**	**01 08 33.7**	**+2.1**
AVH	**Avacha**	**6.26**	**28**	*e*P	**Pn**	**01 08 33.2**	**+1.5**
AVH	**Avacha**	**6.26**	**28**	PN	**Pn**	**01 08 33.2**	**+1.5**
SMAR	**Somma**	**6.28**	**29**	*e*P	**Pn**	**01 08 35.5**	**+3.4**
SMAR	**Somma**	**6.28**	**29**	PN	**Pn**	**01 08 35.5**	**+3.4**
KRX	**Arik**	**6.31**	**27**	*e*P	**Pn**	**01 08 35.2**	**+2.6**
KRX	**Arik**	**6.31**	**27**	PN	**Pn**	**01 08 35.1**	**+2.6**
ASAJ	**Asahikawa**	**8.65**	**249**	P	Pn	01 09 14.2	+10
	comp=Z,9.8nm,0.7s,baz=60,slow=9.3,SNR=6.6						
H11N2	**WAKE ISLAND Hy 30.00**	**155**		T	T	01 45 26.7	
	baz=343,slow=76,SNR=7.4						
H11N1	**WAKE ISLAND Hy 30.01**	**155**		T	T	01 45 36.4	
	baz=343,slow=76,SNR=8.7						
H11N3	**WAKE ISLAND Hy 30.02**	**155**		T	T	01 45 36.5	
	baz=343,slow=76,SNR=7.8						
H11S1	**WAKE ISLAND Hy 31.10**	**156**		T	T	01 46 18.9	
	baz=346,slow=74,SNR=97						
H11S3	**WAKE ISLAND Hy 31.11**	**156**		T	T	01 46 17.8	
	baz=346,slow=74,SNR=112						
H11S2	**WAKE ISLAND Hy 31.12**	**156**		T	T	01 47 01.0	
	baz=346,SNR=73						
KURBB	**Kurchatov Arra**	**47.25**	**303**	P	**P**	**01 15 31.4**	**+0.2**
	comp=Z,0.5nm,0.2s,baz=57,slow=8.8,SNR=1.4						
	comp=Z,0.5nm,0.2s						
NVAR	**Mina Array Bea**	**61.51**	**63**	P	**P**	**01 17 14.1**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=316,slow=6.2,SNR=2.1						
	comp=Z,0.2nm,0.5s						
FINES	**FINESS Array B**	**63.24**	**335**	P	**P**	**01 17 24.4**	**-1.9**
	comp=Z,3.1nm,1.0s,baz=23,slow=7.5,SNR=5.8						
	comp=Z,3.1nm,1.0s						
WRA	**Warramunga Arr**	**69.71**	**200**	P	**P**	**01 18 09.9**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=15,slow=6.1,SNR=3.4						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**73.41**	**199**	P	**P**	**01 18 33.0**	**+2.7**
	comp=Z,0.3nm,0.6s,baz=8.0,slow=5.1,SNR=6.1						
	comp=Z,0.3nm,0.6s						
EKA	**Eskdalemuir Ar**	**75.38**	**347**	P	**P**	**01 18 38.4**	**-3.0**
	comp=Z,0.5nm,0.6s,baz=25,slow=5.7,SNR=1.1						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	**76.54**	**61**	P	**P**	**01 18 48.1**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=292,slow=4.8,SNR=4.4						
	comp=Z,0.3nm,0.7s						
H03N2	**Juan Fernandez**	**138.28**	**90**	T	T	03 59 44.5	
	baz=310,slow=77,SNR=6.9						
H03N1	**Juan Fernandez**	**138.29**	**90**	T	T	03 59 48.5	
	baz=310,slow=77,SNR=9.4						
H03N3	**Juan Fernandez**	**138.29**	**90**	T	T	03 59 53.2	
	baz=310,slow=77,SNR=11						

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*BJI **25** 01:17:27.5, 22°.58S×175°.73W, h49km, mb4.9/14, mB5.5/6, Ms5.0/4, Ms7 4.8/4*
*NEIC **25** 01:17:28.6±2.1, 22°.74S±0°.09×176°.04W±0°.08, h40km±6km, mb4.8/24, Error ellipse: s-maj=16.1km s-min=6.3km az=141.0*
*IDC **25** 01:17:32.1±2.2, 22°.94S×176°.23W, h77km±19km, mb4.2/15, mbtmp4.5/15, MS3.5/3, Error ellipse: s-maj=18.1km s-min=13.2km az=118.0*
ISC 25 01:17:30.1±0.5, 22°.92S±0°.06×176°.14W±0°.08, h58km±4km, h58km:pP-P, n124, σ1°.76/132, mb4.7/35, MS4.8/3, 15C-4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.51**	**194**	P	**Pn**	**01 19 05.1**	**+1.8**
	332nm,0.2s,baz=76,slow=7.1,SNR=9.3						
RAO				S	**Sn**	**01 20 16.2**	**+0.1**
	837nm,0.4s,baz=94,slow=22,SNR=7.2						
RAO				LR	LR	01 20 39.8	
	comp=Z,127nm,20.1s,baz=279,slow=29						
NIUE	**Niue**	**6.95**	**58**	Pn	Pn	01 19 05.1	-4.2
MSVF	**Nonsavu**	**7.51**	**312**	P	Pn	01 19 25.0	+7.9
	39nm,0.7s,baz=163,slow=15,SNR=41						
AFI	**Afiamalu**	**9.87**	**26**		Pn	01 19 44.2	-5.2
RAR	**Rarotonga**	**15.27**	**87**	P	**Pn**	**01 21 00.3**	**-1.9**
	25nm,0.7s,baz=249,slow=7.1,SNR=5.8						
RAR				S	Sn	01 23 29.3	-21
	27nm,0.7s,baz=89,slow=21,SNR=6.4						
RAR				LR	LR	01 26 09.5	
	comp=Z,100nm,20.8s,baz=290,slow=34						
DZM	**Mont Dzumac**	**16.12**	**270**	P	**P**	**01 21 18.2**	**+2.6**
URZ	**Urewera**	**16.35**	**199**	P	**Pn**	**01 21 11.0**	**-4.8**
	1.4nm,0.3s,baz=50,slow=16,SNR=1.1						
URZ				S	Sn	01 24 00.2	-16
	11nm,0.3s,baz=176,slow=24,SNR=12						
THZ	**Tophouse**	**20.91**	**203**	P	**P**	**01 22 08.7**	**+0.8**
LTZ	**Lake Taylor**	**22.03**	**203**	P	**P**	**01 22 21.9**	**+2.1**
TBI	**Tubuai**	**24.52**	**96**	*e*LR	LR	01 28 38.4	
	951nm,33.2s						
PPT2	**Papeete2**	**25.45**	**83**	*e*LR	LR	01 29 00.5	
	270nm,30.8s						
PPT2				*e*LR	LR	01 29 00.9	
	158nm,37.0s						
EIDS	**Eidsvold**	**29.98**	**259**	P	**P**	**01 23 34.8**	**+1.5**
EIDS				IAmb	IAmb	01 23 35.3	
	comp=Z,7.6nm,1.1s						
CTAO	**Charters Tower**	**35.05**	**267**	P	**P**	**01 24 19.0**	**+1.3**
CTAO				IAmb	IAmb	01 24 29.0	
	comp=Z,14nm,0.7s						
CTAO	**Charters Tower**	**35.05**	**267**	P	**P**	**01 24 18.7**	**+1.0**
CTAO				pP	**pP**	**01 24 27.5**	**-4.0**
TAOE	**Nuku Hiva Isla**	**37.21**	**74**	*e*LR	LR	01 34 23.0	
	comp=Z,100nm,24.1s						
PMG	**Port Moresby**	**37.61**	**285**	P	**P**	**01 24 40.7**	**+1.1**
PMG				pP	**pP**	**01 24 49.3**	**-4.4**
STKA	**Stephens Creek**	**38.38**	**247**	P	**P**	**01 24 46.6**	**+0.7**
STKA	**Stephens Creek**	**38.38**	**247**	P	**P**	**01 24 45.4**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=97,slow=12,SNR=6.7						
	comp=Z,2.4nm,0.5s						
COEN	**Coen**	**39.51**	**276**	P	**P**	**01 24 56.4**	**+0.9**
COEN				IAmb	IAmb	01 25 07.1	
	comp=Z,14nm,0.9s						
BBOO	**Buckleboo**	**43.09**	**246**	P	**P**	**01 25 23.4**	**-1.4**
AS31	**Alice Springs**	**45.70**	**259**	P	**P**	**01 25 46.0**	**+0.3**
AS31				IAmb	IAmb	01 25 46.9	
	comp=Z,2.0nm,0.4s						
ASAR	**Alice Springs**	**45.70**	**259**	P	**P**	**01 25 45.5**	**-0.3**
ASAR	**Alice Springs**	**45.70**	**259**	P	**P**	**01 25 45.2**	**-0.6**
	comp=Z,2.2nm,0.4s,baz=96,slow=7.0,SNR=56						
ASAR				PcP	**PcP**	**01 27 22.5**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=107,slow=4.0,SNR=1.7						
ASAR				S	**S**	**01 32 21.4**	**-3.6**
	comp=Z,0.8nm,1.0s,baz=96,slow=18,SNR=5.0						
	comp=Z,2.2nm,0.4s						
WR0	**Warramunga Arr**	**45.84**	**264**	P	**P**	**01 25 46.4**	**-0.4**
WR0				IAmb	IAmb	01 25 55.8	
	comp=Z,3.8nm,0.7s						
WB2	**Warramunga Arr**	**46.02**	**264**	P	**P**	**01 25 47.8**	**-0.5**
WB2				IAmb	IAmb	01 25 57.8	
	comp=Z,15nm,0.9s						
WB0	**Warramunga Arr**	**46.02**	**264**	P	**P**	**01 25 47.7**	**-0.6**
WB0				IAmb	IAmb	01 25 57.7	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**46.03**	**264**	P	**P**	**01 25 47.3**	**-1.1**
	comp=Z,6.5nm,0.6s,baz=92,slow=8.2,SNR=97						
WRA				PcP	**PcP**	**01 27 24.4**	**+0.2**
	comp=Z,1.2nm,1.0s,baz=95,slow=3.9,SNR=1.6						
WRA				ScP	**ScP**	**01 31 09.7**	**-2.8**
	comp=Z,0.6nm,0.9s,baz=93,slow=3.9,SNR=3.4						
WRA				S	S	01 32 19.6	-10
	comp=Z,0.8nm,0.8s,baz=99,slow=13,SNR=4.9						
	comp=Z,6.5nm,0.6s						
FORT	**Forrest**	**49.98**	**248**	P	**P**	**01 26 18.0**	**-0.7**
KNRA	**Kununurra**	**52.26**	**268**	P	**P**	**01 26 36.0**	**0.0**
GUMO	**Guam**	**52.67**	**310**	P	**P**	**01 26 41.4**	**+2.4**
GUMO				pP	**pP**	**01 26 50.3**	**-3.6**
FITZ	**Fitzroy Crossi**	**54.45**	**264**	P	**P**	**01 26 52.6**	**+0.5**
SBA	**Scott Base**	**55.59**	**184**	P	**P**	**01 27 02.0**	**+2.7**
SBA				IAmb	IAmb	01 27 02.7	
	comp=Z,10nm,1.1s						
SBA	**Scott Base**	**55.59**	**184**	P	**P**	**01 27 02.2**	**+2.9**
SBA				sP	**pP**	**01 27 14.8**	**+0.3**
MBWA	**Marble Bar**	**59.04**	**258**	P	**P**	**01 27 24.4**	**-0.2**
MBWA	**Marble Bar**	**59.04**	**258**	P	**P**	**01 27 23.2**	**-1.4**
MBWA				pP	pP	01 27 31.9	-7.8
MBWA				sP	pwP	01 27 36.0	-3.7
MORW	**Morawa**	**60.54**	**249**	P	**P**	**01 27 34.7**	**-0.1**
MORW				IAmb	IAmb	01 27 45.3	
	comp=Z,8.4nm,1.1s						
CCD	**Concordia, Ant**	**60.58**	**195**	P	**P**	**01 27 35.6**	**+0.9**
CCD				pP	pP	01 27 45.1	-5.0
QSPA	**South Pole Qui**	**67.16**	**180**	P	**P**	**01 28 18.7**	**+0.8**
QSPA				IAmb	IAmb	01 28 19.7	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**67.16**	**180**	P	**P**	**01 28 18.0**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=49,slow=1.8,SNR=18						
	comp=Z,4.9nm,0.8s						
QSPA	**South Pole Qui**	**67.16**	**180**	P	**P**	**01 28 18.6**	**+0.8**
MJAR	**Matsushiro Arr**	**73.18**	**323**	P	**P**	**01 28 52.9**	**-1.9**
	comp=Z,0.9nm,0.4s,baz=166,slow=6.1,SNR=6.4						
	comp=Z,0.9nm,0.4s						
SHEM	**Shemya Is, Ala**	**75.81**	**354**	LR	LR	01 57 10.8	
	comp=Z,185nm,21.9s,baz=77,slow=31						
ASAJ	**Asahikawa**	**76.67**	**331**	P	**P**	**01 29 13.4**	**-1.4**
	comp=Z,11nm,0.9s,baz=124,slow=13,SNR=6.5						
	comp=Z,11nm,0.9s						
TPUB	**Ta-pu**	**76.74**	**302**	P	**P**	**01 29 14.6**	**-1.0**
BELA	**Belgrano 2**	**76.94**	**172**	P	**P**	**01 29 15.6**	**-0.4**
BELA				IAmb	IAmb	01 29 16.4	
	comp=Z,10.0nm,0.7s						
PETK	**Petropavlovsk-**	**79.05**	**344**	P	**P**	**01 29 27.4**	**-0.4**
	comp=Z,20nm,0.8s,baz=131,slow=7.9,SNR=15						
	comp=Z,20nm,0.8s						
KSRS	**Korea Array**	**79.84**	**318**	P	**P**	**01 29 32.6**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=129,slow=5.4,SNR=4.3						
	comp=Z,1.4nm,0.6s						
MAW	**Mawson**	**79.88**	**199**	P	**P**	**01 29 32.1**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=135,slow=7.4,SNR=8.8						
	comp=Z,5.1nm,0.8s						
NVAR	**Mina Array Bea**	**81.61**	**42**	P	**P**	**01 29 41.6**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=221,slow=9.5,SNR=4.4						
	comp=Z,1.4nm,0.9s						
USRK	**Ussuriysk Ar.**	**81.93**	**325**	P	**P**	**01 29 44.0**	**+0.6**
	comp=Z,5.8nm,0.8s,baz=135,slow=4.5,SNR=9.8						
	comp=Z,5.8nm,0.8s						
NJ2	**Nanjing**	**82.75**	**309**	*e*P	**P**	**01 29 48.4**	**+0.4**
NJ2				pP	**pP**	**01 30 01.3**	**-2.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
H03S2	**Juan Fernandez**	**83.20**	**124**	T	T	03 01 33.6	
	baz=246,slow=74,SNR=280						
H03S1	**Juan Fernandez**	**83.22**	**124**	T	T	03 01 46.5	
	baz=246,slow=74,SNR=251						
H03S3	**Juan Fernandez**	**83.22**	**124**	T	T	03 01 32.8	
	baz=246,slow=74,SNR=229						
H03N2	**Juan Fernandez**	**83.35**	**123**	T	T	03 01 54.5	
	baz=251,slow=72,SNR=170						
H03N3	**Juan Fernandez**	**83.35**	**123**	T	T	03 01 57.5	
	baz=251,slow=72,SNR=164						
H03N1	**Juan Fernandez**	**83.37**	**123**	T	T	03 01 56.7	
	baz=251,slow=72,SNR=128						
ELIB	**Princess Elisa**	**84.44**	**186**	*d*P	**P**	**01 29 56.0**	**-0.3**
	comp=Z,7.3nm,0.8s						
ELIB				*dx*	x	01 30 20.9	
M16K	**Timber Creek**	**84.79**	**8**	P	**P**	**01 29 58.6**	**+0.8**
CN2	**Changchun**	**85.27**	**322**	*e*P	P	01 29 53.3	-7.2
TROLL	**Troll, Antarti**	**85.32**	**180**	⇑P	**P**	**01 30 00.6**	**-0.1**
	comp=Z,206nm,0.5s						
BNX	**BinXian**	**85.39**	**324**	⇓P	**P**	**01 30 00.0**	**-1.1**
BNX				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SNAA	**Sanae**	**85.55**	**178**	⇑P	**P**	**01 30 00.7**	**-1.0**
	comp=Z,60nm,0.8s						
SNAA	**Sanae**	**85.55**	**178**	P	**P**	**01 30 00.9**	**-0.9**
	comp=Z,3.7nm,0.9s,baz=199,slow=7.9,SNR=7.1						
	comp=Z,3.7nm,0.9s						
VNA3	**Neumayer Olymp**	**85.62**	**176**	⇑P	**P**	**01 29 59.5**	**-2.5**
	comp=Z,4.5nm,0.4s						
VNA2	**Neumayer--Watz**	**86.08**	**176**	⇑P	**P**	**01 30 01.5**	**-2.8**
	comp=Z,8.3nm,0.6s,baz=180,slow=5.4						
VNA1	**Neumayer--Stat**	**86.29**	**176**	⇑P	**P**	**01 30 03.0**	**-2.3**
	comp=Z,11nm,0.8s						
TXAR	**Lajitas Array**	**86.92**	**56**	P	**P**	**01 30 08.9**	**-0.3**
	comp=Z,1.3nm,0.9s,baz=219,slow=6.9,SNR=7.6						
	comp=Z,1.3nm,0.9s						
HNS	**HongShan**	**88.45**	**312**	⇑P	**P**	**01 30 17.5**	**+1.3**
HNS				*e*S	**S**	**01 41 02.9**	**+5.5**
HNS				pmax	pmax		
	comp=Z,4.0nm,0.9s						
HNS				LR	LR		
	comp=Z,320nm,20.9s						
HNS				LR	LR		
	comp=Z,400nm,22.3s						
ILAR	**Eielson Array**	**90.29**	**12**	P	**P**	**01 30 23.2**	**-1.0**
	comp=Z,1.9nm,1.0s,baz=224,slow=5.0,SNR=6.1						
	comp=Z,1.9nm,1.0s						
F19K	**Shaleruckik Mo**	**90.54**	**7**	P	**P**	**01 30 23.4**	**-1.8**
F19K				IAmb	IAmb	01 30 26.0	
	comp=Z,6.5nm,0.8s						
E19K	**Redstone River**	**91.20**	**7**	P	**P**	**01 30 28.8**	**+0.4**
HHC	**Hu-ho-hao-te**	**92.27**	**314**	*e*P	**P**	**01 30 35.3**	**+1.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRUC				*e*		01 37 28.1	
KRUC				*e*		01 37 42.1	
MODS	**Modra-Piesok**	**152.44**	**340**	*e*PKP	**PKiKP**	**01 37 20.9**	**+0.9**
MODS				*e*		01 37 45.0	
KHC	**Kasperske Hory**	**152.74**	**346**	*e*PKP	**PKPbc**	**01 37 19.7**	**-0.7**
KHC				*e*PKPAB	**PKPab**	**01 37 31.0**	**-0.3**
KHC				*ep*PKP	**sPKPdf**	**01 37 43.3**	**+7.1**
CKRC	**Cesky Krumlov**	**152.86**	**345**	*e*PKP	**PKiKP**	**01 37 20.4**	**-0.4**
CKRC				*e*PKPAB	**PKPab**	**01 37 29.8**	**-2.0**
CKRC				*ex*	x	01 37 44.0	
GERES	**GERESS Array B**	**152.98**	**346**	PKPbc	**PKPbc**	**01 37 19.5**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=72,slow=1.7,SNR=4.6						
CONA	**Conrad Observa**	**153.26**	**342**	*e*PKP	**PKPbc**	**01 37 21.1**	**-0.5**
	comp=Z,0.6nm,0.4s						
CONA				*i* pPKP	**pPKPdf**	**01 37 34.5**	**+3.5**
	comp=Z,3.2nm,0.6s						
RONA	**Rosalia, Austr**	**153.34**	**341**	*e*PKP	**PKiKP**	**01 37 21.6**	**-0.3**
	comp=Z,0.4nm,0.2s						
RONA				*ep*PKP	**pPKPdf**	**01 37 35.0**	**+3.9**
	comp=Z,2.2nm,0.5s						
BIOA	**Bad Ischl, Aus**	**154.07**	**345**	*ep*PKiKP	**PKPab**	**01 37 36.8**	**-0.1**
	comp=Z,2.9nm,0.5s,SNR=4.7						
KBA	**Koelnbreinsper**	**154.72**	**345**	*e*PKP	**PKPab**	**01 37 40.1**	**+0.2**
	comp=Z,4.7nm,0.7s,SNR=4.6						
RETA	**Reutte**	**154.87**	**349**	*i* PKP	**PKPab**	**01 37 39.7**	**-0.7**
	comp=Z,1.2nm,0.4s						
WTTA	**Wattenberg**	**154.92**	**347**	*i* PKP	**PKPab**	**01 37 40.8**	**0.0**
	comp=Z,4.2nm,0.7s						
OBKA	**Obir**	**154.93**	**342**	*e*PKP	**PKPab**	**01 37 40.7**	**0.0**
	comp=Z,2.7nm,0.6s						
MOTA	**Moosalm**	**154.94**	**348**	*e*PKP	**PKPab**	**01 37 40.7**	**-0.1**
	comp=Z,2.6nm,0.7s						
MYKA	**Terra Mystica**	**155.06**	**344**	*e*PKP	**PKPab**	**01 37 40.6**	**-0.6**
	comp=Z,1.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**170.06**	**168**	PKPab	**PKPab**	**01 38 46.1**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=181,slow=3.1,SNR=4.3						

CATAC ***25*** *01:19:03.4±0.8, 13°.30N×80°.83W, h21km±16km, MB5.9, mb5.7, ML5.5*
RSNC ***25*** *01:19:04.3±0.0, 13°N±1°×8°1W±°, h1km±2km, M4.6, mB5.3, mb4.8, ML4.3, Mw4.9, Mw(mB)4.8, MwMwp5.5, Mwp5.6*
IDC ***25*** *01:19:05.2±0.6, 13°.22N×81°.36W, h0km, mb4.2/19, mbtmp4.2/23, ML3.7/4, MS4.2/31, Error ellipse: s-maj=17.3km s-min=13.1km az=43.0*
UCR ***25*** *01:19:06.7±0.8, 13°.03N×81°.07W, h20km, MW5.2*
NEIC ***25*** *01:19:06.6±1.5, 13°.14N±0°.06×81°.21W±0°.04, h10km±1km, mb4.6/155, Error ellipse: s-maj=10.6km s-min=7.1km az=169.0*
GCMT ***25*** *01:19:07.6±0.2, 13°.23N±0°.01×81°.12W±0°.01, h15km±1km, MW4.9/101, Moment Tensor Solution. s21,c24; s101,c149; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.15±.11; Mθθ=1.21±.10; Mφφ=1.36±.10; Mrθ=0.39±.22; Mθφ=2.87±.11; Mφr=0.58±.20; Best double couple: M0=3.21400×10^16^ NP1:φs=258.00000°, δ82.00000°, λ8.00000°. NP2:φs=167.00000°, δ82.00000°, λ172.00000°. Principal axes: T 3.3580, Plg11.0000°, Azm123.0000°; N -0.2840, Plg79.0000°, Azm302.0000°; P -3.0700, Plg0.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 01:19:05.3±1.2, 13°.20N±0°.03×81°.13W±0°.03, h6km±8km, n350, σ2s20/371, mb4.6/81, MS4.2/26, 3C-1D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.29**	**307**	P	**Pg**	**01 19 10.2**	**-0.8**
PRVC				S	**Sg**	**01 19 14.0**	**-0.8**
SAIC	**Isla e San And**	**0.87**	**221**	P	**Pg**	**01 19 20.9**	**-1.2**
SAIC				S	**Sb**	**01 19 33.4**	**-1.4**
RNCC	**Cayo Roncador,**	**1.07**	**70**	P	**Pg**	**01 19 25.5**	**-0.5**
RNCC				S	**Sb**	**01 19 41.3**	**+0.6**
SERC	**Banco Serrana,**	**1.31**	**34**	P	**Pn**	**01 19 28.5**	**-1.7**
SERC				S	**Sb**	**01 19 47.2**	**-0.2**
BLUN	**Bluefields**	**2.84**	**246**	*i* P	**Pn**	**01 19 52.0**	**+0.7**
BLUN				*i* S	**Sb**	**01 20 29.7**	**-1.9**
BLUN				IAML		01 20 49.3	
	comp=Z,2μm,1.0s						
ESPN	**Las Esperanzas**	**3.25**	**252**		**Pn**	**01 19 54.6**	**-2.3**
ESPN	**Las Esperanzas**	**3.25**	**252**	*i* P	**Pn**	**01 19 58.4**	**+1.5**
ESPN				*i* S	**Sb**	**01 20 39.9**	**-3.5**
ESPN				IAML		01 21 01.8	
	comp=Z,7μm,1.0s						
TRT2	**Tortugero**	**3.66**	**224**	*i* P	**Pn**	**01 20 02.2**	**-0.4**
TRT2				IAML		01 21 02.1	
	comp=Z,2μm,1.0s						
CARI	**Cariari**	**3.80**	**222**	*e*P	**Pn**	**01 20 03.8**	**-0.7**
RVLA	**Villa Bonita**	**3.91**	**218**	*e*P	**Pn**	**01 20 04.5**	**-1.4**
COVE	**Coope Vega, Sa**	**4.04**	**233**	*i* S	**Sn**	**01 20 59.1**	**+3.6**
RVSTA	**Santa Teresita**	**4.05**	**218**	*e*P	**Pn**	**01 20 07.0**	**-0.9**
VTCV	**VTCV, Calle Va**	**4.09**	**219**	*e*P	**Pn**	**01 20 06.6**	**-2.0**
TURIB	**Turrialba**	**4.12**	**218**	*e*P	**Pn**	**01 20 08.6**	**-0.4**
ACON	**Acoyapa**	**4.14**	**253**	Pn	**Pn**	**01 20 06.5**	**-2.6**
ACON	**Acoyapa**	**4.14**	**253**	P	**Pn**	**01 20 07.3**	**-1.8**
ACON	**Acoyapa**	**4.14**	**253**	*i* P	**Pn**	**01 20 09.8**	**+0.7**
ACON				*i* S	**Sn**	**01 21 02.3**	**+4.5**
ACON				IAML		01 21 36.2	
	comp=Z,5μm,1.0s						
ACON	**Acoyapa**	**4.14**	**253**	*e*P	**Pn**	**01 20 08.1**	**-1.0**
RAFA	**San Farael, Vo**	**4.16**	**219**	*i* P	**Pn**	**01 20 09.5**	**-0.2**
RAFA				IAML		01 20 59.0	
	comp=Z,2μm,1.0s						
RAFA				*i* S	**Sn**	**01 21 01.6**	**+2.8**
RAFA	**San Farael, Vo**	**4.16**	**219**	*e*P	**Pn**	**01 20 08.0**	**-1.7**
VICA	**Volcano Irazu**	**4.16**	**220**	*e*P	**Pn**	**01 20 08.0**	**-1.8**
VINA	**Juan Vinas**	**4.17**	**218**	*e*P	**Pn**	**01 20 09.3**	**-0.4**
PCAYA	**Pacayas**	**4.19**	**219**	*e*P	**Pn**	**01 20 08.9**	**-1.1**
CVIMO	**Finca Echandi**	**4.19**	**221**	*e*P	**Pn**	**01 20 08.6**	**-1.5**
BCIP	**Isla Barro Col**	**4.21**	**162**	Pn	**Pn**	**01 20 09.2**	**-0.9**
BCIP	**Isla Barro Col**	**4.21**	**162**	P	**Pn**	**01 20 06.3**	**-3.7**
BCIP				S	**Sn**	**01 20 53.5**	**-6.0**
BCIP	**Isla Barro Col**	**4.21**	**162**	*i* P	**Pn**	**01 20 06.9**	**-3.1**
BCIP				IAML		01 21 19.7	
	comp=Z,560nm,1.0s						
BCIP	**Isla Barro Col**	**4.21**	**162**	*e*P	**Pn**	**01 20 06.5**	**-3.6**
REPA	**Paraso**	**4.30**	**219**	*e*P	**Pn**	**01 20 10.1**	**-1.4**
HDC	**Heredia**	**4.32**	**223**		**Pn**	**01 20 10.4**	**-1.4**
HDC	**Heredia**	**4.32**	**223**	*i* P	**Pn**	**01 20 11.9**	**+0.1**
HDC				*i* S	**Sn**	**01 21 05.1**	**+2.5**
HDC				IAML		01 21 11.3	
	comp=Z,2μm,1.0s						
HDC	**Heredia**	**4.32**	**223**	*e*P	**Pn**	**01 20 11.6**	**-0.2**
SJS	**Escuela Geolog**	**4.33**	**222**	*e*P	**Pn**	**01 20 11.0**	**-0.9**
ZANG	**Zanguenga, Cho**	**4.40**	**164**	*e*P	**Pn**	**01 20 10.2**	**-2.5**
SOCE	**Pocosol**	**4.42**	**231**		**Pn**	**01 20 11.6**	**-1.4**
SOCE	**Pocosol**	**4.42**	**231**	*i* P	**Pn**	**01 20 13.1**	**+0.1**
SOCE				*i* S	**Sn**	**01 21 08.1**	**+3.3**
SOCE				IAML		01 21 48.2	
	comp=Z,1μm,1.0s						
SOCE	**Pocosol**	**4.42**	**231**	*e*P	**Pn**	**01 20 12.3**	**-0.7**
LCR2	**La Lucha 2**	**4.45**	**220**	*e*P	**Pn**	**01 20 12.2**	**-1.4**
ABE2	**San Pablo**	**4.51**	**220**	*e*P	**Pn**	**01 20 13.3**	**-1.0**
TENO	**El Achiote**	**4.51**	**237**	*e*P	**Pn**	**01 20 14.8**	**+0.5**
TRB2	**Turrubares**	**4.61**	**225**	*e*P	**Pn**	**01 20 15.2**	**-0.5**
MTEVE	**Monteverde**	**4.62**	**232**	*e*P	**Pn**	**01 20 14.4**	**-1.5**
EDP2	**Potrero Grande**	**4.62**	**206**	*e*P	**Pn**	**01 20 14.2**	**-1.5**
BRU2	**Volcan**	**4.64**	**199**		**Pn**	**01 20 14.5**	**-1.7**
BRU2	**Volcan**	**4.64**	**199**	*i* P	**Pn**	**01 20 15.3**	**-0.9**
BRU2				IAML		01 21 26.5	
	comp=Z,2μm,1.0s						
BRU2	**Volcan**	**4.64**	**199**	*e*P	**Pn**	**01 20 14.1**	**-2.1**
HORNC	**Hornillas**	**4.67**	**238**	*e*P	**Pn**	**01 20 15.3**	**-1.2**
CUI	**Cuipilapa**	**4.69**	**238**	*e*P	**Pn**	**01 20 15.7**	**-1.0**
LLNJ	**Naranjito**	**4.71**	**219**	*e*P	**Pn**	**01 20 16.7**	**-0.4**
JTS	**Las Juntas de**	**4.73**	**233**		**Pn**	**01 20 16.1**	**-1.2**
JTS	**Las Juntas de**	**4.73**	**233**	Pn	**Pn**	**01 20 16.3**	**-1.0**
	comp=Z,14nm,0.3s,baz=50,slow=9.8,SNR=62						
JTS				Sn	**Sn**	**01 21 09.3**	**-3.2**
	comp=Z,33nm,0.3s,baz=227,slow=23,SNR=11						
JTS				LR	LR	01 22 14.1	
	comp=Z,3μm,19.4s,baz=101,slow=41						
	comp=Z,46nm,0.4s						
JTS	**Las Juntas de**	**4.73**	**233**	P	**Pn**	**01 20 16.2**	**-1.1**
JTS				S	**Sn**	**01 21 09.2**	**-3.4**
JTS	**Las Juntas de**	**4.73**	**233**	*e*P	**Pn**	**01 20 16.1**	**-1.2**
CARN	**Rivas**	**4.74**	**245**	*i* P	**Pn**	**01 20 18.0**	**+0.6**
CARN				IAmb	IAmb	01 20 48.1	
	comp=Z,780nm,0.8s						
CARN				IVmB_BB		01 21 03.9	
	comp=Z,11μm,1.0s						
CARN				*i* S	**Sn**	**01 21 17.1**	**+4.4**
CARN				IAML		01 21 49.5	
	comp=Z,4μm,1.0s						
OCHAL	**Ojochal**	**4.77**	**211**	*i* P	**Pn**	**01 20 17.5**	**-0.3**
OCHAL				IAmb	IAmb	01 20 38.3	
	comp=Z,400nm,0.5s						
OCHAL				IVmB_BB		01 21 15.1	
	comp=Z,7μm,1.0s						
OCHAL				IAML		01 21 39.8	
	comp=Z,1μm,1.0s						
VRLE	**La Escondida,**	**4.79**	**240**	*e*P	**Pn**	**01 20 17.9**	**-0.3**
CDITO	**Canoas**	**4.91**	**201**	*i* P	**Pn**	**01 20 19.3**	**-0.4**
CDITO				IVmB_BB		01 20 41.9	
	comp=Z,8μm,1.0s						
CDITO				IAmb	IAmb	01 20 47.4	
	comp=Z,540nm,1.0s						
CDITO				*i* S	**Sn**	**01 21 18.3**	**+1.4**
CDITO				IAML		01 21 35.7	
	comp=Z,2μm,1.0s						
RCVN	**Varillal2**	**4.94**	**275**	*i* P	**Pn**	**01 20 18.7**	**-1.6**
RCVN				IVmB_BB		01 21 16.2	
	comp=Z,600μm,1.0s						
RCVN				IAML		01 21 16.6	
	comp=Z,57μm,1.0s						
LIMN	**Finca el Limon**	**5.11**	**269**	*i* P	**Pn**	**01 20 23.3**	**+0.8**
LIMN				IVmB_BB		01 20 42.1	
	comp=Z,8μm,1.0s						
LIMN				IAmb	IAmb	01 20 42.2	
	comp=Z,810nm,1.1s						
LIMN				IAML		01 21 55.3	
	comp=Z,3μm,1.0s						
MGAN	**Managua**	**5.11**	**259**	Pn	**Pn**	**01 20 21.4**	**-1.0**
MGAN	**Managua**	**5.11**	**259**	*i* P	**Pn**	**01 20 23.0**	**+0.6**
MGAN				IAmb	IAmb	01 20 52.3	
	comp=Z,1μm,1.0s						
MGAN				*i* S	**Sn**	**01 21 26.2**	**+4.5**
MGAN				IAML		01 22 16.0	
	comp=Z,2μm,1.0s						
SAPS	**Ciudad Sandino**	**5.25**	**259**	*i* P	**Pn**	**01 20 25.9**	**+1.5**
SAPS				IAmb	IAmb	01 20 50.4	
	comp=Z,500nm,0.6s						
SAPS				IVmB_BB		01 21 04.9	
	comp=Z,7μm,1.0s						
SAPS				IAML		01 22 15.2	
	comp=Z,2μm,1.0s						
GMAL	**Guarumal, Vera**	**5.41**	**181**	P	**Pn**	**01 20 22.7**	**-3.8**
	comp=Z,154nm,0.8s,comp=Z,3μm						
GMAL				S	**Sn**	**01 21 23.8**	**-5.3**
	comp=Z,154nm,0.8s,comp=Z,3μm						
INDI	**Punta indio, G**	**5.42**	**233**	*i* P	**Pn**	**01 20 27.5**	**+0.8**
INDI				IAmb	IAmb	01 20 35.6	
	comp=Z,15μm,1.0s						
INDI				IVmB_BB		01 21 04.1	
	comp=Z,190μm,1.0s						
INDI				*i* S	**Sn**	**01 21 33.0**	**+3.6**
INDI				IAML		01 22 05.5	
	comp=Z,35μm,1.0s						
AZU	**Azuero**	**5.44**	**171**	P	**Pn**	**01 20 25.0**	**-2.0**
	comp=Z,99nm,0.8s,comp=Z,1μm						
AZU				S	**Sn**	**01 21 25.1**	**-4.9**
	comp=Z,99nm,0.8s,comp=Z,1μm						
AZU	**Azuero**	**5.44**	**171**	*e*P	**Pn**	**01 20 24.7**	**-2.3**
MACN	**El Madrono**	**5.46**	**263**	*i* P	**Pn**	**01 20 28.0**	**+0.7**
MACN				IAmb	IAmb	01 20 57.7	
	comp=Z,110nm,0.4s						
MACN				IVmB_BB		01 21 12.3	
	comp=Z,2μm,1.0s						
MACN				IAML		01 21 26.8	
	comp=Z,240nm,1.0s						
CRIN	**San Cristobal**	**5.79**	**266**		**Pn**	**01 20 30.3**	**-1.6**
CRIN	**San Cristobal**	**5.79**	**266**	P	**Pn**	**01 20 31.2**	**-0.8**
	comp=Z,644nm,1.1s,comp=Z,14μm						
CRIN	**San Cristobal**	**5.79**	**266**	*e*P	**Pn**	**01 20 31.8**	**-0.2**
CACAO	**El Cacao, Vera**	**5.83**	**177**	P	**Pn**	**01 20 32.2**	**-0.1**
	comp=Z,204nm,0.7s,comp=Z,3μm						
CACAO				S	**Sn**	**01 21 37.7**	**-1.8**
	comp=Z,204nm,0.7s,comp=Z,3μm						
CAPC	**Capurgana**	**5.86**	**140**	P	**Pn**	**01 20 31.2**	**-1.6**
	comp=Z,84nm,1.8s						
CAPC				S	**Sn**	**01 21 36.3**	**-4.1**
	comp=Z,84nm,1.8s						
TGUH	**Tegucigalpa,Un**	**6.03**	**279**	Pn	**Pn**	**01 20 33.4**	**-2.0**
TGUH	**Tegucigalpa,Un**	**6.03**	**279**	P	**Pn**	**01 20 33.3**	**-2.0**
	comp=Z,414nm,0.8s,comp=Z,6μmcomp=Z,4μm						
TGUH				S	**Sn**	**01 21 46.8**	**+2.0**
	comp=Z,414nm,0.8s,comp=Z,6μmcomp=Z,4μm						
MTDJ	**Mount Denham**	**6.08**	**34**	Pn	**Pn**	**01 20 35.6**	**-0.3**
MTDJ	**Mount Denham**	**6.08**	**34**	↑*i*P	**Pn**	**01 20 35.8**	**-0.1**
MTDJ	**Mount Denham**	**6.08**	**34**	*e*P	**Pn**	**01 20 35.4**	**-0.4**
MTDJ				IVmB_BB		01 21 21.5	
	comp=Z,3μm,1.0s						
MTDJ				IAML		01 23 00.5	
	comp=Z,600nm,1.0s						
MTDJ	**Mount Denham**	**6.08**	**34**	P	**Pn**	**01 20 33.9**	**-2.0**
	comp=Z,123nm,0.7s,comp=Z,3μm						
LCBC	**Los crdobas,**	**6.36**	**132**	P	**Pn**	**01 20 39.3**	**-0.4**
	comp=Z,143nm,0.9s						
LCBC				S	**Sn**	**01 21 53.3**	**+0.6**
	comp=Z,143nm,0.9s						
HOJ	**Hope**	**6.37**	**41**	↓*i*P	**Pn**	**01 20 39.9**	**0.0**
STH	**Stony Hill**	**6.39**	**40**	↑*i*P	**Pn**	**01 20 40.2**	**+0.1**
GWJ	**Greenwich**	**6.44**	**41**	↑*i*P	**Pn**	**01 20 41.0**	**+0.2**
CBCY	**The Bluff, Cay**	**6.63**	**11**	*e*P	**Pn**	**01 20 41.9**	**-1.4**
CBCY				IVmB_BB		01 20 50.5	
	comp=Z,2μm,1.0s						
CBCY				IAML		01 20 50.5	
	comp=Z,140nm,1.0s						
SJCC	**San Jacinto, C**	**6.69**	**119**	P	**Pn**	**01 20 41.1**	**-3.2**
	comp=Z,79nm,0.7s,comp=Z,1μmcomp=Z,4μm						
SJCC				S	**Sn**	**01 21 54.3**	**-6.6**
	comp=Z,79nm,0.7s,comp=Z,1μmcomp=Z,4μm						
APAC	**Apartado, Choc**	**6.91**	**139**	P	**Pn**	**01 20 47.3**	**+0.1**
	comp=Z,71nm,0.8s						
APAC				S	**Sn**	**01 22 03.7**	**-2.5**
	comp=Z,71nm,0.8s						
ARGC	**Ariguani, Magd**	**7.52**	**116**	P	**Pn**	**01 20 56.1**	**+0.5**
	comp=Z,63nm,0.6s						
ARGC				S	**Sn**	**01 22 16.6**	**-4.6**
	comp=Z,63nm,0.6s						
UREC	**San Jos de Ur**	**7.72**	**134**	P	**Pn**	**01 20 57.0**	**-1.4**
	comp=Z,25nm,0.7s,comp=Z,888nm						
UREC				S	**Sn**	**01 22 22.4**	**-3.8**
	comp=Z,25nm,0.7s,comp=Z,888nm						
DBBC	**Dabeiba**	**7.82**	**141**	P	**Pn**	**01 20 00.8**	**+0.9**
DBBC				S	**Sn**	**01 22 26.0**	**-2.8**
LMGC	**Las Mercedes**	**7.88**	**30**	*e*P	**Pn**	**01 20 59.8**	**-0.8**
LMGC				*e*		01 20 59.9	
LMGC				IVmB_BB		01 21 12.5	
	comp=Z,1μm,1.0s						
LMGC				IAmb	IAmb	01 21 16.7	
	comp=Z,95nm,0.8s						
MTO3	**Montecristo**	**8.09**	**279**		**Pn**	**01 21 01.6**	**-2.0**
CRJC	**Cerrejon, Guaj**	**8.35**	**104**	P	**Pn**	**01 21 02.6**	**-4.5**
	comp=Z,38nm,0.8s,comp=Z,24μmcomp=Z,2.0nm						
CRJC				S	**Sn**	**01 22 33.6**	**-8.3**
	comp=Z,38nm,0.8s,comp=Z,24μmcomp=Z,2.0nm						
ZARC	**Zaragoza, Cauc**	**8.38**	**132**	P	**Pn**	**01 21 05.8**	**-1.6**
	comp=Z,60nm,0.8s						
ZARC				S	**Sn**	**01 22 36.1**	**-6.4**
	comp=Z,60nm,0.8s						
MARVS	**Santiago de Cu**	**8.41**	**36**	*e*	**Pn**	**01 21 07.2**	**-0.6**
MARVS				*eP*	**Pn**	**01 21 07.2**	**-0.6**
MARVS				IVmB_BB		01 22 05.6	
	comp=Z,8μm,1.0s						
RCC	**Rio Carpintero**	**8.53**	**37**	*e*P	**Pn**	**01 21 08.7**	**-0.7**
GTBY	**Guantanamo Bay**	**8.83**	**40**	Pn	**Pn**	**01 21 13.6**	**0.0**
GTBY	**Guantanamo Bay**	**8.83**	**40**	*e*P	**Pn**	**01 21 13.2**	**-0.4**
GTBY				IAmb	IAmb	01 21 20.6	
	comp=Z,66nm,1.1s						
GTBY	**Guantanamo Bay**	**8.83**	**40**	P	**Pn**	**01 21 13.0**	**-0.6**
	comp=Z,64nm,1.1s						
PINC	**Pinares de May**	**8.86**	**34**	*e*P	**Pn**	**01 21 13.6**	**-0.5**
PINC				IVmB_BB		01 21 19.8	
	comp=Z,1μm,1.0s						
CBOC	**Ciudad Bolivar**	**8.87**	**145**	P	**Pn**	**01 21 13.8**	**-0.4**
	comp=Z,25nm,0.8s						
CBOC				S	**Sn**	**01 22 50.5**	**-4.1**
	comp=Z,25nm,0.8s						
HELC	**Santa Helena**	**8.89**	**141**	P	**Pn**	**01 21 18.2**	**+3.5**
	comp=Z,15nm,0.8s						
HELC				S	**Sn**	**01 22 48.3**	**-7.1**
	comp=Z,15nm,0.8s						
URIC	**Uribia, Colomb**	**9.05**	**98**	P	**Pn**	**01 21 14.8**	**-1.8**
	comp=Z,23nm,1.0s						
URIC				S	Sn	01 22 50.1	-8.7
	comp=Z,23nm,1.0s						
HLGC	**Holguin**	**9.05**	**32**	*e*	**Pn**	**01 21 16.4**	**-0.2**
HLGC				*eP*	**Pn**	**01 21 16.4**	**-0.2**
HLGC				IAmb	IAmb	01 21 40.6	
	comp=Z,70nm,0.8s						
OCAC	**Ocana**	**9.12**	**122**	P	**Pn**	**01 21 16.0**	**-1.7**
	comp=Z,78nm,0.7s,comp=Z,810nm						
OCAC				S	**Sn**	**01 22 55.1**	**-5.8**
	comp=Z,78nm,0.7s,comp=Z,810nm						
PETF	**Flores**	**9.21**	**295**		**Pn**	**01 21 18.9**	**+0.1**
QMBU	**Quimbuelo**	**9.22**	**40**	*eP*	**Pn**	**01 21 18.6**	**-0.4**
QMBU				IAmb	IAmb	01 21 24.9	
	comp=Z,56nm,0.6s						
PTBC	**PUERTO BERRIO,**	**9.33**	**135**	P	**Pn**	**01 21 18.2**	**-2.2**
	comp=Z,21nm,0.9s						
PTBC				S	**Sn**	**01 22 58.6**	**-7.2**
	comp=Z,21nm,0.9s						
PLMC	**San Jos del P**	**9.53**	**149**	P	**Pn**	**01 21 23.2**	**-0.1**
	comp=Z,12nm,0.9s						
PLMC				S	**Sn**	**01 23 12.9**	**+2.1**
	comp=Z,12nm,0.9s						
BRJC	**Barrancabermej**	**9.54**	**130**	P	**Pn**	**01 21 21.6**	**-1.8**
	comp=Z,51nm,0.7s						
BRJC				S	**Sn**	**01 23 06.4**	**-4.7**
	comp=Z,51nm,0.7s						
MASC	**Masc**	**9.58**	**43**	*eP*	**Pn**	**01 21 25.0**	**+1.2**
MASC				IAmb	IAmb	01 21 38.9	
	comp=Z,30nm,0.8s						
GUY2C	**Guyana, Caldas**	**9.75**	**144**	P	**Pn**	**01 21 27.1**	**+0.4**
	comp=Z,21nm,0.8s						
GUY2C				S	**Sn**	**01 23 11.2**	**-5.7**
	comp=Z,21nm,0.8s						
TEIG	**Tepich**	**9.78**	**317**	Pn	**Pn**	**01 21 25.2**	**-1.4**
	baz=146,slow=24,SNR=124						
TEIG				Sn	**Sn**	**01 23 08.3**	**-8.5**
	baz=208,slow=24,SNR=5.7						
TEIG	**Tepich**	**9.78**	**317**	P	**Pn**	**01 21 24.9**	**-1.7**
	comp=Z,192nm,0.8s,comp=Z,19μm						
TEIG				S	**Sn**	**01 23 09.4**	**-7.4**
	comp=Z,192nm,0.8s,comp=Z,19μm						
PAPH	**Port-au-Prince**	**10.01**	**57**		**Pn**	**01 21 30.7**	**+0.9**
PAMC	**Pamplona, Colo**	**10.13**	**124**	P	**Pn**	**01 21 30.6**	**-1.3**
PAMC				S	**Sn**	**01 23 22.1**	**-4.1**
BARC	**Barichara**	**10.21**	**129**	P	**Pn**	**01 21 29.8**	**-3.0**
BARC				S	**Sn**	**01 23 23.5**	**-4.4**
SPBC	**San Pablo de B**	**10.23**	**137**	P	**Pn**	**01 21 33.9**	**+1.0**
	comp=Z,9.2nm,0.8s						
SPBC				S	**Sn**	**01 23 21.6**	**-6.5**
	comp=Z,9.2nm,0.8s						
YOTC	**Yotoco, Valle**	**10.31**	**152**	P	**Pn**	**01 21 33.7**	**-0.3**
	comp=Z,13nm,0.7s						
ROSC	**El Rosal**	**10.69**	**140**	Pn	**Pn**	**01 21 40.1**	**+0.7**
ROSC	**El Rosal**	**10.69**	**140**	Pn	**Pn**	**01 21 38.6**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=323,slow=20,SNR=1.9						
ROSC				Sn	**Sn**	**01 23 34.4**	**-5.2**
	comp=Z,1.9nm,0.3s,baz=24,slow=23,SNR=5.9						
ROSC				LR	LR	01 26 08.9	
	comp=Z,2μm,20.4s,baz=337,slow=39						
ROSC	**El Rosal**	**10.69**	**140**	P	**Pn**	**01 21 40.1**	**+0.7**
	comp=Z,21nm,1.0s						
ROSC				S	**Sn**	**01 23 35.9**	**-3.7**
	comp=Z,21nm,1.0s						
RUSC	**La Rusia**	**10.75**	**132**	P	**Pn**	**01 21 40.2**	**-0.2**
	comp=Z,20nm,1.0s						
RUSC				S	**Sn**	**01 23 35.2**	**-6.2**
	comp=Z,20nm,1.0s						
ORTC	**Ortega, Tolima**	**10.91**	**147**	P	**Pn**	**01 21 43.6**	**+1.4**
	comp=Z,26nm,0.9s						
SDDR	**Presa de Saban**	**11.06**	**57**	Pn	**Pn**	**01 21 45.2**	**+1.0**
SDDR	**Presa de Saban**	**11.06**	**57**	P	**Pn**	**01 21 44.8**	**+0.5**
	comp=Z,59nm,1.1s						
CVER	**Cruz Verde, Cu**	**11.09**	**140**	P	**Pn**	**01 21 42.8**	**-2.2**
CVER				S	**Sn**	**01 23 44.6**	**-5.0**
SDV	**Santo Domingo**	**11.16**	**112**	Pn	**Pn**	**01 21 45.5**	**-0.2**
SDV	**Santo Domingo**	**11.16**	**112**	Pn	**Pn**	**01 21 45.7**	**0.0**
	comp=Z,2.3nm,0.3s,baz=316,slow=15,SNR=14						
SDV				Sn	**Sn**	**01 23 42.9**	**-8.1**
	comp=Z,4.3nm,0.3s,baz=7.9,slow=23,SNR=9.6						
SDV				LR	LR	01 26 36.5	
	comp=Z,1μm,20.5s,baz=316,slow=40						
SDV	**Santo Domingo**	**11.16**	**112**	P	**Pn**	**01 21 44.8**	**-0.9**
	comp=Z,33n

comp=Z,46nm,1.2s
Z47A Carrollton 20.89 343 P **P 01 23 49.1 +0.7**
Y49A Blount Mountai 21.12 348 P **P 01 23 51.1 +0.2**
Y49A IAmb IAmb 01 24 06.2
comp=Z,20nm,1.1s
HBVL Hebbronville 21.44 313 P **P 01 23 53.2 -1.2**
HBVL IAmb IAmb 01 24 02.1
comp=Z,31nm,1.0s
HKT Hockley 21.52 323 P **P 01 23 54.6 -0.5**
HKT IAmb IAmb 01 24 11.7
comp=Z,23nm,1.2s
143A Socs Landing, 21.57 336 P **P 01 23 55.8 +0.1**
143A IAmb IAmb 01 24 35.3
comp=Z,35nm,1.1s
FPAL Fort Paine 21.63 350 P **P 01 23 56.4 0.0**
BG3 Lake Jocassee 21.76 356 P **P 01 23 56.6 -1.1**
BG3 IAmb IAmb 01 24 03.3
comp=Z,30nm,1.2s
X48A Hartselle 21.83 347 P **P 01 23 58.5 +0.1**
X48A IAmb IAmb 01 24 09.7
comp=Z,17nm,0.9s
HNVL Huntsville, TX 21.91 325 P **P 01 23 58.5 -1.0**
HNVL IAmb IAmb 01 24 14.4
comp=Z,41nm,1.1s
W52A Murphy 21.94 354 P **P 01 24 00.3 +0.6**
W52A IAmb IAmb 01 24 21.1
comp=Z,27nm,1.1s
Y45A Yeager Farm, C 21.95 341 P **P 01 24 00.1 +0.4**
735A Kenedy 21.98 318 P **P 01 23 59.0 -1.1**
735A IAmb IAmb 01 24 11.5
comp=Z,26nm,1.0s
MLDN Muldoon 22.14 321 P **P 01 24 01.8 -0.1**
W50A Signal Mountai 22.23 351 P **P 01 24 02.4 -0.5**
W50A IAmb IAmb 01 24 18.5
comp=Z,20nm,0.9s
SWET Sewanee 22.34 350 P **P 01 24 04.4 +0.4**
SWET IAmb IAmb 01 24 25.2
comp=Z,21nm,1.2s
CPCT Cooper Cave 22.36 353 P **P 01 24 04.8 +0.6**
CPCT IAmb IAmb 01 24 20.3
comp=Z,28nm,1.0s
CZSB Cruzeiro do Su 22.41 158 P **P 01 24 05.5 +0.6**
CZSB Cruzeiro do Su 22.41 158 *eP* **P 01 24 06.2 +1.3**
ZAIG Zacatecas 22.48 298 **P 01 24 05.0 -0.9**
Z41A Richland Creek 22.63 334 P **P 01 24 06.8 -0.2**
CCAR Cane Creek 22.78 337 P **P 01 24 09.1 +0.4**
V48A Smith Brothers 23.02 348 P **P 01 24 11.4 +0.2**
V48A IAmb IAmb 01 24 24.0
comp=Z,36nm,1.3s
237A Washetta, Mont 23.06 327 P **P 01 24 12.3 +0.7**
WLAR White Oak Lake 23.13 334 P **P 01 24 13.1 +0.8**
WLAR IAmb IAmb 01 24 47.1
comp=Z,24nm,1.0s
435B Jarrell 23.16 322 P **P 01 24 12.2 -0.5**
CLTN Cedars of Leba 23.27 349 P **P 01 24 13.9 +0.2**
CLTN IAmb IAmb 01 24 29.9
comp=Z,13nm,0.9s
HNDO Hondo 23.39 317 P **P 01 24 13.5 -1.6**
Z38A Mt. Pleasant 23.63 330 P **P 01 24 18.5 +1.2**
Z38A IAmb IAmb 01 24 45.9
comp=Z,20nm,1.1s
X40A Basin Creek Fa 23.70 335 P **P 01 24 18.2 +0.1**
X40A IAmb IAmb 01 24 44.8
comp=Z,19nm,1.2s
UALR University of 23.76 337 P **P 01 24 16.9 -1.6**
UALR IAmb IAmb 01 24 27.6
comp=Z,18nm,0.9s
T50A Nancy 23.95 353 P **P 01 24 21.6 +1.2**
T50A IAmb IAmb 01 24 28.5
comp=Z,13nm,0.8s
WHTX Lake Whitney, 23.96 324 P **P 01 24 20.2 -0.3**
MIAR Mount Ida 24.06 334 P **P 01 24 21.2 -0.3**
MIAR IAmb IAmb 01 24 47.2
comp=Z,25nm,1.2s
FW13 Cleburne 24.21 325 P **P 01 24 22.2 -0.7**
FW13 IAmb IAmb 01 25 01.6
comp=Z,22nm,0.8s
DRIO Del Rio 24.23 315 P **P 01 24 22.7 -0.5**
DRIO IAmb IAmb 01 24 32.9
comp=Z,11nm,1.0s
T47A Sharon Grove 24.29 348 P **P 01 24 23.8 +0.3**
T47A IAmb IAmb 01 24 30.4
comp=Z,14nm,0.8s
JCT Junction City 24.35 318 P **P 01 24 22.1 -2.1**
JCT IAmb IAmb 01 24 49.3
comp=Z,9.2nm,0.9s
HICK Hickman 24.35 344 P **P 01 24 24.5 +0.4**
BRDY Brady 24.38 320 P **P 01 24 23.1 -1.4**
BRDY IAmb IAmb 01 24 51.9
comp=Z,18nm,1.0s
S51A Beattyville 24.44 355 P **P 01 24 25.2 +0.3**
S51A IAmb IAmb 01 24 32.9
comp=Z,24nm,1.0s
PLPT Palo Pinto 25.06 324 P **P 01 24 30.8 +0.2**
PLPT IAmb IAmb 01 25 03.8
comp=Z,23nm,1.1s
R50A Paris 25.14 354 P **P 01 24 31.2 0.0**
USIN University of 25.34 348 P **P 01 24 32.3 -0.7**
WCI Wyandotte Cave 25.35 350 P **P 01 24 33.2 +0.1**
NNA Nana 25.38 170 LR LR 01 34 26.5
comp=Z,309nm,19.0s,baz=339,slow=36
SSFO Shawnee State 25.46 356 P **P 01 24 35.1 +1.0**
OZNA Ozona 25.51 317 P **P 01 24 34.3 -0.4**
OZNA IAmb IAmb 01 25 00.8
comp=Z,14nm,1.1s
SAND Sanderson 25.60 314 IAmb IAmb 01 24 43.7
comp=Z,12nm,1.0s
MACA Manacapuru-AM 26.00 127 P **P 01 24 40.0 +0.7**
MACA Manacapuru-AM 26.00 127 *eP* **P 01 24 40.6 +1.3**
SGCY Sterling City 26.14 319 P **P 01 24 40.4 -0.1**
SGCY IAmb IAmb 01 24 42.7
comp=Z,14nm,0.9s
CCM Cathedral Cave 26.34 342 P **P 01 24 42.0 -0.2**
CCM IAmb IAmb 01 24 54.6
comp=Z,19nm,1.1s
TXAR Lajitas Array 26.36 311 P **P 01 24 42.2 -0.3**
comp=Z,7.5nm,0.8s,baz=130,slow=9.6,SNR=79
TXAR PcP **PcP 01 28 08.5 -0.1**
comp=Z,0.8nm,0.7s,baz=139,slow=4.3,SNR=6.6
TXAR LR LR 01 38 20.2
comp=Z,179nm,18.3s,baz=91,slow=44
comp=Z,7.5nm,0.8s
TX31 Lajitas Ar. Si 26.36 311 P **P 01 24 42.4 -0.1**
TX31 IAmb IAmb 01 24 43.7
comp=Z,14nm,1.0s
APMT Aspermont 26.48 322 P **P 01 24 44.2 +0.7**
APMT IAmb IAmb 01 25 25.4
comp=Z,12nm,1.0s
WMOK Wichita Mounta 26.75 326 IAmb IAmb 01 25 22.9
comp=Z,19nm,1.5s
O52A Adamsville 26.82 359 P **P 01 24 47.5 +1.1**
QUOK Quay 26.82 331 P **P 01 24 47.0 +0.5**
QUOK IAmb IAmb 01 25 17.9
comp=Z,18nm,1.2s
MNHN Monahans 26.87 316 P **P 01 24 45.9 -1.1**
MNHN IAmb IAmb 01 24 49.8
comp=Z,7.9nm,0.8s
R40A Maddies Statio 26.88 340 P **P 01 24 48.0 +1.0**
R40A IAmb IAmb 01 25 10.2
comp=Z,21nm,1.2s
ALPN Alpine 26.91 313 P **P 01 24 47.4 -0.2**
ALPN IAmb IAmb 01 24 58.8
comp=Z,10nm,0.9s
O49A Covington 27.03 355 P **P 01 24 49.0 +0.6**
O49A IAmb IAmb 01 25 05.1
comp=Z,18nm,1.2s
OK048 Pawnee Station 27.13 331 P **P 01 24 49.9 +0.6**
OK048 IAmb IAmb 01 25 00.2
comp=Z,23nm,1.3s
O48B Farmland 27.18 353 P **P 01 24 50.3 +0.6**
ETMB Extrema 27.24 146 P **P 01 24 50.5 0.0**
ETMB Extrema 27.24 146 *eP* **P 01 24 51.2 +0.8**
VHRN Van Horn 28.10 312 P **P 01 24 57.5 -0.8**
VHRN IAmb IAmb 01 25 02.1
comp=Z,8.0nm,0.9s
SAML Samuel 28.32 140 *eP* **P 01 24 58.0 -2.1**
MDP Montagnes des 29.23 103 LR LR 01 38 31.2
comp=Z,613nm,20.8s,baz=324,slow=40
LPIG La Paz 29.63 296 LR LR 01 37 48.0
comp=Z,833nm,19.1s,baz=128,slow=38
ITTB Itaituba 30.67 123 *eP* **P 01 25 21.1 +0.1**
121A Cookes Peak, D 31.05 313 P **P 01 25 24.6 +0.1**
121A IAmb IAmb 01 25 32.4
comp=Z,6.7nm,1.0s
SADO Sadowa 31.51 3 LR LR 01 38 18.4
comp=Z,505nm,19.1s,baz=55,slow=37
ANMO Albuquerque 31.51 318 LR LR 01 40 37.4
comp=Z,220nm,18.5s,baz=286,slow=41
LPAZ La Paz 31.99 156 P **P 01 25 34.2 +0.9**
comp=Z,1.2nm,0.8s,baz=28,slow=11,SNR=2.8
LPAZ LR LR 01 41 06.5
comp=Z,239nm,20.2s,baz=304,slow=41
comp=Z,1.2nm,0.8s
LPAZ La Paz 31.99 156 *eP* **P 01 25 32.8 -0.5**
NPGB Novo Progresso 32.56 127 *eP* **P 01 25 37.1 -0.5**
SDCO Great Sand Dun 32.70 323 P **P 01 25 39.1 +0.1**
TUC Tucson 33.14 310 P **P 01 25 41.8 -0.8**
VILB Vilhena 33.25 141 *eP* **P 01 25 44.3 +0.6**
PDRB Porto dos Gac 34.55 134 *eP* **P 01 25 55.1 +0.1**
X16A Lo Mia Camp, P 34.64 313 P **P 01 25 56.5 +0.6**
X16A IAmb IAmb 01 25 57.8
comp=Z,4.7nm,0.9s
CLDB Colider 34.70 132 *eP* **P 01 25 56.6 +0.3**
GO01 Chusmiza 34.71 160 P **P 01 25 57.5 +0.7**
SIV San Ignacio 35.14 145 LR LR 01 41 01.0
comp=Z,304nm,19.9s,baz=58,slow=37
WUAZ Wupatki 35.16 314 P **P 01 25 59.0 -1.3**
WUAZ IAmb IAmb 01 26 02.2
comp=Z,9.5nm,0.9s
PTLB Pontes e Lacer 35.83 142 *eP* **P 01 26 06.1 +0.2**
HMU Henry Mountain 36.06 318 P **P 01 26 07.6 -0.5**
HMU IAmb IAmb 01 26 28.7
comp=Z,10nm,1.3s
TMAB Tom-Au,PA,Br 36.25 113 *eP* **P 01 26 10.3 +0.7**
BBSD Serra de San D 36.37 146 *eP* **P 01 26 09.2 -1.4**
GLA Glamis 36.52 308 IAmb IAmb 01 26 22.7
comp=Z,13nm,0.8s
K22A Casper 36.65 328 P **P 01 26 13.0 0.0**
K22A IAmb IAmb 01 26 23.6
comp=Z,11nm,1.0s
W13A Hualapai Mount 36.73 312 P **P 01 26 14.3 +0.5**
RDMU Red Mountain 36.93 323 P **P 01 26 15.3 -0.1**
RDMU IAmb IAmb 01 26 25.7
comp=Z,16nm,1.4s
KNB Kanab 36.94 316 P **P 01 26 16.0 +0.5**
KNB IAmb IAmb 01 26 26.9
comp=Z,10nm,1.1s
V12A Nelson 37.72 312 P **P 01 26 21.8 -0.3**
SHPR Sheep Range 38.31 313 P **P 01 26 27.2 +0.1**
CTU Camp Tracy 38.31 321 P **P 01 26 27.3 +0.2**
PD31 Pinedale Array 38.35 326 P **P 01 26 27.6 +0.1**
PDAR Pinedale Array 38.35 326 P **P 01 26 27.4 -0.1**
PDAR Pinedale Array 38.35 326 P **P 01 26 27.1 -0.4**
comp=Z,3.3nm,0.8s,baz=130,slow=11,SNR=36
PDAR PcP **PcP 01 28 41.7 +0.5**
comp=Z,0.4nm,0.6s,baz=113,slow=4.1,SNR=1.7
comp=Z,3.3nm,0.8s
TCUT Toone Canyon 38.36 322 P **P 01 26 28.0 +0.4**
TCUT IAmb IAmb 01 26 37.7
comp=Z,20nm,1.4s
PSUT Pine Spring 38.43 317 IAmb IAmb 01 26 30.9
comp=Z,6.8nm,0.8s
DUG Dugway, Tooele 38.68 320 P **P 01 26 30.8 +0.7**
SNDB Serra Nova Dou 38.75 129 *eP* **P 01 26 30.2 -0.6**
HWUT Hardware Ranch 38.76 323 P **P 01 26 30.9 +0.1**
ULM Lac du Bonnet 38.87 345 P **P 01 26 32.6 +1.2**
comp=Z,2.8nm,0.6s,baz=181,slow=9.9,SNR=3.2
comp=Z,2.8nm,0.6s
TPNV Topopah Spring 39.29 313 P **P 01 26 36.1 +0.7**
SNOW Snow King Moun 39.47 326 IAmb IAmb 01 26 46.2
comp=Z,9.3nm,0.8s
TPAW Teton Pass 39.60 325 P **P 01 26 38.5 +0.6**
CCAC Calif City Air 39.79 310 P **P 01 26 39.0 -0.4**
CCAC IAmb IAmb 01 26 41.4
comp=Z,11nm,0.8s
RLMT Red Lodge 39.80 329 IAmb IAmb 01 26 53.0
comp=Z,15nm,1.1s
SMTB Santa Maria do 39.87 122 *eP* **P 01 26 40.8 +0.6**
GCMT Greycliff 40.47 329 P **P 01 26 45.6 +0.6**
ELK Elko 40.52 319 P **P 01 26 45.5 -0.1**
ARAG Araguaiana, MT 40.81 134 *eP* **P 01 26 47.2 -0.7**
NV11 Mina Array Sit 41.31 314 P **P 01 26 52.6 +0.6**
BOZ Bozeman (W) 41.34 327 P **P 01 26 53.3 +1.0**
NVAR Mina Array Bea 41.41 314 P **P 01 26 53.1 +0.1**
NVAR Mina Array Bea 41.41 314 P **P 01 26 52.4 -0.6**
comp=Z,4.5nm,0.9s,baz=128,slow=8.1,SNR=18
NVAR LR LR 01 47 56.0
comp=Z,577nm,18.7s,baz=104,slow=42
comp=Z,4.5nm,0.9s
LHV Little Huntoon 41.48 314 P **P 01 26 52.2 -1.0**
OMMB Old Mammoth Mi 41.55 313 P **P 01 26 54.8 +0.6**
KVN Kaiserville 41.56 315 P **P 01 26 54.6 +0.4**
HLID Hailey 41.61 323 P **P 01 26 55.0 +0.5**
BMN Battle Mountai 41.64 317 P **P 01 26 54.8 +0.1**
BMN IAmb IAmb 01 26 56.4
comp=Z,9.0nm,1.0s
DLMT Dillon 41.71 326 P **P 01 26 55.5 +0.3**
DLMT IAmb IAmb 01 27 20.9
comp=Z,15nm,1.4s
LRM Limekiln Ridge 41.93 327 P **P 01 26 57.0 -0.1**
MFID Camas Ranch 42.37 322 P **P 01 27 00.5 -0.1**
LYMT Lyon Mountain 42.60 328 P **P 01 27 02.6 +0.1**
BDFB Brasilia 43.52 130 P **P 01 27 09.9 -0.3**
BDFB IAmb IAmb 01 27 20.2
comp=Z,8.7nm,0.9s
BDFB Brasilia 43.52 130 P **P 01 27 12.9 +2.7**
comp=Z,4.8nm,0.5s,baz=294,slow=9.0,SNR=10
BDFB LR LR 01 46 58.1
comp=Z,286nm,19.6s,baz=330,slow=38
comp=Z,4.8nm,0.5s
WVOR Wild Horse Val 43.57 319 IAmb IAmb 01 27 23.7
comp=Z,22nm,1.3s
SDBA SAO DESIDERIO 44.02 124 *eP* **P 01 27 13.5 -0.7**
F10A Beach Ranch, E 44.65 324 IAmb IAmb 01 27 31.3
comp=Z,7.1nm,0.9s
IPMB Ipameri, GO 44.89 133 *eP* **P 01 27 21.4 +0.3**
E09A Wood Farm, Sta 45.48 324 P **P 01 27 25.3 -0.1**
E09A IAmb IAmb 01 27 26.2
comp=Z,8.1nm,1.0s
CPUP Villa Florida 45.61 150 P **P 01 27 28.6 +2.1**
comp=Z,1.6nm,0.8s,baz=344,slow=7.4,SNR=2.0
comp=Z,1.6nm,0.8s
PINE Pine Mountain 45.71 320 IAmb IAmb 01 28 00.8
comp=Z,16nm,1.4s
YBH Yreka Blue Hor 45.91 316 LR LR 01 50 01.0
comp=Z,312nm,21.3s,baz=92,slow=41
JANB Januaria 46.00 126 *eP* **P 01 27 29.2 -0.7**
PMNB Patos De Minas 46.52 132 *eP* **P 01 27 34.1 0.0**
BB19B Bebedouro 46.75 136 *eP* **P 01 27 36.2 +0.5**
HOOD Mount Hood Mea 46.91 321 P **P 01 27 37.5 +0.6**
FRTB Fartura 47.68 139 *eP* **P 01 27 43.2 +0.2**
RPN Rapa Nui 48.55 214 LR LR 01 43 48.9
comp=Z,362nm,18.6s,baz=50,slow=31
RCBR Riachuelo 48.73 110 LR LR 01 50 32.7
comp=Z,146nm,19.4s,baz=324,slow=39
PLTB Pedras Altas 51.92 150 *eP* **P 01 28 15.4 +0.3**
YKA Yellowknife Ar 54.68 342 P **P 01 28 34.3 -0.6**
comp=Z,1.0nm,0.9s,baz=135,slow=7.5,SNR=6.0
comp=Z,1.0nm,0.9s
SFJD Kangerlussuaq 57.42 14 LR LR 01 55 13.3
comp=Z,203nm,18.1s,baz=208,slow=38
A36M Sachs Harbour 64.33 346 P **P 01 29 40.6 -0.8**
SUMG Summit 64.40 13 P **P 01 29 44.2 +1.8**
SUMG Summit 64.40 13 *i P* **P 01 29 44.0 +1.6**
NEEM North Greenlan 66.06 7 *i P* **P 01 29 54.1 +1.1**
F28M Old Crow 66.22 339 P **P 01 29 53.9 0.0**
F28M IAmb IAmb 01 30 09.8
comp=Z,8.3nm,1.2s
ILAR Eielson Array 67.89 335 P **P 01 30 04.3 -0.2**
comp=Z,1.6nm,0.9s,baz=104,slow=4.5,SNR=12
comp=Z,1.6nm,0.9s
MDT Midelt 71.73 60 LR LR 01 59 11.6
comp=Z,194nm,18.4s,baz=292,slow=34
ESDC Sonseca Array 71.86 52 P **P 01 30 31.1 +1.6**
comp=Z,2.9nm,0.8s,baz=272,slow=6.6,SNR=7.1
ESDC LR LR 01 56 50.1
comp=Z,115nm,21.4s,baz=267,slow=31
comp=Z,2.9nm,0.8s
EKA Eskdalemuir Ar 72.41 36 P **P 01 30 34.9 +2.5**
comp=Z,1.6nm,0.7s,baz=258,slow=5.7,SNR=3.2
comp=Z,1.6nm,0.7s
DBIC Dimbokro 75.18 87 P **P 01 30 52.0 +2.6**
comp=Z,3.8nm,0.8s,baz=256,slow=8.3,SNR=3.0
comp=Z,3.8nm,0.8s
NB2 NORSAR Subarra 79.70 30 P **P 01 31 15.9 +2.0**
comp=Z,5.2nm,1.1s,baz=279,slow=5.9
NOA NORSAR Array B 79.70 30 P **P 01 31 15.1 +1.2**
comp=Z,1.3nm,0.9s,baz=284,slow=5.4,SNR=3.1
NOA LR LR 02 04 48.1
comp=Z,77nm,19.0s,baz=280,slow=34
comp=Z,1.3nm,0.9s
TORD Torodi Ar. Bea 80.22 79 P **P 01 31 18.9 +1.4**
comp=Z,0.8nm,0.8s,baz=284,slow=5.3,SNR=2.8
comp=Z,0.8nm,0.8s
HFS Hagfors 81.06 30 P **P 01 31 20.8 -0.3**
comp=Z,2.3nm,0.9s,baz=288,slow=5.3,SNR=1.5
HFS LR LR 02 07 29.8
comp=Z,106nm,18.4s,baz=257,slow=36
comp=Z,2.3nm,0.9s
DAVOX Davos/Dischmat 81.19 44 LR LR 02 03 30.6
comp=Z,185nm,19.1s,baz=280,slow=33
RETA Reutte 81.67 43 *i* PcP **PcP 01 31 30.6 0.0**
comp=Z,2.5nm,0.8s
FETA Feichten 81.73 44 *e*PcP **PcP 01 31 31.5 +0.5**
comp=Z,4.1nm,1.0s
ABTA Abfaltersbach 82.98 44 *e*PcP **PcP 01 31 36.7 +0.4**
comp=Z,0.5nm,0.5s
GERES GERESS Array B 83.33 42 P **P 01 31 35.6 +2.2**
comp=Z,1.8nm,0.9s,baz=252,slow=2.0,SNR=6.6
comp=Z,1.8nm,0.9s
ARCES ARCESS Array B 83.43 20 P **P 01 31 35.2 +1.8**
comp=Z,2.0nm,0.5s,baz=277,slow=3.5,SNR=16
comp=Z,2.0nm,0.5s
MOA Molln 83.91 42 *e*PcP **PcP 01 31 42.0 +1.6**
comp=Z,0.2nm,0.3s
CONA Conrad Observa 84.94 42 *e*pP pP 01 31 47.0 +3.8
comp=Z,0.5nm,0.4s
VRAC Vranov 85.07 41 LR LR 02 06 18.2
comp=Z,248nm,18.9s,baz=264,slow=33
RONA Rosalia, Austr 85.28 42 *e*pP pP 01 31 48.1 +3.2
comp=Z,0.9nm,0.5s
MODS Modra-Piesok 85.75 41 *e*P P 01 31 52.7 +7.1
VAE Valguarnera 86.41 53 LR LR 02 08 00.6
comp=Z,143nm,18.8s,baz=156,slow=34
FINES FINESS Array B 86.53 27 P **P 01 31 50.8 +1.8**
comp=Z,2.4nm,0.7s,baz=280,slow=8.3,SNR=14
FINES LR LR 02 05 38.5
comp=Z,108nm,19.9s,baz=275,slow=32
comp=Z,2.4nm,0.7s
VYHS Vyhne 86.71 41 *e*P P 01 31 57.5 +7.2
SUW Suwalki 87.64 35 *e*PKP **PKiKP 01 37 02.8 +4.8**
NACGM Naroch 89.30 33 *e*PKP **PKiKP 01 36 56.2 -4.5**
comp=Z,10.0nm,0.8s,baz=37
AKASG Malin Array Be 92.31 37 LR LR 02 12 57.9
comp=Z,99nm,18.2s,baz=238,slow=35
OBN Obninsk 94.26 31 LR LR 02 09 30.0
comp=Z,108nm,20.2s,baz=346,slow=32
KIRV Kirov 97.95 24 LR LR 02 12 09.5
comp=Z,85nm,21.1s,baz=326,slow=32
HHC Hu-ho-hao-te 124.95 348 *eP* **PKPdf 01 38 00.0 -7.0**
LZH Lanzhou 130.76 355 PKP PKPdf 01 38 08.5 -10
LZH sPKP 01 38 45.8
NJ2 Nanjing 131.10 337 *eP* **PKPdf 01 38 18.5 -0.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
PZH PanZhiHua 140.44 356 PKP **PKPdf 01 38 35.3 -1.2**
ASAR Alice Springs 145.26 247 PKPbc **PKPbc 01 38 43.1 -1.5**
comp=Z,1.4nm,0.7s,baz=114,slow=3.7,SNR=16
WRA Warramunga Arr 145.40 254 PKPbc **PKPbc 01 38 43.7 -1.4**
comp=Z,2.3nm,0.7s,baz=93,slow=3.1,SNR=18
CMAR Chiang Mai Arr 148.54 360 PKPbc **PKPbc 01 38 53.3 -0.8**
comp=Z,1.0nm,0.3s,baz=332,slow=3.3,SNR=1.7

IDC 25 01:34:41.3±8.7, 45°.88S×167°.99E, h0km, mb3.7/2, mbtmp3.7/2, MS3.8/1, Error ellipse: s-maj=640.5km s-min=84.2km az=41.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**35.30**	**297**	P	P	01 41 38.0	-0.2
	1.1nm,0.9s,baz=138,slow=9.5,SNR=4.4						
	1.1nm,0.9s						
WRA	**Warramunga Arr**	**37.84**	**302**	P	P	01 41 59.7	0.0
	0.9nm,0.8s,baz=139,slow=7.8,SNR=3.6						
	0.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**44.60**	**294**	LR	LR	02 00 42.5	
	comp=Z,111nm,18.4s,baz=193,slow=35						
BRTR	**Keskin Array B**	**146.31**	**276**	PKPbc	PKPdf	01 54 22.9	+0.4
	0.3nm,0.6s,baz=119,slow=2.6,SNR=1.8						

HLW ***25*** *01:40:30.3, 35°.85N×28°.75E, h22km±18km, Md4.1, Ml3.9*
ISK ***25*** *01:40:32.1, 35°.99N×28°.71E, h66km±1km, ML2.9/34*
ATH ***25*** *01:40:32.4, 36°.13N×28°.29E, h82km±3km, ML3.1/2, Error ellipse: s-maj=6.3km s-min=2.4km az=100.0*
NIC ***25*** *01:40:32.8, 35°.73N×28°.82E, h39km±20km, Ml3.1/11*
AFAD ***25*** *01:40:34.0±0.0, 36°.03N×28°.75E, h38km±4km, ML2.8*
GII ***25*** *01:40:34.3±0.4, 35°.769N±0°.002×29°.058E±0°.001, h40km, Mws2.9, confirmed*
THE ***25*** *01:40:34.3, 35°.96N×28°.66E, h61km±4km, ML3.0/3, Error ellipse: s-maj=5.1km s-min=1.3km az=300.0*

ISC 25 01:40:31.5±1.1, 35°.85N±0°.04×28°.77E±0°.03, h58km±16km, n146, σ1°29/190, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.64**	**305**	Pg	**Pn**	**01 40 45.5**	**+0.6**
ARG				Sg	**Sn**	**01 40 54.9**	**+0.2**
ARG	**Arkhangelos**	**0.64**	**305**	P	**Pn**	**01 40 45.1**	**+0.2**
ARG				S	**Sn**	**01 40 54.8**	**+0.1**
	1μm,0.3s						
ARG	**Arkhangelos**	**0.64**	**305**	P	**Pn**	**01 40 45.2**	**+0.2**
ARG				S	**Sn**	**01 40 54.4**	**-0.3**
ARG				AML	AML	01 40 56.6	
	1.5nm,0.3s						
ARG				AML	AML	01 40 56.7	
	3.3nm,0.2s						
ARG	**Arkhangelos**	**0.64**	**305**	P	**Pn**	**01 40 45.2**	**+0.2**
ARG				S	**Sn**	**01 40 54.8**	**+0.1**
ARG				AML	AML	01 40 56.8	
	comp=N,1462μm,0.3s						
ARG				AML	AML	01 40 56.9	
	comp=E,3293μm,0.2s						
IZZE	**Mula-Seydike**	**0.70**	**32**	P	**Pn**	**01 40 45.8**	**+0.2**
IZZE				S	**Sn**	**01 40 53.7**	**-2.2**
IZZE				*i* AML	AML	01 40 56.0	
	comp=E,417nm,0.5s						
IZZE				*i* AML	AML	01 40 57.0	
	comp=E,466nm,0.2s						
AKAS	**Kas**	**0.78**	**60**	P	**Pn**	**01 40 47.9**	**+1.1**
AKAS				S	**Sn**	**01 40 59.0**	**+1.1**
AKAS				*i* AML	AML	01 40 59.0	
	comp=E,616nm,0.3s						
AKAS				*i* AML	AML	01 41 01.0	
	comp=E,757nm,0.5s						
AKAS	**Kas**	**0.78**	**60**	Pg	**Pn**	**01 40 47.9**	**+1.1**
AKAS				Sg	**Sn**	**01 40 59.6**	**+1.7**
FETY	**Fethiye**	**0.83**	**18**	Pg	**Pn**	**01 40 47.1**	**-0.2**
DALY	**Dalyan (Mula)**	**0.97**	**354**	Pg	**Pn**	**01 40 49.1**	**0.0**
DALY				Sg	**Sn**	**01 41 01.1**	**-1.0**
MRSB	**Marmaris-Mugla**	**0.99**	**332**	Pg	**Pn**	**01 40 49.1**	**-0.2**
SABU	**Mula-Dalaman**	**0.99**	**9**	P	**Pn**	**01 40 49.3**	**-0.1**
SABU				S	**Sn**	**01 41 00.6**	**-2.0**
TURN	**Turunc**	**1.02**	**336**	P	**Pn**	**01 40 50.1**	**+0.3**
TURN				S	**Sn**	**01 41 02.4**	**-0.8**
TURN				*i* AML	AML	01 41 03.0	
	comp=E,329nm,0.2s						
TURN				*i* AML	AML	01 41 03.0	
	comp=E,283nm,0.3s						
TURN	**Turunc**	**1.02**	**336**	Pg	**Pn**	**01 40 49.6**	**-0.1**
TURN				Sg	**Sn**	**01 41 02.1**	**-1.1**
CAME	**Cameli-Denizli**	**1.18**	**21**	Pg	**Pn**	**01 40 52.2**	**+0.2**
KNIK	**Mula-Seydike**	**1.19**	**33**	P	**Pn**	**01 40 53.1**	**+1.1**
KNIK				S	**Sn**	**01 41 07.3**	**-0.1**
ELL	**Elmali**	**1.29**	**45**	Pn	**Pn**	**01 40 54.2**	**+0.8**
ELL	**Elmali**	**1.29**	**45**	P	**Pn**	**01 40 55.0**	**+1.6**
ELL				S	**Sn**	**01 41 12.9**	**+3.1**
ELL				AML	AML	01 41 13.5	
	comp=E,1.3nm,0.9s						
ELL				AML	AML	01 41 14.2	
	comp=E,1.1nm,0.4s						
DAT	**Datca**	**1.31**	**313**	P	**Pn**	**01 40 54.1**	**+0.5**
DAT				S	**Sn**	**01 41 09.3**	**-0.9**
DAT				*i* AML	AML	01 41 11.0	
	comp=E,264nm,0.3s						
DAT				*i* AML	AML	01 41 11.0	
	comp=E,233nm,0.3s						
DAT	**Datca**	**1.31**	**313**	Pn	**Pn**	**01 40 53.6**	**-0.1**
DAT				Sn	**Sn**	**01 41 09.1**	**-1.1**
DAT	**Datca**	**1.31**	**313**	P	**Pn**	**01 40 54.0**	**+0.3**
DAT				S	**Sn**	**01 41 09.4**	**-0.9**
KARP	**Karpathos**	**1.34**	**258**	Pn	**Pn**	**01 40 55.6**	**+1.5**
KARP	**Karpathos**	**1.34**	**258**	P	**Pn**	**01 40 55.9**	**+1.9**
KARP				S	**Sn**	**01 41 11.4**	**+0.4**
	comp=E,858nm,0.1s						

KARP	Karpathos	1.34 258	P	Pn	01 40 56.5	+2.4
KARP	Karpathos	1.34 258	P	Pn	01 40 55.9	+1.9
KARP			S	Sn	01 41 12.6	+1.6
KARP			AML	AML	01 41 13.1	
	comp=E,1.2nm,0.1s					
KARP			AML	AML	01 41 13.6	
	comp=E,2.2nm,0.2s					
KARP	Karpathos	1.34 258	P	Pn	01 40 55.9	+1.9
KARP			S	Sn	01 41 12.2	+1.2
KARP			AML	AML	01 41 13.5	
	comp=E,1252µm,0.1s					
KARP			AML	AML	01 41 14.0	
	comp=N,2188µm,0.2s					
YER	Yerkesik	1.35 343	Pn	Pn	01 40 54.4	+0.3
YER	Yerkesik	1.35 343	P	Pn	01 40 54.8	+0.7
YER			S	Sn	01 41 10.8	-0.3
CAEL	Denizli, Camel	1.35 19	P	Pn	01 40 55.3	+1.1
CAEL			*i* AML	AML	01 41 16.0	
	comp=N,121nm,0.8s					
CAEL			*i* AML	AML	01 41 26.0	
	comp=N,154nm,1.1s					
AKUM	Antalya-Kumluc	1.36 69	P	Pn	01 40 55.7	+1.5
AKUM			S	Sn	01 41 12.4	+1.1
AKUM			*i* AML	AML	01 41 13.0	
	comp=N,116nm,0.5s					
DNZT	Denizli-Tavas-	1.45 8	P	Pn	01 40 56.1	+0.6
DNZT			S	Sn	01 41 11.8	-1.8
DNZT			*i* AML	AML	01 41 14.0	
	comp=N,164nm,0.5s					
DNZT			*i* AML	AML	01 41 14.0	
	comp=N,244nm,0.6s					
MULA	Mugla, Merkez-	1.46 346	P	Pn	01 40 56.6	+1.0
MULA			S	Sn	01 41 12.8	-0.9
MULA			*i* AML	AML	01 41 14.0	
	comp=N,120nm,0.7s					
MULA			*i* AML	AML	01 41 16.0	
	comp=N,184nm,0.2s					
TAVA	DENIZLI_Tavas	1.62 4	P	Pn	01 40 58.3	+0.4
TAVA			S	Sn	01 41 15.6	-2.1
APMY	Acipayam-Deniz	1.68 15	Pn	Pn	01 40 59.2	+0.6
BODT	Bodrum	1.69 316	Pn	Pn	01 40 58.7	0.0
BODT			Sn	Sn	01 41 18.2	-1.2
BODT	Bodrum	1.69 316	P	Pn	01 40 58.8	0.0
BODT			S	Sn	01 41 17.7	-1.7
KORT	Korkueli	1.72 47	P	Pn	01 41 01.0	+1.8
KORT			S	Sn	01 41 22.0	+1.8
KORT			*i* AML	AML	01 41 25.0	
	comp=N,176nm,0.4s					
KORT	Korkueli	1.72 47	Pn	Pn	01 41 00.7	+1.5
DNIZ	Denizli-Tavas-	1.79 7	P	Pn	01 41 00.5	+0.3
DNIZ			S	Sn	01 41 20.6	-1.2
ANTB	Antalya	1.85 55	Pn	Pn	01 41 02.3	+1.5
INCE	Denizli-Bozkur	1.97 19	P	Pn	01 41 03.1	+0.6
NAZL	Nazilli-Aydin	2.15 350	Pn	Pn	01 41 04.7	-0.3
BCK	Bucak	2.18 42	Pn	Pn	01 41 06.5	+1.1
ZKR	Zakros	2.21 251	Pn	Pn	01 41 07.7	+1.9
ZKR	Zakros	2.21 251	P	Pn	01 41 07.7	+1.9
ZKR			S	Sn	01 41 33.4	+1.5
	comp=N,118nm,0.3s					
ZKR	Zakros	2.21 251	P	Pn	01 41 07.9	+2.1
ZKR			S	Sn	01 41 34.0	+2.0
ZKR			AML	AML	01 41 35.2	
	comp=N,0.2nm,0.2s					
ZKR			AML	AML	01 41 35.3	
	comp=N,0.1nm,0.4s					
ZKR	Zakros	2.21 251	P	Pn	01 41 07.8	+2.1
ZKR			S	Sn	01 41 33.9	+2.0
GCAM	G?zelcaml?	2.23 327	Pn	Pn	01 41 05.9	-0.1
BASM	Basmaki-Afyon	2.31 26	Pn	Pn	01 41 07.3	+0.1
ISP	Isparta	2.42 35	Pn	Pn	01 41 09.3	+0.5
ISP	Isparta	2.42 35	P	Pn	01 41 09.6	+0.8
SMG	Samos	2.42 321	P	Pn	01 41 08.2	-0.5
SMG	Samos	2.42 321	P	Pn	01 41 08.5	-0.2
SMG			S	Sn	01 41 34.6	-2.6
KULA	Kula-Manisa	2.67 358	Pn	Pn	01 41 11.8	-0.3
KULA	Kula-Manisa	2.67 358	P	Pn	01 41 11.6	-0.5
ALAN	Alanya-ANTALYA	2.73 74	Pn	Pn	01 41 15.6	+2.7
APE	Apeiranthos	2.88 296	Pn	Pn	01 41 15.3	+0.3
APE	Apeiranthos	2.88 296	P	Pn	01 41 15.5	+0.5
APE	Apeiranthos	2.88 296	P	Pn	01 41 15.6	+0.6
BLCB	Balcova	2.89 332	Pn	Pn	01 41 14.9	-0.1
SEYD	Seydisehir-KON	2.92 57	Pn	Pn	01 41 17.6	+2.1
AKMS	Akamas	3.02 105	P	Pn	01 41 18.1	+1.2
AKMS			S	Sn	01 41 52.7	+0.8
AKMS			AML	AML	01 41 54.9	
	comp=N,0.4nm,0.3s					
AKMS			AML	AML	01 41 55.5	
	comp=N,0.2nm,0.2s					
SHUT	Suhut-Afyon	3.05 27	Pn	Pn	01 41 17.3	-0.1
ALFC	Alefka	3.20 101	P	Pn	01 41 20.1	+0.8
ALFC			S	Sn	01 41 57.5	+1.3
ALFC			AML	AML	01 41 57.6	
	comp=N,0.3nm,0.3s					
ALFC			AML	AML	01 41 57.8	
	comp=N,0.2nm,0.3s					
HDMB	Hadim	3.20 68	Pn	Pn	01 41 21.9	+2.4
IDI	Anoyia	3.21 261	P	Pn	01 41 20.3	+0.7
SIMA	Simav-Kutahya	3.24 3	Pn	Pn	01 41 20.4	+0.5
NATA	Nata	3.28 108	P	Pn	01 41 21.7	+1.3
NATA			S	Sn	01 41 59.4	+1.1
NATA			AML	AML	01 42 01.3	
	comp=N,0.6nm,0.2s					
NATA			AML	AML	01 42 01.5	
	comp=N,1.0nm,0.5s					
TROD	Troodos	3.46 104	P	Pn	01 41 23.8	+0.7
TROD			S	Sn	01 42 03.9	+0.9
TROD			AML	AML	01 42 11.6	
	comp=N,0.1nm,0.4s					
TROD			AML	AML	01 42 12.0	
	comp=N,0.1nm,0.3s					
APOL	The Sanctuary	3.55 108	P	Pn	01 41 25.6	+1.5
APOL			S	Sn	01 42 05.8	+1.1
APOL			AML	AML	01 42 07.0	
	comp=N,0.2nm,0.1s					
APOL			AML	AML	01 42 08.8	
	comp=N,0.2nm,0.3s					
DKL	Dikili	3.55 336	Pn	Pn	01 41 24.0	0.0
KONT	Konya--Tatoy	3.56 53	Pn	Pn	01 41 26.0	+1.7
TVSB	Tavsanli	3.64 8	Pn	Pn	01 41 25.4	0.0
LADK	Ladik-KONYA	3.71 50	Pn	Pn	01 41 28.1	+1.7
ASGA	Asgata	3.81 105	P	Pn	01 41 28.7	+1.1
ASGA			S	Sn	01 42 11.6	+0.4
ASGA			AML	AML	01 42 12.9	
	comp=N,0.1nm,0.3s					
ASGA			AML	AML	01 42 13.8	
	comp=N,0.1nm,0.3s					
CSS	Mathiatis	3.83 102	P	Pn	01 41 27.7	-0.2
CSS	Mathiatis	3.83 102	P	Pn	01 41 28.7	+0.8
CSS	Mathiatis	3.83 102	P	Pn	01 41 29.0	+1.1
CSS			S	Sn	01 42 13.2	+1.6
CSS			AML	AML	01 42 13.9	
	comp=N,0.1nm,0.4s					
CSS			AML	AML	01 42 19.1	
	comp=N,0.1nm,0.4s					
KIZT	Kizilcal	3.91 38	Pn	Pn	01 41 29.6	+0.4
CIFT	Cifteler, Eski	3.95 27	Pn	Pn	01 41 30.0	+0.3
MVOU	Mavrovouni	4.05 100	S	Sn	01 42 18.9	+1.7
MATC	Matruh	4.67 196	P	Pn	01 41 40.4	+0.9
MATC			S	Sn	01 42 30.3	-2.0
DB3	El Dabaa	4.80 182	P	Pn	01 41 42.0	+0.8
DB3			S	Sn	01 42 34.2	-1.3
SLUM	Salum	5.26 215	P	Pn	01 41 48.4	+0.9
SLUM			S	Sn	01 42 43.7	-3.1
OFRI	`Ofer	6.07 120	P	Pn	01 41 58.7	+0.1
OFRI	`Ofer	6.07 120	S	Sn	01 43 04.5	-2.2
OFRI	`Ofer	6.07 120	P	Pn	01 41 58.8	+0.1
MMC7	Mount Meron ar	6.15 115	P	Pn	01 42 00.1	+0.2
MMA0	Mount Meron ar	6.16 115	P	Pn	01 42 01.3	+1.3
MMA0B	Mount Meron ar	6.16 115	P	Pn	01 42 00.2	+0.2
MMA0B	Mount Meron ar	6.16 115	S	Sn	01 43 06.6	-2.5
MMA2	Mount Meron ar	6.17 115	P	Pn	01 42 00.2	+0.2
GEM	Giv'at Ha'Em	6.26 113	S	Sn	01 43 09.3	-2.2
GEM	Giv'at Ha'Em	6.26 113	P	Pn	01 42 02.1	+0.8
HMYD	Mayadein	6.27 164	P	Pn	01 42 03.2	+1.8
NATI	Neve Ativ	6.30 112	P	Pn	01 42 02.0	+0.3
NATI	Neve Ativ	6.30 112	S	Sn	01 43 10.0	-2.3
NATI	Neve Ativ	6.30 112	P	Pn	01 42 02.0	+0.3
SLTI	Sal'it	6.32 123	P	Pn	01 42 02.6	+0.5
SLTI	Sal'it	6.32 123	S	Sn	01 43 11.4	-1.6
HNAT	Natroun	6.39 165	P	Pn	01 42 04.7	+1.7
KOT	Kottamia	6.44 156	P	Pn	01 42 05.1	+1.4
KOT			S	Sn	01 43 13.3	-2.5
MMLI	Mount Malkishu	6.48 120	S	Sn	01 43 14.8	-2.0
MMLI	Mount Malkishu	6.48 120	P	Pn	01 42 04.3	+0.1
KSHT	Keshet	6.48 114	S	Sn	01 43 14.8	-2.1
KSHT	Keshet	6.48 114	P	Pn	01 42 05.1	+0.8
SALP	Salfit	6.53 123	P	Pn	01 42 05.2	+0.3
SALP	Salfit	6.53 123	S	Sn	01 43 16.4	-1.6
SHMJ	Saham	6.57 116	P	Pn	01 42 06.5	+1.0
HMDT	Nahal Hemdat	6.65 121	P	Pn	01 42 08.1	+1.5
HMDT	Nahal Hemdat	6.65 121	S	Sn	01 43 18.9	-2.1
HMDT	Nahal Hemdat	6.65 121	P	Pn	01 42 06.8	+0.2
AMAZ	Amatzia	6.69 128	P	Pn	01 42 08.3	+1.2
AMAZ	Amatzia	6.69 128	P	Pn	01 42 07.4	+0.3
AMAZ	Amatzia	6.69 128	S	Sn	01 43 20.2	-1.7
KZIT	Kziot	6.81 135	P	Pn	01 42 09.5	+0.8
KZIT	Kziot	6.81 135	P	Pn	01 42 09.6	+0.8
KZIT	Kziot	6.81 135	S	Sn	01 43 23.5	-1.4
RYAN	Fayoum	6.86 169	P	Pn	01 42 10.5	+1.0
YTIR	Yattir	6.93 128	S	Sn	01 43 26.4	-1.5
YTIR	Yattir	6.93 128	P	Pn	01 42 10.8	+0.4
DSI	Dead Sea	6.96 126	S	Sn	01 43 26.6	-2.0
DSI	Dead Sea	6.96 126	P	Pn	01 42 11.0	+0.1
MSBI	Mazada	7.11 128	S	Sn	01 43 30.6	-1.7
MSBI	Mazada	7.11 128	P	Pn	01 42 13.1	+0.2
SWA2		7.15 204	P	Pn	01 42 14.3	+0.8
SWA2			S	Sn	01 43 30.2	-3.1
LISJ	El Lisan	7.24 127	P	Pn	01 42 16.0	+1.4
GHAJ	Ghor Haditha	7.26 127	P	Pn	01 42 16.1	+1.3
GHAJ	Ghor Haditha	7.26 127	P	Pn	01 42 15.1	+0.2
GHAJ	Ghor Haditha	7.26 127	S	Sn	01 43 34.4	-1.4
ZAF	Zafarana	7.28 153	P	Pn	01 42 16.7	+1.5
NBNS	Bani Suef	7.51 163	P	Pn	01 42 19.4	+1.0
PRNI	Paran	7.57 135	S	Sn	01 43 42.1	-1.6
PRNI	Paran	7.57 135	P	Pn	01 42 19.1	-0.2
KRMI	Paran Flat	7.59 137	P	Pn	01 42 19.9	+0.4
KRMI	Paran Flat	7.59 137	S	Sn	01 43 43.1	-1.0
HRFI	Mount Harif	7.83 136	S	Sn	01 43 48.5	-1.4
HRFI	Mount Harif	7.83 136	P	Pn	01 42 23.2	+0.5
MBRI	Mt Berech	7.94 138	P	Pn	01 42 24.9	+0.5
MBRI	Mt Berech	7.94 138	S	Sn	01 43 51.9	-1.0
EIL	Elat	8.06 138	P	Pn	01 42 26.6	+0.7
EIL	Elat	8.06 138	S	Sn	01 43 52.5	-3.1
GRB	Gharib	8.28 155	P	Pn	01 42 29.8	+0.8
HBST	Basata	8.30 141	P	Pn	01 42 29.6	+0.4
TAMRE	El Minia	8.34 167	P	Pn	01 42 30.8	+1.0
HKAT	Jabal Katrina	8.53 147	P	Pn	01 42 32.8	+0.2
HFRF	Wahat Farafira	8.68 183	P	Pn	01 42 35.0	+0.6

*IDC **25** 02:13:16.0±13.0, 14°.91S×165°.93E, h0km, mb3.9/3, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=231.5km s-min=37.0km az=57.0*
*NOU **25** 02:13:21.6, 14°.84S×167°.49E, h79km, MLv4.4/8, Vanuatu Islands*
ISC 25 02:13:13.1±2.5, 14°.4S±0°.2×166°.8E±0°.2, h35km, n9, σ2°.75/9, mb3.8/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	1.77	161	P	Pn	02 13 43.6	+2.3
DVP	Devils Point	3.54	158	P	Pn	02 14 05.3	-0.3
LUES	Luesalemba Tem	3.84	347	P	Pn	02 14 26.3	+17
DZM	Mont Dzumac	7.61	183	Pn	Pn	02 15 02.1	+0.4
	1.3nm,0.3s,baz=360,slow=19,SNR=25						
DZM				Sn	Sn	02 16 24.0	-2.9
	0.4nm,0.3s,baz=150,slow=19,SNR=1.7						
	5.4nm,0.3s						
NOUC	Port Laguerre	7.65	184	P	Pn	02 15 06.2	+4.1
ONTNC	Ouen Toro	7.85	182	P	Pn	02 15 08.5	+3.7
STKA	Stephens Creek	28.86	229	P	P	02 19 07.4	-1.1
	1.3nm,0.5s,baz=49,slow=11,SNR=2.9						
	1.3nm,0.5s						
WRA	Warramunga Arr	31.47	255	P	P	02 19 31.4	-0.4
	0.3nm,0.5s,baz=85,slow=9.1,SNR=5.2						
	0.3nm,0.5s						
ASAR	Alice Springs	32.37	249	P	P	02 19 39.1	-0.5
	0.7nm,0.4s,baz=78,slow=8.9,SNR=21						
	0.7nm,0.4s						

*IDC **25** 02:16:36.6±1.2, 37°.49N×20°.53E, h0km, mb3.7/6, mbtmp3.5/14, ML3.6/5, MS3.2/1, Error ellipse: s-maj=18.9km s-min=17.8km az=149.0*
*ATH **25** 02:16:37.4, 37°.39N×20°.23E, h8km±3km, ML3.4/2, Error ellipse: s-maj=4.2km s-min=1.8km az=330.0*
*THE **25** 02:16:37.0, 37°.38N×20°.28E, h0km±2km, ML3.3/4, Error ellipse: s-maj=3.2km s-min=1.1km az=259.0*
*NAO **25** 02:16:56.3, 38°.96N×19°.97E, h33km, mb3.3*
ISC 25 02:16:37.2±1.4, 37°.39N±0°.04×20°.30E±0°.03, h7km±9km, n92, σ1°.19/102, mb3.6/6, 6C-4D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.49	57	P	Pg	02 16 46.8	+0.1
KRI1				S	Sg	02 16 53.9	+0.7
	9µm,0.7s						
PSDA	Pessada-Kefalo	0.76	18	P	Pg	02 16 51.7	0.0
PSDA	Pessada-Kefalo	0.76	18	P	Pb	02 16 52.2	-0.4
PSDA	Pessada-Kefalo	0.76	18	P	Pg	02 16 51.8	0.0
RTZL	Ratzakli, Kefa	0.78	29	P	Pg	02 16 52.1	-0.1
RTZL				S	Sb	02 17 04.2	+0.4
	2µm,0.8s						
VLS	Valsamata	0.82	16	P	Pg	02 16 52.8	-0.1
VLS	Valsamata	0.82	16	P	Pg	02 16 53.0	+0.1
VLS				S	Sb	02 17 04.7	-0.3
VLS				AML	AML	02 17 10.4	
	comp=E,4556µm,0.4s						
VLS				AML	AML	02 17 14.2	
	comp=N,6995µm,0.4s						
VLS	Valsamata	0.82	16	P	Pg	02 16 52.7	-0.1
DMLN	Damoulianata-K	0.85	4	P	Pg	02 16 53.5	+0.1
DMLN	Damoulianata-K	0.85	4	P	Pg	02 16 53.8	+0.3
DMLN	Damoulianata-K	0.85	4	P	Pg	02 16 53.6	+0.1
SMHA	Samh	0.90	18	P	Pg	02 16 54.2	-0.3
SMHA				S	Sb	02 17 07.8	+0.4
SMHA	Samh	0.90	18	P	Pg	02 16 54.0	-0.5
VSK1	VASILIKIADES	1.04	12	P	Pg	02 16 56.8	-0.3
ZARO	Zacharo	1.08	85	P	Pn	02 16 59.9	+1.2
AMT	Artemida-Makis	1.13	82	P	Pn	02 17 00.3	+0.8
RLS	Riolos of Patr	1.14	54	P	Pg	02 16 58.5	-0.6
RLS				S	Sn	02 17 16.2	+0.8
	comp=N,2µm,1.1s						
RLS	Riolos of Patr	1.14	54	P	Pg	02 16 58.8	-0.2
RLS				S	Sn	02 17 15.9	+0.4
RLS				AML	AML	02 17 17.9	
	comp=N,3019µm,0.9s						
RLS				AML	AML	02 17 18.4	
	comp=E,2814µm,0.9s						
RLS	Riolos of Patr	1.14	54	P	Pg	02 16 58.5	-0.6
RLS				S	Sg	02 17 13.9	0.0
AXS	Araxos	1.17	47	P	Pg	02 16 59.1	-0.5
EVGI	Lefkada island	1.26	13	P	Pn	02 17 00.6	-0.6
EVGI	Lefkada island	1.26	13	P	Pn	02 17 01.0	-0.2
EVGI	Lefkada island	1.26	13	P	Pn	02 17 00.6	-0.6
AST1	Astakos	1.31	28	P	Pn	02 17 01.3	-0.5
ITM	Ithomi	1.32	99	P	Pb	02 17 02.2	0.0
ITM	Ithomi	1.32	99	P	Pg	02 17 02.5	0.0
NYDR	Nydri-Lefkada	1.36	13	P	Pn	02 17 02.5	0.0
LKD2	Lefkada island	1.42	11	P	Pn	02 17 03.5	0.0
TSLK	Tsoukalades, L	1.46	11	P	Pn	02 17 04.1	+0.2
TSLK	Tsoukalades, L	1.46	11	P	Pn	02 17 03.9	0.0
KLV	Kalavryta, Ach	1.61	66	P	Pb	02 17 07.0	-0.2
KLV				S	Sg	02 17 28.7	-0.2
	comp=E,460nm,0.8s						
KLV	Kalavryta, Ach	1.61	66	P	Pg	02 17 07.7	-0.3
KLV	Kalavryta, Ach	1.61	66	P	Pb	02 17 07.2	0.0
KLV				S	Sn	02 17 26.6	-0.5
ANX	Ano Chora	1.76	46	P	Pb	02 17 09.2	-0.5
KALE	Kalithea	1.77	55	P	Pb	02 17 10.0	+0.1
IGT	Igoumenitsa	2.14	1	P	Pn	02 17 14.2	+0.9
MAKR	Makrakomi, Fth	2.17	41	P	Pb	02 17 15.8	-0.9
LTK	Loutraki	2.21	73	P	Pn	02 17 15.0	+0.7
VLI	Veliai	2.22	107	P	Pb	02 17 17.3	-0.2
AXAR	Agios Charalam	2.31	53	P	Pn	02 17 17.1	+1.4
THL	Klokotos Trika	2.55	31	P	Pn	02 17 20.6	+1.6
TYRN	Tyrnavos	2.77	33	P	Pn	02 17 22.9	+1.0
LRSO	Larissa Observ	2.81	35	P	Pn	02 17 24.1	+1.6
NEO	Neokhori	2.99	49	P	Pn	02 17 25.2	+0.2
TIP	Timpagrande	3.31	304	⇑P	Pb	02 17 35.3	-0.8
OHR	Ohrid	3.73	6	*i* Pn	Pn	02 17 38.5	+3.2
IDI	Anoyia	4.26	118	Pn	Pn	02 17 43.3	+0.8
	comp=E,7.8nm,0.9s,baz=171,slow=22,SNR=1.4						
IDI				Sn	Sn	02 18 30.6	-1.9
	comp=E,1.6nm,0.3s,baz=323,slow=21,SNR=1.7						
MATE	Matera	4.29 320	⇑P	Pn	Pn	02 17 41.0	-1.8
VAE	Valguarnera	4.68 273	Pn	Pn	Pn	02 17 52.0	+3.7
	comp=E,6.5nm,0.9s,baz=10,slow=11,SNR=2.7						
VAE			Sn	Sn	Sn	02 18 42.5	-0.4
	comp=E,1.5nm,0.3s,baz=54,slow=20,SNR=2.1						
PEHC	Pehcevo	4.82 24	*i* Pn	Pn	Pn	02 17 51.5	+1.3
PDG	Podgorica	5.09 351	*e*Pn	Pn	Pn	02 17 52.7	-1.2
TREB	Trebinje	5.52 345	*e*Pn	Pn	Pn	02 17 58.8	-1.0
BRY	Bratogost	5.67 347	*e*Pn	Pn	Pn	02 18 03.5	+1.6
STON	Ston	5.82 341	*e*Pn	Pn	Pn	02 18 02.4	-1.5
SJES	Sjenica	5.87 358	*e*Pn	Pn	Pn	02 18 05.5	+0.9
RUDO	Rudo	6.26 354	*e*Pn	Pn	Pn	02 18 10.9	+1.0
HAPS	Han Pijesak,Bl	6.76 352	*e*Pn	Pn	Pn	02 18 17.3	+0.4
TEKS	Tekeris	7.17 356	*e*Pn	Pn	Pn	02 18 18.5	-4.0
A050A	Klekovaca	7.63 339	*e*Pn	Pn	Pn	02 18 29.1	+0.3
HERR	Herculane	7.65 11	⇓P	Pn	Pn	02 18 29.7	+0.7
BLY	Banja Luka	7.71 343	*e*Pn	Pn	Pn	02 18 30.5	+0.6
A051A	Mrakovica	8.03 343	*e*Pn	Pn	Pn	02 18 32.2	-2.0
GZR	Gura Zlata	8.21 12	⇓P	Pn	Pn	02 18 37.6	+0.9
BZS	Buzias	8.28 6	⇑P	Pn	Pn	02 18 39.6	+2.1
ARR	Arges	8.61 21	⇓P	Pn	Pn	02 18 42.9	+0.8
MORH	Mrgy, Hungar	8.90 353	⇑P	Pn	Pn	02 18 46.9	+0.8
BOJS	Bojanci	8.94 337	*e*Pn	Pn	Pn	02 18 47.0	+0.3
MLR	Muntele Rosu	9.13 26	Pn	Pn	Pn	02 18 49.5	+0.1
	comp=E,0.2nm,0.3s,baz=157,slow=15,SNR=11						
	comp=E,10nm,1.0s						
MLR	Muntele Rosu	9.13 26	⇓P	Pn		02 18 54.8	+5.4
CRES	Cresnjevec Ost	9.17 338	*e*Pn	Pn	Pn	02 18 49.2	-0.6
CEY	Cerknica	9.42 334	*e*Pn	Pn	Pn	02 18 54.8	+1.5
PLOR	Plostina	9.69 27	⇑P	Pn	Pn	02 18 58.8	+1.7
VRI	Vrincioaia	9.73 28	⇑P	Pn	Pn	02 18 59.3	+1.7
OBKA	Obir	10.06 337	*e*Pn	Pn	Pn	02 19 02.9	+0.8
	comp=E,1.1nm,0.5s						
OBKA	Obir	10.06 337	*e*Pn	Pn	Pn	02 19 02.8	+0.7
BRTR	Keskin Array B	10.71 73	Pn	Pn	Pn	02 19 10.4	-0.6
	comp=E,0.1nm,0.3s,baz=262,slow=13,SNR=1.4						
KBA	Koelnbreinsper	10.96 334	*e*Pn	Pn	Pn	02 19 14.8	+0.3
	comp=E,2.9nm,0.8s						
MOA	Molln	11.35 339	*e*Pn	Pn	Pn	02 19 20.6	+0.9
	comp=E,1.8nm,0.4s						
BIOA	Bad Ischl, Aus	11.40 337	*e*Pn	Pn	Pn	02 19 20.5	+0.2
	comp=E,2.6nm,0.9s						
LESA	Schwarzleotal	11.49 333	*e*Pn	Pn	Pn	02 19 23.6	+1.9
	comp=E,3.1nm,0.6s						
WATA	Walderalm	11.84 330	*e*Pn	Pn	Pn	02 19 28.9	+2.5
	comp=E,0.2nm,0.1s						
DAVOX	Davos/Dischmat	12.15 324	Pn	Pn	Pn	02 19 32.8	+2.1
	comp=E,0.1nm,0.3s,baz=151,slow=19,SNR=4.7						
	comp=E,1.6nm,0.7s						
GERES	GERESS Array B	12.41 339	Pn	Pn	Pn	02 19 34.2	-0.1
	comp=E,0.1nm,0.3s,baz=154,slow=16,SNR=3.0						
	comp=E,0.7nm,0.7s						
AKASG	Malin Array Be	14.76 23	Pn	Pn	Pn	02 20 02.5	-3.7
	comp=E,0.2nm,0.3s,baz=214,slow=13,SNR=1.7						
AKASG			LR	LR		02 26 46.8	
	comp=E,95nm,20.5s,baz=50,slow=42						
	comp=E,0.1nm,0.2s						
ESDC	Sonseca Array	19.10 284	P	Pn	Pn	02 21 03.9	+2.6
	baz=75,slow=10.0,SNR=2.7						
	comp=E,1.1nm,1.1s						
HFS	Hagfors	23.15 352	P	P	P	02 21 43.8	0.0
	comp=E,3.8nm,0.8s,baz=152,slow=9.8,SNR=5.6						
	comp=E,3.8nm,0.8s						
EKA	Eskdalemuir Ar	23.97 326	P	P	P	02 21 52.6	+0.6
	comp=E,1.0nm,0.6s,baz=132,slow=11,SNR=4.4						
	comp=E,1.0nm,0.6s						
FINES	FINESS Array B	24.35 7	P	P	P	02 21 54.3	-1.1
	comp=E,2.7nm,0.8s,baz=182,slow=11,SNR=6.2						
	comp=E,2.7nm,0.8s						
NB2	NORSAR Subarra	24.35 349	P	P	P	02 21 54.9	-0.6
	comp=Z,1.0nm,0.8s,baz=162,slow=10						
NOA	NORSAR Array B	24.35 349	P	P	P	02 21 56.1	+0.6
	comp=Z,1.2nm,0.8s,baz=167,slow=12,SNR=5.8						
	comp=Z,1.2nm,0.8s						
TORD	Torodi Ar. Bea	29.31 219	P	P	P	02 22 42.0	+1.6
	comp=Z,0.6nm,0.6s,baz=29,slow=9.9,SNR=6.9						
	comp=Z,0.6nm,0.6s						
MKAR	Makanchi Array	45.87 58	P	P	P	02 24 58.7	-1.3
	comp=Z,0.3nm,0.6s,baz=286,slow=7.0,SNR=1.5						
	comp=Z,0.3nm,0.6s						

*NAO **25** 02:19:30.4, 34°.91N×22°.07E, h10km, mb4.2*
*ATH **25** 02:19:49.5, 37°.07N×20°.30E, h9km±2km, ML3.6/10, Error ellipse: s-maj=2.6km s-min=1.6km az=346.0*
*IDC **25** 02:19:51.2±1.1, 37°.27N×20°.41E, h0km, mb3.7/8, mbtmp3.5/19, ML3.6/7, MS3.1/2, Error ellipse: s-maj=18.5km s-min=15.4km az=159.0*
*THE **25** 02:19:52.6, 37°.21N×20°.45E, h15km±1km, ML3.6/4, Error ellipse: s-maj=2.2km s-min=1.2km az=57.0*
*BEO **25** 02:19:56.9±1.0, 37°.56N×20°.56E, h0km, ML3.5/13*
ISC 25 02:19:53.0±1.4, 37°.24N±0°.04×20°.44E±0°.03, h14km±9km, n66, σ1°.44/81, mb3.8/7, Ionian Sea

| Code | Station Name | Δ° | AZ°

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
	comp=N,2155μm,0.7s						
VLI	**Veliai**	**2.07**	**104**	P	**Pn**	**02 20 26.6**	**-0.6**
IGT	**Igoumenitsa**	**2.29**	**358**	P	**Pb**	**02 20 33.4**	**-0.6**
IGT				AML	AML	02 21 19.3	
	comp=E,844μm,0.8s						
IGT				AML	AML	02 21 24.0	
	comp=N,754μm,0.7s						
FNA	**Florina**	**3.61**	**11**	*e*Pn	**Pn**	**02 20 50.0**	**+1.5**
OHR	**Ohrid**	**3.87**	**4**	*e*Pn	**Pn**	**02 20 54.2**	**+2.1**
OHR	**Ohrid**	**3.87**	**4**	*i* Pn	**Pn**	**02 20 54.6**	**+2.5**
IDI	**Anoyia**	**4.09**	**117**	Pn	**Pn**	**02 20 56.4**	**+1.3**
	comp=N,2.8nm,0.4s,baz=358,slow=12,SNR=1.5						
IDI				Sn	**Sn**	**02 21 42.6**	**-0.2**
	comp=N,2.7nm,0.3s,baz=193,slow=20,SNR=2.5						
VAY	**Valandovo**	**4.39**	**21**	*e*Pn	**Pn**	**02 21 00.7**	**+1.5**
VAY	**Valandovo**	**4.39**	**21**	*i* Pn	**Pn**	**02 21 01.9**	**+2.7**
SRS	**Serrai**	**4.58**	**31**	*e*Pn	**Pn**	**02 21 02.4**	**+0.6**
VAE	**Valguarnera**	**4.81**	**275**	Pn	**Pn**	**02 21 07.2**	**+2.2**
	comp=N,7.8nm,0.6s,baz=6.5,slow=16,SNR=2.7						
VAE				Sn	**Sn**	**02 21 58.6**	**-1.9**
	baz=329,slow=12						
PEHC	**Pehcevo**	**4.91**	**22**	*i* Pn	**Pn**	**02 21 08.8**	**+2.3**
BOSS	**Bosilegrad**	**5.48**	**16**	*e*Pn	**Pn**	**02 21 14.5**	**+0.4**
BARS	**Barje**	**5.67**	**10**	*e*Pn	**Pn**	**02 21 16.8**	**+0.1**
BARS				*e*Sn	**Sn**	**02 22 16.9**	**-4.7**
VTS	**Vitosha**	**5.78**	**21**	*e*Pn	**Pn**	**02 21 18.9**	**+0.5**
SELS	**Selova**	**5.99**	**5**	*e*Pn	**Pn**	**02 21 21.5**	**+0.3**
SJES	**Sjenica**	**6.02**	**357**	*e*Pn	**Pn**	**02 21 22.7**	**+1.0**
SJES				*e*Sn	**Sn**	**02 22 28.2**	**-2.3**
ZAPS	**Zavoj**	**6.25**	**15**	*e*Pn	**Pn**	**02 21 25.0**	**+0.2**
IVAS	**Ivanjica**	**6.33**	**358**	*e*Pn	**Pn**	**02 21 25.6**	**-0.3**
BOVS	**Bovan**	**6.46**	**8**	*e*Pn	**Pn**	**02 21 26.9**	**-0.7**
GRUS	**Gruza**	**6.64**	**2**	*e*Pn	**Pn**	**02 21 30.3**	**+0.2**
BBLS	**Lazi&#263i**	**6.66**	**354**	*e*Pn	**Pn**	**02 21 31.4**	**+0.9**
DIVS	**Divibare**	**6.86**	**357**	*e*Sn	**Sn**	**02 22 45.3**	**-5.7**
TEKS	**Tekeris**	**7.33**	**355**	*e*Pn	**Pn**	**02 21 39.3**	**-0.3**
KEST	**Kesra**	**9.06**	**264**	Pn	**Pn**	**02 22 03.8**	**+0.4**
	comp=N,3.3nm,0.9s,baz=148,slow=15,SNR=1.6						
MLR	**Muntele Rosu**	**9.22**	**25**	Pn	**Pn**	**02 22 07.9**	**+2.4**
	comp=N,0.2nm,0.3s,baz=125,slow=18,SNR=4.0						
	comp=N,1.1nm,0.7s						
BRTR	**Keskin Array B**	**10.64**	**73**	Pn	**Pn**	**02 22 28.8**	**+3.8**
	comp=N,0.4nm,0.8s,baz=260,slow=13,SNR=2.3						
BRTR				LR	LR	02 27 50.0	
	comp=N,91nm,18.0s,baz=262,slow=45						
MOA	**Molln**	**11.53**	**339**	*e*Pn	**Pn**	**02 22 37.8**	**+0.6**
	comp=N,0.6nm,0.2s						
BIOA	**Bad Ischl, Aus**	**11.58**	**337**	*e*Pn	**Pn**	**02 22 37.6**	**-0.2**
	comp=N,2.9nm,0.8s						
LESA	**Schwarzleotal**	**11.68**	**333**	*e*Pn	**Pn**	**02 22 37.8**	**-1.4**
	comp=N,2.4nm,0.5s						
DAVOX	**Davos/Dischmat**	**12.34**	**324**	Pn	**Pn**	**02 22 48.9**	**+0.6**
	comp=N,0.1nm,0.3s,baz=149,slow=17,SNR=4.5						
	comp=N,3.0nm,0.8s						
VRAC	**Vranov**	**12.38**	**348**	Pn	**Pn**	**02 22 49.2**	**+0.5**
	comp=N,0.1nm,0.3s,baz=189,slow=15,SNR=1.9						
	comp=N,0.4nm,0.3s						
GERES	**GERESS Array B**	**12.59**	**339**	Pn	**Pn**	**02 22 51.8**	**+0.1**
	comp=N,0.1nm,0.3s,baz=157,slow=14,SNR=4.5						
	comp=N,0.9nm,0.7s						
DAVA	**Damuels**	**12.71**	**325**	*e*Pn	**Pn**	**02 22 55.2**	**+1.9**
	comp=N,0.6nm,0.2s						
MMAI	**Mount Meron Ar**	**12.95**	**105**	Pn	**Pn**	**02 22 58.4**	**+1.8**
	comp=N,0.6nm,0.3s,baz=321,slow=11,SNR=2.4						
	comp=N,0.4nm,0.3s						
AKASG	**Malin Array Be**	**14.85**	**22**	Pn	**Pn**	**02 23 22.2**	**-0.1**
	comp=N,0.4nm,0.3s,baz=210,slow=9.4,SNR=3.6						
	comp=N,0.1nm,0.2s						
ESDC	**Sonseca Array**	**19.25**	**285**	P	**P**	**02 24 16.6**	**-0.3**
	baz=89,slow=12,SNR=2.9						
	comp=N,0.6nm,0.7s						
MDT	**Midelt**	**20.96**	**265**	P	**P**	**02 24 36.3**	**+0.6**
	comp=N,2.0nm,0.8s,baz=56,slow=3.6,SNR=3.8						
	comp=N,2.0nm,0.8s						
HFS	**Hagfors**	**23.31**	**351**	P	**P**	**02 24 59.6**	**-0.6**
	comp=N,5.5nm,1.1s,baz=152,slow=7.5,SNR=4.2						
	comp=N,5.5nm,1.1s						
EKA	**Eskdalemuir Ar**	**24.16**	**326**	P	**P**	**02 25 09.1**	**+0.6**
	comp=N,2.2nm,0.8s,baz=137,slow=8.4,SNR=4.2						
	comp=N,2.2nm,0.8s						
FINES	**FINESS Array B**	**24.48**	**7**	P	**P**	**02 25 10.7**	**-0.6**
	comp=N,2.2nm,0.8s,baz=185,slow=11,SNR=4.1						
	comp=N,2.2nm,0.8s						
NB2	**NORSAR Subarra**	**24.52**	**349**	P	**P**	**02 25 12.2**	**+0.4**
	comp=Z,5.9nm,1.4s,baz=160,slow=9.3						
NOA	**NORSAR Array B**	**24.52**	**349**	P	**P**	**02 25 10.7**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=157,slow=8.9,SNR=5.8						
NOA				LR	LR	02 35 31.3	
	comp=Z,34nm,19.1s,baz=30,slow=38						
	comp=Z,0.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.27**	**220**	P	**P**	**02 25 54.3**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=26,slow=12,SNR=4.9						
	comp=Z,0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**42.84**	**53**	P	**P**	**02 27 49.6**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=281,slow=8.7,SNR=2.6						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**45.85**	**58**	P	**P**	**02 28 14.6**	**0.0**
	comp=Z,0.6nm,0.8s,baz=265,slow=7.7,SNR=2.6						
	comp=Z,0.6nm,0.8s						

DJA 25 02:39:52.1±0.4, 8°S±4°×12°0E±°, h162km±6km, M3.6/11, mb4.0/3, MLv3.5/11, Flores region

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
WBSI	**Waikabubak, Su**	**1.25**	**188**	P	Pn	02 40 20.5	+0.2
WBSI				S	Sn	02 40 42.5	+0.5
WSI	**Waingapu**	**1.47**	**150**	P	Pn	02 40 22.5	+0.3
WSI				S	Sn	02 40 46.0	+0.5
PLAI	**Plampang**	**1.82**	**256**	P	Pn	02 40 26.6	+0.7
PLAI				S	Sn	02 40 52.6	+0.6
BASI	**Baing, Sumba**	**2.08**	**151**	P	Pn	02 40 29.0	+0.2
BASI				S	Sn	02 40 57.4	+0.1
BSSI	**Bau Bau, Buton**	**2.42**	**23**	P	Pn	02 40 32.4	-0.5
BNSI	**Bone**	**4.00**	**8**	P	Pn	02 40 53.0	+0.3
BBSI	**Bau Bau**	**4.15**	**46**	P	Pn	02 40 55.0	+0.3
SOEI	**Soe**	**4.84**	**107**	P	Pn	02 41 03.7	-0.1
JAGI	**Jajag, Banyuwa**	**5.35**	**269**	P	Pn	02 41 10.0	-0.4
	23nm,1.6s						
PWJI	**Pagerwojo**	**7.69**	**272**	P	Pn	02 41 42.3	+1.0
	20nm,1.2s						
PCJI	**Pacitan**	**8.30**	**271**	P	Pn	02 41 48.9	-0.6

ATH ***25*** *02:40:08.7, 35°.88N×28°.63E, h34km±5km, ML4.1/11, Error ellipse: s-maj=6.1km s-min=1.7km az=329.0*
HLW ***25*** *02:40:08.7, 36°.05N×28°.59E, h11km±17km, Md4.3, Ml4.4*
IDC ***25*** *02:40:09.9±0.6, 35°.77N×28°.53E, h0km, mb4.2/27, mbtmp4.2/39, ML3.9/10, MS3.6/31, Error ellipse: s-maj=12.5km s-min=10.7km az=166.0*
NIC ***25*** *02:40:10.8, 35°.66N×28°.50E, h0km±1km, Ml4.0/14*
MOS ***25*** *02:40:10.3±1.2, 35°.69N×28°.51E, h10km, mb4.7/20, Error ellipse: s-maj=5.9km s-min=3.3km az=95.3*
ISK ***25*** *02:40:11.4, 35°.91N×28°.40E, h6km, ML4.3/17*
AFAD ***25*** *02:40:11.5±0.0, 35°.83N×28°.39E, h21km±2km, MW4.4*
NEIC ***25*** *02:40:12.6, 35°.78N×28°.42E, h10km*
MCSM ***25*** *02:40:12.4±0.9, 36°N±3°×2°8E±°, h8km±9km, mB4.6, mb4.6, MLv4.3, Mw(mB)3.8*
NEIC ***25*** *02:40:12.3±2.6, 35°.75N±0°.02×28°.45E±0°.06, h10km±1km, mb4.5/51, Mwr4.5/10, Error ellipse: s-maj=8.2km s-min=3.7km az=77.0, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; M_{rr}1.61; $M_{\theta\theta}$4.42; $M_{\phi\phi}$-6.03; $M_{r\theta}$2.86; $M_{\theta\phi}$-0.35; $M_{\phi r}$0.69; Fault plane solution: $M_0$6.17000×10^15^ NP1:ϕ_s42.39000°, δ72.80000°, λ151.64000°. NP2:ϕ_s141.46000°, δ63.02000°, λ19.38000°. Principal axes: T 6.2014, Plg32.0000°, Azm360.0000°; N -0.0721, Plg57.0000°, Azm194.0000°; P -6.1292, Plg6.0000°, Azm94.0000°;*
MED_RC ***25*** *02:40:13.0±0.3, 35°.59N×28°.38E, h12km±1km, MW4.5/30, Moment Tensor Solution. Mantle waves: s30, c41; Duration: 1s0 Moment tensor: Scale 10^15^Nm; M_{rr}3.05±.70; $M_{\theta\theta}$-2.88±.56; $M_{\phi\phi}$-0.16±.34; $M_{r\theta}$-1.47±1.00; $M_{\theta\phi}$-4.39±.42; $M_{\phi r}$4.05±.96; Best double couple: $M_0$6.78000×10^15^ NP1:ϕ_s17.00000°, δ67.00000°, λ42.00000°. NP2:ϕ_s268.00000°, δ52.00000°, λ150.00000°. Principal axes: T 7.2500, Plg45.0000°, Azm239.0000°; N -0.9300, Plg43.0000°, Azm41.0000°; P -6.3100, Plg9.0000°, Azm140.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
GII ***25*** *02:40:13.2±0.3, 35°.724N±0°.002×28°.444E±0°.001, h25km,*

mB4.4/8, Md4.3/3, Mws4.4, confirmed
THE ***25*** *02:40:17.7, 36°.11N×28°.31E, h18km±1km, ML4.0/3, Error ellipse: s-maj=2.1km s-min=1.3km az=297.0*
ISC 25 02:40:11.7±0.8, 35°.85N±0°.02×28°.43E±0°.02, h7km±5km, n569, σ1§78/576, mb4.5/69, MS3.5/24, 36C-26D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
ARG	**Arkhangelos**	**0.44**	**327**	Pg	**Pg**	**02 40 19.7**	**-0.6**
ARG				Sg	**Sg**	**02 40 26.9**	**+0.8**
ARG	**Arkhangelos**	**0.44**	**327**	Pg	**Pg**	**02 40 20.0**	**-0.3**
ARG				Sg	**Sb**	**02 40 27.8**	**-0.9**
ARG	**Arkhangelos**	**0.44**	**327**	P	**Pg**	**02 40 19.9**	**-0.3**
ARG				S	**Sg**	**02 40 26.0**	**-0.1**
	20μm,0.6s						
ARG	**Arkhangelos**	**0.44**	**327**	P	**Pg**	**02 40 20.0**	**-0.3**
ARG				AML	AML	02 40 39.7	
	35nm,0.8s						
ARG				AML	AML	02 40 41.0	
	48nm,0.7s						
ARG	**Arkhangelos**	**0.44**	**327**	P	**Pg**	**02 40 19.7**	**-0.6**
ARG				S	**Sb**	**02 40 27.5**	**-1.2**
ARG				AML	AML	02 40 56.9	
	comp=N,18510μm,1.2s						
ARG				AML	AML	02 40 57.8	
	comp=E,36234μm,1.8s						
IZZE	**Mula-Seydike**	**0.88**	**47**	P	**Pg**	**02 40 28.4**	**-0.1**
IZZE				S	**Sn**	**02 40 43.0**	**-0.5**
MRSB	**Marmaris-Mugla**	**0.89**	**348**	Pg	**Pg**	**02 40 27.5**	**-1.3**
TURN	**Turunc**	**0.94**	**351**	P	**Pg**	**02 40 28.6**	**-1.1**
TURN				S	**Sg**	**02 40 40.5**	**-1.5**
TURN	**Turunc**	**0.94**	**351**	Pg	**Pg**	**02 40 28.6**	**-1.1**
TURN				Sg	**Sg**	**02 40 41.2**	**-0.7**
FETY	**Fethiye**	**0.95**	**34**	P	**Pg**	**02 40 30.1**	**+0.1**
FETY	**Fethiye**	**0.95**	**34**	Pg	**Pg**	**02 40 28.9**	**-1.0**
FETY				Sg	**Sg**	**02 40 42.4**	**+0.1**
DALY	**Dalyan (Mula)**	**0.99**	**11**	Pg	**Pg**	**02 40 29.3**	**-1.3**
DALY				Sg	**Sb**	**02 40 43.4**	**-0.9**
AKAS	**Kas**	**1.03**	**68**	P	**Pb**	**02 40 32.7**	**+0.7**
AKAS	**Kas**	**1.03**	**68**	Pg	**Pg**	**02 40 31.9**	**+0.4**
AKAS				Sg	**Sb**	**02 40 46.3**	**+0.6**
AKAS	**Kas**	**1.03**	**68**	Pg	**Pg**	**02 40 32.3**	**+0.8**
SABU	**Mula-Dalaman**	**1.07**	**24**	P	**Pg**	**02 40 31.1**	**-1.1**
SABU				S	**Sb**	**02 40 47.1**	**+0.4**
KARP	**Karpathos**	**1.07**	**254**	Pg	**Pg**	**02 40 31.9**	**-0.4**
KARP				Sg	**Sb**	**02 40 47.8**	**+1.0**
KARP	**Karpathos**	**1.07**	**254**	Pg	**Pg**	**02 40 32.3**	**+0.1**
KARP					**Sg**	**02 40 47.5**	**+1.4**
KARP	**Karpathos**	**1.07**	**254**	P	**Pg**	**02 40 32.8**	**+0.5**
KARP				S	**Sn**	**02 40 51.3**	**+3.0**
	comp=E,12μm,0.7s						
KARP	**Karpathos**	**1.07**	**254**	P	**Pg**	**02 40 32.5**	**+0.2**
KARP	**Karpathos**	**1.07**	**254**	P	**Pg**	**02 40 31.9**	**-0.4**
KARP				S	**Sn**	**02 40 49.7**	**+1.4**
KARP				AML	AML	02 40 54.2	
	comp=E,21nm,1.0s						
KARP				AML	AML	02 40 55.3	
	comp=E,25nm,0.8s						
KARP	**Karpathos**	**1.07**	**254**	P	**Pg**	**02 40 31.2**	**-1.0**
KARP				S	**Sg**	**02 40 46.7**	**+0.5**
KARP				AML	AML	02 40 54.5	
	comp=E,21132μm,1.0s						
KARP				AML	AML	02 40 55.7	
	comp=N,25596μm,0.8s						
KARP	**Karpathos**	**1.07**	**254**	Pg	**Pg**	**02 40 32.7**	**+0.5**
DAT	**Datca**	**1.12**	**322**	P	**Pg**	**02 40 33.0**	**-0.1**
DAT				S	**Sn**	**02 40 48.6**	**-0.9**
DAT	**Datca**	**1.12**	**322**	Pg	**Pg**	**02 40 31.9**	**-1.2**
DAT				Sg	**Sg**	**02 40 46.9**	**-0.7**
DAT	**Datca**	**1.12**	**322**	P	**Pg**	**02 40 33.1**	**-0.1**
DAT				S	**Sg**	**02 40 45.9**	**-1.7**
YAZI	**Mula-Dat§a-**	**1.15**	**317**	P	**Pg**	**02 40 32.8**	**-0.9**
YAZI				S	**Sn**	**02 40 49.4**	**-0.7**
DEMR	**Demre-Antalya**	**1.26**	**72**	Pn	**Pn**	**02 40 36.1**	**+0.4**
YER	**Yerkesik**	**1.29**	**355**	Pn	**Pn**	**02 40 34.7**	**-1.5**
YER	**Yerkesik**	**1.29**	**355**	P	**Pn**	**02 40 35.7**	**-0.5**
YER				S	**Sb**	**02 40 48.8**	**-4.4**
NISR	**Nisiros**	**1.30**	**306**	P	**Pn**	**02 40 36.1**	**-0.1**
NISR				S	**Sb**	**02 40 50.0**	**-3.3**
	comp=N,11μm,1.1s						
NISR	**Nisiros**	**1.30**	**306**	P	**Pn**	**02 40 33.9**	**-2.3**
NISR				AML	AML	02 41 05.4	
	comp=N,16184μm,1.2s						
NISR				AML	AML	02 41 13.9	
	comp=E,21687μm,0.7s						
CAME	**Cameli-Denizli**	**1.30**	**33**	Pn	**Pn**	**02 40 35.9**	**-0.6**
KNIK	**Mula-Seydike**	**1.36**	**43**	P	**Pb**	**02 40 37.9**	**+0.4**
MULA	**Mugla, Merkez-**	**1.41**	**357**	P	**Pb**	**02 40 38.3**	**-0.1**
MULA				S	**Sb**	**02 40 54.6**	**-2.0**
BDRM	**Kayabasi**	**1.45**	**327**	P	**Pn**	**02 40 38.4**	**0.0**
CALL	**Denizli, Camel**	**1.46**	**29**	P	**Pb**	**02 40 39.5**	**+0.2**
ELL	**Elmali**	**1.50**	**53**	Pn	**Pn**	**02 40 39.0**	**-0.1**
ELL	**Elmali**	**1.50**	**53**		**Pb**	**02 40 40.2**	**+0.3**
ELL	**Elmali**	**1.50**	**53**	P	**Pb**	**02 40 40.2**	**+0.3**
ELL	**Elmali**	**1.50**	**53**	P	**Pn**	**02 40 40.0**	**+0.9**
ELL				S	**Sg**	**02 41 02.9**	**+3.1**
ELL				AML	AML	02 41 10.6	
	comp=E,12nm,0.9s						
ELL				AML	AML	02 41 17.4	
	comp=E,13nm,1.2s						
DNZT	**Denizli-Tavas-**	**1.51**	**18**	P	**Pg**	**02 40 40.6**	**0.0**
DNZT				P	**Pg**	**02 40 40.7**	**0.0**
BODT	**Bodrum**	**1.51**	**324**	Pn	**Pn**	**02 40 39.1**	**-0.1**
BODT				Sn	**Sn**	**02 40 58.7**	**-0.4**
BODT	**Bodrum**	**1.51**	**324**	P	**Pn**	**02 40 39.3**	**+0.1**
BODT				S	**Sn**	**02 40 55.4**	**-3.7**
YKAV	**Yalikavak-Bodr**	**1.57**	**324**	Pn	**Pn**	**02 40 39.5**	**-0.5**
KLNA	**Kalymnos**	**1.61**	**314**	P	**Pn**	**02 40 39.9**	**-0.7**
AKUM	**Antalya-Kumluc**	**1.62**	**72**	P	**Pn**	**02 40 41.1**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.66**	**13**	P	**Pn**	**02 40 42.2**	**+0.8**
APMY	**Acipayam-Deniz**	**1.77**	**23**	Pn	**Pn**	**02 40 43.0**	**+0.2**
DNIZ	**Denizli-Tavas-**	**1.84**	**15**	P	**Pn**	**02 40 44.6**	**+0.7**
DDIM	**Aydin, Didim**	**1.87**	**330**	P	**Pn**	**02 40 43.8**	**-0.3**
KORT	**Korkueli**	**1.93**	**53**	P	**Pn**	**02 40 46.5**	**+1.5**
KORT	**Korkueli**	**1.93**	**53**	Pn	**Pn**	**02 40 45.6**	**+0.5**
ZKR	**Zakros**	**1.94**	**249**	Pn	**Pn**	**02 40 46.3**	**+1.2**
ZKR	**Zakros**	**1.94**	**249**	P	**Pb**	**02 40 47.8**	**+0.4**
ZKR	**Zakros**	**1.94**	**249**	P	**Pb**	**02 40 47.6**	**+0.2**
ZKR				AML	AML	02 41 24.0	
	comp=E,8.0nm,0.8s						
ZKR				AML	AML	02 41 28.1	
	comp=E,3.7nm,1.0s						
ZKR	**Zakros**	**1.94**	**249**	P	**Pn**	**02 40 46.0**	**+0.9**
ZKR				S	**Sb**	**02 41 13.6**	**+1.7**
ZKR				AML	AML	02 41 25.1	
	comp=E,8182μm,0.8s						
ZKR				AML	AML	02 41 27.8	
	comp=N,3768μm,0.7s						
ESEN	**Aydn-Nazilli**	**1.95**	**358**	P	**Pb**	**02 40 47.8**	**+0.3**
INCE	**Denizli-Bozkur**	**2.08**	**26**	P	**Pn**	**02 40 48.0**	**+1.0**
ANTB	**Antalya**	**2.08**	**59**	Pn	**Pn**	**02 40 47.9**	**+0.9**
GCAM	**G?zelcaml?**	**2.08**	**333**	P	**Pn**	**02 40 48.0**	**+1.0**
GCAM	**G?zelcaml?**	**2.08**	**333**	Pn	**Pn**	**02 40 46.7**	**-0.3**
NAZL	**Nazilli-Aydin**	**2.12**	**357**	Pn	**Pn**	**02 40 47.8**	**+0.3**
SMG	**Samos**	**2.25**	**326**	P	**Pn**	**02 40 49.5**	**+0.1**
SMG	**Samos**	**2.25**	**326**	P	**Pn**	**02 40 49.4**	**0.0**
SMG				AML	AML	02 41 30.7	
	comp=N,2797μm,0.6s						
SMG				AML	AML	02 41 37.2	
	comp=E,3166μm,1.0s						
KIRA	**zmir-Kiraz**	**2.35**	**360**	P	**Pn**	**02 40 51.8**	**+1.0**
BCK	**Bucak**	**2.37**	**47**	Pn	**Pn**	**02 40 51.9**	**+0.8**
BASM	**Basmaki-Afyon**	**2.44**	**32**	Pn	**Pn**	**02 40 52.5**	**+0.4**
CMBO	**Columbo, Santo**	**2.52**	**285**	P	**Pn**	**02 40 54.6**	**+1.6**
CMBO	**Columbo, Santo**	**2.52**	**285**	P	**Pn**	**02 40 54.6**	**+1.6**
CMBO				AML	AML	02 41 40.3	
	comp=E,6912μm,0.7s						
CMBO				AML	AML	02 41 44.6	
	comp=N,9391μm,0.7s						
ISP	**Isparta**	**2.59**	**40**	Pn	**Pn**	**02 40 54.3**	**+0.2**
ISP	**Isparta**	**2.59**	**40**	Pn	**Pn**	**02 40 55.4**	**+1.2**
ISP	**Isparta**	**2.59**	**40**	P	**Pn**	**02 40 55.4**	**+1.2**
ISP	**Isparta**	**2.59**	**40**	P	**Pn**	**02 40 55.2**	**+1.0**
MNVG	**Manavgat-Antal**	**2.59**	**68**	Pn	**Pn**	**02 40 54.9**	**+0.9**
APE	**Apeiranthos**	**2.63**	**298**	Pn	**Pn**	**02 40 54.9**	**+0.3**
APE	**Apeiranthos**	**2.63**	**298**	P	**Pn**	**02 40 55.3**	**+0.7**
APE	**Apeiranthos**	**2.63**	**298**	⇑P	**Pn**	**02 40 55.8**	**+1.1**
APE	**Apeiranthos**	**2.63**	**298**	*i* P	**Pn**	**02 40 56.8**	**+2.1**
APE	**Apeiranthos**	**2.63**	**298**	P	**Pn**	**02 40 55.3**	**+0.7**
APE	**Apeiranthos**	**2.63**	**298**	P	**Pn**	**02 40 56.7**	**+2.1**
APE				AML	AML	02 41 51.9	
	comp=E,824μm,0.7s						
APE				AML	AML	02 41 52.8	
	comp=N,870μm,0.9s						
KULA	**Kula-Manisa**	**2.67**	**4**	Pn	**Pn**	**02 40 55.0**	**-0.2**
KULA	**Kula-Manisa**	**2.67**	**4**	P	**Pn**	**02 40 55.2**	**0.0**
BLCB	**Balcova**	**2.77**	**337**	Pn	**Pn**	**02 40 56.3**	**-0.1**
BLCB	**Balcova**	**2.77**	**337**	P	**Pn**	**02 40 56.4**	**0.0**
GOMA	**Golmarmara-Man**	**2.88**	**352**	Pn	**Pn**	**02 40 57.7**	**-0.3**
IDI	**Anoyia**	**2.94**	**260**	Pn	**Pn**	**02 40 59.7**	**+0.9**
IDI	**Anoyia**	**2.94**	**260**	Pn	**Pn**	**02 41 00.3**	**+1.4**
IDI	**Anoyia**	**2.94**	**260**	P	**Pn**	**02 41 00.4**	**+1.6**
IDI	**Anoyia**	**2.94**	**260**	Pn	**Pn**	**02 41 00.4**	**+1.6**
	comp=N,35nm,0.3s,baz=90,slow=13,SNR=45						
IDI				Sn	**Sn**	**02 41 36.3**	**+1.9**
	comp=N,25nm,0.3s,baz=194,slow=5.4,SNR=5.6						
IDI	**Anoyia**	**2.94**	**260**	P	**Pn**	**02 41 01.4**	**+2.6**
IDI				S	**Sb**	**02 41 41.6**	**+1.1**
IDI				AML	AML	02 41 56.9	
	comp=N,1528μm,1.0s						
IDI				AML	AML	02 42 01.0	
	comp=E,1106μm,0.8s						
GORD	**Gordes-Manisa**	**3.06**	**356**	Pn	**Pn**	**02 41 00.6**	**0.0**
TMBK	**Timbaki Herakl**	**3.09**	**257**	P	**Pn**	**02 41 04.3**	**+3.5**
SEYD	**Seydisehir-KON**	**3.15**	**59**	Pn	**Pn**	**02 41 02.8**	**+0.9**
SHUT	**Suhut-Afyon**	**3.19**	**31**	Pn	**Pn**	**02 41 02.7**	**+0.3**
SIMA	**Simav-Kutahya**	**3.26**	**8**	Pn	**Pn**	**02 41 03.5**	**+0.2**
EAG2	**Marmaro, Chios**	**3.27**	**326**	P	**Pn**	**02 41 05.2**	**+1.9**
GEDZ	**Gediz**	**3.29**	**13**	Pn	**Pn**	**02 41 04.0**	**+0.3**
AKMS	**Akamas**	**3.30**	**103**	P	**Pn**	**02 41 03.0**	**-0.7**
AKMS				S	**Sn**	**02 41 42.5**	**-0.7**
AKMS				AML	AML	02 41 47.2	
	comp=E,0.9nm,0.8s						
AKMS				AML	AML	02 41 52.1	
	comp=E,0.7nm,0.5s						
AKMS	**Akamas**	**3.30**	**103**	P	**Pn**	**02 41 03.1**	**-0.7**
DKL	**Dikili**	**3.44**	**340**	Pn	**Pn**	**02 41 06.0**	**+0.3**
HDMB	**Hadim**	**3.46**	**70**	Pn	**Pn**	**02 41 07.3**	**+1.1**
ALFC	**Alefka**	**3.47**	**100**	P	**Pn**	**02 41 05.1**	**-1.1**
ALFC				S	**Sn**	**02 41 48.2**	**+0.6**
ALFC				AML	AML	02 41 52.5	
	comp=E,0.7nm,0.9s						
ALFC				AML	AML	02 41 59.0	
	comp=E,0.5nm,0.5s						
ALFC	**Alefka**	**3.47**	**100**	P	**Pn**	**02 41 05.9**	**-0.3**
NATA	**Nata**	**3.55**	**106**	P	**Pn**	**02 41 06.9**	**-0.4**
NATA				S	**Sn**	**02 41 49.9**	**+0.4**
NATA				AML	AML	02 41 55.4	
	comp=E,3.5nm,0.6s						
NATA				AML	AML	02 42 07.4	
	comp=E,2.1nm,1.0s						
IMMV	**Iera Moni Meta**	**3.64**	**265**	Pn	**Pn**	**02 41 09.7**	**+1.3**
IMMV	**Iera Moni Meta**	**3.64**	**265**	P	**Pb**	**02 41 13.8**	**-2.6**
IMMV				AML	AML	02 42 08.9	
	comp=E,2960μm,1.1s						
IMMV				AML	AML	02 42 19.3	
	comp=N,2350μm,1.2s						
GVD	**Gavdhos**	**3.69**	**255**	Pn	**Pn**	**02 41 10.8**	**+1.7**
GVD	**Gavdhos**	**3.69**	**255**	P	**Pn**	**02 41 11.4**	**+2.3**
GVD	**Gavdhos**	**3.69**	**255**	P	**Pn**	**02 41 12.8**	**+3.7**
GVD				AML	AML	02 42 20.1	
	comp=E,1379μm,0.7s						
GVD				AML	AML	02 42 23.1	
	comp=N,1031μm,0.7s						
TVSB	**Tavsanli**	**3.69**	**13**	Pn	**Pn**	**02 41 09.3**	**+0.1**
TROD	**Troodos**	**3.74**	**103**	P	**Pn**	**02 41 08.8**	**-1.2**
TROD				AML	AML	02 42 04.3	
	comp=N,0.4nm,1.1

HMYD **Mayadein** 6.36 161 P Pn 02 41 45.3 -0.5
HWQ **Hawqa** 6.36 102 *e*P Pn 02 41 45.1 -0.9
QRWL **Qaraoun** 6.40 109 *e*P Pn 02 41 46.3 -0.2
MMC7 **Mount Meron ar** 6.41 114 P Pn 02 41 45.3 -1.2
MMA0 **Mount Meron ar** 6.42 114 P Pn 02 41 45.9 -0.8
MMA0 **Mount Meron ar** 6.42 114 P Pn 02 41 45.6 -1.1
MMA0B **Mount Meron ar** 6.42 114 S Sn 02 42 57.7 -2.6
MMA0B **Mount Meron ar** 6.42 114 P Pn 02 41 45.8 -0.9
MMAI **Mount Meron Ar** 6.42 114 Pn Pn 02 41 44.4 -2.3
comp=E,11nm,0.3s,baz=309,slow=12,SNR=65
MMAI LR LR 02 44 47.7
comp=E,270nm,21.5s,baz=259,slow=44
comp=E,4.9nm,0.3s
ZAHL **Zahle** 6.45 106 *e*P Pn 02 41 45.8 -1.3
HNAT **Natroun** 6.46 163 P Pn 02 41 46.7 -0.6
BEIL **Beino** 6.48 99 *e*P Pn 02 41 46.0 -1.6
RZN **Rozhen** 6.51 335 *e*P Pn 02 41 49.4 +1.4
GEM **Giv'at Ha'Em** 6.53 112 P Pn 02 41 46.8 -1.3
GEM **Giv'at Ha'Em** 6.53 112 S Sn 02 43 00.9 -1.9
GEM **Giv'at Ha'Em** 6.53 112 P Pn 02 41 47.1 -1.0
SHBL **Chebaa** 6.53 110 *e*P Pn 02 41 47.2 -1.0
RCY **Rachaya** 6.54 109 *e*P Pn 02 41 47.1 -1.4
KOT **Kottamia** 6.56 153 P Pn 02 41 48.2 -0.3
NATI **Neve Ativ** 6.56 111 P Pn 02 41 47.8 -0.7
NATI **Neve Ativ** 6.56 111 S Sn 02 43 00.9 -2.7
NATI **Neve Ativ** 6.56 111 P Pn 02 41 48.1 -0.4
SLTI **Sal'it** 6.56 121 P Pn 02 41 48.5 -0.1
SLTI **Sal'it** 6.56 121 P Pn 02 41 47.6 -1.0
SLTI **Sal'it** 6.56 121 S Sn 02 43 00.9 -2.8
DIM **Dimitrovgrad** 6.58 341 *e*P Pn 02 41 50.3 +1.6
BNN **Bunyan** 6.63 61 Pn 02 41 51.6 +2.0
MMLI **Mount Malkishu** 6.72 118 P Pn 02 41 49.7 -1.1
MMLI **Mount Malkishu** 6.72 118 S Sn 02 43 04.7 -3.0
KSHT **Keshet** 6.74 113 S Sn 02 43 05.7 -2.5
KSHT **Keshet** 6.74 113 P Pn 02 41 50.1 -0.9
FKH **Fakeheh** 6.74 101 *e*P Pn 02 41 51.1 -0.1
MMB **Musomishta** 6.76 329 *e*P Pn 02 41 53.5 +2.1
SALP **Salfit** 6.77 122 P Pn 02 41 51.4 0.0
SALP **Salfit** 6.77 122 P Pn 02 41 50.1 -1.3
SALP **Salfit** 6.77 122 S Sn 02 43 05.4 -3.3
JMB **Yambol** 6.80 348 *e*P Pn 02 42 00.4 +8.6
SHMJ **Saham** 6.82 115 P Pn 02 41 51.5 -0.7
QRNJ **Al-Qirein** 6.89 119 P Pn 02 41 52.4 -0.6
HMDT **Nahal Hemdat** 6.90 119 P Pn 02 41 52.4 -0.8
HMDT **Nahal Hemdat** 6.90 119 S Sn 02 43 09.2 -2.7
HMDT **Nahal Hemdat** 6.90 119 P Pn 02 41 51.8 -1.3
AMAZ **Amatzia** 6.91 127 P Pn 02 41 52.3 -1.1
AMAZ **Amatzia** 6.91 127 S Sn 02 43 09.4 -2.9
AMAZ **Amatzia** 6.91 127 P Pn 02 41 51.8 -1.6
RYAN **Fayoum** 6.92 166 P Pn 02 41 52.9 -0.7
RYAN S Sn 02 43 08.9 -3.7
KZIT **Kziot** 7.01 133 P Pn 02 41 53.7 -1.1
KZIT **Kziot** 7.01 133 S Sn 02 43 11.9 -2.9
KZIT **Kziot** 7.01 133 P Pn 02 41 53.6 -1.2
UJAP **Al Uja** 7.02 122 P Pn 02 41 54.1 -0.8
UJAP **Al Uja** 7.02 122 P Pn 02 41 54.1 -0.8
UJAP **Al Uja** 7.02 122 S Sn 02 43 12.4 -2.5
SWA2 **7.04 202** P Pn 02 41 56.0 +0.8
SWA2 S Sn 02 43 15.4 -0.1
VAY **Valandovo** 7.13 322 *i* P Pn 02 42 05.4 +9.0
YTIR **Yattir** 7.15 127 P Pn 02 41 55.6 -1.2
YTIR **Yattir** 7.15 127 P Pn 02 41 55.4 -1.3
YTIR **Yattir** 7.15 127 S Sn 02 43 15.9 -2.4
DSI **Dead Sea** 7.19 124 P Pn 02 41 56.6 -0.7
DSI **Dead Sea** 7.19 124 P Pn 02 41 56.0 -1.3
DSI **Dead Sea** 7.19 124 S Sn 02 43 16.7 -2.6
GAZ **Gaziantep** 7.20 77 Pn 02 41 59.0 +1.6
KKB **Krupnik** 7.27 327 *e*P Pn 02 42 01.4 +3.0
PEHC **Pehcevo** 7.33 326 *i* P Pn 02 42 03.7 +4.5
MDBI **Mazsada** 7.34 126 P Pn 02 41 58.5 -0.7
MSBI **Mazada** 7.34 126 P Pn 02 41 58.4 -0.8
MSBI **Mazada** 7.34 126 P Pn 02 41 58.6 -0.7
MSBI **Mazada** 7.34 126 S Sn 02 43 19.9 -2.8
ELND **Elena** 7.34 345 ⇑P Pn 02 42 01.0 +1.7
ZAF **Zafarana** 7.41 151 P Pn 02 41 59.8 -0.5
ZAF S Sn 02 43 20.3 -4.3
FNA **Florina** 7.42 314 Pn 02 42 02.9 +2.5
FNA **Florina** 7.42 314 P Pn 02 42 02.9 +2.5
ZNM **Zenema** 7.46 149 P Pn 02 42 00.8 -0.2
LISJ **El Lisan** 7.47 126 P Pn 02 42 00.7 -0.3
GHAJ **Ghor Haditha** 7.48 125 P Pn 02 41 01.8 +0.6
GHAJ **Ghor Haditha** 7.48 125 P Pn 02 42 00.7 -0.5
GHAJ **Ghor Haditha** 7.48 125 P Pn 02 41 59.9 -1.3
GHAJ **Ghor Haditha** 7.48 125 S Sn 02 43 23.9 -2.4
NBNS **Bani Suef** 7.60 161 P Pn 02 42 01.9 -1.0
SZH **Strazhitsa** 7.65 346 *e*P Pn 02 42 06.8 +3.3
PLNA **Plana** 7.67 331 *e*P Pn 02 42 07.2 +3.2
PRNI **Paran** 7.78 133 P Pn 02 42 03.8 -1.5
PRNI **Paran** 7.78 133 P Pn 02 42 03.8 -1.5
PRNI **Paran** 7.78 133 S Sn 02 43 28.9 -4.7
KRMI **Paran Flat** 7.79 135 S Sn 02 43 30.4 -3.4
KRMI **Paran Flat** 7.79 135 P Pn 02 42 03.6 -1.8
VTS **Vitosha** 7.87 331 *e*P Pn 02 42 09.6 +2.9
ASF **Jabal al Asfar** 7.93 115 Pn Pn 02 42 06.2 -1.3
comp=E,1.0nm,0.3s,baz=35,slow=0.1,SNR=9.4
comp=E,2.6nm,0.3s
ASF **Jabal al Asfar** 7.93 115 P Pn 02 42 07.3 -0.2
OHR **Ohrid** 7.96 314 *i* P Pn 02 42 14.5 +6.7
HRFI **Mount Harif** 8.03 134 P Pn 02 42 08.4 -0.3
HRFI **Mount Harif** 8.03 134 P Pn 02 42 07.4 -1.4
HRFI **Mount Harif** 8.03 134 S Sn 02 43 36.7 -3.1
MBRI **Mt Berech** 8.14 136 P Pn 02 42 09.5 -0.8
MBRI **Mt Berech** 8.14 136 P Pn 02 42 09.1 -1.2
MBRI **Mt Berech** 8.14 136 S Sn 02 43 39.4 -3.1
EIL **Elat** 8.25 136 Pn Pn 02 42 09.2 -2.6
comp=E,1.9nm,0.3s,baz=340,slow=11,SNR=31
EIL Sn Sn 02 43 41.7 -3.6
comp=E,2.3nm,0.3s,baz=5.3,slow=14,SNR=2.6
EIL LR LR 02 47 32.5
comp=E,221nm,18.3s,baz=338,slow=54
comp=E,5.1nm,0.3s
EIL **Elat** 8.25 136 P Pn 02 42 11.3 -0.5
EIL **Elat** 8.25 136 S Sn 02 43 41.9 -3.3
EIL **Elat** 8.25 136 P Pn 02 42 10.6 -1.2
HSNJ **Maan** 8.26 130 P Pn 02 42 11.3 -0.7
AQBJ **Aqaba** 8.26 136 P Pn 02 42 10.6 -1.4
MPEP **Malo Peshtene** 8.32 336 *e*P Pn 02 42 17.3 +4.5
GRB **Gharib** 8.41 153 P Pn 02 42 12.8 -1.2
TAMRE **El Minia** 8.41 165 P Pn 02 42 12.8 -1.2
TIR **Tirane** 8.66 312 Pn 02 42 18.6 +1.2
TIR **Tirane** 8.66 312 P Pn 02 42 18.6 +1.2
HFRF **Wahat Farafira** 8.67 181 P Pn 02 42 17.4 -0.1
HKAT **Jabal Katrina** 8.69 146 P Pn 02 42 17.0 -1.0
TLBR **Topalu** 8.69 358 ⇓P Pn 02 42 30.2 +12
ASUT 8.84 162 P Pn 02 42 19.2 -0.6
HARR **Harsova** 8.84 358 ⇑P Pn 02 42 23.4 +3.6
HARR **Harsova** 8.84 358 ⇑P Pn 02 42 23.4 +3.6
JURR **Jurilovca** 8.92 2 ⇑P Pn 02 42 26.3 +5.5
TPGR **Topolog** 9.00 360 ⇓P Pn 02 42 27.3 +5.2
CFR **Carcaliu** 9.32 359 ⇓P Pn 02 42 28.7 +2.3
CFR **Carcaliu** 9.32 359 ⇓P Pn 02 42 28.7 +2.3
BOVS **Bovan** 9.34 328 ⇑P Pn 02 42 29.3 +2.6
ISR **Istrita** 9.37 352 ⇓P Pn 02 42 32.2 +5.1
ISR **Istrita** 9.37 352 ⇓P Pn 02 42 32.2 +5.0
NEHR **Nehoiu** 9.71 351 ⇑P Pn 02 42 36.8 +5.1
BISRR **Bisoca** 9.78 353 ⇑P Pn 02 42 40.5 +7.8
MLR **Muntele Rosu** 9.82 350 Pn 02 42 34.8 +1.5
MLR **Muntele Rosu** 9.82 350 Pn Pn 02 42 35.8 +2.5
comp=E,0.2nm,0.3s,baz=170,slow=11,SNR=14
MLR LR LR 02 46 53.7
comp=E,548nm,19.8s,baz=165,slow=41
comp=E,7.6nm,0.8s
MLR **Muntele Rosu** 9.82 350 ⇑P Pn 02 42 37.1 +3.8
MLR **Muntele Rosu** 9.82 350 ⇑P Pn 02 42 37.1 +3.8
MLR **Muntele Rosu** 9.82 350 Pn Pn 02 42 36.4 +3.1
comp=E,59nm,1.6s,comp=E,61nm
TIP **Timpagrande** 9.85 293 Pn 02 42 34.1 +0.4
TIP **Timpagrande** 9.85 293 ⇓P Pn 02 42 35.4 +1.6
ARR **Arges** 9.94 344 ⇑P Pn 02 42 38.4 +3.5
SIM **Simferopol'** 10.07 24 P Pn 02 42 48.0 +11
SIM pmax pmax
comp=Z,17nm,0.5s
SIM MLR MLR
comp=Z,300nm,19.0s
PLOR5 **Plostina Array** 10.08 353 Pn Pn 02 42 41.0 +4.2
comp=Z,47nm,1.1s
PLOR **Plostina** 10.09 353 ⇑P Pn 02 42 42.0 +5.1
PLOR **Plostina** 10.09 353 ⇑P Pn 02 42 42.0 +5.1
PLOR3 **Plostina Array** 10.09 353 Pn Pn 02 42 40.0 +3.0
comp=Z,44nm,1.2s
VRI **Vrincioaia** 10.09 353 ⇑P Pn 02 42 40.5 +3.5
VRI **Vrincioaia** 10.09 353 ⇑P Pn 02 42 40.5 +3.5
VRI **Vrincioaia** 10.09 353 Pn Pn 02 42 39.7 +2.7
HERR **Herculane** 10.12 335 ⇑P Pn 02 42 39.6 +2.3
COVR **Voineasa-Covas** 10.13 351 ⇓P Pn 02 42 41.2 +3.6
GHRR 10.23 356 ⇑P Pn 02 42 44.4 +5.5
MDVR **Moldovita** 10.29 332 ⇓P Pn 02 42 42.2 +2.5
TURR **Turia** 10.36 351 ⇑P Pn 02 42 43.9 +3.2
OZUR 10.43 350 ⇑P Pn 02 42 45.6 +3.9
GZR **Gura Zlata** 10.46 338 ⇑P Pn 02 42 44.6 +2.6
TESR **Tescani** 10.74 353 ⇑P Pn 02 42 48.5 +2.7
CUC **Castrocucco** 10.79 296 Pn 02 42 47.5 +1.0
SURR **Surduc** 10.98 336 ⇑P Pn 02 42 52.0 +2.8
BZS **Buzias** 11.04 334 ⇓P Pn 02 42 50.6 +0.7
BZS **Buzias** 11.04 334 ⇓P Pn 02 42 50.6 +0.7
MILM **Milestii Mici** 11.07 1 ⇓P Pn 02 42 55.6 +5.3
MILM **Milestii Mici** 11.07 1 ⇓P Pn 02 42 55.6 +5.3
VAE **Valguarnera** 11.38 282 Pn Pn 02 42 55.5 +0.9
comp=Z,14nm,1.1s,baz=27,slow=8.5,SNR=1.8
VAE Sn Sn 02 44 57.6 -4.4
baz=224,slow=4.3
CJR **Cluj-Napoca** 11.45 343 ⇓P Pn 02 43 00.3 +4.8
CJR **Cluj-Napoca** 11.45 343 ⇓P Pn 02 43 00.3 +4.8
MARR **Marisel-Cluj** 11.53 341 ⇑P Pn 02 42 59.8 +3.0
SOC **Sochi** 11.62 45 *e*P Pn 02 42 58.7 +0.8
SOC *e* 02 45 11.0
SOC MLR MLR
comp=Z,170nm,15.0s
DRGR 11.74 340 ⇑P Pn 02 43 03.8 +4.1
DRGR 11.74 340 ⇑P Pn 02 43 03.8 +4.1
BURAR **Bucovina Array** 12.00 350 Pn Pn 02 43 05.8 +2.6
BURAR **Bucovina Array** 12.00 350 ⇑P Pn 02 43 07.0 +3.8
BURAR **Bucovina Array** 12.00 350 ⇑P Pn 02 43 07.0 +3.8
BUR08 **Bucovina Ar. S** 12.03 349 Pn 02 43 04.5 +1.0
SORM **Soroca** 12.28 360 ⇓P Pn 02 43 13.6 +6.8
SORM **Soroca** 12.28 360 ⇓P Pn 02 43 13.6 +6.7
MORH **Mrgy, Hungar** 12.71 328 ⇑P Pn 02 43 15.4 +2.6
INTR **Introdacqua** 12.87 303 Pn 02 43 18.6 +3.6
CAMP **Campotosto** 13.42 304 Pn 02 43 25.0 +2.4
SHA1 **Shidzhatmaz** 13.47 50 *i* P Pn 02 43 25.1 +1.7
KIV **Kislovodsk** 13.60 49 Pn Pn 02 43 26.9 +1.8
KIV **Kislovodsk** 13.60 49 *e*P Pn 02 43 26.0 +0.9
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,53nm,13.0s
KBZ **Khabaz** 13.62 50 Pn P 02 43 30.9 -3.2
baz=230,slow=10,SNR=1.9
KBZ **Khabaz** 13.62 50 *i* P Pn 02 43 26.9 +1.8
PSZ **Piszkesteto** 13.62 335 Pn 02 43 26.6 +1.3
PSZ **Piszkesteto** 13.62 335 ⇑P P 02 43 30.3 -4.1
PSZ **Piszkesteto** 13.62 335 ⇑P P 02 43 30.3 -4.1
GUMA **Gualdo di Mace** 13.70 306 Pn Pn 02 43 26.3 +0.1
NRCA **Norcia** 13.74 305 Pn 02 43 29.0 +2.1
BEHE **Becsehely** 13.76 324 Pn Pn 02 43 27.5 +0.4
KOLS **Kolonicke sedl** 13.84 343 *e*P P 02 43 38.1 +1.4
KOLS **Kolonicke sedl** 13.84 343 *e*P P 02 43 38.1 +1.4
FDMO **Fiordimonte** 13.85 306 Pn 02 43 27.7 -0.6
SRO **Srobarova** 14.12 331 *e*P P 02 43 42.4 +2.6
SRO **Srobarova** 14.12 331 *e*P P 02 43 42.4 +2.6
KWP **Kalwaria Pacla** 14.40 345 *e*P P 02 43 51.9 +9.0
VYHS **Vyhne** 14.48 334 *e*P P 02 43 41.2 -2.7
VYHS **Vyhne** 14.48 334 *e*P P 02 43 41.2 -2.7
STHS **Stebnicka Huta** 14.54 341 *e*P P 02 43 41.6 -2.9
STHS **Stebnicka Huta** 14.54 341 *e*P P 02 43 41.6 -2.9
SOKA **Soboth** 14.76 321 *e*Pn P 02 43 45.1 -1.9
comp=Z,14nm,1.2s
NIE **Niedzica** 14.81 339 *e*P P 02 43 46.3 -1.2
KIEV **Kiev** 14.85 2 Pn 02 43 43.5 +1.5
KIEV **Kiev** 14.85 2 P Pn 02 43 43.5 +1.5
AKASG **Malin Array Be** 14.86 2 Pn Pn 02 43 44.6 +2.5
AKASG **Malin Array Be** 14.86 2 Pn Pn 02 43 42.6 +0.5
comp=Z,0.1nm,0.3s,baz=196,slow=13,SNR=12
AKASG LR LR 02 50 25.8
comp=Z,220nm,18.0s,baz=184,slow=41
comp=Z,1.5nm,0.8s
AKASG **Malin Array Be** 14.86 2 P Pn 02 43 44.6 +2.5
AKBB **Malin Array Si** 14.86 2 Pn 02 43 43.5 +1.4
AKBB **Malin Array Si** 14.86 2 *c e*P Pn 02 43 43.7 +1.6
RONA **Rosalia, Austr** 14.88 326 *e*Pn Pn 02 43 44.0 +1.6
comp=Z,18nm,1.6s,SNR=7.3
ARSA **Arzberg** 14.91 324 Pn Pn 02 43 44.7 +1.9
comp=Z,16nm,1.6s
MODS **Modra-Piesok** 14.98 330 *e*P P 02 43 51.2 +1.8
MODS **Modra-Piesok** 14.98 330 *e*P P 02 43 51.2 +1.8
CONA **Conrad Observa** 15.25 326 *e*Pn Pn 02 43 50.1 +2.7
comp=Z,0.3nm,0.2s,SNR=6.4
KEST **Kesra** 15.49 275 Pn Pn 02 43 52.8 +2.2
comp=Z,0.3nm,0.3s,baz=107,slow=3.1,SNR=15
KEST LR LR 02 51 09.0
comp=Z,122nm,18.9s,baz=40,slow=42
comp=Z,50nm,1.1s
MAUC **Maruska** 15.58 333 *e*P P 02 43 57.5 +1.5
OJC **Ojcow** 15.67 339 *e*P P 02 44 03.8 +6.8
OJC **Ojcow** 15.67 339 Pn P 02 43 55.8 -1.2
OJC **Ojcow** 15.67 339 P P 02 43 55.8 -1.2
OJC pmax pmax
comp=Z,7.0nm,1.0s
ZCCA **Zocca** 15.80 308 Pn Pn 02 43 56.5 +1.8
ZCCA IAmb IAmb 02 44 13.1
comp=Z,31nm,1.0s
TEOL **Teolo** 15.86 312 Pn Pn 02 43 56.5 +1.2
TEOL IAmb IAmb 02 44 14.0
comp=Z,52nm,1.1s
OKC **Ostrava-Krasne** 15.86 335 AMS AMS 02 51 00.0
comp=Z,600nm,13.7s
KRUC **Moravsky** 15.89 330 *e*PN P 02 43 59.1 -0.3
KBA **Koelnbreinsper** 15.90 320 Pn P 02 43 58.7 -1.0
comp=Z,19nm,1.1s,SNR=9.2
MOA **Molln** 15.94 323 Pn P 02 43 58.7 -1.4
comp=Z,16nm,1.8s
VRAC **Vranov** 16.00 331 Pn P 02 43 59.5 -1.1
comp=Z,0.4nm,0.3s,baz=152,slow=12,SNR=32
VRAC LR LR 02 50 55.5
comp=Z,327nm,18.1s,baz=162,slow=40
comp=Z,15nm,0.9s
VRAC **Vranov** 16.00 331 *e*PN P 02 44 00.8 +0.1
MORC **Moravsky Berou** 16.02 334 Pn P 02 43 59.5 -1.5
MORC **Moravsky Berou** 16.02 334 *e*PN P 02 44 01.2 +0.2
MORC **Moravsky Berou** 16.02 334 ⇑P P 02 44 01.9 +1.0
MORC **Moravsky Berou** 16.02 334 ⇑P P 02 44 01.9 +1.0
ABTA **Abfaltersbach** 16.14 317 Pn P 02 44 02.3 0.0
comp=Z,12nm,1.6s
BIOA **Bad Ischl, Aus** 16.15 322 *e*Pn P 02 44 01.7 -0.7
comp=Z,12nm,1.5s,SNR=8.5
CTI **Castel Tesino** 16.23 314 P P 02 44 02.4 -0.9
CTI IAmb IAmb 02 44 15.6
comp=Z,34nm,1.1s
CTI **Castel Tesino** 16.23 314 P P 02 44 02.4 -0.9
CTI pmax pmax
comp=Z,34nm,1.1s
MAK **Makhachkala** 16.35 58 *e*P Pn 02 44 01.2 -0.4
MAK *e*S Sn 02 47 01.8 -1.4
MAK pmax pmax
comp=Z,695nm,1.5s
MAK MLR MLR
comp=Z,241nm,16.0s
TREC **Trest** 16.44 329 *e*P P 02 44 06.1 +0.5
TREC **Trest** 16.44 329 *e*P P 02 44 06.1 +0.5
LESA **Schwarzleotal** 16.47 319 *e*Pn P 02 44 06.2 +0.3
comp=Z,28nm,1.7s
CKRC **Cesky Krumlov** 16.61 326 *e*P P 02 44 07.6 +0.2
CKRC AMS AMS 02 51 10.0
comp=Z,300nm,12.1s
CKRC **Cesky Krumlov** 16.61 326 *e*P P 02 44 07.6 +0.2
CKRC MLR MLR
comp=Z,300nm,12.1s
GEC2 **GERESS Array S** 16.91 325 Pn 02 44 09.8 +1.1
GERES **GERESS Array B** 16.91 325 P P 02 44 10.5 -0.3
GERES **GERESS Array B** 16.91 325 Pn P 02 44 11.2 +0.4
comp=Z,0.2nm,0.3s,baz=141,slow=11,SNR=23
comp=Z,2.2nm,0.7s
WTTA **Wattenberg** 16.93 318 *e*Pn P 02 44 10.9 -0.3
comp=Z,24nm,1.3s,SNR=12
DPC **Dobruska-Polom** 16.94 333 *e*P P 02 44 11.5 +0.3
DPC AMS AMS 02 51 50.0
comp=Z,500nm,8.2s
DPC **Dobruska-Polom** 16.94 333 *e*P P 02 44 11.5 +0.3
DPC MLR MLR
comp=Z,500nm,8.2s
WATA **Walderalm** 17.01 318 *e*Pn Pn 02 44 11.3 +1.2
comp=Z,42nm,1.2s,SNR=14
VORD **Divnogorie** 17.02 24 *e*P P 02 44 17.1 +5.2
VORD pmax pmax
comp=Z,9.0nm,0.9s
ZVC **Zvikov** 17.11 327 *e*P P 02 44 13.1 +0.1
SQTA **Sankt Quirin** 17.14 317 *e*Pn P 02 44 13.3 -0.1
comp=Z,34nm,1.4s,SNR=12
OSTC **Ostas** 17.15 333 AMS AMS 02 51 50.0
comp=Z,500nm,10.4s
KHC **Kasperske Hory** 17.17 325 P P 02 44 13.4 -0.2
KHC **Kasperske Hory** 17.17 325 *e*P P 02 44 15.3 +1.7
KHC AMS AMS 02 51 30.0
comp=Z,400nm,19.9s
KHC **Kasperske Hory** 17.17 325 *e*P P 02 44 15.3 +1.7
KHC MLR MLR
comp=Z,400nm,19.9s
VSR **Storozhevoye** 17.19 23 *e*P P 02 44 15.9 +2.1
VSR pmax pmax
comp=Z,7.0nm,0.9s
GOPC **GO Pecny, Ondr** 17.21 329 AMS AMS 02 51 50.0
comp=Z,500nm,10.9s
CHVC **Chvalec** 17.24 333 *e*P P 02 44 14.3 -0.1
CHVC **Chvalec** 17.24 333 *e*P P 02 44 14.3 -0.1
MOTA **Moosalm** 17.27 317 *e*Pn P 02 44 14.9 0.0
comp=Z,21nm,1.4s
FETA **Feichten** 17.30 316 *e*Pn P 02 44 16.3 +1.1
comp=Z,33nm,1.2s,SNR=18
FUORN **Ofenpass-Fuorn** 17.35 314 Pn 02 44 15.1 +0.6
KSP **Ksiaz** 17.36 333 *e*P P 02 44 16.7 +1.0
PRU **Pruhonice** 17.37 329 *e*P P 02 44 17.2 +1.4
PRU **Pruhonice** 17.37 329 *e*P P 02 44 17.2 +1.4
RETA **Reutte** 17.54 317 *e*Pn Pn 02 44 17.3 +0.6
comp=Z,30nm,1.4s
DAVOX **Davos/Dischmat** 17.66 314 P P 02 44 20.7 +1.5
comp=Z,0.2nm,0.3s,baz=149,slow=11,SNR=9.3
DAVOX LR LR 02 52 05.4
comp=Z,176nm,18.8s,baz=119,slow=40
comp=Z,6.2nm,0.8s
DAVA **Damuels** 17.93 315 Pn Pn 02 44 21.7 +0.2
comp=Z,22nm,1.1s,SNR=5.9
VRH **Novokhopyorsk** 18.08 28 *e*P P 02 44 29.0 +5.4
VRH pmax pmax
comp=Z,10.0nm,1.0s
BRG **Berggiesshubel** 18.29 330 *e*P P 02 44 26.6 +0.6
BRG Amp 02 44 28.4
comp=Z,11nm,1.0s
BRG **Berggiesshubel** 18.29 330 P P 02 44 33.7 +7.7
BRG Amp 02 44 34.7
comp=Z,12nm,0.9s
BRG **Berggiesshubel** 18.29 330 P P 02 44 38.9 +13
BRG Amp 02 44 40.6
comp=Z,19nm,0.8s
BRG **Berggiesshubel** 18.29 330 *e*P P 02 44 26.5 +0.6
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,12nm,0.9s
BRG pmax pmax
comp=Z,19nm,0.8s
BRG MLR MLR
comp=E,180nm,15.1s
BRG MLR MLR
comp=Z,502nm,13.0s
BRG MLR MLR
comp=N,345nm,10.6s
LPSR **Galich'ya Gora** 18.33 21 *e*P P 02 44 31.4 +5.0
LPSR pmax pmax
comp=Z,10.0nm,1.0s
SUW **Suwalki** 18.53 350 *e*P Pn 02 44 33.1 +4.4
SUW **Suwalki** 18.53 350 P P 02 44 27.4 -1.1
SUW IAmb IAmb 02 44 37.4
comp=Z,22nm,0.9s
SUW **Suwalki** 18.53 350 P P 02 44 27.4 -1.1
SUW pmax pmax
comp=Z,22nm,0.9s
MNK **Minsk** 18.66 359 *i* P P 02 44 29.9 -0.1
comp=E,16nm,0.7s
MNK *i* P P 02 44 29.9 -0.1
comp=N,7.0nm,0.9s
MNK *i* P P 02 44 29.9 -0.1
comp=Z,24nm,0.8s,baz=178
MNK *i* PP PnPn 02 44 55.0 +13
MNK *i* S Sn 02 47 59.9 +0.9
MNK *i* SS S 02 48 17.0 +14
MNK *i* LQ LQ 02 50 38.3
MNK *i* LR LR 02 51 29.7
MNK *i* LRM MLR 02 52 20.4
comp=N,135nm,14.3s
MNK *i* LRM MLR 02 52 34.0
comp=Z,215nm,14.8s
MNK *i* LRM MLR 02 52 37.4
comp=E,202nm,15.4s
MNK **Minsk** 18.66 359 *i* P P 02 44 29.9 -0.1
MNK *i* S Sn 02 47 59.8 +0.9
MNK pmax pmax
comp=E,16nm,0.7s
MNK pmax pmax
comp=Z,24nm,0.8s
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK MLR MLR
comp=N,135nm,14.0s
MNK MLR MLR
comp=Z,215nm,15.0s
MNK MLR MLR
comp=E,202nm,15.0s
GRA1 **Grafenberg Arr** 18.67 323 P P 02 44 28.4 -1.8
GRA1 IAmb IAmb 02 44 46.6
comp=Z,19nm,1.0s
GRF **Grafenberg Arr** 18.67 323 P P 02 44 28.4 -1.8
GRF pmax pmax
comp=Z,19nm,1.0s
GRFO **Grafenberg** 18.67 323 P P 02 44 28.9 -1.3
GRFO **Grafenberg** 18.67 323 P P 02 44 28.9 -1.3
GRFO pmax pmax
comp=Z,17nm,1.0s
BNI **Bardonecchia** 18.89 306 P P 02 44 32.7 0.0
BNI **Bardonecchia** 18.89 306 P P 02 44 32.7 0.0
BNI pmax pmax
comp=Z,6.0nm,0.7s
CLL **Collm** 19.01 329 IAmb IAmb 02 44 47.9
comp=Z,37nm,0.9s
CLL **Collm** 19.01 329 *i* P P 02 44 34.2 +0.4
CLL pmax pmax
comp=Z,30nm,1.4s
CLL MLR MLR
comp=Z,200nm,21.5s
CLL **Collm** 19.01 329 *i* P P 02 44 34.2 +0.4
comp=Z,30nm,1.4s
CLL *i* sP pwP 02 44 39.9 +0.2
comp=Z,24nm,1.0s
CLL *i* PP PnPn 02 44 47.2 +0.3
comp=Z,42nm,0.9s
CLL *es*PP 02 44 53.0
comp=Z,42nm,1.0s
CLL *e*S S 02 48 12.0 +2.2
CLL AMS AMS 02 53 00.0
comp=Z,300nm,19.0s
SENIN **Lac Senin/Sane** 19.02 310 P P 02 44 33.9 -0.4
NACGM **Naroch** 19.09 357 *e*P P 02 44 35.1 +0.4
GKP **Gorka Klasztor** 19.12 339 *e*P Pn 02 44 47.7 +12
STU **Stuttgart** 19.14 318 P P 02 44 34.8 -0.6
STU IAmb IAmb 02 44 45.3
comp=Z,16nm,0.8s
STU **Stuttgart** 19.14 318 P P 02 44 34.8 -0.6
STU pmax pmax
comp=Z,16nm,0.8s
RAYN **Ar Rayn** 19.23 125 P P 02 44 37.3 +0.8
RAYN **Ar Rayn** 19.23 125 P P 02 44 37.3 +0.8
RAYN pmax pmax
comp=Z,10.0nm,1.0s
BFO **Black Forest** 19.37 316 P Pn 02 44 39.8 +0.8
BFO **Black Forest** 19.37 316 P Pn 02 44 39.8 +0.8
BFO pmax pmax
comp=Z,14nm,1.0s
PABE **Paberze** 19.90 353 P Pn 02 44 44.6 -0.5
PABE IAmb IAmb 02 44 56.7
comp=Z,28nm,0.9s
ECH **Echery** 19.98 315 IAmb IAmb 02 44 57.7
comp=E,18nm,1.0s
OBN **Obninsk** 20.07 14 P Pn 02 44 47.0 -0.1
OBN IAmb IAmb 02 44 58.6
comp=Z,18nm,1.1s
OBN **Obninsk** 20.07 14 P P 02 44 46.3 +0.9
comp=Z,6.0nm,0.5s,baz=234,slow=17,SNR=1.5
comp=Z,6.0nm,0.5s
OBN **Obninsk** 20.07 14 ⇑*e*P P 02 44 45.6 +0.2
OBN *e* 02 45 02.7
OBN *e*S Sn 02 48 35.8 +2.9
OBN pmax pmax

comp=Z,39nm,1.3s
OBN MLR MLR
comp=Z,118nm,16.0s
SSB Saint Sauveur 20.38 305 P P 02 44 49.9 +0.9
SSB Saint Sauveur 20.38 305 P P 02 44 49.9 +0.9
SSB pmax pmax
comp=Z,5.0nm,0.8s
MOS Moscow 20.87 15 *e*P **P 02 44 54.1 +0.1**
MOS *e* 02 45 13.6
MOS pmax pmax
comp=Z,29nm,1.1s
WLF Walferdange 21.30 317 P P 02 45 01.1 +2.3
WLF IAmb IAmb 02 45 15.0
comp=Z,25nm,1.1s
WLF Walferdange 21.30 317 P P 02 45 01.1 +2.3
WLF pmax pmax
comp=Z,25nm,1.1s
WLF Walferdange 21.30 317 *d*P **P 02 45 05.6 +6.9**
comp=Z,14nm,1.1s
BSD Bornholm Skovb 21.40 338 *i* P **P 02 45 03.6 +3.9**
BSD IAmb IAmb 02 45 15.4
comp=Z,25nm,1.0s
BELG Belogornoye 21.42 33 P P 02 44 58.8 -1.2
comp=Z,7.3nm,1.0s,baz=180,slow=10,SNR=2.6
BELG LR LR 02 53 41.8
comp=Z,72nm,21.8s,baz=270,slow=38
comp=Z,7.3nm,1.0s
BELG Belogornoye 21.42 33 *i* P **P 02 45 00.2 +0.2**
BELG pmax pmax
comp=Z,1.0nm,1.0s
MEM Membach 21.89 319 *d*P **P 02 45 06.4 +1.3**
comp=Z,9.3nm,1.0s
BSEG Bad Segeberg 22.06 331 *i* P **P 02 45 07.1 +0.2**
BCLA Clavier 22.16 318 *d*P **P 02 45 12.5 +4.4**
comp=Z,8.0nm,1.2s
BGES Gesves 22.26 318 *d*P **P 02 45 13.0 +3.9**
comp=Z,6.5nm,1.1s
LUNU Lund 22.29 337 *i* P **P 02 45 12.2 +2.9**
BMRD Maredsous 22.39 318 *d*PP P 02 45 34.7 +24
CLF Chambon-Foret 22.83 310 P P 02 45 15.3 +0.1
TAM Tamanrasset 23.76 243 P P 02 45 26.2 +1.2
TAM IAmb IAmb 02 45 34.6
comp=Z,10nm,1.1s
TAM Tamanrasset 23.76 243 P P 02 45 26.2 +1.2
TAM pmax pmax
comp=Z,10.0nm,1.1s
ONAU Onsala 24.23 338 *i* P **P 02 45 32.0 +3.2**
OVD Ostervraa, Den 24.71 336 *i* P **P 02 45 32.4 -0.8**
OVD IAmb IAmb 02 45 37.0
comp=Z,295nm,1.5s
FINES FINESS Array B 25.66 357 P P 02 45 41.1 -0.7
FINES FINESS Array B 25.66 357 P P 02 45 40.9 -0.9
comp=Z,1.3nm,0.5s,baz=156,slow=11,SNR=15
FINES LR LR 02 55 22.7
comp=Z,114nm,21.3s,baz=200,slow=36
comp=Z,1.3nm,0.5s
FINES FINESS Array B 25.66 357 P P 02 45 41.1 -0.7
ESBB Sonseca Array 25.81 288 P P 02 45 43.9 +0.4
ESBB IAmb IAmb 02 45 57.4
comp=Z,11nm,0.8s
ESDC Sonseca Array 25.81 288 P P 02 45 42.4 -1.1
ESDC Sonseca Array 25.81 288 P P 02 45 42.6 -0.9
comp=Z,2.3nm,0.7s,baz=84,slow=9.0,SNR=10
ESDC LR LR 02 57 12.4
comp=Z,106nm,18.5s,baz=88,slow=40
comp=Z,2.3nm,0.7s
AKTO Aktyubinsk 25.84 46 LR LR 02 59 16.5
comp=Z,82nm,19.0s,baz=30,slow=44
KLMR Klimovskoe 26.02 12 *e*P **P 02 45 42.1 -2.9**
KLMR pmax pmax
comp=Z,45nm,1.2s
HFS Hagfors 26.10 343 P P 02 45 44.2 -1.6
comp=Z,1.5nm,0.6s,baz=152,slow=9.9,SNR=2.1
HFS LR LR 02 57 25.8
comp=Z,145nm,19.0s,baz=138,slow=40
comp=Z,1.5nm,0.6s
PAB San Pablo 26.11 288 P P 02 45 45.6 -0.7
PAB IAmb IAmb 02 45 59.1
comp=Z,7.1nm,0.8s
PAB San Pablo 26.11 288 P P 02 45 45.6 -0.7
PAB pmax pmax
comp=Z,7.0nm,0.8s
ABKAR Akbulak array 26.59 50 P P 02 45 50.2 -0.1
ABKAR IAmb IAmb 02 46 04.6
comp=Z,6.1nm,0.9s
ABKAR Akbulak array 26.59 50 P P 02 45 50.5 +0.1
KIRV Kirov 26.62 25 LR LR 02 57 35.8
comp=Z,103nm,19.7s,baz=238,slow=39
MDT Midelt 27.38 273 LR LR 02 58 12.3
comp=Z,57nm,19.7s,baz=64,slow=39
NB2 NORSAR Subarra 27.50 342 P P 02 45 57.8 -0.7
comp=Z,3.8nm,1.1s,baz=156,slow=11
NOA NORSAR Array B 27.50 342 P P 02 45 57.9 -0.5
comp=Z,1.1nm,0.9s,baz=142,slow=7.3,SNR=1.9
NOA LR LR 02 57 32.4
comp=Z,82nm,19.4s,baz=150,slow=38
comp=Z,1.1nm,0.9s
ARTI Arti 28.84 35 P P 02 46 08.8 -1.6
ARTI IAmb IAmb 02 46 17.8
comp=Z,8.3nm,0.9s
ARTI Arti 28.84 35 LR LR 02 59 14.2
comp=Z,70nm,21.6s,baz=233,slow=40
ARTI Arti 28.84 35*d i*P **P 02 46 11.7 +1.3**
ARTI 02 47 01.3
ARTI S **S 02 51 03.4 +3.0**
ARTI SS **SnSn 02 52 21.8 +0.1**
ARTI pmax pmax
comp=Z,6.0nm,0.7s
WSAR Wadi Sarin 29.00 107 LR LR 03 00 00.7
comp=Z,102nm,21.0s,baz=284,slow=41
EKA Eskdalemuir Ar 29.08 322 P P 02 46 14.3 +1.8
comp=Z,1.3nm,0.8s,baz=122,slow=10,SNR=2.1
comp=Z,1.3nm,0.8s
SVE Sverdlovsk 30.13 36 *e*P P 02 46 28.4 +6.6
SVE pmax pmax
comp=Z,12nm,0.9s
SIMJ Simiganj 32.24 73 P P 02 46 40.9 +0.1
LODK Lodwar 32.90 167 P P 02 46 44.8 -1.8
LODK IAmb IAmb 02 47 01.8
comp=Z,4.3nm,0.9s
TORD Torodi Ar. Bea 33.01 234 P P 02 46 45.0 -2.5
TORD IAmb IAmb 02 47 02.6
comp=Z,3.8nm,0.9s
TORD Torodi Ar. Bea 33.01 234 P P 02 46 47.0 -0.5
comp=Z,5.7nm,0.8s,baz=31,slow=11,SNR=38
TORD LR LR 03 02 08.4
comp=Z,95nm,19.8s,baz=12,slow=40
comp=Z,5.7nm,0.8s
KKAR Karatay Array 33.01 64 P P 02 46 46.9 -0.5
KKAR Karatay Array 33.01 64 P P 02 46 46.9 -0.5
ARCES ARCESS Array B 33.78 358 P P 02 46 53.2 -0.6
comp=Z,3.3nm,0.9s,baz=180,slow=7.8,SNR=5.6
ARCES LR LR 03 01 28.2
comp=Z,118nm,18.4s,baz=158,slow=38
comp=Z,3.3nm,0.9s
BRVK Borovoye 33.89 46*ce*P **P 02 46 55.5 +0.6**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
BVAR Borovoye Array 33.95 46 P P 02 46 55.1 -0.3
comp=Z,1.5nm,0.8s,baz=266,slow=8.7,SNR=5.3
BVAR LR LR 03 03 29.0
comp=Z,102nm,19.4s,baz=272,slow=41
comp=Z,1.5nm,0.8s
AAK Ala-Archa 35.96 65 LR LR 03 05 01.5
comp=Z,108nm,18.0s,baz=291,slow=42
AAK Ala-Archa 35.96 65 *i* P **P 02 47 13.9 +0.8**
AAK pmax pmax
comp=Z,5.0nm,1.5s
MBAR Mbarara 36.33 176 P P 02 47 14.6 -1.8
MBAR IAmb IAmb 02 47 26.1
comp=Z,5.7nm,1.1s
MBAR Mbarara 36.33 176 LR LR 03 03 34.8
comp=Z,147nm,18.5s,baz=8.5,slow=39
MBAR Mbarara 36.33 176 *i* P **P 02 47 16.2 -0.2**
NIL Nilore 36.66 80 P P 02 47 18.8 -0.2
NIL Nilore 36.66 80 P P 02 47 18.8 -0.2
NIL pmax pmax
comp=Z,19nm,0.9s
NRN Naryn 37.20 67 P P 02 47 24.5 +0.6
NRN IAmb IAmb 02 47 32.4
comp=Z,11nm,0.9s
NRN Naryn 37.20 67 P P 02 47 24.5 +0.6
NRN pmax pmax
comp=Z,11nm,0.9s
KSH Kashi 37.47 70 P P 02 47 25.8 -0.1
KSH pP sP 02 47 30.9 +3.8
KSH pmax pmax
comp=Z,17nm,0.8s
KMBO Kilima Mbogo 37.69 165 LR LR 03 03 57.1
comp=Z,97nm,20.2s,baz=24,slow=38
KURBB Kurchatov Arra 38.61 52 P P 02 47 34.4 -0.9
comp=Z,5.6nm,0.9s,baz=275,slow=8.8,SNR=26
comp=Z,5.6nm,0.9s
KURK Kurchatov 38.67 51 P P 02 47 35.2 -0.6
KURK IAmb IAmb 02 47 43.4
comp=Z,18nm,0.9s
KURK Kurchatov 38.67 51 *i* P **P 02 47 36.0 +0.2**
KURK pmax pmax
comp=Z,19nm,1.0s
WUS Wushi 39.63 66 IAmb IAmb 02 47 51.8
comp=Z,10nm,0.8s
JMIC Jan Mayen 40.21 342 LR LR 03 05 14.7
comp=Z,101nm,18.3s,baz=172,slow=37
MK31 Makanchi Array 41.17 57 P P 02 47 56.4 -0.3
MK31 IAmb IAmb 02 48 04.1
comp=Z,16nm,1.0s
MK31 Makanchi Array 41.17 57 *i* P **P 02 47 57.7 +1.1**
MKAR Makanchi Array 41.17 57 P P 02 47 56.1 -0.6
MKAR Makanchi Array 41.17 57 P P 02 47 56.3 -0.4
comp=Z,6.7nm,0.9s,baz=273,slow=8.1,SNR=17
comp=Z,6.7nm,0.9s
BORG Borgarnes 41.25 330 LR LR 03 06 21.2
comp=Z,117nm,19.4s,baz=108,slow=38
DBIC Dimbokro 42.10 234 P P 02 48 03.9 -0.7
comp=Z,9.4nm,1.0s,baz=43,slow=11,SNR=5.7
comp=Z,9.4nm,1.0s
ZALV Zalesovo Beam 42.60 47 P P 02 48 07.4 -0.8
comp=Z,1.9nm,0.6s,baz=261,slow=8.8,SNR=5.7
comp=Z,1.9nm,0.6s
SPITS Spitsbergen Ar 42.75 356 P P 02 48 09.1 -0.1
comp=Z,5.3nm,0.8s,baz=158,slow=9.2,SNR=2.2
comp=Z,5.3nm,0.8s
SCO Scoresbysund 43.68 338 *i* P **P 02 48 15.8 -0.8**
SCO IAmb IAmb 02 48 17.4
comp=Z,4.4nm,0.6s
BBTS Babate 45.33 254 LR LR 03 10 22.1
comp=Z,82nm,18.5s,baz=262,slow=40
WMQ Urumqi 45.35 61 *e*P **P 02 48 32.5 +2.0**
WMQ pP pwP 02 48 37.8 +0.7
WMQ pmax pmax
comp=Z,12nm,1.1s
DAG Danmarks Havn 45.99 346 *i* P **P 02 48 38.0 +2.9**
DAG IAmb IAmb 02 48 47.0
comp=Z,1.6nm,1.2s
NRIK Noril'sk 46.13 25 P P 02 48 36.5 +0.2
comp=Z,1.2nm,0.5s,baz=213,slow=4.7,SNR=1.9
comp=Z,1.2nm,0.5s
NRIK Noril'sk 46.13 25 *i* P **P 02 48 37.8 +1.6**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
ICESG Greenland Ices 49.23 334 *i* P **P 02 48 58.2 -2.5**
ICESG IAmb IAmb 02 49 32.1
comp=Z,5.3nm,1.0s
SUMG Summit 49.30 339 *i* P **P 02 49 01.0 -0.3**
SUMG IAmb IAmb 02 49 23.8
comp=Z,3.4nm,1.1s
NEEM North Greenlan 53.04 344 *i* P **P 02 49 30.4 +1.2**
NEEM IAmb IAmb 02 49 55.4
comp=Z,3.9nm,1.0s
SFJD Kangerlussuaq 53.36 331 LR LR 03 12 59.9
comp=Z,78nm,19.7s,baz=118,slow=37
SONM Songino Array 56.98 52 P P 02 49 57.4 -0.5
comp=Z,0.7nm,0.4s,baz=296,slow=9.3,SNR=4.4
comp=Z,0.7nm,0.4s
ULN Ulaanbaatar 57.39 52 *i* P **P 02 50 01.8 +1.0**
ULN pmax pmax
comp=Z,4.0nm,0.9s
TIXI Tiksi 59.58 21 P P 02 50 15.6 +0.1
TIXI Tiksi 59.58 21 *i* P **P 02 50 16.2 +0.7**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
FRB Frobisher Bay 61.42 330 LR LR 03 16 49.0
comp=Z,81nm,21.0s,baz=53,slow=36
PZH PanZhiHua 62.11 76 P P 02 50 35.0 +1.4
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
HHC Hu-ho-hao-te 63.03 58 *e*P **P 02 50 39.3 -0.2**
HHC pP pwP 02 50 46.5 +0.3
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,110nm,4.7s
RES Resolute Bay 63.68 346 LR LR 03 19 09.0
comp=Z,107nm,18.3s,baz=9.5,slow=37
CMAR Chiang Mai Arr 63.85 85 P P 02 50 44.4 -0.8
comp=Z,2.5nm,0.3s,baz=289,slow=5.5,SNR=2.8
comp=Z,2.5nm,0.3s
YAK Yakutsk 63.93 31 *i* P **P 02 50 46.5 +1.5**
YAK pmax pmax
comp=Z,8.0nm,0.8s
BOSA Boshof 64.19 183 P P 02 50 45.4 -1.7
comp=Z,3.7nm,1.0s,baz=23,slow=12,SNR=4.3
comp=Z,3.7nm,1.0s
SCHQ Schefferville 64.38 320 P P 02 50 47.5 -0.6
comp=Z,3.0nm,0.9s,baz=58,slow=13,SNR=1.4
comp=Z,3.0nm,0.9s
SUR Sutherland 68.24 187 LR LR 03 23 53.5
comp=Z,65nm,18.2s,baz=14,slow=38
HEH HeiHe 68.56 43 *e*P **P 02 51 15.3 +0.5**
CN2 Changchun 70.72 50 *e*P P 02 51 24.1 -4.2
CN2 *ep*P pP 02 51 28.8 -0.4
A36M Sachs Harbour 70.88 352 P P 02 51 28.5 -0.3
BNX BinXian 70.89 47 ⇓P **P 02 51 30.3 +1.0**
BNX pmax pmax
comp=Z,6.0nm,1.1s
KLR Kul'dur 71.49 42 *i* P **P 02 51 34.1 +1.2**
KLR pmax pmax
comp=Z,4.0nm,0.8s
BILL Bilibino 71.72 15 *i* P **P 02 51 33.8 -0.2**
BILL pmax pmax
comp=Z,5.0nm,1.2s
NJ2 Nanjing 72.38 63 *e*P **P 02 51 37.8 -0.7**
NJ2 pmax pmax
comp=Z,11nm,0.5s
C36M Paulatuk 73.18 350 P P 02 51 41.4 -1.2
USA0B Ussuriysk Arra 74.45 47 *i* P **P 02 51 51.1 +0.6**
USRK Ussuriysk Ar. 74.45 47 P P 02 51 49.8 -0.7
USRK Ussuriysk Ar. 74.45 47 P P 02 51 49.7 -0.8
comp=Z,5.5nm,0.8s,baz=300,slow=6.1,SNR=11
comp=Z,5.5nm,0.8s
E28M Babbage River 75.47 355 IAmb IAmb 02 52 04.6
comp=Z,4.0nm,1.0s
KSRS Kore Array 75.74 54 P P 02 51 56.9 -1.2
comp=Z,1.9nm,0.8s,baz=297,slow=4.8,SNR=6.8
comp=Z,1.9nm,0.8s
F31M Tsiigehtchic 76.14 353 P P 02 51 59.0 -0.8
F26K Sheenjek River 76.62 357 IAmb IAmb 02 52 11.3
comp=Z,7.3nm,1.1s
F24K Squaw Lake 76.92 359 IAmb IAmb 02 52 19.6
comp=Z,6.0nm,0.9s
YKA Yellowknife Ar 77.58 343 P P 02 52 07.1 -0.9
comp=Z,0.2nm,0.6s,baz=56,slow=8.1,SNR=4.2
comp=Z,0.2nm,0.6s
YSS Yuzh-Sakhalins 78.73 40 *i* P **P 02 52 15.9 +1.2**
YSS pmax pmax
comp=Z,17nm,1.3s
H21K Melozitna Rive 78.82 1 P P 02 52 15.4 +0.5
H21K IAmb IAmb 02 52 23.1
comp=Z,6.2nm,1.0s
ILAR Eielson Array 79.65 358 P P 02 52 18.6 -0.8
comp=Z,0.3nm,0.6s,baz=341,slow=3.1,SNR=2.8
comp=Z,0.3nm,0.6s
ULM Lac du Bonnet 81.19 328 P P 02 52 29.3 +1.4
comp=Z,2.6nm,0.6s,baz=82,slow=7.1,SNR=1.5
comp=Z,2.6nm,0.6s
MJAR Matsushiro Arr 82.87 50 P P 02 52 37.0 -0.1
comp=Z,1.6nm,0.8s,baz=307,slow=4.6,SNR=4.4
comp=Z,1.6nm,0.8s
MJAR Matsushiro Arr 82.87 50 P P 02 52 37.0 -0.1
BDFB Brasilia 88.44 250 P P 02 53 05.8 +0.8
comp=Z,2.8nm,0.8s,baz=22,slow=11,SNR=3.3
comp=Z,2.8nm,0.8s

ROM 25 02:40:12.8±0.2,38°.289N±0°.010×14°.46E±0°.01,h27km±1km,
ML2.6/34,4C-2D,Error ellipse: s-maj=1.1km
s-min=0.9km az=118.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IACL	**Alicudi**	**0.26**	**342**	⇑P	Pb	02 40 19.6	+0.3
IACL				S	Sn	02 40 25.1	-0.9
IACL				AML	AML		
comp=E,14150μm,0.2s
IACL AML AML
comp=N,11035μm,0.4s
IACL AML AML
comp=N,11036μm,0.4s
IACL AML AML
comp=E,14134μm,0.2s
IFIL Filicudi I Eol 0.29 17 ⇑P Pb 02 40 20.0 +0.2
IFIL S Sn 02 40 25.7 -1.1
IFIL AML AML
comp=N,6210μm,0.2s
IFIL AML AML
comp=E,19250μm,0.3s
PLLN Pollina 0.39 220 ⇑P Pb 02 40 20.5 -0.8
PLLN S Sb 02 40 26.3 -0.7
PLLN AML AML
comp=N,1645μm,1.1s
PLLN AML AML
comp=E,1170μm,0.3s
PLLN AML AML
comp=E,1168μm,0.3s
PLLN AML AML
comp=N,1645μm,0.9s
MNO Monte Soro 0.40 152 P Pb 02 40 21.2 -0.4
MNO S Sb 02 40 27.1 -0.5
MNO AML AML
comp=E,1198μm,0.4s
MNO AML AML
comp=N,1084μm,0.3s
MNO AML AML
comp=E,1197μm,0.4s
MNO AML AML
comp=N,1082μm,0.3s
IVGP Vulcano Grotta 0.41 75 P Pb 02 40 21.4 -0.2
IVGP S Sb 02 40 27.8 +0.2
MUCR Ucria 0.41 127 ⇓P Pb 02 40 20.8 -0.8
MUCR S Sb 02 40 27.9 +0.2
MUCR AML AML
comp=E,1020μm,0.8s
MUCR AML AML
comp=N,1675μm,0.3s
MUCR AML AML
comp=E,1020μm,1.2s
LLI Lipari 0.41 68 P Pb 02 40 22.3 +0.6
LLI S Sn 02 40 29.2 -0.7
LLI AML AML
comp=N,31550μm,0.4s
LLI AML AML
comp=E,17054μm,0.3s
LLI AML AML
comp=N,31553μm,0.4s
LLI AML AML
comp=E,17550μm,1.0s
VPL Vulcano Piano 0.42 78 P Pb 02 40 21.6 -0.2
VPL S Sb 02 40 28.3 +0.4
VPL AML AML
comp=E,2485μm,0.3s
VPL AML AML
comp=N,2900μm,0.2s
VPL AML AML
comp=N,2900μm,0.2s
VPL AML AML
comp=E,2487μm,0.3s
VPL AML AML
comp=N,2900μm,1.8s
CSLB Castelbuono 0.47 222 P Pb 02 40 21.8 -0.8
CSLB S Sb 02 40 28.7 -0.6
CSLB AML AML
comp=E,200μm,0.2s
CSLB AML AML
comp=N,220μm,0.3s
CSLB AML AML
comp=E,204μm,0.7s
CSLB AML AML
comp=N,304μm,0.7s
EPZF Pizzo Felice 0.56 146 P Pb 02 40 24.6 +0.5
GALF Gagliano Caste 0.58 172 P Pn 02 40 25.0 -0.4
GALF AML AML
comp=N,326μm,0.6s
GALF AML AML
comp=E,476μm,0.5s
GALF AML AML
comp=E,476μm,0.5s
GALF AML AML
comp=N,326μm,1.4s
NOV Novara 0.59 116 P Pb 02 40 24.2 -0.4
EMSG Monte Spagnolo 0.61 140 P Pn 02 40 25.5 -0.3
CAGR Agira 0.67 177 P Pn 02 40 27.7 +1.1
AIO Antillo 0.69 117 ⇓P Pb 02 40 25.8 -0.4
AIO AML AML
comp=E,532μm,1.5s
AIO AML AML
comp=N,482μm,0.4s
AIO AML AML
comp=E,435μm,0.2s
AIO AML AML
comp=N,482μm,0.4s
AIO AML AML
comp=N,482μm,1.6s
AIO AML AML
comp=E,532μm,0.5s
RESU Resuttano 0.72 207 P Pn 02 40 27.2 0.0
ESML S. M. di Licod 0.75 154 P Pn 02 40 29.3 +1.7
EVRN Santa Venerina 0.80 138 P Pn 02 40 29.8 +1.4
VAE Valguarnera 0.81 183 P Pn 02 40 31.3 +2.8
MSRU Castanea 0.83 91 ⇑P Pb 02 40 28.2 -0.3
MSRU S Sb 02 40 39.6 +0.4
MSRU AML AML
comp=N,936μm,0.3s
MSRU AML AML
comp=E,645μm,0.3s
MSRU AML AML
comp=N,934μm,0.3s
MSRU AML AML
comp=E,645μm,0.3s
HLNI Lentini 0.99 161 P Pb 02 40 32.2 +0.8
HLNI S Sn 02 40 47.5 +3.3
HLNI AML AML
comp=N,216μm,0.9s
HLNI AML AML
comp=N,174μm,0.2s
HLNI AML AML
comp=E,177μm,0.4s
HLNI AML AML
comp=E,188μm,0.5s
HLNI AML AML
comp=N,216μm,1.1s
RAFF Raffo Rosso 1.07 184 P Pb 02 40 33.9 +1.3
JOPP Joppolo 1.16 74 P Pn 02 40 32.9 -0.5
JOPP AML AML
comp=E,88μm,1.6s
JOPP AML AML
comp=N,98μm,0.5s
JOPP AML AML
comp=N,83μm,0.2s
JOPP AML AML
comp=E,81μm,0.3s
JOPP AML AML
comp=E,88μm,0.4s
AGST Augusta-Monte 1.20 149 P Pb 02 40 35.2 +0.4
AGST AML AML
comp=N,257μm,0.9s
AGST AML AML
comp=N,236μm,0.3s
AGST AML AML
comp=E,246μm,0.3s
AGST AML AML
comp=E,246μm,0.3s
AGST AML AML
comp=N,257μm,1.1s
SSY Sortino 1.23 157 P Pb 02 40 35.6 +0.1
SSY AML AML
comp=N,1123μm,0.7s
SSY AML AML
comp=N,932μm,0.3s
SSY AML AML
comp=E,526μm,0.4s
SSY AML AML
comp=E,526μm,0.4s
PLAC Placanica 1.56 84 P Pn 02 40 39.4 +0.6
PLAC AML AML
comp=E,97μm,0.8s
PLAC AML AML
comp=N,132μm,0.7s

PLAC					AML	AML		
	comp=N,132μm,0.7s							
PLAC					AML	AML		
	comp=N,89μm,0.6s							
PLAC					AML	AML		
	comp=E,110μm,0.7s							
PLAC					AML	AML		
	comp=E,82μm,0.3s							
CAR1	**CAROLEI**	**1.67**	**54**	P	Pn	02 40 40.7	+0.3	
CAR1				S	Sn	02 41 01.2	+0.2	
CAR1				AML	AML			
	comp=E,88μm,0.5s							
CAR1				AML	AML			
	comp=N,96μm,0.9s							
CAR1				AML	AML			
	comp=E,131μm,0.5s							
CAR1				AML	AML			
	comp=E,88μm,0.5s							
CAR1				AML	AML			
	comp=N,96μm,1.1s							
CET2	**Cetraro**	**1.70**	**43**	P	Pn	02 40 40.9	+0.1	
SPS2	**Spezzano della**	**1.78**	**55**	P	Pn	02 40 42.3	+0.5	
SPS2				AML	AML			
	comp=N,21μm,0.4s							
SPS2				AML	AML			
	comp=N,21μm,0.4s							
SPS2				AML	AML			
	comp=E,23μm,1.3s							
CUC	**Castrocucco**	**2.00**	**31**	P	Pn	02 40 45.6	+0.8	
TIP	**Timpagrande**	**2.00**	**63**	P	Pn	02 40 46.0	+1.0	
TIP				AML	AML			
	comp=E,29μm,1.4s							
TIP				AML	AML			
	comp=N,29μm,0.8s							
TIP				AML	AML			
	comp=E,29μm,0.6s							
MGR	**Morigerati**	**2.03**	**24**	P	Pn	02 40 45.6	+0.3	
SALB	**San Lorenzo Be**	**2.16**	**42**	P	Pn	02 40 48.6	+1.5	

IDC 25 03:11:35.7±1.9, 3°.19N×129°.07E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=114.7km s-min=19.0km az=72.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.43**	**189**	P	P	03 16 24.0	-1.5
	2.1nm,0.9s,baz=344,slow=7.4,SNR=2.0						
	2.1nm,0.9s						
WRA	**Warramunga Arr**	**23.57**	**168**	P	P	03 16 48.7	+0.6
	1.6nm,0.6s,baz=349,slow=9.9,SNR=11						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**27.11**	**170**	P	P	03 17 19.9	-0.7
	0.2nm,0.5s,baz=353,slow=8.7,SNR=8.6						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**59.34**	**324**	P	P	03 21 40.2	+0.6
	0.7nm,0.5s,baz=117,slow=8.5,SNR=10						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**63.46**	**327**	P	P	03 22 07.3	-0.1
	0.6nm,0.3s,baz=126,slow=5.8,SNR=7.9						
	0.6nm,0.3s						

IDC 25 03:13:17.6±5.2, 5°.65S×147°.55E, h197km±48km, mb3.3/2, mbtmp3.8/4, Error ellipse: s-maj=80.4km s-min=47.4km az=126.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.76**	**186**	P	Pn	03 14 17.7	+1.4
	23nm,0.3s,baz=12,slow=9.3,SNR=13						
PMG				S	Sn	03 15 01.9	-0.5
	13nm,0.3s,baz=119,slow=22,SNR=2.1						
WRA	**Warramunga Arr**	**19.16**	**221**	P	P	03 17 26.4	+0.1
	0.9nm,0.5s,baz=47,slow=12,SNR=9.3						
ASAR	**Alice Springs**	**22.22**	**215**	P	P	03 17 59.1	+0.8
	0.7nm,0.4s,baz=50,slow=8.2,SNR=18						
	0.7nm,0.4s						
FITZ	**Fitzroy Crossi**	**24.72**	**238**	P	P	03 18 20.5	-0.5
	2.5nm,0.5s,baz=57,slow=11,SNR=12						
	2.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**145.53**	**285**	PKPbc	PKPdf	03 32 32.4	-0.9
	1.0nm,1.3s,baz=52,slow=4.3,SNR=4.0						

NAO ***25*** *03:14:06.3, 36°.99N×22°.86E, h10km, mb3.8*
IDC ***25*** *03:14:24.6±1.2, 38°.86N×20°.54E, h0km, mb3.7/9, mbtmp3.6/15, ML3.5/4, MS2.7/3, Error ellipse: s-maj=21.1km s-min=16.6km az=47.0*
THE ***25*** *03:14:26.7, 38°.70N×20°.60E, h9km, ML3.6/8, Error ellipse: s-maj=1.1km s-min=0.5km az=280.0*
BEO ***25*** *03:14:26.5±0.9, 38°.52N×20°.27E, h40km±6km, ML3.4/17*
ATH ***25*** *03:14:26.8, 38°.70N×20°.63E, h12km±1km, ML3.4/6, Error ellipse: s-maj=1.7km s-min=0.8km az=277.0*

ISC 25 03:14:26.4±0.7, 38°.71N±0°.02×20°.60E±0°.03, h14km±3km, n126, σ1§32/145, mb3.7/9, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRAG	**Dragano-Lefkad**	**0.03**	**217**	P	**Pg**	**03 14 28.2**	**-0.7**
DRAG				S	**Sg**	**03 14 29.9**	**-0.7**
	1μm,0.4s						
DRAG	**Dragano-Lefkad**	**0.03**	**217**	P	**Pg**	**03 14 28.5**	**-0.4**
DRAG				S	**Sg**	**03 14 30.3**	**-0.4**
NYDR	**Nydri-Lefkada**	**0.08**	**87**	P	**Pg**	**03 14 28.7**	**-0.6**
NYDR				S	**Sg**	**03 14 30.0**	**-1.2**
	218μm,0.3s						
NYDR	**Nydri-Lefkada**	**0.08**	**87**	P	**Pg**	**03 14 28.8**	**-0.5**
NYDR				S	**Sg**	**03 14 30.4**	**-0.8**
LKD2	**Lefkada island**	**0.09**	**30**	P	**Pg**	**03 14 30.2**	**+0.8**
LKD2				S	**Sg**	**03 14 31.6**	**0.0**
	105μm,0.2s						
LKD2	**Lefkada island**	**0.09**	**30**	P	**Pg**	**03 14 30.3**	**+0.8**
LKD2				S	**Sg**	**03 14 32.4**	**+0.8**
EVGI	**Lefkada island**	**0.10**	**153**	P	**Pg**	**03 14 29.2**	**-0.3**
EVGI	**Lefkada island**	**0.10**	**153**	P	**Pg**	**03 14 29.3**	**-0.3**
TSLK	**Tsoukalades, L**	**0.12**	**21**	P	**Pg**	**03 14 29.4**	**-0.4**
TSLK				S	**Sg**	**03 14 31.7**	**-0.5**
	82μm,0.5s						
TSLK	**Tsoukalades, L**	**0.12**	**21**	P	**Pg**	**03 14 29.5**	**-0.4**
TSLK				S	**Sg**	**03 14 32.1**	**-0.1**
VSK1	**VASILIKIADES**	**0.30**	**185**	P	**Pg**	**03 14 32.4**	**-0.3**
VSK1				S	**Sg**	**03 14 36.3**	**-0.6**
	8μm,0.6s						
AST1	**Astakos**	**0.42**	**113**	P	**Pg**	**03 14 34.7**	**-0.1**
SMHA	**Samh**	**0.46**	**175**	P	**Pg**	**03 14 34.7**	**-0.8**
SMHA				S	**Sb**	**03 14 42.5**	**-0.5**
SMHA				AML	AML	03 14 50.0	
	comp=N,25486μm,0.5s						
SMHA				AML	AML	03 14 51.2	
	comp=E,25415μm,0.5s						
DMLN	**Damoulianata-K**	**0.50**	**201**	P	**Pg**	**03 14 35.9**	**-0.5**
DMLN	**Damoulianata-K**	**0.50**	**201**	P	**Pg**	**03 14 36.1**	**-0.2**
DMLN				S	**Sb**	**03 14 44.4**	**+0.1**
LXR1	**Lixouri, Cepha**	**0.52**	**194**	P	**Pg**	**03 14 36.6**	**-0.1**
VLS	**Valsamata**	**0.53**	**181**	P	**Pg**	**03 14 36.4**	**-0.5**
VLS	**Valsamata**	**0.53**	**181**	P	**Pg**	**03 14 36.5**	**-0.4**
VLS				S	**Sg**	**03 14 44.5**	**+0.6**
VLS				AML	AML	03 14 46.5	
	comp=E,9958μm,0.3s						
VLS				AML	AML	03 14 47.2	
	comp=N,6160μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.59**	**181**	P	**Pg**	**03 14 37.5**	**-0.5**
PSDA				S	**Sg**	**03 14 46.3**	**+0.3**
	comp=N,5μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.59**	**181**	P	**Pg**	**03 14 37.6**	**-0.5**
PSDA				S	**Sb**	**03 14 47.0**	**+0.1**
RTZL	**Ratzakli, Kefa**	**0.65**	**168**	P	**Pg**	**03 14 38.4**	**-0.7**
RTZL				S	**Sb**	**03 14 48.9**	**+0.5**
	comp=N,3μm,0.6s						
IGT	**Igoumenitsa**	**0.85**	**346**	P	**Pg**	**03 14 42.1**	**-0.8**
IGT	**Igoumenitsa**	**0.85**	**346**	P	**Pg**	**03 14 42.1**	**-0.8**
IGT				S	**Sb**	**03 14 54.8**	**+0.5**
IGT				AML	AML	03 14 59.4	
	comp=E,3880μm,0.3s						
IGT				AML	AML	03 15 00.1	
	comp=N,3627μm,0.4s						
RLS	**Riolos of Patr**	**0.94**	**133**	P	**Pg**	**03 14 43.6**	**-1.1**
RLS	**Riolos of Patr**	**0.94**	**133**	P	**Pg**	**03 14 43.8**	**-0.9**
JAN	**Janina**	**0.97**	**12**	P	**Pg**	**03 14 44.8**	**-0.3**
JAN	**Janina**	**0.97**	**12**	P	**Pg**	**03 14 44.9**	**-0.2**
JAN				S	**Sb**	**03 14 58.9**	**+1.2**
JAN				AML	AML	03 15 02.4	
	comp=N,3467μm,0.4s						
JAN				AML	AML	03 15 02.4	
	comp=E,5385μm,0.5s						
EVR	**Evrytania**	**0.97**	**77**	P	**Pg**	**03 14 45.0**	**-0.2**
EVR	**Evrytania**	**0.97**	**77**	P	**Pg**	**03 14 45.2**	**+0.1**
EVR				S	**Sg**	**03 14 57.2**	**-0.6**
EVR				AML	AML	03 15 06.9	
	comp=N,1915μm,0.8s						
EVR				AML	AML	03 15 07.7	
	comp=E,1371μm,0.4s						
KEK	**Kerkira**	**1.18**	**328**	P	**Pb**	**03 14 48.6**	**-0.1**
KEK	**Kerkira**	**1.18**	**328**	P	**Pb**	**03 14 49.1**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.23**	**75**	P	**Pn**	**03 14 49.2**	**-0.2**
KALE	**Kalithea**	**1.25**	**104**	P	**Pn**	**03 14 49.1**	**-0.5**
KALE	**Kalithea**	**1.25**	**104**	P	**Pn**	**03 14 49.1**	**-0.5**
SRN	**Sarande**	**1.26**	**339**	P	**Pn**	**03 14 49.4**	**-0.3**
KLV	**Kalavryta, Ach**	**1.39**	**118**	P	**Pn**	**03 14 50.9**	**-0.6**
KLV	**Kalavryta, Ach**	**1.39**	**118**	P	**Pn**	**03 14 51.1**	**-0.4**
THL	**Klokotos Trika**	**1.39**	**52**	P	**Pn**	**03 14 51.7**	**+0.2**
THL	**Klokotos Trika**	**1.39**	**52**	P	**Pn**	**03 14 52.1**	**+0.6**
LSK	**Leskovik**	**1.44**	**0**	P	**Pn**	**03 14 53.2**	**+1.0**
PENT	**Pentalofos**	**1.54**	**16**	P	**Pb**	**03 14 54.9**	**0.0**
AXAR	**Agios Charalam**	**1.61**	**87**	P	**Pn**	**03 14 55.3**	**+0.8**
TYRN	**Tyrnavos**	**1.62**	**51**	P	**Pn**	**03 14 55.5**	**+0.9**
TYRN				S	**Sb**	**03 15 16.7**	**+0.3**
	comp=E,975nm,0.8s						
LRSO	**Larissa Observ**	**1.69**	**55**	P	**Pn**	**03 14 56.5**	**+0.9**
KZN	**Kozani**	**1.83**	**29**	P	**Pb**	**03 15 00.0**	**+0.2**
NEO	**Neokhori**	**2.13**	**73**	P	**Pb**	**03 15 03.9**	**-1.0**
FNA	**Florina**	**2.16**	**16**	*e*Pn	**Pn**	**03 15 03.9**	**+1.8**
OHR	**Ohrid**	**2.40**	**4**	*e*Pn	**Pb**	**03 15 08.4**	**-1.2**
OHR	**Ohrid**	**2.40**	**4**	*i* Pn	**Pn**	**03 15 08.1**	**+2.6**
VAY	**Valandovo**	**3.02**	**29**	*e*Pn	**Pn**	**03 15 15.1**	**+1.3**
VAY	**Valandovo**	**3.02**	**29**	*i* Pn	**Pn**	**03 15 16.7**	**+2.8**
SRS	**Serrai**	**3.33**	**43**	*e*Pn	**Pn**	**03 15 19.9**	**+1.7**
PEHC	**Pehcevo**	**3.54**	**29**	*i* Pn	**Pn**	**03 15 23.5**	**+2.5**
KKB	**Krupnik**	**3.68**	**31**	*e*P	**Pn**	**03 15 21.2**	**-1.8**
MMB	**Musomishta**	**3.72**	**39**	*e*P	**Pn**	**03 15 26.4**	**+2.8**
PDG	**Podgorica**	**3.85**	**345**	*e*Pn	**Pn**	**03 15 25.2**	**-0.2**
BOSS	**Bosilegrad**	**4.04**	**20**	*e*Pn	**Pn**	**03 15 29.3**	**+1.3**
HCY	**Herceg Novi**	**4.06**	**337**	*e*Pn	**Pn**	**03 15 26.8**	**-1.4**
BARS	**Barje**	**4.21**	**12**	*e*Pn	**Pn**	**03 15 31.0**	**+0.8**
BARS				*e*Sn	**Sn**	**03 16 19.2**	**+0.1**
RZN	**Rozhen**	**4.35**	**45**	*e*P	Pn	03 15 26.5	-5.9
VTS	**Vitosha**	**4.39**	**26**	*e*P	**Pn**	**03 15 34.7**	**+1.9**
VTS	**Vitosha**	**4.39**	**26**	*e*Pn	**Pn**	**03 15 34.1**	**+1.3**
SELS	**Selova**	**4.52**	**5**	*e*Pn	**Pn**	**03 15 34.7**	**+0.1**
SJES	**Sjenica**	**4.57**	**354**	*e*Pn	**Pn**	**03 15 36.2**	**+0.9**
SJES				*e*Sn	**Sn**	**03 16 28.2**	**-0.1**
SJES	**Sjenica**	**4.57**	**354**	*e*Pn	**Pn**	**03 15 35.9**	**+0.6**
KDZ	**Kurdzhali**	**4.66**	**50**	*e*P	**Pn**	**03 15 41.1**	**+4.7**
UPM	**Unac-Piva**	**4.67**	**345**	*e*Pn	**Pn**	**03 15 37.8**	**+1.1**
STON	**Ston**	**4.70**	**333**	*e*Pn	**Pn**	**03 15 36.2**	**-0.8**
ZAPS	**Zavoj**	**4.81**	**18**	*e*Pn	**Pn**	**03 15 40.1**	**+1.5**
IDI	**Anoyia**	**4.84**	**134**	Pn	**Pn**	**03 15 42.0**	**+2.9**
	comp=E,4.4nm,0.7s,baz=318,slow=16,SNR=9.9						
IDI				Sn	**Sn**	**03 16 35.5**	**+0.5**
	comp=E,1.3nm,0.3s,baz=320,slow=14,SNR=3.5						
IVAS	**Ivanjica**	**4.87**	**356**	*e*Pn	**Pn**	**03 15 38.9**	**-0.5**
RUDO	**Rudo**	**4.99**	**350**	*e*Pn	**Pn**	**03 15 40.1**	**-0.9**
BOVS	**Bovan**	**4.99**	**9**	*e*Pn	**Pn**	**03 15 40.7**	**-0.3**
VAE	**Valguarnera**	**5.03**	**258**	Pn	**Pn**	**03 15 43.2**	**+1.6**
	comp=E,9.7nm,1.0s,baz=338,slow=9.2,SNR=1.8						
GRUS	**Gruza**	**5.17**	**1**	*e*Pn	**Pn**	**03 15 43.5**	**0.0**
MPEP	**Malo Peshtene**	**5.21**	**26**	*e*P	Pn	03 15 50.2	+6.2
BBLS	**Lazi&#263i**	**5.23**	**350**	*e*Pn	**Pn**	**03 15 43.9**	**-0.4**
BBLS	**Lazi&#263i**	**5.23**	**350**	*e*Pn	**Pn**	**03 15 43.4**	**-0.9**
ZAGS	**Zajecar**	**5.25**	**13**	*e*Pn	**Pn**	**03 15 44.6**	**+0.1**
DIVS	**Divibare**	**5.40**	**355**	*e*Pn	**Pn**	**03 15 46.3**	**-0.4**
DIVS				*e*Sn	**Sn**	**03 16 45.2**	**-3.6**
HAPS	**Han Pijesak,BI**	**5.51**	**348**	*e*Pn	**Pn**	**03 15 47.5**	**-0.8**
KUBS	**Kucevo**	**5.75**	**8**	*e*Pn	**Pn**	**03 15 50.3**	**-1.2**
TEKS	**Tekeris**	**5.89**	**353**	*e*Pn	**Pn**	**03 15 52.0**	**-1.3**
TEKS	**Tekeris**	**5.89**	**353**	*e*Pn	**Pn**	**03 15 52.1**	**-1.3**
FRGS	**Fruska Gora**	**6.47**	**355**	*e*Pn	**Pn**	**03 15 59.1**	**-2.3**
FRGS	**Fruska Gora**	**6.47**	**355**	*e*Pn	**Pn**	**03 15 59.0**	**-2.3**
A050A	**Klekovaca**	**6.52**	**333**	*e*Pn	**Pn**	**03 16 02.1**	**0.0**
BLY	**Banja Luka**	**6.55**	**338**	*e*Pn	**Pn**	**03 16 02.3**	**-0.1**
A051A	**Mrakovica**	**6.87**	**338**	*e*Pn	**Pn**	**03 16 05.4**	**-1.5**
MLR	**Muntele Rosu**	**7.85**	**29**	Pn	Pn	03 16 25.6	+5.2
	comp=E,0.6nm,0.3s,baz=247,slow=12,SNR=8.0						
BOJS	**Bojanci**	**7.87**	**331**	*e*Pn	**Pn**	**03 16 19.6**	**-0.8**
CRES	**Cresnjevec Ost**	**8.07**	**333**	*e*Pn	**Pn**	**03 16 21.3**	**-1.9**
CEY	**Cerknica**	**8.38**	**329**	*e*Pn	**Pn**	**03 16 26.3**	**-1.3**
SKDS	**Skadanscina**	**8.40**	**327**	*e*Pn	**Pn**	**03 16 26.3**	**-1.5**
OBKA	**Obir**	**8.98**	**332**	*e*Pn	**Pn**	**03 16 35.6**	**-0.1**
	comp=E,3.2nm,0.4s						
OBKA	**Obir**	**8.98**	**332**	*e*Pn	**Pn**	**03 16 34.5**	**-1.3**
ARSA	**Arzberg**	**9.31**	**338**	*e*Pn	**Pn**	**03 16 39.0**	**-1.2**
	comp=E,2.7nm,0.6s						
KEST	**Kesra**	**9.45**	**255**	Pn	**Pn**	**03 16 47.0**	**+4.6**
	comp=E,0.1nm,0.3s,baz=337,slow=13,SNR=1.6						
CONA	**Conrad Observa**	**9.84**	**341**	*e*Pn	**Pn**	**03 16 44.5**	**-3.1**
	comp=E,0.4nm,0.3s						
VYHS	**Vyhne**	**9.86**	**353**	*e*PN	**Pn**	**03 16 45.6**	**-2.2**
KBA	**Koelnbreinsper**	**9.91**	**330**	*e*Pn	**Pn**	**03 16 47.1**	**-1.5**
	comp=E,1.0nm,0.4s						
ABTA	**Abfaltersbach**	**9.99**	**326**	*e*Pn	**Pn**	**03 16 47.5**	**-2.1**
	comp=E,1.8nm,0.4s						
BRTR	**Keskin Array B**	**10.17**	**80**	Pn	**Pn**	**03 16 56.3**	**+4.1**
	comp=E,0.1nm,0.3s,baz=279,slow=11,SNR=2.5						
	comp=E,0.3nm,0.5s						
MOA	**Molln**	**10.23**	**335**	*e*Pn	**Pn**	**03 16 51.5**	**-1.4**
	comp=E,2.9nm,0.5s,SNR=7.0						
BIOA	**Bad Ischl, Aus**	**10.31**	**333**	*e*Pn	**Pn**	**03 16 52.6**	**-1.3**
	comp=E,1.5nm,0.4s						
LESA	**Schwarzleotal**	**10.46**	**329**	*e*Pn	**Pn**	**03 16 55.5**	**-0.6**
	comp=E,1.6nm,0.4s						
WTTA	**Wattenberg**	**10.77**	**325**	*e*Pn	**Pn**	**03 16 58.8**	**-1.6**
	comp=E,1.8nm,0.4s						
WATA	**Walderalm**	**10.85**	**325**	*e*Pn	**Pn**	**03 17 01.5**	**0.0**
	comp=E,2.2nm,0.5s,SNR=5.7						
SQTA	**Sankt Quirin**	**10.93**	**324**	*e*Pn	**Pn**	**03 17 03.0**	**+0.4**
	comp=E,1.2nm,0.5s						
VRAC	**Vranov**	**10.98**	**346**	Pn	**Pn**	**03 17 02.1**	**-1.0**
	comp=E,0.1nm,0.3s,baz=161,slow=13,SNR=3.9						
VRAC				LR	LR	03 21 15.5	
	comp=E,29nm,19.1s,baz=214,slow=38						
	comp=E,1.1nm,0.7s						
MOTA	**Moosalm**	**11.07**	**324**	*e*Pn	**Pn**	**03 17 04.2**	**-0.3**
	comp=E,2.7nm,0.7s						
CKRC	**Cesky Krumlov**	**11.08**	**338**	*e*PN	**Pn**	**03 17 02.3**	**-2.1**
DAVOX	**Davos/Dischmat**	**11.27**	**319**	Pn	**Pn**	**03 17 07.2**	**0.0**
	comp=E,0.2nm,0.3s,baz=166,slow=19,SNR=2.4						
	comp=E,0.6nm,0.4s						
GERES	**GERESS Array B**	**11.29**	**336**	Pn	**Pn**	**03 17 05.7**	**-1.7**
	comp=E,0.3nm,0.3s,baz=149,slow=16,SNR=8.9						
	comp=E,1.0nm,0.5s						
KHC	**Kasperske Hory**	**11.58**	**336**	*e*PN	**Pn**	**03 17 09.9**	**-1.4**
HFS	**Hagfors**	**21.89**	**351**	P	**P**	**03 19 17.7**	**-1.1**
	comp=E,1.9nm,0.6s,baz=161,slow=9.9,SNR=7.7						
	comp=E,1.9nm,0.6s						
FINES	**FINESS Array B**	**23.01**	**7**	P	**P**	**03 19 28.6**	**-2.1**
	comp=E,1.8nm,0.6s,baz=163,slow=10,SNR=15						
	comp=E,1.8nm,0.6s						
EKA	**Eskdalemuir Ar**	**23.03**	**324**	P	**P**	**03 19 30.0**	**-1.0**
	comp=E,3.0nm,0.7s,baz=124,slow=10,SNR=10						
	comp=E,3.0nm,0.7s						
NB2	**NORSAR Subarra**	**23.11**	**348**	P	**P**	**03 19 30.8**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=158,slow=9.3						
NOA	**NORSAR Array B**	**23.11**	**348**	P	**P**	**03 19 30.4**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=158,slow=9.2,SNR=6.7						
NOA				LR	LR	03 30 41.6	
	comp=Z,14nm,19.4s,baz=290,slow=43						
	comp=Z,0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**30.48**	**218**	P	**P**	**03 20 38.9**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=32,slow=10.0,SNR=2.5						
	comp=Z,0.3nm,0.6s						
ARTI	**Arti**	**30.52**	**42**	LR	LR	03 33 45.8	
	comp=Z,20nm,18.1s,baz=329,slow=38						
ARCES	**ARCESS Array B**	**31.00**	**3**	P	**P**	**03 20 41.7**	**-1.5**
	comp=Z,3.3nm,0.9s,baz=184,slow=11,SNR=4.5						
	comp=Z,3.3nm,0.9s						
BVAR	**Borovoye Array**	**36.73**	**50**	P	**P**	**03 21 32.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=286,slow=5.8,SNR=2.2						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**44.97**	**59**	P	**P**	**03 22 40.8**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=278,slow=7.0,SNR=4.3						
	comp=Z,0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**45.29**	**48**	P	**P**	**03 22 43.2**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=276,slow=8.3,SNR=3.5						
	comp=Z,0.9nm,0.3s						

KRSC ***25*** *03:16:42.4±1.8, 48°.27N×156°.61E, h7km±33km, Ml4.7*
MOS ***25*** *03:16:44.6±0.9, 48°.34N×155°.17E, h40km, mb4.5/17, Error ellipse: s-maj=9.5km s-min=4.1km az=74.3*
BJI ***25*** *03:16:44.7, 48°.42N×155°.07E, h43km, mb4.5/17, mB5.0/6, Ms4.2/5, Ms7 3.8/4*
SKHL ***25*** *03:16:46.8±0.2, 48°.40N×155°.10E, h80km±5km, mb5.0/7, ms4.6/1*
NEIC ***25*** *03:16:46.3±1.6, 48°.42N±0°.09×155°.03E±0°.06, h35km±1km, mb4.6/92, Error ellipse: s-maj=16.0km s-min=5.0km az=340.0*
IDC ***25*** *03:16:47.5±2.7, 48°.46N×154°.91E, h53km±24km, mb3.8/23, mbtmp4.1/27, ML3.7/3, MS3.4/13, Error ellipse: s-maj=15.7km s-min=11.7km az=132.0*

ISC 25 03:16:46.6±0.4, 48°.37N±0°.05×155°.09E±0°.05, h43km, n258, σ1§31/259, mb4.5/94, MS3.2/6, 7C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.41**	**16**	*e*P	**Pn**	**03 17 22.9**	**-0.5**
SKR	**Severo-Kuril's**	**2.41**	**16**	*i* P	**Pn**	**03 17 23.3**	**-0.1**
SKR				AMB	AMB	03 17 24.1	
	3μm,6.7s						
SKR				AMB	AMB	03 17 26.8	
	260nm,0.5s						
SKR				*i* S	**Sn**	**03 17 50.7**	**-1.0**
SKR				A	A	03 17 56.7	
	720nm,0.5s						
SKR				A	A	03 17 56.7	
	790nm,0.5s						
SKR				AMS	AMS	03 18 52.5	
	19μm,13.0s						
SKR				AMS	AMS	03 18 52.5	
	7μm,13.0s						
SKR				AMS	AMS	03 18 52.5	
	3μm,13.0s						
SKR	**Severo-Kuril's**	**2.41**	**16**	*i*PN	**Pn**	**03 17 22.3**	**-1.1**
SKR				*i* S	**Sn**	**03 17 50.3**	**-1.4**
SKR				pmax	pmax		
	comp=Z,919nm,0.6s						
SKR				pmax	pmax		
	comp=Z,3μm,6.7s						
SKR				smax	smax		
	comp=E,4μm,0.6s						
SKR				smax	smax		
	comp=N,2μm,0.6s						
SKR				MLR	MLR		
	comp=Z,3μm,14.0s						
SKR				MLR	MLR		
	comp=E,7μm,12.0s						
SKR				MLR	MLR		
	comp=N,19μm,13.0s						
PAU	**Pauzhetka**	**3.29**	**19**	*e*P	**Pn**	**03 17 36.1**	**+0.4**
PAU	**Pauzhetka**	**3.29**	**19**	*e*P	**Pn**	**03 17 36.0**	**+0.4**
PAU				AMB	AMB	03 17 40.7	
	comp=N,180nm,0.5s						
PAU				*e*S	**Sn**	**03 18 12.8**	**-0.7**
PAU				A	A	03 18 16.3	
	comp=N,460nm,0.6s						
PAU				A	A	03 18 16.3	
	comp=N,530nm,0.6s						
PAU	**Pauzhetka**	**3.29**	**19**	PN	**Pn**	**03 17 36.0**	**+0.4**
KDTR	**Khodutka, Kamc**	**3.94**	**28**	*e*P	**Pn**	**03 17 43.6**	**-0.9**
KDTR				*e*S	**Sn**	**03 18 27.4**	**-2.0**
KDTR	**Khodutka, Kamc**	**3.94**	**28**	*i* P	**Pn**	**03 17 43.7**	**-0.8**
KDTR				*e*S	**Sn**	**03 18 26.5**	**-2.9**
KDTR	**Khodutka, Kamc**	**3.94**	**28**	PN	**Pn**	**03 17 43.5**	**-0.9**
ASAK	**Asacha**	**4.40**	**23**	*e*P	**Pn**	**03 17 51.0**	**+0.1**
ASAK	**Asacha**	**4.40**	**23**	PN	**Pn**	**03 17 51.0**	**+0.1**
MTVR	**Mutnovka**	**4.57**	**24**	*e*P	**Pn**	**03 17 52.9**	**-0.4**
MTVR				*e*S	**Sn**	**03 18 44.9**	**-0.1**
MTVR	**Mutnovka**	**4.57**	**24**	PN	**Pn**	**03 17 52.8**	**-0.4**
MTVR				S	**Sn**	**03 18 44.9**	**-0.1**
GRL	**Gorelyy**	**4.60**	**23**	*e*P	**Pn**	**03 17 53.8**	**+0.2**
GRL	**Gorelyy**	**4.60**	**23**	PN	**Pn**	**03 17 53.8**	**+0.2**
RUS	**Russkaya**	**4.62**	**27**	*e*P	**Pn**	**03 17 52.3**	**-1.5**
RUS	**Russkaya**	**4.62**	**27**	PN	**Pn**	**03 17 52.2**	**-1.5**
APC	**Apacha**	**4.75**	**15**	*e*P	**Pn**	**03 17 57.4**	**+1.9**
APC	**Apacha**	**4.75**	**15**	PN	**Pn**	**03 17 57.4**	**+1.9**
KRMR	**Karymshinskiy**	**4.87**	**22**	*e*P	**Pn**	**03 17 57.4**	**+0.2**
KRMR	**Karymshinskiy**	**4.87**	**22**	*e*P	**Pn**	**03 17 56.6**	**-0.6**
KRMR	**Karymshinskiy**	**4.87**	**22**	PN	**Pn**	**03 17 57.3**	**+0.2**
PEA0B	**Petropavlovsk-**	**5.03

comp=Z,2.4nm,0.3s,baz=75,slow=13,SNR=13
ASAJ LR LR 03 22 25.3
comp=Z,187nm,19.8s,baz=42,slow=35
comp=Z,21nm,0.9s
ASAJ Asahikawa 9.64 248 PN **Pn 03 19 04.0 +1.3**
ERM Erimo 10.54 237 Pn **Pn 03 19 14.3 -0.6**
ERM Erimo 10.54 237 PN **Pn 03 19 14.3 -0.6**
MA2 Magadan 11.51 349 LR LR 03 24 28.7
comp=Z,137nm,18.8s,baz=150,slow=40
SHEM Shemya Is, Ala 12.84 63 LR LR 03 25 29.0
comp=Z,76nm,19.5s,baz=273,slow=40
TEY Ternei 13.12 262 *e*PN **P 03 19 57.4 -1.9**
KLR Kul'dur 15.40 282 P **P 03 20 23.5 -1.1**
comp=Z,1.6nm,0.5s,baz=97,slow=16,SNR=5.6
KLR LR LR 03 26 05.2
comp=Z,147nm,20.3s,baz=86,slow=36
USA0B Ussuriysk Arra 16.48 264 P **P 03 20 38.1 +1.4**
USA0B Ussuriysk Arra 16.48 264 P **P 03 20 38.1 +1.4**
USA0B pmax pmax
comp=Z,9.0nm,0.6s
USRK Ussuriysk Ar. 16.48 264 P **P 03 20 38.5 +1.8**
USRK Ussuriysk Ar. 16.48 264 P **P 03 20 37.6 +0.9**
comp=Z,8.8nm,0.5s,baz=62,slow=12,SNR=26
USRK LR LR 03 27 21.0
comp=Z,85nm,18.4s,baz=0.3,slow=39
USRK Ussuriysk Ar. 16.48 264 P **P 03 20 38.5 +1.8**
MAJO Matsushiro 17.13 233 **Pn 03 20 43.0 +0.3**
MAJO Matsushiro 17.13 233 P **Pn 03 20 43.0 +0.3**
MAJO pmax pmax
comp=Z,9.0nm,1.2s
MJAR Matsushiro Arr 17.13 233 P **Pn 03 20 43.0 +0.3**
baz=36,slow=13,SNR=3.1
comp=Z,1.6nm,0.8s
MJB9 Matsu-Tunnel 17.13 233 Pn **Pn 03 20 41.2 -1.5**
MSHR Mys Shultsa 17.72 260 *i* P **Pn 03 20 50.0 +0.1**
MSHR pmax pmax
comp=Z,22nm,1.1s
HEH HeiHe 18.11 286 *e*P **Pn 03 20 56.3 +1.7**
HEH pmax pmax
comp=Z,17nm,1.1s
JGF Kuroka 18.29 232 P **P 03 20 56.6 -0.2**
BNX BinXian 19.01 272 ⇓P **P 03 21 04.0 -0.5**
BNX pmax pmax
comp=Z,4.0nm,1.2s
YAK Yakutsk 19.75 323 **P 03 21 11.4 -1.1**
YAK IAmb IAmb 03 21 16.2
comp=Z,26nm,0.7s
YAK Yakutsk 19.75 323 P **P 03 21 11.0 -1.5**
comp=Z,21nm,0.5s,baz=100,slow=1.5,SNR=6.0
YAK LR LR 03 28 49.0
comp=Z,128nm,18.3s,baz=91,slow=37
YAK Yakutsk 19.75 323 *e*P **Pn 03 21 13.9 -0.3**
YAK Yakutsk 19.75 323 *e*P **Pn 03 21 14.1 -0.1**
YAK pmax pmax
comp=Z,21nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.1s
BILL Bilibino 20.52 12 P **P 03 21 17.9 -2.9**
BILL Bilibino 20.52 12 *i* P Pn 03 21 24.3 +1.1
BILL pmax pmax
comp=Z,29nm,3.5s
CN2 Changchun 20.99 269 *e*P **P 03 21 23.4 -2.7**
CN2 *e*PP **PnPn 03 21 45.8 0.0**
KSRS Korea Array 22.57 251 P **P 03 21 42.9 -0.1**
comp=Z,3.1nm,0.6s,baz=46,slow=10,SNR=13
comp=Z,3.1nm,0.6s
JNU Nakatsue 23.70 239 LR LR 03 30 21.9
comp=Z,51nm,20.4s,baz=41,slow=34
TIXI Tiksi 26.32 342 P **P 03 22 18.4 +0.6**
TIXI Tiksi 26.32 342 *e*P **P 03 22 18.7 +0.9**
TIXI Tiksi 26.32 342 *i* P **P 03 22 18.7 +0.9**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
J17K VABM Dome 29.00 42 P **P 03 22 41.5 -0.4**
J17K IAmb IAmb 03 23 22.5
comp=Z,30nm,1.4s
G18K Tagagawik 29.68 37 P **P 03 22 48.1 +0.3**
JOW Kunigami 29.96 234 LR LR 03 34 44.7
comp=Z,66nm,20.6s,baz=169,slow=36
H11N2 WAKE ISLAND Hy 30.12 157 T T 03 54 32.8
baz=345,slow=76,SNR=217
H11N1 WAKE ISLAND Hy 30.14 157 T T 03 54 37.0
baz=345,slow=76,SNR=265
H11N3 WAKE ISLAND Hy 30.14 157 T T 03 54 32.5
baz=345,slow=76,SNR=153
H11S1 WAKE ISLAND Hy 31.25 158 T T 03 56 01.6
baz=344,slow=76,SNR=2303
H11S3 WAKE ISLAND Hy 31.26 158 T T 03 55 55.8
baz=344,slow=76,SNR=3651
H11S2 WAKE ISLAND Hy 31.26 158 T T 03 56 03.0
baz=344,slow=76,SNR=2010
HHC Hu-ho-hao-te 31.54 273 *e*P **P 03 23 00.1 -4.5**
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,69nm,3.5s
P19K Oil Pt 31.57 50 P **P 03 23 04.8 +0.1**
IMAR Indian Mountai 31.67 37 P **P 03 23 05.6 +0.2**
OHAK Old Harbor 31.73 54 P **P 03 23 06.3 +0.4**
OHAK IAmb IAmb 03 23 44.6
comp=Z,30nm,1.4s
NJ2 Nanjing 31.76 253 *e*P **P 03 23 07.4 +0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KDAK Kodiak Island 32.05 53 P **P 03 23 09.4 +0.6**
KDAK Kodiak Island 32.05 53 LR LR 03 38 59.8
comp=Z,40nm,18.2s,baz=108,slow=42
KDAK Kodiak Island 32.05 53 P **P 03 23 09.4 +0.6**
KDAK pmax pmax
comp=Z,55nm,1.3s
SONM Songino Array 32.09 288 LR LR 03 37 17.2
comp=Z,138nm,18.0s,baz=69,slow=38
CAPN Captain Cook N 32.56 47 P **P 03 23 14.0 +0.8**
CNPM China Poot 32.60 50 P **P 03 23 13.8 +0.1**
SUA Susitna One 32.74 46 P **P 03 23 19.3 +4.4**
RC01 Rabbit Creek A 33.24 47 P **P 03 23 17.9 -1.2**
SML Sawmill 33.88 45 P **P 03 23 24.3 -0.4**
WRH Wood River Hil 33.93 41 P **P 03 23 25.5 +0.4**
WRH IAmb IAmb 03 24 09.5
comp=Z,6.9nm,1.3s
CCB Clear Creek Bu 34.05 40 P **P 03 23 26.0 -0.1**
LYN LuoYang 34.34 262 P **P 03 23 32.8 +3.8**
LYN pmax pmax
comp=Z,15nm,0.7s
HDA Harding Lake 34.42 41 P **P 03 23 29.2 -0.2**
HDA IAmb IAmb 03 24 09.1
comp=Z,11nm,1.4s
ILAR Eielson Array 34.45 40 P **P 03 23 29.1 -0.5**
comp=Z,1.1nm,0.7s,baz=256,slow=7.3,SNR=10
ILAR LR LR 03 39 27.2
comp=Z,45nm,18.1s,baz=264,slow=40
comp=Z,1.1nm,0.7s
FID Port Fidalgo 34.85 47 P **P 03 23 33.4 +0.3**
D25K Kavik River 34.89 32 IAmb IAmb 03 23 44.2
comp=Z,5.2nm,0.7s
PRP Porcupine Dome 35.02 39 P **P 03 23 35.0 +0.3**
FYU Fort Yukon 35.15 37 P **P 03 23 35.0 -0.6**
FYU IAmb IAmb 03 23 37.6
comp=Z,15nm,0.9s
BMAR Burnt Mountain 35.42 35 P **P 03 23 38.8 +0.7**
BCAR Beaver Creek A 36.80 43 P **P 03 23 51.1 +1.2**
EGAK Eagle 36.90 40 P **P 03 23 50.2 -0.4**
EGAK IAmb IAmb 03 24 29.8
comp=Z,11nm,1.4s
F28M Old Crow 37.23 35 P **P 03 23 54.1 +0.6**
F28M IAmb IAmb 03 24 07.8
comp=Z,8.5nm,1.4s
LOGN Logan Glacier 37.50 46 P **P 03 23 55.7 -0.3**
G29M Pine Creek 38.00 36 IAmb IAmb 03 24 03.5
comp=Z,8.9nm,1.1s
NRIK Noril'sk 38.08 328 *i* P **P 03 24 02.1 +1.6**
NRIK pmax pmax
comp=Z,1.0nm,1.1s
L29M L29M 38.44 42 P **P 03 24 04.5 +0.8**
HYT Haines Junctio 39.18 46 P **P 03 24 09.0 -1.0**
HYT IAmb IAmb 03 24 13.9
comp=Z,20nm,1.5s
LZH Lanzhou 39.18 271 *e*P **P 03 24 14.9 +4.5**
LZH sP sP 03 24 28.4 +1.2
LZH pmax pmax
comp=Z,14nm,1.0s
G31M Satah River 39.46 36 P **P 03 24 12.3 +0.2**
INK Inuvik 39.56 34 P **P 03 24 13.8 +0.9**
INK Inuvik 39.56 34 P **P 03 24 13.8 +0.9**
INK pmax pmax
comp=Z,4.0nm,1.2s
O30N Mendenhall 39.87 46 P **P 03 24 16.3 +0.6**
O30N IAmb IAmb 03 24 24.1
comp=Z,14nm,1.2s
M31M Drury Creek, Y 40.31 43 P **P 03 24 17.4 -1.9**
M31M IAmb IAmb 03 24 58.7
comp=Z,12nm,1.5s
S31K Pelican 40.56 50 P **P 03 24 21.5 +0.2**
A36M Sachs Harbour 41.80 27 P **P 03 24 32.3 +1.0**
A36M IAmb IAmb 03 24 42.8
comp=Z,7.0nm,0.8s
PZH PanZhiHua 46.57 262 P **P 03 25 12.0 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
EUNU Eureka 47.27 12 P **P 03 25 15.7 +0.7**
EUNU IAmb IAmb 03 25 25.9
comp=Z,4.1nm,0.6s
MK31 Makanchi Array 47.39 297 P **P 03 25 15.9 -0.4**
MK31 Makanchi Array 47.39 297 P **P 03 25 15.9 -0.4**
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 47.39 297 P **P 03 25 16.4 +0.1**
MKAR Makanchi Array 47.39 297 P **P 03 25 14.1 -2.3**
comp=Z,2.7nm,0.6s,baz=70,slow=8.0,SNR=23
MKAR LR LR 03 46 36.7
comp=Z,68nm,19.1s,baz=40,slow=38
comp=Z,2.7nm,0.6s
MKAR Makanchi Array 47.39 297 *ce*P **P 03 25 20.7 +4.4**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
HLK Haleakala 47.56 108 P **P 03 25 19.7 +1.5**
MAKZ Makanchi 47.57 297 P **P 03 25 17.0 -0.7**
MAKZ IAmb IAmb 03 25 47.2
comp=Z,8.9nm,1.2s
MAKZ Makanchi 47.57 297 P **P 03 25 17.0 -0.7**
MAKZ pmax pmax
comp=Z,9.0nm,1.3s
KURK Kurchatov 47.59 303 *i* P **P 03 25 17.7 0.0**
KURK pmax pmax
comp=Z,6.0nm,1.5s
KURBB Kurchatov Arra 47.69 303 P **P 03 25 16.9 -1.6**
comp=Z,1.4nm,0.5s,baz=68,slow=8.5,SNR=8.3
comp=Z,1.4nm,0.5s
YKA Yellowknife Ar 48.82 38 P **P 03 25 27.6 +0.5**
comp=Z,1.1nm,0.8s,baz=300,slow=7.8,SNR=6.0
comp=Z,1.1nm,0.8s
YKA Yellowknife Ar 48.82 38 *ce*P **P 03 25 27.7 +0.6**
YKA pmax pmax
comp=Z,2.0nm,0.9s
RES Resolute Bay 48.87 19 P **P 03 25 27.8 +0.5**
RES Resolute Bay 48.87 19 P **P 03 25 27.8 +0.5**
RES pmax pmax
comp=Z,3.0nm,0.9s
UWE Uwekahuna 49.15 108 P **P 03 25 30.2 -0.1**
BYL Byron's Ledge 49.18 108 P **P 03 25 31.4 +1.0**
BVAR Borovoye Array 50.87 309 P **P 03 25 39.8 -3.0**
comp=Z,2.6nm,0.5s,baz=59,slow=8.3,SNR=14
BVAR PcP **PcP 03 26 58.3 -0.5**
comp=Z,0.7nm,0.5s,baz=347,slow=1.8,SNR=1.9
comp=Z,2.6nm,0.5s
BRVK Borovoye 50.91 309 P **P 03 25 43.4 +0.4**
BRVK IAmb IAmb 03 25 44.7
comp=Z,3.2nm,0.7s
BRVK Borovoye 50.91 309 P **P 03 25 43.4 +0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
KBS Kingsbay 51.10 351 P **P 03 25 42.7 -1.4**
KBS Kingsbay 51.10 351 P **P 03 25 42.7 -1.4**
KBS pmax pmax
comp=Z,40nm,1.4s
NEEM North Greenlan 53.40 7 *i* P **P 03 25 59.6 -1.9**
NEEM IAmb IAmb 03 26 02.4
comp=Z,7.1nm,1.0s
CMAR Chiang Mai Arr 54.05 257 P **P 03 26 07.2 +0.5**
comp=Z,1.7nm,0.3s,baz=31,slow=7.4,SNR=6.6
comp=Z,1.7nm,0.3s
ARTI Arti 54.83 317 P **P 03 26 11.7 -0.2**
ARTI IAmb IAmb 03 26 33.8
comp=Z,6.0nm,1.3s
ARTI Arti 54.83 317 P **P 03 26 11.7 -0.2**
ARTI pmax pmax
comp=Z,6.0nm,1.3s
KRMB Red Mountain 55.22 65 P **P 03 26 15.6 +0.6**
KRMB IAmb IAmb 03 26 25.6
comp=Z,20nm,1.4s
KSH Kashi 55.27 292 P **P 03 26 20.3 +4.8**
KSH pmax pmax
comp=Z,6.0nm,1.4s
J05D Fort Rock, OR 55.75 61 P **P 03 26 20.2 +1.2**
J05D IAmb IAmb 03 26 51.5
comp=Z,5.8nm,1.3s
L04D Klamath Falls 55.76 63 P **P 03 26 20.2 +1.2**
L04D IAmb IAmb 03 26 20.7
comp=Z,7.5nm,0.9s
BMO Blue Mountains 57.07 58 P **P 03 26 28.1 0.0**
BMO Blue Mountains 57.07 58 P **P 03 26 28.2 0.0**
BMO pmax pmax
comp=Z,2.0nm,0.9s
PLID Pearl Lake 57.66 57 P **P 03 26 33.3 +0.8**
PLID IAmb IAmb 03 26 34.6
comp=Z,5.7nm,0.8s
ABKAR Abkulak array 58.41 310 P **P 03 26 36.7 -0.8**
ABKAR Abkulak array 58.41 310 P **P 03 26 36.3 -1.1**
SUMG Summit 58.98 5 P **P 03 26 42.0 +0.4**
SUMG IAmb IAmb 03 26 42.9
comp=Z,5.5nm,0.8s
SUMG Summit 58.98 5 P **P 03 26 42.0 +0.4**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 58.98 5 *i* P **P 03 26 41.0 -0.5**
SUMG IAmb IAmb 03 26 42.5
comp=Z,4.9nm,0.8s
FCC Fort Churchill 59.17 35 P **P 03 26 42.5 0.0**
FCC IAmb IAmb 03 26 53.3
comp=Z,6.6nm,1.1s
FCC Fort Churchill 59.17 35 P **P 03 26 42.5 0.0**
FCC pmax pmax
comp=Z,7.0nm,1.1s
PNTR Pine Nut 59.31 64 P **P 03 26 43.2 -0.9**
PNTR IAmb IAmb 03 27 12.7
comp=Z,3.8nm,0.9s
HLID Hailey 59.50 58 P **P 03 26 45.9 +0.6**
BOZ Bozeman (W) 59.74 54 P **P 03 26 47.8 +0.9**
BOZ IAmb IAmb 03 26 48.9
comp=Z,4.5nm,1.1s
BOZ Bozeman (W) 59.74 54 P **P 03 26 47.8 +0.9**
BOZ pmax pmax
comp=Z,5.0nm,1.1s
NVAR Mina Array Bea 60.51 64 P **P 03 26 52.6 +0.2**
comp=Z,0.5nm,0.6s,baz=294,slow=8.1,SNR=4.9
comp=Z,0.5nm,0.6s
RLMT Red Lodge 61.32 53 P **P 03 26 59.9 +2.1**
SCO Scoresbysund 61.44 359 *i* P **P 03 26 57.9 0.0**
SCO IAmb IAmb 03 27 00.6
comp=Z,1.8nm,1.1s
TPAW Teton Pass 61.47 56 P **P 03 26 59.7 +0.8**
TPAW IAmb IAmb 03 27 01.6
comp=Z,3.8nm,0.9s
DGMT Dagmar 61.72 48 P **P 03 27 00.7 +0.5**
DGMT IAmb IAmb 03 27 01.8
comp=Z,6.6nm,0.8s
LAO LASA Array 61.89 50 P **P 03 27 02.9 +1.5**
LAO IAmb IAmb 03 27 03.1
comp=Z,6.0nm,0.8s
ICESG Greenland Ices 62.35 6 *i* P **P 03 27 03.0 -1.4**
ICESG IAmb IAmb 03 27 05.4
comp=Z,10nm,0.6s
PDAR Pinedale Array 62.72 56 P **P 03 27 07.5 +0.3**
comp=Z,1.8nm,0.8s,baz=289,slow=2.4,SNR=14
comp=Z,1.8nm,0.8s
COEN Coen 62.95 193 P **P 03 27 08.4 -0.2**
COEN IAmb IAmb 03 27 45.1
comp=Z,7.9nm,1.4s
FIA1 FINESS Array S 63.14 335 P **P 03 27 07.9 -1.4**
FINES FINESS Array B 63.14 335 P **P 03 27 08.7 -0.6**
FINES FINESS Array B 63.14 335 P **P 03 27 08.4 -0.9**
comp=Z,3.8nm,1.0s,baz=28,slow=6.8,SNR=12
comp=Z,3.8nm,1.0s
FINES FINESS Array B 63.14 335 *ce*P **P 03 27 09.1 -0.2**
FINES pmax pmax
comp=Z,4.0nm,1.0s
OBN Obninsk 64.72 326 *e*P **P 03 27 19.6 -0.2**
OBN pmax pmax
comp=Z,2.0nm,0.6s
RSSD Black Hills 64.76 51 P **P 03 27 21.2 +0.6**
RSSD Black Hills 64.76 51 P **P 03 27 21.2 +0.6**
RSSD pmax pmax
comp=Z,10.0nm,0.7s
HMU Henry Mountain 65.30 60 P **P 03 27 25.2 +1.0**
HMU IAmb IAmb 03 27 25.8
comp=Z,3.2nm,0.8s
NC204 NORSAR Array S 67.00 342 P **P 03 27 35.0 +0.5**
NC204 IAmb IAmb 03 27 57.4
comp=Z,15nm,1.4s
NOA NORSAR Array B 67.12 342 P **P 03 27 33.7 -1.5**
comp=Z,0.6nm,0.8s,baz=27,slow=6.5,SNR=2.1
comp=Z,0.6nm,0.8s
HFS Hagfors 67.40 340 P **P 03 27 36.7 -0.3**
comp=Z,1.3nm,0.8s,baz=90,slow=3.2,SNR=4.3
comp=Z,1.3nm,0.8s
OGNE Ogallala 68.04 53 P **P 03 27 41.9 +0.4**
ECSD EROS Data Cent 68.80 48 P **P 03 27 45.7 -0.4**
ECSD IAmb IAmb 03 27 47.2
comp=Z,5.6nm,0.8s
WB0 Warramunga Arr 70.31 201 P **P 03 27 55.0 -0.5**
WB0 IAmb IAmb 03 27 55.8
comp=Z,4.7nm,0.8s
WR0 Warramunga Arr 70.46 201 **P 03 27 55.7 -0.6**
WR0 IAmb IAmb 03 27 56.7
comp=Z,3.2nm,0.8s
WRA Warramunga Arr 70.49 201 P **P 03 27 54.5 -2.0**
WRA Warramunga Arr 70.49 201 P **P 03 27 55.6 -0.9**
comp=Z,3.1nm,0.7s,baz=18,slow=6.6,SNR=14
comp=Z,3.1nm,0.7s
WRA Warramunga Arr 70.49 201 *i* P **P 03 27 56.0 -0.6**
WRA pmax pmax
comp=Z,3.0nm,0.7s
319A Douglas 70.72 64 P **P 03 27 59.2 +1.0**
319A IAmb IAmb 03 27 59.9
comp=Z,5.7nm,0.8s
AKASG Malin Array Be 70.93 327 P **P 03 27 57.5 -1.4**
comp=Z,0.1nm,0.3s,baz=34,slow=6.7,SNR=4.0
comp=Z,0.1nm,0.3s
AKASG Malin Array Be 70.93 327 *i* P **P 03 27 59.7 +0.7**
FITZ Fitzroy Crossi 71.20 210 P **P 03 28 00.1 -0.8**
comp=Z,2.0nm,0.6s,baz=2.2,slow=3.0,SNR=7.6
comp=Z,2.0nm,0.6s
SMWD Samnorwood 73.25 56 P **P 03 28 13.7 +0.4**
SMWD IAmb IAmb 03 28 14.6
comp=Z,10.0nm,0.8s
ASAR Alice Springs 74.18 200 P **P 03 28 18.7 +0.2**
comp=Z,2.1nm,0.9s,baz=13,slow=5.6,SNR=18
comp=Z,2.1nm,0.9s
APMT Aspermont 74.63 57 P **P 03 28 21.6 +0.3**
APMT IAmb IAmb 03 28 21.8
comp=Z,5.9nm,0.8s
EKA Eskdalemuir Ar 75.07 347 P **P 03 28 22.7 -0.6**
comp=Z,1.5nm,0.7s,baz=26,slow=5.5,SNR=4.9
comp=Z,1.5nm,0.7s
CLL Collm 75.53 337 *i* P **P 03 28 25.7 -0.4**
CLL pmax pmax
comp=Z,3.0nm,1.0s
CLL Collm 75.53 337 *i* P **P 03 28 25.7 -0.4**
TX31 Lajitas Ar. Si 75.54 62 P **P 03 28 27.3 +0.6**
TX31 IAmb IAmb 03 28 28.1
comp=Z,5.1nm,0.8s
TXAR Lajitas Array 75.54 62 P **P 03 28 27.5 +0.9**
TXAR Lajitas Array 75.54 62 P **P 03 28 26.9 +0.2**
comp=Z,3.2nm,0.7s,baz=299,slow=4.2,SNR=48
comp=Z,3.2nm,0.7s
HHAR Hobbs 75.75 51 P **P 03 28 27.3 -0.3**
HHAR IAmb IAmb 03 28 27.9
comp=Z,3.4nm,0.6s
KHC Kasperske Hory 77.34 335 *ce*P **P 03 28 36.8 +0.3**
KHC pmax pmax
comp=Z,22nm,2.5s
GERES GERESS Array B 77.57 335 P **P 03 28 37.0 -0.8**
comp=Z,0.6nm,0.7s,baz=69,slow=4.4,SNR=4.9
comp=Z,0.6nm,0.7s
CONA Conrad Observa 77.77 333 *i* P **P 03 28 38.7 -0.2**
comp=Z,0.3nm,0.3s
BRTR Keskin Array B 78.11 318 P **P 03 28 39.9 -1.1**
comp=Z,0.5nm,0.7s,baz=60,slow=3.5,SNR=3.8
comp=Z,0.5nm,0.7s
BRTR Keskin Array B 78.11 318 *ce*P **P 03 28 43.2 +2.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
MOA Molln 78.31 334 *i* P **P 03 28 41.8 0.0**
comp=Z,0.9nm,0.6s
LESA Schwarzleotal 79.15 335 *e*P **P 03 28 47.5 +1.0**
comp=Z,0.9nm,0.4s
KBA Koelnbreinsper 79.27 334 *i* P **P 03 28 48.3 +0.9**
comp=Z,5.3nm,0.8s
WTTA Wattenberg 79.58 336 *e*P **P 03 28 49.4 +0.4**
comp=Z,3.3nm,0.7s
MOTA Moosalm 79.66 336 *i* P **P 03 28 50.0 +0.6**
comp=Z,1.2nm,0.6s
SQTA Sankt Quirin 79.74 336 *e*P **P 03 28 50.3 +0.5**
comp=Z,0.5nm,0.3s
STKA Stephens Creek 80.79 192 P **P 03 28 56.3 +1.1**
comp=Z,1.3nm,0.7s,baz=277,slow=14,SNR=1.9
comp=Z,1.3nm,0.7s
TUE Stuetta 80.93 337 P **P 03 28 56.6 +0.3**
TUE IAmb IAmb 03 28 58.7
comp=Z,4.0nm,0.8s
TEOL Teolo 81.32 335 P **P 03 28 57.5 -0.6**
TEOL IAmb IAmb 03 29 34.1
comp=Z,6.5nm,0.9s
SENIN Lac Senin/Sane 81.55 338 P **P 03 28 58.5 -1.2**
PDG Podgorica 81.56 329 P **P 03 28 59.3 -0.2**
PUK Puka 81.67 328 P **P 03 28 58.5 -1.7**
LRAL Lakeview Retre 81.83 49 P **P 03 29 00.7 -0.3**
LRAL IAmb IAmb 03 29 03.3
comp=Z,9.2nm,1.4s
CSS Mathiatis 82.14 315 P **P 03 29 02.4 -0.3**
FORT Forrest 82.43 203 P **P 03 29 04.5 +0.7**
MMAI Mount Meron Ar 82.72 313 P **P 03 29 06.5 +0.7**
comp=Z,1.5nm,0.5s,baz=36,slow=8.7,SNR=7.1
comp=Z,1.5nm,0.5s
BNI Bardonecchia 82.93 338 P **P 03 29 05.1 -1.7**
BNI IAmb IAmb 03 29 43.8
comp=Z,12nm,1.5s
BNI Bardonecchia 82.93 338 P **P 03 29 05.1 -1.7**
BNI pmax pmax
comp=Z,12nm,1.5s
ESDC Sonseca Array 90.39 344 P **P 03 29 43.2 0.0**
comp=Z,0.6nm,1.0s,baz=307,slow=9.7,SNR=1.9
comp=Z,0.6nm,1.0s
H03N2 Juan Fernandez 137.42 90 T T 06 09 08.6
baz=310,slow=77,SNR=52
H03N1 Juan Fernandez 137.43 90 T T 06 09 09.9
baz=310,slow=77,SNR=61
H03N3 Juan Fernandez 137.43 90 T T 06 09 09.5
baz=310,slow=77,SNR=80
QSPA South Pole Qui 138.11 180 PKP **PKPdf 03 36 04.9 -0.5**
comp=Z,0.8nm,0.6s,baz=241,slow=1.2,SNR=2.6
CPUP Villa Florida 146.50 61 PKPbc **PKPdf 03 36 21.7 +0.2**
comp=Z,1.0nm,0.6s,baz=310,slow=5.4,SNR=3.6
ELIB Princess Elisa 147.83 206 *d*PKPdf **PKPbc 03 36 24.3 -1.2**
ELIB *d*PKiKP **PKPab 03 36 28.4 +0.3**
ELIB *dp*PKPdf **pPKPdf 03 36 36.1 +0.3**
ELIB *dp*PKP **pPKPbc 03 36 39.5 +0.9**

AFAD ***25*** *03:18:47.3±0.0, 33°.23N×23°.70E, h7km×31km, MW3.8*
GII ***25*** *03:18:48.7±0.3, 33°.271N±0°.002×23°.703E±0°.001, h10km, mB4.0, Md3.8/1, confirmed*
ISC 25 03:18:47.0±3.8, 33°.36N±0°.09×23°.6E±0°.2, h10km, n58,
σ1§25/70, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.54**	**16**	P	**Pn**	**03 19 12.7**	**-1.8**
IDI	**Anoyia**	**2.21**	**29**	*e*P	**Pn**	**03 19 23.3**	**-0.5**
ZKR	**Zakros**	**2.81**	**51**	*e*P	**Pn**	**03 19 32.8**	**+0.9**
KARP	**Karpathos**	**3.68**	**53**	*e*P	**Pn**	**03 19 45.5**	**+1.5**
YAZI	**Mula-Dat§a-**	**4.60**	**43**	P	**Pn**	**03 19 54.5**	**-2.0**
YAZI				S	**Sn**	**03 20 46.5**	**-3.5**
DAT	**Datca**	**4.70**	**43**	P	**Pn**	**03 19 56.8**	**-1.3**
DAT				S	**Sn**	**03 20 53.1**	**+0.4**
DAT	**Datca**	**4.70**	**43**	*e*P	**Pn**	**03 19 58.1**	**0.0**
ARG	**Arkhangelos**	**4.71**	**51**	*e*P	**Pn**	**03 19 59.9**	**+1.8**
BDRM	**Kayabasi**	**4.87**	**40**	P	**Pn**	**03 19 58.3**	**-2.0**
BDRM				S	**Sn**	**03 20 52.6**	**-4.1**
TURN	**Turunc**	**5.13**	**47**	P	**Pn**	**03 20 04.7**	**+0.9**
TURN				S	**Sn**	**03 21 02.2**	**-0.8**
TURN	**Turunc**	**5.13**	**47**	*e*P	**Pn**	**03 20 04.4**	**+0.6**
YER	**Yerkesik**	**5.39**	**44**	*e*P	**Pn**	**03 20 08.2**	**+0.7**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mula)**	**5.41**	**49**	*e*P	**Pn**	**03 20 08.7**	**+1.0**
MULA	**Mugla, Merkez-**	**5.49**	**44**	P	**Pn**	**03 20 09.8**	**+0.8**
IZZE	**Mula-Seydike**	**5.57**	**55**	P	**Pn**	**03 20 10.0**	**+0.1**
IZZE				S	**Sn**	**03 21 13.8**	**-0.1**
FETY	**Fethiye**	**5.58**	**53**	*e*P	**Pn**	**03 20 11.5**	**+1.4**
SABU	**Mula-Dalaman**	**5.61**	**50**	P	**Pn**	**03 20 11.8**	**+1.2**
SABU				S	**Sn**	**03 21 14.6**	**-0.5**
AKAS	**Kas**	**5.73**	**58**	P	**Pn**	**03 20 13.1**	**+0.8**
AKAS				S	**Sn**	**03 21 19.3**	**+1.1**
AKAS	**Kas**	**5.73**	**58**	*e*P	**Pn**	**03 20 14.1**	**+1.8**
ESEN	**Aydn-Nazilli**	**5.89**	**40**	P	**Pn**	**03 20 14.7**	**+0.3**
ESEN				S	**Sn**	**03 21 22.6**	**+0.6**
CAME	**Cameli-Denizli**	**5.90**	**51**	*e*P	**Pn**	**03 20 15.3**	**+0.7**
DNZT	**Denizli-Tavas-**	**5.93**	**47**	P	**Pn**	**03 20 14.8**	**-0.1**
DNZT				S	**Sn**	**03 21 22.2**	**-0.8**
TAVA	**DENIZLI_Tavas**	**5.98**	**45**	P	**Pn**	**03 20 18.0**	**+2.4**
TAVA				S	**Sn**	**03 21 24.9**	**+0.6**
NAZL	**Nazilli-Aydin**	**5.99**	**39**	*e*P	**Pn**	**03 20 14.1**	**-1.6**
CAEL	**Denizli, Çamel**	**6.02**	**50**	P	**Pn**	**03 20 18.0**	**+1.8**
CAEL				S	**Sn**	**03 21 24.3**	**-0.9**
KNIK	**Mula-Seydike**	**6.02**	**53**	P	**Pn**	**03 20 16.1**	**-0.2**
KNIK				S	**Sn**	**03 21 27.4**	**+2.1**
ELL	**Elmali**	**6.20**	**55**	*e*P	**Pn**	**03 20 20.9**	**+2.2**
KIRA	**zmir-Kiraz**	**6.22**	**38**	P	**Pn**	**03 20 19.4**	**+0.5**
APMY	**Acipayam-Deniz**	**6.22**	**47**	*e*P	**Pn**	**03 20 20.6**	**+1.7**
OFRI	**`Ofer**	**9.62**	**91**	P	**Pn**	**03 21 05.8**	**+0.4**
OFRI	**`Ofer**	**9.62**	**91**	S	**Sn**	**03 22 52.7**	**-0.9**
AMAZ	**Amatzia**	**9.76**	**98**	P	**Pn**	**03 21 07.6**	**+0.2**
AMAZ	**Amatzia**	**9.76**	**98**	S	**Sn**	**03 22 55.9**	**-1.1**
MMC7	**Mount Meron ar**	**9.91**	**89**	P	**Pn**	**03 21 10.1**	**+0.5**
MMA0B	**Mount Meron ar**	**9.92**	**89**	S	**Sn**	**03 23 01.2**	**0.0**
MMA0B	**Mount Meron ar**	**9.92**	**89**	P	**Pn**	**03 21 10.2**	**+0.5**
YTIR	**Yattir**	**9.96**	**98**	P	**Pn**	**03 21 10.5**	**+0.2**
YTIR	**Yattir**	**9.96**	**98**	S	**Sn**	**03 23 01.4**	**-0.8**
MMLI	**Mount Malkishu**	**10.01**	**92**	P	**Pn**	**03 21 10.9**	**+0.1**
MMLI	**Mount Malkishu**	**10.01**	**92**	S	**Sn**	**03 23 02.2**	**-1.0**
HMDT	**Nahal Hemdat**	**10.12**	**93**	P	**Pn**	**03 21 12.8**	**+0.5**
HMDT	**Nahal Hemdat**	**10.12**	**93**	S	**Sn**	**03 23 05.4**	**-0.5**
GEM	**Giv'at Ha'Em**	**10.12**	**88**	P	**Pn**	**03 21 12.8**	**+0.4**
GEM	**Giv'at Ha'Em**	**10.12**	**88**	S	**Sn**	**03 23 05.9**	**-0.1**
DSI	**Dead Sea**	**10.13**	**97**	P	**Pn**	**03 21 12.3**	**-0.3**
DSI	**Dead Sea**	**10.13**	**97**	S	**Sn**	**03 23 04.9**	**-1.4**
PRNI	**Paran**	**10.17**	**104**	P	**Pn**	**03 21 13.1**	**0.0**
PRNI	**Paran**	**10.17**	**104**	S	**Sn**	**03 23 05.9**	**-1.4**
MSBI	**Mazada**	**10.18**	**98**	P	**Pn**	**03 21 13.2**	**+0.1**
MSBI	**Mazada**	**10.18**	**98**	S	**Sn**	**03 23 06.2**	**-1.1**
NATI	**Neve Ativ**	**10.18**	**87**	P	**Pn**	**03 21 14.3**	**+1.2**
NATI	**Neve Ativ**	**10.18**	**87**	S	**Sn**	**03 23 07.2**	**-0.2**
KSHT	**Keshet**	**10.27**	**89**	P	**Pn**	**03 21 14.8**	**+0.4**
KSHT	**Keshet**	**10.27**	**89**	S	**Sn**	**03 23 08.9**	**-0.7**
MBRI	**Mt Berech**	**10.30**	**107**	P	**Pn**	**03 21 15.8**	**+0.9**
MBRI	**Mt Berech**	**10.30**	**107**	S	**Sn**	**03 23 10.4**	**-0.2**
GHAJ	**Ghor Haditha**	**10.35**	**98**	P	**Pn**	**03 21 15.6**	**+0.1**
GHAJ	**Ghor Haditha**	**10.35**	**98**	S	**Sn**	**03 23 10.2**	**-1.4**

CATAC ***25*** *03:40:45.0±0.3, 13°.32N×80°.72W, h18km±2km, MB6.4, mb6.1, ML6.7*

IDC ***25*** *03:40:48.4±0.4, 13°.09N×81°.14W, h0km, mb5.2/28, mbtmp5.2/32, ML4.2/3, MS5.7/59, Error ellipse: s-maj=14.7km s-min=10.6km az=54.0*

MOS ***25*** *03:40:49.2±1.3, 13°.06N×81°.31W, h10km, mb5.7/66, MS5.8/53, Error ellipse: s-maj=6.6km s-min=4.3km az=104.3*

NEIC ***25*** *03:40:50.8±1.9, 13°.18N±0°.06×81°.09W±0°.06, h10km±1km, mb5.7/645, Ms_20 5.8/970, Mwb5.9/44, Mww6.0/47, Error ellipse: s-maj=10.0km s-min=9.4km az=236.0, Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr=0.12; Mθθ=0.78; Mφφ0.90; Mrθ0.14; Mφθ0.58; Mφr-0.10; Fault plane solution: M0 1.04000×10^18^ NP1: φs241.84000°, δ80.41000°, λ-5.82000°. NP2: φs332.82000°, δ84.26000°, λ-170.36000°. Principal axes: T 1.0858, Plg3.0000°, Azm107.0000°; N -0.0904, Plg79.0000°, Azm3.0000°; P -0.9954, Plg11.0000°, Azm198.0000°;*

UPA ***25*** *03:40:50.1±1.9, 13°.24N×81°.02W, h30km±45km, MD6.6, MW6.3*

RSNC ***25*** *03:40:50.5±0.0, 13°N±2°×8°1W±°, h14km±4km, M5.9, mb6.0, mB6.2, ML5.4, Mw6.0, Mw(mB)5.9, MwMwp6.1, Mwp6.1*

NEIC ***25*** *03:40:50.5, 13°.19N×81°.09W, h12km*

NEIC ***25*** *03:40:50.5, 13°.19N×81°.09W, h10km*

NEIC ***25*** *03:40:50.5, 13°.19N×81°.09W, h12km, Moment Tensor Solution. Duration: 5±2 Moment tensor: Scale 10^18^Nm; Mrr=0.20; Mθθ=0.70; Mφφ0.89; Mrθ-0.24; Mφθ0.99; Mφr0.12; Fault plane solution: M0 1.30000×10^18^ NP1: φs161.45000°, δ80.01000°, λ-169.64000°. NP2: φs69.63000°, δ79.80000°, λ-10.15000°. Principal axes: T 1.3644, Plg0.0000°, Azm296.0000°; N -0.1272, Plg76.0000°, Azm205.0000°; P -1.2372, Plg14.0000°, Azm26.0000°;*

BJI ***25*** *03:40:51.0, 13°.10N×81°.20W, h10km, mB5.9/41, Ms6.4/55, Ms7 6.2/56*

IPGP ***25*** *03:40:51.0, 13°.16N×81°.16W, h6km, Mw6.1, Fault plane solution: NP1: φs248.00000°, δ73.00000°, λ-20.00000°. NP2: φs344.00000°, δ71.00000°, λ-162.00000°.*

GCMT ***25*** *03:40:52.8±0.1, 13°.22N×81°.13W, h12km, MW6.0/172, Moment Tensor Solution. s153,c315; s172,c593; Duration: 2s4 Moment tensor: Scale 10^18^Nm; Mrr=0.09±.01; Mθθ-0.73±.01; Mφφ0.81±.01; Mrθ0.02±.02; Mφθ0.89±.01; Mφr-0.09±.01; Best double couple: M0 1.18500×10^18^ NP1: φs160.00000°, δ90.00000°, λ176.00000°. NP2: φs250.00000°, δ86.00000°, λ0.00000°. Principal axes: T 1.2290, Plg3.0000°, Azm114.0000°; N -0.0880, Plg86.0000°, Azm336.0000°; P -1.1410, Plg3.0000°, Azm205.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

JSN ***25*** *03:41:29.4±0.5, 15°.37N×79°.56W, h91km±95km*

ISC 25 03:40:49.1±0.6, 13°.13N±0°.02×81°.14W±0°.02, h3km±3km, n2004, σ2=9/1750, mb5.7/441, MS5.8/580, 99C-73D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRVC	**Isla de Provid**	**0.33**	**319**	Pg	**Pg**	**03 40 53.9**	**-1.5**
PRVC	**Isla de Provid**	**0.33**	**319**	P	**Pg**	**03 40 54.6**	**-0.9**
PRVC				S	**Sg**	**03 40 58.9**	**-0.9**
PRVC	**Isla de Provid**	**0.33**	**319**	*i* P	**Pg**	**03 40 54.6**	**-0.9**
PRVC				IAML		03 41 02.0	
	comp=Z,490μm,1.0s						
SAIC	**Isla e San And**	**0.81**	**224**	P	**Pg**	**03 41 05.3**	**+0.7**
SAIC				S	**Sn**	**03 41 19.0**	**-0.9**
RNCC	**Cayo Roncador,**	**1.11**	**66**	P	**Pg**	**03 41 09.7**	**-0.8**
RNCC				S	**Sb**	**03 41 25.8**	**-0.1**
SERC	**Banco Serrana,**	**1.38**	**33**	P	**Pn**	**03 41 13.0**	**-2.2**
SERC				S	**Sg**	**03 41 31.5**	**-1.9**
BLUN	**Bluefields**	**2.80**	**247**	*i* P	**Pn**	**03 41 34.5**	**-0.3**
BLUN				*i* S	**Sb**	**03 42 13.7**	**-0.9**
BLUN				IAML		03 42 28.3	
	comp=Z,32μm,1.0s						
ESPN	**Las Esperanzas**	**3.22**	**254**	Pn	**Pn**	**03 41 40.1**	**-0.4**
ESPN	**Las Esperanzas**	**3.22**	**254**	*i* P	**Pn**	**03 41 40.2**	**-0.4**
ESPN				*i* S	**Sb**	**03 42 24.1**	**-2.5**
ESPN				IAML		03 42 52.8	
	comp=Z,91μm,1.0s						
TRT2	**Tortugero**	**3.60**	**225**	*i* P	**Pn**	**03 41 45.1**	**-0.7**
TRT2				*i* S	**Sb**	**03 42 33.7**	**-3.9**
TRT2				IAML		03 42 58.8	
	comp=Z,19μm,1.0s						
CNI2	**El Empalme, Bo**	**3.90**	**200**	⇓*e*P	**Pn**	**03 41 49.8**	**-0.2**
CNI2				*i* S	**Sn**	**03 42 35.6**	**-0.8**
COVE	**Coope Vega, Sa**	**3.99**	**233**	*i* P	**Pn**	**03 41 51.4**	**+0.2**
COVE				*i* S	**Sb**	**03 42 44.1**	**-4.6**
COVE				IAML		03 43 13.3	
	comp=Z,65μm,1.0s						
RAFA	**San Farael, Vo**	**4.09**	**220**	*i* P	**Pn**	**03 41 52.1**	**-0.8**
RAFA				*i* S	**Sn**	**03 42 45.7**	**+4.2**
RAFA				IAML		03 43 09.9	
	comp=Z,29μm,1.0s						
ACON	**Acoyapa**	**4.10**	**254**	Pn	**Pn**	**03 41 51.8**	**-0.9**
ACON	**Acoyapa**	**4.10**	**254**	P	**Pn**	**03 41 52.6**	**-0.1**
ACON	**Acoyapa**	**4.10**	**254**	*i* P	**Pn**	**03 41 53.3**	**+0.6**
ACON				*i* S	**Sn**	**03 42 46.7**	**+5.4**
ACON				IAML		03 43 10.2	
	comp=Z,42μm,1.0s						
FRIJ	**El Hiral**	**4.12**	**160**	⇓*e*P	**Pn**	**03 41 51.8**	**-1.2**
FRIJ				*i* S	**Sn**	**03 42 38.7**	**-3.0**
BCIP	**Isla Barro Col**	**4.14**	**162**		**Pn**	**03 41 51.4**	**-1.8**
BCIP	**Isla Barro Col**	**4.14**	**162**	P	**Pn**	**03 41 50.8**	**-2.5**
BCIP				S	**Sn**	**03 42 38.7**	**-3.4**
BCIP	**Isla Barro Col**	**4.14**	**162**	⇑P	**Pn**	**03 41 50.7**	**-2.5**
BCIP	**Isla Barro Col**	**4.14**	**162**	*i* P	**Pn**	**03 41 50.8**	**-2.5**
BCIP				*i* S	**Sn**	**03 42 38.7**	**-3.4**
BCIP				IAML		03 43 47.9	
	comp=Z,9μm,1.0s						
BCIP	**Isla Barro Col**	**4.14**	**162**	P	**Pn**	**03 41 51.4**	**-1.8**
BCIP	**Isla Barro Col**	**4.14**	**162**	⇑*e*P	**Pn**	**03 41 50.6**	**-2.6**
HDC	**Heredia**	**4.26**	**223**		**Pn**	**03 41 55.1**	**+0.1**
HDC	**Heredia**	**4.26**	**223**	*i* P	**Pn**	**03 41 55.3**	**+0.3**
HDC				*i* S	**Sn**	**03 42 49.2**	**+3.9**
HDC				IAML		03 43 20.7	
	comp=Z,21μm,1.0s						
HDC	**Heredia**	**4.26**	**223**	*e*P	**Pn**	**03 41 55.1**	**+0.1**
CHGR2	**Aguacate**	**4.28**	**193**	*e*P	**Pn**	**03 41 54.9**	**-0.3**
ZANG	**Zanguenga, Cho**	**4.33**	**163**	*e*P	**Pn**	**03 41 53.9**	**-2.0**
SOCE	**Pocosol**	**4.36**	**232**		**Pn**	**03 41 55.6**	**-0.7**
SOCE	**Pocosol**	**4.36**	**232**	*i* P	**Pn**	**03 41 57.3**	**+0.9**
SOCE				IAML		03 43 40.4	
	comp=Z,15μm,1.0s						
UPA	**Univ. de Panam**	**4.41**	**159**	*e*P	**Pn**	**03 41 56.0**	**-1.0**
CNTA3	**Canitas, Panam**	**4.47**	**150**	*e*P	**Pn**	**03 41 55.8**	**-1.9**
CNTA3				*i* S	**Sn**	**03 42 46.2**	**-4.1**
BRU2	**Volcan**	**4.57**	**200**		**Pn**	**03 41 57.9**	**-1.4**
BRU2	**Volcan**	**4.57**	**200**	*i* P	**Pn**	**03 41 58.7**	**-0.6**
BRU2				*i* S	**Sn**	**03 42 54.4**	**+1.4**
BRU2				IAML		03 43 02.1	
	comp=Z,19μm,1.0s						
BRU2	**Volcan**	**4.57**	**200**	⇓*i*P	**Pn**	**03 41 58.6**	**-0.6**
BRU2				*i* S	**Sn**	**03 42 51.2**	**-1.7**
BCO2	**Palmira**	**4.59**	**197**	⇓*i*P	**Pn**	**03 41 59.0**	**-0.5**
PTAR3	**Potrerillos Ar**	**4.60**	**197**	⇓*i*P	**Pn**	**03 41 59.2**	**-0.5**
MLIR3	**Monte Lirio, C**	**4.61**	**201**	⇓*e*P	**Pn**	**03 42 00.0**	**+0.2**
MLIR3				*e*S	**Sn**	**03 42 52.9**	**-1.1**
CONN	**Concepcion**	**4.65**	**251**	*i* P	**Pn**	**03 42 00.4**	**+0.1**
CONN				IAmb	IAmb	03 42 29.4	
	comp=Z,130μm,0.8s						
CONN				IVmB	BB	03 42 43.3	
	comp=Z,1200μm,1.0s						
CONN				IAML		03 43 29.8	
	comp=Z,310μm,1.0s						
JTS	**Las Juntas de**	**4.68**	**233**		**Pn**	**03 42 00.5**	**-0.2**
JTS	**Las Juntas de**	**4.68**	**233**	Pn	**Pn**	**03 42 01.0**	**+0.3**
	comp=Z,235nm,0.3s,baz=80,slow=23,SNR=198						
JTS				Sn	**Sn**	**03 42 54.8**	**-0.7**
	comp=Z,170nm,0.3s,baz=43,slow=15,SNR=3.7						
JTS				LR	LR	03 43 59.6	
	comp=Z,90μm,19.0s,baz=116,slow=41						
JTS	**Las Juntas de**	**4.68**	**233**	P	**Pn**	**03 42 00.7**	**+0.1**
JTS				S	**Sn**	**03 42 54.8**	**-0.7**
JTS	**Las Juntas de**	**4.68**	**233**	⇑P	**Pn**	**03 42 00.8**	**+0.1**
JTS	**Las Juntas de**	**4.68**	**233**	⇓*i*P	**Pn**	**03 42 00.9**	**+0.2**
PNME	**Penonome**	**4.68**	**170**	*i* P	**Pn**	**03 41 59.8**	**-0.8**
PNME				*i* S	**Sn**	**03 42 52.9**	**-2.6**
CARN	**Rivas**	**4.70**	**246**	*i* P	**Pn**	**03 42 01.0**	**+0.1**
CARN				IAmb	IAmb	03 42 23.6	
	comp=Z,6μm,1.0s						
CARN				IVmB	BB	03 42 42.0	
	comp=Z,110μm,1.0s						
CARN				*i* S	**Sn**	**03 43 00.7**	**+4.7**
CARN				IAML		03 43 42.4	
	comp=Z,43μm,1.0s						
OCHAL	**Ojochal**	**4.70**	**212**	*i* P	**Pn**	**03 42 00.0**	**-0.9**
OCHAL				IVmB	BB	03 42 15.2	
	comp=Z,96μm,1.0s						
OCHAL				IAmb	IAmb	03 42 15.6	
	comp=Z,6μm,0.6s						
OCHAL				*i* S	**Sn**	**03 42 58.6**	**+2.6**
OCHAL				IAML		03 43 54.3	
	comp=Z,10μm,1.0s						
GUAL3	**Gualaca, Chiri**	**4.71**	**194**	⇓*i*P	**Pn**	**03 42 01.0**	**0.0**
GUAL3				*i* S	**Sn**	**03 42 54.4**	**-1.8**
CALO3	**Calobre, Verag**	**4.78**	**176**	*i* P	**Pn**	**03 42 03.1**	**+1.0**
CALO3				*i* S	**Sn**	**03 42 55.5**	**-2.7**
LOMA3	**Las Lomas, Chi**	**4.83**	**195**	*i* P	**Pn**	**03 42 03.2**	**+0.5**
CDITO	**Canoas**	**4.83**	**201**	*i* P	**Pn**	**03 42 02.5**	**-0.3**
CDITO				IAmb	IAmb	03 42 12.9	
	comp=Z,5μm,0.8s						
CDITO				IVmB	BB	03 42 57.6	
	comp=Z,130μm,1.0s						
CDITO				*i* S	**Sn**	**03 43 01.9**	**+2.6**
CDITO				IAML		03 43 50.8	
	comp=Z,22μm,1.0s						
DVD	**David**	**4.84**	**196**	*e*P	**Pn**	**03 42 03.6**	**+0.8**
DVD				*e*S	**Sn**	**03 42 55.9**	**-3.4**
RCPN	**Sur Rio San Ju**	**4.84**	**275**	*i* P	**Pn**	**03 42 02.1**	**-0.9**
RCPN				IAML		03 42 59.4	
	comp=Z,59nm,1.0s						
RCPN				IVmB	BB	03 42 59.4	
	comp=Z,950nm,1.0s						
LOCO3	**Loma Colorada,**	**4.85**	**195**	*e*P	**Pn**	**03 42 04.0**	**+0.9**
LOCO3				*i* S	**Sn**	**03 42 59.8**	**0.0**
SBEN	**San Benito**	**4.87**	**261**	*i* P	**Pn**	**03 42 03.5**	**+0.3**
SBEN				*i* S	**Sn**	**03 43 05.4**	**+5.3**
SBEN				IAML		03 43 43.5	
	comp=Z,77μm,1.0s						
CRIS3	**El Cristo, Coc**	**4.87**	**174**	*e*P	**Pn**	**03 42 02.8**	**-0.5**
CRIS3				*e*S	**Sn**	**03 42 59.4**	**-0.8**
PEDE3	**Pedregal, Chir**	**4.88**	**195**	*i* P	**Pn**	**03 42 04.3**	**+0.9**
PEDE3				*i* S	**Sn**	**03 43 00.6**	**+0.2**
RCVN	**Varillal2**	**4.94**	**276**	*i* P	**Pn**	**03 42 03.2**	**-1.2**
RCVN				IAmb	IAmb	03 42 22.8	
	comp=Z,170μm,0.8s						
RCVN				IVmB	BB	03 43 01.6	
	comp=Z,3200μm,1.0s						
RCVN				IAML		03 43 31.4	
	comp=Z,390μm,1.0s						
RCFN	**Al S de San Ju**	**4.95**	**275**	*i* P	**Pn**	**03 42 02.9**	**-1.7**
RCFN				IAmb	IAmb	03 42 22.6	
	comp=Z,30μm,0.9s						
RCFN				IVmB	BB	03 43 01.5	
	comp=Z,660μm,1.0s						
RCFN				IAML		03 43 27.4	
	comp=Z,86μm,1.0s						
STIA3	**Santiago, Vera**	**5.00**	**178**	⇑*e*P	**Pn**	**03 42 04.8**	**-0.2**
STIA3				*e*S	**Sn**	**03 43 03.3**	**-0.1**
NANN	**Nandasmo**	**5.00**	**257**	*i* P	**Pn**	**03 42 05.7**	**+0.5**
NANN				IAmb	IAmb	03 42 29.4	
	comp=Z,110μm,0.7s						
NANN				IVmB	BB	03 42 31.5	
	comp=Z,1200μm,1.0s						
NANN				IAML		03 43 59.0	
	comp=Z,320μm,1.0s						
TOTI	**Torti**	**5.01**	**146**	⇑*e*P	**Pn**	**03 42 03.2**	**-2.0**
MAS3	**Al N del Volca**	**5.04**	**258**	*i* P	**Pn**	**03 42 06.7**	**+1.1**
MAS3				IAmb	IAmb	03 42 33.7	
	comp=Z,7μm,0.6s						
MAS3				IVmB	BB	03 42 39.0	
	comp=Z,75μm,1.0s						
MAS3				IAML		03 43 45.5	
	comp=Z,20μm,1.0s						
MGAN	**Managua**	**5.08**	**260**		**Pn**	**03 42 05.7**	**-0.4**
MGAN	**Managua**	**5.08**	**260**	*i* P	**Pn**	**03 42 06.4**	**+0.2**
MGAN				IVmB	BB	03 42 31.5	
	comp=Z,100μm,1.0s						
MGAN				IAmb	IAmb	03 42 32.0	
	comp=Z,9μm,0.9s						
MGAN				IAML		03 44 00.4	
	comp=Z,28μm,1.0s						
LIMN	**Finca el Limon**	**5.09**	**270**	*i* P	**Pn**	**03 42 06.4**	**0.0**
LIMN				IAmb	IAmb	03 42 29.7	
	comp=Z,10μm,1.0s						
LIMN				IVmB	BB	03 42 34.9	
	comp=Z,91μm,1.0s						
LIMN				IAML		03 43 58.5	
	comp=Z,29μm,1.0s						
UNAN	**Cigeo UNAN**	**5.11**	**259**	*i* P	**Pn**	**03 42 07.1**	**+0.5**
UNAN				IAmb	IAmb	03 42 30.8	
	comp=Z,55μm,0.8s						
UNAN				IVmB	BB	03 42 38.4	
	comp=Z,610μm,1.0s						
UNAN				IAML		03 43 47.2	
	comp=Z,190μm,1.0s						
RSUS3	**Rio de Jesus,**	**5.11**	**180**	⇓*e*P	**Pn**	**03 42 06.1**	**-0.5**
RSUS3				*i* S	**Sn**	**03 43 03.5**	**-2.6**
PIRO	**Carate, Puerto**	**5.17**	**205**	*i* P	**Pn**	**03 42 06.7**	**-0.6**
PIRO				*i* S	**Sn**	**03 43 10.4**	**+2.9**
PIRO	**Carate, Puerto**	**5.17**	**205**	⇓*e*P	**Pn**	**03 42 07.6**	**+0.2**
PTPM	**Petroterminale**	**5.18**	**199**	⇓*i*P	**Pn**	**03 42 08.1**	**+0.5**
CHIT3	**Chitre**	**5.19**	**172**	*e*P	**Pn**	**03 42 06.5**	**-1.2**
CHIT3				*i* S	**Sn**	**03 43 03.9**	**-4.2**
PESE3	**Pese, Herrera**	**5.21**	**174**	*e*P	**Pn**	**03 42 06.7**	**-1.3**
PESE3				*e*S	**Sn**	**03 43 05.4**	**-3.3**
SAPS	**Ciudad Sandino**	**5.22**	**260**	*i* P	**Pn**	**03 42 09.9**	**+1.7**
SAPS				IVmB	BB	03 42 34.7	
	comp=Z,75μm,1.0s						
SAPS				IAmb	IAmb	03 42 35.1	
	comp=Z,5μm,0.9s						
SAPS				IAML		03 44 00.2	
	comp=Z,24μm,1.0s						
MOMN	**Momotombo**	**5.32**	**263**	*i* P	**Pn**	**03 42 08.5**	**-1.0**
MOMN				IAmb	IAmb	03 42 37.3	
	comp=Z,270nm,0.9s						
MOMN				IVmB	BB	03 42 45.9	
	comp=Z,4μm,1.0s						
MOMN				IAML		03 44 08.6	
	comp=Z,500nm,1.0s						
GMAL	**Guarumal, Vera**	**5.33**	**181**	P	**Pn**	**03 42 08.6**	**-1.0**
	comp=Z,3μm,0.8s,comp=Z,33μm						
GMAL				S	**Sn**	**03 43 08.4**	**-3.2**
	comp=Z,3μm,0.8s,comp=Z,33μm						
GMAL	**Guarumal, Vera**	**5.33**	**181**	⇓*i*P	**Pn**	**03 42 08.6**	**-1.0**
GMAL				*i* S	**Sn**	**03 43 08.4**	**-3.2**
INDI	**Punta indio, G**	**5.36**	**233**	*i* P	**Pn**	**03 42 11.4**	**+1.3**
INDI				IAmb	IAmb	03 42 22.7	
	comp=Z,230μm,0.9s						
INDI				IVmB	BB	03 42 44.3	
	comp=Z,2100μm,1.0s						
INDI				*i* S	**Sn**	**03 43 19.7**	**+7.3**
INDI				IAML		03 43 46.7	
	comp=Z,310μm,1.0s						
AZU	**Azuero**	**5.37**	**171**	P	**Pn**	**03 42 08.8**	**-1.4**
	comp=Z,2μm,1.2s,comp=Z,21μmcomp=Z,164μm						
AZU				S	**Sn**	**03 43 09.2**	**-3.3**
	comp=Z,2μm,1.2s,comp=Z,21μmcomp=Z,164μm						
AZU	**Azuero**	**5.37**	**171**	*e*P	**Pn**	**03 42 09.2**	**-1.0**
AZU				*i* S	**Sn**	**03 43 11.3**	**-1.3**
MARI3	**Mariato, Verag**	**5.45**	**178**	*e*P	**Pn**	**03 42 09.0**	**-2.2**
MARI3				*i* S	**Sn**	**03 43 11.0**	**-3.5**
UPD2	**Meteti**	**5.49**	**146**	⇑*e*P	**Pn**	**03 42 09.7**	**-2.1**
PCRI3	**Pocri, Los San**	**5.52**	**169**	⇓*i*P	**Pn**	**03 42 12.3**	**0.0**
PCRI3				*e*S	**Sn**	**03 43 13.8**	**-2.5**
HERN	**Volcan Telica**	**5.57**	**265**	*i* P	**Pn**	**03 42 15.7**	**+2.7**
HERN				IAmb	IAmb	03 42 37.5	
	comp=Z,5μm,1.0s						
HERN				IVmB	BB	03 42 39.6	
	comp=Z,85μm,1.0s						
HERN				IAML		03 44 22.8	
	comp=Z,16μm,1.0s						
YUSH	**Yuscaran**	**5.61**	**279**	*i* P	**Pn**	**03 42 12.5**	**-1.0**
YUSH				*i* S	**Sn**	**03 43 21.8**	**+3.3**
PEDA3	**Pedasi**	**5.67**	**169**	*e*P	**Pn**	**03 42 13.7**	**-0.6**
TOSI3	**Tonosi**	**5.72**	**173**	⇓*e*P	**Pn**	**03 42 15.5**	**+0.4**
TOSI3				*e*S	**Sn**	**03 43 18.6**	**-2.7**
CACAO	**El Cacao, Vera**	**5.75**	**177**	P	**Pn**	**03 42 16.8**	**+1.4**
	comp=Z,4μm,0.9s,comp=Z,31μmcomp=Z,120μm						
CACAO				S	**Sn**	**03 43 23.3**	**+1.3**
	comp=Z,4μm,0.9s,comp=Z,31μmcomp=Z,120μm						
CACAO	**El Cacao, Vera**	**5.75**	**177**	⇓*e*P	**Pn**	**03 42 14.9**	**-0.5**
CACAO				*e*S	**Sn**	**03 43 18.8**	**-3.1**
ACHO3	**Achotines, Los**	**5.75**	**170**	⇓*e*P	**Pn**	**03 42 15.4**	**0.0**
ACHO3				*i* S	**Sn**	**03 43 20.6**	**-1.4**
CRIN	**San Cristobal**	**5.78**	**266**		**Pn**	**03 42 14.4**	**-1.4**
CRIN	**San Cristobal**	**5.78**	**266**	P	**Pn**	**03 42 15.8**	**0.0**
	comp=Z,14μm,0.8s,comp=Z,153μmcomp=Z,145μm						
CRIN	**San Cristobal**	**5.78**	**266**	*i* P	**Pn**	**03 42 14.8**	**-1.0**
CRIN				IAmb	IAmb	03 42 44.6	
	comp=Z,15μm,0.8s						
CRIN				IVmB	BB	03 42 51.7	
	comp=Z,160μm,1.0s						
CRIN				IAML		03 44 16.5	
	comp=Z,27μm,1.0s						
CAPC	**Capurgana**	**5.81**	**140**	P	**Pn**	**03 42 14.6**	**-1.6**
	comp=Z,541nm,0.8s,comp=Z,18μmcomp=Z,224μm						
CAPC				S	**Sn**	**03 43 19.4**	**-4.0**
	comp=Z,541nm,0.8s,comp=Z,18μmcomp=Z,224μm						
TGUH	**Tegucigalpa,Un**	**6.03**	**280**	Pn	**Pn**	**03 42 18.0**	**-1.5**
TGUH	**Tegucigalpa,Un**	**6.03**	**280**	P	**Pn**	**03 42 18.8**	**-0.6**
	comp=Z,4μm,1.2s,comp=Z,64μmcomp=Z,145μm						
TGUH	**Tegucigalpa,Un**	**6.03**	**280**	⇑P	**Pn**	**03 42 17.9**

UESV Universidad de 7.46 275 *i* P **Pn 03 42 38.9 0.0**
UESV IVmB_BB 03 43 12.8
comp=Z,49µm,1.0s
UESV IAML 03 44 59.6
comp=Z,6µm,1.0s
ARGC Ariguani, Magd 7.50 115 P **Pn 03 42 37.9 -1.5**
comp=Z,2µm,0.9s,comp=Z,20µmcomp=Z,148µm
ARGC S **Sn 03 44 01.5 -3.5**
comp=Z,2µm,0.9s,comp=Z,20µmcomp=Z,148µm
COEG Centro de Oper 7.55 275 *i* P **Pn 03 42 38.6 -1.6**
COEG IAmb IAmb 03 43 07.1
comp=Z,560nm,0.9s
COEG IVmB_BB 03 43 16.1
comp=Z,8µm,1.0s
COEG IAML 03 45 04.3
comp=Z,2µm,1.0s
PAVA Las Pavas 7.61 275 *i* P **Pn 03 42 41.3 +0.2**
PAVA IAmb IAmb 03 43 02.1
comp=Z,2µm,0.8s
PAVA IVmB_BB 03 43 18.5
comp=Z,55µm,1.0s
LLGN La Laguna 7.66 279 *i* P **Pn 03 42 42.3 +0.6**
LLGN IVmB_BB 03 42 47.4
comp=Z,90µm,1.0s
IZABA Izabal, Puerto 7.66 291 *i* P **Pn 03 42 39.8 -1.9**
IZABA IAmb IAmb 03 43 05.9
comp=Z,4.0nm,0.7s
IZABA IVmB_BB 03 43 10.5
comp=Z,200nm,1.0s
IZABA IAML 03 45 07.6
comp=Z,80nm,1.0s
UREC San Jos de Ur 7.68 134 P **Pn 03 42 39.5 -2.4**
comp=Z,765nm,1.1s,comp=Z,10µmcomp=Z,110µm
UREC S **Sn 03 44 01.5 -8.0**
comp=Z,765nm,1.1s,comp=Z,10µmcomp=Z,110µm
UREC San Jos de Ur 7.68 134 *eP* **Pn 03 42 39.4 -2.5**
UREC *i* S **Sn 03 44 02.4 -7.1**
DBBC Dabeiba 7.77 141 P **Pn 03 42 43.6 +0.3**
DBBC S **Sn 03 44 08.0 -3.9**
SOLC Bahia Solano 7.78 151 P **Pn 03 42 42.8 -0.5**
SOLC S **Sn 03 44 14.7 +2.7**
LOMA Loma Larga 7.83 275 *i* P **Pn 03 42 44.1 0.0**
LOMA IAmb IAmb 03 43 03.5
comp=Z,320nm,0.7s
LOMA IVmB_BB 03 43 22.2
comp=Z,7µm,1.0s
SNET Serv Nac Est T 7.89 275 **Pn 03 42 43.9 -1.0**
SNET Serv Nac Est T 7.89 275 *i* P **Pn 03 42 43.5 -1.4**
SNET IAmb IAmb 03 43 07.1
comp=Z,2µm,0.9s
SNET IVmB_BB 03 43 25.3
comp=Z,27µm,1.0s
SNET *i* S **Sn 03 44 19.4 +4.5**
UEES Universidad Ev 7.90 275 *i* P **Pn 03 42 44.9 -0.2**
UEES IAmb IAmb 03 42 48.4
comp=Z,360nm,0.5s
UEES IVmB_BB 03 43 25.3
comp=Z,6µm,1.0s
UEES *i* S **Sn 03 44 19.8 +4.7**
LALI Alcalda de L 7.97 274 *i* P **Pn 03 42 45.0 -0.9**
LALI IAmb IAmb 03 43 02.9
comp=Z,250nm,1.0s
LALI IVmB_BB 03 43 27.0
comp=Z,4µm,1.0s
PMON Piamonte 7.97 275 *i* P **Pn 03 42 45.9 -0.2**
PMON IAmb IAmb 03 43 08.9
comp=Z,560nm,0.6s
PMON IVmB_BB 03 43 33.8
comp=Z,7µm,1.0s
CEDA San Andres 8.06 276 *i* P **Pn 03 42 44.0 -3.2**
CEDA IAmb IAmb 03 43 13.5
comp=Z,2µm,0.7s
CEDA IVmB_BB 03 43 25.8
comp=Z,27µm,1.0s
CEDA *i* S **Sn 03 44 21.6 +2.7**
MTO3 Montecristo 8.09 280 **Pn 03 42 45.9 -1.8**
MTO3 Montecristo 8.09 280 *i* P **Pn 03 42 45.5 -2.2**
MTO3 IAmb IAmb 03 43 02.0
comp=Z,750nm,0.9s
MTO3 IVmB_BB 03 43 22.6
comp=Z,14µm,1.0s
MTO3 *i* S **Sn 03 44 24.5 +4.7**
ESQI Esquipulas 8.09 281 **Pn 03 42 46.2 -1.5**
ESQI Esquipulas 8.09 281 *i* P **Pn 03 42 45.8 -1.9**
ESQI IAmb IAmb 03 43 14.8
comp=Z,2µm,0.9s
ESQI IVmB_BB 03 43 35.2
comp=Z,34µm,1.0s
ESQI *i* S **Sn 03 44 24.4 +4.6**
JAYA Jayaque - finc 8.10 275 *i* P **Pn 03 42 45.8 -2.1**
JAYA IAmb IAmb 03 43 13.9
comp=Z,880nm,0.9s
JAYA IVmB_BB 03 43 26.2
comp=Z,22µm,1.0s
JAYA *i* S **Sn 03 44 25.7 +5.6**
CEVE Cerro Verde 8.28 276 *i* P **Pn 03 42 50.1 -0.3**
CEVE IAmb IAmb 03 43 18.9
comp=Z,620nm,0.7s
CEVE IVmB_BB 03 43 28.7
comp=Z,9µm,1.0s
ZARC Zaragoza, Cauc 8.34 132 P **Pn 03 42 48.5 -2.5**
comp=Z,1µm,0.8s,comp=Z,9µmcomp=Z,86µm
ZARC S **Sn 03 44 21.8 -4.0**
comp=Z,1µm,0.8s,comp=Z,9µmcomp=Z,86µm
CRJC Cerrejon, Guaj 8.34 104 P **Pn 03 42 47.8 -3.3**
comp=Z,888nm,1.0s,comp=Z,19µm
CRJC S **Sn 03 44 19.0 -7.0**
comp=Z,888nm,1.0s,comp=Z,19µm
JUAM Asuncion Mita 8.41 279 *i* P **Pn 03 42 51.9 -0.1**
JUAM IAmb IAmb 03 42 59.1
comp=Z,670nm,0.8s
JUAM IVmB_BB 03 43 28.4
comp=Z,18µm,1.0s
NUBE Las Nubes 8.44 276 *i* P **Pn 03 42 51.5 -1.0**
NUBE IAmb IAmb 03 43 11.5
comp=Z,580nm,0.8s
NUBE IVmB_BB 03 43 28.2
comp=Z,13µm,1.0s
NUBE *i* S **Sn 03 44 32.1 +3.7**
HELE Santa Helena 8.79 141 *i* P Pn 03 42 48.5 -9.0
HELE IVmB_BB 03 43 11.3
comp=Z,3µm,1.0s
HELE IAmb IAmb 03 43 18.4
comp=Z,270nm,1.0s
HELE *i* S Sn 03 44 27.8 -10
CBOC Ciudad Bolivar 8.81 145 P **Pn 03 42 57.0 -0.6**
comp=Z,292nm,0.8s,comp=Z,5µmcomp=Z,59µm
CBOC S **Sn 03 44 35.0 -2.6**
comp=Z,292nm,0.8s,comp=Z,5µmcomp=Z,59µm
HELC Santa Helena 8.84 141 P **Pn 03 42 58.4 +0.3**
comp=Z,279nm,0.9s,comp=Z,3µmcomp=Z,67µm
HELC S **Sn 03 44 31.4 -7.1**
comp=Z,279nm,0.9s,comp=Z,3µmcomp=Z,67µm
GTBY Guantanamo Bay 8.90 40 Pn **Pn 03 42 57.2 -1.4**
GTBY Guantanamo Bay 8.90 40 *i* P **Pn 03 42 57.5 -1.1**
GTBY Guantanamo Bay 8.90 40 P **Pn 03 42 57.3 -1.3**
comp=Z,822nm,1.3s,comp=Z,13µmcomp=Z,57µm
GTBY Guantanamo Bay 8.90 40 ⇓P **Pn 03 42 57.0 -1.6**
PIZC Pizarro, Choco 8.93 155 P **Pn 03 42 59.5 +0.5**
comp=Z,419nm,0.8s,comp=Z,6µm
PIZC S **Sn 03 44 38.3 -1.9**
comp=Z,419nm,0.8s,comp=Z,6µm
URIC Uribia, Colomb 9.05 98 P Pn 03 42 55.9 -4.8
comp=Z,483nm,1.0s,comp=Z,8µmcomp=Z,59µm
URIC S Sn 03 44 33.8 -9.4
comp=Z,483nm,1.0s,comp=Z,8µmcomp=Z,59µm
URI Uribia 9.05 98 *i* P Pn 03 42 50.6 -10
URI IVmB_BB 03 43 12.2
comp=Z,6µm,1.0s
URI IAmb IAmb 03 43 12.5
comp=Z,380nm,1.0s
URI *i* S Sn 03 44 29.5 -14
OCAC Ocana 9.09 122 P **Pn 03 42 59.9 -1.5**
comp=Z,1µm,0.7s,comp=Z,11µmcomp=Z,71µm
OCAC S **Sn 03 44 38.1 -6.4**
comp=Z,1µm,0.7s,comp=Z,11µmcomp=Z,71µm
PETF Flores 9.23 295 **Pn 03 43 02.1 -1.1**
PETF Flores 9.23 295 *i* P **Pn 03 43 01.6 -1.6**
PETF IVmB_BB 03 43 10.4
comp=Z,16µm,1.0s
PETF IAmb IAmb 03 43 12.5
comp=Z,1µm,0.8s
PTBC PUERTO BERRIO, 9.28 134 P **Pn 03 43 02.4 -1.6**
comp=Z,474nm,1.0s,comp=Z,4µmcomp=Z,63µm
PTBC S **Sn 03 44 43.2 -5.8**
comp=Z,474nm,1.0s,comp=Z,4µmcomp=Z,63µm

ESSG Sabana Grande 9.50 279 *i* P **Pn 03 43 07.6 +0.7**
ESSG IAmb IAmb 03 43 20.8
comp=Z,590nm,1.0s
BRJC Barrancabermej 9.51 129 P **Pn 03 43 06.7 -0.3**
comp=Z,773nm,0.8s,comp=Z,11µmcomp=Z,66µm
BRJC S **Sn 03 44 49.1 -5.4**
comp=Z,773nm,0.8s,comp=Z,11µmcomp=Z,66µm
GUY2C Guyana, Caldas 9.70 144 P **Pn 03 43 09.3 -0.8**
comp=Z,245nm,0.8s,comp=Z,3µmcomp=Z,49µm
GUY2C S **Sn 03 44 58.7 -1.2**
comp=Z,245nm,0.8s,comp=Z,3µmcomp=Z,49µm
NORC Norcasia 9.73 140 P **Pn 03 43 10.6 +0.4**
comp=Z,251nm,0.8s,comp=Z,4µmcomp=Z,49µm
NORC S **Sn 03 44 54.9 -5.2**
comp=Z,251nm,0.8s,comp=Z,4µmcomp=Z,49µm
SOR Soroa 9.78 350 Pn **Pn 03 43 09.3 -1.4**
SOR Soroa 9.78 350 P **Pn 03 43 09.3 -1.4**
MALC Bahia Malaga 9.80 157 P **Pn 03 43 14.7 +3.6**
MALC S **Sn 03 44 59.9 -1.9**
TEIG Tepich 9.83 317 Pn **Pn 03 43 09.3 -2.0**
TEIG Tepich 9.83 317 Pn **Pn 03 43 10.4 -1.0**
comp=Z,0.1nm,0.3s,baz=322,slow=20,SNR=167
TEIG Sn **Sn 03 44 56.3 -5.9**
comp=Z,0.1nm,0.3s,baz=67,slow=24,SNR=1.6
TEIG Tepich 9.83 317 P **Pn 03 43 09.7 -1.7**
comp=Z,2µm,0.5s,comp=Z,42µmcomp=Z,127µm
TEIG S **Sn 03 44 55.0 -7.3**
comp=Z,2µm,0.5s,comp=Z,42µmcomp=Z,127µm
TEIG Tepich 9.83 317 ⇑P **Pn 03 43 09.5 -1.9**
CAMR Camarioca 9.88 359 Pn **Pn 03 43 12.0 -0.1**
RECRC Villamaria, Ca 9.92 144 P **Pn 03 43 16.8 +3.6**
RECRC S **Sn 03 45 00.2 -5.3**
PAMC Pamplona, Colo 10.10 124 P **Pn 03 43 14.1 -1.5**
PAMC S **Sn 03 45 05.8 -4.0**
SOKI Kika Raxquin 10.10 281 *i* P **Pn 03 43 13.7 -1.9**
SOKI IVmB_BB 03 43 31.2
comp=Z,14µm,1.0s
SOKI IAmb IAmb 03 43 31.7
comp=Z,1µm,1.2s
BARC Barichara 10.18 129 P **Pn 03 43 15.9 -0.5**
BARC S **Sn 03 45 03.7 -7.6**
SPBC San Pablo de B 10.19 136 P **Pn 03 43 15.7 -0.7**
comp=Z,135nm,1.0s,comp=Z,3µmcomp=Z,53µm
YOTC Yotoco, Valle 10.25 152 P **Pn 03 43 16.8 -0.5**
comp=Z,176nm,0.8s,comp=Z,2µmcomp=Z,16µm
HUEH Huehuetenango 10.28 283 **Pn 03 43 16.6 -1.2**
HUEH Huehuetenango 10.28 283 IVmB_BB 03 43 15.4
comp=Z,15µm,1.0s
HUEH *i* P **Pn 03 43 16.0 -1.8**
HUEH IAmb IAmb 03 43 34.1
comp=Z,790nm,0.9s
HUEH *i* S **Sn 03 45 16.5 +2.7**
ANIL Santa Ana 10.28 146 P **Pn 03 43 21.9 +4.0**
RTAL Retalhuleu 10.35 279 Pn **Pn 03 43 18.9 +0.4**
RTAL Retalhuleu 10.35 279 *i* P **Pn 03 43 18.2 -0.3**
RTAL IVmB_BB 03 43 28.5
comp=Z,15µm,1.0s
RTAL IAmb IAmb 03 43 30.7
comp=Z,840nm,1.6s
RTAL *i* S **Sn 03 45 17.4 +2.3**
GR1C Gorgona, Isla 10.48 163 P **Pn 03 43 24.0 +3.6**
ROSC El Rosal 10.63 140 Pn **Pn 03 43 24.1 +1.2**
ROSC El Rosal 10.63 140 Pn **Pn 03 43 22.9 +0.1**
comp=Z,13nm,0.3s,baz=100,slow=3.1,SNR=50
ROSC Sn **Sn 03 45 21.9 -0.9**
comp=Z,19nm,0.3s,baz=17,slow=23,SNR=7.2
ROSC LR LR 03 47 54.0
comp=Z,88µm,20.3s,baz=340,slow=40
comp=Z,126nm,0.8s
ROSC El Rosal 10.63 140 P **Pn 03 43 25.3 +2.5**
comp=Z,441nm,1.0s,comp=Z,6µmcomp=Z,57µm
ROSC S **Sn 03 45 21.4 -1.3**
comp=Z,441nm,1.0s,comp=Z,6µmcomp=Z,57µm
RUSC La Rusia 10.71 131 P **Pn 03 43 23.6 -0.4**
comp=Z,449nm,1.1s,comp=Z,5µmcomp=Z,65µm
RUSC S **Sn 03 45 15.8 -9.0**
comp=Z,449nm,1.1s,comp=Z,5µmcomp=Z,65µm
RUSI La Rusia 10.71 131 *i* P Pn 03 43 15.1 -8.9
RUSI IVmB_BB 03 43 32.8
comp=Z,6µm,1.0s
RUSI IAmb IAmb 03 43 33.2
comp=Z,450nm,1.1s
RUSI *i* S Sn 03 45 15.7 -9.1
SMCA Catarina 10.75 280 *i* P **Pn 03 43 24.6 +0.5**
SMCA IAmb IAmb 03 43 31.8
comp=Z,680nm,1.1s
SMCA IVmB_BB 03 43 33.3
comp=Z,9µm,1.0s
SMCA *i* S **Sn 03 45 28.2 +3.2**
JAMC Jamundi, Valle 10.79 155 P **Pn 03 43 26.2 +1.3**
comp=Z,136nm,0.7s,comp=Z,3µmcomp=Z,13µm
ORTC Ortega, Tolima 10.85 147 P **Pn 03 43 27.9 +2.4**
CCIG Comitan 11.09 288 **Pn 03 43 27.3 -1.5**
CCIG Comitan 11.09 288 ⇑P **Pn 03 43 27.6 -1.3**
CCIG Comitan 11.09 288 *i* P **Pn 03 43 28.0 -0.9**
CCIG IAmb IAmb 03 43 51.8
comp=Z,310nm,1.4s
CCIG IVmB_BB 03 44 14.7
comp=Z,7µm,1.0s
CCIG *i* S **Sn 03 45 36.6 +3.0**
SDDR Presa de Saban 11.12 57 Pn **Pn 03 43 26.0 -3.1**
SDDR Presa de Saban 11.12 57 *i* P **Pn 03 43 31.1 +2.0**
SDDR Presa de Saban 11.12 57 ⇓P **Pn 03 43 29.9 +0.8**
SDDR Presa de Saban 11.12 57 *eP* **Pn 03 43 29.9 +0.8**
SDV Santo Domingo 11.14 111 Pn **Pn 03 43 27.4 -2.2**
SDV Santo Domingo 11.14 111 Pn **Pn 03 43 28.3 -1.3**
comp=Z,28nm,0.3s,baz=314,slow=5.6,SNR=51
SDV Sn **Sn 03 45 28.0 -6.9**
comp=Z,100nm,0.3s,baz=4.5,slow=23,SNR=11
SDV LR LR 03 48 31.4
comp=Z,42µm,19.2s,baz=309,slow=42
comp=Z,448nm,0.7s
SDV Santo Domingo 11.14 111 *eP* **Pn 03 43 26.5 -3.1**
061Z Ochoppi 12.68 1 **Pn 03 43 48.7 -1.7**
GRTK Grand Turk 12.68 48 Pn **Pn 03 43 48.8 -1.6**
GRTK Grand Turk 12.68 48 ⇑P **Pn 03 43 51.2 +0.8**
OTAV Otavalo 13.08 168 **Pn 03 43 57.0 +0.6**
OTAV Otavalo 13.08 168 ⇑P Pn 03 43 59.0 +2.6
OTAV Otavalo 13.08 168 *i* P Pn 03 43 50.9 -5.5
OTAV IAmb IAmb 03 44 18.7
comp=Z,270nm,1.4s
OTAV IVmB_BB 03 44 39.9
comp=Z,4µm,1.0s
OTAV Otavalo 13.08 168 P **Pn 03 43 57.0 +0.6**
OTAV Otavalo 13.08 168 *eP* **Pn 03 43 56.6 +0.3**
BAUV El Baul 13.51 107 **Pn 03 43 59.4 -2.5**
BAUV El Baul 13.51 107 *eP* Pn 03 43 55.8 -6.0
CMIG Matias Romero 13.84 288 Pn Pn 03 44 00.7 -5.6
comp=Z,0.1nm,0.3s,baz=69,slow=10,SNR=8.1
CMIG LR LR 03 49 53.4
comp=Z,77µm,18.3s,baz=136,slow=39
060A Indiantown 13.86 3 **Pn 03 44 04.7 -1.8**
CRPR Cabo Rojo, PR 14.36 68 **Pn 03 44 12.5 -0.9**
PRSN Puerto Rico Se 14.39 68 **Pn 03 44 10.0 -3.9**
MLPR Magueyes Islan 14.41 69 Pn **Pn 03 44 09.8 -4.3**
AOPR Arecibo Observ 14.79 68 *eP* **Pn 03 44 16.4 -2.9**
OBIP Obispado Ponce 14.83 69 **Pn 03 44 16.0 -3.9**
DWPF Disney Wildern 14.91 359 **Pn 03 44 20.5 -0.4**
DWPF Disney Wildern 14.91 359 ⇓P **Pn 03 44 22.3 +1.4**
EMPR Esperanza - Ma 15.03 67 **Pn 03 44 19.0 -3.5**
SJG San Juan 15.26 69 **Pn 03 44 21.5 -4.1**
SJG San Juan 15.26 69 Pn **Pn 03 44 23.9 -1.8**
comp=Z,2.1nm,0.3s,baz=261,slow=8.1,SNR=19
SJG Sn Sn 03 47 03.3 -12
comp=Z,2.2nm,0.3s,baz=244,slow=21,SNR=1.3
SJG LR LR 03 49 50.0
comp=Z,27µm,19.3s,baz=242,slow=36
comp=Z,27nm,0.7s
SJG San Juan 15.26 69 *eP* **Pn 03 44 23.1 -2.5**
656A Willston 16.21 356 **Pn 03 44 34.7 -3.3**
PCRV Puerto La Cruz 16.43 99 Pn **Pn 03 44 37.4 -3.5**
comp=Z,2.3nm,0.3s,baz=268,slow=6.3,SNR=26
PCRV Sn **Sn 03 47 33.8 -10**
comp=Z,5.7nm,0.3s,baz=101,slow=21,SNR=9.5
PCRV LR LR 03 52 03.2
comp=Z,14µm,20.1s,slow=41
PCRV Puerto La Cruz 16.43 99 *eP* **Pn 03 44 38.1 -2.7**
553A Crawfordville 17.25 350 Pn **Pn 03 44 49.4 -1.7**
TLIG Tlapa 17.37 287 Pn **Pn 03 44 50.2 -2.6**
TLIG Tlapa 17.37 287 ⇑P **Pn 03 44 50.3 -2.6**
TLIG Tlapa 17.37 287 *i* P **Pn 03 44 50.3 -2.6**
TLIG IAmb IAmb 03 45 01.6
comp=Z,320nm,1.9s
TLIG IVmB_BB 03 45 04.4
comp=Z,6µm,1.0s

TLIG *i* S **S 03 48 13.9 -1.8**
456A Hilliard 17.53 357 Pn **Pn 03 44 52.5 -2.1**
SABA Saba 17.82 73 Pn **Pn 03 44 55.0 -3.4**
SABA IAmb IAmb 03 45 07.6
comp=Z,1µm,1.9s
451A Vernon 17.92 347 Pn **Pn 03 44 56.9 -2.5**
451A IAmb IAmb 03 45 08.3
comp=Z,2µm,1.9s
SEUS St. Eustatius 18.04 74 **Pn 03 44 56.6 -4.5**
SEUS IAmb IAmb 03 45 07.7
comp=Z,427nm,1.0s
SMRT St. Maarten 18.07 72 Pn **Pn 03 44 57.7 -3.7**
SMRT IAmb IAmb 03 45 05.0
comp=Z,415nm,1.1s
SKI Saint Kitts 18.24 74 *eP* **P 03 45 03.7 0.0**
TIGA Tifton 18.36 353 P **Pn 03 45 03.7 -1.2**
UNM Universidad Na 18.38 292 **Pn 03 45 03.4 -2.0**
UNM Universidad Na 18.38 292 P **Pn 03 45 03.4 -2.0**
UNM pmax pmax
comp=Z,172nm,1.1s
352A Blakely 18.60 350 P **P 03 45 06.7 -0.8**
MBFL Flemmings, Mon 18.64 77 *eP* **P 03 45 08.1 -0.1**
BRAL Brewton 18.76 344 ⇓P **Pn 03 45 10.3 +0.6**
GRFF Grenada Fort F 18.97 91 *eP* **Pn 03 45 12.9 +0.5**
GRW Mount Saint Ca 19.03 91 *eP* **P 03 45 11.7 -0.8**
GRGR Grenville 19.04 91 P **P 03 45 09.2 -3.4**
GRGR Grenville 19.04 91 ⇑P **P 03 45 08.6 -4.0**
GRGR Grenville 19.04 91 *eP* **Pn 03 45 12.9 -0.4**
GRHS Sauteurs 19.05 91 *eP* **P 03 45 12.6 0.0**
GRSS Sisters 19.07 90 *eP* **Pn 03 45 13.6 0.0**
TBG Guadaloupe-3 19.07 79 *eP* **Pn 03 45 13.7 +0.1**
TDBA Terre de Bas, 19.08 79 P **P 03 45 11.4 -1.6**
TDBA Terre de Bas, 19.08 79 *eP* **Pn 03 45 13.4 -0.3**
ANBD Bethesda, Anti 19.11 76 *eP* **P 03 45 12.5 -0.8**
ANWB Willy Bob 19.20 74 P **P 03 45 12.0 -2.2**
ANWB IAmb IAmb 03 45 25.4
comp=Z,400nm,1.0s
ANWB Willy Bob 19.20 74 ⇑P **P 03 45 12.2 -2.1**
ANWB Willy Bob 19.20 74 *eP* **P 03 45 12.1 -2.1**
GCMP Grenada, Carri 19.24 90 *eP* **P 03 45 14.7 0.0**
DSLB Salisbury 19.25 81 *eP* **Pn 03 45 15.8 0.0**
SVB Belmont 19.37 87 *eP* **P 03 45 15.2 -1.0**
PSGH Port of Spain 19.37 95 *e* **P 03 45 15.2 -0.9**
SVT Saint Vincent 19.38 88 *eP* **P 03 45 16.1 -0.2**
TRN Trinidad (W) 19.47 95 *eP* **P 03 45 16.3 -0.9**
BIM Bigot 19.54 84 *eP* **P 03 45 17.5 -0.6**
SLBI Saint Lucia, B 19.62 85 *eP* **P 03 45 18.2 -0.7**
GDSD La Dsirade Is 19.67 78 P **P 03 45 16.2 -3.2**
GDSD IAmb IAmb 03 45 23.5
comp=Z,269nm,1.0s
SLAC Saint Lucia, A 19.70 85 *eP* **P 03 45 19.4 -0.4**
346A Big Creek Wild 19.72 338 P **P 03 45 18.2 -1.7**
ILAM Ilet Lapin Mar 19.74 83 *eP* **Pn 03 45 20.9 -0.7**
JRQG Juriquilla Cam 19.94 295 P **P 03 45 21.8 -0.8**
TOSP Speyside 20.22 93 *eP* **P 03 45 23.9 -1.5**
MOIG Morelia 20.30 291 P Pn 03 45 27.9 -0.6
MOIG IAmb IAmb 03 45 37.8
comp=Z,662nm,1.6s
MOIG IAMs_20 IAMs_20 03 53 45.9
comp=Z,31µm,19.0s
MOIG Morelia 20.30 291 *i* P **P 03 45 25.0 -1.5**
MOIG IVmB_BB 03 45 36.8
comp=Z,11µm,1.0s
MOIG IAmb IAmb 03 45 45.4
comp=Z,230nm,1.3s
MOIG *i* S **S 03 49 12.6 -2.4**
GOGA Godfrey 20.30 354 P **P 03 45 26.1 -0.1**
GOGA Godfrey 20.30 354 IAMs_20 IAMs_20 03 52 33.9
comp=Z,31µm,18.0s
GOGA Godfrey 20.30 354 ⇓P **P 03 45 26.8 +0.6**
GOGA Godfrey 20.30 354 P **P 03 45 26.1 -0.1**
GOGA pmax pmax
comp=Z,122nm,0.8s
GOGA MLR MLR
comp=Z,31µm,18.0s
ATAH Atahualpa 20.31 172 P Pn 03 45 30.1 +1.3
comp=Z,47nm,1.1s,baz=342,slow=10,SNR=29
ATAH LR LR 03 52 42.7
comp=Z,17µm,20.1s,baz=345,slow=35
TBTG Tabatinga, AM 20.50 146 P **P 03 45 28.8 +0.4**
TBTG IAmb IAmb 03 45 39.3
comp=Z,446nm,1.1s
TBTG Tabatinga, AM 20.50 146 *eP* **P 03 45 28.7 +0.2**
LRAL Lakeview Retre 20.53 346 P **P 03 45 29.0 +0.3**
LRAL Lakeview Retre 20.53 346 ⇑P Pn 03 45 29.7 -1.1
Y58A Scranton 20.73 3 IAmb IAmb 03 45 38.1
comp=Z,373nm,1.0s
Y58A IAMs_20 IAMs_20 03 53 04.9
comp=Z,36µm,20.0s
441A DeRidder 20.77 330 P Pn 03 45 32.6 -1.0
Y57A Sumter 20.81 2 IAMs_20 IAMs_20 03 54 02.0
comp=Z,34µm,21.0s
VBMS Vicksburg 20.86 337 ⇓P Pn 03 45 34.0 -0.7
BCHC Barbados, Cave 20.95 88 *e* Pn 03 45 40.5 +4.6
Y60A Bolivia 20.95 7 IAMs_20 IAMs_20 03 53 36.8
comp=Z,41µm,19.0s
BBGH Gun Hill 21.02 87 P **P 03 45 34.5 +0.3**
BBGH IAMs_20 IAMs_20 03 54 34.9
comp=Z,31µm,21.0s
BBGH Gun Hill 21.02 87 *eP* **P 03 45 32.7 -1.4**
HODGE Hodges 21.04 357 IAMs_20 IAMs_20 03 53 52.2
comp=Z,42µm,18.0s
JSC Jenkinsville 21.06 360 P **P 03 45 32.4 -2.0**
JSC IAMs_20 IAMs_20 03 53 22.8
comp=Z,30µm,20.0s
JSC Jenkinsville 21.06 360 P **P 03 45 32.4 -2.0**
JSC pmax pmax
comp=Z,209nm,1.2s
JSC MLR MLR
comp=Z,30µm,20.0s
KVTX Kingsville 21.23 315 IAMs_20 IAMs_20 03 54 39.1
comp=Z,29µm,21.0s
KVTX Kingsville 21.23 315 ⇑P **P 03 45 37.0 +0.6**
X58A Rowland 21.40 4 P **P 03 45 35.7 -2.3**
X58A IAMs_20 IAMs_20 03 53 24.5
comp=Z,45µm,19.0s
BIRD Birdtown, Kers 21.43 2 IAMs_20 IAMs_20 03 54 21.6
comp=Z,36µm,20.0s
HKT Hockley 21.57 323 P **P 03 45 40.4 +0.6**
HKT Hockley 21.57 323 ⇑P **P 03 45 40.5 +0.6**
HKT Hockley 21.57 323 P **P 03 45 40.4 +0.6**
HKT pmax pmax
comp=Z,804nm,1.4s
HKT MLR MLR
comp=Z,5µm,22.0s
PAULI Pauline 21.61 358 P **P 03 45 37.7 -2.6**
PAULI IAmb IAmb 03 45 48.2
comp=Z,277nm,1.0s
PAULI IAMs_20 IAMs_20 03 53 31.3
comp=Z,33µm,18.0s
BG3 Lake Jocassee 21.83 356 IAmb IAmb 03 45 52.1
comp=Z,233nm,1.0s
BG3 IAMs_20 IAMs_20 03 54 17.3
comp=Z,41µm,18.0s
X48A Hartselle 21.90 347 IAmb IAmb 03 45 55.4
comp=Z,234nm,0.9s
KMSC Kings Mountain 21.92 360 IAMs_20 IAMs_20 03 53 59.5
comp=Z,30µm,19.0s
W57A Gilead 21.95 3 IAmb IAmb 03 45 55.5
comp=Z,244nm,1.0s
W57A IAMs_20 IAMs_20 03 53 41.4
comp=Z,39µm,19.0s
W52A Murphy 22.02 354 P **P 03 45 44.9 +0.2**
W52A IAMs_20 IAMs_20 03 53 44.2
comp=Z,30µm,18.0s
Y45A Yeager Farm, C 22.02 341 P **P 03 45 45.4 +0.7**
W59A Clinton 22.08 6 IAmb IAmb 03 45 55.3
comp=Z,208nm,1.0s
W59A IAMs_20 IAMs_20 03 53 58.6
comp=Z,45µm,19.0s
W50A Signal Mountai 22.30 351 P **P 03 45 48.3 +0.5**
W50A IAmb IAmb 03 45 53.8
comp=Z,243nm,1.0s
CZSB Cruzeiro do Su 22.35 158 P **P 03 45 49.1 +0.7**
CZSB IAMs_20 IAMs_20 03 56 00.5
comp=Z,30µm,19.0s
CZSB Cruzeiro do Su 22.35 158 *eP* **P 03 45 49.6 +1.2**
CPCT Cooper Cave 22.44 353 P **P 03 45 49.6 +0.4**
CPCT IAmb IAmb 03 45 59.6
comp=Z,302nm,1.0s
V53A Saluda 22.50 356 P **P 03 45 49.6 -0.3**
V53A IAmb IAmb 03 45 59.5
comp=Z,367nm,1.2s
V53A IAMs_20 IAMs_20 03 54 38.9

comp=Z,38µm,19.0s
ZAIG Zacatecas 22.50 298 P P 03 45 50.1 -0.2
ZAIG IAms_20 IAms_20 03 56 06.4
comp=Z,43µm,21.0s
ZAIG Zacatecas 22.50 298 ⇑P P 03 45 50.1 -0.2
ZAIG Zacatecas 22.50 298 *i* P P 03 45 47.9 -2.4
ZAIG IVmB_BB 03 46 04.0
comp=Z,4µm,1.0s
ZAIG IAmb IAmb 03 46 07.8
comp=Z,80nm,1.6s
ZAIG *i* S S **03 49 53.7 -4.5**
TKL Tuckaleechee C 22.56 354 IAmb IAmb 03 46 00.5
comp=Z,473nm,1.4s
TKL Tuckaleechee C 22.56 354 LR LR 03 54 11.9
comp=Z,26µm,18.1s,baz=177,slow=36
V55A Taylorsville 22.63 360 IAmb IAmb 03 45 58.3
comp=Z,241nm,1.2s
V55A IAms_20 IAms_20 03 54 31.2
comp=Z,33µm,20.0s
V58A Windy Hill, Pi 22.64 4 IAms_20 IAms_20 03 54 42.6
comp=Z,30µm,18.0s
V61A Roper 22.94 10 IAms_20 IAms_20 03 54 27.2
comp=Z,26µm,20.0s
BOAV Boa Vista 23.02 116 P P **03 45 55.2 -0.3**
BOAV IAmb IAmb 03 45 58.1
comp=Z,395nm,1.2s
BOAV IAms_20 IAms_20 03 55 13.7
comp=Z,33µm,21.0s
BOAV Boa Vista 23.02 116 *e*P P **03 45 55.0 -0.6**
V48A Smith Brothers 23.09 348 IAmb IAmb 03 46 17.1
comp=Z,162nm,1.0s
U56A King 23.13 2 IAmb IAmb 03 46 13.7
comp=Z,246nm,1.1s
U56A IAms_20 IAms_20 03 54 15.6
comp=Z,33µm,20.0s
435B Jarrell 23.21 322 P P **03 45 57.9 +0.5**
baz=136
U54A Nelsons Funny 23.30 359 IAms_20 IAms_20 03 55 05.2
comp=Z,30µm,22.0s
CLTN Cedars of Leba 23.34 349 P P **03 45 59.0 +0.4**
CLTN IAmb IAmb 03 46 17.4
comp=Z,156nm,1.0s
TZTN Tazewell 23.42 355 P P **03 46 00.3 +0.9**
TZTN IAmb IAmb 03 46 20.5
comp=Z,478nm,1.3s
TZTN IAms_20 IAms_20 03 55 08.3
comp=Z,26µm,21.0s
TZTN Tazewell 23.42 355 ⇑P P **03 46 00.7 +1.3**
HNDO Hondo 23.44 317 IAmb IAmb 03 46 07.0
comp=Z,247nm,1.0s
U49A Red Boiling Sp 23.66 351 P P **03 46 02.4 +0.6**
U49A IAmb IAmb 03 46 10.6
comp=Z,265nm,1.3s
WVT Waverly 23.68 346 P P **03 46 01.9 -0.1**
WVT IAmb IAmb 03 46 16.0
comp=Z,194nm,1.2s
WVT Waverly 23.68 346 ⇓P P **03 46 01.9 -0.1**
WVT Waverly 23.68 346 P P **03 46 02.0 -0.1**
WVT pmax pmax
comp=Z,194nm,1.2s
WVT MLR MLR
comp=Z,9µm,20.0s
T57A Hurt 23.83 4 IAms_20 IAms_20 03 55 31.0
comp=Z,25µm,19.0s
HBAR Harrisburg 23.93 341 P P **03 46 03.2 -1.1**
BLA Blacksburg 23.99 1 P P **03 46 05.8 +0.7**
BLA IAmb IAmb 03 46 30.4
comp=Z,198nm,1.1s
BLA IAms_20 IAms_20 03 54 32.4
comp=Z,30µm,20.0s
BLA Blacksburg 23.99 1 ⇓P P **03 46 06.0 +0.9**
BLA Blacksburg 23.99 1 P P **03 46 05.8 +0.7**
BLA pmax pmax
comp=Z,198nm,1.2s
BLA MLR MLR
comp=Z,30µm,20.0s
T50A Nancy 24.02 353 IAms_20 IAms_20 03 54 17.4
comp=Z,20µm,20.0s
MIAR Mount Ida 24.12 334 IAmb IAmb 03 46 26.7
comp=Z,393nm,1.3s
MIAR Mount Ida 24.12 334 ⇑P P **03 46 06.0 -0.2**
WHAR Wooly Hollow 24.26 337 P P **03 46 05.8 -1.6**
FW13 Cleburne 24.27 325 P P **03 46 06.5 -1.1**
BBSR BB Station 24.37 35 P P **03 46 06.4 -2.1**
BBSR BB Station 24.37 35 ⇓P P **03 46 09.9 +1.4**
JCT Junction City 24.40 318 P P **03 46 07.2 -1.7**
JCT IAmb IAmb 03 46 34.6
comp=Z,256nm,1.1s
JCT Junction City 24.40 318 ⇑P P **03 46 08.3 -0.6**
JCT Junction City 24.40 318 P P **03 46 07.2 -1.7**
JCT pmax pmax
comp=Z,255nm,1.1s
JCT MLR MLR
comp=Z,10µm,22.0s
S51A Beattyville 24.51 355 IAms_20 IAms_20 03 55 51.2
comp=Z,29µm,19.0s
S54A Dingess, Beckl 24.57 360 IAms_20 IAms_20 03 56 09.7
comp=Z,28µm,18.0s
S57A Dark Hollow, R 24.61 4 IAms_20 IAms_20 03 57 28.6
comp=Z,18µm,18.0s
FCAR Ozark Folk Cen 24.73 338 IAmb IAmb 03 46 20.4
comp=Z,131nm,1.0s
FW06 Azle 24.80 326 P P **03 46 11.1 -1.4**
Z35A Perchaven, San 24.91 327 IAmb IAmb 03 46 28.6
comp=Z,310nm,1.2s
S61A Accomac 24.93 10 IAms_20 IAms_20 03 56 40.1
comp=Z,31µm,19.0s
CBN Corbin Frederi 25.20 7 P P **03 46 14.6 -1.3**
CBN IAmb IAmb 03 46 24.0
comp=Z,146nm,1.1s
R50A Paris 25.21 354 IAms_20 IAms_20 03 55 34.8
comp=Z,18µm,18.0s
CGM3 Cape Girardeau 25.25 344 IAmb IAmb 03 46 29.6
comp=Z,245nm,1.2s
NNA Nana 25.31 170 P P **03 46 19.4 +2.2**
NNA Nana 25.31 170 LR LR 03 55 42.6
comp=Z,15µm,20.5s,baz=344,slow=35
NNA Nana 25.31 170 ⇓P P **03 46 19.5 +2.3**
NNA Nana 25.31 170 P P **03 46 19.4 +2.2**
NNA pmax pmax
comp=Z,413nm,1.4s
NNA MLR MLR
comp=Z,16µm,22.0s
R49A Shelbyville 25.32 353 IAms_20 IAms_20 03 57 54.7
comp=Z,19µm,18.0s
LOOK Love County 25.38 328 IAmb IAmb 03 46 28.6
comp=Z,179nm,0.9s
USIN University of 25.41 348 IAms_20 IAms_20 03 57 29.3
comp=Z,18µm,19.0s
WCI Wyandotte Cave 25.42 351 P P **03 46 18.2 +0.2**
WCI IAmb IAmb 03 46 25.6
comp=Z,226nm,0.8s
WCI Wyandotte Cave 25.42 351 ⇑P P **03 46 18.3 +0.4**
WCI Wyandotte Cave 25.42 351 P P **03 46 18.2 +0.2**
WCI pmax pmax
comp=Z,227nm,0.9s
WCI MLR MLR
comp=Z,12µm,21.0s
S44A Carbondale 25.52 345 IAmb IAmb 03 46 26.6
comp=Z,135nm,1.0s
SIUC Southern Illin 25.53 345 IAmb IAmb 03 46 26.7
comp=Z,149nm,1.1s
SSFO Shawnee State 25.53 356 IAms_20 IAms_20 03 56 34.2
comp=Z,34µm,18.0s
OZNA Ozona 25.55 317 P P **03 46 18.4 -1.0**
OZNA IAmb IAmb 03 46 52.5
comp=Z,165nm,1.2s
R61A Willards 25.63 11 IAms_20 IAms_20 03 55 22.4
comp=Z,20µm,21.0s
SAND Sanderson 25.64 314 IAmb IAmb 03 46 45.3
comp=Z,164nm,1.2s
Q52A Bidwell 25.75 358 IAms_20 IAms_20 03 56 31.0
comp=Z,30µm,21.0s
Q54A Coxs Mills 25.76 1 IAmb IAmb 03 46 39.0
comp=Z,114nm,1.0s
Q54A IAms_20 IAms_20 03 56 10.0
comp=Z,26µm,18.0s
HHAR Hobbs 25.77 336 IAmb IAmb 03 46 32.9
comp=Z,140nm,1.0s
Q56A Snyder Ridge, 25.87 3 IAms_20 IAms_20 03 55 51.5
comp=Z,20µm,21.0s
Q51A Peebles 25.87 356 IAmb IAmb 03 46 27.5
comp=Z,324nm,1.2s
Q51A IAms_20 IAms_20 03 56 43.2
comp=Z,32µm,18.0s
WTFS Witchita Falls 25.90 325 IAmb IAmb 03 46 35.3
comp=Z,271nm,1.1s

MGMO Mountain Grove 25.92 339 IAmb IAmb 03 46 31.7
comp=Z,399nm,1.8s
MACA Manacapuru-AM 25.97 127 P P **03 46 23.8 +0.6**
MACA IAms_20 IAms_20 03 58 33.1
comp=Z,21µm,18.0s
MACA Manacapuru-AM 25.97 127 *e*P P **03 46 22.9 -0.3**
U38A Gravette 26.09 335 IAmb IAmb 03 46 53.5
comp=Z,237nm,1.4s
FVM French Village 26.10 343 IAmb IAmb 03 46 34.1
comp=Z,264nm,1.0s
W35A Tecumseh 26.14 330 IAmb IAmb 03 46 38.5
comp=Z,314nm,1.5s
P53A Whipple 26.26 360 IAms_20 IAms_20 03 56 25.3
comp=Z,23µm,18.0s
TXAR Lajitas Array 26.40 311 P P **03 46 26.6 -0.5**
TXAR Lajitas Array 26.40 311 P P **03 46 26.7 -0.4**
comp=Z,49nm,0.8s,baz=131,slow=8.4,SNR=354
TXAR PcP PcP **03 49 53.8 +0.9**
comp=Z,28nm,1.0s,baz=163,slow=3.3,SNR=6.3
TXAR LR LR 03 59 57.9
comp=Z,8µm,18.6s,baz=122,slow=44
comp=Z,49nm,0.8s
TX31 Lajitas Ar. Si 26.40 311 P P **03 46 26.6 -0.5**
TX31 IAmb IAmb 03 46 34.9
comp=Z,306nm,1.3s
P57A Homestead Farm 26.40 5 IAms_20 IAms_20 03 56 27.9
comp=Z,37µm,20.0s
CCM Cathedral Cave 26.41 342 P P **03 46 26.4 -0.5**
CCM IAmb IAmb 03 46 33.9
comp=Z,159nm,0.8s
CCM Cathedral Cave 26.41 342 P P **03 46 26.4 -0.5**
CCM pmax pmax
comp=Z,159nm,0.8s
CCM MLR MLR
comp=Z,11µm,20.0s
MCWV Mont Chateau 26.45 2 P P **03 46 26.7 -0.6**
MCWV IAmb IAmb 03 46 56.6
comp=Z,155nm,1.3s
MCWV IAms_20 IAms_20 03 56 08.4
comp=Z,33µm,20.0s
MCWV Mont Chateau 26.45 2 ⇓P P **03 46 33.3 +6.0**
SDMD Soldier's Deli 26.45 7 P P **03 46 26.8 -0.6**
SDMD IAms_20 IAms_20 03 56 49.3
comp=Z,23µm,18.0s
P49A Miami Univ. Ec 26.49 354 P P **03 46 28.2 +0.5**
P49A IAmb IAmb 03 46 35.1
comp=Z,135nm,0.9s
P49A IAms_20 IAms_20 03 57 16.7
comp=Z,17µm,19.0s
P49A Miami Univ. Ec 26.49 354 P P **03 46 28.5 +0.8**
baz=172,SNR=32
APMT Aspermont 26.53 322 IAmb IAmb 03 46 57.4
comp=Z,258nm,1.4s
Q44A Meyer Farm, Va 26.61 346 P P **03 46 28.7 0.0**
Q44A IAmb IAmb 03 46 35.7
comp=Z,124nm,0.8s
SN05 Snyder 5 26.68 321 P P **03 46 27.2 -2.4**
SN05 IAmb IAmb 03 47 07.2
comp=Z,297nm,1.3s
HPIG 26.76 305 P P **03 46 29.3 -1.2**
HPIG IAmb IAmb 03 46 42.0
comp=Z,208nm,1.7s
HPIG 26.76 305 ⇑P P **03 46 30.5 0.0**
HPIG 26.76 305 *i* P P **03 46 24.7 -5.8**
HPIG IAmb IAmb 03 46 42.2
comp=Z,73nm,1.8s
HPIG IVmB_BB 03 46 48.0
comp=Z,2µm,1.0s
HPIG *i* S S **03 50 59.5 -7.8**
OK052 Battle Ridge R 26.78 331 P P **03 46 28.4 -1.9**
OK052 IAmb IAmb 03 47 03.1
comp=Z,256nm,1.3s
WMOK Wichita Mounta 26.80 326 P P **03 46 29.2 -1.4**
WMOK Wichita Mounta 26.80 326 ⇑P P **03 46 29.6 -0.9**
WMOK Wichita Mounta 26.80 326 P P **03 46 29.2 -1.4**
WMOK pmax pmax
comp=Z,65nm,1.1s
O54A Avella 26.96 1 IAms_20 IAms_20 03 56 24.9
comp=Z,30µm,19.0s
ACSO Alum Creek Sta 27.05 357 ⇓P P **03 46 35.1 +2.4**
MVL Millersville 27.10 8 P P **03 46 31.4 -1.7**
ETMB Extrema 27.19 146 P P **03 46 32.2 -2.0**
ETMB IAmb IAmb 03 46 58.2
comp=Z,146nm,1.3s
ETMB Extrema 27.19 146 *e*P P **03 46 33.5 -0.6**
O48B Farmland 27.26 353 IAmb IAmb 03 46 49.8
comp=Z,193nm,1.1s
O48B IAms_20 IAms_20 03 57 40.9
comp=Z,16µm,19.0s
O48B Farmland 27.26 353 P P **03 46 35.9 +1.3**
baz=171,SNR=26
SSPA Standing Stone 27.55 5 P P **03 46 35.8 -1.5**
SSPA IAmb IAmb 03 46 45.6
comp=Z,181nm,1.4s
SSPA Standing Stone 27.55 5 ⇓P P **03 46 41.8 +4.5**
N53A Lisbon 27.58 0 IAms_20 IAms_20 03 57 07.2
comp=Z,28µm,19.0s
N49A Columbus Grove 27.82 355 IAmb IAmb 03 46 47.3
comp=Z,116nm,1.0s
N49A IAms_20 IAms_20 03 57 14.8
comp=Z,24µm,19.0s
LUPA Lehigh Univers 27.83 9 IAmb IAmb 03 46 49.1
comp=Z,241nm,1.2s
LUPA IAms_20 IAms_20 03 59 03.7
comp=Z,19µm,18.0s
SMWD Samnorwood 27.88 325 IAmb IAmb 03 46 52.3
comp=Z,144nm,1.2s
N58A Sunbury 27.88 7 IAms_20 IAms_20 03 57 22.1
comp=Z,32µm,20.0s
N47A Urbana 27.93 353 IAmb IAmb 03 46 47.8
comp=Z,127nm,0.8s
BRNJ Basking Ridge 28.05 11 IAms_20 IAms_20 03 59 00.5
comp=Z,18µm,18.0s
KAN17 Caldwell West 28.08 331 IAmb IAmb 03 46 51.9
comp=Z,150nm,1.0s
KAN09 Caldwell North 28.09 331 IAmb IAmb 03 46 51.5
comp=Z,138nm,1.1s
VHRN Van Horn 28.14 312 IAmb IAmb 03 47 09.4
comp=Z,186nm,1.3s
KAN01 Argonia South 28.17 331 IAmb IAmb 03 46 54.0
comp=Z,137nm,1.0s
M50A Fremont 28.22 357 IAms_20 IAms_20 03 57 57.4
comp=Z,33µm,20.0s
HDIL Hopedale 28.25 347 IAmb IAmb 03 47 45.0
comp=Z,101nm,1.0s
HDIL IAms_20 IAms_20 03 58 36.4
comp=Z,15µm,18.0s
HDIL Hopedale 28.25 347 ⇑P P **03 46 43.4 -0.1**
SAML Samuel 28.27 140 P P **03 46 42.6 -1.2**
SAML IAmb IAmb 03 47 11.7
comp=Z,198nm,1.2s
SAML IAms_20 IAms_20 03 58 26.7
comp=Z,23µm,22.0s
SAML Samuel 28.27 140 P P **03 46 42.6 -1.2**
SAML pmax pmax
comp=Z,198nm,1.2s
SAML MLR MLR
comp=Z,23µm,22.0s
SAML Samuel 28.27 140 *e*P P **03 46 43.4 -0.5**
CPNY Central Park 28.27 12 IAms_20 IAms_20 03 57 37.3
comp=Z,18µm,18.0s
M52A Chesterland 28.31 360 IAms_20 IAms_20 03 57 28.6
comp=Z,22µm,21.0s
M57A Sunshine Farm, 28.32 6 IAms_20 IAms_20 03 58 07.8
comp=Z,32µm,20.0s
KAN12 Harper NE Stat 28.40 331 IAmb IAmb 03 47 27.9
comp=Z,189nm,1.1s
ALLY Alegheny Colle 28.43 2 IAmb IAmb 03 46 53.7
comp=Z,89nm,0.9s
ALLY IAms_20 IAms_20 03 58 12.8
comp=Z,32µm,20.0s
ODNJ Ogdensburg 28.43 10 IAms_20 IAms_20 03 57 47.6
comp=Z,21µm,18.0s
PAL Palisades 28.49 12 IAms_20 IAms_20 03 58 16.0
comp=Z,22µm,18.0s
N62A Caumsett State 28.50 12 IAms_20 IAms_20 03 59 02.5
comp=Z,19µm,19.0s
AMTX Amarillo 28.54 323 IAmb IAmb 03 47 44.2
comp=Z,106nm,0.8s
AMTX Amarillo 28.54 323 ⇑P P **03 46 48.9 +2.6**
KSPA Keystone Colle 28.71 8 IAms_20 IAms_20 03 58 58.0
comp=Z,18µm,20.0s
L48A N Adams 28.85 355 IAmb IAmb 03 47 47.4
comp=Z,153nm,1.4s
L48A IAms_20 IAms_20 03 58 07.2
comp=Z,23µm,18.0s
ERPA Erie 28.90 2 P P **03 46 49.0 -0.2**

ERPA IAms_20 IAms_20 03 58 15.3
comp=Z,28µm,21.0s
MNTX Cornudas Mount 28.93 314 ⇓P P **03 46 49.0 -0.7**
L56A Greenwood 29.07 5 P P **03 46 50.8 0.0**
L46A Eue Claire 29.13 352 IAmb IAmb 03 46 59.1
comp=Z,96nm,1.1s
L46A IAms_20 IAms_20 03 59 42.5
comp=Z,13µm,18.0s
AAM Ann Arbor 29.15 356 P P **03 46 51.4 0.0**
AAM IAmb IAmb 03 47 36.0
comp=Z,103nm,1.2s
AAM Ann Arbor 29.15 356 P P **03 46 51.4 0.0**
AAM pmax pmax
comp=Z,103nm,1.2s
AAM MLR MLR
comp=Z,39µm,20.0s
HQIL Hanson Quary C 29.16 350 IAms_20 IAms_20 03 59 52.4
comp=Z,16µm,20.0s
MDP Montagnes des 29.22 103 LR LR 04 00 36.1
comp=Z,20µm,20.0s,baz=286,slow=41
SLBS Sierra La Lagu 29.22 295 P P **03 46 52.4 -0.1**
SLBS IAmb IAmb 03 47 06.8
comp=Z,132nm,1.5s
SLBS Sierra La Lagu 29.22 295 ⇑P P **03 46 54.2 +1.8**
KSCT Kent School, K 29.27 12 P P **03 46 52.0 -0.5**
KSCT IAmb IAmb 03 47 00.7
comp=Z,235nm,1.2s
M63A Gales Ferry 29.27 14 P P **03 46 51.9 -0.6**
M63A IAmb IAmb 03 47 01.1
comp=Z,139nm,1.2s
M63A IAms_20 IAms_20 03 59 39.7
comp=Z,22µm,18.0s
KSU1 Kansas State U 29.27 335 P P **03 46 51.8 -0.8**
BINY Binghamton 29.31 8 P P **03 46 52.0 -0.9**
BINY IAmb IAmb 03 47 08.7
comp=Z,251nm,1.8s
BINY IAms_20 IAms_20 03 59 14.9
comp=Z,27µm,18.0s
BINY Binghamton 29.31 8 ⇓P P **03 46 57.7 +4.8**
L59A Walton 29.44 9 IAms_20 IAms_20 03 59 23.3
comp=Z,18µm,19.0s
L44A Lake County Fo 29.54 350 IAmb IAmb 03 47 52.1
comp=Z,96nm,1.1s
L44A IAms_20 IAms_20 03 57 39.4
comp=Z,15µm,20.0s
L44A Lake County Fo 29.54 350 P P **03 46 54.0 -0.9**
baz=166
K50A Casco 29.57 358 IAmb IAmb 03 47 02.5
comp=Z,164nm,1.6s
K50A IAms_20 IAms_20 03 58 49.0
comp=Z,30µm,20.0s
UCCT U. Connecticut 29.60 14 IAms_20 IAms_20 03 59 48.4
comp=Z,20µm,19.0s
MMNY Mt. Morris Dam 29.63 5 P P **03 46 54.8 -1.0**
LPIG La Paz 29.66 296 LR LR 03 59 34.1
comp=Z,36µm,19.2s,baz=128,slow=38
L42A Oliver, Polo 29.71 347 IAms_20 IAms_20 04 00 58.9
comp=Z,16µm,22.0s
K57A Scipio Center 29.77 7 IAms_20 IAms_20 03 59 12.1
comp=Z,31µm,20.0s
EPT El Paso 29.77 313 IAmb IAmb 03 47 58.9
comp=Z,116nm,1.4s
M65A Busby, Falmout 29.77 16 IAms_20 IAms_20 03 58 42.0
comp=Z,16µm,18.0s
M65A Busby, Falmout 29.77 16 P P **03 46 55.9 -1.1**
baz=201
L64A Middleborough 30.07 15 IAms_20 IAms_20 03 59 26.9
comp=Z,13µm,19.0s
L61B Northampton 30.12 13 IAms_20 IAms_20 03 59 14.4
comp=Z,16µm,18.0s
L61B Northampton 30.12 13 P P **03 47 00.7 +0.6**
baz=196
L40A Anamosa 30.13 345 IAmb IAmb 03 47 06.0
comp=Z,79nm,0.8s
J47A Sunmer 30.17 355 IAmb IAmb 03 47 07.6
comp=Z,134nm,0.7s
J47A IAms_20 IAms_20 03 58 56.1
comp=Z,19µm,20.0s
TRY Troy 30.20 11 IAms_20 IAms_20 04 00 00.4
comp=Z,15µm,18.0s
BCX Boston College 30.36 15 P P **03 47 01.2 -0.9**
BCX IAms_20 IAms_20 04 00 31.6
comp=Z,20µm,18.0s
WES Weston 30.37 14 IAms_20 IAms_20 04 00 29.9
comp=Z,23µm,18.0s
HRV Adam Dziewonsk 30.43 14 IAms_20 IAms_20 04 00 21.4
comp=Z,20µm,18.0s
J57A Williamstown 30.50 7 IAms_20 IAms_20 03 59 13.4
comp=Z,27µm,20.0s
SCIA State Center 30.54 342 P P **03 47 02.5 -1.3**
SCIA IAmb IAmb 03 47 12.4
comp=Z,84nm,0.7s
SCIA State Center 30.54 342 ⇓P P **03 47 03.5 -0.2**
ITTB Itaituba 30.64 123 *e*P P **03 47 04.8 -0.2**
MAL2 Monte Alegre, 30.69 117 P P **03 47 03.5 -2.0**
MAL2 IAmb IAmb 03 47 45.7
comp=Z,180nm,1.3s
MAL2 IAms_20 IAms_20 04 01 12.2
comp=Z,26µm,18.0s
JFWS Jewell Farm 30.71 347 IAms_20 IAms_20 04 00 03.5
comp=Z,18µm,18.0s
JFWS Jewell Farm 30.71 347 ⇓P P **03 47 04.7 -0.6**
J59A Piesco 30.77 9 IAms_20 IAms_20 03 59 16.4
comp=Z,21µm,18.0s
PECO Prince Edward 30.91 6 P P **03 47 05.4 -1.5**
PECO IAmb IAmb 03 47 14.8
comp=Z,99nm,1.2s
J61A Chester 31.01 12 IAms_20 IAms_20 03 59 33.8
comp=Z,17µm,19.0s
121A Cookes Peak, D 31.09 313 P P **03 47 09.9 +0.9**
baz=122,SNR=28
NCB Newcomb 31.31 10 IAmb IAmb 03 47 18.8
comp=Z,91nm,1.3s
NCB IAms_20 IAms_20 03 59 49.8
comp=Z,20µm,18.0s
I42A Draeger Farm, 31.38 349 IAms_20 IAms_20 03 58 55.1
comp=Z,19µm,20.0s
HNH Hanover 31.41 12 IAms_20 IAms_20 03 59 53.4
comp=Z,14µm,19.0s
ANMO Albuquerque 31.56 318 P P **03 47 13.3 +0.2**
ANMO Albuquerque 31.56 318 LR LR 04 03 03.4
comp=Z,6µm,19.5s,baz=298,slow=42
ANMO Albuquerque 31.56 318 P P **03 47 13.3 +0.2**
ANMO pmax pmax
comp=Z,53nm,1.4s
SADO Sadowa 31.58 3 LR LR 04 00 13.1
comp=Z,25µm,18.8s,baz=198,slow=37
SADO Sadowa 31.58 3 ⇑P P **03 47 14.2 +1.3**
319A Douglas 31.61 310 IAms_20 IAms_20 04 02 25.0
comp=Z,21µm,20.0s
T25A Trinidad 31.70 323 IAmb IAmb 03 47 35.4
comp=Z,180nm,1.7s
T25A Trinidad 31.70 323 P P **03 47 14.3 0.0**
baz=133,SNR=12
I40A Norwalk 31.72 347 IAmb IAmb 03 47 21.1
comp=Z,95nm,1.0s
I40A IAms_20 IAms_20 04 00 42.3
comp=Z,21µm,18.0s
GLMI Grayling 31.73 355 IAms_20 IAms_20 04 00 03.8
comp=Z,29µm,20.0s
H43A Windswept, Lux 31.75 351 IAms_20 IAms_20 03 59 06.9
comp=Z,16µm,19.0s
BGNE Belgrade 31.85 335 P P **03 47 14.0 -1.4**
HSIG 31.87 304 P P **03 47 14.9 -0.8**
HSIG IAmb IAmb 03 47 51.3
comp=Z,118nm,1.8s
HSIG IAms_20 IAms_20 04 00 52.5
comp=Z,30µm,22.0s
HSIG 31.87 304 *i* P P **03 47 11.2 -4.5**
HSIG IVmB_BB 03 47 25.6
comp=Z,890nm,1.0s
HSIG IAmb IAmb 03 47 27.8
comp=Z,33nm,1.8s
HSIG *i* S S **03 52 24.1 -3.1**
LONY Lake Ozonia 31.88 9 P P **03 47 13.9 -1.7**
LONY IAmb IAmb 03 47 23.6
comp=Z,106nm,1.4s
LONY IAms_20 IAms_20 04 00 47.0
comp=Z,21µm,19.0s
LONY Lake Ozonia 31.88 9 ⇓P P **03 47 19.8 +4.1**
VT1 Waterbury 31.92 11 P P **03 47 15.9 0.0**
VT1 IAmb IAmb 03 47 22.1
comp=Z,101nm,1.1s
VT1 IAms_20 IAms_20 04 01 34.6
comp=Z,16µm,18.0s
LPAZ La Paz 31.93 156 P P **03 47 14.3 -2.6**
LPAZ La Paz 31.93 156 P P **03 47 17.1 +0.1**

comp=Z,8.2nm,0.7s,baz=344,slow=13,SNR=20
LPAZ LR LR 04 02 51.1
comp=Z,10µm,19.5s,baz=299,slow=42
comp=Z,8.2nm,0.7s
LPAZ La Paz 31.93 156 ⇑P **P 03 47 17.4 +0.5**
LPAZ La Paz 31.93 156 *e*P **P 03 47 15.9 -1.1**
LBNH Lisbon 32.00 13 ⇑P **P 03 47 20.2 +3.6**
I63A Otisfield 32.12 14 IAMs_20 IAMs_20 04 00 38.2
comp=Z,16µm,18.0s
WBO Williamsburg 32.16 8 IAMs_20 IAMs_20 03 59 50.3
comp=Z,17µm,20.0s
FRNY Flat Rock 32.25 10 IAMs_20 IAMs_20 04 01 07.7
comp=Z,19µm,20.0s
SRIG Santa Rosalia 32.31 301 P **P 03 47 19.2 -0.3**
SRIG IAmb IAmb 03 47 30.2
comp=Z,139nm,1.1s
SRIG IAMs_20 IAMs_20 04 00 15.3
comp=Z,13µm,20.0s
SRIG Santa Rosalia 32.31 301 *i* P **P 03 47 17.8 -1.7**
SRIG IVmB_BB 03 47 29.9
comp=Z,3µm,1.0s
SRIG IAmb IAmb 03 47 30.4
comp=Z,120nm,1.9s
SRIG *i* S **S 03 52 29.6 -4.5**
H62A Milan 32.48 13 IAMs_20 IAMs_20 04 00 21.8
comp=Z,12µm,18.0s
NPGB Novo Progresso 32.52 127 *e*P **P 03 47 21.2 -0.4**
PB18 Visviri 32.62 159 P **P 03 47 22.1 -0.8**
PB18 IAmb IAmb 03 47 55.4
comp=Z,159nm,1.1s
PB18 IAMs_20 IAMs_20 04 01 29.6
comp=Z,18µm,20.0s
SDCO Great Sand Dun 32.75 323 P **P 03 47 21.9 -1.7**
SDCO IAmb IAmb 03 47 44.7
comp=Z,162nm,1.7s
SDCO Great Sand Dun 32.75 323 ⇑P **P 03 47 24.6 +1.0**
WVL Waterville 32.84 15 IAMs_20 IAMs_20 04 01 19.0
comp=Z,19µm,19.0s
MNTQ Montreal, Queb 32.89 10 IAMs_20 IAMs_20 04 00 38.7
comp=Z,18µm,18.0s
G40A Rib Lake 32.95 348 IAMs_20 IAMs_20 04 00 16.8
comp=Z,13µm,20.0s
F42A Maple Grove Fa 33.06 351 IAMs_20 IAMs_20 03 59 34.7
comp=Z,13µm,21.0s
TUC Tucson 33.17 310 P **P 03 47 26.5 -0.7**
TUC Tucson 33.17 310 ⇑P **P 03 47 27.9 +0.7**
TUC Tucson 33.17 310 P **P 03 47 26.5 -0.7**
TUC pmax pmax
comp=Z,29nm,1.0s
TUC MLR MLR
comp=Z,11µm,22.0s
OGNE Ogallala 33.20 330 P **P 03 47 26.4 -0.9**
VILB Vilhena 33.20 140 P **P 03 47 26.3 -1.2**
VILB IAmb IAmb 03 47 59.8
comp=Z,120nm,0.9s
VILB IAMs_20 IAMs_20 04 03 27.4
comp=Z,14µm,18.0s
VILB Vilhena 33.20 140 *e*P **P 03 47 26.9 -0.6**
G62A West of Eustis 33.24 14 IAMs_20 IAMs_20 04 01 03.7
comp=Z,16µm,19.0s
ECSD EROS Data Cent 33.28 339 IAmb IAmb 03 48 22.2
comp=Z,81nm,1.2s
ECSD EROS Data Cent 33.28 339 ⇓P **P 03 47 26.8 -1.1**
PB12 IPOC Station P 33.29 161 P **P 03 47 28.1 -0.2**
Q24A Divide 33.37 325 P **P 03 47 28.3 -0.8**
Q24A IAmb IAmb 03 47 41.7
comp=Z,112nm,1.7s
Q24A Divide 33.37 325 P **P 03 47 28.5 -0.6**
baz=134,SNR=13
TRQ Mont Tremblant 33.45 8 IAMs_20 IAMs_20 04 01 57.5
comp=Z,19µm,19.0s
S22A 4UR Ranch, Cre 33.54 322 P **P 03 47 29.7 -0.9**
baz=130,SNR=21
EMMW East Machias 33.58 18 IAMs_20 IAMs_20 04 03 39.5
comp=Z,16µm,19.0s
PKME Peaks-Kenny Pk 33.58 15 IAMs_20 IAMs_20 04 01 40.8
comp=Z,17µm,18.0s
PKME Peaks-Kenny Pk 33.58 15 ⇑P **P 03 47 34.8 +4.4**
G65A Princeton 33.99 17 IAMs_20 IAMs_20 04 02 17.6
comp=Z,16µm,18.0s
GGN Saint George 34.13 18 IAMs_20 IAMs_20 04 00 02.3
comp=Z,18µm,20.0s
ISCO Idaho Springs 34.21 325 IAmb IAmb 03 47 52.3
comp=Z,83nm,1.1s
MVCO Mesa Verde 34.24 319 IAmb IAmb 03 47 52.8
comp=Z,113nm,1.6s
MVCO Mesa Verde 34.24 319 ⇑P **P 03 47 37.9 +1.2**
F64A Sherman 34.38 16 P **P 03 47 35.8 -1.6**
PDRB Porto dos Gac 34.51 134 *e*P **P 03 47 38.8 0.0**
E38A The Farm, Brul 34.51 347 P **P 03 47 37.6 -0.8**
E38A IAmb IAmb 03 47 49.2
comp=Z,77nm,1.1s
E38A IAMs_20 IAMs_20 04 01 31.0
comp=Z,12µm,18.0s
CLDB Colider 34.66 132 *e*P **P 03 47 38.4 -1.7**
SUSD Miller 34.73 337 IAMs_20 IAMs_20 04 03 53.3
comp=Z,13µm,19.0s
HAL Halifax 34.80 22 IAMs_20 IAMs_20 03 59 19.9
comp=Z,14µm,22.0s
TA02 Huaiquique 34.91 162 P **P 03 47 43.2 +1.0**
TA02 IAmb IAmb 03 47 54.5
comp=Z,138nm,1.1s
HMBC Humberstone 34.99 161 P **P 03 47 43.2 +0.2**
HMBC IAmb IAmb 03 48 15.8
comp=Z,287nm,1.9s
VLDQ Val d'Or 35.02 4 P **P 03 47 43.5 +0.7**
VLDQ IAmb IAmb 03 47 51.5
comp=Z,87nm,1.0s
F33A 5 Mile Ranch, 35.04 341 P **P 03 47 41.9 -1.3**
F33A IAmb IAmb 03 47 53.0
comp=Z,163nm,1.3s
SIV San Ignacio 35.08 145 P **P 03 47 42.8 -1.0**
comp=Z,73nm,0.9s,baz=322,slow=9.2,SNR=154
SIV LR LR 04 02 39.3
comp=Z,13µm,20.2s,baz=337,slow=37
comp=Z,73nm,0.9s
PB08 IPOC Station P 35.10 160 P **P 03 47 43.9 -0.3**
PB08 IAMs_20 IAMs_20 04 02 26.4
comp=Z,14µm,22.0s
PB08 IPOC Station P 35.10 160 P **P 03 47 47.1 +2.8**
N23A Red Feather La 35.16 326 P **P 03 47 45.8 +1.3**
baz=135,SNR=10
TA01 Diego Aracena 35.17 162 P **P 03 47 45.7 +1.3**
TA01 IAmb IAmb 03 47 56.4
comp=Z,137nm,1.1s
WUAZ Wupatki 35.20 315 IAmb IAmb 03 48 00.2
comp=Z,194nm,1.4s
WUAZ Wupatki 35.20 315 ⇓P **P 03 47 45.9 +1.1**
PATCX Punta Patache 35.42 162 P **P 03 47 48.0 +1.4**
PATCX IAmb IAmb 03 47 58.3
comp=Z,167nm,1.1s
LMN Caledonia Moun 35.43 20 P **P 03 47 45.8 -0.6**
LMN IAmb IAmb 03 47 54.7
comp=Z,194nm,1.5s
LMN IAMs_20 IAMs_20 04 00 05.7
comp=Z,20µm,21.0s
LMQ La Malbaie 35.49 13 P **P 03 47 47.4 +0.5**
LMQ IAmb IAmb 03 48 00.7
comp=Z,119nm,1.0s
LMQ IAMs_20 IAMs_20 04 01 18.3
comp=Z,12µm,18.0s
Y14A Wickenburg 35.58 311 IAMs_20 IAMs_20 04 04 23.3
comp=Z,24µm,21.0s
113A Mohawk Valley, 35.63 309 P **P 03 47 48.4 +0.1**
LDAQ Lac Daran 35.70 11 P **P 03 47 48.7 -0.1**
LDAQ IAmb IAmb 03 47 57.0
comp=Z,167nm,1.4s
LDAQ IAMs_20 IAMs_20 04 03 08.9
comp=Z,15µm,19.0s
SFX San Felipe 35.77 305 IAMs_20 IAMs_20 04 03 09.7
comp=Z,12µm,20.0s
EYMN Ely 35.77 348 IAMs_20 IAMs_20 04 03 00.5
comp=Z,14µm,18.0s
EYMN Ely 35.77 348 ⇑P **P 03 47 48.9 -0.5**
PTLB Pontes e Lacer 35.78 142 IAMs_20 IAMs_20 04 03 52.8
comp=Z,15µm,19.0s
PTLB Pontes e Lacer 35.78 142 *e*P **P 03 47 48.8 -1.0**
O20A White River Ci 35.93 323 P **P 03 47 51.6 +0.6**
O20A IAmb IAmb 03 48 04.1
comp=Z,139nm,1.4s
HMU Henry Mountain 36.11 318 P **P 03 47 52.3 -0.4**
HMU IAmb IAmb 03 48 32.1
comp=Z,107nm,1.2s
TMAB Tom-Au,PA,Br 36.23 113 *e*P **P 03 47 54.5 +0.8**
GBN Guysborough 36.24 24 P **P 03 47 53.1 -0.2**
GBN IAmb IAmb 03 48 01.8
comp=Z,110nm,1.2s
GBN IAMs_20 IAMs_20 03 59 47.9
comp=Z,15µm,22.0s
BBSD Serra de San D 36.31 146 *e*P **P 03 47 52.9 -1.4**
U15A North Rim 36.31 315 IAmb IAmb 03 48 22.9
comp=Z,158nm,1.5s
BATG Bathurst New B 36.32 17 P **P 03 47 53.7 -0.4**
BATG IAmb IAmb 03 48 03.4
comp=Z,110nm,1.1s
BATG IAMs_20 IAMs_20 04 01 29.1
comp=Z,16µm,19.0s
PRPB Paraúapebas 36.55 120 *e*P **P 03 47 56.8 +0.3**
GLA Glamis 36.55 309 P **P 03 47 56.6 +0.3**
GLA IAmb IAmb 03 48 10.8
comp=Z,278nm,1.5s
GLA IAMs_20 IAMs_20 04 04 03.1
comp=Z,19µm,21.0s
GLA Glamis 36.55 309 P **P 03 47 56.6 +0.3**
GLA pmax pmax
comp=Z,278nm,1.5s
GLA MLR MLR
comp=Z,19µm,21.0s
RSSD Black Hills 36.59 332 P **P 03 47 56.4 -0.3**
RSSD IAmb IAmb 03 48 08.9
comp=Z,103nm,1.2s
RSSD Black Hills 36.59 332 ⇑P **P 03 47 57.1 +0.4**
RSSD Black Hills 36.59 332 P **P 03 47 56.4 -0.3**
RSSD pmax pmax
comp=Z,103nm,1.3s
RSSD MLR MLR
comp=Z,7µm,18.0s
PB09 IPOC Station P 36.62 161 P **P 03 47 58.4 +1.4**
BLYC Blythe 36.62 310 P **P 03 47 57.5 +0.6**
BLYC IAmb IAmb 03 48 10.5
comp=Z,259nm,1.9s
VTX Valle De La Tr 36.64 305 P **P 03 47 57.3 +0.1**
VTX IAMs_20 IAMs_20 04 03 12.9
comp=Z,20µm,22.0s
SRU San Rafael Swe 36.66 320 P **P 03 47 57.4 +0.1**
SRU IAmb IAmb 03 48 09.7
comp=Z,304nm,2.0s
SRU San Rafael Swe 36.66 320 P **P 03 47 57.4 +0.1**
SRU pmax pmax
comp=Z,304nm,2.0s
CPBX Cerro Prieto 36.66 307 P **P 03 47 56.9 -0.3**
CPBX IAMs_20 IAMs_20 04 04 38.1
comp=Z,13µm,19.0s
K22A Casper 36.71 328 P **P 03 47 57.5 -0.2**
K22A IAmb IAmb 03 48 13.4
comp=Z,280nm,1.5s
W13A Hualapai Mount 36.77 312 P **P 03 47 58.7 +0.3**
W13A IAMs_20 IAMs_20 04 05 04.6
comp=Z,19µm,21.0s
P18A Preston Nutter 36.80 321 P **P 03 47 58.9 +0.2**
PB04 IPOC Station P 36.85 163 P **P 03 48 00.6 +1.5**
PB04 IAMs_20 IAMs_20 04 05 27.9
comp=Z,10µm,20.0s
PKCU Pink Cliffs 36.86 317 P **P 03 48 00.1 +0.9**
PKCU IAmb IAmb 03 48 13.2
comp=Z,210nm,1.2s
Q16A Castle Valley 36.95 319 P **P 03 48 00.4 +0.6**
KNB Kanab 36.98 316 P **P 03 48 00.7 +0.6**
KNB IAmb IAmb 03 48 17.3
comp=Z,194nm,1.2s
KNB Kanab 36.98 316 P **P 03 48 00.7 +0.6**
KNB pmax pmax
comp=Z,194nm,1.2s
KNB MLR MLR
comp=Z,4µm,18.0s
RDMU Red Mountain 36.98 323 P **P 03 48 00.4 +0.3**
RDMU IAmb IAmb 03 48 08.1
comp=Z,115nm,1.2s
ESJX Sierra Juarez 37.00 306 P **P 03 48 00.1 -0.3**
ESJX IAmb IAmb 03 48 13.4
comp=Z,230nm,1.8s
ESJX IAMs_20 IAMs_20 04 03 49.4
comp=Z,22µm,21.0s
MTPU Mount Pierson 37.11 318 P **P 03 48 01.6 +0.3**
MTPU IAmb IAmb 03 48 14.2
comp=Z,168nm,1.7s
AGMN Agassiz Nation 37.14 344 IAMs_20 IAMs_20 04 03 21.8
comp=Z,11µm,20.0s
AGMN Agassiz Nation 37.14 344 ⇓P **P 03 48 00.0 -1.0**
E28A Huff 37.19 338 IAmb IAmb 03 48 30.3
comp=Z,209nm,1.2s
TMUT Trail Mountain 37.20 320 P **P 03 48 01.3 -0.8**
YUH Yuha Desert 37.23 307 P **P 03 48 02.0 -0.1**
YUH IAmb IAmb 03 48 16.0
comp=Z,244nm,1.8s
YUH IAMs_20 IAMs_20 04 05 27.1
comp=Z,22µm,20.0s
LCMT Little Creek M 37.27 315 P **P 03 48 02.9 +0.4**
LCMT IAMs_20 IAMs_20 04 06 06.6
comp=Z,12µm,21.0s
MSU Marysvale 37.36 318 P **P 03 48 04.1 +0.7**
MSU Marysvale 37.36 318 P **P 03 48 04.1 +0.7**
MVU Marysvale 37.38 318 P **P 03 48 04.4 +0.8**
CBX Cerro Bola 37.68 306 P **P 03 48 06.6 +0.6**
CBX IAmb IAmb 03 48 21.0
comp=Z,146nm,1.4s
CBX IAMs_20 IAMs_20 04 03 56.3
comp=Z,18µm,21.0s
TKX Tecate 37.73 307 P **P 03 48 07.5 +1.1**
V12A Nelson 37.76 312 IAMs_20 IAMs_20 04 05 45.8
comp=Z,18µm,22.0s
MDND Maddock 37.89 340 IAmb IAmb 03 48 21.0
comp=Z,218nm,1.0s
MDND IAMs_20 IAMs_20 04 03 33.7
comp=Z,8µm,18.0s
PFO Pinyon Flats O 38.03 308 P **P 03 48 09.7 +0.7**
PFO Pinyon Flats O 38.03 308 IAMs_20 IAMs_20 04 06 14.1
comp=Z,14µm,21.0s
PFO Pinyon Flats O 38.03 308 LR LR 04 05 45.2
comp=Z,13µm,19.9s,baz=139,slow=39
PFO Pinyon Flats O 38.03 308 *i* P **P 03 48 10.3 +1.3**
PFO pmax pmax
comp=Z,52nm,1.3s
AF01 San Pedro de A 38.04 160 P **P 03 48 10.7 +1.5**
ICQ Pointe Anglais 38.05 15 P **P 03 48 08.2 -0.4**
ICQ IAmb IAmb 03 48 16.6
comp=Z,281nm,1.6s
TJX Tijuana 38.06 306 IAMs_20 IAMs_20 04 05 17.4
comp=Z,15µm,20.0s
JLU Jordanelle 38.12 322 P **P 03 48 09.8 0.0**
SALV Santo Antonio 38.28 138 *e*P **P 03 48 09.5 -1.5**
SHPR Sheep Range 38.35 313 IAMs_20 IAMs_20 04 06 19.3
comp=Z,13µm,21.0s
BW06 Boulder Array 38.41 326 ⇓P **P 03 48 11.9 -0.2**
PD31 Pinedale Array 38.41 326 P **P 03 48 11.6 -0.6**
PDAR Pinedale Array 38.41 326 P **P 03 48 11.5 -0.6**
PDAR Pinedale Array 38.41 326 P **P 03 48 11.8 -0.4**
comp=Z,28nm,0.9s,baz=130,slow=10,SNR=139
PDAR PcP **PcP 03 50 27.4 +1.7**
comp=Z,6.6nm,0.9s,baz=101,slow=4.7,SNR=1.0
comp=Z,28nm,0.9s
TCUT Toone Canyon 38.41 322 P **P 03 48 12.6 +0.4**
TCUT IAmb IAmb 03 48 25.7
comp=Z,263nm,1.3s
PSUT Pine Spring 38.48 317 P **P 03 48 13.2 +0.4**
PRN Pahroc Range 38.71 315 P **P 03 48 15.1 +0.4**
PRN IAMs_20 IAMs_20 04 06 53.9
comp=Z,11µm,20.0s
SNDB Serra Nova Dou 38.71 129 *e*P **P 03 48 15.0 +0.3**
DUG Dugway, Tooele 38.73 320 P **P 03 48 15.3 +0.5**
DUG Dugway, Tooele 38.73 320 ⇓P **P 03 48 15.5 +0.8**
DUG Dugway, Tooele 38.73 320 P **P 03 48 15.3 +0.5**
DUG pmax pmax
comp=Z,100nm,1.2s
DUG MLR MLR
comp=Z,7µm,18.0s
ELS Elsinore Mount 38.78 308 P **P 03 48 14.8 -0.5**
ELS IAMs_20 IAMs_20 04 06 37.2
comp=Z,11µm,20.0s
HWUT Hardware Ranch 38.81 323 IAmb IAmb 03 48 22.9
comp=Z,205nm,1.5s
HWUT Hardware Ranch 38.81 323 ⇓P **P 03 48 15.6 +0.1**
ULM Lac du Bonnet 38.93 345 P **P 03 48 14.4 -1.8**
comp=Z,62nm,0.9s,baz=157,slow=7.1,SNR=18
comp=Z,62nm,0.9s
ULM Lac du Bonnet 38.93 345 *i* P **P 03 48 15.5 -0.7**
PB14 IPOC Station P 38.96 164 P **P 03 48 17.2 +0.2**
PB14 IAmb IAmb 03 48 29.3
comp=Z,251nm,1.1s
PB14 IPOC Station P 38.96 164 P **P 03 48 18.6 +1.6**
GSC Goldstone, Bar 38.99 311 P **P 03 48 16.9 0.0**
GSC IAMs_20 IAMs_20 04 05 36.6
comp=Z,20µm,22.0s
GSC Goldstone, Bar 38.99 311 P **P 03 48 17.0 0.0**
GSC pmax pmax
comp=Z,131nm,1.6s
GSC MLR MLR
comp=Z,20µm,22.0s
SPR3 Spring Creek 3 39.04 317 IAMs_20 IAMs_20 04 07 23.5
comp=Z,15µm,20.0s
SPUT South Promonto 39.15 322 IAmb IAmb 03 48 31.9
comp=Z,347nm,1.7s
AHID Auburn Hatcher 39.27 324 IAmb IAmb 03 48 31.6
comp=Z,205nm,1.4s
AHID IAMs_20 IAMs_20 04 05 42.2
comp=Z,10µm,22.0s
AHID Auburn Hatcher 39.27 324 ⇑P **P 03 48 19.8 +0.5**
BGU Big Grassy Mou 39.28 321 P **P 03 48 19.9 +0.5**
BGU IAmb IAmb 03 48 32.1
comp=Z,175nm,1.5s
S11A Rachel 39.31 315 IAmb IAmb 03 48 35.8
comp=Z,157nm,1.1s
S11A IAMs_20 IAMs_20 04 06 57.7
comp=Z,17µm,21.0s
TPNV Topopah Spring 39.33 313 IAmb IAmb 03 48 33.3
comp=Z,180nm,1.4s
TPNV IAMs_20 IAMs_20 04 07 35.3
comp=Z,20µm,22.0s
TPNV Topopah Spring 39.33 313 ⇓P **P 03 48 21.1 +1.2**
Q12A Willow Creek R 39.39 317 P **P 03 48 20.8 +0.4**
Q12A IAMs_20 IAMs_20 04 07 41.8
comp=Z,9µm,20.0s
SNOW Snow King Moun 39.52 326 IAmb IAmb 03 48 34.1
comp=Z,331nm,1.6s
WCT Wildcat Mounta 39.52 313 P **P 03 48 21.5 +0.1**
LOHW Long Hollow 39.54 326 IAmb IAmb 03 48 34.2
comp=Z,212nm,1.4s
R11B Troy Canyon, C 39.55 316 P **P 03 48 21.8 +0.1**
R11B IAMs_20 IAMs_20 04 05 48.9
comp=Z,11µm,22.0s
R11B Troy Canyon, C 39.55 316 P **P 03 48 22.4 +0.7**
baz=120,SNR=29
PASC Pasadena Art C 39.57 308 P **P 03 48 21.8 0.0**
PASC Pasadena Art C 39.57 308 IAMs_20 IAMs_20 04 06 39.2
comp=Z,12µm,20.0s
TPAW Teton Pass 39.65 325 P **P 03 48 22.6 0.0**
TPAW IAmb IAmb 03 48 35.3
comp=Z,268nm,1.6s
GO02 Mina Guanaco 39.69 163 P **P 03 48 24.0 +1.0**
GO02 IAmb IAmb 03 48 34.8
comp=Z,283nm,1.3s
MOOW Moose Ponds 39.71 326 P **P 03 48 22.6 -0.4**
FXWY Fox Creek 39.79 326 P **P 03 48 23.8 +0.1**
CCAC Calif City Air 39.83 310 P **P 03 48 24.5 +0.5**
CCAC IAmb IAmb 03 48 39.2
comp=Z,228nm,1.1s
SMTB Santa Maria do 39.84 122 *e*P **P 03 48 24.7 +0.5**
RLMT Red Lodge 39.86 329 P **P 03 48 24.0 -0.3**
RLMT IAmb IAmb 03 48 36.5
comp=Z,288nm,1.3s
RLMT Red Lodge 39.86 329 ⇑P **P 03 48 24.4 +0.1**
FLWY Flagg Ranch 39.90 326 P **P 03 48 24.5 -0.1**
PANT Pantanal (Braz 40.03 142 *e*P **P 03 48 25.1 -0.6**
H17A Grant Village 40.04 327 P **P 03 48 26.6 +0.8**
H17A IAMs_20 IAMs_20 04 05 58.4
comp=Z,15µm,19.0s
YMP Mirror Lake Pl 40.05 328 P **P 03 48 26.3 +0.3**
YMP IAmb IAmb 03 48 38.4
comp=Z,163nm,1.3s
LKWY Lake 40.06 327 P **P 03 48 26.5 +0.5**
LKWY IAMs_20 IAMs_20 04 07 52.0
comp=Z,17µm,22.0s
LKWY Lake 40.06 327 P **P 03 48 26.5 +0.5**
LKWY pmax pmax
comp=Z,57nm,1.1s
LKWY MLR MLR
comp=Z,17µm,22.0s
DGMT Dagmar 40.09 336 ⇑P **P 03 48 25.2 -0.7**
DGMT ⇑P **pwP 03 48 29.4 +1.0**
GRAC Grapevine Rang 40.15 313 P **P 03 48 27.2 +0.7**
GRAC IAmb IAmb 03 48 44.1
comp=Z,268nm,1.8s
GRAC IAMs_20 IAMs_20 04 08 11.0
comp=Z,14µm,20.0s
YNE Yellowstone No 40.16 328 P **P 03 48 26.2 -0.6**
YNE IAMs_20 IAMs_20 04 07 40.4
comp=Z,9µm,19.0s
GMN Gold Mountain 40.21 313 P **P 03 48 27.0 -0.3**
GMN IAMs_20 IAMs_20 04 08 18.6
comp=Z,15µm,20.0s
YFT Old Faithful 40.22 327 P **P 03 48 27.1 -0.2**
YFT IAMs_20 IAMs_20 04 07 56.1
comp=Z,14µm,18.0s
SNCC San Nicolas Is 40.26 306 IAMs_20 IAMs_20 04 05 19.7
comp=Z,13µm,20.0s
YNR Norris Junctio 40.31 327 P **P 03 48 28.8 +0.8**
YNM Yellowstone No 40.33 327 P **P 03 48 27.9 -0.3**
AC01 Pan de Azucar 40.36 165 P **P 03 48 29.2 +0.9**
ISA Isabella, Lake 40.38 310 P **P 03 48 29.1 +0.5**
ISA IAMs_20 IAMs_20 04 06 37.3
comp=Z,18µm,20.0s
ISA Isabella, Lake 40.38 310 P **P 03 48 29.1 +0.5**
ISA pmax pmax
comp=Z,49nm,1.1s
ISA MLR MLR
comp=Z,18µm,20.0s
YMR Madison River 40.43 327 P **P 03 48 29.7 +0.7**
YHH Holmes Hill 40.45 327 P **P 03 48 30.5 +1.3**
MZP Montezuma Peak 40.48 314 P **P 03 48 30.5 +0.9**
MZP IAMs_20 IAMs_20 04 08 19.1
comp=Z,14µm,22.0s
TPH Tonopah 40.54 314 P **P 03 48 30.1 +0.1**
TPH Tonopah 40.54 314 P **P 03 48 30.1 +0.1**
TPH pmax pmax
comp=Z,485nm,1.2s
TPH MLR MLR
comp=Z,80µm,22.0s
ELK Elko 40.57 319 P **P 03 48 30.6 +0.4**
ELK Elko 40.57 319 LR LR 04 09 32.4
comp=Z,20µm,18.8s,baz=140,slow=42
ELK Elko 40.57 319 P **P 03 48 30.6 +0.4**
ELK pmax pmax
comp=Z,67nm,1.2s
ELK MLR MLR
comp=Z,6µm,20.0s
YHB Horse Butte 40.61 327 P **P 03 48 31.4 +1.0**
YHB IAmb IAmb 03 48 46.1
comp=Z,244nm,1.8s
YHL Hebgen Lake 40.67 327 P **P 03 48 31.8 +0.7**
YHL IAmb IAmb 03 48 46.7
comp=Z,181nm,1.6s
DSP Deep Springs 40.74 313 P **P 03 48 31.3 -0.1**
ARAG Araguaiana, MT 40.77 134 *e*P **P 03 48 31.3 -0.6**
BCW Bitter Crk WRg 40.80 309 P **P 03 48 31.9 -0.2**
BCW IAmb IAmb 03 48 47.4
comp=Z,280nm,1.5s
BCW IAMs_20 IAMs_20 04 07 18.8
comp=Z,15µm,19.0s
FDPY Filadelfia 40.87 149 *e*P **P 03 48 33.1 +0.6**
Q09A Carvers 40.87 315 P **P 03 48 32.9 +0.2**
Q09A IAmb IAmb 03 49 16.1
comp=Z,238nm,1.6s
Q09A IAMs_20 IAMs_20 04 07 50.1
comp=Z,11µm,21.0s
DRLN Deer Lake 40.95 24 P **P 03 48 32.1 -0.9**
DRLN IAmb IAmb 03 48 40.9
comp=Z,274nm,1.3s
DRLN IAMs_20 IAMs_20 04 06 48.7
comp=Z,13µm,19.0s
BDQN Bodoquena, MS 41.09 144 *e*P **P 03 48 33.7 -0.7**
NV11 Mina Array Sit 41.36 314 P **P 03 48 36.9 +0.3**
BOZ Bozeman (W) 41.40 327 P **P 03 48 37.0 +0.1**
BOZ Bozeman (W) 41.40 327 P **P 03 48 37.0 +0.1**
BOZ pmax pmax
comp=Z,92nm,1.1s
BOZ MLR MLR
comp=Z,6µm,19.0s
NVAR Mina Array Bea 41.46 314 P **P 03 48 37.7 +0.2**
NVAR Mina Array Bea 41.46 314 P **P 03 48 38.0 +0.4**
comp=Z,38nm,1.1s,baz=126,slow=7.8,SNR=99
NVAR PcP **PcP 03 50 38.1 +2.6**
comp=Z,9.5nm,0.9s,baz=119,slow=5.2,SNR=3.9
NVAR LR LR 04 09 42.8
comp=Z,23µm,19.0s,baz=128,slow=42
comp=Z,38nm,1.1s
LHV Little Huntoon 41.52 314 P **P 03 48 38.5 +0.8**

LHV IAmb IAmb 03 48 54.5
comp=Z,295nm,1.7s
LHV IAMs_20 IAMs_20 04 08 16.2
comp=Z,14µm,21.0s
AC06 Mina Casimiro 41.58 165 P **P 03 48 39.4 +1.1**
AC06 IAmb IAmb 03 49 03.0
comp=Z,177nm,1.4s
OMMB Old Mammoth Mi 41.59 313 P **P 03 48 39.0 +0.2**
OMMB IAMs_20 IAMs_20 04 08 57.1
comp=Z,15µm,20.0s
KVN Kaiserville 41.61 315 P **P 03 48 39.1 +0.3**
KVN IAMs_20 IAMs_20 04 08 29.5
comp=Z,19µm,22.0s
KVN Kaiserville 41.61 315 P **P 03 48 39.1 +0.3**
KVN pmax pmax
comp=Z,72nm,1.0s
KVN MLR MLR
comp=Z,19µm,22.0s
BMN Battle Mountai 41.69 317 P **P 03 48 39.7 +0.4**
BMN IAmb IAmb 03 48 52.0
comp=Z,184nm,1.2s
BMN IAMs_20 IAMs_20 04 07 05.6
comp=Z,10µm,22.0s
BMN Battle Mountai 41.69 317 P **P 03 48 39.7 +0.4**
BMN pmax pmax
comp=Z,184nm,1.2s
BMN MLR MLR
comp=Z,10µm,22.0s
AQDB Aquidauana 41.72 143 IAMs_20 IAMs_20 04 07 59.4
comp=Z,12µm,18.0s
AQDB Aquidauana 41.72 143 *e*P **P 03 48 38.6 -1.0**
DLMT Dillon 41.76 326 P **P 03 48 40.0 +0.1**
DLMT IAmb IAmb 03 48 56.1
comp=Z,189nm,1.4s
GO03 Copiapo 41.84 165 P **P 03 48 41.5 +1.0**
EGMT Eagleton 42.15 331 P **P 03 48 42.6 -0.4**
EGMT IAmb IAmb 03 48 55.9
comp=Z,128nm,1.1s
AC04 Llanos de Chal 42.23 167 P **P 03 48 43.6 0.0**
AC04 IAmb IAmb 03 49 12.1
comp=Z,136nm,1.3s
WAKR Walker 42.29 314 P **P 03 48 44.5 +0.2**
WAKR IAmb IAmb 03 49 01.4
comp=Z,177nm,1.5s
WAKR IAMs_20 IAMs_20 04 09 39.6
comp=Z,18µm,21.0s
PMPB Monarch Peak 42.33 310 P **P 03 48 43.8 -0.8**
PMPB IAmb IAmb 03 48 59.7
comp=Z,167nm,1.3s
PMPB IAMs_20 IAMs_20 04 08 21.3
comp=Z,12µm,19.0s
YERR Yerington 42.36 314 IAmb IAmb 03 49 00.9
comp=Z,187nm,1.5s
YERR IAMs_20 IAMs_20 04 08 33.6
comp=Z,10µm,21.0s
BBGB Big Mountain B 42.65 310 P **P 03 48 47.4 +0.2**
BBGB IAmb IAmb 03 49 01.1
comp=Z,193nm,1.3s
BBGB IAMs_20 IAMs_20 04 06 48.4
comp=Z,16µm,21.0s
PNTR Pine Nut 42.66 314 IAMs_20 IAMs_20 04 09 44.4
comp=Z,12µm,20.0s
CMB Columbia Colle 42.76 313 IAMs_20 IAMs_20 04 09 37.2
comp=Z,15µm,19.0s
PAHR Pah Rah Range 42.79 315 IAMs_20 IAMs_20 04 09 04.9
comp=Z,16µm,22.0s
BPMT Black Pine Rid 42.91 327 P **P 03 48 50.7 +1.3**
RPRD Ribas do Rio P 42.94 141 *e*P **P 03 48 49.4 -0.1**
EMB Emerald Bay 42.96 314 P **P 03 48 49.0 -0.8**
AC05 El Transito 43.02 166 P **P 03 48 51.5 +1.3**
AC05 IAmb IAmb 03 49 02.0
comp=Z,157nm,0.9s
SAO San Andreas Ge 43.02 310 IAMs_20 IAMs_20 04 07 33.3
comp=Z,14µm,22.0s
MPK Martis Peak 43.05 314 P **P 03 48 51.4 +0.8**
MPK IAmb IAmb 03 49 05.0
comp=Z,156nm,1.0s
LCO Las Campanas 43.09 167 P **P 03 48 51.7 +0.8**
LCO Las Campanas 43.09 167 P **P 03 48 51.7 +0.8**
LCO pmax pmax
comp=Z,97nm,1.1s
SCHQ Schefferville 43.10 12 P **P 03 48 50.5 +0.1**
comp=Z,86nm,0.9s,baz=217,slow=7.1,SNR=16
SCHQ LR LR 04 08 09.5
comp=Z,11µm,18.4s,baz=208,slow=38
comp=Z,86nm,0.9s
PAPY Pozo Azul 43.24 149 *e*P **P 03 48 51.0 -0.9**
MSO Missoula 43.42 327 P **P 03 48 53.3 0.0**
MSO IAMs_20 IAMs_20 04 09 35.8
comp=Z,10µm,20.0s
BDFB Brasilia 43.48 130 P **P 03 48 54.0 -0.2**
BDFB IAmb IAmb 03 49 00.4
comp=Z,128nm,0.9s
BDFB Brasilia 43.48 130 P **P 03 48 54.5 +0.4**
comp=Z,76nm,0.8s,baz=295,slow=9.7,SNR=75
BDFB LR LR 04 11 01.9
comp=Z,8µm,19.1s,baz=304,slow=42
comp=Z,76nm,0.8s
PLID Pearl Lake 43.48 324 P **P 03 48 53.3 -0.7**
AFDM Forest Hills D 43.56 314 P **P 03 48 53.0 -1.4**
AFDM IAMs_20 IAMs_20 04 08 11.2
comp=Z,10µm,22.0s
WVOR Wild Horse Val 43.62 319 P **P 03 48 54.5 -0.5**
WVOR IAMs_20 IAMs_20 04 10 08.7
comp=Z,10µm,20.0s
WVOR Wild Horse Val 43.62 319 P **P 03 48 54.5 -0.5**
WVOR pmax pmax
comp=Z,268nm,1.2s
WVOR MLR MLR
comp=Z,10µm,20.0s
CO05 La Serena 43.85 168 P **P 03 48 55.6 -1.1**
CO05 IAmb IAmb 03 49 28.1
comp=Z,122nm,1.0s
SDBA SAO DESIDERIO 43.99 124 *e*P **P 03 48 57.5 -0.7**
J08A Circle Bar Ran 44.00 320 P **P 03 48 56.8 -1.2**
AMBA Amambai (Brazi 44.04 144 *e*P **P 03 48 57.7 -0.7**
BMO Blue Mountains 44.11 323 P **P 03 48 57.5 -1.3**
BMO Blue Mountains 44.11 323 P **P 03 48 57.5 -1.3**
BMO pmax pmax
comp=Z,38nm,1.1s
BMO MLR MLR
comp=Z,6µm,18.0s
CO01 Juntas del Tor 44.16 166 P **P 03 48 58.9 -0.6**
CO01 IAmb IAmb 03 49 32.4
comp=Z,85nm,1.1s
GO04 Tololo Observa 44.19 167 P **P 03 48 59.3 -0.4**
GO04 IAmb IAmb 03 49 21.0
comp=Z,195nm,1.2s
ORV Oroville 44.19 314 P **P 03 49 00.0 +0.6**
ORV IAmb IAmb 03 49 12.3
comp=Z,290nm,1.8s
ORV IAMs_20 IAMs_20 04 10 12.9
comp=Z,10µm,20.0s
ORV Oroville 44.19 314 P **P 03 49 00.0 +0.6**
ORV pmax pmax
comp=Z,290nm,1.8s
ORV MLR MLR
comp=Z,10µm,20.0s
CO06 Fray Jorge 44.50 168 P **P 03 49 01.9 0.0**
CO06 IAmb IAmb 03 49 33.5
comp=Z,146nm,1.1s
ITRB Iturama 44.53 137 *e*P **P 03 49 01.8 -0.5**
FFC Flin Flon 44.60 343 P **P 03 49 01.8 -0.7**
FFC Flin Flon 44.60 343 P **P 03 49 01.8 -0.7**
FFC pmax pmax
comp=Z,29nm,1.1s
MCCM Marconi Confer 44.61 312 P **P 03 49 02.0 -0.7**
MCCM IAmb IAmb 03 49 58.7
comp=Z,186nm,1.6s
MCCM IAMs_20 IAMs_20 04 08 24.1
comp=Z,14µm,21.0s
F10A Beach Ranch, E 44.70 324 P **P 03 49 03.6 0.0**
F10A IAmb IAmb 03 49 15.4
comp=Z,111nm,1.1s
HATC Hat Creek Radi 44.71 316 P **P 03 49 03.2 -0.5**
HATC IAmb IAmb 03 50 13.0
comp=Z,167nm,1.4s
IPMB Ipameri, GO 44.85 133 *e*P **P 03 49 04.3 -0.7**
CO03 El Pedregal 44.85 167 P **P 03 49 04.2 -0.7**
CO03 IAmb IAmb 03 49 33.2
comp=Z,194nm,1.3s
I07A Izee 45.01 321 P **P 03 49 05.3 -0.8**
I07A IAMs_20 IAMs_20 04 09 54.5
comp=Z,8µm,22.0s
HOPS Hopland Field 45.07 313 P **P 03 49 06.3 -0.2**
HOPS IAmb IAmb 03 49 42.7
comp=Z,195nm,1.6s
HOPS IAMs_20 IAMs_20 04 09 00.4
comp=Z,16µm,21.0s
G08A Pilot Rock 45.33 323 P **P 03 49 07.8 -0.8**
G08A IAMs_20 IAMs_20 04 11 47.5
comp=Z,9µm,22.0s
O02D Mt. Diablo Mer 45.35 314 P **P 03 49 07.9 -0.9**
O02D IAMs_20 IAMs_20 04 10 09.6
comp=Z,12µm,20.0s
E09A Wood Farm, Sta 45.53 324 P **P 03 49 10.0 -0.1**
CPUP Villa Florida 45.55 149 P **P 03 49 08.1 -2.3**
CPUP Villa Florida 45.55 149 P **P 03 49 07.8 -2.5**
comp=Z,21nm,1.0s,baz=337,slow=8.4,SNR=20
CPUP PP **PP 03 50 56.6 -0.4**
comp=Z,27nm,1.1s,baz=346,slow=6.2,SNR=3.5
CPUP LR LR 04 09 27.1
comp=Z,8µm,21.3s,baz=332,slow=38
comp=Z,21nm,1.0s
CPUP Villa Florida 45.55 149 P **P 03 49 08.1 -2.3**
CPUP pmax pmax
comp=Z,43nm,1.1s
CPUP Villa Florida 45.55 149 *e*P **P 03 49 09.4 -0.9**
J05D Fort Rock, OR 45.70 319 P **P 03 49 09.9 -1.8**
J05D IAmb IAmb 03 49 24.3
comp=Z,74nm,1.2s
J05D IAMs_20 IAMs_20 04 11 37.8
comp=Z,11µm,21.0s
KCPM Cahto Peak 45.71 313 IAMs_20 IAMs_20 04 09 55.2
comp=Z,15µm,20.0s
K04D Chiloquin, OR 45.73 318 IAMs_20 IAMs_20 04 11 16.5
comp=Z,10µm,21.0s
PINE Pine Mountain 45.76 320 IAMs_20 IAMs_20 04 12 02.3
comp=Z,11µm,22.0s
L04D Klamath Falls 45.90 317 IAMs_20 IAMs_20 04 10 55.2
comp=Z,13µm,21.0s
YBH Yreka Blue Hor 45.96 316 LR LR 04 12 08.3
comp=Z,15µm,20.9s,baz=144,slow=41
JANB Januaria 45.97 126 *e*P **P 03 49 13.3 -0.6**
ZON Zonda 46.00 165 P **P 03 49 15.9 +2.0**
ZON IAmb IAmb 03 49 42.4
comp=Z,139nm,1.2s
ZON Zonda 46.00 165 P **P 03 49 15.9 +2.0**
ZON pmax pmax
comp=Z,139nm,1.2s
NEW Newport 46.00 327 P **P 03 49 13.2 -0.6**
NEW IAmb IAmb 03 49 25.8
comp=Z,100nm,1.4s
NEW Newport 46.00 327 P **P 03 49 13.2 -0.6**
NEW pmax pmax
comp=Z,100nm,1.4s
NEW MLR MLR
comp=Z,6µm,18.0s
KMRM Mail Ridge 46.01 314 P **P 03 49 13.9 -0.2**
KMRM IAmb IAmb 03 49 26.4
comp=Z,103nm,1.1s
E08A Dider Farm, El 46.04 324 P **P 03 49 14.1 0.0**
E08A IAMs_20 IAMs_20 04 11 45.5
comp=Z,7µm,20.0s
F07A Phinny Hill Vi 46.22 323 P **P 03 49 14.9 -0.6**
F07A IAmb IAmb 03 49 28.2
comp=Z,119nm,1.1s
J04A Umpqua Nationa 46.24 318 P **P 03 49 16.3 +0.3**
J04A IAMs_20 IAMs_20 04 12 01.1
comp=Z,12µm,20.0s
HAWA Hanford 46.26 323 P **P 03 49 15.1 -0.7**
HAWA IAmb IAmb 03 49 27.5
comp=Z,79nm,1.3s
HAWA IAMs_20 IAMs_20 04 12 10.3
comp=Z,7µm,18.0s
D08A Wollman Farm, 46.28 325 P **P 03 49 15.7 -0.3**
D08A IAmb IAmb 03 49 28.1
comp=Z,141nm,1.6s
D08A IAMs_20 IAMs_20 04 11 14.8
comp=Z,8µm,21.0s
I05D Terrebonne, OR 46.28 320 P **P 03 49 16.0 -0.1**
I05D IAmb IAmb 03 49 24.7
comp=Z,164nm,1.9s
I05D IAMs_20 IAMs_20 04 12 21.1
comp=Z,13µm,22.0s
KHMM Horse Mountain 46.29 315 P **P 03 49 15.9 -0.4**
KHMM IAMs_20 IAMs_20 04 10 19.6
comp=Z,16µm,21.0s
G06A Carlson Farm, 46.30 322 P **P 03 49 15.9 -0.3**
G06A IAmb IAmb 03 49 42.3
comp=Z,83nm,1.5s
C09A Chrisman Ranch 46.35 326 P **P 03 49 16.1 -0.3**
C09A IAmb IAmb 03 49 28.7
comp=Z,74nm,1.2s
C09A IAMs_20 IAMs_20 04 11 34.3
comp=Z,7µm,19.0s
KMPM Mount Pierce 46.38 314 P **P 03 49 17.4 +0.5**
KMPM IAMs_20 IAMs_20 04 10 19.9
comp=Z,15µm,20.0s
VA06 Catapilco 46.39 168 P **P 03 49 16.6 -0.3**
VA06 IAmb IAmb 03 49 28.0
comp=Z,103nm,1.1s
JCC Jacoby Creek, 46.48 315 P **P 03 49 16.9 -0.6**
PMNB Patos De Minas 46.48 132 *e*P **P 03 49 17.4 -0.5**
HUMO Hull Mountain 46.51 317 P **P 03 49 16.2 -1.7**
HUMO IAMs_20 IAMs_20 04 12 34.2
comp=Z,15µm,21.0s
E07A Sunnyside 46.54 324 P **P 03 49 18.0 -0.1**
E07A IAmb IAmb 03 49 30.1
comp=Z,64nm,1.2s
E07A IAMs_20 IAMs_20 04 12 24.7
comp=Z,9µm,22.0s
FCC Fort Churchill 46.58 351 P **P 03 49 17.6 -0.4**
FCC IAmb IAmb 03 49 26.0
comp=Z,79nm,0.9s
FCC Fort Churchill 46.58 351 P **P 03 49 17.6 -0.4**
FCC pmax pmax
comp=Z,79nm,1.0s
FCC MLR MLR
comp=Z,21µm,21.0s
KRPM Rodgers 46.61 315 P **P 03 49 17.9 -0.9**
KRPM IAMs_20 IAMs_20 04 10 30.9
comp=Z,11µm,19.0s
KRMB Red Mountain 46.68 316 P **P 03 49 18.5 -0.9**
KRMB IAmb IAmb 03 49 27.2
comp=Z,140nm,1.8s
KRMB IAMs_20 IAMs_20 04 11 16.9
comp=Z,12µm,20.0s
LDASE Londrina, Braz 46.70 141 *e*P **P 03 49 17.6 -1.9**
I04A Tendick Farm, 46.70 319 P **P 03 49 19.4 +0.1**
I04A IAmb IAmb 03 49 30.7
comp=Z,132nm,1.3s
I04A IAMs_20 IAMs_20 04 12 18.1
comp=Z,14µm,20.0s
BB19B Bebedouro 46.70 136 *e*P **P 03 49 18.3 -1.4**
L02F Cave Junction 46.71 316 P **P 03 49 18.4 -0.9**
L02F IAmb IAmb 03 50 01.5
comp=Z,78nm,1.7s
L02F IAMs_20 IAMs_20 04 12 10.5
comp=Z,13µm,21.0s
G05A Wamic 46.72 321 P **P 03 49 19.3 -0.1**
VA03 San Esteban 46.74 168 P **P 03 49 20.1 +0.3**
VA03 IAMs_20 IAMs_20 04 10 02.2
comp=Z,7µm,21.0s
VA01 Torpederas 46.78 169 P **P 03 49 20.0 +0.1**
KSXB Camp Six Broad 46.79 316 P **P 03 49 19.1 -1.1**
KSXB IAMs_20 IAMs_20 04 11 35.7
comp=Z,16µm,21.0s
MXC Moxie City 46.80 323 IAMs_20 IAMs_20 04 12 41.8
comp=Z,7µm,20.0s
DBO Dodson Butte 46.93 318 P **P 03 49 20.3 -0.9**
DBO IAmb IAmb 03 49 32.4
comp=Z,97nm,1.3s
DBO IAMs_20 IAMs_20 04 11 44.2
comp=Z,13µm,22.0s
HOOD Mount Hood Mea 46.96 321 P **P 03 49 22.0 +0.5**
HOOD IAMs_20 IAMs_20 04 12 50.0
comp=Z,10µm,22.0s
H04A Detroit Lake 46.98 320 P **P 03 49 21.2 -0.3**
H04A IAMs_20 IAMs_20 04 10 47.5
comp=Z,10µm,22.0s
K02D Willamette Mer 47.02 317 P **P 03 49 21.6 -0.3**
K02D IAmb IAmb 03 49 40.9
comp=Z,172nm,1.7s
PEL Peldehue 47.08 168 P **P 03 49 22.6 +0.2**
PEL Peldehue 47.08 168 P **P 03 49 22.6 +0.2**
PEL pmax pmax
comp=Z,292nm,1.7s
PEL MLR MLR
comp=Z,6µm,20.0s
MT02 Curacav 47.10 169 P **P 03 49 22.2 -0.3**
MT02 IAmb IAmb 03 50 01.9
comp=Z,109nm,1.3s
PTGB Pitanga 47.12 143 *e*P **P 03 49 24.4 +1.6**
KBO Bosley Butte 47.19 316 P **P 03 49 22.9 -0.3**
KBO IAMs_20 IAMs_20 04 10 57.2
comp=Z,12µm,20.0s
B08A Colville Reser 47.25 326 P **P 03 49 22.9 -0.7**
B08A IAmb IAmb 03 49 35.6
comp=Z,81nm,1.4s
B08A IAMs_20 IAMs_20 04 13 04.1
comp=Z,7µm,19.0s
BUCK Buck Mountain 47.25 319 P **P 03 49 23.0 -0.7**
MT05 Renca 47.31 168 P **P 03 49 24.9 +0.8**
LTY Liberty 47.39 324 P **P 03 49 23.7 -1.0**
LTY IAmb IAmb 03 49 56.1
comp=Z,83nm,1.4s
LTY IAMs_20 IAMs_20 04 12 48.0
comp=Z,7µm,21.0s
MT16 CCHEN 47.39 168 P **P 03 49 25.2 +0.4**
J01E Myrtle Point 47.40 318 P **P 03 49 23.7 -1.0**
MT03 Universidad Ad 47.45 168 P **P 03 49 25.5 +0.2**
MT08 Bocatoma Ro 47.51 167 P **P 03 49 26.4 +0.4**
MT08 IAmb IAmb 03 49 55.2
comp=Z,120nm,1.1s
MT08 IAMs_20 IAMs_20 04 10 38.6
comp=Z,8µm,22.0s
FRTB Fartura 47.63 139 *e*P **P 03 49 25.6 -1.2**
MT09 Talagante 47.63 169 P **P 03 49 26.5 -0.3**
COR Corvallis 47.63 320 P **P 03 49 27.0 +0.5**
COR Corvallis 47.63 320 IAMs_20 IAMs_20 04 13 16.9
comp=Z,12µm,19.0s
COR Corvallis 47.63 320 P **P 03 49 27.0 +0.5**
COR pmax pmax
comp=Z,168nm,1.3s
COR MLR MLR
comp=Z,12µm,19.0s
MT01 Popeta 47.67 169 P **P 03 49 27.3 +0.5**
MT01 IAmb IAmb 03 49 47.0
comp=Z,59nm,1.0s
F04A Amboy 47.73 322 IAMs_20 IAMs_20 04 13 23.4
comp=Z,10µm,20.0s
MT13 San Alfonso 47.74 168 P **P 03 49 28.0 +0.4**
MT13 IAMs_20 IAMs_20 04 11 16.7
comp=Z,7µm,20.0s
I02E Swisshome, OR 47.76 319 IAMs_20 IAMs_20 04 12 26.3
comp=Z,15µm,21.0s
LMEL Las Melosas 47.86 168 P **P 03 49 29.4 +0.8**
G03D McMinnville, O 47.90 320 IAMs_20 IAMs_20 04 12 56.0
comp=Z,13µm,20.0s
BO04 La Punta 47.91 168 P **P 03 49 29.8 +0.9**
D05A Enumclaw 48.11 323 IAMs_20 IAMs_20 04 10 29.4
comp=Z,7µm,22.0s
F04D Rainier, OR 48.17 321 IAMs_20 IAMs_20 04 13 39.9
comp=Z,8µm,20.0s
HEBO Mount Hebo 48.21 320 IAMs_20 IAMs_20 04 11 48.1
comp=Z,8µm,22.0s
BO01 Tunca 48.21 169 P **P 03 49 31.5 +0.4**
RCLB Rio Claro- Sao 48.30 137 *e*P **P 03 49 31.2 -0.9**
DIAM Diamantina, MG 48.38 129 *e*P **P 03 49 32.6 -0.2**
RPN Rapa Nui 48.48 214 P **P 03 49 33.6 +0.3**
RPN Rapa Nui 48.48 214 LR LR 04 05 34.7
comp=Z,14µm,18.9s,baz=46,slow=31
RPN Rapa Nui 48.48 214 P **P 03 49 33.6 +0.3**
RPN pmax pmax
comp=Z,914nm,1.6s
VA02 Isla de Pascua 48.56 214 P **P 03 49 34.8 +0.9**
BO02 Sierra Bellavi 48.66 169 P **P 03 49 34.8 +0.2**
GO05 Hualane 48.66 170 P **P 03 49 35.0 +0.4**
GO05 IAmb IAmb 03 49 56.7
comp=Z,142nm,1.2s
ITQB Itaqui 48.68 151 P **P 03 49 33.7 -1.1**
ITQB IAMs_20 IAMs_20 04 13 02.6
comp=Z,6µm,19.0s
ITQB Itaqui 48.68 151 *e*P **P 03 49 33.2 -1.5**
RCBR Riachuelo 48.72 110 P **P 03 49 35.9 +0.4**
RCBR IAmb IAmb 03 49 44.7
comp=Z,89nm,1.1s
RCBR Riachuelo 48.72 110 LR LR 04 11 34.8
comp=Z,6µm,18.7s,baz=302,slow=38
RCBR Riachuelo 48.72 110 P **P 03 49 35.9 +0.4**
RCBR pmax pmax
comp=Z,89nm,1.2s
RCBR MLR MLR
comp=Z,15µm,20.0s
RCBR Riachuelo 48.72 110 *e*P **P 03 49 36.5 +1.1**
GNW Green Mountain 48.80 323 IAMs_20 IAMs_20 04 14 02.4
comp=Z,13µm,21.0s
ITAB Concordia 49.01 145 P **P 03 49 36.1 -1.3**
ITAB IAMs_20 IAMs_20 04 14 15.5
comp=Z,12µm,21.0s
ITAB Concordia 49.01 145 *e*P **P 03 49 37.4 0.0**
GDU01 Guandu, BA 49.07 121 *e*P **P 03 49 37.4 -0.7**
VAO Valinhos 49.08 137 P **P 03 49 36.8 -1.3**
VAO IAmb IAmb 03 49 44.8
comp=Z,61nm,1.2s
VAO Valinhos 49.08 137 *e*P **P 03 49 36.5 -1.6**
WISH Wishkah 49.13 322 IAMs_20 IAMs_20 04 14 13.3
comp=Z,13µm,22.0s
SPB Sao Paulo 49.18 138 P **P 03 49 37.2 -1.5**
SPB Sao Paulo 49.18 138 *e*P **P 03 49 37.6 -1.1**
NBLA Lagarto - SE 49.25 117 *e*P **P 03 49 38.4 -1.0**
BSCB Bom Sucesso 49.26 133 *e*P **P 03 49 39.7 +0.2**
NLWA Neilton Lookou 49.32 323 IAMs_20 IAMs_20 04 14 23.4
comp=Z,13µm,21.0s
PSAL Palomas, Salto 49.43 153 *e*P **P 03 49 39.7 -0.8**
ML02 Panimavida 49.48 170 P **P 03 49 41.2 +0.4**
ML02 IAmb IAmb 03 50 02.3
comp=Z,124nm,1.1s
ML02 IAMs_20 IAMs_20 04 12 18.9
comp=Z,6µm,21.0s
NBCA Caruaru-PE 49.59 113 *e*P **P 03 49 42.2 +0.1**
PGC Sidney 49.71 324 IAmb IAmb 03 50 31.5
comp=Z,115nm,1.4s
PGC IAMs_20 IAMs_20 04 14 06.5
comp=Z,6µm,20.0s
CMC01 Camacan, BA 49.97 123 *e*P **P 03 49 45.1 +0.2**
NBAN Anadia - AL 49.97 115 *e*P **P 03 49 44.6 -0.4**
C03A Quillayute Air 50.01 323 IAMs_20 IAMs_20 04 14 32.4
comp=Z,11µm,18.0s
BI05 Punta Hualpn 50.17 172 IAMs_20 IAMs_20 04 12 03.1
comp=Z,6µm,18.0s
CLRS Cowichan Lake 50.18 324 P **P 03 49 44.9 -1.1**
CLRS IAmb IAmb 03 50 00.8
comp=Z,88nm,1.2s
CLRS IAMs_20 IAMs_20 04 14 18.1
comp=Z,11µm,20.0s
PARB Paraibuna 50.21 136 *e*P **P 03 49 46.0 -0.7**
BI02 San Fabin de 50.39 170 P **P 03 49 47.5 -0.3**
BI02 IAMs_20 IAMs_20 04 12 44.8
comp=Z,6µm,21.0s
GUA01 Guaratinga, BA 50.40 125 *e*P **P 03 49 48.0 -0.1**
SJMB Sao Joao De Ma 50.51 128 *e*P **P 03 49 48.6 -0.3**
CPSB Cacapava Do Su 50.84 149 *e*P **P 03 49 51.1 -0.1**
VAS01 Vassouras-RJ 51.03 133 *e*P **P 03 49 52.3 -0.5**
OZB Mount Ozzard 51.04 324 IAMs_20 IAMs_20 04 14 02.7
comp=Z,8µm,19.0s
MAN01 Angra dos Reis 51.04 134 *e*P **P 03 49 53.8 +0.8**
FRB Frobisher Bay 51.32 7 LR LR 04 11 29.0
comp=Z,12µm,18.6s,baz=200,slow=36
CNLB Canela 51.34 146 *e*P **P 03 49 55.6 +0.6**
RIB01 Linhares ES 51.48 128 *e*P **P 03 49 56.4 +0.2**
CBB Campbell River 51.49 325 P **P 03 49 56.7 +0.8**
CBB IAmb IAmb 03 50 09.0
comp=Z,267nm,1.8s
CBB IAMs_20 IAMs_20 04 14 34.5
comp=Z,9µm,21.0s
DUB01 Friburgo-RJ 51.67 132 *e*P **P 03 49 57.3 -0.4**
TER01 Tubaro-SC 51.71 144 *e*P **P 03 49 57.5 -0.3**
PLTB Pedras Altas 51.86 150 P **P 03 49 57.7 -1.1**
PLTB Pedras Altas 51.86 150 *e*P **P 03 49 58.3 -0.6**
ALF01 Guarapari-ES 51.99 130 *e*P **P 03 49 59.7 -0.3**
CAM01 Campos-RJ 52.03 131 *e*P **P 03 49 58.7 -1.6**
CALA Caldeira 52.73 51 *e*LQ LQ 04 03 52.3
PICO Pico 52.92 51 *e*LQ LQ 04 03 24.7
ROSA Rosais 53.11 51 *e*LQ LQ 04 04 13.7
LR03 Panguipulli 53.12 172 IAMs_20 IAMs_20 04 13 44.2
comp=Z,6µm,20.0s
LR04 Corral 53.22 173 P **P 03 50 10.0 +1.3**
IVI Ivigtut 53.62 19 P **P 03 50 11.3 -0.2**
LR05 Currie 53.76 171 P **P 03 50 12.7 0.0**
LR05 IAMs_20 IAMs_20 04 13 13.1
comp=Z,5µm,20.0s
PAGU Agualva, Azore 53.93 51 *e*LQ LQ 04 03 38.5
TRQA Tornquist 53.99 161 P **P 03 50 14.8 +0.3**
TRQA IAmb IAmb 03 50 36.2

comp=Z,67nm,1.3s
TRQA IAMs_20 IAMs_20 04 15 17.7
comp=Z,6µm,21.0s
TRQA Tornquist 53.99 161 P P 03 50 14.8 +0.3
TRQA pmax pmax
comp=Z,67nm,1.3s
TRQA MLR MLR
comp=Z,6µm,21.0s
BBB Bella Bella 54.05 326 IAMs_20 IAMs_20 04 17 23.0
comp=Z,8µm,20.0s
LL04 Puerto Octay 54.37 172 IAmb IAmb 03 50 39.5
comp=Z,203nm,1.7s
PLCA Paso Flores 54.48 170 P P 03 50 18.2 +0.1
PLCA IAmb IAmb 03 50 44.1
comp=Z,117nm,1.1s
PLCA Paso Flores 54.48 170 P P 03 50 18.2 +0.1
PLCA pmax pmax
comp=Z,117nm,1.2s
PLCA Paso Flores 54.48 170 *e*P **P 03 50 18.6 +0.5**
NRS Narsarsuaq 54.49 20 P P 03 50 17.5 -0.3
NRS IAMs_20 IAMs_20 04 11 04.7
comp=Z,11µm,21.0s
NRS Narsarsuaq 54.49 20 P P 03 50 17.5 -0.3
NRS pmax pmax
comp=Z,370nm,1.9s
NRS Narsarsuaq 54.49 20 *i* P **P 03 50 20.3 +2.5**
NRS IAmb IAmb 03 50 25.2
comp=Z,161nm,1.4s
LL03 Petrohue 54.59 172 P P 03 50 19.1 +0.3
LL03 IAmb IAmb 03 51 00.6
comp=Z,65nm,0.6s
YKA Yellowknife Ar 54.75 342 P P 03 50 19.4 -0.3
comp=Z,15nm,1.1s,baz=138,slow=7.3,SNR=39
comp=Z,15nm,1.1s
PSET Sete Cidades 54.85 53 *e*LQ LQ 04 04 16.7
NUUK Nuuk 54.94 15 *i* P **P 03 50 23.3 +2.3**
NUUK IAmb IAmb 03 50 28.2
comp=Z,182nm,1.2s
PSMN Pico do Norte, 55.22 54 *e*LQ LQ 04 04 18.3
BART Pico Bartolome 55.27 53 *e*LQ LQ 04 04 47.3
SACV Santiago Islan 55.71 81 IAMs_20 IAMs_20 04 13 28.1
comp=Z,5µm,20.0s
LL01 San Ignacio de 55.81 172 P P 03 50 27.2 -0.3
LL01 IAmb IAmb 03 50 50.2
comp=Z,129nm,1.3s
GRNB Grenville Isla 55.81 327 P P 03 50 27.7 +0.1
GRNB IAmb IAmb 03 50 36.5
comp=Z,89nm,1.0s
TOAD Toad River Com 56.19 334 P P 03 50 30.5 +0.3
baz=125
RUBB Prince Rupert 56.19 328 IAMs_20 IAMs_20 04 18 40.5
comp=Z,9µm,18.0s
GO07 Milladeo Hill, 56.38 173 P P 03 50 31.7 +0.1
KOTAN Kotaneelee Air 56.46 336 P P 03 50 31.4 -0.7
baz=127,SNR=15
LL02 Futaleuf 56.68 172 P P 03 50 33.9 +0.1
LL02 IAmb IAmb 03 50 43.0
comp=Z,57nm,0.9s
LL02 IAMs_20 IAMs_20 04 14 41.5
comp=Z,5µm,18.0s
U35K Hyder 56.83 330 P P 03 50 34.7 0.0
U35K IAMs_20 IAMs_20 04 16 30.2
comp=Z,9µm,20.0s
U35K Hyder 56.83 330 P P 03 50 33.8 -0.9
baz=119
LIRD Liard River Hi 56.87 334 P P 03 50 33.1 -1.9
baz=125
V35K Ketchikan 57.35 328 IAMs_20 IAMs_20 04 19 38.2
comp=Z,11µm,22.0s
V35K Ketchikan 57.35 328 P P 03 50 37.2 -1.2
baz=117
T35M Bob Quinn 57.45 331 P P 03 50 38.9 -0.3
T35M IAmb IAmb 03 50 48.3
comp=Z,64nm,1.1s
T35M IAMs_20 IAMs_20 04 19 23.7
comp=Z,8µm,18.0s
T35M Bob Quinn 57.45 331 P P 03 50 39.8 +0.6
baz=119,SNR=5.3
SFJD Kangerlussuaq 57.50 14 P P 03 50 38.3 -1.0
SFJD Kangerlussuaq 57.50 14 IAMs_20 IAMs_20 04 12 51.2
comp=Z,10µm,20.0s
SFJD Kangerlussuaq 57.50 14 LR LR 04 16 41.6
comp=Z,5µm,18.4s,baz=222,slow=37
SFJD Kangerlussuaq 57.50 14 P P 03 50 38.3 -1.0
SFJD pmax pmax
comp=Z,42nm,0.9s
SFJD Kangerlussuaq 57.50 14 *i* P **P 03 50 39.2 -0.1**
SFJD IAmb IAmb 03 50 43.7
comp=Z,72nm,1.2s
DLBC Dease Lake 58.07 332 IAMs_20 IAMs_20 04 18 44.9
comp=Z,10µm,21.0s
DLBC Dease Lake 58.07 332 P P 03 50 43.0 -0.6
baz=120,SNR=17
DY2G Dye2 58.16 16 *i* P **P 03 50 43.9 -0.4**
DY2G IAmb IAmb 03 50 50.3
comp=Z,281nm,1.6s
WRGLY Wrigley 58.17 339 IAMs_20 IAMs_20 04 18 50.1
comp=Z,8µm,19.0s
WRGLY Wrigley 58.17 339 P P 03 50 45.1 +1.1
baz=129,SNR=22
CRAG Craig 58.19 328 P P 03 50 44.2 -0.1
baz=115
WRAK Wrangell Islan 58.21 329 IAMs_20 IAMs_20 04 20 08.9
comp=Z,10µm,21.0s
WRAK Wrangell Islan 58.21 329 P P 03 50 43.5 -1.0
baz=117
S34M Telegraph Cree 58.32 331 IAMs_20 IAMs_20 04 19 03.6
comp=Z,8µm,18.0s
S34M Telegraph Cree 58.32 331 P P 03 50 45.1 -0.2
baz=119
WTLY Watson Lake, Y 58.40 334 IAMs_20 IAMs_20 04 19 22.5
comp=Z,7µm,18.0s
WTLY Watson Lake, Y 58.40 334 P P 03 50 44.1 -1.7
baz=122,SNR=17
U33K Whale Pass 58.46 329 IAMs_20 IAMs_20 04 19 51.6
comp=Z,9µm,20.0s
U33K Whale Pass 58.46 329 P P 03 50 44.8 -1.5
baz=116
R33M Jennings River 58.97 333 IAMs_20 IAMs_20 04 17 31.0
comp=Z,8µm,20.0s
R33M Jennings River 58.97 333 P P 03 50 47.6 -2.4
baz=120
COYC Coyhaique 58.99 173 P P 03 50 49.8 -0.2
COYC IAmb IAmb 03 51 08.4
comp=Z,85nm,1.2s
ILULI Ilulissat 59.21 12 P P 03 50 51.1 -0.1
ILULI pmax pmax
comp=Z,172nm,1.4s
ILULI Ilulissat 59.21 12 *i* P **P 03 50 48.2 -3.0**
ILULI IAmb IAmb 03 50 57.4
comp=Z,234nm,1.5s
Q32M Nakina River 59.35 332 IAmb IAmb 03 51 01.4
comp=Z,116nm,1.2s
Q32M IAMs_20 IAMs_20 04 17 46.7
comp=Z,8µm,20.0s
Q32M Nakina River 59.35 332 P P 03 50 51.9 -0.8
baz=118,SNR=6.8
ISOG Isortoq, Green 59.62 19 *i* P **P 03 50 55.5 +1.4**
ISOG IAmb IAmb 03 51 00.1
comp=Z,248nm,1.5s
S32K Killisnoo 59.77 330 P P 03 50 54.5 -0.8
S32K IAmb IAmb 03 51 10.0
comp=Z,123nm,1.5s
S32K IAMs_20 IAMs_20 04 20 12.0
comp=Z,9µm,20.0s
S32K Killisnoo 59.77 330 P P 03 50 55.3 0.0
baz=115
SIT Sitka 59.97 329 IAMs_20 IAMs_20 04 19 05.3
comp=Z,9µm,19.0s
SIT Sitka 59.97 329 P P 03 50 56.3 -0.3
baz=114
R32K Eaglecrest 60.09 331 IAMs_20 IAMs_20 04 17 53.3
comp=Z,7µm,21.0s
R32K Eaglecrest 60.09 331 P P 03 50 57.3 -0.2
baz=116
ANGG Ammassalik, Gr 60.09 19 *i* P **P 03 50 57.1 -0.2**
ANGG IAmb IAmb 03 51 03.1
comp=Z,155nm,1.5s
P33M Teslin, Yukon 60.19 333 IAMs_20 IAMs_20 04 18 12.8
comp=Z,6µm,18.0s
P33M Teslin, Yukon 60.19 333 P P 03 50 59.4 +1.2
baz=118,SNR=5.5
UMMG Uummannaq 60.24 11 *i* P **P 03 51 00.1 +1.9**
UMMG IAmb IAmb 03 51 05.4
comp=Z,63nm,1.4s
P32M Atlin 60.30 332 IAmb IAmb 03 51 06.2
comp=Z,58nm,1.2s
P32M Atlin 60.30 332 P P 03 50 58.4 -0.6
baz=117
AY03 Cochrane 60.59 173 IAmb IAmb 03 51 20.1
comp=Z,66nm,1.1s
R31K City Hall, Gus 60.73 331 P P 03 51 01.5 -0.3
baz=114
N32M Quiet Lake 60.75 334 IAmb IAmb 03 51 09.1
comp=Z,90nm,1.1s
N32M Quiet Lake 60.75 334 P P 03 51 02.0 0.0
baz=118
S31K Pelican 60.78 330 P P 03 51 02.2 0.0
baz=114
NUUG Nuugaatsiaq 60.78 10 *i* P **P 03 50 58.1 -3.8**
NUUG IAmb IAmb 03 51 11.4
comp=Z,68nm,1.1s
SKAG Skagway 60.98 332 IAMs_20 IAMs_20 04 22 29.3
comp=Z,10µm,20.0s
SKAG Skagway 60.98 332 P P 03 51 03.7 +0.2
baz=115
PMOZ Porto Moniz, M 61.18 60 *e*P P 03 51 13.5 +8.0
PMOZ A A 03 51 41.7
comp=Z,237nm,1.8s
PMOZ *e*S **S 03 59 34.5 +8.3**
PMOZ *e*LQ LQ 04 06 28.5
PMOZ *e*LR LR 04 07 58.8
PMOZ A A 04 11 03.8
comp=Z,4µm,22.0s
PMOZ Porto Moniz, M 61.18 60 P P 03 51 08.2 +2.7
WHY Whitehorse 61.30 333 IAMs_20 IAMs_20 04 19 04.4
comp=Z,5µm,20.0s
WHY Whitehorse 61.30 333 P P 03 51 05.7 -0.2
baz=116
FARO Faro, Yukon 61.38 335 IAmb IAmb 03 51 13.4
comp=Z,96nm,1.8s
FARO Faro, Yukon 61.38 335 P P 03 51 04.7 -1.5
baz=119
PLBC Pleasant Camp 61.46 331 P P 03 51 06.5 -0.3
baz=114
ICESG Greenland Ices 61.80 16 *i* P **P 03 51 10.8 +1.4**
ICESG IAmb IAmb 03 51 13.3
comp=Z,141nm,1.0s
M31M Drury Creek, Y 61.80 335 IAmb IAmb 03 51 20.8
comp=Z,62nm,1.2s
M31M IAMs_20 IAMs_20 04 18 08.3
comp=Z,10µm,22.0s
M31M Drury Creek, Y 61.80 335 P P 03 51 08.0 -1.0
baz=118,SNR=11
O30N Mendenhall 61.89 333 IAmb IAmb 03 51 16.3
comp=Z,67nm,1.1s
O30N IAMs_20 IAMs_20 04 18 59.8
comp=Z,7µm,19.0s
O30N Mendenhall 61.89 333 P P 03 51 10.2 +0.4
baz=115,SNR=14
P30M Million Dollar 62.01 332 P P 03 51 10.7 +0.2
baz=114
RES Resolute Bay 62.03 356 IAmb IAmb 03 51 16.8
comp=Z,42nm,0.9s
RES Resolute Bay 62.03 356 LR LR 04 18 21.8
comp=Z,11µm,19.3s,baz=164,slow=36
N31M Braeburn, Yuko 62.06 334 IAMs_20 IAMs_20 04 21 11.3
comp=Z,7µm,19.0s
N31M Braeburn, Yuko 62.06 334 P P 03 51 11.0 +0.1
baz=116
P29M Windy Craggy 62.17 331 IAmb IAmb 03 51 23.0
comp=Z,57nm,0.9s
P29M Windy Craggy 62.17 331 P P 03 51 09.6 -2.1
baz=113
C36M Paulatuk 62.35 344 IAMs_20 IAMs_20 04 18 30.4
comp=Z,8µm,21.0s
C36M Paulatuk 62.35 344 P P 03 51 11.0 -1.6
baz=131
EOSO Osorio 62.52 65 P P 03 51 17.7 +3.1
TAOE Nuku Hiva Isla 62.53 253 *e*P **P 03 51 15.0 +0.1**
comp=Z,370nm,1.5s
TAOE Nuku Hiva Isla 62.53 253 *e*PP **PP 03 53 29.6 -2.9**
comp=Z,175nm,23.9s
TAOE *e*S **S 03 59 38.5 -5.3**
comp=Z,1µm,24.1s
TAOE *e*SS **SS 04 03 45.7 -2.3**
comp=Z,2µm,25.5s
TAOE *e*LQ LQ 04 07 05.3
comp=Z,9µm,25.9s
TAOE *e*LR LR 04 09 48.0
comp=Z,2µm,22.0s
HYT Haines Junctio 62.54 333 IAMs_20 IAMs_20 04 19 38.1
comp=Z,7µm,19.0s
HYT Haines Junctio 62.54 333 P P 03 51 13.8 -0.4
baz=114
BBTS Babate 62.54 80 LR LR 04 12 21.5
comp=Z,3µm,21.0s,baz=161,slow=30
N30M Aishikik Lake 62.62 333 IAmb IAmb 03 51 23.2
comp=Z,55nm,1.0s
N30M IAMs_20 IAMs_20 04 21 59.2
comp=Z,6µm,18.0s
N30M Aishikik Lake 62.62 333 P P 03 51 12.6 -2.1
baz=115
O29M Mount Kennedy 62.82 332 IAmb IAmb 03 51 22.7
comp=Z,57nm,1.1s
O29M IAMs_20 IAMs_20 04 23 45.6
comp=Z,9µm,21.0s
O29M Mount Kennedy 62.82 332 P P 03 51 15.5 -0.6
baz=113
KULLO Kullorsuaq 62.89 7 *i* P **P 03 51 16.7 +0.6**
KULLO IAmb IAmb 03 51 22.4
comp=Z,86nm,1.3s
PNL Peninsula 62.96 331 P P 03 51 16.1 -0.8
baz=112
M30M Minto, Yukon 62.97 335 IAMs_20 IAMs_20 04 20 34.2
comp=Z,8µm,19.0s
M30M Minto, Yukon 62.97 335 P P 03 51 14.6 -2.3
baz=115,SNR=14
YUK6 Outpost Mounta 62.97 333 P P 03 51 14.9 -2.3
baz=113
MAYO Mayo, Yukon 63.05 336 P P 03 51 17.6 +0.2
baz=117,SNR=6.9
YUK4 Talbot Arm 63.26 333 P P 03 51 16.2 -2.8
baz=113
H31M Peel River 63.51 338 P P 03 51 20.2 -0.2
H31M IAMs_20 IAMs_20 04 21 02.3
comp=Z,7µm,19.0s
H31M Peel River 63.51 338 P P 03 51 18.7 -1.8
baz=119
PINM Pinnacle 63.52 331 P P 03 51 19.9 -0.8
baz=111
M29M Somme Creek 63.62 334 P P 03 51 20.5 -0.8
baz=114
SOEG Soedalen 63.62 19 *i* P **P 03 51 22.4 +1.3**
SOEG IAmb IAmb 03 51 27.3
comp=Z,98nm,1.4s
J30M Hart River 63.66 337 P P 03 51 20.9 -0.8
baz=117
YUK8 Steele Glacier 63.73 333 P P 03 51 21.1 -1.1
baz=112,SNR=6.4
O28M Mount Upton 63.74 332 P P 03 51 20.2 -2.2
baz=111
TULEG Thule 63.74 3 P P 03 51 20.7 -1.1
TULEG IAmb IAmb 03 51 28.4
comp=Z,54nm,1.0s
L29M L29M 63.75 335 P P 03 51 22.2 +0.1
L29M IAMs_20 IAMs_20 04 20 57.8
comp=Z,7µm,18.0s
L29M L29M 63.75 335 P P 03 51 20.3 -1.8
baz=114
K29M Barlow Dome 63.81 336 IAmb IAmb 03 51 29.1
comp=Z,62nm,1.1s
K29M IAMs_20 IAMs_20 04 20 13.5
comp=Z,6µm,20.0s
K29M Barlow Dome 63.81 336 P P 03 51 22.0 -0.6
baz=115
I30M Mount Dempster 63.98 337 P P 03 51 21.8 -1.9
baz=117
G31M Satah River 64.04 339 IAMs_20 IAMs_20 04 19 37.1
comp=Z,7µm,20.0s
G31M Satah River 64.04 339 P P 03 51 21.7 -2.1
baz=120,SNR=27
F31M Tsiigehtchic 64.12 340 IAMs_20 IAMs_20 04 21 29.3
comp=Z,7µm,19.0s
F31M Tsiigehtchic 64.12 340 P P 03 51 23.7 -0.7
baz=121,SNR=14
YUK3 Moose Creek 64.22 333 P P 03 51 23.9 -1.6
baz=112,SNR=5.9
CTGM Chitina Glacie 64.33 332 IAmb IAmb 03 51 34.8
comp=Z,82nm,1.0s
CTGM IAMs_20 IAMs_20 04 20 22.4
comp=Z,8µm,20.0s
CTG Chitna Glacier 64.33 332 P P 03 51 23.8 -2.2
baz=110,SNR=5.3
J29N Klondike Camp 64.34 336 P P 03 51 24.7 -1.4
baz=115,SNR=12
A36M Sachs Harbour 64.40 346 P P 03 51 25.8 -0.3
baz=131,SNR=108
GRNC Granite Creek 64.44 332 IAmb IAmb 03 51 39.6
comp=Z,63nm,1.2s
SUMG Summit 64.47 13 P P 03 51 27.4 +0.3
SUMG Summit 64.47 13 *i* P **P 03 51 26.0 -1.1**
SUMG IAmb IAmb 03 51 35.4
comp=Z,149nm,0.9s
INK Inuvik 64.50 341 P P 03 51 26.9 +0.1
baz=121,SNR=32
EPYK Eagle Plains 64.63 338 IAMs_20 IAMs_20 04 24 16.8
comp=Z,9µm,22.0s
EPYK Eagle Plains 64.63 338 P P 03 51 27.0 -0.8
baz=117,SNR=25
BVCY Beaver Creek 64.64 334 P P 03 51 26.8 -1.1
baz=111
DAWY Dawson 64.65 336 IAmb IAmb 03 51 35.7
comp=Z,64nm,1.1s
DAWY IAMs_20 IAMs_20 04 23 29.7
comp=Z,6µm,20.0s
DAWY Dawson 64.65 336 P P 03 51 27.2 -0.9
baz=114,SNR=26
G30M tAoh Zraii Nji 64.74 339 IAmb IAmb 03 51 35.7
comp=Z,56nm,1.1s
G30M IAMs_20 IAMs_20 04 24 19.1
comp=Z,6µm,19.0s
G30M tAoh Zraii Nji 64.74 339 P P 03 51 26.7 -1.8
baz=118
F30M Barrier River 64.89 340 P P 03 51 27.7 -1.7
baz=119
M27K Edge Creek, AK 65.06 333 IAmb IAmb 03 51 38.3
comp=Z,83nm,1.0s
M27K Edge Creek, AK 65.06 333 P P 03 51 27.4 -3.4
baz=110
CRQE Cirque 65.07 331 P P 03 51 30.2 -0.7
baz=108
CRQM Cirque 65.09 331 IAmb IAmb 03 51 41.0
comp=Z,97nm,1.2s
H29M Whitestone 65.16 338 P P 03 51 29.7 -1.5
baz=115
MCARA McCarthy VSAT 65.24 332 P P 03 51 31.0 -0.9
baz=109,SNR=8.0
BCAR Beaver Creek A 65.27 334 P P 03 51 32.4 +0.3
L27K Beaver Creek, 65.28 334 IAmb IAmb 03 51 40.6
comp=Z,64nm,1.0s
L27K IAMs_20 IAMs_20 04 21 22.8
comp=Z,7µm,21.0s
L27K Beaver Creek, 65.28 334 P P 03 51 31.5 -0.6
baz=111
G29M Pine Creek 65.34 339 P P 03 51 32.7 +0.4
G29M IAMs_20 IAMs_20 04 24 48.7
comp=Z,8µm,22.0s
G29M Pine Creek 65.34 339 P P 03 51 30.6 -1.8
baz=116
VRDI Verde Repeater 65.39 332 IAmb IAmb 03 51 39.8
comp=Z,58nm,1.0s
I28M Miner Creek 65.42 337 P P 03 51 33.4 +0.3
I28M Miner Creek 65.42 337 P P 03 51 30.4 -2.6
baz=114
KAIM Kayak Island 65.44 330 P P 03 51 32.3 -0.9
baz=107
BORG Borgarnes 65.55 24 IAMs_20 IAMs_20 04 15 13.9
comp=Z,5µm,19.0s
BORG Borgarnes 65.55 24 LR LR 04 18 42.0
comp=Z,4µm,18.4s,baz=246,slow=35
M26K Nabesna, AK 65.56 333 IAmb IAmb 03 51 40.7
comp=Z,41nm,1.1s
M26K Nabesna, AK 65.56 333 P P 03 51 31.8 -2.1
baz=109
GLB Gilahina Butte 65.62 332 P P 03 51 35.3 +0.9
GLB IAmb IAmb 03 51 41.3
comp=Z,84nm,1.1s
EGAK Eagle 65.64 336 P P 03 51 33.0 -1.3
baz=112,SNR=16
BMRM Bremner River 65.84 331 P P 03 51 33.1 -2.6
baz=107
L26K Log Cabin Wild 65.92 334 P P 03 51 34.9 -1.4
baz=109,SNR=28
E29M Blow River 65.96 340 P P 03 51 36.7 +0.4
E29M Blow River 65.96 340 P P 03 51 35.6 -0.8
baz=117,SNR=42
N25K Chitina, Valde 66.03 332 IAmb IAmb 03 51 46.0
comp=Z,101nm,1.2s
N25K IAMs_20 IAMs_20 04 22 10.3
comp=Z,7µm,20.0s
N25K Chitina, Valde 66.03 332 P P 03 51 37.3 +0.3
baz=107,SNR=6.7
I27K Kandik River 66.13 337 P P 03 51 36.4 -1.1
baz=112,SNR=147
NEEM North Greenlan 66.13 7 *i* P **P 03 51 38.0 +0.3**
NEEM IAmb IAmb 03 51 45.9
comp=Z,194nm,1.0s
Q23K Middleton Isla 66.25 330 P P 03 51 37.4 -0.9
baz=105
EYAK Cordova Ski Ar 66.26 331 P P 03 51 37.6 -0.7
baz=106
F28M Old Crow 66.29 339 IAMs_20 IAMs_20 04 21 51.7
comp=Z,7µm,21.0s
F28M Old Crow 66.29 339 P P 03 51 37.7 -0.8
baz=114,SNR=36
H27K Steamboat Moun 66.33 337 P P 03 51 37.3 -1.6
baz=112
SCRK Sand Creek 66.51 335 P P 03 51 40.6 +0.5
SCRK IAMs_20 IAMs_20 04 25 42.8
comp=Z,6µm,20.0s
SCRK Sand Creek 66.51 335 P P 03 51 38.6 -1.5
baz=109,SNR=26
J26L Joseph Creek 66.51 335 P P 03 51 38.9 -1.2
baz=110,SNR=41
HARP HAARP 66.52 333 P P 03 51 39.4 -0.7
baz=107,SNR=5.7
E28M Babbage River 66.59 340 P P 03 51 37.7 -2.7
baz=115
G27K Doyon Strip 66.60 338 IAMs_20 IAMs_20 04 24 36.2
comp=Z,7µm,21.0s
G27K Doyon Strip 66.60 338 P P 03 51 39.2 -1.3
baz=112,SNR=20
KLU Klutina 66.60 332 IAMs_20 IAMs_20 04 22 06.5
comp=Z,8µm,20.0s
KLU Klutina 66.60 332 P P 03 51 40.4 -0.3
baz=106,SNR=12
D28M Stokes Point 66.65 341 P P 03 51 39.5 -1.2
baz=116
FID Port Fidalgo 66.66 331 IAMs_20 IAMs_20 04 24 12.4
comp=Z,7µm,18.0s
RIDG Independent Ri 66.79 334 IAMs_20 IAMs_20 04 23 43.3
comp=Z,8µm,19.0s
RIDG Independent Ri 66.79 334 P P 03 51 40.9 -0.9
baz=108,SNR=16
PAX Paxson 66.83 333 P P 03 51 39.7 -2.4
baz=107,SNR=21
M24K Tolsona, Glenn 66.89 332 IAMs_20 IAMs_20 04 21 56.0
comp=Z,6µm,19.0s
M24K Tolsona, Glenn 66.89 332 P P 03 51 42.0 -0.5
baz=106
P23K Montague Islan 66.91 330 P P 03 51 42.2 -0.3
baz=104
GLI Glacier Island 66.98 331 IAMs_20 IAMs_20 04 24 29.7
comp=Z,6µm,19.0s
GLI Glacier Island 66.98 331 P P 03 51 42.9 -0.1
baz=105
E27K Coleen River 67.12 339 IAmb IAmb 03 51 55.5
comp=Z,54nm,0.9s
E27K Coleen River 67.12 339 P P 03 51 42.2 -1.6
baz=113
K24K Donnelly Dome 67.21 334 P P 03 51 41.6 -2.9
baz=107,SNR=21
J25K Salcha River, 67.28 335 IAMs_20 IAMs_20 04 21 30.5
comp=Z,8µm,20.0s
J25K Salcha River, 67.28 335 P P 03 51 44.2 -0.8
baz=108
D27M Malcolm River 67.33 340 IAMs_20 IAMs_20 04 23 42.3
comp=Z,8µm,20.0s
D27M Malcolm River 67.33 340 P P 03 51 44.6 -0.6
baz=114
SCM Sheep Creek Mo 67.34 332 IAMs_20 IAMs_20 04 24 24.0
comp=Z,7µm,19.0s
SCM Sheep Creek Mo 67.34 332 P P 03 51 43.9 -1.5
baz=105,SNR=7.4
G26K Porcupine Rive 67.44 338 P P 03 51 45.0 -0.8
baz=110,SNR=18
M23K Glacier View 67.51 332 P P 03 51 46.6 +0.2
baz=105,SNR=19
PWL Port Wells 67.57 331 P P 03 51 45.9 -0.8
baz=104
EFI East Falkland 67.57 165 IAMs_20 IAMs_20 04 24 35.2
comp=Z,5µm,20.0s

EFI	**East Falkland**	**67.57 165**	*i* P	**P**	**03 51 46.7**	**0.0**	
EFI			pmax	pmax			
	comp=Z,31nm,1.2s						
PRP	**Porcupine Dome**	**67.63 336**	IAmb	IAmb	03 51 55.3		
	comp=Z,56nm,1.1s						
PRP	**Porcupine Dome**	**67.63 336**	P	**P**	**03 51 47.4**	**+0.2**	
	baz=108,SNR=23						
SCO	**Scoresbysund**	**67.65 18**	*i* P	**P**	**03 51 48.3**	**+1.2**	
SCO			IAmb	IAmb	03 51 54.3		
	comp=Z,63nm,1.5s						
DHY	**Denali Highway**	**67.69 333**	IAmb	IAmb	03 52 18.6		
	comp=Z,54nm,1.2s						
DHY			IAMs_20	IAMs_20	04 23 44.4		
	comp=Z,7µm,18.0s						
DHY	**Denali Highway**	**67.69 333**	P	**P**	**03 51 48.0**	**+0.3**	
	baz=105,SNR=6.7						
WAT6	**Susitna Watana**	**67.72 333**	P	**P**	**03 51 46.5**	**-1.3**	
	baz=105						
KNK	**Knik Glacier**	**67.76 331**	IAMs_20	IAMs_20	04 21 43.1		
	comp=Z,9µm,22.0s						
KNK	**Knik Glacier**	**67.76 331**	P	**P**	**03 51 45.8**	**-2.2**	
	baz=104,SNR=7.9						
SML	**Sawmill**	**67.79 332**	IAMs_20	IAMs_20	04 23 46.0		
	comp=Z,9µm,21.0s						
SML	**Sawmill**	**67.79 332**	P	**P**	**03 51 46.5**	**-1.7**	
	baz=104,SNR=6.3						
F26K	**Sheenjek River**	**67.83 338**	IAmb	IAmb	03 51 56.9		
	comp=Z,51nm,1.3s						
F26K			IAMs_20	IAMs_20	04 19 39.6		
	comp=Z,7µm,22.0s						
F26K	**Sheenjek River**	**67.83 338**	P	**P**	**03 51 48.2**	**-0.1**	
	baz=110						
FYU	**Fort Yukon**	**67.85 337**	IAMs_20	IAMs_20	04 22 16.0		
	comp=Z,7µm,21.0s						
HDA	**Harding Lake**	**67.87 335**	P	**P**	**03 51 46.8**	**-1.8**	
	baz=106,SNR=44						
BMAR	**Burnt Mountain**	**67.89 338**	P	**P**	**03 51 49.0**	**+0.2**	
SEW	**Seward**	**67.94 330**	P	**P**	**03 51 47.4**	**-1.6**	
	baz=102						
IL31		**67.95 335**	IAmb	IAmb	03 51 57.1		
	comp=Z,61nm,0.9s						
ILAR	**Eielson Array**	**67.95 335**	P	**P**	**03 51 48.6**	**-0.5**	
	comp=Z,8.4nm,0.6s,baz=112,slow=4.1,SNR=79						
ILAR			LR	LR	04 26 12.1		
	comp=Z,6µm,18.1s,baz=112,slow=40						
	comp=Z,8.4nm,0.6s						
H25L	**Birch Creek**	**67.98 337**	P	**P**	**03 51 50.0**	**+0.8**	
	baz=108,SNR=17						
VAL	**Valentia**	**68.00 39**	P	**P**	**03 51 50.7**	**+1.1**	
GHO	**Glory Hole Cre**	**68.06 332**	IAMs_20	IAMs_20	04 22 43.0		
	comp=Z,7µm,20.0s						
PMR	**Palmer**	**68.11 331**	IAmb	IAmb	03 51 58.0		
	comp=Z,63nm,0.9s						
PMR			IAMs_20	IAMs_20	04 23 04.5		
	comp=Z,7µm,18.0s						
PMR	**Palmer**	**68.11 331**	P	**P**	**03 51 49.5**	**-0.6**	
	baz=103,SNR=5.8						
O22K	**Cooper Landing**	**68.15 330**	P	**P**	**03 51 50.2**	**-0.2**	
	baz=102						
PSBE	**So Bento**	**68.19 53**	*e*P	**P**	**03 51 52.4**	**+1.3**	
PSBE			A	A	03 51 56.8		
	comp=Z,132nm,1.7s						
PTEO	**Sao Teotonio**	**68.23 55**	*e*P	**P**	**03 51 54.5**	**+3.1**	
PTEO			A	A	03 52 03.1		
	comp=Z,146nm,1.6s						
G25K	**Bearman Lake**	**68.24 337**	P	**P**	**03 51 48.3**	**-2.5**	
	baz=108						
POKR	**Poker Plat Res**	**68.27 335**	IAmb	IAmb	03 52 14.2		
	comp=Z,41nm,1.1s						
POKR	**Poker Plat Res**	**68.27 335**	P	**P**	**03 51 49.5**	**-1.6**	
	baz=106						
RC01	**Rabbit Creek A**	**68.28 331**	P	**P**	**03 51 49.1**	**-2.1**	
	baz=102						
MORF	**Marmelete**	**68.29 55**	*e*P	**P**	**03 51 54.8**	**+3.0**	
MORF			A	A	03 52 00.6		
	comp=Z,159nm,1.2s						
MORF	**Marmelete**	**68.29 55**	*e*P	**P**	**03 51 52.8**	**+1.0**	
MORF			IAMs_20	IAMs_20	04 11 06.5		
	comp=N,13µm,24.5s						
MORF	**Marmelete**	**68.29 55**	*e*P	**P**	**03 51 52.8**	**+1.0**	
CCB	**Clear Creek Bu**	**68.30 335**	IAMs_20	IAMs_20	04 26 41.0		
	comp=Z,8µm,20.0s						
F25K	**Christian Rive**	**68.33 338**	IAmb	IAmb	03 51 58.6		
	comp=Z,35nm,1.0s						
F25K	**Christian Rive**	**68.33 338**	P	**P**	**03 51 49.4**	**-2.1**	
	baz=109						
PTO	**Porto**	**68.37 51**	*e*P	**P**	**03 51 55.1**	**+3.0**	
WRH	**Wood River Hil**	**68.37 335**	IAmb	IAmb	03 52 00.1		
	comp=Z,52nm,1.1s						
WRH			IAMs_20	IAMs_20	04 24 17.0		
	comp=Z,7µm,19.0s						
C27K	**Jago River**	**68.38 340**	IAMs_20	IAMs_20	04 24 33.9		
	comp=Z,6µm,20.0s						
C27K	**Jago River**	**68.38 340**	P	**P**	**03 51 50.6**	**-1.1**	
	baz=112						
COLA	**College**	**68.38 335**	P	**P**	**03 51 51.8**	**+0.1**	
COLA			IAmb	IAmb	03 51 59.6		
	comp=Z,86nm,1.1s						
COLA	**College**	**68.38 335**	P	**P**	**03 51 49.9**	**-1.8**	
	baz=106						
COLA	**College**	**68.38 335**	*i* P	**P**	**03 51 51.9**	**+0.2**	
COLA			pmax	pmax			
	comp=Z,73nm,1.0s						
PCAS	**Casmilo, Conde**	**68.42 52**	*e*P	**P**	**03 51 54.0**	**+1.4**	
PCAS			A	A	03 52 44.6		
	comp=Z,164nm,1.5s						
COI	**Coimbra**	**68.49 52**	*e*P	**P**	**03 51 54.9**	**+2.0**	
BRSE	**Bradley Lake S**	**68.50 329**	P	**P**	**03 51 52.6**	**-0.1**	
	baz=101,SNR=8.9						
MCK	**McKinley**	**68.54 334**	P	**P**	**03 51 51.4**	**-1.4**	
	baz=104,SNR=16						
M22K	**Willow**	**68.61 332**	IAMs_20	IAMs_20	04 25 03.6		
	comp=Z,5µm,20.0s						
M22K	**Willow**	**68.61 332**	P	**P**	**03 51 52.6**	**-0.6**	
	baz=102						
PMTG	**Montargil**	**68.63 53**	*e*P	**P**	**03 51 54.6**	**+0.8**	
PMTG			A	A	03 51 59.1		
	comp=Z,96nm,1.6s						
MESJ	**Messejana**	**68.63 54**	*e*P	**P**	**03 51 55.4**	**+1.5**	
MESJ	**Messejana**	**68.63 54**	*e*P	**P**	**03 51 54.7**	**+0.8**	
MESJ			*e*S	**S**	**04 00 58.5**	**+0.9**	
MESJ			IAMs_20	IAMs_20	04 11 48.1		
	comp=N,10µm,28.9s						
MESJ	**Messejana**	**68.63 54**	*e*P	**P**	**03 51 54.7**	**+0.8**	
MESJ			*e*S	**S**	**04 00 58.5**	**+0.9**	
PGAV	**Gavieira, Arco**	**68.64 50**	*e*P	**P**	**03 51 56.1**	**+2.1**	
PGAV			*e*S	S	04 01 07.3	+10	
PGAV			*e*LQ	LQ	04 09 11.5		
PGAV			*e*LR	LR	04 11 50.6		
PGAV			A	A	04 15 55.5		
	comp=N,6µm,22.0s						
H24K	**Noodor Dome**	**68.65 336**	IAmb	IAmb	03 52 01.9		
	comp=Z,71nm,1.1s						
H24K	**Noodor Dome**	**68.65 336**	P	**P**	**03 51 52.9**	**-0.7**	
	baz=106						
G24K	**Hadweenzic Riv**	**68.74 337**	IAMs_20	IAMs_20	04 24 30.8		
	comp=Z,7µm,19.0s						
G24K	**Hadweenzic Riv**	**68.74 337**	P	**P**	**03 51 52.7**	**-1.4**	
	baz=107						
EVO	**Evora**	**68.79 54**	*e*P	**P**	**03 51 55.0**	**+0.1**	
EVO			A	A	03 52 02.5		
	comp=Z,74nm,1.2s						
EVO	**Evora**	**68.79 54**	P	**P**	**03 51 54.4**	**-0.5**	
NEA2	**Nenana**	**68.81 335**	IAmb	IAmb	03 52 00.7		
	comp=Z,60nm,1.0s						
NEA2			IAMs_20	IAMs_20	04 25 42.6		
	comp=Z,8µm,20.0s						
NEA2	**Nenana**	**68.81 335**	P	**P**	**03 51 53.6**	**-0.9**	
	baz=104,SNR=17						
SUA	**Susitna One**	**68.84 331**	P	**P**	**03 51 53.3**	**-1.6**	
	baz=102						
C26K	**Camden Bay**	**68.87 341**	P	**P**	**03 51 54.2**	**-0.5**	
	baz=110						
PVIS	**Viseu**	**68.89 51**	*e*P	**P**	**03 51 57.5**	**+2.0**	
CAPN	**Captain Cook N**	**68.90 330**	P	**P**	**03 51 52.9**	**-2.1**	
	baz=101						
PBEJ	**Beja**	**68.91 54**	*e*P	**P**	**03 51 58.2**	**+2.6**	
PBEJ			A	A	03 52 27.2		
	comp=Z,59nm,1.6s						
HOM	**Homer**	**68.93 329**	P	**P**	**03 51 53.2**	**-2.1**	
	baz=100						
PVAQ	**Vaqueiros**	**69.03 55**	*e*P	**P**	**03 51 59.4**	**+3.0**	
PVAQ			*e*S	**S**	**04 01 09.7**	**+7.3**	
PVAQ			*e*LQ	LQ	04 09 50.6		
PVAQ			*e*LR	LR	04 13 02.8		
PVAQ			A	A	04 20 04.4		
	comp=Z,8µm,18.0s						
PVAQ	**Vaqueiros**	**69.03 55**	P	**P**	**03 51 56.2**	**-0.2**	
PVRL	**Vila Real**	**69.04 51**	*e*P	**P**	**03 51 58.0**	**+1.6**	
PVRL			A	A	03 52 05.5		
	comp=Z,100nm,1.8s						
TRF	**Thorofare Moun**	**69.06 333**	P	**P**	**03 51 55.1**	**-1.1**	
	baz=103,SNR=30						
I23K	**Minto, Yukon-K**	**69.07 335**	P	**P**	**03 51 54.7**	**-1.3**	
	baz=104,SNR=25						
KDAK	**Kodiak Island**	**69.11 327**	IAMs_20	IAMs_20	04 23 13.1		
	comp=Z,8µm,20.0s						
KDAK	**Kodiak Island**	**69.11 327**	LR	LR	04 23 26.0		
	comp=Z,5µm,20.7s,baz=300,slow=37						
KDAK	**Kodiak Island**	**69.11 327**	P	**P**	**03 51 54.7**	**-1.7**	
	baz=99						
PESTR	**Estremoz**	**69.12 53**	*e*P	**P**	**03 51 58.1**	**+1.2**	
PESTR			A	A	03 52 03.2		
	comp=Z,117nm,1.4s						
PESTR	**Estremoz**	**69.12 53**	P	**P**	**03 51 57.9**	**+1.0**	
F24K	**Squaw Lake**	**69.13 338**	IAmb	IAmb	03 52 04.4		
	comp=Z,161nm,1.9s						
F24K	**Squaw Lake**	**69.13 338**	P	**P**	**03 51 56.5**	**0.0**	
	baz=107						
SYI	**Shuyak Island**	**69.13 328**	IAMs_20	IAMs_20	04 23 07.8		
	comp=Z,8µm,21.0s						
Q20K	**Shuyak Island**	**69.14 328**	P	**P**	**03 51 56.3**	**-0.3**	
	baz=99						
D25K	**Kavik River**	**69.15 340**	IAMs_20	IAMs_20	04 24 51.7		
	comp=Z,6µm,18.0s						
D25K	**Kavik River**	**69.15 340**	P	**P**	**03 51 56.5**	**0.0**	
	baz=109						
MTE	**Manteigas**	**69.16 52**	*e*P	**P**	**03 51 58.7**	**+1.5**	
MTE			*e*S	**S**	**04 01 07.5**	**+3.6**	
MTE			*e*LQ	LQ	04 09 09.0		
MTE			*e*LR	LR	04 12 53.5		
MTE			A	A	04 18 11.6		
	comp=Z,10µm,20.0s						
MTE	**Manteigas**	**69.16 52**	*e*P	**P**	**03 51 57.8**	**+0.6**	
PCBR	**Castelo Branco**	**69.21 52**	*e*P	**P**	**03 51 59.4**	**+2.0**	
PCBR			A	A	03 52 25.5		
	comp=Z,92nm,1.7s						
EGRO	**El Granado**	**69.22 55**	P	**P**	**03 51 59.6**	**+2.1**	
H23K	**Yukon River**	**69.31 336**	IAmb	IAmb	03 52 05.8		
	comp=Z,85nm,1.0s						
H23K	**Yukon River**	**69.31 336**	P	**P**	**03 51 57.4**	**-0.2**	
	baz=104						
SKT	**Skwentna**	**69.31 332**	IAMs_20	IAMs_20	04 24 59.1		
	comp=Z,7µm,19.0s						
SKT	**Skwentna**	**69.31 332**	P	**P**	**03 51 54.3**	**-3.4**	
	baz=101,SNR=6.5						
AVE	**Averroes**	**69.39 59**	IAMs_20	IAMs_20	04 19 09.9		
	comp=Z,7µm,18.0s						
AVE	**Averroes**	**69.39 59**	P	**P**	**03 51 58.8**	**+0.1**	
OHAK	**Old Harbor**	**69.40 326**	P	**P**	**03 51 54.4**	**-3.9**	
	baz=98						
N20K	**Mount Spurr**	**69.48 331**	P	**P**	**03 51 56.1**	**-2.7**	
	baz=100						
O20K	**Slope Mountain**	**69.49 330**	P	**P**	**03 51 58.5**	**-0.4**	
	baz=99						
BPAW	**Bear Paw Mtn.**	**69.50 334**	IAMs_20	IAMs_20	04 23 23.0		
	comp=Z,7µm,18.0s						
BPAW	**Bear Paw Mtn.**	**69.50 334**	P	**P**	**03 51 56.7**	**-2.2**	
	baz=102,SNR=6.7						
E24K	**Your Creek**	**69.51 338**	IAmb	IAmb	03 52 06.7		
	comp=Z,122nm,1.8s						
E24K	**Your Creek**	**69.51 338**	P	**P**	**03 51 56.4**	**-2.4**	
	baz=106						
MVO	**Moncorvo**	**69.55 51**	*e*P	**P**	**03 52 01.8**	**+2.2**	
MVO			A	A	03 52 09.1		
	comp=Z,96nm,1.5s						
MVO			*e*S	**S**	**04 01 13.6**	**+5.0**	
MVO			*e*LQ	LQ	04 10 29.6		
MVO			*e*LR	LR	04 15 04.7		
MVO			A	A	04 18 02.9		
	comp=Z,8µm,18.0s						
PBAR	**Barrancos**	**69.56 54**	*e*P	**P**	**03 52 02.0**	**+2.4**	
PBAR			A	A	03 52 05.2		
	comp=Z,131nm,1.7s						
PBAR	**Barrancos**	**69.56 54**	P	**P**	**03 52 00.8**	**+1.1**	
EBAD	**Badajoz**	**69.57 53**	P	**P**	**03 52 01.6**	**+1.9**	
MLY	**Manley**	**69.61 335**	P	**P**	**03 51 57.3**	**-2.2**	
	baz=103,SNR=24						
TIO	**Tiouine**	**69.64 62**	P	**P**	**03 52 01.3**	**+0.9**	
G23K	**Bananza Creek**	**69.72 337**	P	**P**	**03 52 00.7**	**+0.6**	
G23K			IAMs_20	IAMs_20	04 25 16.7		
	comp=Z,6µm,20.0s						
G23K	**Bananza Creek**	**69.72 337**	P	**P**	**03 51 59.0**	**-1.2**	
	baz=104,SNR=20						
P19K	**Oil Pt**	**69.73 329**	P	**P**	**03 51 59.1**	**-1.1**	
	baz=99						
ILSW	**Iliamna Southw**	**69.73 329**	IAmb	IAmb	03 52 11.9		
	comp=Z,79nm,1.0s						
ILSW			IAMs_20	IAMs_20	04 23 51.5		
	comp=Z,6µm,19.0s						
PBRG	**Braganca**	**69.77 50**	*e*P	**P**	**03 52 02.2**	**+1.2**	
PBRG			A	A	03 52 06.5		
	comp=Z,88nm,1.7s						
ECAL	**Calabor**	**69.78 50**	P	**P**	**03 52 01.6**	**+0.6**	
PPLA	**Purkeypile**	**69.79 333**	P	**P**	**03 51 58.2**	**-2.6**	
	baz=101,SNR=6.1						
SII	**Sitkinak Islan**	**69.81 326**	IAMs_20	IAMs_20	04 24 19.9		
	comp=Z,7µm,19.0s						
SII	**Sitkinak Islan**	**69.81 326**	P	**P**	**03 51 58.3**	**-2.5**	
	baz=97						
Q19K	**Cape Douglas,**	**69.83 328**	P	**P**	**03 51 58.4**	**-2.5**	
	baz=98						
CAST	**Castle Rocks**	**69.84 333**	IAmb	IAmb	03 52 08.4		
	comp=Z,55nm,1.0s						
CAST			IAMs_20	IAMs_20	04 27 35.0		
	comp=Z,6µm,19.0s						
CAST	**Castle Rocks**	**69.84 333**	P	**P**	**03 51 59.5**	**-1.4**	
	baz=101,SNR=17						
EMIN	**Mina Concepcio**	**69.86 54**	P	**P**	**03 52 01.2**	**-0.3**	
E23K	**Chandalar**	**69.91 338**	P	**P**	**03 51 58.2**	**-3.2**	
	baz=105						
COLD	**Coldfoot**	**69.92 337**	P	**P**	**03 51 59.9**	**-1.4**	
	baz=104,SNR=14						
D24K	**Happy Valley**	**69.93 339**	IAmb	IAmb	03 52 09.4		
	comp=Z,58nm,1.2s						
D24K	**Happy Valley**	**69.93 339**	P	**P**	**03 51 59.5**	**-1.8**	
	baz=106						
CHUM	**Lake Minchumin**	**70.03 334**	P	**P**	**03 52 00.2**	**-1.9**	
	baz=101,SNR=7.2						
M20K	**Styx River**	**70.04 331**	IAmb	IAmb	03 52 09.9		
	comp=Z,112nm,1.1s						
M20K	**Styx River**	**70.04 331**	P	**P**	**03 52 01.7**	**-0.5**	
	baz=100						
TOLK	**Toolik Lake Re**	**70.05 339**	P	**P**	**03 51 59.3**	**-2.9**	
	baz=105						
C24K	**Franklin Bluff**	**70.05 340**	IAMs_20	IAMs_20	04 25 06.2		
	comp=Z,8µm,21.0s						
C24K	**Franklin Bluff**	**70.05 340**	P	**P**	**03 52 00.0**	**-2.0**	
	baz=107						
H22K	**Ishtalitna Cre**	**70.06 336**	P	**P**	**03 51 59.3**	**-2.9**	
	baz=103						
R18K	**Karluk**	**70.07 327**	P	**P**	**03 51 59.7**	**-2.7**	
	baz=97						
I21K	**Tanana**	**70.15 335**	P	**P**	**03 52 02.2**	**-0.5**	
	baz=102						
G22K	**Bettles**	**70.34 337**	P	**P**	**03 52 02.0**	**-1.8**	
	baz=103						
O19K	**Port Alsworth**	**70.35 329**	IAmb	IAmb	03 52 11.1		
	comp=Z,83nm,1.1s						
O19K	**Port Alsworth**	**70.35 329**	P	**P**	**03 52 01.6**	**-2.4**	
	baz=98,SNR=6.6						
DSB	**Dublin**	**70.47 38**	IAMs_20	IAMs_20	04 25 55.6		
	comp=Z,6µm,18.0s						
L20K	**Farewell, AK**	**70.48 332**	P	**P**	**03 52 04.7**	**-0.2**	
	baz=99						
Q18K	**Katmai Hardscr**	**70.50 328**	P	**P**	**03 52 02.0**	**-3.1**	
	baz=97,SNR=6.3						
N19K	**Bonanza Creek**	**70.52 330**	IAmb	IAmb	03 52 11.4		
	comp=Z,70nm,0.9s						
N19K			IAMs_20	IAMs_20	04 27 10.9		
	comp=Z,7µm,20.0s						
N19K	**Bonanza Creek**	**70.52 330**	P	**P**	**03 52 01.9**	**-3.3**	
	baz=98						
CHIR	**Chirikof Islan**	**70.53 325**	IAMs_20	IAMs_20	04 21 56.9		
	comp=Z,6µm,22.0s						
CHIR	**Chirikof Islan**	**70.53 325**	P	**P**	**03 52 02.2**	**-3.0**	
	baz=95						
D23K	**Nanushuk River**	**70.53 339**	P	**P**	**03 52 02.9**	**-2.1**	
	baz=104						
H21K	**Melozitna Rive**	**70.59 335**	P	**P**	**03 52 04.6**	**-0.8**	
	baz=101						
ACHA	**Angle Creek He**	**70.61 327**	IAMs_20	IAMs_20	04 22 31.9		
	comp=Z,4µm,19.0s						
M19K	**Big River Lodg**	**70.63 331**	IAmb	IAmb	03 52 13.5		
	comp=Z,67nm,0.9s						
M19K	**Big River Lodg**	**70.63 331**	P	**P**	**03 52 03.3**	**-2.4**	
	baz=98						
P18K	**Big Mountain,**	**70.70 329**	P	**P**	**03 52 04.0**	**-2.3**	
	baz=97						
K20K	**Telida**	**70.71 333**	IAmb	IAmb	03 52 13.8		
	comp=Z,85nm,1.1s						
K20K	**Telida**	**70.71 333**	P	**P**	**03 52 02.6**	**-3.6**	
	baz=99						
JOKA	**Jonika Flow**	**70.72 286**	IAMs_20	IAMs_20	04 21 00.7		
	comp=Z,5µm,19.0s						
C23K	**Itkillik River**	**70.72 340**	P	**P**	**03 52 06.5**	**+0.4**	
C23K	**Itkillik River**	**70.72 340**	P	**P**	**03 52 03.6**	**-2.5**	
	baz=105						
F22K	**John River**	**70.73 337**	P	**P**	**03 52 04.6**	**-1.7**	
	baz=102						
E22K	**Anaktuvuk Pass**	**70.73 338**	IAmb	IAmb	03 52 13.4		
	comp=Z,143nm,1.9s						
E22K	**Anaktuvuk Pass**	**70.73 338**	P	**P**	**03 52 04.2**	**-2.2**	
	baz=103						
O18K	**Koktuh Hills**	**70.74 329**	P	**P**	**03 52 06.1**	**-0.4**	
O18K			IAmb	IAmb	03 52 13.7		
	comp=Z,86nm,0.9s						
O18K			IAMs_20	IAMs_20	04 26 28.5		
	comp=Z,6µm,19.0s						
O18K	**Koktuh Hills**	**70.74 329**	P	**P**	**03 52 04.3**	**-2.2**	
	baz=97,SNR=8.1						
STCH	**StearCracks**	**70.84 286**	IAMs_20	IAMs_20	04 18 29.8		
	comp=Z,7µm,21.0s						
J20K	**Nowinta River**	**70.88 334**	P	**P**	**03 52 05.6**	**-1.7**	
	baz=100,SNR=49						
L19K	**White Mountain**	**70.89 332**	IAmb	IAmb	03 52 14.8		
	comp=Z,41nm,0.9s						
L19K	**White Mountain**	**70.89 332**	P	**P**	**03 52 05.4**	**-2.0**	
	baz=98						
Q17K	**Contact Creek**	**70.91 327**	P	**P**	**03 52 05.3**	**-2.4**	
	baz=96						
PUH	**Pauahi**	**70.93 286**	IAMs_20	IAMs_20	04 18 43.1		
	comp=Z,4µm,20.0s						
HATHI	**Halema'uma'u T**	**70.96 286**	IAMs_20	IAMs_20	04 20 56.0		
	comp=Z,5µm,18.0s						
UWE	**Uwekahuna**	**70.99 286**	IAMs_20	IAMs_20	04 18 45.8		
	comp=Z,5µm,19.0s						
HLP	**Hilina Pali**	**71.02 286**	IAMs_20	IAMs_20	04 20 26.7		
	comp=Z,5µm,19.0s						
IMAR	**Indian Mountai**	**71.03 336**	P	**P**	**03 52 07.7**	**-0.4**	
G21K	**Allakaket**	**71.03 336**	P	**P**	**03 52 06.2**	**-1.9**	
	baz=101						
R17L	**Mt. Peulik Vol**	**71.10 327**	P	**P**	**03 52 08.5**	**-0.2**	
	baz=95,SNR=5.1						
I20K	**Naaghedeneel**	**71.12 334**	P	**P**	**03 52 07.0**	**-1.6**	
	baz=99						
DAG	**Danmarks Havn**	**71.14 12**	*i* P	**P**	**03 52 08.0**	**-0.6**	
DAG			IAmb	IAmb	03 52 14.4		
	comp=Z,129nm,1.5s						
HMH	**Humu'ula Sheep**	**71.15 286**	IAMs_20	IAMs_20	04 17 20.9		
	comp=Z,7µm,21.0s						
F21K	**Alatna River**	**71.16 337**	P	**P**	**03 52 07.0**	**-1.9**	
	baz=101						
POHA	**Pohakuloa**	**71.17 287**	IAMs_20	IAMs_20	04 18 50.6		
	comp=Z,6µm,19.0s						
N18K	**Kilae Creek**	**71.18 330**	IAmb	IAmb	03 52 16.4		
	comp=Z,73nm,1.0s						
N18K	**Kilae Creek**	**71.18 330**	P	**P**	**03 52 06.4**	**-2.7**	
	baz=97						
D22K	**Ayikyak River**	**71.21 339**	IAmb	IAmb	03 52 17.4		
	comp=Z,115nm,1.2s						
D22K	**Ayikyak River**	**71.21 339**	P	**P**	**03 52 07.8**	**-1.4**	
	baz=102						
M18K	**Stony River**	**71.25 331**	P	**P**	**03 52 06.8**	**-2.7**	
	baz=97,SNR=33						
HPAH	**Hawaii Prepara**	**71.29 287**	IAMs_20	IAMs_20	04 19 03.7		
	comp=Z,4µm,20.0s						
P17K	**Kvichak River**	**71.29 328**	P	**P**	**03 52 07.6**	**-2.2**	
	baz=96						
KHU	**Kahuku**	**71.32 286**	IAMs_20	IAMs_20	04 18 46.2		
	comp=Z,5µm,21.0s						
Q16K	**King Salmon**	**71.35 328**	P	**P**	**03 52 09.6**	**-0.5**	
	baz=95,SNR=7.0						
H20K	**Anotleneega Mo**	**71.41 335**	P	**P**	**03 52 09.2**	**-1.2**	
	baz=99						
HUH	**Hualalai**	**71.47 287**	IAMs_20	IAMs_20	04 21 41.1		
	comp=Z,6µm,18.0s						
J19K	**Poorman**	**71.49 333**	IAmb	IAmb	03 52 18.4		
	comp=Z,53nm,1.1s						
J19K			IAMs_20	IAMs_20	04 24 31.7		
	comp=Z,5µm,21.0s						
J19K	**Poorman**	**71.49 333**	P	**P**	**03 52 08.3**	**-2.7**	
	baz=98						
TTA	**Tatalina**	**71.52 332**	IAmb	IAmb	03 52 18.6		
	comp=Z,76nm,1.0s						
TTA			IAMs_20	IAMs_20	04 25 52.7		
	comp=Z,7µm,20.0s						
TTA	**Tatalina**	**71.52 332**	P	**P**	**03 52 08.4**	**-2.9**	
	baz=97,SNR=24						
VAH	**Vaihoa**	**71.56 249**	*e*P	**P**	**03 52 16.6**	**+4.5**	
	comp=Z,134nm,1.3s						
VAH	**Vaihoa**	**71.56 249**	*e*LR	LR	04 13 55.3		
	comp=Z,3µm,23.6s						
E21K	**Killik River**	**71.58 338**	IAmb	IAmb	03 52 18.4		
	comp=Z,87nm,1.5s						
E21K	**Killik River**	**71.58 338**	P	**P**	**03 52 07.6**	**-3.9**	
	baz=101						
O17K	**Koliganek Bris**	**71.68 329**	P	**P**	**03 52 10.6**	**-1.5**	
	baz=95,SNR=9.5						
PMOR	**Pomariorio Ree**	**71.73 249**	*e*P	**P**	**03 52 16.7**	**+3.6**	
	comp=Z,204nm,1.5s						
PMOR	**Pomariorio Ree**	**71.73 249**	*e*LR	LR	04 13 53.8		
	comp=Z,3µm,26.9s						
L18K	**Granite Mounta**	**71.74 331**	IAmb	IAmb	03 52 20.6		
	comp=Z,56nm,1.1s						
L18K			IAMs_20	IAMs_20	04 27 10.8		
	comp=Z,6µm,19.0s						
L18K	**Granite Mounta**	**71.74 331**	P	**P**	**03 52 10.6**	**-1.9**	
	baz=96						
R16K	**Pilot Point**	**71.75 327**	P	**P**	**03 52 10.7**	**-1.9**	
	baz=94						
MDT	**Midelt**	**71.78 60**	LR	LR	04 21 15.8		
	comp=Z,6µm,18.3s,baz=296,slow=34

G19K	**Purcell Mounta**	72.40	336	IAmb	IAmb	03 52 24.6	
	comp=Z,123nm,1.2s						
G19K	**Purcell Mounta**	72.40	336	P	**P**	**03 52 15.3**	**-1.1**
	baz=97,SNR=19						
A22K	**Sinclair Lake**	72.42	341	P	**P**	**03 52 14.4**	**-2.0**
	baz=101						
EKA	**Eskdalemuir Ar**	72.48	36	P	**P**	**03 52 16.8**	**-0.2**
	comp=Z,30nm,0.8s,baz=264,slow=5.2,SNR=26						
	comp=Z,30nm,0.8s						
L17K	**Donlin**	72.49	331	P	**P**	**03 52 16.0**	**-1.0**
	baz=95,SNR=6.8						
K17K	**Iditarod**	72.54	332	IAmb	IAmb	03 52 24.8	
	comp=Z,71nm,0.9s						
K17K	**Iditarod**	72.54	332	P	**P**	**03 52 14.6**	**-2.7**
	baz=95						
N16K	**Nishlik Lake**	72.58	330	P	**P**	**03 52 16.1**	**-1.5**
	baz=94,SNR=5.5						
D20K	**Etivluk River**	72.58	338	P	**P**	**03 52 14.8**	**-2.7**
	baz=99						
E19K	**Redstone River**	72.63	337	IAmb	IAmb	03 52 25.7	
	comp=Z,70nm,1.1s						
E19K	**Redstone River**	72.63	337	P	**P**	**03 52 15.3**	**-2.4**
	baz=98						
M16K	**Timber Creek**	72.71	330	IAms_20	IAms_20	04 24 19.1	
	comp=Z,5μm,20.0s						
M16K	**Timber Creek**	72.71	330	P	**P**	**03 52 17.2**	**-1.1**
	baz=94						
CHNA	**Chernabura Isl**	72.73	324	P	**P**	**03 52 16.6**	**-1.8**
	baz=92						
CNBA	**Chernabura Isl**	72.73	324	IAms_20	IAms_20	04 25 17.3	
	comp=Z,5μm,21.0s						
F19K	**Shaleruckik Mo**	72.76	336	IAms_20	IAms_20	04 27 08.8	
	comp=Z,6μm,20.0s						
F19K	**Shaleruckik Mo**	72.76	336	P	**P**	**03 52 14.9**	**-3.6**
	baz=97						
H18K	**Honhosa River**	72.81	334	P	**P**	**03 52 14.7**	**-4.2**
	baz=96						
J17K	**VABM Dome**	72.95	333	IAmb	IAmb	03 52 27.9	
	comp=Z,100nm,1.0s						
J17K				IAms_20	IAms_20	04 27 31.6	
	comp=Z,6μm,20.0s						
J17K	**VABM Dome**	72.95	333	P	**P**	**03 52 17.0**	**-2.7**
	baz=95,SNR=27						
B20K	**Meade River**	72.97	340	IAms_20	IAms_20	04 25 42.4	
	comp=Z,7μm,21.0s						
B20K	**Meade River**	72.97	340	P	**P**	**03 52 15.6**	**-4.0**
	baz=99						
A21K	**Barrow**	73.00	341	P	**P**	**03 52 16.8**	**-3.0**
	baz=100						
G18K	**Tagagawik**	73.01	335	P	**P**	**03 52 20.6**	**+0.6**
G18K	**Tagagawik**	73.01	335	P	**P**	**03 52 16.1**	**-3.9**
	baz=96						
L16K	**Owhat River**	73.01	331	P	**P**	**03 52 19.8**	**-0.3**
L16K				IAmb	IAmb	03 52 28.2	
	comp=Z,69nm,0.9s						
L16K				IAms_20	IAms_20	04 23 54.2	
	comp=Z,6μm,20.0s						
L16K	**Owhat River**	73.01	331	P	**P**	**03 52 17.7**	**-2.3**
	baz=94,SNR=9.1						
O15K	**Ungalikthiuk R**	73.03	328	P	**P**	**03 52 19.1**	**-1.1**
	baz=93						
D19K	**Kuna River**	73.10	338	IAmb	IAmb	03 52 28.8	
	comp=Z,111nm,1.1s						
D19K	**Kuna River**	73.10	338	P	**P**	**03 52 17.6**	**-2.9**
	baz=97						
N15K	**Kwethluk River**	73.22	329	P	**P**	**03 52 17.6**	**-3.7**
	baz=93						
SDPT	**Sand Point**	73.25	324	IAms_20	IAms_20	04 15 04.1	
	comp=Z,4μm,20.0s						
KIP	**Kipapa**	73.26	289	*ce*P	**P**	**03 52 22.2**	**-0.1**
KIP				pmax	pmax		
	comp=Z,20nm,1.1s						
NOR	**Nord**	73.44	8	*i* P	**P**	**03 52 23.1**	**+0.8**
NOR				IAmb	IAmb	03 52 28.9	
	comp=Z,98nm,1.2s						
H17K	**Granite Mounta**	73.44	334	IAms_20	IAms_20	04 24 23.5	
	comp=Z,5μm,21.0s						
H17K	**Granite Mounta**	73.44	334	P	P	03 52 17.4	-5.1
	baz=94						
F18K	**Selawik**	73.48	336	P	**P**	**03 52 21.3**	**-1.4**
	baz=95						
M15K	**Kasigluk River**	73.54	330	P	**P**	**03 52 20.4**	**-2.7**
	baz=92						
J16K	**Anvik River**	73.63	332	IAmb	IAmb	03 52 32.6	
	comp=Z,106nm,1.2s						
J16K				IAms_20	IAms_20	04 26 30.5	
	comp=Z,6μm,22.0s						
J16K	**Anvik River**	73.63	332	P	**P**	**03 52 22.4**	**-1.3**
	baz=93						
C19K	**Lookout Ridge**	73.70	339	P	**P**	**03 52 22.9**	**-1.2**
	baz=96						
I17K	**Unalakleet**	73.71	333	IAms_20	IAms_20	04 24 57.5	
	comp=Z,8μm,22.0s						
I17K	**Unalakleet**	73.71	333	P	**P**	**03 52 20.7**	**-3.4**
	baz=93						
O14K	**Tigyukauivet M**	73.77	328	IAms_20	IAms_20	04 26 14.4	
	comp=Z,6μm,18.0s						
O14K	**Tigyukauivet M**	73.77	328	P	**P**	**03 52 21.1**	**-3.5**
	baz=92						
G17K	**Kiwalik Mounta**	73.80	335	P	**P**	**03 52 20.7**	**-3.9**
	baz=94,SNR=5.9						
E18K	**Tukpahlearik C**	73.92	337	IAms_20	IAms_20	04 28 02.7	
	comp=Z,7μm,22.0s						
E18K	**Tukpahlearik C**	73.92	337	P	**P**	**03 52 21.0**	**-4.4**
	baz=94						
L15K	**Ungalak Mounta**	73.96	331	P	**P**	**03 52 22.0**	**-3.7**
	baz=92						
N14K	**Kuskokwak Cree**	74.00	329	P	**P**	**03 52 23.8**	**-2.1**
	baz=91						
K15K	**Wolf Creek Mou**	74.01	331	IAms_20	IAms_20	04 27 32.6	
	comp=Z,6μm,20.0s						
K15K	**Wolf Creek Mou**	74.01	331	P	**P**	**03 52 22.0**	**-3.9**
	baz=92						
F17K	**Baldwin Pennin**	74.11	336	IAmb	IAmb	03 52 34.3	
	comp=Z,88nm,1.5s						
F17K				IAms_20	IAms_20	04 29 27.6	
	comp=Z,6μm,21.0s						
F17K	**Baldwin Pennin**	74.11	336	P	**P**	**03 52 22.0**	**-4.3**
	baz=94						
PPT	**Papeete**	74.11	247	P	**P**	**03 52 26.7**	**-0.5**
	comp=Z,8.8nm,0.7s,baz=112,slow=23,SNR=1.8						
	comp=Z,8.8nm,0.7s						
PPT2	**Papeete2**	74.11	247	*e*P	**P**	**03 52 27.3**	**-0.1**
	comp=Z,97nm,1.5s						
PPT2	**Papeete2**	74.11	247	*e*PP	**PP**	**03 55 11.5**	**-1.5**
	comp=Z,168nm,23.8s						
PPT2				*e*S	**SKiKP**	**04 01 59.2**	**+2.3**
	comp=Z,482nm,26.0s						
PPT2	**Papeete2**	74.11	247	*e*LQ	LQ	04 12 01.5	
	comp=Z,8μm,28.5s						
PPT2				*e*LR	LR	04 15 11.2	
	comp=Z,2μm,24.8s						
PPT2				*e*LR	LR	04 15 12.1	
	comp=Z,2μm,23.8s						
PAE	**Paea**	74.14	247	*e*P	**P**	**03 52 29.5**	**+2.1**
	comp=Z,65nm,1.4s						
PAE	**Paea**	74.14	247	*e*SS	SS	04 06 41.3	-6.0
	comp=Z,225nm,24.7s						
PAE				*e*LR	LR	04 15 11.1	
	comp=Z,300nm,21.1s						
S12K	**Black Hills**	74.15	324	IAms_20	IAms_20	04 24 39.0	
	comp=Z,4μm,21.0s						
S12K	**Black Hills**	74.15	324	P	**P**	**03 52 22.9**	**-4.0**
	baz=90						
M14K	**Bethel**	74.16	330	P	**P**	**03 52 26.4**	**-0.4**
M14K				IAms_20	IAms_20	04 24 21.8	
	comp=Z,4μm,20.0s						
M14K	**Bethel**	74.16	330	P	P	03 52 20.2	-6.6
	baz=91						
C18K	**Utukok River**	74.24	338	P	**P**	**03 52 24.3**	**-3.0**
	baz=94						
A19K	**Wainwright**	74.33	340	P	**P**	**03 52 25.3**	**-2.2**
	baz=95						
CART	**Cartagena**	74.36	54	IAms_20	IAms_20	04 17 00.6	
	comp=Z,5μm,21.0s						
E17K	**Hotham Inlet**	74.37	336	P	**P**	**03 52 25.0**	**-3.0**
	baz=93						
H16K	**Elim**	74.42	334	P	**P**	**03 52 26.3**	**-2.0**
	baz=92						
G16K	**Koyuk River**	74.50	335	IAms_20	IAms_20	04 28 25.2	
	comp=Z,7μm,22.0s						
G16K	**Koyuk River**	74.50	335	P	**P**	**03 52 25.1**	**-3.6**
	baz=92						
B18K	**Kokolik River**	74.51	339	P	**P**	**03 52 25.6**	**-3.1**
	baz=94						
L14K	**Kuka Creek**	74.53	330	IAms_20	IAms_20	04 28 02.2	
	comp=Z,6μm,19.0s						
L14K	**Kuka Creek**	74.53	330	P	**P**	**03 52 27.7**	**-1.2**
	baz=91						
RDOG	**Red Dog Mine**	74.84	337	IAmb	IAmb	03 52 38.6	
	comp=Z,84nm,1.2s						
RDOG	**Red Dog Mine**	74.84	337	P	**P**	**03 52 29.1**	**-1.5**
	baz=93						
M13K	**Dall Lake**	74.84	329	P	**P**	**03 52 29.1**	**-1.7**
	baz=90						
D17K	**Noatak River**	74.89	337	P	**P**	**03 52 27.5**	**-3.4**
	baz=92						
FALS	**False Pass**	74.94	324	P	**P**	**03 52 29.8**	**-1.6**
	baz=88						
C17K	**DeLong Mountai**	74.96	338	P	**P**	**03 52 28.2**	**-3.2**
	baz=92						
J14K	**Nanvaranak Lak**	74.96	332	IAmb	IAmb	03 52 40.4	
	comp=Z,103nm,0.9s						
J14K				IAms_20	IAms_20	04 30 50.5	
	comp=Z,5μm,19.0s						
J14K	**Nanvaranak Lak**	74.96	332	P	**P**	**03 52 29.5**	**-1.9**
	baz=90,SNR=6.0						
DBIC	**Dimbokro**	75.20	86	P	**P**	**03 52 33.4**	**-0.4**
	comp=Z,16nm,0.8s,baz=272,slow=5.1,SNR=11						
DBIC				LR	LR	04 25 46.8	
	comp=Z,2μm,18.2s,baz=264,slow=36						
	comp=Z,16nm,0.8s						
G15K	**Niukluk**	75.20	334	P	**P**	**03 52 30.9**	**-1.9**
	baz=91						
F15K	**North Star Dit**	75.46	335	P	**P**	**03 52 33.0**	**-1.4**
	baz=90						
K13K	**Kusilvak Mount**	75.47	331	IAms_20	IAms_20	04 30 01.1	
	comp=Z,7μm,20.0s						
K13K	**Kusilvak Mount**	75.47	331	P	**P**	**03 52 33.0**	**-1.4**
	baz=89,SNR=5.7						
CEST	**Esterri de Car**	75.68	49	P	**P**	**03 52 36.0**	**-0.2**
CEST				IAmb	IAmb	03 52 46.1	
	comp=Z,53nm,1.0s						
CEST				IAms_20	IAms_20	04 21 25.2	
	comp=Z,5μm,20.0s						
C16K	**Lisburne Hills**	75.75	338	P	**P**	**03 52 34.7**	**-1.1**
	baz=90						
ANM	**Nome**	75.77	334	P	**P**	**03 52 34.8**	**-1.2**
	baz=89						
TBI	**Tubuai**	76.00	242	*e*PKIKP	**P**	**03 52 39.4**	**+1.3**
TBI				*e*S	**S**	**04 02 20.4**	**-2.0**
	comp=Z,3μm,24.2s						
TBI				*e*SS	**SS**	**04 07 13.3**	**-2.2**
	comp=Z,5μm,28.0s						
TBI				*e*LQ	LQ	04 12 47.0	
	comp=Z,12μm,30.0s						
TBI				*e*LR	LR	04 15 58.5	
	comp=Z,12μm,27.8s						
TBI				*e*LR	LR	04 16 00.2	
	comp=Z,3μm,27.0s						
F14K	**Arctic Creek**	76.16	335	P	**P**	**03 52 37.1**	**-1.2**
	baz=89						
M11K	**Mekoryuk**	76.26	329	P	**P**	**03 52 36.6**	**-2.3**
	baz=88						
SUE	**Sulen**	76.64	30	*e*P	**P**	**03 52 42.5**	**+1.5**
SUE				IVmBBB		03 52 48.3	
	comp=Z,1μm,2.1s						
SUE				*e*S	**S**	**04 02 29.5**	**+1.3**
SUE				*e*SS	**SS**	**04 07 28.4**	**+5.4**
SUE				IVMs_BB	IVMs_BB	04 25 55.0	
	comp=Z,2μm,3.5s						
FOO	**Floro**	76.75	29	IVmBBB		03 52 42.8	
	comp=Z,592nm,2.9s						
FOO				*e*P	**P**	**03 52 43.4**	**+1.7**
FOO				*e*S	**S**	**04 02 33.5**	**+4.2**
FOO				*e*SS	**SS**	**04 07 30.2**	**+5.6**
FOO				IVMs_BB	IVMs_BB	04 18 09.0	
	comp=Z,2μm,27.3s						
UNV	**Unalaska Valle**	76.80	323	P	**P**	**03 52 40.0**	**-2.0**
	baz=86,SNR=7.9						
TNA	**Tin City**	76.82	335	P	**P**	**03 52 39.8**	**-2.2**
	baz=87						
ASK	**Askoy**	76.89	30	IVmBBB		03 52 43.9	
	comp=Z,1μm,2.9s						
ASK				*e*P	**P**	**03 52 43.9**	**+1.5**
ASK				*e*S	**S**	**04 02 34.2**	**+3.3**
ASK				*e*SS	**SS**	**04 07 26.7**	**-0.1**
ASK				IVMs_BB	IVMs_BB	04 25 09.5	
	comp=Z,3μm,17.9s						
BER	**Bergen**	76.96	31	*e*P	**P**	**03 52 45.2**	**+2.4**
BER				IVmB_BB		03 52 51.0	
	comp=Z,2μm,3.1s						
BER				*e*S	**S**	**04 02 33.7**	**+2.0**
BER				*e*SS	**SS**	**04 07 28.7**	**+0.8**
BER				IVMs_BB	IVMs_BB	04 25 12.6	
	comp=Z,3μm,16.5s						
KMY	**Karmoy**	76.99	32	*e*P	**P**	**03 52 44.5**	**+1.4**
KMY				IVmB_BB		03 52 49.5	
	comp=Z,2μm,1.8s						
KMY				*e*S	**S**	**04 02 31.9**	**-0.2**
KMY				*e*SS	**SS**	**04 07 29.4**	**+1.0**
KMY				IVMs_BB	IVMs_BB	04 20 13.8	
	comp=Z,2μm,18.0s						
HOPE	**Hope Point**	77.08	155	IAms_20	IAms_20	04 31 42.5	
	comp=Z,5μm,20.0s						
UCC	**Uccle**	77.12	40	*d*P	**P**	**03 52 44.0**	**0.0**
	comp=Z,24nm,1.1s						
HYA	**Hoyanger**	77.33	30	*e*P	**P**	**03 52 46.8**	**+1.9**
HYA				IVmB_BB		03 53 00.9	
	comp=Z,1μm,4.5s						
HYA				*e*S	**S**	**04 02 41.0**	**+5.4**
HYA				*e*SS	**SS**	**04 07 38.1**	**+4.7**
HYA				IVMs_BB	IVMs_BB	04 18 20.1	
	comp=Z,2μm,35.5s						
DOU	**Dourbes**	77.33	41	*d*P	**P**	**03 52 46.1**	**+0.9**
	comp=Z,33nm,1.1s						
BMRD	**Maredsous**	77.42	41	*d*P	**P**	**03 52 45.1**	**-0.6**
	comp=Z,20nm,1.1s						
BLS5	**Blasjo**	77.59	32	*e*P	**P**	**03 52 48.3**	**+1.8**
BLS5				IVmBBB		03 52 54.0	
	comp=Z,1μm,1.9s						
BLS5				*e*S	**S**	**04 02 35.7**	**-3.1**
BLS5				*e*SS	**SS**	**04 07 36.8**	**-0.8**
BLS5				IVMs_BB	IVMs_BB	04 21 23.4	
	comp=Z,1μm,9.8s						
BGES	**Gesves**	77.62	41	*d*P	**P**	**03 52 47.3**	**+0.5**
	comp=Z,24nm,1.1s						
AKN	**Aaknes**	77.64	29	*e*P	**P**	**03 52 49.3**	**+2.6**
AKN				IVmBBB		03 52 53.9	
	comp=Z,881nm,1.2s						
AKN				*e*S	**S**	**04 02 40.9**	**+1.8**
AKN				*e*SS	**SS**	**04 07 42.4**	**+4.3**
AKN				IVMs_BB	IVMs_BB	04 19 04.0	
	comp=Z,3μm,31.0s						
ODD1	**Odda**	77.64	31	*e*P	**P**	**03 52 49.3**	**+2.5**
ODD1				IVmB_BB		03 53 17.5	
	comp=Z,2μm,3.6s						
ODD1				*e*S	**S**	**04 02 41.3**	**+2.0**
ODD1				*e*SS	**SS**	**04 07 41.3**	**+3.0**
ODD1				IVMs_BB	IVMs_BB	04 30 24.1	
	comp=Z,2μm,20.1s						
RCHB	**Rochefort**	77.73	41	*d*P	**P**	**03 52 47.9**	**+0.4**
	comp=Z,17nm,1.2s						
BCLA	**Clavier**	77.75	41	*d*P	**P**	**03 52 48.0**	**+0.4**
	comp=Z,25nm,1.1s						
KBS	**Kingsbay**	77.80	11	*e*P	**P**	**03 52 50.2**	**+2.9**
KBS				IVmB_BB		03 53 00.6	
	comp=Z,2μm,3.0s						
KBS				*e*S	**S**	**04 02 42.0**	**+1.6**
KBS				*e*SS	**SS**	**04 07 46.0**	**+6.0**
KBS				IVMs_BB	IVMs_BB	04 25 31.5	
	comp=Z,5μm,19.1s						
KBS	**Kingsbay**	77.80	11	*i* P	**P**	**03 52 49.4**	**+2.1**
MOL	**Molde**	77.86	28	*e*P	**P**	**03 52 49.8**	**+1.9**
MOL				*e*S	**S**	**04 02 41.0**	**-0.4**
MOL				IVMs_BB	IVMs_BB	04 19 26.9	
	comp=Z,3μm,30.5s						
BSTI	**Sart Tilman**	77.91	41	*d*P	**P**	**03 52 48.5**	**+0.1**
	comp=Z,7.3nm,1.2s						
SNART	**Snartemo**	78.08	33	*e*P	**P**	**03 52 51.4**	**+2.2**
SNART				*e*S	**S**	**04 02 43.8**	**-0.2**
MEM	**Membach**	78.18	41	*d*P	**P**	**03 52 51.2**	**+1.3**
	comp=Z,23nm,1.1s						
BHOU	**Houvegnez**	78.21	41	*d*P	**P**	**03 52 52.4**	**+2.3**
BHOU				*d*PcP	**PcP**	**03 52 59.1**	**-0.5**
BTNL	**Ternell**	78.26	41	*d*P	**P**	**03 52 51.8**	**+1.4**
	comp=Z,12nm,1.2s						
NIKH	**Nikolski High**	78.28	322	P	**P**	**03 52 48.8**	**-1.6**
	baz=84						
P08K	**Saint George I**	78.29	326	IAms_20	IAms_20	04 31 38.2	
	comp=Z,4μm,20.0s						
P08K	**Saint George I**	78.29	326	P	**P**	**03 52 49.1**	**-1.2**
	baz=84						
WLF	**Walferdange**	78.38	42	*e*P	**P**	**03 52 51.5**	**+0.5**
	comp=Z,95nm,1.1s,baz=280,slow=5.4						
WLF	**Walferdange**	78.38	42	*d*P	**P**	**03 52 53.2**	**+2.2**
	comp=Z,40nm,1.1s						
SKAR	**Skarslia**	78.40	30	*e*P	**P**	**03 52 53.6**	**+2.6**
SKAR				IVmBBB		03 52 58.5	
	comp=Z,866nm,1.4s						
SKAR				*e*S	**S**	**04 02 48.3**	**+0.9**
SKAR				*e*SS	**SS**	**04 07 49.6**	**-0.1**
SKAR				IVMs_BB	IVMs_BB	04 26 50.3	
	comp=Z,2μm,20.1s						
GAMB	**Gambell**	78.58	333	P	**P**	**03 52 47.4**	**-4.5**
	baz=84						
SPIA	**Saint Paul Isl**	78.61	326	P	**P**	**03 52 50.3**	**-1.8**
	baz=84						
DOMB	**Dombas**	78.62	29	*e*P	**P**	**03 52 55.2**	**+3.0**
DOMB				IVmBBB		03 52 59.4	
	comp=Z,596nm,1.6s						
DOMB				*e*S	**S**	**04 02 53.4**	**+3.7**
DOMB				*e*SS	**SS**	**04 07 54.9**	**+2.0**
DOMB				IVMs_BB	IVMs_BB	04 19 32.2	
	comp=Z,3μm,34.5s						
HOMB	**Homborsund**	78.77	33	*e*P	**P**	**03 52 53.2**	**+0.2**
HOMB				IVmBBB		03 53 00.5	
	comp=Z,840nm,1.6s						
HOMB				*e*S	**S**	**04 02 51.6**	**+0.3**
HOMB				*e*SS	**SS**	**04 07 58.2**	**+3.0**
HOMB				IVMs_BB	IVMs_BB	04 29 42.2	
	comp=Z,2μm,18.3s						
SPA0	**Spitsbergen Ar**	78.78	12	*e*P	**P**	**03 52 52.3**	**-0.5**
SPA0				IVmBBB		03 52 59.2	
	comp=Z,1μm,1.4s						
SPA0				*e*S	**S**	**04 02 52.3**	**+1.3**
SPA0				*e*SS	**SS**	**04 07 56.5**	**+1.8**
SPITS	**Spitsbergen Ar**	78.78	12	P	**P**	**03 52 53.3**	**+0.5**
	comp=Z,35nm,0.9s,baz=339,slow=3.6,SNR=7.9						
SPITS				LR	LR	04 30 08.9	
	comp=Z,6μm,18.5s,baz=246,slow=38						
	comp=Z,35nm,0.9s						
HSPB	**Hornsund (broa**	78.80	13	*e*P	**P**	**03 52 54.6**	**+1.7**
KONO	**Kongsberg**	79.16	31	IAms_20	IAms_20	04 29 19.5	
	comp=Z,6μm,19.0s						
KONO	**Kongsberg**	79.16	31	*e*P	**P**	**03 52 57.1**	**+2.0**
KONO				*e*S	**S**	**04 02 59.2**	**+3.7**
KONO				*e*SS	**SS**	**04 08 04.4**	**+3.3**
KONO				IVMs_BB	IVMs_BB	04 30 36.4	
	comp=Z,2μm,18.6s						
KONO	**Kongsberg**	79.16	31	*ce*P	**P**	**03 52 56.3**	**+1.2**
KONO				pmax	pmax		
	comp=Z,58nm,1.0s						
ECH	**Echery**	79.22	43	IAmb	IAmb	03 53 03.6	
	comp=Z,80nm,1.2s						
MUD	**Monsted U'grnd**	79.36	34	*i* P	**P**	**03 53 00.0**	**+3.8**
MUD				IAmb	IAmb	03 53 04.3	
	comp=Z,154nm,1.3s						
NSS	**Namsos**	79.59	26	*e*P	**P**	**03 53 01.0**	**+3.6**
KASTN	**Kahler Asten**	79.62	40	*e*P	**P**	**03 52 57.9**	**0.0**
	comp=Z,182nm,2.3s,baz=280,slow=5.4						
LOF	**Lofoten**	79.66	22	*e*P	**P**	**03 52 57.3**	**-0.4**
LOF				IVmB_BB		03 53 10.8	
	comp=Z,2μm,3.1s						
LOF				*e*PP	**PP**	**03 55 57.7**	**-0.4**
LOF				*e*S	**S**	**04 02 59.0**	**-1.6**
LOF				*e*SS	**SS**	**04 08 12.9**	**+4.8**
LOF				IVMs_BB	IVMs_BB	04 28 24.4	
	comp=Z,2μm,8.8s						
OSL	**Oslo**	79.69	31	*e*P	**P**	**03 53 00.0**	**+2.1**
OSL				IVmB_BB		03 53 06.2	
	comp=Z,2μm,4.4s						
OSL				*e*S	**S**	**04 02 59.8**	**-1.2**
OSL				*e*SS	**SS**	**04 08 16.5**	**+7.6**
OSL				IVMs_BB	IVMs_BB	04 28 07.0	
	comp=Z,2μm,20.2s						
STOK	**Stokkvaagen**	79.75	24	*e*P	**P**	**03 53 01.0**	**+2.8**
STOK				IVmB_BB		03 53 19.6	
	comp=Z,2μm,4.3s						
STOK				*e*S	**S**	**04 03 03.1**	**+1.7**
STOK				*e*SS	**SS**	**04 08 08.2**	**-1.3**
STOK				IVMs_BB	IVMs_BB	04 24 44.8	
	comp=Z,3μm,17.8s						
KONS	**Konsvik**	79.76	24	*e*P	**P**	**03 53 02.8**	**+4.5**
NB2	**NORSAR Subarra**	79.77	30	P	**P**	**03 52 59.6**	**+1.1**
	comp=Z,162nm,1.2s,baz=278,slow=5.6						
NB2	**NORSAR Subarra**	79.77	30	P	**P**	**03 52 59.6**	**+1.1**
	baz=278,slow=5.6						
NOA	**NORSAR Array B**	79.77	30	P	**P**	**03 52 59.5**	**+1.1**
	comp=Z,23nm,0.9s,baz=280,slow=5.4,SNR=34						
NOA				LR	LR	04 26 51.4	
	comp=Z,3μm,18.9s,baz=280,slow=35						
	comp=Z,23nm,0.9s						
TNS	**Taunus Mts**	79.78	41	*e*P	**P**	**03 52 59.3**	**+0.5**
	comp=Z,105nm,1.5s,baz=280,slow=5.4						
ACRG	**Accra**	79.93	87	IAms_20	IAms_20	04 28 46.1	
	comp=Z,4μm,18.0s						
SHEL	**Horse Pasture**	79.94	109	IAms_20	IAms_20	04 29 04.1	
	comp=Z,5μm,21.0s						
NC602	**NORSAR Array S**	79.97	30	*e*P	**P**	**03 53 01.2**	**+1.7**
NC602				IVmB_BB		03 53 21.4	
	comp=Z,2μm,3.2s						
NC602				*e*S	**S**	**04 03 04.8**	**+0.8**
NC602				*e*SS	**SS**	**04 08 15.0**	**+1.8**
NC602				IVMsBB		04 29 38.3	
	comp=Z,2μm,14.4s						
BFO	**Black Forest**	79.97	43	P	**P**	**03 52 59.6**	**-0.3**
BFO				IAmb	IAmb	03 53 07.4	
	comp=Z,126nm,1.9s						
BFO	**Black Forest**	79.97	43	P	**P**	**03 52 59.6**	**-0.3**
BFO				pmax	pmax		
	comp=Z,126nm,1.9s						
BFO	**Black Forest**	79.97	43	*e*P	**P**	**03 52 59.5**	**-0.3**
	comp=Z,160nm,2.0s,baz=280,slow=5.4						
RETH	**Rethem/Aller,**	79.98	38	*e*P	**P**	**03 53 00.3**	**+0.7**
	comp=Z,63nm,1.3s,baz=280,slow=5.4						
TORD	**Torodi Ar. Bea**	80.25	79	P	**P**	**03 53 00.9**	**-1.0**
TORD	**Torodi Ar. Bea**	80.25	79	P	**P**	**03 53 01.1**	**-0.8**
	comp=Z,6.0nm,0.8s,baz=290,slow=4.1,SNR=21						
TORD				PKKPbc	**PKKPbc**	**04 11 48.2**	**+3.6**
	comp=Z,0.5nm,0.6s,baz=147,slow=0.9,SNR=5.4						
TORD				PKPPKP	**P'P'df**	**04 19 47.1**	**-4.3**
	comp=Z,0.7nm,0.9s,baz=62,slow=2.2,SNR=3.3						
TORD				LR	LR	04 23 53.0	
	comp=Z,4μm,21.6s,baz=278,slow=32						
	comp=Z,6.0nm,0.8s						
STEI	**Steigen**	80.33	22	*e*P	**P**	**03 53 05.3**	**+4.0**
MOR8	**Moi Rana**	80.35	24	*e*P	**P**	**03 53 04.4**	**+2.9**
MOR8				IVmB_BB		03 53 08.

comp=Z,3μm,3.3s
TRO *e*S **S** **04 03 15.8 -1.5**
TRO *e*SS **SS** **04 08 31.9 -0.2**
TRO IVMs_BB IVMs_BB 04 25 24.5
comp=Z,3μm,4.2s
MSSA Maissana 81.43 47 IAMs_20 IAMs_20 04 24 42.2
comp=Z,5μm,20.0s
ATKA Atka Island 81.61 322 IAMs_20 IAMs_20 04 30 56.5
comp=Z,3μm,19.0s
GRA1 Grafenberg Arr 81.63 41 P **P** **03 53 08.4 -0.3**
GRF Grafenberg Arr 81.63 41 P **P** **03 53 08.4 -0.3**
GRF pmax pmax
comp=Z,43nm,1.1s
GRF Grafenberg Arr 81.63 41 *e*P **P** **03 53 09.1 +0.5**
comp=Z,42nm,1.1s,baz=280,slow=5.4
GRF *e*L L 04 26 15.0
comp=Z,10μm,18.8s
SMAI San Martin Ant 81.67 175 P **P** **03 53 08.8 +0.6**
SMAI IAmb IAmb 03 53 35.8
comp=Z,44nm,0.9s
NEUB Neuenburg 81.71 39 *e*P **P** **03 53 09.5 +0.5**
comp=Z,599nm,2.5s,baz=280,slow=5.4
MOX Moxa 81.71 40 *e*P **P** **03 53 09.4 +0.3**
comp=Z,21nm,1.0s,baz=280,slow=5.4
MOX *e*L L 04 26 31.1
comp=Z,6μm,19.7s
RETA Reutte 81.73 43 *e*P **P** **03 53 09.9 +0.5**
comp=Z,60nm,1.6s,SNR=24
FETA Feichten 81.79 44 *e*P **P** **03 53 10.3 +0.5**
comp=Z,26nm,1.0s,SNR=21
JETT Jettan, Norway 81.79 20 *e*P **P** **03 53 11.5 +2.4**
MOTA Moosalm 81.98 43 *e*P **P** **03 53 11.1 +0.4**
comp=Z,21nm,1.0s
RGN Rugen 82.00 36 IAMs_20 IAMs_20 04 27 40.6
comp=Z,5μm,20.0s
TAM Tamanrasset 82.00 68 P **P** **03 53 11.4 +0.1**
TAM IAMs_20 IAMs_20 04 25 05.9
comp=Z,4μm,20.0s
TAM Tamanrasset 82.00 68 P **P** **03 53 11.4 +0.1**
SQTA Sankt Quirin 82.07 43 *e*P **P** **03 53 11.5 +0.3**
comp=Z,23nm,1.0s,SNR=17
PLN Plauen 82.08 40 *e*P **P** **03 53 11.3 +0.2**
comp=Z,38nm,0.9s,baz=280,slow=5.4
MANZ Manzenberg 82.14 41 *e*P **P** **03 53 11.8 +0.5**
comp=Z,7.9nm,1.1s,baz=280,slow=5.4
VSL Villasalto 82.18 51 P **P** **03 53 11.7 -0.1**
VSL IAmb IAmb 03 53 20.3
comp=Z,78nm,1.0s
ROTZ Rotzenmuhle 82.25 41 *e*P **P** **03 53 12.4 +0.5**
comp=Z,64nm,2.4s,baz=280,slow=5.4
TANN Tannenbergstha 82.28 40 *e*P **P** **03 53 12.7 +0.5**
comp=Z,41nm,1.0s,baz=280,slow=5.4
WATA Walderalm 82.30 43 *e*P **P** **03 53 11.9 -0.6**
comp=Z,10nm,0.9s
NKC Novy Kostel 82.31 40 *e*P **P** **03 53 12.4 +0.1**
NKC AMS AMS 04 27 10.0
comp=Z,7μm,17.9s
NKC Novy Kostel 82.31 40 *e*P **P** **03 53 12.4 +0.1**
NKC MLR MLR
comp=Z,7μm,17.9s
WTTA Wattenberg 82.35 43 *e*P **P** **03 53 12.8 +0.1**
comp=Z,19nm,1.1s
CLL Collm 82.44 39 P **P** **03 53 12.7 -0.2**
CLL IAmb IAmb 03 53 23.1
comp=Z,42nm,1.0s
CLL IAMs_20 IAMs_20 04 27 39.6
comp=Z,5μm,19.0s
CLL Collm 82.44 39 *i* P **P** **03 53 13.6 +0.7**
CLL *e*S **S** **04 03 38.0 +7.9**
CLL pmax pmax
comp=Z,43nm,1.0s
CLL MLR MLR
comp=Z,5μm,19.6s
CLL Collm 82.44 39 *e*P **P** **03 53 13.4 +0.5**
comp=Z,37nm,1.0s,baz=280,slow=5.4
CLL Collm 82.44 39 *i* P **P** **03 53 13.6 +0.7**
comp=Z,26nm,1.0s
CLL *e*Plp 03 53 16.0
comp=Z,300nm,11.5s
CLL *i* Pmax 03 53 19.3
comp=Z,43nm,1.0s
CLL *e*Pmax 03 53 20.0
CLL *e*PP **PP** **03 56 14.0 -7.6**
CLL *e*S **S** **04 03 38.0 +7.9**
comp=N,900nm,16.6s
CLL *e*S **S** **04 03 38.0 +7.9**
CLL *e*PS **PnS** **04 04 19.0 +0.7**
CLL *e*SS **SS** **04 08 54.0 +3.5**
CLL *i* PKPPKPdP**P'P'df** **04 19 47.9 +0.5**
comp=Z,4.0nm,1.1s
CLL AMS AMS 04 27 00.0
comp=Z,5μm,19.6s
HAMF Hammerfest 82.55 19 *e*P **P** **03 53 16.9 +3.9**
HAMF IVmB_BB 03 53 28.5
comp=Z,4μm,4.8s
HAMF *e*S **S** **04 03 29.8 -0.7**
HAMF *e*SS **SS** **04 08 50.9 -0.2**
HAMF IVMs_BB IVMs_BB 04 22 33.0
comp=Z,4μm,3.4s
CTI Castel Tesino 82.59 45 P **P** **03 53 13.4 -0.5**
CTI Castel Tesino 82.59 45 P **P** **03 53 13.4 -0.5**
CTI pmax pmax
comp=Z,28nm,1.0s
RUE Ruedersdorf 82.68 38 *e*P **P** **03 53 15.3 +1.2**
BSD Bornholm Skovb 82.78 35 *e*P **P** **03 53 15.8 +1.2**
BSD Bornholm Skovb 82.78 35 *i* P **P** **03 53 16.6 +2.1**
BSD IAmb IAmb 03 53 21.3
comp=Z,63nm,0.9s
WET Wettzell 82.80 41 *e*P **P** **03 53 15.5 +0.6**
comp=Z,41nm,1.1s,baz=280,slow=5.4
KEST Kesra 82.85 55 P **P** **03 53 16.6 +1.1**
comp=Z,28nm,1.0s,baz=190,slow=7.0,SNR=10
KEST LR LR 04 29 43.6
comp=Z,3μm,18.0s,baz=292,slow=35
comp=Z,28nm,1.0s
HSKC Hora Svate Kat 82.85 40 *e*P **P** **03 53 15.7 +0.6**
HSKC AMS AMS 04 25 40.0
comp=Z,6μm,19.5s
KTK1 Kautokeino 82.92 21 *e*P **P** **03 53 17.1 +2.1**
KTK1 IVmBBB 03 53 21.8
comp=Z,2μm,1.0s
KTK1 *e*S **S** **04 03 33.9 -0.4**
KTK1 *e*SS **SS** **04 08 59.5 +2.9**
KTK1 IVMs_BB IVMs_BB 04 28 18.3
comp=Z,3μm,4.0s
LESA Schwarzleotal 83.02 43 *e*pP pP 03 53 17.7 +1.1
comp=Z,23nm,1.0s
ABTA Abfaltersbach 83.04 44 *e*P **P** **03 53 17.0 +0.8**
comp=Z,29nm,0.9s,SNR=17
BRG Berggiesshubel 83.11 39 *e*P **P** **03 53 18.0 +1.6**
BRG Amp 03 53 24.7
comp=Z,48nm,1.0s
BRG Berggiesshubel 83.11 39 *e*P **P** **03 53 18.0 +1.6**
BRG S **SKSac** **04 03 40.0 +0.7**
BRG pmax pmax
comp=Z,48nm,1.0s
BRG pmax pmax
comp=Z,31nm,1.2s
BRG pmax pmax
comp=Z,35nm,1.2s
BRG MLR MLR
comp=Z,4μm,18.5s
BRG MLR MLR
comp=N,3μm,17.9s
BRG MLR MLR
comp=E,4μm,18.2s
BRG Berggiesshubel 83.11 39 *e*P **P** **03 53 17.0 +0.6**
comp=E,48nm,1.0s,baz=280,slow=5.4
KHC Kasperske Hory 83.25 41 IAmb IAmb 03 53 26.7
comp=Z,42nm,1.1s
KHC Kasperske Hory 83.25 41 *e*P **P** **03 53 17.5 +0.3**
KHC *e*S **S** **04 03 37.4 -1.2**
KHC AMS AMS 04 26 20.0
comp=Z,12μm,18.6s
KHC Kasperske Hory 83.25 41 *e*P **P** **03 53 17.5 +0.3**
KHC *e*S **S** **04 03 37.4 -1.2**
KHC MLR MLR
comp=Z,12μm,18.6s
RICC Richard 83.28 40 *e*P P 03 53 22.2 +5.0
GEC2 GERESS Array S 83.39 42 IAmb IAmb 03 53 26.0
comp=Z,51nm,1.0s
GEC2 GERESS Array S 83.39 42 *e*P **P** **03 53 18.2 +0.2**
comp=Z,50nm,1.0s,baz=280,slow=5.4
GERES GERESS Array B 83.39 42 P **P** **03 53 17.6 -0.4**
GERES GERESS Array B 83.39 42 P **P** **03 53 18.2 +0.2**
comp=Z,16nm,0.9s,baz=270,slow=4.0,SNR=26
GERES PKKPbc **PKKPbc** **04 11 40.5 +1.9**
comp=Z,0.3nm,0.5s,baz=99,slow=6.1,SNR=3.5
GERES LR LR 04 27 24.9
comp=Z,11μm,19.0s,baz=278,slow=34
comp=Z,16nm,0.9s
ARA0 ARCESS Array S 83.51 20 *e*P **P** **03 53 18.9 +0.9**
ARA0 IVmB_BB 03 53 44.3
comp=Z,3μm,3.7s
ARA0 *e*S **SKSac** **04 03 40.9 -0.4**
ARA0 *e*SS **SS** **04 09 07.2 +1.9**
ARA0 IVMs_BB IVMs_BB 04 25 16.9
comp=Z,3μm,4.0s
ARCES ARCESS Array B 83.51 20 P **P** **03 53 17.9 -0.1**
comp=Z,13nm,0.8s,baz=284,slow=4.2,SNR=34
ARCES LR LR 04 27 21.4
comp=Z,3μm,20.8s,baz=295,slow=33
comp=Z,13nm,0.8s
ARCES ARCESS Array B 83.51 20 P **P** **03 53 18.0 -0.1**
KBA Koelnbreinsper 83.53 43 *e*P **P** **03 53 18.9 +0.1**
comp=Z,64nm,1.5s,SNR=17
PVCC Panska Ves 83.58 40 *e*P **P** **03 53 21.6 +2.8**
PVCC AMS AMS 04 26 00.0
comp=Z,4μm,19.6s
PVCC Panska Ves 83.58 40 *e*P **P** **03 53 21.6 +2.8**
PVCC MLR MLR
comp=Z,4μm,19.6s
ZVC Zvikov 83.58 41 *e*P **P** **03 53 20.1 +1.3**
ZVC AMS AMS 04 26 50.0
comp=Z,12μm,19.3s
BIOA Bad Ischl, Aus 83.60 43 *e*P **P** **03 53 19.0 +0.1**
comp=Z,81nm,1.9s,SNR=16
PRU Pruhonice 83.68 40 *e*P **P** **03 53 21.6 +2.3**
PRU *e*S **S** **04 03 41.9 -0.8**
PRU AMS AMS 04 29 10.0
comp=Z,9μm,18.8s
PRU Pruhonice 83.68 40 *e*P **P** **03 53 21.6 +2.3**
PRU *e*S **S** **04 03 41.9 -0.8**
PRU MLR MLR
comp=Z,9μm,18.8s
CKRC Cesky Krumlov 83.79 41 *e*P **P** **03 53 21.7 +1.8**
CKRC *e*S **S** **04 03 47.4 +3.4**
CKRC AMS AMS 04 26 50.0
comp=Z,10μm,19.1s
CKRC Cesky Krumlov 83.79 41 *e*P **P** **03 53 21.7 +1.8**
CKRC *e*S **S** **04 03 47.4 +3.4**
CKRC MLR MLR
comp=Z,10μm,19.1s
PRED Cave del Predi 83.81 44 P **P** **03 53 20.0 -0.2**
ROBS Robic 83.82 44 *i* P **P** **03 53 20.4 +0.3**
ROBS *i* SKSac **SKSac** **04 03 42.2 -2.0**
ROBS *e*SS **SS** **04 09 12.1 +1.0**
MYKA Terra Mystica 83.83 44 *e*P **P** **03 53 19.7 -0.6**
comp=Z,39nm,1.0s,SNR=13
GOPC GO Pecny, Ondr 83.85 40 *e*S **SKSac** **04 03 40.6 -3.7**
GOPC AMS AMS 04 28 00.0
comp=Z,9μm,17.8s
KEV Kevo 83.92 19 IAMs_20 IAMs_20 04 32 10.7
comp=Z,3μm,19.0s
CESX Cesi 83.94 48 P **P** **03 53 20.0 -0.8**
CESX IAmb IAmb 03 53 28.4
comp=Z,73nm,1.1s
CESX IAMs_20 IAMs_20 04 28 41.0
comp=Z,4μm,20.0s
MOA Molln 83.97 42 *e*P **P** **03 53 21.0 +0.1**
comp=Z,30nm,1.0s
SKDS Skadanscina 84.32 45 *e*P **P** **03 53 23.8 +1.1**
RAR Rarotonga 84.38 247 P P 03 53 30.1 +6.8
comp=Z,5.3nm,0.4s,baz=52,slow=1.7,SNR=3.6
RAR LR LR 04 22 38.6
comp=Z,2μm,18.8s,baz=77,slow=30
TREC Trest 84.44 41 *e*P **P** **03 53 24.7 +1.5**
TREC *e*S **S** **04 03 50.8 +0.4**
TREC Trest 84.44 41 *e*P **P** **03 53 24.7 +1.5**
TREC *e*S **S** **04 03 50.8 +0.4**
OBKA Obir 84.46 44 *e*P **P** **03 53 24.3 +0.8**
comp=Z,48nm,1.1s
OBKA Obir 84.46 44 *e*P **P** **03 53 24.3 +0.8**
UPC Upice 84.48 40 *e*P **P** **03 53 25.8 +2.4**
UPC *e*S **SKSac** **04 03 46.5 -1.8**
UPC AMS AMS 04 31 50.0
comp=Z,4μm,19.8s
UPC Upice 84.48 40 *e*P **P** **03 53 25.8 +2.4**
UPC *e*S **SKSac** **04 03 46.5 -1.8**
UPC MLR MLR
comp=Z,4μm,19.8s
CHVC Chvalec 84.49 39 *e*P **P** **03 53 25.7 +2.2**
CHVC AMS AMS 04 31 40.0
comp=Z,4μm,19.8s
CHVC Chvalec 84.49 39 *e*P **P** **03 53 25.7 +2.2**
CHVC MLR MLR
comp=Z,4μm,19.8s
VADS Vadso 84.53 19 IVmB_BB 03 53 24.2
comp=Z,2μm,3.0s
VADS *e*P **P** **03 53 25.2 +2.0**
VADS *e*S **S** **04 03 49.4 -1.1**
VADS *e*SS **SS** **04 09 24.4 +4.1**
VADS IVMs_BB IVMs_BB 04 35 27.9
comp=Z,3μm,3.9s
GKP Gorka Klasztor 84.54 37 *e*P **P** **03 53 24.5 +0.9**
GKP Gorka Klasztor 84.54 37 *e*P **P** **03 53 25.2 +1.6**
LJU Ljubljana 84.56 44 *i* P **P** **03 53 24.6 +0.7**
LJU *e* 03 53 30.6
LJU *e*SKSac **SKSac** **04 03 47.4 -1.5**
VAF Ylistaro 84.56 26 *e*P **P** **03 53 24.6 +1.2**
KSP Ksiaz 84.57 39 *e*P **P** **03 53 25.0 +1.1**
OSTC Ostas 84.59 39 AMS AMS 04 31 50.0
comp=Z,4μm,19.7s
DPC Dobruska-Polom 84.71 40 *e*P **P** **03 53 25.8 +1.2**
DPC AMS AMS 04 31 50.0
comp=Z,4μm,18.3s
DPC Dobruska-Polom 84.71 40 *e*P **P** **03 53 25.8 +1.2**
DPC MLR MLR
comp=Z,4μm,18.3s
SOKA Soboth 84.75 43 *e*P **P** **03 53 25.3 +0.3**
comp=Z,31nm,1.3s,SNR=9.8
RAF Rauma 84.77 28 *e*P **P** **03 53 25.6 +1.0**
ARSA Arzberg 84.94 43 P **P** **03 53 25.0 -0.8**
comp=Z,14nm,1.5s
CONA Conrad Observa 85.00 42 *e*P **P** **03 53 26.7 +0.5**
comp=Z,28nm,0.9s,SNR=20
KRLC Kraliky 85.06 40 *e*P **P** **03 53 29.0 +2.6**
KRLC AMS AMS 04 35 50.0
comp=Z,5μm,17.0s
KRLC Kraliky 85.06 40 *e*P **P** **03 53 29.0 +2.6**
KRLC MLR MLR
comp=Z,5μm,17.0s
KRUC Moravsky 85.07 41 *e*P **P** **03 53 27.0 +0.6**
KRUC Moravsky 85.07 41 *e*S **S** **04 03 55.8 -0.9**
VRAC Vranov 85.14 41 LR LR 04 28 32.3
comp=Z,11μm,18.9s,baz=271,slow=34
VRAC Vranov 85.14 41 *e*P **P** **03 53 27.6 +0.9**
VRAC Vranov 85.14 41 *e*S **S** **04 03 56.7 -0.7**
VRAC Vranov 85.14 41 ⇑P **P** **03 53 29.5 +2.7**
VRAC Vranov 85.14 41 ⇑P **P** **03 53 29.5 +2.7**
BOJS Bojanci 85.17 45 *e*P **P** **03 53 28.5 +1.5**
RONA Rosalia, Austr 85.34 42 *e*P **P** **03 53 28.5 +0.6**
comp=Z,41nm,1.1s,SNR=25
MORC Moravsky Berou 85.61 40 P **P** **03 53 29.0 -0.1**
MORC Moravsky Berou 85.61 40 *e*P **P** **03 53 30.8 +1.6**
MORC Moravsky Berou 85.61 40 *e*S **S** **04 04 03.3 +1.1**
MORC Moravsky Berou 85.61 40 ⇓P **P** **03 53 31.8 +2.6**
MORC Moravsky Berou 85.61 40 ⇓P **P** **03 53 31.8 +2.6**
PAOL Paolisi 85.74 49 IAMs_20 IAMs_20 04 27 25.5
comp=Z,6μm,21.0s
KEF Keuruu 85.81 27 *e*P **P** **03 53 31.0 +1.2**
MODS Modra-Piesok 85.81 41 *e*P **P** **03 53 31.6 +1.5**
MODS pmax pmax
comp=Z,315nm,2.3s
MODS Modra-Piesok 85.81 41 *e*P **P** **03 53 31.6 +1.5**
SMOL Smolenice 85.87 41 *e*P **P** **03 53 31.7 +1.3**
SMOL pmax pmax
comp=Z,36nm,1.9s
MAUC Maruska 85.90 40 *e*P **P** **03 53 33.5 +2.9**
JAVC Velka Javorina 85.94 41 *e*P **P** **03 53 32.9 +2.1**
JAVC Velka Javorina 85.94 41 *e*S **S** **04 04 01.9 -3.5**
BEHE Becsehely 85.97 43 P **P** **03 53 30.9 0.0**
BEHE IAmb IAmb 03 53 40.5
comp=Z,53nm,1.0s
OKC Ostrava-Krasne 85.98 40 *e*S **S** **04 04 06.8 +1.2**
OKC AMS AMS 04 28 40.0
comp=Z,7μm,18.5s
SLIT Slitere, Latvi 86.07 32 *e*P **P** **03 53 31.8 +0.7**
BILL Bilibino 86.08 340 P **P** **03 53 30.8 -0.2**
BILL IAMs_20 IAMs_20 04 37 15.1
comp=Z,5μm,18.0s
BILL Bilibino 86.08 340 ⇑P **P** **03 53 31.6 +0.6**
MEF Metsahovi 86.26 29 *e*P **P** **03 53 33.2 +1.2**
A050A Klekovaca 86.30 45 *e*P **P** **03 53 36.8 +4.1**
PBUR Paburge 86.39 33 *e*P **P** **03 53 34.0 +1.3**
A051A Mrakovica 86.43 45 *e*P **P** **03 53 34.7 +1.4**
VAE Valguarnera 86.46 52 LR LR 04 28 10.0
comp=Z,9μm,20.0s,baz=310,slow=33
MTSE Matsula 86.49 30 *e*P **P** **03 53 34.5 +1.4**
FINES FINESS Array B 86.60 27 P **P** **03 53 33.4 -0.3**
FINES FINESS Array B 86.60 27 P **P** **03 53 33.2 -0.5**
comp=Z,41nm,0.9s,baz=264,slow=1.7,SNR=33
FINES LR LR 04 27 35.0
comp=Z,3μm,21.5s,baz=282,slow=32
comp=Z,41nm,0.9s
FINES FINESS Array B 86.60 27 P **P** **03 53 33.4 -0.3**
FIA1 FINESS Array S 86.60 27 P **P** **03 53 33.9 +0.3**
SRO Srobarova 86.63 42 *e*P **P** **03 53 35.4 +1.3**
SRO pmax pmax
comp=Z,19nm,1.3s
SRO Srobarova 86.63 42 *e*P **P** **03 53 35.4 +1.3**
BLY Banja Luka 86.69 45 *e*P **P** **03 53 35.9 +1.4**
VYHS Vyhne 86.78 41 *e*P **P** **03 53 35.7 +0.8**
VYHS pmax pmax
comp=Z,101nm,2.3s
VYHS Vyhne 86.78 41 *e*P **P** **03 53 35.6 +0.7**
OJC Ojcow 86.89 39 *e*P **P** **03 53 37.1 +1.7**
OJC Ojcow 86.89 39 P **P** **03 53 35.7 +0.3**
OJC IAmb IAmb 03 53 43.8
comp=Z,52nm,1.1s
OJC Ojcow 86.89 39 P **P** **03 53 35.7 +0.3**
OJC pmax pmax
comp=Z,52nm,1.1s
WDD Wied Dalam 86.94 54 IAMs_20 IAMs_20 04 28 09.6
comp=Z,4μm,20.0s
APA Apatity 86.96 20 ⇓*i* P **P** **03 53 34.4 -0.9**
APA *i* 03 56 58.1
APA *i* S **S** **04 04 11.0 -3.5**
APA *i* SS **SS** **04 10 01.0 +4.9**
APA pmax pmax
comp=Z,23nm,1.1s
LANS Liptovska Anna 86.99 40 *e*P **P** **03 53 38.6 +2.6**
LANS pmax pmax
comp=Z,12nm,1.2s
LANS Liptovska Anna 86.99 40 *e*P **P** **03 53 38.6 +2.6**
LVZ Lovozero 87.22 20 IAMs_20 IAMs_20 04 27 17.9
comp=Z,5μm,21.0s
LVZ Lovozero 87.22 20 *i* P **P** **03 53 37.4 +0.7**
LVZ pmax pmax
comp=Z,103nm,1.2s
LVZ MLR MLR
comp=Z,3μm,16.0s
MORH Mrgy, Hungar 87.28 43 ⇑P **P** **03 53 40.0 +2.7**
ARBE Arbavere 87.28 29 *e*P **P** **03 53 38.3 +1.3**
MATE Matera 87.41 49 *e*P **P** **03 53 40.0 +2.0**
MATE Matera 87.41 49 ⇓P **P** **03 53 41.6 +3.5**
CEL Celeste 87.41 51 IAMs_20 IAMs_20 04 29 00.6
comp=Z,3μm,20.0s
NIE Niedzica 87.44 40 *e*P **P** **03 53 40.0 +1.9**
VSVD Vaisvydziai 87.46 33 *e*P **P** **03 53 39.2 +1.2**
PSZ Piszkesteto 87.62 41 IAmb IAmb 03 53 50.3
comp=Z,62nm,0.9s
PSZ Piszkesteto 87.62 41 *e*P **P** **03 53 41.9 +2.8**
PSZ Piszkesteto 87.62 41 ⇑P **P** **03 53 41.1 +2.0**
PSZ Piszkesteto 87.62 41 ⇑P **P** **03 53 41.1 +2.0**
PABE Paberze 87.64 33 *e*P **P** **03 53 39.8 +1.0**
SUW Suwalki 87.71 35 *e*P **P** **03 53 40.0 +0.8**
SUW Suwalki 87.71 35 IAMs_20 IAMs_20 04 30 30.4
comp=Z,4μm,21.0s
SUW Suwalki 87.71 35 *e*P **P** **03 53 40.4 +1.1**
TIP Timpagrande 87.83 50 IAmb IAmb 03 53 47.0
comp=Z,48nm,1.1s
TIP Timpagrande 87.83 50 ⇑P **P** **03 53 42.5 +2.3**
KECS Kecovo 87.83 41 *e*P **P** **03 53 43.0 +3.0**
KECS pmax pmax
comp=Z,16nm,0.9s
KECS Kecovo 87.83 41 *e*P **P** **03 53 43.0 +3.0**
VSU Vasula 88.01 30*ce*P **P** **03 53 42.5 +2.0**
VSU pmax pmax
comp=Z,112nm,1.0s
STHS Stebnicka Huta 88.03 40 *e*P **P** **03 53 43.1 +2.2**
STHS pmax pmax
comp=Z,9.0nm,1.1s
STHS Stebnicka Huta 88.03 40 *e*P **P** **03 53 43.1 +2.2**
JOF Joensuu 88.26 25 *e*P **P** **03 53 42.9 +1.2**
TEKS Tekeris 88.35 45 *e*P **P** **03 53 45.0 +2.4**
FRGS Fruska Gora 88.37 44 *e*P **P** **03 53 43.1 +0.5**
SHEM Shemya Is, Ala 88.39 324 LR LR 04 34 10.3
comp=Z,1μm,20.4s,baz=72,slow=36
KOLS Kolonicke sedl 88.82 40 *e*P **P** **03 53 47.0 +2.3**
KOLS pmax pmax
comp=Z,12nm,1.2s
KOLS Kolonicke sedl 88.82 40 *e*P **P** **03 53 47.0 +2.3**
KWP Kalwaria Pacla 88.86 39 *e*P **P** **03 53 47.3 +2.4**
KWP Kalwaria Pacla 88.86 39 IAMs_20 IAMs_20 04 32 42.3
comp=Z,3μm,19.0s
SJES Sjenica 89.03 46 *e*P **P** **03 53 47.6 +1.7**
PUL Pulkovo 89.18 28 *i* P **P** **03 53 46.7 +0.6**
PUL pmax pmax
comp=Z,60nm,0.8s
PUL MLR MLR
comp=Z,3μm,18.0s
SIRR Siria 89.27 43 ⇓P **P** **03 53 47.9 +1.1**
PUK Puka 89.33 47 IAMs_20 IAMs_20 04 28 51.1
comp=Z,4μm,20.0s
NACGM Naroch 89.37 33 *e*P **P** **03 53 47.4 +0.3**
comp=E,3μm,1.1s
BZS Buzias 89.44 43 ⇑P **P** **03 53 49.3 +1.7**
BZS Buzias 89.44 43 ⇑P **P** **03 53 49.3 +1.7**
TIR Tirane 89.51 48 IAMs_20 IAMs_20 04 31 45.0
comp=Z,5μm,19.0s
SURR Surduc 89.74 43 ⇑P **P** **03 53 51.7 +2.7**
MDVR Moldovita 89.77 44 ⇑P **P** **03 53 52.2 +3.0**
DRGR 89.79 42 ⇑P **P** **03 53 50.6 +1.3**
DRGR 89.79 42 ⇑P **P** **03 53 50.6 +1.3**
KEK Kerkira 89.94 49 IAMs_20 IAMs_20 04 29 57.4
comp=Z,5μm,21.0s
BMR Baia Mare 90.00 41 ⇑P **P** **03 53 53.0 +2.8**
BMR Baia Mare 90.00 41 ⇑P **P** **03 53 53.0 +2.8**
MARR Marisel-Cluj 90.09 42 ⇓P **P** **03 53 51.7 +1.0**
MNK Minsk 90.11 33 *i* P **P** **03 53 53.1 +2.6**
comp=E,25nm,0.9s
MNK *i* P **P** **03 53 53.1 +2.6**
comp=N,33nm,1.0s
MNK *i* P **P** **03 53 53.1 +2.6**
comp=Z,86nm,0.9s,baz=293
MNK *i* PP **PP** **03 57 23.8 +0.4**
MNK *i* PPP PPP 03 59 20.7
MNK *i* S **SKSac** **04 04 24.0 +1.5**
MNK *i* PS **PS** **04 05 51.7 +0.9**
MNK *i* SS **SS** **04 10 43.8 +1.3**
MNK *i* SSS SSS 04 14 19.9
MNK *i* LQ LQ 04 23 31.4
MNK *i* LR LR 04 32 37.4
MNK *i* LRM MLR 04 36 13.2
comp=E,3μm,15.7s
MNK *i* LRM MLR 04 36 34.5
comp=N,3μm,17.9s
MNK *i* LRM MLR 04 37 25.4
comp=Z,3μm,16.0s
MNK Minsk 90.11 33 *i* P **P** **03 53 53.1 +2.6**
MNK *i* 03 57 23.7
MNK *i* PPP PPP 03 59 20.7
MNK *i* S **SKSac** **04 04 24.0 +1.5**
MNK *i* PS **PS** **04 05 51.7 +0.9**
MNK *i* SS **SS** **04 10 43.8 +1.3**
MNK *i* SSS SSS 04 14 19.9
MNK pmax pmax
comp=N,33nm,1.0s
MNK pmax pmax
comp=E,25nm,0.9s
MNK pmax pmax
comp=Z,86nm,0.9s
MNK MLR MLR
comp=E,3μm,16.0s
MNK MLR MLR
comp=N,3μm,18.0s
MNK MLR MLR
comp=Z,3μm,16.0s
HERR Herculane 90.21 44 ⇓P **P** **03 53 53.2 +2.0**
OHR Ohrid 90.26 48 *i* P P 03 53 40.1 -12
GZR Gura Zlata 90.29 43 ⇑P **P** **03 53 53.5 +1.8**
GZR Gura Zlata 90.29 43 ⇑P **P** **03 53 53.5 +1.8**
CJR Cluj-Napoca 90.39 42 ⇑P **P** **03 53 54.0 +1.9**

CJR	Cluj-Napoca	90.39	42	⇑P		P	03 53 54.0	+1.9
ARCR	ARCALIA	90.75	41	⇑P		P	03 53 55.6	+1.9
FNA	Florina	90.77	48	IAMs_20	IAMs_20		04 32 46.5	
	comp=Z,5μm,20.0s							
FNA	Florina	90.77	48	P		P	03 53 51.4	-2.6
PENT	Pentalofos	90.78	48	P		P	03 53 57.0	+2.9
SRE	Strehaia	90.81	44	⇑P		P	03 53 57.5	+3.4
SRE	Strehaia	90.81	44	⇑P		P	03 53 57.5	+3.4
MDB	Medias	91.09	42	⇓P		P	03 53 58.2	+2.9
MDB	Medias	91.09	42	⇓P		P	03 53 58.2	+2.9
BURAR	Bucovina Array	91.11	40	⇑P		P	03 53 58.1	+2.6
BURAR	Bucovina Array	91.11	40	⇑P		P	03 53 58.1	+2.6
KZN	Kozani	91.21	48	P		P	03 53 57.8	+1.7
VALD	Valchedram	91.29	45	*e*P		P	03 54 00.8	+4.5
VAY	Valandovo	91.46	47	*i* P		P	03 53 58.7	+1.5
VTS	Vitosha	91.51	46	*e*P		P	03 53 59.0	+1.5
ARR	Arges	91.53	43	⇓P		P	03 53 59.0	+1.6
MPEP	Malo Peshtene	91.61	45	*e*P		P	03 53 59.6	+1.8
THL	Klokotos Trika	91.62	49	P		P	03 53 59.3	+1.4
EVR	Evrytania	91.67	50	P		P	03 54 01.3	+3.0
PLNA	Plana	91.69	46	*e*P		P	03 54 00.4	+2.1
KKB	Krupnik	91.69	46	*e*P		P	03 54 01.3	+3.1
KNT	Kendrikon	91.75	47	P		P	03 54 00.2	+1.7
DOPR	Dopca	91.81	42	⇑P		P	03 54 01.4	+2.7
PRAR	RASCA	91.85	40	⇓P		P	03 54 02.2	+3.4
DRO	Drossia	91.90	50	P		P	03 54 01.1	+1.8
STFAR	Stefanesti-Arg	91.92	43	⇓P		P	03 54 01.2	+2.0
BIZ	Bicaz	91.92	41	⇑P		P	03 54 00.9	+1.7
HUMR	Humele	92.05	43	⇓P		P	03 54 02.7	+2.9
SOH	Sokhos	92.18	47	P		P	03 54 03.1	+2.5
TURR	Turia	92.19	42	⇑P		P	03 54 02.3	+1.8
KLV	Kalavryta, Ach	92.20	50	P		P	03 54 06.9	+6.2
MMB	Musomishta	92.22	47	*e*P		P	03 54 01.8	+1.1
ITM	Ithomi	92.30	51	IAMs_20	IAMs_20		04 34 31.1	
	comp=Z,3μm,20.0s							
ONER	Baraj Valea Uz	92.33	41	⇓P		P	03 54 03.8	+2.8
MLR	Muntele Rosu	92.35	42	LR	LR		04 32 52.8	
	comp=Z,8μm,19.4s,baz=285,slow=34							
MLR	Muntele Rosu	92.35	42	⇓P		P	03 54 03.8	+2.5
KIEV	Kiev	92.37	37	P		P	03 54 03.0	+1.9
KIEV	Kiev	92.37	37	⇑P		P	03 54 03.1	+2.0
KIEV	Kiev	92.37	37	⇑P		P	03 54 03.1	+2.0
NVR	Nevrokopi	92.37	47	P		P	03 54 03.4	+2.0
AKASG	Malin Array Be	92.38	37	P		P	03 54 01.7	+0.6
	comp=Z,6.2nm,0.8s,baz=296,slow=3.7,SNR=16							
AKASG				LR	LR		04 31 59.2	
	comp=Z,5μm,21.1s,baz=275,slow=33							
	comp=Z,6.2nm,0.8s							
AKASG	Malin Array Be	92.38	37	*i* P		P	03 54 02.0	+0.9
AKASG				pmax	pmax			
	comp=Z,9.0nm,0.8s							
AKBB	Malin Array Si	92.38	37	*ce*P		P	03 54 03.1	+2.0
AKBB				pmax	pmax			
	comp=Z,13nm,0.9s							
COVR	Voineasa-Covas	92.39	42	⇑P		P	03 54 04.2	+2.8
PLG	Polygyros	92.40	48	P		P	03 54 02.5	+1.0
KOKK	Kokkinochori,	92.65	47	P		P	03 54 03.4	+0.8
KLMR	Klimovskoe	92.66	25	*e*P		P	03 54 00.3	-1.9
KLMR				*e*			03 57 45.1	
KLMR				S		SKSac	04 04 34.2	-2.5
KLMR				pmax	pmax			
	comp=Z,127nm,1.4s							
PLOR	Plostina	92.67	42	⇑P		P	03 54 05.7	+3.0
PLOR	Plostina	92.67	42	⇑P		P	03 54 05.7	+3.0
PAIG	Paliouri	92.72	48	P		P	03 54 04.0	+1.0
VRI	Vrincioaia	92.72	42	⇑P		P	03 54 04.8	+1.9
VRI	Vrincioaia	92.72	42	⇑P		P	03 54 04.8	+1.9
RZN	Rozhen	92.87	46	*e*P		P	03 54 05.4	+1.5
SORM	Soroca	92.88	39	⇓P		P	03 54 04.6	+1.1
SORM	Soroca	92.88	39	⇓P		P	03 54 04.6	+1.1
TIXI	Tiksi	93.05	351	P		P	03 54 03.0	-0.8
TIXI				IAmb	IAmb		03 54 10.5	
	comp=Z,48nm,1.1s							
TIXI	Tiksi	93.05	351	LR	LR		04 38 22.8	
	comp=Z,7μm,19.2s,baz=38,slow=37							
TIXI	Tiksi	93.05	351	*i* P		P	03 54 04.6	+0.8
TIXI				pmax	pmax			
	comp=Z,48nm,1.0s							
TIXI				MLR	MLR			
	comp=Z,8μm,18.0s							
GHRR		93.09	41	⇑P		P	03 54 07.6	+3.1
SZH	Strazhitsa	93.17	44	*e*P		P	03 54 08.4	+3.4
ELND	Elena	93.22	45	⇓P		P	03 54 07.8	+2.5
RDO	Rodhopi	93.63	46	IAmb	IAmb		03 54 15.2	
	comp=Z,40nm,1.3s							
RDO				IAMs_20	IAMs_20		04 34 04.0	
	comp=Z,4μm,20.0s							
RDO	Rodhopi	93.63	46	P		P	03 54 07.2	+0.1
MILM	Milestii Mici	93.65	40	⇑P		P	03 54 09.3	+2.2
MILM	Milestii Mici	93.65	40	⇑P		P	03 54 09.3	+2.2
SEY	Seymchan	93.69	338	LR	LR		04 42 54.7	
	comp=Z,4μm,18.6s,baz=60,slow=40							
SEY	Seymchan	93.69	338	*e*P		P	03 54 09.6	+2.7
SEY				pmax	pmax			
	comp=Z,17nm,0.9s							
AFI	Afiamalu	93.69	257	IAMs_20	IAMs_20		04 30 33.4	
	comp=Z,2μm,18.0s							
SMTH	Samothraki Isl	93.86	47	P		P	03 54 07.5	-0.8
CFR	Carcaliu	93.90	42	⇑P		P	03 54 10.9	+2.6
CFR	Carcaliu	93.90	42	⇑P		P	03 54 10.9	+2.6
ALN	Alexandroupoli	94.07	47	IAMs_20	IAMs_20		04 34 18.0	
	comp=Z,3μm,19.0s							
ALN	Alexandroupoli	94.07	47	P		P	03 54 10.1	+0.9
OBN	Obninsk	94.33	31	*ce*P		P	03 54 10.1	+0.1
OBN				*i*			03 54 15.7	
OBN				*e*			03 57 56.3	
OBN				*e*S		SKSac	04 04 47.0	+0.9
OBN				*e*SS	SS		04 11 54.7	+12
OBN				pmax	pmax			
	comp=Z,35nm,1.3s							
OBN				MLR	MLR			
	comp=Z,3μm,18.0s							
BELA	Belgrano 2	94.52	171	P		P	03 54 10.1	-0.3
MOS	Moscow	94.53	30	*e*P		P	03 54 09.6	-1.3
MOS				*e*			03 57 58.9	
MOS				pmax	pmax			
	comp=Z,25nm,0.6s							
MOS				MLR	MLR			
	comp=Z,3μm,18.0s							
EZN	Ezine	94.66	47	P		P	03 54 11.2	-0.7
IDI	Anoyia	95.18	52	LR	LR		04 33 01.5	
	comp=Z,1μm,21.1s,baz=301,slow=33							
MA2	Magadan	96.41	336	LR	LR		04 41 45.4	
	comp=Z,3μm,18.2s,baz=40,slow=38							
VNA3	Neumayer Olymp	96.51	162	⇑P		P	03 54 19.2	-0.4
	comp=Z,3.8nm,0.8s							
VNA3				⇑PP		PP	03 58 17.1	+3.4
	comp=Z,7.4nm,0.9s							
PET	Petropavlovsk	96.67	328	IAMs_20	IAMs_20		04 35 48.8	
	comp=Z,3μm,21.0s							
VNA1	Neumayer--Stat	96.73	161	⇑P		P	03 54 19.9	-0.6
	comp=Z,9.4nm,0.9s							
VNA1				⇑PP		PP	03 58 20.8	+5.5
	comp=Z,10nm,1.0s							
KARP	Karpathos	96.83	51	IAMs_20	IAMs_20		04 43 55.1	
	comp=Z,3μm,18.0s							
LPSR	Galich'ya Gora	96.83	32	*e*P		P	03 54 23.9	+2.4
LPSR				pmax	pmax			
	comp=Z,50nm,0.9s							
LPSR				MLR	MLR			
	comp=Z,5μm,18.0s							
VNA2	Neumayer--Watz	97.09	161	⇑PP	PKiKP		03 58 21.9	-36
	comp=Z,2.7nm,0.6s,baz=327,slow=6.5							
PETK	Petropavlovsk-	97.12	329	P		P	03 54 22.7	-0.1
	comp=Z,6.9nm,1.1s,baz=333,slow=4.8,SNR=2.2							
PETK				LR	LR		04 43 08.9	
	comp=Z,2μm,18.5s,baz=50,slow=38							
	comp=Z,6.9nm,1.1s							
NRIK	Noril'sk	97.36	4	IAmb	IAmb		03 54 29.7	
	comp=Z,23nm,1.3s							
NRIK	Noril'sk	97.36	4	P	Pdif		03 54 24.1	+0.5
	comp=Z,7.8nm,0.9s,baz=294,slow=1.8,SNR=7.4							
NRIK				LR	LR		04 39 26.2	
	comp=Z,4μm,20.3s,baz=1.5,slow=36							
	comp=Z,7.8nm,0.9s							
NRIK	Noril'sk	97.36	4	*i* P	Pdif		03 54 24.2	+0.6
NRIK				pmax	pmax			
	comp=Z,11nm,1.1s							
NRIK				MLR	MLR			
	comp=Z,7μm,18.0s							
VORR	Voronezh	97.47	33	*e*P	Pdif		03 54 26.4	+1.9
VORR				pmax	pmax			
	comp=Z,20nm,1.1s							
VORR				MLR	MLR			
	comp=Z,5μm,15.0s							
VSR	Storozhevoye	97.69	33	*e*P	Pdif		03 54 26.9	+1.4
VSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
VSR				MLR	MLR			
	comp=Z,5μm,18.0s							
VORD	Divnogorie	97.89	33	*e*P	Pdif		03 54 28.1	+1.8
VORD				pmax	pmax			
	comp=Z,10.0nm,0.8s							
VORD				MLR	MLR			
	comp=Z,1μm,13.0s							
KIRV	Kirov	98.02	24	LR	LR		04 36 17.7	
	comp=Z,2μm,19.2s,baz=323,slow=34							
KIRV	Kirov	98.02	24	*ce*P	Pdif		03 54 28.5	+1.8
SNAA	Sanae	98.72	162	P	P		03 54 29.3	-0.2
SNAA				IAmb	IAmb		03 55 13.3	
	comp=Z,26nm,1.7s							
SNAA				IAMs_20	IAMs_20		04 45 09.9	
	comp=Z,2μm,20.0s							
SNAA	Sanae	98.72	162	⇑PP	PP		03 58 32.3	+1.6
	comp=Z,130nm,1.1s							
SNAA				⇑Pdiff	Pdif		03 54 32.5	+3.0
	comp=Z,23nm,0.6s							
SNAA	Sanae	98.72	162	P	Pdif		03 54 29.7	+0.1
	comp=Z,1.0nm,0.9s,baz=276,slow=16,SNR=1.9							
	comp=Z,1.0nm,0.9s							
SNAA	Sanae	98.72	162	*i* P	Pdif		03 54 30.9	+1.3
SNAA				pmax	pmax			
	comp=Z,14nm,1.6s							
VRH	Novokhopyorsk	99.04	32	*e*P	Pdif		03 54 33.8	+2.3
VRH				pmax	pmax			
	comp=Z,10.0nm,1.2s							
VRH				MLR	MLR			
	comp=Z,7μm,19.0s							
ANTO	Ankara	99.21	45	IAMs_20	IAMs_20		04 36 19.7	
	comp=Z,3μm,20.0s							
BRTR	Keskin Array B	99.86	45	P	Pdif		03 54 34.8	-0.8
	comp=Z,0.6nm,0.8s,baz=325,slow=2.3,SNR=3.9							
BRTR				PKKPbc	PKKPdf		04 10 59.0	-1.4
	comp=Z,0.6nm,0.6s,baz=130,slow=4.2,SNR=4.5							
BRTR				LR	LR		04 40 21.8	
	comp=Z,2μm,18.3s,baz=294,slow=36							
	comp=Z,0.6nm,0.8s							
BRTR	Keskin Array B	99.86	45	*i* P	Pdif		03 54 36.2	+0.6
BRTR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
ANN	Anapa	99.98	39	*e*P	Pdif		03 54 44.9	+9.1
ANN				*e*			03 58 48.0	
ANN				*e*			04 05 59.7	
ANN				*e*SSS	SSS		04 16 54.8	
ANN				pmax	pmax			
	comp=Z,39nm,0.8s							
ANN				MLR	MLR			
	comp=N,6μm,18.0s							
ANN				MLR	MLR			
	comp=Z,7μm,18.0s							
ANN				MLR	MLR			
	comp=E,8μm,18.0s							
TROLL	Troll, Antarti	100.43	162	⇑PP	PP		03 58 41.1	-2.7
	comp=Z,99nm,0.9s							
TROLL				⇑Pdiff	Pdif		03 54 38.2	+0.9
	comp=Z,0.1nm,0.1s							
ERBR	Yeremizino-Bor	101.36	37	*e*P	Pdif		03 54 49.1	+7.2
ERBR				*e*			03 58 52.2	
ERBR				*e*PS	PS		04 08 02.7	+8.6
ERBR				MLR	MLR			
	comp=N,4μm,16.0s							
ERBR				MLR	MLR			
	comp=Z,6μm,19.0s							
ERBR				MLR	MLR			
	comp=E,6μm,20.0s							
CSS	Mathiatis	101.70	50	IAMs_20	IAMs_20		04 38 08.9	
	comp=Z,2μm,21.0s							
SOC	Sochi	102.01	40	*e*P	Pdif		03 54 43.5	-1.4
SOC				*e*			03 58 55.1	
WIN	Windhoek	102.43	110	IAMs_20	IAMs_20		04 39 22.9	
	comp=Z,4μm,20.0s							
CTZ	Chatham Island	102.88	228	IAMs_20	IAMs_20		04 39 25.6	
	comp=Z,2μm,18.0s							
ARTI	Arti	102.98	22	IAMs_20	IAMs_20		04 39 09.5	
	comp=Z,3μm,20.0s							
ARTI	Arti	102.98	22	P	Pdif		03 54 50.6	+1.7
ARTI							03 59 03.2	
ARTI				PPP	PPP		04 01 15.3	
ARTI				S	SKSac		04 05 30.3	+0.6
ARTI				SS	SS		04 13 41.9	-2.0
ARTI				SSS	SSS		04 17 46.6	
QSPA	South Pole Qui	103.09	180	IAMs_20	IAMs_20		04 33 17.5	
	comp=Z,2μm,21.0s							
QSPA	South Pole Qui	103.09	180	Pdiff	Pdif		03 54 50.6	+1.4
	comp=Z,1.2nm,0.9s,baz=355,slow=3.7,SNR=2.2							
QSPA				PP	PP		03 59 06.3	+2.5
	comp=Z,3.2nm,1.1s,baz=148,slow=6.8,SNR=3.9							
QSPA				PKKPbc	PKKPbc		04 10 46.2	-2.4
	comp=Z,3.5nm,1.1s,baz=281,slow=5.0,SNR=4.8							
GAZ	Gaziantep	103.52	46	IAMs_20	IAMs_20		04 42 37.7	
	comp=Z,3μm,19.0s							
KIV	Kislovodsk	103.63	38	IAMs_20	IAMs_20		04 39 49.8	
	comp=Z,3μm,20.0s							
MSVF	Nonsavu	104.03	255	IAMs_20	IAMs_20		04 37 27.3	
	comp=Z,2μm,20.0s							
GURO	Guroymak-BITLI	106.14	43	IAMs_20	IAMs_20		04 41 46.6	
	comp=Z,3μm,20.0s							
MXZ	Matakaoa Point	106.19	234	IAMs_20	IAMs_20		04 33 47.9	
	comp=Z,4μm,21.0s							
ELIB	Princess Elisa	106.88	162	*d*PP	PP		03 59 37.1	+5.3
GNI	Garni	107.02	41	IAMs_20	IAMs_20		04 43 21.9	
	comp=Z,3μm,21.0s							
MAK	Makhachkala	107.06	37	*i* P	Pdif		03 55 04.5	-2.8
MAK				*e*PPP	PPP		04 01 50.1	
MAK				*e*			04 05 40.8	
MAK				*e*			04 06 32.7	
MAK				*e*PS	PS		04 08 53.4	-0.4
MAK				*e*SS	SS		04 14 40.6	+0.1
MAK				*e*SSS	SSS		04 18 42.2	
MAK				pmax	pmax			
	comp=Z,479nm,1.3s							
RTZ	Ruatahuna	107.30	233	IAMs_20	IAMs_20		04 43 21.2	
	comp=Z,3μm,18.0s							
SBA	Scott Base	107.35	192	IAMs_20	IAMs_20		04 35 39.5	
	comp=Z,2μm,20.0s							
BKZ	Black Stump Fm	107.71	233	IAMs_20	IAMs_20		04 36 20.0	
	comp=Z,3μm,19.0s							
BFZ	Birch Farm	107.96	231	IAMs_20	IAMs_20		04 34 56.5	
	comp=Z,2μm,20.0s							
TOZ	Tahuroa Road	108.42	234	IAMs_20	IAMs_20		04 34 47.8	
	comp=Z,2μm,20.0s							
MRZ	Mangatainoka R	108.46	231	IAMs_20	IAMs_20		04 34 52.8	
	comp=Z,3μm,20.0s							
HIZ	Hauiti	108.96	234	IAMs_20	IAMs_20		04 45 55.0	
	comp=Z,3μm,18.0s							
SNZO	South Karori	109.14	231	IAMs_20	IAMs_20		04 35 32.6	
	comp=Z,2μm,21.0s							
BVAR	Borovoye Array	109.72	18	PKKPbc	PKKPbc		04 10 22.9	-4.1
	comp=Z,0.7nm,0.6s,baz=168,slow=1.3,SNR=3.7							
OUZ	Omahuta	109.85	237	IAMs_20	IAMs_20		04 39 31.8	
	comp=Z,2μm,18.0s							
KHZ	Kahutara	110.01	229	IAMs_20	IAMs_20		04 40 26.7	
	comp=Z,2μm,19.0s							
NNZ	Nelson	110.14	231	IAMs_20	IAMs_20		04 36 27.0	
	comp=Z,2μm,21.0s							
GVZ	Greta Valley S	110.38	229	IAMs_20	IAMs_20		04 38 34.3	
	comp=Z,2μm,20.0s							
THZ	Tophouse	110.49	230	IAMs_20	IAMs_20		04 44 51.3	
	comp=Z,2μm,18.0s							
MQZ	McQueen's Vall	110.64	228	IAMs_20	IAMs_20		04 38 25.2	
	comp=Z,2μm,19.0s							
QRZ	Quartz Range	110.78	231	IAMs_20	IAMs_20		04 38 11.1	
	comp=Z,2μm,20.0s							
LTZ	Lake Taylor	110.94	229	IAMs_20	IAMs_20		04 39 44.3	
	comp=Z,2μm,19.0s							
OXZ	Oxford	111.10	228	IAMs_20	IAMs_20		04 38 42.4	
	comp=Z,2μm,19.0s							
DSZ	Denniston Nort	111.31	230	IAMs_20	IAMs_20		04 41 24.1	
	comp=Z,2μm,19.0s							
MBAR	Mbarara	111.43	85	IAMs_20	IAMs_20		04 47 22.1	
	comp=Z,3μm,20.0s							
INZ	Inchbonnie	111.56	229	IAMs_20	IAMs_20		04 39 12.4	
	comp=Z,3μm,21.0s							
ERM	Erimo	111.66	326	IAMs_20	IAMs_20		04 47 30.8	
	comp=Z,4μm,21.0s							
LSZ	Lusaka	111.73	101	IAMs_20	IAMs_20		04 53 29.7	
	comp=Z,3μm,18.0s							
RPZ	Rata Peaks	111.80	228	IAMs_20	IAMs_20		04 40 02.9	
	comp=Z,3μm,18.0s							
ODZ	Otahua Downs	112.03	227	IAMs_20	IAMs_20		04 48 47.7	
	comp=Z,2μm,18.0s							
HEH	HeiHe	112.10	341	Pdif	Pdif		03 55 27.8	-1.8
HEH				AMB	AMB			
	comp=Z,500nm,3.8s							
HEH				LR	LR			
	comp=Z,4μm,18.6s							
HEH				LR	LR			
	comp=Z,5μm,20.0s							
HEH				LR	LR			
	comp=Z,5μm,18.0s							
WKZ	Wanaka	113.19	227	IAMs_20	IAMs_20		04 38 51.6	
	comp=Z,2μm,20.0s							
JTM	Tenmabayashi	113.64	326	IAMs_20	IAMs_20		04 52 45.2	
	comp=Z,3μm,20.0s							
MLZ	Mavora Lakes	113.78	226	IAMs_20	IAMs_20		04 43 03.1	
	comp=Z,3μm,18.0s							
KURK	Kurchatov	114.01	14	*i* PKIKP	PKPdf		03 59 30.0	+0.3
KURBB	Kurchatov Arra	114.08	14	PKP	PKiKP		03 59 27.6	-2.2
	comp=Z,0.6nm,0.6s,baz=333,slow=2.3,SNR=2.7							
KURBB				PKKPbc	PKKPbc		04 10 09.3	-3.2
	comp=Z,0.8nm,0.7s,baz=167,slow=2.8,SNR=3.2							
LODK	Lodwar	114.87	80	IAMs_20	IAMs_20		04 50 05.9	
	comp=Z,3μm,20.0s							
DZM	Mont Dzumac	115.40	252	*e*LR	LR		04 34 15.6	
	comp=Z,2μm,27.1s							
JMM	Marumori	115.83	324	IAMs_20	IAMs_20		04 54 28.3	
	comp=Z,2μm,20.0s							
RAYN	Ar Rayn	116.37	55	IAMs_20	IAMs_20		04 52 36.2	
	comp=Z,2μm,20.0s							
KMBO	Kilima Mbogo	117.88	84	IAMs_20	IAMs_20		04 48 41.9	
	comp=Z,3μm,20.0s							
KMBO	Kilima Mbogo	117.88	84	PKP	PKiKP		03 59 41.6	+3.1
	comp=Z,0.4nm,0.3s,baz=51,slow=19,SNR=1.9							
MAJO	Matsushiro	118.22	325	IAMs_20	IAMs_20		04 58 58.6	
	comp=Z,2μm,20.0s							
CN2	Changchun	118.37	338	*e*PKP	PKPdf		03 59 32.6	-5.8
CN2				*e*PP	PP		04 00 52.3	-1.0
CN2				SKKS			04 07 40.4	
CN2	Changchun	118.37	338	*e*SS	SS		04 17 00.3	-9.4
CN2				AMB	AMB			
	comp=Z,180nm,5.0s							
CN2				LR	LR			
	comp=N,1μm,15.0s							
CN2				LR	LR			
	comp=E,950nm,15.0s							
CN2				LR	LR			
	comp=Z,2μm,17.0s							
MKAR	Makanchi Array	118.53	13	PKP	PKPdf		03 59 36.6	-2.0
	comp=Z,1.1nm,0.9s,baz=34,slow=1.9,SNR=1.6							
MKAR				PKKPbc	PKKPbc		04 09 56.0	-0.8
	comp=Z,1.4nm,0.8s,baz=174,slow=5.1,SNR=3.8							
KIBK	Kibwezi	118.94	85	IAMs_20	IAMs_20		04 50 06.1	
	comp=Z,3μm,20.0s							
SONM	Songino Array	118.94	354	PKP	PKPdf		03 59 38.4	-1.2
	comp=Z,1.1nm,0.5s,baz=353,slow=3.1,SNR=7.4							
SONM				PKKPbc	PKKPbc		04 09 54.7	-0.9
	comp=Z,0.6nm,0.5s,baz=190,slow=2.6,SNR=3.1							
JSG	Sagara	119.56	323	IAMs_20	IAMs_20		04 55 02.2	
	comp=Z,3μm,20.0s							
INU	Inuyama	119.75	324	IAMs_20	IAMs_20		04 57 48.9	
	comp=Z,2μm,20.0s							
HNR	Honiara	120.10	267	IAMs_20	IAMs_20		04 51 41.0	
	comp=Z,2μm,20.0s							
MAW	Mawson	120.70	165	PKP	PKPdf		03 59 41.5	-0.4
	comp=Z,1.0nm,0.5s,baz=259,slow=5.2,SNR=2.7							
MAW				PKKPbc	PKKPbc		04 09 51.8	+2.7
	comp=Z,1.2nm,0.8s,baz=342,slow=6.4,SNR=4.1							
XLT	XiLinHaoTe	121.11	346	*e*PKP	PKPdf		03 59 40.3	-3.5
XLT				PP	PP		04 01 13.9	+1.7
XLT				AMB	AMB			
	comp=Z,230nm,7.2s							
XLT				LR	LR			
	comp=Z,560nm,18.7s							
XLT				LR	LR			
	comp=Z,1μm,21.3s							
XLT				LR	LR			
	comp=Z,7μm,19.6s							
WMQ	Urumqi	122.42	10	PKP	PKiKP		03 59 46.8	+0.4
WMQ				PP	PP		04 01 28.0	+7.0
WMQ				AMB	AMB			
	comp=Z,320nm,4.3s							
WMQ				LR	LR			
	comp=Z,5μm,20.5s							
WMQ				LR	LR			
	comp=Z,4μm,20.5s							
WMQ				LR	LR			
	comp=Z,4μm,20.5s							
KSRS	Korea Array	122.75	333	PKP	PKiKP		03 59 47.4	+0.2
	comp=Z,5.1nm,0.9s,baz=357,slow=1.7,SNR=11							
KSH	Kashi	123.45	21	PKP	PKiKP		03 59 54.4	+5.7
KSH				PP	PP		04 01 34.8	+6.5
KSH				AMB	AMB			
	comp=Z,210nm,7.2s							
KSH				LR	LR			
	comp=Z,3μm,16.7s							
KSH				LR	LR			
	comp=Z,5μm,18.8s							
KSH				LR	LR			
	comp=Z,6μm,19.2s							
DL2	Dalian	124.04	339	PKP	PKPdf		03 59 43.0	-6.4
DL2				PP	PP		04 01 30.0	-2.0
DL2	Dalian	124.04	339	SS	SS		04 18 18.8	-3.5
DL2				AMB	AMB			
	comp=Z,390nm,5.5s							
DL2				LR	LR			
	comp=N,4μm,20.9s							
DL2				LR	LR			
	comp=E,2μm,15.8s							
DL2				LR	LR			
	comp=Z,4μm,18.6s							
HHC	Hu-ho-hao-te	125.02	348	*e*PKP	PKPdf		03 59 47.3	-4.1
HHC				sPKP			03 59 56.8	
HHC				PP

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GOMU                                  LR      LR
        comp=Z,8μm,25.1s
LZH     Lanzhou        130.83 355  ePKP    PKiKP   04 00 07.3 +3.7
LZH                                   PP      PP      04 02 22.6 +5.8
LZH                                   AMB     AMB
        comp=Z,230nm,5.3s
LZH                                   LR      LR
        comp=Z,660nm,20.1s
LZH                                   LR      LR
        comp=Z,5μm,20.6s
LZH                                   LR      LR
        comp=Z,5μm,20.3s
LYN     LuoYang        130.85 345  ePKP    PKPdf   03 59 55.6 -6.9
LYN                                   PP      PP      04 02 11.9 -5.0
LYN                                   PKS     PKSdf   04 03 33.3 -5.8
LYN                                   SKS     SKSac   04 07 08.1 -5.6
LYN                                   AMB     AMB
        comp=Z,230nm,7.9s
LYN                                   LR      LR
        comp=N,5μm,22.0s
LYN                                   LR      LR
        comp=E,4μm,17.5s
LYN                                   LR      LR
        comp=Z,7μm,19.9s
SRGN    SRI GANGA NAGA30.90  29  eP      PKiKP   04 00 06.4 +2.8
SSE     Sheshan        131.08 334  PKP     PKiKP   04 00 04.4 +0.5
SSE                                   PP      PP      04 02 24.0 +5.4
SSE                                   SS      SS      04 19 51.9 +1.8
SSE                                   AMB     AMB
        comp=Z,190nm,6.0s
NJ2     Nanjing        131.16 337  ePKP    PKPdf   04 00 02.9 -0.3
NJ2                                   LR      LR
        comp=Z,1μm,17.1s
NJ2                                   LR      LR
        comp=Z,2μm,22.7s
NJ2                                   LR      LR
        comp=Z,3μm,20.6s
SMLA    Simla          131.31  25  eP      PKPdf   04 00 03.4 -0.1
JASL    Jaisalmer      131.81  34  eP      PKiKP   04 00 10.4 +4.8
XAN     Xi'an          132.13 349  PKP     PKPdf   04 00 05.4 +0.4
XAN                                   PKS     PKSdf   04 03 38.1 -3.5
XAN                                   SKS     SKSac   04 07 10.5 -6.8
XAN                                   SS      SS      04 20 02.4 -0.1
XAN                                   AMB     AMB
        comp=Z,240nm,6.7s
XAN                                   LR      LR
        comp=Z,5μm,19.1s
XAN                                   LR      LR
        comp=Z,4μm,18.9s
XAN                                   LR      LR
        comp=Z,8μm,19.4s
BKNR    BIKANER        132.18  31  eP      PKiKP   04 00 10.4 +4.1
KKR     Kurukshetra    132.19  26  eP      PKiKP   04 00 11.2 +5.0
DDI     Dehra Dun      132.38  25  eP      PKiKP   04 00 07.8 +1.1
PMG     Port Moresby   132.54 269  IAMs_20 IAMs_20 04 49 28.7
        comp=Z,2μm,20.0s
PMG     Port Moresby   132.54 269  c iPKIKP PKiKP  04 00 08.0 +0.7
PMG                                   pmax    pmax
        comp=Z,55nm,2.5s
JOSI    Joshimath      132.76  23  eP      PKiKP   04 00 07.3 -0.4
GNR     GANAUR         132.99  26  eP      PKiKP   04 00 12.1 +4.2
NDI     New Delhi      133.46  27  eP      PKiKP   04 00 10.4 +1.5
TKRD    Thakurdwara    133.74  24  eP      PKiKP   04 00 10.8 +1.4
LGTI    Lohaghat       134.02  23  eP      PKiKP   04 00 12.6 +2.6
UGON    Onchagaon      134.09  26  eP      PKiKP   04 00 11.7 +1.5
WHN     Wuhan          134.09 341  PKP     PKiKP   04 00 13.3 +3.2
WHN                                   LR      LR
        comp=Z,7μm,21.4s
WHN                                   LR      LR
        comp=Z,15μm,18.9s
WHN                                   LR      LR
        comp=Z,11μm,19.3s
AJM     Ajmer          134.13  31  eP      PKiKP   04 00 13.0 +2.7
CTAO    Charters Tower 134.18 255  IAMs_20 IAMs_20 04 56 37.1
        comp=Z,1μm,20.0s
FRKB    FARRUKHABAD    135.58  25  eP      PKiKP   04 00 16.1 +2.9
CD2     Chengdu        135.97 354  PKP     PKiKP   04 00 14.3 +0.3
CD2                                   sPKP    04 00 17.3
CD2                                   PP      PP      04 02 50.3 +0.8
CD2                                   SKS     SKSdf   04 07 21.3 -3.3
CD2                                   SKKS    SKKSac  04 09 40.3 -7.1
CD2                                   AMB     AMB
        comp=Z,110nm,6.3s
CD2                                   LR      LR
        comp=Z,5μm,20.8s
CD2                                   LR      LR
        comp=Z,5μm,19.0s
CD2                                   LR      LR
        comp=Z,4μm,19.6s
MSEY    Mahe Island    136.39  83  IAMs_20 IAMs_20 05 00 00.4
        comp=Z,2μm,20.0s
STKA    Stephens Creek 136.66 237  PKPdf   PKPdf   04 00 13.6 +0.1
STKA    Stephens Creek 136.66 237  PKP     PKPdf   04 00 13.1 -0.4
        comp=Z,6.8nm,0.8s,baz=133,slow=1.3,SNR=11
STKA    Stephens Creek 136.66 237  PKIKP   PKPdf   04 00 13.6 +0.1
LKN     LUCKNOW        136.67  24  eP      PKiKP   04 00 17.0 +1.6
LSA     Lhasa          136.78  10  IAMs_20 IAMs_20 05 05 57.3
        comp=Z,2μm,20.0s
LSA     Lhasa          136.78  10  PKP     PKPdf   04 00 14.1 -0.3
LSA                                   LR      LR
        comp=Z,2μm,20.8s
LSA                                   LR      LR
        comp=Z,3μm,23.4s
JHNI    Jhansi         136.83  27  eP      PKiKP   04 00 19.6 +3.8
COEN    Coen           136.96 264  PKPdf   PKPdf   04 00 13.3 -1.2
COEN                                  IAMs_20 IAMs_20 05 07 06.8
        comp=Z,1μm,20.0s
VLK     Valmikinagar   137.25  20  eP      PKPdf   04 00 15.2 +0.5
BNDA    BANDA          137.59  25  eP      PKiKP   04 00 17.4 +0.1
TWG     Pinlang        138.17 328  IAMs_20 IAMs_20 05 04 04.2
        comp=Z,2μm,19.0s
BHPL    Bhopal         138.21  30  eP      PKPdf   04 00 15.6 -1.0
ALBI    Allahabad      138.34  24  eP      PKiKP   04 00 19.2 +0.3
GTK     Tadong         138.58  14  eP      PKiKP   04 00 20.9 +1.4
JPG     JALPAIGURI     139.35  14  eP      PKiKP   04 00 26.2 +5.3
DIBR    DIBRUGARH      139.47   5  eP      PKiKP   04 00 23.8 +2.7
ITAN    ITANAGAR       139.66   7  eP      PKiKP   04 00 23.1 +1.6
LKP     Lekhapani      139.68   4  eP      PKiKP   04 00 23.4 +1.9
PZH     PanZhiHua      140.51 356  PKP     PKPdf   04 00 13.9 -7.0
PZH                                   PP      PP      04 03 14.3 -3.5
PZH                                   SKS     SKSdf   04 07 21.1 -11
MOKO    MOKOCHONG      140.56   6  eP      PKiKP   04 00 25.8 +2.2
BBOO    Buckleboo      140.82 234  IAMs_20 IAMs_20 04 57 04.5
        comp=Z,2μm,19.0s
SHL     Shillong       140.94  10  eP      PKPdf   04 00 22.1 +0.3
KOHI    KOHIMA         141.11   7  eP      PKPdf   04 00 22.2 +0.2
BOK     Bokaro         141.17  19  eP      PKiKP   04 00 25.8 +1.1
KMI     Kunming        141.79 354  ⇑PKP    PKiKP   04 00 25.3 -0.9
KMI                                   PP      PP      04 03 31.0 +5.2
KMI                                   SS      SS      04 21 55.8 -2.0
KMI                                   AMB     AMB
        comp=Z,340nm,4.6s
KMI                                   LR      LR
        comp=Z,2μm,21.6s
KMI                                   LR      LR
        comp=Z,2μm,18.5s
KMI                                   LR      LR
        comp=Z,3μm,19.7s
IMP     Imphal         141.97   7  eP      PKPdf   04 00 24.7 +1.2
TNCH    TengChong      142.07   1  ePKP    PKPdf   04 00 21.3 -2.5
TNCH                                  PP      PP      04 03 28.0 +0.6
TNCH                                  AMB     AMB
        comp=Z,310nm,5.2s
TNCH                                  LR      LR
        comp=Z,1μm,21.8s
TNCH                                  LR      LR
        comp=Z,2μm,20.0s
TNCH                                  LR      LR
        comp=Z,5μm,20.0s
GOA     Goa            142.29  42  ex      x       04 00 19.0
JHSG    JHARSUGUGA     142.30  23  eP      PKPdf   04 00 24.9 +0.8
AZL     Aizawl         142.87   9  eP      PKiKP   04 00 29.1 +0.8
MNGI    Mangalore      144.81  44⇑ex       x       04 00 11.7
ASAR    Alice Springs  145.22 247  PKPbc   PKPbc   04 00 27.7 -1.1
        comp=Z,18nm,0.8s,baz=116,slow=3.5,SNR=111
WRAB    Tennant Creek  145.36 254  IAMs_20 IAMs_20 05 11 11.1
        comp=Z,2μm,18.0s
WRAB    Tennant Creek  145.36 254  i PKIKP PKPbc   04 00 28.4 -0.8
WRA     Warramunga Arr 145.37 254            PKPbc   04 00 27.9 -1.4
WRA     Warramunga Arr 145.37 254  PKPbc    PKPbc   04 00 28.8 -0.5
        comp=Z,34nm,0.6s,baz=93,slow=3.2,SNR=133
QIZ     Qiongzhong     146.26 341  PKPbc   PKPdf   04 00 31.3 +0.3
QIZ                                   SS      SS      04 22 51.8 +2.6
QIZ                                   LR      LR
        comp=Z,1μm,20.2s
QIZ                                   LR      LR
        comp=Z,3μm,18.5s
QIZ                                   LR      LR
        comp=Z,3μm,21.9s
FORT    Forrest        147.87 232            PKPbc   04 00 35.0 -1.2
FORT                                  IAMs_20 IAMs_20 04 58 12.9
        comp=Z,2μm,20.0s
SALM    Salem          147.97  41  eP      PKPab   04 00 39.8 +0.3
MDRS    Chennai        148.10  36  eP      PKPbc   04 00 38.1 +0.8
CHTO    Chiang Mai     148.26 360            PKPdf   04 00 31.7 -2.7
CHTO    Chiang Mai     148.26 360  PKHKP   PKPpre  04 00 31.7
CHTO                                  MLR     MLR
        comp=Z,3μm,22.0s
KOD     Kodaikanal     148.54  43  eP      PKiKP   04 00 40.7 +0.3
MTN     Manton Dam     148.56 267  PKPdf   PKPdf   04 00 33.3 -1.5
CMAR    Chiang Mai Arr 148.62 360            PKPdf   04 00 34.7 -0.2
CMAR    Chiang Mai Arr 148.62 360  PKPbc    PKPdf   04 00 36.3 +1.4
        comp=Z,14nm,0.8s,baz=322,slow=2.8,SNR=15
TRD     Trivandrum     149.42  46  eP      PKPbc   04 00 40.8 +0.1
KNRA    Kununurra      150.94 261  IAMs_20 IAMs_20 05 01 14.3
        comp=Z,2μm,22.0s
KAAM    Kaadhehdhoo    151.00  64  IAMs_20 IAMs_20 05 09 13.1
        comp=Z,2μm,20.0s
DGPR    DIGLIPUR       153.21  13  eP      PKPbc   04 00 45.9 -3.6
LUWI    Luwuk          153.45 295  PKPdf   PKPdf   04 00 40.5 -2.0
LUWI                                  IAMs_20 IAMs_20 05 20 47.5
        comp=Z,1μm,21.0s
TOLI2   Tolitoli       154.06 301            PKPdf   04 00 46.9 +3.5
TOLI2                                 IAMs_20 IAMs_20 05 17 18.7
        comp=Z,1μm,21.0s
NWAO    Narrogin (SRO) 154.11 217  IAMs_20 IAMs_20 05 20 51.3
        comp=Z,2μm,19.0s
SOEI    Soe            154.88 275  PKPdf   PKPdf   04 00 43.1 -1.5
SOEI                                  IAMs_20 IAMs_20 05 14 52.4
        comp=Z,2μm,22.0s
MMRI    Maumere        156.62 279  IAMs_20 IAMs_20 05 09 49.3
        comp=Z,1μm,21.0s
PSA00   Pilbara Seismi 158.30 244  PKPdf   PKPdf   04 00 47.3 -1.4
SRIT    Nakonsritamara 158.41 358  IAMs_20 IAMs_20 05 27 35.6
        comp=Z,2μm,20.0s
SBUM    Sibu           159.62 318  IAMs_20 IAMs_20 05 25 05.3
        comp=Z,1μm,22.0s
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*RSNC **25** 03:58:05.9±0.0, 13°N±1°×8°1W±°, h1km±2km, M3.3, mb4.4, ML3.3*
*IDC **25** 03:58:09.9±2.7, 13°.02N×81°.47W, h0km, mb3.4/3, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=60.5km s-min=33.1km az=104.0*

ISC 25 03:58:05.4±0.7, 13°.18N±0°.04×81°.14W±0°.04, h10km, n22, σ2º16′32, mb3.3/3, Caribbean Sea

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Code Station Name      Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
PRVC Isla de Provid    0.29 312  P     Pg          03 58 11.1 -0.2
PRVC                             S     Sg          03 58 14.9 -0.4
SAIC Isla e San And    0.84 221  P     Pg          03 58 21.8 +0.1
SAIC                             S     Sn          03 58 35.5 -0.3
RNCC Cayo Roncador,    1.09  69  P     Pb          03 58 27.1 +0.7
RNCC                             S     Sg          03 58 43.2 +2.5
SERC Banco Serrana,    1.34  34  P     Pn          03 58 29.7 -0.4
SERC                             S     Sn          03 58 48.9 +1.0
BCIP Isla Barro Col    4.19 162  P     Pn          03 59 08.0 -1.3
BCIP                             S     Sn          03 59 55.4 -2.9
JTS  Las Juntas de     4.71 233  Pn    Pn          03 59 17.0 +0.4
        1.3nm,0.3s,baz=93,slow=23,SNR=2.3
JTS                              Sn    Sn          04 00 11.2  0.0
        1.4nm,0.3s,baz=245,slow=22,SNR=2.4
        4.4nm,0.3s
JTS  Las Juntas de     4.71 233  P     Pn          03 59 17.5 +1.0
JTS                              S     Sn          04 00 10.6 -0.7
GMAL Guarumal, Vera    5.38 181  P     Pn          03 59 26.6 +0.8
        14nm,1.2s
GMAL                             S     Sn          04 00 25.3 -2.5
        14nm,1.2s
AZU  Azuero            5.42 171  P     Pn          03 59 28.9 +2.6
        42nm,1.1s
AZU                              S     Sn          04 00 27.8 -1.0
        42nm,1.1s
CACAO El Cacao, Vera   5.80 177  P     Pn          03 59 34.1 +2.5
        28nm,1.0s
CACAO                            S     Sn          04 00 39.1 +0.9
        28nm,1.0s
TGUH Tegucigalpa,Un    6.03 279  P     Pn          03 59 35.8 +1.0
LCBC Los crdobas,      6.35 132  P     Pn          03 59 41.8 +2.6
LCBC                             S     Sn          04 00 54.3 +2.4
SJCC San Jacinto, C    6.69 119  P     Pn          03 59 41.8 -2.0
SJCC                             S     Sn          04 00 56.6 -3.6
TEIG Tepich            9.79 317  Pn    Pn          04 00 26.2 -0.1
        baz=136,slow=23,SNR=1.1
TEIG                             Sn    Sn          04 02 12.3 -4.1
        baz=222,slow=24,SNR=1.0
TBG  Guadaloupe-3     19.06  80  e     P           04 02 23.3 -4.8
SVB  Belmont          19.36  87  e     P           04 02 29.1 -2.3
SVT  Saint Vincent    19.38  88  e     P           04 02 24.3 -7.2
TXAR Lajitas Array    26.36 311  P     P           04 03 46.1 +4.1
        0.6nm,0.8s,baz=130,slow=9.8,SNR=6.2
        0.6nm,0.8s
PDAR Pinedale Array   38.36 326  P     P           04 05 32.6 +5.6
        0.2nm,0.3s,baz=141,slow=14,SNR=3.1
        0.2nm,0.3s
NVAR Mina Array Bea   41.42 314  P     P           04 05 58.5 +6.0
        0.3nm,0.7s,baz=111,slow=7.8,SNR=2.2
        0.3nm,0.7s
ASAR Alice Springs   145.24 247  PKP   PKiKP       04 17 48.2  0.0
        0.3nm,0.6s,baz=105,slow=3.7,SNR=6.8
WRA  Warramunga Arr  145.38 254  PKPbc PKiKP       04 17 49.5 +1.0
        0.7nm,0.7s,baz=92,slow=3.4,SNR=6.6
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*IDC **25** 04:11:47.2±2.5, 12°.74N×80°.88W, h0km, mb3.6/3, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=55.6km s-min=33.2km az=105.0*
*RSNC **25** 04:11:48.2±0.0, 13°N±1°×8°1W±°, h1km±1km, M3.3, mb4.4, mB6.2, ML3.3, Mw(mB)5.8*

ISC 25 04:11:48.1±0.6, 13°.18N±0°.04×81°.15W±0°.04, h10km, n24, σ2º08′37, mb3.4/3, Caribbean Sea

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Code Station Name      Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
PRVC Isla de Provid    0.28 314  P     Pg          04 11 53.6 -0.2
PRVC                             S     Sg          04 11 57.8 +0.1
SAIC Isla e San And    0.84 221  P     Pg          04 12 04.5 +0.2
SAIC                             S     Sn          04 12 18.2 -0.2
RNCC Cayo Roncador,    1.10  69  P     Pb          04 12 09.0 -0.3
RNCC                             S     Sg          04 12 25.5 +1.8
SERC Banco Serrana,    1.34  35  P     Pn          04 12 12.4 -0.5
SERC                             S     Sn          04 12 30.8 +0.1
ACON Acoyapa           4.11 253  P     Pn          04 12 51.7 +0.8
ACON                             S     Sn          04 13 36.2 -2.9
BCIP Isla Barro Col    4.19 162  P     Pn          04 12 49.4 -2.7
BCIP                             S     Sn          04 13 38.5 -2.7
JTS  Las Juntas de     4.70 233  Pn    Pn          04 12 59.8 +0.7
        2.2nm,0.3s,baz=347,slow=9.7,SNR=8.7
JTS                              Sn    Sn          04 13 55.2 +1.5
        1.2nm,0.3s,baz=34,slow=16,SNR=4.0
        6.1nm,0.4s
JTS  Las Juntas de     4.70 233  P     Pn          04 12 59.6 +0.5
JTS                              S     Sn          04 13 53.8  0.0
AZU  Azuero            5.42 171  P     Pn          04 13 08.2 -0.8
        28nm,1.3s
AZU                              S     Sn          04 14 10.3 -1.3
        28nm,1.3s
TGUH Tegucigalpa,Un    6.01 279  P     Pn          04 13 17.7 +0.4
        44nm,0.7s
LCBC Los crdobas,      6.36 132  P     Pn          04 13 23.0 +1.0
        134nm,1.4s
LCBC                             S     Sn          04 14 35.1 +0.3
        134nm,1.4s
SJCC San Jacinto, C    6.70 119  P     Pn          04 13 26.7  0.0
        9.1nm,1.0s
SJCC                             S     Sn          04 14 39.0 -4.2
        9.1nm,1.0s
CRJC Cerrejon, Guaj    8.37 104  P     Pn          04 13 55.4 +5.8
        23nm,0.8s
CRJC                             S     Sn          04 15 19.7 -4.6
        23nm,0.8s
ZARC Zaragoza, Cauc    8.38 132  P     Pn          04 13 49.9 +0.2
        5.6nm,0.7s
ZARC                             S     Sn          04 15 21.6 -2.9
        5.6nm,0.7s
GTBY Guantanamo Bay    8.86  40  P     Pn          04 13 57.7 +1.4
        15nm,2.0s
BRJC Barrancabermej    9.55 130  P     Pn          04 14 08.3 +2.6
        26nm,0.5s
TEIG Tepich            9.78 317  Pn    Pn          04 14 09.2 +0.3
        baz=149,slow=23,SNR=7.5
TEIG                             Sn    Sn          04 15 55.2 -3.6
        baz=154,slow=24,SNR=1.1
TEIG Tepich            9.78 317  P     Pn          04 14 08.8 -0.1
TEIG                             S     Sn          04 15 53.7 -5.1
PAMC Pamplona, Colo   10.14 124  P     Pn          04 14 13.8 -0.5
PAMC                             S     Sn          04 16 07.1 -1.3
TXAR Lajitas Array    26.35 311  P     P           04 17 28.8 +4.2
        1.1nm,0.9s,baz=135,slow=10,SNR=10
        1.1nm,0.9s
PDAR Pinedale Array   38.36 326  P     P           04 19 15.0 +5.4
        0.8nm,1.0s,baz=138,slow=9.8,SNR=4.3
        0.8nm,1.0s
NVAR Mina Array Bea   41.41 314  P     P           04 19 40.5 +5.4
        0.6nm,0.8s,baz=128,slow=7.3,SNR=3.6
        0.6nm,0.8s
ASAR Alice Springs   145.23 247  PKPbc PKPab       04 31 26.6  0.0
        0.4nm,0.7s,baz=115,slow=3.8,SNR=5.3
WRA  Warramunga Arr  145.37 254  PKPbc PKPdf       04 31 27.3 +0.1
        0.6nm,0.7s,baz=94,slow=3.2,SNR=7.4
```

RSNC 25 04:13:14.8±0.0, 13°N±3°×8°1W±°, h3km±5km, M3.0, mb4.5, ML3.0, Caribbean Sea

```
Code Station Name      Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
PRVC Isla de Provid    0.25 305  P     Pb          04 13 20.9 -1.1
PRVC                             S     Sg          04 13 24.8 +1.8
SAIC Isla e San And    0.88 219  P     Pb          04 13 32.3 -0.4
SAIC                             S     Sb          04 13 45.7 +0.8
RNCC Cayo Roncador,    1.09  71  P     Pg          04 13 34.4 -1.2
RNCC                             S     Sb          04 13 50.9 +0.1
SERC Banco Serrana,    1.30  36  P     Pg          04 13 38.4 -1.3
SERC                             S     Sg          04 13 56.4 -0.2
BCIP Isla Barro Col    4.24 162  P     Pn          04 14 17.2 -3.1
BCIP                             S     Sn          04 15 05.1 -5.3
AZU  Azuero            5.47 171  P     Pn          04 14 41.7 +4.4
        31nm,1.0s
AZU                              S     Sn          04 15 36.9 -3.9
        31nm,1.0s
CAPC Capurgana         5.90 140  P     Pn          04 14 43.2 +0.1
CAPC                             S     Sn          04 15 51.7 +0.4
```

RSNC 25 04:19:37.5±0.5, 3°N±2°×8°3W±°, h0km, M3.6, mb4.2, mB5.4, ML3.1, Mw(mB)4.8, South of Panama

```
Code Station Name      Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
GR1C Gorgona, Isla     4.39  92  P     Pn          04 20 45.7 +0.2
GR1C                             S     Sn          04 21 34.7 -2.7
PAC1 Pacto, Paraso     4.73 127  P     Pn          04 20 50.5 +0.2
PAC1                             S     Sn          04 21 47.3 +1.3
PPLP Puerto Lpez       4.99 159  P     Pn          04 20 51.2 -2.6
PPLP                             S     Sn          04 21 49.8 -2.5
OTAV Otavalo           5.02 125  P     Pn          04 20 55.0 +0.4
        12nm,0.8s
OTAV                             S     Sn          04 21 54.3 +0.7
        12nm,0.8s
CUSE Cuicocha Este     5.03 124  P     Pn          04 20 56.7 +2.1
        45nm,0.5s,4μm
CUSE                             S     Sn          04 21 50.8 -2.9
        45nm,0.5s,4μm
MALC Bahia Malaga      5.29  81  P     Pn          04 20 59.2 +1.4
MALC                             S     Sn          04 21 58.3 -1.2
BBAC Balboa, Cauca     5.42 102  P     Pn          04 20 59.7 -0.2
        19nm,0.8s
BBAC                             S     Sn          04 22 02.9 -0.3
        19nm,0.8s
GCUF Volcan Galeras    5.55 110  P     Pn          04 21 04.0 +2.1
        26nm,0.6s
GCUF                             S     Sn          04 22 07.9 +1.2
        26nm,0.6s
CRUC La Cruz           5.82 106  P     Pn          04 21 07.0 +1.5
CRUC                             S     Sb          04 22 22.2 -8.5
JAMC Jamundi, Valle    5.88  89  P     Pn          04 21 06.8 +0.6
        14nm,0.8s
JAMC                             S     Sn          04 22 13.0 -1.4
        14nm,0.8s
POPC Popayan, Colom    5.91  96  P     Pn          04 21 07.0 +0.4
        12nm,0.5s
POPC                             S     Sn          04 22 15.7 +0.5
        12nm,0.5s
PIAT Ana Tenorio       5.95 134  P     Pn          04 21 10.1 +2.8
PIAT                             S     Sn          04 22 20.8 +4.3
YOTC Yotoco, Valle     6.26  82  P     Pn          04 21 12.8 +1.5
        5.2nm,0.6s
YOTC                             S     Sn          04 22 23.3 -0.4
        5.2nm,0.6s
COHC Cochancay         6.48 149  P     Pn          04 21 14.7 +0.4
        4.8nm,0.9s
COHC                             S     Sn          04 22 29.0  0.0
        4.8nm,0.9s
CBOC Ciudad Bolivar    7.06  67  P     Pn          04 21 21.6 -0.8
        17nm,0.8s
GUY2C Guyana, Caldas   7.47  74  P     Pn          04 21 29.7 +1.5
        13nm,0.8s
GUY2C                            S     Sn          04 22 58.5 +4.6
        13nm,0.8s
MCRA Macar, Loja       7.91 161  P     Pn          04 21 35.7 +1.8
MCRA                             S     Sn          04 23 02.9 -1.4
```

RSNC 25 04:30:36.9±0.0, 13°N±1°×8°1W±°, h1km±1km, M3.1, mb4.3, ML3.1, Caribbean Sea

```
Code Station Name      Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
PRVC Isla de Provid    0.22 323  P     Pg          04 30 42.6 +1.5
PRVC                             S     Sg          04 30 46.6 +2.6
SAIC Isla e San And    0.81 216  P     Pb          04 30 53.3 -0.5
SAIC                             S     Sb          04 31 06.0 +0.8
RNCC Cayo Roncador,    1.17  71  P     Pg          04 30 58.5 -0.8
RNCC                             S     Sg          04 31 15.0 +0.5
SERC Banco Serrana,    1.37  38  P     Pn          04 31 01.7 -1.5
SERC                             S     Sg          04 31 20.0 -0.9
ACON Acoyapa           4.04 253  P     Pn          04 31 38.6 -1.3
ACON                             S     Sn          04 32 26.0 -1.9
BCIP Isla Barro Col    4.24 161  P     Pn          04 31 38.5 -4.1
BCIP                             S     Sn          04 32 27.5 -5.2
JTS  Las Juntas de     4.65 232  P     Pn          04 31 48.7 +0.3
JTS                              P     Pb          04 31 48.8 -11
JTS                              S     Sn          04 32 42.3 -0.8
GMAL Guarumal, Vera    5.40 180  P     Pn          04 31 58.6 -0.1
        65nm,0.5s
GMAL                             S     Sn          04 32 56.8 -4.8
        65nm,0.5s
AZU  Azuero            5.46 170  P     Pn          04 31 58.2 -1.2
        27nm,1.6s
AZU                              S     Sn          04 32 59.4 -3.5
        27nm,1.6s
LCBC Los crdobas,      6.43 132  P     Pn          04 32 13.5 +0.6
        81nm,1.2s
LCBC                             S     Sn          04 33 30.9 +3.9
        81nm,1.2s
SJCC San Jacinto, C    6.78 118  P     Pn          04 32 13.6 -4.0
SJCC                             S     Sn          04 33 29.0 -6.6
```

*IDC **25** 04:36:31.1±2.4, 13°.15N×81°.16W, h0km, mb3.2/1, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=54.2km s-min=35.5km az=99.0*
*RSNC **25** 04:36:31.9±0.0, 13°N±1°×8°1W±°, h2km±1km, M3.2, mb4.2, mB5.9, ML3.2, Mw(mB)5.5*

ISC 25 04:36:31.3±0.7, 13°.19N±0°.05×81°.12W±0°.03, h10km, n23, σ1º95′43, Caribbean Sea

```
Code Station Name      Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
PRVC Isla de Provid    0.30 308  P     Pb          04 36 38.0 -0.7
PRVC                             S     Sb          04 36 42.5 -1.2
SAIC Isla e San And    0.87 222  P     Pg          04 36 48.8 +0.8
SAIC                             S     Sn          04 37 02.4 +0.1
RNCC Cayo Roncador,    1.07  69  P     Pb          04 36 52.0 +0.1
RNCC                             S     Sb          04 37 07.7 +1.7
SERC Banco Serrana,    1.31  34  P     Pn          04 36 55.6 -0.1
SERC                             S     Sb          04 37 13.1 +0.1
ACON Acoyapa           4.14 253  P     Pn          04 37 35.5 +0.9
ACON                             S     Sn          04 38 22.4 -0.7
BCIP Isla Barro Col    4.19 162  P     Pn          04 37 33.7 -1.6
BCIP                             S     Sn          04 38 21.8 -2.6
JTS  Las Juntas de     4.73 233  Pn    Pn          04 37 43.8 +1.0
```

3.2nm,0.3s,baz=76,slow=19,SNR=15
JTS Sn **Sn** **04 38 37.9 +0.2**
1.5nm,0.3s,baz=102,slow=17,SNR=1.8
6.4nm,0.3s
JTS Las Juntas de 4.73 233 P **Pn** **04 37 43.8 +1.0**
JTS P Pb 04 37 43.9 -10
JTS S **Sn** **04 38 38.0 +0.2**
JTS S **Sn** **04 38 38.9 +1.2**
GMAL Guarumal, Vera 5.40 181 P **Pn** **04 37 49.2 -2.7**
15nm,0.8s,6μm
GMAL S **Sn** **04 38 52.4 -1.7**
15nm,0.8s,6μm
AZU Azuero 5.43 171 P **Pn** **04 37 51.8 -0.5**
24nm,1.5s
AZU S **Sn** **04 38 53.9 -1.1**
24nm,1.5s
CACAO El Cacao, Vera 5.82 177 P **Pn** **04 38 00.0 +2.4**
28nm,1.1s
CACAO S **Sn** **04 39 06.3 +1.8**
28nm,1.1s
CAPC Capurgana 5.85 140 P **Pn** **04 38 00.6 +2.5**
79nm,1.2s
CAPC S **Sn** **04 39 03.8 -1.5**
79nm,1.2s
TGUH Tegucigalpa,Un 6.04 279 P **Pn** **04 38 02.1 +1.2**
26nm,0.8s
TGUH S **Sn** **04 39 09.1 -1.1**
26nm,0.8s
LCBC Los crdobas, 6.35 132 P **Pn** **04 38 07.2 +2.2**
58nm,0.8s
LCBC S **Sn** **04 39 19.9 +2.2**
58nm,0.8s
SJCC San Jacinto, C 6.68 119 P **Pn** **04 38 08.8 -0.8**
10nm,0.7s
SJCC S **Sn** **04 39 22.4 -3.5**
10nm,0.7s
ZARC Zaragoza, Cauc 8.37 132 P **Pn** **04 38 33.4 +0.7**
4.3nm,0.9s
ZARC S **Sn** **04 40 00.8 -6.6**
4.3nm,0.9s
GTBY Guantanamo Bay 8.83 40 P **Pn** **04 38 39.8 +0.7**
20nm,2.4s
TEIG Tepich 9.79 317 Pn **Pn** **04 38 52.5 +0.3**
baz=139,slow=24,SNR=8.5
TEIG Sn **Sn** **04 40 39.1 -3.2**
baz=56,slow=23,SNR=1.1
0.2nm,0.4s
TEIG Tepich 9.79 317 P **Pn** **04 38 52.8 +0.6**
11nm,0.5s
TEIG S **Sn** **04 40 38.9 -3.4**
11nm,0.5s
PAMC Pamplona, Colo 10.12 124 P **Pn** **04 38 56.6 -0.6**
PAMC S **Sn** **04 40 48.4 -2.8**
TXAR Lajitas Array 26.37 311 P **P** **04 42 09.8 +1.9**
0.4nm,0.8s,baz=123,slow=9.8,SNR=4.6
0.4nm,0.8s
ASAR Alice Springs 145.26 247 PKPbc **PKPbc** **04 56 10.2 +0.3**
0.4nm,0.6s,baz=111,slow=4.4,SNR=9.2
WRA Warramunga Arr 145.41 254 PKPbc **PKPbc** **04 56 10.9 +0.5**
0.9nm,0.9s,baz=93,slow=3.1,SNR=9.3

MEX 25 04:39:31.0±0.7, 15°.59N×94°.88W, h84km±21km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.19**	**279**	*e*P	Pn	04 39 51.1	-1.6
HUIG				*e*S	Sn	04 40 07.3	-1.7
HUIG	**Huatulco**	**1.19**	**279**	*e*P	Pn	04 39 51.2	-1.4
HUIG				*e*S	Sn	04 40 07.4	-1.6
CMIG	**Matias Romero**	**1.50**	**360**	*e*P	Pn	04 39 54.9	-1.6
CMIG				*e*S	Sn	04 40 14.3	-1.4
UXUV	**UXUV**	**1.86**	**22**	*e*P	Pn	04 39 59.6	-1.6
UXUV				*e*S	Sn	04 40 21.6	-2.7
TGIG		**2.07**	**55**	*e*P	Pn	04 39 59.9	-4.1
TGIG				*e*S	Sn	04 40 24.3	-4.8
PEIG	**Puerto Escondi**	**2.22**	**281**	*e*P	Pn	04 40 05.8	-0.1
PEIG				*e*S	Sn	04 40 30.6	-2.1
NEUV	**Arroyo Zacate**	**2.29**	**338**	*e*P	Pn	04 40 06.5	-0.4
NEUV				*e*S	Sn	04 40 32.1	-2.3
CHUJ	**Union Juarez**	**2.72**	**100**	*e*P	Pn	04 40 07.0	-5.9
CHUJ				*e*S	Sn	04 40 33.2	-12
CCIG	**Comitan**	**2.73**	**75**	*e*P	Pn	04 40 09.9	-3.1
CCIG				*e*S	Sn	04 40 41.8	-3.4

MEX 25 04:39:42.0±0.7, 16°.32N×98°.01W, h8km±4km, MD3.3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**303**	*e*P	Pg	04 39 44.4	-0.5
PNIG				*e*S	Sg	04 39 46.7	-0.3
PNIG	**Pinotepa**	**0.14**	**303**	*e*P	Pg	04 39 44.4	-0.6
PNIG				*e*S	Sg	04 39 46.7	-0.3
YOIG	**Yosondua**	**0.70**	**40**	*e*P	Pg	04 39 54.3	-1.2
YOIG				*e*S	Sg	04 40 02.7	-1.9
YOIG	**Yosondua**	**0.70**	**40**	*e*P	Pg	04 39 54.3	-1.2
YOIG				*e*S	Sg	04 40 03.4	-1.2
TXIG	**Tlaxiaco**	**0.96**	**14**	*e*P	Pg	04 39 58.4	-2.0
TXIG				*e*S	Sg	04 40 10.9	-2.0
TXIG	**Tlaxiaco**	**0.96**	**14**	*e*P	Pg	04 39 58.9	-1.6
TXIG				*e*S	Sg	04 40 10.7	-2.3
MGIG	**Malinaltepec**	**1.09**	**327**	*e*P	Pg	04 40 00.1	-2.9
MGIG				*e*S	Sg	04 40 14.7	-2.4
MGIG	**Malinaltepec**	**1.09**	**327**	*e*P	Pg	04 39 60.0	-3.0
MGIG				*i* S	Sg	04 40 13.7	-3.5
CRIG	**Cruz Grande**	**1.15**	**291**	*e*P	Pg	04 40 00.6	-3.6
CRIG				*e*S	Sg	04 40 15.1	-4.0
HLIG	**Huajuapan de L**	**1.52**	**7**	*e*P	Pn	04 40 08.9	-0.8
HLIG				*e*S	Sn	04 40 26.8	-2.9
HLIG	**Huajuapan de L**	**1.52**	**7**	*e*P	Pn	04 40 08.0	-1.7
HLIG				*e*S	Sn	04 40 22.7	-7.0
FTIG	**Fresnillo de T**	**1.59**	**356**	*e*P	Pn	04 40 08.8	-1.7
FTIG				*e*S	Sn	04 40 29.2	-2.1
FTIG	**Fresnillo de T**	**1.59**	**356**	*e*P	Pn	04 40 09.1	-1.5
FTIG				*e*S	Sn	04 40 29.9	-1.5

RSNC 25 04:39:50.6±0.0, 13°N±7°×8°1W±°, h22km±10km, mb3.7, ML2.9, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.21**	**307**	P	Pb	04 39 55.1	-1.2
PRVC				S	Sb	04 39 59.8	-0.4
SAIC	**Isla e San And**	**0.87**	**216**	P	Pb	04 40 06.0	-1.1
SAIC				S	Sn	04 40 19.5	-0.1
RNCC	**Cayo Roncador,**	**1.12**	**73**	P	Pn	04 40 09.6	-1.3
RNCC				S	Sb	04 40 25.3	0.0
SERC	**Banco Serrana,**	**1.30**	**38**	P	Pn	04 40 13.0	-0.5
SERC				S	Sn	04 40 30.3	0.0
ACON	**Acoyapa**	**4.09**	**252**	P	Pb	04 40 59.0	-3.0
BCIP	**Isla Barro Col**	**4.27**	**162**	P	Pn	04 40 50.9	-3.4
BCIP				S	Sn	04 41 39.9	-3.6
JTS	**Las Juntas de**	**4.71**	**232**	P	Pn	04 41 01.6	+1.1
JTS				S	Sn	04 41 50.8	-3.7
GMAL	**Guarumal, Vera**	**5.45**	**180**	P	Pn	04 41 08.4	-2.2
GMAL	16nm,2.3s			S	Sn	04 42 10.3	-2.4
AZU	16nm,2.3s **Azuero**	**5.50**	**170**	P	Pn	04 41 08.6	-2.6
AZU	21nm,2.0s			S	Sn	04 42 10.5	-3.3
SJCC	21nm,2.0s **San Jacinto, C**	**6.77**	**119**	P	Pn	04 41 26.0	-2.7

RSNC 25 04:41:05.5±0.0, 13°N±2°×8°1W±°, h1km±2km, M3.1, mb4.2, ML3.1, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.27**	**321**	P	Pb	04 41 11.9	-1.2
PRVC				S	Sb	04 41 16.4	-1.8
SAIC	**Isla e San And**	**0.81**	**219**	P	Pg	04 41 20.7	-0.3
SAIC				S	Sb	04 41 34.4	+0.6
RNCC	**Cayo Roncador,**	**1.14**	**69**	P	Pg	04 41 25.4	-2.0
RNCC				S	Sg	04 41 42.8	+0.5
SERC	**Banco Serrana,**	**1.37**	**36**	P	Pn	04 41 30.5	-1.3
SERC				S	Sg	04 41 49.2	-0.4
ACON	**Acoyapa**	**4.07**	**253**	P	Pn	04 42 11.9	+3.0
BCIP	**Isla Barro Col**	**4.19**	**161**	P	Pn	04 42 11.5	+0.8
BCIP				S	Sn	04 42 55.8	-4.5
JTS	**Las Juntas de**	**4.67**	**233**	P	Pn	04 42 16.3	-0.9
JTS				S	Sn	04 43 11.2	-0.8
AZU	**Azuero**	**5.42**	**170**	P	Pn	04 42 26.8	-0.7
AZU	42nm,1.5s			S	Sn	04 43 26.9	-3.7
CAPC	42nm,1.5s **Capurgana**	**5.88**	**140**	P	Pn	04 42 35.8	+2.0
CAPC	45nm,1.7s			S	Sn	04 43 36.6	-5.2
LCBC	45nm,1.7s **Los crdobas,**	**6.38**	**132**	P	Pn	04 42 41.4	+0.6
LCBC	76nm,0.9s			S	Sn	04 43 46.6	-5.6
SJCC	**San Jacinto, C**	**6.73**	**118**	P	Pn	04 42 40.0	-5.6
SJCC	8.8nm,0.7s			S	Sn	04 43 56.1	-6.9
SJCC	8.8nm,0.7s **San Jacinto, C**	**6.73**	**118**	S	Pn	04 42 39.9	-5.7
APAC	**Apartado, Choc**	**6.92**	**139**	P	Pn	04 42 49.5	+1.3
APAC	13nm,0.8s			S	Sn	04 44 05.7	-2.0
ARGC	13nm,0.8s **Ariguani, Magd**	**7.56**	**115**	P	Pn	04 43 02.5	+5.6
ARGC	12nm,1.6s			S	Sn	04 44 21.2	-2.2
PTBC	12nm,1.6s **PUERTO BERRIO,**	**9.35**	**134**	P	Pn	04 43 25.0	+3.5
PTBC	4.8nm,1.3s			S	Sn	04 45 00.6	-6.8
TEIG	4.8nm,1.3s **Tepich**	**9.76**	**317**	P	Pn	04 43 26.9	-0.2
TEIG				S	Sn	04 45 13.7	-3.8

RSNC 25 04:43:15.8±0.0, 13°N±1°×8°1W±°, h0km±1km, M3.5, mb4.4, ML3.4, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.20**	**316**	P	Pg	04 43 21.3	+1.6
PRVC				S	Sg	04 43 25.2	+2.9
SAIC	**Isla e San And**	**0.84**	**215**	P	Pg	04 43 31.8	-0.1
SAIC				S	Sb	04 43 46.5	+1.4
RNCC	**Cayo Roncador,**	**1.15**	**72**	P	Pg	04 43 37.3	-0.6
RNCC				S	Sb	04 43 53.5	-0.6
SERC	**Banco Serrana,**	**1.34**	**38**	P	Pg	04 43 40.4	-1.1
SERC				S	Sg	04 43 59.1	+0.2
ACON	**Acoyapa**	**4.06**	**252**	P	Pn	04 44 18.4	-0.8
BCIP	**Isla Barro Col**	**4.26**	**161**	P	Pn	04 44 17.5	-4.5
BCIP				S	Sn	04 45 05.7	-6.7
JTS	**Las Juntas de**	**4.68**	**232**	P	Pn	04 44 26.7	-1.1
JTS				S	Sn	04 45 22.8	0.0
GMAL	**Guarumal, Vera**	**5.43**	**180**	P	Pn	04 44 37.5	-0.6
GMAL	29nm,0.6s			S	Sn	04 45 35.2	-6.2
AZU	29nm,0.6s **Azuero**	**5.48**	**170**	P	Pn	04 44 36.5	-2.3
AZU	33nm,1.4s			S	Sn	04 45 37.2	-5.4
CAPC	33nm,1.4s **Capurgana**	**5.94**	**140**	P	Pn	04 44 47.0	+1.9
CAPC	47nm,1.2s			S	Sn	04 45 50.2	-3.7
TGUH	47nm,1.2s **Tegucigalpa,Un**	**5.94**	**279**	P	Pn	04 44 45.1	-0.1
TGUH	74nm,1.0s			S	Sn	04 45 53.1	-1.0
MTDJ	74nm,1.0s **Mount Denham**	**6.10**	**35**	P	Pn	04 44 48.3	+0.9
MTDJ	45nm,1.4s			S	Sn	04 45 54.4	-3.7
LCBC	45nm,1.4s **Los crdobas,**	**6.45**	**132**	P	Pn	04 44 51.7	-0.4
LCBC	64nm,0.9s			S	Sn	04 46 03.0	-3.4
SJCC	64nm,0.9s **San Jacinto, C**	**6.78**	**119**	P	Pn	04 44 57.8	+1.1
SJCC	17nm,1.1s			S	Sn	04 46 08.4	-6.4
CRJC	17nm,1.1s **Cerrejon, Guaj**	**8.44**	**104**	P	Pn	04 45 18.1	-1.5
CRJC	15nm,0.7s			S	Sn	04 46 48.7	-7.1
ZARC	15nm,0.7s **Zaragoza, Cauc**	**8.46**	**132**	P	Pn	04 45 17.9	-1.9
ZARC	10nm,0.6s			S	Sn	04 46 50.4	-5.8
GTBY	10nm,0.6s **Guantanamo Bay**	**8.87**	**41**	P	Pn	04 45 25.0	-0.3

TEH 25 04:44:24.0, 30°.80N×56°.88E, h6km±745km, ML4.0, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.34**	**299**	Pg	Pb	04 44 31.7	-0.9
KRM1	**Kerman Provinc**	**0.45**	**131**	Pg	Pb	04 44 34.6	+0.2
KHGB	**Koh Gabri**	**0.55**	**219**	Pg	Pb	04 44 35.8	-0.4
TVBK	**TV Kerman**	**0.82**	**187**	Pg	Pb	04 44 41.3	+0.5
CHMN	**Cheshme madani**	**1.10**	**149**	Pg	Pb	04 44 45.7	+0.1
NGRK	**Negar Kerman**	**1.16**	**186**	Pg	Pn	04 44 47.6	+0.4
IMEH	**Mehriz**	**2.03**	**287**	Pn	Pb	04 45 02.0	+0.6
KBAM	**BAM**	**2.15**	**140**	Pn	Pb	04 45 03.6	+0.2
TPRV	**Parvadeh(Tabas**	**2.23**	**356**	Pn	Pb	04 45 04.5	-0.3
IKOO	**Kooshah**	**2.43**	**48**	Pn	Pb	04 45 07.0	-1.3
ICHK	**Chekchek**	**2.56**	**305**	Pn	Pb	04 45 09.7	-0.7
ITEG	**Tejag**	**2.63**	**37**	Pn	Pb	04 45 10.0	-1.6
NHDN	**Nehbandan**	**2.78**	**77**	Pn	Pb	04 45 12.1	-2.1
TKDS	**Koohdasht(Taba**	**2.81**	**4**	Pn	Pb	04 45 12.6	-2.1
KHNJ	**Kahnooj**	**2.93**	**166**	Pn	Pb	04 45 14.6	-2.1
ISAD	**Sadrabad**	**2.95**	**293**	Pn	Pb	04 45 15.0	-2.2
TNSJ	**Nastanj**	**3.16**	**356**	Pn	Pb	04 45 17.4	+3.0
AFRZ	**Afriz**	**3.18**	**34**	Pn	Pb	04 45 17.5	+2.8
IDAH	**Dahanechah**	**3.19**	**52**	Pn	Pb	04 45 17.6	+2.6
GENO	**Geno**	**3.44**	**191**	Pn	Pb	04 45 22.6	-2.9
ANAR	**Anarak**	**3.58**	**312**	Pn	Pb	04 45 23.4	+3.1
IRAM	**Ramesheh**	**3.98**	**286**	Pn	Pb	04 45 29.2	+3.4
SHRT	**Shahrakht**	**4.05**	**45**	Pn	Pb	04 45 29.6	+3.0
TAPT	**Tabas- Tapeh t**	**4.08**	**3**	Pn	Pb	04 45 30.0	+2.9
IZEF	**Zefreh**	**4.40**	**300**	Pn	Pb	04 45 34.8	+3.2
KLNJ	**Kolanjah**	**4.55**	**274**	Pn	Pb	04 45 38.1	+4.3
KRSH	**Karshahi**	**5.11**	**309**	Pn	Pb	04 45 45.2	+3.9
IKLH	**Kolahrood**	**5.15**	**301**	Pn	Pb	04 45 45.5	+3.6
ISFB	**Sefidab**	**5.28**	**313**	Pn	Pb	04 45 47.0	+3.4
TBJM	**Torbat-e-JAM**	**5.31**	**32**	Pn	Pb	04 45 46.8	+2.7
IPIR	**Pirpir**	**5.43**	**292**	Pn	Pb	04 45 50.5	+4.6
SBZV	**Sabzevar**	**5.61**	**6**	Pn	Pb	04 45 51.6	+3.4
IPAY	**Payeh**	**5.90**	**17**	Pn	Pb	04 45 54.9	+2.7
IFIR	**Firoozkooh**	**5.94**	**325**	Pn	Pb	04 45 56.1	+3.4
IMYA	**Miami**	**6.14**	**25**	Pn	Pb	04 45 58.5	+3.0
IDMV	**Damavand**	**6.26**	**321**	Pn	Pb	04 46 01.2	+4.1
ISFR	**Sfrayin**	**6.31**	**8**	Pn	Pb	04 46 01.6	+3.8
IQOM	**Qom**	**6.34**	**311**	Pn	Pb	04 46 01.5	+3.3
IEMG	**Emamgholi**	**6.76**	**12**	Pn	Pb	04 46 07.7	+3.6
MRVT	**Maraveh tapeh**	**6.87**	**355**	Pn	Pb	04 46 09.1	+3.8

RSNC 25 04:45:05.4±0.0, 13°N±1°×8°1W±°, h1km±1km, M3.0, mb4.2, ML3.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.22**	**329**	P	Pg	04 45 11.1	+1.5
PRVC				S	Sg	04 45 15.0	+2.6
SAIC	**Isla e San And**	**0.79**	**215**	P	Pb	04 45 21.7	-0.2
SAIC				S	Sb	04 45 34.3	+1.1
RNCC	**Cayo Roncador,**	**1.19**	**71**	P	Pg	04 45 27.2	-1.1
RNCC				S	Sg	04 45 43.9	+0.2
SERC	**Banco Serrana,**	**1.39**	**38**	P	Pn	04 45 30.5	-1.4
SERC				S	Sg	04 45 49.6	-0.5
BCIP	**Isla Barro Col**	**4.23**	**161**	P	Pn	04 46 06.7	-4.4
BCIP				S	Sn	04 46 55.2	-6.0
GMAL	**Guarumal, Vera**	**5.39**	**180**	P	Pn	04 46 26.0	-1.1
GMAL				S	Sn	04 47 25.4	-4.4
AZU	**Azuero**	**5.45**	**170**	P	Pn	04 46 25.7	-2.1
AZU	23nm,0.9s			S	Sn	04 47 27.1	-4.1
CRIN	23nm,0.9s **San Cristobal**	**5.67**	**266**	P	Pn	04 46 30.2	-0.8
CRIN	115nm,1.0s			S	Sn	04 47 35.5	-1.4
CACAO	115nm,1.0s **El Cacao, Vera**	**5.82**	**176**	P	Pn	04 46 32.7	-0.2
CACAO	44nm,1.7s			S	Sn	04 47 38.2	-2.2
SJCC	44nm,1.7s **San Jacinto, C**	**6.79**	**118**	P	Pn	04 46 47.7	+1.4
SJCC	13nm,1.0s			S	Sn	04 47 57.9	-6.5
GTBY	13nm,1.0s **Guantanamo Bay**	**8.92**	**40**	P	Pn	04 47 16.2	+0.8

RSNC 25 04:48:28.9±0.0, 13°N±4°×8°1W±°, h16km±6km, mb4.1, ML2.8, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.15**	**322**	P	Pg	04 48 32.1	-0.8
PRVC				S	Sb	04 48 36.3	+0.1
SAIC	**Isla e San And**	**0.84**	**211**	P	Pb	04 48 42.7	-2.4
SAIC				S	Sg	04 48 56.2	-0.1
RNCC	**Cayo Roncador,**	**1.19**	**75**	P	Pb	04 48 51.2	+0.1
RNCC				S	Sb	04 49 04.6	-1.6
SERC	**Banco Serrana,**	**1.35**	**41**	P	Pn	04 48 51.1	-2.0
SERC				S	Sn	04 49 10.6	0.0
BCIP	**Isla Barro Col**	**4.30**	**161**	P	Pn	04 49 27.9	-5.9
BCIP				S	Sn	04 50 16.4	-7.3
GMAL	**Guarumal, Vera**	**5.46**	**180**	P	Pn	04 49 51.4	+1.7
GMAL				S	Sn	04 50 46.6	-5.7
AZU	**Azuero**	**5.52**	**170**	P	Pn	04 49 50.4	-0.1
AZU	26nm,1.0s			S	Sn	04 50 48.1	-5.6
TGUH	26nm,1.0s **Tegucigalpa,Un**	**5.89**	**278**	P	Pn	04 49 55.7	0.0
CACAO	16nm,1.6s **El Cacao, Vera**	**5.89**	**176**	P	Pn	04 49 54.7	-0.9
SJCC	**San Jacinto, C**	**6.84**	**119**	P	Pn	04 50 03.6	-5.1
SJCC				S	Sn	04 51 16.5	-10

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*IDC **25** 04:49:11.7±3.4, 18°.76N×145°.76E, h105km±33km, mb3.6/9, mbtmp4.0/10, Error ellipse: s-maj=37.7km s-min=18.7km az=98.0*

ISC 25 04:49:12.2±0.8, 18°.76N±0°.09×145°.8E±0°.3, h109km, n16, σ1°.05/11, mb3.9/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.22**	**190**	P	**Pn**	**04 50 28.7**	**+0.8**
GUMO	15nm,0.3s,baz=328,slow=10,SNR=1.5			S	**Sn**	**04 51 25.9**	**-1.0**
H11S3	22nm,0.3s,baz=352,slow=21,SNR=1.7 **WAKE ISLAND Hy 19.84**	**87**		T	T	05 14 17.4	
H11S1	baz=274,slow=74,SNR=20 **WAKE ISLAND Hy 19.85**	**87**		T	T	05 14 18.1	
H11S2	baz=274,slow=74,SNR=26 **WAKE ISLAND Hy 19.85**	**87**		T	T	05 14 18.6	
H11N1	baz=274,slow=74,SNR=22 **WAKE ISLAND Hy 19.98**	**84**		T	T	05 14 48.5	
H11N2	baz=267,slow=74,SNR=4.7 **WAKE ISLAND Hy 19.98**	**84**		T	T	05 14 41.0	
H11N3	baz=267,slow=74,SNR=4.8 **WAKE ISLAND Hy 19.99**	**84**		T	T	05 14 51.4	
KLR	baz=267,slow=74,SNR=3.8 **Kul'dur**	**32.42**	**343**	P	**P**	**04 55 33.0**	**+1.3**
WRA	1.3nm,0.4s,baz=171,slow=10,SNR=5.3 1.3nm,0.4s **Warramunga Arr**	**40.06**	**197**	P	**P**	**04 56 37.1**	**+0.1**
ASAR	0.4nm,0.3s,baz=14,slow=8.2,SNR=8.4 0.4nm,0.3s **Alice Springs**	**43.73**	**196**	P	**P**	**04 57 07.2**	**+0.5**
ILAR	0.3nm,0.5s,baz=20,slow=7.4,SNR=7.7 0.3nm,0.5s **Eielson Array**	**63.56**	**26**	P	**P**	**04 59 29.5**	**-1.4**
BVAR	3.9nm,1.4s,baz=251,slow=6.1,SNR=4.7 3.9nm,1.4s **Borovoye Array**	**66.46**	**320**	P	**P**	**04 59 49.0**	**-0.8**
YKA	0.6nm,0.6s,baz=90,slow=4.3,SNR=1.9 0.6nm,0.6s **Yellowknife Ar**	**77.90**	**28**	P	**P**	**05 00 58.0**	**+0.3**
ARCES	0.6nm,0.7s,baz=291,slow=5.6,SNR=6.8 0.6nm,0.7s **ARCESS Array B**	**82.45**	**342**	P	**P**	**05 01 22.8**	**+0.7**
NVAR	5.9nm,1.1s,baz=336,slow=2.0,SNR=3.5 5.9nm,1.1s **Mina Array Bea**	**83.05**	**52**	P	**P**	**05 01 26.6**	**+0.5**
FINES	0.7nm,0.5s,baz=269,slow=5.9,SNR=7.7 0.7nm,0.5s **FINESS Array B**	**86.85**	**335**	P	**P**	**05 01 43.0**	**-1.4**
	1.8nm,0.9s,baz=72,slow=6.2,SNR=6.5 1.8nm,0.9s						

IDC 25 04:56:16.3±4.1, 41°.68N×127°.08E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=49.6km s-min=17.1km az=113.0, North Korea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**4.27**	**171**	Pn	Pn	04 57 21.7	-0.8
KSRS	0.2nm,0.3s,baz=353,slow=14,SNR=2.6			Pg	Pb	04 57 34.6	+2.4
KSRS	0.7nm,0.3s,baz=353,slow=17,SNR=6.3			Lg	Lg	04 58 32.6	
I45RU	2.0nm,0.3s,baz=351,slow=29,SNR=10 0.6nm,0.5s **USSURIYSK INFR**	**4.39**	**53**	I	I	05 23 00.0	
USRK	0.1nm,0.9s,baz=237,slow=316,SNR=1.3 **Ussuriysk Ar.**	**4.40**	**53**	Pn	Pn	04 57 25.6	+1.3
USRK	0.2nm,0.3s,baz=235,slow=15,SNR=2.3 0.4nm,0.3s,baz=239,slow=16,SNR=4.8			Pg	Pb	04 57 35.1	+0.7
USRK	0.6nm,0.3s,baz=235,slow=29,SNR=4.5 0.6nm,0.4s			Lg	Lg	04 58 36.3	

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*NOU **25** 04:56:33.9, 38°.05S×173°.36E, h46km, ML3.7/6, Off W. Coast of N. Island, N.Z.*
*WEL **25** 04:57:00.4±0.6, 39°.5S±5°×17°7E±°, h25km±5km, M2.5/13, ML2.8/16, MLv2.5/13, Error ellipse: s-maj=7.3km s-min=4.2km az=139.7, confirmed*

ISC 25 04:57:00.4±1.1, 39°.27S±0°.04×177°.45E±0°.04, h10km, n29, σ1°.21/35, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHHZ	**Waihua**	**0.26**	**319**	P	**Pg**	**04 57 07.5**	**+1.8**
WHHZ				S	**Sg**	**04 57 13.4**	**+4.2**
KNZ	**Kokohu**	**0.30**	**35**	P	**Pb**	**04 57 08.4**	**+0.5**
ARHZ	**Aropaoanui**	**0.35**	**271**	P	**Pb**	**04 57 09.0**	**+0.2**
ARHZ				S	**Sb**	**04 57 16.0**	**+1.5**
RAHZ	**Arahi**	**0.46**	**321**	P	**Pb**	**04 57 10.1**	**-0.5**
RAHZ				S	**Sb**	**04 57 17.9**	**+0.5**
PRGZ	**Paritu Road**	**0.48**	**44**	P	**Pb**	**04 57 11.9**	**+0.8**
SNGZ	**Shannon Statio**	**0.50**	**350**	P	**Pb**	**04 57 10.9**	**-0.3**
SNGZ				S	**Sb**	**04 57 19.4**	**+0.8**
NMHZ	**Naumai**	**0.53**	**289**	P	**Pb**	**04 57 11.5**	**-0.4**
NMHZ				S	**Sb**	**04 57 20.3**	**+0.7**
MCHZ	**McNeill Hill**	**0.61**	**253**	P	**Pb**	**04 57 13.0**	**-0.2**
RIGZ	**Rimuhau**	**0.61**	**23**	P	**Pb**	**04 57 13.2**	**0.0**
RIGZ				S	**Sb**	**04 57 23.1**	**+1.1**
MTHZ	**Maungataniwha**	**0.63**	**311**	P	**Pb**	**04 57 12.6**	**-1.1**
MTHZ				S	**Sb**	**04 57 22.1**	**-0.4**
KAHZ	**Kahuranaki**	**0.69**	**220**	P	**Pb**	**04 57 14.2**	**-0.3**
RTZ	**Ruatahuna**	**0.75**	**331**	P	**Pg**	**04 57 14.4**	**-0.5**
BKZ	**Black Stump Fm**	**0.75**	**278**	P	**Pg**	**04 57 14.5**	**-0.4**
BKZ	**Black Stump Fm**	**0.75**	**278**	P	**Pg**	**04 57 14.6**	**-0.4**
RAGZ	**Rawiri**	**0.78**	**358**	P	**Pb**	**04 57 15.4**	**-0.6**
KWHZ	**Kaweka Forest**	**0.81**	**259**	P	**Pg**	**04 57 15.5**	**-0.6**
KRHZ	**Kereru**	**0.92**	**246**	P	**Pg**	**04 57 17.8**	**-0.3**
MRHZ	**Matea Rd**	**0.92**	**298**	P	**Pg**	**04 57 17.1**	**-1.0**
MWZ	**Matawai**	**0.94**	**4**	P	**Pg**	**04 57 18.1**	**-0.4**
MUGZ	**Murupara**	**0.96**	**326**	P	**Pg**	**04 57 17.7**	**-1.1**
URZ	**Urewera**	**1.05**	**345**	P	**Pg**	**04 57 18.8**	**-1.7**
URZ	**Urewera**	**1.05**	**345**	P	**Pg**	**04 57 18.6**	**-1.9**
ETVZ	**East Tongariro**	**1.36**	**275**	P	**Pg**	**04 57 28.0**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NNZ	Nelson	0.08	3	P	Pn	04 57 12.6	+0.8
TKNZ	Takaka Hill	0.41	310	P	Pn	04 57 13.6	+0.2
TUWZ	Tuamarina	0.45	107	P	Pn	04 57 12.2	-1.4
MRNZ	Matariki Terra	0.47	258	P	Pn	04 57 14.1	+0.3
BSWZ	Blackbirch Sta	0.56	138	P	Pn	04 57 15.8	+1.2
THZ	Tophouse	0.58	217	P	Pn	04 57 15.3	+0.4
DUWZ	D'Urville Isla	0.65	40	P	Pn	04 57 16.5	+1.1
TCW	Tory Channel	0.69	83	P	Pn	04 57 16.8	+1.1
QRZ	Quartz Range	0.80	306	P	Pn	04 57 16.5	-0.5
QRZ	Quartz Range	0.80	306	P	Pn	04 57 16.4	-0.5
SNZO	South Karori	1.00	91	P	Pn	04 57 26.1	+6.9
KHZ	Kahutara	1.12	174	P	Pn	04 57 37.4	+17
BHW	Baring Head	1.13	96	P	Pn	04 57 20.7	-0.1
KIW	Kapiti Island	1.24	70	P	Pn	04 57 22.4	+0.2
DSZ	Denniston Nort	1.26	249	P	Pn	04 57 21.5	-1.0
PLWZ	Palliser	1.44	101	P	Pn	04 57 24.2	-0.5
OGWZ	Otaki Gorge	1.44	71	P	Pn	04 57 24.6	-0.1
PAWZ	Paruwai Farm	1.55	94	P	Pn	04 57 25.4	-0.7

RSNC 25 04:57:43.7±0.0, 13°N±3°×8°1W±°, h15km±4km, mb3.8, ML2.7, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PRVC	Isla de Provid	0.18	323	P	Pg	04 57 47.3	-0.8
PRVC				S	Sg	04 57 51.3	+0.3
SAIC	Isla e San And	0.82	213	P	Pg	04 57 57.9	-1.8
SAIC				S	Sb	04 58 10.8	+0.2
RNCC	Cayo Roncador,	1.18	73	P	Pn	04 58 04.1	-1.6
RNCC				S	Sb	04 58 20.5	-0.4
SERC	Banco Serrana,	1.36	39	P	Pn	04 58 06.8	-1.3
SERC				S	Sn	04 58 25.8	-0.1
BCIP	Isla Barro Col	4.27	161	P	Pn	04 58 43.6	-4.6
BCIP				S	Sn	04 59 32.9	-4.9
JTS	Las Juntas de	4.66	232	P	Pn	04 58 53.1	-0.5
JTS				S	Sn	04 59 45.9	-1.5
GMAL	Guarumal, Vera	5.43	180	P	Pn	04 59 07.7	+3.5
	15nm,2.1s						
GMAL				S	Sn	05 00 01.9	-4.6
	15nm,2.1s						
AZU	Azuero	5.49	170	P	Pn	04 59 05.6	+0.6
	33nm,1.9s						
AZU				S	Sn	05 00 02.8	-5.1
	33nm,1.9s						
SJCC	San Jacinto, C	6.81	118	P	Pn	04 59 23.7	+0.5
SJCC				S	Sn	05 00 34.3	-6.2

IDC 25 05:00:03.4±3.0, 41°.66N×127°.14E, h0km, mbtmp2.9/3, ML2.7/3, Error ellipse: s-maj=40.1km s-min=14.9km az=106.0, North Korea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KSRS	Korea Array	4.24	171	Pn	Pn	05 01 08.9	-0.4
	0.3nm,0.3s,baz=353,slow=13,SNR=2.7						
KSRS				Pg	Pb	05 01 21.6	+2.7
	1.3nm,0.3s,baz=350,slow=18,SNR=11						
KSRS				Lg	Lg	05 02 18.5	
	3.4nm,0.3s,baz=355,slow=30,SNR=14						
	0.5nm,0.3s						
I45RU	USSURIYSK INFR	4.37	53	I	I	05 27 04.3	
	baz=234,slow=334						
USRK	Ussuriysk Ar.	4.38	53	Pn	Pn	05 01 11.9	+0.8
	0.3nm,0.3s,baz=236,slow=15,SNR=2.3						
USRK				Pg	Pb	05 01 22.6	+1.5
	0.8nm,0.3s,baz=239,slow=15,SNR=6.0						
USRK				Lg	Lg	05 02 22.9	
	1.4nm,0.3s,baz=238,slow=26,SNR=7.2						
	0.7nm,0.4s						
KLR	Kul'dur	8.24	22	Pn	Pn	05 02 03.2	-0.9
	0.2nm,0.3s,baz=198,slow=18,SNR=4.2						
KLR				Lg	Lg	05 04 26.1	
	baz=102,slow=22						
	1.1nm,0.5s						

*IDC **25** 05:01:12.2±0.7, 55°.00N×165°.64E, h0km, mb3.8/16, mbtmp3.8/18, ML3.3/2, Error ellipse: s-maj=24.3km s-min=14.0km az=161.0*
*MOS **25** 05:01:12.8±0.7, 55°.06N×165°.56E, h13km, mb4.5/4, Error ellipse: s-maj=7.6km s-min=6.6km az=157.8*
*KRSC **25** 05:01:12.3±1.7, 54°.99N×165°.50E, h32km±12km, Ml4.4*
*NEIC **25** 05:01:14.0±1.1, 55°.0N±0°.3×165°.5E±0°.2, h10km±1km, mb4.1/37, Error ellipse: s-maj=47.6km s-min=8.5km az=344.0*

ISC 25 05:01:14.2±0.5, 55°.06N±0°.05×165°.46E±0°.04, h10km, n139, σ1°22/153, mb4.0/35, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BKI	Bering	0.33	63	*e*P	Pg	05 01 20.7	-0.1
BKI				*e*S	Sg	05 01 25.3	+0.1
BKI	Bering	0.33	63	PN	Pg	05 01 20.6	-0.1
BKI				S	Sg	05 01 25.3	+0.1
KBTR	Krutoberegovo	1.89	309	*e*P	Pn	05 01 44.2	-2.2
KBTR				*e*S	Sn	05 02 07.3	-3.1
KBTR	Krutoberegovo	1.89	309	PN	Pn	05 01 44.2	-2.2
KBTR				S	Sn	05 02 07.2	-3.1
KBG	Krutoberegovo	1.97	309	*e*P	Pn	05 01 45.4	-2.2
KBG	Krutoberegovo	1.97	309	PN	Pn	05 01 45.3	-2.2
SMKR	Semkarok	2.72	306	*e*P	Pn	05 01 57.6	-0.4
SMKR				*e*S	Sn	05 02 31.7	+0.7
SMKR	Semkarok	2.72	306	PN	Pn	05 01 57.6	-0.4
SMKR				S	Sn	05 02 31.6	+0.7
ZLN	Zelenaya	2.81	292	*e*P	Pn	05 01 60.0	+0.7
ZLN	Zelenaya	2.81	292	PN	Pn	05 01 59.9	+0.7
BDR	Baidarnaya	2.84	304	*e*S	Sn	05 02 35.1	+1.3
CIRR	Tsirk	2.88	294	*e*P	Pn	05 02 01.5	+1.4
CIRR	Tsirk	2.88	294	PN	Pn	05 02 01.5	+1.4
TUMD	Tumrok D	2.91	275	*e*P	Pn	05 02 00.8	+0.3
BZP	Bezymyannyi-Pe	2.93	289	*e*P	Pn	05 02 01.4	+0.5
BZMR	Bezymyannaya	2.96	289	*e*P	Pn	05 02 02.2	+0.9
BZMR	Bezymyannaya	2.96	289	PN	Pn	05 02 02.2	+0.9
BZWR	Bezymyannyi-We	2.96	290	*e*P	Pn	05 02 02.5	+1.0
BZWR	Bezymyannyi-We	2.96	290	PN	Pn	05 02 02.4	+1.0
KLY	Klyuchi	3.00	297	*e*P	Pn	05 02 01.2	-0.5
KLY				*e*S	Sn	05 02 36.7	-0.9
KLY	Klyuchi	3.00	297	PN	Pn	05 02 01.2	-0.5
KLY				S	Sn	05 02 36.7	-0.9
KRSR	Krestovskiy	3.01	295	*e*P	Pn	05 02 02.2	+0.2
KRSR	Krestovskiy	3.01	295	PN	Pn	05 02 02.1	+0.2
KIRR	Kirishev	3.04	289	*e*P	Pn	05 02 03.6	+1.0
KIRR	Kirishev	3.04	289	PN	Pn	05 02 03.5	+1.0
TUMR	Tumrok	3.05	276	*e*P	Pn	05 02 03.3	+0.7
TUMR	Tumrok	3.05	276	PN	Pn	05 02 03.3	+0.7
KMNR	Kamenistaya	3.06	285	*e*P	Pn	05 02 03.9	+1.3
KMNR	Kamenistaya	3.06	285	PN	Pn	05 02 03.9	+1.3
KPT	Kopyto	3.11	289	*e*P	Pn	05 02 04.2	+0.8
KPT	Kopyto	3.11	289	PN	Pn	05 02 04.2	+0.8
KOZ	Kozyrevsk	3.33	290	*e*P	Pn	05 02 07.5	+1.3
KOZ	Kozyrevsk	3.33	290	PN	Pn	05 02 07.5	+1.3
SPN	Mys Shipunski	3.75	241	*e*P	Pn	05 02 11.4	-0.7
SPN				*e*S	Sn	05 02 52.5	-3.8
SPN	Mys Shipunski	3.75	241	PN	Pn	05 02 11.3	-0.7
ESO	Esso	3.94	286	*e*P	Pn	05 02 16.2	+1.5
ESO	Esso	3.94	286	PN	Pn	05 02 16.2	+1.5
NLC	Nalytchevo	4.06	245	*e*P	Pn	05 02 16.5	+0.2
NLC				*e*S	Sn	05 03 01.0	-2.9
NLC	Nalytchevo	4.06	245	PN	Pn	05 02 16.5	+0.2
SDLR	Sedlovina	4.25	248	*e*P	Pn	05 02 19.7	+0.7
SDLR				*e*S	Sn	05 03 07.5	-1.3
SDLR	Sedlovina	4.25	248	PN	Pn	05 02 19.7	+0.7
SMAR	Somma	4.30	248	*e*P	Pn	05 02 20.5	+0.6
SMAR				*e*S	Sn	05 03 09.1	-1.1
SMAR	Somma	4.30	248	PN	Pn	05 02 20.4	+0.6
KRER	Koryakskii	4.31	249	*e*P	Pn	05 02 21.4	+1.4
KRER				*e*S	Sn	05 03 09.4	-1.0
KRER	Koryakskii	4.31	249	PN	Pn	05 02 21.3	+1.4
UGLR	Uglovaya	4.32	247	*e*P	Pn	05 02 21.2	+1.2
UGLR				*e*S	Sn	05 03 09.1	-1.3
UGLR	Uglovaya	4.32	247	PN	Pn	05 02 21.1	+1.2
AVH	Avacha	4.34	248	*e*P	Pn	05 02 21.9	+1.7
AVH				*e*S	Sn	05 03 09.7	-1.1
AVH	Avacha	4.34	248	PN	Pn	05 02 21.8	+1.7
KRX	Arik	4.34	250	*e*P	Pn	05 02 21.4	+1.0
KRX				*e*S	Sn	05 03 09.7	-1.3
KRX	Arik	4.34	250	PN	Pn	05 02 21.3	+1.0
KOK	Koryaka	4.38	249	*e*P	Pn	05 02 22.0	+1.2
KOK				*e*S	Sn	05 03 10.7	-1.1
KOK	Koryaka	4.38	249	PN	Pn	05 02 22.0	+1.2
OSSR	Ossora	4.40	344	*e*P	Pn	05 02 20.5	-0.5
OSSR	Ossora	4.40	344	PN	Pn	05 02 20.4	-0.5
DALK	Dalny	4.44	246	*e*P	Pn	05 02 22.9	+1.3
DALK				*e*S	Sn	05 03 10.8	-2.4
DALK	Dalny	4.44	246	PN	Pn	05 02 22.8	+1.3
PET	Petropavlovsk	4.50	246	Pn	Pn	05 02 23.0	+0.7
PET				Sn	Sn	05 03 12.1	-2.5
PET	Petropavlovsk	4.50	246	*e*P	Pn	05 02 23.8	+1.5
PET				*e*S	Sn	05 03 12.1	-2.5
PET	Petropavlovsk	4.50	246	*e*PN	Pn	05 02 21.3	-1.0
PET				pmax	pmax		
	comp=Z,35nm,0.5s						
PEA0B	Petropavlovsk-	4.97	250	Pn	Pn	05 02 30.3	+1.5
PEA0B	Petropavlovsk-	4.97	250	PN	Pn	05 02 30.3	+1.5
PETK	Petropavlovsk-	4.97	250	Pn	Pn	05 02 29.4	+0.7
	comp=Z,3.1nm,0.3s,baz=76,slow=17,SNR=48						
PETK				Sn	Sn	05 03 26.3	+0.1
	comp=Z,4.8nm,0.3s,baz=90,slow=24,SNR=5.3						
	comp=Z,8.5nm,0.5s						
MTVR	Mutnovka	5.03	242	*e*P	Pn	05 02 30.3	+0.6
MTVR	Mutnovka	5.03	242	PN	Pn	05 02 30.2	+0.6
GRL	Gorelyy	5.04	243	*e*P	Pn	05 02 31.1	+1.2
GRL	Gorelyy	5.04	243	PN	Pn	05 02 31.1	+1.2
SKR	Severo-Kuril's	7.15	236	*i*PN	Pn	05 02 59.5	+0.8
LVA	Lava Point	16.50	81		Pn	05 05 06.5	+1.1
K13K	Kusilvak Mount	16.95	54	P	Pn	05 05 12.5	+1.4
M13K	Dall Lake	17.38	59	P	P	05 05 18.9	+1.1
M13K				IAmb	IAmb	05 05 34.2	
	comp=Z,16nm,1.0s						
ASAJ	Asahikawa	18.33	243	P	P	05 05 29.4	+1.0
	comp=Z,0.2nm,0.3s,baz=73,slow=16,SNR=1.6						
	comp=Z,5.2nm,0.9s						
N15K	Kwethluk River	19.00	60	P	P	05 05 36.0	+0.4
N15K				IAmb	IAmb	05 05 43.7	
	comp=Z,8.6nm,0.8s						
M16K	Timber Creek	19.57	58	P	P	05 05 42.4	+0.5
K17K	Iditarod	20.00	53	P	Pn	05 05 47.9	-0.3
K17K				IAmb	IAmb	05 05 48.2	
	comp=Z,13nm,1.1s						
H18K	Honhosa River	20.36	46	P	P	05 05 52.0	+1.6
G18K	Tagagawik	20.42	44	P	P	05 05 51.7	+0.6
F19K	Shaleruckik Mo	21.01	41	P	P	05 05 59.0	+1.5
N18K	Kilae Creek	21.07	59	P	P	05 05 58.5	+0.3
J19K	Poorman	21.34	50	P	P	05 06 01.0	+0.1
J19K				IAmb	IAmb	05 06 14.5	
	comp=Z,11nm,1.1s						
E19K	Redstone River	21.39	40	P	P	05 06 03.3	+1.7
E19K				IAmb	IAmb	05 06 07.4	
	comp=Z,8.9nm,1.1s						
B20K	Meade River	22.30	33	P	P	05 06 11.8	+0.6
B20K				IAmb	IAmb	05 06 26.7	
	comp=Z,7.4nm,0.8s						
IMAR	Indian Mountai	22.40	45	P	P	05 06 13.0	+0.6
H21K	Melozitna Rive	22.74	46	P	P	05 06 16.4	+0.4
H21K				IAmb	IAmb	05 06 17.9	
	comp=Z,6.5nm,1.1s						
TIXI	Tiksi	22.76	331	*i*P	P	05 06 18.4	+2.2
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CAST	Castle Rocks	22.86	51	P	P	05 06 17.4	0.0
SKT	Skwentna	23.13	55	P	P	05 06 20.6	+0.6
SKT				IAmb	IAmb	05 06 37.0	
	comp=Z,5.9nm,1.2s						
BPAW	Bear Paw Mtn.	23.38	50	P	P	05 06 23.1	+0.5
D22K	Ayikyak River	23.42	37	P	P	05 06 22.8	-0.2
D22K				IAmb	IAmb	05 06 28.6	
	comp=Z,5.5nm,1.1s						
SUA	Susitna One	23.53	56	P	P	05 06 24.1	-0.1
E22K	Anaktuvuk Pass	23.56	39	P	P	05 06 23.8	-0.6
E22K				IAmb	IAmb	05 06 46.3	
	comp=Z,3.1nm,0.7s						
BRLK	Bradley Lake	23.64	61	P	P	05 06 24.5	-0.7
BRLK				IAmb	IAmb	05 06 45.6	
	comp=Z,12nm,0.9s						
JMM	Marumori	23.97	234	P	P	05 06 27.2	-1.3
C23K	Itkillik River	24.38	36	P	P	05 06 31.6	-0.4
COLA	College	24.75	48	*i*P	P	05 06 33.6	-1.9
COLA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
E24K	Your Creek	24.77	40	P	P	05 06 35.6	-0.1
E24K				IAmb	IAmb	05 06 44.5	
	comp=Z,6.9nm,1.1s						
F24K	Squaw Lake	24.92	42	P	P	05 06 36.6	-0.4
F24K				IAmb	IAmb	05 06 54.7	
	comp=Z,3.8nm,1.1s						
ILAR	Eielson Array	25.17	48	P	P	05 06 37.9	-1.3
	comp=Z,1.2nm,0.8s,baz=246,slow=7.9,SNR=9.8						
	comp=Z,1.2nm,0.8s						
L27K	Beaver Creek,	27.52	52	P	P	05 07 00.3	-0.1
L27K				IAmb	IAmb	05 07 02.2	
	comp=Z,5.8nm,1.1s						
BCAR	Beaver Creek A	27.53	52	P	P	05 07 00.5	-0.2
L29M	L29M	29.17	51	P	P	05 07 15.4	+0.1
L29M				IAmb	IAmb	05 07 20.0	
	comp=Z,4.9nm,1.1s						
HYT	Haines Junctio	29.96	55	P	P	05 07 22.3	0.0
DLBC	Dease Lake	34.33	57	P	P	05 08 01.6	+1.0
DLBC				IAmb	IAmb	05 08 01.8	
	comp=Z,1.9nm,0.7s						
H11N2	WAKE ISLAND Hy	35.28	178	T	T	05 45 35.2	
	baz=359,slow=76,SNR=438						
H11N3	WAKE ISLAND Hy	35.30	178	T	T	05 45 41.2	
	baz=359,slow=76,SNR=329						
H11N1	WAKE ISLAND Hy	35.30	178	T	T	05 45 38.2	
	baz=359,slow=76,SNR=448						
ULN	Ulaanbaatar	36.13	283	*i*P	P	05 08 17.9	+1.6
ULN				pmax	pmax		
	comp=Z,5.0nm,1.6s						
H11S1	WAKE ISLAND Hy	36.49	178	T	T	05 47 03.5	
	baz=359,slow=76,SNR=32						
H11S3	WAKE ISLAND Hy	36.51	178	T	T	05 47 12.6	
	baz=359,slow=76,SNR=9.6						
H11S2	WAKE ISLAND Hy	36.51	178	T	T	05 47 09.0	
	baz=359,slow=76,SNR=26						
SONM	Songino Array	36.52	284	P	P	05 08 21.5	+2.0
	comp=Z,0.6nm,0.7s,baz=35,slow=5.3,SNR=2.9						
	comp=Z,0.6nm,0.7s						
YKA	Yellowknife Ar	39.55	46	P	P	05 08 43.8	-1.0
	comp=Z,0.6nm,0.4s,baz=250,slow=7.1,SNR=9.2						
	comp=Z,0.6nm,0.4s						
LLLB	Lilloet	42.30	65	P	P	05 09 07.9	+0.3
ZALV	Zalesovo Beam	44.35	303	P	P	05 09 26.0	+1.9
	comp=Z,0.5nm,0.3s,baz=108,slow=9.3,SNR=1.6						
	comp=Z,0.5nm,0.3s						
B08A	Colville Reser	44.98	66	P	P	05 09 29.0	-0.2
B08A				IAmb	IAmb	05 09 29.3	
	comp=Z,1.6nm,0.7s						
L04D	Klamath Falls	47.32	74	P	P	05 09 48.2	+0.3
KURK	Kurchatov	49.34	303	P	P	05 10 04.3	+1.1
KURBB	Kurchatov Arra	49.45	303	P	P	05 10 04.3	+0.3
	comp=Z,0.3nm,0.4s,baz=56,slow=7.9,SNR=2.1						
	comp=Z,0.3nm,0.4s						
BVAR	Borovoye Array	51.60	310	P	P	05 10 20.6	+0.4
	comp=Z,0.3nm,0.4s,baz=3.4,slow=7.2,SNR=2.3						
	comp=Z,0.3nm,0.4s						
NVAR	Mina Array Bea	52.14	75	P	P	05 10 24.4	-0.4
	comp=Z,1.2nm,0.7s,baz=300,slow=7.8,SNR=7.2						
	comp=Z,1.2nm,0.7s						
PDAR	Pinedale Array	53.81	65	P	P	05 10 36.5	-0.5
	comp=Z,1.4nm,0.9s,baz=337,slow=2.3,SNR=11						
	comp=Z,1.4nm,0.9s						
ULM	Lac du Bonnet	55.15	51	P	P	05 10 46.5	+0.2
	comp=Z,3.2nm,0.6s,baz=213,slow=6.4,SNR=4.0						
	comp=Z,3.2nm,0.6s						
ULM	Lac du Bonnet	55.15	51	*e*P	P	05 10 48.6	+2.3
ULM				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SRU	San Rafael Swe	55.91	69	P	P	05 10 52.2	0.0
SRU	San Rafael Swe	55.91	69	P	P	05 10 52.2	0.0
SRU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
O20A	White River Ci	56.39	67	P	P	05 10 55.1	-0.5
HMU	Henry Mountain	56.64	70	P	P	05 10 57.6	+0.1
NOA	NORSAR Array B	62.46	346	P	P	05 11 36.0	-1.0
	comp=Z,0.3nm,0.5s,baz=3.9,slow=5.3,SNR=1.5						
	comp=Z,0.3nm,0.5s						
HFS	Hagfors	62.97	345	P	P	05 11 37.2	-3.2
	comp=Z,1.8nm,0.8s,baz=317,slow=6.1,SNR=2.1						
TX31	Lajitas Ar. Si	66.98	72	P	P	05 12 06.7	-0.4
TXAR	Lajitas Array	66.99	72	P	P	05 12 06.7	-0.4
TXAR	Lajitas Array	66.99	72	P	P	05 12 06.2	-0.9
	comp=Z,0.8nm,0.6s,baz=297,slow=4.0,SNR=13						
	comp=Z,0.8nm,0.6s						
TXAR	Lajitas Array	66.99	72	P	P	05 12 06.7	-0.4
EKA	Eskdalemuir Ar	69.58	353	P	P	05 12 22.2	-0.6
	comp=Z,0.6nm,0.6s,baz=17,slow=5.2,SNR=1.7						
	comp=Z,0.6nm,0.6s						
GERES	GERESS Array B	73.79	341	P	P	05 12 47.7	-0.6
	comp=Z,0.2nm,0.5s,baz=79,slow=5.1,SNR=1.7						
	comp=Z,0.2nm,0.5s						
WRA	Warramunga Arr	79.28	210	P	P	05 13 18.7	-0.9
	comp=Z,0.6nm,0.8s,baz=24,slow=5.8,SNR=4.6						
	comp=Z,0.6nm,0.8s						
ASAR	Alice Springs	82.93	209	P	P	05 13 38.7	-0.2
	comp=Z,0.9nm,0.9s,baz=21,slow=6.8,SNR=8.4						
	comp=Z,0.9nm,0.9s						
ESDC	Sonseca Array	85.20	352	P	P	05 13 50.3	-0.3
	comp=Z,0.2nm,0.5s,baz=253,slow=12,SNR=1.9						
	comp=Z,0.2nm,0.5s						
QSPA	South Pole Qui	144.81	180	PKP	PKPab	05 20 46.7	-2.1
	comp=Z,0.7nm,0.5s,baz=254,slow=0.4,SNR=9.1						

IDC 25 05:02:03.2±19.0, 20°.78N×143°.03E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=853.4km s-min=33.7km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.36	192	P	P	05 09 51.9	+0.7
	0.6nm,0.8s,baz=7.6,slow=7.6,SNR=4.6						
	0.6nm,0.8s						
ASAR	Alice Springs	45.06	192	P	P	05 10 20.1	-1.0
	0.2nm,0.5s,baz=20,slow=8.7,SNR=4.5						
	0.2nm,0.5s						
ZALV	Zalesovo Beam	54.84	322	P	P	05 11 35.1	-0.1
	0.8nm,0.3s,baz=95,slow=8.0,SNR=2.2						
	0.8nm,0.3s						

RSNC 25 05:03:48.8±0.0, 13°N±3°×8°1W±°, h16km±5km, mb3.9, ML2.7, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PRVC	Isla de Provid	0.17	321	P	Pg	05 03 52.4	-0.8
PRVC				S	Sg	05 03 56.4	+0.3
SAIC	Isla e San And	0.83	213	P	Pb	05 04 03.2	-1.7
SAIC				S	Sg	05 04 15.9	-0.1
RNCC	Cayo Roncador,	1.18	73	P	Pn	05 04 08.9	-1.7
RNCC				S	Sb	05 04 25.5	-0.3
SERC	Banco Serrana,	1.35	39	P	Pn	05 04 11.9	-1.1
SERC				S	Sn	05 04 30.6	0.0
BCIP	Isla Barro Col	4.28	161	P	Pn	05 04 48.7	-4.6
BCIP				S	Sn	05 05 37.0	-6.0
JTS	Las Juntas de	4.66	231	P	Pn	05 04 59.0	+0.4
GMAL	Guarumal, Vera	5.44	180	P	Pn	05 05 09.0	-0.3
	18nm,2.2s						
GMAL				S	Sn	05 06 07.4	-4.3
	18nm,2.2s						
AZU	Azuero	5.50	170	P	Pn	05 05 08.8	-1.3
AZU				S	Sn	05 06 08.5	-4.5

*OSPL **25** 05:11:48.8±0.9, 17°.39N×68°.63W, h0km±12km, ML2.5*
*RSPR **25** 05:11:50.6±0.8, 17°.9N±0°.2×68°.52W±0°.05, h126km±8km, Error ellipse: s-maj=23.6km s-min=6.3km az=184.0*
*SDD **25** 05:11:51.2±1.8, 18°.47N×68°.52W, h148km±13km, MD2.8, ML2.3, MW2.7*
*NEIC **25** 05:11:51.8±2.0, 18°.0N±0°.2×68°.5W±0°.1, h119km±16km, ML2.2/26, Md3.2/8(RSPR), Error ellipse: s-maj=35.5km s-min=11.2km az=202.0*

ISC 25 05:11:49.2±1.7, 18°.2N±0°.2×68°.55W±0°.04, h139km±14km, n24, σ0°90/39, 7C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PCDR	Punta Cana, DR	0.38	24		Pn	05 12 08.5	-0.1
PCDR					Sn	05 12 24.4	+1.0
PCDR				IAML		05 12 28.3	
	comp=N,75nm,1.5s						
PCDR				IAML		05 12 36.6	
	comp=E,42nm,2.9s						
PCDR	Punta Cana, DR	0.38	24	*i*P	Pn	05 12 08.6	-0.1
PCDR				*e*S	Sn	05 12 24.7	+1.2
HIDR	Higuey Centro	0.46	339	⇓*e*Pg	Pn	05 12 08.8	-0.2
HIDR				⇑*e*Sg	Sn	05 12 24.1	0.0
HIDR				⇑*e*Sg		05 12 24.2	
HIDR				IAML		05 12 26.4	
	comp=N,92nm,0.2s						
HIDR				IAML		05 12 27.0	
	comp=E,78nm,0.1s						
MIDR	Miches	0.94	330	⇑*e*Pg	Pn	05 12 12.3	0.0
MIDR				⇓*e*Sg	Sn	05 12 28.7	-1.4
MIDR				IAML		05 12 31.5	
	comp=N,20nm,0.8s						
MIDR				IAML		05 12 32.2	
	comp=E,24nm,0.3s						
MIDR				IAML		05 12 32.3	
	comp=N,23nm,0.2s						
HATOM	Hato Mayor del	1.00	308	⇑*e*Pg	Pn	05 12 12.4	-0.6
HATOM				⇓*e*Sg	Sn	05 12 30.1	-1.0
HATOM				IAML		05 12 31.6	
	comp=N,14nm,1.0s						
HATOM				IAML		05 12 32.5	
	comp=E,18nm,0.3s						
IDE	Isla Desecheo	1.04	78		Pn	05 12 14.1	+0.8
IDE					Sn	05 12 31.6	0.0
PRSN	Puerto Rico Se	1.34	87	Pn	Pn	05 12 16.5	+0.4
PRSN				IAML		05 12 43.9	
	comp=E,23nm,0.2s						
PRSN				IAML		05 12 44.8	
	comp=N,23nm,0.3s						
CRPR	Cabo Rojo, PR	1.38	96		Pn	05 12 15.9	-0.7
CRPR

comp=E,12nm,2.4s
HUMP IAML 05 13 13.2
comp=N,12nm,4.3s
LODU1 El Espartillar 2.79 274 *i* P **Pn 05 12 33.8 +0.4**
LODU1 IAML 05 13 19.0
comp=Z,19nm,1.8s

*IDC **25** 05:12:10.0±1.4, 37°.48N×20°.90E, h0km, mb3.5/6, mbtmp3.4/9, ML3.5/3, MS3.8/1, Error ellipse: s-maj=27.3km s-min=22.7km az=175.0*
*THE **25** 05:12:11.2, 37°.28N×20°.69E, h4km±1km, ML3.9/8, Error ellipse: s-maj=1.9km s-min=0.7km az=49.0*
*BEO **25** 05:12:13.6±1.3, 37°.51N×20°.84E, h0km, ML3.4/6*
ISC 25 05:12:12.9±0.9, 37°.35N±0°.06×20°.76E±0°.05, h22km±5km, n70, σ1.9±42/75, mb3.6/6, 7C-5D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.32**	**8**	P	**Pb**	**05 12 19.2**	**-0.7**
KRI1				S	**Sb**	**05 12 24.4**	**-0.4**
	32μm,0.3s						
RTZL	**Ratzakli, Kefa**	**0.73**	**1**	P	**Pb**	**05 12 26.0**	**-0.9**
RTZL				S	**Sn**	**05 12 37.7**	**-0.6**
	4μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.78**	**350**	P	**Pb**	**05 12 27.0**	**-0.7**
PSDA				S	**Sn**	**05 12 39.4**	**-0.1**
	8μm,0.2s						
VLS	**Valsamata**	**0.84**	**351**	P	**Pb**	**05 12 28.1**	**-0.7**
VLS				S	**Sn**	**05 12 41.5**	**+0.4**
	8μm,0.1s						
LXR1	**Lixouri, Cepha**	**0.89**	**343**	P	**Pb**	**05 12 29.2**	**-0.4**
LXR1				S	**Sn**	**05 12 42.7**	**+0.5**
	15μm,0.3s						
RLS	**Riolos of Patr**	**0.90**	**38**	P	**Pb**	**05 12 29.5**	**-0.3**
DMLN	**Damoulianata-K**	**0.94**	**341**	P	**Pb**	**05 12 29.9**	**-0.6**
ITM	**Ithomi**	**0.94**	**100**	P	**Pb**	**05 12 29.9**	**-0.7**
ITM				S	**Sn**	**05 12 44.2**	**+0.5**
	5μm,0.5s						
VSK1	**VASILIKIADES**	**1.07**	**352**	P	**Pn**	**05 12 31.9**	**-0.7**
VSK1				S	**Sn**	**05 12 49.5**	**+2.7**
	4μm,0.3s						
AST1	**Astakos**	**1.22**	**12**	P	**Pn**	**05 12 34.6**	**0.0**
AST1				S	**Sb**	**05 12 54.5**	**+4.0**
	1μm,0.4s						
EVGI	**Lefkada island**	**1.27**	**356**	P	**Pn**	**05 12 35.3**	**-0.1**
KLV	**Kalavryta, Ach**	**1.30**	**57**	P	**Pn**	**05 12 35.8**	**0.0**
NYDR	**Nydri-Lefkada**	**1.36**	**358**	P	**Pn**	**05 12 36.7**	**+0.1**
TSLK	**Tsoukalades, L**	**1.48**	**357**	P	**Pb**	**05 12 39.2**	**-0.4**
KALE	**Kalithea**	**1.51**	**46**	P	**Pb**	**05 12 39.8**	**-0.4**
VLI	**Velai**	**1.85**	**109**	P	**Pb**	**05 12 44.7**	**-1.3**
FNA	**Florina**	**3.46**	**8**	*e*Pn	**Pn**	**05 13 07.1**	**+1.6**
TIP	**Timpagrande**	**3.64**	**301**	⇑P	**Pn**	**05 13 08.7**	**+0.7**
OHR	**Ohrid**	**3.76**	**0**	*e*Pn	**Pn**	**05 13 11.3**	**+1.7**
OHR	**Ohrid**	**3.76**	**0**	*i* Pn	**Pn**	**05 13 13.6**	**+4.1**
TIR	**Tirane**	**4.05**	**350**	⇓P	**Pn**	**05 13 15.6**	**+2.0**
TIR	**Tirane**	**4.05**	**350**	⇓P	**Pn**	**05 13 15.6**	**+2.0**
VAY	**Valandovo**	**4.21**	**19**	*i* Pn	**Pn**	**05 13 18.5**	**+2.8**
MATE	**Matera**	**4.57**	**317**	⇓P	**Pn**	**05 13 20.9**	**+0.3**
PDG	**Podgorica**	**5.21**	**348**	*e*Pn	**Pn**	**05 13 28.4**	**-1.0**
PDG	**Podgorica**	**5.21**	**348**	⇑P	**Pn**	**05 13 30.0**	**+0.6**
BOSS	**Bosilegrad**	**5.31**	**14**	*e*Pn	**Pn**	**05 13 31.4**	**+0.6**
BARS	**Barje**	**5.52**	**8**	*e*Pn	**Pn**	**05 13 34.4**	**+0.7**
TREB	**Trebinje**	**5.67**	**342**	*e*Pn	**Pn**	**05 13 33.3**	**-2.5**
SELS	**Selova**	**5.87**	**3**	*e*Pn	**Pn**	**05 13 38.5**	**-0.1**
SJES	**Sjenica**	**5.94**	**354**	*e*Pn	**Pn**	**05 13 40.2**	**+0.7**
SJES				*e*Sn	**Sn**	**05 14 46.3**	**-0.6**
SJES	**Sjenica**	**5.94**	**354**	*e*Pn	**Pn**	**05 13 39.7**	**+0.2**
STON	**Ston**	**6.00**	**338**	*e*Pn	**Pn**	**05 13 37.9**	**-2.3**
ZAPS	**Zavoj**	**6.09**	**13**	*e*Pn	**Pn**	**05 13 42.3**	**+0.7**
IVAS	**Ivanjica**	**6.24**	**356**	*e*Pn	**Pn**	**05 13 43.0**	**-0.6**
BOVS	**Bovan**	**6.32**	**6**	*e*Pn	**Pn**	**05 13 43.8**	**-0.9**
BOVS	**Bovan**	**6.32**	**6**	⇑P	**Pn**	**05 13 44.5**	**-0.2**
RUDO	**Rudo**	**6.35**	**351**	*e*Pn	**Pn**	**05 13 45.4**	**+0.3**
GRUS	**Gruza**	**6.53**	**360**	*e*Pn	**Pn**	**05 13 47.2**	**-0.4**
BBLS	**Lazi&#263i**	**6.59**	**351**	*e*Pn	**Pn**	**05 13 50.2**	**+1.7**
DIVS	**Divibare**	**6.77**	**355**	*e*Pn	**Pn**	**05 13 50.6**	**-0.3**
DIVS				*e*Sn	**Sn**	**05 15 03.0**	**-4.3**
HAPS	**Han Pijesak,BI**	**6.87**	**349**	*e*Pn	**Pn**	**05 13 51.7**	**-0.6**
A050A	**Klekovaca**	**7.81**	**337**	*e*Pn	**Pn**	**05 14 05.6**	**+0.4**
FRGS	**Fruska Gora**	**7.84**	**355**	*e*Pn	**Pn**	**05 14 03.1**	**-2.4**
BLY	**Banja Luka**	**7.87**	**341**	*e*Pn	**Pn**	**05 14 06.7**	**+0.7**
A051A	**Mrakovica**	**8.19**	**340**	*e*Pn	**Pn**	**05 14 08.2**	**-2.2**
LOT	**Lotru**	**8.40**	**15**	⇑P	Pn	05 14 18.8	+5.5
MORH	**Mrgy, Hungar**	**9.00**	**351**	⇓P	**Pn**	**05 14 21.4**	**-0.1**
MLR	**Muntele Rosu**	**9.02**	**24**	⇑P	Pn	05 14 28.0	+6.2
BOJS	**Bojanci**	**9.14**	**335**	*e*Pn	**Pn**	**05 14 22.4**	**-0.9**
BISRR	**Bisoca**	**9.33**	**27**	⇓P	**Pn**	**05 14 23.6**	**-2.4**
CRES	**Cresnjevec Ost**	**9.35**	**337**	*e*Pn	**Pn**	**05 14 24.8**	**-1.5**
VRI	**Vrincioaia**	**9.61**	**26**	⇑P	Pn	05 14 37.2	+7.4
CEY	**Cerknica**	**9.63**	**332**	*e*Pn	**Pn**	**05 14 30.0**	**-0.1**
VLDR	**Vladesti**	**10.10**	**31**	⇑P	Pn	05 14 43.3	+6.8
OBKA	**Obir**	**10.25**	**335**	*e*Pn	**Pn**	**05 14 39.6**	**+0.9**
	0.3nm,0.2s						
OBKA	**Obir**	**10.25**	**335**	*e*Pn	**Pn**	**05 14 39.4**	**+0.7**
BRTR	**Keskin Array B**	**10.37**	**73**	Pn	**Pn**	**05 14 41.7**	**+1.4**
	0.1nm,0.3s,baz=242,slow=14,SNR=2.7						
	0.4nm,0.5s						
VYHS	**Vyhne**	**11.23**	**353**	*e*PN	**Pn**	**05 14 51.8**	**-0.2**
VYHS				*e*PG		05 15 48.1	
MOA	**Molln**	**11.53**	**338**	*e*Pn	**Pn**	**05 14 56.7**	**+0.6**
	0.4nm,0.3s						
BIOA	**Bad Ischl, Aus**	**11.59**	**335**	*e*Pn	**Pn**	**05 14 57.7**	**+0.7**
	0.8nm,0.4s						
GERES	**GERESS Array B**	**12.59**	**338**	Pn	**Pn**	**05 15 11.8**	**+1.2**
	0.1nm,0.3s,baz=164,slow=14,SNR=2.1						
	0.3nm,0.4s						
ESDC	**Sonseca Array**	**19.47**	**284**	P	**Pn**	**05 16 39.6**	**+0.1**
	baz=82,slow=12,SNR=4.7						
	0.8nm,0.9s						
MDT	**Midelt**	**21.22**	**265**	LR	LR	05 25 43.9	
	comp=Z,267nm,18.9s,baz=78,slow=38						
HFS	**Hagfors**	**23.25**	**351**	P	**P**	**05 17 17.1**	**-1.3**
	1.2nm,0.6s,baz=159,slow=11,SNR=8.1						
	1.2nm,0.6s						
EKA	**Eskdalemuir Ar**	**24.22**	**326**	P	**P**	**05 17 27.4**	**-0.4**
	1.0nm,0.5s,baz=123,slow=9.4,SNR=5.6						
	1.0nm,0.5s						
NOA	**NORSAR Array B**	**24.47**	**349**	P	**P**	**05 17 29.1**	**-0.9**
	0.3nm,0.6s,baz=156,slow=8.9,SNR=3.1						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**29.51**	**220**	P	**P**	**05 18 17.8**	**+2.2**
	0.2nm,0.5s,baz=31,slow=9.3,SNR=2.1						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**42.57**	**53**	P	**P**	**05 20 06.0**	**-0.9**
	0.5nm,0.3s,baz=279,slow=8.6,SNR=1.4						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**45.58**	**58**	P	**P**	**05 20 30.1**	**-1.1**
	0.4nm,0.6s,baz=270,slow=7.7,SNR=6.4						
	0.4nm,0.6s						

RSNC 25 05:15:49.9±0.0, 13°.19N×81°.20W, h1km±1km, M3.3, mb4.7, ML3.3, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.24**	**319**	P	Pg	05 15 55.9	+1.3
PRVC				S	Sg	05 16 00.4	+2.6
SAIC	**Isla e San And**	**0.82**	**218**	P	Pb	05 16 06.3	-0.6
SAIC				S	Sb	05 16 18.9	-0.4
RNCC	**Cayo Roncador,**	**1.15**	**70**	P	Pg	05 16 10.9	-1.0
RNCC				S	Sg	05 16 26.9	+0.2
SERC	**Banco Serrana,**	**1.36**	**37**	P	Pg	05 16 14.4	-1.6
SERC				S	Sg	05 16 33.3	-0.3
BCIP	**Isla Barro Col**	**4.22**	**161**	P	Pn	05 16 54.4	-1.0
GMAL	**Guarumal, Vera**	**5.39**	**180**	P	Pn	05 17 10.3	-1.3
	54nm,0.8s						
GMAL				S	Sn	05 18 10.5	-3.8
	54nm,0.8s						
AZU	**Azuero**	**5.44**	**170**	P	Pn	05 17 12.3	+0.1
	34nm,0.6s						
AZU				S	Sn	05 18 10.8	-4.7
	34nm,0.6s						
CACAO	**El Cacao, Vera**	**5.82**	**177**	P	Pn	05 17 18.2	+0.8
	91nm,0.8s						
MTDJ	**Mount Denham**	**6.13**	**35**	P	Pn	05 17 20.9	-0.8
	52nm,0.7s						
LCBC	**Los crdobas,**	**6.41**	**132**	P	Pn	05 17 24.8	-0.7
	135nm,0.7s						
STH	**Stony Hill**	**6.44**	**40**	*i* P	Pn	05 17 25.6	-0.3
GWJ	**Greenwich**	**6.49**	**41**	*i* P	Pn	05 17 26.5	-0.3
SJCC	**San Jacinto, C**	**6.75**	**118**	P	Pn	05 17 26.1	-4.1
	comp=Z,4μm,0.6s						
NANN				*i* S	**Sg**	**05 18 52.8**	**-0.6**
NANN				IAML		05 19 05.0	
	comp=Z,7μm,1.0s						
MAS3	**Al N del Volca**	**4.96**	**258**	*i* S	**Sg**	**05 18 54.6**	**+0.1**
UNAN	**Cigeo UNAN**	**5.04**	**259**	*i* S	**Sg**	**05 18 56.6**	**-0.2**
MOMN	**Momotombo**	**5.25**	**263**	*i* P	**Pb**	**05 17 50.0**	**+3.2**
MOMN				IVmB_BB		05 17 54.7	
	comp=Z,75nm,1.0s						
MOMN				IAML		05 17 54.8	
	comp=Z,11nm,1.0s						
MOMN				IAmb	IAmb	05 17 54.9	
	comp=Z,9.5nm,0.7s						
INDI	**Punta indio, G**	**5.29**	**233**	*i* S	**Sb**	**05 18 47.0**	**-4.1**
GMAL	**Guarumal, Vera**	**5.29**	**180**	P	**Pn**	**05 17 35.1**	**+1.0**
	comp=Z,59nm,0.8s,comp=Z,2μm						
GMAL				S	**Sn**	**05 18 34.4**	**-0.8**
	comp=Z,59nm,0.8s,comp=Z,2μm						
AZU	**Azuero**	**5.34**	**170**	P	**Pn**	**05 17 34.5**	**-0.3**
	comp=Z,32nm,0.7s						
AZU				S	**Sn**	**05 18 35.6**	**-0.8**
	comp=Z,32nm,0.7s						
AZU	**Azuero**	**5.34**	**170**	*e*P	**Pn**	**05 17 33.4**	**-1.4**
AZU				*e*S	**Sn**	**05 18 33.1**	**-3.3**
PKGN	**Cerro Pekin**	**5.64**	**266**	*i* S	**Sg**	**05 19 14.4**	**-1.8**
CRIN	**San Cristobal**	**5.71**	**267**	Pn	**Pn**	**05 17 40.1**	**+0.2**
CRIN	**San Cristobal**	**5.71**	**267**	P	**Pn**	**05 17 40.2**	**+0.2**
	comp=Z,337nm,0.8s,comp=Z,3μm						
CACAO	**El Cacao, Vera**	**5.72**	**177**	P	**Pn**	**05 17 42.4**	**+2.5**
	comp=Z,119nm,0.6s						
CAPC	**Capurgana**	**5.82**	**139**	P	**Pn**	**05 17 43.4**	**+2.0**
	comp=Z,40nm,1.0s						
CAPC				S	**Sn**	**05 18 46.2**	**-2.1**
	comp=Z,40nm,1.0s						
TGUH	**Tegucigalpa,Un**	**5.98**	**280**	Pn	**Pn**	**05 17 44.2**	**+0.6**
TGUH	**Tegucigalpa,Un**	**5.98**	**280**	P	**Pn**	**05 17 43.6**	**0.0**
	comp=Z,188nm,0.5s,comp=Z,2μm						
MTDJ	**Mount Denham**	**6.21**	**34**	Pn	**Pn**	**05 17 47.0**	**+0.2**
MTDJ	**Mount Denham**	**6.21**	**34**	⇑*i*P	**Pn**	**05 17 47.0**	**+0.2**
MTDJ	**Mount Denham**	**6.21**	**34**	P	**Pn**	**05 17 47.0**	**+0.2**
	comp=Z,52nm,0.7s						
LCBC	**Los crdobas,**	**6.34**	**131**	P	**Pn**	**05 17 50.4**	**+1.8**
	comp=Z,139nm,0.7s						
LCBC				S	**Sn**	**05 19 02.9**	**+1.8**
	comp=Z,139nm,0.7s						
HOJ	**Hope**	**6.51**	**41**	*i* P	**Pn**	**05 17 47.5**	**-3.3**
SJCC	**San Jacinto, C**	**6.71**	**118**	P	**Pn**	**05 17 52.8**	**-0.8**
	comp=Z,43nm,0.6s						
SJCC				S	**Sn**	**05 19 08.0**	**-2.1**
	comp=Z,43nm,0.6s						
APAC	**Apartado, Choc**	**6.88**	**138**	P	**Pn**	**05 17 57.7**	**+1.8**
	comp=Z,34nm,0.8s						
APAC				S	**Sn**	**05 19 14.5**	**+0.2**
	comp=Z,34nm,0.8s						
ARGC	**Ariguani, Magd**	**7.54**	**114**	P	**Pn**	**05 18 05.4**	**+0.4**
	comp=Z,48nm,0.7s						
MTO3	**Montecristo**	**8.03**	**280**		**Pn**	**05 18 12.0**	**+0.1**
ZARC	**Zaragoza, Cauc**	**8.36**	**131**	P	**Pn**	**05 18 17.1**	**+0.8**
	comp=Z,18nm,0.7s						
ZARC				S	**Sn**	**05 19 47.9**	**-3.0**
	comp=Z,18nm,0.7s						
CRJC	**Cerrejon, Guaj**	**8.40**	**103**	P	**Pn**	**05 18 15.2**	**-1.7**
	comp=Z,30nm,0.6s						
CRJC				S	**Sn**	**05 19 46.9**	**-5.0**
	comp=Z,30nm,0.6s						
CBOC	**Ciudad Bolivar**	**8.82**	**144**	P	**Pn**	**05 18 25.1**	**+2.4**
	comp=Z,8.6nm,0.5s						
HELC	**Santa Helena**	**8.85**	**140**	P	**Pn**	**05 18 25.8**	**+2.5**
	comp=Z,6.0nm,0.6s						
GTBY	**Guantanamo Bay**	**8.96**	**40**		**Pn**	**05 18 24.7**	**+0.2**
GTBY	**Guantanamo Bay**	**8.96**	**40**	*i* P	**Pn**	**05 18 24.4**	**-0.1**
GTBY	**Guantanamo Bay**	**8.96**	**40**	P	**Pn**	**05 18 24.2**	**-0.3**
	comp=Z,25nm,0.9s						
URIC	**Uribia, Colomb**	**9.11**	**98**	P	**Pn**	**05 18 23.0**	**-3.5**
URIC				S	**Sn**	**05 20 03.2**	**-6.0**
PETF	**Flores**	**9.19**	**296**	Pn	**Pn**	**05 18 27.9**	**+0.3**
PTBC	**PUERTO BERRIO,**	**9.30**	**134**	P	**Pn**	**05 18 29.9**	**+0.7**
	comp=Z,7.8nm,0.6s,comp=Z,826nm						
BRJC	**Barrancabermej**	**9.53**	**129**	P	**Pn**	**05 18 32.0**	**-0.4**
	comp=Z,22nm,0.6s						
GUY2C	**Guyana, Caldas**	**9.71**	**143**	P	**Pn**	**05 18 37.8**	**+2.6**
SOR	**Soroa**	**9.80**	**350**	Pn	**Pn**	**05 18 37.5**	**+1.5**
TEIG	**Tepich**	**9.81**	**317**	Pn	**Pn**	**05 18 35.8**	**-0.3**
TEIG	**Tepich**	**9.81**	**317**	Pn	**Pn**	**05 18 35.3**	**-0.7**
	baz=122,slow=23,SNR=9.5						
TEIG				Sn	**Sn**	**05 20 21.1**	**-5.2**
	baz=39,slow=24,SNR=1.1						
TEIG	**Tepich**	**9.81**	**317**	P	**Pn**	**05 18 35.4**	**-0.7**
	comp=Z,81nm,0.5s,comp=Z,2μm						
TEIG				S	**Sn**	**05 20 20.1**	**-6.3**
	comp=Z,81nm,0.5s,comp=Z,2μm						
PAPH	**Port-au-Prince**	**10.13**	**57**		**Pn**	**05 18 41.2**	**+0.7**
PAMC	**Pamplona, Colo**	**10.13**	**123**	P	**Pn**	**05 18 43.9**	**+2.9**
ROSC	**El Rosal**	**10.65**	**140**	Sn	**Sn**	**05 20 47.9**	**+0.3**
	baz=189,slow=24						
SDV	**Santo Domingo**	**11.19**	**111**	Pn	**Pn**	**05 18 52.8**	**-2.4**
SDV	**Santo Domingo**	**11.19**	**111**	Pn	**Pn**	**05 18 54.6**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=274,slow=12,SNR=12						
SDV				Sn	**Sn**	**05 20 56.8**	**-3.7**
	comp=Z,4.1nm,0.3s,baz=169,slow=23,SNR=9.3						
SDDR	**Presa de Saban**	**11.19**	**57**	Pn	**Pn**	**05 18 55.4**	**+0.3**
OTAV	**Otavalo**	**13.06**	**168**		**Pn**	**05 19 21.8**	**+0.8**
PCDR	**Punta Cana, DR**	**13.47**	**65**	Pn	**Pn**	**05 19 26.4**	**+0.2**
BAUV	**El Baul**	**13.56**	**106**	Pn	**Pn**	**05 19 25.0**	**-2.6**
SJG	**San Juan**	**15.34**	**69**	Pn	**P**	**05 19 55.8**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=315,slow=14,SNR=3.3						
	comp=Z,7.0nm,0.6s						
CZSB	**Cruzeiro do Su**	**22.34**	**157**	P	**P**	**05 21 11.7**	**-1.4**
CZSB				IAmb	IAmb	05 21 27.7	
	comp=Z,13nm,1.0s						
BOAV	**Boa Vista**	**23.06**	**116**	P	**P**	**05 21 19.1**	**-1.7**
HNDO	**Hondo**	**23.42**	**317**	P	**P**	**05 21 23.2**	**-1.1**
HNDO				IAmb	IAmb	05 21 31.2	
	comp=Z,9.6nm,1.1s						
WHTX	**Lake Whitney,**	**24.01**	**324**	P	**P**	**05 21 29.3**	**-0.7**
WHTX				IAmb	IAmb	05 21 50.4	
	comp=Z,10nm,0.8s						
BRDY	**Brady**	**24.42**	**321**	P	**P**	**05 21 32.8**	**-1.0**
BRDY				IAmb	IAmb	05 21 50.5	
	comp=Z,6.3nm,1.1s						
RLO	**Rose Lookout**	**26.12**	**334**	P	**P**	**05 21 49.5**	**+0.3**
TXAR	**Lajitas Array**	**26.37**	**311**	P	**P**	**05 21 51.6**	**-0.1**
TXAR	**Lajitas Array**	**26.37**	**311**	P	**P**	**05 21 52.6**	**+1.0**
	comp=Z,1.6nm,0.9s,baz=134,slow=8.9,SNR=9.7						
	comp=Z,1.6nm,0.9s						
TX31	**Lajitas Ar. Si**	**26.37**	**311**	P	**P**	**05 21 51.9**	**+0.2**
OK029	**Liberty Lake**	**26.94**	**330**	P	**P**	**05 21 56.8**	**+0.3**
PDAR	**Pinedale Array**	**38.40**	**326**	P	**P**	**05 23 37.8**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=130,slow=11,SNR=7.9						
	comp=Z,0.8nm,0.7s						
NVAR	**Mina Array Bea**	**41.44**	**314**	P	**P**	**05 24 03.7**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=131,slow=6.8,SNR=3.6						
	comp=Z,0.7nm,0.9s						
BDFB	**Brasilia**	**43.51**	**130**	P	**P**	**05 24 20.0**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=260,slow=9.3,SNR=3.3						
	comp=Z,1.7nm,0.9s						
ILAR	**Eielson Array**	**67.96**	**335**	P	**P**	**05 27 14.5**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=106,slow=8.0,SNR=3.0						
	comp=Z,0.5nm,0.9s						
ESDC	**Sonseca Array**	**71.99**	**52**	P	**P**	**05 27 41.1**	**+1.9**
	comp=Z,1.1nm,0.9s,baz=263,slow=8.9,SNR=3.6						
	comp=Z,1.1nm,0.9s						
EKA	**Eskdalemuir Ar**	**72.54**	**36**	P	**P**	**05 27 44.6**	**+2.5**
	comp=Z,1.0nm,0.8s,baz=245,slow=4.6,SNR=2.1						
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.32**	**79**	P	**P**	**05 28 31.1**	**+4.1**
	comp=Z,0.4nm,0.9s,baz=307,slow=3.5,SNR=1.9						
	comp=Z,0.4nm,0.9s						
ARCES	**ARCESS Array B**	**83.56**	**20**	P	**P**	**05 28 46.4**	**+3.4**
	comp=Z,6.4nm,1.1s,baz=290,slow=2.6,SNR=1.7						
	comp=Z,6.4nm,1.1s						
FINES	**FINESS Array B**	**86.66**	**27**	P	**P**	**05 29 01.9**	**+3.2**
	comp=Z,1.6nm,0.7s,baz=308,slow=4.6,SNR=7.3						
	comp=Z,1.6nm,0.7s						
HHC	**Hu-ho-hao-te**	**125.05**	**348**	*e*PKP	**PKPdf**	**05 35 11.3**	**-4.8**
PZH	**PanZhiHua**	**140.54**	**356**	PKP	**PKPdf**	**05 35 44.5**	**-1.1**
ASAR	**Alice Springs**	**145.15**	**247**	PKPbc	**PKPab**	**05 35 53.4**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=116,slow=3.6,SNR=5.2						
WRA	**Warramunga Arr**	**145.30**	**254**	PKPbc	**PKPbc**	**05 35 53.9**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=92,slow=3.1,SNR=6.5						

*NEIC **25** 05:16:12.2±0.5, 36°.362N±0°.010×98°.158W±0°.009, h6km±2km, ML2.3/50, ML2.7/26, Error ellipse: s-maj=1.6km s-min=0.8km az=147.0*
NEIC 25 05:16:12.1±0.5, 36°.360N±0°.009×98°.16W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=2.0km az=79.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.20**	**44**		Pg	05 16 16.6	+0.6
CROK					Sg	05 16 19.7	+1.0
CROK				IAML		05 16 20.0	
	comp=N,726nm,0.3s						
OK038	**West end E0370**	**0.49**	**284**		Pg	05 16 22.1	+0.7
OK038					Sg	05 16 29.0	+1.2
OK038				IAML		05 16 31.8	
	comp=N,250nm,0.3s						
OK038				IAML		05 16 33.1	
	comp=N,280nm,0.3s						
GC02	**Grant County #**	**0.55**	**26**		Pg	05 16 23.0	+0.4
GC02					Sg	05 16 30.3	+0.6
KAN14	**Manchester OK**	**0.62**	**15**		Pg	05 16 24.2	+0.3
KAN14					Sg	05 16 32.7	+0.7
KAN14				IAML		05 16 33.1	
	comp=E,107nm,0.1s						
KAN14				IAML		05 16 38.6	
	comp=N,103nm,0.1s						
NOKA	**Waynoka**	**0.68**	**294**		Pg	05 16 25.2	0.0
NOKA					Sb	05 16 35.2	-1.1
NOKA				IAML		05 16 37.7	
	comp=N,159nm,0.3s						
NOKA				IAML		05 16 42.0	
	comp=E,102nm,0.2s						
KAN17	**Caldwell West**	**0.75**	**25**		Pg	05 16 26.4	-0.1
KAN17					Sg	05 16 36.8	+0.5
KAN17				IAML		05 16 37.7	
	comp=N,88nm,0.3s						
KAN10	**Anthony SW Sta**	**0.76**	**4**		Pg	05 16 27.0	+0.2
OK029	**Liberty Lake**	**0.80**	**134**		Pg	05 16 27.4	0.0
OK029					Sg	05 16 38.3	+0.5
OK029				IAML		05 16 38.8	
	comp=N,81nm,0.4s						
OK029				IAML		05 16 41.2	
	comp=N,116nm,0.4s						
BCOK	**Bluff Creek, N**	**0.83**	**148**		Pg	05 16 28.2	+0.2
KAN01	**Argonia South**	**0.85**	**22**		Pg	05 16 28.3	-0.2
KAN01					Sg	05 16 39.5	-0.1
BLOK	**Blackwell**	**0.86**	**62**		Pg	05 16 28.4	-0.1
BLOK					Sg	05 16 39.9	+0.2
BLOK				IAML		05 16 40.2	
	comp=E,123nm,0.2s						
KAN08	**Anthony NE Sta**	**0.88**	**10**		Pg	05 16 28.9	0.0
KAN08					Sg	05 16 40.8	+0.4
KAN08				IAML		05 16 44.7	
	comp=E,74nm,0.1s						
KAN09	**Caldwell North**	**0.89**	**29**		Pg	05 16 29.0	-0.1
KAN09					Sg	05 16 41.0	+0.3
KAN12	**Harper NE Stat**	**0.94**	**8**		Pg	05 16 29.9	-0.3
KAN12					Sg	05 16 42.5	0.0
KAN12				IAML		05 16 48.6	
	comp=E,81nm,0.3s						
KAN12				IAML		05 16 55.0	
	comp=N,98nm,0.4s						
ADOK	**Arcadia Dam**	**0.95**	**138**	Pg	Pg	05 16 29.9	-0.4
OK048	**Pawnee Station**	**0.98**	**86**		Pg	05 16 30.5	-0.4
OK048					Sg	05 16 43.7	+0.1
OK004	**Okla Sci Mus**	**1.00**	**146**		Pg	05 16 31.3	0.0
OK051	**E0350 and S346**	**1.07**	**82**		Pg	05 16 32.5	-0.2
OK031	**S. Brethren Rd**	**1.14**	**110**		Pg	05 16 33.3	-0.6
OK031				IAML		05 16 49.6	
	comp=N,80nm,0.1s						
OK052	**Battle Ridge R**	**1.16**	**108**		Pg	05 16 33.9	-0.3
OK052					Sg	05 16 49.1	-0.1
OK052				IAML		05 16 51.7	
	comp=N,54nm,0.2s						
QUOK	**Quay**	**1.19**	**99**		Pg	05 16 34.2	-0.6
QUOK					Sg	05 16 50.2	0.0
QUOK				IAML		05 16 54.9	
	comp=E,70nm,0.2s						
FNO	**Franklin**	**1.26**	**151**		Pg	05 16

PRVC	**Isla de Provid**	**0.20 330**	P	Pg	05 20 48.0	+1.8
PRVC			S	Sg	05 20 51.8	+3.0
SAIC	**Isla e San And**	**0.79 214**	P	Pb	05 20 58.4	-0.6
SAIC			S	Sb	05 21 11.5	+1.2
RNCC	**Cayo Roncador,**	**1.20 72**	P	Pg	05 21 04.2	-1.1
RNCC			S	Sb	05 21 21.4	-0.5
SERC	**Banco Serrana,**	**1.39 39**	P	Pg	05 21 07.7	-1.2
SERC			S	Sg	05 21 27.0	+0.1
ACON	**Acoyapa**	**4.01 253**	P	Pn	05 21 44.4	-0.7
ACON			S	Sn	05 22 31.8	-1.0
JTS	**Las Juntas de**	**4.63 232**	P	Pn	05 21 53.0	-0.6
JTS			S	Sn	05 22 48.0	-0.1
GMAL	**Guarumal, Vera**	**5.40 180**	P	Pn	05 22 03.5	-0.7
GMAL			S	Sn	05 23 02.6	-4.6
AZU	**Azuero**	**5.46 170**	P	Pn	05 22 03.9	-1.1
	32nm,2.5s					
AZU			S	Sn	05 23 03.6	-5.0
	32nm,2.5s					
CACAO	**El Cacao, Vera**	**5.83 176**	P	Pn	05 22 10.1	0.0
	28nm,1.1s					
CACAO			S	Sn	05 23 14.5	-3.2
	28nm,1.1s					
CAPC	**Capurgana**	**5.94 139**	P	Pn	05 22 11.1	-0.5
	51nm,1.6s					
CAPC			S	Sn	05 23 17.3	-3.2
	51nm,1.6s					
SJCC	**San Jacinto, C**	**6.80 118**	P	Pn	05 22 19.7	-3.8
SJCC			S	Sn	05 23 34.1	-7.7

RSNC 25 05:23:13.4±0.0, 13°N±2°×8°1W±°, h14km±4km, mb4.5, ML2.6, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.18 323**		P	Pg	05 23 16.9	-0.8
PRVC				S	Sg	05 23 21.0	+0.4
SAIC	**Isla e San And**	**0.82 213**		P	Pg	05 23 27.4	-2.0
SAIC				S	Sg	05 23 39.8	-0.4
RNCC	**Cayo Roncador,**	**1.18 73**		P	Pn	05 23 32.8	-2.7
RNCC				S	Sb	05 23 50.2	-0.5
SERC	**Banco Serrana,**	**1.36 39**		P	Pn	05 23 36.5	-1.4
SERC				S	Sn	05 23 55.5	-0.3
BCIP	**Isla Barro Col**	**4.27 161**		P	Pn	05 24 13.2	-4.8
BCIP				S	Sn	05 25 02.1	-5.6
CRIN	**San Cristobal**	**5.68 265**		P	Pn	05 24 33.9	-3.6
CRIN				S	Sn	05 25 44.0	+1.4

*CATAC **25** 05:28:29.3±1.0, 13°32N×80°61W, h40km, ML4.8*
*IDC **25** 05:28:32.3±0.8, 13°09N×81°20W, h0km, mb4.0/7, mbtmp4.1/11, ML2.9/4, MS3.5/1, Error ellipse: s-maj=25.3km s-min=16.4km az=36.0*
*RSNC **25** 05:28:32.8±0.0, 13°N±1°×8°1W±°, h2km±2km, M4.0, mb4.7, mB5.1, ML3.8, Mw(mB)4.4*
*NEIC **25** 05:28:35.4±2.3, 13°04N±0°06×81°14W±0°04, h10km±1km, mb4.2/29, Error ellipse: s-maj=10.8km s-min=5.9km az=165.0*

ISC 25 05:28:32.8±1.4, 13°11N±0°03×81°15W±0°03, h3km±9km, n96, σ2s37/122, mb4.1/19, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.34 323**		P	**Pg**	**05 28 38.4**	**-1.0**
PRVC				S	**Sg**	**05 28 42.3**	**-1.5**
SAIC	**Isla e San And**	**0.79 224**		P	**Pg**	**05 28 49.1**	**+1.2**
SAIC				S	**Sn**	**05 29 02.8**	**-0.3**
RNCC	**Cayo Roncador,**	**1.13 65**		P	**Pn**	**05 28 53.7**	**-1.9**
RNCC				S	**Sb**	**05 29 10.4**	**+0.2**
SERC	**Banco Serrana,**	**1.40 33**		P	**Pn**	**05 28 57.2**	**-2.1**
SERC				S	**Sn**	**05 29 16.3**	**-2.0**
BLUN	**Bluefields**	**2.79 247**	*i* P		**Pn**	**05 29 18.6**	**+0.3**
BLUN			*i* S		**Sb**	**05 29 58.0**	**+0.2**
BLUN			IAML			05 30 11.2	
	comp=Z,520nm,1.0s						
ESPN	**Las Esperanzas**	**3.20 254**			**Pn**	**05 29 23.1**	**-1.0**
ESPN	**Las Esperanzas**	**3.20 254**	*i* P		**Pb**	**05 29 28.1**	**-2.3**
ESPN			*i* S		**Sb**	**05 30 08.7**	**-1.2**
ESPN			IAML			05 30 30.3	
	comp=Z,1μm,1.0s						
TRT2	**Tortugero**	**3.58 225**	*i* P		**Pn**	**05 29 29.2**	**-0.1**
TRT2			IAML			05 29 31.1	
	comp=Z,460nm,1.0s						
TRT2			*i* S		**Sb**	**05 30 17.6**	**-3.1**
COVE	**Coope Vega, Sa**	**3.97 234**	*i* P		**Pn**	**05 29 33.4**	**-1.2**
COVE			*i* S		**Sb**	**05 30 27.8**	**-4.1**
COVE			IAML			05 30 53.4	
	comp=Z,1μm,1.0s						
RAFA	**San Farael, Vo**	**4.07 220**	*i* P		**Pn**	**05 29 36.8**	**+0.5**
RAFA			IAML			05 29 59.6	
	comp=Z,530nm,1.0s						
RAFA			*i* S		**Sb**	**05 30 29.1**	**-6.1**
ACON	**Acoyapa**	**4.09 254**	Pn		**Pn**	**05 29 36.2**	**0.0**
ACON	**Acoyapa**	**4.09 254**	P		**Pn**	**05 29 35.6**	**-0.7**
ACON	**Acoyapa**	**4.09 254**	*i* S		**Sb**	**05 30 30.6**	**-4.7**
BCIP	**Isla Barro Col**	**4.12 162**			**Pn**	**05 29 35.0**	**-1.7**
BCIP	**Isla Barro Col**	**4.12 162**	P		**Pn**	**05 29 34.6**	**-2.1**
BCIP			S		**Sn**	**05 30 23.1**	**-2.4**
HDC	**Heredia**	**4.24 224**			**Pn**	**05 29 38.9**	**+0.5**
SOCE	**Pocosol**	**4.34 232**			**Pn**	**05 29 40.4**	**+0.6**
BRU2	**Volcan**	**4.54 200**			**Pn**	**05 29 42.6**	**0.0**
CONN	**Concepcion**	**4.63 251**	*i* S		**Sn**	**05 30 43.8**	**+5.7**
JTS	**Las Juntas de**	**4.66 233**			**Pn**	**05 29 44.5**	**+0.4**
JTS	**Las Juntas de**	**4.66 233**	Pn		**Pn**	**05 29 44.2**	**+0.1**
	comp=Z,4.8nm,0.3s,baz=237,slow=21,SNR=42						
JTS			Sn		**Sn**	**05 30 36.5**	**-2.2**
	comp=Z,7.0nm,0.3s,baz=262,slow=20,SNR=4.4						
	comp=Z,11nm,0.4s						
JTS	**Las Juntas de**	**4.66 233**	P		**Pn**	**05 29 44.2**	**+0.1**
JTS			S		**Sn**	**05 30 37.9**	**-0.8**
NANN	**Nandasmo**	**4.99 257**	*i* S		**Sn**	**05 30 52.8**	**+5.8**
MGAN	**Managua**	**5.07 260**			**Pn**	**05 29 52.0**	**+2.3**
GMAL	**Guarumal, Vera**	**5.31 181**	P		**Pn**	**05 29 52.2**	**-0.9**
	comp=Z,64nm,1.0s						
GMAL			S		**Sn**	**05 30 52.8**	**-2.0**
	comp=Z,64nm,1.0s						
AZU	**Azuero**	**5.35 171**	P		**Pn**	**05 29 52.7**	**-0.9**
	comp=Z,20nm,0.7s						
AZU			S		**Sn**	**05 30 54.9**	**-0.9**
	comp=Z,20nm,0.7s						
CACAO	**El Cacao, Vera**	**5.73 177**	P		**Pn**	**05 30 00.0**	**+1.1**
	comp=Z,118nm,0.7s,comp=Z,1μm						
CACAO			S		**Sn**	**05 31 04.9**	**-0.3**
	comp=Z,118nm,0.7s,comp=Z,1μm						
CRIN	**San Cristobal**	**5.77 267**			**Pn**	**05 30 02.1**	**+2.7**
CRIN	**San Cristobal**	**5.77 267**	P		**Pn**	**05 30 03.4**	**+4.0**
	comp=Z,223nm,0.8s,comp=Z,3μm						
CAPC	**Capurgana**	**5.80 140**	P		**Pn**	**05 30 00.8**	**+1.0**
	comp=Z,37nm,0.5s						
CAPC			S		**Sn**	**05 31 03.6**	**-3.3**
	comp=Z,37nm,0.5s						
TGUH	**Tegucigalpa,Un**	**6.03 280**	Pn		**Pn**	**05 30 02.3**	**-0.8**
TGUH	**Tegucigalpa,Un**	**6.03 280**	P		**Pn**	**05 30 01.7**	**-1.4**
	comp=Z,133nm,0.7s,comp=Z,2μm						
TGUH			S		**Sn**	**05 31 05.9**	**-6.8**
	comp=Z,133nm,0.7s,comp=Z,2μm						
MTDJ	**Mount Denham**	**6.17 34**	Pn		**Pn**	**05 30 04.3**	**-0.7**
MTDJ	**Mount Denham**	**6.17 34**	P		**Pn**	**05 30 04.8**	**-0.2**
	comp=Z,36nm,0.9s						
LCBC	**Los crdobas,**	**6.31 131**	P		**Pn**	**05 30 08.0**	**+1.1**
	comp=Z,89nm,0.8s						
LCBC			S		**Sn**	**05 31 19.5**	**-0.1**
	comp=Z,89nm,0.8s						
SJCC	**San Jacinto, C**	**6.66 118**	P		**Pn**	**05 30 09.5**	**-2.3**
	comp=Z,22nm,1.0s						
SJCC			S		**Sn**	**05 31 23.9**	**-4.4**
	comp=Z,22nm,1.0s						
APAC	**Apartado, Choc**	**6.85 139**	P		**Pn**	**05 30 15.6**	**+1.3**
	comp=Z,36nm,0.6s						
APAC			S		**Sn**	**05 31 31.8**	**-1.0**
	comp=Z,36nm,0.6s						
ARGC	**Ariguani, Magd**	**7.50 115**	P		**Pn**	**05 30 25.8**	**+2.6**
	comp=Z,26nm,1.0s						
ARGC			S		**Sn**	**05 31 47.5**	**-1.3**
	comp=Z,26nm,1.0s						
UREC	**San Jos de Ur**	**7.67 133**	P		**Pn**	**05 30 25.5**	**0.0**
	comp=Z,21nm,0.7s,comp=Z,586nm						
UREC			S		**Sn**	**05 31 47.2**	**-5.8**
	comp=Z,21nm,0.7s,comp=Z,586nm						
MTO3	**Montecristo**	**8.08 280**			**Pn**	**05 30 30.6**	**-0.7**
ESQI	**Esquipulas**	**8.09 281**	Pn		**Pn**	**05 30 33.1**	**+1.7**
ZARC	**Zaragoza, Cauc**	**8.33 131**	P		**Pn**	**05 30 34.4**	**-0.2**
	comp=Z,28nm,0.6s						
GTBY	**Guantanamo Bay**	**8.92 40**	P		**Pn**	**05 30 42.2**	**-0.4**
URIC	**Uribia, Colomb**	**9.05 98**	P		Pn	05 30 40.4	-4.1
URIC			S		**Sn**	**05 32 21.2**	**-5.9**
PETF	**Flores**	**9.23 295**			**Pn**	**05 30 48.5**	**+1.5**
SOR	**Soroa**	**9.79 350**	Pn		**Pn**	**05 30 55.2**	**+0.6**
TEIG	**Tepich**	**9.84 317**	Pn		**Pn**	**05 30 53.7**	**-1.5**
	baz=142,slow=24,SNR=22						
TEIG			Sn		**Sn**	**05 32 39.7**	**-6.5**
	baz=45,slow=24,SNR=1.1						
CAMR	**Camarioca**	**9.90 359**	Pn		**Pn**	**05 30 58.2**	**+2.0**
PAMC	**Pamplona, Colo**	**10.10 124**	P		**Pn**	**05 31 01.6**	**+2.3**
PAMC			S		**Sn**	**05 32 52.3**	**-1.1**
ROSC	**El Rosal**	**10.62 140**	Pn		**Pn**	**05 31 08.7**	**+2.2**
	comp=Z,0.6nm,0.3s,baz=84,slow=22,SNR=1.7						
	comp=Z,3.1nm,0.3s						
SDDR	**Presa de Saban**	**11.13 57**			**Pn**	**05 31 14.5**	**+1.4**
SDV	**Santo Domingo**	**11.14 111**	Pn		**Pn**	**05 31 14.6**	**+1.2**
SDV	**Santo Domingo**	**11.14 111**	Pn		**Pn**	**05 31 15.7**	**+2.4**
	comp=Z,0.9nm,0.3s,baz=274,slow=8.4,SNR=4.4						
SDV			Sn		**Sn**	**05 33 12.6**	**-6.1**
	comp=Z,2.5nm,0.3s,baz=16,slow=22,SNR=13						
SDV			LR		LR	05 35 28.5	
	comp=Z,280nm,21.0s,baz=316,slow=37						
	comp=Z,5.0nm,0.4s						
OTAV	**Otavalo**	**13.06 168**	Pn		**Pn**	**05 31 38.8**	**-1.0**
BAUV	**El Baul**	**13.52 106**	Pn		**Pn**	**05 31 44.2**	**-1.4**
SJG	**San Juan**	**15.28 69**	Pn		**Pn**	**05 32 12.1**	**+2.5**
	comp=Z,2.2nm,0.2s,baz=23,slow=20,SNR=1.6						
TLIG	**Tlapa**	**17.37 287**	P		**P**	**05 32 38.3**	**+0.3**
GOGA	**Godfrey**	**20.32 354**	P		**P**	**05 33 11.9**	**+1.7**
LRAL	**Lakeview Retre**	**20.55 346**	P		**P**	**05 33 14.6**	**+2.0**
LRAL			IAmb		IAmb	05 33 18.3	
	comp=Z,6.5nm,1.0s						
Z47A	**Carrollton**	**20.98 344**	P		**P**	**05 33 18.5**	**+1.3**
Z47A			IAmb		IAmb	05 33 23.6	
	comp=Z,17nm,0.9s						
HKT	**Hockley**	**21.58 323**	P		**P**	**05 33 26.3**	**+2.6**
Y45A	**Yeager Farm, C**	**22.03 341**	P		**P**	**05 33 31.9**	**+3.3**
CZSB	**Cruzeiro do Su**	**22.34 157**	P		**P**	**05 33 33.1**	**+1.1**
CZSB			IAmb		IAmb	05 34 00.9	
	comp=Z,17nm,1.1s						
ZAIG	**Zacatecas**	**22.50 298**	P		**P**	**05 33 37.2**	**+3.1**
CCAR	**Cane Creek**	**22.86 337**	P		**P**	**05 33 40.4**	**+3.0**
BOAV	**Boa Vista**	**23.02 116**	P		**P**	**05 33 38.9**	**-0.3**
BOAV			IAmb		IAmb	05 33 54.2	
	comp=Z,7.6nm,1.2s						
HNDO	**Hondo**	**23.45 317**	P		**P**	**05 33 45.7**	**+2.2**
HNDO			IAmb		IAmb	05 33 49.2	
	comp=Z,12nm,1.2s						
T50A	**Nancy**	**24.04 353**	P		**P**	**05 33 51.8**	**+2.6**
T50A			IAmb		IAmb	05 33 55.5	
	comp=Z,5.0nm,0.8s						
T47A	**Sharon Grove**	**24.37 348**	P		**P**	**05 33 54.5**	**+2.2**
T47A			IAmb		IAmb	05 33 57.6	
	comp=Z,10nm,0.9s						
BRDY	**Brady**	**24.44 321**	P		**P**	**05 33 53.9**	**+0.9**
BRDY			IAmb		IAmb	05 34 22.3	
	comp=Z,3.1nm,0.7s						
PBMO	**Poplar Bluff**	**25.00 342**	P		**P**	**05 34 00.2**	**+2.3**
ABTX	**Abilene, Hawle**	**25.76 322**	P		**P**	**05 34 08.2**	**+3.2**
Q52A	**Bidwell**	**25.77 358**	P		**P**	**05 34 07.0**	**+2.1**
MACA	**Manacapuru-AM**	**25.96 127**	P		**P**	**05 34 07.7**	**+0.8**
FVM	**French Village**	**26.12 343**	P		**P**	**05 34 10.9**	**+2.8**
TXAR	**Lajitas Array**	**26.40 311**	P		**P**	**05 34 12.5**	**+1.6**
TXAR	**Lajitas Array**	**26.40 311**	P		**P**	**05 34 11.4**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=135,slow=9.1,SNR=10						
TXAR			PcP		**PcP**	**05 37 36.1**	**-0.5**
	comp=Z,0.1nm,0.5s,baz=115,slow=4.1,SNR=3.6						
	comp=Z,1.6nm,0.9s						
TX31	**Lajitas Ar. Si**	**26.40 311**	P		**P**	**05 34 12.1**	**+1.2**
TX31			IAmb		IAmb	05 34 14.8	
	comp=Z,4.6nm,1.1s						
VHRN	**Van Horn**	**28.15 313**	P		**P**	**05 34 29.0**	**+2.4**
VHRN			IAmb		IAmb	05 34 49.0	
	comp=Z,3.6nm,1.1s						
GO01	**Chusmiza**	**34.63 160**	P		**P**	**05 35 23.4**	**-0.6**
GO01			IAmb		IAmb	05 35 31.7	
	comp=Z,5.6nm,1.0s						
PD31	**Pinedale Array**	**38.42 326**	P		**P**	**05 35 57.0**	**+1.0**
PDAR	**Pinedale Array**	**38.42 326**	P		**P**	**05 35 56.4**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=139,slow=9.9,SNR=12						
	comp=Z,1.8nm,0.8s						
PSUT	**Pine Spring**	**38.49 317**	P		**P**	**05 35 58.3**	**+1.7**
PSUT			IAmb		IAmb	05 36 03.0	
	comp=Z,3.7nm,1.0s						
DUG	**Dugway, Tooele**	**38.74 320**	P		**P**	**05 36 00.0**	**+1.4**
NVAR	**Mina Array Bea**	**41.47 314**	P		**P**	**05 36 21.9**	**+0.6**
	comp=Z,3.9nm,1.3s,baz=129,slow=8.5,SNR=9.0						
	comp=Z,3.9nm,1.3s						
KVN	**Kaiserville**	**41.61 315**	P		**P**	**05 36 23.7**	**+1.2**
KVN			IAmb		IAmb	05 36 28.5	
	comp=Z,3.8nm,1.0s						
HLID	**Hailey**	**41.68 323**	P		**P**	**05 36 24.1**	**+1.1**
BDFB	**Brasilia**	**43.48 130**	P		**P**	**05 36 37.8**	**0.0**
	comp=Z,5.1nm,0.7s,baz=304,slow=11,SNR=8.4						
	comp=Z,5.1nm,0.7s						
WVOR	**Wild Horse Val**	**43.63 319**	P		**P**	**05 36 40.9**	**+2.1**
WVOR			IAmb		IAmb	05 36 44.7	
	comp=Z,6.7nm,1.1s						
ILAR	**Eielson Array**	**67.97 335**	P		**P**	**05 39 32.0**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=79,slow=4.7,SNR=5.5						
	comp=Z,0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.26 79**	P		**P**	**05 40 44.6**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=251,slow=4.4,SNR=1.8						
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**86.62 27**	P		**P**	**05 41 17.5**	**-0.1**
	comp=Z,3.8nm,1.0s,baz=247,slow=3.9,SNR=3.6						
	comp=Z,3.8nm,1.0s						
KSH	**Kashi**	**123.48 21**	PKP		**PKiKP**	**05 47 36.9**	**+4.4**
PZH	**PanZhiHua**	**140.53 356**	PKP		**PKPdf**	**05 48 04.5**	**-0.2**
ASAR	**Alice Springs**	**145.21 247**	PKPbc		**PKPbc**	**05 48 10.8**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=114,slow=3.8,SNR=11						
WRA	**Warramunga Arr**	**145.35 254**	PKPbc		**PKPbc**	**05 48 11.8**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=92,slow=3.0,SNR=28						

RSNC 25 05:32:44.3±0.0, 13°N±2°×8°1W±°, h3km±3km, M3.5, mb4.4, ML3.4, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.25 318**		P	Pg	05 32 50.0	+0.8
PRVC				S	Sg	05 32 54.2	+1.8
SAIC	**Isla e San And**	**0.82 218**		P	Pg	05 33 00.3	+0.2
SAIC				S	Sb	05 33 12.5	-0.3
RNCC	**Cayo Roncador,**	**1.14 70**		P	Pg	05 33 04.9	-1.2
RNCC				S	Sg	05 33 21.1	+0.3
SERC	**Banco Serrana,**	**1.35 36**		P	Pn	05 33 08.1	-2.0
SERC				S	Sg	05 33 26.5	-1.3
ACON	**Acoyapa**	**4.08 253**		P	Pn	05 33 50.1	+2.5
ACON				S	Sn	05 34 34.4	-1.4
BCIP	**Isla Barro Col**	**4.21 162**		P	Pn	05 33 45.0	-4.5
BCIP				S	Sn	05 34 32.5	-6.7
JTS	**Las Juntas de**	**4.68 232**		P	Pn	05 33 55.6	-0.3
JTS				S	Sn	05 34 49.0	-1.7
GMAL	**Guarumal, Vera**	**5.39 180**		P	Pn	05 34 03.9	-1.8
	27nm,0.8s						
GMAL				S	Sn	05 35 03.1	-5.3
	27nm,0.8s						
AZU	**Azuero**	**5.44 170**		P	Pn	05 34 03.7	-2.6
	38nm,0.9s						
AZU				S	Sn	05 35 05.1	-4.4
	38nm,0.9s						
CACAO	**El Cacao, Vera**	**5.82 177**		P	Pn	05 34 11.6	+0.1
	27nm,0.9s						
CACAO				S	Sn	05 35 16.6	-2.2
	27nm,0.9s						
CAPC	**Capurgana**	**5.89 140**		P	Pn	05 34 07.9	-4.6
	34nm,1.0s						
CAPC				S	Sn	05 35 15.1	-5.5
	34nm,1.0s						
TGUH	**Tegucigalpa,Un**	**5.98 279**		P	Pn	05 34 13.8	-0.1
	42nm,1.3s						
TGUH				S	Sn	05 35 18.6	-4.3
	42nm,1.3s						
MTDJ	**Mount Denham**	**6.12 35**		P	Pn	05 34 15.0	-0.8
	35nm,1.3s						
LCBC	**Los crdobas,**	**6.40 132**		P	Pn	05 34 17.3	-2.2
	96nm,1.0s						
LCBC				S	Sn	05 35 29.9	-3.3
	96nm,1.0s						
SJCC	**San Jacinto, C**	**6.74 118**		P	Pn	05 34 20.4	-3.9
	15nm,0.7s						
SJCC				S	Sn	05 35 34.6	-7.0
	15nm,0.7s						
GTBY	**Guantanamo Bay**	**8.88 40**		P	Pn	05 34 51.6	-2.0

*RSNC **25** 05:39:11.0±0.0, 13°N×6°×8°1W±°, h15km±9km, ML2.9*
*IDC **25** 05:39:14.0±1.4, 12°96N×81°50W, h0km, mb3.3/4, mbtmp3.3/5, ML3.3/1, Error ellipse: s-maj=32.9km s-min=30.1km az=139.0*

ISC 25 05:39:09.2±0.7, 13°20N±0°04×81°15W±0°04, h10km, n14, σ2s65/16, mb3.2/4, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.27 310**		P	**Pg**	**05 39 14.5**	**-0.3**
PRVC				S	**Sg**	**05 39 18.6**	**+0.1**
SAIC	**Isla e San And**	**0.86 220**		P	**Pg**	**05 39 25.2**	**-0.5**
SAIC				S	**Sb**	**05 39 40.1**	**+2.4**
RNCC	**Cayo Roncador,**	**1.09 70**		P	**Pb**	**05 39 30.2**	**-0.1**
RNCC				S	**Sb**	**05 39 46.6**	**+2.0**
SERC	**Banco Serrana,**	**1.32 35**		P	**Pn**	**05 39 31.7**	**-2.1**
SERC				S	**Sg**	**05 39 53.7**	**+1.9**
BCIP	**Isla Barro Col**	**4.21 162**		P	Pn	05 40 10.3	-3.2
BCIP				S	**Sn**	**05 40 58.3**	**-4.4**
JTS	**Las Juntas de**	**4.71 233**		Pn	**Pn**	**05 40 20.4**	**-0.1**
	1.6nm,0.3s,baz=83,slow=19,SNR=3.9						
JTS				Sn	**Sn**	**05 41 14.6**	**-0.7**
	baz=30,slow=20						
	4.2nm,0.4s						
TEIG	**Tepich**	**9.77 317**		Pn	**Pn**	**05 41 30.0**	**+0.1**
	baz=148,slow=23,SNR=8.8						
TEIG				Sn	**Sn**	**05 43 14.6**	**-5.1**
	baz=65,slow=23,SNR=1.1						
ROSC	**El Rosal**	**10.70 140**		Pn	**Pn**	**05 41 43.4**	**+0.5**
	0.4nm,0.3s,baz=38,slow=21,SNR=1.9						
TXAR	**Lajitas Array**	**26.34 311**		P	**P**	**05 44 50.9**	**+5.2**
	0.5nm,0.8s,baz=122,slow=9.6,SNR=6.8						
	0.5nm,0.8s						
PDAR	**Pinedale Array**	**38.34 326**		P	P	05 46 36.6	+6.0
	0.3nm,0.8s,baz=121,slow=8.7,SNR=2.5						
	0.3nm,0.8s						
NVAR	**Mina Array Bea**	**41.40 314**		P	P	05 47 02.5	+6.3
	0.1nm,0.3s,baz=116,slow=10,SNR=2.1						
	0.1nm,0.3s						
ESDC	**Sonseca Array**	**71.88 52**		P	P	05 50 42.1	+9.2
	0.5nm,0.9s,baz=261,slow=6.1,SNR=1.6						
	0.5nm,0.9s						
SNAA	**Sanae**	**98.79 162**		P	Pdif	05 52 54.8	+6.0
	1.4nm,1.0s,baz=270,slow=2.0,SNR=2.3						
WRA	**Warramunga Arr**	**145.38 254**		PKP	**PKiKP**	**05 58 52.4**	**0.0**
	0.3nm,0.7s,baz=92,slow=3.4,SNR=4.9						

RSNC 25 05:46:10.6±0.0, 13°N±1°×8°1W±°, h3km±2km, M3.2, mb4.3, ML3.2, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.21 331**		P	Pg	05 46 15.5	+0.8
PRVC				S	Sg	05 46 19.0	+1.5
SAIC	**Isla e San And**	**0.78 214**		P	Pg	05 46 26.0	+0.3
SAIC				S	Sb	05 46 37.7	-0.2
RNCC	**Cayo Roncador,**	**1.20 71**		P	Pg	05 46 31.6	-2.0
RNCC				S	Sg	05 46 48.7	-0.5
SERC	**Banco Serrana,**	**1.39 38**		P	Pn	05 46 34.7	-2.3
SERC				S	Sg	05 46 53.1	-2.4
ACON	**Acoyapa**	**4.01 253**		P	Pn	05 47 11.9	-1.1
BCIP	**Isla Barro Col**	**4.24 161**		P	Pn	05 47 11.8	-4.3
BCIP				S	Sn	05 48 01.3	-4.8
JTS	**Las Juntas de**	**4.62 232**		P	Pn	05 47 21.7	+0.2
JTS				S	Sn	05 48 13.2	-2.5
GMAL	**Guarumal, Vera**	**5.39 180**		P	Pn	05 47 30.2	-1.8
	10nm,0.5s						
GMAL				S	Sn	05 48 29.9	-4.8
	10nm,0.5s						
AZU	**Azuero**	**5.45 170**		P	Pn	05 47 30.0	-2.8
	58nm,2.4s						
AZU				S	Sn	05 48 30.7	-5.4
	58nm,2.4s						
CACAO	**El Cacao, Vera**	**5.82 176**		P	Pn	05 47 37.6	-0.3
	26nm,0.8s						
CACAO				S	Sn	05 48 43.6	-1.6
	26nm,0.8s						
TGUH	**Tegucigalpa,Un**	**5.91 279**		P	Pn	05 47 39.1	-0.1

RSNC 25 05:51:47.5±0.0, 13°N±1°×8°1W±°, h11km±3km, mb4.0, mB5.0, ML2.4, Mw(mB)4.3, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.22 318**		P	Pg	05 51 51.6	-0.6
PRVC				S	Sg	05 51 55.9	+0.5
SAIC	**Isla e San And**	**0.83 216**		P	Pg	05 52 01.4	-2.1
SAIC				S	Sg	05 52 13.9	-0.5
RNCC	**Cayo Roncador,**	**1.15 71**		P	Pb	05 52 08.0	-1.4
RNCC				S	Sb	05 52 22.8	-1.5
SERC	**Banco Serrana,**	**1.35 37**		P	Pn	05 52 10.7	-1.6
SERC				S	Sb	05 52 29.4	-0.7
BCIP	**Isla Barro Col**	**4.24 161**		P	Pn	05 52 47.8	-4.3
BCIP				S	Sn	05 53 34.4	-7.2
JTS	**Las Juntas de**	**4.67 232**		P	Pn	05 52 57.1	-1.0
JTS				S	Sn	05 53 47.2	-5.2
GMAL	**Guarumal, Vera**	**5.

O18K	Koktuh Hills	11.06	41	Pn	Pn	05 54 25.6	-1.7
KDAK	Kodiak Island	11.21	54	Pn	Pn	05 54 26.5	-2.8
	comp=E,0.7nm,0.3s,baz=235,slow=12,SNR=15						
ILAR	Eielson Array	17.13	34	Pn	Pn	05 55 45.9	-2.1
	baz=230,slow=11,SNR=1.5						
	comp=E,0.2nm,0.5s						
PETK	Petropavlovsk-	19.78	286	P	P	05 56 18.4	0.0
	comp=E,0.7nm,0.3s,baz=87,slow=13,SNR=14						
	comp=E,3.1nm,0.5s						
H11N2	WAKE ISLAND Hy	37.27	218	T	T	06 38 50.4	
	baz=24						
H11N3	WAKE ISLAND Hy	37.28	218	T	T	06 38 58.2	
	baz=24						
H11N1	WAKE ISLAND Hy	37.29	218	T	T	06 38 58.1	
	baz=24						
H11S1	WAKE ISLAND Hy	38.46	218	T	T	06 40 22.0	
	baz=22,slow=76,SNR=50						
H11S2	WAKE ISLAND Hy	38.47	218	T	T	06 40 20.6	
	baz=22,slow=76,SNR=42						
H11S3	WAKE ISLAND Hy	38.48	218	T	T	06 40 23.4	
	baz=22,slow=76,SNR=34						
PDAR	Pinedale Array	40.55	79	P	P	05 59 29.2	+1.9
	comp=E,0.3nm,0.5s,baz=289,slow=2.8,SNR=5.5						
	comp=E,0.3nm,0.5s						
TXAR	Lajitas Array	52.87	89	P	P	06 01 04.9	+1.2
	comp=E,0.1nm,0.6s,baz=266,slow=4.2,SNR=2.0						
	comp=E,0.1nm,0.6s						
ARCES	ARCESS Array B	58.04	354	P	P	06 01 39.7	-0.5
	comp=E,6.1nm,0.8s,baz=20,slow=8.6,SNR=2.8						
	comp=E,6.1nm,0.8s						
KURBB	Kurchatov Arra	62.50	318	P	P	06 02 10.8	-0.1
	comp=E,0.4nm,0.5s,baz=41,slow=8.6,SNR=1.5						
	comp=E,0.4nm,0.5s						
BVAR	Borovoye Array	63.74	324	P	P	06 02 18.2	-0.9
	comp=E,0.9nm,0.6s,baz=52,slow=8.4,SNR=4.7						
	comp=E,0.9nm,0.6s						
FINES	FINESS Array B	65.99	352	P	P	06 02 32.6	-1.0
	comp=E,1.7nm,0.9s,baz=36,slow=7.1,SNR=6.6						
	comp=E,1.7nm,0.9s						
HFS	Hagfors	67.96	358	P	P	06 02 45.2	-0.9
	comp=E,5.9nm,1.1s,baz=24,slow=4.0,SNR=8.2						
	comp=E,5.9nm,1.1s						
AKASG	Malin Array Be	76.22	348	P	P	06 03 33.8	-1.8
	comp=E,0.1nm,0.3s,baz=315,slow=0.3,SNR=1.1						
	comp=E,0.1nm,0.3s						
CMAR	Chiang Mai Arr	76.53	283	P	P	06 03 38.8	+0.9
	comp=E,1.0nm,0.3s,baz=23,slow=7.6,SNR=5.6						
	comp=E,1.0nm,0.3s						

CATAC ***25*** *05:58:12.2±2.2, 16°.32N×78°.28W, h30km, mb4.7, MB5.0, ML4.9*
RSNC ***25*** *05:58:55.3±0.0, 13°N±1°×8°1W±°, h1km±1km, M3.2, mb4.1, mB5.0, ML3.2, Mw(mB)4.3*

ISC 25 05:58:55.0±0.7, 13°.14N±0°.04×81°.18W±0°.03, h10km, n22, σ1§81/36, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	Isla de Provid	0.29	323	P	Pg	05 59 00.8	-0.1
PRVC				S	Sg	05 59 04.9	0.0
SAIC	Isla e San And	0.79	221	P	Pb	05 59 11.0	+0.2
SAIC				S	Sn	05 59 23.9	-0.2
RNCC	Cayo Roncador,	1.15	68	P	Pb	05 59 16.9	-0.1
RNCC				S	Sg	05 59 33.3	+1.3
SERC	Banco Serrana,	1.39	35	P	Pn	05 59 20.0	-0.5
SERC				S	Sb	05 59 38.9	0.0
BLUN	Bluefields	2.77	246	*i* P	Pg	05 59 47.6	-0.5
BLUN				IAmb	IAmb	05 59 54.9	
	comp=Z,78nm,0.5s						
BLUN				IAML		05 59 56.9	
	comp=Z,140nm,1.0s						
BLUN				IVmB_BB		06 00 21.1	
	comp=Z,1μm,1.0s						
ACON	Acoyapa	4.07	254	P	Pn	06 00 01.3	+4.0
BCIP	Isla Barro Col	4.16	161	P	Pn	05 59 56.9	-1.7
BCIP				S	Sn	06 00 45.0	-2.4
BCIP	Isla Barro Col	4.16	161	*i* P	Pn	05 59 57.8	-0.8
BCIP				IAmb	IAmb	06 00 13.7	
	comp=Z,32nm,1.4s						
BCIP				IAML		06 01 04.0	
	comp=Z,67nm,1.0s						
SOCE	Pocosol	4.34	231	*i* P	Pb	06 00 14.1	+2.7
SOCE				IAML		06 00 26.0	
	comp=Z,100nm,1.0s						
SOCE				IAmb	IAmb	06 00 26.1	
	comp=Z,73nm,0.6s						
SOCE				IVmB_BB		06 00 30.7	
	comp=Z,800nm,1.0s						
MORN	Al O del Volca	4.64	251	*i* P	Pb	06 00 14.9	-1.7
MORN				IAML		06 00 31.6	
	comp=Z,25nm,1.0s						
MORN				IAmb	IAmb	06 00 31.7	
	comp=Z,19nm,0.8s						
JTS	Las Juntas de	4.65	233	P	Pn	06 00 06.0	+0.6
JTS				S	Sn	06 00 59.7	+0.2
LIMN	Finca el Limon	5.05	270	*i* P	Pn	06 00 12.1	+1.2
LIMN				IAmb	IAmb	06 00 33.9	
	comp=Z,71nm,0.8s						
LIMN				IAML		06 02 12.8	
	comp=Z,100nm,1.0s						
GMAL	Guarumal, Vera	5.34	181	P	Pn	06 00 15.5	+0.6
	comp=Z,18nm,0.7s						
GMAL				S	Sn	06 01 15.0	-1.5
	comp=Z,18nm,0.7s						
AZU	Azuero	5.39	170	P	Pn	06 00 14.5	-1.0
	comp=Z,29nm,2.0s						
AZU				S	Sn	06 01 16.9	-0.7
	comp=Z,29nm,2.0s						
YUSH	Yuscaran	5.56	279	*i* P	Pn	06 00 16.3	-1.7
YUSH				*i* S	Sg	06 01 52.2	-1.5
CACAO	El Cacao, Vera	5.77	177	P	Pn	06 00 22.8	+2.1
	comp=Z,25nm,1.3s						
CACAO				S	Sn	06 01 28.6	+1.6
	comp=Z,25nm,1.3s						
CAPC	Capurgana	5.85	140	P	Pn	06 00 23.0	+1.2
	comp=Z,61nm,1.3s						
CAPC				S	Sn	06 01 26.3	-2.7
	comp=Z,61nm,1.3s						
MTDJ	Mount Denham	6.16	34	P	Pn	06 00 27.8	+1.6
	comp=Z,24nm,1.3s						
LCBC	Los crdobas,	6.36	132	P	Pn	06 00 31.3	+2.4
	comp=Z,83nm,1.2s						
LCBC				S	Sn	06 01 44.2	+2.6
	comp=Z,83nm,1.2s						
SJCC	San Jacinto, C	6.71	118	P	Pn	06 00 32.2	-1.5
	comp=Z,13nm,1.5s						
SJCC				S	Sn	06 01 46.3	-4.0
	comp=Z,13nm,1.5s						
ZARC	Zaragoza, Cauc	8.38	131	P	Pn	06 00 57.7	+1.1
	comp=Z,3.5nm,0.7s						
ZARC				S	Sn	06 02 29.0	-2.4
	comp=Z,3.5nm,0.7s						
GTBY	Guantanamo Bay	8.91	40	P	Pn	06 01 05.8	+1.9

RSNC 25 06:08:34.7±0.0, 13°N±1°×8°1W±°, h1km±1km, M3.0, mb4.0, ML3.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	Isla de Provid	0.20	324	P	Pg	06 08 39.8	+1.2
PRVC				S	Sg	06 08 43.8	+2.5
SAIC	Isla e San And	0.81	215	P	Pg	06 08 50.6	+0.3
SAIC				S	Sb	06 09 03.7	+0.6
RNCC	Cayo Roncador,	1.18	72	P	Pg	06 08 57.3	0.0
RNCC				S	Sg	06 09 12.1	-0.4
SERC	Banco Serrana,	1.37	38	P	Pn	06 08 59.1	-1.8
SERC				S	Sg	06 09 18.2	-0.5
BCIP	Isla Barro Col	4.25	161	P	Pn	06 09 36.0	-4.6
BCIP				S	Sn	06 10 25.3	-5.6
JTS	Las Juntas de	4.65	232	P	Pn	06 09 45.8	-0.4
JTS				S	Sn	06 10 39.2	-1.7
GMAL	Guarumal, Vera	5.41	180	P	Pn	06 09 55.3	-1.3
	13nm,2.0s						
GMAL				S	Sn	06 10 53.2	-6.4
	13nm,2.0s						
AZU	Azuero	5.47	170	P	Pn	06 09 56.3	-1.1
	22nm,1.5s						
AZU				S	Sn	06 10 56.1	-4.9
	22nm,1.5s						
LCBC	Los crdobas,	6.45	132	P	Pn	06 10 10.7	-0.2
	122nm,1.2s						
LCBC				S	Sn	06 11 23.8	-1.4
	122nm,1.2s						
SJCC	San Jacinto, C	6.79	118	P	Pn	06 10 12.8	-2.8
SJCC				S	Sn	06 11 26.1	-7.6

PRU ***25*** *06:10:13.6, 49°.79N×18°.41E, h0km, Mining Induced Event Csm, E=2.4e+04*

IPEC 25 06:10:11.8±0.3, 49°.82N×18°.54E, h1km, ML1.8/4, Error ellipse: s-maj=2.1km s-min=1.7km az=71.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.25	274	*e*PG	Pg	06 10 16.9	+0.3
OKC				*e*SG	Sg	06 10 20.6	+0.7
	comp=Z,28nm,0.3s						
MORC	Moravsky Berou	0.65	267	*e*Pg	Pg	06 10 24.2	0.0
	baz=86						
MORC				*e*Sg	Sg	06 10 32.1	-0.4
	17nm,0.3s,baz=86						
LANS	Liptovska Anna	0.90	138	*e*PG	Pg	06 10 29.2	+0.1
LANS				*e*SG	Sb	06 10 42.5	-0.3
LANS				*e*LG	Lg	06 10 47.6	
OJC	Ojcow	0.91	63	*e*Pg	Pg	06 10 28.5	-0.7
OJC				*e*Sg	Sg	06 10 41.4	+0.5
JAVC	Velka Javorina	1.12	211	*e*Pg	Pg	06 10 33.4	+0.2
	baz=30						
KRLC	Kraliky	1.16	283	*e*PG	Pg	06 10 32.7	-1.4
KRLC				*e*SG	Sg	06 10 49.5	+0.4
NIE	Niedzica	1.22	109	*e*Pg	Pn	06 10 36.0	+0.1
NIE				*e*Sg	Sn	06 10 52.8	-0.2
VYHS	Vyhne	1.34	171	*e*PG	Pg	06 10 36.8	-0.7
VYHS				*e*SG	Sb	06 10 55.4	0.0
VRAC	Vranov	1.37	249	*e*Pg	Pg	06 10 37.3	-0.6
	baz=67						
VRAC				*e*Sg	Sg	06 10 54.5	-1.1
	9.8nm,0.3s,baz=67						
DPC	Dobruska-Polom	1.52	291	*e*PG	Pn	06 10 38.8	-1.4
DPC				*e*SG	Sb	06 10 59.6	-1.1
KRUC	Moravsky	1.59	242	*e*Pg	Pn	06 10 40.6	-0.5
	baz=61						
KRUC				*e*Sg	Sn	06 11 01.6	-0.7
	9.7nm,0.2s,baz=61						
OSTC	Ostas	1.67	297	*e*SG	Sn	06 11 04.1	0.0
MODS	Modra-Piesok	1.67	210	*e*PG	Pn	06 10 42.3	+0.1
MODS				*e*SG	Sn	06 11 03.8	-0.4
UPC	Upice	1.76	294	*e*SG	Sb	06 11 07.3	-0.3
CHVC	Chvalec	1.77	297	*e*PG	Pn	06 10 43.2	-0.4
PRU	Pruhonice	2.59	275	*e*SG	Sb	06 11 32.0	+0.7
CKRC	Cesky Krumlov	2.94	252	*e*SG	Sb	06 11 43.1	+1.6
BRG	Berggiesshubel	3.13	291	Sg	Sg	06 11 50.4	-1.7
BRG				Amp		06 11 53.9	
	comp=Z,1.4nm,0.4s						
KHC	Kasperske Hory	3.31	260	*e*SG	Sb	06 11 54.4	+2.4
CLL	Collm	3.83	295	*i* Sg	Sg	06 12 15.7	+0.9

IPGP ***25*** *06:14:29.0, 29°.16S×177°.09W, h45km, Mw5.6, Fault plane solution: NP1:φs14.00000°, δ60.00000°, λ95.00000°. NP2:φs184.00000°, δ30.00000°, λ82.00000°.*
BJI ***25*** *06:14:30.2, 28°.82S×177°.10W, h39km, mb5.6/62, mB5.8/45, Ms5.3/70, Ms7 5.1/71*
NEIC ***25*** *06:14:31.8, 28°.98S×177°.30W, h50km*
MOS ***25*** *06:14:31.8±1.4, 29°.01S×177°.59W, h50km, mb5.7/29, MS5.2/15, Error ellipse: s-maj=9.7km s-min=8.3km az=113.8*
NEIC ***25*** *06:14:31.2±1.4, 29°.00S±0°.08×177°.32W±0°.09, h40km±1km, mb5.6/267, Ms_20 5.3/161, Mww5.6/29, Error ellipse: s-maj=15.3km s-min=11.0km az=141.0*
NEIC ***25*** *06:14:31.8, 28°.98S×177°.19W, h50km, Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 10^17 Nm; Mrr2.92; Mθθ0.34; Mφφ-3.26; Mrθ0.44; Mθφ-0.98; Mφr1.03; Fault plane solution: Mo3.40000×10^17 NP1:φs17.87000°, δ54.57000°, λ94.53000°. NP2:φs190.08000°, δ35.68000°, λ83.66000°. Principal axes: T 3.1146, Plg80.0000°, Azm306.0000°; N 0.5802, Plg4.0000°, Azm195.0000°; P -3.6948, Plg9.0000°, Azm105.0000°;*
NOU ***25*** *06:14:32.4, 29°.28S×176°.91W, h63km, ML5.4/112, Kermadec Islands Region*
IDC ***25*** *06:14:32.7±0.9, 28°.97S×177°.47W, h52km±6km, mb5.1/21, mbtmp5.3/22, MS5.0/52, Error ellipse: s-maj=15.3km s-min=13.1km az=110.0*
GCMT ***25*** *06:14:35.0±0.1, 29°.01S±0°.01×177°.14W±0°.01, h51km, MW5.7/150, Moment Tensor Solution. s147, c293; s150, c296; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr3.37±.04; Mθθ-0.04±.03; Mφφ-3.33±.03; Mrθ0.20±.03; Mθφ-1.07±.03; Mφr1.35±.03; Best double couple: Mo3.76500×10^17 NP1:φs13.00000°, δ56.00000°, λ86.00000°. NP2:φs200.00000°, δ35.00000°, λ95.00000°. Principal axes: T 3.6320, Plg79.0000°, Azm270.0000°; N 0.2720, Plg3.0000°, Azm15.0000°; P -3.8990, Plg11.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 06:14:30.9±0.3, 29°.09S±0°.04×177°.22W±0°.04, h40km±2km, h41km:pP-P, n1031, σ1§67/929, mb5.6/244, MS5.2/170, 50C-31D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.63	255	P	Pn	06 14 45.1	+1.7
	40μm,0.2s,baz=82,slow=4.8,SNR=614						
RAO				S	Sn	06 14 54.4	+2.1
	183μm,0.6s,baz=109,slow=17,SNR=13						
GLKZ	Green Lake	0.63	254	P	Pn	06 14 45.4	+2.0
GLKZ				S	Sn	06 14 55.8	+3.4
RIZ	Raoul Island	0.64	255	P	Pn	06 14 44.9	+1.4
RIZ				S	Sn	06 14 56.1	+3.6
MXZ	Matakaoa Point	9.24	203	Pn	Pn	06 16 39.9	-1.7
MXZ	Matakaoa Point	9.24	203	P	Pn	06 16 39.0	-2.5
MXZ				S	Sn	06 18 22.5	-1.7
WMGZ	Waiomatatini S	9.44	202	P	Pn	06 16 41.5	-2.7
WMGZ				S	Sn	06 18 27.3	-1.8
PKGZ	Pakihiroa	9.59	203	P	Pn	06 16 43.2	-3.2
PKGZ				S	Sn	06 18 30.5	-2.4
HAZ	Te Kaha	9.60	204	P	Pn	06 16 43.8	-2.6
HAZ				S	Sn	06 18 33.4	+0.4
PUZ	Puketiti	9.72	202	P	Pn	06 16 44.0	-4.1
PUZ				S	Sn	06 18 32.2	-3.8
WCZ	Waipu Caves	9.86	224	P	Pn	06 16 57.2	+7.1
OUZ	Omahuta	9.89	229	P	Pn	06 16 57.9	+7.4
OUZ	Omahuta	9.89	229	P	Pn	06 16 54.7	+4.2
CNGZ	Carnagh Statio	10.11	201	P	Pn	06 16 49.2	-4.3
CNGZ				S	Sn	06 18 44.9	-0.7
MWZ	Matawai	10.20	204	P	Pn	06 16 52.5	-2.3
MWZ				S	Sn	06 18 44.8	-3.1
URZ	Urewera	10.29	206	P	Pn	06 16 51.0	-4.9
	4.7nm,0.2s,baz=49,slow=10,SNR=1.4						
URZ				S	Sn	06 18 45.3	-4.6
	290nm,0.7s,baz=90,slow=20,SNR=13						
URZ	Urewera	10.29	206	P	Pn	06 16 52.4	-3.5
URZ				S	Sn	06 18 49.0	-0.9
URZ	Urewera	10.29	206	P	Pn	06 16 54.5	-1.4
RAGZ	Rawiri	10.39	204	P	Pn	06 16 53.3	-4.1
RAGZ				S	Sn	06 18 49.4	-3.1
TOZ	Tahuroa Road	10.54	213	P	Pn	06 17 00.1	+0.7
MUGZ	Murupara	10.61	206	P	Pn	06 16 56.3	-4.1
MUGZ				S	Sn	06 18 54.7	-3.2
RTZ	Ruatahuna	10.65	205	Pn	Pn	06 16 58.5	-2.5
KNZ	Kokohu	10.77	202	P	Pn	06 16 57.4	-5.2
MTHZ	Maungataniwha	10.91	205	P	Pn	06 17 01.5	-2.9
NMHZ	Naumai	11.14	205	P	Pn	06 17 04.1	-3.5
BKZ	Black Stump Fm	11.32	206	Pn	Pn	06 17 06.8	-3.3
BKZ	Black Stump Fm	11.32	206	P	Pn	06 17 05.1	-4.9
BKZ	Black Stump Fm	11.32	206	P	Pn	06 17 11.5	+1.5
HIZ	Hauiti	11.47	213	Pn	Pn	06 17 09.8	-2.3
HIZ	Hauiti	11.47	213	P	Pn	06 17 17.8	+5.6
MCHZ	McNeill Hill	11.49	204	P	Pn	06 17 10.7	-1.6
KWHZ	Kaweka Forest	11.57	205	P	Pn	06 17 08.6	-4.9
TMVZ	Te Maari	11.59	208	P	Pn	06 17 12.7	-1.1
ETVZ	East Tongariro	11.60	208	P	Pn	06 17 13.4	-0.6
OTVZ	Oturere	11.64	208	P	Pn	06 17 12.6	-2.0
KAHZ	Kahuranaki	11.73	203	P	Pn	06 17 14.1	-1.7
KRHZ	Kereru	11.78	205	P	Pn	06 17 11.3	-5.0
WNVZ	Wahianoa	11.81	208	P	Pn	06 17 16.7	-0.2
MOVZ	Moawhango	11.81	208	P	Pn	06 17 16.6	-0.3
PXZ	Pawanui	11.95	202	P	Pn	06 17 16.0	-2.6
NIUE	Niue	11.98	35	Pn	Pn	06 17 14.9	-4.3
NIUE	Niue	11.98	35	P	Pn	06 17 14.3	-4.8
NIUE	Niue	11.98	35	P	Pn	06 17 19.0	-0.2
VRZ	Vera Road	12.01	211	P	P	06 17 27.5	-4.1
MSVF	Nonsavu	12.10	338	Pn	Pn	06 17 20.1	-0.8
MSVF	Nonsavu	12.10	338	P	Pn	06 17 21.8	+0.9
	22nm,0.6s,baz=123,slow=11,SNR=37						
MSVF				S	Sn	06 19 23.4	-11
	32nm,0.8s,baz=115,slow=18,SNR=1.5						
MSVF				LR	LR	06 21 21.9	
	comp=Z,10μm,19.4s,baz=155,slow=34						
MSVF	Nonsavu	12.10	338	P	Pn	06 17 23.5	+2.6
MSVF	Nonsavu	12.10	338	*i* P	Pn	06 17 22.8	+1.9
PRHZ	Porangahau	12.24	203	P	Pn	06 17 16.9	-5.7
TSZ	Takapari Road	12.30	205	P	Pn	06 17 21.4	-2.0
DVHZ	Dannevirke	12.43	204	P	Pn	06 17 24.5	-0.7
POWZ	Post Office Ro	12.66	205	P	Pn	06 17 28.5	+0.2
PRWZ	Pori Road	12.73	204	P	Pn	06 17 26.3	-3.0
BFZ	Birch Farm	12.74	203		Pn	06 17 29.0	-0.4
BFZ	Birch Farm	12.74	203	P	Pn	06 17 27.0	-2.4
MRZ	Mangatainoka R	12.96	205	Pn	Pn	06 17 32.6	+0.2
TRWZ	Traveller	13.57	203	P	Pn	06 17 36.5	-4.3
PAWZ	Paruwai Farm	13.65	204	P	Pn	06 17 37.1	-4.8
MSWZ	Moikau Station	13.74	204		Pn	06 17 46.6	+3.4
MSWZ	Moikau Station	13.74	204	P	Pn	06 17 38.0	-5.2
DUWZ	D'Urville Isla	13.75	209	P	Pn	06 17 41.1	-2.1
PLWZ	Palliser	13.88	204		Pn	06 17 48.1	+3.2
PLWZ	Palliser	13.88	204	P	Pn	06 17 38.6	-6.3
BHW	Baring Head	13.88	206	P	Pn	06 17 48.5	+3.6
BHW	Baring Head	13.88	206	P	Pn	06 17 40.2	-4.7
TCW	Tory Channel	13.94	208	P	Pn	06 17 41.3	-4.5
TUWZ	Tuamarina	14.26	208		Pn	06 17 52.2	+2.1
TUWZ	Tuamarina	14.26	208	P	Pn	06 17 47.7	-2.4
NNZ	Nelson	14.32	210	P	P	06 17 56.1	-1.2
NNZ	Nelson	14.32	210	P	Pn	06 17 50.2	-0.8
TKNZ	Takaka Hill	14.36	211		Pn	06 17 51.9	+0.4
TKNZ	Takaka Hill	14.36	211	P	Pn	06 17 49.6	-2.0
QRZ	Quartz Range	14.40	213	P	Pn	06 17 51.5	-0.5
QRZ	Quartz Range	14.40	213	P	Pn	06 17 51.4	-0.6
BSWZ	Blackbirch Sta	14.53	207	P	P	06 17 59.1	-0.5
BSWZ	Blackbirch Sta	14.53	207	P	Pn	06 17 49.2	-4.5
CTZ	Chatham Island	14.63	178	Pn	Pn	06 17 54.3	-0.8
CTZ	Chatham Island	14.63	178	P	Pn	06 17 54.6	-0.4
MRNZ	Matariki Terra	14.75	211	P	Pn	06 17 59.2	+2.6
THZ	Tophouse	14.97	210	Pn	Pn	06 18 01.0	+1.2
PINNC	Pines Island,	15.22	292		Pn	06 18 01.4	-1.7
PINNC	Pines Island,	15.22	292	P	P	06 18 09.4	+1.9
KHZ	Kahutara	15.25	207		Pn	06 18 02.8	-0.5
OUENC	Ouen Island, N	15.81	291	P	P	06 18 14.9	+0.9
GVZ	Greta Valley S	15.92	207		Pn	06 18 12.6	+0.7
GVZ	Greta Valley S	15.92	207	P	Pn	06 18 12.6	+0.7
AFI	Afiamalu	15.93	20	Pn	Pn	06 18 08.2	-4.1
AFI	Afiamalu	15.93	20		Pn	06 18 08.4	-3.8
AFI				IAmb	IAmb	06 18 34.6	
	comp=Z,111nm,1.0s						
AFI	Afiamalu	15.93	20	P	Pn	06 18 11.8	-0.4
AFI	Afiamalu	15.93	20	P	Pn	06 18 08.4	-3.8
AFI				pmax	pmax		
	comp=Z,111nm,1.0s						
AFI				pmax	pmax		
	comp=Z,85nm,0.8s						
YATNC	Mamie plateau,	15.94	292	P	P	06 18 17.6	+2.2
LTZ	Lake Taylor	16.08	209		Pn	06 18 13.8	-0.2
LTZ	Lake Taylor	16.08	209	P	Pn	06 18 13.6	-0.4
ONTNC	Ouen Toro	16.18	291		Pn	06 18 13.4	-1.9
ONTNC	Ouen Toro	16.18	291	P	P	06 18 21.1	+3.0
AMCZ	Amberley	16.25	207	P	Pn	06 18 14.8	-1.3
DZM	Mont Dzumac	16.30	292		Pn	06 18 15.6	-1.4
DZM	Mont Dzumac	16.30	292	*e*Pn	P	06 18 18.6	-0.9
	comp=Z,494nm,1.4s						
DZM				*e*S	Sn	06 21 14.7	-2.1
	comp=Z,8μm,27.1s						
DZM				*e*LR	LR	06 22 02.4	
	comp=Z,30μm,25.5s						
DZM	Mont Dzumac	16.30	292	P	P	06 18 17.6	-1.9
	comp=Z,24nm,1.1s,baz=101,slow=11,SNR=5.2						
DZM				S	Sn	06 21 13.5	-3.4
	comp=Z,8.2nm,0.7s,baz=79,slow=19,SNR=1.2						
DZM				LR	LR	06 23 10.4	
	comp=Z,17μm,21.0s,baz=129,slow=32						
DZM	Mont Dzumac	16.30	292	P	P	06 18 22.6	+3.1
INZ	Inchbonnie	16.39	211		Pn	06 18 17.4	-0.5
NOUC	Port Laguerre	16.40	291	P	P	06 18 23.4	+2.9
OKCZ	Okains Bay	16.55	205	P	Pn	06 18 18.7	-1.2
OXZ	Oxford	16.62	208	Pn	Pn	06 18 18.1	-2.7
AKCZ	Akaroa Harbour	16.73	205	P	Pn	06 18 21.0	-1.2
RACZ	Rakaia	16.91	207	P	Pn	06 18 22.0	-2.4
RPZ	Rata Peaks	17.36	210		Pn	06 18 29.0	-1.0
RPZ	Rata Peaks	17.36	210	P	Pn	06 18 26.9	-3.1
	comp=Z,26nm,0.3s,baz=26,slow=3.1,SNR=11						
RPZ				S	Sn	06 21 24.0	-18
	comp=Z,31nm,0.6s,baz=322,slow=17,SNR=2.4						
RPZ				LR	LR	06 25 21.6	
	comp=Z,3μm,21.8s,baz=47,slow=37						
RPZ	Rata Peaks	17.36	210	P	Pn	06 18 28.8	-1.1
DVP	Devils Point	17.51	307	P	P	06 18 38.1	+5.3
RAR	Rarotonga	17.62	68	P	Pn	06 18 32.9	-0.6
RAR				IAmb	IAmb	06 18 52.5	
	comp=Z,430nm,1.2s						
RAR	Rarotonga	17.62	68	P	Pn	06 18 31.5	-1.9
	comp=Z,103nm,0.6s,baz=236,slow=9.4,SNR=23						
RAR				S	Sn	06 21 31.8	-17
	comp=Z,86nm,0.4s,baz=306,slow=19,SNR=12						
RAR				LR	LR	06 23 47.1	
	comp=Z,5μm,21.1s,baz=263,slow=31						
RAR	Rarotonga	17.62	68	P	Pn	06 18 32.1	-1.3
RAR	Rarotonga	17.62	68	P	Pn	06 18 32.9	-0.6
RAR				pmax	pmax		
	comp=Z,430nm,1.2s						
ODZ	Otahua Downs	18.60	208	P	P	06 18 43.2	-1.4
KOUNC	Koumac, New Ca	18.80	293		P	06 18 45.5	-1.5
KOUNC	Koumac, New Ca	18.80	293	P	Pn	06 18 49.5	+1.8
VLAKA	Lakatoro	19.15	309	P	Pn

EIDS	Eidsvold	28.38 270	P	P	06 20 19.9	-1.5
EIDS	Eidsvold	28.38 270	P	P	06 20 21.6	+0.1
comp=Z,0.0nmcomp=Z,33nm,1.1s						
EIDS	Eidsvold	28.38 270	P	P	06 20 22.8	+1.3
CNB	Canberra Magne	28.86 249	P	P	06 20 27.0	+1.3
comp=Z,0.0nmcomp=Z,78nm,0.9s						
CNB	Canberra Magne	28.86 249	P	P	06 20 28.5	+2.8
ALEG	Aligegeo Malai	28.97 310	P	P	06 20 28.7	+2.0
HNR	Honiara	28.99 308	P	P	06 20 24.8	-2.1
HNR			IAmb	IAmb	06 20 52.5	
comp=Z,228nm,1.4s						
HNR	Honiara	28.99 308	LR	LR	06 30 11.3	
comp=Z,2μm,20.2s,baz=148,slow=33						
HNR	Honiara	28.99 308	P	P	06 20 24.8	-2.1
HNR			pmax	pmax		
comp=Z,228nm,1.4s						
CAN	Canberra	29.15 249	P	P	06 20 27.6	-0.7
CAN	Canberra	29.15 249	P	P	06 20 28.6	+0.3
comp=Z,0.0nmcomp=Z,85nm,0.9s						
CAN	Canberra	29.15 249	P	P	06 20 30.5	+2.2
CAN	Canberra	29.15 249	P	P	06 20 27.6	-0.7
CAN			pmax	pmax		
comp=Z,57nm,0.7s						
AUDCS	Dubbo College	29.47 255	P	P	06 20 32.7	+1.6
YNG	Young	29.62 251	P	P	06 20 33.6	+1.2
AULRC	Lightning Ridg	30.29 261	P	P	06 20 39.8	+1.4
PMOR	Pomariorio Ree	30.48 69	eP	P	06 20 46.8	+6.7
comp=Z,294nm,1.4s						
PMOR			eS	S	06 25 34.6	-4.2
comp=Z,3μm,27.0s						
PMOR			eLR	LR	06 28 31.0	
comp=Z,10μm,24.5s						
VAH	Vaihoa	30.58 70	eP	P	06 20 49.2	+8.2
comp=Z,346nm,1.2s						
VAH			eLR	LR	06 28 32.7	
comp=Z,9μm,23.9s						
TAU	Tasmania Unive	31.58 234	P	P	06 20 47.5	-2.1
TAU			IAMs_20	IAMs_20	06 31 14.9	
comp=Z,6μm,21.0s						
TAU	Tasmania Unive	31.58 234	P	P	06 20 47.5	-2.1
TAU			pmax	pmax		
comp=Z,50nm,1.0s						
CMSA	Cobar Meteorol	32.01 256	P	P	06 20 53.3	-0.2
comp=Z,0.0nmcomp=Z,90nm,1.0s						
CMSA	Cobar Meteorol	32.01 256	P	P	06 20 55.2	+1.7
TOO	Toolangi	32.12 245	P	P	06 20 54.0	-0.4
TOO	Toolangi	32.12 245	P	P	06 20 54.8	+0.4
comp=Z,0.0nmcomp=Z,14nm,0.9s						
TOO	Toolangi	32.12 245	P	P	06 20 54.0	-0.4
TOO			pmax	pmax		
comp=Z,11nm,1.0s						
TOO			MLR	MLR		
comp=Z,1μm,19.0s						
BRAT	Ballarat	33.35 245	P	P	06 21 06.7	+1.6
AUAYR	Ayr State High	33.48 278	P	P	06 21 10.4	+4.0
QLP	Quilpie	34.07 265	P	P	06 21 11.7	+0.1
comp=Z,91nm,1.0s						
QLP	Quilpie	34.07 265	P	P	06 21 13.5	+1.9
TV1H	Townsville Har	34.13 278	P	P	06 21 13.7	+1.6
CTA	Charters Tower	34.28 277	LR	LR	06 33 47.5	
comp=Z,7μm,18.9s,baz=112,slow=34						
CTA	Charters Tower	34.28 277	P	P	06 21 14.8	+1.3
CTAO	Charters Tower	34.28 277	P	P	06 21 12.0	-1.5
CTAO			IAmb	IAmb	06 21 17.5	
comp=Z,62nm,0.8s						
CTAO	Charters Tower	34.28 277	P	P	06 21 14.7	+1.3
CTAO	Charters Tower	34.28 277	P	P	06 21 12.0	-1.5
CTAO			pmax	pmax		
comp=Z,62nm,0.8s						
CTAO			MLR	MLR		
comp=Z,7μm,20.0s						
CTAO	Charters Tower	34.28 277	P	P	06 21 13.4	-0.1
CTAO			sP	sP	06 21 27.8	-0.6
CTAO			PcP	PcP	06 23 50.4	+1.1
ARPS	Mount Arapiles	35.00 247	P	P	06 21 19.5	+0.1
comp=Z,53nm,0.8s						
ARPS	Mount Arapiles	35.00 247	P	P	06 21 20.3	+0.9
STKA	Stephens Creek	35.45 255	P	P	06 21 22.7	-0.6
STKA	Stephens Creek	35.45 255	P	P	06 21 23.0	-0.4
comp=Z,9.6nm,0.8s						
STKA	Stephens Creek	35.45 255	P	P	06 21 22.8	-0.6
comp=Z,31nm,0.6s,baz=97,slow=9.9,SNR=32						
STKA			LR	LR	06 34 54.3	
comp=Z,4μm,18.1s,baz=82,slow=35						
comp=Z,31nm,0.6s						
STKA	Stephens Creek	35.45 255	P	P	06 21 24.3	+0.9
MGBR	Mount Gambier	36.02 245	P	P	06 21 26.6	-1.6
MTSU	Mount Surprise	36.74 279	P	P	06 21 34.5	-0.1
comp=Z,63nm,0.9s						
MTSU	Mount Surprise	36.74 279	P	P	06 21 36.3	+1.7
INKA	Innaminka	36.85 262	P	P	06 21 37.2	+1.8
AUMBR	Murray Bridge	37.10 249	P	P	06 21 38.3	+0.8
HTT	Hallett	37.53 252	P	P	06 21 40.4	-0.8
comp=Z,95nm,1.0s						
HTT	Hallett	37.53 252	P	P	06 21 41.7	+0.5
RABL	Rabaul	38.15 305	P	P	06 21 44.5	-2.1
RABL			IAmb	IAmb	06 22 02.8	
comp=Z,46nm,0.8s						
LCRK	Leigh Creek	38.52 257	P	P	06 21 49.0	-0.5
PMG	Port Moresby	38.68 293	P	P	06 21 49.1	-1.9
PMG	Port Moresby	38.68 293	IAMs_20	IAMs_20	06 34 50.2	
comp=Z,4μm,20.0s						
PMG	Port Moresby	38.68 293	LR	LR	06 34 51.0	
comp=Z,4μm,21.9s,baz=134,slow=32						
PMG	Port Moresby	38.68 293	P	P	06 21 54.1	+3.1
PMG	Port Moresby	38.68 293	P	P	06 21 54.2	+3.2
PMG	Port Moresby	38.68 293	P	P	06 21 49.1	-1.9
PMG			pmax	pmax		
comp=Z,21nm,1.1s						
WHYH	Whyalla	38.70 252	P	P	06 21 51.3	+0.4
COEN	Coen	39.59 284	P	P	06 21 56.8	-1.8
COEN	Coen	39.59 284	P	P	06 21 59.1	+0.5
comp=Z,0.0nmcomp=Z,51nm,0.9s						
COEN	Coen	39.59 284	P	P	06 21 59.0	+0.5
QIS	Mount Isa	39.91 272	P	P	06 22 01.2	-0.1
comp=Z,40nm,1.0s						
QIS	Mount Isa	39.91 272	P	P	06 22 00.1	-1.2
BBOO	Buckleboo	39.99 253	P	P	06 22 00.3	-1.4
BBOO			IAmb	IAmb	06 22 04.6	
comp=Z,70nm,0.9s						
BBOO			IAMs_20	IAMs_20	06 37 40.2	
comp=Z,3μm,19.0s						
BBOO	Buckleboo	39.99 253	P	P	06 22 01.2	-0.6
comp=Z,87nm,1.0s						
BBOO	Buckleboo	39.99 253	P	P	06 22 02.7	+0.9
TAOE	Nuku Hiva Isla	40.18 67	eP	P	06 22 00.5	-3.1
comp=Z,157nm,22.5s						
TAOE			eS	S	06 28 04.4	-3.4
comp=Z,2μm,26.6s						
TAOE			eLQ	LQ	06 31 21.3	
comp=Z,2μm,22.7s						
TAOE			eLR	LR	06 33 01.8	
comp=Z,7μm,25.7s						
OOD	Oodnadatta	41.21 260	P	P	06 22 11.5	-0.4
MULG	Mulgathing	42.08 256	P	P	06 22 19.8	+0.8
PATS	Pohnpei	42.78 323	P	P	06 22 24.5	-0.3
PATS			IAmb	IAmb	06 22 47.6	
comp=Z,207nm,1.4s						
MANU	Manus Island	43.11 302	P	P	06 22 26.0	-1.5
AS31	Alice Springs	43.87 265	P	P	06 22 31.9	-1.7
ASAR	Alice Springs	43.87 265	P	P	06 22 31.8	-1.9
comp=Z,55nm,0.9s,baz=101,slow=7.1,SNR=204						
ASAR			LR	LR	06 40 29.1	
comp=Z,5μm,18.2s,baz=110,slow=36						
comp=Z,55nm,0.9s						
WR0	Warramunga Arr	44.56 270	P	P	06 22 37.2	-1.9
WB2	Warramunga Arr	44.73 270	P	P	06 22 38.9	-1.6
WB2			IAmb	IAmb	06 22 42.4	
comp=Z,71nm,0.9s						
WRAB	Tennant Creek	44.74 270	P	P	06 22 39.0	-1.6
WRAB			IAmb	IAmb	06 22 41.9	
comp=Z,85nm,1.1s						
WRAB			IAMs_20	IAMs_20	06 39 55.1	
comp=Z,3μm,19.0s						
WRAB	Tennant Creek	44.74 270	P	P	06 22 39.0	-1.6
WRAB			pmax	pmax		
comp=Z,85nm,1.1s						
WRA	Warramunga Arr	44.74 270	P	P	06 22 38.5	-2.0
comp=Z,73nm,1.0s,baz=108,slow=7.7,SNR=150						
WRA			ScP	ScP	06 28 11.2	-0.3
comp=Z,1.6nm,0.8s,baz=94,slow=3.4,SNR=2.8						
WRA			S	S	06 29 09.6	-5.3
comp=Z,0.4nm,0.5s,baz=108,slow=14,SNR=1.9						
WRA			LR	LR	06 40 05.5	
comp=Z,3μm,18.3s,baz=117,slow=34						
comp=Z,73nm,1.0s						
WB0	Warramunga Arr	44.76 271	P	P	06 22 38.9	-1.8
WB0			IAmb	IAmb	06 22 41.5	
comp=Z,66nm,0.8s						
DRV	Dumont d'Urvil	45.61 202	P	P	06 22 46.8	+0.1
DRV			pP	pP	06 22 57.1	-0.2
DRV			sP	pwP	06 23 01.9	+0.8
FORT	Forrest	47.05 254	P	P	06 22 56.1	-2.6
FORT			IAmb	IAmb	06 22 58.4	
comp=Z,59nm,0.7s						
FORT			IAMs_20	IAMs_20	06 43 03.1	
comp=Z,3μm,18.0s						
FORT	Forrest	47.05 254	P	P	06 22 56.6	-2.0
comp=Z,85nm,0.6s						
FORT	Forrest	47.05 254	P	P	06 22 58.5	-0.1
JAY	Jayapura	47.92 296	LR	LR	06 41 53.7	
comp=Z,2μm,21.0s,baz=106,slow=34						
JAY	Jayapura	47.92 296	P	P	06 23 02.4	-3.2
GENI	Genyem	48.30 295	P	P	06 23 08.3	-0.1
GENI	Genyem	48.30 295	P	P	06 23 07.4	-1.0
comp=Z,76nm,1.1s,comp=Z,2μm						
WRKA	Warakurna	48.33 261	P	P	06 23 06.4	-2.3
comp=Z,110nm,1.0s						
KDU	Kakadu	49.37 278	P	P	06 23 15.1	-1.7
comp=Z,71nm,1.1s						
KDU	Kakadu	49.37 278	P	P	06 23 15.8	-0.9
SBA	Scott Base	49.39 184	P	P	06 23 16.9	+0.9
SBA	Scott Base	49.39 184	P	P	06 23 16.9	+0.9
SBA			pmax	pmax		
comp=Z,87nm,0.9s						
SBA	Scott Base	49.39 184	P	P	06 23 20.7	+4.7
SBA			sP	sP	06 23 36.2	+5.1
MTN	Manton Dam	50.46 277	P	P	06 23 23.6	-1.4
MTN			IAmb	IAmb	06 23 25.0	
comp=Z,42nm,0.8s						
MTN	Manton Dam	50.46 277	P	P	06 23 23.7	-1.3
comp=Z,58nm,1.0s						
MTN	Manton Dam	50.46 277	P	P	06 23 24.3	-0.7
DRS	Darwin Rock St	50.85 278	P	P	06 23 27.7	-0.2
KNRA	Kununurra	51.30 273	P	P	06 23 30.0	-1.3
KNRA			IAmb	IAmb	06 23 32.6	
comp=Z,60nm,1.0s						
KNRA			IAMs_20	IAMs_20	06 43 21.5	
comp=Z,2μm,21.0s						
KNRA	Kununurra	51.30 273	P	P	06 23 30.2	-1.0
comp=Z,0.0nmcomp=Z,65nm,1.1s						
KMBL	Kambalda	52.07 251	P	P	06 23 35.8	-1.1
comp=Z,58nm,1.3s						
KMBL	Kambalda	52.07 251	P	P	06 23 35.9	-1.0
SAUI	Saumlaki	52.65 283	IAMs_20	IAMs_20	06 43 54.4	
comp=Z,3μm,20.0s						
FITZ	Fitzroy Crossi	53.05 269	P	P	06 23 43.1	-1.2
FITZ	Fitzroy Crossi	53.05 269	LR	LR	06 45 57.8	
comp=Z,3μm,18.6s,baz=112,slow=36						
KIP	Kipapa	53.52 22	P	P	06 23 48.9	+1.4
KIP	Kipapa	53.52 22	i P	P	06 23 48.5	+1.0
KIP			pmax	pmax		
comp=Z,125nm,2.9s						
KIP	Kipapa	53.52 22	P	P	06 23 49.2	+1.7
KIP			pP	pP	06 23 59.5	+1.3
KIP			sP	sP	06 24 04.3	+1.7
CCD	Concordia, Ant	54.40 196	P	P	06 23 54.9	+1.1
CCD			pP	pP	06 24 06.2	+1.6
AUALB	St Joseph's Co	54.46 246	P	P	06 23 53.7	-0.7
FAKI	Fak Fak	54.54 289	P	P	06 23 53.2	-2.0
FAKI			IAmb	IAmb	06 23 55.4	
comp=Z,55nm,1.1s						
FAKI	Fak Fak	54.54 289	P	P	06 23 58.1	+2.9
FAKI	Fak Fak	54.54 289	P	P	06 23 53.3	-2.0
comp=Z,52nm,1.0s,comp=Z,695nm						
RKGY	Rocky Gully	55.29 246	P	P	06 23 58.4	-2.1
comp=Z,90nm,0.8s						
RKGY	Rocky Gully	55.29 246	P	P	06 24 00.2	-0.2
KLBR	Kellerberrin	55.42 250	P	P	06 24 00.6	-0.9
comp=Z,221nm,1.0s						
KLBR	Kellerberrin	55.42 250	P	P	06 24 01.1	-0.3
NWAO	Narrogin (SRO)	55.50 248	P	P	06 23 58.3	-3.7
NWAO	Narrogin (SRO)	55.50 248	IAMs_20	IAMs_20	06 46 34.8	
comp=Z,2μm,20.0s						
NWAO	Narrogin (SRO)	55.50 248	LR	LR	06 46 37.8	
comp=Z,2μm,19.3s,baz=60,slow=35						
NWAO	Narrogin (SRO)	55.50 248	P	P	06 23 58.3	-3.7
NWAO			pmax	pmax		
comp=Z,30nm,1.1s						
GUMO	Guam	56.04 314	LR	LR	06 44 40.9	
comp=Z,1μm,21.9s,baz=142,slow=32						
MEEK	Meekatharra	56.14 256	P	P	06 24 05.2	-1.5
comp=Z,74nm,1.1s						
MEEK	Meekatharra	56.14 256	P	P	06 24 06.0	-0.7
SWI	Sorong	56.51 290	P	P	06 24 07.8	-1.5
comp=Z,188nm,1.0s,comp=Z,2μm						
AUHAR	St Anne's Scho	56.55 248	P	P	06 24 09.9	+0.5
BLDU	Ballidu	56.55 251	P	P	06 24 08.2	-1.3
comp=Z,46nm,1.0s						
BLDU	Ballidu	56.55 251	P	P	06 24 09.9	+0.4
MUN	Mundaring	56.59 249	P	P	06 24 08.9	-0.8
comp=Z,93nm,1.0s						
MUN	Mundaring	56.59 249	P	P	06 24 10.4	+0.7
CASY	Casey	56.61 207	P	P	06 24 09.0	-0.4
CASY	Casey	56.61 207	P	P	06 24 08.6	-0.7
CASY			pP	pP	06 24 18.2	-1.9
CASY			sP	pwP	06 24 22.9	-1.0
CASY			PcP	PcP	06 25 06.4	+1.1
PSA00	Pilbara Seismi	56.80 262	P	P	06 24 09.5	-1.9
PSA00			IAmb	IAmb	06 24 11.5	
comp=Z,92nm,1.1s						
PSA00	Pilbara Seismi	56.80 262	P	P	06 24 09.5	-1.9
comp=Z,93nm,1.1s						
PSA00	Pilbara Seismi	56.80 262	P	P	06 24 10.5	-0.9
PSAC1	Pilbara Seismi	56.85 262	P	P	06 24 10.8	-0.9
comp=Z,113nm,1.1s						
MBWA	Marble Bar	57.05 263	P	P	06 24 11.3	-1.9
MBWA	Marble Bar	57.05 263	P	P	06 24 12.3	-0.8
comp=Z,147nm,1.0s						
MBWA	Marble Bar	57.05 263	P	P	06 24 11.5	-1.7
MBWA	Marble Bar	57.05 263	P	P	06 24 11.2	-1.9
MBWA			pP	pP	06 24 22.2	-1.9
MBWA			PP	PP	06 26 16.6	-3.5
MSAI	Masohi	57.08 286	P	P	06 24 11.6	-1.8
comp=Z,75nm,1.0s						
AAI	Ambon	57.51 285	P	P	06 24 15.0	-1.5
comp=Z,77nm,0.8s						
MORW	Morawa	57.56 252	P	P	06 24 14.7	-1.9
MORW			IAmb	IAmb	06 24 16.2	
comp=Z,51nm,1.1s						
MORW			IAMs_20	IAMs_20	06 46 01.5	
comp=Z,2μm,22.0s						
MORW	Morawa	57.56 252	P	P	06 24 14.8	-1.9
comp=Z,47nm,1.1s						
MORW	Morawa	57.56 252	P	P	06 24 15.6	-1.1
SOEI	Soe	57.85 277	P	P	06 24 19.2	+0.2
SOEI	Soe	57.85 277	P	P	06 24 20.6	+1.6
SOEI	Soe	57.85 277	P	P	06 24 18.5	-0.5
BATI	Baumata	58.17 276	LR	LR	06 49 44.3	
comp=Z,5μm,18.2s,baz=133,slow=36						
BATI	Baumata	58.17 276	P	P	06 24 20.6	-0.5
comp=Z,107nm,1.1s,comp=Z,1μm						
NLAI	Namlea	58.67 285	P	P	06 24 22.5	-2.1
comp=Z,59nm,1.6s						
RPN	Rapa Nui	59.14 106	LR	LR	06 43 17.2	
comp=Z,1μm,22.0s,baz=243,slow=29						
MMRI	Maumere	60.14 277	P	P	06 24 33.6	-1.2
MMRI			IAMs_20	IAMs_20	06 52 02.8	
comp=Z,2μm,18.0s						
MMRI	Maumere	60.14 277	P	P	06 24 34.6	-0.2
MMRI	Maumere	60.14 277	P	P	06 24 33.1	-1.7
SANI	Sanana	60.24 286	P	P	06 24 34.9	-0.5
SANI	Sanana	60.24 286	P	P	06 24 33.5	-1.9
comp=Z,65nm,1.1s,comp=Z,1μm						
QSPA	South Pole Qui	61.02 180	P	P	06 24 41.5	+1.3
QSPA	South Pole Qui	61.02 180	P	P	06 24 42.3	+2.2
comp=Z,48nm,0.9s,baz=11,slow=0.6,SNR=112						
QSPA			LR	LR	06 50 01.8	
comp=Z,400nm,18.3s,baz=31,slow=35						
comp=Z,48nm,0.9s						
QSPA	South Pole Qui	61.02 180	P	P	06 24 42.6	+2.5
GIRL	Giralia	61.25 259	P	P	06 24 41.4	-0.9
GIRL	Giralia	61.25 259	P	P	06 24 42.7	+0.4
comp=Z,228nm,1.0s						
GIRL	Giralia	61.25 259	P	P	06 24 43.5	+1.3
WSI	Waingapu	61.35 275	P	P	06 24 41.9	-1.1
KDI	Kendari	62.12 282	P	P	06 24 46.4	-1.7
comp=Z,57nm,1.0s						
WBSI	Waikabubak, Su	62.15 274	P	P	06 24 46.6	-1.8
comp=Z,77nm,1.0s,comp=Z,888nm						
BSSI	Bau Bau, Buton	62.86 278	P	P	06 24 51.5	-1.6
comp=Z,57nm,1.0s						
KMSI	Cibinong	63.34 287	P	P	06 24 54.3	-2.0
comp=Z,80nm,0.4s						
LUWI	Luwuk	63.50 285	P	P	06 24 56.0	-1.3
LUWI	Luwuk	63.50 285	P	P	06 24 57.3	0.0
LUWI	Luwuk	63.50 285	P	P	06 24 55.7	-1.6
comp=Z,132nm,1.0s,comp=Z,2μm						
PLAI	Plampang	63.94 274	P	P	06 24 59.8	-0.5
PLAI	Plampang	63.94 274	P	P	06 24 58.5	-1.8
BNSI	Bone	64.05 280	P	P	06 24 59.4	-1.6
comp=Z,130nm,1.2s,comp=Z,1μm						
KAPI	Kappang	64.05 279	P	P	06 24 59.7	-1.3
KAPI			IAmb	IAmb	06 25 12.5	
comp=Z,50nm,1.0s						
KAPI	Kappang	64.05 279	P	P	06 25 01.0	0.0
KAPI	Kappang	64.05 279	P	P	06 24 59.7	-1.3
KAPI			pmax	pmax		
comp=Z,50nm,1.0s						
KAPI	Kappang	64.05 279	P	P	06 24 59.7	-1.3
KAPI			pP	pP	06 25 10.4	-1.7
SPSI	Sidrap Palu	64.56 280	P	P	06 25 01.9	-2.4
comp=Z,69nm,1.1s						
TTSI	Tana Toraja	64.98 281	P	P	06 25 05.2	-1.9
comp=Z,69nm,1.1s						
MRSI	Marisa	65.01 286	P	P	06 25 04.4	-2.8
DAV	Davao City (W)	65.70 294	LR	LR	06 54 27.1	
comp=Z,380nm,18.3s,baz=117,slow=37						
PCI	Palu	66.06 283	P	P	06 25 13.2	-0.9
comp=Z,175nm,1.2s						
TOLI2	Tolitoli	66.32 285	P	P	06 25 13.4	-2.3
TOLI2	Tolitoli	66.32 285	P	P	06 25 16.0	+0.3
SRBI	Singaraja	66.52 274	P	P	06 25 14.7	-2.3
comp=Z,148nm,1.1s,comp=Z,1μm						
JAGI	Jajag, Banyuwa	67.27 273	P	P	06 25 20.3	-1.5
JAGI			IAMs_20	IAMs_20	06 52 12.9	
comp=Z,1μm,22.0s						
JAGI	Jajag, Banyuwa	67.27 273	P	P	06 25 20.9	-0.9
JAGI	Jajag, Banyuwa	67.27 273	P	P	06 25 19.9	-1.9
comp=Z,201nm,1.0s,comp=Z,2μm						
ABJI	Asem Bagus	67.52 274	P	P	06 25 20.9	-2.4
comp=Z,125nm,1.0s,comp=Z,2μm						
GMJI	Gumukmas	67.98 273	P	P	06 25 24.4	-1.8
comp=Z,164nm,1.0s,comp=Z,2μm						
JCJ	Chichijima	68.07 321	P	P	06 25 26.4	0.0
JCJ	Chichijima	68.07 321	LR	LR	06 49 52.3	
comp=Z,786nm,22.0s,baz=315,slow=31						
BLJI	Banyuglugur	68.10 273	P	P	06 25 25.0	-2.0
comp=Z,123nm,0.8s,comp=Z,4μm						
KMMI	Kalianget	68.10 274	P	P	06 25 25.8	-1.2
comp=Z,177nm,1.1s,comp=Z,2μm						
GRJI	Gresik	69.46 274	P	P	06 25 34.4	-1.1
PWJI	Pagerwojo	69.53 272	P	P	06 25 34.2	-1.7
comp=Z,76nm,0.9s						
PCJI	Pacitan	70.00 272	P	P	06 25 37.3	-1.5
NGJI	Ngawi	70.14 273	P	P	06 25 39.3	-0.3
comp=Z,66nm,0.9s						
MTKI	Muara Teweh, K	70.28 280	P	P	06 25 39.3	-1.2
comp=Z,36nm,0.5s						
UGM	Wanagama	70.70 272	P	P	06 25 41.8	-1.4
UGM			IAMs_20	IAMs_20	06 54 55.9	
comp=Z,1μm,22.0s						
UGM	Wanagama	70.70 272	P	P	06 25 43.0	-0.2
UGM	Wanagama	70.70 272	P	P	06 25 42.1	-1.1
BELA	Belgrano 2	70.99 172	P	P	06 25 44.9	+1.0
BELA			IAmb	IAmb	06 26 02.9	
comp=Z,80nm,1.3s						
UWJI	Ujung Watu	71.03 273	P	P	06 25 43.7	-1.4
comp=Z,129nm,1.2s,comp=Z,3μm						
SMRI	Semarang	71.18 272	P	P	06 25 45.6	-0.4
SMRI			IAmb	IAmb	06 25 46.4	
comp=Z,49nm,0.8s						
SMRI	Semarang	71.18 272	P	P	06 25 45.3	-0.7
comp=Z,66nm,0.8s,comp=Z,4μm						
KPJI	Karang Pucung	72.37 271	P	P	06 25 51.6	-1.5
comp=Z,95nm,0.9s						
CMJI	Cimerak	72.58 271	P	P	06 25 52.7	-1.7
KKM	Kota Kinabalu	72.80 287	P	P	06 25 54.6	-1.2
KKM	Kota Kinabalu	72.80 287	P	P	06 25 56.3	+0.5
PMSA	Palmer Station	73.18 156	LR	LR	06 49 55.5	
comp=Z,1μm,21.9s,baz=274,slow=29						
BBJI	Bungbulang	73.43 271	P	P	06 25 58.6	-0.9
TGY	Tagaytay City	73.52 297	LR	LR	06 57 34.2	
comp=Z,260nm,19.7s,baz=135,slow=35						
STKI	Sintang	73.73 279	P	P	06 26 00.5	-0.7
comp=Z,145nm,1.0s						
LEM	Lembang	73.75 271	P	P	06 26 00.5	-1.1
comp=Z,156nm,0.7s,baz=81,slow=4.2,SNR=24						
LEM			LR	LR	06 59 34.8	
comp=Z,1μm,20.1s,baz=110,slow=37						
comp=Z,156nm,0.7s						
LEM	Lembang	73.75 271	P	P	06 26 00.4	-1.1
MAW	Mawson	73.77 200	P	P	06 26 01.2	+0.7
comp=Z,33nm,0.9s,baz=128,slow=8.1,SNR=29						
MAW			LR	LR	06 57 06.5	
comp=Z,1μm,20.5s,baz=114,slow=35						
comp=Z,33nm,0.9s						
XMIS	Christmas Isla	73.78 267	IAMs_20	IAMs_20	07 01 15.5	
comp=Z,1μm,19.0s						
CNJI	Cibinong	73.96 270	P	P	06 26 00.4	-2.1
comp=Z,95nm,1.0s,comp=Z,938nm						
SBUM	Sibu	74.30 282	P	P	06 26 03.5	-1.0
SBUM	Sibu	74.30 282	P	P	06 26 05.2	+0.7
SKJI	Sukabumi	74.60 270	P	P	06 26 03.1	-3.2
DBJI	Dramaga	74.64 271	P	P	06 26 05.1	-1.4
KSM	Kuching	75.45 280	P	P	06 26 09.8	-1.3
KSM			IAmb	IAmb	06 26 11.8	
comp=Z,47nm,0.9s						
KSM	Kuching	75.45 280	P	P	06 26 11.2	0.0
TPI	Tanjungpandan	75.67 275	P	P	06 26 10.9	-1.5
comp=Z,75nm,1.1s,comp=Z,985nm						
JOW	Kunigami	76.29 312	P	P	06 26 14.9	-0.7
JOW			IAmb	IAmb	06 26 17.5	
comp=Z,43nm,0.9s						
JOW	Kunigami	76.29 312	LR	LR	06 55 56.4	
comp=Z,715nm,20.3s,baz=164,slow=33						
KASI	Kota Agung	77.10 271	P	P	06 26 18.0	-2.5
comp=Z,82nm,1.0s,comp=Z,628nm						
INU	Inuyama	77.25 323	P	P	06 26 19.9	-0.9
INU			IAmb	IAmb	06 26 22.9	
comp=Z,45nm,0.9s						
INU	Inuyama	77.25 323	P	P	06 26 21.6	+0.8
JGF	Kuroka	77.27 323	P	P	06 26 20.6	-0.4
JGF			IAmb	IAmb	06 26 22.2	
comp=Z,32nm,0.8s						
JGF	Kuroka	77.27 323	P	P	06 26 22.2	+1.2
PPBI	Pangkal Pinang	77.28 275	P	P	06 26 19.9	-1.6
JMM	Marumori	77.33 327	P	P	06 26 20.8	-0.4
JMM			IAmb	IAmb	06 26 24.8	
comp=Z,85nm,1.5s						
JM

SSLB	Suanglung	79.36	305	P	P	06 26 31.6 -1.2
SSLB				IAMs_20	IAMs_20	06 55 58.7
comp=Z,2μm,22.0s						
SSLB	Suanglung	79.36	305	P	P	06 26 32.7 -0.1
SNAA	Sanae	79.44	178	P	P	06 26 33.5 +0.9
SNAA				IAmb	IAmb	06 26 51.8
comp=Z,75nm,1.4s						
SNAA	Sanae	79.44	178	⇑P	P	06 26 33.7 +1.1
comp=Z,458nm,0.7s						
SNAA	Sanae	79.44	178	P	P	06 26 33.4 +0.7
comp=Z,24nm,0.9s,baz=213,slow=4.5,SNR=54						
SNAA				LR	LR	06 59 59.6
comp=Z,488nm,19.4s,baz=196,slow=34						
comp=Z,24nm,0.9s						
SNAA	Sanae	79.44	178	P	P	06 26 33.5 +0.9
SNAA				pmax	pmax	
comp=Z,75nm,1.4s						
JTM	Tenmabayashi	79.55	329	IAmb	IAmb	06 26 35.9
comp=Z,81nm,1.0s						
JTM	Tenmabayashi	79.55	329	P	P	06 26 34.7 +1.3
VNA3	Neumayer Olymp	79.56	176	⇑P	P	06 26 33.9 +0.7
comp=Z,47nm,0.7s						
ERM	Erimo	79.64	331	*i* P	P	06 26 34.5 +0.7
ERM				pmax	pmax	
comp=Z,49nm,1.2s						
KSI	Kapahiang	79.66	272	P	P	06 26 32.7 -2.1
H06S1	SOCORRO T	79.66	62	T	T	07 54 44.0
SNR=5.6						
VNA2	Neumayer--Watz	80.01	177	⇑P	P	06 26 36.6 +1.0
comp=Z,64nm,1.0s,baz=178,slow=4.1						
NVL	N'lazarevskaya	80.22	183	*e*P	P	06 26 35.9 -0.8
NVL				*e*S	S	06 36 38.2 -0.3
NVL				pmax	pmax	
comp=Z,60nm,1.0s						
NVL				MLR	MLR	
comp=Z,415nm,20.0s						
VNA1	Neumayer--Stat	80.23	176	⇑P	P	06 26 38.3 +1.5
comp=Z,42nm,0.8s						
H03S2	Juan Fernandez	80.62	123	T	T	07 56 09.4
baz=240,slow=74,SNR=68						
H03S1	Juan Fernandez	80.64	123	T	T	07 56 15.6
baz=240,slow=74,SNR=58						
H03S3	Juan Fernandez	80.64	123	T	T	07 56 25.5
baz=240,slow=74,SNR=49						
COCO	West Island	80.67	261	IAMs_20	IAMs_20	06 58 26.0
comp=Z,2μm,21.0s						
H03N3	Juan Fernandez	80.81	123	T	T	07 56 32.9
baz=244,slow=73,SNR=38						
H03N2	Juan Fernandez	80.81	123	T	T	07 56 31.8
baz=244,slow=73,SNR=40						
H03N1	Juan Fernandez	80.82	123	T	T	07 56 41.9
baz=244,slow=73,SNR=76						
ATKA	Atka Island	80.98	2	P	P	06 26 40.9 +0.1
BTDF	Bukit Timah Da	81.05	277	P	P	06 26 42.7 +0.5
MYKOM	Kota Tinggi	81.20	277	P	P	06 26 43.7 +0.8
JKA	Kamikawa-asahi	81.59	332	P	P	06 26 43.5 -0.7
JKA				IAmb	IAmb	06 26 48.1
comp=Z,67nm,1.1s						
ASAJ	Asahikawa	81.59	332	P	P	06 26 45.0 +0.7
comp=Z,40nm,1.0s,baz=244,slow=14,SNR=9.5						
ASAJ				LR	LR	06 56 27.5
comp=Z,2μm,22.0s,baz=162,slow=31						
comp=Z,40nm,1.0s						
ASAJ	Asahikawa	81.59	332	P	P	06 26 45.0 +0.7
QZH	Quanzhou	81.77	304	P	P	06 26 45.5 -0.1
QZH				S	S	06 36 57.3 +1.4
QZH				LR	LR	
comp=Z,610nm,21.0s						
QZH				LR	LR	
comp=Z,630nm,21.3s						
QZH				LR	LR	
comp=Z,1μm,22.0s						
SHEM	Shemya Is, Ala	81.82	355	LR	LR	06 54 33.7
comp=Z,2μm,20.5s,baz=156,slow=29						
PLCA	Paso Flores	82.90	133	LR	LR	06 54 58.7
comp=Z,1μm,22.0s,baz=278,slow=29						
GO06	Curarrehue	82.92	131	P	P	06 26 55.1 +3.3
LPIG	La Paz	83.27	58	LR	LR	06 58 34.4
comp=Z,707nm,18.1s,baz=212,slow=32						
TJN	Taejon	83.37	318	P	P	06 26 53.1 -0.6
TJN	Taejon	83.37	318	P	P	06 26 55.4 +1.7
TJN	Taejon	83.37	318	*i* P	P	06 26 53.7 0.0
EFI	East Falkland	83.52	147	*i* P	P	06 26 53.0 -1.4
EFI				pmax	pmax	
comp=Z,29nm,1.0s						
KSRS	Korea Array	83.79	319	P	P	06 26 56.2 +0.3
comp=Z,18nm,1.0s,baz=143,slow=5.6,SNR=37						
KSRS				LR	LR	07 02 33.0
comp=Z,267nm,18.8s,baz=135,slow=34						
comp=Z,18nm,1.0s						
SAO	San Andreas Ge	83.85	42	IAmb	IAmb	06 27 16.3
comp=Z,46nm,1.1s						
KS19	Wonju Array Si	83.86	319	P	P	06 26 55.6 -0.6
YSS	Yuzh-Sakhalins	83.87	334	P	P	06 26 56.3 +0.3
YSS				IAmb	IAmb	06 27 02.9
comp=Z,58nm,1.0s						
YSS	Yuzh-Sakhalins	83.87	334	P	P	06 26 57.8 +1.8
YSS	Yuzh-Sakhalins	83.87	334	*e*P	P	06 26 56.4 +0.4
YSS				*e*S	S	06 37 15.6 -0.7
YSS				*e*PPS	PPS	06 38 05.5
YSS				*e*SS	SS	06 42 43.3 -2.1
YSS				pmax	pmax	
comp=Z,500nm,4.6s						
YSS				pmax	pmax	
comp=N,100nm,5.0s						
YSS				pmax	pmax	
comp=Z,40nm,1.1s						
PASC	Pasadena Art C	84.09	46	IAmb	IAmb	06 27 17.2
comp=Z,45nm,1.2s						
PASC				IAMs_20	IAMs_20	07 01 40.3
comp=Z,1μm,20.0s						
ELS	Elsinore Mount	84.23	46	IAmb	IAmb	06 27 18.4
comp=Z,74nm,1.4s						
PET	Petropavlovsk	84.43	346	*e*P	P	06 27 01.1 +2.4
PET				*e*S	S	06 37 26.7 +5.1
PET				*e*PS	PnS	06 38 20.7 +0.6
PET				*e*SS	SS	06 42 54.7 +1.3
PET				pmax	pmax	
comp=Z,200nm,10.9s						
PEA0B	Petropavlovsk-	84.72	345	P	P	06 26 59.3 -0.9
PEA0B				IAmb	IAmb	06 27 01.2
comp=Z,46nm,0.9s						
PEA0B	Petropavlovsk-	84.72	345	P	P	06 26 59.3 -0.9
PEA0B				pmax	pmax	
comp=Z,46nm,0.9s						
PETK	Petropavlovsk-	84.72	345	P	P	06 26 59.0 -1.2
comp=Z,34nm,0.8s,baz=131,slow=6.3,SNR=28						
PETK				LR	LR	07 02 09.8
comp=Z,669nm,18.9s,baz=167,slow=34						
comp=Z,34nm,0.8s						
PFO	Pinyon Flats O	84.82	47	P	P	06 27 01.8 +0.4
PFO				IAmb	IAmb	06 27 21.6
comp=Z,78nm,1.4s						
PFO	Pinyon Flats O	84.82	47	LR	LR	07 00 07.5
comp=Z,1μm,18.2s,baz=254,slow=32						
PFO	Pinyon Flats O	84.82	47	*i* P	P	06 27 02.8 +1.4
PFO				pmax	pmax	
comp=Z,31nm,1.0s						
ISA	Isabella, Lake	84.89	44	IAmb	IAmb	06 27 21.8
comp=Z,76nm,1.2s						
IPM	Ipoh	84.97	278	P	P	06 27 01.7 -0.7
IPM				IAmb	IAmb	06 27 04.5
comp=Z,36nm,0.8s						
IPM	Ipoh	84.97	278	P	P	06 27 02.6 +0.1
QIZ	Qiongzhong	85.05	295	P	P	06 27 01.4 -1.3
QIZ				sP	pP	06 27 15.3 +1.1
QIZ				S	S	06 37 32.0 +2.7
QIZ				sS	sS	06 37 49.0 +0.4
QIZ				pmax	pmax	
comp=Z,54nm,1.9s						
QIZ				LR	LR	
comp=Z,510nm,21.0s						
QIZ				LR	LR	
comp=Z,530nm,18.5s						
QIZ				LR	LR	
comp=Z,490nm,20.2s						
CMB	Columbia Colle	85.34	42	P	P	06 27 05.1 +1.4
CMB				IAmb	IAmb	06 27 23.4
comp=Z,43nm,1.1s						
CMB				IAMs_20	IAMs_20	06 55 51.9
comp=Z,1μm,22.0s						
CMB	Columbia Colle	85.34	42	P	P	06 27 05.1 +1.4
CMB				pmax	pmax	
comp=Z,43nm,1.1s						
KHMM	Horse Mountain	85.44	38	IAmb	IAmb	06 27 23.8
comp=Z,80nm,1.5s						

S12K	Black Hills	85.44	9	P	P	06 27 03.7 -0.1
S12K				IAmb	IAmb	06 27 08.8
comp=Z,49nm,1.1s						
O02D	Mt. Diablo Mer	85.45	39	IAMs_20	IAMs_20	06 59 43.9
comp=Z,1μm,20.0s						
AFDM	Forest Hills D	85.62	41	IAmb	IAmb	06 27 24.6
comp=Z,41nm,1.2s						
MSHR	Mys Shultsa	85.68	325	*i* P	P	06 27 05.7 +0.5
KULM	Kulim	85.69	278	P	P	06 27 04.5 -1.5
KULM				IAmb	IAmb	06 27 08.5
comp=Z,51nm,1.3s						
KULM				IAMs_20	IAMs_20	07 10 02.2
comp=Z,1μm,20.0s						
KULM	Kulim	85.69	278	P	P	06 27 07.4 +1.4
HSIG		85.70	54	IAmb	IAmb	06 27 26.5
comp=Z,61nm,1.4s						
VLA	Vladivostok	85.71	325	*i* P	P	06 27 04.6 -0.7
VLA				pmax	pmax	
comp=Z,33nm,0.8s						
ORV	Oroville	85.74	40	P	P	06 27 06.4 +0.8
ORV				IAmb	IAmb	06 27 25.3
comp=Z,36nm,1.2s						
ORV				IAMs_20	IAMs_20	06 55 44.4
comp=Z,1μm,21.0s						
ORV	Oroville	85.74	40	P	P	06 27 06.4 +0.8
ORV				pmax	pmax	
comp=Z,36nm,1.3s						
PSTR	Posyet	85.91	324	*i* P	P	06 27 07.3 +0.9
NJ2	Nanjing	85.91	310	*e*P	P	06 27 08.3 +1.7
NJ2				sP	pwP	06 27 21.6 -0.2
NJ2				pmax	pmax	
comp=Z,38nm,0.8s						
NJ2				LR	LR	
comp=Z,540nm,22.1s						
NJ2				LR	LR	
comp=Z,650nm,19.6s						
NJ2				LR	LR	
comp=Z,740nm,21.6s						
RPSI	Rantau Prapat	85.92	275	IAmb	IAmb	06 27 08.6
comp=Z,77nm,1.4s						
RPSI				IAMs_20	IAMs_20	07 08 39.4
comp=Z,1μm,18.0s						
PSI	Prapat	85.98	275	LR	LR	07 08 41.6
comp=Z,1μm,18.1s,baz=130,slow=38						
PSI	Prapat	85.98	275	P	P	06 27 07.7 +0.1
113A	Mohawk Valley,	86.04	49	IAmb	IAmb	06 27 27.7
comp=Z,70nm,1.4s						
DSP	Deep Springs	86.32	43	IAmb	IAmb	06 27 28.7
comp=Z,54nm,1.2s						
GWY	Greenwater Val	86.34	45	IAmb	IAmb	06 27 28.7
comp=Z,54nm,1.2s						
MPK	Martis Peak	86.39	41	P	P	06 27 09.8 +0.5
MPK				IAmb	IAmb	06 27 13.7
comp=Z,54nm,1.1s						
GSI	Gunungsitoli	86.43	273	P	P	06 27 09.0 -0.7
GSI				IAMs_20	IAMs_20	07 07 51.6
comp=Z,1μm,20.0s						
GSI	Gunungsitoli	86.43	273	P	P	06 27 11.0 +1.3
USA0B	Ussuriysk Arra	86.45	326	P	P	06 27 08.3 -0.7
USA0B				IAmb	IAmb	06 27 12.1
comp=Z,46nm,1.0s						
USA0B	Ussuriysk Arra	86.45	326	*i* P	P	06 27 09.9 +0.9
USRK	Ussuriysk Ar.	86.45	326	P	P	06 27 09.1 +0.1
comp=Z,33nm,0.9s,baz=132,slow=3.6,SNR=34						
USRK				LR	LR	07 02 34.4
comp=Z,720nm,20.1s,baz=140,slow=33						
comp=Z,33nm,0.9s						
PNTR	Pine Nut	86.50	41	IAmb	IAmb	06 27 14.1
comp=Z,48nm,0.9s						
LHV	Little Huntoon	86.58	42	IAmb	IAmb	06 27 30.0
comp=Z,46nm,1.1s						
YBH	Yreka Blue Hor	86.58	38	LR	LR	06 57 17.6
comp=Z,512nm,21.1s,baz=224,slow=30						
HATC	Hat Creek Radi	86.63	39	IAMs_20	IAMs_20	07 05 34.9
comp=Z,1μm,18.0s						
YERR	Yerington	86.64	41	IAmb	IAmb	06 27 29.9
comp=Z,50nm,1.2s						
GMN	Gold Mountain	86.70	44	IAmb	IAmb	06 27 30.5
comp=Z,42nm,1.3s						
WCT	Wildcat Mounta	86.76	44	IAmb	IAmb	06 27 30.9
comp=Z,41nm,1.3s						
NVAR	Mina Array Bea	86.82	42	P	P	06 27 11.9 +0.7
comp=Z,21nm,0.8s,baz=221,slow=7.6,SNR=100						
NVAR				PKKPbc	PKKPbc	06 45 06.0 -0.3
comp=Z,1.4nm,0.8s,baz=71,slow=2.6,SNR=6.7						
NVAR				PKPPKP	P'P'df	06 53 14.9 +5.3
comp=Z,1.3nm,0.9s,baz=89,slow=2.3,SNR=5.2						
NVAR				LR	LR	07 01 46.9
comp=Z,1μm,18.3s,baz=224,slow=33						
comp=Z,21nm,0.8s						
NV11	Mina Array Sit	86.91	42	IAmb	IAmb	06 27 31.3
comp=Z,43nm,1.1s						
PAHR	Pah Rah Range	87.04	41	IAmb	IAmb	06 27 31.7
comp=Z,30nm,1.2s						
TPNV	Topopah Spring	87.09	45	IAmb	IAmb	06 27 32.7
comp=Z,51nm,1.1s						
TPNV				IAMs_20	IAMs_20	06 57 33.6
comp=Z,1μm,20.0s						
L04D	Klamath Falls	87.14	37	IAmb	IAmb	06 27 16.1
comp=Z,36nm,1.1s						
V12A	Nelson	87.19	46	IAmb	IAmb	06 27 33.4
comp=Z,71nm,1.5s						
KVN	Kaiserville	87.35	42	IAmb	IAmb	06 27 33.2
comp=Z,30nm,1.0s						
W13A	Hualapai Mount	87.41	47	IAmb	IAmb	06 27 34.7
comp=Z,47nm,1.2s						
SHPR	Sheep Range	87.48	45	IAmb	IAmb	06 27 35.0
comp=Z,42nm,1.4s						
TUC	Tucson	87.77	51	IAMs_20	IAMs_20	06 56 09.0
comp=Z,1μm,22.0s						
S11A	Rachel	87.84	44	IAmb	IAmb	06 27 40.5
comp=Z,32nm,1.0s						
MDJ	Mudanjiang	87.93	325	P	P	06 27 16.6 +0.5
MDJ	Mudanjiang	87.93	325	P	P	06 27 17.0 +0.9
MDJ				pP	pP	06 27 27.8 +0.2
MDJ				S	S	06 37 58.0 +1.8
MDJ				pmax	pmax	
comp=Z,18nm,1.2s						
MDJ				pmax	pmax	
comp=Z,580nm,6.5s						
MDJ				LR	LR	
comp=Z,440nm,24.7s						
MDJ				LR	LR	
comp=Z,540nm,23.1s						
MDJ				LR	LR	
comp=Z,1μm,23.9s						
MDJ	Mudanjiang	87.93	325	P	P	06 27 17.1 +0.9
J04A	Umpqua Nationa	87.95	37	P	P	06 27 17.6 +1.0
J04A				IAmb	IAmb	06 27 20.3
comp=Z,37nm,0.9s						
GULI	GuiLin	88.05	300	P	P	06 27 18.9 +1.7
GULI				S	S	06 37 56.0 -2.3
GULI				pmax	pmax	
comp=Z,40nm,1.1s						
GULI				LR	LR	
comp=Z,380nm,20.6s						
GULI				LR	LR	
comp=Z,260nm,23.9s						
GULI				LR	LR	
comp=Z,590nm,20.6s						
WHN	Wuhan	88.10	307	⇓P	P	06 27 18.6 +1.3
WHN				pP	sP	06 27 33.8 +0.8
WHN				S	S	06 37 58.5 0.0
WHN				pmax	pmax	
comp=Z,170nm,1.2s						
WHN				pmax	pmax	
comp=Z,1μm,7.2s						
WHN				LR	LR	
comp=Z,3μm,22.2s						
PLK4	Peulik 4	88.15	11	IAmb	IAmb	06 27 23.8
comp=Z,45nm,0.9s						
I04A	Tendick Farm,	88.18	36	P	P	06 27 18.4 +0.9
I04A				IAmb	IAmb	06 27 36.7
comp=Z,34nm,1.2s						
SRIT	Nakonsritamara	88.22	281	P	P	06 27 17.9 -0.4
SRIT				IAmb	IAmb	06 27 36.7
comp=Z,26nm,0.9s						
SRIT	Nakonsritamara	88.22	281	P	P	06 27 20.1 +1.8
R11B	Troy Canyon, C	88.39	44	IAMs_20	IAMs_20	06 58 27.0
comp=Z,1μm,20.0s						
J05D	Fort Rock, OR	88.45	37	IAmb	IAmb	06 27 22.7
comp=Z,23nm,1.0s						
DL2	Dalian	88.45	317	P	P	06 27 20.1 +1.3
DL2				S	S	06 38 07.3 +5.9
DL2				pmax	pmax	
comp=Z,62nm,0.9s						
DL2				pmax	pmax	

comp=Z,560nm,7.1s						
DL2				LR	LR	
comp=Z,580nm,24.6s						
DL2				LR	LR	
comp=Z,440nm,21.0s						
DL2				LR	LR	
comp=Z,1μm,23.9s						
BMN	Battle Mountai	88.76	41	IAmb	IAmb	06 27 40.0
comp=Z,40nm,1.3s						
LHMI	Lhok Sumawe	88.88	277	IAMs_20	IAMs_20	07 06 43.6
comp=Z,1μm,22.0s						
H04A	Detroit Lake	88.92	36	IAmb	IAmb	06 27 27.8
comp=Z,28nm,1.1s						
PINE	Pine Mountain	88.95	37	IAmb	IAmb	06 27 41.2
comp=Z,58nm,1.3s						
KDAK	Kodiak Island	88.98	13	LR	LR	07 01 45.3
comp=Z,233nm,19.3s,baz=51,slow=32						
I05D	Terrebonne, OR	89.12	36	IAmb	IAmb	06 27 46.0
comp=Z,21nm,0.9s						
SNY	Shenyang	89.22	320	⇓P	P	06 27 23.5 +1.2
SNY				pmax	pmax	
comp=Z,36nm,0.9s						
SNY				pmax	pmax	
comp=Z,240nm,7.7s						
SNY				LR	LR	
comp=Z,370nm,23.3s						
SNY				LR	LR	
comp=Z,300nm,17.3s						
SNY				LR	LR	
comp=Z,530nm,16.9s						
WVOR	Wild Horse Val	89.28	39	IAmb	IAmb	06 27 42.4
comp=Z,34nm,1.3s						
WVOR				IAMs_20	IAMs_20	07 05 38.2
comp=Z,1μm,19.0s						
WUAZ	Wupatki	89.29	48	IAMs_20	IAMs_20	06 57 32.1
comp=Z,1μm,22.0s						
GRNR	Gornyy	89.43	333	⇓*i* P	P	06 27 24.6 +1.5
GRNR				pmax	pmax	
comp=Z,30nm,0.9s						
CN2	Changchun	89.51	322	*e*P	P	06 27 23.8 +0.2
CN2				*e*PP	PP	06 30 58.9 +3.0
CN2				*e*S	S	06 38 08.5 -2.6
CN2				pmax	pmax	
comp=Z,70nm,1.2s						
CN2				LR	LR	
comp=Z,200nm,18.0s						
CN2				LR	LR	
comp=Z,140nm,18.0s						
SPR3	Spring Creek 3	89.56	44	IAmb	IAmb	06 27 43.9
comp=Z,26nm,1.2s						
NAYO	Nakonayok	89.58	287	P	P	06 27 26.8 +2.2
G05A	Wamic	89.75	36	IAmb	IAmb	06 27 46.8
comp=Z,45nm,1.1s						
BNX	BinXian	89.82	325	⇑P	P	06 27 25.5 +0.5
BNX				pmax	pmax	
comp=Z,37nm,1.1s						
WISH	Wishkah	89.85	33	P	P	06 27 26.2 +1.1
TRQA	Tornquist	89.87	134	P	P	06 27 26.0 +0.2
TRQA	Tornquist	89.87	134	P	P	06 27 26.0 +0.2
TRQA				pmax	pmax	
comp=Z,107nm,1.3s						
I07A	Izee	89.91	38	IAmb	IAmb	06 27 45.4
comp=Z,46nm,1.4s						
J08A	Circle Bar Ran	89.98	39	IAmb	IAmb	06 27 45.6
comp=Z,70nm,1.5s						
NLWA	Neilton Lookou	90.00	33	IAmb	IAmb	06 27 30.6
comp=Z,47nm,1.2s						
P18K	Big Mountain,	90.02	11	P	P	06 27 25.1 -0.6
P18K				IAmb	IAmb	06 27 40.6
comp=Z,31nm,1.1s						
N15K	Kwethluk River	90.04	8	IAmb	IAmb	06 27 32.4
comp=Z,42nm,1.0s						
G06A	Carlson Farm,	90.10	36	IAmb	IAmb	06 27 33.5
comp=Z,37nm,1.1s						
KLR	Kul'dur	90.25	329	P	P	06 27 27.4 +0.4
comp=Z,13nm,0.7s,baz=116,slow=3.5,SNR=32						
KLR				LR	LR	07 03 44.0
comp=Z,704nm,20.8s,baz=145,slow=33						
comp=Z,13nm,0.7s						
O18K	Koktuh Hills	90.46	11	P	P	06 27 28.1 +0.4
O18K				IAmb	IAmb	06 27 33.0
comp=Z,39nm,0.9s						
GNW	Green Mountain	90.62	33	IAmb	IAmb	06 27 32.6
comp=Z,20nm,0.9s						
F07A	Phinny Hill Vi	90.91	36	IAmb	IAmb	06 27 53.7
comp=Z,19nm,0.9s						
ILSW	Iliamna Southw	90.93	12	P	P	06 27 30.1 0.0
SLVN	Son La	91.00	294	P	P	06 27 32.8 +1.6
PGC	Sidney	91.09	32	IAmb	IAmb	06 27 40.2
comp=Z,46nm,1.2s						
TXAR	Lajitas Array	91.11	57	P	P	06 27 33.3 +1.7
comp=Z,3.2nm,0.8s,baz=209,slow=7.1,SNR=36						
TXAR				PKKPbc	PKKPbc	06 44 56.6 +1.7
comp=Z,0.9nm,1.0s,baz=5.7,slow=1.3,SNR=4.4						
TXAR				LR	LR	07 03 12.0
comp=Z,272nm,18.5s,baz=226,slow=32						
comp=Z,3.2nm,0.8s						
MXC	Moxie City	91.19	35	IAmb	IAmb	06 27 51.1
comp=Z,44nm,1.4s						
CBB	Campbell River	91.21	30	IAmb	IAmb	06 27 35.2
comp=Z,32nm,1.1s						
DUG	Dugway, Tooele	91.22	44	P	P	06 27 32.1 +0.2
DUG				IAmb	IAmb	06 27 51.5
comp=Z,26nm,1.4s						
DUG				IAMs_20	IAMs_20	07 05 28.9
comp=Z,1μm,18.0s						
DUG	Dugway, Tooele	91.22	44	P	P	06 27 32.1 +0.2
DUG				pmax	pmax	
comp=Z,26nm,1.5s						
Y22D	IRIS PASSCAL I	91.42	51	IAMs_20	IAMs_20	06 58 57.9
comp=Z,1μm,22.0s						
HAWA	Hanford	91.45	36	IAmb	IAmb	06 27 53.1
comp=Z,41nm,1.2s						
SRDT	SRDT	91.45	286	P	P	06 27 35.6 +2.3
LTY	Liberty	91.46	35	IAmb	IAmb	06 27 51.2
comp=Z,25nm,1.4s						
MFID	Camas Ranch	91.48	40	IAmb	IAmb	06 27 52.6
comp=Z,30nm,1.2s						
BGU	Big Grassy Mou	91.54	43	IAmb	IAmb	06 27 53.8
comp=Z,22nm,1.2s						
BMO	Blue Mountains	91.60	38	IAmb	IAmb	06 27 52.7
comp=Z,25nm,1.3s						
L16K	Owhat River	91.61	8	P	P	06 27 34.0 +1.0
BBB	Bella Bella	91.62	28	LR	LR	07 00 38.4
comp=Z,370nm,20.9s,baz=220,slow=30						
LYN	LuoYang	91.70	309	⇑P	P	06 27 34.3 +0.3
LYN				SKS	SKSac	06 38 03.3 -0.3
LYN				S	S	06 38 28.0 -3.6
LYN				pmax	pmax	
comp=Z,71nm,0.9s						
LYN				pmax	pmax	
comp=Z,560nm,9.0s						
LYN				LR	LR	
comp=Z,640nm,20.3s						
LYN				LR	LR	
comp=Z,590nm,17.2s						
LYN				LR	LR	
comp=Z,880nm,16.8s						
CMIG	Matias Romero	91.70	71	LR	LR	06 58 46.5
comp=Z,513nm,20.8s,baz=240,slow=29						
E08A	Dider Farm, El	91.76	36	IAmb	IAmb	06 27 53.5
comp=Z,34nm,1.4s						
HNS	HongShan	91.84	312	⇓P	P	06 27 36.8 +2.2
HNS				pP	sP	06 27 49.8 -0.5
HNS				SKS	SKSac	06 38 03.3 -0.9
HNS				S	ScS	06 38 39.3 +4.0
HNS				pmax	pmax	
comp=Z,36nm,1.0s						
HNS				LR	LR	
comp=Z,460nm,23.5s						
HNS				LR	LR	
comp=Z,580nm,24.5s						
HNS				LR	LR	
comp=Z,2μm,24.5s						
SPUT	South Promonto	92.12	43	IAmb	IAmb	06 27 40.4
comp=Z,33nm,1.1s						
CTU	Camp Tracy	92.17	44	IAmb	IAmb	06 27 55.8
comp=Z,28nm,1.3s						
MA2	Magadan	92.21	344	P	P	06 27 35.2 -0.6
comp=Z,16nm,0.8s,baz=100,slow=11,SNR=2.3						
comp=Z,16nm,0.8s						
MA2	Magadan	92.21	344	P	P	06 27 35.2 -0.6
ANMO	Albuquerque	92.23	51	P	P	06 27 37.2 +0.4
ANMO	Albuquerque	92.23	51	LR	LR	07 00 36.2
comp=Z,507nm,21.7s,baz=32,slow=30						
ANMO	Albuquerque	92.23	51	*i* P	P	06 27 38.2 +1.4
ANMO				pmax	pmax	

comp=Z,16nm,2.3s
E09A Wood Farm, Sta 92.25 36 IAmb IAmb 06 27 56.2
comp=Z,35nm,1.2s
F10A Beach Ranch, E 92.37 37 P **P** **06 27 37.5 +0.5**
F10A IAmb IAmb 06 28 00.1
comp=Z,26nm,0.8s
HLID Hailey 92.37 40 IAmb IAmb 06 27 57.1
comp=Z,20nm,1.1s
HLID IAMs_20 IAMs_20 07 08 04.0
comp=Z,908nm,19.0s
P18A Preston Nutter 92.46 45 IAmb IAmb 06 27 57.5
comp=Z,20nm,1.2s
PLID Pearl Lake 92.46 38 IAMs_20 IAMs_20 07 00 02.2
comp=Z,1µm,22.0s
BJT Baijiatuau 92.46 315 P **P** **06 27 35.5 -2.0**
BJT IAmb IAmb 06 27 40.2
comp=Z,25nm,0.9s
BJT Baijiatuau 92.46 315 P **P** **06 27 35.5 -2.0**
BJT pmax pmax
comp=Z,25nm,0.9s
BJI Beijing 92.47 315 P **P** **06 27 39.0 +1.6**
BJI pmax pmax
comp=Z,15nm,0.9s
BJI pmax pmax
comp=Z,120nm,4.2s
BJI LR LR
comp=Z,210nm,20.5s
BJI LR LR
comp=Z,100nm,20.9s
BJI LR LR
comp=Z,190nm,21.2s
SAND Sanderson 92.58 57 IAmb IAmb 06 27 57.6
comp=Z,20nm,1.2s
BSUT Blindstream Ca 92.68 44 IAmb IAmb 06 27 58.7
comp=Z,42nm,1.3s
L19K White Mountain 92.72 10 IAmb IAmb 06 27 40.6
comp=Z,30nm,1.2s
HWUT Hardware Ranch 92.83 43 IAmb IAmb 06 27 58.6
comp=Z,25nm,1.4s
HEH HeiHe 92.95 328 *e*P **P** **06 27 39.3 -0.1**
HEH pP **pP** **06 27 52.3 +1.4**
HEH SKS **SKSac** **06 38 08.8 -1.0**
HEH S **SKKSac** **06 38 32.0 +3.6**
HEH pmax pmax
comp=Z,11nm,0.9s
HEH pmax pmax
comp=Z,280nm,9.9s
HEH LR LR
comp=Z,450nm,22.7s
HEH LR LR
comp=Z,240nm,21.5s
HEH LR LR
comp=Z,800nm,21.6s
NNA Nana 93.13 105 LR LR 07 00 36.5
comp=Z,632nm,20.7s,baz=219,slow=30
DRIO Del Rio 93.41 58 IAmb IAmb 06 28 01.4
comp=Z,33nm,1.2s
S22A 4UR Ranch, Cre 93.56 48 IAmb IAmb 06 28 03.0
comp=Z,23nm,1.1s
CMAR Chiang Mai Arr 93.61 289 P **P** **06 27 44.2 +1.0**
comp=Z,3.4nm,0.4s,baz=144,slow=3.2,SNR=24
CMAR PP **PP** **06 31 27.8 -0.9**
comp=Z,0.8nm,0.3s,baz=139,slow=4.7,SNR=4.3
CMAR PKKPbc **PKKPbc** **06 44 50.7 +2.8**
comp=Z,1.0nm,0.2s,baz=284,slow=4.2,SNR=4.1
comp=Z,3.4nm,0.4s
J18K Innoko River 93.66 9 IAmb IAmb 06 27 48.4
comp=Z,23nm,1.4s
CHTO Chiang Mai 93.78 289 P **P** **06 27 43.2 -0.9**
CHTO Chiang Mai 93.78 289 P **P** **06 27 43.2 -0.9**
CHTO pmax pmax
comp=Z,16nm,1.1s
KMI Kunming 93.84 297 ⇓P **P** **06 27 45.9 +1.4**
KMI sP pwP 06 27 59.0 -0.8
KMI SKS **SKSac** **06 38 16.3 -0.1**
KMI pmax pmax
comp=Z,20nm,0.7s
KMI LR LR
comp=Z,360nm,15.8s
KMI LR LR
comp=Z,430nm,20.6s
KMI LR LR
comp=Z,640nm,22.5s
XAN Xi'an 93.86 307 ⇓P **P** **06 27 45.6 +1.5**
XAN pP pP 06 27 56.6 +1.0
XAN SKS **SKSac** **06 38 16.3 +0.6**
XAN S **ScS** **06 38 55.5 +3.1**
XAN sS sS 06 39 15.0 +4.4
XAN pmax pmax
comp=Z,43nm,1.0s
XAN pmax pmax
comp=Z,290nm,5.3s
XAN LR LR
comp=Z,460nm,19.1s
XAN LR LR
comp=Z,550nm,18.6s
XAN LR LR
comp=Z,880nm,17.7s
NEW Newport 93.92 35 LR LR 07 02 06.5
comp=Z,819nm,22.0s,baz=208,slow=30
O20A White River Ci 94.01 46 IAmb IAmb 06 28 04.1
comp=Z,19nm,1.1s
ATAH Atahualpa 94.22 100 LR LR 07 00 35.8
comp=Z,1µm,21.5s,baz=232,slow=29
FXWY Fox Creek 94.37 42 IAmb IAmb 06 28 11.2
comp=Z,19nm,1.1s
DLMT Dillon 94.51 40 IAmb IAmb 06 28 07.4
comp=Z,41nm,1.5s
JCT Junction City 94.56 58 IAmb IAmb 06 28 06.3
comp=Z,30nm,1.4s
JCT IAMs_20 IAMs_20 07 11 19.5
comp=Z,1µm,18.0s
LOHW Long Hollow 94.60 42 IAmb IAmb 06 28 07.0
comp=Z,29nm,1.3s
POST Post 94.67 55 IAmb IAmb 06 28 06.8
comp=Z,44nm,1.2s
PDAR Pinedale Array 94.72 43 P **P** **06 27 48.7 +0.6**
comp=Z,5.3nm,0.8s,baz=204,slow=3.0,SNR=36
PDAR PP **PP** **06 31 37.2 -0.1**
comp=Z,0.5nm,1.0s,baz=226,slow=4.8,SNR=1.6
PDAR PKKPbc **PKKPbc** **06 44 45.8 -0.6**
comp=Z,1.3nm,0.9s,baz=76,slow=6.3,SNR=7.8
PDAR LR LR 07 07 09.8
comp=Z,418nm,18.1s,baz=222,slow=33
comp=Z,5.3nm,0.8s
XLT XiLinHaoTe 94.81 318 *e*P **P** **06 27 49.3 +1.0**
XLT pP pwP 06 28 02.8 -0.8
XLT SKS **SKSac** **06 38 23.0 +2.5**
XLT S **S** **06 38 56.5 -2.4**
XLT pmax pmax
comp=Z,13nm,1.2s
XLT pmax pmax
comp=Z,160nm,5.1s
XLT LR LR
comp=Z,590nm,25.9s
XLT LR LR
comp=Z,830nm,25.5s
SNET Serv Nac Est T 94.81 77 IAMs_20 IAMs_20 07 00 06.3
comp=Z,1µm,21.0s
FLWY Flagg Ranch 94.82 42 IAmb IAmb 06 28 16.6
comp=Z,32nm,1.1s
SEY Seymchan 94.86 347 P **P** **06 27 47.2 -0.7**
comp=Z,24nm,0.9s,baz=155,slow=7.9,SNR=16
comp=Z,24nm,0.9s
SEY Seymchan 94.86 347 *ce*P **P** **06 27 47.4 -0.5**
SEY pmax pmax
comp=Z,33nm,1.1s
RND Reindeer 94.89 12 IAmb IAmb 06 27 54.5
comp=Z,24nm,1.0s
F15K North Star Dit 94.99 5 IAMs_20 IAMs_20 07 05 27.5
comp=Z,879nm,21.0s
YHL Hebgen Lake 95.00 41 IAmb IAmb 06 28 10.3
comp=Z,31nm,1.3s
BOZ Bozeman (W) 95.19 40 IAmb IAmb 06 28 09.7
comp=Z,39nm,1.4s
BOZ IAMs_20 IAMs_20 06 59 58.7
comp=Z,1µm,22.0s
735A Kenedy 95.23 60 IAMs_20 IAMs_20 07 00 54.4
comp=Z,909nm,21.0s
PZH PanZhiHua 95.30 297 P **P** **06 27 51.8 +0.8**
PZH S **S** **06 39 06.0 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,190nm,5.5s
PZH LR LR
comp=Z,210nm,20.8s
PZH LR LR
comp=Z,210nm,21.6s
PZH LR LR
comp=Z,290nm,22.5s
ZEA Zeya 95.44 331 *e*P **P** **06 27 51.2 +0.4**
ZEA *e* 06 40 34.4
ZEA pmax pmax
comp=Z,10.0nm,1.2s
ISCO Idaho Springs 95.49 47 IAMs_20 IAMs_20 07 06 27.1
comp=Z,1µm,20.0s
BRDY Brady 95.57 57 IAmb IAmb 06 28 10.8
comp=Z,22nm,1.3s
YNE Yellowstone No 95.76 41 IAmb IAmb 06 28 12.8
comp=Z,26nm,1.2s
HHC Hu-ho-hao-te 95.81 314 *e*P **P** **06 27 54.8 +1.8**
HHC sP pwP 06 28 07.3 -1.0
HHC SKS **SKSac** **06 38 23.8 -2.2**
HHC S **S** **06 39 04.0 -3.8**
HHC sS sS 06 39 31.0 +3.8
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,100nm,3.7s
HHC LR LR
comp=Z,450nm,19.2s
HHC LR LR
comp=Z,540nm,16.9s
HHC LR LR
comp=Z,1µm,19.2s
CD2 Chengdu 95.96 302 P **P** **06 27 54.8 +1.0**
CD2 sP pwP 06 28 08.4 -0.7
CD2 SKS **SKSac** **06 38 28.0 +0.9**
CD2 S **ScS** **06 39 15.0 +4.9**
CD2 sS sS 06 39 33.3 +4.2
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,160nm,6.0s
CD2 LR LR
comp=Z,340nm,17.0s
CD2 LR LR
comp=Z,600nm,22.2s
CD2 LR LR
comp=Z,790nm,22.2s
WRH Wood River Hil 96.00 12 IAmb IAmb 06 28 05.2
comp=Z,16nm,1.1s
F17K Baldwin Pennin 96.01 6 IAMs_20 IAMs_20 07 04 17.5
comp=Z,916nm,21.0s
HIA Hailar 96.05 324 IAMs_20 IAMs_20 07 08 07.9
comp=Z,945nm,21.0s
COLA College 96.41 12 *e*P **P** **06 27 54.2 -0.7**
COLA pmax pmax
comp=Z,18nm,1.0s
K22A Casper 96.49 44 IAmb IAmb 06 27 59.2
comp=Z,11nm,0.8s
ILAR Eielson Array 96.50 13 P **P** **06 27 55.0 -0.4**
comp=Z,1.9nm,0.8s,baz=221,slow=5.7,SNR=14
ILAR PP **PP** **06 31 49.3 -1.0**
comp=Z,1.1nm,1.0s,baz=230,slow=7.0,SNR=2.2
ILAR LR LR 07 11 23.0
comp=Z,232nm,18.4s,baz=209,slow=35
comp=Z,1.9nm,0.8s
BTO Baotou 96.66 313 *e*P **P** **06 27 56.0 -0.8**
BTO pP **pP** **06 28 05.8 -2.5**
BTO sP **pwP** **06 28 10.8 -1.3**
BTO S **S** **06 39 15.0 -0.2**
BTO pmax pmax
comp=Z,19nm,0.6s
BTO pmax pmax
comp=Z,220nm,4.6s
BTO LR LR
comp=Z,1µm,19.6s
BTO LR LR
comp=Z,670nm,18.6s
TGUH Tegucigalpa,Un 96.66 78 IAMs_20 IAMs_20 07 00 54.3
comp=Z,1µm,22.0s
JTS Las Juntas de 96.89 82 LR LR 07 02 32.6
comp=Z,897nm,20.7s,baz=232,slow=30
J26L Joseph Creek 96.93 14 IAmb IAmb 06 28 04.1
comp=Z,16nm,1.0s
H23K Yukon River 96.98 11 IAMs_20 IAMs_20 07 02 49.4
comp=Z,956nm,20.0s
G21K Allakaket 97.00 9 IAMs_20 IAMs_20 07 07 45.7
comp=Z,764nm,20.0s
E18K Tukpahlearik C 97.02 6 IAMs_20 IAMs_20 07 05 20.4
comp=Z,870nm,20.0s
WHTX Lake Whitney, 97.06 57 IAMs_20 IAMs_20 07 02 12.5
comp=Z,1µm,22.0s
RDOG Red Dog Mine 97.43 5 IAMs_20 IAMs_20 07 07 16.2
comp=Z,797nm,21.0s
BILL Bilibino 97.61 354 *i* P **P** **06 27 59.0 -1.3**
BILL pmax pmax
comp=Z,32nm,2.3s
BILL MLR MLR
comp=Z,268nm,18.0s
LPAZ La Paz 98.06 114 LR LR 07 04 16.9
comp=Z,616nm,21.1s,baz=249,slow=30
C18K Utukok River 98.16 6 IAMs_20 IAMs_20 07 05 47.7
comp=Z,820nm,21.0s
D19K Kuna River 98.31 7 IAMs_20 IAMs_20 07 12 22.9
comp=Z,885nm,20.0s
LZH Lanzhou 98.48 307 *e*P Pdif 06 28 09.0 +3.7
LZH pP sP 06 28 21.3 +0.4
LZH SKS **SKSac** **06 38 41.8 +1.7**
LZH S **ScS** **06 39 36.0 +4.9**
LZH pmax pmax
comp=Z,30nm,1.5s
LZH pmax pmax
comp=Z,100nm,4.5s
LZH LR LR
comp=Z,250nm,17.9s
LZH LR LR
comp=Z,410nm,18.2s
LZH LR LR
comp=Z,500nm,17.5s
J30M Hart River 98.66 17 IAMs_20 IAMs_20 07 04 04.9
comp=Z,1µm,22.0s
E21K Killik River 98.75 8 IAMs_20 IAMs_20 07 10 58.4
comp=Z,698nm,19.0s
E22K Anaktuvuk Pass 98.76 9 IAMs_20 IAMs_20 07 08 43.8
comp=Z,884nm,20.0s
RSSD Black Hills 98.81 44 Pdif 06 28 08.1 +1.5
RSSD IAmb IAmb 06 28 25.7
comp=Z,28nm,1.1s
RSSD Black Hills 98.81 44 P Pdif 06 28 08.1 +1.5
RSSD pmax pmax
comp=Z,28nm,1.1s
CPUP Villa Florida 100.26 128 PKKPbc PKKPbc 06 44 28.7 -0.8
comp=Z,2.3nm,0.8s,baz=90,slow=1.0,SNR=3.1
YAK Yakutsk 100.30 337 IAMs_20 IAMs_20 07 06 23.3
comp=Z,747nm,21.0s
D25K Kavik River 100.67 11 IAMs_20 IAMs_20 07 09 45.3
comp=Z,918nm,21.0s
BCIP Isla Barro Col 100.82 85 IAMs_20 IAMs_20 07 03 32.6
comp=Z,945nm,22.0s
SONM Songino Array 102.62 318 P **Pdif** **06 28 22.1 -1.2**
comp=Z,0.2nm,0.4s,baz=27,slow=2.4,SNR=4.3
SONM PP **PP** **06 32 33.3 -4.2**
comp=Z,1.6nm,1.1s,baz=146,slow=6.3,SNR=4.9
SONM PKKPbc **PKKPbc** **06 44 25.6 +1.5**
comp=Z,0.6nm,0.8s,baz=273,slow=2.5,SNR=3.4
GTA Gaotai 102.87 308 *e*P **Pdif** **06 28 26.6 +2.0**
GTA pP pPdif 06 28 36.5 +0.4
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA LR LR
comp=Z,290nm,22.5s
GTA LR LR
comp=Z,630nm,20.4s
GTA LR LR
comp=Z,470nm,20.0s
YKA Yellowknife Ar 103.97 25 Pdiff **Pdif** **06 28 27.3 -1.5**
comp=Z,0.2nm,0.7s,baz=243,slow=4.0,SNR=3.7
YKA PKiKP **PKiKP** **06 32 45.5 -0.5**
comp=Z,0.7nm,0.7s,baz=280,slow=1.8,SNR=5.5
YKA PKKPbc **PKKPbc** **06 44 16.9 -3.4**
comp=Z,3.2nm,0.8s,baz=40,slow=2.8,SNR=15
GOMU GeErMu 105.02 303 Pdif **Pdif** **06 28 36.0 +1.4**
GOMU PP **PP** **06 32 54.5 -1.4**
GOMU SKS **SKSac** **06 39 13.5 +1.7**
GOMU AMB AMB
comp=Z,290nm,5.0s
GOMU LR LR
comp=Z,440nm,20.6s
GOMU LR LR
comp=Z,540nm,20.7s
GOMU LR LR
comp=Z,1µm,21.4s
MTDJ Mount Denham 106.88 78 IAMs_20 IAMs_20 07 06 58.1
comp=Z,896nm,21.0s
HYB Hyderabad 110.44 279 *e*PKiKP **PKiKP** **06 32 58.0 -1.4**
SDDR Presa de Saban 112.57 80 IAMs_20 IAMs_20 07 10 49.9
comp=Z,708nm,21.0s
WMQ Urumqi 112.94 308 *e*PKP **PKiKP** **06 33 03.3 -0.2**
WMQ LR LR
comp=Z,430nm,19.5s
WMQ LR LR
comp=Z,540nm,16.9s
WMQ LR LR
comp=Z,520nm,20.7s
BDFB Brasilia 113.80 125 PKKPbc PKKPbc 06 43 48.4 +0.7
comp=Z,5.0nm,1.2s,baz=90,slow=14,SNR=3.0
RES Resolute Bay 115.80 17 **PKPdf** **06 33 08.5 +0.6**
RES Resolute Bay 115.80 17 PKiKP **PKPdf** **06 33 08.5 +0.6**
SJG San Juan 116.67 83 PKP **PKPdf** **06 33 11.7 +0.5**
comp=Z,5.1nm,0.7s,baz=342,slow=2.6,SNR=4.7
POGA Pongola 117.41 209 **PKPdf** **06 33 12.7 0.0**
MKAR Makanchi Array 117.44 310 Pdiff **Pdif** **06 29 33.2 +4.1**
comp=Z,0.6nm,0.8s,baz=97,slow=5.8,SNR=2.2
MKAR PKP **PKPdf** **06 33 10.5 -1.4**
comp=Z,13nm,0.9s,baz=71,slow=2.3,SNR=13
MKAR PKKPbc **PKKPab** **06 43 40.4 +3.5**
comp=Z,2.1nm,0.8s,baz=281,slow=4.3,SNR=9.4
SHLS Shalkode 118.50 306 *e*PKiKP **PKPdf** **06 33 12.4 -1.8**
SHLS Shalkode 118.50 306 *i* PKiKP **PKPdf** **06 33 12.4 -1.8**
NRIK Noril'sk 118.71 336 PKPdf **PKPdf** **06 33 13.5 -0.2**
NRIK Noril'sk 118.71 336 PKP **PKPdf** **06 33 12.6 -1.1**
comp=Z,10.0nm,0.8s,baz=80,slow=3.3,SNR=24
NRIK Noril'sk 118.71 336 PKIKP **PKPdf** **06 33 13.5 -0.2**
BOSA Boshof 118.73 203 PKPdf **PKPdf** **06 33 15.7 +0.4**
BOSA Boshof 118.73 203 PKP **PKPdf** **06 33 15.6 +0.3**
comp=Z,15nm,1.0s,baz=187,slow=1.8,SNR=13
BOSA Boshof 118.73 203 PKIKP **PKPdf** **06 33 15.7 +0.4**
UZB Uzynbulak 118.81 306 *e*PKiKP **PKPdf** **06 33 13.6 -1.3**
UZB *e*PP **PP** **06 34 32.3 -1.9**
UZB Uzynbulak 118.81 306 *i* PKIKP **PKPdf** **06 33 13.5 -1.3**
UZB *e* 06 34 32.2
SATY Saty 119.22 306 *e*PKiKP **PKPdf** **06 33 14.4 -1.3**
SATY Saty 119.22 306 *i* PKiKP **PKPdf** **06 33 14.4 -1.3**
ZHN Zhinishke 119.23 306 *e*PKiKP **PKPdf** **06 33 14.1 -1.6**
ZHN Zhinishke 119.23 306 *i* PKiKP **PKPdf** **06 33 14.0 -1.6**
SEM Semipalatinsk 119.55 314 *e*PKiKP **PKPdf** **06 33 14.6 -1.5**
SEM Semipalatinsk 119.55 314 *i* PKiKP **PKPdf** **06 33 14.6 -1.5**
FDF Fort de France 119.63 89 IAMs_20 IAMs_20 07 16 14.4
comp=Z,585nm,20.0s
TDK Taldyqorghan 119.67 308 *e*PKiKP **PKPdf** **06 33 14.9 -1.5**
TDK Taldyqorghan 119.67 308 *i* PKiKP **PKPdf** **06 33 14.8 -1.5**
KSH Kashi 120.15 301 PKP **PKiKP** **06 33 19.0 +1.4**
KSH sPKP 06 33 33.5
KSH PP **PP** **06 34 48.8 +5.3**
KSH LR LR
comp=Z,320nm,18.6s
KSH LR LR
comp=Z,350nm,17.3s
KSH LR LR
comp=Z,580nm,21.6s
MDOK Medeo 120.22 305 *e*PKiKP **PKPdf** **06 33 16.2 -1.5**
MDOK Medeo 120.22 305 *i* PKiKP **PKPdf** **06 33 16.1 -1.5**
TNSS Tian-Shan 120.26 305 *e*PKiKP **PKPdf** **06 33 16.2 -1.9**
TNSS Tian-Shan 120.26 305 *i* PKiKP **PKPdf** **06 33 16.1 -1.9**
KURK Kurchatov 120.62 314 PKPdf **PKPdf** **06 33 17.5 -0.4**
KURK Kurchatov 120.62 314 IAMs_20 IAMs_20 07 20 29.4
comp=Z,578nm,22.0s
KURK Kurchatov 120.62 314 PKIKP **PKPdf** **06 33 17.5 -0.4**
KURBB Kurchatov Arra 120.67 314 PKP **PKPdf** **06 33 16.6 -1.4**
comp=Z,18nm,0.7s,baz=108,slow=2.0,SNR=34
KURBB PKKPbc **PKKPbc** **06 43 26.2 +2.4**
comp=Z,1.5nm,1.1s,baz=286,slow=4.8,SNR=3.8
KUU Kurty 120.88 306 *e*PKiKP **PKPdf** **06 33 17.5 -1.1**
KUU Kurty 120.88 306 *i* PKiKP **PKPdf** **06 33 17.5 -1.1**
GDU01 Guandu, BA 120.97 130 *e*P **PKiKP** **06 33 23.8 +3.9**
AAK Ala-Archa 121.94 304 IAMs_20 IAMs_20 07 30 53.0
comp=Z,510nm,21.0s
SGDS Sogindy 122.00 305 *e*PKiKP **PKPdf** **06 33 19.3 -1.7**
SGDS Sogindy 122.00 305 *i* PKIKP **PKPdf** **06 33 19.2 -1.7**
TULEG Thule 122.34 15 *i* P **PKiKP** **06 33 26.0 +5.4**
BTLS Baital 122.71 307 *e*PKiKP **PKPdf** **06 33 20.8 -1.4**
BTLS Baital 122.71 307 *i* PKiKP **PKPdf** **06 33 20.7 -1.4**
LPHEP Lephephe 123.31 206 *i* P **PKiKP** **06 33 26.1 +1.6**
MREMI Moremi 123.41 208 *i* P **PKiKP** **06 33 25.0 +0.4**
DZA Taraz 124.27 304 *e*PKiKP **PKPdf** **06 33 23.9 -1.4**
DZA Taraz 124.27 304 *i* PKIKP **PKPdf** **06 33 23.8 -1.4**
BROLN Tlhalogang 124.77 208 *i* P **PKPdf** **06 33 27.3 +0.3**
SCHQ Schefferville 124.81 41 PKP **PKPdf** **06 33 26.0 +0.1**
comp=Z,10nm,0.8s,baz=1.5,slow=4.7,SNR=7.6
KGCAE Kacgae 125.07 202 *i* P **PKiKP** **06 33 29.0 +1.1**
IUG Iuzhnay 125.10 303 *e*PKiKP **PKPdf** **06 33 25.5 -1.4**
IUG Iuzhnay 125.10 303 *i* PKIKP **PKPdf** **06 33 25.5 -1.4**
BRLS Borolday 125.38 304 *e*PKiKP **PKPdf** **06 33 26.6 -0.8**
BRLS *e*PP **PP** **06 35 17.3 -1.4**
BRLS Borolday 125.38 304 *i* PKIKP **PKPdf** **06 33 26.5 -0.8**
BRLS *e* 06 35 17.2
LMN Caledonia Moun 125.39 52 PKPdf **PKPdf** **06 33 27.6 +0.3**
CHM Chimkent 125.44 303 *e*PKiKP **PKPdf** **06 33 26.7 -0.8**
CHM Chimkent 125.44 303 *i* PKIKP **PKPdf** **06 33 26.7 -0.8**
KOOLE Kule 125.57 200 *i* P **PKiKP** **06 33 30.6 +1.6**
KULLO Kullorsuaq 125.67 17 *i* P **PKPdf** **06 33 26.1 -0.8**
SOOWA Sowa 125.70 207 *i* P **PKiKP** **06 33 30.0 +0.8**
NEEM North Greenlan 125.80 13 *i* P **PKPdf** **06 33 27.2 -0.3**
BVAR Borovoye Array 125.93 316 PKP **PKPdf** **06 33 27.5 -0.5**
comp=Z,31nm,0.7s,baz=90,slow=1.9,SNR=20
BRVK Borovoye 126.00 316 IAMs_20 IAMs_20 07 24 46.2
comp=Z,748nm,22.0s
BRVK Borovoye 126.00 316 *c i*PKIKP **PKiKP** **06 33 29.1 +0.5**
BRVK pmax pmax
comp=Z,45nm,1.3s
GRTLG Ghanzi 126.79 202 *i* P **PKiKP** **06 33 32.4 +0.9**
NOR Nord 126.85 4 *i* P **PKPdf** **06 33 27.5 -1.6**
NBCA Caruaru-PE 127.34 129 *e*P **PKiKP** **06 33 35.7 +3.1**
QNGWA Qangwa 128.51 202 *i* P **PKiKP** **06 33 35.9 +1.0**
ILULI Ilulissat 129.49 22 *i* P **PKPdf** **06 33 34.0 -0.3**
LSZ Lusaka 129.52 212 IAMs_20 IAMs_20 07 21 22.4
comp=Z,692nm,20.0s
WSAR Wadi Sarin 129.91 277 PKP **PKPdf** **06 33 36.8 +0.3**
comp=Z,2.5nm,0.7s,baz=45,slow=5.7,SNR=2.3
SPA0 Spitsbergen Ar 130.44 356 *e*PKPdf **PKPdf** **06 33 36.6 +0.6**
SPITS Spitsbergen Ar 130.44 356 PKP **PKPdf** **06 33 35.3 -0.7**
comp=Z,22nm,0.8s,baz=64,slow=3.8,SNR=7.0
SPB2 Spitsbergen Ar 130.44 356 **PKPdf** **06 33 36.5 +0.5**
NUUK Nuuk 131.10 28 *i* P **PKPdf** **06 33 37.4 -0.1**
DAG Danmarks Havn 131.17 6 *i* P **PKPdf** **06 33 35.0 -2.4**
SUMG Summit 131.26 15 PKPdf **PKiKP** **06 33 40.3 +1.2**
SUMG Summit 131.26 15 PKIKP **PKiKP** **06 33 40.3 +1.2**
SUMG Summit 131.26 15 *i* P **PKiKP** **06 33 39.0 -0.1**
SOHO SOHO 132.02 277 *i* PKiKP **PKPdf** **06 33 40.7 +0.2**
SNR=16
DY2G Dye2 132.32 24 *i* P **PKPdf** **06 33 39.2 -0.9**
HATD Hatta, Dubai 132.58 278 *i* PKiKP **PKiKP** **06 33 42.4 -0.2**
SNR=6.8
ARTI Arti 132.60 321 IAMs_20 IAMs_20 07 27 42.5
comp=Z,779nm,22.0s
ARTI Arti 132.60 321 PKP **PKPdf** **06 33 38.3 -2.3**
comp=Z,25nm,0.9s,baz=65,slow=1.2,SNR=5.6
ARTI Arti 132.60 321 *i* PKIKP **PKPdf** **06 33 37.3 -3.3**
ASHO Ashiyiah 132.60 278 *i* PKiKP **PKPdf** **06 33 41.3 -0.3**
SNR=6.1
ICESG Greenland Ices 133.10 19 *i* P **PKPdf** **06 33 40.0 -1.6**
ASUD Al Ashush, Dub 133.22 277 PKiKP **PKiKP** **06 33 44.1 +0.1**
AKTO Aktyubinsk 133.70 313 PKP **PKPdf** **06 33 43.6 +0.7**
comp=Z,21nm,0.9s,baz=354,slow=1.1,SNR=5.6
KIBK Kibwezi 133.98 233 IAMs_20 IAMs_20 07 24 20.9
comp=Z,719nm,22.0s
KMBO Kilima Mbogo 135.39 234 PKPdf **PKPdf** **06 33 44.4 -3.1**
KMBO Kilima Mbogo 135.39 234 *i* PKiKP **PKiKP** **06 33 49.0 -0.1**
SNR=6.7
KMBO Kilima Mbogo 135.39 234 PKP **PKPdf** **06 33 48.5 +1.0**
comp=Z,9.1nm,1.1s,baz=117,slow=4.6,SNR=5.1
SCO Scoresbysund 136.28 12 **PKPdf** **06 33 47.8 +0.7**
SCO Scoresbysund 136.28 12 PKIKP **PKPdf** **06 33 47.8 +0.7**
SCO Scoresbysund 136.28 12 *i* P **PKPdf** **06 33 46.4 -0.7**
KIRV Kirov 136.62 326 *i* PKIKP **PKPdf** **06 33 47.4 -0.6**
APA Apatity 137.36 343 ⇓*i* PKIKP **PKPdf** **06 33 50.1 +0.9**
APA *i* 06 36 35.0
APA pmax pmax
comp=Z,17nm,0.8s
ARA0 ARCESS Array S 137.45 348 *e*PKPdf **PKPdf** **06 33 48.9 -0.5**
ARCES ARCESS Array B 137.45 348 PKhKP PKPpre 06 33 41.6
comp=Z,5.2nm,0.8s,baz=67,slow=1.3,SNR=15
ARCES PKP **PKPdf** **06 33 48.4 -0.9**
comp=Z,18nm,0.8s,baz=71,slow=1.2,SNR=14
KTK1 Kautokeino 138.30 349 *e*PKPdf **PKPdf** **06 33 51.0 +0.1**

TRO	Tromso	138.36	352	ePKPdf	PKPdf	06 33 51.6	+0.7
H10S3	ASCENSION HYDR	138.61	153	T	T	09 09 20.0	
	baz=205,slow=74,SNR=414						
H10S2	ASCENSION HYDR	138.61	153	T	T	09 09 43.8	
	baz=15,slow=74,SNR=289						
ATD	Arta Tunnel	138.81	253	IAMs_20	IAMs_20	07 27 19.5	
	comp=Z,652nm,22.0s						
BELG	Belogornoye	139.68	318	*i* PKIKP	PKPdf	06 33 52.6	-1.2
H10N3	ASCENSION HYDR	139.69	153	T	T	09 10 33.8	
	baz=204,slow=75,SNR=288						
H10N1	ASCENSION HYDR	139.69	153	T	T	09 11 00.2	
	baz=204,slow=75,SNR=325						
H10N2	ASCENSION HYDR	139.70	153	T	T	09 10 39.9	
	baz=204,slow=75,SNR=300						
KLMR	Klimovskoe	139.91	333	*e*PKHKP	PKPpre	06 33 46.8	
KLMR				pmax	pmax		
	comp=Z,52nm,1.1s						
LOF	Lofoten	140.40	354	*e*PKPdf	PKPdf	06 33 54.2	-0.5
STEI	Steigen	140.42	353	*e*PKPdf	PKPdf	06 33 52.9	-1.8
FAUS	Fauske	140.94	352	*e*PKPdf	PKPdf	06 33 54.7	-1.0
RAYN	Ar Rayn	141.45	272		PKPdf	06 33 53.9	-4.2
RAYN	Ar Rayn	141.45	272	PKIKP	PKPdf	06 33 53.9	-4.2
RAYN				MLR	MLR		
	comp=Z,700nm,22.0s						
AKT	Akhty	141.68	301	*e*PKIKP	PKPdf	06 33 56.6	-1.4
AKT				pmax	pmax		
	comp=Z,84nm,1.6s						
MAK	Makhachkala	141.71	304	*d* P	Pdif	06 31 12.3	-4.8
MAK				*i*		06 33 56.9	
MAK				*e*SS	SS	06 55 31.8	+0.2
MAK				*e*SSS	SSS	07 00 51.6	
MAK				pmax	pmax		
	comp=Z,497nm,1.3s						
KONS	Konsvik	142.03	353	*e*PKPdf	PKPdf	06 33 56.8	-0.8
MOR8	Moi Rana	142.20	352	*e*PKPdf	PKPdf	06 33 54.6	-3.4
STOK	Stokkvaagen	142.20	353	*e*PKPdf	PKPdf	06 33 56.9	-1.1
VRH	Novokhopyorsk	143.53	318	*e*PKIKP	PKPbc	06 33 59.2	+1.0
VRH				pmax	pmax		
	comp=Z,35nm,1.5s						
GNI	Garni	144.04	299	IAMs_20	IAMs_20	07 48 35.5	
	comp=Z,378nm,20.0s						
GNI	Garni	144.04	299	PKP	PKPdf	06 34 02.9	+0.6
	comp=Z,17nm,0.8s,baz=0.0,slow=1.0,SNR=4.3						
NSS	Namsos	144.07	353	*e*PKPdf	PKPab	06 33 58.8	0.0
FIA1	FINESS Array S	144.13	341	PKPdf	PKPab	06 33 58.8	-0.4
FINES	FINESS Array B	144.14	341	PKhKP	PKPpre	06 33 58.1	
	comp=Z,78nm,0.8s,baz=50,slow=2.8,SNR=106						
OBN	Obninsk	144.47	327	⇑P	PKPab	06 33 59.8	-0.8
OBN	Obninsk	144.47	327	*e*PKIKP	PKPab	06 33 59.7	-0.9
OBN				*e*		06 37 18.2	
OBN				*e*SS	SS	06 56 06.7	+4.7
OBN				pmax	pmax		
	comp=Z,80nm,1.0s						
OBN				MLR	MLR		
	comp=Z,393nm,20.0s						
OBN	Obninsk	144.47	327		PKPbc	06 34 00.8	-0.1
LPSR	Galich'ya Gora	144.52	322	*e*PKIKP	PKPbc	06 34 01.6	+0.4
LPSR				pmax	pmax		
	comp=Z,68nm,1.4s						
GOF	Gofitskoye	144.54	308	*ce*PKIKP	PKiKP	06 34 04.9	-1.6
VORR	Voronezh	144.78	320	*e*PKIKP	PKPab	06 34 01.6	-0.3
VORR				pmax	pmax		
	comp=Z,65nm,1.4s						
KBZ	Khabaz	144.92	306	PKP	PKPbc	06 34 03.0	+0.3
	comp=Z,22nm,0.8s,baz=106,slow=2.1,SNR=9.6						
KBZ	Khabaz	144.92	306	PKIKP	PKPbc	06 34 03.0	+0.3
VSR	Storozhevoye	145.00	319	*e*PKIKP	PKPab	06 34 00.4	-2.4
VSR				pmax	pmax		
	comp=Z,80nm,0.9s						
KIV	Kislovodsk	145.02	306	IAMs_20	IAMs_20	07 41 18.7	
	comp=Z,565nm,20.0s						
KIV	Kislovodsk	145.02	306	*i* PKPdf	PKPdf	06 34 04.8	+1.0
	SNR=5.3						
KIV	Kislovodsk	145.02	306	⇑P	PKPdf	06 34 04.4	+0.6
KIV	Kislovodsk	145.02	306	⇑PKIKP	PKPdf	06 34 04.4	+0.6
VORD	Divnogorie	145.03	319	*e*PKHKP	PKPpre	06 33 58.8	
VORD				pmax	pmax		
	comp=Z,70nm,1.0s						
ERBR	Yeremizino-Bor	146.12	310	*i* PKP2	PKPbc	06 34 06.1	-0.4
ERBR				pmax	pmax		
	comp=Z,461nm,1.3s						
BATM	Batumi	146.16	302	⇑P	PKPbc	06 34 06.9	+0.1
BATM	Batumi	146.16	302	⇑PKP2	PKPbc	06 34 06.9	+0.1
BCA	Borcka	146.24	302	⇑P	PKPbc	06 34 06.8	-0.3
LABN	Labinsk	146.24	308	*i* PKP2	PKiKP	06 34 09.0	-1.0
LABN				pmax	pmax		
	comp=Z,159nm,0.9s						
GURO	Guroymak-BITLI	146.26	297	IAMs_20	IAMs_20	07 42 23.5	
	comp=Z,425nm,20.0s						
MOL	Molde	146.37	356	*e*PKPab	PKPbc	06 34 06.9	+0.3
DOMB	Dombas	146.78	355	*e*PKPbc	PKPbc	06 34 07.7	-0.2
AKN	Aaknes	146.79	356	*e*PKPab	PKPbc	06 34 08.0	0.0
SOC	Sochi	147.20	306	*e*PKHKP	PKPpre	06 34 02.0	
SOC				*e*PPP	PPP	06 40 51.0	
SOC				*e*SS	SS	06 56 31.2	-3.2
SOC				*e*SSS	SSS	07 01 56.6	
SOC				pmax	pmax		
	comp=Z,52nm,0.6s						
SOC				MLR	MLR		
	comp=Z,326nm,18.0s						
NC303	NORSAR Array S	147.35	352		PKPbc	06 34 08.9	-0.6
FOO	Floro	147.45	358	*e*PKPbc	PKPdf	06 34 08.5	+1.4
NB2	NORSAR Subarra	147.55	352	PKP	PKPdf	06 34 08.7	+1.2
	comp=Z,60nm,0.8s,baz=12,slow=4.4						
NB2	NORSAR Subarra	147.55	352	PKP	PKPdf	06 34 08.7	+1.2
	baz=12,slow=4.4						
NOA	NORSAR Array B	147.55	352	PKPbc	PKPdf	06 34 08.0	+0.5
	comp=Z,60nm,0.9s,baz=15,slow=4.5,SNR=140						
NOA	NORSAR Array B	147.55	352	PKIKP	PKPdf	06 34 08.0	+0.5
KTUT	Trabzon	147.70	302	⇑P	PKPbc	06 34 10.3	-0.8
NC602	NORSAR Array S	147.81	352	*e*PKPbc	PKPbc	06 34 09.9	-0.9
HYA	Hoyanger	147.84	357	*e*PKPbc	PKPbc	06 34 10.5	-0.3
SUE	Sulen	148.00	358	*e*PKPbc	PKPbc	06 34 10.7	-0.5
HFS	Hagfors	148.09	350	PKPbc	PKPdf	06 34 08.9	+0.6
	comp=Z,118nm,0.8s,baz=83,slow=1.4,SNR=89						
SKAR	Skarslia	148.19	355	*e*PKPbc	PKPbc	06 34 11.8	0.0
ANN	Anapa	148.45	309	*e*PKHKP	PKPpre	06 34 00.7	
ANN				pmax	pmax		
	comp=Z,136nm,0.8s						
ANN				MLR	MLR		
	comp=Z,653nm,23.0s						
ANN				MLR	MLR		
	comp=N,419nm,22.0s						
ANN				MLR	MLR		
	comp=E,596nm,21.0s						
ASK	Askoy	148.56	358	*e*PKPbc	PKPbc	06 34 12.5	-0.2
BER	Bergen	148.66	358	*e*PKPbc	PKPbc	06 34 12.4	-0.6
OSL	Oslo	148.68	352	*e*PKPbc	PKPbc	06 34 12.2	-0.8
MNK	Minsk	148.77	331	*i* PKiKP	PKiKP	06 34 14.4	-0.5
	comp=E,46nm,0.9s						
MNK				*i* PKiKP	PKiKP	06 34 14.4	-0.5
	comp=N,21nm,0.9s						
MNK				*i* PKiKP	PKiKP	06 34 14.4	-0.5
	comp=Z,224nm,0.8s,baz=46						
MNK				*i* pPKiKP	sPKPab	06 34 32.6	-0.5
MNK				*i* PP	PP	06 37 56.4	+13
MNK				*i* PPP	PPP	06 39 58.7	
MNK				*i* SKS	SKSdf	06 40 42.0	-32
MNK				*i* SKKS	SKKSac	06 44 44.8	+13
MNK				*i* SS	SS	06 56 52.1	+1.5
MNK				*i* SSS	SSS	07 03 13.2	
MNK				*i* LQ	LQ	07 29 36.6	
MNK				*i* LR	LR	07 34 34.9	
MNK				*i* LRM	MLR	07 37 28.9	
	comp=N,502nm,18.3s						
MNK				*i* LRM	MLR	07 42 43.7	
	comp=Z,819nm,19.7s						
MNK				*i* LRM	MLR	07 43 09.5	
	comp=E,402nm,16.7s						
MNK	Minsk	148.77	331	*i* PKP2	PKiKP	06 34 14.3	-0.5
MNK				*i*		06 37 44.1	
MNK				*i* PPS	PPS	06 50 19.4	
MNK				*i* SS	SS	06 56 52.1	+1.5
MNK				pmax	pmax		
	comp=N,21nm,0.9s						
MNK				pmax	pmax		
	comp=E,46nm,0.9s						
MNK				pmax	pmax		
	comp=Z,224nm,0.8s						
MNK				MLR	MLR		
	comp=Z,819nm,20.0s						
MNK				MLR	MLR		
	comp=E,402nm,17.0s						
NACGM	Naroch	148.94	333	*i* PKP	PKiKP	06 34 15.1	-0.1
ODD1	Odda	149.07	356	*e*PKPbc	PKPbc	06 34 13.5	-0.6
KONO	Kongsberg	149.09	353		PKPbc	06 34 14.0	-0.1
KONO	Kongsberg	149.09	353	*e*PKPbc	PKPbc	06 34 13.7	-0.4
KONO	Kongsberg	149.09	353	⇓PKP2	PKPbc	06 34 14.2	+0.1
BLS5	Blasjo	149.56	356	*e*PKPbc	PKPbc	06 34 14.7	-0.6
KMY	Karmoy	149.83	357	*e*PKPbc	PKPbc	06 34 15.2	-0.8
HOMB	Homborsund	150.56	354	*e*PKPbc	PKPbc	06 34 17.4	-0.3
SNART	Snartemo	150.59	355	*e*PKPbc	PKPbc	06 34 17.5	-0.3
SIM	Simferopol'	150.62	311	*e*PKIKP	PKiKP	06 34 19.0	0.0
SIM				pmax	pmax		
	comp=Z,113nm,0.9s						
SIM				pmax	pmax		
	comp=Z,100nm,6.3s						
AKASG	Malin Array Be	150.64	325	PKPbc	PKPbc	06 34 16.6	-1.5
	comp=Z,66nm,0.8s,baz=45,slow=3.0,SNR=31						
KIEV	Kiev	150.66	325		PKPdf	06 34 12.6	-0.1
KIEV	Kiev	150.66	325	IAMs_20	IAMs_20	07 47 11.3	
	comp=Z,613nm,22.0s						
KIEV	Kiev	150.66	325	*i* PKPbc	PKPbc	06 34 16.9	-1.3
	SNR=6.5						
KIEV	Kiev	150.66	325	⇑P	PKPbc	06 34 17.0	-1.3
KIEV	Kiev	150.66	325	PKIKP	PKPdf	06 34 12.6	-0.1
DIKM	Dikmen	150.87	304	⇑P	PKiKP	06 34 19.8	+0.2
SUW	Suwalki	151.00	335	*e*PKP	PKPbc	06 34 19.2	+0.3
OVD	Ostervraa, Den	151.30	352	*i* P	PKPbc	06 34 18.6	-0.9
HWQ	Hawqa	151.38	289	*e*P	PKPbc	06 34 18.7	-1.9
BALJ	Balqa	151.61	284	IAMs_20	IAMs_20	07 40 37.8	
	comp=Z,418nm,21.0s						
BHL	Bhannes	151.63	288	*e*P	PKPdf	06 34 17.9	+3.0
BZK	Bozkurt	151.69	305	⇑P	PKiKP	06 34 21.7	+0.4
MMAI	Mount Meron Ar	151.84	286	PKPbc	PKiKP	06 34 22.5	+0.5
	comp=Z,224nm,1.1s,baz=64,slow=3.8,SNR=45						
MUD	Monsted U'grnd	152.27	352	*i* P	PKPbc	06 34 21.0	-0.7
KIRS	Kirsehir-Merke	152.46	300	⇑P	PKPbc	06 34 23.1	+0.2
CIDE	Kastamonu/Cide	152.47	306	⇑P	PKiKP	06 34 23.0	+0.1
COP	Copenhagen	152.53	348	*i* P	PKPbc	06 34 21.8	-0.5
BR131	Keskin Array S	152.54	301		PKPbc	06 34 22.9	-0.2
BR131	Keskin Array S	152.54	301	PKIKP	PKPbc	06 34 22.9	-0.2
BRTR	Keskin Array B	152.54	301	PKPdf	PKPdf	06 34 16.4	+0.3
BRTR	Keskin Array B	152.54	301	PKP	PKPdf	06 34 16.8	+0.7
	comp=Z,4.3nm,1.0s,baz=116,slow=2.3,SNR=10.0						
BRTR				PKPbc	PKPbc	06 34 22.4	-0.6
	comp=Z,34nm,0.9s,baz=131,slow=2.4,SNR=39						
BSD	Bornholm Skovb	152.56	345	*i* P	PKPbc	06 34 21.0	-1.4
SORM	Soroca	152.62	321	⇑P	PKPbc	06 34 22.4	-0.4
SORM	Soroca	152.62	321	⇑PKIKP	PKPbc	06 34 22.4	-0.4
MILM	Milestii Mici	153.03	318	⇓P	PKPbc	06 34 23.0	-0.7
MILM	Milestii Mici	153.03	318	⇓P	PKPbc	06 34 23.0	-0.7
ANTO	Ankara	153.13	302		PKPbc	06 34 24.5	+0.1
ANTO	Ankara	153.13	302	IAMs_20	IAMs_20	07 50 32.6	
	comp=Z,432nm,20.0s						
ANTO	Ankara	153.13	302	⇑P	PKPbc	06 34 24.0	-0.3
ANTO	Ankara	153.13	302	⇑PKIKP	PKPbc	06 34 24.0	-0.3
EKA	Eskdalemuir Ar	153.43	8	PKPbc	PKPbc	06 34 23.1	-1.3
	comp=Z,4.6nm,0.6s,baz=343,slow=1.2,SNR=14						
EKA				PKPab	pPKPbc	06 34 36.3	+0.2
	comp=Z,8.3nm,0.9s,baz=305,slow=2.4,SNR=3.9						
ESK	Eskdalemuir	153.44	8	*i* PKIKP	PKPbc	06 34 23.5	-0.8
CSS	Mathiatis	153.50	291		PKPbc	06 34 24.4	-0.8
GKP	Gorka Klasztor	153.60	340	*e*PKP	PKPdf	06 34 18.4	+1.4
TPGR	Topolog	154.31	315	⇓P	PKiKP	06 34 27.4	+0.7
CFR	Carcaliu	154.33	316	⇑P	PKPbc	06 34 26.6	0.0
CFR	Carcaliu	154.33	316	⇑P	PKPbc	06 34 26.6	0.0
KWP	Kalwaria Pacla	154.49	329	*e*PKP	PKPdf	06 34 19.0	+0.6
TESR	Tescani	154.49	320	⇓P	PKPbc	06 34 26.6	-0.3
BURAR	Bucovina Array	154.62	323	⇑P	PKiKP	06 34 28.6	+1.3
BURAR	Bucovina Array	154.62	323	⇑PKIKP	PKiKP	06 34 28.6	+1.3
MANR	Mangalia	154.69	312	⇓P	PKiKP	06 34 28.3	+0.9
HARR	Harsova	154.70	315	⇑P	PKPdf	06 34 22.7	+3.9
HARR	Harsova	154.70	315	⇑PKIKP	PKPdf	06 34 22.7	+3.9
ONER	Baraj Valea Uz	154.74	319	⇓P	PKPdf	06 34 21.4	+2.5
VRI	Vrincioaia	154.81	318	⇓P	PKPdf	06 34 20.4	+1.4
VRI	Vrincioaia	154.81	318	⇑PKIKP	PKPdf	06 34 20.1	+1.1
PLOR	Plostina	154.86	318	⇑P	PKiKP	06 34 30.0	+2.2
PLOR	Plostina	154.86	318	⇑P	PKiKP	06 34 30.0	+2.2
PSN	Preselentsi	155.07	312	*e*P	PKPab	06 34 47.3	+3.3
TURR	Turia	155.12	319	⇓P		06 34 29.8	
KOLS	Kolonicke sedl	155.19	328	*e*PKIKP	PKPdf	06 34 21.3	+1.9
KOLS	Kolonicke sedl	155.19	328	*e*PKP	PKPdf	06 34 21.3	+1.9
OJC	Ojcow	155.27	333	*e*PKP	PKPdf	06 34 19.9	+0.5
STHS	Stebnicka Huta	155.29	330	*e*PKIKP	PKPdf	06 34 21.4	+1.9
STHS				*e*		06 34 45.0	
STHS	Stebnicka Huta	155.29	330	*e*PKP	PKPdf	06 34 21.4	+1.9
STHS				*e*		06 34 45.0	
ISP	Isparta	155.34	298	IAMs_20	IAMs_20	07 43 58.4	
	comp=Z,525nm,21.0s						
MLR	Muntele Rosu	155.47	318	⇑P	PKPdf	06 34 23.4	+3.3
MLR	Muntele Rosu	155.47	318	⇑PKIKP	PKPdf	06 34 23.4	+3.3
DOPR	Dopca	155.52	320	⇑P	PKPdf	06 34 21.9	+1.9
NIE	Niedzica	155.69	331	*e*PKP	PKPdf	06 34 21.8	+1.7
FLTG	Flechtingen	155.94	347	*e*PKPab	PKPab	06 34 47.0	-0.4
	baz=21,slow=4.5						
NRDL	Niedersach Rie	155.99	349	*e*PKPab	PKPab	06 34 47.4	-0.1
	baz=21,slow=4.5						
KSP	Ksiaz	156.00	339	*e*PKP	PKPdf	06 34 21.5	+1.0
OKC	Ostrava-Krasne	156.21	335	AMS	AMS	07 45 50.0	
	comp=Z,500nm,18.9s						
LANS	Liptovska Anna	156.24	332	*e*PKIKP	PKPdf	06 34 25.0	+4.2
LANS	Liptovska Anna	156.24	332	*e*PKP	PKPdf	06 34 25.0	+4.2
LANS				*e*		06 34 32.4	
LANS				*e*		06 34 50.8	
OSTC	Ostas	156.27	338	*e*PKPDF	PKPdf	06 34 21.5	+0.7
OSTC				AMS	AMS	07 46 10.0	
	comp=Z,600nm,16.9s						
OSTC	Ostas	156.27	338	*e*PKIKP	PKPdf	06 34 21.5	+0.7
OSTC				MLR	MLR		
	comp=Z,600nm,16.9s						
CHVC	Chvalec	156.30	339	*e*PKPAB	PKPab	06 34 48.9	-0.1
CHVC	Chvalec	156.30	339	*e*PKP2	PKPab	06 34 48.9	-0.1
ARR	Arges	156.30	319	⇓P	PKPdf	06 34 22.4	+1.3
MARR	Marisel-Cluj	156.32	323	⇑P	PKPdf	06 34 21.2	+0.1
UPC	Upice	156.38	339	AMS	AMS	07 46 30.0	
	comp=Z,900nm,24.7s						
DPC	Dobruska-Polom	156.42	338	*e*PKPDF	PKPdf	06 34 21.8	+0.8
DPC				*e*PKPAB	PKPab	06 34 48.4	-1.2
DPC				AMS	AMS	07 46 00.0	
	comp=Z,600nm,16.2s						
DPC	Dobruska-Polom	156.42	338	*e*PKIKP	PKPdf	06 34 21.8	+0.8
DPC				*e*		06 34 48.4	
DPC				MLR	MLR		
	comp=Z,600nm,16.2s						
DRGR		156.46	324	⇑P	PKPdf	06 34 21.1	-0.1
DRGR		156.46	324	⇑PKIKP	PKPdf	06 34 21.1	-0.1
MORC	Moravsky Berou	156.48	336	*e*PKP	PKPdf	06 34 21.4	+0.3
MORC	Moravsky Berou	156.48	336	*e*P	PKPab	06 34 48.7	-1.2
MORC	Moravsky Berou	156.48	336	⇓P	PKPdf	06 34 21.7	+0.6
MORC	Moravsky Berou	156.48	336	⇓PKIKP	PKPdf	06 34 21.7	+0.6
KRLC	Kraliky	156.50	337	*e*PKPAB	PKPab	06 34 49.2	-0.8
KRLC	Kraliky	156.50	337	*e*PKP2	PKPab	06 34 49.2	-0.8
IBBN	Ibbenburen	156.51	352	*e*PKPab	PKPab	06 34 50.1	+0.3
	baz=21,slow=4.5						
CLL	Collm	156.51	344	*i* PKIKP	PKPdf	06 34 23.0	+2.0
CLL				*i*		06 34 49.6	
CLL				pmax	pmax		
	comp=Z,16nm,1.4s						
CLL				pmax	pmax		
	comp=Z,31nm,0.9s						
CLL				MLR	MLR		
	comp=Z,600nm,25.7s						
CLL	Collm	156.51	344	*i* PKPdf	PKPdf	06 34 23.0	+2.0
	comp=Z,16nm,1.4s						
CLL				*i* PKPdif	pPKPdf	06 34 31.6	-1.3
	comp=Z,28nm,1.1s						
CLL				*i* PKPab	PKPab	06 34 49.6	-0.3
	comp=Z,31nm,0.9s						
CLL				*e*PP	PP	06 38 23.0	-4.4
CLL				*e*PPP	PPP	06 42 18.0	
CLL				*e*PSKS		06 48 47.0	
CLL				*e*PPS	PPS	06 51 40.0	
CLL				*e*SS	SS	06 58 18.0	+3.0
CLL				*e*SSS	SSS	07 04 18.0	
CLL				*e*SSSS		07 08 30.0	
DBIC	Dimbokro	156.57	161	PKP	PKPdf	06 34 22.7	+0.4
	comp=Z,7.0nm,1.0s,baz=150,slow=6.5,SNR=5.8						
DBIC				PKPab	PKPab	06 34 50.9	-0.2
	comp=Z,8.3nm,0.7s,baz=191,slow=4.7,SNR=5.7						
CLZ	Clausthal	156.57	348	*e*PKPab	PKPab	06 34 50.4	+0.2
	baz=21,slow=4.5						
SZH	Strazhitsa	156.63	313	*e*P	PKPab	06 34 39.9	-11
JMB	Yambol	156.64	311	*e*P	PKPab	06 34 52.7	+1.9
BRG	Berggiesshubel	156.67	342	P	PKPdf	06 34 31.1	+10
BRG				Amp		06 34 33.6	
	comp=Z,10nm,1.0s						
BRG				PKPab	PKPab	06 34 50.3	-0.3
BRG				Amp		06 34 52.3	
	comp=Z,36nm,1.0s						
BRG	Berggiesshubel	156.67	342	*e*PKIKP	PKPdf	06 34 22.2	+0.9
BRG				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BRG				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BRG	Berggiesshubel	156.67	342	*e*PKPab	PKPab	06 34 49.4	-1.2
	baz=21,slow=4.5						
BRG	Berggiesshubel	156.67 342	‖	*e*PKPf		06 34 22.2	
BRG	Berggiesshubel	156.67	342	Amp		06 34 24.3	
	comp=Z,8.9nm,1.2s						
MAUC	Maruska	156.71	335	*e*PKPDF	PKPdf	06 34 23.4	+2.0
MAUC				AMS	AMS	07 45 40.0	
	comp=Z,1μm,20.8s						
LOT	Lotru	156.74	320	⇑P	PKPdf	06 34 32.6	+11
PVCC	Panska Ves	156.80	341	*e*PKPAB	PKPab	06 34 50.9	-0.3
PVCC	Panska Ves	156.80	341	*e*PKP2	PKPab	06 34 50.9	-0.3
NEUB	Neuenburg	156.89	345	*e*PKPab	PKPab	06 34 50.8	-0.7
	baz=21,slow=4.5						
GTTG	Gottingen	156.93	348	*e*PKPab	PKPab	06 34 51.9	+0.3
	baz=21,slow=4.5						
PSZ	Piszkesteto	157.01	330	IAMs_20	IAMs_20	07 42 25.9	
	comp=Z,552nm,22.0s						
PSZ	Piszkesteto	157.01	330	⇑P	PKPdf	06 34 36.6	+15
VYHS	Vyhne	157.02	332	*e*PKIKP	PKPdf	06 34 23.1	+1.3
VYHS				*e*		06 34 36.3	
VYHS	Vyhne	157.02	332	*e*PKP	PKPdf	06 34 23.1	+1.3
VYHS				*e*		06 34 36.3	
VYHS				*e*		06 34 52.0	
HSKC	Hora Svate Kat	157.05	342	*e*PKPAB	PKPab	06 34 51.1	-1.2
JAVC	Velka Javorina	157.19	334	*e*PKP	PKPdf	06 34 22.7	+0.6
JAVC	Velka Javorina	157.19	334	*e*P	PKPab	06 34 53.8	+0.8
VRAC	Vranov	157.21	336	*e*PKP	PKPdf	06 34 21.4	-0.7
VRAC				*e*		06 34 52.5	
VRAC	Vranov	157.21	336	⇑P	PKPdf	06 34 23.5	+1.5
VRAC	Vranov	157.21	336	⇑PKIKP	PKPdf	06 34 23.5	+1.5
GOPC	GO Pecny, Ondr	157.28	340	AMS	AMS	07 41 20.0	
	comp=Z,900nm,24.6s						
PRU	Pruhonice	157.29	340	*e*PKPAB	PKPab	06 34 53.3	0.0
PRU				AMS	AMS	07 41 10.0	
	comp=Z,700nm,25.3s						
PRU	Pruhonice	157.29	340	*e*PKP2	PKPab	06 34 53.3	0.0
PRU				MLR	MLR		
	comp=Z,700nm,25.3s						
KRUC	Moravsky	157.49	336	*e*PKP	PKPdf	06 34 21.7	-0.7
KRUC				*e*		06 34 53.7	
SMOL	Smolenice	157.56	334	*e*PKP2	PKPab	06 34 54.9	+0.4
TREC	Trest	157.60	338	*e*PKPAB	PKPab	06 34 53.3	-1.4
TREC				AMS	AMS	07 47 30.0	
	comp=Z,500nm,19.6s						
TREC	Trest	157.60	338	*e*PKP2	PKPab	06 34 53.3	-1.4
TREC				MLR	MLR		
	comp=Z,500nm,19.6s						
NKC	Novy Kostel	157.64	344	*e*PKPAB	PKPab	06 34 54.6	-0.2
NKC	Novy Kostel	157.64	344	*e*PKP2	PKPab	06 34 54.6	-0.2
ALN	Alexandroupoli	157.66	308	IAMs_20	IAMs_20	07 52 00.8	
	comp=Z,483nm,21.0s						
MODS	Modra-Piesok	157.74	334	*e*PKIKP	PKPdf	06 34 25.4	+2.7
MODS	Modra-Piesok	157.74	334	*e*PKP	PKPdf	06 34 25.4	+2.7
MODS				*e*		06 34 57.0	
SRO	Srobarova	157.77	331	*e*PKP2	PKPab	06 34 56.1	+0.7
SRO	Srobarova	157.77	331	*e*PKP	PKPab	06 34 56.1	+0.7
BZS	Buzias	157.80	323	⇑P	PKPdf	06 34 21.3	-1.6
BZS	Buzias	157.80	323	⇑PKIKP	PKPdf	06 34 21.3	-1.6
KDZ	Kurdzhali	157.82	310	*e*P	PKPdf	06 34 39.1	+16
ZVC	Zvikov	157.88	340	*e*PKPDF	PKPdf	06 34 23.9	+1.0
ZVC				*e*PKPAB	PKPab	06 34 55.9	0.0
VALD	Valchedram	157.97	317	*e*P	PKPab	06 34 57.8	+1.3
MPEP	Malo Peshtene	157.97	316	*e*P	PKPab	06 34 57.3	+0.8
RZN	Rozhen	158.19	311	*e*P	PKPab	06 34 58.8	+1.0
MDVR

OBKA	**Obir**	**160.31**	**335**	*e*PKP	**PKPdf**	**06 34 25.1**	**-0.8**
	comp=Z,9.2nm,1.5s						
OBKA				*e*PKP	**PKPab**	**06 35 05.1**	**-1.6**
	comp=Z,7.1nm,0.8s						
MYKA	**Terra Mystica**	**160.53**	**337**	*e*PKP	**PKPdf**	**06 34 25.6**	**-0.6**
	comp=Z,7.1nm,1.0s						
MYKA				*e*PKP	**PKPab**	**06 35 05.5**	**-2.1**
	comp=Z,15nm,0.7s						
WATA	**Walderalm**	**160.54**	**342**	*e*PKP	**PKPab**	**06 35 07.0**	**-0.6**
	comp=Z,30nm,1.2s						
WTTA	**Wattenberg**	**160.59**	**342**	*e*PKP	**PKPdf**	**06 34 26.0**	**-0.4**
	comp=Z,8.8nm,1.3s						
WTTA				*e*PKP	**PKPab**	**06 35 07.4**	**-0.5**
	comp=Z,24nm,0.8s,SNR=5.2						
RETA	**Reutte**	**160.61**	**344**	*e*PKP	**PKPab**	**06 35 07.4**	**-0.5**
	comp=Z,18nm,1.0s,SNR=5.9						
MOTA	**Moosalm**	**160.65**	**343**	*e*PKP	**PKPdf**	**06 34 26.6**	**+0.2**
	comp=Z,6.1nm,0.8s						
MOTA				*e*PKP	**PKPab**	**06 35 07.8**	**-0.4**
	comp=Z,32nm,1.1s						
LJU	**Ljubljana**	**160.72**	**335**	*i* PKPdf	**PKPdf**	**06 34 27.1**	**+0.8**
SQTA	**Sankt Quirin**	**160.74**	**342**	*e*PKP	**PKPdf**	**06 34 25.0**	**-1.4**
	comp=Z,7.0nm,1.0s						
SQTA				*i* PKP	**PKPab**	**06 35 08.6**	**+0.1**
	comp=Z,23nm,0.9s						
ABTA	**Abfaltersbach**	**160.80**	**339**	*i* PKP	**PKPdf**	**06 34 24.9**	**-1.5**
	comp=Z,3.7nm,1.0s						
ABTA				*e*PKP	**PKPab**	**06 35 07.7**	**-1.1**
	comp=Z,11nm,0.8s						
DAVA	**Damuels**	**161.01**	**345**	*e*PKP	**PKPdf**	**06 34 26.6**	**-0.1**
	comp=Z,4.3nm,1.1s						
DAVA				*e*PKP	**PKPab**	**06 35 08.8**	**-0.9**
	comp=Z,22nm,0.8s						
FETA	**Feichten**	**161.05**	**343**	*e*PKP	**PKPdf**	**06 34 26.5**	**-0.3**
	comp=Z,5.6nm,1.0s,SNR=4.8						
FETA				*e*PKP	**PKPab**	**06 35 09.7**	**-0.2**
	comp=Z,13nm,1.1s						
CTI	**Castel Tesino**	**161.69**	**340**	PKPab	**PKPab**	**06 35 11.8**	**-0.8**
CTI	**Castel Tesino**	**161.69**	**340**	PKP2	**PKPab**	**06 35 11.8**	**-0.8**
PMOZ	**Porto Moniz, M**	**162.47**	**73**	*e*LR	LR	07 30 45.1	
PMOZ				A	A	07 46 35.6	
	comp=Z,323nm,20.0s						
TORD	**Torodi Ar. Bea**	**164.11**	**176**	PKP	**PKPdf**	**06 34 31.0**	**+0.4**
	comp=Z,6.2nm,1.0s,baz=235,slow=5.1,SNR=21						
TORD				PKPab	**PKPab**	**06 35 24.8**	**+1.0**
	comp=Z,8.9nm,0.9s,baz=194,slow=2.4,SNR=8.5						
TORD				PP	**PP**	**06 39 10.2**	**+2.0**
	comp=Z,2.1nm,0.8s,baz=143,slow=4.2,SNR=3.9						
PGAV	**Gavieira, Arco**	**164.34**	**32**	*e*PKPdf	**PKPdf**	**06 34 28.8**	**-1.3**
PGAV	**Gavieira, Arco**	**164.34**	**32**	*e*SS	SS	06 59 47.8	+10
PGAV	**Gavieira, Arco**	**164.34**	**32**	*e*LR	LR	07 35 03.9	
PGAV				A	A	07 48 29.4	
	comp=Z,390nm,18.0s						
PVRL	**Vila Real**	**165.13**	**32**	*e*PKPdf	**PKPdf**	**06 34 32.5**	**+1.7**
PVRL	**Vila Real**	**165.13**	**32**	*e*PKPab	**PKPab**	**06 35 29.3**	**+1.4**
PBRG	**Braganca**	**165.14**	**29**	*e*PKPab	**PKPab**	**06 35 28.8**	**+0.9**
PVIS	**Viseu**	**165.48**	**34**	*e*PKPdf	**PKPdf**	**06 34 33.1**	**+2.0**
MVO	**Moncorvo**	**165.54**	**31**	*e*PKPdf	**PKPdf**	**06 34 33.4**	**+2.3**
MVO	**Moncorvo**	**165.54**	**31**	*e*PKPab	**PKPab**	**06 35 30.9**	**+1.2**
MVO	**Moncorvo**	**165.54**	**31**	*e*SS	SS	06 59 56.0	+5.7
MVO	**Moncorvo**	**165.54**	**31**	*e*LR	LR	07 36 23.4	
MVO				A	A	07 53 46.5	
	comp=Z,576nm,20.0s						
COI	**Coimbra**	**165.60**	**37**	*e*PKPdf	**PKPdf**	**06 34 34.1**	**+3.0**
PCAS	**Casmilo, Conde**	**165.66**	**37**	*e*PKPab	**PKPab**	**06 35 31.6**	**+1.4**
MTE	**Manteigas**	**165.89**	**34**	*e*PKPdf	**PKPdf**	**06 34 32.9**	**+1.5**
MTE	**Manteigas**	**165.89**	**34**	*e*SS	SS	07 00 03.0	+8.9
MTE	**Manteigas**	**165.89**	**34**	*e*LR	LR	07 32 31.8	
MTE				A	A	07 48 22.1	
	comp=Z,543nm,20.0s						
PCBR	**Castelo Branco**	**166.35**	**36**	*e*PKPdf	**PKPdf**	**06 34 33.3**	**+1.6**
PVAQ	**Vaqueiros**	**167.93**	**44**	*e*LR	LR	07 33 35.2	
PVAQ				A	A	07 47 12.0	
	comp=Z,591nm,20.0s						
PAB	**San Pablo**	**168.03**	**28**	⇓PKIKP	**PKPdf**	**06 34 35.1**	**+2.0**
ESDC	**Sonseca Array**	**168.07**	**26**	PKP	**PKPdf**	**06 34 34.4**	**+1.3**
	comp=Z,5.6nm,1.1s,baz=346,slow=2.2,SNR=16						
ESDC				PKPab	**PKPab**	**06 35 41.2**	**+0.3**
	comp=Z,4.2nm,0.9s,baz=317,slow=4.9,SNR=9.3						
KEST	**Kesra**	**171.36**	**322**	PKP	**PKPdf**	**06 34 36.5**	**+1.3**
	comp=Z,12nm,1.0s,baz=27,slow=2.3,SNR=4.9						
KEST				PKPab	**PKPab**	**06 35 56.2**	**+0.6**
	comp=Z,10nm,0.8s,baz=85,slow=2.3,SNR=5.1						

RSNC ***25*** *06:15:58.0±0.0, 13°N±1°×8°1W±°, h1km±1km, M3.9, mb4.6, mB5.0, ML3.5, Mw(mB)4.4*
IDC ***25*** *06:15:58.7±2.4, 13.°06N×81.°31W, h0km, mb3.5/4, mbtmp3.6/5, ML3.2/2, MS3.2/2, Error ellipse: s-maj=53.4km s-min=29.0km az=103.0*
CATAC ***25*** *06:16:07.7±0.8, 13.°49N×81.°23W, h30km, MB5.2, mb4.8, ML4.6*

ISC 25 06:15:57.7±0.6, 13°.12N±0°.03×81°.15W±0°.03, h10km, n45, σ2°.24/68, mb3.4/4, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.33**	**322**	P	**Pg**	**06 16 04.2**	**-0.1**
PRVC				S	**Sg**	**06 16 08.5**	**-0.2**
SAIC	**Isla e San And**	**0.79**	**223**	P	**Pb**	**06 16 13.9**	**+0.3**
SAIC				S	**Sb**	**06 16 25.9**	**+1.5**
RNCC	**Cayo Roncador,**	**1.13**	**66**	P	**Pb**	**06 16 18.9**	**-0.4**
RNCC				S	**Sn**	**06 16 35.4**	**+0.3**
SERC	**Banco Serrana,**	**1.39**	**33**	P	**Pn**	**06 16 22.6**	**-0.6**
SERC				S	**Sb**	**06 16 41.4**	**-0.2**
BLUN	**Bluefields**	**2.79**	**247**	*i* P	**Pg**	**06 16 50.1**	**-1.0**
BLUN				IAML		06 17 33.4	
	comp=Z,430nm,1.0s						
ESPN	**Las Esperanzas**	**3.21**	**254**	*i* P	**Pg**	**06 16 58.0**	**-1.1**
ESPN				*i* S	**Sb**	**06 17 35.3**	**+1.4**
ESPN				IAML		06 18 10.5	
	comp=Z,830nm,1.0s						
COVE	**Coope Vega, Sa**	**3.97**	**233**	*i* P	**Pb**	**06 17 08.9**	**+1.1**
COVE				*i* S	**Sb**	**06 17 58.2**	**+2.2**
COVE				IAML		06 18 23.2	
	comp=Z,600nm,1.0s						
ACON	**Acoyapa**	**4.09**	**254**	P	**Pn**	**06 17 03.4**	**+3.1**
ACON	**Acoyapa**	**4.09**	**254**	*i* P	**Pb**	**06 17 08.6**	**-1.2**
ACON				*i* S	**Sb**	**06 17 56.5**	**-2.8**
ACON				IAML		06 18 29.5	
	comp=Z,460nm,1.0s						
BCIP	**Isla Barro Col**	**4.13**	**162**	P	**Pn**	**06 16 59.3**	**-1.6**
BCIP				S	**Sn**	**06 17 46.7**	**-2.6**
JTS	**Las Juntas de**	**4.66**	**233**	Pn	**Pn**	**06 17 09.4**	**+1.1**
	comp=Z,9.0nm,0.3s,baz=99,slow=19,SNR=38						
JTS				Sn	**Sn**	**06 18 02.3**	**-0.1**
	comp=Z,5.0nm,0.3s,baz=60,slow=20,SNR=8.0						
JTS				LR	LR	06 19 08.6	
	comp=Z,192nm,21.2s,baz=114,slow=42						
	comp=Z,24nm,0.5s						
JTS	**Las Juntas de**	**4.66**	**233**	P	**Pn**	**06 17 09.3**	**+1.1**
JTS				P	**Pn**	**06 17 09.5**	**+1.3**
JTS				S	**Sn**	**06 18 02.3**	**-0.1**
JTS				S	**Sn**	**06 18 02.8**	**+0.4**
CDITO	**Canoas**	**4.82**	**201**	IAmb	IAmb	06 17 19.1	
	comp=Z,96nm,0.7s						
CDITO				*i* P	**Pb**	**06 17 23.2**	**+0.9**
CDITO				IAML		06 18 16.3	
	comp=Z,370nm,1.0s						
CDITO				IVmB_BB		06 18 20.1	
	comp=Z,3μm,1.0s						
RCFN	**Al S de San Ju**	**4.94**	**275**	*i* P	Pn	06 17 18.0	+5.8
RCFN				IAML		06 18 43.9	
	comp=Z,2μm,1.0s						
MGAN	**Managua**	**5.07**	**260**	*i* P	Pb	06 17 20.9	-5.6
MGAN				IVmB_BB		06 17 41.1	
	comp=Z,6μm,1.0s						
MGAN				IAML		06 17 44.5	
	comp=Z,240nm,1.0s						
MGAN				IAmb	IAmb	06 17 44.6	
	comp=Z,140nm,1.1s						
MGAN				*i* S	**Sb**	**06 18 20.1**	**-7.3**
LIMN	**Finca el Limon**	**5.08**	**270**	*i* P	Pb	06 17 21.0	-5.8
LIMN				IAmb	IAmb	06 17 37.4	
	comp=Z,79nm,0.8s						
LIMN				IVmB_BB		06 18 02.0	
	comp=Z,1μm,1.0s						
LIMN				IAML		06 19 07.3	
	comp=Z,210nm,1.0s						
GMAL	**Guarumal, Vera**	**5.32**	**181**	P	**Pn**	**06 17 17.7**	**+0.4**
	comp=Z,48nm,0.6s						
GMAL				S	**Sn**	**06 18 16.8**	**-1.9**
	comp=Z,48nm,0.6s						
AZU	**Azuero**	**5.36**	**171**	P	**Pn**	**06 17 17.6**	**-0.2**
	comp=Z,33nm,1.0s						
AZU				S	**Sn**	**06 18 17.9**	**-1.8**
	comp=Z,33nm,1.0s						
YUSH	**Yuscaran**	**5.59**	**279**	*i* P	Pb	06 17 29.1	-6.5
CACAO	**El Cacao, Vera**	**5.74**	**177**	P	**Pn**	**06 17 24.0**	**+0.9**
	comp=Z,56nm,0.6s						
CACAO				S	**Sn**	**06 18 31.7**	**+2.6**
	comp=Z,56nm,0.6s						
CRIN	**San Cristobal**	**5.76**	**267**	P	**Pn**	**06 17 21.3**	**-2.1**
	comp=Z,57nm,0.6s						
CAPC	**Capurgana**	**5.81**	**140**	P	**Pn**	**06 17 24.5**	**+0.5**
CAPC				S	**Sn**	**06 18 28.9**	**-1.9**
TGUH	**Tegucigalpa,Un**	**6.02**	**280**	P	**Pn**	**06 17 27.7**	**+0.7**
	comp=Z,86nm,0.7s,comp=Z,756nm						
TGUH				S	**Sn**	**06 18 34.5**	**-1.7**
	comp=Z,86nm,0.7s,comp=Z,756nm						
MTDJ	**Mount Denham**	**6.16**	**34**	P	**Pn**	**06 17 29.6**	**+0.7**
	comp=Z,36nm,1.2s						
LCBC	**Los crdobas,**	**6.32**	**132**	P	**Pn**	**06 17 31.8**	**+0.8**
	comp=Z,73nm,0.6s						
LCBC				S	**Sn**	**06 18 44.2**	**+0.8**
	comp=Z,73nm,0.6s						
SJCC	**San Jacinto, C**	**6.67**	**118**	P	**Pn**	**06 17 34.3**	**-1.6**
	comp=Z,22nm,0.5s						
SJCC				S	**Sn**	**06 18 48.2**	**-3.9**
	comp=Z,22nm,0.5s						
PTAC	**Punta Ardita,**	**6.79**	**151**	P	**Pn**	**06 17 39.3**	**+1.9**
	comp=Z,18nm,1.0s						
PTAC				S	**Sn**	**06 18 51.3**	**-3.5**
	comp=Z,18nm,1.0s						
APAC	**Apartado, Choc**	**6.86**	**139**	P	**Pn**	**06 17 40.0**	**+1.5**
	comp=Z,18nm,0.7s						
APAC				S	**Sn**	**06 18 57.3**	**+0.6**
	comp=Z,18nm,0.7s						
ARGC	**Ariguani, Magd**	**7.50**	**115**	P	**Pn**	**06 17 48.0**	**+0.7**
	comp=Z,11nm,0.6s						
ARGC				S	**Sn**	**06 19 10.6**	**-1.9**
	comp=Z,11nm,0.6s						
UREC	**San Jos de Ur**	**7.68**	**133**	P	**Pn**	**06 17 49.9**	**+0.2**
	comp=Z,12nm,0.8s,comp=Z,470nm						
UREC				S	**Sn**	**06 19 13.5**	**-3.3**
	comp=Z,12nm,0.8s,comp=Z,470nm						
ZARC	**Zaragoza, Cauc**	**8.34**	**131**	P	**Pn**	**06 17 59.1**	**+0.3**
	comp=Z,23nm,0.6s,comp=Z,487nm						
ZARC				S	**Sn**	**06 19 30.5**	**-2.7**
	comp=Z,23nm,0.6s,comp=Z,487nm						
GTBY	**Guantanamo Bay**	**8.91**	**40**	P	**Pn**	**06 18 07.7**	**+1.2**
URIC	**Uribia, Colomb**	**9.06**	**98**	P	**Pn**	**06 18 04.7**	**-3.9**
	comp=Z,21nm,1.1s						
URIC				S	**Sn**	**06 19 44.8**	**-6.0**
	comp=Z,21nm,1.1s						
OCAC	**Ocana**	**9.10**	**121**	P	**Pn**	**06 18 06.3**	**-3.0**
	comp=Z,25nm,0.5s						
OCAC				S	**Sn**	**06 19 49.3**	**-2.6**
	comp=Z,25nm,0.5s						
PTBC	**PUERTO BERRIO,**	**9.29**	**134**	P	**Pn**	**06 18 11.9**	**+0.1**
	comp=Z,4.9nm,1.3s						
MALC	**Bahia Malaga**	**9.80**	**157**	P	Pn	06 18 27.5	+8.7
MALC				S	Sn	06 20 18.6	+10
TEIG	**Tepich**	**9.82**	**317**	Pn	**Pn**	**06 18 19.4**	**+0.3**
	baz=142,slow=20,SNR=13						
TEIG				Sn	**Sn**	**06 20 04.3**	**-5.2**
	baz=226,slow=24,SNR=1.1						
TEIG	**Tepich**	**9.82**	**317**	P	**Pn**	**06 18 19.3**	**+0.3**
TEIG				S	**Sn**	**06 20 05.0**	**-4.5**
CMIG	**Matias Romero**	**13.83**	**288**	LR	LR	06 24 52.0	
	comp=Z,177nm,19.3s,baz=96,slow=39						
TXAR	**Lajitas Array**	**26.39**	**311**	P	**P**	**06 21 36.2**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=136,slow=11,SNR=8.8						
	comp=Z,0.8nm,0.8s						
PDAR	**Pinedale Array**	**38.41**	**326**	P	**P**	**06 23 21.6**	**+1.9**
	comp=Z,0.6nm,0.8s,baz=120,slow=8.8,SNR=4.7						
	comp=Z,0.6nm,0.8s						
NVAR	**Mina Array Bea**	**41.46**	**314**	P	**P**	**06 23 47.2**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=146,slow=6.6,SNR=2.6						
	comp=Z,0.2nm,0.4s						
ILAR	**Eielson Array**	**67.95**	**335**	P	**P**	**06 27 00.0**	**+3.5**
	comp=Z,0.5nm,0.8s,baz=112,slow=4.0,SNR=4.8						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**145.21**	**247**	PKPbc	**PKPbc**	**06 35 36.3**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=122,slow=2.4,SNR=3.5						
WRA	**Warramunga Arr**	**145.35**	**254**	PKPbc	**PKPdf**	**06 35 37.9**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=93,slow=3.2,SNR=3.6						

IDC ***25*** *06:28:01.3±0.7, 36.°07N×68.°76E, h0km, mb4.1/19, mbtmp4.1/24, ML3.8/5, MS3.9/4, Error ellipse: s-maj=15.5km s-min=13.5km az=18.0*
MOS ***25*** *06:28:06.7±1.2, 36.°36N×68.°62E, h51km, mb4.4/11, Error ellipse: s-maj=7.2km s-min=5.0km az=85.7*
BJI ***25*** *06:28:07.7, 36.°41N×68.°77E, h49km, mb4.5/18, mB4.9/4, ML4.2/3, Ms3.8/4, Ms7 3.4/4*
NNC ***25*** *06:28:08.9±3.8, 36.°74N×68.°71E, h0km, mb4.9, mpv4.5, Error ellipse: s-maj=32.0km s-min=28.2km az=154.0*
NEIC ***25*** *06:28:08.5±1.5, 36.°29N±0.°03×68.°69E±0.°05, h42km±7km, mb4.4/32, Error ellipse: s-maj=6.8km s-min=1.4km az=120.0*

ISC 25 06:28:05.8±0.3, 36°.28N±0°.04×68°.69E±0°.04, h24km, n141, σ1°89/158, mb4.3/43, MS4.0/4, 6C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.75**	**170**	Pn	**Pb**	**06 28 37.5**	**0.0**
KBL				Sn	**Sb**	**06 29 01.8**	**+2.7**
KBL	**Kabul**	**1.75**	**170**	PN	**Pb**	**06 28 37.5**	**0.0**
KBL						06 29 01.8	
SIMJ	**Simiganj**	**2.39**	**6**	Pn	**Pn**	**06 28 45.1**	**+1.5**
GAR	**Garm**	**3.01**	**25**	Pn	**Pn**	**06 28 54.4**	**+2.3**
DRK	**Karamyk**	**4.04**	**37**	Pn	**Pn**	**06 29 09.5**	**+3.1**
DRK	**Karamyk**	**4.04**	**37**	PN	**Pn**	**06 29 09.5**	**+3.1**
BTK	**Batken**	**4.13**	**23**		**Pn**	**06 29 10.2**	**+2.7**
BTK	**Batken**	**4.13**	**23**	PN	**Pn**	**06 29 10.2**	**+2.7**
NIL	**Nilore**	**4.57**	**124**		**Pn**	**06 29 17.4**	**+3.9**
NIL	**Nilore**	**4.57**	**124**	PN	**Pn**	**06 29 17.4**	**+3.9**
HRA	**Herat**	**5.59**	**252**	Pn	**Pn**	**06 29 30.2**	**+2.5**
ARSB	**Arslanbob**	**6.05**	**32**	Pn	**Pn**	**06 29 35.5**	**+1.5**
ARSB	**Arslanbob**	**6.05**	**32**	PN	**Pn**	**06 29 35.5**	**+1.5**
JMU	**Jammu**	**6.24**	**123**	*e*S	**Sn**	**06 30 48.0**	**+1.2**
JMU				IAML		06 31 17.9	
	comp=E,454nm,1.0s						
JMU				IAML		06 31 22.5	
	comp=N,513nm,0.8s						
KSH	**Kashi**	**6.61**	**58**	P	**Pn**	**06 29 39.0**	**-2.5**
KSH				S	**Sn**	**06 30 49.4**	**-6.7**
KSH				smax	smax		
	comp=N,160nm,0.7s						
KSH				smax	smax		
	comp=N,160nm,0.8s						
THN	**Thein Dam**	**6.96**	**121**	*e*P	**Pn**	**06 29 49.2**	**+3.0**
THN				*e*S	**Sn**	**06 31 05.3**	**+0.7**
THN				IAML		06 31 49.8	
	comp=N,267nm,0.3s						
THN				IAML		06 31 50.3	
	comp=E,224nm,0.5s						
KK31	**Karatay Array**	**6.96**	**11**	Pn	**Pn**	**06 29 47.4**	**+1.1**
	comp=E,6.9nm,0.3s,baz=200,slow=15,SNR=158						
KK31				⇑Sn	**Sn**	**06 31 02.9**	**-1.8**
	comp=E,18nm,0.3s,baz=194,slow=26						
KK31				⇑Lg	Lg	06 31 39.0	
	comp=E,38nm,0.5s						
KKAR	**Karatay Array**	**6.96**	**11**		**Pn**	**06 29 47.8**	**+1.5**
KKAR	**Karatay Array**	**6.96**	**11**	PN	**Pn**	**06 29 47.8**	**+1.5**
AML	**Almayashu**	**7.02**	**32**	P	**Pn**	**06 29 48.7**	**+1.3**
	SNR=42						
DHRM	**DHARAMSHALA**	**7.47**	**120**	*e*P	**Pn**	**06 29 54.9**	**+1.4**
DHRM				*e*S	**Sn**	**06 31 21.0**	**+3.4**
DHRM				IAML		06 31 39.7	
	comp=E,261nm,0.8s						
DHRM				IAML		06 32 03.4	
	comp=E,580nm,0.2s						
EKS2	**Erkin-Say**	**7.49**	**30**	P	**Pn**	**06 29 54.8**	**+1.1**
	SNR=10						
NRN	**Naryn**	**7.68**	**46**		**Pn**	**06 29 56.9**	**+0.4**
NRN	**Naryn**	**7.68**	**46**	P	**Pn**	**06 29 56.9**	**+0.4**
AAK	**Ala-Archa**	**7.78**	**33**	Pn	**Pn**	**06 29 59.5**	**+1.9**
AAK	**Ala-Archa**	**7.78**	**33**	Pn	**Pn**	**06 29 59.1**	**+1.5**
	comp=E,7.1nm,0.3s,baz=182,slow=5.8,SNR=36						
AAK				Sn	**Sn**	**06 31 24.9**	**-0.1**
	comp=E,2.7nm,0.3s,baz=198,slow=20,SNR=1.4						
	comp=E,22nm,0.4s						
AAK	**Ala-Archa**	**7.78**	**33**	P	**Pn**	**06 29 59.5**	**+1.9**
FRU1	**Bishkek**	**7.98**	**33**		**Pn**	**06 30 01.8**	**+1.5**
FRU1	**Bishkek**	**7.98**	**33**	P	**Pn**	**06 30 01.8**	**+1.5**
KBK	**Karagaybulak**	**8.00**	**35**	P	**Pn**	**06 30 03.9**	**+3.2**
	SNR=7.7						
BHK	**Bhakra**	**8.05**	**125**	*e*P	**Pn**	**06 30 04.7**	**+3.5**
BHK				*ex*	x	06 31 34.2	
BHK				IAML		06 31 38.0	
	comp=E,66nm,0.3s						
BHK				IAML		06 31 50.5	
	comp=E,74nm,0.3s						
CHMS	**Chumysh**	**8.18**	**33**	P	**Pn**	**06 30 04.9**	**+1.9**
	SNR=13						
CHMS	**Chumysh**	**8.18**	**33**	⇑Pn	**Pn**	**06 30 04.5**	**+1.4**
	comp=E,51nm,0.9s						
CHMS				⇑Sn	**Sn**	**06 31 32.1**	**-2.6**
	comp=E,42nm,0.6s						
USP	**Ospenovka**	**8.29**	**31**	P	**Pn**	**06 30 06.0**	**+1.5**
	SNR=7.6						
ULHL	**Ulahol**	**8.36**	**42**	P	**Pn**	**06 30 07.1**	**+1.5**
	SNR=15						
TKM2	**Tokmak 2**	**8.51**	**37**	P	**Pn**	**06 30 09.0**	**+1.2**
	SNR=9.3						
TKM2	**Tokmak 2**	**8.51**	**37**	⇑Pn	**Pn**	**06 30 08.6**	**+0.9**
	comp=E,11nm,0.5s						
TKM2				⇑Sn	**Sn**	**06 31 41.2**	**-1.9**
	comp=E,36nm,0.8s						
SMLA	**Simla**	**8.73**	**124**	*e*P	**Pn**	**06 30 12.0**	**+1.5**
SMLA				*e*S	**Sn**	**06 31 49.4**	**+1.3**
SMLA				IAML		06 31 53.5	
	comp=E,104nm,0.7s						
SMLA				IAML		06 31 53.6	
	comp=E,112nm,0.6s						
KDJ	**Kajisay**	**8.81**	**46**	Pn	**Pn**	**06 30 12.8**	**+1.0**
KDJ	**Kajisay**	**8.81**	**46**	P	**Pn**	**06 30 12.8**	**+1.0**
HNLY	**HANLEY**	**9.17**	**109**	*e*P	**Pn**	**06 30 19.5**	**+2.4**
HNLY				*e*S	**Sn**	**06 31 59.2**	**-0.7**
HNLY				IAML		06 32 45.2	
	comp=E,10nm,0.8s						
HNLY				IAML		06 33 18.2	
	comp=E,24nm,1.0s						
KLP	**Kalpa**	**9.24**	**118**	*e*P	**Pn**	**06 30 20.5**	**+2.6**
KLP				*e*S	**Sn**	**06 32 01.6**	**+0.2**
KLP				IAML		06 33 03.7	
	comp=N,150nm,1.1s						
KLP				IAML		06 33 06.2	
	comp=E,132nm,0.7s						
MDOK	**Medeo**	**9.42**	**41**	Pn	**Pn**	**06 30 20.8**	**+0.6**
	comp=E,20nm,0.7s						
WUS	**Wushi**	**9.58**	**56**		**Pn**	**06 30 23.1**	**+0.8**
KUDL	**Kundal**	**10.45**	**139**	*e*P	**Pn**	**06 30 33.5**	**-0.7**
KUDL				*e*S	**Sn**	**06 32 24.6**	**-5.9**
KUDL				IAML		06 32 35.2	
	comp=N,22nm,0.8s						
KUDL				IAML		06 32 40.2	
	comp=E,28nm,0.5s						
JOSI	**Joshimath**	**10.72**	**119**	*e*P	**Pn**	**06 30 39.4**	**+1.3**
JOSI				*e*S	**Sn**	**06 32 37.8**	**+0.4**
JOSI				IAML		06 32 43.0	
	comp=E,67nm,0.6s						
JOSI				IAML		06 32 43.4	
	comp=N,57nm,0.8s						
AJM	**Ajmer**	**11.01**	**151**	*e*S	**Sn**	**06 32 40.9**	**-3.3**
AJM				IAML		06 32 41.5	
	comp=E,13nm,0.2s						
AJM				IAML		06 32 48.2	
	comp=N,15nm,0.9s						
AB31	**Akbulak array**	**14.46**	**336**	⇓Pn	**Pn**	**06 31 26.2**	**-2.7**
	comp=N,13nm,0.5s,baz=154,slow=12,SNR=273						
ABKAR	**Akbulak array**	**14.46**	**336**		**Pn**	**06 31 26.6**	**-2.3**
MAKZ	**Makanchi**	**14.46**	**39**	Pn	**Pn**	**06 31 28.3**	**-0.6**
MAKZ	**Makanchi**	**14.46**	**39**	P	**Pn**	**06 31 28.3**	**-0.6**
MK31	**Makanchi Array**	**14.61**	**40**		**Pn**	**06 31 30.3**	**-0.7**
MK31	**Makanchi Array**	**14.61**	**40**	P	**Pn**	**06 31 30.3**	**-0.7**
MKAR	**Makanchi Array**	**14.61**	**40**	Pn	**Pn**	**06 31 29.2**	**-1.8**
	comp=N,0.3nm,0.3s,baz=218,slow=14,SNR=16						
	comp=N,4.0nm,0.8s						
BHPL	**Bhopal**	**15.03**	**147**	*e*P	**Pn**	**06 31 34.1**	**-2.6**
BHPL				*i* x	x	06 31 43.2	
BHPL				*e*S	**Sn**	**06 34 14.4**	**-8.1**
KURBB	**Kurchatov Arra**	**16.00**	**23**	Pn	**Pn**	**06 31 45.8**	**-3.3**
	baz=214,slow=13,SNR=3.1						
KURBB				Lg	Lg	06 36 35.9	
	baz=219,slow=32						
	comp=N,0.7nm,0.7s						
KURK	**Kurchatov**	**16.11**	**23**		**Pn**	**06 31 50.9**	**+0.4**
KURK	**Kurchatov**	**16.11**	**23**	*i* P	**Pn**	**06 31 51.9**	**+1.4**
AKTO	**Aktyubinsk**	**16.12**	**335**	Pn	**Pn**	**06 31 49.1**	**-1.6**
	comp=N,2.0nm,0.3s,baz=149,slow=13,SNR=23						
AKTO				Lg	Lg	06 36 36.2	
	comp=N,0.2nm,0.3s,baz=187,slow=21,SNR=1.5						
	comp=N,6.1nm,0.4s						
WMQ	**Urumqi**	**16.37**	**57**	*e*P	**P**	**06 31 58.3**	**+1.6**
WMQ				PP	**sP**	**06 32 11.6**	**+5.0**
WMQ				pmax	pmax		
	comp=N,

comp=Z,4.0nm,1.0s
GTA Gaotai 24.72 73 eP P 06 33 26.5 +1.2
GTA pP sP 06 33 37.3 +1.7
GTA pmax pmax
comp=Z,6.0nm,1.2s
KIRV Kirov 25.66 336 i P P 06 33 32.8 -0.7
BRTR Keskin Array B 27.73 288 P P 06 33 55.3 +2.8
comp=Z,0.6nm,0.6s,baz=83,slow=10,SNR=3.8
MOS Moscow 28.68 323 i P P 06 33 57.9 -2.7
MOS pmax pmax
comp=Z,33nm,0.7s
MOS MLR MLR
comp=Z,400nm,22.0s
PZH PanZhiHua 29.73 100 P P 06 34 12.0 +1.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
SONM Songino Array 30.00 56 P P 06 34 10.5 -2.1
SONM Songino Array 30.00 56 P P 06 34 13.2 +0.6
comp=Z,3.5nm,0.8s,baz=266,slow=8.7,SNR=14
comp=Z,3.5nm,0.8s
ISP Isparta 30.36 285 P P 06 34 15.2 -0.7
ISP IAmb IAmb 06 34 30.8
comp=Z,22nm,1.1s
ISP Isparta 30.36 285 P P 06 34 15.2 -0.7
ISP pmax pmax
comp=Z,22nm,1.1s
ULN Ulaanbaatar 30.44 56 P P 06 34 15.8 -0.8
ULN Ulaanbaatar 30.44 56 i P P 06 34 16.2 -0.3
ULN pmax pmax
comp=Z,19nm,2.9s
ELL Elmali 31.03 283 P P 06 34 21.4 -0.4
ELL Elmali 31.03 283 P P 06 34 21.4 -0.4
ELL pmax pmax
comp=Z,69nm,0.8s
CMAR Chiang Mai Arr 32.01 116 P P 06 34 30.0 -0.5
comp=Z,1.5nm,0.3s,baz=294,slow=8.3,SNR=7.8
comp=Z,1.5nm,0.3s
CMAR Chiang Mai Arr 32.01 116 i P P 06 34 31.5 +1.0
CMAR pmax pmax
comp=Z,1.0nm,0.3s
HHC Hu-ho-hao-te 33.59 69 eP P 06 34 46.0 +1.8
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,79nm,3.7s
NRIK Noril'sk 34.70 12 P P 06 34 55.4 +2.0
comp=Z,1.7nm,0.5s,baz=114,slow=4.9,SNR=1.7
comp=Z,1.7nm,0.5s
LIT Litokhoron 36.20 290 P P 06 35 06.2 -0.4
LIT Litokhoron 36.20 290 P P 06 35 06.2 -0.4
LIT pmax pmax
comp=Z,47nm,1.0s
ITM Ithomi 37.19 286 P P 06 35 14.7 -0.5
ARCES ARCESS Array B 40.65 338 P P 06 35 43.9 +0.3
comp=Z,4.6nm,0.7s,baz=127,slow=10,SNR=2.5
comp=Z,4.6nm,0.7s
HFS Hagfors 42.10 322 P P 06 35 56.3 +0.7
comp=Z,2.7nm,0.6s,baz=97,slow=12,SNR=0.5
HFS LR LR 06 55 02.9
comp=Z,174nm,18.3s,baz=42,slow=38
comp=Z,2.7nm,0.6s
IPM Ipoh 43.41 129 P P 06 36 06.4 -0.4
NB2 NORSAR Subarra 43.44 323 P P 06 36 06.7 +0.1
comp=Z,5.9nm,0.8s,baz=98,slow=8.6
NOA NORSAR Array B 43.44 323 P P 06 36 06.9 +0.3
comp=Z,2.8nm,1.1s,baz=176,slow=10,SNR=1.6
NOA LR LR 06 57 40.2
comp=Z,81nm,19.1s,baz=335,slow=41
comp=Z,2.8nm,1.1s
PSI Prapat 43.45 133 P P 06 36 06.8 -0.4
PSI pmax pmax
comp=Z,10.0nm,0.8s
RPSI Rantau Prapat 43.54 133 P P 06 36 06.8 -0.9
RPSI IAmb IAmb 06 36 07.0
comp=Z,10nm,0.8s
HEH HeiHe 43.86 52 eP P 06 36 10.5 +0.5
HEH pmax pmax
comp=Z,14nm,0.8s
KSRS Korea Array 46.71 70 P P 06 36 32.3 -0.5
comp=Z,2.0nm,0.6s,baz=273,slow=6.9,SNR=10
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 51.15 316 P P 06 37 06.8 +0.2
comp=Z,1.2nm,0.7s,baz=72,slow=8.0,SNR=1.8
comp=Z,1.2nm,0.7s
MJAR Matsushiro Ar 54.77 67 P P 06 37 32.9 -0.7
comp=Z,1.8nm,0.7s,baz=304,slow=9.2,SNR=5.3
comp=Z,1.8nm,0.7s
ESDC Sonseca Array 55.91 297 P P 06 37 42.1 +0.4
comp=Z,0.7nm,0.7s,baz=57,slow=6.9,SNR=5.5
comp=Z,0.7nm,0.7s
TORD Torodi Ar. Bea 63.85 267 P P 06 38 37.1 +0.5
TORD IAmb IAmb 06 38 49.0
comp=Z,2.8nm,1.1s
TORD Torodi Ar. Bea 63.85 267 P P 06 38 36.5 -0.1
comp=Z,0.6nm,0.4s,baz=50,slow=6.5,SNR=6.3
comp=Z,0.6nm,0.4s
A36M Sachs Harbour 71.59 5 P P 06 39 25.6 +1.1
A36M IAmb IAmb 06 39 50.3
comp=Z,4.4nm,0.8s
LBTB Lobatse 73.28 220 P P 06 39 35.6 +0.3
LBTB IAmb IAmb 06 39 46.2
comp=Z,6.0nm,1.1s
LBTB Lobatse 73.28 220 P P 06 39 35.6 +0.3
LBTB pmax pmax
comp=Z,6.0nm,1.2s
BMAR Burnt Mountain 73.58 13 P P 06 39 35.9 -0.7
E29M Blow River 73.77 10 P P 06 39 38.0 +0.5
C36M Paulatuk 74.27 5 P P 06 39 40.7 +0.3
C36M IAmb IAmb 06 39 40.9
comp=Z,3.1nm,0.8s
INK Inuvik 74.41 8 P P 06 39 41.8 +0.5
INK Inuvik 74.41 8 P P 06 39 41.8 +0.5
INK pmax pmax
comp=Z,2.0nm,1.0s
F31M Tsiigehtchic 75.21 9 P P 06 39 46.5 +0.6
F31M IAmb IAmb 06 40 05.9
comp=Z,2.0nm,0.8s
ILAR Eielson Array 75.49 15 P P 06 39 48.3 +0.7
comp=Z,0.3nm,0.8s,baz=298,slow=4.1,SNR=2.1
comp=Z,0.3nm,0.8s
G31M Satah River 75.64 9 P P 06 39 48.7 +0.4
G31M IAmb IAmb 06 39 49.3
comp=Z,3.1nm,0.9s
PPLA Purkeypile 75.89 18 P P 06 39 49.6 -0.5
PPLA IAmb IAmb 06 39 51.4
comp=Z,10nm,1.1s
BOSA Boshof 76.39 218 P P 06 39 52.5 -0.7
BOSA Boshof 76.39 218 P P 06 39 52.6 -0.7
BOSA pmax pmax
comp=Z,2.0nm,1.1s
KNRA Kununurra 76.69 121 P P 06 39 54.4 -0.7
KNRA IAmb IAmb 06 40 11.4
comp=Z,7.4nm,1.1s
YKA Yellowknife Ar 81.54 2 P P 06 40 20.7 -0.2
comp=Z,0.4nm,0.7s,baz=351,slow=5.4,SNR=6.2
comp=Z,0.4nm,0.7s
YKA Yellowknife Ar 81.54 2 i P P 06 40 21.3 +0.4
SUR Sutherland 81.68 219 LR LR 07 17 45.2
comp=Z,383nm,21.1s,baz=167,slow=37
WRA Warramunga Arr 83.47 120 P P 06 40 29.1 -2.5
comp=Z,1.6nm,0.6s,baz=322,slow=4.8,SNR=17
comp=Z,1.6nm,0.6s
ASAR Alice Springs 85.67 123 P P 06 40 40.7 -2.0
comp=Z,1.3nm,0.6s,baz=312,slow=5.0,SNR=17
comp=Z,1.3nm,0.6s
PLCA Paso Flores 148.00 249 PKPbc PKPbc 06 47 48.1 -1.0
comp=Z,5.0nm,1.1s,baz=107,slow=6.3,SNR=4.8

TRN 25 06:35:48.3, 11°.21N×61°.81W, h64km, MD3.8, North-west of Trinidad., Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.68**	**145**	*eP*	Pn	06 36 02.6	+0.1
TRN				*eS*	Sn	06 36 13.1	0.0
GRFF	**Grenada Fort F**	**0.84**	**4**	*eP*	Pn	06 36 04.3	-0.2
GRFF				*eS*	Sn	06 36 16.2	-0.2
GRGR	**Grenville**	**0.93**	**9**	*eP*	Pn	06 36 05.4	-0.2
GRGR				*eS*	Sn	06 36 17.9	-0.5
GRW	**Mount Saint Ca**	**0.95**	**8**	*eP*	Pn	06 36 06.1	+0.1
GRW				*eS*	Sn	06 36 20.0	+0.9
GRHS	**Sauteurs**	**1.02**	**9**	*eP*	Pn	06 36 06.5	-0.2
GRHS				*eS*	Sn	06 36 20.5	+0.1
TBH	**Brigand Hill**	**1.02**	**135**	*eP*	Pn	06 36 07.1	+0.4
GRSS	**Sisters**	**1.10**	**10**	*eP*	Pn	06 36 08.3	+0.5
GRSS				*eS*	Sn	06 36 23.1	+0.8
TOSP	**Speyside**	**1.25**	**86**	*eP*	Pn	06 36 10.1	+0.4
TOSP				*eS*	Sn	06 36 25.9	+0.1
GCMP	**Grenada, Carri**	**1.32**	**16**	*eP*	Pn	06 36 10.6	-0.1
GCMP				*eS*	Sn	06 36 27.1	-0.4
SVOC	**Richmond Hill,**	**2.02**	**16**	*eP*	Pn	06 36 20.1	+0.1
SVOC				*eS*	Sn	06 36 43.6	-0.6
SVT	**Saint Vincent**	**2.02**	**16**	*eP*	Pn	06 36 21.1	+0.9
SVT				*eS*	Sn	06 36 44.4	0.0
SVB	**Belmont**	**2.12**	**15**	*eP*	Pn	06 36 21.9	+0.4
SVB				*eS*	Sn	06 36 46.1	-0.7
MCLT	**Moule a Chique**	**2.62**	**19**	*eP*	Pn	06 36 28.4	+0.1
MCLT				*eS*	Sn	06 36 59.0	-0.1
SLAC	**Saint Lucia, A**	**2.81**	**18**	*eP*	Pn	06 36 31.3	+0.3
SLAC				*eS*	Sn	06 37 02.9	-0.8
SLBI	**Saint Lucia, B**	**2.91**	**16**	*eP*	Pn	06 36 32.1	-0.1
SLBI				*eS*	Sn	06 37 05.3	-0.8
PCRV	**Puerto La Cruz**	**2.97**	**250**	*eP*	Pn	06 36 34.3	+1.3
PCRV				*eS*	Sn	06 37 07.1	-0.3
BIM	**Bigot**	**3.37**	**12**	*eP*	Pn	06 36 38.7	+0.2
BIM				*eS*	Sn	06 37 15.9	-1.3
DSLB	**Salisbury**	**4.22**	**5**	*eP*	Pn	06 36 50.7	+0.6
TBG	**Guadaloupe-3**	**4.62**	**2**	*eP*	Pn	06 36 56.7	+1.1
ANBD	**Bethesda, Anti**	**5.80**	**0**	*eP*	Pn	06 37 13.4	+1.6
BAUV	**El Baul**	**6.54**	**250**	*eP*	Pn	06 37 21.8	-0.2
BAUV				*eS*	Sn	06 38 31.1	-4.1

*NOU **25** 06:46:27.8, 39°.61S×174°.46E, h125km, MLv3.5/11, North Island, New Zealand*
*WEL **25** 06:46:28.4±0.6, 40°.5±3°.5×17°.4E±°, h125km±5km, M3.3/40, ML3.3/6, MLv3.3/40, Error ellipse: s-maj=4.7km s-min=3.8km az=91.3, confirmed*
ISC 25 06:46:26.1±1.6, 39°.60S±0°.04×174°.41E±0°.04, h147km±9km, n111, σ0s99/131, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LREZ	**Lake Rotokare**	**0.14**	**358**	P	**Pn**	**06 46 45.9**	**-0.1**
LREZ				S	**Sn**	**06 47 00.4**	**-0.5**
PREZ	**Palmer Road**	**0.32**	**323**	P	**Pn**	**06 46 46.7**	**+0.3**
NEZ	**North Egmont**	**0.41**	**323**	P	**Pn**	**06 46 47.4**	**+0.6**
KHEZ	**Kahui Hut**	**0.43**	**315**	P	**Pn**	**06 46 47.4**	**+0.4**
KHEZ	**Kahui Hut**	**0.43**	**315**	P	**Pn**	**06 46 46.9**	**0.0**
DREZ	**Durham Road**	**0.44**	**338**	P	**Pn**	**06 46 47.3**	**+0.5**
WAZ	**Wanganui**	**0.47**	**110**	P	**Pn**	**06 46 49.8**	**+2.9**
WAZ				S	**Sn**	**06 47 04.7**	**+1.8**
PKE	**Pukeiti**	**0.52**	**321**	P	**Pn**	**06 46 47.6**	**+0.3**
MHEZ	**Mangahewa**	**0.53**	**353**	P	**Pn**	**06 46 47.9**	**+0.7**
NBEZ	**Newall Road No**	**0.53**	**308**	P	**Pn**	**06 46 47.8**	**+0.5**
VRZ	**Vera Road**	**0.55**	**30**	P	**Pn**	**06 46 47.5**	**+0.1**
PKVZ	**Pokaka**	**0.79**	**67**	P	**Pn**	**06 46 49.4**	**+0.4**
MTVZ	**Mangateitei**	**0.85**	**76**	P	**Pn**	**06 46 49.9**	**+0.4**
OHWZ	**Ohakea**	**0.92**	**131**	P	**Pn**	**06 46 51.5**	**+1.5**
OHWZ				S	**Sn**	**06 47 08.5**	**+0.3**
FWVZ	**Far West T-bar**	**0.95**	**69**	P	**Pn**	**06 46 50.9**	**+0.4**
MAVZ	**Matarangi**	**0.95**	**70**	P	**Pn**	**06 46 50.8**	**+0.2**
MAVZ				S	**Sn**	**06 47 07.9**	**-1.2**
TWVZ	**Taurewa**	**0.95**	**57**	P	**Pn**	**06 46 50.7**	**+0.3**
TWVZ				S	**Sn**	**06 47 07.7**	**-1.0**
WNVZ	**Wahianoa**	**0.96**	**74**	P	**Pn**	**06 46 51.0**	**+0.5**
WNVZ				S	**Sn**	**06 47 08.3**	**-0.6**
COVZ	**Chateau Observ**	**0.96**	**66**	P	**Pn**	**06 46 50.8**	**+0.4**
COVZ				S	**Sn**	**06 47 08.1**	**-0.8**
WHVZ	**Whangaehu Hut**	**0.97**	**71**	P	**Pn**	**06 46 51.0**	**+0.4**
NGZ	**Ngauruhoe**	**1.01**	**66**	P	**Pn**	**06 46 51.5**	**+0.6**
TUVZ	**Tukino**	**1.02**	**72**	P	**Pn**	**06 46 51.7**	**+0.8**
WTVZ	**West Tongariro**	**1.03**	**63**	P	**Pn**	**06 46 51.6**	**+0.5**
WTVZ				S	**Sn**	**06 47 09.6**	**-0.4**
SNVZ	**South Ngauruho**	**1.04**	**67**	P	**Pn**	**06 46 51.8**	**+0.7**
NNVZ	**North Ngauruho**	**1.04**	**64**	P	**Pn**	**06 46 51.8**	**+0.6**
MOVZ	**Moawhango**	**1.06**	**80**	P	**Pn**	**06 46 51.5**	**+0.3**
MOVZ				S	**Sn**	**06 47 08.5**	**-1.8**
OTVZ	**Oturere**	**1.06**	**66**	P	**Pn**	**06 46 52.1**	**+0.7**
OTVZ				S	**Sn**	**06 47 09.7**	**-0.9**
KRVZ	**Karewarewa**	**1.08**	**63**	P	**Pn**	**06 46 52.0**	**+0.6**
KRVZ				S	**Sn**	**06 47 10.4**	**-0.3**
NTVZ	**North Tongarir**	**1.10**	**63**	P	**Pn**	**06 46 52.3**	**+0.7**
ETVZ	**East Tongariro**	**1.11**	**66**	P	**Pn**	**06 46 52.5**	**+0.8**
TMVZ	**Te Maari**	**1.11**	**65**	P	**Pn**	**06 46 52.5**	**+0.8**
HIZ	**Hauiti**	**1.14**	**18**	P	**Pn**	**06 46 52.0**	**+0.2**
HIZ				S	**Sn**	**06 47 10.2**	**-1.2**
HIZ	**Hauiti**	**1.14**	**18**	P	**Pn**	**06 46 51.9**	**0.0**
KATZ	**Kakaramea**	**1.18**	**58**	P	**Pn**	**06 46 53.1**	**+0.8**
DUWZ	**D'Urville Isla**	**1.26**	**197**	P	**Pn**	**06 46 53.9**	**+0.9**
DUWZ				S	**Sn**	**06 47 12.6**	**-1.0**
TSZ	**Takapari Road**	**1.28**	**112**	P	**Pn**	**06 46 53.9**	**+0.7**
RITZ	**Rihia Road**	**1.28**	**62**	P	**Pn**	**06 46 53.6**	**+0.3**
RATZ	**Rangitukua**	**1.29**	**56**	P	**Pn**	**06 46 54.6**	**+1.3**
POWZ	**Post Office Ro**	**1.31**	**128**	P	**Pn**	**06 46 54.4**	**+0.9**
KIW	**Kapiti Island**	**1.32**	**163**	P	**Pn**	**06 46 54.4**	**+0.9**
OGWZ	**Otaki Gorge**	**1.35**	**155**	P	**Pn**	**06 46 55.0**	**+1.1**
WATZ	**Wairara**	**1.36**	**50**	P	**Pn**	**06 46 55.1**	**+1.0**
MRZ	**Mangatainoka R**	**1.39**	**140**	P	**Pn**	**06 46 55.3**	**+1.0**
DVHS	**Dannevirke Hig**	**1.43**	**115**	P	**Pn**	**06 46 54.5**	**-0.2**
KRHZ	**Kereru**	**1.52**	**92**	P	**Pn**	**06 46 56.4**	**+0.7**
DVHZ	**Dannevirke**	**1.52**	**118**	P	**Pn**	**06 46 56.6**	**+0.9**
DVHZ				S	**Sn**	**06 47 16.4**	**-1.9**
PRWZ	**Pori Road**	**1.53**	**129**	P	**Pn**	**06 46 57.1**	**+1.3**
PRWZ				S	**Sn**	**06 47 17.3**	**-1.2**
TLZ	**Tolley Road**	**1.54**	**35**	P	**Pn**	**06 46 56.4**	**+0.4**
HOWZ	**Holdsworth Sta**	**1.55**	**147**	P	**Pn**	**06 46 56.9**	**+1.0**
HOWZ				S	**Sn**	**06 47 16.9**	**-2.0**
KUTZ	**Kaahu Road**	**1.56**	**45**	P	**Pn**	**06 46 57.4**	**+1.2**
KWHZ	**Kaweka Forest**	**1.57**	**84**	P	**Pn**	**06 46 57.3**	**+1.1**
TCW	**Tory Channel**	**1.61**	**184**	P	**Pn**	**06 46 57.5**	**+0.9**
TIWZ	**Tintock**	**1.63**	**137**	P	**Pn**	**06 46 58.0**	**+1.1**
TIWZ				S	**Sn**	**06 47 20.2**	**-0.3**
WPHZ	**Waipukurau**	**1.63**	**107**	P	**Pn**	**06 46 57.9**	**+1.1**
WPHZ				S	**Sn**	**06 47 19.0**	**-1.4**
BKZ	**Black Stump Fm**	**1.67**	**76**	P	**Pn**	**06 46 57.7**	**+0.4**
BKZ	**Black Stump Fm**	**1.67**	**76**	P	**Pn**	**06 46 57.4**	**0.0**
SNZO	**South Karori**	**1.73**	**173**	P	**Pn**	**06 46 58.3**	**+0.5**
MRHZ	**Matea Rd**	**1.74**	**65**	P	**Pn**	**06 46 58.3**	**+0.2**
WPRZ	**Whakapapatarin**	**1.74**	**52**	P	**Pn**	**06 46 59.0**	**+0.9**
MTW	**Mount Morrison**	**1.77**	**152**	P	**Pn**	**06 46 59.1**	**+0.7**
BFZ	**Birch Farm**	**1.78**	**128**	P	**Pn**	**06 46 59.3**	**+0.9**
BFZ	**Birch Farm**	**1.78**	**128**	P	**Pn**	**06 46 59.2**	**+0.8**
MCHZ	**McNeill Hill**	**1.78**	**86**	P	**Pn**	**06 47 00.1**	**+1.6**
ANWZ	**Angora Road**	**1.80**	**119**	P	**Pn**	**06 47 00.1**	**+1.3**
ANWZ				S	**Sn**	**06 47 22.4**	**-1.4**
GRRZ	**Galatos Road**	**1.82**	**47**	P	**Pn**	**06 47 00.4**	**+1.4**
ALRZ	**Allen Road**	**1.83**	**56**	P	**Pn**	**06 46 59.7**	**+0.6**
PRHZ	**Porangahau**	**1.84**	**112**	P	**Pn**	**06 47 00.3**	**+1.2**
BHW	**Baring Head**	**1.84**	**169**	P	**Pn**	**06 46 59.8**	**+0.6**
QRZ	**Quartz Range**	**1.89**	**229**	P	**Pn**	**06 47 00.2**	**+0.4**
QRZ				S	**Sn**	**06 47 24.2**	**-1.4**
QRZ	**Quartz Range**	**1.89**	**229**	P	**Pn**	**06 47 00.0**	**+0.2**
HRRZ	**Handcock Road**	**1.89**	**51**	P	**Pn**	**06 47 01.0**	**+1.1**
CPWZ	**Castlepoint**	**1.90**	**134**	P	**Pn**	**06 47 01.5**	**+1.7**
KAHZ	**Kahuranaki**	**1.91**	**97**	P	**Pn**	**06 47 01.3**	**+1.2**
HSRZ	**Hossack Road**	**1.92**	**49**	P	**Pn**	**06 47 01.5**	**+1.3**
NMHZ	**Naumai**	**1.93**	**76**	P	**Pn**	**06 47 01.7**	**+1.5**
PXZ	**Pawanui**	**1.94**	**104**	P	**Pn**	**06 47 01.3**	**+1.0**
UTU	**Utuhina**	**1.99**	**45**	P	**Pn**	**06 47 02.5**	**+1.6**
MTHZ	**Maungataniwha**	**2.03**	**69**	P	**Pn**	**06 47 01.8**	**+0.4**
ARHZ	**Aropaoanui**	**2.03**	**81**	P	**Pn**	**06 47 02.5**	**+1.1**
NGRZ	**Ngongotaha**	**2.04**	**43**	P	**Pn**	**06 47 03.0**	**+1.4**
TOZ	**Tahuroa Road**	**2.05**	**25**	P	**Pn**	**06 47 01.9**	**+0.3**
CKHZ	**Cape Kidnapper**	**2.06**	**93**	P	**Pn**	**06 47 02.9**	**+1.2**
OMRZ	**Omania**	**2.14**	**46**	P	**Pn**	**06 47 03.9**	**+1.1**
MUGZ	**Murupara**	**2.15**	**59**	P	**Pn**	**06 47 03.0**	**+0.1**
RAHZ	**Arahi**	**2.19**	**73**	P	**Pn**	**06 47 04.3**	**+1.0**
RTZ	**Ruatahuna**	**2.23**	**65**	P	**Pn**	**06 47 04.0**	**+0.2**
WHHZ	**Waihua**	**2.25**	**78**	P	**Pn**	**06 47 04.9**	**+0.9**
TGRZ	**Tauranga**	**2.36**	**38**	P	**Pn**	**06 47 06.5**	**+1.1**
SNGZ	**Shannon Statio**	**2.42**	**71**	P	**Pn**	**06 47 06.7**	**+0.6**
OPRZ	**Ohinepanea**	**2.42**	**44**	P	**Pn**	**06 47 07.8**	**+1.7**
URZ	**Urewera**	**2.50**	**58**	P	**Pn**	**06 47 07.0**	**0.0**
URZ	**Urewera**	**2.50**	**58**	P	**Pn**	**06 47 06.7**	**-0.3**
AWAZ	**Awhitu Peninsu**	**2.54**	**4**	P	**Pn**	**06 47 08.7**	**+1.2**
MKAZ	**Moumakai**	**2.56**	**14**	P	**Pn**	**06 47 08.7**	**+0.9**
RAGZ	**Rawiri**	**2.59**	**66**	P	**Pn**	**06 47 08.4**	**+0.1**
KNZ	**Kokohu**	**2.60**	**78**	P	**Pn**	**06 47 08.3**	**+0.1**
ETAZ	**East Tamaki Re**	**2.67**	**9**	P	**Pn**	**06 47 08.7**	**-0.5**
MWZ	**Matawai**	**2.74**	**64**	P	**Pn**	**06 47 10.0**	**-0.1**
RIGZ	**Rimuhau**	**2.75**	**72**	P	**Pn**	**06 47 10.6**	**+0.3**
PRGZ	**Paritu Road**	**2.78**	**77**	P	**Pn**	**06 47 10.8**	**+0.2**
WIAZ	**Waiheke Island**	**2.86**	**12**	P	**Pn**	**06 47 13.1**	**+1.5**
KHZ	**Kahutara**	**2.89**	**193**	P	**Pn**	**06 47 12.3**	**+0.4**
TKGZ	**Te Karaka**	**2.92**	**68**	P	**Pn**	**06 47 12.5**	**+0.2**
TWGZ	**Tauwhareparae**	**3.13**	**64**	P	**Pn**	**06 47 15.4**	**+0.4**
CNGZ	**Carnagh Statio**	**3.16**	**71**	P	**Pn**	**06 47 15.6**	**+0.2**
WCZ	**Waipu Caves**	**3.65**	**359**	P	**Pn**	**06 47 23.5**	**+1.7**
MXZ	**Matakaoa Point**	**3.67**	**58**	P	**Pn**	**06 47 21.9**	**0.0**
MXZ	**Matakaoa Point**	**3.67**	**58**	P	**Pn**	**06 47 22.0**	**0.0**
OUZ	**Omahuta**	**4.42**	**351**	P	**Pn**	**06 47 34.3**	**+2.5**
OUZ	**Omahuta**	**4.42**	**351**	P	**Pn**	**06 47 34.1**	**+2.3**
CTZ	**Chatham Island**	**7.89**	**125**	P	**Pn**	**06 48 19.1**	**+1.2**

RSNC 25 06:47:33.2±0.0, 13°N±1°×8°1W±°, h1km±2km, M3.0, mb3.9, ML3.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.19**	**320**	P	Pg	06 47 38.2	+1.4
PRVC				S	Sg	06 47 42.1	+2.8
SAIC	**Isla e San And**	**0.83**	**214**	P	Pg	06 47 48.8	-0.3
SAIC				S	Sn	06 48 03.6	-1.3
RNCC	**Cayo Roncador,**	**1.17**	**73**	P	Pg	06 47 55.3	-0.3
RNCC				S	Sg	06 48 10.6	-0.2
SERC	**Banco Serrana,**	**1.35**	**39**	P	Pg	06 47 57.0	-2.1
SERC				S	Sg	06 48 16.3	-0.4
BCIP	**Isla Barro Col**	**4.27**	**161**	P	Pn	06 48 34.5	-4.8
BCIP				S	Sn	06 49 22.6	-7.2
JTS	**Las Juntas de**	**4.66**	**232**	P	Pn	06 48 42.7	-2.1
JTS				S	Sn	06 49 38.2	-1.5
GMAL	**Guarumal, Vera** 7.8nm,0.8s	**5.43**	**180**	P	Pn	06 48 51.4	-4.0
GMAL				S	Sn	06 49 52.9	-5.7
AZU	**Azuero** 7.8nm,0.8s	**5.49**	**170**	P	Pn	06 48 52.0	-4.1
AZU				S	Sn	06 49 54.0	-5.9
TGUH	**Tegucigalpa,Un**	**5.92**	**279**	P	Pn	06 49 02.3	+0.1
TGUH				S	Sn	06 50 08.1	-2.8

*RSNC **25** 06:53:10.3±0.0, 13°N±1°×8°1W±°, h2km±1km, M3.3, mb4.2, ML3.3*
*CATAC **25** 06:53:11.8±0.9, 13°.36N×81°.16W, h20km, mb4.5, ML4.0*
ISC 25 06:53:09.4±1.4, 13°.12N±0°.04×81°.15W±0°.04, h5km±12km, n24, σ1s98/40, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.33**	**321**	P	**Pg**	**06 53 15.5**	**-0.3**
PRVC				S	**Sg**	**06 53 19.6**	**-0.5**
PRVC	**Isla de Provid**	**0.33**	**321**	*i P*	**Pg**	**06 53 15.0**	**-0.8**
PRVC				IAML		06 53 19.9	
	comp=Z,20μm,1.0s						
SAIC	**Isla e San And**	**0.79**	**223**	P	**Pg**	**06 53 25.9**	**+1.2**
SAIC				S	**Sb**	**06 53 38.3**	**+1.5**
RNCC	**Cayo Roncador,**	**1.13**	**66**	P	**Pb**	**06 53 31.7**	**+0.2**
RNCC				S	**Sn**	**06 53 48.4**	**+0.5**
SERC	**Banco Serrana,**	**1.39**	**33**	P	**Pn**	**06 53 35.0**	**-0.6**
SERC				S	**Sg**	**06 53 53.8**	**-0.4**
BLUN	**Bluefields**	**2.79**	**247**	*i P*	**Pn**	**06 53 56.4**	**+1.6**
BLUN				IAML		06 54 11.5	
	comp=Z,150nm,1.0s						
BLUN				*i S*	**Sn**	**06 54 30.4**	**+1.5**
ESPN	**Las Esperanzas**	**3.21**	**254**	*i P*	**Pb**	**06 54 07.2**	**+0.3**
ESPN				*i S*	**Sb**	**06 54 44.5**	**-1.8**
ESPN				IAML		06 55 09.0	
	comp=Z,280nm,1.0s						
TRT2	**Tortugero**	**3.59**	**225**	IAML		06 54 07.9	
	comp=Z,100nm,1.0s						
TRT2				*i P*	**Pb**	**06 54 10.6**	**-2.8**
TRT2				*i S*	**Sn**	**06 54 51.5**	**+2.9**
ACON	**Acoyapa**	**4.09**	**254**	P	**Pn**	**06 54 13.3**	**+0.6**
ACON				S	**Sn**	**06 55 01.1**	**+0.1**
BCIP	**Isla Barro Col**	**4.13**	**162**	P	**Pn**	**06 54 11.8**	**-1.5**
BCIP				S	**Sn**	**06 55 00.2**	**-1.9**
JTS	**Las Juntas de**	**4.66**	**233**	P	**Pn**	**06 54 20.7**	**+0.1**
JTS				S	**Sn**	**06 55 12.3**	**-2.9**
OCHAL	**Ojochal**	**4.68**	**212**	*i P*	**Pn**	**06 54 23.6**	**+2.7**
OCHAL				IAML		06 55 25.4	
	comp=Z,94nm,1.0s						
RCPN	**Sur Rio San Ju**	**4.83**	**275**	*i P*	**Pn**	**06 54 22.7**	**-0.3**
RCPN				IAML		06 54 23.7	
	comp=Z,0.8nm,1.0s						
RCVN	**Varillal2**	**4.93**	**276**	*i P*	**Pn**	**06 54 23.4**	**-1.0**
RCVN				IAML		06 55 21.3	
	comp=Z,2μm,1.0s						
LIMN	**Finca el Limon**	**5.08**	**270**	*i P*	**Pn**	**06 54 26.9**	**+0.5**
LIMN				IAmb	IAmb	06 54 55.1	
	comp=Z,53nm,0.8s						
LIMN				IAML		06 56 21.8	
	comp=Z,110nm,1.0s						
GMAL	**Guarumal, Vera**	**5.32**	**181**	P	**Pn**	**06 54 30.0**	**+0.3**
	comp=Z,20nm,0.7s						
GMAL				S	**Sn**	**06 55 29.7**	**-1.7**
	comp=Z,20nm,0.7s						
AZU	**Azuero**	**5.36**	**171**	P	**Pn**	**06 54 30.1**	**-0.1**
	comp=Z,26nm,1.1s						
AZU				S	**Sn**	**06 55 31.0**	**-1.4**
	comp=Z,26nm,1.1s						
CACAO	**El Cacao, Vera**	**5.74**	**177**	P	**Pn**	**06 54 38.3**	**+2.8**
	comp=Z,19nm,0.8s						
CACAO				S	**Sn**	**06 55 44.2**	**+2.4**
	comp=Z,19nm,0.8s						
MTDJ	**Mount Denham**	**6.16**	**34**	P	**Pn**	**06 54 43.8**	**+2.5**
	comp=Z,29nm,2.3s						
LCBC	**Los crdobas,**	**6.32**	**132**	P	**Pn**	**06 54 45.9**	**+2.4**
	comp=Z,82nm,1.4s						
SJCC	**San Jacinto, C**	**6.67**	**118**	P	**Pn**

OCAC	**Ocana**	**9.24**	**121**	P	Pn	06 57 08.2 +1.6
	23nm,0.5s,2μm					
OCAC				S	Sn	06 58 45.0 -6.2
	23nm,0.5s,2μm					
TEIG	**Tepich**	**9.68**	**317**	P	Pn	06 57 11.4 -0.9
TEIG				S	Sn	06 58 56.4 -5.2

ISC 25 07:13:49.8±1.0, 45°.22N±0°.03×14°.88E±0°.03, h12km±11km, n13, σ0°.30/21, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIY	**Rijeka**	**0.30**	**290**	*e*Pg	**Pg**	**07 13 55.4**	**-0.5**
RIY				Sg	**Sg**	**07 14 00.3**	**+0.3**
GBRS	**Gornja Briga**	**0.31**	**351**	*i* Pg	**Pg**	**07 13 56.4**	**+0.3**
GBRS				*i* Sg	**Sg**	**07 14 00.7**	**+0.2**
GBRS				IAML		07 14 01.2	
	comp=Z,12nm,0.1s						
BOJS	**Bojanci**	**0.38**	**43⇑**	*i*Pg	**Pg**	**07 13 57.0**	**-0.4**
BOJS				*i* Sg	**Sg**	**07 14 02.6**	**0.0**
BOJS				IAML		07 14 03.1	
	comp=Z,27nm,0.1s						
KNDS	**Knezji Dol**	**0.47**	**311**	*i* Pg	**Pg**	**07 13 58.7**	**-0.2**
KNDS				*i* Sg	**Sg**	**07 14 05.7**	**+0.5**
KNDS				IAML		07 14 08.5	
	comp=Z,2.7nm,0.1s						
RABC	**Rab**	**0.48**	**188**	*e*Pg	**Pg**	**07 13 59.1**	**0.0**
VISS	**Visnje**	**0.58**	**357**	*i* Pg	**Pb**	**07 14 01.9**	**0.0**
VISS				*i* Sg	**Sg**	**07 14 08.2**	**-0.6**
VISS				IAML		07 14 10.6	
	comp=Z,3.8nm,0.1s						
CEY	**Cerknica**	**0.60**	**328**	*i* Sg	**Sb**	**07 14 11.2**	**+0.4**
PLIT	**Plitvice**	**0.63**	**123**	*e*Pg	**Pg**	**07 14 02.1**	**0.0**
PLIT				Sg	**Sg**	**07 14 10.6**	**+0.2**
NVLJ	**Novalja**	**0.66**	**181**	*e*Pg	**Pg**	**07 14 02.4**	**-0.2**
SKDS	**Skadanscina**	**0.69**	**298**	*i* Sg	**Sb**	**07 14 13.1**	**-0.1**
CRES	**Cresnjevec Ost**	**0.73**	**34**	*i* Pg	**Pg**	**07 14 03.9**	**0.0**
CRES				*i* Sg	**Sg**	**07 14 13.3**	**-0.1**
CRES				IAML		07 14 15.0	
	comp=Z,1.0nm,0.1s						
PDKS	**Podkum**	**0.84**	**6**	*i* Pg	**Pb**	**07 14 06.4**	**0.0**
PDKS				*i* Sg	**Sg**	**07 14 17.3**	**+0.2**
PDKS				IAML		07 14 19.7	
	comp=Z,1.8nm,0.1s						
VIRC	**Vir**	**0.94**	**172**	*e*Pg	**Pb**	**07 14 07.9**	**0.0**

RSNC 25 07:19:52.1±0.0, 13°N±2°×8°1W±°, h14km±4km, mb4.0, mB5.0, ML2.8, Mw(mB)4.4, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.28**	**304**	P	Pg	07 19 57.3	-0.6
PRVC				S	Sg	07 20 01.9	0.0
SAIC	**Isla e San And**	**0.89**	**220**	P	Pb	07 20 07.9	-1.3
SAIC				S	Sg	07 20 20.3	-0.6
RNCC	**Cayo Roncador,**	**1.07**	**71**	P	Pb	07 20 11.1	-1.3
RNCC				S	Sb	07 20 25.0	-1.3
SERC	**Banco Serrana,**	**1.29**	**35**	P	Pn	07 20 14.6	-1.2
SERC				S	Sb	07 20 32.3	-0.4
BCIP	**Isla Barro Col**	**4.22**	**162**	P	Pn	07 20 51.9	-4.2
BCIP				S	Sn	07 21 38.3	-7.0
JTS	**Las Juntas de**	**4.74**	**233**	P	Pn	07 21 02.4	-0.9
GMAL	**Guarumal, Vera**	**5.42**	**181**	P	Pn	07 21 07.0	-5.6
	9.5nm,2.1s,2μm						
GMAL				S	Sn	07 22 10.6	-4.3
	9.5nm,2.1s,2μm						
AZU	**Azuero**	**5.46**	**171**	P	Pn	07 21 13.2	+0.1
	31nm,1.1s						
AZU				S	Sn	07 22 10.7	-5.1
	31nm,1.1s						
TGUH	**Tegucigalpa,Un**	**6.03**	**279**	P	Pn	07 21 21.0	-0.1
	14nm,0.6s						
SJCC	**San Jacinto, C**	**6.70**	**119**	P	Pn	07 21 28.5	-1.7

SDD ***25*** *07:20:59.8±2.2, 20°.14N×70°.99W, h15km±207km, MD2.7, ML2.2, MW2.4*
OSPL ***25*** *07:21:05.3±1.6, 19°.88N×71°.04W, h4km±7km, ML1.8*

ISC 25 07:20:58.3±2.7, 20°.1N±0°.1×71°.01W±0°.04, h4km±13km, n14, σ0°.52/23, 13C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.28**	**220**	*e*S	**Sb**	**07 21 10.4**	**-0.5**
SC01	**Santiago de lo**	**0.69**	**157⇑**	*e*Pg	**Pg**	**07 21 11.8**	**+0.2**
SC01			⇑	*e*Sg	**Sb**	**07 21 23.4**	**+0.5**
SC01				IAML		07 21 24.7	
	comp=N,64nm,0.2s						
SC01				IAML		07 21 25.8	
	comp=E,70nm,0.2s						
SC01	**Santiago de lo**	**0.69**	**157**	*e*S	**Sb**	**07 21 22.9**	**+0.1**
SC01				IAML		07 21 27.2	
	comp=Z,32nm,1.9s						
LODA1	**ITESIL, Dajabo**	**0.84**	**232**	*e*S	**Sb**	**07 21 27.7**	**+0.6**
SFDR	**San Fco. de Ma**	**1.06**	**137⇑**	*e*Pg	**Pn**	**07 21 20.2**	**+0.3**
SFDR			⇑	*e*Sg	**Sb**	**07 21 33.9**	**+0.4**
SFDR				IAML		07 21 38.2	
	comp=E,94nm,0.6s						
SFDR				IAML		07 21 38.5	
	comp=N,61nm,0.3s						
SDDR	**Presa de Saban**	**1.11**	**194⇑**	*e*Pg	**Pn**	**07 21 21.2**	**+0.5**
SDDR				IAML		07 21 34.5	
	comp=E,38nm,0.6s						
SDDR				IAML		07 21 37.8	
	comp=N,21nm,2.2s						
SDDR	**Presa de Saban**	**1.11**	**194**	*i* P	**Pn**	**07 21 21.0**	**+0.3**
SDDR				*e*S	**Sg**	**07 21 34.1**	**0.0**
SDDR				IAML		07 21 36.0	
	comp=Z,45nm,0.2s						
ABDR	**Alto Bandera**	**1.30**	**164⇑**	*e*Pg	**Pg**	**07 21 22.4**	**-0.9**
ABDR				IAML		07 21 39.4	
	comp=E,29nm,0.3s						
ABDR			⇑	*e*Sg	**Sb**	**07 21 41.0**	**+0.3**
ABDR				IAML		07 21 42.6	
	comp=N,19nm,0.6s						
LONE3	**El Aguacate, B**	**1.52**	**196**	*i* P	**Pg**	**07 21 27.9**	**+0.5**
LONE3				*e*S	**Sn**	**07 21 46.5**	**-0.2**
LONE3				IAML		07 21 48.3	
	comp=Z,23nm,2.5s						
JIDR	**Jimani**	**1.76**	**207⇑**	*e*Pg	**Pb**	**07 21 30.3**	**-0.9**
JIDR			⇑	*e*Sg	**Sg**	**07 21 54.8**	**-0.1**
JIDR				IAML		07 21 55.9	
	comp=N,18nm,1.2s						
JIDR				IAML		07 21 58.8	
	comp=E,25nm,3.0s						
LODU1	**El Espartillar**	**1.76**	**195**	*i* P	**Pg**	**07 21 33.0**	**+0.9**
BANI	**BANI**	**1.78**	**160⇓**	*e*Pg	**Pg**	**07 21 32.9**	**+0.5**
BANI			⇑	*e*Sg	**Sb**	**07 21 54.3**	**0.0**
BANI				IAML		07 21 59.2	
	comp=N,23nm,0.3s						
BANI				IAML		07 22 06.0	
	comp=E,42nm,1.9s						
PODR	**Polo**	**1.91**	**188⇑**	*e*Pg	**Pg**	**07 21 34.4**	**-0.5**
PODR			⇓	*e*Sg	**Sg**	**07 21 60.0**	**+0.3**
PODR				IAML		07 22 00.7	
	comp=N,16nm,0.8s						
PODR				IAML		07 22 05.2	
	comp=E,20nm,2.4s						
HATOM	**Hato Mayor del**	**2.00**	**129⇑**	*e*Pg	**Pb**	**07 21 34.9**	**-0.3**
HATOM			⇑	*e*Sg	**Sb**	**07 22 00.1**	**-0.4**
HATOM				IAML		07 22 00.3	
	comp=N,17nm,3.1s						
HATOM				IAML		07 22 14.7	
	comp=E,19nm,3.7s						

JMA ***25*** *07:26:35.3±0.2, 37°.8N±0°.4×14°.2E±°, h37km±2km, MV3.8/32, SE OFF MIYAGI PREF*
IDC ***25*** *07:26:36.3±3.3, 37°.81N×142.54E, h43km±26km, mb3.6/10, mbtmp3.8/14, ML3.1/4, Error ellipse: s-maj=27.6km s-min=17.4km az=100.0*

ISC 25 07:26:36.2±1.1, 37°.84N±0°.06×142°.29E±0°.09, h35km, n32, σ1°.59/31, mb3.8/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.80**	**306**	P	**Pn**	**07 26 50.1**	**-0.9**
JIKH				*e*S	**Sn**	**07 27 00.2**	**-1.5**
JIO	**Ouri**	**0.96**	**310**	P	**Pn**	**07 26 52.7**	**-0.5**
JIO				*e*S	**Sn**	**07 27 04.7**	**-1.0**
JMST	**Minamisoumatoc**	**1.11**	**265**	P	**Pn**	**07 26 53.4**	**-1.9**
JKMT	**Kesennumamotoy**	**1.16**	**327**	P	**Pn**	**07 26 55.8**	**-0.2**
JMM	**Marumori**	**1.18**	**272**	P	**Pn**	**07 26 54.8**	**-1.4**
JFK	**Kawauchi**	**1.22**	**248**	P	**Pn**	**07 26 54.7**	**-2.1**
JFK				*e*S	**Sn**	**07 27 08.5**	**-3.5**
JOU	**Okura**	**1.38**	**293**	*e*P	**Pn**	**07 26 58.7**	**-0.3**
JMK	**Ichinoseki**	**1.39**	**323**	*e*P	**Pn**	**07 26 59.1**	**0.0**
JOTO	**OTAMA OYAMA**	**1.57**	**260**	*e*P	**Pn**	**07 27 00.9**	**-0.8**
JOTO				*e*S	**Sn**	**07 27 19.6**	**-1.3**
JYS	**Shiratake**	**1.80**	**283**	P	**Pn**	**07 27 04.9**	**+0.2**
JOM	**Ohasama**	**1.81**	**335**	*i* P	**Pn**	**07 27 05.5**	**+0.6**
JYK	**Kaneyama**	**1.86**	**306**	P	**Pn**	**07 27 05.9**	**+0.4**
MJAR	**Matsushiro Arr**	**3.50**	**250**	P	**Pn**	**07 27 28.5**	**+0.3**
	0.7nm,0.3s,baz=80,slow=15,SNR=32						
MJAR				S	**Sn**	**07 28 13.7**	**+5.2**
	5.2nm,0.5s,baz=76,slow=22,SNR=1.1						
	7.0nm,0.5s						
ASAJ	**Asahikawa**	**6.28**	**2**	P	**Pn**	**07 28 07.2**	**+1.0**
	0.5nm,0.3s,baz=224,slow=9.9,SNR=6.3						
ASAJ				S	**Sn**	**07 29 13.9**	**-2.7**
	4.8nm,0.7s,baz=136,slow=27,SNR=1.7						
	5.7nm,0.9s						
USRK	**Ussuriysk Ar.**	**10.04**	**312**	P	**Pn**	**07 28 59.3**	**+1.4**
	0.2nm,0.3s,baz=117,slow=16,SNR=1.3						
	0.9nm,0.4s						
KSRS	**Korea Array**	**11.40**	**272**	P	Pn	07 29 21.1	+4.7
	0.1nm,0.3s,baz=80,slow=14,SNR=2.3						
	0.9nm,0.6s						
SONM	**Songino Array**	**27.93**	**302**	P	**P**	**07 32 23.7**	**+0.5**
	1.7nm,0.7s,baz=104,slow=8.8,SNR=7.3						
	1.7nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**27.98**	**123**	T	T	08 01 50.6	
	baz=316,slow=75,SNR=111						
H11N1	**WAKE ISLAND Hy**	**27.99**	**123**	T	T	08 01 43.4	
	baz=316,slow=75,SNR=60						
H11N3	**WAKE ISLAND Hy**	**28.00**	**123**	T	T	08 01 42.3	
	baz=316,slow=75,SNR=56						
H11S1	**WAKE ISLAND Hy**	**28.73**	**125**	T	T	08 02 44.6	
	baz=317,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**28.74**	**125**	T	T	08 02 44.7	
	baz=317,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**28.75**	**125**	T	T	08 02 38.4	
	baz=317,slow=76,SNR=45						
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**07 34 23.6**	**+0.7**
	0.7nm,0.5s,baz=87,slow=7.8,SNR=2.6						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**44.29**	**302**	P	**P**	**07 34 42.6**	**+0.2**
	0.6nm,0.6s,baz=77,slow=9.0,SNR=7.3						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**46.06**	**307**	P	**P**	**07 34 56.3**	**-0.1**
	0.9nm,0.3s,baz=84,slow=8.0,SNR=9.8						
	0.9nm,0.3s						
BVAR	**Borovoye Array**	**50.55**	**312**	P	**P**	**07 35 31.6**	**+0.7**
	0.3nm,0.5s,baz=88,slow=5.0,SNR=1.7						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**57.96**	**189**	P	**P**	**07 36 24.4**	**-0.8**
	0.6nm,0.5s,baz=6.0,slow=7.2,SNR=7.6						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**61.68**	**189**	P	**P**	**07 36 49.8**	**-0.9**
	0.3nm,0.7s,baz=24,slow=9.2,SNR=2.7						
	0.3nm,0.7s						
FINES	**FINESS Array B**	**68.42**	**332**	P	**P**	**07 37 34.5**	**+0.5**
	3.0nm,1.1s,baz=15,slow=7.9,SNR=4.2						
	3.0nm,1.1s						
HFS	**Hagfors**	**73.64**	**336**	P	**P**	**07 38 06.3**	**+0.6**
	2.4nm,1.1s,baz=44,slow=11,SNR=1.3						
	2.4nm,1.1s						
AKASG	**Malin Array Be**	**74.08**	**323**	P	**P**	**07 38 08.7**	**+0.2**
	0.2nm,0.3s,baz=47,slow=6.5,SNR=1.5						
	0.2nm,0.3s						

IDC ***25*** *07:34:32.6±0.7, 7°.25S×68°.80E, h0km, mb4.1/14, mbtmp4.1/14, MS4.0/18, Error ellipse: s-maj=23.8km s-min=19.1km az=54.0*
GCMT ***25*** *07:34:34.5±0.3, 7°.52S±0°.02×68°.16E±0°.02, h18km±1km, MW4.9/105, Moment Tensor Solution. s12,c14; s105,c132; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.03±.14; $M_{\theta\theta}$-2.77±.13; $M_{\phi\phi}$2.74±.13; $M_{r\theta}$-0.79±.30; $M_{\theta\phi}$-0.17±.12; $M_{\phi r}$-0.62±.28; Best double couple: $M_0$2.93700×10^{16} NP1:ϕ_s43.00000°, δ88.00000°, λ-20.00000°. NP2:ϕ_s134.00000°, δ70.00000°, λ-178.00000°. Principal axes: T 2.8770, Plg12.0000°, Azm90.0000°; N 0.1180, Plg70.0000°, Azm217.0000°; P -2.9970, Plg15.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=50s. Triangular moment-rate function*
NEIC ***25*** *07:34:35.5±1.1, 7°.12S±0°.10×68°.86E±0°.01, h10km±1km, mb4.7/39 Error ellipse: s-maj=16.6km s-min=2.9km az=185.0*
BJI ***25*** *07:34:35.0, 7°.10S×68°.90E, h8km, mb4.7/21, mB5.2/8, Ms4.5/2, Ms7 4.1/2*

ISC 25 07:34:34.6±0.5, 7°.20S±0°.08×68°.85E±0°.07, h10km, n106, σ1°.51/75, mb4.5/52, MS4.1/19, 1C-1D, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**3.58**	**94**	Pn	**Pn**	**07 35 30.9**	**+0.7**
H08S1	**Diego Garcia H**	**3.62**	**97**	Pn	**Pn**	**07 35 32.4**	**+1.8**
	baz=297,slow=15						
H08S3	**Diego Garcia H**	**3.63**	**97**	Pn	**Pn**	**07 35 32.4**	**+1.7**
	baz=297,slow=15						
H08S2	**Diego Garcia H**	**3.64**	**97**	Pn	**Pn**	**07 35 32.4**	**+1.6**
	baz=297,slow=15						
KAAM	**Kaadhehdhoo**	**8.68**	**29**	Pn	**Pn**	**07 36 38.9**	**-1.5**
MSEY	**Mahe Island**	**13.54**	**280**	Pn	**Pn**	**07 37 47.7**	**+0.8**
COCO	**West Island**	**28.01**	**102**	P	**P**	**07 40 25.6**	**-0.5**
PSI	**Prapat**	**31.61**	**73**	LR	LR	07 52 02.5	
	comp=Z,583nm,20.5s,baz=244,slow=33						
ATD	**Arta Tunnel**	**31.87**	**306**	LR	LR	07 52 03.5	
	comp=Z,9.4nm,18.4s,baz=178,slow=33						
KMBO	**Kilima Mbogo**	**32.07**	**279**	LR	LR	07 51 22.6	
	comp=Z,320nm,19.4s,baz=98,slow=32						
MNAI	**Manna**	**34.04**	**87**	P	**P**	**07 41 18.6**	**-0.7**
FURI	**Furi**	**34.06**	**298**	LR	LR	07 53 58.7	
	comp=Z,360nm,18.4s,baz=134,slow=34						
IPM	**Ipoh**	**34.14**	**71**	P	**P**	**07 41 18.8**	**-1.4**
IPM				IAmb	IAmb	07 41 24.7	
	comp=Z,6.1nm,0.8s						
LODK	**Lodwar**	**35.05**	**286**	P	**P**	**07 41 27.7**	**-0.5**
LODK				IAmb	IAmb	07 41 45.3	
	comp=Z,4.4nm,0.7s						
LEM	**Lembang**	**38.47**	**92**	LR	LR	07 55 31.0	
	comp=Z,308nm,21.4s,baz=206,slow=33						
MBAR	**Mbarara**	**38.56**	**278**	LR	LR	07 55 36.9	
	comp=Z,301nm,20.1s,baz=329,slow=33						
CMAR	**Chiang Mai Arr**	**39.13**	**49**	P	**P**	**07 42 01.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**39.13**	**49**	P	**P**	**07 42 04.3**	**+1.6**
	comp=Z,1.8nm,0.4s,baz=242,slow=9.6,SNR=13						
	comp=Z,1.8nm,0.4s						
SHL	**Shillong**	**39.52**	**34**	P	**P**	**07 42 07.7**	**+1.6**
SHL				IAmb	IAmb	07 42 09.0	
	comp=Z,29nm,1.2s						
PHRA	**Phrae**	**40.12**	**50**	P	**P**	**07 42 09.8**	**-1.1**
LSZ	**Lusaka**	**40.63**	**255**	P	**P**	**07 42 15.2**	**-0.2**
NIL	**Nilore**	**40.83**	**6**	P	**P**	**07 42 17.0**	**+0.3**
NIL				IAmb	IAmb	07 42 32.7	
	comp=Z,9.2nm,0.3s						
KBL	**Kabul**	**41.51**	**0**	P	**P**	**07 42 22.2**	**-0.2**
KBL				IAmb	IAmb	07 42 31.6	
	comp=Z,5.3nm,0.8s						
H04N2	**CROZET ISLANDS**	**41.52**	**198**	T	T	08 25 59.9	
	baz=25,slow=75,SNR=15						
H04N1	**CROZET ISLANDS**	**41.52**	**198**	T	T	08 26 01.0	
	baz=25,slow=75,SNR=19						
H04N3	**CROZET ISLANDS**	**41.53**	**198**	T	T	08 25 59.1	
	baz=25,slow=75,SNR=17						
HRA	**Herat**	**41.83**	**352**	P	**P**	**07 42 29.4**	**+4.4**
SBUM	**Sibu**	**44.33**	**79**	P	**P**	**07 42 44.7**	**-0.6**
SBUM				IAmb	IAmb	07 42 49.0	
	comp=Z,6.1nm,1.1s						
SLVN	**Son La**	**44.58**	**50**	P	**P**	**07 42 46.7**	**-0.6**
LBTB	**Lobatse**	**44.93**	**242**	LR	LR	07 58 59.0	
	comp=Z,216nm,20.9s,baz=24,slow=33						
SIMJ	**Sinjganj**	**45.62**	**0**	P	**P**	**07 42 55.5**	**+0.1**
GAR	**Garm**	**45.98**	**2**	P	**P**	**07 42 57.1**	**-1.1**
PZH	**PanZhiHua**	**46.26**	**42**	P	**P**	**07 43 03.0**	**+2.3**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,120nm,3.9s						
BOSA	**Boshof**	**46.29**	**237**	P	**P**	**07 42 59.4**	**-1.5**
	comp=Z,2.2nm,0.9s,baz=51,slow=6.5,SNR=1.8						
BOSA				LR	LR	08 00 48.2	
	comp=Z,98nm,18.9s,baz=22,slow=34						
	comp=Z,2.2nm,0.9s						
DRK	**Karamyk**	**46.52**	**3**	P	**P**	**07 43 01.7**	**-1.0**
DRK				IAmb	IAmb	07 43 22.0	
	comp=Z,10nm,1.1s						
KSH	**Kashi**	**46.94**	**8**	P	**P**	**07 43 01.3**	**-4.5**
KSH				sP	sP	07 43 09.5	+0.7
KSH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BTK	**Batken**	**47.05**	**2**	P	**P**	**07 43 06.0**	**-0.6**
BTK				IAmb	IAmb	07 43 14.0	
	comp=Z,8.1nm,0.8s						
H01W3	**Cape Leeuwin H**	**49.85**	**130**	T	T	08 37 17.1	
	baz=292,slow=75,SNR=10						
H01W2	**Cape Leeuwin H**	**49.85**	**130**	T	T	08 37 18.8	
	baz=292,slow=75,SNR=9.6						
AAK	**Ala-Archa**	**49.86**	**5**	P	**P**	**07 43 28.5**	**+0.2**
H01W1	**Cape Leeuwin H**	**49.87**	**130**	T	T	08 37 15.3	
	baz=292,slow=75,SNR=9.0						
KKAR	**Karatay Array**	**50.08**	**2**	P	**P**	**07 43 30.4**	**+0.6**
CD2	**Chengdu**	**50.52**	**40**	P	**P**	**07 43 34.3**	**+0.9**
CD2				pP	sP	07 43 37.0	+0.5
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
CD2				pmax	pmax		
	comp=Z,180nm,4.6s						
KAPI	**Kappang**	**50.64**	**91**	P	**P**	**07 43 33.3**	**-1.3**
KAPI				IAmb	IAmb	07 44 00.9	
	comp=Z,12nm,1.1s						
NWAO	**Narrogin (SRO)**	**51.57**	**127**	LR	LR	08 01 26.6	
	comp=Z,213nm,20.2s,baz=264,slow=31						
TOLI2	**Tolitoli**	**52.46**	**83**	P	**P**	**07 43 48.2**	**0.0**
TOLI2				IAmb	IAmb	07 43 50.1	
	comp=Z,13nm,1.0s						
WMQ	**Urumqi**	**53.57**	**17**	*e*P	P	07 44 02.0	+6.1
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
LZH	**Lanzhou**	**54.16**	**35**	*e*P	P	07 44 08.0	+7.5
LZH				sP	pwP	07 44 16.0	+9.3
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
GTA	**Gaotai**	**54.52**	**29**	*e*P	P	07 44 12.0	+9.0
GTA				pmax	pmax		
	comp=Z,6.0nm,1.5s						
SOEI	**Soe**	**54.82**	**97**	P	**P**	**07 44 05.5**	**-0.2**
MKAR	**Makanchi Array**	**55.06**	**11**	P	**P**	**07 44 04.9**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=196,slow=7.4,SNR=5.9						
	comp=Z,1.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**56.26**	**107**	LR	LR	08 04 36.5	
	comp=Z,126nm,21.2s,baz=267,slow=32						
ABKAR	**Akbulak array**	**56.75**	**353**	P	**P**	**07 44 16.6**	**-2.1**
ABKAR				IAmb	IAmb	07 44 24.6	
	comp=Z,6.8nm,0.8s						
BRTR	**Keskin Array B**	**56.91**	**328**	P	**P**	**07 44 20.0**	**-0.2**
BRTR	**Keskin Array B**	**56.91**	**328**	P	**P**	**07 44 19.4**	**-0.7**
	comp=Z,1.5nm,1.0s,baz=141,slow=7.1,SNR=3.3						
	comp=Z,1.5nm,1.0s						
BR131	**Keskin Array S**	**56.91**	**328**	P	**P**	**07 44 20.2**	**+0.1**
KURBB	**Kurchatov Arra**	**58.19**	**7**	P	**P**	**07 44 27.4**	**-1.4**
	comp=Z,1.6nm,0.9s,baz=199,slow=7.1,SNR=1.1						
KURBB				LR	LR	08 08 51.6	
	comp=Z,140nm,19.4s,baz=162,slow=35						
	comp=Z,1.6nm,0.9s						
DAV	**Davao City (W)**	**58.33**	**77**	LR	LR	08 10 11.4	
	comp=Z,65nm,18.8s,baz=22,slow=37						
TNTI	**Ternate**	**58.90**	**85**	P	**P**	**07 44 34.5**	**0.0**
BVAR	**Borovoye Array**	**60.00**	**1**	P	**P**	**07 44 39.8**	**-1.6**
	comp=Z,1.6nm,0.9s,baz=157,slow=7.8,SNR=2.1						
	comp=Z,1.6nm,0.9s						
MAW	**Mawson**	**60.46**	**183**	LR	LR	08 06 13.9	
	comp=Z,71nm,18.9s,baz=352,slow=32						
NJ2	**Nanjing**	**61.58**	**48**	*e*P	**P**	**07 44 52.5**	**0.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HNS	**HongShan**	**61.63**	**40**	⇑P	**P**	**07 44 53.0**	**+0.3**
HNS				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**61.84**	**36**	*e*P	**P**	**07 44 57.0**	**+2.8**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,190nm,3.8s						
ZALV	**Zalesovo Beam**	**62.38**	**11**	P	**P**	**07 44 56.0**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=215,slow=6.5,SNR=2.7						
	comp=Z,0.6nm,0.4s						
FAKI	**Fak Fak**	**63.25**	**90**	P	**P**	**07 45 03.8**	**-0.3**
ARTI	**Arti**	**63.95**	**354**	P	**P**	**07 45 08.1**	**+0.3**
ARTI				IAmb	IAmb	07 45 13.5	
	comp=Z,9.3nm,0.8s						
SONM	**Songino Array**	**64.02**	**27**	P	**P**	**07 45 08.8**	**+0.3**
SONM				IAmb	IAmb	07 45 17.7	
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**64.02**	**27**	P	**P**	**07 45 08.9**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=225,slow=6.1,SNR=10						
	comp=Z,2.5nm,0.9s						
BJI	**Beijing**	**64.11**	**39**	P	**P**	**07 45 12.5**	**+3.3**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BJI				pmax	pmax		
	comp=Z,60nm,4.7s						
ASAR	**Alice Springs**	**64.31**	**113**	P	**P**	**07 45 10.2**	**-0.8**
	comp=Z,3.8nm,0.8s,baz=277,slow=6.0,SNR=34						
ASAR				LR	LR	08 09 12.5	
	comp=Z,77nm,21.9s,baz=279,slow=32						
	comp=Z,3.8nm,0.8s						
AS31	**Alice Springs**	**64.32**	**113**	P	**P**	**07 45 10.5**	**-0.5**
ULN	**Ulaanbaatar**	**64.34**	**28**	P	**P**	**07 45 10.2**	**-0.6**
ULN				IAmb	IAmb	07 45 20.6	
	comp=Z,3.1nm,1.0s						
WRA	**Warramunga Arr**	**64.56**	**109**	P	**P**	**07 45 12.4**	**-0.3**
	comp=Z,10nm,1.0s,baz=282,slow=6.3,SNR=48						

comp=Z,1.1nm,0.9s
DZM Mont Dzumac 94.31 113 LR LR 08 27 10.4
comp=Z,194nm,21.0s,baz=229,slow=34
YKA Yellowknife Ar 124.75 2 PKP **PKiKP 07 53 36.0 +1.2**
comp=Z,0.7nm,0.9s,baz=319,slow=2.6,SNR=4.1
PDAR Pinedale Array 144.54 358 PKP **PKPdf 07 54 11.6 -0.5**
comp=Z,0.6nm,0.7s,baz=349,slow=1.5,SNR=2.9
NVAR Mina Array Bea 148.24 11 PKPbc **PKPbc 07 54 20.8 -0.9**
comp=Z,0.4nm,0.6s,baz=266,slow=2.4,SNR=2.6
TXAR Lajitas Array 156.88 343 PKPab **PKPab 07 55 02.7 +1.8**
comp=Z,1.7nm,0.9s,baz=61,slow=3.2,SNR=9.9

*NEIC **25** 07:37:32.2±1.2,27°.70N±0°.07×139°.9E±0°.2,h464km±26km, mb4.1/4,Error ellipse: s-maj=27.4km s-min=5.7km az=72.0.*
*IDC **25** 07:37:36.0±3.8,27°.31N×139°.69E,h542km±46km,mb3.1/5, mbtmp4.0/7,Error ellipse: s-maj=89.0km s-min=32.0km az=8.0*
ISC 25 07:37:31.9±1.2,27°.7N±0°.2×139°.9E±0°.1,h479km,n23, σ0s80/22,mb3.6/6,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.08**	**105**	P	**P**	**07 38 34.6**	**-0.9**
JSG	**Sagara**	**7.14**	**348**	P	**P**	**07 39 17.9**	**-0.8**
INU	**Inuyama**	**8.05**	**343**	P	**P**	**07 39 27.8**	**-0.4**
JGF	**Kuroka**	**8.21**	**345**	P	**P**	**07 39 28.9**	**-1.0**
MAJO	**Matsushiro**	**8.97**	**351**	P	**P**	**07 39 37.5**	**-0.4**
MJB9	**Matsu-Tunnel**	**8.97**	**351**	P	**P**	**07 39 38.7**	**+0.7**
JMM	**Marumori**	**10.20**	**4**	P	**P**	**07 39 50.1**	**-0.9**
JOW	**Kunigami**	**10.41**	**268**	P	**P**	**07 39 52.7**	**-0.8**
JOW	**Kunigami**	**10.41**	**268**	P	**P**	**07 39 55.1**	**+1.6**
	16nm,0.4s,baz=99,slow=17,SNR=5.8						
KSRS	**Korea Array**	**14.05**	**317**	P	P	07 40 38.2	+5.9
	0.4nm,0.3s,baz=152,slow=8.1,SNR=5.0						
KSAR	**Wonju Array Be**	**14.07**	**317**	P	**P**	**07 40 31.6**	**-0.9**
ERM	**Erimo**	**14.55**	**10**	P	**P**	**07 40 37.3**	**-0.2**
INCN	**Inchon**	**14.87**	**314**	P	**P**	**07 40 40.1**	**-0.9**
JKA	**Kamikawa-asahi**	**16.55**	**7**	P	**P**	**07 40 58.7**	**+0.1**
SSLB	**Suanglung**	**17.53**	**262**	P	**P**	**07 41 08.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**17.69**	**341**	P	**P**	**07 41 10.9**	**+0.7**
USA0B	**Ussuriysk Arra**	**17.69**	**341**	P	**P**	**07 41 10.9**	**+0.7**
USA0B				IAmb	IAmb	07 41 20.2	
	comp=Z,4.4nm,1.1s						
BJT	**Baijiatuau**	**23.19**	**308**	P	**P**	**07 42 01.1**	**+0.8**
BJT				IAmb	IAmb	07 42 09.3	
	comp=Z,5.2nm,0.7s						
KURBB	**Kurchatov Arra**	**51.21**	**314**	P	**P**	**07 45 49.6**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=91,slow=8.3,SNR=13						
	comp=Z,2.7nm,0.6s						
BVAR	**Borovoye Array**	**56.27**	**317**	P	**P**	**07 46 25.9**	**+0.1**
	comp=Z,3.1nm,0.4s,baz=89,slow=7.0,SNR=18						
	comp=Z,3.1nm,0.4s						
YKA	**Yellowknife Ar**	**72.58**	**28**	P	**P**	**07 48 09.6**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=314,slow=7.0,SNR=5.0						
	comp=Z,0.3nm,0.8s						
FINES	**FINESS Array B**	**76.54**	**333**	P	**P**	**07 48 31.3**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=75,slow=5.0,SNR=8.9						
	comp=Z,0.5nm,0.4s						
NVAR	**Mina Array Bea**	**81.72**	**51**	P	**P**	**07 49 01.2**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=302,slow=5.2,SNR=2.4						
	comp=Z,0.3nm,0.5s						

*IDC **25** 08:18:28.6±0.8,26°.56N×129°.42E,h0km,mb4.0/13, mbtmp4.0/15,ML3.4/2,Error ellipse: s-maj=22.8km s-min=16.1km az=63.0*
*JMA **25** 08:18:30.3±0.1,26°.7N±0°.5×129°.6E±0°.4,h45km,MV3.8/18, NEAR OKINAWAJIMA ISLAND*
*NEIC **25** 08:18:30.7±2.0,26°.59N±0°.10×129°.55E±0°.04,h10km±1km, mb4.2/9,Error ellipse: s-maj=16.8km s-min=4.0km az=192.0*
ISC 25 08:18:28.4±1.5,26°.66N±0°.04×129°.62E±0°.03,h4km±9km, n43,σ1s65/57,mb4.1/17,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYRO	**Yoronjima**	**1.11**	**289**	P	**Pg**	**08 18 49.8**	**+0.1**
JYRO				*e*S	**Sg**	**08 19 04.0**	**0.0**
JOKE	**Okinoerabujima**	**1.17**	**307**	P	**Pg**	**08 18 50.8**	**0.0**
JOKE				*e*S	**Sg**	**08 19 05.8**	**-0.2**
JOW	**Kunigami**	**1.22**	**278**		**Pg**	**08 18 51.4**	**-0.4**
JOW	**Kunigami**	**1.22**	**278**	Pn	**Pg**	**08 18 51.6**	**-0.2**
	311nm,0.3s,baz=112,slow=21,SNR=662						
JOW				Sn	**Sg**	**08 19 06.6**	**-0.9**
	204nm,0.3s,baz=114,slow=20,SNR=6.7						
JOW	**Kunigami**	**1.22**	**278**	P	**Pg**	**08 18 51.6**	**-0.2**
JOW				S	**Sg**	**08 19 07.0**	**-0.5**
JTK	**Tokunoshima**	**1.27**	**332**	P	**Pn**	**08 18 52.3**	**-0.6**
JTK				*e*S	**Sb**	**08 19 07.4**	**-2.2**
JNTH	**Nagotoyohara**	**1.44**	**265**	P	**Pn**	**08 18 54.4**	**-0.9**
JNTH				*e*S	**Sn**	**08 19 11.8**	**-2.8**
JIH	**Iheya**	**1.52**	**284**	P	**Pn**	**08 18 56.2**	**-0.2**
JIH				S	**Sn**	**08 19 14.3**	**-2.4**
JAMN	**Amaminishikomi**	**1.62**	**346**	P	**Pn**	**08 18 57.2**	**-0.6**
JAMN				*e*S	**Sn**	**08 19 17.0**	**-2.2**
JKDJ	**Kitadaitoujima**	**1.66**	**115**	P	**Pn**	**08 18 57.7**	**-0.6**
JKDJ				*e*S	**Sn**	**08 19 17.4**	**-2.8**
JMZ	**Minamidaito 2**	**1.67**	**120**		**Pn**	**08 18 57.8**	**-0.6**
JMZ	**Minamidaito 2**	**1.67**	**120**	*e*P	**Pn**	**08 18 57.4**	**-1.0**
JMZ				*e*S	**Sn**	**08 19 16.8**	**-3.4**
JZK	**Kikaishima**	**1.68**	**11**	P	**Pn**	**08 18 58.7**	**+0.1**
JZK				*e*S	**Sn**	**08 19 19.6**	**-0.9**
JJT3	**Tamagusuku3**	**1.73**	**253**	P	**Pn**	**08 18 59.2**	**0.0**
JJT3				*e*S	**Sn**	**08 19 20.6**	**-1.2**
JAM	**Amami Oshima**	**1.74**	**360**	P	**Pn**	**08 18 58.8**	**-0.6**
JAM				*e*S	**Sn**	**08 19 18.8**	**-3.4**
JAGN	**Aguni-jima**	**2.13**	**269**	P	**Pn**	**08 19 04.5**	**-0.3**
JAGN				*e*S	**Sn**	**08 19 29.0**	**-2.7**
JTAJ	**Takarajima**	**2.51**	**352**	P	**Pn**	**08 19 09.0**	**-1.0**
JKE	**Kume jima 2**	**2.56**	**263**	P	**Pn**	**08 19 09.8**	**-0.9**
JNU	**Nakatsue**	**6.53**	**9**	Pn	**Pn**	**08 20 06.5**	**+1.2**
	1.4nm,0.3s,baz=187,slow=16,SNR=28						
JNU				Sn	**Sn**	**08 21 14.5**	**-5.8**
	2.0nm,0.3s,baz=253,slow=22,SNR=1.8						
	7.0nm,0.4s						
KSRS	**Korea Array**	**10.86**	**353**	Pn	**Pn**	**08 21 08.2**	**+3.6**
	0.1nm,0.3s,baz=175,slow=13,SNR=2.6						
	1.0nm,0.8s						
ASAJ	**Asahikawa**	**20.33**	**28**	P	Pn	08 23 08.3	+0.7
	22nm,1.2s,baz=202,slow=6.6,SNR=3.6						
	22nm,1.2s						
SONM	**Songino Array**	**27.89**	**325**	P	**P**	**08 24 20.9**	**+1.4**
	1.3nm,0.8s,baz=127,slow=9.2,SNR=6.9						
	1.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**44.66**	**185**	P	**P**	**08 26 41.0**	**-1.4**
FITZ				IAmb	IAmb	08 26 47.9	
	comp=Z,2.1nm,0.8s						
KURK	**Kurchatov**	**45.37**	**316**	P	**P**	**08 26 48.9**	**+1.1**
KURK				IAmb	IAmb	08 27 04.2	
	comp=Z,2.9nm,1.1s						
KURBB	**Kurchatov Arra**	**45.41**	**316**	P	**P**	**08 26 46.9**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=99,slow=8.8,SNR=4.7						
	comp=Z,0.6nm,0.4s						
WB0	**Warramunga Arr**	**46.38**	**174**	P	**P**	**08 26 56.0**	**-0.1**
WB0				IAmb	IAmb	08 27 09.1	
	comp=Z,2.6nm,0.9s						
WRAB	**Tennant Creek**	**46.55**	**174**	P	**P**	**08 26 56.8**	**-0.6**
WRAB				IAmb	IAmb	08 26 58.2	
	comp=Z,3.2nm,0.8s						
WRA	**Warramunga Arr**	**46.55**	**174**	P	**P**	**08 26 57.9**	**+0.5**
WRA	**Warramunga Arr**	**46.55**	**174**	P	**P**	**08 26 57.4**	**0.0**
	comp=Z,2.7nm,0.7s,baz=354,slow=8.4,SNR=19						
	comp=Z,2.7nm,0.7s						
WB2	**Warramunga Arr**	**46.55**	**174**	P	**P**	**08 26 57.9**	**+0.5**
WB2				IAmb	IAmb	08 26 58.3	
	comp=Z,3.0nm,0.8s						
AS31	**Alice Springs**	**50.20**	**175**	P	**P**	**08 27 26.2**	**+0.7**
ASAR	**Alice Springs**	**50.20**	**175**	P	**P**	**08 27 25.8**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=6.3,slow=14,SNR=35						
	comp=Z,1.2nm,0.6s						
BVAR	**Borovoye Array**	**50.79**	**318**	P	**P**	**08 27 29.4**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=78,slow=8.0,SNR=5.0						
	comp=Z,1.1nm,0.8s						
ABKAR	**Akbulak array**	**57.26**	**313**	P	**P**	**08 28 17.6**	**+0.5**
A36M	**Sachs Harbour**	**69.42**	**19**	P	**P**	**08 29 38.1**	**+0.9**
KEV	**Kevo**	**69.49**	**339**	P	**P**	**08 29 39.9**	**+2.2**
KBZ	**Khabaz**	**69.85**	**310**	P	**P**	**08 29 41.1**	**+0.8**
	comp=Z,2.8nm,0.8s,baz=339,slow=2.4,SNR=4.6						
	comp=Z,2.8nm,0.8s						
ARCES	**ARCESS Array B**	**70.06**	**339**	P	**P**	**08 29 43.4**	**+2.2**
	comp=Z,3.4nm,0.8s,baz=64,slow=8.1,SNR=1.8						
	comp=Z,3.4nm,0.8s						
FINES	**FINESS Array B**	**73.10**	**331**	P	**P**	**08 29 59.1**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=52,slow=9.6,SNR=2.3						
	comp=Z,1.9nm,0.8s						
AKASG	**Malin Array Be**	**76.01**	**320**	P	**P**	**08 30 16.8**	**0.0**
	comp=Z,0.3nm,0.5s,baz=65,slow=6.9,SNR=2.5						
	comp=Z,0.3nm,0.5s						
BRTR	**Keskin Array B**	**77.75**	**308**	P	**P**	**08 30 26.9**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=104,slow=5.0,SNR=3.6						
	comp=Z,0.6nm,0.6s						
HFS	**Hagfors**	**79.01**	**333**	P	**P**	**08 30 34.8**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=96,slow=4.3,SNR=2.1						
	comp=Z,1.7nm,0.8s						
NOA	**NORSAR Array B**	**79.47**	**334**	P	**P**	**08 30 38.2**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=51,slow=5.7,SNR=1.5						
	comp=Z,0.2nm,0.5s						

RSNC 25 08:29:27.2±0.0,13°N±1°×8°1W±°,h2km±1km,M2.7,mb3.9, mB4.9,ML2.7,Mw(mB)4.1,Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.22**	**311**	P	Pg	08 29 32.4	+0.9
PRVC				S	Sg	08 29 36.5	+2.1
SAIC	**Isla e San And**	**0.86**	**217**	P	Pg	08 29 43.5	-0.1
SAIC				S	Sb	08 29 57.4	+0.7
RNCC	**Cayo Roncador,**	**1.12**	**72**	P	Pg	08 29 47.3	-1.5
RNCC				S	Sg	08 30 03.7	+0.4
SERC	**Banco Serrana,**	**1.32**	**37**	P	Pg	08 29 50.9	-1.7
SERC				S	Sg	08 30 09.1	-0.6
ACON	**Acoyapa**	**4.09**	**253**	P	Pn	08 30 30.6	-0.2
ACON				S	Sn	08 31 18.5	-0.7
BCIP	**Isla Barro Col**	**4.25**	**162**	P	Pn	08 30 28.3	-4.7
BCIP				S	Sn	08 31 18.6	-4.6
GMAL	**Guarumal, Vera**	**5.43**	**180**	P	Pn	08 30 45.1	-4.2
	16nm,0.6s						
GMAL				S	Sn	08 31 48.1	-4.3
	16nm,0.6s						
AZU	**Azuero**	**5.48**	**170**	P	Pn	08 30 48.9	-1.0
	52nm,2.1s						
AZU				S	Sn	08 31 49.4	-4.2
	52nm,2.1s						
LCBC	**Los crdobas,**	**6.42**	**132**	P	Pn	08 31 02.5	-0.4
	82nm,0.9s						
LCBC				S	Sn	08 32 15.7	-1.2
	82nm,0.9s						
SJCC	**San Jacinto, C**	**6.76**	**119**	P	Pn	08 31 05.0	-2.5
	8.7nm,0.9s						
SJCC				S	Sn	08 32 20.2	-5.0
	8.7nm,0.9s						
APAC	**Apartado, Choc**	**6.97**	**139**	P	Pn	08 31 08.8	-1.6
	10nm,1.4s						
APAC				S	Sn	08 32 27.0	-3.3
	10nm,1.4s						
ARGC	**Ariguani, Magd**	**7.58**	**115**	P	Pn	08 31 18.0	-0.9
	16nm,2.3s						
ARGC				S	Sn	08 32 42.9	-2.6
	16nm,2.3s						
ZARC	**Zaragoza, Cauc**	**8.44**	**132**	P	Pn	08 31 28.6	-2.1
	3.8nm,1.5s						
ZARC				S	Sn	08 33 00.2	-6.4
	3.8nm,1.5s						
AGCC	**Aguachica**	**8.82**	**121**	P	Pn	08 31 33.2	-2.6
	3.4nm,0.9s,522nm						
AGCC				S	Sn	08 33 08.3	-7.6
	3.4nm,0.9s,522nm						
PTBC	**PUERTO BERRIO,**	**9.39**	**134**	P	Pn	08 31 34.0	-10
PTBC				S	Sn	08 33 22.2	-7.7
VMM09	**Lebrija**	**9.86**	**127**	P	Pn	08 31 48.1	-2.1
VMM09				S	Sn	08 33 36.2	-5.4

*IDC **25** 08:29:53.0±2.1,5°.31S×151°.21E,h0km,mb3.5/4, mbtmp3.6/5,ML1.7/1,Error ellipse: s-maj=117.3km s-min=26.9km az=128.0*
ISC 25 08:30:03.2±2.4,6°.0S±0°.8×151°.3E±0°.8,h50km,n6,σ0s59/6, mb3.4/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.30**	**230**	Pn	**Pn**	**08 31 20.2**	**+0.3**
	1.5nm,0.3s,baz=45,slow=9.5,SNR=5.2						
PMG				Sn	**Sn**	**08 32 19.8**	**+0.1**
	0.7nm,0.3s,baz=107,slow=17,SNR=1.7						
	9.9nm,0.7s						
WRA	**Warramunga Arr**	**21.52**	**228**	P	**P**	**08 34 48.1**	**-0.1**
	0.5nm,0.7s,baz=52,slow=10.0,SNR=2.4						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**24.25**	**222**	P	**P**	**08 35 15.3**	**-0.4**
	0.9nm,1.0s,baz=54,slow=9.2,SNR=8.0						
	0.9nm,1.0s						
FITZ	**Fitzroy Crossi**	**27.76**	**242**	P	**P**	**08 35 46.9**	**-0.7**
	1.4nm,0.8s,baz=59,slow=11,SNR=1.7						
	1.4nm,0.8s						
ILAR	**Eielson Array**	**83.84**	**22**	P	P	08 42 20.9	-6.3
	0.6nm,1.0s,baz=241,slow=5.0,SNR=4.4						
	0.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**149.20**	**286**	PKPbc	**PKPdf**	**08 49 43.6**	**+0.5**
	0.4nm,0.8s,baz=64,slow=2.7,SNR=1.9						

*IDC **25** 08:35:23.7±1.0,18°.05S×178°.03W,h635km±10km, mb3.2/12,mbtmp4.2/14,Error ellipse: s-maj=18.0km s-min=14.0km az=149.0*
*NEIC **25** 08:35:23.3±1.2,18°.1S±0°.1×178°.0W±0°.1,h627km±9km, mb4.3/30,Error ellipse: s-maj=19.4km s-min=16.7km az=196.0*
ISC 25 08:35:24.5±0.5,18°.1S±0°.1×178°.06W±0°.09,h650km,n66, σ1s09/67,mb4.1/28,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.72**	**274**	P	**P**	**08 36 49.4**	**-2.6**
MSVF	**Nonsavu**	**3.72**	**274**	P	**P**	**08 36 49.0**	**-3.0**
	87nm,0.6s,baz=142,slow=3.3,SNR=160						
MSVF				S	**S**	**08 38 02.2**	**-1.1**
	11nm,1.1s,baz=109,slow=22,SNR=7.4						
FUTU	**Fugatoga**	**3.74**	**359**	P	**P**	**08 36 48.4**	**-3.8**
DZM	**Mont Dzumac**	**15.09**	**252**	P	**P**	**08 38 31.9**	**+0.1**
	5.6nm,0.8s,baz=158,slow=20,SNR=2.0						
URZ	**Urewera**	**20.56**	**191**	P	**P**	**08 39 18.1**	**-2.8**
	5.0nm,0.6s,baz=312,slow=13,SNR=1.9						
PPT	**Papeete**	**27.11**	**93**	P	**P**	**08 40 18.2**	**-0.9**
	7.0nm,0.5s,baz=196,slow=20,SNR=4.2						
	7.0nm,0.5s						
PPTF	**Pamatai, Papee**	**27.12**	**93**	P	**P**	**08 40 18.8**	**-0.4**
PPTF				IAmb	IAmb	08 40 19.2	
	comp=Z,7.3nm,0.6s						
EIDS	**Eidsvold**	**29.52**	**250**	P	**P**	**08 40 40.3**	**+0.6**
EIDS				IAmb	IAmb	08 40 40.9	
	comp=Z,16nm,1.4s						
ARMA	**Armidale**	**30.15**	**240**	P	**P**	**08 40 46.2**	**+1.0**
CTAO	**Charters Tower**	**33.75**	**261**	P	**P**	**08 41 15.7**	**+0.3**
CTAO				IAmb	IAmb	08 41 34.1	
	comp=Z,12nm,1.4s						
CAN	**Canberra**	**33.87**	**233**	P	**P**	**08 41 17.1**	**+0.8**
COEN	**Coen**	**37.44**	**271**	P	**P**	**08 41 46.9**	**+1.2**
STKA	**Stephens Creek**	**38.84**	**241**	P	**P**	**08 41 57.7**	**+0.9**
STKA	**Stephens Creek**	**38.84**	**241**	P	**P**	**08 41 57.6**	**+0.7**
	comp=Z,4.2nm,0.7s,baz=81,slow=8.9,SNR=12						
	comp=Z,4.2nm,0.7s						
BBOO	**Buckleboo**	**43.62**	**241**	P	**P**	**08 42 34.4**	**+0.2**
BBOO				IAmb	IAmb	08 42 35.2	
	comp=Z,12nm,1.0s						
WR0	**Warramunga Arr**	**44.74**	**260**	P	**P**	**08 42 43.2**	**+0.3**
WB0	**Warramunga Arr**	**44.90**	**260**	P	**P**	**08 42 44.3**	**+0.1**
WB0				IAmb	IAmb	08 42 44.5	
	comp=Z,6.2nm,0.4s						
WB2	**Warramunga Arr**	**44.92**	**260**	P	**P**	**08 42 44.2**	**-0.1**
WB2				IAmb	IAmb	08 42 44.8	
	comp=Z,8.7nm,1.1s						
WRAB	**Tennant Creek**	**44.92**	**260**	P	**P**	**08 42 44.1**	**-0.2**
WRAB				IAmb	IAmb	08 42 44.7	
	comp=Z,6.7nm,1.1s						
WRA	**Warramunga Arr**	**44.93**	**260**	P	**P**	**08 42 44.3**	**-0.1**
WRA	**Warramunga Arr**	**44.93**	**260**	P	**P**	**08 42 44.1**	**-0.4**
	comp=Z,2.8nm,0.4s,baz=95,slow=7.1,SNR=49						
WRA				PcP	**PcP**	**08 44 12.2**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=91,slow=3.6,SNR=2.0						
	comp=Z,2.8nm,0.4s						
AS31	**Alice Springs**	**45.07**	**254**	P	**P**	**08 42 45.7**	**+0.2**
AS31				IAmb	IAmb	08 42 46.7	
	comp=Z,2.7nm,0.5s						
ASAR	**Alice Springs**	**45.07**	**254**	P	**P**	**08 42 45.1**	**-0.3**
ASAR	**Alice Springs**	**45.07**	**254**	P	**P**	**08 42 45.6**	**+0.2**
	comp=Z,7.1nm,0.5s,baz=90,slow=7.9,SNR=178						
ASAR				PcP	**PcP**	**08 44 12.3**	**+0.6**
	comp=Z,1.2nm,0.4s,baz=103,slow=4.0,SNR=7.5						
	comp=Z,7.1nm,0.5s						
FORT	**Forrest**	**50.24**	**245**	P	**P**	**08 43 23.4**	**-0.2**
SOEI	**Soe**	**56.40**	**270**	P	**P**	**08 44 07.4**	**+0.1**
SOEI				IAmb	IAmb	08 44 13.4	
	comp=Z,14nm,0.6s						
PSA00	**Pilbara Seismi**	**58.19**	**255**	P	**P**	**08 44 19.2**	**+0.1**
PSA00				IAmb	IAmb	08 44 30.9	
	comp=Z,28nm,1.4s						
MBWA	**Marble Bar**	**58.36**	**256**	P	**P**	**08 44 20.4**	**+0.1**
MBWA				IAmb	IAmb	08 44 31.4	
	comp=Z,19nm,1.2s						
MJAR	**Matsushiro Arr**	**68.23**	**323**	P	**P**	**08 45 22.6**	**0.0**
	comp=Z,1.6nm,0.5s,baz=161,slow=5.9,SNR=6.9						
	comp=Z,1.6nm,0.5s						
QSPA	**South Pole Qui**	**71.99**	**180**	P	**P**	**08 45 45.4**	**+1.1**
QSPA	**South Pole Qui**	**71.99**	**180**	P	**P**	**08 45 45.1**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=87,slow=0.6,SNR=13						
	comp=Z,1.0nm,0.5s						
PEA0B	**Petropavlovsk-**	**73.92**	**345**	P	**P**	**08 45 56.6**	**+1.4**
PETK	**Petropavlovsk-**	**73.92**	**345**	P	**P**	**08 45 56.5**	**+1.2**
PETK	**Petropavlovsk-**	**73.92**	**345**	P	**P**	**08 45 55.9**	**+0.6**
	comp=Z,3.5nm,0.9s,baz=109,slow=8.1,SNR=6.5						
	comp=Z,3.5nm,0.9s						
USRK	**Ussuriysk Ar.**	**76.93**	**326**	P	**P**	**08 46 12.7**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=93,slow=4.9,SNR=2.5						
	comp=Z,1.0nm,0.6s						
NVAR	**Mina Array Bea**	**79.31**	**44**	P	**P**	**08 46 25.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=235,slow=8.7,SNR=1.6						
	comp=Z,0.2nm,0.5s						
N15K	**Kwethluk River**	**79.31**	**9**	P	**P**	**08 46 26.1**	**+1.7**
N15K				IAmb	IAmb	08 46 40.4	
	comp=Z,17nm,1.3s						
P18K	**Big Mountain,**	**79.41**	**12**	P	**P**	**08 46 25.1**	**+0.1**
P18K				IAmb	IAmb	08 46 26.9	
	comp=Z,16nm,1.3s						
O18K	**Koktuh Hills**	**79.84**	**11**	P	**P**	**08 46 27.6**	**+0.5**
M16K	**Timber Creek**	**80.30**	**9**	P	**P**	**08 46 31.2**	**+1.7**
L18K	**Granite Mounta**	**81.79**	**10**	P	**P**	**08 46 38.6**	**+1.5**
L18K				IAmb	IAmb	08 46 53.0	
	comp=Z,6.4nm,1.3s						
BELA	**Belgrano 2**	**81.97**	**173**	P	**P**	**08 46 38.5**	**+0.6**
TXAR	**Lajitas Array**	**85.80**	**57**	P	**P**	**08 46 59.0**	**+1.4**
	comp=Z,0.4nm,1.1s,baz=224,slow=3.8,SNR=2.5						
	comp=Z,0.4nm,1.1s						
ILAR	**Eielson Array**	**85.97**	**13**	P	**P**	**08 46 57.1**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=223,slow=4.7,SNR=18						
	comp=Z,0.6nm,0.4s						
J25K	**Salcha River,**	**86.16**	**13**	P	**P**	**08 46 58.8**	**+0.4**
J26L	**Joseph Creek**	**86.47**	**14**	P	**P**	**08 47 01.2**	**+1.3**
J26L				IAmb	IAmb	08 47 20.6	
	comp=Z,5.3nm,1.4s						
F24K	**Squaw Lake**	**88.18**	**11**	P	**P**	**08 47 08.9**	**+1.1**
F24K				IAmb	IAmb	08 47 25.3	
	comp=Z,5.7nm,1.5s						
BMAR	**Burnt Mountain**	**88.74**	**12**	P	**P**	**08 47 11.8**	**+1.4**
H29M	**Whitestone**	**89.14**	**15**	P	**P**	**08 47 13.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**89.25**	**290**	P	**P**	**08 47 13.8**	**0.0**
	comp=Z,0.6nm,0.3s,baz=145,slow=3.0,SNR=4.7						
	comp=Z,0.6nm,0.3s						
BVAR	**Borovoye Array**	**117.17**	**321**	PKP	**PKiKP**	**08 52 57.6**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=108,slow=1.9,SNR=2.8						
ARCES	**ARCESS Array B**	**126.53**	**350**	PKP	**PKiKP**	**08 53 15.0**	**-0.5**
	comp=Z,20nm,1.3s,baz=53,slow=3.0,SNR=5.8						
FINES	**FINESS Array B**	**133.43**	**344**	PKhKP	PKPpre	08 53 22.0	
	comp=Z,1.5nm,0.8s,baz=106,slow=4.6,SNR=2.1						
HFS	**Hagfors**	**137.14**	**351**	PKhKP	PKPpre	08 53 29.0	
	comp=Z,0.9nm,0.6s,baz=40,slow=2.5,SNR=1.4						
AKASG	**Malin Array Be**	**140.85**	**332**	PKP	**PKiKP**	**08 53 44.2**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=71,slow=0.7,SNR=2.4						
BUR08	**Bucovina Ar. S**	**144.89**	**332**	PKPbc	**PKiKP**	**08 53 52.5**	**-1.1**
BRTR	**Keskin Array B**	**145.13**	**315**	PKPbc	**PKPab**	**08 53 51.9**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=128,slow=3.3,SNR=7.2						
CLL	**Collm**	**145.69**	**348**	PKPbc	**PKPab**	**08 53 53.6**	**-0.7**
CLL	**Collm**	**145.69**	**348**	*i* PKPbc	**PKPab**	**08 53 53.2**	**-1.1**
	comp=Z,6.0nm,0.7s						
MMAI	**Mount Meron Ar**	**146.50**	**303**	PKPbc	**PKiKP**	**08 53 56.2**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=74,slow=6.2,SNR=4.0						
GERES	**GERESS Array B**	**147.85**	**345**	PKPbc	**PKiKP**	**08 53 59.0**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=33,slow=3.2,SNR=9.2						
CONA	**Conrad Observa**	**148.11**	**342**	*e*PKP	**PKiKP**	**08 54 00.2**	**+0.1**
	comp=Z,0.8nm,0.5s	

az=22.0

ISC 25 08:56:11.2±0.9, 21°.0S±0°.1×179°.1W±0°.1, h650km, n31, σ0s48/32, mb4.0/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.23**	**320**	P	**P**	**08 57 41.8**	**-0.3**
MSVF	**Nonsavu**	**4.23**	**320**	P	**P**	**08 57 41.5**	**-0.5**
14nm,0.6s,baz=121,slow=18,SNR=40							
MSVF				S	**S**	**08 58 56.0**	**+0.1**
5.7nm,0.9s,baz=70,slow=17,SNR=1.5							
DZM	**Mont Dzumac**	**13.47**	**263**	P	**P**	**08 59 04.0**	**+0.4**
DZM	**Mont Dzumac**	**13.47**	**263**	P	**P**	**08 59 04.2**	**+0.6**
3.3nm,0.7s,baz=104,slow=12,SNR=5.7							
EIDS	**Eidsvold**	**27.70**	**255**	P	**P**	**09 01 10.5**	**-0.2**
EIDS				IAmb	IAmb	09 01 19.0	
comp=Z,13nm,1.5s							
ARMA	**Armidale**	**27.90**	**244**	P	**P**	**09 01 12.1**	**-0.4**
CTAO	**Charters Tower**	**32.40**	**265**	P	**P**	**09 01 51.1**	**+0.3**
CTAO				IAmb	IAmb	09 01 52.0	
comp=Z,5.3nm,0.7s							
PMG	**Port Moresby**	**34.45**	**284**	P	**P**	**09 02 07.5**	**-0.5**
PMG				IAmb	IAmb	09 02 11.1	
comp=Z,7.3nm,0.8s							
COEN	**Coen**	**36.58**	**275**	P	**P**	**09 02 25.6**	**+0.1**
COEN				IAmb	IAmb	09 02 47.2	
comp=Z,9.9nm,1.2s							
STKA	**Stephens Creek**	**36.62**	**245**	P	**P**	**09 02 25.2**	**-0.3**
STKA	**Stephens Creek**	**36.62**	**245**	P	**P**	**09 02 24.3**	**-1.3**
comp=Z,0.9nm,0.4s,baz=73,slow=11,SNR=5.3							
comp=Z,0.9nm,0.4s							
BBOO	**Buckleboo**	**41.38**	**244**	P	**P**	**09 03 03.2**	**-0.3**
WR0	**Warramunga Arr**	**43.30**	**263**	P	**P**	**09 03 18.7**	**0.0**
WR0				IAmb	IAmb	09 03 30.0	
comp=Z,5.6nm,1.2s							
AS31	**Alice Springs**	**43.38**	**257**	P	**P**	**09 03 18.8**	**-0.5**
ASAR	**Alice Springs**	**43.38**	**257**	P	**P**	**09 03 19.2**	**-0.1**
ASAR	**Alice Springs**	**43.38**	**257**	P	**P**	**09 03 18.5**	**-0.7**
comp=Z,2.2nm,0.6s,baz=97,slow=8.0,SNR=42							
comp=Z,2.2nm,0.6s							
WB0	**Warramunga Arr**	**43.47**	**263**	P	**P**	**09 03 20.5**	**+0.5**
WB0				IAmb	IAmb	09 03 20.7	
comp=Z,3.2nm,0.6s							
WB2	**Warramunga Arr**	**43.48**	**263**	P	**P**	**09 03 20.3**	**+0.2**
WB2				IAmb	IAmb	09 03 21.4	
comp=Z,4.3nm,0.9s							
WRAB	**Tennant Creek**	**43.48**	**263**	P	**P**	**09 03 20.3**	**+0.3**
WRA	**Warramunga Arr**	**43.49**	**263**	P	**P**	**09 03 19.9**	**-0.2**
WRA	**Warramunga Arr**	**43.49**	**263**	P	**P**	**09 03 20.0**	**-0.2**
comp=Z,1.7nm,0.5s,baz=97,slow=7.5,SNR=29							
comp=Z,1.7nm,0.5s							
PTCN	**Pitcairn Islan**	**45.10**	**105**	P	**P**	**09 03 31.7**	**-0.6**
MTN	**Manton Dam**	**48.12**	**271**	P	**P**	**09 03 55.5**	**+0.5**
MTN				IAmb	IAmb	09 04 21.5	
comp=Z,9.1nm,0.9s							
FORT	**Forrest**	**48.13**	**247**	P	**P**	**09 03 54.7**	**-0.1**
KNRA	**Kununurra**	**49.58**	**267**	P	**P**	**09 04 05.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**51.92**	**263**	P	**P**	**09 04 22.7**	**+0.2**
MBWA	**Marble Bar**	**56.72**	**258**	P	**P**	**09 04 55.5**	**-0.4**
MBWA				IAmb	IAmb	09 05 34.3	
comp=Z,32nm,1.4s							
QSPA	**South Pole Qui**	**69.04**	**180**	P	**P**	**09 06 14.3**	**+0.5**
QSPA	**South Pole Qui**	**69.04**	**180**	P	**P**	**09 06 14.3**	**+0.5**
comp=Z,1.5nm,0.8s,baz=13,slow=1.5,SNR=8.6							
comp=Z,1.5nm,0.8s							
KSAR	**Wonju Array Be**	**76.61**	**319**	P	**P**	**09 06 58.1**	**+1.0**
BELA	**Belgrano 2**	**79.17**	**173**	P	**P**	**09 07 10.6**	**+0.4**
BELA				IAmb	IAmb	09 07 11.6	
comp=Z,6.1nm,1.3s							

*IDC **25** 08:56:48.2±1.2, 5°.72S×103°.21E, h0km, mb4.1/12, mbtmp4.1/12, Error ellipse: s-maj=48.3km s-min=19.3km az=54.0*

*DJA **25** 08:56:53.8±1.3, 6°.S±4°×10°.3E±°, h22km±13km, M4.2/11, MLv4.2/11*

ISC 25 08:56:53.8±0.8, 5°.85S±0°.08×103°.39E±0°.06, h38km, n32, σ1s24/28, mb4.1/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**1.06**	**39**	P	**Pn**	**08 57 12.8**	**+0.6**
LWLI				S	**Sn**	**08 57 26.5**	**+0.7**
KASI	**Kota Agung**	**1.15**	**74**	P	**Pn**	**08 57 13.8**	**+0.5**
KASI				S	**Sn**	**08 57 28.2**	**+0.4**
MNAI	**Manna**	**1.54**	**344**	P	**Pn**	**08 57 19.5**	**+0.8**
MNAI				S	**Sn**	**08 57 39.2**	**+1.7**
BLSI	**Bandar Lampung**	**1.91**	**76**	P	**Pn**	**08 57 24.2**	**+0.4**
KSI	**Kapahiang**	**2.32**	**340**	P	**Pn**	**08 57 30.8**	**+1.3**
KSI				S	**Sn**	**08 57 59.5**	**+2.6**
PMBI	**Palembang**	**3.21**	**25**	P	**Pn**	**08 57 42.6**	**+0.9**
TNG	**Tangerang**	**3.25**	**96**	P	**Pn**	**08 57 44.5**	**+2.2**
DBJI	**Dramaga**	**3.41**	**102**	P	**Pn**	**08 57 45.0**	**+0.5**
CNJI	**Cibinong**	**3.99**	**112**	P	**Pn**	**08 57 53.0**	**+0.6**
PPSI	**Pulau Pagai**	**4.55**	**312**	P	**Pn**	**08 58 01.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**24.55**	**350**	P	**P**	**09 02 08.0**	**-2.1**
1.2nm,0.3s,baz=178,slow=9.2,SNR=4.5							
1.2nm,0.3s							
H08S2	**Diego Garcia H**	**30.73**	**265**	T	T	09 34 43.4	
baz=91,slow=74							
H08S3	**Diego Garcia H**	**30.74**	**265**	T	T	09 34 42.8	
baz=91,slow=74							
H08S1	**Diego Carcia H**	**30.75**	**265**	T	T	09 34 49.8	
baz=91							
ASAR	**Alice Springs**	**34.29**	**124**	P	**P**	**09 03 37.7**	**+1.0**
0.4nm,0.7s,baz=299,slow=8.0,SNR=4.7							
0.4nm,0.7s							
STKA	**Stephens Creek**	**44.09**	**131**	P	**P**	**09 04 60.0**	**+1.5**
2.3nm,0.7s,baz=304,slow=8.1,SNR=6.5							
2.3nm,0.7s							
KSRS	**Korea Array**	**48.78**	**26**	P	**P**	**09 05 34.6**	**-0.4**
1.2nm,0.6s,baz=226,slow=7.2,SNR=6.9							
1.2nm,0.6s							
SONM	**Songino Array**	**53.52**	**3**	P	**P**	**09 06 10.4**	**-0.3**
1.3nm,0.9s,baz=178,slow=9.0,SNR=5.6							
SONM				PcP	**PcP**	**09 07 17.0**	**-0.1**
0.5nm,0.5s,baz=199,slow=4.2,SNR=1.7							
1.3nm,0.9s							
MKAR	**Makanchi Array**	**55.65**	**343**	P	**P**	**09 06 25.0**	**-1.0**
2.5nm,0.6s,baz=153,slow=8.6,SNR=20							
2.5nm,0.6s							
USRK	**Ussuriysk Ar.**	**56.09**	**25**	P	**P**	**09 06 28.6**	**-0.5**
1.2nm,0.6s,baz=196,slow=4.7,SNR=2.5							
1.2nm,0.6s							
H04N2	**CROZET ISLANDS**	**59.84**	**219**	T	T	10 11 37.4	
baz=63,slow=75,SNR=29							
H04N1	**CROZET ISLANDS**	**59.86**	**219**	T	T	10 11 32.0	
baz=63,slow=75,SNR=28							
H04N3	**CROZET ISLANDS**	**59.86**	**219**	T	T	10 11 29.1	
baz=63,slow=75,SNR=23							
H04S1	**CROZET ISLANDS**	**60.07**	**218**	T	T	10 11 54.1	
baz=69							
H04S3	**CROZET ISLANDS**	**60.08**	**218**	T	T	10 11 51.1	
baz=69							
H04S2	**CROZET ISLANDS**	**60.09**	**218**	T	T	10 11 55.0	
baz=69							
KURBB	**Kurchatov Arra**	**60.20**	**342**	P	**P**	**09 06 55.8**	**-2.0**
1.2nm,0.8s,baz=158,slow=6.6,SNR=4.9							
1.2nm,0.8s							
ZALV	**Zalesovo Beam**	**61.59**	**348**	P	**P**	**09 07 05.6**	**-1.6**
2.7nm,0.5s,baz=147,slow=4.7,SNR=13							
2.7nm,0.5s							
BVAR	**Borovoye Array**	**64.95**	**339**	P	**P**	**09 07 28.0**	**-1.5**
1.2nm,0.6s,baz=134,slow=8.5,SNR=7.9							
1.2nm,0.6s							
BRTR	**Keskin Array B**	**78.40**	**312**	P	**P**	**09 08 50.4**	**-0.5**
0.6nm,0.8s,baz=123,slow=4.2,SNR=2.4							
0.6nm,0.8s							
FINES	**FINESS Array B**	**89.07**	**332**	P	**P**	**09 09 44.6**	**-0.1**
3.7nm,0.9s,baz=140,slow=7.2,SNR=3.3							
3.7nm,0.9s							
TXAR	**Lajitas Array**	**145.38**	**44**	PKPbc	**PKPab**	**09 16 28.9**	**+0.3**
0.9nm,0.7s,baz=321,slow=1.0,SNR=13							

*OMAN **25** 08:57:25.8±0.8, 27°.60N×54°.91E, h10km, mb3.8/2, ml3.4/14, Error ellipse: s-maj=9.6km s-min=4.9km az=176.0*

*TEH **25** 08:57:25.5, 27°.70N×54°.95E, h20km±33km, ML3.6*

*DSN **25** 08:57:27.1±1.1, 27°.58N×54°.89E, h15km, ML3.1/7, Error ellipse: s-maj=15.3km s-min=7.1km az=27.0*

*IDC **25** 08:57:27.8±3.4, 27°.66N×54°.88E, h53km±33km, mb3.6/18, mbtmp3.9/20, ML3.3/2, Error ellipse: s-maj=16.9km s-min=15.3km az=29.0*

ISC 25 08:57:24.6±0.5, 27°.66N±0°.04×54°.94E±0°.03, h20km, n67, σ1s92/82, mb3.8/18, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.50**	**271**	Pg	**Pb**	**08 57 36.3**	**+1.5**
GENO	**Geno**	**1.12**	**103**	Pg	**Pb**	**08 57 47.2**	**+1.7**
IBND	**Bandar-abas**	**1.44**	**98**	Pg	**Pb**	**08 57 52.1**	**+1.5**
JHRM	**Jahrom**	**1.47**	**305**	Pg	**Pb**	**08 57 53.0**	**+1.8**
LMD1	**Lamerd**	**1.61**	**259**	Pg	**Pb**	**08 57 55.1**	**+1.5**
SHME	**Shamm**	**1.93**	**146**	P	**Pb**	**08 57 59.3**	**+0.2**
SHME	**Shamm**	**1.93**	**146**	P	**Pb**	**08 57 58.9**	**-0.2**
BANOM	**Banah**	**2.12**	**145**	P	**Pn**	**08 58 01.0**	**+2.1**
BANOM				S	**Sb**	**08 58 28.0**	**-0.2**
BANOM	**Banah**	**2.12**	**145**	P	**Pn**	**08 58 01.0**	**+2.1**
BANOM				S	**Sn**	**08 58 27.6**	**+3.0**
KHNJ	**Kahnooj**	**2.46**	**83**	Pn	**Pn**	**08 58 05.5**	**+1.8**
MASF	**Masafi**	**2.53**	**154**	P	**Pn**	**08 58 07.1**	**+2.5**
MASF				⇑S	**Sn**	**08 58 36.6**	**+1.7**
MSFE	**Esma-Masafi**	**2.54**	**154**	P	**Pn**	**08 58 07.3**	**+2.6**
MDH	**Madha**	**2.65**	**152**	P	**Pn**	**08 58 08.5**	**+2.2**
MDH	**Madha**	**2.65**	**152**	P	**Pn**	**08 58 08.4**	**+2.2**
TVBK	**TV Kerman**	**2.81**	**34**	Pn	**Pn**	**08 58 11.2**	**+2.5**
KHGB	**Koh Gabri**	**3.02**	**26**	Pn	**Pn**	**08 58 14.1**	**+2.6**
HATD	**Hatta, Dubai**	**3.02**	**159**	P	**Pn**	**08 58 13.4**	**+2.1**
HATD	**Hatta, Dubai**	**3.02**	**159**	P	**Pn**	**08 58 13.9**	**+2.5**
HATD				S	**Sn**	**08 58 48.5**	**+1.5**
ASUD	**Al Ashush, Dub**	**3.04**	**173**	P	**Pn**	**08 58 14.1**	**+2.5**
ASUD				S	**Sn**	**08 58 50.8**	**+3.3**
ASHO	**Ashiyiah**	**3.13**	**161**	P	**Pn**	**08 58 15.5**	**+2.7**
ASHO	**Ashiyiah**	**3.13**	**161**	P	**Pn**	**08 58 15.4**	**+2.6**
SNR=20							
ASHO				S	**Sn**	**08 58 52.5**	**+2.8**
CHMN	**Cheshme madani**	**3.16**	**46**	Pn	**Pn**	**08 58 16.2**	**+2.6**
JASK	**Jask - Hormozg**	**3.17**	**124**	Pn	**Pn**	**08 58 17.0**	**+3.7**
JASK	**Jask - Hormozg**	**3.17**	**124**	P	**Pn**	**08 58 14.1**	**+0.8**
JRN	**Qarnain Island**	**3.30**	**215**	P	**Pn**	**08 58 16.4**	**+1.4**
KBAM	**BAM**	**3.42**	**64**	Pn	**Pn**	**08 58 19.8**	**+2.9**
ALNE	**Al Ain**	**3.67**	**168**	P	**Pn**	**08 58 24.5**	**+4.3**
ALNE				S	**Sn**	**08 59 04.3**	**+1.5**
SOHO	**SOHO**	**3.80**	**157**	P	**Pn**	**08 58 24.3**	**+2.4**
SOHO				S	**Sn**	**08 59 07.1**	**+1.1**
SHMA	**Al-Shehemyia**	**3.98**	**244**	P	**Pn**	**08 58 27.4**	**+2.9**
SHMA				S	**Sn**	**08 59 12.4**	**+1.8**
TRNA	**Turayna**	**4.44**	**230**	P	**Pn**	**08 58 31.2**	**+0.4**
SNR=8.7							
TRNA				S	**Sn**	**08 59 23.3**	**+1.4**
ARQ	**Araqi**	**4.54**	**161**	P	**Pn**	**08 58 34.7**	**+2.5**
HOQ	**Hoqain**	**4.59**	**152**	P	**Pn**	**08 58 34.7**	**+1.8**
HOQ				P	Pb	08 58 35.2	-9.3
IRAM	**Ramesheh**	**4.69**	**332**	Pn	**Pn**	**08 58 36.8**	**+2.3**
SMRA	**Abu-Samra**	**4.70**	**233**	P	**Pn**	**08 58 36.1**	**+1.7**
SMRA				S	**Sn**	**08 59 29.4**	**+1.0**
UMZA	**Um Al Zommool**	**4.93**	**178**	P	**Pn**	**08 58 39.6**	**+2.1**
UMZA				S	**Sn**	**08 59 32.7**	**-1.4**
BSY	**Bisya**	**5.31**	**157**	P	**Pn**	**08 58 45.2**	**+2.4**
SMDO	**Samad**	**5.38**	**148**	P	**Pn**	**08 58 46.3**	**+2.5**
SMDO				S	**Sn**	**08 59 46.5**	**+1.3**
WSAR	**Wadi Sarin**	**5.53**	**142**	P	**Pn**	**08 58 47.3**	**+1.6**
0.7nm,0.3s,baz=347,slow=9.5,SNR=9.6							
WSAR				S	**Sn**	**08 59 46.0**	**-2.8**
8.8nm,0.4s,baz=239,slow=18,SNR=8.0							
1.8nm,0.4s							
TPRV	**Parvadeh(Tabas**	**5.55**	**15**	Pn	**Pn**	**08 58 48.6**	**+2.4**
ANAR	**Anarak**	**5.61**	**350**	Pn	**Pn**	**08 58 49.3**	**+2.4**
IKOO	**Kooshah**	**5.91**	**36**	Pn	**Pn**	**08 58 53.5**	**+2.2**
JMDO	**Jabal Madar**	**6.00**	**151**	P	**Pn**	**08 58 54.6**	**+2.3**
NGCH	**Negor - Chabah**	**6.01**	**111**	P	**Pn**	**08 58 53.9**	**+1.6**
NGCH				S	**Sn**	**09 00 00.6**	**+0.1**
TNSJ	**Nastanj**	**6.44**	**12**	Pn	**Pn**	**08 59 00.2**	**+1.9**
DOK	**Doka**	**9.04**	**185**	P	**Pn**	**08 59 34.4**	**+0.5**
WHFO	**Wadi Hawf**	**9.76**	**187**	P	**Pn**	**08 59 44.6**	**+0.7**
SNR=7.1							
ABTO	**Aybut**	**10.37**	**189**	P	**Pn**	**08 59 53.1**	**+0.7**
SNR=8.6							
KBZ	**Khabaz**	**18.74**	**332**	P	**P**	**09 01 42.6**	**+0.5**
0.1nm,0.3s,baz=180,slow=6.1,SNR=1.5							
1.1nm,0.7s							
BRTR	**Keskin Array B**	**21.36**	**310**	P	**P**	**09 02 11.2**	**+0.4**
1.3nm,0.6s,baz=125,slow=14,SNR=9.8							
1.3nm,0.6s							
AAK	**Ala-Archa**	**21.80**	**42**	P	**P**	**09 02 16.8**	**+1.2**
2.1nm,0.6s,baz=200,slow=8.0,SNR=7.6							
2.1nm,0.6s							
BVAR	**Borovoye Array**	**27.81**	**20**	P	**P**	**09 03 11.9**	**-0.4**
1.0nm,0.4s,baz=208,slow=8.2,SNR=5.4							
1.0nm,0.4s							
MKAR	**Makanchi Array**	**28.73**	**41**	P	**P**	**09 03 20.9**	**+0.3**
0.5nm,0.5s,baz=234,slow=11,SNR=4.3							
0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**29.10**	**32**	P	**P**	**09 03 24.3**	**+0.6**
0.4nm,0.5s,baz=233,slow=9.1,SNR=2.1							
0.4nm,0.5s							
AKASG	**Malin Array Be**	**30.16**	**327**	P	**P**	**09 03 31.7**	**-1.5**
0.8nm,0.6s,baz=135,slow=8.2,SNR=6.0							
0.8nm,0.6s							
ZALV	**Zalesovo Beam**	**34.20**	**32**	P	**P**	**09 04 08.0**	**-0.5**
1.7nm,0.5s,baz=246,slow=8.6,SNR=6.8							
1.7nm,0.5s							
FINES	**FINESS Array B**	**38.90**	**338**	P	**P**	**09 04 47.9**	**-0.6**
1.4nm,0.5s,baz=138,slow=8.9,SNR=15							
1.4nm,0.5s							
HFS	**Hagfors**	**42.81**	**331**	P	**P**	**09 05 19.9**	**-0.9**
1.8nm,0.4s,baz=126,slow=9.3,SNR=21							
1.8nm,0.4s							
NB2	**NORSAR Subarra**	**44.32**	**331**	P	**P**	**09 05 31.7**	**-1.3**
comp=Z,0.3nm,0.4s,baz=118,slow=8.6							
NOA	**NORSAR Array B**	**44.32**	**331**	P	**P**	**09 05 31.5**	**-1.5**
comp=Z,0.7nm,0.5s,baz=123,slow=7.9,SNR=6.0							
comp=Z,0.7nm,0.5s							
ARCES	**ARCESS Array B**	**45.25**	**346**	P	**P**	**09 05 39.6**	**-0.6**
comp=Z,4.6nm,1.0s,baz=159,slow=7.7,SNR=1.8							
comp=Z,4.6nm,1.0s							
ESDC	**Sonseca Array**	**49.67**	**300**	P	**P**	**09 06 14.2**	**-0.9**
comp=Z,0.4nm,0.4s,baz=70,slow=6.9,SNR=6.4							
comp=Z,0.4nm,0.4s							
EKA	**Eskdalemuir Ar**	**49.70**	**320**	P	**P**	**09 06 13.7**	**-1.3**
comp=Z,0.2nm,0.3s,baz=96,slow=7.2,SNR=1.7							
comp=Z,0.2nm,0.3s							
TORD	**Torodi Ar. Bea**	**51.58**	**265**	P	**P**	**09 06 28.7**	**-1.1**
comp=Z,1.2nm,0.5s,baz=58,slow=7.8,SNR=12							
comp=Z,1.2nm,0.5s							
KSRS	**Korea Array**	**60.91**	**61**	P	**P**	**09 07 35.1**	**-1.0**
comp=Z,0.7nm,0.6s,baz=291,slow=7.4,SNR=2.6							
comp=Z,0.7nm,0.6s							
BOSA	**Boshof**	**62.78**	**209**	P	**P**	**09 07 48.1**	**-0.7**
comp=Z,4.4nm,1.2s,baz=19,slow=4.6,SNR=4.6							
comp=Z,4.4nm,1.2s							
WRA	**Warramunga Arr**	**90.18**	**112**	P	**P**	**09 10 23.1**	**-0.8**
comp=Z,0.2nm,0.5s,baz=310,slow=3.9,SNR=6.5							
comp=Z,0.2nm,0.5s							
ASAR	**Alice Springs**	**91.64**	**116**	P	**P**	**09 10 29.8**	**-0.9**
comp=Z,0.3nm,0.5s,baz=307,slow=4.8,SNR=6.7							
comp=Z,0.3nm,0.5s							

*SOME **25** 09:12:44.7, 42°.92N×85°.10E, h0km*

*NNC **25** 09:12:46.7±1.8, 42°.95N×85°.11E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=15.6km s-min=7.9km az=146.0*

ISC 25 09:12:45.3±3.0, 42°.9N±0°.1×85°.1E±0°.1, h10km, n24, σ2s80/24, 2C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**4.16**	**293**	Pg	**Pg**	**09 14 02.2**	**-2.7**
1.8nm,0.2s							
DJR				Lg	Lg	09 14 59.0	
11nm,0.4s							
DJR	**Jarkent**	**4.16**	**293**	*e*P	**Pb**	**09 14 01.8**	**+3.2**
1.4nm,0.1s							
DJR				*e*S	**Sg**	**09 14 57.0**	**-1.8**
11nm,0.4s							
PDGK	**Podgornoye**	**4.17**	**278**	⇑Pg	**Pb**	**09 14 01.3**	**+2.5**
8.0nm,0.9s							
PDGK				⇑Lg	Lg	09 14 55.8	
11nm,0.5s							
SHLS	**Shalkode**	**4.18**	**276**	Pg	**Pb**	**09 13 56.2**	**-2.8**
5.0nm,0.2s							
SHLS				Lg	Lg	09 14 47.6	
33nm,0.8s							
SHLS	**Shalkode**	**4.18**	**276**	*e*P	**Pb**	**09 13 56.2**	**-2.8**
5.0nm,0.2s							
SHLS				*e*S	**Sb**	**09 14 47.6**	**-1.9**
33nm,0.8s							
UZB	**Uzynbulak**	**4.50**	**276**	Pg	**Pb**	**09 14 07.4**	**+2.9**
5.0nm,0.3s							
UZB				Lg	Lg	09 15 07.7	
16nm,0.5s							
UZB	**Uzynbulak**	**4.50**	**276**	*e*P	**Pb**	**09 14 07.4**	**+2.9**
4.3nm,0.3s							
UZB				*e*S	**Sg**	**09 15 06.6**	**-3.1**
9.5nm,0.3s							
ZSN	**Zaisan**	**4.60**	**358**	Pg	**Pb**	**09 14 08.8**	**+2.8**
2.5nm,0.3s							
ZSN				Lg	Lg	09 15 09.4	
5.6nm,0.4s							
ZSN	**Zaisan**	**4.60**	**358**	*e*P	**Pg**	**09 14 09.8**	**-3.6**
1.2nm,0.1s							
ZSN				*e*S	**Sg**	**09 15 10.8**	**-2.1**
4.4nm,0.2s							
ZHN	**Zhinishke**	**4.93**	**276**	*e*P	**Pb**	**09 14 16.0**	**+4.2**
7.5nm,0.1s							
ZHN				*e*S	**Sg**	**09 15 21.6**	**-1.9**
12nm,0.2s							
SATY	**Saty**	**4.95**	**275**	Pg	Pb	09 14 16.9	+4.8
2.1nm,0.5s							
SATY				Lg	Lg	09 15 23.2	
13nm,0.3s							
SATY	**Saty**	**4.95**	**275**	*e*P	Pb	09 14 16.9	+4.8
2.1nm,0.5s							
SATY				*e*S	**Sg**	**09 15 23.2**	**-1.0**
13nm,0.3s							
BLB	**Baldybastay**	**5.01**	**287**	Pg	**Pg**	**09 14 19.2**	**-2.0**
13nm,0.4s							
BLB				Lg	Lg	09 15 27.3	
20nm,0.6s							
ARXS	**Arharly**	**5.49**	**287**	*e*P	Pb	09 14 25.9	+4.7
0.4nm,0.3s							
ARXS				*e*S	**Sg**	**09 15 39.8**	**-1.6**
9.1nm,0.6s							
KOTS	**Kotyrbulak**	**5.90**	**276**	Pg	**Pg**	**09 14 34.6**	**-3.6**
2.2nm,0.2s							
KOTS				Lg	Lg	09 15 53.7	
23nm,0.5s							
KOTS	**Kotyrbulak**	**5.90**	**276**	*e*P	**Pg**	**09 14 34.6**	**-3.6**
2.2nm,0.2s							
KOTS				*e*S	**Sg**	**09 15 53.7**	**-0.9**
23nm,0.5s							
TNSS	**Tian-Shan**	**6.02**	**274**	Pg	Pb	09 14 36.0	+5.6
2.1nm,0.6s							
TNSS				Lg	Lg	09 15 56.0	
2.3nm,0.7s							
TNSS	**Tian-Shan**	**6.02**	**274**	*e*P	Pb	09 14 36.0	+5.6
2.1nm,0.6s							
TNSS				*e*S	**Sg**	**09 15 56.0**	**-2.5**
2.3nm,0.7s							
KTBS	**Karatobe**	**6.24**	**281**	Pg	Pb	09 14 39.0	+5.1
1.2nm,1.2s							
KTBS				Lg	Lg	09 16 01.2	
4.3nm,0.6s							
KTBS	**Karatobe**	**6.24**	**281**	*e*P	Pg	09 14 40.2	-4.5
0.5nm,0.1s							
KTBS				*e*S	**Sg**	**09 16 03.3**	**-2.1**
7.9nm,0.4s							
KST	**Kastek**	**6.74**	**275**	Pg	Pg	09 14 50.0	-4.3
KST				Lg	Lg	09 16 20.7	
8.0nm,1.5s							
KST	**Kastek**	**6.74**	**275**	*e*P	Pg	09 14 50.0	-4.3
KST				*e*S	**Sg**	**09 16 20.7**	**-0.9**
8.0nm,1.5s							
DGS	**Degeres**	**6.88**	**276**	Pg	Pb	09 14 51.6	+6.7
1.6nm,0.6s							
DGS				Lg	Lg	09 16 23.1	
6.4nm,0.5s							
DGS	**Degeres**	**6.88**	**276**	*e*P	Pb	09 14 51.6	+6.7
1.6nm,0.6s							

IDC 25 09:15:44.6±3.0, 4°.39S×153°.14E, h0km, mb3.6/2, mbtmp3.7/3, ML1.9/1, Error ellipse: s-maj=148.1km s-min=40.2km az=129.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.75**	**230**	Pn	Pn	09 17 40.0	+1.3
0.9nm,0.3s,baz=45,slow=8.6,SNR=2.4							
PMG				Sn	Sn	09 19 08.7	+1.5
0.6nm,0.3s,baz=338,slow=19,SNR=1.6							
3.8nm,0.5s							
WRA	**Warramunga Arr**	**23.96**	**228**	P	P	09 21 00.4	-0.5
1.8nm,0.7s,baz=53,slow=9.6,SNR=13							
1.8nm,0.7s							
ASAR	**Alice Springs**	**26.68**	**222**	P	P	09 21 25.5	0.0
0.3nm,0.5s,baz=55,slow=9.4,SNR=8.8							
0.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**150.49**	**289**	PKPbc	PKPbc	09 35 39.3	-0.2
0.7nm,1.1s,baz=82,slow=2.9,SNR=2.4							

*IDC **25** 09:18:58.3±0.9, 33°.83N×134°.65E, h0km, mb3.7/10, mbtmp3.8/17, ML3.6/7, Error ellipse: s-maj=18.8km s-min=14.0km az=142.0*

*JMA **25** 09:19:03.9±0.1, 33°.9N±0°.2×134°.6E±0°.2, h42km, MD4.1/40, MV4.3/40, TOKUSHIMA PREF*

JMA Felt III J1 at TOKUSHIMA PREF .

*NIED **25** 09:19:03.9, 33°.92N×134°

JNU				Sn	Sn	09 20 27.2	-0.1
	comp=N,9.5nm,0.3s,baz=60,slow=20,SNR=3.8						
JNU				Lg	Lg	09 20 40.4	
	comp=N,6.3nm,0.3s,baz=45,slow=20,SNR=1.5						
	comp=N,52nm,0.2s						
MAJO	**Matsushiro**	**4.01**	**48**	Pn	**Pn**	**09 20 03.1**	**+0.2**
MJAR	**Matsushiro Arr**	**4.01**	**48**	Pn	**Pn**	**09 20 02.7**	**-0.3**
	comp=N,0.8nm,0.3s,baz=236,slow=14,SNR=22						
MJAR				Sn	**Sn**	**09 20 47.9**	**-0.9**
	comp=N,2.5nm,0.3s,baz=224,slow=28,SNR=7.8						
	comp=N,4.2nm,0.4s						
MJB9	**Matsu-Tunnel**	**4.01**	**48**	Pn	**Pn**	**09 20 04.0**	**+1.0**
JSD	**Sado**	**5.12**	**35**	Pn	**Pn**	**09 20 18.8**	**+0.5**
TJN	**Taejon**	**6.36**	**295**	Pn	**Pn**	**09 20 35.5**	**+0.2**
KSRS	**Korea Array**	**6.43**	**305**	Pn	**Pn**	**09 20 36.6**	**+0.4**
	comp=N,2.1nm,0.3s,baz=123,slow=14,SNR=36						
KSRS				Sn	**Sn**	**09 21 46.3**	**-2.1**
	comp=N,4.0nm,0.3s,baz=122,slow=24,SNR=14						
	comp=N,6.0nm,0.4s						
JMM	**Marumori**	**6.45**	**50**	Pn	**Pn**	**09 20 39.1**	**+2.7**
KSAR	**Wonju Array Be**	**6.45**	**305**	Pn	**Pn**	**09 20 36.4**	**-0.2**
KS19	**Wonju Array Si**	**6.50**	**305**	Pn	**Pn**	**09 20 36.7**	**-0.5**
INCN	**Inchon**	**7.34**	**301**	Pn	**Pn**	**09 20 48.8**	**0.0**
JTM	**Tenmabayashi**	**8.63**	**35**	Pn	**Pn**	**09 21 08.2**	**+1.8**
JOW	**Kunigami**	**8.87**	**219**	Pn	**Pn**	**09 21 10.9**	**+1.1**
JOW	**Kunigami**	**8.87**	**219**	Pn	**Pn**	**09 21 10.0**	**+0.3**
	comp=N,1.9nm,0.3s,baz=350,slow=19,SNR=1.4						
JOW				Sn	**Sn**	**09 22 43.6**	**-4.8**
	comp=N,1.4nm,0.3s,baz=99,slow=22,SNR=1.6						
	comp=N,5.1nm,0.3s						
USRK	**Ussuriysk Ar.**	**10.47**	**350**	Pn	**Pn**	**09 21 31.7**	**+0.1**
	comp=N,0.2nm,0.3s,baz=168,slow=16,SNR=2.7						
	comp=N,2.3nm,0.8s						
ASAJ	**Asahikawa**	**11.97**	**29**	Pn	**Pn**	**09 21 51.1**	**-1.1**
	comp=N,0.2nm,0.3s,baz=244,slow=14,SNR=1.3						
	comp=N,1.3nm,0.5s						
JKA	**Kamikawa-asahi**	**11.97**	**29**	Pn	**Pn**	**09 21 52.8**	**+0.6**
NJ2	**Nanjing**	**13.28**	**266**	*e*P	**Pn**	**09 22 10.3**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KLR	**Kul'dur**	**15.46**	**353**	Pn	**Pn**	**09 22 40.5**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=156,slow=10,SNR=13						
	comp=Z,14nm,1.1s						
XLT	**XiLinHaoTe**	**17.45**	**310**	*e*P	**P**	**09 23 06.5**	**+0.9**
XLT				sP	sP	09 23 19.5	-0.1
XLT				pmax	pmax		
	comp=Z,12nm,0.9s						
XLT				pmax	pmax		
	comp=Z,99nm,3.8s						
XLT				LR	LR		
	comp=N,26nm,14.9s						
XLT				LR	LR		
	comp=E,230nm,12.8s						
XLT				LR	LR		
	comp=Z,310nm,17.9s						
HHC	**Hu-ho-hao-te**	**19.49**	**298**	*e*P	**Pn**	**09 23 30.5**	**+1.0**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,74nm,3.5s						
SONM	**Songino Array**	**25.25**	**312**	P	**P**	**09 24 26.9**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=117,slow=8.3,SNR=4.4						
	comp=Z,1.0nm,0.6s						
PETK	**Petropavlovsk-**	**25.33**	**34**	P	**P**	**09 24 27.1**	**-0.2**
	comp=Z,4.1nm,0.8s,baz=247,slow=9.2,SNR=2.3						
	comp=Z,4.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**35.23**	**253**	P	**P**	**09 25 56.6**	**+1.4**
	comp=Z,0.7nm,0.4s,baz=51,slow=7.1,SNR=1.3						
	comp=Z,0.7nm,0.4s						
WMQ	**Urumqi**	**37.35**	**300**	*e*P	**P**	**09 26 15.3**	**+2.2**
WMQ				LR	LR		
	comp=N,370nm,16.5s						
WMQ				LR	LR		
	comp=Z,150nm,18.3s						
ZALV	**Zalesovo Beam**	**40.02**	**315**	P	**P**	**09 26 35.1**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=100,slow=6.4,SNR=2.0						
	comp=Z,0.4nm,0.4s						
MK31	**Makanchi Array**	**41.11**	**304**	P	**P**	**09 26 44.1**	**-0.3**
MKAR	**Makanchi Array**	**41.11**	**304**	P	**P**	**09 26 44.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=90,slow=10,SNR=7.1						
	comp=Z,0.8nm,0.7s						
KAPI	**Kappang**	**41.15**	**203**	P	**P**	**09 26 44.4**	**-0.5**
KAPI				IAmb	IAmb	09 27 19.7	
	comp=Z,21nm,1.4s						
MAKZ	**Makanchi**	**41.33**	**304**	P	**P**	**09 26 45.7**	**-0.6**
MAKZ				IAmb	IAmb	09 27 17.1	
	comp=Z,14nm,1.5s						
KURBB	**Kurchatov Arra**	**43.59**	**310**	P	**P**	**09 27 03.8**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=104,slow=9.8,SNR=8.3						
	comp=Z,0.5nm,0.4s						
BVAR	**Borovoye Array**	**48.57**	**314**	P	**P**	**09 27 43.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=108,slow=9.4,SNR=7.3						
	comp=Z,0.9nm,0.6s						
L16K	**Owhat River**	**49.52**	**35**	P	**P**	**09 27 51.0**	**+0.3**
L16K				IAmb	IAmb	09 28 26.5	
	comp=Z,14nm,1.4s						
C18K	**Utukok River**	**49.55**	**26**	P	**P**	**09 27 51.4**	**+0.3**
KKAR	**Karatay Array**	**49.84**	**301**	P	**P**	**09 27 52.8**	**-0.8**
K17K	**Iditarod**	**50.11**	**34**	P	**P**	**09 27 55.1**	**-0.2**
G18K	**Tagagawik**	**50.16**	**29**	P	**P**	**09 27 56.2**	**+0.5**
G18K				IAmb	IAmb	09 28 05.3	
	comp=Z,15nm,1.4s						
H18K	**Honhosa River**	**50.22**	**30**	P	**P**	**09 27 55.9**	**-0.2**
D19K	**Kuna River**	**50.65**	**26**	P	**P**	**09 27 59.4**	**0.0**
D19K				IAmb	IAmb	09 28 15.4	
	comp=Z,14nm,1.4s						
E19K	**Redstone River**	**50.87**	**27**	P	**P**	**09 28 00.9**	**-0.1**
E19K				IAmb	IAmb	09 28 44.9	
	comp=Z,11nm,1.4s						
J19K	**Poorman**	**51.35**	**32**	P	**P**	**09 28 04.9**	**+0.2**
J19K				IAmb	IAmb	09 28 05.7	
	comp=Z,5.7nm,1.0s						
J20K	**Nowinta River**	**52.00**	**32**	P	**P**	**09 28 10.2**	**+0.8**
J20K				IAmb	IAmb	09 28 14.2	
	comp=Z,5.5nm,1.2s						
G21K	**Allakaket**	**52.28**	**29**	P	**P**	**09 28 11.6**	**+0.1**
G21K				IAmb	IAmb	09 28 24.9	
	comp=Z,9.4nm,1.4s						
H21K	**Melozitna Rive**	**52.56**	**30**	P	**P**	**09 28 14.0**	**+0.4**
H21K				IAmb	IAmb	09 28 15.0	
	comp=Z,6.2nm,1.3s						
D22K	**Ayikyak River**	**52.66**	**26**	P	**P**	**09 28 15.1**	**+0.8**
D22K				IAmb	IAmb	09 28 15.4	
	comp=Z,4.3nm,0.8s						
WRA	**Warramunga Arr**	**53.54**	**180**	P	**P**	**09 28 20.3**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=358,slow=7.6,SNR=6.3						
	comp=Z,0.3nm,0.5s						
WR0	**Warramunga Arr**	**53.56**	**180**	P	**P**	**09 28 20.0**	**-1.4**
WR0				IAmb	IAmb	09 28 28.0	
	comp=Z,7.3nm,1.4s						
H23K	**Yukon River**	**53.91**	**30**	P	**P**	**09 28 24.8**	**+1.3**
H23K				IAmb	IAmb	09 28 25.7	
	comp=Z,5.2nm,0.8s						
RND	**Reindeer**	**54.39**	**33**	P	**P**	**09 28 26.8**	**-0.3**
RND				IAmb	IAmb	09 28 39.8	
	comp=Z,20nm,1.5s						
ILAR	**Eielson Array**	**55.10**	**31**	P	**P**	**09 28 31.6**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=264,slow=6.5,SNR=11						
	comp=Z,0.6nm,0.6s						
SCM	**Sheep Creek Mo**	**55.27**	**34**	P	**P**	**09 28 33.7**	**+0.1**
F25K	**Christian Rive**	**55.32**	**27**	P	**P**	**09 28 34.9**	**+1.1**
F26K	**Sheenjek River**	**55.88**	**27**	P	**P**	**09 28 38.8**	**+1.0**
D27M	**Malcolm River**	**56.84**	**25**	P	**P**	**09 28 44.4**	**-0.3**
ASAR	**Alice Springs**	**57.25**	**181**	P	**P**	**09 28 45.7**	**-2.3**
	comp=Z,0.4nm,1.0s,baz=347,slow=8.0,SNR=2.7						
	comp=Z,0.4nm,1.0s						
BCAR	**Beaver Creek A**	**57.60**	**32**	P	**P**	**09 28 50.8**	**+0.7**
M27K	**Edge Creek, AK**	**57.70**	**33**	P	**P**	**09 28 51.4**	**+0.5**
I28M	**Miner Creek**	**57.90**	**29**	P	**P**	**09 28 52.6**	**+0.4**
I30M	**Mount Dempster**	**59.41**	**29**	P	**P**	**09 29 03.3**	**+0.5**
G31M	**Satah River**	**59.78**	**27**	P	**P**	**09 29 04.8**	**-0.3**
H31M	**Peel River**	**60.07**	**28**	P	**P**	**09 29 07.2**	**0.0**
H31M				IAmb	IAmb	09 29 49.5	
	comp=Z,12nm,1.4s						
C36M	**Paulatuk**	**62.57**	**23**	P	**P**	**09 29 23.6**	**-0.3**
C36M				IAmb	IAmb	09 29 27.2	
	comp=Z,4.5nm,1.1s						
NIUE	**Niue**	**74.66**	**126**	P	**P**	**09 30 38.4**	**-1.6**
NB201	**NORSAR Array S**	**74.73**	**335**	P	**P**	**09 30 39.4**	**-0.5**

ASIES ***25*** *09:20:09.7, 22°.35N×120°.79E, h8km, ML3.6, Mw3.8,*
Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm;
M_{rr}-0.87; $M_{\theta\theta}$0.17; $M_{\phi\phi}$0.70; $M_{r\theta}$1.64; $M_{\theta\phi}$-0.39; $M_{\phi r}$4.88;
Fault plane solution: M_o5.21990×10^{21} NP1:
ϕ_s197.57000°, δ86.40000°, λ-84.79000°. NP2:
ϕ_s322.12000°, δ6.33000°, λ-145.29000°. Principal axes:
T Plg41.1780°, Azm282.6800°; N Plg5.2000°,
Azm17.2460°; P Plg48.3470°, Azm113.1180°;
TAP ***25*** *09:20:09.7, 22°.35N×120°.79E, h8km, ML3.6, C*
JMA ***25*** *09:20:10.7±0.4, 22°.N±4°×12°1E±°, h0km, TAIWAN*
REGION

ISC 25 09:20:10.2±0.8, 22°.34N±0°.02×120°.81E±0°.02, h10km±4km, n90, σ1°.902/143, 9C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAST	**Anshuo**	**0.06**	**39**	⇑*i*P	**Pg**	**09 20 12.1**	**-0.3**
EAST				S	**Sg**	**09 20 13.9**	**0.0**
TAWH	**Dawu Township**	**0.07**	**87**	⇑*i*P	**Pg**	**09 20 12.4**	**0.0**
TAWH				S	**Sg**	**09 20 14.6**	**+0.5**
TAW	**Tawu**	**0.09**	**75**	⇑*i*P	**Pg**	**09 20 12.8**	**+0.2**
TAW				S	**Sg**	**09 20 15.1**	**+0.8**
SLIU	**Shizi**	**0.12**	**184**	⇓*i*P	**Pg**	**09 20 13.1**	**0.0**
SLIU				*i* S	**Sg**	**09 20 15.3**	**+0.2**
SCZT	**Fangliau**	**0.18**	**282**	⇑*i*P	**Pg**	**09 20 13.6**	**-0.4**
SCZT				*i* S	**Sg**	**09 20 16.2**	**-0.4**
ECL	**Taimali**	**0.29**	**28**	⇑*i*P	**Pg**	**09 20 16.0**	**-0.2**
ECL				*i* S	**Sg**	**09 20 20.1**	**0.0**
SMST	**Manzhou Townsh**	**0.32**	**175**	*e*P	**Pb**	**09 20 17.0**	**-1.0**
SMST				*e*S	**Sb**	**09 20 23.0**	**-0.2**
MASBT	**Mashibuluo**	**0.32**	**330**	⇑P	**Pg**	**09 20 16.2**	**-0.4**
MASBT				*e*S	**Sg**	**09 20 20.2**	**-0.7**
HEN	**Hengchun**	**0.34**	**191**	*e*P	**Pb**	**09 20 18.2**	**-0.1**
HEN				*e*S	**Sb**	**09 20 23.8**	**+0.1**
TWK1	**Hengchun**	**0.39**	**180**	*e*P	**Pb**	**09 20 18.8**	**-0.4**
TWK1				S	**Sb**	**09 20 25.4**	**+0.1**
TWKBT	**Hengchun**	**0.39**	**179**	*e*P	**Pb**	**09 20 19.0**	**-0.3**
TWKBT				S	**Sb**	**09 20 25.7**	**+0.3**
TSMG	**Majia**	**0.40**	**338**	⇓*e*P	**Pg**	**09 20 17.7**	**-0.4**
TSMG				*e*S	**Sg**	**09 20 23.0**	**-0.4**
SGLT	**Jiouru**	**0.48**	**323**	*e*P	**Pb**	**09 20 19.7**	**-1.1**
SGLT				*e*S	**Sb**	**09 20 27.5**	**-0.6**
TTN	**Taitung**	**0.52**	**37**	*e*P	**Pb**	**09 20 21.0**	**-0.5**
TTN				*e*S	**Sb**	**09 20 28.6**	**-0.5**
TWG	**Pinlang**	**0.54**	**27**	⇑*i*P	**Pg**	**09 20 20.4**	**-0.3**
TWG				*i* S	**Sg**	**09 20 27.4**	**-0.5**
TWGBT	**Beinan**	**0.54**	**28**	⇑*i*P	**Pg**	**09 20 20.5**	**-0.2**
TWGBT				*e*S	**Sg**	**09 20 27.2**	**-0.7**
WSSB	**Gushan**	**0.59**	**301**	*e*P	**Pn**	**09 20 24.9**	**+0.2**
TWM1	**Shoushan**	**0.60**	**324**	*e*P	**Pb**	**09 20 22.7**	**-0.2**
TWM1				*e*S	**Sb**	**09 20 31.3**	**-0.2**
SNJT	**Kaohsiung City**	**0.60**	**314**	*e*P	**Pn**	**09 20 23.8**	**-1.1**
SCST	**Cishan**	**0.62**	**332**	*i* P	**Pb**	**09 20 23.3**	**+0.2**
SCST				*e*S	**Sb**	**09 20 31.7**	**-0.2**
LONT	**Longtian**	**0.64**	**28**	P	**Pg**	**09 20 22.4**	**-0.3**
LONT				S	**Sg**	**09 20 30.3**	**-0.8**
LDUT	**Ludao**	**0.70**	**61**	*e*P	**Pb**	**09 20 24.0**	**-0.5**
LDUT				*e*S	**Sg**	**09 20 32.9**	**0.0**
LAY	**Lan-yu**	**0.75**	**113**	*e*P	**Pg**	**09 20 24.1**	**-0.6**
LAY				*e*S	**Sb**	**09 20 35.9**	**+0.2**
SGST	**Jiashian**	**0.77**	**344**	P	**Pg**	**09 20 24.4**	**-0.7**
LYUB	**Lan-yu**	**0.79**	**115**	*e*P	**Pg**	**09 20 23.4**	**-2.1**
LYUB				*e*S	**Sb**	**09 20 36.7**	**-0.2**
STYH	**Taoyuan**	**0.83**	**358**	*e*P	**Pb**	**09 20 26.2**	**-0.6**
STYH				*e*S	**Sb**	**09 20 38.4**	**+0.4**
ECS	**Chishang**	**0.85**	**27**	*e*P	**Pb**	**09 20 26.5**	**-0.6**
ECS				*e*S	**Sb**	**09 20 38.7**	**+0.2**
ELDTW	**Lidau**	**0.87**	**13**	⇑P	**Pg**	**09 20 26.4**	**-0.6**
CHN1	**Nanshi**	**0.88**	**343**	*e*P	**Pn**	**09 20 28.5**	**-0.3**
EHD	**Haiduan**	**0.89**	**24**	*e*P	**Pg**	**09 20 26.8**	**-0.6**
EHD				S	**Sg**	**09 20 37.6**	**-1.4**
WTP	**Ta-pu**	**0.92**	**349**	*e*P	**Pn**	**09 20 28.8**	**-0.6**
WTP				*e*S	**Sn**	**09 20 42.4**	**-0.3**
SNST	**Tainan City**	**0.93**	**342**	*e*P	**Pn**	**09 20 29.4**	**+0.1**
SNST				S	**Sn**	**09 20 43.5**	**+0.9**
FULB	**Fuli**	**0.97**	**28**	*e*P	**Pg**	**09 20 27.9**	**-1.0**
FULB				*e*S	**Sb**	**09 20 42.6**	**+0.6**
TWK	**Hsinying**	**0.97**	**342**	*e*P	**Pn**	**09 20 30.0**	**0.0**
TWK				*e*S	**Sn**	**09 20 43.7**	**-0.2**
TPUB	**Ta-pu**	**0.97**	**350**	*e*P	**Pn**	**09 20 29.6**	**-0.4**
TPUB				*e*S	**Sb**	**09 20 42.4**	**+0.2**
SCLT	**Jiali**	**1.01**	**326**	*e*P	**Pn**	**09 20 31.6**	**+1.1**
SCLT				*e*S	**Sn**	**09 20 47.4**	**+2.7**
CHN4	**Tsaushan**	**1.03**	**349**	*e*P	**Pn**	**09 20 31.0**	**+0.2**
CHN4				*e*S	**Sn**	**09 20 46.1**	**+0.9**
TSCK	**Chigu Township**	**1.05**	**321**	*e*P	**Pn**	**09 20 31.6**	**+0.6**
TSCK				S	**Sn**	**09 20 48.1**	**+2.5**
EYUL	**Yuli**	**1.11**	**25**	*e*P	**Pg**	**09 20 30.8**	**-0.8**
WCKO	**Fanlu**	**1.11**	**350**	*e*P	**Pn**	**09 20 32.4**	**+0.5**
WCKO				*e*S	**Sn**	**09 20 48.9**	**+1.6**
ICHU	**Yijhu**	**1.13**	**335**	*e*P	**Pn**	**09 20 32.2**	**0.0**
YULB	**Yu-li**	**1.15**	**23**	*e*P	**Pg**	**09 20 31.2**	**-1.0**
CHN8	**Yiju**	**1.15**	**331**	*e*P	**Pg**	**09 20 30.9**	**-1.4**
CHN8				*e*S	**Sn**	**09 20 50.2**	**+2.1**
ALS	**Alishan**	**1.17**	**360**	*e*P	**Pn**	**09 20 33.1**	**+0.1**
ALS				*e*S	**Sn**	**09 20 49.3**	**+0.2**
CHY	**Chiayi**	**1.21**	**343**	*e*P	**Pn**	**09 20 33.4**	**+0.2**
CHY				*e*S	**Sn**	**09 20 51.9**	**+2.2**
CHN2	**Minshiung**	**1.23**	**346**	*e*P	**Pn**	**09 20 34.0**	**+0.5**
EHY	**Hungye**	**1.26**	**22**	*e*P	**Pb**	**09 20 33.6**	**-0.5**
CHN5	**Tsauling**	**1.26**	**355**	*e*P	**Pg**	**09 20 34.6**	**+0.2**
HGSD	**Ruisui**	**1.28**	**26**	*e*P	**Pg**	**09 20 35.0**	**+0.1**
HGSD				*e*S	**Sn**	**09 20 52.5**	**+1.0**
WSL	**Shuilin Townsh**	**1.30**	**336**	*e*P	**Pn**	**09 20 33.9**	**-0.5**
WHYT	**Xinyi Township**	**1.35**	**2**	*e*P	**Pg**	**09 20 36.5**	**+0.3**
WHYT				*e*S	**Sn**	**09 20 55.5**	**+2.2**
WGK	**Gukeng**	**1.36**	**351**	*e*P	**Pg**	**09 20 36.3**	**-0.1**
WGK				*e*S	**Sg**	**09 20 56.5**	**+2.5**
WDLH	**Douliu**	**1.37**	**350**	*e*P	**Pb**	**09 20 35.2**	**-0.8**
WDLH				S	**Sg**	**09 20 56.6**	**+2.3**
WTK	**Tuku**	**1.40**	**344**	*e*P	**Pg**	**09 20 36.4**	**-0.7**
WTK				*e*S	**Sg**	**09 20 56.2**	**+0.9**
WDGT	**Dungji**	**1.40**	**311**	*e*P	**Pn**	**09 20 35.3**	**-0.6**
WDGT				*e*S	**Sg**	**09 20 54.8**	**-0.6**
WSF	**Szhu**	**1.40**	**338**	*e*P	**Pg**	**09 20 36.3**	**-0.9**
WSF				*e*S	**Sg**	**09 20 56.8**	**+1.4**
VWDT	**VWDT**	**1.44**	**12**	*e*P	**Pg**	**09 20 37.2**	**-0.8**
SSLB	**Suanglung**	**1.45**	**5**	*e*P	**Pg**	**09 20 38.1**	**0.0**
SSLB				*e*S	**Sg**	**09 20 55.7**	**-1.2**
WARBT	**Fenglin Townsh**	**1.48**	**21**	*e*P	**Pb**	**09 20 37.0**	**-0.8**
WJS	**Zhushan**	**1.48**	**357**	*e*P	**Pg**	**09 20 38.1**	**-0.6**
WJS				*e*S	**Sg**	**09 20 60.0**	**+2.1**
VCHM	**Qimei**	**1.54**	**305**	*e*P	**Pn**	**09 20 37.2**	**-0.6**
VCHM				*e*S	**Sb**	**09 20 58.0**	**-0.5**
SMLT	**Sun Moon Lake**	**1.54**	**3**	*e*P	**Pb**	**09 20 38.2**	**-0.8**
SMLT				*e*S	**Sg**	**09 21 01.4**	**+1.5**
TYC	**Yuchr**	**1.56**	**2**	*e*P	**Pg**	**09 20 39.3**	**-0.9**
TYC				S	**Sg**	**09 21 02.7**	**+2.2**
ESL	**Shilin**	**1.58**	**21**	*e*P	**Pn**	**09 20 38.5**	**+0.2**
ESL				*e*S	**Sb**	**09 20 58.9**	**-0.7**
PHUB	**P'eng-hu**	**1.63**	**316**	*e*P	**Pn**	**09 20 38.4**	**-0.7**
PHUB				*e*S	**Sb**	**09 21 00.3**	**-0.8**
WUSB	**Renai**	**1.67**	**10**	*e*P	**Pb**	**09 20 40.6**	**-0.7**
WUSB				*e*S	**Sg**	**09 21 03.2**	**-0.9**
PNG	**Penghu**	**1.68**	**317**	*e*P	**Pn**	**09 20 39.2**	**-0.5**
WCS	**Beigang Elemen**	**1.72**	**3**	*e*P	**Pb**	**09 20 41.3**	**-0.6**
WCS				*e*S	**Sg**	**09 21 05.9**	**+0.5**
LXIB	**Xiulin Townshi**	**1.77**	**18**	*e*P	**Pb**	**09 20 42.7**	**-0.1**
WHF	**Hehuan Shan**	**1.85**	**13**	*e*P	**Pb**	**09 20 43.5**	**-0.9**
TDCB	**Techi**	**1.94**	**10**	*e*P	**Pb**	**09 20 44.4**	**-1.3**
WHP	**Taichung City**	**1.94**	**4**	*e*P	**Pb**	**09 20 45.0**	**-0.7**
FUSS	**Fushou**	**1.94**	**12**	*e*P	**Pg**	**09 20 46.5**	**-1.1**
ETLH	**Xiulin Townshi**	**1.96**	**18**	*e*P	**Pb**	**09 20 44.9**	**-1.3**
NACB	**Ninganchiao**	**1.97**	**21**	*e*P	**Pn**	**09 20 44.2**	**+0.6**
TWQ1	**Liyutan**	**2.00**	**359**	*e*P	**Pb**	**09 20 45.9**	**-0.9**
EWUT	**Wuta**	**2.28**	**23**	*e*P	**Pb**	**09 20 50.1**	**-1.4**
NSTT	**Nanjuang**	**2.29**	**4**	*e*P	**Pb**	**09 20 49.7**	**-2.0**
NFF	**Wufeng Townshi**	**2.30**	**7**	*e*P	**Pb**	**09 20 50.0**	**-1.9**
LIOB	**Emei**	**2.31**	**5**	*e*P	**Pb**	**09 20 49.8**	**-2.2**
YHNB	**Yeheng**	**2.38**	**13**	*e*P	**Pb**	**09 20 51.3**	**-2.0**
NSK	**Sanguang**	**2.38**	**12**	*e*P	**Pb**	**09 20 51.6**	**-1.7**
ENTT	**Nioudou**	**2.40**	**17**	*e*P	**Pb**	**09 20 53.3**	**-0.2**
KSHI	**Guanxi Townshi**	**2.45**	**8**	*e*P	**Pn**	**09 20 51.6**	**+1.2**
TWE	**Neicheng**	**2.50**	**18**	*e*P	**Pb**	**09 20 54.6**	**-0.7**
NWLT	**Wulai**	**2.51**	**15**	*e*P	**Pb**	**09 20 53.9**	**-1.6**
FUSB	**Fushanzhiwuyua**	**2.52**	**16**	*e*P	**Pb**	**09 20 54.5**	**-1.1**
SXI1	**Grass Mountain**	**2.92**	**19**	*e*P	**Pn**	**09 20 58.2**	**+1.4**
IRIF	**Iriomote-Funau**	**3.34**	**53**	*e*P	**Pb**	**09 21 07.5**	**-2.2**
JIJ	**Ishigaki jima**	**3.67**	**56**	*e*S	**Sn**	**09 21 52.9**	**+2.5**

IDC ***25*** *09:21:27.9±0.5, 17°.77N×120°.98E, h0km, mb4.3/30,*
mbtmp4.3/32, ML4.0/2, MS3.8/30, Error ellipse:
s-maj=17.2km s-min=10.5km az=83.0
BJI ***25*** *09:21:32.9, 18°.08N×120°.65E, h20km, mb4.5/49, mB4.8/20,*
ML4.4/3, Ms4.2/35, Ms7 4.0/36
NEIC ***25*** *09:21:33.6±1.4, 17°.89N±0°.08×120°.69E±0°.09, h30km±5km,*
mb4.7/103, Error ellipse: s-maj=11.9km s-min=11.2km
az=122.0

ISC 25 09:21:33.5±0.3, 17°.82N±0°.04×120°.73E±0°.05, h35km, n194, σ1°.919/189, mb4.6/88, MS3.9/35, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.70**	**177**	Pg	Pn	09 22 33.8	+5.5
	125nm,0.3s,baz=22,slow=19,SNR=11						
TGY				Lg	Lg	09 23 23.5	
	76nm,0.3s,baz=332,slow=20,SNR=4.5						
TGY				LR	LR	09 24 26.3	
	comp=Z,2μm,19.7s,baz=12,slow=49						
TWG	**Pinlang**	**4.99**	**4**		**Pn**	**09 22 44.1**	**-1.8**
TPUB	**Ta-pu**	**5.46**	**359**	Pn	**Pn**	**09 22 50.5**	**-1.9**
YULB	**Yu-li**	**5.57**	**5**		**Pn**	**09 22 52.8**	**-1.1**
SSLB	**Suanglung**	**5.94**	**2**	Pn	**Pn**	**09 22 57.7**	**-1.4**
NACB	**Ninganchiao**	**6.38**	**7**		**Pn**	**09 23 04.3**	**-0.7**
YHNB	**Yeheng**	**6.84**	**5**	Pn	**Pn**	**09 23 11.9**	**+0.4**
YOJ	**Yonaguni jima**	**6.94**	**17**	Pn	**Pn**	**09 23 11.7**	**-1.1**
KNMB	**Chin-men Tao**	**6.97**	**342**	Pn	**Pn**	**09 23 09.9**	**-3.1**
TATO	**Taipei**	**7.16**	**5**	Pn	**Pn**	**09 23 15.8**	**+0.1**
HKPS	**Hong Kong Po S**	**7.62**	**307**	Pn	**Pn**	**09 23 20.8**	**-1.3**
QIZ	**Qiongzhong**	**10.41**	**278**	Pn	**Pn**	**09 23 59.3**	**-1.1**
QIZ	**Qiongzhong**	**10.41**	**278**	P	**Pn**	**09 23 59.8**	**-0.6**
QIZ				S	**Sn**	**09 25 54.8**	**-1.0**
QIZ				LR	LR		
	comp=N,420nm,11.8s						
QIZ				LR	LR		
	comp=E,630nm,8.6s						
QIZ				LR	LR		
	comp=Z,770nm,18.5s						
JOW	**Kunigami**	**11.36**	**37**	Pn	**Pn**	**09 24 12.6**	**-0.8**
JOW	**Kunigami**	**11.36**	**37**	Pn	**Pn**	**09 24 11.9**	**-1.4**
	2.5nm,0.3s,baz=243,slow=14,SNR=6.1						
JOW				LR	LR	09 27 08.3	
	comp=Z,58nm,21.6s,baz=72,slow=30						
	16nm,0.6s						
DAV	**Davao City (W)**	**11.68**	**156**	LR	LR	09 29 54.2	
	comp=Z,888nm,19.2s,baz=8.0,slow=44						
NJ2	**Nanjing**	**14.28**	**354**	*e*P	**Pn**	**09 24 53.8**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
TOLI2	**Tolitoli**	**16.60**	**180**		**P**	**09 25 25.8**	**0.0**
SBUM	**Sibu**	**17.41**	**210**		**P**	**09 25 35.2**	**+0.5**
JNU	**Nakatsue**	**17.76**	**29**	P	**Pn**	**09 25 37.3**	**-0.8**
JNU	**Nakatsue**	**17.76**	**29**	P	**Pn**	**09 25 37.0**	**-1.1**
	0.3nm,0.3s,baz=200,slow=6.4,SNR=5.0						
JNU				LR	LR	09 32 39.1	
	comp=Z,96nm,19.1s,baz=218,slow=38						
	13nm,0.9s						
**TNT

comp=Z,21nm,1.5s
LZH pmax pmax
comp=Z,200nm,4.1s
LZH LR LR
comp=Z,480nm,15.5s
LZH LR LR
comp=Z,250nm,14.4s
LZH LR LR
comp=Z,480nm,16.8s
GUMO Guam 23.60 97 LR LR 09 36 29.0
comp=Z,143nm,18.3s,baz=300,slow=39
MJAR Matsushiro Arr 24.21 36 P **P 09 26 45.2 -1.7**
comp=Z,1.2nm,0.7s,baz=211,slow=9.3,SNR=3.1
MJAR LR LR 09 36 56.8
comp=Z,50nm,19.1s,baz=207,slow=38
comp=Z,1.2nm,0.7s
HHC Hu-ho-hao-te 24.27 343 *e*P **P 09 26 48.5 +0.9**
HHC pP pP 09 26 54.0 -3.8
HHC sP sP 09 26 57.0 -5.1
HHC PP **PnPn 09 27 22.5 +4.2**
HHC S **S 09 31 05.0 +0.8**
HHC sS sS 09 31 14.8 -6.1
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,93nm,4.5s
HHC LR LR
comp=Z,310nm,18.2s
HHC LR LR
comp=Z,180nm,15.3s
HHC LR LR
comp=Z,400nm,17.9s
PSI Prapat 26.08 238 LR LR 09 36 16.4
comp=Z,96nm,21.0s,baz=50,slow=34
CN2 Changchun 26.21 8 *e*P **P 09 27 05.5 +0.6**
CN2 *e*pP pP 09 27 09.8 -5.3
CN2 pmax pmax
comp=Z,10.0nm,0.7s
XLT XiLinHaoTe 26.30 352 *e*P **P 09 27 08.0 +2.1**
XLT PP **PnPn 09 27 50.5 +4.6**
XLT pmax pmax
comp=Z,29nm,1.1s
XLT pmax pmax
comp=Z,180nm,4.3s
UGM Wanagama 27.48 202 P **P 09 27 17.0 +0.3**
SHL Shillong 27.85 291 P **P 09 27 19.6 -0.5**
SHL IAmb IAmb 09 27 31.9
comp=Z,8.2nm,0.8s
USRK Ussuriysk Ar. 27.96 17 P **P 09 27 18.2 -2.5**
comp=Z,1.4nm,0.7s,baz=195,slow=10,SNR=2.8
comp=Z,1.4nm,0.7s
BNX BinXian 28.39 10 ⇑P **P 09 27 24.5 0.0**
BNX pmax pmax
comp=Z,7.0nm,1.0s
GOMU GeErMu 29.32 314 P **P 09 27 33.0 -0.4**
GOMU pP pP 09 27 40.3 -3.2
GOMU S **S 09 32 27.5 +2.7**
GOMU pmax pmax
comp=Z,4.0nm,0.7s
GOMU pmax pmax
comp=Z,210nm,5.8s
GOMU LR LR
comp=Z,360nm,16.4s
GOMU LR LR
comp=Z,540nm,17.7s
GOMU LR LR
comp=Z,950nm,17.4s
ASAJ Asahikawa 32.03 30 P **P 09 27 56.0 -0.8**
comp=Z,5.3nm,0.9s,baz=250,slow=12,SNR=1.7
ASAJ LR LR 09 41 33.7
comp=Z,79nm,19.8s,baz=158,slow=38
comp=Z,5.3nm,0.9s
JKA Kamikawa-asahi 32.03 30 P **P 09 27 55.9 -0.8**
SONM Songino Array 32.16 342 P **P 09 27 55.7 -2.3**
SONM Songino Array 32.16 342 P **P 09 27 58.9 +1.0**
comp=Z,2.5nm,0.7s,baz=159,slow=10,SNR=5.5
SONM LR LR 09 42 30.4
comp=Z,254nm,18.0s,baz=170,slow=39
comp=Z,2.5nm,0.7s
KLR Kul'dur 32.58 13 P **P 09 28 01.3 -0.2**
comp=Z,4.7nm,0.8s,baz=217,slow=7.2,SNR=12
KLR LR LR 09 42 07.2
comp=Z,127nm,19.9s,baz=198,slow=38
comp=Z,4.7nm,0.8s
HEH HeiHe 32.80 8 *e*P **P 09 28 04.3 +0.9**
KNRA Kununurra 34.21 166 P **P 09 28 14.5 -1.5**
KNRA IAmb IAmb 09 28 43.4
comp=Z,22nm,1.4s
WMQ Urumqi 38.01 320 *e*P **P 09 28 49.5 +1.1**
WMQ LR LR
comp=Z,360nm,14.7s
WMQ LR LR
comp=Z,340nm,19.3s
WMQ LR LR
comp=Z,150nm,16.9s
PATS Pohnpei 38.22 102 P **P 09 28 50.4 0.0**
COEN Coen 38.56 144 P **P 09 28 53.0 -0.1**
COEN IAmb IAmb 09 29 07.5
comp=Z,21nm,1.4s
MBWA Marble Bar 38.75 181 P **P 09 28 53.1 -1.5**
MBWA IAmb IAmb 09 29 19.1
comp=Z,24nm,1.1s
PSA00 Pilbara Seismi 39.16 181 P **P 09 28 57.2 -0.8**
PSA00 IAmb IAmb 09 29 19.5
comp=Z,20nm,1.3s
WRAB Tennant Creek 39.83 160 P **P 09 29 01.8 -1.9**
WRA Warramunga Arr 39.83 160 P **P 09 29 01.6 -2.1**
comp=Z,2.6nm,0.9s,baz=333,slow=10,SNR=23
WRA PcP **PcP 09 31 09.9 +0.6**
comp=Z,1.3nm,0.7s,baz=335,slow=3.5,SNR=5.5
comp=Z,2.6nm,0.9s
WB2 Warramunga Arr 39.83 160 P **P 09 29 01.8 -1.9**
WR0 Warramunga Arr 39.91 160 P **P 09 29 02.4 -2.0**
MK31 Makanchi Array 42.81 321 P **P 09 29 29.3 +1.3**
MK31 IAmb IAmb 09 29 39.0
comp=Z,17nm,1.1s
MKAR Makanchi Array 42.81 321 P **P 09 29 29.7 +1.7**
comp=Z,6.0nm,0.8s,baz=112,slow=9.2,SNR=30
MKAR PcP **PcP 09 31 19.1 +0.3**
comp=Z,2.6nm,0.8s,baz=104,slow=3.8,SNR=4.8
MKAR LR LR 09 48 25.3
comp=Z,111nm,19.9s,baz=58,slow=38
comp=Z,6.0nm,0.8s
MAKZ Makanchi 43.01 321 P **P 09 29 30.8 +1.3**
MAKZ IAmb IAmb 09 29 40.0
comp=Z,16nm,1.1s
AS31 Alice Springs 43.19 162 P **P 09 29 30.1 -1.1**
ASAR Alice Springs 43.19 162 P **P 09 29 30.4 -0.8**
ASAR Alice Springs 43.19 162 P **P 09 29 30.1 -1.2**
comp=Z,4.8nm,0.6s,baz=338,slow=7.0,SNR=44
ASAR PcP **PcP 09 31 21.1 +0.8**
comp=Z,0.5nm,0.5s,baz=342,slow=3.3,SNR=2.4
comp=Z,4.8nm,0.6s
KSH Kashi 44.28 309 P **P 09 29 43.5 +3.5**
KSH sP sP 09 29 52.0 -2.9
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH LR LR
comp=Z,140nm,15.5s
KSH LR LR
comp=Z,160nm,12.4s
KSH LR LR
comp=Z,300nm,16.5s
YAK Yakutsk 44.61 6 P **P 09 29 42.2 0.0**
YAK IAmb IAmb 09 29 43.2
comp=Z,22nm,1.1s
YAK Yakutsk 44.61 6 LR LR 09 49 14.2
comp=Z,82nm,21.0s,baz=180,slow=37
NRN Naryn 44.82 311 P **P 09 29 44.4 -0.2**
NRN IAmb IAmb 09 29 56.0
comp=Z,18nm,1.1s
NIL Nilore 45.19 300 P **P 09 29 47.2 -0.1**
NIL IAmb IAmb 09 29 56.8
comp=Z,14nm,0.9s
CTAO Charters Tower 45.24 145 P **P 09 29 47.4 -0.2**
CTAO IAmb IAmb 09 29 57.1
comp=Z,7.8nm,1.1s
PETK Petropavlovsk- 45.45 31 P **P 09 29 49.9 +0.9**
PETK Petropavlovsk- 45.45 31 P **P 09 29 48.7 -0.3**
comp=Z,4.1nm,0.7s,baz=230,slow=8.3,SNR=5.0
comp=Z,4.1nm,0.7s
ZAA0 Zalesovo Array 45.47 331 P **P 09 29 48.9 -0.1**
ZALV Zalesovo Beam 45.47 331 P **P 09 29 48.9 -0.1**
ZALV Zalesovo Beam 45.47 331 P **P 09 29 49.8 +0.8**
comp=Z,3.3nm,0.6s,baz=115,slow=7.8,SNR=17
ZALV PcP **PcP 09 31 27.5 -0.2**
comp=Z,0.5nm,0.4s,baz=149,slow=3.0,SNR=1.8
ZALV LR LR 09 49 47.1
comp=Z,140nm,18.1s,baz=132,slow=37
comp=Z,3.3nm,0.6s
PET Petropavlovsk 45.87 31 P **P 09 29 52.6 +0.4**
AAK Ala-Archa 46.26 312 LR LR 09 51 13.7
comp=Z,193nm,19.4s,baz=92,slow=38
MORW Morawa 46.83 186 P **P 09 30 00.0 -0.1**
KURK Kurchatov 46.84 324 P **P 09 29 59.9 0.0**
KURBB Kurchatov Arra 46.85 324 P **P 09 30 01.4 +1.4**
comp=Z,4.0nm,0.5s,baz=121,slow=8.1,SNR=22
comp=Z,4.0nm,0.5s
GAR Garm 48.43 307 P **P 09 30 12.2 -0.5**
FORT Forrest 48.83 172 P **P 09 30 14.9 -0.5**
KKAR Karatay Array 49.20 312 P **P 09 30 18.5 +0.1**
NWAO Narrogin (SRO) 50.57 184 P **P 09 30 29.1 +0.4**
BBOO Buckleboo 52.43 164 P **P 09 30 42.0 -0.7**
BVAR Borovoye Array 52.44 324 P **P 09 30 43.5 +0.9**
comp=Z,1.6nm,0.6s,baz=114,slow=8.7,SNR=8.9
BVAR PcP **PcP 09 31 53.1 +0.1**
comp=Z,2.2nm,0.6s,baz=114,slow=2.9,SNR=6.5
BVAR LR LR 09 54 03.6
comp=Z,67nm,19.1s,baz=96,slow=37
comp=Z,1.6nm,0.6s
BRVK Borovoye 52.51 324 P **P 09 30 44.3 +1.2**
BRVK IAmb IAmb 09 30 53.7
comp=Z,9.3nm,1.1s
STKA Stephens Creek 53.31 158 P **P 09 30 48.2 -1.0**
STKA Stephens Creek 53.31 158 P **P 09 30 47.9 -1.3**
comp=Z,1.4nm,0.5s,baz=341,slow=8.6,SNR=6.5
comp=Z,1.4nm,0.5s
TIXI Tiksi 54.04 3 P **P 09 30 54.0 0.0**
TIXI Tiksi 54.04 3 LR LR 09 54 54.1
comp=Z,105nm,21.0s,baz=170,slow=37
NRIK Noril'sk 55.44 346 P **P 09 31 04.6 +0.4**
NRIK IAmb IAmb 09 31 06.1
comp=Z,6.8nm,0.8s
NRIK Noril'sk 55.44 346 P **P 09 31 04.5 +0.3**
comp=Z,7.1nm,0.8s,baz=123,slow=7.5,SNR=16
NRIK LR LR 09 56 31.2
comp=Z,264nm,19.1s,baz=148,slow=38
comp=Z,7.1nm,0.8s
ABKAR Abkulak array 57.70 317 P **P 09 31 20.6 0.0**
ABKAR Abkulak array 57.70 317 P **P 09 31 20.5 -0.1**
BILL Bilibino 57.81 18 P **P 09 31 20.5 -0.5**
BILL IAmb IAmb 09 31 31.5
comp=Z,4.6nm,0.9s
AKTO Aktyubinsk 59.13 319 LR LR 09 57 45.4
comp=Z,86nm,18.5s,baz=257,slow=37
TOO Toolangi 59.82 157 P **P 09 31 36.2 +0.8**
TOO IAmb IAmb 09 32 00.5
comp=Z,12nm,1.5s
KIRV Kirov 65.24 327 LR LR 10 02 34.4
comp=Z,148nm,19.0s,baz=83,slow=38
GNI Garni 68.16 307 LR LR 10 05 52.9
comp=Z,59nm,19.4s,baz=72,slow=39
M14K Bethel 68.42 31 P **P 09 32 31.9 +0.4**
I17K Unalakleet 69.13 28 P **P 09 32 37.7 +1.8**
KBZ Khabaz 69.21 311 P **P 09 32 38.2 +1.5**
comp=Z,3.0nm,0.9s,baz=136,slow=2.2,SNR=4.0
KBZ LR LR 10 06 20.6
comp=Z,118nm,18.2s,baz=54,slow=39
comp=Z,3.0nm,0.9s
L16K Owhat River 69.64 30 P **P 09 32 39.4 +0.2**
L16K IAmb IAmb 09 32 52.9
comp=Z,12nm,1.5s
J17K VABM Dome 69.84 28 P **P 09 32 41.4 +1.1**
TTA Tatalina 71.24 29 P **P 09 32 49.5 +0.5**
TTA IAmb IAmb 09 32 50.8
comp=Z,4.2nm,0.6s
O18K Koktuh Hills 71.80 32 P **P 09 32 53.3 +1.0**
ACHA Angle Creek He 71.86 34 P **P 09 32 52.6 -0.2**
IMAR Indian Mountai 72.06 25 P **P 09 32 54.5 +0.7**
G21K Allakaket 72.13 25 P **P 09 32 54.8 +0.6**
G21K IAmb IAmb 09 33 03.2
comp=Z,9.3nm,1.1s
D22K Ayikyak River 72.30 22 P **P 09 32 55.8 +0.6**
D22K IAmb IAmb 09 33 01.6
comp=Z,17nm,1.5s
H21K Melozitna Rive 72.47 26 P **P 09 32 57.4 +1.1**
H21K IAmb IAmb 09 32 58.2
comp=Z,7.4nm,1.0s
E22K Anaktuvuk Pass 72.67 23 P **P 09 32 58.0 +0.5**
E22K IAmb IAmb 09 32 59.5
comp=Z,18nm,1.4s
CAST Castle Rocks 72.98 28 P **P 09 32 59.7 +0.3**
OHAK Old Harbor 73.05 35 P **P 09 33 00.3 +0.5**
SKT Skwentna 73.39 30 P **P 09 33 01.3 -0.5**
SKT IAmb IAmb 09 33 01.5
comp=Z,12nm,1.3s
TOLK Toolik Lake Re 73.45 22 P **P 09 33 02.4 +0.4**
TOLK IAmb IAmb 09 33 08.5
comp=Z,6.8nm,1.1s
E23K Chandalar 73.50 23 P **P 09 33 03.1 +0.7**
E23K IAmb IAmb 09 33 04.5
comp=Z,13nm,1.4s
H23K Yukon River 73.80 25 P **P 09 33 04.6 +0.5**
H23K IAmb IAmb 09 33 06.2
comp=Z,9.2nm,0.9s
SUA Susitna One 73.80 30 P **P 09 33 04.5 +0.1**
E24K Your Creek 73.92 23 P **P 09 33 05.3 +0.5**
E24K IAmb IAmb 09 33 06.4
comp=Z,6.8nm,1.1s
I23K Minto, Yukon-K 73.96 26 P **P 09 33 06.3 +1.3**
I23K IAmb IAmb 09 33 10.6
comp=Z,14nm,1.4s
NEA2 Nenana 74.16 27 P **P 09 33 06.4 +0.2**
NEA2 IAmb IAmb 09 33 07.8
comp=Z,6.7nm,0.7s
F24K Squaw Lake 74.22 24 P **P 09 33 07.3 +0.7**
RND Reindeer 74.43 28 P **P 09 33 07.8 -0.1**
D25K Kavik River 74.50 22 P **P 09 33 08.5 +0.3**
D25K IAmb IAmb 09 33 09.8
comp=Z,5.2nm,0.8s
PMR Palmer 74.57 30 P **P 09 33 08.6 0.0**
WRH Wood River Hil 74.60 27 P **P 09 33 08.9 +0.2**
WRH IAmb IAmb 09 33 10.2
comp=Z,7.4nm,1.0s
IL31 75.06 26 P **P 09 33 11.1 -0.3**
ILAR Eielson Array 75.06 26 P **P 09 33 10.8 -0.6**
ILAR Eielson Array 75.06 26 P **P 09 33 10.4 -1.0**
comp=Z,1.5nm,0.8s,baz=264,slow=4.3,SNR=19
comp=Z,1.5nm,0.8s
F25K Christian Rive 75.06 23 P **P 09 33 12.5 +1.1**
F25K IAmb IAmb 09 33 13.4
comp=Z,9.7nm,1.1s
PWL Port Wells 75.07 30 P **P 09 33 11.2 -0.4**
HDA Harding Lake 75.09 27 P **P 09 33 10.9 -0.8**
HDA IAmb IAmb 09 33 11.8
comp=Z,11nm,1.4s
ARCES ARCESS Array B 75.28 339 P **P 09 33 12.9 +0.3**
comp=Z,6.2nm,1.0s,baz=83,slow=7.7,SNR=6.6
ARCES LR LR 10 11 41.0
comp=Z,80nm,18.2s,baz=280,slow=40
comp=Z,6.2nm,1.0s
C27K Jago River 75.37 21 P **P 09 33 13.9 +0.8**
C27K IAmb IAmb 09 33 15.3
comp=Z,4.4nm,0.8s
BMAR Burnt Mountain 75.49 23 P **P 09 33 14.9 +1.0**
SPITS Spitsbergen Ar 75.59 348 P **P 09 33 14.9 +0.6**
comp=Z,18nm,1.0s,baz=70,slow=8.1,SNR=3.0
SPITS LR LR 10 11 29.8
comp=Z,130nm,18.5s,baz=32,slow=40
comp=Z,18nm,1.0s
F26K Sheenjek River 75.60 23 P **P 09 33 15.1 +0.6**
D27M Malcolm River 76.40 21 P **P 09 33 19.6 +0.5**
D27M IAmb IAmb 09 33 20.8
comp=Z,5.4nm,0.9s
E27K Coleen River 76.44 22 P **P 09 33 19.4 +0.1**
E27K IAmb IAmb 09 33 21.4
comp=Z,6.3nm,1.0s
BRTR Keskin Array B 76.66 308 P **P 09 33 21.6 +0.4**
comp=Z,0.5nm,0.6s,baz=96,slow=4.3,SNR=2.8
BRTR LR LR 10 11 12.3
comp=Z,59nm,20.4s,baz=108,slow=39
comp=Z,0.5nm,0.6s
FINES FINESS Array B 76.73 331 P **P 09 33 20.9 -0.1**
comp=Z,1.7nm,0.8s,baz=30,slow=8.8,SNR=6.8
comp=Z,1.7nm,0.8s
E28M Babbage River 77.07 22 P **P 09 33 23.1 +0.2**
E28M IAmb IAmb 09 33 24.3
comp=Z,7.1nm,1.1s
F28M Old Crow 77.21 23 P **P 09 33 24.4 +0.7**
F28M IAmb IAmb 09 33 25.5
comp=Z,7.8nm,0.8s
AKASG Malin Array Be 77.36 319 P **P 09 33 24.1 -0.6**
comp=Z,0.2nm,0.3s,baz=65,slow=5.7,SNR=4.3
comp=Z,0.2nm,0.3s
EGAK Eagle 77.45 26 P **P 09 33 25.3 +0.3**
EGAK IAmb IAmb 09 33 27.8
comp=Z,6.3nm,0.9s
NACGM Naroch 77.86 324 *e*P **P 09 33 28.6 +1.2**
comp=Z,13nm,0.9s,baz=77
G29M Pine Creek 78.10 23 P **P 09 33 29.3 +0.7**
G29M IAmb IAmb 09 33 39.6
comp=Z,8.7nm,1.0s
H29M Whitestone 78.17 24 P **P 09 33 29.6 +0.6**
H29M IAmb IAmb 09 33 30.7
comp=Z,7.9nm,0.8s
DAWY Dawson 78.39 26 P **P 09 33 30.4 +0.1**
DAWY IAmb IAmb 09 33 32.0
comp=Z,12nm,1.0s
I30M Mount Dempster 79.27 25 P **P 09 33 35.8 +0.6**
I30M IAmb IAmb 09 33 36.3
comp=Z,7.7nm,0.9s
INK Inuvik 79.27 21 P **P 09 33 35.0 0.0**
INK IAmb IAmb 09 33 35.6
comp=Z,5.2nm,0.9s
M29M Somme Creek 79.27 28 P **P 09 33 36.6 +1.4**
F31M Tsiigehtchic 79.50 22 P **P 09 33 35.6 -0.6**
F31M IAmb IAmb 09 33 36.8
comp=Z,9.7nm,0.9s
A36M Sachs Harbour 80.31 17 P **P 09 33 40.4 -0.1**
A36M IAmb IAmb 09 33 41.2
comp=Z,7.7nm,0.9s
BUR08 Bucovina Ar. S 80.68 317 P **P 09 33 44.5 +1.3**
BUR08 IAmb IAmb 09 33 48.0
comp=Z,6.6nm,1.2s
MLR Muntele Rosu 80.78 315 P **P 09 33 45.1 +1.3**
comp=Z,1.3nm,0.5s,baz=90,slow=5.1,SNR=2.4
comp=Z,1.3nm,0.5s
C36M Paulatuk 81.93 19 P **P 09 33 49.0 -0.2**
C36M IAmb IAmb 09 33 50.0
comp=Z,13nm,1.1s
STHS Stebnicka Huta 82.66 320 *e*P P 09 34 01.3 +7.8
HFS Hagfors 82.90 331 P **P 09 33 55.0 +0.6**
comp=Z,3.6nm,0.9s,baz=131,slow=4.1,SNR=9.7
comp=Z,3.6nm,0.9s
NC405 NORSAR Array S 83.39 332 P **P 09 33 57.1 +0.1**
NC405 IAmb IAmb 09 33 59.1
comp=Z,7.4nm,0.8s
NB2 NORSAR Subarra 83.64 333 P **P 09 33 57.8 -0.5**
comp=Z,2.5nm,0.7s,baz=65,slow=4.8
NOA NORSAR Array B 83.64 333 P **P 09 33 58.0 -0.3**
comp=Z,1.3nm,0.6s,baz=68,slow=4.8,SNR=8.5
NOA LR LR 10 13 40.0
comp=Z,94nm,20.8s,baz=65,slow=37
comp=Z,1.3nm,0.6s
KMBO Kilima Mbogo 84.14 267 P **P 09 34 03.4 +1.4**
comp=Z,0.6nm,0.3s,baz=61,slow=5.1,SNR=4.1
comp=Z,0.6nm,0.3s
VYHS Vyhne 84.47 319 *e*P P 09 34 13.0 +10
IDI Anoyia 84.52 305 P **P 09 34 04.4 +1.1**
comp=Z,2.7nm,0.7s,baz=82,slow=7.1,SNR=2.3
comp=Z,2.7nm,0.7s
JMIC Jan Mayen 84.85 345 LR LR 10 16 25.3
comp=Z,71nm,18.3s,baz=90,slow=39
VRAC Vranov 85.55 320 LR LR 10 14 12.2
comp=Z,62nm,19.3s,baz=23,slow=37
CLL Collm 86.87 323 *i* P **P 09 34 15.0 +0.4**
CLL AMS AMS 10 18 00.0
comp=Z,100nm,20.1s
GERES GERESS Array B 87.48 321 P **P 09 34 18.3 +0.6**
comp=Z,0.4nm,0.6s,baz=48,slow=4.4,SNR=2.2
comp=Z,0.4nm,0.6s
YKA Yellowknife Ar 88.98 22 P **P 09 34 24.5 0.0**
comp=Z,2.6nm,0.9s,baz=308,slow=4.8,SNR=14
comp=Z,2.6nm,0.9s
ABTA Abfaltersbach 89.09 319 *e*P **P 09 34 25.5 +0.1**
comp=Z,0.7nm,0.5s
WTTA Wattenberg 89.41 320 *e*P **P 09 34 26.9 -0.1**
comp=Z,2.4nm,0.6s
SQTA Sankt Quirin 89.69 320 *i* PcP **PcP 09 34 28.6 -0.9**
comp=Z,1.5nm,0.6s
FETA Feichten 90.07 320 *e*PcP **PcP 09 34 30.6 -0.7**
comp=Z,1.2nm,0.7s
FUORN Ofenpass-Fuorn 90.53 320 P **P 09 34 33.0 +0.6**
FUORN IAmb IAmb 09 34 39.0
comp=Z,5.1nm,1.1s
BORG Borgarnes 92.73 345 LR LR 10 20 25.8
comp=Z,88nm,18.8s,baz=27,slow=38
TXAR Lajitas Array 116.49 43 PKP **PKPdf 09 40 14.1 -0.3**
comp=Z,0.1nm,0.5s,baz=345,slow=0.8,SNR=4.3

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*OTT **25** 09:30:56.5±0.4, 74°.56N×75°.46W, h18km, ML3.6/3, 206km east from Dundas Harbour, Nu Eastern Arctic Background Seismic Zone.*
*DNK **25** 09:31:01.2±3.1, 74°.59N×75°.81W, h34km±19km, ML2.0*
ISC 25 09:30:53.9±0.8, 74°.49N±0°.05×75°.60W±0°.05, h10km, n17, σ2s80/26, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TULEG	**Thule**	**2.67**	**36**	*i* P	**Pb**	**09 31 40.0**	**-1.6**
TULEG				*i* S	**Sn**	**09 32 08.6**	**-0.5**
TULEG				IAML		09 32 09.3	
comp=Z,61nm,0.3s							
CLRN	**Clyde River**	**4.56**	**149**	PN	**Pn**	**09 32 06.1**	**+3.3**
CLRN				SN	**Sn**	**09 32 54.2**	**-1.4**
CLRN				Trac		09 32 57.2	
comp=Z,40nm,0.2s							
KULLO	**Kullorsuaq**	**4.91**	**80**	PN	**Pn**	**09 32 09.0**	**+1.4**
KULLO				SN	**Sn**	**09 33 01.1**	**-3.3**
KULLO				Trac		09 33 06.5	
comp=Z,7.2nm,0.1s							
KULLO	**Kullorsuaq**	**4.91**	**80**	*i* P	**Pn**	**09 32 11.6**	**+4.1**
KULLO				*i* S	**Sn**	**09 33 03.3**	**-1.1**
KULLO				IAML		09 33 06.5	
comp=Z,7.7nm,0.0s							
RES	**Resolute Bay**	**5.14**	**281**	PN	**Pn**	**09 32 12.5**	**+1.7**
RES				SN	**Sn**	**09 33 08.2**	**-1.9**
RES				Trac		09 33 22.9	
comp=Z,18nm,0.4s							
RES	**Resolute Bay**	**5.14**	**281**	*i* P	**Pn**	**09 32 12.8**	**+2.1**
RES				*i* S	**Sn**	**09 33 06.3**	**-3.8**
ILON	**Igloolik, Nuna**	**5.50**	**204**	PN	**Pn**	**09 32 18.5**	**+2.9**
ILON				SN	**Sn**	**09 33 18.1**	**-0.7**
ILON				Trac		09 33 21.5	
comp=Z,8.7nm,0.2s							
UPNV	**Upernavik**	**5.75**	**98**	IAML		09 33 24.2	
comp=Z,2.8nm,0.2s							
UPNV				*i* S	**Sn**	**09 33 24.4**	**-0.6**
EUNU	**Eureka**	**6.06**	**342**	*i* P	**Pn**	**09 32 26.1**	**+2.7**
EUNU				*i* S	**Sn**	**09 33 31.3**	**-1.4**
NEEM	**North Greenlan**	**6.61**	**52**	*i* P	**Pn**	**09 32 35.2**	**+3.9**
NEEM				*i* S	**Sn**	**09 33 44.5**	**-2.1**
NEEM				IAML		09 33 46.8	
comp=Z,12nm,0.2s							
NUUG	**Nuugaatsiaq**	**7.17**	**103**	*i* P	**Pn**	**09 32 43.2**	**+4.7**
NUUG				IAML		09 34 03.4	
comp=Z,1.6nm,0.2s							
UMMG	**Uummannaq**	**7.97**	**107**	*i* P	Pn	09 32 54.6	+5.1
SUMG	**Summit**	**10.58**	**82**	*i* P	**Pn**	**09 33 26.0**	**+0.4**
SUMG				*i* S	Sn	09 35 16.6	-7.6
SUMG				IAML		09 35 21.1	
comp=Z,1.1nm,0.2s							
FRB	**Frobisher Bay**	**11.07**	**163**	PN	**Pn**	**09 33 32.7**	**+0.7**
FRB				SN	**Sn**	**09 35 29.4**	**-6.2**
FRB				Trac		09 35 52.3	
comp=Z,286nm,2.0s							
FRB	**Frobisher Bay**	**11.07**	**163**	*i* P	**Pn**	**09 33 34.2**	**+2.2**
FRB				*i* S	Sn	09 35 28.4	-7.3
ICESG	**Greenland Ices**	**12.28**	**98**	*i* P	**Pn**	**09 33 50.6**	**+1.7**
DAG	**Danmarks Havn**	**13.82**	**54**	*i* P	**Pn**	**09 34 08.4**	**-1.0**
DAG				*i* S	Sn	09 36 30.1	-13

RSNC 25 09:33:09.3±0.0, 13°N±2°×8°1W±°, h15km±3km, mb4.1, ML2.9, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.23**	**300**	P	Pg	09 33 14.0	-0.4
PRVC				S	Sg	09 33 18.0	+0.1
SAIC	**Isla e San And**	**0.90**	**217**	P	Pb	09 33 25.2	-1.4
SAIC				S	Sb	09 33 38.2	-0.2
RNCC	**Cayo Roncador,**	**1.09**	**73**	P	Pb	09 33 28.1	-1.7
RNCC				S	Sb	09 33 43.2	-0.6
SERC	**Banco Serrana,**	**1.28**	**37**	P	Pn	09 33 31.6	-1.1
SERC				S	Sb	09 33 49.0	-0.4
ACON	**Acoyapa**	**4.12**	**252**	P	Pn	09 34 10.3	-1.5

BCIP	**Isla Barro Col**	**4.27 162**	P	Pn	09 34 10.0	-3.8
BCIP			S	Sn	09 34 57.8	-5.6
JTS	**Las Juntas de**	**4.74 232**	P	Pn	09 34 20.2	-0.2
GMAL	**Guarumal, Vera**	**5.46 181**	P	Pn	09 34 27.3	-2.9
	13nm,0.6s					
GMAL			S	Sn	09 35 28.8	-4.1
	13nm,0.6s					
TGUH	**Tegucigalpa,Un**	**6.00 278**	P	Pn	09 34 38.2	+0.5
	28nm,0.9s					
SJCC	**San Jacinto, C**	**6.75 119**	P	Pn	09 34 44.1	-3.8
SJCC			S	Sn	09 35 58.6	-6.0

AFAD ***25*** *09:36:08.1±0.0, 35°.67N×28°.35E, h16km±1km, ML3.4*
IDC ***25*** *09:36:09.2±1.0, 35°.87N×28°.44E, h0km, mb3.8/6, mbtmp3.7/11, ML3.6/4, MS2.9/3, Error ellipse: s-maj=21.8km s-min=15.3km az=167.0*
NIC ***25*** *09:36:09.6, 35°.85N×28°.43E, h6km±1km, Ml3.1/9*
ATH ***25*** *09:36:10.5, 35°.88N×28°.47E, h7km±1km, ML3.3/14, Manual Solution by A.Fokaefs First location: 2018/11/25 09:37:39, This location: 2020/12/14 16:30:18 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
ISK ***25*** *09:36:10.5, 35°.88N×28°.36E, h5km, ML3.4/32*
THE ***25*** *09:36:11.8, 35°.80N×28°.39E, h5km±31km, ML3.1/3, Error ellipse: s-maj=31.6km s-min=1.4km az=0.0*
ISC 25 09:36:10.7±1.1, 35°.84N±0°.02×28°.42E±0°.02, h9km±8km, n116, σ1§19/157, mb3.7/6, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGE1	**Gennadi, Rhode**	**0.43**	**295**	P	**Pg**	**09 36 19.3**	**+0.1**
RGE1				S	**Sg**	**09 36 25.4**	**+0.5**
ARG	**Arkhangelos**	**0.44**	**328**	Pg	**Pg**	**09 36 19.0**	**-0.4**
ARG				Sg	**Sg**	**09 36 25.5**	**+0.3**
ARG	**Arkhangelos**	**0.44**	**328**	P	**Pg**	**09 36 18.9**	**-0.4**
ARG				S	**Sb**	**09 36 25.8**	**-1.6**
ARG	**Arkhangelos**	**0.44**	**328**	P	**Pg**	**09 36 18.8**	**-0.5**
ARG				S	**Sb**	**09 36 25.9**	**-1.5**
ARG				AML	AML	09 36 32.1	
	6.8nm,0.5s						
ARG				AML	AML	09 36 34.0	
	8.0nm,0.5s						
ARG	**Arkhangelos**	**0.44**	**328**	P	**Pg**	**09 36 18.8**	**-0.5**
ARG				S	**Sg**	**09 36 24.6**	**-0.6**
IZZE	**Mula-Seydike**	**0.89**	**48**	P	**Pb**	**09 36 28.3**	**+0.1**
IZZE				S	**Sb**	**09 36 40.6**	**+0.4**
IZZE				*i* AML	AML	09 36 45.0	
	comp=E,896nm,0.6s						
IZZE				*i* AML	AML	09 36 46.0	
	comp=N,1μm,0.4s						
MRSB	**Marmaris-Mugla**	**0.89**	**349**	Pg	**Pb**	**09 36 28.1**	**-0.2**
TURN	**Turunc**	**0.94**	**352**	P	**Pg**	**09 36 28.3**	**-0.6**
TURN	**Turunc**	**0.94**	**352**	Pg	**Pb**	**09 36 28.9**	**-0.3**
TURN				Sg	**Sn**	**09 36 42.7**	**-1.0**
FETY	**Fethiye**	**0.96**	**34**	Pg	**Pb**	**09 36 29.5**	**0.0**
FETY				Sg	**Sn**	**09 36 43.9**	**-0.3**
DALY	**Dalyan (Mula)**	**0.99**	**11**	Pg	**Pb**	**09 36 30.0**	**-0.1**
KSL	**Kastellorizon**	**1.00**	**72**	P	**Pg**	**09 36 28.8**	**-1.0**
AKAS	**Kas**	**1.04**	**68**	P	**Pn**	**09 36 31.5**	**0.0**
AKAS				*i* AML	AML	09 36 54.0	
	comp=N,730nm,0.7s						
AKAS	**Kas**	**1.04**	**68**	Pg	**Pn**	**09 36 32.1**	**+0.5**
KARP	**Karpathos**	**1.06**	**254**	Pg	**Pb**	**09 36 31.5**	**+0.3**
KARP	**Karpathos**	**1.06**	**254**	P	**Pg**	**09 36 30.8**	**-0.3**
KARP				S	**Sb**	**09 36 45.7**	**+0.5**
	2μm,0.5s						
KARP	**Karpathos**	**1.06**	**254**	P	**Pg**	**09 36 30.1**	**-1.0**
KARP				S	**Sb**	**09 36 46.3**	**+1.0**
KARP				AML	AML	09 36 54.4	
	5.2nm,0.4s						
KARP				AML	AML	09 36 55.5	
	4.2nm,0.6s						
KARP	**Karpathos**	**1.06**	**254**	P	**Pb**	**09 36 31.5**	**+0.3**
KARP				S	**Sb**	**09 36 46.4**	**+1.2**
SABU	**Mula-Dalaman**	**1.08**	**24**	P	**Pg**	**09 36 30.6**	**-0.8**
SABU				S	**Sn**	**09 36 49.7**	**+2.6**
SABU				*i* AML	AML	09 36 55.0	
	comp=N,709nm,0.6s						
DATC	**Datca-Mugla**	**1.10**	**327**	Pg	**Pg**	**09 36 31.5**	**-0.4**
DAT	**Datca**	**1.11**	**323**	P	**Pg**	**09 36 31.7**	**-0.5**
DAT				S	**Sn**	**09 36 48.4**	**+0.3**
DAT				*i* AML	AML	09 36 52.0	
	comp=N,649nm,0.8s						
DAT				*i* AML	AML	09 36 52.0	
	comp=E,549nm,0.4s						
DAT	**Datca**	**1.11**	**323**	Pg	**Pb**	**09 36 31.9**	**-0.3**
DAT	**Datca**	**1.11**	**323**	P	**Pb**	**09 36 31.9**	**-0.3**
DAT				S	**Sn**	**09 36 49.0**	**+0.9**
YAZI	**Mula-Dat§a-**	**1.14**	**317**	P	**Pg**	**09 36 31.7**	**-1.0**
YAZI				S	**Sn**	**09 36 49.9**	**+1.2**
YAZI				*i* AML	AML	09 36 52.0	
	comp=E,919nm,0.6s						
YAZI				*i* AML	AML	09 36 53.0	
	comp=N,822nm,0.9s						
DEMR	**Demre-Antalya**	**1.27**	**71**	Pn	**Pn**	**09 36 36.8**	**+2.2**
NISR	**Nisiros**	**1.29**	**307**	P	**Pg**	**09 36 35.9**	**+0.3**
NISR	**Nisiros**	**1.29**	**307**	P	**Pg**	**09 36 35.8**	**+0.2**
YER	**Yerkesik**	**1.30**	**355**	Pn	**Pb**	**09 36 36.1**	**+0.8**
YER	**Yerkesik**	**1.30**	**355**	P	**Pb**	**09 36 35.0**	**-0.3**
YER				S	**Sn**	**09 36 54.0**	**+1.5**
CAME	**Cameli-Denizli**	**1.31**	**33**	Pn	**Pb**	**09 36 36.6**	**+1.0**
KNIK	**Mula-Seydike**	**1.37**	**43**	P	**Pg**	**09 36 36.4**	**-0.7**
MULA	**Mugla, Merkez-**	**1.42**	**357**	P	**Pg**	**09 36 37.4**	**-0.5**
MULA				S	**Sn**	**09 37 00.6**	**+5.1**
MULA				*i* AML	AML	09 37 04.0	
	comp=E,587nm,0.7s						
BDRM	**Kayabasi**	**1.45**	**328**	P	**Pn**	**09 36 37.3**	**+0.2**
BDRM				S	**Sg**	**09 36 58.2**	**+0.8**
CAEL	**Denizli, Camel**	**1.47**	**29**	P	**Pg**	**09 36 41.4**	**+2.4**
ELL	**Elmali**	**1.51**	**53**	Pn	**Pg**	**09 36 39.5**	**-0.2**
BODT	**Bodrum**	**1.51**	**324**	Pn	**Pb**	**09 36 38.5**	**-0.4**
BODT	**Bodrum**	**1.51**	**324**	P	**Pn**	**09 36 38.1**	**+0.2**
BODT				S	**Sb**	**09 36 58.0**	**-0.1**
DNZT	**Denizli-Tavas-**	**1.52**	**19**	P	**Pg**	**09 36 39.5**	**-0.3**
DNZT				S	**Sg**	**09 37 00.6**	**+1.0**
YKAV	**Yalikavak-Bodr**	**1.57**	**325**	Pn	**Pb**	**09 36 39.4**	**-0.6**
KLNA	**Kalymnos**	**1.61**	**314**	P	**Pn**	**09 36 39.0**	**-0.3**
TAVA	**DENIZLI_Tavas**	**1.67**	**14**	P	**Pb**	**09 36 41.1**	**-0.6**
TAVA				S	**Sg**	**09 37 07.9**	**+3.5**
APMY	**Acipayam-Deniz**	**1.78**	**23**	Pn	**Pb**	**09 36 43.3**	**-0.2**
DIDI	**Didim-Aydin**	**1.80**	**329**	Pn	**Pb**	**09 36 43.4**	**-0.4**
DNIZ	**Denizli-Tavas-**	**1.85**	**16**	P	**Pb**	**09 36 43.8**	**-1.0**
DNIZ				*i* AML	AML	09 37 24.0	
	comp=E,522nm,0.4s						
DDIM	**Aydin, Didim**	**1.87**	**330**	P	**Pb**	**09 36 44.1**	**-0.9**
DDIM				*i* AML	AML	09 37 16.0	
	comp=E,498nm,0.8s						
DDIM				*i* AML	AML	09 37 18.0	
	comp=N,467nm,0.8s						
ZKR	**Zakros**	**1.93**	**249**	Pn	**Pb**	**09 36 45.5**	**-0.6**
ZKR	**Zakros**	**1.93**	**249**	P	**Pb**	**09 36 46.3**	**+0.2**
ZKR	**Zakros**	**1.93**	**249**	S	**Sn**	**09 37 09.4**	**+1.2**
ZKR				AML	AML	09 37 20.6	
	1.3nm,0.5s						
ZKR				AML	AML	09 37 24.6	
	0.5nm,0.8s						
ZKR	**Zakros**	**1.93**	**249**	P	**Pb**	**09 36 45.9**	**-0.3**
ZKR				S	**Sb**	**09 37 10.6**	**+0.3**
KORT	**Korkueli**	**1.94**	**53**	P	**Pb**	**09 36 45.6**	**-0.7**
KORT				S	**Sg**	**09 37 15.5**	**+2.3**
KORT	**Korkueli**	**1.94**	**53**	Pn	**Pb**	**09 36 46.1**	**-0.3**
ESEN	**Aydn-Nazilli**	**1.96**	**358**	P	**Pb**	**09 36 46.0**	**-0.4**
ESEN				S	**Sg**	**09 37 13.1**	**-0.4**
ESEN				*i* AML	AML	09 37 18.0	
	comp=E,242nm,0.8s						
GCAM	**G?zelcaml?**	**2.08**	**333**	P	**Pb**	**09 36 47.8**	**-0.8**
GCAM				*i* AML	AML	09 37 25.0	
	comp=N,213nm,0.5s						
GCAM	**G?zelcaml?**	**2.08**	**333**	Pn	**Pb**	**09 36 47.1**	**-1.6**
INCE	**Denizli-Bozkur**	**2.08**	**26**	P	**Pg**	**09 36 50.7**	**0.0**
ANTB	**Antalya**	**2.09**	**59**	Pn	**Pb**	**09 36 48.9**	**+0.1**
NAZL	**Nazilli-Aydin**	**2.12**	**357**	Pn	**Pb**	**09 36 47.9**	**-1.4**
SMG	**Samos**	**2.25**	**326**	P	**Pn**	**09 36 48.4**	**+0.3**
SMG	**Samos**	**2.25**	**326**	P	**Pn**	**09 36 48.5**	**+0.4**
SMG				S	**Sn**	**09 37 15.5**	**-0.6**
IZMR	**zmir-demi**	**2.32**	**351**	P	**Pn**	**09 36 50.6**	**+1.6**
KIRA	**zmir-Kiraz**	**2.35**	**360**	P	**Pb**	**09 36 52.6**	**-0.7**
KIRA				S	**Sb**	**09 37 23.0**	**+0.5**
BCK	**Bucak**	**2.38**	**47**	Pn	**Pb**	**09 36 52.7**	**-1.1**
BASM	**Basmaki-Afyon**	**2.45**	**32**	Pn	**Pb**	**09 36 53.0**	**-2.0**
SNT5	**Nea Kammeni, S**	**2.51**	**284**	P	**Pn**	**09 36 52.2**	**+0.6**
CMBO	**Columbo, Santo**	**2.52**	**285**	P	**Pn**	**09 36 52.2**	**+0.5**
ISP	**Isparta**	**2.60**	**40**	Pn	**Pb**	**09 36 55.9**	**-1.7**
APE	**Apeiranthos**	**2.63**	**299**	Pn	**Pn**	**09 36 54.2**	**+0.9**
APE	**Apeiranthos**	**2.63**	**299**	P	**Pn**	**09 36 54.3**	**+0.9**
APE				S	**Sn**	**09 37 26.1**	**+0.8**
	98nm,1.2s						
APE	**Apeiranthos**	**2.63**	**299**	P	**Pn**	**09 36 54.0**	**+0.7**
APE				S	**Sn**	**09 37 26.0**	**+0.6**
PASA	**Karahalli, USA**	**2.65**	**19**	P	**Pb**	**09 36 58.7**	**+0.4**
KULA	**Kula-Manisa**	**2.68**	**4**	Pn	**Pn**	**09 36 55.9**	**+1.9**
BLCB	**Balcova**	**2.77**	**337**	Pn	**Pn**	**09 36 56.3**	**+1.1**
IDI	**Anoyia**	**2.93**	**260**	P	**Pn**	**09 36 58.1**	**+0.7**
IDI				S	**Sn**	**09 37 31.3**	**-1.4**
	128nm,0.7s						
IDI	**Anoyia**	**2.93**	**260**	Pn	**Pn**	**09 36 59.1**	**+1.6**
	18nm,0.3s,baz=62,slow=15,SNR=46						
IDI				Sn	**Sn**	**09 37 34.3**	**+1.6**
	4.7nm,0.3s,baz=158,slow=19,SNR=4.4						
IDI	**Anoyia**	**2.93**	**260**	P	**Pn**	**09 36 58.3**	**+0.9**
IDI				S	**Sn**	**09 37 34.0**	**+1.3**
AFYN	**Afyon-Dinar-K**	**2.95**	**34**	P	**Pg**	**09 37 06.1**	**-1.1**
GORD	**Gordes-Manisa**	**3.07**	**357**	Pn	**Pn**	**09 37 01.4**	**+2.0**
SEDI	**Konya, Seydise**	**3.13**	**58**	P	**Pn**	**09 37 03.1**	**+2.8**
SEDI				S	**Sb**	**09 37 41.9**	**-3.0**
SHUT	**Suhut-Afyon**	**3.20**	**32**	Pn	**Pn**	**09 37 03.5**	**+2.2**
SIMA	**Simav-Kutahya**	**3.27**	**8**	Pn	**Pn**	**09 37 04.5**	**+2.3**
GEDZ	**Gediz**	**3.29**	**14**	Pn	**Pn**	**09 37 05.2**	**+2.7**
AKMS	**Akamas**	**3.31**	**103**	P	**Pn**	**09 37 02.3**	**-0.3**
AKMS				S	**Sn**	**09 37 42.7**	**+0.7**
AKMS				AML	AML	09 37 46.7	
	0.2nm,0.9s						
AKMS				AML	AML	09 37 50.2	
	0.2nm,0.7s						
AKMS	**Akamas**	**3.31**	**103**	P	**Pn**	**09 37 02.2**	**-0.3**
DKL	**Dikili**	**3.44**	**340**	Pn	**Pn**	**09 37 05.9**	**+1.5**
ALFC	**Alefka**	**3.48**	**100**	P	**Pn**	**09 37 04.7**	**-0.4**
ALFC				AML	AML	09 37 46.8	
	0.1nm,0.6s						
ALFC				S	**Sn**	**09 37 46.9**	**+0.6**
ALFC				AML	AML	09 37 53.3	
	0.1nm,0.7s						
ALFC	**Alefka**	**3.48**	**100**	P	**Pn**	**09 37 04.5**	**-0.6**
TROD	**Troodos**	**3.74**	**102**	P	**Pn**	**09 37 08.0**	**-0.8**
TROD				S	**Sn**	**09 37 53.8**	**+0.7**
TROD				AML	AML	09 38 01.2	
	0.1nm,0.6s						
TROD				AML	AML	09 38 04.9	
	0.1nm,0.5s						
TROD	**Troodos**	**3.74**	**102**	P	**Pn**	**09 37 07.9**	**-0.9**
PRK	**Paraskevi**	**3.80**	**334**	P	**Pn**	**09 37 10.5**	**+1.1**
PRK				S	**Sn**	**09 37 53.7**	**-0.5**
SIGR	**SIGRI**	**3.93**	**330**	P	**Pn**	**09 37 11.0**	**-0.2**
SIGR				S	**Sn**	**09 37 57.4**	**0.0**
ASGA	**Asgata**	**4.09**	**104**	P	**Pn**	**09 37 13.0**	**-0.4**
ASGA				S	**Sn**	**09 38 03.3**	**+1.9**
ASGA				AML	AML	09 38 09.0	
	0.1nm,0.5s						
ASGA				AML	AML	09 38 15.8	
	0.1nm,0.4s						
ASGA	**Asgata**	**4.09**	**104**	P	**Pn**	**09 37 12.8**	**-0.5**
CSS	**Mathiatis**	**4.11**	**101**	P	**Pn**	**09 37 13.3**	**-0.7**
CSS				S	**Sn**	**09 38 03.3**	**+1.5**
CSS				AML	AML	09 38 09.7	
CSS				AML	AML	09 38 12.1	
	0.1nm,1.1s						
ANKY	**Antikythira Is**	**4.15**	**272**	P	**Pn**	**09 37 14.8**	**+0.6**
MVOU	**Mavrovouni**	**4.34**	**99**	P	**Pn**	**09 37 16.8**	**0.0**
MVOU				S	**Sn**	**09 38 09.1**	**+1.6**
MVOU				AML	AML	09 38 21.5	
	0.1nm,0.6s						
MVOU	**Mavrovouni**	**4.34**	**99**	P	**Pn**	**09 37 16.1**	**-0.6**
BRTR	**Keskin Array B**	**5.67**	**45**	Pn	**Pn**	**09 37 36.3**	**+1.1**
	0.2nm,0.3s,baz=223,slow=14,SNR=7.2						
BRTR				Sn	**Sn**	**09 38 42.2**	**+1.8**
	0.1nm,0.3s,baz=213,slow=22,SNR=6.6						
	0.6nm,0.4s						
MMAI	**Mount Meron Ar**	**6.42**	**114**	Pn	**Pn**	**09 37 44.8**	**-0.7**
	3.3nm,0.3s,baz=302,slow=14,SNR=8.3						
MMAI				Sn	**Sn**	**09 38 57.8**	**-1.2**
	1.8nm,0.3s,baz=296,slow=27,SNR=1.3						
MMAI				LR	LR	09 42 05.7	
	comp=Z,20nm,19.4s,baz=350,slow=56						
	2.3nm,0.3s						
EIL	**Elat**	**8.25**	**136**	Pn	**Pn**	**09 38 10.4**	**-0.1**
	0.6nm,0.3s,baz=316,slow=18,SNR=2.0						
EIL				Sn	**Sn**	**09 39 41.3**	**-2.6**
	1.1nm,0.3s,baz=319,slow=18,SNR=2.7						
	1.6nm,0.3s						
MLR	**Muntele Rosu**	**9.82**	**350**	Pn	Pn	09 38 37.0	+4.9
	0.3nm,0.3s,baz=150,slow=14,SNR=3.4						
MLR				Sn	**Sn**	**09 40 19.2**	**-3.3**
	0.4nm,0.3s,baz=164,slow=21,SNR=1.9						
KBA	**Koelnbreinsper**	**15.90**	**320**	*e*P	**P**	**09 39 57.3**	**-1.1**
	0.8nm,0.3s						
VRAC	**Vranov**	**16.00**	**331**	Pn	**P**	**09 39 59.5**	**+0.2**
	0.2nm,0.3s,baz=139,slow=5.5,SNR=3.8						
LESA	**Schwarzleotal**	**16.47**	**319**	*e*Pn	**P**	**09 40 04.5**	**-0.2**
	0.9nm,0.4s						
GERES	**GERESS Array B**	**16.91**	**325**	Pn	**P**	**09 40 09.2**	**-0.3**
	0.2nm,0.3s,baz=138,slow=10,SNR=3.6						
	0.5nm,0.6s						
WTTA	**Wattenberg**	**16.93**	**318**	*e*Pn	**P**	**09 40 10.0**	**+0.1**
	0.6nm,0.3s						
WATA	**Walderalm**	**17.00**	**318**	*e*P	**P**	**09 40 11.3**	**+0.7**
	1.0nm,0.4s						
MOTA	**Moosalm**	**17.27**	**317**	*e*Pn	**P**	**09 40 14.4**	**+0.8**
	0.8nm,0.5s						
FETA	**Feichten**	**17.30**	**316**	*e*Pn	**P**	**09 40 15.0**	**+1.1**
	3.7nm,0.8s						
FINES	**FINESS Array B**	**25.67**	**357**	P	**P**	**09 41 39.1**	**-1.4**
	1.9nm,0.8s,baz=158,slow=12,SNR=4.6						
	1.9nm,0.8s						
ESDC	**Sonseca Array**	**25.80**	**288**	P	**P**	**09 41 41.4**	**-0.7**
	0.5nm,0.5s,baz=84,slow=8.6,SNR=4.8						
	0.5nm,0.5s						
HFS	**Hagfors**	**26.11**	**343**	P	**P**	**09 41 43.7**	**-0.8**
	3.5nm,1.1s,baz=145,slow=10,SNR=1.8						
	3.5nm,1.1s						
NOA	**NORSAR Array B**	**27.50**	**342**	LR	LR	09 55 12.8	
	comp=Z,15nm,19.1s,baz=310,slow=42						
TORD	**Torodi Ar. Bea**	**32.99**	**234**	P	**P**	**09 42 45.9**	**-0.2**
	1.1nm,0.6s,baz=33,slow=10.0,SNR=7.1						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**38.62**	**52**	P	**P**	**09 43 34.3**	**+0.2**
	0.6nm,0.5s,baz=275,slow=8.9,SNR=4.2						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**41.18**	**57**	P	**P**	**09 43 55.5**	**+0.1**
	0.9nm,0.7s,baz=277,slow=7.9,SNR=4.0						
	0.9nm,0.7s						
SONM	**Songino Array**	**56.99**	**52**	LR	LR	10 15 17.5	
	comp=Z,99nm,19.9s,baz=105,slow=41						

BJI ***25*** *09:40:49.8, 6°.76S×130°.54E, h113km, mb4.9/57, mB5.2/16*
GCMT ***25*** *09:40:51.1±0.4, 6°.59S±0°.02×130°.22E±0°.03, h93km±5km, MW4.9/70, Moment Tensor Solution. s19,c21; s70,c87; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.77±.19; Mθθ-2.97±.16; Mφφ2.20±.16; Mrθ-1.65±.11; Mθφ1.40±.20; Mφr0.36±.11; Best double couple: M0 3.24400×10^16 NP1:φs58.00000°, δ78.00000°, λ-16.00000°. NP2: φs151.00000°, δ74.00000°, λ-167.00000°. Principal axes: T 2.5570, Plg2.0000°, Azm105.0000°; N 1.3750, Plg70.0000°, Azm202.0000°; P -3.9310, Plg20.0000°, Azm14.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***25*** *09:40:52.8±1.6, 6°.56S×130°.32E, h102km±14km, mb4.5/22, mbtmp4.9/24, MS3.6/12 Error ellipse: s-maj=17.6km s-min=10.3km az=91.0*
DJA ***25*** *09:40:52.5±0.2, 7°.S±2°×13°.0E±°, h110km±3km, M5.1/66, mb5.2/66, mB5.5/38, MLv5.6/19, Mw(mB)5.0/38, MwMwp5.4/3, Mwp5.6/3*
NEIC ***25*** *09:40:53.1±1.6, 6°.64S±0°.05×130°.34E±0°.07, h108km±6km, mb4.9/85, Error ellipse: s-maj=9.9km s-min=6.4km az=112.0*
ISC 25 09:40:52.7±0.4, 6°.65S±0°.04×130°.29E±0°.05, h106km±3km, h106km:pP-P, n324, σ1§40/331, mb5.0/81, 2C-4D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.66**	**143**		**Pn**	**09 41 22.3**	**+1.1**
SAUI				Sn	**Sn**	**09 41 41.5**	**-1.4**
SAUI	**Saumlaki**	**1.66**	**143**	P	**Pn**	**09 41 21.6**	**+0.4**
SAUI	**Saumlaki**	**1.66**	**143**	P	**Pn**	**09 41 22.0**	**+0.8**
SAUI				S	**Sn**	**09 41 41.8**	**-1.1**
BNDI	**Bandanaira**	**2.15**	**350**	P	**Pn**	**09 41 27.5**	**0.0**
BNDI	**Bandanaira**	**2.15**	**350**	P	**Pn**	**09 41 27.5**	**0.0**
MSAI	**Masohi**	**3.56**	**337**	P	**Pn**	**09 41 46.8**	**+0.8**
AAI	**Ambon**	**3.61**	**325**	P	**Pn**	**09 41 47.1**	**+0.3**
FAKI	**Fak Fak**	**4.19**	**28**	Pn	**Pn**	**09 41 52.3**	**-2.2**
FAKI	**Fak Fak**	**4.19**	**28**	P	**Pn**	**09 41 52.4**	**-2.2**
FAKI	**Fak Fak**	**4.19**	**28**	P	**Pn**	**09 41 52.3**	**-2.2**
KMPI	**Kaimana, Papua**	**4.51**	**49**	P	**Pn**	**09 41 57.9**	**-1.0**
NLAI	**Namlea**	**4.65**	**317**	P	**Pn**	**09 42 01.9**	**+1.2**
DRS	**Darwin Rock St**	**5.77**	**174**	P	**Pn**	**09 42 14.8**	**-1.1**
SWI	**Sorong**	**5.83**	**10**	P	**Pn**	**09 42 14.0**	**-2.8**
	518nm,0.7s,12μm3.3nm						
MTN	**Manton Dam**	**6.21**	**172**	Pn	**Pn**	**09 42 20.5**	**-1.4**
MTN	**Manton Dam**	**6.21**	**172**	P	**Pn**	**09 42 20.5**	**-1.4**
MTN	**Manton Dam**	**6.21**	**172**	S	**Sn**	**09 43 27.1**	**-4.4**
MTN	**Manton Dam**	**6.21**	**172**	P	**Pn**	**09 42 20.7**	**-1.1**
SANI	**Sanana**	**6.27**	**317**	P	**Pn**	**09 42 24.6**	**+1.9**
SANI	**Sanana**	**6.27**	**317**	P	**Pn**	**09 42 24.2**	**+1.5**
	192nm,1.1s						
KDU	**Kakadu**	**6.37**	**160**	P	**Pn**	**09 42 22.7**	**-1.3**
	comp=Z,1μm,0.6s						
KDU	**Kakadu**	**6.37**	**160**	P	**Pn**	**09 42 22.6**	**-1.4**
RKPI	**Ransiki, Papua**	**6.41**	**37**	P	**Pn**	**09 42 23.2**	**-1.4**
LBMI	**Labuha**	**6.59**	**335**	P	**Pn**	**09 42 27.4**	**+0.3**
	comp=Z,710nm,1.5s,comp=Z,8μmcomp=Z,2.7nm						
SOEI	**Soe**	**6.71**	**242**	Pn	**Pn**	**09 42 28.9**	**+0.1**
SOEI	**Soe**	**6.71**	**242**	P	**Pn**	**09 42 30.5**	**+1.7**
SOEI	**Soe**	**6.71**	**242**	P	**Pn**	**09 42 30.0**	**+1.2**
	comp=Z,796nm,0.8s,comp=Z,6μmcomp=Z,3.2nm						
BATI	**Baumata**	**7.45**	**241**	P	**Pn**	**09 42 39.2**	**+0.5**
	comp=Z,299nm,0.5s,baz=78,slow=9.3,SNR=25						
BATI				S	**Sn**	**09 43 59.8**	**-1.9**
	comp=Z,259nm,0.5s,baz=102,slow=22,SNR=8.6						
BATI	**Baumata**	**7.45**	**241**	P	**Pn**	**09 42 38.7**	**0.0**
	comp=Z,555nm,0.9s,comp=Z,5μmcomp=Z,1.8nm						
BBSI	**Bau Bau**	**7.77**	**278**	P	**Pn**	**09 42 47.1**	**+4.1**
	comp=Z,1μm,1.2s,comp=Z,11μmcomp=Z,3.5nm						
TNTI	**Ternate**	**7.93**	**338**	Pn	**Pn**	**09 42 44.8**	**-0.4**
TNTI	**Ternate**	**7.93**	**338**	P	**Pn**	**09 42 45.4**	**+0.1**
TNTI	**Ternate**	**7.93**	**338**	P	**Pn**	**09 42 44.9**	**-0.4**
	comp=Z,274nm,0.8s,comp=Z,2μmcomp=Z,0.8nm						
KDI	**Kendari**	**8.10**	**289**	P	**Pn**	**09 42 50.8**	**+3.3**
	comp=Z,276nm,1.2s,comp=Z,3μm						
MMRI	**Maumere**	**8.22**	**256**	Pn	**Pn**	**09 42 48.9**	**-0.4**
MMRI	**Maumere**	**8.22**	**256**	P	**Pn**	**09 42 51.2**	**+1.9**
MMRI	**Maumere**	**8.22**	**256**	P	**Pn**	**09 42 50.1**	**+0.8**
	comp=Z,469nm,0.9s,comp=Z,4μm						
WAMI	**Wamena**	**8.82**	**72**	P	**Pn**	**09 42 58.3**	**+0.9**
KNRA	**Kununurra**	**9.09**	**189**	Pn	**Pn**	**09 42 58.8**	**-2.2**
KNRA	**Kununurra**	**9.09**	**189**	P	**Pn**	**09 42 58.3**	**-2.7**
	comp=Z,847nm,0.6s						
KNRA				S	Sn	09 44 32.4	-9.2
LUWI	**Luwuk**	**9.35**	**306**	Pn	**Pn**	**09 43 04.8**	**+0.3**
LUWI	**Luwuk**	**9.35**	**306**	P	**Pn**	**09 43 06.9**	**+2.4**
LUWI	**Luwuk**	**9.35**	**306**	P	**Pn**	**09 43 07.3**	**+2.8**
	comp=Z,133nm,0.9s						
KMSI	**Cibinong**	**9.55**	**318**	P	**Pn**	**09 43 07.6**	**+0.3**
BSSI	**Bau Bau, Buton**	**9.76**	**272**	P	**Pn**	**09 43 11.8**	**+1.7**
	comp=Z,192nm,0.8s,comp=Z,3μm						
MMPI	**Merauke**	**10.16**	**101**	P	**Pn**	**09 43 14.8**	**-0.8**
BKSI	**Bulukumba**	**10.20**	**277**	P	**Pn**	**09 43 17.7**	**+1.6**
	comp=Z,87nm,0.9s						
BASI	**Baing, Sumba**	**10.24**	**249**	P	**Pn**	**09 43 15.5**	**-1.2**
WSI	**Waingapu**	**10.34**	**252**	P	**Pn**	**09 43 16.2**	**-1.8**
BNSI	**Bone**	**10.38**	**282**	P	**Pn**	**09 43 22.0**	**+3.4**
	comp=Z,87nm,0.9s						
KAPI	**Kappang**	**10.61**	**278**		**Pn**	**09 43 22.2**	**+0.5**
KAPI	**Kappang**	**10.61**	**278**	P	**Pn**	**09 43 23.6**	**+1.9**
GENI	**Genyem**	**10.63**	**68**	P	**Pn**	**09 43 20.8**	**-1.2**
GENI	**Genyem**	**

comp=Z,37nm,0.9s
CTAO Charters Tower 20.45 132 P P 09 45 23.1 +1.2
KPJI Karang Pucung 21.21 267 P P 09 45 28.6 -1.5
comp=Z,64nm,1.0s
KSM Kuching 21.52 291 P P 09 45 33.6 +0.2
KSM Kuching 21.52 291 P P 09 45 36.1 +2.7
OOD Oodnadatta 21.64 167 P P 09 45 35.5 +1.0
GIRL Giralia 22.19 223 P P 09 45 39.6 -0.7
BBJI Bungbulang 22.49 267 P P 09 45 42.6 -1.0
LEM Lembang 22.52 268 P P 09 45 43.2 -0.8
comp=Z,98nm,1.0s
MEEK Meekatharra 22.78 208 P P 09 45 47.0 +0.6
comp=Z,35nm,1.2s
MEEK Meekatharra 22.78 208 P P 09 45 46.6 +0.3
TPI Tanjungpandan 22.89 279 P P 09 45 47.9 +0.4
comp=Z,39nm,0.8s
CNJI Cibinong 23.00 267 P P 09 45 46.3 -2.3
comp=Z,129nm,1.1s,comp=Z,1μm
INKA Innaminka 23.20 156 P P 09 45 52.4 +2.1
MULG Mulgathing 23.77 172 P P 09 45 56.5 +1.0
QLP Quilpie 23.86 148 P P 09 45 58.1 +1.7
comp=Z,101nm,0.7s
QLP Quilpie 23.86 148 P P 09 45 57.6 +1.3
FORT Forrest 24.09 185 P P 09 45 57.8 -0.6
FORT Forrest 24.09 185 P P 09 45 59.2 +0.8
comp=Z,162nm,0.6s
FORT Forrest 24.09 185 P P 09 45 59.8 +1.4
GUMO Guam 24.78 36 P P 09 46 03.0 -1.8
GUMO Guam 24.78 36 P P 09 46 04.6 -0.1
comp=Z,74nm,0.6s,baz=175,slow=9.4,SNR=5.8
comp=Z,74nm,0.6s
LCRK Leigh Creek 24.81 164 P P 09 46 05.7 +0.8
PMBI Palembang 25.70 277 P P 09 46 13.4 +0.2
KMBL Kambalda 25.82 197 P P 09 46 14.6 +0.5
comp=Z,59nm,0.8s
KMBL Kambalda 25.82 197 P P 09 46 14.9 +0.8
MORW Morawa 26.04 209 P P 09 46 15.9 -0.2
MORW IAmb IAmb 09 46 45.4
comp=Z,32nm,1.1s
MORW Morawa 26.04 209 P P 09 46 16.9 +0.7
comp=Z,39nm,1.2s
MORW Morawa 26.04 209 P P 09 46 16.7 +0.6
BBOO Buckleboo 26.57 169 P P 09 46 20.3 -0.5
BBOO IAmb IAmb 09 46 43.6
comp=Z,44nm,1.1s
BBOO Buckleboo 26.57 169 P P 09 46 20.6 -0.3
comp=Z,46nm,0.6s
STKA Stephens Creek 27.23 159 P P 09 46 27.9 +1.3
STKA Stephens Creek 27.23 159 P P 09 46 28.0 +1.3
comp=Z,5.9nm,0.8s
STKA Stephens Creek 27.23 159 P P 09 46 27.4 +0.7
comp=Z,6.3nm,0.5s,baz=340,slow=9.6,SNR=13
comp=Z,6.3nm,0.5s
STKA Stephens Creek 27.23 159 P P 09 46 27.7 +1.0
KLBR Kellerberrin 27.44 204 P P 09 46 29.7 +1.0
comp=Z,119nm,0.8s
KLBR Kellerberrin 27.44 204 P P 09 46 29.8 +1.1
HTT Hallett 27.82 164 P P 09 46 33.6 +1.5
CMSA Cobar Meteorol 28.64 152 P P 09 46 40.7 +1.4
comp=Z,25nm,1.9s
CMSA Cobar Meteorol 28.64 152 P P 09 46 41.0 +1.7
NWAO Narrogin (SRO) 28.83 203 P P 09 46 42.1 +1.2
NWAO IAmb IAmb 09 46 42.8
comp=Z,40nm,1.2s
AUMBR Murray Bridge 29.53 165 P P 09 46 49.0 +1.9
GC1S Gold Coast 1 S 30.68 137 P P 09 46 56.8 -0.5
IPM Ipoh 31.24 290 P P 09 47 01.5 -1.0
MNSI Mandailing Nat 31.53 282 P P 09 47 06.0 +0.9
comp=Z,58nm,0.7s
ARPS Mount Arapiles 31.78 162 P P 09 47 08.8 +1.9
comp=Z,26nm,0.7s
ARPS Mount Arapiles 31.78 162 P P 09 47 08.1 +1.2
KULM Kulim 31.88 291 P P 09 47 06.9 -1.2
KULM Kulim 31.88 291 P P 09 47 09.6 +1.5
MGBR Mount Gambier 32.31 165 P P 09 47 11.6 0.0
RPSI Rantau Prapat 32.66 286 P P 09 47 12.8 -2.2
RPSI IAmb IAmb 09 47 17.0
comp=Z,22nm,0.8s
PSI Prapat 32.69 286 LR LR 10 01 50.5
comp=Z,67nm,21.8s,baz=106,slow=38
PSI Prapat 32.69 286 P P 09 47 16.1 +0.7
CAN Canberra 33.32 151 P P 09 47 19.9 -0.6
CAN IAmb IAmb 09 47 45.0
comp=Z,52nm,1.5s
CAN Canberra 33.32 151 P P 09 47 22.7 +2.3
CAN pP **pwP 09 47 47.2 +1.2**
JOW Kunigami 33.34 357 P P 09 47 20.7 0.0
JOW Kunigami 33.34 357 P P 09 47 21.0 +0.3
comp=Z,48nm,0.8s,baz=158,slow=4.3,SNR=6.9
JOW LR LR 10 01 46.8
comp=Z,119nm,19.1s,baz=135,slow=38
comp=Z,48nm,0.8s
GSI Gunungsitoli 33.60 282 P P 09 47 23.1 -0.1
GSI Gunungsitoli 33.60 282 P P 09 47 22.2 -0.9
TOO Toolangi 33.74 158 P P 09 47 24.3 +0.2
SRIT Nakonsritamara 34.14 296 P P 09 47 27.5 -0.3
SRIT IAmb IAmb 09 47 28.2
comp=Z,14nm,0.5s
JCJ Chichijima 35.47 18 P P 09 47 38.0 -1.1
SRDT SRDT 37.31 304 P P 09 47 55.6 +0.8
SLVN Son La 38.00 318 P P 09 48 01.4 +0.7
SSE Sheshan 38.53 347 P P 09 48 05.2 +0.3
SSE pP **pwP 09 48 30.6 -1.7**
SSE sP **sP 09 48 41.8 +1.9**
JNU Nakatsue 39.56 1 P P 09 48 13.3 -0.1
JNU IAmb IAmb 09 48 14.1
comp=Z,15nm,0.8s
JNU Nakatsue 39.56 1 P P 09 48 13.0 -0.5
comp=Z,11nm,0.7s,baz=196,slow=3.4,SNR=15
JNU LR LR 10 04 08.0
comp=Z,157nm,22.0s,baz=111,slow=35
comp=Z,11nm,0.7s
JNU Nakatsue 39.56 1 P P 09 48 13.8 +0.3
CMAR Chiang Mai Arr 39.74 309 P P 09 48 14.5 -0.6
CMAR Chiang Mai Arr 39.74 309 P P 09 48 15.0 -0.1
comp=Z,8.1nm,0.7s,baz=141,slow=7.4,SNR=48
CMAR ScP **ScP 09 53 59.8 +0.7**
comp=Z,1.5nm,0.5s,baz=142,slow=3.5,SNR=1.8
comp=Z,8.1nm,0.7s
CHTO Chiang Mai 39.94 310 P P 09 48 16.3 -0.5
CHTO IAmb IAmb 09 48 17.6
comp=Z,18nm,0.8s
NJ2 Nanjing 40.01 345 *e*P **P 09 48 18.0 +0.9**
NJ2 pmax pmax
comp=Z,12nm,0.5s
WHN Wuhan 40.02 338 ⇓P **P 09 48 18.0 +0.7**
WHN PcP **PcP 09 50 17.0 -3.4**
WHN pmax pmax
comp=Z,46nm,0.7s
JMN Monobe 40.30 5 P P 09 48 20.1 +0.5
JMN Monobe 40.30 5 P P 09 48 20.2 +0.5
INU Inuyama 42.25 8 P P 09 48 35.5 0.0
INU Inuyama 42.25 8 P P 09 48 35.0 -0.5
JGF Kuroka 42.55 9 P P 09 48 37.8 -0.2
JGF IAmb IAmb 09 48 38.4
comp=Z,15nm,0.8s
JGF Kuroka 42.55 9 P P 09 48 38.9 +0.9
TJN Taejon 42.89 357 P P 09 48 40.7 +0.1
PZH PanZhiHua 43.05 321 P P 09 48 41.0 -1.2
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,200nm,4.7s
MAJO Matsushiro 43.60 9 P P 09 48 45.6 -0.8
MAJO Matsushiro 43.60 9 P P 09 48 45.6 -0.8
MAJO Matsushiro 43.60 9 P P 09 48 44.7 -1.7
MJAR Matsushiro Arr 43.60 9 P P 09 48 45.1 -1.3
comp=Z,18nm,0.7s,baz=188,slow=9.3,SNR=60
MJAR ScP **ScP 09 54 13.9 -0.2**
comp=Z,3.2nm,0.9s,baz=172,slow=6.0,SNR=4.1
comp=Z,18nm,0.7s
MJB9 Matsu-Tunnel 43.61 9 P P 09 48 46.4 -0.1
KSAR Wonju Array Be 43.92 357 P P 09 48 48.2 -0.7
KSRS Korea Array 43.93 357 P P 09 48 49.0 0.0
comp=Z,4.8nm,0.6s,baz=174,slow=8.8,SNR=28
KSRS ScP **ScP 09 54 14.9 -0.4**
comp=Z,2.2nm,0.9s,baz=181,slow=3.5,SNR=5.8
comp=Z,4.8nm,0.6s
KS19 Wonju Array Si 43.98 357 P P 09 48 49.0 -0.5
KS19 IAmb IAmb 09 48 57.4
comp=Z,27nm,1.4s
INCN Inchon 44.04 356 P P 09 48 50.9 +1.0
INCN IAmb IAmb 09 48 51.9
comp=Z,14nm,0.8s
INCN Inchon 44.04 356 P P 09 48 50.5 +0.6

XAN Xi'an 45.25 335 P P 09 48 55.0 -4.6
XAN pmax pmax
comp=Z,15nm,0.9s
JMM Marumori 45.36 12 P P 09 49 00.0 -0.3
JMM Marumori 45.36 12 P P 09 49 01.8 +1.5
HNS HongShan 46.18 343 ⇓P **P 09 49 06.8 0.0**
HNS pmax pmax
comp=Z,24nm,0.8s
HNS LR LR
comp=Z,270nm,22.5s
HNS LR LR
comp=Z,320nm,21.0s
HNS LR LR
comp=Z,190nm,18.6s
BJT Baijiatuau 48.23 345 P P 09 49 21.6 -1.1
BJT IAmb IAmb 09 49 23.4
comp=Z,21nm,0.6s
BJT Baijiatuau 48.23 345 P P 09 49 22.8 +0.1
BJT Baijiatuau 48.23 345 P P 09 49 22.7 +0.1
BJI Beijing 48.25 345 P P 09 49 22.5 -0.3
BJI pmax pmax
comp=Z,15nm,0.7s
SHL Shillong 49.18 312 P P 09 49 29.5 -1.0
SHL IAmb IAmb 09 49 30.2
comp=Z,14nm,1.0s
LZH Lanzhou 49.24 332 *e*P **P 09 49 31.5 +0.8**
LZH sP sP 09 50 05.5 -0.8
LZH ScP **ScP 09 54 38.5 +0.6**
LZH pmax pmax
comp=Z,20nm,1.1s
HHC Hu-ho-hao-te 50.31 342 *e*P **P 09 49 41.5 +2.9**
HHC pmax pmax
comp=Z,6.0nm,0.5s
HHC pmax pmax
comp=Z,110nm,4.2s
HHC LR LR
comp=Z,140nm,15.7s
HHC LR LR
comp=Z,260nm,16.7s
HHC LR LR
comp=Z,130nm,18.1s
CN2 Changchun 50.41 355 *e*P **P 09 49 38.5 -0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
BTO Baotou 50.59 340 *e*P **P 09 49 42.3 +1.5**
BTO pP **pP 09 50 06.8 +1.6**
BTO sP **sP 09 50 17.8 +1.0**
BTO PP **PP 09 51 37.3 -0.5**
BTO S **S 09 56 50.5 +3.1**
BTO pmax pmax
comp=Z,15nm,0.6s
BTO pmax pmax
comp=Z,370nm,5.4s
BTO LR LR
comp=Z,560nm,11.3s
BTO LR LR
comp=Z,410nm,9.5s
BTO LR LR
comp=Z,210nm,7.2s
USA0B Ussuriysk Arra 50.64 2 P P 09 49 41.2 +0.3
USA0B IAmb IAmb 09 49 41.5
comp=Z,12nm,0.6s
USRK Ussuriysk Ar. 50.64 2 P P 09 49 41.3 +0.4
USRK Ussuriysk Ar. 50.64 2 P P 09 49 41.1 +0.3
comp=Z,9.6nm,0.5s,baz=186,slow=7.3,SNR=30
comp=Z,9.6nm,0.5s
MDJ Mudanjiang 51.04 359 P P 09 49 44.5 +0.6
MDJ IAmb IAmb 09 49 45.0
comp=Z,13nm,0.6s
MDJ Mudanjiang 51.04 359 P P 09 49 43.8 -0.1
MDJ pmax pmax
comp=Z,21nm,0.8s
MDJ pmax pmax
comp=Z,98nm,5.0s
MDJ Mudanjiang 51.04 359 P P 09 49 44.3 +0.4
MDJ Mudanjiang 51.04 359 P P 09 49 44.1 +0.3
ASAJ Asahikawa 51.74 11 P P 09 49 49.1 0.0
comp=Z,14nm,0.7s,baz=230,slow=12,SNR=14
ASAJ LR LR 10 12 17.0
comp=Z,59nm,19.4s,baz=138,slow=36
comp=Z,14nm,0.7s
JKA Kamikawa-asahi 51.74 11 P P 09 49 49.2 +0.1
JKA IAmb IAmb 09 49 50.3
comp=Z,20nm,0.7s
XLT XiLinHaoTe 51.93 347 *e*P **P 09 49 50.8 +0.1**
XLT pP pP 09 50 16.3 +1.2
XLT pmax pmax
comp=Z,14nm,0.7s
XLT pmax pmax
comp=Z,73nm,5.1s
LSA Lhasa 52.15 316 P P 09 49 53.9 +0.8
LSA IAmb IAmb 09 50 02.9
comp=Z,16nm,0.6s
BNX BinXian 52.22 357 ⇓P **P 09 49 51.8 -0.9**
BNX pmax pmax
comp=Z,9.0nm,1.0s
GTA Gaotai 53.81 331 *e*P **P 09 50 05.0 +0.3**
GTA pP pwP 09 50 33.0 -0.8
GTA pmax pmax
comp=Z,6.0nm,1.1s
YSS Yuzh-Sakhalins 54.51 10 P P 09 50 09.2 -0.2
YSS IAmb IAmb 09 50 10.2
comp=Z,14nm,0.7s
YSS Yuzh-Sakhalins 54.51 10 P P 09 50 09.2 -0.2
KLR Kul'dur 55.66 1 P P 09 50 18.1 +0.4
comp=Z,8.2nm,0.9s,baz=223,slow=2.9,SNR=18
KLR ScP **ScP 09 55 04.3 -1.0**
comp=Z,4.6nm,0.9s,baz=282,slow=4.2,SNR=4.7
KLR LR LR 10 17 27.8
comp=Z,33nm,18.2s,baz=158,slow=40
comp=Z,8.2nm,0.9s
HEH HeiHe 56.73 358 *e*P **P 09 50 24.5 -0.7**
HEH pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 58.03 342 P P 09 50 35.5 +0.8
ULN Ulaanbaatar 58.03 342 P P 09 50 35.6 +1.0
SONM Songino Array 58.21 341 P P 09 50 37.0 +1.2
SONM IAmb IAmb 09 50 37.1
comp=Z,4.9nm,0.6s
SONM Songino Array 58.21 341 P P 09 50 36.6 +0.8
comp=Z,5.8nm,0.5s,baz=161,slow=6.8,SNR=48
comp=Z,5.8nm,0.5s
CASY Casey 61.09 189 P P 09 50 55.8 +0.7
CASY IAmb IAmb 09 50 57.0
comp=Z,11nm,0.8s
WMQ Urumqi 63.27 327 *e*P **P 09 51 13.8 +3.7**
WMQ pmax pmax
comp=Z,24nm,0.7s
PEA0B Petropavlovsk- 63.91 18 P P 09 51 14.4 +0.3
PETK Petropavlovsk- 63.91 18 P P 09 51 14.2 +0.2
PETK Petropavlovsk- 63.91 18 P P 09 51 13.9 -0.1
comp=Z,16nm,0.7s,baz=191,slow=4.7,SNR=11
comp=Z,16nm,0.7s
WUS Wushi 66.71 320 P P 09 51 32.4 -0.2
WUS IAmb IAmb 09 51 34.8
comp=Z,6.5nm,0.6s
NIL Nilore 67.21 311 P P 09 51 35.5 -0.4
NIL Nilore 67.21 311 P P 09 51 35.6 -0.3
SHLS Shalkode 67.62 322 *e*P **P 09 51 37.2 -1.1**
UZB Uzynbulak 67.89 322 *e*P **P 09 51 40.2 +0.2**
KSH Kashi 67.96 317 P P 09 51 42.0 +1.5
KSH pmax pmax
comp=Z,12nm,0.6s
MKAR Makanchi Array 68.10 327 P P 09 51 41.7 +0.6
comp=Z,5.0nm,0.3s,baz=114,slow=8.2,SNR=114
comp=Z,5.0nm,0.3s
SATY Saty 68.22 322 *e*P **P 09 51 42.5 +0.5**
ZHN Zhinishke 68.26 322 *e*P **P 09 51 42.8 +0.4**
MAKZ Makanchi 68.28 326 P P 09 51 42.8 +0.6
YAK Yakutsk 68.48 360 P P 09 51 42.3 -0.8
YAK Yakutsk 68.48 360 LR LR 10 19 36.2
comp=Z,46nm,20.9s,baz=169,slow=34
YAK Yakutsk 68.48 360 P P 09 51 43.4 +0.3
CCD Concordia, Ant 68.52 182 P P 09 51 45.8 +2.1
CCD PcP **pP 09 52 09.9 +0.9**
NRN Naryn 68.90 319 P P 09 51 45.9 -0.6
TNSS Tian-Shan 69.11 321 *e*P **P 09 51 48.1 +0.1**
MDOK Medeo 69.12 321 *e*P **P 09 51 48.2 +0.5**
AAA Alma-Ata 69.22 321 *e*P **P 09 51 48.6 +0.4**
comp=Z,34nm,1.3s
TDK Taldyqorghan 69.28 323 *e*P **P 09 51 49.0 +0.6**
KUU Kurty 69.94 322 *e*P **P 09 51 53.2 +0.7**
comp=Z,14nm,0.8s
AAK Ala-Archa 70.47 320 P P 09 51 55.5 -0.5
AAK IAmb IAmb 09 51 58.0
comp=Z,12nm,0.8s
AAK Ala-Archa 70.47 320 P P 09 51 57.1 +1.1
KBL Kabul 70.77 310 P P 09 51 57.0 -1.1
DRK Karamyk 70.80 316 P P 09 51 58.9 +0.6
ARSB Arslanbob 70.83 318 P P 09 51 58.5 +0.3
SEM Semipalatinsk 71.35 329 *e*P **P 09 52 01.6 +0.4**
ZAA0 Zalesovo Array 71.40 334 P P 09 52 00.8 -0.4
ZALV Zalesovo Beam 71.40 334 P P 09 52 00.8 -0.4
ZALV Zalesovo Beam 71.40 334 P P 09 52 00.9 -0.2
comp=Z,3.4nm,0.5s,baz=132,slow=5.7,SNR=14
ZALV LR LR 10 24 50.9
comp=Z,77nm,21.9s,baz=57,slow=37
comp=Z,3.4nm,0.5s
GAR Garm 71.63 315 P P 09 52 03.2 +0.2
BTK Batken 71.73 316 P P 09 52 03.3 -0.3
BTLS Baital 71.93 322 *e*P **P 09 52 04.9 +0.3**
KURBB Kurchatov Arra 72.37 328 P P 09 52 07.3 +0.3
comp=Z,4.2nm,0.5s,baz=129,slow=4.9,SNR=38
comp=Z,4.2nm,0.5s
KURK Kurchatov 72.38 328 P P 09 52 07.3 +0.2
SIMJ Simiganj 72.42 314 P P 09 52 07.8 0.0
SIMJ IAmb IAmb 09 52 08.9
comp=Z,26nm,0.8s
DZA Taraz 72.64 319 *e*P **P 09 52 09.1 +0.3**
IUG Iuzhnay 73.17 318 *e*P **P 09 52 12.7 +0.6**
comp=Z,31nm,1.2s
RER Riviere de l'E 73.24 250 P P 09 52 13.5 +0.5
KKAR Karatay Array 73.27 319 P P 09 52 12.9 +0.4
KKAR Karatay Array 73.27 319 P P 09 52 12.0 -0.6
KKAR IAmb IAmb 09 52 14.4
comp=Z,7.4nm,0.9s
CHM Chimkent 73.53 318 *e*P **P 09 52 14.8 +0.6**
SBA Scott Base 73.64 172 P P 09 52 13.9 -0.1
BRLS Borolday 73.69 318 *e*P **P 09 52 15.5 +0.5**
MAW Mawson 75.38 201 P P 09 52 25.9 +1.7
comp=Z,7.1nm,0.6s,baz=84,slow=5.2,SNR=26
comp=Z,7.1nm,0.6s
BVAR Borovoye Array 77.93 328 P P 09 52 39.0 +0.2
comp=Z,3.1nm,0.4s,baz=113,slow=8.2,SNR=21
comp=Z,3.1nm,0.4s
BRVK Borovoye 78.00 328 P P 09 52 38.9 -0.4
TIXI Tiksi 78.15 360 P P 09 52 39.4 -0.3
TIXI Tiksi 78.15 360 LR LR 10 26 16.9
comp=Z,36nm,21.6s,baz=176,slow=35
NRIK Noril'sk 81.30 346 P P 09 52 57.0 +0.2
NRIK Noril'sk 81.30 346 P P 09 52 57.1 +0.4
comp=Z,3.1nm,0.6s,baz=104,slow=3.3,SNR=4.6
comp=Z,3.1nm,0.6s
VOI Vohitsoka 81.54 249 P P 09 52 58.2 -1.1
VOI IAmb IAmb 09 53 00.8
comp=Z,15nm,0.6s
ABKAR Akbulak array 82.42 322 P P 09 53 02.8 -0.2
QSPA South Pole Qui 83.32 180 P P 09 53 08.4 +0.8
QSPA IAmb IAmb 09 53 09.3
comp=Z,16nm,0.7s
QSPA South Pole Qui 83.32 180 P P 09 53 08.4 +0.8
comp=Z,15nm,0.6s,baz=323,slow=1.1,SNR=122
comp=Z,15nm,0.6s
AKTO Aktyubinsk 83.98 322 LR LR 10 33 13.3
comp=Z,41nm,21.8s,baz=272,slow=37
ARTI Arti 85.65 328 P P 09 53 17.2 -2.1
RAYN Ar Rayn 87.87 294 P P 09 53 30.5 -0.4
H18K Honhosa River 88.28 24 P P 09 53 32.1 +0.2
H18K IAmb IAmb 09 53 59.3
comp=Z,17nm,1.4s
J18K Innoko River 88.41 25 P P 09 53 32.3 -0.3
G18K Tagagawik 88.42 23 P P 09 53 32.5 -0.1
ELIB Princess Elisa 88.91 197 *d*P **P 09 53 37.0 +2.0**
comp=Z,12nm,0.7s
E19K Redstone River 89.48 22 P P 09 53 38.1 +0.6
E19K IAmb IAmb 09 54 06.0
comp=Z,15nm,0.8s
D19K Kuna River 89.50 20 P P 09 53 37.9 +0.4
D19K IAmb IAmb 09 54 06.4
comp=Z,13nm,1.1s
J20K Nowinta River 89.71 25 P P 09 53 38.8 +0.2
J20K IAmb IAmb 09 54 01.3
comp=Z,10nm,1.1s
KIRV Kirov 90.89 329 LR LR 10 37 42.6
comp=Z,46nm,21.4s,baz=82,slow=38
KIBK Kibwezi 91.96 267 P P 09 53 49.7 -0.6
FURI Furi 92.60 279 LR LR 10 34 49.4
comp=Z,21nm,18.0s,baz=107,slow=35
KMBO Kilima Mbogo 92.89 269 P P 09 53 53.9 -0.8
KMBO IAmb IAmb 09 53 56.7
comp=Z,6.6nm,1.3s
KMBO Kilima Mbogo 92.89 269 P P 09 53 55.1 +0.4
comp=Z,0.7nm,0.3s,baz=64,slow=9.3,SNR=5.6
comp=Z,0.7nm,0.3s
ILAR Eielson Array 92.91 25 P P 09 53 52.3 -1.1
comp=Z,1.3nm,0.9s,baz=273,slow=4.2,SNR=10.0
comp=Z,1.3nm,0.9s
TROLL Troll, Antarti 94.57 194 ⇑P **P 09 54 02.8 +1.7**
comp=Z,284nm,0.5s
BELA Belgrano 2 95.18 183 P P 09 54 04.0 +0.3
BELA IAmb IAmb 09 54 05.2
comp=Z,7.5nm,1.0s
SNAA Sanae 96.07 193 P 09 54 09.1 +1.3
SNAA IAmb IAmb 09 54 10.1
comp=Z,4.9nm,0.7s
SNAA Sanae 96.07 193 ⇑P **P 09 54 09.2 +1.3**
comp=Z,94nm,0.6s
SNAA Sanae 96.07 193 P P 09 54 08.9 +1.0
comp=Z,5.1nm,0.8s,baz=158,slow=5.9,SNR=14
comp=Z,5.1nm,0.8s
YKA Yellowknife Ar 107.31 26 PKiKP **PKiKP 09 59 06.5 +0.3**
comp=Z,0.2nm,0.5s,baz=302,slow=2.5,SNR=4.7
NVAR Mina Array Bea 110.85 51 PKKPab PKKPab 10 10 23.5 +1.0
comp=Z,0.3nm,0.5s,baz=98,slow=4.8,SNR=4.0
WTTA Wattenberg 114.12 319 *i* PKiKP **PKiKP 09 59 19.9 0.0**
comp=Z,1.8nm,0.3s
WATA Walderalm 114.14 319 *i* PKP PKPdf 09 59 19.2 -0.7
comp=Z,1.0nm,0.4s
MOTA Moosalm 114.45 319 *i* PKiKP **PKiKP 09 59 20.9 +0.4**
comp=Z,1.2nm,0.4s
FETA Feichten 114.79 319 *i* PKiKP **PKiKP 09 59 20.9 -0.3**
comp=Z,0.3nm,0.3s
DAVA Damuels 115.25 320 *i* PKiKP **PKPdf 09 59 22.1 0.0**
comp=Z,0.9nm,0.3s
PDAR Pinedale Array 116.44 45 PKKPbc PKKPbc 10 09 53.6 -0.8
comp=Z,0.7nm,0.9s,baz=101,slow=4.7,SNR=4.4
EKA Eskdalemuir Ar 119.00 332 PKP **PKiKP 09 59 29.4 +0.6**
comp=Z,0.6nm,0.5s,baz=42,slow=3.6,SNR=4.8
TXAR Lajitas Array 124.50 59 PKP **PKiKP 09 59 40.8 +0.2**
comp=Z,0.3nm,0.7s,baz=228,slow=1.5,SNR=4.0
TORD Torodi Ar. Bea 129.03 281 PKP **PKPdf 09 59 49.1 -0.1**
comp=Z,1.2nm,0.6s,baz=46,slow=2.4,SNR=8.6
PLCA Paso Flores 129.10 160 PKP **PKiKP 09 59 51.0 +1.5**
comp=Z,2.5nm,0.8s,baz=242,slow=1.9,SNR=4.3
SCHQ Schefferville 130.02 13 SKPbc **SKPab 10 03 02.2 -0.6**
comp=Z,14nm,0.8s,baz=342,slow=1.7,SNR=8.8
CPUP Villa Florida 146.39 168 PKPbc **PKPbc 10 00 22.2 +0.2**
comp=Z,15nm,0.9s,baz=216,slow=3.5,SNR=21
LPAZ La Paz 150.81 142 PKPbc **PKiKP 10 00 36.4 +1.3**
comp=Z,5.8nm,0.4s,baz=14,slow=2.2,SNR=42

BJI ***25*** *09:42:04.4, 5°.23S×147°.08E, h247km, mb4.6/49, mB4.9/17*
NEIC ***25*** *09:42:05.5, 5°.48S×146°.76E, h230km*
NEIC ***25*** *09:42:05.4±1.4, 5°.46S±0°.06×146°.77E±0°.09, h231km±5km, mb5.0/90, Mww5.3/22, Error ellipse: s-maj=12.6km s-min=9.4km az=93.0*
IDC ***25*** *09:42:05.3±0.5, 5°.44S×146°.75E, h239km±4km, mb4.4/25, mbtmp5.0/29, Error ellipse: s-maj=10.2km s-min=7.1km az=92.0*
NEIC ***25*** *09:42:05.5, 5°.48S×146°.76E, h230km, Moment Tensor Solution. Duration: 2≤2 Moment tensor: Scale 10^{16}Nm; M_{rr}5.59; $M_{\theta\theta}$-6.25; $M_{\phi\phi}$0.66; $M_{r\theta}$-5.72; $M_{\theta\phi}$4.36; $M_{\phi r}$-2.23; Fault plane solution: $M_0$9.60000×10^{16} NP1: ϕ_s266.21000°, δ68.16000°, λ57.75000°. NP2: ϕ_s145.69000°, δ38.27000°, λ143.09000°. Principal axes: T 9.5535, Plg55.0000°, Azm135.0000°; N 0.0929, Plg30.0000°, Azm279.0000°; P -9.6464, Plg17.0000°, Azm19.0000°;*
GCMT ***25*** *09:42:07.4±0.1, 5°.40S±0°.01×146°.81E±0°.01, h246km±1km, MW5.3/131, Moment Tensor Solution. s90,c136; s131,c222; Duration: 1≤1 Moment tensor: Scale 10^{17} Nm; M_{rr}0.70±.02; $M_{\theta\theta}$-0.80±.02; $M_{\phi\phi}$0.10±.02; $M_{r\theta}$-0.55±.02; $M_{\theta\phi}$0.48±.02; $M_{\phi r}$-0.44±.02; Best double couple: $M_0$1.13500×10^{17} NP1:ϕ_s262.00000°, δ65.00000°, λ53.00000°. NP2:ϕ_s142.00000°, δ44.00000°, λ142.00000°. Principal axes: T 1.1900, Plg54.0000°, Azm125.0000°;*

N -0.1110, Plg33.0000°, Azm279.0000°; P -1.0800, Plg12.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function

ISC 25 09:42:05.3±0.3,5.42S±0.04×146.73E±0.04,h239km±2km, h240km:pP-P,n286,σ1938/319,mb4.9/83,1C-2D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.41**	**11**		**Pn**	**09 43 02.5**	**+0.8**
PMG	**Port Moresby**	**3.99**	**174**	Pn	**Pn**	**09 43 07.6**	**-0.9**
PMG	**Port Moresby**	**3.99**	**174**	P	**Pn**	**09 43 07.9**	**-0.6**
	1μm,0.3s,baz=24,slow=8.1,SNR=467						
PMG				S	**S**	**09 43 56.1**	**-2.4**
	2μm,0.4s,baz=3.2,slow=18,SNR=6.7						
PMG	**Port Moresby**	**3.99**	**174**	P	**Pn**	**09 43 07.4**	**-1.1**
RABL	**Rabaul**	**5.55**	**78**	Pn	**Pn**	**09 43 26.7**	**-0.9**
JAY	**Jayapura**	**6.67**	**295**	P	**Pn**	**09 43 41.8**	**+0.1**
	320nm,0.7s,baz=98,slow=17,SNR=29						
JAY				S	**S**	**09 44 53.6**	**-5.2**
	104nm,0.6s,baz=120,slow=20,SNR=1.9						
COEN	**Coen**	**9.18**	**202**		**Pn**	**09 44 13.0**	**-0.7**
COEN	**Coen**	**9.18**	**202**	P	**Pn**	**09 44 12.8**	**-0.9**
COEN	**Coen**	**9.18**	**202**	P	**Pn**	**09 44 12.5**	**-1.1**
	comp=Z,0.0nmcomp=Z,682nm,0.8s						
COEN	**Coen**	**9.18**	**202**	P	**Pn**	**09 44 13.5**	**-0.2**
TATA	**Tatamba Isabel**	**13.31**	**104**	P	**Pn**	**09 45 05.4**	**0.0**
HNR	**Honiara**	**13.70**	**108**	Pn	**Pn**	**09 45 09.0**	**-1.2**
HNR	**Honiara**	**13.70**	**108**	P	**Pn**	**09 45 08.7**	**-1.4**
	comp=Z,246nm,0.6s,baz=244,slow=7.9,SNR=25						
HNR				S	**S**	**09 47 40.9**	**-1.0**
	comp=Z,60nm,0.8s,baz=205,slow=19,SNR=1.3						
HNR	**Honiara**	**13.70**	**108**	P	**Pn**	**09 45 10.4**	**+0.2**
TV1H	**Townsville Har**	**13.76**	**180**	P	**P**	**09 45 13.2**	**+1.1**
ALEG	**Aligegeo Malai**	**14.25**	**104**	P	**Pn**	**09 45 15.9**	**-1.0**
NGOA	**Tingoa Renbel**	**14.52**	**116**	P	**P**	**09 45 21.6**	**+1.0**
HURO	**Huro Makira**	**15.84**	**109**	P	**Pn**	**09 45 36.0**	**0.0**
QIS	**Mount Isa**	**16.57**	**204**	P	**Pn**	**09 45 45.6**	**+0.9**
PATS	**Pohnpei**	**16.78**	**44**	P	**P**	**09 45 46.0**	**+0.5**
PATS	**Pohnpei**	**16.78**	**44**	P	**Pn**	**09 45 46.5**	**-0.7**
WB0	**Warramunga Arr**	**18.65**	**219**	P	**Pn**	**09 46 09.2**	**+0.1**
WR0	**Warramunga Arr**	**18.70**	**218**	P	**P**	**09 46 07.2**	**+0.9**
WRAB	**Tennant Creek**	**18.80**	**219**	P	**P**	**09 46 08.0**	**+0.7**
WB2	**Warramunga Arr**	**18.80**	**219**	P	**P**	**09 46 08.0**	**+0.6**
WRA	**Warramunga Arr**	**18.81**	**219**	P	**P**	**09 46 08.2**	**+0.8**
WRA	**Warramunga Arr**	**18.81**	**219**	P	**P**	**09 46 08.5**	**+1.0**
	comp=Z,97nm,0.7s,baz=41,slow=11,SNR=20						
WRA				S	**S**	**09 49 27.4**	**-1.2**
	comp=Z,104nm,1.0s,baz=39,slow=20,SNR=8.5						
WRA				ScP	**ScP**	**09 53 35.6**	**-0.9**
	comp=Z,14nm,1.2s,baz=41,slow=2.6,SNR=4.7						
LUES	**Luesalemba Tem**	**19.69**	**107**	P	**P**	**09 46 17.4**	**+0.5**
EIDS	**Eidsvold**	**20.27**	**169**	P	**P**	**09 46 24.2**	**+1.2**
EIDS	**Eidsvold**	**20.27**	**169**	P	**P**	**09 46 24.6**	**+1.6**
	comp=Z,115nm,1.0s						
EIDS	**Eidsvold**	**20.27**	**169**	P	**P**	**09 46 24.4**	**+1.4**
	comp=Z,115nm,1.0s						
EIDS	**Eidsvold**	**20.27**	**169**	P	**P**	**09 46 24.3**	**+1.2**
AS31	**Alice Springs**	**21.95**	**213**	P	**P**	**09 46 40.9**	**+1.0**
ASAR	**Alice Springs**	**21.95**	**213**	P	**P**	**09 46 41.3**	**+1.4**
ASAR	**Alice Springs**	**21.95**	**213**	P	**P**	**09 46 41.5**	**+1.6**
	comp=Z,94nm,0.8s,baz=46,slow=8.3,SNR=30						
ASAR				pP	**pP**	**09 47 19.3**	**-0.7**
	comp=Z,66nm,0.8s,baz=42,slow=13,SNR=2.5						
ASAR				S	**S**	**09 50 25.7**	**+0.8**
	comp=Z,35nm,0.9s,baz=36,slow=17,SNR=3.9						
ASAR				ScP	**ScP**	**09 53 44.5**	**+0.5**
	comp=Z,10.0nm,0.7s,baz=39,slow=3.7,SNR=4.8						
	comp=Z,94nm,0.8s						
TW1H	**Toowoomba 1 Ha**	**22.57**	**168**	P	**P**	**09 46 45.8**	**+0.3**
AUWSH	**Wavell State H**	**22.67**	**165**	P	**P**	**09 46 48.1**	**+1.7**
KOUNC	**Koumac, New Ca**	**22.74**	**133**	P	**P**	**09 46 47.0**	**0.0**
KOUNC	**Koumac, New Ca**	**22.74**	**133**	P	**P**	**09 46 48.1**	**+1.1**
VLAKA	**Lakatoro**	**22.91**	**119**	P	**P**	**09 46 50.4**	**+1.8**
INKA	**Innaminka**	**22.92**	**194**	P	**P**	**09 46 50.6**	**+2.0**
BATI	**Baumata**	**23.34**	**257**	P	**P**	**09 46 54.4**	**+1.8**
	comp=Z,114nm,0.8s,baz=104,slow=5.0,SNR=4.0						
	comp=Z,114nm,0.8s						
AULRC	**Lightning Ridg**	**23.91**	**177**	P	**P**	**09 46 58.8**	**+1.2**
PVC	**Port Vila**	**24.39**	**122**	P	**P**	**09 47 03.2**	**+1.1**
OOD	**Oodnadatta**	**24.61**	**204**	P	**P**	**09 47 05.9**	**+2.0**
DZM	**Mont Dzumac**	**25.25**	**133**	P	**P**	**09 47 09.1**	**-0.9**
DZM				IAmb	IAmb	09 47 13.6	
	comp=Z,53nm,1.3s						
DZM	**Mont Dzumac**	**25.25**	**133**	*e*P	**P**	**09 47 04.9**	**-5.1**
	comp=Z,89nm,1.6s						
DZM				*e*LR	LR	09 53 31.5	
	comp=Z,490nm,25.9s						
DZM	**Mont Dzumac**	**25.25**	**133**	P	**P**	**09 47 09.3**	**-0.7**
	comp=Z,11nm,0.4s,baz=280,slow=12,SNR=27						
	comp=Z,11nm,0.4s						
DZM	**Mont Dzumac**	**25.25**	**133**	P	**P**	**09 47 10.1**	**+0.1**
ARMA	**Armidale**	**25.30**	**170**	P	**P**	**09 47 11.2**	**+0.9**
ARMA	**Armidale**	**25.30**	**170**	P	**P**	**09 47 11.4**	**+1.2**
ONTNC	**Ouen Toro**	**25.41**	**133**	P	**P**	**09 47 10.3**	**-0.9**
ONTNC				IAmb	IAmb	09 48 02.1	
	comp=Z,62nm,1.2s						
YATNC	**Mamie plateau,**	**25.58**	**132**	P	**P**	**09 47 14.1**	**+1.4**
AUPHS	**Peel High Scho**	**25.85**	**172**	P	**P**	**09 47 16.6**	**+1.5**
STKA	**Stephens Creek**	**26.76**	**190**	S	**S**	**09 51 42.2**	**+1.1**
	comp=Z,17nm,0.8s,baz=55,slow=12,SNR=3.5						
BBOO	**Buckleboo**	**29.02**	**199**	P	**P**	**09 47 42.8**	**-0.4**
BBOO				IAmb	IAmb	09 47 45.0	
	comp=Z,39nm,0.8s						
MBWA	**Marble Bar**	**30.50**	**237**	P	**P**	**09 47 53.7**	**-2.7**
MBWA	**Marble Bar**	**30.50**	**237**	P	**P**	**09 47 53.0**	**-3.4**
AUMAG	**Moama Anglican**	**30.59**	**183**	P	**P**	**09 47 59.0**	**+2.0**
PSA00	**Pilbara Seismi**	**30.59**	**236**	P	**P**	**09 47 57.0**	**-0.3**
PSA00	**Pilbara Seismi**	**30.59**	**236**	P	**P**	**09 47 56.5**	**-0.8**
PSA00				IAmb	IAmb	09 48 29.5	
	comp=Z,32nm,1.1s						
FORT	**Forrest**	**30.74**	**213**	P	**P**	**09 47 59.3**	**+0.9**
H11S3	**WAKE ISLAND Hy**	**30.85**	**39**	T	T	10 21 55.3	
	baz=220,slow=75,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**30.86**	**39**	T	T	10 21 55.9	
	baz=220,slow=75,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**30.87**	**39**	T	T	10 21 58.0	
	baz=220,slow=75,SNR=8.8						
TOO	**Toolangi**	**32.03**	**182**	P	**P**	**09 48 10.2**	**+0.6**
BRAT	**Ballarat**	**32.09**	**184**	P	**P**	**09 48 12.0**	**+2.0**
FUNA	**Funafuti**	**32.37**	**97**	P	**P**	**09 48 12.3**	**-0.5**
FUNA				IAmb	IAmb	09 48 12.9	
	comp=Z,70nm,1.2s						
MSVF	**Nonsavu**	**32.97**	**114**	P	**P**	**09 48 18.4**	**+0.4**
MSVF				IAmb	IAmb	09 48 20.0	
	comp=Z,55nm,0.8s						
MSVF	**Nonsavu**	**32.97**	**114**	P	**P**	**09 48 18.8**	**+0.8**
	comp=Z,21nm,0.5s,baz=290,slow=12,SNR=42						
	comp=Z,21nm,0.5s						
MSVF	**Nonsavu**	**32.97**	**114**	P	**P**	**09 48 19.5**	**+1.5**
MSVF	**Nonsavu**	**32.97**	**114**	P	**P**	**09 48 18.6**	**+0.6**
MSVF				ScP	**ScP**	**09 54 20.1**	**+2.4**
MEEK	**Meekatharra**	**34.13**	**229**	P	**P**	**09 48 29.8**	**+1.9**
JMZ	**Minamidaito 2**	**34.51**	**335**	P	**P**	**09 48 31.9**	**+0.9**
GIRL	**Giralia**	**35.74**	**238**	P	**P**	**09 48 43.2**	**+1.5**
JOW	**Kunigami**	**36.70**	**332**	P	**P**	**09 48 50.6**	**+0.9**
JOW				IAmb	IAmb	09 48 51.6	
	comp=Z,74nm,1.0s						
JOW	**Kunigami**	**36.70**	**332**	P	**P**	**09 48 51.0**	**+1.2**
	comp=Z,32nm,0.4s,baz=145,slow=9.5,SNR=7.2						
	comp=Z,32nm,0.4s						
TAU	**Tasmania Unive**	**37.34**	**179**	P	**P**	**09 48 55.6**	**+0.8**
TAU				IAmb	IAmb	09 49 03.9	
	comp=Z,75nm,1.4s						
MORW	**Morawa**	**37.36**	**227**	P	**P**	**09 48 55.4**	**+0.1**
MORW				IAmb	IAmb	09 48 57.9	
	comp=Z,81nm,1.5s						
YULB	**Yu-li**	**37.90**	**320**	P	**P**	**09 49 00.3**	**+0.5**
YULB				IAmb	IAmb	09 50 02.8	
	comp=Z,103nm,1.8s						
TPUB	**Ta-pu**	**38.27**	**319**	P	**P**	**09 49 03.4**	**+0.5**
NACB	**Ninganchiao**	**38.28**	**321**	P	**P**	**09 49 03.9**	**+0.9**
NACB				IAmb	IAmb	09 49 04.8	
	comp=Z,103nm,1.7s						
NACB	**Ninganchiao**	**38.28**	**321**	P	**P**	**09 49 04.2**	**+1.3**
YHNB	**Yeheng**	**38.77**	**322**	P	**P**	**09 49 08.2**	**+1.1**
YHNB				IAmb	IAmb	09 49 12.7	
	comp=Z,129nm,1.5s						
YHNB	**Yeheng**	**38.77**	**322**	P	**P**	**09 49 08.4**	**+1.2**
NWAO	**Narrogin (SRO)**	**38.78**	**221**	P	**P**	**09 49 07.6**	**+0.5**
NWAO				IAmb	IAmb	09 50 33.2	
	comp=Z,76nm,1.4s						
TATO	**Taipei**	**38.93**	**322**	P	**P**	**09 49 09.2**	**+0.9**
JMN	**Monobe**	**40.79**	**344**	P	**P**	**09 49 24.0**	**+0.4**
JMN				IAmb	IAmb	09 49 24.9	
	comp=Z,106nm,1.4s						
JMN	**Monobe**	**40.79**	**344**	P	**P**	**09 49 24.4**	**+0.9**
JNU	**Nakatsue**	**41.17**	**340**	P	**P**	**09 49 27.2**	**+0.6**
JNU				IAmb	IAmb	09 49 27.9	
	comp=Z,72nm,0.9s						
JNU	**Nakatsue**	**41.17**	**340**	P	**P**	**09 49 26.8**	**+0.1**
	comp=Z,53nm,0.8s,baz=151,slow=10,SNR=30						
JNU				ScP	**ScP**	**09 54 46.4**	**-1.6**
	comp=Z,7.9nm,0.8s,baz=91,slow=3.9,SNR=5.0						
	comp=Z,53nm,0.8s						
JNU	**Nakatsue**	**41.17**	**340**	P	**P**	**09 49 27.3**	**+0.6**
INU	**Inuyama**	**41.56**	**348**	P	**P**	**09 49 29.9**	**+0.2**
INU	**Inuyama**	**41.56**	**348**	P	**P**	**09 49 29.3**	**-0.4**
HIZ	**Hauiti**	**41.67**	**146**	P	**P**	**09 49 32.5**	**+1.9**
JGF	**Kuroka**	**41.74**	**348**	P	**P**	**09 49 30.8**	**-0.4**
TGRZ	**Tauranga**	**41.93**	**144**	P	**P**	**09 49 33.6**	**+0.9**
VRZ	**Vera Road**	**42.05**	**147**	P	**P**	**09 49 35.9**	**+2.3**
KARZ	**Kaharoa**	**42.12**	**145**	P	**P**	**09 49 35.5**	**+1.3**
OMRZ	**Omania**	**42.25**	**145**	P	**P**	**09 49 37.9**	**+2.6**
WATZ	**Wairara**	**42.30**	**146**	P	**P**	**09 49 38.4**	**+2.7**
TWVZ	**Taurewa**	**42.39**	**146**	P	**P**	**09 49 38.2**	**+1.7**
TARZ	**Mount Tarawera**	**42.41**	**145**	P	**P**	**09 49 38.5**	**+1.8**
RATZ	**Rangitukua**	**42.43**	**146**	P	**P**	**09 49 38.7**	**+1.9**
KATZ	**Kakaramea**	**42.46**	**146**	P	**P**	**09 49 39.4**	**+2.2**
RRRZ	**Republican Roa**	**42.49**	**145**	P	**P**	**09 49 38.5**	**+1.3**
PKVZ	**Pokaka**	**42.49**	**147**	P	**P**	**09 49 39.6**	**+2.3**
MJAR	**Matsushiro Arr**	**42.49**	**350**	P	**P**	**09 49 36.5**	**-0.8**
	comp=Z,6.8nm,0.5s,baz=174,slow=5.6,SNR=16						
MJAR				ScP	**ScP**	**09 54 50.9**	**-2.3**
	comp=Z,9.5nm,1.0s,baz=176,slow=5.5,SNR=8.9						
MJAR				S	**S**	**09 55 38.9**	**-2.1**
	comp=Z,3.2nm,1.1s,baz=179,slow=12,SNR=3.0						
	comp=Z,6.8nm,0.5s						
MAJO	**Matsushiro**	**42.49**	**350**	P	**P**	**09 49 37.5**	**+0.2**
MAJO				IAmb	IAmb	09 49 37.8	
	comp=Z,152nm,1.6s						
MAJO	**Matsushiro**	**42.49**	**350**	P	**P**	**09 49 36.7**	**-0.5**
MAJO				ScP	**ScP**	**09 54 51.1**	**-2.1**
MJB9	**Matsu-Tunnel**	**42.50**	**350**	P	**P**	**09 49 38.4**	**+1.1**
MJB9				IAmb	IAmb	09 49 38.8	
	comp=Z,140nm,1.6s						
WTVZ	**West Tongariro**	**42.50**	**146**	P	**P**	**09 49 39.2**	**+1.8**
KRVZ	**Karewarewa**	**42.52**	**146**	P	**P**	**09 49 39.3**	**+1.8**
PRRZ	**Plateau Road**	**42.53**	**145**	P	**P**	**09 49 38.8**	**+1.2**
NNVZ	**North Ngauruho**	**42.53**	**146**	P	**P**	**09 49 39.3**	**+1.6**
COVZ	**Chateau Observ**	**42.54**	**146**	P	**P**	**09 49 39.8**	**+2.1**
NTVZ	**North Tongarir**	**42.54**	**146**	P	**P**	**09 49 39.9**	**+2.2**
NGZ	**Ngauruhoe**	**42.55**	**146**	P	**P**	**09 49 40.0**	**+2.1**
TMVZ	**Te Maari**	**42.57**	**146**	P	**P**	**09 49 39.9**	**+1.9**
OTVZ	**Oturere**	**42.58**	**146**	P	**P**	**09 49 40.5**	**+2.4**
FWVZ	**Far West T-bar**	**42.58**	**146**	P	**P**	**09 49 40.4**	**+2.2**
SNVZ	**South Ngauruho**	**42.58**	**146**	P	**P**	**09 49 40.5**	**+2.4**
ETVZ	**East Tongariro**	**42.58**	**146**	P	**P**	**09 49 40.7**	**+2.6**
WNVZ	**Wahianoa**	**42.66**	**146**	P	**P**	**09 49 42.2**	**+3.5**
MUGZ	**Murupara**	**42.73**	**145**	P	**P**	**09 49 40.2**	**+1.1**
URZ	**Urewera**	**42.78**	**144**	P	**P**	**09 49 40.1**	**+0.6**
URZ	**Urewera**	**42.78**	**144**	P	**P**	**09 49 40.9**	**+1.4**
MOVZ	**Moawhango**	**42.80**	**146**	P	**P**	**09 49 41.1**	**+1.4**
RTZ	**Ruatahuna**	**42.94**	**145**	P	**P**	**09 49 41.5**	**+0.5**
RTZ				IAmb	IAmb	09 49 42.8	
	comp=Z,64nm,0.6s						
RTZ	**Ruatahuna**	**42.94**	**145**	P	**P**	**09 49 41.4**	**+0.5**
BKZ	**Black Stump Fm**	**43.04**	**146**	P	**P**	**09 49 42.2**	**+0.5**
RAGZ	**Rawiri**	**43.12**	**144**	P	**P**	**09 49 43.2**	**+0.9**
KWHZ	**Kaweka Forest**	**43.18**	**146**	P	**P**	**09 49 44.0**	**+1.2**
RPZ	**Rata Peaks**	**43.75**	**154**	P	**P**	**09 49 46.3**	**-0.9**
RPZ				IAmb	IAmb	09 49 52.6	
	comp=Z,76nm,1.3s						
SSE	**Sheshan**	**43.75**	**328**	P	**P**	**09 49 48.4**	**+1.1**
LBZ	**Lake Benmore**	**43.93**	**156**	P	**P**	**09 49 48.3**	**-0.3**
LBZ				IAmb	IAmb	09 49 50.9	
	comp=Z,111nm,1.5s						
MLZ	**Mavora Lakes**	**43.94**	**158**	P	**P**	**09 49 48.9**	**+0.2**
MLZ				IAmb	IAmb	09 49 51.6	
	comp=Z,76nm,1.2s						
WHZ	**Wether Hill Ro**	**44.33**	**159**	P	**P**	**09 49 53.1**	**+1.4**
TJN	**Taejon**	**45.36**	**338**	P	**P**	**09 50 00.6**	**+0.7**
TJN	**Taejon**	**45.36**	**338**	P	**P**	**09 50 00.6**	**+0.7**
NJ2	**Nanjing**	**45.75**	**326**	*e*P	**P**	**09 50 04.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,22nm,0.6s						
KSRS	**Korea Array**	**46.11**	**339**	P	**P**	**09 50 06.7**	**+0.9**
	comp=Z,28nm,0.9s,baz=158,slow=9.4,SNR=40						
KSRS				ScP	**ScP**	**09 55 07.4**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=154,slow=4.6,SNR=3.9						
	comp=Z,28nm,0.9s						
KSAR	**Wonju Array Be**	**46.12**	**339**	P	**P**	**09 50 06.6**	**+0.8**
KS19	**Wonju Array Si**	**46.18**	**339**	P	**P**	**09 50 06.7**	**+0.3**
JTM	**Tenmabayashi**	**46.27**	**354**	P	**P**	**09 50 07.5**	**+0.6**
JTM				IAmb	IAmb	09 50 08.2	
	comp=Z,69nm,0.6s						
JTM	**Tenmabayashi**	**46.27**	**354**	P	**P**	**09 50 07.7**	**+0.8**
INCN	**Inchon**	**46.61**	**338**	P	**P**	**09 50 10.4**	**+0.7**
INCN				IAmb	IAmb	09 50 11.3	
	comp=Z,39nm,0.8s						
INCN	**Inchon**	**46.61**	**338**	P	**P**	**09 50 11.4**	**+1.7**
INCN	**Inchon**	**46.61**	**338**	P	**P**	**09 50 10.5**	**+0.8**
ASAJ	**Asahikawa**	**49.44**	**356**	P	**P**	**09 50 32.3**	**+1.1**
	comp=Z,14nm,0.6s,baz=221,slow=12,SNR=11						
	comp=Z,14nm,0.6s						
JKA	**Kamikawa-asahi**	**49.44**	**356**	P	**P**	**09 50 32.4**	**+1.2**
JKA				IAmb	IAmb	09 51 27.6	
	comp=Z,72nm,1.4s						
TIA	**Tai'an**	**49.84**	**328**	P	**P**	**09 50 34.5**	**+0.1**
TIA				S	**S**	**09 57 23.3**	**-2.2**
TIA				pmax	pmax		
	comp=Z,20nm,0.7s						
TIA				pmax	pmax		
	comp=Z,94nm,5.0s						
TIA				LR	LR		
	comp=Z,260nm,22.8s						
TIA				LR	LR		
	comp=Z,430nm,16.7s						
USRK	**Ussuriysk Ar.**	**51.14**	**346**	P	**P**	**09 50 44.9**	**+1.0**
USRK	**Ussuriysk Ar.**	**51.14**	**346**	P	**P**	**09 50 44.6**	**+0.7**
	comp=Z,9.3nm,0.6s,baz=162,slow=7.9,SNR=16						
USRK				ScP	**ScP**	**09 55 27.1**	**-2.2**
	comp=Z,3.8nm,0.9s,baz=143,slow=3.1,SNR=4.1						
	comp=Z,9.3nm,0.6s						
USA0B	**Ussuriysk Arra**	**51.14**	**346**	P	**P**	**09 50 45.0**	**+1.1**
USA0B				IAmb	IAmb	09 50 45.5	
	comp=Z,50nm,1.4s						
LYN	**LuoYang**	**51.23**	**323**	P	**P**	**09 50 45.3**	**+0.6**
LYN				S	**S**	**09 57 47.0**	**+2.4**
LYN				pmax	pmax		
	comp=Z,23nm,0.8s						
PHRA	**Phrae**	**51.63**	**299**	P	**P**	**09 50 47.3**	**-0.7**
HNS	**HongShan**	**52.01**	**328**	P	**P**	**09 50 51.0**	**+0.6**
HNS				pmax	pmax		
	comp=Z,42nm,0.8s						
MDJ	**Mudanjiang**	**52.13**	**345**	P	**P**	**09 50 51.4**	**+0.2**
MDJ	**Mudanjiang**	**52.13**	**345**	P	**P**	**09 50 51.5**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,21nm,1.0s						
MDJ	**Mudanjiang**	**52.13**	**345**	P	**P**	**09 50 51.8**	**+0.6**
YSS	**Yuzh-Sakhalins**	**52.26**	**357**	P	**P**	**09 50 53.1**	**+1.0**
YSS	**Yuzh-Sakhalins**	**52.26**	**357**	P	**P**	**09 50 53.0**	**+1.0**
YSS	**Yuzh-Sakhalins**	**52.26**	**357**	P	**P**	**09 50 53.0**	**+0.9**
CN2	**Changchun**	**52.62**	**341**	*e*P	**P**	**09 50 55.8**	**+1.0**
CN2	**Changchun**	**52.62**	**341**	PcP	**P**	**09 50 55.8**	**+1.0**
CM31	**Chiang Mai Arr**	**52.74**	**298**	P	**P**	**09 50 57.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**52.74**	**298**	P	**P**	**09 50 56.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**52.74**	**298**	P	**P**	**09 50 57.3**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=110,slow=5.6,SNR=1.8						
CMAR				pP	**pP**	**09 51 47.6**	**-1.0**
	comp=Z,4.0nm,0.6s,baz=119,slow=4.8,SNR=4.1						
CMAR				ScP	**ScP**	**09 55 36.8**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=133,slow=3.1,SNR=6.0						
	comp=Z,1.3nm,0.3s						
CHTO	**Chiang Mai**	**52.88**	**298**	P	**P**	**09 50 58.0**	**+0.9**
XAN	**Xi'an**	**53.06**	**320**	P	**P**	**09 50 58.5**	**+0.2**
XAN				pP	pwP	09 51 50.8	-1.7
XAN				pmax	pmax		
	comp=Z,36nm,1.0s						
XAN				pmax	pmax		
	comp=Z,220nm,5.2s						
XAN	**Xi'an**	**53.06**	**320**	P	**P**	**09 50 58.5**	**+0.2**
BJT	**Baijiatuau**	**53.25**	**331**	P	**P**	**09 50 59.0**	**-0.5**
BJT	**Baijiatuau**	**53.25**	**331**	P	**P**	**09 50 59.8**	**+0.3**
BJT				pP	**pP**	**09 51 51.4**	**+0.1**
BJT				ScP	**ScP**	**09 55 37.7**	**-0.9**
BJI	**Beijing**	**53.27**	**331**	P	**P**	**09 50 58.5**	**-1.0**
BJI				ScP	**ScP**	**09 55 38.0**	**-0.6**
BJI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BJI				pmax	pmax		
	comp=Z,91nm,4.3s						
BNX	**BinXian**	**53.77**	**343**	⇑P	**P**	**09 51 03.5**	**+0.4**
BNX				pmax	pmax		
	comp=Z,29nm,1.0s						
PZH	**PanZhiHua**	**53.89**	**308**	P	**P**	**09 51 08.0**	**+3.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,5.3s						
CD2	**Chengdu**	**54.68**	**314**	P	**P**	**09 51 10.3**	**+0.3**
CD2				pP	pP	09 52 03.8	+1.3
CD2				S	**S**	**09 58 31.0**	**-0.4**
CD2				sS	sS	10 00 07.3	+3.9
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
KLR	**Kul'dur**	**55.97**	**348**	P	**P**	**09 51 19.4**	**+0.6**
	comp=Z,6.9nm,0.9s,baz=154,slow=8.6,SNR=5.6						
	comp=Z,6.9nm,0.9s						
HHC	**Hu-ho-hao-te**	**56.20**	**328**	*e*P	**P**	**09 51 21.5**	**+0.8**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,70nm,4.0s						
BTO	**Baotou**	**56.85**	**327**	*e*P	**P**	**09 51 26.5**	**+1.2**
BTO				pP	**pwP**	**09 52 23.5**	**+3.1**
BTO				sP	**sP**	**09 52 42.8**	**-1.1**
BTO				PP	**PP**	**09 53 32.0**	**-2.6**
BTO				S	**S**	**09 58 59.3**	**-0.5**
BTO				SS	**SS**	**10 02 49.3**	**-2.9**
BTO				pmax	pmax		
	comp=Z,16nm,0.9s						
BTO				pmax	pmax		
	comp=Z,180nm,4.4s						
BTO				LR	LR		
	comp=Z,160nm,6.0s						
BTO				LR	LR		
	comp=Z,220nm,6.8s						
BTO				LR	LR		
	comp=Z,310nm,13.3s						
LZH	**Lanzhou**	**57.60**	**319**	*e*P	**P**	**09 51 32.5**	**+1.8**
LZH				PcP	**PcP**	**09 52 19.0**	**-2.1**
LZH				pP	pwP	09 52 30.3	+4.7
LZH				sP	sP	09 52 55.3	+5.8
LZH				S	**S**	**09 59 13.5**	**+3.7**
LZH				pmax	pmax		
	comp=Z,25nm,1.4s						
LZH				pmax	pmax		
	comp=Z,98nm,4.1s						
HEH	**HeiHe**	**57.91**	**345**	*e*P	**P**	**09 51 32.3**	**0.0**
HEH				pmax	pmax		
	comp=Z,14nm,1.1s						
PEA0B	**Petropavlovsk-**	**59.04**	**8**	P	**P**	**09 51 39.8**	**-0.2**
PETK	**Petropavlovsk-**	**59.04**	**8**	P	**P**	**09 51 40.1**	**0.0**
PETK	**Petropavlovsk-**	**59.04**	**8**	P	**P**	**09 51 40.5**	**+0.4**
	comp=Z,20nm,0.8s,baz=171,slow=6.8,SNR=7.0						
PETK				ScP	**ScP**	**09 56 04.0**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=154,slow=3.1,SNR=2.4						
	comp=Z,20nm,0.8s						
HIA	**Hailar**	**59.32**	**340**	P	**P**	**09 51 43.2**	**+1.2**
HIA				IAmb	IAmb	09 51 43.7	
	comp=Z,30nm,1.0s						
HIA	**Hailar**	**59.32**	**340**	P	**P**	**09 51 43.3**	**+1.2**
HIA	**Hailar**	**59.32**	**340**	P	**P**	**09 51 42.7**	**+0.6**
DRV	**Dumont d'Urvil**	**61.32**	**183**	P	**P**	**09 51 55.7**	**+0.4**
DRV				pP	**pP**	**09 52 47.9**	**-1.6**
GTA	**Gaotai**	**62.12**	**320**	*e*P	**P**	**09 52 02.8**	**+1.5**
GTA				pP	pP	09 52 56.3	+1.1
GTA				pmax

WRH IAmb IAmb 09 55 10.9
comp=Z,55nm,1.7s
QSPA South Pole Qui 84.55 180 P **P 09 54 11.4 0.0**
QSPA IAmb IAmb 09 54 12.5
comp=Z,47nm,1.2s
QSPA South Pole Qui 84.55 180 P **P 09 54 11.1 -0.4**
comp=Z,25nm,1.0s,baz=352,slow=2.1,SNR=13
comp=Z,25nm,1.0s
CCB Clear Creek Bu 84.64 23 P **P 09 54 11.1 -0.6**
CCB IAmb IAmb 09 55 11.5
comp=Z,55nm,1.8s
NRIK Noril'sk 84.64 342 P **P 09 54 13.0 +1.4**
NRIK Noril'sk 84.64 342 P **P 09 54 10.9 -0.7**
comp=Z,5.4nm,0.6s,baz=83,slow=5.0,SNR=4.6
NRIK pP **pP 09 55 08.7 0.0**
comp=Z,13nm,0.9s,baz=105,slow=5.3,SNR=4.4
comp=Z,5.4nm,0.6s
G23K Bananza Creek 84.71 21 P **P 09 54 12.9 +0.9**
N25K Chitina, Valde 84.79 27 P **P 09 54 14.0 +1.4**
D22K Ayikyak River 84.85 18 P **P 09 54 13.2 +0.6**
D22K IAmb IAmb 09 54 14.3
comp=Z,34nm,1.6s
IL31 85.05 23 P **P 09 54 12.8 -0.9**
IL31 IAmb IAmb 09 54 14.7
comp=Z,54nm,1.9s
ILAR Eielson Array 85.05 23 P **P 09 54 12.6 -1.1**
ILAR Eielson Array 85.05 23 P **P 09 54 12.2 -1.6**
comp=Z,5.4nm,0.5s,baz=252,slow=4.7,SNR=40
ILAR pP **pP 09 55 10.5 -0.3**
comp=Z,3.3nm,0.8s,baz=257,slow=5.1,SNR=2.7
comp=Z,5.4nm,0.5s
D23K Nanushuk River 85.52 19 P **P 09 54 17.1 +1.1**
D23K IAmb IAmb 09 54 20.3
comp=Z,33nm,1.5s
J25K Salcha River, 85.59 24 P **P 09 54 15.7 -0.8**
CTGM Chitina Glacie 86.06 28 P **P 09 54 20.0 +1.0**
BVAR Borovoye Array 86.14 324 P **P 09 54 19.3 -0.1**
comp=Z,2.3nm,0.5s,baz=101,slow=6.6,SNR=3.2
comp=Z,2.3nm,0.5s
LOGN Logan Glacier 86.17 28 P **P 09 54 20.6 +1.1**
M27K Edge Creek, AK 86.26 26 P **P 09 54 20.8 +0.9**
M27K IAmb IAmb 09 56 03.1
comp=Z,69nm,1.6s
EGAK Eagle 87.34 24 P **P 09 54 25.6 +0.8**
DAWY Dawson 87.86 25 P **P 09 54 28.3 +0.9**
DAWY IAmb IAmb 09 54 29.8
comp=Z,27nm,1.4s
C27K Jago River 88.05 19 P **P 09 54 29.1 +1.0**
L29M 88.13 26 P **P 09 54 28.8 +0.1**
EPYK Eagle Plains 89.57 23 P **P 09 54 35.5 +0.2**
EPYK IAmb IAmb 09 54 37.3
comp=Z,10nm,0.8s
ABKAR Akbulak array 91.97 319 P **P 09 54 45.7 -1.1**
O02D Mt. Diablo Mer 93.82 50 P **P 09 54 56.3 +0.6**
O02D IAmb IAmb 09 54 58.2
comp=Z,13nm,0.9s
ELIB Princess Elisa 94.69 195 *d*P **P 09 54 58.7 -0.4**
comp=Z,5.1nm,1.3s
AFDM Forest Hills D 95.15 51 P **P 09 55 02.1 +0.4**
AFDM IAmb IAmb 09 55 02.8
comp=Z,8.0nm,1.2s
BELA Belgrano 2 96.82 180 P **P 09 55 08.1 -0.4**
NVAR Mina Array Bea 97.22 52 P Pdif 09 55 12.3 +0.9
comp=Z,2.1nm,0.8s,baz=252,slow=6.4,SNR=14
comp=Z,2.1nm,0.8s
E09A Wood Farm, Sta 97.42 44 P Pdif 09 55 12.0 +0.2
E09A IAmb IAmb 09 55 13.8
comp=Z,8.9nm,1.1s
YKA Yellowknife Ar 98.78 28 P **P 09 55 17.4 0.0**
comp=Z,1.6nm,1.0s,baz=282,slow=5.3,SNR=6.5
YKA pP **pP 09 56 14.9 -0.4**
comp=Z,0.7nm,0.8s,baz=277,slow=5.0,SNR=3.8
comp=Z,1.6nm,1.0s
SPR3 Spring Creek 3 100.33 51 Pdif **Pdif 09 55 24.9 -0.4**
PDAR Pinedale Array 103.72 47 Pdiff **Pdif 09 55 39.8 -0.4**
comp=Z,0.3nm,0.5s,baz=186,slow=2.8,SNR=4.7
ARCES ARCESS Array B 105.62 342 Pdiff **Pdif 09 55 47.1 -0.7**
comp=Z,7.6nm,1.1s,baz=75,slow=7.7,SNR=2.0
ARCES PKKPbc **PKKPbc 10 11 23.3 -4.3**
comp=Z,5.4nm,1.0s,baz=268,slow=4.5,SNR=7.0
FINES FINESS Array B 109.03 334 Pdiff **Pdif 09 56 02.4 -0.6**
comp=Z,1.2nm,0.8s,baz=35,slow=5.1,SNR=1.6
TXAR Lajitas Array 109.71 61 PKKPab PKKPab 10 11 24.1 -1.0
comp=Z,0.1nm,0.8s,baz=104,slow=5.3,SNR=3.6
NOA NORSAR Array B 115.32 338 SKP 10 03 28.4
comp=Z,0.4nm,0.6s,baz=52,slow=2.1,SNR=3.4
CLL Collm 120.33 328 *e*PP PP 10 02 00.0 +2.9
GERES GERESS Array B 121.28 326 PKP **PKPdf 10 00 29.7 -0.4**
comp=Z,0.7nm,0.5s,baz=48,slow=2.0,SNR=5.1
GERES SKP 10 03 40.6
comp=Z,1.5nm,0.9s,baz=50,slow=2.1,SNR=5.6
EKA Eskdalemuir Ar 124.68 340 PKP **PKPdf 10 00 35.2 -1.0**
comp=Z,0.6nm,0.4s,baz=20,slow=2.7,SNR=4.5
ESDC Sonseca Array 136.86 326 SKPbc **SKPbc 10 04 06.7 -3.3**
comp=Z,2.0nm,0.7s,baz=23,slow=3.4,SNR=12
LPAZ La Paz 139.32 123 SKPbc **SKPbc 10 04 17.9 -0.5**
comp=Z,5.5nm,0.8s,baz=177,slow=0.1,SNR=5.8
ETMB Extrema 143.86 115 PKPab 10 01 09.8 -1.0
CRPR Cabo Rojo, PR 144.66 66 **PKPab 10 01 12.5 -1.2**
TORD Torodi Ar. Bea 144.69 285 PKP **PKPab 10 01 13.6 -0.4**
comp=Z,2.1nm,0.4s,baz=63,slow=2.8,SNR=21
TORD SKPbc **SKPbc 10 04 28.4 -2.7**
comp=Z,2.3nm,0.7s,baz=37,slow=2.1,SNR=9.1
MLPR Magueyes Islan 144.73 66 PKPbc 10 01 13.1 -0.9
UUPR Utuado, UPR, P 144.94 66 PKPbc 10 01 14.1 -0.6
CELP Cerrillos 145.12 66 PKPdf **PKPdf 10 01 14.4 -0.8**
BAUV El Baul 145.33 82 PKPdf **PKPdf 10 01 14.8 -0.9**
SJG San Juan 145.50 66 **PKPdf 10 01 15.1 -0.7**
PDPR Patillas Dam, 145.65 66 **PKPdf 10 01 15.8 -0.3**
HUMP Col San Antoni 145.76 66 **PKPdf 10 01 15.9 -0.4**
SAML Samuel 146.94 115 **PKPdf 10 01 16.6 -1.7**
DBIC Dimbokro 151.72 274 PKPbc **PKiKP 10 01 33.4 +0.6**
comp=Z,2.2nm,0.6s,baz=57,slow=2.5,SNR=1.6
BDFB Brasilia 154.49 145 **PKPbc 10 01 38.5 -0.1**
BDFB Brasilia 154.49 145 PKPbc **PKPbc 10 01 38.1 -0.5**
comp=Z,9.5nm,1.0s,baz=175,slow=1.7,SNR=7.5

*IDC **25** 09:56:16.8±1.7, 3°.09S×119°.18E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=160.9km s-min=23.7km az=61.0*
*DJA **25** 09:56:20.1±0.4, 3°.5±3°×11°.9E±°, h10km, M3.8/10, MLv3.8/10*
ISC 25 09:56:22.5±1.0, 3°.03S±0°.06×119°.6E±0°.1, h35km, n12, σ1s65/13, mb3.5/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.20**	**95**	P	**Pn**	**09 56 26.8**	**-2.5**
TTSI				S	**Sn**	**09 56 33.1**	**-0.9**
SPSI	**Sidrap Palu**	**0.94**	**171**	P	**Pn**	**09 56 38.0**	**-1.3**
BNSI	**Bone**	**1.45**	**160**	P	**Pn**	**09 56 47.9**	**+1.7**
PCI	**Palu**	**2.12**	**6**	P	**Pn**	**09 56 56.8**	**+1.3**
BKSI	**Bulukumba**	**2.33**	**168**	P	**Pn**	**09 56 59.9**	**+1.5**
APSI	**Ampana**	**2.92**	**44**	P	Pn	09 57 26.0	+20
BSSI	**Bau Bau, Buton**	**3.22**	**164**	P	**Pn**	**09 57 11.6**	**+1.0**
LUWI	**Luwuk**	**3.72**	**58**	P	Pn	**09 57 19.5**	**+2.1**
WRA	**Warramunga Arr**	**22.12**	**141**	P	**P**	**10 01 16.9**	**+1.7**
	0.8nm,0.9s,baz=316,slow=11,SNR=3.6						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**24.74**	**147**	P	**P**	**10 01 42.0**	**+1.1**
	0.2nm,0.8s,baz=317,slow=7.8,SNR=3.9						
ASAR				PcP	**PcP**	**10 05 17.1**	**-0.3**
	0.4nm,0.9s,baz=338,slow=1.9,SNR=4.5						
	0.2nm,0.8s						
SONM	**Songino Array**	**51.96**	**349**	P	**P**	**10 05 26.9**	**-1.3**
	1.3nm,0.8s,baz=167,slow=8.4,SNR=5.7						
	1.3nm,0.8s						
MKAR	**Makanchi Array**	**59.50**	**331**	P	**P**	**10 06 21.6**	**-0.6**
	0.8nm,0.9s,baz=138,slow=7.6,SNR=3.0						
	0.8nm,0.9s						

*AFAD **25** 10:01:53.1±0.0, 35°.81N×32°.78E, h30km±2km, ML1.9*
*ISK **25** 10:01:54.3, 35°.84N×32°.80E, h20km, ML2.6/24*
*NIC **25** 10:01:56.0, 35°.60N×32°.78E, h30km±1km, Ml1.6/7*
ISC 25 10:01:53.4±1.0, 35°.78N±0°.02×32°.74E±0°.03, h27km±10km, n40, σ1s01/61, 1C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZY	**Bozyazi-Mersin**	**0.38**	**30**	Pg	**Pb**	**10 02 01.3**	**-0.5**
BOZY				Sg	**Sb**	**10 02 06.9**	**-0.6**
TEKE	**Tekeli-Mersin**	**0.47**	**39**	Pg	**Pb**	**10 02 03.5**	**+0.2**
TEKE				Sg	**Sb**	**10 02 09.4**	**-0.6**
AKDN	**Akdeniz- Kıbrı**	**0.51**	**159**	Pg	**Pn**	**10 02 06.0**	**+1.1**
AKDN				Sg	**Sn**	**10 02 14.3**	**+1.6**
ALFC	**Alefka**	**0.63**	**191**	⇓*iP*	**Pb**	**10 02 06.0**	**+0.1**
ALFC				S	**Sb**	**10 02 14.2**	**-0.2**
ALFC				AML	AML	10 02 17.0	
	0.4nm,0.2s						
ALFC				AML	AML	10 02 18.0	
	0.5nm,0.1s						
YORU	**Yoruktepe-Mers**	**0.66**	**55**	Pg	**Pb**	**10 02 06.3**	**0.0**
YORU				Sg	**Sn**	**10 02 15.5**	**-0.9**
BERE	**Bereket-Mersin**	**0.69**	**34**	Pg	**Pb**	**10 02 06.8**	**-0.2**
BERE				Sg	**Sb**	**10 02 15.9**	**-0.3**
OREN	**Orenkoy-Mersin**	**0.72**	**53**	Pg	**Pb**	**10 02 07.5**	**+0.1**
OREN				Sg	**Sn**	**10 02 17.3**	**-0.7**
AKK1	**Akkuyu-Mersin**	**0.74**	**60**	Pg	**Pn**	**10 02 08.1**	**0.0**
AKK1				Sg	**Sn**	**10 02 18.2**	**-0.3**
AKKU	**Akkuyu-Mersin**	**0.76**	**60**	Pg	**Pn**	**10 02 08.5**	**+0.2**
AKKU				Sg	**Sn**	**10 02 18.6**	**-0.3**
GULN	**MERSIN_Gulnar**	**0.77**	**58**	P	**Pb**	**10 02 08.1**	**-0.1**
GULN				S	**Sn**	**10 02 18.4**	**-0.6**
GULN				*i* AML	AML	10 02 22.0	
	comp=N,35nm,0.2s						
AKMS	**Akamas**	**0.83**	**204**	⇑*iP*	**Pn**	**10 02 08.9**	**-0.4**
AKMS				S	**Sn**	**10 02 19.7**	**-0.8**
AKMS				AML	AML	10 02 21.9	
	0.1nm,0.3s						
AKMS				AML	AML	10 02 23.7	
	0.1nm,0.5s						
ATHAL	**Athalassa**	**0.83**	**140**	P	**Pn**	**10 02 09.8**	**+0.5**
ATHAL				S	**Sb**	**10 02 19.7**	**-0.3**
ATHAL				AML	AML	10 02 32.6	
	0.2nm,0.5s						
ATHAL				AML	AML	10 02 33.8	
	0.2nm,0.4s						
TROD	**Troodos**	**0.83**	**173**	P	**Pn**	**10 02 09.0**	**-0.5**
TROD				S	**Sb**	**10 02 19.9**	**-0.4**
TROD				AML	AML	10 02 22.1	
	0.1nm,0.3s						
TROD				AML	AML	10 02 24.0	
	0.1nm,0.3s						
YESI	**Yesilovacik-Me**	**0.84**	**60**	Pg	**Pb**	**10 02 09.6**	**+0.2**
TISA	**Tisan-Mersin**	**0.85**	**63**	Pg	**Pn**	**10 02 09.4**	**-0.2**
TEVE	**Tevekalti-Mers**	**0.87**	**41**	Pg	**Pn**	**10 02 09.8**	**-0.1**
ERMK	**Ermenek**	**0.87**	**9**	P	**Pn**	**10 02 09.6**	**-0.5**
ERMK				S	**Sb**	**10 02 21.5**	**0.0**
ERMK				*i* AML	AML	10 02 24.0	
	comp=E,34nm,0.4s						
ERMK				*i* AML	AML	10 02 25.0	
	comp=N,46nm,0.3s						
KARG	**Kargicak-Mersi**	**0.89**	**61**	Pg	**Pb**	**10 02 11.2**	**+0.9**
IKL	**Isikli**	**0.89**	**59**	Pg	**Pb**	**10 02 10.6**	**+0.3**
CSS	**Mathiatis**	**0.94**	**149**	P	**Pn**	**10 02 10.3**	**-0.5**
CSS				S	**Sn**	**10 02 21.4**	**-2.1**
CSS				AML	AML	10 02 23.2	
	0.1nm,0.1s						
CSS				AML	AML	10 02 25.8	
	0.1nm,0.1s						
AKIN	**Akıncılar- Kıb**	**0.96**	**142**	Pg	**Pb**	**10 02 13.2**	**+1.8**
ALAN	**Alanya-ANTALYA**	**0.97**	**324**	Pg	**Pb**	**10 02 13.6**	**+2.1**
KEBE	**Keben-Mersin**	**1.03**	**49**	Pg	**Pb**	**10 02 13.0**	**+0.3**
MVOU	**Mavrovouni**	**1.05**	**136**	⇓*iP*	**Pn**	**10 02 11.9**	**-0.4**
MVOU				S	**Sn**	**10 02 23.8**	**-2.3**
MVOU				AML	AML	10 02 25.0	
	0.2nm,0.2s						
MVOU				AML	AML	10 02 25.8	
	0.2nm,0.2s						
ASGA	**Asgata**	**1.07**	**157**	P	**Pn**	**10 02 12.4**	**-0.2**
ASGA				S	**Sn**	**10 02 24.8**	**-1.8**
ASGA				AML	AML	10 02 32.0	
ASGA				AML	AML	10 02 32.4	
	0.1nm,0.3s						
SILI	**Silifke-Mersin**	**1.12**	**58**	Pg	**Pb**	**10 02 14.1**	**-0.1**
EREN	**Erenkoy**	**1.19**	**102**	P	**Pn**	**10 02 14.8**	**+0.7**
EREN				*i* AML	AML	10 02 31.0	
	comp=N,40nm,1.6s						
EREN				*i* AML	AML	10 02 35.0	
	comp=E,23nm,0.4s						
EREN	**Erenkoy**	**1.19**	**102**	Pn	**Pb**	**10 02 16.4**	**+1.1**
HDMB	**Hadim**	**1.20**	**350**	Pn	**Pn**	**10 02 14.8**	**+0.2**
KIZK	**Mersin**	**1.33**	**58**	P	**Pn**	**10 02 16.3**	**+0.1**
KIZK				S	**Sb**	**10 02 34.1**	**-0.3**
KIZK				*i* AML	AML	10 02 35.0	
	comp=N,18nm,0.2s						
KIZK				*i* AML	AML	10 02 36.0	
	comp=E,22nm,0.2s						
KIZK	**Mersin**	**1.33**	**58**	Pn	**Pb**	**10 02 17.6**	**-0.2**
KKBE	**Karaman, Kazim**	**1.45**	**6**	P	**Pn**	**10 02 18.8**	**+0.9**
KKBE				S	**Sb**	**10 02 38.4**	**+0.6**
KRMN	**Karaman**	**1.46**	**17**	Pn	**Pb**	**10 02 19.3**	**-0.6**
SEYD	**Seydisehir-KON**	**1.78**	**336**	Pn	**Pn**	**10 02 23.9**	**+1.4**
MERS	**Mersin**	**1.80**	**52**	Pn	**Pn**	**10 02 24.3**	**+1.6**
SEDI	**Konya, Seydise**	**1.85**	**335**	P	**Pn**	**10 02 25.3**	**+1.9**
SEDI				S	**Sb**	**10 02 48.7**	**-0.7**
SEDI				*i* AML	AML	10 02 51.0	
	comp=E,12nm,0.4s						
KERG	**Konya-Eregli**	**1.98**	**34**	P	**Pb**	**10 02 28.2**	**-0.6**
KERG				S	**Sb**	**10 02 53.0**	**-0.1**
KONT	**Konya--Tatoy**	**2.19**	**352**	Pn	**Pb**	**10 02 30.7**	**-1.6**
YURE	**YUREGIR**	**2.56**	**65**	P	**Pn**	**10 02 35.9**	**+2.8**
TAHT	**Tahtakopru-Hat**	**2.85**	**77**	Pn	**Pn**	**10 02 39.3**	**+2.2**

*IDC **25** 10:07:36.7±1.2, 5°.63S×151°.01E, h60km±11km, mb3.8/12, mbtmp4.1/13, MS3.1/10, Error ellipse: s-maj=25.4km s-min=8.3km az=126.0*
*NEIC **25** 10:07:37.3±1.6, 5°.7S±0°.1×151°.1E±0°.1, h63km±9km, mb4.5/23, Error ellipse: s-maj=28.9km s-min=5.3km az=132.0*
ISC 25 10:07:37.3±0.5, 5°.64S±0°.10×151°.0E±0°.1, h65km, n65, σ0s95/56, mb4.4/23, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	**Keravat**	**1.66**	**37**	P	**Pn**	**10 08 04.6**	**+0.3**
	baz=181,slow=23						
I40PG				S	**Sn**	**10 08 23.8**	**-1.0**
	baz=178,slow=26						
I40PG				I	I	10 19 00.0	
	baz=220,slow=315,SNR=0.5						
RABL	**Rabaul**	**1.84**	**38**	Pn	**Pn**	**10 08 07.2**	**+0.4**
MANU	**Manus Island**	**5.11**	**314**	Pn	Pn	10 08 57.3	+6.0
PMG	**Port Moresby**	**5.35**	**225**		**Pn**	**10 08 55.7**	**+1.1**
PMG	**Port Moresby**	**5.35**	**225**	P	**Pn**	**10 08 54.1**	**-0.5**
	59nm,0.5s,baz=60,slow=5.7,SNR=39						
PMG				S	**Sn**	**10 09 54.8**	**-0.1**
	78nm,0.4s,baz=72,slow=20,SNR=9.0						
PMG				LR	LR	10 10 35.2	
	comp=Z,104nm,20.5s,baz=338,slow=33						
HNR	**Honiara**	**9.62**	**114**	LR	LR	10 13 10.6	
	comp=Z,91nm,21.5s,baz=318,slow=35						
JAY	**Jayapura**	**10.75**	**286**	LR	LR	10 13 49.1	
	comp=Z,103nm,21.0s,baz=38,slow=35						
COEN	**Coen**	**11.31**	**223**	Pn	**Pn**	**10 10 14.1**	**-2.1**
COEN	**Coen**	**11.31**	**223**	P	**Pn**	**10 10 15.7**	**-0.5**
MTSU	**Mount Surprise**	**14.03**	**207**	P	**Pn**	**10 10 53.0**	**-0.1**
CTA	**Charters Tower**	**15.09**	**197**	LR	LR	10 16 17.4	
	comp=Z,92nm,20.2s,baz=24,slow=34						
RK1H	**Rockhampton Ha**	**17.65**	**182**	P	P	10 12 00.3	+21
KDU	**Kakadu**	**19.59**	**248**	P	**P**	**10 12 00.6**	**+0.3**
GUMO	**Guam**	**20.06**	**342**	LR	LR	10 18 20.9	
	comp=Z,48nm,22.0s,baz=134,slow=32						
MTN	**Manton Dam**	**20.88**	**249**	P	**P**	**10 12 14.4**	**+0.1**
MTN				IAmb	IAmb	10 12 24.3	
	comp=Z,11nm,0.8s						
MTN	**Manton Dam**	**20.88**	**249**	P	**P**	**10 12 15.1**	**+0.8**
DRS	**Darwin Rock St**	**20.97**	**250**	P	Pn	10 12 17.6	-0.9
WB0	**Warramunga Arr**	**21.42**	**228**	P	**P**	**10 12 20.2**	**+0.2**
WB0				IAmb	IAmb	10 12 30.0	
	comp=Z,17nm,0.8s						
WR0	**Warramunga Arr**	**21.43**	**227**	P	**P**	**10 12 20.1**	**-0.1**
WR0				IAmb	IAmb	10 12 30.2	
	comp=Z,15nm,0.8s						
WRAB	**Tennant Creek**	**21.55**	**227**	P	**P**	**10 12 21.1**	**-0.4**
WRAB				IAmb	IAmb	10 12 31.4	
	comp=Z,12nm,0.7s						
WB2	**Warramunga Arr**	**21.56**	**227**	P	**P**	**10 12 21.4**	**-0.2**
WB2				IAmb	IAmb	10 12 31.5	
	comp=Z,11nm,0.7s						
WRA	**Warramunga Arr**	**21.57**	**227**	P	**P**	**10 12 21.1**	**-0.5**
WRA	**Warramunga Arr**	**21.57**	**227**	P	**P**	**10 12 21.4**	**-0.2**
	comp=Z,4.7nm,0.5s,baz=53,slow=10,SNR=60						
WRA				PcP	**PcP**	**10 16 22.4**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=46,slow=2.3,SNR=5.4						
	comp=Z,4.7nm,0.5s						
DZM	**Mont Dzumac**	**22.12**	**139**	LR	LR	10 20 09.3	
	comp=Z,120nm,18.1s,baz=12,slow=34						
KNRA	**Kununurra**	**24.01**	**244**	P	**P**	**10 12 46.9**	**+0.7**
KNRA				IAmb	IAmb	10 13 28.3	
	comp=Z,16nm,1.0s						
INKA	**Innaminka**	**24.05**	**203**	P	**P**	**10 12 46.6**	**+0.1**
AS31	**Alice Springs**	**24.34**	**221**	P	**P**	**10 12 49.8**	**+0.6**
ASAR	**Alice Springs**	**24.34**	**221**	P	**P**	**10 12 49.4**	**+0.2**
	comp=Z,2.2nm,0.5s,baz=58,slow=9.0,SNR=62						
ASAR				PcP	**PcP**	**10 16 28.4**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=48,slow=2.4,SNR=2.8						
ASAR				LR	LR	10 22 16.3	
	comp=Z,45nm,21.7s,baz=76,slow=36						
	comp=Z,2.2nm,0.5s						
ARMA	**Armidale**	**24.65**	**179**	P	**P**	**10 12 53.0**	**+0.9**
ARMA				IAmb	IAmb	10 13 03.0	
	comp=Z,19nm,1.3s						
OOD	**Oodnadatta**	**26.41**	**212**	P	**P**	**10 13 07.0**	**-0.9**
LCRK	**Leigh Creek**	**27.46**	**205**	P	**P**	**10 13 20.7**	**+3.4**
STKA	**Stephens Creek**	**27.55**	**198**	P	**P**	**10 13 17.4**	**-0.7**
STKA	**Stephens Creek**	**27.55**	**198**	P	**P**	**10 13 17.4**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=4.5,slow=11,SNR=3.0						
	comp=Z,1.1nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.70**	**241**	P	**P**	**10 13 19.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.70**	**241**	LR	LR	10 25 48.1	
	comp=Z,29nm,19.9s,baz=110,slow=39						
WRKA	**Warakurna**	**29.09**	**226**	P	**P**	**10 13 30.3**	**-1.7**
HTT	**Hallett**	**29.85**	**201**	P	P	10 13 43.9	+5.3
ARPS	**Mount Arapiles**	**32.10**	**194**	P	P	10 14 08.1	+10
FORT	**Forrest**	**33.03**	**218**	P	**P**	**10 14 05.4**	**-1.1**
FORT	**Forrest**	**33.03**	**218**	P	**P**	**10 14 06.0**	**-0.5**
MEEK	**Meekatharra**	**37.28**	**232**	P	**P**	**10 14 43.8**	**+0.5**
JNU	**Nakatsue**	**43.03**	**335**	P	**P**	**10 15 29.5**	**-1.2**
	comp=Z,5.2nm,0.8s,baz=150,slow=4.1,SNR=3.0						
	comp=Z,5.2nm,0.8s						
MJAR	**Matsushiro Arr**	**43.65**	**345**	LR	LR	10 34 21.0	
	comp=Z,25nm,18.4s,baz=158,slow=37						
KSRS	**Korea Array**	**47.98**	**335**	P	**P**	**10 16 08.6**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=146,slow=8.6,SNR=1.1						
	comp=Z,0.6nm,0.7s						
KLR	**Kul'dur**	**57.17**	**345**	LR	LR	10 40 40.4	
	comp=Z,17nm,18.3s,baz=150,slow=35						
SONM	**Songino Array**	**66.11**	**329**	P	**P**	**10 18 20.1**	**+2.4**
SONM	**Songino Array**	**66.11**	**329**	P	**P**	**10 18 18.8**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=185,slow=5.3,SNR=4.2						
	comp=Z,0.8nm,0.8s						
K15K	**Wolf Creek Mou**	**76.81**	**21**	P	**P**	**10 19 21.3**	**-0.4**
L19K	**White Mountain**	**79.20**	**23**	P	**P**	**10 19 35.0**	**0.0**
L19K				IAmb	IAmb	10 20 05.0	
	comp=Z,10nm,1.4s						
G18K	**Tagagawik**	**80.10**	**19**	P	**P**	**10 19 38.7**	**-1.2**
G18K				IAmb	IAmb	10 19 42.0	
	comp=Z,15nm,1.4s						
ZALV	**Zalesovo Beam**	**80.88**	**327**	P	**P**	**10 19 43.9**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=72,slow=4.8,SNR=3.7						
	comp=Z,0.9nm,0.6s						
D19K	**Kuna River**	**81.91**	**17**	P	**P**	**10 19 48.1**	**-1.4**
D19K				IAmb	IAmb	10 20 22.0	
	comp=Z,14nm,1.4s						
ILAR	**Eielson Array**	**83.61**	**22**	P	**P**	**10 19 56.7**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=246,slow=4.7,SNR=8.3						
	comp=Z,0.6nm,0.6s						
MAW	**Mawson**	**84.11**	**203**	P	**P**	**10 20 00.9**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=117,slow=4.6,SNR=11						
	comp=Z,2.4nm,0.7s						
QSPA	**South Pole Qui**	**84.32**	**180**	P	**P**	**10 20 02.2**	**+0.1**
QSPA				IAmb	IAmb	10 20 07.9	
	comp=Z,4.6nm,1.2s						
QSPA	**South Pole Qui**	**84.32**	**180**	P	**P**	**10 20 01.9**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=293,slow=1.7,SNR=12						
	comp=Z,2.4nm,0.8s						
F24K	**Squaw Lake**	**84.56**	**20**	P	**P**	**10 20 03.3**	**+0.2**
F24K				IAmb	IAmb	10 20 20.7	
	comp=Z,9.0nm,1.5s						
M27K	**Edge Creek, AK**	**84.60**	**26**	P	**P**	**10 20 03.0**	**-0.6**
DAWY	**Dawson**	**86.28**	**24**	P	**P**	**10 20 12.5**	**+0.7**
K29M	**Barlow Dome**	**86.98**	**25**	P	**P**	**10 20 15.2**	**-0.1**
K29M				IAmb	IAmb	10 20 26.5	
	comp=Z,4.3nm,1.4s						
BVAR	**Borovoye Array**	**88.85**	**323**	P	**P**	**10 20 24.9**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=102,slow=6.2,SNR=2.0						
	comp=Z,0.6nm,0.6s						
H31M	**Peel River**	**88.87**	**23**	P	**P**	**10 20 22.5**	**-1.6**
NVAR	**Mina Array Bea**	**94.00**	**52**	P	**P**	**10 20 49.2**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=257,slow=5.8,SNR=6.6						
	comp=Z,0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.86**	**286**	PKPbc	**PKPbc**	**10 27 18.6**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=51,slow=3.0,SNR=22						
BDFB	**Brasilia**	**151.67**	**139**	PKPbc	**PKPbc**	**10 27 25.3**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=259,slow=9.5,SNR=3.1						

IDC 25 10:15:05.2±5.2, 23°.52N×145°.74E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=197.9km s-min=24.4km az=76.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.65**	**316**	P	P	10 19 47.4	+0.9
	1.0nm,1.0s,baz=142,slow=9.8,SNR=2.4						
	1.0nm,1.0s						
WRA	**Warramunga Arr**	**44.60**	**195**	P	P	10 23 19.4	0.0
	0.2nm,0.3s,baz=17,slow=9.0,SNR=6.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**48.29**	**195**	P	P	10 23 48.1	-0.2
	0.1nm,0.3s,baz=13,slow=6.5,SNR=6.3						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**57.83**	**316**	P	P	10 24 58.2	-0.3
	1.0nm,0.2s,baz=98,slow=6.8,SNR=1.6						
	1.0nm,0.2s						
**BVA

comp=Z,40nm,0.3s
JCT Junction City 3.12 103 Pn Pn 10 33 03.3 +1.9
JCT IAmb_Lg 10 33 54.7
comp=Z,17nm,0.9s
JCT IAML 10 34 00.5
comp=Z,43nm,0.5s
JCT IAML 10 34 01.5
comp=Z,41nm,0.6s
DKNS Dickens 3.17 39 Pn Pn 10 33 03.0 +1.0
DKNS IAML 10 33 58.3
comp=Z,42nm,0.5s
DKNS IAML 10 34 00.2
comp=Z,46nm,0.6s
APMT Aspermont 3.42 52 Pn 10 33 07.1 +1.6
ABTX Abilene, Hawle 3.43 65 Pn 10 33 07.2 +1.7
ABTX IAML 10 34 05.9
comp=N,29nm,0.5s
BRDY Brady 3.71 88 Pn Pn 10 33 10.8 +1.5
BRDY IAML 10 34 12.8
comp=N,22nm,0.7s
BRDY IAmb_Lg 10 34 13.8
comp=Z,8.6nm,0.9s
BRDY IAML 10 34 16.2
comp=Z,14nm,0.7s
HNDO Hondo 3.88 115 Pn 10 33 13.5 +1.6
HNDO IAML 10 34 20.5
comp=Z,21nm,1.0s
HNDO IAML 10 34 21.4
comp=Z,18nm,0.8s
AMTX Amarillo 3.90 20 Pn Pn 10 33 12.5 +0.4
121A Cookes Peak, D 4.01 290 Pn Pn 10 33 14.4 +0.7
121A IAML 10 34 28.7
comp=E,11nm,2.3s
121A IAML 10 35 07.8
comp=N,12nm,4.3s
SMWD Samnorwood 4.65 33 IAmb_Lg 10 34 50.2
comp=Z,10nm,0.8s
FW07 Weatherford 4.93 71 Pn Pn 10 33 26.0 -0.2
WMOK Wichita Mounta 5.18 46 Pn Pn 10 33 30.3 +0.6

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*IDC **25** 10:34:08.9±0.6, 32°.23N×137°.80E, h401km±7km, mb3.3/14, mbtmp4.0/18, Error ellipse: s-maj=16.9km s-min=11.2km az=69.0*
*JMA **25** 10:34:08.5±0.3, 32°N±3°×13°8E±°, h409km, MV3.8/40, FAR S OFF TOKAI DISTRICT*
*NEIC **25** 10:34:08.7±0.9, 32°.22N±0°.06×137°.8E±0°.1, h398km±8km, mb4.0/19, Error ellipse: s-maj=14.7km s-min=9.3km az=96.0*

ISC 25 10:34:08.2±0.5, 32°.20N±0°.06×137°.90E±0°.06, h400km, n79, σ1§40/85, mb3.8/25, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**1.70**	**327**	P	**Pn**	**10 35 02.9**	**+0.9**
JHJ	**Hachijo jima 2**	**1.83**	**60**	P	**Pn**	**10 35 06.2**	**+3.0**
JHJ				S	**S**	**10 35 49.2**	**+1.7**
JHJ2	**Mitsune**	**1.86**	**60**	Pn	**Pn**	**10 35 04.0**	**+0.7**
JHJ2	**Mitsune**	**1.86**	**60**	P	**Pn**	**10 35 06.4**	**+3.1**
JIE	**Ise**	**2.40**	**336**	P	**Pn**	**10 35 07.1**	**+0.4**
JIE				*e*S	**S**	**10 35 53.0**	**-1.2**
JKN2	**Miekihoku**	**2.45**	**327**	P	**Pn**	**10 35 07.0**	**0.0**
JKN2				*e*S	**S**	**10 35 52.3**	**-2.4**
JTNC	**Tanabenakahech**	**2.51**	**311**	P	**Pn**	**10 35 07.1**	**-0.5**
JWY	**Kouya**	**2.79**	**317**	P	**Pn**	**10 35 09.8**	**+0.1**
JEG	**Eigenji**	**3.19**	**337**	P	**Pn**	**10 35 13.6**	**+0.7**
JOD2	**Odawara 2**	**3.21**	**18**	P	**Pn**	**10 35 13.8**	**+0.6**
INU	**Inuyama**	**3.23**	**347**	Pn	**Pn**	**10 35 13.4**	**+0.2**
INU	**Inuyama**	**3.23**	**347**	P	**Pn**	**10 35 13.4**	**+0.2**
JAI	**Aioi**	**3.30**	**300**	P	**Pn**	**10 35 13.3**	**-0.6**
JYN	**Shimob**	**3.33**	**9**	P	**Pn**	**10 35 15.5**	**+1.3**
BSO3	**Boso 3**	**3.39**	**39**	S	**S**	**10 36 06.2**	**-1.8**
JGF	**Kuroka**	**3.42**	**353**	Pn	**Pn**	**10 35 15.4**	**+0.4**
JGF	**Kuroka**	**3.42**	**353**	P	**Pn**	**10 35 15.4**	**+0.4**
JMN	**Monobe**	**3.71**	**295**	Pn	**Pn**	**10 35 16.9**	**-0.7**
JMN	**Monobe**	**3.71**	**295**	P	**Pn**	**10 35 17.2**	**-0.4**
MJAR	**Matsushiro Arr**	**4.34**	**3**	P	**Pn**	**10 35 24.0**	**+0.5**
	27nm,0.6s,baz=186,slow=9.9,SNR=76						
MJAR				S	**S**	**10 36 21.8**	**-2.9**
	7.5nm,0.7s,baz=195,slow=26,SNR=2.4						
MAJO	**Matsushiro**	**4.34**	**3**	Pn	**Pn**	**10 35 23.9**	**+0.4**
MAJO	**Matsushiro**	**4.34**	**3**	P	**Pn**	**10 35 23.9**	**+0.4**
MJB9	**Matsu-Tunnel**	**4.34**	**3**		**Pn**	**10 35 23.9**	**+0.3**
JTO	**Tosashimizu**	**4.36**	**280**	P	**Pn**	**10 35 22.8**	**-0.8**
JHS	**Saijyo**	**4.87**	**306**	*e*P	**Pn**	**10 35 28.4**	**-0.5**
JHO	**Hitachi**	**4.92**	**26**	P	**Pn**	**10 35 28.5**	**-0.8**
JHO				*e*S	**S**	**10 36 30.2**	**-5.1**
JFK	**Kawauchi**	**5.71**	**25**	P	**Pn**	**10 35 37.1**	**-0.4**
JFK				*e*S	**S**	**10 36 45.5**	**-5.0**
JSD	**Sado**	**5.83**	**3**	Pn	**Pn**	**10 35 38.9**	**0.0**
JSD	**Sado**	**5.83**	**3**	P	**Pn**	**10 35 39.0**	**+0.1**
JNU	**Nakatsue**	**5.99**	**281**	Pn	**Pn**	**10 35 39.8**	**-0.9**
JNU	**Nakatsue**	**5.99**	**281**	P	**Pn**	**10 35 40.0**	**-0.8**
	21nm,0.8s,baz=105,slow=3.3,SNR=20						
JMM	**Marumori**	**6.13**	**22**	Pn	**Pn**	**10 35 41.8**	**-0.3**
CBIJ	**Chichi jima**	**6.31**	**143**	P	**Pn**	**10 35 43.6**	**-0.7**
CBIJ				*e*S	**S**	**10 36 56.6**	**-5.9**
JCJ	**Chichijima**	**6.31**	**143**	P	Pn	10 35 38.1	-6.1
JTM	**Tenmabayashi**	**8.94**	**16**		**Pn**	**10 36 13.5**	**-0.4**
KSRS	**Korea Array**	**9.73**	**305**	P	**Pn**	**10 36 23.1**	**+0.1**
	1.1nm,0.4s,baz=125,slow=10.0,SNR=9.8						
KSAR	**Wonju Array Be**	**9.75**	**305**	P	**Pn**	**10 36 22.9**	**-0.3**
JOW	**Kunigami**	**9.94**	**240**	P	**Pn**	**10 36 26.4**	**+0.7**
	9.9nm,0.4s,baz=50,slow=16,SNR=2.1						
JEM	**Erimo**	**10.66**	**22**	P	P	10 36 21.8	-11
JKA	**Kamikawa-asahi**	**12.46**	**16**		**P**	**10 36 53.4**	**+0.7**
USA0B	**Ussuriysk Arra**	**12.85**	**341**	P	**Pn**	**10 36 58.7**	**-0.2**
USRK	**Ussuriysk Ar.**	**12.85**	**341**	P	**Pn**	**10 36 58.0**	**-0.9**
KLR	**Kul'dur**	**17.63**	**347**	P	P	10 37 57.0	+8.5
	1.3nm,0.6s,baz=217,slow=5.0,SNR=5.7						
PET	**Petropavlovsk**	**25.64**	**30**	P	**P**	**10 39 04.9**	**+1.6**
SONM	**Songino Array**	**28.49**	**312**	P	**P**	**10 39 28.7**	**0.0**
	0.8nm,0.5s,baz=116,slow=7.7,SNR=5.2						
	0.8nm,0.5s						
CMAR	**Chiang Mai Arr**	**37.56**	**258**	P	**P**	**10 40 46.7**	**+0.2**
	1.0nm,0.6s,baz=49,slow=6.8,SNR=6.1						
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**43.22**	**316**	P	**P**	**10 41 31.1**	**-0.5**
	0.8nm,0.4s,baz=81,slow=9.3,SNR=3.6						
	0.8nm,0.4s						
MK31	**Makanchi Array**	**44.41**	**306**	P	**P**	**10 41 40.7**	**-0.5**
MK31				IAmb	IAmb	10 41 42.1	
	comp=Z,6.2nm,1.4s						
MKAR	**Makanchi Array**	**44.41**	**306**	P	**P**	**10 41 41.0**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=88,slow=9.3,SNR=21						
	comp=Z,1.6nm,0.5s						
MAKZ	**Makanchi**	**44.63**	**306**	P	**P**	**10 41 42.4**	**-0.5**
MAKZ				IAmb	IAmb	10 41 54.5	
	comp=Z,15nm,1.5s						
COEN	**Coen**	**46.17**	**173**	P	**P**	**10 41 55.7**	**+0.7**
COEN				IAmb	IAmb	10 42 20.8	
	comp=Z,8.3nm,1.1s						
KURK	**Kurchatov**	**46.79**	**311**	P	**P**	**10 41 58.7**	**-0.7**
KURBB	**Kurchatov Arra**	**46.85**	**311**	P	**P**	**10 41 59.5**	**-0.4**
	comp=Z,1.6nm,0.2s,baz=95,slow=6.8,SNR=7.0						
	comp=Z,1.6nm,0.2s						
KNRA	**Kununurra**	**48.40**	**192**	P	**P**	**10 42 11.7**	**-0.2**
KNRA				IAmb	IAmb	10 42 46.0	
	comp=Z,22nm,1.4s						
GSI	**Gunungsitoli**	**48.84**	**239**	P	**P**	**10 42 14.5**	**-0.9**
GSI				IAmb	IAmb	10 42 18.8	
	comp=Z,31nm,0.9s						
WB0	**Warramunga Arr**	**51.78**	**184**	P	**P**	**10 42 36.9**	**-0.1**
WB0				IAmb	IAmb	10 43 08.7	
	comp=Z,7.9nm,1.5s						
BVAR	**Borovoye Array**	**51.79**	**315**	P	**P**	**10 42 36.4**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=98,slow=9.0,SNR=13						
BVAR				PcP	**PcP**	**10 43 43.8**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=102,slow=5.1,SNR=2.9						
	comp=Z,1.0nm,0.3s						
WRAB	**Tennant Creek**	**51.95**	**184**	P	**P**	**10 42 38.3**	**+0.1**
WB2	**Warramunga Arr**	**51.96**	**184**	P	**P**	**10 42 38.4**	**+0.1**
WB2				IAmb	IAmb	10 42 40.0	
	comp=Z,6.5nm,1.4s						
WRA	**Warramunga Arr**	**51.96**	**184**	P	**P**	**10 42 38.9**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=0.1,slow=7.6,SNR=39						
	comp=Z,1.2nm,0.3s						
WR0	**Warramunga Arr**	**51.96**	**184**	P	**P**	**10 42 38.9**	**+0.6**
WR0				IAmb	IAmb	10 43 13.0	
	comp=Z,7.1nm,1.3s						
H21K	**Melozitna Rive**	**52.64**	**29**	P	**P**	**10 42 45.2**	**+2.6**
H21K				IAmb	IAmb	10 42 47.5	
	comp=Z,8.1nm,1.4s						
KKAR	**Karatay Array**	**53.14**	**302**	P	**P**	**10 42 46.4**	**-0.3**
GAR	**Garm**	**54.25**	**297**	P	**P**	**10 42 54.2**	**-0.5**
GAR				IAmb	IAmb	10 42 55.9	
	comp=Z,10nm,1.2s						
ASAR	**Alice Springs**	**55.68**	**184**	P	**P**	**10 43 06.1**	**+1.2**
ASAR	**Alice Springs**	**55.68**	**184**	P	**P**	**10 43 05.5**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=11,slow=13,SNR=15						
	comp=Z,0.6nm,0.7s						
BMAR	**Burnt Mountain**	**55.95**	**27**	P	**P**	**10 43 06.3**	**+0.1**
ABKAR	**Akbulak array**	**58.90**	**312**	P	**P**	**10 43 26.3**	**-0.4**
ABKAR				IAmb	IAmb	10 43 27.3	
	comp=Z,3.9nm,0.5s						
BBOO	**Buckleboo**	**64.68**	**182**	P	**P**	**10 44 05.8**	**+0.8**
FIA1	**FINESS Array S**	**71.72**	**332**	P	**P**	**10 44 47.7**	**0.0**
FINES	**FINESS Array B**	**71.72**	**332**	P	**P**	**10 44 48.0**	**+0.2**
FINES	**FINESS Array B**	**71.72**	**332**	P	**P**	**10 44 48.3**	**+0.6**
	comp=Z,1.6nm,0.4s,baz=70,slow=5.2,SNR=24						
	comp=Z,1.6nm,0.4s						
AKASG	**Malin Array Be**	**76.31**	**322**	P	**P**	**10 45 14.0**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=53,slow=5.5,SNR=7.4						
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**77.26**	**335**	P	**P**	**10 45 19.8**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=54,slow=7.3,SNR=1.4						
	comp=Z,1.2nm,0.8s						
NC405	**NORSAR Array S**	**77.26**	**336**	P	**P**	**10 45 18.4**	**-0.9**
NOA	**NORSAR Array B**	**77.48**	**336**	P	**P**	**10 45 21.1**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=55,slow=6.5,SNR=2.4						
NOA				PP	**PP**	**10 48 22.2**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=49,slow=7.9,SNR=3.2						
	comp=Z,0.5nm,0.6s						
BRTR	**Keskin Array B**	**79.83**	**311**	P	**P**	**10 45 33.4**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=74,slow=4.4,SNR=2.9						
	comp=Z,0.5nm,0.5s						
NVAR	**Mina Array Bea**	**80.24**	**51**	P	**P**	**10 45 37.4**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=302,slow=5.0,SNR=3.2						
	comp=Z,0.5nm,0.8s						
BURAR	**Bucovina Array**	**80.25**	**321**	P	**P**	**10 45 36.4**	**+0.6**

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*IDC **25** 10:34:10.0±1.5, 37°.42N×21°.65E, h0km, mb3.6/9, mbtmp3.6/9, MS2.9/1, Error ellipse: s-maj=33.1km s-min=27.0km az=130.0*
*ATH **25** 10:34:15.1, 37°.24N×21°.63E, h16km±1km, ML3.2/23, Manual Solution by A.Andreou First location: 2018/11/25 10:35:25, This location: 2020/07/02 10:53:30 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*THE **25** 10:34:16.4, 37°.37N×21°.75E, h4km±1km, ML3.3/5, Error ellipse: s-maj=2.3km s-min=0.8km az=63.0*

ISC 25 10:34:14.6±0.8, 37°.25N±0°.03×21°.64E±0°.03, h25km±6km, n69, σ1§65/82, mb3.5/9, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZARO	**Zacharo**	**0.23**	**2**	P	**Pb**	**10 34 20.4**	**-0.3**
ITM	**Ithomi**	**0.24**	**107**	P	**Pb**	**10 34 20.6**	**-0.2**
ITM				S	**Sb**	**10 34 25.4**	**+0.4**
	12μm,0.5s						
ITM	**Ithomi**	**0.24**	**107**	P	**Pb**	**10 34 20.6**	**-0.2**
ITM				S	**Sb**	**10 34 25.5**	**+0.5**
PYL4	**Kinigos solar**	**0.35**	**168**	P	**Pb**	**10 34 21.9**	**-0.4**
PYL4				S	**Sb**	**10 34 28.1**	**+0.5**
PYL2	**Kinigos**	**0.35**	**169**	P	**Pb**	**10 34 22.1**	**-0.3**
MTHA	**Methoni**	**0.43**	**173**	P	**Pb**	**10 34 24.4**	**+0.7**
DRO	**Drossia**	**0.70**	**5**	P	**Pb**	**10 34 27.4**	**-0.8**
DRO				S	**Sb**	**10 34 36.0**	**-1.5**
	4μm,0.4s						
RLS	**Riolos of Patr**	**0.82**	**350**	P	**Pb**	**10 34 29.5**	**-0.6**
RLS	**Riolos of Patr**	**0.82**	**350**	P	**Pn**	**10 34 31.7**	**+1.3**
RLS				S	**Sn**	**10 34 42.1**	**+0.4**
KLV	**Kalavryta, Ach**	**0.89**	**27**	P	**Pb**	**10 34 30.2**	**-1.2**
PATC	**Patra C**	**1.02**	**5**	P	**Pb**	**10 34 34.9**	**+1.3**
PATC				S	**Sn**	**10 34 49.5**	**+2.7**
VLI	**Veliai**	**1.17**	**117**	P	**Pb**	**10 34 37.4**	**+1.4**
VLI				S	**Sb**	**10 34 55.1**	**+4.3**
	950nm,0.8s						
VLI	**Veliai**	**1.17**	**117**	P	**Pb**	**10 34 37.5**	**+1.4**
VLI				S	**Sn**	**10 34 51.2**	**+0.9**
EFP	**Efpalio**	**1.19**	**10**	P	**Pb**	**10 34 36.4**	**-0.1**
PSDA	**Pessada-Kefalo**	**1.20**	**316**	P	**Pb**	**10 34 36.6**	**0.0**
PSDA				S	**Sb**	**10 34 53.0**	**+1.2**
KALE	**Kalithea**	**1.20**	**19**	P	**Pb**	**10 34 36.5**	**-0.2**
KALE				S	**Sb**	**10 34 55.2**	**+3.3**
VLS	**Valsamata**	**1.24**	**318**	P	**Pb**	**10 34 38.1**	**+0.7**
VLS				S	**Sb**	**10 34 54.7**	**+1.7**
MNVA	**Monemvasia**	**1.25**	**116**	P	**Pb**	**10 34 38.2**	**+0.7**
SMHA	**Samh**	**1.27**	**322**	P	**Pb**	**10 34 38.6**	**+0.8**
SMHA				S	**Sb**	**10 34 56.5**	**+2.7**
LOUT	**Loutraki**	**1.29**	**55**	P	**Pb**	**10 34 39.0**	**+0.9**
LOUT				S	**Sb**	**10 34 56.3**	**+2.0**
LTK	**Loutraki**	**1.30**	**53**	P	**Pb**	**10 34 38.9**	**+0.5**
LTK				S	**Sb**	**10 34 56.3**	**+1.6**
ANX	**Ano Chora**	**1.36**	**9**	P	**Pb**	**10 34 40.9**	**+1.5**
DLFA	**Delphi**	**1.40**	**29**	P	**Pb**	**10 34 41.0**	**+1.0**
DMLN	**Damoulianata-K**	**1.41**	**315**	P	**Pb**	**10 34 40.5**	**+0.3**
EVGI	**Lefkada island**	**1.57**	**331**	P	**Pb**	**10 34 43.5**	**+0.5**
EVGI				S	**Sb**	**10 35 04.6**	**+2.2**
	1μm,0.4s						
VIL2	**Platees**	**1.61**	**53**	P	**Pb**	**10 34 43.1**	**-0.4**
AXAR	**Agios Charalam**	**1.71**	**28**	P	**Pb**	**10 34 45.6**	**+0.2**
LKD2	**Lefkada island**	**1.72**	**333**	P	**Pb**	**10 34 47.3**	**+1.8**
TSLK	**Tsoukalades, L**	**1.75**	**334**	P	**Pb**	**10 34 46.3**	**+0.3**
ATH	**Athens Observa**	**1.80**	**66**	P	**Pb**	**10 34 46.1**	**-0.7**
VLY	**Voula,Athens**	**1.81**	**70**	P	**Pn**	**10 34 45.4**	**+1.2**
VLY				S	**Sb**	**10 35 08.9**	**-0.5**
	260nm,0.5s						
VLY	**Voula,Athens**	**1.81**	**70**	P	**Pn**	**10 34 45.4**	**+1.2**
ATHU	**Athens Univers**	**1.85**	**67**	P	**Pn**	**10 34 46.2**	**+1.5**
ANKY	**Antikythira Is**	**1.92**	**135**	P	**Pb**	**10 34 48.3**	**-0.6**
PTL	**Penteli**	**1.94**	**65**	P	**Pn**	**10 34 47.5**	**+1.6**
DION	**Dionisos Attik**	**2.00**	**65**	P	**Pn**	**10 34 48.4**	**+1.6**
THL	**Klokotos Trika**	**2.33**	**7**	P	**Pn**	**10 34 53.0**	**+1.8**
THL	**Klokotos Trika**	**2.33**	**7**	P	**Pb**	**10 34 54.2**	**-1.6**
KYMI	**Kymi, Euboea I**	**2.38**	**54**	P	**Pn**	**10 34 53.2**	**+1.2**
KYMI	**Kymi, Euboea I**	**2.38**	**54**	P	**Pn**	**10 34 53.8**	**+1.8**
NEO	**Neokhori**	**2.40**	**31**	P	**Pn**	**10 34 54.0**	**+1.7**
NEO	**Neokhori**	**2.40**	**31**	P	**Pn**	**10 34 54.3**	**+2.1**
XOR	**Xorichti**	**2.44**	**30**	P	**Pn**	**10 34 55.3**	**+2.5**
TYRN	**Tyrnavos**	**2.50**	**11**	P	**Pn**	**10 34 55.6**	**+2.1**
KEK	**Kerkira**	**2.85**	**330**	P	**Pn**	**10 34 59.6**	**+1.2**
LIT	**Litokhoron**	**2.92**	**13**	P	**Pn**	**10 35 01.6**	**+2.2**
SAP3	**Santorini-Thir**	**3.08**	**104**	P	**Pn**	**10 35 04.1**	**+2.5**
APE	**Apeiranthos**	**3.11**	**92**	P	**Pn**	**10 35 03.4**	**+1.3**
IDI	**Anoyia**	**3.28**	**126**	P	**Pn**	**10 35 06.2**	**+1.9**
PLG	**Polygyros**	**3.42**	**24**	P	**Pn**	**10 35 08.0**	**+1.7**
HORT	**Hortiatis**	**3.53**	**18**	P	**Pn**	**10 35 09.6**	**+1.7**
FNA	**Florina**	**3.53**	**357**	P	**Pn**	**10 35 10.6**	**+2.8**
OUR	**Ounopolis**	**3.58**	**30**	P	**Pn**	**10 35 10.2**	**+1.8**
CHOS	**Chios island**	**3.67**	**71**	P	**Pn**	**10 35 11.3**	**+1.5**
SOH	**Sokhos**	**3.81**	**20**	P	**Pn**	**10 35 14.5**	**+2.9**
KOKK	**Kokkinochori,**	**4.01**	**27**	P	**Pn**	**10 35 16.3**	**+2.0**
KNT	**Kendrikon**	**4.03**	**14**	P	**Pn**	**10 35 16.9**	**+2.3**
THAS	**Thassos island**	**4.12**	**35**	P	**Pn**	**10 35 17.4**	**+1.5**
KAVA	**Kavala**	**4.36**	**30**	P	**Pn**	**10 35 20.9**	**+1.8**
DAVOX	**Davos/Dischmat**	**12.91**	**321**	LR	LR	10 43 25.0	
	comp=Z,58nm,21.1s,baz=74,slow=43						
HFS	**Hagfors**	**23.46**	**350**	P	**P**	**10 39 19.7**	**-2.0**
	1.3nm,0.5s,baz=156,slow=11,SNR=6.5						
	1.3nm,0.5s						
FINES	**FINESS Array B**	**24.38**	**5**	P	**P**	**10 39 27.6**	**-2.8**
	1.6nm,0.7s,baz=182,slow=11,SNR=5.7						
	1.6nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.70**	**325**	P	**P**	**10 39 30.5**	**-2.9**
	0.9nm,0.6s,baz=130,slow=9.0,SNR=2.4						
	0.9nm,0.6s						
NOA	**NORSAR Array B**	**24.70**	**348**	P	**P**	**10 39 31.7**	**-1.7**
	0.2nm,0.5s,baz=152,slow=9.5,SNR=1.8						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**29.90**	**222**	P	**P**	**10 40 20.9**	**+0.5**
	0.3nm,0.5s,baz=354,slow=9.0,SNR=2.1						
	0.3nm,0.5s						
ARCES	**ARCESS Array B**	**32.41**	**3**	P	**P**	**10 40 40.0**	**-1.9**
	2.5nm,1.0s,baz=199,slow=10,SNR=1.1						
	2.5nm,1.0s						
BVAR	**Borovoye Array**	**37.05**	**49**	P	**P**	**10 41 21.2**	**-1.0**
	0.3nm,0.5s,baz=285,slow=5.7,SNR=1.9						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.04**	**58**	P	P	10 42 26.0	-2.1
	0.3nm,0.6s,baz=258,slow=12,SNR=1.9						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**45.65**	**48**	P	P	10 42 30.6	-2.2
	0.5nm,0.3s,baz=269,slow=10,SNR=2.1						
	0.5nm,0.3s						

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*CATAC **25** 10:45:13.8±0.7, 13°.20N×80°.86W, h12km±8km, MB5.5, mb5.2, ML5.2*
*IDC **25** 10:45:16.3±0.6, 13°.12N×81°.24W, h0km, mb4.1/15, mbtmp4.1/19, ML2.8/4, MS3.7/38, Error ellipse: s-maj=22.7km s-min=14.0km az=41.0*
*RSNC **25** 10:45:17.8±0.0, 13°N±2°×8°1W±°, h11km±3km, M4.6, mb4.9, mB5.3, ML4.2, Mw4.5, Mw(mB)4.7*
*NEIC **25** 10:45:17.4±1.4, 13°.13N±0°.06×81°.16W±0°.03, h10km±1km, mb4.4/64, Error ellipse: s-maj=10.8km s-min=5.1km az=176.0*
*GCMT **25** 10:45:20.4±0.4, 13°.15N±0°.02×81°.29W±0°.02, h14km±2km, MW4.7/72, Moment Tensor Solution. s7,c9; s72,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.21±.07; $M_{\theta\theta}$-0.06±.06; $M_{\phi\phi}$0.26±.07; $M_{r\theta}$0.27±.14; $M_{\theta\phi}$1.19±.07; $M_{\phi r}$0.21±.14; Best double couple: $M_0$1.23900×10^{16} NP1:ϕ_s86.00000°, δ85.00000°, λ11.00000°. NP2: ϕ_s355.00000°, δ79.00000°, λ174.00000°. Principal axes: T 1.3760, Plg12.0000°, Azm311.0000°; N -0.2730, Plg77.0000°, Azm112.0000°; P -1.1020, Plg4.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 10:45:17.1±0.4, 13°.16N±0°.03×81°.12W±0°.03, h10km, n203, σ2§08/220, mb4.3/40, MS3.8/33, 2C-1D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.32**	**313**	P	**Pg**	**10 45 21.5**	**-2.0**
PRVC				S	**Sg**	**10 45 25.1**	**-2.7**
SAIC	**Isla e San And**	**0.84**	**223**	P	**Pg**	**10 45 32.1**	**-1.2**
SAIC				S	**Sg**	**10 45 44.2**	**-0.1**
RNCC	**Cayo Roncador,**	**1.09**	**67**	P	**Pg**	**10 45 37.7**	**-0.3**
RNCC				S	**Sn**	**10 45 54.6**	**+1.1**
SERC	**Banco Serrana,**	**1.34**	**33**	P	**Pn**	**10 45 40.9**	**-1.0**
SERC				S	**Sg**	**10 46 00.0**	**-0.4**
BLUN	**Bluefields**	**2.83**	**246**	*i* P	**Pn**	**10 46 01.3**	**-1.1**
BLUN				IAML		10 46 50.9	
	comp=Z,2μm,1.0s						
ESPN	**Las Esperanzas**	**3.24**	**253**		**Pn**	**10 46 06.2**	**-1.9**
ESPN	**Las Esperanzas**	**3.24**	**253**	*i* P	**Pn**	**10 46 06.9**	**-1.2**
ESPN				IAML		10 47 03.8	
	comp=Z,4μm,1.0s						
TRT2	**Tortugero**	**3.63**	**225**	*i* P	**Pn**	**10 46 11.5**	**-1.9**
TRT2				IAML		10 47 10.1	
	comp=Z,1μm,1.0s						
COVE	**Coope Vega, Sa**	**4.02**	**233**	*i* P	**Pn**	**10 46 18.0**	**-0.7**
COVE				*i* S	**Sn**	**10 47 09.7**	**+3.8**
COVE				IAML		10 47 56.9	
	comp=Z,3μm,1.0s						
ACON	**Acoyapa**	**4.13**	**254**	Pn	**Pn**	**10 46 18.6**	**-1.6**
ACON	**Acoyapa**	**4.13**	**254**	P	**Pn**	**10 46 20.0**	**-0.2**
ACON	**Acoyapa**	**4.13**	**254**	*i* P	**Pn**	**10 46 22.0**	**+1.8**
ACON				IAML		10 47 40.9	
	comp=Z,2μm,1.0s						
RAFA	**San Farael, Vo**	**4.13**	**220**	*i* P	**Pn**	**10 46 19.3**	**-1.2**
RAFA				*i* S	**Sn**	**10 47 11.6**	**+2.5**
RAFA				IAML		10 47 33.0	
	comp=Z,2μm,1.0s						
BCIP	**Isla Barro Col**	**4.16**	**162**		**Pn**	**10 46 18.3**	**-2.4**
BCIP	**Isla Barro Col**	**4.16**	**162**	P	**Pn**	**10 46 17.9**	**-2.7**
BCIP				S	**Sn**	**10 47 06.1**	**-3.3**
BCIP	**Isla Barro Col**	**4.16**	**162**	*i* P	**Pn**	**10 46 18.0**	**-2.7**
BCIP				*i* S	**Sn**	**10 47 05.9**	**-3.5**
BCIP				IAML		10 47 17.9	
	comp=Z,520nm,1.0s						
HDC	**Heredia**	**4.29**	**223**		**Pn**	**10 46 21.3**	**-1.4**
HDC	**Heredia**	**4.29**	**223**	*e*P	**Pn**	**10 46 22.0**	**-0.6**
SOCE	**Pocosol**	**4.39**	**232**		**Pn**	**10 46 23.0**	**-0.9**
SOCE	**Pocosol**	**4.39**	**232**	*i* P	**Pn**	**10 46 23.2**	**-0.7**
SOCE				*i* S	**Sn**	**10 47 19.0**	**+3.8**
SOCE				IAML		10 47 46.1	
	comp=Z,790nm,1.0s						
BRU2	**Volcan**	**4.60**	**200**		**Pn**	**10 46 24.5**	**-2.4**
BRU2	**Volcan**	**4.60**	**200**	*i* P	**Pn**	**10 46 25.0**	**-1.9**
BRU2				IAML		10 47 23.2	
	comp=Z,2μm,1.0s						
MORN	**Al O del Volca**	**4.70**	**251**	*i* P	**Pn**	**10 46 28.3**	**+0.1**
MORN				IAML		10 48 05.2	
	comp=Z,210nm,1.0s						
JTS	**Las Juntas de**	**4.71**	**233**		**Pn**	**10 46 26.9**	**-1.4**
JTS	**Las Juntas de**	**4.71**

comp=Z,206nm,0.8s,comp=Z,3μm
LCBC S **Sn** **10 48 05.6 +2.7**
comp=Z,206nm,0.8s,comp=Z,3μm
HOJ Hope 6.40 41 ⇑*i*P **Pn** **10 46 52.3 +0.8**
STH Stony Hill 6.42 40 ⇓*i*P **Pn** **10 46 52.4 +0.7**
GWJ Greenwich 6.47 40 ⇓*i*P **Pn** **10 46 53.7 +1.2**
CNCH Conchagua 6.54 272 *i* P **Pn** **10 46 53.5 0.0**
CNCH IAmb IAmb 10 47 21.6
comp=Z,340nm,0.6s
CNCH IVmB_BB 10 47 41.3
comp=Z,5μm,1.0s
CNCH IAML 10 49 09.8
comp=Z,760nm,1.0s
SJCC San Jacinto, C 6.66 118 P **Pn** **10 46 53.1 -2.1**
SJCC S **Sn** **10 48 08.0 -3.3**
PTAC Punta Ardita, 6.80 151 P **Pn** **10 46 52.9 -4.1**
comp=Z,29nm,0.8s,comp=Z,2μm
PTAC S Sn 10 48 05.3 -9.3
comp=Z,29nm,0.8s,comp=Z,2μm
APAC Apartado, Choc 6.87 139 P **Pn** **10 46 59.9 +1.9**
comp=Z,57nm,1.0s,comp=Z,920nm
APAC S **Sn** **10 48 14.8 -1.5**
comp=Z,57nm,1.0s,comp=Z,920nm
SCLA Alcaldia de Sa 7.42 275 *i* P **Pn** **10 47 04.1 -1.5**
SCLA IAmb IAmb 10 47 33.0
comp=Z,41nm,0.8s
SCLA IVmB_BB 10 47 37.2
comp=Z,690nm,1.0s
SCLA *i* S **Sn** **10 48 33.3 +3.4**
SCLA IAML 10 49 33.9
comp=Z,230nm,1.0s
ARGC Ariguani, Magd 7.49 115 P **Pn** **10 47 09.6 +3.1**
comp=Z,54nm,0.8s
ARGC S **Sn** **10 48 31.4 -0.3**
comp=Z,54nm,0.8s
UREC San Jos de Ur 7.68 134 P **Pn** **10 47 09.8 +0.6**
comp=Z,54nm,0.8s,comp=Z,2μm
UREC S **Sn** **10 48 28.1 -8.3**
comp=Z,54nm,0.8s,comp=Z,2μm
MTO3 Montecristo 8.10 280 **Pn** **10 47 13.0 -2.1**
MTO3 Montecristo 8.10 280 *i* P **Pn** **10 47 14.5 -0.5**
MTO3 IAmb IAmb 10 47 18.9
comp=Z,35nm,0.8s
MTO3 *i* S **Sn** **10 48 49.5 +2.7**
ESQI Esquipulas 8.10 281 **Pn** **10 47 13.5 -1.5**
CRJC Cerrejon, Guaj 8.34 104 P **Pn** **10 47 16.3 -1.9**
comp=Z,33nm,0.7s,comp=Z,13μm
CRJC S **Sn** **10 48 47.6 -4.9**
comp=Z,33nm,0.7s,comp=Z,13μm
ZARC Zaragoza, Cauc 8.35 132 P **Pn** **10 47 19.8 +1.6**
comp=Z,55nm,0.6s
ZARC S **Sn** **10 48 49.9 -2.7**
comp=Z,55nm,0.6s
CBOC Ciudad Bolivar 8.82 145 P **Pn** **10 47 24.6 -0.4**
CBOC S **Sn** **10 49 00.5 -4.1**
GTBY Guantanamo Bay 8.86 40 Pn **Pn** **10 47 25.5 +0.2**
URIC Uribia, Colomb 9.04 98 P **Pn** **10 47 25.6 -2.1**
comp=Z,27nm,1.2s
URIC S **Sn** **10 49 04.3 -5.3**
comp=Z,27nm,1.2s
OCAC Ocana 9.09 122 P **Pn** **10 47 29.5 +0.9**
comp=Z,64nm,0.6s,comp=Z,700nm
OCAC S **Sn** **10 49 09.1 -2.1**
comp=Z,64nm,0.6s,comp=Z,700nm
PETF Flores 9.24 295 Pn **Pn** **10 47 29.8 -0.6**
PTBC PUERTO BERRIO, 9.29 134 P **Pn** **10 47 30.7 -0.5**
comp=Z,17nm,0.8s,comp=Z,616nm
PTBC S **Sn** **10 49 11.3 -4.6**
comp=Z,17nm,0.8s,comp=Z,616nm
BRJC Barrancabermej 9.51 130 P **Pn** **10 47 34.1 -0.1**
comp=Z,39nm,0.6s
BRJC S **Sn** **10 49 18.6 -2.7**
comp=Z,39nm,0.6s
GUY2C Guyana, Caldas 9.71 144 P **Pn** **10 47 37.1 -0.3**
comp=Z,19nm,0.7s
GUY2C S **Sn** **10 49 26.9 0.0**
comp=Z,19nm,0.7s
SOR Soroa 9.75 350 **Pn** **10 47 37.8 +0.3**
TEIG Tepich 9.82 317 Pn **Pn** **10 47 36.5 -1.9**
TEIG Tepich 9.82 317 Pn **Pn** **10 47 36.8 -1.6**
baz=128,slow=20,SNR=47
TEIG Sn **Sn** **10 49 21.7 -7.0**
baz=226,slow=24,SNR=6.2
TEIG Tepich 9.82 317 P **Pn** **10 47 36.7 -1.7**
comp=Z,148nm,0.6s,comp=Z,3μm
TEIG S **Sn** **10 49 22.4 -6.3**
comp=Z,148nm,0.6s,comp=Z,3μm
PAPH Port-au-Prince 10.03 57 **Pn** **10 47 41.5 +0.2**
PAMC Pamplona, Colo 10.10 124 P **Pn** **10 47 43.7 +0.9**
PAMC S **Sn** **10 49 34.7 -1.8**
HUEH Huehuetenango 10.29 283 Pn **Pn** **10 47 44.5 -0.6**
ROSC El Rosal 10.65 140 Pn **Pn** **10 47 47.8 -2.4**
ROSC El Rosal 10.65 140 Pn **Pn** **10 47 50.5 +0.3**
comp=Z,0.9nm,0.3s,baz=136,slow=22,SNR=2.1
ROSC Sn **Sn** **10 49 49.2 -0.5**
comp=Z,1.6nm,0.3s,baz=23,slow=23,SNR=8.9
ROSC LR LR 10 52 21.0
comp=Z,601nm,21.2s,baz=331,slow=40
comp=Z,2.8nm,0.3s
SDDR Presa de Saban 11.09 57 Pn **Pn** **10 47 57.6 +1.7**
CCIG Comitan 11.10 288 Pn **Pn** **10 47 57.2 +1.0**
SDV Santo Domingo 11.14 111 Pn **Pn** **10 47 56.1 -0.6**
SDV Santo Domingo 11.14 111 Pn **Pn** **10 47 56.4 -0.3**
comp=Z,2.1nm,0.3s,baz=290,slow=4.3,SNR=12
SDV Sn **Sn** **10 49 56.0 -5.5**
comp=Z,14nm,0.3s,baz=194,slow=22,SNR=13
SDV LR LR 10 52 49.3
comp=Z,425nm,20.4s,baz=316,slow=40
comp=Z,15nm,0.6s
SDV Santo Domingo 11.14 111 P **Pn** **10 47 58.7 +2.0**
comp=Z,27nm,0.6s
SDV S **Sn** **10 49 56.6 -4.9**
comp=Z,27nm,0.6s
POPC Popayan, Colom 11.43 157 P **Pn** **10 48 04.5 +3.8**
OTAV Otavalo 13.11 168 *eP* **P** **10 48 31.2 -3.0**
BAUV El Baul 13.50 107 **Pn** **10 48 26.0 -2.9**
CMIG Matias Romero 13.85 288 Pn **Pn** **10 48 32.3 -1.3**
comp=Z,0.1nm,0.3s,baz=71,slow=5.5,SNR=1.4
CMIG LR LR 10 53 42.5
comp=Z,681nm,19.7s,baz=116,slow=37
comp=Z,0.7nm,0.6s
UUPR Utuado, UPR, P 14.76 68 Pn **Pn** **10 48 46.2 +0.2**
SJG San Juan 15.24 69 Pn **P** **10 48 58.3 +0.9**
comp=Z,1.1nm,0.3s,baz=281,slow=7.6,SNR=11
HUMP Col San Antoni 15.52 69 P **P** **10 48 59.4 -1.1**
HUMP IAmb IAmb 10 49 11.7
comp=Z,28nm,1.0s
PCRV Puerto La Cruz 16.42 99 Sn **Sn** **10 52 01.5 -8.7**
comp=Z,0.3nm,0.3s,baz=264,slow=21,SNR=2.2
PCRV LR LR 10 56 31.3
comp=Z,145nm,22.0s,slow=41
TLIG Tlapa 17.38 287 P **P** **10 49 20.9 -0.4**
456A Hilliard 17.50 357 P **P** **10 49 22.2 -0.3**
250A Grady 19.32 347 P **P** **10 49 41.6 -0.9**
GOGA Godfrey 20.28 354 P Pn 10 49 55.6 +0.7
GOGA IAmb IAmb 10 50 10.5
comp=Z,17nm,1.2s
ATAH Atahualpa 20.34 172 P Pn 10 49 57.6 +1.4
comp=Z,3.1nm,0.7s,baz=3.2,slow=22,SNR=2.1
LRAL Lakeview Retre 20.50 346 P **P** **10 49 55.8 +0.4**
LRAL IAmb IAmb 10 50 04.0
comp=Z,38nm,1.4s
Z47A Carrollton 20.94 344 P **P** **10 50 00.6 +0.5**
Z47A IAmb IAmb 10 50 06.6
comp=Z,26nm,1.0s
Y49A Blount Mountai 21.16 348 P **P** **10 50 02.9 +0.4**
HBVL Hebbronville 21.48 313 P **P** **10 50 05.0 -1.0**
HBVL IAmb IAmb 10 50 14.4
comp=Z,28nm,1.2s
HKT Hockley 21.56 323 P **P** **10 50 07.0 +0.3**
HKT IAmb IAmb 10 50 22.4
comp=Z,34nm,1.4s
FPAL Fort Paine 21.68 350 P **P** **10 50 08.8 +0.8**
BG3 Lake Jocassee 21.80 356 P **P** **10 50 09.6 +0.2**
BG3 IAmb IAmb 10 50 43.6
comp=Z,23nm,1.3s
MLDN Muldoon 22.18 321 P **P** **10 50 13.6 +0.1**
CZSB Cruzeiro do Su 22.37 158 P **P** **10 50 15.6 -0.1**
V53A Saluda 22.47 356 P **P** **10 50 16.6 +0.1**
V53A IAmb IAmb 10 50 32.4
comp=Z,28nm,1.4s
TKL Tuckaleechee C 22.53 354 **P** **10 50 18.1 +0.9**
TKL Tuckaleechee C 22.53 354 LR LR 10 57 49.8
comp=Z,70nm,20.3s,baz=186,slow=33
BOAV Boa Vista 23.01 116 P **P** **10 50 23.2 +0.7**
BOAV IAmb IAmb 10 50 48.7
comp=Z,13nm,1.2s
BOAV Boa Vista 23.01 116 *eP* **P** **10 50 22.5 0.0**
435B Jarrell 23.20 322 P **P** **10 50 23.9 -0.4**
HNDO Hondo 23.43 317 P **P** **10 50 25.4 -1.2**
HNDO IAmb IAmb 10 50 27.5
comp=Z,16nm,1.1s
T50A Nancy 24.00 353 P **P** **10 50 32.8 +0.8**
T50A IAmb IAmb 10 51 14.2
comp=Z,11nm,1.2s
WHTX Lake Whitney, 24.00 324 P **P** **10 50 31.6 -0.5**
MIAR Mount Ida 24.11 334 P **P** **10 50 31.1 -1.9**
MIAR IAmb IAmb 10 50 50.9
comp=Z,12nm,1.2s
WHAR Wooly Hollow 24.24 337 P **P** **10 50 31.9 -2.3**
WHAR IAmb IAmb 10 50 57.1
comp=Z,17nm,1.3s
FW13 Cleburne 24.25 325 P **P** **10 50 34.2 -0.2**
FW13 IAmb IAmb 10 51 13.3
comp=Z,9.4nm,0.8s
DRIO Del Rio 24.27 315 P **P** **10 50 33.8 -0.8**
DRIO IAmb IAmb 10 51 01.1
comp=Z,13nm,1.2s
JCT Junction City 24.39 318 P **P** **10 50 35.0 -0.7**
BRDY Brady 24.42 321 P **P** **10 50 35.1 -0.9**
BRDY IAmb IAmb 10 50 59.6
comp=Z,15nm,1.0s
FW06 Azle 24.79 325 P **P** **10 50 38.4 -0.9**
PLPT Palo Pinto 25.10 324 P **P** **10 50 42.3 +0.2**
FW03 Perrin-Whitt E 25.12 325 P **P** **10 50 42.8 +0.5**
FW03 IAmb IAmb 10 51 11.5
comp=Z,13nm,0.9s
SAND Sanderson 25.63 314 P **P** **10 50 46.5 -0.6**
ABTX Abilene, Hawle 25.74 322 P **P** **10 50 47.4 -0.6**
ABTX IAmb IAmb 10 50 54.0
comp=Z,14nm,1.0s
TXAR Lajitas Array 26.39 311 P **P** **10 50 53.3 -0.7**
TXAR Lajitas Array 26.39 311 P **P** **10 50 54.2 +0.3**
comp=Z,4.1nm,0.9s,baz=132,slow=9.8,SNR=39
TXAR PcP **PcP** **10 54 21.8 +2.2**
comp=Z,0.6nm,0.7s,baz=134,slow=5.1,SNR=4.3
TXAR LR LR 11 04 13.5
comp=Z,70nm,18.8s,baz=162,slow=43
comp=Z,4.1nm,0.9s
TX31 Lajitas Ar. Si 26.39 311 P **P** **10 50 53.7 -0.3**
TX31 IAmb IAmb 10 51 02.2
comp=Z,11nm,1.1s
MNHN Monahans 26.90 316 P **P** **10 50 57.8 -0.7**
PECS Pecos 27.68 315 P **P** **10 51 05.0 -0.5**
PECS IAmb IAmb 10 51 37.5
comp=Z,6.7nm,1.3s
VHRN Van Horn 28.14 312 P **P** **10 51 08.8 -0.9**
VHRN IAmb IAmb 10 51 24.8
comp=Z,7.8nm,1.3s
MDP Montagnes des 29.21 103 LR LR 11 04 52.6
comp=Z,204nm,18.7s,baz=310,slow=40
LPIG La Paz 29.66 296 LR LR 11 03 16.1
comp=Z,339nm,19.7s,baz=128,slow=36
ITTB Itaituba 30.64 123 *eP* **P** **10 51 33.2 +1.3**
ANMO Albuquerque 31.55 318 LR LR 11 07 38.5
comp=Z,93nm,19.4s,baz=310,slow=43
SADO Sadowa 31.55 3 LR LR 11 03 43.0
comp=Z,114nm,19.5s,baz=234,slow=35
LPAZ La Paz 31.95 156 P **P** **10 51 44.7 +0.7**
comp=Z,0.5nm,0.5s,baz=326,slow=7.5,SNR=1.9
LPAZ LR LR 11 07 20.5
comp=Z,103nm,19.5s,baz=292,slow=41
comp=Z,0.5nm,0.5s
NPGB Novo Progresso 32.52 127 *eP* **P** **10 51 49.3 +0.8**
PDRB Porto dos Gac 34.51 134 *eP* **P** **10 52 06.8 +1.0**
CLDB Colider 34.67 132 *eP* **P** **10 52 07.6 +0.5**
GO01 Chusmiza 34.67 160 P **P** **10 52 08.4 +0.8**
SIV San Ignacio 35.10 145 LR LR 11 07 13.5
comp=Z,136nm,18.0s,baz=306,slow=38
WUAZ Wupatki 35.19 315 P **P** **10 52 11.2 -0.5**
WUAZ IAmb IAmb 10 52 13.8
comp=Z,4.9nm,0.8s
HMU Henry Mountain 36.10 318 P **P** **10 52 20.5 +1.0**
HMU IAmb IAmb 10 52 21.4
comp=Z,8.2nm,1.2s
LCMT Little Creek M 37.26 315 P **P** **10 52 29.6 +0.2**
PFO Pinyon Flats O 38.02 308 LR LR 11 10 09.4
comp=Z,136nm,19.9s,baz=135,slow=39
SHPR Sheep Range 38.34 313 P **P** **10 52 38.1 -0.4**
PD31 Pinedale Array 38.39 326 P **P** **10 52 38.7 -0.2**
PDAR Pinedale Array 38.39 326 P **P** **10 52 39.0 0.0**
comp=Z,2.6nm,0.7s,baz=129,slow=11,SNR=26
PDAR LR LR 11 10 35.7
comp=Z,47nm,19.1s,baz=124,slow=40
comp=Z,2.6nm,0.7s
PSUT Pine Spring 38.47 317 P **P** **10 52 38.9 -0.8**
PSUT IAmb IAmb 10 52 41.7
comp=Z,6.5nm,1.0s
SNDB Serra Nova Dou 38.71 129 *eP* **P** **10 52 42.6 +1.0**
ULM Lac du Bonnet 38.91 345 P **P** **10 52 43.6 +0.7**
comp=Z,1.2nm,0.4s,baz=161,slow=10,SNR=1.9
ULM LR LR 11 08 46.2
comp=Z,57nm,18.9s,baz=178,slow=36
comp=Z,1.2nm,0.4s
SPR3 Spring Creek 3 39.03 317 P **P** **10 52 43.9 -0.6**
AHID Auburn Hatcher 39.25 324 P **P** **10 52 45.8 -0.4**
AHID IAmb IAmb 10 52 47.6
comp=Z,5.1nm,0.8s
SNOW Snow King Moun 39.51 326 P **P** **10 52 48.7 +0.4**
SNOW IAmb IAmb 10 52 50.2
comp=Z,5.0nm,0.7s
LOHW Long Hollow 39.52 326 P **P** **10 52 48.3 -0.1**
MOOW Moose Ponds 39.69 326 P **P** **10 52 49.5 -0.3**
RLMT Red Lodge 39.84 329 P **P** **10 52 51.3 +0.3**
RLMT IAmb IAmb 10 53 01.7
comp=Z,6.7nm,0.8s
SMTB Santa Maria do 39.84 122 *eP* **P** **10 52 51.6 +0.5**
TPH Tonopah 40.53 314 P **P** **10 52 56.2 -0.7**
NVAR Mina Array Bea 41.45 314 P **P** **10 53 05.3 +0.9**
comp=Z,1.9nm,0.9s,baz=127,slow=8.4,SNR=11
NVAR LR LR 11 13 58.5
comp=Z,181nm,19.5s,baz=127,slow=42
comp=Z,1.9nm,0.9s
BDFB Brasilia 43.49 130 P **P** **10 53 22.0 +0.9**
comp=Z,4.0nm,0.7s,baz=307,slow=8.2,SNR=5.3
BDFB LR LR 11 15 17.5
comp=Z,90nm,19.0s,baz=329,slow=41
comp=Z,4.0nm,0.7s
J08A Circle Bar Ran 43.99 320 P **P** **10 53 25.1 +0.3**
SDBA SAO DESIDERIO 43.99 124 *eP* **P** **10 53 25.4 +0.3**
F10A Beach Ranch, E 44.69 324 P **P** **10 53 29.6 -0.8**
F10A IAmb IAmb 10 53 40.3
comp=Z,6.7nm,0.9s
E09A Wood Farm, Sta 45.52 324 P **P** **10 53 36.5 -0.3**
E09A IAmb IAmb 10 53 38.5
comp=Z,6.2nm,0.9s
CPUP Villa Florida 45.56 150 LR LR 11 13 52.5
comp=Z,133nm,19.0s,baz=322,slow=38
YBH Yreka Blue Hor 45.95 316 LR LR 11 16 10.9
comp=Z,147nm,20.9s,baz=144,slow=40
JANB Januaria 45.97 126 *eP* **P** **10 53 41.1 +0.3**
DIAM Diamantina, MG 48.38 129 *eP* **P** **10 53 59.3 -0.4**
RPN Rapa Nui 48.51 214 LR LR 11 09 40.7
comp=Z,135nm,19.6s,baz=58,slow=30
RCBR Riachuelo 48.72 110 LR LR 11 15 41.0
comp=Z,57nm,19.7s,baz=261,slow=37
FRB Frobisher Bay 51.29 7 LR LR 11 15 56.7
comp=Z,152nm,18.1s,baz=164,slow=36
RIB01 Linhares ES 51.48 128 *eP* **P** **10 54 23.2 +0.1**
YKA Yellowknife Ar 54.72 342 P **P** **10 54 46.8 +0.4**
comp=Z,1.6nm,1.0s,baz=132,slow=7.4,SNR=7.2
comp=Z,1.6nm,1.0s
SFJD Kangerlussuaq 57.47 14 LR LR 11 19 18.0
comp=Z,52nm,21.5s,baz=220,slow=36
A36M Sachs Harbour 64.38 346 P **P** **10 55 52.2 -0.6**
BORG Borgarnes 65.51 24 LR LR 11 23 00.5
comp=Z,51nm,18.2s,baz=246,slow=34
E28M Babbage River 66.57 340 P **P** **10 56 07.0 -0.1**
J25K Salcha River, 67.26 335 P **P** **10 56 11.8 +0.1**
D27M Malcolm River 67.31 340 P **P** **10 56 11.8 -0.1**
ILAR Eielson Array 67.93 335 P **P** **10 56 16.1 +0.3**
comp=Z,1.5nm,0.8s,baz=120,slow=4.6,SNR=12
comp=Z,1.5nm,0.8s
RND Reindeer 68.40 333 P **P** **10 56 19.1 +0.2**
MDT Midelt 71.75 60 LR LR 11 25 23.9
comp=Z,89nm,18.2s,baz=341,slow=34
ESDC Sonseca Array 71.89 52 P **P** **10 56 42.6 +1.8**
comp=Z,1.5nm,1.1s,baz=275,slow=5.6,SNR=3.0
ESDC LR LR 11 23 22.8
comp=Z,68nm,20.8s,baz=276,slow=32
comp=Z,1.5nm,1.1s
JMIC Jan Mayen 72.00 19 LR LR 11 26 50.1
comp=Z,21nm,18.3s,baz=214,slow=35
DBIC Dimbokro 75.18 86 P **P** **10 57 04.0 +3.6**
comp=Z,5.2nm,1.0s,baz=224,slow=4.2,SNR=3.7
comp=Z,5.2nm,1.0s
NOA NORSAR Array B 79.73 30 P **P** **10 57 26.1 +0.9**
comp=Z,1.0nm,0.9s,baz=277,slow=5.3,SNR=2.4
NOA LR LR 11 30 40.8
comp=Z,32nm,19.3s,baz=300,slow=34
comp=Z,1.0nm,0.9s
TORD Torodi Ar. Bea 80.23 79 P **P** **10 57 29.1 +0.5**
comp=Z,0.4nm,0.7s,baz=261,slow=7.2,SNR=2.2
comp=Z,0.4nm,0.7s
HFS Hagfors 81.09 30 LR LR 11 31 14.9
comp=Z,52nm,18.6s,baz=260,slow=34
DAVOX Davos/Dischmat 81.22 44 LR LR 11 29 22.7
comp=Z,79nm,19.3s,baz=262,slow=32
GERES GERESS Array B 83.36 42 P **P** **10 57 46.6 +1.9**
comp=Z,1.3nm,1.0s,baz=302,slow=7.9,SNR=3.2
comp=Z,1.3nm,1.0s
ARCES ARCESS Array B 83.47 20 P **P** **10 57 45.6 +0.9**
comp=Z,3.6nm,0.8s,baz=342,slow=6.5,SNR=1.9
comp=Z,3.6nm,0.8s
VRAC Vranov 85.10 41 LR LR 11 33 09.0
comp=Z,92nm,18.4s,baz=276,slow=34
VAE Valguarnera 86.43 53 LR LR 11 33 00.6
comp=Z,57nm,18.6s,baz=235,slow=33
FINES FINESS Array B 86.56 27 P **P** **10 58 02.5 +2.2**
comp=Z,1.4nm,0.9s,baz=329,slow=3.3,SNR=3.4
FINES LR LR 11 31 17.6
comp=Z,48nm,21.0s,baz=280,slow=32
comp=Z,1.4nm,0.9s
MLR Muntele Rosu 92.31 42 LR LR 11 36 00.3
comp=Z,73nm,18.5s,baz=299,slow=33
AKASG Malin Array Be 92.34 37 LR LR 11 36 35.2
comp=Z,31nm,18.9s,baz=286,slow=33
PETK Petropavlovsk- 97.10 329 LR LR 11 45 07.1
comp=Z,39nm,21.1s,baz=85,slow=37
KIRV Kirov 97.99 24 LR LR 11 38 53.8
comp=Z,27nm,21.0s,baz=330,slow=33
PZH PanZhiHua 140.48 356 PKP **PKPdf** **11 04 46.3 -1.3**
ASAR Alice Springs 145.25 247 PKPbc **PKPbc** **11 04 55.0 -0.6**
comp=Z,4.6nm,1.0s,baz=112,slow=3.8,SNR=15
WRA Warramunga Arr 145.39 254 PKPbc **PKPbc** **11 04 56.0 -0.2**
comp=Z,5.8nm,0.8s,baz=92,slow=3.6,SNR=16
CMAR Chiang Mai Arr 148.59 360 PKPbc **PKPbc** **11 05 04.7 -0.6**
comp=Z,0.6nm,0.4s,baz=345,slow=3.2,SNR=2.2

MEX 25 10:57:44.8±1.2, 16°.01N×95°.18W, h28km±24km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.93**	**255**	*eP*	Pn	10 57 59.4	-2.7
HUIG				*eS*	Sb	10 58 11.0	-3.3
CMIG	**Matias Romero**	**1.11**	**14**	*eP*	Pn	10 58 01.5	-3.1
CMIG				*eS*	Sn	10 58 15.3	-3.8
CARR	**Arriaga**	**1.24**	**79**	*eP*	Pn	10 58 05.2	-1.1
CARR				*eS*	Sn	10 58 20.0	-2.1
UXUV	**UXUV**	**1.64**	**37**	*eP*	Pn	10 58 11.3	-0.5
UXUV				*eS*	Sn	10 58 29.9	-2.0
NEUV	**Arroyo Zacate**	**1.80**	**341**	*eP*	Pn	10 58 11.3	-2.7
NEUV				*eS*	Sn	10 58 32.8	-3.1
OXBJ	**Oaxaca**	**1.82**	**306**	*eP*	Pn	10 58 12.1	-2.5
OXBJ				*eS*	Sn	10 58 32.2	-4.7
VHO	**Vista Hermosa**	**1.83**	**306**	*eP*	Pn	10 58 12.8	-1.8
VHO				*eS*	Sn	10 58 34.7	-2.3
PEIG	**Puerto Escondi**	**1.90**	**270**	*eP*	Pn	10 58 12.4	-3.0
PEIG				*eS*	Sn	10 58 38.1	-0.3
TGIG		**2.12**	**68**	*eP*	Pb	10 58 22.1	-0.4
TGIG				*eS*	Sn	10 58 45.5	+1.6
TGBT	**Tuxtla Gutierr**	**2.14**	**69**	*eS*	Sb	10 58 47.6	-1.5
YOIG	**Yosondua**	**2.43**	**291**	*eP*	Pn	10 58 23.0	+0.1
YOIG				*eS*	Sn	10 58 53.1	+1.3
PMUV	**Sontecomapan**	**2.52**	**1**	*eP*	Pn	10 58 22.1	-2.0
PMUV				*eS*	Sn	10 58 42.5	-12
TOIG	**Toxpalan**	**2.75**	**319**	*eP*	Pn	10 58 27.4	+0.1
TOIG				*eS*	Sn	10 59 00.8	+1.0
TXIG	**Tlaxiaco**	**2.78**	**297**	*eP*	Pn	10 58 28.4	+0.7
TXIG				*eS*	Sn	10 58 58.0	-2.6
PNIG	**Pinotepa**	**2.86**	**278**	*eP*	Pn	10 58 26.1	-2.6
PNIG				*eS*	Sn	10 58 56.0	-6.2
CCIG	**Comitan**	**2.93**	**84**	*eP*	Pb	10 58 34.1	-2.4
CCIG				*eS*	Sn	10 59 02.0	-2.2
CHUJ	**Union Juarez**	**3.09**	**107**	*eP*	Pn	10 58 31.8	-0.2
CHUJ				*eS*	Sn	10 59 05.2	-3.0
HLIG	**Huajuapan de L**	**3.10**	**306**	*eP*	Pn	10 58 35.3	+3.1
HLIG				*eS*	Sb	10 59 13.3	-3.6
TPIG	**Tehuac#an**	**3.18**	**319**	*eP*	Pn	10 58 34.7	+1.5
TPIG				*eS*	Sn	10 59 08.1	-2.2
FTIG	**Fresnillo de T**	**3.40**	**304**	*eP*	Pn	10 58 37.1	+0.9
FTIG				*eS*	Sn	10 59 13.3	-2.5
MGIG	**Malinaltepec**	**3.53**	**291**	*eP*	Pb	10 58 42.5	-4.2
MGIG				*eS*	Sn	10 59 13.6	-5.5
TLIG	**Tlapa**	**3.60**	**296**	*eP*	Pn	10 58 38.0	-0.9
TLIG				*eS*	Sn	10 59 19.0	-1.6
JAUV	**Jalcomulco**	**3.69**	**335**	*eP*	Pn	10 58 37.2	-2.8
JAUV				*eS*	Sn	10 59 14.8	-7.8
CRIG	**Cruz Grande**	**3.87**	**281**	*eP*	Pn	10 58 37.8	-4.7
CRIG				*eS*	Sn	10 59 21.2	-5.8
PBCV	**Popocatepetl**	**4.38**	**313**	*eP*	Pb	10 59 00.2	-1.1
PBCV				*eS*	Sb	10 59 54.6	+0.8
DAIG	**Los Arroyos**	**4.41**	**284**	*eP*	Pn	10 58 47.5	-2.5
DAIG				*eS*	Sn	10 59 34.9	-5.6
PBXN	**Popocatepetl**	**4.47**	**312**	*eP*	Pn	10 58 48.7	-2.5
PBXN				*eP*	Pb	10 58 58.4	-4.5
PBXN				*eS*	Sn	10 59 41.3	-1.2
PBXN				*eS*	Sb	10 59 50.8	-5.7
PPM	**Popocatepetl**	**4.48**	**313**	*eP*	Pb	10 58 60.0	-3.2
PPM				*eS*	Sn	10 59 48.9	+5.9
YAIG	**Yautepec**	**4.68**	**308**	*eP*	Pn	10 58 53.0	-0.7
YAIG				*eS*	Sn	10 59 44.2	-3.0
CXUV	**Coxquihui**	**4.74**	**331**	*eP*	Pn	10 58 48.5	-6.0
CXUV				*eS*	Sn	10 59 37.5	-11
PLIG	**Platanillo**	**4.77**	**300**	*eP*	Pn	10 58 52.8	-2.2
PLIG				*eS*	Sn	10 59 48.5	-0.9
CAIG	**El Cayaco**	**4.99**	**283**	*e*	Sb	11 00 09.7	-1.4
ARIG	**Puente Sto Nin**	**5.44**	**295**	*e*		11 00 22.0	

NNC 25 11:18:54.1±2.3, 38°.89N×70°.16E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=17.0km s-min=10.9km az=4.0
SOME 25 11:19:05.0, 39°.48N×70°.83E, h5km
ISC 25 11:18:59.8±3.1, 39°.1N±0°.2×70°.23E±0°.08, h10km, n15, σ1.9, 78/23, 5C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.04**	**357**	*eP*	**Pb**	**11 19 55.9**	**+1.7**
	60nm,0.3s						
IUG				*eS*	**Sb**	**11 20 33.0**	**+1.5**
	180nm,0.3s						
BRLS	**Borolday**	**3.93**	**356**	*eP*	**Pb**	**11 20 08.1**	**-1.2**
	3.1nm,0.1s						
BRLS				*eS*	**Sb**	**11 20 53.9**	**-3.1**
	11nm,0.2s						
KK31	**Karatay Array**	**4.00**	**3**	⇑Pn	**Pn**	**11 20 00.3**	**-1.0**
	8.0nm,0.3s,baz=193,slow=13,SNR=128						
KK31				⇓Sn	**Sn**	**11 20 51.8**	**+3.6**
	5.0nm,0.3s						
KK31				⇓Lg	Lg	11 21 06.8	
	18nm,0.4s,baz=184,slow=30,SNR=13						
AML	**Almayashu**	**4.01**	**40**	P	**Pn**	**11 20 01.1**	**-0.6**
	SNR=14						
MRKS	**Merke**	**4.29**	**31**	*eP*	**Pb**	**11 20 13.7**	**-1.7**
	7.0nm,0.2s						
MRKS				*eS*	**Sb**	**11 21 03.0**	**-4.2**
	33nm,0.5s						
EKS2	**Erkin-Say**	**4.46**	**36**	P	**Pn**	**11 20 07.8**	**+0.2**
	SNR=6.9						
AAK	**Ala-Archa**	**4.79**	**41**	P	**Pn**	**11 20 11.8**	**-0.4**
	SNR=12						
KBK	**Karagaybulak**	**5.04**	**44**	P	**Pn**	**11 20 15.7**	**+0.1**
	SNR=8.4						
CHMS	**Chumysh**	**5.18**	**40**	⇑Pn	**Pn**	**11 20 15.9**	**-1.5**
	4.9nm,0.5s						
CHMS				⇓Sn	**Sn**	**11 21 19.0**	**+1.7**
	20nm,0.7s						
CHMS				⇑Lg	Lg	11 21 43.8	
	8.5nm,0.6s						
USP	**Ospenovka**	**5.26**	**36**	P	**Pn**	**11 20 17.9**	**-0.7**
	SNR=9.1						
TKM2	**Tokmak 2**	**5.57**	**45**	P	**Pn**	**11 20 22.1**	**-0.8**
	SNR=20						
TKM2	**Tokmak 2**	**5.57**	**45**	⇑Pn	**Pn**	**11 20 21.6**	**-1.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	9.7nm,0.5s						
TKM2				⇑Sn	**Sn**	**11 21 28.7**	**+1.5**
	15nm,0.9s						
TKM2				⇓Lg	Lg	11 21 54.2	
	9.6nm,0.7s						
KST	**Kastek**	**5.86**	**46**	*e*P	**Pb**	**11 20 42.8**	**+0.8**
	1.8nm,0.2s						
KST				*e*S	**Sb**	**11 21 53.1**	**+0.8**
	5.3nm,0.3s						
DGS	**Degeres**	**5.88**	**44**	*e*P	**Pb**	**11 20 43.1**	**+0.6**
	6.6nm,0.5s						
DGS				*e*S	**Sb**	**11 21 53.2**	**+0.1**
	5.1nm,0.5s						
AB31	**Akbulak array**	**12.54**	**327**	Pn	Pn	11 21 53.5	-4.7
	3.5nm,0.7s,baz=161,slow=10,SNR=50						
AB31				⇓Sn	**Sn**	**11 24 17.8**	**0.0**
	1.5nm,0.6s,baz=150,slow=24,SNR=3.0						

IDC 25 11:32:58.7±6.0, 5°.36S×150°.62E, h80km±50km, mb3.2/2, mbtmp4.0/4, ML1.8/1, Error ellipse: s-maj=83.0km s-min=23.8km az=155.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.28**	**220**	P	Pn	11 34 15.6	+0.5
	2.1nm,0.3s,baz=65,slow=13,SNR=6.7						
PMG				S	Sn	11 35 15.2	+0.5
	17nm,0.4s,baz=95,slow=12,SNR=5.2						
	6.4nm,0.4s						
HNR	**Honiara**	**10.10**	**114**	P	Pn	11 35 20.8	-0.1
	31nm,0.3s,baz=241,slow=19,SNR=7.2						
WRA	**Warramunga Arr**	**21.47**	**226**	P	P	11 37 40.8	0.0
	0.9nm,0.5s,baz=52,slow=10,SNR=12						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**24.30**	**220**	P	P	11 38 09.1	+0.2
	1.1nm,0.7s,baz=54,slow=8.7,SNR=13						
	1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.40**	**286**	PKPbc	PKPbc	11 52 36.3	-0.8
	0.3nm,0.6s,baz=80,slow=3.0,SNR=2.0						

KRSC 25 11:36:21.1±1.1, 50°.93N×157°.75E, h47km±15km, MI3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.80**	**313**	*e*P	Pn	11 36 37.6	+1.6
PAU				*e*S	Sn	11 36 48.4	+1.5
KDTR	**Khodutka, Kamc**	**0.91**	**13**	*e*P	Pn	11 36 38.9	+1.4
KDTR				*e*S	Sn	11 36 50.5	+1.0
SKR	**Severo-Kuril's**	**1.06**	**257**	*e*P	Pn	11 36 40.6	+1.0
SKR				*e*S	Sn	11 36 54.1	+0.9
ASAK	**Asacha**	**1.46**	**4**	*e*P	Pn	11 36 47.1	+2.0
RUS	**Russkaya**	**1.58**	**17**	*e*P	Pn	11 36 48.0	+1.4
RUS				*e*S	Sn	11 37 06.8	+0.9
MTVR	**Mutnovka**	**1.58**	**10**	*e*P	Pn	11 36 48.7	+1.9
MTVR				*e*S	Sn	11 37 08.2	+2.1
GRL	**Gorelyy**	**1.64**	**7**	*e*P	Pn	11 36 49.9	+2.4
GRL				*e*S	Sn	11 37 09.6	+2.1
KRMR	**Karymshinskiy**	**1.92**	**7**	*e*S	Sn	11 37 17.6	+3.4
APC	**Apacha**	**2.04**	**350**	*e*P	Pn	11 36 55.5	+2.7
DALK	**Dalny**	**2.20**	**16**	*e*P	Pn	11 36 57.2	+2.2
DALK				*e*S	Sn	11 37 23.2	+2.3
AVH	**Avacha**	**2.42**	**14**	*e*P	Pn	11 37 02.2	+4.0
SMAR	**Somma**	**2.43**	**15**	*e*P	Pn	11 37 01.9	+3.5
KOK	**Koryaka**	**2.43**	**13**	*e*P	Pn	11 37 01.9	+3.6
SDLR	**Sedlovina**	**2.46**	**16**	*e*P	Pn	11 37 01.9	+3.2
KRER	**Koryakskii**	**2.46**	**14**	*e*P	Pn	11 37 03.1	+4.2
KRX	**Arik**	**2.50**	**12**	*e*P	Pn	11 37 02.5	+3.2
KBTR	**Krutoberegovo**	**6.09**	**28**	*e*P	Pn	11 37 51.3	+2.9

RSNC 25 11:40:32.7±0.0, 13°N±3°×8°1W±°, h1km±3km, M3.3, mb4.1, mB5.3, ML3.2, Mw(mB)4.7, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.18**	**11**	P	Pg	11 40 36.6	+0.4
PRVC				S	Sg	11 40 41.1	+2.6
SAIC	**Isla e San And**	**0.73**	**205**	P	Pg	11 40 47.3	+0.7
SAIC				S	Sb	11 40 59.4	+0.8
RNCC	**Cayo Roncador,**	**1.33**	**73**	P	Pg	11 40 55.5	-2.7
RNCC				S	Sg	11 41 14.2	-1.2
SERC	**Banco Serrana,**	**1.48**	**43**	P	Pg	11 41 01.2	+0.2
SERC				S	Sg	11 41 20.0	-0.2
BCIP	**Isla Barro Col**	**4.29**	**159**	P	Pn	11 41 37.2	-2.0
BCIP				S	Sn	11 42 22.9	-7.0
GMAL	**Guarumal, Vera**	**5.41**	**178**	P	Pn	11 41 51.7	-2.8
	16nm,1.6s,3μm						
GMAL				S	Sn	11 42 54.3	-3.1
	16nm,1.6s,3μm						
AZU	**Azuero**	**5.49**	**168**	P	Pn	11 41 56.8	+1.2
	41nm,1.4s						
AZU				S	Sn	11 42 56.6	-2.8
	41nm,1.4s						
CAPC	**Capurgana**	**6.03**	**138**	P	Pn	11 42 02.1	-1.0
	48nm,1.1s						
CAPC				S	Sn	11 43 05.7	-7.2
	48nm,1.1s						
SJCC	**San Jacinto, C**	**6.92**	**118**	P	Pn	11 42 12.8	-2.6
SJCC				S	Sn	11 43 26.2	-8.8

DJA 25 12:01:31.1±0.6, 0°N±4°×12°1E±°, h91km±8km, M3.8/12, mb3.8/2, MLv3.8/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.34**	**83**	P	Pn	12 01 55.7	+0.8
MRSI				S	Sn	12 02 13.1	+0.2
PCI	**Palu**	**1.44**	**212**	P	Pn	12 01 55.6	-0.6
PCI				S	Sn	12 02 15.7	+0.5
APSI	**Ampana**	**1.60**	**140**	P	Pn	12 01 59.3	+1.1
LUWI	**Luwuk**	**2.55**	**122**	P	Pn	12 02 11.5	+0.9
TTSI	**Tana Toraja**	**3.44**	**193**	P	Pn	12 02 21.4	-1.1
SMKI	**Samarinda**	**3.49**	**257**	P	Pn	12 02 23.1	-0.1
SPSI	**Sidrap Palu**	**4.34**	**191**	P	Pn	12 02 35.1	+0.3
KDI	**Kendari**	**4.70**	**155**	P	Pn	12 02 39.8	+0.1
SANI	**Sanana**	**5.87**	**114**	P	Pn	12 02 53.8	-1.8
	4.6nm,0.9s,0.1nm						
BSSI	**Bau Bau, Buton**	**6.42**	**181**	P	Pn	12 03 02.5	-0.6

RSNC 25 12:01:49.2±0.0, 13°N±3°×8°1W±°, h16km±4km, M2.9, mb4.2, ML2.9, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.23**	**306**	P	Pg	12 01 53.7	-0.8
PRVC				S	Sg	12 01 58.2	+0.2
SAIC	**Isla e San And**	**0.88**	**217**	P	Pb	12 02 04.6	-1.4
SAIC				S	Sg	12 02 18.0	+0.2
RNCC	**Cayo Roncador,**	**1.10**	**72**	P	Pb	12 02 07.7	-2.2
RNCC				S	Sb	12 02 24.4	+0.4
SERC	**Banco Serrana,**	**1.30**	**37**	P	Pn	12 02 11.6	-1.1
SERC				S	Sb	12 02 29.4	-0.4
BCIP	**Isla Barro Col**	**4.25**	**162**	P	Pn	12 02 49.4	-4.0
BCIP				S	Sn	12 03 39.3	-3.4
JTS	**Las Juntas de**	**4.72**	**232**	P	Pn	12 02 59.9	0.0
JTS				S	Sn	12 03 55.3	+0.9
AZU	**Azuero**	**5.49**	**171**	P	Pn	12 03 15.5	+5.2
	47nm,2.5s						
AZU				S	Sn	12 04 10.6	-2.5
	47nm,2.5s						
CACAO	**El Cacao, Vera**	**5.87**	**177**	P	Pn	12 03 15.8	+0.3
	20nm,1.0s						
CACAO				S	Sn	12 04 21.7	-0.8
	20nm,1.0s						
CAPC	**Capurgana**	**5.92**	**140**	P	Pn	12 03 13.1	-3.1
CAPC				S	Sn	12 04 19.8	-4.0

NEIC ***25*** *12:10:07.4±1.0, 19°.17N±0°.03×155°.56W±0°.02, h41km±3km, Error ellipse: s-maj=3.7km s-min=2.3km az=165.0*

HVO 25 12:10:09.3±1.0, 19°.16N±0°.04×155°.53W±0°.04, h33km±7km, ML2.8/44, ML2.8/46(NEIC), Error ellipse: s-maj=7.3km s-min=4.9km az=138.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	**0.12**	**318**		Pn	12 10 14.5	-0.4
KHU	**Kahuku**	**0.12**	**318**		Sn	12 10 18.6	+0.9
HTC	**Hot Caves**	**0.15**	**59**		Pn	12 10 15.0	-0.2
HLP	**Hilina Pali**	**0.25**	**57**		Pb	12 10 15.9	-0.6
HLP					Sb	12 10 20.8	-0.6
HLP	**Hilina Pali**	**0.25**	**57**	IAML		12 10 22.7	
	comp=E,1μm,0.4s						
HLP				IAML		12 10 26.5	
	comp=N,1μm,0.2s						
SDHHI	**Sand Hill**	**0.32**	**45**		Pb	12 10 16.4	-1.1
SDHHI					Sb	12 10 21.6	-1.3
MWH	**Mokuaweoweo**	**0.33**	**349**		Pb	12 10 16.5	-1.5
MWH	**Mokuaweoweo**	**0.33**	**349**	IAML		12 10 24.3	
	comp=N,507nm,0.3s						
MWH				IAML		12 10 27.9	
	comp=E,515nm,0.9s						
WRMHI	**West Rim**	**0.33**	**42**		Pb	12 10 16.4	-1.1
WRMHI					Sb	12 10 22.0	-1.2
RIM	**Rim**	**0.34**	**46**		Pb	12 10 16.5	-1.2
RIM					Sb	12 10 22.0	-1.3
UWE	**Uwekahuna**	**0.34**	**41**		Pb	12 10 16.6	-1.1
UWE					Sb	12 10 22.3	-1.2
UWE	**Uwekahuna**	**0.34**	**41**	IAML		12 10 22.6	
	comp=N,1μm,0.6s						
UWE				IAML		12 10 29.4	
	comp=E,1μm,0.5s						
KKO	**Keanakako'i**	**0.34**	**47**		Pb	12 10 16.7	-1.1
KKO					Sb	12 10 22.0	-1.5
OBL	**Observatory Le**	**0.35**	**42**		Pb	12 10 16.6	-1.2
OBL					Sb	12 10 22.4	-1.2
UWB	**Uwekahuna Bluf**	**0.36**	**42**		Pb	12 10 16.6	-1.3
UWB					Sb	12 10 22.1	-1.7
BYL	**Byron's Ledge**	**0.36**	**46**		Pb	12 10 16.7	-1.3
BYL					Sb	12 10 22.3	-1.5
BYL	**Byron's Ledge**	**0.36**	**46**	IAML		12 10 32.3	
	comp=E,508nm,0.5s						
MLH	**Mauna Loa**	**0.36**	**23**		Pb	12 10 16.9	-1.1
MLH					Sb	12 10 22.7	-1.4
MLH	**Mauna Loa**	**0.36**	**23**	IAML		12 10 22.8	
	comp=N,954nm,0.3s						
MLH				IAML		12 10 29.0	
	comp=E,528nm,0.6s						
SBLHI	**Steaming Bluff**	**0.36**	**43**		Pb	12 10 16.7	-1.3
SBLHI					Sb	12 10 22.2	-1.8
HATHI	**Halema'uma'u T**	**0.37**	**44**		Pb	12 10 16.8	-1.3
HATHI					Sb	12 10 22.4	-1.6
HATHI	**Halema'uma'u T**	**0.37**	**44**	IAML		12 10 22.4	
	comp=E,728nm,0.5s						
HATHI				IAML		12 10 28.4	
	comp=N,504nm,0.5s						
PUH	**Pauahi**	**0.37**	**54**		Pb	12 10 16.8	-1.2
PUH					Sb	12 10 22.3	-1.7
PUH	**Pauahi**	**0.37**	**54**	IAML		12 10 22.5	
	comp=E,599nm,0.2s						
PUH				IAML		12 10 23.2	
	comp=N,649nm,0.3s						
MLOA	**Mauna Loa Obse**	**0.38**	**354**		Pb	12 10 17.1	-1.4
MLOA					Sb	12 10 22.7	-2.0
MLOA	**Mauna Loa Obse**	**0.38**	**354**	IAML		12 10 22.9	
	comp=E,39nm,0.8s						
MLOA				IAML		12 10 33.3	
	comp=N,400nm,0.8s						
RSD	**Rainshed**	**0.39**	**38**		Pb	12 10 17.0	-1.4
RSD					Sb	12 10 22.7	-1.8
RSD	**Rainshed**	**0.39**	**38**	IAML		12 10 23.1	
	comp=N,524nm,1.1s						
RSD				IAML		12 10 25.4	
	comp=E,396nm,0.3s						
ALEP	**Alea Permanent**	**0.39**	**344**		Pb	12 10 17.1	-1.5
ALEP					Sb	12 10 22.7	-2.3
KNHH	**Kane Nui o Ham**	**0.41**	**57**		Pb	12 10 17.3	-1.3
HMH	**Humu'ula Sheep**	**0.44**	**6**		Pb	12 10 18.2	-1.1
HMH					Sb	12 10 24.8	-1.4
HMH	**Humu'ula Sheep**	**0.44**	**6**	IAML		12 10 24.9	
	comp=N,1μm,0.3s						
HMH				IAML		12 10 25.7	
	comp=E,851nm,0.1s						
STCH	**Steam Cracks**	**0.45**	**60**		Pb	12 10 17.7	-1.4
STCH					Pn	12 10 24.0	+4.4
STCH	**Steam Cracks**	**0.45**	**60**	IAML		12 10 26.9	
	comp=E,588nm,0.1s						
STCH				IAML		12 10 27.2	
	comp=N,442nm,0.5s						
NPOC	**North of Pu'u**	**0.46**	**60**		Pb	12 10 17.9	-1.4
NPOC					Pn	12 10 24.3	+4.5
JCUZ	**Jacuzzi**	**0.46**	**61**		Pb	12 10 18.0	-1.4
JCUZ					Pn	12 10 24.4	+4.6
CPH	**Captain Cook**	**0.49**	**312**		Pb	12 10 18.0	-1.8
JOKA	**Jonika Flow**	**0.57**	**61**		Pb	12 10 19.2	-1.8
JOKA	**Jonika Flow**	**0.57**	**61**	IAML		12 10 26.9	
	comp=E,265nm,0.4s						
JOKA				IAML		12 10 27.3	
	comp=N,625nm,0.9s						
POHA	**Pohakuloa**	**0.59**	**360**		Pb	12 10 19.4	-2.2
POHA					Sb	12 10 27.0	-3.0
POHA	**Pohakuloa**	**0.59**	**360**	IAML		12 10 28.6	
	comp=N,308nm,0.1s						
POHA				IAML		12 10 34.0	
	comp=N,279nm,0.2s						
HUH	**Hualalai**	**0.60**	**331**		Pb	12 10 20.0	-1.7
HUH					Sb	12 10 27.7	-2.4
HUH	**Hualalai**	**0.60**	**331**	IAML		12 10 28.9	
	comp=N,1μm,0.2s						
HUH				IAML		12 10 29.0	
	comp=E,1μm,0.1s						
PAH	**Pahoa**	**0.65**	**59**		Pn	12 10 20.4	-1.9
PAH					Sb	12 10 28.6	-2.5
HPAH	**Hawaii Prepara**	**0.88**	**350**		Pn	12 10 23.3	-2.3
HPAH					Sn	12 10 33.1	-4.2
MHA	**Mahukona**	**1.08**	**341**	Pn	Pn	12 10 28.3	+0.1

IDC ***25*** *12:17:33.8±1.1, 62°.59S×62°.06W, h0km, mb4.2/6, mbtmp4.2/7, ML3.6/1, MS3.5/1, Error ellipse: s-maj=40.1km s-min=17.6km az=99.0*

ISC 25 12:17:35.3±0.9, 62°.53S±0°.10×62°.3W±0°.2, h10km, n18, σ1°35/14, mb4.3/8, 3C, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**2.38**	**198**	Pn	**Pn**	**12 18 13.8**	**-0.5**
	13nm,0.3s,baz=26,slow=10,SNR=35						
PMSA				Sn	**Sn**	**12 18 44.6**	**+1.0**
	22nm,0.3s,baz=330,slow=8.1,SNR=6.8						
	64nm,0.6s						
VNA3	**Neumayer Olymp**	**21.66**	**136**	⇑P	**P**	**12 22 27.9**	**+2.3**
	comp=Z,16nm,0.7s						
VNA2	**Neumayer--Watz**	**22.42**	**135**	⇑P	**P**	**12 22 35.0**	**+1.3**
	comp=Z,7.2nm,0.6s,baz=270,slow=12						
SNAA	**Sanae**	**23.79**	**138**	⇑P	**P**	**12 22 48.3**	**+0.6**
	comp=Z,53nm,0.7s						
SNAA	**Sanae**	**23.79**	**138**	P	**P**	**12 22 47.2**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=268,slow=8.4,SNR=17						
SNAA				LR	LR	12 31 32.7	
	comp=Z,110nm,19.6s,baz=357,slow=35						
	comp=Z,3.5nm,0.7s						
QSPA	**South Pole Qui**	**27.69**	**180**	P	**P**	**12 23 23.2**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=164,slow=4.0,SNR=15						
	comp=Z,2.1nm,0.9s						
CPUP	**Villa Florida**	**36.35**	**8**	P	**P**	**12 24 39.9**	**+0.7**
	comp=Z,4.3nm,0.8s,baz=210,slow=6.7,SNR=6.6						
	comp=Z,4.3nm,0.8s						
LPAZ	**La Paz**	**46.37**	**352**	PcP	**PcP**	**12 27 37.9**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=180,slow=2.0,SNR=5.5						
BDFB	**Brasilia**	**47.91**	**19**	P	**P**	**12 26 15.5**	**+1.8**
	comp=Z,2.4nm,0.6s,baz=143,slow=5.1,SNR=3.2						
	comp=Z,2.4nm,0.6s						
H10S3	**ASCENSION HYDR**	**63.53**	**55**	T	T	13 37 33.3	
	baz=203,slow=74,SNR=3.9						
H10S2	**ASCENSION HYDR**	**63.53**	**55**	T	T	13 37 33.8	
	baz=17,slow=74,SNR=5.1						
BOSA	**Boshof**	**63.93**	**102**	P	**P**	**12 28 07.7**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=209,slow=5.7,SNR=5.2						
	comp=Z,2.2nm,0.6s						
H10N3	**ASCENSION HYDR**	**64.62**	**54**	T	T	13 38 55.7	
	baz=202,slow=75,SNR=16						
H10N1	**ASCENSION HYDR**	**64.62**	**54**	T	T	13 38 56.3	
	baz=202,slow=75,SNR=19						
H10N2	**ASCENSION HYDR**	**64.63**	**54**	T	T	13 38 57.3	
	baz=202,slow=75,SNR=14						
TORD	**Torodi Ar. Bea**	**90.13**	**61**	P	**P**	**12 30 33.9**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=204,slow=4.6,SNR=4.6						
	comp=Z,0.4nm,0.5s						
GERES	**GERESS Array B**	**126.23**	**53**	PKP	**PKPdf**	**12 36 35.3**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=193,slow=7.0,SNR=1.2						
ARCES	**ARCESS Array B**	**145.40**	**38**	PKPbc	**PKPbc**	**12 37 10.3**	**-1.3**
	comp=Z,2.8nm,0.6s,baz=220,slow=3.8,SNR=18						

KRNET ***25*** *12:23:29.3±0.1, 45°.02N×81°.40E, mb5.2*

BGR ***25*** *12:23:30.5, 44°.36N×82°.38E, h10km, mb5.2, Ms4.2*

MOS ***25*** *12:23:31.9±1.0, 44°.69N×81°.52E, h10km, mb5.1/53, MS4.5/22, Error ellipse: s-maj=4.7km s-min=4.1km az=125.8*

IDC ***25*** *12:23:31.2±0.5, 44°.62N×81°.50E, h0km, mb4.5/25, mbtmp4.6/33, ML4.2/8, MS4.0/62, Error ellipse: s-maj=8.6km s-min=8.0km az=113.0*

NEIC ***25*** *12:23:33.5±1.1, 44°.66N±0°.05×81°.51E±0°.08, h10km±1km, mb5.0/120, Error ellipse: s-maj=10.3km s-min=7.9km az=86.0*

NNC ***25*** *12:23:33.5±1.5, 44°.77N×81°.35E, h0km, mb5.7, mpv5.5, Error ellipse: s-maj=12.9km s-min=7.4km az=107.0*

SOME ***25*** *12:23:34.6, 44°.53N×81°.40E, h5km, MS4.4*

BJI ***25*** *12:23:34.4, 44°.68N×81°.50E, h21km, mb4.7/59, mB4.9/29, ML5.4/11, Ms4.6/49, Ms7 4.4/50*

GCMT ***25*** *12:23:37.5±0.3, 44°.75N±0°.02×81°.46E±0°.02, h34km±2km, MW4.8/76, Moment Tensor Solution. s13,c14; s76,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.76±.17; $M_{\theta\theta}$-2.10±.12; $M_{\phi\phi}$1.34±.10; $M_{r\theta}$0.34±.13; $M_{\theta\phi}$1.15±.09; $M_{\phi r}$0.87±.12; Best double couple: $M_0$2.35700×10^{16} NP1:φ67.00000°, δ69.00000°, λ24.00000°. NP2: φ327.00000°, δ67.00000°, λ157.00000°. Principal axes: T 2.2630, Plg32.0000°, Azm287.0000°; N 0.1840, Plg58.0000°, Azm104.0000°; P -2.4510, Plg1.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 12:23:33.3±0.7, 44°.68N±0°.03×81°.45E±0°.02, h10km±4km, n653, σ1°58/670, mb4.9/217, MS4.2/98, 75C-48D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.23**	**254**	*e*P	**Pg**	**12 23 57.8**	**+0.8**
	4μm,0.4s						
DJR				*e*S	**Sn**	**12 24 14.2**	**+0.7**
	40μm,0.9s						
KNOS	**Konyrlen**	**1.65**	**259**	P	**Pg**	**12 24 05.1**	**+0.1**
	14μm,0.4s						
KNOS				S	**Sg**	**12 24 27.1**	**+0.6**
	28μm,0.4s						
PDGK	**Podgornoye**	**1.96**	**227**	⇑Pn	**Pn**	**12 24 08.0**	**+1.4**
	2μm,0.7s						
PDGK				⇑Sn	**Sb**	**12 24 34.5**	**+1.0**
	7μm,0.5s						
SHLS	**Shalkode**	**2.09**	**224**	P	**Pn**	**12 24 07.8**	**-0.7**
	6μm,0.4s						
SHLS				S	**Sn**	**12 24 32.1**	**-2.5**
	72μm,0.4s						
SHLS	**Shalkode**	**2.09**	**224**	*e*P	**Pn**	**12 24 07.8**	**-0.7**
	6μm,0.4s						
SHLS				*e*S	**Sn**	**12 24 32.1**	**-2.5**
	72μm,0.4s						
MAKZ	**Makanchi**	**2.16**	**10**		**Pb**	**12 24 11.7**	**-0.7**
MAKZ	**Makanchi**	**2.16**	**10**	PN	**Pb**	**12 24 11.7**	**-0.7**
TDK	**Taldyqorghan**	**2.19**	**279**	Pg	**Pg**	**12 24 14.7**	**-0.5**
	21μm,0.6s						
TDK				Lg	Lg	12 24 43.7	
	38μm,0.5s						
TDK	**Taldyqorghan**	**2.19**	**279**	*e*P	**Pg**	**12 24 14.7**	**-0.5**
	21μm,0.6s						
TDK				*e*S	**Sg**	**12 24 43.7**	**+0.2**
	38μm,0.5s						
MK31	**Makanchi Array**	**2.19**	**15**		**Pb**	**12 24 12.2**	**-0.9**
MK31	**Makanchi Array**	**2.19**	**15**	PN	**Pb**	**12 24 12.2**	**-0.9**
MKAR	**Makanchi Array**	**2.19**	**15**	Pn	**Pb**	**12 24 11.7**	**-1.4**
	201nm,0.3s,baz=191,slow=14,SNR=3937						
MKAR				LR	LR	12 24 38.8	
	comp=Z,1μm,19.0s,baz=130,slow=30						
MKAR				Lg	Lg	12 24 42.4	
	2μm,0.3s,baz=202,slow=31,SNR=6.8						
	292nm,0.3s						
BLB	**Baldybastay**	**2.21**	**256**	Pg	**Pg**	**12 24 15.2**	**-0.3**
	22μm,0.4s						
BLB				Lg	Lg	12 24 44.1	
	13μm,0.3s						
UZB	**Uzynbulak**	**2.33**	**230**	Pg	**Pb**	**12 24 16.3**	**+0.9**
	1μm,0.5s						
UZB				Lg	Lg	12 24 45.7	
	34μm,0.6s						
UZB	**Uzynbulak**	**2.33**	**230**	*e*P	**Pn**	**12 24 13.2**	**+1.3**
UZB				*e*S	**Sb**	**12 24 42.7**	**-1.6**
UZB	**Uzynbulak**	**2.33**	**230**	*e*P	**Pb**	**12 24 16.3**	**+0.9**
	1μm,0.5s						
UZB				*e*S	**Sb**	**12 24 45.7**	**+1.4**
	34μm,0.6s						
UZB	**Uzynbulak**	**2.33**	**230**	*e*PN	**Pn**	**12 24 13.1**	**+1.3**
UZB				*e*S	**Sb**	**12 24 42.7**	**-1.6**
ARXS	**Arharly**	**2.63**	**261**	*e*P	**Pb**	**12 24 22.3**	**+1.7**
	3μm,0.5s						
ARXS				*e*S	**Sg**	**12 24 56.2**	**-1.7**
	11μm,0.7s						
ARXS	**Arharly**	**2.63**	**261**	*e*PN	**Pn**	**12 24 17.8**	**+1.9**
KURS	**Kuram**	**2.65**	**244**	Pg	**Pb**	**12 24 22.4**	**+1.6**
	287nm,0.3s						
KURS				Lg	Lg	12 24 56.5	
	5μm,0.6s						
KURS	**Kuram**	**2.65**	**244**	*e*P	**Pb**	**12 24 22.4**	**+1.6**
	287nm,0.3s						
KURS				*e*S	**Sg**	**12 24 56.5**	**-1.7**
	5μm,0.6s						
ZHN	**Zhinishke**	**2.65**	**236**	Pg	**Pb**	**12 24 22.3**	**+1.4**
	510nm,0.4s						
ZHN				Lg	Lg	12 24 55.8	
	18μm,0.2s						
ZHN	**Zhinishke**	**2.65**	**236**	*e*P	**Pb**	**12 24 22.3**	**+1.4**
	510nm,0.4s						
ZHN				*e*S	**Sb**	**12 24 55.8**	**+2.3**
	18μm,0.2s						
SATY	**Saty**	**2.73**	**235**	Pg	**Pb**	**12 24 23.5**	**+1.2**
	19μm,0.3s						
SATY				Lg	Lg	12 24 58.4	
SATY	**Saty**	**2.73**	**235**	*e*P	**Pn**	**12 24 18.8**	**+1.4**
SATY	**Saty**	**2.73**	**235**	*e*P	**Pb**	**12 24 23.5**	**+1.2**
	19μm,0.3s						
SATY				*e*S	**Sb**	**12 24 58.4**	**+2.5**
SATY	**Saty**	**2.73**	**235**	*e*PN	**Pn**	**12 24 18.7**	**+1.4**
PRZ	**Przheval'sk**	**3.12**	**226**		**Pn**	**12 24 24.0**	**+1.3**
PRZ	**Przheval'sk**	**3.12**	**226**	⇑*e*P	**Pn**	**12 24 25.2**	**+2.5**
PRZ				⇑*e*S	**Sb**	**12 25 05.6**	**-1.5**
PRZ	**Przheval'sk**	**3.12**	**226**	PN	**Pn**	**12 24 24.0**	**+1.3**
KOTS	**Kotyrbulak**	**3.45**

AAA *e*S **Sg** **12 25 26.5 -2.0**
1μm,0.8s
AAA Alma-Ata 3.59 247 *e*PN **Pn** **12 24 30.6 +1.6**
TNSS Tian-Shan 3.65 245 Pg **Pg** **12 24 41.6 -1.5**
1μm,0.9s
TNSS Lg Lg 12 25 29.8
3μm,0.8s
TNSS Tian-Shan 3.65 245 *e*P **Pn** **12 24 31.4 +1.3**
TNSS *e*Pg **Pg** **12 24 42.6 -0.5**
TNSS *e*S **Sn** **12 25 15.3 +1.9**
TNSS Tian-Shan 3.65 245 *e*P **Pg** **12 24 41.6 -1.5**
1μm,0.9s
TNSS *e*S **Sg** **12 25 29.8 -0.6**
3μm,0.8s
TNSS Tian-Shan 3.65 245 *e*PN **Pn** **12 24 31.4 +1.3**
TNSS *e* 12 24 42.6
TNSS *e*S **Sn** **12 25 15.2 +1.9**
ZSN Zaisan 3.65 39 *e*P **Pg** **12 24 42.5 -0.7**
1μm,0.6s
ZSN *e*S **Sg** **12 25 30.6 +0.2**
5μm,0.9s
KUU Kurty 3.75 260 *e*P **Pg** **12 24 42.6 -2.5**
3μm,1.1s
KUU *e*S **Sg** **12 25 30.7 -3.0**
5μm,0.6s
KASK Kaskelen 3.77 249 ⇑Pn **Pn** **12 24 32.8 +1.3**
146nm,0.7s
KASK ⇑Pg **Pb** **12 24 41.0 +1.1**
3μm,0.7s
KASK ⇓Lg Lg 12 25 28.7
9μm,0.7s
WUS Wushi 3.85 206 Pn **Pn** **12 24 34.7 +2.1**
MTBS Maitube 3.94 249 Pg **Pg** **12 24 47.1 -1.7**
794nm,0.8s
MTBS Lg Lg 12 25 39.3
6μm,0.5s
MTBS Maitube 3.94 249 *e*P **Pg** **12 24 47.1 -1.7**
794nm,0.8s
MTBS *e*S **Sg** **12 25 39.3 -0.6**
6μm,0.5s
TARG Taragay, Kyrgy 3.98 223 **Pn** **12 24 37.0 +2.4**
TARG Taragay, Kyrgy 3.98 223 PN **Pn** **12 24 37.0 +2.4**
KDJ Kajisay 4.02 232 **Pn** **12 24 36.9 +1.8**
KDJ Kajisay 4.02 232 ⇓*e*P **Pn** **12 24 36.7 +1.6**
KDJ ⇓*e*S **Sn** **12 25 27.2 +4.9**
KDJ Kajisay 4.02 232 PN **Pn** **12 24 36.9 +1.8**
KST Kastek 4.29 249 Pg **Pg** **12 24 54.2 -1.2**
1μm,0.6s
KST Lg Lg 12 25 51.2
7μm,0.7s
KST Kastek 4.29 249 *e*P **Pg** **12 24 52.8 -2.6**
1μm,0.6s
KST *e*S **Sg** **12 25 48.3 -2.8**
7μm,0.7s
ULHL Ulahol 4.50 239 P **Pn** **12 24 45.2 +3.5**
SNR=42
ULHL Ulahol 4.50 239 ⇓*e*P **Pn** **12 24 43.3 +1.6**
ULHL ⇓*e*S **Sn** **12 25 37.2 +3.0**
WMQ Urumqi 4.57 99 Pn **Pn** **12 24 44.3 +1.8**
WMQ smax smax
comp=N,6μm,0.7s
WMQ smax smax
comp=E,5μm,0.7s
TKM2 Tokmak 2 4.58 249 P **Pn** **12 24 44.8 +2.0**
SNR=56
TKM2 Tokmak 2 4.58 249 ⇑Pn **Pn** **12 24 44.4 +1.5**
50nm,0.6s
TKM2 ⇓Pg **Pb** **12 24 55.3 +1.3**
917nm,0.7s
TKM2 ⇓Lg Lg 12 25 54.8
3μm,0.6s
TKM2 Tokmak 2 4.58 249 ⇓*e*P **Pn** **12 24 44.1 +1.3**
TKM2 ⇓*e*S **Sn** **12 25 38.5 +2.3**
CHMS Chumysh 5.13 253 P **Pn** **12 24 52.1 +2.0**
SNR=34
CHMS Chumysh 5.13 253 ⇑Pn **Pn** **12 24 51.1 +1.0**
45nm,0.7s
CHMS ⇓Pg **Pb** **12 25 05.3 +2.3**
432nm,0.7s
CHMS ⇑Lg Lg 12 26 10.2
3μm,0.9s
KBK Karagaybulak 5.13 249 P **Pn** **12 24 52.6 +2.3**
SNR=248
NRN Naryn 5.14 233 **Pn** **12 24 53.7 +3.1**
NRN Naryn 5.14 233 ⇑*e*P **Pn** **12 24 53.1 +2.5**
NRN ⇑*i*S **Sn** **12 25 54.3 +4.1**
NRN Naryn 5.14 233 PN **Pn** **12 24 53.7 +3.1**
USP Ospenovka 5.21 257 P **Pn** **12 24 52.8 +1.5**
SNR=77
BTLS Baital 5.27 276 *e*P **Pn** **12 24 53.5 +1.4**
BTLS *e*Pg **Pg** **12 25 11.8 -2.4**
BTLS *e*S **Sn** **12 25 54.4 +1.5**
BTLS Baital 5.27 276 *e*P **Pg** **12 25 11.2 -3.0**
806nm,0.9s
BTLS *e*S **Sg** **12 26 20.1 -2.4**
208nm,1.0s
BTLS Baital 5.27 276 *e*PN **Pn** **12 24 53.5 +1.4**
BTLS *e* 12 25 11.8
BTLS *e*S **Sn** **12 25 54.3 +1.5**
FRU1 Bishkek 5.28 252 **Pn** **12 24 54.2 +2.0**
FRU1 Bishkek 5.28 252 PN **Pn** **12 24 54.2 +2.0**
AAK Ala-Archa 5.44 250 Pn **Pn** **12 24 56.1 +1.6**
AAK Ala-Archa 5.44 250 Pn **Pn** **12 24 55.4 +0.9**
3.1nm,0.3s,baz=93,slow=7.9,SNR=130
AAK Pg **Pb** **12 25 10.3 +1.9**
50nm,0.3s,baz=94,slow=9.3,SNR=20
AAK Lg Lg 12 26 22.7
58nm,0.3s,baz=342,slow=20,SNR=9.3
38nm,0.8s
UCH Uchtor 5.61 246 P **Pn** **12 24 59.8 +2.6**
SNR=12
SEM Semipalatinsk 5.79 352 *e*P **Pn** **12 25 00.1 +0.7**
SEM Semipalatinsk 5.79 352 *e*P **Pg** **12 25 24.9 +0.9**
155nm,0.5s
SEM *e*S **Sg** **12 26 43.3 +4.4**
2μm,0.6s
SEM Semipalatinsk 5.79 352 *e*PN **Pn** **12 25 00.0 +0.7**
EKS2 Erkin-Say 5.92 253 P **Pn** **12 25 03.0 +2.0**
SNR=55
AML Almayashu 6.20 248 P **Pn** **12 25 07.8 +2.7**
SNR=82
KURBB Kurchatov Arra 6.26 343 ⇑Pn **Pn** **12 25 06.2 +0.6**
146nm,0.6s
KURBB ⇓Sn **Sn** **12 26 14.9 -2.2**
643nm,0.7s
KURBB ⇓Lg Lg 12 26 46.5
5μm,1.4s
KURBB Kurchatov Arra 6.26 343 Pn **Pn** **12 25 06.0 +0.4**
3.5nm,0.3s,baz=165,slow=12,SNR=164
KURBB Sn **Sn** **12 26 17.4 +0.2**
8.9nm,0.3s,baz=159,slow=22,SNR=5.6
KURBB Lg Lg 12 26 49.6
13nm,0.3s,baz=160,slow=28,SNR=5.0
KURBB LR LR 12 27 43.2
comp=Z,2μm,18.2s,baz=149,slow=40
26nm,0.6s
MRKS Merke 6.26 255 *e*P Pg 12 25 28.3 -4.9
276nm,0.8s
MRKS *e*S **Sg** **12 26 49.0 -5.3**
844nm,0.6s
KURK Kurchatov 6.33 343 ⇑Pn **Pn** **12 25 06.6 +0.1**
118nm,0.7s
KURK ⇓Lg Lg 12 26 46.5
3μm,0.9s
KURK Kurchatov 6.33 343 Pn **Pn** **12 25 07.2 +0.6**
KURK Kurchatov 6.33 343 PN **Pn** **12 25 06.0 -0.5**
KURK 12 26 17.4
KSH Kashi 6.57 220 Pn Pn 12 25 18.8 +8.7
KSH LR LR
comp=N,4μm,4.1s
KSH LR LR
comp=E,7μm,4.0s
KSH LR LR
comp=Z,2μm,8.6s
DZA Taraz 7.54 260 *e*P **Pn** **12 25 24.7 +1.5**
DZA Taraz 7.54 260 *e*P **Pn** **12 25 24.6 +1.5**
KK31 Karatay Array 8.05 263 ⇑Pn **Pn** **12 25 31.2 +0.9**
26nm,0.7s,baz=72,slow=14,SNR=298
KK31 ⇑Pg Pb 12 25 59.2 +6.3
98nm,0.6s,baz=68,slow=16,SNR=10
KK31 ⇑Lg Lg 12 27 45.3
704nm,0.8s,baz=70,slow=29,SNR=4.8
KKAR Karatay Array 8.05 263 Pn **Pn** **12 25 31.3 +1.0**
KKAR Karatay Array 8.05 263 Pn **Pn** **12 25 31.0 +0.7**
KKAR Karatay Array 8.05 263 P **Pn** **12 25 31.3 +1.0**
BRLS Borolday 8.55 263 *e*P **Pn** **12 25 41.2 +4.0**
BRLS Borolday 8.55 263 *e*P **Pn** **12 25 41.1 +4.0**
IUG Iuzhnay 8.69 257 *e*P **Pn** **12 25 40.9 +1.9**
IUG Iuzhnay 8.69 257 *e*P **Pn** **12 25 40.9 +1.9**
DRK Karamyk 8.86 237 **Pn** **12 25 44.7 +3.2**
DRK Karamyk 8.86 237 P **Pn** **12 25 44.7 +3.2**
BTK Batken 9.12 243 **Pn** **12 25 47.0 +2.0**
BTK Batken 9.12 243 P **Pn** **12 25 47.0 +2.0**
ZAA0 Zalesovo Array 9.53 12 Pn **Pn** **12 25 50.5 0.0**
ZALV Zalesovo Beam 9.53 12 Pn **Pn** **12 25 50.5 0.0**
ZALV Zalesovo Beam 9.53 12 Pn **Pn** **12 25 50.6 +0.2**
13nm,0.3s,baz=193,slow=14,SNR=172
ZALV Sn **Sn** **12 27 33.0 -4.5**
6.6nm,0.3s,baz=189,slow=18,SNR=2.2
ZALV Lg Lg 12 28 31.9
9.5nm,0.3s,baz=196,slow=28,SNR=5.6
ZALV LR LR 12 29 46.4
comp=Z,730nm,19.1s,baz=173,slow=39
30nm,0.3s
ZALV Zalesovo Beam 9.53 12 *i*P **Pn** **12 25 50.9 +0.5**
ZALV pmax pmax
comp=Z,30nm,0.3s
GAR Garm 10.06 239 **Pn** **12 26 00.2 +2.4**
BVA0 Borovoye Array 11.07 323 ⇓Pn **Pn** **12 26 11.0 -0.4**
comp=Z,56nm,1.1s,baz=136,slow=14,SNR=87
BVA0 ⇑Sn **Sn** **12 28 10.3 -4.9**
comp=Z,116nm,0.8s,baz=131,slow=20,SNR=4.1
BVA0 ⇓Lg Lg 12 29 23.1
comp=Z,568nm,0.9s,baz=132,slow=27,SNR=4.9
BVAR Borovoye Array 11.07 323 Pn **Pn** **12 26 11.9 +0.4**
comp=Z,0.6nm,0.3s,baz=124,slow=12,SNR=65
BVAR Sn **Sn** **12 28 12.2 -3.0**
comp=Z,0.6nm,0.3s,baz=124,slow=21,SNR=6.2
BVAR Lg Lg 12 29 20.9
comp=Z,1.8nm,0.3s,baz=112,slow=27,SNR=5.5
BVAR LR LR 12 30 37.1
comp=Z,2μm,19.2s,baz=132,slow=38
comp=Z,9.8nm,0.6s
SIMJ Simiganj 11.07 241 Pn **Pn** **12 26 13.0 +1.2**
BRVK Borovoye 11.14 323 ⇑Pn **Pn** **12 26 13.0 +0.6**
comp=Z,25nm,0.6s
BRVK ⇑Sn **Sn** **12 28 12.9 -4.0**
comp=Z,128nm,0.8s
BRVK ⇑Lg Lg 12 29 20.1
comp=Z,2μm,1.1s
BRVK Borovoye 11.14 323 Pn **Pn** **12 26 12.3 -0.1**
BRVK Borovoye 11.14 323 *ce*P **Pn** **12 26 12.9 +0.5**
BRVK pmax pmax
comp=Z,29nm,1.3s
NIL Nilore 12.71 213 **Pn** **12 26 34.7 +0.6**
NIL Nilore 12.71 213 P **Pn** **12 26 34.7 +0.6**
GOMU GeErMu 13.23 125 P **Pn** **12 26 39.3 -2.2**
GOMU LR LR
comp=Z,3μm,15.8s
GOMU LR LR
comp=Z,3μm,14.8s
GOMU LR LR
comp=Z,6μm,15.9s
KBL Kabul 13.91 228 Pn **Pn** **12 26 51.9 +1.3**
KBL Kabul 13.91 228 P **Pn** **12 26 51.9 +1.3**
GTA Gaotai 14.62 105 *e*P **Pn** **12 26 58.8 -1.4**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA LR LR
comp=Z,650nm,10.2s
GTA LR LR
comp=Z,810nm,10.5s
GTA LR LR
comp=Z,850nm,11.6s
AB31 Akbulak array 15.36 295 ⇓Pn **Pn** **12 27 06.3 -3.6**
comp=Z,42nm,0.8s,baz=96,slow=13,SNR=248
AB31 ⇑Sn **Sn** **12 29 55.5 -4.5**
comp=Z,79nm,1.2s
AB31 ⇓Lg Lg 12 31 33.8
comp=Z,64nm,0.8s
ABKAR Akbulak array 15.36 295 Pn **Pn** **12 27 06.8 -3.2**
AKTO Aktyubinsk 16.79 298 ⇑Pn **Pn** **12 27 26.3 -2.1**
comp=Z,90nm,1.1s
AKTO ⇑Sn **Sn** **12 30 32.2 -2.6**
comp=Z,33nm,0.8s
AKTO ⇑Lg Lg 12 32 26.8
comp=Z,144nm,1.2s
AKTO Aktyubinsk 16.79 298 Pn **Pn** **12 27 26.2 -2.1**
comp=Z,1.6nm,0.3s,baz=101,slow=9.8,SNR=106
AKTO Sn Sn 12 30 23.4 -11
comp=Z,0.3nm,0.3s,baz=91,slow=20,SNR=1.6
AKTO Lg Lg 12 32 26.8
comp=Z,0.9nm,0.3s,baz=9.6,slow=19,SNR=6.7
AKTO LR LR 12 34 19.7
comp=Z,2μm,20.3s,baz=88,slow=38
comp=Z,82nm,1.0s
LSA Lhasa 16.82 150 P **Pn** **12 27 29.8 +0.6**
LSA Lhasa 16.82 150 P **Pn** **12 27 30.0 +0.8**
LSA pmax pmax
comp=Z,3.0nm,0.4s
LSA LR LR
comp=Z,740nm,16.5s
LSA LR LR
comp=Z,1μm,16.5s
LSA Lhasa 16.82 150 P **Pn** **12 27 29.8 +0.6**
LSA pmax pmax
comp=Z,25nm,0.7s
SONM Songino Array 17.52 71 P **P** **12 27 38.7 0.0**
SONM Songino Array 17.52 71 P **Pn** **12 27 37.1 -0.4**
comp=Z,0.4nm,0.3s,baz=270,slow=12,SNR=6.6
SONM Lg Lg 12 32 39.7
comp=Z,2.2nm,0.3s,baz=263,slow=25,SNR=4.0
comp=Z,5.6nm,0.6s
SONM Songino Array 17.52 71 P **P** **12 27 38.7 0.0**
SONM pmax pmax
comp=Z,53nm,1.2s
SVE Sverdlovsk 17.83 320 *e*P **Pn** **12 27 40.6 -0.6**
SVE pmax pmax
comp=Z,50nm,0.9s
SVE MLR MLR
comp=Z,2μm,11.0s
ULN Ulaanbaatar 17.96 71 P **Pn** **12 27 43.0 0.0**
ULN Ulaanbaatar 17.96 71 P **P** **12 27 47.0 +3.4**
HRA Herat 17.99 242 P **Pn** **12 27 43.3 -0.2**
ARTI Arti 18.66 317 P **Pn** **12 27 51.5 +0.1**
ARTI IAmb IAmb 12 27 55.5
comp=Z,107nm,1.0s
ARTI Arti 18.66 317 P **Pn** **12 27 51.8 +0.5**
comp=Z,3.1nm,0.3s,baz=125,slow=6.0,SNR=70
ARTI Sn Sn 12 31 08.8 -11
comp=Z,0.6nm,0.3s,baz=27,slow=20,SNR=1.5
ARTI Lg Lg 12 33 16.6
comp=Z,0.7nm,0.3s,baz=51,slow=23,SNR=1.3
ARTI LR LR 12 35 17.4
comp=Z,1μm,20.2s,baz=118,slow=38
comp=Z,89nm,0.9s
ARTI Arti 18.66 317 *c i*P **Pn** **12 27 52.3 +0.9**
ARTI S **S** **12 31 23.5 +0.1**
ARTI pmax pmax
comp=Z,110nm,1.0s
LZH Lanzhou 19.06 109 *e*P **P** **12 27 53.8 -2.0**
LZH pmax pmax
comp=Z,11nm,1.4s
LZH pmax pmax
comp=Z,240nm,5.5s
LZH LR LR
comp=Z,930nm,8.6s
LZH LR LR
comp=Z,920nm,8.6s
LZH LR LR
comp=Z,710nm,9.6s
SHL Shillong 20.86 153 P **P** **12 28 14.2 -1.3**
SHL IAmb IAmb 12 28 18.9
comp=Z,86nm,0.8s
SHL Shillong 20.86 153 P **P** **12 28 14.2 -1.3**
SHL pmax pmax
comp=Z,86nm,0.8s
BTO Baotou 21.36 91 *e*P **P** **12 28 19.5 -1.2**
BTO pmax pmax
comp=Z,37nm,0.6s
BTO pmax pmax
comp=Z,350nm,3.6s
BTO LR LR
comp=Z,2μm,16.8s
BTO LR LR
comp=Z,3μm,16.7s
CD2 Chengdu 22.27 121 P **P** **12 28 30.5 +0.1**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 LR LR
comp=Z,880nm,13.1s
CD2 LR LR
comp=Z,640nm,11.0s
CD2 LR LR
comp=Z,1μm,12.2s
HHC Hu-ho-hao-te 22.38 89 *e*P **P** **12 28 31.8 +0.2**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,200nm,3.9s
HHC LR LR
comp=Z,370nm,10.5s
HHC LR LR
comp=Z,790nm,13.3s
HHC LR LR
comp=Z,900nm,13.2s
CIT Chita 22.43 59 *e*P **P** **12 28 37.0 +5.0**
CIT *e* 12 29 05.0
CIT *e* 12 32 37.4
CIT pmax pmax
comp=Z,123nm,1.5s
BELG Belogornoye 23.51 301 LR LR 12 38 20.8
comp=Z,536nm,21.8s,baz=137,slow=38
BELG Belogornoye 23.51 301 *i* P **P** **12 28 43.0 -0.1**
BELG pmax pmax
comp=Z,13nm,0.8s
XAN Xi'an 23.65 107 P **P** **12 28 43.5 -1.2**
XAN pmax pmax
comp=Z,54nm,0.7s
XAN pmax pmax
comp=Z,120nm,3.8s
XAN LR LR
comp=Z,540nm,12.2s
XAN LR LR
comp=Z,1μm,14.3s
XAN LR LR
comp=Z,1μm,14.3s
BOD Bodaibo 23.97 45 *e*P **P** **12 28 53.1 +5.6**
BOD pmax pmax
comp=Z,35nm,1.3s
KIRV Kirov 23.97 317 LR LR 12 38 41.9
comp=Z,560nm,18.9s,baz=112,slow=38
KIRV Kirov 23.97 317 *ce*P **P** **12 28 48.4 +0.9**
TNCH TengChong 24.01 139 *e*P **P** **12 28 47.5 -0.9**
TNCH pmax pmax
comp=Z,46nm,0.6s
TNCH pmax pmax
comp=Z,180nm,4.3s
TNCH LR LR
comp=Z,410nm,11.7s
TNCH LR LR
comp=Z,220nm,10.9s
TNCH LR LR
comp=Z,500nm,17.6s
PZH PanZhiHua 24.41 131 P **P** **12 28 52.3 +0.3**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,190nm,5.3s
PZH LR LR
comp=Z,240nm,11.4s
PZH LR LR
comp=Z,360nm,12.1s
PZH LR LR
comp=Z,490nm,17.1s
MAK Makhachkala 24.45 278 *d i*P **P** **12 28 49.2 -2.9**
MAK *e*S **S** **12 33 08.3 -3.6**
MAK pmax pmax
comp=Z,254nm,1.2s
MAK MLR MLR
comp=Z,1μm,12.0s
XLT XiLinHaoTe 24.70 80 *e*P **P** **12 29 01.0 +6.5**
XLT sP sP 12 29 07.3 +7.6
XLT S S 12 33 30.5 +14
XLT pmax pmax
comp=Z,24nm,1.1s
XLT AMB AMB
comp=Z,110nm,5.7s
XLT LR LR
comp=N,71nm,15.3s
XLT LR LR
comp=E,580nm,14.5s
XLT LR LR
comp=Z,720nm,14.9s
AKT Akhty 24.73 274 *e*P **P** **12 28 52.9 -1.9**
AKT *e*PPP PPP 12 29 34.1
AKT pmax pmax
comp=Z,46nm,1.0s
AKT MLR MLR
comp=Z,1μm,15.0s
NRIK Noril'sk 24.92 5 P **P** **12 28 55.5 -0.5**
NRIK IAmb IAmb 12 29 13.4
comp=Z,42nm,0.9s
NRIK Noril'sk 24.92 5 P **P** **12 28 56.0 -0.1**
comp=Z,6.6nm,0.6s,baz=180,slow=6.7,SNR=13
comp=Z,6.6nm,0.6s
NRIK Noril'sk 24.92 5 P **P** **12 28 56.0 -0.1**
LYN LuoYang 25.81 102 ⇑P **P** **12 29 06.8 +2.3**
LYN pmax pmax
comp=Z,42nm,0.9s
LYN pmax pmax
comp=Z,320nm,6.2s
LYN LR LR
comp=Z,1μm,16.5s
LYN LR LR
comp=Z,970nm,13.4s
LYN LR LR
comp=Z,2μm,15.5s
BJI Beijing 25.95 88 P **P** **12 29 06.0 +0.3**
BJI pmax pmax
comp=Z,4.0nm,0.7s
BJI pmax pmax
comp=Z,48nm,4.7s
BJI LR LR
comp=Z,360nm,17.7s
BJI LR LR
comp=Z,160nm,14.5s
BJI LR LR
comp=Z,370nm,15.1s
BJT Baijiatuau 25.96 88 P **P** **12 29 06.8 +1.0**
BJT Baijiatuau 25.96 88 P **P** **12 29 06.8 +1.0**
BJT pmax pmax
comp=Z,11nm,0.7s
HNS HongShan 25.99 95 ⇑P **P** **12 29 07.8 +1.7**
HNS pmax pmax
comp=Z,27nm,1.4s
HNS pmax pmax
comp=Z,290nm,5.9s
HNS LR LR
comp=Z,700nm,15.3s
HNS LR LR
comp=Z,910nm,18.6s
HNS LR LR
comp=Z,1μm,18.4s
KMI Kunming 26.05 131 ⇑P **P** **12 29 09.0 +2.0**
KMI pmax pmax
comp=Z,27nm,0.8s
KMI LR LR
comp=Z,340nm,13.3s
KMI LR LR
comp=Z,260nm,13.0s
KMI LR LR
comp=Z,470nm,15.5s
HIA Hailar 26.33 66 *i* P **P** **12 29 11.2 +2.1**
HIA pmax pmax
comp=Z,39nm,1.6s
ENH Enshi 26.34 114 P **P** **12 29 08.4 -0.9**
ENH IAmb IAmb 12 29 09.6
comp=Z,29nm,0.7s
NCK Nalchik 27.05 281 *i* P **P** **12 29 16.1 +0.4**
NCK pmax pmax
comp=Z,5.0nm,0.7s
VRH Novokhopyorsk 27.14 298 *e*P **P** **12 29 16.0 -0.3**
VRH pmax pmax
comp=Z,32nm,1.5s
GYA Guiyang 27.24 123 P **P** **12 29 17.5 -0.1**
GYA pmax pmax
comp=Z,25nm,1.3s
GYA LR LR
comp=Z,640nm,12.6s
GNI Garni 27.32 273 P **P** **12 29 19.3 +1.1**
GNI IAmb IAmb 12 29 52.5
comp=Z,40nm,0.9s
GNI Garni 27.32 273 LR LR 12 41 46.5
comp=Z,260nm,21.4s,baz=68,slow=40
GNI Garni 27.32 273 *ce*P **P** **12 29 21.2 +2.9**
GNI pmax pmax
comp=Z,78nm,1.7s
GNI Garni 27.32 273 P **P** **12 29 19.8 +1.5**
comp=Z,51nm,1.0s,comp=Z,528nm

KBZ Khabaz 27.48 282 P **P** **12 29 20.1 +0.6**
comp=Z,2.9nm,0.7s,baz=105,slow=8.3,SNR=8.4
KBZ LR LR 12 42 12.8
comp=Z,1μm,18.9s,baz=76,slow=41
comp=Z,2.9nm,0.7s
KBZ Khabaz 27.48 282 *ce*P **P** **12 29 20.8 +1.4**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KVAR Kislovodsk Arr 27.56 282 LR LR 12 42 19.6
comp=Z,439nm,18.8s,baz=272,slow=41
KIV Kislovodsk 27.57 282 P **P** **12 29 20.9 +0.5**
KIV IAmb IAmb 12 30 01.8
comp=Z,28nm,0.8s
KIV Kislovodsk 27.57 282 *e*P **P** **12 29 21.1 +0.7**
KIV *e*S **S** **12 34 02.5 +0.9**
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,655nm,15.0s
KIV Kislovodsk 27.57 282 P **P** **12 29 22.0 +1.6**
comp=Z,21nm,0.9s
SHA1 Shidzhatmaz 27.65 282 *i* P **P** **12 29 21.4 +0.2**
WSAR Wadi Sarin 28.39 229 LR LR 12 43 35.5
comp=Z,228nm,18.9s,baz=128,slow=42
ERBR Yeremizino-Bor 28.66 287 *e*P **P** **12 29 31.5 +1.5**
ERBR pmax pmax
comp=Z,77nm,1.1s
ERBR MLR MLR
comp=Z,733nm,15.0s
VORD Divnogorie 28.68 298 *e*P **P** **12 29 28.0 -2.1**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 28.69 299 *e*P **P** **12 29 28.7 -1.5**
VORR pmax pmax
comp=Z,30nm,1.0s
VSR Storozhevoye 28.74 298 *e*P **P** **12 29 28.5 -2.1**
VSR pmax pmax
comp=Z,20nm,1.0s
LABN Labinsk 28.75 284 *e*P **P** **12 29 31.8 +1.0**
LABN pmax pmax
comp=Z,54nm,0.8s
LPSR Galich'ya Gora 28.83 301 *e*P **P** **12 29 30.2 -1.2**
LPSR pmax pmax
comp=Z,40nm,0.8s
WHN Wuhan 29.42 107 P **P** **12 29 36.5 -0.3**
WHN pmax pmax
comp=Z,56nm,0.5s
WHN LR LR
comp=Z,2μm,14.9s
WHN LR LR
comp=Z,980nm,11.5s
WHN LR LR
comp=Z,2μm,12.3s
KLMR Klimovskoe 29.44 318 *e*P **P** **12 29 35.7 -1.0**
KLMR pmax pmax
comp=Z,59nm,1.4s
CHTO Chiang Mai 29.65 145 P **P** **12 29 38.0 -1.0**
CHTO Chiang Mai 29.65 145 P **P** **12 29 38.0 -1.0**
CHTO pmax pmax
comp=Z,9.0nm,1.2s
MOS Moscow 29.65 308 *e*P **P** **12 29 37.9 -0.8**
MOS *e* 12 30 29.5
MOS pmax pmax
comp=Z,24nm,0.6s
MOS MLR MLR
comp=Z,1μm,12.0s
MOS MLR MLR
comp=E,1μm,10.0s
SOC Sochi 29.74 283 *e*P **P** **12 29 38.5 -1.1**
SOC *e* 12 30 34.3
SOC *e*S **S** **12 34 35.0 -0.5**
SOC *e*SS **SnSn** **12 36 07.8 +3.1**
SOC MLR MLR
comp=Z,618nm,19.0s
GURO Guroymak-BITLI 29.88 272 P **P** **12 29 42.8 +1.8**
CM31 Chiang Mai Arr 29.97 145 P **P** **12 29 41.2 -0.6**
CMAR Chiang Mai Arr 29.97 145 P **P** **12 29 41.3 -0.4**
CMAR Chiang Mai Arr 29.97 145 P **P** **12 29 41.6 -0.2**
comp=Z,3.5nm,0.8s,baz=320,slow=8.8,SNR=26
CMAR LR LR 12 43 21.8
comp=Z,295nm,19.2s,baz=320,slow=40
comp=Z,3.5nm,0.8s
OBN Obninsk 30.23 306 P **P** **12 29 43.3 -0.5**
OBN IAmb IAmb 12 29 45.8
comp=Z,20nm,0.8s
OBN Obninsk 30.23 306 LR LR 12 42 10.7
comp=Z,1μm,18.6s,baz=90,slow=37
OBN Obninsk 30.23 306⇓*e*P **P** **12 29 44.7 +1.0**
OBN *e* 12 29 50.5
OBN *e* 12 30 41.8
OBN *e* 12 32 43.0
OBN *e*S **S** **12 34 50.3 +7.4**
OBN *e*SS **SnSn** **12 36 18.0 +1.7**
OBN pmax pmax
comp=Z,32nm,1.1s
OBN MLR MLR
comp=Z,1μm,19.0s
PHRA Phrae 30.47 143 P **P** **12 29 46.3 +0.1**
SNY Shenyang 30.57 80 ⇓P **P** **12 29 47.3 +0.4**
SNY pmax pmax
comp=Z,9.0nm,0.8s
SNY pmax pmax
comp=Z,120nm,3.9s
SNY LR LR
comp=Z,310nm,14.7s
SNY LR LR
comp=Z,510nm,15.7s
SNY LR LR
comp=Z,680nm,16.0s
ZEA Zeya 30.78 56 *e*P P 12 29 55.8 +7.2
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=Z,300nm,13.0s
ANN Anapa 30.98 286 *e*P **P** **12 29 51.4 +0.9**
ANN *e**PP **sP** **12 29 57.8 +2.0**
ANN *e* 12 30 58.0
ANN *e*S **S** **12 34 56.0 +1.1**
ANN pmax pmax
comp=Z,53nm,1.2s
ANN MLR MLR
comp=E,312nm,13.0s
ANN MLR MLR
comp=N,272nm,10.0s
ANN MLR MLR
comp=Z,327nm,14.0s
HEH HeiHe 31.17 63 *e*P P 12 29 58.3 +6.2
HEH pmax pmax
comp=Z,16nm,1.3s
HEH LR LR
comp=Z,320nm,11.5s
HEH LR LR
comp=Z,600nm,10.6s
HEH LR LR
comp=Z,760nm,10.1s
CN2 Changchun 31.25 76 *e*P P 12 29 47.5 -5.4
CN2 *e*S S 12 34 49.5 -10
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=N,490nm,15.0s
CN2 LR LR
comp=E,310nm,15.0s
NJ2 Nanjing 31.65 101 *e*P **P** **12 29 55.0 -1.5**
NJ2 pmax pmax
comp=E,9.0nm,0.5s
NJ2 LR LR
comp=E,520nm,17.2s
NJ2 LR LR
comp=E,300nm,14.2s
NJ2 LR LR
comp=E,650nm,16.1s
BNX BinXian 32.05 72 ⇑P P 12 30 06.3 +6.3
BNX pmax pmax
comp=E,15nm,0.8s
YAK Yakutsk 32.64 41 LR LR 12 43 55.2
comp=E,171nm,19.6s,baz=254,slow=38
YAK Yakutsk 32.64 41 *e*P P 12 30 09.8 +4.9
YAK *e**PP sP 12 30 13.9 +3.6
YAK *e* 12 31 15.5
YAK *e* 12 32 56.7
YAK *e*S **S** **12 35 25.4 +4.9**
YAK *e**SS sS 12 35 30.7 +4.2
YAK *e*SS **SnSn** **12 37 23.3 +8.4**
YAK *e*SSS SSS 12 37 44.7
YAK pmax pmax
comp=Z,20nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.6s
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=Z,351nm,4.6s
YAK pmax pmax
comp=N,344nm,3.9s
YAK pmax pmax
comp=E,456nm,5.2s
YAK smax smax
comp=N,174nm,2.5s
YAK smax smax
comp=E,157nm,2.7s
YAK MLR MLR
comp=Z,337nm,13.0s
YAK MLR MLR
comp=E,265nm,13.0s
YAK MLR MLR
comp=N,223nm,12.0s
SIM Simferopol' 33.20 288 *e*P **P** **12 30 11.0 +1.0**
SIM pmax pmax
comp=Z,64nm,0.8s
SIM MLR MLR
comp=Z,270nm,21.0s
LVZ Lovozero 33.54 330 P **P** **12 30 11.4 -1.4**
LVZ Lovozero 33.54 330 P **P** **12 30 11.4 -1.4**
LVZ pmax pmax
comp=Z,53nm,1.1s
JOF Joensuu 33.66 321 *e*P **P** **12 30 14.8 +1.1**
MDJ Mudanjiang 33.85 73 P P 12 30 20.5 +4.8
MDJ pmax pmax
comp=Z,8.0nm,1.0s
MDJ pmax pmax
comp=Z,200nm,5.7s
APA Apatity 33.88 329⇓*i*P **P** **12 30 13.3 -2.4**
APA *i* 12 31 24.0
APA *i* S **S** **12 35 33.0 -6.7**
APA pmax pmax
comp=Z,9.0nm,1.0s
APA MLR MLR
comp=Z,1μm,11.0s
GAZ Gaziantep 33.91 273 P **P** **12 30 17.4 +1.0**
GAZ IAmb IAmb 12 30 19.2
comp=Z,22nm,0.9s
KLR Kul'dur 34.12 64 LR LR 12 44 38.5
comp=Z,181nm,19.4s,baz=282,slow=37
KLR Kul'dur 34.12 64 *e*P P 12 30 23.1 +5.2
KLR pmax pmax
comp=Z,10.0nm,1.1s
BNN Bunyan 34.15 276 P **P** **12 30 19.4 +0.8**
QIZ Qiongzhong 34.84 128 P **P** **12 30 25.0 +0.6**
QIZ pmax pmax
comp=Z,38nm,2.1s
QIZ LR LR
comp=Z,440nm,10.9s
CIDE Kastamonu/Cide 35.01 283 ⇑P **P** **12 30 26.6 +1.0**
AK08 Malin Array Si 35.03 299 P **P** **12 30 26.4 +0.6**
AK03 Malin Array Si 35.04 299 P **P** **12 30 25.9 0.0**
AKASG Malin Array Be 35.04 299 P **P** **12 30 26.5 +0.6**
AKASG Malin Array Be 35.04 299 P **P** **12 30 26.2 +0.3**
comp=Z,17nm,1.0s,baz=71,slow=8.5,SNR=34
AKASG LR LR 12 45 37.0
comp=Z,200nm,19.3s,baz=78,slow=38
comp=Z,17nm,1.0s
AKASG Malin Array Be 35.04 299 P **P** **12 30 26.5 +0.6**
AKASG pmax pmax
comp=Z,18nm,1.7s
AKBB Malin Array Si 35.04 299 P **P** **12 30 25.2 -0.7**
AKBB IAmb IAmb 12 30 27.2
comp=Z,30nm,1.0s
AKBB Malin Array Si 35.04 299 *ce*P **P** **12 30 26.1 +0.2**
AKBB pmax pmax
comp=Z,35nm,1.0s
AKBB Malin Array Si 35.04 299 P **P** **12 30 25.9 0.0**
AK10 Malin Array Si 35.04 299 P **P** **12 30 26.2 +0.3**
AK01 Malin Array Si 35.05 299 P **P** **12 30 26.3 +0.3**
KIEV Kiev 35.05 299 P **P** **12 30 25.8 -0.2**
KIEV IAmb IAmb 12 30 27.2
comp=Z,30nm,1.1s
KIEV Kiev 35.05 299 ⇑P **P** **12 30 26.2 +0.2**
KIEV Kiev 35.05 299 P **P** **12 30 26.1 +0.1**
KIEV Kiev 35.05 299 P **P** **12 30 26.2 +0.2**
comp=Z,124nm,1.0s,comp=Z,2μm
TIXI Tiksi 35.16 24 P **P** **12 30 26.0 -0.6**
TIXI Tiksi 35.16 24 LR LR 12 45 21.0
comp=Z,249nm,18.4s,baz=192,slow=37
TIXI Tiksi 35.16 24 *ce*P **P** **12 30 26.9 +0.3**
TIXI pmax pmax
comp=Z,18nm,2.5s
MNK Minsk 35.28 306 *i* P **P** **12 30 28.8 +0.9**
comp=E,2.0nm,0.7s
MNK *i* P **P** **12 30 28.8 +0.9**
comp=N,16nm,0.8s
MNK *i* P **P** **12 30 28.8 +0.9**
comp=Z,16nm,0.6s,baz=83
MNK *i* PP **PP** **12 31 47.3 -0.4**
MNK *i* PPP PPP 12 32 00.4
MNK *i* S **S** **12 36 04.3 +2.8**
MNK *i* SS **SS** **12 38 27.8 -6.6**
MNK *i* LQ LQ 12 42 34.9
MNK *i* LR LR 12 44 23.4
MNK *i* LRM MLR 12 45 18.5
comp=E,255nm,16.1s
MNK *i* LRM MLR 12 45 24.0
comp=Z,911nm,15.4s
MNK *i* LRM MLR 12 45 25.5
comp=N,775nm,16.6s
MNK Minsk 35.28 306 *i* P **P** **12 30 28.7 +0.9**
MNK *i* 12 31 47.3
MNK *i* PPP PPP 12 32 00.3
MNK *i* 12 32 58.4
MNK *i* S **S** **12 36 04.2 +2.8**
MNK pmax pmax
comp=Z,16nm,0.6s
MNK pmax pmax
comp=N,16nm,0.8s
MNK pmax pmax
comp=E,2.0nm,0.7s
MNK MLR MLR
comp=E,255nm,16.0s
MNK MLR MLR
comp=Z,911nm,15.0s
MNK MLR MLR
comp=N,775nm,17.0s
BR131 Keskin Array S 35.35 279 P **P** **12 30 29.2 +0.3**
BR131 IAmb IAmb 12 30 31.5
comp=Z,13nm,0.8s
BR131 Keskin Array S 35.35 279 *i* P **P** **12 30 29.6 +0.7**
BRTR Keskin Array B 35.35 279 P **P** **12 30 28.9 0.0**
BRTR Keskin Array B 35.35 279 P **P** **12 30 29.9 +0.9**
comp=Z,8.9nm,0.8s,baz=89,slow=7.1,SNR=46
BRTR LR LR 12 48 07.5
comp=Z,194nm,19.2s,baz=54,slow=42
comp=Z,8.9nm,0.8s
BR104 Keskin Array S 35.36 279 P **P** **12 30 29.6 +0.7**
comp=Z,14nm,0.9s,comp=Z,119nm
BR106 Keskin Array S 35.36 279 P **P** **12 30 29.7 +0.7**
comp=Z,16nm,0.8s,comp=Z,126nm
BR105 Keskin Array S 35.37 279 P **P** **12 30 29.8 +0.7**
comp=Z,19nm,0.8s,comp=Z,147nm
KSRS Korea Array 35.38 85 P **P** **12 30 28.2 -0.8**
comp=Z,1.5nm,0.7s,baz=289,slow=7.6,SNR=9.7
KSRS LR LR 12 46 18.0
comp=Z,166nm,18.3s,baz=295,slow=39
comp=Z,1.5nm,0.7s
KIRS Kirsehir-Merke 35.40 278 ⇑P **P** **12 30 30.4 +1.1**
USA0B Ussuriysk Arra 35.62 72 *i* P **P** **12 30 29.7 -1.2**
USRK Ussuriysk Ar. 35.62 72 P **P** **12 30 30.1 -0.8**
comp=Z,2.2nm,0.8s,baz=303,slow=8.1,SNR=3.5
USRK LR LR 12 47 15.1
comp=Z,240nm,19.8s,baz=293,slow=40
comp=Z,2.2nm,0.8s
VSU Vasula 35.63 313 P **P** **12 30 31.0 +0.1**
VSU pmax pmax
comp=Z,30nm,0.9s
NACGM Naroch 35.87 306⇑*i*P **P** **12 30 34.5 +1.6**
comp=Z,35nm,0.9s,baz=83
ANTO Ankara 35.89 280 P **P** **12 30 33.9 +0.5**
ANTO IAmb IAmb 12 30 35.8
comp=Z,24nm,1.1s
ANTO Ankara 35.89 280 P **P** **12 30 33.9 +0.5**
ANTO pmax pmax
comp=Z,24nm,1.1s
ANTO Ankara 35.89 280 P **P** **12 30 34.7 +1.3**
comp=Z,11nm,1.0s,comp=Z,173nm
VLA Vladivostok 35.91 74 *i* P **P** **12 30 34.0 +0.6**
VLA pmax pmax
comp=Z,47nm,1.6s
FIA1 FINESS Array S 35.96 318 P **P** **12 30 34.0 +0.4**
MI28 Mi28,Pidlybu 35.96 300 P **P** **12 30 34.3 +0.5**
comp=Z,452nm,1.0s,comp=Z,10μm
FINES FINESS Array B 35.96 318 P **P** **12 30 33.5 -0.2**
FINES FINESS Array B 35.96 318 P **P** **12 30 34.2 +0.5**
comp=Z,5.7nm,0.9s,baz=100,slow=9.8,SNR=11
FINES LR LR 12 45 54.5
comp=Z,450nm,18.4s,baz=89,slow=37
comp=Z,5.7nm,0.9s
FINES FINESS Array B 35.96 318 *i* P **P** **12 30 34.4 +0.7**
FINES pmax pmax
comp=Z,6.0nm,0.9s
ARBE Arbavere 35.99 314 *e*P **P** **12 30 34.4 +0.4**
RAYN Ar Rayn 36.08 246 P **P** **12 30 35.0 -0.1**
RAYN IAmb IAmb 12 30 36.3
comp=Z,21nm,1.1s
RAYN Ar Rayn 36.08 246 P **P** **12 30 35.0 -0.1**
RAYN pmax pmax
comp=Z,21nm,1.2s
LUBAR Lubar, Ukraine 36.12 298 P **P** **12 30 35.8 +0.6**
SORM Soroca 36.17 295 ⇓P **P** **12 30 35.9 +0.3**
SORM Soroca 36.17 295 P **P** **12 30 35.7 +0.1**
comp=Z,22nm,2.6s
MILM Milestii Mici 36.19 293 ⇓P **P** **12 30 36.6 +0.7**
KEF Keuruu 36.56 319 *e*P **P** **12 30 40.0 +1.2**
TLCR 36.71 290 ⇓P **P** **12 30 41.0 +0.7**
MDUB Mudurnu 36.77 282 P **P** **12 30 42.2 +1.2**
RNPP9 Sopachiv 36.96 301 P **P** **12 30 43.3 +1.0**
RNPP8 Varash 37.00 301 P **P** **12 30 43.2 +0.5**
RNPP5 Staryi Chortor 37.00 301 P **P** **12 30 43.2 +0.5**
RNPP1 Kostyukhnivka 37.05 301 P **P** **12 30 43.6 +0.5**
TPGR Topolog 37.08 290 ⇑P **P** **12 30 44.1 +0.6**
SCTR Scanteiesti 37.10 291 ⇑P **P** **12 30 44.9 +1.3**
HORU Horodok 37.13 297 P **P** **12 30 44.4 +0.6**
MTSE Matsula 37.15 313 *e*P **P** **12 30 43.9 +0.1**
CFR Carcaliu 37.17 290 ⇑P **P** **12 30 44.9 +0.8**
CFR Carcaliu 37.17 290 P **P** **12 30 44.9 +0.8**
ARCES ARCESS Array B 37.20 331 P **P** **12 30 43.9 -0.3**
comp=Z,6.9nm,0.7s,baz=82,slow=8.7,SNR=15
ARCES LR LR 12 46 37.5
comp=Z,316nm,19.4s,baz=104,slow=37
comp=Z,6.9nm,0.7s
MMAI Mount Meron Ar 37.24 268 P **P** **12 30 46.4 +1.3**
comp=Z,5.7nm,0.7s,baz=82,slow=12,SNR=6.1
MMAI LR LR 12 48 52.7
comp=Z,124nm,20.0s,baz=334,slow=41
comp=Z,5.7nm,0.7s
KMPD K-Podol'skiy 37.28 296 P **P** **12 30 44.8 -0.2**
comp=Z,13μm,1.0s,comp=Z,92μm
MFTR Murfatlar 37.30 288 ⇑P **P** **12 30 46.3 +0.9**
MANR Mangalia 37.32 288 ⇓P **P** **12 30 47.0 +1.5**
VSVD Vaisvydziai 37.35 309 *e*P **P** **12 30 46.5 +1.0**
PABE Paberze 37.39 308 P **P** **12 30 46.2 +0.3**
PABE Paberze 37.39 308 *e*P **P** **12 30 47.3 +1.4**
HARR Harsova 37.46 289 ⇑P **P** **12 30 47.7 +1.0**
VAF Ylistaro 37.60 320 *e*P **P** **12 30 47.8 +0.2**
PANC Panciu 37.60 292 ⇓P **P** **12 30 49.9 +2.1**
ODBI Odobesti 37.70 291 ⇑P **P** **12 30 50.8 +2.1**
ODBI Odobesti 37.70 291 P **P** **12 30 50.3 +1.6**
comp=Z,22nm,0.8s
CSS Mathiatis 37.73 272 P **P** **12 30 49.8 +0.7**
CSS IAmb IAmb 12 31 04.3
comp=Z,19nm,1.0s
TESR Tescani 37.74 293 ⇑P **P** **12 30 49.7 +0.7**
TESR Tescani 37.74 293 P **P** **12 30 49.5 +0.5**
comp=Z,26nm,1.1s
VRI Vrincioaia 37.88 292 ⇓P **P** **12 30 51.3 +1.0**
VRI Vrincioaia 37.88 292 P **P** **12 30 51.6 +1.3**
comp=Z,14nm,1.1s
PLOR5 Plostina Array 37.93 292 P **P** **12 30 52.4 +1.7**
comp=Z,30nm,1.1s
PLOR Plostina 37.94 292 ⇑P **P** **12 30 52.3 +1.5**
PLOR3 Plostina Array 37.94 292 P **P** **12 30 52.5 +1.7**
comp=Z,22nm,1.5s
ONER Baraj Valea Uz 37.96 293 ⇑P **P** **12 30 52.4 +1.5**
BISRR Bisoca 38.00 291 ⇑P **P** **12 30 52.8 +1.5**
BISRR Bisoca 38.00 291 P **P** **12 30 52.5 +1.2**
comp=Z,37nm,0.9s
SUW Suwalki 38.08 306 *e*P **P** **12 30 52.3 +0.5**
SUW Suwalki 38.08 306 P **P** **12 30 52.0 +0.2**
SUW Suwalki 38.08 306 *e*P **P** **12 30 51.9 +0.2**
SUW Suwalki 38.08 306 P **P** **12 30 52.0 +0.2**
SUW pmax pmax
comp=Z,60nm,1.1s
KSV Kosov 38.24 296 P **P** **12 30 53.2 0.0**
COVR Voineasa-Covas 38.24 292 ⇑P **P** **12 30 54.5 +1.2**
ISR Istrita 38.25 291 ⇑P **P** **12 30 54.5 +1.0**
ISR Istrita 38.25 291 P **P** **12 30 55.0 +1.6**
comp=Z,69nm,0.9s
SSLB Suanglung 38.26 110 P **P** **12 30 49.5 -4.1**
TURR Turia 38.30 292 ⇑P **P** **12 30 54.7 +1.0**
NEHR Nehoiu 38.31 291 ⇑P **P** **12 30 55.5 +1.6**
BURAR Bucovina Array 38.34 295 ⇑P **P** **12 30 55.1 +0.9**
BURAR Bucovina Array 38.34 295 P **P** **12 30 55.0 +0.8**
BUR08 Bucovina Ar. S 38.34 295 P **P** **12 30 54.5 +0.3**
ISP Isparta 38.37 278 P **P** **12 30 54.8 +0.3**
ISP IAmb IAmb 12 30 56.2
comp=Z,28nm,1.0s
ISP Isparta 38.37 278 *e*P **P** **12 30 55.6 +1.0**
ISP Isparta 38.37 278 *ce*P **P** **12 30 55.5 +1.0**
ISP pmax pmax
comp=Z,46nm,1.7s
STNU Starunia 38.49 297 P **P** **12 30 56.0 +0.7**
MLR Muntele Rosu 38.53 291 P **P** **12 30 56.9 +1.1**
MLR Muntele Rosu 38.53 291 LR LR 12 48 26.0
comp=Z,586nm,21.1s,baz=58,slow=39
MLR Muntele Rosu 38.53 291 ⇑P **P** **12 30 57.2 +1.4**
MLR Muntele Rosu 38.53 291 P **P** **12 30 57.3 +1.4**
MLR Muntele Rosu 38.53 291 P **P** **12 30 56.5 +0.7**
comp=Z,19nm,0.9s
DOPR Dopca 38.74 292 ⇑P **P** **12 30 59.2 +1.7**
RAKU Rahkiv 38.90 296 P **P** **12 30 58.9 +0.1**
BAND Balkesir-Ban 38.97 283 ⇓P **P** **12 31 00.6 +1.1**
ARCR ARCALIA 39.06 294 ⇓P **P** **12 31 01.4 +1.3**
SHIU Shidnytsya 39.06 298 P **P** **12 31 01.2 +1.0**
MEZ Mezhgor'ye 39.17 297 P **P** **12 31 02.4 +1.4**
ELL Elmali 39.30 277 P **P** **12 31 02.9 +0.5**
ELL Elmali 39.30 277 P **P** **12 31 02.9 +0.5**
ELL pmax pmax
comp=Z,67nm,0.8s
KWP Kalwaria Pacla 39.36 299 *e*P **P** **12 31 04.3 +1.7**
KWP Kalwaria Pacla 39.36 299 P **P** **12 31 03.0 +0.4**
KWP Kalwaria Pacla 39.36 299 P **P** **12 31 03.0 +0.4**
KWP pmax pmax
comp=Z,77nm,0.9s
KWP Kalwaria Pacla 39.36 299 P **P** **12 31 04.1 +1.5**
comp=Z,105nm,1.0s
EIL Elat 39.42 264 LR LR 12 49 45.3
comp=Z,59nm,20.0s,baz=68,slow=40
ARR Arges 39.44 292 ⇑P **P** **12 31 04.8 +1.5**
BRIU Brid 39.54 297 P **P** **12 31 06.0 +1.9**
TNR Turnu Rosu 39.58 292 ⇓P **P** **12 31 06.0 +1.5**
JNU Nakatsue 39.61 90 LR LR 12 48 46.4
comp=Z,423nm,19.6s,baz=305,slow=38
MUKU Mukachevo 39.71 297 P **P** **12 31 06.7 +1.2**
BERU Beregovo 39.81 297 P **P** **12 31 07.5 +1.2**
KOLS Kolonicke sedl 39.84 298 *e*P **P** **12 31 07.5 +0.9**
KOLS pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 39.84 298 *e*P **P** **12 31 07.5 +0.9**
KOLS *e*PP **PP** **12 32 34.2 -3.7**
HOLU Holmets 39.88 297 P **P** **12 31 07.9 +1.0**
LOT Lotru 39.98 292 ⇓P **P** **12 31 09.3 +1.3**
MARR Marisel-Cluj 39.99 294 ⇑P **P** **12 31 08.9 +0.9**
ALN Alexandroupoli 40.17 285 P **P** **12 31 09.7 +0.3**
ALN Alexandroupoli 40.17 285 P **P** **12 31 09.7 +0.3**
ALN pmax pmax
comp=Z,18nm,1.1s
DRGR 40.22 295 ⇑P **P** **12 31 11.1 +1.2**
DRGR 40.22 295 P **P** **12 31 11.1 +1.2**
STHS Stebnicka Huta 40.34 299 *e*P **P** **12 31 11.0 +0.2**
STHS pmax pmax
comp=Z,11nm,1.1s
STHS Stebnicka Huta 40.34 299 *e*P **P** **12 31 11.0 +0.2**
RDO Rodhopi 40.42 285 P **P** **12 31 11.6 +0.1**
EZN Ezine 40.43 283 P **P** **12 31 11.6 0.0**
comp=Z,23nm,1.2s
TYV Tymovskoe 40.55 59 *e*P P 12 31 19.1 +6.7
TYV pmax pmax
comp=Z,17nm,0.9s

TYV pmax pmax
comp=Z,300nm,6.5s
GZR Gura Zlata 40.66 293 ⇑P P 12 31 14.5 +1.0
NIE Niedzica 40.93 299 eP P 12 31 18.2 +2.5
NIE Niedzica 40.93 299 P P 12 31 16.7 +1.1
comp=Z,24nm,0.8s
SURR Surduc 40.96 293 ⇓P P 12 31 17.1 +1.2
OJC Ojcow 41.00 300 eP P 12 31 17.3 +1.1
OJC Ojcow 41.00 300 P P 12 31 16.6 +0.4
OJC Ojcow 41.00 300 P P 12 31 16.6 +0.4
OJC pmax pmax
comp=Z,47nm,0.9s
OJC Ojcow 41.00 300 P P 12 31 17.0 +0.8
comp=Z,60nm,1.1s
HERR Herculane 41.08 292 ⇑P P 12 31 17.3 +0.4
BZS Buzias 41.34 293 ⇑P P 12 31 20.2 +1.2
BZS Buzias 41.34 293 P P 12 31 20.2 +1.2
JOW Kunigami 41.34 99 LR LR 12 49 45.2
comp=Z,286nm,20.4s,baz=130,slow=38
LANS Liptovska Anna 41.53 299 eP P 12 31 22.3 +1.7
LANS pmax pmax
comp=Z,4.0nm,0.9s
LANS Liptovska Anna 41.53 299 eP P 12 31 22.3 +1.7
MDVR Moldovita 41.58 292 ⇑P P 12 31 22.2 +1.1
SPITS Spitsbergen Ar 41.61 344 LR LR 12 52 57.4
comp=Z,274nm,18.5s,baz=80,slow=42
PSZ Piszkesteto 41.66 297 P P 12 31 23.1 +1.5
PSZ Piszkesteto 41.66 297 eP P 12 31 23.6 +1.9
PSZ Piszkesteto 41.66 297 P P 12 31 23.2 +1.5
PSZ pmax pmax
comp=Z,13nm,1.0s
GKP Gorka Klasztor 41.69 306 eP P 12 31 23.2 +1.5
YSS Yuzh-Sakhalins 41.83 64 eP P 12 31 28.1 +5.1
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS MLR MLR
comp=Z,300nm,16.0s
BOVS Bovan 42.02 290 ⇑P P 12 31 25.1 +0.5
HFS Hagfors 42.11 316 P P 12 31 24.9 -0.2
comp=Z,3.3nm,0.6s,baz=92,slow=7.7,SNR=22
HFS LR LR 12 49 44.7
comp=Z,446nm,18.5s,baz=80,slow=37
comp=Z,3.3nm,0.6s
OKC Ostrava-Krasne 42.13 300 AMS AMS 12 49 30.0
comp=Z,600nm,12.2s
VYHS Vyhne 42.13 298 eP P 12 31 26.9 +1.4
VYHS pmax pmax
comp=Z,14nm,1.2s
VYHS Vyhne 42.13 298 eP P 12 31 26.9 +1.4
VYHS ePP PP 12 32 59.9 -2.9
APE Apeiranthos 42.24 280 eP P 12 31 26.5 0.0
APE Apeiranthos 42.24 280 ⇑P P 12 31 26.9 +0.3
MAUC Maruska 42.48 300 eP P 12 31 30.0 +1.7
MORC Moravsky Berou 42.52 301 P P 12 31 29.4 +0.7
MORC IAmb IAmb 12 31 31.0
comp=Z,19nm,0.9s
MORC Moravsky Berou 42.52 301 eP P 12 31 29.7 +1.0
MORC Moravsky Berou 42.52 301 ⇑P P 12 31 29.6 +0.9
MORC Moravsky Berou 42.52 301 P P 12 31 29.4 +0.7
MORC pmax pmax
comp=Z,19nm,0.9s
KULM Kulim 42.69 151 P P 12 31 29.4 -0.9
SRO Srobarova 42.69 298 eP P 12 31 32.5 +2.5
SRO pmax pmax
comp=Z,24nm,1.0s
SRO Srobarova 42.69 298 eP P 12 31 32.5 +2.5
JAVC Velka Javorina 42.74 299 eP P 12 31 32.7 +2.2
ASAJ Asahikawa 42.77 68 LR LR 12 50 25.1
comp=Z,225nm,18.7s,baz=312,slow=38
NC405 NORSAR Array S 42.89 318 P P 12 31 31.7 +0.2
NC405 IAmb IAmb 12 31 33.3
comp=Z,38nm,1.1s
KRLC Kraliky 42.89 301 eP P 12 31 33.0 +1.3
KRLC Kraliky 42.89 301 eP P 12 31 33.0 +1.3
KSP Ksiaz 42.95 302 eP P 12 31 33.0 +0.9
KSP Ksiaz 42.95 302 P P 12 31 33.0 +0.9
comp=Z,27nm,0.9s
MA2 Magadan 42.99 44 LR LR 12 49 09.1
comp=Z,121nm,18.0s,baz=115,slow=36
SMOL Smolenice 43.01 299 eP P 12 31 34.9 +2.3
SMOL pmax pmax
comp=Z,14nm,1.2s
NC303 NORSAR Array S 43.04 318 P P 12 31 33.2 +0.6
NC303 IAmb IAmb 12 31 34.5
comp=Z,31nm,1.1s
NC602 NORSAR Array S 43.05 317 P P 12 31 32.5 -0.2
MORH Mrgy, Hungar 43.05 295 ⇑P P 12 31 33.9 +0.9
MORH Mrgy, Hungar 43.05 295 P P 12 31 34.0 +1.0
comp=Z,8.8nm,1.1s
OSTC Ostas 43.08 302 AMS AMS 12 50 00.0
comp=Z,500nm,15.0s
DPC Dobruska-Polom 43.08 302 eP P 12 31 35.0 +1.7
DPC AMS AMS 12 49 40.0
comp=Z,400nm,12.3s
DPC Dobruska-Polom 43.08 302 eP P 12 31 35.0 +1.7
DPC MLR MLR
comp=Z,400nm,12.3s
DPC Dobruska-Polom 43.08 302 P P 12 31 34.1 +0.8
comp=Z,27nm,1.0s
MJAR Matsushiro Arr 43.09 80 LR LR 12 50 09.3
comp=Z,173nm,18.5s,baz=309,slow=37
NB2 NORSAR Subarra 43.15 318 P P 12 31 33.7 +0.1
comp=Z,10nm,0.7s,baz=80,slow=8.6
NOA NORSAR Array B 43.15 318 P P 12 31 33.9 +0.3
comp=Z,5.8nm,0.6s,baz=80,slow=8.1,SNR=30
NOA LR LR 12 49 57.4
comp=Z,256nm,20.2s,baz=95,slow=37
comp=Z,5.8nm,0.6s
MODS Modra-Piesok 43.15 299 eP P 12 31 35.6 +1.8
MODS pmax pmax
comp=Z,33nm,1.1s
MODS Modra-Piesok 43.15 299 eP P 12 31 35.6 +1.8
CHVC Chvalec 43.17 302 eP P 12 31 35.4 +1.5
CHVC AMS AMS 12 50 00.0
comp=Z,500nm,13.1s
CHVC Chvalec 43.17 302 eP P 12 31 35.4 +1.5
CHVC MLR MLR
comp=Z,500nm,13.1s
UPC Upice 43.22 302 eP P 12 31 35.7 +1.4
UPC AMS AMS 12 50 00.0
comp=Z,500nm,13.5s
UPC Upice 43.22 302 eP P 12 31 35.7 +1.4
UPC MLR MLR
comp=Z,500nm,13.5s
VRAC Vranov 43.26 300 LR LR 12 50 44.8
comp=Z,237nm,18.7s,baz=66,slow=38
VRAC Vranov 43.26 300 eP P 12 31 35.8 +1.2
NC204 NORSAR Array S 43.31 318 P P 12 31 35.2 +0.2
NC204 IAmb IAmb 12 31 46.8
comp=Z,60nm,1.7s
MPLH Magyarpolny 43.41 297 P P 12 31 37.5 +1.6
comp=Z,60nm,1.2s
KRUC Moravsky 43.47 300 eP P 12 31 37.7 +1.4
RUE Ruedersdorf 43.93 305 eP P 12 31 41.1 +1.3
TREC Trest 43.95 301 eP P 12 31 41.0 +0.8
TREC Trest 43.95 301 eP P 12 31 41.0 +0.8
RONA Rosalia, Austr 44.01 298 epP **P 12 31 42.2 +1.5**
comp=Z,10nm,0.8s,SNR=8.6
PVCC Panska Ves 44.09 302 eP P 12 31 42.8 +1.5
PVCC Panska Ves 44.09 302 eP P 12 31 42.8 +1.5
GOPC GO Pecny, Ondr 44.16 302 eP P 12 31 43.6 +1.7
GOPC AMS AMS 12 50 20.0
comp=Z,400nm,11.5s
GOPC GO Pecny, Ondr 44.16 302 eP P 12 31 43.6 +1.7
GOPC MLR MLR
comp=Z,400nm,11.5s
CONA Conrad Observa 44.20 299 epP **P 12 31 43.7 +1.4**
comp=Z,16nm,1.1s,SNR=10
KONO Kongsberg 44.23 316 ceP **P 12 31 44.6 +2.4**
KONO pmax pmax
comp=Z,15nm,1.3s
PRU Pruhonice 44.28 302 eP P 12 31 44.3 +1.4
PRU AMS AMS 12 50 30.0
comp=Z,500nm,9.9s
PRU Pruhonice 44.28 302 eP P 12 31 44.3 +1.4
PRU MLR MLR
comp=Z,500nm,9.9s
BRG Berggiesshubel 44.35 303 ⇑*i*P **P 12 31 44.4 +1.1**
BRG Amp 12 31 45.6
comp=Z,9.2nm,0.8s
BRG Berggiesshubel 44.35 303 P P 12 31 51.0 +7.7
BRG Amp 12 31 51.9
comp=Z,8.0nm,1.0s
BRG Berggiesshubel 44.35 303 ⇑*i*P **P 12 31 44.4 +1.1**
BRG 12 31 51.0

BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG MLR MLR
comp=Z,659nm,16.4s
BRG MLR MLR
comp=E,381nm,16.3s
BRG MLR MLR
comp=N,195nm,15.4s
BRG Berggiesshubel 44.35 303 eP **P 12 31 44.5 +1.2**
comp=N,9.2nm,0.8s,baz=68,slow=7.8
RICC Richard 44.36 303 eP **P 12 31 45.5 +2.0**
PSI Prapat 44.47 155 LR LR 12 53 42.6
comp=N,74nm,18.1s,baz=14,slow=41
ARSA Arzberg 44.66 298 eP **P 12 31 46.0 +0.1**
comp=N,6.5nm,1.2s
ZVC Zvikov 44.69 301 eP **P 12 31 47.5 +1.4**
HSKC Hora Svate Kat 44.74 303 eP **P 12 31 48.0 +1.5**
HSKC AMS AMS 12 51 00.0
comp=N,700nm,15.0s
CLL Collm 44.76 304 P **P 12 31 46.9 +0.3**
CLL Collm 44.76 304 ⇑*i*P **P 12 31 47.4 +0.8**
CLL pmax pmax
comp=Z,39nm,0.8s
CLL MLR MLR
comp=Z,700nm,17.1s
CLL Collm 44.76 304 eP **P 12 31 47.6 +1.0**
comp=Z,34nm,0.8s,baz=68,slow=7.8
CLL Collm 44.76 304 ⇑*i*P **P 12 31 47.4 +0.8**
comp=Z,39nm,0.8s
CLL *i* x x 12 31 54.3
CLL *i* x x 12 31 56.8
CLL AMS AMS 12 47 00.0
comp=N,600nm,20.6s
CLL AMS AMS 12 47 00.0
comp=E,200nm,20.3s
CLL Collm 44.76 304 P **P 12 31 47.4 +0.8**
comp=E,48nm,0.9s
CKRC Cesky Krumlov 44.84 300 eP **P 12 31 49.1 +1.8**
CKRC AMS AMS 12 51 10.0
comp=E,400nm,11.3s
CKRC Cesky Krumlov 44.84 300 eP **P 12 31 49.1 +1.8**
CKRC MLR MLR
comp=Z,400nm,11.3s
KHC Kasperske Hory 45.17 301 P **P 12 31 50.5 +0.5**
KHC Kasperske Hory 45.17 301 eP **P 12 31 51.4 +1.4**
KHC AMS AMS 12 51 00.0
comp=Z,400nm,10.2s
KHC Kasperske Hory 45.17 301 ceP **P 12 31 51.5 +1.4**
KHC pmax pmax
comp=Z,21nm,0.8s
KHC Kasperske Hory 45.17 301 P **P 12 31 50.8 +0.8**
comp=Z,14nm,1.0s
GORT1 Trebel 45.19 307 eP **P 12 31 51.7 +1.7**
comp=Z,50nm,1.1s,baz=68,slow=7.8
SOKA Soboth 45.19 297 eP **P 12 31 50.8 +0.6**
comp=Z,11nm,1.0s,SNR=5.8
GEC2 GERESS Array S 45.20 301 eP **P 12 31 51.4 +1.0**
comp=Z,8.3nm,0.8s,baz=68,slow=7.8
GERES GERESS Array B 45.20 301 P **P 12 31 51.3 +1.0**
comp=Z,3.9nm,0.8s,baz=77,slow=7.1,SNR=20
comp=Z,3.9nm,0.8s
MOA Molln 45.22 299 eP **P 12 31 51.4 +1.0**
comp=Z,10.0nm,1.3s
MUD Monsted U'grnd 45.29 312 *i* P **P 12 31 50.6 -0.1**
MUD IAmb IAmb 12 31 52.8
comp=Z,30nm,1.0s
TANN Tannenbergstha 45.39 303 eP **P 12 31 53.2 +1.4**
baz=68,slow=7.8
BSEG Bad Segeberg 45.45 308 eP **P 12 31 53.8 +1.8**
comp=Z,23nm,0.9s,baz=68,slow=7.8
FLTG Flechtingen 45.45 306 eP **P 12 31 52.7 +0.6**
comp=Z,17nm,0.9s,baz=68,slow=7.8
GSI Gunungsitoli 45.50 157 P **P 12 31 52.4 -0.5**
PLN Plauen 45.55 303 eP **P 12 31 54.3 +1.3**
comp=Z,12nm,1.0s,baz=68,slow=7.8
WET Wettzell 45.60 301 eP **P 12 31 54.9 +1.5**
comp=Z,14nm,0.9s,baz=68,slow=7.8
BIOA Bad Ischl, Aus 45.68 299 epP **P 12 31 55.0 +1.0**
comp=Z,10nm,1.7s
MOX Moxa 45.81 304 eP **P 12 31 56.2 +1.2**
comp=Z,20nm,0.9s,baz=68,slow=7.8
MOX eL L 12 51 17.5
comp=Z,234nm,21.3s
NRDL Niedersach Rie 46.04 306 eP **P 12 31 58.5 +1.8**
comp=Z,32nm,0.9s,baz=68,slow=7.8
MYKA Terra Mystica 46.09 298 eP **P 12 31 57.7 +0.3**
comp=Z,1.3nm,0.4s
KBA Koelnbreinsper 46.10 298 eP **P 12 31 58.2 +0.7**
comp=Z,5.2nm,0.7s
RJOB Jochberg 46.18 299 eP **P 12 31 59.7 +1.7**
comp=Z,12nm,1.0s,baz=68,slow=7.8
LESA Schwarzleotal 46.38 299 epP **P 12 32 00.7 +1.0**
comp=Z,25nm,1.6s
GRA1 Grafenberg Arr 46.40 302 P **P 12 32 01.1 +1.5**
GRF Grafenberg Arr 46.40 302 P **P 12 32 01.1 +1.5**
GRF pmax pmax
comp=Z,30nm,0.8s
GRF Grafenberg Arr 46.40 302 eP **P 12 32 01.6 +1.9**
comp=Z,32nm,0.9s,baz=68,slow=7.8
GRF eL L 12 52 29.2
comp=Z,344nm,19.0s
GRFO Grafenberg 46.40 302 P **P 12 32 00.6 +0.9**
GRFO Grafenberg 46.40 302 P **P 12 32 00.6 +0.9**
GRFO pmax pmax
comp=Z,30nm,0.9s
GTTG Gottingen 46.46 305 eP **P 12 32 01.7 +1.6**
comp=Z,48nm,0.9s,baz=68,slow=7.8
ATD Arta Tunnel 46.72 237 LR LR 12 54 55.0
comp=Z,5.9nm,20.4s,baz=32,slow=40
ABTA Abfaltersbach 46.75 298 eP **P 12 32 02.4 -0.2**
comp=Z,2.7nm,1.0s
WTTA Wattenberg 47.09 299 epP **P 12 32 06.3 +1.0**
comp=Z,38nm,0.9s,SNR=13
WATA Walderalm 47.10 299 *i* P **P 12 32 06.1 +0.8**
comp=Z,25nm,0.9s,SNR=13
NOR Nord 47.28 349 *i* P **P 12 32 04.5 -1.6**
NOR IAmb IAmb 12 32 08.3
comp=Z,7.2nm,1.0s
TIP Timpagrande 47.31 287 P **P 12 32 08.2 +1.2**
comp=Z,32nm,1.2s
SQTA Sankt Quirin 47.38 299 *i* P **P 12 32 08.2 +0.7**
comp=Z,27nm,0.7s,SNR=9.7
MOTA Moosalm 47.39 300 eP **P 12 32 08.3 +0.7**
comp=Z,26nm,0.9s
IBBN Ibbenburen 47.46 307 eP **P 12 32 08.9 +1.1**
comp=Z,25nm,0.7s,baz=68,slow=7.8
KASTN Kahler Asten 47.49 305 eP **P 12 32 09.3 +1.2**
comp=Z,9.2nm,0.8s,baz=68,slow=7.8
RETA Reutte 47.54 300 epP **P 12 32 09.8 +1.1**
comp=Z,13nm,1.0s,SNR=6.2
CTI Castel Tesino 47.59 298 P **P 12 32 09.6 +0.5**
CTI IAmb IAmb 12 32 10.0
comp=Z,24nm,1.6s
CTI Castel Tesino 47.59 298 P **P 12 32 09.6 +0.5**
CTI pmax pmax
comp=Z,24nm,1.6s
BILL Bilibino 47.66 30 *i* P **P 12 32 11.4 +2.2**
BILL pmax pmax
comp=Z,5.0nm,1.0s
FETA Feichten 47.76 299 eP **P 12 32 11.0 +0.5**
comp=Z,16nm,0.8s,SNR=7.7
TNS Taunus Mts 47.85 304 eP **P 12 32 12.3 +1.3**
comp=Z,12nm,0.8s,baz=68,slow=7.8
UBR Ueberruh 47.87 300 eP **P 12 32 12.5 +1.3**
comp=Z,30nm,1.0s,baz=68,slow=7.8
FDMO Fiordimonte 47.98 293 P **P 12 32 12.2 +0.2**
BUG Bochum--Univer 48.06 306 eP **P 12 32 13.9 +1.3**
comp=Z,22nm,1.1s,baz=68,slow=7.8
DAVA Damuels 48.17 300 eP **P 12 32 14.3 +0.6**
comp=Z,10.0nm,1.0s,SNR=5.6
FUORN Ofenpass-Fuorn 48.22 299 P **P 12 32 14.2 0.0**
FUORN IAmb IAmb 12 32 15.8
comp=Z,16nm,1.2s
DAVOX Davos/Dischmat 48.39 299 LR LR 12 53 17.0
comp=Z,235nm,18.9s,baz=82,slow=37
JMIC Jan Mayen 48.52 334 LR LR 12 53 55.0
comp=Z,112nm,19.0s,baz=38,slow=38
PETK Petropavlovsk- 48.60 51 LR LR 12 52 37.2
comp=Z,97nm,18.2s,baz=295,slow=36
BFO Black Forest 48.69 302 P **P 12 32 17.8 +0.3**
BFO IAmb IAmb 12 32 19.2
comp=Z,11nm,0.9s
BFO Black Forest 48.69 302 P **P 12 32 17.8 +0.3**
BFO pmax pmax
comp=Z,11nm,0.9s

BFO Black Forest 48.69 302 eP **P 12 32 18.3 +0.9**
comp=Z,11nm,0.9s,baz=68,slow=7.8
TUE Stuetta 48.85 299 P **P 12 32 18.9 -0.1**
TUE IAmb IAmb 12 32 26.6
comp=Z,11nm,0.8s
TUE Stuetta 48.85 299 P **P 12 32 18.9 -0.1**
comp=Z,67nm,0.8s
MEM Membach 49.12 305 *d*P **P 12 32 21.4 +0.7**
comp=Z,7.9nm,1.0s
DAG Danmarks Havn 49.22 343 *i* P **P 12 32 20.0 -1.1**
DAG IAmb IAmb 12 32 31.2
comp=Z,31nm,1.6s
BHOU Houvegnez 49.23 305 *d*P **P 12 32 22.5 +0.9**
comp=Z,10nm,1.0s
BSTI Sart Tilman 49.39 305 *d*P **P 12 32 24.4 +1.6**
comp=Z,3.1nm,1.3s
WLF Walferdange 49.43 304 *d*P **P 12 32 24.5 +1.4**
ECH Echery 49.44 302 P **P 12 32 23.6 +0.3**
ECH IAmb IAmb 12 32 24.8
comp=Z,13nm,0.9s
ECH Echery 49.44 302 P **P 12 32 23.6 +0.3**
ECH pmax pmax
comp=Z,13nm,0.9s
BCLA Clavier 49.61 305 *d*P **P 12 32 25.9 +1.4**
comp=Z,9.2nm,1.0s
MSSA Maissana 49.70 297 P **P 12 32 25.7 +0.4**
BGES Gesves 49.75 305 *d*P **P 12 32 26.5 +1.0**
comp=Z,9.0nm,0.9s
RCHB Rochefort 49.77 305 *d*P **P 12 32 26.6 +1.0**
comp=Z,8.3nm,1.0s
RCHB *d*PcP **PcP 12 33 48.0 +1.6**
BMRD Maredsous 49.97 305 *d*P **P 12 32 28.5 +1.3**
comp=Z,9.9nm,1.2s
UCC Uccle 50.00 306 *d*P **P 12 32 28.1 +0.7**
DOU Dourbes 50.16 305 *d*P **P 12 32 29.2 +0.5**
comp=Z,8.5nm,1.1s
SENIN Lac Senin/Sane 50.17 300 P **P 12 32 29.1 +0.1**
BNI Bardonecchia 51.16 299 P **P 12 32 36.7 +0.3**
BNI Bardonecchia 51.16 299 P **P 12 32 36.7 +0.3**
BNI pmax pmax
comp=Z,41nm,1.2s
FURI Furi 51.31 239 LR LR 12 57 20.3
comp=Z,222nm,18.9s,baz=42,slow=40
EKA Eskdalemuir Ar 52.16 314 P **P 12 32 43.9 +0.4**
comp=Z,7.1nm,0.8s,baz=61,slow=8.2,SNR=10
comp=Z,7.1nm,0.8s
SCO Scoresbysund 52.81 336 *i* P **P 12 32 48.0 -0.1**
SCO IAmb IAmb 12 32 59.6
comp=Z,36nm,2.1s
DAV Davao City (W) 53.57 121 LR LR 12 58 48.0
comp=Z,230nm,18.3s,baz=338,slow=40
KEST Kesra 54.14 287 P **P 12 32 58.4 -0.1**
comp=Z,4.5nm,0.7s,baz=42,slow=7.8,SNR=2.5
KEST LR LR 12 58 56.9
comp=Z,107nm,19.8s,baz=318,slow=39
comp=Z,4.5nm,0.7s
NEEM North Greenlan 54.66 349 *i* P **P 12 33 01.3 -0.7**
NEEM IAmb IAmb 12 33 16.2
comp=Z,113nm,2.6s
BORG Borgarnes 55.57 330 LR LR 12 56 01.9
comp=Z,147nm,18.1s,baz=29,slow=35
SUMG Summit 55.87 342 P **P 12 33 11.8 +0.9**
SUMG IAmb IAmb 12 33 23.9
comp=Z,14nm,1.1s
SUMG Summit 55.87 342 P **P 12 33 11.8 +0.9**
SUMG pmax pmax
comp=Z,14nm,1.1s
SUMG Summit 55.87 342 *i* P **P 12 33 11.0 +0.1**
SUMG IAmb IAmb 12 33 23.6
comp=Z,11nm,1.0s
SOEG Soedalen 56.86 336 *i* P **P 12 33 17.9 +0.4**
SOEG IAmb IAmb 12 33 19.2
comp=Z,7.0nm,0.8s
B20K Meade River 57.98 20 P **P 12 33 26.3 +0.9**
B20K IAmb IAmb 12 33 35.7
comp=Z,18nm,0.8s
ICESG Greenland Ices 58.55 339 *i* P **P 12 33 30.0 +0.2**
ICESG IAmb IAmb 12 33 38.1
comp=Z,21nm,0.9s
B22K Teshekpuk Lake 58.63 19 P **P 12 33 29.9 -0.1**
D19K Kuna River 58.79 22 P **P 12 33 31.9 +0.7**
D19K IAmb IAmb 12 33 43.2
comp=Z,27nm,1.3s
C23K Itkillik River 59.65 18 P **P 12 33 37.8 +0.7**
C23K IAmb IAmb 12 33 52.2
comp=Z,9.2nm,0.8s
E19K Redstone River 59.76 22 P **P 12 33 38.5 +0.7**
E19K IAmb IAmb 12 33 48.0
comp=Z,10.0nm,0.8s
D22K Ayikyak River 59.89 20 P **P 12 33 38.9 +0.2**
D22K IAmb IAmb 12 33 59.9
comp=Z,15nm,0.9s
E21K Killik River 59.90 21 P **P 12 33 39.2 +0.5**
E21K IAmb IAmb 12 33 51.0
comp=Z,14nm,1.2s
KMBO Kilima Mbogo 60.15 233 LR LR 13 03 22.3
comp=Z,123nm,18.9s,baz=90,slow=40
KMBO Kilima Mbogo 60.15 233 *i* P **P 12 33 43.2 +1.7**
KMBO pmax pmax
comp=Z,1.0nm,0.7s
C24K Franklin Bluff 60.17 18 P **P 12 33 40.6 +0.1**
C24K IAmb IAmb 12 33 55.7
comp=Z,15nm,0.9s
D23K Nanushuk River 60.30 19 P **P 12 33 41.8 +0.2**
D23K IAmb IAmb 12 33 56.6
comp=Z,11nm,1.0s
E22K Anaktuvuk Pass 60.66 20 P **P 12 33 44.1 +0.1**
E22K IAmb IAmb 12 33 54.0
comp=Z,7.3nm,0.7s
ESBB Sonseca Array 60.68 298 P **P 12 33 44.7 +0.1**
ESBB IAmb IAmb 12 33 45.9
comp=Z,13nm,0.9s
ESDC Sonseca Array 60.68 298 P **P 12 33 45.1 +0.5**
ESDC IAmb IAmb 12 33 45.9
comp=Z,10nm,1.1s
ESDC Sonseca Array 60.68 298 P **P 12 33 44.8 +0.2**
comp=Z,12nm,0.9s,baz=50,slow=7.1,SNR=52
ESDC LR LR 13 01 51.1
comp=Z,178nm,18.3s,baz=40,slow=38
comp=Z,12nm,0.9s
TOLK Toolik Lake Re 60.81 19 P **P 12 33 44.7 -0.4**
TOLK IAmb IAmb 12 33 59.7
comp=Z,7.3nm,0.8s
F21K Alatna River 60.93 21 P **P 12 33 46.1 +0.3**
F21K IAmb IAmb 12 33 56.5
comp=Z,7.5nm,0.8s
D25K Kavik River 60.99 18 P **P 12 33 47.1 +0.9**
D25K IAmb IAmb 12 33 55.7
comp=Z,35nm,1.9s
PAB San Pablo 61.00 298 P **P 12 33 47.1 +0.3**
PAB IAmb IAmb 12 33 48.2
comp=Z,11nm,1.0s
PAB San Pablo 61.00 298 P **P 12 33 47.1 +0.3**
PAB pmax pmax
comp=Z,11nm,1.0s
H18K Honhosa River 61.08 25 P **P 12 33 47.5 +0.6**
PBRG Braganca 61.17 301 eP **P 12 33 46.2 -1.7**
PBRG A A 12 34 31.5
comp=Z,39nm,1.8s
E23K Chandalar 61.25 19 P **P 12 33 48.4 +0.3**
C27K Jago River 61.30 16 P **P 12 33 49.5 +1.3**
C27K IAmb IAmb 12 34 01.3
comp=Z,16nm,1.3s
E24K Your Creek 61.51 19 P **P 12 33 50.4 +0.6**
E24K IAmb IAmb 12 34 04.6
comp=Z,7.6nm,0.8s
GUMO Guam 61.71 99 LR LR 12 59 51.3
comp=Z,26nm,20.1s,baz=346,slow=35
MVO Moncorvo 61.72 301 eP **P 12 33 52.5 +0.9**
MVO A A 12 34 04.8
comp=Z,42nm,1.6s
IMAR Indian Mountai 61.79 22 P **P 12 33 51.8 +0.2**
PGAV Gavieira, Arco 62.00 302 eP **P 12 33 54.9 +1.3**
PVRL Vila Real 62.07 301 eP **P 12 33 54.7 +0.7**
PVRL A A 12 34 40.3
comp=Z,53nm,1.9s
F24K Squaw Lake 62.09 19 P **P 12 33 53.9 +0.2**
A36M Sachs Harbour 62.11 9 P **P 12 33 53.6 -0.1**
A36M IAmb IAmb 12 34 23.1
comp=Z,10nm,0.9s
D27M Malcolm River 62.16 16 P **P 12 33 54.6 +0.4**
DY2G Dye2 62.18 339 *i* P **P 12 33 54.0 -0.6**
DY2G IAmb IAmb 12 33 56.2
comp=Z,41nm,0.2s
H21K Melozitna Rive 62.29 22 P **P 12 33 55.6 +0.6**
MTE Manteigas 62.48 301 eP **P 12 33 58.0 +1.2**

MTE				A	A	12 34 17.2	
	comp=Z,53nm,2.0s						
PVIS	**Viseu**	**62.51**	**301**	*eP*	**P**	**12 33 57.8**	**+0.9**
PCBR	**Castelo Branco**	**62.77**	**300**	*eP*	**P**	**12 33 59.4**	**+0.8**
PCBR				A	A	12 34 01.3	
	comp=Z,46nm,1.8s						
PMRV	**Marv??o**	**62.97**	**300**	*eP*	**P**	**12 34 00.8**	**+0.8**
PMRV				A	A	12 34 32.5	
	comp=Z,41nm,2.0s						
E28M	**Babbage River**	**62.98**	**16**	P	**P**	**12 34 00.1**	**+0.5**
E28M				IAmb	IAmb	12 34 48.2	
	comp=Z,22nm,1.6s						
H23K	**Yukon River**	**63.02**	**21**	P	**P**	**12 34 00.3**	**+0.4**
H23K				IAmb	IAmb	12 34 22.6	
	comp=Z,14nm,1.1s						
J20K	**Nowinta River**	**63.03**	**24**	P	**P**	**12 34 00.2**	**+0.2**
J20K				IAmb	IAmb	12 34 14.8	
	comp=Z,7.8nm,0.8s						
COI	**Coimbra**	**63.13**	**301**	*eP*	**P**	**12 34 03.0**	**+2.0**
PCAS	**Casmilo, Conde**	**63.27**	**301**	*eP*	**P**	**12 34 03.1**	**+1.1**
PESTR	**Estremoz**	**63.43**	**299**	*eP*	**P**	**12 34 03.9**	**+0.9**
H24K	**Noodor Dome**	**63.43**	**20**	P	**P**	**12 34 02.9**	**+0.3**
PBAR	**Barrancos**	**63.50**	**298**	*eP*	**P**	**12 34 04.4**	**+0.9**
PBAR				A	A	12 34 16.1	
	comp=Z,33nm,1.8s						
PMTG	**Montargil**	**63.70**	**300**	*eP*	**P**	**12 34 05.4**	**+0.6**
PSBE	**So Bento**	**63.78**	**300**	*eP*	**P**	**12 34 06.8**	**+1.4**
PSBE				A	A	12 34 22.1	
	comp=Z,107nm,1.8s						
EVO	**Evora**	**63.89**	**299**	*eP*	**P**	**12 34 06.7**	**+0.6**
PBEJ	**Beja**	**64.11**	**299**	*eP*	**P**	**12 34 08.9**	**+1.4**
CAST	**Castle Rocks**	**64.21**	**24**	P	**P**	**12 34 08.0**	**+0.3**
CAST				IAmb	IAmb	12 34 20.4	
	comp=Z,10nm,1.0s						
INK	**Inuvik**	**64.33**	**14**	P	**P**	**12 34 08.1**	**-0.3**
INK				IAmb	IAmb	12 34 22.0	
	comp=Z,8.9nm,0.9s						
INK	**Inuvik**	**64.33**	**14**	P	**P**	**12 34 08.1**	**-0.3**
INK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
BWN	**Browne**	**64.34**	**22**	P	**P**	**12 34 09.1**	**+0.5**
PVAQ	**Vaqueiros**	**64.39**	**298**	*eP*	**P**	**12 34 09.8**	**+0.4**
MESJ	**Messejana**	**64.44**	**299**	*eP*	**P**	**12 34 10.7**	**+1.0**
IL31		**64.54**	**21**	P	**P**	**12 34 09.4**	**-0.4**
ILAR	**Eielson Array**	**64.54**	**21**	P	**P**	**12 34 09.9**	**0.0**
ILAR	**Eielson Array**	**64.54**	**21**	P	**P**	**12 34 09.6**	**-0.3**
	comp=Z,5.1nm,0.7s,baz=317,slow=5.2,SNR=57						
ILAR				LR	LR	13 06 30.9	
	comp=Z,79nm,19.0s,baz=302,slow=40						
	comp=Z,5.1nm,0.7s						
ILAR	**Eielson Array**	**64.54**	**21**	P	**P**	**12 34 09.9**	**0.0**
J25K	**Salcha River,**	**65.05**	**20**	P	**P**	**12 34 13.1**	**-0.2**
J25K				IAmb	IAmb	12 34 26.4	
	comp=Z,5.5nm,0.7s						
F31M	**Tsiigehtchic**	**65.06**	**14**	P	**P**	**12 34 12.9**	**-0.4**
F31M				IAmb	IAmb	12 34 26.0	
	comp=Z,21nm,1.2s						
MDT	**Midelt**	**65.21**	**292**	LR	LR	13 04 24.7	
	comp=Z,62nm,19.4s,baz=350,slow=38						
G31M	**Satah River**	**65.44**	**15**	P	**P**	**12 34 15.6**	**0.0**
G31M				IAmb	IAmb	12 34 31.4	
	comp=Z,9.5nm,0.8s						
H31M	**Peel River**	**66.42**	**15**	P	**P**	**12 34 21.9**	**-0.2**
H31M				IAmb	IAmb	12 34 34.5	
	comp=Z,7.7nm,0.9s						
I30M	**Mount Dempster**	**66.54**	**16**	P	**P**	**12 34 23.1**	**+0.1**
I30M				IAmb	IAmb	12 34 38.6	
	comp=Z,11nm,0.8s						
SCM	**Sheep Creek Mo**	**66.81**	**23**	P	**P**	**12 34 24.3**	**-0.4**
SCM	**Sheep Creek Mo**	**66.81**	**23**	P	**P**	**12 34 24.3**	**-0.4**
SCM				pmax	pmax		
	comp=Z,238nm,2.0s						
L27K	**Beaver Creek,**	**67.21**	**20**	P	**P**	**12 34 27.3**	**+0.1**
L27K				IAmb	IAmb	12 34 39.9	
	comp=Z,12nm,0.9s						
BCAR	**Beaver Creek A**	**67.22**	**20**	P	**P**	**12 34 27.8**	**+0.5**
M29M	**Somme Creek**	**68.54**	**19**	P	**P**	**12 34 35.9**	**+0.2**
M29M				IAmb	IAmb	12 34 48.2	
	comp=Z,9.6nm,0.9s						
FRB	**Frobisher Bay**	**69.33**	**346**	LR	LR	13 10 01.6	
	comp=Z,241nm,18.1s,baz=56,slow=40						
YKA	**Yellowknife Ar**	**72.40**	**8**	P	**P**	**12 34 58.9**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=346,slow=5.8,SNR=12						
	comp=Z,1.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.62**	**272**	P	**P**	**12 35 06.4**	**-0.6**
TORD				IAmb	IAmb	12 35 07.3	
	comp=Z,13nm,0.7s						
TORD	**Torodi Ar. Bea**	**73.62**	**272**	P	**P**	**12 35 06.5**	**-0.6**
	comp=Z,20nm,0.6s,baz=33,slow=6.1,SNR=133						
	comp=Z,20nm,0.6s						
KNRA	**Kununurra**	**73.88**	**133**	P	**P**	**12 35 07.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**74.33**	**136**	P	**P**	**12 35 10.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**74.33**	**136**	LR	LR	13 11 32.7	
	comp=Z,50nm,18.2s,baz=330,slow=39						
SCHQ	**Schefferville**	**77.26**	**342**	P	**P**	**12 35 25.6**	**-1.7**
	comp=Z,4.9nm,0.8s,baz=25,slow=7.7,SNR=3.8						
	comp=Z,4.9nm,0.8s						
WB0	**Warramunga Arr**	**80.26**	**130**	P	**P**	**12 35 43.0**	**-1.1**
WRA	**Warramunga Arr**	**80.37**	**130**	P	**P**	**12 35 43.4**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=334,slow=5.3,SNR=14						
WRA				LR	LR	13 16 37.1	
	comp=Z,32nm,18.7s,baz=50,slow=40						
	comp=Z,1.7nm,0.7s						
WRA	**Warramunga Arr**	**80.37**	**130**	P	**P**	**12 35 43.7**	**-1.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,2.0s						
WB2	**Warramunga Arr**	**80.38**	**130**	P	**P**	**12 35 43.1**	**-1.7**
WR0	**Warramunga Arr**	**80.50**	**130**	P	**P**	**12 35 44.2**	**-1.3**
WR0				IAmb	IAmb	12 35 54.5	
	comp=Z,23nm,1.7s						
DBIC	**Dimbokro**	**82.73**	**272**	P	**P**	**12 35 56.7**	**-0.8**
	comp=Z,12nm,0.6s,baz=30,slow=5.8,SNR=20						
DBIC				LR	LR	13 18 14.1	
	comp=Z,84nm,19.0s,baz=32,slow=40						
	comp=Z,12nm,0.6s						
AS31	**Alice Springs**	**83.17**	**133**	P	**P**	**12 35 57.8**	**-1.8**
ASAR	**Alice Springs**	**83.18**	**133**	P	**P**	**12 35 58.1**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=324,slow=5.1,SNR=29						
	comp=Z,1.6nm,0.7s						
BATG	**Bathurst New B**	**84.06**	**338**	P	**P**	**12 36 04.3**	**+0.4**
BBTS	**Babate**	**85.39**	**286**	LR	LR	13 20 28.3	
	comp=Z,73nm,19.4s,baz=324,slow=40						
ULM	**Lac du Bonnet**	**85.42**	**358**	LR	LR	13 17 27.9	
	comp=Z,111nm,18.1s,baz=2.0,slow=38						
NEW	**Newport**	**86.01**	**12**	LR	LR	13 18 56.3	
	comp=Z,84nm,19.0s,baz=355,slow=39						
LBTB	**Lobatse**	**86.06**	**229**	LR	LR	13 15 44.1	
	comp=Z,53nm,20.3s,baz=22,slow=36						
TSUM	**Tsumeb**	**86.11**	**238**	LR	LR	13 19 01.6	
	comp=Z,55nm,18.5s,baz=342,slow=39						
F10A	**Beach Ranch, E**	**88.23**	**13**	P	**P**	**12 36 24.3**	**-0.3**
F10A				IAmb	IAmb	12 36 25.3	
	comp=Z,5.1nm,0.6s						
SADO	**Sadowa**	**89.28**	**346**	LR	LR	13 18 52.3	
	comp=Z,31nm,18.1s,baz=61,slow=37						
PLID	**Pearl Lake**	**89.28**	**12**	P	**P**	**12 36 28.6**	**-1.2**
YBH	**Yreka Blue Hor**	**91.29**	**18**	LR	LR	13 21 46.4	
	comp=Z,26nm,19.6s,baz=354,slow=38						
PDAR	**Pinedale Array**	**92.38**	**8**	P	**P**	**12 36 43.2**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=20,slow=2.9,SNR=2.5						
PDAR				LR	LR	13 21 26.0	
	comp=Z,36nm,18.2s,baz=10.0,slow=38						
	comp=Z,0.6nm,0.8s						
NVAR	**Mina Array Bea**	**95.37**	**15**	P	**P**	**12 36 58.4**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=8.6,slow=3.6,SNR=7.6						
NVAR				LR	LR	13 25 23.7	
	comp=Z,42nm,18.5s,baz=20,slow=39						
	comp=Z,0.9nm,0.7s						
TKL	**Tuckaleechee C**	**98.92**	**348**	LR	LR	13 25 49.4	
	comp=Z,140nm,18.5s,baz=18,slow=38						
DZM	**Mont Dzumac**	**101.78**	**109**	*e*LR	LR	13 10 40.6	
	comp=Z,82nm,27.5s						
TAOE	**Nuku Hiva Isla**	**129.38**	**58**	*e*LR	LR	13 23 21.7	
	comp=Z,50nm,22.1s						
PPT2	**Papeete2**	**129.68**	**74**	*e*LR	LR	13 23 37.5	
	comp=Z,70nm,23.8s						
TBI	**Tubuai**	**133.60**	**80**	*e*LR	LR	13 25 23.6	
	comp=Z,332nm,29.8s						

RSNC 25 12:26:40.8±0.0,13°N±7°×8°1W±°, h20km±6km, mb4.1, ML2.7, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.12**	**358**	P	Pb	12 26 44.3	-0.7
PRVC				S	Sb	12 26 47.8	0.0
SAIC	**Isla e San And**	**0.80**	**206**	P	Pb	12 26 54.7	-1.3
SAIC				S	Sb	12 27 06.5	+0.2
RNCC	**Cayo Roncador,**	**1.27**	**76**	P	Pn	12 27 03.7	+0.2
RNCC				S	Sn	12 27 18.6	-1.4
SERC	**Banco Serrana,**	**1.41**	**43**	P	Pn	12 27 04.0	-1.3
SERC				S	Sn	12 27 22.7	-0.5
BCIP	**Isla Barro Col**	**4.33**	**160**	P	Pn	12 27 41.0	-4.6
BCIP				S	Sn	12 28 28.1	-7.5
JTS	**Las Juntas de**	**4.59**	**230**	P	Pn	12 27 49.5	+0.3
AZU	**Azuero**	**5.54**	**169**	P	Pn	12 28 01.0	-1.2
AZU				S	Sn	12 28 58.9	-6.4

*CATAC **25** 12:28:05.0±1.2, 13°.66N×80°.06W, h20km, MB4.3, mb5.2, ML4.7*
*IDC **25** 12:28:20.9±1.4, 13°.23N×81°.03W, h0km, mb3.9/6, mbtmp3.9/7, ML3.1/1, MS3.3/12, Error ellipse: s-maj=47.3km s-min=28.6km az=41.0*
*NEIC **25** 12:28:21.9±2.8, 13°.10N±0°.02×81°.09W±0°.07, h10km±2km, mb4.2/6, Error ellipse: s-maj=12.3km s-min=3.6km az=96.0*
*RSNC **25** 12:28:22.0±0.0, 13°N±1°×8°1W±°, h2km±1km, M4.4, mb4.7, mB5.5, ML4.0, Mw(mB)4.9*

ISC 25 12:28:21.4±1.3, 13°.23N±0°.03×81°.04W±0°.04, h9km±8km, n80, σ2°13/92, mb4.1/9, MS3.1/8, 2D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.35**	**295**	P	**Pg**	**12 28 27.7**	**-0.7**
PRVC				S	**Sg**	**12 28 31.8**	**-1.3**
PRVC	**Isla de Provid**	**0.35**	**295**	*i* P	**Pg**	**12 28 27.5**	**-0.9**
PRVC				*i* S	**Sg**	**12 28 32.1**	**-1.0**
PRVC				IAML		12 28 32.9	
	comp=Z,25μm,1.0s						
SAIC	**Isla e San And**	**0.95**	**224**	P	**Pg**	**12 28 38.7**	**-1.0**
SAIC				S	**Sg**	**12 28 51.9**	**-0.2**
RNCC	**Cayo Roncador,**	**0.98**	**69**	P	**Pn**	**12 28 42.0**	**+0.6**
RNCC				S	**Sn**	**12 28 57.7**	**+2.2**
SERC	**Banco Serrana,**	**1.24**	**32**	P	**Pn**	**12 28 45.1**	**+0.1**
SERC				S	**Sn**	**12 29 03.0**	**+1.1**
BLUN	**Bluefields**	**2.94**	**246**	*i* P	**Pn**	**12 29 07.4**	**-0.9**
BLUN				IAML		12 30 01.8	
	comp=Z,670nm,1.0s						
BLUN				*i* S	**Sg**	**12 30 03.2**	**+7.4**
ESPN	**Las Esperanzas**	**3.34**	**253**	Pn	**Pn**	**12 29 13.6**	**-0.3**
TRT2	**Tortugero**	**3.74**	**225**	*i* P	Pn	12 29 13.7	-5.7
TRT2				IAML		12 29 50.9	
	comp=Z,570nm,1.0s						
TRT2				*i* S	**Sb**	**12 30 14.8**	**+1.6**
BCIP	**Isla Barro Col**	**4.20**	**164**	Pn	**Pn**	**12 29 23.9**	**-1.9**
BCIP	**Isla Barro Col**	**4.20**	**164**	P	**Pn**	**12 29 23.6**	**-2.1**
BCIP				S	**Sn**	**12 30 11.5**	**-3.5**
BCIP	**Isla Barro Col**	**4.20**	**164**	*e*P	**Pn**	**12 29 23.7**	**-2.0**
ACON	**Acoyapa**	**4.23**	**253**	Pn	**Pn**	**12 29 26.0**	**-0.1**
ACON	**Acoyapa**	**4.23**	**253**	P	**Pb**	**12 29 33.4**	**-2.6**
ACON				S	**Sn**	**12 30 20.7**	**+5.1**
UPA	**Univ. de Panam**	**4.47**	**161**	*e*P	**Pn**	**12 29 27.7**	**-1.7**
BRU2	**Volcan**	**4.69**	**200**	Pn	**Pn**	**12 29 32.8**	**+0.2**
BRU2	**Volcan**	**4.69**	**200**	*e*P	**Pn**	**12 29 33.4**	**+0.7**
JTS	**Las Juntas de**	**4.82**	**233**	Sn	**Sn**	**12 30 27.0**	**-3.2**
	comp=Z,5.8nm,0.3s,baz=254,slow=7.9,SNR=4.2						
OCHAL	**Ojochal**	**4.83**	**212**	*i* P	Pn	12 29 23.7	-11
OCHAL				IAmb	IAmb	12 29 42.3	
	comp=Z,190nm,0.7s						
OCHAL				IVmB_BB		12 29 54.9	
	comp=Z,3μm,1.0s						
OCHAL				IAML		12 29 55.0	
	comp=Z,260nm,1.0s						
OCHAL				*i* S	**Sn**	**12 30 33.3**	**+2.7**
RCPN	**Sur Rio San Ju**	**4.93**	**274**	*i* P	**Pn**	**12 29 36.7**	**+0.8**
RCPN				IAML		12 29 37.0	
	comp=Z,1.7nm,1.0s						
RCPN				IVmB_BB		12 29 37.0	
	comp=Z,28nm,1.0s						
MGAN	**Managua**	**5.20**	**259**	Pn	**Pn**	**12 29 39.5**	**+0.1**
GMAL	**Guarumal, Vera**	**5.43**	**182**	P	**Pn**	**12 29 44.2**	**+1.5**
	comp=Z,39nm,0.7s,comp=Z,9μm						
GMAL				S	**Sn**	**12 30 42.3**	**-3.1**
	comp=Z,39nm,0.7s,comp=Z,9μm						
AZU	**Azuero**	**5.45**	**172**	P	**Pn**	**12 29 45.0**	**+2.1**
	comp=Z,46nm,0.6s						
AZU				S	**Sn**	**12 30 43.5**	**-2.3**
	comp=Z,46nm,0.6s						
CAPC	**Capurgana**	**5.82**	**141**	P	**Pn**	**12 29 49.2**	**+1.2**
	comp=Z,30nm,1.0s						
CAPC				S	**Sn**	**12 30 52.4**	**-2.6**
	comp=Z,30nm,1.0s						
CACAO	**El Cacao, Vera**	**5.85**	**178**	P	**Pn**	**12 29 49.8**	**+1.4**
	comp=Z,77nm,0.6s,comp=Z,1μm						
CACAO				S	**Sn**	**12 30 53.8**	**-1.8**
	comp=Z,77nm,0.6s,comp=Z,1μm						
CACAO	**El Cacao, Vera**	**5.85**	**178**	*e*P	**Pn**	**12 29 49.4**	**+1.1**
CRIN	**San Cristobal**	**5.88**	**266**	P	**Pn**	**12 29 44.7**	**-4.3**
	comp=Z,232nm,0.7s,comp=Z,4μm						
MTDJ	**Mount Denham**	**6.01**	**34**	Pn	**Pn**	**12 29 51.8**	**+1.1**
MTDJ	**Mount Denham**	**6.01**	**34**	*i,j P*	**Pn**	**12 29 52.1**	**+1.5**
MTDJ	**Mount Denham**	**6.01**	**34**	P	**Pn**	**12 29 51.7**	**+1.0**
	comp=Z,57nm,0.7s						
TGUH	**Tegucigalpa,Un**	**6.12**	**278**		**Pn**	**12 29 51.2**	**-1.0**
TGUH	**Tegucigalpa,Un**	**6.12**	**278**	P	**Pn**	**12 29 51.2**	**-1.0**
	comp=Z,124nm,0.6s,comp=Z,1μm						
LCBC	**Los crdobas,**	**6.31**	**133**	P	**Pn**	**12 29 56.7**	**+1.9**
	comp=Z,92nm,0.7s						
LCBC				S	**Sn**	**12 31 07.1**	**0.0**
	comp=Z,92nm,0.7s						
STH	**Stony Hill**	**6.31**	**40**	*i,j P*	**Pn**	**12 29 56.6**	**+1.8**
GWJ	**Greenwich**	**6.36**	**40**	*i* P	**Pn**	**12 29 57.5**	**+1.9**
SJCC	**San Jacinto, C**	**6.62**	**119**	P	**Pn**	**12 29 58.0**	**-1.1**
	comp=Z,29nm,0.7s						
SJCC				S	**Sn**	**12 31 12.1**	**-2.8**
	comp=Z,29nm,0.7s						
APAC	**Apartado, Choc**	**6.87**	**140**	P	**Pn**	**12 30 05.3**	**+2.9**
	comp=Z,34nm,0.7s						
APAC				S	**Sn**	**12 31 19.8**	**-1.0**
	comp=Z,34nm,0.7s						
ARGC	**Ariguani, Magd**	**7.45**	**116**	P	Pn	12 30 02.4	-8.0
UREC	**San Jos de Ur**	**7.67**	**135**	P	**Pn**	**12 30 15.5**	**+2.0**
	comp=Z,16nm,0.6s						
UREC				S	**Sn**	**12 31 38.8**	**-1.8**
	comp=Z,16nm,0.6s						
MTO3	**Montecristo**	**8.17**	**279**	Pn	**Pn**	**12 30 19.2**	**-1.3**
CRJC	**Cerrejon, Guaj**	**8.27**	**104**	P	Pn	12 30 30.7	+8.9
CRJC				S	**Sn**	**12 31 51.7**	**-3.8**
GTBY	**Guantanamo Bay**	**8.76**	**40**	Pn	**Pn**	**12 30 29.7**	**+1.3**
GTBY	**Guantanamo Bay**	**8.76**	**40**	P	**Pn**	**12 30 29.4**	**+1.1**
	comp=Z,20nm,0.4s						
CBOC	**Ciudad Bolivar**	**8.83**	**145**	P	**Pn**	**12 30 31.7**	**+2.1**
	comp=Z,8.4nm,1.1s						
OCAC	**Ocana**	**9.06**	**122**	P	**Pn**	**12 30 33.5**	**+0.9**
	comp=Z,25nm,0.6s						
OCAC				S	**Sn**	**12 32 13.8**	**-1.1**
	comp=Z,25nm,0.6s						
PTBC	**PUERTO BERRIO,**	**9.28**	**135**	P	**Pn**	**12 30 35.5**	**-0.1**
	comp=Z,6.1nm,0.7s						
PTBC				S	**Sn**	**12 32 16.7**	**-3.5**
	comp=Z,6.1nm,0.7s						
SOR	**Soroa**	**9.70**	**349**	Pn	**Pn**	**12 30 43.6**	**+2.4**
NORC	**Norcasia**	**9.74**	**141**	P	**Pn**	**12 30 44.1**	**+2.1**
	comp=Z,7.8nm,1.2s						
TEIG	**Tepich**	**9.82**	**316**	Pn	**Pn**	**12 30 42.6**	**-0.4**
TEIG	**Tepich**	**9.82**	**316**	P	**Pn**	**12 30 42.7**	**-0.3**
	comp=Z,108nm,0.5s						
TEIG				S	**Sn**	**12 32 28.5**	**-5.0**
	comp=Z,108nm,0.5s						
MALC	**Bahia Malaga**	**9.86**	**158**	P	**Pn**	**12 30 45.8**	**+2.4**
MALC				S	**Sn**	**12 32 33.8**	**-0.5**
PAMC	**Pamplona, Colo**	**10.07**	**125**	P	**Pn**	**12 30 49.5**	**+2.6**
	comp=Z,16nm,0.5s,comp=Z,17μm						
PAMC				S	**Sn**	**12 32 39.6**	**-0.7**
	comp=Z,16nm,0.5s,comp=Z,17μm						
ROSC	**El Rosal**	**10.65**	**141**	LR	LR	12 35 24.4	
	comp=Z,147nm,19.1s,baz=20,slow=40						
RUSC	**La Rusia**	**10.70**	**132**	P	**Pn**	**12 30 56.6**	**+1.1**
RUSC				S	**Sn**	**12 32 52.7**	**-3.1**
SDV	**Santo Domingo**	**11.08**	**112**	Pn	**Pn**	**12 31 01.0**	**+0.6**
SDV	**Santo Domingo**	**11.08**	**112**	Pn	**Pn**	**12 31 02.1**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=276,slow=17,SNR=7.4						
SDV				Sn	**Sn**	**12 32 59.5**	**-5.2**
	comp=Z,5.3nm,0.3s,baz=218,slow=22,SNR=8.2						
SDV				LR	LR	12 35 51.7	
	comp=Z,79nm,18.7s,baz=318,slow=41						
	comp=Z,4.7nm,0.5s						
BAUV	**El Baul**	**13.44**	**107**		**Pn**	**12 31 32.4**	**-0.1**
CMIG	**Matias Romero**	**13.91**	**288**	LR	LR	12 37 55.2	
	comp=Z,176nm,19.5s,baz=142,slow=41						
PCRV	**Puerto La Cruz**	**16.34**	**99**	LR	LR	12 38 42.9	
	comp=Z,42nm,20.6s,slow=38						
GOGA	**Godfrey**	**20.22**	**354**	P	**P**	**12 32 56.0**	**-0.7**
GOGA				IAmb	IAmb	12 33 11.1	
	comp=Z,8.4nm,1.0s						
ATAH	**Atahualpa**	**20.40**	**172**	LR	LR	12 41 44.5	
	comp=Z,61nm,18.0s,baz=344,slow=39						
TKL	**Tuckaleechee C**	**22.47**	**354**	LR	LR	12 41 32.2	
	comp=Z,84nm,18.2s,baz=200,slow=35						
HNDO	**Hondo**	**23.43**	**317**	P	**P**	**12 33 28.4**	**-2.7**
HNDO				IAmb	IAmb	12 33 39.0	
	comp=Z,8.1nm,0.9s						
T50A	**Nancy**	**23.94**	**352**	P	**P**	**12 33 37.0**	**+1.0**
LCAR	**Lake Charles**	**24.50**	**340**		**P**	**12 33 44.0**	**+2.8**
SAND	**Sanderson**	**25.65**	**314**	P	**P**	**12 33 49.9**	**-1.7**
SAND				IAmb	IAmb	12 33 59.5	
	comp=Z,6.1nm,1.1s						
TXAR	**Lajitas Array**	**26.41**	**311**	P	**P**	**12 33 59.6**	**+1.0**
TXAR	**Lajitas Array**	**26.41**	**311**	P	**P**	**12 33 59.8**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=128,slow=9.3,SNR=16						
	comp=Z,1.9nm,0.7s						
TX31	**Lajitas Ar. Si**	**26.41**	**311**	P	**P**	**12 33 59.4**	**+0.8**
TX31				IAmb	IAmb	12 34 06.9	
	comp=Z,13nm,1.4s						
MDP	**Montagnes des**	**29.14**	**103**	LR	LR	12 46 25.5	
	comp=Z,42nm,18.1s,baz=281,slow=37						
LPIG	**La Paz**	**29.70**	**296**	LR	LR	12 46 55.3	
	comp=Z,126nm,18.4s,baz=113,slow=38						
ANMO	**Albuquerque**	**31.55**	**318**	LR	LR	12 49 00.1	
	comp=Z,26nm,18.9s,baz=249,slow=39						
PFO	**Pinyon Flats O**	**38.05**	**308**	LR	LR	12 55 21.0	
	comp=Z,39nm,18.5s,baz=79,slow=43						
PDAR	**Pinedale Array**	**38.38**	**326**	P	**P**	**12 35 43.5**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=87,slow=4.9,SNR=2.3						
PDAR				LR	LR	12 56 02.6	
	comp=Z,25nm,18.3s,baz=73,slow=43						
	comp=Z,0.2nm,0.6s						
ULM	**Lac du Bonnet**	**38.87**	**345**	P	**P**	**12 35 47.5**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=121,slow=9.2,SNR=3.8						
	comp=Z,2.8nm,0.6s						
NVAR	**Mina Array Bea**	**41.46**	**314**	P	**P**	**12 36 09.8**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=130,slow=8.4,SNR=3.1						
	comp=Z,0.4nm,0.8s						
RPN	**Rapa Nui**	**48.62**	**214**	LR	LR	12 52 24.9	
	comp=Z,54nm,21.2s,baz=54,slow=30						
ILAR	**Eielson Array**	**67.91**	**335**	P	**P**	**12 39 21.9**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=103,slow=4.6,SNR=8.9						
	comp=Z,0.6nm,0.8s						
FINES	**FINESS Array B**	**86.47**	**27**	P	**P**	**12 41 04.4**	**0.0**
	comp=Z,6.7nm,1.1s,baz=286,slow=4.4,SNR=1.2						
	comp=Z,6.7nm,1.1s						
ASAR	**Alice Springs**	**145.35**	**247**	PKPbc	**PKPbc**	**12 48 00.2**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=112,slow=4.0,SNR=4.5						
WRA	**Warramunga Arr**	**145.49**	**254**	PKPbc	**PKPbc**	**12 48 01.0**	**0.0**
	comp=Z,1.0nm,0.7s,baz=91,slow=2.9,SNR=5.7						

UCR 25 12:29:00.2±0.5, 9°.65N×84°.79W, h25km±1km, MW3.6, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBL1	**Cabuya**	**0.30**	**259**	*e*P	Pb	12 29 07.0	-0.2
ARZA	**Esparza**	**0.36**	**20**	*e*P	Pb	12 29 08.2	-0.1
ARZA				*e*S	Sb	12 29 14.5	+0.8
TRB2	**Turrubares**	**0.43**	**52**	*e*P	Pb	12 29 09.0	-0.3
SRA1	**San Ramn**	**0.54**	**35**	*e*P	Pb	12 29 10.8	-0.3
RAMO	**San Ramon**	**0.54**	**36**	*e*P	Pb	12 29 11.1	-0.2
NARAN	**Naranjo de Ala**	**0.61**	**42**	*e*P	Pb	12 29 12.8	+0.4
SARCI	**Sarchi**	**0.62**	**45**	*e*P	Pb	12 29 12.9	+0.3
ACOS	**Acosta**	**0.64**	**76**	*e*P	Pb	12 29 12.4	-0.4
JUNT	**Juntas**	**0.65**	**346**	*e*P	Pb	12 29 12.8	-0.2
JTS	**Las Juntas de**	**0.66**	**346**	*i,j P*	Pb	12 29 13.0	-0.2
JTS	**Las Juntas de**	**0.66**	**346**	*e*P	Pb	12 29 12.7	-0.5
SANTA	**Santa Ana**	**0.66**	**64**	*e*P	Pb	12 29 12.8	-0.5
MTEVE	**Monteverde**	**0.67**	**357**	*e*P	Pb	12 29 13.3	-0.1
BELE	**Belen**	**0.68**	**61**	*e*P	Pb	12 29 13.2	-0.3
LLNJ	**Naranjito**

ARXS	**Arharly**	**2.65**	**266**	Pg	**Pg**	**12 35 06.8**	**-0.8**
	9.3nm,0.5s						
ARXS				Lg	Lg	12 35 40.4	
	92nm,0.4s						
ARXS				Lg	Lg	12 35 40.4	
	100nm,0.6s						
ARXS	**Arharly**	**2.65**	**266**	*e*P	**Pg**	**12 35 07.0**	**-0.6**
	7.3nm,0.4s						
ARXS				*e*S	**Sg**	**12 35 42.0**	**0.0**
	100nm,0.6s						
KOTS	**Kotyrbulak**	**3.41**	**250**	*e*P	**Pg**	**12 35 20.7**	**-1.4**
	11nm,0.4s						
KOTS				*e*S	**Sg**	**12 36 05.6**	**-0.8**
	62nm,0.2s						
ZSN	**Zaisan**	**3.79**	**37**	*e*P	**Pb**	**12 35 23.7**	**-0.6**
	19nm,0.5s						
ZSN				*e*S	**Sb**	**12 36 11.1**	**+0.4**
	29nm,0.7s						
MTBS	**Maitube**	**3.91**	**252**	*e*P	**Pg**	**12 35 30.4**	**-1.4**
	2.0nm,0.1s						
MTBS				*e*S	**Sg**	**12 36 22.2**	**-0.3**
	40nm,0.4s						

RSNC 25 12:36:27.5±0.0, 13°N±2°×8°1W±°, h2km±2km, M3.0, mb4.1, ML3.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.23**	**309**	P	Pg	12 36 32.8	+0.8
PRVC				S	Sg	12 36 36.9	+1.9
SAIC	**Isla e San And**	**0.86**	**217**	P	Pg	12 36 43.9	-0.1
SAIC				S	Sb	12 36 57.8	+0.6
RNCC	**Cayo Roncador,**	**1.11**	**72**	P	Pb	12 36 49.3	-0.2
RNCC				S	Sg	12 37 03.6	+0.3
SERC	**Banco Serrana,**	**1.31**	**37**	P	Pg	12 36 50.6	-2.1
SERC				S	Sg	12 37 08.5	-1.3
BCIP	**Isla Barro Col**	**4.25**	**162**	P	Pn	12 37 28.7	-4.6
BCIP				S	Sn	12 38 17.7	-6.4
JTS	**Las Juntas de**	**4.71**	**232**	P	Pn	12 37 39.5	-0.2
AZU	**Azuero**	**5.48**	**171**	P	Pn	12 37 49.3	-0.9
	47nm,1.9s						
AZU				S	Sn	12 38 49.1	-4.7
	47nm,1.9s						
CAPC	**Capurgana**	**5.91**	**140**	P	Pn	12 37 54.7	-1.5
CAPC				S	Sn	12 38 54.1	-11
SJCC	**San Jacinto, C**	**6.75**	**119**	P	Pn	12 38 04.3	-3.4
SJCC				S	Sn	12 39 18.2	-7.1

*BUT **25** 12:43:07.4±2.4, 47°.68N±0°.03×113°.14W±0°.05, h9km±8km, Error ellipse: s-maj=5.0km s-min=3.7km az=61.0*

NEIC 25 12:43:06.0±1.7, 47°.69N±0°.03×113°.23W±0°.04, h10km±2km, ML2.8/44, ML2.8/18(BUT), Error ellipse: s-maj=5.9km s-min=4.5km az=212.0, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVMT	**Ovando**	**0.64**	**165**		Pb	12 43 19.2	-0.1
LYMT	**Lyon Mountain**	**0.96**	**138**		Pg	12 43 23.6	-0.9
MSO	**Missoula**	**0.98**	**210**		Pn	12 43 26.0	+0.1
MSO	**Missoula**	**0.98**	**210**	Sg	Sb	12 43 39.0	+0.7
BPMT	**Black Pine Rid**	**1.26**	**187**		Pg	12 43 31.1	+0.9
LDM	**Libby Dam**	**1.59**	**300**		Pg	12 43 36.3	-0.3
HSPGA	**Hill Springs,**	**1.70**	**351**		Pg	12 43 38.2	-0.4
MKRVA	**Milk River, Al**	**1.75**	**33**		Pb	12 43 38.0	-0.2
BOZ	**Bozeman (W)**	**2.36**	**152**		Pn	12 43 46.1	+1.2
DLMT	**Dillon**	**2.37**	**169**		Pn	12 43 46.3	+1.3
EGMT	**Eagleton**	**2.37**	**80**		Pn	12 43 46.2	+1.3
EGMT	**Eagleton**	**2.37**	**80**	IAML		12 44 20.3	
	61nm,0.4s						
NEW	**Newport**	**2.68**	**284**		Pn	12 43 51.1	+2.0
NEW				IAML		12 44 34.2	
	29nm,1.3s						
NEW	**Newport**	**2.68**	**284**		Pn	12 43 50.7	+1.5
YHL	**Hebgen Lake**	**3.17**	**153**		Pn	12 43 57.6	+1.4
YHL				IAML		12 44 50.4	
	comp=E,24nm,0.9s						
YHL				IAML		12 44 56.9	
	comp=N,20nm,2.2s						
PLID	**Pearl Lake**	**3.23**	**217**		Pn	12 43 58.8	+1.9
F10A	**Beach Ranch, E**	**3.23**	**239**	Pn	Pn	12 43 57.6	+0.8
F10A				IAML		12 44 54.8	
	comp=E,31nm,0.3s						
YHB	**Horse Butte**	**3.26**	**154**		Pn	12 43 56.6	-0.7
YHB				IAML		12 44 52.8	
	comp=E,14nm,0.6s						
YHB				IAML		12 45 37.3	
	comp=N,14nm,2.4s						
YHH	**Holmes Hill**	**3.34**	**149**	Pn	Pn	12 43 59.2	+0.7
C09A	**Chrisman Ranch**	**3.40**	**274**	Pn	Pn	12 43 60.0	+0.8
YMR	**Madison River**	**3.40**	**152**	Pn	Pn	12 44 00.4	+1.0
YMR				IAML		12 45 11.7	
	comp=N,20nm,4.5s						
YMR				IAML		12 45 18.5	
	comp=E,21nm,4.6s						
YNE	**Yellowstone No**	**3.49**	**139**		Pn	12 44 01.9	+1.4
YNE				IAML		12 44 57.2	
	comp=E,18nm,0.4s						
E09A	**Wood Farm, Sta**	**3.55**	**253**	Pn	Pn	12 44 03.1	+1.9
E09A				IAML		12 45 09.6	
	comp=E,17nm,4.2s						
YMP	**Mirror Lake Pl**	**3.64**	**143**	Pn	Pn	12 44 03.3	+0.7
YMP				IAML		12 45 27.0	
	comp=E,19nm,4.5s						
YMP				IAML		12 46 02.9	
	comp=N,22nm,4.1s						
D08A	**Wollman Farm,**	**3.92**	**263**		Pn	12 44 06.9	+0.7
D08A				IAML		12 45 22.4	
	comp=E,13nm,4.2s						
BMO	**Blue Mountains**	**4.00**	**226**	Pn	Pn	12 44 09.5	+2.1
BMO				IAML		12 46 30.5	
	comp=E,8.3nm,4.4s						
B08A	**Colville Reser**	**4.15**	**282**	Pn	Pn	12 44 12.9	+3.5
B08A				IAML		12 45 20.1	
	comp=N,11nm,0.8s						
B08A				IAML		12 45 21.6	
	comp=E,10nm,3.0s						
HLID	**Hailey**	**4.21**	**192**		Pn	12 44 11.9	+1.6
HLID				IAML		12 45 21.6	
	comp=E,13nm,1.4s						
HLID				IAML		12 45 22.9	
	comp=E,10nm,0.5s						
G08A	**Pilot Rock**	**4.62**	**241**	Pn	Pn	12 44 17.4	+1.4
G08A				IAML		12 46 53.2	
	comp=E,7.2nm,4.3s						
G08A				IAML		12 47 13.4	
	comp=N,7.7nm,4.7s						
MFID	**Camas Ranch**	**4.64**	**204**		Pn	12 44 17.9	+1.7
MFID				IAML		12 45 37.2	
	comp=N,10nm,0.4s						
E07A	**Sunnyside**	**4.66**	**258**		Pn	12 44 17.9	+1.5
LTY	**Liberty**	**5.06**	**268**	Pn	Pn	12 44 22.0	0.0

*NEIC **25** 13:08:28.6±1.5, 18°.2S±0°.1×178°.1W±0°.1, h568km±7km, mb4.4/77, Error ellipse: s-maj=18.2km s-min=15.3km az=157.0*

*IDC **25** 13:08:30.6±0.9, 18°.14S×178°.29W, h592km±9km, mb3.4/14, mbtmp4.3/16, Error ellipse: s-maj=17.5km s-min=10.9km az=146.0*

ISC 25 13:08:30.5±0.4, 18°.25S±0°.09×178°.17W±0°.07, h600km, n154, σ1§15/158, mb4.3/53, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.64**	**277**	P	**P**	**13 09 50.8**	**-2.8**
MSVF	**Nonsavu**	**3.64**	**277**	P	**P**	**13 09 51.2**	**-2.4**
	42nm,0.7s,baz=125,slow=11,SNR=59						
MSVF				S	**S**	**13 10 59.2**	**-2.1**
	16nm,1.0s,baz=165,slow=20,SNR=14						
FUTU	**Fugatoga**	**3.92**	**1**	P	**P**	**13 09 51.4**	**-4.1**
AFI	**Afiamalu**	**7.50**	**56**	P	**P**	**13 10 22.5**	**-2.8**
NIUE	**Niue**	**7.86**	**97**	P	**P**	**13 10 25.1**	**-3.3**
DZM	**Mont Dzumac**	**14.94**	**253**	P	**P**	**13 11 38.3**	**0.0**
	4.5nm,0.7s,baz=106,slow=19,SNR=6.0						
GRZ	**Great Barrier**	**18.80**	**196**	P	**P**	**13 12 14.8**	**+1.6**
KUZ	**Kuaotunu**	**19.20**	**195**	P	**P**	**13 12 17.8**	**+1.0**
WIAZ	**Waiheke Island**	**19.40**	**196**	P	**P**	**13 12 20.2**	**+1.6**
MKAZ	**Moumakai**	**19.68**	**196**	P	**P**	**13 12 22.5**	**+1.3**
WMGZ	**Waiomatatini S**	**19.73**	**188**	P	**P**	**13 12 21.2**	**-0.4**
HAZ	**Te Kaha**	**19.76**	**190**	P	**P**	**13 12 20.5**	**-1.4**
PUZ	**Puketiti**	**20.00**	**188**	P	**P**	**13 12 22.8**	**-1.3**
TWGZ	**Tauwhareparae**	**20.14**	**189**	P	**P**	**13 12 25.4**	**0.0**
URZ	**Urewera**	**20.36**	**191**	P	**P**	**13 12 24.9**	**-2.4**
	14nm,0.4s,baz=1.1,slow=2.1,SNR=28						
URZ	**Urewera**	**20.36**	**191**	P	**P**	**13 12 25.0**	**-2.2**
MWZ	**Matawai**	**20.37**	**190**	P	**P**	**13 12 24.9**	**-2.5**
CNGZ	**Carnagh Statio**	**20.41**	**188**	P	**P**	**13 12 26.8**	**-0.9**
RTZ	**Ruatahuna**	**20.73**	**191**	P	**P**	**13 12 29.1**	**-1.6**
BKZ	**Black Stump Fm**	**21.36**	**191**	P	**P**	**13 12 33.8**	**-2.5**
MSWZ	**Moikau Station**	**23.77**	**192**	P	**P**	**13 12 56.4**	**-1.3**
BHW	**Baring Head**	**23.84**	**193**	P	**P**	**13 12 56.9**	**-1.4**
INZ	**Inchbonnie**	**25.95**	**198**	P	**P**	**13 13 15.7**	**-1.1**
PPTF	**Pamatai, Papee**	**27.21**	**93**	P	**P**	**13 13 28.1**	**-0.2**
PPTF				IAmb	IAmb	13 13 48.2	
	comp=Z,13nm,1.0s						
LBZ	**Lake Benmore**	**27.84**	**198**	P	**P**	**13 13 31.8**	**-1.5**
CTAO	**Charters Tower**	**33.62**	**261**	P	**P**	**13 14 23.0**	**-0.1**
CTAO				IAmb	IAmb	13 14 23.3	
	comp=Z,7.6nm,0.7s						
PMG	**Port Moresby**	**34.74**	**280**	P	**P**	**13 14 32.4**	**-0.1**
COEN	**Coen**	**37.34**	**271**	P	**P**	**13 14 54.2**	**+0.4**
COEN				IAmb	IAmb	13 14 55.0	
	comp=Z,8.7nm,0.9s						
STKA	**Stephens Creek**	**38.67**	**242**	P	**P**	**13 15 05.3**	**+1.0**
STKA	**Stephens Creek**	**38.67**	**242**	P	**P**	**13 15 05.2**	**+0.8**
	comp=Z,24nm,0.6s,baz=82,slow=9.8,SNR=8.6						
	comp=Z,2.4nm,0.6s						
BBOO	**Buckleboo**	**43.45**	**241**	P	**P**	**13 15 42.6**	**+0.6**
BBOO				IAmb	IAmb	13 15 47.6	
	comp=Z,19nm,1.4s						
WR0	**Warramunga Arr**	**44.61**	**260**	P	**P**	**13 15 50.7**	**-0.4**
WB0	**Warramunga Arr**	**44.77**	**260**	P	**P**	**13 15 51.8**	**-0.6**
WB0				IAmb	IAmb	13 15 52.7	
	comp=Z,5.6nm,0.6s						
WB2	**Warramunga Arr**	**44.79**	**260**	P	**P**	**13 15 52.0**	**-0.5**
WB2				IAmb	IAmb	13 15 52.9	
	comp=Z,5.7nm,0.6s						
WRAB	**Tennant Creek**	**44.79**	**260**	P	**P**	**13 15 51.9**	**-0.7**
WRAB				IAmb	IAmb	13 15 52.8	
	comp=Z,5.0nm,0.6s						
WRA	**Warramunga Arr**	**44.80**	**260**	P	**P**	**13 15 52.0**	**-0.5**
	comp=Z,3.6nm,0.5s,baz=97,slow=7.1,SNR=69						
WRA				PcP	**PcP**	**13 17 22.1**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=100,slow=3.2,SNR=4.4						
WRA				S	**S**	**13 21 44.9**	**-2.6**
	comp=Z,0.4nm,0.8s,baz=102,slow=12,SNR=2.6						
	comp=Z,3.6nm,0.5s						
AS31	**Alice Springs**	**44.92**	**255**	P	**P**	**13 15 53.6**	**+0.1**
AS31				IAmb	IAmb	13 15 54.7	
	comp=Z,8.0nm,0.5s						
ASAR	**Alice Springs**	**44.92**	**255**	P	**P**	**13 15 53.7**	**+0.2**
	comp=Z,22nm,0.6s,baz=87,slow=9.1,SNR=581						
ASAR				PcP	**PcP**	**13 17 22.9**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=106,slow=3.7,SNR=7.0						
ASAR				S	**S**	**13 21 49.2**	**0.0**
	comp=Z,1.2nm,1.1s,baz=89,slow=16,SNR=6.4						
	comp=Z,22nm,0.6s						
MTN	**Manton Dam**	**49.02**	**269**	P	**P**	**13 16 24.0**	**-0.3**
MTN				IAmb	IAmb	13 16 24.4	
	comp=Z,7.9nm,0.8s						
FORT	**Forrest**	**50.07**	**245**	P	**P**	**13 16 31.7**	**-0.1**
KNRA	**Kununurra**	**50.68**	**264**	P	**P**	**13 16 36.3**	**-0.1**
KNRA				IAmb	IAmb	13 16 46.4	
	comp=Z,15nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.20**	**261**	P	**P**	**13 16 54.7**	**+0.3**
SOEI	**Soe**	**56.30**	**270**	P	**P**	**13 17 17.9**	**+1.7**
SOEI				IAmb	IAmb	13 17 22.1	
	comp=Z,15nm,0.7s						
PSA00	**Pilbara Seismi**	**58.05**	**256**	P	**P**	**13 17 27.8**	**0.0**
PSA00				IAmb	IAmb	13 17 47.4	
	comp=Z,24nm,1.1s						
MBWA	**Marble Bar**	**58.22**	**256**	P	**P**	**13 17 29.0**	**0.0**
JGF	**Kuroka**	**68.14**	**322**	P	**P**	**13 18 32.4**	**+0.4**
JGF				IAmb	IAmb	13 18 44.1	
	comp=Z,9.1nm,1.0s						
MJAR	**Matsushiro Arr**	**68.31**	**323**	P	**P**	**13 18 32.5**	**-0.5**
	comp=Z,3.4nm,0.6s,baz=157,slow=6.1,SNR=8.1						
	comp=Z,3.4nm,0.6s						
MAJO	**Matsushiro**	**68.31**	**323**	P	**P**	**13 18 33.1**	**+0.1**
MAJO				IAmb	IAmb	13 19 16.4	
	comp=Z,13nm,1.2s						
MJB9	**Matsu-Tunnel**	**68.32**	**323**	P	**P**	**13 18 33.0**	**0.0**
MJB9				IAmb	IAmb	13 19 16.4	
	comp=Z,13nm,1.2s						
KKM	**Kota Kinabalu**	**69.05**	**284**	P	**P**	**13 18 38.5**	**+0.5**
UGM	**Wanagama**	**69.86**	**268**	P	**P**	**13 18 43.1**	**+0.3**
JNU	**Nakatsue**	**70.54**	**316**	P	**P**	**13 18 46.8**	**+0.5**
JNU				IAmb	IAmb	13 19 25.4	
	comp=Z,15nm,1.3s						
QSPA	**South Pole Qui**	**71.81**	**180**	P	**P**	**13 18 54.8**	**+1.4**
QSPA	**South Pole Qui**	**71.81**	**180**	P	**P**	**13 18 54.5**	**+1.1**
	comp=Z,2.7nm,0.6s,baz=234,slow=0.7,SNR=32						
	comp=Z,2.7nm,0.6s						
SSLB	**Suanglung**	**72.61**	**303**	P	**P**	**13 18 58.0**	**-0.6**
TPUB	**Ta-pu**	**72.63**	**302**	P	**P**	**13 18 57.9**	**-0.8**
PEA0B	**Petropavlovsk-**	**74.06**	**345**	P	**P**	**13 19 06.6**	**+0.5**
PETK	**Petropavlovsk-**	**74.06**	**345**	P	**P**	**13 19 06.6**	**+0.5**
PETK	**Petropavlovsk-**	**74.06**	**345**	P	**P**	**13 19 05.3**	**-0.8**
	comp=Z,4.1nm,0.8s,baz=107,slow=7.5,SNR=12						
	comp=Z,4.1nm,0.8s						
KSRS	**Korea Array**	**75.10**	**318**	P	**P**	**13 19 13.8**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=130,slow=6.0,SNR=4.8						
	comp=Z,0.7nm,0.6s						
OMMB	**Old Mammoth Mi**	**78.60**	**44**	P	**P**	**13 19 33.0**	**+1.3**
YBH	**Yreka Blue Hor**	**78.64**	**39**	P	**P**	**13 19 33.2**	**+1.7**
MPK	**Martis Peak**	**78.87**	**42**	P	**P**	**13 19 34.3**	**+1.2**
HUMO	**Hull Mountain**	**79.02**	**38**	P	**P**	**13 19 35.1**	**+1.6**
L04D	**Klamath Falls**	**79.17**	**39**	P	**P**	**13 19 35.6**	**+1.2**
L04D				IAmb	IAmb	13 20 03.2	
	comp=Z,11nm,1.4s						
YERR	**Yerington**	**79.20**	**43**	P	**P**	**13 19 35.2**	**+0.4**
N15K	**Kwethluk River**	**79.50**	**9**	P	**P**	**13 19 36.2**	**+0.7**
N15K				IAmb	IAmb	13 19 54.5	
	comp=Z,25nm,1.5s						
NVAR	**Mina Array Bea**	**79.51**	**44**	P	**P**	**13 19 37.8**	**+1.4**
NVAR	**Mina Array Bea**	**79.51**	**44**	P	**P**	**13 19 37.6**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=223,slow=9.2,SNR=12						
	comp=Z,1.4nm,0.8s						
NV11	**Mina Array Sit**	**79.61**	**44**	P	**P**	**13 19 37.9**	**+1.1**
KVN	**Kaiserville**	**79.98**	**43**	P	**P**	**13 19 39.7**	**+0.9**
J05D	**Fort Rock, OR**	**80.44**	**38**	P	**P**	**13 19 42.6**	**+1.6**
M16K	**Timber Creek**	**80.49**	**9**	P	**P**	**13 19 42.1**	**+1.4**
M16K				IAmb	IAmb	13 20 18.0	
	comp=Z,28nm,1.5s						
CNPM	**China Poot**	**80.55**	**14**	P	**P**	**13 19 41.6**	**+0.5**
ILSW	**Iliamna Southw**	**80.56**	**12**	P	**P**	**13 19 41.3**	**+0.1**
ILSW				IAmb	IAmb	13 19 54.2	
	comp=Z,23nm,1.3s						
H04A	**Detroit Lake**	**80.72**	**37**	P	**P**	**13 19 42.9**	**+0.6**
H04A				IAmb	IAmb	13 20 02.0	
	comp=Z,11nm,1.4s						
L16K	**Owhat River**	**81.07**	**9**	P	**P**	**13 19 44.6**	**+1.0**
L16K				IAmb	IAmb	13 19 48.4	
	comp=Z,17nm,1.4s						
K15K	**Wolf Creek Mou**	**81.34**	**8**	P	**P**	**13 19 46.3**	**+1.3**
I07A	**Izee**	**81.92**	**38**	P	**P**	**13 19 50.1**	**+1.5**
G06A	**Carlson Farm,**	**81.94**	**37**	P	**P**	**13 19 49.1**	**+0.6**
L18K	**Granite Mounta**	**81.98**	**10**	P	**P**	**13 19 49.3**	**+1.0**
L18K				IAmb	IAmb	13 19 49.8	
	comp=Z,3.9nm,0.7s						
GNW	**Green Mountain**	**82.12**	**34**	P	**P**	**13 19 50.1**	**+0.8**
K17K	**Iditarod**	**82.20**	**9**	P	**P**	**13 19 50.4**	**+1.1**
K17K				IAmb	IAmb	13 20 07.0	
	comp=Z,17nm,1.3s						
J16K	**Anvik River**	**82.42**	**8**	P	**P**	**13 19 51.5**	**+1.1**
J16K				IAmb	IAmb	13 20 28.8	
	comp=Z,24nm,1.5s						
J17K	**VABM Dome**	**82.73**	**9**	P	**P**	**13 19 53.0**	**+1.0**
J17K				IAmb	IAmb	13 20 20.0	
	comp=Z,14nm,1.5s						
G08A	**Pilot Rock**	**82.93**	**38**	P	**P**	**13 19 54.7**	**+1.1**
GHO	**Glory Hole Cre**	**83.08**	**14**	P	**P**	**13 19 54.0**	**+0.1**
GHO				IAmb	IAmb	13 20 14.5	
	comp=Z,21nm,1.2s						
J18K	**Innoko River**	**83.15**	**10**	P	**P**	**13 19 55.0**	**+0.9**
SCM	**Sheep Creek Mo**	**83.50**	**14**	P	**P**	**13 19 56.2**	**+0.2**
P29M	**Windy Craggy**	**84.29**	**19**	P	**P**	**13 20 00.8**	**+1.0**
P29M				IAmb	IAmb	13 20 06.7	
	comp=Z,20nm,1.4s						
M27K	**Edge Creek, AK**	**85.30**	**16**	P	**P**	**13 20 05.7**	**+0.9**
M27K				IAmb	IAmb	13 20 27.0	
	comp=Z,8.4nm,1.1s						
Q32M	**Nakina River**	**85.61**	**22**	P	**P**	**13 20 07.6**	**+1.2**
Q32M				IAmb	IAmb	13 20 24.3	
	comp=Z,17nm,1.4s						
O30N	**Mendenhall**	**85.69**	**19**	P	**P**	**13 20 08.1**	**+1.5**
O30N				IAmb	IAmb	13 20 30.7	
	comp=Z,17nm,1.4s						
BCAR	**Beaver Creek A**	**85.91**	**16**	P	**P**	**13 20 08.8**	**+1.2**
IMAR	**Indian Mountai**	**85.97**	**10**	P	**P**	**13 20 08.1**	**+0.4**
TX31	**Lajitas Ar. Si**	**85.98**	**58**		**P**	**13 20 10.9**	**+2.1**
TXAR	**Lajitas Array**	**85.98**	**58**		**P**	**13 20 11.2**	**+2.4**
TXAR	**Lajitas Array**	**85.98**	**58**	P	**P**	**13 20 10.8**	**+2.1**
	comp=Z,1.7nm,0.8s,baz=218,slow=5.8,SNR=17						
	comp=Z,1.7nm,0.8s						
DLBC	**Dease Lake**	**86.05**	**23**	P	**P**	**13 20 09.9**	**+1.5**
DLBC				IAmb	IAmb	13 20 31.7	
	comp=Z,8.1nm,1.4s						
ILAR	**Eielson Array**	**86.16**	**13**	P	**P**	**13 20 09.0**	**+0.3**
ILAR	**Eielson Array**	**86.16**	**13**	P	**P**	**13 20 08.0**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=226,slow=4.7,SNR=34						
	comp=Z,1.1nm,0.4s						
M29M	**Somme Creek**	**86.30**	**17**	P	**P**	**13 20 10.5**	**+1.0**
M29M				IAmb	IAmb	13 20 38.3	
	comp=Z,8.7nm,1.4s						
J25K	**Salcha River,**	**86.35**	**14**	P	**P**	**13 20 10.0**	**+0.3**
J25K				IAmb	IAmb	13 20 18.9	
	comp=Z,8.1nm,1.4s						
J26L	**Joseph Creek**	**86.67**	**14**	P	**P**	**13 20 12.3**	**+1.1**
DLMT	**Dillon**	**86.77**	**40**	P	**P**	**13 20 13.7**	**+1.5**
YHL	**Hebgen Lake**	**87.39**	**41**	P	**P**	**13 20 16.2**	**+0.9**
YHL				IAmb	IAmb	13 20 29.7	
	comp=Z,9.5nm,1.5s						
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**13 20 16.4**	**+0.9**
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**13 20 15.6**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=216,slow=2.8,SNR=8.2						
	comp=Z,0.8nm,0.7s						
F24K	**Squaw Lake**	**88.37**	**11**	P	**P**	**13 20 19.7**	**+0.6**
F24K				IAmb	IAmb	13 20 20.1	
	comp=Z,2.4nm,0.6s						
E24K	**Your Creek**	**88.76**	**11**	P	**P**	**13 20 21.4**	**+0.6**
E24K				IAmb	IAmb	13 20 42.5	
	comp=Z,7.8nm,1.5s						
D22K	**Ayikyak River**	**88.80**	**9**	P	**P**	**13 20 21.7**	**+0.7**
ELIB	**Princess Elisa**	**88.85**	**187**	*d*P	**P**	**13 20 22.1**	**+0.6**
BMAR	**Burnt Mountain**	**88.94**	**12**	P	**P**	**13 20 22.7**	**+1.1**
I30M	**Mount Dempster**	**89.06**	**16**	P	**P**	**13 20 22.5**	**+0.1**
I30M				IAmb	IAmb	13 20 23.6	
	comp=Z,3.8nm,1.1s						
D23K	**Nanushuk River**	**89.19**	**10**	P	**P**	**13 20 23.5**	**+0.7**
D23K				IAmb	IAmb	13 20 24.5	
	comp=Z,8.2nm,1.2s						
CMAR	**Chiang Mai Arr**	**89.21**	**290**	P	**P**	**13 20 25.6**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=110,slow=2.9,SNR=8.9						
	comp=Z,1.1nm,0.7s						
SNAA	**Sanae**	**90.26**	**179**	P	**P**	**13 20 27.4**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=203,slow=15,SNR=1.3						
	comp=Z,0.6nm,0.8s						
YKA	**Yellowknife Ar**	**94.54**	**25**	P	**P**	**13 20 46.7**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=256,slow=4.6,SNR=4.4						
	comp=Z,0.7nm,0.9s						
BVAR	**Borovoye Array**	**117.25**	**321**	PKP	**PKiKP**	**13 26 08.0**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=109,slow=2.3,SNR=7.3						
ARCES	**ARCESS Array B**	**126.69**	**350**	PKP	**PKPdf**	**13 26 25.8**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=43,slow=1.7,SNR=6.2						
FINES	**FINESS Array B**	**133.57**	**344**	PKP	**PKPdf**	**13 26 39.2**	**0.0**
	comp=Z,2.6nm,0.9s,baz=73,slow=4.8,SNR=2.3						
HFS	**Hagfors**	**137.30**	**351**	PKhKP	PKPpre	13 26 40.7	
	comp=Z,1.1nm,0.7s,baz=122,slow=1.9,SNR=4.1						
BUR08	**Bucovina Ar. S**	**145.00**	**332**		**PKPab**	**13 27 02.0**	**-0.4**
BRTR	**Keskin Array B**	**145.18**	**315**		**PKPbc**	**13 27 01.9**	**-0.3**
BRTR	**Keskin Array B**	**145.18**	**315**	PKPbc	**PKPbc**	**13 27 01.8**	**-0.4**
	comp=Z,2.0nm,0.7s,baz=134,slow=3.2,SNR=9.3						
OSTC	**Ostas**	**145.78**	**344**	*e*PKP	**PKiKP**	**13 27 05.2**	**-0.8**
CLL	**Collm**	**145.84**	**347**	PKPbc	**PKPab**	**13 27 04.5**	**-0.9**
CLL	**Collm**	**145.84**	**347**	*i* PKPbc	**PKPab**	**13 27 04.6**	**-0.9**
	comp=Z,10.0nm,0.7s						
UPC	**Upice**	**145.88**	**344**	*e*PKP	**PKPab**	**13 27 05.1**	**-0.5**
DPC	**Dobruska-Polom**	**145.94**	**343**	*e*PKP	**PKPab**	**13 27 04.9**	**-1.0**
LANS	**Liptovska Anna**	**146.03**	**339**	*e*	**PKiKP**	**13 27 06.2**	**-0.4**
KRLC	**Kraliky**	**146.06**	**343**	*e*PKP	**PKPab**	**13 27 05.3**	**-1.1**
MORC	**Moravsky Berou**	**146.10**	**342**	‖P	**PKPab**	**13 27 05.3**	**-1.3**
MAUC	**Maruska**	**146.38**	**341**	*e*PKP	**PKiKP**	**13 27 06.7**	**-0.6**
MMAI	**Mount Meron Ar**	**146.52**	**303**	PKPbc	**PKiKP**	**13 27 06.9**	**-1.2**
	comp=Z,3.2nm,0.5s,baz=64,slow=6.6,SNR=6.1						
PRU	**Pruhonice**	**146.73**	**345**	*e*PKP	**PKPbc**	**13 27 06.2**	**+0.2**
VYHS	**Vyhne**	**146.81**	**339**	*e*	**PKiKP**	**13 27 07.8**	**-0.4**
ZVC	**Zvikov**	**147.32**	**345**	*e*PKP	**PKiKP**	**13 27 08.7**	**-0.5

mbtmp3.8/5, ML3.6/3, MS3.3/6, Error ellipse: s-maj=58.6km s-min=13.6km az=60.0

ISC 25 13:19:30.4±0.9, 7.44S±0.04×123.28E±0.07, h10km, n23, σ1.32/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.58**	**221**	P	**Pn**	**13 19 57.9**	**-0.6**
MMRI				S	**Sn**	**13 20 19.2**	**+0.2**
BBSI	**Bau Bau**	**2.06**	**340**	P	**Pn**	**13 20 05.6**	**+0.5**
BBSI				S	**Sn**	**13 20 31.1**	**+0.2**
SOEI	**Soe**	**2.50**	**157**	P	**Pn**	**13 20 14.7**	**+3.4**
BATI	**Baumata**	**2.78**	**172**	Pn	**Pb**	**13 20 20.2**	**0.0**
	34nm,0.3s,baz=351,slow=2.0,SNR=39						
BATI				LR	LR	13 21 38.6	
	comp=Z,627nm,18.7s,baz=350,slow=45						
	114nm,0.4s						
BATI	**Baumata**	**2.78**	**172**	P	**Pn**	**13 20 17.2**	**+2.2**
BSSI	**Bau Bau, Buton**	**3.06**	**295**	P	**Pn**	**13 20 19.4**	**+0.6**
BSSI				S	**Sn**	**13 20 54.9**	**-0.6**
KDI	**Kendari**	**3.52**	**349**	P	**Pn**	**13 20 25.3**	**+0.1**
WSI	**Waingapu**	**3.69**	**233**	P	**Pn**	**13 20 28.8**	**+1.2**
BKSI	**Bulukumba**	**3.78**	**304**	P	**Pn**	**13 20 28.9**	**+0.2**
BASI	**Baing, Sumba**	**3.85**	**224**	P	**Pn**	**13 20 30.2**	**+0.5**
BNSI	**Bone**	**4.37**	**313**	P	**Pn**	**13 20 37.5**	**+0.7**
WBSI	**Waikabubak, Su**	**4.43**	**240**	P	**Pn**	**13 20 38.4**	**+0.7**
SPSI	**Sidrap Palu**	**4.91**	**314**	P	**Pn**	**13 20 44.2**	**-0.1**
TTSI	**Tana Toraja**	**5.56**	**321**	P	**Pn**	**13 20 54.4**	**+1.2**
	17nm,1.2s,0.2nm						
PLAI	**Plampang**	**5.62**	**255**	P	**Pn**	**13 20 53.8**	**-0.3**
	29nm,0.6s,0.2nm						
SANI	**Sanana**	**5.99**	**27**	P	**Pn**	**13 20 59.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**10.84**	**168**	Pn	**Pn**	**13 22 05.7**	**-0.1**
	0.4nm,0.3s,baz=4.2,slow=9.7,SNR=10						
FITZ				LR	LR	13 26 41.3	
	comp=Z,92nm,19.2s,baz=354,slow=40						
WRA	**Warramunga Arr**	**16.42**	**140**	Pn	**Pn**	**13 23 19.5**	**-1.5**
	0.1nm,0.3s,baz=320,slow=12,SNR=7.2						
WRA				Sn	Sn	13 26 14.7	-8.7
	0.1nm,0.3s,baz=322,slow=24,SNR=3.9						
WRA				LR	LR	13 29 03.9	
	comp=Z,52nm,19.9s,baz=58,slow=36						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**19.09**	**149**	P	**P**	**13 23 54.4**	**+1.0**
	0.1nm,0.3s,baz=326,slow=12,SNR=14						
ASAR				S	**Sn**	**13 27 25.1**	**-3.1**
	0.5nm,0.9s,baz=325,slow=26,SNR=2.4						
ASAR				LR	LR	13 31 48.7	
	comp=Z,45nm,18.2s,baz=322,slow=39						
	0.6nm,0.6s						
PSI	**Prapat**	**26.35**	**292**	LR	LR	13 38 26.2	
	comp=Z,39nm,18.6s,baz=166,slow=42						
CMAR	**Chiang Mai Arr**	**35.20**	**317**	P	P	13 26 36.9	+12
	0.8nm,0.3s,baz=151,slow=6.6,SNR=5.1						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**69.55**	**331**	P	P	13 30 48.9	+10
	0.2nm,0.3s,baz=114,slow=8.3,SNR=7.2						
	0.2nm,0.3s						
AKTO	**Aktyubinsk**	**80.42**	**324**	LR	LR	14 13 15.9	
	comp=Z,63nm,18.3s,baz=60,slow=40						

*ISK **25** 13:23:40.3, 36.72N×27.20E, h2km, ML2.8/22*
*AFAD **25** 13:23:40.8±0.0, 36.71N×27.21E, h7km±1km, ML2.7*
*THE **25** 13:23:41.2, 36.72N×27.23E, h4km±1km, ML3.2/4, Error ellipse: s-maj=1.8km s-min=0.4km az=112.0*
*ATH **25** 13:23:41.2, 36.72N×27.25E, h12km±5km, ML2.9/6, Manual Solution by S.Liakopoulos First location: 2018/11/25 13:24:58, This location: 2019/01/14 07:40:48 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km*

ISC 25 13:23:41.6±1.0, 36.72N±0.02×27.21E±0.02, h5km±9km, n54, σ0.92/82, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.12**	**211**	P	**Pg**	**13 23 44.1**	**0.0**
NISR				S	**Sg**	**13 23 46.6**	**+0.9**
	30μm,0.2s						
YAZI	**Mula-Dat§a-**	**0.20**	**99**	P	**Pg**	**13 23 45.1**	**-0.4**
YAZI				S	**Sg**	**13 23 48.3**	**+0.1**
YAZI				*i* AML	AML	13 23 49.0	
	comp=N,1μm,0.5s						
DAT	**Datca**	**0.30**	**87**	P	**Pg**	**13 23 46.8**	**-0.6**
DAT				S	**Sg**	**13 23 51.4**	**0.0**
DAT	**Datca**	**0.30**	**87**	Pg	**Pg**	**13 23 47.5**	**0.0**
DAT				Sg	**Sg**	**13 23 52.5**	**+1.1**
DAT	**Datca**	**0.30**	**87**	P	**Pg**	**13 23 46.7**	**-0.8**
DAT				S	**Sg**	**13 23 51.5**	**0.0**
BODT	**Bodrum**	**0.36**	**14**	Pg	**Pg**	**13 23 48.1**	**-0.5**
BODT				Sg	**Sg**	**13 23 53.5**	**+0.2**
BODT	**Bodrum**	**0.36**	**14**	P	**Pg**	**13 23 48.1**	**-0.5**
BODT				S	**Sg**	**13 23 53.3**	**0.0**
BDRM	**Kayabasi**	**0.40**	**29**	P	**Pg**	**13 23 48.7**	**-0.6**
BDRM				S	**Sg**	**13 23 54.6**	**0.0**
BDRM				*i* AML	AML	13 23 56.0	
	comp=E,657nm,0.4s						
YKAV	**Yalikavak-Bodr**	**0.41**	**8**	Pg	**Pg**	**13 23 49.2**	**-0.4**
DIDI	**Didim-Aydin**	**0.66**	**2**	Pg	**Pg**	**13 23 54.5**	**+0.2**
DIDI				Sg	**Sb**	**13 24 04.3**	**-0.9**
DDIM	**Aydin, Didim**	**0.74**	**2**	P	**Pg**	**13 23 55.3**	**-0.6**
DDIM				S	**Sg**	**13 24 06.4**	**+0.9**
DDIM				*i* AML	AML	13 24 07.0	
	comp=E,706nm,0.3s						
DDIM				*i* AML	AML	13 24 10.0	
	comp=N,692nm,0.5s						
MRSB	**Marmaris-Mugla**	**0.80**	**90**	Pg	**Pg**	**13 23 56.5**	**-0.4**
TURN	**Turunc**	**0.84**	**86**	P	**Pg**	**13 23 56.8**	**-0.9**
TURN				S	**Sb**	**13 24 10.9**	**+0.7**
TURN				*i* AML	AML	13 24 18.0	
	comp=E,220nm,0.4s						
TURN	**Turunc**	**0.84**	**86**	Pg	**Pg**	**13 23 57.4**	**-0.3**
ARG	**Arkhangelos**	**0.89**	**124**	Pg	**Pg**	**13 23 57.9**	**-0.9**
ARG	**Arkhangelos**	**0.89**	**124**	P	**Pg**	**13 23 57.8**	**-1.0**
ARG				S	**Sb**	**13 24 11.3**	**-0.6**
	832nm,0.4s						
ARG	**Arkhangelos**	**0.89**	**124**	P	**Pg**	**13 23 57.5**	**-1.3**
ARG				S	**Sg**	**13 24 10.5**	**+0.1**
YER	**Yerkesik**	**0.96**	**64**	Pg	**Pg**	**13 24 00.0**	**-0.1**
YER	**Yerkesik**	**0.96**	**64**	P	**Pg**	**13 23 59.5**	**-0.6**
GCAM	**G?zelcaml?**	**0.98**	**1**	P	**Pg**	**13 23 60.0**	**-0.6**
GCAM				S	**Sb**	**13 24 14.2**	**-0.3**
GCAM				*i* AML	AML	13 24 15.0	
	comp=N,214nm,0.6s						
GCAM				*i* AML	AML	13 24 21.0	
	comp=E,195nm,0.3s						
GCAM	**G?zelcaml?**	**0.98**	**1**	Pg	**Pg**	**13 24 00.1**	**-0.4**
SMG	**Samos**	**1.03**	**344**	P	**Pg**	**13 24 00.3**	**-1.2**
SMG				S	**Sg**	**13 24 15.4**	**+0.5**
	792nm,0.4s						
SMG	**Samos**	**1.03**	**344**	P	**Pg**	**13 24 00.7**	**-0.8**
SMG				S	**Sg**	**13 24 15.1**	**+0.1**
MULA	**Mugla, Merkez-**	**1.04**	**58**	P	**Pb**	**13 24 01.9**	**-0.4**
MULA				S	**Sb**	**13 24 15.5**	**-0.9**
AMGA	**Amorgos Island**	**1.06**	**277**	P	**Pg**	**13 24 01.4**	**-0.5**
AMGA				S	**Sb**	**13 24 17.0**	**+0.3**
KARP	**Karpathos**	**1.17**	**182**	Pn	**Pg**	**13 24 02.8**	**-1.2**
KARP	**Karpathos**	**1.17**	**182**	P	**Pg**	**13 24 02.5**	**-1.5**
KARP	**Karpathos**	**1.17**	**182**	P	**Pg**	**13 24 02.5**	**-1.5**
KARP				S	**Sg**	**13 24 18.5**	**-0.6**
DALY	**Dalyan (Mula)**	**1.17**	**85**	Pn	**Pg**	**13 24 03.4**	**-0.6**
DGB	**zmir**	**1.36**	**349**	P	**Pn**	**13 24 05.0**	**-2.3**
DGB				S	**Sn**	**13 24 26.9**	**+1.1**
GMLD	**Gumuldur**	**1.38**	**350**	Pn	**Pn**	**13 24 07.5**	**-0.1**
APE	**Apeiranthos**	**1.39**	**285**	Pn	**Pn**	**13 24 07.8**	**0.0**
APE	**Apeiranthos**	**1.39**	**285**	P	**Pn**	**13 24 06.5**	**-1.3**
APE	**Apeiranthos**	**1.39**	**285**	P	**Pn**	**13 24 06.4**	**-1.3**
APE				S	**Sb**	**13 24 26.0**	**-0.3**
ESEN	**Aydn-Nazilli**	**1.41**	**40**	P	**Pg**	**13 24 08.8**	**0.0**
ESEN				S	**Sg**	**13 24 27.5**	**+0.4**
SABU	**Mula-Dalaman**	**1.42**	**85**	P	**Pg**	**13 24 08.3**	**-0.4**
SABU				S	**Sg**	**13 24 28.8**	**+1.5**
CMBO	**Columbo, Santo**	**1.47**	**261**	P	**Pg**	**13 24 11.6**	**+1.8**
CMBO				S	**Sg**	**13 24 31.1**	**+2.2**
FETY	**Fethiye**	**1.51**	**92**	Pn	**Pn**	**13 24 09.3**	**-0.1**
NAZL	**Nazilli-Aydin**	**1.52**	**34**	Pn	**Pn**	**13 24 09.5**	**-0.1**
IZMR	**zmir-demi**	**1.54**	**22**	P	**Pn**	**13 24 09.3**	**-0.5**
IZMR				S	**Sg**	**13 24 31.4**	**+0.3**
IZMR				*i* AML	AML	13 24 35.0	
	comp=E,80nm,0.5s						
IZMR				*i* AML	AML	13 24 38.0	
	comp=N,82nm,0.6s						
TAVA	**DENIZLI_Tavas**	**1.56**	**61**	P	**Pn**	**13 24 10.1**	**-0.1**
TAVA				S	**Sg**	**13 24 33.8**	**+2.1**
DNZT	**Denizli-Tavas-**	**1.56**	**68**	P	**Pg**	**13 24 11.5**	**-0.1**
DNZT				S	**Sg**	**13 24 34.8**	**+3.0**
IZZE	**Mula-Seydike**	**1.65**	**99**	P	**Pn**	**13 24 11.1**	**-0.3**
IZZE				S	**Sg**	**13 24 36.2**	**+1.5**
IZZE				*i* AML	AML	13 24 43.0	
	comp=N,201nm,0.5s						
IZZE				*i* AML	AML	13 24 43.0	
	comp=E,90nm,0.4s						
BLCB	**Balcova**	**1.67**	**356**	Pn	**Pn**	**13 24 11.5**	**-0.1**
CAME	**Cameli-Denizli**	**1.70**	**82**	Pn	**Pn**	**13 24 12.4**	**+0.3**
ZKR	**Zakros**	**1.79**	**207**	Pn	**Pn**	**13 24 13.3**	**+0.1**
ZKR	**Zakros**	**1.79**	**207**	P	**Pb**	**13 24 15.1**	**+0.2**
APMY	**Acipayam-Deniz**	**1.84**	**65**	Pn	**Pn**	**13 24 14.4**	**+0.4**
CHOS	**Chios island**	**1.90**	**332**	P	**Pn**	**13 24 12.9**	**-2.0**
AKAS	**Kas**	**1.99**	**103**	Pn	**Pn**	**13 24 16.5**	**+0.3**
KULA	**Kula-Manisa**	**2.14**	**32**	Pn	**Pn**	**13 24 18.4**	**+0.3**
ELL	**Elmali**	**2.17**	**88**	Pn	**Pn**	**13 24 19.2**	**+0.6**
GORD	**Gordes-Manisa**	**2.32**	**19**	Pn	**Pn**	**13 24 20.6**	**0.0**
DKL	**Dikili**	**2.37**	**354**	Pn	**Pn**	**13 24 21.8**	**+0.7**

*IDC **25** 13:27:20.5±0.6, 18.21N×146.89E, h0km, mb4.1/16, mbtmp4.1/17, ML3.4/1, MS3.6/23, Error ellipse: s-maj=25.9km s-min=13.8km az=87.0*
*NEIC **25** 13:27:29.4±1.5, 18.07N±0.04×146.5E±0.1, h58km±7km, mb4.6/39, Error ellipse: s-maj=18.1km s-min=5.0km az=103.0*

ISC 25 13:27:29.6±0.4, 18.11N±0.05×146.67E±0.10, h66km, n98, σ1.28/74, mb4.5/39, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.81**	**201**	Pn	**Pn**	**13 28 37.9**	**-1.7**
GUMO	**Guam**	**4.81**	**201**	Pn	**Pn**	**13 28 40.5**	**+0.8**
	35nm,0.3s,baz=18,slow=18,SNR=13						
GUMO				Sn	**Sn**	**13 29 39.3**	**+5.2**
	18nm,0.3s,baz=0.0,slow=20,SNR=1.9						
GUMO				LR	LR	13 30 23.5	
	comp=Z,308nm,20.2s,baz=30,slow=37						
JOW	**Kunigami**	**19.08**	**300**	LR	LR	13 38 35.1	
	comp=Z,247nm,19.0s,baz=102,slow=35						
H11N1	**WAKE ISLAND Hy**	**19.20**	**82**	T	T	13 51 05.2	
	baz=266,slow=74,SNR=12						
INU	**Inuyama**	**19.20**	**335**	P	**P**	**13 31 46.5**	**-1.7**
H11N2	**WAKE ISLAND Hy**	**19.20**	**82**	T	T	13 51 00.8	
	baz=266,slow=74,SNR=14						
H11N3	**WAKE ISLAND Hy**	**19.21**	**82**	T	T	13 50 59.4	
	baz=266,slow=74,SNR=11						
JGF	**Kuroka**	**19.29**	**336**	P	**P**	**13 31 49.6**	**+0.4**
JGF				IAmb	IAmb	13 32 08.1	
	comp=Z,38nm,1.4s						
MJAR	**Matsushiro Arr**	**19.83**	**340**	P	**P**	**13 31 53.9**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=158,slow=11,SNR=7.4						
MJAR				LR	LR	13 39 42.0	
	comp=Z,78nm,19.0s,baz=150,slow=37						
	comp=Z,1.2nm,0.5s						
MAJO	**Matsushiro**	**19.83**	**340**	P	**P**	**13 31 54.3**	**-0.8**
MJB9	**Matsu-Tunnel**	**19.83**	**340**	P	**P**	**13 31 54.4**	**-0.7**
JNU	**Nakatsue**	**20.61**	**320**	P	**P**	**13 32 02.5**	**-1.1**
JNU				IAmb	IAmb	13 32 21.5	
	comp=Z,21nm,1.2s						
JNU	**Nakatsue**	**20.61**	**320**	P	**P**	**13 32 04.0**	**+0.4**
	comp=Z,8.4nm,1.1s,baz=108,slow=3.2,SNR=2.6						
JNU				LR	LR	13 39 12.9	
	comp=Z,128nm,18.7s,baz=138,slow=34						
	comp=Z,8.4nm,1.1s						
DAV	**Davao City (W)**	**23.30**	**245**	LR	LR	13 40 11.1	
	comp=Z,163nm,21.5s,baz=338,slow=33						
TGY	**Tagaytay City**	**25.04**	**265**	LR	LR	13 41 28.0	
	comp=Z,146nm,21.1s,baz=120,slow=34						
FAKI	**Fak Fak**	**25.27**	**216**	P	**P**	**13 32 48.0**	**-1.9**
FAKI				IAmb	IAmb	13 33 06.1	
	comp=Z,11nm,0.8s						
KSRS	**Korea Array**	**25.34**	**323**	P	**P**	**13 32 49.9**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=147,slow=8.9,SNR=7.5						
KSRS				LR	LR	13 43 17.1	
	comp=Z,124nm,18.4s,baz=130,slow=38						
	comp=Z,2.0nm,0.8s						
KSAR	**Wonju Array Be**	**25.36**	**323**	P	**P**	**13 32 50.6**	**0.0**
KS19	**Wonju Array Si**	**25.41**	**323**	P	**P**	**13 32 51.4**	**+0.4**
KS19				IAmb	IAmb	13 33 15.1	
	comp=Z,30nm,1.5s						
JKA	**Kamikawa-asahi**	**26.16**	**353**	P	**P**	**13 32 59.6**	**+1.9**
JKA				IAmb	IAmb	13 33 02.5	
	comp=Z,37nm,1.3s						
PMG	**Port Moresby**	**27.34**	**179**	P	**P**	**13 33 07.8**	**-0.8**
PMG				IAmb	IAmb	13 33 17.1	
	comp=Z,17nm,1.2s						
NJ2	**Nanjing**	**28.67**	**304**	*e*P	**P**	**13 33 21.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**28.80**	**338**	LR	LR	13 44 32.1	
	comp=Z,87nm,19.2s,baz=183,slow=36						
HNR	**Honiara**	**30.34**	**153**	P	**P**	**13 33 35.0**	**-0.2**
HNR				IAmb	IAmb	13 34 18.0	
	comp=Z,24nm,1.0s						
HNR	**Honiara**	**30.34**	**153**	LR	LR	13 44 23.7	
	comp=Z,116nm,21.4s,baz=322,slow=34						
TOLI2	**Tolitoli**	**30.52**	**239**	P	**P**	**13 33 34.3**	**-2.7**
COEN	**Coen**	**32.05**	**186**	P	**P**	**13 33 48.9**	**-1.3**
COEN				IAmb	IAmb	13 33 51.5	
	comp=Z,6.6nm,1.0s						
KLR	**Kul'dur**	**33.31**	**342**	LR	LR	13 51 19.9	
	comp=Z,23nm,18.3s,baz=132,slow=43						
MTN	**Manton Dam**	**34.36**	**208**	IAmb	IAmb	13 34 08.6	
	comp=Z,8.2nm,1.1s						
MTN				P	**P**	**13 34 08.8**	**-1.6**
SOEI	**Soe**	**35.44**	**220**	P	**P**	**13 34 17.6**	**-2.2**
HEH	**HeiHe**	**35.59**	**339**	*e*P	**P**	**13 34 22.5**	**+1.8**
ENH	**Enshi**	**35.86**	**297**	P	**P**	**13 34 22.2**	**-1.1**
ENH				IAmb	IAmb	13 34 46.6	
	comp=Z,19nm,1.5s						
XLT	**XiLinHaoTe**	**36.37**	**322**	*e*P	**P**	**13 34 25.3**	**-2.2**
XLT				pP	pP	13 34 39.0	-3.6
XLT				sP	sP	13 34 52.8	+2.9
XLT				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**37.68**	**314**	*e*P	**P**	**13 34 40.5**	**+1.8**
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,48nm,4.7s						
KNRA	**Kunounrra**	**37.92**	**209**	P	**P**	**13 34 40.6**	**-0.2**
KNRA				IAmb	IAmb	13 34 49.3	
	comp=Z,18nm,1.3s						
CTA	**Charters Tower**	**37.96**	**181**	LR	LR	13 50 00.6	
	comp=Z,107nm,21.8s,baz=5.0,slow=36						
CTAO	**Charters Tower**	**37.96**	**181**	P	**P**	**13 34 41.3**	**+0.2**
WB0	**Warramunga Arr**	**39.52**	**198**	P	**P**	**13 34 54.2**	**0.0**
WB0				IAmb	IAmb	13 35 24.1	
	comp=Z,4.7nm,0.8s						
WR0	**Warramunga Arr**	**39.66**	**198**	P	**P**	**13 34 55.2**	**-0.1**
WB2	**Warramunga Arr**	**39.70**	**198**	P	**P**	**13 34 55.8**	**+0.1**
WB2				IAmb	IAmb	13 35 16.4	
	comp=Z,6.3nm,0.9s						
WRA	**Warramunga Arr**	**39.70**	**198**	P	**P**	**13 34 55.7**	**0.0**
WRA	**Warramunga Arr**	**39.70**	**198**	P	**P**	**13 34 55.8**	**0.0**
	comp=Z,1.1nm,0.4s,baz=20,slow=7.9,SNR=16						
WRA				PcP	**PcP**	**13 37 02.4**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=14,slow=3.4,SNR=6.2						
	comp=Z,1.1nm,0.4s						
FITZ	**Fitzroy Crossi**	**41.50**	**211**	P	**P**	**13 35 10.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**41.50**	**211**	P	**P**	**13 35 10.0**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=38,slow=13,SNR=7.4						
	comp=Z,3.3nm,0.8s						
LZH	**Lanzhou**	**41.74**	**304**	*e*P	P	13 35 18.0	+5.3
LZH				pP	sP	13 35 36.3	+1.1
LZH				pmax	pmax		
	comp=Z,11nm,0.9s						
PZH	**PanZhiHua**	**42.23**	**290**	P	**P**	**13 35 16.5**	**-0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
AS31	**Alice Springs**	**43.35**	**197**	P	**P**	**13 35 26.3**	**+0.8**
ASAR	**Alice Springs**	**43.35**	**197**	P	**P**	**13 35 26.1**	**+0.6**
ASAR	**Alice Springs**	**43.35**	**197**	P	**P**	**13 35 27.0**	**+1.4**
	comp=Z,1.1nm,0.4s,baz=23,slow=7.1,SNR=64						
ASAR				PcP	**PcP**	**13 37 14.2**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=27,slow=2.8,SNR=5.1						
	comp=Z,1.1nm,0.4s						
DZM	**Mont Dzumac**	**44.37**	**153**	*e*LR	LR	13 48 04.0	
	comp=Z,209nm,24.6s						
DZM	**Mont Dzumac**	**44.37**	**153**	LR	LR	13 52 11.4	
	comp=Z,135nm,19.4s,baz=20,slow=34						
CMAR	**Chiang Mai Arr**	**45.22**	**278**	P	**P**	**13 35 43.8**	**+3.1**
	comp=Z,0.6nm,0.4s,baz=66,slow=7.2,SNR=5.4						
CMAR				LR	LR	13 53 23.0	
	comp=Z,38nm,20.7s,baz=85,slow=34						
YAK	**Yakutsk**	**45.48**	**349**	LR	LR	13 56 28.3	
	comp=Z,29nm,19.5s,baz=134,slow=38						
ARMA	**Armidale**	**48.48**	**174**	P	**P**	**13 36 05.5**	**-0.4**
ARMA				IAmb	IAmb	13 36 20.8	
	comp=Z,16nm,1.2s						
PSI	**Prapat**	**49.18**	**258**	LR	LR	13 55 27.5	
	comp=Z,53nm,21.4s,baz=350,slow=34						
STKA	**Stephens Creek**	**49.94**	**186**	P	**P**	**13 36 16.4**	**-0.5**
STKA	**Stephens Creek**	**49.94**	**186**	P	**P**	**13 36 16.6**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=13,slow=14,SNR=2.2						
	comp=Z,0.7nm,0.3s						
BBOO	**Buckleboo**	**51.64**	**191**	P	**P**	**13 36 30.0**	**+0.4**
HUH	**Hualalai**	**54.19**	**78**	P	**P**	**13 36 50.2**	**+1.1**
TIXI	**Tiksi**	**54.56**	**353**	P	**P**	**13 36 51.0**	**+0.4**
TIXI				IAmb	IAmb	13 37 08.5	
	comp=Z,9.0nm,1.4s						
MORW	**Morawa**	**55.45**	**213**	P	**P**	**13 36 56.9**	**-0.8**
ZAA0	**Zalesovo Array**	**59.05**	**323**	P	**P**	**13 37 21.9**	**-0.9**
ZAA0				IAmb	IAmb	13 38 06.2	
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**59.05**	**323**	P	**P**	**13 37 22.0**	**-0.8**
ZALV	**Zalesovo Beam**	**59.05**	**323**	P	**P**	**13 37 22.1**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=101,slow=7.7,SNR=5.2						
	comp=Z,1.1nm,0.4s						
MKAR	**Makanchi Array**	**59.54**	**314**	P	**P**	**13 37 25.9**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=85,slow=7.7,SNR=7.7						
	comp=Z,0.8nm,0.6s						
CAST	**Castle Rocks**	**61.20**	**27**	P	**P**	**13 37 38.2**	**+0.8**
KURK	**Kurchatov**	**62.33**	**318**	P	**P**	**13 37 44.8**	**-0.3**
KURK				IAmb	IAmb	13 38 00.8	
	comp=Z,3.5nm,0.9s						
KURBB	**Kurchatov Arra**	**62.38**	**318**	P	**P**	**13 37 45.2**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=92,slow=7.5,SNR=24						
KURBB				LR	LR	14 06 18.6	
	comp=Z,65nm,18.3s,baz=160,slow=37						
	comp=Z,1.8nm,0.5s						
NRIK	**Noril'sk**	**62.48**	**340**	P	**P**	**13 37 45.8**	**0.0**
NRIK				IAmb	IAmb	13 37 59.7	
	comp=Z,6.0nm,0.9s						
NRIK	**Noril'sk**	**62.48**	**340**	P	**P**	**13 37 45.7**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=118,slow=7.8,SNR=7.3						
	comp=Z,3.4nm,0.6s						
URZ	**Urewera**	**62.93**	**153**	LR	LR	14 02 41.2	
	comp=Z,57nm,19.6s,baz=64,slow=34						
ILAR	**Eielson Array**	**63.77**	**26**	P	**P**	**13 37 52.3**	**-2.1**
	comp=Z,0.6nm,0.9s,baz=264,slow=6.1,SNR=4.7						
	comp=Z,0.6nm,0.9s						
TOLK	**Toolik Lake Re**	**63.80**	**21**	P	**P**	**13 37 56.1**	**+1.5**
TOLK				IAmb	IAmb	13 38 11.8	
	comp=Z,11nm,1.4s						
AAK	**Ala-Archa**	**64.96**	**309**	LR	LR	14 07 27.4	
	comp=Z,41nm,20.2s,baz=52,slow=37						
BVAR	**Borovoye Array**	**67.52**	**321**	P	**P**	**13 38 18.9**	**+0.1**
	comp=Z,3.1nm,0.5s,baz=93,slow=7.6,SNR=23						
	comp=Z,3.1nm,0.5s						
BRVK	**Borovoye**	**67.58**	**321**	P	**P**	**13 38 18.0**	**-1.2**
BRVK				IAmb	IAmb	13 38 34.2	
	comp=Z,3.8nm,0.9s						
KKAR	**Karatay Array**	**67.86**	**310**	P	**P**	**13 38 20.8**	**-0.4**
R32K	**Eaglecrest**	**68.91**	**34**	P	**P**	**13 38 28.3**	**+0.9**
PPT2	**Papeete2**	**72.03**	**116**	*e*LR	LR	14 00 42.9	
	comp=Z,92nm,27.5s						
PPT2				*e*LR	LR	14 01 00.3	
	comp=Z,84nm,24.0s						
ABKAR	**Akbulak array**	**74.40**	**317**	P	**P**	**13 39 00.0**	**-0.5**
TAOE	**Nuku Hiva Isla**	**77.01**	**104**	*e*LR	LR	14 03 01.9	
	comp=Z,50nm,23.9s						
YKA	**Yellowknife Ar**	**78.08**	**28**	P	**P**	**13 39 20.2**	**-0.9**
YKA	**Yellowknife Ar**	**78.08**	**28**	P	**P**	**13 39 19.4**	**-1.7**
	comp=Z,1.2nm,0.9s,baz=293,slow=5.6,SNR=5.0						
	comp=Z,1.2nm,0.9s						
RES	**Resolute Bay**	**79.78**	**14**	P	**P**	**13 39 32.3**	**+2.1**
RES				IAmb	IAmb	13 39 52.9	
	comp=Z,5.9nm,1.1s						
NVAR	**Mina Array Bea**	**82.77**	**52**	P	**P**	**13 39 46.8**	**-0.3**
NVAR	**Mina Array Bea**	**82.77**	**52**	P	**P**	**13 39 46.0**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=258,slow=6.2,SNR=6.2						
	comp=Z,0.7nm,0.7s						
ARCES	**ARCESS Array B**	**83.34**	**342**	P	**P**	**13 39 49.0**	**-0.2**

comp=N,117nm,0.2s
SDDR IAML 13 30 08.9
comp=N,64nm,0.3s
SDDR Presa de Saban 2.04 251 *i* P **Pn 13 29 42.4 +3.5**
SDDR *e*S **Sn 13 30 05.8 +2.2**
SDDR IAML 13 30 10.1
comp=Z,99nm,0.3s
LONE3 El Aguacate, B 2.34 243 *i* P **Pn 13 29 45.7 +2.7**
AGPR Aguadilla, PR 2.36 120 *i* P **Pn 13 29 45.2 +2.1**
AGPR *e*S **Sn 13 30 11.6 +0.4**
AGPR IAML 13 30 12.3
comp=Z,98nm,0.5s
CRPR Cabo Rojo, PR 2.63 129 *i* P **Pn 13 29 48.5 +1.7**
CRPR *e*S **Sn 13 30 17.8 +0.2**
CRPR IAML 13 30 21.3
comp=Z,88nm,0.7s
LOVI El Cajuil, Ovi 2.74 227 *i* P **Pn 13 29 49.6 +1.3**
LOBH Bahia de las A 2.89 232 *i* P **Pn 13 29 52.6 +2.3**
MASC Masc 4.71 277 *e*P **Pn 13 30 15.7 +0.6**
MASC *e*S **Sn 13 31 05.7 -2.7**
QMBU Quimbuelo 5.25 277 *e*P Pn 13 30 19.3 -3.2
QMBU *e*S **Sn 13 31 17.8 -4.0**
MOAC Moa 5.45 281 *e*S **Sn 13 31 22.5 -4.0**
GTBY Guantanamo Bay 5.52 274 *e*P **Pn 13 30 26.7 +0.5**
GTBY *e*S **Sn 13 31 24.6 -3.6**
RCC Rio Carpintero 6.07 274 *e*P **Pn 13 30 34.5 +0.8**
RCC *e*S Sn 13 31 36.9 -4.9
PINC Pinares de May 6.19 279 *e*S Sn 13 31 36.0 -8.8

*NOU **25** 13:33:41.1, 47.°94S×165.°24E, h0km, MLv4.6/10, Off W. Coast of S. Island, N.Z.*
*IDC **25** 13:33:43.8±1.1, 48.°11S×164.°83E, h0km, mb4.0/5, mbtmp4.0/6, ML3.9/1, MS3.4/11, Error ellipse: s-maj=37.7km s-min=22.7km az=62.0*
*NEIC **25** 13:33:43.4±1.3, 47.80S±0.°04×165.°2E±0.°2, h10km±1km, mb4.2/7, Error ellipse: s-maj=17.7km s-min=6.1km az=262.0*
ISC 25 13:33:44.7±4.6, 47.°90S±0.°07×165.°36E±0.°07, h17km±29km, n80, σ1§92/67, mb4.0/9, MS3.4/10, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.96**	**28**		Pn	13 34 14.9	-2.3
PYZ	**Puysegur Point**	**1.96**	**28**	P	Pn	13 34 15.7	-1.4
PYZ				S	**Sn**	**13 34 38.5**	**-2.8**
PYZ				T	T	13 36 13.2	
PYZ	**Puysegur Point**	**1.96**	**28**	P	Pn	13 34 15.9	-1.3
APZ	**The Paps**	**2.08**	**60**	P	Pn	13 34 18.1	-0.8
APZ				S	**Sn**	**13 34 43.0**	**-1.5**
RRKS	**Rarakau**	**2.27**	**40**	P	**Pn**	**13 34 21.0**	**-0.5**
RRKS				S	**Sn**	**13 34 48.3**	**-0.8**
WHZ	**Wether Hill Ro**	**2.68**	**42**		Pn	13 34 25.8	-1.3
WHZ	**Wether Hill Ro**	**2.68**	**42**	P	Pn	13 34 25.9	-1.3
WHZ				S	**Sn**	**13 34 59.2**	**+0.1**
DCZ	**Deep Cove**	**2.73**	**28**		**Pn**	**13 34 27.1**	**-0.7**
DCZ	**Deep Cove**	**2.73**	**28**	P	**Pn**	**13 34 28.6**	**+0.8**
DCZ				S	**Sn**	**13 34 59.2**	**-1.2**
SYZ	**Scrubby Hill**	**2.92**	**63**	P	**Pn**	**13 34 30.1**	**-0.2**
SYZ				S	**Sn**	**13 35 04.2**	**-0.7**
SYZ	**Scrubby Hill**	**2.92**	**63**	P	**Pn**	**13 34 29.9**	**-0.4**
MLZ	**Mavora Lakes**	**3.17**	**38**		**Pn**	**13 34 33.1**	**-0.7**
MLZ	**Mavora Lakes**	**3.17**	**38**	P	**Pn**	**13 34 33.9**	**0.0**
MLZ				S	**Sn**	**13 35 12.6**	**+1.3**
TUZ	**Tuapeka**	**3.52**	**58**	P	**Pn**	**13 34 38.3**	**-0.3**
TUZ				S	**Sn**	**13 35 19.7**	**0.0**
MSZ	**Milford Sound**	**3.69**	**30**	P	**Pn**	**13 34 43.2**	**+2.3**
MSZ				S	**Sn**	**13 35 28.6**	**+4.7**
EAZ	**Earnscleugh**	**3.81**	**47**	P	**Pn**	**13 34 42.5**	**-0.1**
EAZ				S	**Sn**	**13 35 27.8**	**+0.7**
WKZ	**Wanaka**	**3.98**	**41**		**Pn**	**13 34 45.0**	**-0.1**
WKZ	**Wanaka**	**3.98**	**41**	P	**Pn**	**13 34 46.4**	**+1.4**
WKZ				S	**Sn**	**13 35 34.2**	**+2.8**
HHSZ	**Highcliff Hill**	**4.12**	**63**	P	**Pn**	**13 34 48.1**	**+1.2**
JCZ	**Jackson Bay**	**4.51**	**33**	P	Pn	13 34 51.3	-1.1
JCZ				S	**Sn**	**13 35 46.3**	**+1.9**
JCZ	**Jackson Bay**	**4.51**	**33**	P	**Pn**	**13 34 52.0**	**-0.4**
ODZ	**Otahua Downs**	**4.64**	**54**	P	Pn	13 34 52.0	-2.0
ODZ				S	**Sn**	**13 35 44.3**	**-3.1**
ODZ	**Otahua Downs**	**4.64**	**54**	P	Pn	13 34 53.1	-0.9
LBZ	**Lake Benmore**	**4.86**	**45**	Pn	Pn	13 34 54.7	-2.4
LBZ	**Lake Benmore**	**4.86**	**45**	P	Pn	13 34 54.6	-2.4
LBZ				S	**Sn**	**13 35 49.1**	**-3.8**
FOZ	**Fox Glacier**	**5.37**	**37**	P	**Pn**	**13 35 06.4**	**+2.4**
FOZ				S	**Sn**	**13 36 05.7**	**+0.3**
GCSZ	**Gaunt Creek Bo**	**5.76**	**39**	P	**Pn**	**13 35 12.9**	**+3.5**
GCSZ				S	**Sn**	**13 36 14.7**	**-0.3**
RPZ	**Rata Peaks**	**5.78**	**46**	Pn	Pn	13 35 15.9	+6.3
	3.0nm,0.3s,baz=287,slow=2.1,SNR=6.3						
RPZ				Sn	**Sn**	**13 36 13.9**	**-1.6**
	7.7nm,0.3s,baz=21,slow=18,SNR=3.1 18nm,0.6s						
OXZ	**Oxford**	**6.55**	**48**	P	Pn	13 35 18.3	-1.9
INZ	**Inchbonnie**	**6.72**	**42**	P	**Pn**	**13 35 25.1**	**+2.5**
INZ				S	**Sn**	**13 36 35.5**	**-3.3**
LTZ	**Lake Taylor**	**7.06**	**46**	P	**Pn**	**13 35 30.5**	**+3.1**
DSZ	**Denniston Nort**	**7.67**	**39**	P	**Pn**	**13 35 38.8**	**+3.1**
MCQ	**Macquarie Isla**	**7.73**	**209**	P	Pn	13 35 33.6	-2.8
THZ	**Tophouse**	**8.15**	**44**	P	**Pn**	**13 35 44.2**	**+2.0**
MRNZ	**Matariki Terra**	**8.37**	**42**	Pn	**Pn**	**13 35 45.5**	**+0.3**
MRNZ	**Matariki Terra**	**8.37**	**42**	P	**Pn**	**13 35 46.5**	**+1.3**
MRNZ				S	**Sn**	**13 37 15.4**	**-3.9**
QRZ	**Quartz Range**	**8.74**	**39**	Pn	**Pn**	**13 35 49.5**	**-0.8**
QRZ	**Quartz Range**	**8.74**	**39**	P	**Pn**	**13 35 51.8**	**+1.5**
QRZ				S	**Sn**	**13 37 24.9**	**-3.5**
QRZ	**Quartz Range**	**8.74**	**39**	P	**Pn**	**13 35 49.5**	**-0.8**
HIZ	**Hauiti**	**11.65**	**40**	P	**Pn**	**13 36 30.6**	**+0.4**
URZ	**Urewera**	**12.89**	**46**	LR	LR	13 42 18.5	
	comp=Z,454nm,18.1s,baz=279,slow=39						
TAU	**Tasmania Unive**	**13.61**	**285**	Pn		13 36 53.0	-3.9
MOO	**Moorlands**	**13.92**	**286**	P	**Pn**	**13 36 59.4**	**-1.8**
OUZ	**Omahuta**	**14.08**	**29**	P	**Pn**	**13 37 02.4**	**-0.9**
GLAD	**Gladstone**	**14.18**	**293**	P	Pn	13 37 01.3	-3.3
TOO	**Toolangi**	**17.83**	**298**		**Pn**	**13 37 50.4**	**-1.5**
STKA	**Stephens Creek**	**24.12**	**303**	P	**P**	**13 39 01.2**	**+1.6**
	2.8nm,0.7s,baz=138,slow=14,SNR=5.4						
STKA				LR	LR	13 46 49.7	
	comp=Z,121nm,21.4s,baz=106,slow=33 2.8nm,0.7s						
MSVF	**Nonsavu**	**31.83**	**23**	LR	LR	13 51 09.8	
	comp=Z,39nm,18.4s,baz=354,slow=32						
ASAR	**Alice Springs**	**34.76**	**303**	P	**P**	**13 40 32.6**	**-1.6**
ASAR	**Alice Springs**	**34.76**	**303**	P	**P**	**13 40 33.9**	**-0.3**
	1.2nm,0.6s,baz=135,slow=7.4,SNR=25						
ASAR				PcP	**PcP**	**13 43 09.4**	**+1.9**
	0.3nm,0.8s,baz=140,slow=3.4,SNR=2.0 1.2nm,0.6s						
AS31	**Alice Springs**	**34.76**	**303**	P	**P**	**13 40 30.9**	**-3.3**
AS31				IAmb	IAmb	13 40 36.6	
	comp=Z,0.8nm,0.8s						
WR0	**Warramunga Arr**	**37.38**	**307**	P	**P**	**13 40 54.3**	**-2.3**
WR0				IAmb	IAmb	13 40 56.3	
	comp=Z,3.5nm,1.0s						
WB2	**Warramunga Arr**	**37.50**	**307**	P	**P**	**13 40 55.0**	**-2.6**
WB2				IAmb	IAmb	13 40 58.3	
	comp=Z,8.2nm,1.4s						
WRA	**Warramunga Arr**	**37.51**	**307**	P	**P**	**13 40 56.6**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=142,slow=8.3,SNR=11						
WRA				PcP	**PcP**	**13 43 18.0**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=151,slow=3.1,SNR=4.0 comp=Z,1.4nm,0.7s						
WB0	**Warramunga Arr**	**37.62**	**307**	P	**P**	**13 40 56.5**	**-2.1**
WB0				IAmb	IAmb	13 41 08.6	
	comp=Z,7.0nm,1.2s						
RAR	**Rarotonga**	**38.63**	**59**	LR	LR	13 55 58.7	
	comp=Z,50nm,19.1s,baz=256,slow=34						
H01W1	**Cape Leeuwin H**	**39.84**	**270**	T	T	14 23 17.3	
	baz=124,slow=76,SNR=28						
H01W2	**Cape Leeuwin H**	**39.85**	**270**	T	T	14 23 19.6	
	baz=124,slow=76,SNR=33						
H01W3	**Cape Leeuwin H**	**39.86**	**270**	T	T	14 23 19.9	
	baz=124,slow=76,SNR=35						
PMG	**Port Moresby**	**41.34**	**332**	LR	LR	13 57 54.9	
	comp=Z,53nm,18.7s,baz=168,slow=35						
QSPA	**South Pole Qui**	**42.22**	**180**	P	**P**	**13 41 37.2**	**+0.6**
QSPA				IAmb	IAmb	13 41 41.2	
	comp=Z,6.5nm,1.3s						
QSPA	**South Pole Qui**	**42.22**	**180**	P	**P**	**13 41 36.8**	**+0.3**
	comp=Z,1.8nm,1.0s,baz=47,slow=2.3,SNR=4.3 comp=Z,1.8nm,1.0s						
FITZ	**Fitzroy Crossi**	**43.89**	**299**	LR	LR	14 00 06.3	
	comp=Z,147nm,18.1s,baz=158,slow=36						
PSA00	**Pilbara Seismi**	**44.82**	**290**	P	**P**	**13 41 57.3**	**-0.5**
MAW	**Mawson**	**51.13**	**209**	LR	LR	14 01 55.6	
	comp=Z,54nm,19.3s,baz=100,slow=33						
BATI	**Baumata**	**51.33**	**303**	LR	LR	14 04 22.0	
	comp=Z,74nm,18.1s,baz=196,slow=36						
SNAA	**Sanae**	**60.44**	**184**	P	**P**	**13 43 52.6**	**-0.2**
SNAA	**Sanae**	**60.44**	**184**	P	**P**	**13 43 52.3**	**-0.5**
	comp=Z,2.3nm,1.1s,baz=176,slow=16,SNR=3.6 comp=Z,2.3nm,1.1s						
H04S2	**CROZET ISLANDS**	**69.26**	**222**	T	T	15 01 03.5	
	baz=140,slow=74						
H04S1	**CROZET ISLANDS**	**69.26**	**222**	T	T	15 01 03.1	
	baz=140						
H04S3	**CROZET ISLANDS**	**69.28**	**222**	T	T	15 01 01.7	
	baz=140,slow=74						
H08S2	**Diego Garcia H**	**86.31**	**263**	T	T	15 21 11.6	
	baz=138,slow=76						
H08S1	**Diego Garcia H**	**86.32**	**263**	T	T	15 21 12.5	
	baz=138,slow=76						
H08S3	**Diego Garcia H**	**86.33**	**263**	T	T	15 21 13.1	
	baz=138,slow=76						
JNU	**Nakatsue**	**86.38**	**332**	LR	LR	14 21 45.5	
	comp=Z,11nm,21.8s,baz=154,slow=33						
CMAR	**Chiang Mai Arr**	**88.70**	**300**	LR	LR	14 27 17.5	
	comp=Z,9.7nm,19.7s,baz=175,slow=36						
KSRS	**Korea Array**	**91.31**	**331**	LR	LR	14 25 25.9	
	comp=Z,6.7nm,20.3s,baz=65,slow=34						
BRTR	**Keskin Array B**	**144.71**	**275**	PKP	**PKPdf**	**13 53 20.5**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=141,slow=5.5,SNR=3.0						
AKASG	**Malin Array Be**	**151.57**	**292**	PKPbc	**PKPbc**	**13 53 37.4**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=80,slow=2.3,SNR=5.3						
FINES	**FINESS Array B**	**153.36**	**316**	PKPbc	**PKiKP**	**13 53 43.1**	**+2.3**
	comp=Z,1.6nm,0.8s,baz=56,slow=2.5,SNR=2.6						

RSNC 25 13:43:15.5±0.0, 13.°N±1.°×8.°1W±.°, h0km±2km, M3.0, mb3.9, ML3.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.26**	**302**	P	Pb	13 43 22.1	-0.9
PRVC				S	Sb	13 43 26.4	-1.6
SAIC	**Isla e San And**	**0.89**	**219**	P	Pb	13 43 33.3	-0.6
SAIC				S	Sb	13 43 47.3	+0.9
RNCC	**Cayo Roncador,**	**1.07**	**72**	P	Pg	13 43 36.3	+0.2
RNCC				S	Sb	13 43 51.1	-0.5
SERC	**Banco Serrana,**	**1.28**	**36**	P	Pg	13 43 39.2	-1.0
SERC				S	Sg	13 43 57.1	+0.3
BCIP	**Isla Barro Col**	**4.25**	**162**	P	Pn	13 44 17.9	-3.6
BCIP				S	Sn	13 45 05.4	-6.4
JTS	**Las Juntas de**	**4.75**	**232**	P	Pn	13 44 28.0	-0.4
JTS				S	Sn	13 45 23.1	-1.1
AZU	**Azuero**	**5.48**	**171**	P	Pn	13 44 41.0	+2.5
AZU				S	Sn	13 45 38.5	-3.8
CAPC	**Capurgana**	**5.90**	**141**	P	Pn	13 44 41.8	-2.4
CAPC				S	Sn	13 45 47.5	-5.1
MTDJ	**Mount Denham**	**6.05**	**35**	P	Pn	13 44 45.6	-0.8
	22nm,2.2s						
SJCC	**San Jacinto, C**	**6.72**	**119**	P	Pn	13 44 51.7	-3.9
SJCC				S	Sn	13 46 05.2	-7.7

*ATH **25** 13:45:41.5, 37.°08N×20.°24E, h15km±6km, ML3.6/13, Manual Solution by D.Makaris First location: 2018/11/25 13:46:17, This location: 2020/09/17 13:31:53 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
*IDC **25** 13:45:43.0±1.8, 37.°47N×20.°62E, h0km, mb3.6/8, mbtmp3.5/13, ML3.7/3, MS3.0/13, Error ellipse: s-maj=30.2km s-min=20.2km az=14.0*
*THE **25** 13:45:42.2, 37.°13N×20.°39E, h0km±4km, ML3.6/6, Error ellipse: s-maj=4.7km s-min=0.9km az=230.0*
*NAO **25** 13:45:43.6, 37.°20N×20.°56E, h10km, mb4.0*
ISC 25 13:45:44.7±1.3, 37.°24N±0.°04×20.°54E±0.°04, h17km±8km, n60, σ1§62/66, mb3.7/9, MS2.9/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.47**	**27**	P	**Pg**	**13 45 54.3**	**0.0**
KRI1				S	**Sb**	**13 46 02.8**	**+1.5**
	13μm,0.6s						
RTZL	**Ratzakli, Kefa**	**0.85**	**12**	P	**Pg**	**13 46 00.5**	**-0.9**
RTZL				S	**Sn**	**13 46 16.1**	**+2.1**
PSDA	**Pessada-Kefalo**	**0.87**	**2**	P	**Pg**	**13 46 01.2**	**-0.6**
PSDA				S	**Sn**	**13 46 16.2**	**+1.7**
	3μm,0.8s						
PSDA	**Pessada-Kefalo**	**0.87**	**2**	P	**Pg**	**13 46 01.2**	**-0.6**
PSDA				S	**Sn**	**13 46 15.6**	**+1.2**
VLS	**Valsamata**	**0.94**	**2**	P	**Pg**	**13 46 01.9**	**-1.0**
VLS				S	**Sn**	**13 46 17.3**	**+1.3**
	2μm,0.5s						
VLS	**Valsamata**	**0.94**	**2**	P	**Pg**	**13 46 01.9**	**-1.0**
VLS				S	**Sn**	**13 46 17.4**	**+1.3**
DMLN	**Damoulianata-K**	**1.00**	**352**	P	**Pg**	**13 46 02.8**	**-1.5**
DMLN				S	**Sn**	**13 46 19.2**	**+1.4**
	4μm,0.8s						
DMLN	**Damoulianata-K**	**1.00**	**352**	P	**Pg**	**13 46 03.1**	**-1.1**
DMLN				S	**Sn**	**13 46 18.5**	**+0.7**
SMHA	**Samh**	**1.01**	**5**	P	**Pb**	**13 46 03.9**	**+0.1**
SMHA				S	**Sn**	**13 46 19.9**	**+2.0**
PYL	**PYLOS**	**1.02**	**109**	P	**Pb**	**13 46 03.1**	**-0.8**
PYL				S	**Sg**	**13 46 19.4**	**+1.5**
	3μm,0.9s						
RLS	**Riolos of Patr**	**1.10**	**42**	P	**Pb**	**13 46 05.2**	**0.0**
RLS	**Riolos of Patr**	**1.10**	**42**	P	**Pb**	**13 46 05.6**	**+0.4**
RLS				S	**Sn**	**13 46 23.1**	**+3.1**
ITM	**Ithomi**	**1.11**	**93**	P	**Pn**	**13 46 05.5**	**+0.1**
ITM				S	**Sn**	**13 46 23.4**	**+3.1**
	2μm,0.6s						
ITM	**Ithomi**	**1.11**	**93**	P	**Pn**	**13 46 05.8**	**+0.4**
ITM				S	**Sn**	**13 46 23.5**	**+3.2**
DRO	**Drossia**	**1.17**	**52**	P	**Pn**	**13 46 06.5**	**+0.2**
FSK	**Fiskardo**	**1.22**	**1**	P	**Pn**	**13 46 06.8**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.48**	**5**	P	**Pb**	**13 46 11.8**	**+0.1**
KLV	**Kalavryta, Ach**	**1.51**	**57**	P	**Pn**	**13 46 12.2**	**+1.2**
KLV	**Kalavryta, Ach**	**1.51**	**57**	P	**Pn**	**13 46 12.2**	**+1.2**
ANX	**Ano Chora**	**1.74**	**39**	P	**Pn**	**13 46 15.7**	**+1.5**
LTK	**Loutraki**	**2.08**	**67**	P	**Pn**	**13 46 20.1**	**+1.3**
MAKR	**Makrakomi, Fth**	**2.17**	**35**	P	**Pn**	**13 46 21.4**	**+1.3**
THL	**Klokotos Trika**	**2.59**	**26**	P	**Pn**	**13 46 28.0**	**+2.2**
TYRN	**Tyrnavos**	**2.80**	**28**	P	**Pn**	**13 46 29.9**	**+1.2**
DION	**Dionisos Attik**	**2.82**	**72**	P	**Pn**	**13 46 29.9**	**+1.0**
NEO	**Neokhori**	**2.95**	**45**	P	**Pn**	**13 46 32.3**	**+1.5**
LIT	**Litokhoron**	**3.24**	**27**	P	**Pn**	**13 46 36.2**	**+1.5**
FNA	**Florina**	**3.60**	**10**	P	**Pn**	**13 46 39.9**	**+0.1**
PLG	**Polygyros**	**3.86**	**35**	P	**Pn**	**13 46 44.3**	**+0.9**
OHR	**Ohrid**	**3.87**	**3**	*i* Pn	**Pn**	**13 46 46.0**	**+2.5**
HORT	**Hortiatis**	**3.90**	**30**	P	**Pn**	**13 46 45.4**	**+1.5**
IDI	**Anoyia**	**4.02**	**118**	Pn	**Pn**	**13 46 48.0**	**+2.5**
	3.3nm,0.5s,baz=270,slow=14,SNR=3.2						
IDI				Sn	**Sn**	**13 47 32.0**	**-0.2**
	2.1nm,0.3s,baz=313,slow=19,SNR=2.3						
IDI				LR	LR	13 48 30.7	
	comp=Z,206nm,21.4s,baz=306,slow=41						
VAE	**Valguarnera**	**4.89**	**275**	Pn	**Pn**	**13 47 00.4**	**+2.9**
	5.1nm,0.5s,baz=109,slow=18,SNR=1.4						
VAE				Sn	**Sn**	**13 47 57.9**	**+4.3**
	2.2nm,0.3s,baz=0.0,slow=19,SNR=2.5						
MLR	**Muntele Rosu**	**9.19**	**25**	Pn	**Pn**	**13 47 56.1**	**-0.4**
	0.2nm,0.3s,baz=234,slow=18,SNR=3.8						
MLR				LR	LR	13 51 37.1	
	comp=Z,38nm,18.3s,baz=217,slow=40 0.9nm,0.5s						
OBKA	**Obir**	**10.28**	**336**	*i* Pn	**Pn**	**13 48 12.0**	**+0.6**
	0.8nm,0.3s						
SOKA	**Soboth**	**10.28**	**338**	*e*Pn	**Pn**	**13 48 11.2**	**-0.2**
	1.1nm,0.4s						
BRTR	**Keskin Array B**	**10.56**	**72**	Pn	Pn	13 48 24.9	+9.5
	baz=237,slow=13						
BRTR				LR	LR	13 53 06.6	
	comp=Z,91nm,19.5s,baz=262,slow=42						
KBA	**Koelnbreinsper**	**11.18**	**334**	*e*Pn	**Pn**	**13 48 25.6**	**+1.8**
	1.6nm,0.5s						
MOA	**Molln**	**11.56**	**338**	*e*Pn	**Pn**	**13 48 30.8**	**+1.9**
	0.8nm,0.3s						
LESA	**Schwarzleotal**	**11.71**	**333**	*e*Pn	**Pn**	**13 48 33.8**	**+2.8**
	1.3nm,0.4s						
DAVOX	**Davos/Dischmat**	**12.39**	**324**	LR	LR	13 55 28.8	
	comp=Z,65nm,18.8s,baz=72,slow=48						
VRAC	**Vranov**	**12.40**	**348**	LR	LR	13 54 02.0	
	comp=Z,57nm,21.0s,baz=171,slow=41						
GERES	**GERESS Array B**	**12.62**	**339**	Pn	**Pn**	**13 48 43.7**	**+0.3**
	0.2nm,0.3s,baz=167,slow=14,SNR=1.9 0.4nm,0.5s						
AKASG	**Malin Array Be**	**14.82**	**22**	Pn	**Pn**	**13 49 10.5**	**-2.8**
	0.4nm,0.3s,baz=211,slow=9.5,SNR=3.0 0.1nm,0.3s						
GNI	**Garni**	**19.10**	**74**	LR	LR	13 58 03.2	
	comp=Z,46nm,18.3s,baz=277,slow=39						
MDT	**Midelt**	**21.04**	**265**	LR	LR	13 58 21.7	
	comp=Z,55nm,21.4s,baz=356,slow=36						
HFS	**Hagfors**	**23.33**	**351**	P	**P**	**13 50 49.1**	**-2.6**
	1.6nm,0.4s,baz=163,slow=10,SNR=13						
HFS				LR	LR	14 01 42.0	
	comp=Z,36nm,18.6s,baz=253,slow=42 1.6nm,0.4s						
EKA	**Eskdalemuir Ar**	**24.21**	**326**	P	**P**	**13 50 59.5**	**-0.7**
	0.3nm,0.4s,baz=151,slow=4.5,SNR=1.5 0.3nm,0.4s						
BELG	**Belogornoye**	**24.27**	**43**	LR	LR	14 01 00.8	
	comp=Z,23nm,20.2s,baz=251,slow=38						
FINES	**FINESS Array B**	**24.48**	**6**	P	**P**	**13 51 01.2**	**-1.3**
	1.0nm,0.5s,baz=201,slow=10,SNR=7.7 1.0nm,0.5s						
NB2	**NORSAR Subarra**	**24.54**	**349**	P	**P**	**13 51 03.0**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=162,slow=9.3						
NOA	**NORSAR Array B**	**24.54**	**349**	P	**P**	**13 51 02.3**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=158,slow=9.0,SNR=7.1						
NOA				LR	LR	14 01 38.7	
	comp=Z,19nm,18.2s,baz=300,slow=39 comp=Z,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**32.47**	**3**	P	**P**	**13 52 12.8**	**-1.0**
	comp=Z,4.3nm,0.9s,baz=189,slow=10,SNR=5.5 comp=Z,4.3nm,0.9s						
BVAR	**Borovoye Array**	**37.71**	**49**	P	**P**	**13 52 58.9**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=304,slow=3.1,SNR=2.3 comp=Z,0.4nm,0.6s						
MBAR	**Mbarara**	**38.82**	**164**	LR	LR	14 09 21.5	
	comp=Z,33nm,18.1s,baz=88,slow=36						
SPITS	**Spitsbergen Ar**	**41.08**	**359**	P	**P**	**13 53 25.2**	**-1.7**
	comp=Z,8.4nm,0.8s,baz=122,slow=2.2,SNR=2.0						
MKAR	**Makanchi Array**	**45.78**	**58**	P	**P**	**13 54 04.1**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=265,slow=7.4,SNR=5.1 comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.31**	**47**	P	**P**	**13 54 07.9**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=271,slow=8.5,SNR=2.0 comp=Z,0.6nm,0.4s						
RCBR	**Riachuelo**	**67.78**	**244**	LR	LR	14 25 57.8	
	comp=Z,17nm,18.1s,baz=212,slow=36						
KSRS	**Korea Array**	**79.91**	**50**	LR	LR	14 37 42.0	
	comp=Z,23nm,18.5s,baz=70,slow=39						

RSNC 25 13:50:17.0±0.0, 13.°N±2.°×8.°1W±.°, h2km±2km, M3.1, mb4.0, ML3.1, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.27**	**306**	P	Pg	13 50 23.2	+1.0
PRVC				S	Sb	13 50 27.8	-1.8
SAIC	**Isla e San And**	**0.88**	**219**	P	Pg	13 50 34.2	+0.3
SAIC				S	Sn	13 50 48.5	-1.2
RNCC	**Cayo Roncador,**	**1.08**	**71**	P	Pg	13 50 37.1	-0.6
RNCC				S	Sb	13 50 52.5	-0.5
SERC	**Banco Serrana,**	**1.30**	**35**	P	Pg	13 50 40.8	-1.2
SERC				S	Sg	13 50 57.7	-1.1
ACON	**Acoyapa**	**4.13**	**253**	P	Pn	13 51 23.6	+2.4
BCIP	**Isla Barro Col**	**4.23**	**162**	P	Pn	13 51 19.5	-3.0
BCIP				S	Sn	13 52 07.3	-5.1
JTS	**Las Juntas de**	**4.73**	**232**	P	Pn	13 51 29.9	+0.4
AZU	**Azuero**	**5.46**	**171**	P	Pn	13 51 41.6	+2.1
	22nm,0.9s						
AZU				S	Sn	13 52 38.9	-4.0
	22nm,0.9s						
SJCC	**San Jacinto, C**	**6.71**	**119**	P	Pn	13 51 55.8	-0.9
SJCC				S	Sn	13 53 07.6	-6.2

RSNC 25 13:54:57.4±0.0, 13.°N±3.°×8.°1W±.°, h15km±5km, M2.8, mb4.3, ML2.7, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.20**	**292**	P	Pg	13 55 01.9	-0.2
PRVC				S	Sg	13 55 04.9	-0.4
SAIC	**Isla e San And**	**0.92**	**215**	P	Pb	13 55 13.0	-2.1
SAIC				S	Sb	13 55 27.3	+0.1
RNCC	**Cayo Roncador,**	**1.08**	**75**	P	Pb	13 55 15.9	-2.0
RNCC				S	Sb	13 55 31.2	-0.7
SERC	**Banco Serrana,**	**1.25**	**38**	P	Pn	13 55 19.5	-0.9
SERC				S	Sn	13 55 37.1	+0.1
BCIP	**Isla Barro Col**	**4.31**	**162**	P	Pn	13 55 58.1	-4.4
BCIP				S	Sn	13 56 46.0	-6.5
JTS	**Las Juntas de**	**4.76**	**231**	P	Pn	13 56 09.5	+0.8
JTS				S	Sb	13 57 14.6	-3.2
AZU	**Azuero**	**5.54**	**171**	P	Pn	13 56 21.1	+1.7
AZU				S	Sn	13 57 17.

BENV	**Beln**	**5.40**	**259**	*eP*	**Pn**	**14 00 38.8**	**+2.2**
BENV				*eS*	**Sn**	**14 01 35.2**	**-2.5**
CACV	**CAICARA DEL OR**	**5.48**	**231**	*eP*	**Pn**	**14 00 33.8**	**-3.9**
CACV				*eS*	Sn	14 01 27.2	-12
TURV	**Turiamo**	**5.55**	**265**	*eP*	**Pn**	**14 00 39.7**	**+1.0**
MBWH		**5.68**	**0**	*eP*	**Pn**	**14 00 44.1**	**+3.8**
MBFL	**Flemmings, Mon**	**5.68**	**0**	*eP*	**Pn**	**14 00 43.6**	**+3.2**
ANBD	**Bethesda, Anti**	**6.00**	**4**	*eP*	**Pn**	**14 00 48.0**	**+3.4**
ANBD				*eS*	**Sn**	**14 01 49.1**	**-2.9**
BAUV	**El Baul**	**6.10**	**251**	*eP*	**Pn**	**14 00 46.5**	**+0.4**
BAUV				*eS*	**Sn**	**14 01 51.2**	**-3.4**
MAPV	**Macapo**	**6.25**	**260**	*eP*	**Pn**	**14 00 49.0**	**+0.9**
MAPV				*eS*	**Sn**	**14 01 55.5**	**-2.8**
ANWB	**Willy Bob**	**6.61**	**4**	*eP*	Pn	14 00 57.6	+4.8
TEPV	**Terepaima**	**6.94**	**262**	*eP*	**Pn**	**14 00 58.0**	**+0.6**
TEPV				*eS*	**Sn**	**14 02 12.0**	**-3.0**
AOPR	**Arecibo Observ**	**8.49**	**329**	*eP*	Pn	14 01 22.5	+4.2
SOCV	**Socops**	**8.94**	**253**	*eP*	**Pn**	**14 01 23.8**	**-0.7**

RSNC 25 14:18:35.8±0.0, 13°.N±1°.×8°.1W±°, h1km±1km, M3.1, mb4.0, ML3.1, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.23**	**302**	P	Pg	14 18 41.8	+1.5
PRVC				S	Sg	14 18 46.0	+2.6
SAIC	**Isla e San And**	**0.89**	**217**	P	Pg	14 18 52.9	0.0
SAIC				S	Sb	14 19 06.5	+0.1
RNCC	**Cayo Roncador,**	**1.09**	**73**	P	Pg	14 18 55.9	-0.8
RNCC				S	Sb	14 19 11.7	-0.5
SERC	**Banco Serrana,**	**1.29**	**37**	P	Pg	14 18 59.2	-1.3
SERC				S	Sg	14 19 17.1	-0.1
BCIP	**Isla Barro Col**	**4.26**	**162**	P	Pn	14 19 41.4	-0.5
BCIP				S	Sn	14 20 30.5	-1.8
JTS	**Las Juntas de**	**4.74**	**232**	P	Pn	14 19 47.9	-0.6
SJCC	**San Jacinto, C**	**6.74**	**119**	P	Pn	14 20 14.7	-1.3
SJCC				S	Sn	14 21 26.4	-7.2

*IDC **25** 14:30:22.2±3.1, 9°.80S×115°.73E, h0km, mb3.4/4, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=206.2km s-min=21.9km az=48.0*
*DJA **25** 14:30:31.8±0.3, 9°.S±4°.×11°.7E±°, h63km±11km, M4.1/18, mb4.2/6, mB4.8/2, MLv4.0/18, Mw(mB)4.1/2, MwMwp5.2/1, Mwp5.4/1*
ISC 25 14:30:31.6±1.0, 9°.50S±0°.08×116°.56E±0°.04, h66km±15km, n21, σ1§16/32, mb3.5/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.38**	**61**	P	**Pn**	**14 30 55.2**	**+0.3**
PLAI				S	**Sn**	**14 31 12.8**	**+0.5**
DNP	**Denpasar**	**1.56**	**302**	P	**Pn**	**14 30 57.4**	**+0.1**
DNP				S	**Sn**	**14 31 16.7**	**0.0**
SRBI	**Singaraja**	**1.94**	**317**	P	**Pn**	**14 31 03.0**	**+0.7**
SRBI				S	**Sn**	**14 31 25.2**	**-0.5**
JAGI	**Jajag, Banyuwa**	**2.59**	**293**	P	**Pn**	**14 31 10.8**	**-0.4**
JAGI				S	**Sn**	**14 31 39.0**	**-2.6**
WBSI	**Waikabubak, Su**	**2.80**	**93**	P	**Pn**	**14 31 12.9**	**-1.2**
WBSI				S	**Sn**	**14 31 46.0**	**-0.8**
ABJI	**Asem Bagus**	**2.85**	**306**	P	**Pn**	**14 31 15.4**	**+0.6**
ABJI				S	**Sn**	**14 31 48.2**	**+0.1**
GMJI	**Gumukmas**	**3.31**	**291**	P	**Pn**	**14 31 20.6**	**-0.4**
GMJI				S	**Sn**	**14 31 57.5**	**-1.7**
BLJI	**Banyuglugur**	**3.41**	**301**	P	**Pn**	**14 31 22.8**	**+0.4**
BLJI				S	**Sn**	**14 32 00.7**	**-0.9**
KMMI	**Kalianget**	**3.54**	**313**	P	**Pn**	**14 31 25.5**	**+1.4**
KMMI				S	**Sn**	**14 32 05.4**	**+0.6**
WSI	**Waingapu**	**3.69**	**93**	P	**Pn**	**14 31 26.0**	**-0.3**
GRJI	**Gresik**	**4.79**	**302**	P	**Pn**	**14 31 41.2**	**0.0**
PWJI	**Pagerwojo**	**4.92**	**287**	P	**Pn**	**14 31 43.7**	**+0.6**
PWJI				S	**Sn**	**14 32 38.2**	**-0.6**
BSSI	**Bau Bau, Buton**	**5.13**	**50**	P	**Pn**	**14 31 44.4**	**-1.6**
	18nm,0.5s,697nm13μm0.1nm						
BKSI	**Bulukumba**	**5.45**	**41**	P	**Pn**	**14 31 50.7**	**+0.3**
	12nm,0.5s,0.1nm						
BKSI				S	**Sn**	**14 32 50.5**	**-1.3**
	12nm,0.5s,0.1nm						
PCJI	**Pacitan**	**5.47**	**283**	P	**Pn**	**14 31 50.7**	**+0.1**
UGM	**Wanagama**	**6.17**	**284**	P	**Pn**	**14 32 00.2**	**0.0**
FITZ	**Fitzroy Crossi**	**12.28**	**135**	Pn	**Pn**	**14 33 23.6**	**-0.1**
	0.2nm,0.3s,baz=316,slow=11,SNR=8.5						
FITZ				Sn	Sn	14 35 32.4	-6.4
	0.4nm,0.3s,baz=192,slow=24,SNR=6.1 1.5nm,0.6s						
WRA	**Warramunga Arr**	**20.07**	**123**	P	**P**	**14 35 02.4**	**+2.6**
	1.0nm,0.9s,baz=300,slow=12,SNR=7.7 1.0nm,0.9s						
ASAR	**Alice Springs**	**21.75**	**132**	P	**P**	**14 35 20.5**	**+2.6**
	0.8nm,0.4s,baz=307,slow=9.2,SNR=57 0.8nm,0.4s						
MKAR	**Makanchi Array**	**63.84**	**334**	P	**P**	**14 40 56.0**	**-1.1**
	0.3nm,0.5s,baz=152,slow=6.4,SNR=4.9 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**68.38**	**335**	P	**P**	**14 41 25.0**	**-1.1**
	0.2nm,0.6s,baz=152,slow=6.3,SNR=2.6 0.2nm,0.6s						

*IDC **25** 14:31:08.9±2.7, 13°.12N×81°.05W, h0km, mb3.5/1, mbtmp3.3/3, ML2.9/2, MS3.0/4, Error ellipse: s-maj=56.9km s-min=36.8km az=99.0*
*RSNC **25** 14:31:09.5±0.0, 13°.N±1°.×8°.1W±°, h0km±2km, M3.4, mb4.3, ML3.4*
ISC 25 14:31:09.3±0.7, 13°.22N±0°.04×81°.09W±0°.04, h10km, n17, σ1§75/25, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.31**	**299**	P	**Pb**	**14 31 16.1**	**-0.8**
PRVC				S	**Sb**	**14 31 20.4**	**-1.7**
SAIC	**Isla e San And**	**0.92**	**222**	P	**Pb**	**14 31 27.3**	**0.0**
SAIC				S	**Sn**	**14 31 41.6**	**+0.1**
RNCC	**Cayo Roncador,**	**1.03**	**70**	P	**Pg**	**14 31 29.8**	**+0.7**
RNCC				S	**Sn**	**14 31 44.9**	**+0.6**
SERC	**Banco Serrana,**	**1.27**	**33**	P	**Pn**	**14 31 32.9**	**-0.2**
SERC				S	**Sg**	**14 31 51.2**	**+1.1**
BCIP	**Isla Barro Col**	**4.21**	**163**	P	**Pn**	**14 32 12.1**	**-1.5**
BCIP				S	**Sn**	**14 32 59.6**	**-3.4**
JTS	**Las Juntas de**	**4.78**	**233**	Pn	**Pn**	**14 32 22.2**	**+0.8**
	1.3nm,0.3s,baz=90,slow=20,SNR=2.9						
JTS				Sn	**Sn**	**14 33 17.5**	**+0.6**
	2.1nm,0.3s,baz=235,slow=22,SNR=1.9 4.0nm,0.3s						
JTS	**Las Juntas de**	**4.78**	**233**	P	**Pn**	**14 32 21.6**	**+0.2**
JTS				S	**Sn**	**14 33 17.1**	**+0.2**
AZU	**Azuero**	**5.46**	**172**	P	**Pn**	**14 32 32.4**	**+1.7**
	22nm,1.1s						
AZU				S	**Sn**	**14 33 33.0**	**-0.6**
	22nm,1.1s						
CAPC	**Capurgana**	**5.85**	**141**	P	**Pn**	**14 32 38.3**	**+2.1**
	65nm,1.4s						
CAPC				S	**Sn**	**14 33 42.5**	**-0.9**
	65nm,1.4s						
SJCC	**San Jacinto, C**	**6.67**	**119**	P	**Pn**	**14 32 46.0**	**-1.4**
SJCC				S	**Sn**	**14 33 59.9**	**-3.6**
TEIG	**Tepich**	**9.79**	**316**	Pn	**Pn**	**14 33 31.8**	**+1.6**
	baz=129,slow=20,SNR=1.1						
TEIG				Sn	**Sn**	**14 35 16.5**	**-3.8**
	baz=309,slow=24,SNR=1.2 0.2nm,0.4s						
SDV	**Santo Domingo**	**11.13**	**112**	LR	LR	14 38 38.6	
	comp=Z,64nm,20.1s,baz=270,slow=41						
CMIG	**Matias Romero**	**13.86**	**288**	LR	LR	14 39 48.8	
	comp=Z,89nm,18.8s,baz=21,slow=37						
TXAR	**Lajitas Array**	**26.37**	**311**	P	**P**	**14 36 48.4**	**+2.4**
	0.6nm,0.7s,baz=127,slow=9.1,SNR=7.3						
TXAR				LR	LR	14 47 56.5	
	comp=Z,19nm,19.8s,baz=69,slow=38 0.6nm,0.7s						
LPIG	**La Paz**	**29.66**	**296**	LR	LR	14 49 44.4	
	comp=Z,46nm,20.1s,baz=76,slow=38						
ASAR	**Alice Springs**	**145.31**	**247**	PKPbc	**PKPdf**	**14 50 49.0**	**+0.8**
	0.4nm,0.7s,baz=109,slow=3.0,SNR=4.9						
WRA	**Warramunga Arr**	**145.45**	**254**	PKPbc	**PKPbc**	**14 50 48.1**	**-0.5**
	0.3nm,0.3s,baz=88,slow=3.5,SNR=1.7						

*IDC **25** 14:43:54.6±20.0, 36°.07N×21°.09E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=387.2km s-min=46.5km az=32.0*

*ATH **25** 14:44:13.2, 36°.99N×22°.04E, h21km±6km, ML2.6/9, Manual Solution by S.Liakopoulos First location: 2018/11/25 14:45:21, This location: 2019/01/14 06:45:54 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 6 km*
ISC 25 14:44:02.9±1.5, 36°.61N±0°.09×21°.37E±0°.08, h15km, n24, σ1§33/24, mb3.5/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.72**	**38**	P	Pn	14 44 27.1	+8.5
ZARO	**Zacharo**	**0.90**	**14**	P	**Pg**	**14 44 20.9**	**+0.4**
VLI	**Veliai**	**1.26**	**85**	P	**Pg**	**14 44 27.4**	**+0.2**
VLI				S	**Sn**	**14 44 45.8**	**+3.0**
MNVA	**Monemvasia**	**1.34**	**86**	P	**Pg**	**14 44 29.4**	**+0.6**
RLS	**Riolos of Patr**	**1.45**	**3**	P	**Pg**	**14 44 32.5**	**+1.6**
KLV	**Kalavryta, Ach**	**1.56**	**23**	P	**Pb**	**14 44 32.0**	**+0.5**
AXS	**Araxos**	**1.58**	**0**	P	**Pb**	**14 44 33.1**	**+1.2**
VLS	**Valsamata**	**1.69**	**338**	P	**Pn**	**14 44 32.3**	**+0.4**
ANKY	**Antikythira Is**	**1.73**	**115**	P	**Pn**	**14 44 34.0**	**+1.6**
LOUT	**Loutraki**	**1.88**	**42**	P	**Pn**	**14 44 35.4**	**+0.8**
KALE	**Kalithea**	**1.88**	**19**	P	**Pb**	**14 44 37.5**	**+0.4**
LTK	**Loutraki**	**1.90**	**42**	P	**Pn**	**14 44 35.6**	**+0.7**
ANX	**Ano Chora**	**2.03**	**12**	P	**Pb**	**14 44 39.7**	**+0.1**
EVGI	**Lefkada island**	**2.09**	**344**	P	**Pb**	**14 44 41.8**	**+1.3**
VIL2	**Platees**	**2.20**	**43**	P	**Pn**	**14 44 38.8**	**-0.2**
LKD2	**Lefkada island**	**2.25**	**346**	P	**Pb**	**14 44 44.3**	**+1.0**
VLY	**Voula,Athens**	**2.30**	**57**	P	**Pn**	**14 44 40.0**	**-0.2**
EVR	**Evrytania**	**2.33**	**8**	P	**Pb**	**14 44 44.5**	**-0.2**
ATHU	**Athens Univers**	**2.35**	**54**	P	**Pn**	**14 44 40.7**	**-0.3**
HFS	**Hagfors**	**24.05**	**351**	P	**P**	**14 49 15.7**	**-1.6**
	0.8nm,0.6s,baz=161,slow=9.2,SNR=1.3 0.8nm,0.6s						
FINES	**FINESS Array B**	**25.03**	**5**	P	**P**	**14 49 25.2**	**-1.0**
	1.0nm,0.8s,baz=172,slow=11,SNR=4.6 1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**42.63**	**52**	P	**P**	**14 51 56.1**	**-2.4**
	0.2nm,0.4s,baz=275,slow=8.8,SNR=2.1 0.2nm,0.4s						
MKAR	**Makanchi Array**	**45.56**	**57**	P	**P**	**14 52 19.8**	**-2.3**
	0.2nm,0.3s,baz=278,slow=7.2,SNR=7.3 0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**46.25**	**47**	P	**P**	**14 52 26.0**	**-1.4**
	0.7nm,0.3s,baz=269,slow=9.0,SNR=2.8 0.7nm,0.3s						

*IDC **25** 14:52:32.5±1.4, 37°.56N×20°.60E, h0km, mb3.6/6, mbtmp3.5/8, ML0.9/1, Error ellipse: s-maj=29.2km s-min=23.6km az=93.0*
*ATH **25** 14:52:33.5, 37°.59N×20°.27E, h10km±1km, ML3.2/19, Error ellipse: s-maj=2.1km s-min=1.0km az=48.0*
*THE **25** 14:52:34.7, 37°.63N×20°.35E, h1km±2km, ML3.1/8, Error ellipse: s-maj=2.8km s-min=0.8km az=250.0*
ISC 25 14:52:33.7±1.5, 37°.58N±0°.04×20°.36E±0°.04, h6km±9km, n49, σ1§09/73, mb3.6/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.37**	**78**	P	**Pb**	**14 52 42.4**	**-0.2**
KRI1				S	**Sg**	**14 52 47.4**	**+1.7**
	15μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.56**	**18**	P	**Pg**	**14 52 44.4**	**0.0**
PSDA				S	**Sg**	**14 52 51.6**	**-0.1**
	3μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.56**	**18**	P	**Pg**	**14 52 44.5**	**0.0**
PSDA				S	**Sg**	**14 52 52.5**	**+0.8**
RTZL	**Ratzakli, Kefa**	**0.59**	**33**	P	**Pg**	**14 52 45.2**	**+0.2**
RTZL				S	**Sg**	**14 52 53.2**	**+0.5**
VLS	**Valsamata**	**0.62**	**17**	P	**Pg**	**14 52 45.5**	**-0.1**
VLS				S	**Sg**	**14 52 53.6**	**-0.1**
	2μm,0.5s						
VLS	**Valsamata**	**0.62**	**17**	P	**Pg**	**14 52 45.4**	**-0.1**
VLS				S	**Sg**	**14 52 53.9**	**+0.2**
VLS				AML	AML	14 52 59.0	
	comp=E,4974μm,0.6s						
VLS				AML	AML	14 53 03.4	
	comp=N,4436μm,0.4s						
DMLN	**Damoulianata-K**	**0.65**	**1**	P	**Pg**	**14 52 46.1**	**-0.2**
DMLN	**Damoulianata-K**	**0.65**	**1**	P	**Pg**	**14 52 46.5**	**+0.2**
DMLN				S	**Sg**	**14 52 55.2**	**+0.4**
VSK1	**VASILIKIADES**	**0.84**	**11**	P	**Pg**	**14 52 49.3**	**-0.5**
VSK1				S	**Sg**	**14 53 00.7**	**0.0**
	comp=N,2μm,0.7s						
FSK	**Fiskardo**	**0.89**	**10**	P	**Pg**	**14 52 50.5**	**-0.2**
FSK				S	**Sb**	**14 53 03.6**	**+0.1**
	comp=N,1μm,0.6s						
RLS	**Riolos of Patr**	**0.99**	**61**	P	**Pg**	**14 52 52.8**	**+0.1**
RLS	**Riolos of Patr**	**0.99**	**61**	P	**Pg**	**14 52 53.1**	**+0.3**
RLS				S	**Sb**	**14 53 07.4**	**+0.8**
RLS				AML	AML	14 53 17.0	
	comp=N,1244μm,0.7s						
RLS				AML	AML	14 53 17.4	
	comp=E,1317μm,0.6s						
EVGI	**Lefkada island**	**1.06**	**12**	P	**Pg**	**14 52 53.2**	**-0.8**
EVGI	**Lefkada island**	**1.06**	**12**	P	**Pg**	**14 52 53.5**	**-0.5**
EVGI				S	**Sb**	**14 53 09.2**	**+0.6**
AMT	**Artemida-Makis**	**1.07**	**92**	P	**Pg**	**14 52 54.0**	**-0.2**
AMT				S	**Sb**	**14 53 10.1**	**+1.3**
AMT				AML	AML	14 53 20.7	
	comp=N,5211μm,0.5s						
AMT				AML	AML	14 53 21.3	
	comp=E,5580μm,0.5s						
DRO	**Drossia**	**1.13**	**71**	P	**Pb**	**14 52 55.8**	**+0.2**
NYDR	**Nydri-Lefkada**	**1.16**	**13**	P	**Pg**	**14 52 54.8**	**-1.1**
NYDR				S	**Sb**	**14 53 12.1**	**+0.8**
	comp=E,1μm,0.7s						
NYDR	**Nydri-Lefkada**	**1.16**	**13**	P	**Pg**	**14 52 55.4**	**-0.5**
NYDR				S	**Sg**	**14 53 11.0**	**+0.1**
LKD2	**Lefkada island**	**1.23**	**11**	P	**Pg**	**14 52 57.0**	**-0.2**
LKD2	**Lefkada island**	**1.23**	**11**	P	**Pg**	**14 52 56.6**	**-0.6**
LKD2				S	**Sg**	**14 53 13.2**	**+0.2**
LKD2				AML	AML	14 53 19.7	
	comp=E,1626μm,0.6s						
LKD2				AML	AML	14 53 21.9	
	comp=N,2182μm,0.6s						
TSLK	**Tsoukalades, L**	**1.26**	**10**	P	**Pg**	**14 52 57.5**	**-0.4**
TSLK				S	**Sn**	**14 53 15.9**	**+0.9**
	comp=N,1μm,0.6s						
TSLK	**Tsoukalades, L**	**1.26**	**10**	P	**Pg**	**14 52 56.3**	**-1.6**
TSLK				S	**Sg**	**14 53 13.0**	**-1.2**
TSLK				AML	AML	14 53 20.9	
	comp=E,2124μm,0.5s						
TSLK				AML	AML	14 53 23.4	
	comp=N,2386μm,0.5s						
PYL	**PYLOS**	**1.30**	**122**	P	**Pn**	**14 52 59.5**	**+1.2**
PYL				S	**Sn**	**14 53 17.9**	**+2.0**
	comp=N,342nm,0.5s						
ITM	**Ithomi**	**1.31**	**107**	P	**Pg**	**14 52 58.6**	**-0.1**
ITM				S	**Sn**	**14 53 17.4**	**+1.2**
ITM				AML	AML	14 53 31.4	
	comp=E,929μm,0.7s						
ITM				AML	AML	14 53 33.5	
	comp=N,787μm,0.5s						
EFP	**Efpalio**	**1.48**	**55**	P	**Pb**	**14 53 01.8**	**+0.2**
KLV	**Kalavryta, Ach**	**1.49**	**71**	P	**Pb**	**14 53 02.1**	**+0.4**
KLV	**Kalavryta, Ach**	**1.49**	**71**	P	**Pb**	**14 53 02.1**	**+0.4**
KLV				S	**Sn**	**14 53 22.1**	**+1.4**
KLV				AML	AML	14 53 35.4	
	comp=N,953μm,0.8s						
KLV				AML	AML	14 53 35.8	
	comp=E,637μm,0.9s						
KALE	**Kalithea**	**1.62**	**60**	P	**Pn**	**14 53 03.5**	**+0.8**
KALE				AML	AML	14 53 37.0	
	comp=N,1159μm,0.7s						
KALE				AML	AML	14 53 40.9	
	comp=E,977μm,0.7s						
EVR	**Evrytania**	**1.75**	**40**	P	**Pb**	**14 53 06.5**	**+0.2**
EVR				AML	AML	14 53 41.8	
	comp=E,630μm,0.7s						
EVR				AML	AML	14 53 45.3	
	comp=N,543μm,0.6s						
IGT	**Igoumenitsa**	**1.95**	**359**	P	**Pn**	**14 53 07.6**	**+0.4**
IGT				S	**Sb**	**14 53 33.9**	**-0.1**
IGT				AML	AML	14 53 46.1	
	comp=N,372μm,0.6s						
IGT				AML	AML	14 53 49.8	
	comp=E,509μm,0.8s						
MAKR	**Makrakomi, Fth**	**1.99**	**44**	P	**Pb**	**14 53 10.8**	**+0.5**
MAKR				AML	AML	14 53 50.9	
	comp=E,1223μm,0.6s						
MAKR				AML	AML	14 53 56.2	
	comp=N,1282μm,0.6s						
AXAR	**Agios Charalam**	**2.16**	**56**	P	**Pb**	**14 53 12.5**	**-0.7**
AXAR				AML	AML	14 54 01.9	
	comp=N,1345μm,0.8s						
AXAR				AML	AML	14 54 03.8	
	comp=E,1295μm,1.3s						
VLI	**Veliai**	**2.23**	**112**	P	**Pb**	**14 53 14.6**	**+0.3**
VLI				AML	AML	14 54 03.2	
	comp=E,352μm,0.8s						
VLI				AML	AML	14 54 05.0	
	comp=N,278μm,1.0s						
THL	**Klokotos Trika**	**2.36**	**33**	P	**Pn**	**14 53 14.2**	**+1.3**
THL	**Klokotos Trika**	**2.36**	**33**	P	**Pb**	**14 53 15.3**	**-1.3**
THL				AML	AML	14 53 59.1	
	comp=N,338μm,1.1s						
THL				AML	AML	14 54 06.1	
	comp=E,434μm,0.9s						
VIL2	**Platees**	**2.38**	**74**	P	**Pb**	**14 53 17.0**	**+0.1**
VIL2				S	**Sg**	**14 53 49.5**	**-0.7**
VIL2				AML	AML	14 54 05.0	
	comp=E,538μm,0.7s						
VIL2				AML	AML	14 54 06.6	
	comp=N,365μm,0.9s						
VLY	**Voula,Athens**	**2.73**	**83**	P	**Pb**	**14 53 21.9**	**-1.0**
ATHU	**Athens Univers**	**2.74**	**81**	P	**Pb**	**14 53 22.5**	**-0.5**
ATHU				S	**Sb**	**14 53 59.1**	**+2.3**
PTL	**Penteli**	**2.81**	**79**	P	**Pb**	**14 53 23.1**	**-1.2**
PTL				AML	AML	14 54 12.7	
	comp=N,235μm,0.8s						
PTL				AML	AML	14 54 19.8	
	comp=E,118μm,0.6s						
IDI	**Anoyia**	**4.31**	**121**	Pn	**Pn**	**14 53 37.7**	**-2.1**
	comp=E,0.4nm,0.3s,baz=313,slow=18,SNR=3.0						
IDI				Sn	**Sn**	**14 54 27.7**	**-2.6**
	comp=E,0.7nm,0.3s,baz=254,slow=19,SNR=1.9 comp=E,1.6nm,0.6s						
VAE	**Valguarnera**	**4.73**	**271**	Sn	**Sn**	**14 54 44.1**	**+3.3**
	comp=E,1.9nm,0.3s,baz=300,slow=14,SNR=4.0						
MLR	**Muntele Rosu**	**8.94**	**26**	Pn	**Pn**	**14 54 46.3**	**+3.0**
	comp=E,0.4nm,0.3s,baz=178,slow=6.4,SNR=7.9						
AKASG	**Malin Array Be**	**14.56**	**23**	Pn	**Pn**	**14 55 58.5**	**-1.5**
	comp=E,0.1nm,0.3s,baz=216,slow=12,SNR=1.5						
HFS	**Hagfors**	**22.97**	**351**	P	**P**	**14 57 39.4**	**+0.8**
	comp=E,1.0nm,0.5s,baz=174,slow=16,SNR=1.7 comp=E,1.0nm,0.5s						
FINES	**FINESS Array B**	**24.15**	**7**	P	**P**	**14 57 50.0**	**-0.2**
	comp=E,1.7nm,0.7s,baz=176,slow=11,SNR=9.6 comp=E,1.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.49**	**219**	P	**P**	**14 58 39.1**	**+0.5**
	comp=E,0.4nm,0.6s,baz=28,slow=10,SNR=2.3 comp=E,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**42.68**	**53**	P	**P**	**15 00 29.9**	**-1.0**
	comp=E,0.4nm,0.6s,baz=276,slow=8.5,SNR=1.5 comp=E,0.4nm,0.6s						
MKAR	**Makanchi Array**	**45.72**	**58**	P	**P**	**15 00 52.9**	**-2.6**
	comp=E,0.7nm,0.8s,baz=279,slow=6.6,SNR=6.9 comp=E,0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**46.18**	**48**	P	**P**	**15 00 58.0**	**-0.9**
	comp=E,0.9nm,0.4s,baz=274,slow=7.7,SNR=4.1 comp=E,0.9nm,0.4s						

*MOS **25** 14:59:41.7±1.1, 44°.32N×148°.16E, h64km, mb4.7/1, Error ellipse: s-maj=13.4km s-min=10.7km az=53.8*
*JMA **25** 14:59:42.3±0.3, 44°.N±1°.×14°.8E±°, h0km, MV4.5/31, SE OFF ETOROFU*
*SKHL **25** 14:59:43.0±0.6, 44°.30N×148°.20E, h45km±3km, mb5.1/4*
*IDC **25** 14:59:44.6±2.6, 44°.38N×148°.07E, h69km±24km, mb3.4/13, mbtmp3.6/16, MS2.9/3, Error ellipse: s-maj=21.3km s-min=15.6km az=119.0*
ISC 25 14:59:41.9±1.3, 44°.26N±0°.06×148°.28E±0°.08, h46km±12km, n56, σ1§17/64, mb3.6/13, 1C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.01**	**343**	*i* S	**Sn**	**15 00 11.1**	**-1.7**
KUR				*i* P	**Pn**	**14 59 59.3**	**-0.5**
KUR				AMB	AMB	14 59 59.8	
	1μm,0.2s						
KUR				A	A	15 00 12.0	
	2μm,0.2s						
KUR				A	A	15 00 12.0	
	3μm,0.2s						
KUR	**Kuril'sk**	**1.01**	**343**	*d* iPN	**Pn**	**14 59 59.2**	**-0.5**
KUR				*i* S	**Sn**	**15 00 10.8**	**-2.0**
KUR				pmax	pmax		
	comp=N,551nm,0.3s						
KUR				pmax	pmax		
	comp=E,440nm,0.3s						
KUR				pmax	pmax		
	comp=Z,2μm,0.3s						
KUR				smax	smax		
	comp=E,3μm,0.4s						
KUR				smax	smax		
	comp=N,1μm,0.3s						
SHO	**Shikotan**	**1.12**	**250**	*i* P	**Pn**	**15 00 00.8**	**-0.3**
SHO				AMB	AMB	15 00 01.0	
	comp=N,470nm,0.2s						
SHO				*i* S	**Sn**	**15 00 13.4**	**-1.9**
SHO				A	A	15 00 13.8	
	comp=N,2μm,0.2s						
SHO				A	A	15 00 13.8	
	comp=N,5μm,0.2s						
SHO	**Shikotan**	**1.12**	**250**	⇓ *i* PN	**Pn**	**15 00 00.8**	**-0.3**
SHO				*i* S	**Sn**	**15 00 13.4**	**-1.9**
SHO				pmax	pmax		
	comp=N,164nm,0.2s						
SHO				pmax	pmax		
	comp=E,202nm,0.2s						
SHO				pmax	pmax		
	comp=Z,437nm,0.2s						
SHO				smax	smax		
	comp=N,994nm,0.2s						
SHO				smax	smax		
	comp=E,5μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.75**	**263**	*i* P	**Pn**	**15 00 10.0**	**+0.1**
YUK				AMB	AMB	15 00 11.7	
	comp=E,1μm,0.2s						
YUK				*i* S	**Sn**	**15 00 30.2**	**-0.8**
YUK				A	A	15 00 32.8	
	comp=E,2μm,0.3s						
YUK				A	A	15 00 32.8	
	comp=E,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.75**	**263**	*d* iPN	**Pn**	**15 00 09.9**	**+0.1**
YUK				*i* S	**Sn**	**15 00 30.2**	**-0.8**
YUK				pmax	pmax		
	comp=N,436nm,0.1s			

YSS				AMB	AMB	15 00 51.6	
	comp=E,30nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.72**	**307**	*e*PN	**Pn**	**15 00 51.1**	**+0.6**
YSS				*e*S	**Sn**	**15 01 43.2**	**-0.6**
YSS				pmax	pmax		
	comp=Z,20nm,0.3s						
YSS				smax	smax		
	comp=N,20nm,0.9s						
YSS				smax	smax		
	comp=E,10.0nm,1.1s						
PETK	**Petropavlovsk-**	**10.81**	**32**	P	**Pn**	**15 02 16.2**	**+2.3**
	comp=E,2.0nm,0.9s,baz=194,slow=9.9,SNR=1.2						
MJAR	**Matsushiro Arr**	**10.88**	**228**	P	**Pn**	**15 02 15.1**	**+0.2**
	comp=E,0.5nm,0.4s,baz=26,slow=13,SNR=4.4						
KSRS	**Korea Array**	**16.81**	**253**	LR	LR	15 09 40.7	
	comp=E,18nm,18.4s,baz=90,slow=36						
YAK	**Yakutsk**	**20.86**	**335**	LR	LR	15 12 03.9	
	comp=E,32nm,21.6s,baz=84,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.98**	**142**	T	T	15 36 25.9	
	baz=332,slow=76,SNR=60						
H11N1	**WAKE ISLAND Hy**	**28.99**	**142**	T	T	15 36 31.2	
	baz=332,slow=76,SNR=32						
H11N3	**WAKE ISLAND Hy**	**29.00**	**142**	T	T	15 36 31.1	
	baz=332,slow=76,SNR=54						
H11S1	**WAKE ISLAND Hy**	**29.97**	**143**	T	T	15 37 37.7	
	baz=333,slow=76,SNR=109						
H11S3	**WAKE ISLAND Hy**	**29.98**	**143**	T	T	15 37 37.9	
	baz=333,slow=76,SNR=78						
H11S2	**WAKE ISLAND Hy**	**29.99**	**143**	T	T	15 37 38.9	
	baz=333,slow=76,SNR=78						
ILAR	**Eielson Array**	**40.59**	**37**	P	**P**	**15 07 17.4**	**+0.8**
	comp=E,0.5nm,0.8s,baz=271,slow=9.1,SNR=6.4						
	comp=E,0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**41.34**	**307**	PcP	**PcP**	**15 09 20.0**	**-0.4**
	comp=E,0.8nm,0.4s,baz=64,slow=3.4,SNR=4.2						
MKAR	**Makanchi Array**	**45.07**	**298**	P	**P**	**15 07 52.4**	**-0.7**
	comp=E,0.6nm,0.6s,baz=75,slow=9.0,SNR=7.7						
	comp=E,0.6nm,0.6s						
KURK	**Kurchatov**	**45.92**	**304**	P	**P**	**15 07 59.4**	**-0.3**
KURK						15 09 35.9	
KURBB	**Kurchatov Arra**	**46.00**	**304**	P	**P**	**15 07 59.4**	**-1.0**
	comp=E,0.2nm,0.3s,baz=75,slow=8.0,SNR=5.0						
KURBB				PcP	**PcP**	**15 09 35.9**	**-0.4**
	comp=E,0.3nm,0.4s,baz=75,slow=3.4,SNR=5.5						
	comp=E,0.2nm,0.3s						
YKA	**Yellowknife Ar**	**54.92**	**34**	P	**P**	**15 09 08.0**	**+0.5**
	comp=E,0.5nm,0.6s,baz=301,slow=7.6,SNR=6.7						
	comp=E,0.5nm,0.6s						
YKA	**Yellowknife Ar**	**54.92**	**34**	P	**P**	**15 09 08.0**	**+0.5**
PSI	**Prapat**	**59.92**	**241**	LR	LR	15 36 02.8	
	comp=E,18nm,18.1s,baz=48,slow=36						
FINES	**FINESS Array B**	**64.78**	**333**	P	**P**	**15 10 13.3**	**-1.8**
	comp=E,1.2nm,0.6s,baz=46,slow=5.5,SNR=6.2						
	comp=E,1.2nm,0.6s						
WRA	**Warramunga Arr**	**65.15**	**194**	P	**P**	**15 10 18.4**	**+0.3**
	comp=E,0.5nm,0.3s,baz=9.1,slow=6.3,SNR=27						
	comp=E,0.5nm,0.3s						
ASAR	**Alice Springs**	**68.87**	**194**	P	**P**	**15 10 42.9**	**+1.3**
	comp=E,0.4nm,1.0s,baz=15,slow=6.5,SNR=6.5						
	comp=E,0.4nm,1.0s						
PDAR	**Pinedale Array**	**68.95**	**50**	P	**P**	**15 10 42.9**	**+0.6**
	comp=E,0.2nm,0.5s,baz=64,slow=2.1,SNR=2.3						
	comp=E,0.2nm,0.5s						
NOA	**NORSAR Array B**	**69.41**	**339**	P	**P**	**15 10 43.4**	**-1.2**
	comp=E,0.5nm,0.8s,baz=31,slow=6.6,SNR=4.3						
	comp=E,0.5nm,0.8s						
HFS	**Hagfors**	**69.53**	**338**	P	**P**	**15 10 43.7**	**-1.6**
	comp=E,1.8nm,0.8s,baz=39,slow=5.7,SNR=4.5						
	comp=E,1.8nm,0.8s						
BRTR	**Keskin Array B**	**77.78**	**314**	P	**P**	**15 11 34.2**	**0.0**
	comp=E,0.5nm,0.8s,baz=36,slow=7.6,SNR=3.6						
	comp=E,0.5nm,0.8s						
EKA	**Eskdalemuir Ar**	**77.86**	**344**	P	**P**	**15 11 33.3**	**-1.0**
	comp=E,0.5nm,0.4s,baz=14,slow=5.3,SNR=2.6						
	comp=E,0.5nm,0.4s						
TXAR	**Lajitas Array**	**81.69**	**57**	P	**P**	**15 11 55.5**	**-0.1**
	comp=E,0.2nm,0.6s,baz=324,slow=7.8,SNR=2.3						
	comp=E,0.2nm,0.6s						
H03N2	**Juan Fernandez**	**142.15**	**90**	T	T	17 57 45.8	
	baz=304,slow=76						
H03N3	**Juan Fernandez**	**142.16**	**90**	T	T	17 57 48.6	
	baz=304						
H03N1	**Juan Fernandez**	**142.16**	**90**	T	T	17 57 51.2	
	baz=304,slow=76						

RSNC 25 15:06:40.7±0.0, 13°N±1°×8°1W±°, h1km±2km, M3.3, mb4.4, mB5.6, ML3.3, Mw(mB)5.1, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.21**	**334**	P	Pg	15 06 46.0	+1.3
PRVC				S	Sg	15 06 49.4	+2.0
SAIC	**Isla e San And**	**0.78**	**214**	P	Pb	15 06 56.4	-0.7
SAIC				S	Sb	15 07 08.3	+0.2
RNCC	**Cayo Roncador,**	**1.21**	**71**	P	Pg	15 07 03.0	-0.9
RNCC				S	Sg	15 07 19.5	-0.1
SERC	**Banco Serrana,**	**1.40**	**39**	P	Pn	15 07 05.6	-1.8
SERC				S	Sg	15 07 24.9	-0.9
BCIP	**Isla Barro Col**	**4.24**	**160**	P	Pn	15 07 42.5	-4.0
BCIP				S	Sn	15 08 30.3	-6.3
JTS	**Las Juntas de**	**4.62**	**232**	P	Pn	15 07 50.7	-1.0
JTS				S	Sn	15 08 44.5	-1.5
AZU	**Azuero**	**5.45**	**170**	P	Pn	15 08 00.6	-2.6
	31nm,1.5s						
AZU				S	Sn	15 09 02.4	-4.2
	31nm,1.5s						
CACAO	**El Cacao, Vera**	**5.82**	**176**	P	Pn	15 08 08.0	-0.2
	29nm,0.7s						
CACAO				S	Sn	15 09 12.8	-2.9
	29nm,0.7s						
TGUH	**Tegucigalpa,Un**	**5.90**	**279**	P	Pn	15 08 12.0	+2.6
	76nm,0.7s,1μm						
MTDJ	**Mount Denham**	**6.17**	**35**	P	Pn	15 08 12.4	-0.7
	36nm,1.6s						
LCBC	**Los crdobas,**	**6.46**	**131**	P	Pn	15 08 15.4	-1.6
	97nm,1.3s						
LCBC				S	Sn	15 09 29.4	-2.0
	97nm,1.3s						
SJCC	**San Jacinto, C**	**6.81**	**118**	P	Pn	15 08 18.0	-3.8
	14nm,1.2s						
SJCC				S	Sn	15 09 35.2	-4.9
	14nm,1.2s						
CRJC	**Cerrejon, Guaj**	**8.48**	**104**	P	Pn	15 08 41.5	-3.4
CRJC				S	Sn	15 10 14.7	-6.7

*IDC **25** 15:10:28.9±0.8, 10°41N×126°25E, h0km, mb3.8/10, mbtmp3.8/10, MS3.0/1, Error ellipse: s-maj=64.9km s-min=15.8km az=64.0*
*NEIC **25** 15:10:30.3±2.3, 10°4N±0°1×126°3E±0°2, h10km±1km, mb4.5/11, Error ellipse: s-maj=26.7km s-min=19.2km az=102.0*

ISC 25 15:10:30.0±0.6, 10°38N±0°09×126°2E±0°1, h10km, n27, σ0°88/29, mb4.2/14, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.81**	**247**	Pn	**Pn**	**15 13 04.7**	**-0.4**
GUMO	**Guam**	**18.50**	**78**	LR	LR	15 22 12.6	
	comp=Z,40nm,18.1s,baz=127,slow=38						
SOEI	**Soe**	**20.10**	**186**	P	**P**	**15 15 02.6**	**-1.6**
SOEI				IAmb	IAmb	15 15 43.3	
	comp=Z,33nm,1.4s						
INU	**Inuyama**	**26.72**	**20**	P	**P**	**15 16 08.3**	**-1.4**
INU				IAmb	IAmb	15 16 27.0	
	comp=Z,26nm,1.5s						
CMAR	**Chiang Mai Arr**	**27.59**	**290**	P	**P**	**15 16 18.1**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=102,slow=6.5,SNR=4.6						
	comp=Z,0.4nm,0.5s						
WRA	**Warramunga Arr**	**31.17**	**165**	P	**P**	**15 16 50.6**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=346,slow=8.9,SNR=1.5						
WRA				PcP	**PcP**	**15 19 44.2**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=333,slow=3.0,SNR=2.3						
	comp=Z,0.3nm,0.7s						
MBWA	**Marble Bar**	**31.99**	**192**	P	**P**	**15 16 55.0**	**-1.6**
PSA00	**Pilbara Seismi**	**32.37**	**191**	P	**P**	**15 16 59.3**	**-0.6**
ASAR	**Alice Springs**	**34.66**	**168**	P	**P**	**15 17 19.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=344,slow=7.1,SNR=9.4						
ASAR				PcP	**PcP**	**15 19 54.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=338,slow=2.7,SNR=5.1						
	comp=Z,0.3nm,0.6s						
MORW	**Morawa**	**40.43**	**194**	P	**P**	**15 18 10.0**	**+1.3**
MORW				IAmb	IAmb	15 18 30.6	
	comp=Z,19nm,1.2s						
FORT	**Forrest**	**40.96**	**178**	P	**P**	**15 18 13.8**	**+0.8**
BBOO	**Buckleboo**	**43.96**	**168**	P	**P**	**15 18 37.4**	**0.0**
STKA	**Stephens Creek**	**44.52**	**161**	P	**P**	**15 18 43.6**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=347,slow=14,SNR=2.0						
	comp=Z,1.1nm,0.8s						
MK31	**Makanchi Array**	**51.92**	**323**	P	**P**	**15 19 39.7**	**+0.7**
MKAR	**Makanchi Array**	**51.92**	**323**	P	**P**	**15 19 39.8**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=116,slow=8.1,SNR=13						
MKAR				PcP	**PcP**	**15 20 52.3**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=106,slow=5.2,SNR=4.5						
	comp=Z,0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**54.51**	**331**	P	**P**	**15 19 58.4**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=122,slow=7.1,SNR=7.2						
	comp=Z,1.9nm,0.6s						
KURK	**Kurchatov**	**55.96**	**325**	P	**P**	**15 20 09.1**	**+0.7**
KURK				IAmb	IAmb	15 20 26.8	
	comp=Z,4.6nm,1.3s						
KURBB	**Kurchatov Arra**	**55.96**	**325**	P	**P**	**15 20 09.2**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=125,slow=6.8,SNR=19						
	comp=Z,1.2nm,0.5s						
KKAR	**Karatay Array**	**58.15**	**315**	P	**P**	**15 20 24.1**	**0.0**
BVAR	**Borovoye Array**	**61.55**	**325**	P	**P**	**15 20 48.3**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=112,slow=6.6,SNR=3.0						
	comp=Z,0.4nm,0.5s						
ABKAR	**Akbulak array**	**66.77**	**319**	P	**P**	**15 21 21.4**	**-0.2**
D25K	**Kavik River**	**79.44**	**21**	P	**P**	**15 22 35.9**	**-0.5**
ARCES	**ARCESS Array B**	**84.08**	**340**	P	**P**	**15 23 01.3**	**+0.6**
ARCES	**ARCESS Array B**	**84.08**	**340**	P	**P**	**15 23 01.3**	**+0.6**
	comp=Z,8.7nm,1.0s,baz=83,slow=5.5,SNR=7.6						
FINES	**FINESS Array B**	**85.78**	**332**	P	**P**	**15 23 09.3**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=64,slow=4.4,SNR=5.9						
	comp=Z,1.5nm,0.8s						
HFS	**Hagfors**	**91.94**	**332**	P	**P**	**15 23 37.7**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=97,slow=7.4,SNR=1.2						
	comp=Z,0.7nm,0.5s						
PLCA	**Paso Flores**	**146.32**	**157**	PKPbc	**PKPab**	**15 30 12.1**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=136,slow=3.2,SNR=4.2						

*DJA **25** 15:31:56.2±1.1, 1°N±7°×9°7E±1°0, h207km±6km, M3.4/8, MLv3.4/8*
*IDC **25** 15:32:12.7±9.3, 2°23N×96°94E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=444.4km s-min=31.4km az=54.0*

ISC 25 15:32:14.8±1.0, 2°24N±0°10×97°1E±0°1, h10km, n17, σ0°84/7, mb3.6/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.76**	**282**	P	**Pg**	**15 32 29.9**	**+0.4**
SNSI				S	Sn	15 32 55.5	+12
GSI	**Gunungsitoli**	**1.06**	**152**	P	Pg	15 32 27.0	-8.2
GSI				S	**Sg**	**15 32 49.0**	**-0.1**
KCSI	**Kotacane, Aceh**	**1.45**	**29**	P	**Pn**	**15 32 41.7**	**+0.6**
MLSI	**Meulaboh, Aceh**	**2.12**	**342**	P	Pn	15 32 46.4	-3.9
H08S2	**Diego Garcia H**	**26.41**	**248**	T	T	16 04 59.8	
	baz=69,slow=76,SNR=111						
H08S3	**Diego Garcia H**	**26.42**	**248**	T	T	16 04 59.0	
	baz=69,slow=76,SNR=91						
H08S1	**Diego Carcia H**	**26.43**	**248**	T	T	16 04 59.4	
	baz=69,slow=76,SNR=69						
WRA	**Warramunga Arr**	**42.70**	**123**	P	**P**	**15 40 12.6**	**+0.2**
	0.3nm,1.0s,baz=301,slow=8.9,SNR=1.9						
	0.3nm,1.0s						
MKAR	**Makanchi Array**	**46.20**	**346**	P	**P**	**15 40 39.6**	**-0.4**
	0.7nm,0.7s,baz=148,slow=8.9,SNR=5.1						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**50.70**	**345**	P	**P**	**15 41 13.2**	**-1.3**
	0.2nm,0.4s,baz=160,slow=7.0,SNR=1.9						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**52.51**	**351**	P	**P**	**15 41 27.4**	**-0.6**
	0.6nm,0.3s,baz=177,slow=7.6,SNR=3.7						
	0.6nm,0.3s						
H04N2	**CROZET ISLANDS**	**62.56**	**214**	T	T	16 50 03.0	
	baz=54,slow=75,SNR=99						
H04N1	**CROZET ISLANDS**	**62.57**	**214**	T	T	16 50 03.6	
	baz=54,slow=75,SNR=92						
H04N3	**CROZET ISLANDS**	**62.58**	**214**	T	T	16 50 02.2	
	baz=54,slow=75,SNR=111						
H04S1	**CROZET ISLANDS**	**62.91**	**213**	T	T	16 50 26.4	
	baz=52,slow=75,SNR=7.2						
H04S3	**CROZET ISLANDS**	**62.92**	**213**	T	T	16 50 24.2	
	baz=52,slow=75,SNR=10.0						
H04S2	**CROZET ISLANDS**	**62.93**	**213**	T	T	16 50 27.7	
	baz=52,slow=75,SNR=6.6						

*DNK **25** 15:36:20.4±2.0, 82°11N×4°48W, h36km±25km, ML1.0*

BER 25 15:36:19.5±3.0, 81°99N×4°60W, h10km, mb(Pn)2.6, ML1.0(DNK), Confirmed Earthquake, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.78**	**263**	*i* P	Pn	15 36 49.0	-1.2
NOR				*i* S	Sn	15 37 07.4	-5.4
NOR				IAML		15 37 11.6	
	comp=Z,1.4nm,0.2s						
NOR	**Nord**	**1.78**	**263**	*i* P	Pn	15 36 49.0	-1.2
NOR				*i* S	Sn	15 37 07.4	-5.4
NOR				IAML		15 37 11.6	
	comp=Z,1.4nm,0.2s						
KBS	**Kingsbay**	**4.11**	**130**	*e*P	Pn	15 37 20.6	-1.6
KBS				*e*S	Sn	15 38 03.6	-6.6
KBS				IAML		15 38 06.1	
	comp=Z,1.8nm,0.6s						
KBS	**Kingsbay**	**4.11**	**130**	*i* P	Pn	15 37 19.9	-2.3
KBS				*i* S	Sn	15 38 04.1	-6.0
BRBB	**Barentsburg B**	**5.06**	**131**	*e*P	Pn	15 37 34.6	-0.6
BRBA	**Barentsburg A**	**5.09**	**131**	*e*P	Pn	15 37 34.3	-1.3
SPA0	**Spitsbergen Ar**	**5.22**	**126**	*e*P	Pn	15 37 36.2	-1.3
SPA0				*e*S	Sn	15 38 30.2	-7.4
SPA0				IAML		15 38 44.5	
	comp=Z,3.6nm,1.0s						
DAG	**Danmarks Havn**	**5.82**	**213**	*i* P	Pn	15 37 45.0	-0.7
DAG				*i* S	Sn	15 38 46.2	-6.2
DAG				IAML		15 38 53.3	
	comp=Z,0.6nm,0.2s						
DAG	**Danmarks Havn**	**5.82**	**213**	*i* P	Pn	15 37 45.0	-0.7
DAG				*i* S	Sn	15 38 46.2	-6.2
DAG				IAML		15 38 53.3	
	comp=Z,0.6nm,0.2s						

*IDC **25** 15:40:33.0±0.7, 35°57S×104°73W, h0km, mb4.4/9, mbtmp4.4/9, MS3.8/4, Error ellipse: s-maj=28.2km s-min=18.7km az=81.0*
*NEIC **25** 15:40:36.1±1.3, 35°36S±0°06×104°7W±0°2, h10km±1km, mb4.7/44, Error ellipse: s-maj=27.8km s-min=9.7km az=271.0*

ISC 25 15:40:34.5±0.6, 35°5S±0°1×104°7W±0°1, h10km, n81, σ1°08/69, mb4.6/31, MS3.9/4, 4C, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**21.24**	**93**	T	T	16 07 25.2	
	baz=261,slow=76						
H03S1	**Juan Fernandez**	**21.26**	**93**	T	T	16 07 26.7	
	baz=261,slow=76						
H03S3	**Juan Fernandez**	**21.26**	**93**	T	T	16 07 25.3	
	baz=261,slow=76						
H03N2	**Juan Fernandez**	**21.32**	**92**	T	T	16 07 31.9	
	baz=259,slow=72						
H03N3	**Juan Fernandez**	**21.33**	**92**	T	T	16 07 31.2	
	baz=259,slow=72						
H03N1	**Juan Fernandez**	**21.34**	**92**	T	T	16 07 20.9	
	baz=259,slow=72						
GO07	**Milladeo Hill,**	**25.08**	**117**	P	**P**	**15 46 01.6**	**+2.5**
PLCA	**Paso Flores**	**27.26**	**111**	P	**P**	**15 46 19.8**	**+0.8**
PLCA	**Paso Flores**	**27.26**	**111**	P	**P**	**15 46 19.8**	**+0.8**
	2.8nm,0.9s,baz=280,slow=9.5,SNR=5.1						
	2.8nm,0.9s						
MT08	**Bocatoma Ro**	**28.58**	**96**	P	**P**	**15 46 30.2**	**-0.8**
MT08				IAmb	IAmb	15 47 13.2	
	comp=Z,19nm,1.4s						
HMBC	**Humberstone**	**34.09**	**73**	P	**P**	**15 47 19.5**	**0.0**
HMBC				IAmb	IAmb	15 47 29.1	
	comp=Z,7.5nm,0.6s						
GO01	**Chusmiza**	**34.97**	**73**	P	**P**	**15 47 27.9**	**+0.3**
ATAH	**Atahualpa**	**37.13**	**47**	P	**P**	**15 47 47.0**	**+1.0**
	comp=Z,5.4nm,0.7s,baz=291,slow=13,SNR=4.6						
	comp=Z,5.4nm,0.7s						
LPAZ	**La Paz**	**37.76**	**69**	P	**P**	**15 47 51.4**	**-0.1**
LPAZ	**La Paz**	**37.76**	**69**	P	**P**	**15 47 52.4**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=238,slow=5.7,SNR=7.8						
	comp=Z,2.9nm,0.8s						
CZSB	**Cruzeiro do Su**	**40.26**	**54**	P	**P**	**15 48 10.5**	**-1.3**
CZSB				IAmb	IAmb	15 48 12.8	
	comp=Z,16nm,0.7s						
COHC	**Cochancay**	**40.46**	**41**	P	**P**	**15 48 12.3**	**-1.1**
PLTB	**Pedras Altas**	**42.32**	**100**	P	**P**	**15 48 30.0**	**+1.4**
PLTB				IAmb	IAmb	15 48 50.4	
	comp=Z,17nm,1.4s						
PPT	**Papeete**	**43.53**	**282**	LR	LR	16 01 36.2	
	comp=Z,165nm,21.0s,baz=79,slow=29						
SAML	**Samuel**	**46.13**	**65**	P	**P**	**15 48 58.6**	**-0.7**
SAML				IAmb	IAmb	15 48 60.0	
	comp=Z,7.7nm,1.1s						
QSPA	**South Pole Qui**	**54.71**	**180**	P	**P**	**15 50 04.7**	**+1.0**
QSPA				IAmb	IAmb	15 50 07.1	
	comp=Z,8.0nm,1.2s						
QSPA	**South Pole Qui**	**54.71**	**180**	P	**P**	**15 50 04.5**	**+0.8**
	comp=Z,3.5nm,1.1s,baz=114,slow=7.6,SNR=5.9						
QSPA				PcP	**PcP**	**15 51 06.3**	**0.0**
	comp=Z,3.0nm,1.0s,baz=77,slow=3.6,SNR=4.1						
QSPA				LR	LR	16 09 37.7	
	comp=Z,51nm,20.5s,baz=116,slow=32						
	comp=Z,3.5nm,1.1s						
ZAIG	**Zacatecas**	**57.98**	**2**	P	**P**	**15 50 26.9**	**-0.7**
ZAIG				IAmb	IAmb	15 51 03.3	
	comp=Z,16nm,1.2s						
VNA3	**Neumayer Olymp**	**58.41**	**158**	⇑P	**P**	**15 50 29.2**	**-0.6**
	comp=Z,4.3nm,0.8s						
VNA2	**Neumayer--Watz**	**59.21**	**158**	⇑P	**P**	**15 50 32.8**	**-2.5**
	comp=Z,4.9nm,1.0s,baz=287,slow=6.6						
SNAA	**Sanae**	**60.31**	**159**	⇑P	**P**	**15 50 39.2**	**-3.8**
	comp=Z,45nm,0.8s						
SNAA	**Sanae**	**60.31**	**159**	P	**P**	**15 50 41.8**	**-1.2**
	comp=Z,2.6nm,1.0s,baz=306,slow=6.0,SNR=4.5						
	comp=Z,2.6nm,1.0s						
URZ	**Urewera**	**60.80**	**242**	LR	LR	16 10 09.5	
	comp=Z,105nm,20.7s,baz=190,slow=29						
TROLL	**Troll, Antarti**	**61.68**	**160**	⇑P	**P**	**15 50 50.6**	**-1.8**
	comp=Z,87nm,0.8s						
TX31	**Lajitas Ar. Si**	**64.49**	**1**	P	**P**	**15 51 12.0**	**+0.6**
TXAR	**Lajitas Array**	**64.49**	**1**	P	**P**	**15 51 11.7**	**+0.3**
TXAR	**Lajitas Array**	**64.49**	**1**	P	**P**	**15 51 12.5**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=183,slow=8.7,SNR=32						
	comp=Z,3.8nm,0.8s						
PDPR	**Patillas Dam,**	**64.63**	**41**	P	**P**	**15 51 10.6**	**-1.8**
PDPR				IAmb	IAmb	15 51 11.5	
	comp=Z,11nm,0.8s						
SAND	**Sanderson**	**65.15**	**2**	P	**P**	**15 51 15.4**	**-0.2**
ALPN	**Alpine**	**65.53**	**1**	P	**P**	**15 51 18.9**	**+0.7**
VHRN	**Van Horn**	**65.93**	**360**	P	**P**	**15 51 21.2**	**+0.4**
OZNA	**Ozona**	**66.15**	**3**	P	**P**	**15 51 21.9**	**-0.2**
MNHN	**Monahans**	**66.51**	**2**	P	**P**	**15 51 24.8**	**+0.4**
CBX	**Cerro Bola**	**68.38**	**349**	P	**P**	**15 51 36.5**	**+0.2**
T25A	**Trinidad**	**72.27**	**0**	P	**P**	**15 52 00.2**	**+0.1**
T25A				IAmb	IAmb	15 52 02.5	
	comp=Z,12nm,1.4s						
MVCO	**Mesa Verde**	**72.43**	**357**	P	**P**	**15 52 01.2**	**+0.2**
MVCO				IAmb	IAmb	15 52 02.5	
	comp=Z,8.4nm,0.9s						
DSP	**Deep Springs**	**73.54**	**349**	P	**P**	**15 52 08.2**	**+0.9**
DSP				IAmb	IAmb	15 52 10.1	
	comp=Z,5.8nm,1.1s						
MZP	**Montezuma Peak**	**73.78**	**350**	P	**P**	**15 52 09.8**	**+0.7**
PV21	**Cone Mtn., Par**	**73.80**	**357**	P	**P**	**15 52 09.3**	**+0.2**
PV21				IAmb	IAmb	15 52 11.0	
	comp=Z,20nm,1.5s						
MSU	**Marysvale**	**73.97**	**354**	P	**P**	**15 52 11.1**	**+1.0**
TPH	**Tonopah**	**74.12**	**350**	P	**P**	**15 52 12.4**	**+1.4**
R11B	**Troy Canyon, C**	**74.17**	**351**	P	**P**	**15 52 12.3**	**+1.0**
Q16A	**Castle Valley**	**74.29**	**355**	P	**P**	**15 52 12.9**	**+1.0**
SRU	**San Rafael Swe**	**74.43**	**355**	P	**P**	**15 52 13.4**	**+0.6**
SRU				IAmb	IAmb	15 52 14.3	
	comp=Z,6.4nm,1.1s						
NV11	**Mina Array Sit**	**74.61**	**349**	P	**P**	**15 52 14.6**	**+0.9**
NV11				IAmb	IAmb	15 52 16.3	
	comp=Z,6.4nm,1.1s						
NVAR	**Mina Array Bea**	**74.63**	**349**	P	**P**	**15 52 15.2**	**+1.2**
NVAR	**Mina Array Bea**	**74.63**	**349**	P	**P**	**15 52 15.7**	**+1.7**
	comp=Z,5.0nm,1.0s,baz=181,slow=7.8,SNR=16						
	comp=Z,5.0nm,1.0s						
SPR3	**Spring Creek 3**	**74.66**	**352**	P	**P**	**15 52 14.6**	**+0.3**
KVN	**Kaiserville**	**75.21**	**349**	P	**P**	**15 52 18.4**	**+1.2**
KVN				IAmb	IAmb	15 52 19.6	
	comp=Z,7.1nm,1.1s						
BSUT	**Blindstream Ca**	**75.87**	**355**	P	**P**	**15 52 22.3**	**+1.1**
BSUT				IAmb	IAmb	15 52 23.4	
	comp=Z,14nm,1.2s						
DZM	**Mont Dzumac**	**76.64**	**252**	LR	LR	16 19 35.2	
	comp=Z,62nm,19.3s,baz=238,slow=31						
P49A	**Miami Univ. Ec**	**76.91**	**16**	P	**P**	**15 52 26.9**	**+0.2**
PD31	**Pinedale Array**	**78.02**	**356**	P	**P**	**15 52 33.0**	**-0.2**
PD31				IAmb	IAmb	15 52 34.5	
	comp=Z,4.7nm,0.9s						
PDAR	**Pinedale Array**	**78.02**	**356**	P	**P**	**15 52 32.9**	**-0.2**
PDAR	**Pinedale Array**	**78.02**	**356**	P	**P**	**15 52 33.6**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=160,slow=6.3,SNR=24						
	comp=Z,3.6nm,0.8s						
LOHW	**Long Hollow**	**78.92**	**356**	P	**P**	**15 52

cutoff=50s. Triangular moment-rate function
JSN 25 15:46:48.3±0.4, 16°.03N±78°.95W, h0km±463km
ISC 25 15:45:58.2±0.8, 13°.14N±0°.03×81°.16W±0°.03, h7km±5km,
n385,σ1980/292, mb4.9/172, MS4.4/22, 3C, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRVC	**Isla de Provid**	**0.31**	**319**	P	**Pg**	**15 46 03.2**	**-1.1**
PRVC				S	**Sg**	**15 46 07.3**	**-1.2**
PRVC	**Isla de Provid**	**0.31**	**319**	*i* P	**Pg**	**15 46 03.4**	**-0.9**
PRVC				*i* S	**Sg**	**15 46 09.1**	**+0.6**
PRVC				IAML		15 46 15.2	
	comp=Z,130μm,1.0s						
SAIC	**Isla e San And**	**0.81**	**222**	P	**Pg**	**15 46 13.9**	**+0.1**
SAIC				S	**Sb**	**15 46 25.9**	**+0.2**
RNCC	**Cayo Roncador,**	**1.12**	**67**	P	**Pb**	**15 46 20.2**	**+0.2**
RNCC				S	**Sn**	**15 46 36.4**	**+0.3**
SERC	**Banco Serrana,**	**1.38**	**34**	P	**Pn**	**15 46 22.8**	**-1.0**
SERC				S	**Sb**	**15 46 41.6**	**-0.5**
BLUN	**Bluefields**	**2.79**	**246**	*i* P	**Pn**	**15 46 43.1**	**-0.3**
BLUN				*i* S	**Sn**	**15 47 18.0**	**+0.6**
BLUN				IAML		15 47 32.7	
	comp=Z,4μm,1.0s						
ESPN	**Las Esperanzas**	**3.21**	**253**	Pn	**Pn**	**15 46 47.7**	**-1.4**
ESPN	**Las Esperanzas**	**3.21**	**253**	*i* P	**Pn**	**15 46 48.8**	**-0.3**
ESPN				*i* S	**Sn**	**15 47 28.9**	**+1.3**
ESPN				IAML		15 47 50.4	
	comp=Z,11μm,1.0s						
COVE	**Coope Vega, Sa**	**3.98**	**233**	*i* P	**Pn**	**15 47 00.1**	**+0.3**
COVE				*i* S	**Sn**	**15 47 47.9**	**+1.1**
COVE				IAML		15 48 21.9	
	comp=Z,8μm,1.0s						
ACON	**Acoyapa**	**4.09**	**254**	Pn	**Pn**	**15 47 00.3**	**-1.0**
ACON	**Acoyapa**	**4.09**	**254**	P	**Pb**	**15 47 07.4**	**-3.2**
ACON				S	**Sn**	**15 47 54.0**	**+4.6**
ACON	**Acoyapa**	**4.09**	**254**	*i* P	**Pn**	**15 47 01.8**	**+0.6**
ACON				*i* S	**Sn**	**15 47 51.4**	**+2.0**
ACON				IAML		15 48 24.7	
	comp=Z,6μm,1.0s						
BCIP	**Isla Barro Col**	**4.16**	**162**		**Pn**	**15 46 59.8**	**-2.3**
BCIP	**Isla Barro Col**	**4.16**	**162**	P	**Pn**	**15 46 59.3**	**-2.8**
BCIP				S	**Sn**	**15 47 46.5**	**-4.5**
BCIP	**Isla Barro Col**	**4.16**	**162**	*i* P	**Pn**	**15 47 00.0**	**-2.1**
BCIP				*i* S	**Sn**	**15 47 49.9**	**-1.1**
BCIP				IAML		15 47 59.7	
	comp=Z,2μm,1.0s						
HDC	**Heredia**	**4.26**	**223**		**Pn**	**15 47 02.0**	**-1.6**
HDC	**Heredia**	**4.26**	**223**	*e*P	**Pn**	**15 47 04.0**	**+0.3**
SOCE	**Pocosol**	**4.36**	**231**	Pn	**Pn**	**15 47 03.0**	**-2.0**
SOCE	**Pocosol**	**4.36**	**231**	*i* P	**Pn**	**15 47 05.5**	**+0.5**
SOCE				*i* S	**Sn**	**15 47 57.2**	**+1.1**
SOCE				IAML		15 48 55.6	
	comp=Z,2μm,1.0s						
BRU2	**Volcan**	**4.57**	**199**		**Pn**	**15 47 06.2**	**-1.9**
BRU2	**Volcan**	**4.57**	**199**	*i* P	**Pn**	**15 47 07.7**	**-0.3**
BRU2				*i* S	**Sn**	**15 48 01.8**	**+0.3**
BRU2				IAML		15 48 11.6	
	comp=Z,3μm,1.0s						
CONN	**Concepcion**	**4.64**	**251**	*i* P	**Pn**	**15 47 09.1**	**+0.3**
CONN				*i* S	**Sn**	**15 48 04.1**	**+1.1**
CONN				IAML		15 48 37.6	
	comp=Z,37μm,1.0s						
MORN	**Al O del Volca**	**4.67**	**251**	*i* P	**Pn**	**15 47 09.2**	**0.0**
MORN				IAML		15 48 44.4	
	comp=Z,540nm,1.0s						
JTS	**Las Juntas de**	**4.67**	**233**		**Pn**	**15 47 08.1**	**-1.2**
JTS	**Las Juntas de**	**4.67**	**233**	Pn	**Pn**	**15 47 09.3**	**0.0**
	comp=Z,111nm,0.5s,baz=37,slow=8.8,SNR=43						
JTS				Sn	**Sn**	**15 48 02.4**	**-1.4**
	comp=Z,54nm,0.3s,baz=247,slow=16,SNR=8.7						
JTS				LR	LR	15 49 05.1	
	comp=Z,2μm,19.1s,baz=134,slow=41						
JTS	**Las Juntas de**	**4.67**	**233**	P	**Pn**	**15 47 09.3**	**0.0**
JTS				S	**Sn**	**15 48 00.6**	**-3.2**
JAPN	**Al SSO del Vol**	**4.70**	**251**	*i* P	**Pn**	**15 47 09.7**	**+0.1**
JAPN				IAML		15 47 40.7	
	comp=Z,1μm,1.0s						
OCHAL	**Ojochal**	**4.70**	**212**	*i* P	**Pn**	**15 47 09.5**	**-0.1**
OCHAL				*i* S	**Sn**	**15 48 05.8**	**+1.3**
OCHAL				IAML		15 48 08.5	
	comp=Z,2μm,1.0s						
RCPN	**Sur Rio San Ju**	**4.82**	**275**	*i* P	**Pn**	**15 47 10.3**	**-1.1**
CDITO	**Canoas**	**4.84**	**201**	*i* P	**Pn**	**15 47 11.4**	**-0.2**
CDITO				*i* S	**Sn**	**15 48 09.5**	**+1.6**
CDITO				IAML		15 48 16.8	
	comp=Z,3μm,1.0s						
RCVN	**Varillal2**	**4.92**	**276**	*i* P	**Pn**	**15 47 12.3**	**-0.5**
RCVN				*i* S	**Sn**	**15 48 10.3**	**+0.2**
RCVN				IAML		15 48 44.3	
	comp=Z,64μm,1.0s						
LIMN	**Finca el Limon**	**5.08**	**270**	*i* P	**Pn**	**15 47 14.5**	**-0.4**
LIMN				IVmB_BB		15 47 39.3	
	comp=Z,13μm,1.0s						
LIMN				IAmb	IAmb	15 47 42.3	
	comp=Z,1μm,0.9s						
LIMN				IAML		15 48 48.9	
	comp=Z,4μm,1.0s						
UNAN	**Cigeo UNAN**	**5.10**	**259**	*i* P	**Pn**	**15 47 15.4**	**+0.3**
UNAN				IAmb	IAmb	15 47 36.9	
	comp=Z,10μm,0.8s						
UNAN				IVmB_BB		15 48 00.9	
	comp=Z,92μm,1.0s						
UNAN				*i* S	**Sn**	**15 48 15.9**	**+1.7**
UNAN				IAML		15 49 04.0	
	comp=Z,29μm,1.0s						
GMAL	**Guarumal, Vera**	**5.34**	**181**	P	**Pn**	**15 47 17.1**	**-1.4**
	comp=Z,580nm,0.7s,comp=Z,9μm						
INDI	**Punta indio, G**	**5.36**	**233**	*i* P	**Pn**	**15 47 18.6**	**-0.1**
INDI				IAmb	IAmb	15 47 22.3	
	comp=Z,31μm,0.9s						
INDI				IVmB_BB		15 47 39.1	
	comp=Z,260μm,1.0s						
INDI				*i* S	**Sn**	**15 48 22.0**	**+1.3**
INDI				IAML		15 48 55.4	
	comp=Z,37μm,1.0s						
AZU	**Azuero**	**5.38**	**171**	P	**Pn**	**15 47 17.8**	**-1.2**
	comp=Z,211nm,0.5s,comp=Z,4μmcomp=Z,7μm						
AZU				S	**Sn**	**15 48 19.1**	**-2.2**
	comp=Z,211nm,0.5s,comp=Z,4μmcomp=Z,7μm						
CNGA	**Al SSO del Vol**	**5.45**	**264**	*i* P	**Pn**	**15 47 19.1**	**-0.8**
CNGA				IAmb	IAmb	15 47 47.1	
	comp=Z,300nm,0.6s						
CNGA				IVmB_BB		15 47 53.1	
	comp=Z,4μm,1.0s						
CNGA				IAML		15 49 04.4	
	comp=Z,560nm,1.0s						
YUSH	**Yuscaran**	**5.59**	**279**	*i* P	**Pn**	**15 47 21.7**	**-0.2**
YUSH				*i* S	**Sn**	**15 48 26.6**	**+0.1**
CRIN	**San Cristobal**	**5.76**	**266**		**Pn**	**15 47 23.5**	**-0.8**
CRIN	**San Cristobal**	**5.76**	**266**	P	**Pn**	**15 47 23.9**	**-0.4**
	comp=Z,1μm,0.8s,comp=Z,19μm						
CACAO	**El Cacao, Vera**	**5.77**	**177**	P	**Pn**	**15 47 24.5**	**+0.2**
	comp=Z,740nm,0.6s,comp=Z,7μm						
CACAO				S	**Sn**	**15 48 30.8**	**+0.1**
	comp=Z,740nm,0.6s,comp=Z,7μm						
TGUH	**Tegucigalpa,Un**	**6.02**	**279**	Pn	**Pn**	**15 47 26.6**	**-1.3**
TGUH	**Tegucigalpa,Un**	**6.02**	**279**	P	**Pn**	**15 47 27.6**	**-0.2**
	comp=Z,1μm,0.7s,comp=Z,12μmcomp=Z,7μm						
TGUH				S	**Sn**	**15 48 35.1**	**-2.0**
	comp=Z,1μm,0.7s,comp=Z,12μmcomp=Z,7μm						
MTDJ	**Mount Denham**	**6.14**	**34**	Pn	**Pn**	**15 47 30.1**	**+0.5**
MTDJ	**Mount Denham**	**6.14**	**34**	P	**Pn**	**15 47 30.0**	**+0.5**
	comp=Z,239nm,0.8s,comp=Z,2μmcomp=Z,4μm						
MTDJ				S	**Sn**	**15 48 41.8**	**+1.6**
	comp=Z,239nm,0.8s,comp=Z,2μmcomp=Z,4μm						
POTN	**Potosi Cosigui**	**6.19**	**269**	*i* P	**Pn**	**15 47 30.1**	**0.0**
POTN				IVmB_BB		15 47 58.8	
	comp=Z,7μm,1.0s						
POTN				IAmb	IAmb	15 47 59.2	
	comp=Z,710nm,1.0s						
POTN				*i* S	**Sn**	**15 48 42.7**	**+1.5**
POTN				IAML		15 49 52.4	
	comp=Z,950nm,1.0s						
LCBC	**Los crdobas,**	**6.34**	**132**	P	**Pn**	**15 47 34.0**	**+1.8**
	comp=Z,488nm,1.1s,comp=Z,6μmcomp=Z,11μm						
LCBC				S	**Sn**	**15 48 45.3**	**+0.4**
	comp=Z,488nm,1.1s,comp=Z,6μmcomp=Z,11μm						
COMHN	**El Horno**	**6.35**	**283**	*i* P	**Pn**	**15 47 30.6**	**-1.9**
COMHN				*i* S	**Sn**	**15 48 45.9**	**+0.4**
HOJ	**Hope**	**6.44**	**41⇑**	*i*P	**Pn**	**15 47 34.6**	**+1.1**
STH	**Stony Hill**	**6.45**	**40**	*i* P	**Pn**	**15 47 34.5**	**+0.8**
GWJ	**Greenwich**	**6.50**	**40⇑**	*i*P	**Pn**	**15 47 35.6**	**+1.1**
LCND	**La Caada**	**6.56**	**272**	*i* P	**Pn**	**15 47 34.3**	**-0.9**
LCND				IVmB_BB		15 47 54.6	
	comp=Z,3μm,1.0s						
LCND				IAmb	IAmb	15 47 55.0	
	comp=Z,230nm,0.6s						
LCND				IAML		15 49 50.2	
	comp=Z,490nm,1.0s						
SJCC	**San Jacinto, C**	**6.69**	**118**	P	**Pn**	**15 47 35.9**	**-1.1**
	comp=Z,167nm,0.8s,comp=Z,2μm						
SJCC				S	**Sn**	**15 48 50.3**	**-3.2**
	comp=Z,167nm,0.8s,comp=Z,2μm						
PTAC	**Punta Ardita,**	**6.80**	**151**	P	**Pn**	**15 47 41.2**	**+2.6**
	comp=Z,68nm,0.7s,comp=Z,2μm						
PTAC				S	**Sn**	**15 48 52.0**	**-4.4**
	comp=Z,68nm,0.7s,comp=Z,2μm						
APAC	**Apartado, Choc**	**6.88**	**139**	P	**Pn**	**15 47 41.7**	**+2.1**
	comp=Z,169nm,0.8s,comp=Z,2μmcomp=Z,4μm						
APAC				S	**Sn**	**15 48 57.4**	**-0.8**
	comp=Z,169nm,0.8s,comp=Z,2μmcomp=Z,4μm						
PACA	**Pacayal**	**6.99**	**274**	*i* P	**Pn**	**15 47 40.5**	**-0.6**
PACA				IAmb	IAmb	15 48 03.3	
	comp=Z,1μm,0.7s						
PACA				IVmB_BB		15 48 25.5	
	comp=Z,14μm,1.0s						
PACA				IAML		15 50 07.7	
	comp=Z,5μm,1.0s						
SCLA	**Alcaldia de Sa**	**7.39**	**275**	*i* P	**Pn**	**15 47 46.2**	**-0.4**
SCLA				IAmb	IAmb	15 48 06.4	
	comp=Z,160nm,0.7s						
SCLA				IVmB_BB		15 48 43.3	
	comp=Z,4μm,1.0s						
SCLA				*i* S	**Sn**	**15 49 10.9**	**+0.1**
SCLA				IAML		15 50 05.0	
	comp=Z,480nm,1.0s						
ARGC	**Ariguani, Magd**	**7.52**	**115**	P	**Pn**	**15 47 49.8**	**+1.5**
	comp=Z,102nm,0.7s,comp=Z,2μmcomp=Z,7μm						
ARGC				S	**Sn**	**15 49 10.3**	**-3.6**
	comp=Z,102nm,0.7s,comp=Z,2μmcomp=Z,7μm						
UREC	**San Jos de Ur**	**7.70**	**134**	P	**Pn**	**15 47 51.1**	**+0.3**
	comp=Z,130nm,0.8s,comp=Z,759nmcomp=Z,4μm						
DBBC	**Dabeiba**	**7.79**	**141**	P	**Pn**	**15 47 54.1**	**+1.9**
DBBC				S	**Sn**	**15 49 18.9**	**-1.9**
MTO3	**Montecristo**	**8.07**	**280**		**Pn**	**15 47 54.9**	**-1.2**
ESQI	**Esquipulas**	**8.07**	**281**		**Pn**	**15 47 54.2**	**-1.8**
ZARC	**Zaragoza, Cauc**	**8.36**	**132**	P	**Pn**	**15 47 59.8**	**-0.1**
	comp=Z,99nm,0.6s,comp=Z,1μm						
ZARC				S	**Sn**	**15 49 29.9**	**-4.7**
	comp=Z,99nm,0.6s,comp=Z,1μm						
CRJC	**Cerrejon, Guaj**	**8.36**	**104**	P	**Pn**	**15 47 59.3**	**-0.7**
	comp=Z,61nm,0.6s,comp=Z,5μm						
CRJC				S	**Sn**	**15 49 28.7**	**-6.1**
	comp=Z,61nm,0.6s,comp=Z,5μm						
HELE	**Santa Helena**	**8.81**	**141**	*i* P	**Pn**	**15 48 04.6**	**-1.8**
HELE				IAmb	IAmb	15 48 26.3	
	comp=Z,18nm,0.6s						
HELE				*i* S	**Sn**	**15 49 44.4**	**-1.8**
CBOC	**Ciudad Bolivar**	**8.83**	**144**	P	**Pn**	**15 48 07.2**	**+0.7**
	comp=Z,35nm,0.6s,comp=Z,624nm						
CBOC				S	**Sn**	**15 49 44.2**	**-2.3**
	comp=Z,35nm,0.6s,comp=Z,624nm						
HELC	**Santa Helena**	**8.86**	**141**	P	Pn	15 48 12.0	+5.0
	comp=Z,18nm,0.6s						
HELC				S	**Sn**	**15 49 44.8**	**-2.6**
	comp=Z,18nm,0.6s						
GTBY	**Guantanamo Bay**	**8.89**	**40**	Pn	**Pn**	**15 48 07.4**	**+0.2**
GTBY	**Guantanamo Bay**	**8.89**	**40⇑**	*i*P	**Pn**	**15 48 07.9**	**+0.7**
GTBY	**Guantanamo Bay**	**8.89**	**40**	P	**Pn**	**15 48 07.7**	**+0.5**
	comp=Z,118nm,0.7s						
URIC	**Uribia, Colomb**	**9.06**	**98**	P	**Pn**	**15 48 09.0**	**-0.6**
	comp=Z,42nm,1.3s,comp=Z,866nm						
URIC				S	**Sn**	**15 49 46.5**	**-5.5**
	comp=Z,42nm,1.3s,comp=Z,866nm						
URI	**Uribia**	**9.07**	**98**	*i* P	**Pn**	**15 48 07.6**	**-2.0**
URI				IAmb	IAmb	15 48 27.2	
	comp=Z,32nm,1.0s						
URI				IVmB_BB		15 48 42.6	
	comp=Z,690nm,1.0s						
URI				*i* S	**Sn**	**15 49 48.6**	**-3.4**
OCAC	**Ocana**	**9.11**	**122**	P	**Pn**	**15 48 11.9**	**+1.5**
	comp=Z,133nm,0.6s,comp=Z,2μmcomp=Z,4μm						
OCAC				S	**Sn**	**15 49 50.8**	**-2.5**
	comp=Z,133nm,0.6s,comp=Z,2μmcomp=Z,4μm						
PETF	**Flores**	**9.21**	**295**		**Pn**	**15 48 11.7**	**+0.1**
PTBC	**PUERTO BERRIO,**	**9.30**	**134**	P	**Pn**	**15 48 13.1**	**+0.2**
	comp=Z,38nm,1.0s,comp=Z,653nm						
PTBC				S	**Sn**	**15 49 53.7**	**-4.2**
	comp=Z,38nm,1.0s,comp=Z,653nm						
PLMC	**San Jos del P**	**9.49**	**149**	P	**Pn**	**15 48 20.3**	**+4.8**
	comp=Z,34nm,0.6s,comp=Z,941nm						
PLMC				S	**Sn**	**15 49 57.1**	**-5.5**
	comp=Z,34nm,0.6s,comp=Z,941nm						
BRJC	**Barrancabermej**	**9.53**	**129**	P	**Pn**	**15 48 15.9**	**0.0**
	comp=Z,110nm,0.9s,comp=Z,1μmcomp=Z,4μm						
BRJC				S	**Sn**	**15 50 00.3**	**-3.1**
	comp=Z,110nm,0.9s,comp=Z,1μmcomp=Z,4μm						
GUY2C	**Guyana, Caldas**	**9.72**	**143**	P	**Pn**	**15 48 23.7**	**+4.7**
	comp=Z,42nm,0.7s,comp=Z,408nm						
NORC	**Norcasia**	**9.75**	**140**	P	**Pn**	**15 48 22.6**	**+3.5**
	comp=Z,26nm,1.2s						
NORC				S	**Sn**	**15 50 06.2**	**-2.8**
	comp=Z,26nm,1.2s						
SOR	**Soroa**	**9.76**	**350**		**Pn**	**15 48 20.0**	**+0.9**
TEIG	**Tepich**	**9.81**	**317**	Pn	**Pn**	**15 48 18.5**	**-1.2**
	baz=143,slow=24,SNR=61						
TEIG				Sn	**Sn**	**15 50 04.1**	**-6.1**
	baz=228,slow=24,SNR=7.0						
TEIG	**Tepich**	**9.81**	**317**	P	**Pn**	**15 48 18.6**	**-1.2**
	comp=Z,426nm,0.7s,comp=Z,10μm						
TEIG				S	**Sn**	**15 50 04.4**	**-5.8**
	comp=Z,426nm,0.7s,comp=Z,10μm						
MALC	**Bahia Malaga**	**9.82**	**157**	P	**Pn**	**15 48 22.9**	**+2.9**
MALC				S	**Sn**	**15 50 09.7**	**-0.9**
CAMR	**Camarioca**	**9.87**	**359**	Pn	**Pn**	**15 48 22.1**	**+1.5**
PAPH	**Port-au-Prince**	**10.06**	**57**		**Pn**	**15 48 23.9**	**+0.6**
PAMC	**Pamplona, Colo**	**10.12**	**124**	P	**Pn**	**15 48 25.5**	**+1.0**
YOTC	**Yotoco, Valle**	**10.26**	**152**	P	**Pn**	**15 48 28.4**	**+2.2**
	comp=Z,23nm,0.7s,comp=Z,294nm						
ANIL	**Santa Ana**	**10.30**	**146**	P	Pn	15 48 31.8	+5.0
ROSC	**El Rosal**	**10.65**	**140**		**Pn**	**15 48 32.0**	**+0.2**
ROSC	**El Rosal**	**10.65**	**140**	Pn	**Pn**	**15 48 35.0**	**+3.3**
	comp=Z,2.6nm,0.3s,baz=266,slow=11,SNR=5.3						
ROSC				Sn	**Sn**	**15 50 30.0**	**-1.6**
	comp=Z,3.3nm,0.3s,baz=184,slow=23,SNR=8.4						
ROSC				LR	LR	15 53 11.5	
	comp=Z,4μm,19.1s,baz=325,slow=40						
	comp=Z,10nm,0.5s						
ROSC	**El Rosal**	**10.65**	**140**	P	Pn	15 48 36.7	+4.9
	comp=Z,34nm,1.1s,comp=Z,900nm						
RUSI	**La Rusia**	**10.73**	**131**	*i* P	**Pn**	**15 48 31.2**	**-1.7**
RUSI				IAmb	IAmb	15 48 46.4	
	comp=Z,51nm,1.0s						
RUSI				*i* S	**Sn**	**15 50 31.1**	**-2.5**
ORTC	**Ortega, Tolima**	**10.87**	**147**	P	**Pn**	**15 48 36.4**	**+2.0**
	comp=Z,63nm,0.9s,comp=Z,777nm						
SDDR	**Presa de Saban**	**11.12**	**57**	Pn	**Pn**	**15 48 38.6**	**+0.8**
SDV	**Santo Domingo**	**11.16**	**111**	Pn	**Pn**	**15 48 37.7**	**-0.8**
SDV	**Santo Domingo**	**11.16**	**111**	Pn	**Pn**	**15 48 39.0**	**+0.5**
	comp=Z,2.8nm,0.3s,baz=298,slow=6.1,SNR=17						
SDV				Sn	**Sn**	**15 50 36.2**	**-7.5**
	comp=Z,17nm,0.3s,baz=16,slow=23,SNR=16						
SDV				LR	LR	15 53 48.6	
	comp=Z,2μm,18.2s,baz=312,slow=42						
	comp=Z,25nm,0.7s						
SDV	**Santo Domingo**	**11.16**	**111**	P	**Pn**	**15 48 39.4**	**+0.9**
	comp=Z,62nm,0.7s,comp=Z,792nmcomp=Z,4μm						
SDV	**Santo Domingo**	**11.16**	**111**	*e*P	**Pn**	**15 48 36.6**	**-1.9**
CHIC	**Chingaza**	**11.19**	**138**	P	**Pn**	**15 48 41.2**	**+2.1**
	comp=Z,91nm,1.2s,comp=Z,837nm						
CHIC				S	**Sn**	**15 50 41.3**	**-3.5**
	comp=Z,91nm,1.2s,comp=Z,837nm						
URMC	**La Uribe, Meta**	**11.90**	**145**	P	**Pn**	**15 48 50.1**	**+1.6**
061Z	**Ochoppi**	**12.66**	**1**		**Pn**	**15 48 59.8**	**+0.9**
OTAV	**Otavalo**	**13.10**	**168**	*e*P	**Pn**	**15 49 05.8**	**+0.5**
BAUV	**El Baul**	**13.53**	**107**		**Pn**	**15 49 08.2**	**-2.6**
CMIG	**Matias Romero**	**13.82**	**288**	Pn	**Pn**	**15 49 13.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=130,slow=12,SNR=5.6						
CMIG				Lg	Lg	15 53 11.7	
	baz=66,slow=20						
CMIG				LR	LR	15 54 59.9	
	comp=Z,5μm,18.4s,baz=130,slow=40						
	comp=Z,0.9nm,0.5s						
SJG	**San Juan**	**15.27**	**69**	P	**P**	**15 49 39.6**	**+0.3**
SJG	**San Juan**	**15.27**	**69**	Pn	**P**	**15 49 40.4**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=252,slow=6.8,SNR=14						
SJG				LR	LR	15 54 28.0	
	comp=Z,798nm,20.2s,baz=243,slow=33						
PCRV	**Puerto La Cruz**	**16.45**	**99**	Pn	**Pn**	**15 49 49.3**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=274,slow=17,SNR=3.1						
PCRV				Sn	**Sn**	**15 52 43.1**	**-10**
	comp=Z,0.8nm,0.3s,baz=54,slow=21,SNR=7.8						
TIGA	**Tifton**	**18.35**	**353**	P	**P**	**15 50 14.2**	**+0.8**
TIGA				IAmb	IAmb	15 50 21.7	
	comp=Z,90nm,1.2s						
352A	**Blakely**	**18.58**	**350**	P	**Pn**	**15 50 17.2**	**+1.1**
352A				IAmb	IAmb	15 50 25.8	
	comp=Z,69nm,1.1s						
154A	**Montrose**	**19.47**	**355**	IAmb	IAmb	15 50 38.0	
	comp=Z,48nm,0.9s						
152A	**Waverly Hall**	**19.71**	**351**	P	**Pn**	**15 50 29.2**	**-0.5**
ATAH	**Atahualpa**	**20.33**	**172**	P	Pn	15 50 37.5	-0.1
	comp=Z,4.4nm,0.4s,baz=358,slow=11,SNR=8.7						
ATAH				LR	LR	15 57 51.0	
	comp=Z,849nm,20.1s,baz=348,slow=35						
	comp=Z,4.4nm,0.4s						
LRAL	**Lakeview Retre**	**20.51**	**346**	P	Pn	15 50 38.1	-1.1
LRAL				IAmb	IAmb	15 50 49.7	
	comp=Z,45nm,1.1s						
TBTG	**Tabatinga, AM**	**20.52**	**146**	*e*P	Pn	15 50 38.5	-0.9
Y52A	**Lilburn**	**20.80**	**353**	IAmb	IAmb	15 50 52.7	
	comp=Z,37nm,0.9s						
JSC	**Jenkinsville**	**21.05**	**360**	IAmb	IAmb	15 50 54.1	
	comp=Z,46nm,1.1s						
Y49A	**Blount Mountai**	**21.17**	**348**	IAmb	IAmb	15 50 51.2	
	comp=Z,28nm,0.9s						
HBVL	**Hebbronville**	**21.46**	**313**	P	**P**	**15 50 47.1**	**-0.3**
HBVL				IAmb	IAmb	15 51 00.5	
	comp=Z,104nm,1.4s						
HKT	**Hockley**	**21.55**	**323**	P	**P**	**15 50 48.9**	**+0.7**
HKT				IAmb	IAmb	15 51 03.9	
	comp=Z,90nm,1.4s						
PAULI	**Pauline**	**21.59**	**359**	IAmb	IAmb	15 50 56.5	
	comp=Z,52nm,0.9s						
FPAL	**Fort Paine**	**21.69**	**350**	IAmb	IAmb	15 51 00.9	
	comp=Z,37nm,0.9s						
BG3	**Lake Jocassee**	**21.82**	**356**	IAmb	IAmb	15 50 58.4	
	comp=Z,37nm,0.9s						
X48A	**Hartselle**	**21.88**	**347**	IAmb	IAmb	15 51 03.5	
	comp=Z,88nm,1.2s						
W57A	**Gilead**	**21.94**	**3**	P	**P**	**15 50 53.2**	**+0.8**
W57A				IAmb	IAmb	15 51 01.6	
	comp=Z,30nm,0.9s						
W52A	**Murphy**	**22.00**	**354**	IAmb	IAmb	15 51 05.0	
	comp=Z,43nm,1.1s						
W50A	**Signal Mountai**	**22.28**	**351**	IAmb	IAmb	15 51 03.9	
	comp=Z,36nm,1.0s						
CZSB	**Cruzeiro do Su**	**22.37**	**157**	P	**P**	**15 50 55.8**	**-1.4**
CZSB	**Cruzeiro do Su**	**22.37**	**157**	*e*P	**P**	**15 50 58.2**	**+1.1**
SWET	**Sewanee**	**22.40**	**350**	IAmb	IAmb	15 51 07.3	
	comp=Z,31nm,1.0s						
CPCT	**Cooper Cave**	**22.42**	**353**	IAmb	IAmb	15 51 08.2	
	comp=Z,51nm,1.1s						
V53A	**Saluda**	**22.48**	**356**	IAmb	IAmb	15 51 17.1	
	comp=Z,25nm,0.9s						
TKL	**Tuckaleechee C**	**22.55**	**354**	IAmb	IAmb	15 51 07.1	
	comp=Z,38nm,1.1s						
TKL	**Tuckaleechee C**	**22.55**	**354**	LR	LR	15 59 29.7	
	comp=Z,1μm,19.2s,baz=177,slow=36						
V55A	**Taylorsville**	**22.61**	**360**	P	**P**	**15 50 59.8**	**+0.2**
V55A				IAmb	IAmb	15 51 09.1	
	comp=Z,29nm,0.9s						
Z41A	**Richland Creek**	**22.67**	**334**	IAmb	IAmb	15 51 11.1	
	comp=Z,56nm,0.9s						
BOAV	**Boa Vista**	**23.04**	**116**	P	**P**	**15 51 03.7**	**-0.6**
BOAV	**Boa Vista**	**23.04**	**116**	*e*P	**P**	**15 51 04.6**	**+0.4**
V48A	**Smith Brothers**	**23.08**	**348**	IAmb	IAmb	15 51 13.7	
	comp=Z,24nm,0.9s						
435B	**Jarrell**	**23.19**	**322**	IAmb	IAmb	15 51 30.2	
	comp=Z,51nm,0.9s						
U54A	**Nelsons Funny**	**23.29**	**359**	IAmb	IAmb	15 51 17.2	
	comp=Z,49nm,1.0s						
HNDO	**Hondo**	**23.42**	**317**	IAmb	IAmb	15 51 09.7	
	comp=Z,59nm,1.3s						
WVT	**Waverly**	**23.67**	**346**	P	**P**	**15 51 11.3**	**+0.9**
UALR	**University of**	**23.80**	**337**	P	**P**	**15 51 12.1**	**+0.3**
UALR				IAmb	IAmb	15 51 27.7	
	comp=Z,44nm,1.1s						
T59A	**Double "B" Far**	**23.95**	**7**	P	**P**	**15 51 13.8**	**+0.7**
T59A				IAmb	IAmb	15 51 22.0

SAML Samuel 28.29 140 P **P 15 51 51.7 -0.9**
SAML IAmb IAmb 15 52 30.7
comp=Z,19nm,1.1s
SAML Samuel 28.29 140 *eP* **P 15 51 52.2 -0.4**
MDP Montagnes des 29.24 103 LR LR 16 05 44.4
comp=Z,834nm,19.8s,baz=296,slow=40
LPIG La Paz 29.64 296 LR LR 16 04 40.9
comp=Z,2μm,19.4s,baz=126,slow=38
L40A Anamosa 30.12 345 IAmb IAmb 15 53 04.3
comp=Z,21nm,1.1s
ITTB Itaituba 30.66 123 *eP* **P 15 52 14.9 +1.3**
ANMO Albuquerque 31.54 318 P **P 15 52 21.0 -0.4**
ANMO IAmb IAmb 15 52 23.0
comp=Z,23nm,1.9s
ANMO Albuquerque 31.54 318 LR LR 16 08 11.5
comp=Z,290nm,18.7s,baz=299,slow=42
SADO Sadowa 31.57 3 LR LR 16 05 21.6
comp=Z,1μm,19.2s,baz=222,slow=37
LPAZ La Paz 31.95 156 IAmb IAmb 15 52 27.7
comp=Z,19nm,1.7s
LPAZ La Paz 31.95 156 P **P 15 52 26.8 +1.1**
comp=Z,5.0nm,1.3s,baz=322,slow=9.0,SNR=6.9
LPAZ LR LR 16 07 58.3
comp=Z,548nm,18.9s,baz=300,slow=41
comp=Z,5.0nm,1.3s
LPAZ La Paz 31.95 156 *eP* **P 15 52 26.3 +0.7**
NPGB Novo Progresso 32.54 127 *eP* **P 15 52 31.0 +0.8**
TUC Tucson 33.16 310 P **P 15 52 35.9 +0.4**
VILB Vilhena 33.22 140 IAmb IAmb 15 52 54.5
comp=Z,17nm,0.8s
VILB Vilhena 33.22 140 *eP* **P 15 52 37.1 +0.9**
ECSD EROS Data Cent 33.26 339 IAmb IAmb 15 52 46.8
comp=Z,20nm,1.4s
PB12 IPOC Station P 33.31 161 P **P 15 52 35.5 -1.4**
SPMN Marine on St. 33.48 345 IAmb IAmb 15 52 48.4
comp=Z,21nm,1.0s
BRIGG Briggsdale 34.05 328 IAmb IAmb 15 52 47.8
comp=Z,16nm,0.9s
ISCO Idaho Springs 34.19 325 IAmb IAmb 15 53 02.5
comp=Z,13nm,1.2s
PDRB Porto dos Gac 34.53 134 *eP* **P 15 52 45.5 -2.0**
X16A Lo Mia Camp, P 34.66 313 IAmb IAmb 15 53 01.8
comp=Z,18nm,1.5s
CLDB Colider 34.68 132 *eP* **P 15 52 49.3 +0.4**
F33A 5 Mile Ranch, 35.03 341 IAmb IAmb 15 53 01.1
comp=Z,20nm,1.3s
SIV San Ignacio 35.10 145 LR LR 16 09 05.3
comp=Z,569nm,18.1s,baz=332,slow=40
N23A Red Feather La 35.14 326 IAmb IAmb 15 53 09.1
comp=Z,13nm,1.1s
WUAZ Wupatki 35.18 315 IAmb IAmb 15 52 58.9
comp=Z,13nm,0.8s
PTLB Pontes e Lacer 35.80 142 IAmb IAmb 15 53 17.6
comp=Z,31nm,1.9s
PTLB Pontes e Lacer 35.80 142 *eP* **P 15 52 58.4 0.0**
O20A White River Ci 35.91 323 IAmb IAmb 15 53 05.1
comp=Z,11nm,0.9s
HMU Henry Mountain 36.09 318 IAmb IAmb 15 53 03.6
comp=Z,42nm,1.7s
BBSD Serra de San D 36.33 146 *eP* **P 15 53 03.4 +0.4**
GLA Glamis 36.53 309 IAmb IAmb 15 53 07.4
comp=Z,27nm,1.1s
PRPB Parauapebas 36.57 120 *eP* **P 15 53 06.8 +1.7**
RSSD Black Hills 36.57 332 P **P 15 53 05.5 +0.4**
PB09 IPOC Station P 36.63 161 IAmb IAmb 15 53 16.9
comp=Z,22nm,0.9s
SRU San Rafael Swe 36.64 320 IAmb IAmb 15 53 07.9
comp=Z,20nm,1.5s
K22A Casper 36.69 328 IAmb IAmb 15 53 08.5
comp=Z,17nm,1.1s
PKCU Pink Cliffs 36.84 317 IAmb IAmb 15 53 12.2
comp=Z,18nm,0.9s
KNB Kanab 36.96 316 IAmb IAmb 15 53 11.5
comp=Z,14nm,1.0s
BSUT Blindstream Ca 37.65 322 IAmb IAmb 15 53 37.0
comp=Z,23nm,1.6s
MDND Maddock 37.87 340 IAmb IAmb 15 53 26.3
comp=Z,26nm,1.0s
PFO Pinyon Flats O 38.01 308 LR LR 16 11 43.4
comp=Z,747nm,18.9s,baz=140,slow=41
PDAR Pinedale Array 38.39 326 P **P 15 53 20.2 -0.3**
PDAR Pinedale Array 38.39 326 P **P 15 53 20.6 +0.2**
comp=Z,8.5nm,0.8s,baz=130,slow=10,SNR=18
PDAR PcP **PcP 15 55 33.2 -0.9**
comp=Z,0.1nm,0.4s,baz=140,slow=5.9,SNR=1.2
comp=Z,8.5nm,0.8s
TCUT Toone Canyon 38.39 322 IAmb IAmb 15 53 23.1
comp=Z,38nm,1.5s
PSUT Pine Spring 38.46 317 IAmb IAmb 15 53 26.8
comp=Z,18nm,0.9s
SNDB Serra Nova Dou 38.73 129 *eP* **P 15 53 23.9 +0.5**
HWUT Hardware Ranch 38.79 323 IAmb IAmb 15 53 31.2
comp=Z,40nm,1.5s
PB14 IPOC Station P 38.98 164 P **P 15 53 25.3 -0.3**
S11A Rachel 39.29 315 IAmb IAmb 15 53 43.1
comp=Z,25nm,1.1s
SNOW Snow King Moun 39.51 326 IAmb IAmb 15 53 35.1
comp=Z,23nm,0.8s
GO02 Mina Guanaco 39.70 163 IAmb IAmb 15 53 35.3
comp=Z,31nm,0.9s
CCAC Calif City Air 39.81 310 IAmb IAmb 15 53 35.8
comp=Z,33nm,1.2s
RLMT Red Lodge 39.84 329 IAmb IAmb 15 53 39.8
comp=Z,20nm,0.8s
SMTB Santa Maria do 39.86 122 *eP* **P 15 53 34.0 +1.1**
YNE Yellowstone No 40.14 328 IAmb IAmb 15 53 42.0
comp=Z,14nm,0.8s
ELK Elko 40.55 319 P **P 15 53 38.4 -0.2**
ELK Elko 40.55 319 LR LR 16 14 38.6
comp=Z,816nm,19.1s,baz=146,slow=42
YHL Hebgen Lake 40.65 327 P **P 15 53 39.4 0.0**
DSP Deep Springs 40.73 313 P **P 15 53 40.1 +0.4**
ARAG Araguaiana, MT 40.79 134 *eP* **P 15 53 39.7 -0.8**
NVAR Mina Array Bea 41.44 314 P **P 15 53 45.8 -0.1**
comp=Z,6.9nm,0.9s,baz=127,slow=6.7,SNR=14
NVAR LR LR 16 14 48.9
comp=Z,1μm,18.7s,baz=130,slow=42
comp=Z,6.9nm,0.9s
LHV Little Huntoon 41.50 314 IAmb IAmb 15 55 18.6
comp=Z,11nm,0.5s
KVN Kaiserville 41.59 315 P **P 15 53 47.1 +0.1**
KVN IAmb IAmb 15 55 10.8
comp=Z,15nm,0.7s
HLID Hailey 41.65 323 P **P 15 53 47.5 +0.1**
BMN Battle Mountai 41.67 317 IAmb IAmb 15 53 53.0
comp=Z,15nm,0.9s
GO03 Copiapo 41.85 165 IAmb IAmb 15 53 51.6
comp=Z,29nm,1.2s
EGMT Eagleton 42.13 331 IAmb IAmb 15 53 58.5
comp=Z,21nm,1.1s
YERR Yerington 42.34 314 IAmb IAmb 15 53 56.0
comp=Z,39nm,1.8s
MFID Camas Ranch 42.40 322 P **P 15 53 53.2 -0.3**
MFID IAmb IAmb 15 54 00.2
comp=Z,15nm,0.9s
MPK Martis Peak 43.03 314 IAmb IAmb 15 54 13.8
comp=Z,28nm,1.0s
SCHQ Schefferville 43.09 12 LR LR 16 13 09.0
comp=Z,528nm,18.9s,baz=236,slow=38
LCO Las Campanas 43.10 167 P **P 15 53 59.0 -0.6**
LCO IAmb IAmb 15 54 02.7
comp=Z,45nm,1.4s
BDFB Brasilia 43.50 130 P **P 15 54 02.9 +0.1**
BDFB IAmb IAmb 15 54 11.4
comp=Z,16nm,0.8s
BDFB Brasilia 43.50 130 P **P 15 54 03.2 +0.4**
comp=Z,9.3nm,0.7s,baz=291,slow=8.2,SNR=12
comp=Z,9.3nm,0.7s
WVOR Wild Horse Val 43.60 319 IAmb IAmb 15 54 09.0
comp=Z,25nm,1.0s
SDBA SAO DESIDERIO 44.01 124 *eP* **P 15 54 07.7 +0.9**
ORV Oroville 44.17 314 IAmb IAmb 15 54 10.4
comp=Z,22nm,1.5s
F10A Beach Ranch, E 44.68 324 IAmb IAmb 15 54 15.9
comp=Z,17nm,0.8s
IPMB Ipameri, GO 44.87 133 *eP* **P 15 54 14.8 +1.2**
E09A Wood Farm, Sta 45.52 324 IAmb IAmb 15 54 23.5
comp=Z,14nm,0.9s
CPUP Villa Florida 45.57 149 P **P 15 54 19.6 +0.6**
comp=Z,3.5nm,0.8s,baz=321,slow=6.7,SNR=6.1
CPUP LR LR 16 17 31.2
comp=Z,308nm,18.6s,baz=334,slow=42
comp=Z,3.5nm,0.8s
J05D Fort Rock, OR 45.68 319 IAmb IAmb 15 54 26.8
comp=Z,11nm,1.2s
PINE Pine Mountain 45.74 320 IAmb IAmb 15 54 25.0
comp=Z,12nm,0.9s

YBH Yreka Blue Hor 45.94 316 LR LR 16 17 56.1
comp=Z,683nm,19.4s,baz=144,slow=42
NEW Newport 45.98 327 IAmb IAmb 15 54 25.4
comp=Z,11nm,1.0s
JANB Januaria 45.99 126 *eP* **P 15 54 21.5 -1.1**
ZON Zonda 46.02 165 IAmb IAmb 15 54 26.0
comp=Z,29nm,1.4s
E08A Dider Farm, El 46.02 324 IAmb IAmb 15 54 27.1
comp=Z,13nm,1.1s
J04A Umpqua Nationa 46.22 318 IAmb IAmb 15 54 36.1
comp=Z,15nm,1.0s
PMNB Patos De Minas 46.50 132 *eP* **P 15 54 27.0 +0.4**
E07A Sunnyside 46.52 324 IAmb IAmb 15 55 49.0
comp=Z,30nm,1.8s
I04A Tendick Farm, 46.68 319 IAmb IAmb 15 54 29.6
comp=Z,14nm,1.0s
LDASE Londrina, Braz 46.71 141 *eP* **P 15 54 28.5 +0.3**
BB19B Bebedouro 46.72 136 *eP* **P 15 54 28.8 +0.5**
MT08 Bocatoma Ro 47.53 167 IAmb IAmb 15 55 17.2
comp=Z,17nm,1.0s
DIAM Diamantina, MG 48.40 129 *eP* **P 15 54 41.9 +0.5**
RPN Rapa Nui 48.48 214 LR LR 16 10 41.4
comp=Z,654nm,18.9s,baz=54,slow=31
ITQB Itaqui 48.70 151 P **P 15 54 42.6 -0.7**
ITQB Itaqui 48.70 151 *eP* **P 15 54 42.8 -0.6**
RCBR Riachuelo 48.74 110 LR LR 16 16 42.9
comp=Z,265nm,18.6s,baz=298,slow=38
RCBR Riachuelo 48.74 110 *eP* **P 15 54 45.7 +1.6**
GNW Green Mountain 48.78 323 IAmb IAmb 15 54 46.9
comp=Z,13nm,1.0s
GDU01 Guandu, BA 49.09 121 *eP* **P 15 54 47.8 +1.2**
PSAL Palomas, Salto 49.45 153 *eP* **P 15 54 50.1 +1.0**
CMC01 Camacan, BA 49.99 123 *eP* **P 15 54 51.7 -1.8**
GUA01 Guaratinga, BA 50.42 125 *eP* **P 15 54 58.0 +1.3**
CPSB Cacapava Do Su 50.85 149 *eP* **P 15 55 00.2 +0.3**
FRB Frobisher Bay 51.31 7 LR LR 16 17 24.6
comp=Z,699nm,18.2s,baz=198,slow=37
RIB01 Linhares ES 51.50 128 *eP* **P 15 55 05.0 +0.2**
PLTB Pedras Altas 51.88 150 P **P 15 55 06.8 -0.7**
PLTB Pedras Altas 51.88 150 *eP* **P 15 55 07.6 +0.1**
ALF01 Guarapari-ES 52.01 130 *eP* **P 15 55 09.8 +1.2**
CAM01 Campos-RJ 52.05 131 *eP* **P 15 55 10.1 +1.2**
PLCA Paso Flores 54.49 170 P **P 15 55 26.2 -0.5**
PLCA Paso Flores 54.49 170 *eP* **P 15 55 26.8 +0.1**
comp=Z,12nm,1.0s,baz=345,slow=8.7,SNR=16
comp=Z,12nm,1.0s
PLCA Paso Flores 54.49 170 *eP* **P 15 55 27.3 +0.6**
YKA Yellowknife Ar 54.73 342 P **P 15 55 27.9 -0.1**
comp=Z,3.0nm,0.9s,baz=135,slow=7.3,SNR=19
comp=Z,3.0nm,0.9s
LL02 Futaleuf 56.70 172 P **P 15 55 42.3 -0.1**
LL02 IAmb IAmb 15 55 43.6
comp=Z,21nm,1.2s
SFJD Kangerlussuaq 57.49 14 LR LR 16 19 57.3
comp=Z,273nm,21.6s,baz=220,slow=36
WRGLY Wrigley 58.15 339 IAmb IAmb 15 56 07.6
comp=Z,19nm,1.2s
COYC Coyhaique 59.01 173 P **P 15 55 58.1 -0.4**
ICESG Greenland Ices 61.79 16 *iP* **P 15 56 17.4 -0.4**
ICESG IAmb IAmb 15 56 23.5
comp=Z,9.4nm,0.7s
RES Resolute Bay 62.02 356 LR LR 16 23 40.2
comp=Z,539nm,19.0s,baz=177,slow=36
TAOE Nuku Hiva Isla 62.52 253 *eLR* LR 16 14 53.7
comp=Z,153nm,28.0s
N30M Aishikik Lake 62.60 333 IAmb IAmb 15 56 26.1
comp=Z,15nm,1.2s
G31M Satah River 64.02 339 IAmb IAmb 15 56 43.1
comp=Z,9.9nm,0.9s
SUMG Summit 64.47 13 P **P 15 56 35.4 -0.2**
SUMG Summit 64.47 13 *iP* **P 15 56 35.4 -0.2**
SUMG IAmb IAmb 15 56 39.5
comp=Z,14nm,1.0s
INK Inuvik 64.48 341 IAmb IAmb 15 56 42.1
comp=Z,14nm,1.1s
M27K Edge Creek, AK 65.04 333 IAmb IAmb 15 56 43.2
comp=Z,12nm,0.9s
BCAR Beaver Creek A 65.25 334 P **P 15 56 40.7 +0.3**
EGAK Eagle 65.62 336 IAmb IAmb 15 56 52.0
comp=Z,13nm,1.1s
E29M Blow River 65.94 340 IAmb IAmb 15 56 51.9
comp=Z,13nm,1.0s
NEEM North Greenlan 66.12 7 *iP* **P 15 56 45.5 -0.6**
NEEM IAmb IAmb 15 56 51.5
comp=Z,21nm,0.9s
F28M Old Crow 66.27 339 IAmb IAmb 15 56 59.0
comp=Z,8.4nm,0.8s
SCRK Sand Creek 66.49 335 IAmb IAmb 15 56 57.0
comp=Z,12nm,1.1s
G27K Doyon Strip 66.58 338 IAmb IAmb 15 57 01.3
comp=Z,5.4nm,0.9s
D27M Malcolm River 67.31 340 IAmb IAmb 15 56 57.3
comp=Z,12nm,0.9s
PRP Porcupine Dome 67.61 336 IAmb IAmb 15 57 07.4
comp=Z,7.8nm,1.0s
SCO Scoresbysund 67.64 18 *iP* **P 15 56 55.6 +0.1**
SCO IAmb IAmb 15 56 59.1
comp=Z,3.4nm,1.0s
F26K Sheenjek River 67.81 338 IAmb IAmb 15 57 08.3
comp=Z,6.2nm,0.8s
ILAR Eielson Array 67.93 335 P **P 15 56 57.2 -0.2**
ILAR Eielson Array 67.93 335 P **P 15 56 57.6 +0.1**
comp=Z,5.9nm,0.8s,baz=104,slow=4.4,SNR=28
comp=Z,5.9nm,0.8s
NEA2 Nenana 68.79 335 IAmb IAmb 15 57 09.4
comp=Z,9.2nm,0.9s
MLY Manley 69.59 335 P **P 15 57 07.9 +0.1**
G23K Bananza Creek 69.70 337 IAmb IAmb 15 57 16.0
comp=Z,7.5nm,0.8s
CAST Castle Rocks 69.82 333 IAmb IAmb 15 57 19.6
comp=Z,9.1nm,1.0s
E23K Chandalar 69.89 338 IAmb IAmb 15 57 22.1
comp=Z,7.6nm,1.0s
D24K Happy Valley 69.92 339 IAmb IAmb 15 57 33.0
comp=Z,24nm,1.6s
DAG Danmarks Havn 71.13 12 *iP* **P 15 57 15.9 -1.1**
DAG IAmb IAmb 15 57 19.0
comp=Z,4.3nm,0.9s
J18K Innoko River 71.89 333 IAmb IAmb 15 59 39.1
comp=Z,20nm,1.5s
ESDC Sonseca Array 71.92 52 P **P 15 57 23.0 +0.4**
ESDC IAmb IAmb 15 57 31.4
comp=Z,12nm,1.1s
ESDC Sonseca Array 71.92 52 P **P 15 57 24.2 +1.7**
comp=Z,2.8nm,0.8s,baz=279,slow=6.7,SNR=12
comp=Z,2.8nm,0.8s
B21K Ikpikpuk River 72.02 339 IAmb IAmb 15 57 33.5
comp=Z,15nm,0.8s
G19K Purcell Mounta 72.38 336 IAmb IAmb 15 57 37.3
comp=Z,17nm,1.1s
EKA Eskdalemuir Ar 72.47 36 P **P 15 57 27.2 +1.8**
comp=Z,3.6nm,0.7s,baz=263,slow=6.6,SNR=5.9
comp=Z,3.6nm,0.7s
E19K Redstone River 72.61 337 IAmb IAmb 15 57 37.2
comp=Z,9.0nm,0.8s
NOR Nord 73.43 8 *iP* **P 15 57 30.7 0.0**
NOR IAmb IAmb 15 57 35.9
comp=Z,6.7nm,1.1s
PPT2 Papeete2 74.10 247 *eLR* LR 16 20 11.0
comp=Z,76nm,22.5s
DBIC Dimbokro 75.21 86 P **P 15 57 44.9 +2.7**
comp=Z,5.0nm,0.6s,baz=286,slow=4.6,SNR=4.8
comp=Z,5.0nm,0.6s
TBI Tubuai 76.00 242 *eLR* LR 16 20 56.4
NB2 NORSAR Subarra 79.76 30 P **P 15 58 08.2 +1.3**
comp=Z,5.8nm,0.8s,baz=281,slow=5.6
NOA NORSAR Array B 79.76 30 P **P 15 58 08.2 +1.3**
comp=Z,2.6nm,0.9s,baz=279,slow=5.4,SNR=7.3
comp=Z,2.6nm,0.9s
TORD Torodi Ar. Bea 80.26 79 P **P 15 58 10.2 -0.2**
TORD IAmb IAmb 15 58 18.1
comp=Z,17nm,1.9s
TORD Torodi Ar. Bea 80.26 79 P **P 15 58 11.4 +1.0**
comp=Z,0.5nm,0.4s,baz=304,slow=4.6,SNR=7.4
comp=Z,0.5nm,0.4s
HFS Hagfors 81.12 30 P **P 15 58 14.9 +0.7**
comp=Z,3.4nm,0.8s,baz=230,slow=8.5,SNR=3.8
comp=Z,3.4nm,0.8s
DAVA Damascus 81.17 44 *eP* **P 15 58 14.6 -0.4**
comp=Z,0.5nm,0.4s
FETA Feichten 81.79 44 *epP* pP 15 58 19.8 -0.2
comp=Z,1.4nm,0.6s
MOTA Moosalm 81.98 43 *eP* **P 15 58 19.9 +0.7**
comp=Z,1.9nm,0.6s
CLL Collm 82.44 39 *iP* **P 15 58 22.3 +1.0**
comp=Z,13nm,1.4s
CLL AMS AMS 16 32 00.0

comp=Z,300nm,18.5s
ABTA Abfaltersbach 83.04 44 *eP* **P 15 58 23.9 -0.8**
comp=Z,1.6nm,0.7s
BRG Berggiesshubel 83.11 39 *eP* **P 15 58 28.6 +3.8**
BRG Amp 15 58 33.4
comp=Z,9.7nm,1.3s
GERES GERESS Array B 83.39 42 P **P 15 58 27.5 +1.0**
comp=Z,1.9nm,0.8s,baz=318,slow=4.2,SNR=3.9
comp=Z,1.9nm,0.8s
ARCES ARCESS Array B 83.50 20 P **P 15 58 27.2 +0.7**
comp=Z,2.1nm,0.5s,baz=276,slow=4.8,SNR=8.8
comp=Z,2.1nm,0.5s
KBA Koelnbreinsper 83.53 43 *ep*P pP 15 58 28.9 -0.2
comp=Z,1.5nm,0.7s
MOA Molln 83.97 42 *eP* **P 15 58 30.6 +1.2**
comp=Z,1.6nm,0.5s
CONA Conrad Observa 85.00 42 *eP* **P 15 58 35.1 +0.5**
comp=Z,2.1nm,0.6s
KRUC Moravsky 85.07 41 *eP* P 15 58 40.5 +5.6
VRAC Vranov 85.14 41 P **P 15 58 35.9 +0.7**
comp=Z,1.6nm,0.6s,baz=242,slow=6.6,SNR=2.3
comp=Z,1.6nm,0.6s
VRAC Vranov 85.14 41 *eP* P 15 58 42.0 +6.8
RONA Rosalia, Austr 85.34 42 *eP* **P 15 58 36.6 +0.3**
comp=Z,1.8nm,0.5s
MORC Moravsky Berou 85.61 40 *eP* **P 15 58 40.3 +2.7**
MODS Modra-Piesok 85.81 41 *eP* **P 15 58 43.2 +4.6**
FINES FINESS Array B 86.59 27 P **P 15 58 43.1 +1.0**
comp=Z,4.9nm,0.8s,baz=303,slow=2.7,SNR=17
comp=Z,4.9nm,0.8s
VYHS Vyhne 86.78 41 *eP* **P 15 58 47.2 +3.8**
LANS Liptovska Anna 86.99 40 *eP* P 15 58 49.7 +5.3
NACGM Naroch 89.36 33 *eP* **P 15 58 58.9 +3.4**
comp=Z,8.0nm,0.7s,baz=293
AKASG Malin Array Be 92.37 37 P **P 15 59 09.4 -0.1**
comp=Z,0.2nm,0.5s,baz=306,slow=3.3,SNR=1.7
comp=Z,0.2nm,0.5s
KURBB Kurchatov Arra 114.07 14 PKiKP **PKiKP 16 04 38.1 -0.2**
comp=Z,0.1nm,0.3s,baz=334,slow=2.5,SNR=2.3
DZM Mont Dzumac 115.39 252 *eLR* LR 16 39 18.6
comp=Z,94nm,26.1s
MKAR Makanchi Array 118.52 13 PKP **PKPdf 16 04 45.8 -1.2**
comp=Z,1.3nm,1.0s,baz=308,slow=4.0,SNR=2.1
WMQ Urumqi 122.41 10 *e*PKP **PKiKP 16 04 55.0 +0.1**
NJ2 Nanjing 131.15 337 *eP* **PKPdf 16 05 10.5 -1.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
STKA Stephens Creek 136.66 237 PKP **PKPdf 16 05 21.8 -0.1**
comp=Z,3.1nm,0.8s,baz=11,slow=2.9,SNR=6.7
PZH PanZhiHua 140.50 356 PKP **PKPdf 16 05 28.5 -0.8**
ASAR Alice Springs 145.21 247 PKPbc **PKPbc 16 05 36.8 -0.4**
comp=Z,4.2nm,0.8s,baz=113,slow=3.1,SNR=56
WRA Warramunga Arr 145.36 254 PKPbc **PKPbc 16 05 37.3 -0.4**
comp=Z,7.5nm,0.7s,baz=93,slow=2.6,SNR=77
CMAR Chiang Mai Arr 148.60 360 PKP **PKPdf 16 05 43.6 +0.2**
comp=Z,2.7nm,0.9s,baz=336,slow=3.7,SNR=11
CMAR PKPbc **sPKPdf 16 05 46.4 +0.5**
comp=Z,2.1nm,0.8s,baz=321,slow=2.6,SNR=7.1

NIED ***25*** *15:52:01.0, 27°.24N×128°.92E, h23km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.93; $M_{\theta\theta}$-3.72; $M_{\phi\phi}$2.80; $M_{r\theta}$-3.86; $M_{\theta\phi}$0.53; $M_{\phi r}$-6.02; Fault plane solution: $M_0$7.76000×10^{14} NP1: ϕ_s222.00000°, δ88.00000°, λ65.00000°. NP2: ϕ_s128.00000°, δ25.00000°, λ175.00000°.*
JMA ***25*** *15:52:01.0±0.1, 27°.2N±0.5×128°.9E±0.9, h23km±2km, MD3.8/13, MV3.6/13, NEAR OKINAWAJIMA ISLAND*
JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .
IDC ***25*** *15:52:02.6±1.7, 27°.25N×128°.61E, h40km±15km, mb3.3/7, mbtmp3.6/8, ML3.2/1, MS3.0/3, Error ellipse: s-maj=31.7km s-min=17.2km az=91.0*
ISC 25 15:52:00.1±1.1, 27°.20N±0°.04×128°.94E±0°.04, h26km±9km, n31, σ0°97/32, mb3.6/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.36**	**296**	*i* P		**Pb**	**15 52 08.2**	**+0.1**
JOKE				S		**Sb**	**15 52 13.2**	**-0.3**
JOKE	**Okinoerabujima**	**0.36**	**296**	A		A	15 52 08.2	
comp=E,24nm,0.3s,comp=N,27nm,0.3s								
JYRO	**Yoronjima**	**0.47**	**248**	*i* P		**Pn**	**15 52 10.4**	**-0.7**
JYRO				S		**Sb**	**15 52 16.6**	**+0.2**
JYRO	**Yoronjima**	**0.47**	**248**	A		A	15 52 10.4	
comp=E,5.0nm,1.9s,comp=N,9.0nm,1.9s								
JTK	**Tokunoshima**	**0.58**	**1**	*i* P		**Pb**	**15 52 11.6**	**-0.1**
JTK				S		**Sb**	**15 52 18.5**	**-1.1**
JTK	**Tokunoshima**	**0.58**	**1**	A		A	15 52 11.6	
comp=E,6.0nm,0.6s,comp=N,4.0nm,2.2s								
JOW	**Kunigami**	**0.70**	**238**	LR		LR	15 52 12.7	
comp=N,54nm,19.3s,baz=100,slow=20								
JOW				P		**Pn**	**15 52 14.5**	**+0.1**
comp=N,1μm,0.3s,baz=84,slow=12,SNR=1772								
JOW				S		**Sn**	**15 52 23.3**	**-0.9**
comp=N,4μm,0.3s,baz=161,slow=29,SNR=46								
JOW	**Kunigami**	**0.70**	**238**	*i* P		**Pn**	**15 52 14.4**	**+0.1**
JOW				S		**Sn**	**15 52 23.4**	**-0.9**
JOW	**Kunigami**	**0.70**	**238**	A		A	15 52 14.4	
comp=E,14nm,0.3s,comp=N,14nm,0.2s								
JIH	**Iheya**	**0.88**	**259**	*i* P		**Pn**	**15 52 17.4**	**+0.6**
JIH				S		**Sn**	**15 52 28.6**	**-0.2**
JIH	**Iheya**	**0.88**	**259**	A		A	15 52 17.4	
comp=E,4.0nm,0.9s,comp=N,4.0nm,1.3s								
JAMN	**Amaminishikomi**	**1.06**	**12**	*i* P		**Pn**	**15 52 19.5**	**+0.2**
JAMN				*e*S		**Sb**	**15 52 32.3**	**-0.9**
JNTH	**Nagotoyohara**	**1.06**	**230**	*i* P		**Pn**	**15 52 20.8**	**+1.5**
JNTH				S		**Sn**	**15 52 33.8**	**+0.5**
JAM	**Amami Oshima**	**1.34**	**26**	P		**Pb**	**15 52 24.4**	**-0.2**
JAM				S		**Sb**	**15 52 41.6**	**+0.3**
JJT3	**Tamagusuku3**	**1.48**	**225**	*e*P		**Pb**	**15 52 27.2**	**+0.3**
JKDJ	**Kitadaitoujima**	**2.46**	**120**	P		**Pn**	**15 52 38.8**	**+0.3**
JKDJ				S		**Sn**	**15 53 07.3**	**-0.4**
JMZ	**Minamidaito 2**	**2.47**	**123**	P		**Pn**	**15 52 38.8**	**+0.1**
JMZ				*e*S		**Sn**	**15 53 06.6**	**-1.4**
JNU	**Nakatsue**	**6.13**	**15**	P		**Pn**	**15 53 31.8**	**+2.7**
comp=N,0.6nm,0.3s,baz=170,slow=4.3,SNR=4.6								
JNU				S		**Sn**	**15 54 38.5**	**0.0**
comp=N,4.3nm,0.8s,baz=238,slow=19,SNR=1.4								
comp=N,4.9nm,0.7s								
KSRS	**Korea Array**	**10.26**	**355**	LR		LR	15 58 40.1	
comp=N,48nm,18.3s,baz=220,slow=39								
CMAR	**Chiang Mai Arr**	**28.92**	**259**	LR		LR	16 11 40.6	
comp=N,15nm,18.1s,baz=50,slow=41								
H11N2	**WAKE ISLAND Hy**	**35.50**	**94**	T		T	16 36 43.8	
baz=290,slow=75,SNR=8.8								
H11N1	**WAKE ISLAND Hy**	**35.51**	**94**	T		T	16 36 39.8	
baz=290,slow=75,SNR=6.4								
H11N3	**WAKE ISLAND Hy**	**35.52**	**94**	T		T	16 36 43.5	
baz=290,slow=75,SNR=10								
MKAR	**Makanchi Array**	**41.37**	**311**	P		**P**	**15 59 43.1**	**-0.9**
comp=N,0.4nm,0.7s,baz=88,slow=10,SNR=2.1								
comp=N,0.4nm,0.7s								
KURBB	**Kurchatov Arra**	**44.59**	**316**	P		**P**	**16 00 09.1**	**-0.9**
comp=N,0.5nm,0.6s,baz=103,slow=8.8,SNR=4.8								
comp=N,0.5nm,0.6s								
WRA	**Warramunga Arr**	**47.16**	**173**	P		**P**	**16 00 31.6**	**+1.0**
comp=N,0.4nm,0.6s,baz=354,slow=8.3,SNR=5.0								
comp=N,0.4nm,0.6s								
ASAR	**Alice Springs**	**50.80**	**174**	P		**P**	**16 00 59.9**	**+1.5**
comp=N,0.2nm,0.6s,baz=7.6,slow=13,SNR=16								
comp=N,0.2nm,0.6s								
STKA	**Stephens Creek**	**59.98**	**168**	LR		LR	16 25 15.2	
comp=N,55nm,21.9s,baz=153,slow=33								
ILAR	**Eielson Array**	**63.28**	**29**	P		**P**	**16 02 27.2**	**+0.9**
comp=N,0.3nm,0.9s,baz=283,slow=7.9,SNR=2.2								
comp=N,0.3nm,0.9s								
FINES	**FINESS Array B**	**72.33**	**331**	P		**P**	**16 03 22.8**	**-0.5**
comp=N,2.7nm,0.9s,baz=72,slow=8.9,SNR=2.3								
comp=N,2.7nm,0.9s								
NOA	**NORSAR Array B**	**78.72**	**334**	P		**P**	**16 03 58.1**	**-1.9**
comp=N,0.9nm,1.0s,baz=56,slow=5.5,SNR=2.2								
comp=N,0.9nm,1.0s								

IDC ***25*** *16:09:20.1±4.4, 24°.01N×109°.14W, h0km, mb3.6/2, mbtmp3.4/6, ML3.5/4, MS3.8/1, Error ellipse: s-maj=65.2km s-min=12.0km az=162.0*
MEX ***25*** *16:09:23.9±0.6, 24°.32N×109°.13W, h16km±9km, MD4.1*
ISC 25 16:09:20.7±3.7, 24°.28N±0°.08×109°.10W±0°.05, h5km±29km, n17, σ3°47/18, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SLBS	**Sierra La Lagu**	**0.97**	**233**	*i* P		**Pb**	**16 09 39.4**	**-0.7**
SLBS				*i* S		**Sb**	**16 09 51.4**	**-1.9**

LPIG	**La Paz**	**1.12 261**	Pg		**Pb**	**16 09 41.0**	**-1.5**
	107nm,0.3s,baz=51,slow=3.4,SNR=41						
LPIG			Lg		Lg	16 09 54.4	
	760nm,0.3s,baz=360,slow=21,SNR=16						
LPIG	**La Paz**	**1.12 261**	*e*P		**Pb**	**16 09 41.0**	**-1.5**
LPIG			*e*S		**Sb**	**16 09 53.7**	**-3.7**
TSIG	**Topolobambo**	**1.32 2**	*e*P		**Pn**	**16 09 43.6**	**-2.1**
TSIG			*e*S		**Sn**	**16 09 57.6**	**-6.0**
SSIG	**Sanalona**	**1.86 73**	*e*P		**Pn**	**16 09 51.8**	**-1.5**
SSIG			*e*S		**Sn**	**16 10 13.4**	**-3.8**
CSIG	**Choix**	**2.62 14**	*e*P		**Pn**	**16 10 03.2**	**-0.5**
CSIG			*e*S		**Sn**	**16 10 30.4**	**-5.6**
MAIG	**Mazatlaan**	**2.68 113**	*e*P		**Pb**	**16 10 07.1**	**-2.0**
TXAR	**Lajitas Array**	**6.99 43**	Pn		**Pn**	**16 11 06.0**	**+2.1**
	0.1nm,0.3s,baz=218,slow=16,SNR=3.1						
TXAR			Lg		Lg	16 13 06.0	
	0.2nm,0.3s,baz=225,slow=30,SNR=7.3						
	0.4nm,0.5s						
NVAR	**Mina Array Bea**	**16.14 333**	Pn		**P**	**16 13 16.1**	**+4.3**
	baz=157,slow=12,SNR=5.4						
	0.7nm,0.7s						
ELK	**Elko**	**17.21 344**	P		**P**	**16 13 26.9**	**+3.3**
	0.1nm,0.3s,baz=166,slow=8.3,SNR=4.2						
	0.3nm,0.3s						
PDAR	**Pinedale Array**	**18.45 359**	P		**Pn**	**16 13 40.5**	**+3.2**
	0.1nm,0.3s,baz=173,slow=12,SNR=7.4						
	1.4nm,1.0s						
YKA	**Yellowknife Ar**	**38.38 356**	P		**P**	**16 16 44.2**	**+1.7**
	0.8nm,0.9s,baz=168,slow=9.0,SNR=4.2						
	0.8nm,0.9s						
ATAH	**Atahualpa**	**43.26 132**	LR		LR	16 31 47.1	
	comp=Z,115nm,20.4s,baz=348,slow=31						
ILAR	**Eielson Array**	**47.27 339**	P		**P**	**16 17 57.3**	**+2.6**
	0.9nm,1.0s,baz=149,slow=5.4,SNR=7.3						
	0.9nm,1.0s						
H03N2	**Juan Fernandez**	**64.18 152**	T		T	17 30 03.0	
	baz=331,slow=77,SNR=5.2						
H03N1	**Juan Fernandez**	**64.19 152**	T		T	17 30 01.9	
	baz=331,slow=77,SNR=9.2						
H03N3	**Juan Fernandez**	**64.20 152**	T		T	17 29 53.6	
	baz=331,slow=77,SNR=6.5						

RSNC 25 16:14:14.6±0.0,13°N±1°×8°1W±°,h3km±2km,M3.2,mb4.3, ML3.2,Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.29**	**329**	P	Pg	16 14 20.8	+0.6
PRVC				S	Sg	16 14 25.4	+1.5
SAIC	**Isla e San And**	**0.77**	**220**	P	Pg	16 14 29.6	+0.3
SAIC				S	Sb	16 14 41.3	-0.1
RNCC	**Cayo Roncador,**	**1.18**	**68**	P	Pg	16 14 35.6	-1.6
RNCC				S	Sg	16 14 51.0	-1.4
SERC	**Banco Serrana,**	**1.41**	**35**	P	Pn	16 14 39.4	-1.8
SERC				S	Sb	16 14 58.6	-1.5
BCIP	**Isla Barro Col**	**4.16**	**161**	P	Pn	16 15 14.6	-4.5
BCIP				S	Sn	16 16 02.3	-6.0
JTS	**Las Juntas de**	**4.63**	**233**	P	Pn	16 15 25.2	-0.3
JTS				S	Sn	16 16 18.7	-1.1
AZU	**Azuero**	**5.38**	**170**	P	Pn	16 15 34.6	-1.3
	32nm,1.2s						
AZU				S	Sn	16 16 33.2	-5.2
	32nm,1.2s						
CRIN	**San Cristobal**	**5.71**	**266**	P	Pn	16 15 40.1	-0.3
	75nm,0.7s						
CACAO	**El Cacao, Vera**	**5.76**	**177**	P	Pn	16 15 40.1	-0.9
	29nm,1.0s						
CACAO				S	Sn	16 16 44.7	-3.0
	29nm,1.0s						
LCBC	**Los crdobas,**	**6.37**	**131**	P	Pn	16 15 49.3	-0.2
	144nm,1.1s						
LCBC				S	Sn	16 16 59.3	-3.5
	144nm,1.1s						
SJCC	**San Jacinto, C**	**6.73**	**118**	P	Pn	16 15 49.6	-4.8
	12nm,2.1s						
SJCC				S	Sn	16 17 03.6	-8.1
	12nm,2.1s						
UREC	**San Jos de Ur**	**7.73**	**133**	P	Pn	16 16 05.4	-2.7
UREC				S	Sn	16 17 28.4	-7.9

*IDC **25** 16:19:46.0±0.7, 13°.01N×81°.27W, h0km, mb4.1/12, mbtmp4.1/16, ML3.3/5, MS3.7/12, Error ellipse: s-maj=20.6km s-min=16.1km az=32.0*
*RSNC **25** 16:19:45.6±0.0, 13°N±1°×8°1W±°, h0km±1km, M4.4, mb4.7, mB5.2, ML4.0, Mw4.5, Mw(mB)4.6*
*NEIC **25** 16:19:46.6±1.5, 13°.01N±0°.07×81°.21W±0°.07, h10km±1km, mb4.5/24, Error ellipse: s-maj=12.2km s-min=11.1km az=214.0*
*CATAC **25** 16:19:48.6±0.4, 13°.27N×81°.38W, h14km±6km, MB5.3, mb5.4, ML5.2*

ISC 25 16:19:46.6±1.1,13°.17N±0°.03×81°.17W±0°.03,h10km±7km, n127,σ2°22/159,mb4.4/24,MS3.6/7,1C,Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.28**	**317**	P	**Pg**	**16 19 50.8**	**-1.5**
PRVC				S	**Sg**	**16 19 54.9**	**-1.2**
PRVC	**Isla de Provid**	**0.28**	**317**	*i* P	**Pg**	**16 19 51.8**	**-0.5**
PRVC				*i* S	**Sg**	**16 19 55.5**	**-0.6**
PRVC				IAML		16 19 55.8	
	comp=Z,33μm,1.0s						
SAIC	**Isla e San And**	**0.82**	**220**	P	**Pg**	**16 20 01.4**	**-1.1**
SAIC				S	**Sb**	**16 20 13.9**	**-0.3**
RNCC	**Cayo Roncador,**	**1.12**	**69**	P	**Pb**	**16 20 07.4**	**-0.6**
RNCC				S	**Sb**	**16 20 24.5**	**+1.8**
SERC	**Banco Serrana,**	**1.35**	**35**	P	**Pn**	**16 20 10.7**	**-0.8**
SERC				S	**Sb**	**16 20 29.7**	**+0.3**
BLUN	**Bluefields**	**2.80**	**246**	*i* P	**Pn**	**16 20 31.2**	**-0.2**
BLUN				*i* S	**Sn**	**16 21 04.2**	**-1.1**
BLUN				IAML		16 21 27.1	
	comp=Z,810nm,1.0s						
ESPN	**Las Esperanzas**	**3.21**	**253**		**Pn**	**16 20 35.7**	**-1.4**
ESPN	**Las Esperanzas**	**3.21**	**253**	*i* P	**Pn**	**16 20 36.5**	**-0.6**
ESPN				*i* S	**Sn**	**16 21 14.4**	**-1.0**
ESPN				IAML		16 21 45.5	
	comp=Z,2μm,1.0s						
TRT2	**Tortugero**	**3.62**	**224**	*i* P	**Pn**	**16 20 43.8**	**+1.1**
TRT2				*i* S	**Sn**	**16 21 26.9**	**+1.4**
TRT2				IAML		16 21 54.6	
	comp=Z,750nm,1.0s						
COVE	**Coope Vega, Sa**	**4.00**	**233**	*i* P	**Pn**	**16 20 47.8**	**-0.1**
COVE				*i* S	**Sn**	**16 21 35.0**	**+0.1**
COVE				IAML		16 22 27.5	
	comp=Z,2μm,1.0s						
ACON	**Acoyapa**	**4.09**	**253**	Pn	**Pn**	**16 20 48.0**	**-1.2**
ACON	**Acoyapa**	**4.09**	**253**	P	**Pn**	**16 20 48.1**	**-1.2**
ACON				S	**Sn**	**16 21 35.5**	**-1.7**
ACON	**Acoyapa**	**4.09**	**253**	*i* P	**Pn**	**16 20 48.6**	**-0.6**
ACON				*i* S	**Sn**	**16 21 36.3**	**-0.9**
ACON				IAML		16 22 21.0	
	comp=Z,980nm,1.0s						
BCIP	**Isla Barro Col**	**4.19**	**162**		**Pn**	**16 20 47.5**	**-3.0**
BCIP	**Isla Barro Col**	**4.19**	**162**	P	**Pn**	**16 20 47.8**	**-2.7**
BCIP				S	**Sn**	**16 21 35.2**	**-4.4**
HDC	**Heredia**	**4.28**	**223**		**Pn**	**16 20 49.9**	**-2.0**
SOCE	**Pocosol**	**4.37**	**231**		**Pn**	**16 20 51.2**	**-2.0**
BRU2	**Volcan**	**4.60**	**199**		**Pn**	**16 20 53.4**	**-3.0**
CONN	**Concepcion**	**4.64**	**250**	*i* P	**Pn**	**16 20 57.4**	**+0.6**
CONN				IAML		16 21 23.0	
	comp=Z,10μm,1.0s						
CONN				*i* S	**Sn**	**16 21 48.3**	**-2.5**
MORN	**Al O del Volca**	**4.67**	**250**	*i* P	**Pn**	**16 20 56.6**	**-0.6**
MORN				IAML		16 21 31.2	
	comp=Z,100nm,1.0s						
JTS	**Las Juntas de**	**4.69**	**233**		**Pn**	**16 20 55.2**	**-2.2**
JTS	**Las Juntas de**	**4.69**	**233**	Pn	**Pn**	**16 20 55.7**	**-1.8**
	comp=Z,5.0nm,0.3s,baz=44,slow=13,SNR=6.8						
JTS				Sn	**Sn**	**16 21 50.3**	**-1.6**
	comp=Z,6.8nm,0.3s,baz=38,slow=23,SNR=3.7						
JTS				LR	LR	16 22 55.2	
	comp=Z,1μm,20.6s,baz=68,slow=42						
	comp=Z,12nm,0.3s						
JTS	**Las Juntas de**	**4.69**	**233**	P	**Pn**	**16 20 57.2**	**-0.2**
JTS				S	**Sn**	**16 21 52.0**	**+0.1**
CARN	**Rivas**	**4.69**	**246**	*i* P	**Pn**	**16 20 57.5**	**0.0**
CARN				*i* S	**Sn**	**16 21 47.8**	**-4.3**
CARN				IAML		16 22 36.3	
	comp=Z,2μm,1.0s						
OCHAL	**Ojochal**	**4.72**	**211**	*i* P	**Pn**	**16 20 58.4**	**+0.5**
OCHAL				*i* S	**Sn**	**16 21 54.1**	**+1.3**
OCHAL				IAML		16 22 00.6	
	comp=Z,610nm,1.0s						
RCPN	**Sur Rio San Ju**	**4.81**	**275**	*i* P	**Pn**	**16 20 58.6**	**-0.6**
CDITO	**Canoas**	**4.87**	**200**	*i* P	**Pn**	**16 21 02.3**	**+2.4**
CDITO				*i* S	**Sn**	**16 21 57.1**	**+0.7**
CDITO				IAML		16 22 00.6	
	comp=Z,1μm,1.0s						
RCVN	**Varillal2**	**4.91**	**275**	*i* P	**Pn**	**16 20 59.7**	**-0.9**
RCVN				*i* S	**Sn**	**16 21 52.8**	**-4.8**
RCVN				IAML		16 22 39.6	
	comp=Z,12μm,1.0s						
RCFN	**Al S de San Ju**	**4.93**	**275**	*i* P	**Pn**	**16 21 00.4**	**-0.5**
RCFN				*i* S	**Sn**	**16 21 54.3**	**-3.7**
RCFN				IAML		16 22 34.3	
	comp=Z,3μm,1.0s						
NANN	**Nandasmo**	**4.99**	**256**	*i* P	**Pn**	**16 21 01.0**	**-0.6**
NANN				*i* S	**Sn**	**16 21 57.7**	**-1.8**
NANN				IAML		16 23 16.8	
	comp=Z,8μm,1.0s						
MGAN	**Managua**	**5.06**	**259**	Pn	**Pn**	**16 21 02.3**	**-0.3**
MGAN	**Managua**	**5.06**	**259**	*i* P	**Pn**	**16 21 02.0**	**-0.6**
MGAN				*i* S	**Sn**	**16 21 59.7**	**-1.5**
MGAN				IAML		16 22 56.3	
	comp=Z,810nm,1.0s						
R4DEC	**Barrio San Lui**	**5.06**	**259**	*i* P	**Pn**	**16 21 01.6**	**-1.0**
R4DEC				IAML		16 21 31.6	
	comp=Z,830nm,1.0s						
R4DEC				*i* S	**Sn**	**16 21 59.5**	**-1.7**
LIMN	**Finca el Limon**	**5.07**	**269**	*i* P	**Pn**	**16 21 02.6**	**-0.2**
LIMN				IAML		16 23 01.4	
	comp=Z,1μm,1.0s						
UNAN	**Cigeo UNAN**	**5.09**	**259**	*i* P	**Pn**	**16 21 02.1**	**-0.9**
UNAN				*i* S	**Sn**	**16 21 59.8**	**-2.2**
UNAN				IAML		16 23 11.5	
	comp=Z,5μm,1.0s						
APQ2	**Apoyeque**	**5.13**	**260**	*i* P	**Pn**	**16 21 02.1**	**-1.4**
APQ2				*i* S	**Sn**	**16 22 00.0**	**-2.8**
APQ2				IAML		16 22 40.0	
	comp=Z,710nm,1.0s						
SAPS	**Ciudad Sandino**	**5.21**	**260**	*i* P	**Pn**	**16 21 03.6**	**-1.0**
SAPS				IAmb	IAmb	16 21 32.2	
	comp=Z,270nm,0.6s						
SAPS				IVmB_BB		16 21 43.8	
	comp=Z,3μm,1.0s						
SAPS				*i* S	**Sn**	**16 22 03.0**	**-1.8**
SAPS				IAML		16 22 59.8	
	comp=Z,640nm,1.0s						
MOMN	**Momotombo**	**5.30**	**262**	*i* P	**Pn**	**16 21 05.0**	**-0.9**
MOMN				IAmb	IAmb	16 21 33.1	
	comp=Z,14nm,0.7s						
MOMN				IVmB_BB		16 21 37.1	
	comp=Z,120nm,1.0s						
MOMN				*i* S	**Sn**	**16 22 04.5**	**-2.6**
MOMN				IAML		16 22 54.9	
	comp=Z,19nm,1.0s						
INDI	**Punta indio, G**	**5.37**	**233**	*i* P	**Pn**	**16 21 08.0**	**+1.2**
INDI				IAML		16 21 09.1	
	comp=Z,12μm,1.0s						
INDI				IVmB_BB		16 21 09.2	
	comp=Z,89μm,1.0s						
INDI				IAmb	IAmb	16 21 13.1	
	comp=Z,11μm,0.9s						
INDI				*i* S	**Sn**	**16 22 03.8**	**-5.0**
GMAL	**Guarumal, Vera**	**5.37**	**181**	P	**Pn**	**16 21 06.8**	**-0.1**
	comp=Z,118nm,0.7s,comp=Z,2μm						
GMAL				S	**Sn**	**16 22 06.0**	**-2.9**
	comp=Z,118nm,0.7s,comp=Z,2μm						
AZU	**Azuero**	**5.42**	**171**	P	**Pn**	**16 21 06.4**	**-1.1**
	comp=Z,60nm,0.7s						
AZU				S	**Sn**	**16 22 07.0**	**-2.9**
	comp=Z,60nm,0.7s						
YUSH	**Yuscaran**	**5.58**	**279**	*i* P	**Pn**	**16 21 07.9**	**-1.8**
YUSH				*i* S	**Sn**	**16 22 08.8**	**-5.2**
CRIN	**San Cristobal**	**5.76**	**266**	Pn	**Pn**	**16 21 12.0**	**-0.2**
CACAO	**El Cacao, Vera**	**5.80**	**177**	P	**Pn**	**16 21 14.4**	**+1.7**
	comp=Z,160nm,0.8s,comp=Z,1μm						
CACAO				S	**Sn**	**16 22 18.9**	**-0.4**
	comp=Z,160nm,0.8s,comp=Z,1μm						
TGUH	**Tegucigalpa,Un**	**6.00**	**279**	Pn	**Pn**	**16 21 14.9**	**-0.7**
TGUH	**Tegucigalpa,Un**	**6.00**	**279**	P	**Pn**	**16 21 15.5**	**-0.2**
	comp=Z,249nm,0.7s,comp=Z,2μm						
TGUH				S	**Sn**	**16 22 19.2**	**-5.4**
	comp=Z,249nm,0.7s,comp=Z,2μm						
MTDJ	**Mount Denham**	**6.12**	**34**	Pn	**Pn**	**16 21 16.8**	**-0.4**
MTDJ	**Mount Denham**	**6.12**	**34**	P	**Pn**	**16 21 18.0**	**+0.8**
	comp=Z,58nm,1.1s						
MTDJ				S	**Sn**	**16 22 24.1**	**-3.3**
	comp=Z,58nm,1.1s						
COMHN	**El Horno**	**6.34**	**282**	*i* P	**Pn**	**16 21 18.3**	**-2.0**
COMHN				*i* S	**Sn**	**16 22 29.2**	**-3.7**
LCBC	**Los crdobas,**	**6.37**	**132**	P	**Pn**	**16 21 21.7**	**+1.2**
	comp=Z,123nm,1.0s						
LCBC				S	**Sn**	**16 22 31.9**	**-1.5**
	comp=Z,123nm,1.0s						
STH	**Stony Hill**	**6.43**	**40**	⇑*i* P	**Pn**	**16 21 22.4**	**+0.9**
GWJ	**Greenwich**	**6.48**	**41**	*i* P	**Pn**	**16 21 22.9**	**+0.7**
SJCC	**San Jacinto, C**	**6.71**	**118**	P	**Pn**	**16 21 23.0**	**-2.3**
	comp=Z,57nm,0.8s						
SJCC				S	**Sn**	**16 22 37.5**	**-4.3**
	comp=Z,57nm,0.8s						
PTAC	**Punta Ardita,**	**6.84**	**151**	P	**Pn**	**16 21 27.7**	**+0.7**
	comp=Z,33nm,0.7s						
PTAC				S	**Sn**	**16 22 39.4**	**-5.5**
	comp=Z,33nm,0.7s						
APAC	**Apartado, Choc**	**6.91**	**139**	P	**Pn**	**16 21 30.8**	**+2.8**
	comp=Z,40nm,0.7s						
APAC				S	**Sn**	**16 22 46.0**	**-0.7**
	comp=Z,40nm,0.7s						
UREC	**San Jos de Ur**	**7.72**	**134**	P	**Pn**	**16 21 38.8**	**-0.4**
	comp=Z,19nm,0.6s,comp=Z,636nm						
UREC				S	**Sn**	**16 23 04.2**	**-2.6**
	comp=Z,19nm,0.6s,comp=Z,636nm						
MTO3	**Montecristo**	**8.05**	**280**		**Pn**	**16 21 43.0**	**-1.0**
CRJC	**Cerrejon, Guaj**	**8.38**	**104**	P	**Pn**	**16 21 52.1**	**+3.9**
	comp=Z,33nm,0.9s						
CRJC				S	**Sn**	**16 23 17.9**	**-5.1**
	comp=Z,33nm,0.9s						
ZARC	**Zaragoza, Cauc**	**8.39**	**132**	P	**Pn**	**16 21 47.7**	**-0.6**
	comp=Z,35nm,0.7s						
ZARC				S	**Sn**	**16 23 19.4**	**-3.7**
	comp=Z,35nm,0.7s						
GTBY	**Guantanamo Bay**	**8.88**	**40**	Pn	**Pn**	**16 21 55.5**	**+0.5**
GTBY	**Guantanamo Bay**	**8.88**	**40**	P	**Pn**	**16 21 55.5**	**+0.5**
	comp=Z,38nm,1.0s						
URIC	**Uribia, Colomb**	**9.08**	**98**	P	Pn	16 21 54.2	-3.5
	comp=Z,16nm,0.6s						
URIC				S	**Sn**	**16 23 34.8**	**-5.3**
	comp=Z,16nm,0.6s						
SOR	**Soroa**	**9.73**	**350**		**Pn**	**16 22 07.6**	**+1.0**
TEIG	**Tepich**	**9.78**	**317**	Pn	**Pn**	**16 22 06.7**	**-0.6**
TEIG	**Tepich**	**9.78**	**317**	Pn	**Pn**	**16 22 06.6**	**-0.7**
	baz=146,slow=19,SNR=16						
TEIG				Sn	**Sn**	**16 23 52.4**	**-4.9**
	baz=216,slow=24,SNR=1.1						
TEIG	**Tepich**	**9.78**	**317**	P	**Pn**	**16 22 07.0**	**-0.3**
	comp=Z,105nm,0.6s,comp=Z,11μm						
TEIG				S	**Sn**	**16 23 54.0**	**-3.3**
	comp=Z,105nm,0.6s,comp=Z,11μm						
PAMC	**Pamplona, Colo**	**10.14**	**124**	P	**Pn**	**16 22 14.1**	**+1.3**
	comp=Z,32nm,0.9s,comp=Z,2μm						
ROSC	**El Rosal**	**10.68**	**140**	Pn	**Pn**	**16 22 22.5**	**+2.4**
	comp=Z,0.5nm,0.3s,baz=246,slow=19,SNR=1.2						
ROSC				Sn	**Sn**	**16 24 19.1**	**-1.1**
	comp=Z,2.7nm,0.3s,baz=187,slow=24,SNR=2.2						
ROSC				LR	LR	16 26 27.4	
	comp=Z,764nm,21.7s,baz=334,slow=38						
RUSC	**La Rusia**	**10.76**	**131**	P	**Pn**	**16 22 24.7**	**+3.4**
	comp=Z,21nm,1.1s						
ORTC	**Ortega, Tolima**	**10.90**	**147**	P	**Pn**	**16 22 25.6**	**+2.8**
	comp=Z,18nm,1.0s						
SDDR	**Presa de Saban**	**11.11**	**57**	Pn	**Pn**	**16 22 28.0**	**+2.4**
SDDR	**Presa de Saban**	**11.11**	**57**	P	**Pn**	**16 22 27.6**	**+1.9**
	comp=Z,59nm,1.0s						
SDV	**Santo Domingo**	**11.18**	**111**	Pn	**Pn**	**16 22 26.9**	**+0.1**
SDV	**Santo Domingo**	**11.18**	**111**	Pn	**Pn**	**16 22 26.6**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=299,slow=6.5,SNR=9.3						
SDV				Sn	**Sn**	**16 24 26.0**	**-6.0**
	comp=Z,8.2nm,0.3s,baz=196,slow=23,SNR=12						
SDV				LR	LR	16 27 18.4	
	comp=Z,336nm,19.7s,baz=328,slow=40						
	comp=Z,7.6nm,0.4s						
SDV	**Santo Domingo**	**11.18**	**111**	P	**Pn**	**16 22 26.9**	**+0.1**
	comp=Z,22nm,0.8s						
SDV				S	**Sn**	**16 24 26.7**	**-5.3**
	comp=Z,22nm,0.8s						
CHIC	**Chingaza**	**11.22**	**138**	P	**Pn**	**16 22 27.6**	**+0.1**
	comp=Z,27nm,0.9s						
CHIC				S	**Sn**	**16 24 32.7**	**-0.6**
	comp=Z,27nm,0.9s						
TAMC	**Tame, Arauca**	**11.40**	**125**	P	Pn	16 22 35.3	+5.6
	comp=Z,23nm,0.6s						
TAMC				S	**Sn**	**16 24 30.8**	**-6.5**
	comp=Z,23nm,0.6s						
BAUV	**El Baul**	**13.55**	**107**		**Pn**	**16 22 55.8**	**-3.1**
CMIG	**Matias Romero**	**13.81**	**288**	Pn	**Pn**	**16 23 03.3**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=128,slow=18,SNR=1.1						
CMIG				LR	LR	16 28 12.6	
	comp=Z,539nm,20.2s,baz=76,slow=37						
	comp=Z,0.5nm,0.3s						
SJG	**San Juan**	**15.27**	**69**	P	**P**	**16 23 28.6**	**+1.3**
SJG				IAmb	IAmb	16 23 35.0	
	comp=Z,24nm,0.8s						
SJG	**San Juan**	**15.27**	**69**	Pn	**P**	**16 23 26.6**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=218,slow=18,SNR=2.2						
	comp=Z,3.7nm,0.4s						
PDPR	**Patillas Dam,**	**15.36**	**70**	P	**P**	**16 23 29.2**	**+0.9**
PCRV	**Puerto La Cruz**	**16.46**	**99**	LR	LR	16 31 13.9	
	comp=Z,103nm,21.0s,slow=42						
Z47A	**Carrollton**	**20.91**	**344**	IAmb	IAmb	16 24 36.6	
	comp=Z,24nm,0.9s						
HBVL	**Hebbronville**	**21.44**	**313**	P	**P**	**16 24 34.5**	**-0.5**
HBVL				IAmb	IAmb	16 25 01.2	
	comp=Z,38nm,1.5s						
HKT	**Hockley**	**21.52**	**323**	P	**P**	**16 24 37.1**	**+1.3**
HKT				IAmb	IAmb	16 24 45.8	
	comp=Z,28nm,1.4s						
BOAV	**Boa Vista**	**23.06**	**116**	P	**P**	**16 24 51.2**	**-1.2**
BOAV				IAmb	IAmb	16 25 34.1	
	comp=Z,21nm,1.4s						
HNDO	**Hondo**	**23.39**	**317**	IAmb	IAmb	16 25 01.9	
	comp=Z,15nm,1.0s						
BRDY	**Brady**	**24.38**	**321**	P	**P**	**16 25 05.2**	**+0.1**
BRDY				IAmb	IAmb	16 25 33.9	
	comp=Z,20nm,1.3s						
ABTX	**Abilene, Hawle**	**25.70**	**322**	IAmb	IAmb	16 25 23.1	
	comp=Z,16nm,1.0s						
TX31	**Lajitas Ar. Si**	**26.35**	**311**	IAmb	IAmb	16 25 30.5	
	comp=Z,13nm,1.2s						
TXAR	**Lajitas Array**	**26.35**	**311**	P	**P**	**16 25 23.9**	**+0.8**
TXAR	**Lajitas Array**	**26.35**	**311**	P	**P**	**16 25 24.6**	**+1.5**
	comp=Z,2.0nm,0.8s,baz=132,slow=9.8,SNR=13						
TXAR				LR	LR	16 37 18.1	
	comp=Z,74nm,18.6s,baz=129,slow=40						
	comp=Z,2.0nm,0.8s						
VHRN	**Van Horn**	**28.10**	**312**	P	**P**	**16 25 38.9**	**0.0**
VHRN				IAmb	IAmb	16 25 56.5	
	comp=Z,11nm,1.3s						
MDP	**Montagnes des**	**29.25**	**103**	LR	LR	16 39 01.6	
	comp=Z,153nm,18.8s,baz=288,slow=39						
LPIG	**La Paz**	**29.61**	**296**	LR	LR	16 38 18.2	
	comp=Z,362nm,18.8s,baz=137,slow=38						
ANMO	**Albuquerque**	**31.51**	**318**	LR	LR	16 41 36.8	
	comp=Z,104nm,18.0s,baz=302,slow=42						
LPAZ	**La Paz**	**31.98**	**156**	LR	LR	16 40 29.2	
	comp=Z,90nm,20.6s,baz=318,slow=39						
SIV	**San Ignacio**	**35.13**	**145**	LR	LR	16 41 34.9	
	comp=Z,115nm,20.4s,baz=292,slow=37						
PFO	**Pinyon Flats O**	**37.98**	**308**	LR	LR	16 44 27.5	
	comp=Z,131nm,18.8s,baz=116,slow=39						
PDAR	**Pinedale Array**	**38.36**	**326**	P	**P**	**16 27 09.6**	**+1.4**
	comp=Z,1.5nm,0.7s,baz=129,slow=9.2,SNR=11						
	comp=Z,1.5nm,0.7s						
MOOW	**Moose Ponds**	**39.66**	**326**	IAmb	IAmb	16 27 29.9	
	comp=Z,14nm,1.5s						
RLMT	**Red Lodge**	**39.81**	**329**	P	**P**	**16 27 20.3**	**+0.1**
NVAR	**Mina Array Bea**	**41.41**	**314**	P	**P**	**16 27 35.7**	**+2.1**
	comp=Z,0.8nm,0.7s,baz=135,slow=8.6,SNR=4.4						
	comp=Z,0.8nm,0.7s						
HLID	**Hailey**	**41.62**	**323**	P	**P**	**16 27 36.4**	**+1.3**
LYMT	**Lyon Mountain**	**42.61**	**328**	P	**P**	**16 27 42.9**	**-0.4**
BDFB	**Brasilia**	**43.53**	**130**	P	**P**	**16 27 51.9**	**+1.0**
	comp=Z,4.5nm,0.8s,baz=270,slow=8.1,SNR=2.7						
	comp=Z,4.5nm,0.8s						
PLCA	**Paso Flores**	**54.52**	**170**	P	**P**	**16 29 14.9**	**+0.2**
	comp=Z,2.5nm,1.0s,baz=9.6,slow=9.8,SNR=3.7						
	comp=Z,2.5nm,1.0s						
YKA	**Yellowknife Ar**	**54.70**	**342**	P	**P**	**16 29 17.9**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=135,slow=7.0,SNR=5.4						
	comp=Z,0.4nm,0.7s						
ICESG	**Greenland Ices**	**61.76**	**16**	*i* P	P	16 30 11.5	+6.1
ICESG				IAmb	IAmb	16 30 14.6	
	comp=Z,4.3nm,0.7s						
A36M	**Sachs Harbour**	**64.35**	**346**	P	**P**	**16 30 22.9**	**+0.8**
SUMG	**Summit**	**64.44**	**13**	*i* P	P	16 30 29.0	+5.8
SUMG				IAmb	IAmb	16 30 31.8	
	comp=Z,25nm,1.6s						
E29M	**Blow River**	**65.91**	**340**	IAmb	IAmb	16 30 42.1	
	comp=Z,5.3nm,1.1s						
NEEM	**North Greenlan**	**66.09**	**7**	*i* P	P	16 30 48.0	+14
E28M	**Babbage River**	**66.54**	**340**	P	**P**	**16 30 37.2**	**+0.8**
ILAR	**Eielson Array**	**67.90**	**335**	P	**P**	**16 30 46.1**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=116,slow=3.9,SNR=26						
	comp=

ILAR Eielson Array 67.93 335 P P 16 36 49.7 +5.5
0.2nm,0.6s,baz=120,slow=5.3,SNR=5.7
0.2nm,0.6s

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*IDC **25** 16:25:57.6±2.4, 13°.24N×89°.80W, h0km, mb3.7/4, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=58.4km s-min=42.4km az=28.0*
*CATAC **25** 16:26:00.8±0.7, 12°.92N×90°.47W, h18km±6km, ML3.8*
*SNET **25** 16:26:00.0±1.0, 12°.90N×90°.47W, h13km±5km, ML3.6*
*GCG **25** 16:26:19.6±0.5, 14°.76N×90°.74W, h35km, MD3.9*
ISC 25 16:25:57.1±1.8, 13°.03N±0°.07×90°.59W±0°.04, h2km±10km, n47, σ2s03/63, mb3.7/3, 2C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.17**	**42⇑**	*e*P	**Pn**	**16 26 21.5**	**+0.8**
NUBE				*e*S	**Sn**	**16 26 37.0**	**-0.3**
NUBE	**Las Nubes**	**1.17**	**42**	*i* P	**Pn**	**16 26 21.4**	**+0.8**
NUBE				*i* S	**Sn**	**16 26 37.6**	**+0.3**
NUBE				IAML		16 26 40.0	
	comp=Z,900nm,1.0s						
CEVE	**Cerro Verde**	**1.23**	**49**	*e*P	**Pg**	**16 26 22.7**	**+1.9**
CEVE	**Cerro Verde**	**1.23**	**49**	*i* P	**Pg**	**16 26 22.6**	**+1.9**
CEVE				*i* S	**Sn**	**16 26 39.4**	**+0.6**
CEVE				IAML		16 26 49.3	
	comp=Z,2μm,1.0s						
SBLS	**San Blas**	**1.24**	**49**	*e*P	**Pg**	**16 26 22.7**	**+1.8**
LOAL	**Lomas de Alarc**	**1.24**	**39**	*e*P	**Pg**	**16 26 22.9**	**+1.9**
LOAL	**Lomas de Alarc**	**1.24**	**39**	*i* P	**Pg**	**16 26 22.9**	**+1.9**
LOAL				IAML		16 26 32.8	
	comp=Z,3μm,1.0s						
LOAL				*i* S	**Sn**	**16 26 41.0**	**+2.1**
RTR	**El Retiro**	**1.26**	**46**	*e*P	**Pg**	**16 26 23.3**	**+1.9**
SLOZ	**Alcaldia de Sa**	**1.26**	**38**	*e*P	**Pg**	**16 26 23.1**	**+1.7**
SLOZ				*e*S	**Sn**	**16 26 40.9**	**+1.5**
SNJE	**San Jose**	**1.27**	**49**	*e*P	**Pg**	**16 26 23.0**	**+1.5**
JAYA	**Jayaque - finc**	**1.27**	**60⇑**	*e*P	**Pg**	**16 26 22.3**	**+0.8**
JAYA	**Jayaque - finc**	**1.27**	**60**	*i* P	**Pg**	**16 26 22.7**	**+1.2**
JAYA				*i* S	**Sg**	**16 26 40.0**	**+2.0**
JAYA				IAML		16 26 42.3	
	comp=Z,3μm,1.0s						
LALI	**Alcalda de L**	**1.31**	**69**	*e*P	**Pg**	**16 26 22.7**	**+0.4**
UNIC	**Universidad Ca**	**1.39**	**47**	*e*P	**Pg**	**16 26 24.6**	**+0.9**
UNIC	**Universidad Ca**	**1.39**	**47**	*i* P	**Pg**	**16 26 24.9**	**+1.2**
UNIC				IAML		16 26 26.1	
	comp=Z,360nm,1.0s						
UNIC				*i* S	**Sg**	**16 26 43.2**	**+1.5**
PMON	**Piamonte**	**1.41**	**61**	*e*P	**Pg**	**16 26 24.4**	**+0.2**
PMON	**Piamonte**	**1.41**	**61**	*i* P	**Pg**	**16 26 24.7**	**+0.4**
PMON				*i* S	**Sg**	**16 26 44.0**	**+1.4**
PMON				IAML		16 26 59.6	
	comp=Z,2μm,1.0s						
FUG	**Fuego 3**	**1.44**	**350**	*e*P	**Pg**	**16 26 28.2**	**+3.5**
BOQS	**Boqueron**	**1.45**	**61**	*e*P	**Pg**	**16 26 25.5**	**+0.5**
BOQS				*e*S	**Sg**	**16 26 46.8**	**+2.9**
LOMA	**Loma Larga**	**1.51**	**66**	*e*P	**Pb**	**16 26 25.6**	**-0.3**
LOMA	**Loma Larga**	**1.51**	**66**	*i* P	**Pg**	**16 26 25.9**	**-0.2**
LOMA				*i* S	**Sg**	**16 26 45.4**	**-0.2**
LOMA				IAML		16 26 54.6	
	comp=Z,660nm,1.0s						
NBG	**Las Nubes**	**1.57**	**8**	*e*P	**Pg**	**16 26 30.3**	**+3.0**
LFRS	**El Faro**	**1.60**	**68**	*e*P	**Pb**	**16 26 26.7**	**-0.7**
COEG	**Centro de Oper**	**1.76**	**70**	*e*P	**Pb**	**16 26 29.3**	**-0.9**
COEG	**Centro de Oper**	**1.76**	**70**	*i* P	**Pb**	**16 26 29.3**	**-0.9**
COEG				*i* S	**Sg**	**16 26 51.3**	**-2.5**
COEG				IAML		16 27 02.8	
	comp=Z,540nm,1.0s						
MTO3	**Montecristo**	**1.81**	**41**	*e*P	**Pg**	**16 26 31.5**	**-0.4**
MTO3	**Montecristo**	**1.81**	**41**	*i* P	**Pg**	**16 26 31.8**	**-0.1**
MTO3				*i* S	**Sg**	**16 26 53.7**	**-1.7**
MTO3				IAML		16 27 26.0	
	comp=Z,730nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.93**	**69**	*e*P	**Pb**	**16 26 31.9**	**-1.2**
STG3	**Santiaguito 3,**	**1.93**	**330**	*e*P	**Pg**	**16 26 35.2**	**+1.0**
ESQI	**Esquipulas**	**1.95**	**38**	*i* P	**Pg**	**16 26 32.9**	**-1.6**
ESQI				*i* S	**Sg**	**16 26 58.1**	**-1.6**
ESQI				IAML		16 27 20.6	
	comp=Z,730nm,1.0s						
SOKI	**Kika Raxquin**	**1.95**	**336**	*i* P	**Pg**	**16 26 35.1**	**+0.5**
SOKI				*i* S	**Sg**	**16 27 02.0**	**+2.0**
SOKI				IAML		16 27 13.0	
	comp=Z,520nm,1.0s						
PQSS	**Presa 15 de Se**	**2.06**	**73**	*i* P	**Pn**	**16 26 33.1**	**+0.4**
PQSS				*i* S	**Sb**	**16 26 58.5**	**-2.8**
PQSS				IAML		16 27 06.9	
	comp=Z,170nm,1.0s						
MRL	**Marmol**	**2.22**	**23**	*e*P	**Pg**	**16 26 38.6**	**-1.2**
PACA	**Pacayal**	**2.25**	**78**	*e*P	**Pn**	**16 26 36.8**	**+1.4**
PACA	**Pacayal**	**2.25**	**78**	*i* P	**Pn**	**16 26 36.8**	**+1.4**
PACA				*i* S	**Sb**	**16 27 02.9**	**-3.9**
PACA				IAML		16 27 14.1	
	comp=Z,2μm,1.0s						
RANC	**El Ranchito**	**2.27**	**79**	*e*P	**Pn**	**16 26 36.3**	**+0.5**
QUIS	**Sacapulas**	**2.31**	**348**	*i* P	**Pg**	**16 26 40.7**	**-0.7**
QUIS				*i* S	**Sg**	**16 27 09.2**	**-2.1**
QUIS				IAML		16 27 12.5	
	comp=Z,600nm,1.0s						
PLRN	**Geotermica Pol**	**3.75**	**96**	*i* P	**Pn**	**16 26 56.9**	**+0.9**
CONN	**Concepcion**	**5.06**	**106**	*i* P	**Pn**	**16 27 12.2**	**-1.9**
CMIG	**Matias Romero**	**5.79**	**315**	Pn	Pn	16 27 31.5	+7.4
	comp=Z,0.6nm,0.3s,baz=122,slow=13,SNR=6.1						
CMIG				Sn	**Sb**	**16 28 39.9**	**-9.0**
	comp=Z,0.7nm,0.3s,baz=271,slow=23,SNR=1.9						
	comp=Z,1.4nm,0.3s						
TXAR	**Lajitas Array**	**20.27**	**325**	P	Pn	16 30 37.4	+1.4
	comp=Z,1.0nm,0.7s,baz=152,slow=11,SNR=7.4						
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**35.29**	**321**	P	**P**	**16 32 58.0**	**+4.2**
	comp=Z,0.7nm,0.6s,baz=128,slow=8.7,SNR=6.5						
	comp=Z,0.7nm,0.6s						
SCHQ	**Schefferville**	**45.67**	**19**	P	**P**	**16 34 17.4**	**-1.8**
	comp=Z,2.4nm,0.6s,baz=231,slow=7.6,SNR=3.9						
	comp=Z,2.4nm,0.6s						
YKA	**Yellowknife Ar**	**52.29**	**346**	P	**P**	**16 35 09.5**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=140,slow=6.4,SNR=5.6						
	comp=Z,0.4nm,0.7s						
WRA	**Warramunga Arr**	**136.48**	**255**	PKP	**PKiKP**	**16 45 24.9**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=92,slow=3.2,SNR=2.7						
ASAR	**Alice Springs**	**136.62**	**249**	PKP	**PKiKP**	**16 45 24.4**	**+0.9**
	comp=Z,0.7nm,1.0s,baz=121,slow=3.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**147.34**	**343**	PKPbc	**PKPdf**	**16 45 41.8**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=343,slow=2.8,SNR=2.5						

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*DJA **25** 16:32:13.9±0.8, 9°.S×3°.×11°.0E±°, h20km±8km, M4.3/25, mb4.7/4, mB5.0/1, MLv4.2/25, Mw(mB)4.3/1*
*NEIC **25** 16:32:15.2±1.6, 9°.05S±0°.03×110°.10E±0°.06, h44km±10km, mb4.3/10, Error ellipse: s-maj=8.9km s-min=2.6km az=68.0*
*IDC **25** 16:32:17.9±1.9, 8°.62S×110°.31E, h50km±24km, mb3.7/7, mbtmp4.0/10, ML3.6/2, Error ellipse: s-maj=52.9km s-min=12.2km az=41.0*
ISC 25 16:32:15.9±1.0, 9°.12S±0°.05×110°.08E±0°.04, h44km±11km, n54, σ2s26/57, mb4.2/10, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.28**	**20**	Pn	**Pn**	**16 32 35.1**	**-2.3**
UGM				Sn	**Sn**	**16 32 49.6**	**-3.8**
UGM	**Wanagama**	**1.28**	**20**	P	**Pn**	**16 32 35.6**	**-1.8**
PCJI	**Pacitan**	**1.43**	**50**	P	**Pn**	**16 32 38.1**	**-1.2**
PWJI	**Pagerwojo**	**2.03**	**57**	P	**Pn**	**16 32 47.0**	**-0.6**
PWJI				S	**Sn**	**16 33 14.8**	**+3.1**
CMJI	**Cimerak**	**2.09**	**309**	P	**Pn**	**16 32 45.6**	**-2.8**
CMJI				S	**Sn**	**16 33 08.8**	**-4.4**
SMRI	**Semarang**	**2.09**	**10**	Pn	**Pn**	**16 32 45.6**	**-2.9**
SMRI	**Semarang**	**2.09**	**10**	P	**Pn**	**16 32 49.0**	**+0.5**
SMRI				S	**Sn**	**16 33 13.2**	**-0.1**
KPJI	**Karang Pucung**	**2.11**	**327**	P	**Pn**	**16 32 47.9**	**-0.8**
KPJI				S	**Sn**	**16 33 12.6**	**-1.1**
NGJI	**Ngawi**	**2.22**	**38**	P	**Pn**	**16 32 51.9**	**+1.7**
NGJI				S	**Sn**	**16 33 19.4**	**+3.0**
UWJI	**Ujung Watu**	**2.82**	**18**	P	**Pn**	**16 32 57.6**	**-0.9**
TBJI	**Tambak Boyo**	**2.88**	**38**	P	**Pn**	**16 32 59.5**	**+0.1**
JCJI	**Jatiwangi**	**3.17**	**325**	P	**Pn**	**16 32 58.9**	**-4.4**
GRJI	**Gresik**	**3.23**	**47**	P	**Pn**	**16 33 04.5**	**+0.3**
LEM	**Lembang**	**3.34**	**313**	P	**Pn**	**16 33 05.4**	**-0.4**
	6.1nm,0.3s,baz=99,slow=16,SNR=8.4						
LEM				S	**Sn**	**16 33 44.2**	**-0.1**
	55nm,0.4s,baz=178,slow=23,SNR=5.5						
	32nm,0.5s						
LEM	**Lembang**	**3.34**	**313**	P	**Pn**	**16 33 05.2**	**-0.5**
CNJI	**Cibinong**	**3.43**	**301**	P	**Pn**	**16 33 02.8**	**-4.0**
GMJI	**Gumukmas**	**3.43**	**76**	P	**Pn**	**16 33 07.8**	**+0.9**
BLJI	**Banyuglugur**	**3.74**	**69**	P	**Pn**	**16 33 11.6**	**+0.5**
JAGI	**Jajag, Banyuwa**	**4.08**	**81**	Pn	**Pn**	**16 33 15.2**	**-0.6**
JAGI	**Jajag, Banyuwa**	**4.08**	**81**	P	**Pn**	**16 33 16.9**	**+1.1**
ABJI	**Asem Bagus**	**4.32**	**73**	P	**Pn**	**16 33 22.5**	**+3.4**
KMMI	**Kalianget**	**4.37**	**62**	P	**Pn**	**16 33 18.2**	**-1.5**
XMIS	**Christmas Isla**	**4.57**	**252**	Pn	**Pn**	**16 33 21.1**	**-1.4**
SRBI	**Singaraja**	**5.18**	**79**	P	**Pn**	**16 33 32.4**	**+1.5**
	91nm,1.1s,0.3nm						
PLAI	**Plampang**	**7.61**	**88**	P	**Pn**	**16 34 06.4**	**+2.1**
MNAI	**Manna**	**8.51**	**303**	Pn	**Pn**	**16 34 15.5**	**-1.1**
BATI	**Baumata**	**13.44**	**96**	P	**Pn**	**16 35 23.2**	**-0.9**
	10nm,0.4s,baz=251,slow=5.3,SNR=1.9						
BATI				S	**Sn**	**16 37 44.8**	**-7.4**
	8.2nm,0.8s,baz=317,slow=23,SNR=1.3						
SOEI	**Soe**	**14.01**	**94**	Pn	**Pn**	**16 35 28.8**	**-3.2**
GIRL	**Giralia**	**14.02**	**164**	Pn	**Pn**	**16 35 31.9**	**-0.1**
MBWA	**Marble Bar**	**15.16**	**143**	Pn	**Pn**	**16 35 46.2**	**-0.9**
MBWA				IAmb	IAmb	16 36 07.8	
	comp=Z,44nm,1.5s						
FITZ	**Fitzroy Crossi**	**17.55**	**122**	P	**Pn**	**16 36 16.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**17.55**	**122**	P	**P**	**16 36 20.1**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=306,slow=10,SNR=3.6						
FITZ				S	Sn	16 39 21.6	-10
	comp=Z,3.1nm,1.0s,baz=345,slow=19,SNR=2.1						
	comp=Z,3.9nm,0.7s						
KNRA	**Kununurra**	**19.37**	**111**	Pn	**Pn**	**16 36 40.5**	**+1.1**
KNRA				IAmb	IAmb	16 37 03.2	
	comp=Z,26nm,1.4s						
MTN	**Manton Dam**	**20.99**	**102**	P	**P**	**16 36 56.5**	**+0.7**
MTN				IAmb	IAmb	16 37 22.2	
	comp=Z,21nm,1.2s						
WB0	**Warramunga Arr**	**25.78**	**117**	P	**P**	**16 37 44.7**	**+1.9**
WB0				IAmb	IAmb	16 38 17.7	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**25.79**	**117**	P	**P**	**16 37 44.8**	**+1.8**
WRA	**Warramunga Arr**	**25.79**	**117**	P	**P**	**16 37 44.9**	**+1.9**
	comp=Z,0.7nm,0.4s,baz=289,slow=11,SNR=13						
	comp=Z,0.7nm,0.4s						
WB2	**Warramunga Arr**	**25.80**	**117**	P	**P**	**16 37 45.0**	**+1.9**
ASAR	**Alice Springs**	**26.98**	**125**	P	**P**	**16 37 55.9**	**+2.1**
	comp=Z,0.4nm,0.6s,baz=303,slow=8.4,SNR=10						
ASAR				PcP	**PcP**	**16 41 17.0**	**+2.2**
	comp=Z,0.5nm,1.0s,baz=310,slow=2.2,SNR=1.7						
	comp=Z,0.4nm,0.6s						
PZH	**PanZhiHua**	**36.33**	**347**	PKP	**P**	**16 39 15.5**	**-0.2**
STKA	**Stephens Creek**	**36.97**	**132**	P	**P**	**16 39 23.9**	**+2.9**
	comp=Z,1.3nm,0.4s,baz=316,slow=7.5,SNR=6.1						
	comp=Z,1.3nm,0.4s						
H08S2	**Diego Garcia H**	**37.20**	**269**	T	T	17 18 49.4	
	baz=95,slow=74						
H08S3	**Diego Garcia H**	**37.21**	**269**	T	T	17 18 45.8	
	baz=95,slow=74						
H08S1	**Diego Garcia H**	**37.22**	**269**	T	T	17 19 00.2	
	baz=95						
MK31	**Makanchi Array**	**60.94**	**339**	P	**P**	**16 42 22.6**	**-1.8**
MK31				IAmb	IAmb	16 42 43.7	
	comp=Z,3.2nm,1.1s						
MKAR	**Makanchi Array**	**60.94**	**339**	P	**P**	**16 42 22.6**	**-1.7**
	comp=Z,0.6nm,0.5s,baz=154,slow=7.5,SNR=12						
	comp=Z,0.6nm,0.5s						
H04N2	**CROZET ISLANDS**	**61.70**	**222**	T	T	17 50 05.1	
	baz=70,slow=75,SNR=10						
H04N1	**CROZET ISLANDS**	**61.71**	**222**	T	T	17 50 04.2	
	baz=70,slow=75,SNR=11						
H04N3	**CROZET ISLANDS**	**61.71**	**222**	T	T	17 50 02.7	
	baz=70,slow=75,SNR=10						
KURBB	**Kurchatov Arra**	**65.50**	**339**	P	**P**	**16 42 52.9**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=154,slow=6.2,SNR=2.4						
	comp=Z,0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**66.37**	**344**	P	**P**	**16 42 57.8**	**-2.2**
	comp=Z,0.7nm,0.4s,baz=155,slow=6.9,SNR=4.1						
	comp=Z,0.7nm,0.4s						
YAK	**Yakutsk**	**72.56**	**10**	P	**P**	**16 43 36.3**	**-1.7**
PETK	**Petropavlovsk-**	**74.00**	**28**	P	**P**	**16 43 46.8**	**0.0**
	comp=Z,3.9nm,1.0s,baz=214,slow=1.0,SNR=1.1						
	comp=Z,3.9nm,1.0s						
TIXI	**Tiksi**	**81.56**	**6**	P	**P**	**16 44 27.0**	**-1.4**
TIXI				IAmb	IAmb	16 44 40.3	
	comp=Z,4.2nm,1.1s						

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*SNET **25** 16:33:24.5±1.0, 12°.95N×90°.66W, h36km±7km, ML3.5*
*CATAC **25** 16:33:26.5±0.4, 13°.23N×90°.58W, h80km±7km, ML3.3*
ISC 25 16:33:24.3±2.2, 13°.10N±0°.09×90°.66W±0°.06, h25km±14km, n41, σ0s74/74, 5C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAME	**Alcaldia de Sa**	**0.97**	**40**	*i* S	**Sn**	**16 33 56.9**	**+1.6**
NUBE	**Las Nubes**	**1.17**	**47⇑**	*i* P	**Pb**	**16 33 46.3**	**+0.4**
NUBE	**Las Nubes**	**1.17**	**47**	*i* P	**Pb**	**16 33 46.1**	**+0.2**
NUBE				*i* S	**Sn**	**16 34 01.0**	**+0.5**
NUBE				IAML		16 34 04.5	
	comp=Z,300nm,1.0s						
LOAL	**Lomas de Alarc**	**1.23**	**44**	*i* P	**Pb**	**16 33 47.0**	**0.0**
LOAL				*i* S	**Sb**	**16 34 01.9**	**-0.6**
LOAL				IAML		16 34 18.4	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**1.24**	**54**	*i* P	**Pb**	**16 33 47.2**	**+0.1**
CEVE				*e*S	**Sn**	**16 34 05.4**	**+3.0**
CEVE				IAML		16 34 08.1	
	comp=Z,826nm,0.2s						
CEVE	**Cerro Verde**	**1.24**	**54**	*i* P	**Pb**	**16 33 47.1**	**-0.1**
CEVE				*i* S	**Sn**	**16 34 02.8**	**+0.5**
CEVE				IAML		16 34 06.2	
	comp=Z,770nm,1.0s						
SBLS	**San Blas**	**1.25**	**54**	*i* P	**Pb**	**16 33 47.3**	**+0.1**
SLOZ	**Alcaldia de Sa**	**1.25**	**43⇑**	*e*P	**Pn**	**16 33 46.5**	**+0.2**
RTR	**El Retiro**	**1.26**	**51**	*e*P	**Pb**	**16 33 48.2**	**+0.7**
SNJE	**San Jose**	**1.28**	**53⇑**	*i* P	**Pb**	**16 33 47.7**	**0.0**
SNJE				*e*P	**Pn**	**16 33 47.9**	**+1.1**
SNJE				⇑*i* P		16 33 48.2	
SNJE				⇑*e*S	**Sb**	**16 34 05.7**	**+1.9**
ESSG	**Sabana Grande**	**1.28**	**353**	*i* P	**Pb**	**16 33 47.9**	**0.0**
ESSG				*i* S	**Sb**	**16 34 03.7**	**-0.3**
ESSG				IAML		16 34 38.2	
	comp=Z,350nm,1.0s						
JAYA	**Jayaque - finc**	**1.30**	**65⇓**	*i* P	**Pn**	**16 33 47.2**	**+0.2**
JAYA				*e*S	**Sb**	**16 34 05.3**	**+0.9**
JAYA	**Jayaque - finc**	**1.30**	**65**	*i* P	**Pn**	**16 33 47.0**	**0.0**
JAYA				*i* S	**Sb**	**16 34 04.1**	**-0.4**
JAYA				IAML		16 34 06.8	
	comp=Z,1μm,1.0s						
LALI	**Alcalda de L**	**1.36**	**73**	*i* P	**Pb**	**16 33 49.1**	**+0.1**
LALI				*i* S	**Sn**	**16 34 05.3**	**+0.4**
LALI				IAML		16 34 11.1	
	comp=Z,100nm,1.0s						
UNIC	**Universidad Ca**	**1.39**	**51**	*i* P	**Pn**	**16 33 48.6**	**+0.4**
UNIC				IAML		16 33 49.6	
	comp=Z,230nm,1.0s						
UNIC				*i* S	**Sn**	**16 34 05.5**	**-0.3**
CEDA	**San Andres**	**1.41**	**60**	*i* P	**Pb**	**16 33 49.4**	**-0.6**
CEDA				*i* S	**Sb**	**16 34 07.2**	**-0.4**
CEDA				IAML		16 34 19.8	
	comp=Z,960nm,1.0s						
PMON	**Piamonte**	**1.44**	**65**	*e*P	**Pn**	**16 33 49.2**	**+0.2**
PMON	**Piamonte**	**1.44**	**65**	*i* P	**Pn**	**16 33 49.4**	**+0.4**
PMON				*i* S	**Sb**	**16 34 08.0**	**-0.5**
PMON				IAML		16 34 14.7	
	comp=Z,510nm,1.0s						
ITCA	**Escuela Especi**	**1.46**	**67**	*i* P	**Pb**	**16 33 50.2**	**-0.6**
ITCA				*i* S	**Sb**	**16 34 08.6**	**-0.4**
ITCA				IAML		16 34 37.0	
	comp=Z,2μm,1.0s						
SNET	**Serv Nac Est T**	**1.50**	**67**	*i* P	**Pn**	**16 33 50.6**	**+0.8**
SNET				IAML		16 34 04.5	
	comp=Z,720nm,1.0s						
SNET				*i* S	**Sb**	**16 34 09.7**	**-0.6**
UEES	**Universidad Ev**	**1.51**	**66**	*i* P	**Pn**	**16 33 50.5**	**+0.6**
UEES				*i* S	**Sn**	**16 34 09.4**	**+0.6**
UEES				IAML		16 34 15.0	
	comp=Z,250nm,1.0s						
PANCS	**Alcalda de**	**1.53**	**70**	*i* P	**Pn**	**16 33 50.6**	**+0.5**
PANCS				IAML		16 33 53.6	
	comp=Z,2μm,1.0s						
PANCS				*i* S	**Sn**	**16 34 09.0**	**-0.2**
JUAM	**Asuncion Mita**	**1.54**	**37**	*i* P	**Pn**	**16 33 50.3**	**+0.1**
JUAM				*i* S	**Sn**	**16 34 09.0**	**-0.4**
JUAM				IAML		16 34 45.7	
	comp=Z,640nm,1.0s						
LOMA	**Loma Larga**	**1.54**	**69**	*i* P	**Pn**	**16 33 51.0**	**+0.6**
LOMA				*i* S	**Sn**	**16 34 10.4**	**+0.6**
LOMA				IAML		16 34 13.2	
	comp=Z,180nm,1.0s						
LFRS	**El Faro**	**1.64**	**71**	*e*P	**Pn**	**16 33 51.6**	**0.0**
PAVA	**Las Pavas**	**1.78**	**70**	*i* P	**Pn**	**16 33 54.0**	**+0.4**
PAVA				*i* S	**Sn**	**16 34 15.8**	**+0.2**
PAVA				IAML		16 34 23.7	
	comp=Z,360nm,1.0s						
MTO3	**Montecristo**	**1.80**	**44⇓**	*i* P	**Pb**	**16 33 56.1**	**-0.7**
MTO3	**Montecristo**	**1.80**	**44**	*i* P	**Pb**	**16 33 56.0**	**-0.7**
MTO3				IAML		16 33 57.0	
	comp=Z,120nm,1.0s						
MTO3				*i* S	**Sn**	**16 34 14.5**	**-1.8**
COEG	**Centro de Oper**	**1.81**	**73**	*i* P	**Pn**	**16 33 54.3**	**+0.4**
COEG				*i* S	**Sn**	**16 34 16.4**	**+0.3**
COEG				IAML		16 34 27.0	
	comp=Z,200nm,1.0s						
SOKI	**Kika Raxquin**	**1.85**	**337**	*i* P	**Pn**	**16 33 55.6**	**+0.7**
SOKI				*i* S	**Sn**	**16 34 17.9**	**+0.1**
SOKI				IAML		16 34 47.2	
	comp=Z,200nm,1.0s						
TECO	**Alcaldia de Te**	**1.88**	**76**	*i* P	**Pn**	**16 33 54.6**	**-0.3**
TECO				*i* S	**Sn**	**16 34 17.4**	**-0.4**
TECO				IAML		16 34 24.4	
	comp=Z,87nm,1.0s						
UESV	**Universidad de**	**1.90**	**74**	*i* P	**Pn**	**16 33 55.7**	**+0.5**
UESV				*i* S	**Sn**	**16 34 18.7**	**+0.4**
UESV				IAML		16 34 29.2	
	comp=Z,210nm,1.0s						
ESQI	**Esquipulas**	**1.93**	**41**	*i* P	**Pn**	**16 33 55.2**	**-0.5**
ESQI				*i* S	**Sn**	**16 34 18.6**	**-0.7**
ESQI				IAML		16 34 45.1	
	comp=Z,150nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.97**	**72**	*i* P	**Pn**	**16 33 57.0**	**+0.8**
SCLA				*i* S	**Sn**	**16 34 19.4**	**-0.8**
SCLA				IAML		16 35 12.1	
	comp=Z,140nm,1.0s						
LLGN	**La Laguna**	**1.97**	**57**	*i* P	**Pn**	**16 33 55.7**	**-0.6**
LLGN				*i* S	**Sn**	**16 34 18.8**	**-1.5**
LLGN				IAML		16 34 52.7	
	comp=Z,860nm,1.0s						
PQSS	**Presa 15 de Se**	**2.11**	**76⇓**	*i* P	**Pn**	**16 33 58.0**	**0.0**
PQSS	**Presa 15 de Se**	**2.11**	**76**	*i* P	**Pn**	**16 33 58.2**	**+0.2**
PQSS				IAML		16 33 59.5	
	comp=Z,60nm,1.0s						
PQSS				*i* S	**Sn**	**16 34 23.5**	**+0.1**
QUIS	**Sacapulas**	**2.22**	**349**	*i* P	**Pn**	**16 34 00.0**	**+0.3**
QUIS				IAML		16 34 17.3	
	comp=Z,310nm,1.0s						
QUIS				*i* S	**Sn**	**16 34 25.2**	**-1.2**
PACA	**Pacayal**	**2.30**	**81**	*i* P	**Pn**	**16 34 00.9**	**+0.1**
PACA				*i* S	**Sn**	**16 34 28.3**	**-0.2**
PACA				IAML		16 34 37.4	
	comp=Z,650nm,1.0s						
LCND	**La Caada**	**2.70**	**85**	*i* P	**Pn**	**16 34 06.6**	**+0.4**
LCND				IAML		16 34 24.9	
	comp=Z,88nm,1.0s						
LCND				*i* S	**Sn**	**16 34 37.4**	**-0.8**
CNCH	**Conchagua**	**2.76**	**86**	*i* P	**Pn**	**16 34 07.6**	**+0.5**
CNCH				*i* S	**Sn**	**16 34 38.6**	**-1.1**
CNCH				IAML		16 34 51.8	
	comp=Z,130nm,1.0s						

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*PDG **25** 16:37:19.6, 34°.33N×45°.71E, h10km, mb6.3/4*
*MOS **25** 16:37:29.7±1.2, 34°.34N×45°.71E, h11km, mb6.2/69, MS6.1/74, Error ellipse: s-maj=4.1km s-min=2.7km az=111.8*
*GII **25** 16:37:30.2±0.3, 34°.33N×45°.71E, h10km, Mws6.3, confirmed*
*NAO **25** 16:37:31.3, 34°.08N×45°.71E, h33km, mb6.0*
*TEH **25** 16:37:31.8, 34°.36N×45°.71E, h10km±16km, ML6.4*
*IDC **25** 16:37:31.4±1.4, 34°.40N×45°.67E, h10km±7km, mb5.7/36, mbtmp5.8/45, ML5.0/7, MS6.0/81, Error ellipse: s-maj=8.7km s-min=7.6km az=110.0*
*IPGP **25** 16:37:31.0, 34°.31N×45°.73E, h10km, Mw6.3, Fault plane solution: NP1:φs28.00000°, δ73.00000°, λ166.00000°. NP2:φs122.00000°, δ76.00000°, λ17.00000°.*
*DSN **25** 16:37:31.9±0.5, 34°.17N×45°.79E, h10km, mb6.5/6, Ms6.3/13, Error ellipse: s-maj=11.0km s-min=5.2km az=60.0*
*NEIC **25** 16:37:31.6, 34°.31N×45°.73E, h10km*
*BJI **25** 16:37:31.5, 34°.43N×45°.72E, h10km, mb5.8/97, mB6.1/72, Ms6.4/99, Ms7 6.2/97*
*NEIC **25** 16:37:32.8±1.8, 34°.36N±0

comp=N,129μm,0.8s
HAGD Aghdareh 2.83 80 Pn Pn 16 38 19.7 +2.5
IHSH Hashtrud 3.17 22 Pn Pn 16 38 24.7 +2.7
IAZR Azarshahr 3.30 3 Pn Pn 16 38 26.2 +2.5
CUKT Cukurca 3.35 329 P Pn 16 38 24.4 +0.1
QABG Abgarm-Qazvin 3.41 66 Pn Pn 16 38 27.8 +2.6
JIR1 Jirandeh 4.04 54 Pn Pn 16 38 36.1 +2.4
CSN1 Caspian 4.17 39 Pn Pn 16 38 38.9 +3.4
IMRD Marand 4.33 359 Pn Pn 16 38 40.0 +2.3
IQOM Qom 4.41 82 Pn Pn 16 38 40.7 +1.8
AKDM Akdamar-Van 4.53 331 P Pn 16 38 41.9 +1.3
IPIR Pirpir 4.61 110 Pn Pn 16 38 42.9 +1.1
VANB Van 4.62 336 P Pn 16 38 42.7 +1.0
JHBN Jahan bin 4.63 116 Pn Pn 16 38 43.2 +1.1
GAS1 Astara - Iran 4.71 31 Pn Pn 16 38 45.8 +2.9
QAMS Qamsar 4.73 96 Pn Pn 16 38 45.7 +2.4
GRMI Germi 4.74 21 Pn Pn 16 38 46.1 +2.6
KLST Kelardasht - M 4.83 62 Pn Pn 16 38 47.6 +2.8
ZNGN Zangian 4.83 116 Pn Pn 16 38 46.0 +1.2
IVRN Varamin 4.96 81 Pn Pn 16 38 48.4 +2.0
IKLH Kolahrood 4.96 101 Pn Pn 16 38 48.7 +2.1
CLDR Caldiran 4.98 343 P Pn 16 38 49.9 +3.1
ERCV ERCIS-VAN 5.02 338 *e*P **Pn 16 38 48.9 +1.6**
MAKU Maku 5.04 350 Pn **Pn 16 38 49.9 +2.3**
GURO Guroymak-BITLI 5.13 325 P **Pn 16 38 48.9 +0.1**
GURO Guroymak-BITLI 5.13 325 Pn **Pn 16 38 49.4 +0.7**
GURO Guroymak-BITLI 5.13 325 ⇑P **Pn 16 38 48.9 +0.1**
MZPU Pul - Mazandar 5.17 65 Pn **Pn 16 38 52.2 +2.8**
IBRJ Brojen 5.23 117 Pn **Pn 16 38 50.9 +0.6**
IDMV Damavand 5.29 75 Pn **Pn 16 38 53.5 +2.4**
MAZI Mazidag 5.29 307 P **Pn 16 38 49.6 -1.4**
KRSH Karshahi 5.30 93 Pn **Pn 16 38 53.8 +2.6**
NARAR Arar 5.32 234 P **Pn 16 38 50.5 -0.9**
NARAR Arar 5.32 234 S **Sn 16 39 48.4 -3.9**
ABEH Behbahan 5.35 134 Pn **Pn 16 38 53.3 +1.6**
ISFB Sefidab 5.36 88 Pn **Pn 16 38 53.3 +1.4**
MLAZ Malazgirt-MUS 5.41 332 P **Pn 16 38 53.8 +1.2**
SRFHA Rafha 5.42 191 S **Sn 16 39 52.8 -1.8**
SRFHA Rafha 5.42 191 P **Pn 16 38 52.9 +0.3**
IGAR Gharneh 5.61 109 Pn **Pn 16 38 57.0 +1.5**
AGRB Hanur-Agry 5.64 338 P **Pn 16 38 57.1 +1.3**
IZEF Zefreh 5.68 103 Pn **Pn 16 38 57.3 +0.9**
IPRN Peran 5.69 69 Pn **Pn 16 38 59.3 +2.8**
TASB TASBURUN-IGDIR 5.72 348 P **Pn 16 38 59.6 +2.7**
DYBB Diyarbakir 5.78 310 P **Pn 16 38 56.8 -0.8**
GNI Garni 5.82 352 P **Pn 16 39 00.9 +2.7**
GNI Garni 5.82 352 Pn **Pn 16 38 58.9 +0.6**
GNI Garni 5.82 352 P **Pn 16 39 02.2 +4.0**
GNI Garni 5.82 352 Pn **Pn 16 39 01.1 +2.9**
comp=N,36nm,0.3s,baz=194,slow=1.4,SNR=217
GNI Lg Lg 16 40 36.7
baz=288,slow=15
GNI LR LR 16 40 48.7
comp=N,60μm,18.3s,baz=168,slow=34
comp=N,864nm,0.8s
GNI Garni 5.82 352 P **Pn 16 39 01.7 +3.5**
GNI P **Pn 16 39 01.7 +3.5**
GNI S **Sb 16 40 16.0 -7.1**
GNI S **Sb 16 40 16.0 -7.1**
GNI Garni 5.82 352 ⇑P **Pn 16 39 01.1 +2.9**
IFIR Firoozkooh 5.88 76 Pn **Pn 16 39 01.3 +2.1**
VRTB Varto-Mus 5.89 325 P **Pn 16 39 00.2 +1.0**
KLNJ Kolanjah 5.96 123 Pn **Pn 16 39 01.7 +1.4**
ILAS Lasjerd 6.00 78 Pn **Pn 16 39 02.0 +1.1**
IALA Alasht 6.02 72 Pn **Pn 16 39 03.7 +2.5**
BNGB Bingl 6.15 320 P **Pn 16 39 02.7 0.0**
KARO Karliova-Bingo 6.20 324 P **Pn 16 39 04.0 +0.5**
TRAF Turaif 6.22 242 S **Sn 16 40 10.3 -4.2**
TRAF Turaif 6.22 242 P **Pn 16 39 01.1 -2.6**
WELAS Turaif 6.30 248 S **Sn 16 40 14.1 -2.4**
WELAS Turaif 6.30 248 P **Pn 16 39 03.2 -1.7**
URFA Urfa 6.40 300 P **Pn 16 39 05.4 -0.8**
KOPR Koprukoy-ERZUR 6.41 332 P **Pn 16 39 08.5 +2.1**
KFJS2 Khafji 6.42 159 S **Sn 16 40 17.9 -1.4**
KFJS2 Khafji 6.42 159 P **Pn 16 39 06.7 +0.4**
SVRC Sivrice-ELAZID 6.56 309 *e*P **Pn 16 39 07.2 -1.2**
KARS Kars 6.59 342 P **Pn 16 39 11.6 +2.8**
KARS Kars 6.59 342 Pn **Pn 16 39 10.1 +1.3**
KARS Kars 6.59 342 ⇑P **Pn 16 39 11.8 +3.0**
KARS Kars 6.59 342 P **Pn 16 39 10.1 +1.3**
IKIA Kiasar 6.74 72 Pn **Pn 16 39 13.5 +2.6**
SENK Senkaya-Erzuru 6.74 337 P **Pn 16 39 13.3 +2.4**
ANAR Anarak 6.74 98 Pn **Pn 16 39 11.7 +0.7**
IANJ Anjilo 6.79 78 Pn **Pn 16 39 12.6 +1.0**
PTK Pertek 6.82 313 P **Pn 16 39 11.4 -0.6**
KAZ2 Kazeron-Fars-I 6.91 132 Pn **Pn 16 39 13.6 +0.4**
IGLO Ghaloghah 6.92 70 Pn **Pn 16 39 16.5 +3.1**
ASYS 6.96 190 P **Pn 16 39 15.0 +1.2**
ISAD Sadrabad 7.09 108 Pn **Pn 16 39 16.6 +0.8**
ERZN Erzincan 7.09 319 *e*P **Pn 16 39 15.8 +0.1**
AKH Akhalkalaki 7.24 346 P **Pn 16 39 21.3 +3.5**
AHBU AHRAM 7.25 138 Pn **Pn 16 39 18.0 +0.3**
AKT Akhty 7.26 12*c i*P **Pn 16 39 20.4 +2.4**
AKT *e*S **Sn 16 40 46.1 +6.1**
AKT pmax pmax
comp=Z,582nm,0.7s
AKT MLR MLR
comp=Z,236μm,15.0s
TBLG Delisi 7.38 354 P **Pn 16 39 22.9 +3.3**
SHI Shiraz 7.43 128 Pn **Pn 16 39 21.4 +1.0**
BAYT Aydıntepe-Bayb 7.48 325 *e*P **Pn 16 39 22.5 +1.4**
GAZ Gaziantep 7.48 294 Pn **Pn 16 39 20.8 -0.3**
GAZ Gaziantep 7.48 294 ⇑P **Pn 16 39 19.9 -1.1**
ICHK Chekchek 7.55 104 Pn **Pn 16 39 22.6 +0.5**
ARPR Arapgir-MALATY 7.59 310 *e*P **Pn 16 39 22.5 0.0**
DSBU Dashti - Bushe 7.62 140 Pn **Pn 16 39 23.1 +0.2**
ASF Jabal al Asfar 7.74 256 Pn **Pn 16 39 23.2 -1.3**
comp=Z,29nm,0.3s,baz=205,slow=0.0,SNR=96
ASF Lg Lg 16 41 32.4
comp=Z,172nm,0.3s,SNR=4.6
comp=Z,479nm,0.9s
ASF Jabal al Asfar 7.74 256 P **Pn 16 39 23.0 -1.5**
BCA Borcka 7.77 336 *e*P **Pn 16 39 27.4 +2.5**
CHOM Cayeli-Rize 7.79 331 *e*P **Pn 16 39 27.3 +2.2**
BATM Batumi 7.89 337 *e*P **Pn 16 39 29.1 +2.5**
BEIL Beino 7.91 274 *e*P **Pn 16 39 26.3 -0.5**
IMEH Mehriz 8.02 109 Pn **Pn 16 39 28.4 -0.2**
TAHT Tahtakopru-Hat 8.07 287 *e*P **Pn 16 39 27.4 -1.6**
HWQ Hawqa 8.12 272 *e*P Pn 16 39 38.3 +8.5
KTUT Trabzon 8.13 326 P **Pn 16 39 30.7 +1.0**
ZAHL Zahle 8.20 269 *e*P **Pn 16 39 31.5 +0.6**
HIL03 Ash Shuqayq 8.28 212 P **Pn 16 39 28.3 -3.8**
RCY Rachaya 8.29 267 *e*P **Pn 16 39 31.2 -1.0**
HSUJ Al Zarqa 8.32 257 P **Pn 16 39 33.3 +0.7**
IMND Minoodasht 8.35 67 Pn **Pn 16 39 34.6 +1.8**
BHL Bhannes 8.39 270 *e*P Pn 16 39 43.1 +10
SHBL Chebaa 8.39 266 *e*P **Pn 16 39 33.0 -0.6**
KSHT Keshet 8.40 263 P **Pn 16 39 32.1 -1.6**
QRWL Qaraoun 8.41 267 *e*P **Pn 16 39 33.5 -0.3**
NATI Neve Ativ 8.41 265 P **Pn 16 39 32.0 -1.7**
NATI Neve Ativ 8.41 265 P **Pn 16 39 32.0 -1.7**
DQRL Deir Qamar 8.48 268 *e*P **Pn 16 39 35.6 +0.9**
GEM Giv'at Ha'Em 8.48 265 P **Pn 16 39 33.5 -1.2**
GEM Giv'at Ha'Em 8.48 265 ⇑P **Pn 16 39 33.1 -1.6**
GEM Giv'at Ha'Em 8.48 265 P **Pn 16 39 32.6 -2.0**
SHMJ Saham 8.50 262 P **Pn 16 39 34.9 0.0**
BEYL Beirut 8.53 269 *e*P **Pn 16 39 37.0 +1.7**
CEYT Ceyhan 8.55 291 *e*P **Pn 16 39 35.5 -0.1**
QIR1 Qir 8.56 131 Pn **Pn 16 39 35.7 -0.2**
ESPY Espiye-Giresun 8.58 322 *e*P **Pn 16 39 37.2 +1.2**
MAK Makhachkala 8.68 9*c i*P Pn 16 39 42.1 +4.8
MAK *e*S Sn 16 41 27.0 +12
MAK pmax pmax
comp=Z,2μm,0.9s
MAK MLR MLR
comp=Z,167μm,13.0s
MMA0 Mount Meron ar 8.73 264 P **Pn 16 39 37.7 -0.5**
MMA0B Mount Meron ar 8.73 264 P **Pn 16 39 36.2 -2.0**
MMAI Mount Meron Ar 8.73 264 Pn **Pn 16 39 37.1 -1.1**
comp=Z,25nm,0.3s,baz=81,slow=15,SNR=102
MMAI Lg Lg 16 42 05.5
comp=Z,220nm,0.3s,baz=111,slow=34,SNR=2.1
MMAI LR LR 16 43 43.2
comp=Z,64μm,19.3s,baz=30,slow=43
comp=Z,34nm,0.4s
SWQJ Swaqa 8.74 252 P **Pn 16 39 37.1 -1.2**
QRNJ Al-Qirein 8.76 259 P **Pn 16 39 37.7 -0.7**
HMDT Nahal Hemdat 8.82 259 P **Pn 16 39 38.6 -0.7**
HMDT Nahal Hemdat 8.82 259 P **Pn 16 39 37.5 -1.8**
MMLI Mount Malkishu 8.85 260 P **Pn 16 39 38.4 -1.4**
JHRM Jahrom 8.88 129 Pn **Pn 16 39 39.5 -0.7**

ETH05 ETH05 8.89 214 P **Pn 16 39 36.1 -4.3**
HNTI Hanita 8.91 265 P **Pn 16 39 40.8 +0.3**
HNTI Hanita 8.91 265 P **Pn 16 39 39.0 -1.5**
SVSK Karacayir 8.91 311 *e*P **Pn 16 39 40.2 -0.3**
ETH04 ETH04 8.95 212 P **Pn 16 39 36.8 -4.4**
UJAP Al Uja 8.96 257 P **Pn 16 39 40.5 -0.7**
BLGI Bet Lehem HaGe 8.97 262 P **Pn 16 39 42.2 +0.9**
BLGI Bet Lehem HaGe 8.97 262 P **Pn 16 39 39.2 -2.1**
MRVT Maraveh tapeh 8.99 66 Pn **Pn 16 39 43.8 +2.1**
RSDY Resadiye-TOKAT 9.00 314 *e*P **Pn 16 39 42.6 +0.8**
TNSJ Nastanj 9.00 90 Pn **Pn 16 39 42.6 +0.7**
BOQSS 9.04 159 P **Pn 16 39 41.8 -0.5**
GHAJ Ghor Haditha 9.10 253 Pn **Pn 16 39 41.6 -1.5**
GHAJ Ghor Haditha 9.10 253 P **Pn 16 39 41.9 -1.3**
GHAJ Ghor Haditha 9.10 253 P **Pn 16 39 40.7 -2.5**
HIL01 Al Amaaer 9.12 202 P **Pn 16 39 40.7 -2.8**
BNN Bunyan 9.13 302 Pn **Pn 16 39 44.1 +0.5**
BNN Bunyan 9.13 302 ⇑P **Pn 16 39 44.0 +0.3**
SALP Salfit 9.14 258 P **Pn 16 39 46.0 +2.2**
SALP Salfit 9.14 258 ⇓P **Pn 16 39 42.1 -1.7**
DSI Dead Sea 9.15 255 P **Pn 16 39 43.2 -0.7**
DSI Dead Sea 9.15 255 P **Pn 16 39 41.2 -2.7**
OFRI `Ofer 9.16 262 P **Pn 16 39 45.9 +1.8**
OFRI `Ofer 9.16 262 P **Pn 16 39 42.0 -2.1**
ETH06 ETH06 9.20 215 P **Pn 16 39 40.0 -4.6**
LISJ El Lisan 9.20 253 P **Pn 16 39 43.6 -0.8**
TPRV Parvadeh(Tabas 9.21 95 Pn **Pn 16 39 45.3 +0.6**
SLTI Sal'it 9.22 260 P **Pn 16 39 44.5 -0.3**
SLTI Sal'it 9.22 260 P **Pn 16 39 43.1 -1.7**
NCK Nalchik 9.26 350*c i*P **Pn 16 39 50.0 +4.7**
MDBI Mazsada 9.27 254 P **Pn 16 39 46.5 +1.1**
MSBI Mazada 9.27 254 P **Pn 16 39 44.7 -0.7**
MSBI Mazada 9.27 254 ⇓P **Pn 16 39 43.7 -1.7**
MSBI Mazada 9.27 254 P **Pn 16 39 42.8 -2.6**
TAPT Tabas- Tapeh t 9.41 84 Pn **Pn 16 39 48.6 +1.0**
TOKT Tokat 9.43 312 *e*P **Pn 16 39 47.8 +0.1**
YTIR Yattir 9.44 254 P **Pn 16 39 48.7 +0.8**
YTIR Yattir 9.44 254 P **Pn 16 39 46.2 -1.7**
HSNJ Maan 9.46 247 P **Pn 16 39 47.3 -0.9**
TKDS Koohdasht(Taba 9.47 91 Pn **Pn 16 39 49.3 +1.0**
LMD1 Lamerd 9.47 136 Pn **Pn 16 39 48.4 +0.1**
MERS Mersin 9.48 288 *e*P **Pn 16 39 47.8 -0.6**
AMAZ Amatzia 9.54 256 P **Pn 16 39 50.4 +1.2**
AMAZ Amatzia 9.54 256 ⇑P **Pn 16 39 48.0 -1.2**
AMAZ Amatzia 9.54 256 P **Pn 16 39 47.8 -1.4**
EREN Erenkoy 9.58 280 *e*P **Pn 16 39 47.9 -1.8**
KBZ Khabaz 9.60 347 Pn **Pn 16 39 54.0 +4.1**
comp=Z,9.6nm,0.3s,baz=170,slow=8.8,SNR=476
comp=Z,1μm,1.0s
KBZ Khabaz 9.60 347 P **Pn 16 39 54.0 +4.1**
SHMA Al-Shehemyia 9.61 151 P **Pn 16 39 49.1 -1.0**
SNR=30
SHMA S Sn 16 41 28.1 -10
SHA1 Shidzhatmaz 9.65 346 *i* P **Pn 16 39 53.9 +3.0**
ZRDN Zarand Kerman 9.70 108 Pn **Pn 16 39 51.6 0.0**
KIZK Mersin 9.71 286 *e*P **Pn 16 39 49.9 -1.5**
ZFRI Zfri 9.71 250 P **Pn 16 39 52.5 +1.0**
ZFRI Zfri 9.71 250 P **Pn 16 39 49.4 -2.1**
DWDS Al Duwadimi 9.84 185 P **Pn 16 39 50.0 -3.3**
KVAR Kislovodsk Arr 9.85 347 LR LR 16 43 26.8
comp=Z,95μm,20.8s,baz=38,slow=36
KIV Kislovodsk 9.86 347 *i* P **Pn 16 39 58.3 +4.7**
SNR=1069
KIV Kislovodsk 9.86 347 P Pn 16 39 58.7 +5.1
KIV P Pn 16 39 58.7 +5.1
KIV P Pn 16 39 58.7 +5.1
KIV S Sn 16 41 54.0 +10
KIV S Sn 16 41 54.0 +10
KIV S Sn 16 41 54.0 +10
KIV Kislovodsk 9.86 347 ⇑P Pn 16 39 58.6 +5.1
KIV Kislovodsk 9.86 347 *e*P **Pn 16 39 56.4 +2.9**
KIV *e*S **Sn 16 41 49.3 +5.5**
KIV pmax pmax
comp=Z,5μm,1.0s
KIV MLR MLR
comp=Z,41μm,12.0s
YOZ Yozgat 9.86 305 *e*P **Pn 16 39 53.7 +0.1**
SILI Silifke-Mersin 9.86 285 *e*P **Pn 16 39 51.6 -2.0**
SBZV Sabzevar 9.88 75 Pn **Pn 16 39 56.3 +2.2**
KHGB Koh Gabri 9.90 111 Pn **Pn 16 39 54.1 -0.3**
PRNI Paran 9.94 249 P **Pn 16 39 54.0 -0.7**
PRNI Paran 9.94 249 P **Pn 16 39 52.8 -1.8**
LAR1 LAR 9.97 130 Pn **Pn 16 39 53.9 -1.1**
IKL Isikli 10.04 284 *e*P **Pn 16 39 54.6 -1.4**
KEBE Keben-Mersin 10.04 285 *e*P **Pn 16 39 54.5 -1.6**
HRFI Mount Harif 10.06 247 S **Sn 16 41 45.9 -2.9**
HRFI Mount Harif 10.06 247 P **Pn 16 39 53.8 -2.5**
VSLR Vesyoloye 10.10 336*c i*P **Pn 16 39 59.7 +2.9**
AKKU Akkuyu-Mersin 10.14 284 *e*P **Pn 16 39 55.5 -1.8**
KZIT Kziot 10.18 253 ⇓P **Pn 16 39 58.7 +0.7**
KZIT Kziot 10.18 253 ⇓P **Pn 16 39 56.5 -1.5**
KZIT Kziot 10.18 253 P **Pn 16 39 55.9 -2.1**
KVT Kavak 10.19 314 *e*P **Pn 16 39 59.1 +1.0**
AQBJ Aqaba 10.20 246 P **Pn 16 39 56.7 -1.5**
CSS Mathiatis 10.25 277 Pn **Pn 16 40 00.0 +1.1**
CSS Mathiatis 10.25 277 P **Pn 16 40 03.1 +4.2**
CSS Mathiatis 10.25 277 ⇓P **Pn 16 39 56.1 -2.8**
KRMI Paran Flat 10.26 249 P **Pn 16 39 56.9 -2.2**
MBRI Mt Berech 10.27 247 P **Pn 16 39 58.5 -0.7**
MBRI Mt Berech 10.27 247 P **Pn 16 39 57.2 -2.1**
EIL Elat 10.30 246 Pn **Pn 16 39 57.4 -2.2**
comp=Z,22nm,0.3s,baz=42,slow=6.2,SNR=104
EIL Lg Lg 16 42 55.6
comp=Z,81nm,0.3s,baz=255,slow=20,SNR=3.8
EIL LR LR 16 44 52.0
comp=Z,42μm,20.7s,baz=67,slow=43
comp=Z,346nm,0.8s
EIL Elat 10.30 246 P **Pn 16 39 57.7 -1.9**
EIL Elat 10.30 246 ⇑P **Pn 16 39 57.1 -2.5**
EIL Elat 10.30 246 P **Pn 16 39 56.9 -2.7**
TVBK TV Kerman 10.30 112 Pn **Pn 16 39 59.9 0.0**
ISFR Sfrayin 10.31 71 Pn **Pn 16 40 01.9 +2.0**
SOC Sochi 10.32 335 *e*P **Pn 16 39 58.2 -1.6**
SOC *e* 16 41 55.4
SOC pmax pmax
comp=Z,4μm,0.9s
SOC MLR MLR
comp=Z,67μm,15.0s
NGRK Negar Kerman 10.44 114 Pn **Pn 16 40 02.3 +0.4**
KRM1 Kerman Provinc 10.47 108 Pn **Pn 16 40 01.6 -0.5**
SMRA Abu-Samra 10.56 154 P **Pn 16 40 01.4 -1.8**
SNR=108
SMRA S **Sn 16 41 56.0 -5.1**
CORM Corum 10.58 306 *e*P **Pn 16 40 04.5 +0.9**
SULT Sultanhani-AKS 10.59 295 *e*P **Pn 16 40 04.7 +1.1**
AFFS `Afif 10.69 194 P Pn 16 39 54.9 -10
TRNA Turayna 10.72 152 P **Pn 16 40 04.0 -1.3**
SNR=137
TRNA P **Pn 16 40 04.0 -1.3**
SNR=137
TRNA S **Sn 16 41 58.9 -5.9**
RAYN Ar Rayn 10.82 181 Pn **Pn 16 40 03.7 -3.1**
RAYN Ar Rayn 10.82 181 *i* P **Pn 16 40 03.7 -3.1**
SNR=623
RAYN Ar Rayn 10.82 181 P **Pn 16 40 04.0 -2.8**
RAYN S **Sn 16 42 03.3 -4.3**
RAYN Ar Rayn 10.82 181 ⇑P **Pn 16 40 03.1 -3.7**
RAYN Ar Rayn 10.82 181 P **Pn 16 40 03.7 -3.1**
IAKL Akhelmad 10.83 74 Pn **Pn 16 40 09.4 +2.3**
KAMT Kaman 10.85 301 *e*P **Pn 16 40 07.8 +0.6**
IEMG Emamgholi 10.89 70 Pn **Pn 16 40 10.5 +2.6**
ITEG Tejag 10.93 94 Pn **Pn 16 40 09.4 +1.0**
CHMN Cheshme madani 10.96 111 Pn **Pn 16 40 10.1 +1.1**
LABN Labinsk 10.96 341*c i*P **Pn 16 40 12.8 +4.3**
LABN *e*S Sn 16 42 21.2 +11
LABN pmax pmax
comp=E,3μm,2.4s
LABN pmax pmax
comp=N,3μm,2.3s
LABN pmax pmax
comp=Z,4μm,1.9s
LABN MLR MLR
comp=N,438μm,11.0s
LABN MLR MLR
comp=Z,165μm,14.0s
LABN MLR MLR
comp=E,208μm,11.0s
IPAY Payeh 11.00 75 Pn **Pn 16 40 11.1 +1.7**
DIKM Dikmen 11.01 314 *e*P **Pn 16 40 10.8 +1.6**
BR131 Keskin Array S 11.05 302 *e*P **Pn 16 40 10.4 +0.4**
BR131 Keskin Array S 11.05 302 **Pn 16 40 10.6 +0.7**
BR131 Keskin Array S 11.05 302 P **Pn 16 40 10.6 +0.7**

BRTR Keskin Array B 11.05 302 **Pn 16 40 10.7 +0.7**
BRTR Keskin Array B 11.05 302 Pn **Pn 16 40 10.4 +0.4**
comp=E,1.2nm,0.3s,baz=122,slow=12,SNR=103
BRTR LR LR 16 45 24.5
comp=E,74μm,20.5s,baz=112,slow=43
BRTR Keskin Array B 11.05 302 P **Pn 16 40 10.7 +0.7**
AFRZ Afriz 11.06 91 Pn **Pn 16 40 10.9 +0.8**
HDMB Hadim 11.10 287 *e*P **Pn 16 40 10.7 0.0**
TBHD Torbat heydari 11.12 81 Pn **Pn 16 40 13.7 +2.7**
CHBY Cihanbeyli 11.17 296 *e*P **Pn 16 40 10.5 -1.1**
JRN Qarnain Island 11.24 145 P **Pn 16 40 11.6 -0.9**
SNR=17
JRN S **Sn 16 42 12.1 -5.7**
IMOG Moghan 11.24 77 Pn **Pn 16 40 15.3 +2.6**
KULU Kulu 11.24 298 *e*P **Pn 16 40 13.0 +0.4**
IKOO Kooshah 11.24 96 Pn **Pn 16 40 14.6 +1.8**
SNOP Sinop 11.27 316 *e*P **Pn 16 40 15.8 +3.1**
GENO Geno 11.33 125 Pn **Pn 16 40 12.9 -1.0**
KONT Konya--Tatoy 11.40 292 *e*P **Pn 16 40 18.2 +3.6**
IKRD Kardeh 11.46 74 Pn **Pn 16 40 18.4 +2.7**
LADK Ladik-KONYA 11.46 293 *e*P **Pn 16 40 18.6 +3.1**
CANT Cankiri 11.46 306 *e*P **Pn 16 40 15.9 +0.3**
SLWR Sila 11.50 152 P **Pn 16 40 14.6 -1.5**
SLWR P **Pn 16 40 14.6 -1.5**
SLWR P **Pn 16 40 14.6 -1.5**
SLWR S **Sn 16 42 18.1 -6.0**
SLWR S **Sn 16 42 18.1 -6.0**
SLWR S **Sn 16 42 18.1 -6.0**
IBND Bandar-abas 11.55 124 Pn **Pn 16 40 15.3 -1.4**
ANTO Ankara 11.70 302 **Pn 16 40 19.1 +0.3**
ANTO Ankara 11.70 302 P Pn 16 40 23.9 +5.0
ANTO P Pn 16 40 23.9 +5.0
ANTO P Pn 16 40 23.9 +5.0
ANTO Ankara 11.70 302 ⇑P **Pn 16 40 21.7 +2.8**
ANTO Ankara 11.70 302 ⇑P **Pn 16 40 21.6 +2.8**
ANTO Ankara 11.70 302 P Pn 16 40 24.5 +5.7
IMYA Miami 11.88 76 Pn **Pn 16 40 23.6 +2.3**
IDAH Dahanechah 11.89 94 Pn **Pn 16 40 21.6 0.0**
BZK Bozkurt 11.94 313 *e*P **Pn 16 40 25.5 +3.5**
BZK Bozkurt 11.94 313 ⇑P **Pn 16 40 24.1 +2.1**
BZK Bozkurt 11.94 313 ⇑P **Pn 16 40 25.2 +3.2**
KBAM BAM 12.00 112 Pn **Pn 16 40 22.6 -0.3**
TBJM Torbat-e-JAM 12.01 82 Pn **Pn 16 40 25.3 +2.1**
ERBR Yeremizino-Bor 12.02 342*c i*P **Pn 16 40 27.0 +4.0**
ERBR *e*S Sn 16 42 46.2 +10
ERBR pmax pmax
comp=E,830nm,1.7s
ERBR pmax pmax
comp=Z,9μm,1.7s
ERBR pmax pmax
comp=N,2μm,1.6s
ERBR MLR MLR
comp=E,95μm,11.0s
ERBR MLR MLR
comp=Z,125μm,16.0s
ERBR MLR MLR
comp=N,131μm,16.0s
KHNJ Kahnooj 12.07 119 Pn **Pn 16 40 22.3 -1.5**
SHRT Shahrakht 12.09 89 Pn **Pn 16 40 24.7 +0.6**
ANN Anapa 12.22 331*c i*P **Pn 16 40 29.4 +3.6**
ANN *e*S Sn 16 42 52.2 +11
ANN pmax pmax
comp=Z,4μm,2.0s
ANN pmax pmax
comp=N,3μm,2.1s
ANN pmax pmax
comp=E,1μm,1.9s
ANN MLR MLR
comp=Z,67μm,14.0s
ANN MLR MLR
comp=N,60μm,13.0s
SHME Shamm 12.22 130 *i* P **Pn 16 40 25.2 -0.7**
SNR=115
SHME Shamm 12.22 130 P **Pn 16 40 24.5 -1.4**
SNR=95
SHME P **Pn 16 40 24.5 -1.4**
SNR=95
SHME S **Sn 16 42 34.4 -7.4**
SHME S **Sn 16 42 34.4 -7.4**
UMQ Umm Al-Quwin 12.31 133 *i* P **Pn 16 40 25.8 -1.2**
SNR=43
UMQ Umm Al-Quwin 12.31 133 P **Pn 16 40 27.4 +0.3**
SNR=53
UMQ S **Sn 16 42 38.4 -5.4**
NHDN Nehbandan 12.38 100 Pn **Pn 16 40 29.1 +1.0**
BANOM Banah 12.41 130 *i* P **Pn 16 40 26.6 -1.9**
SNR=186
BANOM Banah 12.41 130 P **Pn 16 40 27.4 -1.1**
BANOM S **Sn 16 42 37.7 -8.7**
CIDE Kastamonu/Cide 12.55 310 ⇑P **Pn 16 40 32.5 +2.2**
AJN Ajban 12.65 138 *i* P **Pn 16 40 29.9 -1.9**
SNR=169
AJN Ajban 12.65 138 P **Pn 16 40 31.0 -0.8**
SNR=169
AJN P **Pn 16 40 31.0 -0.8**
SNR=169
AJN P **Pn 16 40 31.0 -0.8**
SNR=169
AJN S **Sn 16 42 45.7 -6.7**
SNR=8.1
AJN S **Sn 16 42 45.7 -6.7**
SNR=8.1
AJN S **Sn 16 42 45.7 -6.7**
SNR=8.1
KURC Kurucasile-Bar 12.66 310 *e*P **Pn 16 40 35.4 +3.6**
NAZ Nazwa, Dubai 12.71 135 *i* P **Pn 16 40 30.6 -2.0**
SNR=490
NAZ Nazwa, Dubai 12.71 135 P **Pn 16 40 32.1 -0.5**
SNR=479
NAZ P **Pn 16 40 32.1 -0.5**
SNR=479
NAZ P **Pn 16 40 32.1 -0.5**
SNR=479
NAZ S **Sn 16 42 46.4 -7.3**
SNR=9.6
NAZ S **Sn 16 42 46.4 -7.3**
SNR=9.6
NAZ S **Sn 16 42 46.4 -7.3**
SNR=9.6
MASF Masafi 12.72 132 P **Pn 16 40 31.6 -1.2**
SNR=643
MASF P **Pn 16 40 31.6 -1.2**
SNR=643
MASF S **Sn 16 42 45.6 -8.5**
MASF S **Sn 16 42 45.6 -8.5**
MSFE Esma-Masafi 12.73 132 *i* P **Pn 16 40 30.5 -2.4**
SNR=129
ISP Isparta 12.79 290 **Pn 16 40 34.0 +0.3**
ISP Isparta 12.79 290 ⇓P **Pn 16 40 37.0 +3.3**
ISP Isparta 12.79 290*ce*P **Pn 16 40 34.9 +1.2**
ISP pmax pmax
comp=Z,1μm,1.3s
ASUD Al Ashush, Dub 12.80 137 *i* P **Pn 16 40 31.4 -2.3**
SNR=134
ASUD Al Ashush, Dub 12.80 137 P **Pn 16 40 33.1 -0.6**
SNR=132
ASUD P **Pn 16 40 33.1 -0.6**
SNR=132
ASUD S **Sn 16 42 50.8 -5.0**
ASUD S **Sn 16 42 50.8 -5.0**
FAQ Al Faqa, Dubai 12.85 136 *i* P **Pn 16 40 31.9 -2.6**
SNR=158
FAQ Al Faqa, Dubai 12.85 136 P **Pn 16 40 33.6 -1.0**
SNR=121
FAQ P **Pn 16 40 33.6 -1.0**
SNR=121
FAQ S **Sn 16 42 49.3 -7.9**
SNR=6.2
FAQ S **Sn 16 42 49.3 -7.9**
SNR=6.2
MDH Madha 12.86 132 *i* P **Pn 16 40 32.2 -2.4**
SNR=67
MDH Madha 12.86 132 P **Pn 16 40 33.0 -1.7**
SNR=478
MDH P **Pn 16 40 33.0 -1.7**
SNR=478
MDH P **Pn 16 40 33.0 -1.7**
SNR=478
MDH S **Sn 16 42 48.5 -8.9**
MDH S **Sn 16 42 48.5 -8.9**
MDH S **Sn 16 42 48.5 -8.9**
MDUB Mudurnu 13.07 302 **Pn 16 40 38.3 +0.8**
MDUB Mudurnu 13.07 302 ⇑P **Pn 16 40 40.5 +3.0**
HATD Hatta, Dubai 13.11 134 *i* P **Pn 16 40 35.0 -3.0**
SNR=202

HATD	**Hatta, Dubai**	**13.11 134**	P	**Pn**	**16 40 36.3**	**-1.7**
	SNR=823					
HATD			P	**Pn**	**16 40 36.3**	**-1.7**
	SNR=823					
HATD			P	**Pn**	**16 40 36.3**	**-1.7**
	SNR=823					
HATD			S	**Sn**	**16 42 55.1**	**-8.4**
HATD			S	**Sn**	**16 42 55.1**	**-8.4**
HATD			S	**Sn**	**16 42 55.1**	**-8.4**
ELL	**Elmali**	**13.12 285**		**Pn**	**16 40 38.8**	**+0.6**
ELL	**Elmali**	**13.12 285**	⇓P	**Pn**	**16 40 39.6**	**+1.3**
ELL	**Elmali**	**13.12 285**	P	**Pn**	**16 40 38.8**	**+0.6**
ASHO	**Ashiyiah**	**13.17 134**	*i* P	**Pn**	**16 40 36.0**	**-2.9**
	SNR=1027					
ASHO	**Ashiyiah**	**13.17 134**	P	**Pn**	**16 40 37.0**	**-2.0**
	SNR=436					
ASHO			P	**Pn**	**16 40 37.0**	**-2.0**
	SNR=436					
ASHO			S	**Sn**	**16 42 56.4**	**-8.7**
ASHO			S	**Sn**	**16 42 56.4**	**-8.7**
MZR	**Muzera**	**13.20 147**	*i* P	**Pn**	**16 40 36.8**	**-2.5**
	SNR=34					
MZR	**Muzera**	**13.20 147**	P	**Pn**	**16 40 37.5**	**-1.8**
	SNR=427					
MZR			P	**Pn**	**16 40 37.5**	**-1.8**
	SNR=427					
MZR			S	**Sn**	**16 42 57.9**	**-7.8**
MZR			S	**Sn**	**16 42 57.9**	**-7.8**
KDZE	**Karadeniz Ereo**	**13.25 306**	⇑P	**Pn**	**16 40 42.4**	**+2.5**
KSL	**Kastellorizon**	**13.34 282**	P	**P**	**16 40 48.1**	**-2.5**
KSL			S	**P**	**16 40 54.0**	**+3.4**
JASK	**Jask - Hormozg**	**13.47 126**	Pn	**Pn**	**16 40 40.1**	**-2.9**
JASK	**Jask - Hormozg**	**13.47 126**	P	**Pn**	**16 40 40.3**	**-2.8**
	SNR=81					
JASK			S	**Sn**	**16 43 04.4**	**-8.0**
ALNE	**Al Ain**	**13.48 137**	*i* P	**Pn**	**16 40 40.2**	**-2.9**
	SNR=95					
ALNE	**Al Ain**	**13.48 137**	P	**Pn**	**16 40 41.2**	**-1.9**
	SNR=93					
ALNE			P	**Pn**	**16 40 41.2**	**-1.9**
	SNR=93					
ALNE			S	**Sn**	**16 43 05.0**	**-7.6**
	SNR=7.9					
ALNE			S	**Sn**	**16 43 05.0**	**-7.6**
	SNR=7.9					
HRA	**Herat**	**13.62 85**		**Pn**	**16 40 46.5**	**+1.3**
ZHDN	**Zahedan**	**13.72 107**	Pn	**Pn**	**16 40 46.7**	**+0.2**
SIM	**Simferopol'**	**13.83 323**	*c i* P	**Pn**	**16 40 49.4**	**+1.6**
SIM			*e*S	**Sn**	**16 43 24.0**	**+3.0**
SIM			pmax	pmax		
	comp=Z,420nm,1.2s					
SIM			MLR	MLR		
	comp=Z,43μm,16.6s					
SOHO	**SOHO**	**13.87 135**	*i* P	**Pn**	**16 40 45.7**	**-2.7**
	SNR=125					
SOHO	**SOHO**	**13.87 135**	P	**Pn**	**16 40 46.0**	**-2.4**
SOHO			P	**Pn**	**16 40 46.0**	**-2.4**
SOHO			P	**Pn**	**16 40 46.0**	**-2.4**
SOHO			S	**Sn**	**16 43 13.8**	**-8.3**
SOHO			S	**Sn**	**16 43 13.8**	**-8.3**
SOHO			S	**Sn**	**16 43 13.8**	**-8.3**
UMZA	**Um Al Zommool**	**14.25 142**	P	**Pn**	**16 40 51.2**	**-2.5**
UMZA			P	**Pn**	**16 40 51.2**	**-2.5**
UMZA			S	Sn	16 43 21.3	-10
UMZA			S	Sn	16 43 21.3	-10
ARQ	**Araqi**	**14.48 137**	P	**Pn**	**16 40 54.6**	**-2.2**
	SNR=283					
ARQ			P	**Pn**	**16 40 54.6**	**-2.2**
	SNR=283					
ARQ			P	**Pn**	**16 40 54.6**	**-2.2**
	SNR=283					
ARQ			S	Sn	16 43 27.8	-9.1
ARQ			S	Sn	16 43 27.8	-9.1
ARQ			S	Sn	16 43 27.8	-9.1
ARG	**Arkhangelos**	**14.52 282**	⇓P	**Pn**	**16 40 56.5**	**-0.8**
ARG	**Arkhangelos**	**14.52 282**	P	**Pn**	**16 40 54.6**	**-2.6**
HOQ	**Hoqain**	**14.75 134**	Pn	**Pn**	**16 40 56.1**	**-4.4**
HOQ	**Hoqain**	**14.75 134**	P	**Pn**	**16 40 56.8**	**-3.7**
	SNR=135					
HOQ			P	**Pn**	**16 40 56.8**	**-3.7**
	SNR=135					
HOQ			S	Sn	16 43 33.7	-10
HOQ			S	Sn	16 43 33.7	-10
KLYT	**Kilyos**	**14.88 302**	P	**Pn**	**16 41 03.6**	**+1.6**
	comp=Z,953nm,1.0s,comp=Z,11μm					
BAND	**Balkesir-Ban**	**15.25 298**	⇑P	**Pn**	**16 41 08.9**	**+1.9**
BIDO	**Bidbid**	**15.29 132**	P	**Pn**	**16 41 04.7**	**-3.0**
	SNR=208					
BIDO			P	**Pn**	**16 41 04.7**	**-3.0**
	SNR=208					
BIDO			S	**Sn**	**16 43 46.8**	**-10**
BIDO			S	**Sn**	**16 43 46.8**	**-10**
KARP	**Karpathos**	**15.29 280**	Pn	**Pn**	**16 41 07.4**	**-0.3**
KARP	**Karpathos**	**15.29 280**	*e*P	**Pn**	**16 41 09.3**	**+1.6**
KARP	**Karpathos**	**15.29 280**	P	**Pn**	**16 41 07.9**	**+0.2**
KARP	**Karpathos**	**15.29 280**	⇓P	**Pn**	**16 41 05.9**	**-1.8**
KARP	**Karpathos**	**15.29 280**	P	**Pn**	**16 41 08.0**	**+0.3**
KARP	**Karpathos**	**15.29 280**	P	**Pn**	**16 41 08.6**	**+0.9**
	comp=Z,3μm,0.9s,comp=Z,27μm					
BSY	**Bisya**	**15.33 136**	P	**Pn**	**16 41 05.0**	**-3.2**
	SNR=511					
BSY			P	**Pn**	**16 41 05.0**	**-3.2**
	SNR=511					
BSY			P	**Pn**	**16 41 05.0**	**-3.2**
	SNR=511					
BSY			S	**Sn**	**16 43 47.8**	**-10**
BSY			S	**Sn**	**16 43 47.8**	**-10**
BSY			S	**Sn**	**16 43 47.8**	**-10**
CHBR	**Chabahar**	**15.46 121**	Pn	**Pn**	**16 41 05.4**	**-4.5**
CTYL	**Yalikoy Yolu**	**15.48 302**	P	**Pn**	**16 41 11.0**	**+0.9**
	comp=Z,536nm,1.0s,comp=Z,9μm					
SMDO	**Samad**	**15.59 133**	P	**Pn**	**16 41 08.3**	**-3.4**
	SNR=592					
SMDO			P	**Pn**	**16 41 08.3**	**-3.4**
	SNR=592					
SMDO			P	**Pn**	**16 41 08.3**	**-3.4**
	SNR=592					
SMDO			S	**Sn**	**16 43 54.1**	**-10**
SMDO			S	**Sn**	**16 43 54.1**	**-10**
SMDO			S	**Sn**	**16 43 54.1**	**-10**
SMG	**Samos**	**15.66 288**	P	**Pn**	**16 41 14.0**	**+1.5**
WSAR	**Wadi Sarin**	**15.81 131**	Pn	**Pn**	**16 41 12.0**	**-2.5**
	comp=Z,52nm,0.3s,baz=328,slow=9.5,SNR=241					
WSAR			Sn	Sn	16 43 57.4	-12
	comp=Z,94nm,0.3s,baz=157,slow=20,SNR=14					
WSAR			LR	LR	16 48 10.3	
	comp=Z,190μm,21.6s,baz=330,slow=40					
DKL	**Dikili**	**15.82 293**	⇑P	**Pn**	**16 41 15.4**	**+1.0**
SRVN	**Saravan**	**15.88 111**	Pn	**Pn**	**16 41 14.0**	**-1.4**
NGCH	**Negor - Chabah**	**16.07 120**	Pn	**Pn**	**16 41 15.2**	**-2.6**
NGCH	**Negor - Chabah**	**16.07 120**	P	**Pn**	**16 41 14.7**	**-3.1**
	SNR=36					
NGCH			S	Sn	16 44 04.7	-11
ZKR	**Zakros**	**16.08 278**	P	**P**	**16 41 19.8**	**-1.4**
JMDO	**Jabal Madar**	**16.14 135**	P	**Pn**	**16 41 14.6**	**-4.1**
	SNR=242					
JMDO			P	**Pn**	**16 41 14.6**	**-4.1**
	SNR=242					
JMDO			S	**Sn**	**16 44 10.9**	**-6.6**
JMDO			S	**Sn**	**16 44 10.9**	**-6.6**
MANR	**Mangalia**	**16.30 310**	⇑P	**Pn**	**16 41 20.2**	**-0.3**
EZN	**Ezine**	**16.42 295**	P	**Pn**	**16 41 23.1**	**+1.0**
	comp=Z,485nm,2.1s,comp=Z,11μm					
TSCT	**Constanta Port**	**16.43 312**	⇑P	**P**	**16 41 23.6**	**-1.2**
WBK	**Wadi Bani Khal**	**16.48 132**	Pn	**Pn**	**16 41 20.6**	**-2.5**
WBK	**Wadi Bani Khal**	**16.48 132**	P	**Pn**	**16 41 19.8**	**-3.4**
	SNR=40					
WBK			S	**Sn**	**16 44 16.1**	**-10**
PSN	**Preselentsi**	**16.50 309**	⇑*i*P	**Pn**	**16 41 22.0**	**-1.1**
MFTR	**Murfatlar**	**16.58 311**	⇑P	**Pn**	**16 41 24.0**	**-0.1**
JURR	**Jurilovca**	**16.61 314**	⇑P	**Pn**	**16 41 25.1**	**+0.6**
APE	**Apeiranthos**	**16.64 285**	*e*P	**Pn**	**16 41 26.2**	**+1.1**
APE	**Apeiranthos**	**16.64 285**	⇑P	**P**	**16 41 26.5**	**-0.9**
APE	**Apeiranthos**	**16.64 285**	⇓P	**Pn**	**16 41 24.0**	**-1.1**
APE	**Apeiranthos**	**16.64 285**	P	**P**	**16 41 26.5**	**-0.9**
APE	**Apeiranthos**	**16.64 285**	P	**Pn**	**16 41 24.6**	**-0.4**
CMBO	**Columbo, Santo**	**16.72 283**	P	**Pn**	**16 41 25.9**	**-0.1**
CAVK	**Edirne/Enez-Ca**	**16.75 298**	⇓P	**P**	**16 41 28.3**	**-0.2**
SAP3	**Santorini-Thir**	**16.77 283**	P	**Pn**	**16 41 26.4**	**-0.2**
TLCR		**16.88 315**	⇑P	**Pn**	**16 41 28.7**	**+0.8**
TLCR		**16.88 315**	P	**Pn**	**16 41 28.7**	**+0.8**
NEF	**NEVSHA**	**16.89 307**	⇑*i*P	**Pn**	**16 41 28.4**	**+0.3**
ALN	**Alexandroupoli**	**16.90 298**	⇑P	**Pn**	**16 41 28.4**	**+0.1**
TPGR	**Topolog**	**16.93 313**	⇑P	**Pn**	**16 41 28.6**	**0.0**
ICOR	**Ion Corvin**	**16.94 310**	⇑P	**Pn**	**16 41 28.6**	**-0.1**
TLBR	**Topalu**	**17.00 312**	⇑P	**P**	**16 41 30.6**	**-0.6**
VRH	**Novokhopyorsk**	**17.07 351**	*e*P	**Pn**	**16 41 28.4**	**-1.8**
VRH			*e*S	**Sn**	**16 44 40.6**	**+1.1**
VRH			pmax	pmax		
	comp=Z,5μm,1.6s					
VRH			MLR	MLR		
	comp=Z,33μm,16.0s					
JMB	**Yambol**	**17.08 304**	⇑*i*P	**Pn**	**16 41 30.1**	**-0.4**
PURM	**Purcari**	**17.09 320**	⇑P	**Pn**	**16 41 29.8**	**-0.7**
PURM	**Purcari**	**17.09 320**	P	**Pn**	**16 41 30.8**	**+0.2**
	comp=Z,3μm,1.1s,comp=Z,28μm					
JLN	**Jalan Bani Buh**	**17.10 132**	P	**Pn**	**16 41 27.0**	**-3.8**
	SNR=453					
JLN			P	**Pn**	**16 41 27.0**	**-3.8**
	SNR=453					
JLN			P	**Pn**	**16 41 27.0**	**-3.8**
	SNR=453					
JLN			S	Sn	16 44 28.0	-13
JLN			S	Sn	16 44 28.0	-13
JLN			S	Sn	16 44 28.0	-13
KHAM	**Kharkiv**	**17.10 339**	P	**Pn**	**16 41 31.5**	**+0.8**
HARR	**Harsova**	**17.14 312**	⇑P	**Pn**	**16 41 31.2**	**0.0**
HARR	**Harsova**	**17.14 312**	P	**Pn**	**16 41 31.2**	**0.0**
MHTO	**MHTO**	**17.15 138**	P	**Pn**	**16 41 27.6**	**-3.9**
	SNR=740					
MHTO			P	**Pn**	**16 41 27.6**	**-3.9**
	SNR=740					
MHTO			P	**Pn**	**16 41 27.6**	**-3.9**
	SNR=740					
MHTO			S	**Sn**	**16 44 31.8**	**-10**
	SNR=6.1					
MHTO			S	**Sn**	**16 44 31.8**	**-10**
	SNR=6.1					
MHTO			S	**Sn**	**16 44 31.8**	**-10**
	SNR=6.1					
IDI	**Anoyia**	**17.16 279**	Pn	**Pn**	**16 41 30.4**	**-1.2**
IDI	**Anoyia**	**17.16 279**	P	**Pn**	**16 41 31.3**	**-0.2**
IDI	**Anoyia**	**17.16 279**	P	**Pn**	**16 41 30.3**	**-1.2**
	comp=Z,104nm,0.7s,baz=76,slow=11,SNR=101					
IDI			LR	LR	16 50 11.7	
	comp=Z,34μm,18.3s,baz=82,slow=44					
IDI	**Anoyia**	**17.16 279**	P	**P**	**16 41 33.2**	**0.0**
VORD	**Divnogorie**	**17.23 346**	*e*P	**Pn**	**16 41 30.5**	**-1.8**
VORD			*e*S	**Sn**	**16 44 45.7**	**+2.2**
VORD			pmax	pmax		
	comp=Z,3μm,1.2s					
VORD			smax	smax		
	comp=N,3μm,5.4s					
VORD			MLR	MLR		
	comp=Z,11μm,10.0s					
CFR	**Carcaliu**	**17.27 314**	⇑P	**Pn**	**16 41 32.9**	**0.0**
CFR	**Carcaliu**	**17.27 314**	P	**Pn**	**16 41 32.9**	**0.0**
PLTM	**Poltava**	**17.32 335**	P	**Pn**	**16 41 33.5**	**+0.1**
RDO	**Rodhopi**	**17.34 299**	IAmb	IAmb	16 41 40.3	
	comp=Z,2μm,1.1s					
RDO	**Rodhopi**	**17.34 299**	⇑P	**Pn**	**16 41 34.0**	**+0.3**
DOK	**Doka**	**17.38 152**	P	**Pn**	**16 41 30.0**	**-4.4**
	SNR=93					
DOK			P	**Pn**	**16 41 30.0**	**-4.4**
	SNR=93					
DOK			P	**Pn**	**16 41 30.0**	**-4.4**
	SNR=93					
DOK			S	**Sn**	**16 44 36.9**	**-11**
DOK			S	**Sn**	**16 44 36.9**	**-11**
DOK			S	**Sn**	**16 44 36.9**	**-11**
GIUM	**Giurgiulesti**	**17.40 315**	⇑P	**Pn**	**16 41 34.9**	**+0.4**
AMRR	**Amara**	**17.47 311**	⇑P	**P**	**16 41 36.2**	**-0.3**
AMRR	**Amara**	**17.47 311**	P	**P**	**16 41 36.5**	**+0.1**
VSR	**Storozhevoye**	**17.50 346**	*e*P	**Pn**	**16 41 33.6**	**-2.0**
VSR			*e*S	**Sn**	**16 44 46.7**	**-3.2**
VSR			pmax	pmax		
	comp=Z,3μm,1.0s					
VSR			smax	smax		
	comp=N,3μm,5.1s					
VSR			MLR	MLR		
	comp=Z,85μm,19.0s					
TATR	**Tatarca**	**17.55 315**	⇑P	**Pn**	**16 41 36.5**	**+0.1**
KDZ	**Kurdzhali**	**17.62 300**	⇑*i*P	**Pn**	**16 41 37.4**	**+0.2**
NEGRR	**Negrea**	**17.62 315**	⇑P	**Pn**	**16 41 37.5**	**+0.3**
SCTR	**Scanteiesti**	**17.63 315**	⇑P	**Pn**	**16 41 37.3**	**0.0**
SCHL	**Schela**	**17.63 314**	⇑P	**Pn**	**16 41 37.6**	**+0.3**
VLDR	**Vladesti**	**17.68 316**	⇑P	**Pn**	**16 41 37.2**	**-0.6**
ELND	**Elena**	**17.69 305**	⇓P	**Pn**	**16 41 38.4**	**+0.3**
IZVR	**Izvoarele**	**17.69 314**	⇑P	**Pn**	**16 41 38.4**	**+0.4**
SLCR	**Slobozia Conac**	**17.71 315**	⇑P	**Pn**	**16 41 37.9**	**-0.4**
LEHL	**Lehliu**	**17.73 310**	⇓P	**P**	**16 41 40.0**	**+0.7**
SZH	**Strazhitsa**	**17.75 306**	⇑*i*P	**P**	**16 41 39.5**	**-0.1**
TUDR		**17.78 314**	⇑P	**Pn**	**16 41 38.8**	**-0.3**
VARL	**Varlezi**	**17.84 316**	⇑P	**Pn**	**16 41 39.5**	**-0.3**
GVD	**Gavdhos**	**17.84 278**	P	**P**	**16 41 43.4**	**+2.7**
WHFO	**Wadi Hawf**	**17.89 154**	P	**Pn**	**16 41 36.1**	**-4.6**
	SNR=221					
WHFO			P	**Pn**	**16 41 36.1**	**-4.6**
	SNR=221					
WHFO			S	**Sn**	**16 44 54.6**	**-5.2**
	SNR=10.0					
WHFO			S	**Sn**	**16 44 54.6**	**-5.2**
	SNR=10.0					
MILM	**Milestii Mici**	**17.90 319**	⇑P	**Pn**	**16 41 40.0**	**-0.6**
MILM	**Milestii Mici**	**17.90 319**	P	**Pn**	**16 41 40.1**	**-0.5**
VORR	**Voronezh**	**17.92 347**	*e*P	**Pn**	**16 41 39.8**	**-1.0**
VORR			*e*S	**Sn**	**16 45 00.0**	**-0.2**
VORR			pmax	pmax		
	comp=Z,2μm,0.7s					
VORR			smax	smax		
	comp=E,340nm,2.1s					
KIS	**Kishinev**	**17.95 320**	⇑P	**Pn**	**16 41 40.2**	**-1.0**
KIS	**Kishinev**	**17.95 320**	P	**Pn**	**16 41 40.2**	**-1.0**
KIS	**Kishinev**	**17.95 320**	P	**Pn**	**16 41 40.6**	**-0.6**
	comp=E,702nm,1.5s,comp=E,9μm					
PTL	**Penteli**	**18.03 288**	P	**P**	**16 41 45.8**	**+3.0**
BELG	**Belogornoye**	**18.06 4**	P	**Pn**	**16 41 40.9**	**-1.6**
	comp=E,1μm,0.7s,baz=184,slow=2.3,SNR=572					
BELG			S	**Sn**	**16 45 06.1**	**+2.7**
	comp=E,739nm,0.9s,baz=123,slow=21,SNR=6.4					
BELG	**Belogornoye**	**18.06 4**	*i* P	**Pn**	**16 41 41.0**	**-1.5**
BELG			pmax	pmax		
	comp=Z,1μm,1.2s					
BELG			MLR	MLR		
	comp=Z,8μm,16.0s					
RZN	**Rozhen**	**18.07 300**	⇑*i*P	**P**	**16 41 43.8**	**+0.5**
COSR	**Cosmesti PH**	**18.13 315**	⇑P	**Pn**	**16 41 43.4**	**0.0**
BAL3X	**Bal3x, Balta**	**18.15 323**	P	**P**	**16 41 44.3**	**+0.3**
SGRR	**Singureni**	**18.15 309**	⇑P	**P**	**16 41 44.1**	**+0.2**
BIR	**Birlad**	**18.17 316**	⇑P	**P**	**16 41 44.2**	**0.0**
BIR	**Birlad**	**18.17 316**	P	**P**	**16 41 44.2**	**0.0**
BUC1	**Bucharest**	**18.17 309**	⇓P	**P**	**16 41 44.9**	**+0.7**
BUC1	**Bucharest**	**18.17 309**	P	**P**	**16 41 44.9**	**+0.7**
SULR		**18.18 310**	⇑P	**P**	**16 41 45.0**	**+0.7**
GHRR		**18.18 315**	⇑P	**Pn**	**16 41 43.6**	**-0.5**
GHRR		**18.18 315**	P	**P**	**16 41 44.3**	**0.0**
AB31	**Akbulak array**	**18.20 31**	*i* P	**P**	**16 41 44.8**	**+0.4**
ABKAR	**Akbulak array**	**18.20 31**	⇑P	**Pn**	**16 41 41.9**	**-2.4**
ISR	**Istrita**	**18.21 312**	⇓P	**P**	**16 41 45.3**	**+0.7**
ISR	**Istrita**	**18.21 312**	P	**P**	**16 41 45.8**	**+1.1**
ISR	**Istrita**	**18.21 312**	P	**P**	**16 41 45.4**	**+0.7**
	comp=Z,2μm,1.6s,comp=Z,37μm					
ODBI	**Odobesti**	**18.23 314**	⇑P	**Pn**	**16 41 44.6**	**-0.1**
ODBI	**Odobesti**	**18.23 314**	P	**P**	**16 41 46.3**	**+1.5**
	comp=Z,281nm,1.1s,comp=Z,4μm					
PANC	**Panciu**	**18.23 315**	⇑P	**Pn**	**16 41 44.6**	**-0.2**
PVL	**Pavlikeni**	**18.24 305**	⇑*i*P	**P**	**16 41 45.9**	**+0.9**
ABTO	**Aybut**	**18.25 156**	P	**Pn**	**16 41 40.5**	**-4.6**
	SNR=248					
ABTO			P	**Pn**	**16 41 40.5**	**-4.6**
	SNR=248					
ABTO			S	**Sn**	**16 45 01.9**	**-6.6**
ABTO			S	**Sn**	**16 45 01.9**	**-6.6**
ZIMR		**18.32 306**	P	**P**	**16 41 47.0**	**+1.2**
BISRR	**Bisoca**	**18.33 313**	⇑P	**P**	**16 41 46.6**	**+0.7**
BISRR	**Bisoca**	**18.33 313**	P	**P**	**16 41 46.9**	**+0.9**
	comp=Z,3μm,1.2s,comp=Z,57μm					
AKTO	**Aktyubinsk**	**18.38 26**	P	**P**	**16 41 45.3**	**-1.2**
	comp=Z,12nm,0.3s,baz=213,slow=9.1,SNR=241					
AKTO			S	**Sn**	**16 45 04.3**	**-7.1**
	comp=Z,116nm,1.1s,baz=172,slow=20,SNR=0.9					
AKTO			LR	LR	16 51 52.9	
	comp=Z,38μm,18.0s,baz=204,slow=47					
	comp=Z,701nm,0.9s					
AKTO	**Aktyubinsk**	**18.38 26**	P	**Pn**	**16 41 46.6**	**+0.1**
RBK	**Rabkut**	**18.43 154**	P	**P**	**16 41 42.7**	**-4.5**
	SNR=446					
RBK			P	**P**	**16 41 42.7**	**-4.5**
	SNR=446					
RBK			S	**Sn**	**16 45 03.8**	**-9.1**
RBK			S	**Sn**	**16 45 03.8**	**-9.1**
PLAR	**PLOIESTI**	**18.43 311**	⇓P	**Pn**	**16 41 47.9**	**+0.8**
VRI	**Vrincioaia**	**18.48 314**	⇓P	**Pn**	**16 41 47.9**	**+0.1**
VRI	**Vrincioaia**	**18.48 314**	P	**Pn**	**16 41 47.9**	**+0.1**
VRI	**Vrincioaia**	**18.48 314**	P	**Pn**	**16 41 48.1**	**+0.3**
	comp=Z,584nm,1.1s,comp=Z,21μm					
NEHR	**Nehoiu**	**18.52 312**	⇑P	**Pn**	**16 41 48.9**	**+0.7**
DMTO	**DMTO**	**18.52 151**	P	**P**	**16 41 43.7**	**-4.4**
	SNR=274					
DMTO			P	**P**	**16 41 43.7**	**-4.4**
	SNR=274					
DMTO			S	**Sn**	**16 45 05.5**	**-9.5**
	SNR=12					
DMTO			S	**Sn**	**16 45 05.5**	**-9.5**
	SNR=12					
PLOR	**Plostina**	**18.52 314**	⇑P	**P**	**16 41 47.6**	**-0.5**
PLOR	**Plostina**	**18.52 314**	P	**Pn**	**16 41 48.3**	**0.0**
PLOR3	**Plostina Array**	**18.52 314**	P	**Pn**	**16 41 48.3**	**0.0**
	comp=Z,1μm,1.3s,comp=Z,19μm					
PGB	**Panagyurishte**	**18.72 302**	⇑*i*P	**Pn**	**16 41 51.9**	**+1.2**
IASR	**Iasi**	**18.73 318**	⇑P	**P**	**16 41 49.7**	**-0.7**
MMB	**Musomishta**	**18.74 299**	⇑*i*P	**Pn**	**16 41 51.4**	**+0.4**
MLR	**Muntele Rosu**	**18.76 312**	P	**P**	**16 41 50.0**	**-0.8**
	comp=Z,48nm,0.7s,baz=139,slow=7.8					
MLR			LR	LR	16 49 47.5	
	comp=Z,66μm,19.6s,baz=129,slow=39					
MLR	**Muntele Rosu**	**18.76 312**	⇑P	**Pn**	**16 41 51.4**	**0.0**
MLR	**Muntele Rosu**	**18.76 312**	P	**Pn**	**16 41 51.3**	**0.0**
MLR	**Muntele Rosu**	**18.76 312**	P	**Pn**	**16 41 51.9**	**+0.6**
	comp=Z,633nm,1.0s,comp=Z,16μm					
COVR	**Voineasa-Covas**	**18.78 313**	⇑P	**Pn**	**16 41 51.9**	**+0.4**
LPSR	**Galich'ya Gora**	**18.86 347**	*e*P	**P**	**16 41 50.1**	**-1.6**
LPSR			*e*S	**Sn**	**16 45 19.0**	**-3.8**
LPSR			pmax	pmax		
	comp=Z,14μm,1.2s					
LPSR			smax	smax		
	comp=E,13μm,10.9s					
LPSR			MLR	MLR		
	comp=Z,42μm,15.0s					
TESR	**Tescani**	**18.87 316**	⇑P	**P**	**16 41 51.6**	**-0.4**
TESR	**Tescani**	**18.87 316**	P	**Pn**	**16 41 52.2**	**-0.3**
	comp=Z,2μm,0.9s,comp=Z,35μm					
SORM	**Soroca**	**18.91 322**	⇑P	**P**	**16 41 51.2**	**-1.1**
SORM	**Soroca**	**18.91 322**	P	**P**	**16 41 51.8**	**-0.5**
SORM	**Soroca**	**18.91 322**	P	**P**	**16 41 52.2**	**-0.1**
	comp=Z,2μm,2.5s,comp=Z,52μm					
ONER	**Baraj Valea Uz**	**18.93 315**	⇑P	**P**	**16 41 52.7**	**+0.2**
HUMR	**Humele**	**18.93 309**	⇓P	**Pn**	**16 41 53.3**	**+0.1**
TURR	**Turia**	**19.00 314**	⇓P	**Pn**	**16 41 53.9**	**-0.2**
STFAR	**Stefanesti-Arg**	**19.09 309**	⇑P	**Pn**	**16 41 55.6**	**+0.4**
SIMJ	**Simiganj**	**19.16 70**	P	**Pn**	**16 41 56.1**	**-0.1**
OZUR		**19.16 314**	⇑P	**Pn**	**16 41 55.9**	**-0.2**
MTUR	**Matau**	**19.18 311**	⇑P	**Pn**	**16 41 56.5**	**+0.1**
MTUR	**Matau**	**19.18 311**	P	**Pn**	**16 41 56.5**	**+0.1**
KBL	**Kabul**	**19.20 83**	P	**Pn**	**16 41 56.9**	**+0.1**
KBL			IAmb	IAmb	16 42 08.5	
	comp=Z,1μm,1.1s					
KBL	**Kabul**	**19.20 83**	P	**Pn**	**16 41 56.9**	**+0.1**
	SNR=237					
KBL			P	**Pn**	**16 41 56.9**	**+0.1**
	SNR=237					
KBL			S	**Sn**	**16 45 30.3**	**-1.4**
KBL			S	**Sn**	**16 45 30.3**	**-1.4**
KBL	**Kabul**	**19.20 83**	P	**Pn**	**16 41 56.9**	**+0.1**
KBL			pmax	pmax		
	comp=Z,1μm,1.1s					
KKB	**Krupnik**	**19.27 299**	⇑*i*P	**Pn**	**16 41 57.0**	**-0.3**
KBU	**Kabul Universi**	**19.28 83**	P	**Pn**	**16 41 57.9**	**+0.2**
MPEP	**Malo Peshtene**	**19.30 304**	⇑*i*P	**Pn**	**16 41 57.8**	**+0.1**
DOPR	**Dopca**	**19.34 313**	⇑P	**Pn**	**16 41 57.7**	**-0.4**
LIT	**Litokhoron**	**19.36 294**	IAmb	IAmb	16 42 03.4	
	comp=Z,912nm,1.2s					
LIT	**Litokhoron**	**19.36 294**	⇑P	**P**	**16 41 57.4**	**0.0**
VTS	**Vitosha**	**19.41 302**	⇑*i*P	**Pn**	**16 41 58.7**	**-0.5**
PEHC	**Pehcevo**	**19.42 299**	*i* P	**Pn**	**16 41 58.7**	**-0.5**
ARR	**Arges**	**19.52 311**	⇑P	**Pn**	**16 42 00.1**	**-0.3**
ITM	**Ithomi**	**19.52 285**	IAmb	IAmb	16 42 03.1	
	comp=Z,646nm,0.7s					
ITM	**Ithomi**	**19.52 285**	⇓P	**P**	**16 41 58.3**	**-0.8**
VAY	**Valandovo**	**19.55 298**	*i* P	**P**	**16 41 58.8**	**-0.5**
PRAR	**RASCA**	**19.59 317**	⇑P	**P**	**16 41 59.7**	**-0.1**
VALD	**Valchedram**	**19.63 305**	⇑*i*P	**Pn**	**16 42 01.2**	**-0.4**
NDNU	**Novodnistrovsk**	**19.71 322**	P	**P**	**16 42 00.7**	**-0.4**
DRBR	**Darabani**	**19.87 320**	⇓P	**P**	**16 42 01.9**	**-0.9**
TNR	**Turnu Rosu**	**19.87 311**	⇑P	**Pn**	**16 42 03.7**	**-0.8**
TNR	**Turnu Rosu**	**19.87 311**	P	**Pn**	**16 42 04.2**	**-0.3**
MDB	**Medias**	**20.03 312**	⇑P	Pn	16 42 05.5	-0.9
MDB	**Medias**	**20.03 312**	P	Pn	16 42 05.5	-0.9
LOT	**Lotru**	**20.10 310**	⇑P	**P**	**16 42 05

comp=Z,5μm,0.8s,comp=Z,52μm
KSV Kosov 20.77 318 P **P 16 42 11.6 -1.0**
CJR Cluj-Napoca 20.78 313 ⇑P **P 16 42 13.4 +0.6**
CJR Cluj-Napoca 20.78 313 P **P 16 42 13.5 +0.7**
BOVS Bovan 20.79 304 ⇓P **P 16 42 13.5 +0.6**
OHR Ohrid 20.81 296 *i* P **P 16 42 13.3 +0.2**
DEV Deva 20.84 310 ⇓P **P 16 42 13.1 -0.2**
DEV Deva 20.84 310 P **P 16 42 13.3 0.0**
CBBR Cluj-Babes-Bol 20.84 313 ⇑P **P 16 42 14.0 +0.7**
MARR Marisel-Cluj 21.06 312 ⇑P **P 16 42 16.0 +0.2**
RAKU Rahkiv 21.11 317 P **P 16 42 17.0 +0.7**
KK31 Karatay Array 21.12 58 *i* P **P 16 42 16.7 +0.2**
KKAR Karatay Array 21.12 58 IAmb IAmb 16 42 29.0
comp=Z,871nm,1.2s
KKAR Karatay Array 21.12 58 ⇓P **P 16 42 16.9 +0.4**
MI28 Mi28,Pidlybu 21.13 327 P **P 16 42 16.4 0.0**
comp=Z,45μm,0.8s,comp=Z,356μm
MDVR Moldovita 21.17 307 ⇑P **P 16 42 17.2 +0.2**
SURR Surduc 21.28 309 ⇑P **P 16 42 17.6 -0.4**
STNU Starunia 21.30 319 P **P 16 42 18.4 +0.1**
BMR Baia Mare 21.32 315 ⇓P **P 16 42 19.4 +0.9**
BMR Baia Mare 21.32 315 P **P 16 42 19.3 +0.9**
DRGR 21.36 312 ⇑P **P 16 42 19.0 0.0**
DRGR 21.36 312 P **P 16 42 19.0 0.0**
KEK Kerkira 21.36 292 IAmb IAmb 16 42 24.8
comp=Z,2μm,1.5s
KEK IAMs_20 IAMs_20 16 51 58.2
comp=Z,94μm,21.0s
KEK Kerkira 21.36 292 ⇑P **P 16 42 18.1 -0.9**
MESR Meseseni 21.38 313 ⇑P **P 16 42 19.7 +0.6**
DRK Karamyk 21.40 69 IAmb IAmb 16 42 36.8
comp=Z,1μm,1.2s
TIR Tirane 21.55 296 IAMs_20 IAMs_20 16 51 00.1
comp=Z,121μm,19.0s
TIR Tirane 21.55 296 ⇑P **P 16 42 21.8 +0.8**
TIR Tirane 21.55 296 P **P 16 42 21.7 +0.8**
BZS Buzias 21.55 309 ⇓P **P 16 42 20.6 -0.4**
BZS Buzias 21.55 309 ⇑P **P 16 42 19.3 -1.7**
BZS Buzias 21.55 309 P **P 16 42 20.5 -0.4**
DZA Taraz 21.65 59 *eP* **P 16 42 23.0 +0.8**
comp=Z,521nm,1.0s
DZA Taraz 21.65 59 *eP* **P 16 42 22.9 +0.8**
DZA pmax pmax
comp=Z,521nm,1.0s
PUK Puka 21.66 298 IAmb IAmb 16 42 35.8
comp=Z,561nm,0.9s
PUK IAMs_20 IAMs_20 16 50 56.2
comp=Z,77μm,19.0s
OBN Obninsk 21.70 346 P **P 16 42 20.6 -1.8**
OBN IAMs_20 IAMs_20 16 51 44.8
comp=Z,68μm,19.0s
OBN Obninsk 21.70 346 P **P 16 42 21.4 -1.1**
comp=Z,852nm,0.6s,baz=162,slow=3.9,SNR=100
OBN S **S 16 46 15.9 -5.9**
comp=Z,695nm,0.9s,baz=197,slow=20,SNR=8.5
OBN LR LR 16 51 58.6
comp=Z,67μm,20.0s,baz=162,slow=40
comp=Z,852nm,0.6s
OBN Obninsk 21.70 346 ⇑P **P 16 42 20.8 -1.7**
OBN Obninsk 21.70 346 *c i* P **P 16 42 20.6 -1.8**
OBN *i* 16 42 43.2
OBN *i* S **S 16 46 16.2 -5.6**
OBN *e*SS **SnSn 16 46 49.9 +3.5**
OBN pmax pmax
comp=Z,5μm,1.7s
OBN MLR MLR
comp=Z,62μm,19.0s
OBN Obninsk 21.70 346 P **P 16 42 21.4 -1.1**
comp=Z,3μm,1.7s,comp=Z,41μm
MEZ Mezhgor'ye 21.74 317 P **P 16 42 23.5 +0.4**
BANR Banloc 21.77 308 ⇑P **P 16 42 24.3 +1.0**
KORU Korolevo 21.77 316 P **P 16 42 23.9 +0.6**
SIRR Siria 21.78 310 ⇓P **P 16 42 23.6 +0.1**
TRSU Trosnyk 21.84 316 P **P 16 42 24.9 +0.8**
IVA Berane 21.85 300 ⇑*i* P **P 16 42 22.9 -1.4**
TIM Timisoara 21.85 309 ⇓P **P 16 42 25.2 +1.0**
TIM Timisoara 21.85 309 P **P 16 42 25.2 +1.0**
SJES Sjenica 21.89 302 ⇑*i* P **P 16 42 24.4 -0.4**
CEI Carei 21.93 314 ⇑P **P 16 42 25.7 +0.6**
CEI Carei 21.93 314 P **P 16 42 25.6 +0.6**
BORR Bors 22.06 312 ⇑P **P 16 42 26.9 +0.5**
MOS Moscow 22.09 348 *eP* **P 16 42 25.3 -1.3**
MOS *e* 16 42 47.3
MOS *e*S **S 16 46 24.2 -5.1**
MOS pmax pmax
comp=Z,10μm,1.3s
MOS pmax pmax
comp=Z,7μm,1.2s
MOS pmax pmax
comp=E,2μm,1.2s
MOS pmax pmax
comp=N,6μm,1.2s
MOS pmax pmax
comp=N,6μm,1.2s
MOS pmax pmax
comp=E,2μm,1.2s
MOS smax smax
comp=E,5000μm,1.4s
MOS smax smax
comp=N,9300μm,1.7s
MOS MLR MLR
comp=Z,43μm,17.0s
MOS MLR MLR
comp=N,40μm,16.0s
BERU Beregovo 22.09 316 P **P 16 42 27.3 +0.5**
KOME Kolasin 22.11 300 ⇑*i* P **P 16 42 26.0 -1.2**
ULC Ulcinj 22.12 298 ⇓*i* P **P 16 42 26.2 -1.0**
RNPP5 Staryi Chortor 22.16 325 P **P 16 42 27.5 +0.1**
MUKU Mukachevo 22.18 316 P **P 16 42 27.9 +0.2**
LVV L'vov 22.20 321 P **P 16 42 27.3 -0.6**
DRME Dracevica, Mon 22.21 298 ⇓*i* P **P 16 42 26.8 -1.3**
PDG Podgorica 22.21 299 P **P 16 42 27.3 -0.7**
PDG Podgorica 22.21 299 *eP* **P 16 42 23.2 -4.8**
PDG Podgorica 22.21 299 ⇓P **P 16 42 27.9 -0.1**
PDG Podgorica 22.21 299 ⇑P **P 16 42 26.7 -1.3**
PDG Podgorica 22.21 299 ⇑*i* P **P 16 42 26.8 -1.2**
SHIU Shidnytsya 22.21 319 P **P 16 42 28.7 +0.6**
RNPP2 Kostyukhnivka 22.22 326 P **P 16 42 28.1 0.0**
RNPP8 Varash 22.24 326 P **P 16 42 28.0 -0.4**
RNPP9 Sopachiv 22.28 326 P **P 16 42 28.4 -0.3**
RNPP1 Kostyukhnivka 22.30 326 P **P 16 42 28.0 -0.9**
PLE Pljevlja 22.32 301 ⇑*i* P **P 16 42 27.7 -1.7**
HOLU Holmets 22.39 316 P **P 16 42 30.4 +0.4**
RUDO Rudo 22.41 302 *eP* **P 16 42 28.9 -1.4**
SCTE Santa Cesarea 22.41 293 IAmb IAmb 16 42 48.4
comp=Z,530nm,1.0s
BUM Brajici-Budva 22.44 299 ⇓*i* P **P 16 42 29.1 -1.6**
BBLS Lazi&#263i 22.45 303 ⇑*i* P **P 16 42 29.2 -1.6**
CEME Cevo 22.48 299 ⇑*i* P **P 16 42 29.5 -1.5**
NKME Niksic 22.50 300 ⇑*i* P **P 16 42 29.6 -1.6**
UZHM Uzhgorod 22.50 316 P **P 16 42 31.0 -0.1**
ARSB Arslanbob 22.53 64 IAmb IAmb 16 42 48.2
comp=Z,829nm,1.5s
TEKS Tekeris 22.57 305 ⇑*i* P **P 16 42 30.7 -1.2**
FRGS Fruska Gora 22.57 306 ⇑*i* P **P 16 42 29.7 -2.3**
UPM Unac-Piva 22.63 301 *eP* **P 16 42 33.4 +0.6**
UPM Unac-Piva 22.63 301 ⇑*i* P **P 16 42 30.6 -2.2**
KOLS Kolonicke sedl 22.66 317 *eP* **P 16 42 33.3 +0.4**
KOLS pmax pmax
comp=Z,781nm,0.8s
KOLS Kolonicke sedl 22.66 317 *eP* **P 16 42 33.3 +0.4**
KOLS *e*S **S 16 46 40.9 +0.7**
NIL Nilore 22.78 84 P **P 16 42 34.5 +0.2**
NIL IAmb IAmb 16 42 49.6
comp=Z,956nm,1.0s
NIL Nilore 22.78 84 P **P 16 42 34.6 +0.2**
NIL Nilore 22.78 84 P **P 16 42 34.5 +0.2**
NIL pmax pmax
comp=Z,956nm,1.0s
KWP Kalwaria Pacla 22.80 319 *eP* **P 16 42 33.9 -0.4**
KWP *e*S **S 16 46 41.5 -1.0**
KWP *e*L L 16 52 44.6
comp=Z,66μm,22.4s
KWP Kalwaria Pacla 22.80 319 ⇑P **P 16 42 33.4 -0.9**
KWP Kalwaria Pacla 22.80 319 P **P 16 42 34.7 +0.4**
comp=Z,1μm,0.8s,comp=Z,19μm
BRY Bratogost 22.82 300 ⇑*i* P **P 16 42 34.6 -0.2**
JASL Jaisalmer 22.84 102 *eP* **P 16 42 34.4 -0.5**
ATD Arta Tunnel 22.90 187 P **P 16 42 35.5 -0.1**
comp=Z,9.3nm,1.0s,baz=358,slow=6.9,SNR=35
ATD Lg Lg 16 49 27.4
comp=Z,0.1nm,0.3s,baz=66,slow=17,SNR=3.6
ATD LR LR 16 51 12.8
comp=Z,2μm,19.5s,baz=10,slow=36
ATD Arta Tunnel 22.90 187 *eP* **P 16 42 35.8 +0.2**
TREB Trebinje 22.92 299 *eP* **P 16 42 34.8 -0.8**
AML Almayashu 23.19 62 P **P 16 42 42.6 +3.7**
SNR=12
EKS2 Erkin-Say 23.35 61 P **P 16 42 43.6 +3.4**
SNR=17
STON Ston 23.42 300 ⇑*i* P **P 16 42 39.4 -1.3**
KECS Kecovo 23.47 315 *eP* **P 16 42 41.4 +0.2**
KECS pmax pmax
comp=Z,636nm,1.0s
KECS Kecovo 23.47 315 *eP* **P 16 42 41.4 +0.2**
KECS *e*S **S 16 46 59.6 +5.7**
STHS Stebnicka Huta 23.49 317 *eP* **P 16 42 40.3 -1.1**
STHS pmax pmax
comp=Z,201nm,1.0s
STHS Stebnicka Huta 23.49 317 *eP* **P 16 42 40.3 -1.1**
STHS *e*S **S 16 46 57.2 +3.0**
PSZ Piszkesteto 23.57 313 IAmb IAmb 16 42 55.5
comp=Z,644nm,1.1s
PSZ IAMs_20 IAMs_20 16 53 21.9
comp=Z,106μm,18.0s
PSZ Piszkesteto 23.57 313 *eP* **P 16 42 42.5 +0.2**
PSZ Piszkesteto 23.57 313 ⇑P **P 16 42 41.7 -0.6**
PSZ Piszkesteto 23.57 313 ⇑P **P 16 42 41.5 -0.8**
PSZ Piszkesteto 23.57 313 P **P 16 42 41.6 -0.6**
DOB Doboj 23.59 304 *eP* **P 16 42 41.6 -0.8**
ARTI Arti 23.65 18 *c i* P **P 16 42 42.7 -0.2**
ARTI 16 43 11.0
ARTI PPP PPP 16 43 20.6
ARTI S **S 16 46 59.0 +2.4**
ARTI SS **SnSn 16 47 36.1 +1.8**
ARTI pmax pmax
comp=Z,918nm,1.6s
ARTI MLR MLR
comp=Z,45μm,16.0s
TIP Timpagrande 23.66 290 IAmb IAmb 16 43 06.3
comp=Z,755nm,1.3s
TIP Timpagrande 23.66 290 ⇑P **P 16 42 43.1 -0.2**
TIP Timpagrande 23.66 290 ⇑P **P 16 42 42.0 -1.2**
TIP Timpagrande 23.66 290 P **P 16 42 43.9 +0.7**
comp=Z,418nm,1.2s,comp=Z,7μm
MNK Minsk 23.70 334 *i* P **P 16 42 41.4 -1.8**
comp=E,789nm,0.9s
MNK *i* P **P 16 42 41.4 -1.8**
comp=N,1μm,0.9s
MNK *i* P **P 16 42 41.4 -1.8**
comp=Z,2μm,0.8s,baz=141
MNK *i* PP sP 16 43 09.1 +18
MNK *i* S **S 16 46 55.6 -1.7**
MNK *i* SS **SnSn 16 47 37.5 +2.2**
MNK *i* LQ LQ 16 50 45.1
MNK *i* LR LR 16 51 52.6
MNK *i* LRM MLR 16 53 17.9
comp=Z,38μm,15.8s
MNK *i* LRM MLR 16 54 24.0
comp=N,49μm,17.3s
MNK *i* LRM MLR 16 55 48.3
comp=E,42μm,15.3s
MNK Minsk 23.70 334 *i* P **P 16 42 41.4 -1.8**
MNK *i* 16 43 09.0
MNK *i* S **S 16 46 55.6 -1.7**
MNK *i* SS **SnSn 16 47 37.5 +2.2**
MNK pmax pmax
comp=N,1μm,0.9s
MNK pmax pmax
comp=E,789nm,0.9s
MNK pmax pmax
comp=Z,2μm,0.8s
MNK MLR MLR
comp=Z,38μm,16.0s
MNK MLR MLR
comp=N,49μm,17.0s
MORH Mrgy, Hungar 23.70 308 ⇑P **P 16 42 43.3 -0.1**
MORH Mrgy, Hungar 23.70 308 P **P 16 42 43.3 -0.1**
comp=N,530nm,1.7s,comp=N,10μm
MATE Matera 23.81 294 *eP* **P 16 42 42.0 -2.5**
MATE Matera 23.81 294 ⇑P **P 16 42 44.6 +0.1**
MATE Matera 23.81 294 ⇑P **P 16 42 42.8 -1.7**
DESE Dese 23.82 195 *eP* **P 16 42 50.6 +5.5**
AAK Ala-Archa 23.87 61 P **P 16 42 46.5 +1.3**
AAK Ala-Archa 23.87 61 P **P 16 42 46.6 +1.3**
AAK Ala-Archa 23.87 61 LR LR 16 55 01.7
comp=N,62μm,20.3s,baz=278,slow=44
AAK Ala-Archa 23.87 61 P **P 16 42 46.8 +1.5**
AAK P **P 16 42 46.8 +1.5**
AAK P **P 16 42 46.8 +1.5**
AAK S **S 16 47 00.4 -0.2**
AAK S **S 16 47 00.4 -0.2**
AAK S **S 16 47 00.4 -0.2**
AAK Ala-Archa 23.87 61 ⇓P **P 16 42 46.6 +1.3**
AAK Ala-Archa 23.87 61 *ceP* **P 16 42 46.8 +1.5**
AAK pmax pmax
comp=Z,386nm,2.5s
AAK MLR MLR
comp=Z,54μm,19.0s
USP Ospenovka 24.00 60 P **P 16 42 47.6 +1.3**
SNR=190
FRU1 Bishkek 24.00 61 IAmb IAmb 16 43 06.2
comp=Z,646nm,1.3s
KOVH Kovagotottos 24.01 307 ⇑P **P 16 42 45.2 -1.1**
SRNI Srinagar 24.02 82 *eP* **P 16 42 47.0 +0.4**
NIE Niedzica 24.03 316 *eP* **P 16 42 47.4 +0.8**
NIE *e*S **S 16 47 09.4 +6.6**
NIE *e*L L 16 52 42.6
comp=Z,37μm,24.3s
NIE Niedzica 24.03 316 P **P 16 42 47.8 +1.3**
comp=Z,319nm,1.9s,comp=Z,7μm
BTLS Baital 24.11 55 ⇓*i* P **P 16 42 48.2 +0.8**
comp=Z,874nm,1.9s
BTLS *e*S **S 16 47 07.3 +3.0**
BTLS Baital 24.11 55 *d i* P **P 16 42 48.1 +0.8**
BTLS *e*S **S 16 47 07.2 +3.0**
BTLS pmax pmax
comp=Z,874nm,1.9s
CHMS Chumysh 24.12 60 P **P 16 42 48.8 +1.3**
SNR=111
SGDS Sogindy 24.13 59 *eP* **P 16 42 48.5 +0.9**
SGDS Sogindy 24.13 59 *eP* **P 16 42 48.5 +0.9**
SRGN SRI GANGA NAGA 24.19 93 *eP* **P 16 42 48.4 +0.2**
KBK Karagaybulak 24.20 61 P **P 16 42 50.5 +2.1**
SNR=101
BLY Banja Luka 24.23 304 ⇑*i* P **P 16 42 47.8 -0.6**
BLY Banja Luka 24.23 304 ⇑P **P 16 42 47.6 -0.8**
MRVN Minervino Murg 24.24 295 ⇑P **P 16 42 47.3 -1.3**
CEL Celeste 24.32 288 ⇑P **P 16 42 49.0 -0.4**
CEL Celeste 24.32 288 P **P 16 42 50.0 +0.6**
comp=Z,888nm,1.4s,comp=Z,18μm
BKNR BIKANER 24.34 98 *eP* **P 16 42 49.4 -0.2**
BKNR IAmb IAmb 16 42 54.8
comp=Z,1μm,1.2s
KIRV Kirov 24.34 5 P **P 16 42 48.8 -0.4**
comp=Z,1μm,0.6s,baz=198,slow=1.6,SNR=551
KIRV S **S 16 47 05.2 -2.3**
comp=Z,80nm,0.9s,baz=270,slow=20,SNR=1.3
KIRV LR LR 16 54 23.8
comp=Z,55μm,19.0s,baz=191,slow=42
comp=Z,1μm,0.6s
LANS Liptovska Anna 24.38 315 *eP* **P 16 42 50.2 +0.4**
LANS pmax pmax
comp=Z,203nm,0.9s
LANS Liptovska Anna 24.38 315 *eP* **P 16 42 50.2 +0.4**
LANS *e*S **S 16 47 09.4 +0.9**
NACGM Naroch 24.41 333 *eP* **P 16 42 49.2 -0.7**
comp=E,74μm,1.1s
CUC Castrocucco 24.44 292 IAmb IAmb 16 43 17.5
comp=Z,874nm,1.3s
CUC Castrocucco 24.44 292 ⇑P **P 16 42 49.7 -0.7**
VYHS Vyhne 24.46 313 *eP* **P 16 42 50.9 +0.4**
VYHS pmax pmax
comp=Z,522nm,1.2s
VYHS Vyhne 24.46 313 *eP* **P 16 42 50.9 +0.4**
VYHS *e*S **S 16 47 10.0 +0.2**
A051A Mrakovica 24.49 304 ⇑*i* P **P 16 42 49.7 -1.1**
SRO Srobarova 24.50 311 *eP* **P 16 42 51.3 +0.5**
SRO pmax pmax
comp=Z,496nm,1.0s
SRO Srobarova 24.50 311 *eP* **P 16 42 51.3 +0.5**
SRO *e*S **S 16 47 16.0 +5.6**
PRIJ Prijedor 24.61 304 *eP* **P 16 42 50.8 -1.0**
A050A Klekovaca 24.61 303 ⇑*i* P **P 16 42 50.9 -1.1**
KSH Kashi 24.62 69 P **P 16 42 51.3 -0.9**
KSH sP sP 16 43 00.5 +0.6
KSH S **S 16 47 11.5 -1.3**
KSH pmax pmax
comp=Z,210nm,1.7s
KSH pmax pmax
comp=Z,8μm,6.6s
KSH LR LR
comp=Z,48μm,17.2s
KSH LR LR
comp=Z,50μm,12.7s
KSH LR LR
comp=Z,57μm,22.7s
SVE Sverdlovsk 24.64 20 *deP* **P 16 42 52.5 +0.5**
SVE *e*S **S 16 47 12.5 +0.1**
SVE pmax pmax
comp=Z,1μm,1.1s
SVE MLR MLR
comp=Z,28μm,16.0s
OJC Ojcow 24.70 318 *eP* **P 16 42 52.7 0.0**
OJC *e*S **S 16 47 11.1 -2.5**
OJC *e*L L 16 53 21.3
comp=Z,51μm,24.4s
OJC Ojcow 24.70 318 ⇑P **P 16 42 52.1 -0.5**
OJC Ojcow 24.70 318 P **P 16 42 53.3 +0.6**
comp=Z,958nm,1.0s,comp=Z,19μm
TKM2 Tokmak 2 24.72 61 P **P 16 42 54.9 +1.8**
SNR=152
TKM2 Tokmak 2 24.72 61 *i* P **P 16 42 54.3 +1.2**
TKM2 pmax pmax
comp=Z,848nm,1.3s
MPLH Magyarpolny 24.75 310 P **P 16 42 53.5 +0.4**
comp=Z,2μm,1.0s,comp=Z,32μm
NRN Naryn 24.80 65 IAmb IAmb 16 43 03.2
comp=Z,464nm,0.9s
HARA HARA 25.08 186 *eP* P 16 43 04.5 +8.0
ULHL Ulahol 25.08 63 P **P 16 42 58.8 +2.4**
SNR=19
SUW Suwalki 25.25 328 *eP* **P 16 42 57.5 +0.1**
SUW *e*S **S 16 47 19.2 -3.0**
SUW *e*L L 16 52 41.9
comp=Z,39μm,24.9s
SUW Suwalki 25.25 328 *eP* **P 16 42 57.6 +0.1**
SUW Suwalki 25.25 328 ⇑P **P 16 42 56.7 -0.8**
JAVC Velka Javorina 25.32 313 *eP* **P 16 42 59.2 +0.9**
JAVC *e*S **S 16 47 23.5 -0.1**
SMOL Smolenice 25.32 312 *eP* **P 16 42 58.7 +0.4**
SMOL pmax pmax
comp=Z,276nm,1.0s
KOGS Kog 25.34 307 *i* P **P 16 42 58.0 -0.4**
KOGS *i* S **S 16 47 22.6 -1.3**
KOGS IAMs_20 IAMs_20 16 54 30.8
comp=Z,40μm,12.9s
MODS Modra-Piesok 25.36 312 *eP* **P 16 42 58.9 +0.3**
MODS pmax pmax
comp=Z,1μm,1.1s
MODS Modra-Piesok 25.36 312 *eP* **P 16 42 58.8 +0.2**
MODS *e*S **S 16 47 22.0 -2.2**
KUU Kurty 25.43 59 *eP* **P 16 43 00.2 +0.9**
comp=Z,546nm,1.1s
KUU *e*S **S 16 47 28.8 +3.4**
KUU LR LR 16 53 49.7
comp=Z,20μm,9.8s
KUU Kurty 25.43 59 *eP* **P 16 43 00.2 +0.9**
KUU *e*S **S 16 47 28.8 +3.4**
KUU pmax pmax
comp=Z,546nm,1.1s
MAUC Maruska 25.44 315 *eP* **P 16 43 00.0 +0.6**
OKC Ostrava-Krasne 25.46 316 *eP* **P 16 42 59.6 +0.1**
OKC *e*S **S 16 47 22.2 -3.5**
OKC AMS AMS 16 55 00.0
comp=Z,49μm,14.7s
OKC Ostrava-Krasne 25.46 316 *eP* **P 16 42 59.6 +0.1**
OKC *e*S **S 16 47 22.2 -3.5**
OKC MLR MLR
comp=Z,49μm,14.7s
VAE Valguarnera 25.51 286 P **P 16 43 01.4 +1.3**
comp=Z,434nm,0.9s,baz=92,slow=1.7,SNR=53
VAE LR LR 16 55 09.5
comp=Z,37μm,18.8s,baz=12,slow=42
comp=Z,434nm,0.9s
BRVK Borovoye 25.54 36 P **P 16 43 01.3 +1.2**
BRVK IAmb IAmb 16 43 26.5
comp=Z,726nm,1.1s
BRVK Borovoye 25.54 36 P **P 16 43 01.7 +1.5**
BRVK P **P 16 43 01.7 +1.5**
BRVK S **S 16 47 27.6 +0.7**
BRVK S **S 16 47 27.6 +0.7**
BRVK Borovoye 25.54 36 ⇑P **P 16 43 00.8 +0.6**
BRVK Borovoye 25.54 36 *ceP* **P 16 43 01.5 +1.3**
BRVK pmax pmax
comp=Z,889nm,1.7s
BRVK MLR MLR
comp=Z,27μm,17.0s
WDD Wied Dalam 25.54 282 ⇓P **P 16 43 02.7 +2.3**
RAC Raciborz 25.55 316 *eP* **P 16 43 00.3 0.0**
RAC *e*S **S 16 47 27.9 +0.9**
RAC AMS AMS 16 53 45.0
comp=Z,60nm,23.9s
RAC Raciborz 25.55 316 *eP* **P 16 43 00.3 0.0**
RAC *e*S **S 16 47 27.9 +0.9**
RAC MLR MLR
comp=Z,60μm,23.9s
BVA0 Borovoye Array 25.57 36 *i* P **P 16 43 04.6 +4.1**
BVAR Borovoye Array 25.57 36 P **P 16 43 01.2 +0.8**
comp=Z,143nm,0.9s,baz=241,slow=6.1,SNR=261
BVAR PcP **PcP 16 46 31.5 +0.2**
comp=Z,48nm,0.8s,baz=269,slow=8.6,SNR=2.4
BVAR ScP **ScP 16 50 10.3 +0.5**
comp=Z,46nm,0.9s,baz=242,slow=2.9,SNR=6.0
BVAR PKiKP **PKiKP 16 54 11.3 +0.1**
comp=Z,4.0nm,0.7s,baz=274,slow=1.3,SNR=5.7
BVAR LR LR 16 55 23.3
comp=Z,25μm,20.8s,baz=231,slow=42
comp=Z,143nm,0.9s
DHRM DHARAMSHALA 25.57 86 *eP* **P 16 43 01.6 +0.6**
DHRM *e*S **S 16 47 36.0 +7.8**
CRES Cresnjevec Ost 25.69 306 ⇑*i* P **P 16 43 01.3 -0.4**
TNSS Tian-Shan 25.71 61 *eP* **P 16 43 02.9 +0.5**
TNSS Tian-Shan 25.71 61 *eP* **P 16 43 02.8 +0.5**
AAA Alma-Ata 25.72 61 *eP* **P 16 43 03.1 +1.0**
comp=Z,544nm,1.0s
AAA LR LR 16 54 57.4
comp=Z,21μm,11.8s
AAA Alma-Ata 25.72 61 *eP* **P 16 43 03.5 +1.5**
RONA Rosalia, Austr 25.72 310 *eP* **P 16 43 01.6 -0.4**
comp=Z,827nm,1.2s,SNR=281
RONA S **S 16 47 27.4 -2.7**
comp=Z,132nm,1.5s
BOJS Bojanci 25.74 305 ⇑*i* P **P 16 43 01.6 -0.5**
KNDC Almaty 25.76 61 P **P 16 43 03.2 +0.8**
MORC Moravsky Berou 25.78 315 IAmb IAmb 16 43 05.1
comp=Z,467nm,0.9s
MORC IAMs_20 IAMs_20 16 54 52.5
comp=Z,58μm,19.0s
MORC Moravsky Berou 25.78 315 *eP* **P 16 43 02.0 -0.5**
MORC *e*S **S 16 47 29.9 -1.0**
MORC Moravsky Berou 25.78 315 ⇑P **P 16 43 02.2 -0.3**
MORC Moravsky Berou 25.78 315 ⇑P **P 16 43 01.9 -0.5**
MORC Moravsky Berou 25.78 315 P **P 16 43 02.1 -0.5**
MDOK Medeo 25.81 61 *eP* **P 16 43 03.7 +0.8**
MDOK LR LR 16 54 58.9
MDOK Medeo 25.81 61 *eP* **P 16 43 03.7 +0.8**
BHK Bhakra 25.87 88 *eP* **P 16 43 03.9 +0.5**
PABE Paberze 25.95 331 *eP* **P 16 43 04.0 +0.2**
AAE Adis Abeba 26.03 196 *eP* **P 16 43 08.5 +3.2**
AJM Ajmer 26.06 100 *eP* **P 16 43 05.4 +0.2**
ARSA Arzberg 26.07 309 *eP* **P 16 43 04.8 -0.3**
comp=Z,203nm,1.0s,SNR=103
ARSA S **S 16 47 32.1 -3.3**
comp=Z,54nm,1.5s
ARSA Arzberg 26.07 309 ⇑P **P 16 43 04.8 -0.3**
CONA Conrad Observa 26.08 310 *eP* **P 16 43 04.6 -0.6**
comp=Z,1μm,1.9s,SNR=226
CONA S **S 16 47 31.7 -4.0**
comp=Z,72nm,1.2s
PERS Pernice 26.14 307 *i* P **P 16 43 05.2 -0.6**
VRAC Vranov 26.15 314 P **P 16 43 05.6 -0.2**
comp=Z,326nm,0.9s,baz=110,slow=8.7,SNR=266
VRAC LR LR 16 55 24.2
comp=Z,75μm,18.5s,baz=124,slow=41
comp=Z,326nm,0.9s
VRAC Vranov 26.15 314 *eP* **P 16 43 05.6 -0.2**
VRAC *e*S **S 16 47 36.7 +0.1**
VRAC Vranov 26.15 314 ⇑P **P 16 43 05.6 -0.2**
KRUC Moravsky 26.17 313 *eP* **P 16 43 05.6 -0.3**
KRUC *e*S **S 16 47 35.8 -1.1**
FURI Furi 26.18 196 P **P 16 43 04.8 -1.9**

FURI Furi 26.18 196 IAMs_20 IAMs_20 16 53 06.7
comp=Z,85μm,19.0s
FURI Furi 26.18 196 LR LR 16 53 48.9
comp=Z,97μm,18.8s,baz=12,slow=37
FURI Furi 26.18 196 *e*P **P 16 43 10.7 +4.0**
FURI Furi 26.18 196 ⇑P **P 16 43 11.0 +4.3**
SOKA Soboth 26.21 307 *e*P **P 16 43 06.0 -0.5**
comp=Z,156nm,0.9s,SNR=53
SOKA PcP **PcP 16 46 34.3 +1.3**
comp=Z,103nm,1.1s
SOKA S **S 16 47 35.3 -2.5**
comp=Z,29nm,1.5s
SOKA ScP **ScP 16 50 12.8 +0.9**
comp=Z,26nm,1.0s
VSVD Vaisvydziai 26.31 332 *e*P **P 16 43 07.2 +0.1**
KRLC Kraliky 26.36 315 *e*P **P 16 43 07.2 -0.5**
KRLC AMS AMS 16 55 10.0
comp=Z,69μm,17.2s
KRLC Kraliky 26.36 315 *e*P **P 16 43 07.2 -0.5**
KRLC MLR MLR
comp=Z,69μm,17.2s
CEY Cerknica 26.36 305⇑*i*P **P 16 43 07.0 -0.8**
LJU Ljubljana 26.37 306 *i* P **P 16 43 07.8 -0.1**
LJU *e*S **S 16 47 39.2 -1.1**
LJU IAMs_20 IAMs_20 16 54 40.4
comp=Z,39μm,12.7s
CLTB Caltabellotta 26.45 286 ⇑P **P 16 43 10.2 +1.5**
OBKA Obir 26.48 307 *e*P **P 16 43 08.8 -0.1**
comp=Z,460nm,1.2s,SNR=65
OBKA S **S 16 47 39.0 -3.2**
comp=Z,69nm,1.1s
OBKA Obir 26.48 307⇑*i*P **P 16 43 08.7 -0.2**
CAMP Campotosto 26.48 298 IAmb IAmb 16 43 23.4
comp=Z,551nm,1.0s
CAMP IAMs_20 IAMs_20 16 53 48.0
comp=Z,91μm,20.0s
ARXS Arharly 26.55 59 *e*P **P 16 43 10.6 +1.1**
SMLA Simla 26.56 88 *e*P **P 16 43 10.3 +0.7**
PRZ Przheval'sk 26.70 63 IAmb IAmb 16 43 22.3
comp=Z,654nm,1.2s
NRCA Norcia 26.74 298 IAmb IAmb 16 43 29.7
comp=Z,436nm,1.0s
NRCA IAMs_20 IAMs_20 16 54 08.7
comp=Z,102μm,22.0s
DPC Dobruska-Polom 26.74 316 *e*P **P 16 43 11.0 -0.2**
DPC AMS AMS 16 55 20.0
comp=Z,64μm,15.5s
DPC Dobruska-Polom 26.74 316 *e*P **P 16 43 11.0 -0.2**
DPC MLR MLR
comp=Z,64μm,15.5s
DPC Dobruska-Polom 26.74 316 P **P 16 43 11.6 +0.4**
comp=Z,366nm,1.0s,comp=Z,5μm
SATY Saty 26.77 61 *e*P **P 16 43 12.4 +0.7**
comp=Z,838nm,1.5s
SATY *e*S **S 16 47 49.9 +2.9**
SATY Saty 26.77 61 *e*P **P 16 43 12.3 +0.7**
SATY *e*S **S 16 47 49.8 +2.9**
SATY pmax pmax
comp=Z,838nm,1.5s
FDMO Fiordimonte 26.79 299 IAmb IAmb 16 43 28.5
comp=Z,403nm,1.0s
FDMO IAMs_20 IAMs_20 16 54 32.9
comp=Z,81μm,20.0s
KLMR Klimovskoe 26.80 353*c i*P **P 16 43 10.0 -1.5**
KLMR *e*S **S 16 47 43.6 -3.0**
KLMR pmax pmax
comp=Z,2μm,1.6s
KLMR MLR MLR
comp=Z,40μm,12.0s
TREC Trest 26.81 313 *e*P **P 16 43 11.5 -0.2**
TREC AMS AMS 16 55 20.0
comp=Z,64μm,15.0s
TREC Trest 26.81 313 *e*P **P 16 43 11.5 -0.2**
TREC MLR MLR
comp=Z,64μm,15.0s
ZHN Zhinishke 26.81 61 *e*P **P 16 43 12.6 +0.6**
ZHN Zhinishke 26.81 61 *e*P **P 16 43 12.5 +0.6**
OSTC Ostas 26.89 316 *e*P **P 16 43 12.2 -0.3**
OSTC *e*S **S 16 47 42.4 -6.0**
OSTC AMS AMS 16 55 30.0
comp=Z,59μm,16.4s
OSTC Ostas 26.89 316 *e*P **P 16 43 12.2 -0.3**
OSTC *e*S **S 16 47 42.4 -6.0**
OSTC MLR MLR
comp=Z,59μm,16.4s
KUDL Kundal 26.93 95 *e*P **P 16 43 12.9 -0.1**
KSP Ksiaz 26.97 317 *e*P **P 16 43 12.9 -0.3**
KSP *e*S **S 16 47 47.8 -1.8**
KSP *e*L L 16 54 06.7
comp=Z,72μm,25.6s
KSP Ksiaz 26.97 317 ⇑P **P 16 43 12.6 -0.6**
KSP Ksiaz 26.97 317 P **P 16 43 13.5 +0.3**
comp=Z,402nm,0.9s,comp=Z,6μm
SABO M.te Sabotino 26.98 305 IAmb IAmb 16 43 39.9
comp=Z,731nm,1.2s
UPC Upice 26.99 316 *e*P **P 16 43 13.3 0.0**
UPC AMS AMS 16 55 30.0
comp=Z,72μm,15.3s
UPC Upice 26.99 316 *e*P **P 16 43 13.3 0.0**
UPC MLR MLR
comp=Z,72μm,15.3s
CHVC Chvalec 27.00 316 *e*P **P 16 43 13.2 -0.3**
CHVC AMS AMS 16 55 30.0
comp=Z,57μm,16.0s
CHVC Chvalec 27.00 316 *e*P **P 16 43 13.2 -0.3**
CHVC MLR MLR
comp=Z,57μm,16.0s
MOA Molln 27.06 309 *e*P **P 16 43 13.5 -0.6**
comp=Z,352nm,1.0s,SNR=217
MOA S **S 16 47 46.6 -4.6**
comp=Z,102nm,1.5s
CESX Cesi 27.10 298 IAmb IAmb 16 43 44.4
comp=Z,590nm,1.1s
CESX IAMs_20 IAMs_20 16 54 56.1
comp=Z,68μm,18.0s
TDK Taldyqorghan 27.10 57 *e*P **P 16 43 15.1 +0.6**
comp=Z,482nm,1.2s
TDK LR LR 16 55 06.8
comp=Z,20μm,13.5s
TDK Taldyqorghan 27.10 57 *e*P **P 16 43 15.1 +0.6**
TDK pmax pmax
comp=Z,482nm,1.2s
TDK MLR MLR
comp=Z,20μm,14.0s
MYKA Terra Mystica 27.12 307 *e*P **P 16 43 14.4 -0.2**
comp=Z,77nm,0.8s,SNR=41
MYKA S **S 16 47 49.7 -2.4**
comp=Z,109nm,1.7s
MYKA ScP **ScP 16 50 16.5 +2.0**
comp=Z,48nm,1.7s
PRED Cave del Predi 27.12 306 IAmb IAmb 16 43 40.7
comp=Z,414nm,1.0s
PBUR Paburge 27.14 330 *e*P **P 16 43 14.6 +0.1**
WUS Wushi 27.19 66 IAmb IAmb 16 43 27.1
comp=Z,462nm,1.0s
VSU Vasula 27.23 338 ⇑P **P 16 43 14.4 -1.0**
VSU Vasula 27.23 338*ce*P **P 16 43 14.5 -0.9**
VSU pmax pmax
comp=Z,1μm,1.0s
VSU MLR MLR
comp=Z,56μm,18.0s
UZB Uzynbulak 27.23 61 *e*P **P 16 43 16.3 +0.5**
UZB Uzynbulak 27.23 61 *e*P **P 16 43 16.3 +0.5**
PTCC Patocco-Chiusa 27.25 306 ⇑P **P 16 43 15.3 -0.5**
NDI New Delhi 27.34 93⇓*i*P **P 16 43 16.5 -0.2**
KLP Kalpa 27.35 87 *e*P **P 16 43 16.8 -0.4**
PUL Pulkovo 27.35 343*ce*P **P 16 43 16.6 +0.2**
PUL pmax pmax
comp=Z,2μm,1.7s
PUL MLR MLR
comp=Z,62μm,21.0s
CKRC Cesky Krumlov 27.36 311 *e*P **P 16 43 16.3 -0.4**
CKRC AMS AMS 16 55 00.0
comp=Z,32μm,18.7s
CKRC Cesky Krumlov 27.36 311 *e*P **P 16 43 16.3 -0.4**
CKRC MLR MLR
comp=Z,32μm,18.7s
SONA Sohna 27.38 94 *e*P **P 16 43 16.7 -0.4**
BIOA Bad Ischl, Aus 27.42 309 *e*P **P 16 43 16.6 -0.7**
comp=Z,270nm,0.9s,SNR=150
BIOA S **S 16 47 52.6 -4.2**
comp=Z,98nm,1.6s
BIOA ScP **ScP 16 50 14.0 -1.4**
comp=Z,55nm,1.4s
KBA Koelnbreinsper 27.44 307 *e*P **P 16 43 17.0 -0.6**
comp=Z,237nm,0.9s,SNR=132

KBA S **S 16 47 55.3 -2.0**
comp=Z,86nm,1.4s
KBA *e*ScP **ScP 16 50 16.1 +0.4**
comp=Z,38nm,1.5s
KBA Koelnbreinsper 27.44 307 ⇑P **P 16 43 17.0 -0.6**
JMIU JAMIA UNIVERSI 27.45 93 *e*P **P 16 43 17.8 +0.2**
GOPC GO Pecny, Ondr 27.46 314 *e*P **P 16 43 17.6 -0.1**
GOPC AMS AMS 16 56 50.0
comp=Z,71μm,14.9s
GOPC GO Pecny, Ondr 27.46 314 *e*P **P 16 43 17.6 -0.1**
GOPC MLR MLR
comp=Z,71μm,14.9s
DDI Dehra Dun 27.52 89 *e*P **P 16 43 19.1 +0.7**
DDI *e*S **S 16 48 05.9 +7.1**
SHLS Shalkode 27.55 61 *e*P **P 16 43 22.1 +3.4**
SHLS Shalkode 27.55 61 *e*P **P 16 43 22.0 +3.4**
PDGK Podgornoye 27.60 61 P **P 16 43 19.4 +0.4**
GKP Gorka Klasztor 27.64 322 *e*P **P 16 43 19.0 -0.1**
GKP *e*S **S 16 47 57.9 -2.1**
GKP *e*L L 16 55 59.7
comp=Z,48μm,22.3s
GKP Gorka Klasztor 27.64 322 *e*P **P 16 43 19.2 +0.1**
PRU Pruhonice 27.64 314 *e*P **P 16 43 18.7 -0.5**
PRU AMS AMS 16 56 50.0
comp=Z,68μm,14.0s
PRU Pruhonice 27.64 314 *e*P **P 16 43 18.7 -0.5**
PRU MLR MLR
comp=Z,68μm,14.0s
ZVC Zvikov 27.65 313 *e*P **P 16 43 18.9 -0.4**
ZVC AMS AMS 16 55 40.0
comp=Z,55μm,19.1s
GEC2 GERESS Array S 27.74 311 *e*P **P 16 43 19.1 -1.2**
comp=Z,111nm,1.0s,baz=108,slow=8.9
GERES GERESS Array B 27.74 311 P **P 16 43 19.8 -0.5**
comp=Z,54nm,0.8s,baz=115,slow=9.0,SNR=95
GERES PcP **PcP 16 46 36.8 +0.3**
comp=Z,14nm,0.8s,baz=108,slow=3.2,SNR=2.3
GERES ScP **ScP 16 50 17.4 +0.9**
comp=Z,35nm,1.1s,baz=72,slow=4.3,SNR=6.0
GERES LR LR 16 56 08.9
comp=Z,25μm,18.0s,baz=116,slow=40
comp=Z,54nm,0.8s
PVCC Panska Ves 27.84 315 *e*P **P 16 43 20.9 0.0**
PVCC AMS AMS 16 56 00.0
comp=Z,65μm,16.7s
PVCC Panska Ves 27.84 315 *e*P **P 16 43 20.9 0.0**
PVCC MLR MLR
comp=Z,65μm,16.7s
ABTA Abfaltersbach 27.90 306 *e*P **P 16 43 21.1 -0.5**
comp=Z,166nm,1.2s,SNR=63
ABTA *e*PcP **PcP 16 46 35.5 -1.4**
comp=Z,102nm,1.2s
ABTA S **S 16 47 59.8 -4.7**
comp=Z,102nm,1.8s
ABTA *e*ScP **ScP 16 50 19.4 +2.4**
comp=Z,28nm,1.2s
ABTA PKiKP **PKiKP 16 54 07.6 -5.4**
comp=Z,79nm,1.6s
KHC Kasperske Hory 27.91 312 *e*P **P 16 43 21.2 -0.5**
KHC *e*S **S 16 48 01.1 -3.5**
KHC AMS AMS 16 55 40.0
comp=Z,33μm,17.5s
KHC Kasperske Hory 27.91 312 ⇑P **P 16 43 20.6 -1.1**
KHC Kasperske Hory 27.91 312 *e*P **P 16 43 21.2 -0.5**
KHC *e*S **S 16 48 01.1 -3.5**
KHC MLR MLR
comp=Z,33μm,17.5s
KHC Kasperske Hory 27.91 312 P **P 16 43 21.3 -0.5**
comp=Z,110nm,1.0s,comp=Z,4μm
LESA Schwarzleotal 27.97 308 *e*P **P 16 43 21.0 -1.2**
comp=Z,63nm,0.7s
LESA S **S 16 48 01.2 -4.3**
comp=Z,102nm,1.1s
LESA ScP **ScP 16 50 19.4 +2.2**
comp=Z,38nm,1.2s
LESA PKiKP **PKiKP 16 54 07.2 -5.7**
comp=Z,36nm,1.3s
RJOB Jochberg 27.98 308 *e*P **P 16 43 21.3 -1.0**
comp=Z,138nm,0.9s,baz=108,slow=8.9
RICC Richard 28.12 315 *e*P **P 16 43 23.3 -0.1**
SLIT Slitere, Latvi 28.12 333 *e*P **P 16 43 22.1 -1.2**
SLIT Slitere, Latvi 28.12 333 ⇑P **P 16 43 22.1 -1.2**
TEOL Teolo 28.17 303 IAmb IAmb 16 44 17.1
comp=Z,444nm,0.9s
ARBE Arbavere 28.25 339 *e*P **P 16 43 25.3 +0.8**
CTI Castel Tesino 28.32 305 IAMs_20 IAMs_20 16 55 33.7
comp=Z,55μm,21.0s
BRG Berggiesshubel 28.34 315 *i* P **P 16 43 25.2 -0.3**
BRG Amp 16 43 26.5
comp=Z,96nm,1.0s
BRG Berggiesshubel 28.34 315 S **S 16 48 04.0 -7.1**
BRG ⇑SP **ScP 16 50 19.7 +1.6**
BRG Amp 16 50 21.6
comp=Z,71nm,1.3s
BRG Berggiesshubel 28.34 315 *i* P **P 16 43 25.1 -0.3**
BRG 16 46 39.8
BRG S **S 16 48 04.0 -7.1**
BRG pmax pmax
comp=Z,96nm,1.0s
BRG MLR MLR
comp=N,33μm,14.3s
BRG MLR MLR
comp=E,59μm,18.9s
BRG MLR MLR
comp=Z,75μm,17.5s
BRG Berggiesshubel 28.34 315 *e*P **P 16 43 24.4 -1.0**
comp=Z,190nm,1.3s,baz=108,slow=8.9
WET Wettzell 28.35 311 *e*P **P 16 43 24.2 -1.4**
comp=Z,123nm,1.0s,baz=108,slow=8.9
CASP Castiglione de 28.38 298 IAmb IAmb 16 43 56.4
comp=Z,426nm,1.3s
MTSE Matsula 28.38 336 *e*P **P 16 43 24.2 -1.4**
HSKC Hora Svate Kat 28.53 314 *e*P **P 16 43 26.9 -0.3**
HSKC AMS AMS 16 57 40.0
comp=Z,43μm,15.2s
WTTA Wattenberg 28.61 307 *e*P **P 16 43 26.6 -1.4**
comp=Z,321nm,1.3s,SNR=102
WTTA *e*PcP **PcP 16 46 38.8 -0.1**
comp=Z,251nm,1.5s
WTTA S **S 16 48 11.5 -4.3**
comp=Z,657nm,1.3s
WTTA ScP **SS 16 50 14.9 -1.9**
comp=Z,47nm,1.3s
WTTA *e*PKiKP **PKiKP 16 54 10.9 -2.6**
comp=Z,107nm,1.3s
WATA Walderalm 28.67 307 *e*P **P 16 43 27.0 -1.6**
comp=Z,194nm,1.0s,SNR=85
WATA *e*PcP **PcP 16 46 39.8 +0.9**
comp=Z,85nm,0.9s
WATA S **S 16 48 11.5 -5.1**
comp=Z,539nm,1.4s
WATA ScP **SS 16 50 15.3 -2.6**
comp=Z,60nm,1.4s
WATA *e*PKiKP **PKiKP 16 54 14.2 +0.7**
comp=Z,79nm,1.6s
KURBB Kurchatov Arra 28.81 46 P **P 16 43 30.6 +1.0**
comp=Z,80nm,0.7s,baz=253,slow=8.9,SNR=223
KURBB ScP **ScP 16 50 19.4 -0.1**
comp=Z,55nm,1.0s,baz=248,slow=4.0,SNR=8.5
KURBB PKiKP **PKiKP 16 54 13.4 +0.2**
comp=Z,2.0nm,0.5s,baz=232,slow=1.1,SNR=1.8
comp=Z,80nm,0.7s
KURBB Kurchatov Arra 28.81 46 P **P 16 43 31.1 +1.6**
VLC Villacollemand 28.88 300 P **P 16 43 29.0 -1.3**
VLC Villacollemand 28.88 300 ⇑P **P 16 43 30.0 -0.4**
SQTA Sankt Quirin 28.88 307 *e*P **P 16 43 28.9 -1.5**
comp=Z,175nm,0.8s,SNR=81
SQTA *e*PcP **PcP 16 46 40.9 +1.5**
comp=Z,32nm,0.8s
SQTA S **S 16 48 15.4 -4.6**
comp=Z,520nm,1.1s
SQTA *e*ScP **ScP 16 50 20.2 +0.1**
comp=Z,74nm,1.2s
SQTA *e*PKiKP **PKiKP 16 54 12.0 -1.6**
comp=Z,40nm,1.5s
KURK Kurchatov 28.89 46 P **P 16 43 31.5 +1.2**
KURK IAmb IAmb 16 43 41.5
comp=Z,537nm,0.9s
KURK Kurchatov 28.89 46 P **P 16 43 32.1 +1.7**
KURK P **P 16 43 32.1 +1.7**
KURK P **P 16 43 32.1 +1.7**
KURK S **S 16 48 22.6 +2.8**
KURK S **S 16 48 22.6 +2.8**
KURK S **S 16 48 22.6 +2.8**
KURK Kurchatov 28.89 46 ⇑P **P 16 43 31.7 +1.4**
KURK Kurchatov 28.89 46 P **P 16 43 30.6 +0.3**

KURK *i* 16 54 13.4
ROTZ Rotzenmuhle 28.97 312 *e*P **P 16 43 30.5 -0.5**
comp=Z,92nm,1.0s,baz=108,slow=8.9
MOTA Moosalm 28.98 307 *e*P **P 16 43 29.5 -1.8**
comp=Z,211nm,0.8s
MOTA *e*PcP **PcP 16 46 40.3 +0.6**
comp=Z,81nm,1.2s
MOTA S **S 16 48 15.9 -5.7**
comp=Z,521nm,1.4s
MOTA *e*ScP **ScP 16 50 19.6 -0.9**
comp=Z,73nm,1.2s
MOTA *e*PKiKP **PKiKP 16 54 14.0 +0.3**
comp=Z,39nm,1.5s
NKC Novy Kostel 28.98 313 *e*P **P 16 43 31.0 -0.2**
NKC AMS AMS 16 56 40.0
comp=Z,57μm,16.2s
NKC Novy Kostel 28.98 313 *e*P **P 16 43 31.0 -0.2**
NKC MLR MLR
comp=Z,57μm,16.2s
GUNA GUNA 29.04 101⇓*i*P **P 16 43 31.3 -0.6**
TANN Tannenbergstha 29.04 314 *e*P **P 16 43 30.7 -1.0**
comp=Z,174nm,1.1s,baz=108,slow=8.9
CLL Collm 29.05 316 IAmb IAmb 16 43 45.9
comp=Z,420nm,1.5s
CLL IAMs_20 IAMs_20 16 56 57.3
comp=Z,64μm,18.0s
CLL Collm 29.05 316⇑*i*P **P 16 43 30.9 -0.8**
CLL *e*S **S 16 48 19.0 -3.3**
CLL pmax pmax
comp=Z,420nm,1.5s
CLL Collm 29.05 316 *e*P **P 16 43 30.6 -1.1**
comp=Z,266nm,1.4s,baz=108,slow=8.9
CLL Collm 29.05 316⇑*i*P **P 16 43 30.9 -0.8**
comp=Z,420nm,1.5s
CLL *e*Pmax 16 43 31.0
CLL *e*Plp 16 43 32.0
comp=N,500nm,14.6s
CLL *e*Plp 16 43 32.0
comp=E,2μm,18.0s
CLL *e*Plp 16 43 32.0
comp=Z,2μm,16.5s
CLL *i* pP **pP 16 43 35.3 -1.9**
CLL *i* x x 16 44 05.4
CLL *e*PPlp 16 44 17.0
comp=Z,2μm,14.8s
CLL *e*PP **PnPn 16 44 26.0 +2.1**
CLL *e*PPP PPP 16 44 31.0
CLL *e*PPPP 16 44 39.0
CLL *e*x x 16 48 12.0
CLL *e*S **S 16 48 24.0 +1.7**
CLL *e*x x 16 48 50.0
CLL *e*SSS SSS 16 50 00.0
CLL *i* ScP **ScP 16 50 21.6 +1.3**
comp=Z,101nm,1.4s
CLL Collm 29.05 316 P **P 16 43 31.6 -0.1**
comp=Z,158nm,1.3s,comp=Z,3μm
FUR Furstenfeldbru 29.08 309 *e*P **P 16 43 31.1 -0.9**
comp=Z,762nm,0.8s,baz=108,slow=8.9
RUE Ruedersdorf 29.10 318 *e*P **P 16 43 32.1 0.0**
RUE Ruedersdorf 29.10 318 ⇑P **P 16 43 31.6 -0.5**
MANZ Manzenberg 29.11 313 *e*P **P 16 43 31.3 -1.0**
comp=Z,67nm,1.4s,baz=108,slow=8.9
FETA Feichten 29.15 306 *e*P **P 16 43 31.7 -1.2**
comp=Z,133nm,0.9s,SNR=54
FETA *e*PcP **PcP 16 46 42.8 +2.6**
comp=Z,84nm,0.9s
FETA S **S 16 48 19.7 -4.7**
comp=Z,221nm,1.1s
FETA PKiKP **PKiKP 16 54 12.4 -1.5**
comp=Z,41nm,1.5s
RETA Reutte 29.24 307 *e*P **P 16 43 32.3 -1.3**
comp=Z,55nm,0.5s,SNR=68
RETA S **S 16 48 20.6 -4.9**
comp=Z,137nm,0.9s
RETA *e*ScP **ScP 16 50 20.2 -1.0**
comp=Z,47nm,1.3s
RETA PKiKP **PKiKP 16 54 14.2 +0.4**
comp=Z,30nm,1.3s
PLN Plauen 29.25 314 *e*P **P 16 43 31.3 -2.2**
comp=Z,133nm,1.5s,baz=108,slow=8.9
MEF Metsahovi 29.36 338 *e*P **P 16 43 34.6 +0.2**
VSL Villasalto 29.39 291 IAmb IAmb 16 43 39.2
comp=Z,213nm,0.7s
VSL Villasalto 29.39 291 ⇑P **P 16 43 35.3 +0.4**
MSSA Maissana 29.52 301 IAmb IAmb 16 43 58.5
comp=Z,288nm,1.0s
MSSA IAMs_20 IAMs_20 16 57 06.3
comp=Z,63μm,19.0s
GRA1 Grafenberg Arr 29.55 312 IAmb IAmb 16 43 41.5
comp=Z,497nm,1.0s
GRF Grafenberg Arr 29.55 312 *e*P **P 16 43 35.7 -0.5**
comp=Z,499nm,1.0s,baz=108,slow=8.9
GRF *e*L L 16 56 45.8
comp=Z,27μm,21.6s
GRFO Grafenberg 29.55 312 P **P 16 43 35.5 -0.7**
GRFO IAmb IAmb 16 43 41.4
comp=Z,486nm,1.0s
GRFO Grafenberg 29.55 312 P **P 16 43 35.6 -0.7**
GRFO pmax pmax
comp=Z,486nm,1.0s
GRFO MLR MLR
comp=Z,28μm,18.0s
POO Poona 29.56 115⇓*i*P **P 16 43 37.0 +0.4**
LGTI Lohaghat 29.60 90⇓*i*P **P 16 43 34.8 -1.9**
MOX Moxa 29.63 314 *e*P **P 16 43 36.4 -0.5**
comp=Z,128nm,1.1s,baz=108,slow=8.9
MOX *e*L L 16 58 33.0
comp=Z,53μm,19.4s
JHNI Jhansi 29.67 99⇓*i*P **P 16 43 38.2 +0.7**
DAVOX Davos/Dischmat 29.67 306 P **P 16 43 37.1 -0.5**
comp=Z,82nm,0.7s,baz=105,slow=7.4,SNR=107
DAVOX S **S 16 48 28.8 -3.7**
comp=Z,36nm,0.9s,baz=346,slow=22,SNR=3.3
DAVOX LR LR 16 56 08.5
comp=Z,41μm,18.5s,baz=98,slow=38
comp=Z,82nm,0.7s
UBR Ueberruh 29.72 307 *e*P **P 16 43 36.4 -1.4**
comp=Z,208nm,0.8s,baz=108,slow=8.9
PGF Pioggiola 29.73 297 ⇑P **P 16 43 37.1 -0.9**
NEUB Neuenburg 29.73 315 *e*P **P 16 43 36.8 -0.9**
comp=Z,146nm,0.8s,baz=108,slow=8.9
FRKB FARRUKHABAD 29.75 94 *e*P **P 16 43 37.8 -0.3**
SEM Semipalatinsk 29.76 47 *e*P **P 16 43 38.9 +0.6**
comp=Z,210nm,1.1s
SEM LR LR 16 57 01.6
SEM Semipalatinsk 29.76 47 *e*P **P 16 43 38.9 +0.6**
SEM pmax pmax
comp=Z,210nm,1.1s
BSD Bornholm Skovb 29.77 324 *e*P **P 16 43 37.7 -0.3**
BSD Bornholm Skovb 29.77 324 ⇑P **P 16 43 36.5 -1.5**
BSD Bornholm Skovb 29.77 324 *i* P **P 16 43 35.0 -3.0**
BSD IAmb IAmb 16 43 37.7
comp=Z,348nm,0.8s
BHPL Bhopal 29.77 103⇓*i*P **P 16 43 38.4 0.0**
BHPL IAmb IAmb 16 43 46.1
comp=Z,83nm,0.8s
BHPL *e*S **S 16 48 33.6 -0.6**
DAVA Damuels 29.78 307 *e*P **P 16 43 36.6 -1.8**
comp=Z,194nm,0.7s,SNR=85
DAVA S **S 16 48 29.5 -4.7**
comp=Z,473nm,1.4s
DAVA ScP **ScP 16 50 24.7 +1.7**
comp=Z,80nm,1.0s
DAVA PKiKP **PKiKP 16 54 14.2 -0.1**
comp=Z,27nm,1.5s
DAVA Damuels 29.78 307 ⇑P **P 16 43 36.7 -1.7**
NRDN NARMADA NAGAR 29.82 105 *e*P **P 16 43 35.2 -3.6**
FINES FINESS Array B 29.87 341 P **P 16 43 37.9 -0.9**
comp=Z,318nm,0.8s,baz=145,slow=10,SNR=645
FINES S **S 16 48 32.5 -2.5**
comp=Z,90nm,0.9s,baz=138,slow=15,SNR=4.5
FINES LR LR 16 57 14.1
comp=Z,33μm,18.1s,baz=153,slow=40
comp=Z,318nm,0.8s
JOF Joensuu 29.96 347 *e*P **P 16 43 40.1 +0.5**
TUE Stuetta 29.97 305 IAmb IAmb 16 44 03.1
comp=Z,388nm,1.4s
TUE IAMs_20 IAMs_20 16 56 45.4
comp=Z,63μm,20.0s
TUE Stuetta 29.97 305 ⇑P **P 16 43 39.0 -1.2**
TUE Stuetta 29.97 305 P **P 16 43 40.2 0.0**
comp=Z,891nm,1.3s,comp=Z,14μm
MKAR Makanchi Array 30.12 55 P **P 16 43 42.5 +1.2**
comp=Z,45nm,0.7s,baz=253,slow=9.9,SNR=118
MKAR LR LR 16 58 33.9
comp=Z,37μm,20.5s,baz=255,slow=42

comp=Z,45nm,0.7s
RGN Rugen 30.29 322 ⇑P **P 16 43 42.8 +0.2**
RGN Rugen 30.29 322 *e*P **P 16 43 43.3 +0.7**
comp=Z,551nm,0.8s,baz=108,slow=8.9
FLTG Flechtingen 30.46 317 ⇑P **P 16 43 43.3 -0.9**
FLTG Flechtingen 30.46 317 *e*P **P 16 43 43.3 -0.9**
comp=Z,122nm,0.9s,baz=108,slow=8.9
KAD Karad 30.57 117 ⇓*i*P **P 16 43 45.5 0.0**
KAD IAmb IAmb 16 43 48.7
comp=Z,249nm,1.3s
STU Stuttgart 30.57 309 IAMs_20 IAMs_20 16 57 06.2
comp=Z,40μm,18.0s
STU Stuttgart 30.57 309 *e*P **P 16 43 44.5 -0.8**
STU Stuttgart 30.57 309 ⇑P **P 16 43 43.4 -1.8**
UBBA Unterbreizbach 30.65 313 *e*P **P 16 43 45.5 -0.3**
comp=Z,1μm,3.0s,baz=108,slow=8.9
GORT1 Trebel 30.68 318 *e*P **P 16 43 46.1 +0.1**
comp=Z,872nm,1.1s,baz=108,slow=8.9
MONC Moncucco Torin 30.74 302 ⇑P **P 16 43 46.5 -0.3**
AKL Akola 30.75 108 *e*P **P 16 43 47.1 +0.1**
CLZ Clausthal 30.78 315 *e*P **P 16 43 46.7 -0.4**
comp=Z,200nm,0.9s,baz=108,slow=8.9
KEF Keuruu 30.80 341 *e*P **P 16 43 47.2 +0.2**
RAF Rauma 30.81 337 *e*P **P 16 43 47.1 0.0**
GTTG Gottingen 30.91 315 *e*P **P 16 43 47.9 -0.3**
comp=Z,152nm,1.0s,baz=108,slow=8.9
BFO Black Forest 31.03 308 P **P 16 43 47.0 -2.3**
BFO IAMs_20 IAMs_20 16 58 20.2
comp=Z,44μm,20.0s
BFO Black Forest 31.03 308 ⇑P **P 16 43 47.4 -1.9**
BFO Black Forest 31.03 308 P **P 16 43 47.0 -2.3**
BFO pmax pmax
comp=Z,111nm,0.9s
BFO MLR MLR
comp=Z,44μm,20.0s
BFO Black Forest 31.03 308 *e*P **P 16 43 47.3 -1.9**
comp=Z,95nm,1.1s,baz=108,slow=8.9
CMAH Djebel Manchou 31.16 285 P **P 16 43 52.4 +1.8**
ABSA Djebel Ababsia 31.16 285 P **P 16 43 53.4 +2.8**
NRDL Niedersach Rie 31.16 316 *e*P **P 16 43 50.5 +0.2**
comp=Z,156nm,1.0s,baz=108,slow=8.9
COP Copenhagen 31.28 323 *i*P **P 16 43 50.8 -0.6**
COP IAmb IAmb 16 43 53.0
comp=Z,807nm,0.7s
TNS Taunus Mts 31.42 312 *e*P **P 16 43 52.1 -0.7**
comp=Z,348nm,1.3s,baz=108,slow=8.9
GOA Goa 31.48 120 ⇓*i*P **P 16 43 54.3 +0.8**
CAEH 'Ain El Ouahch 31.59 286 P **P 16 43 52.4 -2.0**
BSEG Bad Segeberg 31.60 319 *e*P **P 16 43 54.1 0.0**
comp=Z,326nm,1.0s,baz=108,slow=8.9
BNI Bardonecchia 31.61 302 IAMs_20 IAMs_20 16 58 14.6
comp=Z,45μm,21.0s
BNI Bardonecchia 31.61 302 ⇑P **P 16 43 53.7 -0.9**
RETH Rethem/Aller, 31.68 317 *e*P **P 16 43 55.3 +0.5**
comp=Z,366nm,1.1s,baz=108,slow=8.9
KASTN Kahler Asten 31.72 313 *e*P **P 16 43 54.5 -0.9**
comp=Z,443nm,1.3s,baz=108,slow=8.9
CKFL Kef-Lekhel 31.74 285 P **P 16 43 59.3 +3.4**
ECH Echery 31.77 308 IAmb IAmb 16 43 60.0
comp=Z,314nm,1.1s
CASM Ain Smara 31.95 285 P **P 16 44 00.7 +3.1**
ZSN Zaisan 31.97 54 *e*P **P 16 43 58.4 +0.8**
ZSN Zaisan 31.97 54 *e*P **P 16 43 58.3 +0.7**
VAF Ylistaro 32.11 340 *e*P **P 16 43 58.8 +0.3**
NGP Nagpur 32.12 105 ⇓*i*P **P 16 43 57.5 -1.7**
NGP IAmb IAmb 16 44 01.4
comp=Z,224nm,1.3s
LODK Lodwar 32.28 200 IAmb IAmb 16 44 08.6
comp=Z,535nm,1.5s
LODK Lodwar 32.28 200 P **P 16 44 02.8 +2.1**
SNR=118
LODK Lodwar 32.28 200 *e*P **P 16 44 02.3 +1.7**
RUSF Rustrel 32.38 299 ⇓P **P 16 44 03.8 +2.6**
DFRA Djebel Bou Aff 32.40 285 P **P 16 44 03.8 +2.2**
ALBI Allahabad 32.41 96 *e*P **P 16 44 01.0 -0.7**
IBBN Ibbenburen 32.45 315 ⇑P **P 16 44 01.9 +0.2**
IBBN Ibbenburen 32.45 315 *e*P **P 16 44 01.9 +0.2**
comp=Z,487nm,1.2s,baz=108,slow=8.9
BUG Bochum--Univer 32.48 314 *e*P **P 16 44 01.7 -0.2**
comp=Z,354nm,1.3s,baz=108,slow=8.9
SSRD Sdr. Stenderup 32.60 321 *i*P **P 16 44 03.1 +0.2**
SSRD IAmb IAmb 16 44 04.9
comp=Z,689nm,0.8s
WLF Walferdange 32.72 310 IAmb IAmb 16 44 14.5
comp=Z,327nm,0.9s
WLF Walferdange 32.72 310 P **P 16 44 02.4 -1.7**
WLF Walferdange 32.72 310 ⇑P **P 16 44 02.8 -1.3**
WLF Walferdange 32.72 310 *e*P **P 16 44 02.9 -1.3**
comp=Z,339nm,1.0s,baz=108,slow=8.9
WLF Walferdange 32.72 310 *d*P **P 16 44 02.6 -1.6**
WLF *d*PP **PnPn 16 45 13.2 +1.0**
SET Setif 32.83 285 P **P 16 44 08.0 +2.7**
BTNL Ternell 32.95 312 *d*P **P 16 44 06.0 -0.1**
BTNL *d*PP **PP 16 45 22.7 +2.1**
BHOU Houvegnez 32.97 311 *d*P **P 16 44 06.0 -0.3**
BHOU *d*PP **PP 16 45 19.2 -1.6**
BHOU *d*S **S 16 49 21.8 -1.9**
MEM Membach 33.03 312 *d*P **P 16 44 06.8 0.0**
comp=Z,71nm,1.0s
MEM *d*PP **PnPn 16 45 18.6 +2.5**
MEM *d*S **S 16 49 23.9 -0.6**
HFS Hagfors 33.13 331 P **P 16 44 06.8 -0.8**
comp=Z,764nm,0.8s,baz=138,slow=9.1,SNR=729
HFS S **S 16 49 23.7 -2.1**
comp=Z,147nm,0.9s,baz=126,slow=15,SNR=7.5
HFS LR LR 17 00 50.8
comp=Z,42μm,19.1s,baz=133,slow=42
comp=Z,764nm,0.8s
OVD Ostervraa, Den 33.15 325 *i*P **P 16 44 06.1 -1.6**
OVD IAmb IAmb 16 44 08.6
comp=Z,425nm,0.8s
MUD Monsted U'grnd 33.26 323 ⇑P **P 16 44 08.9 +0.3**
MUD Monsted U'grnd 33.26 323 *i*P **P 16 44 08.0 -0.7**
MUD IAmb IAmb 16 44 10.5
comp=Z,654nm,0.8s
BEBN Eben Emael 33.28 312 *d*P **P 16 44 08.9 0.0**
BEBN *d*PP **PnPn 16 45 20.2 +0.8**
BEBN *d*S **S 16 49 28.0 -0.4**
BEBN *d*SbSb SS 16 51 25.1 -27
BSTI Sart Tilman 33.30 311 *d*P **P 16 44 09.6 +0.4**
comp=Z,17nm,1.0s
MAHO Mahon 33.31 292 IAmb IAmb 16 44 12.5
comp=Z,294nm,1.0s
MAHO Mahon 33.31 292 ⇓P **P 16 44 10.8 +1.4**
RCHB Rochefort 33.41 311 *d*P **P 16 44 09.3 -0.8**
comp=Z,156nm,1.5s
RCHB *d*PP **PP 16 45 24.4 -1.3**
RCHB *d*S **S 16 49 28.4 -2.1**
VAR Varanasi 33.41 96 *e*P **P 16 44 09.7 -0.7**
BCLA Clavier 33.42 311 *d*P **P 16 44 10.3 0.0**
comp=Z,67nm,0.9s
BCLA *d*PP **PP 16 45 26.7 +0.9**
BCLA *d*PcP **PcP 16 46 52.8 +1.5**
BCLA *d*S **S 16 49 31.6 +1.0**
BCLA *d*ScP **ScP 16 50 35.3 +0.4**
BGES Gesves 33.55 311 *d*P **P 16 44 10.6 -0.8**
BGES *d*PcP **PcP 16 46 53.6 +1.9**
WMQ Urumqi 33.58 61 ⇓P **P 16 44 13.5 +1.7**
WMQ pP sP 16 44 18.8 -0.7
WMQ S **S 16 49 35.0 +1.6**
WMQ pmax pmax
comp=Z,390nm,0.9s
WMQ pmax pmax
comp=Z,3μm,4.3s
WMQ LR LR
comp=Z,39μm,16.3s
WMQ LR LR
comp=Z,22μm,17.5s
WMQ LR LR
comp=Z,18μm,24.1s
ZALV Zalesovo Beam 33.59 42 P **P 16 44 11.5 -0.2**
comp=Z,79nm,0.5s,baz=262,slow=9.3,SNR=174
ZALV LR LR 17 01 11.4
comp=Z,33μm,18.9s,baz=250,slow=42
ZALV P3KPbc 17 15 25.2
comp=Z,1.2nm,0.7s,baz=81,slow=1.9,SNR=5.4
comp=Z,79nm,0.5s
ZALV Zalesovo Beam 33.59 42 *i*P **P 16 44 12.0 +0.3**
ZALV pmax pmax
comp=Z,79nm,0.6s
BMRD Maredsous 33.73 311 *d*P **P 16 44 12.8 -0.2**
comp=Z,119nm,1.1s
BMRD *d*PP **PnPn 16 45 20.7 -4.3**
BMRD *d*S **S 16 49 34.7 -0.7**
DOU Dourbes 33.80 310 *d*P **P 16 44 12.5 -1.0**
comp=Z,108nm,0.9s
DOU *d*PP **PnPn 16 45 22.9 -3.0**
DOU *d*PcP **PcP 16 46 49.7 -2.7**
DOU *d*S **S 16 49 33.6 -2.9**
DOU *d*SbSb **SnSn 16 51 39.7 -1.8**
HYB Hyderabad 33.80 112 *e*P **P 16 44 13.5 -0.4**
HYB IVmB_BB 16 44 15.9
comp=Z,3μm,1.7s
HYB *e*pP **pP 16 44 18.6 -0.9**
HYB *e*sP **sP 16 44 21.4 -0.2**
HYB *e*PcP **PcP 16 46 52.5 -0.5**
HYB *e*S **S 16 49 37.4 +0.2**
HYB *e* 16 49 42.8
HYB *e*pS **pS 16 49 44.4 +0.6**
HYB *e*sS **sS 16 49 46.9 +0.6**
HYB *e* 16 52 04.2
HYB IVMs_BB IVMs_BB 16 59 41.7
comp=Z,18μm,17.8s
LOR Lormes 33.81 305 ⇓P **P 16 44 12.3 -1.4**
APA Apatity 33.99 352 ⇓*i*P **P 16 44 13.4 -1.6**
APA *i*S **S 16 49 37.0 -2.1**
APA pmax pmax
comp=Z,318nm,0.9s
APA MLR MLR
comp=Z,48μm,17.0s
UCC Uccle 34.09 312 *d*P **P 16 44 15.8 -0.2**
UCC *d*PP **PnPn 16 45 30.4 +0.8**
UCC *d*PcP PcP 16 47 03.8 +11
UCC *d*S **S 16 49 40.3 -0.7**
UCC *d*ScP **ScP 16 50 37.1 -0.2**
LVZ Lovozero 34.17 353 P **P 16 44 16.3 -0.3**
LVZ IAMs_20 IAMs_20 16 59 31.9
comp=Z,39μm,18.0s
LVZ Lovozero 34.17 353 ⇑P **P 16 44 16.0 -0.5**
LVZ Lovozero 34.17 353 *ce*P **P 16 44 16.7 +0.2**
LVZ pmax pmax
comp=Z,685nm,1.7s
LVZ MLR MLR
comp=Z,33μm,18.0s
LVZ Lovozero 34.17 353 P **P 16 44 16.6 +0.1**
comp=Z,298nm,1.1s,comp=Z,7μm
EJON La Jonquera 34.24 297 P **P 16 44 17.4 -0.2**
OSL Oslo 34.25 329 ⇑*i*P **P 16 44 17.1 -0.1**
OSL IVmB_BB 16 44 17.4
comp=Z,11μm,1.0s
OSL *e*S **S 16 49 40.9 -2.2**
OSL IVMs_BB IVMs_BB 17 03 10.8
comp=Z,14μm,12.0s
NC602 NORSAR Array S 34.35 331 IAmb IAmb 16 44 19.9
comp=Z,152nm,0.8s
NC602 NORSAR Array S 34.35 331 ⇑*i*P **P 16 44 16.8 -1.3**
NC602 IVmB_BB 16 44 17.8
comp=Z,4μm,3.0s
NC602 *e*S **S 16 49 42.6 -2.1**
NC602 *e* 16 52 19.6
NC602 IVMs_BB IVMs_BB 17 01 11.6
comp=Z,13μm,24.7s
HOMB Homborsund 34.40 326 ⇑*i*P **P 16 44 18.6 0.0**
HOMB IVmBBB 16 44 23.6
comp=Z,3μm,1.0s
HOMB *e*S **S 16 49 42.2 -3.4**
HOMB IVMs_BB IVMs_BB 17 01 06.9
comp=Z,12μm,14.1s
ETOS Mallorca 34.43 292 P **P 16 44 16.0 -3.2**
NC405 NORSAR Array S 34.50 331 IAmb IAmb 16 44 20.1
comp=Z,301nm,0.9s
KONO Kongsberg 34.58 328 P **P 16 44 19.1 -1.1**
KONO IAmb IAmb 16 44 20.7
comp=Z,360nm,0.9s
KONO Kongsberg 34.58 328 ⇑*i*P **P 16 44 19.4 -0.8**
KONO IVmB_BB 16 44 20.0
comp=Z,3μm,1.1s
KONO *e*S **S 16 49 46.1 -2.2**
KONO *e* 16 52 19.4
KONO IVMs_BB IVMs_BB 17 01 43.2
comp=Z,12μm,13.7s
KONO Kongsberg 34.58 328 ⇑P **P 16 44 18.9 -1.3**
KONO Kongsberg 34.58 328 *ce*P **P 16 44 19.6 -0.6**
KONO pmax pmax
comp=Z,337nm,0.8s
KONO MLR MLR
comp=Z,25μm,16.0s
NB201 NORSAR Array S 34.63 331 IAmb IAmb 16 45 33.0
comp=Z,504nm,1.3s
NB2 NORSAR Subarra 34.66 331 P **P 16 44 19.4 -1.5**
comp=Z,252nm,0.9s,baz=125,slow=9.3
NB2 NORSAR Subarra 34.66 331 P **P 16 44 19.4 -1.5**
baz=125,slow=9.3
NOA NORSAR Array B 34.66 331 P **P 16 44 19.2 -1.6**
comp=Z,109nm,0.8s,baz=125,slow=8.7,SNR=451
NOA S **S 16 49 50.0 +0.5**
comp=Z,48nm,0.9s,baz=125,slow=15,SNR=3.3
NOA LR LR 17 00 05.4
comp=Z,43μm,20.6s,baz=125,slow=39
comp=Z,109nm,0.8s
NAO01 NORSAR Array S 34.68 331 IAmb IAmb 16 44 21.5
comp=Z,286nm,0.8s
MTLF Montolieu 34.73 298 ⇑P **P 16 44 20.8 -0.9**
NBO00 NORSAR Array S 34.83 331 IAmb IAmb 16 45 34.5
comp=Z,211nm,1.1s
NC204 NORSAR Array S 34.97 331 IAmb IAmb 16 44 28.2
comp=Z,162nm,0.8s
CLF Chambon-Foret 34.98 306 IAmb IAmb 16 44 28.2
comp=Z,187nm,0.9s
CLF IAMs_20 IAMs_20 16 59 21.7
comp=Z,36μm,20.0s
SNART Snartemo 35.04 325 ⇑*i*P **P 16 44 24.2 +0.1**
SNART *e*S **S 16 49 55.0 -0.5**
SNART *e* 16 52 28.1
SNART IVMs_BB IVMs_BB 17 02 32.7
comp=Z,23μm,17.0s
CEST Esterri de Car 35.45 297 IAmb IAmb 16 45 10.9
comp=Z,73nm,1.0s
CEST IAMs_20 IAMs_20 16 58 42.0
comp=Z,27μm,21.0s
EVN Everest 35.53 89 ⇓P **P 16 44 30.1 +0.5**
JHSG JHARSUGUGA 35.62 101 *e*P **P 16 44 28.7 -0.9**
JHSG IAmb IAmb 16 44 31.6
comp=Z,460nm,1.3s
EIBI Ibiza 35.64 291 P **P 16 44 30.8 +1.2**
SKAR Skarslia 35.66 329 ⇑*i*P **P 16 44 29.4 -0.2**
SKAR IVmB_BB 16 44 30.4
comp=Z,4μm,2.4s
SKAR *e*S **S 16 50 03.7 -1.4**
SKAR IVMs_BB IVMs_BB 17 01 30.6
comp=Z,14μm,20.7s
BLS5 Blasjo 35.88 326 ⇑*i*P **P 16 44 31.7 +0.4**
BLS5 IVmB_BB 16 44 32.3
comp=Z,6μm,3.3s
BLS5 *e*S **S 16 50 09.1 +0.7**
BLS5 IVMs_BB IVMs_BB 17 01 53.6
comp=Z,12μm,19.1s
ODD1 Odda 36.02 327 ⇑*i*P **P 16 44 33.4 +0.7**
ODD1 IVmB_BB 16 44 33.9
comp=Z,7μm,2.6s
ODD1 *e*S **S 16 50 12.6 +2.0**
ODD1 IVMs_BB IVMs_BB 17 01 05.7
comp=Z,10μm,17.7s
DOMB Dombas 36.07 331 ⇑*i*P **P 16 44 33.0 -0.1**
DOMB IVmB_BB 16 44 33.5
comp=Z,4μm,2.5s
DOMB *e*S **S 16 50 10.7 -0.6**
DOMB IVMs_BB IVMs_BB 17 00 36.8
comp=Z,19μm,20.0s
ELSH Elham, Standar 36.16 311 *e*P **P 16 44 33.8 -0.1**
ELSH IAmb IAmb 16 44 39.9
comp=Z,469nm,1.0s
ELSH IAMs_20 IAMs_20 16 59 44.0
comp=Z,35μm,33.9s
KMBO Kilima Mbogo 36.21 194 P **P 16 44 33.4 -1.5**
KMBO Kilima Mbogo 36.21 194 IAMs_20 IAMs_20 16 57 36.5
comp=Z,48μm,22.0s
KMBO Kilima Mbogo 36.21 194 P **P 16 44 36.4 +1.5**
KMBO Kilima Mbogo 36.21 194 P **P 16 44 35.9 +1.0**
comp=Z,25nm,1.0s,baz=25,slow=9.3,SNR=45
KMBO LR LR 16 58 32.1
comp=Z,30μm,19.2s,baz=7.5,slow=35
comp=Z,25nm,1.0s
KMBO Kilima Mbogo 36.21 194 P **P 16 44 37.8 +3.0**
KMBO S **S 16 50 19.5 +4.9**
KMBO Kilima Mbogo 36.21 194 *e*P **P 16 44 37.6 +2.7**
KMBO Kilima Mbogo 36.21 194 ⇓P **P 16 44 36.8 +1.9**
KMBO Kilima Mbogo 36.21 194 *i*P **P 16 44 37.0 +2.1**
KMY Karmoy 36.34 326 ⇑*i*P **P 16 44 35.3 +0.1**
KMY IVmB_BB 16 44 36.0
comp=Z,5μm,3.3s
KMY *e*S **S 16 50 15.6 +0.3**
KMY IVMs_BB IVMs_BB 17 03 30.8
comp=Z,15μm,13.1s
BOK Bokaro 36.41 96 ⇓*i*P **P 16 44 35.5 -0.8**
BOK IAmb IAmb 16 44 41.6
comp=Z,275nm,0.9s
BOK *e*S **S 16 50 14.4 -2.8**
ELMS Elmsett, Ipswi 36.42 313 *e*P **P 16 44 35.6 -0.5**
ELMS IAmb IAmb 16 44 37.4
comp=Z,317nm,1.0s
ELMS IAMs_20 IAMs_20 17 02 49.3
comp=Z,22μm,19.5s
NSS Namsos 36.48 336 ⇑*i*P **P 16 44 36.0 -0.4**
NSS IVmB_BB 16 44 36.7
comp=Z,8μm,2.5s
NSS *e*S **S 16 50 14.8 -2.6**
NSS IVMs_BB IVMs_BB 17 01 11.9
comp=Z,21μm,14.9s
MFF Saint Martin d 36.49 304 ⇑P **P 16 44 35.5 -1.2**
HMNX Herstmonceux 36.61 311 *e*P **P 16 44 37.6 -0.1**
HMNX IAMs_20 IAMs_20 17 01 48.5
comp=Z,51μm,14.4s
WACR West Acre 36.77 314 *e*P **P 16 44 38.2 -0.8**
WACR IAmb IAmb 16 44 43.9
comp=Z,582nm,0.9s
WACR IAMs_20 IAMs_20 16 58 16.0
comp=Z,38μm,26.5s
HYA Hoyanger 36.80 329 ⇑*i*P **P 16 44 39.3 +0.1**
HYA IVmB_BB 16 44 40.1
comp=Z,5μm,2.9s
HYA *e*S **S 16 50 23.7 +1.4**
HYA IVMs_BB IVMs_BB 17 03 04.2
comp=Z,16μm,12.2s
MOR8 Moi Rana 36.81 339 ⇑*i*P **P 16 44 38.2 -1.0**
MOR8 IVmB_BB 16 44 39.1
comp=Z,6μm,2.5s
MOR8 *e*S **S 16 50 21.2 -1.1**
MOR8 IVMs_BB IVMs_BB 17 01 32.3
comp=Z,12μm,13.1s
BER Bergen 36.81 327 ⇑*i*P **P 16 44 39.8 +0.5**
BER IVmB_BB 16 44 40.2
comp=Z,5μm,0.7s
BER *e*S **S 16 50 23.7 +1.2**
BER IVMs_BB IVMs_BB 17 03 01.4
comp=Z,9μm,12.9s
KTK1 Kautokeino 36.91 347 ⇑*i*P **P 16 44 39.1 -0.9**
KTK1 IVmB_BB 16 44 40.3
comp=Z,9μm,1.2s
KTK1 *e*PP **PP 16 45 59.5 -4.6**
KTK1 *e*S **S 16 50 22.2 -1.6**
KTK1 IVMs_BB IVMs_BB 17 00 38.6
comp=Z,15μm,20.2s
VADS Vadso 36.91 351 ⇑*i*P **P 16 44 40.2 +0.2**
VADS IVmB_BB 16 44 40.7
comp=Z,10μm,1.0s
VADS *e*PP **PP 16 46 02.5 -1.6**
VADS *e*S **S 16 50 22.8 -1.0**
VADS IVMs_BB IVMs_BB 17 05 57.5
comp=Z,13μm,14.3s
KEV Kevo 36.91 349 P **P 16 44 39.6 -0.5**
KEV IAMs_20 IAMs_20 17 01 25.5
comp=Z,31μm,20.0s
KEV Kevo 36.91 349 ⇑P **P 16 44 39.2 -0.9**
KEV Kevo 36.91 349 P **P 16 44 39.6 -0.5**
KEV pmax pmax
comp=Z,3μm,2.0s
KEV MLR MLR
comp=Z,31μm,20.0s
ASK Askoy 36.92 328 ⇑*i*P **P 16 44 40.5 +0.3**
ASK IVmB_BB 16 44 41.0
comp=Z,4μm,0.8s
ASK *e*S **S 16 50 25.5 +1.4**
ASK IVMs_BB IVMs_BB 17 05 54.3
comp=Z,10μm,14.2s
TAM Tamanrasset 36.95 263 P **P 16 44 39.4 -1.7**
TAM IAmb IAmb 16 44 47.6
comp=Z,277nm,1.0s
TAM IAMs_20 IAMs_20 17 02 36.7
comp=Z,35μm,18.0s
TAM Tamanrasset 36.95 263 P **P 16 44 39.4 -1.7**
TAM pmax pmax
comp=Z,277nm,1.0s
TAM MLR MLR
comp=Z,35μm,18.0s
MOL Molde 36.95 332 ⇑*i*P **P 16 44 40.1 -0.3**
MOL IVmB_BB 16 44 41.0
comp=Z,4μm,3.2s
MOL *e*PP **PP 16 46 05.4 +0.8**
MOL *e*S **S 16 50 24.2 -0.3**
MOL IVMs_BB IVMs_BB 17 01 05.3
comp=Z,20μm,18.9s
ARA0 ARCESS Array S 36.96 348 ⇑*i*P **P 16 44 40.6 +0.1**
ARA0 IVmB_BB 16 44 41.0
comp=Z,8μm,1.2s
ARA0 *e*PP **PP 16 45 58.5 -6.1**
ARA0 *e*S **S 16 50 23.8 -0.8**
ARA0 IVMs_BB IVMs_BB 17 01 16.8
comp=Z,15μm,19.1s
ARCES ARCESS Array B 36.96 348 P **P 16 44 40.0 -0.5**
comp=Z,408nm,0.8s,baz=162,slow=8.0,SNR=608
ARCES LR LR 17 01 12.7
comp=Z,39μm,19.1s,baz=151,slow=38
comp=Z,408nm,0.8s
ARCES ARCESS Array B 36.96 348 P **P 16 44 40.0 -0.5**
AKN Aaknes 36.97 331 ⇑*i*P **P 16 44 40.9 +0.3**
AKN IVmB_BB 16 44 41.7
comp=Z,5μm,3.0s
AKN *e*S **S 16 50 26.9 +2.0**
AKN *e*SS **SS 16 53 09.2 +2.6**
AKN IVMs_BB IVMs_BB 17 01 13.1
comp=Z,15μm,19.0s
SALM Salem 37.20 120 ⇓*i*P **P 16 44 42.1 -0.9**
KIBK Kibwezi 37.24 193 P **P 16 44 42.2 -1.2**
KIBK IAmb IAmb 16 44 51.5
comp=Z,739nm,1.7s
KIBK IAMs_20 IAMs_20 16 59 12.3
comp=Z,47μm,20.0s
KIBK Kibwezi 37.24 193 P **P 16 44 44.1 +0.6**
KIBK Kibwezi 37.24 193 P **P 16 44 45.6 +2.2**
SNR=100
GTK Tadong 37.24 89 *e*P **P 16 44 44.1 +0.6**
STOK Stokkvaagen 37.34 339 ⇑*i*P **P 16 44 43.4 -0.2**
STOK IVmB_BB 16 44 44.0
comp=Z,10μm,1.2s
STOK *e*PP **PP 16 46 04.6 -4.1**
STOK *e*S **S 16 50 28.8 -1.5**
STOK IVMs_BB IVMs_BB 17 01 21.3
comp=Z,20μm,15.8s
ECHE Chera 37.35 292 P **P 16 44 44.6 +0.4**
SUE Sulen 37.37 328 ⇑*i*P **P 16 44 43.9 0.0**
SUE IVmB_BB 16 44 44.6
comp=Z,5μm,2.3s
SUE *e*S **S 16 50 30.8 -0.1**
SUE IVMs_BB IVMs_BB 17 04 23.3
comp=Z,14μm,13.0s
KONS Konsvik 37.42 339 ⇑*i*P **P 16 44 44.1 -0.2**
ODJA Bouhanifia 37.42 285 P **P 16 44 48.0 +3.1**
FAUS Fauske 37.43 341 ⇑*i*P **P 16 44 44.2 -0.2**
FAUS IVmB_BB 16 44 44.8
comp=Z,6μm,2.0s
FAUS *e*PP **PP 16 46 05.1 -4.7**
FAUS *e*S **S 16 50 29.6 -2.2**
FAUS IVMs_BB IVMs_BB 17 04 05.9
comp=Z,16μm,19.4s
LMK Market Rasen 37.48 315 *e*P **P 16 44 44.8 -0.3**
LMK IAMs_20 IAMs_20 17 02 50.0
comp=Z,38μm,17.1s
FOO Floro 37.49 329 ⇑*i*P **P 16 44 44.7 -0.3**
FOO IVmB_BB 16 44 45.6
comp=Z,4μm,2.2s
FOO *e*PP **PP 16 46 10.5 0.0**
FOO *e*S **S 16 50 31.7 -1.1**
FOO IVMs_BB IVMs_BB 17 03 27.0
comp=Z,16μm,13.5s
MBAR Mbarara 37.54 205 P **P 16 44 44.6 -1.5**
MBAR Mbarara 37.54 205 LR LR 16 59 49.4
comp=Z,13μm,21.1s,baz=24,slow=36
MBAR Mbarara 37.54 205 P **P 16 44 47.2 +1.1**
MBAR P **P 16 44 47.2 +1.1**
MBAR S **S 16 50 34.5 -0.2**
MBAR S **S 16 50 34.5 -0.2**
MBAR Mbarara 37.54 205 *e*P **P 16 44 46.4 +0.3**
MBAR Mbarara 37.54 205 ⇓P **P 16 44 45.9 -0.2**
MBAR Mbarara 37.54 205 P **P 16 44 44.6 -1.5**

MBAR				pmax	pmax		
	comp=Z,239nm,1.4s						
JPG	**JALPAIGURI**	**37.62**	**90**	*eP*	**P**	**16 44 47.1**	**+0.6**
WOL	**Wolverton**	**37.65**	**311**	*eP*	**P**	**16 44 46.4**	**-0.1**
WOL				IAmb	IAmb	16 44 47.4	
	comp=Z,471nm,0.7s						
MDRS	**Chennai**	**37.76**	**116**	⇓*iP*	**P**	**16 44 47.8**	**0.0**
EMUR	**La Murta**	**37.82**	**289**	P	**P**	**16 44 47.1**	**-1.0**
STEI	**Steigen**	**37.85**	**342**	⇑*iP*	**P**	**16 44 46.7**	**-1.2**
STEI				IVmBBB		16 44 48.3	
	comp=Z,7μm,0.6s						
STEI				*e*PP	**PP**	**16 46 11.6**	**-2.7**
STEI				*e*S	**S**	**16 50 37.1**	**-0.9**
STEI				*e*SS	**SnSn**	**16 53 17.8**	**-1.1**
STEI				IVMs_BB	IVMs_BB	17 07 22.4	
	comp=Z,13μm,15.4s						
JETT	**Jettan, Norway**	**37.92**	**346**	⇑*iP*	**P**	**16 44 48.7**	**0.0**
JETT				IVmB_BB		16 44 49.1	
	comp=Z,16μm,1.8s						
JETT				*e*S	**S**	**16 50 38.1**	**-1.2**
JETT				*e*SS	**SnSn**	**16 53 17.1**	**-3.7**
JETT				IVMs_BB	IVMs_BB	17 01 17.7	
	comp=Z,20μm,20.0s						
CWF	**Charnwood Fore**	**37.93**	**314**	*eP*	**P**	**16 44 47.6**	**-1.2**
CWF				IAmb	IAmb	16 44 49.0	
	comp=Z,151nm,0.7s						
CWF				IAMs_20	IAMs_20	17 04 57.1	
	comp=Z,33μm,18.1s						
JLP	**Les Platons**	**37.98**	**308**	*eP*	**P**	**16 44 48.4**	**-1.0**
JSA	**Saint Aubin**	**38.02**	**308**	*eP*	**P**	**16 44 47.9**	**-1.8**
JSA				IAmb	IAmb	16 44 51.1	
	comp=Z,263nm,0.9s						
JSA				IAMs_20	IAMs_20	17 01 19.6	
	comp=Z,23μm,20.8s						
JSA	**Saint Aubin**	**38.02**	**308**	⇓P	**P**	**16 44 48.2**	**-1.4**
SWN1	**Swindon**	**38.04**	**312**	*eP*	**P**	**16 44 49.7**	**-0.1**
SWN1				IAmb	IAmb	16 44 52.3	
	comp=Z,668nm,0.7s						
SWN1				IAMs_20	IAMs_20	17 02 52.0	
	comp=Z,25μm,15.5s						
HAMF	**Hammerfest**	**38.23**	**348**	⇑*iP*	**P**	**16 44 51.4**	**+0.2**
HAMF				IVmB_BB		16 44 51.7	
	comp=Z,11μm,1.7s						
HAMF				*e*PP	**PP**	**16 46 11.4**	**-7.1**
HAMF				*e*S	**S**	**16 50 43.1**	**-0.7**
HAMF				IVMs_BB	IVMs_BB	17 01 39.4	
	comp=Z,16μm,19.3s						
TRO	**Tromso**	**38.29**	**345**	⇑*iP*	**P**	**16 44 51.5**	**-0.2**
TRO				IVmB_BB		16 44 51.9	
	comp=Z,13μm,1.9s						
TRO				*e*PP	**PP**	**16 46 14.8**	**-4.3**
TRO				*e*S	**S**	**16 50 44.1**	**-0.5**
TRO				IVMs_BB	IVMs_BB	17 01 29.5	
	comp=Z,19μm,23.4s						
STRD	**Stroud**	**38.30**	**312**	*eP*	**P**	**16 44 51.3**	**-0.7**
STRD				IAmb	IAmb	16 44 52.4	
	comp=Z,332nm,0.8s						
STRD				IAMs_20	IAMs_20	17 04 23.4	
	comp=Z,28μm,15.9s						
HPK	**Haverah Park**	**38.34**	**315**	*eP*	**P**	**16 44 51.1**	**-1.1**
HPK				IAMs_20	IAMs_20	17 03 35.0	
	comp=Z,34μm,15.7s						
LOF	**Lofoten**	**38.44**	**341**	⇑*iP*	**P**	**16 44 51.7**	**-1.3**
LOF				IVmB_BB		16 44 52.3	
	comp=Z,3μm,2.0s						
LOF				*e*S	**S**	**16 50 44.0**	**-2.9**
LOF				*e*SS	**SnSn**	**16 53 29.1**	**-4.0**
LOF				IVMs_BB	IVMs_BB	17 04 47.1	
	comp=Z,14μm,15.2s						
LSA	**Lhasa**	**38.52**	**84**	P	**P**	**16 44 54.8**	**+0.1**
LSA	**Lhasa**	**38.52**	**84**	P	**P**	**16 44 55.0**	**+0.3**
LSA				S	**S**	**16 50 48.0**	**-2.0**
LSA				pmax	pmax		
	comp=Z,110nm,1.3s						
LSA				LR	LR		
	comp=Z,25μm,21.6s						
LSA				LR	LR		
	comp=Z,26μm,19.8s						
OLDB	**Oldbury-Upon-S**	**38.52**	**312**	*eP*	**P**	**16 44 53.0**	**-0.8**
OLDB				IAmb	IAmb	16 44 59.6	
	comp=Z,512nm,0.9s						
OLDB				IAMs_20	IAMs_20	17 03 00.3	
	comp=Z,25μm,15.8s						
STNC	**Stoke**	**38.52**	**314**	*eP*	**P**	**16 44 53.0**	**-0.8**
TRD	**Trivandrum**	**38.52**	**125**	⇓*iP*	**P**	**16 44 53.8**	**-0.4**
ROSF	**Rostrenen**	**38.69**	**306**	⇓P	**P**	**16 44 53.8**	**-1.6**
MONM	**Monmouth**	**38.70**	**312**	*eP*	**P**	**16 44 53.8**	**-1.6**
MONM				IAmb	IAmb	16 44 55.5	
	comp=Z,186nm,0.8s						
MONM				IAMs_20	IAMs_20	17 04 35.8	
	comp=Z,23μm,16.0s						
EDMD	**Edmundbyers**	**38.70**	**317**	*eP*	**P**	**16 44 54.8**	**-0.6**
EDMD				IAMs_20	IAMs_20	17 06 24.5	
	comp=Z,33μm,15.6s						
ENIJ	**Nijar**	**38.73**	**288**	P	**P**	**16 44 55.8**	**0.0**
MCH1	**Michaelchurch**	**38.84**	**312**	*eP*	**P**	**16 44 55.2**	**-1.3**
MCH1				IAmb	IAmb	16 44 56.6	
	comp=Z,271nm,0.8s						
MCH1				IAMs_20	IAMs_20	17 04 41.4	
	comp=Z,26μm,16.6s						
MCH1	**Michaelchurch**	**38.84**	**312**	⇑P	**P**	**16 44 55.1**	**-1.4**
UCM	**Universidad Co**	**39.00**	**294**	P	**P**	**16 44 57.2**	**-0.9**
FOEL	**Foel Wylfa**	**39.09**	**314**	*eP*	**P**	**16 44 57.9**	**-0.7**
FOEL				IAMs_20	IAMs_20	17 07 53.4	
	comp=Z,26μm,13.9s						
CHAS	**Isla Isabel II**	**39.28**	**285**	P	**P**	**16 45 00.4**	**0.0**
ESY	**Stoneypath**	**39.30**	**318**	*eP*	**P**	**16 44 59.5**	**-0.8**
KESW	**Keswick, Cumbr**	**39.31**	**316**	*eP*	**P**	**16 45 00.2**	**-0.2**
KESW				IAmb	IAmb	16 45 01.2	
	comp=Z,356nm,0.7s						
KESW				IAMs_20	IAMs_20	17 05 16.0	
	comp=Z,33μm,18.7s						
LLW	**Llanuwchllyn**	**39.36**	**313**	*eP*	**P**	**16 45 00.4**	**-0.5**
DRUM	**Mains of Drumt**	**39.46**	**320**	*eP*	**P**	**16 45 01.3**	**-0.3**
DRUM				IAmb	IAmb	16 45 02.3	
	comp=Z,590nm,0.8s						
DRUM				IAMs_20	IAMs_20	17 04 38.5	
	comp=Z,45μm,18.0s						
EKA	**Eskdalemuir Ar**	**39.48**	**317**	P	**P**	**16 45 01.0**	**-0.9**
	comp=Z,127nm,0.6s,baz=104,slow=8.5,SNR=364						
EKA				PcP	**PcP**	**16 47 10.3**	**+0.9**
	comp=Z,38nm,0.8s,baz=113,slow=5.5,SNR=2.6						
	comp=Z,127nm,0.6s						
ESK	**Eskdalemuir**	**39.50**	**317**	P	**P**	**16 45 01.4**	**-0.7**
ESK	**Eskdalemuir**	**39.50**	**317**	*eP*	**P**	**16 45 00.3**	**-1.7**
ESK				IAMs_20	IAMs_20	17 04 34.0	
	comp=Z,28μm,17.5s						
ESK	**Eskdalemuir**	**39.50**	**317**	⇑P	**P**	**16 45 01.3**	**-0.7**
ESK	**Eskdalemuir**	**39.50**	**317**	P	**P**	**16 45 01.4**	**-0.7**
ESK				pmax	pmax		
	comp=Z,214nm,0.8s						
ESK				MLR	MLR		
	comp=Z,26μm,20.0s						
EDI	**Edinburgh**	**39.62**	**318**	*eP*	**P**	**16 45 02.6**	**-0.3**
EDI				IAmb	IAmb	16 45 04.3	
	comp=Z,556nm,0.6s						
EDI				IAMs_20	IAMs_20	17 02 08.3	
	comp=Z,23μm,23.0s						
ESDC	**Sonseca Array**	**39.64**	**293**	P	**P**	**16 45 02.1**	**-1.4**
	comp=Z,76nm,0.9s,baz=65,slow=7.8,SNR=137						
ESDC				PcP	**PcP**	**16 47 11.4**	**+1.2**
	comp=Z,28nm,0.9s,baz=66,slow=4.4,SNR=4.2						
ESDC				ScP	**ScP**	**16 50 59.2**	**+1.0**
	comp=Z,9.4nm,0.9s,baz=52,slow=3.5,SNR=4.2						
ESDC				LR	LR	17 02 13.0	
	comp=Z,30μm,19.9s,baz=84,slow=37						
	comp=Z,76nm,0.9s						
HTL	**Hartland**	**39.66**	**310**	*eP*	**P**	**16 45 02.4**	**-0.9**
HTL				IAMs_20	IAMs_20	17 03 59.9	
	comp=Z,51μm,14.9s						
YLL	**Llanberis**	**39.70**	**314**	*eP*	**P**	**16 45 02.9**	**-0.8**
LRW	**Lerwick**	**39.71**	**325**	*eP*	**P**	**16 45 02.7**	**-1.0**
LRW				IAmb	IAmb	16 45 04.1	
	comp=Z,344nm,0.8s						
LRW				IAMs_20	IAMs_20	17 10 02.9	
	comp=Z,25μm,15.8s						
LRW	**Lerwick**	**39.71**	**325**	⇓P	**P**	**16 45 03.0**	**-0.7**
GOMU	**GeErMu**	**39.75**	**73**	P	**P**	**16 45 05.5**	**+0.7**
GOMU				S	**S**	**16 51 09.0**	**+0.8**
GOMU				pmax	pmax		
	comp=Z,310nm,1.5s						
GOMU				pmax	pmax		
	comp=Z,4μm,4.4s						
GOMU				LR	LR		
	comp=Z,35μm,19.5s						
GOMU				LR	LR		
	comp=Z,29μm,18.9s						
GOMU				LR	LR		
	comp=Z,35μm,17.5s						
SBD	**Saint Breward**	**39.75**	**310**	*eP*	**P**	**16 45 03.7**	**-0.5**
WME	**Myndd Eilian**	**39.81**	**314**	*eP*	**P**	**16 45 04.5**	**-0.2**
WLF1	**Llynfaes**	**39.85**	**314**	*eP*	**P**	**16 45 04.2**	**-0.7**
WLF1				IAMs_20	IAMs_20	17 06 11.2	
	comp=Z,47μm,15.7s						
RSBS	**Rosebush, Pemb**	**39.91**	**312**	*eP*	**P**	**16 45 04.4**	**-1.1**
RSBS				IAmb	IAmb	16 45 05.8	
	comp=Z,161nm,0.9s						
RSBS				IAMs_20	IAMs_20	17 05 07.9	
	comp=Z,23μm,17.6s						
MSEY	**Mahe Island**	**39.91**	**165**	P	**P**	**16 45 05.3**	**-0.5**
MSEY	**Mahe Island**	**39.91**	**165**	P	**P**	**16 45 06.4**	**+0.5**
MSEY	**Mahe Island**	**39.91**	**165**	P	**P**	**16 45 08.6**	**+2.7**
MSEY				P	**P**	**16 45 08.6**	**+2.7**
MSEY				S	**S**	**16 51 12.3**	**+2.1**
MSEY				S	**S**	**16 51 12.3**	**+2.1**
MSEY	**Mahe Island**	**39.91**	**165**	⇑P	**P**	**16 45 08.3**	**+2.5**
MSEY	**Mahe Island**	**39.91**	**165**	P	**P**	**16 45 05.3**	**-0.5**
MSEY				pmax	pmax		
	comp=Z,144nm,0.9s						
WPS	**Cemaes, Angles**	**39.93**	**314**	*eP*	**P**	**16 45 05.2**	**-0.4**
WPS				IAmb	IAmb	16 45 11.2	
	comp=Z,375nm,1.0s						
WPS				IAMs_20	IAMs_20	17 05 30.8	
	comp=Z,31μm,16.9s						
PAB	**San Pablo**	**39.95**	**293**	P	**P**	**16 45 04.8**	**-1.2**
PAB	**San Pablo**	**39.95**	**293**	⇑P	**P**	**16 45 05.6**	**-0.5**
PAB	**San Pablo**	**39.95**	**293**	P	**P**	**16 45 04.9**	**-1.2**
PAB				pmax	pmax		
	comp=Z,402nm,1.6s						
PAB				MLR	MLR		
	comp=Z,24μm,20.0s						
MCD	**Coleburn Disti**	**40.02**	**321**	*eP*	**P**	**16 45 05.6**	**-0.8**
MCD				IAmb	IAmb	16 45 07.0	
	comp=Z,688nm,0.7s						
NEWG	**New Galloway**	**40.04**	**317**	*eP*	**P**	**16 45 06.0**	**-0.5**
NEWG				IAmb	IAmb	16 45 12.1	
	comp=Z,147nm,0.9s						
NEWG				IAMs_20	IAMs_20	17 04 15.3	
	comp=Z,31μm,19.0s						
CCA1	**Carnmenellis**	**40.07**	**309**	*eP*	**P**	**16 45 05.8**	**-1.0**
CCA1				IAMs_20	IAMs_20	17 03 04.4	
	comp=Z,33μm,23.5s						
IOMK	**Kirk Michael**	**40.09**	**315**	*eP*	**P**	**16 45 06.7**	**-0.3**
IOMK				IAmb	IAmb	16 45 08.1	
	comp=Z,330nm,0.8s						
IOMK				IAMs_20	IAMs_20	17 07 25.4	
	comp=Z,63μm,14.7s						
WIM	**Isle of Man**	**40.14**	**315**	*eP*	**P**	**16 45 07.2**	**-0.2**
INVG	**Invergeldie, C**	**40.19**	**319**	*eP*	**P**	**16 45 06.7**	**-1.0**
INVG				IAmb	IAmb	16 45 08.6	
	comp=Z,248nm,0.8s						
INVG				IAMs_20	IAMs_20	17 02 13.8	
	comp=Z,14μm,23.5s						
GAL1	**Galloway**	**40.27**	**316**	*eP*	**P**	**16 45 07.2**	**-1.2**
GAL1				IAmb	IAmb	16 45 09.0	
	comp=Z,179nm,0.8s						
GAL1				IAMs_20	IAMs_20	17 05 53.5	
	comp=Z,26μm,19.1s						
PGBU	**Glenifferbraes**	**40.31**	**318**	*eP*	**P**	**16 45 08.4**	**-0.3**
PGBU				IAmb	IAmb	16 45 09.6	
	comp=Z,318nm,0.8s						
PGBU				IAMs_20	IAMs_20	17 04 57.5	
	comp=Z,34μm,19.4s						
SHL	**Shillong**	**40.63**	**90**	IAmb	IAmb	16 45 26.7	
	comp=Z,333nm,0.8s						
SHL	**Shillong**	**40.63**	**90**	P	**P**	**16 45 10.7**	**-1.3**
	SNR=229						
SHL	**Shillong**	**40.63**	**90**	*i* P	**P**	**16 45 10.9**	**-1.1**
SHL				IAmb	IAmb	16 45 15.3	
	comp=Z,419nm,1.3s						
LAWE	**Loch Awe, Argy**	**40.90**	**318**	*eP*	**P**	**16 45 12.8**	**-0.8**
LAWE				IAMs_20	IAMs_20	17 06 30.9	
	comp=Z,35μm,17.3s						
DSB	**Dublin**	**41.03**	**314**	P	**P**	**16 45 14.4**	**-0.3**
DSB	**Dublin**	**41.03**	**314**	P	**P**	**16 45 14.0**	**-0.7**
DSB	**Dublin**	**41.03**	**314**	⇑P	**P**	**16 45 14.3**	**-0.3**
MALK	**Mahakanadarawa**	**41.09**	**121**	⇓P	**P**	**16 45 16.2**	**+0.5**
CLGH	**Cloghs, Cushen**	**41.10**	**317**	*eP*	**P**	**16 45 15.0**	**-0.3**
CLGH				IAmb	IAmb	16 45 21.4	
	comp=Z,470nm,0.9s						
CLGH				IAMs_20	IAMs_20	17 06 57.3	
	comp=Z,32μm,16.3s						
LINV	**Loch Inver, As**	**41.16**	**321**	*eP*	**P**	**16 45 14.8**	**-0.9**
LINV				IAmb	IAmb	16 45 16.3	
	comp=Z,514nm,0.9s						
IWEX	**Carrickbyrne,**	**41.19**	**312**	P	**P**	**16 45 15.2**	**-0.9**
IWEX	**Carrickbyrne,**	**41.19**	**312**	*eP*	**P**	**16 45 15.1**	**-0.9**
IWEX				IAMs_20	IAMs_20	17 03 42.6	
	comp=Z,31μm,16.4s						
KPL	**Plockton**	**41.23**	**320**	*eP*	**P**	**16 45 15.8**	**-0.5**
KPL				IAmb	IAmb	16 45 21.0	
	comp=Z,186nm,1.1s						
KPL				IAMs_20	IAMs_20	17 05 59.5	
	comp=Z,35μm,17.9s						
PBRG	**Braganca**	**41.43**	**296**	*eP*	**P**	**16 45 16.9**	**-1.4**
PBRG				A	A	16 45 22.3	
	comp=Z,196nm,1.7s						
DODT	**Dodoma, Tanzan**	**41.44**	**195**	*i* P	**P**	**16 45 21.7**	**+3.1**
ZIRO	**ZIRO**	**41.50**	**86**	*eP*	**P**	**16 45 18.2**	**-0.9**
MVO	**Moncorvo**	**41.73**	**295**	*eP*	**P**	**16 45 20.1**	**-0.7**
MVO				A	A	16 45 25.0	
	comp=Z,294nm,1.3s						
MVO				*e*S	**S**	**16 51 35.6**	**-1.5**
MVO				*e*SS	**SS**	**16 54 39.4**	**-3.4**
MVO				A	A	17 03 27.6	
	comp=Z,18μm,20.0s						
IDGL	**Inch Island, C**	**41.90**	**316**	P	**P**	**16 45 21.0**	**-0.8**
NRIK	**Noril'sk**	**41.90**	**21**	P	**P**	**16 45 22.3**	**+0.6**
NRIK				IAmb	IAmb	16 45 31.8	
	comp=Z,605nm,1.1s						
NRIK	**Noril'sk**	**41.90**	**21**	P	**P**	**16 45 20.4**	**-1.3**
	comp=Z,289nm,1.0s,baz=228,slow=5.9,SNR=258						
NRIK				LR	LR	17 06 10.1	
	comp=Z,21μm,18.8s,baz=232,slow=41						
	comp=Z,289nm,1.0s						
NRIK	**Noril'sk**	**41.90**	**21**	*ce*P	**P**	**16 45 22.9**	**+1.3**
NRIK				pmax	pmax		
	comp=Z,668nm,1.3s						
SFS	**San Fernando**	**41.97**	**288**	IAMs_20	IAMs_20	17 02 14.6	
	comp=Z,42μm,20.0s						
LEWI	**Lewis, Hebride**	**42.03**	**321**	*eP*	**P**	**16 45 22.5**	**-0.3**
LEWI				IAmb	IAmb	16 45 23.5	
	comp=Z,174nm,0.8s						
LEWI				IAMs_20	IAMs_20	17 07 01.7	
	comp=Z,30μm,15.8s						
AZL	**Aizawl**	**42.05**	**92**	*eP*	**P**	**16 45 23.7**	**+0.1**
AZL				IAmb	IAmb	16 45 32.9	
	comp=Z,562nm,0.9s						
PVRL	**Vila Real**	**42.23**	**296**	*eP*	**P**	**16 45 24.6**	**-0.2**
PVRL				A	A	16 45 28.9	
	comp=Z,368nm,1.7s						
MTE	**Manteigas**	**42.24**	**294**	P	**P**	**16 45 24.2**	**-0.7**
MTE				IAmb	IAmb	16 45 47.5	
	comp=Z,329nm,1.1s						
MTE				IAMs_20	IAMs_20	17 05 24.6	
	comp=Z,23μm,18.0s						
MTE	**Manteigas**	**42.24**	**294**	*eP*	**P**	**16 45 24.6**	**-0.3**
MTE				A	A	16 45 34.7	
	comp=Z,631nm,1.5s						
MTE	**Manteigas**	**42.24**	**294**	*e*PP	**PP**	**16 47 08.8**	**+6.1**
MTE				*e*S	**S**	**16 51 42.3**	**-2.3**
MTE				*e*SS	**SS**	**16 54 49.8**	**-2.9**
MTE				A	A	17 05 58.9	
	comp=Z,18μm,18.0s						
MTE	**Manteigas**	**42.24**	**294**	⇑P	**P**	**16 45 24.0**	**-0.9**
KAAM	**Kaadhehdhoo**	**42.26**	**137**	P	**P**	**16 45 24.1**	**-1.1**
KAAM				IAmb	IAmb	16 45 34.2	
	comp=Z,781nm,1.4s						
KAAM	**Kaadhehdhoo**	**42.26**	**137**	P	**P**	**16 45 26.3**	**+1.2**
	SNR=13						
KAAM	**Kaadhehdhoo**	**42.26**	**137**	⇓P	**P**	**16 45 26.5**	**+1.4**
PBAR	**Barrancos**	**42.26**	**291**	*eP*	**P**	**16 45 24.6**	**-0.4**
PBAR				A	A	16 45 34.4	
	comp=Z,555nm,1.6s						
BJO1	**Bjornoya**	**42.27**	**350**	⇑*iP*	**P**	**16 45 24.1**	**-0.6**
BJO1				IVmB_BB		16 45 24.8	
	comp=Z,7μm,0.9s						
BJO1				*e*S	**S**	**16 51 45.8**	**+1.7**
BJO1				IVMs_BB	IVMs_BB	17 04 40.0	
	comp=Z,9μm,19.8s						
PCBR	**Castelo Branco**	**42.28**	**294**	*eP*	**P**	**16 45 25.1**	**-0.1**
PCBR				A	A	16 45 47.8	
	comp=Z,582nm,1.1s						
PMRV	**Marv??o**	**42.29**	**293**	*eP*	**P**	**16 45 25.0**	**-0.3**
PMRV				A	A	16 45 34.7	
	comp=Z,312nm,1.8s						
PMRV	**Marv??o**	**42.29**	**293**	*e*PP	**PP**	**16 47 09.3**	**+6.1**
PMRV				*e*S	**S**	**16 51 43.5**	**-1.8**
PMRV				*e*SS	**SS**	**16 54 48.2**	**-5.5**
PMRV				A	A	17 04 06.8	
	comp=Z,23μm,20.0s						
KOHI	**KOHIMA**	**42.40**	**88**	⇓*iP*	**P**	**16 45 26.1**	**-0.4**
KOHI				IAmb	IAmb	16 45 30.8	
	comp=Z,193nm,0.7s						
PVIS	**Viseu**	**42.45**	**295**	*eP*	**P**	**16 45 26.7**	**+0.1**
PGAV	**Gavieira, Arco**	**42.54**	**297**	*eP*	**P**	**16 45 26.9**	**-0.5**
PGAV				A	A	16 45 32.0	
	comp=Z,554nm,1.6s						
PGAV				*e*S	**S**	**16 51 46.2**	**-2.9**
PGAV				*e*SS	**SnSn**	**16 55 05.8**	**-7.1**
PGAV				A	A	17 05 10.1	
	comp=Z,26μm,20.0s						
PESTR	**Estremoz**	**42.55**	**292**	IAmb	IAmb	16 45 34.9	
	comp=Z,332nm,1.2s						
PESTR				IAMs_20	IAMs_20	17 04 01.8	
	comp=Z,27μm,20.0s						
PESTR	**Estremoz**	**42.55**	**292**	*eP*	**P**	**16 45 26.6**	**-0.8**
PESTR				A	A	16 45 35.7	
	comp=Z,336nm,1.2s						
PESTR	**Estremoz**	**42.55**	**292**	⇑P	**P**	**16 45 26.8**	**-0.6**
IMP	**Imphal**	**42.63**	**90**	*eP*	**P**	**16 45 28.9**	**+0.6**
IMP				IAmb	IAmb	16 45 31.6	
	comp=Z,229nm,1.1s						
HALK	**Hakmana**	**42.81**	**123**	⇑P	**P**	**16 45 30.2**	**+0.5**
MOY	**Mondy**	**42.82**	**49**	*eP*	**P**	**16 45 31.1**	**+1.5**
MOY				pmax	pmax		
	comp=Z,455nm,2.5s						
IGLA	**Glengowla, Co**	**42.84**	**314**	P	**P**	**16 45 29.1**	**-0.3**
IGLA	**Glengowla, Co**	**42.84**	**314**	*eP*	**P**	**16 45 29.1**	**-0.3**
PTO	**Porto**	**42.91**	**296**	*eP*	**P**	**16 45 30.7**	**+0.5**
PTO				A	A	16 45 52.4	
	comp=Z,444nm,1.3s						
COI	**Coimbra**	**42.93**	**294**	IAmb	IAmb	16 45 35.9	
	comp=Z,237nm,0.8s						
COI				IAMs_20	IAMs_20	17 05 55.8	
	comp=Z,26μm,18.0s						
COI	**Coimbra**	**42.93**	**294**	*eP*	**P**	**16 45 31.2**	**+0.8**
COI				A	A	16 45 36.0	
	comp=Z,613nm,1.7s						
COI	**Coimbra**	**42.93**	**294**	⇑P	**P**	**16 45 31.4**	**+1.1**
PBEJ	**Beja**	**42.93**	**291**	*eP*	**P**	**16 45 30.6**	**+0.2**
PBEJ				A	A	16 45 39.8	
	comp=Z,502nm,1.6s						
EVO	**Evora**	**42.94**	**292**	*eP*	**P**	**16 45 31.0**	**+0.5**
EVO				A	A	16 45 39.9	
	comp=Z,178nm,2.2s						
PVAQ	**Vaqueiros**	**42.95**	**290**	*eP*	**P**	**16 45 30.1**	**-0.5**
PVAQ				A	A	16 45 39.0	
	comp=Z,373nm,1.5s						
PVAQ				*e*S	**S**	**16 51 51.7**	**-3.2**
PVAQ				*e*SS	**SS**	**16 55 13.3**	**+6.7**
PVAQ				A	A	17 07 47.7	
	comp=Z,11μm,20.0s						
PVAQ	**Vaqueiros**	**42.95**	**290**	⇑P	**P**	**16 45 30.2**	**-0.3**
SOFL	**Sornfelli, Far**	**42.97**	**327**	*eP*	**P**	**16 45 31.3**	**+0.8**
GTA	**Gaotai**	**42.99**	**67**	P	**P**	**16 45 32.0**	**+0.9**
GTA				sP	sP	16 45 40.5	+1.6
GTA				PP	**PP**	**16 47 15.8**	**+5.0**
GTA				S	**S**	**16 51 58.8**	**+3.0**
GTA				pmax	pmax		
	comp=Z,220nm,1.7s						
GTA				pmax	pmax		
	comp=Z,3μm,8.3s						
GTA				LR	LR		
	comp=Z,28μm,18.5s						
GTA				LR	LR		
	comp=Z,16μm,17.8s						
GTA				LR	LR		
	comp=Z,20μm,14.9s						
PMTG	**Montargil**	**42.99**	**293**	*eP*	**P**	**16 45 30.0**	**-1.0**
PMTG				A	A	16 45 40.1	
	comp=Z,254nm,2.0s						
PCAS	**Casmilo, Conde**	**43.02**	**294**	*eP*	**P**	**16 45 31.3**	**+0.1**
PCAS				A	A	16 46 12.7	
	comp=Z,294nm,1.3s						
PBDV	**Barranco-do-Ve**	**43.15**	**290**	*eP*	**P**	**16 45 32.6**	**+0.3**
PBDV				A	A	16 45 40.9	
	comp=Z,380nm,1.5s						
LKP	**Lekhapani**	**43.22**	**85**	⇓*iP*	**P**	**16 45 32.1**	**-0.7**
MESJ	**Messejana**	**43.24**	**291**	*eP*	**P**	**16 45 32.5**	**-0.5**
MESJ				A	A	16 45 42.5	
	comp=Z,224nm,2.0s						
MESJ	**Messejana**	**43.24**	**291**	*eP*	**P**	**16 45 32.6**	**-0.3**
MESJ				*e*S	**S**	**16 51 57.4**	**-1.9**
MESJ				IAMs_20	IAMs_20	17 03 29.0	
	comp=Z,21μm,19.8s						
MESJ	**Messejana**	**43.24**	**291**	⇑P	**P**	**16 45 32.9**	**-0.1**
MESJ	**Messejana**	**43.24**	**291**	*eP*	**P**	**16 45 32.7**	**-0.3**
MESJ				*e*S	**S**	**16 51 57.3**	**-1.9**
HOPEN	**Hopen**	**43.29**	**353**	⇑*iP*	**P**	**16 45 33.9**	**+1.1**
HOPEN				IVmB_BB		16 45 34.2	
	comp=Z,9μm,1.3s						
HOPEN				*e*PP	**PP**	**16 47 12.3**	**-1.0**
HOPEN				*e*S	**S**	**16 52 01.1**	**+2.1**
HOPEN				*e*SS	**SS**	**16 55 13.7**	**+1.6**
VAL	**Valentia**	**43.30**	**312**	P	**P**	**16 45 32.9**	**-0.3**
VAL	**Valentia**	**43.30**	**312**	⇑P	**P**	**16 45 32.9**	**-0.3**
PSBE	**So Bento**	**43.34**	**293**	*eP*	**P**	**16 45 34.0**	**+0.2**
PSBE				A	A	16 45 56.9	
	comp=Z,610nm,1.8s						
MORF	**Marmelete**	**43.70**	**290**	*eP*	**P**	**16 45 36.4**	**-0.2**
MORF				A	A	16 45 46.0	
	comp=Z,219nm,1.7s			

TNCH				SS	**ScS**	**16 56 01.5**	**+8.5**
TNCH				pmax	pmax		
	comp=Z,210nm,1.6s						
TNCH				pmax	pmax		
	comp=Z,1μm,6.7s						
TNCH				LR	LR		
	comp=Z,10μm,19.3s						
TNCH				LR	LR		
	comp=Z,4μm,20.0s						
TNCH				LR	LR		
	comp=Z,22μm,20.5s						
JNE	**Jan Mayen East**	**46.36**	**338**	*e*P	**P**	**16 45 57.6**	**+0.3**
JNE				*e*S	**S**	**16 52 44.6**	**+1.0**
JNE				IVMs_BB	IVMs_BB	17 06 37.8	
	comp=Z,9μm,15.1s						
JNW	**Jan Mayen West**	**46.41**	**339**	⇑*i*P	**P**	**16 45 58.0**	**+0.3**
JNW				IVmB_BB		16 45 59.1	
	comp=Z,5μm,2.2s						
JNW				*e*S	**S**	**16 52 47.0**	**+2.7**
JNW				IVMs_BB	IVMs_BB	17 06 39.2	
	comp=Z,8μm,17.9s						
JMIC	**Jan Mayen**	**46.42**	**338**	LR	LR	17 07 00.2	
	comp=Z,22μm,19.4s,baz=122,slow=38						
SONM	**Songino Array**	**46.48**	**54**	P	**P**	**16 46 00.4**	**+1.5**
	comp=Z,9.8nm,0.5s,baz=275,slow=7.5,SNR=7.5						
SONM				ScP	**ScP**	**16 51 24.9**	**-1.0**
	comp=Z,21nm,1.0s,baz=261,slow=3.8,SNR=4.9						
SONM				LR	LR	17 09 01.0	
	comp=Z,18μm,20.9s,baz=279,slow=41						
	comp=Z,9.8nm,0.5s						
KBS	**Kingsbay**	**46.82**	**352**	P	**P**	**16 46 01.1**	**+0.3**
KBS	**Kingsbay**	**46.82**	**352**	⇑*i*P	**P**	**16 46 01.5**	**+0.6**
KBS				IVmB_BB		16 46 01.7	
	comp=Z,5μm,2.5s						
KBS				*e*PP	**PP**	**16 47 48.9**	**-1.9**
KBS				*e*S	**S**	**16 52 49.7**	**-0.3**
KBS				*e*SS	**SS**	**16 56 18.8**	**+2.7**
KBS				IVMs_BB	IVMs_BB	17 07 30.8	
	comp=Z,14μm,16.2s						
KBS	**Kingsbay**	**46.82**	**352**	⇑P	**P**	**16 46 01.3**	**+0.4**
KBS	**Kingsbay**	**46.82**	**352**	P	**P**	**16 46 01.1**	**+0.3**
KBS				pmax	pmax		
	comp=Z,357nm,1.0s						
KBS				MLR	MLR		
	comp=Z,17μm,20.0s						
KBS	**Kingsbay**	**46.82**	**352**	*i* P	**P**	**16 45 59.1**	**-1.7**
LZH	**Lanzhou**	**46.86**	**70**	⇓P	**P**	**16 46 03.3**	**+1.3**
LZH				sP	sP	16 46 08.8	-1.1
LZH				PP	**PP**	**16 47 58.5**	**+6.3**
LZH				S	**S**	**16 52 51.8**	**-0.3**
LZH				sS	sS	16 53 02.0	+0.5
LZH				SS	**SS**	**16 56 09.8**	**-8.7**
LZH				pmax	pmax		
	comp=Z,100nm,1.4s						
LZH				pmax	pmax		
	comp=Z,3μm,4.5s						
LZH				LR	LR		
	comp=Z,21μm,15.8s						
LZH				LR	LR		
	comp=Z,17μm,16.1s						
LZH				LR	LR		
	comp=Z,22μm,15.5s						
ULN	**Ulaanbaatar**	**46.92**	**54**	P	**P**	**16 46 02.0**	**-0.3**
ULN				IAmb	IAmb	16 46 15.3	
	comp=Z,352nm,1.4s						
ULN	**Ulaanbaatar**	**46.92**	**54**	P	**P**	**16 46 03.4**	**+1.2**
ULN				P	**P**	**16 46 03.4**	**+1.2**
ULN				P	**P**	**16 46 03.4**	**+1.2**
ULN				S	**S**	**16 52 51.1**	**-1.5**
ULN				S	**S**	**16 52 51.1**	**-1.5**
ULN				S	**S**	**16 52 51.1**	**-1.5**
ULN	**Ulaanbaatar**	**46.92**	**54**	⇓P	**P**	**16 46 03.4**	**+1.2**
ULN	**Ulaanbaatar**	**46.92**	**54**	*e*P	**P**	**16 46 02.9**	**+0.6**
ULN				pmax	pmax		
	comp=Z,144nm,0.9s						
ULN				MLR	MLR		
	comp=Z,17μm,19.0s						
DGPR	**DIGLIPUR**	**47.55**	**105**	⇓*i*P	**P**	**16 46 07.2**	**-0.1**
DGPR				*e*S	**S**	**16 53 00.4**	**-1.5**
SBV	**Sambava**	**47.74**	**175**	P	**P**	**16 46 10.3**	**+1.6**
	SNR=18						
SBV	**Sambava**	**47.74**	**175**	⇑P	**P**	**16 46 11.9**	**+3.3**
PBA	**Port Blair**	**48.27**	**106**	P	**P**	**16 46 12.4**	**-0.6**
	SNR=5.4						
PBA	**Port Blair**	**48.27**	**106**	*e*P	**P**	**16 46 12.7**	**-0.3**
PZH	**PanZhiHua**	**48.39**	**83**	P	**P**	**16 46 12.3**	**-1.6**
PZH				PP	**PP**	**16 48 06.8**	**+0.3**
PZH				ScP	**ScP**	**16 51 33.3**	**-0.9**
PZH				S	**S**	**16 53 09.0**	**-4.9**
PZH				ScS	**ScS**	**16 56 03.5**	**-2.9**
PZH	**PanZhiHua**	**48.39**	**83**	SS	SS	16 56 46.5	+3.0
PZH				pmax	pmax		
	comp=Z,80nm,1.6s						
PZH				pmax	pmax		
	comp=Z,880nm,3.8s						
PZH				LR	LR		
	comp=N,21μm,22.3s						
PZH				LR	LR		
	comp=E,11μm,21.6s						
PZH				LR	LR		
	comp=Z,16μm,24.0s						
CD2	**Chengdu**	**48.40**	**77**	P	**P**	**16 46 14.0**	**+0.2**
CD2				PP	**PP**	**16 48 07.3**	**+0.9**
CD2				S	**S**	**16 53 15.0**	**+1.3**
CD2				pmax	pmax		
	comp=Z,420nm,0.7s						
CD2				pmax	pmax		
	comp=Z,930nm,4.3s						
CD2				LR	LR		
	comp=Z,40μm,23.4s						
CD2				LR	LR		
	comp=Z,26μm,15.9s						
CD2				LR	LR		
	comp=Z,28μm,14.7s						
DGAR	**Diego Garcia**	**48.64**	**144**	P	**P**	**16 46 14.8**	**-0.9**
DGAR	**Diego Garcia**	**48.64**	**144**	P	**P**	**16 46 16.8**	**+1.1**
DGAR				P	**P**	**16 46 16.8**	**+1.1**
DGAR	**Diego Garcia**	**48.64**	**144**	*i* P	**P**	**16 46 15.9**	**+0.2**
DGAR				pmax	pmax		
	comp=Z,1μm,1.2s						
DGAR				MLR	MLR		
	comp=Z,26μm,15.0s						
CHTO	**Chiang Mai**	**49.49**	**94**	P	**P**	**16 46 21.4**	**-0.9**
CHTO				IAmb	IAmb	16 46 30.8	
	comp=Z,272nm,0.9s						
CHTO	**Chiang Mai**	**49.49**	**94**	P	**P**	**16 46 21.4**	**-0.9**
CHTO				pmax	pmax		
	comp=Z,272nm,0.9s						
CM31	**Chiang Mai Arr**	**49.66**	**94**	IAmb	IAmb	16 46 28.8	
	comp=Z,227nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.66**	**94**	P	**P**	**16 46 24.1**	**+0.5**
	comp=Z,161nm,0.9s,baz=293,slow=7.7,SNR=280						
CMAR				PP	**PP**	**16 48 20.2**	**+2.1**
	comp=Z,41nm,1.0s,baz=291,slow=10.0,SNR=2.0						
CMAR				ScP	**ScP**	**16 51 39.6**	**+0.1**
	comp=Z,9.1nm,1.0s,baz=274,slow=3.8,SNR=3.2						
CMAR				S	**S**	**16 53 27.7**	**-4.0**
	comp=Z,5.8nm,1.1s,baz=302,slow=14,SNR=3.3						
CMAR				LR	LR	17 11 21.7	
	comp=Z,15μm,22.0s,baz=295,slow=41						
	comp=Z,161nm,0.9s						
BORG	**Borgarnes**	**49.77**	**329**	P	**P**	**16 46 24.5**	**+0.7**
BORG				IAmb	IAmb	16 46 50.1	
	comp=Z,194nm,1.2s						
BORG	**Borgarnes**	**49.77**	**329**	LR	LR	17 10 06.9	
	comp=Z,14μm,20.3s,baz=98,slow=39						
BORG	**Borgarnes**	**49.77**	**329**	⇑P	**P**	**16 46 25.5**	**+1.8**
BORG	**Borgarnes**	**49.77**	**329**	P	**P**	**16 46 24.5**	**+0.7**
BORG				pmax	pmax		
	comp=Z,194nm,1.2s						
KMI	**Kunming**	**49.77**	**85**	⇑P	**P**	**16 46 23.8**	**-0.9**
KMI				sP	sP	16 46 31.8	-0.8
KMI				PcP	**PcP**	**16 47 47.5**	**+2.0**
KMI				PP	**PP**	**16 48 21.3**	**+2.0**
KMI				ScP	**ScP**	**16 51 40.3**	**0.0**
KMI				SS	**SS**	**16 56 59.0**	**-7.0**
KMI				pmax	pmax		
	comp=Z,160nm,1.4s						
KMI				LR	LR		
	comp=Z,19μm,23.1s						
KMI				LR	LR		
	comp=Z,8μm,29.5s						
KMI				LR	LR		
	comp=Z,22μm,24.8s						
BOD	**Bodaibo**	**50.29**	**40**	*e*P	**P**	**16 46 27.8**	**-0.1**
BOD				pmax	pmax		
	comp=Z,409nm,1.7s						
BTO	**Baotou**	**50.37**	**63**	*e*P	**P**	**16 46 29.5**	**+0.6**
BTO				pP	**pP**	**16 46 34.3**	**-0.2**
BTO				sP	**sP**	**16 46 36.5**	**-0.3**
BTO				S	**S**	**16 53 42.3**	**+1.0**
BTO				pmax	pmax		
	comp=Z,610nm,0.9s						
BTO				pmax	pmax		
	comp=Z,4μm,7.2s						
BTO				LR	LR		
	comp=Z,30μm,13.5s						
BTO				LR	LR		
	comp=Z,25μm,22.4s						
BTO				LR	LR		
	comp=Z,26μm,19.2s						
CIT	**Chita**	**50.58**	**48**	*e*P	**P**	**16 46 31.6**	**+1.4**
CIT				*e*		16 48 27.2	
CIT				*e*		16 53 40.7	
CIT				*e*		16 56 13.8	
CIT				pmax	pmax		
	comp=Z,712nm,2.3s						
SCO	**Scoresbysund**	**50.59**	**336**	IAmb	IAmb	16 46 33.9	
	comp=Z,291nm,1.5s						
SCO				IAMs_20	IAMs_20	17 08 45.8	
	comp=Z,21μm,20.0s						
SCO	**Scoresbysund**	**50.59**	**336**	⇑P	**P**	**16 46 30.6**	**+0.7**
SCO	**Scoresbysund**	**50.59**	**336**	*i* P	**P**	**16 46 29.4**	**-0.5**
SCO				IAmb	IAmb	16 46 32.2	
	comp=Z,1μm,2.4s						
DBG	**Daneborg**	**50.77**	**341**	⇑P	**P**	**16 46 31.8**	**+0.6**
DBG	**Daneborg**	**50.77**	**341**	*i* P	**P**	**16 46 31.6**	**+0.4**
DBG				IAmb	IAmb	16 46 33.5	
	comp=Z,247nm,1.1s						
PMPST	**Porto Santo, M**	**50.92**	**287**	*e*P	**P**	**16 46 33.5**	**+0.5**
PMPST				A	A	16 46 42.1	
	comp=Z,1μm,1.3s						
PMPS	**Porto Santo**	**50.93**	**287**	*e*P	**P**	**16 46 33.8**	**+0.8**
PMPS				A	A	16 46 41.9	
	comp=Z,777nm,1.3s						
DAG	**Danmarks Havn**	**51.01**	**344**	⇑P	**P**	**16 46 32.3**	**-0.7**
DAG	**Danmarks Havn**	**51.01**	**344**	*i* P	**P**	**16 46 32.5**	**-0.5**
DAG				IAmb	IAmb	16 46 34.0	
	comp=Z,1μm,1.9s						
ACRG	**Accra**	**51.17**	**247**	P	**P**	**16 46 33.3**	**-1.7**
HHC	**Hu-ho-hao-te**	**51.44**	**62**	⇓*i*P	**P**	**16 46 38.0**	**+1.1**
HHC				pP	pP	16 46 42.0	-0.6
HHC				sP	sP	16 46 45.3	+0.5
HHC				PP	**PP**	**16 48 38.0**	**+4.0**
HHC				S	**S**	**16 53 53.3**	**-2.8**
HHC				SS	**SS**	**16 57 32.5**	**+0.8**
HHC				pmax	pmax		
	comp=Z,310nm,1.5s						
HHC				LR	LR		
	comp=Z,17μm,20.5s						
HHC				LR	LR		
	comp=Z,12μm,21.7s						
HHC				LR	LR		
	comp=Z,6μm,20.1s						
XAN	**Xi'an**	**51.45**	**71**	⇓P	**P**	**16 46 37.0**	**0.0**
XAN				pP	pP	16 46 42.0	-0.7
XAN				PP	**PP**	**16 48 41.8**	**+7.7**
XAN				S	**S**	**16 53 56.8**	**+0.5**
XAN				sS	sS	16 54 06.8	+1.0
XAN				pmax	pmax		
	comp=Z,500nm,1.3s						
XAN				pmax	pmax		
	comp=Z,2μm,4.0s						
XAN				LR	LR		
	comp=Z,32μm,18.5s						
XAN				LR	LR		
	comp=Z,21μm,16.5s						
XAN				LR	LR		
	comp=Z,32μm,18.9s						
FUL	**Funchal**	**51.51**	**287**	*e*P	**P**	**16 46 40.0**	**+2.6**
FUL				A	A	16 46 52.3	
	comp=Z,686nm,1.4s						
PMOZ	**Porto Moniz, M**	**51.69**	**287**	*e*P	**P**	**16 46 39.3**	**+0.4**
PMOZ				A	A	16 46 49.3	
	comp=Z,513nm,2.3s						
PMOZ	**Porto Moniz, M**	**51.69**	**287**	*e*PP	**PP**	**16 48 41.5**	**+5.1**
PMOZ				*e*S	**S**	**16 54 00.5**	**+0.7**
PMOZ				A	A	17 15 09.8	
	comp=Z,5μm,20.0s						
PMOZ	**Porto Moniz, M**	**51.69**	**287**	⇑P	**P**	**16 46 40.2**	**+1.3**
SRDT	**SRDT**	**51.92**	**99**	P	**P**	**16 46 40.2**	**-0.4**
CMBY	**CAMPBELL BAY**	**52.00**	**110**	*e*P	**P**	**16 46 39.0**	**-2.2**
CMBY				IAmb	IAmb	16 46 45.2	
	comp=Z,159nm,0.7s						
LSZ	**Lusaka**	**52.13**	**202**	P	**P**	**16 46 42.7**	**+0.5**
LSZ				IAmb	IAmb	16 46 59.5	
	comp=Z,288nm,1.1s						
LSZ	**Lusaka**	**52.13**	**202**	P	**P**	**16 46 44.3**	**+2.1**
LSZ				P	**P**	**16 46 44.3**	**+2.1**
LSZ				P	**P**	**16 46 44.3**	**+2.1**
LSZ				S	**S**	**16 54 08.1**	**+2.2**
LSZ				S	**S**	**16 54 08.1**	**+2.2**
LSZ				S	**S**	**16 54 08.1**	**+2.2**
LSZ	**Lusaka**	**52.13**	**202**	⇑P	**P**	**16 46 43.7**	**+1.5**
LSZ	**Lusaka**	**52.13**	**202**	P	**P**	**16 46 42.7**	**+0.5**
LSZ				pmax	pmax		
	comp=Z,289nm,1.2s						
LSZ				MLR	MLR		
	comp=Z,49μm,22.0s						
NOR	**Nord**	**52.25**	**351**	*i* P	**P**	**16 46 41.8**	**-0.4**
NOR				IAmb	IAmb	16 46 43.4	
	comp=Z,213nm,0.9s						
SLVN	**Son La**	**52.40**	**88**	P	**P**	**16 46 44.4**	**+0.2**
GYA	**Guiyang**	**52.44**	**81**	⇑P	**P**	**16 46 44.5**	**-0.1**
GYA				S	**S**	**16 54 07.3**	**-2.9**
GYA				ScS	**ScS**	**16 56 34.0**	**-0.1**
GYA				pmax	pmax		
	comp=Z,140nm,1.4s						
GYA				pmax	pmax		
	comp=Z,1μm,3.1s						
GYA				LR	LR		
	comp=Z,11μm,19.5s						
GYA				LR	LR		
	comp=Z,12μm,23.8s						
GYA				LR	LR		
	comp=Z,24μm,33.7s						
OPO	**Ambohidratompo**	**52.67**	**178**	LR	LR	17 08 04.7	
	comp=Z,16μm,21.7s,baz=179,slow=35						
MACI	**Morro de la Ar**	**52.83**	**281**	P	**P**	**16 46 47.5**	**0.0**
MACI				IAmb	IAmb	16 47 05.9	
	comp=Z,146nm,0.8s						
TIY	**Taiyuan**	**52.98**	**66**	*e*P	**P**	**16 46 49.0**	**+0.6**
TIY				PP	**PP**	**16 48 54.8**	**+6.9**
TIY				S	**S**	**16 54 14.5**	**-2.8**
TIY				SS	**SS**	**16 57 54.0**	**-2.2**
TIY				pmax	pmax		
	comp=Z,120nm,1.7s						
TIY				pmax	pmax		
	comp=Z,1μm,3.7s						
TIY				LR	LR		
	comp=Z,17μm,22.7s						
TIY				LR	LR		
	comp=Z,8μm,19.2s						
ABPO	**Ambohimpanom**	**53.12**	**178**	P	**P**	**16 46 50.0**	**+0.5**
ABPO	**Ambohimpanom**	**53.12**	**178**	P	**P**	**16 46 50.0**	**+0.5**
ABPO				pmax	pmax		
	comp=Z,200nm,1.3s						
ENH	**Enshi**	**53.23**	**76**	P	**P**	**16 46 50.0**	**-0.3**
SOEG	**Soedalen**	**53.83**	**333**	*i* P	**P**	**16 46 53.5**	**-0.5**
SOEG				IAmb	IAmb	16 47 09.3	
	comp=Z,92nm,0.9s						
XLT	**XiLinHaoTe**	**53.87**	**57**	⇓*i*P	**P**	**16 46 55.3**	**+0.5**
XLT				sP	sP	16 47 03.5	+0.8
XLT				PcP	**PcP**	**16 48 00.5**	**+0.2**
XLT				S	**S**	**16 54 32.5**	**+3.4**
XLT				pmax	pmax		
	comp=Z,83nm,1.8s						
XLT				pmax	pmax		
	comp=Z,1μm,4.7s						
XLT				LR	LR		
	comp=Z,2μm,25.9s						
XLT				LR	LR		
	comp=Z,8μm,17.4s						
XLT				LR	LR		
	comp=Z,17μm,17.0s						
BSI	**Banda Aceh**	**54.00**	**111**	P	**P**	**16 46 53.7**	**-2.3**
LYN	**LuoYang**	**54.04**	**69**	⇓P	**P**	**16 46 56.8**	**+0.7**
LYN				pP	pP	16 47 02.8	+1.0
LYN				sP	sP	16 47 05.0	+1.0
LYN				S	**S**	**16 54 34.0**	**+2.5**
LYN				SS	**SS**	**16 58 16.5**	**+3.7**
LYN				pmax	pmax		
	comp=Z,280nm,1.4s						
LYN				pmax	pmax		
	comp=Z,2μm,3.8s						
LYN				LR	LR		
	comp=Z,22μm,22.7s						
LYN				LR	LR		
	comp=Z,25μm,18.6s						
LYN				LR	LR		
	comp=Z,34μm,23.4s						
DBIC	**Dimbokro**	**54.11**	**251**	P	**P**	**16 46 55.7**	**-1.1**
	comp=Z,109nm,0.7s,baz=36,slow=7.8,SNR=92						
DBIC				LR	LR	17 11 42.9	
	comp=Z,15μm,19.5s,baz=35,slow=38						
	comp=Z,109nm,0.7s						
HNS	**HongShan**	**54.80**	**65**	⇓P	**P**	**16 47 02.3**	**+0.8**
HNS				S	**S**	**16 54 44.3**	**+2.7**
HNS				pmax	pmax		
	comp=Z,190nm,1.2s						
HNS				LR	LR		
	comp=Z,16μm,22.9s						
HNS				LR	LR		
	comp=Z,5μm,16.3s						
HNS				LR	LR		
	comp=Z,12μm,23.8s						
HIA	**Hailar**	**54.96**	**50**	IAMs_20	IAMs_20	17 12 27.8	
	comp=Z,27μm,21.0s						
HIA	**Hailar**	**54.96**	**50**	P	**P**	**16 47 03.8**	**+1.2**
BJI	**Beijing**	**55.04**	**62**	P	**P**	**16 47 03.8**	**+0.5**
BJI				S	**S**	**16 54 42.8**	**-2.1**
BJI				pmax	pmax		
	comp=Z,40nm,1.2s						
BJI				pmax	pmax		
	comp=Z,520nm,4.9s						
BJI				LR	LR		
	comp=Z,12μm,21.3s						
BJI				LR	LR		
	comp=Z,7μm,20.1s						
BJI				LR	LR		
	comp=Z,3μm,24.6s						
BJT	**Baijiatuau**	**55.04**	**62**	P	**P**	**16 47 04.1**	**+0.8**
LHMI	**Lhok Sumawe**	**55.45**	**110**	P	**P**	**16 47 07.2**	**+0.7**
	comp=Z,99nm,0.9s						
KSANE	**Kasane**	**55.47**	**204**	*i* P	**P**	**16 47 08.6**	**+2.0**
SRIT	**Nakonsritamara**	**55.53**	**104**	P	**P**	**16 47 05.7**	**-1.4**
MLSI	**Meulaboh, Aceh**	**55.63**	**111**	P	**P**	**16 47 05.0**	**-2.8**
	comp=Z,226nm,1.0s,comp=Z,3μm						
TIXI	**Tiksi**	**55.63**	**22**	P	**P**	**16 47 07.1**	**+0.1**
TIXI	**Tiksi**	**55.63**	**22**	IAMs_20	IAMs_20	17 15 15.4	
	comp=Z,20μm,20.0s						
TIXI	**Tiksi**	**55.63**	**22**	LR	LR	17 15 26.5	
	comp=Z,17μm,20.3s,baz=298,slow=41						
TIXI	**Tiksi**	**55.63**	**22**	⇑P	**P**	**16 47 07.1**	**+0.1**
TIXI	**Tiksi**	**55.63**	**22**	P	**P**	**16 47 07.1**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,548nm,1.5s						
SUMG	**Summit**	**55.87**	**339**	IAMs_20	IAMs_20	17 12 13.5	
	comp=Z,16μm,20.0s						
SUMG	**Summit**	**55.87**	**339**	⇑P	**P**	**16 47 08.9**	**-0.3**
SUMG	**Summit**	**55.87**	**339**	*i* P	**P**	**16 47 09.1**	**-0.1**
SUMG				IAmb	IAmb	16 47 15.0	
	comp=Z,232nm,0.9s						
GULI	**GuiLin**	**55.95**	**81**	P	**P**	**16 47 09.3**	**-0.8**
GULI				S	**S**	**16 54 54.0**	**-3.5**
GULI				pmax	pmax		
	comp=Z,80nm,1.6s						
GULI				pmax	pmax		
	comp=Z,740nm,4.9s						
GULI				LR	LR		
	comp=Z,17μm,24.9s						
GULI				LR	LR		
	comp=Z,6μm,24.9s						
GULI				LR	LR		
	comp=Z,13μm,21.7s						
VOI	**Vohitsoka**	**55.98**	**179**	P	**P**	**16 47 10.0**	**-0.2**
VOI				IAmb	IAmb	16 47 17.6	
	comp=Z,512nm,1.9s						
VOI				IAMs_20	IAMs_20	17 12 38.6	
	comp=Z,26μm,19.0s						
VOI	**Vohitsoka**	**55.98**	**179**	P	**P**	**16 47 13.2**	**+3.0**
	SNR=15						
VOI	**Vohitsoka**	**55.98**	**179**	⇑P	**P**	**16 47 13.8**	**+3.6**
RER	**Riviere de l'E**	**56.04**	**169**	P	**P**	**16 47 10.8**	**+0.1**
RER				IAMs_20	IAMs_20	17 10 41.6	
	comp=Z,18μm,19.0s						
BART	**Pico Bartolome**	**56.15**	**296**	*e*P	**P**	**16 47 11.8**	**+0.4**
	comp=Z,961nm,1.4s						
PGRON	**Lagoa das Cont**	**56.30**	**296**	*e*P	**P**	**16 47 12.9**	**+0.4**
	comp=Z,1μm,1.6s						
PSMN	**Pico do Norte,**	**56.33**	**295**	*e*P	**P**	**16 47 13.3**	**+0.7**
	comp=Z,521nm,1.9s						
PCALD	**Caldeiras da R**	**56.38**	**296**	*e*P	**P**	**16 47 17.4**	**+4.5**
	comp=Z,612nm,1.7s						
PSMA	**Santa Maria**	**56.38**	**295**	*e*P	**P**	**16 47 13.8**	**+0.8**
	comp=Z,1μm,1.7s						
CMLA	**Cha da Macela**	**56.42**	**296**	*e*P	**P**	**16 47 13.0**	**-0.2**
	comp=Z,934nm,1.6s						
PSET	**Sete Cidades**	**56.54**	**296**	*e*P	**P**	**16 47 13.8**	**-0.3**
	comp=Z,1μm,1.7s						
ANGG	**Ammassalik, Gr**	**56.57**	**330**	IAmb	IAmb	16 47 19.6	
	comp=Z,136nm,0.9s						
ANGG				IAMs_20	IAMs_20	17 12 35.1	
	comp=Z,21μm,21.0s						
ANGG	**Ammassalik, Gr**	**56.57**	**330**	*i* P	**P**	**16 47 13.6**	**-0.2**
ANGG				IAmb	IAmb	16 47 14.5	
	comp=Z,110nm,0.9s						
ICESG	**Greenland Ices**	**56.74**	**335**	*i* P	**P**	**16 47 13.2**	**-2.2**
ICESG				IAmb	IAmb	16 47 21.4	
	comp=Z,3μm,2.7s						
SNSI	**Sinabang, Aceh**	**56.75**	**113**	P	**P**	**16 47 11.6**	**-4.2**
	comp=Z,230nm,1.2s,comp=Z,4μm						
CNSH	**ChangSha**	**56.82**	**76**	P	**P**	**16 47 15.3**	**-0.9**
CNSH				S	**S**	**16 55 07.0**	**-1.8**
CNSH				pmax	pmax		
	comp=Z,150nm,0.9s						
CNSH				LR	LR		
	comp=Z,18μm,21.1s						
CNSH				LR	LR		
	comp=Z,19μm,20.6s						
CNSH				LR	LR		
	comp=Z,10μm,17.6s						
MATP	**Matopo**	**56.92**	**199**	LR	LR	17 12 00.9	
	comp=Z,20μm,18.1s,baz=34,slow=36						
WHN	**Wuhan**	**57.00**	**73**	⇓P	**P**	**16 47 17.5**	**+0.1**
WHN				pP	**pP**	**16 47 23.3**	**+0.1**
WHN				sP	**sP**	**16 47 28.3**	**+2.9**
WHN				PP	**PP**	**16 49 29.5**	**+5.5**
WHN				S	**S**	**16 55 09.5**	**-1.6**
WHN				pmax	pmax		
	comp=Z,780nm,1.2s						
WHN				LR	LR		
	comp=Z,53μm,17.4s						
WHN				LR	LR		
	comp=Z,38μm,15.9s						
WHN				LR	LR		
	comp=Z,57μm,21.7s						
TIA	**Tai'an**	**57.02**	**66**	P	**P**	**16 47 17.8**	**+0.3**
TIA				PP	**PP**	**16 49 31.0**	**+6.9**
TIA				S	**S**	**16 55 12.5**	**+1.1**
TIA				pmax	pmax		
	comp=Z,60nm,1.1s						
TIA				pmax	pmax		
	comp=Z,1μm,3.5s						
TIA				LR	LR		
	comp=Z,11μm,24.5s						
TIA				LR	LR		
	comp=Z,20μm,18.1s						
TIA				LR	LR		
	comp=Z,23μm,16.7s						
ISOG	**Isortoq, Green**	**57.13**	**330**	*i* P	**P**	**16 47 17.2**	**-0.6**
ISOG				IAmb	IAmb	16 47 18.4	
	comp=Z,154nm,0.8s						
KCSI	**Kotacane, Aceh**	**57.15**	**111**	P	**P**	**16 47 15.8**	**-2.9**
	comp=Z,143nm,1.0s,comp=Z,3μm						
PSBA	**Serra de Santa**	**57.41**	**297**	*e*P	**P**	**16 47 19.7**	**-0.5**
	comp=Z,645nm,1.6s						
YAK	**Yakutsk**	**57.52**	**34**	P	**P**	**16 47 20.1**	**-0.5**
YAK				IAmb	IAmb	16 47 28.4	
	comp=Z,266nm,0.9s						
YAK	**Yakutsk**	**57.52**	**34**	IAMs_20	IAMs_20	17 15 51.6	
	comp=Z,17μm,19.0s						
YAK	**Yakutsk**	**57.52**	**34**	LR	LR	17 15 59.7	
	comp=Z,15μm,19.6s,baz=278,slow=40						
YAK	**Yakutsk**	**57.52**	**34**	*c i* P	**P**	**16 47 20.0**	**-0.6**
YAK				*e**PP	**pP**	**16 47 26.6**	**+0.3**

YAK e 16 49 32.9
YAK ePPP PPP 16 50 45.6
YAK eS **S** **16 55 15.4 -1.7**
YAK e 16 57 05.1
YAK eSS **SS** **16 59 12.2 +5.7**
YAK eSSS SSS 17 01 30.0
YAK pmax pmax
comp=Z,146nm,0.9s
YAK pmax pmax
comp=N,19nm,1.4s
YAK pmax pmax
comp=E,61nm,1.4s
YAK pmax pmax
comp=E,90nm,1.4s
YAK pmax pmax
comp=Z,676nm,3.2s
YAK pmax pmax
comp=N,639nm,3.9s
YAK smax smax
comp=N,1μm,2.7s
YAK smax smax
comp=E,256nm,2.2s
XAUDM **Khaudum** **57.53 208** *i* P **P** **16 47 24.0 +2.7**
SOOWA **Sowa** **57.71 202** *i* P **P** **16 47 25.1 +2.6**
TSI **Tuntungan** **57.78 110** P **P** **16 47 23.9 +0.8**
comp=E,70nm,0.5s
PGRA **Graciosa** **57.80 298** *e*P **P** **16 47 22.7 -0.3**
comp=E,319nm,1.5s
BROLN **Tlhalogang** **57.89 200** *i* P **P** **16 47 24.4 +0.7**
PMAN **Manadas** **58.01 298** *e*P **P** **16 47 25.7 +1.2**
comp=E,621nm,1.5s
ROSA **Rosais** **58.09 298** *e*P **P** **16 47 25.7 +0.6**
comp=E,537nm,1.1s
NEEM **North Greenlan** **58.20 345** *i* P **P** **16 47 23.7 -1.9**
NEEM IAmb IAmb 16 47 26.7
comp=Z,2μm,2.0s
PICO **Pico** **58.31 297** *e*P **P** **16 47 26.7 +0.1**
comp=Z,641nm,1.6s
KULM **Kulim** **58.32 107** P **P** **16 47 24.9 -2.0**
KULM IAmb IAmb 16 47 31.5
comp=Z,130nm,0.9s
KULM IAMs_20 IAMs_20 17 14 43.2
comp=Z,21μm,20.0s
KULM **Kulim** **58.32 107** P **P** **16 47 25.3 -1.6**
ZEA **Zeya** **58.34 44** *e*P **P** **16 47 28.3 +1.8**
ZEA *e*S **S** **16 55 33.5 +5.3**
ZEA pmax pmax
comp=E,50nm,0.8s
ZEA pmax pmax
comp=Z,80nm,1.1s
ZEA pmax pmax
comp=E,300nm,4.3s
ZEA pmax pmax
comp=Z,600nm,4.5s
ZEA smax smax
comp=E,800nm,10.4s
ZEA smax smax
comp=N,1μm,17.5s
ZEA MLR MLR
comp=N,6μm,15.0s
ZEA MLR MLR
comp=E,10μm,15.0s
ZEA MLR MLR
comp=Z,13μm,17.0s
QIZ **Qiongzhong** **58.39 88** P **P** **16 47 28.0 +0.6**
QIZ S **S** **16 55 31.3 +1.6**
QIZ ScS **ScS** **16 57 13.8 -2.9**
QIZ SS **SS** **16 59 27.0 +5.1**
QIZ pmax pmax
comp=Z,130nm,1.3s
QIZ LR LR
comp=Z,13μm,19.7s
QIZ LR LR
comp=Z,7μm,19.7s
QIZ LR LR
comp=Z,11μm,21.3s
QIZ **Qiongzhong** **58.39 88** P **P** **16 47 28.4 +1.0**
GSI **Gunungsitoli** **58.41 113** IAMs_20 IAMs_20 17 12 59.7
comp=Z,15μm,20.0s
GSI **Gunungsitoli** **58.41 113** P **P** **16 47 27.0 -0.6**
GSI **Gunungsitoli** **58.41 113** ⇓P **P** **16 47 26.9 -0.6**
GSI **Gunungsitoli** **58.41 113** P **P** **16 47 26.8 -0.7**
comp=Z,162nm,0.7s,comp=Z,3μmcomp=Z,2μm
CALA **Caldeira** **58.48 298** *e*P **P** **16 47 27.4 -0.5**
comp=Z,703nm,1.5s
QNGWA **Qangwa** **58.49 207** *i* P **P** **16 47 29.6 +1.6**
PSI **Prapat** **58.50 110** P **P** **16 47 26.2 -2.1**
comp=Z,62nm,1.1s,baz=306,slow=7.5,SNR=55
PSI LR LR 17 13 22.8
comp=Z,9μm,20.1s,baz=302,slow=37
PSI **Prapat** **58.50 110** P **P** **16 47 28.2 -0.1**
RPSI **Rantau Prapat** **58.56 110** IAmb IAmb 16 47 48.8
comp=Z,122nm,1.0s
FOMA **Nahampoana Res** **59.04 179** IAMs_20 IAMs_20 17 11 21.6
comp=Z,26μm,21.0s
BBTS **Babate** **59.09 267** LR LR 17 17 00.1
comp=Z,18μm,18.2s,baz=300,slow=40
IPM **Ipoh** **59.11 107** P **P** **16 47 29.9 -2.6**
IPM IAmb IAmb 16 47 38.0
comp=Z,117nm,0.9s
IPM IAMs_20 IAMs_20 17 14 42.1
comp=Z,20μm,22.0s
IPM **Ipoh** **59.11 107** P **P** **16 47 30.5 -1.9**
CKGRV **CKGRV** **59.28 204** *i* P **P** **16 47 34.8 +1.3**
GZH **Guangzhou** **59.37 82** P **P** **16 47 34.0 -0.1**
GZH PP **PP** **16 49 47.3 +2.2**
GZH S **S** **16 55 44.5 +2.3**
GZH pmax pmax
comp=Z,150nm,1.3s
GZH LR LR
comp=Z,27μm,22.4s
GZH LR LR
comp=Z,17μm,24.0s
GZH LR LR
comp=Z,20μm,21.6s
DL2 **Dalian** **59.40 62**⇑ *i*P **P** **16 47 35.0 +0.9**
DL2 S **S** **16 55 42.8 +0.6**
DL2 pmax pmax
comp=Z,1μm,0.8s
DL2 pmax pmax
comp=Z,2μm,4.8s
DL2 LR LR
comp=Z,17μm,21.3s
DL2 LR LR
comp=Z,11μm,18.4s
DL2 LR LR
comp=Z,13μm,21.2s
HEH **HeiHe** **59.47 48** *e*P **P** **16 47 34.5 +0.1**
HEH pP **pP** **16 47 40.0 -0.1**
HEH PP **PP** **16 49 48.3 +2.9**
HEH S **S** **16 55 43.5 +0.7**
HEH ScS **ScS** **16 57 21.3 -2.4**
HEH pmax pmax
comp=Z,180nm,1.4s
HEH pmax pmax
comp=Z,1μm,3.8s
HEH LR LR
comp=Z,14μm,20.6s
HEH LR LR
comp=Z,13μm,18.1s
HEH LR LR
comp=Z,28μm,20.0s
MBO **M'Bour** **59.58 267** P **P** **16 47 34.8 -0.9**
MBO IAMs_20 IAMs_20 17 18 01.1
comp=Z,23μm,19.0s
TSUM **Tsumeb** **59.65 211** LR LR 17 13 15.5
comp=Z,19μm,18.4s,baz=26,slow=36
SNY **Shenyang** **59.75 58**⇑P **P** **16 47 36.0 -0.4**
SNY pP **sP** **16 47 45.3 +0.9**
SNY sP pP 16 47 50.5 +8.3
SNY S **S** **16 55 44.8 -1.8**
SNY pmax pmax
comp=Z,31nm,2.6s
SNY pmax pmax
comp=Z,780nm,7.3s
SNY LR LR
comp=Z,21μm,16.7s
SNY LR LR
comp=Z,6μm,15.9s
SNY LR LR
comp=Z,12μm,15.1s
DY2G **Dye2** **59.80 332** *i* P **P** **16 47 35.7 -1.0**
DY2G IAmb IAmb 16 47 42.0
comp=Z,814nm,1.2s
PBSI **Pulau Batu** **59.82 113** P **P** **16 47 36.1 -1.2**
comp=Z,329nm,1.0s,comp=Z,4μm
NJ2 **Nanjing** **59.93 70**⇓ *i*P **P** **16 47 38.0 +0.1**
NJ2 sP **sP** **16 47 48.0 +2.2**
NJ2 S **S** **16 55 49.8 +0.5**
NJ2 sS **sS** **16 55 59.8 +0.8**
NJ2 pmax pmax
comp=Z,120nm,1.0s
NJ2 pmax pmax
comp=Z,1μm,3.5s
NJ2 LR LR
comp=Z,18μm,17.9s
NJ2 LR LR
comp=Z,9μm,18.5s
NJ2 LR LR
comp=Z,11μm,16.9s
GRTLG **Ghanzi** **60.15 207** *i* P **P** **16 47 41.0 +1.6**
MNSI **Mandailing Nat** **60.27 112** P **P** **16 47 40.1 -0.3**
CN2 **Changchun** **60.34 55** *e*P **P** **16 47 39.5 -1.0**
CN2 *e*PP **PP** **16 49 54.0 +0.7**
CN2 *e*S **S** **16 55 50.5 -3.8**
CN2 pmax pmax
comp=Z,50nm,1.5s
CN2 pmax pmax
comp=Z,2μm,3.0s
CN2 LR LR
comp=Z,10μm,21.0s
CN2 LR LR
comp=Z,3μm,21.0s
CN2 LR LR
comp=Z,8μm,22.0s
HKPS **Hong Kong Po S** **60.39 82** P **P** **16 47 41.6 +0.4**
HKPS IAmb IAmb 16 47 50.1
comp=Z,143nm,1.0s
HKPS **Hong Kong Po S** **60.39 82** P **P** **16 47 42.5 +1.3**
LPHEP **Lephephe** **60.46 201** *i* P **P** **16 47 42.3 +0.8**
UMMG **Uummannaq** **60.51 338** *i* P **P** **16 47 39.0 -2.2**
UMMG IAmb IAmb 16 47 55.4
comp=Z,216nm,1.0s
KULLO **Kullorsuaq** **60.53 343** *i* P **P** **16 47 39.8 -1.5**
KULLO IAmb IAmb 16 47 50.2
comp=Z,188nm,0.9s
NUUG **Nuugaatsiaq** **60.54 339** *i* P **P** **16 47 39.8 -1.6**
NUUG IAmb IAmb 16 47 54.8
comp=Z,90nm,1.0s
ILULI **Ilulissat** **60.67 336** IAMs_20 IAMs_20 17 16 23.1
comp=Z,16μm,20.0s
ILULI **Ilulissat** **60.67 336** *i* P **P** **16 47 39.0 -3.3**
ILULI IAmb IAmb 16 47 47.0
comp=Z,169nm,0.9s
KDWAN **Kaudwane** **60.84 202** *i* P **P** **16 47 45.2 +1.1**
DLV **Lat** **60.89 95** IAmb IAmb 16 48 13.2
comp=Z,272nm,1.5s
DLV **Lat** **60.89 95** P **P** **16 47 45.3 +0.4**
UPNV **Upernavik** **60.94 341** *i* P **P** **16 47 43.1 -0.9**
UPNV IAmb IAmb 16 47 53.1
comp=Z,150nm,0.9s
BNX **BinXian** **60.97 52** ⇓P **P** **16 47 44.0 -0.7**
BNX S **S** **16 56 00.8 -1.4**
BNX pmax pmax
comp=Z,92nm,1.8s
BNX pmax pmax
comp=Z,1μm,4.6s
BNX LR LR
comp=Z,52μm,21.1s
BNX LR LR
comp=Z,21μm,21.1s
BNX LR LR
comp=Z,33μm,16.3s
SUJ **Sinuiju** **61.02 59** P **P** **16 47 44.8 -0.4**
SUJ S **S** **16 56 00.7 -2.3**
SUJ AmB
comp=Z,1μm,1.1s
SUJ AMS AMS
comp=Z,206nm,4.4s
NRS **Narsarsuaq** **61.09 326** IAMs_20 IAMs_20 17 15 25.6
comp=Z,15μm,19.0s
KGCAE **Kacgae** **61.16 205** *i* P **P** **16 47 47.8 +1.4**
SISI **Saibi** **61.26 114** P **P** **16 47 46.5 -0.6**
comp=Z,190nm,1.7s,comp=Z,3μm
SFJD **Kangerlussuaq** **61.27 334** P **P** **16 47 45.5 -0.9**
SFJD IAmb IAmb 16 47 50.6
comp=Z,132nm,1.0s
SFJD **Kangerlussuaq** **61.27 334** IAMs_20 IAMs_20 17 17 04.1
comp=Z,19μm,18.0s
SFJD **Kangerlussuaq** **61.27 334** LR LR 17 17 15.6
comp=Z,21μm,18.4s,baz=75,slow=39
SFJD **Kangerlussuaq** **61.27 334** P **P** **16 47 45.5 -0.9**
SFJD pmax pmax
comp=Z,132nm,1.0s
SFJD MLR MLR
comp=Z,19μm,18.0s
SFJD **Kangerlussuaq** **61.27 334** *i* P **P** **16 47 43.5 -2.9**
SFJD IAmb IAmb 16 47 46.2
comp=Z,100nm,0.9s
BKNI **Bangkinang** **61.69 111** P **P** **16 47 48.4 -1.7**
BKNI **Bangkinang** **61.69 111** P **P** **16 47 49.2 -0.8**
BKNI **Bangkinang** **61.69 111** P **P** **16 47 48.9 -1.1**
PPI **Padang Panjang** **61.70 112** P **P** **16 47 50.3 +0.2**
comp=Z,151nm,1.4s,comp=Z,3μm
KOOLE **Kule** **62.01 207** *i* P **P** **16 47 53.9 +1.8**
LBTB **Lobatse** **62.09 201** P **P** **16 47 52.2 -0.3**
LBTB **Lobatse** **62.09 201** P **P** **16 47 52.2 -0.3**
LBTB pmax pmax
comp=Z,233nm,1.0s
SKOMA **Sekoma** **62.13 203** *i* P **P** **16 47 53.9 +1.1**
SSE **Sheshan** **62.14 70** P **P** **16 47 52.5 -0.4**
SSE S **S** **16 56 17.0 -0.5**
SSE pmax pmax
comp=Z,99nm,0.9s
SSE pmax pmax
comp=Z,620nm,6.8s
SSE LR LR
comp=Z,8μm,20.6s
TULEG **Thule** **62.24 346** IAmb IAmb 16 47 57.0
comp=Z,211nm,1.2s
TULEG IAMs_20 IAMs_20 17 15 37.7
comp=Z,15μm,22.0s
TULEG **Thule** **62.24 346** *i* P **P** **16 47 51.5 -1.3**
TULEG IAmb IAmb 16 47 53.4
comp=Z,1μm,2.3s
PYAG **Pyongyang** **62.32 60** P **P** **16 47 53.5 -0.5**
PYAG S **S** **16 56 16.9 -2.7**
PYAG AmB
comp=Z,1μm,1.6s
IVI **Ivigtut** **62.33 327** P **P** **16 47 52.9 -0.7**
IVI IAmb IAmb 16 48 08.5
comp=Z,214nm,1.0s
IVI IAMs_20 IAMs_20 17 18 32.3
comp=Z,14μm,19.0s
KLR **Kul'dur** **62.46 48** LR LR 17 17 23.9
comp=Z,16μm,21.2s,baz=292,slow=38
KLR **Kul'dur** **62.46 48** *i* P **P** **16 47 54.3 -0.5**
KLR pmax pmax
comp=Z,130nm,1.5s
KLR MLR MLR
comp=Z,14μm,20.0s
NUUK **Nuuk** **62.73 331** *i* P **P** **16 47 54.2 -2.1**
NUUK IAmb IAmb 16 48 00.7
comp=Z,302nm,1.0s
QZH **Quanzhou** **62.79 77** P **P** **16 47 56.3 -1.0**
QZH S **S** **16 56 22.0 -3.8**
QZH pmax pmax
comp=Z,85nm,1.1s
QZH pmax pmax
comp=Z,650nm,3.9s
QZH LR LR
comp=Z,18μm,24.4s
QZH LR LR
comp=Z,9μm,24.7s
QZH LR LR
comp=Z,17μm,17.9s
POGA **Pongola** **62.81 194** P **P** **16 47 57.6 +0.4**
MDJ **Mudanjiang** **62.82 53** P **P** **16 47 56.5 -0.7**
MDJ S **S** **16 56 22.5 -3.1**
MDJ pmax pmax
comp=Z,42nm,2.1s
MDJ pmax pmax
comp=Z,1μm,7.2s
MDJ LR LR
comp=Z,50μm,22.0s
MDJ LR LR
comp=Z,22μm,19.9s
MDJ LR LR
comp=Z,38μm,19.2s
MDJ **Mudanjiang** **62.82 53** P **P** **16 47 57.7 +0.5**
KNMB **Chin-men Tao** **62.84 78** IAmb IAmb 16 48 06.3
comp=Z,108nm,0.9s
MYKOM **Kota Tinggi** **62.98 108** P **P** **16 47 56.5 -2.1**
MYKOM IAmb IAmb 16 48 03.3
comp=Z,165nm,0.9s
MYKOM IAMs_20 IAMs_20 17 17 12.5
comp=Z,14μm,22.0s
MYKOM **Kota Tinggi** **62.98 108** P **P** **16 47 56.8 -1.8**
BTDF **Bukit Timah Da** **63.18 108** P **P** **16 47 58.9 -1.1**
INCN **Inchon** **63.58 61** P **P** **16 48 02.1 -0.3**
INCN **Inchon** **63.58 61** IAMs_20 IAMs_20 17 19 41.4
comp=Z,11μm,18.0s
INCN **Inchon** **63.58 61** P **P** **16 48 02.5 0.0**
INCN P **P** **16 48 02.5 0.0**
INCN S **S** **16 56 33.8 -1.7**
INCN S **S** **16 56 33.8 -1.7**
INCN **Inchon** **63.58 61** P **P** **16 48 02.3 -0.1**
INCN **Inchon** **63.58 61** P **P** **16 48 02.1 -0.3**
INCN pmax pmax
comp=Z,258nm,0.9s
INCN MLR MLR
comp=Z,11μm,18.0s
TPRI **Tanjung Pinang** **64.04 108** P **P** **16 48 04.2 -1.5**
comp=Z,305nm,0.9s,comp=Z,4μmcomp=Z,2μm
KSRS **Korea Array** **64.53 61** P **P** **16 48 07.9 -0.7**
comp=Z,56nm,0.7s,baz=283,slow=7.0,SNR=194
KSRS S **S** **16 56 45.8 -1.4**
comp=Z,2.3nm,0.9s,baz=283,slow=16,SNR=4.2
KSRS PKP2bc 17 17 02.1
comp=Z,3.0nm,0.9s,baz=123,slow=2.9,SNR=6.9
KSRS LR LR 17 20 31.6
comp=Z,10μm,20.2s,baz=290,slow=40
comp=Z,56nm,0.7s
USA0B **Ussuriysk Arra** **64.56 53** *i* P **P** **16 48 07.4 -1.3**
USRK **Ussuriysk Ar.** **64.56 53** P **P** **16 48 08.0 -0.7**
comp=Z,69nm,0.9s,baz=283,slow=6.2,SNR=72
USRK PKP2bc 17 16 59.2
comp=Z,2.5nm,0.8s,baz=96,slow=7.7,SNR=4.0
USRK LR LR 17 20 40.6
comp=Z,26μm,18.6s,baz=297,slow=40
comp=Z,69nm,0.9s
USRK **Ussuriysk Ar.** **64.56 53** P **P** **16 48 08.0 -0.7**
TJN **Taejon** **64.58 62** P **P** **16 48 08.1 -0.8**
GRNR **Gornyy** **64.65 45**⇑ *i*P **P** **16 48 10.8 +1.6**
GRNR pmax pmax
comp=Z,20nm,1.0s
MSHR **Mys Shultsa** **64.67 55** *i* P **P** **16 48 09.4 0.0**
SACV **Santiago Islan** **64.79 271** IAMs_20 IAMs_20 17 21 45.9
comp=Z,13μm,20.0s
VLA **Vladivostok** **64.93 54** *i* P **P** **16 48 10.8 -0.3**
VLA pmax pmax
comp=Z,91nm,1.2s
VLA MLR MLR
comp=Z,22μm,17.0s
TPUB **Ta-pu** **65.20 78** IAMs_20 IAMs_20 17 20 11.5
comp=Z,12μm,19.0s
TPUB **Ta-pu** **65.20 78** P **P** **16 48 14.1 +0.9**
SSLB **Suanglung** **65.23 77** P **P** **16 48 15.8 +2.4**
KSI **Kapahiang** **65.42 113** P **P** **16 48 14.2 -0.5**
NACB **Ninganchiao** **65.56 77** IAmb IAmb 16 48 35.3
comp=Z,100nm,1.0s
NACB IAMs_20 IAMs_20 17 20 04.2
comp=Z,16μm,21.0s
NACB **Ninganchiao** **65.56 77** P **P** **16 48 17.1 +1.6**
BOSA **Boshof** **65.58 200** P **P** **16 48 15.3 -0.2**
BOSA IAmb IAmb 16 48 23.3
comp=Z,162nm,0.8s
BOSA **Boshof** **65.58 200** P **P** **16 48 15.5 0.0**
comp=Z,133nm,0.8s,baz=16,slow=6.2,SNR=142
BOSA PKP2ab 17 17 02.6
comp=Z,5.3nm,1.0s,baz=191,slow=8.4,SNR=3.9
BOSA LR LR 17 18 17.7
comp=Z,20μm,18.4s,baz=20,slow=37
comp=Z,133nm,0.8s
YULB **Yu-li** **65.69 77** IAMs_20 IAMs_20 17 20 58.6
comp=Z,13μm,20.0s
YULB **Yu-li** **65.69 77** P **P** **16 48 17.4 +1.0**
TWG **Pinlang** **65.78 78** IAMs_20 IAMs_20 17 20 41.2
comp=Z,12μm,21.0s
TWGBT **Beinan** **65.79 78** P **P** **16 48 19.0 +2.0**
NKL **Nikolayevsk** **66.05 41** *e*P **P** **16 48 22.9 +4.7**
NKL *e*S **S** **16 57 05.4 +0.1**
NKL pmax pmax
comp=E,186nm,1.0s
NKL pmax pmax
comp=N,122nm,1.4s
NKL pmax pmax
comp=Z,992nm,1.1s
NKL smax smax
comp=E,953nm,3.1s
NKL smax smax
comp=N,1μm,6.2s
PMBI **Palembang** **66.63 111** IAMs_20 IAMs_20 17 18 08.6
comp=Z,11μm,20.0s
PMBI **Palembang** **66.63 111** P **P** **16 48 20.7 -1.7**
PMBI **Palembang** **66.63 111** P **P** **16 48 21.0 -1.4**
comp=Z,288nm,1.2s
JTU **Tsushima** **66.88 63** P **P** **16 48 25.3 +1.5**
SEY **Seymchan** **66.95 28** LR LR 17 21 08.6
comp=Z,16μm,21.4s,baz=306,slow=39
SEY **Seymchan** **66.95 28** *i* P **P** **16 48 25.4 +1.6**
SEY pmax pmax
comp=Z,611nm,1.3s
SEY MLR MLR
comp=Z,14μm,17.0s
COCO **West Island** **67.04 124** P **P** **16 48 26.3 +1.3**
COCO P **P** **16 48 26.3 +1.3**
COCO S **S** **16 57 18.1 0.0**
COCO S **S** **16 57 18.1 0.0**
COCO **West Island** **67.04 124** P **P** **16 48 26.8 +1.9**
TEY **Ternei** **67.19 50** *e*P **P** **16 48 24.7 -0.9**
TEY *e* 16 52 32.5
TEY *e* 16 57 11.7
PPBI **Pangkal Pinang** **67.20 110** P **P** **16 48 24.6 -1.5**
JFU **Fukue jima 2** **67.23 65** P **P** **16 48 26.8 +0.6**
LWLI **Liwa** **67.41 113** P **P** **16 48 25.6 -2.0**
SZP **Santa** **67.87 83** P **P** **16 48 32.1 +1.8**
MA2 **Magadan** **67.99 32** P **P** **16 48 31.3 +0.9**
MA2 IAMs_20 IAMs_20 17 21 02.3
comp=Z,13μm,21.0s
MA2 **Magadan** **67.99 32** LR LR 17 21 23.0
comp=Z,11μm,19.9s,baz=300,slow=39
MA2 **Magadan** **67.99 32** P **P** **16 48 32.1 +1.7**
MA2 **Magadan** **67.99 32** P **P** **16 48 31.3 +0.9**
MA2 pmax pmax
comp=Z,475nm,1.2s
MA2 **Magadan** **67.99 32** P **P** **16 48 32.1 +1.7**
comp=Z,452nm,1.6s
KASI **Kota Agung** **68.07 113** P **P** **16 48 30.0 -1.6**
comp=Z,180nm,0.9s
RES **Resolute Bay** **68.17 350** IAmb IAmb 16 48 40.9
comp=Z,86nm,0.8s
RES IAMs_20 IAMs_20 17 22 52.3
comp=Z,18μm,20.0s
RES **Resolute Bay** **68.17 350** LR LR 17 20 13.4
comp=Z,6μm,19.2s,baz=36,slow=38
TYV **Tymovskoe** **68.17 43** *e*P **P** **16 48 33.3 +1.6**
TYV *e*S **S** **16 57 32.1 +1.2**
TYV pmax pmax
comp=Z,107nm,1.4s
TYV pmax pmax
comp=Z,1μm,2.9s
TYV smax smax
comp=N,3μm,6.4s
TYV smax smax
comp=E,6μm,6.4s
TYV smax smax
comp=N,45nm,1.8s
TYV smax smax
comp=E,55nm,1.8s
JMJ **Miyako jima 2** **68.22 74** P **P** **16 48 33.6 +1.2**
KSM **Kuching** **68.31 104** IAmb IAmb 16 48 38.2
comp=Z,106nm,1.0s
KSM **Kuching** **68.31 104** P **P** **16 48 33.0 -0.1**
BLSI **Bandar Lampung** **68.54 113** P **P** **16 48 37.9 +3.4**
comp=Z,174nm,0.8s
JNU **Nakatsue** **68.61 64** IAmb IAmb 16 48 45.9
comp=Z,166nm,0.9s
JNU **Nakatsue** **68.61 64** LR LR 17 21 24.4
comp=Z,7μm,19.1s,baz=302,slow=38
JNU **Nakatsue** **68.61 64** P **P** **16 48 35.7 +0.9**
JNU **Nakatsue** **68.61 64** P **P** **16 48 34.9 0.0**
UGL **Uglegorsk** **68.67 45** *e*P **P** **16 48 36.5 +1.6**
UGL *e*S **S** **16 57 36.4 -0.5**
UGL pmax pmax
comp=Z,310nm,1.0s
UGL pmax pmax
comp=Z,1μm,3.4s

UGL					smax	smax		
	comp=E,4µm,6.0s							
UGL					smax	smax		
	comp=N,2µm,7.0s							
UGL					MLR	MLR		
	comp=E,13µm,18.0s							
UGL					MLR	MLR		
	comp=N,8µm,11.0s							
UGL					MLR	MLR		
	comp=Z,8µm,14.0s							
BILL	**Biiibino**	**68.73**	**20**		P	**P**	**16 48 35.1**	**+0.2**
BILL					IAMs_20	IAMs_20	17 22 45.4	
	comp=Z,13µm,21.0s							
BILL	**Biiibino**	**68.73**	**20**	*i*	P	**P**	**16 48 36.0**	**+1.1**
BILL					pmax	pmax		
	comp=Z,423nm,1.6s							
BILL					MLR	MLR		
	comp=Z,17µm,26.0s							
TPI	**Tanjungpandan**	**68.76**	**109**		P	**P**	**16 48 34.9**	**-1.0**
	comp=Z,180nm,1.3s,comp=Z,2µm							
JSU	**Suzuyama**	**69.05**	**66**		P	**P**	**16 48 38.3**	**+0.7**
SBUM	**Sibu**	**69.28**	**102**		P	**P**	**16 48 38.9**	**-0.3**
JHS	**Saijyo**	**69.38**	**61**		P	**P**	**16 48 38.5**	**-1.1**
SOE	**Somerset East**	**69.38**	**198**		P	**P**	**16 48 39.3**	**-0.1**
FRB	**Frobisher Bay**	**69.39**	**334**		LR	LR	17 20 37.4	
	comp=Z,17µm,18.4s,baz=55,slow=37							
JOW	**Kunigami**	**69.60**	**71**		IAmb	IAmb	16 48 48.6	
	comp=Z,220nm,1.0s							
JOW					IAMs_20	IAMs_20	17 24 27.9	
	comp=Z,15µm,21.0s							
JOW	**Kunigami**	**69.60**	**71**		LR	LR	17 24 58.7	
	comp=Z,15µm,19.1s,baz=302,slow=41							
JOW	**Kunigami**	**69.60**	**71**		P	**P**	**16 48 41.5**	**+0.5**
JOW	**Kunigami**	**69.60**	**71**		P	**P**	**16 48 41.3**	**+0.3**
SHEL	**Horse Pasture**	**70.02**	**233**		P	**P**	**16 48 43.5**	**-0.1**
SHEL	**Horse Pasture**	**70.02**	**233**		P	**P**	**16 48 43.5**	**-0.1**
SHEL					pmax	pmax		
	comp=Z,397nm,1.0s							
TGY	**Tagaytay City**	**70.04**	**86**		LR	LR	17 23 04.2	
	comp=Z,8µm,21.2s,baz=324,slow=39							
STKI	**Sintang**	**70.08**	**104**		P	**P**	**16 48 43.8**	**-0.3**
YSS	**Yuzh-Sakhalins**	**70.10**	**46**		P	**P**	**16 48 42.5**	**-1.2**
YSS	**Yuzh-Sakhalins**	**70.10**	**46**		P	**P**	**16 48 45.5**	**+1.8**
YSS	**Yuzh-Sakhalins**	**70.10**	**46**	*i*	P	**P**	**16 48 43.9**	**+0.2**
YSS					pmax	pmax		
	comp=Z,317nm,1.3s							
YSS					MLR	MLR		
	comp=Z,19µm,19.0s							
TNG	**Tangerang**	**70.12**	**113**		P	**P**	**16 48 42.1**	**-2.2**
TNG					P	**pP**	**16 48 43.2**	**-7.0**
JAD	**Aida**	**70.17**	**61**		P	**P**	**16 48 44.2**	**-0.2**
SUR	**Sutherland**	**70.43**	**202**		P	**P**	**16 48 45.9**	**-0.1**
SUR					IAmb	IAmb	16 48 58.0	
	comp=Z,134nm,0.9s							
SUR	**Sutherland**	**70.43**	**202**		LR	LR	17 20 21.8	
	comp=Z,57µm,19.0s,baz=24,slow=36							
SUR	**Sutherland**	**70.43**	**202**		P	**P**	**16 48 48.5**	**+2.6**
SUR					P	**P**	**16 48 48.5**	**+2.6**
SUR					S	**S**	**16 57 59.4**	**+1.3**
SUR					S	**S**	**16 57 59.4**	**+1.3**
KKM	**Kota Kinabalu**	**70.49**	**96**		IAmb	IAmb	16 48 54.8	
	comp=Z,178nm,0.9s							
KKM					IAMs_20	IAMs_20	17 21 42.9	
	comp=Z,14µm,22.0s							
KKM	**Kota Kinabalu**	**70.49**	**96**		P	**P**	**16 48 46.8**	**0.0**
JMN	**Monobe**	**70.54**	**62**		IAmb	IAmb	16 48 59.7	
	comp=Z,238nm,1.0s							
JMN	**Monobe**	**70.54**	**62**		P	**P**	**16 48 48.4**	**+1.7**
JMN	**Monobe**	**70.54**	**62**		P	**P**	**16 48 47.5**	**+0.8**
SKJI	**Sukabumi**	**70.58**	**113**		P	**P**	**16 48 45.5**	**-1.6**
JWT	**Wachi**	**70.89**	**60**		P	**P**	**16 48 49.9**	**+1.1**
CNJI	**Cibinong**	**71.21**	**113**		P	**P**	**16 48 48.3**	**-2.6**
	comp=Z,303nm,1.1s,comp=Z,3µm							
LEM	**Lembang**	**71.28**	**112**		LR	LR	17 22 26.8	
	comp=Z,10µm,20.0s,baz=306,slow=38							
LEM	**Lembang**	**71.28**	**112**		P	**P**	**16 48 49.5**	**-2.1**
	comp=Z,108nm,1.3s,comp=Z,2µm							
ASAJ	**Asahikawa**	**71.40**	**49**		LR	LR	17 23 47.8	
	comp=Z,13µm,21.5s,baz=307,slow=39							
JKA	**Kamikawa-asahi**	**71.40**	**49**		IAMs_20	IAMs_20	17 23 37.0	
	comp=Z,15µm,21.0s							
JSD	**Sado**	**71.56**	**56**		P	**P**	**16 48 55.2**	**+2.4**
JCJI	**Jatiwangi**	**71.57**	**112**		P	**P**	**16 48 52.2**	**-0.9**
BBJI	**Bungbulang**	**71.71**	**113**		P	**P**	**16 48 51.7**	**-2.3**
JMP	**Maruseppu**	**71.93**	**49**		P	**P**	**16 48 56.2**	**+1.2**
INU	**Inuyama**	**72.01**	**59**		P	**P**	**16 48 56.2**	**+0.7**
JTM	**Tenmabayashi**	**72.08**	**53**		IAmb	IAmb	16 49 03.5	
	comp=Z,209nm,1.0s							
JTM	**Tenmabayashi**	**72.08**	**53**		P	**P**	**16 48 56.8**	**+0.9**
JGF	**Kuroka**	**72.13**	**59**		P	**P**	**16 48 56.6**	**+0.3**
MAJO	**Matsushiro**	**72.26**	**58**		P	**P**	**16 48 56.3**	**-0.7**
MAJO	**Matsushiro**	**72.26**	**58**		P	**P**	**16 48 57.5**	**+0.4**
MAJO	**Matsushiro**	**72.26**	**58**	*i*	P	**P**	**16 48 56.4**	**-0.7**
MAJO					pmax	pmax		
	comp=Z,115nm,1.5s							
MAJO					MLR	MLR		
	comp=Z,9µm,18.0s							
MAT	**Matsushiro**	**72.26**	**58**		P	**P**	**16 48 57.5**	**+0.4**
MJAR	**Matsushiro Arr**	**72.26**	**58**		P	**P**	**16 48 57.0**	**-0.1**
	comp=Z,12nm,0.7s,baz=317,slow=3.1,SNR=30							
MJAR					LR	LR	17 24 25.1	
	comp=Z,8µm,18.9s,baz=298,slow=39							
	comp=Z,12nm,0.7s							
CMJI	**Cimerak**	**72.52**	**113**		P	**P**	**16 48 58.3**	**-0.5**
	comp=Z,445nm,1.3s,comp=Z,4µm							
DRLN	**Deer Lake**	**72.52**	**318**		IAmb	IAmb	16 49 04.9	
	comp=Z,183nm,0.9s							
KPJI	**Karang Pucung**	**72.61**	**112**		P	**P**	**16 48 57.5**	**-1.8**
	comp=Z,149nm,0.5s,comp=Z,2µm							
ERM	**Erimo**	**72.82**	**51**		IAMs_20	IAMs_20	17 24 59.6	
	comp=Z,18µm,20.0s							
ERM	**Erimo**	**72.82**	**51**		P	**P**	**16 49 04.7**	**+4.5**
MYLDM	**Lahad Datu**	**72.86**	**96**		IAmb	IAmb	16 49 16.2	
	comp=Z,151nm,1.1s							
MYLDM	**Lahad Datu**	**72.86**	**96**		P	**P**	**16 49 01.3**	**+0.4**
JOM	**Ohasama**	**72.89**	**54**		P	**P**	**16 49 00.3**	**-0.5**
JRY	**Ryogami san**	**73.01**	**58**		P	**P**	**16 49 01.7**	**+0.2**
JSG	**Sagara**	**73.18**	**59**		IAMs_20	IAMs_20	17 27 10.3	
	comp=Z,10µm,19.0s							
JMM	**Marumori**	**73.38**	**55**		IAmb	IAmb	16 49 14.1	
	comp=Z,247nm,1.1s							
JMM					IAMs_20	IAMs_20	17 25 28.5	
	comp=Z,16µm,19.0s							
JMM	**Marumori**	**73.38**	**55**		P	**P**	**16 49 03.2**	**-0.4**
JMM	**Marumori**	**73.38**	**55**		P	**P**	**16 49 03.0**	**-0.6**
A21K	**Barrow**	**73.40**	**7**		P	**P**	**16 49 03.9**	**+0.8**
	baz=341,SNR=18							
A21K					S	**S**	**16 58 31.1**	**0.0**
	baz=341							
A21K					S	**S**	**16 58 31.1**	**0.0**
	baz=341							
MTKI	**Muara Teweh, K**	**73.42**	**103**		P	**P**	**16 49 04.0**	**-0.2**
	comp=Z,110nm,1.1s,comp=Z,3µm							
YUK	**Yuzh-Kuril'sk**	**73.46**	**48**	*eP*		**P**	**16 49 03.1**	**-0.9**
YUK					pmax	pmax		
	comp=N,288nm,1.1s							
YUK					pmax	pmax		
	comp=E,223nm,1.1s							
YUK					pmax	pmax		
	comp=Z,806nm,1.1s							
YUK					pmax	pmax		
	comp=E,7µm,12.0s							
YUK					pmax	pmax		
	comp=N,4µm,13.0s							
JOD2	**Odawara 2**	**73.52**	**58**		P	**P**	**16 49 05.3**	**+0.8**
SMRI	**Semarang**	**73.59**	**111**		P	**P**	**16 49 04.7**	**-0.5**
SMRI	**Semarang**	**73.59**	**111**		P	P	16 49 11.4	+6.2
A36M	**Sachs Harbour**	**73.74**	**357**		IAMs_20	IAMs_20	17 27 12.3	
	comp=Z,13µm,21.0s							
A36M	**Sachs Harbour**	**73.74**	**357**		P	**P**	**16 49 05.6**	**+0.5**
	baz=7.8,SNR=558							
A36M					S	**SKiKP**	**16 58 34.0**	**+0.4**
	baz=7.8							
A22K	**Sinclair Lake**	**73.87**	**7**		P	**P**	**16 49 06.7**	**+0.8**
	baz=342							
A22K					S	**S**	**16 58 36.1**	**-0.3**
	baz=342							
A19K	**Wainwright**	**73.92**	**9**		P	**P**	**16 49 07.4**	**+1.2**
	baz=337							
A19K					S	**S**	**16 58 38.4**	**+1.4**
	baz=337							
KUR	**Kuril'sk**	**74.03**	**46**		P	P	16 49 12.6	+5.3
SCHQ	**Schefferville**	**74.06**	**326**		IAmb	IAmb	16 49 14.0	
	comp=Z,333nm,1.4s							
SCHQ	**Schefferville**	**74.06**	**326**		P	**P**	**16 49 06.6**	**-0.8**
	comp=Z,84nm,0.7s,baz=48,slow=5.9,SNR=68							
SCHQ					LR	LR	17 22 19.4	
	comp=Z,6µm,18.9s,baz=58,slow=36							
	comp=Z,84nm,0.7s							
NGJI	**Ngawi**	**74.58**	**110**		P	**P**	**16 49 10.9**	**0.0**
	comp=Z,281nm,1.1s							
B20K	**Meade River**	**74.59**	**8**		IAmb	IAmb	16 49 25.7	
	comp=Z,165nm,0.8s							
B20K					IAMs_20	IAMs_20	17 26 58.3	
	comp=Z,13µm,21.0s							
B20K	**Meade River**	**74.59**	**8**		P	**P**	**16 49 11.4**	**+1.3**
	baz=340,SNR=36							
B20K					S	**S**	**16 58 44.3**	**-0.2**
	baz=340							
B18K	**Kokolik River**	**74.60**	**10**		P	**P**	**16 49 11.7**	**+1.5**
	baz=337,SNR=31							
B18K					S	**S**	**16 58 45.8**	**+1.2**
	baz=337							
B22K	**Teshekpuk Lake**	**74.66**	**7**		IAmb	IAmb	16 49 21.1	
	comp=Z,227nm,1.0s							
B22K	**Teshekpuk Lake**	**74.66**	**7**		P	**P**	**16 49 11.8**	**+1.3**
	baz=344,SNR=41							
B22K					S	**S**	**16 58 46.2**	**+0.9**
	baz=344							
PEA0B	**Petropavlovsk-**	**74.81**	**35**		IAmb	IAmb	16 49 19.1	
	comp=Z,296nm,1.2s							
PEA0B	**Petropavlovsk-**	**74.81**	**35**	*i*	P	**P**	**16 49 10.9**	**-0.8**
PETK	**Petropavlovsk-**	**74.81**	**35**		P	**P**	**16 49 10.4**	**-1.3**
	comp=Z,38nm,0.9s,baz=270,slow=4.4,SNR=18							
PETK					LR	LR	17 26 29.1	
	comp=Z,10µm,19.0s,baz=298,slow=39							
	comp=Z,38nm,0.9s							
PCJI	**Pacitan**	**74.87**	**111**		P	**P**	**16 49 11.7**	**-0.9**
	comp=Z,176nm,1.2s							
SMKI	**Samarinda**	**75.00**	**101**		P	**P**	**16 49 16.6**	**+3.1**
	comp=Z,132nm,0.4s,comp=Z,5µm							
C16K	**Lisburne Hills**	**75.05**	**11**		IAmb	IAmb	16 49 22.1	
	comp=Z,189nm,1.1s							
C16K	**Lisburne Hills**	**75.05**	**11**		P	**P**	**16 49 13.3**	**+0.5**
	baz=334							
C16K					S	**S**	**16 58 49.2**	**-0.5**
	baz=334							
GRJI	**Gresik**	**75.09**	**109**		P	**P**	**16 49 15.7**	**+1.8**
	comp=Z,280nm,1.1s,comp=Z,4µm							
C19K	**Lookout Ridge**	**75.14**	**9**		IAMs_20	IAMs_20	17 27 51.8	
	comp=Z,14µm,21.0s							
C19K	**Lookout Ridge**	**75.14**	**9**		P	**P**	**16 49 14.5**	**+1.1**
	baz=338							
C19K					S	**S**	**16 58 51.0**	**+0.2**
	baz=338							
C17K	**DeLong Mountai**	**75.21**	**11**		P	**P**	**16 49 14.9**	**+1.1**
	baz=336							
C17K					S	**S**	**16 58 51.2**	**-0.4**
	baz=336							
BKB	**Balikpapan**	**75.23**	**102**		IAMs_20	IAMs_20	17 25 53.3	
	comp=Z,11µm,20.0s							
BKB	**Balikpapan**	**75.23**	**102**		P	**P**	**16 49 14.6**	**-0.1**
BKB	**Balikpapan**	**75.23**	**102**		P	**P**	**16 49 17.0**	**+2.3**
	comp=Z,233nm,0.9s,comp=Z,3µmcomp=Z,2µm							
B21K	**Ikpikpuk River**	**75.23**	**7**		IAmb	IAmb	16 49 37.0	
	comp=Z,267nm,1.1s							
B21K					IAMs_20	IAMs_20	17 26 50.3	
	comp=Z,9µm,19.0s							
B21K	**Ikpikpuk River**	**75.23**	**7**		P	**P**	**16 49 14.6**	**+0.7**
	baz=343,SNR=38							
B21K					S	**S**	**16 58 51.9**	**+0.2**
	baz=343							
PWJI	**Pagerwojo**	**75.25**	**111**		P	**P**	**16 49 13.1**	**-1.7**
	comp=Z,193nm,1.0s,comp=Z,3µm							
PET	**Petropavlovsk**	**75.31**	**35**		IAMs_20	IAMs_20	17 26 24.9	
	comp=Z,12µm,20.0s							
PET	**Petropavlovsk**	**75.31**	**35**		P	**P**	**16 49 16.1**	**+1.5**
PET	**Petropavlovsk**	**75.31**	**35**	*eP*		**P**	**16 49 11.1**	**-3.5**
PET				*e*			16 52 01.4	
PET				*e*	PPP	PPP	16 53 48.4	
PET				*eS*		**S**	**16 58 47.6**	**-5.5**
PET					pmax	pmax		
	comp=Z,900nm,13.4s							
PET					pmax	pmax		
	comp=Z,86nm,1.1s							
PET					smax	smax		
	comp=E,600nm,10.3s							
PET	**Petropavlovsk**	**75.31**	**35**		P	**P**	**16 49 15.2**	**+0.6**
	comp=E,76nm,1.0s							
C18K	**Utukok River**	**75.34**	**10**		IAMs_20	IAMs_20	17 28 18.2	
	comp=Z,13µm,20.0s							
C18K	**Utukok River**	**75.34**	**10**		P	**P**	**16 49 15.4**	**+0.8**
	baz=337							
C18K					S	**S**	**16 58 52.0**	**-1.2**
	baz=337							
C23K	**Itkillik River**	**75.40**	**6**		P	**P**	**16 49 16.4**	**+1.6**
	baz=346							
C23K					S	**S**	**16 58 54.3**	**+0.7**
	baz=346							
RDOG	**Red Dog Mine**	**75.64**	**11**		IAmb	IAmb	16 49 25.6	
	comp=Z,223nm,1.1s							
RDOG	**Red Dog Mine**	**75.64**	**11**		P	**P**	**16 49 16.3**	**+0.1**
	baz=336,SNR=23							
RDOG					S	**S**	**16 58 55.1**	**-1.2**
	baz=336							
C21K	**Knifeblade Rid**	**75.66**	**7**		P	**P**	**16 49 17.5**	**+1.1**
	baz=343,SNR=51							
C21K					S	**S**	**16 58 56.4**	**-0.2**
	baz=343							
C24K	**Franklin Bluff**	**75.67**	**5**		P	**P**	**16 49 17.4**	**+1.0**
	baz=348							
C24K					S	**S**	**16 58 56.4**	**-0.1**
	baz=348							
C26K	**Camden Bay**	**75.72**	**4**		P	**P**	**16 49 18.0**	**+1.4**
	baz=351,SNR=28							
C26K					S	**S**	**16 58 57.0**	**0.0**
	baz=351							
D20K	**Etivluk River**	**75.88**	**8**		P	**P**	**16 49 18.6**	**+1.0**
	baz=341,SNR=41							
D20K					S	**S**	**16 58 58.9**	**-0.1**
	baz=341							
D19K	**Kuna River**	**75.90**	**9**		IAMs_20	IAMs_20	17 24 31.0	
	comp=Z,11µm,22.0s							
D19K	**Kuna River**	**75.90**	**9**		P	**P**	**16 49 18.6**	**+0.8**
	baz=340							
D19K					S	**S**	**16 58 58.5**	**-0.8**
	baz=340							
D17K	**Noatak River**	**75.94**	**11**		P	**P**	**16 49 18.5**	**+0.6**
	baz=336,SNR=42							
D17K					S	**S**	**16 58 59.0**	**-0.5**
	baz=336							
C27K	**Jago River**	**76.07**	**3**		P	**P**	**16 49 19.8**	**+1.1**
	baz=352							
C27K					S	**S**	**16 59 00.7**	**-0.3**
	baz=352							
D22K	**Ayikyak River**	**76.14**	**7**		IAMs_20	IAMs_20	17 27 39.3	
	comp=Z,12µm,21.0s							
D22K	**Ayikyak River**	**76.14**	**7**		P	**P**	**16 49 20.0**	**+0.9**
	baz=344							
D22K					S	**S**	**16 59 01.5**	**-0.4**
	baz=344							
D24K	**Happy Valley**	**76.21**	**5**		P	**P**	**16 49 20.4**	**+0.9**
	baz=348							
D24K					S	**S**	**16 59 00.6**	**-2.0**
	baz=348							
D25K	**Kavik River**	**76.22**	**4**		IAmb	IAmb	16 49 36.6	
	comp=Z,120nm,0.9s							
D25K	**Kavik River**	**76.22**	**4**		P	**P**	**16 49 20.2**	**+0.6**
	baz=350,SNR=94							
D25K					S	**S**	**16 59 01.0**	**-1.8**
	baz=350							
D23K	**Nanushuk River**	**76.25**	**6**		IAmb	IAmb	16 49 35.3	
	comp=Z,121nm,0.8s							
D23K	**Nanushuk River**	**76.25**	**6**		P	**P**	**16 49 20.6**	**+0.9**
	baz=346,SNR=55							
D23K					S	**S**	**16 59 02.1**	**-0.9**
	baz=346							
C36M	**Paulatuk**	**76.31**	**356**		P	**P**	**16 49 19.4**	**-0.5**
	baz=8.7,SNR=226							
C36M					S	**S**	**16 59 00.6**	**-3.0**
	baz=8.7							
KMMI	**Kalianget**	**76.34**	**108**		P	**P**	**16 49 19.2**	**-1.8**
	comp=Z,195nm,1.2s							
E20K	**Nigu River**	**76.36**	**8**		P	**P**	**16 49 21.0**	**+0.6**
	baz=342							
E20K					S	**S**	**16 59 04.0**	**-0.4**
	baz=342							
E21K	**Killik River**	**76.44**	**7**		IAMs_20	IAMs_20	17 27 20.2	
	comp=Z,10µm,20.0s							
E21K	**Killik River**	**76.44**	**7**		P	**P**	**16 49 21.4**	**+0.6**
	baz=343							
E21K					S	**S**	**16 59 02.6**	**-2.5**
	baz=343							
BLJI	**Banyuglugur**	**76.47**	**109**		P	**P**	**16 49 22.4**	**+0.6**
	comp=Z,102nm,1.2s							
D28M	**Stokes Point**	**76.55**	**2**		P	**P**	**16 49 22.6**	**+1.3**
	baz=356							
D28M					S	**S**	**16 59 06.2**	**0.0**
	baz=356							
D27M	**Malcolm River**	**76.57**	**2**		P	**P**	**16 49 22.6**	**+1.0**
	baz=354							
D27M					S	**S**	**16 59 05.3**	**-1.3**
	baz=354							
E18K	**Tukpahlearik C**	**76.57**	**10**		IAMs_20	IAMs_20	17 29 19.6	
	comp=Z,16µm,20.0s							
E18K	**Tukpahlearik C**	**76.57**	**10**		P	**P**	**16 49 22.4**	**+0.9**
	baz=338							
E18K					S	**S**	**16 59 05.4**	**-1.1**
	baz=338							
TOLK	**Toolik Lake Re**	**76.66**	**6**		IAmb	IAmb	16 49 32.1	
	comp=Z,176nm,0.8s							
TOLK	**Toolik Lake Re**	**76.66**	**6**		P	**P**	**16 49 22.9**	**+0.8**
	baz=347,SNR=147							
TOLK					S	**S**	**16 59 06.2**	**-1.3**
	baz=347							
TOLK					S	**S**	**16 59 06.2**	**-1.3**
	baz=347							
GMJI	**Gumukmas**	**76.68**	**110**		P	**P**	**16 49 21.8**	**-1.1**
	comp=Z,127nm,1.4s							
E17K	**Hotham Inlet**	**76.70**	**11**		P	**P**	**16 49 22.7**	**+0.4**
	baz=337,SNR=41							
E17K					S	**S**	**16 59 06.5**	**-1.4**
	baz=337							
GBN	**Guysborough**	**76.94**	**316**		IAmb	IAmb	16 49 31.3	
	comp=Z,189nm,0.9s							
GBN					IAMs_20	IAMs_20	17 22 24.7	
	comp=Z,12µm,21.0s							
E22K	**Anaktuvuk Pass**	**76.95**	**7**		P	**P**	**16 49 24.2**	**+0.4**
	baz=345,SNR=40							
E22K					S	**S**	**16 59 09.0**	**-1.8**
	baz=345							
E19K	**Redstone River**	**77.00**	**9**		IAMs_20	IAMs_20	17 25 26.9	
	comp=Z,12µm,22.0s							
E19K	**Redstone River**	**77.00**	**9**		P	**P**	**16 49 24.9**	**+1.0**
	baz=341							
E19K					S	**S**	**16 59 10.2**	**-1.0**
	baz=341							
ABJI	**Asem Bagus**	**77.00**	**109**		P	**P**	**16 49 25.0**	**+0.2**
	comp=Z,305nm,1.1s,comp=Z,3µm							
TNA	**Tin City**	**77.01**	**14**		P	**P**	**16 49 24.9**	**+0.9**
	baz=332							
TNA					S	**S**	**16 59 11.7**	**+0.4**
	baz=332							
TOLI2	**Tolitoli**	**77.03**	**98**		P	**P**	**16 49 23.6**	**-1.4**
E23K	**Chandalar**	**77.22**	**6**		IAMs_20	IAMs_20	17 24 32.8	
	comp=Z,12µm,22.0s							
E23K	**Chandalar**	**77.22**	**6**		P	**P**	**16 49 26.2**	**+0.9**
	baz=347							
E23K					S	**S**	**16 59 13.5**	**-0.4**
	baz=347							
E28M	**Babbage River**	**77.25**	**2**		P	**P**	**16 49 25.8**	**+0.4**
	baz=356							
E28M					S	**S**	**16 59 13.1**	**-0.9**
	baz=356							
E24K	**Your Creek**	**77.30**	**5**		P	**P**	**16 49 26.7**	**+1.0**
	baz=348							
E24K					S	**S**	**16 59 14.4**	**-0.2**
	baz=348							
JAGI	**Jajag, Banyuwa**	**77.35**	**110**		IAmb	IAmb	16 49 36.6	
	comp=Z,307nm,1.4s							
JAGI	**Jajag, Banyuwa**	**77.35**	**110**		P	**P**	**16 49 26.2**	**-0.5**
JAGI	**Jajag, Banyuwa**	**77.35**	**110**		P	**P**	**16 49 26.2**	**-0.5**
	comp=Z,145nm,0.9s,comp=Z,2µm							
F17K	**Baldwin Pennin**	**77.38**	**11**		P	**P**	**16 49 26.9**	**+0.8**
	baz=337							
F17K					S	**S**	**16 59 14.7**	**-0.6**
	baz=337							
F14K	**Arctic Creek**	**77.39**	**13**		P	**P**	**16 49 26.8**	**+0.6**
	baz=333							
F14K					S	**S**	**16 59 15.2**	**-0.4**
	baz=333							
PCI	**Palu**	**77.41**	**100**		P	**P**	**16 49 26.7**	**-0.4**
	comp=Z,157nm,1.0s,comp=Z,2µm							
F18K	**Selawik**	**77.47**	**10**		P	**P**	**16 49 26.7**	**+0.1**
	baz=339,SNR=53							
F18K					S	**S**	**16 59 15.6**	**-0.7**
	baz=339							
F15K	**North Star Dit**	**77.49**	**12**		P	**P**	**16 49 27.3**	**+0.5**
	baz=335							
F15K					S	**S**	**16 59 16.1**	**-0.5**
	baz=335							
E29M	**Blow River**	**77.51**	**1**		P	**P**	**16 49 27.6**	**+0.7**
	baz=357							
E29M					S	**S**	**16 59 15.4**	**-1.3**
	baz=357							
F19K	**Shaleruckik Mo**	**77.52**	**9**		IAmb	IAmb	16 49 36.0	
	comp=Z,212nm,0.9s							
F19K					IAMs_20	IAMs_20	17 29 47.6	
	comp=Z,9µm,19.0s							
F19K	**Shaleruckik Mo**	**77.52**	**9**		P	**P**	**16 49 26.9**	**+0.1**
	baz=340							
F19K					S	**S**	**16 59 14.7**	**-2.1**
	baz=340							
F22K	**John River**	**77.52**	**7**		P	**P**	**16 49 28.1**	**+1.2**
	baz=345							
F22K					S	**S**	**16 59 16.4**	**-0.6**
	baz=345							
ICQ	**Pointe Anglais**	**77.56**	**322**		IAMs_20	IAMs_20	17 26 40.8	
	comp=Z,11µm,20.0s							
F20K	**Avaraart Lake**	**77.57**	**8**		IAMs_20	IAMs_20	17 28 14.2	
	comp=Z,14µm,20.0s							
F20K	**Avaraart Lake**	**77.57**	**8**		P	**P**	**16 49 27.8**	**+0.7**
	baz=342							
F20K					S	**S**	**16 59 16.5**	**-0.9**
	baz=342							
E27K	**Coleen River**	**77.60**	**3**		P	**P**	**16 49 28.3**	**+0.9**
	baz=354							
E27K					S	**S**	**16 59 16.8**	**-1.0**
	baz=354							
INK	**Inuvik**	**77.62**	**360**		IAmb	IAmb	16 49 36.8	
	comp=Z,126nm,1.0s							
INK	**Inuvik**	**77.62**	**360**		LR	LR	17 29 04.3	
	comp=Z,6µm,20.5s,baz=7.5,slow=40							
INK	**Inuvik**	**77.62**	**360**		P	**P**	**16 49 27.4**	**0.0**
	baz=0.6,SNR=50							
INK					S	**S**	**16 59 14.6**	**-3.3**
	baz=0.6							
DAV	**Davao City (W)**	**77.66**	**90**		P	**P**	**16 49 29.0**	**+0.5**
	comp=Z,100nm,0.4s,baz=48,slow=14,SNR=1.6				

baz=335
G15K S **S** **16 59 25.6 +0.8**
baz=335
G19K Purcell Mounta 78.26 9 IAMs_20 IAMs_20 17 30 10.3
comp=Z,9μm,19.0s
G19K Purcell Mounta 78.26 9 P **P** **16 49 31.6 +0.5**
baz=341,SNR=72
G19K S **S** **16 59 23.8 -1.1**
baz=341
G18K Tagagawik 78.28 10 IAmb IAmb 16 49 41.1
comp=Z,295nm,1.2s
G18K Tagagawik 78.28 10 P **P** **16 49 31.2 0.0**
baz=340,SNR=36
G18K S **S** **16 59 24.1 -1.0**
baz=340
F30M Barrier River 78.32 1 P **P** **16 49 31.9 +0.6**
baz=359
F30M S **S** **16 59 23.4 -2.1**
baz=359
BATG Bathurst New B 78.33 320 IAmb IAmb 16 49 39.7
comp=Z,131nm,1.0s
BATG IAMs_20 IAMs_20 17 26 11.3
comp=Z,11μm,21.0s
MRSI Marisa 78.34 97 P **P** **16 49 31.8 -0.5**
comp=Z,151nm,1.2s,comp=Z,2μmcomp=Z,2μm
G21K Allakaket 78.34 8 P **P** **16 49 32.1 +0.6**
baz=344
G21K S **S** **16 59 25.2 -0.6**
baz=344
G17K Kiwalik Mounta 78.35 11 P **P** **16 49 31.7 +0.2**
baz=338,SNR=24
G17K S **S** **16 59 26.0 +0.1**
baz=338
ANM Nome 78.39 13 IAmb IAmb 16 49 42.4
comp=Z,259nm,1.2s
ANM Nome 78.39 13 P **P** **16 49 33.1 +1.3**
baz=334
ANM S **S** **16 59 27.5 +1.2**
baz=334
F31M Tsiigehtchic 78.50 360 P **P** **16 49 32.2 -0.1**
baz=0.4,SNR=138
F31M S **S** **16 59 24.4 -2.9**
baz=0.4
G23K Bananza Creek 78.51 6 IAMs_20 IAMs_20 17 25 49.7
comp=Z,11μm,22.0s
G23K Bananza Creek 78.51 6 P **P** **16 49 33.7 +1.3**
baz=347,SNR=36
G23K S **S** **16 59 27.4 -0.3**
baz=347
LMN Caledonia Moun 78.52 318 P **P** **16 49 32.7 -0.2**
LMN IAmb IAmb 16 49 40.0
comp=Z,182nm,1.1s
HAL Halifax 78.58 317 IAmb IAmb 16 49 40.8
comp=Z,280nm,0.9s
TTSI Tana Toraja 78.63 102 P **P** **16 49 32.5 -1.4**
G26K Porcupine Rive 78.73 4 P **P** **16 49 34.6 +1.1**
baz=352,SNR=106
G26K S **S** **16 59 30.1 +0.2**
baz=352
G24K Hadweenzic Riv 78.73 5 P **P** **16 49 34.8 +1.1**
baz=349
G24K S **S** **16 59 30.1 +0.1**
baz=349
G25K Bearman Lake 78.77 5 P **P** **16 49 34.6 +0.9**
baz=350,SNR=22
G25K S **S** **16 59 29.4 -0.9**
baz=350
IMAR Indian Mountai 78.83 8 P **P** **16 49 34.2 0.0**
H16K Elim 78.89 12 P **P** **16 49 35.2 +0.7**
baz=337,SNR=12
H16K S **S** **16 59 32.3 +0.6**
baz=337
APSI Ampana 78.89 99 P **P** **16 49 36.8 +1.5**
comp=Z,108nm,1.0s,comp=Z,2μm
H19K Roundabout Mou 78.93 9 P **P** **16 49 35.2 +0.5**
baz=341,SNR=37
H19K S **S** **16 59 32.3 +0.3**
baz=341
G30M tAoh Zraii Nji 78.95 1 P **P** **16 49 35.1 +0.2**
baz=358
G30M S **S** **16 59 30.7 -1.6**
baz=358
G27K Doyon Strip 78.97 3 IAmb IAmb 16 49 47.8
comp=Z,115nm,0.8s
G27K Doyon Strip 78.97 3 P **P** **16 49 36.1 +1.1**
baz=354
G27K S **S** **16 59 33.2 +0.7**
baz=354
G29M Pine Creek 78.99 2 P **P** **16 49 35.7 +0.7**
baz=357
G29M S **S** **16 59 31.3 -1.4**
baz=357
H17K Granite Mounta 78.99 11 IAMs_20 IAMs_20 17 30 48.3
comp=Z,13μm,19.0s
H17K Granite Mounta 78.99 11 P **P** **16 49 35.5 +0.5**
baz=339
H17K S **S** **16 59 31.7 -1.0**
baz=339
G31M Satah River 79.02 0 P **P** **16 49 35.2 +0.1**
baz=360,SNR=165
G31M S **S** **16 59 29.8 -3.1**
baz=360
H18K Honhosa River 79.02 10 IAMs_20 IAMs_20 17 30 53.0
comp=Z,11μm,20.0s
H18K Honhosa River 79.02 10 P **P** **16 49 36.0 +0.8**
baz=340
H18K S **S** **16 59 32.1 -1.0**
baz=340
SPSI Sidrap Palu 79.13 102 P **P** **16 49 36.1 -0.5**
H20K Anotleneega Mo 79.17 9 P **P** **16 49 36.8 +0.8**
baz=343
H20K S **S** **16 59 34.3 -0.3**
baz=343
H22K Ishtalitna Cre 79.17 7 P **P** **16 49 37.6 +1.5**
baz=346
H22K S **S** **16 59 35.1 +0.4**
baz=346
H22K S **S** **16 59 35.1 +0.4**
baz=346
H21K Melozitna Rive 79.25 8 P **P** **16 49 37.8 +1.2**
baz=344
H21K S **S** **16 59 35.3 -0.2**
baz=344
H21K S **S** **16 59 35.3 -0.2**
baz=344
H23K Yukon River 79.42 6 IAmb IAmb 16 49 50.5
comp=Z,234nm,1.0s
H23K Yukon River 79.42 6 P **P** **16 49 39.4 +1.9**
baz=347,SNR=63
H23K S **S** **16 59 38.3 +0.9**
baz=347
H23K S **S** **16 59 38.3 +0.9**
baz=347
H24K Noodor Dome 79.55 6 P **P** **16 49 39.7 +1.5**
baz=349,SNR=38
H24K S **S** **16 59 38.6 -0.2**
baz=349
H24K S **S** **16 59 38.6 -0.2**
baz=349
EPYK Eagle Plains 79.55 1 P **P** **16 49 38.3 +0.1**
baz=358,SNR=122
EPYK S **S** **16 59 36.6 -2.2**
baz=358
H27K Steamboat Moun 79.56 3 P **P** **16 49 39.3 +1.1**
baz=354
H27K S **S** **16 59 39.6 +0.7**
baz=354
GCSA Galena City Sc 79.61 10 P **P** **16 49 39.1 +0.6**
baz=341,SNR=24
GCSA S **S** **16 59 39.2 -0.1**
baz=341
BNSI Bone 79.65 103 P **P** **16 49 39.8 +0.3**
H29M Whitestone 79.67 2 P **P** **16 49 39.2 +0.4**
baz=357
H29M S **S** **16 59 38.7 -1.3**
baz=357
KAPI Kappang 79.72 103 P **P** **16 49 38.4 -1.5**
KAPI IAmb IAmb 16 49 48.0
comp=Z,290nm,1.6s
KAPI Kappang 79.72 103 P **P** **16 49 38.5 -1.3**
KAPI S **S** **16 59 36.5 -5.5**
KAPI Kappang 79.72 103 P **P** **16 49 39.4 -0.5**
KAPI Kappang 79.72 103 P **P** **16 49 38.4 -1.5**
KAPI pmax pmax
comp=Z,290nm,1.6s
KAPI MLR MLR
comp=Z,3μm,22.0s
I21K Tanana 79.80 8 P **P** **16 49 40.8 +1.3**
baz=345
I21K S **S** **16 59 42.0 +0.7**
baz=345
I21K S **S** **16 59 42.0 +0.7**
baz=345
I17K Unalakleet 79.84 12 IAmb IAmb 16 49 50.3
comp=Z,144nm,0.9s
I17K IAMs_20 IAMs_20 17 31 02.9
comp=Z,8μm,19.0s
I17K Unalakleet 79.84 12 P **P** **16 49 41.0 +1.3**
baz=338,SNR=23
I17K S **S** **16 59 42.1 +0.3**
baz=338
LUWI Luwuk 79.88 98 P **P** **16 49 39.9 -0.9**
LUWI Luwuk 79.88 98 P **P** **16 49 40.7 -0.1**
comp=Z,123nm,1.1s
I20K Naaghedeneel 79.88 9 IAMs_20 IAMs_20 17 29 55.2
comp=Z,13μm,21.0s
I20K Naaghedeneel 79.88 9 P **P** **16 49 41.2 +1.3**
baz=343
I20K S **S** **16 59 43.7 +1.6**
baz=343
KMSI Cibinong 79.96 96 P **P** **16 49 40.5 -0.7**
PRP Porcupine Dome 80.04 5 P **P** **16 49 41.9 +1.0**
baz=351,SNR=29
PRP S **S** **16 59 44.8 +0.6**
baz=351
MLY Manley 80.08 7 IAmb IAmb 16 49 51.7
comp=Z,178nm,1.0s
MLY Manley 80.08 7 P **P** **16 49 42.4 +1.3**
baz=346,SNR=49
MLY S **S** **16 59 44.6 +0.2**
baz=346
JCJ Chichijima 80.09 64 LR LR 17 29 17.0
comp=Z,4μm,18.8s,baz=225,slow=39
I23K Minto, Yukon-K 80.10 6 IAmb IAmb 16 49 52.0
comp=Z,592nm,1.9s
I23K Minto, Yukon-K 80.10 6 P **P** **16 49 42.1 +1.1**
baz=347,SNR=30
I23K S **S** **16 59 45.8 +1.4**
baz=347
I23K S **S** **16 59 45.8 +1.4**
baz=347
GGN Saint George 80.10 318 IAMs_20 IAMs_20 17 28 02.3
comp=Z,10μm,18.0s
H31M Peel River 80.14 0 IAmb IAmb 16 49 59.9
comp=Z,221nm,1.1s
H31M Peel River 80.14 0 P **P** **16 49 41.5 +0.2**
baz=360
H31M S **S** **16 59 42.5 -2.5**
baz=360
I27K Kandik River 80.18 3 P **P** **16 49 42.4 +0.8**
baz=354
I27K S **S** **16 59 45.7 +0.2**
baz=354
I27K S **S** **16 59 45.7 +0.2**
baz=354
BKSI Bulukumba 80.20 103 P **P** **16 49 41.4 -1.1**
comp=Z,103nm,1.0s,comp=Z,1μm
POKR Poker Plat Res 80.30 6 IAmb IAmb 16 49 46.6
comp=Z,147nm,0.8s
POKR Poker Plat Res 80.30 6 P **P** **16 49 43.1 +0.9**
baz=349,SNR=131
POKR S **S** **16 59 46.1 -0.5**
baz=349
POKR S **S** **16 59 46.1 -0.5**
baz=349
LMQ La Malbaie 80.38 322 IAmb IAmb 16 49 50.0
comp=Z,262nm,1.4s
J14K Nanvaranak Lak 80.39 13 IAmb IAmb 16 49 52.5
comp=Z,487nm,1.5s
J14K IAMs_20 IAMs_20 17 31 08.6
comp=Z,8μm,19.0s
J14K Nanvaranak Lak 80.39 13 P **P** **16 49 43.7 +1.1**
baz=336
J14K S **S** **16 59 47.9 +0.4**
baz=336
I28M Miner Creek 80.40 2 P **P** **16 49 43.2 +0.3**
baz=355
I28M S **S** **16 59 46.1 -1.7**
baz=355
PLAI Plampang 80.41 108 P **P** **16 49 41.1 -2.4**
PLAI Plampang 80.41 108 P **P** **16 49 41.5 -2.0**
comp=Z,215nm,1.2s,comp=Z,2μm
J16K Anvik River 80.42 12 P **P** **16 49 44.0 +1.1**
baz=338
J16K S **S** **16 59 48.3 +0.4**
baz=338
F64A Sherman 80.44 320 IAMs_20 IAMs_20 17 25 02.3
comp=Z,14μm,22.0s
G65A Princeton 80.44 319 IAMs_20 IAMs_20 17 28 13.3
comp=Z,10μm,20.0s
COLA College 80.50 6 P **P** **16 49 43.3 +0.1**
COLA IAmb IAmb 16 49 53.4
comp=Z,273nm,0.9s
COLA College 80.50 6 IAMs_20 IAMs_20 17 26 38.1
comp=Z,9μm,22.0s
COLA College 80.50 6 P **P** **16 49 43.9 +0.7**
baz=349
COLA S **S** **16 59 48.1 -0.5**
baz=349
COLA College 80.50 6 P **P** **16 49 44.1 +0.9**
COLA College 80.50 6 *c i* P **P** **16 49 43.6 +0.4**
COLA pmax pmax
comp=Z,214nm,0.9s
COLA MLR MLR
comp=Z,11μm,23.0s
J19K Poorman 80.50 9 IAmb IAmb 16 49 54.1
comp=Z,363nm,1.2s
J19K IAMs_20 IAMs_20 17 29 28.6
comp=Z,9μm,22.0s
J19K Poorman 80.50 9 P **P** **16 49 44.8 +1.4**
baz=342,SNR=49
J19K S **S** **16 59 49.3 +0.5**
baz=342
J19K S **S** **16 59 49.3 +0.5**
baz=342
J20K Nowinta River 80.52 9 IAmb IAmb 16 49 53.5
comp=Z,380nm,1.2s
J20K IAMs_20 IAMs_20 17 30 25.0
comp=Z,9μm,20.0s
J20K Nowinta River 80.52 9 P **P** **16 49 44.3 +0.9**
baz=343,SNR=43
J20K S **S** **16 59 49.6 +0.6**
baz=343
J20K S **S** **16 59 49.6 +0.6**
baz=343
J17K VABM Dome 80.56 11 IAMs_20 IAMs_20 17 31 58.2
comp=Z,11μm,21.0s
J17K VABM Dome 80.56 11 P **P** **16 49 44.5 +0.9**
baz=339
J17K S **S** **16 59 48.5 -0.9**
baz=339
J17K S **S** **16 59 48.5 -0.9**
baz=339
CRZF Crozet Islands 80.62 176 IAMs_20 IAMs_20 17 23 39.2
comp=Z,14μm,18.0s
NEA2 Nenana 80.67 6 IAmb IAmb 16 49 53.4
comp=Z,547nm,2.0s
NEA2 Nenana 80.67 6 P **P** **16 49 44.7 +0.5**
baz=348,SNR=14
NEA2 S **S** **16 59 48.7 -1.8**
baz=348
IL31 80.68 5 IAmb IAmb 16 49 53.4
comp=Z,511nm,2.0s
ILAR Eielson Array 80.68 5 P **P** **16 49 44.5 +0.3**
comp=Z,39nm,0.8s,baz=331,slow=4.1,SNR=121
ILAR PP **PP** **16 52 46.6 -0.6**
comp=Z,6.3nm,0.8s,baz=350,slow=7.2,SNR=2.0
ILAR PKKP **PKKPdf** **17 08 12.8 +1.1**
comp=Z,1.2nm,1.0s,baz=216,slow=4.8,SNR=4.1
ILAR PKKPbc **PKKPbc** **17 08 23.5 -0.6**
comp=Z,6.8nm,0.8s,baz=203,slow=2.5,SNR=26
ILAR PKP2bc 17 16 13.2
comp=Z,1.3nm,1.0s,baz=221,slow=3.7,SNR=4.7
ILAR LR LR 17 31 10.4
comp=Z,5μm,19.2s,baz=326,slow=40
comp=Z,39nm,0.8s
EMMW East Machias 80.70 318 IAMs_20 IAMs_20 17 28 20.1
comp=Z,10μm,19.0s
I30M Mount Dempster 80.71 1 P **P** **16 49 45.2 +0.6**
baz=358
I30M S **S** **16 59 49.8 -1.4**
baz=358
CCB Clear Creek Bu 80.73 6 IAmb IAmb 16 49 57.5
comp=Z,186nm,1.3s
CCB IAMs_20 IAMs_20 17 26 44.1
comp=Z,9μm,22.0s
J18K Innoko River 80.86 10 P **P** **16 49 46.2 +1.0**
baz=341
J18K S **S** **16 59 52.8 +0.3**
baz=341
K13K Kusilvak Mount 80.92 14 IAmb IAmb 16 49 55.2
comp=Z,286nm,1.4s
K13K Kusilvak Mount 80.92 14 P **P** **16 49 46.0 +0.5**
baz=335,SNR=18
K13K S **S** **16 59 53.7 +0.6**
baz=335
J25K Salcha River, 80.95 5 IAMs_20 IAMs_20 17 32 44.9
comp=Z,10μm,21.0s
J25K Salcha River, 80.95 5 P **P** **16 49 46.3 +0.6**
baz=351
J25K S **S** **16 59 53.1 -0.5**
baz=351
J25K S **S** **16 59 53.1 -0.5**
baz=351
BPAW Bear Paw Mtn. 80.96 7 IAMs_20 IAMs_20 17 31 04.3
comp=Z,11μm,22.0s
BPAW Bear Paw Mtn. 80.96 7 P **P** **16 49 46.1 +0.3**
baz=346,SNR=15
BPAW S **S** **16 59 52.3 -1.4**
baz=346
BSSI Bau Bau, Buton 80.98 104 P **P** **16 49 45.7 -0.9**
comp=Z,133nm,1.2s,comp=Z,2μm
EGAK Eagle 81.02 3 IAmb IAmb 16 50 02.9
comp=Z,177nm,1.1s
EGAK Eagle 81.02 3 P **P** **16 49 46.5 +0.4**
baz=354,SNR=67
EGAK S **S** **16 59 53.3 -0.8**
baz=354
CHUM Lake Minchumin 81.03 8 P **P** **16 49 47.1 +1.0**
baz=345,SNR=45
CHUM S **S** **16 59 53.9 -0.3**
baz=345
HDA Harding Lake 81.03 6 P **P** **16 49 46.2 +0.1**
baz=349,SNR=40
HDA S **S** **16 59 51.9 -2.4**
baz=349
BWN Browne 81.04 7 IAmb IAmb 16 50 29.4
comp=Z,137nm,0.9s
J26L Joseph Creek 81.18 4 P **P** **16 49 47.3 +0.3**
baz=352
J26L S **S** **16 59 54.3 -1.7**
baz=352
J26L S **S** **16 59 54.3 -1.7**
baz=352
K15K Wolf Creek Mou 81.18 13 IAMs_20 IAMs_20 17 32 19.2
comp=Z,10μm,19.0s
K15K Wolf Creek Mou 81.18 13 P **P** **16 49 48.0 +1.1**
baz=338
K15K S **S** **16 59 57.5 +1.6**
baz=338
K20K Telida 81.32 9 IAMs_20 IAMs_20 17 32 45.2
comp=Z,12μm,19.0s
K20K Telida 81.32 9 P **P** **16 49 48.7 +1.0**
baz=344
K20K S **S** **16 59 57.7 +0.3**
baz=344
K20K S **S** **16 59 57.7 +0.3**
baz=344
K17K Iditarod 81.33 11 IAMs_20 IAMs_20 17 29 51.1
comp=Z,11μm,21.0s
K17K Iditarod 81.33 11 P **P** **16 49 48.9 +1.2**
baz=340
K17K S **S** **16 59 58.3 +0.9**
baz=340
PKME Peaks-Kenny Pk 81.33 320 IAMs_20 IAMs_20 17 25 27.9
comp=Z,13μm,22.0s
J30M Hart River 81.36 1 P **P** **16 49 49.0 +0.9**
baz=358
J30M S **S** **16 59 57.0 -1.0**
baz=358
KDI Kendari 81.43 101 P **P** **16 49 48.8 -0.2**
comp=Z,336nm,0.9s,comp=Z,4μm
J29N Klondike Camp 81.45 2 IAmb IAmb 16 50 02.1
comp=Z,338nm,1.4s
J29N Klondike Camp 81.45 2 P **P** **16 49 49.4 +1.0**
baz=357
J29N S **S** **16 59 58.2 -0.6**
baz=357
TTA Tatalina 81.47 10 IAmb IAmb 16 49 58.5
comp=Z,312nm,1.4s
TTA Tatalina 81.47 10 P **P** **16 49 49.3 +0.8**
baz=342,SNR=16
TTA S **S** **16 59 59.0 0.0**
baz=342
TTA Tatalina 81.47 10 P **P** **16 49 50.1 +1.5**
CAST Castle Rocks 81.50 8 IAMs_20 IAMs_20 17 30 32.6
comp=Z,10μm,21.0s
CAST Castle Rocks 81.50 8 P **P** **16 49 49.2 +0.5**
baz=345,SNR=95
CAST S **S** **16 59 58.6 -0.6**
baz=345
MCK McKinley 81.53 7 P **P** **16 49 48.9 +0.1**
baz=348,SNR=38
TRF Thorofare Moun 81.67 7 P **P** **16 49 49.8 +0.1**
baz=347,SNR=11
TRF S **S** **16 59 57.3 -4.0**
baz=347
SCRK Sand Creek 81.67 4 IAmb IAmb 16 50 00.2
comp=Z,186nm,1.0s
SCRK Sand Creek 81.67 4 P **P** **16 49 50.7 +1.0**
baz=352,SNR=100
SCRK S **S** **17 00 02.5 +1.3**
baz=352
K24K Donnelly Dome 81.72 5 P **P** **16 49 50.0 +0.1**
baz=350,SNR=24
L15K Ungalak Mounta 81.76 13 P **P** **16 49 51.2 +1.2**
baz=338
L15K S **S** **17 00 02.8 +0.9**
baz=338
DAWY Dawson 81.80 2 IAmb IAmb 16 50 02.9
comp=Z,323nm,1.5s
DAWY Dawson 81.80 2 P **P** **16 49 51.0 +0.7**
baz=356,SNR=34
DAWY S **S** **17 00 02.0 -0.4**
baz=356
L14K Kuka Creek 81.84 13 IAmb IAmb 16 50 05.1
comp=Z,306nm,1.2s
L14K Kuka Creek 81.84 13 P **P** **16 49 51.6 +1.1**
baz=337
L14K S **S** **17 00 04.1 +1.4**
baz=337
RIDG Independent Ri 81.85 5 IAmb IAmb 16 50 03.8
comp=Z,193nm,1.0s
RIDG Independent Ri 81.85 5 P **P** **16 49 51.1 +0.6**
baz=351
RIDG S **S** **17 00 01.4 -1.5**
baz=351
RND Reindeer 81.85 7 IAmb IAmb 16 49 59.8
comp=Z,227nm,1.4s
L17K Donlin 81.88 11 P **P** **16 49 51.7 +1.1**
baz=340
L17K S **S** **17 00 03.2 +0.1**
baz=340
WVL Waterville 81.99 319 IAMs_20 IAMs_20 17 29 12.3
comp=Z,9μm,20.0s
M11K Mekoryuk 81.99 15 IAMs_20 IAMs_20 17 31 45.8
comp=Z,12μm,21.0s
M11K Mekoryuk 81.99 15 P **P** **16 49 52.3 +1.1**
baz=334
PPLA Purkeypile 82.00 8 P **P** **16 49 51.6 +0.2**
baz=345,SNR=11
PPLA S **S** **17 00 02.0 -2.7**
baz=345
G62A West of Eustis 82.03 320 IAMs_20 IAMs_20 17 26 00.1
comp=Z,11μm,20.0s
L18K Granite Mounta 82.05 10 IAMs_20 IAMs_20 17 30 23.4
comp=Z,10μm,22.0s
L18K Granite Mounta 82.05 10 P **P** **16 49 52.6 +1.1**
baz=341
L18K S **S** **17 00 05.0 +0.2**
baz=341
L18K S **S** **17 00 05.0 +0.2**
baz=341
K29M Barlow Dome 82.08 1 P **P** **16 49 52.4 +0.6**
baz=357
K29M S **S** **17 00 04.4 -1.0**
baz=357
L16K Owhat River 82.08 12 IAmb IAmb 16 50 06.4
comp=Z,189nm,1.3s
L16K IAMs_20 IAMs_20 17 30 02.0
comp=Z,10μm,22.0s
L16K Owhat River 82.08 12 P **P** **16 49 52.8 +1.1**
baz=339,SNR=15
L16K S **S** **17 00 05.9 +0.7**

	baz=339						
WBSI	**Waikabubak, Su**	**82.17**	**107**	P	**P**	**16 49 51.8**	**-1.1**
	comp=Z,353nm,1.3s,comp=Z,4µm						
YKA	**Yellowknife Ar**	**82.18**	**351**	P	**P**	**16 49 51.5**	**-0.7**
	comp=Z,15nm,0.8s,baz=13,slow=5.7,SNR=93						
YKA				PP	**PP**	**16 52 56.8**	**-2.8**
	comp=Z,17nm,0.9s,baz=16,slow=7.9,SNR=3.6						
YKA				PKKPbc	**PKKPbc**	**17 08 20.3**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=194,slow=3.1,SNR=6.6						
YKA				PKP2bc		17 16 08.9	
	comp=Z,1.1nm,0.9s,baz=164,slow=1.5,SNR=5.5						
YKA				LR	LR	17 28 41.1	
	comp=Z,9µm,20.8s,baz=14,slow=37						
	comp=Z,15nm,0.8s						
YKA	**Yellowknife Ar**	**82.18**	**351**	*i* P	**P**	**16 49 51.5**	**-0.7**
YKA				pmax	pmax		
	comp=Z,14nm,0.7s						
L20K	**Farewell, AK**	**82.19**	**9**	P	**P**	**16 49 53.0**	**+0.7**
	baz=344,SNR=51						
L20K				S	**S**	**17 00 07.0**	**+0.6**
	baz=344						
L20K				S	**S**	**17 00 07.0**	**+0.6**
	baz=344						
BBSI	**Bau Bau**	**82.28**	**102**	P	**P**	**16 49 53.4**	**-0.1**
	comp=Z,202nm,1.1s,comp=Z,3µm						
SHEM	**Shemya Is, Ala**	**82.29**	**29**	LR	LR	17 31 02.6	
	comp=Z,11µm,19.4s,baz=312,slow=39						
DHY	**Denali Highway**	**82.31**	**6**	IAmb	IAmb	16 50 02.6	
	comp=Z,109nm,0.8s						
DHY	**Denali Highway**	**82.31**	**6**	P	**P**	**16 49 53.0**	**-0.1**
	baz=349,SNR=28						
DHY				S	**S**	**17 00 04.7**	**-3.2**
	baz=349						
L19K	**White Mountain**	**82.34**	**10**	P	**P**	**16 49 54.4**	**+1.3**
	baz=343,SNR=28						
L19K				S	**S**	**17 00 09.1**	**+1.1**
	baz=343						
L19K				S	**S**	**17 00 09.1**	**+1.1**
	baz=343						
WRGLY	**Wrigley**	**82.34**	**355**	IAMs_20	IAMs_20	17 32 02.8	
	comp=Z,11µm,21.0s						
WRGLY	**Wrigley**	**82.34**	**355**	P	**P**	**16 49 54.2**	**+1.2**
	baz=9.0,SNR=45						
WRGLY				S	**S**	**17 00 07.3**	**-0.6**
	baz=9.0						
MAYO	**Mayo, Yukon**	**82.35**	**1**	P	**P**	**16 49 53.8**	**+0.7**
	baz=359,SNR=43						
MAYO				S	**S**	**17 00 07.3**	**-0.7**
	baz=359						
WAT1	**Susitna Watana**	**82.45**	**7**	S	**S**	**17 00 04.7**	**-4.4**
	baz=348						
M14K	**Bethel**	**82.53**	**13**	IAmb	IAmb	16 50 07.9	
	comp=Z,313nm,1.2s						
M14K	**Bethel**	**82.53**	**13**	P	**P**	**16 49 55.2**	**+1.2**
	baz=337,SNR=12						
M14K				S	**S**	**17 00 11.2**	**+1.5**
	baz=337						
M13K	**Dall Lake**	**82.57**	**14**	IAmb	IAmb	16 50 08.8	
	comp=Z,215nm,1.1s						
M13K	**Dall Lake**	**82.57**	**14**	P	**P**	**16 49 55.8**	**+1.6**
	baz=336						
PAX	**Paxson**	**82.57**	**5**	P	**P**	**16 49 55.0**	**+0.6**
	baz=351,SNR=22						
PAX				S	**S**	**17 00 09.6**	**-0.9**
	baz=351						
TNTI	**Ternate**	**82.64**	**94**	P	**P**	**16 49 54.8**	**-0.6**
TNTI	**Ternate**	**82.64**	**94**	P	**P**	**16 49 54.9**	**-0.5**
L26K	**Log Cabin Wild**	**82.66**	**4**	P	**P**	**16 49 55.9**	**+1.1**
	baz=352,SNR=32						
L26K				S	**S**	**17 00 11.1**	**-0.1**
	baz=352						
L26K				S	**S**	**17 00 11.1**	**-0.1**
	baz=352						
M19K	**Big River Lodg**	**82.67**	**9**	IAMs_20	IAMs_20	17 31 29.0	
	comp=Z,8µm,21.0s						
M19K	**Big River Lodg**	**82.67**	**9**	P	**P**	**16 49 56.3**	**+1.5**
	baz=343						
M19K				S	**S**	**17 00 13.4**	**+2.1**
	baz=343						
M19K				S	**S**	**17 00 13.4**	**+2.1**
	baz=343						
BCAR	**Beaver Creek A**	**82.70**	**3**	P	**P**	**16 49 55.3**	**+0.3**
L27K	**Beaver Creek,**	**82.70**	**3**	P	**P**	**16 49 56.1**	**+1.1**
	baz=354						
L27K				S	**S**	**17 00 12.1**	**+0.4**
	baz=354						
M17K	**Holitna River**	**82.71**	**11**	IAmb	IAmb	16 50 09.9	
	comp=Z,175nm,0.9s						
M17K				IAMs_20	IAMs_20	17 30 41.9	
	comp=Z,13µm,22.0s						
M17K	**Holitna River**	**82.71**	**11**	P	**P**	**16 49 56.2**	**+1.2**
	baz=341,SNR=20						
M17K				S	**S**	**17 00 12.9**	**+1.2**
	baz=341						
MENT	**Mentasta**	**82.72**	**4**	IAmb	IAmb	16 50 05.8	
	comp=Z,136nm,1.0s						
MENT	**Mentasta**	**82.72**	**4**	P	**P**	**16 49 55.9**	**+0.8**
WAT6	**Susitna Watana**	**82.77**	**6**	P	**P**	**16 49 55.7**	**+0.2**
	baz=349,SNR=20						
H62A	**Milan**	**82.78**	**320**	IAMs_20	IAMs_20	17 26 22.2	
	comp=Z,10µm,20.0s						
L29M	**L29M**	**82.80**	**2**	P	**P**	**16 49 56.5**	**+1.0**
	baz=357						
L29M				S	**S**	**17 00 13.3**	**+0.7**
	baz=357						
M16K	**Timber Creek**	**82.82**	**12**	IAmb	IAmb	16 50 09.8	
	comp=Z,226nm,1.1s						
M16K				IAMs_20	IAMs_20	17 30 12.8	
	comp=Z,9µm,22.0s						
M16K	**Timber Creek**	**82.82**	**12**	P	**P**	**16 49 56.3**	**+0.7**
	baz=340,SNR=23						
M16K				S	**SKSac**	**17 00 15.3**	**-0.8**
	baz=340						
M15K	**Kasigluk River**	**82.82**	**13**	P	**P**	**16 49 56.4**	**+0.9**
	baz=338						
M15K				S	**S**	**17 00 13.6**	**+0.9**
	baz=338						
I63A	**Otisfield**	**82.83**	**319**	IAMs_20	IAMs_20	17 29 38.4	
	comp=Z,9µm,19.0s						
M20K	**Styx River**	**82.86**	**9**	IAMs_20	IAMs_20	17 30 32.1	
	comp=Z,9µm,22.0s						
M20K	**Styx River**	**82.86**	**9**	P	**P**	**16 49 56.1**	**+0.1**
	baz=344						
M20K				S	**S**	**17 00 12.0**	**-1.4**
	baz=344						
M20K				S	**S**	**17 00 12.0**	**-1.4**
	baz=344						
M18K	**Stony River**	**82.87**	**10**	P	**P**	**16 49 57.0**	**+1.2**
	baz=342,SNR=24						
M18K				S	**S**	**17 00 13.7**	**+0.4**
	baz=342						
WSI	**Waingapu**	**82.90**	**107**	P	**P**	**16 49 56.9**	**+0.2**
SKT	**Skwentna**	**82.96**	**8**	IAMs_20	IAMs_20	17 31 39.2	
	comp=Z,9µm,21.0s						
SKT	**Skwentna**	**82.96**	**8**	P	**P**	**16 49 56.5**	**+0.2**
	baz=346,SNR=36						
SKT				S	**S**	**17 00 13.6**	**-0.7**
	baz=346						
SANI	**Sanana**	**83.09**	**97**	P	**P**	**16 49 55.8**	**-2.0**
SANI	**Sanana**	**83.09**	**97**	P	**P**	**16 49 55.9**	**-1.9**
	comp=Z,108nm,1.2s						
HARP	**HAARP**	**83.16**	**5**	P	**P**	**16 49 58.1**	**+0.8**
	baz=351,SNR=17						
HARP				S	**SKSac**	**17 00 17.6**	**-0.8**
	baz=351						
SVW2	**Sparrevohn**	**83.28**	**10**	IAmb	IAmb	16 50 08.1	
	comp=Z,141nm,1.4s						
SVW2	**Sparrevohn**	**83.28**	**10**	P	**P**	**16 50 00.3**	**+2.3**
M26K	**Nabesna, AK**	**83.30**	**4**	P	**P**	**16 49 59.2**	**+1.1**
	baz=353						
M26K				S	**S**	**17 00 18.5**	**+0.7**
	baz=353						
M26K				S	**S**	**17 00 18.5**	**+0.7**
	baz=353						
M22K	**Willow**	**83.34**	**8**	P	**P**	**16 49 58.4**	**+0.2**
	baz=347,SNR=11						
M22K				S	**S**	**17 00 18.9**	**+0.9**
	baz=347						
N14K	**Kuskokwak Cree**	**83.35**	**14**	P	**P**	**16 49 59.0**	**+0.8**
	baz=338						
N14K				S	**SKSac**	**17 00 19.3**	**-0.2**
	baz=338						
I62A	**Tamworth**	**83.35**	**320**	IAMs_20	IAMs_20	17 30 04.2	
	comp=Z,11µm,18.0s						
M30M	**Minto, Yukon**	**83.36**	**1**	P	**P**	**16 49 58.8**	**+0.4**
	baz=358,SNR=15						
M30M				S	**S**	**17 00 17.9**	**-0.5**
	baz=358						
N16K	**Nishlik Lake**	**83.36**	**12**	P	**P**	**16 49 59.9**	**+1.5**
	baz=340,SNR=16						
N16K				S	**SKSac**	**17 00 19.6**	**-0.2**
	baz=340						
M24K	**Tolsona, Glenn**	**83.37**	**6**	P	**P**	**16 49 59.7**	**+1.2**
	baz=350,SNR=29						
M24K				S	**SKSac**	**17 00 19.6**	**-0.3**
	baz=350						
BVCY	**Beaver Creek**	**83.40**	**3**	P	**P**	**16 49 59.7**	**+1.1**
	baz=354,SNR=15						
BVCY				S	**SKSac**	**17 00 20.3**	**+0.3**
	baz=354						
M27K	**Edge Creek, AK**	**83.40**	**4**	P	**P**	**16 50 00.1**	**+1.3**
	baz=354						
TRQ	**Mont Tremblant**	**83.41**	**323**	IAmb	IAmb	16 50 10.0	
	comp=Z,239nm,1.9s						
N15K	**Kwethluk River**	**83.42**	**13**	IAmb	IAmb	16 50 09.1	
	comp=Z,315nm,1.5s						
N15K	**Kwethluk River**	**83.42**	**13**	P	**P**	**16 50 00.3**	**+1.6**
	baz=339						
LBNH	**Lisbon**	**83.42**	**320**	IAmb	IAmb	16 50 16.5	
	comp=Z,200nm,1.4s						
LBNH				IAMs_20	IAMs_20	17 26 51.0	
	comp=Z,9µm,21.0s						
MNTQ	**Montreal, Queb**	**83.44**	**322**	IAmb	IAmb	16 50 13.3	
	comp=Z,180nm,1.6s						
MNTQ				IAMs_20	IAMs_20	17 28 53.5	
	comp=Z,9µm,19.0s						
BASI	**Baing, Sumba**	**83.45**	**107**	P	**P**	**16 50 01.5**	**+2.0**
M29M	**Somme Creek**	**83.45**	**2**	P	**P**	**16 49 59.8**	**+0.8**
	baz=356						
M29M				S	**S**	**17 00 18.9**	**-0.6**
	baz=356						
SML	**Sawmill**	**83.47**	**7**	IAmb	IAmb	16 50 12.1	
	comp=Z,166nm,0.8s						
SML	**Sawmill**	**83.47**	**7**	P	**P**	**16 49 59.4**	**+0.4**
	baz=348,SNR=33						
SML				S	**S**	**17 00 18.5**	**-1.1**
	baz=348						
VLDQ	**Val d'Or**	**83.48**	**326**	IAmb	IAmb	16 50 06.7	
	comp=Z,171nm,1.2s						
VLDQ				IAMs_20	IAMs_20	17 28 46.6	
	comp=Z,9µm,19.0s						
LBMI	**Labuha**	**83.54**	**95**	P	**P**	**16 49 58.4**	**-1.7**
	comp=Z,234nm,1.1s,comp=Z,3µm						
SCM	**Sheep Creek Mo**	**83.54**	**6**	IAmb	IAmb	16 50 12.5	
	comp=Z,180nm,0.9s						
SCM	**Sheep Creek Mo**	**83.54**	**6**	P	**P**	**16 50 00.1**	**+0.7**
	baz=349,SNR=12						
SCM				S	**S**	**17 00 19.5**	**-0.7**
	baz=349						
M23K	**Glacier View**	**83.54**	**6**	P	**P**	**16 49 59.7**	**+0.3**
	baz=349,SNR=17						
SUA	**Susitna One**	**83.56**	**8**	IAMs_20	IAMs_20	17 32 29.9	
	comp=Z,8µm,20.0s						
SUA	**Susitna One**	**83.56**	**8**	P	**P**	**16 49 60.0**	**+0.4**
	baz=346,SNR=23						
SUA				S	**S**	**17 00 18.2**	**-2.4**
	baz=346						
N17K	**Nushagak Hills**	**83.58**	**11**	P	**P**	**16 50 00.3**	**+0.8**
	baz=341						
PMR	**Palmer**	**83.61**	**7**	IAmb	IAmb	16 50 17.6	
	comp=Z,236nm,1.1s						
PMR	**Palmer**	**83.61**	**7**	P	**P**	**16 49 59.9**	**+0.3**
	baz=348,SNR=26						
PMR				S	**S**	**17 00 19.1**	**-1.5**
	baz=348						
PMR	**Palmer**	**83.61**	**7**	P	**P**	**16 50 00.1**	**+0.5**
N18K	**Kilae Creek**	**83.63**	**11**	IAMs_20	IAMs_20	17 31 32.0	
	comp=Z,10µm,21.0s						
N18K	**Kilae Creek**	**83.63**	**11**	P	**P**	**16 50 01.2**	**+1.4**
	baz=342						
N18K				S	**SKSac**	**17 00 22.0**	**+0.5**
	baz=342						
N18K				S	**SKSac**	**17 00 22.0**	**+0.5**
	baz=342						
N20K	**Mount Spurr**	**83.64**	**9**	P	**P**	**16 50 00.1**	**+0.1**
	baz=345,SNR=9.9						
SPCR	**Spurr Chakacha**	**83.64**	**9**	P	**P**	**16 50 00.1**	**+0.1**
	baz=345						
N19K	**Bonanza Creek**	**83.71**	**10**	P	**P**	**16 50 01.1**	**+0.8**
	baz=343,SNR=33						
N19K				S	**S**	**17 00 22.3**	**+0.2**
	baz=343						
N19K				S	**S**	**17 00 22.3**	**+0.2**
	baz=343						
FARO	**Faro, Yukon**	**83.73**	**360**	IAmb	IAmb	16 50 06.5	
	comp=Z,109nm,0.8s						
FARO	**Faro, Yukon**	**83.73**	**360**	P	**P**	**16 50 01.1**	**+0.8**
	baz=0.8,SNR=29						
FARO				S	**SKSac**	**17 00 22.3**	**+0.2**
	baz=0.8						
M31M	**Drury Creek, Y**	**83.76**	**0**	IAmb	IAmb	16 50 13.3	
	comp=Z,221nm,1.2s						
M31M				IAMs_20	IAMs_20	17 32 53.1	
	comp=Z,11µm,21.0s						
M31M	**Drury Creek, Y**	**83.76**	**0**	P	**P**	**16 50 01.0**	**+0.5**
	baz=360,SNR=55						
M31M				S	**SKSac**	**17 00 22.5**	**+0.2**
	baz=360						
VT1	**Waterbury**	**83.79**	**321**	IAMs_20	IAMs_20	17 30 34.1	
	comp=Z,9µm,22.0s						
MMRI	**Maumere**	**83.84**	**105**	P	**P**	**16 50 00.1**	**-1.5**
MMRI	**Maumere**	**83.84**	**105**	P	**P**	**16 50 00.3**	**-1.3**
	comp=Z,304nm,1.2s,comp=Z,4µmcomp=Z,2µm						
KNK	**Knik Glacier**	**83.85**	**7**	P	**P**	**16 50 01.6**	**+0.7**
	baz=348,SNR=28						
KNK				S	**S**	**17 00 23.6**	**+0.3**
	baz=348						
SPIA	**Saint Paul Isl**	**83.86**	**19**	P	**P**	**16 50 01.9**	**+1.0**
	baz=331						
FRNY	**Flat Rock**	**83.88**	**321**	IAmb	IAmb	16 50 21.6	
	comp=Z,123nm,1.3s						
HNH	**Hanover**	**83.97**	**320**	IAMs_20	IAMs_20	17 30 25.7	
	comp=Z,10µm,19.0s						
N25K	**Chitina, Valde**	**83.98**	**5**	P	**P**	**16 50 02.2**	**+0.5**
	baz=351,SNR=7.5						
KLU	**Klutina**	**84.00**	**6**	P	**P**	**16 50 02.6**	**+0.8**
	baz=350,SNR=51						
KLU				S	**S**	**17 00 25.9**	**+1.0**
	baz=350						
RC01	**Rabbit Creek A**	**84.03**	**7**	IAmb	IAmb	16 50 06.0	
	comp=Z,147nm,0.8s						
RC01	**Rabbit Creek A**	**84.03**	**7**	P	**P**	**16 50 02.3**	**+0.5**
	baz=347,SNR=7.7						
RC01				S	**S**	**17 00 25.5**	**+0.4**
	baz=347						
O14K	**Tigyukauivet M**	**84.05**	**14**	IAMs_20	IAMs_20	17 34 05.5	
	comp=Z,10µm,21.0s						
O14K	**Tigyukauivet M**	**84.05**	**14**	P	**P**	**16 50 02.9**	**+1.0**
	baz=338,SNR=9.0						
O14K				S	**S**	**17 00 25.0**	**-0.3**
	baz=338						
YUK3	**Moose Creek**	**84.05**	**3**	P	**P**	**16 50 03.2**	**+1.0**
	baz=355,SNR=60						
YUK3				S	**SKSac**	**17 00 25.2**	**+0.6**
	baz=355						
CAPN	**Captain Cook N**	**84.19**	**8**	P	**P**	**16 50 03.5**	**+1.0**
	baz=346						
GLB	**Gilahina Butte**	**84.20**	**5**	IAmb	IAmb	16 50 12.2	
	comp=Z,236nm,1.9s						
BCX	**Boston College**	**84.29**	**318**	IAMs_20	IAMs_20	17 32 11.2	
	comp=Z,11µm,18.0s						
O17K	**Koliganek Bris**	**84.31**	**11**	P	**P**	**16 50 04.4**	**+1.2**
	baz=341,SNR=21						
O17K				S	**S**	**17 00 28.1**	**+0.3**
	baz=341						
O16K	**Kokwok River B**	**84.31**	**12**	IAmb	IAmb	16 50 14.0	
	comp=Z,198nm,1.1s						
O16K	**Kokwok River B**	**84.31**	**12**	P	**P**	**16 50 04.5**	**+1.3**
	baz=340,SNR=21						
O16K				S	**S**	**17 00 28.5**	**+0.7**
	baz=340						
MCARA	**McCarthy VSAT**	**84.31**	**4**	IAmb	IAmb	16 50 13.7	
	comp=Z,72nm,0.8s						
MCARA	**McCarthy VSAT**	**84.31**	**4**	P	**P**	**16 50 03.8**	**+0.6**
	baz=353,SNR=8.6						
MCARA				S	**S**	**17 00 27.8**	**-0.1**
	baz=353						
O19K	**Port Alsworth**	**84.33**	**10**	P	**P**	**16 50 03.8**	**+0.5**
	baz=343						
O19K				S	**SKSac**	**17 00 26.7**	**+0.8**
	baz=343						
O19K				S	**SKSac**	**17 00 26.7**	**+0.8**
	baz=343						
WES	**Weston**	**84.34**	**318**	IAMs_20	IAMs_20	17 27 39.5	
	comp=Z,13µm,21.0s						
J61A	**Chester**	**84.36**	**320**	IAmb	IAmb	16 50 21.9	
	comp=Z,129nm,1.4s						
J61A				IAMs_20	IAMs_20	17 30 36.9	
	comp=Z,12µm,19.0s						
L64A	**Middleborough**	**84.38**	**318**	IAMs_20	IAMs_20	17 29 56.5	
	comp=Z,13µm,20.0s						
HRV	**Adam Dziewonsk**	**84.39**	**319**	IAMs_20	IAMs_20	17 27 54.8	
	comp=Z,14µm,21.0s						
O15K	**Ungalikthiuk R**	**84.39**	**13**	P	**P**	**16 50 04.5**	**+0.8**
	baz=339,SNR=13						
O15K				S	**S**	**17 00 28.2**	**-0.5**
	baz=339						
PWL	**Port Wells**	**84.41**	**7**	P	**P**	**16 50 04.3**	**+0.6**
	baz=348,SNR=7.7						
PWL				S	**S**	**17 00 29.0**	**+0.2**
	baz=348						
VRDI	**Verde Repeater**	**84.44**	**4**	IAmb	IAmb	16 50 17.6	
	comp=Z,221nm,1.5s						
N31M	**Braeburn, Yuko**	**84.47**	**1**	P	**P**	**16 50 04.4**	**+0.3**
	baz=359,SNR=13						
N31M				S	**S**	**17 00 28.6**	**-0.9**
	baz=359						
N30M	**Aishikik Lake**	**84.47**	**1**	IAmb	IAmb	16 50 16.0	
	comp=Z,124nm,1.4s						
N30M	**Aishikik Lake**	**84.47**	**1**	P	**P**	**16 50 04.6**	**+0.5**
	baz=358						
N30M				S	**SKSac**	**17 00 27.4**	**+0.3**
	baz=358						
GLI	**Glacier Island**	**84.50**	**6**	IAmb	IAmb	16 50 26.4	
	comp=Z,122nm,1.0s						
GLI	**Glacier Island**	**84.50**	**6**	P	**P**	**16 50 05.1**	**+0.9**
	baz=349						
GLI				S	**S**	**17 00 28.7**	**-1.1**
	baz=349						
M65A	**Busby, Falmout**	**84.52**	**318**	IAMs_20	IAMs_20	17 26 56.3	
	comp=Z,13µm,21.0s						
M65A	**Busby, Falmout**	**84.52**	**318**	P	**P**	**16 50 05.5**	**+0.8**
	baz=48						
M65A				S	**S**	**17 00 32.1**	**+1.5**
	baz=48						
O18K	**Koktuh Hills**	**84.53**	**10**	P	**P**	**16 50 05.0**	**+0.7**
	baz=343,SNR=28						
O18K				S	**S**	**17 00 31.1**	**+1.0**
	baz=343						
O18K				S	**S**	**17 00 31.1**	**+1.0**
	baz=343						
LONY	**Lake Ozonia**	**84.54**	**322**	IAmb	IAmb	16 50 11.9	
	comp=Z,106nm,1.0s						
LONY				IAMs_20	IAMs_20	17 29 36.7	
	comp=Z,13µm,19.0s						
P08K	**Saint George I**	**84.55**	**19**	IAMs_20	IAMs_20	17 34 07.5	
	comp=Z,8µm,20.0s						
P08K	**Saint George I**	**84.55**	**19**	P	**P**	**16 50 05.3**	**+0.8**
	baz=331						
YUK4	**Talbot Arm**	**84.55**	**2**	P	**P**	**16 50 05.4**	**+0.7**
	baz=356,SNR=35						
YUK8	**Steele Glacier**	**84.57**	**3**	P	**P**	**16 50 05.6**	**+0.7**
	baz=355						
YUK8				S	**S**	**17 00 32.1**	**+1.1**
	baz=355						
BMRM	**Bremner River**	**84.62**	**5**	P	**P**	**16 50 05.7**	**+0.8**
	baz=351						
BMRM				S	**S**	**17 00 32.3**	**+1.3**
	baz=351						
WBO	**Williamsburg**	**84.63**	**322**	IAmb	IAmb	16 50 22.6	
	comp=Z,128nm,1.2s						
WBO				IAMs_20	IAMs_20	17 29 55.9	
	comp=Z,8µm,18.0s						
O22K	**Cooper Landing**	**84.63**	**8**	IAMs_20	IAMs_20	17 33 30.3	
	comp=Z,9µm,21.0s						
O22K	**Cooper Landing**	**84.63**	**8**	P	**P**	**16 50 05.3**	**+0.5**
	baz=347						
O22K				S	**S**	**17 00 31.3**	**+0.3**
	baz=347						
K62A	**Royalston**	**84.65**	**319**	IAMs_20	IAMs_20	17 28 26.6	
	comp=Z,12µm,22.0s						
O20K	**Slope Mountain**	**84.67**	**9**	P	**P**	**16 50 05.1**	**-0.1**
	baz=345						
NLAI	**Namlea**	**84.68**	**98**	P	**P**	**16 50 07.9**	**+2.0**
	comp=Z,78nm,1.0s						
ILSW	**Iliamna Southw**	**84.70**	**9**	IAMs_20	IAMs_20	17 32 40.1	
	comp=Z,9µm,21.0s						
N32M	**Quiet Lake**	**84.81**	**359**	P	**P**	**16 50 06.0**	**+0.1**
	baz=1.0						
N32M				S	**S**	**17 00 31.8**	**-1.2**
	baz=1.0						
NCB	**Newcomb**	**84.81**	**321**	IAmb	IAmb	16 50 37.5	
	comp=Z,137nm,1.6s						
CTG	**Chitna Glacier**	**84.82**	**3**	P	**P**	**16 50 06.7**	**+0.7**
	baz=354,SNR=16						
CTG				S	**S**	**17 00 33.7**	**+0.5**
	baz=354						
P16K	**Nushagak River**	**84.86**	**12**	P	**P**	**16 50 06.8**	**+0.8**
	baz=340						
P16K				S	**S**	**17 00 32.4**	**-0.9**
	baz=340						
P16K				S	**S**	**17 00 32.4**	**-0.9**
	baz=340						
ACCN	**Adirondack Com**	**84.92**	**320**	IAmb	IAmb	16 50 24.5	
	comp=Z,229nm,1.4s						
ACCN				IAMs_20	IAMs_20	17 31 06.8	
	comp=Z,11µm,21.0s						
CRQE	**Cirque**	**84.94**	**4**	P	**P**	**16 50 07.5**	**+1.0**
	baz=353,SNR=19						
CRQE				S	**SKSac**	**17 00 32.0**	**+1.9**
	baz=353						
EYAK	**Cordova Ski Ar**	**84.94**	**6**	P	**P**	**16 50 07.8**	**+1.4**
	baz=350						
EYAK				S	**S**	**17 00 33.6**	**-0.5**
	baz=350						
EYAK	**Cordova Ski Ar**	**84.94**	**6**	P	**P**	**16 50 09.0**	**+2.6**
TGL	**Tana Glacier**	**84.95**	**4**	IAmb	IAmb	16 50 16.2	
	comp=Z,136nm,0.9s						
YUK6	**Outpost Mounta**	**84.96**	**2**	P	**P**	**16 50 07.6**	**+0.8**
	baz=357						
YUK6				S	**S**	**17 00 34.4**	**-0.4**
	baz=357						
P17K	**Kvichak River**	**84.96**	**11**	P	**P**	**16 50 07.0**	**+0.5**
	baz=342,SNR=18						
P17K				S	**S**	**17 00 33.0**	**-1.4**
	baz=342						
P17K				S	**S**	**17 00 33.0**	**-1.4**
	baz=342						
P18K	**Big Mountain,**	**84.97**	**11**	IAmb	IAmb	16 50 15.8	
	comp=Z,191nm,1.5s						
P18K	**Big Mountain,**	**84.97**	**11**	P	**P**	**16 50 06.4**	**-0.2**
	baz=343						
P18K				S	**S**	**17 00 33.0**	**-1.5**
	baz=343						
LOGN	**Logan Glacier**	**84.98**	**3**	IAmb	IAmb	16 50 20.5	
	comp=Z,109nm,0.8s						
P19K	**Oil Pt**	**85.00**	**10**	P	**P**	**16 50 06.3**	**-0.5**
	baz=344						
P19K				S	**SKSac**	**17 00 32.4**	**+2.0**
	baz=344						
SEW	**Seward**	**85.03**	**8**	P	**P**	**16 50 06.6**	**-0.2**
	baz=347						
SEW				S	**S**	**17 00 33.3**	**-1.7**
	baz=347						
HIN	**Hinchinbrook I**	**85.03**	**6**	IAMs_20	IAMs_20	17 33 04.9	
	comp=Z,11µm,22.0s						
L61B	**Northampton**	**85.04**	**319**	IAmb	IAmb	16 50 14.9	
	comp=Z,289nm,1.6s						
L61B				IAMs_20	IAMs_20	17 28 38.9	
	comp=Z,10µm,21.0s						
L61B	**Northampton**	**85.04**	**319**	P	**P**	**16 50 07.7**	**+0.4**
	baz=47						
O28M	**Mount Upton**	**85.07**	**3**	P	**P**	**16 50 07.3**	**-0.2**
	baz=355						
O28M				S	**SKSac**	**17 00 33.1**	**+1.7**
	baz=355						
HYT	**Haines Junctio**	**85.10**	**2**	P	**P**	**16 50 08.6**	**+1.2**
	baz=357,SNR=46						
HYT				S	**S**	**17 00 35.5**	**-0.5**
	baz=357						
O30N	**Mendenhall**	**85.18**	**1**	IAmb	IAmb	16 50 19.2	
	comp=Z,224nm,1.8s			

HOM				S	SKSac	17 00 33.8	+2.2
	baz=346						
BRSE	Bradley Lake S	85.24	8	P	P	16 50 08.4	+0.4
	baz=346						
BRSE				S	SKSac	17 00 33.9	+2.1
	baz=346						
UCCT	U. Connecticut	85.24	318	IAms_20	IAms_20	17 30 45.2	
	comp=Z,10µm,19.0s						
WHY	Whitehorse	85.30	0	P	P	16 50 08.4	+0.1
	baz=360,SNR=7.5						
WHY				S	SKSac	17 00 35.4	+2.9
	baz=360						
J59A	Piesco	85.31	321	IAmb	IAmb	16 50 24.9	
	comp=Z,178nm,1.2s						
J59A				IAms_20	IAms_20	17 30 25.9	
	comp=Z,14µm,21.0s						
P23K	Montague Islan	85.34	7	P	P	16 50 09.1	+0.7
	baz=349						
P23K				S	S	17 00 37.8	-0.3
	baz=349						
P23K				S	S	17 00 37.8	-0.3
	baz=349						
TRY	Troy	85.38	320	IAms_20	IAms_20	17 31 06.8	
	comp=Z,9µm,20.0s						
CNPM	China Poot	85.39	9	IAms_20	IAms_20	17 32 24.3	
	comp=Z,11µm,22.0s						
M63A	Gales Ferry	85.40	318	IAms_20	IAms_20	17 30 27.6	
	comp=Z,11µm,20.0s						
Q16K	King Salmon	85.42	12	P	P	16 50 09.6	+0.8
	baz=342,SNR=15						
Q16K				S	S	17 00 38.6	-0.2
	baz=342						
KOTAN	Kotaneelee Air	85.46	355	P	P	16 50 10.3	+1.3
	baz=8.4,SNR=15						
KOTAN				S	S	17 00 40.7	+1.4
	baz=8.4						
SNH	Sunshine Point	85.52	4	IAms_20	IAms_20	17 34 21.8	
	comp=Z,9µm,20.0s						
O29M	Mount Kennedy	85.60	2	P	P	16 50 10.3	+0.4
	baz=356						
Q19K	Cape Douglas,	85.64	10	IAms_20	IAms_20	17 33 32.2	
	comp=Z,8µm,20.0s						
Q19K	Cape Douglas,	85.64	10	P	P	16 50 09.3	-0.7
	baz=344						
KAIM	Kayak Island	85.67	5	P	P	16 50 10.3	+0.2
	baz=352						
KAIM				S	S	17 00 41.7	+0.4
	baz=352						
Q18K	Katmai Hardscr	85.71	11	P	P	16 50 09.7	-0.7
	baz=343,SNR=6.4						
PINM	Pinnacle	85.74	3	P	P	16 50 11.3	+0.8
	baz=355						
PINM				S	S	17 00 41.3	-0.9
	baz=355						
WTLY	Watson Lake, Y	85.75	357	IAms_20	IAms_20	17 35 46.7	
	comp=Z,9µm,21.0s						
WTLY	Watson Lake, Y	85.75	357	P	P	16 50 11.1	+0.6
	baz=4.5						
P33M	Teslin, Yukon	85.75	359	IAms_20	IAms_20	17 32 35.8	
	comp=Z,10µm,21.0s						
P33M	Teslin, Yukon	85.75	359	P	P	16 50 10.9	+0.3
	baz=1.2,SNR=17						
P33M				S	S	17 00 41.7	-0.6
	baz=1.2						
P30M	Million Dollar	85.82	1	P	P	16 50 11.4	+0.5
	baz=358						
P30M				S	S	17 00 44.0	+1.0
	baz=358						
AAI	Ambon	85.83	97	P	P	16 50 12.3	+0.7
	comp=Z,141nm,0.8s,comp=Z,3µm						
BATI	Baumata	85.89	105	LR	LR	17 32 01.4	
	comp=Z,17µm,20.7s,baz=316,slow=38						
BATI	Baumata	85.89	105	P	P	16 50 12.5	+0.6
	comp=Z,218nm,1.1s,comp=Z,3µm						
Q17K	Contact Creek	85.94	11	P	P	16 50 11.2	-0.4
	baz=342,SNR=7.3						
Q17K				S	S	17 00 42.7	-1.6
	baz=342						
Q23K	Middleton Isla	86.00	6	P	P	16 50 11.8	+0.1
	baz=350						
Q23K				S	S	17 00 44.5	0.0
	baz=350						
Q23K				S	S	17 00 44.5	0.0
	baz=350						
SOEI	Soe	86.11	104	IAms_20	IAms_20	17 35 13.0	
	comp=Z,11µm,22.0s						
SOEI	Soe	86.11	104	P	P	16 50 13.4	+0.3
SOEI	Soe	86.11	104	P	P	16 50 13.2	+0.1
	comp=Z,346nm,1.2s,comp=Z,4µm						
J57A	Williamstown	86.12	322	IAmb	IAmb	16 50 19.7	
	comp=Z,123nm,1.1s						
J57A				IAms_20	IAms_20	17 30 23.4	
	comp=Z,10µm,18.0s						
Q20K	Shuyak Island	86.13	9	P	P	16 50 12.3	0.0
	baz=345						
DELO	Deloro Mine	86.14	323	IAmb	IAmb	16 50 29.3	
	comp=Z,193nm,1.4s						
PAF	Port-aux-Franc	86.15	164	IAms_20	IAms_20	17 23 31.6	
	comp=Z,13µm,21.0s						
PNL	Peninsula	86.20	3	P	P	16 50 13.3	+0.5
	baz=356,SNR=6.7						
PNL	Peninsula	86.20	3	P	P	16 50 14.4	+1.6
MSAI	Masohi	86.24	97	P	P	16 50 14.7	+1.0
	comp=Z,202nm,1.2s,comp=Z,2µm			comp=Z,2µm			
PECO	Prince Edward	86.25	322	IAmb	IAmb	16 50 20.3	
	comp=Z,106nm,0.9s						
PECO				IAms_20	IAms_20	17 30 11.9	
	comp=Z,11µm,21.0s						
GIRL	Giralia	86.26	121	P	P	16 50 15.8	+2.3
P29M	Windy Craggy	86.29	2	P	P	16 50 13.8	+0.6
	baz=357						
P29M				S	S	17 00 48.2	+0.6
	baz=357						
LIRD	Liard River Hi	86.31	356	P	P	16 50 14.5	+1.2
	baz=6.8,SNR=36						
R16K	Pilot Point	86.32	12	IAms_20	IAms_20	17 32 43.0	
	comp=Z,9µm,22.0s						
R16K	Pilot Point	86.32	12	P	P	16 50 13.1	-0.2
	baz=341						
R16K				S	S	17 00 48.0	+0.3
	baz=341						
R16K				S	S	17 00 48.0	+0.3
	baz=341						
P32M	Atlin	86.38	360	IAms_20	IAms_20	17 33 01.4	
	comp=Z,12µm,22.0s						
P32M	Atlin	86.38	360	P	P	16 50 13.2	-0.5
	baz=0.5,SNR=6.4						
P32M				S	S	17 00 47.5	-0.9
	baz=0.5						
ADK	Adak	86.40	25	IAms_20	IAms_20	17 35 20.8	
	comp=Z,10µm,19.0s						
RCBR	Riachuelo	86.41	261	P	P	16 50 13.9	-0.6
RCBR	Riachuelo	86.41	261	IAms_20	IAms_20	17 31 28.9	
	comp=Z,8µm,20.0s						
RCBR	Riachuelo	86.41	261	LR	LR	17 31 48.9	
	comp=Z,2µm,18.0s,baz=58,slow=38						
RCBR	Riachuelo	86.41	261	P	P	16 50 13.9	-0.6
RCBR				pmax	pmax		
	comp=Z,72nm,1.7s						
RCBR				MLR	MLR		
	comp=Z,8µm,20.0s						
RCBR	Riachuelo	86.41	261	eP	P	16 50 15.5	+1.0
PLK4	Peulik 4	86.47	12	IAmb	IAmb	16 50 41.1	
	comp=Z,307nm,1.6s						
R17L	Mt. Peulik Vol	86.47	12	P	P	16 50 14.5	+0.4
	baz=342						
L59A	Walton	86.48	320	IAmb	IAmb	16 50 31.2	
	comp=Z,241nm,1.4s						
L59A				IAms_20	IAms_20	17 29 53.0	
	comp=Z,14µm,21.0s						
PLBC	Pleasant Camp	86.50	1	P	P	16 50 15.1	+0.9
	baz=358,SNR=35						
SKAG	Skagway	86.50	1	IAmb	IAmb	16 50 32.6	
	comp=Z,120nm,1.2s						
SKAG	Skagway	86.50	1	P	P	16 50 14.5	+0.3
	baz=359,SNR=8.1						
SKAG				S	S	17 00 50.4	+0.9
	baz=359						
SKAG	Skagway	86.50	1	P	P	16 50 15.6	+1.4
N62A	Caumsett State	86.51	319	IAms_20	IAms_20	17 31 21.9	
	comp=Z,10µm,21.0s						
R33M	Jennings River	86.53	358	P	P	16 50 14.9	+0.3
	baz=2.7						
R33M				S	S	17 00 50.1	0.0
	baz=2.7						
PAL	Palisades	86.70	319	IAms_20	IAms_20	17 31 27.9	
	comp=Z,13µm,21.0s						
SADO	Sadowa	86.71	324	IAms_20	IAms_20	17 31 18.8	
	comp=Z,13µm,19.0s						
SADO	Sadowa	86.71	324	LR	LR	17 31 20.2	
	comp=Z,9µm,18.3s,baz=61,slow=37						
SWI	Sorong	86.77	93	P	P	16 50 15.7	-0.5
	comp=Z,185nm,1.7s,comp=Z,3µm						
TRNY	Table Rock, Ra	86.77	319	IAms_20	IAms_20	17 29 14.8	
	comp=Z,10µm,20.0s						
TOAD	Toad River Com	86.82	355	P	P	16 50 15.9	+0.1
	baz=7.5,SNR=30						
R18K	Karluk	86.83	11	P	P	16 50 15.8	0.0
	baz=343						
K57A	Scipio Center	86.87	321	IAms_20	IAms_20	17 31 13.2	
	comp=Z,13µm,20.0s						
CPNY	Central Park	86.88	319	IAms_20	IAms_20	17 31 21.6	
	comp=Z,10µm,20.0s						
KDAK	Kodiak Island	86.90	10	P	P	16 50 16.3	+0.1
KDAK	Kodiak Island	86.90	10	IAms_20	IAms_20	17 34 22.4	
	comp=Z,8µm,20.0s						
KDAK	Kodiak Island	86.90	10	LR	LR	17 34 42.7	
	comp=Z,6µm,19.6s,baz=198,slow=40						
KDAK	Kodiak Island	86.90	10	P	P	16 50 17.0	+0.9
	baz=345						
KDAK				S	S	17 00 52.3	-1.1
	baz=345						
KDAK	Kodiak Island	86.90	10	iP	P	16 50 16.8	+0.7
KDAK				pmax	pmax		
	comp=Z,897nm,1.5s						
BINY	Binghamton	86.97	321	IAms_20	IAms_20	17 32 18.0	
	comp=Z,12µm,20.0s						
ATKA	Atka Island	86.97	23	IAms_20	IAms_20	17 36 09.8	
	comp=Z,9µm,19.0s						
Q32M	Nakina River	87.00	359	P	P	16 50 16.6	-0.3
Q32M				IAmb	IAmb	16 50 27.6	
	comp=Z,107nm,1.1s						
Q32M	Nakina River	87.00	359	P	P	16 50 17.1	+0.2
	baz=1.6,SNR=14						
FFC	Flin Flon	87.01	342	P	P	16 50 16.3	-0.5
FFC	Flin Flon	87.01	342	IAms_20	IAms_20	17 34 10.3	
	comp=Z,11µm,19.0s						
FFC	Flin Flon	87.01	342	P	P	16 50 16.3	-0.5
FFC				pmax	pmax		
	comp=Z,47nm,0.9s						
FFC				MLR	MLR		
	comp=Z,11µm,19.0s						
ODNJ	Ogdensburg	87.02	319	IAms_20	IAms_20	17 29 12.4	
	comp=Z,11µm,21.0s						
S12K	Black Hills	87.18	15	P	P	16 50 16.9	-0.6
	baz=337						
KSPA	Keystone Colle	87.31	320	IAms_20	IAms_20	17 30 16.0	
	comp=Z,13µm,21.0s						
OHAK	Old Harbor	87.34	10	P	P	16 50 17.5	-0.8
	baz=344,SNR=7.2						
OHAK				S	S	17 00 57.9	+0.2
	baz=344						
OHAK	Old Harbor	87.34	10	P	P	16 50 21.0	+2.7
CHGN	Chignik	87.36	13	IAms_20	IAms_20	17 36 22.6	
	comp=Z,7µm,19.0s						
CHGN	Chignik	87.36	13	P	P	16 50 17.5	-0.9
	baz=340						
CHGN				S	S	17 00 55.3	-2.5
	baz=340						
NBCL	Cascavel-CE	87.45	263	eP	P	16 50 21.0	+1.4
DLBC	Dease Lake	87.47	358	IAmb	IAmb	16 50 30.1	
	comp=Z,232nm,1.4s						
DLBC				IAms_20	IAms_20	17 35 35.2	
	comp=Z,8µm,21.0s						
DLBC	Dease Lake	87.47	358	LR	LR	17 37 22.4	
	comp=Z,5µm,18.0s,baz=0.5,slow=41						
DLBC	Dease Lake	87.47	358	P	P	16 50 19.5	+0.5
	baz=3.5,SNR=24						
DLBC				S	S	17 01 01.1	+2.0
	baz=3.5						
R31K	City Hall, Gus	87.55	1	P	P	16 50 19.0	-0.2
	baz=359						
LVA	Lava Point	87.64	18	IAms_20	IAms_20	17 34 36.2	
	comp=Z,13µm,21.0s						
FALS	False Pass	87.65	16	P	P	16 50 18.8	-1.0
	baz=336						
JIS	Juneau Island	87.70	0	P	P	16 50 22.3	+2.3
R32K	Eaglecrest	87.70	0	IAmb	IAmb	16 50 26.9	
	comp=Z,76nm,0.8s						
R32K	Eaglecrest	87.70	0	P	P	16 50 18.9	-1.1
	baz=360,SNR=6.5						
BNDI	Bandanaira	87.70	97	P	P	16 50 21.6	+0.8
LUPA	Lehigh Univers	87.78	319	IAms_20	IAms_20	17 29 34.4	
	comp=Z,10µm,22.0s						
UNV	Unalaska Valle	87.80	18	P	P	16 50 20.1	-0.5
	baz=334						
UNV				S	S	17 01 03.5	+1.3
	baz=334						
L56A	Greenwood	87.83	322	IAmb	IAmb	16 50 37.5	
	comp=Z,133nm,1.3s						
SII	Sitkinak Islan	87.84	11	IAms_20	IAms_20	17 35 22.4	
	comp=Z,8µm,21.0s						
SII	Sitkinak Islan	87.84	11	P	P	16 50 20.0	-0.8
	baz=344						
NBCA	Caruaru-PE	87.86	259	eP	P	16 50 23.1	+1.5
E46A	Sault Ste Mari	87.89	328	IAmb	IAmb	16 50 26.1	
	comp=Z,74nm,0.8s						
NIKH	Nikolski High	87.94	20	P	P	16 50 21.3	+0.1
	baz=332						
S31K	Pelican	88.00	1	IAms_20	IAms_20	17 34 04.2	
	comp=Z,9µm,21.0s						
S31K	Pelican	88.00	1	P	P	16 50 21.6	+0.2
	baz=358						
S31K				S	S	17 01 05.1	+1.2
	baz=358						
S31K				S	S	17 01 05.1	+1.2
	baz=358						
S34M	Telegraph Cree	88.02	358	IAms_20	IAms_20	17 33 09.9	
	comp=Z,12µm,22.0s						
S34M	Telegraph Cree	88.02	358	P	P	16 50 22.6	+1.1
	baz=2.6,SNR=29						
P61A	Hammonton	88.11	318	IAms_20	IAms_20	17 28 17.3	
	comp=Z,11µm,22.0s						
M57A	Sunshine Farm,	88.19	321	IAmb	IAmb	16 50 38.3	
	comp=Z,87nm,1.2s						
CHIR	Chirikof Islan	88.32	12	IAms_20	IAms_20	17 34 14.9	
	comp=Z,9µm,20.0s						
CHIR	Chirikof Islan	88.32	12	P	P	16 50 23.6	+0.6
	baz=342						
N58A	Sunbury	88.32	320	IAms_20	IAms_20	17 32 57.8	
	comp=Z,9µm,21.0s						
S32K	Killisnoo	88.51	0	IAms_20	IAms_20	17 34 16.7	
	comp=Z,12µm,21.0s						
S32K	Killisnoo	88.51	0	P	P	16 50 24.6	+0.8
	baz=360,SNR=6.2						
CHNA	Chernabura Isl	88.51	14	P	P	16 50 23.9	0.0
	baz=339						
CNBA	Chernabura Isl	88.52	14	IAms_20	IAms_20	17 37 17.1	
	comp=Z,11µm,21.0s						
MVL	Millersville	88.73	319	IAms_20	IAms_20	17 34 57.5	
	comp=Z,7µm,20.0s						
FAKI	Fak Fak	88.73	94	IAmb	IAmb	16 50 37.4	
	comp=Z,153nm,1.0s						
FAKI	Fak Fak	88.73	94	P	P	16 50 26.3	+0.6
FAKI	Fak Fak	88.73	94	P	P	16 50 26.3	+0.6
	comp=Z,169nm,1.1s,comp=Z,3µm						
NBAN	Anadia - AL	88.89	258	eP	P	16 50 27.9	+1.5
SIT	Sitka	88.92	1	IAms_20	IAms_20	17 34 44.5	
	comp=Z,12µm,22.0s						
SIT	Sitka	88.92	1	P	P	16 50 26.2	+0.4
	baz=359						
SIT				S	S	17 01 14.3	+1.7
	baz=359						
SIT	Sitka	88.92	1	P	P	16 50 28.4	+2.6
T35M	Bob Quinn	88.93	358	IAmb	IAmb	16 50 36.9	
	comp=Z,104nm,1.0s						
T35M				IAms_20	IAms_20	17 36 19.9	
	comp=Z,8µm,22.0s						
T35M	Bob Quinn	88.93	358	P	P	16 50 26.7	+0.8
	baz=3.3,SNR=16						
ERPA	Erie	89.08	323	IAms_20	IAms_20	17 33 27.7	
	comp=Z,11µm,20.0s						
SSPA	Standing Stone	89.09	321	P	P	16 50 26.1	-0.8
SSPA				IAmb	IAmb	16 50 43.3	
	comp=Z,100nm,1.2s						
T33K	Petersburg	89.16	359	P	P	16 50 27.9	+1.0
	baz=1.1						
ULM	Lac du Bonnet	89.16	337	P	P	16 50 26.4	-0.7
	comp=Z,20nm,0.8s,baz=40,slow=4.0,SNR=20						
ULM				LR	LR	17 33 01.8	
	comp=Z,12µm,19.9s,baz=33,slow=37						
	comp=Z,20nm,0.8s						
GLMI	Grayling	89.22	327	IAms_20	IAms_20	17 32 09.1	
	comp=Z,12µm,20.0s						
NBPB	Pedra_Branca-C	89.26	263	eP	P	16 50 29.5	+1.4
MBWA	Marble Bar	89.35	116	P	P	16 50 27.8	-0.5
MBWA				IAmb	IAmb	16 50 35.6	
	comp=Z,220nm,1.2s						
MBWA	Marble Bar	89.35	116	P	P	16 50 28.7	+0.4
MBWA				S	SKSac	17 00 55.4	-2.4
MBWA	Marble Bar	89.35	116	P	P	16 50 28.8	+0.5
ALLY	Alegheny Colle	89.50	323	IAmb	IAmb	16 50 44.2	
	comp=Z,122nm,1.1s						
RKPI	Ransiki, Papua	89.54	92	P	P	16 50 31.7	+2.2
	comp=Z,79nm,0.8s,comp=Z,2µm						
WRAK	Wrangell Islan	89.55	359	IAms_20	IAms_20	17 34 11.1	
	comp=Z,9µm,22.0s						
WRAK	Wrangell Islan	89.55	359	IAmb	IAmb	16 50 37.2	
	comp=Z,149nm,0.8s						
WRAK	Wrangell Islan	89.55	359	P	P	16 50 29.5	+0.7
	baz=1.6,SNR=7.2						
WRAK				S	S	17 01 19.9	+1.4
	baz=1.6						
EYMN	Ely	89.56	333	IAmb	IAmb	16 50 48.0	
	comp=Z,127nm,1.4s						
PSA00	Pilbara Seismi	89.68	116	P	P	16 50 29.5	-0.4
GUMO	Guam	89.78	74	LR	LR	17 35 26.2	
	comp=Z,2µm,20.7s,baz=306,slow=39						
U33K	Whale Pass	89.86	359	IAmb	IAmb	16 50 41.2	
	comp=Z,166nm,1.0s						
U33K				IAms_20	IAms_20	17 34 45.5	
	comp=Z,11µm,22.0s						
U33K	Whale Pass	89.86	359	P	P	16 50 30.6	+0.4
	baz=0.9						
U33K				S	S	17 01 21.0	-0.4
	baz=0.9						
U33K				S	S	17 01 21.0	-0.4
	baz=0.9						
K50A	Casco	89.87	325	IAms_20	IAms_20	17 30 51.6	
	comp=Z,12µm,21.0s						
P57A	Homestead Farm	89.99	320	IAms_20	IAms_20	17 32 25.9	
	comp=Z,10µm,21.0s						
U35K	Hyder	89.99	358	IAms_20	IAms_20	17 34 17.0	
	comp=Z,8µm,21.0s						
U35K	Hyder	89.99	358	P	P	16 50 31.4	+0.6
	baz=3.5						
S61A	Accomac	90.00	317	IAms_20	IAms_20	17 29 49.4	
	comp=Z,13µm,21.0s						
F42A	Maple Grove Fa	90.00	330	IAms_20	IAms_20	17 31 44.9	
	comp=Z,12µm,20.0s						
M52A	Chesterland	90.19	323	IAmb	IAmb	16 50 49.1	
	comp=Z,151nm,1.2s						
M52A				IAms_20	IAms_20	17 34 01.0	
	comp=Z,9µm,19.0s						
N53A	Lisbon	90.48	322	IAmb	IAmb	16 50 49.0	
	comp=Z,98nm,1.0s						
CRAG	Craig	90.51	359	IAms_20	IAms_20	17 35 03.6	
	comp=Z,10µm,21.0s						
CRAG	Craig	90.51	359	P	P	16 50 32.2	-1.0
	baz=0.9						
CRAG				S	S	17 01 29.3	+1.8
	baz=0.9						
CRAG	Craig	90.51	359	P	P	16 50 34.9	+1.7
J47A	Sunmer	90.55	326	IAmb	IAmb	16 50 51.7	
	comp=Z,165nm,1.2s						
J47A				IAms_20	IAms_20	17 34 49.3	
	comp=Z,9µm,22.0s						
I45A	Fountain	90.56	328	IAms_20	IAms_20	17 28 40.6	
	comp=Z,8µm,22.0s						
CBN	Corbin Frederi	90.57	319	IAms_20	IAms_20	17 35 16.3	
	comp=Z,8µm,19.0s						
V35K	Ketchikan	90.62	358	IAms_20	IAms_20	17 39 21.7	
	comp=Z,7µm,20.0s						
V35K	Ketchikan	90.62	358	P	P	16 50 32.3	-1.5
	baz=2.2						
V35K				S	S	17 01 31.3	+2.8
	baz=2.2						
V35K				S	S	17 01 31.3	+2.8
	baz=2.2						
E38A	The Farm, Brul	90.69	332	IAms_20	IAms_20	17 33 48.9	
	comp=Z,11µm,19.0s						
O54A	Avella	90.71	322	IAmb	IAmb	16 50 50.8	
	comp=Z,234nm,1.6s						
O54A				IAms_20	IAms_20	17 33 24.9	
	comp=Z,10µm,19.0s						
AAM	Ann Arbor	90.73	325	IAmb	IAmb	16 50 52.0	
	comp=Z,181nm,1.6s						
MCWV	Mont Chateau	90.83	321	IAms_20	IAms_20	17 32 26.0	
	comp=Z,12µm,20.0s						
NBLA	Lagarto - SE	90.87	257	eP	P	16 50 36.4	+0.8
H43A	Windswept, Lux	90.88	329	IAms_20	IAms_20	17 34 05.2	
	comp=Z,11µm,18.0s						
R58B	Mineral	91.02	319	IAms_20	IAms_20	17 35 29.2	
	comp=Z,8µm,19.0s						
M50A	Fremont	91.12	324	IAmb	IAmb	16 50 52.9	
	comp=Z,146nm,1.5s						
M50A				IAms_20	IAms_20	17 29 33.6	
	comp=Z,12µm,22.0s						
N51A	Ashland	91.16	323	IAmb	IAmb	16 50 53.4	
	comp=Z,156nm,1.3s						
N51A				IAms_20	IAms_20	17 34 40.8	
	comp=Z,11µm,19.0s						
G40A	Rib Lake	91.25	331	IAmb	IAmb	16 50 41.5	
	comp=Z,81nm,0.8s						
G40A				IAms_20	IAms_20	17 32 55.9	
	comp=Z,10µm,20.0s						
L48A	N Adams	91.37	325	IAmb	IAmb	16 50 54.9	
	comp=Z,104nm,1.1s						
O52A	Adamsville	91.50	323	IAms_20	IAms_20	17 33 59.8	
	comp=Z,10µm,18.0s						
T59A	Double "B" Far	91.56	318	IAmb	IAmb	16 50 54.6	
	comp=Z,148nm,1.5s						
T59A				IAms_20	IAms_20	17 30 47.5	
	comp=Z,8µm,22.0s						
MORW	Morawa	91.57	124	P	P	16 50 38.2	-0.3
MORW				IAmb	IAmb	16 50 46.5	
	comp=Z,203nm,1.9s						
MORW	Morawa	91.57	124	P	P	16 50 39.5	+1.0
RUBB	Prince Rupert	91.59	358	P	P	16 50 38.8	+0.5
S57A	Dark Hollow, R	91.75	319	IAms_20	IAms_20	17 30 59.5	
	comp=Z,8µm,22.0s						
I42A	Draeger Farm,	91.84	329	IAms_20	IAms_20	17 34 03.4	
	comp=Z,10µm,18.0s						
Q54A	Coxs Mills	91.84	321	IAmb	IAmb	16 50 56.7	
	comp=Z,136nm,1.5s						
V61A	Roper	91.86	317	IAms_20	IAms_20	17 37 22.5	
	comp=Z,9µm,18.0s						
MEEK	Meekatharra	91.86	121	P	P	16 50 40.7	+0.7
ACSO	Alum Creek Sta	91.98	323	IAmb	IAmb	16 50 55.9	
	comp=Z,104nm,0.9s						
FITZ	Fitzroy Crossi	92.03	110	LR	LR	17 35 50.6	
	comp=Z,4µm,19.8s,baz=314,slow=38						
FITZ	Fitzroy Crossi	92.03	110	P	P	16 50 40.6	-0.2
N49A	Columbus Grove	92.04	324	IAms_20	IAms_20	17 30 00.9	
	comp=Z,11µm,22.0s						
L46A	Eue Claire	92.18	326	IAms_20	IAms_20	17 34 24.6	
	comp=Z,10µm,20.0s						
SPMN	Marine on St.	92.32	332	IAmb	IAmb	16 50 47.0	
	comp=Z,63nm,1.0s						
MDND	Maddock	92.46	337	IAmb	IAmb	16 51 01.0	
	comp=Z,202nm,1.6s						
T57A	Hurt	92.47	319	IAmb	IAmb	16 50 60.0	
	comp=Z,115nm,1.5s						
T57A				IAms_20	IAms_20	17 36 31.6	
	comp=Z,8µm,19.0s						
K43A	Burlington	92.54	328	IAms_20	IAms_20	17 33 41.1	
	comp=Z,9µm,22.0s						
O49A	Covington	92.68	324	IAms_20	IAms_20	17 32 39.9	
	comp=Z,8µm,21.0s						
L44A	Lake County Fo	92.78	327	P	P	16 50 43.1	-0.9
	baz=37						
BLA	Blacksburg	92.94	320	IAms_20	IAms_20	17 34 52.0	
	comp=Z,9µm,22.0s						
S54A	Dingess, Beckl	92.97	321	IAmb	IAmb	16 51 03.6	
	comp=Z,136nm,1.6s						
S54A				IAms_20	IAms_20	17 37 30.8	
	comp=Z,11µm,20.0s						
BLDU	Ballidu	92.99	125	P	P	16 50 45.5	+0.5

SSFO IAMs_20 IAMs_20 17 34 18.5
comp=Z,11µm,22.0s
V58A Windy Hill, Pi 93.28 318 IAmb IAmb 16 51 03.5
comp=Z,108nm,1.4s
V58A IAMs_20 IAMs_20 17 32 46.0
comp=Z,9µm,21.0s
P49A Miami Univ. Ec 93.37 324 IAMs_20 IAMs_20 17 33 21.2
comp=Z,11µm,20.0s
P49A Miami Univ. Ec 93.37 324 P **P 16 50 45.6 -1.3**
baz=39
MTN Manton Dam 93.39 103 P **P 16 50 48.2 +1.0**
M44A Midewin, Midew 93.47 327 IAmb IAmb 16 51 04.7
comp=Z,165nm,1.4s
M44A IAMs_20 IAMs_20 17 33 09.7
comp=Z,8µm,20.0s
MUN Mundaring 93.50 127 P **P 16 50 47.5 +0.1**
U56A King 93.56 319 IAmb IAmb 16 51 05.1
comp=Z,82nm,1.2s
U56A IAMs_20 IAMs_20 17 38 05.5
comp=Z,6µm,20.0s
I37A Lemond, Waseca 93.57 332 IAMs_20 IAMs_20 17 36 45.1
comp=Z,10µm,21.0s
BBB Bella Bella 93.64 356 IAMs_20 IAMs_20 17 41 07.3
comp=Z,9µm,21.0s
BBB Bella Bella 93.64 356 LR LR 17 40 14.0
comp=Z,4µm,18.8s,baz=1.5,slow=40
L42A Oliver, Polo 93.69 328 IAmb IAmb 16 51 06.5
comp=Z,118nm,1.1s
L42A IAMs_20 IAMs_20 17 35 39.5
comp=Z,8µm,20.0s
P48A Milroy 93.77 324 IAmb IAmb 16 51 05.1
comp=Z,171nm,1.4s
P48A IAMs_20 IAMs_20 17 33 33.8
comp=Z,9µm,21.0s
GDU01 Guandu, BA 93.84 256 *e*P **P 16 50 50.8 +1.4**
E28A Huff 93.93 338 IAmb IAmb 16 51 07.5
comp=Z,77nm,0.9s
MDP Montagnes des 94.05 279 LR LR 17 34 17.7
comp=Z,3µm,19.5s,baz=54,slow=36
Y60A Bolivia 94.07 316 IAMs_20 IAMs_20 17 33 06.2
comp=Z,7µm,22.0s
R50A Paris 94.15 323 IAmb IAmb 16 50 55.4
comp=Z,49nm,0.8s
R50A IAMs_20 IAMs_20 17 36 22.9
comp=Z,10µm,19.0s
GDSD La Dsirade Is 94.18 293 IAmb IAmb 16 50 58.4
comp=Z,134nm,1.2s
U54A Nelsons Funny 94.20 320 IAMs_20 IAMs_20 17 33 25.4
comp=Z,10µm,22.0s
W57A Gilead 94.23 318 IAMs_20 IAMs_20 17 33 24.3
comp=Z,9µm,21.0s
S51A Beattyville 94.27 322 IAmb IAmb 16 50 56.2
comp=Z,68nm,0.8s
S51A IAMs_20 IAMs_20 17 36 39.2
comp=Z,12µm,20.0s
KLBR Kellerberrin 94.30 126 P **P 16 50 51.2 +0.2**
V55A Taylorsville 94.38 319 IAMs_20 IAMs_20 17 38 40.1
comp=Z,9µm,20.0s
KDU Kakadu 94.38 102 P **P 16 50 51.9 +0.1**
TMAB Tom-Au,PA,Br 94.51 270 *e*P **P 16 50 53.5 +1.0**
R49A Shelbyville 94.56 323 IAmb IAmb 16 50 57.1
comp=Z,58nm,0.9s
R49A IAMs_20 IAMs_20 17 35 27.7
comp=Z,10µm,20.0s
SMRT St. Maarten 94.64 295 IAmb IAmb 16 50 55.9
comp=Z,50nm,0.8s
SMRT IAMs_20 IAMs_20 17 28 33.3
comp=Z,8µm,22.0s
LLLB Lillooet 94.68 352 IAmb IAmb 16 51 02.7
comp=Z,68nm,1.1s
LLLB IAMs_20 IAMs_20 17 39 45.9
comp=Z,10µm,20.0s
HDIL Hopedale 94.70 327 IAmb IAmb 16 51 09.7
comp=Z,198nm,1.6s
HDIL IAMs_20 IAMs_20 17 36 32.3
comp=Z,9µm,20.0s
NWAO Narrogin (SRO) 94.77 127 P **P 16 50 52.9 -0.3**
NWAO IAmb IAmb 16 50 58.1
comp=Z,141nm,1.6s
NWAO Narrogin (SRO) 94.77 127 P **P 16 50 53.2 0.0**
NWAO Narrogin (SRO) 94.77 127 P **P 16 50 53.2 0.0**
NWAO Narrogin (SRO) 94.77 127 P **P 16 50 53.6 +0.4**
NWAO Narrogin (SRO) 94.77 127 P **P 16 50 52.9 -0.3**
NWAO pmax pmax
comp=Z,141nm,1.6s
NWAO MLR MLR
comp=Z,6µm,22.0s
BIRD Birdtown, Kers 94.87 318 IAMs_20 IAMs_20 17 33 31.1
comp=Z,9µm,21.0s
SEUS St. Eustatius 94.91 295 IAMs_20 IAMs_20 17 29 27.6
comp=Z,7µm,22.0s
Y58A Scranton 94.97 317 IAMs_20 IAMs_20 17 36 09.9
comp=Z,12µm,20.0s
KMSC Kings Mountain 94.97 319 IAMs_20 IAMs_20 17 32 18.9
comp=Z,7µm,22.0s
SABA Saba 95.03 295 IAMs_20 IAMs_20 17 28 55.7
comp=Z,8µm,22.0s
TZTN Tazewell 95.09 321 IAmb IAmb 16 51 07.8
comp=Z,66nm,1.1s
TZTN IAMs_20 IAMs_20 17 36 11.8
comp=Z,11µm,20.0s
GENI Genyem 95.09 90 P **P 16 50 55.1 -0.1**
GENI Genyem 95.09 90 P **P 16 50 55.6 +0.4**
comp=Z,77nm,1.2s,comp=Z,2µm
WCI Wyandotte Cave 95.16 324 P **P 16 50 53.9 -1.2**
WCI IAmb IAmb 16 51 11.0
comp=Z,155nm,1.8s
WCI Wyandotte Cave 95.16 324 P **P 16 50 53.9 -1.2**
WCI pmax pmax
comp=Z,155nm,1.8s
WCI MLR MLR
comp=Z,13µm,20.0s
N41A Harden Midland 95.27 328 IAMs_20 IAMs_20 17 36 56.1
comp=Z,7µm,19.0s
Y57A Sumter 95.29 318 IAMs_20 IAMs_20 17 33 21.4
comp=Z,11µm,21.0s
V53A Saluda 95.37 320 IAMs_20 IAMs_20 17 36 29.3
comp=Z,10µm,22.0s
LAO LASA Array 95.45 341 IAmb IAmb 16 51 15.4
comp=Z,73nm,0.9s
PAULI Pauline 95.47 319 IAmb IAmb 16 51 13.9
comp=Z,98nm,1.2s
PAULI IAMs_20 IAMs_20 17 39 14.2
comp=Z,7µm,19.0s
JAY Jayapura 95.50 89 LR LR 17 36 51.6
comp=Z,2µm,21.6s,baz=302,slow=37
JAY Jayapura 95.50 89 P **P 16 50 55.9 -1.2**
P43A Skaggs, Pawnee 95.54 327 IAmb IAmb 16 51 14.4
comp=Z,74nm,1.2s
P43A IAMs_20 IAMs_20 17 36 22.6
comp=Z,9µm,18.0s
JSC Jenkinsville 95.58 318 IAMs_20 IAMs_20 17 34 14.9
comp=Z,7µm,20.0s
CBB Campbell River 95.59 354 IAMs_20 IAMs_20 17 37 19.0
comp=Z,9µm,22.0s
OLIL Olney 95.62 325 IAmb IAmb 16 51 01.9
comp=Z,90nm,0.8s
CSU Charleston Sou 95.87 317 IAMs_20 IAMs_20 17 36 47.8
comp=Z,11µm,22.0s
TKL Tuckaleechee C 95.88 321 LR LR 17 34 30.1
comp=Z,11µm,21.4s,baz=53,slow=36
Q44A Meyer Farm, Va 95.91 326 IAmb IAmb 16 51 15.9
comp=Z,94nm,1.3s
Q44A IAMs_20 IAMs_20 17 34 20.3
comp=Z,11µm,22.0s
BG3 Lake Jocassee 95.94 320 IAMs_20 IAMs_20 17 36 45.6
comp=Z,10µm,21.0s
USIN University of 96.03 325 IAmb IAmb 16 51 15.5
comp=Z,82nm,1.1s
USIN IAMs_20 IAMs_20 17 36 55.5
comp=Z,12µm,21.0s
HODGE Hodges 96.16 319 IAmb IAmb 16 51 17.0
comp=Z,74nm,1.3s
HODGE IAMs_20 IAMs_20 17 39 43.3
comp=Z,6µm,19.0s
N38A Joes South For 96.20 330 IAMs_20 IAMs_20 17 36 40.9
comp=Z,8µm,19.0s
U49A Red Boiling Sp 96.25 323 IAmb IAmb 16 51 16.1
comp=Z,138nm,1.8s
NEW Newport 96.31 349 IAMs_20 IAMs_20 17 36 02.2
comp=Z,9µm,20.0s
NEW Newport 96.31 349 LR LR 17 36 13.5
comp=Z,10µm,21.4s,baz=12,slow=37
W52A Murphy 96.40 321 IAMs_20 IAMs_20 17 37 14.5
comp=Z,11µm,22.0s
CPCT Cooper Cave 96.43 321 IAmb IAmb 16 51 17.3
comp=Z,167nm,1.8s
CPCT IAMs_20 IAMs_20 17 37 03.4
comp=Z,9µm,20.0s
T47A Sharon Grove 96.53 324 IAmb IAmb 16 51 18.4
comp=Z,69nm,1.4s
T47A IAMs_20 IAMs_20 17 34 57.9
comp=Z,7µm,20.0s
B08A Colville Reser 96.56 350 IAMs_20 IAMs_20 17 38 52.7
comp=Z,7µm,19.0s
HUMP Col San Antoni 96.64 297 IAmb IAmb 16 51 10.6
comp=Z,94nm,1.4s
OZB Mount Ozzard 96.67 354 IAMs_20 IAMs_20 17 38 09.4
comp=Z,7µm,22.0s
CLRS Cowichan Lake 96.68 353 IAMs_20 IAMs_20 17 39 07.9
comp=Z,7µm,21.0s
SLM Saint Louis 96.68 327 IAMs_20 IAMs_20 17 37 31.8
comp=Z,8µm,20.0s
GCPR Guaynabo City 96.71 297 IAmb IAmb 16 51 09.7
comp=Z,107nm,1.2s
PGC Sidney 96.78 353 IAMs_20 IAMs_20 17 39 57.6
comp=Z,8µm,20.0s
SJG San Juan 96.88 297 LR LR 17 30 40.2
comp=Z,2µm,21.8s,baz=61,slow=33
C09A Chrisman Ranch 96.95 349 IAMs_20 IAMs_20 17 36 35.0
comp=Z,9µm,21.0s
KMBL Kambalda 96.98 123 P **P 16 51 04.6 +1.3**
K30B Basset 97.02 335 IAmb IAmb 16 51 25.2
comp=Z,52nm,0.9s
MSO Missoula 97.12 346 IAmb IAmb 16 54 58.0
comp=Z,75nm,1.6s
MSO IAMs_20 IAMs_20 17 39 14.6
comp=Z,10µm,21.0s
257A Skidaway Islan 97.16 317 IAMs_20 IAMs_20 17 37 47.0
comp=Z,11µm,21.0s
RSSD Black Hills 97.17 339 P **P 16 51 04.1 -0.3**
RSSD Black Hills 97.17 339 P **P 16 51 04.1 -0.3**
RSSD pmax pmax
comp=Z,19nm,0.9s
RSSD MLR MLR
comp=Z,14µm,20.0s
AOPR Arecibo Observ 97.17 298 IAmb IAmb 16 51 12.2
comp=Z,51nm,1.1s
CELP Cerrillos 97.22 298 P **P 16 51 04.1 -0.7**
CELP IAmb IAmb 16 51 12.9
comp=Z,48nm,1.1s
OBIP Obispado Ponce 97.26 298 IAmb IAmb 16 51 13.1
comp=Z,43nm,0.9s
X51A Calhoun 97.29 321 IAmb IAmb 16 51 20.2
comp=Z,161nm,1.9s
X51A IAMs_20 IAMs_20 17 36 45.1
comp=Z,10µm,21.0s
FVM French Village 97.30 327 IAMs_20 IAMs_20 17 35 26.2
comp=Z,10µm,20.0s
Y52A Lilburn 97.41 320 IAMs_20 IAMs_20 17 38 22.3
comp=Z,9µm,19.0s
CGM3 Cape Girardeau 97.50 326 IAmb IAmb 16 51 21.8
comp=Z,147nm,1.9s
WVT Waverly 97.57 324 IAMs_20 IAMs_20 17 35 28.6
comp=Z,10µm,21.0s
C03A Quillayute Air 97.59 353 IAMs_20 IAMs_20 17 40 40.1
comp=Z,10µm,20.0s
CCM Cathedral Cave 97.61 327 P **P 16 51 06.1 -0.1**
CCM Cathedral Cave 97.61 327 IAMs_20 IAMs_20 17 38 21.6
comp=Z,10µm,20.0s
CCM Cathedral Cave 97.61 327 P **P 16 51 06.1 -0.1**
CCM pmax pmax
comp=Z,31nm,1.3s
CCM MLR MLR
comp=Z,10µm,20.0s
D08A Wollman Farm, 97.77 349 IAMs_20 IAMs_20 17 37 11.0
comp=Z,10µm,21.0s
GNW Green Mountain 97.79 352 IAmb IAmb 16 51 16.3
comp=Z,68nm,1.4s
BOZ Bozeman (W) 97.81 344 IAMs_20 IAMs_20 17 41 08.0
comp=Z,10µm,18.0s
LTY Liberty 97.82 351 IAMs_20 IAMs_20 17 41 02.5
comp=Z,7µm,20.0s
154A Montrose 97.84 318 IAMs_20 IAMs_20 17 39 16.3
comp=Z,7µm,18.0s
UTMT University of 97.90 325 IAMs_20 IAMs_20 17 37 11.1
comp=Z,11µm,21.0s
HICK Hickman 97.91 325 IAMs_20 IAMs_20 17 36 20.7
comp=Z,11µm,21.0s
YNE Yellowstone No 97.98 343 IAmb IAmb 16 54 21.2
comp=Z,136nm,2.0s
WRKA Warakurna 98.00 115 P Pdif 16 51 08.4 +0.3
D05A Enumclaw 98.06 352 IAMs_20 IAMs_20 17 38 55.6
comp=Z,10µm,22.0s
GLAT Glass 98.16 325 IAMs_20 IAMs_20 17 36 27.2
comp=Z,9µm,20.0s
DLMT Dillon 98.24 345 IAmb IAmb 16 54 10.3
comp=Z,63nm,1.4s
E08A Dider Farm, El 98.34 349 IAMs_20 IAMs_20 17 37 27.2
comp=Z,9µm,21.0s
LNXT Lenox 98.39 325 IAMs_20 IAMs_20 17 37 36.4
comp=Z,9µm,20.0s
E07A Sunnyside 98.40 350 IAMs_20 IAMs_20 17 37 10.6
comp=Z,7µm,22.0s
YHL Hebgen Lake 98.41 344 IAMs_20 IAMs_20 17 38 11.0
comp=Z,11µm,22.0s
MXC Moxie City 98.44 350 IAMs_20 IAMs_20 17 40 46.7
comp=Z,7µm,21.0s
HALT Halls 98.47 325 IAMs_20 IAMs_20 17 37 37.5
comp=Z,8µm,21.0s
YHB Horse Butte 98.51 344 IAMs_20 IAMs_20 17 39 14.6
comp=Z,10µm,21.0s
HAWA Hanford 98.51 350 IAMs_20 IAMs_20 17 37 34.6
comp=Z,10µm,21.0s
YMR Madison River 98.53 343 IAMs_20 IAMs_20 17 40 05.2
comp=Z,9µm,20.0s
F10A Beach Ranch, E 98.55 348 IAMs_20 IAMs_20 17 42 00.7
comp=Z,9µm,20.0s
PEBM Pemiscott Bayo 98.56 325 IAMs_20 IAMs_20 17 36 50.8
comp=Z,10µm,21.0s
Y49A Blount Mountai 98.65 321 IAMs_20 IAMs_20 17 39 12.3
comp=Z,9µm,19.0s
456A Hilliard 98.66 316 IAMs_20 IAMs_20 17 35 45.0
comp=Z,9µm,21.0s
GNAR Gosnell 98.75 325 IAMs_20 IAMs_20 17 36 55.9
comp=Z,11µm,21.0s
MGMO Mountain Grove 98.81 327 IAMs_20 IAMs_20 17 39 08.4
comp=Z,11µm,20.0s
TIGA Tifton 99.00 318 IAMs_20 IAMs_20 17 35 34.9
comp=Z,8µm,22.0s
FLWY Flagg Ranch 99.02 343 IAMs_20 IAMs_20 17 39 13.2
comp=Z,8µm,19.0s
F04D Rainier, OR 99.27 352 IAMs_20 IAMs_20 17 39 38.6
comp=Z,9µm,22.0s
MAL2 Monte Alegre, 99.34 274 IAMs_20 IAMs_20 17 36 47.4
comp=Z,7µm,19.0s
MOOW Moose Ponds 99.34 343 IAMs_20 IAMs_20 17 39 24.8
comp=Z,9µm,20.0s
F04A Amboy 99.35 352 IAMs_20 IAMs_20 17 39 56.7
comp=Z,9µm,21.0s
HBAR Harrisburg 99.39 325 IAMs_20 IAMs_20 17 37 26.7
comp=Z,8µm,21.0s
F03A Seaside 99.48 352 IAMs_20 IAMs_20 17 42 42.2
comp=Z,10µm,20.0s
FXWY Fox Creek 99.52 343 IAMs_20 IAMs_20 17 39 20.3
comp=Z,9µm,20.0s
SNOW Snow King Moun 99.62 343 IAMs_20 IAMs_20 17 39 34.0
comp=Z,9µm,20.0s
TPAW Teton Pass 99.64 343 IAMs_20 IAMs_20 17 39 34.6
comp=Z,9µm,20.0s
352A Blakely 99.70 319 IAMs_20 IAMs_20 17 39 50.5
comp=Z,6µm,19.0s
G06A Carlson Farm, 99.80 350 IAMs_20 IAMs_20 17 38 26.8
comp=Z,9µm,22.0s
HOOD Mount Hood Mea 99.85 351 IAMs_20 IAMs_20 17 40 24.1
comp=Z,9µm,22.0s
WRA Warramunga Arr 99.86 107 P **Pdif 16 51 14.7 -1.9**
comp=Z,4.0nm,0.9s,baz=316,slow=4.0,SNR=33
WRA PP **PP 16 55 20.4 -1.3**
comp=Z,14nm,1.1s,baz=309,slow=7.6,SNR=7.2
WRA PKKPbc **PKKPbc 17 07 38.0 +2.4**
comp=Z,2.4nm,0.7s,baz=121,slow=2.6,SNR=9.7
WRA LR LR 17 39 29.9
comp=Z,3µm,20.9s,baz=308,slow=37
comp=Z,4.0nm,0.9s
WRAB Tennant Creek 99.87 107 *i* P **Pdif 16 51 14.5 -2.0**
WRAB pmax pmax
comp=Z,17nm,1.2s
WRAB MLR MLR
comp=Z,3µm,21.0s
G05A Wamic 99.89 351 IAMs_20 IAMs_20 17 41 42.0
comp=Z,8µm,20.0s
656A Willston 99.97 316 IAMs_20 IAMs_20 17 37 09.7
comp=Z,9µm,21.0s
PDAR Pinedale Array 99.97 342 P **Pdif 16 51 16.4 -0.6**
comp=Z,1.5nm,1.0s,baz=29,slow=3.4,SNR=10.0
PDAR PP **PP 16 55 19.4 -1.5**
comp=Z,10nm,1.2s,baz=52,slow=5.8,SNR=4.6
PDAR PKKPbc **PKKPbc 17 07 35.9 0.0**
comp=Z,2.7nm,0.8s,baz=174,slow=4.2,SNR=12
PDAR PKPPKP **P'P'df 17 15 56.5 -1.5**
comp=Z,0.4nm,0.9s,baz=158,slow=4.8,SNR=3.4
PDAR LR LR 17 38 38.4
comp=Z,7µm,20.5s,baz=16,slow=37
comp=Z,1.5nm,1.0s
SDDR Presa de Saban 100.03 301 IAMs_20 IAMs_20 17 35 49.2
comp=Z,8µm,22.0s
250A Grady 100.04 320 IAMs_20 IAMs_20 17 41 57.3
comp=Z,7µm,18.0s
G03D McMinnville, O 100.16 352 IAMs_20 IAMs_20 17 43 02.2
comp=Z,8µm,21.0s
DWPF Disney Wildern 100.26 314 IAMs_20 IAMs_20 17 35 10.6
comp=Z,7µm,21.0s
AHID Auburn Hatcher 100.36 343 IAMs_20 IAMs_20 17 40 07.6
comp=Z,10µm,21.0s
060A Indiantown 100.41 313 IAMs_20 IAMs_20 17 43 44.6
comp=Z,6µm,18.0s
553A Crawfordville 100.42 318 IAMs_20 IAMs_20 17 39 48.5
comp=Z,9µm,20.0s
H04A Detroit Lake 100.55 351 IAMs_20 IAMs_20 17 41 17.5
comp=Z,6µm,19.0s
N23A Red Feather La 100.69 339 IAMs_20 IAMs_20 17 42 09.5
comp=Z,9µm,20.0s
N23A Red Feather La 100.69 339 P **Pdif 16 51 17.5 -2.8**
baz=24
I07A Izee 100.77 349 IAMs_20 IAMs_20 17 45 57.2
comp=Z,8µm,20.0s
I05D Terrebonne, OR 100.78 351 IAMs_20 IAMs_20 17 38 58.6
comp=Z,9µm,22.0s
COR Corvallis 100.78 352 IAMs_20 IAMs_20 17 40 34.6
comp=Z,9µm,22.0s
451A Vernon 100.82 319 IAMs_20 IAMs_20 17 39 47.9
comp=Z,6µm,20.0s
T35A Sooner Cattle 100.84 330 IAMs_20 IAMs_20 17 39 31.9
comp=Z,10µm,19.0s
RLO Rose Lookout 100.85 329 IAMs_20 IAMs_20 17 39 48.3
comp=Z,10µm,21.0s
FORT Forrest 101.00 120 IAMs_20 IAMs_20 17 40 27.8
comp=Z,9µm,19.0s
BRAL Brewton 101.09 320 IAMs_20 IAMs_20 17 37 53.0
comp=Z,9µm,22.0s
BUCK Buck Mountain 101.13 352 IAMs_20 IAMs_20 17 44 00.8
comp=Z,6µm,20.0s
PINE Pine Mountain 101.26 350 IAMs_20 IAMs_20 17 44 25.3
comp=Z,8µm,18.0s
J08A Circle Bar Ran 101.31 348 IAMs_20 IAMs_20 17 41 36.5
comp=Z,10µm,21.0s
I02E Swisshome, OR 101.31 352 IAMs_20 IAMs_20 17 44 00.7
comp=Z,7µm,20.0s
KSCO Kaye Shedlock' 101.32 335 IAMs_20 IAMs_20 17 38 47.4
comp=Z,8µm,20.0s
OK048 Pawnee Station 101.45 330 IAMs_20 IAMs_20 17 40 33.0
comp=Z,10µm,20.0s
I04A Tendick Farm, 101.45 351 IAMs_20 IAMs_20 17 39 34.4
comp=Z,9µm,22.0s
ASAR Alice Springs 101.53 111 P **Pdif 16 51 22.4 -1.4**
comp=Z,2.9nm,1.0s,baz=304,slow=4.7,SNR=32
ASAR PP **PP 16 55 34.2 -0.1**
comp=Z,14nm,1.1s,baz=306,slow=7.1,SNR=4.9
ASAR PKKPbc **PKKPbc 17 07 32.4 +1.5**
comp=Z,3.6nm,0.8s,baz=120,slow=3.8,SNR=12
ASAR PKPPKP **P'P'df 17 15 51.4 +2.3**
comp=Z,1.4nm,1.1s,baz=148,slow=2.6,SNR=5.6
HVU Hansel Valley 101.69 344 IAMs_20 IAMs_20 17 40 18.8
comp=Z,10µm,22.0s
BDFB Brasilia 101.71 259 P **Pdif 16 51 24.2 -0.7**
comp=Z,0.8nm,0.3s,baz=218,slow=21,SNR=1.7
BDFB PP **PP 16 55 36.0 +0.2**
comp=Z,9.7nm,0.7s,baz=45,slow=9.0,SNR=6.5
DEOK Depew 101.75 329 IAMs_20 IAMs_20 17 43 55.1
comp=Z,7µm,20.0s
CROK Carrier 101.80 331 IAMs_20 IAMs_20 17 41 03.1
comp=Z,10µm,21.0s
J05D Fort Rock, OR 101.80 350 IAMs_20 IAMs_20 17 44 53.6
comp=Z,8µm,20.0s
TCUT Toone Canyon 101.99 343 IAMs_20 IAMs_20 17 39 53.8
comp=Z,9µm,20.0s
SPUT South Promonto 102.06 343 IAMs_20 IAMs_20 17 43 51.6
comp=Z,10µm,19.0s
WVOR Wild Horse Val 102.23 348 IAMs_20 IAMs_20 17 43 05.1
comp=Z,11µm,21.0s
J01E Myrtle Point 102.26 352 IAMs_20 IAMs_20 17 42 36.7
comp=Z,6µm,20.0s
CTU Camp Tracy 102.47 343 IAMs_20 IAMs_20 17 38 51.6
comp=Z,10µm,22.0s
MAW Mawson 102.49 173 P **Pdif 16 51 29.6 +2.6**
comp=Z,6.2nm,0.9s,baz=337,slow=12,SNR=9.0
MAW PP **PP 16 55 41.3 +0.8**
comp=Z,8.2nm,1.2s,baz=326,slow=13,SNR=1.8
MAW PKKPbc **PKKPbc 17 07 30.9 +1.4**
comp=Z,2.3nm,0.8s,baz=124,slow=2.4,SNR=4.6
W35A Tecumseh 102.50 329 IAMs_20 IAMs_20 17 42 26.9
comp=Z,8µm,19.0s
WAKE Wake Island 102.51 56 IAMs_20 IAMs_20 17 41 10.0
comp=Z,7µm,22.0s
K04D Chiloquin, OR 102.52 351 IAMs_20 IAMs_20 17 44 52.6
comp=Z,7µm,20.0s
BGU Big Grassy Mou 102.56 344 IAMs_20 IAMs_20 17 41 43.0
comp=Z,7µm,20.0s
HUMO Hull Mountain 102.69 351 IAMs_20 IAMs_20 17 40 23.2
comp=Z,7µm,22.0s
HATO Hato, Curacao 102.72 294 IAMs_20 IAMs_20 17 33 02.1
comp=Z,7µm,22.0s
L04D Klamath Falls 102.99 351 IAMs_20 IAMs_20 17 40 33.1
comp=Z,9µm,22.0s
P18A Preston Nutter 103.09 341 IAMs_20 IAMs_20 17 41 54.0
comp=Z,11µm,21.0s
KBO Bosley Butte 103.23 352 IAMs_20 IAMs_20 17 45 01.4
comp=Z,6µm,20.0s
L02F Cave Junction 103.24 352 IAMs_20 IAMs_20 17 44 39.8
comp=Z,6µm,20.0s
X34A Smith Ranch, M 103.38 330 IAMs_20 IAMs_20 17 41 44.1
comp=Z,10µm,22.0s
YBH Yreka Blue Hor 103.52 351 IAMs_20 IAMs_20 17 45 56.2
comp=Z,9µm,20.0s
KSXB Camp Six Broad 103.57 352 IAMs_20 IAMs_20 17 43 15.3
comp=Z,8µm,20.0s
T25A Trinidad 103.62 336 P **Pdif 16 51 31.6 -1.7**
baz=25
SRU San Rafael Swe 103.65 341 IAMs_20 IAMs_20 17 39 46.8
comp=Z,9µm,21.0s
S22A 4UR Ranch, Cre 103.85 338 P **Pdif 16 51 32.7 -1.7**
baz=23
KRMB Red Mountain 103.87 352 IAMs_20 IAMs_20 17 45 35.5
comp=Z,6µm,20.0s
CAMR Camarioca 103.94 311 IAMs_20 IAMs_20 17 46 37.1
comp=Z,5µm,19.0s
BAUV El Baul 104.06 291 IAMs_20 IAMs_20 17 41 55.7
comp=Z,11µm,22.0s
KRPM Rodgers 104.25 352 IAMs_20 IAMs_20 17 45 55.4
comp=Z,7µm,18.0s
HATC Hat Creek Radi 104.25 350 IAMs_20 IAMs_20 17 43 10.5
comp=Z,8µm,21.0s
QIS Mount Isa 104.37 105 P **Pdif 16 51 36.9 +0.3**
KHMM Horse Mountain 104.49 352 IAMs_20 IAMs_20 17 45 23.9
comp=Z,8µm,21.0s
441A DeRidder 104.54 324 IAMs_20 IAMs_20 17 40 28.1
comp=Z,9µm,22.0s
JCC Jacoby Creek, 104.58 352 IAMs_20 IAMs_20 17 48 09.3
comp=Z,5µm,19.0s
PMG Port Moresby 104.63 91 P **Pdif 16 51 37.9 +0.1**
PMG Port Moresby 104.63 91 P **Pdif 16 51 38.0 +0.1**
AMTX Amarillo 104.66 333 IAMs_20 IAMs_20 17 41 28.9
comp=Z,9µm,20.0s
SPR3 Spring Creek 3 104.69 344 IAMs_20 IAMs_20 17 45 43.4
comp=Z,7µm,19.0s
237A Washetta, Mont 104.72 327 IAMs_20 IAMs_20 17 44 12.7
comp=Z,7µm,20.0s
Q12A Willow Creek R 104.77 344 IAMs_20 IAMs_20 17 42 15.3
comp=Z,8µm,20.0s
FW03 Perrin-Whitt E 104.82 329 IAMs_20 IAMs_20 17 41 19.3
comp=Z,7µm,20.0s
MVCO Mesa Verde 104.85 339 IAMs_20 IAMs_20 17 44 39.9
comp=Z,8µm,18.0s
KMPM Mount Pierce 104.99 352 IAMs_20 IAMs_20 17 49 11.0
comp=Z,6µm,20.0s
FW14 Alvarado 104.99 328 IAMs_20 IAMs_20 17 42 07.9
comp=Z,8µm,19.0s
PAHR Pah Rah Range 105.01 348 IAMs_20 IAMs_20 17 44 14.6
comp=Z,10µm,21.0s
OOD Oodnadatta 105.06 113 P **Pdif 16 51 39.4 0.0**
KMRM Mail Ridge 105.13 352 IAMs_20 IAMs_20 17 48 44.4
comp=Z,7µm,19.0s
SOR Soroa 105.15 312 IAMs_20 IAMs_20 17 46 37.3

	comp=Z,6μm,18.0s						
MACA	Manacapuru-AM	105.34	277	IAMs_20	IAMs_20	17 44 59.3	
	comp=Z,7μm,20.0s						
SPB	Sao Paulo	105.42	252	IAMs_20	IAMs_20	17 42 24.6	
	comp=Z,9μm,20.0s						
ORV	Oroville	105.50	350	IAMs_20	IAMs_20	17 45 59.5	
	comp=Z,8μm,20.0s						
MPK	Martis Peak	105.52	349	IAMs_20	IAMs_20	17 44 17.2	
	comp=Z,8μm,20.0s						
R11B	Troy Canyon, C	105.59	345	IAMs_20	IAMs_20	17 48 46.2	
	comp=Z,8μm,18.0s						
R11B	Troy Canyon, C	105.59	345	P	PKiKP	16 55 53.7	-1.5
	baz=16						
KCPM	Cahto Peak	105.65	351	IAMs_20	IAMs_20	17 47 26.4	
	comp=Z,9μm,20.0s						
AFDM	Forest Hills D	106.01	349	IAMs_20	IAMs_20	17 46 00.1	
	comp=Z,7μm,20.0s						
NVAR	Mina Array Bea	106.06	347	Pdiff	Pdif	16 51 45.8	+1.6
	comp=Z,0.1nm,0.3s,baz=282,slow=4.5,SNR=1.9						
NVAR				PKiKP	PKiKP	16 55 55.5	-0.6
	comp=Z,1.7nm,0.7s,baz=20,slow=1.3,SNR=2.8						
NVAR				PKKPbc	PKKPbc	17 07 18.5	+0.6
	comp=Z,3.5nm,0.8s,baz=201,slow=5.1,SNR=10						
NVAR				PKPPKP	P'P'df	17 15 46.2	+0.1
	comp=Z,1.3nm,1.0s,baz=178,slow=4.3,SNR=4.2						
HOPS	Hopland Field	106.27	351	IAMs_20	IAMs_20	17 49 06.8	
	comp=Z,8μm,19.0s						
S11A	Rachel	106.31	345	IAMs_20	IAMs_20	17 48 34.0	
	comp=Z,7μm,19.0s						
MZP	Montezuma Peak	106.59	346	IAMs_20	IAMs_20	17 44 13.5	
	comp=Z,6μm,19.0s						
CMB	Columbia Colle	106.81	349	IAMs_20	IAMs_20	17 45 25.3	
	comp=Z,10μm,20.0s						
MCCM	Marconi Confer	107.08	351	IAMs_20	IAMs_20	17 46 55.2	
	comp=Z,10μm,21.0s						
TPNV	Topopah Spring	107.08	345	IAMs_20	IAMs_20	17 48 05.6	
	comp=Z,7μm,19.0s						
ELIB	Princess Elisa	107.20	187	dPKiKP	PKiKP	16 56 01.0	+4.1
Y22D	IRIS PASSCAL I	107.25	336	IAMs_20	IAMs_20	17 42 41.2	
	comp=Z,10μm,21.0s						
SHPR	Sheep Range	107.27	344	IAMs_20	IAMs_20	17 48 23.5	
	comp=Z,7μm,18.0s						
BBOO	Buckleboo	107.87	118	IAMs_20	IAMs_20	17 44 59.6	
	comp=Z,8μm,20.0s						
SAO	San Andreas Ge	108.22	349	IAMs_20	IAMs_20	17 49 10.6	
	comp=Z,6μm,18.0s						
735A	Kenedy	108.29	327	IAMs_20	IAMs_20	17 44 23.4	
	comp=Z,7μm,20.0s						
X16A	Lo Mia Camp, P	108.31	340	IAMs_20	IAMs_20	17 42 45.0	
	comp=Z,10μm,22.0s						
W13A	Hualapai Mount	108.31	343	IAMs_20	IAMs_20	17 42 30.0	
	comp=Z,9μm,22.0s						
GSC	Goldstone, Bar	108.79	345	IAMs_20	IAMs_20	17 44 21.7	
	comp=Z,9μm,22.0s						
Y14A	Wickenburg	109.18	341	IAMs_20	IAMs_20	17 44 05.2	
	comp=Z,9μm,20.0s						
CCAC	Calif City Air	109.18	346	IAMs_20	IAMs_20	17 49 00.1	
	comp=Z,7μm,19.0s						
KVTX	Kingsville	109.44	326	IAMs_20	IAMs_20	17 46 07.0	
	comp=Z,7μm,19.0s						
CTAO	Charters Tower	109.48	101	IAMs_20	IAMs_20	17 48 48.9	
	comp=Z,6μm,20.0s						
BCW	Bitter Crk WRg	109.66	347	IAMs_20	IAMs_20	17 46 31.7	
	comp=Z,8μm,21.0s						
BLYC	Blythe	109.75	343	IAMs_20	IAMs_20	17 43 32.2	
	comp=Z,9μm,22.0s						
PASC	Pasadena Art C	110.17	346	IAMs_20	IAMs_20	17 45 42.1	
	comp=Z,8μm,20.0s						
TEIG	Tepich	110.28	314	IAMs_20	IAMs_20	17 48 41.1	
	comp=Z,5μm,19.0s						
TROLL	Troll, Antarti	110.30	193	⇑PKKPab	PKKPab	17 07 13.4	+1.7
TROLL	comp=Z,40nm,0.3s						
				⇑Pdiff	Pdif	16 52 22.7	+21
	comp=Z,78nm,0.8s						
TROLL				⇑PKiKP	PKiKP	16 56 04.2	+1.5
	comp=Z,208nm,0.7s						
TROLL				⇑PP	PP	16 56 40.9	+2.8
	comp=Z,23μm,2.1s						
PFO	Pinyon Flats O	110.34	344	IAMs_20	IAMs_20	17 47 44.7	
	comp=Z,8μm,20.0s						
TXAR	Lajitas Array	110.35	332	Pdiff	Pdif	16 52 06.8	+3.6
	comp=Z,0.4nm,0.6s,baz=97,slow=3.1,SNR=2.2						
TXAR				PKiKP	PKiKP	16 56 04.5	+0.2
	comp=Z,2.5nm,0.8s,baz=281,slow=1.4,SNR=5.0						
TXAR				PKKPbc	PKKPbc	17 07 05.5	+1.5
	comp=Z,1.5nm,0.7s,baz=191,slow=6.6,SNR=7.1						
ELS	Elsinore Mount	110.51	345	IAMs_20	IAMs_20	17 46 57.3	
	comp=Z,9μm,21.0s						
SNAA	Sanae	111.11	195	⇑PKKPbc	PKKPbc	17 07 04.8	+2.2
	comp=Z,66nm,1.1s						
SNAA				⇑Pdiff	Pdif	16 52 17.6	+12
	comp=Z,17nm,0.8s						
SNAA				⇑PKiKP	PKiKP	16 56 05.7	+1.5
	comp=Z,124nm,1.1s						
SNAA				⇑PP	PP	16 56 41.0	-2.8
	comp=Z,8μm,2.5s						
SNAA	Sanae	111.11	195	PKiKP	PKiKP	16 56 05.4	+1.3
	comp=Z,8.6nm,0.9s,baz=46,slow=3.2,SNR=11						
SNAA				PKKPbc	PKKPab	17 07 07.8	-0.2
	comp=Z,2.5nm,0.9s,baz=222,slow=4.5,SNR=3.9						
YUH	Yuha Desert	111.14	343	IAMs_20	IAMs_20	17 49 18.0	
	comp=Z,9μm,20.0s						
CPBX	Cerro Prieto	111.21	343	IAMs_20	IAMs_20	17 52 56.8	
	comp=Z,6μm,19.0s						
TKX	Tecate	111.37	344	IAMs_20	IAMs_20	17 47 39.1	
	comp=Z,8μm,21.0s						
STKA	Stephens Creek	111.53	115	PKiKP	PKiKP	16 56 07.5	+1.4
	comp=Z,8.4nm,0.9s,baz=315,slow=2.7,SNR=8.0						
STKA				PKKPbc	PKKPbc	17 07 01.1	+1.0
	comp=Z,2.4nm,0.7s,baz=78,slow=5.7,SNR=3.5						
TJX	Tijuana	111.53	344	IAMs_20	IAMs_20	17 45 58.3	
	comp=Z,7μm,22.0s						
VNA2	Neumayer--Watz	111.58	196	⇑PKKPbc	PKKPbc	17 07 01.7	+0.7
	comp=Z,1.2nm,0.6s,baz=258,slow=4.6						
VNA2				⇑Pdiff	Pdif	16 52 22.9	+16
	comp=Z,1.9nm,0.7s,baz=298,slow=3.0						
VNA2				⇑PKiKP	PKiKP	16 56 06.6	+1.7
	comp=Z,9.2nm,0.9s,baz=17,slow=4.2						
VNA2				⇑PP	PP	16 56 48.1	+0.9
	comp=Z,1.6nm,0.2s,baz=2.8,slow=3.6						
VNA1	Neumayer--Stat	111.59	197	⇑PKiKP	PKiKP	16 56 07.3	+2.3
	comp=Z,13nm,0.9s						
CBX	Cerro Bola	111.63	344	IAMs_20	IAMs_20	17 43 50.0	
	comp=Z,7μm,21.0s						
ESJX	Sierra Juarez	111.76	343	IAMs_20	IAMs_20	17 51 22.4	
	comp=Z,7μm,20.0s						
VTX	Valle De La Tr	112.31	343	IAMs_20	IAMs_20	17 52 17.9	
	comp=Z,8μm,20.0s						
VNA3	Neumayer Olymp	112.33	197	⇑PKKPbc	PKKPbc	17 06 57.7	-0.8
	comp=Z,2.9nm,0.8s						
VNA3				⇑Pdiff	Pdif	16 52 18.5	+7.7
	comp=Z,2.0nm,0.9s						
VNA3				⇑PKiKP	PKiKP	16 56 07.8	+1.4
	comp=Z,12nm,0.9s						
VNA3				⇑PP	PP	16 56 49.8	-2.8
	comp=Z,36nm,1.1s						
TBTG	Tabatinga, AM	113.46	281	IAMs_20	IAMs_20	17 51 29.2	
	comp=Z,6μm,20.0s						
ETMB	Extrema	113.59	274	IAMs_20	IAMs_20	17 46 07.0	
	comp=Z,7μm,19.0s						
TGUH	Tegucigalpa,Un	114.33	309	IAMs_20	IAMs_20	17 40 05.7	
	comp=Z,6μm,22.0s						
CPUP	Villa Florida	114.58	254	PKP	PKiKP	16 56 12.1	+0.1
CPUP	comp=Z,7.4nm,0.8s,baz=58,slow=2.7,SNR=9.2						
				PKKPab	PKKPab	17 06 58.0	+2.7
	comp=Z,3.6nm,1.0s,baz=298,slow=3.8,SNR=3.3						
MGAN	Managua	115.07	307	IAMs_20	IAMs_20	17 45 54.4	
	comp=Z,5μm,21.0s						
CCIG	Comitan	115.64	314	IAMs_20	IAMs_20	17 52 19.9	
	comp=Z,6μm,19.0s						
ZAIG	Zacatecas	115.68	327	IAMs_20	IAMs_20	17 49 51.1	
	comp=Z,8μm,20.0s						
SNET	Serv Nac Est T	115.86	310	IAMs_20	IAMs_20	17 51 32.1	
	comp=Z,5μm,21.0s						
EIDS	Eidsvold	115.93	104	IAMs_20	IAMs_20	17 46 39.6	
	comp=Z,5μm,22.0s						
TOO	Toolangi	116.90	119		PKPdf	16 56 15.9	-0.3
TOO	Toolangi	116.90	119	PKiKP	PKPdf	16 56 15.9	-0.3
TOO				MLR	MLR		
	comp=Z,3μm,21.0s						
CZSB	Cruzeiro do Su	117.76	280	IAMs_20	IAMs_20	17 47 01.3	
	comp=Z,6μm,22.0s						
TLIG	Tlapa	118.19	321	IAMs_20	IAMs_20	17 52 01.9	
	comp=Z,5μm,21.0s						
LPAZ	La Paz	118.58	269	PKP	PKPdf	16 56 20.4	-0.3
	comp=Z,11nm,0.8s,baz=358,slow=0.5,SNR=28						
LPAZ				PKKPbc	PKKPab	17 06 41.6	+2.1
	comp=Z,1.4nm,0.7s,baz=281,slow=2.1,SNR=4.6						
CAN	Canberra	118.58	115	IAMs_20	IAMs_20	17 48 32.4	
	comp=Z,7μm,20.0s						
TAU	Tasmania Unive	120.21	124	IAMs_20	IAMs_20	17 52 01.9	
	comp=Z,7μm,19.0s						
HMH	Humu'ula Sheep	122.64	24	IAMs_20	IAMs_20	17 53 44.4	
	comp=Z,6μm,20.0s						
UWE	Uwekahuna	122.87	24	IAMs_20	IAMs_20	17 56 25.6	
	comp=Z,5μm,21.0s						
BYL	Byron's Ledge	122.89	24	IAMs_20	IAMs_20	17 46 48.1	
	comp=Z,5μm,20.0s						
KHU	Kahuku	122.92	24	IAMs_20	IAMs_20	17 54 06.0	
	comp=Z,5μm,20.0s						
TRQA	Tornquist	122.95	244	PKPdf	PKiKP	16 56 28.0	-0.1
TRQA	Tornquist	122.95	244	PKIKP	PKiKP	16 56 28.0	-0.1
TRQA				MLR	MLR		
	comp=Z,10μm,19.0s						
JOKA	Jonika Flow	122.95	23	IAMs_20	IAMs_20	18 00 20.8	
	comp=Z,6μm,20.0s						
STCH	Steam Cracks	122.96	24	IAMs_20	IAMs_20	17 56 52.9	
	comp=Z,6μm,20.0s						
HLP	Hilina Pali	122.98	24	IAMs_20	IAMs_20	17 56 48.5	
	comp=Z,5μm,20.0s						
NNA	Nana	123.50	279	IAMs_20	IAMs_20	17 59 31.6	
	comp=Z,4μm,19.0s						
QSPA	South Pole Qui	124.21	180	PKPdf	PKPdf	16 56 29.5	+0.1
QSPA	South Pole Qui	124.21	180	PKP	PKiKP	16 56 29.8	+0.2
	comp=Z,91nm,1.0s,baz=271,slow=1.0,SNR=62						
EFI	East Falkland	124.25	227	PKPdf	PKiKP	16 56 30.4	+0.3
EFI	East Falkland	124.25	227	PKIKP	PKiKP	16 56 30.4	+0.3
LHI	Lord Howe Isla	124.88	107	IAMs_20	IAMs_20	17 53 49.5	
	comp=Z,4μm,20.0s						
DZM	Mont Dzumac	126.98	93	IAMs_20	IAMs_20	17 58 10.4	
	comp=Z,5μm,20.0s						
DZM	Mont Dzumac	126.98	93	eP	PKiKP	16 56 38.1	+1.5
	comp=Z,205nm,1.2s						
DZM	Mont Dzumac	126.98	93	ePP	PP	16 58 29.9	-4.7
	comp=Z,384nm,27.8s						
DZM	Mont Dzumac	126.98	93	eSS	SS	17 15 43.0	+1.0
	comp=Z,2μm,26.4s						
DZM	Mont Dzumac	126.98	93	eLR	LR	17 36 14.2	
	comp=Z,13μm,37.4s						
DZM	Mont Dzumac	126.98	93	PKP	PKiKP	16 56 37.9	+1.3
	comp=Z,76nm,1.1s,baz=250,slow=7.4,SNR=9.6						
PLCA	Paso Flores	130.08	243	PKP	PKiKP	16 56 42.4	+0.1
	comp=Z,56nm,1.0s,baz=120,slow=2.1,SNR=34						
PLCA	Paso Flores	130.08	243	eP	PKPdf	16 56 41.8	+0.4
PYZ	Puysegur Point	134.39	123	IAMs_20	IAMs_20	17 56 37.2	
	comp=Z,5μm,19.0s						
MSVF	Nonsavu	134.48	81	IAMs_20	IAMs_20	18 04 05.0	
	comp=Z,5μm,20.0s						
MSVF	Nonsavu	134.48	81	PKP	PKiKP	16 56 51.3	-0.4
	comp=Z,14nm,0.8s,baz=248,slow=4.5,SNR=7.9						
MSVF				SKPbc	SKPbc	17 00 20.1	+0.7
	comp=Z,34nm,0.9s,baz=204,slow=2.8,SNR=16						
DCZ	Deep Cove	134.63	122	IAMs_20	IAMs_20	17 55 55.7	
	comp=Z,5μm,19.0s						
MLZ	Mavora Lakes	135.30	122	IAMs_20	IAMs_20	18 00 25.3	
	comp=Z,6μm,20.0s						
WKZ	Wanaka	135.87	121	IAMs_20	IAMs_20	17 57 47.4	
	comp=Z,5μm,20.0s						
LBZ	Lake Benmore	136.64	121	IAMs_20	IAMs_20	17 53 15.1	
	comp=Z,5μm,22.0s						
ODZ	Otahua Downs	137.04	121	IAMs_20	IAMs_20	18 01 50.4	
	comp=Z,5μm,19.0s						
INZ	Inchbonnie	137.35	118	IAMs_20	IAMs_20	17 53 48.0	
	comp=Z,5μm,22.0s						
OUZ	Omahuta	137.57	107	IAMs_20	IAMs_20	17 59 03.6	
	comp=Z,6μm,21.0s						
OXZ	Oxford	137.86	119	IAMs_20	IAMs_20	18 01 06.3	
	comp=Z,5μm,19.0s						
QRZ	Quartz Range	137.88	115	IAMs_20	IAMs_20	17 58 10.3	
	comp=Z,5μm,20.0s						
THZ	Tophouse	138.30	116	IAMs_20	IAMs_20	18 01 58.2	
	comp=Z,4μm,21.0s						
MQZ	McQueen's Vall	138.34	119	IAMs_20	IAMs_20	18 00 28.1	
	comp=Z,5μm,20.0s						
GVZ	Greta Valley S	138.54	118	IAMs_20	IAMs_20	17 58 00.5	
	comp=Z,5μm,21.0s						
NNZ	Nelson	138.58	115	IAMs_20	IAMs_20	18 03 42.7	
	comp=Z,5μm,19.0s						
KHZ	Kahutara	138.85	117	IAMs_20	IAMs_20	18 12 43.7	
	comp=Z,5μm,20.0s						
SNZO	South Karori	139.58	115	IAMs_20	IAMs_20	17 58 51.2	
	comp=Z,5μm,22.0s						
TOZ	Tauroa Road	139.62	110	IAMs_20	IAMs_20	17 56 47.7	
	comp=Z,4μm,20.0s						
MRZ	Mangatainoka R	140.15	114	IAMs_20	IAMs_20	18 06 56.5	
	comp=Z,4μm,20.0s						
BKZ	Black Stump Fm	140.64	112	IAMs_20	IAMs_20	18 03 20.4	
	comp=Z,4μm,21.0s						
URZ	Urewera	140.97	110	PKP	PKPdf	16 56 59.7	-1.9
	comp=Z,33nm,1.1s,baz=34,slow=3.6,SNR=5.7						
URZ				SKPbc	SKPbc	17 00 36.9	-0.7
	comp=Z,7.8nm,0.8s,baz=191,slow=3.3,SNR=3.5						
MXZ	Matakaoa Point	141.78	109	IAMs_20	IAMs_20	17 59 06.9	
	comp=Z,6μm,22.0s						
RAO	Raoul Island	142.75	94	IAMs_20	IAMs_20	18 05 06.8	
	comp=Z,6μm,19.0s						
CTZ	Chatham Island	146.11	119	IAMs_20	IAMs_20	17 56 52.8	
	comp=Z,5μm,22.0s						
RAR	Rarotonga	153.97	66	PKP	PKPdf	16 57 24.3	+0.8
	comp=Z,9.5nm,1.0s,baz=45,slow=2.3,SNR=0.9						
TAOE	Nuku Hiva Isla	154.02	13	IAMs_20	IAMs_20	18 07 39.5	
	comp=Z,6μm,22.0s						
TAOE	Nuku Hiva Isla	154.02	13	ePKIKP	PKPdf	16 57 20.6	-3.4
	comp=Z,359nm,1.3s						
TAOE	Nuku Hiva Isla	154.02	13	eLQ	LQ	17 42 13.1	
	comp=Z,8μm,35.6s						
TAOE				eLR	LR	17 48 50.1	
	comp=Z,10μm,23.6s						
PMOR	Pomariorio Ree	157.11	36	eP	PKPdf	16 57 30.4	+2.5
	comp=Z,268nm,1.2s						
PMOR	Pomariorio Ree	157.11	36	eLR	LR	17 50 13.6	
	comp=Z,11μm,24.5s						
VAH	Vaihoa	157.44	36	eP	PKPdf	16 57 34.5	+6.2
	comp=Z,114nm,1.1s						
VAH	Vaihoa	157.44	36	eLR	LR	17 50 27.1	
	comp=Z,13μm,25.0s						
PPT	Papeete	158.36	43	PKP	PKPdf	16 57 30.9	+1.5
	comp=Z,24nm,0.9s,baz=55,slow=6.1,SNR=4.9						
PPT2	Papeete2	158.38	43	ePKIKP	PKPdf	16 57 31.4	+1.9
	comp=Z,131nm,1.5s						
PPT2	Papeete2	158.38	43	ePP	PP	17 01 37.4	-6.0
	comp=Z,529nm,25.0s						
PPT2	Papeete2	158.38	43	eSS	SS	17 21 41.8	-1.6
	comp=Z,2μm,28.5s						
PPT2	Papeete2	158.38	43	eLR	LR	17 50 53.0	
	comp=Z,8μm,27.2s						
PPT2				eLR	LR	17 50 53.0	
	comp=Z,10μm,25.8s						
PAE	Paea	158.44	43	ePKIKP	PKPdf	16 57 31.4	+2.0
	comp=Z,58nm,1.4s						
PAE	Paea	158.44	43	eLR	LR	17 50 56.2	
	comp=Z,2μm,24.6s						
TBI	Tubuai	162.75	54	eP	PKPdf	16 57 36.6	+2.6
	comp=Z,201nm,1.2s						
TBI	Tubuai	162.75	54	ePP	PP	17 02 08.4	+1.2
	comp=Z,2μm,25.5s						
TBI	Tubuai	162.75	54	eSS	SS	17 22 24.7	-5.1
	comp=Z,9μm,29.2s						
TBI	Tubuai	162.75	54	eLQ	LQ	17 45 36.9	
	comp=Z,18μm,37.5s						
TBI				eLR	LR	17 52 54.1	
	comp=Z,62μm,27.5s						
TBI				eLR	LR	17 52 56.0	
	comp=Z,14μm,28.0s						

ISN **25** *16:41:09.2±0.9, 34°.30N×45°.64E, h15km±6km, ML4.6*
TEH **25** *16:41:11.1, 34°.37N×45°.71E, h9km, ML4.4*
ISC 25 16:41:10.2±1.1, 34°.31N±0°.05×45°.66E±0°.05, h11km±11km, n10, σ0°65/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.20	344	Pg	Pg	16 41 14.1	-0.5
KGS1				Sg	Sg	16 41 18.4	+0.8
GLG1	Gilan-e-Gharb	0.28	133	Pg	Pb	16 41 17.8	+0.4
IDHR	Dehrash	0.72	57	Pg	Pg	16 41 24.2	+0.1
IGHG	Ghaleghazi	0.75	88	Pg	Pb	16 41 25.2	-0.2
KCHF	Cheshme Sefid,	1.15	91	Pg	Pn	16 41 32.4	0.0
IBDR	Badra	1.22	169	ePg	Pn	16 41 31.5	-1.6
IBDR				eSg	Sb	16 41 48.5	-0.4
BHD	Baghdad	1.48	226	ePn	Pn	16 41 37.0	+0.2
BHD				eSn	Sb	16 41 57.0	+0.4
BHD				AML	AML	16 42 05.4	
	comp=E,12μm,0.9s						
IKRK	Kirkuk	1.54	316	ePn	Pn	16 41 37.5	-0.1
IKRK				eSn	Sg	16 41 59.5	-0.1
IKRK				AML	AML	16 42 01.8	
	comp=N,9μm,0.3s						
IKRK				AML	AML	16 42 02.7	
	comp=E,8μm,0.8s						
SDS1	Sardasht. Az.	1.84	356	Pg	Pb	16 41 43.8	-0.2
RAFI	Al-Rafai	2.61	171	ePn	Pn	16 41 52.5	+0.3
RAFI				eSn	Sn	16 42 24.5	+0.6
RAFI				AML	AML	16 42 32.4	
	comp=N,4μm,0.5s						
RAFI				AML	AML	16 42 47.3	
	comp=E,4μm,0.5s						

TAP 25 16:43:55.8, 24°.41N×121°.86E, h16km, ML2.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	Wuta	0.08	294	eP	Pg	16 43 58.9	-0.2
EWUT				eS	Sg	16 44 01.8	+0.6
ENA	Nanau	0.11	278	iP	Pg	16 43 59.3	0.0
ENA				eS	Sb	16 44 02.4	+0.3
EAHA	Aohua	0.14	233	eP	Pg	16 43 59.4	-0.3
EAHA				iS	Sb	16 44 02.8	0.0
ESAO	Su ao	0.16	355	P	Pg	16 43 59.8	-0.2
ESAO				eS	Sg	16 44 02.6	-0.2
TWC	Suao	0.20	357	P	Pg	16 44 00.3	-0.2
TWC				S	Sg	16 44 03.6	-0.1
NDS	Dongshan	0.26	329	P	Pg	16 44 01.8	+0.3
NDS				S	Sb	16 44 06.0	-0.3
ETL	Fush Village	0.33	220	eP	Pg	16 44 02.4	-0.3
ETL				iS	Sb	16 44 08.2	-0.3
NACB	Ninganchiao	0.34	225	iP	Pg	16 44 02.5	-0.4
NACB				eS	Sg	16 44 08.1	+0.4
EOS2	EOS2	0.34	89	iP	Pg	16 44 01.9	-0.9
EOS2				eS	Sg	16 44 07.4	-0.2
ENTT	Nioudou	0.35	310	iP	Pb	16 44 03.6	-0.2
ENTT				eS	Sb	16 44 09.0	0.0
TWE	Neicheng	0.35	330	P	Pg	16 44 03.4	+0.3
TWE				S	Sb	16 44 08.7	-0.4
ILA	Ilan	0.36	344	iS	Sb	16 44 09.3	-0.1
ETLH	Xiulin Townshi	0.40	239	eP	Pg	16 44 03.8	-0.3
ETLH				S	Sb	16 44 10.3	-0.3
TWD	Chiawan	0.41	216	P	Pb	16 44 04.9	+0.2
TWD				eS	Sn	16 44 12.8	-1.6
FUSB	Fushanzhiwuyua	0.42	324	iP	Pb	16 44 05.0	0.0
FUSB				S	Sb	16 44 11.2	0.0
NNSB	Datong	0.43	272	P	Pg	16 44 04.9	+0.2
NNSB				eS	Sb	16 44 11.4	-0.2
NNSH	Datong	0.43	272	P	Pg	16 44 04.8	+0.1
NNSH				eS	Sb	16 44 11.3	-0.2
EGS		0.43	9	eP	Pg	16 44 04.2	-0.4
EGS				S	Sg	16 44 10.4	-0.2
EOS3	EOS3	0.44	107	iP	Pg	16 44 03.4	-1.2
EOS3				eS	Sg	16 44 10.3	-0.2
NNS	Nan Shan	0.44	274	iP	Pg	16 44 05.0	+0.2
NNS				eS	Sb	16 44 11.4	-0.4
NWLT	Wulai	0.49	318	P	Pb	16 44 06.2	+0.1
NWLT				S	Sb	16 44 12.6	-0.4
YHNB	Yeheng	0.51	300	eP	Pb	16 44 06.5	0.0
YHNB				eS	Sb	16 44 13.9	+0.2
EOS4	EOS4	0.51	125	eP	Pg	16 44 04.8	-1.1
NSK	Sanguang	0.53	300	P	Pb	16 44 06.7	-0.1
NSK				eS	Sb	16 44 14.2	0.0
ETM	Tongmen	0.56	217	P	Pg	16 44 06.4	-0.5
ETM				eS	Sn	16 44 17.9	-0.1
TIPB	Shuangxi	0.56	357	eP	Pg	16 44 06.9	0.0
TIPB				iS	Sg	16 44 14.2	-0.2
LXIB	Xiulin Townshi	0.56	226	eP	Pg	16 44 06.8	-0.3
LXIB				iS	Sb	16 44 16.2	+0.9
FUSS	Fushou	0.58	254	P	Pb	16 44 07.7	-0.1
FUSS				eS	Sb	16 44 16.2	+0.1
WHF	Hehuan Shan	0.60	244	P	Pg	16 44 07.9	0.0
WHF				eS	Sb	16 44 18.1	+1.3
TWA	Mucha	0.62	336	eP	Pg	16 44 06.2	-1.9
TWA				eS	Sg	16 44 14.0	-2.3
TWT	Tachien	0.64	256	P	Pb	16 44 09.3	+0.5
TWT				eS	Sn	16 44 20.9	+0.4
SXI1	Grass Mountain	0.68	1	eP	Pg	16 44 09.2	0.0
SXI1				eS	Sg	16 44 18.2	0.0
SHUL	Shoufeng	0.68	204	eP	Pn	16 44 10.3	-0.5
SHUL				eS	Sn	16 44 23.3	+2.3
NFF	Wufeng Townshi	0.71	288	eP	Pb	16 44 10.3	+0.5
NFF				eS	Sn	16 44 20.9	-1.1
ESL	Shilin	0.71	213	eP	Pb	16 44 10.0	+0.1
ESL				eS	Sn	16 44 22.3	+0.4

RSNC ***25*** *16:45:05.4±0.0, 13°N±1°×8°1W±°, h1km±1km, M3.5, mb4.3, ML3.5*
IDC ***25*** *16:45:06.0±3.5, 13°.00N×81°.33W, h0km, mb3.5/2, mbtmp3.5/2, MS3.3/1, Error ellipse: s-maj=140.7km s-min=56.9km az=75.0*

ISC 25 16:45:05.7±0.7, 13°.11N±0°.04×81°.15W±0°.04, h10km, n17, σ1§77/27, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.33**	**321**	P	**Pg**	**16 45 11.0**	**-1.3**
PRVC				S	**Sg**	**16 45 15.2**	**-1.6**
SAIC	**Isla e San And**	**0.79**	**224**	P	**Pb**	**16 45 21.5**	**-0.1**
SAIC				S	**Sn**	**16 45 34.5**	**-0.3**
RNCC	**Cayo Roncador,**	**1.13**	**66**	P	**Pb**	**16 45 26.7**	**-0.6**
RNCC				S	**Sg**	**16 45 43.0**	**+0.9**
SERC	**Banco Serrana,**	**1.39**	**33**	P	**Pn**	**16 45 29.8**	**-1.4**
SERC				S	**Sn**	**16 45 48.6**	**-1.0**
BCIP	**Isla Barro Col**	**4.13**	**162**	P	**Pn**	**16 46 06.7**	**-2.1**
BCIP				S	**Sn**	**16 46 55.0**	**-2.2**
JTS	**Las Juntas de**	**4.66**	**233**	LR	LR	16 48 15.5	
	comp=Z,311nm,19.7s,baz=58,slow=43						
JTS	**Las Juntas de**	**4.66**	**233**	P	**Pn**	**16 46 17.0**	**+0.8**
JTS				S	**Sn**	**16 47 09.4**	**-1.0**
GMAL	**Guarumal, Vera**	**5.32**	**181**	P	**Pn**	**16 46 25.2**	**0.0**
	25nm,0.8s						
GMAL				S	**Sn**	**16 47 25.7**	**-0.9**
	25nm,0.8s						
AZU	**Azuero**	**5.36**	**171**	P	**Pn**	**16 46 24.6**	**-1.2**
	23nm,1.6s						
AZU				S	**Sn**	**16 47 25.9**	**-1.7**
	23nm,1.6s						
CACAO	**El Cacao, Vera**	**5.74**	**177**	P	**Pn**	**16 46 32.2**	**+1.2**
	37nm,0.8s						
CACAO				S	**Sn**	**16 47 39.6**	**+2.6**
	37nm,0.8s						
MTDJ	**Mount Denham**	**6.16**	**34**	P	**Pn**	**16 46 38.0**	**+1.1**
	28nm,1.7s						
LCBC	**Los crdobas,**	**6.32**	**132**	P	**Pn**	**16 46 40.2**	**+1.2**
	101nm,1.0s						
LCBC				S	**Sn**	**16 47 53.6**	**+2.3**
	101nm,1.0s						
SJCC	**San Jacinto, C**	**6.67**	**118**	P	**Pn**	**16 46 41.8**	**-2.0**
SJCC				S	**Sn**	**16 47 56.1**	**-3.9**
TXAR	**Lajitas Array**	**26.40**	**311**	P	**P**	**16 50 42.6**	**0.0**
	0.4nm,0.6s,baz=131,slow=9.7,SNR=2.5						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**67.96**	**335**	P	**P**	**16 56 08.4**	**+3.8**
	0.4nm,0.6s,baz=101,slow=4.9,SNR=0.9						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**145.21**	**247**	PKPbc	**PKPbc**	**17 04 43.8**	**-0.4**
	0.4nm,0.8s,baz=110,slow=3.3,SNR=1.7						
WRA	**Warramunga Arr**	**145.36**	**254**	PKPbc	**PKPdf**	**17 04 45.2**	**+0.4**
	0.6nm,0.7s,baz=89,slow=3.7,SNR=2.2						

RSNC 25 16:46:47.7±0.0, 13°N±1°×8°1W±°, h0km±1km, M3.4, mb4.5, mB6.2, ML3.4, Mw(mB)5.9, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.23**	**320**	P	Pg	16 46 53.5	+1.4
PRVC				S	Sg	16 46 57.9	+2.8
SAIC	**Isla e San And**	**0.82**	**217**	P	Pg	16 47 03.8	+0.3
SAIC				S	Sb	16 47 17.1	+0.6
RNCC	**Cayo Roncador,**	**1.15**	**71**	P	Pg	16 47 09.2	-0.6
RNCC				S	Sg	16 47 25.3	+0.6
SERC	**Banco Serrana,**	**1.36**	**37**	P	Pg	16 47 12.3	-1.4
SERC				S	Sg	16 47 30.4	-1.0
BCIP	**Isla Barro Col**	**4.23**	**161**	P	Pn	16 47 53.2	-0.2
BCIP				S	Sn	16 48 37.4	-6.2
JTS	**Las Juntas de**	**4.67**	**232**	P	Pn	16 47 59.4	-0.1
AZU	**Azuero**	**5.45**	**170**	P	Pn	16 48 06.9	-3.4
	53nm,1.2s						
AZU				S	Sn	16 49 08.7	-5.1
	53nm,1.2s						
CACAO	**El Cacao, Vera**	**5.83**	**177**	P	Pn	16 48 14.9	-0.6
	53nm,1.3s						
CACAO				S	Sn	16 49 20.3	-2.7
	53nm,1.3s						
LCBC	**Los crdobas,**	**6.42**	**132**	P	Pn	16 48 23.0	-0.6
	107nm,0.7s						
LCBC				S	Sn	16 49 36.7	-0.9
	107nm,0.7s						
SJCC	**San Jacinto, C**	**6.76**	**118**	P	Pn	16 48 23.8	-4.5
	21nm,1.1s						
SJCC				S	Sn	16 49 38.4	-7.7
	21nm,1.1s						
CRJC	**Cerrejon, Guaj**	**8.43**	**104**	P	Pn	16 48 54.6	+3.3
CRJC				S	Sn	16 50 18.1	-9.1

ISN ***25*** *17:01:46.1±0.4, 34°.34N×45°.65E, h6km±2km, ML3.6*
TEH ***25*** *17:01:46.3, 34°.30N×45°.65E, h10km±21km, ML3.7*

ISC 25 17:01:46.9±1.1, 34°.33N±0°.03×45°.66E±0°.04, h10km±10km, n20, σ1§10/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.19**	**341**	Pg	**Pg**	**17 01 50.7**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.29**	**136**	Pg	**Pg**	**17 01 52.7**	**-0.2**
IDHR	**Dehrash**	**0.70**	**58**	Pg	**Pg**	**17 02 00.5**	**-0.1**
IGHG	**Ghaleghazi**	**0.75**	**89**	Pg	**Pb**	**17 02 01.7**	**-0.5**
ILBA	**Ilam Banvizeh**	**0.83**	**147**	Pg	**Pg**	**17 02 02.2**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.14**	**92**	Pg	**Pn**	**17 02 08.8**	**-0.4**
KCHF				Sg	**Sn**	**17 02 25.9**	**+1.0**
ILIN	**Lien**	**1.22**	**61**	Pg	**Pn**	**17 02 10.3**	**0.0**
IBDR	**Badra**	**1.23**	**170**	*e*Pg	**Pg**	**17 02 10.0**	**-0.6**
IBDR				*e*Sg	**Sn**	**17 02 27.5**	**+0.6**
IBDR				AML	AML	17 02 39.5	
	comp=E,934nm,0.5s						
IBDR				AML	AML	17 02 44.0	
	comp=N,665nm,0.6s						
BHD	**Baghdad**	**1.50**	**226**	*e*Pn	**Pg**	**17 02 15.0**	**-0.7**
BHD				*e*Sn	**Sg**	**17 02 36.5**	**+1.3**
BHD				AML	AML	17 02 49.7	
	comp=E,2μm,0.5s						
IKRK	**Kirkuk**	**1.53**	**315**	*e*Pn	**Pg**	**17 02 15.5**	**-0.7**
IKRK				*e*Sn	**Sg**	**17 02 37.2**	**+1.2**
IKRK				AML	AML	17 02 39.3	
	comp=E,2μm,0.3s						
IKRK				AML	AML	17 02 52.0	
	comp=N,1μm,0.6s						
SNQR	**Sonqor, Kerman**	**1.71**	**71**	Pg	**Pb**	**17 02 17.9**	**-0.6**
SDS1	**Sardasht. Az.**	**1.82**	**355**	Pn	**Pb**	**17 02 20.4**	**-0.1**
IDOB	**Doab**	**2.16**	**104**	Pn	**Pn**	**17 02 24.1**	**+1.0**
MAHB	**Mahabad**	**2.44**	**1**	Pn	**Pb**	**17 02 29.3**	**-1.6**
RAFI	**Al-Rafai**	**2.62**	**172**	*e*Pn	**Pn**	**17 02 31.0**	**+1.7**
RAFI				*e*Sn	**Sb**	**17 03 04.0**	**-2.3**
RAFI				AML	AML	17 03 17.9	
	comp=N,294nm,0.5s						
RAFI				AML	AML	17 03 19.7	
	comp=E,317nm,0.5s						
IQOM	**Qom**	**4.49**	**82**	Pn	**Pn**	**17 02 56.7**	**+1.5**
QAMS	**Qamsar**	**4.80**	**95**	Pn	**Pn**	**17 03 00.7**	**+1.2**
IKLH	**Kolahrood**	**5.03**	**100**	Pn	**Pn**	**17 03 04.1**	**+1.5**
IZEF	**Zefreh**	**5.74**	**103**	Pn	**Pn**	**17 03 13.3**	**+0.8**
IRAM	**Ramesheh**	**6.17**	**112**	Pn	**Pn**	**17 03 18.4**	**0.0**

NAO ***25*** *17:09:21.2, 32°.78N×47°.26E, h33km, mb4.5*
MOS ***25*** *17:09:33.6±1.3, 34°.28N×45°.71E, h10km, mb5.3/65, MS4.7/9, Error ellipse: s-maj=4.8km s-min=3.0km az=106.0*
IDC ***25*** *17:09:33.9±0.4, 34°.33N×45°.68E, h0km, mb4.9/29, mbtmp4.9/40, ML4.9/8, MS5.1/6, Error ellipse: s-maj=9.5km s-min=8.7km az=114.0*
BJI ***25*** *17:09:35.0, 34°.30N×45°.80E, h10km, mb5.0/72, Ms5.6/8, Ms7 5.3/8*
GII ***25*** *17:09:36.0±0.6, 34°.43N×45°.69E, h10km, Mws5.3, confirmed*
TEH ***25*** *17:09:36.4, 34°.35N×45°.67E, h7km±16km, ML5.2*
NEIC ***25*** *17:09:36, 34°.42N×45°.72E, h18km*
NEIC ***25*** *17:09:36, 34°.32N×45°.72E, h18km, Moment Tensor Solution. Duration: 1§1.0 Moment tensor: Scale 10^16 Nm; Mrr8.48; Mθθ-2.07; Mφφ-6.41; Mrθ2.34; Mθφ4.08; Mφr1.46; Fault plane solution: M0 9.10000×10^16 NP1: φs345.43000°, δ47.63000°, λ113.49000°. NP2: φs132.61000°, δ47.35000°, λ66.39000°. Principal axes: T 9.3311, Plg73.0000°, Azm329.0000°; N -0.4661, Plg17.0000°, Azm149.0000°; P -8.8651, Plg0.0000°, Azm59.0000°;*
ISN ***25*** *17:09:36.0±0.5, 34°.35N×45°.67E, h17km±5km, ML5.3*
NEIC ***25*** *17:09:36.0±1.9, 34°.42N±0°.06×45°.72E±0°.09, h10km±1km, mb5.2/148, Mww5.2/19, Error ellipse: s-maj=12.3km s-min=10.2km az=120.0*
GCMT ***25*** *17:09:40.0±0.3, 34°.28N±0°.02×45°.42E±0°.02, h19km±1km, MW5.3/98, Moment Tensor Solution. s16,c19; s98,c171; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr0.96±.08; Mθθ-0.32±.04; Mφφ-0.64±.05; Mrθ0.70±.10; Mθφ0.47±.02; Mφr-0.51±.08; Best double couple: M0 1.30300×10^17 NP1:φs133.00000°, δ66.00000°, λ80.00000°. NP2:φs336.00000°, δ26.00000°, λ111.00000°. Principal axes: T 1.3140, Plg67.0000°, Azm24.0000°; N -0.0220, Plg9.0000°, Azm137.0000°; P -1.2930, Plg21.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DSN ***25*** *17:09:40.0±0.5, 34°.12N×45°.72E, h43km±16km, mb5.4/3 Error ellipse: s-maj=10.9km s-min=4.4km az=52.0*

ISC 25 17:09:37.3±0.4, 34°.29N±0°.02×45°.71E±0°.02, h20km±1km, h20km:pP-P, n1073, σ1§75/1139, mb5.1/222, MS5.1/9, 47C-36D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.24**	**336**	Pg	**Pb**	**17 09 40.1**	**-2.8**
GLG1	**Gilan-e-Gharb**	**0.24**	**136**	Pg	**Pb**	**17 09 43.0**	**0.0**
IDHR	**Dehrash**	**0.70**	**54**	Pg	**Pb**	**17 09 49.9**	**-1.0**
IGHG	**Ghaleghazi**	**0.72**	**86**	Pg	**Pg**	**17 09 51.4**	**-0.1**
ILBA	**Ilam Banvizeh**	**0.78**	**148**	Pg	**Pg**	**17 09 52.9**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.11**	**90**	Pg	**Pg**	**17 09 58.6**	**-0.2**
IBDR	**Badra**	**1.19**	**171**	*e*Pn	**Pg**	**17 10 01.0**	**+0.6**
IBDR				*e*Sn	**Sg**	**17 10 18.5**	**+2.5**
IBDR				AML	AML	17 10 23.3	
	comp=N,78μm,0.3s						
IBDR				AML	AML	17 10 23.5	
	comp=E,87μm,0.6s						
ILIN	**Lien**	**1.21**	**58**	Pg	**Pb**	**17 09 59.7**	**0.0**
BHD	**Baghdad**	**1.50**	**228**	*e*Pn	**Pb**	**17 10 04.0**	**-0.5**
BHD				*e*Sn	**Sg**	**17 10 25.0**	**-0.8**
BHD				AML	AML	17 10 35.9	
	comp=E,58μm,0.7s						
IKRK	**Kirkuk**	**1.58**	**315**	*e*Pn	**Pn**	**17 10 04.2**	**0.0**
IKRK				*e*Sn	**Sb**	**17 10 25.0**	**-0.4**
SNQR	**Sonqor, Kerman**	**1.69**	**70**	Pg	**Pb**	**17 10 08.1**	**+0.3**
SDS1	**Sardasht. Az.**	**1.87**	**355**	Pn	**Pb**	**17 10 10.0**	**-0.8**
IDOB	**Doab**	**2.11**	**103**	Pn	**Pb**	**17 10 14.7**	**-0.3**
MAHB	**Mahabad**	**2.47**	**0**	Pn	**Pn**	**17 10 18.3**	**+1.7**
RAFI	**Al-Rafai**	**2.58**	**172**	*e*Pn	**Pn**	**17 10 20.0**	**+2.1**
RAFI				*e*Sn	**Sb**	**17 10 52.0**	**-2.2**
RAFI				AML	AML	17 11 08.8	
	comp=N,12μm,0.8s						
RAFI				AML	AML	17 11 10.1	
	comp=E,13μm,0.9s						
NGD1	**Naghade .Az. G**	**2.66**	**355**	Pn	**Pn**	**17 10 21.1**	**+1.8**
IHSH	**Hashtrud**	**3.27**	**22**	Pn	**Pn**	**17 10 29.7**	**+2.0**
IAZR	**Azarshahr**	**3.39**	**4**	Pn	**Pn**	**17 10 31.3**	**+1.9**
QABG	**Abgarm-Qazvin**	**3.48**	**65**	Pn	**Pn**	**17 10 33.2**	**+2.6**
CSN1	**Caspian**	**4.27**	**39**	Pn	**Pn**	**17 10 43.5**	**+2.4**
IMRD	**Marand**	**4.42**	**360**	Pn	**Pn**	**17 10 44.9**	**+1.5**
IQOM	**Qom**	**4.46**	**81**	Pn	**Pn**	**17 10 46.0**	**+1.9**
GEVA	**Gevas**	**4.55**	**333**	Pn	**Pn**	**17 10 47.1**	**+1.9**
IPIR	**Pirpir**	**4.62**	**109**	Pn	**Pn**	**17 10 48.0**	**+1.8**
JHBN	**Jahan bin**	**4.63**	**115**	Pn	**Pn**	**17 10 48.4**	**+1.9**
QAMS	**Qamsar**	**4.76**	**95**	Pn	**Pn**	**17 10 51.4**	**+3.2**
GAS1	**Astara - Iran**	**4.81**	**31**	Pn	**Pn**	**17 10 50.9**	**+2.3**
ZNGN	**Zangjan**	**4.83**	**115**	Pn	**Pn**	**17 10 50.8**	**+1.6**
GRMI	**Germi**	**4.84**	**21**	Pn	**Pn**	**17 10 51.3**	**+2.1**
KLST	**Kelardasht - M**	**4.91**	**62**	Pn	**Pn**	**17 10 53.1**	**+2.9**
IKLH	**Kolahrood**	**4.99**	**100**	Pn	**Pn**	**17 10 54.5**	**+3.2**
IVRN	**Varamin**	**5.01**	**80**	Pn	**Pn**	**17 10 54.3**	**+2.8**
MAKU	**Maku**	**5.12**	**351**	Pn	**Pn**	**17 10 54.5**	**+1.4**
GURO	**Guroymak-BITLI**	**5.18**	**326**	Pn	**Pn**	**17 10 54.4**	**+0.5**
IBRJ	**Brojen**	**5.23**	**115**	Pn	**Pn**	**17 10 56.1**	**+1.4**
MZPU	**Pul - Mazandar**	**5.25**	**64**	Pn	**Pn**	**17 10 57.9**	**+3.0**
ABEH	**Behbahan**	**5.32**	**132**	Pn	**Pn**	**17 10 58.7**	**+3.1**
KRSH	**Karshahi**	**5.34**	**92**	Pn	**Pn**	**17 10 58.9**	**+2.8**
IDMV	**Damavand**	**5.35**	**74**	Pn	**Pn**	**17 10 57.9**	**+1.5**
ISFB	**Sefidab**	**5.41**	**87**	Pn	**Pn**	**17 10 59.3**	**+2.4**
IGAR	**Gharneh**	**5.63**	**108**	Pn	**Pn**	**17 11 01.5**	**+1.4**
IZEF	**Zefreh**	**5.70**	**102**	Pn	**Pn**	**17 11 03.0**	**+2.0**
IPRN	**Peran**	**5.77**	**68**	Pn	**Pn**	**17 11 04.9**	**+3.0**
GNI	**Garni**	**5.90**	**353**	Pn	**Pn**	**17 11 06.2**	**+2.5**
GNI	**Garni**	**5.90**	**353**	P	**Pn**	**17 11 06.5**	**+2.7**
GNI	**Garni**	**5.90**	**353**	Pn	**Pn**	**17 11 05.7**	**+1.9**
	comp=E,7.9nm,0.3s,baz=194,slow=2.9,SNR=50						
GNI				Sn	**Sn**	**17 12 13.7**	**+2.8**
	comp=E,28nm,0.3s,baz=22,slow=22,SNR=3.1						
	comp=E,139nm,0.9s						
GNI	**Garni**	**5.90**	**353**	P	**Pn**	**17 11 07.3**	**+3.5**
IFIR	**Firoozkooh**	**5.94**	**75**	Pn	**Pn**	**17 11 07.6**	**+3.1**
KLNJ	**Kolanjah**	**5.95**	**122**	Pn	**Pn**	**17 11 05.6**	**+1.0**
ILAS	**Lasjerd**	**6.07**	**78**	Pn	**Pn**	**17 11 08.2**	**+2.1**
IALA	**Alasht**	**6.09**	**71**	Pn	**Pn**	**17 11 09.2**	**+2.7**
IRAM	**Ramesheh**	**6.13**	**112**	Pn	**Pn**	**17 11 08.3**	**+1.3**
KARS	**Kars**	**6.66**	**343**	Pn	**Pn**	**17 11 14.0**	**-0.2**
KARS	**Kars**	**6.66**	**343**	P	**Pn**	**17 11 14.0**	**-0.2**
ANAR	**Anarak**	**6.77**	**97**	Pn	**Pn**	**17 11 17.8**	**+2.0**
IKIA	**Kiasar**	**6.80**	**71**	Pn	**Pn**	**17 11 19.0**	**+2.8**
KAZ2	**Kazeron-Fars-I**	**6.88**	**131**	Pn	**Pn**	**17 11 18.5**	**+1.4**
IGLO	**Ghaloghah**	**6.99**	**69**	Pn	**Pn**	**17 11 21.7**	**+2.9**
ISAD	**Sadrabad**	**7.10**	**107**	Pn	**Pn**	**17 11 21.7**	**+1.3**
AHBU	**AHRAM**	**7.21**	**137**	Pn	**Pn**	**17 11 23.2**	**+1.7**
AKT	**Akhty**	**7.36**	**12**	*e*P	**Pn**	**17 11 27.5**	**+3.8**
AKT				*e*S	**Sn**	**17 12 55.1**	**+8.5**
AKT				pmax	pmax		
	comp=Z,41nm,0.6s						
AKT				smax	smax		
	comp=E,71nm,0.6s						
AKT				smax	smax		
	comp=N,121nm,1.0s						
AKT				MLR	MLR		
	comp=Z,9μm,13.0s						
SHI	**Shiraz**	**7.41**	**127**	Pn	**Pn**	**17 11 26.2**	**+1.7**
GAZ	**Gaziantep**	**7.48**	**295**	Pn	**Pn**	**17 11 25.1**	**-0.3**
ICHK	**Chekchek**	**7.57**	**103**	Pn	**Pn**	**17 11 27.2**	**+0.4**
DSBU	**Dashti - Bushe**	**7.58**	**140**	Pn	**Pn**	**17 11 28.3**	**+1.5**
ASF	**Jabal al Asfar**	**7.67**	**256**	Pn	**Pn**	**17 11 27.4**	**-0.7**
	comp=Z,7.6nm,0.3s,baz=201,slow=0.0,SNR=28						
ASF				LR	LR	17 15 25.5	
	comp=Z,11μm,19.7s,baz=147,slow=46						
	comp=Z,21nm,0.3s						
ASF	**Jabal al Asfar**	**7.67**	**256**	P	**Pn**	**17 11 28.4**	**+0.3**
IMEH	**Mehriz**	**8.03**	**109**	Pn	**Pn**	**17 11 34.0**	**+0.8**
HSUJ	**Al Zarqa**	**8.26**	**257**	P	Pb	17 11 48.7	-11
KSHT	**Keshet**	**8.35**	**264**	P	**Pn**	**17 11 37.7**	**+0.4**
NATI	**Neve Ativ**	**8.36**	**266**	P	**Pn**	**17 11 36.5**	**-0.9**
NATI	**Neve Ativ**	**8.36**	**266**	P	**Pn**	**17 11 37.4**	**0.0**
IMND	**Minoodasht**	**8.42**	**67**	Pn	**Pn**	**17 11 40.9**	**+2.7**
GEM	**Giv'at Ha'Em**	**8.43**	**265**	P	**Pn**	**17 11 39.8**	**+1.4**
GEM	**Giv'at Ha'Em**	**8.43**	**265**	P	**Pn**	**17 11 38.4**	**0.0**
SHMJ	**Saham**	**8.45**	**262**	P	**Pn**	**17 11 41.4**	**+2.8**
QIR1	**Qir**	**8.54**	**131**	Pn	**Pn**	**17 11 40.1**	**+0.2**
SWQJ	**Swaqa**	**8.67**	**252**	P	Pn	17 11 50.1	+8.4
MMA0	**Mount Meron ar**	**8.68**	**264**	P	Pn	17 11 49.1	+7.2
MMA0	**Mount Meron ar**	**8.68**	**264**	P	**Pn**	**17 11 41.2**	**-0.6**
MMAI	**Mount Meron Ar**	**8.68**	**264**	Pn	**Pn**	**17 11 41.3**	**-0.5**
	comp=Z,7.6nm,0.3s,baz=82,slow=16,SNR=31						
MMAI				Sn	**Sn**	**17 13 18.8**	**-0.5**
	comp=Z,6.5nm,0.3s,baz=74,slow=15,SNR=1.3						
MMAI				LR	LR	17 15 47.2	
	comp=Z,8μm,18.2s,baz=318,slow=43						
	comp=Z,5.3nm,0.3s						
QRNJ	**Al-Qirein**	**8.70**	**260**	P	**Pn**	**17 11 43.1**	**+1.1**
HMDT	**Nahal Hemdat**	**8.76**	**259**	P	Pn	17 11 49.9	+7.0
HMDT	**Nahal Hemdat**	**8.76**	**259**	P	**Pn**	**17 11 43.9**	**+1.1**
MAK	**Makhachkala**	**8.77**	**9**	↓*i*P	**Pn**	**17 11 43.3**	**+0.3**
MAK				*e*S	**Sn**	**17 13 24.2**	**+3.0**
MAK				pmax	pmax		
	comp=Z,569nm,1.6s						
MAK				MLR	MLR		
	comp=Z,9μm,14.0s						
MMLI	**Mount Malkishu**	**8.80**	**261**	P	**Pn**	**17 11 44.7**	**+1.3**
JHRM	**Jahrom**	**8.86**	**128**	Pn	**Pn**	**17 11 44.6**	**+0.3**
HNTI	**Hanita**	**8.86**	**265**	P	Pn	17 11 51.6	+7.4
UJAP	**Al Uja**	**8.90**	**258**	P	**Pn**	**17 11 47.6**	**+2.9**
UJAP	**Al Uja**	**8.90**	**258**	P	**Pn**	**17 11 44.9**	**+0.2**
BLGI	**Bet Lehem HaGe**	**8.92**	**263**	P	Pn	17 11 52.6	+7.6
BLGI	**Bet Lehem HaGe**	**8.92**	**263**	P	**Pn**	**17 11 44.6**	**-0.4**
GHAJ	**Ghor Haditha**	**9.04**	**254**	Pn	**Pn**	**17 11 46.3**	**-0.4**
GHAJ	**Ghor Haditha**	**9.04**	**254**	P	**Pn**	**17 11 46.6**	**0.0**
GHAJ	**Ghor Haditha**	**9.04**	**254**	P	**Pn**	**17 11 47.0**	**+0.3**
TNSJ	**Nastanj**	**9.05**	**89**	Pn	**Pn**	**17 11 49.6**	**+2.7**
SALP	**Salfit**	**9.09**	**259**	P	Pn	17 11 54.4	+7.0
SALP	**Salfit**	**9.09**	**259**	P	**Pn**	**17 11 48.1**	**+0.8**
DSI	**Dead Sea**	**9.09**	**256**	P	**Pn**	**17 11 47.9**	**+0.5**
DSI	**Dead Sea**	**9.09**	**256**	P	**Pn**	**17 11 47.5**	**+0.1**
OFRI	**`Ofer**	**9.11**	**262**	P	Pn	17 11 53.8	+6.1
OFRI	**`Ofer**	**9.11**	**262**	P	**Pn**	**17 11 48.5**	**+0.8**
LISJ	**El Lisan**	**9.13**	**253**	P	**Pn**	**17 11 49.3**	**+1.4**
BNN	**Bunyan**	**9.14**	**303**		**Pn**	**17 11 48.6**	**+0.4**
SLTI	**Sal'it**	**9.16**	**260**	P	**Pn**	**17 11 50.3**	**+1.9**
SLTI	**Sal'it**	**9.16**	**260**	P	**Pn**	**17 11 48.9**	**+0.6**
MSBI	**Mazada**	**9.20**	**254**	P	**Pn**	**17 11 49.6**	**+0.8**
TPRV	**Parvadeh(Tabas**	**9.24**	**95**	Pn	**Pn**	**17 11 51.7**	**+2.1**
NCK	**Nalchik**	**9.34**	**350**	*i* P	**Pn**	**17 11 52.7**	**+1.9**
YTIR	**Yattir**	**9.38**	**255**	P	Pn	17 11 56.4	+5.0
HSNJ	**Maan**	**9.38**	**247**	P	Pn	17 11 57.0	+5.5
LMD1	**Lamerd**	**9.44**	**135**	Pn	**Pn**	**17 11 53.2**	**+1.0**
TAPT	**Tabas- Tapeh t**	**9.46**	**83**	Pn	**Pn**	**17 11 53.7**	**+1.1**
AMAZ	**Amatzia**	**9.48**	**256**	P	Pn	17 12 01.6	+8.9
AMAZ	**Amatzia**	**9.48**	**256**	P	**Pn**	**17 11 53.9**	**+1.2**
TKDS	**Koohdasht(Taba**	**9.51**	**91**	Pn	**Pn**	**17 11 56.5**	**+3.2**
SHMA	**Al-Shehemyia**	**9.56**	**150**	P	**Pn**	**17 11 54.4**	**+0.7**
SHMA				S	**Sn**	**17 13 39.2**	**-1.4**
ZFRI	**Zfri**	**9.64**	**250**	P	Pn	17 11 59.9	+4.9
KBZ	**Khabaz**	**9.68**	**348**	Pn	**Pn**	**17 11 58.5**	**+3.1**
	comp=Z,95nm,1.0s,baz=174,slow=8.8,SNR=84						
PRNI	**Paran**	**9.87**	**250**	P	**Pn**	**17 12 00.8**	**+2.7**
PRNI	**Paran**	**9.87**	**250**	P	**Pn**	**17 11 57.8**	**-0.3**
KHGB	**Koh Gabri**	**9.91**	**110**	Pn	**Pn**	**17 12 00.0**	**+1.2**
KVAR	**Kislovodsk Arr**	**9.93**	**347**	LR	LR	17 15 41.9	
	comp=Z,7μm,18.5s,baz=26,slow=37						
KIV	**Kislovodsk**	**9.93**	**347**		**Pn**	**17 12 03.0**	**+4.0**
KIV	**Kislovodsk**	**9.93**	**347**	P	**Pn**	**17 12 03.0**	**+4.0**
KIV	**Kislovodsk**	**9.93**	**347**	P	Pn	17 12 04.0	+5.0
KIV	**Kislovodsk**	**9.93**	**347**	*e*P	**Pn**	**17 11 59.8**	**+0.8**
KIV				*e*S	**Sn**	**17 13 53.0**	**+3.1**
KIV				pmax	pmax		
	comp=Z,305nm,1.1s						
KIV				MLR	MLR		
	comp=Z,3μm,12.0s						
LAR1	**LAR**	**9.94**	**129**	Pn	**Pn**	**17 11 58.2**	**-0.9**
SBZV	**Sabzevar**	**9.95**	**74**	Pn	**Pn**	**17 12 02.8**	**+3.5**
HRFI	**Mount Harif**	**9.98**	**248**	S	**Sn**	**17 13 53.4**	**+2.3**
HRFI	**Mount Harif**	**9.98**	**248**	P	**Pn**	**17 12 00.1**	**+0.4**
KZIT	**Kziot**	**10.12**	**254**	P	Pn	17 12 06.9	+5.4
AQBJ	**Aqaba**	**10.12**	**246**	P	**Pn**	**17 12 02.3**	**+0.8**
VSLR	**Vesyoloye**	**10.17**	**336**	P	**Pn**	**17 12 03.5**	**+1.4**
VSLR				pmax	pmax		
	comp=Z,179nm,1.1s						
KRMI	**Paran Flat**	**10.19**	**249**	P	**Pn**	**17 12 02.2**	**-0.3**
MBRI	**Mt Berech**	**10.19**	**247**	P	**Pn**	**17 12 03.2**	**+0.6**
MBRI	**Mt Berech**	**10.19**	**247**	P	**Pn**	**17 12 02.9**	**+0.3**
CSS	**Mathiatis**	**10.22**	**277**	P	Pn	17 12 08.7	+5.8
CSS	**Mathiatis**	**10.22**	**277**	P	**Pn**	**17 12 03.0**	**+0.1**
EIL	**Elat**	**10.22**	**246**	Pn	**Pn**	**17 12 02.5**	**-0.4**
	comp=Z,4.5nm,0.3s,baz=46,slow=7.2,SNR=21						
EIL				LR	LR	17 17 07.7	
	comp=Z,10μm,18.0s,baz=58,slow=44						
	comp=Z,13nm,0.4s						
EIL	**Elat**	**10.22**	**246**	P	**Pn**	**17 12 02.5**	**-0.4**
TVBK	**TV Kerman**	**10.31**	**112**	Pn	**Pn**	**17 12 05.2**	**+0.8**
SOC	**Sochi**	**10.38**	**335**	*e*P	**Pn**	**17 12 06.1**	**+1.0**
SOC				*e*		17 14 06.3	
S

FAQ Al Faqa, Dubai 12.82 135 P **Pn 17 12 39.1 +0.6**
SNR=11
FAQ S **Sn 17 14 57.4 -3.2**
MDH Madha 12.83 131 *i* P **Pn 17 12 37.8 -0.9**
SNR=58
MDH Madha 12.83 131 P **Pn 17 12 37.5 -1.1**
SNR=23
MDH P **Pn 17 12 38.0 -0.7**
SNR=58
MDH S **Sn 17 14 56.2 -4.6**
HATD Hatta, Dubai 13.08 133 *i* P **Pn 17 12 41.4 -0.6**
SNR=47
HATD Hatta, Dubai 13.08 133 P **Pn 17 12 41.8 -0.2**
SNR=47
HATD S **Sn 17 15 02.0 -4.9**
MDUB Mudurnu 13.08 302 Pn 17 12 44.6 +2.6
ASHO Ashiyiah 13.14 134 *i* P **Pn 17 12 42.1 -0.7**
SNR=108
ASHO Ashiyiah 13.14 134 P **Pn 17 12 42.1 -0.7**
SNR=108
ASHO S **Sn 17 15 02.6 -5.9**
MZR Muzera 13.15 147 *i* P **Pn 17 12 42.7 -0.2**
SNR=39
MZR Muzera 13.15 147 P **Pn 17 12 42.9 -0.1**
SNR=38
MZR S **Sn 17 15 03.3 -5.3**
ALNE Al Ain 13.44 137 *i* P **Pn 17 12 46.5 -0.5**
SNR=49
ALNE Al Ain 13.44 137 P **Pn 17 12 46.1 -0.9**
SNR=73
ALNE S **Sn 17 15 10.1 -5.7**
JASK Jask - Hormozg 13.46 125 Pn **Pn 17 12 43.7 -3.4**
JASK Jask - Hormozg 13.46 125 P **Pn 17 12 45.8 -1.4**
SNR=14
JASK S **Sn 17 15 12.1 -4.0**
HRA Herat 13.67 85 Pn 17 12 51.6 +1.4
ZHDN Zahedan 13.73 107 Pn **Pn 17 12 53.1 +2.1**
SOHO SOHO 13.84 134 *i* P **Pn 17 12 51.0 -1.3**
SNR=42
SOHO SOHO 13.84 134 P **Pn 17 12 51.1 -1.3**
SOHO S **Sn 17 15 20.7 -4.8**
SIM Simferopol' 13.88 324 *eP* **Pn 17 12 52.1 -0.7**
SIM pmax pmax
comp=Z,8.0nm,0.9s
UMZA Um Al Zommool 14.20 142 P **Pn 17 12 56.3 -1.1**
UMZA S **Sn 17 15 29.9 -4.5**
KULA Kula-Manisa 14.36 292 P **Pn 17 13 02.7 +3.2**
YER Yerkesik 14.44 286 P **P 17 13 06.5 -0.8**
ARQ Araqi 14.44 136 P **Pn 17 12 59.6 -1.1**
SNR=18
ARQ S **Sn 17 15 35.8 -4.5**
HOQ Hoqain 14.72 133 P **Pn 17 13 02.4 -2.0**
HOQ S Sn 17 15 37.3 -10
KLYT Kilyos 14.89 303 P **Pn 17 13 09.3 +2.7**
comp=Z,84nm,0.9s
KLYT pP **P 17 13 16.3 +4.1**
comp=Z,84nm,0.9s
BODT Bodrum 15.21 286 P **Pn 17 13 12.2 +1.3**
BAND Balkesir-Ban 15.25 299 ⇓P **Pn 17 13 13.4 +1.9**
BIDO Bidbid 15.26 131 P **Pn 17 13 10.5 -1.2**
SNR=14
BIDO S **Sn 17 15 53.9 -6.3**
KARP Karpathos 15.27 280 Pn 17 13 11.2 -0.5
KARP IAmb IAmb 17 13 18.1
comp=Z,165nm,0.9s
KARP Karpathos 15.27 280 P **Pn 17 13 12.5 +0.8**
KARP Karpathos 15.27 280 *eP* **P 17 13 17.3 +0.8**
KARP Karpathos 15.27 280 P **Pn 17 13 13.0 +1.3**
BSY Bisya 15.29 136 P **Pn 17 13 10.2 -2.0**
SNR=40
BSY S **Sn 17 15 55.0 -6.0**
SMDO Samad 15.56 133 P **Pn 17 13 13.5 -2.1**
SNR=41
SMDO S **Sn 17 16 02.5 -5.0**
SMG Samos 15.65 288 P **Pn 17 13 10.0 -6.6**
WSAR Wadi Sarin 15.78 131 Pn **Pn 17 13 16.5 -1.9**
comp=Z,11nm,0.3s,baz=333,slow=10.0,SNR=78
WSAR Sn Sn 17 16 01.6 -11
comp=Z,3.9nm,0.3s,baz=170,slow=22,SNR=17
comp=Z,61nm,0.5s
SRVN Saravan 15.88 111 Pn **Pn 17 13 20.1 +0.2**
ZKR Zakros 16.05 278 P **P 17 13 25.6 +0.4**
NGCH Negor - Chabah 16.06 120 Pn **Pn 17 13 19.5 -2.5**
NGCH Negor - Chabah 16.06 120 P **Pn 17 13 20.2 -1.8**
SNR=14
NGCH S **Sn 17 16 12.5 -7.1**
JMDO Jabal Madar 16.11 134 P **Pn 17 13 22.0 -0.7**
SNR=14
JMDO S **Sn 17 16 16.1 -4.8**
PRK Paraskevi 16.33 293 P Pn 17 13 13.0 -12
EZN Ezine 16.42 295 P **Pn 17 13 27.1 +0.6**
comp=Z,31nm,0.9s
EZN pP **sP 17 13 37.6 0.0**
comp=Z,31nm,0.9s
WBK Wadi Bani Khal 16.46 132 P **Pn 17 13 26.2 -0.9**
SNR=14
WBK S **Sn 17 16 25.2 -4.1**
MFTR Murfatlar 16.61 312 ⇑P **P 17 13 31.2 -0.1**
APE Apeiranthos 16.62 285 P **Pn 17 13 23.7 -5.5**
APE Apeiranthos 16.62 285 *eP* **Pn 17 13 30.0 +0.8**
APE Apeiranthos 16.62 285 *i* P **Pn 17 13 28.3 -0.9**
JURR Jurilovca 16.64 314 ⇑P **P 17 13 31.6 0.0**
SIGR SIGRI 16.64 293 P **Pn 17 13 26.9 -2.4**
EDRB Edirne 16.71 302 P **Pn 17 13 29.9 -0.3**
TLCR 16.91 315 ⇓P **P 17 13 34.0 -0.6**
TLCR 16.91 315 P **P 17 13 34.0 -0.6**
TPGR Topolog 16.96 314 ⇑P **P 17 13 34.5 -0.7**
JLN Jalan Bani Buh 17.07 132 P **Pn 17 13 34.2 -0.6**
SNR=37
JLN S **Sn 17 16 37.3 -6.8**
SNR=6.4
MHTO MHTO 17.11 138 P **Pn 17 13 33.0 -2.4**
SNR=77
MHTO P **Pn 17 13 33.0 -2.4**
SNR=38
IDI Anoyia 17.13 279 Pn 17 13 33.2 -2.4
IDI Anoyia 17.13 279 P **Pn 17 13 33.5 -2.1**
IDI Anoyia 17.13 279 P **Pn 17 13 35.6 0.0**
IDI Anoyia 17.13 279 P **Pn 17 13 34.9 -0.7**
comp=Z,50nm,0.6s,baz=76,slow=10.0,SNR=30
IDI S **Sn 17 16 48.7 +3.1**
comp=Z,7.6nm,0.8s,baz=100,slow=5.8,SNR=1.7
PURM Purcari 17.13 320 P **Pn 17 13 35.6 +0.2**
comp=Z,117nm,0.9s,comp=Z,4μm
VRH Novokhopyorsk 17.15 351 *eP* **Pn 17 13 32.9 -2.7**
VRH *eS* **Sn 17 16 47.3 +1.6**
VRH pmax pmax
comp=Z,188nm,1.6s
VRH smax smax
comp=E,500nm,1.8s
HARR Harsova 17.17 312 ⇓P **P 17 13 38.4 +0.9**
HARR Harsova 17.17 312 P **P 17 13 38.3 +0.9**
CFR Carcaliu 17.31 314 ⇑P **P 17 13 38.3 -0.7**
CFR Carcaliu 17.31 314 P **P 17 13 38.2 -0.7**
VORD Divnogorie 17.31 346 *eP* **Pn 17 13 36.2 -1.4**
VORD pmax pmax
comp=Z,200nm,0.8s
DOK Doka 17.32 152 P **Pn 17 13 35.5 -2.5**
SNR=28
DOK S **Sn 17 16 45.9 -4.3**
SNR=7.7
RDO Rodhopi 17.34 299 P **P 17 13 39.2 -0.2**
RDO Rodhopi 17.34 299 P **Pn 17 13 38.4 +0.3**
VSR Storozhevoye 17.57 346 *eP* **Pn 17 13 38.6 -2.3**
VSR *eS* **Sn 17 16 56.7 +0.7**
VSR pmax pmax
comp=Z,100nm,0.7s
VSR smax smax
comp=E,250nm,1.0s
ELND Elena 17.71 305 ⇑P **P 17 13 43.4 0.0**
VLDR Vladesti 17.71 316 ⇑P **Pn 17 13 42.8 +0.1**
GVD Gavdhos 17.82 278 P **Pn 17 13 42.5 -1.5**
WHFO Wadi Hawf 17.82 154 P **Pn 17 13 42.0 -2.3**
SNR=37
MILM Milestii Mici 17.94 320 ⇓P **Pn 17 13 44.8 -0.7**
MILM Milestii Mici 17.94 320 P **Pn 17 13 44.8 -0.7**
VORR Voronezh 18.00 347 *eP* **Pn 17 13 43.8 -2.4**
VORR *eS* **Sn 17 17 06.5 +0.2**
VORR pmax pmax
comp=Z,133nm,1.3s
VORR smax smax
comp=E,600nm,1.4s
VLY Voula,Athens 18.06 288 P **Pn 17 13 43.9 -3.1**
ATHU Athens Univers 18.08 288 P **Pn 17 13 41.9 -5.4**

BELG Belogornoye 18.15 4 P **Pn 17 13 46.0 -2.0**
comp=E,10nm,0.3s,baz=184,slow=1.5,SNR=105
BELG S **Sn 17 17 10.5 +0.6**
comp=E,60nm,0.9s,baz=68,slow=23,SNR=6.2
BELG ScP **ScP 17 21 56.0 +1.0**
comp=E,28nm,0.9s,baz=215,slow=3.0,SNR=5.2
comp=E,287nm,0.9s
ABTO Aybut 18.18 156 P **Pn 17 13 45.6 -3.1**
SNR=18
GHRR 18.22 316 ⇑P **P 17 13 50.6 +1.5**
ISR Istrita 18.24 312 P **P 17 13 51.1 +1.7**
comp=E,114nm,1.1s
ODBI Odobesti 18.26 314 ⇓P **P 17 13 49.6 +0.1**
ODBI Odobesti 18.26 314 P **P 17 13 51.6 +2.1**
comp=E,24nm,1.0s,comp=E,1μm
ODBI pP **sP 17 13 59.4 +1.4**
comp=E,24nm,1.0s,comp=E,1μm
ABKAR Akbulak array 18.29 31 Pn **Pn 17 13 46.2 -3.6**
BISRR Bisoca 18.36 313 ⇑P **Pn 17 13 52.2 +1.5**
RBK Rabkut 18.36 153 P **P 17 13 48.6 -2.2**
SNR=22
DMTO DMTO 18.46 151 P **P 17 13 50.0 -1.9**
SNR=44
AKTO Aktyubinsk 18.48 25 P **P 17 13 51.7 -0.2**
comp=E,5.2nm,0.3s,baz=214,slow=9.2,SNR=184
AKTO ScP **ScP 17 21 56.3 +0.5**
comp=E,11nm,0.9s,baz=209,slow=2.8,SNR=7.3
comp=E,145nm,0.9s
VRI Vrincioaia 18.51 314 ⇓P **Pn 17 13 52.5 -0.1**
VRI Vrincioaia 18.51 314 P **Pn 17 13 52.4 -0.1**
VRI Vrincioaia 18.51 314 P **Pn 17 13 53.0 +0.5**
comp=E,28nm,1.0s
PLOR5 Plostina Array 18.54 314 P **Pn 17 13 54.7 +1.8**
comp=E,38nm,1.0s
NEHR Nehoiu 18.55 313 ⇑P **Pn 17 13 54.1 +1.2**
PLOR Plostina 18.55 314 ⇑P **Pn 17 13 53.6 +0.6**
PLOR Plostina 18.55 314 P **Pn 17 13 53.6 +0.6**
PLOR3 Plostina Array 18.55 314 P **Pn 17 13 53.0 -0.1**
comp=E,49nm,1.0s
VLI Veliai 18.69 284 P **P 17 13 52.6 -1.7**
SRS Serrai 18.75 298 P **Pn 17 14 00.2 +4.7**
MLR Muntele Rosu 18.79 312 P **P 17 13 55.2 -0.3**
comp=E,1.3nm,0.3s,baz=102,slow=5.6,SNR=15
MLR S **S 17 17 34.4 +5.9**
comp=E,3.8nm,0.8s,baz=120,slow=18,SNR=1.3
MLR ScP **ScP 17 21 57.5 +0.7**
comp=E,3.4nm,0.8s,baz=86,slow=5.5,SNR=4.2
comp=E,5.5nm,0.8s
MLR Muntele Rosu 18.79 312 ⇑P **Pn 17 13 56.5 +0.5**
MLR Muntele Rosu 18.79 312 P **Pn 17 13 57.3 +1.3**
comp=E,47nm,1.0s
MLR pP **pP 17 14 01.8 +0.6**
comp=E,47nm,1.0s
COVR Voineasa-Covas 18.81 314 ⇓P **Pn 17 13 57.0 +0.8**
TESR Tescani 18.91 316 ⇑P **P 17 13 56.3 -0.4**
TESR Tescani 18.91 316 P **Pn 17 13 57.0 -0.3**
comp=E,66nm,1.0s
LPSR Galich'ya Gora 18.94 347 *eP* **P 17 13 54.7 -2.2**
LPSR *eS* **Sn 17 17 25.5 -3.4**
LPSR pmax pmax
comp=Z,541nm,1.3s
LPSR smax smax
comp=E,300nm,1.6s
HUMR Humele 18.95 309 ⇑P **P 17 13 56.7 -0.4**
ONER Baraj Valea Uz 18.96 315 ⇑P **Pn 17 13 57.7 -0.2**
SORM Soroca 18.96 322 ⇓P **P 17 13 56.7 -0.4**
SORM Soroca 18.96 322 P **P 17 13 57.3 +0.2**
SORM Soroca 18.96 322 P **P 17 13 56.3 -0.8**
comp=E,93nm,1.0s
TURR Turia 19.04 314 ⇓P **Pn 17 13 59.1 +0.2**
OZUR 19.19 314 ⇑P **Pn 17 14 00.3 -0.5**
MTUR Matau 19.21 311 ⇓P **Pn 17 14 02.1 +1.1**
MTUR Matau 19.21 311 P **Pn 17 14 02.1 +1.1**
GUR Goura 19.21 288 P **Pn 17 14 03.2 +2.1**
SIMJ Simiganj 19.23 70 P **P 17 14 00.7 +0.4**
KBL Kabul 19.25 83 P **Pn 17 14 02.8 +1.0**
KBL Kabul 19.25 83 P **Pn 17 14 02.8 +1.0**
KBL pmax pmax
comp=Z,115nm,1.3s
KBU Kabul Universi 19.33 83 P **P 17 13 58.8 -2.8**
LIT Litokhoron 19.36 294 P **P 17 14 01.1 -0.5**
LIT Litokhoron 19.36 294 P **P 17 14 01.1 -0.5**
LIT pmax pmax
comp=Z,50nm,1.0s
DOPR Dopca 19.37 313 ⇑P **Pn 17 14 02.4 -0.5**
PEHC Pehcevo 19.42 299 *i* P **Pn 17 14 03.7 +0.1**
ITM Ithomi 19.51 285 P **P 17 14 02.3 -1.0**
ARR Arges 19.55 311 ⇑P **Pn 17 14 05.0 0.0**
VAY Valandovo 19.55 298 *i* P **Pn 17 14 05.3 +0.2**
PRAR RASCA 19.62 318 ⇓P **P 17 14 04.2 -0.3**
NDNU Novodnistrovsk 19.76 322 P **P 17 14 06.3 +0.4**
MDB Medias 20.06 313 ⇑P Pn 17 14 10.6 -0.5
MDB Medias 20.06 313 P Pn 17 14 10.5 -0.6
LOT Lotru 20.13 310 ⇑P **P 17 14 10.7 +0.6**
SRE Strehaia 20.16 308 ⇓P Pn 17 14 11.4 -0.9
SRE Strehaia 20.16 308 P Pn 17 14 11.3 -1.0
PUNG Punghina 20.20 306 ⇑P Pn 17 14 11.8 -0.8
AK07 Malin Array Si 20.23 328 P **P 17 14 09.9 -1.1**
AK08 Malin Array Si 20.27 329 P **P 17 14 10.3 -1.2**
AK08 pP **pP 17 14 17.5 +0.3**
GAR Garm 20.28 69 IAmb IAmb 17 14 23.3
comp=Z,169nm,1.0s
AK05 Malin Array Si 20.29 329 P **P 17 14 10.1 -1.5**
AK05 IAmb IAmb 17 14 24.5
comp=Z,80nm,0.8s
FNA Florina 20.32 296 IAmb IAmb 17 14 21.2
comp=Z,63nm,0.8s
BURAR Bucovina Array 20.33 317 ⇓P **P 17 14 12.3 0.0**
BURAR Bucovina Array 20.33 317 P **P 17 14 12.3 0.0**
AKASG Malin Array Be 20.34 329 P **P 17 14 10.9 -1.3**
comp=Z,26nm,0.8s,baz=141,slow=9.8,SNR=104
AKASG S **S 17 17 56.1 -3.0**
comp=Z,1.0nm,0.6s,baz=204,slow=44,SNR=1.1
AKASG PcP **PcP 17 18 25.1 +0.4**
comp=Z,3.6nm,0.7s,baz=91,slow=2.2,SNR=5.7
AKASG ScP **ScP 17 22 00.6 +0.6**
comp=Z,5.1nm,0.8s,baz=105,slow=1.9,SNR=13
comp=Z,26nm,0.8s
AKBB Malin Array Si 20.34 329 IAmb IAmb 17 14 20.4
comp=Z,122nm,1.0s
AKBB Malin Array Si 20.34 329 *cePP* **P 17 14 10.8 -1.4**
AKBB pmax pmax
comp=Z,136nm,1.0s
KIEV Kiev 20.34 329 P **P 17 14 10.4 -1.7**
KIEV IAmb IAmb 17 14 20.4
comp=Z,101nm,0.9s
KIEV Kiev 20.34 329 *i* P **P 17 14 11.3 -0.8**
SNR=12
KIEV Kiev 20.34 329 ⇑P **P 17 14 11.1 -1.1**
KIEV Kiev 20.34 329 P **P 17 14 11.0 -1.1**
CHM Chimkent 20.35 60 *eP* **P 17 14 12.3 -0.1**
comp=Z,100nm,1.2s
CHM Chimkent 20.35 60 *eP* **P 17 14 12.3 -0.1**
CHM pmax pmax
comp=Z,100nm,1.2s
LUBAR Lubar, Ukraine 20.44 325 P **P 17 14 12.3 -1.0**
RMGR Halanga-Turnu 20.50 307 ⇓P **P 17 14 14.9 +0.9**
ARCR ARCALIA 20.55 315 ⇑P **P 17 14 15.2 +0.7**
DJES Djerdap 20.61 307 ⇑P **P 17 14 15.6 +0.4**
IUG Iuzhnay 20.61 60 *eP* **P 17 14 15.2 -0.3**
comp=Z,142nm,1.2s
IUG Iuzhnay 20.61 60 *eP* **P 17 14 15.1 -0.3**
IUG pmax pmax
comp=Z,142nm,1.2s
HORU Horodok 20.63 322 P **P 17 14 14.4 -1.0**
BRLS Borolday 20.71 58 *eP* **P 17 14 14.1 -2.3**
BRLS Borolday 20.71 58 *eP* **P 17 14 14.1 -2.3**
GZR Gura Zlata 20.74 309 ⇑P **P 17 14 16.2 -0.4**
MI29 MI29, Kamyanyy 20.75 326 P **P 17 14 14.9 -1.7**
comp=Z,496nm,1.4s,comp=Z,31μm
HERR Herculane 20.77 308 ⇑P **P 17 14 17.4 +0.5**
BOVS Bovan 20.81 304 ⇓P **P 17 14 17.4 +0.1**
KSV Kosov 20.81 319 P **P 17 14 15.8 -1.5**
OHR Ohrid 20.81 296 *i* P Pn 17 14 22.0 +2.1
CJR Cluj-Napoca 20.81 313 ⇑P **P 17 14 18.6 +1.2**
CJR Cluj-Napoca 20.81 313 P **P 17 14 18.6 +1.2**
MI30 MI30,Zelenitsa 20.82 327 P **P 17 14 15.6 -1.8**
comp=Z,240nm,0.9s
DEV Deva 20.86 311 ⇑P **P 17 14 19.0 +1.0**
DEV Deva 20.86 311 P **P 17 14 18.9 +1.0**
MARR Marisel-Cluj 21.09 313 ⇓P **P 17 14 20.5 0.0**
RAKU Rahkiv 21.15 317 P **P 17 14 20.4 -0.6**
MI28 Mi28,Pidlybu 21.19 327 P **P 17 14 19.8 -1.5**
comp=Z,2μm,1.1s

MDVR Moldovita 21.19 307 ⇓P **P 17 14 22.3 +0.7**
SURR Surduc 21.30 310 ⇓P **P 17 14 22.3 -0.3**
STNU Starunia 21.34 319 P **P 17 14 22.5 -0.6**
BMR Baia Mare 21.35 315 ⇑P **P 17 14 23.7 +0.6**
BMR Baia Mare 21.35 315 P **P 17 14 23.7 +0.6**
DRGR 21.39 313 ⇑P **P 17 14 23.8 +0.1**
DRGR 21.39 313 P **P 17 14 23.7 +0.1**
MESR Meseseni 21.41 314 ⇑P **P 17 14 23.7 -0.2**
DRK Karamyk 21.47 68 P **P 17 14 26.5 +1.6**
DRK IAmb IAmb 17 14 37.4
comp=Z,92nm,1.0s
DRK Karamyk 21.47 68 P **P 17 14 26.5 +1.6**
DRK pmax pmax
comp=Z,92nm,1.0s
TIR Tirane 21.55 297 ⇑P **P 17 14 26.3 +1.0**
TIR Tirane 21.55 297 P **P 17 14 26.3 +1.0**
BZS Buzias 21.57 309 ⇑P **P 17 14 24.8 -0.8**
BZS Buzias 21.57 309 P **P 17 14 24.7 -0.8**
DZA Taraz 21.73 59 *eP* **P 17 14 27.1 -0.2**
DZA Taraz 21.73 59 *eP* **P 17 14 27.1 -0.2**
OBN Obninsk 21.78 346 P **P 17 14 24.3 -3.3**
OBN Obninsk 21.78 346 P **P 17 14 26.2 -1.4**
comp=Z,80nm,0.4s,baz=152,slow=1.3,SNR=26
OBN S **S 17 18 21.2 -6.2**
comp=Z,90nm,0.9s,baz=177,slow=21,SNR=14
comp=Z,80nm,0.4s
OBN Obninsk 21.78 346 ⇓P **P 17 14 26.3 -1.4**
OBN Obninsk 21.78 346*c i* P **P 17 14 25.3 -2.3**
OBN *i* 17 14 47.8
OBN *i* 17 18 21.7
OBN *eS* **S 17 18 28.4 +1.0**
OBN pmax pmax
comp=Z,347nm,1.5s
OBN MLR MLR
comp=Z,4μm,21.0s
OBN Obninsk 21.78 346 P **P 17 14 25.4 -2.2**
comp=Z,211nm,1.1s,comp=Z,5μm
MEZ Mezhgor'ye 21.78 317 P **P 17 14 28.2 +0.4**
KORU Korolevo 21.81 316 P **P 17 14 27.8 -0.2**
SIRR Siria 21.81 310 ⇑P **P 17 14 28.1 0.0**
SJES Sjenica 21.90 302 *eP* **P 17 14 30.6 +1.3**
BORR Bors 22.09 313 ⇓P **P 17 14 32.0 +1.0**
BERU Beregovo 22.13 316 P **P 17 14 32.1 +0.6**
MOS Moscow 22.17 348 *eP* **P 17 14 28.7 -3.1**
MOS *eS* **S 17 18 28.9 -6.0**
MOS pmax pmax
comp=Z,120nm,0.8s
MOS pmax pmax
comp=Z,400nm,1.5s
RNPP5 Staryi Chortor 22.21 326 P **P 17 14 31.0 -1.3**
PDG Podgorica 22.21 299 *eP* **P 17 14 33.5 +1.1**
MUKU Mukachevo 22.22 316 P **P 17 14 32.5 +0.1**
LVV L'vov 22.24 321 P **P 17 14 33.3 +0.6**
SHIU Shidnytsya 22.25 319 P **P 17 14 32.7 -0.2**
RNPP2 Kostyukhnivka 22.27 326 P **P 17 14 31.5 -1.5**
RNPP8 Varash 22.30 326 P **P 17 14 32.0 -1.2**
RNPP9 Sopachiv 22.33 326 P **P 17 14 32.2 -1.4**
RUDO Rudo 22.42 302 *eP* **P 17 14 32.5 -2.2**
HOLU Holmets 22.43 316 P **P 17 14 33.4 -1.3**
BBLS Lazi&#263i 22.47 303 *eP* **P 17 14 38.4 +3.1**
TEKS Tekeris 22.58 305 *eP* **P 17 14 35.0 -1.4**
FRGS Fruska Gora 22.59 306 *eP* **P 17 14 35.8 -0.7**
ARSB Arslanbob 22.61 64 P **P 17 14 37.1 +0.2**
ARSB Arslanbob 22.61 64 P **P 17 14 37.1 +0.2**
ARSB pmax pmax
comp=Z,24nm,1.0s
KOLS Kolonicke sedl 22.70 317 *eP* **P 17 14 38.5 +0.9**
KOLS pmax pmax
comp=Z,40nm,0.7s
KOLS Kolonicke sedl 22.70 317 *eP* **P 17 14 38.5 +0.9**
KOLS *e* 17 26 10.6
HCY Herceg Novi 22.77 299 *eP* **P 17 14 32.0 -6.4**
ATD Arta Tunnel 22.80 187 P **P 17 14 41.4 +2.4**
ATD IAmb IAmb 17 14 50.6
comp=Z,86nm,1.1s
ATD Arta Tunnel 22.80 187 LR LR 17 23 58.4
comp=Z,233nm,20.1s,baz=287,slow=38
BRY Bratogost 22.83 300 *eP* **P 17 14 37.5 -1.7**
NIL Nilore 22.83 84 P **P 17 14 38.0 -1.2**
NIL IAmb IAmb 17 14 47.2
comp=Z,119nm,1.1s
NIL Nilore 22.83 84 P **P 17 14 40.2 +1.0**
NIL Nilore 22.83 84 P **P 17 14 38.0 -1.2**
NIL pmax pmax
comp=Z,119nm,1.1s
KWP Kalwaria Pacla 22.84 319 *eP* **P 17 14 38.8 -0.3**
KWP Kalwaria Pacla 22.84 319 IAmb IAmb 17 14 52.7
comp=Z,141nm,1.2s
KWP Kalwaria Pacla 22.84 319 P **P 17 14 37.9 -1.1**
comp=Z,108nm,1.0s
TREB Trebinje 22.93 300 *eP* **P 17 14 38.3 -1.8**
AML Almayashu 23.27 62 P **P 17 14 45.5 +1.4**
SNR=45
STON Ston 23.43 300 *eP* **P 17 14 40.2 -4.9**
EKS2 Erkin-Say 23.43 61 P **P 17 14 47.1 +1.7**
SNR=38
KECS Kecovo 23.51 315 *eP* **P 17 14 47.7 +1.9**
KECS pmax pmax
comp=Z,75nm,1.2s
KECS Kecovo 23.51 315 *eP* **P 17 14 47.7 +1.9**
STHS Stebnicka Huta 23.53 317 *eP* **P 17 14 46.4 +0.3**
STHS Stebnicka Huta 23.53 317 *eP* **P 17 14 46.4 +0.3**
PSZ Piszkesteto 23.61 313 IAmb IAmb 17 14 57.9
comp=Z,69nm,1.2s
PSZ Piszkesteto 23.61 313 *eP* **P 17 14 48.6 +1.8**
TIP Timpagrande 23.66 290 IAmb IAmb 17 15 03.8
comp=Z,94nm,1.4s
MORH Mrgy, Hungar 23.72 308 P **P 17 14 47.6 -0.3**
comp=Z,49nm,1.2s
ARTI Arti 23.75 18 P **P 17 14 46.9 -1.2**
ARTI Arti 23.75 18*c i* P **P 17 14 47.7 -0.4**
ARTI PPP PPP 17 15 21.7
ARTI S **S 17 19 04.7 +2.4**
ARTI SS **SnSn 17 19 50.6 +10**
ARTI pmax pmax
comp=Z,89nm,1.6s
MNK Minsk 23.76 334 *i* P **P 17 14 46.5 -1.7**
comp=E,90nm,0.9s
MNK *i* P **P 17 14 46.5 -1.7**
comp=N,96nm,0.7s
MNK *i* P **P 17 14 46.5 -1.7**
comp=Z,185nm,0.8s,baz=140
MNK *i* PP **PnPn 17 15 14.2 -1.7**
MNK *i* S **S 17 19 00.3 -2.0**
MNK *i* SS SnSn 17 19 58.4 +17
MNK *i* LQ LQ 17 23 16.3
MNK *i* LR LR 17 24 09.7
MNK *i* LRM MLR 17 24 52.4
comp=E,2μm,15.9s
MNK *i* LRM MLR 17 25 26.2
comp=Z,3μm,14.8s
MNK *i* LRM MLR 17 25 37.6
comp=N,2μm,14.1s
MNK Minsk 23.76 334 *i* P **P 17 14 46.4 -1.7**
MNK *i* 17 15 14.2
MNK *i* S **S 17 19 00.3 -2.0**
MNK *i* SS SnSn 17 19 58.3 +17
MNK pmax pmax
comp=N,96nm,0.7s
MNK pmax pmax
comp=E,90nm,0.9s
MNK pmax pmax
comp=Z,185nm,0.8s
MNK MLR MLR
comp=E,2μm,16.0s
MNK MLR MLR
comp=Z,3μm,15.0s
MNK MLR MLR
comp=N,2μm,14.0s
AAK Ala-Archa 23.95 61 P **P 17 14 49.8 -0.5**
AAK Ala-Archa 23.95 61 *i* P **P 17 14 52.0 +1.6**
SNR=12
AAK Ala-Archa 23.95 61 P **P 17 14 51.0 +0.7**
comp=N,7.9nm,0.8s,baz=265,slow=9.6,SNR=13
AAK ScP **ScP 17 22 10.0 +0.4**
comp=N,7.5nm,0.9s,baz=166,slow=2.5,SNR=6.9
comp=N,7.9nm,0.8s
AAK Ala-Archa 23.95 61 P **P 17 14 52.1 +1.8**
NIE Niedzica 24.06 317 *eP* **P 17 14 51.9 +0.7**
NIE Niedzica 24.06 317 P **P 17 14 52.1 +0.9**
comp=N,17nm,1.1s
USP Ospenovka 24.08 60 P **P 17 14 52.6 +1.2**
SNR=34
BTLS Baital 24.20 55 *eP* **P 17 14 52.2 -0.3**

comp=N,117nm,2.1s
BTLS Baital 24.20 55 eP P 17 14 52.1 -0.3
BTLS pmax pmax
comp=Z,117nm,2.1s
CHMS Chumysh 24.20 60 P P 17 14 54.2 +1.6
SNR=18
SGDS Sogindy 24.21 59 eP P 17 14 52.6 0.0
comp=Z,129nm,1.9s
SGDS Sogindy 24.21 59 eP P 17 14 52.6 0.0
SGDS pmax pmax
comp=Z,129nm,1.9s
BLY Banja Luka 24.24 304 eP P 17 14 51.9 -0.9
KBK Karagaybulak 24.28 61 P P 17 14 55.5 +2.1
SNR=14
CEL Celeste 24.31 288 P P 17 14 53.0 -0.5
CEL IAmb IAmb 17 15 11.9
comp=Z,96nm,1.0s
CEL Celeste 24.31 288 P P 17 14 54.6 +1.0
comp=Z,107nm,1.0s
LANS Liptovska Anna 24.41 315 eP P 17 14 55.0 +0.6
LANS pmax pmax
comp=Z,19nm,1.2s
LANS Liptovska Anna 24.41 315 eP P 17 14 55.0 +0.6
KIRV Kirov 24.43 5ceP P 17 14 53.6 -0.8
NACGM Naroch 24.48 333 eP P 17 14 53.9 -0.9
comp=E,8μm,1.1s
VYHS Vyhne 24.49 314 eP P 17 14 54.9 -0.2
VYHS pmax pmax
comp=Z,335nm,2.9s
VYHS Vyhne 24.49 314 eP P 17 14 54.9 -0.2
VYHS e 17 44 15.3
A051A Mrakovica 24.50 305 eP P 17 14 52.9 -2.4
SRO Srobarova 24.53 312 eP P 17 14 55.9 +0.5
SRO pmax pmax
comp=Z,51nm,1.0s
SRO Srobarova 24.53 312 eP P 17 14 55.9 +0.5
A050A Klekovaca 24.62 303 eP P 17 14 53.1 -3.3
KSH Kashi 24.70 69 P P 17 14 55.0 -2.2
KSH sP pP 17 15 02.5 -0.9
KSH pmax pmax
comp=Z,67nm,1.2s
SVE Sverdlovsk 24.74 20deP P 17 14 57.7 +0.5
SVE pmax pmax
comp=Z,145nm,0.9s
OJC Ojcow 24.74 318 eP P 17 14 57.1 -0.2
OJC Ojcow 24.74 318 IAmb IAmb 17 15 06.7
comp=Z,53nm,1.0s
OJC Ojcow 24.74 318 P P 17 14 57.7 +0.4
comp=Z,47nm,0.8s
MPLH Magyarpolny 24.77 310 P P 17 14 58.1 +0.5
comp=Z,166nm,0.9s
TKM2 Tokmak 2 24.80 61 P P 17 14 59.9 +1.8
SNR=20
NRN Naryn 24.87 64 IAmb IAmb 17 15 09.0
comp=Z,41nm,0.9s
NRN ScP **ScP 17 22 12.0 -0.4**
SUW Suwalki 25.30 328 eP P 17 15 01.6 -0.7
SUW Suwalki 25.30 328 eP P 17 15 02.2 -0.1
JAVC Velka Javorina 25.35 314 eP P 17 15 03.4 +0.5
SMOL Smolenice 25.35 313 eP P 17 15 03.2 +0.3
SMOL pmax pmax
comp=Z,35nm,1.1s
KOGS Kog 25.36 307 i P P 17 15 02.9 -0.1
MODS Modra-Piesok 25.39 312 eP P 17 15 03.0 -0.2
MODS pmax pmax
comp=Z,102nm,1.2s
MODS Modra-Piesok 25.39 312 eP P 17 15 03.0 -0.2
MAUC Maruska 25.47 315 eP P 17 15 04.4 +0.4
OKC Ostrava-Krasne 25.50 316 eP P 17 15 04.0 -0.1
OKC Ostrava-Krasne 25.50 316 eP P 17 15 04.0 -0.1
KUU Kurty 25.51 59 eP P 17 15 04.3 -0.2
comp=Z,40nm,1.2s
KUU Kurty 25.51 59 eP P 17 15 04.2 -0.2
KUU pmax pmax
comp=Z,39nm,1.2s
BRVK Borovoye 25.64 35 P P 17 15 04.8 -0.6
BRVK IAmb IAmb 17 15 14.1
comp=Z,35nm,0.8s
BRVK Borovoye 25.64 35 P P 17 15 07.0 +1.7
BRVK Borovoye 25.64 35ceP P 17 15 06.3 +0.9
BRVK pmax pmax
comp=Z,86nm,1.7s
BVAR Borovoye Array 25.67 36 P P 17 15 06.2 +0.5
comp=Z,13nm,0.6s,baz=236,slow=7.4,SNR=54
BVAR PcP **PcP 17 18 36.6 +0.9**
comp=Z,8.6nm,0.7s,baz=210,slow=2.0,SNR=4.7
BVAR ScP **ScP 17 22 14.9 +0.9**
comp=Z,8.0nm,0.8s,baz=238,slow=2.8,SNR=12
comp=Z,13nm,0.6s
CRES Cresnjevec Ost 25.71 306 eP P 17 15 06.4 +0.3
RONA Rosalia, Austr 25.75 310 eP P 17 15 06.2 -0.3
comp=Z,22nm,0.8s,SNR=15
RONA ePcP **PcP 17 18 39.6 +3.5**
comp=Z,1.4nm,0.6s
BOJS Bojanci 25.76 305 i P P 17 15 06.3 -0.3
BOJS Bojanci 25.76 305 eP P 17 15 06.3 -0.3
MORC Moravsky Berou 25.82 315 IAmb IAmb 17 15 18.6
comp=Z,58nm,1.1s
MORC Moravsky Berou 25.82 315 eP P 17 15 06.5 -0.6
MDOK Medeo 25.89 61 eP P 17 15 07.8 -0.2
MDOK Medeo 25.89 61 eP P 17 15 07.8 -0.2
PABE Paberze 26.01 331 eP P 17 15 08.5 -0.2
ARSA Arzberg 26.09 309 eP P 17 15 08.7 -0.9
comp=Z,18nm,1.0s
ARSA ePcP **PcP 17 18 41.5 +4.7**
comp=Z,1.0nm,0.5s
CONA Conrad Observa 26.10 310 eP P 17 15 09.4 -0.4
comp=Z,64nm,1.4s,SNR=7.0
CONA i PcP **PcP 17 18 40.0 +3.1**
comp=Z,1.8nm,0.7s
CONA pPKiKP **pPKiKP 17 26 28.5 +5.3**
comp=Z,3.9nm,1.3s
VRAC Vranov 26.18 314 eP P 17 15 10.2 -0.2
KRUC Moravsky 26.20 313 eP P 17 15 10.3 -0.2
SOKA Soboth 26.23 307 eP P 17 15 10.9 -0.1
comp=Z,17nm,1.0s
TARG Taragay, Kyrgy 26.25 64 P P 17 15 08.8 -2.8
TARG Taragay, Kyrgy 26.25 64 P P 17 15 08.8 -2.8
TARG pmax pmax
comp=Z,33nm,1.2s
VSVD Vaisvydziai 26.37 332 eP P 17 15 11.9 0.0
CEY Cerknica 26.38 305 eP P 17 15 11.3 -1.0
KRLC Kraliky 26.39 315 eP P 17 15 11.7 -0.6
KRLC Kraliky 26.39 315 eP P 17 15 11.7 -0.6
OBKA Obir 26.50 307 eP P 17 15 13.6 +0.1
comp=Z,36nm,1.2s
OBKA Obir 26.50 307 eP P 17 15 12.6 -0.8
ARXS Arharly 26.63 59 eP P 17 15 15.9 +1.3
NRCA Norcia 26.74 298 IAmb IAmb 17 15 28.0
comp=Z,63nm,1.1s
DPC Dobruska-Polom 26.78 316 eP P 17 15 15.3 -0.5
DPC Dobruska-Polom 26.78 316 eP P 17 15 15.3 -0.5
DPC Dobruska-Polom 26.78 316 P P 17 15 14.6 -1.2
comp=Z,28nm,1.0s
FDMO Fiordimonte 26.79 299 P P 17 15 12.4 -3.6
SATY Saty 26.86 61 eP P 17 15 16.5 -0.3
SATY Saty 26.86 61 eP P 17 15 16.4 -0.3
KLMR Klimovskoe 26.88 353 eP P 17 15 14.8 -1.7
KLMR pmax pmax
comp=Z,129nm,1.3s
ZHN Zhinishke 26.89 61 eP P 17 15 17.0 0.0
comp=Z,37nm,1.5s
ZHN Zhinishke 26.89 61 eP P 17 15 17.0 0.0
ZHN pmax pmax
comp=Z,37nm,1.5s
OSTC Ostas 26.93 316 eP P 17 15 16.8 -0.3
OSTC Ostas 26.93 316 eP P 17 15 16.8 -0.3
KSP Ksiaz 27.01 317 eP P 17 15 17.1 -0.7
KSP Ksiaz 27.01 317 P P 17 15 17.1 -0.7
comp=Z,30nm,1.2s
UPC Upice 27.02 316 eP P 17 15 17.1 -0.9
UPC Upice 27.02 316 eP P 17 15 17.1 -0.9
CHVC Chvalec 27.03 316 eP P 17 15 17.6 -0.5
CHVC Chvalec 27.03 316 eP P 17 15 17.6 -0.5
MOA Molln 27.09 310 eP P 17 15 18.2 -0.4
comp=Z,19nm,0.9s,SNR=14
CESX Cesi 27.11 298 IAmb IAmb 17 15 26.7
comp=Z,102nm,1.3s
TDK Taldyqorghan 27.19 57 eP P 17 15 19.0 -0.5
TDK Taldyqorghan 27.19 57 eP P 17 15 19.0 -0.5
PBUR Paburge 27.20 330 eP P 17 15 19.4 0.0
WUS Wushi 27.27 65 P P 17 15 19.7 -0.7
WUS IAmb IAmb 17 15 29.0
comp=Z,69nm,1.3s
VSU Vasula 27.30 338ceP P 17 15 19.7 -0.6
VSU pmax pmax
comp=Z,92nm,1.0s
UZB Uzynbulak 27.31 61 eP P 17 15 20.6 -0.3
comp=Z,58nm,1.8s
UZB Uzynbulak 27.31 61 eP P 17 15 20.5 -0.3
UZB pmax pmax
comp=Z,58nm,1.8s
CKRC Cesky Krumlov 27.39 312 eP P 17 15 20.5 -0.7
CKRC Cesky Krumlov 27.39 312 eP P 17 15 20.5 -0.7
PUL Pulkovo 27.43 343ceP P 17 15 21.4 0.0
PUL pmax pmax
comp=Z,88nm,1.0s
BIOA Bad Ischl, Aus 27.44 309 eP P 17 15 21.3 -0.5
comp=Z,12nm,0.8s,SNR=7.1
KBA Koelnbreinsper 27.46 308 eP P 17 15 21.8 -0.3
comp=Z,40nm,1.0s,SNR=8.2
KBA eS **S 17 20 03.7 +1.9**
comp=Z,13nm,1.5s
PRU Pruhonice 27.67 314 eP P 17 15 24.7 +0.9
PRU Pruhonice 27.67 314 eP P 17 15 24.7 +0.9
ZVC Zvikov 27.68 313 eP P 17 15 23.4 -0.4
GERES GERESS Array B 27.77 311 P P 17 15 23.6 -1.2
comp=Z,2.2nm,0.5s,baz=129,slow=7.7,SNR=9.7
GERES ScP **ScP 17 22 21.2 +0.7**
comp=Z,1.9nm,0.7s,baz=116,slow=4.5,SNR=5.5
comp=Z,2.2nm,0.5s
ABTA Abfaltersbach 27.92 306 eP P 17 15 26.1 -0.1
comp=Z,17nm,1.2s
ABTA eScP **ScP 17 22 20.6 -0.4**
comp=Z,11nm,1.3s
ABTA PKiKP **PKiKP 17 26 09.9 -7.3**
comp=Z,11nm,1.4s
KHC Kasperske Hory 27.94 312 eP P 17 15 26.1 -0.2
KHC Kasperske Hory 27.94 312 i P P 17 15 26.3 0.0
KHC pmax pmax
comp=Z,36nm,1.6s
LESA Schwarzleotal 27.99 308 eP P 17 15 25.9 -0.9
comp=Z,5.0nm,0.7s
LESA ePcP **PcP 17 18 41.7 +0.3**
comp=Z,2.8nm,0.6s
SLIT Slitere, Latvi 28.18 333 eP P 17 15 27.3 -0.9
TEOL Teolo 28.18 303 IAmb IAmb 17 16 10.5
comp=Z,30nm,0.7s
ARBE Arbavere 28.32 339 eP P 17 15 29.3 -0.1
CTI Castel Tesino 28.34 305 P P 17 15 29.3 -0.6
CTI IAmb IAmb 17 15 34.4
comp=Z,45nm,1.4s
CTI Castel Tesino 28.34 305 P P 17 15 29.3 -0.6
CTI pmax pmax
comp=Z,45nm,1.4s
BRG Berggiesshubel 28.37 315 eP P 17 15 29.1 -0.9
BRG Amp 17 15 34.6
comp=Z,10nm,1.1s
BRG Berggiesshubel 28.37 315 eP P 17 15 29.1 -0.9
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG pmax pmax
comp=Z,12nm,1.2s
MTSE Matsula 28.44 336 eP P 17 15 30.4 -0.1
HSKC Hora Svate Kat 28.57 315 eP P 17 15 30.5 -1.3
WTTA Wattenberg 28.63 307 eP P 17 15 31.6 -1.0
comp=Z,26nm,0.9s
WTTA ePcP **PcP 17 18 43.6 +0.4**
comp=Z,2.4nm,0.6s
WTTA eS **S 17 20 16.6 -3.6**
comp=Z,33nm,1.4s
WTTA eScP **ScP 17 22 24.8 +1.5**
comp=Z,6.7nm,0.9s
WTTA ePKiKP **PKiKP 17 26 17.3 -0.5**
comp=Z,13nm,1.7s
WATA Walderalm 28.69 307 eP P 17 15 31.8 -1.3
comp=Z,27nm,1.3s,SNR=6.9
WATA i PcP **PcP 17 18 43.7 +0.5**
comp=Z,3.8nm,0.6s
WATA eS **S 17 20 17.0 -4.1**
comp=Z,16nm,1.2s
WATA eScP **ScP 17 22 24.4 +1.0**
comp=Z,7.2nm,1.0s
WATA PKiKP **PKiKP 17 26 15.4 -2.3**
comp=Z,8.1nm,1.6s
VLC Villacollemand 28.89 301 P P 17 15 39.4 +4.6
KURBB Kurchatov Arra 28.90 46 P P 17 15 36.1 +1.4
comp=Z,34nm,0.9s,baz=252,slow=8.7,SNR=99
KURBB PcP **PcP 17 18 44.3 +0.8**
comp=Z,5.6nm,0.8s,baz=251,slow=2.8,SNR=5.8
KURBB ScP **ScP 17 22 23.3 -0.5**
comp=Z,8.2nm,1.0s,baz=256,slow=4.0,SNR=21
KURBB PKiKP **PKiKP 17 26 17.4 -0.1**
comp=Z,0.4nm,0.6s,baz=258,slow=1.5,SNR=2.8
KURBB LR LR 17 29 38.2
comp=Z,5μm,21.3s,baz=278,slow=42
comp=Z,34nm,0.9s
SQTA Sankt Quirin 28.90 307 eP P 17 15 33.8 -1.1
comp=Z,9.5nm,0.7s
SQTA ePcP **PcP 17 18 44.7 +1.0**
comp=Z,4.0nm,0.4s
SQTA eS **S 17 20 20.4 -4.0**
comp=Z,6.4nm,0.9s
SQTA eScP **ScP 17 22 25.4 +1.3**
comp=Z,8.0nm,0.9s
KURK Kurchatov 28.99 45 P P 17 15 34.6 -0.9
KURK IAmb IAmb 17 15 42.1
comp=Z,74nm,1.1s
KURK Kurchatov 28.99 45 P P 17 15 36.5 +1.1
KURK Kurchatov 28.99 45 P P 17 15 36.1 +0.6
KURK 17 18 44.3
KURK i 17 26 17.5
MOTA Moosalm 29.00 307 eP P 17 15 34.4 -1.4
comp=Z,14nm,0.7s
MOTA ePcP **PcP 17 18 44.5 +0.4**
comp=Z,3.9nm,0.7s
MOTA eS **S 17 20 21.6 -4.4**
comp=Z,24nm,1.2s
MOTA eScP **ScP 17 22 25.9 +1.5**
comp=Z,8.9nm,1.0s
MOTA ePKiKP **PKiKP 17 26 16.5 -1.5**
comp=Z,7.6nm,1.4s
CLL Collm 29.09 316 i P P 17 15 35.3 -1.1
CLL pmax pmax
comp=Z,22nm,1.4s
CLL Collm 29.09 316 i P P 17 15 35.3 -1.1
comp=Z,22nm,1.4s
CLL i x x 17 15 56.7
comp=Z,19nm,1.3s
CLL eScP **ScP 17 22 26.0 +1.6**
CLL ePcS **PcS 17 22 33.0 +6.5**
FETA Feichten 29.17 306 eP P 17 15 36.4 -1.0
comp=Z,8.1nm,0.9s
FETA i PcP **PcP 17 18 45.5 +1.1**
comp=Z,4.0nm,0.6s
FETA eS **S 17 20 23.6 -5.2**
comp=Z,13nm,1.1s
FETA eScP **ScP 17 22 26.5 +1.5**
comp=Z,8.7nm,1.2s
FETA ePKiKP **PKiKP 17 26 16.9 -1.2**
comp=Z,6.6nm,1.3s
RETA Reutte 29.26 307 eP P 17 15 36.5 -1.6
comp=Z,1.6nm,0.4s
RETA eS **S 17 20 25.9 -4.0**
comp=Z,18nm,1.3s
RETA ePKiKP **PKiKP 17 26 18.8 +0.8**
comp=Z,10nm,1.6s
VSL Villasalto 29.38 291 IAmb IAmb 17 15 46.0
comp=Z,30nm,0.7s
MEF Metsahovi 29.43 338 eP P 17 15 39.0 -0.2
GRA1 Grafenberg Arr 29.58 312 IAmb IAmb 17 15 45.5
comp=Z,64nm,1.3s
GRFO Grafenberg 29.58 312 P P 17 15 38.3 -2.5
GRFO IAmb IAmb 17 15 45.5
comp=Z,59nm,1.3s
GRFO Grafenberg 29.58 312 P P 17 15 38.3 -2.5
GRFO pmax pmax
comp=Z,59nm,1.3s
KEST Kesra 29.71 283 P P 17 15 42.8 +0.6
comp=Z,17nm,1.1s,baz=19,slow=3.2,SNR=7.4
comp=Z,17nm,1.1s
DAVA Damuels 29.80 307 i P P 17 15 41.6 -1.3
comp=Z,10nm,0.4s,SNR=12
DAVA eS **S 17 20 34.4 -4.1**
comp=Z,14nm,1.1s
DAVA eScP **ScP 17 22 27.6 +0.6**
comp=Z,8.4nm,0.9s
DAVA epPKiKP **pPKiKP 17 26 25.8 +0.3**
comp=Z,12nm,1.5s
BSD Bornholm Skovb 29.82 324 i P P 17 15 40.5 -2.2
BSD IAmb IAmb 17 16 12.2
comp=Z,39nm,0.9s
SEM Semipalatinsk 29.85 47 eP P 17 15 43.3 -0.2
SEM Semipalatinsk 29.85 47 eP P 17 15 43.2 -0.2
FINES FINESS Array B 29.94 341 P P 17 15 42.1 -1.7
comp=Z,16nm,0.4s,baz=146,slow=10,SNR=128
FINES S **S 17 20 38.3 -1.8**
comp=Z,6.0nm,0.8s,baz=150,slow=20,SNR=4.0
comp=Z,16nm,0.4s
FINES FINESS Array B 29.94 341 i P P 17 15 42.9 -0.9
FINES pmax pmax
comp=Z,16nm,0.4s
MAKZ Makanchi 30.00 54 P P 17 15 42.2 -2.3
MAKZ Makanchi 30.00 54 P P 17 15 42.2 -2.3
MAKZ pmax pmax
comp=Z,13nm,0.9s
JOF Joensuu 30.04 347 eP P 17 15 44.4 -0.3
MK31 Makanchi Array 30.20 54 P P 17 15 43.5 -2.9
MK31 Makanchi Array 30.20 54 P P 17 15 43.5 -2.9
MK31 pmax pmax
comp=Z,13nm,0.9s
KEF Keuruu 30.87 341 eP P 17 15 51.9 0.0
RAF Rauma 30.88 337 eP P 17 15 51.3 -0.7
DEL Delary 31.03 325 i P P 17 15 52.1 -1.4
DEL IAmb IAmb 17 16 02.7
comp=Z,26nm,0.7s
SENIN Lac Senin/Sane 31.37 304 P P 17 15 54.3 -2.5
ECH Echery 31.79 308 IAmb IAmb 17 16 04.0
comp=Z,26nm,1.2s
VAF Ylistaro 32.18 340 eP P 17 16 03.2 -0.3
LODK Lodwar 32.19 200 P P 17 16 03.4 -0.7
LODK Lodwar 32.19 200 P P 17 16 06.6 +2.5
WLF Walferdange 32.75 310 IAmb IAmb 17 16 12.5
comp=Z,53nm,1.2s
WLF Walferdange 32.75 310 P P 17 16 07.4 -1.2
WLF Walferdange 32.75 310 dP P 17 16 07.2 -1.4
comp=Z,24nm,0.9s
MEM Membach 33.06 312 dP P 17 16 14.6 +3.3
comp=Z,8.7nm,1.0s
HFS Hagfors 33.19 331 P P 17 16 11.6 -0.7
comp=Z,54nm,0.6s,baz=138,slow=9.1,SNR=130
HFS S **S 17 21 28.4 -2.4**
comp=Z,19nm,1.1s,baz=129,slow=14,SNR=5.9
comp=Z,54nm,0.6s
MUD Monsted U'grnd 33.30 323 i P P 17 16 11.7 -1.7
MUD IAmb IAmb 17 16 24.2
comp=Z,56nm,0.8s
RCHB Rochefort 33.44 311 dP P 17 16 14.3 -0.4
comp=Z,9.7nm,1.1s
BCLA Clavier 33.45 311 dPcP PcP 17 18 56.9 +1.2
BGES Gesves 33.58 311 dP P 17 16 18.4 +2.6
comp=Z,7.3nm,1.0s
WMQ Urumqi 33.66 61 eP P 17 16 18.3 +1.5
WMQ pmax pmax
comp=Z,22nm,0.9s
ZAA0 Zalesovo Array 33.69 42 IAmb IAmb 17 16 22.4
comp=Z,64nm,1.4s
ZALV Zalesovo Beam 33.69 42 P P 17 16 17.2 +0.4
comp=Z,5.9nm,0.4s,baz=261,slow=10.0,SNR=36
ZALV ScP **ScP 17 22 39.6 -0.1**
comp=Z,4.8nm,1.0s,baz=238,slow=4.9,SNR=6.8
ZALV LR LR 17 32 53.3
comp=Z,3μm,18.1s,baz=268,slow=42
comp=Z,5.9nm,0.4s
BMRD Maredsous 33.76 311 dP P 17 16 17.7 +0.3
comp=Z,13nm,1.2s
HYB Hyderabad 33.81 111 eP P 17 16 17.6 -0.6
HYB eS **S 17 21 42.8 +1.5**
DOU Dourbes 33.82 310 dP P 17 16 17.2 -0.8
comp=Z,14nm,1.1s
APA Apatity 34.08 352 ||i P P 17 16 17.4 -2.6
APA pmax pmax
comp=Z,47nm,0.9s
APA MLR MLR
comp=Z,3μm,13.0s
LVZ Lovozero 34.25 353 P P 17 16 20.7 -0.8
LVZ IAmb IAmb 17 16 34.1
comp=Z,45nm,1.0s
LVZ Lovozero 34.25 353ceP P 17 16 21.7 +0.1
LVZ pmax pmax
comp=Z,40nm,1.7s
OSL Oslo 34.30 329 eP P 17 16 21.4 -0.6
OSL IAmb IAmb 17 16 22.0
comp=Z,73nm,0.9s
NC602 NORSAR Array S 34.41 331 eP P 17 16 21.7 -1.3
NC602 IAmb IAmb 17 16 23.4
comp=Z,13nm,0.8s
HOMB Homborsund 34.45 326 eP P 17 16 22.6 -0.7
NC405 NORSAR Array S 34.56 331 P P 17 16 22.8 -1.5
NC405 IAmb IAmb 17 16 24.1
comp=Z,21nm,0.8s
KONO Kongsberg 34.64 328 P P 17 16 23.7 -1.2
KONO IAmb IAmb 17 16 34.9
comp=Z,35nm,0.8s
KONO PcP **PcP 17 18 56.3 -2.5**
KONO Kongsberg 34.64 328 eP P 17 16 23.9 -1.0
KONO Kongsberg 34.64 328ceP P 17 16 24.5 -0.4
KONO pmax pmax
comp=Z,24nm,1.0s
NB2 NORSAR Subarra 34.71 331 P P 17 16 24.2 -1.5
comp=Z,5.3nm,0.7s,baz=124,slow=8.6
NOA NORSAR Array B 34.71 331 P P 17 16 24.0 -1.6
comp=Z,8.8nm,0.8s,baz=125,slow=8.7,SNR=40
NOA S **S 17 21 55.4 +0.8**
comp=Z,3.3nm,0.8s,baz=122,slow=16,SNR=3.5
comp=Z,8.8nm,0.8s
SNART Snartemo 35.09 325 eP P 17 16 28.3 -0.6
SNART IAmb IAmb 17 16 29.2
comp=Z,36nm,1.1s
EIBI Ibiza 35.63 291 P P 17 16 35.9 +2.1
SKAR Skarslia 35.72 329 eP P 17 16 33.9 -0.5
SKAR IAmb IAmb 17 16 34.4
comp=Z,19nm,0.9s
BLS5 Blasjo 35.93 327 eP P 17 16 36.0 -0.1
BLS5 IAmb IAmb 17 16 36.8
comp=Z,21nm,0.9s
ODD1 Odda 36.08 327 eP P 17 16 37.7 +0.3
ODD1 IAmb IAmb 17 16 38.5
comp=Z,38nm,1.1s
KMBO Kilima Mbogo 36.11 194 P P 17 16 40.7 +2.4
KMBO Kilima Mbogo 36.11 194 P P 17 16 38.7 +0.3
comp=Z,1.2nm,0.3s,baz=26,slow=12,SNR=6.6
comp=Z,1.2nm,0.3s
KMBO Kilima Mbogo 36.11 194 P P 17 16 40.9 +2.5
KMBO Kilima Mbogo 36.11 194 P P 17 16 40.7 +2.4
KMBO pmax pmax
comp=Z,13nm,1.2s
DOMB Dombas 36.13 332 eP P 17 16 37.5 -0.3
KMY Karmoy 36.39 326 eP P 17 16 39.7 -0.3
NSS Namsos 36.55 336 eP P 17 16 41.0 -0.3
NSS IAmb IAmb 17 16 41.4
comp=Z,24nm,0.8s
HYA Hoyanger 36.86 329 eP P 17 16 43.8 -0.2
BER Bergen 36.87 328 eP P 17 16 44.0 0.0
BER IAmb IAmb 17 16 44.7
comp=Z,36nm,0.6s
MOR8 Moi Rana 36.88 339 eP P 17 16 43.2 -0.9
TAM Tamanrasset 36.89 263 P P 17 16 45.3 +0.4
TAM IAmb IAmb 17 16 51.6
comp=Z,54nm,1.1s
TAM Tamanrasset 36.89 263 P P 17 16 45.3 +0.4
TAM pmax pmax
comp=Z,54nm,1.1s
ASK Askoy 36.97 328 eP P 17 16 44.6 -0.3
ASK IAmb IAmb 17 16 45.5
comp=Z,29nm,0.8s
KTK1 Kautokeino 36.99 347 eP P 17 16 44.3 -0.7
KTK1 IAmb IAmb 17 16 45.1
comp=Z,58nm,0.8s
VADS Vadso 36.99 351 eP P 17 16 44.8 -0.2
VADS IAmb IAmb 17 16 45.5
comp=Z,87nm,0.7s
AKN Aaknes 37.03 331 eP P 17 16 45.4 0.0
ARA0 ARCESS Array S 37.04 348 eP P 17 16 44.8 -0.6
ARCES ARCESS Array B 37.04 348 P P 17 16 44.2 -1.3
comp=Z,19nm,0.4s,baz=153,slow=8.1,SNR=162
comp=Z,19nm,0.4s
KIBK Kibwezi 37.14 193 P P 17 16 47.5 +0.6
ECHE Chera 37.35 292 P P 17 16 51.7 +3.2
STOK Stokkvaagen 37.41 339 eP P 17 16 48.0 -0.6
STOK IAmb IAmb 17 16 48.1
comp=Z,51nm,0.8s
SUE Sulen 37.42 328 eP P 17 16 48.4 -0.3
SUE IAmb IAmb 17 16 49.1
comp=Z,12nm,0.8s
MBAR Mbarara 37.44 205 P P 17 16 47.9 -1.7
MBAR Mbarara 37.44 205 i P P 17 16 50.5 +0.9

MBAR pmax pmax
comp=Z,30nm,2.5s
KONS Konsvik 37.49 339 *e*P **P 17 16 48.6 -0.6**
FAUS Fauske 37.51 341 *e*P **P 17 16 49.0 -0.4**
FAUS IAmb IAmb 17 16 54.8
comp=Z,144nm,1.8s
FOO Floro 37.55 329 *e*P **P 17 16 48.9 -0.9**
FOO IAmb IAmb 17 16 54.0
comp=Z,13nm,0.9s
STEI Steigen 37.92 342 *e*P **P 17 16 52.2 -0.6**
STEI IAmb IAmb 17 16 52.9
comp=Z,35nm,0.9s
JETT Jettan, Norway 38.00 346 *e*P **P 17 16 53.1 -0.5**
JETT IAmb IAmb 17 16 53.8
comp=Z,102nm,0.5s
HAMF Hammerfest 38.31 348 *e*P **P 17 16 55.8 -0.3**
TRO Tromso 38.37 345 *e*P **P 17 16 55.8 -0.8**
TRO IAmb IAmb 17 16 56.2
comp=Z,58nm,0.8s
LOF Lofoten 38.51 341 *e*P **P 17 16 57.1 -0.7**
LOF IAmb IAmb 17 17 02.0
comp=Z,203nm,1.5s
LSA Lhasa 38.57 84 P **P 17 16 58.5 -0.9**
LSA Lhasa 38.57 84 P **P 17 17 00.0 +0.6**
LSA pmax pmax
comp=Z,15nm,1.0s
LSA Lhasa 38.57 84 P **P 17 16 58.5 -0.9**
LSA pmax pmax
comp=Z,18nm,0.8s
ENIJ Nijar 38.72 288 P **P 17 17 01.6 +1.6**
UCM Universidad Co 39.00 294 P **P 17 17 01.9 -0.5**
EKA Eskdalemuir Ar 39.52 317 P **P 17 17 05.1 -1.3**
comp=Z,8.4nm,0.5s,baz=104,slow=8.6,SNR=38
EKA PcP **PcP 17 19 13.2 -0.5**
comp=Z,5.5nm,0.7s,baz=109,slow=4.7,SNR=4.4
comp=Z,8.4nm,0.5s
ESDC Sonseca Array 39.63 293 P **P 17 17 07.7 0.0**
comp=Z,7.2nm,0.8s,baz=71,slow=8.5,SNR=18
ESDC PcP **PcP 17 19 15.5 +1.0**
comp=Z,3.3nm,0.8s,baz=53,slow=3.4,SNR=5.1
ESDC ScP **ScP 17 23 04.0 +1.8**
comp=Z,1.4nm,1.0s,baz=48,slow=3.6,SNR=4.3
comp=Z,7.2nm,0.8s
GOMU GeErMu 39.81 73 P **P 17 17 10.0 +0.4**
GOMU pP pP 17 17 12.5 -3.5
GOMU pmax pmax
comp=Z,42nm,0.9s
SHL Shillong 40.67 90 P **P 17 17 15.9 -0.7**
SHL IAmb IAmb 17 17 22.6
comp=Z,39nm,1.0s
SHL Shillong 40.67 90 P **P 17 17 15.9 -0.7**
SHL pmax pmax
comp=Z,39nm,1.0s
PBRG Braganca 41.44 296 *e*P **P 17 17 22.6 0.0**
MVO Moncorvo 41.73 295 *e*P **P 17 17 26.2 +1.1**
MVO A A 17 17 48.6
comp=Z,39nm,1.2s
NRIK Noril'sk 42.00 21 P **P 17 17 27.1 +0.4**
NRIK IAmb IAmb 17 17 34.5
comp=Z,67nm,0.9s
NRIK Noril'sk 42.00 21 P **P 17 17 27.7 +1.0**
comp=Z,35nm,0.9s,baz=232,slow=6.6,SNR=47
comp=Z,35nm,0.9s
NRIK Noril'sk 42.00 21*ce*P **P 17 17 27.7 +1.0**
NRIK pmax pmax
comp=Z,70nm,0.9s
PVRL Vila Real 42.23 296 *e*P **P 17 17 29.1 0.0**
MTE Manteigas 42.24 294 *e*P **P 17 17 30.6 +1.4**
MTE A A 17 17 59.3
comp=Z,58nm,1.9s
PBAR Barrancos 42.25 291 *e*P **P 17 17 29.6 +0.4**
PBAR A A 17 18 08.3
comp=Z,53nm,1.7s
PCBR Castelo Branco 42.28 294 *e*P **P 17 17 29.4 0.0**
PCBR A A 17 17 32.6
comp=Z,54nm,2.1s
PMRV Marv??o 42.29 293 *e*P **P 17 17 29.2 -0.3**
PMRV A A 17 17 38.3
comp=Z,34nm,1.7s
BJO1 Bjornoya 42.35 350 *e*P **P 17 17 29.1 -0.4**
PVIS Viseu 42.45 295 *e*P **P 17 17 33.0 +2.1**
PESTR Estremoz 42.54 292 *e*P **P 17 17 31.7 +0.1**
PESTR A A 17 17 51.0
comp=Z,39nm,1.8s
PGAV Gavieira, Arco 42.55 297 *e*P **P 17 17 34.9 +3.2**
PGAV A A 17 17 46.5
comp=Z,68nm,1.6s
PTO Porto 42.91 296 *e*P **P 17 17 38.6 +4.0**
PBEJ Beja 42.92 291 *e*P **P 17 17 35.4 +0.7**
PBEJ A A 17 17 37.1
comp=Z,67nm,1.7s
COI Coimbra 42.92 294 *e*P **P 17 17 39.1 +4.4**
COI A A 17 17 46.9
comp=Z,108nm,1.9s
PVAQ Vaqueiros 42.94 290 *e*P P 17 17 39.7 +4.9
GTA Gaotai 43.06 67 P **P 17 17 37.3 +1.3**
GTA pP pP 17 17 42.3 -0.1
GTA pmax pmax
comp=Z,25nm,1.5s
MESJ Messejana 43.23 291 *e*P **P 17 17 40.2 +3.0**
MESJ A A 17 17 47.9
comp=Z,73nm,0.3s
HOPEN Hopen 43.37 353 *e*P **P 17 17 38.7 +0.9**
HOPEN IAmb IAmb 17 17 39.0
comp=Z,346nm,1.4s
HSPB Hornsund (broa 44.91 351 *e*P **P 17 17 50.3 +0.2**
IRK Irkutsk 44.95 48 *e*P **P 17 17 51.7 +0.9**
IRK pmax pmax
comp=Z,98nm,2.5s
TORD Torodi Ar. Bea 45.02 253 P **P 17 17 51.5 -0.3**
comp=Z,14nm,0.9s,baz=55,slow=5.5,SNR=31
comp=Z,14nm,0.9s
SPB2 Spitsbergen Ar 45.77 352 P **P 17 17 56.9 0.0**
SPA0 Spitsbergen Ar 45.77 352 *e*P **P 17 17 57.1 +0.2**
SPA0 IAmb IAmb 17 17 58.1
comp=Z,167nm,1.1s
SPITS Spitsbergen Ar 45.77 352 P **P 17 17 57.2 +0.2**
comp=Z,20nm,0.4s,baz=144,slow=12,SNR=136
comp=Z,20nm,0.4s
SPITS Spitsbergen Ar 45.77 352 P **P 17 17 57.2 +0.2**
SPITS pmax pmax
comp=Z,152nm,1.1s
TNCH TengChong 46.38 87 P **P 17 18 03.8 +1.2**
TNCH pP pP 17 18 07.3 -1.8
TNCH pmax pmax
comp=Z,21nm,1.1s
KBS Kingsbay 46.90 352 *e*P **P 17 18 05.8 0.0**
KBS IAmb IAmb 17 18 06.5
comp=Z,39nm,0.9s
KBS Kingsbay 46.90 352*ce*P **P 17 18 06.6 +0.8**
KBS pmax pmax
comp=Z,118nm,2.5s
LZH Lanzhou 46.93 70 *e*P **P 17 18 07.5 +0.7**
LZH sP pP 17 18 13.0 -0.3
LZH pmax pmax
comp=Z,49nm,1.4s
ULN Ulaanbaatar 47.01 54 P **P 17 18 05.6 -1.7**
ULN IAmb IAmb 17 18 13.5
comp=Z,14nm,0.8s
ULN Ulaanbaatar 47.01 54*ce*P **P 17 18 08.5 +1.2**
ULN pmax pmax
comp=Z,16nm,0.8s
PZH PanZhiHua 48.44 83 P **P 17 18 18.3 -0.3**
PZH pmax pmax
comp=Z,10.0nm,1.5s
CD2 Chengdu 48.46 77 P **P 17 18 19.0 +0.4**
CD2 pmax pmax
comp=Z,40nm,0.9s
CHTO Chiang Mai 49.52 94 P **P 17 18 26.8 -0.1**
CHTO IAmb IAmb 17 18 27.7
comp=Z,25nm,0.9s
CHTO Chiang Mai 49.52 94 P **P 17 18 26.8 -0.1**
CHTO pmax pmax
comp=Z,25nm,1.0s
CM31 Chiang Mai Arr 49.70 94 P **P 17 18 27.8 -0.3**
CM31 IAmb IAmb 17 18 34.4
comp=Z,23nm,0.8s
CMAR Chiang Mai Arr 49.70 94 P **P 17 18 28.1 0.0**
comp=Z,10nm,0.8s,baz=295,slow=8.2,SNR=65
comp=Z,10nm,0.8s
KMI Kunming 49.82 85 ⇓P **P 17 18 29.5 +0.2**
KMI pmax pmax
comp=Z,17nm,0.9s
BORG Borgarnes 49.82 329 P **P 17 18 26.1 -2.3**
BORG Borgarnes 49.82 329 P **P 17 18 26.2 -2.3**
BORG pmax pmax
comp=Z,102nm,1.7s
BTO Baotou 50.45 63 *e*P **P 17 18 33.5 -0.2**
BTO pP **pP 17 18 38.5 -1.8**
BTO sP **sP 17 18 41.0 -1.7**
BTO PP **PP 17 20 35.5 +6.2**
BTO S **S 17 25 47.5 +1.1**
BTO SS **SS 17 29 20.3 +0.2**
BTO pmax pmax
comp=Z,100nm,1.0s
BTO LR LR
comp=Z,4μm,20.2s
BTO LR LR
comp=Z,3μm,14.2s
BTO LR LR
comp=Z,7μm,15.5s
SCO Scoresbysund 50.66 336 *i* P **P 17 18 34.4 -0.4**
SCO IAmb IAmb 17 18 48.2
comp=Z,235nm,2.9s
CIT Chita 50.67 48 *e*P **P 17 18 34.1 -1.1**
CIT *e* 17 19 54.2
CIT *e* 17 21 26.6
CIT pmax pmax
comp=Z,129nm,3.9s
PHRA Phrae 50.74 94 P **P 17 18 36.0 -0.1**
DBG Daneborg 50.84 341 *i* P **P 17 18 36.0 -0.1**
DBG IAmb IAmb 17 18 37.8
comp=Z,74nm,1.8s
DAG Danmarks Havn 51.08 345 *i* P **P 17 18 37.0 -0.8**
DAG IAmb IAmb 17 18 38.4
comp=Z,67nm,1.5s
XAN Xi'an 51.52 71 P **P 17 18 41.5 -0.3**
XAN pP pP 17 18 46.8 -1.5
XAN pmax pmax
comp=Z,97nm,0.9s
XAN LR LR
comp=Z,3μm,18.7s
XAN LR LR
comp=Z,3μm,17.7s
XAN LR LR
comp=Z,3μm,16.5s
HHC Hu-ho-hao-te 51.52 62 *e*P **P 17 18 43.0 +1.2**
HHC pmax pmax
comp=Z,27nm,0.9s
SRDT SRDT 51.95 99 P **P 17 18 44.3 -0.8**
LSZ Lusaka 52.03 202 P **P 17 18 45.9 +0.1**
LSZ Lusaka 52.03 202 P **P 17 18 45.9 +0.1**
LSZ pmax pmax
comp=Z,19nm,1.1s
NOR Nord 52.33 351 *i* P **P 17 18 45.2 -1.9**
NOR IAmb IAmb 17 18 47.6
comp=Z,24nm,0.9s
SLVN Son La 52.44 88 P **P 17 18 49.8 +1.0**
GYA Guiyang 52.50 81 ⇓P **P 17 18 49.0 -0.3**
GYA sP sP 17 18 58.3 0.0
GYA pmax pmax
comp=Z,18nm,1.0s
ENH Enshi 53.29 75 P **P 17 18 54.1 -0.9**
ENH IAmb IAmb 17 19 13.3
comp=Z,39nm,1.3s
XLT XiLinHaoTe 53.95 57 *e*P **P 17 18 59.8 +0.1**
XLT pP pP 17 19 04.0 -2.3
XLT pmax pmax
comp=Z,10.0nm,0.9s
BSI Banda Aceh 54.01 110 P **P 17 19 03.3 +2.9**
DBIC Dimbokro 54.04 251 P **P 17 19 00.3 -0.3**
comp=Z,12nm,0.6s,baz=34,slow=7.2,SNR=24
comp=Z,12nm,0.6s
LYN LuoYang 54.11 69 P **P 17 19 01.8 +0.9**
LYN pmax pmax
comp=Z,41nm,0.8s
HNS HongShan 54.87 65 ⇓P **P 17 19 07.5 +1.1**
HNS pmax pmax
comp=Z,17nm,0.9s
HIA Hailar 55.05 50 P **P 17 19 06.2 -1.4**
HIA Hailar 55.05 50 P **P 17 19 06.2 -1.4**
HIA pmax pmax
comp=Z,84nm,1.8s
BJI Beijing 55.12 62 P **P 17 19 08.5 +0.4**
BJI pmax pmax
comp=Z,5.0nm,0.8s
BJI LR LR
comp=Z,1μm,18.4s
BJI LR LR
comp=Z,3μm,17.9s
BJI LR LR
comp=Z,1μm,17.9s
BJT Baijiatuau 55.12 62 P **P 17 19 06.4 -1.8**
BJT Baijiatuau 55.12 62 P **P 17 19 06.4 -1.8**
BJT pmax pmax
comp=Z,8.0nm,0.6s
MLSI Meulaboh, Aceh 55.64 111 P **P 17 19 13.1 +1.0**
comp=Z,49nm,1.0s
TIXI Tiksi 55.73 22 P **P 17 19 11.7 -0.3**
TIXI Tiksi 55.73 22*ce*P **P 17 19 12.2 +0.2**
TIXI pmax pmax
comp=Z,36nm,1.3s
SUMG Summit 55.94 339 P **P 17 19 12.5 -1.5**
SUMG IAmb IAmb 17 19 22.6
comp=Z,17nm,0.9s
SUMG Summit 55.94 339 P **P 17 19 12.5 -1.5**
SUMG pmax pmax
comp=Z,17nm,0.9s
SUMG Summit 55.94 339 *i* P **P 17 19 13.0 -1.0**
SUMG IAmb IAmb 17 19 16.3
comp=Z,70nm,1.5s
ICESG Greenland Ices 56.81 335 *i* P **P 17 19 18.9 -1.3**
ICESG IAmb IAmb 17 19 22.2
comp=Z,26nm,0.7s
CNSH ChangSha 56.88 76 P **P 17 19 21.0 +0.1**
CNSH pmax pmax
comp=Z,27nm,1.0s
WHN Wuhan 57.07 73 P **P 17 19 22.8 +0.6**
WHN pP **pP 17 19 28.3 -0.5**
WHN sP **sP 17 19 31.0 -0.2**
TIA Tai'an 57.10 66 P **P 17 19 22.0 -0.4**
TIA pmax pmax
comp=Z,42nm,1.0s
YAK Yakutsk 57.62 34 P **P 17 19 24.3 -1.2**
YAK IAmb IAmb 17 19 27.5
comp=Z,21nm,0.8s
YAK Yakutsk 57.62 34 *e*P **P 17 19 24.5 -1.1**
YAK *e**PP **pP 17 19 29.2 -3.0**
YAK *e* 17 21 32.1
YAK *e*S **S 17 27 19.9 -2.5**
YAK *e**SS sS 17 27 46.8 +14
YAK pmax pmax
comp=Z,21nm,0.9s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=Z,6μm,10.0s
YAK pmax pmax
comp=E,2μm,6.3s
YAK pmax pmax
comp=N,568nm,2.6s
YAK smax smax
comp=E,1μm,6.1s
YAK smax smax
comp=N,683nm,4.4s
BROLN Tlhalogang 57.79 200 *i* P **P 17 19 28.9 +1.6**
KULM Kulim 58.34 107 IAmb IAmb 17 19 36.8
comp=Z,32nm,1.2s
KULM Kulim 58.34 107 P **P 17 19 30.3 -1.0**
QNGWA Qangwa 58.39 207 *i* P **P 17 19 33.7 +2.1**
GSI Gunungsitoli 58.41 113 P **P 17 19 31.4 -0.4**
GSI Gunungsitoli 58.41 113 P **P 17 19 32.0 +0.2**
comp=Z,31nm,0.7s
QIZ Qiongzhong 58.44 88 P **P 17 19 30.0 -2.0**
QIZ pmax pmax
comp=Z,44nm,2.4s
ZEA Zeya 58.44 44 *e*P **P 17 19 32.8 +1.3**
ZEA pmax pmax
comp=Z,10.0nm,0.9s
PSI Prapat 58.51 110 P **P 17 19 36.8 +4.2**
IPM Ipoh 59.12 107 P **P 17 19 36.0 -0.8**
CKGRV ČKGRV 59.19 204 *i* P **P 17 19 39.2 +2.1**
DL2 Dalian 59.48 61 P **P 17 19 39.3 +0.4**
DL2 pmax pmax
comp=Z,75nm,0.8s
HEH HeiHe 59.56 47 *e*P **P 17 19 39.5 +0.2**
HEH pmax pmax
comp=Z,32nm,0.8s
DY2G Dye2 59.86 332 *i* P **P 17 19 39.6 -1.8**
DY2G IAmb IAmb 17 19 42.0
comp=Z,194nm,1.7s
NJ2 Nanjing 60.00 70 ⇓P **P 17 19 42.8 +0.2**
NJ2 pmax pmax
comp=Z,19nm,0.9s
GRTLG Ghanzi 60.05 206 *i* P **P 17 19 45.6 +2.5**
LPHEP Lephephe 60.36 201 *i* P **P 17 19 47.2 +2.1**
CN2 Changchun 60.43 55 *e*P **P 17 19 42.8 -2.6**
KULLO Kullorsuaq 60.61 343 *i* P **P 17 19 44.3 -1.8**
KULLO IAmb IAmb 17 19 46.5
comp=Z,17nm,0.8s
KDWAN Kaudwane 60.74 202 *i* P **P 17 19 49.9 +2.2**
BNX BinXian 61.05 52 ⇓P **P 17 19 50.0 +0.4**
BNX pmax pmax
comp=Z,11nm,0.9s
KGCAE Kacgae 61.06 205 *i* P **P 17 19 52.2 +2.3**
KOOLE Kule 61.91 207 *i* P **P 17 19 58.3 +2.6**
LBTB Lobatse 61.99 201 P **P 17 19 58.1 +1.9**
LBTB IAmb IAmb 17 20 04.3
comp=Z,21nm,0.9s
LBTB Lobatse 61.99 201 P **P 17 19 58.1 +1.9**
LBTB pmax pmax
comp=Z,21nm,1.0s
SKOMA Sekoma 62.03 202 *i* P **P 17 19 58.6 +2.2**
KLR Kul'dur 62.55 47 *i* P **P 17 19 58.4 -1.3**
KLR pmax pmax
comp=Z,15nm,1.3s
POGA Pongola 62.72 194 P **P 17 20 01.1 +0.2**
POGA IAmb IAmb 17 20 22.9
comp=Z,18nm,0.8s
MDJ Mudanjiang 62.90 53 P **P 17 20 01.0 -1.1**
MDJ pmax pmax
comp=Z,10.0nm,2.3s
MYKOM Kota Tinggi 62.99 108 P **P 17 20 02.2 -0.8**
INCN Inchon 63.66 61 P **P 17 20 07.9 +0.6**
comp=Z,33nm,0.8s
TPRI Tanjung Pinang 64.05 108 P **P 17 20 09.3 -0.8**
comp=Z,27nm,0.8s
KS19 Wonju Array Si 64.55 61 P **P 17 20 11.9 -1.1**
KS19 IAmb IAmb 17 20 14.0
comp=Z,16nm,0.9s
KSRS Korea Array 64.61 61 P **P 17 20 12.8 -0.5**
comp=Z,11nm,0.8s,baz=282,slow=7.1,SNR=51
comp=Z,11nm,0.8s
USA0B Ussuriysk Arra 64.65 53 P **P 17 20 10.5 -3.0**
USA0B Ussuriysk Arra 64.65 53 P **P 17 20 10.5 -3.0**
USA0B pmax pmax
comp=Z,58nm,1.8s
USRK Ussuriysk Ar. 64.65 53 P **P 17 20 12.4 -1.1**
comp=Z,8.6nm,0.8s,baz=276,slow=4.8,SNR=11
comp=Z,8.6nm,0.8s
YHNB Yeheng 65.22 76 P **P 17 20 19.6 +1.9**
SSLB Suanglung 65.29 77 P **P 17 20 20.9 +2.8**
KSI Kapahiang 65.42 113 P **P 17 20 18.9 -0.1**
BOSA Boshof 65.48 200 P **P 17 20 19.2 0.0**
BOSA IAmb IAmb 17 20 26.4
comp=Z,28nm,1.0s
BOSA Boshof 65.48 200 P **P 17 20 19.5 +0.4**
comp=Z,18nm,0.7s,baz=18,slow=6.5,SNR=36
comp=Z,18nm,0.7s
SEY Seymchan 67.05 28 *e*P **P 17 20 29.0 +0.3**
SEY pmax pmax
comp=Z,62nm,1.3s
LWLI Liwa 67.42 113 P **P 17 20 30.3 -1.6**
KASI Kota Agung 68.07 113 P **P 17 20 36.1 +0.2**
comp=Z,19nm,0.8s,comp=Z,287nm
KSM Kuching 68.33 104 P **P 17 20 38.8 +1.3**
TPI Tanjungpandan 68.77 109 P **P 17 20 38.6 -1.6**
comp=Z,24nm,1.0s
BILL Bilibino 68.83 20 *i* P **P 17 20 39.6 -0.2**
BILL pmax pmax
comp=Z,43nm,1.0s
SBUM Sibu 69.30 102 P **P 17 20 42.6 -0.9**
SBUM Sibu 69.30 102 P **P 17 20 44.9 +1.3**
STKI Sintang 70.10 104 P **P 17 20 49.2 +0.7**
comp=Z,55nm,1.1s
YSS Yuzh-Sakhalins 70.19 46 *e*P **P 17 20 48.2 -0.4**
YSS pmax pmax
comp=Z,20nm,1.0s
CNJI Cibinong 71.22 113 P **P 17 20 56.4 +1.2**
comp=Z,65nm,1.1s
LEM Lembang 71.28 112 P **P 17 20 57.9 +2.0**
comp=Z,21nm,1.4s
MJAR Matsushiro Arr 72.34 58 P **P 17 21 00.5 -1.4**
comp=Z,1.4nm,0.7s,baz=319,slow=3.6,SNR=4.9
comp=Z,1.4nm,0.7s
A21K Barrow 73.50 7 P **P 17 21 08.6 +0.7**
baz=341
A36M Sachs Harbour 73.83 357 P **P 17 21 10.2 +0.3**
baz=7.8
A22K Sinclair Lake 73.97 7 P **P 17 21 11.2 +0.4**
baz=342
A19K Wainwright 74.02 9 P **P 17 21 11.0 0.0**
baz=337
SCHQ Schefferville 74.11 326 P **P 17 21 10.6 -1.4**
comp=Z,7.0nm,0.6s,baz=39,slow=3.8,SNR=16
comp=Z,7.0nm,0.6s
B20K Meade River 74.68 8 P **P 17 21 15.4 +0.4**
baz=341
B18K Kokolik River 74.69 10 P **P 17 21 15.4 +0.4**
baz=337
B22K Teshekpuk Lake 74.76 7 S **P 17 21 16.1 +0.8**
baz=344
PETK Petropavlovsk- 74.90 35 P **P 17 21 15.1 -1.5**
comp=Z,6.4nm,0.8s,baz=291,slow=5.6,SNR=8.1
comp=Z,6.4nm,0.8s
C16K Lisburne Hills 75.15 11 P **P 17 21 18.0 +0.3**
baz=334
C19K Lookout Ridge 75.23 9 P **P 17 21 19.1 +0.9**
baz=339
C17K DeLong Mountai 75.31 11 P **P 17 21 19.6 +0.9**
baz=336
B21K Ikpikpuk River 75.33 7 P **P 17 21 19.9 +1.2**
baz=343
C18K Utukok River 75.44 10 P **P 17 21 19.9 +0.4**
baz=337
C23K Itkillik River 75.50 6 P **P 17 21 20.5 +0.9**
baz=346
RDOG Red Dog Mine 75.73 11 IAmb IAmb 17 21 27.6
comp=Z,35nm,1.2s
RDOG Red Dog Mine 75.73 11 P **P 17 21 21.8 +0.7**
baz=336
C21K Knifeblade Rid 75.76 7 P **P 17 21 21.9 +0.7**
baz=343
C24K Franklin Bluff 75.76 5 P **P 17 21 22.1 +1.0**
baz=348
C26K Camden Bay 75.81 4 P **P 17 21 22.3 +0.9**
baz=351
D20K Etivluk River 75.97 8 P **P 17 21 23.4 +0.9**
baz=341
D19K Kuna River 76.00 9 P **P 17 21 23.4 +0.8**
baz=340
D17K Noatak River 76.03 11 P **P 17 21 23.3 +0.5**
baz=336
C27K Jago River 76.16 3 P **P 17 21 24.2 +0.7**
baz=352
D22K Ayikyak River 76.24 7 P **P 17 21 24.8 +0.8**
baz=344
D24K Happy Valley 76.31 5 P **P 17 21 25.1 +0.8**
baz=348
D25K Kavik River 76.31 4 P **P 17 21 25.2 +0.8**
baz=350
D23K Nanushuk River 76.34 6 P **P 17 21 25.3 +0.8**
baz=346
C36M Paulatuk 76.40 356 IAmb IAmb 17 21 24.8
comp=Z,29nm,0.8s
C36M Paulatuk 76.40 356 P **P 17 21 24.4 -0.4**
baz=8.7,SNR=21
E20K Nigu River 76.46 8 P **P 17 21 26.0 +0.7**
baz=342
E21K Killik River 76.53 7 P **P 17 21 25.7 +0.1**
baz=343
D28M Stokes Point 76.64 2 P **P 17 21 26.8 +0.6**
baz=356
D27M Malcolm River 76.66 2 P **P 17 21 26.9 +0.5**
baz=354
E18K Tukpahlearik C 76.66 10 P **P 17 21 26.7 +0.4**
baz=338
TOLK Toolik Lake Re 76.75 6 P **P 17 21 27.5 +0.6**
baz=347
E17K Hotham Inlet 76.80 11 P **P 17 21 27.6 +0.5**
baz=337
E22K Anaktuvuk Pass 77.05 7 IAmb IAmb 17 21 29.6
comp=Z,14nm,0.9s
E22K Anaktuvuk Pass 77.05 7 P **P 17 21 29.3 +0.8**
baz=345

E19K	Redstone River	77.09	9	P	P	17 21 29.5	+0.7
	baz=341						
E23K	Chandalar	77.32	6	P	P	17 21 31.0	+0.8
	baz=347						
E28M	Babbage River	77.34	2	P	P	17 21 31.1	+0.9
	baz=356						
E24K	Your Creek	77.39	5	P	P	17 21 31.5	+1.0
	baz=348						
F17K	Baldwin Pennin	77.48	11	P	P	17 21 31.5	+0.7
	baz=338						
F18K	Selawik	77.57	10	P	P	17 21 31.8	+0.4
	baz=339,SNR=9.0						
E29M	Blow River	77.60	1	P	P	17 21 31.9	+0.4
	baz=357						
F19K	Shaleruckik Mo	77.61	9	P	P	17 21 31.9	+0.3
	baz=340						
F22K	John River	77.62	7	P	P	17 21 33.0	+1.2
	baz=345						
F20K	Avaraart Lake	77.67	8	P	P	17 21 32.6	+0.6
	baz=342						
E27K	Coleen River	77.69	3	IAmb	IAmb	17 21 33.6	
	comp=Z,22nm,0.8s						
E27K	Coleen River	77.69	3	P	P	17 21 33.0	+0.9
	baz=354,SNR=21						
INK	Inuvik	77.72	360	P	P	17 21 31.5	-0.7
INK	Inuvik	77.72	360	P	P	17 21 32.0	-0.1
	baz=0.7,SNR=8.5						
INK	Inuvik	77.72	360	P	P	17 21 31.5	-0.7
INK				pmax	pmax		
	comp=Z,12nm,1.0s						
F21K	Alatna River	77.76	8	IAmb	IAmb	17 21 34.0	
	comp=Z,21nm,0.9s						
F21K	Alatna River	77.76	8	P	P	17 21 33.1	+0.6
	baz=344						
F24K	Squaw Lake	77.99	5	IAmb	IAmb	17 21 37.6	
	comp=Z,12nm,0.8s						
F24K	Squaw Lake	77.99	5	P	P	17 21 34.7	+0.9
	baz=349						
F26K	Sheenjek River	78.06	4	P	P	17 21 34.9	+0.6
	baz=352						
F25K	Christian Rive	78.07	4	P	P	17 21 35.5	+1.2
	baz=350,SNR=6.9						
COLD	Coldfoot	78.08	6	P	P	17 21 35.2	+0.9
	baz=347,SNR=12						
G22K	Bettles	78.25	7	P	P	17 21 36.2	+1.0
	baz=346						
G16K	Koyuk River	78.27	12	P	P	17 21 36.2	+0.9
	baz=337						
BMAR	Burnt Mountain	78.30	4	P	P	17 21 32.7	-2.9
F28M	Old Crow	78.33	2	IAmb	IAmb	17 21 43.9	
	comp=Z,12nm,0.8s						
F28M	Old Crow	78.33	2	P	P	17 21 36.6	+0.9
	baz=355,SNR=15						
G15K	Niukluk	78.34	12	P	P	17 21 37.2	+1.4
	baz=335						
G19K	Purcell Mounta	78.36	9	P	P	17 21 36.9	+1.0
	baz=341						
G18K	Tagagawik	78.38	10	P	P	17 21 34.4	-1.6
G18K				IAmb	IAmb	17 21 36.8	
	comp=Z,18nm,1.1s						
G18K	Tagagawik	78.38	10	P	P	17 21 36.5	+0.6
	baz=340						
F30M	Barrier River	78.41	1	P	P	17 21 36.5	+0.3
	baz=359						
G21K	Allakaket	78.44	8	IAmb	IAmb	17 21 37.4	
	comp=Z,22nm,0.9s						
G21K	Allakaket	78.44	8	P	P	17 21 37.2	+0.9
	baz=344						
G17K	Kiwalik Mounta	78.44	11	P	P	17 21 36.9	+0.6
	baz=338						
F31M	Tsiigehtchic	78.59	360	P	P	17 21 37.0	0.0
	baz=0.5,SNR=27						
G23K	Bananza Creek	78.60	6	P	P	17 21 37.8	+0.5
	baz=347						
G26K	Porcupine Rive	78.82	4	P	P	17 21 39.5	+1.2
	baz=352						
G24K	Hadweenzic Riv	78.83	5	IAmb	IAmb	17 21 51.4	
	comp=Z,20nm,1.1s						
G24K	Hadweenzic Riv	78.83	5	P	P	17 21 39.6	+1.2
	baz=349,SNR=5.2						
G25K	Bearman Lake	78.86	5	P	P	17 21 39.9	+1.3
	baz=350						
IMAR	Indian Mountai	78.92	8	P	P	17 21 38.4	-0.6
H19K	Roundabout Mou	79.03	9	P	P	17 21 40.7	+1.2
	baz=342						
G30M	tAoh Zraii Nji	79.04	1	P	P	17 21 40.1	+0.5
	baz=358						
G27K	Doyon Strip	79.06	3	P	P	17 21 40.4	+0.6
	baz=354						
G29M	Pine Creek	79.08	1	P	P	17 21 40.0	+0.2
	baz=357						
H17K	Granite Mounta	79.09	11	P	P	17 21 39.8	-0.1
	baz=339						
G31M	Satah River	79.11	360	P	P	17 21 39.6	-0.3
G31M	Satah River	79.11	360	P	P	17 21 40.0	+0.1
	baz=0.0,SNR=21						
H18K	Honhosa River	79.12	10	P	P	17 21 40.3	+0.2
	baz=340						
H20K	Anotleneega Mo	79.26	9	P	P	17 21 41.1	+0.2
	baz=343,SNR=9.6						
H22K	Ishtalitna Cre	79.27	7	P	P	17 21 41.2	+0.3
	baz=346						
H21K	Melozitna Rive	79.35	8	P	P	17 21 41.7	+0.4
H21K				IAmb	IAmb	17 21 43.0	
	comp=Z,24nm,0.9s						
H21K	Melozitna Rive	79.35	8	P	P	17 21 41.7	+0.4
	baz=344						
H23K	Yukon River	79.51	6	P	P	17 21 43.4	+1.2
	baz=347,SNR=10						
H24K	Noodor Dome	79.64	6	P	P	17 21 43.5	+0.5
	baz=349						
EPYK	Eagle Plains	79.65	1	P	P	17 21 43.0	0.0
	baz=358,SNR=14						
H27K	Steamboat Moun	79.65	3	P	P	17 21 44.0	+1.0
	baz=354,SNR=16						
GCSA	Galena City Sc	79.71	10	P	P	17 21 44.1	+0.9
	baz=341,SNR=6.2						
H29M	Whitestone	79.77	2	IAmb	IAmb	17 21 53.5	
	comp=Z,22nm,0.8s						
H29M	Whitestone	79.77	2	P	P	17 21 44.0	+0.5
	baz=357,SNR=16						
I17K	Unalakleet	79.94	12	P	P	17 21 44.8	+0.3
	baz=338						
I20K	Naaghedeneel	79.98	9	P	P	17 21 45.8	+1.1
	baz=343						
PRP	Porcupine Dome	80.14	5	IAmb	IAmb	17 21 49.5	
	comp=Z,64nm,1.9s						
PRP	Porcupine Dome	80.14	5	P	P	17 21 46.2	+0.5
	baz=351						
MLY	Manley	80.17	7	IAmb	IAmb	17 21 47.3	
	comp=Z,18nm,0.9s						
MLY	Manley	80.17	7	P	P	17 21 46.2	+0.4
	baz=346,SNR=5.5						
I23K	Minto, Yukon-K	80.19	6	P	P	17 21 46.1	+0.3
	baz=347						
BKSI	Bulukumba	80.22	103	P	P	17 21 52.6	+5.8
H31M	Peel River	80.23	0	P	P	17 21 46.5	+0.4
	baz=360						
I27K	Kandik River	80.27	3	P	P	17 21 46.7	+0.4
	baz=354						
POKR	Poker Plat Res	80.39	6	P	P	17 21 47.4	+0.4
	baz=349,SNR=11						
J14K	Nanvaranak Lak	80.48	13	P	P	17 21 47.8	+0.4
	baz=336						
I28M	Miner Creek	80.49	2	IAmb	IAmb	17 21 57.7	
	comp=Z,14nm,0.8s						
I28M	Miner Creek	80.49	2	P	P	17 21 47.8	+0.2
	baz=355,SNR=14						
J16K	Anvik River	80.52	12	P	P	17 21 48.3	+0.7
	baz=338						
COLA	College	80.59	6	P	P	17 21 48.3	+0.3
	baz=349						
COLA	College	80.59	6	*i* P	P	17 21 47.2	-0.8
COLA				pmax	pmax		
	comp=Z,37nm,0.9s						
J19K	Poorman	80.60	9	P	P	17 21 48.8	+0.7
	baz=342						
J20K	Nowinta River	80.62	9	P	P	17 21 48.7	+0.6
	baz=344						
J17K	VABM Dome	80.66	11	P	P	17 21 48.9	+0.5
	baz=340						
NEA2	Nenana	80.76	6	P	P	17 21 48.9	0.0
	baz=348						
ILAR	Eielson Array	80.77	5	P	P	17 21 49.0	0.0
	comp=Z,4.9nm,0.8s,baz=325,slow=4.0,SNR=45						
ILAR				PP	PP	17 24 53.2	+0.9
	comp=Z,2.4nm,1.0s,baz=350,slow=7.7,SNR=4.3						
ILAR				PKKPbc	PKKPbc	17 40 28.4	+0.2
	comp=Z,0.8nm,0.9s,baz=182,slow=2.9,SNR=4.5						
ILAR	Eielson Array	80.77	5	P	P	17 21 49.0	0.0
I30M	Mount Dempster	80.80	1	IAmb	IAmb	17 21 50.1	
	comp=Z,22nm,0.8s						
I30M	Mount Dempster	80.80	1	P	P	17 21 49.8	+0.5
	baz=358						
CCB	Clear Creek Bu	80.82	6	IAmb	IAmb	17 22 23.8	
	comp=Z,35nm,1.8s						
J18K	Innoko River	80.95	10	P	P	17 21 51.1	+1.1
	baz=341						
K13K	Kusilvak Mount	81.02	14	P	P	17 21 50.5	+0.2
	baz=335						
J25K	Salcha River,	81.04	5	P	P	17 21 51.0	+0.5
	baz=351						
BPAW	Bear Paw Mtn.	81.06	7	P	P	17 21 50.9	+0.3
	baz=346						
EGAK	Eagle	81.11	3	P	P	17 21 51.2	+0.4
	baz=354,SNR=6.6						
CHUM	Lake Minchumin	81.12	8	P	P	17 21 51.9	+1.1
	baz=345,SNR=6.3						
HDA	Harding Lake	81.13	6	P	P	17 21 50.7	-0.2
	baz=350,SNR=6.8						
J26L	Joseph Creek	81.27	4	P	P	17 21 51.6	-0.1
	baz=352						
K15K	Wolf Creek Mou	81.28	12	P	P	17 21 52.4	+0.7
	baz=338						
K20K	Telida	81.42	9	P	P	17 21 53.2	+0.8
	baz=344						
K17K	Iditarod	81.42	11	P	P	17 21 53.3	+0.8
	baz=340						
FCC	Fort Churchill	81.43	340	IAmb	IAmb	17 22 04.5	
	comp=Z,15nm,1.0s						
J30M	Hart River	81.45	1	P	P	17 21 53.2	+0.4
	baz=358						
KDI	Kendari	81.45	101	P	P	17 21 54.0	+0.6
J29N	Klondike Camp	81.54	2	P	P	17 21 53.7	+0.6
	baz=357						
TTA	Tatalina	81.56	10	P	P	17 21 54.4	+1.0
	baz=342						
CAST	Castle Rocks	81.60	8	IAmb	IAmb	17 21 54.6	
	comp=Z,33nm,1.2s						
CAST	Castle Rocks	81.60	8	P	P	17 21 53.6	+0.2
	baz=345,SNR=11						
MCK	McKinley	81.62	7	P	P	17 21 53.6	+0.1
	baz=348						
TRF	Thorofare Moun	81.76	7	P	P	17 21 54.4	-0.1
	baz=347						
SCRK	Sand Creek	81.77	4	IAmb	IAmb	17 21 55.9	
	comp=Z,22nm,0.9s						
SCRK	Sand Creek	81.77	4	P	P	17 21 54.5	0.0
	baz=352,SNR=12						
L15K	Ungalak Mounta	81.86	13	P	P	17 21 54.9	+0.1
	baz=338						
DAWY	Dawson	81.89	2	IAmb	IAmb	17 22 06.7	
	comp=Z,20nm,1.2s						
DAWY	Dawson	81.89	2	P	P	17 21 55.4	+0.4
	baz=356,SNR=5.7						
L14K	Kuka Creek	81.94	13	P	P	17 21 56.3	+1.1
	baz=337						
RIDG	Independent Ri	81.94	5	P	P	17 21 55.6	+0.2
	baz=351						
L17K	Donlin	81.97	11	P	P	17 21 56.3	+0.9
	baz=340						
PPLA	Purkeypile	82.09	8	P	P	17 21 56.8	+0.6
	baz=345						
L18K	Granite Mounta	82.14	10	P	P	17 21 57.1	+0.8
	baz=342						
K29M	Barlow Dome	82.17	1	IAmb	IAmb	17 21 57.7	
	comp=Z,13nm,0.8s						
K29M	Barlow Dome	82.17	1	P	P	17 21 56.5	-0.1
	baz=357,SNR=11						
L16K	Owhat River	82.18	12	P	P	17 21 57.3	+0.8
	baz=339						
YKA	Yellowknife Ar	82.26	351	P	P	17 21 56.4	-0.4
	comp=Z,5.0nm,0.8s,baz=14,slow=5.5,SNR=21						
	comp=Z,5.0nm,0.8s						
L20K	Farewell, AK	82.29	9	P	P	17 21 57.8	+0.7
	baz=344						
DHY	Denali Highway	82.41	6	IAmb	IAmb	17 22 06.5	
	comp=Z,11nm,0.7s						
DHY	Denali Highway	82.41	6	P	P	17 21 58.0	+0.1
	baz=349						
WRGLY	Wrigley	82.43	355	P	P	17 21 58.7	+0.9
	baz=9.0						
L19K	White Mountain	82.44	10	P	P	17 21 58.9	+1.0
	baz=343						
MAYO	Mayo, Yukon	82.44	1	P	P	17 21 58.3	+0.4
	baz=359						
WAT1	Susitna Watana	82.54	7	P	P	17 21 59.4	+0.9
	baz=348						
M14K	Bethel	82.63	13	P	P	17 21 59.6	+0.9
	baz=337						
PAX	Paxson	82.66	5	P	P	17 21 59.5	+0.4
	baz=351						
M13K	Dall Lake	82.67	14	P	P	17 22 00.2	+1.2
	baz=336						
L26K	Log Cabin Wild	82.75	4	P	P	17 22 00.6	+1.1
	baz=352						
M19K	Big River Lodg	82.77	9	P	P	17 22 00.7	+1.1
	baz=343						
BCAR	Beaver Creek A	82.80	3	P	P	17 22 00.1	+0.4
L27K	Beaver Creek,	82.80	3	P	P	17 22 00.5	+0.7
	baz=354						
M17K	Holitna River	82.81	11	P	P	17 22 00.6	+0.8
	baz=341						
WAT6	Susitna Watana	82.86	6	P	P	17 22 00.7	+0.4
	baz=349						
L29M	L29M	82.89	2	P	P	17 22 00.6	+0.4
	baz=357						
M16K	Timber Creek	82.91	12	P	P	17 22 00.8	+0.4
	baz=340						
M15K	Kasigluk River	82.92	13	P	P	17 22 00.6	+0.3
	baz=338						
M20K	Styx River	82.96	9	P	P	17 22 01.1	+0.4
	baz=344						
M18K	Stony River	82.97	10	P	P	17 22 01.4	+0.8
	baz=342						
SKT	Skwentna	83.06	8	P	P	17 22 01.4	+0.3
	baz=346						
HARP	HAARP	83.25	5	P	P	17 22 02.6	+0.5
	baz=351						
M26K	Nabesna, AK	83.39	4	P	P	17 22 03.2	+0.3
	baz=353						
M22K	Willow	83.44	8	P	P	17 22 03.6	+0.6
	baz=347						
M30M	Minto, Yukon	83.45	1	P	P	17 22 03.4	+0.2
	baz=358						
N16K	Nishlik Lake	83.46	12	P	P	17 22 04.1	+0.9
	baz=340						
M24K	Tolsona, Glenn	83.46	6	P	P	17 22 04.0	+0.8
	baz=350						
BVCY	Beaver Creek	83.49	3	P	P	17 22 04.2	+0.8
	baz=355						
M27K	Edge Creek, AK	83.50	4	P	P	17 22 04.1	+0.6
	baz=354						
N15K	Kwethluk River	83.52	13	P	P	17 22 04.0	+0.6
	baz=339						
M29M	Somme Creek	83.55	2	P	P	17 22 04.0	+0.3
	baz=357						
SML	Sawmill	83.57	7	P	P	17 22 04.1	+0.4
	baz=348						
SCM	Sheep Creek Mo	83.64	6	P	P	17 22 04.8	+0.7
	baz=349						
M23K	Glacier View	83.64	6	P	P	17 22 04.8	+0.7
	baz=349						
SUA	Susitna One	83.65	8	P	P	17 22 05.1	+0.8
	baz=346						
N17K	Nushagak Hills	83.67	11	P	P	17 22 05.3	+1.0
	baz=341						
PMR	Palmer	83.70	7	P	P	17 22 04.7	+0.4
	baz=348						
N18K	Kilae Creek	83.73	10	P	P	17 22 05.9	+1.3
	baz=342						
N20K	Mount Spurr	83.73	9	P	P	17 22 05.1	+0.4
	baz=345						
SPCR	Spurr Chakacha	83.73	9	P	P	17 22 04.9	+0.2
	baz=345						
N19K	Bonanza Creek	83.81	10	P	P	17 22 05.9	+0.9
	baz=343						
FARO	Faro, Yukon	83.82	360	IAmb	IAmb	17 22 17.7	
	comp=Z,14nm,1.0s						
FARO	Faro, Yukon	83.82	360	P	P	17 22 05.4	+0.4
	baz=0.8						
M31M	Drury Creek, Y	83.85	0	P	P	17 22 06.1	+0.9
	baz=360						
KNK	Knik Glacier	83.94	7	P	P	17 22 06.6	+1.0
	baz=348						
N25K	Chitina, Valde	84.08	5	P	P	17 22 07.3	+0.9
	baz=352						
KLU	Klutina	84.09	6	P	P	17 22 07.1	+0.7
	baz=350						
RC01	Rabbit Creek A	84.13	7	P	P	17 22 07.1	+0.5
	baz=347						
YUK3	Moose Creek	84.14	3	P	P	17 22 07.5	+0.6
	baz=355						
O14K	Tigyukauivet M	84.15	14	P	P	17 22 06.6	-0.1
	baz=338						
CAPN	Captain Cook N	84.28	8	P	P	17 22 08.5	+1.2
	baz=346						
MCARA	McCarthy VSAT	84.40	4	P	P	17 22 09.1	+1.1
	baz=353						
O17K	Koliganek Bris	84.40	11	P	P	17 22 09.1	+1.2
	baz=341						
O16K	Kokwok River B	84.41	12	P	P	17 22 07.8	-0.2
	baz=340						
O15K	Ungalikthiuk R	84.49	13	P	P	17 22 08.4	0.0
	baz=339						
PWL	Port Wells	84.50	7	P	P	17 22 08.3	-0.2
	baz=348						
N30M	Aishikik Lake	84.57	1	P	P	17 22 09.1	+0.2
	baz=358						
GLI	Glacier Island	84.60	6	P	P	17 22 09.0	+0.1
	baz=349						
O18K	Koktuh Hills	84.62	10	P	P	17 22 09.3	+0.2
	baz=343						
YUK4	Talbot Arm	84.64	2	P	P	17 22 09.0	-0.4
	baz=356						
O22K	Cooper Landing	84.73	8	P	P	17 22 09.7	+0.1
	baz=347						
O20K	Slope Mountain	84.77	9	P	P	17 22 10.0	+0.1
	baz=345						
N32M	Quiet Lake	84.90	359	P	P	17 22 10.9	+0.3
	baz=1.0						
CTG	Chitna Glacier	84.92	3	P	P	17 22 10.2	-0.6
	baz=354						
P16K	Nushagak River	84.96	12	P	P	17 22 10.4	-0.3
	baz=341						
CRQE	Cirque	85.03	4	P	P	17 22 10.9	-0.4
	baz=353						
P17K	Kvichak River	85.06	11	P	P	17 22 11.9	+0.6
	baz=342						
HYT	Haines Junctio	85.19	2	IAmb	IAmb	17 22 13.7	
	comp=Z,21nm,1.0s						
HYT	Haines Junctio	85.19	2	P	P	17 22 11.7	-0.4
	baz=357						
O30N	Mendenhall	85.27	1	P	P	17 22 12.2	-0.2
	baz=358						
HOM	Homer	85.30	9	P	P	17 22 12.6	+0.1
	baz=346						
BRSE	Bradley Lake S	85.33	8	P	P	17 22 12.2	-0.5
	baz=346						
Q16K	King Salmon	85.52	11	P	P	17 22 13.8	+0.3
	baz=342						
KOTAN	Kotaneelee Air	85.55	355	P	P	17 22 13.8	0.0
	baz=8.5						
O29M	Mount Kennedy	85.69	2	P	P	17 22 15.2	+0.6
	baz=356						
KAIM	Kayak Island	85.76	5	P	P	17 22 15.0	+0.2
	baz=352						
P33M	Teslin, Yukon	85.84	359	P	P	17 22 15.1	-0.2
	baz=1.2						
Q23K	Middleton Isla	86.09	6	P	P	17 22 17.0	+0.6
	baz=350						
RCBR	Riachuelo	86.35	260	*e*P	P	17 22 20.4	+1.9
P29M	Windy Craggy	86.39	2	P	P	17 22 19.0	+1.0
	baz=357						
LIRD	Liard River Hi	86.40	356	P	P	17 22 18.4	+0.4
	baz=6.8						
PLBC	Pleasant Camp	86.59	1	P	P	17 22 19.9	+1.0
	baz=358						
SKAG	Skagway	86.60	1	P	P	17 22 20.0	+1.1
	baz=359						
R33M	Jennings River	86.62	358	P	P	17 22 20.1	+0.9
	baz=2.8						
SWI	Sorong	86.80	93	P	P	17 22 21.4	+0.7
TOAD	Toad River Com	86.90	355	P	P	17 22 21.0	+0.5
	baz=7.5						
KDAK	Kodiak Island	87.00	10	P	P	17 22 21.2	+0.3
	baz=345						
Q32M	Nakina River	87.09	359	P	P	17 22 22.1	+0.5
Q32M	Nakina River	87.09	359	P	P	17 22 21.7	+0.1
	baz=1.7						
S12K	Black Hills	87.28	15	P	P	17 22 22.9	+0.6
	baz=337						
OHAK	Old Harbor	87.44	10	P	P	17 22 23.4	+0.4
	baz=344						
DLBC	Dease Lake	87.56	358	P	P	17 22 24.4	+0.6
	baz=3.5						
NBCA	Caruaru-PE	87.80	259	*e*P	P	17 22 28.0	+2.4
UNV	Unalaska Valle	87.90	18	P	P	17 22 25.7	+0.4
	baz=334						
S34M	Telegraph Cree	88.11	358	P	P	17 22 26.3	+0.1
	baz=2.6						
NBPB	Pedra_Branca-C	89.20	263	*e*P	P	17 22 35.4	+3.3
O48B	Farmland	93.07	325	P	P	17 22 49.0	-0.7
	baz=39						
P49A	Miami Univ. Ec	93.42	324	P	P	17 22 50.9	-0.5
	baz=39						
GUA01	Guaratinga, BA	95.56	254	*e*P	P	17 23 04.3	+2.8
RIB01	Linhares ES	97.54	252	*e*P	Pdif	17 23 12.6	+2.1
WRA	Warramnga Arr	99.88	107	P	Pdif	17 23 21.9	+1.1
	comp=Z,0.5nm,0.9s,baz=312,slow=4.2,SNR=2.1						
	comp=Z,0.5nm,0.9s						
ASAR	Alice Springs	101.53	111	P	Pdif	17 23 26.9	-1.3
	comp=Z,0.5nm,0.9s,baz=324,slow=4.6,SNR=2.6						
ASAR				PKiKP	PKiKP	17 27 50.6	-1.5
	comp=Z,0.6nm,1.0s,baz=302,slow=2.1,SNR=1.9						
ASAR				PKKPbc	PKKPbc	17 39 36.8	+1.6
	comp=Z,0.4nm,0.6s,baz=117,slow=3.8,SNR=5.9						
BELA	Belgrano 2	121.25	194	PKPdf	PKPdf	17 28 27.5	-0.1
QSPA	South Pole Qui	124.12	180	PKPdf	PKiKP	17 28 34.3	+0.5
QSPA	South Pole Qui	124.12	180	PKP	PKPdf	17 28 33.3	-0.2
	comp=Z,5.8nm,0.9s,baz=250,slow=1.8,SNR=11						
PLCA	Paso Flores	130.00	243	*e*P	PKiKP	17 28 46.6	+0.2
NIUE	Niue	144.95	74	PKPdf	PKPab	17 29 12.5	-0.2

IDC ***25*** *17:16:33.8±1.8, 1°.28N×125°.72E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=190.3km s-min=24.8km az=65.0*

DJA ***25*** *17:16:37.8±0.2, 1°S±2°×12°2E±°, h10km, M4.1/22, mb4.3/7, mB5.3/1, MLv4.0/22, Mw(mB)4.8/1*

ISC 25 17:16:37.4±0.8, 0°.61S±0°.04×121°.96E±0°.04, h10km, n17, σ1§00/22, **mb3.7/3, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	Ampana	0.44	226	P	Pg	17 16 45.3	-0.7
LUWI	Luwuk	0.92	118	P	Pg	17 16 54.5	-0.6
LUWI				S	Sb	17 17 07.8	+0.1
MRSI	Marisa	1.08	359	P	Pg	17 16 56.3	-1.8
MRSI				S	Sg	17 17 11.9	-0.2
PCI	Palu	2.15	262	P	Pn	17 17 14.5	+1.2
PCI				S	Sb	17 17 42.9	-0.2
KMSI	Cibinong	2.33	60	P	Pn	17 17 17.3	+1.4
KMSI				S	Sn	17 17 46.0	+1.4
TTSI	Tana Toraja	3.23	221	P	Pn	17 17 29.8	+1.5
KDI	Kendari	3.39	169	P	Pn	17 17 29.9	-0.5
SPSI	Sidrap Palu	3.99	213	P	Pn	17 17 39.1	+0.4
BNSI	Bone	4.20	206	P	Pn	17 17 42.7	+1.1
SANI	Sanana	4.27	110	P	Pn	17 17 42.1	-0.4
BBSI	Bau Bau	4.89	173	P	Pn	17 17 51.3	+0.3
BKSI	Bulukumba	5.03	201	P	Pn	17 17 53.0	0.0
	18nm,0.6s,0.1nm						
BKB	Balikpapan	5.11	263	P	Pn	17 17 54.8	+0.8
	51nm,1.0s,0.4nm						
NLAI	Namlea	5.76	117	P	Pn	17 18 04.0	+1.0
	30nm,0.9s,0.1nm						
WRA	Warramunga Arr	22.72	149	P	P	17 21 38.0	-1.6
	1.7nm,0.7s,baz=337,slow=10,SNR=14						
	1.7nm,0.7s						
ASAR	Alice Springs	25.68	154	P	P	17 22 08.0	+0.1
	0.5nm,0.6s,baz=346,slow=15,SNR=7.3						
ASAR				PcP	PcP	17 25 37.8	-0.6
	0.3nm,0.7s,baz=342,slow=4.0,SNR=2.3						
	0.5nm,0.6s						
MKAR	Makanchi Array	58.59	329	P	P	17 26 35.3	+0.8
	0.5nm,0.5s,baz=115,slow=8.2,SNR=7.1						
	0.5nm,0.5s						

IDC ***25*** *17:21:03.3±0.7, 34°.32N×45°.62E, h0km, mb3.9/19, mbtmp4.0/30, ML3.4/12, Error ellip

s-min=13.0km az=142.0
*ISN **25** 17:21:04.9±0.4,34°.35N×45°.72E,h14km±3km,ML4.2*
*TEH **25** 17:21:05.4,34°.34N×45°.64E,h9km±14km,ML4.0*
ISC 25 17:21:05.8±1.0,34°.31N±0°.03×45°.65E±0°.03,h16km±6km,
n66,σ2°09/76,mb3.9/18,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**346**	Pg	**Pg**	**17 21 09.0**	**-1.6**
GLG1	**Gilan-e-Gharb**	**0.29**	**132**	Pg	**Pg**	**17 21 12.1**	**0.0**
IDHR	**Dehrash**	**0.72**	**57**	Pg	**Pg**	**17 21 19.4**	**-0.6**
IGHG	**Ghaleghazi**	**0.76**	**88**	Pg	**Pg**	**17 21 20.7**	**-0.1**
ILBA	**Ilam Banvizeh**	**0.83**	**146**	Pg	**Pg**	**17 21 22.0**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.15**	**91**	Pg	**Pn**	**17 21 28.0**	**+0.4**
KCHF				Sg	**Sn**	**17 21 44.5**	**+1.3**
IBDR	**Badra**	**1.22**	**169**	*e*Pn	**Pg**	**17 21 29.7**	**+0.3**
IBDR				*e*Sn	**Sg**	**17 21 48.0**	**+2.7**
IBDR				AML	AML	17 21 53.8	
	comp=E,2μm,0.8s						
IBDR				AML	AML	17 21 59.9	
	comp=N,2μm,0.7s						
ILIN	**Lien**	**1.24**	**60**	Pg	**Pb**	**17 21 29.5**	**+0.4**
BHD	**Baghdad**	**1.48**	**226**	*e*Pn	**Pg**	**17 21 34.0**	**-0.3**
BHD				*e*Sn	**Sg**	**17 21 55.0**	**+1.4**
BHD				AML	AML	17 22 06.0	
	comp=E,5μm,0.6s						
IKRK	**Kirkuk**	**1.53**	**316**	*e*Pn	**Pb**	**17 21 34.0**	**+0.1**
IKRK				*e*Sn	**Sg**	**17 21 55.0**	**-0.2**
IKRK				AML	AML	17 21 57.4	
	comp=E,11μm,0.5s						
IKRK				AML	AML	17 21 58.1	
	comp=N,6μm,0.8s						
SNQR	**Sonqor, Kerman**	**1.72**	**71**	Pg	**Pb**	**17 21 37.8**	**+0.4**
SDS1	**Sardasht. Az.**	**1.84**	**356**	Pn	**Pb**	**17 21 38.6**	**-0.6**
IDOB	**Doab**	**2.17**	**103**	Pn	**Pb**	**17 21 43.8**	**-1.0**
MAHB	**Mahabad**	**2.45**	**1**	Pn	**Pn**	**17 21 47.2**	**+1.8**
RAFI	**Al-Rafai**	**2.61**	**171**	*e*Pn	**Pn**	**17 21 49.0**	**+1.6**
RAFI				*e*Sn	**Sn**	**17 22 21.5**	**+2.7**
NGD1	**Naghade .Az. G**	**2.64**	**356**	Pn	**Pn**	**17 21 49.8**	**+1.8**
IHSH	**Hashtrud**	**3.26**	**23**	Pn	**Pn**	**17 21 58.6**	**+1.9**
IAZR	**Azarshahr**	**3.37**	**4**	Pn	**Pn**	**17 22 00.0**	**+1.9**
QABG	**Abgarm-Qazvin**	**3.52**	**66**	Pn	**Pn**	**17 22 02.6**	**+2.4**
JIR1	**Jirandeh**	**4.15**	**54**	Pn	**Pn**	**17 22 10.8**	**+2.1**
IMRD	**Marand**	**4.39**	**1**	Pn	**Pn**	**17 22 13.9**	**+1.8**
IPIR	**Pirpir**	**4.67**	**109**	Pn	**Pn**	**17 22 17.2**	**+1.2**
JHBN	**Jahan bin**	**4.69**	**115**	Pn	**Pn**	**17 22 17.5**	**+1.2**
QAMS	**Qamsar**	**4.81**	**95**	Pn	**Pn**	**17 22 20.4**	**+2.5**
GAS1	**Astara - Iran**	**4.81**	**31**	Pn	**Pn**	**17 22 19.6**	**+1.9**
GRMI	**Germi**	**4.84**	**21**	Pn	**Pn**	**17 22 20.2**	**+2.0**
ZNGN	**Zangian**	**4.88**	**115**	Pn	**Pn**	**17 22 20.5**	**+1.5**
KLST	**Kelardasht - M**	**4.94**	**62**	Pn	**Pn**	**17 22 22.1**	**+2.4**
IKLH	**Kolahrood**	**5.04**	**100**	Pn	**Pn**	**17 22 23.7**	**+2.7**
IVRN	**Varamin**	**5.06**	**81**	Pn	**Pn**	**17 22 22.6**	**+1.5**
IDMV	**Damavand**	**5.39**	**75**	Pn	**Pn**	**17 22 28.0**	**+2.1**
IGAR	**Gharneh**	**5.68**	**108**	Pn	**Pn**	**17 22 31.4**	**+1.5**
IZEF	**Zefreh**	**5.75**	**102**	Pn	**Pn**	**17 22 33.0**	**+2.2**
GNI	**Garni**	**5.87**	**353**	Pn	**Pn**	**17 22 32.4**	**0.0**
	comp=N,0.2nm,0.3s,baz=186,slow=17,SNR=2.5						
GNI				Sn	**Sn**	**17 23 43.4**	**+3.9**
	comp=N,0.4nm,0.3s,baz=316,slow=10,SNR=2.7						
	comp=N,4.3nm,0.7s						
IRAM	**Ramesheh**	**6.18**	**112**	Pn	**Pn**	**17 22 38.3**	**+1.6**
DSBU	**Dashti - Bushe**	**7.63**	**140**	Pn	**Pn**	**17 22 57.4**	**+1.0**
ASF	**Jabal al Asfar**	**7.63**	**256**	Pn	**Pn**	**17 22 57.4**	**+0.9**
	comp=N,0.5nm,0.3s,baz=205,slow=0.0,SNR=1.4						
	comp=N,3.5nm,0.5s						
MMAI	**Mount Meron Ar**	**8.64**	**264**	Pn	**Pn**	**17 23 10.3**	**+0.1**
	comp=N,1.0nm,0.3s,baz=68,slow=14,SNR=4.6						
MMAI				Sn	**Sn**	**17 24 45.7**	**-1.7**
	comp=N,0.7nm,0.3s,baz=61,slow=19,SNR=0.9						
	comp=N,1.3nm,0.5s						
KBZ	**Khabaz**	**9.64**	**348**	Pn	**Pn**	**17 23 27.0**	**+3.1**
	comp=N,0.1nm,0.3s,baz=189,slow=14,SNR=1.7						
KBZ				Sn	**Sn**	**17 25 19.8**	**+7.9**
	comp=N,0.1nm,0.3s,baz=120,slow=23,SNR=5.6						
	comp=N,1.9nm,0.8s						
KVAR	**Kislovodsk Arr**	**9.90**	**348**	Pn	**Pn**	**17 23 30.8**	**+3.2**
	baz=180,slow=11						
KVAR				Sn	**Sn**	**17 25 16.9**	**-1.6**
	baz=355,slow=18						
	comp=N,5.8nm,1.0s						
EIL	**Elat**	**10.19**	**246**	Pn	**Pn**	**17 23 31.1**	**-0.4**
	comp=N,0.3nm,0.3s,baz=24,slow=17,SNR=1.6						
	comp=N,11nm,0.9s						
BRTR	**Keskin Array B**	**11.01**	**303**	Pn	**Pn**	**17 23 43.4**	**+0.5**
	baz=101,slow=13,SNR=1.7						
WSAR	**Wadi Sarin**	**15.83**	**131**	Pn	**Pn**	**17 24 46.0**	**-2.3**
	comp=N,1.2nm,0.3s,baz=299,slow=9.2,SNR=11						
WSAR				Sn	**Sn**	**17 27 34.3**	**-9.2**
	comp=N,0.3nm,0.3s,baz=164,slow=19,SNR=2.7						
	comp=N,8.4nm,0.7s						
IDI	**Anoyia**	**17.08**	**279**	P	**Pn**	**17 25 03.1**	**-1.0**
	comp=N,0.7nm,0.3s,baz=68,slow=10,SNR=11						
	comp=N,9.3nm,0.8s						
BELG	**Belogornoye**	**18.13**	**4**	P	**Pn**	**17 25 14.8**	**-2.0**
	comp=N,0.6nm,0.3s,baz=230,slow=1.7,SNR=6.8						
	comp=N,8.6nm,0.7s						
AKTO	**Aktyubinsk**	**18.48**	**26**	P	**P**	**17 25 20.1**	**-0.9**
	comp=N,0.3nm,0.3s,baz=213,slow=10,SNR=15						
	comp=N,9.6nm,0.9s						
MLR	**Muntele Rosu**	**18.74**	**312**	P	**Pn**	**17 25 25.1**	**+0.6**
	comp=N,0.1nm,0.3s,baz=185,slow=11,SNR=1.6						
	comp=N,0.7nm,0.4s						
AKASG	**Malin Array Be**	**20.29**	**329**	P	**P**	**17 25 40.1**	**-0.7**
	comp=N,0.5nm,0.4s,baz=142,slow=8.3,SNR=7.7						
	comp=N,0.5nm,0.4s						
KIRV	**Kirov**	**24.41**	**5**	P	**P**	**17 26 22.9**	**-0.5**
	comp=N,9.4nm,0.7s,baz=196,slow=5.2,SNR=4.5						
	comp=N,9.4nm,0.7s						
BVAR	**Borovoye Array**	**25.68**	**36**	P	**P**	**17 26 35.9**	**+1.0**
	comp=N,2.1nm,0.8s,baz=227,slow=7.9,SNR=5.1						
	comp=N,2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**28.92**	**46**	P	**P**	**17 27 04.8**	**+0.8**
	comp=N,1.3nm,0.7s,baz=253,slow=8.9,SNR=7.6						
	comp=N,1.3nm,0.7s						
FINES	**FINESS Array B**	**29.91**	**341**	P	**P**	**17 27 11.8**	**-0.9**
	comp=N,1.2nm,0.5s,baz=147,slow=11,SNR=8.1						
	comp=N,1.2nm,0.5s						
HFS	**Hagfors**	**33.15**	**331**	P	**P**	**17 27 40.6**	**-0.6**
	comp=N,1.2nm,0.3s,baz=133,slow=7.4,SNR=20						
	comp=N,1.2nm,0.3s						
ZALV	**Zalesovo Beam**	**33.71**	**42**	P	**P**	**17 27 46.0**	**-0.2**
	comp=N,0.6nm,0.3s,baz=238,slow=8.4,SNR=3.9						
	comp=N,0.6nm,0.3s						
NOA	**NORSAR Array B**	**34.67**	**331**	P	**P**	**17 27 54.2**	**-0.3**
	comp=N,0.7nm,0.8s,baz=126,slow=8.7,SNR=2.1						
	comp=N,0.7nm,0.8s						
ARCES	**ARCESS Array B**	**37.01**	**348**	P	**P**	**17 28 13.3**	**-1.0**
	comp=N,5.8nm,0.9s,baz=163,slow=8.3,SNR=16						
	comp=N,5.8nm,0.9s						
EKA	**Eskdalemuir Ar**	**39.47**	**317**	P	**P**	**17 28 34.0**	**-1.3**
	comp=N,0.3nm,0.3s,baz=104,slow=8.3,SNR=3.9						
	comp=N,0.3nm,0.3s						
ESDC	**Sonseca Array**	**39.58**	**293**	P	**P**	**17 28 35.7**	**-0.8**
	comp=N,1.7nm,1.1s,baz=70,slow=8.1,SNR=2.0						
	comp=N,1.7nm,1.1s						
NRIK	**Noril'sk**	**41.99**	**21**	P	**P**	**17 28 55.6**	**-0.3**
	comp=N,1.5nm,0.6s,baz=202,slow=9.3,SNR=2.3						
	comp=N,1.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**44.98**	**253**	P	**P**	**17 29 20.4**	**-0.3**
	comp=N,0.6nm,0.5s,baz=47,slow=6.2,SNR=6.6						
	comp=N,0.6nm,0.5s						
SPITS	**Spitsbergen Ar**	**45.74**	**352**	P	**P**	**17 29 25.9**	**0.0**
	comp=N,0.9nm,0.2s,baz=140,slow=12,SNR=22						
	comp=N,0.9nm,0.2s						
CMAR	**Chiang Mai Arr**	**49.75**	**94**	P	**P**	**17 29 57.6**	**-0.2**
	comp=N,0.4nm,0.3s,baz=297,slow=9.8,SNR=6.4						
	comp=N,0.4nm,0.3s						
KSRS	**Korea Array**	**64.64**	**61**	P	**P**	**17 31 42.0**	**-0.9**
	comp=N,1.1nm,0.8s,baz=279,slow=8.9,SNR=5.4						
	comp=N,1.1nm,0.8s						
BOSA	**Boshof**	**65.49**	**200**	P	**P**	**17 31 48.4**	**-0.1**
	comp=N,2.8nm,0.6s,baz=22,slow=6.4,SNR=9.6						
	comp=N,2.8nm,0.6s						
ILAR	**Eielson Array**	**80.76**	**5**	P	**P**	**17 33 19.9**	**+1.7**
	comp=N,0.5nm,0.9s,baz=336,slow=6.2,SNR=4.4						
	comp=N,0.5nm,0.9s						
YKA	**Yellowknife Ar**	**82.23**	**351**	P	**P**	**17 33 27.5**	**+1.5**
	comp=N,0.3nm,0.7s,baz=24,slow=4.7,SNR=2.6						
	comp=N,0.3nm,0.7s						

*IDC **25** 17:24:28.4±2.4,21°.10S×171°.51E,h0km,mb4.3/6,*
mbtmp4.5/8,ML4.2/2,MS4.5/1,Error ellipse: s-maj=55.4km
s-min=26.5km az=41.0
*NEIC **25** 17:24:29.2±2.8,21°.3S±0°.1×171°.38E±0°.09,h10km±2km,*
mb4.8/22,Error ellipse: s-maj=25.4km s-min=13.2km

az=342.0
*NOU **25** 17:24:33.9,21°.37S×171°.17E,h0km,MLv4.8/21,*
Southeast of Loyalty Islands
ISC 25 17:24:30.1±0.6,21°.35S±0°.08×171°.41E±0°.08,h10km,n84,
σ2°52/74,mb4.7/22,4C-1D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.15**	**267**	P	**Pn**	**17 25 20.8**	**+1.0**
PINNC	**Pines Island,**	**3.88**	**250**		**Pn**	**17 25 31.6**	**+1.7**
PINNC	**Pines Island,**	**3.88**	**250**	P	**Pn**	**17 25 31.9**	**+2.0**
YATNC	**Mamie plateau,**	**4.26**	**260**	P	**Pn**	**17 25 36.8**	**+1.7**
OUENC	**Ouen Island, N**	**4.37**	**255**	P	**Pn**	**17 25 38.6**	**+2.0**
DZM	**Mont Dzumac**	**4.67**	**260**	Pn	**Pn**	**17 25 42.8**	**+1.9**
	17nm,0.3s,baz=96,slow=12,SNR=317						
	233nm,0.8s						
DZM	**Mont Dzumac**	**4.67**	**260**	P	**Pn**	**17 25 43.2**	**+2.4**
ONTNC	**Ouen Toro**	**4.70**	**257**		**Pn**	**17 25 42.9**	**+1.7**
ONTNC	**Ouen Toro**	**4.70**	**257**	P	**Pn**	**17 25 43.5**	**+2.4**
DVP	**Devils Point**	**4.71**	**319**	P	Pn	17 25 44.8	+3.5
NOUC	**Port Laguerre**	**4.80**	**260**	P	**Pn**	**17 25 45.0**	**+2.4**
VLAKA	**Lakatoro**	**6.44**	**323**	P	Pn	17 26 08.8	+3.8
KOUNC	**Koumac, New Ca**	**6.70**	**276**	Pn	**Pn**	**17 26 10.5**	**+1.8**
KOUNC	**Koumac, New Ca**	**6.70**	**276**	P	**Pn**	**17 26 10.7**	**+2.0**
MSVF	**Nonsavu**	**7.22**	**61**	Pn	**Pn**	**17 26 16.4**	**+0.5**
MSVF	**Nonsavu**	**7.22**	**61**	LR	LR	17 28 26.3	
	comp=Z,4μm,19.4s,baz=221,slow=34						
NFK	**Norfolk Island**	**8.28**	**202**	P	**Pn**	**17 26 33.7**	**+3.4**
HNR	**Honiara**	**16.19**	**315**		**Pn**	**17 28 17.4**	**-0.4**
HNR				IAmb	IAmb	17 28 31.1	
	comp=Z,108nm,1.2s						
URZ	**Urewera**	**17.56**	**165**	P	**P**	**17 28 37.9**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=66,slow=5.9,SNR=12						
	comp=Z,82nm,1.1s						
RTZ	**Ruatahuna**	**17.86**	**166**		**Pn**	**17 28 38.9**	**+0.1**
BKZ	**Black Stump Fm**	**18.29**	**167**		**P**	**17 28 45.6**	**+1.5**
EIDS	**Eidsvold**	**19.08**	**254**	P	**P**	**17 28 50.4**	**-2.6**
EIDS				IAmb	IAmb	17 29 00.3	
	comp=Z,79nm,1.1s						
MRZ	**Mangatainoka R**	**19.57**	**170**	P	**P**	**17 28 56.3**	**-1.9**
ARMA	**Armidale**	**19.93**	**239**		**Pn**	**17 29 04.6**	**+0.6**
ARMA				IAmb	IAmb	17 29 11.0	
	comp=Z,41nm,1.1s						
TCW	**Tory Channel**	**19.95**	**174**	P	**P**	**17 28 58.2**	**-4.1**
TUWZ	**Tuamarina**	**20.13**	**174**	P	Pn	17 29 05.4	-0.8
MSWZ	**Moikau Station**	**20.27**	**172**	P	**P**	**17 29 03.1**	**-2.6**
INZ	**Inchbonnie**	**21.31**	**180**	P	**P**	**17 29 14.9**	**-2.2**
LTZ	**Lake Taylor**	**21.38**	**178**	P	**P**	**17 29 14.7**	**-3.1**
LTZ				IAmb	IAmb	17 29 24.0	
	comp=Z,45nm,0.8s						
CTAO	**Charters Tower**	**23.55**	**269**	P	**P**	**17 29 38.7**	**-2.3**
CTAO				IAmb	IAmb	17 29 55.1	
	comp=Z,50nm,1.4s						
CTAO	**Charters Tower**	**23.55**	**269**	P	**P**	**17 29 44.2**	**+3.3**
CNB	**Canberra Magne**	**23.80**	**230**	P	**P**	**17 29 46.9**	**+3.6**
CAN	**Canberra**	**24.07**	**230**	P	**P**	**17 29 43.9**	**-1.9**
CAN				IAmb	IAmb	17 29 57.2	
	comp=Z,33nm,1.0s						
CMSA	**Cobar Meteorol**	**25.11**	**241**	P	**P**	**17 29 59.5**	**+4.3**
MTSU	**Mount Surprise**	**25.68**	**272**	P	**P**	**17 30 02.9**	**+2.3**
PMG	**Port Moresby**	**26.18**	**293**	P	**P**	**17 30 02.7**	**-2.3**
PMG				IAmb	IAmb	17 30 19.1	
	comp=Z,10nm,1.0s						
PMG	**Port Moresby**	**26.18**	**293**	P	**P**	**17 30 04.2**	**-0.8**
	comp=Z,4.2nm,0.8s,baz=102,slow=9.3,SNR=3.1						
	comp=Z,4.2nm,0.8s						
STKA	**Stephens Creek**	**28.56**	**242**	P	**P**	**17 30 27.7**	**+1.4**
STKA	**Stephens Creek**	**28.56**	**242**	P	**P**	**17 30 28.9**	**+2.6**
	comp=Z,3.9nm,0.8s,baz=73,slow=10,SNR=6.3						
	comp=Z,3.9nm,0.8s						
LCRK	**Leigh Creek**	**31.11**	**246**	P	**P**	**17 30 50.7**	**+1.8**
OOD	**Oodnadatta**	**33.03**	**252**	P	**P**	**17 31 08.3**	**+2.5**
WR0	**Warramunga Arr**	**34.48**	**266**	P	**P**	**17 31 16.8**	**-1.7**
WR0				IAmb	IAmb	17 31 19.8	
	comp=Z,15nm,1.1s						
WB0	**Warramunga Arr**	**34.64**	**266**	P	**P**	**17 31 17.6**	**-2.4**
WB0				IAmb	IAmb	17 31 21.2	
	comp=Z,22nm,1.1s						
MULG	**Mulgathing**	**34.65**	**247**	P	**P**	**17 31 23.2**	**+3.3**
WB2	**Warramunga Arr**	**34.65**	**266**	P	**P**	**17 31 18.8**	**-1.3**
WB2				IAmb	IAmb	17 31 24.5	
	comp=Z,25nm,1.4s						
AS31	**Alice Springs**	**34.66**	**259**	P	**P**	**17 31 18.7**	**-1.4**
ASAR	**Alice Springs**	**34.66**	**259**	P	**P**	**17 31 18.1**	**-2.0**
ASAR	**Alice Springs**	**34.66**	**259**	P	**P**	**17 31 20.6**	**+0.6**
	comp=Z,6.1nm,1.0s,baz=84,slow=9.2,SNR=28						
	comp=Z,6.1nm,1.0s						
WRA	**Warramunga Arr**	**34.67**	**266**	P	**P**	**17 31 18.8**	**-1.4**
WRA	**Warramunga Arr**	**34.67**	**266**	P	**P**	**17 31 20.1**	**-0.1**
	comp=Z,6.5nm,0.9s,baz=96,slow=8.9,SNR=19						
	comp=Z,6.5nm,0.9s						
WRKA	**Warakurna**	**39.68**	**256**	P	**P**	**17 32 06.1**	**+3.4**
FORT	**Forrest**	**39.85**	**247**	P	**P**	**17 32 02.4**	**-1.6**
H11S2	**WAKE ISLAND Hy**	**39.86**	**353**	T	T	18 14 30.0	
	baz=172,slow=76						
H11S3	**WAKE ISLAND Hy**	**39.87**	**353**	T	T	18 14 21.5	
	baz=172,slow=76						
H11S1	**WAKE ISLAND Hy**	**39.88**	**353**	T	T	18 14 49.2	
	baz=172,slow=76						
KNRA	**Kununurra**	**40.74**	**271**	P	**P**	**17 32 08.4**	**-3.1**
KNRA				IAmb	IAmb	17 32 31.1	
	comp=Z,24nm,1.3s						
FITZ	**Fitzroy Crossi**	**43.09**	**266**	P	**P**	**17 32 29.6**	**-1.2**
SWI	**Sorong**	**44.12**	**292**	P	**P**	**17 32 39.8**	**+0.7**
	comp=Z,12nm,1.1s						
TOLI2	**Tolitoli**	**54.25**	**288**	P	**P**	**17 33 53.8**	**-2.9**
TOLI2				IAmb	IAmb	17 34 11.6	
	comp=Z,10nm,1.2s						
QSPA	**South Pole Qui**	**68.72**	**180**	P	**P**	**17 35 34.4**	**+0.5**
QSPA	**South Pole Qui**	**68.72**	**180**	P	**P**	**17 35 34.8**	**+0.9**
	comp=Z,4.4nm,1.0s,baz=28,slow=4.8,SNR=7.8						
	comp=Z,4.4nm,1.0s						
NJ2	**Nanjing**	**73.13**	**315**	*e*P	**P**	**17 36 00.8**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**81.22**	**294**	P	**P**	**17 36 48.3**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=109,slow=5.0,SNR=1.6						
	comp=Z,0.3nm,0.4s						
XLT	**XiLinHaoTe**	**82.34**	**323**	*e*P	**P**	**17 36 50.5**	**-1.7**
XLT				pP	pwP	17 37 06.8	+8.3
XLT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PZH	**PanZhiHua**	**82.55**	**302**	P	**P**	**17 36 54.0**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ELIB	**Princess Elisa**	**84.42**	**190**	*d*P	**P**	**17 37 04.1**	**+1.5**
	comp=Z,2.8nm,0.9s						
TROLL	**Troll, Antarti**	**86.57**	**183**	⇑P	**P**	**17 37 12.5**	**-0.9**
	comp=Z,41nm,0.5s						
SNAA	**Sanae**	**87.14**	**182**	⇑P	P	17 37 09.5	-6.6
	comp=Z,21nm,0.7s						
VNA3	**Neumayer Olymp**	**87.65**	**180**	⇑P	P	17 37 10.6	-7.8
	comp=Z,2.3nm,0.8s						
VNA2	**Neumayer--Watz**	**87.97**	**180**	⇑P	**P**	**17 37 15.6**	**-4.5**
	comp=Z,1.7nm,0.6s,baz=170,slow=5.0						
GTA	**Gaotai**	**90.05**	**313**	*e*P	P	17 37 37.3	+6.9
GTA				pP	pwP	17 37 42.5	+5.7
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
BRG	**Berggiesshubel**	**145.65**	**335**	*e*PKP	**PKiKP**	**17 44 15.0**	**+2.4**
BRG				Amp		17 44 20.3	
	comp=Z,4.5nm,1.0s						
VRAC	**Vranov**	**145.67**	**330**	*e*PKP	**PKiKP**	**17 44 18.2**	**+5.4**
CLL	**Collm**	**145.67**	**336**	*e*(PKPbc)	**PKPdf**	**17 44 04.0**	**-4.7**
CLL				*e*PKiKP	**PKiKP**	**17 44 13.0**	**+0.3**
CLL				*i* x	x	17 44 17.6	
KRUC	**Moravsky**	**145.93**	**330**	*e*PKP	**PKiKP**	**17 44 17.4**	**+4.1**
ZVC	**Zvikov**	**146.64**	**333**	*e*PKP	**PKiKP**	**17 44 20.4**	**+5.6**
CKRC	**Cesky Krumlov**	**147.05**	**332**	*e*PKP	**PKiKP**	**17 44 20.7**	**+5.0**
KHC	**Kasperske Hory**	**147.14**	**333**	*e*PKP	PKiKP	17 44 23.4	+7.5
KBA	**Koelnbreinsper**	**148.78**	**330**	*e*P	**PKPab**	**17 44 24.1**	**+2.2**
	comp=Z,0.8nm,0.4s						
WTTA	**Wattenberg**	**149.40**	**332**	*e*P	**PKPab**	**17 44 26.0**	**+1.7**
	comp=Z,0.5nm,0.5s						
ABTA	**Abfaltersbach**	**149.41**	**331**	*e*P	**PKPab**	**17 44 24.8**	**+0.5**
	comp=Z,1.2nm,0.6s						
MOTA	**Moosalm**	**149.57**	**333**	*e*P	**PKPab**	**17 44 22.9**	**-2.1**
	comp=Z,0.2nm,0.2s						
SQTA	**Sankt Quirin**	**149.62**	**333**	*e*P	**PKPab**	**17 44 26.5**	**+1.4**
	comp=Z,0.2nm,0.1s						
FETA	**Feichten**	**149.98**	**333**	*e*P	**PKPab**	**17 44 31.1**	**+4.4**
	comp=Z,2.4nm,0.7s						

*ISN **25** 17:24:54.2±0.3,34°.27N×45°.65E,h8km±2km,ML3.2*

*TEH **25** 17:24:55.1,34°.24N×45°.64E,h13km±25km,ML3.0*
ISC 25 17:24:55.4±0.9,34°.26N±0°.03×45°.66E±0°.04,h18km,n12,
σ0°89/16,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.25**	**124**	Pg	**Pg**	**17 25 00.7**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**0.26**	**347**	Pg	**Pg**	**17 25 01.0**	**-0.3**
IDHR	**Dehrash**	**0.75**	**54**	Pg	**Pb**	**17 25 09.7**	**-0.4**
IGHG	**Ghaleghazi**	**0.76**	**84**	Pg	**Pb**	**17 25 10.0**	**-0.2**
ILBA	**Ilam Banvizeh**	**0.78**	**144**	Pg	**Pb**	**17 25 09.9**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.15**	**89**	Pg	**Pg**	**17 25 17.4**	**-0.3**
IBDR	**Badra**	**1.17**	**169**	*e*Pg	**Pb**	**17 25 17.0**	**0.0**
IBDR				*e*Sg	**Sg**	**17 25 33.3**	**0.0**
ILIN	**Lien**	**1.26**	**58**	Pg	**Pg**	**17 25 19.7**	**-0.2**
BHD	**Baghdad**	**1.45**	**228**	*e*Pn	**Pg**	**17 25 22.5**	**-0.9**
BHD				*e*Sn	**Sg**	**17 25 43.0**	**+0.8**
BHD				AML	AML	17 25 45.1	
	comp=E,612nm,0.7s						
IKRK	**Kirkuk**	**1.57**	**317**	*e*Pn	**Pb**	**17 25 24.0**	**0.0**
IKRK				*e*Sn	**Sg**	**17 25 45.7**	**-0.6**
IKRK				AML	AML	17 25 48.9	
	comp=N,316nm,0.3s						
IKRK				AML	AML	17 25 49.2	
	comp=E,366nm,0.4s						
SDS1	**Sardasht. Az.**	**1.89**	**356**	Pn	**Pb**	**17 25 29.3**	**-0.3**
RAFI	**Al-Rafai**	**2.56**	**171**	*e*Pn	**Pn**	**17 25 38.0**	**+2.0**
RAFI				*e*Sn	**Sb**	**17 26 10.0**	**-1.8**

*IDC **25** 17:26:56.8±0.9,34°.26N×45°.63E,h0km,mb4.0/17,*
mbtmp4.1/23,ML4.1/5,MS4.7/1,Error ellipse:
s-maj=17.4km s-min=15.4km az=33.0
*ISN **25** 17:26:56.3±0.7,34°.24N×45°.58E,h12km±6km,ML4.2*
*TEH **25** 17:26:59.9,34°.36N×45°.69E,h11km±19km,ML4.0*
ISC 25 17:26:58.1±1.2,34°.22N±0°.03×45°.56E±0°.03,h9km±8km,
n67,σ1°47/70,mb4.0/23,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.28**	**4**	Pg	**Pg**	**17 27 03.5**	**-0.3**
ILBA	**Ilam Banvizeh**	**0.80**	**138**	Pg	**Pn**	**17 27 16.5**	**+0.9**
IDHR	**Dehrash**	**0.83**	**55**	Pg	**Pg**	**17 27 12.9**	**-1.3**
IGHG	**Ghaleghazi**	**0.84**	**82**	Pg	**Pg**	**17 27 14.6**	**+0.3**
IBDR	**Badra**	**1.15**	**165**	*e*Pn	**Pg**	**17 27 20.0**	**-0.2**
IBDR				*e*Sn	**Sn**	**17 27 37.5**	**+1.3**
KCHF	**Cheshme Sefid,**	**1.22**	**87**	Pg	**Pn**	**17 27 21.8**	**+0.3**
KCHF				Sg	**Sb**	**17 27 38.1**	**+0.6**
ILIN	**Lien**	**1.35**	**59**	Pg	**Pn**	**17 27 23.3**	**0.0**
BHD	**Baghdad**	**1.37**	**226**	*e*Pn	**Pn**	**17 27 23.0**	**-0.4**
BHD				*e*Sn	**Sg**	**17 27 43.0**	**+0.9**
BHD				AML	AML	17 27 59.0	
	comp=E,2μm,0.9s						
IKRK	**Kirkuk**	**1.55**	**320**	*e*Pn	**Pn**	**17 27 25.5**	**-0.4**
IKRK				*e*Sn	**Sb**	**17 27 47.0**	**+0.4**
IKRK				AML	AML	17 27 51.8	
	comp=E,6μm,0.7s						
IKR

comp=Z,9.8nm,0.8s
CMAR Chiang Mai Arr 49.81 94 P P 17 35 51.0 -0.5
comp=Z,0.8nm,0.7s,baz=296,slow=8.1,SNR=6.6
comp=Z,0.8nm,0.7s
KSRS Korea Array 64.74 61 P P 17 37 36.2 -0.6
comp=Z,0.4nm,0.4s,baz=284,slow=7.2,SNR=3.0
comp=Z,0.4nm,0.4s
BOSA Boshof 65.38 200 P P 17 37 41.4 +0.3
comp=Z,3.5nm,1.1s,baz=27,slow=9.0,SNR=2.3
comp=Z,3.5nm,1.1s
ILAR Eielson Array 80.85 5 P P 17 39 12.2 +0.2
comp=Z,0.5nm,0.8s,baz=328,slow=3.2,SNR=4.5
comp=Z,0.5nm,0.8s

*NAO **25** 17:27:19.0, 36°.33N×44°.94E, h33km, mb3.6*
*IDC **25** 17:27:46.7±2.4, 34°.29N×45°.56E, h0km, mb4.0/10, mbtmp4.0/12, ML4.1/2, MS5.0/1, Error ellipse: s-maj=51.0km s-min=24.1km az=21.0*
*ISN **25** 17:27:49.5±0.6, 34°.41N×45°.64E, h10km±5km, ML3.7*
*TEH **25** 17:27:50.0, 34°.39N×45°.65E, h9km±112km, ML3.7*
ISC 25 17:27:50.3±0.9, 34°.41N±0°.03×45°.64E±0°.03, h16km±6km, n23, σ1°10/29, mb4.0/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.11**	**339**	Pg	**Pg**	**17 27 52.9**	**-0.9**
GLG1	**Gilan-e-Gharb**	**0.37**	**142**	Pg	**Pg**	**17 27 57.4**	**-0.5**
IDHR	**Dehrash**	**0.69**	**64**	Pg	**Pg**	**17 28 03.1**	**-0.8**
IGHG	**Ghaleghazi**	**0.78**	**95**	Pg	**Pb**	**17 28 05.0**	**-0.5**
IGHG				Sg	**Sb**	**17 28 16.5**	**+0.6**
KCHF	**Cheshme Sefid,**	**1.17**	**96**	Sg	**Sg**	**17 28 28.7**	**+0.5**
ILIN	**Lien**	**1.21**	**65**	Pg	**Pg**	**17 28 13.5**	**-0.2**
ILIN				Sg	**Sg**	**17 28 31.2**	**+1.7**
IBDR	**Badra**	**1.31**	**169**	*e*Pn	**Pg**	**17 28 15.7**	**+0.1**
IBDR				*e*Sn	**Sg**	**17 28 34.5**	**+1.7**
IBDR				AML	AML	17 28 37.1	
	comp=E,1μm,0.5s						
IBDR				AML	AML	17 28 37.9	
	comp=N,1μm,0.5s						
IKRK	**Kirkuk**	**1.46**	**313**	*e*Pn	**Pb**	**17 28 17.5**	**+0.5**
IKRK				*e*Sn	**Sg**	**17 28 38.5**	**+1.2**
IKRK				AML	AML	17 28 46.2	
	comp=E,2μm,0.4s						
IKRK				AML	AML	17 28 48.8	
	comp=N,3μm,0.8s						
BHD	**Baghdad**	**1.54**	**223**	*e*Pn	**Pb**	**17 28 19.0**	**+0.6**
BHD				*e*Sn	**Sg**	**17 28 40.0**	**0.0**
BHD				AML	AML	17 28 50.4	
	comp=E,2μm,0.4s						
RAFI	**Al-Rafai**	**2.71**	**171**	*e*Pn	**Pn**	**17 28 35.0**	**+1.9**
RAFI				*e*Sn	**Sb**	**17 29 08.5**	**-2.7**
RAFI				AML	AML	17 29 22.4	
	comp=N,269nm,0.3s						
RAFI				AML	AML	17 29 31.1	
	comp=E,259nm,0.8s						
WSAR	**Wadi Sarin**	**15.90**	**131**	Pn	**Pn**	**17 31 31.5**	**-1.9**
	comp=E,0.5nm,0.3s,baz=342,slow=12,SNR=1.5						
	comp=E,2.8nm,0.5s						
AKTO	**Aktyubinsk**	**18.40**	**26**	P	**Pn**	**17 32 05.1**	**+0.5**
	comp=E,0.8nm,0.3s,baz=188,slow=10.0,SNR=4.9						
	comp=E,4.8nm,0.6s						
AKASG	**Malin Array Be**	**20.21**	**329**	P	**P**	**17 32 24.1**	**-0.2**
	comp=E,0.4nm,0.3s,baz=140,slow=9.2,SNR=1.8						
	comp=E,0.4nm,0.3s						
BVAR	**Borovoye Array**	**25.60**	**36**	P	**P**	**17 33 18.0**	**-0.6**
	comp=E,1.7nm,0.6s,baz=245,slow=9.6,SNR=4.2						
	comp=E,1.7nm,0.6s						
KURBB	**Kurchatov Arra**	**28.86**	**46**	P	**P**	**17 33 48.5**	**+0.6**
	comp=E,0.7nm,0.7s,baz=253,slow=9.4,SNR=2.2						
	comp=E,0.7nm,0.7s						
FINES	**FINESS Array B**	**29.81**	**341**	P	**P**	**17 33 55.2**	**-1.0**
	comp=E,1.0nm,0.3s,baz=140,slow=10.0,SNR=6.3						
	comp=E,1.0nm,0.3s						
HFS	**Hagfors**	**33.06**	**331**	P	**P**	**17 34 24.5**	**-0.3**
	comp=E,4.1nm,0.6s,baz=141,slow=7.2,SNR=8.3						
	comp=E,4.1nm,0.6s						
NOA	**NORSAR Array B**	**34.58**	**331**	P	**P**	**17 34 37.2**	**-0.9**
	comp=E,0.6nm,0.7s,baz=127,slow=8.7,SNR=1.7						
	comp=E,0.6nm,0.7s						
ARCES	**ARCESS Array B**	**36.91**	**348**	P	**P**	**17 34 57.4**	**-0.5**
	comp=E,2.2nm,0.5s,baz=168,slow=8.4,SNR=11						
ARCES				LR	LR	17 52 39.6	
	comp=E,2μm,19.9s,baz=104,slow=40						
	comp=E,2.2nm,0.5s						
EKA	**Eskdalemuir Ar**	**39.39**	**317**	P	**P**	**17 35 18.4**	**-0.5**
	comp=E,1.9nm,0.6s,baz=99,slow=8.7,SNR=4.9						
	comp=E,1.9nm,0.6s						
SPITS	**Spitsbergen Ar**	**45.65**	**352**	P	**P**	**17 36 09.9**	**+0.4**
	comp=E,1.6nm,0.4s,baz=140,slow=12,SNR=8.3						
	comp=E,1.6nm,0.4s						
HHC	**Hu-ho-hao-te**	**51.52**	**62**	*e*P	**P**	**17 36 56.3**	**+1.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,460nm,3.6s						
KSRS	**Korea Array**	**64.60**	**61**	P	**P**	**17 38 26.4**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=288,slow=5.9,SNR=2.3						
	comp=Z,0.7nm,0.7s						

*IDC **25** 17:31:19.0±1.1, 34°.51N×45°.38E, h0km, mb3.9/14, mbtmp3.9/23, ML3.6/8, Error ellipse: s-maj=20.7km s-min=15.1km az=158.0*
*NEIC **25** 17:31:18.2±2.7, 34°.31N±0°.05×45°.7E±0°.1, h10km±2km, mb4.2/8, Error ellipse: s-maj=16.6km s-min=7.9km az=92.0*
*TEH **25** 17:31:19.4, 34°.39N×45°.75E, h8km±30km, ML4.0*
*ISN **25** 17:31:19.0±0.7, 34°.41N×45°.71E, h7km±4km, ML4.2*
ISC 25 17:31:19.4±0.9, 34°.36N±0°.03×45°.69E±0°.03, h16km±6km, n81, σ2°10/89, mb3.9/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.17**	**330**	Pg	**Pg**	**17 31 22.9**	**-0.7**
GLG1	**Gilan-e-Gharb**	**0.31**	**144**	Pg	**Pg**	**17 31 26.1**	**+0.2**
IDHR	**Dehrash**	**0.67**	**60**	Pg	**Pg**	**17 31 31.6**	**-0.9**
IGHG	**Ghaleghazi**	**0.73**	**92**	Pg	**Pg**	**17 31 33.5**	**-0.2**
ILBA	**Ilam Banvizeh**	**0.85**	**150**	Pg	**Pg**	**17 31 35.6**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.12**	**94**	Pg	**Pb**	**17 31 40.6**	**+0.1**
KCHF				Sg	**Sg**	**17 31 55.4**	**-0.4**
ILIN	**Lien**	**1.19**	**62**	Pg	**Pb**	**17 31 41.2**	**-0.4**
IBDR	**Badra**	**1.27**	**171**	*e*Pg	**Pg**	**17 31 44.5**	**+0.8**
IBDR				*e*Sg	**Sg**	**17 32 02.0**	**+1.8**
IBDR				AML	AML	17 32 07.4	
	comp=E,3μm,0.3s						
IBDR				AML	AML	17 32 10.9	
	comp=N,2μm,0.8s						
IKRK	**Kirkuk**	**1.52**	**313**	*e*Pn	**Pg**	**17 31 48.0**	**-0.5**
IKRK				*e*Sn	**Sg**	**17 32 09.5**	**+1.2**
IKRK				AML	AML	17 32 11.8	
	comp=E,8μm,0.5s						
IKRK				AML	AML	17 32 12.4	
	comp=N,5μm,0.7s						
BHD	**Baghdad**	**1.54**	**225**	*e*Pn	**Pg**	**17 31 49.0**	**0.0**
BHD				*e*Sn	**Sg**	**17 32 11.5**	**+2.5**
BHD				AML	AML	17 32 22.0	
	comp=E,6μm,0.3s						
SNQR	**Sonqor, Kerman**	**1.67**	**72**	Pg	**Pb**	**17 31 50.3**	**+0.3**
SDS1	**Sardasht. Az.**	**1.79**	**355**	Pg	**Pb**	**17 31 52.3**	**+0.4**
IDOB	**Doab**	**2.14**	**105**	Pn	**Pb**	**17 31 57.1**	**-0.8**
MAHB	**Mahabad**	**2.40**	**0**	Pn	**Pb**	**17 32 01.1**	**-1.2**
NGD1	**Naghade .Az. G**	**2.59**	**355**	Pn	**Pb**	**17 32 03.2**	**-2.3**
RAFI	**Al-Rafai**	**2.66**	**172**	*e*Pn	**Pb**	**17 32 05.0**	**-1.5**
RAFI				*e*Sn	**Sb**	**17 32 38.0**	**-0.9**
IHSH	**Hashtrud**	**3.20**	**23**	Pn	**Pn**	**17 32 12.0**	**+2.6**
IAZR	**Azarshahr**	**3.32**	**4**	Pn	**Pn**	**17 32 13.7**	**+2.8**
IMRD	**Marand**	**4.34**	**0**	Pn	**Pn**	**17 32 27.4**	**+2.5**
GEVA	**Gevas**	**4.48**	**332**		**Pn**	**17 32 29.0**	**+2.3**
IPIR	**Pirpir**	**4.66**	**110**	Pn	**Pn**	**17 32 31.3**	**+2.0**
JHBN	**Jahan bin**	**4.68**	**116**	Pn	**Pn**	**17 32 31.9**	**+2.3**
GAS1	**Astara - Iran**	**4.75**	**31**	Pn	**Pn**	**17 32 33.2**	**+2.9**
QAMS	**Qamsar**	**4.78**	**96**	Pn	**Pn**	**17 32 33.6**	**+2.7**
ZNGN	**Zangian**	**4.87**	**116**	Pn	**Pn**	**17 32 33.8**	**+1.5**
KLST	**Kelardasht - M**	**4.88**	**62**	Pn	**Pn**	**17 32 35.3**	**+2.9**
IKLH	**Kolahrood**	**5.01**	**100**	Pn	**Pn**	**17 32 37.2**	**+3.0**
IVRN	**Varamin**	**5.02**	**81**	Pn	**Pn**	**17 32 36.6**	**+2.5**
GURO	**Guroymak-BITLI**	**5.11**	**326**		**Pn**	**17 32 36.9**	**+1.4**
IDMV	**Damavand**	**5.35**	**75**	Pn	**Pn**	**17 32 41.1**	**+2.3**
KRSH	**Karshahi**	**5.36**	**92**	Pn	**Pn**	**17 32 41.0**	**+2.1**
IGAR	**Gharneh**	**5.66**	**108**	Pn	**Pn**	**17 32 45.1**	**+2.1**
IZEF	**Zefreh**	**5.73**	**103**	Pn	**Pn**	**17 32 45.7**	**+1.7**
GNI	**Garni**	**5.83**	**353**	Pn	**Pn**	**17 32 48.9**	**+3.6**
	comp=E,1.0nm,0.3s,baz=234,slow=16,SNR=1.4						
GNI				Sn	**Sn**	**17 33 52.5**	**+0.8**
	comp=E,1.1nm,0.3s,baz=53,slow=1.1,SNR=3.5						
	comp=E,2.8nm,0.3s						
IFIR	**Firoozkooh**	**5.94**	**76**	Pn	**Pn**	**17 32 49.2**	**+2.4**
KLNJ	**Kolanjah**	**6.00**	**122**	Pn	**Pn**	**17 32 49.5**	**+1.7**
ASF	**Jabal al Asfar**	**7.68**	**256**	Pn	**Pn**	**17 33 10.8**	**+0.1**
	comp=E,1.2nm,0.3s,baz=300,slow=0.0,SNR=7.0						
	comp=E,3.2nm,0.3s						
MMAI	**Mount Meron Ar**	**8.68**	**264**	Pn	**Pn**	**17 33 24.6**	**+0.3**
	comp=E,0.5nm,0.3s,baz=85,slow=16,SNR=0.8						
MMAI				Sn	**Sn**	**17 35 05.5**	**+3.7**
	comp=E,0.8nm,0.3s,baz=61,slow=31,SNR=1.3						
KBZ	**Khabaz**	**9.60**	**348**	Pn	**Pn**	**17 33 39.6**	**+2.8**
	comp=E,0.1nm,0.3s,baz=179,slow=9.1,SNR=5.9						
	comp=E,5.3nm,1.0s						
EIL	**Elat**	**10.24**	**246**	Pn	**Pn**	**17 33 44.9**	**-0.8**
	comp=E,0.3nm,0.3s,baz=79,slow=15,SNR=1.4						
	comp=E,16nm,0.7s						
BRTR	**Keskin Array B**	**11.01**	**303**	Pn	**Pn**	**17 33 55.6**	**-0.7**
	baz=141,slow=9.3,SNR=1.6						
WSAR	**Wadi Sarin**	**15.84**	**131**	Pn	**Pn**	**17 34 59.3**	**-2.4**
	comp=E,2.0nm,0.3s,baz=343,slow=11,SNR=10.0						
WSAR				Sn	**Sn**	**17 37 48.1**	**-9.0**
	comp=E,0.4nm,0.3s,baz=167,slow=22,SNR=8.8						
IDI	**Anoyia**	**17.11**	**279**	Pn	**Pn**	**17 35 14.1**	**-3.7**
	comp=E,1.7nm,0.7s,baz=96,slow=19,SNR=1.1						
BELG	**Belogornoye**	**18.08**	**4**	P	**Pn**	**17 35 28.4**	**-1.2**
	comp=E,0.9nm,0.3s,baz=22,slow=3.6,SNR=5.0						
	comp=E,7.8nm,0.8s						
ABKAR	**Akbulak array**	**18.24**	**31**	Pn	**Pn**	**17 35 28.1**	**-3.5**
AKTO	**Aktyubinsk**	**18.42**	**26**	P	**Pn**	**17 35 34.3**	**+0.4**
	comp=E,0.3nm,0.3s,baz=200,slow=12,SNR=3.3						
	comp=E,1.5nm,0.5s						
MLR	**Muntele Rosu**	**18.73**	**312**	P	**P**	**17 35 34.7**	**-2.7**
	comp=E,0.1nm,0.3s,baz=175,slow=10,SNR=2.0						
	comp=E,1.4nm,0.8s						
AKASG	**Malin Array Be**	**20.27**	**329**	P	**P**	**17 35 50.5**	**-3.4**
AKASG	**Malin Array Be**	**20.27**	**329**	P	**P**	**17 35 52.7**	**-1.3**
	comp=E,1.9nm,0.5s,baz=142,slow=9.8,SNR=25						
	comp=E,1.9nm,0.5s						
AKBB	**Malin Array Si**	**20.27**	**329**	P	**P**	**17 35 51.3**	**-2.6**
AKBB				IAmb	IAmb	17 35 54.7	
	comp=Z,8.8nm,0.9s						
KIEV	**Kiev**	**20.27**	**329**	P	**P**	**17 35 52.8**	**-1.2**
KIEV				IAmb	IAmb	17 35 54.7	
	comp=Z,7.9nm,0.9s						
BUR08	**Bucovina Ar. S**	**20.30**	**317**	P	**P**	**17 35 54.6**	**+0.2**
BUR08				IAmb	IAmb	17 35 58.5	
	comp=Z,5.6nm,0.6s						
KKAR	**Karatay Array**	**21.18**	**58**	P	**P**	**17 36 03.3**	**-0.7**
KOLS	**Kolonicke sedl**	**22.64**	**317**	*e*P	**P**	**17 36 21.4**	**+1.8**
VYHS	**Vyhne**	**24.43**	**313**	*e*P	**P**	**17 36 38.4**	**+1.2**
SUW	**Suwalki**	**25.23**	**328**	P	**P**	**17 36 43.9**	**-0.4**
RAFF	**Raffo Rosso**	**25.51**	**286**	P	**P**	**17 36 44.8**	**-2.3**
BVAR	**Borovoye Array**	**25.61**	**36**	P	**P**	**17 36 49.3**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=248,slow=7.5,SNR=3.2						
	comp=Z,0.6nm,0.5s						
RONA	**Rosalia, Austr**	**25.69**	**310**	*e*P	**P**	**17 36 49.3**	**+0.7**
	comp=Z,1.6nm,0.5s						
ARSA	**Arzberg**	**26.03**	**309**	*e*P	**P**	**17 36 51.5**	**-0.2**
	comp=Z,0.6nm,0.4s						
CONA	**Conrad Observa**	**26.05**	**310**	*e*P	**P**	**17 36 51.9**	**0.0**
	comp=Z,0.5nm,0.3s						
MOA	**Molln**	**27.03**	**309**	*i*P	**P**	**17 37 01.4**	**+0.6**
	comp=Z,0.8nm,0.3s						
KBA	**Koelnbreinsper**	**27.40**	**307**	*i*P	**P**	**17 37 04.7**	**+0.5**
	comp=Z,1.5nm,0.6s						
WTTA	**Wattenberg**	**28.57**	**307**	*i*P	**P**	**17 37 14.5**	**-0.2**
	comp=Z,0.4nm,0.2s						
SQTA	**Sankt Quirin**	**28.85**	**307**	*i*P	**P**	**17 37 16.5**	**-0.6**
	comp=Z,0.7nm,0.2s						
KURBB	**Kurchatov Arra**	**28.86**	**46**	P	**P**	**17 37 18.5**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=252,slow=9.2,SNR=6.6						
	comp=Z,1.1nm,0.8s						
MOTA	**Moosalm**	**28.95**	**307**	*i*P	**P**	**17 37 17.2**	**-0.8**
	comp=Z,1.5nm,0.3s						
FETA	**Feichten**	**29.12**	**306**	*i*P	**P**	**17 37 19.3**	**-0.2**
	comp=Z,0.6nm,0.4s						
DAVA	**Damuels**	**29.74**	**307**	*i*P	**P**	**17 37 24.6**	**-0.4**
	comp=Z,2.1nm,0.2s						
FINES	**FINESS Array B**	**29.87**	**341**	P	**P**	**17 37 25.3**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=145,slow=9.8,SNR=12						
	comp=Z,1.0nm,0.3s						
DEL	**Delary**	**30.96**	**325**	*i*P	**P**	**17 37 34.0**	**-1.5**
HFS	**Hagfors**	**33.12**	**331**	P	**P**	**17 37 54.5**	**+0.1**
	comp=Z,3.3nm,0.5s,baz=133,slow=7.0,SNR=32						
	comp=Z,3.3nm,0.5s						
ZALV	**Zalesovo Beam**	**33.64**	**42**	P	**P**	**17 38 03.0**	**+3.9**
	comp=Z,0.5nm,0.3s,baz=256,slow=6.0,SNR=4.6						
	comp=Z,0.5nm,0.3s						
NOA	**NORSAR Array B**	**34.64**	**331**	P	**P**	**17 38 07.5**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=129,slow=9.0,SNR=3.3						
	comp=Z,0.3nm,0.5s						
ARCES	**ARCESS Array B**	**36.96**	**348**	P	**P**	**17 38 27.0**	**-0.4**
	comp=Z,2.2nm,0.6s,baz=164,slow=8.2,SNR=16						
	comp=Z,2.2nm,0.6s						
EKA	**Eskdalemuir Ar**	**39.45**	**317**	P	**P**	**17 38 48.4**	**-0.1**
	comp=Z,1.4nm,0.4s,baz=103,slow=8.4,SNR=12						
	comp=Z,1.4nm,0.4s						
ESDC	**Sonseca Array**	**39.59**	**293**	P	**P**	**17 38 48.9**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=79,slow=8.1,SNR=2.7						
	comp=Z,0.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**45.03**	**253**	P	**P**	**17 39 34.2**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=39,slow=9.3,SNR=2.2						
	comp=Z,0.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**45.69**	**352**	P	**P**	**17 39 39.8**	**+0.8**
	comp=Z,16nm,1.1s,baz=144,slow=11,SNR=17						
	comp=Z,16nm,1.1s						
CMAR	**Chiang Mai Arr**	**49.72**	**94**	P	**P**	**17 40 15.1**	**+4.1**
	comp=Z,0.4nm,0.3s,baz=298,slow=7.1,SNR=4.0						
	comp=Z,0.4nm,0.3s						
ILAR	**Eielson Array**	**80.70**	**5**	P	**P**	**17 43 34.5**	**+3.2**
	comp=Z,0.5nm,0.8s,baz=320,slow=4.1,SNR=4.3						
	comp=Z,0.5nm,0.8s						

*ISN **25** 17:35:29.7±0.7, 34°.36N×45°.61E, h13km±6km, ML3.0*
*TEH **25** 17:35:30.6, 34°.38N×45°.62E, h12km±293km, ML3.1*
ISC 25 17:35:30.5±1.0, 34°.38N±0°.04×45°.61E±0°.04, h12km±10km, n11, σ0°73/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.12**	**352**	Pg	**Pg**	**17 35 33.8**	**0.0**
IDHR	**Dehrash**	**0.71**	**63**	Pg	**Pg**	**17 35 44.2**	**-0.2**
IDHR				Sg	**Sb**	**17 35 54.7**	**-0.2**
IGHG	**Ghaleghazi**	**0.79**	**94**	Pg	**Pb**	**17 35 46.3**	**-0.1**
ILBA	**Ilam Banvizeh**	**0.90**	**147**	Pg	**Pb**	**17 35 47.7**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.19**	**95**	Pg	**Pg**	**17 35 53.2**	**-0.2**
IBDR	**Badra**	**1.30**	**168**	*e*Pn	**Pg**	**17 35 55.0**	**-0.5**
IBDR				*e*Sn	**Sg**	**17 36 13.0**	**+0.7**
IBDR				AML	AML	17 36 20.1	
	comp=N,276nm,0.5s						
IBDR				AML	AML	17 36 23.8	
	comp=E,198nm,0.4s						
IKRK	**Kirkuk**	**1.46**	**315**	*e*Pn	**Pg**	**17 35 58.0**	**-0.5**
IKRK				*e*Sn	**Sg**	**17 36 18.5**	**+1.0**
IKRK				AML	AML	17 36 21.6	
	comp=E,339nm,0.3s						
IKRK				AML	AML	17 36 22.2	
	comp=N,288nm,0.5s						
BHD	**Baghdad**	**1.51**	**223**	*e*Pn	**Pb**	**17 35 58.0**	**-0.5**
BHD				*e*Sn	**Sg**	**17 36 18.5**	**-0.6**
SNQR	**Sonqor, Kerman**	**1.73**	**74**	Pg	**Pg**	**17 36 02.8**	**-1.0**
SDS1	**Sardasht. Az.**	**1.77**	**357**	Pg	**Pg**	**17 36 03.7**	**-0.8**
RAFI	**Al-Rafai**	**2.69**	**171**	*e*Pn	**Pn**	**17 36 14.0**	**+0.4**
RAFI				*e*Sn	**Sn**	**17 36 47.2**	**+1.2**
RAFI				AML	AML	17 36 49.9	
	comp=E,105nm,0.5s						
RAFI				AML	AML	17 36 51.4	
	comp=N,150nm,0.5s						

*IDC **25** 17:36:34.1±0.8, 2°.74S×119°.58E, h0km, mb4.0/10, mbtmp4.1/10, Error ellipse: s-maj=52.6km s-min=15.3km az=55.0*
*DJA **25** 17:36:36.6±0.2, 3°.S±2°.×11°.9E±°, h10km, M4.3/19, mb4.4/7, MLv4.3/19*
ISC 25 17:36:34.6±2.2, 2°.96S±0°.04×119°.34E±0°.08, h2km±14km, n26, σ1°15/32, mb4.1/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.48**	**101**	P	**Pg**	**17 36 43.8**	**-0.1**
TTSI				S	**Sg**	**17 36 50.6**	**+0.4**
SPSI	**Sidrap Palu**	**1.09**	**157**	P	**Pb**	**17 36 54.5**	**-1.7**
SPSI				S	**Sb**	**17 37 10.7**	**-0.1**
BNSI	**Bone**	**1.62**	**152**	P	**Pn**	**17 37 04.9**	**+0.7**
BNSI				S	**Sn**	**17 37 25.7**	**0.0**
PCI	**Palu**	**2.10**	**14**	P	**Pn**	**17 37 11.6**	**+0.8**
PCI				S	**Sb**	**17 37 38.5**	**-1.4**
BKSI	**Bulukumba**	**2.48**	**162**	P	**Pn**	**17 37 17.3**	**+1.3**
BKSI				S	**Sn**	**17 37 47.1**	**+0.3**
APSI	**Ampana**	**3.07**	**49**	P	**Pb**	**17 37 29.8**	**-0.2**
BSSI	**Bau Bau, Buton**	**3.37**	**160**	P	**Pn**	**17 37 29.2**	**+1.0**
KDI	**Kendari**	**3.42**	**107**	P	**Pn**	**17 37 31.0**	**+2.1**
LUWI	**Luwuk**	**3.92**	**61**	P	**Pn**	**17 37 37.0**	**+1.2**
BBSI	**Bau Bau**	**4.08**	**128**	P	**Pn**	**17 37 38.5**	**+0.4**
MRSI	**Marisa**	**4.29**	**37**	P	**Pn**	**17 37 42.2**	**+1.3**
KMSI	**Cibinong**	**5.81**	**53**	P	**Pn**	**17 38 02.5**	**+0.6**
PLAI	**Plampang**	**6.04**	**195**	P	**Pn**	**17 38 05.7**	**+0.7**
	35nm,1.3s,0.2nm						
MMRI	**Maumere**	**6.33**	**153**	P	**Pn**	**17 38 09.4**	**+0.3**
	24nm,0.7s,0.1nm						
SRBI	**Singaraja**	**6.55**	**219**	P	**Pn**	**17 38 12.5**	**+0.5**
	51nm,1.1s						
SANI	**Sanana**	**6.70**	**82**	P	**Pn**	**17 38 13.1**	**-1.0**
PSI	**Prapat**	**21.20**	**285**	P	**P**	**17 41 23.3**	**+1.4**
	8.7nm,0.7s,baz=124,slow=9.5,SNR=7.2						
	8.7nm,0.7s						
WRA	**Warramunga Arr**	**22.35**	**140**	P	**P**	**17 41 33.0**	**-1.0**
	1.6nm,0.7s,baz=316,slow=11,SNR=8.1						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**24.94**	**147**	P	**P**	**17 42 00.4**	**+0.9**
	2.1nm,0.8s,baz=342,slow=13,SNR=14						
ASAR				PcP	**PcP**	**17 45 33.2**	**-2.1**
	0.7nm,0.6s,baz=340,slow=1.7,SNR=17						
	2.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.27**	**317**	P	**P**	**17 42 39.5**	**+1.0**
	0.6nm,0.3s,baz=144,slow=6.7,SNR=4.7						
	0.6nm,0.3s						
STKA	**Stephens Creek**	**35.58**	**146**	P	**P**	**17 43 35.5**	**+1.9**
	3.1nm,1.0s,baz=340,slow=12,SNR=4.2						
	3.1nm,1.0s						
SONM	**Songino Array**	**51.84**	**349**	P	**P**	**17 45 43.8**	**-0.5**
	3.6nm,0.7s,baz=171,slow=8.7,SNR=9.4						
	3.6nm,0.7s						
AAK	**Ala-Archa**	**60.80**	**323**	P	**P**	**17 46 47.7**	**-0.8**
	0.9nm,0.6s,baz=118,slow=8.6,SNR=2.5						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**63.58**	**338**	P	**P**	**17 47 05.2**	**-1.5**
	1.2nm,0.6s,baz=100,slow=6.4,SNR=2.1						
	1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**63.77**	**332**	P	**P**	**17 47 07.2**	**-0.8**
	0.8nm,0.2s,baz=140,slow=5.4,SNR=9.5						
	0.8nm,0.2s						
BVAR	**Borovoye Array**	**69.19**	**331**	P	**P**	**17 47 41.3**	**-1.4**
	0.7nm,0.7s,baz=133,slow=6.1,SNR=3.5						
	0.7nm,0.7s						

*ISN **25** 17:38:37.6±0.5, 34°.17N×45°.57E, h10km±3km, ML3.2*
*TEH **25** 17:38:39.2, 34°.23N×45°.66E, h8km±71km, ML3.0*
ISC 25 17:38:38.8±0.9, 34°.19N±0°.04×45°.62E±0°.05, h10km, n11, σ0°61/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.25**	**107**	Pg	**Pg**	**17 38 44.0**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.32**	**355**	Pg	**Pg**	**17 38 45.0**	**-0.2**
IGHG	**Ghaleghazi**	**0.80**	**80**	Pg	**Pb**	**17 38 54.9**	**0.0**
IBDR	**Badra**	**1.10**	**166**	*e*Pg	**Pb**	**17 38 59.0**	**-1.0**
IBDR				*e*Sg	**Sb**	**17 39 14.0**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.18**	**85**	Pg	**Pn**	**17 39 01.4**	**-0.1**
ILIN	**Lien**	**1.32**	**56**	Pg	**Pg**	**17 39 03.9**	**-0.4**
BHD	**Baghdad**	**1.38**	**229**	*e*Pn	**Pn**	**17 39 04.0**	**-0.1**
BHD				*e*Sn	**Sn**	**17 39 23.5**	**+1.1**
BHD				AML	AML	17 39 28.7	
	comp=E,674nm,0.4s						
IKRK	**Kirkuk**	**1.60**	**319**	*e*Pn	**Pn**	**17 39 07.5**	**+0.3**
IKRK				*e*Sn	**Sg**	**17 39 30.0**	**-0.4**
I

FNA	Florina	3.48	8	P	Pn	17 39 50.7	+1.4
PLG	Polygyros	3.71	34	P	Pn	17 39 53.0	+0.5
HORT	Hortiatis	3.75	29	P	Pn	17 39 53.5	+0.4
APE	Apeiranthos	3.86	92	P	Pn	17 39 54.7	+0.2
OUR	Ouranopolis	3.94	39	P	Pn	17 39 56.3	+0.8
IDI	Anoyia	3.94	120	Pn	Pn	17 39 55.5	-0.2
	0.2nm,0.3s,baz=272,slow=11,SNR=1.8						
IDI				Sn	Sn	17 40 42.8	+1.1
	3.3nm,0.3s,baz=317,slow=20,SNR=9.4 4.0nm,0.9s						
SOH	Sokhos	4.04	30	P	Pn	17 39 58.3	+1.3
KNT	Kendrikon	4.18	23	P	Pn	17 40 00.2	+1.4
KOKK	Kokkinochori,	4.32	35	P	Pn	17 40 01.8	+1.0
LIA	Limnos Island	4.34	52	P	Pn	17 40 01.7	+0.7
CHOS	Chios island	4.36	74	P	Pn	17 40 02.1	+0.8
THAS	Thassos island	4.52	42	P	Pn	17 40 05.4	+1.9
SMG	Samos	4.88	84	P	Pn	17 40 09.1	+0.6
AKASG	Malin Array Be	14.68	22	Pn	Pn	17 42 21.7	-1.0
	0.1nm,0.3s,baz=209,slow=9.9,SNR=1.6						
HFS	Hagfors	23.26	351	P	P	17 43 57.6	-4.6
	1.5nm,0.8s,baz=159,slow=8.5,SNR=5.2 1.5nm,0.8s						
FINES	FINESS Array B	24.37	6	P	P	17 44 10.7	-2.0
	0.8nm,0.7s,baz=196,slow=9.4,SNR=3.7 0.8nm,0.7s						
KURBB	Kurchatov Arra	42.61	53	P	P	17 46 49.1	-1.9
	0.3nm,0.3s,baz=279,slow=8.7,SNR=4.1 0.3nm,0.3s						
MKAR	Makanchi Array	45.62	58	P	P	17 47 13.9	-1.3
	0.4nm,0.5s,baz=270,slow=8.0,SNR=9.7 0.4nm,0.5s						

*ISN **25** 17:39:56.9±0.7,34°.26N×45°.64E,h20km±5km,ML3.3*
*TEH **25** 17:39:57.4,34°.33N×45°.65E,h11km±20km,ML3.0*
ISC 25 17:39:57.0±1.3,34°.30N±0°.06×45°.67E±0°.04,h13km±13km, n13,σ0s59/18,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.22	343	Pg	Pg	17 40 01.6	-0.2
IDHR	Dehrash	0.72	56	Pg	Pg	17 40 11.0	0.0
IGHG	Ghaleghazi	0.75	87	Pg	Pb	17 40 12.7	+0.7
IGHG				Sg	Sn	17 40 24.1	-0.7
ILBA	Ilam Banvizeh	0.81	146	Pg	Pn	17 40 13.9	-0.2
KCHF	Cheshme Sefid,	1.14	91	Pg	Pg	17 40 19.6	+0.7
IBDR	Badra	1.20	169	*e*Pg	Pn	17 40 18.5	-1.0
IBDR				*e*Sg	Sb	17 40 34.0	-1.0
IBDR				AML	AML	17 40 44.1	
	comp=E,396nm,0.5s						
IBDR				AML	AML	17 40 50.2	
	comp=N,334nm,0.5s						
ILIN	Lien	1.24	59	Pg	Pg	17 40 21.2	+0.3
BHD	Baghdad	1.48	227	*e*Pn	Pn	17 40 23.5	+0.2
BHD				*e*Sn	Sb	17 40 43.5	+0.4
BHD				AML	AML	17 40 56.6	
	comp=E,526nm,0.4s						
IKRK	Kirkuk	1.55	316	*e*Pn	Pb	17 40 25.5	-0.1
IKRK				*e*Sn	Sg	17 40 47.0	+0.1
IKRK				AML	AML	17 40 49.9	
	comp=E,710nm,0.3s						
IKRK				AML	AML	17 40 51.0	
	comp=N,377nm,0.8s						
SNQR	Sonqor, Kerman	1.71	70	Pg	Pg	17 40 30.3	+0.4
SDS1	Sardasht. Az.	1.86	355	Pn	Pb	17 40 31.2	+0.3
IDOB	Doab	2.15	103	Pn	Pb	17 40 35.3	-0.5
RAFI	Al-Rafai	2.59	172	*e*Pn	Pn	17 40 39.0	+0.4
RAFI				*e*Sn	Sn	17 41 10.5	+0.5
RAFI				AML	AML	17 41 25.4	
	comp=E,220nm,0.5s						
RAFI				AML	AML	17 41 27.1	
	comp=N,247nm,0.4s						

*ISN **25** 17:45:32.2±0.3,34°.34N×45°.64E,h8km±2km,ML3.3*
*TEH **25** 17:45:32.4,34°.29N×45°.62E,h13km±23km,ML3.1*
ISC 25 17:45:32.8±1.3,34°.34N±0°.03×45°.68E±0°.04,h2km±14km, n18,σ0s73/23,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.18	335	Pg	Pg	17 45 37.3	+1.0
GLG1	Gilan-e-Gharb	0.30	140	Pg	Pg	17 45 38.8	+0.3
IDHR	Dehrash	0.68	58	Pg	Pb	17 45 46.6	-0.9
IGHG	Ghaleghazi	0.73	91	Pg	Pb	17 45 48.1	-0.4
IGHG				Sg	Sb	17 45 59.5	+0.5
ILBA	Ilam Banvizeh	0.84	148	Pg	Pg	17 45 48.3	-0.6
KCHF	Cheshme Sefid,	1.13	93	Pg	Pn	17 45 55.1	-0.7
ILIN	Lien	1.20	61	Pg	Pn	17 45 56.7	-0.2
IBDR	Badra	1.25	170	*e*Pg	Pg	17 45 56.0	-0.7
IBDR				*e*Sg	Sb	17 46 13.5	0.0
BHD	Baghdad	1.52	226	*e*Pn	Pb	17 46 01.0	-0.7
BHD				*e*Sn	Sg	17 46 22.0	+0.3
BHD				AML	AML	17 46 30.2	
	comp=E,768nm,0.3s						
IKRK	Kirkuk	1.53	314	*e*Pn	Pg	17 46 01.5	-0.5
IKRK				*e*Sn	Sg	17 46 22.5	+0.7
IKRK				AML	AML	17 46 25.9	
	comp=N,414nm,0.6s						
IKRK				AML	AML	17 46 26.2	
	comp=E,461nm,0.6s						
SNQR	Sonqor, Kerman	1.69	72	Pg	Pg	17 46 05.4	+0.3
SDS1	Sardasht. Az.	1.81	355	Pn	Pg	17 46 06.3	-1.2
IDOB	Doab	2.15	104	Pn	Pn	17 46 09.9	+0.2
RAFI	Al-Rafai	2.64	172	*e*Pn	Pn	17 46 17.0	+0.7
RAFI				*e*Sn	Sn	17 46 49.5	+0.7
RAFI				AML	AML	17 46 57.1	
	comp=E,126nm,0.4s						
RAFI				AML	AML	17 46 59.9	
	comp=N,213nm,0.4s						
IPIR	Pirpir	4.66	109	Pn	Pn	17 46 44.1	-0.3
IKLH	Kolahrood	5.01	100	Pn	Pn	17 46 50.0	+0.8
KRSH	Karshahi	5.37	92	Pn	Pn	17 46 55.3	+1.3
IGAR	Gharneh	5.66	108	Pn	Pn	17 46 57.9	-0.2

*ISN **25** 17:46:56.1±0.4,34°.23N×45°.56E,h6km±5km,ML3.1*
*TEH **25** 17:46:57.2,34°.22N×45°.61E,h8km±18km,ML3.2*
ISC 25 17:46:57.5±1.2,34°.22N±0°.03×45°.59E±0°.03,h6km±14km, n14,σ0s90/19,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.28	111	Pg	Pg	17 47 02.6	-0.5
KGS1	Ghasr-e-Shirin	0.29	360	Pg	Pg	17 47 03.3	+0.2
ILBA	Ilam Banvizeh	0.78	139	Pg	Pg	17 47 12.4	-0.2
IDHR	Dehrash	0.81	54	Pg	Pg	17 47 12.5	-0.7
IDHR				Sg	Sb	17 47 24.7	-0.8
IGHG	Ghaleghazi	0.82	82	Pg	Pg	17 47 12.9	-0.3
IBDR	Badra	1.14	166	*e*Pg	Pb	17 47 18.5	-1.1
IBDR				*e*Sg	Sg	17 47 34.5	+0.3
IBDR				AML	AML	17 47 40.5	
	comp=E,394nm,0.7s						
IBDR				AML	AML	17 47 48.0	
	comp=N,238nm,0.7s						
KCHF	Cheshme Sefid,	1.20	87	Pg	Pb	17 47 20.3	-0.5
ILIN	Lien	1.33	58	Pg	Pb	17 47 22.5	-0.5
ILIN				Sg	Sg	17 47 41.6	+1.3
BHD	Baghdad	1.38	227	*e*Pn	Pg	17 47 23.5	-0.5
BHD				*e*Sn	Sg	17 47 43.5	+1.6
IKRK	Kirkuk	1.56	319	*e*Pn	Pb	17 47 26.0	-0.9
IKRK				*e*Sn	Sg	17 47 47.5	-0.3
IKRK				AML	AML	17 47 51.7	
	comp=N,495nm,0.3s						
IKRK				AML	AML	17 47 51.8	
	comp=E,548nm,0.4s						
SNQR	Sonqor, Kerman	1.80	69	Pg	Pb	17 47 30.5	-0.5
SDS1	Sardasht. Az.	1.93	357	Pn	Pb	17 47 32.2	-0.9
RAFI	Al-Rafai	2.53	170	*e*Pn	Pn	17 47 40.0	+1.0
MAHB	Mahabad	2.54	2	Pn	Pn	17 47 40.6	+1.2

*TEH **25** 17:48:10.8,34°.21N×45°.60E,h8km±20km,ML3.4*
*ISN **25** 17:48:11.3±0.7,34°.24N×45°.64E,h15km±5km,ML3.6*
ISC 25 17:48:11.5±1.1,34°.24N±0°.03×45°.67E±0°.04,h8km±11km, n14,σ0s65/19,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.23	123	Pg	Pg	17 48 16.6	+0.4
KGS1	Ghasr-e-Shirin	0.27	345	Pg	Pg	17 48 17.0	+0.1
IDHR	Dehrash	0.74	52	Pg	Pg	17 48 26.5	+0.6
IGHG	Ghaleghazi	0.75	83	Pg	Pb	17 48 26.8	0.0
IGHG				Sg	Sn	17 48 39.2	-1.0
ILBA	Ilam Banvizeh	0.76	144	Pg	Pg	17 48 25.9	-0.2
KCHF	Cheshme Sefid,	1.13	88	Pg	Pn	17 48 33.7	-0.1
IBDR	Badra	1.15	169	*e*Pg	Pb	17 48 33.0	-0.6
IBDR				*e*Sg	Sg	17 48 48.0	-0.5
IBDR				AML	AML	17 48 54.7	
	comp=E,2μm,0.6s						
IBDR				AML	AML	17 48 54.7	
	comp=N,1μm,0.6s						
ILIN	Lien	1.26	57	Pg	Pg	17 48 36.2	+0.5
BHD	Baghdad	1.45	228	*e*Pn	Pb	17 48 38.0	-0.7
BHD				*e*Sn	Sg	17 48 58.5	+0.4
BHD				AML	AML	17 49 02.2	
	comp=E,2μm,0.2s						
IKRK	Kirkuk	1.59	317	*e*Pn	Pb	17 48 40.5	-0.7
IKRK				*e*Sn	Sg	17 49 02.5	-0.2
IKRK				AML	AML	17 49 05.2	
	comp=E,510nm,0.4s						
IKRK				AML	AML	17 49 05.3	
	comp=N,631nm,0.8s						
SNQR	Sonqor, Kerman	1.73	69	Pg	Pg	17 48 45.0	+0.3
SDS1	Sardasht. Az.	1.91	355	Pn	Pb	17 48 46.5	-0.2
IDOB	Doab	2.13	102	Pn	Pb	17 48 49.6	-0.9
RAFI	Al-Rafai	2.54	171	*e*Pn	Pn	17 48 54.0	+1.0
RAFI				*e*Sn	Sn	17 49 25.0	+0.9
RAFI				AML	AML	17 49 34.3	
	comp=N,326nm,0.4s						
RAFI				AML	AML	17 49 39.1	
	comp=E,313nm,0.2s						

*IDC **25** 17:48:07.7±1.8,29°.74N×70°.89E,h0km,mb3.5/6, mbtmp3.5/8,ML3.2/2,Error ellipse: s-maj=42.3km s-min=24.9km az=60.0*
ISC 25 17:48:13.0±1.5,29°.8N±0°.2×70°.9E±0°.2,h35km,n9,σ1s16/9, mb3.2/6,2C,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	Ala-Archa	13.10	12	Pn	Pn	17 51 17.1	+0.4
	0.2nm,0.3s,baz=56,slow=20,SNR=2.6 0.6nm,0.4s						
KK31	Karatay Array	13.25	359	⇑Pn	Pn	17 51 18.1	-0.5
	1.5nm,0.5s,baz=182,slow=12,SNR=8.1						
KK31				⇑Lg	Lg	17 53 39.4	
	0.8nm,0.5s,baz=182,slow=28						
MKAR	Makanchi Array	19.11	24	P	P	17 52 31.4	-1.4
	0.1nm,0.3s,baz=196,slow=10.0,SNR=1.4 0.5nm,0.8s						
KURBB	Kurchatov Arra	21.55	13	P	P	17 52 58.8	-0.3
	2.3nm,0.2s,baz=203,slow=10,SNR=4.1 2.3nm,0.2s						
BVAR	Borovoye Array	23.18	359	P	P	17 53 17.0	+0.6
	0.3nm,0.4s,baz=179,slow=8.6,SNR=2.7 0.3nm,0.4s						
ZALV	Zalesovo Beam	26.13	19	P	P	17 53 44.6	+1.1
	0.8nm,0.4s,baz=212,slow=11,SNR=3.3 0.8nm,0.4s						
CMAR	Chiang Mai Arr	27.89	108	P	P	17 54 01.2	+1.5
	0.5nm,1.0s,baz=296,slow=9.0,SNR=2.1 0.5nm,1.0s						
AKASG	Malin Array Be	37.39	316	P	P	17 55 22.8	+0.5
	0.1nm,0.3s,baz=91,slow=6.3,SNR=5.5 0.1nm,0.3s						
ASAR	Alice Springs	80.54	124	P	P	18 00 20.6	-1.3
	0.2nm,0.8s,baz=306,slow=5.8,SNR=1.7 0.2nm,0.8s						

IDC 25 17:54:41.5±1.2,35°.88S×103°.21W,h0km,mb4.1/4, mbtmp4.1/4,Error ellipse: s-maj=43.8km s-min=29.4km az=93.0,Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	Juan Fernandez	20.02	91	T	T	18 19 53.1	
	baz=254,slow=75,SNR=4.3						
H03S1	Juan Fernandez	20.04	91	T	T	18 19 54.0	
	baz=254,slow=75,SNR=4.3						
H03S3	Juan Fernandez	20.04	91	T	T	18 19 53.3	
	baz=254,slow=75,SNR=4.1						
H03N2	Juan Fernandez	20.11	90	T	T	18 20 05.2	
	baz=247,slow=72,SNR=3.7						
H03N3	Juan Fernandez	20.11	90	T	T	18 20 13.8	
	baz=247,slow=72,SNR=3.0						
H03N1	Juan Fernandez	20.13	90	T	T	18 20 03.1	
	baz=247,slow=72,SNR=4.4						
LPAZ	La Paz	36.79	67	P	P	18 01 51.7	0.0
	6.4nm,1.1s,baz=227,slow=5.9,SNR=10 6.4nm,1.1s						
QSPA	South Pole Qui	54.33	180	P	P	18 04 09.4	-0.1
	1.9nm,0.8s,baz=137,slow=2.1,SNR=8.7 1.9nm,0.8s						
NVAR	Mina Array Bea	75.25	348	P	P	18 06 26.9	+0.7
	0.9nm,0.7s,baz=173,slow=9.1,SNR=6.5 0.9nm,0.7s						
PDAR	Pinedale Array	78.49	355	P	P	18 06 43.8	-0.6
	1.0nm,0.7s,baz=160,slow=5.5,SNR=7.7 1.0nm,0.7s						
H01W1	Cape Leeuwin H	101.44	211	T	T	20 02 43.1	
	baz=159						
H01W2	Cape Leeuwin H	101.44	211	T	T	20 02 40.4	
	baz=159						
H01W3	Cape Leeuwin H	101.45	211	T	T	20 02 40.1	
	baz=159						

*IDC **25** 17:55:12.9±2.8,34°.14N×45°.52E,h0km,mb4.0/5, mbtmp3.9/8,ML3.1/3,Error ellipse: s-maj=88.8km s-min=35.3km az=58.0*
*ISN **25** 17:55:16.0±0.7,34°.30N×45°.61E,h18km±7km,ML3.5*
*TEH **25** 17:55:16.7,34°.31N×45°.68E,h7km±37km,ML3.4*
ISC 25 17:55:16.2±1.1,34°.29N±0°.03×45°.61E±0°.04,h11km±8km, n31,σ1s70/36,mb4.1/4,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.22	355	Pg	Pg	17 55 21.1	+0.3
GLG1	Gilan-e-Gharb	0.30	125	Pg	Pg	17 55 22.7	+0.3
IDHR	Dehrash	0.76	57	Pg	Pg	17 55 30.6	-0.4
IGHG	Ghaleghazi	0.79	87	Pg	Pb	17 55 31.9	-0.3
ILBA	Ilam Banvizeh	0.83	143	Pg	Pg	17 55 32.0	-0.2
KCHF	Cheshme Sefid,	1.18	90	Pg	Pg	17 55 38.8	-0.2
IBDR	Badra	1.21	167	*e*Pn	Pn	17 55 40.0	+1.0
IBDR				*e*Sn	Sn	17 55 57.0	+1.6
IBDR				AML	AML	17 56 02.0	
	comp=N,862nm,0.5s						
IBDR				AML	AML	17 56 02.2	
	comp=E,859nm,0.4s						
ILIN	Lien	1.28	60	Pg	Pn	17 55 40.3	0.0
ILIN				Sg	Sn	17 55 57.9	+0.3
BHD	Baghdad	1.45	226	*e*Pn	Pb	17 55 43.0	-0.1
BHD				*e*Sn	Sg	17 56 03.0	+0.3
BHD				AML	AML	17 56 07.8	
	comp=E,804nm,0.5s						
IKRK	Kirkuk	1.52	317	*e*Pn	Pn	17 55 44.0	+0.6
IKRK				*e*Sn	Sg	17 56 05.0	-0.3
IKRK				AML	AML	17 56 09.2	
	comp=N,1μm,0.4s						
IKRK				AML	AML	17 56 10.3	
	comp=E,935nm,0.4s						
SNQR	Sonqor, Kerman	1.76	71	Pg	Pb	17 55 48.9	+0.3
SDS1	Sardasht. Az.	1.86	357	Pn	Pb	17 55 50.6	+0.3
IDOB	Doab	2.19	103	Pn	Pb	17 55 54.8	-1.2
MAHB	Mahabad	2.47	2	Pn	Pb	17 55 59.5	-1.3
RAFI	Al-Rafai	2.59	171	*e*Pn	Pn	17 55 59.5	+1.4
RAFI				*e*Sn	Sn	17 56 31.0	+1.4
NGD1	Naghade .Az. G	2.65	357	Pn	Pb	17 56 02.0	-1.8
IAZR	Azarshahr	3.39	5	Pn	Pn	17 56 12.1	+2.7
QABG	Abgarm-Qazvin	3.55	65	Pn	Pn	17 56 14.2	+2.6
IMRD	Marand	4.42	1	Pn	Pn	17 56 25.8	+2.5
QAMS	Qamsar	4.84	95	Pn	Pn	17 56 31.3	+2.1
GRMI	Germi	4.87	22	Pn	Pn	17 56 31.8	+2.3
IKLH	Kolahrood	5.06	99	Pn	Pn	17 56 34.6	+2.3
KRSH	Karshahi	5.42	92	Pn	Pn	17 56 39.1	+1.9
GNI	Garni	5.89	353	Pn	Pn	17 56 44.4	+0.8
	comp=E,0.4nm,0.3s,baz=82,slow=5.9,SNR=2.4 comp=E,4.0nm,0.6s						
KBZ	Khabaz	9.66	348	Pn	Pn	17 57 39.6	+4.5
	baz=148,slow=11,SNR=3.9 comp=E,2.4nm,0.9s						
WSAR	Wadi Sarin	15.84	131	Pn	Pn	17 58 56.0	-3.3
	comp=E,0.4nm,0.3s,baz=309,slow=6.5,SNR=5.2 comp=E,2.8nm,0.6s						
AKASG	Malin Array Be	20.30	329	P	P	17 59 49.8	-2.1
	comp=E,0.8nm,0.6s,baz=139,slow=10,SNR=6.6 comp=E,0.8nm,0.6s						
FINES	FINESS Array B	29.92	341	P	P	18 01 22.8	-1.0
	comp=E,0.7nm,0.6s,baz=165,slow=12,SNR=4.2 comp=E,0.7nm,0.6s						
HFS	Hagfors	33.15	331	P	P	18 01 52.1	-0.2
	comp=E,0.5nm,0.4s,baz=144,slow=10.0,SNR=6.0 comp=E,0.5nm,0.4s						
ARCES	ARCESS Array B	37.02	348	P	P	18 02 25.0	-0.5
	comp=E,6.7nm,1.2s,baz=154,slow=8.6,SNR=5.8 comp=E,6.7nm,1.2s						
SPITS	Spitsbergen Ar	45.76	352	P	P	18 03 37.5	+0.4
	comp=E,11nm,1.0s,baz=143,slow=11,SNR=7.8 comp=E,11nm,1.0s						

*SOME **25** 17:56:33.5,42°.50N×75°.22E,h15km*
*NNC **25** 17:56:34.8±0.4,42°.60N×75°.23E,h0km,mb2.7,mpv2.4, Error ellipse: s-maj=2.7km s-min=0.9km az=3.0*
ISC 25 17:56:34.4±1.8,42°.56N±0°.09×75°.23E±0°.03,h9km±12km, n16,σ0s56/32,4C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2	0.45	37	⇑P	Pg	17 56 42.9	-0.3
	1.4nm,0.3s						
TKM2				⇑S	Sg	17 56 49.0	-0.1
	2.5nm,0.3s						
CHMS	Chumysh	0.56	321	⇑P	Pg	17 56 45.1	-0.1
	0.5nm,0.4s						
CHMS				⇓S	Sg	17 56 52.7	0.0
	2.0nm,0.2s						
KST	Kastek	0.72	48	P	Pg	17 56 48.4	+0.1
	1.3nm,0.2s						
KST				S	Sg	17 56 58.5	+0.7
	4.5nm,0.3s						
KST	Kastek	0.72	48	*e*P	Pg	17 56 48.1	-0.2
	1.3nm,0.2s						
KST				*e*S	Sg	17 56 58.5	+0.7
	4.5nm,0.3s						
DGS	Degeres	0.79	30	P	Pg	17 56 49.4	-0.2
	3.0nm,0.1s						
DGS				S	Sg	17 57 00.1	+0.3
	2.0nm,0.2s						
DGS	Degeres	0.79	30	*e*P	Pg	17 56 49.4	-0.2
	3.0nm,0.1s						
DGS				*e*S	Sg	17 57 00.6	+0.8
	2.0nm,0.2s						
MTBS	Maitube	1.05	57	P	Pg	17 56 54.3	-0.2
MTBS				S	Sb	17 57 08.6	-0.1
	9.5nm,0.3s						
MTBS	Maitube	1.05	57	*e*P	Pg	17 56 54.0	-0.5
	0.8nm,0.1s						
MTBS				*e*S	Sg	17 57 08.5	+0.3
	9.5nm,0.3s						
KASK	Kaskelen	1.23	57	⇑P	Pb	17 56 57.5	-0.2
	2.6nm,0.2s						
KASK				⇓S	Sb	17 57 14.1	+0.4
	5.1nm,0.3s						
TNSS	Tian-Shan	1.35	69	*e*P	Pn	17 56 59.6	-0.2
	0.2nm,0.1s						
TNSS				*e*S	Sn	17 57 18.3	+0.3
	2.0nm,0.2s						
KNDC	Almaty	1.43	62	⇓P	Pb	17 57 01.4	+0.1
	4.2nm,0.3s						
KNDC				⇓S	Sg	17 57 21.1	+0.6
	4.9nm,0.3s						
MRKS	Merke	1.49	278	*e*P	Pn	17 57 01.4	-0.1
	0.6nm,0.1s						
MRKS				*e*S	Sb	17 57 21.4	0.0
	3.4nm,0.2s						
KTBS	Karatobe	1.56	42	P	Pb	17 57 03.4	-0.1
	0.2nm,0.1s						
KTBS				S	Sg	17 57 24.3	-0.4
	4.9nm,0.2s						
KTBS	Karatobe	1.56	42	*e*P	Pb	17 57 03.2	-0.3
	0.2nm,0.1s						
KTBS				*e*S	Sg	17 57 24.3	-0.4
	4.9nm,0.2s						
SATY	Saty	2.39	77	*e*P	Pb	17 57 18.7	+1.0
	0.8nm,0.1s						
SATY				*e*S	Sg	17 57 51.0	-0.1
	2.6nm,0.2s						
KPKS	Kokpek	2.69	69	*e*P	Pb	17 57 23.1	+0.3
	1.4nm,0.4s						
KPKS				*e*S	Sg	17 57 58.7	-2.0

*DJA **25** 17:58:35.1±0.4,7°.S±2°×13°.1E±°,h97km±12km,M4.2/12, mb4.1/6,mB5.1/2,MLv4.3/12,Mw(mB)4.5/2*
ISC 25 17:58:34.6±0.9,7°.15S±0°.05×130°.97E±0°.07,h100km,n21, σ1s82/27,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	0.89	158	P	Pn	17 58 56.4	+2.4
SAUI	Saumlaki	0.89	158	P	Pn	17 58 54.9	+0.9
SAUI				S	Sn	17 59 10.0	+1.5
BNDI	Bandanaira	2.81	338	P	Pn	17 59 21.9	+4.0
BNDI	Bandanaira	2.81	338	P	Pn	17 59 19.0	+1.1
BNDI				S	Sn	17 59 51.7	+0.5
MSAI	Masohi	4.29	332	P	Pn	17 59 38.0	+0.3
MSAI				S	Sn	18 00 26.8	+0.1
FAKI	Fak Fak	4.39	17	P	Pn	17 59 41.4	+2.3
FAKI	Fak Fak	4.39	17	P	Pn	17 59 41.2	+2.1
FAKI				S	Sn	18 00 29.0	-0.2
DRS	Darwin Rock St	5.25	181	P	Pn	17 59 51.0	+0.2
MTN	Manton Dam	5.66	178	P	Pn	17 59 56.5	+0.1
KDU	Kakadu	5.70	165	P	Pn	17 59 56.8	-0.1
SWI	Sorong	6.25	3	P	Pn	18 00 05.0	+0.6
SWI				S	Sn	18 01 10.7	-3.7
RKPI	Ransiki, Papua	6.45	30	P	Pn	18 00 06.9	-0.2
	19nm,0.6s						
RKPI				S	Sn	18 01 19.9	+0.6
	19nm,0.6s						
SANI	Sanana	7.09	315	P	Pn	18 00 19.7	+3.9
SANI	Sanana	7.09	315	P	Pn	18 00 18.4	+2.6
SOEI	Soe	7.12	248	P	Pn	18 00 16.4	+0.1
SOEI	Soe	7.12	248	P	Pn	18 00 15.9	-0.4
	18nm,0.8s,0.1nm						
BATI	Baumata	7.83	247	P	Pn	18 00 26.0	0.0
FITZ	Fitzroy Crossi	12.06	205	P	Pn	18 01 20.8	-2.4
PLAI	Plampang	13.17	262	P	Pn	18 01 37.0	-0.9
COEN	Coen	13.77	120	P	Pn	18 01 46.7	+1.0
WRKA	Warakurna	17.97	188	P	P	18 02 37.0	-0.3

*IDC **25** 17:59:24.2±2.8,34°.04N×45°.44E,h0km,mb4.1/4, mbtmp4.1/7,ML3.3/3,Error ellipse: s-maj=88.0km s-min=35.2km az=58.0*
*ISN **25** 17:59:27.8±0.8,34°.36N×45°.73E,h13km±7km,ML3.7*
*TEH **25** 17:59:29.2,34°.32N×45°.69E,h12km±28km,ML3.6*
ISC 25 17:59:29.1±1.1,34°.34N±0°.03×45°.64E±0°.04,h15km±9km, n25,σ1s71/31,mb4.2/3,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.17	346	Pg	Pb	17 59 33.5	-0.5
KGS1				Sg	Sb	17 59 37.4	+0.1
GLG1

RAFI	**Al-Rafai**	**2.64 171**	*e*Pn	**Pn**	**18 00 12.0**	**+0.9**
RAFI			*e*Sn	**Sn**	**18 00 45.0**	**+2.2**
RAFI			AML	AML	18 00 58.2	
	comp=E,262nm,0.5s					
RAFI			AML	AML	18 01 06.8	
	comp=N,220nm,1.0s					
IAZR	**Azarshahr**	**3.34 5**	Pn	**Pn**	**18 00 23.8**	**+2.7**
IMRD	**Marand**	**4.37 1**	Pn	**Pn**	**18 00 37.4**	**+2.3**
IKLH	**Kolahrood**	**5.05 100**	Pn	**Pn**	**18 00 46.1**	**+1.6**
GNI	**Garni**	**5.84 353**	Pn	**Pn**	**18 00 59.3**	**+4.0**
	comp=N,0.5nm,0.3s,baz=260,slow=8.2,SNR=1.8					
	comp=N,1.7nm,0.3s					
KBZ	**Khabaz**	**9.62 348**	Pn	**Pn**	**18 01 50.5**	**+3.6**
	comp=N,0.1nm,0.3s,baz=168,slow=14,SNR=4.7					
	comp=N,3.2nm,0.9s					
WSAR	**Wadi Sarin**	**15.86 131**	Pn	**Pn**	**18 03 08.2**	**-3.6**
	comp=N,0.7nm,0.3s,baz=318,slow=14,SNR=7.4					
	comp=N,2.6nm,0.4s					
AKASG	**Malin Array Be**	**20.27 329**	P	**P**	**18 04 03.8**	**-0.1**
	comp=N,1.5nm,0.8s,baz=140,slow=9.0,SNR=4.7					
	comp=N,1.5nm,0.8s					
FINES	**FINESS Array B**	**29.88 341**	P	**P**	**18 05 34.9**	**-0.8**
	comp=N,4.4nm,1.1s,baz=138,slow=11,SNR=3.8					
	comp=N,4.4nm,1.1s					
HFS	**Hagfors**	**33.12 331**	P	**P**	**18 06 02.8**	**-1.5**
	comp=N,2.0nm,0.9s,baz=140,slow=8.4,SNR=6.3					
	comp=N,2.0nm,0.9s					
SPITS	**Spitsbergen Ar**	**45.71 352**	P	**P**	**18 07 48.6**	**-0.4**
	comp=N,18nm,1.1s,baz=132,slow=12,SNR=5.8					
	comp=N,18nm,1.1s					

TEH ***25*** *18:01:17.5,34.°25N×45.°62E,h9km±32km,ML3.2*
ISN ***25*** *18:01:18.2±0.6,34.°31N×45.°54E,h14km±3km,ML3.2*
ISC 25 18:01:18.1±1.3,34°27N±0.°03×45.°63E±0.°04,h6km±11km,
n14,σ0°85/20,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.24**	**352**	Pg	**Pg**	**18 01 23.0**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.28**	**123**	Pg	**Pg**	**18 01 23.4**	**-0.1**
IDHR	**Dehrash**	**0.76**	**55**	Pg	**Pg**	**18 01 32.3**	**-0.4**
IGHG	**Ghaleghazi**	**0.78**	**85**	Pg	**Pg**	**18 01 33.0**	**-0.1**
IGHG				Sg	**Sb**	**18 01 45.7**	**+0.5**
ILBA	**Ilam Banvizeh**	**0.80**	**143**	Pg	**Pg**	**18 01 32.7**	**-0.8**
KCHF	**Cheshme Sefid,**	**1.17**	**89**	Pg	**Pb**	**18 01 40.5**	**-0.3**
IBDR	**Badra**	**1.18**	**168**	*e*Pg	**Pb**	**18 01 41.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**18 01 58.0**	**+0.4**
IBDR				AML	AML	18 02 01.5	
	comp=E,388nm,0.4s						
IBDR				AML	AML	18 02 01.5	
	comp=N,722nm,0.4s						
ILIN	**Lien**	**1.28**	**59**	Pg	**Pn**	**18 01 42.4**	**-0.3**
ILIN				Sg	**Sn**	**18 02 00.8**	**+0.4**
BHD	**Baghdad**	**1.44**	**227**	*e*Pn	**Pn**	**18 01 45.0**	**+0.3**
BHD				*e*Sn	**Sg**	**18 02 05.0**	**+0.6**
IKRK	**Kirkuk**	**1.55**	**317**	*e*Pn	**Pn**	**18 01 46.0**	**-0.3**
IKRK				*e*Sn	**Sn**	**18 02 07.0**	**+0.2**
SNQR	**Sonqor, Kerman**	**1.75**	**70**	Pg	**Pb**	**18 01 51.0**	**+0.2**
SDS1	**Sardasht. Az.**	**1.88**	**356**	Pn	**Pb**	**18 01 52.8**	**-0.2**
IDOB	**Doab**	**2.17**	**102**	Pn	**Pn**	**18 01 55.5**	**+0.5**
RAFI	**Al-Rafai**	**2.57**	**171**	*e*Pn	**Pn**	**18 02 02.0**	**+1.7**
RAFI				*e*Sn	**Sb**	**18 02 34.0**	**-2.5**

ISN ***25*** *18:02:23.9±0.6,34.°37N×45.°72E,h6km±34km,ML2.5*
TEH ***25*** *18:02:25.6,34.°36N×45.°70E,h10km±63km,ML2.9*
ISC 25 18:02:25.8±1.0,34°37N±0.°04×45.°69E±0.°04,h11km±10km,
n9,σ1°08/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.16**	**328**	Pg	**Pg**	**18 02 29.4**	**0.0**
KGS1				Sg	**Sg**	**18 02 32.8**	**+0.9**
GLG1	**Gilan-e-Gharb**	**0.32**	**145**	Pg	**Pb**	**18 02 31.8**	**-1.7**
IDHR	**Dehrash**	**0.66**	**60**	Pg	**Pb**	**18 02 38.5**	**-1.0**
IDHR				Sg	**Sb**	**18 02 48.6**	**-0.1**
IGHG	**Ghaleghazi**	**0.73**	**93**	Pg	**Pb**	**18 02 40.2**	**-0.4**
ILIN	**Lien**	**1.18**	**62**	Pg	**Pn**	**18 02 48.3**	**-0.2**
IBDR	**Badra**	**1.28**	**171**	*e*Pg	**Pg**	**18 02 50.0**	**-0.3**
IBDR				*e*Sg	**Sn**	**18 03 09.0**	**+2.3**
IBDR				AML	AML	18 03 13.2	
	comp=E,103nm,0.3s						
IBDR				AML	AML	18 03 18.2	
	comp=N,91nm,0.5s						
IKRK	**Kirkuk**	**1.51**	**313**	*e*Pn	**Pg**	**18 02 54.0**	**-0.8**
IKRK				*e*Sn	**Sg**	**18 03 15.0**	**+0.6**
BHD	**Baghdad**	**1.55**	**225**	*e*Pn	**Pb**	**18 02 54.0**	**-0.5**
BHD				*e*Sn	**Sg**	**18 03 16.0**	**+0.3**
SNQR	**Sonqor, Kerman**	**1.67**	**73**	Pg	**Pg**	**18 02 58.1**	**+0.3**

ISN ***25*** *18:07:55.7±0.6,34.°29N×45.°55E,h6km±14km,ML2.8*
TEH ***25*** *18:07:56.6,34.°30N×45.°60E,h10km±198km,ML2.9*
ISC 25 18:07:57.1±1.0,34°32N±0.°04×45.°59E±0.°04,h18km,n9,
σ0°91/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.18**	**359**	Pg	**Pb**	**18 08 01.1**	**-0.5**
KGS1				Sg	**Sb**	**18 08 04.8**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.34**	**129**	Pg	**Pg**	**18 08 03.1**	**-1.2**
IDHR	**Dehrash**	**0.76**	**60**	Pg	**Pb**	**18 08 10.9**	**-0.9**
IGHG	**Ghaleghazi**	**0.81**	**89**	Pg	**Pb**	**18 08 12.7**	**0.0**
KCHF	**Cheshme Sefid,**	**1.20**	**92**	Pg	**Pg**	**18 08 20.2**	**-0.2**
IBDR	**Badra**	**1.24**	**167**	*e*Pg	**Pg**	**18 08 21.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**18 08 39.0**	**+1.7**
IBDR				AML	AML	18 08 43.7	
	comp=N,130nm,0.5s						
IBDR				AML	AML	18 08 44.8	
	comp=E,102nm,0.6s						
ILIN	**Lien**	**1.28**	**62**	Pg	**Pb**	**18 08 21.2**	**+0.5**
BHD	**Baghdad**	**1.46**	**224**	*e*Pn	**Pg**	**18 08 24.0**	**-1.2**
BHD				*e*Sn	**Sg**	**18 08 44.0**	**-0.2**
IKRK	**Kirkuk**	**1.49**	**317**	*e*Pn	**Pb**	**18 08 25.0**	**+0.8**
IKRK				*e*Sn	**Sg**	**18 08 46.0**	**+0.8**
IKRK				AML	AML	18 08 49.5	
	comp=E,300nm,0.4s						
IKRK				AML	AML	18 08 50.2	
	comp=N,178nm,0.5s						

ISN ***25*** *18:13:05.0±0.5,34.°15N×45.°35E,h6km±10km,ML2.6*
TEH ***25*** *18:13:05.1,34.°13N×45.°54E,h10km±253km,ML2.8*
ISC 25 18:13:05.6±0.9,34°15N±0.°04×45.°55E±0.°04,h10km,n8,
σ0°60/12,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.30**	**97**	Pg	**Pg**	**18 13 11.9**	**+0.2**
KGS1	**Ghasr-e-Shirin**	**0.35**	**6**	Pg	**Pg**	**18 13 12.8**	**+0.1**
KGS1				Sg	**Sb**	**18 13 19.0**	**-0.6**
IGHG	**Ghaleghazi**	**0.86**	**78**	Pg	**Pb**	**18 13 22.4**	**-0.5**
IDHR	**Dehrash**	**0.88**	**52**	Pg	**Pg**	**18 13 22.1**	**-0.6**
IBDR	**Badra**	**1.09**	**163**	*e*Pg	**Pn**	**18 13 27.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**18 13 43.0**	**+1.0**
KCHF	**Cheshme Sefid,**	**1.25**	**84**	Pg	**Pg**	**18 13 29.3**	**-0.2**
BHD	**Baghdad**	**1.31**	**228**	*e*Pn	**Pg**	**18 13 30.0**	**-0.8**
BHD				*e*Sn	**Sg**	**18 13 48.0**	**+0.2**
IKRK	**Kirkuk**	**1.59**	**322**	*e*Pn	**Pn**	**18 13 34.0**	**+0.2**
IKRK				*e*Sn	**Sb**	**18 13 56.0**	**+0.8**
IKRK				AML	AML	18 14 01.8	
	comp=N,93nm,0.3s						
IKRK				AML	AML	18 14 01.9	
	comp=E,109nm,0.4s						

ISN ***25*** *18:13:36.4±0.6,34.°32N×45.°61E,h6km±17km,ML3.1*
TEH ***25*** *18:13:38.3,34.°30N×45.°62E,h10km±68km,ML2.9*
ISC 25 18:13:38.4±1.1,34°31N±0.°04×45.°63E±0.°05,h10km±12km,
n8,σ0°97/13,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**351**	Pg	**Pg**	**18 13 42.8**	**+0.1**
KGS1				Sg	**Sg**	**18 13 46.3**	**+0.8**
GLG1	**Gilan-e-Gharb**	**0.31**	**130**	Pg	**Pb**	**18 13 44.7**	**-1.4**
IDHR	**Dehrash**	**0.74**	**58**	Pg	**Pb**	**18 13 52.8**	**-0.7**
IGHG	**Ghaleghazi**	**0.78**	**88**	Pg	**Pb**	**18 13 53.8**	**-0.5**
IBDR	**Badra**	**1.22**	**168**	*e*Pg	**Pg**	**18 14 02.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**18 14 20.0**	**+1.8**
BHD	**Baghdad**	**1.47**	**225**	*e*Pn	**Pb**	**18 14 05.0**	**-0.8**
BHD				*e*Sn	**Sg**	**18 14 26.0**	**+0.4**
IKRK	**Kirkuk**	**1.52**	**316**	*e*Pn	**Pb**	**18 14 06.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**18 14 27.0**	**-0.2**
IKRK				AML	AML	18 14 30.6	
	comp=N,344nm,0.4s						
IKRK				AML	AML	18 14 30.8	
	comp=E,326nm,0.6s						
IKRK	**Kirkuk**	**1.52**	**316**	*e*Pn	**Pb**	**18 14 06.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**18 14 27.0**	**-0.2**
IKRK				AML	AML	18 14 30.4	
	comp=N,351nm,0.4s						
IKRK				AML	AML	18 14 30.8	
	comp=E,320nm,0.4s						

ISN ***25*** *18:14:30.0±0.7,34.°29N×45.°46E,h12km±18km,ML2.7*
TEH ***25*** *18:14:31.0,34.°32N×45.°65E,h10km±217km,ML2.7*
ISC 25 18:14:30.6±1.0,34°33N±0.°03×45.°61E±0.°05,h18km,n7,
σ0°53/11,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.17**	**354**	Pg	**Pb**	**18 14 35.1**	**+0.2**
KGS1				Sg	**Sb**	**18 14 38.7**	**+1.0**
GLG1	**Gilan-e-Gharb**	**0.33**	**131**	Pg	**Pg**	**18 14 37.3**	**-0.4**
IDHR	**Dehrash**	**0.74**	**60**	Pg	**Pb**	**18 14 44.8**	**-0.2**
IGHG	**Ghaleghazi**	**0.79**	**90**	Pg	**Pb**	**18 14 46.3**	**+0.3**
IBDR	**Badra**	**1.25**	**168**	*e*Pg	**Pb**	**18 14 54.0**	**+0.4**
IBDR				*e*Sg	**Sg**	**18 15 11.0**	**0.0**
BHD	**Baghdad**	**1.47**	**224**	*e*Pn	**Pn**	**18 14 56.0**	**-0.2**
BHD				*e*Sn	**Sb**	**18 15 16.0**	**+0.2**
IKRK	**Kirkuk**	**1.49**	**316**	*e*Pn	**Pb**	**18 14 58.0**	**+0.3**
IKRK				*e*Sn	**Sg**	**18 15 18.0**	**-0.8**
IKRK				AML	AML	18 15 23.3	
	comp=E,160nm,0.5s						
IKRK				AML	AML	18 15 23.7	
	comp=N,114nm,0.5s						

ISN ***25*** *18:16:03.2±0.8,34.°40N×45.°74E,h6km±58km,ML2.4*
TEH ***25*** *18:16:05.3,34.°41N×45.°71E,h10km±319km,ML2.9*
ISC 25 18:16:05.1±1.2,34°40N±0.°04×45.°72E±0.°05,h10km±13km,
n8,σ1°14/12,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.15**	**315**	Pg	**Pg**	**18 16 09.0**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.33**	**151**	Pg	**Pb**	**18 16 11.6**	**-1.5**
GLG1				Sg	**Sb**	**18 16 17.8**	**-0.7**
IDHR	**Dehrash**	**0.63**	**62**	Pg	**Pb**	**18 16 17.5**	**-0.8**
IGHG	**Ghaleghazi**	**0.71**	**96**	Pg	**Pb**	**18 16 19.6**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.10**	**96**	Pg	**Pn**	**18 16 27.1**	**+0.3**
IBDR	**Badra**	**1.30**	**172**	*e*Pg	**Pg**	**18 16 30.0**	**0.0**
IBDR				*e*Sg	**Sn**	**18 16 49.0**	**+2.3**
IBDR				AML	AML	18 16 52.7	
	comp=N,74nm,0.3s						
IBDR				AML	AML	18 16 56.8	
	comp=E,73nm,0.6s						
IKRK	**Kirkuk**	**1.51**	**312**	*e*Pn	**Pg**	**18 16 33.0**	**-1.0**
IKRK				*e*Sn	**Sg**	**18 16 54.0**	**+0.4**
BHD	**Baghdad**	**1.58**	**225**	*e*Pn	**Pb**	**18 16 34.0**	**-0.4**
BHD				*e*Sn	**Sg**	**18 16 56.0**	**0.0**

ISN ***25*** *18:19:24.8±0.5,34.°32N×45.°47E,h9km±12km,ML2.4*
TEH ***25*** *18:19:25.4,34.°31N×45.°60E,h10km±139km,ML2.9*
ISC 25 18:19:25.6±1.1,34°31N±0.°04×45.°55E±0.°04,h10km±12km,
n8,σ0°84/12,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**11**	Pg	**Pg**	**18 19 29.9**	**+0.2**
KGS1				Sg	**Sg**	**18 19 33.2**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.36**	**123**	Pg	**Pg**	**18 19 32.1**	**-0.7**
IDHR	**Dehrash**	**0.80**	**61**	Pg	**Pg**	**18 19 40.0**	**-1.0**
IGHG	**Ghaleghazi**	**0.85**	**89**	Pg	**Pg**	**18 19 41.5**	**-0.5**
IBDR	**Badra**	**1.24**	**165**	*e*Pg	**Pg**	**18 19 49.0**	**-0.4**
IBDR				*e*Sg	**Sn**	**18 20 07.0**	**+1.2**
IBDR				AML	AML	18 20 13.6	
	comp=N,105nm,0.6s						
IBDR				AML	AML	18 20 18.1	
	comp=E,68nm,0.3s						
ILIN	**Lien**	**1.32**	**62**	Pg	**Pb**	**18 19 50.4**	**-0.2**
BHD	**Baghdad**	**1.42**	**223**	*e*Pn	**Pg**	**18 19 52.0**	**-0.8**
BHD				*e*Sn	**Sg**	**18 20 12.0**	**+0.7**
IKRK	**Kirkuk**	**1.47**	**318**	*e*Pn	**Pg**	**18 19 53.0**	**-0.8**
IKRK				*e*Sn	**Sg**	**18 20 13.0**	**+0.1**

ISN ***25*** *18:21:06.3±0.5,34.°38N×45.°63E,h7km±2km,ML2.9*
TEH ***25*** *18:21:07.1,34.°36N×45.°71E,h10km±255km,ML2.9*
ISC 25 18:21:07.2±1.0,34°37N±0.°04×45.°70E±0.°04,h12km±9km,
n10,σ1°15/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.16**	**327**	Pg	**Pg**	**18 21 10.9**	**-0.1**
KGS1				Sg	**Sg**	**18 21 14.5**	**+0.8**
GLG1	**Gilan-e-Gharb**	**0.31**	**145**	Pg	**Pg**	**18 21 13.2**	**-0.5**
IDHR	**Dehrash**	**0.66**	**60**	Pg	**Pg**	**18 21 19.5**	**-0.6**
IGHG	**Ghaleghazi**	**0.72**	**93**	Pg	**Pb**	**18 21 21.5**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.12**	**94**	Pg	**Pb**	**18 21 28.8**	**+0.3**
ILIN	**Lien**	**1.18**	**62**	Pg	**Pn**	**18 21 29.8**	**+0.1**
IBDR	**Badra**	**1.27**	**171**	*e*Pg	**Pb**	**18 21 31.0**	**-0.1**
IBDR				*e*Sg	**Sn**	**18 21 49.0**	**+1.3**
IBDR				AML	AML	18 21 58.8	
	comp=E,277nm,0.3s						
IBDR				AML	AML	18 21 59.0	
	comp=N,190nm,0.6s						
IKRK	**Kirkuk**	**1.52**	**313**	*e*Pn	**Pb**	**18 21 35.0**	**-0.3**
IKRK				*e*Sn	**Sg**	**18 21 56.0**	**-0.1**
BHD	**Baghdad**	**1.55**	**225**	*e*Pn	**Pg**	**18 21 36.0**	**-1.0**
BHD				*e*Sn	**Sg**	**18 21 57.0**	**-0.1**
RAFI	**Al-Rafai**	**2.66**	**172**	*e*Pn	**Pn**	**18 21 52.0**	**+2.1**
RAFI				*e*Sn	**Sb**	**18 22 25.0**	**-2.4**

DJA 25 18:22:12.9±0.9,7°S±2°×12°9E±°,h22km±8km,M4.3/15,
mb4.3/8,mB5.1/3,MLv4.3/15,Mw(mB)4.4/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.07**	**119**	P	Pb	18 22 49.1	-0.8
SAUI				S	Sn	18 23 13.3	+1.7
BNDI	**Bandanaira**	**2.49**	**10**	P	Pn	18 22 54.1	+1.9
AAI	**Ambon**	**3.52**	**339**	P	Pn	18 23 07.7	+1.4
MSAI	**Masohi**	**3.66**	**352**	P	Pn	18 23 10.0	+1.8
MSAI				S	Sn	18 23 51.6	+0.9
NLAI	**Namlea**	**4.41**	**328**	P	Pn	18 23 18.4	-0.1
FAKI	**Fak Fak**	**4.91**	**35**	P	Pn	18 23 21.8	-3.6
FAKI				S	Sn	18 24 13.9	-7.7
SOEI	**Soe**	**5.83**	**242**	P	Pn	18 23 38.7	+0.5
	20nm,0.8s,0.3nm						
SOEI				S	Sn	18 24 43.7	-0.7
	20nm,0.8s,0.3nm						
SWI	**Sorong**	**6.35**	**17**	P	Pn	18 23 42.2	-3.0
SWI				S	Sn	18 24 48.8	-8.2
BATI	**Baumata**	**6.56**	**240**	P	Pn	18 23 48.1	-0.1
	17nm,0.5s,0.2nm						
RKPI	**Ransiki, Papua**	**7.19**	**41**	P	Pn	18 23 54.3	-2.5
	51nm,0.7s						
MMRI	**Maumere**	**7.34**	**257**	P	Pn	18 23 59.1	+0.2
	25nm,1.4s,0.1nm						
TNTI	**Ternate**	**7.99**	**345**	P	Pn	18 24 06.8	-1.0

JMA ***25*** *18:26:20.7±0.1,25.°8N±0.°8×125.°6E±0.°9,h33km,MV3.6/18,*
NW OFF MIYAKOJIMA ISLAND
NEIC ***25*** *18:26:23.5±1.6,25.°6N±0.°1×125.°8E±0.°1,h43km±11km,*
mb4.4/7,Error ellipse: s-maj=21.1km s-min=9.9km
az=145.0
IDC ***25*** *18:26:27.9±3.2,25.°70N×126.°08E,h68km±29km,mb3.4/6,*
mbtmp3.8/9,ML3.5/3,MS4.3/1,Error ellipse: s-maj=26.3km
s-min=20.3km az=73.0
ISC 25 18:26:20.0±1.7,25°73N±0.°05×125°67E±0.°05,h10km±12km,
n57,σ1°70/56,mb4.0/10,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKM	**Ikemajima**	**0.89**	**206**	*e*P	**Pb**	**18 26 37.9**	**+0.4**
JIKM				*e*S	**Sb**	**18 26 50.5**	**+1.0**
JMJ	**Miyako jima 2**	**0.97**	**201**	P	**Pn**	**18 26 40.6**	**+0.9**
JOGS	**Gusukube**	**0.99**	**194**	*e*P	**Pb**	**18 26 39.5**	**+0.2**
JOGS				*e*S	**Sb**	**18 26 52.7**	**+0.2**
JIRB	**Irabujima**	**1.00**	**207**	*e*P	**Pg**	**18 26 39.5**	**+0.1**
JIRB				*e*S	**Sb**	**18 26 53.3**	**+0.6**
JMJ2	**Miyako jima3**	**1.03**	**198**	P	**Pb**	**18 26 40.2**	**+0.2**
JMJ2				*e*S	**Sn**	**18 26 54.3**	**-0.7**
JKE	**Kume jima 2**	**1.17**	**59**	P	**Pb**	**18 26 41.2**	**-1.0**
JKE				*e*S	**Sb**	**18 26 56.3**	**-1.1**
JTJ	**Tarama**	**1.40**	**219**	*e*P	**Pn**	**18 26 45.4**	**-0.1**
JTJ				*e*S	**Sn**	**18 27 03.0**	**-1.0**
JAGN	**Aguni-jima**	**1.65**	**58**	*e*P	**Pn**	**18 26 48.8**	**-0.3**
JAGN				*e*S	**Sn**	**18 27 09.1**	**-1.2**
JISG	**Ishigakijimahi**	**1.68**	**228**	*e*P	**Pn**	**18 26 48.3**	**-1.1**
JIJ	**Ishigaki jima**	**1.94**	**226**	*e*P	**Pn**	**18 26 52.6**	**-0.5**
JJT3	**Tamagusuku3**	**1.94**	**77**	*e*P	**Pn**	**18 26 54.1**	**+0.9**
JKRS	**Kuro-shima**	**2.12**	**226**	*e*P	**Pn**	**18 26 55.6**	**+0.1**
IRIF	**Iriomote-Funau**	**2.24**	**232**	*e*P	**Pn**	**18 26 57.1**	**-0.1**
JNTH	**Nagotoyohara**	**2.25**	**69**	*e*P	**Pn**	**18 26 57.8**	**+0.4**
JIH	**Iheya**	**2.43**	**57**	*e*P	**Pn**	**18 27 00.3**	**+0.4**
JOW	**Kunigami**	**2.58**	**64**		**Pn**	**18 27 02.4**	**+0.5**
JOW	**Kunigami**	**2.58**	**64**	P	**Pn**	**18 27 02.8**	**+0.9**
	32nm,0.3s,baz=179,slow=14,SNR=42						
JOW				S	**Sn**	**18 27 30.8**	**-2.6**
	94nm,0.3s,baz=208,slow=16,SNR=6.2						
	91nm,0.4s						
JOW	**Kunigami**	**2.58**	**64**	P	**Pn**	**18 27 02.9**	**+1.0**
JOW	**Kunigami**	**2.58**	**64**	*e*P	**Pn**	**18 27 01.8**	**-0.1**
YOJ	**Yonaguni jima**	**2.72**	**243**	Pn	**Pn**	**18 27 04.4**	**+0.6**
YOJ	**Yonaguni jima**	**2.72**	**243**	P	**Pb**	**18 27 06.8**	**-2.0**
NACB	**Ninganchiao**	**4.01**	**248**	Pn	**Pn**	**18 27 21.5**	**-0.1**
NACB	**Ninganchiao**	**4.01**	**248**	P	**Pn**	**18 27 25.4**	**+3.8**
YHNB	**Yeheng**	**4.03**	**256**	Pn	**Pn**	**18 27 24.8**	**+2.9**
YHNB	**Yeheng**	**4.03**	**256**	P	**Pb**	**18 27 27.0**	**-4.2**
YULB	**Yu-li**	**4.61**	**241**	Pn	**Pn**	**18 27 29.7**	**-0.2**
YULB	**Yu-li**	**4.61**	**241**	P	**Pn**	**18 27 30.6**	**+0.7**
SSLB	**Suanglung**	**4.71**	**247**	Pn	**Pn**	**18 27 33.0**	**+1.9**
SSLB	**Suanglung**	**4.71**	**247**	P	**Pn**	**18 27 34.2**	**+3.1**
TPUB	**Ta-pu**	**5.19**	**243**	Pn	**Pn**	**18 27 38.7**	**+0.9**
TPUB	**Ta-pu**	**5.19**	**243**	P	**Pn**	**18 27 40.4**	**+2.6**
JNU	**Nakatsue**	**8.65**	**30**	Pn	**Pn**	**18 28 27.2**	**+1.9**
JNU	**Nakatsue**	**8.65**	**30**	P	**Pn**	**18 28 29.1**	**+3.8**
	0.6nm,0.3s,baz=248,slow=3.1,SNR=7.3						
	6.5nm,0.8s						
JNU	**Nakatsue**	**8.65**	**30**	P	**Pn**	**18 28 29.7**	**+4.4**
KSRS	**Korea Array**	**11.85**	**9**	P	Pn	18 29 14.9	+5.9
	0.1nm,0.3s,baz=187,slow=12,SNR=12						
	3.0nm,0.8s						
JCJ	**Chichijima**	**14.86**	**81**	Pn	Pn	18 29 41.6	-8.7
USRK	**Ussuriysk Ar.**	**19.13**	**14**	P	**P**	**18 30 43.1**	**-0.1**
SBUM	**Sibu**	**26.52**	**211**	P	**P**	**18 31 56.6**	**-1.3**
SONM	**Songino Array**	**26.79**	**330**	P	**P**	**18 32 00.2**	**-0.1**
SONM				IAmb	IAmb	18 32 05.4	
	comp=Z,6.4nm,1.4s						
SONM	**Songino Array**	**26.79**	**330**	P	**P**	**18 32 02.8**	**+2.5**
	comp=Z,3.0nm,1.1s,baz=154,slow=11,SNR=4.2						
	comp=Z,3.0nm,1.1s						
YAK	**Yakutsk**	**36.39**	**3**	P	**P**	**18 33 24.6**	**+0.3**
H11N1	**WAKE ISLAND Hy**	**38.37**	**90**	T	T	19 13 50.5	
	baz=288						
H11N2	**WAKE ISLAND Hy**	**38.37**	**90**	T	T	19 14 01.8	
	baz=288						
H11N3	**WAKE ISLAND Hy**	**38.39**	**90**	T	T	19 13 58.9	
	baz=288						
H11S3	**WAKE ISLAND Hy**	**38.55**	**92**	T	T	19 13 56.1	
	baz=289						
H11S1	**WAKE ISLAND Hy**	**38.56**	**92**	T	T	19 13 58.8	
	baz=289						
H11S2	**WAKE ISLAND Hy**	**38.57**	**92**	T	T	19 14 00.1	
	baz=289						
MTN	**Manton Dam**	**38.71**	**171**	P	**P**	**18 33 41.4**	**-2.9**
MTN				IAmb	IAmb	18 33 44.3	
	comp=Z,21nm,1.4s						
FITZ	**Fitzroy Crossi**	**43.56**	**180**	LR	LR	18 54 18.2	
	comp=Z,343nm,20.4s,baz=127,slow=38						
KURBB	**Kurchatov Arra**	**43.65**	**317**	P	**P**	**18 34 27.4**	**+2.7**
	comp=Z,0.3nm,0.3s,baz=106,slow=8.6,SNR=1.2						
	comp=Z,0.3nm,0.3s						
WRA	**Warramunga Arr**	**46.17**	**169**	P	**P**	**18 34 44.8**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=350,slow=8.8,SNR=2.9						
	comp=Z,0.5nm,0.7s						
ASAR	**Alice Springs**	**49.75**	**170**	P	**P**	**18 35 13.2**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=353,slow=7.8,SNR=4.8						
	comp=Z,0.3nm,0.6s						
ILAR	**Eielson Array**	**65.96**	**28**	P	**P**	**18 37 05.2**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=238,slow=4.8,SNR=5.8						
	comp=Z,0.5nm,0.7s		

IKRK	**Kirkuk**	**1.64**	**319**	*e*Pn	**Pn**	**18 35 08.0**	**-0.4**
IKRK				*e*Sn	**Sn**	**18 35 30.0**	**+0.1**
IKRK				AML	AML	18 35 34.2	
	comp=E,1μm,0.9s						
IKRK				AML	AML	18 35 38.1	
	comp=N,858nm,0.4s						
SNQR	**Sonqor, Kerman**	**1.78**	**66**	Pg	**Pb**	**18 35 12.3**	**+0.1**
SDS1	**Sardasht. Az.**	**1.99**	**356**	Pn	**Pn**	**18 35 14.0**	**+0.6**
IDOB	**Doab**	**2.14**	**99**	Pn	**Pn**	**18 35 16.1**	**+0.7**
RAFI	**Al-Rafai**	**2.46**	**171**	*e*Pn	**Pn**	**18 35 20.0**	**+0.3**
RAFI				*e*Sn	**Sn**	**18 35 51.0**	**+0.8**
MAHB	**Mahabad**	**2.60**	**1**	Pn	**Pn**	**18 35 22.4**	**+0.7**
IAZR	**Azarshahr**	**3.52**	**4**	Pn	**Pn**	**18 35 35.1**	**+0.6**
QABG	**Abgarm-Qazvin**	**3.58**	**63**	Pn	**Pn**	**18 35 36.0**	**+0.6**
IQOM	**Qom**	**4.53**	**80**	Pn	**Pn**	**18 35 48.4**	**-0.1**
IMRD	**Marand**	**4.54**	**1**	Pn	**Pn**	**18 35 49.0**	**+0.5**
IPIR	**Pirpir**	**4.63**	**107**	Pn	**Pn**	**18 35 49.1**	**-0.7**
QAMS	**Qamsar**	**4.80**	**93**	Pn	**Pn**	**18 35 52.3**	**+0.2**
ZNGN	**Zangian**	**4.82**	**114**	Pn	**Pn**	**18 35 51.7**	**-0.8**
GRMI	**Germi**	**4.98**	**21**	Pn	**Pn**	**18 35 54.3**	**-0.2**
IKLH	**Kolahrood**	**5.02**	**98**	Pn	**Pn**	**18 35 55.5**	**+0.4**
IVRN	**Varamin**	**5.09**	**79**	Pn	**Pn**	**18 35 56.9**	**+1.0**
KRSH	**Karshahi**	**5.39**	**90**	Pn	**Pn**	**18 36 00.2**	**0.0**
ISFB	**Sefidab**	**5.47**	**86**	Pn	**Pn**	**18 36 00.9**	**-0.3**
IGAR	**Gharneh**	**5.64**	**106**	Pn	**Pn**	**18 36 03.0**	**-0.6**
IZEF	**Zefreh**	**5.72**	**101**	Pn	**Pn**	**18 36 04.7**	**-0.1**
IRAM	**Ramesheh**	**6.13**	**111**	Pn	**Pn**	**18 36 10.3**	**0.0**

TEH ***25*** *18:40:36.9, 34°.40N×45°.64E, h10km±137km, ML2.8*
ISN ***25*** *18:40:37.2±1.6, 34°.43N×45°.59E, h14km±10km, ML2.5*
ISC 25 18:40:37.4±1.1, 34°.41N±0°.04×45°.64E±0°.05, h6km±12km, n10, σ0ˢ92/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.10**	**335**	Pg	**Pg**	**18 40 40.0**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.37**	**143**	Pg	**Pg**	**18 40 44.0**	**-0.6**
IDHR	**Dehrash**	**0.68**	**65**	Pg	**Pg**	**18 40 50.1**	**-0.4**
IDHR				Sg	**Sb**	**18 41 00.5**	**-0.9**
IGHG	**Ghaleghazi**	**0.77**	**96**	Pg	**Pg**	**18 40 52.2**	**0.0**
KCHF	**Cheshme Sefid,**	**1.17**	**96**	Pg	**Pg**	**18 40 59.8**	**+0.1**
ILIN	**Lien**	**1.20**	**65**	Pg	**Pg**	**18 41 00.4**	**0.0**
IBDR	**Badra**	**1.32**	**169**	*e*Pg	**Pb**	**18 41 02.0**	**-0.5**
IBDR				*e*Sg	**Sg**	**18 41 21.0**	**+1.2**
IBDR				AML	AML	18 41 23.6	
	comp=N,104nm,0.5s						
IBDR				AML	AML	18 41 29.4	
	comp=E,93nm,0.5s						
IKRK	**Kirkuk**	**1.46**	**313**	*e*Pn	**Pb**	**18 41 04.0**	**-0.9**
IKRK				*e*Sn	**Sg**	**18 41 25.0**	**+0.8**
BHD	**Baghdad**	**1.55**	**223**	*e*Pn	**Pb**	**18 41 05.0**	**-1.4**
BHD				*e*Sn	**Sg**	**18 41 27.0**	**-0.2**
RAFI	**Al-Rafai**	**2.71**	**171**	*e*Pn	**Pn**	**18 41 22.0**	**+0.6**
RAFI				*e*Sn	**Sn**	**18 41 56.0**	**+1.5**

IDC ***25*** *18:41:18.3±0.8, 18°.28N×146°.91E, h0km, mb4.0/12, mbtmp4.0/14, ML3.0/2, Error ellipse: s-maj=31.0km s-min=15.3km az=94.0*
ISC 25 18:41:25.4±0.8, 18°.26N±0°.09×146°.8E±0°.2, h52km, n20, σ0ˢ80/15, mb3.9/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.01**	**203**	Pn	**Pn**	**18 42 37.4**	**-0.7**
	4.0nm,0.3s,baz=15,slow=20,SNR=1.8						
GUMO				Sn	**Sn**	**18 43 35.9**	**+1.1**
	2.9nm,0.3s,baz=176,slow=23,SNR=0.9						
H11S3	**WAKE ISLAND Hy**	**18.84**	**86**	T	T	19 04 47.8	
	38nm,0.7s baz=272,slow=74,SNR=13						
H11S1	**WAKE ISLAND Hy**	**18.85**	**86**	T	T	19 04 44.3	
	baz=272,slow=74,SNR=10						
H11S2	**WAKE ISLAND Hy**	**18.86**	**86**	T	T	19 04 46.7	
	baz=272,slow=74,SNR=10						
H11N1	**WAKE ISLAND Hy**	**19.02**	**82**	T	T	19 04 57.4	
	baz=267						
H11N2	**WAKE ISLAND Hy**	**19.02**	**82**	T	T	19 05 01.2	
	baz=267						
H11N3	**WAKE ISLAND Hy**	**19.04**	**82**	T	T	19 05 02.6	
	baz=267						
MJAR	**Matsushiro Arr**	**19.74**	**339**	P	**P**	**18 45 50.9**	**0.0**
	baz=135,slow=13,SNR=1.6						
	0.7nm,0.6s						
KSRS	**Korea Array**	**25.32**	**323**	P	**P**	**18 46 47.2**	**0.0**
	1.0nm,0.9s,baz=151,slow=11,SNR=3.4						
	1.0nm,0.9s						
WRA	**Warramunga Arr**	**39.90**	**199**	P	**P**	**18 48 53.4**	**-1.1**
	1.3nm,0.8s,baz=24,slow=8.8,SNR=7.1						
	1.3nm,0.8s						
ASAR	**Alice Springs**	**43.54**	**197**	P	**P**	**18 49 24.4**	**+0.2**
	0.6nm,0.4s,baz=14,slow=7.4,SNR=22						
	0.6nm,0.4s						
STKA	**Stephens Creek**	**50.10**	**186**	P	**P**	**18 50 15.6**	**+0.3**
	0.8nm,0.7s,baz=356,slow=14,SNR=1.5						
	0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**59.02**	**322**	P	**P**	**18 51 19.0**	**-0.8**
	1.1nm,0.6s,baz=116,slow=8.8,SNR=5.4						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**62.37**	**318**	P	**P**	**18 51 42.9**	**+0.2**
	1.0nm,0.6s,baz=94,slow=7.2,SNR=12						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**63.56**	**26**	P	**P**	**18 51 50.2**	**-0.1**
	1.0nm,1.0s,baz=254,slow=6.5,SNR=3.8						
	1.0nm,1.0s						
BVAR	**Borovoye Array**	**67.50**	**321**	P	**P**	**18 52 16.4**	**+0.4**
	2.2nm,0.6s,baz=93,slow=7.4,SNR=17						
	2.2nm,0.6s						
YKA	**Yellowknife Ar**	**77.87**	**28**	P	**P**	**18 53 16.8**	**-0.5**
	0.6nm,0.7s,baz=285,slow=5.3,SNR=5.2						
	0.6nm,0.7s						
NVAR	**Mina Array Bea**	**82.56**	**52**	P	**P**	**18 53 43.8**	**+0.4**
	0.8nm,0.8s,baz=268,slow=9.3,SNR=4.6						
	0.8nm,0.8s						
ARCES	**ARCESS Array B**	**83.24**	**342**	P	**P**	**18 53 47.7**	**+1.7**
	11nm,1.2s,baz=36,slow=7.9,SNR=1.7						
	11nm,1.2s						
FINES	**FINESS Array B**	**87.73**	**336**	P	**P**	**18 54 07.8**	**-0.6**
	1.7nm,0.8s,baz=64,slow=5.3,SNR=5.2						
	1.7nm,0.8s						

ISN ***25*** *18:44:29.4±0.7, 34°.36N×45°.59E, h7km±4km, ML3.3*
TEH ***25*** *18:44:29.9, 34°.32N×45°.64E, h8km±33km, ML3.4*
ISC 25 18:44:30.3±1.2, 34°.33N±0°.03×45°.65E±0°.03, h5km±12km, n22, σ1ˢ16/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.18**	**344**	Pg	**Pg**	**18 44 34.2**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.30**	**135**	Pg	**Pg**	**18 44 36.6**	**+0.4**
IDHR	**Dehrash**	**0.71**	**58**	Pg	**Pg**	**18 44 43.6**	**-0.3**
IGHG	**Ghaleghazi**	**0.76**	**90**	Pg	**Pg**	**18 44 44.8**	**0.0**
IGHG				Sg	**Sb**	**18 44 57.5**	**+0.7**
ILBA	**Ilam Banvizeh**	**0.84**	**147**	Pg	**Pg**	**18 44 46.2**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.15**	**92**	Pg	**Pb**	**18 44 52.3**	**-0.5**
KCHF				Sg	**Sn**	**18 45 08.9**	**-0.6**
ILIN	**Lien**	**1.23**	**61**	Pg	**Pn**	**18 44 53.8**	**-0.5**
IBDR	**Badra**	**1.24**	**169**	*e*Pg	**Pg**	**18 44 54.0**	**0.0**
IBDR				*e*Sg	**Sn**	**18 45 12.0**	**+0.7**
IBDR				AML	AML	18 45 16.1	
	comp=E,864nm,0.9s						
IBDR				AML	AML	18 45 20.8	
	comp=N,356nm,0.5s						
BHD	**Baghdad**	**1.50**	**225**	*e*Pn	**Pb**	**18 44 58.0**	**-0.5**
BHD				*e*Sn	**Sg**	**18 45 19.0**	**+0.7**
IKRK	**Kirkuk**	**1.52**	**315**	*e*Pn	**Pb**	**18 44 58.0**	**-0.9**
IKRK				*e*Sn	**Sg**	**18 45 19.0**	**-0.1**
SNQR	**Sonqor, Kerman**	**1.71**	**71**	Pg	**Pb**	**18 45 02.2**	**-0.2**
SDS1	**Sardasht. Az.**	**1.82**	**356**	Pn	**Pb**	**18 45 04.2**	**0.0**
IDOB	**Doab**	**2.17**	**104**	Pn	**Pb**	**18 45 08.2**	**-1.8**
MAHB	**Mahabad**	**2.43**	**1**	Pn	**Pb**	**18 45 12.5**	**-2.2**
RAFI	**Al-Rafai**	**2.63**	**171**	*e*Pn	**Pb**	**18 45 14.0**	**+0.7**
RAFI				*e*Sn	**Sb**	**18 45 48.0**	**-2.4**
IAZR	**Azarshahr**	**3.35**	**4**	Pn	**Pn**	**18 45 24.6**	**+1.0**
QABG	**Abgarm-Qazvin**	**3.51**	**66**	Pn	**Pn**	**18 45 27.6**	**+1.9**
IMRD	**Marand**	**4.38**	**1**	Pn	**Pn**	**18 45 38.7**	**+1.2**
QAMS	**Qamsar**	**4.81**	**95**	Pn	**Pn**	**18 45 45.1**	**+1.6**
IKLH	**Kolahrood**	**5.03**	**100**	Pn	**Pn**	**18 45 48.5**	**+1.8**
KRSH	**Karshahi**	**5.39**	**92**	Pn	**Pn**	**18 45 52.9**	**+1.5**
IZEF	**Zefreh**	**5.75**	**103**	Pn	**Pn**	**18 45 57.2**	**+0.6**

TEH ***25*** *18:45:38.1, 34°.27N×45°.65E, h9km, ML2.9*
ISN ***25*** *18:45:38.0±0.3, 34°.27N×45°.52E, h9km±1km, ML3.4*
ISC 25 18:45:38.4±1.2, 34°.28N±0°.04×45°.63E±0°.05, h3km±13km, n9, σ0ˢ64/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.23**	**352**	Pg	**Pg**	**18 45 43.3**	**+0.5**
GLG1	**Gilan-e-Gharb**	**0.29**	**125**	Pg	**Pg**	**18 45 43.7**	**-0.2**
GLG1				Sg	**Sg**	**18 45 48.1**	**+0.5**
IGHG	**Ghaleghazi**	**0.78**	**86**	Pg	**Pg**	**18 45 53.5**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.17**	**90**	Pg	**Pg**	**18 46 00.2**	**-0.6**
IBDR	**Badra**	**1.19**	**168**	*e*Pg	**Pg**	**18 46 01.0**	**-0.2**
IBDR				*e*Sg	**Sn**	**18 46 18.0**	**-0.7**
ILIN	**Lien**	**1.27**	**60**	Pg	**Pg**	**18 46 02.3**	**-0.5**
BHD	**Baghdad**	**1.45**	**226**	*e*Pn	**Pn**	**18 46 05.0**	**-0.4**
BHD				*e*Sn	**Sg**	**18 46 25.0**	**+0.2**
IKRK	**Kirkuk**	**1.54**	**317**	*e*Pn	**Pb**	**18 46 07.0**	**-0.5**
IKRK				*e*Sn	**Sg**	**18 46 28.0**	**+0.2**
IKRK				AML	AML	18 46 31.0	
	comp=N,532nm,0.4s						
IKRK				AML	AML	18 46 31.0	
	comp=E,750nm,0.3s						
RAFI	**Al-Rafai**	**2.58**	**171**	*e*Pn	**Pn**	**18 46 22.0**	**+1.0**
RAFI				*e*Sn	**Sn**	**18 46 54.0**	**+1.1**

ISN ***25*** *18:48:29.8±0.6, 34°.30N×45°.49E, h8km±3km, ML3.0*
TEH ***25*** *18:48:30.4, 34°.29N×45°.58E, h10km±163km, ML2.9*
ISC 25 18:48:30.5±1.2, 34°.29N±0°.04×45°.55E±0°.04, h8km±12km, n10, σ0ˢ99/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.35**	**121**	Pg	**Pg**	**18 48 37.0**	**-0.3**
GLG1				Sg	**Sg**	**18 48 42.1**	**+0.2**
IDHR	**Dehrash**	**0.80**	**59**	Pg	**Pg**	**18 48 45.4**	**-0.6**
IGHG	**Ghaleghazi**	**0.84**	**87**	Pg	**Pg**	**18 48 46.8**	**0.0**
IBDR	**Badra**	**1.22**	**165**	*e*Pg	**Pg**	**18 48 54.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**18 49 11.0**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.23**	**90**	Pg	**Pg**	**18 48 54.5**	**+0.3**
ILIN	**Lien**	**1.32**	**61**	Pg	**Pg**	**18 48 55.7**	**-0.2**
BHD	**Baghdad**	**1.41**	**224**	*e*Pn	**Pg**	**18 48 57.0**	**-0.6**
BHD				*e*Sn	**Sg**	**18 49 17.0**	**+1.1**
IKRK	**Kirkuk**	**1.49**	**318**	*e*Pn	**Pb**	**18 48 58.0**	**-0.4**
IKRK				*e*Sn	**Sg**	**18 49 19.0**	**+0.6**
IKRK				AML	AML	18 49 23.6	
	comp=N,277nm,0.4s						
IKRK				AML	AML	18 49 24.1	
	comp=E,279nm,0.3s						
SNQR	**Sonqor, Kerman**	**1.80**	**71**	Pg	**Pb**	**18 49 03.8**	**-0.2**
RAFI	**Al-Rafai**	**2.60**	**169**	*e*Pn	**Pn**	**18 49 14.0**	**+1.1**
RAFI				*e*Sn	**Sb**	**18 49 47.0**	**-2.5**

SJA ***25*** *18:49:03.1±0.7, 24°.26S×67°.08W, h201km±11km, ML3.2, MW3.4*
GUC ***25*** *18:49:04.6±0.5, 24°.18S×67°.49W, h237km±8km, ML3.5*
ISC 25 18:49:02.5±1.9, 24°.21S±0°.04×67°.12W±0°.05, h212km±19km, n25, σ1ˢ36/43, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.56**	**109**	*e*P	**Pn**	**18 49 37.4**	**-0.5**
FSA	**Cafayete**	**2.15**	**152**	*e*P	**Pn**	**18 49 43.3**	**-0.4**
GO02	**Mina Guanaco**	**2.44**	**247**	*e*P	**Pn**	**18 49 47.7**	**+0.9**
GO02				*e*S	**S**	**18 50 21.1**	**0.0**
GO02				IAML		18 50 24.1	
	comp=N,222nm,0.2s						
GO02	**Mina Guanaco**	**2.44**	**247**	*e*P	**Pn**	**18 49 47.7**	**+0.9**
GO02				*e*S	**S**	**18 50 21.4**	**+0.3**
YJA	**Yavi**	**2.51**	**36**	*e*P	**Pn**	**18 49 49.1**	**+1.3**
YJA				*e*S	**S**	**18 50 21.1**	**-1.6**
PB14	**IPOC Station P**	**3.02**	**261**	*e*P	**Pn**	**18 49 53.9**	**+0.5**
PB14				*e*S	**S**	**18 50 30.6**	**-2.1**
PB14				IAML		18 50 33.1	
	comp=E,44nm,0.4s						
PB14	**IPOC Station P**	**3.02**	**261**	*e*P	**Pn**	**18 49 54.0**	**+0.7**
PB14				*e*S	**S**	**18 50 32.2**	**-0.5**
PB14				IAML		18 50 33.2	
	comp=Z,40nm,0.7s						
AHML	**Horco Molle**	**3.03**	**148**	*e*P	**Pn**	**18 49 53.4**	**+0.2**
AHML				*e*S	S	18 50 14.8	-18
PB09	**IPOC Station P**	**3.10**	**320**	*e*P	**Pn**	**18 49 55.5**	**+1.3**
PB09				*e*S	**S**	**18 50 33.7**	**-0.5**
PB09				IAML		18 50 38.0	
	comp=E,41nm,0.1s						
PB09	**IPOC Station P**	**3.10**	**320**	*e*P	**Pn**	**18 49 55.7**	**+1.5**
PB09				*e*S	**S**	**18 50 34.6**	**+0.3**
PB09				IAML		18 50 37.8	
	comp=Z,30nm,0.1s						
PB04	**IPOC Station P**	**3.35**	**303**	*e*P	**Pn**	**18 49 57.8**	**+0.6**
PB04				*e*S	**S**	**18 50 37.4**	**-2.2**
PB04	**IPOC Station P**	**3.35**	**303**	*e*P	**Pn**	**18 49 58.2**	**+1.0**
PB04				*e*S	**S**	**18 50 38.5**	**-1.1**
PB04				IAML		18 50 42.5	
	comp=Z,80nm,0.2s						
AC01	**Pan de Azucar**	**3.69**	**238**	*e*P	**Pn**	**18 50 00.9**	**-0.1**
AC01				*e*S	**S**	**18 50 45.7**	**-0.9**
AC01				IAML		18 50 45.9	
	comp=Z,24nm,0.6s						
PB01	**IPOC Station P**	**3.84**	**325**	*e*P	**Pn**	**18 50 03.4**	**+0.5**
PB01	**IPOC Station P**	**3.84**	**325**	*e*P	**Pn**	**18 50 03.4**	**+0.5**
PB01				*e*S	**S**	**18 50 49.6**	**-0.4**
PB01				IAML		18 50 52.9	
	comp=Z,22nm,0.4s						
GO03	**Copiapo**	**4.38**	**219**	*e*P	**Pn**	**18 50 09.6**	**0.0**
GO03	**Copiapo**	**4.38**	**219**	*e*P	**Pn**	**18 50 09.7**	**+0.1**
GO03				*e*S	**S**	**18 51 01.2**	**-0.8**
PATCX	**Punta Patache**	**4.39**	**320**	i*P*	**Pn**	**18 50 10.6**	**+0.9**
PATCX	**Punta Patache**	**4.39**	**320**	*e*P	**Pn**	**18 50 10.6**	**+0.9**
PATCX				*e*S	**S**	**18 51 03.1**	**+0.8**
PATCX				IAML		18 51 12.6	
	comp=Z,22nm,0.6s						
TA01	**Diego Aracena**	**4.60**	**321**	*e*P	**Pn**	**18 50 12.6**	**+0.3**
TA01	**Diego Aracena**	**4.60**	**321**	*e*P	**Pn**	**18 50 12.7**	**+0.5**
TA01				*e*S	**S**	**18 51 04.6**	**-2.4**
TA01				IAML		18 51 10.1	
	comp=Z,15nm,3.4s						
HMBC	**Humberstone**	**4.68**	**326**	*e*P	**Pn**	**18 50 13.0**	**-0.4**
HMBC				*e*S	**S**	**18 51 05.3**	**-3.7**
HMBC				IAML		18 51 12.5	
	comp=Z,24nm,0.5s						
GO01	**Chusmiza**	**4.91**	**337**	*e*P	**Pn**	**18 50 19.1**	**+2.4**
GO01				*e*S	**S**	**18 51 14.4**	**-0.5**
ACLC	**CERRO LA CRUZ**	**5.20**	**178**	*e*P	**Pn**	**18 50 21.1**	**+1.2**
ACLC				*e*P		18 50 21.3	
ACLC				*e*S	**S**	**18 51 24.9**	**+4.1**
ACLC				IAML		18 51 31.7	
	comp=Z,11nm,3.9s						
AC04	**Llanos de Chal**	**5.33**	**221**	*e*P	**Pn**	**18 50 21.3**	**-0.1**
AC04				*e*S	**S**	**18 51 22.8**	**-0.8**

TEH ***25*** *18:49:34.6, 34°.29N×45°.63E, h10km±234km, ML2.8*
ISN ***25*** *18:49:35.3±1.2, 34°.31N×45°.54E, h23km±8km, ML2.6*
ISC 25 18:49:34.9±1.0, 34°.31N±0°.04×45°.59E±0°.04, h10km±11km, n10, σ0ˢ91/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**360**	Pg	**Pg**	**18 49 39.3**	**+0.1**
KGS1				Sg	**Sg**	**18 49 43.4**	**+1.4**
GLG1	**Gilan-e-Gharb**	**0.33**	**126**	Pg	**Pg**	**18 49 40.5**	**-1.0**
IDHR	**Dehrash**	**0.77**	**59**	Pg	**Pg**	**18 49 48.6**	**-1.1**
IGHG	**Ghaleghazi**	**0.81**	**88**	Pg	**Pb**	**18 49 50.3**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.20**	**91**	Pg	**Pb**	**18 49 57.5**	**-0.3**
IBDR	**Badra**	**1.23**	**167**	*e*Pg	**Pb**	**18 49 58.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**18 50 15.0**	**+0.7**
ILIN	**Lien**	**1.29**	**61**	Pg	**Pb**	**18 49 59.0**	**-0.4**
BHD	**Baghdad**	**1.44**	**225**	*e*Pn	**Pb**	**18 50 01.0**	**-0.8**
BHD				*e*Sn	**Sg**	**18 50 21.0**	**-0.3**
IKRK	**Kirkuk**	**1.50**	**317**	*e*Pn	**Pb**	**18 50 02.0**	**-0.9**
IKRK				*e*Sn	**Sg**	**18 50 23.0**	**-0.2**
IKRK				AML	AML	18 50 29.2	
	comp=E,120nm,0.6s						
IKRK				AML	AML	18 50 31.9	
	comp=N,93nm,0.5s						
RAFI	**Al-Rafai**	**2.61**	**170**	*e*Pn	**Pn**	**18 50 18.0**	**+0.9**
RAFI				*e*Sn	**Sn**	**18 50 50.0**	**+1.1**

RSNC 25 18:50:51.8±0.0, 13°N±2°×8°1W±°, h0km±2km, M3.2, mb4.3, ML3.2, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.25**	**321**	P	Pg	18 50 57.9	+1.3
PRVC				S	Sb	18 51 02.5	-1.7
SAIC	**Isla e San And**	**0.81**	**218**	P	Pb	18 51 08.3	-0.5
SAIC				S	Sn	18 51 21.9	-1.3
RNCC	**Cayo Roncador,**	**1.15**	**70**	P	Pg	18 51 13.0	-0.8
RNCC				S	Sb	18 51 29.7	-0.3
SERC	**Banco Serrana,**	**1.37**	**36**	P	Pg	18 51 16.2	-1.8
SERC				S	Sn	18 51 36.8	-0.2
BCIP	**Isla Barro Col**	**4.21**	**161**	P	Pn	18 51 54.7	-2.5
BCIP				S	Sn	18 52 42.6	-4.5
JTS	**Las Juntas de**	**4.66**	**232**	P	Pn	18 52 04.0	+0.4
JTS				S	Sn	18 52 57.1	-1.4
AZU	**Azuero**	**5.43**	**170**	P	Pn	18 52 12.0	-2.1
AZU				S	Sn	18 53 12.3	-5.1
LCBC	**Los crdobas,**	**6.40**	**132**	P	Pn	18 52 26.9	-0.5
	92nm,1.1s						
LCBC				S	Sn	18 53 38.0	-3.2
	92nm,1.1s						
SJCC	**San Jacinto, C**	**6.74**	**118**	P	Pn	18 52 28.4	-3.8
SJCC				S	Sn	18 53 43.0	-6.8

RSNC 25 18:53:42.8±0.0, 13°N±1°×8°1W±°, h1km±2km, M3.3, mb4.3, ML3.3, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.24**	**316**	P	Pg	18 53 48.5	+1.0
PRVC				S	Sg	18 53 53.1	+2.4
SAIC	**Isla e San And**	**0.83**	**218**	P	Pg	18 53 58.9	+0.1
SAIC				S	Sn	18 54 13.2	-1.4
RNCC	**Cayo Roncador,**	**1.13**	**71**	P	Pg	18 54 03.4	-1.1
RNCC				S	Sb	18 54 20.1	-0.3
SERC	**Banco Serrana,**	**1.34**	**36**	P	Pg	18 54 06.8	-1.8
SERC				S	Sg	18 54 26.3	+0.2
BCIP	**Isla Barro Col**	**4.22**	**162**	P	Pn	18 54 44.4	-3.9
BCIP				S	Sn	18 55 31.7	-6.6
JTS	**Las Juntas de**	**4.68**	**232**	P	Pn	18 54 54.1	-0.6
JTS				S	Sn	18 55 49.0	-0.8
GMAL	**Guarumal, Vera**	**5.40**	**180**	P	Pn	18 55 02.8	-1.8
	10.0nm,1.8s						
GMAL				S	Sn	18 56 01.0	-6.5
	10.0nm,1.8s						
AZU	**Azuero**	**5.45**	**170**	P	Pn	18 55 03.7	-1.5
	21nm,1.2s						
AZU				S	Sn	18 56 03.2	-5.4
	21nm,1.2s						
CACAO	**El Cacao, Vera**	**5.83**	**177**	P	Pn	18 55 09.8	-0.6
	34nm,0.8s						
CACAO				S	Sn	18 56 15.2	-2.7
	34nm,0.8s						
CAPC	**Capurgana**	**5.90**	**140**	P	Pn	18 55 09.1	-2.3
	51nm,1.4s						
CAPC				S	Sn	18 56 13.3	-6.4
	51nm,1.4s						
MTDJ	**Mount Denham**	**6.11**	**35**	P	Pn	18 55 15.1	+0.7
	32nm,1.4s						
LCBC	**Los crdobas,**	**6.41**	**132**	P	Pn	18 55 16.2	-2.2
LCBC				S	Sn	18 56 30.4	-1.8

IDC ***25*** *18:55:50.6±1.3, 2°.71S×119°.55E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=163.9km s-min=20.0km az=60.0*
DJA ***25*** *18:55:52.6±0.2, 3°S±2°×11°9E±°, h10km, M4.2/18, mb4.5/5, mB6.0/1, MLv4.1/18, Mw(mB)5.6/1*
ISC 25 18:55:52.0±0.8, 2°.99S±0°.04×119°.40E±0°.06, h10km, n22, σ1ˢ15/27, mb3.8/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.43**	**98**	P	**Pg**	**18 55 59.8**	**-0.6**
TTSI				S	**Sg**	**18 56 06.9**	**+0.8**
SPSI	**Sidrap Palu**	**1.04**	**159**	P	**Pg**	**18 56 11.1**	**-1.0**
SPSI				S	**Sb**	**18 56 26.5**	**+0.6**
BNSI	**Bone**	**1.57**	**153**	P	**Pb**	**18 56 21.3**	**0.0**
PCI	**Palu**	**2.11**	**12**	P	**Pn**	**18 56 27.7**	**+0.2**
PCI				S	**Sn**	**18 56 55.3**	**+1.5**
BKSI	**Bulukumba**	**2.43**	**163**	P	**Pn**	**18 56 32.8**	**+0.9**
BKSI				S	**Sn**	**18 57 02.2**	**+0.5**
BKB	**Balikpapan**	**3.03**	**304**	P	**Pn**	**18 56 41.6**	**+1.5**
BSSI	**Bau Bau, Buton**	**3.32**	**161**	P	**Pn**	**18 56 45.1**	**+1.0**
SMKI	**Samarinda**	**3.34**	**319**	P	**Pn**	**18 56 46.6**	**+2.3**
KDI	**Kendari**	**3.36**	**107**	P	**Pn**	**18 56 45.8**	**+1.2**
LUWI	**Luwuk**	**3.89**	**60**	P	**Pn**	**18 56 51.8**	**-0.1**
BBSI	**Bau Bau**	**4.03**	**128**	P	**Pn**	**18 56 53.7**	**-0.1**

IKRK AML AML 19 04 49.5
comp=N,298nm,0.1s
IKRK AML AML 19 04 51.1
comp=E,224nm,0.4s
SNQR Sonqor, Kerman 1.83 69 Pn **Pb 19 04 28.6 +0.1**
RAFI Al-Rafai 2.55 169 *e*Pn **Pn 19 04 37.0 +0.9**
RAFI *e*Sn **Sb 19 05 10.0 -1.8**

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*GUC **25** 19:09:32.7±0.7, 30°.67S×71°.73W, h32km±2km, ML3.7*
*SJA **25** 19:09:32.1±0.7, 30°.64S×71°.67W, h13km, ML3.3, MW3.4*
ISC 25 19:09:26.3±1.4**, 30.79S**±0.03**×72.06W**±0.05**, h9**km±10km**,**
n53, σ1º59/89**, 1C-4D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.39**	**73**	⇓*i*P	**Pn**	**19 09 37.5**	**-0.6**
CO06				*i* S	**Sg**	**19 09 40.8**	**+1.8**
CO06				IAML		19 09 41.6	
	comp=E,17μm,0.3s						
CO05	**La Serena**	**1.12**	**40**	⇓*i*P	**Pn**	**19 09 48.2**	**0.0**
CO05				*i* S	**Sb**	**19 09 59.4**	**-3.2**
CO03	**El Pedregal**	**1.18**	**93**	⇓*i*P	**Pb**	**19 09 49.1**	**+0.2**
CO03				*i* S	**Sb**	**19 10 01.3**	**-3.2**
CO03	**El Pedregal**	**1.18**	**93**	*e*P	**Pn**	**19 09 48.5**	**-0.6**
CO03				*e*S	**Sb**	**19 10 01.6**	**-2.8**
CO03				IAML		19 10 02.1	
	comp=Z,731nm,0.6s						
GO04	**Tololo Observa**	**1.25**	**61**	⇓*i*P	**Pn**	**19 09 49.9**	**-0.3**
GO04				*i* S	**Sb**	**19 10 03.2**	**-3.4**
GO04				IAML		19 10 06.1	
	comp=N,6μm,0.4s						
GO04	**Tololo Observa**	**1.25**	**61**	*e*P	**Pn**	**19 09 50.0**	**-0.3**
CO04	**Los Peladeros**	**1.56**	**144**	*i* P	**Pg**	**19 09 58.5**	**+2.3**
CO04				*i* S	**Sg**	**19 10 18.3**	**+1.8**
VA06	**Catapilco**	**1.88**	**160**	*e*P	**Pg**	**19 10 03.6**	**+1.2**
VA06				*e*S	**Sg**	**19 10 26.9**	**0.0**
VA06				IAML		19 10 35.1	
	comp=E,1μm,0.5s						
CO01	**Juntas del Tor**	**1.89**	**65**	⇑*i*P	**Pb**	**19 10 00.2**	**-0.8**
CO01	**Juntas del Tor**	**1.89**	**65**	*e*P	**Pn**	**19 09 59.6**	**+0.7**
CO01				*e*S	**Sn**	**19 10 21.7**	**-1.2**
CO01				IAML		19 10 26.8	
	comp=Z,214nm,0.5s						
LCO	**Las Campanas**	**2.13**	**34**	*e*P	**Pn**	**19 10 03.1**	**+0.9**
LCO				*e*S	**Sn**	**19 10 27.2**	**-1.8**
LCO	**Las Campanas**	**2.13**	**34**	*e*P	**Pn**	**19 10 03.6**	**+1.3**
LCO				*e*S	**Sn**	**19 10 30.6**	**+1.6**
LCO				IAML		19 10 34.3	
	comp=Z,955nm,0.3s						
AROD	**Rodeo**	**2.32**	**75**	*e*P	**Pb**	**19 10 08.8**	**+0.2**
AROD				*e*S	**Sb**	**19 10 35.9**	**-1.5**
VA03	**San Esteban**	**2.35**	**147**	*e*P	**Pg**	**19 10 10.8**	**-0.6**
VA03				*e*S	**Sb**	**19 10 39.1**	**+1.0**
VA03				IAML		19 10 49.1	
	comp=E,414nm,0.4s						
VA03	**San Esteban**	**2.35**	**147**	*e*P	**Pg**	**19 10 11.3**	**-0.1**
VA03				IAML		19 10 51.7	
	comp=Z,239nm,0.7s						
DOCA	**Reserva Natura**	**2.57**	**94**	*e*P	**Pb**	**19 10 12.8**	**0.0**
DOCA				*e*S	**Sn**	**19 10 40.5**	**+0.6**
RTLS	**Leoncito**	**2.57**	**114**	*e*P	**Pb**	**19 10 13.8**	**+1.1**
RTLS				*e*S	**Sn**	**19 10 41.3**	**+1.4**
MT02	**Curacav**	**2.58**	**163**	*e*P	**Pg**	**19 10 15.2**	**-0.6**
MT02				*e*S	**Sg**	**19 10 47.3**	**-2.1**
MT02	**Curacav**	**2.58**	**163**	*e*P	**Pg**	**19 10 15.3**	**-0.6**
MT02				IAML		19 10 56.7	
	comp=Z,102nm,0.5s						
ACCO	**Cerro Coronel**	**2.59**	**86**	*e*P	**Pb**	**19 10 13.2**	**+0.1**
ACCO				*e*S	**Sn**	**19 10 40.7**	**+0.2**
ACDV	**Cuesta del Vie**	**2.62**	**77**	*e*P	**Pb**	**19 10 15.1**	**+1.7**
ACDV				IAML		19 10 51.1	
	comp=Z,132nm,0.7s						
PEL	**Peldehue**	**2.62**	**154**	*e*S	**Sb**	**19 10 45.6**	**-0.2**
PEL				IAML		19 10 58.2	
	comp=E,249nm,0.5s						
PEL	**Peldehue**	**2.62**	**154**	*e*P	**Pg**	**19 10 16.9**	**+0.3**
AC04	**Llanos de Chal**	**2.72**	**19**	*e*P	**Pn**	**19 10 10.5**	**+0.4**
AC04				*e*S	**Sn**	**19 10 40.1**	**-2.9**
AC04	**Llanos de Chal**	**2.72**	**19**	*e*P	**Pn**	**19 10 11.9**	**+1.8**
AC04				IAML		19 10 53.9	
	comp=Z,98nm,0.6s						
MT10	**Hacienda Santa**	**2.79**	**153**	*e*P	**Pb**	**19 10 16.7**	**+0.2**
MT10				*e*S	**Sb**	**19 10 51.5**	**+0.7**
MT05	**Renca**	**2.83**	**157**	*e*P	**Pb**	**19 10 17.5**	**+0.5**
MT05				IAML		19 11 09.6	
	comp=E,381nm,0.3s						
MT05	**Renca**	**2.83**	**157**	*e*P	**Pg**	**19 10 20.3**	**-0.2**
MT05				IAML		19 11 03.4	
	comp=Z,170nm,0.5s						
MT14	**Cerro Calı¡n**	**2.90**	**154**	*e*P	**Pb**	**19 10 18.4**	**+0.2**
MT14				*e*S	**Sb**	**19 10 54.2**	**+0.3**
MT14				IAML		19 11 04.2	
	comp=E,474nm,0.5s						
MT16	**CCHEN**	**2.94**	**154**	*e*P	**Pb**	**19 10 18.4**	**-0.4**
MT16				*e*S	**Sg**	**19 10 59.2**	**-1.5**
MT16				IAML		19 11 06.1	
	comp=N,188nm,0.6s						
FCH	**Farellones**	**2.94**	**150**	*e*S	**Sb**	**19 10 55.8**	**+0.5**
FCH				IAML		19 11 06.4	
	comp=N,103nm,0.3s						
ZON	**Zonda**	**3.00**	**105**	*e*P	**Pb**	**19 10 20.0**	**+0.2**
ZON				IAML		19 11 06.4	
	comp=Z,91nm,0.6s						
MT03	**Universidad Ad**	**3.00**	**154**	*e*P	**Pb**	**19 10 20.2**	**+0.3**
MT03				*e*S	**Sb**	**19 10 56.8**	**+0.1**
MT03				IAML		19 11 07.8	
	comp=E,336nm,0.3s						
MT03	**Universidad Ad**	**3.00**	**154**	*e*P	**Pb**	**19 10 21.2**	**+1.3**
MT03				*e*S	**Sg**	**19 11 00.2**	**-2.5**
MT03				IAML		19 11 09.7	
	comp=Z,160nm,0.7s						
MT04	**Ro Olivares**	**3.08**	**148**	*e*P	**Pb**	**19 10 20.1**	**-1.3**
MT04				*e*S	**Sb**	**19 11 00.1**	**+1.0**
MT04				IAML		19 11 10.2	
	comp=E,122nm,0.4s						
MT04	**Ro Olivares**	**3.08**	**148**	*e*P	**Pb**	**19 10 22.8**	**+1.4**
MT04				IAML		19 11 11.4	
	comp=Z,92nm,0.8s						
MT15	**Las Vizcachas**	**3.10**	**155**	*e*P	**Pb**	**19 10 21.5**	**0.0**
MT15				*e*S	**Sb**	**19 10 57.7**	**-1.8**
MT09	**Talagante**	**3.11**	**163**	*e*P	**Pb**	**19 10 21.5**	**-0.4**
MT09				*e*S	**Sb**	**19 11 00.6**	**+0.5**
MT09				IAML		19 11 15.4	
	comp=N,157nm,0.2s						
RTLL	**Cerro Villicun**	**3.13**	**101**	*e*P	**Pb**	**19 10 20.2**	**-1.9**
RTLL				*e*S	**Sb**	**19 10 58.7**	**-1.6**
MT01	**Popeta**	**3.14**	**168**	*e*P	**Pb**	**19 10 21.6**	**-0.7**
MT01				*e*S	**Sb**	**19 11 01.2**	**+0.5**
MT01	**Popeta**	**3.14**	**168**	*e*P	**Pb**	**19 10 23.7**	**+1.4**
MT01				IAML		19 11 15.4	
	comp=Z,67nm,0.5s						
MT08	**Bocatoma Ro**	**3.17**	**147**	*e*P	**Pb**	**19 10 22.8**	**-0.1**
MT08				*e*S	**Sb**	**19 11 01.6**	**0.0**
MT08				IAML		19 11 11.7	
	comp=E,155nm,0.6s						
MT08	**Bocatoma Ro**	**3.17**	**147**	*e*P	**Pb**	**19 10 23.9**	**+1.1**
MT08				IAML		19 11 21.0	
	comp=Z,70nm,0.8s						
MT12	**Pirque**	**3.20**	**157**	*e*P	**Pb**	**19 10 22.2**	**-1.1**
MT12				*e*S	**Sb**	**19 11 00.9**	**-1.6**
MT12				IAML		19 11 22.1	
	comp=N,270nm,0.4s						
ASAL	**Salagasta**	**3.29**	**124**	*e*P	**Pb**	**19 10 25.2**	**+0.4**
ASAL				*e*S	**Sb**	**19 11 03.1**	**-1.8**
MT13	**San Alfonso**	**3.31**	**153**	*e*P	**Pb**	**19 10 24.0**	**-1.2**
MT13				IAML		19 11 19.3	
	comp=E,171nm,0.3s						
MT13	**San Alfonso**	**3.31**	**153**	*e*P	**Pb**	**19 10 23.4**	**-1.9**
MT13				*e*P	**Pg**	**19 10 25.9**	**-3.8**
MT13				IAML		19 11 20.2	
	comp=Z,107nm,0.5s						
ARCO	**CERRO ARCO**	**3.36**	**128**	*e*P	**Pb**	**19 10 27.0**	**+0.9**
ARCO				IAML		19 11 17.5	
	comp=Z,64nm,1.0s						
BO04	**La Punta**	**3.42**	**159**	*e*P	**Pb**	**19 10 26.1**	**-0.9**
BO04				*e*S	**Sb**	**19 11 07.1**	**-1.6**
BO04				IAML		19 11 24.6	
	comp=N,110nm,0.2s						
LMEL	**Las Melosas**	**3.43**	**153**	*e*P	**Pb**	**19 10 25.8**	**-1.5**
LMEL				*e*S	**Sb**	**19 11 06.6**	**-2.6**
LMEL				IAML		19 11 24.0	
	comp=N,123nm,0.4s						
GO03	**Copiapo**	**3.56**	**27**	*e*P	**Pn**	**19 10 23.4**	**+1.5**
GO03				*e*S	**Sb**	**19 11 14.7**	**+1.7**
ACLC	**CERRO LA CRUZ**	**4.63**	**74**	*e*P	**Pn**	**19 10 40.3**	**+3.6**
ACLC				*e*S	**Sn**	**19 11 36.4**	**+5.8**
ACLC				IAML		19 11 43.6	
	comp=Z,59nm,0.4s						
AC01	**Pan de Azucar**	**4.80**	**16**	*e*P	**Pn**	**19 10 39.2**	**+0.5**
AC01				*e*S	**Sb**	**19 11 49.0**	**+0.4**
AC01				IAML		19 12 21.1	
	comp=Z,29nm,3.9s						

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*ISN **25** 19:10:43.6±0.8, 34°.40N×45°.60E, h10km±38km, ML3.2*
*TEH **25** 19:10:44.3, 34°.38N×45°.66E, h10km±151km, ML2.9*
ISC 25 19:10:44.2±1.1**, 34.39N**±0.04**×45.63E**±0.04**, h14**km±11km**,**
n9, σ0º52/13**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.12**	**345**	Pg	**Pg**	**19 10 47.3**	**-0.4**
KGS1				Sg	**Sb**	**19 10 50.7**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.36**	**140**	Pg	**Pg**	**19 10 51.2**	**-0.4**
IDHR	**Dehrash**	**0.70**	**64**	Pg	**Pg**	**19 10 57.4**	**-0.5**
IGHG	**Ghaleghazi**	**0.77**	**94**	Pg	**Pg**	**19 10 59.4**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.18**	**95**	Pg	**Pb**	**19 11 06.6**	**+0.2**
ILIN	**Lien**	**1.22**	**64**	Pg	**Pg**	**19 11 07.5**	**-0.2**
IBDR	**Badra**	**1.30**	**169**	*e*Pg	**Pg**	**19 11 09.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**19 11 27.0**	**+0.7**
IKRK	**Kirkuk**	**1.46**	**314**	*e*Pn	**Pg**	**19 11 12.0**	**-0.2**
IKRK				*e*Sn	**Sg**	**19 11 32.0**	**+0.8**
IKRK				AML	AML	19 11 35.3	
	comp=E,593nm,0.5s						
IKRK				AML	AML	19 11 36.0	
	comp=N,294nm,0.8s						
BHD	**Baghdad**	**1.53**	**223**	*e*Pn	**Pb**	**19 11 12.0**	**-0.3**
BHD				*e*Sn	**Sg**	**19 11 34.0**	**+0.6**

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*ISN **25** 19:12:36.3±0.4, 34°.25N×45°.49E, h10km±11km, ML2.6*
*TEH **25** 19:12:36.1, 34°.24N×45°.62E, h10km±153km, ML2.8*
ISC 25 19:12:36.7±1.1**, 34.29N**±0.06**×45.64E**±0.05**, h13**km±10km**,**
n9, σ0º76/13**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.22**	**349**	Pg	**Pb**	**19 12 41.7**	**-0.8**
KGS1				Sg	**Sg**	**19 12 46.3**	**+1.6**
GLG1	**Gilan-e-Gharb**	**0.29**	**128**	Pg	**Pg**	**19 12 41.8**	**-0.9**
IDHR	**Dehrash**	**0.74**	**56**	Pg	**Pb**	**19 12 51.1**	**-0.4**
IGHG	**Ghaleghazi**	**0.77**	**87**	Pg	**Pb**	**19 12 52.1**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.16**	**90**	Pg	**Pn**	**19 12 58.6**	**-0.1**
IBDR	**Badra**	**1.20**	**168**	*e*Pg	**Pn**	**19 12 59.0**	**-0.1**
IBDR				*e*Sg	**Sn**	**19 13 16.0**	**+0.7**
ILIN	**Lien**	**1.26**	**60**	Pg	**Pb**	**19 13 01.0**	**+0.6**
BHD	**Baghdad**	**1.46**	**226**	*e*Pn	**Pn**	**19 13 03.0**	**+0.3**
BHD				*e*Sn	**Sn**	**19 13 22.0**	**+0.3**
IKRK	**Kirkuk**	**1.54**	**316**	*e*Pn	**Pb**	**19 13 05.0**	**0.0**
IKRK				*e*Sn	**Sg**	**19 13 26.0**	**-0.2**
IKRK				AML	AML	19 13 29.5	
	comp=N,148nm,0.3s						
IKRK				AML	AML	19 13 31.8	
	comp=E,72nm,0.3s						

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*ISN **25** 19:20:41.8±1.2, 34°.21N×45°.53E, h24km±10km, ML2.5*
*TEH **25** 19:20:41.0, 34°.20N×45°.52E, h10km±116km, ML2.6*
ISC 25 19:20:41.1±0.9**, 34.21N**±0.04**×45.54E**±0.04**, h10**km**, n9,**
σ0º42/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.30**	**8**	Pg	**Pg**	**19 20 47.2**	**+0.1**
KGS1				Sg	**Sb**	**19 20 52.8**	**-0.8**
GLG1	**Gilan-e-Gharb**	**0.32**	**107**	Pg	**Pb**	**19 20 48.5**	**-0.4**
IDHR	**Dehrash**	**0.85**	**55**	Pg	**Pg**	**19 20 57.5**	**-0.1**
IGHG	**Ghaleghazi**	**0.86**	**82**	Pg	**Pb**	**19 20 58.5**	**+0.3**
IBDR	**Badra**	**1.14**	**163**	*e*Pg	**Pn**	**19 21 03.0**	**-0.1**
IBDR				*e*Sg	**Sg**	**19 21 18.0**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.25**	**86**	Pg	**Pn**	**19 21 04.9**	**+0.2**
BHD	**Baghdad**	**1.34**	**226**	*e*Pg	**Pb**	**19 21 06.0**	**-0.3**
BHD				*e*Sn	**Sg**	**19 21 25.0**	**+0.7**
ILIN	**Lien**	**1.37**	**58**	Pg	**Pg**	**19 21 07.7**	**+0.3**
IKRK	**Kirkuk**	**1.55**	**321**	*e*Pn	**Pn**	**19 21 09.0**	**+0.3**
IKRK				*e*Sn	**Sg**	**19 21 31.0**	**+0.1**
IKRK				AML	AML	19 21 35.9	
	comp=N,81nm,0.2s						
IKRK				AML	AML	19 21 36.4	
	comp=E,60nm,0.5s						

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*JMA **25** 19:28:07.8±0.1, 24°.1N×122°.3E±0°.4, h38km±3km,*
MV3.3/15, TAIWAN REGION
*ASIES **25** 19:28:07.9, 24°.22N×122°.25E, h33km, ML3.7, Mw3.9,*
Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm;
M_{rr}2.01; $M_{\theta\theta}$-4.84; $M_{\phi\phi}$2.83; $M_{r\theta}$-8.21; $M_{\theta\phi}$-2.12; $M_{\phi r}$3.10;
Fault plane solution: $M_0$9.96474×10^{21} NP1:
ϕ_s290.11000°, δ82.98000°, λ114.18000°. NP2:
ϕ_s35.33000°, δ25.12000°, λ16.73000°. Principal axes: T
Plg46.6050°, Azm225.0410°; N Plg23.9880°,
Azm106.9650°; P Plg33.6290°, Azm359.7490°;
*TAP **25** 19:28:07.9, 24°.22N×122°.25E, h33km, ML3.7, B*
ISC 25 19:28:08.0±1.0**, 24.19N**±0.02**×122.26E**±0.02**, h33**km±3km**,**
n170, σ1º02/325**, 12C-14D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.09**	**141**	*i* P	**Pb**	**19 28 13.3**	**+0.1**
EOS4				S	**Sb**	**19 28 17.4**	**+0.6**
EOS3	**EOS3**	**0.11**	**31**	⇑P	**Pb**	**19 28 13.5**	**-0.1**
EOS3				S	**Sb**	**19 28 17.7**	**+0.2**
EOS2	**EOS2**	**0.23**	**355**	⇓*i*P	**Pn**	**19 28 14.4**	**-0.1**
EOS2				S	**Sb**	**19 28 19.4**	**+0.1**
EHP	**Heping Village**	**0.48**	**284**	P	**Pn**	**19 28 18.5**	**-0.1**
EHP				*i* S	**Sn**	**19 28 26.2**	**+0.3**
EAHA	**Aohua**	**0.49**	**286**	⇑P	**Pb**	**19 28 17.9**	**-0.5**
EAHA				S	**Sn**	**19 28 26.0**	**0.0**
EWUT	**Wuta**	**0.50**	**300**	⇑P	**Pb**	**19 28 17.7**	**-0.9**
EWUT				*e*S	**Sb**	**19 28 25.1**	**-0.8**
ENA	**Nanau**	**0.52**	**297**	P	**Pb**	**19 28 18.1**	**-0.9**
ENA				*e*S	**Sb**	**19 28 25.4**	**-1.1**
ESAO	**Su ao**	**0.54**	**316**	*e*P	**Pb**	**19 28 18.0**	**-1.1**
ESAO				*e*S	**Sb**	**19 28 25.1**	**-1.7**
TWC	**Suao**	**0.56**	**318**	⇓*e*P	**Pb**	**19 28 18.3**	**-1.2**
TWC				*e*S	**Sb**	**19 28 25.0**	**-2.3**
ETL	**Fush Village**	**0.58**	**267**	⇓P	**Pb**	**19 28 19.8**	**0.0**
ETL				*i* S	**Sn**	**19 28 28.9**	**+0.7**
NACB	**Ninganchiao**	**0.60**	**268**	*e*P	**Pb**	**19 28 19.9**	**-0.3**
NACB				*e*S	**Sn**	**19 28 29.4**	**+0.6**
TWD	**Chiawan**	**0.61**	**260**	*i* P	**Pb**	**19 28 20.2**	**-0.2**
TWD				*e*S	**Sn**	**19 28 29.4**	**+0.3**
HWA	**Hwalien**	**0.63**	**250**	P	**Pb**	**19 28 21.2**	**+0.5**
HWA				*e*S	**Sn**	**19 28 31.3**	**+1.8**
NDS	**Dongshan**	**0.66**	**312**	P	**Pn**	**19 28 20.7**	**-0.2**
NDS				S	**Sn**	**19 28 30.1**	**-0.1**
JYNG	**Yonagunijimaku**	**0.68**	**68**	P	**Pn**	**19 28 21.2**	**0.0**
JYNG				*e*S	**Sb**	**19 28 30.1**	**-0.6**
TEYL	**Yanliau Villag**	**0.68**	**242**	P	**Pn**	**19 28 21.4**	**+0.2**
TEYL				*e*S	**Sn**	**19 28 31.5**	**+0.8**
ETLH	**Xiulin Townshi**	**0.71**	**271**	⇑P	**Pn**	**19 28 21.5**	**-0.2**
ETLH				*e*S	**Sn**	**19 28 32.5**	**+1.0**
EGS		**0.71**	**336**	P	**Pb**	**19 28 21.9**	**-0.1**
EGS				S	**Sb**	**19 28 30.8**	**-0.8**
ETM	**Tongmen**	**0.73**	**252**	P	**Pn**	**19 28 21.4**	**-0.6**
ETM				*i* S	**Sn**	**19 28 31.7**	**-0.3**
ILA	**Ilan**	**0.73**	**321**	⇑*i*P	**Pb**	**19 28 22.1**	**-0.3**
ILA				*e*S	**Sn**	**19 28 33.1**	**+1.1**
YOJ	**Yonaguni jima**	**0.74**	**69**	*e*P	**Pb**	**19 28 22.3**	**-0.2**
YOJ				*e*S	**Sn**	**19 28 31.8**	**-0.4**
YOJ	**Yonaguni jima**	**0.74**	**69**	⇑*i*P	**Pn**	**19 28 22.1**	**0.0**
YOJ				*i* S	**Sb**	**19 28 33.0**	**+0.7**
SHUL	**Shoufeng**	**0.75**	**238**	P	**Pn**	**19 28 21.6**	**-0.7**
SHUL				*i* S	**Sn**	**19 28 32.7**	**+0.2**
TWE	**Neicheng**	**0.75**	**315**	⇑P	**Pb**	**19 28 22.1**	**-0.5**
TWE				*e*S	**Sb**	**19 28 33.1**	**+0.5**
NTC	**Toucheng**	**0.77**	**330**	P	**Pb**	**19 28 22.6**	**-0.3**
NTC				*i* S	**Sb**	**19 28 33.2**	**+0.2**
ENTT	**Nioudou**	**0.77**	**305**	⇑P	**Pb**	**19 28 22.5**	**-0.5**
ENTT				S	**Sb**	**19 28 33.4**	**+0.2**
LXIB	**Xiulin Townshi**	**0.79**	**258**	P	**Pn**	**19 28 22.6**	**-0.3**
LXIB				S	**Sb**	**19 28 33.8**	**-0.1**
TEGC	**Jichi Village**	**0.81**	**234**	P	**Pn**	**19 28 23.1**	**+0.1**
TEGC				S	**Sb**	**19 28 34.9**	**+0.6**
FUSB	**Fushanzhiwuyua**	**0.83**	**313**	⇑P	**Pb**	**19 28 23.6**	**-0.4**
FUSB				*i* S	**Sb**	**19 28 35.2**	**+0.3**
NNSB	**Datong**	**0.83**	**287**	*i* P	**Pn**	**19 28 23.5**	**0.0**
NNSB				S	**Sb**	**19 28 35.2**	**+0.2**
NNSH	**Datong**	**0.83**	**287**	P	**Pb**	**19 28 23.6**	**-0.4**
NNSH				S	**Sb**	**19 28 35.1**	**+0.1**
ESL	**Shilin**	**0.84**	**244**	P	**Pn**	**19 28 22.8**	**-0.6**
ESL				*e*S	**Sb**	**19 28 35.6**	**+0.4**
NNS	**Nan Shan**	**0.84**	**287**	P	**Pb**	**19 28 23.9**	**-0.4**
NNS				S	**Sb**	**19 28 35.3**	**-0.1**
TWB1	**Santiao Chiao**	**0.85**	**343**	*i* P	**Pn**	**19 28 23.4**	**-0.2**
TWB1				S	**Sb**	**19 28 34.7**	**-0.7**
TIPB	**Shuangxi**	**0.87**	**333**	⇓P	**Pb**	**19 28 24.0**	**-0.7**
TIPB				*e*S	**Sb**	**19 28 35.1**	**-0.9**
NWLT	**Wulai**	**0.90**	**310**	⇑P	**Pb**	**19 28 24.9**	**-0.3**
NWLT				S	**Sb**	**19 28 36.8**	**-0.1**
WHF	**Hehuan Shan**	**0.91**	**267**	P	**Pn**	**19 28 24.7**	**-0.1**
WHF				*i* S	**Sb**	**19 28 37.3**	**-0.2**
EGFH	**Guangfu**	**0.92**	**236**	P	**Pn**	**19 28 24.2**	**-0.3**
EGFH				*e*S	**Sn**	**19 28 36.9**	**+0.3**
FUSS	**Fushou**	**0.93**	**274**	⇓*i*P	**Pn**	**19 28 25.1**	**+0.2**
FUSS				*i* S	**Sb**	**19 28 37.7**	**-0.1**
WARBT	**Fenglin Townsh**	**0.93**	**239**	⇓P	**Pn**	**19 28 24.1**	**-0.6**
WARBT				*e*S	**Sn**	**19 28 37.0**	**+0.2**
YHNB	**Yeheng**	**0.93**	**301**	⇓*e*P	**Pb**	**19 28 25.3**	**-0.4**
YHNB				*i* S	**Sb**	**19 28 37.5**	**-0.3**
NSK	**Sanguang**	**0.95**	**301**	⇑*i*P	**Pb**	**19 28 25.5**	**-0.5**
NSK				S	**Sb**	**19 28 37.9**	**-0.4**
SXI1	**Grass Mountain**	**0.96**	**339**	⇑P	**Pb**	**19 28 25.5**	**-0.8**
SXI1				S	**Sb**	**19 28 38.4**	**-0.3**
NWF	**Wu-fen Shan**	**0.97**	**334**	⇓P	**Pb**	**19 28 26.0**	**-0.5**
NWF				*e*S	**Sb**	**19 28 39.1**	**0.0**
WFSB	**Wu-fen Shan**	**0.97**	**334**	⇓*e*P	**Pb**	**19 28 25.9**	**-0.5**
WFSB				S	**Sb**	**19 28 38.7**	**-0.3**
TWT	**Tachien**	**0.99**	**274**	P	**Pb**	**19 28 26.4**	**-0.3**
TWT				S	**Sb**	**19 28 39.4**	**-0.1**
TWA	**Mucha**	**0.99**	**322**	*e*P	**Pn**	**19 28 23.7**	**-1.9**
TWA				*e*S	**Sn**	**19 28 37.9**	**-0.7**
OWD	**Renai**	**1.01**	**257**	⇓P	**Pn**	**19 28 25.9**	**-0.1**
OWD				*e*S	**Sn**	**19 28 39.5**	**+0.4**
HGSD	**Ruisui**	**1.03**	**228**	P	**Pn**	**19 28 25.1**	**-1.0**
HGSD				*e*S	**Sb**	**19 28 41.9**	**+1.3**
NHY	**Taipei**	**1.05**	**324**	*e*P	**Pb**	**19 28 28.5**	**+0.9**
NHY				*e*S	**Sb**	**19 28 42.5**	**+1.4**
WUSB	**Renai**	**1.06**	**259**	P	**Pn**	**19 28 26.8**	**+0.2**
WUSB				*e*S	**Sn**	**19 28 40.7**	**+0.5**
TAP	**Taipei**	**1.08**	**321**	*e*P	**Pb**	**19 28 29.1**	**+0.9**
TAP				*e*S	**Sb**	**19 28 43.4**	**+1.3**
EHYH	**Wanrong**	**1.08**	**230**	P	**Pn**	**19 28 26.5**	**+0.1**
EHYH				S	**Sn**	**19 28 41.0**	**+0.2**
EHY	**Hungye**	**1.09**	**232**	P	**Pn**	**19 28 26.7**	**-0.3**
EHY				*e*S	**Sn**	**19 28 40.3**	**-0.6**
VWDT	**VWDT**	**1.11**	**247**	*e*P	**Pn**	**19 28 27.5**	**+0.4**
VWDT				*e*S	**Sb**	**19 28 42.6**	**-0.2**
NFF	**Wufeng Townshi**	**1.12**	**293**	P	**Pb**	**19 28 28.2**	**-0.7**
NFF				*e*S	**Sb**	**19 28 42.8**	**-0.6**
ECBN	**Changbin**	**1.14**	**220**	*i* P	**Pn**	**19 28 27.3**	**-0.3**
ECBN				S	**Sn**	**19 28 41.2**	**-0.9**
KSHI	**Guanxi Townshi**	**1.14**	**301**	P	**Pb**	**19 28 29.1**	**-0.1**
NWRT	**Kuosheng**	**1.14**	**332**	*e*P	**Pb**	**19 28 29.8**	**+0.6**
NWRT				*e*S	**Sb**	**19 28 42.3**	**-1.5**
TWS1	**Kuangyinshan**	**1.18**	**320**	*e*P	**Pn**	**19 28 28.2**	**0.0**
TWS1				*i* S	**Sb**	**19 28 44.9**	**0.0**
YULB	**Yu-li**	**1.19**	**228**	*i* P	**Pn**	**19 28 27.8**	**-0.4**
YULB				S	**Sn**	**19 28 42.6**	**-0.6**
NTY	**Taoyuan**	**1.19**	**313**	*e*P	**Pb**	**19 28 29.0**	**-1.0**
NTY				*e*S	**Sb**	**19 28 46.9**	**+1.9**
NJD	**Zhudong**	**1.19**	**297**	*i* P	**Pb**	**19 28 29.7**	**-0.3**
NJD				*e*S	**Sb**	**19 28 47.1**	**+1.9**
WHP	**Taichung City**	**1.20**	**274**	P	**Pb**	**19 28 29.5**	**-0.7**
WHP				*e*S	**Sb**	**19 28 44.5**	**-0.9**
EYUL	**Yuli**	**1.20**	**226**	P	**Pn**	**19 28 28.5**	**0.0**
EYUL				*e*S	**Sn**	**19 28 44.4**	**+0.8**
TWF1	**Yuli**	**1.21**	**

STYH			S	Sn	19 28 57.7	+1.9
JIJ	**Ishigaki jima**	**1.73 84**	P	Pn	19 28 36.7	+1.0
JIJ			eS	Sn	19 28 57.9	+1.3
TPUB	**Ta-pu**	**1.73 240**	P	Pn	19 28 36.5	+0.7
TPUB			eS	Sb	19 29 00.2	-0.4
CHN4	**Tsaushan**	**1.74 242**	P	Pn	19 28 37.5	+1.7
CHN4			S	Sb	19 29 00.5	-0.2
WRL	**Guolierlin Hig**	**1.74 261**	eP	Pb	19 28 37.6	-1.7
WRL			eS	Sb	19 29 00.8	-0.1
TWGBT	**Beinan**	**1.74 218**	eP	Pn	19 28 35.0	-0.9
TWGBT			eS	Sn	19 28 55.3	-1.7
TWG	**Pinlang**	**1.75 219**	P	Pn	19 28 35.4	-0.6
TWG			eS	Sn	19 28 54.9	-2.1
CHN2	**Minshiung**	**1.76 248**	eS	Sb	19 29 01.9	+0.6
RLNB	**Erlin**	**1.76 261**	eP	Pb	19 28 37.9	-1.7
RLNB			eS	Sb	19 29 00.9	-0.4
WTP	**Ta-pu**	**1.77 238**	P	Pn	19 28 37.8	+1.4
WTP			S	Sb	19 29 01.3	-0.6
WTK	**Tuku**	**1.78 254**	P	Pn	19 28 38.0	+1.7
WTK			S	Sb	19 29 01.1	-0.8
CHY	**Chiayi**	**1.81 248**	P	Pb	19 28 39.1	-1.5
CHY			S	Sb	19 29 02.3	-0.6
WTCT	**Ta-ch'eng**	**1.83 260**	P	Pn	19 28 38.8	+1.7
WTCT			eS	Sb	19 29 02.5	-0.9
TWK	**Hsinying**	**1.86 241**	P	Pn	19 28 38.7	+1.1
TWK			eS	Sb	19 29 03.8	-0.6
CHN1	**Nanshi**	**1.87 238**	P	Pn	19 28 39.4	+1.7
CHN1			eS	Sb	19 29 04.3	-0.3
SNST	**Tainan City**	**1.88 239**	P	Pn	19 28 39.5	+1.7
SNST			S	Sb	19 29 03.7	-1.1
SGST	**Jiashian**	**1.89 235**	⇓P	Pn	19 28 39.3	+1.4
SGST			S	Sn	19 29 02.9	+2.3
JISG	**Ishigakijimahi**	**1.92 78**	P	Pn	19 28 38.9	+0.7
JISG			eS	Sn	19 29 02.0	+0.8
WSF	**Szhu**	**1.94 254**	P	Pn	19 28 40.3	+1.7
WSF			eS	Sb	19 29 05.2	-1.3
WSL	**Shuilin Townsh**	**1.97 251**	P	Pn	19 28 40.9	+1.8
WSL			eS	Sb	19 29 06.1	-1.3
ECL	**Taimali**	**1.99 217**	eP	Pn	19 28 38.8	-0.5
ECL			eS	Sn	19 29 01.8	-1.2
ICHU	**Yijhu**	**1.99 246**	P	Pn	19 28 40.7	+1.4
ICHU			S	Sb	19 29 05.7	-2.2
CHN8	**Yiju**	**2.05 246**	P	Pn	19 28 41.4	+1.2
CHN8			S	Sb	19 29 08.4	-1.3
CHN3	**Shinhua**	**2.06 238**	eP	Pn	19 28 42.4	+2.2
CHN3			eS	Sb	19 29 09.7	-0.2
SSD	**Sandimen**	**2.07 226**	eP	Pn	19 28 42.8	+2.4
SSD			eS	Sn	19 29 07.3	+2.2
SCST	**Cishan**	**2.08 232**	P	Pb	19 28 43.3	-1.7
SCST			S	Sb	19 29 10.3	0.0
TSMG	**Majia**	**2.09 225**	P	Pn	19 28 42.4	+1.7
TSMG			S	Sn	19 29 08.6	+2.9
TWM1	**Shoushan**	**2.17 231**	P	Pb	19 28 45.7	-0.8
TWM1			eS	Sb	19 29 15.3	+2.3
MASBT	**Mashibuluo**	**2.17 224**	eP	Pn	19 28 42.0	+0.3
MASBT			eS	Sn	19 29 09.6	+2.1
TSPT	**Pingtung City**	**2.21 227**	eP	Pb	19 28 46.7	-0.6
TSPT			eS	Sb	19 29 14.3	0.0
EAST	**Anshuo**	**2.22 216**	P	Pn	19 28 42.0	-0.5
TAWH	**Dawu Township**	**2.23 215**	eS	Sn	19 29 08.9	-0.1
LAY	**Lan-yu**	**2.24 197**	P	Pn	19 28 42.0	-0.8
LAY			eS	Sn	19 29 08.9	-0.3
TSCK	**Chigu Township**	**2.25 243**	P	Pn	19 28 44.5	+1.8
TSCK			eS	Sn	19 29 11.0	+1.6
LYUB	**Lan-yu**	**2.27 196**	P	Pn	19 28 42.1	-1.0
LYUB			eS	Sn	19 29 06.8	-3.1
JTJ	**Tarama**	**2.27 78**	eP	Pn	19 28 44.7	+1.5
SCZT	**Fangliau**	**2.35 220**	eP	Pn	19 28 47.0	+2.7
SCZT			eS	Sb	19 29 16.2	-2.2
SLIU	**Shizi**	**2.38 215**	P	Pn	19 28 44.5	-0.1
SLIU			eS	Sn	19 29 13.8	+1.1
WSSB	**Gushan**	**2.40 230**	P	Pn	19 28 47.5	+2.6
WSSB			eS	Sb	19 29 18.9	-0.7
PHUB	**P'eng-hu**	**2.55 255**	P	Pn	19 28 47.6	+0.7
PHUB			eS	Sn	19 29 17.9	+1.0
PNG	**Penghu**	**2.55 256**	P	Pn	19 28 47.6	+0.6
PNG			eS	Sn	19 29 17.7	+0.9
WDGT	**Dungji**	**2.55 249**	P	Pn	19 28 47.9	+0.8
WDGT			eS	Sn	19 29 18.2	+1.3
HEN	**Hengchun**	**2.59 213**	eP	Pn	19 28 49.9	+2.4
HEN			eS	Sn	19 29 19.3	+1.5
TWKBT	**Hengchun**	**2.61 211**	eP	Pn	19 28 48.2	+0.5
TWKBT			eS	Sn	19 29 18.9	+0.6
VWUC	**VWUC**	**2.67 288**	eP	Pn	19 28 48.2	-0.4
VWUC			eS	Sn	19 29 19.4	-0.6
JIRB	**Irabujima**	**2.73 76**	eP	Pn	19 28 51.1	+1.6
VCHM	**Qimei**	**2.77 250**	P	Pn	19 28 50.8	+0.8
VCHM			eS	Sn	19 29 23.5	+1.2
JIKM	**Ikemajima**	**2.82 74**	eP	Pn	19 28 52.5	+1.9
JMJ	**Miyako jima 2**	**2.84 77**	eP	Pn	19 28 53.7	+2.8
JMJ			eS	Sn	19 29 24.0	0.0
MATB	**Ma-tsu**	**2.86 313**	eP	Pn	19 28 50.8	-0.5
MATB			eS	Sn	19 29 24.6	+0.1
PTMZ	**Houxiangcun**	**2.98 287**	eP	Pn	19 28 52.6	-0.2
PTMZ			eS	Sn	19 29 26.2	-1.2
LYJJ	**Jianjiangzhen**	**3.26 317**	eP	Pn	19 28 56.8	+0.1
LYJJ			eS	Sn	19 29 35.0	+0.7
XPSS	**Dashiqiu**	**3.30 326**	eP	Pn	19 28 57.4	+0.1
XPSS			eS	Sn	19 29 35.9	+0.4
MHZQ	**Yeshan**	**3.49 304**	eP	Pn	19 28 59.6	-0.2
MHZQ			eS	Sn	19 29 39.7	-0.3
KNMB	**Chin-men Tao**	**3.54 275**	eP	Pn	19 29 00.2	-0.3
KNMB			eS	Sn	19 29 41.1	-0.2
AXDP	**Jialang**	**3.96 281**	eP	Pn	19 29 06.4	-0.1
AXDP			eS	Sn	19 29 50.5	-1.3
ZPLA	**Ao Xicun**	**4.13 267**	eP	Pn	19 29 11.6	+2.9
ZPLA			eS	Sn	19 29 57.6	+1.8
DSXP	**Dongshan**	**4.44 265**	eP	Pn	19 29 13.0	0.0
DSXP			eS	Sn	19 30 01.9	-1.7
SXFK	**Yanhouchang**	**4.72 299**	eP	Pn	19 29 16.1	-0.7
JOW	**Kunigami**	**6.04 63**	eP	Pn	19 29 35.1	+0.1
JOW			eS	Sn	19 30 41.4	-1.6

*TEH **25** 19:29:19.0, 34°.39N×45°.76E, h5km, ML3.1*
*ISN **25** 19:29:20.7±1.3, 34°.55N×45°.67E, h17km±8km, ML3.1*
ISC 25 19:29:19.7±1.0, 34°.45N±0°.03×45°.72E±0°.04, h13km±10km, n14, σ1§43/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.12**	**296**	Pg	**Pg**	19 29 22.7	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.38**	**155**	Pg	**Pg**	19 29 24.9	**-2.4**
IDHR	**Dehrash**	**0.61**	**66**	Pg	**Pg**	19 29 31.0	**-0.6**
ILBA	**Ilam Banvizeh**	**0.92**	**154**	Pg	**Pb**	19 29 36.8	**-0.8**
KCHF	**Cheshme Sefid,**	**1.11**	**99**	Pg	**Pn**	19 29 40.8	**-0.4**
ILIN	**Lien**	**1.13**	**65**	Pg	**Pg**	19 29 42.3	**+0.8**
IBDR	**Badra**	**1.35**	**172**	ePg	**Pg**	19 29 47.0	**+1.3**
IBDR				AML	AML	19 30 06.6	
	comp=E,210nm,0.3s						
IBDR				eSg	**Sg**	**19 30 07.0**	**+3.7**
IBDR				AML	AML	19 30 07.1	
	comp=N,232nm,0.6s						
IKRK	**Kirkuk**	**1.47**	**310**	ePn	**Pg**	19 29 47.0	**-1.1**
IKRK				eSn	**Sg**	**19 30 07.0**	**-0.2**
IKRK				AML	AML	19 30 10.5	
	comp=N,410nm,0.3s						
IKRK				AML	AML	19 30 10.7	
	comp=E,468nm,0.4s						
BHD	**Baghdad**	**1.62**	**224**	ePn	**Pb**	19 29 50.0	**+0.5**
BHD				eSn	**Sg**	**19 30 13.0**	**+1.1**
SNQR	**Sonqor, Kerman**	**1.63**	**75**	Pg	**Pb**	19 29 49.7	**0.0**
SDS1	**Sardasht. Az.**	**1.70**	**354**	Pg	**Pg**	19 29 52.6	**+0.1**
IDOB	**Doab**	**2.15**	**107**	Pn	**Pb**	19 29 57.9	**-0.7**
MAHB	**Mahabad**	**2.31**	**360**	Pn	**Pb**	19 30 01.5	**+0.2**
RAFI	**Al-Rafai**	**2.74**	**173**	ePn	**Pb**	19 30 07.0	**-1.6**
RAFI				eSn	**Sb**	**19 30 42.0**	**-0.1**

*ROM **25** 19:32:08.5±0.4, 39°.15N±0°.03×15°.36E±0°.05, h288km±3km, ML3.3/22, Error ellipse: s-maj=5.1km s-min=1.5km az=119.0*
*IDC **25** 19:32:12.7±6.8, 39°.41N×14°.91E, h293km±118km, mb3.3/3, mbtmp3.7/7, Error ellipse: s-maj=52.9km s-min=22.1km az=26.0*
ISC 25 19:32:10.1±0.8, 39°.21N±0°.08×15°.22E±0°.09, h275km±8km, n40, σ1§00/51, 1C-3D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IST3	**Stromboli F**	**0.41**	**179**	P	**Pn**	**19 32 46.4**	**+0.7**
CAR1	**CAROLEI**	**0.77**	**86**	⇓P	**Pn**	**19 32 46.9**	**+0.2**
CAR1				S	**S**	**19 33 14.3**	**-1.4**
CAR1				AML	AML		
	comp=E,347μm,1.1s						
CAR1				AML	AML		
	comp=N,340μm,0.9s						
CAR1				AML	AML		
	comp=E,320μm,0.5s						
CAR1				AML	AML		
	comp=N,284μm,0.7s						
CAR1				AML	AML		
	comp=E,320μm,1.5s						
JOPP	**Joppolo**	**0.79**	**139**	P	**Pn**	**19 32 46.8**	**-0.1**
JOPP				S	**S**	**19 33 14.8**	**-1.2**
SPS2	**Spezzano della**	**0.87**	**84**	P	**Pn**	**19 32 47.6**	**+0.5**
SPS2				S	**S**	**19 33 15.7**	**-0.8**
SPS2				AML	AML		
	comp=N,128μm,0.7s						
SPS2				AML	AML		
	comp=E,94μm,0.3s						
SPS2				AML	AML		
	comp=N,128μm,1.3s						
MSRU	**Castanea**	**0.97**	**166**	P	**Pn**	**19 32 47.4**	**-0.2**
MSRU				S	**S**	**19 33 16.8**	**-0.6**
TDS	**Terranova Siba**	**0.97**	**62**	P	**Pn**	**19 32 48.7**	**+1.2**
TDS				S	**S**	**19 33 18.1**	**+0.8**
GRI	**Girifalco**	**1.01**	**112**	P	**Pn**	**19 32 48.5**	**+0.6**
GRI				S	**S**	**19 33 17.4**	**-0.3**
MPNC	**Port Mandanici**	**1.06**	**174**	P	**Pn**	**19 32 47.8**	**-0.3**
MPNC				S	**S**	**19 33 18.9**	**+0.6**
MPNC				AML	AML		
	comp=E,344μm,0.4s						
MPNC				AML	AML		
	comp=N,366μm,1.6s						
MPNC				AML	AML		
	comp=E,344μm,1.6s						
MPNC				AML	AML		
	comp=N,366μm,0.4s						
CEL	**Celeste**	**1.08**	**151**	P	**Pn**	**19 32 48.1**	**-0.2**
SALB	**San Lorenzo Be**	**1.10**	**52**	P	**Pn**	**19 32 49.7**	**+1.3**
GMB	**Gambarie**	**1.14**	**155**	⇑P	**Pn**	**19 32 48.8**	**+0.1**
GMB				S	**S**	**19 33 18.5**	**-0.8**
NOV	**Novara**	**1.18**	**183**	P	**Pn**	**19 32 49.2**	**+0.4**
NOV				AML	AML		
	comp=N,910μm,1.1s						
NOV				AML	AML		
	comp=E,874μm,0.5s						
MUCR	**Ucria**	**1.19**	**193**	P	**Pn**	**19 32 49.0**	**0.0**
TIP	**Timpagrande**	**1.19**	**91**	⇓P	**Pn**	**19 32 49.7**	**+0.8**
TIP				S	**S**	**19 33 18.6**	**-1.0**
PLAC	**Placanica**	**1.21**	**128**	P	**Pn**	**19 32 49.3**	**+0.3**
PLAC				S	**S**	**19 33 18.8**	**-1.0**
AIO	**Antillo**	**1.23**	**180**	P	**Pn**	**19 32 49.6**	**+0.4**
AIO				AML	AML		
	comp=N,286μm,0.7s						
AIO				AML	AML		
	comp=E,246μm,1.5s						
MTTG	**Motta San Giov**	**1.26**	**163**	P	**Pn**	**19 32 49.4**	**+0.2**
PIPA	**Pietrapaola**	**1.27**	**77**	⇓P	**Pn**	**19 32 50.3**	**+1.1**
PIPA				S	**S**	**19 33 18.9**	**-1.3**
PIPA				AML	AML		
	comp=E,237μm,1.6s						
PIPA				AML	AML		
	comp=N,226μm,0.5s						
PIPA				AML	AML		
	comp=E,234μm,1.6s						
PIPA				AML	AML		
	comp=N,182μm,0.5s						
PIPA				AML	AML		
	comp=E,234μm,0.4s						
PIPA				AML	AML		
	comp=E,237μm,0.4s						
PIPA				AML	AML		
	comp=N,182μm,1.5s						
CDRU	**Civita di Ruta**	**1.28**	**3**	P	**Pn**	**19 32 50.8**	**+1.5**
EMSG	**Monte Spagnolo**	**1.40**	**189**	P	**Pn**	**19 32 52.5**	**+2.1**
EPZF	**Pizzo Felice**	**1.41**	**192**	P	**Pn**	**19 32 51.6**	**+1.2**
CSLB	**Castelbuono**	**1.56**	**216**	P	**Pn**	**19 32 51.3**	**0.0**
GALF	**Gagliano Caste**	**1.58**	**199**	P	**Pn**	**19 32 53.0**	**+1.5**
GALF				AML	AML		
	comp=E,103μm,0.4s						
GALF				AML	AML		
	comp=N,124μm,0.6s						
ESML	**S. M. di Licod**	**1.61**	**190**	P	**Pn**	**19 32 52.8**	**+1.2**
PETRA	**Petralia Sopra**	**1.62**	**213**	P	**Pn**	**19 32 52.5**	**+0.6**
PETRA				AML	AML		
	comp=E,196μm,1.5s						
PETRA				AML	AML		
	comp=N,254μm,0.4s						
PETRA				AML	AML		
	comp=E,196μm,0.5s						
RESU	**Resuttano**	**1.81**	**211**	P	**Pn**	**19 32 54.8**	**+1.6**
RESU				AML	AML		
	comp=N,120μm,1.6s						
RESU				AML	AML		
	comp=N,120μm,0.4s						
RESU				AML	AML		
	comp=E,128μm,1.6s						
MATE	**Matera**	**1.84**	**38**	P	**Pn**	**19 32 53.5**	**+0.3**
LTRZ	**Laterza**	**1.86**	**41**	P	**Pn**	**19 32 53.5**	**+0.1**
HAGA	**Augusta**	**1.92**	**182**	P	**Pn**	**19 32 53.8**	**-0.2**
AGST	**Augusta-Monte**	**1.95**	**180**	P	**Pn**	**19 32 53.9**	**-0.3**
SSY	**Sortino**	**2.05**	**183**	P	**Pn**	**19 32 55.3**	**+0.1**
TAR1	**Taranto**	**2.06**	**50**	P	**Pn**	**19 32 55.2**	**+0.2**
NOCI	**Noci**	**2.12**	**41**	P	**Pn**	**19 32 55.8**	**+0.2**
ESDC	**Sonseca Array**	**14.84**	**278**	P	**P**	**19 35 26.9**	**+0.2**
	comp=E,1.2nm,1.1s,baz=83,slow=11,SNR=1.8						
AKASG	**Malin Array Be**	**15.15**	**36**	P	**P**	**19 35 32.2**	**+2.4**
	comp=E,0.1nm,0.3s,baz=232,slow=11,SNR=2.9						
MMAI	**Mount Meron Ar**	**17.42**	**105**	P	**Pn**	**19 35 59.3**	**+1.4**
	comp=E,1.5nm,0.5s,baz=300,slow=9.8,SNR=2.8						
EKA	**Eskdalemuir Ar**	**20.29**	**329**	P	**P**	**19 36 23.3**	**-1.9**
	comp=E,0.7nm,0.3s,baz=136,slow=12,SNR=14						
HFS	**Hagfors**	**20.97**	**358**	P	**P**	**19 36 30.7**	**-1.5**
	comp=E,3.4nm,1.0s,baz=184,slow=9.8,SNR=6.1						
	comp=E,3.4nm,1.0s						
FINES	**FINESS Array B**	**23.25**	**13**	P	**P**	**19 36 53.5**	**+0.5**
	comp=E,2.0nm,0.4s,baz=186,slow=8.4,SNR=31						
	comp=E,2.0nm,0.4s						
ARCES	**ARCESS Array B**	**30.88**	**7**	P	**P**	**19 37 59.9**	**-0.9**
	comp=E,1.6nm,0.7s,baz=184,slow=9.9,SNR=4.0						
	comp=E,1.6nm,0.7s						

*ISN **25** 19:41:43.2±0.8, 34°.40N×45°.74E, h6km±58km, ML2.9*
*TEH **25** 19:41:44.7, 34°.41N×45°.72E, h10km±247km, ML2.9*
ISC 25 19:41:44.7±1.1, 34°.42N±0°.04×45°.74E±0°.05, h8km±12km, n8, σ1§09/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.15**	**306**	Pg	**Pg**	**19 41 48.1**	**+0.1**
KGS1				Sg	**Sg**	**19 41 51.1**	**+0.9**
GLG1	**Gilan-e-Gharb**	**0.33**	**155**	Pg	**Pb**	**19 41 51.5**	**-1.5**
IDHR	**Dehrash**	**0.61**	**62**	Pg	**Pb**	**19 41 56.7**	**-1.0**
IGHG	**Ghaleghazi**	**0.69**	**97**	Pg	**Pb**	**19 41 59.0**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.09**	**97**	Pg	**Pn**	**19 42 06.5**	**+0.1**
IBDR	**Badra**	**1.31**	**173**	ePg	**Pg**	**19 42 10.0**	**+0.1**
IBDR				eSg	**Sn**	**19 42 29.0**	**+2.0**
IKRK	**Kirkuk**	**1.51**	**311**	ePn	**Pg**	**19 42 13.0**	**-0.7**
IKRK				eSn	**Sg**	**19 42 34.0**	**+0.7**
IKRK				AML	AML	19 42 36.7	
	comp=E,260nm,0.4s						
IKRK				AML	AML	19 42 36.8	
	comp=N,140nm,0.5s						
BHD	**Baghdad**	**1.61**	**225**	ePn	**Pb**	**19 42 14.0**	**-0.6**
BHD				eSn	**Sg**	**19 42 36.0**	**-0.4**

SJA 25 19:42:55.1±0.7, 22°.60S×66°.28W, h276km±6km, ML3.5, MW3.5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.82**	**59**	eP	Pn	19 43 33.4	+0.7
YJA				eS	S	19 44 01.1	-1.2
PB09	**IPOC Station P**	**2.86**	**286**	eP	Pn	19 43 48.6	+0.6
PB09				eS	S	19 44 27.9	-2.2
PB09				IAML		19 44 31.0	
	comp=Z,58nm,0.3s						
PB01	**IPOC Station P**	**3.36**	**297**	eP	Pn	19 43 53.5	+0.3
PB01				eS	S	19 44 36.2	-3.2
PB01				IAML		19 44 37.0	
	comp=Z,61nm,0.2s						
FSA	**Cafayete**	**3.50**	**176**	eP	Pn	19 43 49.8	-5.0
PB04	**IPOC Station P**	**3.59**	**274**	eP	Pn	19 43 56.2	+0.5
PB04				eS	S	19 44 40.6	-3.4
PB04				IAML		19 44 41.5	
	comp=Z,86nm,0.2s						
GO02	**Mina Guanaco**	**3.96**	**229**	eP	Pn	19 43 59.8	-0.2
GO02				eS	S	19 44 48.8	-2.9
GO01	**Chusmiza**	**3.99**	**316**	eP	Pn	19 44 02.6	+2.0
GO01				eS	S	19 44 53.5	+0.8
HMBC	**Humberstone**	**4.08**	**304**	eP	Pn	19 44 01.5	+0.3
HMBC				eS	S	19 44 51.1	-2.9
HMBC				IAML		19 44 53.9	
	comp=Z,68nm,0.2s						
TA01	**Diego Aracena**	**4.16**	**298**	eP	Pn	19 44 01.9	-0.1
TA01				eS	S	19 44 51.8	-3.6
TA01				IAML		19 44 53.6	
	comp=Z,28nm,0.3s						
PB14	**IPOC Station P**	**4.29**	**241**	eP	Pn	19 44 03.5	-0.2
PB14				eS	S	19 44 53.6	-4.8
PB14				IAML		19 44 55.5	
	comp=Z,26nm,0.3s						
PB12	**IPOC Station P**	**5.49**	**316**	eP	Pn	19 44 17.6	-0.2
PB12				eS	S	19 45 20.5	-3.5
PB12				IAML		19 46 01.6	
	comp=Z,14nm,4.5s						

*ISN **25** 20:01:20.7±0.6, 34°.29N×45°.55E, h6km±14km, ML3.0*
*TEH **25** 20:01:21.7, 34°.29N×45°.59E, h10km±43km, ML2.6*
ISC 25 20:01:22.5±1.0, 34°.31N±0°.04×45°.57E±0°.04, h18km, n12, σ0§90/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.19**	**4**	Pg	**Pb**	**20 01 26.7**	**-0.6**
GLG1	**Gilan-e-Gharb**	**0.34**	**125**	Pg	**Pg**	**20 01 28.6**	**-1.2**
IDHR	**Dehrash**	**0.78**	**60**	Pg	**Pb**	**20 01 36.3**	**-1.3**
IGHG	**Ghaleghazi**	**0.82**	**88**	Pg	**Pb**	**20 01 38.0**	**-0.5**
IGHG				Sg	**Sg**	**20 01 49.9**	**+0.3**
ILBA	**Ilam Banvizeh**	**0.86**	**142**	Pg	**Pb**	**20 01 38.2**	**-0.8**
KCHF	**Cheshme Sefid,**	**1.22**	**91**	Pg	**Pb**	**20 01 44.9**	**-0.2**
IBDR	**Badra**	**1.23**	**166**	ePg	**Pg**	**20 01 46.0**	**-0.4**
IBDR				eSg	**Sg**	**20 02 04.0**	**+1.5**
ILIN	**Lien**	**1.29**	**62**	Pg	**Pb**	**20 01 46.4**	**-0.1**
BHD	**Baghdad**	**1.44**	**224**	ePn	**Pg**	**20 01 49.0**	**-1.2**
BHD				eSn	**Sg**	**20 02 09.0**	**0.0**
IKRK	**Kirkuk**	**1.49**	**317**	ePn	**Pb**	**20 01 50.0**	**+0.4**
IKRK				eSn	**Sg**	**20 02 11.0**	**+0.4**
IKRK				AML	AML	20 02 14.8	
	comp=E,255nm,0.5s						
IKRK				AML	AML	20 02 14.9	
	comp=N,197nm,0.4s						
SNQR	**Sonqor, Kerman**	**1.78**	**72**	Pg	**Pb**	**20 01 55.4**	**+0.6**
IDOB	**Doab**	**2.22**	**103**	Pn	**Pn**	**20 01 59.9**	**+1.2**

*MOS **25** 20:01:21.4±1.0, 43°.23N×147°.93E, h45km, mb4.5/1, Error ellipse: s-maj=25.6km s-min=12.2km az=133.5*
*JMA **25** 20:01:24.3±0.3, 43°N±1°×14°8E±°, h21km, MV3.9/31, E OFF HOKKAIDO*
*SKHL **25** 20:01:25.0±0.6, 43°.40N×147°.70E, h45km±8km, mb4.8/3*
*IDC **25** 20:01:27.8±9.7, 44°.94N×147°.30E, h0km, mb3.8/6, mbtmp3.8/7, ML3.2/1, Error ellipse: s-maj=219.8km s-min=32.3km az=148.0*
ISC 25 20:01:24.4±1.4, 43°.38N±0°.09×147°.7E±0°.1, h37km±2km, n38, σ1§02/50, mb3.8/6, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.81**	**308**	*i* P	**Pn**	**20 01 39.4**	**+0.1**
SHO				AMB	AMB	20 01 39.5	
	1μm,0.2s						
SHO				*i* S	**Sn**	**20 01 49.9**	**-0.3**
SHO				A	A	20 01 50.1	
	6μm,0.3s						
SHO				A	A	20 01 50.1	
	10μm,0.3s						
SHO	**Shikotan**	**0.81**	**308**	⇓*i* PN	**Pn**	**20 01 39.4**	**+0.1**
SHO				*i* S	**Sn**	**20 01 49.7**	**-0.5**
SHO				pmax	pmax		
	comp=Z,1μm,0.2s						
SHO				pmax	pmax		
	comp=E,476nm,0.1s						
SHO				smax	smax		
	comp=N,4μm,0.2s						
SHO				smax	smax		
	comp=E,9μm,0.2s						
NEM2	**Nemuro 2**	**1.44**	**270**	P	**Pn**	**20 01 47.6**	**-0.3**
NEM2				S	**Sn**	**20 02 05.2**	**-0.4**
NMR	**Nemuro--Hokkai**	**1.45**	**270**	*i* P	**Pn**	**20 01 48.1**	**0.0**
NMR				*i* S	**Sn**	**20 02 05.2**	**-0.7**
NMR	**Nemuro--Hokkai**	**1.45**	**270**	⇓*i* PN	**Pn**	**20 01 47.6**	**-0.5**
NMR				*i* S	**Sn**	**20 02 05.0**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**1.50**	**297**	*i* P	**Pn**	**20 01 48.7**	**0.0**
YUK				AMB	AMB	20 01 49.5	
	comp=E,600nm,0.2s						
YUK				*i* S	**Sn**	**20 02 05.9**	**-1.1**
YUK				A	A	20 02 07.2	
	comp=E,1μm,0.3s						
YUK				A	A	20 02 07.2	
	comp=E,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.50**	**297**	*d i* PN	**Pn**	**20 01 48.7**	**0.0**
YUK				*i* S	**Sn**	**20 02 06.1**	**-0.9**
YUK				pmax	pmax		
	comp=Z,709nm,0.2s						
YUK				pmax	pmax		
	comp=E,296nm,0.1s						
YUK				pmax	pmax		
	comp=N,174nm,0.2s						
YUK				smax	smax		
	comp=N,540nm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.2s						
KUR	**Kuril'sk**	**1.86**	**3**	eP	**Pn**	**20 01 54.0**	**+0.4**
KUR				AMB	AMB	20 01 54.7	
	comp=E,30nm,0.2s						
KUR				eS	**Sn**	**20 02 15.9**	**0.0**
KUR				A	A	20 02 17.2	
	comp=E,250nm,0.2s						
KUR				A	A	20 02 17.2	
	comp=E,250nm,0.2s						
KUR	**Kuril'sk**	**1.86**	**3**	ePN	**Pn**	**20 01 54.1**	**+0.4**
KUR				eS	**Sn**	**20 02 16.4**	**+0.5**
JKHN	**Kushirohamanak**	**1.89**	**262**	eP	**Pn**	**20 01 55.2**	**+1.1**
RUSJ	**Misakicho**	**1.94**	**293**	ePN	**Pn**	**20 01 55.3**	**+0.6**
RUSJ				eS	**Sn**	**20 02 18.3**	**+0.6**
JRA

comp=E,0.4nm,0.4s,baz=78,slow=9.6,SNR=4.5
comp=E,0.4nm,0.4s
KURK Kurchatov 46.08 304 P P 20 09 45.3 +0.9
KURBB Kurchatov Arra 46.17 304 P P 20 09 45.3 +0.2
comp=E,0.5nm,0.5s,baz=75,slow=8.4,SNR=4.6
comp=E,0.5nm,0.5s
FINES FINESS Array B 65.40 333 P P 20 12 02.1 -0.6
comp=E,1.5nm,0.8s,baz=35,slow=7.0,SNR=9.1
comp=E,1.5nm,0.8s
NB2 NORSAR Subarra 70.10 339 P P 20 12 32.2 -0.2
comp=Z,0.5nm,0.6s,baz=30,slow=6.5
NOA NORSAR Array B 70.10 339 P P 20 12 32.1 -0.2
comp=Z,0.6nm,0.6s,baz=31,slow=6.6,SNR=5.4
comp=Z,0.6nm,0.6s
HFS Hagfors 70.19 338 P P 20 12 32.5 -0.4
comp=Z,0.8nm,0.4s,baz=45,slow=6.5,SNR=6.0
comp=Z,0.8nm,0.4s
AKASG Malin Array Be 72.13 324 P P 20 12 44.1 -0.6
comp=Z,0.4nm,0.4s,baz=40,slow=6.8,SNR=5.3
comp=Z,0.4nm,0.4s

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*NEIC **25** 20:04:19.4±1.0,59°.42N±0°.04×152°.00W±0°.05,h57km±8km, Error ellipse: s-maj=6.3km s-min=3.6km az=168.0*
*AEIC **25** 20:04:20.0±1.0,59°.42N±0°.05×152°.01W±0°.05,h54km±7km, ML3.4,ML3.6/142(NEIC),Error ellipse: s-maj=6.9km s-min=3.3km az=170.0*
ISC 25 20:04:19.4±1.2,59°.40N±0°.04×151°.99W±0°.03,h57km±9km, n229,σ0$58/217,Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOM	**Homer**	**0.31**	**34**		**Pn**	**20 04 29.1**	**-0.2**
HOM				Sn	**Sn**	**20 04 36.7**	**+0.3**
HOM				IAML		20 04 37.2	
	comp=E,7μm,0.5s						
HOM	**Homer**	**0.31**	**34**	P	**Pn**	**20 04 29.1**	**-0.2**
	baz=219						
HOM				S	**Sn**	**20 04 36.7**	**+0.3**
	baz=219						
CNPM	**China Poot**	**0.40**	**71**	Pn	**Pn**	**20 04 29.8**	**-0.3**
CNPM				IAML		20 04 38.5	
	comp=E,4μm,0.4s						
CNPM				IAML		20 04 39.2	
	comp=N,3μm,0.3s						
CNPM	**China Poot**	**0.40**	**71**		**Sn**	**20 04 38.0**	**+0.1**
BRLK	**Bradley Lake**	**0.67**	**56**		**Pn**	**20 04 32.5**	**-0.6**
BRLK				IAML		20 04 44.2	
	comp=N,3μm,0.5s						
BRLK				IAML		20 04 44.6	
	comp=E,2μm,0.4s						
BRLK	**Bradley Lake**	**0.67**	**56**		**Sn**	**20 04 43.0**	**-0.1**
OPT	**Oil Point**	**0.68**	**292**		**Pn**	**20 04 33.0**	**-0.3**
P19K	**Oil Pt**	**0.68**	**292**		**Pn**	**20 04 33.0**	**-0.3**
P19K				Sn	**Sn**	**20 04 44.2**	**+0.8**
P19K	**Oil Pt**	**0.68**	**292**	P	**Pn**	**20 04 33.0**	**-0.3**
	baz=110						
P19K				S	**Sn**	**20 04 43.6**	**+0.2**
	baz=110						
AU22	**Augustine Moun**	**0.70**	**268**		**Pn**	**20 04 33.3**	**-0.1**
AU22					**Sn**	**20 04 43.9**	**+0.2**
BRSE	**Bradley Lake S**	**0.72**	**61**		**Pn**	**20 04 33.3**	**-0.5**
BRSE					**Sn**	**20 04 44.3**	**+0.1**
BRSE	**Bradley Lake S**	**0.72**	**61**	P	**Pn**	**20 04 33.3**	**-0.5**
	baz=244						
BRSE				S	**Sn**	**20 04 44.1**	**-0.1**
	baz=244						
AUL	**Augustine Lava**	**0.74**	**269**		**Pn**	**20 04 34.1**	**+0.1**
AUCH	**Augustine Cone**	**0.75**	**268**		**Sn**	**20 04 45.5**	**+0.6**
O20K	**Slope Mountain**	**0.76**	**335**		**Pn**	**20 04 33.8**	**-0.4**
O20K	**Slope Mountain**	**0.76**	**335**	P	**Pn**	**20 04 33.8**	**-0.4**
	baz=156						
ILS	**Iliamna Low So**	**0.79**	**316**		**Sn**	**20 04 44.7**	**-1.0**
Q20K	**Shuyak Island**	**0.82**	**195**	P	**Pn**	**20 04 34.9**	**0.0**
	baz=13						
SYI	**Shuyak Island**	**0.82**	**195**		**Pn**	**20 04 34.9**	**-0.1**
SYI				IAML		20 04 48.4	
	comp=E,2μm,0.4s						
SYI				IAML		20 04 49.0	
	comp=N,2μm,0.3s						
ILSW	**Iliamna Southw**	**0.83**	**315**		**Pn**	**20 04 33.5**	**-1.7**
ILSW	**Iliamna Southw**	**0.83**	**315**		**Sn**	**20 04 45.5**	**-1.3**
ILSW	**Iliamna Southw**	**0.83**	**315**	IAML		20 04 46.7	
	comp=N,1μm,0.5s						
ILSW				IAML		20 04 50.2	
	comp=E,1μm,0.5s						
Q19K	**Cape Douglas,**	**0.98**	**242**	Pn	**Pn**	**20 04 36.9**	**-0.1**
Q19K	**Cape Douglas,**	**0.98**	**242**		**Sn**	**20 04 50.2**	**+0.2**
Q19K	**Cape Douglas,**	**0.98**	**242**	IAML		20 04 51.0	
	comp=N,4μm,0.5s						
Q19K				IAML		20 04 51.6	
	comp=E,6μm,0.6s						
Q19K	**Cape Douglas,**	**0.98**	**242**	P	**Pn**	**20 04 36.9**	**-0.1**
	baz=58						
Q19K				S	**Sn**	**20 04 50.2**	**+0.2**
	baz=58						
Q19K				S	**Sn**	**20 04 50.2**	**+0.2**
	baz=58						
RDJH	**Redoubt Jeurge**	**1.27**	**341**		**Pn**	**20 04 40.4**	**-0.5**
SLKM	**Skilak Lake**	**1.42**	**38**		**Pn**	**20 04 43.2**	**+0.2**
SLKM					**Sn**	**20 05 02.0**	**+1.2**
O19K	**Port Alsworth**	**1.43**	**305**	Pn	**Pn**	**20 04 42.5**	**-0.5**
O19K	**Port Alsworth**	**1.43**	**305**	P	**Pn**	**20 04 42.4**	**-0.5**
	baz=123						
CAPN	**Captain Cook N**	**1.44**	**17**		**Pn**	**20 04 44.7**	**+1.6**
SEW	**Seward**	**1.47**	**60**		**Pn**	**20 04 42.9**	**-0.6**
SEW	**Seward**	**1.47**	**60**	P	**Pn**	**20 04 42.6**	**-0.9**
	baz=243						
O22K	**Cooper Landing**	**1.57**	**45**		**Pn**	**20 04 45.9**	**+0.9**
O22K	**Cooper Landing**	**1.57**	**45**	P	**Pn**	**20 04 45.7**	**+0.7**
	baz=228						
KAHG	**Katmai Hook Gl**	**1.61**	**237**		**Pn**	**20 04 45.7**	**+0.2**
KAHG					**Sn**	**20 05 06.0**	**+0.8**
KDAK	**Kodiak Island**	**1.65**	**191**	Pn	**Pn**	**20 04 45.8**	**-0.2**
KDAK				IAML		20 05 13.5	
	comp=E,771nm,0.3s						
KDAK				IAML		20 05 14.0	
	comp=E,751nm,0.4s						
P18K	**Big Mountain,**	**1.66**	**271**		**Pn**	**20 04 45.2**	**-1.0**
P18K	**Big Mountain,**	**1.66**	**271**	P	**Pn**	**20 04 45.2**	**-1.0**
	baz=88						
O18K	**Koktuh Hills**	**1.70**	**287**		**Pn**	**20 04 45.7**	**-1.0**
O18K				IAML		20 05 07.1	
	comp=E,384nm,0.3s						
O18K				IAML		20 05 11.2	
	comp=N,392nm,0.8s						
O18K	**Koktuh Hills**	**1.70**	**287**		**Sn**	**20 05 06.5**	**-0.9**
O18K	**Koktuh Hills**	**1.70**	**287**	P	**Pn**	**20 04 45.8**	**-1.0**
	baz=104						
Q18K	**Katmai Hardscr**	**1.73**	**246**	P	**Pn**	**20 04 45.5**	**-1.8**
	baz=62						
N20K	**Mount Spurr**	**1.81**	**357**	P	**Pn**	**20 04 48.1**	**-0.1**
	baz=177						
SPCR	**Spurr Chakacha**	**1.81**	**357**		**Pn**	**20 04 48.1**	**-0.1**
SPCP	**Crater Peak Br**	**1.88**	**358**		**Pn**	**20 04 49.4**	**+0.1**
N19K	**Bonanza Creek**	**1.89**	**320**		**Pn**	**20 04 49.0**	**-0.4**
N19K					**Sn**	**20 05 11.9**	**-0.2**
N19K	**Bonanza Creek**	**1.89**	**320**	IAML		20 05 16.4	
	comp=E,342nm,0.9s						
SPCG	**Spurr Cappa Gl**	**1.90**	**359**		**Pn**	**20 04 49.7**	**+0.2**
KAKN	**Katmai Knife C**	**1.94**	**237**		**Pn**	**20 04 50.1**	**0.0**
RC01	**Rabbit Creek A**	**2.03**	**33**		**Pn**	**20 04 51.8**	**+0.5**
RC01				IAML		20 05 21.6	
	comp=E,718nm,0.4s						
RC01				IAML		20 05 28.2	
	comp=N,514nm,0.5s						
RC01	**Rabbit Creek A**	**2.03**	**33**	P	**Pn**	**20 04 51.9**	**+0.6**
	baz=215						
ACHA	**Angle Creek He**	**2.11**	**237**	Pn	**Pn**	**20 04 52.6**	**+0.3**
SUA	**Susitna One**	**2.16**	**16**		**Pn**	**20 04 53.3**	**+0.2**
SUA				IAML		20 05 24.7	
	comp=N,569nm,0.6s						
SUA				IAML		20 05 26.1	
	comp=E,468nm,0.5s						
SUA	**Susitna One**	**2.16**	**16**	P	**Pn**	**20 04 53.4**	**+0.2**
	baz=198						
ANCK	**Angle Creek**	**2.19**	**238**		**Pn**	**20 04 53.5**	**+0.1**
R18K	**Karluk**	**2.25**	**216**		**Pn**	**20 04 54.3**	**+0.1**
R18K					**Sn**	**20 05 22.0**	**+1.3**
OHAK	**Old Harbor**	**2.29**	**198**	Pn	**Pn**	**20 04 54.2**	**-0.6**
OHAK				IAML		20 05 34.4	
	comp=N,496nm,0.7s						
OHAK				IAML		20 05 37.5	
	comp=E,350nm,0.6s						
OHAK	**Old Harbor**	**2.29**	**198**	P	**Pn**	**20 04 54.1**	**-0.6**
	baz=16						
OHAK	**Old Harbor**	**2.29**	**198**	P	**Pn**	**20 04 53.9**	**-0.8**
P17K	**Kvichak River**	**2.29**	**267**		**Pn**	**20 04 54.2**	**-0.5**
P17K	**Kvichak River**	**2.29**	**267**	P	**Pn**	**20 04 54.2**	**-0.5**
	baz=82						
CNTC	**Contact Creek**	**2.32**	**242**		**Pn**	**20 04 55.0**	**-0.3**
Q17K	**Contact Creek**	**2.33**	**242**	P	**Pn**	**20 04 55.0**	**-0.3**
	baz=58						
PWL	**Port Wells**	**2.34**	**50**	Pn	**Pn**	**20 04 55.1**	**-0.3**
PWL	**Port Wells**	**2.34**	**50**	P	**Pn**	**20 04 55.1**	**-0.3**
	baz=234						
N18K	**Kilae Creek**	**2.34**	**305**		**Pn**	**20 04 54.8**	**-0.7**
N18K					**Sn**	**20 05 22.0**	**-1.1**
SVW2	**Sparrevohn**	**2.47**	**315**		**Pn**	**20 04 56.3**	**-0.9**
SVW2	**Sparrevohn**	**2.47**	**315**	P	**Pn**	**20 04 56.4**	**-0.9**
Q16K	**King Salmon**	**2.52**	**255**		**Pn**	**20 04 57.8**	**-0.1**
M22K	**Willow**	**2.54**	**20**		**Sn**	**20 05 29.0**	**+1.3**
M22K	**Willow**	**2.54**	**20**	P	**Pn**	**20 04 58.5**	**+0.5**
	baz=203						
M20K	**Styx River**	**2.56**	**348**		**Pn**	**20 04 58.6**	**+0.1**
SKT	**Skwentna**	**2.60**	**5**	IAML		20 05 35.3	
	comp=N,182nm,0.4s						
SKT				IAML		20 05 37.8	
	comp=E,228nm,0.6s						
SKT	**Skwentna**	**2.60**	**5**	P	**Pn**	**20 04 59.6**	**+0.7**
	baz=186						
PMR	**Palmer**	**2.62**	**31**		**Pn**	**20 04 59.0**	**-0.2**
PMR				IAML		20 05 36.9	
	comp=E,269nm,0.6s						
PMR				IAML		20 05 37.1	
	comp=N,324nm,0.6s						
PMR	**Palmer**	**2.62**	**31**	P	**Pn**	**20 04 59.0**	**-0.2**
	baz=215						
PMR	**Palmer**	**2.62**	**31**	P	**Pn**	**20 04 58.7**	**-0.4**
O17K	**Koliganek Bris**	**2.63**	**280**		**Pn**	**20 04 58.8**	**-0.5**
O17K	**Koliganek Bris**	**2.63**	**280**	P	**Pn**	**20 04 58.6**	**-0.6**
	baz=96						
KNK	**Knik Glacier**	**2.67**	**39**		**Pn**	**20 05 00.1**	**+0.1**
KNK	**Knik Glacier**	**2.67**	**39**	P	**Pn**	**20 04 59.7**	**-0.3**
	baz=223						
M19K	**Big River Lodg**	**2.78**	**336**		**Pn**	**20 05 01.3**	**-0.1**
PLK2	**Peulik 2**	**2.80**	**236**		**Pn**	**20 05 02.0**	**+0.3**
M18K	**Stony River**	**2.83**	**319**		**Pn**	**20 05 01.5**	**-0.7**
M18K	**Stony River**	**2.83**	**319**	P	**Pn**	**20 05 01.5**	**-0.7**
	baz=136						
N17K	**Nushagak Hills**	**2.85**	**296**		**Pn**	**20 05 01.6**	**-0.8**
N17K	**Nushagak Hills**	**2.85**	**296**	IAML		20 05 48.2	
	comp=N,140nm,0.7s						
GLI	**Glacier Island**	**2.86**	**57**		**Pn**	**20 05 01.0**	**-1.5**
GLI	**Glacier Island**	**2.86**	**57**	IAML		20 05 46.3	
	comp=N,250nm,0.6s						
GLI				IAML		20 05 50.7	
	comp=E,366nm,0.6s						
GLI	**Glacier Island**	**2.86**	**57**	P	**Pn**	**20 05 01.0**	**-1.5**
	baz=242						
PLK4	**Peulik 4**	**2.90**	**234**		**Pn**	**20 05 03.7**	**+0.5**
PLK4				IAML		20 05 40.6	
	comp=N,336nm,0.7s						
PLK4				IAML		20 05 41.2	
	comp=E,298nm,0.6s						
PLK1	**Peulik 1**	**2.90**	**238**		**Pn**	**20 05 03.5**	**+0.5**
PLK5	**Peulik 5**	**2.91**	**243**		**Pn**	**20 05 03.6**	**+0.4**
HIN	**Hinchinbrook I**	**2.94**	**68**		**Pn**	**20 05 02.8**	**-0.8**
HIN	**Hinchinbrook I**	**2.94**	**68**	IAML		20 05 52.2	
	comp=N,255nm,0.7s						
HIN				IAML		20 05 53.3	
	comp=E,198nm,1.1s						
SML	**Sawmill**	**3.01**	**35**		**Pn**	**20 05 04.3**	**-0.4**
SML	**Sawmill**	**3.01**	**35**	IAML		20 05 56.6	
	comp=E,312nm,0.9s						
SML	**Sawmill**	**3.01**	**35**	P	**Pn**	**20 05 04.7**	**0.0**
	baz=219						
FID	**Port Fidalgo**	**3.08**	**61**		**Pn**	**20 05 03.6**	**-1.9**
FID				IAML		20 05 56.2	
	comp=N,311nm,0.6s						
FID				IAML		20 05 56.5	
	comp=E,266nm,0.6s						
SII	**Sitkinak Islan**	**3.08**	**203**	Pn	**Pn**	**20 05 05.1**	**-0.4**
SII	**Sitkinak Islan**	**3.08**	**203**	P	**Pn**	**20 05 05.3**	**-0.2**
P16K	**Nushagak River**	**3.11**	**266**		**Pn**	**20 05 06.2**	**+0.3**
O16K	**Kokwok River B**	**3.12**	**276**		**Pn**	**20 05 05.8**	**-0.3**
L19K	**White Mountain**	**3.13**	**335**		**Pn**	**20 05 06.2**	**0.0**
L20K	**Farewell, AK**	**3.23**	**344**	P	**Pn**	**20 05 07.6**	**+0.1**
	baz=163						
EYAK	**Cordova Ski Ar**	**3.34**	**67**	P	**Pn**	**20 05 08.9**	**-0.2**
	baz=253						
EYAK	**Cordova Ski Ar**	**3.34**	**67**	P	**Pn**	**20 05 08.9**	**-0.2**
SCM	**Sheep Creek Mo**	**3.35**	**41**	P	**Pn**	**20 05 09.6**	**+0.2**
	baz=226						
M17K	**Holitna River**	**3.37**	**309**	P	**Pn**	**20 05 09.2**	**-0.3**
	baz=124						
R16K	**Pilot Point**	**3.46**	**240**	Pn	**Pn**	**20 05 11.4**	**+0.7**
R16K				IAML		20 06 28.6	
	comp=E,222nm,1.1s						
R16K				IAML		20 06 39.4	
	comp=N,163nm,1.1s						
PPLA	**Purkeypile**	**3.51**	**358**	P	**Pn**	**20 05 12.2**	**+0.6**
	baz=179						
DIV	**Divide**	**3.55**	**58**		**Pn**	**20 05 11.1**	**-0.9**
N16K	**Nishlik Lake**	**3.58**	**290**	P	**Pn**	**20 05 12.0**	**-0.4**
	baz=104						
L18K	**Granite Mounta**	**3.65**	**323**		**Pn**	**20 05 12.8**	**-0.5**
L18K	**Granite Mounta**	**3.65**	**323**	IAML		20 05 55.6	
	comp=N,94nm,0.3s						
KLU	**Klutina**	**3.67**	**52**	IAML		20 06 09.1	
	comp=E,129nm,0.7s						
KLU	**Klutina**	**3.67**	**52**	P	**Pn**	**20 05 13.0**	**-0.6**
	baz=238						
WAT7	**Susitna Watana**	**3.77**	**22**		**Pn**	**20 05 15.4**	**+0.4**
WAT6	**Susitna Watana**	**3.80**	**31**	P	**Pn**	**20 05 15.6**	**0.0**
	baz=215						
WAT1	**Susitna Watana**	**3.82**	**24**		**Pn**	**20 05 16.1**	**+0.4**
GOAT	**Goat Mountain**	**3.83**	**69**		**Pn**	**20 05 14.8**	**-1.1**
M16K	**Timber Creek**	**3.84**	**298**		**Pn**	**20 05 15.7**	**-0.2**
M16K	**Timber Creek**	**3.84**	**298**	IAML		20 06 24.8	
	comp=N,65nm,1.1s						
M24K	**Tolsona, Glenn**	**3.94**	**44**		**Pn**	**20 05 17.6**	**+0.2**
M24K	**Tolsona, Glenn**	**3.94**	**44**	P	**Pn**	**20 05 18.1**	**+0.8**
	baz=229						
O15K	**Ungalikthiuk R**	**4.03**	**270**		**Pn**	**20 05 18.7**	**+0.2**
CAST	**Castle Rocks**	**4.04**	**359**		**Pn**	**20 05 18.3**	**-0.3**
CAST	**Castle Rocks**	**4.04**	**359**	P	**Pn**	**20 05 18.5**	**-0.1**
	baz=180						
TTA	**Tatalina**	**4.04**	**333**		**Pn**	**20 05 18.5**	**-0.3**
TTA	**Tatalina**	**4.04**	**333**	P	**Pn**	**20 05 18.4**	**-0.3**
	baz=150						
TTA	**Tatalina**	**4.04**	**333**	P	**Pn**	**20 05 18.6**	**-0.2**
K20K	**Telida**	**4.10**	**347**		**Pn**	**20 05 19.6**	**+0.2**
L17K	**Donlin**	**4.14**	**314**	P	**Pn**	**20 05 19.5**	**-0.5**
	baz=129						
TRF	**Thorofare Moun**	**4.15**	**11**		**Pn**	**20 05 20.0**	**-0.3**
TRF	**Thorofare Moun**	**4.15**	**11**	IAML		20 06 34.1	
	comp=E,114nm,0.8s						
N15K	**Kwethluk River**	**4.17**	**284**		**Pn**	**20 05 20.9**	**+0.5**
N15K				IAML		20 06 40.3	
	comp=N,63nm,0.9s						
N15K				IAML		20 06 41.9	
	comp=E,67nm,0.9s						
N25K	**Chitina, Valde**	**4.27**	**56**	Pn	**Pn**	**20 05 21.3**	**-0.6**
N25K				IAML		20 06 29.2	
	comp=E,71nm,0.7s						
N25K				IAML		20 06 34.3	
	comp=N,89nm,0.7s						
RND	**Reindeer**	**4.29**	**19**		**Pn**	**20 05 22.4**	**+0.1**
RND	**Reindeer**	**4.29**	**19**	IAML		20 06 32.5	
	comp=N,60nm,1.0s						
RND				IAML		20 06 32.6	
	comp=E,75nm,1.1s						
DHY	**Denali Highway**	**4.31**	**29**	IAML		20 06 27.2	
	comp=E,103nm,0.9s						
DHY				IAML		20 06 38.3	
	comp=N,69nm,0.9s						
L16K	**Owhat River**	**4.36**	**305**		**Pn**	**20 05 22.8**	**-0.2**
L16K				IAML		20 06 41.1	
	comp=E,37nm,1.0s						
L16K				IAML		20 06 46.0	
	comp=N,47nm,1.0s						
HARP	**HAARP**	**4.49**	**45**		**Pn**	**20 05 25.3**	**+0.5**
CHUM	**Lake Minchumin**	**4.50**	**358**		**Pn**	**20 05 25.2**	**+0.2**
K17K	**Iditarod**	**4.53**	**320**		**Pn**	**20 05 24.7**	**-0.6**
K17K	**Iditarod**	**4.53**	**320**	IAML		20 06 48.1	
	comp=E,69nm,1.1s						
K17K				IAML		20 06 52.2	
	comp=N,49nm,0.9s						
GLB	**Gilahina Butte**	**4.54**	**60**		**Pn**	**20 05 24.9**	**-0.7**
GLB				IAML		20 06 36.9	
	comp=E,49nm,0.7s						
GLB				IAML		20 06 44.5	
	comp=N,72nm,0.8s						
M15K	**Kasigluk River**	**4.55**	**290**		**Pn**	**20 05 25.3**	**-0.3**
WACK	**Wrangell Chich**	**4.57**	**52**		**Pn**	**20 05 25.8**	**-0.3**
MCK	**McKinley**	**4.59**	**17**		**Pn**	**20 05 26.5**	**+0.3**
WASW	**Wrangell South**	**4.61**	**53**		**Pn**	**20 05 26.3**	**-0.3**
VRDI	**Verde Repeater**	**4.62**	**63**		**Pn**	**20 05 25.7**	**-1.1**
VRDI	**Verde Repeater**	**4.62**	**63**	IAML		20 06 40.5	
	comp=N,41nm,1.0s						
CHGN	**Chignik**	**4.63**	**231**		**Pn**	**20 05 26.7**	**0.0**
CHGN	**Chignik**	**4.63**	**231**	IAML		20 06 25.7	
	comp=E,59nm,0.5s						
CHGN				IAML		20 06 36.0	
	comp=N,56nm,0.9s						
J18K	**Innoko River**	**4.67**	**333**		**Pn**	**20 05 27.2**	**0.0**
SNH	**Sunshine Point**	**4.69**	**76**		**Pn**	**20 05 27.9**	**+0.3**
SNH	**Sunshine Point**	**4.69**	**76**	IAML		20 06 22.9	
	comp=E,43nm,0.8s						
SNH				IAML		20 07 01.0	
	comp=N,62nm,1.1s						
BPAW	**Bear Paw Mtn.**	**4.74**	**5**	IAML		20 06 28.2	
	comp=N,29nm,0.7s						
BPAW				IAML		20 06 29.8	
	comp=E,40nm,0.7s						
O14K	**Tigyukauivet M**	**4.75**	**272**		**Pn**	**20 05 28.6**	**+0.1**
O14K	**Tigyukauivet M**	**4.75**	**272**	IAML		20 06 56.1	
	comp=N,27nm,0.8s						
TGL	**Tana Glacier**	**4.78**	**70**		**Pn**	**20 05 27.8**	**-1.2**
TGL	**Tana Glacier**	**4.78**	**70**	IAML		20 06 55.1	
	comp=N,42nm,0.6s						
TGL				IAML		20 07 13.1	
	comp=E,30nm,1.1s						
MCARA	**McCarthy VSAT**	**4.87**	**62**		**Pn**	**20 05 29.2**	**-0.8**
MCARA	**McCarthy VSAT**	**4.87**	**62**	IAML		20 07 09.5	
	comp=E,63nm,0.8s						
J20K	**Nowinta River**	**4.90**	**349**		**Pn**	**20 05 30.4**	**-0.1**
J20K	**Nowinta River**	**4.90**	**349**	IAML		20 07 09.9	
	comp=N,24nm,1.0s						
N14K	**Kuskokwak Cree**	**4.95**	**280**		**Pn**	**20 05 31.3**	**+0.3**
KIAG	**Kiagna River**	**5.05**	**68**		**Pn**	**20 05 31.4**	**-1.2**
PTPK	**Patty Peak**	**5.07**	**65**		**Pn**	**20 05 32.1**	**-0.8**
BALM	**Baldy**	**5.08**	**67**		**Pn**	**20 05 31.8**	**-1.2**
L15K	**Ungalak Mounta**	**5.22**	**300**		**Pn**	**20 05 34.6**	**-0.1**
J17K	**VABM Dome**	**5.26**	**323**		**Pn**	**20 05 35.1**	**-0.3**
J17K				IAML		20 07 06.6	
	comp=N,22nm,1.1s						
J17K				IAML		20 07 18.1	
	comp=E,24nm,1.1s						
GRNC	**Granite Creek**	**5.30**	**71**		**Pn**	**20 05 35.9**	**-0.2**
GRNC	**Granite Creek**	**5.30**	**71**	IAML		20 06 40.5	
	comp=N,24nm,1.0s						
K24K	**Donnelly Dome**	**5.32**	**31**		**Pn**	**20 05 36.9**	**+0.7**
M26K	**Nabesna, AK**	**5.32**	**52**		**Pn**	**20 05 36.3**	**0.0**
M26K	**Nabesna, AK**	**5.32**	**52**	IAML		20 07 09.6	
	comp=N,30nm,0.7s						
M26K				IAML		20 07 20.0	
	comp=E,25nm,0.8s						
NEA2	**Nenana**	**5.39**	**14**		**Pn**	**20 05 36.5**	**-0.6**
NEA2	**Nenana**	**5.39**	**14**	IAML		20 07 13.8	
	comp=E,16nm,0.9s						
WRH	**Wood River Hil**	**5.41**	**18**		**Pn**	**20 05 36.8**	**-0.6**
K15K	**Wolf Creek Mou**	**5.50**	**306**		**Pn**	**20 05 38.8**	**+0.2**
CTGM	**Chitina Glacie**	**5.54**	**69**		**Pn**	**20 05 39.4**	**0.0**
HDA	**Harding Lake**	**5.56**	**23**		**Pn**	**20 05 39.6**	**+0.1**
LOGN	**Logan Glacier**	**5.68**	**71**		**Pn**	**20 05 40.8**	**-0.4**
MLY	**Manley**	**5.68**	**5**		**Pn**	**20 05 41.3**	**+0.1**
J16K	**Anvik River**	**5.69**	**317**		**Pn**	**20 05 40.9**	**-0.3**
M27K	**Edge Creek, AK**	**5.76**	**55**		**Pn**	**20 05 42.1**	**-0.2**
COLA	**College**	**5.83**	**18**		**Pn**	**20 05 43.0**	**-0.1**
COLA	**College**	**5.83**	**18**	P	**Pn**	**20 05 42.9**	**-0.1**
GCSA	**Galena City Sc**	**5.84**	**339**		**Pn**	**20 05 43.6**	**+0.4**
IL31		**5.90**	**22**		**Pn**	**20 05 43.7**	**-0.4**
ILAR	**Eielson Array**	**5.90**	**22**		**Pn**	**20 05 42.7**	**-1.4**
SCRK	**Sand Creek**	**5.96**	**36**		**Pn**	**20 05 44.9**	**-0.2**
PCA	**Pinnacle**	**5.97**	**78**		**Pn**	**20 05 45.5**	**+0.3**
YUK2	**White River**	**5.99**	**62**		**Pn**	**20 05 45.3**	**-0.2**
J25K	**Salcha River,**	**6.09**	**28**		**Pn**	**20 05 46.5**	**-0.3**
YUK3	**Moose Creek**	**6.16**	**62**		**Pn**	**20 05 48.1**	**+0.3**
BVCY	**Beaver Creek**	**6.21**	**56**		**Pn**	**20 05 48.7**	**+0.3**
BCPM	**Bancas Point**	**6.28**	**80**		**Pn**	**20 05 49.5**	**+0.2**
PNL	**Peninsula**	**6.41**	**82**	P	**Pn**	**20 05 50.6**	**-0.5**
H18K	**Honhosa River**	**6.49**	**335**		**Pn**	**20 05 52.5**	**+0.2**
H23K	**Yukon River**	**6.55**	**9**		**Pn**	**20 05 52.6**	**-0.4**
IMAR	**Indian Mountai**	**6.66**	**354**		**Pn**	**20 05 54.5**	**0.0**
O29M	**Mount Kennedy**	**6.82**	**77**		**Pn**	**20 05 57.1**	**+0.3**
YUK6	**Outpost Mounta**	**6.97**	**71**		**Pn**	**20 05 59.5**	**+0.5**
YUK7	**Dusty Glacier**	**7.04**	**75**		**Pn**	**20 06 00.3**	**+0.3**
G19K	**Purcell Mounta**	**7.16**	**343**		**Pn**	**20 06 01.3**	**0.0**
G21K	**Allakaket**	**7.18**	**355**		**Pn**	**20 06 01.7**	**+0.1**
YUK5	**Granite Creek**	**7.24**	**70**		**Pn**	**20 06 02.6**	**+0.1**
P29M	**Windy Craggy**	**7.25**	**82**		**Pn**	**20 06 02.2**	**-0.5**
M29M	**Somme Creek**	**7.26**	**59**		**Pn**	**20 06 02.7**	**-0.1**
G23K	**Bananza Creek**	**7.39**	**6**		**Pn**	**20 06 04.5**	**-0.1**
EGAK	**Eagle**	**7.40**	**39**	Pn	**Pn**	**20 06 05.4**	**+0.7**
G24K	**Hadweenzic Riv**	**7.61**	**14**		**Pn**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK				A	A	20 15 10.4	
	430nm,0.2s						
YUK				A	A	20 15 10.4	
	700nm,0.2s						
NEM2	**Nemuro 2**	**1.79**	**247**	P	**Pn**	**20 14 52.0**	**+0.8**
NEM2				*e*S	**Sn**	**20 15 11.1**	**-2.8**
NMR	**Nemuro--Hokkai**	**1.79**	**248**	*i* P	**Pn**	**20 14 51.9**	**+0.6**
NMR				*e*S	**Sn**	**20 15 11.1**	**-3.1**
JRA	**Rausu**	**2.08**	**267**	P	**Pb**	**20 14 57.2**	**-1.0**
JRA				S	**Sn**	**20 15 21.4**	**+0.2**
JNSB	**Nemuroshibetsu**	**2.19**	**263**	P	**Pn**	**20 14 58.6**	**+1.9**
JNSB				*e*S	**Sn**	**20 15 24.1**	**+0.2**
JNK	**Nakash**	**2.42**	**259**	*e*P	**Pn**	**20 15 01.5**	**+1.4**
JNK				*e*S	**Sn**	**20 15 28.8**	**-1.0**
AKK	**Akkeshi**	**2.53**	**246**	*e*P	**Pn**	**20 15 02.6**	**+1.1**
AKK				*e*S	**Sn**	**20 15 30.2**	**-2.1**
JAK	**Akkeshi**	**2.63**	**247**	P	**Pn**	**20 15 04.2**	**+1.3**
JAK				*e*S	**Sn**	**20 15 32.5**	**-2.4**
JTKR	**Abashiri--Toko**	**2.95**	**269**	*e*P	**Pn**	**20 15 09.3**	**+2.0**
JAR	**Ashorobuto**	**3.17**	**257**	P	**Pn**	**20 15 12.8**	**+2.5**
JAR				S	**Sn**	**20 15 48.1**	**0.0**
JOB	**Onbets**	**3.25**	**250**	P	**Pn**	**20 15 13.2**	**+1.8**
JOB				*e*S	**Sn**	**20 15 49.5**	**-0.6**
JCH	**Churui**	**3.69**	**248**	P	**Pn**	**20 15 18.7**	**+1.4**
JCH				*e*S	**Sn**	**20 15 58.7**	**-2.1**
JKK2	**Kamakawa 2**	**3.80**	**269**	*e*P	**Pn**	**20 15 21.7**	**+2.8**
JFR	**Furan**	**4.03**	**259**	S	**Sn**	**20 16 10.9**	**+1.5**
JEM	**Erimo**	**4.10**	**242**	P	**Pn**	**20 15 26.3**	**+3.2**
JNBK	**Urakawa-nobuka**	**4.24**	**247**	P	**Pn**	**20 15 28.0**	**+3.1**
YSS	**Yuzh-Sakhalins**	**4.68**	**310**	*e*P	**Pn**	**20 15 32.6**	**+1.6**

*DNK **25** 20:27:05.3±1.1, 82°.47N×5°.79W, h36km±23km, ML1.2*
BER 25 20:27:05.2±2.0, 82°.29N×5°.83W, h10km, mb(Pn)3.0,
ML1.2(DNK)**, Confirmed Earthquake, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.68**	**251**	*i* P	Pn	20 27 32.0	-2.5
NOR				*i* S	Sn	20 27 52.2	-3.8
NOR				IAML		20 27 54.0	
	comp=Z,4.7nm,0.8s						
NOR	**Nord**	**1.68**	**251**	*i* P	Pn	20 27 32.0	-2.5
NOR				*i* S	Sn	20 27 52.2	-3.8
NOR				IAML		20 27 54.0	
	comp=Z,4.7nm,0.8s						
KBS	**Kingsbay**	**4.43**	**130**	*e*P	Pn	20 28 10.6	-1.7
KBS				*e*S	Sn	20 28 57.9	-6.0
KBS				IAML		20 29 09.8	
	comp=Z,2.7nm,0.8s						
KBS	**Kingsbay**	**4.43**	**130**	*i* P	Pn	20 28 10.0	-2.3
BRBB	**Barentsburg B**	**5.38**	**131**	*e*P	Pn	20 28 24.8	-0.5
SPA0	**Spitsbergen Ar**	**5.54**	**126**	*e*P	Pn	20 28 25.6	-1.9
SPA0				*e*S	Sn	20 29 23.7	-7.4
SPA0				IAML		20 29 26.1	
	comp=Z,3.4nm,0.9s						
DAG	**Danmarks Havn**	**6.00**	**209**	*i* P	Pn	20 28 32.7	-1.0
DAG				*i* S	Sn	20 29 35.7	-6.6
DAG				IAML		20 29 40.8	
	comp=Z,0.4nm,0.2s						
DAG	**Danmarks Havn**	**6.00**	**209**	*i* P	Pn	20 28 32.7	-1.0
DAG				*i* S	Sn	20 29 35.7	-6.6
DAG				IAML		20 29 40.8	
	comp=Z,0.4nm,0.2s						

*BEO **25** 20:27:42.8±5.1, 36°.85N×19°.76E, h109km±5km, ML3.5/11*
*ATH **25** 20:27:47.7, 37°.64N×20°.00E, h10km, ML3.6/18, Manual Solution by M.Charalampakis First location: 2018/11/25 20:28:10, This location: 2019/01/17 06:28:48 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 14 km; Longitude uncertainty: 20 km*
*THE **25** 20:27:50.1, 37°.67N×20°.37E, h2km±3km, ML3.5/5, Error ellipse: s-maj=3.8km s-min=0.9km az=38.0*
*IDC **25** 20:27:54.6±1.4, 37°.63N×20°.40E, h64km±17km, mb3.4/10, mbtmp3.6/15, MS3.2/1, Error ellipse: s-maj=16.8km s-min=10.6km az=18.0*
*NAO **25** 20:28:02.2, 39°.12N×21°.42E, h10km, mb4.0*
ISC 25 20:27:50.1±1.2, 37°.69N±0°.03×20°.38E±0°.04, h18km±4km,
n98, σ1°.85/108, mb3.6/10, 8C-3D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.35**	**95**	P	**Pg**	**20 27 57.2**	**-0.3**
KRI1				S	**Sg**	**20 28 01.5**	**-1.0**
	33μm,0.6s						
PSDA	**Pessada-Kefalo**	**0.45**	**21**	P	**Pg**	**20 27 58.7**	**-0.6**
PSDA				S	**Sb**	**20 28 06.2**	**+0.2**
	8μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.49**	**39**	P	**Pg**	**20 27 59.7**	**-0.4**
RTZL				S	**Sg**	**20 28 07.2**	**+0.4**
VLS	**Valsamata**	**0.51**	**19**	P	**Pg**	**20 28 00.1**	**-0.3**
DMLN	**Damoulianata-K**	**0.55**	**359**	P	**Pg**	**20 28 01.0**	**-0.1**
DMLN				S	**Sb**	**20 28 09.6**	**+0.9**
VSK1	**VASILIKIADES**	**0.73**	**11**	P	**Pb**	**20 28 03.9**	**-0.4**
VSK1				S	**Sg**	**20 28 15.2**	**+1.0**
	5μm,0.7s						
FSK	**Fiskardo**	**0.78**	**11**	P	**Pb**	**20 28 04.9**	**-0.3**
FSK				S	**Sn**	**20 28 17.1**	**-0.3**
RLS	**Riolos of Patr**	**0.94**	**67**	P	**Pb**	**20 28 07.6**	**-0.2**
EVGI	**Lefkada island**	**0.95**	**13**	P	**Pb**	**20 28 07.9**	**-0.2**
EVGI				S	**Sn**	**20 28 23.1**	**+1.4**
	3μm,0.4s						
EVGI	**Lefkada island**	**0.95**	**13**	P	**Pb**	**20 28 07.9**	**-0.2**
EVGI				S	**Sn**	**20 28 23.6**	**+1.8**
AST1	**Astakos**	**1.02**	**33**	P	**Pb**	**20 28 08.9**	**-0.3**
AST1				S	**Sn**	**20 28 24.4**	**+1.1**
	3μm,0.8s						
NYDR	**Nydri-Lefkada**	**1.05**	**14**	P	**Pb**	**20 28 09.7**	**0.0**
NYDR				S	**Sg**	**20 28 25.3**	**+1.0**
LKD2	**Lefkada island**	**1.12**	**11**	P	**Pg**	**20 28 12.3**	**+0.5**
LKD2	**Lefkada island**	**1.12**	**11**	P	**Pg**	**20 28 12.5**	**+0.7**
TSLK	**Tsoukalades, L**	**1.15**	**11**	P	**Pb**	**20 28 11.9**	**+0.5**
UPR	**University Cam**	**1.26**	**62**	P	**Pg**	**20 28 14.8**	**+0.4**
PVO	**Paravola**	**1.29**	**44**	P	**Pb**	**20 28 14.6**	**+0.8**
ITM	**Ithomi**	**1.33**	**112**	P	**Pb**	**20 28 15.3**	**+0.7**
ITM	**Ithomi**	**1.33**	**112**	P	**Pb**	**20 28 14.7**	**+0.1**
PYL	**PYLOS**	**1.35**	**126**	P	**Pn**	**20 28 14.1**	**+0.2**
PYL	**PYLOS**	**1.35**	**126**	P	**Pn**	**20 28 14.2**	**+0.2**
EFP	**Efpalio**	**1.41**	**58**	P	**Pb**	**20 28 16.0**	**+0.1**
KLV	**Kalavryta, Ach**	**1.45**	**75**	P	**Pb**	**20 28 16.9**	**+0.4**
KLV	**Kalavryta, Ach**	**1.45**	**75**	P	**Pb**	**20 28 16.8**	**+0.3**
ANX	**Ano Chora**	**1.51**	**53**	P	**Pb**	**20 28 17.9**	**+0.3**
GUR	**Goura**	**1.57**	**80**	P	**Pb**	**20 28 19.0**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.91**	**46**	P	**Pb**	**20 28 25.7**	**+1.3**
LTK	**Loutraki**	**2.08**	**80**	P	**Pb**	**20 28 26.2**	**-1.0**
AXAR	**Agios Charalam**	**2.09**	**58**	P	**Pb**	**20 28 27.1**	**-0.4**
THL	**Klokotos Trika**	**2.27**	**34**	P	**Pb**	**20 28 29.3**	**-1.2**
THL	**Klokotos Trika**	**2.27**	**34**	P	**Pb**	**20 28 29.5**	**-1.0**
VIL2	**Platees**	**2.34**	**76**	P	**Pn**	**20 28 29.9**	**+2.2**
TYRN	**Tyrnavos**	**2.48**	**35**	P	**Pn**	**20 28 32.2**	**+2.6**
TYRN	**Tyrnavos**	**2.48**	**35**	P	**Pn**	**20 28 32.1**	**+2.6**
ATHU	**Athens Univers**	**2.71**	**83**	P	**Pn**	**20 28 34.6**	**+1.8**
VLY	**Voula, Athens**	**2.71**	**86**	P	**Pn**	**20 28 35.0**	**+2.3**
DION	**Dionisos Attik**	**2.84**	**81**	P	**Pn**	**20 28 35.9**	**+1.4**
LIT	**Litokhoron**	**2.92**	**34**	P	**Pn**	**20 28 37.8**	**+2.2**
KYMI	**Kymi, Euboea I**	**3.08**	**71**	P	**Pn**	**20 28 39.2**	**+1.4**
FNA	**Florina**	**3.18**	**14**	*e*Pn	**Pn**	**20 28 41.6**	**+2.3**
OHR	**Ohrid**	**3.43**	**5**	*e*Pn	**Pn**	**20 28 45.5**	**+2.8**
OHR	**Ohrid**	**3.43**	**5**	*i* Pn	**Pn**	**20 28 46.2**	**+3.5**
PLG	**Polygyros**	**3.59**	**41**	P	**Pn**	**20 28 46.6**	**+1.7**
HORT	**Hortiatis**	**3.59**	**35**	P	**Pn**	**20 28 46.8**	**+1.9**
OUR	**Ouranopolis**	**3.85**	**46**	P	**Pn**	**20 28 50.7**	**+2.3**
SOH	**Sokhos**	**3.89**	**36**	P	**Pn**	**20 28 51.9**	**+2.9**
KNT	**Kendrikon**	**3.98**	**29**	P	**Pn**	**20 28 52.5**	**+2.3**
VAY	**Valandovo**	**4.00**	**24**	*i* Pn	**Pn**	**20 28 52.8**	**+2.3**
KOKK	**Kokkinochori,**	**4.20**	**41**	P	**Pn**	**20 28 55.7**	**+2.5**
SRS	**Serrai**	**4.23**	**35**	*e*Pn	**Pn**	**20 28 55.9**	**+2.2**
SRS	**Serrai**	**4.23**	**35**	P	**Pn**	**20 28 55.8**	**+2.1**
LIA	**Limnos Island**	**4.35**	**58**	P	**Pn**	**20 28 56.5**	**+1.2**
IDI	**Anoyia**	**4.35**	**122**	P	**Pn**	**20 28 59.2**	**+3.8**
	2.0nm,0.4s,baz=297,slow=18,SNR=2.2						
IDI				S	**Sn**	**20 29 45.9**	**+0.2**
	6.4nm,0.3s,baz=319,slow=19,SNR=6.4						
PEHC	**Pehcevo**	**4.52**	**25**	*i* Pn	**Pn**	**20 29 00.5**	**+2.8**
VAE	**Valguarnera**	**4.75**	**269**	P	Pn	20 29 06.0	+5.3
	9.2nm,0.7s,baz=141,slow=9.9,SNR=1.7						
VAE				S	**Sn**	**20 29 58.0**	**+2.7**
	30nm,0.9s,baz=248,slow=13,SNR=3.7						
BOSS	**Bosilegrad**	**5.06**	**18**	*e*Pn	**Pn**	**20 29 06.8**	**+1.7**
BARS	**Barje**	**5.24**	**12**	*e*Pn	**Pn**	**20 29 08.8**	**+1.3**
VTS	**Vitosha**	**5.38**	**23**	*e*Pn	**Pn**	**20 29 11.5**	**+1.9**
SELS	**Selova**	**5.55**	**6**	*e*Pn	**Pn**	**20 29 12.7**	**+0.9**
SJES	**Sjenica**	**5.57**	**357**	*e*Pn	**Pn**	**20 29 13.0**	**+0.8**
SJES				*e*Sn	**Sn**	**20 30 12.6**	**-3.2**
ZAPS	**Zavoj**	**5.83**	**16**	*e*Pn	**Pn**	**20 29 17.7**	**+2.0**
IVAS	**Ivanjica**	**5.88**	**358**	*e*Pn	**Pn**	**20 29 16.4**	**0.0**
BOVS	**Bovan**	**6.02**	**9**	*e*Pn	**Pn**	**20 29 18.5**	**+0.3**
GRUS	**Gruza**	**6.20**	**2**	*e*Pn	**Pn**	**20 29 21.3**	**+0.7**
BBLS	**Lazi&#263i**	**6.21**	**353**	*e*Pn	**Pn**	**20 29 21.7**	**+0.8**
DIVS	**Divibare**	**6.41**	**357**	*e*Pn	**Pn**	**20 29 23.3**	**-0.3**
DIVS				*e*Sn	**Sn**	**20 30 32.2**	**-4.1**
ELND	**Elena**	**6.71**	**37**	⇑P	**Pn**	**20 29 30.0**	**+2.3**
TEKS	**Tekeris**	**6.88**	**355**	*e*Pn	**Pn**	**20 29 28.3**	**-1.8**
HERR	**Herculane**	**7.34**	**11**	⇑P	**Pn**	**20 29 39.1**	**+2.7**
ARR	**Arges**	**8.30**	**21**	⇓P	**Pn**	**20 29 51.2**	**+1.5**
MLR	**Muntele Rosu**	**8.84**	**26**	P	**Pn**	**20 30 00.5**	**+3.5**
	8.6nm,0.8s,baz=188,slow=2.4,SNR=17						
MLR	**Muntele Rosu**	**8.84**	**26**	⇓P	**Pn**	**20 30 01.1**	**+4.1**
NEHR	**Nehoiu**	**8.91**	**28**	⇑P	**Pn**	**20 30 01.1**	**+3.3**
DOPR	**Dopca**	**9.07**	**23**	⇑P	**Pn**	**20 30 03.0**	**+2.9**
KEST	**Kesra**	**9.07**	**261**	LR	LR	20 34 09.0	
	comp=Z,146nm,18.6s,baz=285,slow=41						
BISRR	**Bisoca**	**9.17**	**29**	⇑P	**Pn**	**20 30 05.9**	**+4.5**
COVR	**Voineasa-Covas**	**9.23**	**26**	⇑P	**Pn**	**20 30 06.1**	**+3.8**
PLOR	**Plostina**	**9.40**	**28**	⇑P	**Pn**	**20 30 07.8**	**+3.2**
VRI	**Vrincioaia**	**9.44**	**28**	⇓P	**Pn**	**20 30 08.4**	**+3.3**
SOKA	**Soboth**	**9.81**	**338**	*e*Pn	**Pn**	**20 30 10.1**	**-0.2**
	1.2nm,0.5s						
OBKA	**Obir**	**9.82**	**336**	*e*Pn	**Pn**	**20 30 11.4**	**+1.1**
	1.1nm,0.5s						
BRTR	**Keskin Array B**	**10.56**	**75**	P	**Pn**	**20 30 24.7**	**+4.1**
	0.3nm,0.6s,baz=223,slow=46,SNR=2.1						
MOA	**Molln**	**11.10**	**338**	*e*Pn	**Pn**	**20 30 28.5**	**+0.7**
	0.9nm,0.4s						
LESA	**Schwarzleotal**	**11.26**	**332**	*e*Pn	**Pn**	**20 30 31.3**	**+1.2**
	0.6nm,0.4s						
BZK	**Bozkurt**	**11.31**	**64**	⇑P	Pn	20 30 35.6	+4.9
GERES	**GERESS Array B**	**12.16**	**339**	P	Pn	20 30 47.6	+5.2
	0.3nm,0.3s,baz=157,slow=14,SNR=2.6						
AKASG	**Malin Array Be**	**14.46**	**23**	P	**P**	**20 31 17.9**	**-2.4**
	0.2nm,0.4s,baz=206,slow=8.4,SNR=4.4						
HFS	**Hagfors**	**22.86**	**351**	P	**P**	**20 32 52.4**	**+0.2**
	0.9nm,0.4s,baz=156,slow=11,SNR=9.6						
	0.9nm,0.4s						
EKA	**Eskdalemuir Ar**	**23.76**	**326**	P	**P**	**20 33 02.5**	**+1.2**
	1.6nm,0.8s,baz=158,slow=9.8,SNR=2.3						
	1.6nm,0.8s						
FINES	**FINESS Array B**	**24.04**	**7**	P	**P**	**20 33 03.6**	**-0.2**
	2.5nm,0.4s,baz=170,slow=10.0,SNR=40						
	2.5nm,0.4s						
NB2	**NORSAR Subarra**	**24.07**	**349**	P	**P**	**20 33 04.3**	**+0.1**
	comp=Z,8.0nm,1.4s,baz=159,slow=10						
NOA	**NORSAR Array B**	**24.07**	**349**	P	**P**	**20 33 04.5**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=148,slow=9.6,SNR=4.2						
	comp=Z,0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**29.58**	**219**	P	**P**	**20 33 54.0**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=32,slow=8.9,SNR=4.3						
	comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**32.02**	**3**	P	**P**	**20 34 13.3**	**-1.8**
	comp=Z,2.5nm,0.8s,baz=189,slow=6.1,SNR=6.5						
	comp=Z,2.5nm,0.8s						
BVAR	**Borovoye Array**	**37.52**	**49**	P	**P**	**20 35 02.5**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=267,slow=5.9,SNR=2.3						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**42.61**	**53**	P	**P**	**20 35 44.2**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=280,slow=8.6,SNR=4.6						
	comp=Z,0.4nm,0.4s						
ZALV	**Zalesovo Beam**	**46.10**	**48**	P	**P**	**20 36 11.7**	**-1.2**
	comp=Z,1.8nm,0.4s,baz=279,slow=8.1,SNR=8.8						
	comp=Z,1.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**70.07**	**82**	P	**P**	**20 39 00.9**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=306,slow=8.0,SNR=4.3						
	comp=Z,0.4nm,0.6s						

*NEIC **25** 20:31:00.0±2.3, 22°.54S±0°.06×68°.51W±0°.09, h135km±5km, mb4.4/5, Error ellipse: s-maj=12.6km s-min=9.0km az=86.0*
*SJA **25** 20:31:00.1±0.7, 22°.49S×68°.49W, h130km±3km, ML4.0, MW4.0*
*GUC **25** 20:31:02.0±0.7, 22°.46S×68°.53W, h126km±3km, ML4.2*
*IDC **25** 20:31:03.0±3.0, 22°.39S×68°.17W, h130km±27km, mb3.5/6, mbtmp3.9/9, Error ellipse: s-maj=31.6km s-min=18.5km az=66.0*
ISC 25 20:31:00.5±0.6, 22°.52S±0°.03×68°.55W±0°.04, h125km±5km,
n67, σ1°.74/89, mb3.9/6, 7C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.55**	**142**		**Pn**	**20 31 20.6**	**+0.9**
AF01				Sn	**Sn**	**20 31 35.2**	**+1.0**
AF01	**San Pedro de A**	**0.55**	**142**	⇓*i*P	**Pn**	**20 31 20.6**	**+0.9**
AF01				*i* S	**Sn**	**20 31 35.1**	**+1.0**
AF01				IAML		20 31 45.9	
	comp=N,5μm,0.8s						
AF01	**San Pedro de A**	**0.55**	**142**	*e*P	**Pn**	**20 31 20.6**	**+0.9**
AF01				*e*S	**Sn**	**20 31 34.9**	**+0.7**
AF01				IAML		20 31 49.8	
	comp=Z,4μm,0.7s						
PB09	**IPOC Station P**	**0.97**	**318**		**Pn**	**20 31 23.9**	**+1.0**
PB09	**IPOC Station P**	**0.97**	**318**	⇑*i*P	**Pn**	**20 31 24.3**	**+1.4**
PB09				*i* S	**Sn**	**20 31 40.8**	**+1.0**
PB09				IAML		20 31 42.8	
	comp=E,6μm,0.7s						
PB09	**IPOC Station P**	**0.97**	**318**	*e*P	**Pn**	**20 31 23.6**	**+0.7**
PB09				*e*S	**Sn**	**20 31 41.4**	**+1.7**
PB09				IAML		20 31 41.9	
	comp=Z,4μm,0.6s						
PB04	**IPOC Station P**	**1.50**	**277**		**Pn**	**20 31 29.7**	**+1.3**
PB04	**IPOC Station P**	**1.50**	**277**	⇑*i*P	**Pn**	**20 31 29.8**	**+1.4**
PB04				*e*S	**Sn**	**20 31 51.0**	**+1.4**
PB04				IAML		20 31 54.5	
	comp=N,4μm,0.4s						
PB04	**IPOC Station P**	**1.50**	**277**	*e*P	**Pn**	**20 31 29.6**	**+1.3**
PB04				*e*S	**Sn**	**20 31 51.7**	**+2.1**
PB04				IAML		20 31 57.2	
	comp=Z,2μm,0.3s						
PB01	**IPOC Station P**	**1.71**	**329**		**Pn**	**20 31 31.4**	**+0.6**
PB01	**IPOC Station P**	**1.71**	**329**	⇑*i*P	**Pn**	**20 31 31.4**	**+0.6**
PB01				*e*S	**Sn**	**20 31 53.8**	**-0.1**
PB01				IAML		20 31 55.2	
	comp=E,2μm,0.3s						
PB01	**IPOC Station P**	**1.71**	**329**	*e*P	**Pn**	**20 31 31.4**	**+0.6**
PB01				*e*S	**Sn**	**20 31 54.9**	**+1.0**
PB01				IAML		20 31 57.5	
	comp=Z,1μm,0.3s						
PATCX	**Punta Patache**	**2.26**	**318**		**Pn**	**20 31 37.6**	**0.0**
PX03	**IPOC Station P**	**2.33**	**334**	*e*P	**Pn**	**20 31 38.0**	**-0.5**
PX03				*i* S	**Sn**	**20 32 07.7**	**0.0**
PB08	**IPOC Station P**	**2.43**	**346**		**Pn**	**20 31 41.1**	**+1.1**
PB08	**IPOC Station P**	**2.43**	**346**	⇑*i*P	**Pn**	**20 31 41.1**	**+1.1**
PB08				*e*S	**Sn**	**20 32 11.6**	**+1.3**
PB08				IAML		20 32 13.6	
	comp=E,770nm,0.4s						
PB08	**IPOC Station P**	**2.43**	**346**	*e*P	**Pn**	**20 31 41.2**	**+1.1**
PB08				*e*S	**Sn**	**20 32 12.6**	**+2.3**
PB08				IAML		20 32 13.2	
	comp=Z,331nm,0.5s						
TA01	**Diego Aracena**	**2.47**	**322**		**Pn**	**20 31 39.8**	**-0.3**
TA01	**Diego Aracena**	**2.47**	**322**	*e*P	**Pn**	**20 31 39.6**	**-0.5**
TA01				IAML		20 32 12.1	
	comp=N,1μm,0.3s						
TA01	**Diego Aracena**	**2.47**	**322**	*e*P	**Pn**	**20 31 39.2**	**-0.9**
TA01				*e*S	**Sn**	**20 32 11.2**	**+0.7**
TA01				IAML		20 32 13.5	
	comp=Z,545nm,0.5s						
HMBC	**Humberstone**	**2.56**	**330**		**Pn**	**20 31 40.9**	**-0.5**
HMBC	**Humberstone**	**2.56**	**330**	⇑*i*P	**Pn**	**20 31 41.0**	**-0.4**
HMBC				*e*S	**Sn**	**20 32 12.2**	**-0.6**
HMBC				IAML		20 32 13.2	
	comp=E,1μm,0.6s						
HMBC	**Humberstone**	**2.56**	**330**	*e*P	**Pn**	**20 31 41.0**	**-0.4**
HMBC				*e*S	**Sn**	**20 32 13.2**	**+0.4**
HMBC				IAML		20 32 15.5	
	comp=Z,931nm,0.4s						
TA02	**Huaiquique**	**2.68**	**326**		**Pn**	**20 31 42.4**	**-0.4**
TA02	**Huaiquique**	**2.68**	**326**	*e*P	**Pn**	**20 31 42.7**	**-0.2**
TA02				*e*S	**Sn**	**20 32 07.8**	**-7.6**
TA02				IAML		20 32 28.1	
	comp=Z,480nm,0.3s						
PB14	**IPOC Station P**	**2.70**	**219**		**Pn**	**20 31 44.6**	**+1.2**
PB14	**IPOC Station P**	**2.70**	**219**	*e*P	**Pn**	**20 31 44.5**	**+1.0**
PB14				*e*S	**Sn**	**20 32 15.8**	**-0.6**
GO02	**Mina Guanaco**	**2.80**	**200**		**Pn**	**20 31 46.2**	**+1.5**
GO02	**Mina Guanaco**	**2.80**	**200**	⇑*i*P	**Pn**	**20 31 46.1**	**+1.5**
GO02				IAML		20 32 23.6	
	comp=E,706nm,0.1s						
GO02	**Mina Guanaco**	**2.80**	**200**	*e*P	**Pn**	**20 31 46.2**	**+1.5**
GO02				*e*S	**Sn**	**20 32 21.5**	**+2.9**
YJA	**Yavi**	**2.83**	**84**	⇓*i*P	Pn	20 31 47.4	+2.3
YJA				*e*S	**Sn**	**20 32 21.0**	**+1.6**
YJA	**Yavi**	**2.83**	**84**	*e*P	Pn	20 31 47.5	+2.3
YJA				*e*S	**Sn**	**20 32 22.7**	**+3.3**
GO01	**Chusmiza**	**2.90**	**348**	Pn	**Pn**	**20 31 46.8**	**+0.6**
GO01	**Chusmiza**	**2.90**	**348**	⇑*i*P	**Pn**	**20 31 46.7**	**+0.6**
GO01				*e*S	**Sn**	**20 32 21.9**	**+0.6**
GO01				IAML		20 32 26.1	
	comp=N,1μm,0.1s						
GO01	**Chusmiza**	**2.90**	**348**	*e*P	**Pn**	**20 31 47.0**	**+0.8**
GO01				*e*S	**Sn**	**20 32 22.5**	**+1.2**
AC01	**Pan de Azucar**	**4.07**	**207**		**Pn**	**20 32 01.3**	**+0.2**
AC01	**Pan de Azucar**	**4.07**	**207**	*e*P	**Pn**	**20 32 01.0**	**-0.1**
AC01				*e*S	**Sn**	**20 32 47.2**	**-0.9**
AC01				IAML		20 32 49.5	
	comp=Z,94nm,0.7s						
PB12	**IPOC Station P**	**4.23**	**336**		**Pn**	**20 32 01.7**	**-1.6**
PB12	**IPOC Station P**	**4.23**	**336**	*e*P	**Pn**	**20 32 01.5**	**-1.9**
PB12				*e*S	Sn	20 33 08.2	+16
PB12				IAML		20 33 22.2	
	comp=Z,152nm,0.8s						
GO03	**Copiapo**	**5.28**	**197**		**Pn**	**20 32 16.5**	**-0.9**
GO03	**Copiapo**	**5.28**	**197**	*e*P	**Pn**	**20 32 16.8**	**-0.6**
GO03				*e*S	**Sn**	**20 33 16.7**	**-0.5**
AC04	**Llanos de Chal**	**6.11**	**201**	Pn	**Pn**	**20 32 26.6**	**-1.9**
LPAZ	**La Paz**	**6.21**	**4**	P	**Pn**	**20 32 32.4**	**+2.0**
	comp=Z,23nm,0.5s,baz=182,slow=6.8,SNR=95						
AC05	**El Transito**	**6.48**	**194**		**Pn**	**20 32 32.5**	**-1.1**
LCO	**Las Campanas**	**6.75**	**196**	Pn	**Pn**	**20 32 35.6**	**-1.7**
CO01	**Juntas del Tor**	**7.56**	**190**	Pn	**Pn**	**20 32 45.3**	**-2.9**
GO04	**Tololo Observa**	**7.88**	**194**	Pn	**Pn**	**20 32 49.3**	**-3.3**
CO03	**El Pedregal**	**8.51**	**193**	Pn	**Pn**	**20 32 58.2**	**-2.7**
SIV	**San Ignacio**	**9.59**	**49**	P	**Pn**	**20 33 12.2**	**-3.3**
	comp=Z,2.0nm,0.4s,baz=232,slow=8.6,SNR=17						
CPUP	**Villa Florida**	**10.90**	**113**	Pn	**Pn**	**20 33 31.4**	**-1.6**
CPUP	**Villa Florida**	**10.90**	**113**	P	**Pn**	**20 33 31.5**	**-1.5**
	comp=Z,2.7nm,0.8s,baz=281,slow=10,SNR=4.9						
SAML	**Samuel**	**14.44**	**22**	Pn	**Pn**	**20 34 16.6**	**-2.6**
CZSB	**Cruzeiro do Su**	**15.24**	**344**	P	**P**	**20 34 30.1**	**-1.2**
CZSB				IAmb	IAmb	20 34 34.1	
	comp=Z,24nm,0.7s						
TRQA	**Tornquist**	**16.48**	**161**		**Pn**	**20 34 41.4**	**-3.0**
TRQA				IAmb	IAmb	20 34 47.7	
	comp=Z,8.3nm,0.8s						
VAO	**Valinhos**	**19.91**	**96**	P	**P**	**20 35 21.3**	**-1.2**
VAO				IAmb	IAmb	20 35 23.0	
	comp=Z,19nm,0.8s						
GO09	**Cerro Castillo**	**28.85**	**185**	P	**P**	**20 36 47.2**	**+0.2**
SNAA	**Sanae**	**61.21**	**161**	P	**P**	**20 41 03.6**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=292,slow=8.6,SNR=9.2						
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**61.65**	**325**	P	**P**	**20 41 06.8**	**+1.4**
	comp=Z,0.4nm

comp=Z,3.7nm,0.6s
AKTO Aktyubinsk 60.86 320 P P 20 46 07.5 +0.5
comp=Z,2.7nm,0.8s,baz=87,slow=1.1,SNR=7.0
comp=Z,2.7nm,0.8s
ARCES ARCESS Array B 77.78 339 P P 20 47 51.6 +0.3
comp=Z,1.6nm,0.5s,baz=69,slow=6.9,SNR=11
comp=Z,1.6nm,0.5s
ILAR Eielson Array 78.14 26 P P 20 47 52.6 -0.7
comp=Z,0.3nm,0.9s,baz=246,slow=2.3,SNR=4.1
comp=Z,0.3nm,0.9s
FINES FINESS Array B 78.94 331 P P 20 47 58.3 +0.6
comp=Z,1.9nm,0.5s,baz=50,slow=6.4,SNR=23
comp=Z,1.9nm,0.5s
VRI Vrincioaia 81.68 315 ⇑P P 20 48 14.8 +2.0
PLOR Plostina 81.74 315 ⇓P P 20 48 13.6 +0.4
KMBO Kilima Mbogo 83.13 267 P P 20 48 24.4 +3.1
comp=Z,0.6nm,0.5s,baz=48,slow=6.2,SNR=3.9
comp=Z,0.6nm,0.5s
HFS Hagfors 85.13 331 P P 20 48 29.9 -0.4
comp=Z,1.3nm,0.5s,baz=95,slow=4.9,SNR=12
comp=Z,1.3nm,0.5s
NB2 NORSAR Subarra 85.92 332 P P 20 48 33.7 -0.5
comp=Z,1.3nm,0.6s,baz=66,slow=5.3
NOA NORSAR Array B 85.92 332 P P 20 48 34.0 -0.2
comp=Z,2.5nm,0.7s,baz=67,slow=4.9,SNR=11
comp=Z,2.5nm,0.7s
YKA Yellowknife Ar 92.09 22 P P 20 49 03.4 +0.1
comp=Z,0.3nm,0.6s,baz=313,slow=4.8,SNR=3.6
comp=Z,0.3nm,0.6s

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*TEH **25** 20:36:30.0, 34°.34N×45°.62E, h10km±79km, ML2.6*
*ISN **25** 20:36:30.8±0.8, 34°.38N×45°.53E, h19km±35km, ML2.5*
ISC 25 20:36:30.2±1.0, 34°.36N±0°.04×45°.61E±0°.04, h14km±11km, n11, σ0°61/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.15**	**355**	Pg	**Pg**	**20 36 34.0**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.35**	**134**	Pg	**Pg**	**20 36 37.0**	**-0.4**
IDHR	**Dehrash**	**0.73**	**62**	Pg	**Pg**	**20 36 43.6**	**-0.8**
IGHG	**Ghaleghazi**	**0.80**	**92**	Pg	**Pg**	**20 36 45.4**	**-0.3**
ILBA	**Ilam Banvizeh**	**0.89**	**145**	Pg	**Pb**	**20 36 46.6**	**-0.8**
KCHF	**Cheshme Sefid,**	**1.19**	**94**	Pg	**Pn**	**20 36 52.8**	**+0.2**
ILIN	**Lien**	**1.25**	**63**	Pg	**Pb**	**20 36 54.1**	**+0.4**
IBDR	**Badra**	**1.27**	**168**	*e*Pg	**Pn**	**20 36 54.0**	**+0.4**
IBDR				*e*Sg	**Sg**	**20 37 12.0**	**+0.7**
IBDR				AML	AML	20 37 18.0	
	comp=N,91nm,0.5s						
IBDR				AML	AML	20 37 23.0	
	comp=E,102nm,0.3s						
IKRK	**Kirkuk**	**1.47**	**315**	*e*Pn	**Pg**	**20 36 58.0**	**-0.5**
IKRK				*e*Sn	**Sg**	**20 37 17.0**	**-0.6**
BHD	**Baghdad**	**1.49**	**224**	*e*Pn	**Pb**	**20 36 58.0**	**+0.4**
BHD				*e*Sn	**Sg**	**20 37 18.0**	**-0.1**
SNQR	**Sonqor, Kerman**	**1.74**	**73**	Pg	**Pb**	**20 37 02.8**	**+0.7**

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*TEH **25** 20:39:01.9, 34°.15N×45°.61E, h10km±24km, ML3.1*
*ISN **25** 20:39:02.1±0.7, 34°.15N×45°.55E, h6km±15km, ML3.3*
ISC 25 20:39:02.6±0.9, 34°.19N±0°.04×45°.62E±0°.04, h10km, n14, σ1°07/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.26**	**107**	Pg	**Pg**	**20 39 07.3**	**-0.5**
KGS1	**Ghasr-e-Shirin**	**0.32**	**356**	Pg	**Pg**	**20 39 09.0**	**+0.1**
ILBA	**Ilam Banvizeh**	**0.75**	**139**	Pg	**Pb**	**20 39 16.3**	**-1.5**
IGHG	**Ghaleghazi**	**0.80**	**80**	Pg	**Pb**	**20 39 18.2**	**-0.6**
IDHR	**Dehrash**	**0.82**	**51**	Pg	**Pg**	**20 39 18.1**	**-0.2**
IBDR	**Badra**	**1.11**	**166**	*e*Pg	**Pn**	**20 39 24.0**	**-0.2**
IBDR				*e*Sg	**Sn**	**20 39 41.0**	**+1.5**
KCHF	**Cheshme Sefid,**	**1.18**	**85**	Pg	**Pg**	**20 39 25.4**	**+0.1**
ILIN	**Lien**	**1.33**	**56**	Pg	**Pg**	**20 39 28.2**	**+0.1**
BHD	**Baghdad**	**1.38**	**229**	*e*Pn	**Pg**	**20 39 29.0**	**0.0**
BHD				*e*Sn	**Sg**	**20 39 48.0**	**+1.1**
IKRK	**Kirkuk**	**1.60**	**319**	*e*Pn	**Pg**	**20 39 33.0**	**-0.3**
IKRK				*e*Sn	**Sg**	**20 39 55.0**	**+1.0**
IKRK				AML	AML	20 39 57.0	
	comp=E,518nm,0.4s						
IKRK				AML	AML	20 39 57.1	
	comp=N,411nm,0.5s						
SNQR	**Sonqor, Kerman**	**1.79**	**68**	Pn	**Pb**	**20 39 35.7**	**+0.1**
IDOB	**Doab**	**2.17**	**100**	Pn	**Pb**	**20 39 40.0**	**-2.0**
MAHB	**Mahabad**	**2.57**	**2**	Pn	**Pb**	**20 39 46.9**	**-2.0**
QAMS	**Qamsar**	**4.83**	**94**	Pn	**Pn**	**20 40 16.5**	**+0.9**

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*IDC **25** 20:39:57.4±3.1, 42°.92N×105°.08W, h0km, mbtmp3.2/2, ML3.1/2, Error ellipse: s-maj=56.8km s-min=11.1km az=158.0*
*NEIC **25** 20:39:59.0±2.1, 43°.69N±0°.05×105°.12W±0°.08, h0km±1km, ML3.3/44, Error ellipse: s-maj=11.0km s-min=6.7km az=51.0*
ISC 25 20:39:58.1±0.9, 43°.62N±0°.05×105°.43W±0°.06, h0km, n25, σ2°15/21, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.13**	**63**	Pg	**Pg**	**20 40 16.5**	**-3.3**
K22A	**Casper**	**1.25**	**220**		**Pn**	**20 40 25.1**	**+2.0**
N23A	**Red Feather La**	**2.75**	**188**	Pn	**Pg**	**20 40 47.5**	**-3.3**
N23A				IAML		20 42 31.3	
	comp=N,75nm,3.5s						
LAO	**LASA Array**	**3.12**	**350**		**Pn**	**20 40 50.2**	**+1.5**
LAO				IAML		20 41 54.5	
	comp=N,89nm,2.6s						
PD31	**Pinedale Array**	**3.14**	**256**	Pn	**Pb**	**20 40 53.8**	**-1.1**
PDAR	**Pinedale Array**	**3.14**	**256**	Pn	**Pb**	**20 40 54.6**	**-0.3**
PDAR	**Pinedale Array**	**3.14**	**256**	Pn	**Pb**	**20 40 53.8**	**-1.1**
	comp=N,1.7nm,0.3s,baz=76,slow=17,SNR=23						
PDAR				Lg	Lg	20 41 40.0	
	comp=N,3.9nm,0.3s,baz=74,slow=34,SNR=8.8						
	comp=N,0.8nm,0.3s						
RLMT	**Red Lodge**	**3.14**	**300**	Pn	**Pb**	**20 40 51.7**	**-3.2**
YNE	**Yellowstone No**	**3.57**	**295**	Pn	**Pb**	**20 40 59.3**	**-3.0**
YNE				IAML		20 42 01.5	
	comp=N,48nm,0.5s						
YNE				IAML		20 42 08.7	
	comp=E,35nm,0.4s						
YMP	**Mirror Lake PI**	**3.58**	**290**	Pn	**Pb**	**20 41 02.1**	**-0.4**
YMP				IAML		20 42 05.4	
	comp=E,63nm,1.2s						
OGNE	**Ogallala**	**3.67**	**135**	Pn	**Pn**	**20 40 57.0**	**+0.8**
OGNE				IAML		20 42 32.2	
	comp=E,74nm,3.0s						
LOHW	**Long Hollow**	**3.76**	**272**	Pn	**Pb**	**20 41 03.8**	**-1.7**
H17A	**Grant Village**	**3.79**	**284**		**Pg**	**20 41 10.8**	**0.0**
H17A				IAML		20 42 07.8	
	comp=E,31nm,4.1s						
H17A				IAML		20 42 19.1	
	comp=N,28nm,3.1s						
FLWY	**Flagg Ranch**	**3.84**	**279**	Pn	**Pb**	**20 41 05.4**	**-1.5**
FLWY				IAML		20 42 24.9	
	comp=N,50nm,1.7s						
FLWY				IAML		20 43 16.1	
	comp=N,44nm,4.8s						
MOOW	**Moose Ponds**	**3.86**	**274**	Pn	**Pb**	**20 41 05.7**	**-1.5**
TPAW	**Teton Pass**	**4.01**	**270**		**Pg**	**20 41 14.8**	**-0.3**
TPAW				IAML		20 42 25.3	
	comp=N,39nm,4.0s						
TPAW				IAML		20 42 54.2	
	comp=N,23nm,4.0s						
O20A	**White River Ci**	**4.06**	**212**	Pn	**Pb**	**20 41 07.4**	**-3.2**
YHL	**Hebgen Lake**	**4.31**	**289**		**Pb**	**20 41 14.0**	**-1.0**
YHL				IAML		20 42 41.9	
	comp=E,23nm,2.4s						
YHL				IAML		20 43 11.0	
	comp=N,29nm,4.7s						
RDMU	**Red Mountain**	**4.33**	**227**	Pn	**Pb**	**20 41 15.8**	**+0.6**
RDMU				IAML		20 42 44.2	
	comp=N,23nm,4.2s						
RDMU				IAML		20 42 54.1	
	comp=E,25nm,2.5s						
E28A	**Huff**	**4.47**	**47**		Pb	20 41 11.2	-6.3
HWUT	**Hardware Ranch**	**4.95**	**248**	Pn	Pb	20 41 20.1	-5.7
BSUT	**Blindstream Ca**	**5.02**	**234**	Pn	**Pb**	**20 41 23.9**	**-3.3**
BSUT				IAML		20 43 07.0	
	comp=E,16nm,3.5s						
BSUT				IAML		20 44 15.2	
	comp=N,16nm,4.4s						
EGMT	**Eagleton**	**5.34**	**327**	Pn	Pn	20 41 24.3	+5.1
I10CA	**LAC DU BONNET**	**9.20**	**41**	I	I	21 35 30.0	
	comp=N,0.1nm,1.6s,baz=221,slow=327,SNR=2.7						
ULM	**Lac du Bonnet**	**9.31**	**41**	Pn	**Pn**	**20 42 15.3**	**+1.8**
	comp=N,0.3nm,0.3s,baz=232,slow=12,SNR=1.7						
ULM				Lg	Lg	20 44 55.4	
	comp=N,0.3nm,0.3s,baz=129,slow=11,SNR=2.0						
	comp=N,0.9nm,0.3s						

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*NAO **25** 20:42:30.6, 32°.97N×46°.77E, h33km, mb3.6*
*GII **25** 20:42:31.1±0.4, 34°.30N±0°.06×46°.34E±0°.02, h0km, confirmed*
*MOS **25** 20:42:38.7±1.0, 34°.16N×45°.65E, h11km, mb4.5/15, Error ellipse: s-maj=8.3km s-min=4.9km az=98.2*
*IDC **25** 20:42:39.5±0.7, 34°.17N×45°.66E, h0km, mb4.1/21, mbtmp4.1/32, ML3.7/8, MS3.2/4, Error ellipse: s-maj=14.5km s-min=11.4km az=168.0*
*NEIC **25** 20:42:40.8±2.5, 34°.09N±0°.04×45°.70E±0°.09, h10km±1km, mb4.3/34, Error ellipse: s-maj=13.0km s-min=7.2km az=276.0*
*ISN **25** 20:42:41.9±1.7, 34°.17N×45°.55E, h26km±11km, ML4.6*
*TEH **25** 20:42:41.9, 34°.18N×45°.65E, h9km±15km, ML4.3*
*OMAN **25** 20:42:48.3±1.2, 33°.69N×46°.25E, h10km, mb4.4/26, ms3.0/3, Error ellipse: s-maj=14.4km s-min=8.6km az=42.0*
ISC 25 20:42:40.7±0.3, 34°.16N±0°.03×45°.69E±0°.03, h10km, n288, σ2°16/321, mb4.3/55, 14C-3D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.18**	**104**	Pg	**Pg**	**20 42 47.1**	**+2.4**
KGS1	**Ghasr-e-Shirin**	**0.36**	**346**	Pg	**Pg**	**20 42 48.5**	**+0.6**
ILBA	**Ilam Banvizeh**	**0.68**	**141**	Pg	**Pg**	**20 42 55.9**	**+2.0**
IGHG	**Ghaleghazi**	**0.74**	**76**	Pg	**Pb**	**20 42 57.5**	**+1.6**
IDHR	**Dehrash**	**0.79**	**46**	Pg	**Pg**	**20 42 57.2**	**+1.2**
IBDR	**Badra**	**1.06**	**169**	*e*Pg	**Pb**	**20 43 02.0**	**+0.8**
IBDR				*e*Sg	**Sn**	**20 43 18.0**	**+1.5**
KCHF	**Cheshme Sefid,**	**1.12**	**84**	Pg	**Pn**	**20 43 04.5**	**+1.8**
KCHF				Sg	**Sn**	**20 43 21.1**	**+2.9**
ILIN	**Lien**	**1.29**	**54**	Pg	**Pg**	**20 43 06.9**	**+1.4**
BHD	**Baghdad**	**1.41**	**231**	*e*Pn	**Pn**	**20 43 06.0**	**-0.4**
BHD				*e*Sn	**Sn**	**20 43 25.0**	**0.0**
IKRK	**Kirkuk**	**1.67**	**318**	*e*Pn	**Pn**	**20 43 10.0**	**0.0**
IKRK				*e*Sn	**Sn**	**20 43 32.0**	**+0.5**
IKRK				AML	AML	20 43 36.8	
	comp=E,10μm,0.3s						
IKRK				AML	AML	20 43 36.9	
	comp=N,10μm,0.3s						
SNQR	**Sonqor, Kerman**	**1.74**	**66**	Pg	**Pb**	**20 43 14.5**	**+1.5**
SDS1	**Sardasht. Az.**	**2.00**	**355**	Pn	**Pb**	**20 43 17.5**	**+0.3**
IDOB	**Doab**	**2.10**	**99**	Pn	**Pb**	**20 43 19.5**	**+0.6**
RAFI	**Al-Rafai**	**2.45**	**172**	*e*Pn	**Pn**	**20 43 22.0**	**+1.2**
RAFI				*e*Sn	**Sn**	**20 43 53.0**	**+2.2**
MAHB	**Mahabad**	**2.60**	**0**	Pn	**Pb**	**20 43 26.3**	**-1.2**
NGD1	**Naghade .Az. G**	**2.79**	**355**	Pn	**Pn**	**20 43 28.7**	**+3.2**
IAZR	**Azarshahr**	**3.52**	**4**	Pn	**Pn**	**20 43 38.6**	**+2.9**
QABG	**Abgarm-Qazvin**	**3.55**	**63**	Pn	**Pn**	**20 43 39.5**	**+3.4**
CSN1	**Caspian**	**4.38**	**38**	Pn	**Pn**	**20 43 50.6**	**+3.4**
IQOM	**Qom**	**4.49**	**80**	Pn	**Pn**	**20 43 51.7**	**+2.6**
IMRD	**Marand**	**4.55**	**0**	Pn	**Pn**	**20 43 51.9**	**+2.1**
IPIR	**Pirpir**	**4.59**	**107**	Pn	**Pn**	**20 43 52.6**	**+2.1**
JHBN	**Jahan bin**	**4.59**	**113**	Pn	**Pn**	**20 43 52.8**	**+2.3**
GEVA	**Gevas**	**4.66**	**334**	Pn	**Pn**	**20 43 53.6**	**+2.3**
QAMS	**Qamsar**	**4.76**	**93**	Pn	**Pn**	**20 43 55.9**	**+3.2**
ZNGN	**Zangian**	**4.78**	**114**	Pn	**Pn**	**20 43 55.4**	**+2.3**
GAS1	**Astara - Iran**	**4.93**	**30**	Pn	**Pn**	**20 43 58.0**	**+3.2**
GRMI	**Germi**	**4.97**	**20**	Pn	**Pn**	**20 43 58.5**	**+3.1**
IKLH	**Kolahrood**	**4.97**	**98**	Pn	**Pn**	**20 43 58.9**	**+3.2**
KLST	**Kelardasht - M**	**4.98**	**60**	Pn	**Pn**	**20 43 59.2**	**+3.4**
IVRN	**Varamin**	**5.05**	**79**	Pn	**Pn**	**20 43 59.2**	**+2.7**
IBRJ	**Brojen**	**5.18**	**114**	Pn	**Pn**	**20 44 00.4**	**+1.8**
ABEH	**Behbahan**	**5.24**	**131**	Pn	**Pn**	**20 44 02.1**	**+2.9**
MAKU	**Maku**	**5.25**	**351**	Pn	**Pn**	**20 44 02.1**	**+2.7**
GURO	**Guroymak-BITLI**	**5.29**	**327**	Pn	**Pn**	**20 44 01.6**	**+1.8**
MZPU	**Pul - Mazandar**	**5.32**	**63**	Pn	**Pn**	**20 44 04.1**	**+3.8**
KRSH	**Karshahi**	**5.35**	**90**	Pn	**Pn**	**20 44 04.0**	**+3.2**
IDMV	**Damavand**	**5.40**	**73**	Pn	**Pn**	**20 44 04.3**	**+2.7**
ISFB	**Sefidab**	**5.42**	**86**	Pn	**Pn**	**20 44 03.9**	**+2.2**
IZEF	**Zefreh**	**5.68**	**101**	Pn	**Pn**	**20 44 08.0**	**+2.5**
KLNJ	**Kolanjah**	**5.88**	**121**	Pn	**Pn**	**20 44 09.8**	**+1.5**
IFIR	**Firoozkooh**	**5.99**	**74**	Pn	**Pn**	**20 44 12.2**	**+2.6**
GNI	**Garni**	**6.03**	**353**	Pn	**Pn**	**20 44 13.2**	**+3.1**
GNI	**Garni**	**6.03**	**353**	Pn	**Pn**	**20 44 13.8**	**+3.8**
GNI	**Garni**	**6.03**	**353**	Pn	**Pn**	**20 44 14.6**	**+4.5**
	comp=N,0.6nm,0.3s,baz=348,slow=7.9,SNR=5.9						
GNI				Sn	**Sn**	**20 45 23.2**	**+4.0**
	comp=N,1.0nm,0.3s,baz=174,slow=18,SNR=1.4						
GNI				LR	LR	20 47 01.0	
	comp=N,155nm,18.8s,baz=164,slow=44						
	comp=N,6.9nm,0.7s						
IRAM	**Ramesheh**	**6.09**	**111**	Pn	**Pn**	**20 44 12.5**	**+1.6**
ILAS	**Lasjerd**	**6.10**	**76**	Pn	**Pn**	**20 44 13.4**	**+2.2**
ANAR	**Anarak**	**6.77**	**96**	Pn	**Pn**	**20 44 22.2**	**+2.0**
AKT	**Akhty**	**7.49**	**12**	*e*P	**Pn**	**20 44 26.6**	**-3.4**
AKT				*e*S	**Sn**	**20 45 53.6**	**-1.4**
AKT				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AKT				smax	smax		
	comp=E,8.0nm,1.5s						
AKT				smax	smax		
	comp=N,8.0nm,1.7s						
AKT				MLR	MLR		
	comp=Z,148nm,13.0s						
DSBU	**Dashti - Bushe**	**7.49**	**139**	Pn	**Pn**	**20 44 32.0**	**+1.9**
GAZ	**Gaziantep**	**7.53**	**296**		**Pn**	**20 44 30.4**	**-0.2**
ASF	**Jabal al Asfar**	**7.64**	**257**	Pn	**Pn**	**20 44 32.1**	**0.0**
	comp=Z,2.7nm,0.3s,baz=14,slow=0.0,SNR=18						
	comp=Z,6.6nm,0.3s						
ASF	**Jabal al Asfar**	**7.64**	**257**	P	**Pn**	**20 44 31.9**	**-0.2**
ASF				S	**Sg**	**20 46 50.2**	**+4.4**
IMEH	**Mehriz**	**8.00**	**108**	Pn	**Pn**	**20 44 38.5**	**+1.3**
KSHT	**Keshet**	**8.33**	**265**	P	**Pn**	**20 44 41.5**	**-0.1**
NATI	**Neve Ativ**	**8.35**	**267**	P	**Pn**	**20 44 41.4**	**-0.3**
NATI				S	**Sg**	**20 47 08.0**	**-0.5**
NATI	**Neve Ativ**	**8.35**	**267**	P	**Pn**	**20 44 40.6**	**-1.1**
GEM	**Giv'at Ha'Em**	**8.41**	**266**	P	**Pn**	**20 44 42.2**	**-0.5**
GEM				S	**Sg**	**20 47 08.1**	**-2.6**
GEM	**Giv'at Ha'Em**	**8.41**	**266**	P	**Pn**	**20 44 42.4**	**-0.3**
SHMJ	**Saham**	**8.42**	**263**	P	**Pn**	**20 44 44.2**	**+1.4**
SHMJ				S	**Sg**	**20 47 13.5**	**+2.6**
QIR1	**Qir**	**8.46**	**130**	Pn	**Pn**	**20 44 44.1**	**+0.7**
MMA0	**Mount Meron ar**	**8.66**	**265**	P	**Pn**	**20 44 46.1**	**-0.1**
MMA0B	**Mount Meron ar**	**8.66**	**265**	P	**Pn**	**20 44 46.2**	**+0.1**
MMAI	**Mount Meron Ar**	**8.66**	**265**	Pn	**Pn**	**20 44 46.1**	**0.0**
	comp=Z,3.4nm,0.3s,baz=75,slow=17,SNR=14						
MMAI				Sn	**Sn**	**20 46 27.6**	**+3.6**
	comp=Z,1.1nm,0.3s,baz=98,slow=22,SNR=1.0						
MMAI				LR	LR	20 48 50.3	
	comp=Z,201nm,18.4s,baz=16,slow=43						
	comp=Z,1.5nm,0.3s						
MMC7	**Mount Meron ar**	**8.67**	**265**	P	**Pn**	**20 44 46.4**	**+0.2**
HMDT	**Nahal Hemdat**	**8.73**	**260**	P	**Pn**	**20 44 47.4**	**+0.4**
MMLI	**Mount Malkishu**	**8.77**	**262**	P	**Pn**	**20 44 47.0**	**-0.6**
BLGI	**Bet Lehem HaGe**	**8.89**	**264**	P	**Pn**	**20 44 49.0**	**-0.2**
MAK	**Makhachkala**	**8.90**	**9**	*e*P	Pn	20 44 44.3	-5.0
MAK				*e*S	**Sn**	**20 46 22.2**	**-7.5**
MAK				pmax	pmax		
	comp=Z,511nm,1.8s						
MAK				MLR	MLR		
	comp=Z,348nm,17.0s						
GHAJ	**Ghor Haditha**	**8.99**	**254**		**Pn**	**20 44 49.8**	**-0.8**
GHAJ	**Ghor Haditha**	**8.99**	**254**	P	**Pn**	**20 44 50.2**	**-0.4**
GHAJ				S	**Sg**	**20 47 26.4**	**-2.9**
GHAJ	**Ghor Haditha**	**8.99**	**254**	P	**Pn**	**20 44 50.4**	**-0.2**
DSI	**Dead Sea**	**9.05**	**256**	P	**Pn**	**20 44 50.8**	**-0.6**
SLTI	**Sal'it**	**9.13**	**261**	P	**Pn**	**20 44 52.5**	**0.0**
MSBI	**Mazada**	**9.16**	**255**	P	**Pn**	**20 44 52.2**	**-0.6**
TPRV	**Parvadeh(Tabas**	**9.24**	**94**	Pn	**Pn**	**20 44 56.8**	**+2.7**
NCK	**Nalchik**	**9.47**	**351**	*i* P	**Pn**	**20 44 56.9**	**-0.2**
TAPT	**Tabas- Tapeh t**	**9.49**	**82**	Pn	**Pn**	**20 44 59.6**	**+2.0**
TKDS	**Koohdasht(Taba**	**9.52**	**90**	Pn	**Pn**	**20 45 00.5**	**+2.5**
KBZ	**Khabaz**	**9.80**	**348**	Pn	**Pn**	**20 45 03.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=206,slow=14,SNR=2.1						
KBZ				LR	LR	20 48 54.8	
	comp=Z,47nm,18.4s,baz=120,slow=38						
	comp=Z,3.3nm,0.9s						
PRNI	**Paran**	**9.81**	**250**	P	**Pn**	**20 45 01.4**	**-0.5**
PRNI	**Paran**	**9.81**	**250**	P	**Pn**	**20 45 01.2**	**-0.7**
SHA1	**Shidzhatmaz**	**9.85**	**347**	*i* P	**Pn**	**20 45 01.6**	**-1.0**
HRFI	**Mount Harif**	**9.93**	**248**	P	Pn	20 45 10.6	+7.1
HRFI	**Mount Harif**	**9.93**	**248**	P	**Pn**	**20 45 03.4**	**-0.1**
KIV	**Kislovodsk**	**10.06**	**347**		**Pn**	**20 45 05.8**	**+0.5**
KIV	**Kislovodsk**	**10.06**	**347**	*e*P	**Pn**	**20 45 05.4**	**+0.1**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
KIV				MLR	MLR		
	comp=Z,55nm,13.0s						
KZIT	**Kziot**	**10.07**	**254**	P	**Pn**	**20 45 05.3**	**-0.1**
KRMI	**Paran Flat**	**10.13**	**250**	P	**Pn**	**20 45 06.0**	**-0.3**
MBRI	**Mt Berech**	**10.13**	**248**	P	Pn	20 45 14.6	+8.2
EIL	**Elat**	**10.16**	**247**	Pn	**Pn**	**20 45 07.0**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=30,slow=8.1,SNR=10						
EIL				LR	LR	20 49 58.8	
	comp=Z,221nm,18.4s,baz=52,slow=43						
	comp=Z,3.2nm,0.3s						
EIL	**Elat**	**10.16**	**247**	P	**Pn**	**20 45 05.3**	**-1.4**
EIL	**Elat**	**10.16**	**247**	P	**Pn**	**20 45 06.4**	**-0.3**
SMRA	**Abu-Samra**	**10.39**	**153**	P	**Pn**	**20 45 10.7**	**+1.0**
SMRA				S	**Sn**	**20 47 00.4**	**-5.9**
SOC	**Sochi**	**10.50**	**335**	*e*P	Pn	20 45 06.2	-5.0
SOC				*e*		20 47 02.8	
SOC				MLR	MLR		
	comp=Z,143nm,16.0s						
TRNA	**Turayna**	**10.55**	**151**	P	**Pn**	**20 45 13.1**	**+1.2**
	SNR=14						
TRNA				S	**Sn**	**20 47 05.3**	**-4.8**
RAYN	**Ar Rayn**	**10.60**	**181**	Pn	**Pn**	**20 45 11.8**	**-0.9**
RAYN	**Ar Rayn**	**10.60**	**181**	P	**Pn**	**20 45 11.8**	**-0.9**
BRTR	**Keskin Array B**	**11.13**	**303**	Pn	**Pn**	**20 45 21.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=118,slow=12,SNR=2.6						
	comp=Z,0.6nm,0.7s						
BR105	**Keskin Array S**	**11.14**	**303**	P	**Pn**	**20 45 22.0**	**+1.8**
	comp=Z,1.8nm,0.8s						
SLWR	**Sila**	**11.33**	**151**	P	**Pn**	**20 45 23.0**	**+0.3**
SLWR				S	**Sn**	**20 47 23.3**	**-6.1**
ANTO	**Ankara**	**11.78**	**303**	P	**Pn**	**20 45 30.5**	**+1.7**
	comp=Z,2.5nm,0.7s						
SHME	**Shamm**	**12.12**	**129**	Pn	**Pn**	**20 45 32.7**	**-0.8**
SHME	**Shamm**	**12.12**	**129**	P	**Pn**	**20 45 33.3**	**-0.2**
	SNR=5.2						
BANOM	**Banah**	**12.31**	**129**	*i* Pn	**Pn**	**20 45 35.5**	**-0.6**
	SNR=84						
BANOM	**Banah**	**12.31**	**129**	P	**Pn**	**20 45 35.5**	**-0.6**
BANOM				S	Sn	20 47 45.7	-7.7
AJN	**Ajban**	**12.53**	**137**	Pn	**Pn**	**20 45 39.5**	**+0.5**
AJN	**Ajban**	**12.53**	**137**	P	**Pn**	**20 45 40.2**	**+1.2**
AJN				S	**Sn**	**20 47 55.0**	**-3.6**
NAZ	**Nazwa, Dubai**	**12.59**	**134**	*i* Pn	**Pn**	**20 45 39.9**	**0.0**
	SNR=9.6						
NAZ	**Nazwa, Dubai**	**12.59**	**134**	P	**Pn**	**20 45 40.4**	**+0.5**
	SNR=9.6						
NAZ				S	**Sn**	**20 47 55.4**	**-4.9**
MASF	**Masafi**	**12.61**	**131**	P	**Pn**	**20 45 39.7**	**-0.6**
	SNR=15						
MASF				S	Sn	20 47 53.8	-7.0
MSFE	**Esma-Masafi**	**12.62**	**131**	*i* Pn	**Pn**	**20 45 39.2**	**-1.1**
	SNR=15						
MSFE				Sn	Sn	20 47 51.7	-9.4
ASUD	**Al Ashush, Dub**	**12.67**	**136**	Pn	**Pn**	**20 45 41.2**	**+0.2**
ASUD	**Al Ashush, Dub**	**12.67**	**136**	P	**Pn**	**20 45 41.5**	**+0.5**
ASUD				S	**Sn**	**20 47 56.3**	**-5.9**
FAQ	**Al Faqa, Dubai**	**12.73**	**135**	Pn	**Pn**	**20 45 41.4**	**-0.5**
FAQ	**Al Faqa, Dubai**	**12.73**	**135**	P	**Pn**	**20 45 41.6**	**-0.2**
FAQ				S	**Sn**	**20 47 57.1**	**-6.6**
MDH	**Madha**	**12.75**	**131**	*i* Pn	**Pn**	**20 45 40.8**	**-1.3**
	SNR=13						
MDH	**Madha**	**12.75**	**131**	P	**Pn**	**20 45 41.2**	**-0.9**
	SNR=7.9						
MDH				S	Sn	20 47 56.4	-7.8
ISP	**Isparta**	**12.82**	**291**	*i* P	**Pn**	**20 45 44.8**	**+1.7**
HATD	**Hatta, Dubai**	**12.99**	**133**	*i* Pn	**Pn**	**20 45 44.5**	**-0.9**
	SNR=8.6						
HATD	**Hatta, Dubai**	**12.99**	**133**	P	**Pn**	**20 45 44.9**	**-0.6**
	SNR=8.6						
HATD				P	**Pn**	**20 45 44.9**	**-0.6**
	SNR=8.6						
HATD				S	Sn	20 48 03.2	-7.0
HATD				S	Sn	20 48 03.2	-7.0
MZR	**Muzera**	**13.04**	**146**	P	**Pn**	**20 45 46.0**	**-0.2**
MZR				S	Sn	20 48 03.2	-8.1
ASHO	**Ashiyiah**	**13.06**	**134**	*i* Pn	**Pn**	**20 45 45.2**	**-1.1**
	SNR=16			

comp=Z,11nm,0.7s
LPSR Galich'ya Gora 19.06 347 *e*P **P 20 47 02.4 -0.6**
LPSR pmax pmax
comp=Z,60nm,0.8s
KBL Kabul 19.28 82 P **P 20 47 06.2 +0.4**
KBL IAmb IAmb 20 47 10.5
comp=Z,14nm,0.8s
KBL Kabul 19.28 82 P **P 20 47 06.2 +0.4**
KBL pmax pmax
comp=Z,14nm,0.8s
SIMJ Simiganj 19.28 70 P **P 20 47 06.3 +0.6**
SIMJ IAmb IAmb 20 47 14.5
comp=Z,22nm,1.1s
DOPR Dopca 19.45 313 ⇑P **Pn 20 47 09.1 +0.5**
ARR Arges 19.62 311 ⇑P **Pn 20 47 11.1 +0.4**
NDNU Novodnistrovsk 19.86 322 P **P 20 47 12.1 +0.4**
KMPD K-Podol'skiy 20.30 321 P **P 20 47 15.6 -1.0**
comp=Z,3μm,1.5s
GAR Garm 20.33 69 P **P 20 47 17.9 +0.7**
AK07 Malin Array Si 20.34 329 P **P 20 47 16.4 -0.6**
AK09 Malin Array Si 20.35 329 P **P 20 47 16.8 -0.3**
BURAR Bucovina Array 20.42 317 ⇑P **P 20 47 18.5 +0.5**
BURAR Bucovina Array 20.42 317 ⇑P **P 20 47 18.5 +0.5**
AKASG Malin Array Be 20.44 329 P **P 20 47 17.4 -0.7**
AKASG Malin Array Be 20.44 329 P **P 20 47 17.1 -1.0**
comp=Z,2.9nm,0.6s,baz=138,slow=8.5,SNR=26
comp=Z,2.9nm,0.6s
AKASG Malin Array Be 20.44 329 *i* P **P 20 47 18.3 +0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKBB Malin Array Si 20.44 329 P **P 20 47 17.1 -1.0**
AKBB IAmb IAmb 20 47 29.3
comp=Z,11nm,0.8s
AKBB Malin Array Si 20.44 329 *i* P **P 20 47 17.3 -0.8**
AKBB pmax pmax
comp=Z,12nm,0.9s
AKBB Malin Array Si 20.44 329 P **P 20 47 17.7 -0.4**
KIEV Kiev 20.45 329 P **P 20 47 17.1 -1.0**
KIEV IAmb IAmb 20 47 29.3
comp=Z,10nm,0.9s
KIEV Kiev 20.45 329 P **P 20 47 17.1 -1.0**
KIEV pmax pmax
comp=Z,11nm,0.9s
KIEV Kiev 20.45 329 P **P 20 47 17.1 -1.0**
comp=Z,37nm,0.6s
BUR08 Bucovina Ar. S 20.45 317 P **P 20 47 17.5 -0.8**
LUBAR Lubar, Ukraine 20.55 325 P **P 20 47 18.6 -0.6**
AK19 Malin Array Si 20.55 329 P **P 20 47 19.5 +0.2**
GZR Gura Zlata 20.81 309 ⇑P Pn 20 47 24.3 -0.4
KSV Kosov 20.90 319 P **P 20 47 22.4 -0.7**
MI30 MI30,Zelenitsa 20.93 328 P **P 20 47 23.2 -0.1**
comp=Z,21nm,0.7s
MARR Marisel-Cluj 21.17 313 ⇑P **P 20 47 26.8 +0.7**
KKAR Karatay Array 21.29 58 P **P 20 47 28.0 +0.7**
KKAR Karatay Array 21.29 58 P **P 20 47 27.8 +0.4**
KKAR Karatay Array 21.29 58 P **P 20 47 28.0 +0.7**
KKAR pmax pmax
comp=Z,8.0nm,0.9s
MI28 Mi28,Pidlybu 21.29 327 P **P 20 47 26.8 -0.5**
comp=Z,249nm,0.8s
STNU Starunia 21.44 319 P **P 20 47 26.5 -2.4**
DRGR 21.47 313 ⇑P **P 20 47 29.9 +0.5**
DRGR 21.47 313 ⇑P **P 20 47 29.9 +0.5**
DRK Karamyk 21.53 68 IAmb IAmb 20 47 44.9
comp=Z,20nm,1.2s
MEZ Mezhgor'ye 21.87 318 P **P 20 47 34.5 +1.0**
OBN Obninsk 21.90 346 P **P 20 47 32.3 -1.4**
OBN IAmb IAmb 20 47 38.9
comp=Z,13nm,0.7s
OBN Obninsk 21.90 346⇓ *e*P **P 20 47 32.4 -1.4**
OBN *e* 20 47 56.7
OBN *i* 20 51 31.5
OBN *i* S **S 20 51 36.8 +1.4**
OBN pmax pmax
comp=Z,13nm,0.7s
OBN Obninsk 21.90 346 P **P 20 47 31.7 -2.0**
comp=Z,20nm,0.8s
OBN Obninsk 21.90 346 P **P 20 47 31.9 -1.8**
comp=Z,6.1nm,0.3s,baz=39,slow=6.5,SNR=2.5
MORS Morshin 22.01 319 P **P 20 47 32.6 -2.4**
RNPP5 Staryi Chortor 22.31 326 P **P 20 47 37.5 -0.7**
SHIU Shidnytsya 22.35 319 P **P 20 47 36.9 -1.8**
RNPP8 Varash 22.40 326 P **P 20 47 39.3 +0.2**
RNPP9 Sopachiv 22.43 326 P **P 20 47 36.9 -2.6**
HOLU Holmets 22.52 317 P **P 20 47 41.2 +0.8**
ARSB Arslanbob 22.68 64 P **P 20 47 43.3 +0.9**
ARSB Arslanbob 22.68 64 P **P 20 47 43.3 +0.9**
ARSB pmax pmax
comp=Z,2.0nm,1.1s
KOLS Kolonicke sedl 22.79 317 *e*P **P 20 47 48.4 +5.0**
KOLS Kolonicke sedl 22.79 317 *e*P **P 20 47 48.4 +5.0**
NIL Nilore 22.86 83 P **P 20 47 43.3 -0.9**
NIL IAmb IAmb 20 47 47.7
comp=Z,10nm,0.9s
NIL Nilore 22.86 83 P **P 20 47 43.3 -0.9**
NIL pmax pmax
comp=Z,10.0nm,0.9s
MORH Mrgy, Hungar 23.80 308 ⇑P **P 20 47 54.0 +0.5**
MNK Minsk 23.87 334 *i* P **P 20 47 53.4 -0.8**
MNK *i* P **P 20 47 53.4 -0.8**
comp=N,6.0nm,0.9s
MNK *i* P **P 20 47 53.4 -0.8**
comp=Z,11nm,0.7s,baz=141
MNK *i* PP **PnPn 20 48 21.2 -0.9**
MNK *i* S **S 20 52 10.3 +0.3**
MNK *i* SS **SnSn 20 52 50.4 +1.4**
MNK Minsk 23.87 334 *i* P **P 20 47 53.3 -0.8**
MNK *i* 20 48 21.2
MNK *i* S **S 20 52 10.3 +0.3**
MNK *i* SS **SnSn 20 52 50.4 +1.4**
MNK pmax pmax
comp=N,6.0nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.7s
MNK pmax pmax
comp=E,5.0nm,0.8s
ARTI Arti 23.88 18 P **P 20 47 51.9 -2.3**
ARTI IAmb IAmb 20 48 02.6
comp=Z,12nm,0.8s
ARTI Arti 23.88 18*c i*P **P 20 47 54.3 +0.1**
ARTI 20 48 21.0
ARTI S **S 20 52 11.6 +1.5**
ARTI SS **SnSn 20 52 49.3 +0.1**
ARTI pmax pmax
comp=Z,3.0nm,0.6s
AAK Ala-Archa 24.02 61 P **P 20 47 56.7 +0.9**
AAK Ala-Archa 24.02 61 *i* P **P 20 47 54.8 -1.1**
AAK pmax pmax
comp=Z,3.0nm,0.9s
KIRV Kirov 24.56 5 *i* P **P 20 48 00.5 +0.1**
VYHS Vyhne 24.58 314 *e*P **P 20 48 06.8 +6.0**
VYHS Vyhne 24.58 314 *e*P **P 20 48 06.8 +6.0**
KSH Kashi 24.75 69 P **P 20 48 02.3 -0.3**
KSH sP sP 20 48 08.5 +1.4
KSH pmax pmax
comp=Z,10.0nm,1.1s
OJC Ojcow 24.83 318 P **P 20 48 02.4 -0.6**
comp=Z,9.6nm,2.4s
SVE Sverdlovsk 24.86 20 *e*P **P 20 48 04.3 +1.1**
SVE pmax pmax
comp=Z,8.0nm,0.9s
BRVK Borovoye 25.75 35 P **P 20 48 08.7 -2.6**
BRVK IAmb IAmb 20 48 14.0
comp=Z,6.5nm,1.0s
BRVK Borovoye 25.75 35 P **P 20 48 08.7 -2.6**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BVAR Borovoye Array 25.78 35 P **P 20 48 11.8 +0.3**
comp=Z,6.8nm,0.6s,baz=234,slow=7.5,SNR=28
comp=Z,6.8nm,0.6s
RONA Rosalia, Austr 25.83 310 *e*P **P 20 48 12.0 -0.1**
comp=Z,0.8nm,0.5s
KLMR Klimovskoe 27.01 353 *e*P **P 20 48 20.5 -2.1**
KLMR pmax pmax
comp=Z,20nm,1.4s
MOA Molln 27.16 310 *e*P **P 20 48 24.2 0.0**
comp=Z,0.8nm,0.5s
WUS Wushi 27.33 65 IAmb IAmb 20 48 36.4
comp=Z,4.7nm,0.8s
KBA Koelnbreinsper 27.53 308 *e*P **P 20 48 27.3 -0.3**
comp=Z,0.4nm,0.4s
WTTA Wattenberg 28.70 307 *e*P **P 20 48 38.9 +0.8**
comp=Z,0.4nm,0.3s
SQTA Sankt Quirin 28.97 307 *i* P **P 20 48 39.5 -1.0**
comp=Z,0.7nm,0.3s
KURBB Kurchatov Arra 29.00 45 P **P 20 48 42.0 +1.5**
comp=Z,3.3nm,0.9s,baz=253,slow=8.9,SNR=16
comp=Z,3.3nm,0.9s
MOTA Moosalm 29.07 307 *e*P **P 20 48 40.2 -1.2**
comp=Z,0.2nm,0.3s
KURK Kurchatov 29.08 45 P **P 20 48 39.6 -1.6**
KURK IAmb IAmb 20 48 44.0
comp=Z,3.5nm,0.8s
KURK Kurchatov 29.08 45 P **P 20 48 42.0 +0.8**
CLL Collm 29.18 316 *e*P **P 20 48 40.0 -2.0**
CLL *ex* x 20 48 48.0
FETA Feichten 29.24 307 *e*pP pP 20 48 46.1 +0.1
comp=Z,0.1nm,0.1s
KEST Kesra 29.73 284 P **P 20 48 48.5 +1.2**
comp=Z,7.6nm,1.1s,baz=18,slow=9.6,SNR=3.0
comp=Z,7.6nm,1.1s
FINES FINESS Array B 30.06 341 P **P 20 48 49.2 -0.6**
comp=Z,1.3nm,0.3s,baz=145,slow=8.7,SNR=14
comp=Z,1.3nm,0.3s
MK31 Makanchi Array 30.29 54 P **P 20 48 49.3 -2.7**
MK31 Makanchi Array 30.29 54 P **P 20 48 49.3 -2.7**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 30.29 54 P **P 20 48 53.7 +1.7**
comp=Z,2.6nm,0.6s,baz=251,slow=7.3,SNR=24
comp=Z,2.6nm,0.6s
HFS Hagfors 33.30 331 P **P 20 49 18.4 +0.2**
comp=Z,3.8nm,0.4s,baz=127,slow=9.4,SNR=26
comp=Z,3.8nm,0.4s
WMQ Urumqi 33.73 61 *e*P **P 20 49 27.0 +4.7**
WMQ pmax pmax
comp=Z,9.0nm,0.7s
ZAA0 Zalesovo Array 33.79 42 P **P 20 49 20.4 -2.2**
ZAA0 IAmb IAmb 20 49 23.9
comp=Z,2.5nm,0.7s
ZALV Zalesovo Beam 33.79 42 P **P 20 49 21.3 -1.3**
ZALV Zalesovo Beam 33.79 42 P **P 20 49 23.2 +0.6**
comp=Z,1.6nm,0.4s,baz=263,slow=8.7,SNR=12
comp=Z,1.6nm,0.4s
ZALV Zalesovo Beam 33.79 42 *i* P **P 20 49 23.5 +0.9**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
LVZ Lovozero 34.38 353 P **P 20 49 28.6 +1.0**
comp=Z,53nm,2.5s
NB2 NORSAR Subarra 34.82 331 P **P 20 49 30.6 -0.9**
comp=Z,0.8nm,0.8s,baz=124,slow=8.6
NOA NORSAR Array B 34.82 331 P **P 20 49 31.4 -0.1**
comp=Z,0.5nm,0.6s,baz=131,slow=6.7,SNR=3.3
comp=Z,0.5nm,0.6s
TAM Tamanrasset 36.87 263 P **P 20 49 49.0 -0.6**
TAM IAmb IAmb 20 49 56.1
comp=Z,7.1nm,1.2s
TAM Tamanrasset 36.87 263 P **P 20 49 49.0 -0.6**
TAM pmax pmax
comp=Z,7.0nm,1.2s
ARCES ARCESS Array B 37.16 348 P **P 20 49 51.5 0.0**
comp=Z,0.9nm,0.4s,baz=161,slow=8.1,SNR=32
comp=Z,0.9nm,0.4s
EKA Eskdalemuir Ar 39.61 318 P **P 20 50 11.3 -0.8**
comp=Z,0.3nm,0.3s,baz=103,slow=8.6,SNR=3.6
comp=Z,0.3nm,0.3s
ESDC Sonseca Array 39.67 293 P **P 20 50 13.2 +0.2**
comp=Z,0.8nm,0.8s,baz=80,slow=8.3,SNR=2.3
comp=Z,0.8nm,0.8s
SHL Shillong 40.68 89 P **P 20 50 20.8 -0.8**
SHL IAmb IAmb 20 50 26.8
comp=Z,9.0nm,1.1s
SHL Shillong 40.68 89 P **P 20 50 20.8 -0.8**
SHL pmax pmax
comp=Z,9.0nm,1.1s
NRIK Noril'sk 42.12 21 P **P 20 50 30.2 -2.5**
NRIK IAmb IAmb 20 50 35.6
comp=Z,5.3nm,0.7s
NRIK Noril'sk 42.12 21 P **P 20 50 31.8 -0.9**
comp=Z,4.1nm,0.6s,baz=178,slow=2.5,SNR=6.4
comp=Z,4.1nm,0.6s
TORD Torodi Ar. Bea 44.98 253 P **P 20 50 56.1 -0.2**
comp=Z,1.3nm,0.6s,baz=50,slow=5.6,SNR=15
comp=Z,1.3nm,0.6s
SPITS Spitsbergen Ar 45.90 352 P **P 20 51 03.4 +0.5**
comp=Z,1.9nm,0.3s,baz=147,slow=11,SNR=27
comp=Z,1.9nm,0.3s
SONM Songino Array 46.65 54 P **P 20 51 10.3 +0.9**
comp=Z,0.4nm,0.5s,baz=284,slow=8.6,SNR=2.3
comp=Z,0.4nm,0.5s
LZH Lanzhou 46.98 70 *e*P **P 20 51 14.5 +2.3**
LZH pP sP 20 51 18.5 +1.6
LZH sP pP 20 51 22.0 +6.5
LZH pmax pmax
comp=Z,12nm,0.9s
CHTO Chiang Mai 49.52 94 P **P 20 51 31.8 0.0**
CHTO Chiang Mai 49.52 94 P **P 20 51 31.8 0.0**
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 49.70 94 P **P 20 51 30.9 -2.3**
CMAR Chiang Mai Arr 49.70 94 P **P 20 51 33.1 0.0**
comp=Z,4.5nm,0.8s,baz=294,slow=8.4,SNR=23
comp=Z,4.5nm,0.8s
XAN Xi'an 51.57 71 P **P 20 51 48.0 +0.9**
XAN pP sP 20 51 53.5 +1.7
XAN pmax pmax
comp=Z,17nm,0.9s
HHC Hu-ho-hao-te 51.59 62 *e*P **P 20 51 47.5 +0.2**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,90nm,5.0s
LYN LuoYang 54.17 69 P **P 20 52 07.5 +1.2**
LYN pmax pmax
comp=Z,11nm,0.8s
TIXI Tiksi 55.85 22 P **P 20 52 18.4 +0.5**
TIXI IAmb IAmb 20 52 46.9
comp=Z,8.1nm,1.4s
TIXI Tiksi 55.85 22 P **P 20 52 18.4 +0.5**
TIXI pmax pmax
comp=Z,8.0nm,1.5s
TIA Tai'an 57.16 66 P **P 20 52 27.8 0.0**
TIA pmax pmax
comp=Z,8.0nm,0.7s
KSRS Korea Array 64.68 61 P **P 20 53 18.9 +0.1**
comp=Z,2.7nm,0.6s,baz=288,slow=7.2,SNR=13
comp=Z,2.7nm,0.6s
BOSA Boshof 65.36 200 P **P 20 53 24.1 +0.7**
comp=Z,2.0nm,0.9s,baz=9.1,slow=6.9,SNR=4.6
comp=Z,2.0nm,0.9s
ILAR Eielson Array 80.90 5 P **P 20 54 55.2 +0.5**
comp=Z,0.6nm,0.9s,baz=325,slow=3.4,SNR=6.2
comp=Z,0.6nm,0.9s
WRA Warramunga Arr 99.85 107 P **Pdif 20 56 24.4 -1.3**
comp=Z,0.4nm,0.9s,baz=321,slow=3.8,SNR=1.4
comp=Z,0.4nm,0.9s

ISN ***25*** *20:44:20.4±0.8, 34°.18N×45°.43E, h7km±4km, ML3.3*
TEH ***25*** *20:44:23.1, 34°.21N×45°.66E, h6km±489km, ML3.0*
ISC 25 20:44:21.3±1.6, 34°.18N±0°.03×45°.52E±0°.04, h1km±13km, n11, σ0°59/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.33**	**101**	Pg	**Pg**	**20 44 27.6**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.33**	**9**	Pg	**Pg**	**20 44 28.6**	**+0.9**
ILBA	**Ilam Banvizeh**	**0.79**	**134**	Pg	**Pg**	**20 44 36.4**	**-0.1**
IGHG	**Ghaleghazi**	**0.88**	**80**	Pg	**Pg**	**20 44 38.3**	**+0.1**
IDHR	**Dehrash**	**0.88**	**54**	Pg	**Pg**	**20 44 37.7**	**-0.6**
IDHR				Sg	**Sg**	**20 44 50.1**	**+0.4**
IBDR	**Badra**	**1.12**	**162**	*e*Pg	**Pg**	**20 44 42.0**	**-0.7**
IBDR				*e*Sg	**Sb**	**20 44 59.0**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.26**	**85**	Pg	**Pg**	**20 44 45.3**	**-0.2**
KCHF				Sg	**Sb**	**20 45 02.4**	**-0.4**
BHD	**Baghdad**	**1.31**	**227**	*e*Pn	**Pn**	**20 44 46.0**	**-0.8**
BHD				*e*Sn	**Sn**	**20 45 05.0**	**+0.1**
ILIN	**Lien**	**1.40**	**58**	Pg	**Pn**	**20 44 47.7**	**-0.5**
ILIN				Sg	**Sn**	**20 45 07.2**	**-0.3**
IKRK	**Kirkuk**	**1.56**	**322**	*e*Pn	**Pn**	**20 44 50.0**	**-0.2**
IKRK				*e*Sn	**Sb**	**20 45 11.0**	**-0.3**
IKRK				AML	AML	20 45 16.3	
	comp=E,574nm,0.7s						
IKRK				AML	AML	20 45 22.3	
	comp=N,388nm,0.7s						
RAFI	**Al-Rafai**	**2.50**	**168**	*e*Pn	**Pn**	**20 45 04.0**	**+0.9**
RAFI				*e*Sn	**Sn**	**20 45 35.0**	**+0.8**

ISN ***25*** *20:55:31.3±0.7, 34°.39N×45°.53E, h6km±4km, ML3.2*
TEH ***25*** *20:55:32.3, 34°.37N×45°.67E, h7km±38km, ML3.3*
ISC 25 20:55:32.4±1.1, 34°.38N±0°.03×45°.61E±0°.04, h10km±10km, n17, σ1°09/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.12**	**352**	Pg	**Pg**	**20 55 35.6**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.37**	**137**	Pg	**Pg**	**20 55 39.2**	**-0.4**
IDHR	**Dehrash**	**0.71**	**64**	Pg	**Pg**	**20 55 45.4**	**-0.8**
IGHG	**Ghaleghazi**	**0.80**	**94**	Pg	**Pg**	**20 55 47.5**	**-0.2**
ILBA	**Ilam Banvizeh**	**0.91**	**147**	Pg	**Pg**	**20 55 49.1**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.19**	**95**	Pg	**Pg**	**20 55 54.4**	**-0.8**
ILIN	**Lien**	**1.24**	**64**	Pg	**Pg**	**20 55 55.6**	**-0.6**
IBDR	**Badra**	**1.30**	**168**	*e*Pg	**Pg**	**20 55 57.0**	**-0.3**
IBDR				*e*Sg	**Sn**	**20 56 15.0**	**+1.1**
IKRK	**Kirkuk**	**1.46**	**315**	*e*Pn	**Pb**	**20 55 59.0**	**-0.6**
IKRK				*e*Sn	**Sg**	**20 56 20.0**	**+0.8**
IKRK				AML	AML	20 56 23.6	
	comp=N,490nm,0.2s						
IKRK				AML	AML	20 56 24.1	
	comp=E,426nm,0.4s						
BHD	**Baghdad**	**1.51**	**223**	*e*Pn	**Pb**	**20 56 00.0**	**-0.5**
BHD				*e*Sn	**Sg**	**20 56 21.0**	**+0.1**
SNQR	**Sonqor, Kerman**	**1.73**	**74**	Pg	**Pb**	**20 56 04.4**	**0.0**
SDS1	**Sardasht. Az.**	**1.77**	**357**	Pg	**Pg**	**20 56 05.4**	**-0.9**
IDOB	**Doab**	**2.21**	**105**	Pn	**Pn**	**20 56 10.4**	**+1.1**
MAHB	**Mahabad**	**2.38**	**2**	Pn	**Pb**	**20 56 14.3**	**-1.1**
RAFI	**Al-Rafai**	**2.69**	**171**	*e*Pn	**Pn**	**20 56 17.0**	**+1.4**
RAFI				*e*Sn	**Sb**	**20 56 51.0**	**-2.5**
IKLH	**Kolahrood**	**5.08**	**100**	Pn	**Pn**	**20 56 50.5**	**+1.7**
KRSH	**Karshahi**	**5.42**	**93**	Pn	**Pn**	**20 56 54.5**	**+1.1**

IDC ***25*** *20:56:35.5±0.5, 13°.24N×81°.03W, h0km, mb4.8/33, mbtmp4.8/39, ML3.8/4, MS5.3/57, Error ellipse: s-maj=14.5km s-min=10.0km az=37.0*
RSNC ***25*** *20:56:35.2±0.0, 13°N±1°×8°1W±°, h1km±1km, M5.4, mb5.5, mB5.8, ML5.1, Mw5.7, Mw(mB)5.3, MwMwp5.6, Mwp5.7*
NEIC ***25*** *20:56:36.5±2.2, 13°.17N±0°.02×81°.05W±0°.06, h10km±1km, mb5.4/591, Ms_20 5.4/831, Mwb5.6/23, Mww5.7/30, Error ellipse: s-maj=10.3km s-min=2.7km az=249.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.31; $M_{\theta\theta}$-2.23; $M_{\phi\phi}$0.93; $M_{r\theta}$-0.32; $M_{\theta\phi}$3.12; $M_{\phi r}$0.17; Fault plane solution: $M_0$3.69000×10^{17} NP1: ϕ_s166.64000°, δ86.73000°, λ-177.84000°. NP2: ϕ_s76.51000°, δ87.84000°, λ-3.28000°. Principal axes: T 2.8408, Plg1.0000°, Azm122.0000°; N 1.3324, Plg86.0000°, Azm223.0000°; P -4.1731, Plg4.0000°, Azm32.0000°;*
NEIC ***25*** *20:56:37.1, 13°.07N×80°.94W, h14km, Moment Tensor Solution. Duration: 3s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.70; $M_{\theta\theta}$-1.92; $M_{\phi\phi}$2.63; $M_{r\theta}$0.43; $M_{\theta\phi}$2.96; $M_{\phi r}$0.27; Fault plane solution: $M_0$3.76000×10^{17} NP1: ϕ_s251.09000°, δ89.52000°, λ-7.74000°. NP2: ϕ_s341.15000°, δ82.26000°, λ-179.52000°. Principal axes: T 4.1221, Plg5.0000°, Azm296.0000°; N -0.7162, Plg82.0000°, Azm68.0000°; P -3.4060, Plg6.0000°, Azm206.0000°;*
NEIC ***25*** *20:56:37.1, 13°.17N×81°.05W, h10km*
NEIC ***25*** *20:56:37.1, 13°.17N×81°.05W, h14km*
CATAC ***25*** *20:56:38.6±0.5, 13°.38N×81°.34W, h26km±2km, MB6.2, mb5.6, ML5.9*
GCMT ***25*** *20:56:38.5±0.1, 13°.27N±0°.01×81°.09W±0°.01, h12km, MW5.6/166, Moment Tensor Solution. s125,c219; s166,c353; Duration: 1s6 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.29±.03; $M_{\theta\theta}$-2.05±.03; $M_{\phi\phi}$2.35±.04; $M_{r\theta}$0.22±.09; $M_{\theta\phi}$2.74±.03; $M_{\phi r}$0.14±.09; Best double couple: $M_0$3.52300×10^{17} NP1: ϕ_s71.00000°, δ90.00000°, λ4.00000°. NP2: ϕ_s341.00000°, δ86.00000°, λ180.00000°. Principal axes: T 3.6760, Plg3.0000°, Azm296.0000°; N -0.3010, Plg86.0000°, Azm78.0000°; P -3.3700, Plg3.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
JSN ***25*** *20:57:26.1±0.8, 16°.18N×79°.04W, h17km±513km*
ISC 25 20:56:35.9±0.9, 13°.20N±0°.03×81°.11W±0°.02, h9km±5km, n1290, σ2°06/812, mb5.3/329, MS5.4/474, 1C-12D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.30**	**305**	P	**Pg**	**20 56 41.3**	**-0.7**
PRVC				S	**Sg**	**20 56 46.5**	**+0.4**
PRVC	**Isla de Provid**	**0.30**	**305**	*i* P	**Pg**	**20 56 42.4**	**+0.4**
PRVC				*i* S	**Sg**	**20 56 47.0**	**+0.9**
PRVC				IAML		20 56 47.7	
	comp=Z,520μm,1.0s						
SAIC	**Isla e San And**	**0.89**	**222**	P	**Pb**	**20 56 53.4**	**-0.1**
SAIC				S	**Sn**	**20 57 07.2**	**-0.3**
RNCC	**Cayo Roncador,**	**1.05**	**69**	P	**Pg**	**20 56 55.4**	**-0.8**
RNCC				S	**Sg**	**20 57 09.8**	**-0.2**
SERC	**Banco Serrana,**	**1.30**	**34**	P	**Pn**	**20 56 58.2**	**-2.0**
SERC				S	**Sb**	**20 57 15.7**	**-1.5**
BLUN	**Bluefields**	**2.86**	**246**	*i* P	**Pn**	**20 57 21.3**	**-0.5**
BLUN				*i* S	**Sn**	**20 57 53.9**	**-2.5**
BLUN				IAML		20 58 21.0	
	comp=Z,13μm,1.0s						
ESPN	**Las Esperanzas**	**3.27**	**253**	Pn	**Pn**	**20 57 27.8**	**+0.4**
TRT2	**Tortugero**	**3.68**	**225**	*i* P	**Pn**	**20 57 33.1**	**+0.1**
TRT2				*i* S	**Sn**	**20 58 16.7**	**+0.2**
TRT2				IAML		20 58 47.0	
	comp=Z,9μm,1.0s						
COVE	**Coope Vega, Sa**	**4.06**	**233**	*i* P	**Pn**	**20 57 38.2**	**0.0**
COVE				*i* S	**Sn**	**20 58 25.0**	**-0.9**
COVE				IAML		20 58 56.8	
	comp=Z,18μm,1.0s						
ACON	**Acoyapa**	**4.16**	**253**	Pn	**Pn**	**20 57 39.7**	**+0.1**
ACON	**Acoyapa**	**4.16**	**253**	P	**Pn**	**20 57 39.4**	**-0.2**
ACON	**Acoyapa**	**4.16**	**253**	*i* P	**Pn**	**20 57 37.4**	**-2.2**
ACON				*i* S	**Sn**	**20 58 25.3**	**-3.0**
ACON				IAML		20 59 10.0	
	comp=Z,15μm,1.0s						
RAFA	**San Farael, Vo**	**4.17**	**220**	*i* P	**Pn**	**20 57 41.0**	**+0.9**
RAFA				IAML		20 59 33.6	
	comp=Z,10μm,1.0s						
BCIP	**Isla Barro Col**	**4.20**	**163**		**Pn**	**20 57 37.7**	**-2.5**
BCIP	**Isla Barro Col**	**4.20**	**163**	P	**Pn**	**20 57 37.4**	**-2.7**
BCIP				S	**Sn**	**20 58 23.6**	**-5.7**
HDC	**Heredia**	**4.34**	**223**	Pn	**Pn**	**20 57 43.2**	**+1.1**
HDC	**Heredia**	**4.34**	**223**	*e*P	**Pn**	**20 57 41.2**	**-0.9**
SOCE	**Pocosol**	**4.43**	**231**		**Pn**	**20 57 44.0**	**+0.6**
SOCE	**Pocosol**	**4.43**	**231**	*i* P	**Pn**	**20 57 42.5**	**-0.9**
SOCE				IAML		20 58 08.6	
	comp=Z,6μm,1.0s						
BRU2	**Volcan**	**4.65**	**200**		**Pn**	**20 57 46.1**	**-0.4**
BRU2	**Volcan**	**4.65**	**200**	*i* P	**Pn**	**20 57 48.0**	**+1.5**
BRU2				*i* S	**Sn**	**20 58 42.8**	**+2.1**
BRU2				IAML		20 58 46.5	
	comp=Z,6μm,1.0s						
CONN	**Concepcion**	**4.71**	**250**	*i* P	**Pn**	**20 57 46.3**	**-0.8**
CONN				*i* S	**Sn**	**20 58 38.1**	**-3.8**
CONN				IAML		20 59 11.7	
	comp=Z,88μm,1.0s						
JTS	**Las Juntas de**	**4.75**	**233**	Pn	**Pn**	**20 57 49.0**	**+1.3**
JTS	**Las Juntas de**	**4.75**	**233**	Pn	**Pn**	**20 57 48.7**	**+0.9**
	comp=Z,185nm,0.3s,baz=46,slow=12,SNR=78						
JTS				Sn	**Sn**	**20 58 45.4**	**+2.4**
	comp=Z,92nm,0.3s,baz=225,slow=20,SNR=6.7						
JTS				LR	LR	20 59 48.1	
	comp=Z,38μm,18.8s,baz=99,slow=40						
JTS	**Las Juntas de**	**4.75**	**233**	P	**Pn**	**20 57 48.6**	**+0.9**
OCHAL	**Ojochal**	**4.78**	**212**	*i* P	**Pn**	**20 57 50.1**	**+2.0**
OCHAL				IAML		20 58 03.5	
	comp=Z,5μm,1.0s						
OCHAL				*i* S	**Sn**	**20 58 44.9**	**+1.2**
RCPN	**Sur Rio San Ju**	**4.87**	**274**	*i* P	**Pn**	**20 57 49.7**	**+0.3**
RCPN				*i* S	**Sn**	**20 58 44.0**	**-2.0**
RCPN				IAML		20 58 46.4	
	comp=Z,18nm,1.0s						
RCPN				IVmB_BB		20 58 46.5	
	comp=Z,280nm,1.0s						
RCPN	**Sur Rio San Ju**	**4.87**	**274**	*i* P	**Pn**	**20 57 47.6**	**-1.8**
RCPN				IAML		20 58 46.4	
	comp=Z,18nm,1.0s						
SBEN	**San Benito**	**4.91**	**260**	*i* P	**Pb**	**20 57 57.5**	**-4.6**
SBEN				*i* S	**Sb**	**20 59 01.9**	**+0.5**
SBEN				IAML		21 00 08.6	
	comp=Z,27μm,1.0s						

CDITO Canoas 4.92 201 *i* P **Pn** **20 57 51.6 +1.6**
CDITO IAmb IAmb 20 58 20.6
comp=Z,3μm,1.0s
CDITO IVmB_BB 20 58 31.1
comp=Z,67μm,1.0s
CDITO *i* S **Sn** **20 58 50.1 +3.1**
CDITO IAML 20 59 01.6
comp=Z,10μm,1.0s
RCVN Varillal2 4.96 275 *i* P **Pn** **20 57 51.3 +0.5**
RCVN *i* S **Sn** **20 58 46.4 -2.1**
RCVN IVmB_BB 20 58 48.8
comp=Z,1300μm,1.0s
RCVN IAML 20 58 49.0
comp=Z,160μm,1.0s
RCVN Varillal2 4.96 275 *i* P **Pn** **20 57 48.7 -2.1**
RCVN *i* S **Sn** **20 58 43.0 -5.5**
RCVN IAML 20 58 49.0
comp=Z,160μm,1.0s
RCFN Al S de San Ju 4.98 274 *i* P **Pn** **20 57 50.8 -0.2**
RCFN *i* S **Sn** **20 58 48.0 -0.9**
RCFN IVmB_BB 20 58 50.3
comp=Z,290μm,1.0s
RCFN IAML 20 59 22.3
comp=Z,38μm,1.0s
MASN Masaya 5.07 257 *i* P **Pb** **20 58 03.0 -1.9**
MASN IVmB_BB 20 58 34.6
comp=Z,8μm,1.0s
MASN *i* S **Sb** **20 59 09.7 +3.7**
MASN IAML 20 59 37.5
comp=Z,1μm,1.0s
MAS3 Al N del Volca 5.08 257 *i* P Pb 20 57 59.2 -5.9
MAS3 IVmB_BB 20 58 16.0
comp=Z,38μm,1.0s
MAS3 *i* S **Sb** **20 59 10.2 +3.8**
MAS3 IAML 20 59 41.7
comp=Z,7μm,1.0s
R0529 La Mascota 5.12 258 *i* P Pb 20 57 59.6 -6.1
R0529 IVmB_BB 20 58 16.6
comp=Z,57μm,1.0s
R0529 IAML 21 00 16.3
comp=Z,6μm,1.0s
LIMN Finca el Limon 5.13 269 *i* P **Pn** **20 57 50.6 -2.4**
LIMN IAML 20 59 38.9
comp=Z,11μm,1.0s
MGAN Managua 5.13 259 **Pn** **20 57 54.9 +2.0**
MGAN Managua 5.13 259 *i* P Pb 20 57 59.8 -6.0
MGAN IVmB_BB 20 58 16.3
comp=Z,81μm,1.0s
MGAN *i* S **Sb** **20 59 11.1 +3.6**
MGAN IAML 20 59 40.3
comp=Z,11μm,1.0s
R4DEC Barrio San Lui 5.13 259 *i* P Pn 20 57 58.8 +5.9
R4DEC IVmB_BB 20 58 35.4
comp=Z,82μm,1.0s
R4DEC *i* S **Sb** **20 59 10.4 +2.9**
R4DEC IAML 20 59 40.3
comp=Z,11μm,1.0s
ENAN Enatrel Managu 5.15 258 *i* P **Pn** **20 57 57.1 +3.9**
ENAN IAML 21 00 11.0
comp=Z,17μm,1.0s
TISN Laguna Tiscapa 5.15 259 *i* P Pn 20 57 59.1 +5.9
TISN IVmB_BB 20 58 20.7
comp=Z,3μm,1.0s
TISN IAML 20 59 39.0
comp=Z,610nm,1.0s
UNAN Cigeo UNAN 5.16 258 *i* P **Pb** **20 58 02.7 -3.6**
UNAN IVmB_BB 20 58 27.7
comp=Z,360μm,1.0s
UNAN *i* S **Sb** **20 59 12.3 +3.9**
UNAN IAML 21 00 13.1
comp=Z,69μm,1.0s
APQ2 Apoyeque 5.19 259 *i* P Pb 20 58 00.4 -6.5
APQ2 IVmB_BB 20 58 21.3
comp=Z,31μm,1.0s
APQ2 *i* S **Sb** **20 59 09.3 -0.1**
APQ2 IAML 20 59 38.2
comp=Z,9μm,1.0s
APYN Apoyeque 5.21 260 *i* P Pn 20 58 00.2 +6.2
APYN IVmB_BB 20 58 21.5
comp=Z,330nm,1.0s
APYN IAML 20 59 35.4
comp=Z,52nm,1.0s
SAPS Ciudad Sandino 5.27 259 *i* P Pb 20 58 02.0 -6.3
SAPS IVmB_BB 20 58 22.4
comp=Z,40μm,1.0s
SAPS *i* S **Sb** **20 59 11.6 -0.1**
SAPS IAML 20 59 42.2
comp=Z,11μm,1.0s
MOMN Momotombo 5.36 262 *i* P **Pn** **20 57 56.7 +0.5**
MOMN IVmB_BB 20 58 20.8
comp=Z,1μm,1.0s
MOMN *i* S **Sb** **20 59 09.2 -5.1**
MOMN IAML 20 59 38.9
comp=Z,300nm,1.0s
GMAL Guarumal, Vera 5.41 181 P **Pn** **20 57 55.8 -1.0**
comp=Z,677nm,0.9s,comp=Z,15μm
GMAL S **Sn** **20 58 56.4 -2.7**
comp=Z,677nm,0.9s,comp=Z,15μm
AZU Azuero 5.44 171 P **Pn** **20 57 56.4 -0.8**
comp=Z,638nm,0.9s,comp=Z,8μmcomp=Z,51μm
AZU S **Sn** **20 58 56.6 -3.3**
comp=Z,638nm,0.9s,comp=Z,8μmcomp=Z,51μm
MACN El Madrono 5.48 263 *i* P **Pn** **20 57 58.1 +0.3**
MACN IVmB_BB 20 58 28.4
comp=Z,7μm,1.0s
MACN IAML 20 58 28.5
comp=Z,820nm,1.0s
MACN *i* S **Sn** **20 59 04.9 +3.9**
ILCN San Idelfonso 5.49 264 *i* P **Pn** **20 57 57.9 0.0**
ILCN IVmB_BB 20 58 46.5
comp=Z,9μm,1.0s
ILCN *i* S **Sb** **20 59 10.8 -7.2**
ILCN IAML 21 00 08.1
comp=Z,1μm,1.0s
CNGA Al SSO del Vol 5.50 263 *i* P **Pn** **20 57 59.4 +1.3**
CNGA IVmB_BB 20 58 27.6
comp=Z,9μm,1.0s
CNGA *i* S **Sn** **20 59 05.5 +3.9**
CNGA IAML 20 59 56.7
comp=Z,1μm,1.0s
PLRN Geotermica Pol 5.55 264 *i* P **Pn** **20 57 59.2 +0.4**
PLRN IVmB_BB 20 58 22.7
comp=Z,11μm,1.0s
PLRN *i* S **Sb** **20 59 13.2 -6.7**
PLRN IAML 20 59 45.1
comp=Z,1μm,1.0s
YUSH Yuscaran 5.63 278 *i* P **Pn** **20 57 58.0 -1.9**
YUSH *i* S **Sn** **20 58 58.6 -6.2**
PKGN Cerro Pekin 5.75 265 *i* P **Pn** **20 58 02.3 +0.8**
PKGN IVmB_BB 20 58 36.3
comp=Z,50μm,1.0s
PKGN *i* S **Sn** **20 59 14.7 +7.1**
PKGN IAML 20 59 53.3
comp=Z,9μm,1.0s
CRIN San Cristobal 5.82 266 **Pn** **20 58 03.0 +0.5**
CRIN San Cristobal 5.82 266 P **Pn** **20 58 02.4 -0.1**
comp=Z,4μm,1.1s,comp=Z,82μmcomp=Z,98μm
CRIN San Cristobal 5.82 266 *i* P **Pn** **20 58 03.4 +0.9**
CRIN IVmB_BB 20 58 36.3
comp=Z,83μm,1.0s
CRIN *i* S **Sb** **20 59 21.1 -6.4**
CRIN IAML 21 00 33.1
comp=Z,16μm,1.0s
CACAO El Cacao, Vera 5.83 178 P **Pn** **20 58 02.6 +0.1**
comp=Z,1μm,0.9s,comp=Z,17μmcomp=Z,35μm
CACAO S **Sn** **20 59 09.1 -0.4**
comp=Z,1μm,0.9s,comp=Z,17μmcomp=Z,35μm
CAPC Capurgana 5.85 141 P **Pn** **20 58 01.6 -1.2**
comp=Z,190nm,0.9s,comp=Z,5μmcomp=Z,66μm
CAPC S **Sn** **20 59 06.7 -3.3**
comp=Z,190nm,0.9s,comp=Z,5μmcomp=Z,66μm
TGUH Tegucigalpa,Un 6.05 279 Pn **Pn** **20 58 06.5 +0.6**
TGUH Tegucigalpa,Un 6.05 279 P **Pn** **20 58 05.6 -0.2**
comp=Z,3μm,1.1s,comp=Z,36μmcomp=Z,42μm
TGUH Tegucigalpa,Un 6.05 279 *i* P **Pn** **20 58 06.3 +0.5**
TGUH IVmB_BB 20 58 58.3
comp=Z,37μm,1.0s
TGUH *i* S **Sn** **20 59 11.2 -4.2**
TGUH IAML 21 00 02.2
comp=Z,22μm,1.0s
MTDJ Mount Denham 6.07 34 Pn **Pn** **20 58 05.3 -0.6**
MTDJ Mount Denham 6.07 34 *i* P **Pn** **20 58 05.1 -0.8**
MTDJ Mount Denham 6.07 34 P **Pn** **20 58 04.4 -1.5**
comp=Z,748nm,0.9s,comp=Z,17μmcomp=Z,45μm
POTN Potosi Cosigui 6.24 269 *i* P **Pn** **20 58 10.1 +1.9**
POTN IVmB_BB 20 58 50.6
comp=Z,28μm,1.0s
POTN *i* S **Sn** **20 59 28.1 +8.4**
POTN IAML 21 00 14.2
comp=Z,4μm,1.0s
CSGN Cosiguina Volc 6.29 269 *i* P **Pn** **20 58 09.2 +0.2**
CSGN IVmB_BB 20 59 02.6
comp=Z,3μm,1.0s
CSGN *i* S **Sn** **20 59 28.7 +7.6**
CSGN IAML 21 00 17.0
comp=Z,670nm,1.0s
LCBC Los crdobas, 6.34 132 P **Pn** **20 58 09.7 0.0**
comp=Z,822nm,1.1s,comp=Z,17μmcomp=Z,66μm
LCBC S **Sn** **20 59 22.5 +0.2**
comp=Z,822nm,1.1s,comp=Z,17μmcomp=Z,66μm
HOJ Hope 6.36 41 ‖ *i* P **Pn** **20 58 10.2 +0.4**
STH Stony Hill 6.37 40 *i* P **Pn** **20 58 09.5 -0.6**
COMHN El Horno 6.39 282 *i* P **Pn** **20 58 08.1 -2.3**
GWJ Greenwich 6.42 40 ‖ *i* P **Pn** **20 58 11.3 +0.4**
CNCH Conchagua 6.55 271 *i* P **Pn** **20 58 13.1 +0.5**
CNCH IVmB_BB 20 58 45.1
comp=Z,51μm,1.0s
CNCH *i* S **Sn** **20 59 27.4 -0.2**
CNCH IAML 21 00 37.5
comp=Z,8μm,1.0s
LCND La Caada 6.61 272 *i* P **Pn** **20 58 12.1 -1.2**
LCND IVmB_BB 20 58 52.0
comp=Z,9μm,1.0s
LCND *i* S **Sn** **20 59 26.4 -2.4**
LCND IAML 21 00 20.9
comp=Z,2μm,1.0s
SJCC San Jacinto, C 6.67 119 P **Pn** **20 58 12.0 -2.2**
comp=Z,469nm,0.7s,comp=Z,7μmcomp=Z,52μm
SJCC S **Sn** **20 59 27.9 -2.5**
comp=Z,469nm,0.7s,comp=Z,7μmcomp=Z,52μm
PTAC Punta Ardita, 6.83 151 P **Pn** **20 58 14.3 -2.1**
PTAC S **Sn** **20 59 29.5 -4.9**
APAC Apartado, Choc 6.89 139 P **Pn** **20 58 15.7 -1.5**
comp=Z,333nm,1.1s,comp=Z,7μmcomp=Z,36μm
APAC S **Sn** **20 59 37.6 +1.7**
comp=Z,333nm,1.1s,comp=Z,7μmcomp=Z,36μm
RANC El Ranchito 7.00 273 *i* P **Pn** **20 58 19.2 +0.5**
RANC IVmB_BB 20 59 00.2
comp=Z,6μm,1.0s
RANC *i* S **Sn** **20 59 36.1 -2.4**
RANC IAML 21 00 42.5
comp=Z,2μm,1.0s
PACA Pacayal 7.03 273 *i* P **Pn** **20 58 19.5 +0.3**
PACA IVmB_BB 20 59 02.6
comp=Z,43μm,1.0s
PACA *i* S **Sn** **20 59 35.6 -3.8**
PACA IAML 21 00 41.0
comp=Z,26μm,1.0s
PQSS Presa 15 de Se 7.26 274 *i* P **Pn** **20 58 22.6 +0.3**
PQSS IVmB_BB 20 58 53.8
comp=Z,4μm,1.0s
PQSS *i* S **Sn** **20 59 45.3 +0.3**
PQSS IAML 21 00 49.0
comp=Z,720nm,1.0s
SCLA Alcaldia de Sa 7.43 275 *i* P **Pn** **20 58 23.1 -1.6**
SCLA IVmB_BB 20 59 06.6
comp=Z,7μm,1.0s
SCLA *i* S **Sn** **20 59 47.4 -1.8**
SCLA IAML 21 00 44.5
comp=Z,2μm,1.0s
ARGC Ariguani, Magd 7.50 116 P **Pn** **20 58 24.7 -0.8**
comp=Z,396nm,0.8s,comp=Z,6μmcomp=Z,44μm
IZABA Izabal, Puerto 7.67 290 *i* P **Pn** **20 58 24.1 -3.7**
IZABA IAmb IAmb 20 58 52.3
comp=Z,3.3nm,1.0s
IZABA IVmB_BB 20 59 07.4
comp=Z,450nm,1.0s
IZABA *i* S **Sn** **20 59 48.3 -6.6**
IZABA IAML 21 00 51.4
comp=Z,22nm,1.0s
UREC San Jos de Ur 7.70 134 P **Pn** **20 58 27.5 -0.9**
comp=Z,330nm,0.8s,comp=Z,4μmcomp=Z,33μm
UREC S **Sn** **20 59 51.8 -4.0**
comp=Z,330nm,0.8s,comp=Z,4μmcomp=Z,33μm
DBBC Dabeiba 7.81 141 P **Pn** **20 58 32.0 +2.1**
DBBC S **Sn** **20 59 57.1 -1.4**
MTO3 Montecristo 8.11 279 **Pn** **20 58 33.7 -0.4**
ESQI Esquipulas 8.11 281 **Pn** **20 58 34.4 +0.3**
ESQI Esquipulas 8.11 281 *i* P **Pn** **20 58 31.3 -2.7**
ESQI IAmb IAmb 20 58 55.8
comp=Z,510nm,1.2s
ESQI IVmB_BB 20 59 20.0
comp=Z,25μm,1.0s
ESQI *i* S **Sn** **21 00 00.7 -5.3**
ESQI IAML 21 00 50.3
comp=Z,2μm,1.0s
CRJC Cerrejon, Guaj 8.33 104 P **Pn** **20 58 35.0 -2.0**
comp=Z,185nm,0.8s,comp=Z,18μm
CRJC S **Sn** **21 00 03.8 -7.5**
comp=Z,185nm,0.8s,comp=Z,18μm
ZARC Zaragoza, Cauc 8.36 132 P **Pn** **20 58 35.9 -1.5**
comp=Z,324nm,1.5s,comp=Z,4μmcomp=Z,24μm
ZARC S **Sn** **21 00 07.6 -4.5**
comp=Z,324nm,1.5s,comp=Z,4μmcomp=Z,24μm
JUAM Asuncion Mita 8.43 279 *i* P **Pn** **20 58 35.4 -3.0**
JUAM IAmb IAmb 20 58 59.4
comp=Z,180nm,0.7s
JUAM *i* S **Sn** **21 00 09.0 -4.8**
NUBE Las Nubes 8.46 276 *i* P **Pn** **20 58 37.1 -1.8**
NUBE IVmB_BB 20 58 51.8
comp=Z,8μm,1.0s
NUBE *i* S **Sn** **21 00 18.9 +4.2**
GTBY Guantanamo Bay 8.82 40 Pn **Pn** **20 58 42.7 -0.9**
GTBY Guantanamo Bay 8.82 40 ‖ *i* P **Pn** **20 58 43.0 -0.6**
GTBY Guantanamo Bay 8.82 40 P **Pn** **20 58 42.9 -0.7**
comp=Z,284nm,0.8s,comp=Z,4μmcomp=Z,17μm
CBOC Ciudad Bolivar 8.85 145 P **Pn** **20 58 45.2 +0.9**
comp=Z,187nm,1.1s,comp=Z,2μmcomp=Z,18μm
HELC Santa Helena 8.87 141 P **Pn** **20 58 46.4 +1.7**
comp=Z,64nm,0.8s,comp=Z,2μmcomp=Z,17μm
HELC S **Sn** **21 00 23.1 -2.0**
comp=Z,64nm,0.8s,comp=Z,2μmcomp=Z,17μm
URIC Uribia, Colomb 9.03 99 P **Pn** **20 58 45.2 -1.3**
comp=Z,99nm,1.0s,comp=Z,2μmcomp=Z,17μm
OCAC Ocana 9.10 122 P **Pn** **20 58 47.9 +0.2**
comp=Z,398nm,0.7s,comp=Z,4μmcomp=Z,26μm
PETF Flores 9.23 295 **Pn** **20 58 50.1 +0.7**
PETF Flores 9.23 295 *i* P **Pn** **20 58 46.1 -3.2**
PETF IAmb IAmb 20 58 59.0
comp=Z,430nm,0.9s
PETF IVmB_BB 20 59 05.8
comp=Z,6μm,1.0s
PETF *i* S **Sn** **21 00 26.3 -7.1**
GCG4 OSOP 9.26 280 *i* P **Pn** **20 58 46.3 -3.5**
GCG4 IAmb IAmb 20 59 04.9
comp=Z,210nm,0.7s
GCG4 *i* S **Sn** **21 00 28.1 -6.1**
PTBC PUERTO BERRIO, 9.31 135 P **Pn** **20 58 48.8 -1.6**
comp=Z,88nm,0.8s,comp=Z,2μmcomp=Z,20μm
GUMI Mixco 9.34 280 *i* P **Pn** **20 58 49.0 -2.0**
GUMI IVmB_BB 20 59 14.5
comp=Z,62μm,1.0s
GUMI IAmb IAmb 20 59 15.1
comp=Z,310nm,0.6s
GUMI *i* S **Sn** **21 00 30.7 -5.6**
ESSG Sabana Grande 9.52 278 *i* P **Pn** **20 58 51.1 -2.2**
ESSG IAmb IAmb 20 59 01.3
comp=Z,370nm,0.9s
ESSG *i* S **Sn** **21 00 35.9 -4.7**
BRJC Barrancabermej 9.53 130 P **Pn** **20 58 52.5 -0.9**
comp=Z,175nm,0.8s,comp=Z,3μmcomp=Z,22μm
SOR Soroa 9.71 350 Pn **Pn** **20 58 57.9 +2.0**
GUY2C Guyana, Caldas 9.74 144 P **Pn** **20 58 58.2 +1.5**
comp=Z,95nm,0.8s,comp=Z,1μmcomp=Z,13μm
GUY2C S **Sn** **21 00 45.5 -1.1**
comp=Z,95nm,0.8s,comp=Z,1μmcomp=Z,13μm
NORC Norcasia 9.77 140 P **Pn** **20 58 59.1 +2.4**
comp=Z,91nm,1.5s,comp=Z,1μmcomp=Z,14μm
NORC S **Sn** **21 00 44.2 -2.5**
comp=Z,91nm,1.5s,comp=Z,1μmcomp=Z,14μm
TEIG Tepich 9.79 316 Pn **Pn** **20 58 56.9 -0.1**
baz=144,slow=24,SNR=53
TEIG Sn **Sn** **21 00 43.5 -3.7**
baz=42,slow=24
TEIG Tepich 9.79 316 P **Pn** **20 58 56.5 -0.5**
comp=Z,1μm,0.6s,comp=Z,20μmcomp=Z,39μm
CAMR Camarioca 9.81 359 Pn **Pn** **20 58 59.3 +2.1**
QUIS Sacapulas 9.90 283 *i* P **Pn** **20 58 56.4 -2.2**
QUIS IAmb IAmb 20 59 15.6
comp=Z,260nm,1.0s
QUIS IVmB_BB 20 59 18.8
comp=Z,6μm,1.0s
QUIS *i* S **Sn** **21 00 43.1 -6.9**
PAPH Port-au-Prince 9.99 57 **Pn** **20 59 00.5 +0.8**
PAMC Pamplona, Colo 10.12 124 P **Pn** **20 59 01.3 -0.6**
PAMC S **Sn** **21 00 52.4 -3.4**
SOKI Kika Raxquin 10.12 280 *i* P **Pn** **20 58 57.8 -4.1**
SOKI IVmB_BB 20 59 21.7
comp=Z,9μm,1.0s
SOKI IAmb IAmb 20 59 22.1
comp=Z,530nm,1.6s
SOKI *i* S **Sn** **21 00 49.1 -6.8**
SPBC San Pablo de B 10.22 137 P **Pn** **20 59 03.8 +0.9**
comp=Z,49nm,0.9s,comp=Z,2μmcomp=Z,16μm
SPBC S **Sn** **21 00 57.6 -0.1**
comp=Z,49nm,0.9s,comp=Z,2μmcomp=Z,16μm
QUEO Labor Ovalle 10.24 281 *i* P **Pn** **20 59 00.1 -3.3**
QUEO IAmb IAmb 20 59 23.5
comp=Z,650nm,1.0s
QUEO IVmB_BB 20 59 25.7
comp=Z,12μm,1.0s
QUEO *i* S **Sn** **21 00 52.5 -6.0**
HUEH Huehuetenango 10.30 283 Pn **Pn** **20 59 05.1 +1.0**
HUEH Huehuetenango 10.30 283 *i* P **Pn** **20 59 01.5 -2.6**
HUEH IAmb IAmb 20 59 26.1
comp=Z,230nm,1.0s
HUEH IVmB_BB 20 59 48.7
comp=Z,16μm,1.0s
HUEH *i* S **Sn** **21 00 52.8 -7.1**
YOTC Yotoco, Valle 10.30 152 P **Pn** **20 59 08.4 +4.4**
comp=Z,78nm,0.8s,comp=Z,707nmcomp=Z,5μm
ANIL Santa Ana 10.32 146 P **Pn** **20 59 05.8 +1.2**
RTAL Retalhuleu 10.37 279 **Pn** **20 59 06.4 +1.5**
RTAL Retalhuleu 10.37 279 *i* P **Pn** **20 59 01.6 -3.3**
RTAL IAmb IAmb 20 59 19.5
comp=Z,460nm,1.4s
RTAL IVmB_BB 20 59 21.5
comp=Z,13μm,1.0s
RTAL *i* S **Sn** **21 00 56.1 -5.2**
ROSC El Rosal 10.67 141 Pn **Pn** **20 59 09.3 -0.1**
ROSC El Rosal 10.67 141 Pn **Pn** **20 59 09.4 0.0**
comp=Z,6.3nm,0.3s,baz=124,slow=8.4,SNR=17
ROSC Sn **Sn** **21 01 05.9 -3.4**
comp=Z,3.3nm,0.3s,baz=20,slow=23,SNR=2.2
ROSC LR LR 21 03 39.7
comp=Z,29μm,20.4s,baz=340,slow=40
comp=Z,41nm,0.7s
ROSC El Rosal 10.67 141 P **Pn** **20 59 13.5 +4.1**
comp=Z,160nm,1.6s,comp=Z,3μmcomp=Z,17μm
RUSC La Rusia 10.74 132 Pn **Pn** **20 59 09.2 -1.2**
RUSC La Rusia 10.74 132 P **Pn** **20 59 11.3 +0.9**
comp=Z,154nm,1.1s,comp=Z,2μmcomp=Z,19μm
RUSI La Rusia 10.74 132 *i* P Pn 20 59 16.6 +6.2
SMCA Catarina 10.77 280 *i* S **Sn** **21 01 05.3 -5.9**
SDDR Presa de Saban 11.05 57 Pn **Pn** **20 59 15.3 +1.0**
SDDR Presa de Saban 11.05 57 P **Pn** **20 59 14.6 +0.4**
comp=Z,370nm,1.0s,comp=Z,4μmcomp=Z,4μm
SDDR Presa de Saban 11.05 57 *e*P **Pn** **20 59 15.2 +1.0**
CCIG Comitan 11.10 287 **Pn** **20 59 16.2 +1.1**
CCIG Comitan 11.10 287 *i* S Sn 21 01 00.7 -19
SDV Santo Domingo 11.14 112 Pn **Pn** **20 59 13.4 -2.2**
SDV Santo Domingo 11.14 112 Pn **Pn** **20 59 14.4 -1.2**
comp=Z,5.9nm,0.3s,baz=300,slow=6.4,SNR=30
SDV Sn **Sn** **21 01 15.3 -5.2**
comp=Z,35nm,0.3s,baz=200,slow=23,SNR=13
SDV LR LR 21 04 16.0
comp=Z,15μm,19.2s,baz=308,slow=42
comp=Z,87nm,0.7s
SDV Santo Domingo 11.14 112 *e*P **Pn** **20 59 13.6 -2.1**
CHIC Chingaza 11.20 139 P **Pn** **20 59 18.4 +1.7**
comp=Z,384nm,1.1s,comp=Z,3μmcomp=Z,18μm
PRAC Prado 11.25 146 P **Pn** **20 59 19.3 +2.2**
comp=Z,166nm,1.0s,comp=Z,2μmcomp=Z,10μm
POPC Popayan, Colom 11.46 157 P **Pn** **20 59 24.5 +4.4**
comp=Z,104nm,1.7s,comp=Z,2μm
SDD Santo Domingo 11.97 63 Pn **Pn** **20 59 26.1 -0.7**
GCUF Volcan Galeras 12.47 162 P **Pn** **20 59 35.4 +1.3**
061Z Ochoppi 12.60 1 Pn **Pn** **20 59 34.1 -1.3**
GRTK Grand Turk 12.60 48 Pn **Pn** **20 59 31.5 -3.9**
OTAV Otavalo 13.15 168 **Pn** **20 59 43.4 +0.1**
OTAV Otavalo 13.15 168 *e*P **Pn** **20 59 41.9 -1.4**
BAUV El Baul 13.50 107 **Pn** **20 59 44.6 -3.2**
BAUV El Baul 13.50 107 *e*P **Pn** **20 59 43.5 -4.3**
CMIG Matias Romero 13.85 288 Pn **Pn** **20 59 54.2 +1.6**
comp=Z,12nm,0.8s,baz=132,slow=11,SNR=8.7
CMIG LR LR 21 05 40.3
comp=Z,34μm,18.1s,baz=132,slow=39
AGPR Aguadilla, PR 14.45 67 P **Pn** **21 00 03.7 +3.0**
AOPR Arecibo Observ 14.73 68 *e*P **Pn** **21 00 03.2 -1.4**
DWPF Disney Wildern 14.84 359 **Pn** **21 00 02.7 -3.3**
SJG San Juan 15.21 69 Pn **Pn** **21 00 07.9 -3.0**
SJG San Juan 15.21 69 Pn **Pn** **21 00 09.6 -1.4**
comp=Z,1.4nm,0.3s,baz=256,slow=13,SNR=6.5
SJG Sn **Sn** **21 02 56.8 -2.7**
comp=Z,1.0nm,0.3s,baz=358,slow=22,SNR=0.9
SJG LR LR 21 05 34.6
comp=Z,8μm,19.4s,baz=242,slow=36
comp=Z,5.9nm,0.4s
SJG San Juan 15.21 69 *e*P **Pn** **21 00 07.7 -3.2**
HUMP Col San Antoni 15.49 70 IAmb IAmb 21 00 21.3
comp=Z,321nm,1.4s
656A Willston 16.14 356 **Pn** **21 00 23.3 +0.2**
PCRV Puerto La Cruz 16.41 99 Pn **Pn** **21 00 25.3 -1.3**
comp=Z,0.6nm,0.3s,baz=246,slow=7.1,SNR=4.0
PCRV Sn **Sn** **21 03 20.3 -8.7**
comp=Z,1.6nm,0.3s,baz=200,slow=5.5,SNR=7.4
PCRV LR LR 21 07 48.1
comp=Z,5μm,20.1s,slow=41
comp=Z,15nm,0.9s
PCRV Puerto La Cruz 16.41 99 *e*P Pn 21 00 19.3 -7.3
TLIG Tlapa 17.38 287 Pn **Pn** **21 00 36.3 -2.7**
SABA Saba 17.77 73 **Pn** **21 00 41.6 -2.1**
451A Vernon 17.85 347 Pn **Pn** **21 00 43.0 -1.6**
SEUS St. Eustatius 17.99 74 **P** **21 00 46.9 0.0**
SEUS IAmb IAmb 21 00 49.8
comp=Z,448nm,1.4s
SMRT St. Maarten 18.02 72 **Pn** **21 00 46.2 -0.6**
SKI Saint Kitts 18.19 75 *e* **Pn** **21 00 47.9 -0.9**
352A Blakely 18.53 350 P **P** **21 00 52.1 -0.7**
MBFL Flemmings, Mon 18.59 77 *e*P **Pn** **21 00 53.9 +0.1**
MBWH 18.61 77 *e*P **Pn** **21 00 56.5 +2.5**
GRFF Grenada Fort F 18.94 91 *e*P **P** **21 00 56.3 -1.1**
GDHS Morne Mazeau, 18.95 78 P **P** **21 00 54.4 -3.2**
GDHS IAmb IAmb 21 01 03.9
comp=Z,292nm,0.9s
GRW Mount Saint Ca 19.00 91 *e*P **P** **21 00 57.4 -0.8**
GRGR Grenville 19.01 91 *e*P **P** **21 00 54.1 -4.0**
GRHS Sauteurs 19.01 91 *e*P **Pn** **21 00 59.5 +0.6**
TBG Guadaloupe-3 19.02 80 *e*P **Pn** **21 00 59.8 +0.8**
TDBA Terre de Bas, 19.03 80 P **P** **21 00 57.0 -1.3**
GRSS Sisters 19.04 91 *e*P **Pn** **21 01 00.8 +1.6**
ANBD Bethesda, Anti 19.06 76 *e*P **P** **21 00 58.8 +0.2**
CBE Ff, Capester 19.08 79 P **P** **21 00 56.2 -2.8**
ANWB Willy Bob 19.14 74 *e*P **P** **21 00 58.6 -0.9**
GCMP Grenada, Carri 19.20 90 *e*P **P** **21 00 58.2 -2.1**
DSLB Salisbury 19.20 81 *e*P **Pn** **21 01 02.3 +1.1**
250A Grady 19.28 347 P **Pn** **21 01 02.0 0.0**
SVB Belmont 19.33 88 *e*P **P** **21 01 01.6 -0.1**
154A Montrose 19.41 355 IAmb IAmb 21 01 13.6
comp=Z,234nm,1.1s
TRN Trinidad (W) 19.44 95 *e*P **P** **21 01 02.5 -0.4**
BIM Bigot 19.50 84 *e*P **P** **21 01 03.5 0.0**
SLBI Saint Lucia, B 19.59 85 *e*P **P** **21 00 59.0 -5.5**
GDSD La Dsirade Is 19.62 78 IAmb IAmb 21 01 10.1
comp=Z,197nm,1.2s
SLAC Saint Lucia, A 19.66 86 *e*P **P** **21 01 01.2 -4.1**
ILAM Ilet Lapin Mar 19.70 83 *e*P **Pn** **21 01 07.2 +0.1**
CSU Charleston Sou 19.72 3 P **P** **21 01 04.0 -1.8**
CSU IAmb IAmb 21 01 13.4
comp=Z,392nm,1.5s
NHSC New Hope 19.83 2 P **P** **21 01 07.8 +0.8**
NHSC IAmb IAmb 21 01 18.4
comp=Z,448nm,1.9s
JRQG Juriquilla Cam 19.93 295 P **P** **21 01 09.2 +0.7**
TOSP Speyside 20.19 93 *e*P **P** **21 01 09.8 -1.3**
GOGA Godfrey 20.23 354 P **P** **21 01 11.6 +0.2**
GOGA Godfrey 20.23 354 IAMs_20 IAMs_20 21 08 19.1
comp=Z,11μm,18.0s
MOIG Morelia 20.30 291 P **P** **21 01 13.4 +0.9**
MOIG IAmb IAmb 21 01 24.9
comp=Z,369nm,1.6s
MOIG IAMs_20 IAMs_20 21 09 33.8
comp=Z,15μm,19.0s
ATAH Atahualpa 20.38 172 P Pn 21 01 16.1 +0.4
comp=Z,19nm,1.1s,baz=349,slow=15,SNR=15

ATAH S **S** **21 04 56.9 -5.5**
comp=Z,3.0nm,0.3s,baz=270,slow=21,SNR=1.8
ATAH LR LR 21 09 37.2
comp=Z,5µm,19.3s,baz=345,slow=38
comp=Z,19nm,1.1s
LRAL Lakeview Retre 20.46 346 P Pn 21 01 15.5 -0.5
TBTG Tabatinga, AM 20.54 147 *eP* **P** **21 01 14.2 -0.7**
Y58A Scranton 20.65 3 P **P** **21 01 16.7 +0.8**
Y58A IAMs_20 IAMs_20 21 08 49.9
comp=Z,13µm,20.0s
Y57A Sumter 20.73 2 IAmb IAmb 21 01 27.4
comp=Z,115nm,1.0s
Y57A IAMs_20 IAMs_20 21 09 46.1
comp=Z,12µm,21.0s
Y60A Bolivia 20.88 7 IAmb IAmb 21 01 29.8
comp=Z,251nm,1.0s
Y60A IAMs_20 IAMs_20 21 09 21.7
comp=Z,15µm,19.0s
Z47A Carrollton 20.90 343 IAmb IAmb 21 01 27.4
comp=Z,221nm,0.8s
HODGE Hodges 20.96 357 IAmb IAmb 21 01 28.5
comp=Z,169nm,1.4s
HODGE IAMs_20 IAMs_20 21 09 28.3
comp=Z,12µm,19.0s
BBGH Gun Hill 20.98 88 IAMs_20 IAMs_20 21 10 19.1
comp=Z,10µm,20.0s
BBGH Gun Hill 20.98 88 *eP* Pn 21 01 25.1 +2.9
JSC Jenkinsville 20.99 360 IAmb IAmb 21 01 28.8
comp=Z,296nm,1.6s
JSC IAMs_20 IAMs_20 21 09 28.9
comp=Z,13µm,18.0s
KVTX Kingsville 21.21 315 IAMs_20 IAMs_20 21 09 02.9
comp=Z,11µm,21.0s
X58A Rowland 21.32 4 IAmb IAmb 21 01 40.8
comp=Z,336nm,1.9s
X58A IAMs_20 IAMs_20 21 09 09.5
comp=Z,15µm,20.0s
BIRD Birdtown, Kers 21.36 1 IAmb IAmb 21 01 39.3
comp=Z,239nm,1.6s
BIRD IAMs_20 IAMs_20 21 10 18.6
comp=Z,12µm,19.0s
HKT Hockley 21.53 323 P **P** **21 01 23.8 -1.6**
PAULI Pauline 21.53 358 IAMs_20 IAMs_20 21 09 16.4
comp=Z,12µm,18.0s
143A Socs Landing, 21.58 336 IAmb IAmb 21 01 37.8
comp=Z,284nm,1.3s
BG3 Lake Jocassee 21.76 356 IAmb IAmb 21 01 40.1
comp=Z,110nm,1.0s
BG3 IAMs_20 IAMs_20 21 09 54.4
comp=Z,14µm,18.0s
X48A Hartselle 21.83 347 IAmb IAmb 21 01 38.3
comp=Z,120nm,1.0s
KMSC Kings Mountain 21.85 359 IAmb IAmb 21 01 41.6
comp=Z,167nm,1.3s
KMSC IAMs_20 IAMs_20 21 09 44.6
comp=Z,11µm,18.0s
W57A Gilead 21.88 2 IAmb IAmb 21 01 37.1
comp=Z,107nm,1.0s
W57A IAMs_20 IAMs_20 21 09 26.5
comp=Z,13µm,20.0s
W52A Murphy 21.95 354 IAMs_20 IAMs_20 21 09 21.4
comp=Z,10µm,19.0s
W59A Clinton 22.00 6 IAmb IAmb 21 01 38.5
comp=Z,272nm,1.7s
W59A IAMs_20 IAMs_20 21 09 43.6
comp=Z,15µm,19.0s
W50A Signal Mountai 22.23 351 IAmb IAmb 21 01 49.0
comp=Z,103nm,0.9s
CPCT Cooper Cave 22.37 353 IAmb IAmb 21 01 47.3
comp=Z,119nm,1.0s
CZSB Cruzeiro do Su 22.41 158 IAMs_20 IAMs_20 21 11 38.2
comp=Z,8µm,19.0s
CZSB Cruzeiro do Su 22.41 158 *eP* **P** **21 01 34.4 -0.6**
V53A Saluda 22.42 356 IAmb IAmb 21 01 46.5
comp=Z,215nm,1.5s
V53A IAMs_20 IAMs_20 21 10 32.1
comp=Z,16µm,18.0s
TKL Tuckaleechee C 22.49 354 IAmb IAmb 21 01 48.7
comp=Z,141nm,1.1s
TKL Tuckaleechee C 22.49 354 P **P** **21 01 37.4 +1.7**
comp=Z,48nm,1.0s,baz=167,slow=12,SNR=16
TKL LR LR 21 09 57.2
comp=Z,9µm,18.4s,baz=177,slow=36
comp=Z,48nm,1.0s
ZAIG Zacatecas 22.50 298 P **P** **21 01 35.5 -0.7**
ZAIG IAMs_20 IAMs_20 21 11 53.0
comp=Z,16µm,20.0s
V55A Taylorsville 22.55 360 IAMs_20 IAMs_20 21 10 25.4
comp=Z,12µm,18.0s
V58A Windy Hill, Pi 22.57 4 IAMs_20 IAMs_20 21 10 27.6
comp=Z,10µm,18.0s
PLAL Pickwick Lake 22.58 345 P **P** **21 01 36.8 +0.1**
PLAL IAmb IAmb 21 01 46.0
comp=Z,80nm,0.9s
833A Chaparral WMA, 22.73 314 P **P** **21 01 38.9 +0.6**
baz=128
V61A Roper 22.86 10 P **P** **21 01 38.9 -0.7**
V61A IAMs_20 IAMs_20 21 10 12.3
comp=Z,9µm,19.0s
BOAV Boa Vista 23.02 116 P **P** **21 01 41.4 -0.1**
BOAV IAmb IAmb 21 01 47.5
comp=Z,128nm,1.4s
BOAV IAMs_20 IAMs_20 21 10 58.4
comp=Z,11µm,21.0s
BOAV Boa Vista 23.02 116 *eP* **P** **21 01 41.7 +0.2**
V48A Smith Brothers 23.03 348 IAmb IAmb 21 02 00.2
comp=Z,218nm,1.3s
U56A King 23.06 1 IAMs_20 IAMs_20 21 10 00.7
comp=Z,11µm,20.0s
435B Jarrell 23.18 322 P **P** **21 01 43.7 +0.8**
435B IAmb IAmb 21 01 50.4
comp=Z,146nm,1.1s
435B Jarrell 23.18 322 P **P** **21 01 43.9 +0.9**
baz=136
U54A Nelsons Funny 23.23 359 IAmb IAmb 21 01 54.1
comp=Z,158nm,1.1s
U54A IAMs_20 IAMs_20 21 10 50.3
comp=Z,11µm,21.0s
CLTN Cedars of Leba 23.27 349 IAmb IAmb 21 02 05.9
comp=Z,126nm,1.2s
TZTN Tazewell 23.35 355 IAmb IAmb 21 01 55.1
comp=Z,240nm,1.5s
TZTN IAMs_20 IAMs_20 21 10 53.5
comp=Z,10µm,19.0s
WVT Waverly 23.62 346 P **P** **21 01 49.0 +1.7**
T57A Hurt 23.76 4 IAmb IAmb 21 02 05.2
comp=Z,145nm,1.8s
T57A IAMs_20 IAMs_20 21 11 15.2
comp=Z,9µm,20.0s
TREL Terrell 23.78 327 P **P** **21 01 49.4 +0.5**
HBAR Harrisburg 23.87 340 P **P** **21 01 52.7 +3.0**
T59A Double "B" Far 23.88 7 IAmb IAmb 21 02 07.6
comp=Z,230nm,1.7s
BLA Blacksburg 23.92 1 IAmb IAmb 21 02 15.1
comp=Z,171nm,1.1s
BLA IAMs_20 IAMs_20 21 10 51.5
comp=Z,10µm,20.0s
T50A Nancy 23.95 353 IAmb IAmb 21 02 00.4
comp=Z,96nm,0.9s
WHTX Lake Whitney, 23.97 324 P **P** **21 01 52.3 +1.5**
MIAR Mount Ida 24.07 334 P **P** **21 01 51.6 -0.1**
MIAR IAmb IAmb 21 02 10.8
comp=Z,179nm,1.4s
UTMT University of 24.07 345 P **P** **21 01 53.1 +1.5**
FW14 Alvarado 24.13 325 P **P** **21 01 53.4 +1.2**
DRIO Del Rio 24.25 315 P **P** **21 01 52.9 -0.5**
DRIO IAmb IAmb 21 02 05.9
comp=Z,110nm,1.2s
T47A Sharon Grove 24.29 348 IAmb IAmb 21 02 01.9
comp=Z,125nm,0.9s
T47A IAMs_20 IAMs_20 21 12 21.7
comp=Z,7µm,18.0s
JCT Junction City 24.36 318 P **P** **21 01 54.1 -0.4**
JCT IAmb IAmb 21 02 16.4
comp=Z,106nm,1.1s
S51A Beattyville 24.44 355 IAmb IAmb 21 02 04.0
comp=Z,233nm,1.6s
S51A IAMs_20 IAMs_20 21 11 16.5
comp=Z,9µm,20.0s
S54A Dingess, Beckl 24.50 360 IAmb IAmb 21 02 13.7
comp=Z,141nm,1.3s
S54A IAMs_20 IAMs_20 21 11 53.9
comp=Z,8µm,19.0s
LCAR Lake Charles 24.50 340 P **P** **21 01 56.9 +1.4**
LCAR IAmb IAmb 21 02 05.4
comp=Z,108nm,1.3s
S57A Dark Hollow, R 24.53 4 IAmb IAmb 21 02 13.8
comp=Z,151nm,1.6s
S57A IAMs_20 IAMs_20 21 11 41.7
comp=Z,8µm,19.0s
T45A Paducah 24.66 345 P **P** **21 01 58.1 +1.1**
FCAR Ozark Folk Cen 24.68 338 IAmb IAmb 21 02 06.5
comp=Z,70nm,0.9s
FW06 Azle 24.76 325 P **P** **21 01 58.6 +0.6**
S61A Accomac 24.86 10 IAMs_20 IAMs_20 21 12 32.1
comp=Z,10µm,19.0s
Z35A Perchaven, San 24.86 326 P **P** **21 02 00.7 +1.7**
Z35A IAmb IAmb 21 02 07.9
comp=Z,156nm,1.2s
R50A Paris 25.14 354 IAMs_20 IAMs_20 21 12 22.4
comp=Z,7µm,18.0s
USIN University of 25.35 348 IAMs_20 IAMs_20 21 13 02.7
comp=Z,7µm,19.0s
WCI Wyandotte Cave 25.35 350 P **P** **21 02 04.0 +0.7**
NNA Nana 25.38 170 P **P** **21 02 03.5 -0.2**
NNA IAmb IAmb 21 02 09.3
comp=Z,138nm,1.4s
NNA Nana 25.38 170 LR LR 21 11 29.1
comp=Z,5µm,20.7s,baz=344,slow=35
S44A Carbondale 25.45 345 IAmb IAmb 21 02 14.3
comp=Z,140nm,1.3s
SSFO Shawnee State 25.46 356 IAMs_20 IAMs_20 21 12 33.5
comp=Z,14µm,18.0s
SIUC Southern Illin 25.46 345 IAmb IAmb 21 02 15.2
comp=Z,158nm,1.4s
R61A Willards 25.55 11 IAMs_20 IAMs_20 21 10 18.4
comp=Z,8µm,22.0s
SAND Sanderson 25.61 314 IAmb IAmb 21 02 39.1
comp=Z,94nm,1.2s
Q52A Bidwell 25.68 358 IAMs_20 IAMs_20 21 12 33.2
comp=Z,13µm,20.0s
Q54A Coxs Mills 25.68 0 IAmb IAmb 21 02 22.1
comp=Z,150nm,1.4s
Q54A IAMs_20 IAMs_20 21 11 56.2
comp=Z,10µm,18.0s
ABTX Abilene, Hawle 25.71 322 P **P** **21 02 06.8 +0.1**
HHAR Hobbs 25.71 336 IAmb IAmb 21 02 27.2
comp=Z,100nm,1.3s
Q51A Peebles 25.80 356 IAMs_20 IAMs_20 21 12 20.4
comp=Z,11µm,19.0s
WTFS Witchita Falls 25.86 325 IAmb IAmb 21 02 24.8
comp=Z,96nm,1.2s
MGMO Mountain Grove 25.86 339 IAmb IAmb 21 02 17.9
comp=Z,61nm,0.9s
MACA Manacapuru-AM 25.99 127 IAMs_20 IAMs_20 21 14 08.9
comp=Z,6µm,20.0s
MACA Manacapuru-AM 25.99 127 *eP* **P** **21 02 11.2 +2.0**
FVM French Village 26.04 343 IAmb IAmb 21 02 22.4
comp=Z,108nm,1.1s
W35A Tecumseh 26.09 330 IAmb IAmb 21 02 17.9
comp=Z,124nm,1.5s
SGCY Sterling City 26.16 319 IAmb IAmb 21 02 28.7
comp=Z,52nm,0.9s
P53A Whipple 26.18 360 IAMs_20 IAMs_20 21 12 00.5
comp=Z,7µm,20.0s
TUL3 Leonard 26.19 332 IAmb IAmb 21 02 31.1
comp=Z,62nm,1.1s
P57A Homestead Farm 26.32 5 IAmb IAmb 21 02 33.3
comp=Z,182nm,1.5s
CCM Cathedral Cave 26.35 342 P **P** **21 02 12.4 +0.1**
CCM IAmb IAmb 21 02 20.0
comp=Z,108nm,0.8s
TXAR Lajitas Array 26.37 311 P **P** **21 02 13.6 +0.8**
TXAR Lajitas Array 26.37 311 P **P** **21 02 13.9 +1.2**
comp=Z,37nm,0.7s,baz=129,slow=7.9,SNR=175
TXAR PcP **PcP** **21 05 41.6 +3.0**
comp=Z,4.2nm,0.7s,baz=146,slow=3.6,SNR=4.8
TXAR LR LR 21 15 14.5
comp=Z,2µm,18.4s,baz=122,slow=42
comp=Z,37nm,0.7s
SDMD Soldier's Deli 26.38 7 IAMs_20 IAMs_20 21 12 33.4
comp=Z,8µm,19.0s
MCWV Mont Chateau 26.38 2 IAMs_20 IAMs_20 21 13 02.6
comp=Z,13µm,18.0s
P49A Miami Univ. Ec 26.42 354 IAMs_20 IAMs_20 21 13 02.0
comp=Z,7µm,19.0s
P49A Miami Univ. Ec 26.42 354 P **P** **21 02 14.6 +1.6**
baz=172,SNR=8.9
P48A Milroy 26.43 352 IAmb IAmb 21 02 22.8
comp=Z,144nm,1.2s
P48A IAMs_20 IAMs_20 21 13 03.3
comp=Z,6µm,18.0s
FNO Franklin 26.44 329 IAmb IAmb 21 02 31.9
comp=Z,74nm,0.9s
Q44A Meyer Farm, Va 26.54 346 IAmb IAmb 21 02 22.3
comp=Z,56nm,0.9s
SLM Saint Louis 26.60 344 P **P** **21 02 15.2 +0.6**
SLM IAmb IAmb 21 02 25.4
comp=Z,105nm,0.9s
S39A Bolivar 26.71 338 IAmb IAmb 21 02 38.7
comp=Z,112nm,1.5s
HPIG 26.74 304 IAmb IAmb 21 02 22.3
comp=Z,128nm,1.8s
O52A Adamsville 26.82 359 IAMs_20 IAMs_20 21 13 15.3
comp=Z,10µm,18.0s
MNHN Monahans 26.88 316 IAmb IAmb 21 02 23.5
comp=Z,79nm,1.2s
O54A Avella 26.88 1 IAMs_20 IAMs_20 21 13 20.0
comp=Z,11µm,18.0s
R40A Maddies Statio 26.89 340 IAmb IAmb 21 02 28.5
comp=Z,94nm,0.9s
OK029 Liberty Lake 26.89 330 IAmb IAmb 21 02 24.9
comp=Z,179nm,1.5s
ALPN Alpine 26.93 313 P **P** **21 02 18.0 +0.2**
P61A Hammonton 26.95 11 IAMs_20 IAMs_20 21 13 58.5
comp=Z,6µm,21.0s
ACSO Alum Creek Sta 26.98 357 IAmb IAmb 21 02 30.6
comp=Z,181nm,1.4s
MVL Millersville 27.02 8 IAmb IAmb 21 02 28.1
comp=Z,82nm,1.3s
O49A Covington 27.03 355 IAMs_20 IAMs_20 21 12 21.1
comp=Z,8µm,18.0s
POST Post 27.16 320 IAmb IAmb 21 02 59.3
comp=Z,100nm,1.3s
O48B Farmland 27.19 353 IAmb IAmb 21 02 30.7
comp=Z,99nm,1.2s
O48B IAMs_20 IAMs_20 21 13 26.2
comp=Z,7µm,19.0s
O48B Farmland 27.19 353 P **P** **21 02 21.1 +1.3**
baz=171,SNR=11
ODSA Odessa 27.22 317 IAmb IAmb 21 02 26.1
comp=Z,80nm,1.2s
ETMB Extrema 27.23 146 *eP* **P** **21 02 19.4 -1.0**
P43A Skaggs, Pawnee 27.36 346 IAmb IAmb 21 02 29.4
comp=Z,69nm,0.9s
N53A Lisbon 27.50 0 P **P** **21 02 22.4 -0.3**
N53A IAmb IAmb 21 02 50.2
comp=Z,173nm,1.8s
N53A IAMs_20 IAMs_20 21 12 52.4
comp=Z,10µm,19.0s
SFIN Lafayette 27.58 350 IAmb IAmb 21 02 37.4
comp=Z,82nm,1.1s
N51A Ashland 27.63 358 IAMs_20 IAMs_20 21 13 52.0
comp=Z,11µm,19.0s
N49A Columbus Grove 27.75 355 IAmb IAmb 21 02 35.0
comp=Z,123nm,1.3s
N49A IAMs_20 IAMs_20 21 13 01.0
comp=Z,9µm,20.0s
LUPA Lehigh Univers 27.75 9 IAmb IAmb 21 02 45.2
comp=Z,124nm,1.4s
LUPA IAMs_20 IAMs_20 21 12 39.8
comp=Z,6µm,19.0s
SMWD Samnorwood 27.83 325 IAmb IAmb 21 03 09.7
comp=Z,82nm,1.3s
N47A Urbana 27.86 353 IAMs_20 IAMs_20 21 13 46.2
comp=Z,6µm,19.0s
BRNJ Basking Ridge 27.97 11 IAMs_20 IAMs_20 21 13 23.6
comp=Z,7µm,19.0s
M50A Fremont 28.15 357 IAmb IAmb 21 02 38.7
comp=Z,68nm,1.1s
CPNY Central Park 28.19 12 IAMs_20 IAMs_20 21 14 48.3
comp=Z,12µm,20.0s
M52A Chesterland 28.23 360 IAMs_20 IAMs_20 21 13 13.8
comp=Z,7µm,21.0s
M57A Sunshine Farm, 28.25 6 IAmb IAmb 21 03 07.6
comp=Z,69nm,1.3s
M57A IAMs_20 IAMs_20 21 13 42.9
comp=Z,12µm,20.0s
SAML Samuel 28.30 140 P **P** **21 02 28.5 -1.6**
SAML IAmb IAmb 21 03 02.3
comp=Z,71nm,1.3s
SAML IAMs_20 IAMs_20 21 14 12.5
comp=Z,8µm,21.0s
SAML Samuel 28.30 140 *eP* **P** **21 02 29.3 -0.8**
ODNJ Ogdensburg 28.35 10 IAMs_20 IAMs_20 21 13 32.7
comp=Z,7µm,19.0s
ALLY Alegheny Colle 28.36 2 IAmb IAmb 21 03 19.7
comp=Z,128nm,1.4s
PAL Palisades 28.41 11 IAMs_20 IAMs_20 21 15 09.1
comp=Z,6µm,18.0s
N62A Caumsett State 28.42 12 IAMs_20 IAMs_20 21 14 55.5
comp=Z,9µm,18.0s
MSTX Muleshoe 28.55 320 IAmb IAmb 21 03 26.3
comp=Z,90nm,1.3s
KSPA Keystone Colle 28.63 8 IAMs_20 IAMs_20 21 14 44.1
comp=Z,7µm,21.0s
N41A Harden Midland 28.70 344 IAmb IAmb 21 02 40.7
comp=Z,59nm,1.0s
ERPA Erie 28.83 2 IAMs_20 IAMs_20 21 14 29.4
comp=Z,10µm,18.0s
L46A Eue Claire 29.06 352 IAMs_20 IAMs_20 21 14 33.8
comp=Z,5µm,19.0s
M63A Gales Ferry 29.19 14 IAMs_20 IAMs_20 21 15 23.7
comp=Z,7µm,18.0s
MDP Montagnes des 29.20 103 LR LR 21 16 30.3
comp=Z,6µm,18.8s,baz=286,slow=41
SLBS Sierra La Lagu 29.22 295 P **P** **21 02 38.4 +0.1**
SLBS IAmb IAmb 21 02 42.8
comp=Z,134nm,1.8s
BINY Binghamton 29.23 8 IAmb IAmb 21 02 59.7
comp=Z,142nm,1.9s
BINY IAMs_20 IAMs_20 21 15 34.0
comp=Z,10µm,18.0s
L59A Walton 29.36 9 P **P** **21 02 38.6 -0.7**
L59A IAmb IAmb 21 03 21.3
comp=Z,136nm,1.7s
L59A IAMs_20 IAMs_20 21 15 09.3
comp=Z,8µm,19.0s
L44A Lake County Fo 29.47 350 IAMs_20 IAMs_20 21 13 24.8
comp=Z,5µm,19.0s
L44A Lake County Fo 29.47 350 P **P** **21 02 40.8 +0.6**
baz=166
UCCT U. Connecticut 29.52 14 IAMs_20 IAMs_20 21 15 32.4
comp=Z,7µm,18.0s
L42A Oliver, Polo 29.65 347 IAMs_20 IAMs_20 21 16 34.6
comp=Z,5µm,18.0s
LPIG La Paz 29.65 296 P **P** **21 02 44.1 +2.1**
comp=Z,12nm,0.3s,baz=110,slow=2.7,SNR=3.8
LPIG LR LR 21 15 21.0
comp=Z,15µm,18.7s,baz=132,slow=38
comp=Z,12nm,0.3s
M65A Busby, Falmout 29.69 16 IAMs_20 IAMs_20 21 15 03.3
comp=Z,7µm,19.0s
M65A Busby, Falmout 29.69 16 P **P** **21 02 42.5 +0.4**
baz=201
L64A Middleborough 29.99 15 IAMs_20 IAMs_20 21 12 36.3
comp=Z,5µm,20.0s
L61B Northampton 30.05 13 IAMs_20 IAMs_20 21 16 07.8
comp=Z,6µm,18.0s
L61B Northampton 30.05 13 P **P** **21 02 46.3 +1.0**
baz=196
L40A Anamosa 30.07 345 P **P** **21 02 45.7 +0.2**
L40A IAmb IAmb 21 02 52.7
comp=Z,61nm,0.9s
J47A Sunmer 30.10 355 IAmb IAmb 21 02 53.0
comp=Z,51nm,0.7s
J47A IAMs_20 IAMs_20 21 14 33.6
comp=Z,8µm,18.0s
TRY Troy 30.12 11 IAMs_20 IAMs_20 21 15 44.8
comp=Z,6µm,18.0s
RTBA Rita Blanca 30.20 324 IAmb IAmb 21 03 01.8
comp=Z,130nm,1.7s
BCX Boston College 30.28 15 IAMs_20 IAMs_20 21 15 49.0
comp=Z,8µm,18.0s
WES Weston 30.29 14 IAMs_20 IAMs_20 21 15 58.3
comp=Z,7µm,19.0s
HRV Adam Dziewonsk 30.35 14 IAMs_20 IAMs_20 21 15 05.8
comp=Z,6µm,20.0s
J57A Williamstown 30.42 7 IAMs_20 IAMs_20 21 14 57.9
comp=Z,9µm,20.0s
JFWS Jewell Farm 30.64 347 P **P** **21 02 50.6 0.0**
JFWS Jewell Farm 30.64 347 IAMs_20 IAMs_20 21 15 48.1
comp=Z,6µm,19.0s
ITTB Itaituba 30.65 123 *eP* **P** **21 02 51.0 +0.1**
I49A Point Hope 30.67 358 IAMs_20 IAMs_20 21 15 34.5
comp=Z,10µm,18.0s
J59A Piesco 30.69 9 IAMs_20 IAMs_20 21 15 58.9
comp=Z,7µm,20.0s
J61A Chester 30.93 12 IAMs_20 IAMs_20 21 15 09.2
comp=Z,5µm,19.0s
I45A Fountain 31.04 353 IAMs_20 IAMs_20 21 16 24.5
comp=Z,5µm,18.0s
121A Cookes Peak, D 31.07 313 P **P** **21 02 56.0 +1.3**
baz=122,SNR=20
I42A Draeger Farm, 31.31 349 P **P** **21 02 55.3 -1.1**
I42A IAmb IAmb 21 03 03.8
comp=Z,65nm,0.9s
I42A IAMs_20 IAMs_20 21 14 39.7
comp=Z,6µm,20.0s
HNH Hanover 31.33 12 IAMs_20 IAMs_20 21 15 39.8
comp=Z,6µm,18.0s
SADO Sadowa 31.51 3 IAmb IAmb 21 03 00.1
comp=Z,127nm,1.6s
SADO Sadowa 31.51 3 P **P** **21 02 58.5 +0.3**
comp=Z,16nm,1.1s,baz=194,slow=6.4,SNR=4.3
SADO LR LR 21 15 58.4
comp=Z,10µm,18.7s,baz=196,slow=37
comp=Z,16nm,1.1s
ANMO Albuquerque 31.52 318 P **P** **21 02 59.4 +0.7**
ANMO Albuquerque 31.52 318 P **P** **21 03 00.2 +1.5**
comp=Z,3.8nm,0.6s,baz=296,slow=10,SNR=20
ANMO LR LR 21 18 49.8
comp=Z,3µm,19.0s,baz=300,slow=42
comp=Z,3.8nm,0.6s
319A Douglas 31.58 310 IAmb IAmb 21 03 18.0
comp=Z,52nm,1.3s
319A IAMs_20 IAMs_20 21 18 03.3
comp=Z,6µm,21.0s
I40A Norwalk 31.66 347 IAmb IAmb 21 03 08.8
comp=Z,55nm,0.9s
I40A IAMs_20 IAMs_20 21 16 27.9
comp=Z,7µm,18.0s
T25A Trinidad 31.66 323 IAmb IAmb 21 04 10.4
comp=Z,80nm,1.6s
T25A Trinidad 31.66 323 P **P** **21 03 01.6 +1.8**
baz=133
H43A Windswept, Lux 31.68 351 IAMs_20 IAMs_20 21 16 27.4
comp=Z,5µm,20.0s
LONY Lake Ozonia 31.80 9 IAMs_20 IAMs_20 21 16 32.4
comp=Z,8µm,20.0s
VT1 Waterbury 31.84 11 IAMs_20 IAMs_20 21 17 18.0
comp=Z,6µm,19.0s
HSIG 31.86 304 P **P** **21 03 01.6 +0.2**
HSIG IAMs_20 IAMs_20 21 16 50.5
comp=Z,10µm,21.0s
LBNH Lisbon 31.92 13 IAMs_20 IAMs_20 21 18 18.3
comp=Z,4µm,18.0s
LPAZ La Paz 31.98 156 P **P** **21 03 04.3 +1.0**
comp=Z,2.3nm,0.6s,baz=350,slow=3.4,SNR=9.1
LPAZ LR LR 21 18 38.0
comp=Z,3µm,19.4s,baz=295,slow=41
comp=Z,2.3nm,0.6s
LPAZ La Paz 31.98 156 *eP* **P** **21 03 01.9 -1.4**
I63A Otisfield 32.04 14 IAMs_20 IAMs_20 21 14 24.6
comp=Z,5µm,22.0s
WBO Williamsburg 32.08 8 IAMs_20 IAMs_20 21 15 23.7
comp=Z,7µm,19.0s
SRIG Santa Rosalia 32.30 301 IAMs_20 IAMs_20 21 16 02.3
comp=Z,5µm,20.0s
NPGB Novo Progresso 32.54 127 *eP* **P** **21 03 07.2 -0.3**
PB18 Visviri 32.68 159 IAMs_20 IAMs_20 21 17 16.5
comp=Z,5µm,21.0s
SDCO Great Sand Dun 32.71 323 P **P** **21 03 07.3 -1.9**
SDCO IAmb IAmb 21 03 27.1
comp=Z,79nm,1.8s
WVL Waterville 32.75 15 IAMs_20 IAMs_20 21 17 02.4
comp=Z,6µm,18.0s
MNTQ Montreal, Queb 32.81 10 IAMs_20 IAMs_20 21 16 24.1
comp=Z,5µm,18.0s
G40A Rib Lake 32.88 348 IAmb IAmb 21 03 18.1
comp=Z,124nm,2.0s
G40A IAMs_20 IAMs_20 21 16 01.3
comp=Z,4µm,18.0s
TUC Tucson 33.15 310 P **P** **21 03 12.2 -0.7**
TUC IAmb IAmb 21 03 27.7
comp=Z,58nm,1.6s
TUC Tucson 33.15 310 IAMs_20 IAMs_20 21 19 17.9
comp=Z,8µm,18.0s
G62A West of Eustis 33.16 14 IAMs_20 IAMs_20 21 15 09.1
comp=Z,6µm,22.0s
ECSD EROS Data Cent 33.22 339 IAmb IAmb 21 03 19.9
comp=Z,35nm,1.0s
VILB Vilhena 33.24 141 IAMs_20 IAMs_20 21 19 14.3

comp=Z,5µm,18.0s
VILB Vilhena 33.24 141 *eP* **P 21 03 14.0 +0.3**
Q24A Divide 33.33 325 P **P 21 03 16.3 +1.6**
baz=134
PB12 IPOC Station P 33.35 161 P **P 21 03 14.7 +0.1**
TRQ Mont Tremblant 33.38 8 IAmb IAmb 21 03 17.5
comp=Z,96nm,1.5s
TRQ IAMs_20 IAMs_20 21 17 43.9
comp=Z,7µm,19.0s
EMMW East Machias 33.49 18 IAMs_20 IAMs_20 21 14 57.9
comp=Z,6µm,21.0s
PKME Peaks-Kenny Pk 33.50 15 IAMs_20 IAMs_20 21 17 25.1
comp=Z,5µm,19.0s
S22A 4UR Ranch, Cre 33.50 321 P **P 21 03 17.8 +1.7**
baz=130
G65A Princeton 33.91 17 IAMs_20 IAMs_20 21 15 44.0
comp=Z,6µm,21.0s
GGN Saint George 34.05 18 IAMs_20 IAMs_20 21 15 47.7
comp=Z,8µm,21.0s
ISCO Idaho Springs 34.17 325 IAmb IAmb 21 03 34.0
comp=Z,38nm,0.9s
MVCO Mesa Verde 34.21 319 IAmb IAmb 21 03 28.5
comp=Z,136nm,1.9s
F64A Sherman 34.30 16 IAMs_20 IAMs_20 21 15 49.4
comp=Z,4µm,18.0s
E38A The Farm, Brul 34.44 347 IAMs_20 IAMs_20 21 17 16.6
comp=Z,5µm,18.0s
PDRB Porto dos Gac 34.53 134 *eP* **P 21 03 24.3 -0.7**
CLDB Colider 34.68 132 *eP* **P 21 03 26.1 -0.2**
HAL Halifax 34.72 22 IAMs_20 IAMs_20 21 15 16.3
comp=Z,6µm,20.0s
VLDQ Val d'Or 34.94 4 P **P 21 03 28.9 +0.9**
F33A 5 Mile Ranch, 34.98 341 IAmb IAmb 21 03 34.7
comp=Z,49nm,0.8s
N23A Red Feather La 35.12 326 P **P 21 03 31.8 +1.8**
baz=135
SIV San Ignacio 35.13 145 LR LR 21 18 34.2
comp=Z,4µm,18.8s,baz=340,slow=38
PB08 IPOC Station P 35.16 160 IAMs_20 IAMs_20 21 18 22.3
comp=Z,5µm,21.0s
WUAZ Wupatki 35.17 314 P **P 21 03 29.4 -1.0**
WUAZ IAmb IAmb 21 03 46.9
comp=Z,66nm,1.1s
TA01 Diego Aracena 35.23 162 P **P 21 03 29.5 -1.3**
TA01 IAmb IAmb 21 03 46.4
comp=Z,53nm,1.1s
LMN Caledonia Moun 35.35 20 IAMs_20 IAMs_20 21 16 13.1
comp=Z,7µm,20.0s
LMQ La Malbaie 35.41 13 IAmb IAmb 21 03 40.4
comp=Z,40nm,0.8s
LMQ IAMs_20 IAMs_20 21 18 56.7
comp=Z,7µm,18.0s
PATCX Punta Patache 35.48 162 IAmb IAmb 21 03 48.8
comp=Z,77nm,1.2s
Y14A Wickenburg 35.56 311 IAMs_20 IAMs_20 21 20 00.6
comp=Z,9µm,20.0s
LDAQ Lac Daran 35.62 11 IAMs_20 IAMs_20 21 18 53.3
comp=Z,6µm,19.0s
EYMN Ely 35.71 348 IAMs_20 IAMs_20 21 18 45.0
comp=Z,6µm,19.0s
SFX San Felipe 35.75 305 P **P 21 03 35.4 +0.1**
SFX IAMs_20 IAMs_20 21 18 56.8
comp=Z,5µm,20.0s
PTLB Pontes e Lacer 35.82 142 P **P 21 03 35.0 -1.0**
PTLB IAMs_20 IAMs_20 21 19 38.7
comp=Z,5µm,19.0s
PTLB Pontes e Lacer 35.82 142 *eP* **P 21 03 35.3 -0.6**
O20A White River Ci 35.89 323 IAmb IAmb 21 03 43.9
comp=Z,93nm,1.6s
PB01 IPOC Station P 35.89 161 IAmb IAmb 21 03 44.6
comp=Z,80nm,1.1s
HMU Henry Mountain 36.08 318 IAmb IAmb 21 03 47.7
comp=Z,91nm,1.4s
GBN Guysborough 36.16 24 IAMs_20 IAMs_20 21 15 33.3
comp=Z,5µm,22.0s
TMAB Tom-Au,PA,Br 36.23 113 *eP* **P 21 03 41.9 +2.4**
BATG Bathurst New B 36.23 17 IAMs_20 IAMs_20 21 17 05.4
comp=Z,6µm,19.0s
U15A North Rim 36.28 315 IAmb IAmb 21 03 58.6
comp=Z,82nm,1.5s
BBSD Serra de San D 36.35 146 *eP* **P 21 03 39.9 -0.7**
RSSD Black Hills 36.54 332 P **P 21 03 42.0 -0.1**
PRPB Parauapebas 36.56 120 *eP* **P 21 03 43.8 +1.4**
BLYC Blythe 36.60 310 IAmb IAmb 21 03 45.9
comp=Z,141nm,2.0s
VTX Valle De La Tr 36.63 305 IAMs_20 IAMs_20 21 18 59.9
comp=Z,8µm,22.0s
CPBX Cerro Prieto 36.64 307 IAMs_20 IAMs_20 21 20 57.4
comp=Z,5µm,20.0s
K22A Casper 36.66 328 IAmb IAmb 21 03 52.6
comp=Z,94nm,1.3s
PB09 IPOC Station P 36.68 161 IAmb IAmb 21 04 05.3
comp=Z,64nm,1.1s
PB09 IAMs_20 IAMs_20 21 20 56.6
comp=Z,4µm,20.0s
W13A Hualapai Mount 36.74 312 IAmb IAmb 21 04 00.5
comp=Z,133nm,2.0s
W13A IAMs_20 IAMs_20 21 21 24.0
comp=Z,8µm,21.0s
P18A Preston Nutter 36.76 321 IAmb IAmb 21 03 53.7
comp=Z,64nm,1.4s
PKCU Pink Cliffs 36.83 317 IAmb IAmb 21 03 55.5
comp=Z,113nm,1.3s
PB04 IPOC Station P 36.91 163 IAmb IAmb 21 03 51.0
comp=Z,145nm,1.4s
PB04 IAMs_20 IAMs_20 21 21 22.8
comp=Z,4µm,19.0s
RDMU Red Mountain 36.94 323 IAmb IAmb 21 03 54.7
comp=Z,94nm,1.5s
KNB Kanab 36.95 316 IAmb IAmb 21 03 56.5
comp=Z,142nm,1.5s
ESJX Sierra Juarez 36.99 306 IAmb IAmb 21 03 53.3
comp=Z,106nm,1.7s
ESJX IAMs_20 IAMs_20 21 19 25.4
comp=Z,8µm,22.0s
AGMN Agassiz Nation 37.08 344 IAMs_20 IAMs_20 21 19 07.4
comp=Z,4µm,20.0s
YUH Yuha Desert 37.21 307 IAmb IAmb 21 03 55.0
comp=Z,84nm,1.6s
LCMT Little Creek M 37.24 315 IAMs_20 IAMs_20 21 21 54.0
comp=Z,4µm,20.0s
MVU Marysvale 37.35 318 IAMs_20 IAMs_20 21 21 42.9
comp=Z,8µm,19.0s
TCRU Three Creeks R 37.56 318 IAmb IAmb 21 04 00.8
comp=Z,74nm,1.3s
CBX Cerro Bola 37.66 306 IAmb IAmb 21 04 08.3
comp=Z,89nm,1.5s
CBX IAMs_20 IAMs_20 21 20 25.4
comp=Z,8µm,19.0s
TKX Tecate 37.72 307 IAMs_20 IAMs_20 21 20 20.7
comp=Z,7µm,19.0s
V12A Nelson 37.74 312 IAMs_20 IAMs_20 21 21 33.2
comp=Z,8µm,21.0s
ICQ Pointe Anglais 37.97 15 IAMs_20 IAMs_20 21 20 32.3
comp=Z,7µm,18.0s
PFO Pinyon Flats O 38.01 308 P **P 21 03 55.0 +0.3**
PFO Pinyon Flats O 38.01 308 IAMs_20 IAMs_20 21 22 02.4
comp=Z,6µm,20.0s
PFO Pinyon Flats O 38.01 308 P **P 21 03 55.9 +1.3**
comp=Z,9.3nm,1.1s,baz=100,slow=7.6,SNR=9.2
PFO LR LR 21 22 05.2
comp=Z,5µm,19.2s,baz=140,slow=40
comp=Z,9.3nm,1.1s
TJX Tijuana 38.04 306 IAMs_20 IAMs_20 21 21 36.4
comp=Z,7µm,19.0s
SALV Santo Antonio 38.31 138 *eP* **P 21 03 58.5 +1.3**
SHPR Sheep Range 38.32 313 IAMs_20 IAMs_20 21 22 07.7
comp=Z,4µm,21.0s
PD31 Pinedale Array 38.36 326 P **P 21 03 56.8 -0.8**
PDAR Pinedale Array 38.36 326 P **P 21 03 58.3 +0.6**
PDAR Pinedale Array 38.36 326 P **P 21 03 59.3 +1.6**
comp=Z,9.8nm,0.7s,baz=129,slow=11,SNR=57
comp=Z,9.8nm,0.7s
TCUT Toone Canyon 38.38 322 IAmb IAmb 21 04 07.4
comp=Z,130nm,1.4s
PRN Pahroc Range 38.68 315 IAMs_20 IAMs_20 21 22 41.2
comp=Z,4µm,19.0s
DUG Dugway, Tooele 38.69 320 IAmb IAmb 21 04 10.0
comp=Z,79nm,1.4s
SNDB Serra Nova Dou 38.73 129 *eP* **P 21 04 01.2 +0.4**
ELS Elsinore Mount 38.77 308 IAmb IAmb 21 04 07.8
comp=Z,108nm,1.9s
ELS IAMs_20 IAMs_20 21 21 07.5
comp=Z,4µm,18.0s
HWUT Hardware Ranch 38.77 323 IAmb IAmb 21 04 13.6
comp=Z,108nm,1.6s
ULM Lac du Bonnet 38.87 345 IAmb IAmb 21 04 07.8
comp=Z,57nm,0.8s
ULM Lac du Bonnet 38.87 345 P **P 21 04 01.0 -0.5**
comp=Z,21nm,1.1s,baz=158,slow=8.4,SNR=13
comp=Z,21nm,1.1s
GSC Goldstone, Bar 38.97 311 IAMs_20 IAMs_20 21 21 33.9
comp=Z,7µm,20.0s
SPR3 Spring Creek 3 39.01 317 IAMs_20 IAMs_20 21 23 10.9
comp=Z,5µm,19.0s
PB14 IPOC Station P 39.02 164 IAmb IAmb 21 04 11.7
comp=Z,116nm,1.2s
SPUT South Promonto 39.12 322 IAmb IAmb 21 04 13.5
comp=Z,83nm,1.4s
S11A Rachel 39.28 315 IAmb IAmb 21 04 33.6
comp=Z,63nm,1.1s
S11A IAMs_20 IAMs_20 21 23 06.1
comp=Z,6µm,21.0s
TPNV Topopah Spring 39.30 313 IAMs_20 IAMs_20 21 22 34.7
comp=Z,6µm,21.0s
Q12A Willow Creek R 39.36 317 IAMs_20 IAMs_20 21 23 30.2
comp=Z,5µm,18.0s
R11B Troy Canyon, C 39.52 316 IAMs_20 IAMs_20 21 23 16.3
comp=Z,4µm,21.0s
R11B Troy Canyon, C 39.52 316 P **P 21 04 09.1 +1.8**
baz=120
PASC Pasadena Art C 39.55 308 IAMs_20 IAMs_20 21 21 58.3
comp=Z,5µm,19.0s
PASC Pasadena Art C 39.55 308 IAmb IAmb 21 04 35.7
comp=Z,111nm,1.9s
TPAW Teton Pass 39.61 325 IAmb IAmb 21 04 22.2
comp=Z,86nm,1.4s
MOOW Moose Ponds 39.66 326 IAmb IAmb 21 04 17.8
comp=Z,92nm,1.4s
CCAC Calif City Air 39.81 310 IAmb IAmb 21 04 20.2
comp=Z,88nm,1.0s
RLMT Red Lodge 39.81 329 IAmb IAmb 21 04 18.9
comp=Z,138nm,1.5s
RLMT IAMs_20 IAMs_20 21 23 49.0
comp=Z,3µm,20.0s
SMTB Santa Maria do 39.85 122 *eP* **P 21 04 11.4 +1.3**
H17A Grant Village 40.00 327 IAMs_20 IAMs_20 21 23 04.9
comp=Z,4µm,20.0s
LKWY Lake 40.02 327 IAMs_20 IAMs_20 21 23 38.5
comp=Z,6µm,21.0s
PANT Pantanal (Braz 40.07 142 *eP* **P 21 04 09.9 -2.0**
YNE Yellowstone No 40.11 328 IAmb IAmb 21 04 21.1
comp=Z,130nm,1.7s
GRAC Grapevine Rang 40.12 313 IAmb IAmb 21 04 19.7
comp=Z,134nm,1.8s
GRAC IAMs_20 IAMs_20 21 23 57.3
comp=Z,5µm,20.0s
YFT Old Faithful 40.18 327 IAMs_20 IAMs_20 21 24 09.6
comp=Z,4µm,21.0s
GMN Gold Mountain 40.18 313 IAMs_20 IAMs_20 21 24 07.0
comp=Z,6µm,21.0s
SNCC San Nicolas Is 40.25 306 IAMs_20 IAMs_20 21 21 27.8
comp=Z,5µm,20.0s
ISA Isabella, Lake 40.36 310 IAMs_20 IAMs_20 21 22 25.7
comp=Z,7µm,20.0s
AC01 Pan de Azucar 40.43 165 IAmb IAmb 21 04 20.1
comp=Z,72nm,1.3s
MZP Montezuma Peak 40.45 314 IAMs_20 IAMs_20 21 23 11.1
comp=Z,4µm,21.0s
GCMT Greycliff 40.48 329 P **P 21 04 16.3 +1.1**
ELK Elko 40.53 319 P **P 21 04 17.6 +1.8**
comp=Z,5.3nm,0.9s,baz=130,slow=7.3,SNR=14
comp=Z,5.3nm,0.9s
YHL Hebgen Lake 40.63 327 IAmb IAmb 21 04 26.9
comp=Z,110nm,1.8s
BCW Bitter Crk WRg 40.78 309 IAMs_20 IAMs_20 21 22 56.8
comp=Z,5µm,19.0s
ARAG Araguaiana, MT 40.80 134 *eP* **P 21 04 18.5 +0.6**
Q09A Carvers 40.84 315 IAMs_20 IAMs_20 21 24 10.5
comp=Z,4µm,20.0s
FDPY Filadelfia 40.91 149 *eP* **P 21 04 18.9 +0.2**
BDQN Bodoquena, MS 41.13 144 *eP* **P 21 04 19.5 -1.1**
BOZ Bozeman (W) 41.36 327 IAmb IAmb 21 04 32.1
comp=Z,77nm,1.6s
NVAR Mina Array Bea 41.43 314 P **P 21 04 22.3 -0.9**
NVAR Mina Array Bea 41.43 314 P **P 21 04 25.7 +2.5**
comp=Z,9.8nm,0.8s,baz=127,slow=8.2,SNR=63
NVAR LR LR 21 25 29.7
comp=Z,8µm,19.1s,baz=130,slow=42
comp=Z,9.8nm,0.8s
LHV Little Huntoon 41.49 314 IAmb IAmb 21 04 37.4
comp=Z,79nm,1.5s
LHV IAMs_20 IAMs_20 21 24 03.6
comp=Z,5µm,20.0s
OMMB Old Mammoth Mi 41.56 313 IAMs_20 IAMs_20 21 24 33.5
comp=Z,6µm,20.0s
KVN Kaiserville 41.58 315 IAMs_20 IAMs_20 21 24 17.9
comp=Z,7µm,21.0s
BMN Battle Mountai 41.66 317 IAmb IAmb 21 04 34.5
comp=Z,72nm,1.2s
DLMT Dillon 41.72 326 IAmb IAmb 21 04 35.3
comp=Z,116nm,1.5s
AQDB Aquidauana 41.76 143 *eP* **P 21 04 24.7 -1.1**
GO03 Copiapo 41.90 165 P **P 21 04 25.0 -1.9**
EGMT Eagleton 42.10 331 IAmb IAmb 21 04 37.5
comp=Z,76nm,1.4s
WAKR Walker 42.26 314 IAmb IAmb 21 04 39.1
comp=Z,84nm,1.6s
WAKR IAMs_20 IAMs_20 21 25 26.0
comp=Z,6µm,20.0s
PMPB Monarch Peak 42.31 310 IAMs_20 IAMs_20 21 22 23.4
comp=Z,5µm,21.0s
YERR Yerington 42.34 314 IAmb IAmb 21 04 43.8
comp=Z,152nm,1.9s
YERR IAMs_20 IAMs_20 21 24 21.0
comp=Z,4µm,21.0s
BBGB Big Mountain B 42.63 310 IAmb IAmb 21 04 44.8
comp=Z,209nm,1.8s
BBGB IAMs_20 IAMs_20 21 22 34.8
comp=Z,6µm,20.0s
PNTR Pine Nut 42.63 314 IAmb IAmb 21 04 46.4
comp=Z,92nm,1.4s
PNTR IAMs_20 IAMs_20 21 25 31.8
comp=Z,4µm,20.0s
CMB Columbia Colle 42.73 313 IAMs_20 IAMs_20 21 25 15.5
comp=Z,5µm,19.0s
PAHR Pah Rah Range 42.76 315 IAmb IAmb 21 04 43.2
comp=Z,124nm,1.8s
PAHR IAMs_20 IAMs_20 21 24 51.3
comp=Z,6µm,21.0s
RPRD Ribas do Rio P 42.97 141 *eP* **P 21 04 36.4 +0.7**
SAO San Andreas Ge 43.00 310 IAMs_20 IAMs_20 21 23 31.6
comp=Z,5µm,22.0s
SCHQ Schefferville 43.02 12 P **P 21 04 36.6 +1.0**
SCHQ Schefferville 43.02 12 P **P 21 04 36.3 +0.7**
comp=Z,43nm,1.1s,baz=212,slow=7.1,SNR=11
SCHQ LR LR 21 23 54.5
comp=Z,4µm,18.2s,baz=206,slow=38
comp=Z,43nm,1.1s
MPK Martis Peak 43.02 314 IAmb IAmb 21 04 46.0
comp=Z,173nm,1.6s
AC05 El Transito 43.08 166 P **P 21 04 34.6 -2.0**
AC05 IAmb IAmb 21 04 48.1
comp=Z,51nm,1.0s
LCO Las Campanas 43.15 167 P **P 21 04 36.2 -1.1**
LCO IAmb IAmb 21 04 48.0
comp=Z,79nm,1.4s
MSO Missoula 43.38 327 IAmb IAmb 21 04 51.5
comp=Z,75nm,1.6s
MSO IAMs_20 IAMs_20 21 25 20.3
comp=Z,4µm,20.0s
BDFB Brasilia 43.51 130 IAmb IAmb 21 04 45.3
comp=Z,58nm,1.1s
BDFB Brasilia 43.51 130 P **P 21 04 40.6 +0.4**
comp=Z,30nm,0.9s,baz=292,slow=11,SNR=32
BDFB LR LR 21 24 46.9
comp=Z,4µm,18.2s,baz=304,slow=39
comp=Z,30nm,0.9s
AFDM Forest Hills D 43.53 313 IAMs_20 IAMs_20 21 23 58.6
comp=Z,4µm,22.0s
WVOR Wild Horse Val 43.59 319 IAmb IAmb 21 04 52.6
comp=Z,111nm,1.2s
WVOR IAMs_20 IAMs_20 21 25 56.0
comp=Z,4µm,19.0s
SDBA SAO DESIDERIO 44.00 124 *eP* **P 21 04 44.1 0.0**
AMBA Amambai (Brazi 44.08 144 *eP* **P 21 04 44.4 -0.3**
ORV Oroville 44.16 314 IAmb IAmb 21 04 54.7
comp=Z,88nm,1.4s
ORV IAMs_20 IAMs_20 21 26 01.3
comp=Z,4µm,19.0s
FFC Flin Flon 44.54 343 P **P 21 04 48.5 +0.6**
ITRB Iturama 44.56 137 *eP* **P 21 04 48.3 -0.2**
MCCM Marconi Confer 44.58 312 IAMs_20 IAMs_20 21 24 32.5
comp=Z,5µm,20.0s
F10A Beach Ranch, E 44.66 324 IAmb IAmb 21 04 54.9
comp=Z,127nm,1.9s
HATC Hat Creek Radi 44.68 316 IAmb IAmb 21 05 21.2
comp=Z,91nm,1.2s
IPMB Ipameri, GO 44.87 133 *eP* **P 21 04 51.1 +0.1**
CO03 El Pedregal 44.92 167 P **P 21 04 51.1 -0.1**
CO03 IAMs_20 IAMs_20 21 20 37.9
comp=Z,3µm,19.0s
I07A Izee 44.98 321 IAMs_20 IAMs_20 21 27 10.8
comp=Z,2µm,18.0s
HOPS Hopland Field 45.05 313 IAMs_20 IAMs_20 21 25 09.8
comp=Z,6µm,20.0s
NBPB Pedra_Branca-C 45.25 112 *eP* **P 21 04 58.7 +4.6**
O02D Mt. Diablo Mer 45.32 314 IAMs_20 IAMs_20 21 25 58.0
comp=Z,5µm,21.0s
E09A Wood Farm, Sta 45.49 324 IAMs_20 IAMs_20 21 25 08.4
comp=Z,3µm,21.0s
CPUP Villa Florida 45.59 150 P **P 21 04 54.5 -2.1**
CPUP Villa Florida 45.59 150 P **P 21 04 55.0 -1.6**
comp=Z,9.8nm,0.9s,baz=336,slow=7.5,SNR=9.9
CPUP LR LR 21 26 59.9
comp=Z,2µm,18.3s,baz=333,slow=40
CPUP Villa Florida 45.59 150 *eP* **P 21 04 54.8 -1.8**
J05D Fort Rock, OR 45.67 319 IAMs_20 IAMs_20 21 26 51.1
comp=Z,4µm,21.0s
KCPM Cahto Peak 45.68 313 IAMs_20 IAMs_20 21 25 10.6
comp=Z,6µm,21.0s
K04D Chiloquin, OR 45.69 318 IAMs_20 IAMs_20 21 27 35.8
comp=Z,4µm,19.0s
PINE Pine Mountain 45.73 320 IAMs_20 IAMs_20 21 27 48.6
comp=Z,5µm,21.0s
L04D Klamath Falls 45.87 317 IAMs_20 IAMs_20 21 26 51.5
comp=Z,5µm,20.0s
NBCL Cascavel-CE 45.90 109 *eP* **P 21 05 01.4 +2.1**
YBH Yreka Blue Hor 45.93 316 P **P 21 04 58.3 -1.0**
YBH Yreka Blue Hor 45.93 316 P **P 21 04 58.7 -0.6**
comp=Z,6.5nm,0.7s,baz=112,slow=4.2,SNR=31
YBH LR LR 21 27 55.2
comp=Z,5µm,20.4s,baz=148,slow=41
comp=Z,6.5nm,0.7s
NEW Newport 45.96 327 P **P 21 04 59.4 +0.1**
comp=Z,6.9nm,0.8s,baz=126,slow=8.0,SNR=11
NEW LR LR 21 26 33.6
comp=Z,2µm,18.6s,baz=138,slow=39
comp=Z,6.9nm,0.8s
JANB Januaria 45.98 126 *eP* **P 21 05 00.4 +0.5**
KMRM Mail Ridge 45.98 314 IAmb IAmb 21 05 14.4
comp=Z,39nm,1.0s
ZON Zonda 46.06 165 IAmb IAmb 21 05 07.0
comp=Z,52nm,1.3s
J04A Umpqua Nationa 46.21 318 IAmb IAmb 21 05 10.3
comp=Z,51nm,1.0s
J04A IAMs_20 IAMs_20 21 27 47.5
comp=Z,5µm,20.0s
HAWA Hanford 46.22 323 IAmb IAmb 21 05 27.6
comp=Z,70nm,1.8s
HAWA IAMs_20 IAMs_20 21 27 44.7
comp=Z,3µm,19.0s
D08A Wollman Farm, 46.24 325 IAmb IAmb 21 05 07.7
comp=Z,94nm,1.9s
D08A IAMs_20 IAMs_20 21 26 52.1
comp=Z,3µm,21.0s
I05D Terrebonne, OR 46.25 320 IAmb IAmb 21 05 53.3
comp=Z,113nm,2.0s
I05D IAMs_20 IAMs_20 21 27 57.4
comp=Z,5µm,21.0s
G06A Carlson Farm, 46.26 322 IAmb IAmb 21 05 31.3
comp=Z,59nm,1.8s
KHMM Horse Mountain 46.26 315 IAmb IAmb 21 05 28.1
comp=Z,31nm,1.2s
KHMM IAMs_20 IAMs_20 21 25 58.0
comp=Z,5µm,19.0s
C09A Chrisman Ranch 46.30 326 IAmb IAmb 21 05 14.6
comp=Z,74nm,1.7s
C09A IAMs_20 IAMs_20 21 27 19.8
comp=Z,3µm,19.0s
JCC Jacoby Creek, 46.45 315 P **P 21 05 04.3 +1.1**
HUMO Hull Mountain 46.48 317 IAMs_20 IAMs_20 21 28 21.5
comp=Z,5µm,20.0s
E07A Sunnyside 46.50 323 IAmb IAmb 21 05 30.3
comp=Z,64nm,1.6s
FCC Fort Churchill 46.51 351 IAmb IAmb 21 05 10.7
comp=Z,47nm,1.1s
PMNB Patos De Minas 46.51 132 *eP* **P 21 05 04.7 +0.6**
KRPM Rodgers 46.58 315 IAMs_20 IAMs_20 21 26 17.3
comp=Z,4µm,19.0s
KRMB Red Mountain 46.65 315 IAMs_20 IAMs_20 21 27 15.2
comp=Z,4µm,20.0s
I04A Tendick Farm, 46.66 319 IAmb IAmb 21 05 13.8
comp=Z,47nm,1.0s
I04A IAMs_20 IAMs_20 21 28 04.4
comp=Z,5µm,19.0s
L02F Cave Junction 46.67 316 IAMs_20 IAMs_20 21 28 19.8
comp=Z,4µm,20.0s
G05A Wamic 46.68 321 P **P 21 05 05.4 +0.4**
LDASE Londrina, Braz 46.73 141 *eP* **P 21 05 04.9 -0.8**
BB19B Bebedouro 46.73 136 *eP* **P 21 05 04.7 -1.0**
KSXB Camp Six Broad 46.76 316 IAmb IAmb 21 05 19.1
comp=Z,30nm,1.1s
KSXB IAMs_20 IAMs_20 21 27 23.2
comp=Z,6µm,20.0s
DBO Dodson Butte 46.89 318 IAmb IAmb 21 05 23.1
comp=Z,81nm,1.6s
DBO IAMs_20 IAMs_20 21 28 16.6
comp=Z,5µm,20.0s
HOOD Mount Hood Mea 46.93 321 IAMs_20 IAMs_20 21 28 27.3
comp=Z,4µm,21.0s
H04A Detroit Lake 46.94 320 IAMs_20 IAMs_20 21 26 35.8
comp=Z,3µm,22.0s
KBO Bosley Butte 47.16 316 IAMs_20 IAMs_20 21 26 43.5
comp=Z,5µm,19.0s
B08A Colville Reser 47.21 326 IAmb IAmb 21 05 21.5
comp=Z,84nm,1.8s
BUCK Buck Mountain 47.22 319 IAMs_20 IAMs_20 21 28 41.1
comp=Z,5µm,20.0s
LTY Liberty 47.35 324 IAmb IAmb 21 05 34.4
comp=Z,56nm,1.6s
J01E Myrtle Point 47.36 317 IAMs_20 IAMs_20 21 29 01.0
comp=Z,5µm,20.0s
MT03 Universidad Ad 47.52 168 P **P 21 05 11.9 +0.2**
COR Corvallis 47.60 319 IAMs_20 IAMs_20 21 29 05.2
comp=Z,4µm,19.0s
FRTB Fartura 47.66 139 *eP* **P 21 05 12.5 -0.5**
F04A Amboy 47.70 321 IAMs_20 IAMs_20 21 29 10.7
comp=Z,3µm,20.0s
G03D McMinnville, O 47.87 320 IAMs_20 IAMs_20 21 28 53.3
comp=Z,5µm,20.0s
LMEL Las Melosas 47.92 168 IAMs_20 IAMs_20 21 26 22.5
comp=Z,3µm,22.0s
D05A Enumclaw 48.08 323 IAMs_20 IAMs_20 21 29 25.7
comp=Z,3µm,20.0s
F04D Rainier, OR 48.13 321 IAMs_20 IAMs_20 21 29 17.2
comp=Z,3µm,19.0s
HEBO Mount Hebo 48.17 320 IAMs_20 IAMs_20 21 26 45.4
comp=Z,2µm,19.0s
RCLB Rio Claro- Sao 48.33 137 *eP* **P 21 05 18.1 0.0**
DIAM Diamantina, MG 48.40 129 *eP* **P 21 05 18.9 0.0**
RPN Rapa Nui 48.56 214 LR LR 21 21 22.0
comp=Z,6µm,18.8s,baz=46,slow=31
RCBR Riachuelo 48.72 110 P **P 21 05 19.2 -2.1**
RCBR Riachuelo 48.72 110 IAMs_20 IAMs_20 21 25 53.8
comp=Z,6µm,21.0s
RCBR Riachuelo 48.72 110 LR LR 21 26 05.5
comp=Z,2µm,22.0s,baz=302,slow=36
RCBR Riachuelo 48.72 110 *eP* **P 21 05 21.7 +0.4**
ITQB Itaqui 48.73 151 P **P 21 05 19.7 -1.3**
ITQB Itaqui 48.73 151 *eP* **P 21 05 20.7 -0.3**
GNW Green Mountain 48.76 323 IAmb IAmb 21 05 29.0
comp=Z,70nm,1.7s
GNW IAMs_20 IAMs_20 21 29 50.7
comp=Z,5µm,21.0s
ITAB Concordia 49.06 145 *eP* **P 21 05 23.1 -0.4**
GDU01 Guandu, BA 49.08 121 *eP* **P 21 05 24.6 +0.6**
VAO Valinhos 49.11 137 *eP* **P 21 05 22.9 -1.3**
NBLA Lagarto - SE 49.25 117 *eP* **P 21 05 25.0 -0.2**
NLWA Neilton Lookou 49.28 323 IAMs_20 IAMs_20 21 30 11.7
comp=Z,5µm,20.0s
BSCB Bom Sucesso 49.29 133 *eP* **P 21 05 25.8 +0.3**
PSAL Palomas, Salto 49.48 153 *eP* **P 21 05 26.2 -0.5**
NBCA Caruaru-PE 49.59 113 *eP* **P 21 05 28.0 +0.1**
LLLB Lillooet 49.85 327 IAmb IAmb 21 05 43.1
comp=Z,94nm,1.5s
NBAN Anadia - AL 49.97 115 *eP* **P 21 05 32.0 +1.2**
CMC01 Camacan, BA 49.98 123 *eP* **P 21 05 30.9 +0.1**
CLRS Cowichan Lake 50.14 324 IAMs_20 IAMs_20 21 29 55.4
comp=Z,4µm,20.0s
GUA01 Guaratinga, BA 50.41 125 *eP* **P 21 05 35.3 +1.2**
BI02 San Fabin de 50.45 170 IAmb IAmb 21 06 07.5
comp=Z,44nm,1.2s

SJMB	Sao Joao De Ma	50.53 128	eP	P	P	21 05 36.1 +1.1
CPSB	Cacapava Do Su	50.88 149	eP	P	P	21 05 37.3 -0.1
VAS01	Vassouras-RJ	51.06 133	eP	P	P	21 05 40.2 +1.3
FRB	Frobisher Bay	51.24 7	LR	LR	LR	21 27 13.9
	comp=Z,4μm,18.7s,baz=200,slow=36					
RIB01	Linhares ES	51.49 128	eP	P	P	21 05 42.7 +0.5
TER01	Tubaro-SC	51.75 144	eP	P	P	21 05 44.9 +1.0
PLTB	Pedras Altas	51.91 150	P	P	P	21 05 44.4 -0.7
PLTB	Pedras Altas	51.91 150	eP	P	P	21 05 44.9 -0.1
ALF01	Guarapari-ES	52.01 130	eP	P	P	21 05 45.8 -0.2
CAM01	Campos-RJ	52.05 132	eP	P	P	21 05 47.2 +0.9
GO06	Curarrehue	53.27 171	P	P	P	21 05 54.6 -0.6
GO06			IAmb	IAmb	IAmb	21 06 21.7
	comp=Z,46nm,1.4s					
TRQA	Tornquist	54.05 161	IAMs_20	IAMs_20	IAMs_20	21 28 16.6
	comp=Z,2μm,18.0s					
NRS	Narsarsuaq	54.41 20	i P	P	P	21 06 07.8 +4.8
NRS			IAmb	IAmb	IAmb	21 06 10.2
	comp=Z,18nm,0.9s					
PLCA	Paso Flores	54.54 170	IAmb	IAmb	IAmb	21 06 31.0
	comp=Z,52nm,1.2s					
PLCA	Paso Flores	54.54 170	eP	P	P	21 06 04.7 +0.3
YKA	Yellowknife Ar	54.69 342	P	P	P	21 06 05.9 +0.8
	comp=Z,2.7nm,0.9s,baz=138,slow=7.4,SNR=13					
	comp=Z,2.7nm,0.9s					
NUUK	Nuuk	54.85 15	i P	P	P	21 06 10.6 +4.4
NUUK			IAmb	IAmb	IAmb	21 06 26.1
	comp=Z,58nm,1.3s					
TOAD	Toad River Com	56.13 334	P	P	P	21 06 17.1 +1.4
	baz=125					
KOTAN	Kotaneelee Air	56.41 336	P	P	P	21 06 18.9 +1.4
	baz=127					
LL02	Futaleuf	56.75 172	IAmb	IAmb	IAmb	21 06 28.1
	comp=Z,68nm,1.4s					
U35K	Hyder	56.78 330	IAMs_20	IAMs_20	IAMs_20	21 32 16.8
	comp=Z,3μm,19.0s					
T35M	Bob Quinn	57.41 331	IAmb	IAmb	IAmb	21 07 37.6
	comp=Z,57nm,1.4s					
T35M			IAMs_20	IAMs_20	IAMs_20	21 35 45.3
	comp=Z,3μm,20.0s					
T35M	Bob Quinn	57.41 331	P	P	P	21 06 26.0 +1.2
	baz=119					
SFJD	Kangerlussuaq	57.42 14	LR	LR	LR	21 32 27.2
	comp=Z,2μm,18.5s,baz=222,slow=38					
SFJD	Kangerlussuaq	57.42 14	i P	P	P	21 06 24.9 +0.4
SFJD			IAmb	IAmb	IAmb	21 06 29.7
	comp=Z,20nm,0.9s					
DLBC	Dease Lake	58.02 332	IAmb	IAmb	IAmb	21 06 39.1
	comp=Z,31nm,1.1s					
DLBC	Dease Lake	58.02 332	P	P	P	21 06 30.1 +1.0
	comp=Z,13nm,0.9s,baz=89,slow=4.9,SNR=13					
	comp=Z,13nm,0.9s					
DLBC	Dease Lake	58.02 332	P	P	P	21 06 30.5 +1.4
	baz=120					
DY2G	Dye2	58.08 16	i P	P	P	21 06 27.8 -1.8
DY2G			IAmb	IAmb	IAmb	21 06 30.2
	comp=Z,42nm,1.4s					
WRGLY	Wrigley	58.11 339	IAmb	IAmb	IAmb	21 06 37.5
	comp=Z,28nm,1.0s					
WRGLY			IAMs_20	IAMs_20	IAMs_20	21 34 34.7
	comp=Z,3μm,18.0s					
WRGLY	Wrigley	58.11 339	P	P	P	21 06 31.3 +1.8
	baz=129					
S34M	Telegraph Cree	58.27 331	IAMs_20	IAMs_20	IAMs_20	21 34 40.2
	comp=Z,3μm,19.0s					
WTLY	Watson Lake, Y	58.35 334	IAMs_20	IAMs_20	IAMs_20	21 35 08.1
	comp=Z,3μm,21.0s					
WTLY	Watson Lake, Y	58.35 334	P	P	P	21 06 33.4 +2.1
	baz=122					
U33K	Whale Pass	58.42 329	IAMs_20	IAMs_20	IAMs_20	21 36 35.1
	comp=Z,3μm,19.0s					
U33K	Whale Pass	58.42 329	P	P	P	21 06 32.7 +1.0
	baz=116					
TGTN	Hyland Airport	58.90 336	P	P	P	21 06 36.3 +1.1
	baz=124					
R33M	Jennings River	58.92 333	IAmb	IAmb	IAmb	21 06 45.1
	comp=Z,56nm,1.6s					
R33M			IAMs_20	IAMs_20	IAMs_20	21 33 15.3
	comp=Z,3μm,20.0s					
R33M	Jennings River	58.92 333	P	P	P	21 06 36.5 +1.1
	baz=120					
ILULI	Ilulissat	59.13 12	IAMs_20	IAMs_20	IAMs_20	21 30 07.9
	comp=Z,3μm,20.0s					
Q32M	Nakina River	59.30 332	IAmb	IAmb	IAmb	21 06 47.2
	comp=Z,21nm,0.8s					
Q32M			IAMs_20	IAMs_20	IAMs_20	21 33 32.3
	comp=Z,3μm,19.0s					
Q32M	Nakina River	59.30 332	P	P	P	21 06 38.9 +0.8
	baz=116					
S32K	Killisnoo	59.72 330	IAMs_20	IAMs_20	IAMs_20	21 35 05.6
	comp=Z,2μm,22.0s					
S32K	Killisnoo	59.72 330	P	P	P	21 06 42.0 +1.3
	baz=115					
SIT	Sitka	59.92 329	IAMs_20	IAMs_20	IAMs_20	21 37 04.9
	comp=Z,3μm,19.0s					
ANGG	Ammassalik, Gr	60.01 19	IAMs_20	IAMs_20	IAMs_20	21 30 20.6
	comp=Z,4μm,20.0s					
ANGG	Ammassalik, Gr	60.01 19	i P	P	P	21 06 41.8 -0.8
ANGG			IAmb	IAmb	IAmb	21 06 50.4
	comp=Z,196nm,2.0s					
R32K	Eaglecrest	60.04 331	P	P	P	21 06 43.7 +0.7
	baz=116					
P33M	Teslin, Yukon	60.14 333	IAMs_20	IAMs_20	IAMs_20	21 33 57.4
	comp=Z,2μm,20.0s					
P33M	Teslin, Yukon	60.14 333	P	P	P	21 06 45.2 +1.5
	baz=118					
P32M	Atlin	60.25 332	P	P	P	21 06 45.4 +1.0
	baz=117					
MMPY	Sheldon Lake,	60.68 336	IAMs_20	IAMs_20	IAMs_20	21 32 42.6
	comp=Z,3μm,20.0s					
MMPY	Sheldon Lake,	60.68 336	P	P	P	21 06 48.7 +1.3
	baz=121					
N32M	Quiet Lake	60.70 334	IAmb	IAmb	IAmb	21 06 56.0
	comp=Z,21nm,1.0s					
N32M			IAMs_20	IAMs_20	IAMs_20	21 35 16.3
	comp=Z,3μm,19.0s					
N32M	Quiet Lake	60.70 334	P	P	P	21 06 48.8 +1.3
	baz=118					
S31K	Pelican	60.74 330	P	P	P	21 06 49.4 +1.7
	baz=114					
SKAG	Skagway	60.93 332	P	P	P	21 06 50.4 +1.4
	baz=115					
WHY	Whitehorse	61.25 333	IAMs_20	IAMs_20	IAMs_20	21 36 56.9
	comp=Z,3μm,19.0s					
WHY	Whitehorse	61.25 333	P	P	P	21 06 52.5 +1.1
	baz=116					
FARO	Faro, Yukon	61.33 335	P	P	P	21 06 53.2 +1.4
	baz=119					
PLBC	Pleasant Camp	61.41 331	P	P	P	21 06 53.6 +1.3
	baz=114					
MACI	Morro de la Ar	61.61 65	P	P	P	21 06 54.1 -0.3
MACI			IAMs_20	IAMs_20	IAMs_20	21 27 58.3
	comp=Z,2μm,22.0s					
ICESG	Greenland Ices	61.72 16	i P	P	P	21 06 53.0 -1.7
ICESG			IAmb	IAmb	IAmb	21 07 02.0
	comp=Z,43nm,0.9s					
M31M	Drury Creek, Y	61.74 335	IAmb	IAmb	IAmb	21 07 05.7
	comp=Z,44nm,1.7s					
M31M			IAMs_20	IAMs_20	IAMs_20	21 33 54.8
	comp=Z,4μm,22.0s					
M31M	Drury Creek, Y	61.74 335	P	P	P	21 06 55.6 +1.0
	baz=118					
O30N	Mendenhall	61.84 333	IAMs_20	IAMs_20	IAMs_20	21 34 44.3
	comp=Z,2μm,19.0s					
O30N	Mendenhall	61.84 333	P	P	P	21 06 57.2 +2.0
	baz=115					
P30M	Million Dollar	61.96 332	P	P	P	21 06 57.7 +1.6
	baz=114					
RES	Resolute Bay	61.96 356	IAmb	IAmb	IAmb	21 07 08.3
	comp=Z,73nm,1.8s					
RES	Resolute Bay	61.96 356	LR	LR	LR	21 34 16.6
	comp=Z,4μm,18.2s,baz=163,slow=36					
N31M	Braeburn, Yuko	62.01 334	IAmb	IAmb	IAmb	21 07 52.1
	comp=Z,43nm,1.4s					
N31M			IAMs_20	IAMs_20	IAMs_20	21 37 14.9
	comp=Z,2μm,18.0s					
N31M	Braeburn, Yuko	62.01 334	P	P	P	21 06 57.7 +1.3
	baz=116					
P29M	Windy Craggy	62.12 331	P	P	P	21 06 58.1 +0.9
	baz=113					
MBO	M'Bour	62.13 81	IAMs_20	IAMs_20	IAMs_20	21 28 17.0
	comp=Z,2μm,19.0s					
C36M	Paulatuk	62.29 344	IAmb	IAmb	IAmb	21 08 01.9
	comp=Z,55nm,1.9s					
C36M			IAMs_20	IAMs_20	IAMs_20	21 34 14.8
	comp=Z,3μm,22.0s					
C36M	Paulatuk	62.29 344	P	P	P	21 06 59.4 +1.4
	baz=131					
HYT	Haines Junctio	62.49 333	IAMs_20	IAMs_20	IAMs_20	21 37 45.7
	comp=Z,2μm,19.0s					
HYT	Haines Junctio	62.49 333	P	P	P	21 07 00.6 +0.9
	baz=114					
BBTS	Babate	62.50 80	LR	LR	LR	21 28 05.4
	comp=Z,1μm,21.2s,baz=161,slow=30					
N30M	Aishikik Lake	62.57 333	IAmb	IAmb	IAmb	21 07 45.8
	comp=Z,55nm,1.6s					
N30M			IAMs_20	IAMs_20	IAMs_20	21 37 44.7
	comp=Z,3μm,18.0s					
N30M	Aishikik Lake	62.57 333	P	P	P	21 07 01.5 +1.4
	baz=114					
TAOE	Nuku Hiva Isla	62.59 253	eS	S	S	21 15 27.0 -2.6
	comp=Z,379nm,24.3s					
TAOE			eLQ	LQ	LQ	21 22 58.8
	comp=Z,4μm,26.1s					
TAOE			eLR	LR	LR	21 25 35.6
	comp=Z,591nm,22.2s					
O29M	Mount Kennedy	62.77 332	IAMs_20	IAMs_20	IAMs_20	21 39 19.1
	comp=Z,3μm,21.0s					
O29M	Mount Kennedy	62.77 332	P	P	P	21 07 02.6 +1.0
	baz=112					
M30M	Minto, Yukon	62.91 335	IAmb	IAmb	IAmb	21 07 20.9
	comp=Z,67nm,1.8s					
M30M			IAMs_20	IAMs_20	IAMs_20	21 36 18.7
	comp=Z,3μm,18.0s					
M30M	Minto, Yukon	62.91 335	P	P	P	21 07 04.0 +1.6
	baz=115					
PNL	Peninsula	62.91 331	P	P	P	21 07 03.7 +1.3
	baz=112					
YUK6	Outpost Mounta	62.92 333	P	P	P	21 07 04.1 +1.4
	baz=113					
MAYO	Mayo, Yukon	62.99 336	IAMs_20	IAMs_20	IAMs_20	21 37 35.8
	comp=Z,2μm,21.0s					
MAYO	Mayo, Yukon	62.99 336	P	P	P	21 07 04.3 +1.5
	baz=117					
YUK4	Talbot Arm	63.21 333	P	P	P	21 07 06.0 +1.5
	baz=113					
H31M	Peel River	63.45 338	IAMs_20	IAMs_20	IAMs_20	21 39 58.8
	comp=Z,2μm,21.0s					
H31M	Peel River	63.45 338	P	P	P	21 07 08.0 +2.1
	baz=119					
PINM	Pinnacle	63.47 331	P	P	P	21 07 07.9 +1.8
	baz=111					
M29M	Somme Creek	63.56 334	IAmb	IAmb	IAmb	21 07 15.6
	comp=Z,23nm,1.0s					
M29M	Somme Creek	63.56 334	P	P	P	21 07 08.1 +1.3
	baz=114					
J30M	Hart River	63.61 337	IAmb	IAmb	IAmb	21 07 20.3
	comp=Z,31nm,1.2s					
J30M			IAMs_20	IAMs_20	IAMs_20	21 34 58.0
	comp=Z,3μm,19.0s					
J30M	Hart River	63.61 337	P	P	P	21 07 08.9 +1.8
	baz=117					
YUK8	Steele Glacier	63.68 333	P	P	P	21 07 09.2 +1.4
	baz=112					
O28M	Mount Upton	63.69 332	P	P	P	21 07 09.0 +1.2
	baz=111					
L29M	L29M	63.70 335	IAMs_20	IAMs_20	IAMs_20	21 38 35.3
	comp=Z,2μm,18.0s					
L29M	L29M	63.70 335	P	P	P	21 07 08.8 +1.3
	baz=114					
K29M	Barlow Dome	63.76 336	IAmb	IAmb	IAmb	21 07 15.3
	comp=Z,18nm,0.9s					
K29M			IAMs_20	IAMs_20	IAMs_20	21 35 57.0
	comp=Z,2μm,21.0s					
K29M	Barlow Dome	63.76 336	P	P	P	21 07 09.5 +1.4
	baz=115					
I30M	Mount Dempster	63.92 337	IAmb	IAmb	IAmb	21 07 22.1
	comp=Z,40nm,1.3s					
I30M	Mount Dempster	63.92 337	P	P	P	21 07 10.8 +1.7
	baz=117					
G31M	Satah River	63.98 339	IAmb	IAmb	IAmb	21 07 24.1
	comp=Z,31nm,1.1s					
G31M			IAMs_20	IAMs_20	IAMs_20	21 38 55.6
	comp=Z,2μm,18.0s					
G31M	Satah River	63.98 339	P	P	P	21 07 10.6 +1.3
	baz=120,SNR=7.6					
F31M	Tsiigehtchic	64.06 340	IAMs_20	IAMs_20	IAMs_20	21 37 05.8
	comp=Z,3μm,21.0s					
F31M	Tsiigehtchic	64.06 340	P	P	P	21 07 11.1 +1.3
	baz=121					
YUK3	Moose Creek	64.17 333	P	P	P	21 07 12.1 +1.1
	baz=111					
CTGM	Chitina Glacie	64.28 332	IAmb	IAmb	IAmb	21 07 20.6
	comp=Z,20nm,0.8s					
CTGM			IAMs_20	IAMs_20	IAMs_20	21 39 38.0
	comp=Z,3μm,22.0s					
CTG	Chitna Glacier	64.28 332	P	P	P	21 07 12.8 +1.2
	baz=110					
J29N	Klondike Camp	64.29 336	IAmb	IAmb	IAmb	21 07 19.2
	comp=Z,30nm,1.0s					
J29N			IAMs_20	IAMs_20	IAMs_20	21 38 28.1
	comp=Z,3μm,19.0s					
A36M	Sachs Harbour	64.34 346	P	P	P	21 07 12.6 +1.0
	baz=131,SNR=51					
SUMG	Summit	64.39 13	P	P	P	21 07 12.1 -0.3
SUMG	Summit	64.39 13	i P	P	P	21 07 12.0 -0.4
SUMG			IAmb	IAmb	IAmb	21 07 18.6
	comp=Z,47nm,0.9s					
INK	Inuvik	64.44 341	IAmb	IAmb	IAmb	21 07 19.4
	comp=Z,34nm,1.2s					
INK	Inuvik	64.44 341	P	P	P	21 07 13.2 +1.0
	baz=121,SNR=17					
EPYK	Eagle Plains	64.57 338	IAMs_20	IAMs_20	IAMs_20	21 40 37.4
	comp=Z,3μm,20.0s					
EPYK	Eagle Plains	64.57 338	P	P	P	21 07 14.9 +1.6
	baz=117					
DAWY	Dawson	64.60 336	IAmb	IAmb	IAmb	21 07 21.5
	comp=Z,19nm,0.8s					
DAWY			IAMs_20	IAMs_20	IAMs_20	21 39 25.3
	comp=Z,2μm,20.0s					
DAWY	Dawson	64.60 336	P	P	P	21 07 14.9 +1.4
	baz=114,SNR=14					
G30M	tAoh Zraii Nji	64.68 339	IAmb	IAmb	IAmb	21 07 34.2
	comp=Z,33nm,1.6s					
G30M			IAMs_20	IAMs_20	IAMs_20	21 33 26.2
	comp=Z,2μm,21.0s					
G30M	tAoh Zraii Nji	64.68 339	P	P	P	21 07 15.0 +1.1
	baz=118					
F30M	Barrier River	64.83 340	P	P	P	21 07 16.2 +1.4
	baz=119					
TGL	Tana Glacier	64.90 331	IAMs_20	IAMs_20	IAMs_20	21 36 00.3
	comp=Z,3μm,20.0s					
M27K	Edge Creek, AK	65.01 333	IAmb	IAmb	IAmb	21 07 25.3
	comp=Z,23nm,0.9s					
M27K	Edge Creek, AK	65.01 333	P	P	P	21 07 17.9 +1.6
	baz=110,SNR=9.2					
CRQE	Cirque	65.02 331	P	P	P	21 07 17.9 +1.5
	baz=108					
CRQM	Cirque	65.04 331	IAMs_20	IAMs_20	IAMs_20	21 35 29.6
	comp=Z,3μm,18.0s					
H29M	Whitestone	65.10 338	IAmb	IAmb	IAmb	21 07 24.2
	comp=Z,38nm,1.2s					
H29M	Whitestone	65.10 338	P	P	P	21 07 18.4 +1.7
	baz=115					
MCARA	McCarthy VSAT	65.19 332	P	P	P	21 07 19.2 +1.8
	baz=109					
BERG	Berg Lake	65.19 331	IAMs_20	IAMs_20	IAMs_20	21 36 19.2
	comp=Z,2μm,19.0s					
BCAR	Beaver Creek A	65.22 334	P	P	P	21 07 19.1 +1.6
L27K	Beaver Creek,	65.23 334	IAMs_20	IAMs_20	IAMs_20	21 36 56.0
	comp=Z,3μm,21.0s					
L27K	Beaver Creek,	65.23 334	P	P	P	21 07 19.0 +1.3
	baz=111					
G29M	Pine Creek	65.28 339	IAMs_20	IAMs_20	IAMs_20	21 40 35.1
	comp=Z,3μm,21.0s					
G29M	Pine Creek	65.28 339	P	P	P	21 07 19.3 +1.4
	baz=116,SNR=12					
I28M	Miner Creek	65.37 337	P	P	P	21 07 20.1 +1.5
	baz=114					
BORG	Borgarnes	65.46 24	IAMs_20	IAMs_20	IAMs_20	21 30 48.8
	comp=Z,2μm,19.0s					
BORG	Borgarnes	65.46 24	LR	LR	LR	21 34 17.5
	comp=Z,2μm,18.5s,baz=242,slow=35					
M26K	Nabesna, AK	65.51 333	IAmb	IAmb	IAmb	21 07 28.3
	comp=Z,24nm,1.2s					
M26K	Nabesna, AK	65.51 333	P	P	P	21 07 20.3 +0.8
	baz=109					
GLB	Gilahina Butte	65.57 332	IAMs_20	IAMs_20	IAMs_20	21 37 26.0
	comp=Z,3μm,19.0s					
EGAK	Eagle	65.58 336	IAMs_20	IAMs_20	IAMs_20	21 36 22.3
	comp=Z,3μm,19.0s					
EGAK	Eagle	65.58 336	P	P	P	21 07 21.2 +1.4
	baz=112					
BMRM	Bremner River	65.79 331	P	P	P	21 07 22.7 +1.4
	baz=107					
L26K	Log Cabin Wild	65.87 334	IAmb	IAmb	IAmb	21 07 30.8
	comp=Z,30nm,1.0s					
L26K	Log Cabin Wild	65.87 334	P	P	P	21 07 23.6 +1.9
	baz=109,SNR=11					
E29M	Blow River	65.90 340	IAmb	IAmb	IAmb	21 07 35.0
	comp=Z,54nm,1.4s					
E29M			IAMs_20	IAMs_20	IAMs_20	21 41 40.2
	comp=Z,3μm,21.0s					
E29M	Blow River	65.90 340	P	P	P	21 07 23.4 +1.6
	baz=117,SNR=19					
N25K	Chitina, Valde	65.98 332	IAmb	IAmb	IAmb	21 07 31.6
	comp=Z,27nm,0.9s					
N25K			IAMs_20	IAMs_20	IAMs_20	21 37 46.8
	comp=Z,3μm,19.0s					
N25K	Chitina, Valde	65.98 332	P	P	P	21 07 23.9 +1.4
	baz=107					
NEEM	North Greenlan	66.05 7	i P	P	P	21 07 22.8 -0.2
NEEM			IAmb	IAmb	IAmb	21 07 29.5
	comp=Z,38nm,0.7s					
I27K	Kandik River	66.07 337	P	P	P	21 07 24.5 +1.5
	baz=112					
EYAK	Cordova Ski Ar	66.21 331	P	P	P	21 07 25.1 +1.3
	baz=106					
F28M	Old Crow	66.23 339	IAMs_20	IAMs_20	IAMs_20	21 37 37.2
	comp=Z,2μm,20.0s					
F28M	Old Crow	66.23 339	P	P	P	21 07 25.5 +1.5
	baz=114,SNR=16					
H27K	Steamboat Moun	66.28 337	P	P	P	21 07 25.6 +1.2
	baz=112					
J26L	Joseph Creek	66.45 335	IAMs_20	IAMs_20	IAMs_20	21 38 29.3
	comp=Z,2μm,18.0s					
J26L	Joseph Creek	66.45 335	P	P	P	21 07 26.6 +1.0
	baz=110,SNR=23					
SCRK	Sand Creek	66.45 335	IAMs_20	IAMs_20	IAMs_20	21 40 07.3
	comp=Z,2μm,21.0s					
SCRK	Sand Creek	66.45 335	P	P	P	21 07 27.3 +1.7
	baz=109,SNR=14					
E28M	Babbage River	66.53 340	IAmb	IAmb	IAmb	21 07 34.1
	comp=Z,30nm,0.9s					
E28M			IAMs_20	IAMs_20	IAMs_20	21 42 07.0
	comp=Z,3μm,21.0s					
E28M	Babbage River	66.53 340	P	P	P	21 07 27.4 +1.5
	baz=115					
G27K	Doyon Strip	66.55 338	IAmb	IAmb	IAmb	21 07 42.4
	comp=Z,28nm,1.6s					
G27K			IAMs_20	IAMs_20	IAMs_20	21 40 21.4
	comp=Z,3μm,20.0s					
G27K	Doyon Strip	66.55 338	P	P	P	21 07 27.2 +1.1
	baz=112					
KLU	Klutina	66.55 332	IAmb	IAmb	IAmb	21 07 35.0
	comp=Z,34nm,0.9s					
KLU	Klutina	66.55 332	P	P	P	21 07 27.5 +1.3
	baz=106					
I26K	Coal Creek Min	66.57 336	IAmb	IAmb	IAmb	21 07 44.9
	comp=Z,39nm,1.1s					
I26K			IAMs_20	IAMs_20	IAMs_20	21 40 02.3
	comp=Z,3μm,20.0s					
I26K	Coal Creek Min	66.57 336	P	P	P	21 07 27.7 +1.6
	baz=110					
D28M	Stokes Point	66.59 341	P	P	P	21 07 27.6 +1.4
	baz=116					
FID	Port Fidalgo	66.61 331	IAMs_20	IAMs_20	IAMs_20	21 37 48.0
	comp=Z,3μm,19.0s					
RIDG	Independent Ri	66.74 334	IAMs_20	IAMs_20	IAMs_20	21 42 14.9
	comp=Z,3μm,21.0s					
RIDG	Independent Ri	66.74 334	P	P	P	21 07 28.6 +1.3
	baz=108					
PAX	Paxson	66.77 333	P	P	P	21 07 28.8 +1.2
	baz=107,SNR=9.6					
M24K	Tolsona, Glenn	66.84 332	P	P	P	21 07 29.6 +1.6
	baz=106					
GLI	Glacier Island	66.94 331	IAMs_20	IAMs_20	IAMs_20	21 40 15.2
	comp=Z,2μm,19.0s					
E27K	Coleen River	67.06 339	IAmb	IAmb	IAmb	21 07 37.8
	comp=Z,21nm,0.9s					
E27K			IAMs_20	IAMs_20	IAMs_20	21 40 02.0
	comp=Z,3μm,20.0s					
E27K	Coleen River	67.06 339	P	P	P	21 07 31.0 +1.7
	baz=113					
K24K	Donnelly Dome	67.15 334	P	P	P	21 07 31.4 +1.4
	baz=107,SNR=8.6					
J25K	Salcha River,	67.23 335	P	P	P	21 07 31.9 +1.5
	baz=108					
D27M	Malcolm River	67.27 340	IAmb	IAmb	IAmb	21 07 45.8
	comp=Z,27nm,0.9s					
D27M			IAMs_20	IAMs_20	IAMs_20	21 39 25.8
	comp=Z,2μm,19.0s					
D27M	Malcolm River	67.27 340	P	P	P	21 07 32.1 +1.5
	baz=114					
SCM	Sheep Creek Mo	67.29 332	IAMs_20	IAMs_20	IAMs_20	21 38 12.5
	comp=Z,2μm,20.0s					
SCM	Sheep Creek Mo	67.29 332	P	P	P	21 07 31.7 +0.8
	baz=105					
G26K	Porcupine Rive	67.38 338	P	P	P	21 07 32.3 +1.1
	baz=110					
M23K	Glacier View	67.46 332	P	P	P	21 07 33.3 +1.4
	baz=104					
SCO	Scoresbysund	67.57 18	i P	P	P	21 07 32.2 -0.2
SCO			IAmb	IAmb	IAmb	21 07 40.4
	comp=Z,9.0nm,0.7s					
PRP	Porcupine Dome	67.57 336	IAmb	IAmb	IAmb	21 07 41.2
	comp=Z,15nm,0.8s					
PRP	Porcupine Dome	67.57 336	P	P	P	21 07 33.9 +1.2
	baz=108					
DHY	Denali Highway	67.64 333	IAMs_20	IAMs_20	IAMs_20	21 39 11.7
	comp=Z,3μm,20.0s					
DHY	Denali Highway	67.64 333	P	P	P	21 07 34.4 +1.2
	baz=105					
WAT6	Susitna Watana	67.67 333	P	P	P	21 07 34.7 +1.3
	baz=105					
KNK	Knik Glacier	67.71 331	IAMs_20	IAMs_20	IAMs_20	21 37 29.6
	comp=Z,3μm,22.0s					
KNK	Knik Glacier	67.71 331	P	P	P	21 07 34.6 +1.2
	baz=104					
SML	Sawmill	67.74 332	P	P	P	21 07 35.3 +1.6
	baz=104					
F26K	Sheenjek River	67.77 338	IAMs_20	IAMs_20	IAMs_20	21 35 24.0
	comp=Z,3μm,20.0s					
F26K	Sheenjek River	67.77 338	P	P	P	21 07 35.0 +1.2
	baz=110,SNR=13					
FYU	Fort Yukon	67.79 337	IAMs_20	IAMs_20	IAMs_20	21 42 03.6
	comp=Z,3μm,19.0s					
HDA	Harding Lake	67.82 335	P	P	P	21 07 35.2 +1.1
	baz=106,SNR=21					
BMAR	Burnt Mountain	67.84 338	P	P	P	21 07 35.4 +1.2
SEW	Seward	67.89 330	P	P	P	21 07 35.9 +1.3
	baz=102					
IL31		67.90 335	IAmb	IAmb	IAmb	21 07 42.9
	comp=Z,22nm,0.8s					
ILAR	Eielson Array	67.90 335	P	P	P	21 07 33.9 -0.7
ILAR	Eielson Array	67.90 335	P	P	P	21 07 35.3 +0.7
	comp=Z,10nm,0.9s,baz=110,slow=4.3,SNR=52					
	comp=Z,10nm,0.9s					
PMR	Palmer	68.06 331	IAmb	IAmb	IAmb	21 07 43.7
	comp=Z,23nm,1.0s					
PMR			IAMs_20	IAMs_20	IAMs_20	21 41 11.0
	comp=Z,2μm,19.0s					
PMR	Palmer	68.06 331	P	P	P	21 07 36.7 +1.1
	baz=103					
WAT1	Susitna Watana	68.09 333	P	P	P	21 07 37.3 +1.4
	baz=104					
O22K	Cooper Landing	68.10 330	P	P	P	21 07 35.8 -0.1
	baz=102					
PSBE	So Bento	68.12 53	eP	P	P	21 07 38.6 +2.1
PTEO	Sao Teotonio	68.16

	comp=Z,17nm,0.7s					
COLA	College	68.32	335	P	P	21 07 39.0 +1.8
	baz=106					
RND	Reindeer	68.37	333	IAMs_20	IAMs_20	21 40 54.1
	comp=Z,2µm,20.0s					
BRSE	Bradley Lake S	68.45	329	P	P	21 07 39.7 +1.6
	baz=101					
MCK	McKinley	68.48	334	P	P	21 07 39.8 +1.5
	baz=104					
PMTG	Montargil	68.56	53	eP	P	21 07 41.0 +1.8
M22K	Willow	68.56	331	IAMs_20	IAMs_20	21 38 57.1
	comp=Z,2µm,20.0s					
M22K	Willow	68.56	331	P	P	21 07 40.5 +1.8
	baz=102					
MESJ	Messejana	68.56	54	IAMs_20	IAMs_20	21 34 45.1
	comp=Z,2µm,19.0s					
PGAV	Gavieira, Arco	68.56	50	eLR	LR	21 27 25.2
PGAV				A	A	21 31 38.8
	comp=Z,2µm,20.0s					
H24K	Noodor Dome	68.60	336	IAmb	IAmb	21 07 47.7
	comp=Z,24nm,1.0s					
H24K	Noodor Dome	68.60	336	P	P	21 07 40.5 +1.5
	baz=106					
G24K	Hadweenzic Riv	68.69	337	IAMs_20	IAMs_20	21 38 39.1
	comp=Z,2µm,21.0s					
G24K	Hadweenzic Riv	68.69	337	P	P	21 07 41.1 +1.6
	baz=107					
NEA2	Nenana	68.75	335	IAmb	IAmb	21 07 48.1
	comp=Z,23nm,0.9s					
NEA2				IAMs_20	IAMs_20	21 42 50.1
	comp=Z,2µm,20.0s					
NEA2	Nenana	68.75	335	P	P	21 07 41.4 +1.4
	baz=104,SNR=12					
SUA	Susitna One	68.79	331	P	P	21 07 41.9 +1.5
	baz=102					
C26K	Camden Bay	68.81	341	P	P	21 07 41.5 +1.3
	baz=110,SNR=19					
BWN	Browne	68.82	334	IAMs_20	IAMs_20	21 40 06.0
	comp=Z,3µm,22.0s					
PVIS	Viseu	68.82	51	eP	P	21 07 43.3 +2.4
PVAQ	Vaqueiros	68.96	55	IAMs_20	IAMs_20	21 35 14.8
	comp=Z,2µm,18.0s					
PVAQ	Vaqueiros	68.96	55	eLR	LR	21 28 38.6
PVAQ				A	A	21 35 37.9
	comp=Z,2µm,20.0s					
TRF	Thorofare Moun	69.01	333	P	P	21 07 42.6 +0.9
	baz=103					
I23K	Minto, Yukon-K	69.01	335	P	P	21 07 42.3 +0.8
	baz=104,SNR=16					
PESTR	Estremoz	69.05	53	IAMs_20	IAMs_20	21 34 10.0
	comp=Z,2µm,20.0s					
PESTR	Estremoz	69.05	53	eP	P	21 07 45.0 +2.7
PESTR				A	A	21 07 49.7
	comp=Z,83nm,1.6s					
F24K	Squaw Lake	69.08	338	IAMs_20	IAMs_20	21 41 57.4
	comp=Z,3µm,21.0s					
F24K	Squaw Lake	69.08	338	P	P	21 07 44.1 +2.1
	baz=107					
MTE	Manteigas	69.09	52	eP	P	21 07 45.5 +2.9
MTE	Manteigas	69.09	52	eLR	LR	21 28 41.8
MTE				A	A	21 39 17.6
	comp=Z,3µm,18.0s					
Q20K	Shuyak Island	69.09	328	P	P	21 07 43.4 +1.2
	baz=99					
D25K	Kavik River	69.09	340	IAmb	IAmb	21 07 49.2
	comp=Z,32nm,0.8s					
D25K				IAMs_20	IAMs_20	21 40 12.9
	comp=Z,3µm,21.0s					
D25K	Kavik River	69.09	340	P	P	21 07 43.5 +1.4
	baz=109					
PCBR	Castelo Branco	69.14	52	eP	P	21 07 45.4 +2.6
PCBR				A	A	21 07 50.2
	comp=Z,93nm,1.9s					
PMRV	Marv??o	69.20	53	eP	P	21 07 45.7 +2.4
PMRV				A	A	21 07 52.3
	comp=Z,74nm,1.7s					
PMRV	Marv??o	69.20	53	eLR	LR	21 27 54.9
PMRV				A	A	21 35 21.3
	comp=Z,2µm,20.0s					
H23K	Yukon River	69.26	336	IAmb	IAmb	21 07 55.9
	comp=Z,23nm,0.9s					
H23K	Yukon River	69.26	336	P	P	21 07 44.8 +1.7
	baz=104					
SKT	Skwentna	69.26	332	IAmb	IAmb	21 07 51.3
	comp=Z,31nm,0.9s					
SKT				IAMs_20	IAMs_20	21 40 31.7
	comp=Z,3µm,20.0s					
SKT	Skwentna	69.26	332	P	P	21 07 44.3 +1.1
	baz=101					
AVE	Averroes	69.33	59	IAMs_20	IAMs_20	21 34 53.5
	comp=Z,2µm,19.0s					
OHAK	Old Harbor	69.36	326	P	P	21 07 45.0 +1.2
	baz=98					
N20K	Mount Spurr	69.43	331	P	P	21 07 45.5 +1.1
	baz=100					
SPCR	Spurr Chakacha	69.43	331	P	P	21 07 45.5 +1.2
	baz=100					
O20K	Slope Mountain	69.44	329	P	P	21 07 45.5 +1.1
	baz=99					
BPAW	Bear Paw Mtn.	69.45	334	IAMs_20	IAMs_20	21 39 42.6
	comp=Z,2µm,20.0s					
BPAW	Bear Paw Mtn.	69.45	334	P	P	21 07 45.5 +1.1
	baz=102					
E24K	Your Creek	69.45	338	IAmb	IAmb	21 08 01.2
	comp=Z,40nm,1.8s					
E24K	Your Creek	69.45	338	P	P	21 07 45.5 +1.2
	baz=106					
MVO	Moncorvo	69.48	51	eP	P	21 07 47.8 +2.8
PBAR	Barrancos	69.49	54	eP	P	21 07 46.8 +1.8
MLY	Manley	69.55	335	IAmb	IAmb	21 07 53.4
	comp=Z,27nm,0.9s					
MLY				IAMs_20	IAMs_20	21 42 04.3
	comp=Z,2µm,20.0s					
MLY	Manley	69.55	335	P	P	21 07 46.2 +1.2
	baz=103,SNR=13					
G23K	Bananza Creek	69.67	337	IAmb	IAmb	21 07 54.7
	comp=Z,19nm,0.8s					
G23K				IAMs_20	IAMs_20	21 38 18.1
	comp=Z,2µm,19.0s					
G23K	Bananza Creek	69.67	337	P	P	21 07 46.7 +1.0
	baz=104,SNR=11					
ILSW	Iliamna Southw	69.69	329	IAMs_20	IAMs_20	21 40 08.0
	comp=Z,2µm,21.0s					
PBRG	Braganca	69.70	50	eP	P	21 07 49.0 +2.7
PPLA	Purkeypile	69.74	332	P	P	21 07 46.8 +0.5
	baz=101					
CAST	Castle Rocks	69.79	333	IAmb	IAmb	21 07 54.2
	comp=Z,24nm,1.1s					
CAST				IAMs_20	IAMs_20	21 43 43.6
	comp=Z,2µm,20.0s					
CAST	Castle Rocks	69.79	333	P	P	21 07 47.8 +1.4
	baz=101					
E23K	Chandalar	69.86	338	IAmb	IAmb	21 08 06.0
	comp=Z,51nm,1.6s					
E23K	Chandalar	69.86	338	P	P	21 07 48.2 +1.3
	baz=105					
COLD	Coldfoot	69.86	337	P	P	21 07 48.0 +1.2
	baz=104,SNR=8.0					
D24K	Happy Valley	69.88	339	P	P	21 07 48.0 +1.2
	baz=106					
CHUM	Lake Minchumin	69.98	334	P	P	21 07 48.8 +1.3
	baz=101,SNR=5.8					
M20K	Styx River	69.99	331	IAmb	IAmb	21 07 55.3
	comp=Z,25nm,0.7s					
M20K	Styx River	69.99	331	P	P	21 07 49.3 +1.6
	baz=100					
C24K	Franklin Bluff	70.00	340	IAmb	IAmb	21 07 56.1
	comp=Z,31nm,0.8s					
C24K				IAMs_20	IAMs_20	21 40 51.7
	comp=Z,3µm,21.0s					
C24K	Franklin Bluff	70.00	340	P	P	21 07 49.4 +1.8
	baz=107					
TOLK	Toolik Lake Re	70.00	339	P	P	21 07 49.1 +1.5
	baz=105					
H22K	Ishtalitna Cre	70.01	336	P	P	21 07 49.4 +1.7
	baz=103					
R18K	Karluk	70.03	327	P	P	21 07 49.5 +1.6
	baz=97					
G22K	Bettles	70.29	337	P	P	21 07 51.4 +2.0
	baz=103					
O19K	Port Alsworth	70.30	329	P	P	21 07 50.5 +0.9
	baz=98					
DSB	Dublin	70.40	38	IAMs_20	IAMs_20	21 41 48.3
	comp=Z,2µm,18.0s					
L20K	Farewell, AK	70.43	332	P	P	21 07 51.0 +0.6
	baz=99,SNR=14					
Q18K	Katmai Hardscr	70.45	328	P	P	21 07 51.8 +1.2
	baz=97					
N19K	Bonanza Creek	70.47	330	IAmb	IAmb	21 07 58.4
	comp=Z,35nm,0.9s					
N19K	Bonanza Creek	70.47	330	P	P	21 07 51.8 +1.1
	baz=98					
D23K	Nanushuk River	70.47	339	IAmb	IAmb	21 08 02.9
	comp=Z,80nm,1.8s					
D23K	Nanushuk River	70.47	339	P	P	21 07 51.8 +1.3
	baz=104					
H21K	Melozitna Rive	70.53	335	P	P	21 07 52.3 +1.4
	baz=101					
ACHA	Angle Creek He	70.57	327	IAMs_20	IAMs_20	21 38 17.4
	comp=Z,1µm,18.0s					
M19K	Big River Lodg	70.58	331	IAmb	IAmb	21 08 03.8
	comp=Z,59nm,1.6s					
M19K				IAMs_20	IAMs_20	21 39 23.5
	comp=Z,3µm,19.0s					
M19K	Big River Lodg	70.58	331	P	P	21 07 52.6 +1.3
	baz=98					
P18K	Big Mountain,	70.65	329	P	P	21 07 52.9 +1.1
	baz=97					
K20K	Telida	70.66	333	IAmb	IAmb	21 08 00.4
	comp=Z,67nm,1.4s					
C23K	Itkillik River	70.67	340	IAmb	IAmb	21 07 58.9
	comp=Z,41nm,1.1s					
C23K				IAMs_20	IAMs_20	21 41 35.2
	comp=Z,3µm,21.0s					
C23K	Itkillik River	70.67	340	P	P	21 07 53.1 +1.5
	baz=105,SNR=14					
F22K	John River	70.67	337	P	P	21 07 53.4 +1.6
	baz=102					
E22K	Anaktuvuk Pass	70.67	338	IAmb	IAmb	21 08 35.8
	comp=Z,57nm,1.9s					
E22K	Anaktuvuk Pass	70.67	338	P	P	21 07 53.0 +1.2
	baz=103					
O18K	Koktuh Hills	70.70	329	P	P	21 07 53.2 +1.2
	baz=97					
J20K	Nowinta River	70.83	334	IAMs_20	IAMs_20	21 44 29.8
	comp=Z,3µm,19.0s					
J20K	Nowinta River	70.83	334	P	P	21 07 53.9 +1.2
	baz=100					
L19K	White Mountain	70.84	332	IAMs_20	IAMs_20	21 41 47.4
	comp=Z,3µm,19.0s					
L19K	White Mountain	70.84	332	P	P	21 07 53.9 +1.1
	baz=98					
Q17K	Contact Creek	70.87	327	P	P	21 07 54.1 +0.9
	baz=96					
IMAR	Indian Mountai	70.98	336	P	P	21 07 53.2 -0.4
G21K	Allakaket	70.98	336	IAmb	IAmb	21 08 02.5
	comp=Z,35nm,0.8s					
G21K	Allakaket	70.98	336	P	P	21 07 55.2 +1.6
	baz=101					
R17L	Mt. Peulik Vol	71.06	327	P	P	21 07 55.2 +0.9
	baz=95					
DAG	Danmarks Havn	71.06	12	i P	P	21 07 53.0 -0.9
DAG				IAmb	IAmb	21 08 17.2
	comp=Z,157nm,2.5s					
F21K	Alatna River	71.11	337	IAmb	IAmb	21 08 03.4
	comp=Z,20nm,0.8s					
F21K	Alatna River	71.11	337	P	P	21 07 56.1 +1.7
	baz=101					
N18K	Kilae Creek	71.14	330	P	P	21 07 55.6 +0.9
	baz=97					
D22K	Ayikyak River	71.15	339	IAmb	IAmb	21 08 01.8
	comp=Z,20nm,0.8s					
D22K	Ayikyak River	71.15	339	P	P	21 07 56.3 +1.6
	baz=102,SNR=10					
M18K	Stony River	71.20	331	P	P	21 07 55.9 +0.9
	baz=97					
P17K	Kvichak River	71.25	328	P	P	21 07 56.3 +1.0
	baz=96					
MLOA	Mauna Loa Obse	71.25	286	IAMs_20	IAMs_20	21 33 30.8
	comp=Z,1µm,21.0s					
Q16K	King Salmon	71.31	328	P	P	21 07 56.7 +1.0
	baz=95					
H20K	Anotleneega Mo	71.35	335	P	P	21 07 56.9 +1.0
	baz=99					
J19K	Poorman	71.44	333	IAmb	IAmb	21 08 20.2
	comp=Z,40nm,1.4s					
J19K				IAMs_20	IAMs_20	21 41 02.2
	comp=Z,2µm,20.0s					
J19K	Poorman	71.44	333	P	P	21 07 58.1 +1.7
	baz=98					
TTA	Tatalina	71.47	332	IAmb	IAmb	21 08 04.3
	comp=Z,31nm,0.8s					
TTA				IAMs_20	IAMs_20	21 39 53.0
	comp=Z,2µm,20.0s					
TTA	Tatalina	71.47	332	P	P	21 07 57.7 +1.0
	baz=97,SNR=5.3					
E21K	Killik River	71.53	338	IAmb	IAmb	21 08 18.6
	comp=Z,43nm,1.7s					
E21K	Killik River	71.53	338	P	P	21 07 58.3 +1.4
	baz=101					
PAB	San Pablo	71.56	53	P	P	21 07 58.8 +1.1
PAB				IAmb	IAmb	21 08 00.5
	comp=Z,60nm,1.6s					
PAB	San Pablo	71.56	53	IAMs_20	IAMs_20	21 36 18.3
	comp=Z,3µm,20.0s					
O17K	Koliganek Bris	71.64	329	P	P	21 07 59.0 +1.3
	baz=95					
L18K	Granite Mounta	71.69	331	IAMs_20	IAMs_20	21 42 57.0
	comp=Z,2µm,18.0s					
L18K	Granite Mounta	71.69	331	P	P	21 07 59.3 +1.3
	baz=96					
MDT	Midelt	71.71	60	LR	LR	21 36 59.4
	comp=Z,2µm,18.2s,baz=297,slow=34					
B22K	Teshekpuk Lake	71.72	340	IAmb	IAmb	21 08 12.8
	comp=Z,52nm,1.1s					
B22K	Teshekpuk Lake	71.72	340	P	P	21 07 59.7 +1.7
	baz=102					
N17K	Nushagak Hills	71.75	330	IAmb	IAmb	21 08 06.2
	comp=Z,22nm,0.9s					
N17K	Nushagak Hills	71.75	330	P	P	21 07 59.9 +1.5
	baz=96					
ESDC	Sonseca Array	71.85	52	P	P	21 07 59.5 0.0
ESDC				IAmb	IAmb	21 08 06.4
	comp=Z,34nm,1.2s					
ESDC	Sonseca Array	71.85	52	P	P	21 08 00.6 +1.2
	comp=Z,18nm,1.1s,baz=280,slow=5.9,SNR=29					
ESDC				LR	LR	21 36 48.9
	comp=Z,1µm,18.7s,baz=272,slow=34					
	comp=Z,18nm,1.1s					
ESBB	Sonseca Array	71.85	52	IAmb	IAmb	21 08 06.4
	comp=Z,42nm,1.2s					
J18K	Innoko River	71.85	333	IAmb	IAmb	21 08 07.2
	comp=Z,20nm,0.8s					
J18K	Innoko River	71.85	333	P	P	21 08 00.5 +1.5
	baz=97					
F20K	Avaraart Lake	71.94	337	P	P	21 08 01.0 +1.6
	baz=99					
C21K	Knifeblade Rid	71.95	339	P	P	21 08 01.0 +1.6
	baz=100					
JMIC	Jan Mayen	71.95	19	LR	LR	21 39 48.0
	comp=Z,526nm,18.3s,baz=262,slow=36					
M17K	Holitna River	71.96	331	P	P	21 08 01.0 +1.4
	baz=96					
B21K	Ikpikpuk River	71.98	339	IAmb	IAmb	21 08 08.2
	comp=Z,30nm,0.8s					
B21K	Ikpikpuk River	71.98	339	P	P	21 08 01.1 +1.6
	baz=101					
H19K	Roundabout Mou	72.00	335	IAmb	IAmb	21 08 08.2
	comp=Z,20nm,0.8s					
H19K				IAMs_20	IAMs_20	21 44 26.9
	comp=Z,3µm,21.0s					
H19K	Roundabout Mou	72.00	335	P	P	21 08 01.2 +1.4
	baz=98					
GCSA	Galena City Sc	72.08	334	P	P	21 08 01.6 +1.4
	baz=97					
O16K	Kokwok River B	72.13	329	IAMs_20	IAMs_20	21 44 04.4
	comp=Z,2µm,19.0s					
E20K	Nigu River	72.30	338	P	P	21 08 02.8 +1.2
	baz=99,SNR=10					
G19K	Purcell Mounta	72.35	336	IAmb	IAmb	21 08 10.4
	comp=Z,28nm,0.9s					
G19K				IAMs_20	IAMs_20	21 44 25.1
	comp=Z,2µm,18.0s					
G19K	Purcell Mounta	72.35	336	P	P	21 08 03.2 +1.3
	baz=97					
A22K	Sinclair Lake	72.36	341	P	P	21 08 03.1 +1.3
	baz=101					
ESK	Eskdalemuir	72.37	36	IAMs_20	IAMs_20	21 42 15.5
	comp=Z,2µm,18.0s					
EKA	Eskdalemuir Ar	72.40	36	P	P	21 08 02.9 +0.5
	comp=Z,16nm,1.0s,baz=268,slow=6.4,SNR=13					
	comp=Z,16nm,1.0s					
L17K	Donlin	72.44	331	P	P	21 08 03.2 +0.7
	baz=95					
K17K	Iditarod	72.49	332	IAmb	IAmb	21 08 10.6
	comp=Z,24nm,0.8s					
K17K				IAMs_20	IAMs_20	21 42 39.9
	comp=Z,3µm,19.0s					
K17K	Iditarod	72.49	332	P	P	21 08 03.8 +1.1
	baz=95					
D20K	Etivluk River	72.53	338	P	P	21 08 04.0 +1.1
	baz=99					
N16K	Nishlik Lake	72.53	330	P	P	21 08 04.4 +1.3
	baz=94					
E19K	Redstone River	72.58	337	P	P	21 08 04.0 +0.8
	baz=98					
M16K	Timber Creek	72.66	330	IAMs_20	IAMs_20	21 44 05.5
	comp=Z,2µm,18.0s					
M16K	Timber Creek	72.66	330	P	P	21 08 04.2 +0.4
	baz=94					
CHNA	Chernabura Isl	72.69	324	P	P	21 08 04.4 +0.3
	baz=92					
F19K	Shaleruckik Mo	72.71	336	IAMs_20	IAMs_20	21 45 58.5
	comp=Z,2µm,18.0s					
F19K	Shaleruckik Mo	72.71	336	P	P	21 08 04.4 +0.5
	baz=97					
H18K	Honhosa River	72.76	334	IAmb	IAmb	21 08 14.3
	comp=Z,75nm,1.5s					
H18K	Honhosa River	72.76	334	P	P	21 08 05.2 +0.8
	baz=96					
J17K	VABM Dome	72.90	333	IAmb	IAmb	21 08 13.8
	comp=Z,36nm,0.8s					
J17K				IAMs_20	IAMs_20	21 43 15.9
	comp=Z,2µm,22.0s					
J17K	VABM Dome	72.90	333	P	P	21 08 05.9 +0.7
	baz=95					
B20K	Meade River	72.91	340	IAMs_20	IAMs_20	21 41 26.8
	comp=Z,2µm,21.0s					
B20K	Meade River	72.91	340	P	P	21 08 06.0 +0.9
	baz=98					
A21K	Barrow	72.94	341	P	P	21 08 05.9 +0.6
	baz=99					
G18K	Tagagawik	72.95	335	P	P	21 08 06.1 +0.6
	baz=96					
L16K	Owhat River	72.96	331	IAmb	IAmb	21 08 14.0
	comp=Z,30nm,1.0s					
L16K				IAMs_20	IAMs_20	21 41 42.5
	comp=Z,2µm,19.0s					
L16K	Owhat River	72.96	331	P	P	21 08 06.7 +1.2
	baz=94					
D19K	Kuna River	73.04	338	P	P	21 08 07.2 +1.2
	baz=97					
NOR	Nord	73.36	8	i P	P	21 08 07.7 0.0
NOR				IAmb	IAmb	21 08 31.7
	comp=Z,158nm,2.3s					
H17K	Granite Mounta	73.39	334	IAMs_20	IAMs_20	21 46 11.6
	comp=Z,2µm,19.0s					
H17K	Granite Mounta	73.39	334	P	P	21 08 08.7 +0.6
	baz=94					
F18K	Selawik	73.42	336	P	P	21 08 09.2 +1.0
	baz=95					
M15K	Kasigluk River	73.49	330	P	P	21 08 09.7 +1.0
	baz=92					
J16K	Anvik River	73.58	332	IAmb	IAmb	21 08 27.7
	comp=Z,72nm,1.6s					
J16K				IAMs_20	IAMs_20	21 42 15.7
	comp=Z,2µm,20.0s					
J16K	Anvik River	73.58	332	P	P	21 08 10.3 +1.1
	baz=93					
C19K	Lookout Ridge	73.64	339	IAmb	IAmb	21 08 21.4
	comp=Z,38nm,0.9s					
C19K	Lookout Ridge	73.64	339	P	P	21 08 10.7 +1.2
	baz=96,SNR=8.2					
I17K	Unalakleet	73.66	333	IAMs_20	IAMs_20	21 43 28.8
	comp=Z,2µm,19.0s					
I17K	Unalakleet	73.66	333	P	P	21 08 10.9 +1.3
	baz=93					
O14K	Tigyukauivet M	73.73	328	IAMs_20	IAMs_20	21 41 59.0
	comp=Z,2µm,19.0s					
G17K	Kiwalik Mounta	73.74	335	P	P	21 08 11.2 +1.1
	baz=94					
E18K	Tukpahlearik C	73.87	337	IAMs_20	IAMs_20	21 43 48.2
	comp=Z,3µm,21.0s					
E18K	Tukpahlearik C	73.87	337	P	P	21 08 11.9 +1.1
	baz=94					
L15K	Ungalak Mounta	73.92	331	P	P	21 08 12.2 +1.0
	baz=92					
K15K	Wolf Creek Mou	73.96	331	IAMs_20	IAMs_20	21 45 27.8
	comp=Z,2µm,19.0s					
K15K	Wolf Creek Mou	73.96	331	P	P	21 08 12.4 +0.9
	baz=92					
N14K	Kuskokwak Cree	73.96	329	P	P	21 08 12.4 +0.9
	baz=91					
F17K	Baldwin Pennin	74.05	336	IAMs_20	IAMs_20	21 44 15.9
	comp=Z,2µm,21.0s					
F17K	Baldwin Pennin	74.05	336	P	P	21 08 13.6 +1.7
	baz=94					
M14K	Bethel	74.12	330	P	P	21 08 13.9 +1.5
	baz=91					
PPT2	Papeete2	74.17	247	eP	P	21 08 03.5 -10
	comp=Z,86nm,25.5s					
PPT2	Papeete2	74.17	247	ePP	PP	21 10 56.3 -3.0
	comp=Z,84nm,25.5s					
PPT2				eS	S	21 17 45.3 -2.2
	comp=Z,300nm,24.2s					
PPT2				eSS	SS	21 22 30.3 -2.9
	comp=Z,336nm,25.8s					
PPT2				eLQ	LQ	21 27 49.9
	comp=Z,2µm,28.0s					
PPT2				eLR	LR	21 30 58.7
	comp=Z,484nm,24.5s					
PPT2				eLR	LR	21 31 00.6
	comp=Z,622nm,23.8s					
C18K	Utukok River	74.18	338	IAMs_20	IAMs_20	21 46 51.5
	comp=Z,2µm,20.0s					
A19K	Wainwright	74.27	340	P	P	21 08 14.7 +1.6
	baz=95					
CART	Cartagena	74.29	54	IAMs_20	IAMs_20	21 39 52.7
	comp=Z,1µm,19.0s					
E17K	Hotham Inlet	74.32	336	P	P	21 08 15.0 +1.6
	baz=93					
H16K	Elim	74.37	334	P	P	21 08 15.2 +1.4
	baz=92					
G16K	Koyuk River	74.45	335	IAMs_20	IAMs_20	21 44 10.7
	comp=Z,2µm,20.0s					
G16K	Koyuk River	74.45	335	P	P	21 08 15.6 +1.4
	baz=92					
B18K	Kokolik River	74.45	339	P	P	21 08 15.5 +1.3
	baz=94					
L14K	Kuka Creek	74.48	330	IAMs_20	IAMs_20	21 43 38.5
	comp=Z,2µm,18.0s					
L14K	Kuka Creek	74.48	330	P	P	21 08 15.5 +1.1
	baz=91					
RDOG	Red Dog Mine	74.78	337	P	P	21 08 17.2 +1.1
	baz=92					
M13K	Dall Lake	74.80	329	P	P	21 08 17.2 +0.9
	baz=90					
D17K	Noatak River	74.83	337	P	P	21 08 17.7 +1.3
	baz=92					
C17K	DeLong Mountai	74.90	338	P	P	21 08 18.0 +1.2
	baz=92					
J14K	Nanvaranak Lak	74.91	332	IAmb	IAmb	21 08 26.3
	comp=Z,31nm,0.8s					
J14K				IAMs_20	IAMs_20	21 46 36.8
	comp=Z,2µm,19.0s					
J14K	Nanvaranak Lak	74.91	332	P	P	21 08 18.3 +1.4
	baz=90					
DBIC	Dimbokro	75.16	87	P	P	21 08 19.6 +0.3
	comp=Z,13nm,1.0s,baz=255,slow=6.3,SNR=6.2					
DBIC				LR	LR	21 41 31.0
	comp=Z,762nm,18.2s,baz=262,slow=36					
	comp=Z,13nm,1.0s					
F15K	North Star Dit	75.41	335	P	P	21 08 20.4 +0.6
	baz=90					
K13K	Kusilvak Mount	75.42	331	P	P	21 08 20.7 +0.8
	baz=89					
CEST	Esterri de Car	75.60	49	IAMs_20	IAMs_20	21 35 37.4
	comp=Z,2µm,21.0s					
C16K	Lisburne Hills	75.70	338	P	P	21 08 21.8 +0.4
	baz=90					
TBI	Tubuai	76.07	242	eP	P	21 08 23.4 -0.9
	comp=Z,974nm,34.0s					
TBI				eS	S	21 18 10.3 +2.0
	comp=Z,924nm,24.8s					
TBI				eSS	SS	21 23 00.9 -0.8
	comp=Z,1µm,28.2s					
TBI				eLQ	LQ	21 28 34.8
	comp=Z,4µm,29.0s					
TBI				eLR	LR	21 31 45.2
	comp=Z,4µm,28.0s					
TBI				eLR	LR	21 31 48.3
	comp=Z,1µm,26.0s					
M11K	Mekoryuk	76.21	329	IAMs_20	IAMs_20	21 43 38.6
	comp=Z,2µm,19.0s					

UCC	Uccle	77.04	40	dP		P	21 08 30.3	+1.0
DOU	Dourbes	77.25	41	dP		P	21 08 30.9	+0.4
	comp=Z,9.4nm,1.4s							
BMRD	Maredsous	77.35	41	dP		P	21 08 31.0	-0.1
	comp=Z,6.2nm,1.2s							
BGES	Gesves	77.54	41	dP		P	21 08 33.3	+1.2
	comp=Z,7.5nm,1.3s							
RCHB	Rochefort	77.66	41	dP		P	21 08 34.0	+1.2
	comp=Z,6.8nm,1.2s							
BCLA	Clavier	77.68	41	dP		P	21 08 33.7	+0.8
	comp=Z,7.9nm,1.3s							
SSB	Saint Sauveur	77.71	46		IAmb	IAmb	21 08 43.5	
	comp=Z,46nm,1.6s							
BSTI	Sart Tilman	77.83	41	dP		P	21 08 35.0	+1.2
MEM	Membach	78.11	41	dP		P	21 08 36.7	+1.4
BHOU	Houvegnez	78.13	41	dP		P	21 08 36.1	+0.6
	comp=Z,8.8nm,1.4s							
MAHO	Mahon	78.15	52		IAMs_20	IAMs_20	21 40 16.7	
	comp=Z,2μm,20.0s							
WLF	Walferdange	78.30	42		IAmb	IAmb	21 08 43.9	
	comp=Z,32nm,1.2s							
WLF	Walferdange	78.30	42	dP		P	21 08 38.3	+1.8
	comp=Z,12nm,1.0s							
SPITS	Spitsbergen Ar	78.70	12		LR	LR	21 45 44.9	
	comp=Z,2μm,18.6s,baz=244,slow=38							
KONO	Kongsberg	79.08	31		IAMs_20	IAMs_20	21 45 04.9	
	comp=Z,2μm,19.0s							
ECH	Echery	79.14	43		IAmb	IAmb	21 08 48.2	
	comp=Z,34nm,1.3s							
NAO01	NORSAR Array S	79.56	30		IAmb	IAmb	21 08 52.5	
	comp=Z,55nm,1.2s							
NB2	NORSAR Subarra	79.69	30		P	P	21 08 44.8	+0.9
	comp=Z,114nm,2.0s,baz=280,slow=5.6							
NB2	NORSAR Subarra	79.69	30		P	P	21 08 44.8	+0.9
	baz=280,slow=5.6							
NOA	NORSAR Array B	79.69	30		P	P	21 08 45.3	+1.4
	comp=Z,8.7nm,1.1s,baz=280,slow=5.4,SNR=14							
NOA					LR	LR	21 42 35.7	
	comp=Z,888nm,18.8s,baz=280,slow=35							
	comp=Z,8.7nm,1.1s							
ACRG	Accra	79.89	87		IAMs_20	IAMs_20	21 44 31.9	
	comp=Z,1μm,18.0s							
TORD	Torodi Ar. Bea	80.20	79		P	P	21 08 46.7	-0.7
TORD	Torodi Ar. Bea	80.20	79		P	P	21 08 47.7	+0.2
	comp=Z,2.9nm,0.7s,baz=304,slow=6.1,SNR=13							
TORD					LR	LR	21 43 54.2	
	comp=Z,1μm,18.3s,baz=277,slow=35							
	comp=Z,2.9nm,0.7s							
TUE	Stuetta	80.87	44		IAmb	IAmb	21 09 00.9	
	comp=Z,36nm,1.2s							
HFS	Hagfors	81.05	30		P	P	21 08 52.1	+1.0
	comp=Z,3.9nm,0.8s,baz=205,slow=3.1,SNR=5.7							
HFS					LR	LR	21 44 31.7	
	comp=Z,2μm,18.2s,baz=288,slow=36							
	comp=Z,3.9nm,0.8s							
DAVA	Damuels	81.09	44	eP		P	21 08 51.7	-0.2
	comp=Z,3.6nm,0.6s,SNR=5.8							
DAVOX	Davos/Dischmat	81.18	44		LR	LR	21 40 50.3	
	comp=Z,3μm,19.3s,baz=284,slow=33							
MSSA	Maissana	81.35	47		IAMs_20	IAMs_20	21 38 21.4	
	comp=Z,2μm,22.0s							
FUORN	Ofenpass-Fuorn	81.47	44		P	P	21 08 55.1	+1.2
RETA	Reutte	81.65	43	epP		P	21 08 55.6	+0.9
	comp=Z,28nm,1.4s,SNR=6.5							
FETA	Feichten	81.71	44	epP		P	21 08 56.3	+1.2
	comp=Z,14nm,1.1s							
MOTA	Moosalm	81.90	43	eP		P	21 08 56.1	0.0
	comp=Z,18nm,1.6s							
RGN	Rugen	81.92	36		IAMs_20	IAMs_20	21 43 15.0	
	comp=Z,2μm,18.0s							
TAM	Tamanrasset	81.94	69		P	P	21 08 55.9	-0.9
TAM					IAmb	IAmb	21 09 04.5	
	comp=Z,46nm,1.5s							
TAM					IAMs_20	IAMs_20	21 45 50.8	
	comp=Z,1μm,20.0s							
SQTA	Sankt Quirin	82.00	43	eP		P	21 08 56.8	+0.2
	comp=Z,13nm,1.2s							
VSL	Villasalto	82.10	51		IAMs_20	IAMs_20	21 40 42.5	
	comp=Z,2μm,20.0s							
WATA	Walderalm	82.22	43	eP		P	21 08 57.9	+0.1
	comp=Z,9.1nm,1.5s							
NKC	Novy Kostel	82.23	40		AMS	AMS	21 42 50.0	
	comp=Z,2μm,17.9s							
WTTA	Wattenberg	82.28	43	epP		P	21 08 59.0	+0.9
	comp=Z,9.2nm,1.1s							
CLL	Collm	82.37	39		IAmb	IAmb	21 09 04.9	
CLL					IAMs_20	IAMs_20	21 43 24.1	
	comp=Z,2μm,18.0s							
CLL	Collm	82.37	39	i P		P	21 08 59.4	+1.1
	comp=Z,33nm,1.5s							
CLL				i sP		PcP	21 09 03.4	-0.1
CLL				i x		x	21 09 06.3	
CLL				i x		x	21 09 50.7	
CLL				eSKSac		SKSac	21 19 17.0	-2.4
CLL				eSKKSac		SKKSac	21 19 21.0	-1.9
CLL				ePS			21 20 04.0	
CLL				eSS		SS	21 24 36.0	+1.5
CLL				eSSS		SSS	21 28 12.0	
CLL					AMS	AMS	21 43 00.0	
	comp=Z,2μm,19.5s							
TEOL	Teolo	82.67	45		IAmb	IAmb	21 09 06.9	
	comp=Z,27nm,1.0s							
HSKC	Hora Svate Kat	82.77	40		AMS	AMS	21 46 30.0	
	comp=Z,2μm,17.5s							
KEST	Kesra	82.78	55		P	P	21 09 02.6	+1.8
	comp=Z,36nm,1.2s,baz=219,slow=4.0,SNR=5.8							
KEST					LR	LR	21 45 18.5	
	comp=Z,1μm,18.1s,baz=277,slow=35							
	comp=Z,36nm,1.2s							
LESA	Schwarzleotal	82.94	43	eP		P	21 09 01.0	-0.5
	comp=Z,0.6nm,0.3s							
ABTA	Abfaltersbach	82.96	44	epP		P	21 09 03.0	+1.4
	comp=Z,3.0nm,0.7s							
BRG	Berggiesshubel	83.03	39	eP		P	21 09 03.5	+1.8
BRG					Amp		21 09 05.3	
	comp=Z,20nm,1.3s							
BRG	Berggiesshubel	83.03	39		P	P	21 09 08.3	+6.5
BRG					Amp		21 09 09.4	
	comp=Z,25nm,1.2s							
BRG	Berggiesshubel	83.03	39		S	SKSac	21 19 26.0	+2.1
KHC	Kasperske Hory	83.17	41		IAmb	IAmb	21 09 09.4	
	comp=Z,26nm,1.3s							
KHC	Kasperske Hory	83.17	41	eP		P	21 09 05.0	+2.4
KHC				eS		S	21 19 27.9	+5.0
KHC					AMS	AMS	21 42 20.0	
	comp=Z,4μm,19.2s							
GEC2	GERESS Array S	83.31	42		IAmb	IAmb	21 09 09.9	
	comp=Z,35nm,1.4s							
GERES	GERESS Array B	83.31	42		P	P	21 09 04.0	+0.6
GERES	GERESS Array B	83.31	42		P	P	21 09 04.8	+1.4
	comp=Z,6.7nm,1.0s,baz=242,slow=2.9,SNR=16							
GERES					LR	LR	21 42 59.7	
	comp=Z,4μm,19.2s,baz=280,slow=33							
	comp=Z,6.7nm,1.0s							
ARCES	ARCESS Array B	83.42	20		P	P	21 09 03.9	+0.4
	comp=Z,3.6nm,0.6s,baz=296,slow=3.1,SNR=14							
ARCES					LR	LR	21 43 05.6	
	comp=Z,916nm,20.6s,baz=296,slow=34							
	comp=Z,3.6nm,0.6s							
KBA	Koelnbreinsper	83.45	43	epP		P	21 09 05.6	+1.3
	comp=Z,4.6nm,1.0s,SNR=9.1							
PVCC	Panska Ves	83.50	40		AMS	AMS	21 42 00.0	
	comp=Z,1μm,19.7s							
ZVC	Zvikov	83.50	41	eP		P	21 09 05.9	+1.7
ZVC					AMS	AMS	21 42 40.0	
	comp=Z,4μm,19.7s							
BIOA	Bad Ischl, Aus	83.52	43	eP		P	21 09 04.6	+0.2
	comp=Z,0.5nm,0.2s,SNR=7.8							
PRU	Pruhonice	83.60	40	eP		P	21 09 06.9	+2.2
PRU				eS		S	21 19 27.0	-0.1
PRU					AMS	AMS	21 44 30.0	
	comp=Z,3μm,18.5s							
CKRC	Cesky Krumlov	83.71	41	eP		P	21 09 06.8	+1.5
CKRC				eS		SKSac	21 19 30.7	+2.2
CKRC					AMS	AMS	21 42 50.0	
	comp=Z,4μm,18.6s							
PRED	Cave del Predi	83.74	44		IAmb	IAmb	21 09 31.4	
	comp=Z,33nm,1.2s							
MYKA	Terra Mystica	83.75	44	eP		P	21 09 05.5	-0.2
	comp=Z,1.1nm,0.4s							
GOPC	GO Pecny, Ondr	83.77	40		AMS	AMS	21 43 30.0	
	comp=Z,3μm,19.3s							
KEV	Kevo	83.84	19		IAMs_20	IAMs_20	21 43 07.4	
	comp=Z,1μm,19.0s							
CESX	Cesi	83.87	48		IAMs_20	IAMs_20	21 37 34.3	
	comp=Z,2μm,22.0s							
MOA	Molln	83.90	42	eP		P	21 09 06.3	0.0
	comp=Z,2.2nm,0.7s							
NRCA	Norcia	84.20	48		IAMs_20	IAMs_20	21 41 00.0	
	comp=Z,2μm,22.0s							
TREC	Trest	84.36	41		AMS	AMS	21 43 10.0	
	comp=Z,4μm,18.8s							
OBKA	Obir	84.39	44	epP		P	21 09 10.2	+1.2
	comp=Z,2.3nm,0.7s							
UPC	Upice	84.40	40		AMS	AMS	21 47 20.0	
	comp=Z,2μm,20.0s							
CHVC	Chvalec	84.41	39	eP		P	21 09 10.3	+1.4
RAR	Rarotonga	84.44	247		LR	LR	21 38 16.4	
	comp=Z,548nm,18.3s,baz=94,slow=30							
GKP	Gorka Klasztor	84.46	37	eP		P	21 09 11.3	+2.3
KSP	Ksiaz	84.49	39	eP		P	21 09 10.2	+0.9
OSTC	Ostas	84.51	39	eP		P	21 09 11.3	+1.9
OSTC					AMS	AMS	21 47 30.0	
	comp=Z,1μm,17.1s							
DPC	Dobruska-Polom	84.63	40	eP		P	21 09 12.3	+2.3
DPC					AMS	AMS	21 47 30.0	
	comp=Z,1μm,18.5s							
SOKA	Soboth	84.67	43	epP		P	21 09 11.7	+1.3
	comp=Z,1.1nm,0.5s							
CONA	Conrad Observa	84.92	42	ePcP		P	21 09 12.9	+1.3
	comp=Z,4.6nm,0.9s,SNR=7.7							
KRLC	Kraliky	84.98	40	eP		P	21 09 13.8	+2.0
KRUC	Moravsky	84.99	41	eP		P	21 09 13.3	+1.5
VRAC	Vranov	85.06	41	P		P	21 09 13.2	+1.0
	comp=Z,2.8nm,0.6s,baz=282,slow=7.5,SNR=9.3							
VRAC					LR	LR	21 44 16.4	
	comp=Z,4μm,18.9s,baz=270,slow=34							
	comp=Z,2.8nm,0.6s							
VRAC	Vranov	85.06	41	eP		P	21 09 13.6	+1.5
RONA	Rosalia, Austr	85.26	42	ePcP		P	21 09 14.8	+1.6
	comp=Z,4.4nm,0.8s,SNR=6.7							
MORC	Moravsky Berou	85.54	40		IAmb	IAmb	21 09 25.0	
	comp=Z,46nm,1.7s							
MORC	Moravsky Berou	85.54	40	eP		P	21 09 16.1	+1.5
MODS	Modra-Piesok	85.73	41	eP		P	21 09 17.8	+2.3
MAUC	Maruska	85.82	40	eP		P	21 09 18.7	+2.7
JAVC	Velka Javorina	85.86	41	eP		P	21 09 18.4	+2.2
OKC	Ostrava-Krasne	85.90	40		AMS	AMS	21 44 20.0	
	comp=Z,2μm,18.2s							
BILL	Bilibino	86.02	340		IAMs_20	IAMs_20	21 48 08.1	
	comp=Z,2μm,20.0s							
VAE	Valguarnera	86.39	53		LR	LR	21 43 34.5	
	comp=Z,2μm,20.3s,baz=304,slow=33							
FINES	FINESS Array B	86.52	27		P	P	21 09 19.3	+0.2
FINES	FINESS Array B	86.52	27		P	P	21 09 19.9	+0.8
	comp=Z,10nm,0.8s,baz=270,slow=3.7,SNR=16							
FINES					LR	LR	21 43 19.3	
	comp=Z,1μm,21.6s,baz=284,slow=32							
	comp=Z,10nm,0.8s							
SRO	Srobarova	86.55	42	eP		P	21 09 21.9	+2.4
VYHS	Vyhne	86.70	41	eP		P	21 09 22.3	+2.0
OJC	Ojcow	86.81	39	eP		P	21 09 22.4	+1.5
LANS	Liptovska Anna	86.92	40	eP		P	21 09 24.3	+2.9
CEL	Celeste	87.33	51		IAMs_20	IAMs_20	21 44 34.0	
	comp=Z,1μm,21.0s							
NIE	Niedzica	87.36	40	eP		P	21 09 26.1	+2.5
PSZ	Piszkesteto	87.54	41		IAMs_20	IAMs_20	21 43 33.1	
	comp=Z,2μm,20.0s							
PABE	Paberze	87.56	33		IAMs_20	IAMs_20	21 42 05.3	
	comp=Z,2μm,22.0s							
SUW	Suwalki	87.63	35	eP		P	21 09 26.0	+1.3
SUW	Suwalki	87.63	35		IAMs_20	IAMs_20	21 46 14.1	
	comp=Z,1μm,21.0s							
STHS	Stebnicka Huta	87.95	40	eP		P	21 09 28.8	+2.5
SHEM	Shemya Is, Ala	88.34	324		LR	LR	21 49 55.9	
	comp=Z,457nm,20.3s,baz=101,slow=36							
PDG	Podgorica	88.69	47		IAMs_20	IAMs_20	21 45 36.8	
	comp=Z,2μm,20.0s							
KOLS	Kolonicke sedl	88.74	40	eP		P	21 09 33.3	+3.2
KWP	Kalwaria Pacla	88.78	39	eP		P	21 09 31.5	+1.3
KWP	Kalwaria Pacla	88.78	39		IAMs_20	IAMs_20	21 48 26.9	
	comp=Z,1μm,20.0s							
PUK	Puka	89.25	47		IAMs_20	IAMs_20	21 45 43.7	
	comp=Z,2μm,21.0s							
NACGM	Naroch	89.28	33	eP		P	21 09 34.5	+2.0
	comp=Z,17nm,1.0s,baz=292							
MNK	Minsk	90.03	33	i P		P	21 09 36.4	+0.4
	comp=E,7.0nm,0.9s							
MNK				i P		P	21 09 36.4	+0.4
	comp=N,9.0nm,0.7s							
MNK				i P		P	21 09 36.4	+0.4
	comp=Z,11nm,0.8s,baz=293							
MNK				i PP		PP	21 13 09.2	+0.6
MNK				i PPP		PPP	21 15 06.1	
MNK				i SKS			21 19 18.8	
MNK				i S		SKSac	21 20 06.8	-0.3
MNK				i SP		ScS	21 21 32.1	+59
MNK				i PS		PS	21 22 05.8	+30
MNK				i SSS		SSS	21 30 05.2	
RNPP9	Sopachiv	90.08	37	P		P	21 09 38.5	+2.2
RNPP8	Varash	90.09	37	P		P	21 09 38.6	+2.3
STNU	Starunia	90.20	40	P		P	21 09 40.4	+3.5
MI28	Mi28,Pidlybu	91.30	37	P		P	21 09 44.3	+2.4
	comp=Z,198nm,1.3s							
MI30	MI30,Zelenitsa	91.67	37	P		P	21 09 45.5	+1.8
	comp=Z,31nm,1.4s							
ITM	Ithomi	92.23	51		IAMs_20	IAMs_20	21 47 30.6	
	comp=Z,1μm,20.0s							
AK16	Malin Array Si	92.24	37	P		P	21 09 49.1	+2.8
MLR	Muntele Rosu	92.27	42	P		P	21 09 47.5	+0.7
	comp=Z,24nm,1.2s,baz=316,slow=3.4,SNR=13							
MLR					LR	LR	21 48 07.9	
	comp=Z,3μm,19.7s,baz=285,slow=34							
	comp=Z,24nm,1.2s							
MLR	Muntele Rosu	92.27	42	P		P	21 09 49.0	+2.2
	comp=Z,32nm,1.5s,comp=Z,491nm							
KIEV	Kiev	92.29	37		IAMs_20	IAMs_20	21 47 42.6	
	comp=Z,2μm,22.0s							
AKASG	Malin Array Be	92.30	37	P		P	21 09 46.7	+0.2
	comp=Z,0.5nm,0.6s,baz=290,slow=3.4,SNR=7.0							
AKASG					LR	LR	21 47 43.3	
	comp=Z,2μm,21.1s,baz=273,slow=33							
	comp=Z,0.5nm,0.6s							
TIXI	Tiksi	92.98	351	P		P	21 09 48.5	-0.8
TIXI					IAmb	IAmb	21 09 54.9	
	comp=Z,8.1nm,0.8s							
TIXI	Tiksi	92.98	351		LR	LR	21 54 08.2	
	comp=Z,3μm,19.3s,baz=36,slow=37							
RDO	Rodhopi	93.55	46		IAmb	IAmb	21 09 59.1	
	comp=Z,23nm,1.4s							
RDO					IAMs_20	IAMs_20	21 52 05.3	
	comp=Z,1μm,18.0s							
SEY	Seymchan	93.63	338		LR	LR	21 58 40.3	
	comp=Z,2μm,18.4s,baz=76,slow=40							
ALN	Alexandroupoli	94.00	47		IAMs_20	IAMs_20	21 52 37.3	
	comp=Z,1μm,18.0s							
OBN	Obninsk	94.25	31		IAMs_20	IAMs_20	21 51 32.0	
	comp=Z,2μm,20.0s							
OBN	Obninsk	94.25	31		LR	LR	21 48 20.9	
	comp=Z,1μm,21.9s,baz=319,slow=33							
MA2	Magadan	96.36	336		LR	LR	21 57 21.3	
	comp=Z,1μm,18.2s,baz=40,slow=38							
KARP	Karpathos	96.75	51		IAMs_20	IAMs_20	21 59 39.4	
	comp=Z,1μm,18.0s							
PETK	Petropavlovsk-	97.07	329		LR	LR	21 59 13.2	
	comp=Z,542nm,18.8s,baz=47,slow=39							
NRIK	Noril'sk	97.28	4		LR	LR	21 56 35.1	
	comp=Z,1μm,19.4s,baz=0.5,slow=37							
KIRV	Kirov	97.94	24		LR	LR	21 52 02.2	
	comp=Z,954nm,19.1s,baz=323,slow=34							
ISP	Isparta	98.38	48		IAMs_20	IAMs_20	21 58 31.8	
	comp=Z,1μm,18.0s							
ANTO	Ankara	99.14	45		IAMs_20	IAMs_20	21 51 54.1	
	comp=Z,1μm,21.0s							
BRTR	Keskin Array B	99.78	45		P	Pdif	21 10 23.6	+2.5
	comp=Z,2.1nm,1.2s,baz=292,slow=3.9,SNR=6.6							
BRTR					LR	LR	21 55 48.3	
	comp=Z,565nm,18.3s,baz=295,slow=36							
	comp=Z,2.1nm,1.2s							
CSS	Mathiatis	101.62	50		IAMs_20	IAMs_20	21 52 39.3	
	comp=Z,809nm,22.0s							
WIN	Windhoek	102.42	110		IAMs_20	IAMs_20	21 54 57.6	
	comp=Z,2μm,22.0s							
ARTI	Arti	102.90	22		IAMs_20	IAMs_20	22 02 57.4	
	comp=Z,1μm,20.0s							
QSPA	South Pole Qui	103.17	180		IAMs_20	IAMs_20	21 49 03.6	
	comp=Z,804nm,21.0s							
GAZ	Gaziantep	103.44	46		IAMs_20	IAMs_20	21 58 30.1	
	comp=Z,905nm,19.0s							
KIV	Kislovodsk	103.55	38		IAMs_20	IAMs_20	22 01 24.4	
	comp=Z,910nm,18.0s							
MSVF	Nonsavu	104.08	255		IAMs_20	IAMs_20	21 55 48.6	
	comp=Z,934nm,18.0s							
GURO	Guroymak-BITLI	106.06	43		IAMs_20	IAMs_20	21 57 41.1	
	comp=Z,838nm,20.0s							
GNI	Garni	106.94	41		IAMs_20	IAMs_20	21 59 06.4	
	comp=Z,1μm,20.0s							
RTZ	Ruatahuna	107.37	233		IAMs_20	IAMs_20	21 49 26.1	
	comp=Z,1μm,22.0s							
TOZ	Tahuroa Road	108.49	234		IAMs_20	IAMs_20	21 50 54.9	
	comp=Z,1μm,20.0s							
SOE	Somerset East	110.95	120		IAMs_20	IAMs_20	21 46 26.9	
	comp=Z,1μm,20.0s							
LSZ	Lusaka	111.72	101		IAMs_20	IAMs_20	22 08 16.1	
	comp=Z,1μm,19.0s							
HEH	HeiHe	112.05	341		Pdif	Pdif	21 11 03.5	-12
HEH					PP	PP	21 16 00.0	+5.4
HEH	HeiHe	112.05	341		SS	SS	21 31 35.8	+4.0
HEH					AMB	AMB		
	comp=Z,300nm,5.1s							
HEH					LR	LR		
	comp=N,1μm,18.6s							
HEH					LR	LR		
	comp=E,1μm,17.1s							
HEH					LR	LR		
	comp=Z,2μm,16.5s							
MLZ	Mavora Lakes	113.86	226		IAMs_20	IAMs_20	22 03 53.0	
	comp=Z,1μm,20.0s							
LODK	Lodwar	114.83	80		IAMs_20	IAMs_20	22 05 41.6	
	comp=Z,1μm,19.0s							
DZM	Mont Dzumac	115.45	252	eLR		LR	21 49 59.5	
	comp=Z,644nm,26.5s							
RAYN	Ar Rayn	116.30	55		IAMs_20	IAMs_20	22 08 21.2	
	comp=Z,814nm,19.0s							
KMBO	Kilima Mbogo	117.84	84		IAMs_20	IAMs_20	22 04 26.5	
	comp=Z,952nm,19.0s							
MAJO	Matsushiro	118.18	325		IAMs_20	IAMs_20	22 14 46.2	
	comp=Z,653nm,19.0s							
SONM	Songino Array	118.87	354		PKP	PKiKP	21 15 27.6	+2.4
	comp=Z,1.0nm,0.8s,baz=319,slow=3.4,SNR=4.9							
KIBK	Kibwezi	118.90	85		IAMs_20	IAMs_20	22 05 39.7	
	comp=Z,930nm,20.0s							
ATD	Arta Tunnel	119.21	69		IAMs_20	IAMs_20	22 04 16.3	
	comp=Z,1μm,19.0s							
INU	Inuyama	119.71	324		IAMs_20	IAMs_20	22 17 46.5	
	comp=Z,707nm,19.0s							
HNR	Honiara	120.13	267		IAMs_20	IAMs_20	21 59 37.5	
	comp=Z,743nm,20.0s							
XLT	XiLinHaoTe	121.05	346	ePKP		PKPdf	21 15 27.3	-2.1
XLT					AMB	AMB		
	comp=Z,130nm,5.1s							
XLT					LR	LR		
	comp=Z,190nm,19.1s							
XLT					LR	LR		
	comp=Z,770nm,16.2s							
XLT					LR	LR		
	comp=Z,2μm,20.4s							
WMQ	Urumqi	122.34	10	ePKP		PKPdf	21 15 31.8	-0.1
WMQ					LR	LR		
	comp=Z,1μm,18.5s							
WMQ					LR	LR		
	comp=Z,1μm,20.3s							
KSRS	Korea Array	122.70	333		PKP	PKiKP	21 15 34.8	+1.9
	comp=Z,2.2nm,0.8s,baz=58,slow=1.2,SNR=9.6							
KSH	Kashi	123.37	21		PKP	PKiKP	21 15 37.5	+3.2
KSH					LR	LR		
	comp=Z,860nm,20.6s							
KSH					LR	LR		
	comp=Z,1μm,20.6s							
KSH					LR	LR		
	comp=Z,1μm,22.7s							
HHC	Hu-ho-hao-te	124.96	348	eP		PKPdf	21 15 32.5	-4.5
HHC	Hu-ho-hao-te	124.96	348		SS	SS	21 34 18.0	-1.0
HHC					LR	LR		
	comp=N,2μm,17.7s							
HHC					LR	LR		
	comp=E,530nm,13.9s							
HHC					LR	LR		
	comp=Z,3μm,17.5s							
CASY	Casey	126.40	186		IAMs_20	IAMs_20	22 07 31.6	
	comp=Z,986nm,21.0s							
GTA	Gaotai	127.66	359	ePKP		PKiKP	21 15 47.0	+4.2
GTA					SS	SS	21 34 58.0	+5.4
GTA					LR	LR		
	comp=Z,780nm,21.1s							
GTA					LR	LR		
	comp=Z,990nm,18.9s							
GTA					LR	LR		
	comp=Z,2μm,19.3s							
GOMU	GeErMu	130.72	4	PKP		PKPdf	21 15 47.8	-0.7
GOMU					SS	SS	21 35 31.8	+0.9
GOMU					AMB	AMB		
	comp=Z,290nm,4.9s							
GOMU					LR	LR		
	comp=Z,2μm,19.1s							
GOMU					LR	LR		
	comp=Z,2μm,24.6s							
LZH	Lanzhou	130.76	355	ePKP		PKPdf	21 15 43.5	-4.8
LZH				sPKP			21 15 54.0	
LZH				PKS			21 19 10.8	
LZH	Lanzhou	130.76	355	SS		SS	21 35 43.5	+12
LZH					LR	LR		
	comp=N,1μm,14.1s							
LZH					LR	LR		
	comp=E,1μm,14.8s							
LZH					LR	LR		
	comp=Z,970nm,14.1s							
LYN	LuoYang	130.79	345	ePKP		PKiKP	21 15 49.0	-0.1
LYN					LR	LR		
	comp=Z,2μm,20.3s							
LYN					LR	LR		
	comp=Z,1μm,16.5s							
LYN					LR	LR		
	comp=Z,2μm,20.6s							
NJ2	Nanjing	131.11	337	ePKP		PKPdf	21 15 46.8	-2.0
NJ2					LR	LR		
	comp=Z,1μm,18.0s							
NJ2					LR	LR		
	comp=Z,1μm,22.4s							
NJ2					LR	LR

WRAB Tennant Creek 145.41 254 IAMs_20 IAMs_20 22 16 29.5
comp=Z,625nm,20.0s
WRA Warramunga Arr 145.42 254 **PKPab 21 16 15.7 +0.3**
WRA Warramunga Arr 145.42 254 PKPbc **PKPab 21 16 15.6 +0.2**
comp=Z,18nm,0.7s,baz=93,slow=3.0,SNR=104
QIZ Qiongzhong 146.20 341 PKPbc **PKPdf 21 16 14.5 -2.2**
QIZ SS SS 21 38 34.8 +1.1
QIZ LR LR
comp=Z,1μm,21.9s
QIZ LR LR
comp=Z,630nm,23.6s
QIZ LR LR
comp=Z,1μm,18.5s
CHTO Chiang Mai 148.19 360 IAMs_20 IAMs_20 22 26 04.7
comp=Z,784nm,20.0s
TNTI Ternate 148.54 294 IAMs_20 IAMs_20 22 16 33.2
comp=Z,390nm,21.0s
CMAR Chiang Mai Arr 148.54 360 **PKiKP 21 16 25.2 -0.5**
CMAR Chiang Mai Arr 148.54 360 PKPbc **PKPbc 21 16 22.4 -1.8**
comp=Z,8.6nm,1.0s,baz=313,slow=2.9,SNR=18
MTN Manton Dam 148.60 267 **PKPbc 21 16 24.2 -0.2**
MTN IAMs_20 IAMs_20 22 17 02.9
comp=Z,727nm,21.0s
KNRA Kununurra 150.98 261 IAMs_20 IAMs_20 22 25 48.8
comp=Z,494nm,20.0s
LUWI Luwuk 153.45 295 IAMs_20 IAMs_20 22 41 16.1
comp=Z,435nm,21.0s
TOLI2 Tolitoli 154.05 302 IAMs_20 IAMs_20 22 37 46.4
comp=Z,442nm,21.0s
MMRI Maumere 156.64 279 IAMs_20 IAMs_20 22 40 19.9
comp=Z,390nm,21.0s
SBUM Sibu 159.59 319 IAMs_20 IAMs_20 22 38 27.8
comp=Z,484nm,21.0s

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*NAO **25** 20:56:28.0, 32.°90N×46.°36E, h33km, mb3.9*
*DSN **25** 20:56:35.5±1.0, 34.°65N×46.°05E, h14km, mb5.3/1, Error ellipse: s-maj=40.9km s-min=5.8km az=60.0*
*NEIC **25** 20:56:37.5±1.9, 34.°15N±0.°07×45.°5E±0.°2, h10km±1km, mb4.5/35, Error ellipse: s-maj=21.7km s-min=12.0km az=95.0*
*IDC **25** 20:56:37.1±0.7, 34.°30N×45.°56E, h0km, mb4.1/25, mbtmp4.1/34, ML3.8/7, MS3.5/19, Error ellipse: s-maj=13.2km s-min=11.8km az=149.0*
*TEH **25** 20:56:38.3, 34.°18N×45.°60E, h8km±27km, ML4.1*
*OMAN **25** 20:56:41.7±0.9, 33.°82N×46.°00E, h10km, mb4.3/28, ms3.4/8, Error ellipse: s-maj=11.5km s-min=6.9km az=48.0*
ISC 25 20:56:37.2±0.4, 34.°09N±0.°03×45.°62E±0.°03, h8km, n273, σ2s18/294, mb4.2/57, MS3.4/9, 27C-6D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.25**	**84**	Pg		**Pg**		**20 56 44.0**	**+1.9**
KGS1	**Ghasr-e-Shirin**	**0.42**	**357**	Pg		**Pg**		**20 56 45.1**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.67**	**133**	Pg		**Pg**		**20 56 52.8**	**+2.5**
IGHG	**Ghaleghazi**	**0.83**	**73**	Pg		**Pb**		**20 56 54.8**	**+0.8**
IDHR	**Dehrash**	**0.88**	**46**	Pg		**Pg**		**20 56 54.1**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.20**	**81**	Pg		**Pg**		**20 57 01.2**	**+1.0**
ILIN	**Lien**	**1.39**	**53**	Pg		**Pb**		**20 57 03.9**	**+0.3**
SNQR	**Sonqor, Kerman**	**1.83**	**65**	Pg		**Pb**		**20 57 12.1**	**+0.9**
SDS1	**Sardasht. Az.**	**2.06**	**357**	Pn		**Pb**		**20 57 14.3**	**-0.7**
IDOB	**Doab**	**2.15**	**97**	Pn		**Pb**		**20 57 16.6**	**0.0**
MAHB	**Mahabad**	**2.68**	**2**	Pn		**Pn**		**20 57 22.4**	**+1.7**
NGD1	**Naghade .Az. G**	**2.86**	**357**	Pn		**Pn**		**20 57 25.5**	**+2.2**
QABG	**Abgarm-Qazvin**	**3.64**	**62**	Pn		**Pn**		**20 57 36.9**	**+2.8**
JIR1	**Jirandeh**	**4.30**	**51**	Pn		**Pn**		**20 57 45.3**	**+2.1**
IQOM	**Qom**	**4.57**	**79**	Pn		**Pn**		**20 57 49.4**	**+2.5**
IMRD	**Marand**	**4.62**	**1**	Pn		**Pn**		**20 57 49.2**	**+1.7**
GEVA	**Gevas**	**4.70**	**335**	Pn		**Pn**		**20 57 48.2**	**-0.4**
ZNGN	**Zangian**	**4.81**	**113**	Pn		**Pn**		**20 57 52.5**	**+2.2**
QAMS	**Qamsar**	**4.82**	**93**	Pn		**Pn**		**20 57 53.4**	**+3.0**
GAS1	**Astara - Iran**	**5.02**	**30**	Pn		**Pn**		**20 57 55.1**	**+2.3**
GRMI	**Germi**	**5.06**	**21**	Pn		**Pn**		**20 57 55.3**	**+1.8**
KLST	**Kelardasht - M**	**5.07**	**60**	Pn		**Pn**		**20 57 56.4**	**+2.6**
IVRN	**Varamin**	**5.13**	**78**	Pn		**Pn**		**20 57 56.7**	**+2.4**
MAKU	**Maku**	**5.31**	**352**	Pn		**Pn**		**20 57 58.7**	**+1.7**
GURO	**Guroymak-BITLI**	**5.31**	**328**	Pn		**Pn**		**20 57 57.9**	**+0.9**
MZPU	**Pul - Mazandar**	**5.41**	**63**	Pn		**Pn**		**20 58 00.9**	**+2.5**
KRSH	**Karshahi**	**5.42**	**89**	Pn		**Pn**		**20 58 01.1**	**+2.6**
IDMV	**Damavand**	**5.48**	**72**	Pn		**Pn**		**20 58 01.8**	**+2.3**
IZEF	**Zefreh**	**5.73**	**100**	Pn		**Pn**		**20 58 06.0**	**+3.1**
IFIR	**Firoozkooh**	**6.07**	**73**	Pn		**Pn**		**20 58 09.9**	**+2.3**
GNI	**Garni**	**6.09**	**354**	Pn		**Pn**		**20 58 09.7**	**+2.0**
GNI	**Garni**	**6.09**	**354**	P		Pn		20 57 57.5	-10
GNI	**Garni**	**6.09**	**354**	Pn		**Pn**		**20 58 10.2**	**+2.5**
	1.1nm,0.3s,baz=183,slow=2.1,SNR=11								
GNI				Sn		**Sn**		**20 59 20.5**	**+2.8**
	1.8nm,0.3s,baz=68,slow=19,SNR=4.1								
GNI				LR		LR		21 00 33.2	
	comp=Z,316nm,21.0s,baz=172,slow=40 26nm,0.9s								
ILAS	**Lasjerd**	**6.18**	**76**	Pn		**Pn**		**20 58 11.0**	**+1.9**
KARS	**Kars**	**6.83**	**344**			**Pn**		**20 58 20.3**	**+2.5**
ASF	**Jabal al Asfar**	**7.56**	**258**	Pn		**Pn**		**20 58 28.9**	**+1.1**
	2.7nm,0.3s,baz=107,slow=0.0,SNR=16								
ASF				LR		LR		21 01 57.8	
	comp=Z,235nm,20.5s,baz=335,slow=42 6.3nm,0.3s								
HSUJ	**Al Zarqa**	**8.15**	**259**	P		**Pg**		**20 59 16.4**	**+3.2**
NATI	**Neve Ativ**	**8.28**	**267**	P		**Pn**		**20 58 37.8**	**+0.3**
GEM	**Giv'at Ha'Em**	**8.34**	**267**	P		Pb		20 58 54.6	-7.3
SWQJ	**Swaqa**	**8.54**	**253**	P		Pg		20 59 10.5	-10
MMAI	**Mount Meron Ar**	**8.59**	**266**	Pn		**Pn**		**20 58 42.9**	**+1.0**
	2.1nm,0.3s,baz=78,slow=17,SNR=11								
MMAI				Sn		**Sn**		**21 00 16.0**	**-3.1**
	1.4nm,0.3s,baz=86,slow=17,SNR=0.9								
MMAI				LR		LR		21 02 29.2	
	comp=Z,194nm,19.8s,baz=24,slow=41 1.3nm,0.3s								
QRNJ	**Al-Qirein**	**8.59**	**261**	P		Pn		20 58 47.2	+5.3
HMDT	**Nahal Hemdat**	**8.65**	**261**	P		Pn		20 58 52.1	+9.4
BNN	**Bunyan**	**9.19**	**304**	Pn		**Pn**		**20 58 51.6**	**+1.3**
SHMA	**Al-Shehemyia**	**9.42**	**149**	P		**Pn**		**20 58 55.1**	**+1.9**
KBZ	**Khabaz**	**9.86**	**348**	Pn		Pn		20 59 04.3	+5.2
	0.4nm,0.3s,baz=176,slow=9.6,SNR=25								
KBZ				LR		LR		21 03 31.7	
	comp=Z,260nm,18.9s,baz=150,slow=43								
EIL	**Elat**	**10.08**	**247**	Pn		**Pn**		**20 59 02.6**	**+0.3**
	0.4nm,0.3s,baz=34,slow=13,SNR=7.7								
EIL				LR		LR		21 03 28.1	
	comp=Z,175nm,20.8s,baz=56,slow=41 4.7nm,0.7s								
KVAR	**Kislovodsk Arr**	**10.11**	**348**	Pn		Pn		20 59 07.7	+4.9
	baz=73,slow=20								
KIV	**Kislovodsk**	**10.11**	**348**	Pn		**Pn**		**20 59 03.5**	**+0.7**
KIV	**Kislovodsk**	**10.11**	**348**	P		Pn		20 59 07.8	+5.0
KIV	**Kislovodsk**	**10.11**	**348**	⇑P		Pn		20 59 07.8	+5.0
SMRA	**Abu-Samra**	**10.35**	**153**	P		**Pn**		**20 59 08.2**	**+2.1**
SMRA				S		**Sn**		**21 00 58.5**	**-3.8**
TRNA	**Turayna**	**10.52**	**151**	P		**Pn**		**20 59 09.9**	**+1.6**
	SNR=20								
RAYN	**Ar Rayn**	**10.53**	**181**	Pn		**Pn**		**20 59 06.7**	**-1.8**
RAYN	**Ar Rayn**	**10.53**	**181**	P		**Pn**		**20 59 08.5**	**0.0**
RAYN				S		**Sn**		**21 01 04.9**	**-1.8**
BRTR	**Keskin Array B**	**11.11**	**304**	Pn		**Pn**		**20 59 19.5**	**+2.9**
	0.1nm,0.3s,baz=115,slow=9.9,SNR=15								
BRTR				LR		LR		21 03 54.2	
	comp=Z,345nm,18.2s,baz=116,slow=40 2.7nm,0.8s								
DIKM	**Dikmen**	**11.13**	**316**	P		**Pn**		**20 59 20.2**	**+3.6**
SLWR	**Sila**	**11.30**	**150**	P		**Pn**		**20 59 19.6**	**+0.6**
SLWR				S		**Sn**		**21 01 22.9**	**-2.7**
SHME	**Shamm**	**12.13**	**129**	P		**Pn**		**20 59 29.7**	**-0.6**
SHME	**Shamm**	**12.13**	**129**	P		**Pn**		**20 59 29.8**	**-0.5**
SHME				S		**Sn**		**21 01 42.3**	**-3.5**
BANOM	**Banah**	**12.32**	**128**	*i* P		**Pn**		**20 59 32.1**	**-0.8**
	SNR=8.8								
BANOM	**Banah**	**12.32**	**128**	P		**Pn**		**20 59 32.7**	**-0.2**
BANOM				S		Sn		21 01 43.5	-7.0
AJN	**Ajban**	**12.52**	**137**	*i* P		**Pn**		**20 59 36.0**	**+0.4**
	SNR=9.6								
AJN	**Ajban**	**12.52**	**137**	P		**Pn**		**20 59 36.5**	**+0.8**
	SNR=9.6								
AJN				S		**Sn**		**21 01 50.6**	**-4.7**
NAZ	**Nazwa, Dubai**	**12.59**	**133**	P		**Pn**		**20 59 37.2**	**+0.5**
NAZ	**Nazwa, Dubai**	**12.59**	**133**	P		**Pn**		**20 59 37.4**	**+0.7**
NAZ				S		**Sn**		**21 01 51.1**	**-6.0**
MASF	**Masafi**	**12.62**	**131**	P		**Pn**		**20 59 37.0**	**0.0**
	SNR=9.2								
MASF				S		Sn		21 01 51.5	-6.3
MSFE	**Esma-Masafi**	**12.62**	**131**	*i* P		**Pn**		**20 59 36.8**	**-0.3**
	SNR=8.8								
ASUD	**Al Ashush, Dub**	**12.67**	**136**	P		**Pn**		**20 59 38.1**	**+0.4**
ASUD	**Al Ashush, Dub**	**12.67**	**136**	P		**Pn**		**20 59 38.1**	**+0.4**
ASUD				S		**Sn**		**21 01 53.6**	**-5.4**
FAQ	**Al Faqa, Dubai**	**12.73**	**134**	P		**Pn**		**20 59 38.6**	**0.0**
FAQ	**Al Faqa, Dubai**	**12.73**	**134**	P		**Pn**		**20 59 39.0**	**+0.4**
FAQ				P		**Pn**		**20 59 39.0**	**+0.4**
FAQ				S		**Sn**		**21 01 54.8**	**-5.8**
FAQ				S		**Sn**		**21 01 54.8**	**-5.8**
MDH	**Madha**	**12.76**	**131**	P		**Pn**		**20 59 38.0**	**-1.0**
MDH	**Madha**	**12.76**	**131**	P		**Pn**		**20 59 38.2**	**-0.7**
MDH				S		Sn		21 01 53.9	-7.2
HATD	**Hatta, Dubai**	**12.99**	**132**	P		**Pn**		**20 59 41.8**	**-0.5**
HATD	**Hatta, Dubai**	**12.99**	**132**	P		**Pn**		**20 59 42.5**	**+0.3**
HATD				S		**Sn**		**21 02 01.0**	**-6.0**
MZR	**Muzera**	**13.02**	**146**	*i* P		**Pn**		**20 59 42.1**	**-0.4**
	SNR=7.3								
MZR	**Muzera**	**13.02**	**146**	P		**Pn**		**20 59 42.7**	**+0.2**
MZR				P		**Pn**		**20 59 42.7**	**+0.2**
MZR				S		**Sn**		**21 02 03.2**	**-4.5**
MZR				S		**Sn**		**21 02 03.2**	**-4.5**
ASHO	**Ashiyiah**	**13.05**	**133**	*i* P		**Pn**		**20 59 42.2**	**-0.9**
	SNR=7.7								
ASHO	**Ashiyiah**	**13.05**	**133**	P		**Pn**		**20 59 43.2**	**+0.2**
	SNR=7.7								
ASHO				S		**Sn**		**21 02 03.2**	**-5.3**
ALNE	**Al Ain**	**13.35**	**136**	*i* P		**Pn**		**20 59 46.0**	**-1.0**
	SNR=14								
ALNE	**Al Ain**	**13.35**	**136**	P		**Pn**		**20 59 47.4**	**+0.3**
	SNR=14								
ALNE				S		**Sn**		**21 02 11.1**	**-4.6**
JASK	**Jask - Hormozg**	**13.40**	**124**	P		**Pn**		**20 59 47.1**	**-0.6**
JASK				S		**Sn**		**21 02 13.5**	**-3.5**
SOHO	**SOHO**	**13.75**	**133**	*i* P		**Pn**		**20 59 51.7**	**-0.8**
	SNR=8.1								
SOHO	**SOHO**	**13.75**	**133**	P		**Pn**		**20 59 51.8**	**-0.8**
SOHO				S		Sn		21 02 18.7	-6.8
UMZA	**Um Al Zommool**	**14.09**	**141**	P		**Pn**		**20 59 57.0**	**-0.3**
UMZA				S		**Sn**		**21 02 28.2**	**-5.6**
ARQ	**Araqi**	**14.35**	**135**	P		**Pn**		**20 59 60.0**	**-0.8**
	SNR=12								
ARQ				P		**Pn**		**20 59 60.0**	**-0.8**
	SNR=12								
ARQ				S		**Sn**		**21 02 34.2**	**-6.0**
ARQ				S		**Sn**		**21 02 34.2**	**-6.0**
HOQ	**Hoqain**	**14.63**	**133**	P		**Pn**		**21 00 05.3**	**+0.6**
HOQ				P		**Pn**		**21 00 05.3**	**+0.6**
HOQ				S		Sn		21 02 39.8	-7.3
HOQ				S		Sn		21 02 39.8	-7.3
BIDO	**Bidbid**	**15.19**	**131**	P		**Pn**		**21 00 11.6**	**-0.5**
BIDO				S		**Sn**		**21 02 52.7**	**-7.8**
BSY	**Bisya**	**15.20**	**135**	P		**Pn**		**21 00 10.6**	**-1.7**
	SNR=29								
BSY				S		**Sn**		**21 02 54.9**	**-6.0**
KARP	**Karpathos**	**15.23**	**281**	P		**P**		**21 00 20.3**	**+2.6**
	35nm,0.9s								
SMDO	**Samad**	**15.48**	**132**	P		**Pn**		**21 00 15.1**	**-0.9**
	SNR=14								
SMDO				P		**Pn**		**21 00 15.1**	**-0.9**
	SNR=14								
SMDO				S		**Sn**		**21 03 04.0**	**-3.7**
	SNR=7.2								
SMDO				S		**Sn**		**21 03 04.0**	**-3.7**
	SNR=7.2								
WSAR	**Wadi Sarin**	**15.71**	**130**	Pn		**Pn**		**21 00 17.9**	**-1.0**
	3.2nm,0.3s,baz=307,slow=9.9,SNR=22								
WSAR				Sn		Sn		21 03 00.5	-13
	0.3nm,0.3s,baz=70,slow=1.3,SNR=2.6								
WSAR				LR		LR		21 07 21.5	
	comp=Z,252nm,18.8s,baz=314,slow=41								
JMDO	**Jabal Madar**	**16.02**	**134**	P		**Pn**		**21 00 21.8**	**-1.2**
	SNR=7.8								
NGCH	**Negor - Chabah**	**16.03**	**119**	P		**Pn**		**21 00 21.3**	**-1.8**
WBK	**Wadi Bani Khal**	**16.38**	**131**	P		**Pn**		**21 00 27.0**	**-0.6**
JLN	**Jalan Bani Buh**	**16.99**	**131**	P		**Pn**		**21 00 34.1**	**-1.2**
JLN				P		**Pn**		**21 00 34.1**	**-1.2**
MHTO	**MHTO**	**17.02**	**137**	P		**Pn**		**21 00 33.5**	**-2.1**
	SNR=22								
MHTO				P		**Pn**		**21 00 33.5**	**-2.1**
	SNR=22								
TPGR	**Topolog**	**17.05**	**314**	⇑P		**P**		**21 00 38.6**	**+0.8**
IDI	**Anoyia**	**17.09**	**280**	P		**Pn**		**21 00 37.3**	**+0.8**
	6.2nm,0.7s,baz=54,slow=12,SNR=7.7								
IDI				LR		LR		21 08 42.1	
	comp=Z,68nm,19.3s,baz=132,slow=43								
TLBR	**Topalu**	**17.11**	**313**	⇑P		**P**		**21 00 39.3**	**+1.0**
DOK	**Doka**	**17.18**	**152**	P		**Pn**		**21 00 34.1**	**-3.5**
	SNR=12								
HARR	**Harsova**	**17.25**	**313**	⇓P		**P**		**21 00 40.8**	**+0.8**
RDO	**Rodhopi**	**17.38**	**300**	Pn		**Pn**		**21 00 37.4**	**-2.6**
CFR	**Carcaliu**	**17.40**	**315**	⇑P		**Pn**		**21 00 40.8**	**+0.7**
WHFO	**Wadi Hawf**	**17.68**	**154**	P		**Pn**		**21 00 42.0**	**-2.0**
	SNR=11								
ELND	**Elena**	**17.76**	**306**	⇑P		**P**		**21 00 46.9**	**+1.3**
ABTO	**Aybut**	**18.03**	**156**	P		**Pn**		**21 00 45.5**	**-2.8**
RBK	**Rabkut**	**18.22**	**153**	P		**Pn**		**21 00 48.5**	**-2.1**
DMTO	**DMTO**	**18.32**	**151**	P		**Pn**		**21 00 49.5**	**-2.2**
	SNR=21								
BELG	**Belogornoye**	**18.36**	**4**	P		**Pn**		**21 00 50.3**	**-1.7**
	2.1nm,0.3s,baz=13,slow=3.0,SNR=15								
BELG				LR		LR		21 08 26.9	
	comp=Z,98nm,21.3s,baz=180,slow=39 43nm,1.0s								
ABKAR	**Akbulak array**	**18.50**	**31**			**P**		**21 00 53.8**	**+0.1**
ABKAR	**Akbulak array**	**18.50**	**31**	P		**Pn**		**21 00 54.4**	**+0.5**
ABKAR				IAmb		IAmb		21 00 59.3	
	comp=Z,3.9nm,0.8s								
VRI	**Vrincioaia**	**18.60**	**315**	⇑P		**Pn**		**21 01 00.3**	**+5.2**
NEHR	**Nehoiu**	**18.63**	**313**	⇑P		**Pn**		**21 00 57.1**	**+1.7**
PLOR	**Plostina**	**18.64**	**315**	⇓P		**Pn**		**21 00 56.1**	**+0.5**
PLOR3	**Plostina Array**	**18.64**	**315**	P		**Pn**		**21 00 57.2**	**+1.6**
AKTO	**Aktyubinsk**	**18.70**	**25**	P		**P**		**21 00 55.1**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=220,slow=9.0,SNR=11								
AKTO				LR		LR		21 09 20.1	
	comp=Z,121nm,21.1s,baz=306,slow=41 comp=Z,4.7nm,0.8s								
MLR	**Muntele Rosu**	**18.87**	**313**	P		**P**		**21 00 55.9**	**-2.1**
MLR	**Muntele Rosu**	**18.87**	**313**	P		**P**		**21 00 58.0**	**0.0**
	comp=Z,3.0nm,0.9s,baz=169,slow=10								
MLR				LR		LR		21 08 30.8	
	comp=Z,156nm,21.8s,baz=126,slow=38								
MLR	**Muntele Rosu**	**18.87**	**313**	⇑P		**Pn**		**21 01 01.5**	**+3.0**
MLR	**Muntele Rosu**	**18.87**	**313**	P		**Pn**		**21 00 59.5**	**+1.0**
COVR	**Voineasa-Covas**	**18.90**	**314**	⇑P		**Pn**		**21 00 60.0**	**+1.2**
TESR	**Tescani**	**19.00**	**316**	⇓P		**P**		**21 00 59.2**	**-0.1**
TESR	**Tescani**	**19.00**	**316**	P		**P**		**21 00 59.1**	**-0.1**
TESR				pP		**sP**		**21 01 05.7**	**+2.9**
ONER	**Baraj Valea Uz**	**19.05**	**316**	⇑P		**Pn**		**21 01 01.1**	**+0.5**
SORM	**Soroca**	**19.07**	**323**	⇑P		**P**		**21 00 59.4**	**-0.6**
SORM	**Soroca**	**19.07**	**323**	P		**P**		**21 00 57.7**	**-2.3**
TURR	**Turia**	**19.12**	**315**	⇑P		**Pn**		**21 01 02.5**	**+1.1**
OZUR		**19.28**	**314**	⇑P		**Pn**		**21 01 03.6**	**+0.3**
KBL	**Kabul**	**19.35**	**82**	P		**P**		**21 01 00.4**	**-3.1**
SIMJ	**Simiganj**	**19.37**	**70**	P		**P**		**21 01 00.6**	**-2.8**
DOPR	**Dopca**	**19.45**	**314**	⇑P		**Pn**		**21 01 05.1**	**-0.2**
ITM	**Ithomi**	**19.49**	**286**	P		**P**		**21 00 59.0**	**-5.7**
ITM				IAmb		IAmb		21 01 30.7	
	comp=Z,47nm,1.2s								
ARR	**Arges**	**19.62**	**311**	⇓P		**Pn**		**21 01 07.8**	**+0.4**
PRAR	**RASCA**	**19.72**	**318**	⇑P		**P**		**21 01 07.0**	**-0.1**
NDNU	**Novodnistrovsk**	**19.87**	**322**	P		**P**		**21 01 08.2**	**-0.5**
FNA	**Florina**	**20.34**	**296**	P		**P**		**21 01 08.4**	**-5.5**
FNA				IAmb		IAmb		21 01 23.6	
	comp=Z,32nm,1.4s								
AK07	**Malin Array Si**	**20.37**	**329**	P		**P**		**21 01 13.9**	**-0.2**
AK10	**Malin Array Si**	**20.38**	**329**	P		**P**		**21 01 12.2**	**-2.1**
GAR	**Garm**	**20.42**	**69**	P		**P**		**21 01 13.4**	**-1.5**
GAR				IAmb		IAmb		21 01 21.2	
	comp=Z,15nm,0.9s								
BURAR	**Bucovina Array**	**20.43**	**318**	⇑P		**P**		**21 01 15.7**	**+0.8**
BUR08	**Bucovina Ar. S**	**20.46**	**318**	P		**P**		**21 01 14.0**	**-1.2**
BUR08				IAmb		IAmb		21 01 18.8	
	comp=Z,23nm,0.9s								
AK14	**Malin Array Si**	**20.47**	**329**	P		**P**		**21 01 14.2**	**-1.0**
AKASG	**Malin Array Be**	**20.47**	**329**	P		**P**		**21 01 12.8**	**-2.4**
AKASG				IAmb		IAmb		21 01 17.3	
	comp=Z,25nm,1.0s								
AKASG	**Malin Array Be**	**20.47**	**329**	P		**P**		**21 01 13.9**	**-1.3**
	comp=Z,5.5nm,0.6s,baz=135,slow=12,SNR=40								
AKASG				LR		LR		21 10 25.7	
	comp=Z,97nm,18.5s,baz=136,slow=41 comp=Z,5.5nm,0.6s								
AKBB	**Malin Array Si**	**20.47**	**329**	P		**P**		**21 01 10.6**	**-4.6**
AKBB				IAmb		IAmb		21 01 17.2	
	comp=Z,37nm,1.1s								
AKBB	**Malin Array Si**	**20.47**	**329**	P		**P**		**21 01 12.8**	**-2.4**
KIEV	**Kiev**	**20.47**	**329**	P		**P**		**21 01 10.6**	**-4.6**
KIEV				IAmb		IAmb		21 01 17.2	
	comp=Z,37nm,1.1s								
KIEV	**Kiev**	**20.47**	**329**	*i* P		**P**		**21 01 11.5**	**-3.7**
	SNR=17								
KIEV	**Kiev**	**20.47**	**329**	⇓P		**P**		**21 01 14.4**	**-0.8**
KIEV	**Kiev**	**20.47**	**329**	P		**P**		**21 01 14.3**	**-0.9**
	comp=Z,144nm,1.1s								
LUBAR	**Lubar, Ukraine**	**20.57**	**326**	P		**P**		**21 01 16.7**	**+0.4**
HORU	**Horodok**	**20.75**	**323**	P		**P**		**21 01 17.7**	**-0.5**
GZR	**Gura Zlata**	**20.80**	**310**	⇑P		**P**		**21 01 19.2**	**+0.3**
HERR	**Herculane**	**20.83**	**308**	⇑P		**P**		**21 01 18.7**	**-0.4**
BOVS	**Bovan**	**20.86**	**304**	⇑P		Pn		21 01 26.0	+4.1
MI29	**MI29, Kamyanyy**	**20.87**	**327**	P		**P**		**21 01 18.9**	**-0.7**
CJR	**Cluj-Napoca**	**20.90**	**314**	⇑P		Pn		21 01 22.5	0.0
KSV	**Kosov**	**20.91**	**319**	P		**P**		**21 01 19.8**	**-0.3**
MI30	**MI30,Zelenitsa**	**20.95**	**328**	P		**P**		**21 01 19.1**	**-1.3**
MARR	**Marisel-Cluj**	**21.17**	**313**	⇑P		**P**		**21 01 23.4**	**+0.4**
RAKU	**Rahkiv**	**21.25**	**317**	P		**P**		**21 01 24.4**	**+0.7**
MI28	**Mi28,Pidlybu**	**21.32**	**328**	P		**P**		**21 01 23.5**	**-0.8**
KKAR	**Karatay Array**	**21.38**	**58**	P		**P**		**21 01 24.9**	**-0.3**
KKAR	**Karatay Array**	**21.38**	**58**	P		**P**		**21 01 24.8**	**-0.4**
BMR	**Baia Mare**	**21.44**	**316**	⇑P		**P**		**21 01 30.3**	**+4.5**
STNU	**Starunia**	**21.45**	**319**	P		**P**		**21 01 25.6**	**-0.2**
DRGR		**21.47**	**313**	⇑P		**P**		**21 01 26.4**	**+0.3**
MESR	**Meseseni**	**21.50**	**314**	⇓P		**P**		**21 01 28.1**	**+1.8**
DRK	**Karamyk**	**21.62**	**68**	P		**P**		**21 01 27.6**	**-0.4**
DRK				IAmb		IAmb		21 01 37.9	
	comp=Z,7.9nm,0.6s								
BZS	**Buzias**	**21.64**	**309**	⇑P		**P**		**21 01 30.4**	**+2.5**
MEZ	**Mezhgor'ye**	**21.88**	**318**	P		**P**		**21 01 31.2**	**+0.7**
SIRR	**Siria**	**21.88**	**311**	⇑P		**P**		**21 01 31.4**	**+0.9**
KORU	**Korolevo**	**21.90**	**317**	P		**P**		**21 01 33.2**	**+2.5**
OBN	**Obninsk**	**21.95**	**346**	P		**P**		**21 01 26.7**	**-4.4**
OBN				IAmb		IAmb		21 01 30.1	
	comp=Z,22nm,0.7s								
OBN	**Obninsk**	**21.95**	**346**	P		**P**		**21 01 29.2**	**-1.9**
	comp=Z,19nm,0.6s,baz=168,slow=5.3,SNR=4.4								
OBN				S		**S**		**21 05 26.8**	**-6.7**
	comp=Z,9.1nm,0.5s,baz=213,slow=23,SNR=1.8								
OBN				LR		LR		21 11 15.6	
	comp=Z,161nm,20.9s,baz=174,slow=40 comp=Z,19nm,0.6s								
OBN	**Obninsk**	**21.95**	**346**	⇑P		**P**		**21 01 30.0**	**-1.1**
MORS	**Morshin**	**22.02**	**320**	P		**P**		**21 01 29.9**	**-2.0**
BERU	**Beregovo**	**22.22**	**316**	P		**P**		**21 01 34.9**	**+0.8**
MUKU	**Mukachevo**	**22.31**	**317**	P		**P**		**21 01 36.5**	**+1.4**
RNPP5	**Staryi Chortor**	**22.33**	**326**	P		**P**		**21 01 34.0**	**-1.3**
SHIU	**Shidnytsya**	**22.36**	**319**	P		**P**		**21 01 36.5**	**+0.9**
RNPP9	**Sopachiv**	**22.45**	**326**	P		**P**		**21 01 34.9**	**-1.7**
HOLU	**Holmets**	**22.52**	**317**	P		**P**		**21 01 38.2**	**+0.9

comp=Z,1.9nm,0.6s
SQTA Sankt Quirin 28.96 307 *e*P **P 21 02 36.5 -0.7**
comp=Z,1.6nm,0.3s
MOTA Moosalm 29.07 308 *i* P **P 21 02 36.9 -1.2**
comp=Z,1.6nm,0.4s
KURBB Kurchatov Arra 29.09 45 P **P 21 02 38.9 +0.7**
comp=Z,0.5nm,0.2s,baz=253,slow=9.2,SNR=3.3
comp=Z,0.5nm,0.2s
FETA Feichten 29.23 307 *e*P **P 21 02 39.0 -0.7**
comp=Z,0.5nm,0.4s
DAVA Damuels 29.86 307 *e*P **P 21 02 44.2 -1.0**
comp=Z,2.0nm,0.5s
FIA1 FINESS Array S 30.11 341 P **P 21 02 44.8 -2.2**
FINES FINESS Array B 30.11 341 P **P 21 02 45.9 -1.1**
FINES FINESS Array B 30.11 341 P **P 21 02 46.2 -0.8**
comp=Z,1.5nm,0.5s,baz=147,slow=9.2,SNR=18
comp=Z,1.5nm,0.5s
JOF Joensuu 30.22 347 *e*P **P 21 02 47.5 -0.5**
MK31 Makanchi Array 30.38 54 P **P 21 02 50.1 +0.4**
MKAR Makanchi Array 30.38 54 LR LR 21 16 50.7
comp=Z,69nm,19.7s,baz=244,slow=40
KEF Keuruu 31.03 341 *e*P **P 21 02 54.6 -0.6**
SENIN Lac Senin/Sane 31.42 305 P **P 21 02 57.9 -1.1**
SENIN IAmb IAmb 21 03 19.2
comp=Z,17nm,0.9s
BNI Bardonecchia 31.67 302 P **P 21 02 59.4 -1.7**
BNI IAmb IAmb 21 03 07.9
comp=Z,10nm,0.7s
HFS Hagfors 33.33 331 P **P 21 03 14.8 -0.5**
comp=Z,7.8nm,0.5s,baz=128,slow=9.6,SNR=60
comp=Z,7.8nm,0.5s
WMQ Urumqi 33.82 61 *e*P P 21 03 26.5 +6.6
WMQ pmax pmax
comp=Z,10.0nm,0.7s
ZALV Zalesovo Beam 33.89 42 P **P 21 03 21.1 +0.8**
comp=Z,0.8nm,0.5s,baz=261,slow=7.4,SNR=4.1
comp=Z,0.8nm,0.5s
LVZ Lovozero 34.44 353 P **P 21 03 24.0 -0.9**
NB2 NORSAR Subarra 34.85 331 P **P 21 03 27.1 -1.5**
comp=Z,1.4nm,0.7s,baz=125,slow=8.6
NOA NORSAR Array B 34.85 331 P **P 21 03 27.4 -1.2**
comp=Z,1.8nm,0.9s,baz=125,slow=8.6,SNR=5.0
comp=Z,1.8nm,0.9s
KMBO Kilima Mbogo 35.90 194 P **P 21 03 40.4 +2.1**
comp=Z,0.4nm,0.5s,baz=56,slow=11,SNR=2.3
comp=Z,0.4nm,0.5s
KEV Kevo 37.18 349 P **P 21 03 48.1 -0.2**
ARCES ARCESS Array B 37.22 348 P **P 21 03 48.3 -0.5**
comp=Z,5.2nm,0.8s,baz=159,slow=7.9,SNR=22
comp=Z,5.2nm,0.8s
GTK Tadong 37.36 89 *ex* **P 21 03 52.1 +1.5**
GTK IAmb IAmb 21 03 58.4
comp=Z,49nm,0.2s
EKA Eskdalemuir Ar 39.62 318 P **P 21 04 08.6 -0.5**
comp=Z,2.3nm,0.7s,baz=105,slow=8.5,SNR=8.4
comp=Z,2.3nm,0.7s
ESDC Sonseca Array 39.64 293 P **P 21 04 09.9 +0.4**
comp=Z,0.9nm,0.7s,baz=85,slow=7.8,SNR=3.0
comp=Z,0.9nm,0.7s
AZL Aizawl 42.16 91 *ex* **P 21 04 31.9 +1.4**
AZL IAmb IAmb 21 04 36.4
comp=Z,53nm,2.3s
KOHI KOHIMA 42.53 88 *ex* P 21 04 26.9 -6.7
KOHI IAmb IAmb 21 04 40.6
comp=Z,4.8nm,0.8s
IMP Imphal 42.75 89 *ex* **P 21 04 36.7 +1.4**
IMP IAmb IAmb 21 04 41.2
comp=Z,4.5nm,1.2s
GTA Gaotai 43.21 67 *e*P **P 21 04 40.8 +1.9**
GTA sP sP 21 04 46.5 +3.9
GTA pmax pmax
comp=Z,2.0nm,1.0s
TORD Torodi Ar. Bea 44.89 253 P **P 21 04 52.9 +0.3**
comp=Z,1.0nm,0.9s,baz=54,slow=6.1,SNR=10
comp=Z,1.0nm,0.9s
SPB2 Spitsbergen Ar 45.95 352 P **P 21 04 58.7 -1.4**
SPITS Spitsbergen Ar 45.96 352 P **P 21 04 59.9 -0.3**
comp=Z,3.4nm,0.4s,baz=157,slow=17,SNR=5.6
comp=Z,3.4nm,0.4s
SONM Songino Array 46.75 54 P **P 21 05 07.1 +0.1**
comp=Z,0.3nm,0.6s,baz=286,slow=7.0,SNR=2.0
comp=Z,0.3nm,0.6s
LZH Lanzhou 47.07 70 *e*P **P 21 05 13.8 +4.1**
LZH sP sP 21 05 20.0 +6.6
LZH pmax pmax
comp=Z,9.0nm,1.0s
CMAR Chiang Mai Arr 49.76 94 P **P 21 05 30.6 +0.2**
comp=Z,1.6nm,0.6s,baz=297,slow=7.8,SNR=11
comp=Z,1.6nm,0.6s
HHC Hu-ho-hao-te 51.68 62 *e*P **P 21 05 46.8 +2.0**
HHC pmax pmax
comp=Z,21nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.4s
KSRS Korea Array 64.77 61 P **P 21 07 16.4 +0.1**
comp=Z,0.8nm,0.5s,baz=284,slow=5.1,SNR=2.4
comp=Z,0.8nm,0.5s
BOSA Boshof 65.27 200 P **P 21 07 20.6 +1.0**
comp=Z,2.5nm,0.9s,baz=73,slow=2.2,SNR=1.6
comp=Z,2.5nm,0.9s
SCHQ Schefferville 74.24 326 P **P 21 08 13.6 -0.9**
comp=Z,7.9nm,1.0s,baz=79,slow=5.2,SNR=2.2
comp=Z,7.9nm,1.0s

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*ISN **25** 20:58:48.5±0.3,34°.36N×45°.56E,h6km±1km,ML3.0*
*TEH **25** 20:58:49.4,34°.36N×45°.68E,h11km,ML2.8*
ISC 25 20:58:49.5±1.1,34°.34N±0°.04×45°.65E±0°.04,h9km±12km,
n9,σ1s10/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.17**	**343**	Pg	**Pg**	**20 58 53.4**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.32**	**137**	Pg	**Pg**	**20 58 55.7**	**-0.1**
IDHR	**Dehrash**	**0.71**	**59**	Pg	**Pg**	**20 59 02.5**	**-0.6**
IDHR				Sg	**Sg**	**20 59 12.9**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.15**	**93**	Pg	**Pb**	**20 59 11.6**	**-0.1**
ILIN	**Lien**	**1.23**	**62**	Pg	**Pb**	**20 59 12.4**	**-0.6**
IBDR	**Badra**	**1.25**	**169**	*e*Pg	**Pb**	**20 59 13.0**	**-0.3**
IBDR				*e*Sg	**Sn**	**20 59 31.0**	**+0.8**
BHD	**Baghdad**	**1.50**	**225**	*e*Pn	**Pb**	**20 59 17.0**	**-0.6**
BHD				*e*Sn	**Sg**	**20 59 38.0**	**+0.1**
IKRK	**Kirkuk**	**1.51**	**315**	*e*Pn	**Pb**	**20 59 17.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**20 59 38.0**	**0.0**
IKRK				AML	AML	20 59 39.9	
	comp=N,272nm,0.6s						
IKRK				AML	AML	20 59 42.0	
	comp=E,301nm,0.7s						
RAFI	**Al-Rafai**	**2.64**	**171**	*e*Pn	**Pn**	**20 59 34.0**	**+1.7**
RAFI				*e*Sn	**Sb**	**21 00 07.0**	**-2.5**

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*ISN **25** 21:05:12.8±0.8,34°.14N×45°.46E,h6km±13km,ML3.0*
*TEH **25** 21:05:14.1,34°.12N×45°.54E,h10km±39km,ML2.8*
ISC 25 21:05:14.4±0.9,34°.13N±0°.04×45°.54E±0°.04,h10km,n13,
σ0s93/16,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.31**	**94**	Pg	**Pg**	**21 05 20.5**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.37**	**7**	Pg	**Pg**	**21 05 22.2**	**+0.4**
ILBA	**Ilam Banvizeh**	**0.76**	**132**	Pg	**Pb**	**21 05 28.9**	**-0.7**
IGHG	**Ghaleghazi**	**0.88**	**77**	Pg	**Pb**	**21 05 31.5**	**-0.3**
IDHR	**Dehrash**	**0.90**	**51**	Pg	**Pg**	**21 05 31.0**	**-0.8**
IBDR	**Badra**	**1.07**	**162**	*e*Pg	**Pn**	**21 05 35.0**	**-0.4**
IBDR				*e*Sg	**Sn**	**21 05 52.0**	**+1.6**
KCHF	**Cheshme Sefid,**	**1.25**	**83**	Pg	**Pg**	**21 05 38.8**	**+0.3**
BHD	**Baghdad**	**1.29**	**229**	*e*Pn	**Pg**	**21 05 39.0**	**-0.2**
BHD				*e*Sn	**Sg**	**21 05 57.0**	**+1.0**
ILIN	**Lien**	**1.41**	**56**	Pg	**Pg**	**21 05 41.5**	**0.0**
IKRK	**Kirkuk**	**1.60**	**322**	*e*Pn	**Pn**	**21 05 43.0**	**+0.2**
IKRK				*e*Sn	**Sb**	**21 06 05.0**	**+0.7**
IKRK				AML	AML	21 06 10.6	
	comp=E,250nm,0.4s						
IKRK				AML	AML	21 06 10.7	
	comp=N,206nm,0.4s						
SNQR	**Sonqor, Kerman**	**1.87**	**67**	Pn	**Pb**	**21 05 48.8**	**0.0**
IDOB	**Doab**	**2.22**	**98**	Pn	**Pn**	**21 05 52.3**	**+0.9**
AK14	**Malin Array Si**	**20.39**	**329**	P	**P**	**21 09 49.1**	**-2.1**

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*IDC **25** 21:05:46.2±2.5,43°.24N×105°.13W,h0km,mb3.9/2,*
mbtmp3.7/4,ML3.4/2,Error ellipse: s-maj=59.9km
s-min=9.9km az=157.0
*NEIC **25** 21:05:48.0±1.1,43°.81N±0°.05×105°.44W±0°.06,h0km±1km,*
ML3.4/54,Error ellipse: s-maj=9.0km s-min=7.4km
az=349.0
ISC 25 21:05:48.8±0.9,43°.80N±0°.05×105°.41W±0°.04,h0km,n33,
σ1s05/33,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.04**	**71**	Pg	**Pg**	**21 06 08.5**	**-0.2**
RSSD				Sg	**Sb**	**21 06 23.5**	**-0.6**
K22A	**Casper**	**1.41**	**216**		**Pg**	**21 06 14.7**	**-1.0**
K22A				IAML		21 06 40.1	
	comp=E,574nm,0.3s						
K22A				IAML		21 06 41.8	
	comp=N,479nm,0.3s						
N23A	**Red Feather La**	**2.93**	**188**	Pn	**Pn**	**21 06 37.8**	**+1.0**
N23A				IAML		21 07 19.6	
	comp=N,102nm,0.4s						
LAO	**LASA Array**	**2.95**	**349**		**Pn**	**21 06 36.5**	**-0.4**
RLMT	**Red Lodge**	**3.07**	**297**	Pn	**Pn**	**21 06 39.1**	**+0.4**
RLMT				IAML		21 07 36.5	
	comp=N,90nm,0.3s						
BW06	**Boulder Array**	**3.20**	**253**	Pn	**Pn**	**21 06 41.4**	**+0.9**
PD31	**Pinedale Array**	**3.20**	**253**	Pn	**Pn**	**21 06 41.9**	**+1.3**
PDAR	**Pinedale Array**	**3.20**	**253**	Pn	**Pn**	**21 06 41.9**	**+1.3**
PDAR	**Pinedale Array**	**3.20**	**253**	Pn	**Pn**	**21 06 42.1**	**+1.6**
	comp=N,3.1nm,0.3s,baz=71,slow=16,SNR=39						
PDAR				Lg	Lg	21 07 28.8	
	comp=N,17nm,0.3s,baz=71,slow=34,SNR=8.4						
	comp=N,3.6nm,0.4s						
BRIGG	**Briggsdale**	**3.31**	**166**	Pn	**Pn**	**21 06 44.0**	**+2.1**
BRIGG				IAML		21 07 31.6	
	comp=E,96nm,0.7s						
BRIGG				IAML		21 08 45.2	
	comp=N,92nm,4.2s						
YNE	**Yellowstone No**	**3.52**	**292**	Pn	**Pn**	**21 06 45.6**	**+0.7**
YNE				IAML		21 07 46.4	
	comp=N,81nm,0.7s						
YNE				IAML		21 07 47.1	
	comp=E,118nm,0.3s						
YMP	**Mirror Lake Pl**	**3.54**	**287**	Pn	**Pn**	**21 06 47.6**	**+2.3**
YMP				IAML		21 08 03.3	
	comp=N,83nm,0.8s						
GCMT	**Greycliff**	**3.63**	**305**	Pn	**Pn**	**21 06 46.7**	**+0.4**
LKWY	**Lake**	**3.67**	**284**	Pn	**Pn**	**21 06 46.8**	**-0.3**
H17A	**Grant Village**	**3.77**	**281**	Pn	**Pn**	**21 06 48.1**	**-0.3**
LOHW	**Long Hollow**	**3.77**	**269**	Pn	**Pn**	**21 06 48.6**	**+0.2**
OGNE	**Ogallala**	**3.79**	**138**		**Pn**	**21 06 48.4**	**-0.1**
FLWY	**Flagg Ranch**	**3.83**	**276**		**Pn**	**21 06 49.6**	**+0.3**
FLWY				IAML		21 08 03.2	
	comp=N,56nm,2.8s						
FLWY				IAML		21 08 09.8	
	comp=N,59nm,1.9s						
YMR	**Madison River**	**4.09**	**284**	Pn	**Pn**	**21 06 55.1**	**+2.4**
YMR				IAML		21 08 17.2	
	comp=N,69nm,1.1s						
YMR				IAML		21 08 19.8	
	comp=E,53nm,2.5s						
O20A	**White River Ci**	**4.22**	**211**		**Pn**	**21 06 55.4**	**+0.8**
O20A				IAML		21 08 05.0	
	comp=E,64nm,1.0s						
YHL	**Hebgen Lake**	**4.28**	**286**	Pn	**Pn**	**21 06 56.2**	**+0.8**
YHL				IAML		21 08 11.9	
	comp=N,34nm,2.2s						
YHL				IAML		21 08 19.3	
	comp=E,43nm,0.9s						
AHID	**Auburn Hatcher**	**4.28**	**258**	Pn	**Pn**	**21 06 55.6**	**+0.2**
AHID				IAML		21 08 09.3	
	comp=E,41nm,0.9s						
AHID				IAML		21 08 15.1	
	comp=E,41nm,1.3s						
DGMT	**Dagmar**	**4.75**	**10**		**Pn**	**21 07 02.3**	**+0.6**
BOZ	**Bozeman (W)**	**4.79**	**294**	Pn	**Pn**	**21 07 03.0**	**+0.7**
BOZ				IAML		21 08 21.6	
	comp=E,30nm,1.3s						
HWUT	**Hardware Ranch**	**5.04**	**246**	Pn	**Pn**	**21 07 05.2**	**-0.5**
HWUT				IAML		21 08 51.5	
	comp=E,33nm,1.1s						
SPUT	**South Promonto**	**5.76**	**247**	Pn	**Pn**	**21 07 17.0**	**+1.3**
HVU	**Hansel Valley**	**5.79**	**252**	Pn	**Pn**	**21 07 14.9**	**-1.0**
PV22	**Blue Mesa, Par**	**5.84**	**207**	Pn	**Pn**	**21 07 16.9**	**+0.2**
PV21	**Cone Mtn., Par**	**5.88**	**208**	Pn	**Pn**	**21 07 16.7**	**-0.7**
I10CA	**LAC DU BONNET**	**9.06**	**42**	I	I	22 02 42.4	
	comp=E,0.1nm,1.9s,baz=222,slow=325,SNR=2.3						
ULM	**Lac du Bonnet**	**9.16**	**42**	Pn	**Pn**	**21 08 01.2**	**-0.9**
	comp=E,0.8nm,0.3s,baz=233,slow=15,SNR=1.9						
ULM				Lg	Lg	21 10 35.6	
	comp=E,0.5nm,0.3s,baz=322,slow=23,SNR=3.5						
	comp=E,1.5nm,0.3s						
FINES	**FINESS Array B**	**68.02**	**23**	P	**P**	**21 16 50.0**	**+0.7**
	comp=E,1.8nm,0.9s,baz=327,slow=7.3,SNR=3.7						
	comp=E,1.8nm,0.9s						
MKAR	**Makanchi Array**	**89.54**	**355**	P	**P**	**21 18 48.2**	**+0.4**
	comp=E,0.3nm,0.7s,baz=356,slow=4.3,SNR=1.8						
	comp=E,0.3nm,0.7s						

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*TEH **25** 21:07:08.5,34°.20N×45°.57E,h11km±36km,ML2.8*
*ISN **25** 21:07:08.4±0.4,34°.21N×45°.48E,h14km±11km,ML2.9*
ISC 25 21:07:08.9±0.9,34°.21N±0°.04×45°.56E±0°.04,h10km,n12,
σ0s55/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.29**	**4**	Pg	**Pg**	**21 07 14.8**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.30**	**109**	Pg	**Pg**	**21 07 14.8**	**-0.3**
ILBA	**Ilam Banvizeh**	**0.80**	**137**	Pg	**Pg**	**21 07 23.9**	**-0.3**
IDHR	**Dehrash**	**0.84**	**54**	Pg	**Pg**	**21 07 24.2**	**-0.9**
IGHG	**Ghaleghazi**	**0.84**	**82**	Pg	**Pb**	**21 07 25.1**	**-0.7**
IBDR	**Badra**	**1.14**	**164**	*e*Pg	**Pn**	**21 07 31.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**21 07 47.0**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.23**	**87**	Pg	**Pg**	**21 07 31.9**	**-0.5**
ILIN	**Lien**	**1.35**	**58**	Pg	**Pg**	**21 07 34.9**	**0.0**
BHD	**Baghdad**	**1.36**	**227**	*e*Pn	**Pb**	**21 07 34.0**	**-0.5**
BHD				*e*Sn	**Sg**	**21 07 53.0**	**+0.3**
IKRK	**Kirkuk**	**1.55**	**320**	*e*Pn	**Pb**	**21 07 37.0**	**-0.8**
IKRK				*e*Sn	**Sb**	**21 07 58.0**	**+0.5**
IKRK				AML	AML	21 08 03.0	
	comp=N,208nm,0.6s						
IKRK				AML	AML	21 08 03.0	
	comp=E,182nm,0.4s						
SNQR	**Sonqor, Kerman**	**1.82**	**69**	Pn	**Pb**	**21 07 42.5**	**0.0**
IDOB	**Doab**	**2.21**	**100**	Pn	**Pn**	**21 07 46.7**	**+0.8**

RSNC 25 21:12:49.2±0.0,13°N±2°×8°1W±°,h2km±2km,M3.6,mb4.6,
ML3.6,Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.29**	**300**	P	Pb	21 12 56.1	-1.1
PRVC				S	Sg	21 13 00.5	+1.8
SAIC	**Isla e San And**	**0.91**	**221**	P	Pb	21 13 07.5	-0.2
SAIC				S	Sb	21 13 21.0	+0.7
RNCC	**Cayo Roncador,**	**1.04**	**71**	P	Pg	21 13 08.6	-0.6
RNCC				S	Sb	21 13 23.6	-0.4
SERC	**Banco Serrana,**	**1.27**	**34**	P	Pg	21 13 12.2	-1.4
SERC				S	Sg	21 13 29.9	-0.2
ACON	**Acoyapa**	**4.17**	**253**	P	Pn	21 13 55.0	+1.1
BCIP	**Isla Barro Col**	**4.22**	**163**	P	Pn	21 13 51.4	-3.2
BCIP				S	Sn	21 14 39.0	-5.6
JTS	**Las Juntas de**	**4.77**	**233**	P	Pn	21 14 02.1	-0.1
JTS				P	Pn	21 14 02.9	+0.7
JTS				S	Sn	21 14 58.1	0.0
AZU	**Azuero**	**5.46**	**171**	P	Pn	21 14 11.0	-0.7
	35nm,1.2s						
AZU				S	Sn	21 15 11.5	-3.7
	35nm,1.2s						
CACAO	**El Cacao, Vera**	**5.85**	**178**	P	Pn	21 14 14.7	-2.3
	61nm,0.8s						
CACAO				S	Sn	21 15 23.1	-1.7
	61nm,0.8s						
CAPC	**Capurgana**	**5.87**	**141**	P	Pn	21 14 13.2	-4.0
	61nm,1.1s						
CAPC				S	Sn	21 15 21.7	-3.4
	61nm,1.1s						
LCBC	**Los crdobas,**	**6.36**	**133**	P	Pn	21 14 23.3	-0.7
	85nm,1.3s						
LCBC				S	Sn	21 15 37.1	-0.2
	85nm,1.3s						
SJCC	**San Jacinto, C**	**6.68**	**119**	P	Pn	21 14 25.0	-3.5
SJCC				S	Sn	21 15 39.3	-6.0

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*JMA **25** 21:13:57.7±0.1,23°.7N±0°.5×122°.0E±0°.5,h33km,MV3.1/17,*
TAIWAN REGION
*TAP **25** 21:13:58.2,23°.71N×122°.03E,h36km,ML3.3,C*
ISC 25 21:13:57.1±1.0,23°.68N±0°.02×122°.07E±0°.02,h27km±9km,
n155,σ0s76/297,14D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEYL	**Yanliau Villag**	**0.47**	**293**	*i* P	**Pb**	**21 14 07.5**	**+0.5**
TEYL				S	**Sb**	**21 14 14.8**	**+1.1**
SHUL	**Shoufeng**	**0.48**	**283**	*i* P	**Pb**	**21 14 07.6**	**+0.5**
SHUL				*i* S	**Sb**	**21 14 14.9**	**+1.0**
TEGC	**Jichi Village**	**0.49**	**273**	*i* P	**Pn**	**21 14 07.8**	**-0.5**
TEGC				*i* S	**Sb**	**21 14 15.3**	**+1.1**
EOS4	**EOS4**	**0.49**	**27**	*i* P	**Pn**	**21 14 08.0**	**0.0**
EOS4				*i* S	**Sn**	**21 14 15.2**	**-0.2**
HWA	**Hwalien**	**0.52**	**305**	*i* P	**Pb**	**21 14 07.9**	**+0.1**
HWA				*i* S	**Sb**	**21 14 15.5**	**+0.5**
TWD	**Chiawan**	**0.59**	**312**	⇓*i*P	**Pb**	**21 14 08.6**	**-0.3**
TWD				*i* S	**Sb**	**21 14 16.3**	**-0.6**
EGFH	**Guangfu**	**0.59**	**269**	*i* P	**Pb**	**21 14 09.1**	**+0.1**
EGFH				S	**Sb**	**21 14 16.2**	**-0.9**
ESL	**Shilin**	**0.60**	**283**	⇓*i*P	**Pb**	**21 14 08.6**	**-0.5**
ESL				*i* S	**Sb**	**21 14 16.6**	**-0.8**
ETM	**Tongmen**	**0.60**	**298**	*i* P	**Pb**	**21 14 08.7**	**-0.5**
ETM				*e*S	**Sb**	**21 14 17.0**	**-0.3**
HGSD	**Ruisui**	**0.63**	**253**	⇓*i*P	**Pb**	**21 14 09.4**	**-0.1**
HGSD				*i* S	**Sb**	**21 14 18.1**	**+0.2**
ETL	**Fush Village**	**0.63**	**319**	*i* P	**Pb**	**21 14 09.2**	**-0.5**
ETL				*i* S	**Sb**	**21 14 17.5**	**-0.7**
WARBT	**Fenglin Townsh**	**0.63**	**273**	⇓*i*P	**Pb**	**21 14 09.2**	**-0.4**
WARBT				*i* S	**Sb**	**21 14 18.1**	**-0.1**
EOS3	**EOS3**	**0.64**	**20**	*e*P	**Pn**	**21 14 10.6**	**+0.3**
EOS3				*e*S	**Sn**	**21 14 19.9**	**+0.4**
NACB	**Ninganchiao**	**0.66**	**318**	P	**Pb**	**21 14 09.5**	**-0.6**
NACB	**Ninganchiao**	**0.66**	**318**	⇓*i*P	**Pb**	**21 14 09.5**	**-0.6**
NACB				*i* S	**Sb**	**21 14 17.9**	**-1.0**
ECBN	**Changbin**	**0.68**	**238**	*e*P	**Pb**	**21 14 10.1**	**-0.3**
ECBN				S	**Sb**	**21 14 19.6**	**+0.3**
EHYH	**Wanrong**	**0.69**	**255**	*i* P	**Pn**	**21 14 11.0**	**-0.1**
EHYH				*i* S	**Sb**	**21 14 20.5**	**+0.6**
LXIB	**Xiulin Townshi**	**0.69**	**299**	⇓*i*P	**Pb**	**21 14 10.1**	**-0.6**
LXIB				*i* S	**Sb**	**21 14 19.5**	**-0.6**
EHY	**Hungye**	**0.71**	**256**	⇓*i*P	**Pb**	**21 14 10.9**	**0.0**
EHY				*i* S	**Sb**	**21 14 20.5**	**+0.1**
EAHA	**Aohua**	**0.71**	**335**	*i* P	**Pb**	**21 14 10.5**	**-0.5**
EAHA				*i* S	**Sb**	**21 14 19.9**	**-0.5**
EOS2	**EOS2**	**0.75**	**11**	*e*P	**Pn**	**21 14 12.3**	**+0.6**
ETLH	**Xiulin Townshi**	**0.75**	**314**	*i* P	**Pb**	**21 14 11.1**	**-0.6**
ETLH				*i* S	**Sb**	**21 14 20.7**	**-0.9**
EYUL	**Yuli**	**0.77**	**245**	*i* P	**Pn**	**21 14 12.1**	**0.0**
EYUL				*i* S	**Sn**	**21 14 23.2**	**+0.4**
YULB	**Yu-li**	**0.77**	**248**	P	**Pb**	**21 14 11.7**	**-0.2**
YULB	**Yu-li**	**0.77**	**248**	*i* P	**Pb**	**21 14 11.8**	**-0.1**
YULB				*i* S	**Sb**	**21 14 22.3**	**+0.3**
TWF1	**Yuli**	**0.79**	**246**	*i* P	**Pb**	**21 14 12.1**	**-0.1**
TWF1				*i* S	**Sn**	**21 14 23.1**	**-0.1**
CHKH	**Chenggong**	**0.79**	**232**	P	**Pb**	**21 14 11.3**	**-0.9**
CHKH				*i* S	**Sb**	**21 14 21.5**	**-1.1**
ENA	**Nanau**	**0.80**	**338**	*i* P	**Pb**	**21 14 12.0**	**-0.5**
ENA				S	**Sb**	**21 14 22.8**	**-0.3**
EWUT	**Wuta**	**0.81**	**340**	*i* P	**Pb**	**21 14 12.4**	**-0.2**
EWUT				*i* S	**Sb**	**21 14 23.3**	**+0.2**
VWDT	**VWDT**	**0.86**	**275**	⇓*i*P	**Pb**	**21 14 13.2**	**-0.2**
VWDT				*e*S	**Sb**	**21 14 23.8**	**-0.7**
FULB	**Fuli**	**0.86**	**236**	*i* P	**Pb**	**21 14 12.7**	**-0.8**
FULB				S	**Sb**	**21 14 24.6**	**-0.1**
OWD	**Renai**	**0.87**	**289**	*i* P	**Pb**	**21 14 13.2**	**-0.5**
OWD				S	**Sb**	**21 14 23.9**	**-1.0**
CHKT	**Chengkung**	**0.87**	**229**	P	**Pn**	**21 14 13.9**	**+0.3**
CHKT				*i* S	**Sb**	**21 14 23.7**	**-1.2**
WHF	**Hehuan Shan**	**0.87**	**302**	*i* P	**Pb**	**21 14 13.1**	**-0.9**
WHF				*i* S	**Sb**	**21 14 24.5**	**-0.9**
ESAO	**Su ao**	**0.92**	**347**	*i* P	**Pn**	**21 14 14.2**	**0.0**
ESAO				*i* S	**Sb**	**21 14 26.0**	**-0.2**
WUSB	**Renai**	**0.93**	**290**	⇓*i*P	**Pn**	**21 14 14.1**	**-0.3**
WUSB				*e*S	**Sb**	**21 14 26.1**	**-0.6**
FUSS	**Fushou**	**0.95**	**307**	*i* P	**Pn**	**21 14 14.5**	**-0.4**
FUSS				*i* S	**Sb**	**21 14 26.5**	**-0.8**
TWC	**Suao**	**0.95**	**347**	*i* P	**Pn**	**21 14 14.7**	**+0.1**
TWC				*i* S	**Sb**	**21 14 26.9**	**-0.2**
EHD	**Haiduan**	**0.96**	**237**	*i* P	**Pn**	**21 14 14.4**	**-0.4**
EHD				S	**Sb**	**21 14 26.8**	**-0.6**
NNSB	**Datong**	**0.98**	**320**	*i* P	**Pn**	**21 14 14.6**	**-0.5**
NNSB				*i* S	**Sb**	**21 14 27.2**	**-0.8**
ECS	**Chishang**	**0.98**	**234**	*i* P	**Pb**	**21 14 15.4**	**-0.1**
ECS				*i* S	**Sn**	**21 14 28.5**	**+0.5**
NNS	**Nan Shan**	**0.99**	**320**	*i* P	**Pn**	**21 14 14.9**	**-0.4**
NNS				*i* S	**Sb**	**21 14 27.6**	**-0.9**
EDH	**Donghe**	**1.00**	**225**	*i* P	**Pn**	**21 14 14.6**	**-0.7**
EDH				*i* S	**Sb**	**21 14 26.9**	**-1.7**
TWT	**Tachien**	**1.00**	**305**	*i* P	**Pn**	**21 14 15.5**	**0.0**
TWT				*i* S	**Sb**	**21 14 27.3**	**-1.5**
NDS	**Dongshan**	**1.00**	**341**	*i* P	**Pn**	**21 14 15.3**	**+0.1**
NDS				*i* S	**Sb**	**21 14 28.7**	**0.0**
TDCB	**Techi**	**1.01**	**304**	*i* P	**Pn**	**21 14 15.6**	**0.0**
TDCB				*i* S	**Sb**	**21 14 27.8**	**-1.4**
SSLB	**Suanglung**	**1.03**	**276**	P	**Pn**	**21 14 15.6**	**-0.2**
SSLB	**Suanglung**	**1.03**	**276**	⇓*i*P	**Pn**	**21 14 15.6**	**-0.2**
SSLB				S	**Sb**	**21 14 29.1**	**-0.4**
ENTT	**Nioudou**	**1.06**	**334**	*i* P	**Pn**	**21 14 16.2**	**0.0**
ENTT				*i* S	**Sn**	**21 14 29.6**	**-0.5**
ELDTW	**Lidau**	**1.09**	**243**	⇓*i*P	**Pn**	**21 14 16.2**	**-0.5**
ELDTW				*i* S	**Sn**	**21 14 29.2**	**-1.7**
SMLT	**Sun Moon Lake**	**1.09**	**281**	⇓*i*P	**Pn**	**21 14 15.8**	**-0.9**
SMLT				*i* S	**Sn**	**21 14 29.9**	**-1.1**
TWE	**Neicheng**	**1.10**	**340**	*i* P	**Pn**	**21 14 16.9**	**+0.1**
TWE				*i* S	**Sn**	**21 14 31.0**	**0.0**
JYNG

LIOB			*i* S		**Sb**	21 14 38.9	-0.2
TWQ1	**Liyutan**	**1.36 299**	*i* P		**Pb**	21 14 21.9	-0.1
TWQ1			*i* S		**Sb**	21 14 39.4	+0.4
KSHI	**Guanxi Townshi**	**1.36 323**	*i* P		**Pb**	21 14 21.8	-0.3
KSHI			*i* S		**Sb**	21 14 38.7	-0.4
TWA	**Mucha**	**1.37 341**	*e*P		Pn	21 14 18.8	-1.6
TWA			*e*S		**Sn**	21 14 36.2	-1.5
WCKO	**Fanlu**	**1.37 260**	*i* P		**Pb**	21 14 22.0	-0.1
WCKO			*i* S		**Sb**	21 14 40.2	+1.0
TPUB	**Ta-pu**	**1.38 254**	P		**Pb**	21 14 21.7	-0.6
TPUB	**Ta-pu**	**1.38 254**	*i* P		**Pb**	21 14 22.0	-0.2
TPUB			*i* S		**Sb**	21 14 40.5	+1.1
WGK	**Gukeng**	**1.39 271**	*i* P		**Pb**	21 14 22.2	-0.1
WGK			*i* S		**Sb**	21 14 40.2	+0.6
CHN4	**Tsaushan**	**1.40 257**	*i* P		**Pb**	21 14 22.0	-0.6
CHN4			*i* S		**Sb**	21 14 41.5	+1.5
NSY	**Sanyi**	**1.41 302**	*i* P		**Pb**	21 14 22.6	-0.1
NSY			*e*S		**Sn**	21 14 39.7	+1.1
WDL	**Douliou City**	**1.41 272**	P		**Pb**	21 14 22.6	-0.1
WDL			*e*S		**Sb**	21 14 40.3	+0.1
WDLH	**Douliu**	**1.41 271**	*i* P		**Pn**	21 14 21.3	+0.4
WDLH			*i* S		**Sn**	21 14 39.4	+0.8
WTP	**Ta-pu**	**1.41 252**	*i* P		**Pb**	21 14 22.4	-0.3
WTP			*i* S		**Sb**	21 14 40.8	+0.5
NWF	**Wu-fen Shan**	**1.41 349**	P		**Pb**	21 14 22.5	-0.3
NWF			*e*S		**Sn**	21 14 38.9	+0.2
WFSB	**Wu-fen Shan**	**1.41 349**	*e*P		**Pb**	21 14 22.4	-0.4
WFSB			*e*S		**Sb**	21 14 40.3	-0.1
SXI1	**Grass Mountain**	**1.42 353**	*i* P		**Pn**	21 14 21.9	+0.7
SXI1			*e*S		**Sn**	21 14 39.9	+0.9
WCHH	**Zhanghua**	**1.44 286**	*i* P		**Pb**	21 14 23.4	+0.1
WCHH			*e*S		**Sb**	21 14 41.4	+0.1
NMLH	**Miaoli**	**1.45 306**	*i* P		**Pb**	21 14 23.0	-0.4
NMLH			*e*S		**Sb**	21 14 41.8	+0.3
WCH1	**Changhua City**	**1.45 286**	*i* P		**Pb**	21 14 23.7	+0.3
WCH1			*e*S		**Sb**	21 14 41.7	+0.2
WDJ	**Dajia District**	**1.47 297**	*i* P		**Pb**	21 14 23.5	-0.2
WDJ			*e*S		**Sb**	21 14 42.8	+0.8
CHN2	**Minshiung**	**1.48 265**	P		**Pb**	21 14 24.3	+0.4
CHN2			*i* S		**Sb**	21 14 44.3	+2.1
SBCB	**Hsinchu**	**1.49 318**	P		**Pb**	21 14 23.9	-0.2
SBCB			*e*S		**Sb**	21 14 44.0	+1.5
ECL	**Taimali**	**1.49 224**	*i* P		Pn	21 14 21.3	-0.7
ECL			*i* S		**Sn**	21 14 39.5	-1.1
SGST	**Jiashian**	**1.49 247**	*i* P		**Pn**	21 14 22.9	+0.8
SGST			*i* S		**Sb**	21 14 42.3	-0.4
CHN1	**Nanshi**	**1.50 251**	*i* P		**Pb**	21 14 24.1	-0.3
CHN1			*i* S		**Sb**	21 14 44.4	+1.4
HSN	**Hsinchu**	**1.50 318**	P		**Pb**	21 14 24.1	-0.2
HSN			S		**Sb**	21 14 43.4	+0.4
TWK	**Hsinying**	**1.51 255**	*i* P		**Pb**	21 14 24.1	-0.5
TWK			*i* S		**Sb**	21 14 44.1	+0.7
NCUH	**Zhongli**	**1.52 328**	*i* P		**Pb**	21 14 23.6	-1.0
NCUH			*i* S		**Sb**	21 14 42.8	-0.6
SNST	**Tainan City**	**1.52 253**	*i* P		**Pb**	21 14 24.3	-0.3
SNST			*i* S		**Sb**	21 14 44.5	+1.0
CHY	**Chiayi**	**1.52 263**	*i* P		**Pb**	21 14 24.3	-0.4
CHY			*i* S		**Sb**	21 14 44.7	+1.1
TWS1	**Kuangyinshan**	**1.54 337**	*i* P		**Pn**	21 14 22.8	+0.1
TWS1			*i* S		**Sn**	21 14 41.9	+0.2
WTK	**Tuku**	**1.54 271**	*i* P		**Pb**	21 14 24.6	-0.5
WTK			*e*S		**Sb**	21 14 43.7	-0.6
ANP	**Anpu**	**1.58 341**	*i* P		**Pn**	21 14 24.3	+0.8
ANP			*e*S		**Sn**	21 14 43.9	+0.8
NTST	**Danshui**	**1.58 339**	P		**Pn**	21 14 24.5	+1.1
NTST			*i* S		**Sn**	21 14 44.2	+1.3
SSD	**Sandimen**	**1.62 235**	*i* P		**Pn**	21 14 24.9	+1.1
SSD			S		**Sn**	21 14 44.2	+0.4
HATJ	**Hateruma jima**	**1.63 76**	*e*P		**Pn**	21 14 24.7	+0.8
HATJ			*e*S		**Sn**	21 14 44.2	+0.2
TSMG	**Majia**	**1.64 234**	*i* P		**Pn**	21 14 25.2	+1.2
TSMG			*e*S		**Sn**	21 14 44.6	+0.4
TWY	**Chenhua**	**1.65 345**	*e*P		**Pn**	21 14 25.2	+1.0
TWY			*e*S		**Sb**	21 14 46.7	-0.4
IRIF	**Iriomote-Funau**	**1.65 66**	P		**Pb**	21 14 25.3	-1.5
IRIF			*e*S		**Sn**	21 14 45.2	+0.7
WTCT	**Ta-ch'eng**	**1.65 277**	*i* P		**Pb**	21 14 26.5	-0.4
WTCT			S		**Sn**	21 14 44.4	-0.2
SCST	**Cishan**	**1.66 242**	*i* P		**Pb**	21 14 26.8	-0.1
SCST			*i* S		**Sb**	21 14 49.0	+1.7
ICHU	**Yijhu**	**1.68 259**	*i* P		**Pb**	21 14 26.5	-0.8
ICHU			S		**Sb**	21 14 47.5	-0.5
WSF	**Szhu**	**1.70 269**	*i* P		**Pb**	21 14 26.4	-1.3
WSF			*i* S		**Sb**	21 14 48.3	-0.4
MASBT	**Mashibuluo**	**1.70 232**	*i* P		**Pn**	21 14 25.6	+0.7
MASBT			*e*S		**Sn**	21 14 46.9	+1.1
WSL	**Shuilin Townsh**	**1.70 265**	*i* P		**Pb**	21 14 26.8	-0.9
WSL			*i* S		**Sb**	21 14 48.6	-0.1
LAY	**Lan-yu**	**1.70 197**	*e*P		Pn	21 14 24.3	-0.7
LAY			*e*S		**Sn**	21 14 45.4	-0.5
EAST	**Anshuo**	**1.72 221**	*i* P		**Pn**	21 14 25.0	-0.2
EAST			*e*S		**Sn**	21 14 44.9	-1.3
TAWH	**Dawu Township**	**1.73 220**	P		**Pn**	21 14 25.3	0.0
TAWH			S		**Sn**	21 14 46.0	-0.4
LYUB	**Lan-yu**	**1.73 195**	*e*P		**Pn**	21 14 25.1	-0.3
LYUB			S		**Sn**	21 14 45.9	-0.7
TWM1	**Shoushan**	**1.74 241**	*i* P		**Pb**	21 14 28.7	+0.3
TWM1			*e*S		**Sb**	21 14 51.3	+1.4
JKRS	**Kuro-shima**	**1.85 72**	*e*P		**Pn**	21 14 28.1	+1.1
JKRS			*e*S		**Sn**	21 14 50.8	+1.1
SCZT	**Fangliau**	**1.87 226**	*i* P		**Pn**	21 14 28.4	+1.2
SCZT			S		**Sn**	21 14 51.3	+1.4
SLIU	**Shizi**	**1.87 219**	*i* P		**Pn**	21 14 27.5	+0.2
SLIU			*e*S		**Sn**	21 14 50.5	+0.4
TSCK	**Chigu Township**	**1.90 254**	*i* P		**Pb**	21 14 29.6	-1.5
TSCK			*i* S		**Sb**	21 14 53.2	-1.2
JIJ	**Ishigaki jima**	**2.01 70**	*e*P		**Pn**	21 14 29.6	+0.4
JIJ			*e*S		**Sn**	21 14 53.2	-0.3
HEN	**Hengchun**	**2.07 217**	*i* P		**Pb**	21 14 32.5	-1.6
HEN			*i* S		**Sn**	21 14 55.9	+0.8
TWKBT	**Hengchun**	**2.09 214**	*i* P		**Pn**	21 14 30.8	+0.6
TWKBT			S		**Sn**	21 14 55.6	+0.3
TWK1	**Hengchun**	**2.09 214**	*e*P		**Pn**	21 14 30.8	+0.5
TWK1			*e*S		**Sn**	21 14 55.6	+0.2
JISG	**Ishigakijimahi**	**2.23 66**	P		**Pn**	21 14 32.6	+0.4
JISG			*e*S		**Sn**	21 14 57.8	-1.2
WDGT	**Dungji**	**2.26 260**	*e*P		**Pn**	21 14 33.7	+1.1
WDGT			S		**Sn**	21 14 59.9	+0.4
PHUB	**P'eng-hu**	**2.30 266**	*i* P		**Pn**	21 14 34.4	+1.2
PHUB			*i* S		**Sn**	21 15 01.5	+0.9
PNG	**Penghu**	**2.31 268**	*i* P		**Pn**	21 14 34.5	+1.1
PNG			*i* S		**Sn**	21 15 01.8	+0.9
VCHM	**Qimei**	**2.47 260**	*e*P		**Pn**	21 14 36.6	+1.0
VCHM			*e*S		**Sn**	21 15 05.9	+1.0
JTJ	**Tarama**	**2.58 68**	*e*P		**Pn**	21 14 37.9	+0.8
JTJ			*e*S		**Sn**	21 15 07.9	+0.3
VWUC	**VWUC**	**2.73 299**	P		**Pn**	21 14 38.9	-0.2
VWUC			*e*S		**Sn**	21 15 09.3	-1.9
PTMZ	**Houxiangcun**	**3.02 297**	P		**Pn**	21 14 43.0	0.0
PTMZ			S		**Sn**	21 15 16.4	-1.9
JIRB	**Irabujima**	**3.05 67**	*e*P		**Pn**	21 14 44.1	+0.6
JIRB			*e*S		**Sn**	21 15 19.9	+0.8
MATB	**Ma-tsu**	**3.13 322**	P		**Pn**	21 14 44.4	-0.2
MATB			*e*S		**Sn**	21 15 19.8	-1.2
JIKM	**Ikemajima**	**3.15 66**	*e*P		**Pn**	21 14 45.6	+0.7
JIKM			*e*S		**Sn**	21 15 21.3	-0.2
JMJ2	**Miyako jima3**	**3.15 70**	*e*P		**Pn**	21 14 45.8	+0.9
JMJ2			*e*S		**Sn**	21 15 21.9	+0.3
KNM	**Kinmen**	**3.41 283**	*i* P		**Pn**	21 14 50.2	+1.8
KNM			*e*S		**Sn**	21 15 32.1	+4.1
XPSS	**Dashiqiu**	**3.66 333**	*e*P		**Pn**	21 14 51.4	-0.5
XPSS			*e*S		**Sn**	21 15 31.9	-2.2
MHZQ	**Yeshan**	**3.67 312**	*e*P		**Pn**	21 14 52.6	+0.6
MHZQ			*e*S		**Sn**	21 15 33.6	-0.7
AXDP	**Jialang**	**3.94 289**	P		**Pn**	21 14 56.4	+0.7
AXDP			*e*S		**Sn**	21 15 40.8	-0.2
ZPLA	**Ao Xicun**	**3.97 274**	P		Pn	21 14 59.3	+3.2
ZPLA			*e*S		**Sn**	21 15 41.4	-0.4

*IDC **25** 21:20:41.5±1.0, 56°.00N×162°.73E, h0km, mb3.8/14, mbtmp3.8/15, ML2.6/1, Error ellipse: s-maj=27.7km s-min=17.1km az=156.0*
*KRSC **25** 21:20:41.9±1.0, 55°.75N×163°.32E, h19km±16km, Ml4.2*
*MOS **25** 21:20:42.5±1.0, 55°.86N×163°.28E, h18km, mb4.8/4, Error ellipse: s-maj=7.9km s-min=5.2km az=67.1*
*NEIC **25** 21:20:43.2±1.7, 56°.0N±0°.1×162°.88E±0°.07, h10km±1km, mb4.3/27, Error ellipse: s-maj=22.7km s-min=6.0km*

az=169.0
ISC 25 21:20:42.3±1.1, **55°.79N**±0°.03×**163°.25E**±0°.03, **h13**km±7km, **n132**, σ1872/141, **mb4.1**/29, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.48**	**330**	*e*P	**Pb**	**21 20 52.4**	**-0.2**
KBTR				*e*S	**Sb**	**21 20 59.8**	**+0.3**
KBTR	**Krutoberegovo**	**0.48**	**330**	PN	**Pb**	**21 20 52.3**	**-0.2**
KBTR				S	**Sb**	**21 20 59.8**	**+0.3**
KBG	**Krutoberegovo**	**0.55**	**327**	*e*P	**Pb**	**21 20 53.6**	**-0.2**
KBG				*e*S	**Sg**	**21 21 02.2**	**+1.8**
KBG	**Krutoberegovo**	**0.55**	**327**	PN	**Pb**	**21 20 53.6**	**-0.2**
KBG				S	**Sg**	**21 21 02.2**	**+1.8**
SMKR	**Semkarok**	**1.27**	**309**	*e*P	**Pb**	**21 21 06.0**	**-0.2**
SMKR				*e*S	**Sg**	**21 21 24.0**	**+0.8**
SMKR	**Semkarok**	**1.27**	**309**	PN	**Pb**	**21 21 05.9**	**-0.2**
SMKR				S	**Sg**	**21 21 24.0**	**+0.8**
BDR	**Baidarnaya**	**1.38**	**305**	*e*S	**Sg**	**21 21 28.8**	**+2.1**
ZLN	**Zelenaya**	**1.40**	**280**	*e*P	**Pb**	**21 21 07.9**	**-0.4**
ZLN	**Zelenaya**	**1.40**	**280**	PN	**Pb**	**21 21 07.8**	**-0.4**
CIRR	**Tsirk**	**1.44**	**284**	*e*P	**Pb**	**21 21 08.5**	**-0.6**
CIRR	**Tsirk**	**1.44**	**284**	PN	**Pb**	**21 21 08.4**	**-0.6**
SRKR	**Sorokina**	**1.45**	**307**	*e*P	**Pb**	**21 21 09.8**	**+0.6**
SRKR				*e*S	**Sg**	**21 21 29.6**	**+0.8**
SRKR	**Sorokina**	**1.45**	**307**	PN	**Pb**	**21 21 09.7**	**+0.6**
SRKR				S	**Sg**	**21 21 29.6**	**+0.8**
BZP	**Bezymyannyi-Pe**	**1.53**	**276**	*e*P	**Pn**	**21 21 09.4**	**-0.1**
KLY	**Klyuchi**	**1.55**	**291**	*e*P	**Pn**	**21 21 08.5**	**-1.0**
KLY				*e*S	**Sn**	**21 21 27.8**	**-1.7**
KLY	**Klyuchi**	**1.55**	**291**	PN	**Pn**	**21 21 08.4**	**-1.0**
KLY				S	**Sn**	**21 21 27.7**	**-1.7**
BZMR	**Bezymyannaya**	**1.56**	**276**	*e*P	**Pn**	**21 21 10.1**	**+0.3**
BZMR	**Bezymyannaya**	**1.56**	**276**	PN	**Pn**	**21 21 10.1**	**+0.3**
KRSR	**Krestovskiy**	**1.57**	**287**	*e*P	**Pn**	**21 21 09.8**	**0.0**
KRSR	**Krestovskiy**	**1.57**	**287**	PN	**Pn**	**21 21 09.8**	**0.0**
KIRR	**Kirishev**	**1.65**	**277**	*e*P	**Pb**	**21 21 11.6**	**-0.9**
KIRR				*e*S	**Sb**	**21 21 34.1**	**+0.8**
KIRR	**Kirishev**	**1.65**	**277**	PN	**Pb**	**21 21 11.6**	**-0.9**
KIRR				S	**Sb**	**21 21 34.0**	**+0.8**
BKI	**Bering**	**1.66**	**110**	*e*P	**Pg**	**21 21 12.6**	**-1.4**
BKI				*e*S	**Sg**	**21 21 34.3**	**-1.3**
BKI	**Bering**	**1.66**	**110**	PN	**Pg**	**21 21 12.6**	**-1.4**
BKI				S	**Sg**	**21 21 34.2**	**-1.3**
KMNR	**Kamenistaya**	**1.70**	**270**	*e*P	**Pb**	**21 21 12.5**	**-1.0**
KMNR	**Kamenistaya**	**1.70**	**270**	PN	**Pb**	**21 21 12.4**	**-1.0**
KPT	**Kopyto**	**1.71**	**277**	*e*P	**Pb**	**21 21 12.7**	**-0.9**
KPT	**Kopyto**	**1.71**	**277**	PN	**Pb**	**21 21 12.7**	**-0.9**
TUMD	**Tumrok D**	**1.73**	**251**	*e*P	**Pb**	**21 21 12.8**	**-1.0**
TUMD				*e*S	**Sb**	**21 21 34.6**	**-0.8**
TUMR	**Tumrok**	**1.84**	**255**	*e*P	**Pb**	**21 21 15.3**	**-0.5**
TUMR	**Tumrok**	**1.84**	**255**	PN	**Pb**	**21 21 15.2**	**-0.5**
KOZ	**Kozyrevsk**	**1.92**	**279**	*e*P	**Pb**	**21 21 16.4**	**-0.7**
KOZ	**Kozyrevsk**	**1.92**	**279**	PN	**Pb**	**21 21 16.3**	**-0.7**
SPN	**Mys Shipunski**	**3.29**	**216**	*e*P	**Pn**	**21 21 34.1**	**+0.6**
SPN	**Mys Shipunski**	**3.29**	**216**	PN	**Pn**	**21 21 34.1**	**+0.6**
OSSR	**Ossora**	**3.47**	**358**	*e*P	**Pn**	**21 21 37.4**	**+1.6**
OSSR	**Ossora**	**3.47**	**358**	PN	**Pn**	**21 21 37.4**	**+1.6**
SDLR	**Sedlovina**	**3.58**	**227**	*e*P	**Pn**	**21 21 39.8**	**+2.2**
SDLR	**Sedlovina**	**3.58**	**227**	PN	**Pn**	**21 21 39.7**	**+2.2**
KRER	**Koryakskii**	**3.62**	**228**	*e*P	Pb	21 21 41.3	-4.8
KRER	**Koryakskii**	**3.62**	**228**	PN	Pb	21 21 41.3	-4.8
KRX	**Arik**	**3.62**	**230**	*e*P	**Pn**	**21 21 40.7**	**+2.6**
KRX	**Arik**	**3.62**	**230**	PN	**Pn**	**21 21 40.7**	**+2.6**
SMAR	**Somma**	**3.62**	**227**	*e*P	**Pn**	**21 21 40.2**	**+2.0**
SMAR	**Somma**	**3.62**	**227**	PN	**Pn**	**21 21 40.2**	**+2.0**
AVH	**Avacha**	**3.65**	**228**	*e*P	**Pn**	**21 21 40.9**	**+2.4**
AVH	**Avacha**	**3.65**	**228**	PN	**Pn**	**21 21 40.9**	**+2.4**
KOK	**Koryaka**	**3.67**	**229**	*e*P	**Pn**	**21 21 41.3**	**+2.5**
KOK	**Koryaka**	**3.67**	**229**	PN	**Pn**	**21 21 41.3**	**+2.5**
DALK	**Dalny**	**3.81**	**225**	*e*P	**Pn**	**21 21 42.4**	**+1.7**
DALK	**Dalny**	**3.81**	**225**	PN	**Pn**	**21 21 42.3**	**+1.7**
PET	**Petropavlovsk**	**3.86**	**226**	Pn	**Pn**	**21 21 43.0**	**+1.8**
PET	**Petropavlovsk**	**3.86**	**226**	*e*P	**Pn**	**21 21 43.5**	**+2.2**
PET	**Petropavlovsk**	**3.86**	**226**	*e*PN	**Pn**	**21 21 43.1**	**+1.8**
PET				*e*S	**Sn**	**21 22 28.9**	**+2.5**
PET				pmax	pmax		
	comp=Z,48nm,0.4s						
PET				smax	smax		
	comp=N,82nm,0.6s						
PET				smax	smax		
	comp=E,99nm,0.6s						
PEA0B	**Petropavlovsk-**	**4.21**	**233**	Pn	**Pn**	**21 21 48.5**	**+2.4**
PEA0B	**Petropavlovsk-**	**4.21**	**233**	PN	**Pn**	**21 21 48.8**	**+2.7**
PETK	**Petropavlovsk-**	**4.21**	**233**	Pn	**Pn**	**21 21 47.9**	**+1.8**
PETK	**Petropavlovsk-**	**4.21**	**233**	Pn	**Pn**	**21 21 47.7**	**+1.6**
	comp=E,1.9nm,0.3s,baz=61,slow=14,SNR=5.2						
PETK				Sn	**Sn**	**21 22 36.2**	**+1.1**
	baz=260,slow=13						
	comp=E,8.2nm,0.5s						
KRMR	**Karymshinskiy**	**4.22**	**227**	*e*P	**Pn**	**21 21 49.1**	**+2.9**
KRMR	**Karymshinskiy**	**4.22**	**227**	PN	**Pn**	**21 21 49.1**	**+2.9**
RUS	**Russkaya**	**4.37**	**222**	*e*P	**Pn**	**21 21 50.4**	**+2.1**
RUS	**Russkaya**	**4.37**	**222**	PN	**Pn**	**21 21 50.3**	**+2.1**
GRL	**Gorelyy**	**4.45**	**225**	*e*P	**Pn**	**21 21 52.4**	**+2.9**
GRL	**Gorelyy**	**4.45**	**225**	PN	**Pn**	**21 21 52.4**	**+2.9**
MTVR	**Mutnovka**	**4.46**	**224**	*e*P	**Pn**	**21 21 51.9**	**+2.3**
MTVR	**Mutnovka**	**4.46**	**224**	PN	**Pn**	**21 21 51.9**	**+2.3**
APC	**Apacha**	**4.58**	**234**	*e*P	**Pn**	**21 21 54.7**	**+3.5**
APC	**Apacha**	**4.58**	**234**	PN	**Pn**	**21 21 54.6**	**+3.5**
ASAK	**Asacha**	**4.65**	**225**	*e*P	**Pn**	**21 21 55.4**	**+3.2**
ASAK	**Asacha**	**4.65**	**225**	PN	**Pn**	**21 21 55.3**	**+3.2**
TILK	**Tilichiki**	**4.91**	**17**	*e*P	**Pn**	**21 21 58.6**	**+2.9**
TILK	**Tilichiki**	**4.91**	**17**	PN	**Pn**	**21 21 58.6**	**+2.9**
KDTR	**Khodutka, Kamc**	**5.03**	**220**	*e*P	**Pn**	**21 21 59.0**	**+1.6**
KDTR	**Khodutka, Kamc**	**5.03**	**220**	PN	**Pn**	**21 21 58.9**	**+1.6**
JKA	**Kamikawa-asahi**	**17.61**	**237**	P	**P**	**21 24 49.7**	**+1.5**
JKA				IAmb	IAmb	21 25 32.6	
	comp=Z,56nm,1.4s						
ASAJ	**Asahikawa**	**17.61**	**237**	P	**P**	**21 24 49.7**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,56nm,1.4s						
M16K	**Timber Creek**	**20.26**	**60**	P	Pn	21 25 18.8	-0.3
M16K				IAmb	IAmb	21 25 51.7	
	comp=Z,35nm,1.5s						
K17K	**Iditarod**	**20.57**	**55**	P	Pn	21 25 22.6	0.0
K17K				IAmb	IAmb	21 25 32.4	
	comp=Z,27nm,1.5s						
G18K	**Tagagawik**	**20.77**	**46**	P	Pn	21 25 24.4	-0.6
F19K	**Shaleruckik Mo**	**21.31**	**43**	P	**P**	**21 25 31.5**	**+3.1**
J19K	**Poorman**	**21.83**	**51**	P	**P**	**21 25 34.8**	**+0.8**
J19K				IAmb	IAmb	21 26 03.7	
	comp=Z,11nm,1.4s						
USA0B	**Ussuriysk Arra**	**22.99**	**253**	P	**P**	**21 25 46.3**	**-0.1**
USA0B				IAmb	IAmb	21 25 46.4	
	comp=Z,4.9nm,0.8s						
USA0B	**Ussuriysk Arra**	**22.99**	**253**	P	**P**	**21 25 46.3**	**-0.1**
USA0B				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CAST	**Castle Rocks**	**23.40**	**53**	P	**P**	**21 25 51.5**	**+0.9**
CAST				IAmb	IAmb	21 26 12.8	
	comp=Z,16nm,1.5s						
D22K	**Ayikyak River**	**23.62**	**39**	P	**P**	**21 25 54.9**	**+2.3**
D22K				IAmb	IAmb	21 26 31.4	
	comp=Z,12nm,1.4s						
E22K	**Anaktuvuk Pass**	**23.80**	**41**	P	**P**	**21 25 55.3**	**+0.9**
E22K				IAmb	IAmb	21 26 02.1	
	comp=Z,8.2nm,1.4s						
H23K	**Yukon River**	**24.49**	**47**	P	**P**	**21 25 58.4**	**-2.4**
H23K				IAmb	IAmb	21 26 26.3	
	comp=Z,12nm,1.5s						
TOLK	**Toolik Lake Re**	**24.70**	**40**	P	**P**	**21 26 01.1**	**-1.5**
E24K	**Your Creek**	**25.04**	**41**	P	**P**	**21 26 07.6**	**+1.9**
WRH	**Wood River Hil**	**25.12**	**50**	P	**P**	**21 26 07.8**	**+1.3**
WRH				IAmb	IAmb	21 26 48.0	
	comp=Z,4.9nm,1.2s						
G24K	**Hadweenzic Riv**	**25.35**	**45**	P	**P**	**21 26 10.6**	**+2.1**
G24K				IAmb	IAmb	21 26 25.9	
	comp=Z,10nm,1.5s						
ILAR	**Eielson Array**	**25.62**	**49**	P	**P**	**21 26 12.0**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=267,slow=11,SNR=2.6						
	comp=Z,0.3nm,0.7s						
MJAR	**Matsushiro Arr**	**25.67**	**232**	P	**P**	**21 26 11.0**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=34,slow=8.1,SNR=3.2						
	comp=Z,1.1nm,0.5s						
SCM	**Sheep Creek Mo**	**25.74**	**56**	P	**P**	**21 26 13.5**	**+1.3**
SCM	**Sheep Creek Mo**	**25.74**	**56**	P	**P**	**21 26 13.5**	**+1.3**
SCM				pmax	pmax		
	comp=Z,42nm,1.3s						
HIA	**Hailar**	**26.89**	**274**	P	**P**	**21 26 21.1**	**-1.5**
HIA				IAmb	IAmb	21 26 21.8	
	comp=Z,6.3nm,1.1s						
HIA	**Hailar**	**26.89**	**274**	P	**P**	**21 26 21.1**	**-1.5**
HIA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BCAR	**Beaver Creek A**	**28.07**	**52**	P	**P**	**21 26 33.8**	**+0.7**
H29M	**Whitestone**	**29.02**	**45**	P	**P**	**21 26 43.1**	**+1.6**
G29M	**Pine Creek**	**29.07**	**44**	P	**P**	**21 26 44.3**	**+2.3**
G29M				IAmb	IAmb	21 27 25.0	
	comp=Z,4.1nm,1.2s						
YKU2	**Yakutat**	**29.95**	**59**	P	**P**	**21 26 51.5**	**+1.8**
YKU2				IAmb	IAmb	21 26 55.2	
	comp=Z,6.1nm,0.8s						
SONM	**Songino Array**	**35.13**	**281**	P	**P**	**21 27 31.9**	**-3.4**
	comp=Z,0.6nm,0.5s,baz=59,slow=8.0,SNR=2.8						
	comp=Z,0.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**36.11**	**174**	T	T	22 06 12.3	
	baz=357,slow=76,SNR=220						
H11N3	**WAKE ISLAND Hy**	**36.12**	**174**	T	T	22 06 16.6	
	baz=357,slow=76,SNR=164						
H11N1	**WAKE ISLAND Hy**	**36.13**	**174**	T	T	22 06 17.5	
	baz=357,slow=76,SNR=164						
KURK	**Kurchatov**	**47.88**	**301**	P	**P**	**21 29 17.9**	**-1.6**
KURK	**Kurchatov**	**47.88**	**301**	P	**P**	**21 29 18.3**	**-1.3**
KURBB	**Kurchatov Arra**	**47.99**	**301**	P	**P**	**21 29 18.3**	**-2.1**
	comp=Z,1.8nm,0.5s,baz=55,slow=7.9,SNR=21						
	comp=Z,1.8nm,0.5s						
MKAR	**Makanchi Array**	**48.65**	**295**	P	**P**	**21 29 23.9**	**-1.8**
	comp=Z,0.9nm,0.7s,baz=50,slow=5.8,SNR=11						
	comp=Z,0.9nm,0.7s						
BVAR	**Borovoye Array**	**50.16**	**308**	P	**P**	**21 29 36.0**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=57,slow=8.8,SNR=3.4						
	comp=Z,1.1nm,0.5s						
BVAR	**Borovoye Array**	**50.16**	**308**	P	**P**	**21 29 36.0**	**-1.0**
NVAR	**Mina Array Bea**	**53.16**	**74**	P	**P**	**21 30 02.9**	**+3.1**
	comp=Z,0.2nm,0.3s,baz=314,slow=7.1,SNR=1.4						
	comp=Z,0.2nm,0.3s						
PRZ	**Przheval'sk**	**53.64**	**294**	P	**P**	**21 30 00.8**	**-2.5**
PRZ	**Przheval'sk**	**53.64**	**294**	P	**P**	**21 30 00.8**	**-2.5**
PRZ				pmax	pmax		
	comp=Z,17nm,1.2s						
KKAR	**Karatay Array**	**57.17**	**299**	P	**P**	**21 30 27.4**	**-1.1**
KKAR				IAmb	IAmb	21 30 28.1	
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**57.17**	**299**	P	**P**	**21 30 27.5**	**-1.1**
KKAR	**Karatay Array**	**57.17**	**299**	P	**P**	**21 30 27.5**	**-1.0**
ABKAR	**Akbulak array**	**57.43**	**311**	P	**P**	**21 30 29.4**	**-0.8**
ABKAR	**Akbulak array**	**57.43**	**311**	P	**P**	**21 30 29.2**	**-1.1**
FINES	**FINESS Array B**	**58.35**	**337**	P	**P**	**21 30 36.1**	**-0.3**

s-min=21.8km az=179.0
*RSNC **25** 21:29:43.1±0.0, 13°N±1°×8°1W±°, h2km±1km, M3.8, mb4.6, mB6.2, ML3.8, Mw(mB)5.9*
ISC 25 21:29:42.3±0.5, 13°17N±0°.03×81°07W±0°.03, h10km, n66, σ29°04/80, mb4.2/12, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.35**	**307**	Pg	**Pg**	**21 29 49.2**	**-0.1**
PRVC	**Isla de Provid**	**0.35**	**307**	P	**Pb**	**21 29 49.3**	**-1.4**
PRVC				S	**Sb**	**21 29 53.5**	**-2.8**
SAIC	**Isla e San And**	**0.88**	**225**	P	**Pg**	**21 30 00.6**	**+1.3**
SAIC				S	**Sn**	**21 30 15.1**	**+1.5**
RNCC	**Cayo Roncador,**	**1.04**	**67**	P	**Pg**	**21 30 01.6**	**-0.7**
RNCC				S	**Sg**	**21 30 16.4**	**+0.5**
SERC	**Banco Serrana,**	**1.31**	**32**	P	**Pn**	**21 30 05.2**	**-1.5**
SERC				S	**Sb**	**21 30 22.4**	**-1.5**
ESPN	**Las Esperanzas**	**3.29**	**253**	Pn	**Pn**	**21 30 31.7**	**-2.3**
BCIP	**Isla Barro Col**	**4.16**	**163**	Pn	**Pn**	**21 30 44.6**	**-1.2**
BCIP	**Isla Barro Col**	**4.16**	**163**	P	**Pn**	**21 30 44.6**	**-1.2**
BCIP				S	**Sn**	**21 31 32.2**	**-2.3**
ACON	**Acoyapa**	**4.18**	**254**		**Pn**	**21 30 44.5**	**-1.7**
ACON	**Acoyapa**	**4.18**	**254**	P	**Pb**	**21 30 55.1**	**-0.8**
HDC	**Heredia**	**4.33**	**224**	Pn	**Pn**	**21 30 47.2**	**-1.2**
SOCE	**Pocosol**	**4.44**	**232**	Pn	**Pn**	**21 30 48.0**	**-1.8**
BRU2	**Volcan**	**4.62**	**200**	Pn	**Pn**	**21 30 50.5**	**-2.0**
JTS	**Las Juntas de**	**4.75**	**233**	Pn	**Pn**	**21 30 53.7**	**-0.4**
JTS	**Las Juntas de**	**4.75**	**233**	Pn	**Pn**	**21 30 55.6**	**+1.6**
	4.1nm,0.3s,baz=246,slow=22,SNR=13						
JTS				Sn	**Sn**	**21 31 49.7**	**+0.4**
	7.3nm,0.3s,baz=227,slow=20,SNR=8.6						
	11nm,0.3s						
JTS	**Las Juntas de**	**4.75**	**233**	P	**Pn**	**21 30 55.7**	**+1.6**
MGAN	**Managua**	**5.15**	**259**	Pn	**Pn**	**21 30 59.1**	**-0.5**
GMAL	**Guarumal, Vera**	**5.37**	**182**	P	Pn	21 31 08.2	+5.6
GMAL				S	**Sn**	**21 32 01.9**	**-2.6**
AZU	**Azuero**	**5.40**	**172**	P	**Pn**	**21 31 03.4**	**+0.5**
	27nm,0.8s						
AZU				S	**Sn**	**21 32 04.2**	**-1.0**
	27nm,0.8s						
CACAO	**El Cacao, Vera**	**5.79**	**178**	P	**Pn**	**21 31 10.5**	**+2.2**
	90nm,1.0s						
CACAO				S	**Sn**	**21 32 16.9**	**+2.1**
	90nm,1.0s						
CAPC	**Capurgana**	**5.80**	**141**	P	**Pn**	**21 31 09.6**	**+1.1**
	46nm,1.1s						
CAPC				S	**Sn**	**21 32 13.1**	**-2.0**
	46nm,1.1s						
CRIN	**San Cristobal**	**5.84**	**266**	Pn	**Pn**	**21 31 07.0**	**-2.1**
MTDJ	**Mount Denham**	**6.08**	**34**	Pn	**Pn**	**21 31 12.6**	**+0.2**
MTDJ	**Mount Denham**	**6.08**	**34**	P	**Pn**	**21 31 14.0**	**+1.6**
	52nm,0.8s						
TGUH	**Tegucigalpa,Un**	**6.09**	**279**	Pn	**Pn**	**21 31 10.9**	**-1.7**
LCBC	**Los crdobas,**	**6.30**	**132**	P	**Pn**	**21 31 15.2**	**-0.1**
	128nm,1.1s						
LCBC				S	**Sn**	**21 32 29.9**	**+2.5**
	128nm,1.1s						
SJCC	**San Jacinto, C**	**6.63**	**119**	P	**Pn**	**21 31 18.2**	**-1.7**
	36nm,0.9s						
SJCC				S	**Sn**	**21 32 31.2**	**-4.4**
	36nm,0.9s						
UREC	**San Jos de Ur**	**7.66**	**134**	P	**Pn**	**21 31 34.0**	**0.0**
	25nm,0.7s						
MTO3	**Montecristo**	**8.14**	**280**	Pn	**Pn**	**21 31 38.1**	**-2.7**
CRJC	**Cerrejon, Guaj**	**8.29**	**104**	P	**Pn**	**21 31 43.7**	**+0.9**
	20nm,0.9s						
CRJC				S	**Sn**	**21 33 10.6**	**-6.0**
	20nm,0.9s						
ZARC	**Zaragoza, Cauc**	**8.32**	**132**	P	**Pn**	**21 31 43.2**	**+0.1**
	17nm,0.7s						
GTBY	**Guantanamo Bay**	**8.82**	**40**	P	**Pn**	**21 31 50.8**	**+0.8**
	30nm,1.1s						
SOR	**Soroa**	**9.75**	**349**	Pn	**Pn**	**21 32 04.1**	**+1.4**
TEIG	**Tepich**	**9.84**	**316**		**Pn**	**21 32 03.9**	**-0.1**
TEIG	**Tepich**	**9.84**	**316**	Pn	**Pn**	**21 32 02.9**	**-1.1**
	baz=322,slow=24,SNR=1.1						
TEIG				Sn	**Sn**	**21 33 49.2**	**-5.4**
	baz=222,slow=24,SNR=1.1						
TEIG	**Tepich**	**9.84**	**316**	P	**Pn**	**21 32 03.9**	**-0.1**
TEIG				S	**Sn**	**21 33 49.8**	**-4.8**
CAMR	**Camarioca**	**9.85**	**358**	Pn	**Pn**	**21 32 04.0**	**0.0**
PAPH	**Port-au-Prince**	**9.98**	**57**	Pn	**Pn**	**21 32 08.4**	**+2.5**
ROSC	**El Rosal**	**10.62**	**141**	Pn	**Pn**	**21 32 14.3**	**-0.7**
RUSC	**La Rusia**	**10.69**	**132**	Pn	**Pn**	**21 32 16.4**	**+0.4**
SDDR	**Presa de Saban**	**11.04**	**57**		**Pn**	**21 32 21.8**	**+1.3**
SDV	**Santo Domingo**	**11.10**	**111**	Pn	**Pn**	**21 32 22.0**	**+0.6**
SDV	**Santo Domingo**	**11.10**	**111**	Pn	Pn	21 32 26.8	+5.4
	0.8nm,0.3s,baz=343,slow=18,SNR=1.7						
SDV				Sn	**Sn**	**21 34 20.6**	**-5.0**
	2.2nm,0.3s,baz=198,slow=24,SNR=14						
	2.6nm,0.3s						
BAUV	**El Baul**	**13.46**	**107**		**Pn**	**21 32 55.8**	**+2.2**
SJG	**San Juan**	**15.19**	**69**	Pn	**P**	**21 33 22.0**	**-0.1**
	0.3nm,0.3s,baz=212,slow=19,SNR=1.4						
	3.0nm,0.5s						
Y60A	**Bolivia**	**20.91**	**7**	P	**P**	**21 34 23.4**	**-1.6**
HODGE	**Hodges**	**21.00**	**357**	P	**P**	**21 34 26.8**	**+0.8**
CPCT	**Cooper Cave**	**22.41**	**353**	P	**P**	**21 34 41.2**	**+0.2**
CPCT				IAmb	IAmb	21 35 00.3	
	comp=Z,14nm,1.4s						
V58A	**Windy Hill, Pi**	**22.60**	**4**	P	**P**	**21 34 43.9**	**+0.7**
V58A				IAmb	IAmb	21 35 10.0	
	comp=Z,18nm,1.4s						
833A	**Chaparral WMA,**	**22.78**	**314**	P	**P**	**21 34 43.6**	**-1.5**
833A				IAmb	IAmb	21 35 00.2	
	comp=Z,7.4nm,0.8s						
WLAR	**White Oak Lake**	**23.18**	**334**	P	**P**	**21 34 49.6**	**+0.3**
435B	**Jarrell**	**23.22**	**322**	P	**P**	**21 34 48.6**	**-1.2**
T50A	**Nancy**	**23.99**	**353**	P	**P**	**21 34 56.6**	**-0.6**
WHAR	**Wooly Hollow**	**24.25**	**337**	P	**P**	**21 34 57.8**	**-1.8**
WHAR				IAmb	IAmb	21 35 25.8	
	comp=Z,12nm,1.2s						
BRDY	**Brady**	**24.44**	**320**	P	**P**	**21 35 01.3**	**-0.1**
BRDY				IAmb	IAmb	21 35 41.2	
	comp=Z,8.4nm,1.4s						
TXAR	**Lajitas Array**	**26.42**	**311**	P	**P**	**21 35 18.6**	**-0.9**
TXAR	**Lajitas Array**	**26.42**	**311**	P	**P**	**21 35 20.7**	**+1.3**
	comp=Z,2.7nm,0.9s,baz=125,slow=9.5,SNR=13						
	comp=Z,2.7nm,0.9s						
TX31	**Lajitas Ar. Si**	**26.42**	**311**	P	**P**	**21 35 18.3**	**-1.1**
APMT	**Aspermont**	**26.54**	**322**	P	**P**	**21 35 18.9**	**-1.5**
APMT				IAmb	IAmb	21 35 45.5	
	comp=Z,12nm,1.3s						
PDAR	**Pinedale Array**	**38.41**	**326**	P	**P**	**21 37 05.7**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=131,slow=8.1,SNR=4.7						
	comp=Z,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**41.48**	**314**	P	**P**	**21 37 31.5**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=118,slow=7.9,SNR=7.3						
	comp=Z,0.7nm,0.8s						
ILAR	**Eielson Array**	**67.94**	**335**	P	**P**	**21 40 43.7**	**+2.6**
	comp=Z,0.5nm,0.8s,baz=109,slow=5.1,SNR=4.5						
	comp=Z,0.5nm,0.8s						
ESDC	**Sonseca Array**	**71.84**	**52**	P	**P**	**21 41 10.1**	**+4.4**
	comp=Z,1.3nm,0.9s,baz=282,slow=7.4,SNR=4.0						
	comp=Z,1.3nm,0.9s						
FINES	**FINESS Array B**	**86.53**	**27**	P	**P**	**21 42 30.0**	**+4.6**
	comp=Z,1.6nm,0.7s,baz=282,slow=9.2,SNR=4.1						
	comp=Z,1.6nm,0.7s						
ASAR	**Alice Springs**	**145.30**	**247**	PKPbc	**PKPbc**	**21 49 21.2**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=114,slow=3.4,SNR=4.0						
WRA	**Warramunga Arr**	**145.44**	**254**	PKPbc	**PKPbc**	**21 49 21.3**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=92,slow=2.9,SNR=11						

*ISN **25** 21:38:32.8±0.5, 34°.33N×45°.51E, h6km±13km, ML3.0*
*TEH **25** 21:38:33.4, 34°.32N×45°.64E, h8km±50km, ML2.8*
ISC 25 21:38:33.5±1.2, 34°33N±0°.04×45°61E±0°.04, h7km±13km, n12, σ0°68/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.18**	**355**	Pg	**Pg**	**21 38 37.8**	**+0.5**
GLG1	**Gilan-e-Gharb**	**0.33**	**130**	Pg	**Pg**	**21 38 40.0**	**0.0**
IDHR	**Dehrash**	**0.74**	**60**	Pg	**Pg**	**21 38 46.9**	**-1.0**
IGHG	**Ghaleghazi**	**0.80**	**89**	Pg	**Pg**	**21 38 48.5**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.86**	**144**	Pg	**Pg**	**21 38 49.4**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.19**	**92**	Pg	**Pg**	**21 38 56.2**	**-0.2**
IBDR	**Badra**	**1.24**	**167**	*e*Pg	**Pb**	**21 38 57.0**	**-0.3**
IBDR				*e*Sg	**Sn**	**21 39 15.0**	**+0.8**
ILIN	**Lien**	**1.27**	**62**	Pg	**Pn**	**21 38 57.4**	**-0.5**
BHD	**Baghdad**	**1.47**	**224**	*e*Pn	**Pg**	**21 39 01.0**	**-0.7**
BHD				*e*Sn	**Sg**	**21 39 21.0**	**+0.3**
IKRK	**Kirkuk**	**1.50**	**316**	*e*Pn	**Pb**	**21 39 01.0**	**-0.6**
IKRK				*e*Sn	**Sg**	**21 39 22.0**	**+0.4**
IKRK				AML	AML	21 39 27.4	
	comp=N,310nm,0.6s						
IKRK				AML	AML	21 39 29.1	
	comp=E,212nm,0.4s						
SNQR	**Sonqor, Kerman**	**1.75**	**72**	Pg	**Pb**	**21 39 06.0**	**-0.2**
IDOB	**Doab**	**2.20**	**103**	Pn	**Pn**	**21 39 11.7**	**+1.1**

*RSNC **25** 21:40:45.1±0.0, 13°N±1°×8°1W±°, h1km±2km, M3.5, mb4.4, mB5.1, ML3.5, Mw(mB)4.5*
*IDC **25** 21:40:51.2±5.5, 13°.36N×81°.48W, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=236.7km s-min=46.8km az=70.0*
ISC 25 21:40:45.3±0.8, 13°18N±0°.04×81°06W±0°.04, h10km, n16, σ1°67/26, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.36**	**303**	P	**Pb**	**21 40 52.2**	**-1.5**
PRVC				S	**Sb**	**21 40 57.4**	**-2.0**
SAIC	**Isla e San And**	**0.90**	**225**	P	**Pn**	**21 41 03.7**	**-0.3**
SAIC				S	**Sn**	**21 41 17.7**	**+0.6**
RNCC	**Cayo Roncador,**	**1.02**	**67**	P	**Pg**	**21 41 04.8**	**-0.1**
RNCC				S	**Sn**	**21 41 19.8**	**-0.2**
SERC	**Banco Serrana,**	**1.29**	**31**	P	**Pn**	**21 41 08.5**	**-0.9**
SERC				S	**Sg**	**21 41 26.7**	**-0.2**
BCIP	**Isla Barro Col**	**4.16**	**163**	P	**Pn**	**21 41 47.3**	**-1.6**
BCIP				S	**Sn**	**21 42 36.0**	**-1.6**
JTS	**Las Juntas de**	**4.77**	**233**	P	**Pn**	**21 41 58.9**	**+1.6**
JTS				S	**Sn**	**21 42 53.1**	**+0.3**
GMAL	**Guarumal, Vera**	**5.38**	**182**	P	**Pn**	**21 42 05.5**	**-0.2**
	21nm,1.0s,2μm						
GMAL				S	**Sn**	**21 43 05.9**	**-1.9**
	21nm,1.0s,2μm						
AZU	**Azuero**	**5.41**	**172**	P	**Pn**	**21 42 06.4**	**+0.4**
	32nm,1.4s						
AZU				S	**Sn**	**21 43 07.6**	**-0.8**
	32nm,1.4s						
CAPC	**Capurgana**	**5.80**	**141**	P	**Pn**	**21 42 13.8**	**+2.4**
	56nm,1.1s						
CAPC				S	**Sn**	**21 43 17.3**	**-0.7**
	56nm,1.1s						
MTDJ	**Mount Denham**	**6.06**	**34**	P	**Pn**	**21 42 15.9**	**+0.8**
	26nm,0.9s						
LCBC	**Los crdobas,**	**6.29**	**133**	P	**Pn**	**21 42 20.0**	**+1.8**
	93nm,0.9s						
LCBC				S	**Sn**	**21 43 32.5**	**+2.2**
	93nm,0.9s						
SJCC	**San Jacinto, C**	**6.62**	**119**	P	**Pn**	**21 42 21.6**	**-1.1**
SJCC				S	**Sn**	**21 43 34.6**	**-3.7**
TXAR	**Lajitas Array**	**26.42**	**311**	P	**P**	**21 46 24.3**	**+1.8**
	1.1nm,0.8s,baz=127,slow=8.0,SNR=5.3						
	1.1nm,0.8s						
PDAR	**Pinedale Array**	**38.41**	**326**	P	P	21 48 12.1	+4.8
	0.2nm,0.7s,baz=130,slow=9.5,SNR=1.8						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**145.32**	**247**	PKPbc	**PKiKP**	**22 00 30.1**	**+1.9**
	0.6nm,0.6s,baz=101,slow=3.8,SNR=7.7						
WRA	**Warramunga Arr**	**145.46**	**254**	PKPbc	**PKiKP**	**22 00 31.1**	**+2.6**
	0.6nm,0.6s,baz=91,slow=3.0,SNR=7.7						

*NEIC **25** 21:47:13.3±1.6, 7°.12S±0°.09×155°.01E±0°.07, h10km±1km, mb4.8/34, Error ellipse: s-maj=14.4km s-min=12.3km az=182.0*
*IDC **25** 21:47:18.1±3.3, 7°.16S×154°.85E, h50km±30km, mb3.8/11, mbtmp4.1/13, ML2.2/1, Error ellipse: s-maj=24.0km s-min=19.8km az=133.0*
ISC 25 21:47:17.5±0.6, 7°15S±0°.09×154°92E±0°.08, h41km, n50, σ1°01/52, mb4.5/29, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.02**	**317**	Pn	**Pn**	**21 48 18.5**	**+1.8**
HNR	**Honiara**	**5.47**	**115**	Pn	**Pn**	**21 48 37.2**	**+0.7**
HNR	**Honiara**	**5.47**	**115**	P	**Pn**	**21 48 38.9**	**+2.4**
	25nm,0.3s,baz=184,slow=19,SNR=1.7						
PMG	**Port Moresby**	**8.00**	**253**		**Pn**	**21 49 13.0**	**+1.6**
PMG					**Sn**	**21 50 42.2**	**+1.6**
PMG	**Port Moresby**	**8.00**	**253**	P	**Pn**	**21 49 10.5**	**-0.8**
	1.8nm,0.3s,baz=271,slow=10.0,SNR=2.6						
	9.6nm,0.5s						
ARMA	**Armidale**	**23.35**	**187**	P	**P**	**21 52 23.2**	**+0.7**
WB0	**Warramunga Arr**	**23.54**	**236**	P	**P**	**21 52 23.6**	**-0.8**
WB2	**Warramunga Arr**	**23.66**	**235**	P	**P**	**21 52 23.5**	**-2.0**
WRA	**Warramunga Arr**	**23.67**	**235**	P	**P**	**21 52 23.1**	**-2.5**
	3.7nm,0.9s,baz=59,slow=9.1,SNR=12						
WRA				PcP	**PcP**	**21 56 09.6**	**+0.2**
	0.3nm,0.4s,baz=60,slow=2.4,SNR=3.0						
	3.7nm,0.9s						
ASAR	**Alice Springs**	**26.02**	**229**	P	**P**	**21 52 45.6**	**-1.4**
	1.3nm,0.7s,baz=63,slow=8.4,SNR=12						
	1.3nm,0.7s						
KNRA	**Kununurra**	**26.98**	**249**	P	**P**	**21 52 57.2**	**+1.5**
STKA	**Stephens Creek**	**27.57**	**205**	P	**P**	**21 53 01.0**	**+0.2**
STKA	**Stephens Creek**	**27.57**	**205**	P	**P**	**21 53 01.0**	**+0.2**
	6.5nm,0.9s,baz=24,slow=12,SNR=12						
	6.5nm,0.9s						
TPUB	**Ta-pu**	**45.16**	**313**	P	**P**	**21 55 29.8**	**-0.8**
CMAR	**Chiang Mai Arr**	**60.78**	**296**	P	**P**	**21 57 26.2**	**+0.3**
	1.9nm,0.8s,baz=127,slow=5.5,SNR=13						
	1.9nm,0.8s						
SONM	**Songino Array**	**69.43**	**327**	P	**P**	**21 58 22.0**	**+0.4**
SONM	**Songino Array**	**69.43**	**327**	P	**P**	**21 58 20.8**	**-0.8**
	1.1nm,0.7s,baz=145,slow=8.2,SNR=6.3						
	1.1nm,0.7s						
PLK4	**Peulik 4**	**75.64**	**25**	P	**P**	**21 58 57.0**	**-1.2**
M16K	**Timber Creek**	**76.88**	**21**	P	**P**	**21 59 05.4**	**+0.2**
M16K				IAmb	IAmb	21 59 09.6	
	comp=Z,23nm,1.4s						
L18K	**Granite Mounta**	**78.49**	**21**	P	**P**	**21 59 14.2**	**+0.1**
L18K				IAmb	IAmb	21 59 58.4	
	comp=Z,17nm,1.4s						
M19K	**Big River Lodg**	**79.12**	**22**	P	**P**	**21 59 18.1**	**+0.6**
M19K				IAmb	IAmb	21 59 49.3	
	comp=Z,12nm,1.2s						
L19K	**White Mountain**	**79.13**	**22**	P	**P**	**21 59 17.3**	**-0.3**
L19K				IAmb	IAmb	21 59 55.1	
	comp=Z,13nm,1.2s						
J20K	**Nowinta River**	**80.63**	**20**	P	**P**	**21 59 25.8**	**+0.1**
J20K				IAmb	IAmb	21 59 39.4	
	comp=Z,8.3nm,1.4s						
H19K	**Roundabout Mou**	**80.75**	**18**	P	**P**	**21 59 26.7**	**+0.4**
H19K				IAmb	IAmb	21 59 30.3	
	comp=Z,9.7nm,1.2s						
CAST	**Castle Rocks**	**80.89**	**21**	P	**P**	**21 59 26.6**	**-0.6**
CAST				IAmb	IAmb	21 59 44.7	
	comp=Z,13nm,1.5s						
F19K	**Shaleruckik Mo**	**81.22**	**17**	P	**P**	**21 59 28.6**	**-0.1**
F19K				IAmb	IAmb	21 59 48.0	
	comp=Z,7.1nm,1.2s						
SML	**Sawmill**	**81.40**	**24**	P	**P**	**21 59 29.7**	**-0.2**
E19K	**Redstone River**	**81.80**	**17**	P	**P**	**21 59 32.5**	**+0.7**
E19K				IAmb	IAmb	21 59 44.7	
	comp=Z,7.3nm,1.2s						
SCM	**Sheep Creek Mo**	**81.81**	**24**	P	**P**	**21 59 30.6**	**-1.5**
IMAR	**Indian Mountai**	**81.90**	**19**	P	**P**	**21 59 31.5**	**-0.9**
KLU	**Klutina**	**82.21**	**25**	P	**P**	**21 59 33.4**	**-0.8**
D19K	**Kuna River**	**82.25**	**16**	P	**P**	**21 59 33.9**	**-0.4**
D19K				IAmb	IAmb	21 59 42.4	
	comp=Z,20nm,1.5s						
G21K	**Allakaket**	**82.31**	**18**	P	**P**	**21 59 34.2**	**-0.3**
G21K				IAmb	IAmb	21 59 46.0	
	comp=Z,5.8nm,1.1s						
M24K	**Tolsona, Glenn**	**82.42**	**24**	P	**P**	**21 59 35.1**	**-0.2**
N25K	**Chitina, Valde**	**82.81**	**25**	P	**P**	**21 59 35.8**	**-1.6**
N25K				IAmb	IAmb	21 59 47.2	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	**82.83**	**180**	P	**P**	**21 59 37.1**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=28,slow=3.0,SNR=6.0						
	comp=Z,0.9nm,0.3s						
GLB	**Gilahina Butte**	**83.06**	**25**	P	**P**	**21 59 38.6**	**0.0**
MK31	**Makanchi Array**	**83.47**	**319**	P	**P**	**21 59 41.0**	**-0.1**
MKAR	**Makanchi Array**	**83.47**	**319**	P	**P**	**21 59 40.9**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=111,slow=4.6,SNR=10						
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**83.54**	**22**	P	**P**	**21 59 39.2**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=238,slow=6.0,SNR=7.3						
	comp=Z,0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**84.27**	**326**	P	**P**	**21 59 44.6**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=114,slow=3.5,SNR=1.8						
	comp=Z,0.4nm,0.4s						
E27K	**Coleen River**	**87.08**	**20**	P	**P**	**21 59 58.8**	**+0.2**
E27K				IAmb	IAmb	21 59 59.6	
	comp=Z,4.0nm,0.9s						
J30M	**Hart River**	**87.49**	**24**	P	**P**	**22 00 01.4**	**+0.7**
J30M				IAmb	IAmb	22 00 02.8	
	comp=Z,5.8nm,0.8s						
I30M	**Mount Dempster**	**87.72**	**23**	P	**P**	**22 00 01.2**	**-0.7**
I30M				IAmb	IAmb	22 00 02.5	
	comp=Z,5.5nm,0.9s						
EPYK	**Eagle Plains**	**88.03**	**22**	P	**P**	**22 00 03.5**	**+0.3**
EPYK				IAmb	IAmb	22 00 03.8	
	comp=Z,9.3nm,0.9s						
E29M	**Blow River**	**88.41**	**20**	P	**P**	**22 00 04.7**	**-0.2**
E29M				IAmb	IAmb	22 00 16.2	
	comp=Z,3.2nm,1.2s						
H31M	**Peel River**	**88.72**	**23**	P	**P**	**22 00 06.2**	**-0.2**
H31M				IAmb	IAmb	22 00 07.0	
	comp=Z,7.3nm,0.9s						
NVAR	**Mina Array Bea**	**91.87**	**52**	P	**P**	**22 00 22.1**	**0.0**
	comp=Z,0.3nm,0.5s,baz=263,slow=6.3,SNR=2.3						
	comp=Z,0.3nm,0.5s						
YKA	**Yellowknife Ar**	**96.51**	**28**	P	**P**	**22 00 41.7**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=268,slow=4.9,SNR=6.3						
	comp=Z,1.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**153.00**	**285**	PKPbc	**PKPbc**	**22 07 10.0**	**-1.6**
	comp=Z,1.3nm,0.9s,baz=85,slow=2.6,SNR=7.0						

RSNC 25 21:52:22.3±0.0, 13°N±2°×8°1W±°, h1km±3km, M3.1, mb3.8, ML3.1, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.27**	**307**	P	Pb	21 52 28.9	-1.1
PRVC				S	Sb	21 52 33.2	-2.0
SAIC	**Isla e San And**	**0.87**	**220**	P	Pb	21 52 40.0	-0.2
SAIC				S	Sb	21 52 53.6	+1.2
RNCC	**Cayo Roncador,**	**1.08**	**70**	P	Pg	21 52 42.4	-0.7
RNCC				S	Sb	21 52 58.2	-0.3
SERC	**Banco Serrana,**	**1.31**	**35**	P	Pg	21 52 46.2	-1.2
SERC				S	Sg	21 53 04.4	0.0
BCIP	**Isla Barro Col**	**4.22**	**162**	P	Pn	21 53 24.5	-3.3
BCIP				S	Sn	21 54 12.3	-5.4
JTS	**Las Juntas de**	**4.73**	**233**	P	Pn	21 53 35.2	+0.4
JTS				S	Sn	21 54 29.7	-0.7
SJCC	**San Jacinto, C**	**6.71**	**119**	P	Pn	21 53 58.5	-3.5
SJCC				S	Sn	21 55 12.8	-6.4

TEH 25 21:53:57.9, 34°.25N×45°.61E, h8km±50km, ML2.5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.26**	**356**	Pg	Pg	21 54 03.5	+0.4
GLG1	**Gilan-e-Gharb**	**0.28**	**118**	Pg	Pg	21 54 04.0	+0.5
IDHR	**Dehrash**	**0.78**	**55**	Pg	Pg	21 54 12.7	-0.3
ILBA	**Ilam Banvizeh**	**0.80**	**141**	Pg	Pg	21 54 13.4	+0.2
IGHG	**Ghaleghazi**	**0.80**	**84**	Pg	Pb	21 54 14.0	-0.2
KCHF	**Cheshme Sefid,**	**1.18**	**88**	Pg	Pg	21 54 20.4	-0.2
ILIN	**Lien**	**1.30**	**59**	Pg	Pg	21 54 22.9	0.0
SNQR	**Sonqor, Kerman**	**1.77**	**69**	Pg	Pg	21 54 31.5	-0.4
IDOB	**Doab**	**2.18**	**101**	Pn	Pb	21 54 36.3	-1.4

*IDC **25** 21:58:44.4±1.1, 34°.31N×45°.76E, h0km, mb3.8/8, mbtmp3.7/17, ML3.2/9, Error ellipse: s-maj=18.1km s-min=14.3km az=159.0*
*TEH **25** 21:58:46.0, 34°.33N×45°.64E, h8km±16km, ML3.6*
*ISN **25** 21:58:47.2±1.5, 34°.35N×45°.59E, h22km±10km, ML3.8*
ISC 25 21:58:46.5±1.1, 34°34N±0°.03×45°68E±0°.03, h8km±8km, n48, σ1°73/58, mb3.9/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.18**	**335**	Pg	**Pg**	**21 58 49.9**	**-0.4**
GLG1	**Gilan-e-Gharb**	**0.29**	**140**	Pg	**Pg**	**21 58 52.5**	**+0.2**
IDHR	**Dehrash**	**0.69**	**58**	Pg	**Pg**	**21 58 60.0**	**+0.3**
IDHR				Sg	**Sb**	**21 59 10.7**	**+0.2**
IGHG	**Ghaleghazi**	**0.73**	**90**	Pg	**Pg**	**21 59 01.3**	**+0.7**
ILBA	**Ilam Banvizeh**	**0.83**	**148**	Pg	**Pg**	**21 59 02.3**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.13**	**93**	Pg	**Pb**	**21 59 08.4**	**+0.2**
ILIN	**Lien**	**1.20**	**61**	Pg	**Pn**	**21 59 10.2**	**+0.4**
IBDR	**Badra**	**1.24**	**170**	*e*Pg	**Pg**	**21 59 10.0**	**-0.3**
IBDR				*e*Sg	**Sn**	**21 59 28.0**	**+1.1**
IBDR				AML	AML	21 59 41.6	
	comp=N,311nm,0.3s						
IBDR	

comp=N,2.1nm,0.9s,baz=141,slow=9.0,SNR=2.2
comp=N,2.1nm,0.9s
HFS Hagfors 33.14 331 P **P 22 05 21.2 -1.7**
comp=N,2.1nm,0.6s,baz=132,slow=8.5,SNR=7.8
comp=N,2.1nm,0.6s
NOA NORSAR Array B 34.66 331 P **P 22 05 35.8 -0.4**
comp=N,0.4nm,0.7s,baz=138,slow=7.8,SNR=2.5
comp=N,0.4nm,0.7s
ARCES ARCESS Array B 36.99 348 P **P 22 05 54.9 -1.0**
comp=N,1.9nm,0.9s,baz=166,slow=8.4,SNR=7.1
comp=N,1.9nm,0.9s
EKA Eskdalemuir Ar 39.47 317 P **P 22 06 18.5 +1.5**
comp=N,2.4nm,0.9s,baz=94,slow=9.3,SNR=2.5
comp=N,2.4nm,0.9s
CMAR Chiang Mai Arr 49.72 94 P **P 22 07 37.5 -1.8**
comp=N,0.8nm,0.3s,baz=296,slow=5.1,SNR=5.2
comp=N,0.8nm,0.3s

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*IDC **25** 22:01:21.9±1.4, 13°.12N×80°.95W, h0km, mb3.6/3, mbtmp3.7/4, ML1.7/1, Error ellipse: s-maj=39.0km s-min=28.4km az=138.0*
*RSNC **25** 22:01:23.3±0.0, 13°N±2°×8°1W±°, h1km±2km, M3.5, mb4.3, ML3.4*
ISC 25 22:01:23.0±0.7, 13°.13N±0°.04×81°.06W±0°.04, h10km, n17, σ1°53/28, mb3.6/3, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.38**	**309**	P	**Pb**	**22 01 29.8**	**-2.1**
PRVC				S	**Sb**	**22 01 34.5**	**-3.4**
SAIC	**Isla e San And**	**0.87**	**227**	P	**Pb**	**22 01 40.4**	**+0.2**
SAIC				S	**Sn**	**22 01 54.4**	**+0.3**
RNCC	**Cayo Roncador,**	**1.04**	**65**	P	**Pg**	**22 01 44.4**	**+1.3**
RNCC				S	**Sn**	**22 01 59.9**	**+1.6**
SERC	**Banco Serrana,**	**1.33**	**30**	P	**Pn**	**22 01 47.5**	**-0.2**
SERC				S	**Sb**	**22 02 05.2**	**0.0**
BCIP	**Isla Barro Col**	**4.12**	**163**	P	**Pn**	**22 02 25.0**	**-1.1**
BCIP				S	**Sn**	**22 03 12.5**	**-1.9**
JTS	**Las Juntas de**	**4.75**	**234**	Pn	**Pn**	**22 02 35.4**	**+0.7**
	11nm,0.3s,baz=280,slow=23,SNR=11						
JTS				Sn	**Sn**	**22 03 32.4**	**+2.6**
	1.2nm,0.3s,baz=98,slow=20,SNR=1.8						
JTS	**Las Juntas de**	**4.75**	**234**	P	**Pn**	**22 02 35.9**	**+1.2**
JTS				P	**Pn**	**22 02 35.9**	**+1.2**
JTS				S	**Sn**	**22 03 28.7**	**-1.1**
AZU	**Azuero**	**5.36**	**172**	P	**Pn**	**22 02 43.8**	**+0.6**
	25nm,0.9s						
AZU				S	**Sn**	**22 03 45.7**	**+0.6**
	25nm,0.9s						
CAPC	**Capurgana**	**5.76**	**140**	P	**Pn**	**22 02 48.2**	**-0.5**
	55nm,1.5s						
CAPC				S	**Sn**	**22 03 53.9**	**-1.1**
	55nm,1.5s						
SJCC	**San Jacinto, C**	**6.60**	**119**	P	**Pn**	**22 03 00.5**	**+0.3**
SJCC				S	**Sn**	**22 04 13.6**	**-2.0**
TEIG	**Tepich**	**9.88**	**317**	Pn	**Pn**	**22 03 46.0**	**+0.9**
	baz=320,slow=24,SNR=7.7						
SDV	**Santo Domingo**	**11.07**	**111**	Sn	**Sn**	**22 06 02.3**	**-3.5**
	1.7nm,0.3s,baz=158,slow=20,SNR=2.0						
TXAR	**Lajitas Array**	**26.45**	**311**	P	**P**	**22 07 01.9**	**+1.4**
	1.3nm,0.9s,baz=122,slow=8.6,SNR=2.1						
	1.3nm,0.9s						
ILAR	**Eielson Array**	**67.98**	**335**	P	**P**	**22 12 23.0**	**+0.9**
	0.4nm,0.9s,baz=110,slow=4.4,SNR=3.3						
	0.4nm,0.9s						
ESDC	**Sonseca Array**	**71.85**	**52**	P	**P**	**22 12 46.2**	**-0.3**
	0.6nm,0.9s,baz=282,slow=5.2,SNR=1.7						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**145.30**	**247**	PKPbc	**PKPab**	**22 21 01.9**	**+0.1**
	0.8nm,0.7s,baz=108,slow=4.1,SNR=8.7						
WRA	**Warramunga Arr**	**145.45**	**254**	PKPbc	**PKPab**	**22 21 02.8**	**+0.3**
	1.3nm,0.6s,baz=94,slow=2.9,SNR=15						

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*ISN **25** 22:04:09.2±0.7, 34°.20N×45°.41E, h6km±14km, ML2.8*
*TEH **25** 22:04:09.2, 34°.20N×45°.58E, h8km±57km, ML2.7*
ISC 25 22:04:09.6±0.9, 34°.21N±0°.04×45°.58E±0°.04, h10km, n12, σ0°49/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.29**	**109**	Pg	**Pg**	**22 04 15.2**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.30**	**1**	Pg	**Pg**	**22 04 15.8**	**+0.2**
ILBA	**Ilam Banvizeh**	**0.78**	**138**	Pg	**Pg**	**22 04 23.9**	**-0.8**
IDHR	**Dehrash**	**0.83**	**53**	Pg	**Pg**	**22 04 25.2**	**-0.4**
IGHG	**Ghaleghazi**	**0.83**	**81**	Pg	**Pb**	**22 04 25.8**	**-0.4**
IBDR	**Badra**	**1.13**	**165**	*e*Pg	**Pn**	**22 04 32.0**	**+0.5**
IBDR				*e*Sg	**Sn**	**22 04 48.0**	**+0.9**
KCHF	**Cheshme Sefid,**	**1.21**	**86**	Pg	**Pg**	**22 04 33.2**	**+0.3**
ILIN	**Lien**	**1.34**	**58**	Pg	**Pn**	**22 04 34.4**	**-0.2**
BHD	**Baghdad**	**1.37**	**227**	*e*Pn	**Pb**	**22 04 35.0**	**-0.3**
BHD				*e*Sn	**Sg**	**22 04 54.0**	**+0.3**
IKRK	**Kirkuk**	**1.57**	**320**	*e*Pn	**Pb**	**22 04 38.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**22 05 00.0**	**0.0**
IKRK				AML	AML	22 05 04.0	
	comp=E,171nm,0.5s						
IKRK				AML	AML	22 05 04.0	
	comp=N,123nm,0.3s						
SNQR	**Sonqor, Kerman**	**1.81**	**68**	Pn	**Pb**	**22 04 43.1**	**0.0**
SDS1	**Sardasht. Az.**	**1.94**	**358**	Pn	**Pb**	**22 04 45.2**	**+0.1**

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*CATAC **25** 22:09:53.7±0.5, 13°.18N×81°.07W, h4km±3km, mb5.6, MB6.1, ML4.7*
*NEIC **25** 22:09:53.6±1.4, 13°.05N±0°.02×81°.21W±0°.07, h10km±1km, mb5.0/11, Error ellipse: s-maj=12.3km s-min=2.9km az=257.0*
*RSNC **25** 22:09:53.6±0.0, 13°N±2°×8°1W±°, h1km±2km, M3.6, mb4.5, ML3.6*
*IDC **25** 22:09:54.3±1.2, 12°.88N×81°.13W, h0km, mb3.7/5, mbtmp3.9/7, ML3.6/2, MS3.6/1, Error ellipse: s-maj=32.8km s-min=26.2km az=18.0*
ISC 25 22:09:53.2±1.4, 13°.16N±0°.04×81°.04W±0°.03, h0km±9km, n77, σ1°88/107, mb4.6/11, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.38**	**305**	Pg	**Pg**	**22 10 00.7**	**+0.2**
PRVC				Sg	**Sg**	**22 10 04.4**	**-1.2**
PRVC	**Isla de Provid**	**0.38**	**305**	P	**Pg**	**22 10 00.7**	**+0.2**
PRVC				S	**Sg**	**22 10 05.4**	**-0.1**
PRVC	**Isla de Provid**	**0.38**	**305**	*i* P	**Pg**	**22 10 00.4**	**-0.1**
PRVC				*i* S	**Sg**	**22 10 05.9**	**+0.4**
PRVC				IAML		22 10 08.5	
	comp=Z,16μm,1.0s						
SAIC	**Isla e San And**	**0.90**	**227**	P	**Pb**	**22 10 11.9**	**+0.3**
SAIC				S	**Sn**	**22 10 26.7**	**-0.1**
RNCC	**Cayo Roncador,**	**1.01**	**66**	P	**Pg**	**22 10 13.7**	**+1.0**
RNCC				S	**Sn**	**22 10 29.4**	**-0.3**
SERC	**Banco Serrana,**	**1.30**	**30**	P	**Pg**	**22 10 17.4**	**-0.8**
SERC				S	**Sg**	**22 10 35.1**	**0.0**
BLUN	**Bluefields**	**2.90**	**247**	*i* P	**Pn**	**22 10 40.6**	**-0.1**
BLUN				*i* S	**Sn**	**22 11 17.5**	**+1.2**
BLUN				IAML		22 11 32.3	
	comp=Z,370nm,1.0s						
ESPN	**Las Esperanzas**	**3.32**	**254**	Pn	**Pn**	**22 10 42.9**	**-3.6**
ESPN	**Las Esperanzas**	**3.32**	**254**	*i* P	**Pn**	**22 10 46.2**	**-0.2**
ESPN				*i* S	**Sn**	**22 11 26.5**	**-0.1**
ESPN				IAML		22 11 52.2	
	comp=Z,720nm,1.0s						
ESPN	**Las Esperanzas**	**3.32**	**254**	*e*P	**Pn**	**22 10 46.4**	**0.0**
TRT2	**Tortugero**	**3.69**	**226**	*i* P	**Pn**	**22 10 51.5**	**0.0**
TRT2				IAML		22 10 53.2	
	comp=Z,250nm,1.0s						
TRT2				*i* S	**Sn**	**22 11 36.1**	**+0.3**
COVE	**Coope Vega, Sa**	**4.08**	**234**	*i* P	**Pn**	**22 10 56.5**	**-0.4**
COVE				*i* S	**Sn**	**22 11 46.3**	**+0.8**
COVE				IAML		22 12 15.6	
	comp=Z,480nm,1.0s						
CVTV	**Tajo**	**4.11**	**221**	*e*P	**Pn**	**22 10 57.5**	**0.0**
BCIP	**Isla Barro Col**	**4.14**	**163**	Pn	**Pn**	**22 10 56.0**	**-1.6**
BCIP	**Isla Barro Col**	**4.14**	**163**	P	**Pn**	**22 10 56.0**	**-1.6**
BCIP				S	**Sn**	**22 11 43.8**	**-3.0**
BCIP	**Isla Barro Col**	**4.14**	**163**	*i* P	**Pn**	**22 10 57.9**	**+0.2**
BCIP				*i* S	**Sn**	**22 11 47.4**	**+0.6**
BCIP				IAML		22 11 53.9	
	comp=Z,140nm,1.0s						
BCIP	**Isla Barro Col**	**4.14**	**163**	*e*P	**Pn**	**22 10 56.1**	**-1.6**
ACON	**Acoyapa**	**4.20**	**254**	Pn	**Pn**	**22 10 55.1**	**-3.5**
ACON	**Acoyapa**	**4.20**	**254**	*i* P	**Pn**	**22 10 58.5**	**-0.1**
ACON				*i* S	**Sn**	**22 11 48.2**	**-0.3**
ACON				IAML		22 12 28.8	
	comp=Z,470nm,1.0s						
HDC	**Heredia**	**4.35**	**224**	Pn	**Pn**	**22 10 57.1**	**-3.6**
SOCE	**Pocosol**	**4.46**	**232**	Pn	**Pn**	**22 10 58.7**	**-3.4**
SOCE	**Pocosol**	**4.46**	**232**	*i* P	**Pn**	**22 11 01.8**	**-0.3**
SOCE				IAML		22 11 18.6	
	comp=Z,210nm,1.0s						
SOCE				*i* S	**Sn**	**22 11 56.2**	**+1.5**
LCR2	**La Lucha 2**	**4.47**	**221**	*e*P	**Pn**	**22 11 02.8**	**+0.4**
ABE2	**San Pablo**	**4.53**	**221**	*e*P	**Pn**	**22 11 04.2**	**+0.9**
ACOS	**Acosta**	**4.53**	**223**	*e*P	**Pn**	**22 11 04.2**	**+1.0**
BRU2	**Volcan**	**4.63**	**201**	Pn	**Pn**	**22 11 00.9**	**-3.7**
BRU2	**Volcan**	**4.63**	**201**	*e*P	**Pn**	**22 11 04.6**	**+0.1**
CONN	**Concepcion**	**4.75**	**251**	*i* P	**Pn**	**22 11 06.8**	**+0.7**
CONN				IAML		22 11 40.4	
	comp=Z,3μm,1.0s						
CONN				*i* S	**Sn**	**22 12 03.1**	**+1.1**
JTS	**Las Juntas de**	**4.77**	**234**		**Pn**	**22 11 03.5**	**-3.0**
JTS	**Las Juntas de**	**4.77**	**234**	Pn	**Pn**	**22 11 06.1**	**-0.3**
	comp=Z,6.9nm,0.3s,baz=278,slow=20,SNR=12						
JTS				Sn	**Sn**	**22 11 54.9**	**-7.6**
	comp=Z,3.4nm,0.3s,baz=278,slow=18,SNR=1.8						
	comp=Z,15nm,0.3s						
JTS	**Las Juntas de**	**4.77**	**234**	P	**Pn**	**22 11 06.8**	**+0.4**
JTS				P	**Pn**	**22 11 06.8**	**+0.4**
JTS				S	**Sn**	**22 12 01.5**	**-1.0**
JTS	**Las Juntas de**	**4.77**	**234**	*e*P	**Pn**	**22 11 07.2**	**+0.7**
OCHAL	**Ojochal**	**4.77**	**213**	*i* P	**Pn**	**22 11 05.8**	**-0.6**
OCHAL				IAML		22 11 15.5	
	comp=Z,180nm,1.0s						
OCHAL				*i* S	**Sn**	**22 12 03.5**	**+1.0**
CDITO	**Canoas**	**4.90**	**202**	*i* P	**Pn**	**22 11 09.0**	**+0.9**
CDITO				*i* S	**Sn**	**22 12 07.1**	**+1.6**
CDITO				IAML		22 13 16.4	
	comp=Z,420nm,1.0s						
RCPN	**Sur Rio San Ju**	**4.93**	**275**	*i* P	**Pn**	**22 11 08.7**	**0.0**
RCPN				*i* S	**Sn**	**22 12 06.0**	**-0.6**
RCPN				IAML		22 12 06.3	
	comp=Z,1.8nm,1.0s						
EDAD	**Golfito**	**4.94**	**205**	*e*P	**Pn**	**22 11 09.3**	**+0.6**
SBEN	**San Benito**	**4.97**	**261**	*i* P	**Pn**	**22 11 08.7**	**-0.4**
SBEN				IAML		22 11 18.7	
	comp=Z,4μm,1.0s						
SBEN				*i* S	**Sn**	**22 12 07.5**	**+0.2**
RCVN	**Varillal2**	**5.03**	**275**	*i* P	**Pn**	**22 11 09.4**	**-0.7**
RCVN				IAmb	IAmb	22 11 30.8	
	comp=Z,2μm,0.7s						
RCVN				IAML		22 12 07.1	
	comp=Z,8μm,1.0s						
RCVN				IVmB_BB		22 12 07.1	
	comp=Z,78μm,1.0s						
RCVN				*i* S	**Sn**	**22 12 08.5**	**-0.6**
RCFN	**Al S de San Ju**	**5.05**	**275**	*i* P	**Pn**	**22 11 10.4**	**+0.1**
RCFN				IAmb	IAmb	22 11 28.0	
	comp=Z,490nm,0.6s						
RCFN				IVmB_BB		22 11 38.7	
	comp=Z,12μm,1.0s						
RCFN				*i* S	**Sn**	**22 12 08.8**	**-0.7**
RCFN				IAML		22 12 10.3	
	comp=Z,2μm,1.0s						
NANN	**Nandasmo**	**5.11**	**257**	*i* P	**Pn**	**22 11 10.5**	**-0.5**
NANN				IVmB_BB		22 11 15.6	
	comp=Z,120μm,1.0s						
NANN				IAmb	IAmb	22 11 37.3	
	comp=Z,2μm,0.6s						
NANN				*i* S	**Sn**	**22 12 10.0**	**-0.7**
NANN				IAML		22 13 01.1	
	comp=Z,4μm,1.0s						
MAS3	**Al N del Volca**	**5.14**	**258**	*i* P	**Pn**	**22 11 10.6**	**-0.9**
MAS3				IAmb	IAmb	22 11 35.2	
	comp=Z,140nm,0.6s						
MAS3				IAML		22 12 08.9	
	comp=Z,330nm,1.0s						
MAS3				*i* S	**Sn**	**22 12 11.8**	**+0.3**
MGAN	**Managua**	**5.18**	**259**	Pn	**Pn**	**22 11 09.5**	**-2.5**
LIMN	**Finca el Limon**	**5.19**	**270**	*i* P	**Pn**	**22 11 12.6**	**+0.4**
LIMN				IAmb	IAmb	22 11 41.4	
	comp=Z,130nm,0.7s						
LIMN				IVmB_BB		22 12 01.6	
	comp=Z,920nm,1.0s						
LIMN				IAML		22 12 57.5	
	comp=Z,360nm,1.0s						
AZU	**Azuero**	**5.38**	**172**	P	**Pn**	**22 11 14.4**	**-0.4**
	comp=Z,33nm,1.0s						
AZU				S	**Sn**	**22 12 16.1**	**-1.4**
	comp=Z,33nm,1.0s						
AZU	**Azuero**	**5.38**	**172**	*e*P	**Pn**	**22 11 13.6**	**-1.2**
YUSH	**Yuscaran**	**5.70**	**279**	*i* P	**Pn**	**22 11 19.3**	**+0.1**
YUSH				*i* S	**Sn**	**22 12 25.1**	**-0.3**
CAPC	**Capurgana**	**5.77**	**141**	P	**Pn**	**22 11 19.6**	**-0.6**
	comp=Z,48nm,1.4s						
CAPC				S	**Sn**	**22 12 24.0**	**-3.1**
	comp=Z,48nm,1.4s						
CACAO	**El Cacao, Vera**	**5.78**	**178**	P	**Pn**	**22 11 21.8**	**+1.6**
	comp=Z,86nm,0.8s						
CACAO				S	**Sn**	**22 12 28.0**	**+0.7**
	comp=Z,86nm,0.8s						
CRIN	**San Cristobal**	**5.88**	**266**	Pn	**Pn**	**22 11 18.9**	**-2.8**
MTDJ	**Mount Denham**	**6.07**	**33**	Pn	**Pn**	**22 11 25.8**	**+1.5**
TGUH	**Tegucigalpa,Un**	**6.12**	**279**	Pn	**Pn**	**22 11 22.0**	**-3.2**
SJCC	**San Jacinto, C**	**6.59**	**119**	P	**Pn**	**22 11 30.5**	**-1.0**
SJCC				S	**Sn**	**22 12 43.6**	**-3.9**
MTO3	**Montecristo**	**8.18**	**280**	Pn	**Pn**	**22 11 49.5**	**-3.9**
ESQI	**Esquipulas**	**8.18**	**281**	Pn	**Pn**	**22 11 51.0**	**-2.4**
PETF	**Flores**	**9.31**	**295**	Pn	**Pn**	**22 12 05.3**	**-3.4**
SOR	**Soroa**	**9.77**	**349**		**Pn**	**22 12 14.9**	**-0.1**
TEIG	**Tepich**	**9.87**	**316**		**Pn**	**22 12 15.2**	**-1.3**
TEIG	**Tepich**	**9.87**	**316**	Pn	**Pn**	**22 12 15.7**	**-0.8**
	baz=318,slow=24,SNR=9.2						
TEIG				Sn	**Sn**	**22 14 01.9**	**-6.1**
	baz=225,slow=24,SNR=1.2						
ROSC	**El Rosal**	**10.60**	**141**	LR	LR	22 17 29.3	
	comp=Z,328nm,18.3s,baz=343,slow=44						
SDV	**Santo Domingo**	**11.06**	**111**	Pn	**Pn**	**22 12 33.5**	**+0.5**
	comp=Z,1.8nm,0.3s,baz=331,slow=4.8,SNR=3.7						
	comp=Z,6.6nm,0.4s						
833A	**Chaparral WMA,**	**22.80**	**314**	P	**P**	**22 14 57.0**	**-0.7**
UALR	**University of**	**23.84**	**336**	P	**P**	**22 15 05.8**	**-2.2**
UALR				IAmb	IAmb	22 15 10.5	
	comp=Z,27nm,1.6s						
TXAR	**Lajitas Array**	**26.45**	**311**	P	**P**	**22 15 33.0**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=117,slow=8.5,SNR=9.2						
	comp=Z,1.9nm,0.8s						
PAL	**Palisades**	**28.44**	**11**	P	**P**	**22 15 48.6**	**-1.1**
PB12	**IPOC Station P**	**33.29**	**161**	P	P	22 16 27.9	-4.9
PB12				IAmb	IAmb	22 16 30.4	
	comp=Z,20nm,1.3s						
PKME	**Peaks-Kenny Pk**	**33.53**	**15**	P	**P**	**22 16 33.7**	**-0.8**
PKME				IAmb	IAmb	22 16 34.6	
	comp=Z,28nm,1.4s						
PDAR	**Pinedale Array**	**38.44**	**326**	P	**P**	**22 17 17.9**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=118,slow=12,SNR=4.4						
	comp=Z,0.5nm,0.7s						
AHID	**Auburn Hatcher**	**39.30**	**324**	P	**P**	**22 17 22.2**	**-1.9**
DRLN	**Deer Lake**	**40.89**	**24**	P	**P**	**22 17 38.0**	**+1.0**
Q09A	**Carvers**	**40.92**	**315**	P	**P**	**22 17 36.2**	**-1.4**
Q09A				IAmb	IAmb	22 17 37.0	
	comp=Z,13nm,0.6s						
NVAR	**Mina Array Bea**	**41.51**	**314**	P	**P**	**22 17 46.6**	**+4.0**
	comp=Z,1.0nm,0.7s,baz=130,slow=7.0,SNR=6.2						
	comp=Z,1.0nm,0.7s						
MCCM	**Marconi Confer**	**44.66**	**312**	P	**P**	**22 18 05.6**	**-2.2**
MCCM				IAmb	IAmb	22 18 11.4	
	comp=Z,43nm,1.3s						
COR	**Corvallis**	**47.67**	**319**	P	**P**	**22 18 30.2**	**-1.2**
COR				IAmb	IAmb	22 18 36.6	
	comp=Z,35nm,1.2s						
ILAR	**Eielson Array**	**67.97**	**335**	P	**P**	**22 20 57.4**	**+3.6**
	comp=Z,0.8nm,0.9s,baz=122,slow=4.6,SNR=4.2						
	comp=Z,0.8nm,0.9s						
ESDC	**Sonseca Array**	**71.83**	**52**	P	**P**	**22 21 21.1**	**+3.0**
	comp=Z,0.5nm,0.8s,baz=264,slow=4.5,SNR=4.4						
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**145.32**	**247**	PKPbc	**PKPbc**	**22 29 32.6**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=105,slow=3.8,SNR=8.2						
WRA	**Warramunga Arr**	**145.47**	**254**	PKPbc	**PKPbc**	**22 29 33.4**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=93,slow=2.9,SNR=9.2						

RSNC 25 22:16:17.7±0.0, 13°N±3°×8°1W±°, h2km±3km, M3.1, mb4.0, ML3.1, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.29**	**305**	P	Pg	22 16 24.2	+0.9
PRVC				S	Sg	22 16 28.9	+1.9
SAIC	**Isla e San And**	**0.88**	**221**	P	Pb	22 16 35.3	-0.5
SAIC				S	Sn	22 16 49.6	-1.0
RNCC	**Cayo Roncador,**	**1.06**	**70**	P	Pg	22 16 37.1	-1.0
RNCC				S	Sg	22 16 52.6	+0.6
SERC	**Banco Serrana,**	**1.30**	**34**	P	Pg	22 16 42.5	-0.1
SERC				S	Sg	22 16 59.1	-0.3
BCIP	**Isla Barro Col**	**4.21**	**162**	P	Pn	22 17 19.5	-3.5
BCIP				S	Sn	22 18 08.1	-4.7
JTS	**Las Juntas de**	**4.74**	**233**	P	Pn	22 17 30.4	+0.1
AZU	**Azuero**	**5.45**	**171**	P	Pn	22 17 38.4	-1.6
AZU				S	Sn	22 18 39.0	-4.3

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*TEH **25** 22:16:59.5, 34°.18N×45°.65E, h8km±27km, ML3.4*
*ISN **25** 22:17:00.6±1.2, 34°.17N×45°.55E, h22km±9km, ML3.6*
*IDC **25** 22:17:04.0±2.6, 34°.88N×45°.12E, h0km, mb3.7/4, mbtmp3.5/6, ML3.7/2, Error ellipse: s-maj=53.5km s-min=23.2km az=148.0*
*OMAN **25** 22:17:43.0±21.0, 30°.99N×47°.63E, h16km±181km, mb3.7/8, ms3.0/1, Error ellipse: s-maj=4.5km s-min=1.1km az=243.0*
ISC 25 22:16:59.1±0.6, 34°.16N±0°.03×45°.64E±0°.04, h10km, n56, σ1°86/58, mb3.7/4, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.23**	**101**	Pg	**Pg**	**22 17 04.6**	**+0.8**
KGS1	**Ghasr-e-Shirin**	**0.35**	**354**	Pg	**Pg**	**22 17 06.1**	**0.0**
ILBA	**Ilam Banvizeh**	**0.71**	**138**	Pg	**Pg**	**22 17 13.6**	**+0.7**
IGHG	**Ghaleghazi**	**0.79**	**77**	Pg	**Pg**	**22 17 14.8**	**+0.4**
IDHR	**Dehrash**	**0.82**	**49**	Pg	**Pg**	**22 17 14.7**	**-0.3**
IBDR	**Badra**	**1.07**	**167**	*e*Pg	**Pn**	**22 17 21.0**	**+0.8**
IBDR				*e*Sg	**Sn**	**22 17 36.0**	**+0.9**
KCHF	**Cheshme Sefid,**	**1.17**	**84**	Pg	**Pn**	**22 17 22.0**	**+0.3**
ILIN	**Lien**	**1.33**	**55**	Pg	**Pg**	**22 17 25.0**	**+0.3**
BHD	**Baghdad**	**1.37**	**230**	*e*Pn	**Pn**	**22 17 25.0**	**+0.8**
BHD				*e*Sn	**Sg**	**22 17 44.0**	**+0.8**
IKRK	**Kirkuk**	**1.64**	**320**	*e*Pn	**Pb**	**22 17 29.0**	**-0.3**
IKRK				*e*Sn	**Sb**	**22 17 51.0**	**+1.0**
IKRK				AML	AML	22 17 55.0	
	comp=E,996nm,0.7s						
IKRK				AML	AML	22 17 55.1	
	comp=N,781nm,0.6s						
SNQR	**Sonqor, Kerman**	**1.79**	**66**	Pg	**Pb**	**22 17 32.6**	**+0.5**
SDS1	**Sardasht. Az.**	**1.99**	**356**	Pn	**Pb**	**22 17 35.7**	**+0.2**
IDOB	**Doab**	**2.14**	**99**	Pn	**Pb**	**22 17 37.1**	**-1.0**
RAFI	**Al-Rafai**	**2.46**	**170**	*e*Pn	**Pn**	**22 17 41.0**	**+1.8**
RAFI				*e*Sn	**Sn**	**22 18 12.0**	**+2.6**
MAHB	**Mahabad**	**2.60**	**1**	Pn	**Pb**	**22 17 43.8**	**-2.1**
NGD1	**Naghade .Az. G**	**2.79**	**356**	Pn	**Pn**	**22 17 46.2**	**+2.4**
IAZR	**Azarshahr**	**3.52**	**4**	Pn	**Pn**	**22 17 56.4**	**+2.2**
QABG	**Abgarm-Qazvin**	**3.59**	**63**	Pn	**Pn**	**22 17 57.2**	**+2.1**
IQOM	**Qom**	**4.54**	**80**	Pn	**Pn**	**22 18 10.0**	**+2.0**
IMRD	**Marand**	**4.55**	**1**	Pn	**Pn**	**22 18 10.1**	**+2.0**
QAMS	**Qamsar**	**4.81**	**93**	Pn	**Pn**	**22 18 13.6**	**+1.8**
ZNGN	**Zangian**	**4.83**	**113**	Pn	**Pn**	**22 18 12.8**	**+0.7**
IKLH	**Kolahrood**	**5.02**	**98**	Pn	**Pn**	**22 18 15.3**	**+0.6**
IVRN	**Varamin**	**5.09**	**79**	Pn	**Pn**	**22 18 17.3**	**+1.7**
KRSH	**Karshahi**	**5.40**	**90**	Pn	**Pn**	**22 18 21.5**	**+1.7**
IGAR	**Gharneh**	**5.64**	**106**	Pn	**Pn**	**22 18 24.1**	**+0.9**
IZEF	**Zefreh**	**5.73**	**101**	Pn	**Pn**	**22 18 25.7**	**+1.3**
KLNJ	**Kolanjah**	**5.93**	**120**	Pn	**Pn**	**22 18 28.1**	**+0.9**
MMAI	**Mount Meron Ar**	**8.61**	**265**	Pn	**Pn**	**22 19 04.6**	**+0.7**
	comp=N,0.4nm,0.3s,baz=73,slow=20,SNR=1.3						
MMAI				Sn	Sn	22 20 31.4	-10
	comp=N,1.1nm,0.3s,baz=303,slow=11,SNR=7.9						
MMAI				Lg	Lg	22 21 24.9	
	comp=N,0.4nm,0.3s,baz=103,slow=37,SNR=1.7						
	comp=N,0.3nm,0.4s						
KIV	**Kislovodsk**	**10.05**	**348**	P		22 20 54.5	
SHME	**Shamm**	**12.16**	**129**	P	**Pn**	**22 19 51.5**	**-0.9**
BANOM	**Banah**	**12.35**	**129**	P	**Pn**	**22 19 53.3**	**-1.7**
NAZ	**Nazwa, Dubai**	**12.63**	**134**	P	**Pn**	**22 19 58.2**	**-0.6**
MASF	**Masafi**	**12.65**	**131**	P	**Pn**	**22 19 57.4**	**-1.8**
MDH	**Madha**	**12.79**	**131**	P	**Pn**	**22 19 59.4**	**-1.6**
MZR	**Muzera**	**13.07**	**146**	P	**Pn**	**22 20 03.5**	**-1.3**
ASHO	**Ashiyiah**	**13.09**	**133**	P	**Pn**	**22 20 03.2**	**-2.0**
ALNE	**Al Ain**	**13.39**	**136**	P	**Pn**	**22 20 07.3**	**-1.9**
JASK	**Jask - Hormozg**	**13.43**	**125**	P	**Pn**	**22 20 09.2**	**-0.6**
SOHO	**SOHO**	**13.79**	**134**	P	**Pn**	**22 20 12.5**	**-2.2**
ARQ	**Araqi**	**14.39**	**136**	P	**Pn**	**22 20 21.0**	**-1.9**
BIDO	**Bidbid**	**15.22**	**131**	P	**Pn**	**22 20 32.9**	**-1.2**

X34A				IAML		22 25 11.6	
	comp=E,185nm,0.5s						
W35A	**Tecumseh**	**0.76**	**96**		Pg	22 25 02.8	0.0
W35A					Sg	22 25 13.2	+0.6
W35A				IAML		22 25 16.8	
	comp=N,213nm,0.4s						
CSTR	**Hydro, Custer**	**0.84**	**300**	Pg	Pb	22 25 04.9	-0.4
WMOK	**Wichita Mounta**	**0.95**	**239**		Pg	22 25 05.8	-0.6
WMOK					Sb	22 25 19.5	-0.6
OK052	**Battle Ridge R**	**1.11**	**46**		Pg	22 25 09.4	-0.1
DEOK	**Depew**	**1.22**	**60**	Pg	Pg	22 25 10.5	-1.1
DEOK					Sg	22 25 27.5	0.0
DEOK				IAML		22 25 32.0	
	comp=E,153nm,0.2s						
DEOK				IAML		22 25 32.1	
	comp=N,113nm,0.3s						
CROK	**Carrier**	**1.28**	**353**		Pg	22 25 12.2	-0.5
CROK					Sn	22 25 30.1	-0.2
QUOK	**Quay**	**1.29**	**43**		Pn	22 25 12.4	-0.5
QUOK					Sb	22 25 30.1	+0.3
LOOK	**Love County**	**1.34**	**158**		Pn	22 25 13.4	-0.2
LOOK					Sn	22 25 32.7	+1.0
LOOK				IAML		22 25 36.0	
	comp=E,154nm,0.2s						
LOOK				IAML		22 25 38.8	
	comp=N,122nm,0.2s						
OK048	**Pawnee Station**	**1.37**	**30**		Pn	22 25 13.8	-0.2
OK038	**West end E0370**	**1.46**	**328**		Pn	22 25 15.0	-0.4
OK051	**E0350 and S346**	**1.49**	**31**		Pn	22 25 15.7	+0.1
ELIS	**Ellis County**	**1.56**	**303**		Pn	22 25 17.0	+0.3
BLOK	**Blackwell**	**1.59**	**17**		Pb	22 25 18.0	-0.2
GC02	**Grant County #**	**1.62**	**358**	Pg	Pb	22 25 18.0	-0.6
NOKA	**Waynoka**	**1.68**	**327**		Pn	22 25 18.4	+0.1
TUL3	**Leonard**	**1.77**	**67**	Pn	Pn	22 25 19.5	0.0
TUL3				IAmb_Lg		22 25 45.8	
	comp=Z,47nm,1.3s						
KAN09	**Caldwell North**	**1.91**	**4**		Pn	22 25 21.5	+0.1
T35A	**Sooner Cattle**	**1.98**	**31**	Pn	Pn	22 25 22.7	+0.3
SMWD	**Samnorwood**	**2.01**	**267**		Pn	22 25 22.4	-0.5
SMWD				IAmb_Lg		22 25 55.0	
	comp=Z,15nm,0.8s						
FW03	**Perrin-Whitt E**	**2.20**	**186**	Pn	Pn	22 25 25.9	+0.5
FW06	**Azle**	**2.26**	**175**		Pn	22 25 26.4	0.0
RLO	**Rose Lookout**	**2.44**	**67**	Pn	Pn	22 25 28.9	+0.1
PLPT	**Palo Pinto**	**2.45**	**190**		Pn	22 25 30.0	+1.0
APMT	**Aspermont**	**2.71**	**226**		Pn	22 25 32.7	+0.2
U38A	**Gravette**	**3.02**	**66**	Pn	Pn	22 25 37.6	+0.9
HHAR	**Hobbs**	**3.30**	**70**	Pn	Pn	22 25 40.7	0.0
POST	**Post**	**3.76**	**236**		Pn	22 25 46.6	-0.3
BRDY	**Brady**	**4.06**	**195**		Pn	22 25 50.9	-0.2
X40A	**Basin Creek Fa**	**4.14**	**99**	Pn	Pn	22 25 52.7	+0.5
MSTX	**Muleshoe**	**4.29**	**254**	Pn	Pn	22 25 54.0	-0.4
S39A	**Bolivar**	**4.36**	**54**	IAmb_Lg		22 27 12.0	
	comp=Z,15nm,1.2s						
435B	**Jarrell**	**4.44**	**178**	IAmb_Lg		22 27 11.4	
	comp=Z,18nm,1.0s						
WHAR	**Wooly Hollow**	**4.50**	**88**	Pn	Pn	22 25 56.7	-0.4
HBVL	**Hebbronville**	**8.18**	**185**	IAmb_Lg		22 29 15.4	
	comp=Z,6.9nm,1.1s						

*IDC **25** 22:28:17.9±1.0, 34°.24N×45°.50E, h0km, mb3.7/14, mbtmp3.7/22, ML3.6/8, Error ellipse: s-maj=18.8km s-min=13.1km az=156.0*
*TEH **25** 22:28:19.6, 34°.26N×45°.62E, h11km±14km, ML3.8*
*ISN **25** 22:28:20.3±1.4, 34°.28N×45°.60E, h24km±9km, ML4.0*
*NEIC **25** 22:28:20.1±1.7, 34°.26N±0°.02×45°.5E±0°.1, h10km±1km, mb4.4/23, Error ellipse: s-maj=14.0km s-min=3.6km az=91.0*

ISC 25 22:28:19.6±0.4, 34°.25N±0°.03×45°.57E±0°.03, h10km, n96, σ1°26/100, mb4.1/24, 5C, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.26**	**4**	Pg	**Pg**	**22 28 24.9**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.32**	**116**	Pg	**Pg**	**22 28 26.0**	**0.0**
IDHR	**Dehrash**	**0.81**	**56**	Pg	**Pg**	**22 28 34.4**	**-0.9**
ILBA	**Ilam Banvizeh**	**0.82**	**139**	Pg	**Pg**	**22 28 35.1**	**-0.4**
IGHG	**Ghaleghazi**	**0.83**	**84**	Pg	**Pg**	**22 28 35.5**	**-0.2**
IBDR	**Badra**	**1.18**	**165**	*e*Pg	**Pn**	**22 28 42.0**	**-0.2**
IBDR				*e*Sg	**Sn**	**22 28 59.0**	**+0.8**
KCHF	**Cheshme Sefid,**	**1.22**	**88**	Pg	**Pb**	**22 28 42.2**	**-0.7**
ILIN	**Lien**	**1.33**	**60**	Pg	**Pb**	**22 28 44.4**	**-0.4**
BHD	**Baghdad**	**1.39**	**226**	*e*Pn	**Pb**	**22 28 46.0**	**+0.3**
BHD				*e*Sn	**Sg**	**22 29 06.0**	**+1.6**
IKRK	**Kirkuk**	**1.53**	**319**	*e*Pn	**Pb**	**22 28 48.0**	**-0.1**
IKRK				*e*Sn	**Sg**	**22 29 09.0**	**+0.2**
IKRK				AML	AML	22 29 12.8	
	comp=N,3μm,0.4s						
IKRK				AML	AML	22 29 13.2	
	comp=E,2μm,0.4s						
SNQR	**Sonqor, Kerman**	**1.81**	**70**	Pg	**Pb**	**22 28 52.3**	**-0.7**
SDS1	**Sardasht. Az.**	**1.90**	**358**	Pn	**Pb**	**22 28 53.9**	**-0.5**
IDOB	**Doab**	**2.22**	**101**	Pn	**Pn**	**22 28 57.7**	**+1.0**
MAHB	**Mahabad**	**2.51**	**3**	Pn	**Pn**	**22 29 02.5**	**+1.9**
RAFI	**Al-Rafai**	**2.56**	**170**	*e*Pn	**Pn**	**22 29 02.0**	**+0.8**
RAFI				*e*Sn	**Sn**	**22 29 34.0**	**+1.6**
NGD1	**Naghade .Az. G**	**2.69**	**357**	Pn	**Pn**	**22 29 05.2**	**+2.1**
IAZR	**Azarshahr**	**3.44**	**5**	Pn	**Pn**	**22 29 15.4**	**+1.9**
QABG	**Abgarm-Qazvin**	**3.60**	**65**	Pn	**Pn**	**22 29 17.2**	**+1.4**
JIR1	**Jirandeh**	**4.24**	**53**	Pn	**Pn**	**22 29 26.2**	**+1.8**
IMRD	**Marand**	**4.46**	**1**	Pn	**Pn**	**22 29 29.2**	**+1.8**
GEVA	**Gevas**	**4.53**	**334**	Pn	**Pn**	**22 29 30.2**	**+1.7**
IQOM	**Qom**	**4.58**	**81**	Pn	**Pn**	**22 29 30.3**	**+1.1**
IPIR	**Pirpir**	**4.72**	**108**	Pn	**Pn**	**22 29 31.4**	**+0.2**
QAMS	**Qamsar**	**4.87**	**94**	Pn	**Pn**	**22 29 34.7**	**+1.5**
ZNGN	**Zangian**	**4.92**	**114**	Pn	**Pn**	**22 29 33.9**	**0.0**
GRMI	**Germi**	**4.92**	**22**	Pn	**Pn**	**22 29 35.3**	**+1.6**
IKLH	**Kolahrood**	**5.09**	**99**	Pn	**Pn**	**22 29 37.7**	**+1.5**
MAKU	**Maku**	**5.14**	**352**	Pn	**Pn**	**22 29 39.0**	**+2.1**
GURO	**Guroymak-BITLI**	**5.15**	**327**	Pn	**Pn**	**22 29 37.7**	**+0.8**
KRSH	**Karshahi**	**5.46**	**91**	Pn	**Pn**	**22 29 42.3**	**+1.1**
ISFB	**Sefidab**	**5.53**	**87**	Pn	**Pn**	**22 29 42.4**	**+0.4**
IZEF	**Zefreh**	**5.80**	**102**	Pn	**Pn**	**22 29 46.8**	**+0.8**
GNI	**Garni**	**5.92**	**354**	Pn	**Pn**	**22 29 48.5**	**+0.9**
GNI	**Garni**	**5.92**	**354**	Pn	**Pn**	**22 29 50.6**	**+3.1**
	comp=E,0.8nm,0.3s,baz=323,slow=1.5,SNR=7.9						
GNI				Lg	Lg	22 31 29.7	
	comp=E,0.3nm,0.3s,baz=250,slow=20,SNR=0.9						
	comp=E,6.1nm,0.5s						
KARS	**Kars**	**6.67**	**343**		**Pn**	**22 29 57.9**	**+0.1**
GAZ	**Gaziantep**	**7.39**	**296**	Pn	**Pn**	**22 30 06.0**	**-1.7**
ASF	**Jabal al Asfar**	**7.55**	**256**	Pn	**Pn**	**22 30 10.7**	**+0.7**
	comp=E,0.4nm,0.3s,baz=270,slow=0.1,SNR=7.6						
	comp=E,1.7nm,0.3s						
MMAI	**Mount Meron Ar**	**8.56**	**265**	Pn	**Pn**	**22 30 23.9**	**+0.1**
	comp=E,0.7nm,0.3s,baz=37,slow=13,SNR=4.5						
MMAI				Sn	**Sn**	**22 31 59.8**	**-0.7**
	comp=E,0.4nm,0.3s,baz=105,slow=9.6,SNR=0.8						
MMAI				Lg	Lg	22 32 48.5	
	comp=E,1.4nm,0.3s,baz=80,slow=34,SNR=2.8						
	comp=E,0.7nm,0.5s						
GHAJ	**Ghor Haditha**	**8.92**	**254**	Pn	**Pn**	**22 30 28.7**	**+0.2**
KBZ	**Khabaz**	**9.69**	**348**	Pn	**Pn**	**22 30 42.8**	**+3.8**
	comp=E,0.1nm,0.3s,baz=166,slow=11,SNR=8.1						
	comp=E,4.4nm,0.9s						
KVAR	**Kislovodsk Arr**	**9.94**	**348**	Pn	**Pn**	**22 30 46.3**	**+3.6**
	baz=170,slow=12						
	comp=E,4.5nm,0.8s						
KIV	**Kislovodsk**	**9.95**	**348**	Pn	**Pn**	**22 30 41.6**	**-1.0**
EIL	**Elat**	**10.11**	**246**	Pn	**Pn**	**22 30 44.8**	**0.0**
	comp=E,0.4nm,0.3s,baz=104,slow=5.9,SNR=4.2						
EIL				Lg	Lg	22 33 36.3	
	comp=E,0.3nm,0.3s,baz=70,slow=13,SNR=2.0						
	comp=E,1.3nm,0.4s						
RAYN	**Ar Rayn**	**10.69**	**180**	Pn	**Pn**	**22 30 52.3**	**-0.6**
WSAR	**Wadi Sarin**	**15.85**	**130**	Pn	**Pn**	**22 31 59.9**	**-3.0**
	comp=E,1.4nm,0.3s,baz=342,slow=9.1,SNR=14						
BELG	**Belogornoye**	**18.20**	**4**	P	**Pn**	**22 32 29.3**	**-2.8**
	comp=E,12nm,0.8s,baz=208,slow=18,SNR=5.1						
ABKAR	**Abkulak array**	**18.38**	**31**		**P**	**22 32 34.5**	**-0.1**
ABKAR	**Abkulak array**	**18.38**	**31**		**Pn**	**22 32 34.2**	**-0.3**
AKTO	**Aktyubinsk**	**18.56**	**26**	P	**P**	**22 32 36.4**	**-0.2**
	comp=E,0.2nm,0.3s,baz=222,slow=12,SNR=5.1						
	comp=E,2.0nm,0.9s						
MLR	**Muntele Rosu**	**18.73**	**313**	P	**P**	**22 32 38.6**	**0.0**
	comp=E,0.2nm,0.3s,baz=128,slow=17,SNR=1.3						
	comp=E,0.9nm,0.6s						
DOPR	**Dopca**	**19.31**	**313**	⇑P	**Pn**	**22 32 45.8**	**0.0**
ARR	**Arges**	**19.48**	**311**	⇑P	**Pn**	**22 32 48.5**	**+0.5**
BURAR	**Bucovina Array**	**20.28**	**317**	⇑P	**P**	**22 32 56.0**	**+0.5**
BUR08	**Bucovina Ar. S**	**20.31**	**317**	P	**P**	**22 32 56.3**	**+0.5**
AKASG	**Malin Array Be**	**20.31**	**329**	P	**P**	**22 32 54.8**	**-0.8**
	comp=E,0.6nm,0.4s,baz=135,slow=10,SNR=10.0						
	comp=E,0.6nm,0.4s						
AKBB	**Malin Array Si**	**20.31**	**329**	P	**P**	**22 32 55.8**	**+0.3**
AKBB				IAmb	IAmb	22 32 56.5	
	comp=Z,4.9nm,0.6s						
KIEV	**Kiev**	**20.31**	**329**	P	**P**	**22 32 55.7**	**+0.1**
KIEV				IAmb	IAmb	22 32 56.6	
	comp=Z,4.6nm,0.5s						
GAR	**Garm**	**20.40**	**69**	P	Pn	22 32 59.0	+0.1
MARR	**Marisel-Cluj**	**21.03**	**313**	⇑P	**P**	**22 33 04.2**	**+0.6**
KEK	**Kerkira**	**21.26**	**292**	P	**P**	**22 33 04.7**	**-1.3**
KKAR	**Karatay Array**	**21.33**	**58**	P	**P**	**22 33 09.3**	**+2.6**
KKAR	**Karatay Array**	**21.33**	**58**	P	**P**	**22 33 07.8**	**+1.1**
DRGR		**21.33**	**313**	⇑P	**P**	**22 33 07.4**	**+0.6**
KOLS	**Kolonicke sedl**	**22.65**	**317**	*e*P	**P**	**22 33 22.0**	**+1.2**
CUC	**Castrocucco**	**24.34**	**292**	P	**P**	**22 33 36.8**	**-0.9**
VYHS	**Vyhne**	**24.43**	**314**	*e*P	**P**	**22 33 41.8**	**+3.4**
BVAR	**Borovoye Array**	**25.76**	**36**	P	**P**	**22 33 51.0**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=238,slow=8.5,SNR=5.4						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**29.01**	**46**	P	**P**	**22 34 20.0**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=253,slow=8.9,SNR=1.7						
	comp=Z,0.4nm,0.3s						
FINES	**FINESS Array B**	**29.94**	**341**	P	**P**	**22 34 26.9**	**-0.7**
FINES	**FINESS Array B**	**29.94**	**341**	P	**P**	**22 34 26.4**	**-1.3**
	comp=Z,2.6nm,1.0s,baz=142,slow=9.5,SNR=7.5						
	comp=Z,2.6nm,1.0s						
MKAR	**Makanchi Array**	**30.32**	**54**	P	**P**	**22 34 31.3**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=251,slow=9.0,SNR=3.9						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**33.17**	**331**	P	**P**	**22 34 54.9**	**-1.1**
	comp=Z,1.6nm,0.4s,baz=133,slow=8.7,SNR=15						
	comp=Z,1.6nm,0.4s						
NOA	**NORSAR Array B**	**34.69**	**331**	P	**P**	**22 35 08.3**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=123,slow=8.1,SNR=2.6						
	comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**37.05**	**348**	P	**P**	**22 35 28.2**	**-1.2**
	comp=Z,2.4nm,0.7s,baz=148,slow=7.1,SNR=7.7						
	comp=Z,2.4nm,0.7s						
EKA	**Eskdalemuir Ar**	**39.47**	**317**	P	**P**	**22 35 49.0**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=98,slow=9.4,SNR=3.7						
	comp=Z,0.8nm,0.6s						
ESDC	**Sonseca Array**	**39.54**	**293**	P	**P**	**22 35 50.6**	**-0.2**
	comp=Z,0.9nm,1.1s,baz=90,slow=15,SNR=1.9						
	comp=Z,0.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**44.90**	**253**	P	**P**	**22 36 33.9**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=59,slow=4.9,SNR=4.0						
	comp=Z,0.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**45.79**	**352**	P	**P**	**22 36 40.8**	**-0.2**
	comp=Z,7.3nm,0.8s,baz=143,slow=12,SNR=5.9						
SONM	**Songino Array**	**46.68**	**54**	P	**P**	**22 36 50.4**	**+1.8**
SONM				IAmb	IAmb	22 37 07.8	
	comp=Z,4.9nm,1.5s						
SONM	**Songino Array**	**46.68**	**54**	P	**P**	**22 36 49.9**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=299,slow=13,SNR=2.2						
	comp=Z,0.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**49.81**	**94**	P	**P**	**22 37 13.3**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=292,slow=11,SNR=1.0						
	comp=Z,0.4nm,0.3s						
PHRA	**Phrae**	**50.85**	**93**	P	**P**	**22 37 21.9**	**+1.1**
HHC	**Hu-ho-hao-te**	**51.64**	**62**	*e*P	**P**	**22 37 28.3**	**+1.7**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,4.3s						
A36M	**Sachs Harbour**	**73.86**	**357**	P	**P**	**22 39 54.2**	**+0.2**
A36M				IAmb	IAmb	22 39 54.5	
	comp=Z,4.4nm,0.7s						
C18K	**Utukok River**	**75.50**	**10**	P	**P**	**22 40 03.9**	**+0.2**
C23K	**Itkillik River**	**75.55**	**6**	P	**P**	**22 40 04.5**	**+0.6**
C23K				IAmb	IAmb	22 40 26.1	
	comp=Z,5.0nm,1.4s						
D19K	**Kuna River**	**76.05**	**9**	P	**P**	**22 40 07.3**	**+0.4**
C27K	**Jago River**	**76.20**	**3**	P	**P**	**22 40 08.3**	**+0.7**
C27K				IAmb	IAmb	22 40 08.7	
	comp=Z,2.2nm,0.9s						
D22K	**Ayikyak River**	**76.29**	**7**	P	**P**	**22 40 08.5**	**+0.3**
D22K				IAmb	IAmb	22 40 23.3	
	comp=Z,3.5nm,1.2s						
D25K	**Kavik River**	**76.36**	**4**	P	**P**	**22 40 08.8**	**+0.2**
D25K				IAmb	IAmb	22 40 13.1	
	comp=Z,4.4nm,1.3s						
D23K	**Nanushuk River**	**76.39**	**6**	P	**P**	**22 40 09.2**	**+0.4**
D23K				IAmb	IAmb	22 40 49.0	
	comp=Z,5.1nm,1.4s						
C36M	**Paulatuk**	**76.42**	**356**	P	**P**	**22 40 08.1**	**-0.8**
E21K	**Killik River**	**76.58**	**7**	P	**P**	**22 40 09.8**	**-0.1**
E21K				IAmb	IAmb	22 40 10.5	
	comp=Z,3.2nm,1.1s						
D27M	**Malcolm River**	**76.70**	**2**	P	**P**	**22 40 11.1**	**+0.5**
D27M				IAmb	IAmb	22 40 26.1	
	comp=Z,7.2nm,1.5s						
TOLK	**Toolik Lake Re**	**76.80**	**6**	P	**P**	**22 40 11.9**	**+0.7**
TOLK				IAmb	IAmb	22 40 43.9	
	comp=Z,8.4nm,1.5s						
ILAR	**Eielson Array**	**80.82**	**5**	P	**P**	**22 40 32.5**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=341,slow=5.0,SNR=3.3						
	comp=Z,0.4nm,0.8s						

*IDC **25** 22:29:47.5±1.6, 37°.31N×142°.36E, h0km, mb3.7/7, mbtmp3.6/9, ML3.0/2, Error ellipse: s-maj=35.9km s-min=30.1km az=99.0*
*JMA **25** 22:29:51.3±0.3, 37°.2N±0°.8×14°.2E±°, h40km, MV3.8/37, E OFF FUKUSHIMA PREF*

ISC 25 22:29:50.7±1.2, 37°.25N±0°.07×142°.15E±0°.09, h19km, n26, σ1°43/22, mb3.8/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.03**	**277**	P	**Pb**	**22 30 08.9**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.09**	**263**	*e*P	**Pn**	**22 30 08.8**	**-2.2**
JMST	**Minamisoumatoc**	**1.11**	**296**	P	**Pn**	**22 30 10.5**	**-0.8**
JMST				S	**Sb**	**22 30 24.2**	**-1.2**
JMM	**Marumori**	**1.24**	**300**	P	**Pn**	**22 30 12.7**	**-0.4**
JFFD	**Fukushimafurud**	**1.28**	**263**	P	**Pn**	**22 30 12.3**	**-1.3**
JIO	**Ouri**	**1.36**	**332**	P	**Pn**	**22 30 14.6**	**-0.1**
JHO	**Hitachi**	**1.42**	**244**	*e*P	**Pn**	**22 30 13.5**	**-2.0**
JOTO	**OTAMA OYAMA**	**1.48**	**283**	*i* P	**Pn**	**22 30 16.6**	**+0.2**
JOU	**Okura**	**1.62**	**314**	P	**Pb**	**22 30 19.2**	**-0.8**
JMK	**Ichinoseki**	**1.85**	**337**	P	**Pb**	**22 30 22.8**	**-1.2**
JYS	**Shirataka**	**1.92**	**301**	P	**Pb**	**22 30 23.7**	**-1.4**
MJAR	**Matsushiro Arr**	**3.24**	**259**	Pn	**Pn**	**22 30 41.6**	**+1.1**
	1.2nm,0.3s,baz=92,slow=16,SNR=17						
MJAR				Sn	**Sn**	**22 31 22.4**	**+3.8**
	0.7nm,0.3s,baz=88,slow=28,SNR=5.1						
	3.8nm,0.3s						
USRK	**Ussuriysk Ar.**	**10.37**	**315**	Pn	**Pn**	**22 32 18.0**	**-0.3**
	0.1nm,0.3s,baz=120,slow=14,SNR=1.8						
	0.4nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**27.76**	**122**	T	T	23 04 47.4	
	baz=314,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**27.76**	**122**	T	T	23 04 56.5	
	baz=314,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**27.77**	**122**	T	T	23 04 56.3	
	baz=314,slow=75,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**28.49**	**124**	T	T	23 05 48.1	
	baz=316,slow=76,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**28.49**	**124**	T	T	23 05 46.8	
	baz=316,slow=76,SNR=8.2						
H11S2	**WAKE ISLAND Hy**	**28.50**	**124**	T	T	23 06 11.3	
	baz=316,slow=76,SNR=6.7						
MKAR	**Makanchi Array**	**44.51**	**302**	P	**P**	**22 38 00.9**	**+0.1**
	0.5nm,0.8s,baz=86,slow=9.0,SNR=3.2						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**46.34**	**308**	P	**P**	**22 38 17.5**	**+2.2**
	1.1nm,0.4s,baz=80,slow=8.1,SNR=3.0						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**57.36**	**189**	P	**P**	**22 39 38.1**	**+0.4**
	0.2nm,0.6s,baz=7.8,slow=7.0,SNR=1.1						
	0.2nm,0.6s						
FINES	**FINESS Array B**	**68.90**	**332**	P	**P**	**22 40 53.6**	**-0.2**
	0.8nm,0.7s,baz=51,slow=6.1,SNR=3.4						
	0.8nm,0.7s						
HFS	**Hagfors**	**74.13**	**336**	P	**P**	**22 41 25.7**	**+0.3**
	0.8nm,0.8s,baz=23,slow=7.8,SNR=0.8						
	0.8nm,0.8s						
NOA	**NORSAR Array B**	**74.21**	**338**	P	**P**	**22 41 25.3**	**-0.6**
	0.4nm,0.7s,baz=55,slow=7.6,SNR=1.0						
	0.4nm,0.7s						
AKASG	**Malin Array Be**	**74.49**	**323**	P	**P**	**22 41 27.5**	**-0.2**
	0.4nm,0.4s,baz=46,slow=6.5,SNR=3.0						
	0.4nm,0.4s						

*RHSSO **25** 22:38:32.6±1.0, 41°.94N×20°.39E, h4km±3km, ML2.3/5*

*TIR **25** 22:38:33.5, 41°.98N×20°.22E, h12km±3km, Md2.7, Ml2.1*
*BEO **25** 22:38:34.5±0.8, 41°.96N×20°.23E, h28km±9km, ML2.0/8*
*PDG **25** 22:38:35.0±0.1, 41°.97N×20°.16E, h12km±2km, ML2.4/11, Error ellipse: s-maj=0.1km s-min=0.7km az=0.0*

ISC 25 22:38:33.8±1.0, 41°.96N±0°.02×20°.24E±0°.02, h14km±8km, n36, σ0°81/62, 8C-3D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.27**	**288**	S	**Sg**	**22 38 42.6**	**-0.9**
PUK				AMP			
	comp=E,2.0nm,0.1s,baz=285						
BCI	**Bajram Curri**	**0.43**	**343**	AMP			
	comp=N,1.0nm,0.3s,baz=344						
PVY	**Plav**	**0.67**	**342**	⇓*i*Pg	**Pg**	**22 38 46.9**	**0.0**
PVY				*i* Sg	**Sb**	**22 38 57.0**	**+0.4**
TIR	**Tirane**	**0.67**	**205**	S	**Sn**	**22 38 58.9**	**-0.4**
TIR	**Tirane**	**0.67**	**205**	*e*Pg	**Pg**	**22 38 46.9**	**-0.1**
TIR				*e*Sg	**Sn**	**22 38 58.6**	**-0.7**
ULC	**Ulcinj**	**0.74**	**271**	P	**Pb**	**22 38 48.5**	**-0.1**
ULC	**Ulcinj**	**0.74**	**271**	⇓*i*Pg	**Pg**	**22 38 47.8**	**-0.5**
ULC				*i* Sg	**Sb**	**22 38 58.6**	**0.0**
DRME	**Dracevica, Mon**	**0.82**	**286**	⇑*i*Pg	**Pg**	**22 38 49.1**	**-0.6**
DRME				*i* Sg	**Sb**	**22 39 01.4**	**+0.6**
PDG	**Podgorica**	**0.87**	**303**	*e*Pg	**Pg**	**22 38 50.3**	**-0.4**
PDG				*e*Sg	**Sn**	**22 39 04.0**	**-0.2**
PDG	**Podgorica**	**0.87**	**303**	*e*Pg	**Pb**	**22 38 50.8**	**+0.1**
PDG				*e*Sg	**Sn**	**22 39 03.3**	**-0.9**
PDG	**Podgorica**	**0.87**	**303**	⇓*i*Pg	**Pg**	**22 38 49.9**	**-0.8**
PDG				*i* Sg	**Sn**	**22 39 03.2**	**-0.9**
OHR	**Ohrid**	**0.94**	**153**	*e*Pg	**Pb**	**22 38 51.3**	**-0.7**
OHR				*e*Sg	**Sn**	**22 39 05.9**	**-0.2**
BEY	**Berane**	**0.95**	**344**	P	**Pb**	**22 38 51.8**	**-0.4**
IVA	**Berane**	**0.95**	**344**	⇑*i*Pg	**Pg**	**22 38 52.2**	**0.0**
IVA				*i* Sg	**Sn**	**22 39 05.7**	**-0.5**
KOME	**Kolasin**	**1.04**	**329**	⇑*i*Pg	**Pb**	**22 38 53.4**	**-0.3**
KOME				*i* Sg	**Sn**	**22 39 09.6**	**+1.1**
BUM	**Brajici-Budva**	**1.06**	**289**	P	**Pn**	**22 38 54.4**	**+0.1**
BUM	**Brajici-Budva**	**1.06**	**289**	⇑*i*Pg	**Pb**	**22 38 53.6**	**-0.4**
BUM				*i* Sg	**Sn**	**22 39 09.6**	**+0.7**
CEME	**Cevo**	**1.14**	**301**	⇑*i*Pg	**Pb**	**22 38 54.8**	**-0.7**
CEME				*i* Sg	**Sn**	**22 39 12.7**	**+1.7**
NKME	**Niksic**	**1.25**	**311**	⇑*i*Pg	**Pg**	**22 38 57.5**	**-0.4**
NKME				*i* Sg	**Sg**	**22 39 16.7**	**+2.5**
SJES	**Sjenica**	**1.32**	**351**	*e*Pg	**Pg**	**22 38 59.1**	**-0.1**
SJES				*e*Sg	**Sg**	**22 39 17.2**	**+0.9**
SJES	**Sjenica**	**1.32**	**351**	*e*Pg	**Pn**	**22 38 56.9**	**-1.0**
SJES				*e*Sg	**Sn**	**22 39 15.4**	**0.0**
HCY	**Herceg Novi**	**1.39**	**291**	P	**Pb**	**22 38 59.5**	**-0.1**
HCY	**Herceg Novi**	**1.39**	**291**	*e*Pg	**Pb**	**22 38 59.2**	**-0.3**
HCY				*e*Sg	**Sg**	**22 39 20.1**	**+1.6**
HCY	**Herceg Novi**	**1.39**	**291**	⇑*i*Pg	**Pb**	**22 38 59.2**	**-0.3**
HCY				*i* Sg	**Sg**	**22 39 20.7**	**+2.2**
SELS	**Selova**	**1.42**	**27**	*e*Pg	**Pb**	**22 39 00.4**	**+0.3**
SELS				*e*Sg	**Sg**	**22 39 19.7**	**+0.2**
BARS	**Barje**	**1.45**

BJI **25** *23:00:45.0, 34°.20N×45°.60E, h10km, mb4.6/42, mB5.1/13, Ms4.9/3, Ms7 4.2/3*
NEIC **25** *23:00:46.5±1.1, 34°.24N±0°.04×45°.64E±0°.08, h10km±1km, mb5.0/228, Error ellipse: s-maj=11.7km s-min=6.5km az=95.0*
TEH **25** *23:00:46.6, 34°.25N×45°.66E, h9km±24km, ML4.7*
ISN **25** *23:00:47.0±1.0, 34°.28N×45°.60E, h21km±7km, ML4.7*
NAO **25** *23:00:49.1, 34°.52N×45°.85E, h33km, mb4.6*
OMAN **25** *23:00:52.7±0.1, 33°.73N×46°.10E, h10km±1km, mb4.8/31, ms3.8/7, Error ellipse: s-maj=2.7km s-min=1.6km az=301.0*
ISC 25 23:00:48.3±0.7, 34°.18N±0°.03×45°.69E±0°.03, h30km±4km, n1033, σ1°51/1052, mb4.9/214, MS3.7/21, 67C-14D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.20**	**111**	Pg	**Pb**	**23 00 52.4**	**-2.2**
KGS1	**Ghasr-e-Shirin**	**0.33**	**346**	Pg	**Pb**	**23 00 52.3**	**-4.0**
ILBA	**Ilam Banvizeh**	**0.70**	**142**	Pg	**Pb**	**23 01 01.2**	**-1.0**
IGHG	**Ghaleghazi**	**0.74**	**78**	Pg	**Pb**	**23 01 01.7**	**-1.2**
IDHR	**Dehrash**	**0.77**	**48**	Pg	**Pb**	**23 01 01.0**	**-2.4**
IBDR	**Badra**	**1.09**	**169**	*e*Pg	**Pb**	**23 01 09.0**	**+0.4**
IBDR				*e*Sg	**Sn**	**23 01 25.0**	**+3.4**
IBDR				AML	AML	23 01 29.9	
	comp=E,12μm,0.8s						
IBDR				AML	AML	23 01 30.7	
	comp=N,19μm,0.4s						
KCHF	**Cheshme Sefid,**	**1.12**	**85**	Pg	**Pb**	**23 01 08.8**	**-0.5**
ILIN	**Lien**	**1.28**	**55**	Pg	**Pn**	**23 01 10.4**	**0.0**
BHD	**Baghdad**	**1.42**	**230**	*e*Pn	**Pb**	**23 01 13.0**	**-1.2**
BHD				*e*Sn	**Sb**	**23 01 33.0**	**+1.1**
IKRK	**Kirkuk**	**1.64**	**318**	*e*Pn	**Pn**	**23 01 15.0**	**-0.2**
IKRK				*e*Sn	**Sn**	**23 01 36.0**	**+0.6**
IKRK				AML	AML	23 01 40.1	
	comp=N,18μm,0.8s						
IKRK				AML	AML	23 01 42.3	
	comp=E,14μm,0.6s						
SNQR	**Sonqor, Kerman**	**1.74**	**67**	Pg	**Pb**	**23 01 19.4**	**-0.3**
SDS1	**Sardasht. Az.**	**1.97**	**355**	Pn	**Pb**	**23 01 21.6**	**-2.0**
IDOB	**Doab**	**2.11**	**100**	Pn	**Pb**	**23 01 24.3**	**-1.7**
RAFI	**Al-Rafai**	**2.48**	**172**	*e*Pn	**Pn**	**23 01 29.0**	**+2.3**
RAFI				*e*Sn	**Sb**	**23 02 01.0**	**-1.3**
MAHB	**Mahabad**	**2.58**	**0**	Pn	**Pn**	**23 01 29.7**	**+1.5**
NGD1	**Naghade .Az. G**	**2.77**	**355**	Pn	**Pn**	**23 01 32.4**	**+1.7**
IHSH	**Hashtrud**	**3.37**	**22**	Pn	**Pn**	**23 01 41.0**	**+1.8**
CUKT	**Cukurca**	**3.49**	**332**	P	**Pn**	**23 01 40.6**	**-0.2**
IAZR	**Azarshahr**	**3.50**	**4**	Pn	**Pn**	**23 01 42.6**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.54**	**63**	Pn	**Pn**	**23 01 44.2**	**+2.7**
JIR1	**Jirandeh**	**4.20**	**52**	Pn	**Pn**	**23 01 52.8**	**+2.4**
IQOM	**Qom**	**4.49**	**80**	Pn	**Pn**	**23 01 56.6**	**+2.0**
IMRD	**Marand**	**4.52**	**0**	Pn	**Pn**	**23 01 55.9**	**+1.0**
IPIR	**Pirpir**	**4.60**	**108**	Pn	**Pn**	**23 01 58.0**	**+1.8**
JHBN	**Jahan bin**	**4.60**	**114**	Pn	**Pn**	**23 01 58.1**	**+1.9**
LHJ2	**Lahijan - Gila**	**4.64**	**49**	Pn	**Pn**	**23 01 59.4**	**+3.0**
AKDM	**Akdamar-Van**	**4.68**	**333**	P	**Pn**	**23 01 58.2**	**+1.1**
QAMS	**Qamsar**	**4.76**	**94**	Pn	**Pn**	**23 02 01.2**	**+2.8**
VANB	**Van**	**4.78**	**338**	P	**Pn**	**23 01 58.1**	**-0.3**
ZNGN	**Zangian**	**4.80**	**114**	Pn	**Pn**	**23 02 00.5**	**+1.6**
GAS1	**Astara - Iran**	**4.91**	**30**	Pn	**Pn**	**23 02 01.8**	**+1.8**
GRMI	**Germi**	**4.95**	**20**	Pn	**Pn**	**23 02 02.4**	**+1.7**
KLST	**Kelardasht - M**	**4.97**	**61**	Pn	**Pn**	**23 02 02.8**	**+1.6**
IKLH	**Kolahrood**	**4.98**	**98**	Pn	**Pn**	**23 02 04.0**	**+2.7**
IVRN	**Varamin**	**5.05**	**79**	Pn	**Pn**	**23 02 04.2**	**+2.1**
CLDR	**Caldiran**	**5.15**	**344**	P	**Pn**	**23 02 04.9**	**+1.3**
IBRJ	**Brojen**	**5.20**	**114**	Pn	**Pn**	**23 02 05.7**	**+1.3**
MAKU	**Maku**	**5.22**	**351**	Pn	**Pn**	**23 02 05.8**	**+1.3**
ABEH	**Behbahan**	**5.26**	**132**	Pn	**Pn**	**23 02 06.8**	**+1.8**
GURO	**Guroymak-BITLI**	**5.26**	**327**	P	**Pn**	**23 02 04.6**	**-0.5**
GURO	**Guroymak-BITLI**	**5.26**	**327**	Pn	**Pn**	**23 02 05.1**	**0.0**
MZPU	**Pul - Mazandar**	**5.31**	**63**	Pn	**Pn**	**23 02 09.0**	**+3.3**
KRSH	**Karshahi**	**5.36**	**90**	Pn	**Pn**	**23 02 08.9**	**+2.5**
MAZI	**Mazidag**	**5.37**	**309**	P	**Pn**	**23 02 05.0**	**-1.5**
IDMV	**Damavand**	**5.40**	**73**	Pn	**Pn**	**23 02 08.8**	**+1.8**
ISFB	**Sefidab**	**5.43**	**86**	Pn	**Pn**	**23 02 08.8**	**+1.5**
MLAZ	**Malazgirt-MUS**	**5.55**	**334**	P	**Pn**	**23 02 09.6**	**+0.5**
IGAR	**Gharneh**	**5.61**	**107**	Pn	**Pn**	**23 02 11.3**	**+1.3**
IZEF	**Zefreh**	**5.69**	**101**	Pn	**Pn**	**23 02 13.1**	**+2.0**
AGRB	**Hanur-Agry**	**5.80**	**339**	P	**Pn**	**23 02 12.9**	**+0.4**
IPRN	**Peran**	**5.82**	**67**	Pn	**Pn**	**23 02 17.0**	**+4.3**
DYBB	**Diyarbakir**	**5.86**	**312**	P	**Pn**	**23 02 12.3**	**-0.9**
KLNJ	**Kolanjab**	**5.90**	**121**	Pn	**Pn**	**23 02 14.6**	**+0.6**
TASB	**TASBURUN-IGDIR**	**5.90**	**349**	P	**Pn**	**23 02 14.8**	**+1.0**
IFIR	**Firoozkooh**	**5.98**	**74**	Pn	**Pn**	**23 02 17.2**	**+2.1**
GNI	**Garni**	**6.00**	**353**	P	**Pn**	**23 02 16.6**	**+1.3**
GNI	**Garni**	**6.00**	**353**	Pn	**Pn**	**23 02 16.5**	**+1.2**
GNI	**Garni**	**6.00**	**353**	Pn	**Pn**	**23 02 17.5**	**+2.3**
GNI	**Garni**	**6.00**	**353**	Pn	**Pn**	**23 02 17.4**	**+2.2**
	comp=E,7.5nm,0.3s,baz=274,slow=0.9,SNR=64						
GNI				Lg	Lg	23 03 57.1	
	baz=166,slow=33						
GNI				LR	LR	23 04 01.9	
	comp=E,72nm,20.2s,baz=165,slow=33						
	comp=E,49nm,0.5s						
GNI	**Garni**	**6.00**	**353**	P	**Pn**	**23 02 13.9**	**-1.4**
	comp=E,289nm,0.8s,comp=E,2μmcomp=E,1.0nm						
VRTB	**Varto-Mus**	**6.02**	**327**	P	**Pn**	**23 02 15.7**	**+0.2**
ILAS	**Lasjerd**	**6.10**	**77**	Pn	**Pn**	**23 02 18.4**	**+1.7**
IRAM	**Ramesheh**	**6.10**	**111**	Pn	**Pn**	**23 02 17.8**	**+1.1**
BNGB	**Bingl**	**6.26**	**321**	P	**Pn**	**23 02 18.3**	**-0.5**
KARO	**Karliova-Bingo**	**6.33**	**325**	P	**Pn**	**23 02 20.4**	**+0.7**
URFA	**Urfa**	**6.46**	**302**	P	**Pn**	**23 02 20.4**	**-1.0**
KOPR	**Koprukoy-ERZUR**	**6.56**	**333**	P	**Pn**	**23 02 25.3**	**+2.4**
SVRC	**Sivrice-ELAZID**	**6.64**	**311**	P	**Pn**	**23 02 23.4**	**-0.6**
KARS	**Kars**	**6.76**	**343**	P	**Pn**	**23 02 28.7**	**+3.1**
KARS	**Kars**	**6.76**	**343**	Pn	**Pn**	**23 02 25.8**	**+0.2**
KARS	**Kars**	**6.76**	**343**	P	**Pn**	**23 02 25.8**	**+0.2**
ANAR	**Anarak**	**6.78**	**96**	Pn	**Pn**	**23 02 27.8**	**+1.9**
SENK	**Senkaya-Erzuru**	**6.90**	**338**	P	**Pn**	**23 02 30.6**	**+3.0**
PTK	**Pertek**	**6.91**	**315**	P	**Pn**	**23 02 27.1**	**-0.7**
IGLO	**Ghaloghah**	**7.04**	**69**	Pn	**Pn**	**23 02 33.9**	**+4.3**
AHBU	**AHRAM**	**7.14**	**136**	Pn	**Pn**	**23 02 32.8**	**+2.0**
AKH	**Akhalkalaki**	**7.42**	**347**	P	**Pn**	**23 02 37.8**	**+3.1**
AKT	**Akhty**	**7.46**	**12**	*e*P	**Pn**	**23 02 39.1**	**+3.9**
AKT				*e*S	**Sn**	**23 04 05.0**	**+6.1**
AKT				pmax	pmax		
	comp=Z,15nm,0.6s						
AKT				smax	smax		
	comp=N,24nm,0.6s						
AKT				smax	smax		
	comp=E,19nm,0.7s						
AKT				MLR	MLR		
	comp=Z,566nm,14.0s						
DSBU	**Dashti - Bushe**	**7.51**	**139**	Pn	**Pn**	**23 02 37.1**	**+1.2**
GAZ	**Gaziantep**	**7.51**	**296**	P	**Pn**	**23 02 34.9**	**-1.0**
GAZ	**Gaziantep**	**7.51**	**296**	Pn	**Pn**	**23 02 35.4**	**-0.6**
TBLG	**Delisi**	**7.57**	**355**	P	**Pn**	**23 02 39.3**	**+2.6**
ASF	**Jabal al Asfar**	**7.64**	**257**	Pn	**Pn**	**23 02 36.8**	**-0.9**
	comp=Z,6.3nm,0.3s,baz=231,slow=0.0,SNR=52						
	comp=Z,16nm,0.3s						
ASF	**Jabal al Asfar**	**7.64**	**257**	P	**Pn**	**23 02 37.7**	**0.0**
KMRS	**Kahramanmaras**	**7.87**	**297**	P	**Pn**	**23 02 38.9**	**-1.9**
BCA	**Borcka**	**7.93**	**337**	P	**Pn**	**23 02 43.6**	**+2.0**
DARE	**Darende-Malaty**	**7.93**	**306**	P	**Pn**	**23 02 41.5**	**-0.2**
BATM	**Batumi**	**8.05**	**338**	P	**Pn**	**23 02 44.7**	**+1.5**
TAHT	**Tahtakopru-Hat**	**8.07**	**288**	P	**Pn**	**23 02 42.1**	**-1.4**
KSHT	**Keshet**	**8.33**	**264**	S	**Sn**	**23 04 20.5**	**+0.3**
KSHT	**Keshet**	**8.33**	**264**	P	**Pn**	**23 02 45.5**	**-1.6**
NATI	**Neve Ativ**	**8.34**	**266**	P	Pb	23 03 01.0	-11
NATI	**Neve Ativ**	**8.34**	**266**	S	**Sn**	**23 04 20.2**	**-0.1**
NATI	**Neve Ativ**	**8.34**	**266**	P	**Pn**	**23 02 46.0**	**-1.2**
GEM	**Giv'at Ha'Em**	**8.41**	**266**	S	**Sn**	**23 04 21.8**	**-0.3**
GEM	**Giv'at Ha'Em**	**8.41**	**266**	P	**Pn**	**23 02 46.7**	**-1.5**
SHMJ	**Saham**	**8.42**	**263**	P	Pb	23 03 01.1	-12
CEYT	**Ceyhan**	**8.57**	**292**	P	**Pn**	**23 02 49.7**	**-0.7**
SARI	**SarD1z-Kayseri**	**8.59**	**302**	P	**Pn**	**23 02 50.8**	**+0.1**
KOZT	**Kozan**	**8.66**	**295**	P	**Pn**	**23 02 49.7**	**-1.9**
MMA0B	**Mount Meron ar**	**8.66**	**265**	P	**Pn**	**23 02 50.9**	**-0.8**
MMAI	**Mount Meron Ar**	**8.66**	**265**	Pn	**Pn**	**23 02 50.3**	**-1.3**
	comp=Z,6.0nm,0.3s,baz=82,slow=16,SNR=26						
MMAI				Lg	Lg	23 05 16.2	
	comp=Z,16nm,0.3s,baz=78,slow=28,SNR=3.7						
MMAI				LR	LR	23 07 01.9	
	comp=Z,260nm,18.5s,baz=28,slow=44						
	comp=Z,2.7nm,0.3s						
MMC7	**Mount Meron ar**	**8.67**	**265**	P	**Pn**	**23 02 50.9**	**-0.8**
QRNJ	**Al-Qirein**	**8.67**	**261**	P	Pn	23 02 59.8	+8.1
BALJ	**Balqa**	**8.68**	**259**	Pn	**Pn**	**23 02 51.2**	**-0.7**
HMDT	**Nahal Hemdat**	**8.73**	**260**	P	**Pn**	**23 02 51.7**	**-0.8**
MMLI	**Mount Malkishu**	**8.77**	**261**	P	**Pn**	**23 02 52.1**	**-1.0**
MMLI	**Mount Malkishu**	**8.77**	**261**	P	**Pn**	**23 02 52.4**	**-0.7**
HNTI	**Hanita**	**8.84**	**266**	P	**Pn**	**23 02 53.1**	**-0.9**
MAK	**Makhachkala**	**8.88**	**9**	*c i*P	Pn	23 02 48.0	-6.5
MAK				pmax	pmax		
	comp=Z,495nm,1.8s						
MAK				MLR	MLR		
	comp=Z,1μm,15.0s						
GHAJ	**Ghor Haditha**	**9.00**	**254**	Pn	**Pn**	**23 02 55.1**	**-1.1**
GHAJ	**Ghor Haditha**	**9.00**	**254**	P	**Pn**	**23 02 58.0**	**+1.8**
SVSK	**Karacayir**	**9.00**	**312**	P	**Pn**	**23 02 56.6**	**+0.4**
OFRI	**Ofer**	**9.08**	**263**	P	**Pn**	**23 02 56.5**	**-0.9**
RSDY	**Resadiye-TOKAT**	**9.10**	**315**	P	**Pn**	**23 02 58.8**	**+1.2**
SLTI	**Sal'it**	**9.13**	**261**	P	**Pn**	**23 02 57.7**	**-0.3**
MSBI	**Mazada**	**9.16**	**255**	P	**Pn**	**23 02 57.7**	**-0.7**
BNN	**Bunyan**	**9.19**	**303**	P	**Pn**	**23 02 58.4**	**-0.5**
BNN	**Bunyan**	**9.19**	**303**		**Pn**	**23 02 58.9**	**0.0**
YTIR	**Yattir**	**9.34**	**255**	P	**Pn**	**23 03 00.3**	**-0.6**
AMAZ	**Amatzia**	**9.44**	**257**	P	**Pn**	**23 03 01.5**	**-0.8**
NCK	**Nalchik**	**9.44**	**351**	*i* P	**Pn**	**23 03 01.7**	**-0.6**
TOKT	**Tokat**	**9.52**	**313**	P	**Pn**	**23 03 03.6**	**+0.2**
ZFRI	**Zfri**	**9.60**	**251**	P	Pn	23 03 12.1	+7.7
ZFRI	**Zfri**	**9.60**	**251**	P	**Pn**	**23 03 03.5**	**-0.9**
KBZ	**Khabaz**	**9.78**	**348**	Pn	**Pn**	**23 03 10.5**	**+3.7**
	comp=Z,0.7nm,0.3s,baz=170,slow=9.5,SNR=77						
KBZ				LR	LR	23 07 07.9	
	comp=Z,235nm,21.1s,baz=148,slow=39						
	comp=Z,43nm,0.9s						
PRNI	**Paran**	**9.82**	**250**	P	Pn	23 03 14.9	+7.4
PRNI	**Paran**	**9.82**	**250**	P	**Pn**	**23 03 06.3**	**-1.2**
SHA1	**Shidzhatmaz**	**9.83**	**347**	*i* P	**Pn**	**23 03 06.4**	**-1.4**
YOZ	**Yozgat**	**9.93**	**306**	P	**Pn**	**23 03 08.9**	**-0.1**
HRFI	**Mount Harif**	**9.93**	**248**	P	**Pn**	**23 03 08.4**	**-0.7**
KVAR	**Kislovodsk Arr**	**10.03**	**347**	Pn	**Pn**	**23 03 14.4**	**+4.0**
	baz=272,slow=23						
KVAR				LR	LR	23 06 54.3	
	comp=Z,736nm,20.9s,baz=60,slow=37						
KIV	**Kislovodsk**	**10.03**	**347**	P	**Pn**	**23 03 13.1**	**+2.7**
KIV	**Kislovodsk**	**10.03**	**347**	Pn	**Pn**	**23 03 12.9**	**+2.5**
KIV	**Kislovodsk**	**10.03**	**347**	Pn	**Pn**	**23 03 14.8**	**+4.3**
KIV	**Kislovodsk**	**10.03**	**347**	⇑P	**Pn**	**23 03 13.9**	**+3.5**
KIV	**Kislovodsk**	**10.03**	**347**	*e*P	**Pn**	**23 03 09.6**	**-0.8**
KIV				*e*S	**Sn**	**23 05 00.8**	**-1.2**
KIV				pmax	pmax		
	comp=Z,125nm,1.1s						
KIV				MLR	MLR		
	comp=Z,218nm,13.0s						
KIV	**Kislovodsk**	**10.03**	**347**	P	**Pn**	**23 03 09.1**	**-1.3**
	comp=Z,102nm,1.0s,comp=Z,956nm						
KZIT	**Kziot**	**10.07**	**254**	P	**Pn**	**23 03 10.2**	**-0.8**
KRMI	**Paran Flat**	**10.14**	**249**	P	**Pn**	**23 03 11.2**	**-0.7**
MBRI	**Mt Berech**	**10.14**	**247**	P	Pn	23 03 17.6	+5.6
MBRI	**Mt Berech**	**10.14**	**247**	P	**Pn**	**23 03 11.2**	**-0.8**
EIL	**Elat**	**10.17**	**247**	Pn	**Pn**	**23 03 11.1**	**-1.2**
	comp=Z,2.6nm,0.3s,baz=120,slow=4.8,SNR=25						
EIL				Lg	Lg	23 06 04.7	
	comp=Z,2.7nm,0.3s,baz=89,slow=21,SNR=2.1						
EIL				LR	LR	23 08 08.3	
	comp=Z,147nm,20.2s,baz=74,slow=44						
	comp=Z,6.4nm,0.4s						
EIL	**Elat**	**10.17**	**247**	P	Pn	23 03 16.6	+4.3
EIL	**Elat**	**10.17**	**247**	P	**Pn**	**23 03 11.2**	**-1.2**
CSS	**Mathiatis**	**10.22**	**278**	P	**Pn**	**23 03 12.0**	**-1.0**
	comp=Z,14nm,1.3s						
VSLR	**Vesyoloye**	**10.26**	**336**	*i* P	**Pn**	**23 03 14.0**	**+0.6**
KVT	**Kavak**	**10.28**	**315**	P	**Pn**	**23 03 15.7**	**+1.8**
SMRA	**Abu-Samra**	**10.41**	**153**	P	**Pn**	**23 03 15.5**	**-0.1**
SMRA				S	**Sn**	**23 05 08.1**	**-3.2**
KRM1	**Kerman Provinc**	**10.46**	**107**	Pn	**Pn**	**23 03 17.9**	**+1.4**
SOC	**Sochi**	**10.47**	**335**	*e*P	**Pn**	**23 03 17.8**	**+1.4**
SOC				*e*		23 05 16.7	
SOC				pmax	pmax		
	comp=Z,94nm,1.0s						
SOC				MLR	MLR		
	comp=Z,453nm,16.0s						
TRNA	**Turayna**	**10.57**	**152**	P	**Pn**	**23 03 17.8**	**0.0**
	SNR=26						
TRNA				S	**Sn**	**23 05 13.4**	**-1.8**
RAYN	**Ar Rayn**	**10.62**	**181**		**Pn**	**23 03 17.1**	**-1.5**
RAYN	**Ar Rayn**	**10.62**	**181**	*i* Pn	**Pn**	**23 03 16.8**	**-1.8**
	SNR=25						
RAYN	**Ar Rayn**	**10.62**	**181**	P	**Pn**	**23 03 17.1**	**-1.5**
RAYN				S	**Sn**	**23 05 15.3**	**-1.3**
RAYN	**Ar Rayn**	**10.62**	**181**	P	**Pn**	**23 03 17.1**	**-1.5**
GOF	**Gofitskoye**	**11.05**	**350**	*c e*P	**Pn**	**23 03 28.0**	**+3.7**
DIKM	**Dikmen**	**11.10**	**315**	P	**Pn**	**23 03 24.0**	**-1.0**
	comp=Z,34nm,0.9s,comp=Z,607nm						
BR131	**Keskin Array S**	**11.11**	**303**	Pn	**Pn**	**23 03 24.8**	**-0.5**
BR131	**Keskin Array S**	**11.11**	**303**	*i* P	**Pn**	**23 03 27.8**	**+2.5**
BRTR	**Keskin Array B**	**11.11**	**303**	Pn	**Pn**	**23 03 25.5**	**+0.2**
BRTR	**Keskin Array B**	**11.11**	**303**	Pn	**Pn**	**23 03 25.3**	**+0.1**
	comp=Z,8.9nm,1.1s,baz=128,slow=9.8,SNR=32						
BRTR				LR	LR	23 08 36.4	
	comp=Z,425nm,20.2s,baz=114,slow=43						
BRTR	**Keskin Array B**	**11.11**	**303**	*i* P	**Pn**	**23 03 28.3**	**+3.0**
BRTR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BR105	**Keskin Array S**	**11.12**	**303**	P	**Pn**	**23 03 24.0**	**-1.4**
	comp=Z,10nm,0.9s,comp=Z,86nm						
LABN	**Labinsk**	**11.12**	**341**	*e*P	**Pn**	**23 03 28.3**	**+3.0**
LABN				pmax	pmax		
	comp=Z,18nm,0.9s						
LABN				MLR	MLR		
	comp=Z,975nm,15.0s						
LABN				MLR	MLR		
	comp=N,2μm,15.0s						
LABN				MLR	MLR		
	comp=E,717nm,11.0s						
SLWR	**Sila**	**11.36**	**151**	P	**Pn**	**23 03 28.6**	**0.0**
SLWR				P	**Pn**	**23 03 28.6**	**0.0**
SLWR				S	**Sn**	**23 05 30.0**	**-4.5**
SLWR				S	**Sn**	**23 05 30.0**	**-4.5**
ANTO	**Ankara**	**11.76**	**303**		**Pn**	**23 03 33.7**	**-0.4**
ANTO	**Ankara**	**11.76**	**303**	P	**Pn**	**23 03 33.7**	**-0.4**
ANTO	**Ankara**	**11.76**	**303**	P	**Pn**	**23 03 32.7**	**-1.4**
	comp=E,13nm,1.2s,comp=E,210nm						
SHME	**Shamm**	**12.14**	**129**	*i* Pn	**Pn**	**23 03 38.4**	**-0.9**
	SNR=16						
SHME	**Shamm**	**12.14**	**129**	P	**Pn**	**23 03 39.2**	**-0.1**
	SNR=16						
SHME				S	**Sn**	**23 05 49.7**	**-4.0**
ERBR	**Yeremizino-Bor**	**12.19**	**342**	*e*P	**Pn**	**23 03 42.3**	**+2.5**
ERBR				pmax	pmax		
	comp=Z,106nm,1.7s						
ERBR				MLR	MLR		
	comp=Z,686nm,17.0s						
ERBR				MLR	MLR		
	comp=E,537nm,17.0s						
ERBR				MLR	MLR		
	comp=N,861nm,14.0s						
BANOM	**Banah**	**12.33**	**129**	*i* Pn	**Pn**	**23 03 41.0**	**-0.9**
	SNR=15						
BANOM	**Banah**	**12.33**	**129**	P	**Pn**	**23 03 41.1**	**-0.8**
BANOM				S	**Sn**	**23 05 53.3**	**-5.1**
ANN	**Anapa**	**12.36**	**331**	*e*P	**Pn**	**23 03 45.2**	**+3.0**
ANN				pmax	pmax		
	comp=Z,42nm,1.8s						
ANN				MLR	MLR		
	comp=Z,358nm,13.0s						
ANN				MLR	MLR		
	comp=E,391nm,13.0s						
ANN				MLR	MLR		
	comp=N,861nm,15.0s						
AJN	**Ajban**	**12.55**	**137**	*i* Pn	**Pn**	**23 03 45.2**	**+0.4**
	SNR=15						
AJN	**Ajban**	**12.55**	**137**	P	**Pn**	**23 03 45.4**	**+0.5**
	SNR=14						
AJN				S	**Sn**	**23 05 58.4**	**-5.3**
NAZ	**Nazwa, Dubai**	**12.61**	**134**	*i* Pn	**Pn**	**23 03 45.5**	**-0.2**
	SNR=14						
NAZ	**Nazwa, Dubai**	**12.61**	**134**	P	**Pn**	**23 03 45.7**	**-0.1**
	SNR=14						
NAZ				S	**Sn**	**23 06 00.7**	**-4.5**
MASF	**Masafi**	**12.63**	**131**	P	**Pn**	**23 03 45.9**	**-0.2**
	SNR=14						
MASF				S	**Sn**	**23 06 01.3**	**-4.5**
MSFE	**Esma-Masafi**	**12.64**	**131**	*i* Pn	**Pn**	**23 03 45.8**	**-0.4**
	SNR=14						
ASUD	**Al Ashush, Dub**	**12.69**	**136**	*i* Pn	**Pn**	**23 03 46.8**	**0.0**
	SNR=11						
ASUD	**Al Ashush, Dub**	**12.69**	**136**	P	**Pn**	**23 03 46.7**	**-0.2**
	SNR=11						
ASUD				S	**Sn**	**23 06 03.2**	**-3.9**
FAQ	**Al Faqa, Dubai**	**12.76**	**135**	Pn	**Pn**	**23 03 47.1**	**-0.6**
FAQ	**Al Faqa, Dubai**	**12.76**	**135**	P	**Pn**	**23 03 47.6**	**-0.1**
	SNR=6.9						
FAQ				S	**Sn**	**23 06 04.6**	**-4.1**
MDH	**Madha**	**12.77**	**131**	*i* Pn	**Pn**	**23 03 46.4**	**-1.5**
	SNR=7.8						
MDH	**Madha**	**12.77**	**131**	P	**Pn**	**23 03 47.1**	**-0.8**
	SNR=7.8						
MDH				S	**Sn**	**23 06 04.2**	**-4.9**
ISP	**Isparta**	**12.81**	**291**	Pn	**Pn**	**23 03 48.5**	**+0.1**
ISP	**Isparta**	**12.81**	**291**	*c e*P	**Pn**	**23 03 49.3**	**+0.9**
ISP				pmax	pmax		
	comp=Z,27nm,1.3s						
HATD	**Hatta, Dubai**	**13.02**	**133**	*i* Pn	**Pn**	**23 03 50.8**	**-0.5**
	SNR=11						
HATD	**Hatta, Dubai**	**13.02**	**133**	P	**Pn**	**23 03 51.3**	**0.0**
	SNR=10						
HATD				S	**Sn**	**23 06 11.4**	**-3.7**
MZR	**Muzera**	**13.07**	**146**	*i* Pn	**Pn**	**23 03 50.8**	**-1.2**
	SNR=20						
MZR	**Muzera**	**13.07**	**146**	P	**Pn**	**23 03 51.6**	**-0.3**
	SNR=20						
MZR				S	**Sn**	**23 06 10.3**	**-6.1**
ASHO	**Ashiyiah**	**13.08**	**134**	*i* Pn	**Pn**	**23 03 51.1**	**-1.0**
	SNR=21						
ASHO	**Ashiyiah**	**13.08**	**134**	P	**Pn**	**23 03 51.5**	**-0.6**
	SNR=21						
ASHO				S	**Sn**	**23 06 11.7**	**-5.0**
ELL	**Elmali**	**13.12**	**286**	Pn	**Pn**	**23 03 51.9**	**-0.8**
ELL	**Elmali**	**13.12**	**286**	P	**Pn**	**23 03 51.9**	**-0.8**
MDUB	**Mudurnu**	**13.12**	**303**	Pn	**Pn**	**23 03 51.5**	**-1.2**
ALNE	**Al Ain**	**13.38**	**136**	*i* Pn	**Pn**	**23 03 55.1**	**-1.1**
	SNR=19						
ALNE	**Al Ain**	**13.38**	**136**	P	**Pn**	**23 03 55.3**	**-0.9**
	SNR=19						
ALNE				S	**Sn**	**23 06 17.8**	**-6.1**
JASK	**Jask - Hormozg**	**13.41**	**125**	P	**Pn**	**23 03 56.4**	**-0.2**
	SNR=6.0						
JASK				S	**Sn**	**23 06 21.7**	**-2.9**
HRA	**Herat**	**13.69**	**84**	Pn	**Pn**	**23 04 00.6**	**-0.1**
SOHO	**SOHO**	**13.78**	**134**	*i* Pn	**Pn**	**23 03 59.7**	**-1.9**
	SNR=19						
SOHO	**SOHO**	**13.78**	**134**	P	**Pn**	**23 04 00.3**	**-1.4**
SOHO				P	**Pn**	**23 04 00.3**	**-1.4**
SOHO				S	**Sn**	**23 06 30.2**	**-3.4**
SOHO				S	**Sn**	**23 06 30.2**	**-3.4**
SIM	**Simferopol'**	**13.96**	**324**	*e*P	**Pn**	**23 04 06.4**	**+2.4**
SIM				pmax	pmax		
	comp=Z,25nm,1.4s						
SIM				MLR	MLR		
	comp=Z,70nm,12.6s						
ARQ	**Araqi**	**14.38**	**136**	P	**Pn**	**23 04 08.5**	**-1.3**
	SNR=28						
ARQ				S	**Sn**	**23 06 43.6**	**-4.7**
HOQ	**Hoqain**	**14.66**	**133**	P	**Pn**	**23 04 13.0**	**-0.7**
	SNR=7.8						
HOQ				P	**Pn**	**23 04 13.0**	**-0.7**
	SNR=7.8						
HOQ				S	**Sn**	**23 06 49.6**	**-5.5**
HOQ				S	**Sn**	**23 06 49.6**	**-5.5**
BIDO	**Bidbid**	**15.20**	**131**	P	**Pn**	**23 04 20.0**	**-0.9**
BIDO				S	**Sn**	**23 07 02.8**	**-5.7**
BSY	**Bisya**	**15.23**	**135**	P	**

MLR LR LR 23 13 31.3
comp=Z,225nm,18.5s,baz=124,slow=41
comp=Z,3.3nm,0.4s
MLR Muntele Rosu 18.85 313 ⇑P Pn 23 05 07.5 +0.8
MLR Muntele Rosu 18.85 313 ⇑P Pn 23 05 07.5 +0.8
COVR Voineasa-Covas 18.88 314 ⇓P Pn 23 05 06.4 -0.5
TESR Tescani 18.97 316 ⇑P P 23 05 06.8 -0.4
ONER Baraj Valea Uz 19.02 315 ⇓P Pn 23 05 08.5 -0.1
SORM Soroca 19.03 322 ⇓P P 23 05 06.6 -1.2
SORM Soroca 19.03 322 ⇓P P 23 05 06.6 -1.2
SORM Soroca 19.03 322 P **P 23 05 07.3 -0.5**
comp=Z,64nm,1.2s,comp=Z,1μm
LPSR Galich'ya Gora 19.04 347 *e*P **P 23 05 06.0 -1.8**
LPSR pmax pmax
comp=Z,430nm,0.9s
MTUR Matau 19.27 311 ⇑P Pn 23 05 11.5 -0.2
MTUR Matau 19.27 311 ⇑P Pn 23 05 11.5 -0.2
SIMJ Simiganj 19.27 70 P **P 23 05 11.3 +0.6**
KBL Kabul 19.28 82 P **Pn 23 05 11.8 -0.2**
KBL Kabul 19.28 82 P **Pn 23 05 14.2 +2.1**
SNR=9.1
KBL Kabul 19.28 82 P **Pn 23 05 11.8 -0.2**
KBL pmax pmax
comp=Z,12nm,0.9s
LIT Litokhoron 19.39 294 P **P 23 05 10.6 -1.2**
LIT Litokhoron 19.39 294 P **P 23 05 10.6 -1.2**
LIT pmax pmax
comp=Z,12nm,0.9s
DOPR Dopca 19.43 313 ⇑P Pn 23 05 13.0 -0.5
ARR Arges 19.60 311 ⇓P Pn 23 05 15.6 -0.1
PRAR RASCA 19.69 318 ⇓P P 23 05 14.8 -0.3
NDNU Novodnistrovsk 19.83 322 P **P 23 05 15.8 -0.7**
MDB Medias 20.12 313 ⇑P Pn 23 05 21.0 -0.8
MDB Medias 20.12 313 ⇑P Pn 23 05 21.0 -0.7
LOT Lotru 20.18 310 ⇑P P 23 05 20.9 +0.4
SRE Strehaia 20.21 308 ⇑P Pn 23 05 22.4 -0.4
SRE Strehaia 20.21 308 ⇑P Pn 23 05 22.4 -0.4
KMPD K-Podol'skiy 20.28 321 P **P 23 05 20.5 -0.9**
comp=Z,18μm,1.0s,comp=Z,150μm
GAR Garm 20.33 69 P **P 23 05 23.0 +0.9**
GAR IAmb IAmb 23 05 36.8
comp=Z,39nm,0.9s
AK09 Malin Array Si 20.33 329 P **P 23 05 21.2 -0.7**
AK10 Malin Array Si 20.33 329 P **P 23 05 20.9 -1.0**
AK06 Malin Array Si 20.34 329 P **P 23 05 21.0 -1.1**
AK08 Malin Array Si 20.36 329 P **P 23 05 21.1 -1.1**
AK05 Malin Array Si 20.37 329 P **P 23 05 21.2 -1.1**
BURAR Bucovina Array 20.40 317 ⇑P P 23 05 23.1 +0.2
BURAR Bucovina Array 20.40 317 ⇑P P 23 05 23.1 +0.2
CHM Chimkent 20.42 60 *e*P **P 23 05 23.8 +0.8**
CHM Chimkent 20.42 60 *e*P **P 23 05 23.8 +0.8**
AKASG Malin Array Be 20.42 329 P **P 23 05 21.9 -1.0**
AKASG IAmb IAmb 23 05 22.7
comp=Z,47nm,0.8s
AKASG Malin Array Be 20.42 329 P **P 23 05 21.5 -1.4**
comp=Z,9.6nm,0.4s,baz=140,slow=8.1,SNR=90
AKASG LR LR 23 14 23.0
comp=Z,112nm,19.2s,baz=122,slow=40
comp=Z,9.6nm,0.4s
AKASG Malin Array Be 20.42 329 P **P 23 05 21.9 -1.0**
AKASG pmax pmax
comp=Z,47nm,0.8s
AKBB Malin Array Si 20.42 329 P **P 23 05 22.2 -0.7**
AKBB IAmb IAmb 23 05 24.6
comp=Z,100nm,1.1s
AKBB Malin Array Si 20.42 329 P **P 23 05 22.2 -0.7**
AKBB pmax pmax
comp=Z,101nm,1.1s
AKBB Malin Array Si 20.42 329 P **P 23 05 21.4 -1.5**
KIEV Kiev 20.42 329 P **P 23 05 22.1 -0.8**
KIEV IAmb IAmb 23 05 24.6
comp=Z,82nm,1.1s
KIEV Kiev 20.42 329 ⇓P P 23 05 22.1 -0.8
KIEV Kiev 20.42 329 P **P 23 05 22.1 -0.8**
KIEV pmax pmax
comp=Z,83nm,1.1s
KIEV Kiev 20.42 329 P **P 23 05 21.7 -1.2**
comp=Z,203nm,0.4s,comp=Z,6μm
BUR08 Bucovina Ar. S 20.43 317 P **P 23 05 22.9 -0.2**
BUR08 IAmb IAmb 23 05 25.9
comp=Z,52nm,0.9s
LUBAR Lubar, Ukraine 20.52 325 P **P 23 05 23.5 -0.5**
ARCR ARCALIA 20.61 315 ⇑P P 23 05 25.5 +0.5
IUG Iuzhnay 20.68 60 *e*P **P 23 05 26.5 +0.6**
comp=Z,24nm,0.9s
IUG Iuzhnay 20.68 60 *e*P **P 23 05 26.5 +0.6**
IUG pmax pmax
comp=Z,24nm,0.9s
BRLS Borolday 20.78 58 *e*P **P 23 05 25.7 -1.3**
BRLS Borolday 20.78 58 *e*P **P 23 05 25.6 -1.3**
GZR Gura Zlata 20.79 309 ⇓P P 23 05 26.8 -0.3
HERR Herculane 20.82 308 ⇑P P 23 05 27.6 +0.4
BOVS Bovan 20.85 304 ⇑P P 23 05 27.9 +0.3
CJR Cluj-Napoca 20.88 313 ⇓P P 23 05 28.8 +0.8
CJR Cluj-Napoca 20.88 313 ⇓P P 23 05 28.8 +0.8
KSV Kosov 20.88 319 P **P 23 05 27.1 -0.8**
MI30 MI30,Zelenitsa 20.90 328 P **P 23 05 26.6 -1.5**
comp=Z,201nm,0.8s
MARR Marisel-Cluj 21.15 313 ⇑P P 23 05 31.2 +0.2
RAKU Rahkiv 21.22 317 P **P 23 05 31.1 -0.5**
MDVR Moldovita 21.24 307 ⇑P P 23 05 31.8 -0.1
MI28 Mi28,Pidlybu 21.27 327 P **P 23 05 30.6 -1.4**
comp=Z,2μm,0.7s,comp=Z,20μm
KKAR Karatay Array 21.27 58 P **P 23 05 32.7 +0.4**
KKAR Karatay Array 21.27 58 P **P 23 05 33.0 +0.8**
KKAR IAmb IAmb 23 05 48.6
comp=Z,9.5nm,0.8s
KKAR Karatay Array 21.27 58 P **P 23 05 33.0 +0.8**
KKAR pmax pmax
comp=Z,9.0nm,0.9s
KEK Kerkira 21.38 292 P **P 23 05 32.4 -0.9**
KEK IAmb IAmb 23 05 56.5
comp=Z,84nm,1.1s
STNU Starunia 21.41 319 P **P 23 05 32.3 -1.4**
BMR Baia Mare 21.41 316 ⇑P P 23 05 34.6 +0.9
BMR Baia Mare 21.41 316 ⇑P P 23 05 34.6 +0.9
DRGR 21.45 313 ⇑P P 23 05 34.1 -0.1
DRGR 21.45 313 ⇑P P 23 05 34.1 -0.1
MESR Meseseni 21.48 314 ⇑P P 23 05 34.6 +0.3
BZS Buzias 21.63 309 ⇑P P 23 05 35.9 -0.1
BZS Buzias 21.63 309 ⇑P P 23 05 35.9 -0.1
DZA Taraz 21.80 59 *e*P **P 23 05 38.4 +0.5**
DZA Taraz 21.80 59 *e*P **P 23 05 38.3 +0.5**
MEZ Mezhgor'ye 21.85 318 P **P 23 05 37.8 -0.5**
SIRR Siria 21.87 311 ⇑P P 23 05 38.9 +0.3
OBN Obninsk 21.87 346 P **P 23 05 36.9 -1.6**
OBN IAmb IAmb 23 05 40.6
comp=Z,82nm,0.9s
OBN Obninsk 21.87 346 P **P 23 05 36.9 -1.6**
comp=Z,51nm,0.4s,baz=158,slow=0.3,SNR=25
OBN LR LR 23 15 13.4
comp=Z,290nm,21.4s,baz=164,slow=40
comp=Z,51nm,0.4s
OBN Obninsk 21.87 346 ⇑P P 23 05 37.2 -1.2
OBN Obninsk 21.87 346 ⇓*i*P **P 23 05 36.7 -1.8**
OBN *i* 23 05 40.0
OBN *e* 23 05 57.7
OBN *e* 23 09 33.6
OBN *e*S **S 23 09 38.8 +0.4**
OBN *e*SS **SnSn 23 10 04.1 -0.4**
OBN pmax pmax
comp=Z,70nm,0.7s
OBN MLR MLR
comp=Z,272nm,19.0s
KORU Korolevo 21.87 316 P **P 23 05 38.4 -0.2**
TRSU Trosnyk 21.94 316 P **P 23 05 40.8 +1.5**
BERU Beregovo 22.19 316 P **P 23 05 41.3 -0.7**
PDG Podgorica 22.25 300 P **P 23 05 42.8 +0.1**
MOS Moscow 22.27 348 *e*P **P 23 05 40.3 -2.4**
MOS *e* 23 06 03.5
MOS *e*S **S 23 09 45.0 -0.8**
MOS *e*SS **SnSn 23 10 17.1 +2.9**
MOS pmax pmax
comp=Z,34nm,0.6s
MUKU Mukachevo 22.28 317 P **P 23 05 42.3 -0.7**
RNPP5 Staryi Chortor 22.29 326 P **P 23 05 42.0 -1.0**
SHIU Shidnytsya 22.32 319 P **P 23 05 42.8 -0.6**
RNPP8 Varash 22.37 326 P **P 23 05 43.4 -0.5**
RNPP9 Sopachiv 22.41 326 P **P 23 05 43.5 -0.8**
ARSB Arslanbob 22.67 64 P **P 23 05 46.2 -1.2**
ARSB Arslanbob 22.67 64 P **P 23 05 46.2 -1.2**
ARSB pmax pmax
comp=Z,3.0nm,1.0s

ATD Arta Tunnel 22.70 187 P **P 23 05 48.1 +0.4**
ATD Arta Tunnel 22.70 187 LR LR 23 15 24.0
comp=Z,7.1nm,20.0s,baz=26,slow=39
KOLS Kolonicke sedl 22.77 317 *e*P **P 23 05 49.1 +0.9**
KOLS pmax pmax
comp=Z,41nm,0.7s
KOLS Kolonicke sedl 22.77 317 *e*P **P 23 05 49.1 +0.9**
NIL Nilore 22.86 84 P **P 23 05 49.3 0.0**
NIL Nilore 22.86 84 P **P 23 05 49.3 0.0**
NIL pmax pmax
comp=Z,16nm,0.9s
KWP Kalwaria Pacla 22.91 319 *e*P **P 23 05 49.3 -0.3**
KWP Kalwaria Pacla 22.91 319 IAmb IAmb 23 05 51.5
comp=Z,55nm,1.1s
KECS Kecovo 23.57 315 *e*P **P 23 05 57.9 +1.7**
KECS pmax pmax
comp=Z,29nm,1.0s
KECS Kecovo 23.57 315 *e*P **P 23 05 57.9 +1.7**
STHS Stebnicka Huta 23.60 318 *e*P **P 23 05 56.0 -0.5**
STHS Stebnicka Huta 23.60 318 *e*P **P 23 05 56.0 -0.5**
PSZ Piszkesteto 23.67 313 P **P 23 05 56.1 -1.1**
PSZ Piszkesteto 23.67 313 *e*P **P 23 05 56.9 -0.3**
PSZ Piszkesteto 23.67 313 ⇑P P 23 05 56.6 -0.6
PSZ Piszkesteto 23.67 313 ⇑P P 23 05 56.6 -0.6
TIP Timpagrande 23.68 291 P **P 23 05 57.0 -0.4**
MORH Mrgy, Hungar 23.77 308 ⇑P P 23 05 57.6 -0.6
MNK Minsk 23.84 334 *i* P **P 23 05 57.2 -1.5**
comp=E,63nm,0.8s
MNK *i* P **P 23 05 57.2 -1.5**
comp=N,82nm,0.8s
MNK *i* P **P 23 05 57.2 -1.5**
comp=Z,159nm,0.8s,baz=141
MNK *i* pP **sP 23 06 14.4 +3.2**
MNK *i* sP pP 23 06 23.9 +16
MNK *i* S **S 23 10 05.8 -6.9**
MNK *i* sS Sn 23 10 37.6 +1.3
MNK *i* SS **SnSn 23 10 51.3 -1.6**
MNK *i* LR LR 23 13 39.7
MNK *i* LRM MLR 23 15 09.2
comp=N,155nm,14.7s
MNK *i* LRM MLR 23 15 13.4
comp=E,271nm,16.5s
MNK *i* LRM MLR 23 16 39.8
comp=Z,184nm,16.5s
MNK Minsk 23.84 334 *i* P **P 23 05 57.2 -1.5**
MNK *i* *SP sP 23 06 23.9 +13
MNK *i* S **S 23 10 05.7 -6.9**
MNK *i* SS **SnSn 23 10 51.2 -1.6**
MNK pmax pmax
comp=Z,159nm,0.8s
MNK pmax pmax
comp=N,82nm,0.8s
MNK pmax pmax
comp=E,63nm,0.8s
MNK MLR MLR
comp=N,155nm,15.0s
MNK MLR MLR
comp=E,271nm,17.0s
MNK MLR MLR
comp=Z,184nm,17.0s
ARTI Arti 23.86 18 P **P 23 05 58.9 +0.1**
ARTI IAmb IAmb 23 06 12.5
comp=Z,37nm,0.9s
ARTI Arti 23.86 18 P **P 23 05 58.9 +0.1**
comp=Z,6.0nm,0.4s,baz=214,slow=6.0,SNR=20
ARTI LR LR 23 17 12.6
comp=Z,178nm,18.2s,baz=182,slow=41
comp=Z,6.0nm,0.4s
ARTI Arti 23.86 18*c i*P **P 23 05 58.0 -0.8**
ARTI PPP PPP 23 06 33.8
ARTI S **S 23 10 15.1 +2.3**
ARTI pmax pmax
comp=Z,44nm,2.4s
AAK Ala-Archa 24.01 61 P **P 23 06 02.2 +1.6**
AAK Ala-Archa 24.01 61 P **P 23 06 02.3 +1.6**
AAK pmax pmax
comp=Z,6.0nm,0.9s
NIE Niedzica 24.13 317 *e*P **P 23 06 01.9 +0.4**
BTLS Baital 24.27 55 *e*P **P 23 06 03.8 +1.0**
BTLS Baital 24.27 55 *e*P **P 23 06 03.8 +1.0**
SGDS Sogindy 24.27 59 *e*P **P 23 06 04.1 +1.1**
SGDS Sogindy 24.27 59 *e*P **P 23 06 04.0 +1.1**
LANS Liptovska Anna 24.48 316 *e*P **P 23 06 05.2 +0.5**
LANS pmax pmax
comp=Z,8.0nm,0.8s
LANS Liptovska Anna 24.48 316 *e*P **P 23 06 05.2 +0.5**
KIRV Kirov 24.54 5 P **P 23 06 04.4 -0.6**
comp=Z,78nm,0.6s,baz=208,slow=1.1,SNR=46
comp=Z,78nm,0.6s
KIRV Kirov 24.54 5*ce*P **P 23 06 04.7 -0.3**
VYHS Vyhne 24.55 314 *e*P **P 23 06 05.2 -0.2**
VYHS Vyhne 24.55 314 *e*P **P 23 06 05.2 -0.2**
NACGM Naroch 24.56 333 *e*P **P 23 06 04.7 -0.6**
comp=E,3μm,0.8s
SRO Srobarova 24.59 312 *e*P **P 23 06 06.2 +0.6**
SRO pmax pmax
comp=Z,20nm,0.8s
SRO Srobarova 24.59 312 *e*P **P 23 06 06.2 +0.6**
KSH Kashi 24.75 69 P **P 23 06 06.8 -0.5**
KSH pP pP 23 06 13.3 -2.9
KSH pmax pmax
comp=Z,15nm,1.0s
OJC Ojcow 24.81 318 *e*P **P 23 06 07.3 -0.4**
OJC Ojcow 24.81 318 P **P 23 06 07.2 -0.4**
OJC IAmb IAmb 23 06 09.6
comp=Z,28nm,1.0s
OJC Ojcow 24.81 318 P **P 23 06 07.3 -0.4**
OJC pmax pmax
comp=Z,28nm,1.0s
OJC Ojcow 24.81 318 P **P 23 06 07.5 -0.2**
comp=Z,31nm,0.8s
MPLH Magyarpolny 24.83 310 P **P 23 06 07.8 0.0**
comp=Z,59nm,0.7s
SVE Sverdlovsk 24.84 20 *e*P **P 23 06 08.7 +0.9**
SVE pmax pmax
comp=Z,33nm,0.9s
NRN Naryn 24.93 64 P **P 23 06 10.2 +0.9**
NRN Naryn 24.93 64 P **P 23 06 10.2 +0.9**
NRN pmax pmax
comp=Z,11nm,0.6s
BEHE Becsehely 25.08 308 P **P 23 06 09.9 -0.2**
BEHE IAmb IAmb 23 06 12.2
comp=Z,41nm,0.8s
SUW Suwalki 25.38 328 *e*P **P 23 06 12.0 -0.8**
SUW Suwalki 25.38 328 P **P 23 06 11.7 -1.0**
SUW Suwalki 25.38 328 *e*P **P 23 06 13.3 +0.5**
SUW Suwalki 25.38 328 P **P 23 06 11.7 -1.0**
SUW pmax pmax
comp=Z,247nm,0.9s
JAVC Velka Javorina 25.41 314 *e*P **P 23 06 13.8 +0.6**
SMOL Smolenice 25.41 313 *e*P **P 23 06 13.1 0.0**
SMOL pmax pmax
comp=Z,16nm,1.3s
KOGS Kog 25.41 308 *i* P **P 23 06 13.2 0.0**
MODS Modra-Piesok 25.45 312 *e*P **P 23 06 13.3 -0.2**
MODS pmax pmax
comp=Z,77nm,1.4s
MODS Modra-Piesok 25.45 312 *e*P **P 23 06 13.3 -0.2**
MAUC Maruska 25.53 315 *e*P **P 23 06 14.7 +0.4**
OKC Ostrava-Krasne 25.56 316 *e*P **P 23 06 14.4 0.0**
OKC Ostrava-Krasne 25.56 316 *e*P **P 23 06 14.4 0.0**
BRVK Borovoye 25.73 35 P **P 23 06 15.9 0.0**
BRVK Borovoye 25.73 35*ce*P **P 23 06 17.0 +1.1**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BVAR Borovoye Array 25.76 36 P **P 23 06 16.8 +0.6**
comp=Z,8.2nm,0.8s,baz=228,slow=8.1,SNR=31
BVAR PcP **PcP 23 09 45.3 -0.1**
comp=Z,1.0nm,0.4s,baz=219,slow=1.8,SNR=3.5
comp=Z,8.2nm,0.8s
RONA Rosalia, Austr 25.80 310 *e*P **P 23 06 16.7 -0.1**
comp=Z,11nm,0.7s
TNSS Tian-Shan 25.86 61 *e*P **P 23 06 19.0 +1.2**
TNSS Tian-Shan 25.86 61 *e*P **P 23 06 18.9 +1.2**
MORC Moravsky Berou 25.88 316 P **P 23 06 16.5 -0.9**
MORC IAmb IAmb 23 06 19.4
comp=Z,17nm,0.8s
MORC Moravsky Berou 25.88 316 *e*P **P 23 06 17.1 -0.3**
MORC Moravsky Berou 25.88 316 ⇑P P 23 06 17.2 -0.2
MORC Moravsky Berou 25.88 316 ⇑P P 23 06 17.2 -0.2
MDOK Medeo 25.95 60 *e*P **P 23 06 19.6 +1.3**
MDOK Medeo 25.95 60 *e*P **P 23 06 19.5 +1.3**
FURI Furi 25.98 196 LR LR 23 16 57.8
comp=Z,324nm,18.2s,baz=14,slow=38

PABE Paberze 26.09 331 P **P 23 06 19.2 0.0**
PABE Paberze 26.09 331 *e*P **P 23 06 19.0 -0.2**
ARSA Arzberg 26.14 309 *e*P **P 23 06 18.8 -1.0**
comp=Z,1.1nm,0.3s
CONA Conrad Observa 26.16 311 *e*P **P 23 06 19.6 -0.4**
comp=Z,8.3nm,0.7s
VRAC Vranov 26.24 314 P **P 23 06 20.7 0.0**
comp=Z,12nm,0.9s,baz=106,slow=9.0,SNR=16
VRAC LR LR 23 18 37.8
comp=Z,174nm,20.3s,baz=123,slow=41
comp=Z,12nm,0.9s
VRAC Vranov 26.24 314 *e*P **P 23 06 20.5 -0.1**
VRAC Vranov 26.24 314 ⇓P P 23 06 20.3 -0.3
KRUC Moravsky 26.26 313 *e*P **P 23 06 20.5 -0.3**
SOKA Soboth 26.29 308 *e*P **P 23 06 21.0 -0.2**
comp=Z,4.6nm,0.7s,SNR=5.3
VSVD Vaisvydziai 26.45 332 *e*P **P 23 06 22.2 -0.2**
KRLC Kraliky 26.45 316 *e*P **P 23 06 22.1 -0.5**
KRLC Kraliky 26.45 316 *e*P **P 23 06 22.1 -0.5**
OBKA Obir 26.55 307 *e*P **P 23 06 24.3 +0.7**
comp=Z,3.8nm,0.7s
CRNS Crni Vrh 26.63 306 *i* P **P 23 06 24.2 -0.1**
DPC Dobruska-Polom 26.84 316 *e*P **P 23 06 25.2 -0.9**
DPC Dobruska-Polom 26.84 316 *e*P **P 23 06 25.2 -0.9**
DPC Dobruska-Polom 26.84 316 P **P 23 06 26.0 -0.1**
comp=Z,16nm,0.9s
TREC Trest 26.90 313 *e*P **P 23 06 26.0 -0.6**
TREC Trest 26.90 313 *e*P **P 23 06 26.0 -0.6**
SATY Saty 26.92 61 *e*P **P 23 06 28.1 +1.1**
SATY Saty 26.92 61 *e*P **P 23 06 28.0 +1.1**
ZHN Zhinishke 26.95 61 *e*P **P 23 06 28.8 +1.5**
ZHN Zhinishke 26.95 61 *e*P **P 23 06 28.8 +1.5**
KLMR Klimovskoe 26.98 353*c i*P **P 23 06 25.8 -1.4**
KLMR pmax pmax
comp=Z,37nm,0.7s
OSTC Ostas 26.99 316 *e*P **P 23 06 27.3 -0.1**
OSTC Ostas 26.99 316 *e*P **P 23 06 27.3 -0.1**
KSP Ksiaz 27.07 317 *e*P **P 23 06 27.7 -0.4**
KSP Ksiaz 27.07 317 P **P 23 06 28.1 0.0**
comp=Z,22nm,1.1s
UPC Upice 27.09 316 *e*P **P 23 06 28.1 -0.2**
UPC Upice 27.09 316 *e*P **P 23 06 28.1 -0.2**
CHVC Chvalec 27.10 316 *e*P **P 23 06 28.3 -0.1**
CHVC Chvalec 27.10 316 *e*P **P 23 06 28.3 -0.1**
MOA Molln 27.14 310 *e*P **P 23 06 28.6 -0.2**
comp=Z,11nm,0.7s
TDK Taldyqorghan 27.26 57 *e*P **P 23 06 30.7 +0.8**
TDK Taldyqorghan 27.26 57 *e*P **P 23 06 30.7 +0.8**
PBUR Paburge 27.28 330 *e*P **P 23 06 29.9 +0.1**
VSU Vasula 27.39 338*ce*P **P 23 06 30.7 -0.1**
VSU pmax pmax
comp=Z,38nm,0.7s
CKRC Cesky Krumlov 27.44 312 *e*P **P 23 06 30.7 -0.8**
CKRC Cesky Krumlov 27.44 312 *e*P **P 23 06 30.7 -0.8**
BIOA Bad Ischl, Aus 27.50 309 *e*P **P 23 06 31.4 -0.6**
comp=Z,7.6nm,0.5s
KBA Koelnbreinsper 27.51 308 *e*P **P 23 06 32.0 -0.3**
comp=Z,5.9nm,0.8s,SNR=8.1
PRU Pruhonice 27.73 314 *e*P **P 23 06 35.3 +1.3**
PRU Pruhonice 27.73 314 *e*P **P 23 06 35.3 +1.3**
ZVC Zvikov 27.74 313 *e*P **P 23 06 34.0 -0.1**
GERES GERESS Array B 27.83 311 P **P 23 06 33.4 -1.6**
GERES GERESS Array B 27.83 311 P **P 23 06 34.3 -0.7**
comp=Z,1.2nm,0.5s,baz=99,slow=8.2,SNR=8.4
comp=Z,1.2nm,0.5s
ABTA Abfaltersbach 27.97 307 *e*P **P 23 06 36.0 -0.3**
comp=Z,2.8nm,0.9s
KHC Kasperske Hory 28.00 312 *e*P **P 23 06 35.0 -1.5**
KHC Kasperske Hory 28.00 312 *e*P **P 23 06 35.0 -1.5**
LESA Schwarzleotal 28.04 308 *e*P **P 23 06 36.2 -0.8**
comp=Z,2.6nm,0.5s
SLIT Slitere, Latvi 28.27 333 *e*P **P 23 06 37.4 -1.3**
ARBE Arbavere 28.41 339 *e*P **P 23 06 39.5 -0.4**
BRG Berggiesshubel 28.44 316 *e*P **P 23 06 39.8 -0.6**
BRG Amp 23 06 40.6
comp=Z,5.9nm,1.1s
BRG Berggiesshubel 28.44 316 P P 23 06 45.8 +5.5
BRG Amp 23 06 51.3
comp=Z,3.1nm,0.9s
BRG Berggiesshubel 28.44 316 *e*P **P 23 06 39.7 -0.6**
BRG 23 06 45.7
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,3.0nm,1.0s
BRG MLR MLR
comp=E,153nm,15.3s
BRG MLR MLR
comp=Z,183nm,12.7s
BRG MLR MLR
comp=N,147nm,11.6s
MTSE Matsula 28.53 336 *e*P **P 23 06 39.9 -1.1**
WTTA Wattenberg 28.68 307 *i* P **P 23 06 41.8 -0.9**
comp=N,2.7nm,0.5s,SNR=5.6
WATA Walderalm 28.74 308 *e*P **P 23 06 42.1 -1.1**
comp=N,2.6nm,0.6s
WATA *e*PcP **PcP 23 09 52.7 -0.2**
comp=N,4.9nm,0.7s
SQTA Sankt Quirin 28.95 307 *e*P **P 23 06 44.2 -0.9**
comp=N,4.8nm,0.5s,SNR=10
SQTA *e*PcP **PcP 23 09 54.3 +0.9**
comp=N,2.2nm,0.6s
KURBB Kurchatov Arra 28.98 45 P **P 23 06 46.4 +1.2**
comp=N,5.3nm,0.7s,baz=252,slow=8.9,SNR=33
KURBB PcP **PcP 23 09 53.5 +0.4**
comp=N,0.2nm,0.2s,baz=244,slow=3.2,SNR=4.7
KURBB ScP **ScP 23 13 33.8 +1.2**
comp=N,1.3nm,0.2s,baz=248,slow=4.4,SNR=8.4
comp=N,5.3nm,0.7s
MOTA Moosalm 29.05 307 *i* P **P 23 06 44.7 -1.3**
comp=N,1.3nm,0.2s
KURK Kurchatov 29.07 45 P **P 23 06 46.4 +0.5**
KURK 23 09 53.6
CLL Collm 29.15 316 *i* P **P 23 06 45.8 -0.8**
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 29.15 316 *i* P **P 23 06 45.8 -0.8**
CLL *i* x x 23 06 51.0
comp=Z,5.0nm,1.0s
FETA Feichten 29.22 307 *i* P **P 23 06 46.7 -0.8**
comp=Z,5.2nm,0.8s
FETA *i* PcP **PcP 23 09 55.6 +1.5**
comp=Z,1.9nm,0.6s
MEF Metsahovi 29.52 338 *e*P **P 23 06 49.6 -0.1**
GRA1 Grafenberg Arr 29.64 312 P **P 23 06 50.5 -0.5**
GRA1 IAmb IAmb 23 06 51.6
comp=Z,19nm,1.0s
GRF Grafenberg Arr 29.64 312 P **P 23 06 50.5 -0.5**
GRF pmax pmax
comp=Z,19nm,1.0s
GRFO Grafenberg 29.64 312 P **P 23 06 50.4 -0.6**
GRFO IAmb IAmb 23 06 51.6
comp=Z,19nm,1.0s
GRFO Grafenberg 29.64 312 P **P 23 06 50.4 -0.6**
GRFO pmax pmax
comp=Z,19nm,1.0s
KEST Kesra 29.72 283 P **P 23 06 52.7 +0.7**
comp=Z,2.7nm,0.8s,baz=71,slow=16,SNR=1.5
comp=Z,2.7nm,0.8s
DAVOX Davos/Dischmat 29.74 306 P **P 23 06 51.6 -0.5**
comp=Z,1.8nm,0.4s,baz=96,slow=9.2,SNR=6.8
DAVOX LR LR 23 19 26.1
comp=Z,161nm,18.4s,baz=93,slow=38
comp=Z,1.8nm,0.4s
DAVA Damuels 29.85 307 *e*P **P 23 06 52.0 -1.1**
comp=Z,6.1nm,0.6s,SNR=8.9
BSD Bornholm Skovb 29.89 324 *e*P **P 23 06 51.7 -1.5**
SEM Semipalatinsk 29.93 47 *e*P **P 23 06 54.7 +0.9**
SEM Semipalatinsk 29.93 47 *e*P **P 23 06 54.7 +0.9**
TUE Stuetta 30.04 305 P **P 23 06 54.8 0.0**
FIA1 FINESS Array S 30.04 341 P **P 23 06 53.8 -0.5**
FINES FINESS Array B 30.04 341 P **P 23 06 53.2 -1.2**
FINES FINESS Array B 30.04 341 P **P 23 06 53.5 -0.8**
comp=Z,12nm,0.6s,baz=147,slow=11,SNR=85
FINES LR LR 23 19 31.5
comp=Z,163nm,21.5s,baz=134,slow=38
comp=Z,12nm,0.6s
JOF Joensuu 30.14 347 *e*P **P 23 06 55.2 0.0**
MKAR Makanchi Array 30.28 54 P **P 23 06 58.0 +1.3**
comp=Z,3.1nm,0.9s,baz=253,slow=8.8,SNR=16
MKAR LR LR 23 20 57.1
comp=Z,108nm,18.3s,baz=224,slow=40
comp=Z,3.1nm,0.9s
KEF Keuruu 30.96 341 *e*P **P 23 07 02.3 -0.2**
RAF Rauma 30.97 337 *e*P **P 23 07 01.1 -1.4**

SENIN Lac Senin/Sane 31.41 304 P **P** **23 07 06.5 -0.5**
SENIN IAmb IAmb 23 07 27.0
comp=Z,19nm,0.8s
BNI Bardonecchia 31.67 302 IAmb IAmb 23 07 09.4
comp=Z,27nm,0.8s
VAF Ylistaro 32.27 341 *e*P **P** **23 07 13.9 -0.1**
HFS Hagfors 33.27 331 P **P** **23 07 22.2 -0.6**
comp=Z,31nm,0.5s,baz=128,slow=9.6,SNR=133
HFS LR LR 23 22 01.7
comp=Z,116nm,18.5s,baz=106,slow=38
comp=Z,31nm,0.5s
MUD Monsted U'grnd 33.38 323 *i* P **P** **23 07 23.0 -0.7**
MUD IAmb IAmb 23 07 25.0
comp=Z,40nm,0.8s
WMQ Urumqi 33.72 61 *e*P P 23 07 20.3 -6.7
WMQ sP sP 23 07 36.5 -3.3
WMQ pmax pmax
comp=Z,23nm,0.9s
ZAA0 Zalesovo Array 33.78 42 P **P** **23 07 27.4 +0.2**
ZALV Zalesovo Beam 33.78 42 P **P** **23 07 27.8 +0.5**
comp=Z,2.4nm,0.3s,baz=256,slow=8.8,SNR=22
ZALV LR LR 23 23 22.3
comp=Z,109nm,19.7s,baz=222,slow=40
comp=Z,2.4nm,0.3s
ZALV Zalesovo Beam 33.78 42 *i* P **P** **23 07 28.1 +0.8**
ZALV pmax pmax
comp=Z,2.0nm,0.3s
APA Apatity 34.18 352 ⇓*i*P **P** **23 07 29.8 -0.8**
APA pmax pmax
comp=Z,29nm,0.7s
APA MLR MLR
comp=Z,700nm,15.0s
LVZ Lovozero 34.35 353 P **P** **23 07 31.5 -0.6**
LVZ Lovozero 34.35 353 P **P** **23 07 31.5 -0.6**
LVZ pmax pmax
comp=Z,44nm,0.9s
LVZ Lovozero 34.35 353 P **P** **23 07 31.7 -0.4**
OSL Oslo 34.39 329 *e*P **P** **23 07 32.0 -0.4**
OSL IAmb IAmb 23 07 32.3
comp=Z,49nm,0.9s
NC602 NORSAR Array S 34.49 331 *e*P **P** **23 07 32.9 -0.5**
HOMB Homborsund 34.53 326 *e*P **P** **23 07 33.4 -0.3**
HOMB IAmb IAmb 23 07 36.6
comp=Z,120nm,1.8s
NC405 NORSAR Array S 34.64 331 IAmb IAmb 23 07 34.5
comp=Z,16nm,0.8s
KONO Kongsberg 34.72 328 P **P** **23 07 34.6 -0.8**
KONO IAmb IAmb 23 07 35.6
comp=Z,20nm,1.0s
KONO Kongsberg 34.72 328 *e*P **P** **23 07 34.4 -0.9**
KONO Kongsberg 34.72 328 *ce*P **P** **23 07 35.0 -0.3**
KONO pmax pmax
comp=Z,16nm,0.8s
NB201 NORSAR Array S 34.77 331 P **P** **23 07 35.0 -0.8**
NB201 IAmb IAmb 23 07 35.5
comp=Z,15nm,1.1s
NB2 NORSAR Subarra 34.80 331 P **P** **23 07 34.3 -1.8**
comp=Z,7.0nm,0.7s,baz=124,slow=9.3
NOA NORSAR Array B 34.80 331 P **P** **23 07 34.8 -1.3**
comp=Z,6.0nm,0.7s,baz=125,slow=8.7,SNR=32
NOA LR LR 23 23 31.0
comp=Z,124nm,20.5s,baz=115,slow=39
comp=Z,6.0nm,0.7s
NAO01 NORSAR Array S 34.82 331 IAmb IAmb 23 07 36.0
comp=Z,16nm,0.8s
NC303 NORSAR Array S 34.84 331 P **P** **23 07 35.9 -0.6**
SKAR Skarslia 35.80 329 IAmb IAmb 23 07 44.9
comp=Z,7.3nm,0.7s
SKAR *e*P **P** **23 07 45.1 +0.3**
BLS5 Blasjo 36.01 327 *e*P **P** **23 07 46.6 +0.1**
KMBO Kilima Mbogo 36.01 194 P **P** **23 07 48.0 +0.9**
comp=Z,1.0nm,0.8s,baz=30,slow=14,SNR=2.6
comp=Z,1.0nm,0.8s
KMBO Kilima Mbogo 36.01 194 *i* P P 23 07 53.4 +6.3
KMBO pmax pmax
comp=Z,2.0nm,1.0s
ODD1 Odda 36.16 327 *e*P **P** **23 07 48.1 +0.3**
ODD1 IAmb IAmb 23 07 48.8
comp=Z,20nm,0.9s
DOMB Dombas 36.21 332 *e*P **P** **23 07 48.5 +0.2**
DOMB IAmb IAmb 23 07 49.4
comp=Z,12nm,0.9s
KMY Karmoy 36.47 326 *e*P **P** **23 07 50.4 0.0**
NSS Namsos 36.64 336 *e*P **P** **23 07 51.5 -0.3**
TAM Tamanrasset 36.87 263 P **P** **23 07 55.3 +0.9**
TAM Tamanrasset 36.87 263 P **P** **23 07 55.3 +0.9**
TAM pmax pmax
comp=Z,5.0nm,0.8s
BER Bergen 36.95 328 *e*P **P** **23 07 54.6 +0.2**
BER IAmb IAmb 23 07 55.1
comp=Z,28nm,0.7s
MOR8 Moi Rana 36.97 339 *e*P **P** **23 07 54.1 -0.5**
MOR8 IAmb IAmb 23 07 55.3
comp=Z,12nm,0.7s
KIBK Kibwezi 37.03 193 P **P** **23 07 57.4 +1.7**
ASK Askoy 37.05 328 *e*P **P** **23 07 55.2 -0.1**
ASK IAmb IAmb 23 07 55.9
comp=Z,27nm,0.7s
KTK1 Kautokeino 37.09 347 *e*P **P** **23 07 55.1 -0.4**
KTK1 IAmb IAmb 23 07 55.6
comp=Z,63nm,1.1s
VADS Vadso 37.09 351 *e*P **P** **23 07 55.6 +0.1**
KEV Kevo 37.09 349 P **P** **23 07 55.3 -0.3**
KEV Kevo 37.09 349 P **P** **23 07 55.3 -0.3**
KEV pmax pmax
comp=Z,36nm,0.4s
MOL Molde 37.10 332 *e*P **P** **23 07 56.0 +0.3**
AKN Aaknes 37.11 331 *e*P **P** **23 07 55.9 0.0**
ARA0 ARCESS Array S 37.14 348 *e*P **P** **23 07 55.7 -0.3**
ARCES ARCESS Array B 37.14 348 P **P** **23 07 55.4 -0.5**
comp=Z,12nm,0.5s,baz=151,slow=8.3,SNR=105
ARCES LR LR 23 24 46.0
comp=Z,209nm,18.9s,baz=130,slow=39
comp=Z,12nm,0.5s
ARCES ARCESS Array B 37.14 348 P **P** **23 07 55.6 -0.4**
ARCES pmax pmax
comp=Z,17nm,1.1s
MBAR Mbarara 37.34 205 LR LR 23 22 15.1
comp=Z,53nm,21.5s,baz=66,slow=35
MBAR Mbarara 37.34 205 *ce*P P 23 08 05.1 +6.7
MBAR pmax pmax
comp=Z,5.0nm,1.7s
STOK Stokkvaagen 37.50 339 *e*P **P** **23 07 58.5 -0.5**
SUE Sulen 37.50 328 *e*P **P** **23 07 58.8 -0.3**
KONS Konsvik 37.58 339 *e*P **P** **23 07 58.9 -0.8**
FAUS Fauske 37.60 341 *e*P **P** **23 07 59.8 -0.1**
FOO Floro 37.63 329 *e*P **P** **23 07 59.8 -0.4**
STEI Steigen 38.01 342 *e*P **P** **23 08 02.8 -0.5**
JETT Jettan, Norway 38.09 346 *e*P **P** **23 08 04.5 +0.4**
HAMF Hammerfest 38.41 348 *e*P **P** **23 08 06.6 -0.1**
TRO Tromso 38.46 345 *e*P **P** **23 08 06.7 -0.4**
LOF Lofoten 38.60 341 *e*P **P** **23 08 07.4 -0.9**
EKA Eskdalemuir Ar 39.58 318 P **P** **23 08 16.1 -0.6**
comp=Z,1.9nm,0.3s,baz=105,slow=8.5,SNR=27
comp=Z,1.9nm,0.3s
EKB Eskdalemuir 39.60 318 P **P** **23 08 16.2 -0.7**
EKB IAmb IAmb 23 08 16.9
comp=Z,19nm,0.9s
ESK Eskdalemuir 39.61 317 P **P** **23 08 16.4 -0.5**
ESK Eskdalemuir 39.61 317 P **P** **23 08 16.4 -0.5**
ESK pmax pmax
comp=Z,16nm,1.2s
ESDC Sonseca Array 39.66 293 P **P** **23 08 16.5 -1.2**
comp=Z,2.7nm,1.0s,baz=76,slow=8.3,SNR=9.7
ESDC PcP **PcP** **23 10 24.1 0.0**
comp=Z,1.5nm,0.9s,baz=49,slow=2.7,SNR=4.1
ESDC LR LR 23 26 32.6
comp=Z,91nm,18.1s,baz=105,slow=39
comp=Z,2.7nm,1.0s
GOMU GeErMu 39.86 73 P **P** **23 08 19.5 -0.2**
GOMU pP pP 23 08 22.5 -6.3
GOMU pmax pmax
comp=Z,10.0nm,0.9s
GOMU pmax pmax
comp=Z,270nm,5.1s
NRIK Noril'sk 42.10 21 P **P** **23 08 37.4 +0.2**
comp=Z,6.1nm,0.6s,baz=222,slow=5.3,SNR=17
comp=Z,6.1nm,0.6s
NRIK Noril'sk 42.10 21 *ce*P **P** **23 08 38.7 +1.5**
NRIK pmax pmax
comp=Z,19nm,1.0s
GTA Gaotai 43.12 67 *e*P **P** **23 08 47.5 +1.4**
GTA pmax pmax
comp=Z,7.0nm,1.2s
HOPEN Hopen 43.47 353 *e*P **P** **23 08 49.4 +1.1**

TORD Torodi Ar. Bea 44.98 253 P **P** **23 09 01.9 +0.8**
TORD Torodi Ar. Bea 44.98 253 P **P** **23 09 01.0 -0.1**
comp=Z,1.4nm,0.5s,baz=46,slow=6.4,SNR=22
TORD PcP **PcP** **23 10 42.3 +0.3**
comp=Z,0.6nm,0.6s,baz=42,slow=2.3,SNR=2.0
comp=Z,1.4nm,0.5s
HSPB Hornsund (broa 45.01 351 *e*P **P** **23 09 01.3 +0.8**
SPB2 Spitsbergen Ar 45.87 352 P **P** **23 09 08.0 +0.6**
SPA2 Spitsbergen Ar 45.87 352 P **P** **23 09 08.0 +0.6**
SPB3 Spitsbergen Ar 45.87 352 P **P** **23 09 07.9 +0.5**
SPB1 Spitsbergen Ar 45.87 352 P **P** **23 09 08.1 +0.7**
SPA0 Spitsbergen Ar 45.87 352 P **P** **23 09 08.1 +0.7**
SPA0 Spitsbergen Ar 45.87 352 *e*P **P** **23 09 08.1 +0.7**
SPITS Spitsbergen Ar 45.87 352 P **P** **23 09 07.7 +0.3**
comp=Z,25nm,0.4s,baz=146,slow=11,SNR=176
comp=Z,25nm,0.4s
SPITS Spitsbergen Ar 45.87 352 P **P** **23 09 08.0 +0.6**
SPITS pmax pmax
comp=Z,52nm,0.8s
SPA1 Spitsbergen Ar 45.87 352 P **P** **23 09 07.9 +0.5**
SPA3 Spitsbergen Ar 45.87 352 **P** **23 09 07.9 +0.5**
SPB4 Spitsbergen Ar 45.87 352 P **P** **23 09 08.1 +0.6**
SPB5 Spitsbergen Ar 45.87 352 P **P** **23 09 08.1 +0.7**
JMIC Jan Mayen 46.58 339 LR LR 23 28 57.5
comp=Z,100nm,20.2s,baz=116,slow=36
SONM Songino Array 46.64 54 P **P** **23 09 15.1 +1.1**
SONM Songino Array 46.64 54 P **P** **23 09 14.4 +0.3**
comp=Z,0.7nm,0.6s,baz=285,slow=7.1,SNR=4.5
SONM PcP **PcP** **23 10 46.7 -0.8**
comp=Z,0.3nm,0.6s,baz=266,slow=5.1,SNR=1.3
comp=Z,0.7nm,0.6s
LZH Lanzhou 46.98 70 *e*P **P** **23 09 18.3 +1.4**
LZH sP pP 23 09 24.5 -1.6
LZH pmax pmax
comp=Z,13nm,1.5s
KBS Kingsbay 47.00 352 P **P** **23 09 16.4 +0.2**
KBS Kingsbay 47.00 352 *e*P **P** **23 09 16.5 +0.3**
KBS Kingsbay 47.00 352 P **P** **23 09 16.4 +0.2**
KBS pmax pmax
comp=Z,32nm,1.0s
KBS Kingsbay 47.00 352 *i* P **P** **23 09 14.7 -1.6**
ULN Ulaanbaatar 47.08 54 P **P** **23 09 18.5 +1.0**
ULN Ulaanbaatar 47.08 54 *ce*P **P** **23 09 19.7 +2.2**
ULN pmax pmax
comp=Z,2.0nm,0.6s
CD2 Chengdu 48.49 77 *e*P **P** **23 09 29.3 +0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CHTO Chiang Mai 49.53 94 P **P** **23 09 37.2 +0.6**
CHTO IAmb IAmb 23 09 41.4
comp=Z,7.1nm,0.6s
CHTO Chiang Mai 49.53 94 P **P** **23 09 37.2 +0.6**
CHTO pmax pmax
comp=Z,7.0nm,0.6s
CMAR Chiang Mai Arr 49.70 94 P **P** **23 09 38.1 +0.2**
comp=Z,3.6nm,0.6s,baz=293,slow=8.2,SNR=17
comp=Z,3.6nm,0.6s
BORG Borgarnes 49.91 329 *i* P **P** **23 09 40.5 +1.8**
PHRA Phrae 50.75 93 P **P** **23 09 46.4 +0.7**
SCO Scoresbysund 50.75 336 P **P** **23 09 45.4 +0.4**
SCO Scoresbysund 50.75 336 P **P** **23 09 45.4 +0.4**
SCO pmax pmax
comp=Z,3.0nm,0.6s
SCO Scoresbysund 50.75 336 *i* P **P** **23 09 44.9 -0.1**
SCO IAmb IAmb 23 09 48.3
comp=Z,3.3nm,0.7s
DAG Danmarks Havn 51.18 345 *i* P **P** **23 09 47.0 -1.2**
DAG IAmb IAmb 23 09 48.9
comp=Z,5.8nm,0.8s
XAN Xi'an 51.56 71 P **P** **23 09 52.5 +0.7**
XAN pP pP 23 09 57.8 -3.3
XAN pmax pmax
comp=Z,18nm,1.0s
XAN pmax pmax
comp=Z,140nm,4.1s
HHC Hu-ho-hao-te 51.58 62 *e*P **P** **23 09 53.5 +1.6**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,92nm,3.5s
NOR Nord 52.43 351 *i* P **P** **23 09 56.8 -0.8**
NOR IAmb IAmb 23 09 58.0
comp=Z,11nm,0.7s
DBIC Dimbokro 54.00 251 P **P** **23 10 07.7 -2.2**
comp=Z,3.0nm,0.7s,baz=35,slow=8.2,SNR=4.3
comp=Z,3.0nm,0.7s
LYN LuoYang 54.16 69 P **P** **23 10 12.3 +1.4**
LYN pmax pmax
comp=Z,14nm,0.9s
TIXI Tiksi 55.83 22 P **P** **23 10 22.3 -0.1**
TIXI IAmb IAmb 23 10 23.6
comp=Z,9.9nm,0.8s
TIXI Tiksi 55.83 22 P **P** **23 10 22.3 -0.1**
TIXI pmax pmax
comp=Z,10.0nm,0.8s
SUMG Summit 56.03 339 P **P** **23 10 24.6 +0.3**
SUMG IAmb IAmb 23 10 26.5
comp=Z,9.7nm,0.6s
SUMG Summit 56.03 339 P **P** **23 10 24.6 +0.3**
SUMG pmax pmax
comp=Z,10.0nm,0.6s
SUMG Summit 56.03 339 *i* P **P** **23 10 23.4 -0.9**
SUMG IAmb IAmb 23 10 26.4
comp=Z,10nm,0.7s
ICESG Greenland Ices 56.90 335 *i* P **P** **23 10 29.5 -1.0**
ICESG IAmb IAmb 23 10 31.0
comp=Z,15nm,0.9s
TIA Tai'an 57.15 66 P **P** **23 10 33.0 +0.6**
TIA pmax pmax
comp=Z,12nm,0.8s
YAK Yakutsk 57.72 34 P **P** **23 10 35.1 -0.7**
YAK Yakutsk 57.72 34 *e*P **P** **23 10 35.3 -0.6**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.3s
NEEM North Greenlan 58.37 345 *i* P **P** **23 10 39.6 -1.1**
NEEM IAmb IAmb 23 10 40.6
comp=Z,9.7nm,1.1s
HEH HeiHe 59.64 47 *e*P **P** **23 10 50.8 +1.3**
DY2G Dye2 59.94 332 *i* P **P** **23 10 50.8 -0.8**
DY2G IAmb IAmb 23 10 52.3
comp=Z,30nm,0.8s
NJ2 Nanjing 60.05 70 *e*P **P** **23 10 53.3 +0.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
CN2 Changchun 60.50 55 *e*P **P** **23 10 52.5 -3.0**
ILULI Ilulissat 60.83 336 *i* P **P** **23 10 55.7 -1.5**
ILULI IAmb IAmb 23 10 56.9
comp=Z,16nm,1.0s
NRS Narsarsuaq 61.23 326 P **P** **23 11 00.2 +0.1**
NRS IAmb IAmb 23 11 03.3
comp=Z,20nm,0.9s
NRS Narsarsuaq 61.23 326 P **P** **23 11 00.2 +0.1**
NRS pmax pmax
comp=Z,20nm,0.9s
NRS Narsarsuaq 61.23 326 *i* P **P** **23 11 00.1 0.0**
NRS IAmb IAmb 23 11 02.9
comp=Z,57nm,1.4s
SFJD Kangerlussuaq 61.42 334 P **P** **23 11 00.9 -0.4**
SFJD IAmb IAmb 23 11 01.9
comp=Z,9.9nm,0.9s
SFJD Kangerlussuaq 61.42 334 P **P** **23 11 00.9 -0.4**
SFJD pmax pmax
comp=Z,10.0nm,0.9s
SFJD Kangerlussuaq 61.42 334 *i* P **P** **23 11 00.1 -1.2**
SFJD IAmb IAmb 23 11 01.5
comp=Z,8.6nm,0.9s
IVI Ivigtut 62.46 327 P **P** **23 11 07.9 -0.5**
IVI IAmb IAmb 23 11 09.7
comp=Z,15nm,0.8s
WIN Windhoek 62.65 210 P **P** **23 11 12.0 +1.6**
WIN IAmb IAmb 23 11 19.5
comp=Z,11nm,1.0s
WIN Windhoek 62.65 210 P **P** **23 11 12.0 +1.6**
WIN pmax pmax
comp=Z,11nm,1.0s
EUNU Eureka 62.99 352 P **P** **23 11 11.2 -0.6**
KSRS Korea Array 64.67 61 P **P** **23 11 23.4 -0.1**
comp=Z,3.4nm,0.7s,baz=287,slow=6.7,SNR=12
comp=Z,3.4nm,0.7s
USA0B Ussuriysk Arra 64.72 53 P **P** **23 11 23.0 -0.6**
USA0B Ussuriysk Arra 64.72 53 P **P** **23 11 23.0 -0.6**

USA0B pmax pmax
comp=Z,4.0nm,0.9s
USRK Ussuriysk Ar. 64.72 53 P **P** **23 11 23.3 -0.4**
USRK Ussuriysk Ar. 64.72 53 P **P** **23 11 22.7 -0.9**
comp=Z,2.2nm,0.6s,baz=279,slow=5.8,SNR=7.9
comp=Z,2.2nm,0.6s
USRK Ussuriysk Ar. 64.72 53 P **P** **23 11 23.3 -0.4**
BOSA Boshof 65.38 200 P **P** **23 11 29.6 +1.5**
BOSA IAmb IAmb 23 11 34.5
comp=Z,8.4nm,0.8s
BOSA Boshof 65.38 200 P **P** **23 11 29.7 +1.6**
comp=Z,6.6nm,0.7s,baz=33,slow=5.2,SNR=6.1
comp=Z,6.6nm,0.7s
SEY Seymchan 67.15 28 *e*P **P** **23 11 39.7 +0.8**
SEY pmax pmax
comp=Z,35nm,0.9s
RES Resolute Bay 68.35 350 P **P** **23 11 47.3 +1.0**
RES Resolute Bay 68.35 350 P **P** **23 11 47.3 +1.0**
BILL Bilibino 68.93 20 P **P** **23 11 51.2 +1.1**
BILL IAmb IAmb 23 11 51.7
comp=Z,10nm,0.7s
SUR Sutherland 70.23 202 LR LR 23 43 23.3
comp=Z,111nm,19.8s,baz=78,slow=36
YSS Yuzh-Sakhalins 70.27 46 *e*P **P** **23 11 54.8 -3.9**
YSS pmax pmax
comp=Z,10.0nm,0.4s
A21K Barrow 73.60 7 P **P** **23 12 19.2 +1.0**
baz=341
A36M Sachs Harbour 73.93 357 P **P** **23 12 20.7 +0.6**
baz=7.9,SNR=60
A22K Sinclair Lake 74.07 7 P **P** **23 12 22.2 +1.2**
baz=342
A19K Wainwright 74.12 9 P **P** **23 12 22.8 +1.5**
baz=337
SCHQ Schefferville 74.19 326 P **P** **23 12 21.6 -0.3**
SCHQ IAmb IAmb 23 12 22.4
comp=Z,8.9nm,0.6s
SCHQ Schefferville 74.19 326 P **P** **23 12 21.4 -0.6**
comp=Z,9.5nm,0.7s,baz=46,slow=5.9,SNR=16
comp=Z,9.5nm,0.7s
B20K Meade River 74.79 8 P **P** **23 12 26.3 +1.1**
baz=341
B18K Kokolik River 74.80 10 P **P** **23 12 26.9 +1.7**
baz=337
B22K Teshekpuk Lake 74.86 7 IAmb IAmb 23 12 28.1
comp=Z,30nm,1.1s
B22K Teshekpuk Lake 74.86 7 P **P** **23 12 26.8 +1.2**
baz=344
PETK Petropavlovsk- 75.00 35 P **P** **23 12 26.4 -0.2**
PETK Petropavlovsk- 75.00 35 P **P** **23 12 26.5 -0.2**
C16K Lisburne Hills 75.25 11 P **P** **23 12 29.1 +1.3**
baz=334
C19K Lookout Ridge 75.34 9 P **P** **23 12 29.7 +1.3**
C19K IAmb IAmb 23 12 43.3
comp=Z,14nm,1.1s
C19K Lookout Ridge 75.34 9 P **P** **23 12 29.3 +0.9**
baz=339
C17K DeLong Mountai 75.41 11 P **P** **23 12 29.9 +1.1**
baz=336
B21K Ikpikpuk River 75.43 7 P **P** **23 12 30.4 +1.6**
B21K IAmb IAmb 23 12 31.1
comp=Z,19nm,1.1s
B21K Ikpikpuk River 75.43 7 P **P** **23 12 30.1 +1.2**
baz=343
C18K Utukok River 75.54 10 P **P** **23 12 30.6 +1.0**
C18K Utukok River 75.54 10 P **P** **23 12 30.8 +1.2**
baz=337,SNR=5.6
C23K Itkillik River 75.60 6 IAmb IAmb 23 12 38.3
comp=Z,8.9nm,0.8s
C23K Itkillik River 75.60 6 P **P** **23 12 31.1 +1.3**
baz=346
RDOG Red Dog Mine 75.84 11 P **P** **23 12 32.4 +1.2**
baz=336
C21K Knifeblade Rid 75.86 7 P **P** **23 12 32.6 +1.3**
baz=343
C24K Franklin Bluff 75.86 5 IAmb IAmb 23 12 33.8
comp=Z,18nm,1.1s
C24K Franklin Bluff 75.86 5 P **P** **23 12 32.4 +1.1**
baz=348
C26K Camden Bay 75.91 4 P **P** **23 12 32.6 +1.0**
baz=351
D20K Etivluk River 76.08 8 P **P** **23 12 33.5 +0.9**
baz=341
D19K Kuna River 76.10 9 P **P** **23 12 34.0 +1.2**
D19K IAmb IAmb 23 12 34.8
comp=Z,14nm,0.7s
D19K Kuna River 76.10 9 P **P** **23 12 33.7 +0.9**
baz=340
D17K Noatak River 76.14 11 P **P** **23 12 33.8 +0.9**
baz=336
C27K Jago River 76.27 3 IAmb IAmb 23 12 35.9
comp=Z,15nm,0.7s
C27K Jago River 76.27 3 P **P** **23 12 35.0 +1.4**
baz=352
D22K Ayikyak River 76.34 7 P **P** **23 12 35.0 +0.9**
D22K IAmb IAmb 23 12 36.4
comp=Z,13nm,0.7s
D22K Ayikyak River 76.34 7 P **P** **23 12 35.4 +1.3**
baz=344
D24K Happy Valley 76.41 5 P **P** **23 12 35.6 +1.1**
baz=348
D25K Kavik River 76.42 4 P **P** **23 12 35.3 +0.7**
D25K IAmb IAmb 23 12 36.5
comp=Z,13nm,0.7s
D25K Kavik River 76.42 4 P **P** **23 12 35.6 +1.0**
baz=350
D23K Nanushuk River 76.44 6 IAmb IAmb 23 12 37.2
comp=Z,14nm,0.8s
D23K Nanushuk River 76.44 6 P **P** **23 12 35.8 +1.1**
baz=346
C36M Paulatuk 76.50 356 P **P** **23 12 34.9 -0.1**
baz=8.8,SNR=26
E20K Nigu River 76.56 8 P **P** **23 12 36.3 +0.9**
baz=342
E21K Killik River 76.64 7 P **P** **23 12 37.0 +1.2**
baz=343
D28M Stokes Point 76.74 2 P **P** **23 12 37.6 +1.3**
baz=356
D27M Malcolm River 76.76 2 P **P** **23 12 37.4 +0.8**
D27M IAmb IAmb 23 12 38.5
comp=Z,9.1nm,0.8s
D27M Malcolm River 76.76 2 P **P** **23 12 37.5 +1.0**
baz=354
E18K Tukpahlearik C 76.77 10 P **P** **23 12 37.2 +0.7**
E18K IAmb IAmb 23 12 38.3
comp=Z,14nm,0.8s
E18K Tukpahlearik C 76.77 10 P **P** **23 12 37.2 +0.7**
baz=338
TOLK Toolik Lake Re 76.86 6 P **P** **23 12 38.2 +1.1**
TOLK Toolik Lake Re 76.86 6 P **P** **23 12 38.4 +1.3**
baz=347
E17K Hotham Inlet 76.90 11 P **P** **23 12 38.7 +1.4**
baz=337
E22K Anaktuvuk Pass 77.15 7 P **P** **23 12 39.4 +0.7**
E22K Anaktuvuk Pass 77.15 7 P **P** **23 12 39.7 +1.0**
baz=345
E19K Redstone River 77.20 9 P **P** **23 12 39.6 +0.6**
E19K IAmb IAmb 23 12 40.7
comp=Z,25nm,1.1s
E19K Redstone River 77.20 9 P **P** **23 12 40.0 +1.1**
baz=341
E23K Chandalar 77.42 6 P **P** **23 12 41.5 +1.2**
E23K IAmb IAmb 23 12 42.4
comp=Z,9.3nm,0.7s
E23K Chandalar 77.42 6 P **P** **23 12 41.3 +1.0**
baz=347
E28M Babbage River 77.45 2 P **P** **23 12 41.0 +0.6**
E28M Babbage River 77.45 2 P **P** **23 12 41.5 +1.1**
baz=356
E24K Your Creek 77.50 5 P **P** **23 12 41.8 +1.1**
baz=348
F17K Baldwin Pennin 77.58 11 P **P** **23 12 41.7 +0.7**
F17K IAmb IAmb 23 12 42.8
comp=Z,11nm,0.8s
F17K Baldwin Pennin 77.58 11 P **P** **23 12 41.9 +0.8**
baz=338
F14K Arctic Creek 77.59 13 P **P** **23 12 42.2 +1.0**
baz=333
F18K Selawik 77.67 10 P **P** **23 12 42.2 +0.7**
baz=339
E29M Blow River 77.70 1 P **P** **23 12 42.6 +0.9**
E29M Blow River 77.70 1 P **P** **23 12 42.8 +1.0**
baz=357
F19K Shaleruckik Mo 77.72 9 IAmb IAmb 23 12 43.5
comp=Z,12nm,0.9s
F19K Shaleruckik Mo 77.72 9 P **P** **23 12 42.8 +1.0**
baz=340,SNR=6.0

F22K	John River	77.72	7	P	P	23 12 43.1 +1.2
	baz=345					
F20K	Avaraart Lake	77.77	8	P	P	23 12 43.0 +0.9
	baz=342					
E27K	Coleen River	77.80	3	P	P	23 12 43.2 +0.9
E27K	Coleen River	77.80	3	P	P	23 12 43.6 +1.3
	baz=354					
INK	Inuvik	77.82	360	P	P	23 12 42.4 0.0
INK	Inuvik	77.82	360	P	P	23 12 42.4 0.0
	baz=0.7,SNR=6.3					
INK	Inuvik	77.82	360	P	P	23 12 42.4 0.0
INK				pmax	pmax	
	comp=Z,6.0nm,0.8s					
F21K	Alatna River	77.86	8	P	P	23 12 43.4 +0.7
F21K				IAmb	IAmb	23 12 44.9
	comp=Z,24nm,1.1s					
F21K	Alatna River	77.86	8	P	P	23 12 43.9 +1.2
	baz=344					
F24K	Squaw Lake	78.09	5	IAmb	IAmb	23 12 46.3
	comp=Z,12nm,0.7s					
F24K	Squaw Lake	78.09	5	P	P	23 12 45.3 +1.3
	baz=349					
F26K	Sheenjek River	78.16	4	IAmb	IAmb	23 12 46.5
	comp=Z,5.9nm,0.7s					
F26K	Sheenjek River	78.16	4	P	P	23 12 45.8 +1.4
	baz=352					
F25K	Christian Rive	78.17	4	IAmb	IAmb	23 12 46.8
	comp=Z,6.3nm,0.7s					
F25K	Christian Rive	78.17	4	P	P	23 12 45.9 +1.4
	baz=350					
COLD	Coldfoot	78.18	6	P	P	23 12 46.4 +1.9
COLD				IAmb	IAmb	23 12 47.0
	comp=Z,16nm,0.9s					
COLD	Coldfoot	78.18	6	P	P	23 12 45.6 +1.2
	baz=347					
G22K	Bettles	78.36	7	P	P	23 12 46.3 +0.9
	baz=346					
G16K	Koyuk River	78.37	12	P	P	23 12 47.0 +1.5
G16K				IAmb	IAmb	23 12 50.1
	comp=Z,13nm,1.0s					
BMAR	Burnt Mountain	78.40	4	P	P	23 12 47.1 +1.4
F28M	Old Crow	78.43	2	IAmb	IAmb	23 12 49.0
	comp=Z,10nm,0.7s					
F28M	Old Crow	78.43	2	P	P	23 12 46.4 +0.6
	baz=355,SNR=12					
BATG	Bathurst New B	78.44	320	P	P	23 12 46.5 +0.3
G19K	Purcell Mounta	78.46	9	P	P	23 12 46.8 +0.8
G19K	Purcell Mounta	78.46	9	P	P	23 12 47.0 +1.1
	baz=341,SNR=12					
G18K	Tagagawik	78.48	10	IAmb	IAmb	23 12 47.5
	comp=Z,12nm,0.9s					
G18K	Tagagawik	78.48	10	P	P	23 12 46.7 +0.6
	baz=340					
F30M	Barrier River	78.51	1	P	P	23 12 46.9 +0.7
	baz=359					
G21K	Allakaket	78.54	8	IAmb	IAmb	23 12 48.2
	comp=Z,18nm,0.8s					
G21K	Allakaket	78.54	8	P	P	23 12 47.4 +0.9
	baz=344					
G17K	Kiwalik Mounta	78.55	11	P	P	23 12 46.9 +0.4
	baz=338					
ANM	Nome	78.59	13	P	P	23 12 47.5 +0.8
	baz=334					
F31M	Tsiigehtchic	78.69	360	P	P	23 12 47.8 +0.6
	baz=0.6,SNR=22					
G23K	Bananza Creek	78.70	6	P	P	23 12 48.5 +1.1
	baz=347					
G26K	Porcupine Rive	78.92	4	P	P	23 12 50.1 +1.6
	baz=352					
G24K	Hadweenzic Riv	78.93	5	P	P	23 12 49.7 +1.2
G24K				IAmb	IAmb	23 12 50.9
	comp=Z,8.2nm,0.8s					
G24K	Hadweenzic Riv	78.93	5	P	P	23 12 50.0 +1.5
	baz=349					
G25K	Bearman Lake	78.97	5	P	P	23 12 50.1 +1.4
	baz=350					
IMAR	Indian Mountai	79.03	8	P	P	23 12 50.1 +1.0
H19K	Roundabout Mou	79.13	9	P	P	23 12 50.8 +1.1
H19K				IAmb	IAmb	23 12 51.7
	comp=Z,9.2nm,1.0s					
H19K	Roundabout Mou	79.13	9	P	P	23 12 50.8 +1.1
	baz=342					
G30M	tAoh Zraii Nji	79.14	1	P	P	23 12 50.1 +0.4
	baz=358					
G27K	Doyon Strip	79.17	3	P	P	23 12 51.0 +1.1
G27K				IAmb	IAmb	23 12 52.3
	comp=Z,14nm,0.7s					
G27K	Doyon Strip	79.17	3	P	P	23 12 51.0 +1.1
	baz=354					
G29M	Pine Creek	79.18	1	IAmb	IAmb	23 12 51.6
	comp=Z,20nm,0.8s					
G29M	Pine Creek	79.18	1	P	P	23 12 50.7 +0.7
	baz=357,SNR=12					
H17K	Granite Mounta	79.19	11	IAmb	IAmb	23 12 51.6
	comp=Z,10nm,0.9s					
H17K	Granite Mounta	79.19	11	P	P	23 12 50.7 +0.7
	baz=339					
G31M	Satah River	79.21	360	P	P	23 12 50.3 +0.3
G31M	Satah River	79.21	360	P	P	23 12 50.5 +0.5
	baz=0.1,SNR=23					
FYU	Fort Yukon	79.22	4	P	P	23 12 51.8 +1.7
FYU				IAmb	IAmb	23 12 52.0
	comp=Z,11nm,0.9s					
H18K	Honhosa River	79.22	10	P	P	23 12 50.7 +0.5
H18K				IAmb	IAmb	23 12 52.0
	comp=Z,12nm,0.8s					
H18K	Honhosa River	79.22	10	P	P	23 12 51.0 +0.8
	baz=340					
H20K	Anotleneega Mo	79.36	9	P	P	23 12 51.9 +0.9
	baz=343					
H22K	Ishtalitna Cre	79.37	7	P	P	23 12 52.6 +1.6
	baz=346					
H21K	Melozitna Rive	79.45	8	IAmb	IAmb	23 12 53.9
	comp=Z,19nm,0.8s					
H21K	Melozitna Rive	79.45	8	P	P	23 12 53.0 +1.5
	baz=345					
H23K	Yukon River	79.62	6	P	P	23 12 53.9 +1.6
	baz=347					
H24K	Noodor Dome	79.75	6	P	P	23 12 54.4 +1.3
	baz=349					
EPYK	Eagle Plains	79.75	1	P	P	23 12 53.5 +0.4
	baz=358,SNR=10.0					
H27K	Steamboat Moun	79.75	3	P	P	23 12 54.4 +1.3
	baz=354					
GCSA	Galena City Sc	79.82	10	P	P	23 12 54.8 +1.5
	baz=341					
H29M	Whitestone	79.87	2	P	P	23 12 54.2 +0.5
H29M	Whitestone	79.87	2	P	P	23 12 54.5 +0.8
	baz=357					
I17K	Unalakleet	80.05	12	P	P	23 12 55.7 +1.0
	baz=338					
I20K	Naaghedeneel	80.08	9	P	P	23 12 55.7 +0.9
I20K	Naaghedeneel	80.08	9	P	P	23 12 55.5 +0.7
	baz=343					
PRP	Porcupine Dome	80.24	5	P	P	23 12 56.9 +1.1
	baz=351					
MLY	Manley	80.28	7	P	P	23 12 56.7 +0.8
MLY				IAmb	IAmb	23 12 58.1
	comp=Z,11nm,0.8s					
MLY	Manley	80.28	7	P	P	23 12 57.2 +1.2
	baz=346,SNR=5.0					
I23K	Minto, Yukon-K	80.30	6	P	P	23 12 57.4 +1.4
	baz=348					
H31M	Peel River	80.33	0	P	P	23 12 56.7 +0.5
H31M				IAmb	IAmb	23 12 57.5
	comp=Z,8.0nm,0.8s					
H31M	Peel River	80.33	0	P	P	23 12 57.2 +0.9
	baz=0.0					
I27K	Kandik River	80.37	3	P	P	23 12 57.5 +1.0
	baz=354					
POKR	Poker Plat Res	80.49	6		P	23 12 58.0 +0.9
POKR	Poker Plat Res	80.49	6	P	P	23 12 57.5 +0.4
POKR				IAmb	IAmb	23 12 59.4
	comp=Z,21nm,0.8s					
POKR	Poker Plat Res	80.49	6	P	P	23 12 58.4 +1.3
	baz=349,SNR=6.9					
LMQ	La Malbaie	80.50	322	P	P	23 12 57.0 -0.5
LMQ				IAmb	IAmb	23 13 01.9
	comp=Z,32nm,1.2s					
J14K	Nanvaranak Lak	80.59	13	P	P	23 12 58.7 +1.1
J14K				IAmb	IAmb	23 13 00.3
	comp=Z,19nm,1.1s					
I26K	Coal Creek Min	80.59	4	P	P	23 12 58.7 +1.1
	baz=353					
I28M	Miner Creek	80.60	2	P	P	23 12 57.8 0.0
I28M				IAmb	IAmb	23 12 59.0
	comp=Z,13nm,0.7s					
I28M	Miner Creek	80.60	2	P	P	23 12 58.3 +0.5
	baz=355					
J16K	Anvik River	80.62	12	P	P	23 12 58.9 +1.1
J16K	Anvik River	80.62	12	P	P	23 12 58.7 +0.9
	baz=338					
LDAQ	Lac Daran	80.69	323	P	P	23 12 58.4 -0.1
LDAQ				IAmb	IAmb	23 13 19.2
	comp=Z,12nm,1.1s					
COLA	College	80.70	6	P	P	23 12 59.3 +1.1
	baz=349					
J19K	Poorman	80.70	9	P	P	23 12 59.7 +1.5
J19K				IAmb	IAmb	23 13 00.6
	comp=Z,9.5nm,0.9s					
J19K	Poorman	80.70	9	P	P	23 12 59.5 +1.3
	baz=342					
J20K	Nowinta River	80.72	9	P	P	23 12 59.9 +1.6
J20K				IAmb	IAmb	23 13 00.6
	comp=Z,18nm,0.9s					
J20K	Nowinta River	80.72	9	P	P	23 12 59.7 +1.4
	baz=344					
J17K	VABM Dome	80.77	11	P	P	23 12 59.5 +0.9
J17K				IAmb	IAmb	23 13 00.9
	comp=Z,12nm,1.1s					
J17K	VABM Dome	80.77	11	P	P	23 12 59.8 +1.3
	baz=340					
NEA2	Nenana	80.87	6	P	P	23 13 00.2 +1.1
	baz=348					
ILAR	Eielson Array	80.88	5	P	P	23 12 59.6 +0.5
ILAR	Eielson Array	80.88	5	P	P	23 12 59.5 +0.4
	comp=Z,5.2nm,0.8s,baz=324,slow=4.0,SNR=48					
	comp=Z,5.2nm,0.8s					
IL03	Eielson Array	80.88	5	P	P	23 12 59.8 +0.7
I30M	Mount Dempster	80.91	1	P	P	23 13 00.1 +0.6
	baz=358					
CCB	Clear Creek Bu	80.93	6	IAmb	IAmb	23 13 00.6
	comp=Z,10nm,1.0s					
J18K	Innoko River	81.06	10	P	P	23 13 01.9 +1.7
J18K	Innoko River	81.06	10	P	P	23 13 01.1 +1.0
	baz=342					
K13K	Kusilvak Mount	81.12	14	P	P	23 13 01.5 +1.1
K13K	Kusilvak Mount	81.12	14	P	P	23 13 01.5 +1.1
	baz=335					
J25K	Salcha River,	81.15	5	IAmb	IAmb	23 13 02.1
	comp=Z,8.0nm,0.5s					
J25K	Salcha River,	81.15	5	P	P	23 13 01.6 +0.9
	baz=351					
EGAK	Eagle	81.22	3	IAmb	IAmb	23 13 02.6
	comp=Z,10nm,0.8s					
EGAK	Eagle	81.22	3	P	P	23 13 01.7 +0.8
	baz=354,SNR=8.2					
CHUM	Lake Minchumin	81.22	8	P	P	23 13 02.1 +1.2
	baz=345					
HDA	Harding Lake	81.23	6	IAmb	IAmb	23 13 01.9
	comp=Z,9.8nm,0.7s					
HDA	Harding Lake	81.23	6	P	P	23 13 01.6 +0.6
	baz=350					
J26L	Joseph Creek	81.37	4	P	P	23 13 02.3 +0.4
J26L				IAmb	IAmb	23 13 03.3
	comp=Z,9.1nm,0.8s					
J26L	Joseph Creek	81.37	4	P	P	23 13 02.8 +0.9
	baz=352,SNR=5.9					
K15K	Wolf Creek Mou	81.38	12	P	P	23 13 02.9 +1.0
	baz=338					
FCC	Fort Churchill	81.52	340	P	P	23 13 03.4 +0.8
FCC	Fort Churchill	81.52	340	P	P	23 13 03.4 +0.8
FCC				pmax	pmax	
	comp=Z,8.0nm,1.2s					
K20K	Telida	81.52	9	P	P	23 13 03.6 +1.0
	baz=344					
K17K	Iditarod	81.53	11	P	P	23 13 03.6 +1.0
K17K				IAmb	IAmb	23 13 04.7
	comp=Z,13nm,0.9s					
K17K	Iditarod	81.53	11	P	P	23 13 03.8 +1.1
	baz=340					
J30M	Hart River	81.56	1	IAmb	IAmb	23 13 04.8
	comp=Z,19nm,1.1s					
J30M	Hart River	81.56	1	P	P	23 13 03.8 +0.9
	baz=358					
J29N	Klondike Camp	81.64	2	P	P	23 13 04.3 +0.9
J29N	Klondike Camp	81.64	2	P	P	23 13 04.2 +0.9
	baz=357					
TTA	Tatalina	81.67	10	P	P	23 13 04.3 +0.9
	baz=342					
CAST	Castle Rocks	81.70	8	IAmb	IAmb	23 13 05.9
	comp=Z,13nm,0.8s					
CAST	Castle Rocks	81.70	8	P	P	23 13 04.5 +1.0
	baz=345,SNR=6.4					
MCK	McKinley	81.72	7	P	P	23 13 04.5 +0.8
MCK				IAmb	IAmb	23 13 04.9
	comp=Z,14nm,1.0s					
MCK	McKinley	81.72	7	P	P	23 13 04.8 +1.1
	baz=348					
MCK	McKinley	81.72	7	P	P	23 13 04.5 +0.8
MCK				pmax	pmax	
	comp=Z,14nm,1.0s					
TRF	Thorofare Moun	81.87	7	P	P	23 13 05.3 +0.7
	baz=347					
SCRK	Sand Creek	81.87	4	P	P	23 13 05.6 +1.0
SCRK				IAmb	IAmb	23 13 06.7
	comp=Z,18nm,0.8s					
SCRK	Sand Creek	81.87	4	P	P	23 13 05.6 +1.0
	baz=352,SNR=10.0					
K24K	Donnelly Dome	81.92	5	P	P	23 13 05.5 +0.8
	baz=350,SNR=7.4					
L15K	Ungalak Mounta	81.96	13	P	P	23 13 06.1 +1.2
	baz=338					
DAWY	Dawson	82.00	2	P	P	23 13 06.3 +1.2
	baz=356					
L14K	Kuka Creek	82.05	13	P	P	23 13 06.6 +1.2
L14K				IAmb	IAmb	23 13 07.6
	comp=Z,18nm,0.9s					
L14K	Kuka Creek	82.05	13	P	P	23 13 06.7 +1.4
	baz=337					
RIDG	Independent Ri	82.05	5	P	P	23 13 06.6 +1.2
	baz=351					
RND	Reindeer	82.05	7	P	P	23 13 05.6 +0.1
RND				IAmb	IAmb	23 13 11.7
	comp=Z,9.6nm,0.9s					
RND	Reindeer	82.05	7	P	P	23 13 05.6 +0.1
RND				pmax	pmax	
	comp=Z,10.0nm,0.9s					
L17K	Donlin	82.08	11	P	P	23 13 06.6 +1.1
	baz=340					
M11K	Mekoryuk	82.19	15	P	P	23 13 07.4 +1.3
	baz=334					
PPLA	Purkeypile	82.20	8	P	P	23 13 07.1 +0.8
PPLA				IAmb	IAmb	23 13 14.4
	comp=Z,12nm,1.1s					
PPLA	Purkeypile	82.20	8	P	P	23 13 07.2 +0.8
	baz=345					
L18K	Granite Mounta	82.25	10	P	P	23 13 07.1 +0.7
L18K	Granite Mounta	82.25	10	P	P	23 13 07.7 +1.3
	baz=342					
K29M	Barlow Dome	82.27	1	P	P	23 13 07.6 +0.9
K29M				IAmb	IAmb	23 13 08.1
	comp=Z,10nm,0.8s					
K29M	Barlow Dome	82.27	1	P	P	23 13 07.8 +1.2
	baz=357					
L16K	Owhat River	82.28	12	P	P	23 13 07.9 +1.4
L16K	Owhat River	82.28	12	P	P	23 13 07.9 +1.4
	baz=339					
YKA	Yellowknife Ar	82.36	351	P	P	23 13 06.6 -0.4
	comp=Z,1.9nm,0.7s,baz=47,slow=7.7,SNR=20					
	comp=Z,1.9nm,0.7s					
YKA	Yellowknife Ar	82.36	351	P	P	23 13 07.2 +0.2
L20K	Farewell, AK	82.39	9	P	P	23 13 08.6 +1.4
	baz=344					
YKAB2	New Yellowknif	82.42	351	P	P	23 13 07.9 +0.6
DHY	Denali Highway	82.51	6	P	P	23 13 08.5 +0.5
DHY				IAmb	IAmb	23 13 27.8
	comp=Z,10nm,1.0s					
DHY	Denali Highway	82.51	6	P	P	23 13 09.0 +1.0
	baz=349					
WRGLY	Wrigley	82.53	355	P	P	23 13 08.8 +1.0
	baz=9.1					
MAYO	Mayo, Yukon	82.55	1	P	P	23 13 09.1 +1.2
	baz=359					
L19K	White Mountain	82.55	10	P	P	23 13 08.6 +0.6
L19K				IAmb	IAmb	23 13 10.2
	comp=Z,14nm,1.1s					
L19K	White Mountain	82.55	10	P	P	23 13 09.6 +1.6
	baz=343					
WAT1	Susitna Watana	82.65	7	P	P	23 13 09.3 +0.7
	baz=348					
PAX	Paxson	82.77	5	P	P	23 13 10.1 +0.8
PAX	Paxson	82.77	5	P	P	23 13 09.9 +0.7
	baz=351					
PAX	Paxson	82.77	5	P	P	23 13 10.1 +0.8
PAX				pmax	pmax	
	comp=Z,4.0nm,1.1s					
L26K	Log Cabin Wild	82.86	4	P	P	23 13 10.6 +1.0
L26K				IAmb	IAmb	23 13 11.4
	comp=Z,6.7nm,0.8s					
L26K	Log Cabin Wild	82.86	4	P	P	23 13 11.1 +1.5
	baz=353					
M19K	Big River Lodg	82.88	9	P	P	23 13 10.9 +1.2
M19K				IAmb	IAmb	23 13 12.3
	comp=Z,9.7nm,0.8s					
M19K	Big River Lodg	82.88	9	P	P	23 13 11.3 +1.6
	baz=343					
BCAR	Beaver Creek A	82.90	3	P	P	23 13 10.7 +0.9
L27K	Beaver Creek,	82.90	3	P	P	23 13 11.0 +1.2
L27K				IAmb	IAmb	23 13 12.1
	comp=Z,6.4nm,0.7s					
L27K	Beaver Creek,	82.90	3	P	P	23 13 11.4 +1.5
	baz=354					
M17K	Holitna River	82.91	11	P	P	23 13 11.2 +1.3
M17K				IAmb	IAmb	23 13 13.0
	comp=Z,21nm,1.1s					
M17K	Holitna River	82.91	11	P	P	23 13 11.5 +1.6
	baz=341					
WAT6	Susitna Watana	82.97	6	P	P	23 13 11.5 +1.2
	baz=349					
L29M	L29M	82.99	2	P	P	23 13 11.2 +0.9
L29M				IAmb	IAmb	23 13 11.8
	comp=Z,5.5nm,0.8s					
L29M	L29M	82.99	2	P	P	23 13 11.5 +1.1
	baz=357					
M16K	Timber Creek	83.02	12	P	P	23 13 11.9 +1.5
M16K	Timber Creek	83.02	12	P	P	23 13 12.0 +1.6
	baz=340					
M15K	Kasigluk River	83.02	13	P	P	23 13 12.1 +1.7
	baz=338					
M20K	Styx River	83.06	9	P	P	23 13 12.4 +1.6
	baz=344					
M18K	Stony River	83.07	10	P	P	23 13 12.3 +1.6
	baz=342					
SKT	Skwentna	83.16	8	IAmb	IAmb	23 13 12.6
	comp=Z,11nm,0.6s					
SKT	Skwentna	83.16	8	P	P	23 13 12.2 +1.0
	baz=346					
HARP	HAARP	83.36	5	P	P	23 13 13.6 +1.4
	baz=351					
M26K	Nabesna, AK	83.50	4	P	P	23 13 14.4 +1.4
M26K				IAmb	IAmb	23 13 15.0
	comp=Z,7.7nm,0.9s					
M26K	Nabesna, AK	83.50	4	P	P	23 13 14.3 +1.4
	baz=353					
MMPY	Sheldon Lake,	83.50	359	P	P	23 13 14.6 +1.7
MMPY	Sheldon Lake,	83.50	359	P	P	23 13 14.7 +1.7
	baz=2.6					
M22K	Willow	83.54	7	P	P	23 13 13.9 +0.8
	baz=347					
M30M	Minto, Yukon	83.56	1	P	P	23 13 14.1 +0.9
M30M	Minto, Yukon	83.56	1	P	P	23 13 14.2 +0.9
	baz=358					
N16K	Nishlik Lake	83.56	12	P	P	23 13 14.9 +1.6
	baz=340					
M24K	Tolsona, Glenn	83.57	6	P	P	23 13 14.5 +1.2
M24K	Tolsona, Glenn	83.57	6	P	P	23 13 14.5 +1.2
	baz=350					
BVCY	Beaver Creek	83.59	3	P	P	23 13 14.9 +1.5
	baz=355					
M27K	Edge Creek, AK	83.60	4	P	P	23 13 15.0 +1.4
M27K				IAmb	IAmb	23 13 16.1
	comp=Z,10nm,0.8s					
M27K	Edge Creek, AK	83.60	4	P	P	23 13 15.4 +1.8
	baz=354					
GHO	Glory Hole Cre	83.65	7	P	P	23 13 14.5 +0.7
GHO				IAmb	IAmb	23 13 20.3
	comp=Z,12nm,1.0s					
M29M	Somme Creek	83.65	2	P	P	23 13 14.8 +0.9
M29M				IAmb	IAmb	23 13 15.5
	comp=Z,5.7nm,0.8s					
M29M	Somme Creek	83.65	2	P	P	23 13 15.0 +1.2
	baz=357					
SML	Sawmill	83.67	7	P	P	23 13 14.0 +0.2
SML	Sawmill	83.67	7	P	P	23 13 15.0 +1.1
	baz=348					
SCM	Sheep Creek Mo	83.74	6	P	P	23 13 14.9 +0.7
SCM	Sheep Creek Mo	83.74	6	P	P	23 13 15.6 +1.4
	baz=349					
SCM	Sheep Creek Mo	83.74	6	P	P	23 13 14.9 +0.7
SCM				pmax	pmax	
	comp=Z,20nm,0.9s					
M23K	Glacier View	83.74	6	P	P	23 13 15.4 +1.2
	baz=349					
SUA	Susitna One	83.76	8	P	P	23 13 15.3 +0.9
SUA	Susitna One	83.76	8	P	P	23 13 15.5 +1.1
	baz=346					
N17K	Nushagak Hills	83.78	11	P	P	23 13 15.7 +1.3
N17K				IAmb	IAmb	23 13 35.6
	comp=Z,9.6nm,1.1s					
N17K	Nushagak Hills	83.78	11	P	P	23 13 15.8 +1.4
	baz=341					
PMR	Palmer	83.81	7	P	P	23 13 15.7 +1.3
	baz=348					
N18K	Kilae Creek	83.83	10	P	P	23 13 15.7 +1.0
N18K				IAmb	IAmb	23 13 17.7
	comp=Z,13nm,0.9s					
N18K	Kilae Creek	83.83	10	P	P	23 13 16.3 +1.6
	baz=342					
N19K	Bonanza Creek	83.91	10	P	P	23 13 16.4 +1.2
N19K	Bonanza Creek	83.91	10	P	P	23 13 16.6 +1.4
	baz=343					
FARO	Faro, Yukon	83.92	360	P	P	23 13 16.6 +1.5
	baz=0.9					
M31M	Drury Creek, Y	83.95	0	P	P	23 13 16.1 +0.9
M31M				IAmb	IAmb	23 13 17.2
	comp=Z,7.2nm,0.8s					
M31M	Drury Creek, Y	83.95	0	P	P	23 13 16.5 +1.3
	baz=0.0					
KNK	Knik Glacier	84.05	7	P	P	23 13 16.8 +1.0
KNK	Knik Glacier	84.05	7	P	P	23 13 17.0 +1.3
	baz=348					
N25K	Chitina, Valde	84.18	5	P	P	23 13 17.6 +1.1
N25K	Chitina, Valde	84.18	5	P	P	23 13 17.7 +1.2
	baz=352					
KLU	Klutina	84.20	6	P	P	23 13 18.1 +1.5
KLU	Klutina	84.20	6	P	P	23 13 18.0 +1.4
	baz=350,SNR=7.0					
RC01	Rabbit Creek A	84.23	7	P	P	23 13 17.6 +0.9
RC01	Rabbit Creek A	84.23	7	P	P	23 13 18.0 +1.3
	baz=347					
YUK3	Moose Creek	84.25	3	P	P	23 13 18.2 +1.2
	baz=355					
O14K	Tigyukauivet M	84.25	14	P	P	23 13 18.2 +1.5
CAPN	Captain Cook N	84.39	8	P	P	23 13 19.2 +1.8
	baz=346					
MCARA	McCarthy VSAT	84.51	4	P	P	23 13 19.6 +1.5
	baz=353					
O17K	Koliganek Bris	84.51	11	P	P	23 13 19.5 +1.5
	baz=341					
DIV	Divide	84.57	6		P	23 13 20.0 +1.5
O15K	Ungalikthiuk R	84.60	13	P	P	23 13 19.9 +1.4
	baz=339					
PWL	Port Wells	84.60	7	P	P	23 13 19.9 +1.3
PWL	Port Wells	84.60	7	P	P	23 13 20.7 +2.1
	baz=348					
VRDI	Verde Repeater	84.64	4	P	P	23 13 19.8 +0.9
VRDI				IAmb	IAmb	23 13 20.2
	comp=Z,8.2nm,0.9s					
LONY	Lake Ozonia	84.66	322	P	P	23 13 20.1 +0.9
N31M	Braeburn, Yuko	84.66	1	P	P	23 13 19.9 +1.0
	baz=359					
N30M	Aishikik Lake	84.67	1	P	P	23 13 18.7 -0.3
N30M				IAmb	IAmb	23 13 20.3
	comp=Z,5.5nm,0.8s					
N30M	Aishikik Lake	84.67	1	P	P	23 13 19.7 +0.7
	baz=358					
GLI	Glacier Island	84.70	6	P	P	23 13 20.4 +1.3
GLI	Glacier Island	84.70	6	P	P	23 13 20.3 +1.3
	baz=350					
O18K	Koktuh Hills	84.73	10	P	P	23 13 20.4 +1.2
O18K	Koktuh Hills	84.73	10	P	P	23 13 20.4 +1.2
	baz=343					
YUK4	Talbot Arm	84.75	2	P	P	23 13 20.1 +0.6
	baz=357					
P08K	Saint George I	84.75	19	P	P	23 13 20.8 +1.5
	baz=331					
YUK8	Steele Glacier	84.77	3	P	P	23 13 20.7 +1.0
	baz=356					
BMRM	Bremner River	84.82	5	P	P	23 13 20.8 +1.1

FID	**Port Fidalgo**	**84.88**	**6**	P	**P**	**23 13 21.2**	**+1.2**
N32M	**Quiet Lake**	**85.00**	**359**	P	**P**	**23 13 21.9**	**+1.3**
	baz=1.1						
CTG	**Chitna Glacier**	**85.02**	**3**	P	**P**	**23 13 22.0**	**+1.2**
	baz=354						
CTGM	**Chitina Glacie**	**85.02**	**3**	P	**P**	**23 13 22.2**	**+1.4**
CTGM				IAmb	IAmb	23 13 25.6	
	comp=Z,17nm,1.2s						
EYAK	**Cordova Ski Ar**	**85.14**	**6**	P	**P**	**23 13 22.6**	**+1.4**
	baz=351						
TGL	**Tana Glacier**	**85.14**	**4**	P	**P**	**23 13 22.1**	**+0.7**
YUK6	**Outpost Mounta**	**85.16**	**2**	P	**P**	**23 13 22.6**	**+1.0**
	baz=357						
P17K	**Kvichak River**	**85.16**	**11**	P	**P**	**23 13 22.9**	**+1.5**
	baz=342						
LOGN	**Logan Glacier**	**85.17**	**3**	P	**P**	**23 13 23.2**	**+1.5**
SEW	**Seward**	**85.23**	**8**	P	**P**	**23 13 22.9**	**+1.3**
	baz=348						
GRNC	**Granite Creek**	**85.23**	**4**	P	**P**	**23 13 22.2**	**+0.2**
GRNC				IAmb	IAmb	23 13 24.1	
	comp=Z,17nm,1.0s						
O28M	**Mount Upton**	**85.26**	**3**	P	**P**	**23 13 22.8**	**+0.6**
	baz=355						
HYT	**Haines Junctio**	**85.30**	**2**	P	**P**	**23 13 23.6**	**+1.4**
HYT	**Haines Junctio**	**85.30**	**2**	P	**P**	**23 13 23.5**	**+1.3**
	baz=357						
O30N	**Mendenhall**	**85.38**	**1**	P	**P**	**23 13 23.3**	**+0.8**
O30N				IAmb	IAmb	23 13 29.6	
	comp=Z,11nm,1.1s						
O30N	**Mendenhall**	**85.38**	**1**	P	**P**	**23 13 23.7**	**+1.2**
	baz=359						
WHY	**Whitehorse**	**85.50**	**0**	P	**P**	**23 13 23.3**	**+0.1**
P23K	**Montague Islan**	**85.54**	**7**	P	**P**	**23 13 24.5**	**+1.3**
	baz=349						
O29M	**Mount Kennedy**	**85.79**	**2**	P	**P**	**23 13 26.0**	**+1.4**
O29M				IAmb	IAmb	23 13 34.9	
	comp=Z,16nm,1.1s						
O29M	**Mount Kennedy**	**85.79**	**2**	P	**P**	**23 13 25.5**	**+0.8**
	baz=356						
P33M	**Teslin, Yukon**	**85.94**	**359**	P	**P**	**23 13 26.0**	**+0.6**
P33M	**Teslin, Yukon**	**85.94**	**359**	P	**P**	**23 13 26.0**	**+0.6**
	baz=1.3						
Q17K	**Contact Creek**	**86.14**	**11**	P	**P**	**23 13 26.8**	**+0.4**
	baz=342						
Q23K	**Middleton Isla**	**86.20**	**6**	P	**P**	**23 13 27.2**	**+0.7**
	baz=350						
Q20K	**Shuyak Island**	**86.33**	**9**	P	**P**	**23 13 28.1**	**+1.0**
	baz=345						
PNL	**Peninsula**	**86.40**	**3**	P	**P**	**23 13 28.5**	**+0.9**
	baz=356						
P29M	**Windy Craggy**	**86.49**	**2**	P	**P**	**23 13 28.8**	**+0.8**
	baz=357						
R16K	**Pilot Point**	**86.52**	**12**	P	**P**	**23 13 29.4**	**+1.3**
	baz=341						
P32M	**Atlin**	**86.57**	**360**	P	**P**	**23 13 29.1**	**+0.7**
	baz=0.6						
R17L	**Mt. Peulik Vol**	**86.67**	**12**	P	**P**	**23 13 29.7**	**+0.8**
	baz=342						
PLBC	**Pleasant Camp**	**86.69**	**1**	P	**P**	**23 13 30.7**	**+1.7**
	baz=358						
SKAG	**Skagway**	**86.70**	**1**	P	**P**	**23 13 29.8**	**+0.8**
	baz=359						
R33M	**Jennings River**	**86.73**	**358**	P	**P**	**23 13 30.7**	**+1.4**
R33M	**Jennings River**	**86.73**	**358**	P	**P**	**23 13 30.6**	**+1.3**
	baz=2.8						
TOAD	**Toad River Com**	**87.01**	**355**	P	**P**	**23 13 31.8**	**+1.2**
	baz=7.6						
KDAK	**Kodiak Island**	**87.10**	**10**	P	**P**	**23 13 32.4**	**+1.5**
KDAK	**Kodiak Island**	**87.10**	**10**	P	**P**	**23 13 32.1**	**+1.2**
	baz=345						
KDAK	**Kodiak Island**	**87.10**	**10**	P	**P**	**23 13 32.4**	**+1.5**
KDAK				pmax	pmax		
	comp=Z,63nm,1.0s						
Q32M	**Nakina River**	**87.19**	**359**	P	**P**	**23 13 32.4**	**+0.7**
Q32M	**Nakina River**	**87.19**	**359**	P	**P**	**23 13 32.6**	**+1.0**
	baz=1.8						
OHAK	**Old Harbor**	**87.54**	**10**	P	**P**	**23 13 34.8**	**+1.7**
OHAK	**Old Harbor**	**87.54**	**10**	P	**P**	**23 13 34.3**	**+1.3**
	baz=344						
DLBC	**Dease Lake**	**87.66**	**358**	P	**P**	**23 13 34.7**	**+0.9**
S32K	**Killisnoo**	**88.70**	**0**	P	**P**	**23 13 39.0**	**+0.4**
	baz=360						
CHNA	**Chernabura Isl**	**88.71**	**14**	P	**P**	**23 13 39.2**	**+0.5**
	baz=339						
ULM	**Lac du Bonnet**	**89.32**	**336**	LR	LR	23 57 18.0	
	comp=Z,70nm,18.3s,baz=338,slow=38						
O48B	**Farmland**	**93.15**	**325**	P	**P**	**23 13 59.6**	**-0.1**
	baz=39						
P49A	**Miami Univ. Ec**	**93.50**	**324**	P	**P**	**23 14 00.8**	**-0.4**
	baz=39						
WRA	**Warramunga Arr**	**99.86**	**107**	P	**Pdif**	**23 14 29.7**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=316,slow=3.8,SNR=1.3						
	comp=Z,0.2nm,0.7s						
Q24A	**Divide**	**102.36**	**337**	P	**Pdif**	**23 14 40.9**	**-0.7**
	baz=24						
QSPA	**South Pole Qui**	**124.02**	**180**	PKP	**PKPdf**	**23 19 43.1**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=238,slow=1.1,SNR=5.2						

*UCR **25** 23:15:59.4±0.9, 13°.34N×80°.95W, h20km, MW4.6*
*CATAC **25** 23:16:01.7±0.6, 13°.26N×81°.16W, h9km±3km, mb5.4, MB5.9, ML4.6*
*IDC **25** 23:16:03.2±1.1, 13°.08N×81°.42W, h0km, mb3.8/6, mbtmp3.8/7, ML3.1/2, MS3.1/4, Error ellipse: s-maj=29.8km s-min=23.8km az=57.0*
*UPA **25** 23:16:09.0±7.0, 12°.90N×80°.95W, h35km±999km*
ISC 25 23:16:04.0±0.9, 13°.23N±0°.04×81°.03W±0°.06, h35km, n49, σ1^{s}94/63, mb3.6/6, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.35**	**294**	*i* P	Pn	23 16 06.5	-6.1
PRVC				*i* S	**Sn**	**23 16 11.7**	**-6.9**
PRVC				IAML		23 16 12.3	
	comp=Z,27μm,1.0s						
BLUN	**Bluefields**	**2.94**	**246**	*i* P	**Pn**	**23 16 47.3**	**-1.0**
BLUN				*i* S	**Sn**	**23 17 23.2**	**+0.8**
BLUN				IAML		23 17 40.3	
	comp=Z,410nm,1.0s						
ESPN	**Las Esperanzas**	**3.35**	**252**	*i* P	**Pn**	**23 16 53.0**	**-0.9**
ESPN				*i* S	**Sn**	**23 17 32.3**	**-0.2**
ESPN				IAML		23 17 53.5	
	comp=Z,940nm,1.0s						
ESPN	**Las Esperanzas**	**3.35**	**252**	*e*P	**Pn**	**23 16 52.2**	**-1.7**
TRT2	**Tortugero**	**3.75**	**225**	*i* P	**Pn**	**23 16 59.3**	**-0.1**
TRT2				IAML		23 16 59.9	
	comp=Z,250nm,1.0s						
TRT2				*i* S	**Sn**	**23 17 43.4**	**+1.1**
CNI2	**El Empalme, Bo**	**4.04**	**201**	*e*P	Pn	23 17 08.5	+5.2
CNI2				*e*S	**Sn**	**23 17 49.0**	**-0.5**
COVE	**Coope Vega, Sa**	**4.13**	**233**	*i* P	**Pn**	**23 17 04.1**	**-0.6**
COVE				*i* S	**Sn**	**23 17 51.8**	**-0.1**
COVE				IAML		23 18 32.3	
	comp=Z,620nm,1.0s						
BCIP	**Isla Barro Col**	**4.21**	**164**	*e*P	**Pn**	**23 17 03.3**	**-2.4**
ACON	**Acoyapa**	**4.23**	**253**	*i* P	**Pn**	**23 17 05.4**	**-0.7**
ACON				*i* S	**Sn**	**23 17 53.8**	**-0.5**
ACON				IAML		23 18 27.5	
	comp=Z,510nm,1.0s						
ACON	**Acoyapa**	**4.23**	**253**	*e*P	**Pn**	**23 17 05.1**	**-1.0**
RAFA	**San Farael, Vo**	**4.24**	**220**	*i* P	Pn	23 17 16.5	+10
CHGR2	**Aguacate**	**4.40**	**194**	*e*S	**Sn**	**23 17 54.5**	**-4.1**
SOCE	**Pocosol**	**4.51**	**232**	*i* P	**Pn**	**23 17 09.2**	**-0.7**
SOCE				IAML		23 17 27.4	
	comp=Z,230nm,1.0s						
SOCE				*i* S	**Sn**	**23 18 01.8**	**+0.6**
ABE2	**San Pablo**	**4.59**	**221**	*e*P	**Pn**	**23 17 10.5**	**-0.7**
ACOS	**Acosta**	**4.59**	**222**	*e*P	**Pn**	**23 17 10.3**	**-0.8**
BRU2	**Volcan**	**4.70**	**200**	*i* P	**Pn**	**23 17 12.7**	**+0.1**
BRU2				*i* S	**Sn**	**23 18 07.6**	**+1.6**
BRU2				IAML		23 18 25.9	
	comp=Z,350nm,1.0s						
BRU2	**Volcan**	**4.70**	**200**	*e*P	**Pn**	**23 17 12.7**	**+0.1**
BRU2				*e*S	**Sn**	**23 18 03.2**	**-2.8**
BCO2	**Palmira**	**4.72**	**198**	*e*P	Pn	23 17 08.2	-4.7
BCO2				*e*S	**Sn**	**23 18 04.9**	**-1.6**
CUI	**Cuipilapa**	**4.78**	**238**	*e*P	**Pn**	**23 17 12.4**	**-1.3**
JTS	**Las Juntas de**	**4.82**	**233**	Pn	**Pn**	**23 17 13.4**	**-0.8**
	comp=Z,6.6nm,0.3s,baz=19,slow=8.9,SNR=21						
JTS				Sn	**Sn**	**23 18 07.8**	**-1.1**
	comp=Z,4.6nm,0.3s,baz=268,slow=21,SNR=4.5						
JTS				LR	LR	23 18 45.9	
	comp=Z,132nm,20.6s,baz=77,slow=37						
	comp=Z,19nm,0.4s						
OCHAL	**Ojochal**	**4.84**	**212**	*i* P	**Pn**	**23 17 13.9**	**-0.5**
OCHAL				*i* S	**Sn**	**23 18 11.0**	**+1.7**
OCHAL				IAML		23 18 13.6	
	comp=Z,180nm,1.0s						
CALO3	**Calobre, Verag**	**4.88**	**178**	*e*P	Pn	23 17 10.2	-4.8
RCPN	**Sur Rio San Ju**	**4.93**	**274**	*i* P	**Pn**	**23 17 14.8**	**-1.0**
LOMA3	**Las Lomas, Chi**	**4.95**	**196**	*e*P	**Pn**	**23 17 19.8**	**+3.8**
LOMA3				*e*S	**Sn**	**23 18 12.6**	**+0.5**
DVD	**David**	**4.96**	**196**	*e*P	Pn	23 17 33.7	+18
DVD				*e*S	**Sn**	**23 18 12.6**	**+0.2**
CDITO	**Canoas**	**4.97**	**202**	*i* P	**Pn**	**23 17 16.6**	**+0.4**
CDITO				*i* S	**Sn**	**23 18 14.5**	**+2.0**
CDITO				IAML		23 18 20.6	
	comp=Z,560nm,1.0s						
RCFN	**Al S de San Ju**	**5.05**	**274**	*i* P	**Pn**	**23 17 16.1**	**-1.3**
RCFN				IAML		23 18 13.3	
	comp=Z,2μm,1.0s						
RCFN				*i* S	**Sn**	**23 18 14.4**	**-0.3**
MESA3	**La Mesa, Verag**	**5.05**	**182**	*e*P	**Pn**	**23 17 16.4**	**-1.0**
LIMN	**Finca el Limon**	**5.20**	**269**	*i* P	**Pn**	**23 17 18.7**	**-0.7**
LIMN				IAmb	IAmb	23 17 39.3	
	comp=Z,130nm,0.6s						
LIMN				IVmB_BB		23 18 17.9	
	comp=Z,4μm,1.0s						
LIMN				IAML		23 19 14.7	
	comp=Z,290nm,1.0s						
CHIT3	**Chitre**	**5.28**	**173**	*e*P	**Pn**	**23 17 20.7**	**+0.3**
CHIT3				*e*S	**Sn**	**23 18 18.6**	**-1.4**
GMAL	**Guarumal, Vera**	**5.44**	**182**	*e*S	**Sn**	**23 18 21.2**	**-2.8**
GMAL	**Guarumal, Vera**	**5.44**	**182**	*e*P	**Pn**	**23 17 21.8**	**-0.8**
AZU	**Azuero**	**5.46**	**172**	*e*P	**Pn**	**23 17 24.2**	**+1.3**
AZU				*e*S	**Sn**	**23 18 18.0**	**-6.4**
INDI	**Punta indio, G**	**5.51**	**233**	*i* P	**Pn**	**23 17 23.2**	**-0.4**
INDI				IVmB_BB		23 17 24.8	
	comp=Z,72μm,1.0s						
INDI				IAML		23 17 25.2	
	comp=Z,8μm,1.0s						
INDI				IAmb	IAmb	23 17 25.7	
	comp=Z,7μm,0.8s						
INDI				*i* S	**Sn**	**23 18 27.1**	**+1.3**
YUSH	**Yuscaran**	**5.70**	**278**	*i* P	**Pn**	**23 17 24.4**	**-1.9**
YUSH				*i* S	**Sn**	**23 18 29.8**	**-0.7**
CACAO	**El Cacao, Vera**	**5.85**	**178**	*e*P	Pn	23 17 36.9	+8.6
CACAO				*e*S	**Sn**	**23 18 33.4**	**-0.8**
COMHN	**El Horno**	**6.45**	**282**	*i* P	**Pn**	**23 17 34.3**	**-2.4**
COMHN				*i* S	**Sn**	**23 18 48.0**	**-1.3**
ESQI	**Esquipulas**	**8.18**	**280**	*i* P	**Pn**	**23 17 59.1**	**-1.3**
ESQI				IVmB_BB		23 18 02.0	
	comp=Z,4μm,1.0s						
ESQI				IAmb	IAmb	23 18 20.6	
	comp=Z,29nm,0.8s						
ESQI				*i* S	**Sn**	**23 19 31.6**	**0.0**
TEIG	**Tepich**	**9.82**	**316**	Pn	**Pn**	**23 18 22.8**	**-0.1**
	baz=120,slow=24,SNR=15						
TEIG				Sn	**Sn**	**23 20 09.5**	**-2.5**
	baz=144,slow=24,SNR=1.2						
SDV	**Santo Domingo**	**11.08**	**112**	Sn	**Sn**	**23 20 42.5**	**-0.6**
	comp=Z,3.7nm,0.3s,baz=13,slow=24,SNR=7.1						
SDV				LR	LR	23 23 32.7	
	comp=Z,63nm,18.1s,baz=274,slow=40						
CMIG	**Matias Romero**	**13.91**	**288**	LR	LR	23 24 18.8	
	comp=Z,135nm,18.3s,baz=34,slow=36						
TXAR	**Lajitas Array**	**26.41**	**311**	P	**P**	**23 21 40.1**	**+2.5**
	comp=Z,1.6nm,0.8s,baz=138,slow=10,SNR=4.8						
	comp=Z,1.6nm,0.8s						
PDAR	**Pinedale Array**	**38.38**	**326**	P	**P**	**23 23 24.8**	**+2.6**
	comp=Z,0.7nm,0.8s,baz=142,slow=12,SNR=4.3						
	comp=Z,0.7nm,0.8s						
NVAR	**Mina Array Bea**	**41.46**	**314**	P	**P**	**23 23 51.1**	**+3.3**
	comp=Z,0.4nm,0.6s,baz=113,slow=9.1,SNR=2.2						
NVAR				LR	LR	23 43 08.9	
	comp=Z,40nm,18.5s,baz=276,slow=40						
	comp=Z,0.4nm,0.6s						
BDFB	**Brasilia**	**43.47**	**130**	P	P	23 24 10.3	+6.0
	comp=Z,2.3nm,0.8s,baz=303,slow=9.8,SNR=3.3						
	comp=Z,2.3nm,0.8s						
ILAR	**Eielson Array**	**67.90**	**335**	P	P	23 27 04.8	+6.0
	comp=Z,0.3nm,0.6s,baz=110,slow=5.1,SNR=4.4						
	comp=Z,0.3nm,0.6s						
FINES	**FINESS Array B**	**86.46**	**27**	P	P	23 28 50.1	+7.3
	comp=Z,1.2nm,0.7s,baz=270,slow=1.9,SNR=3.5						
	comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**145.36**	**247**	PKP	**PKPdf**	**23 35 40.4**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=111,slow=3.5,SNR=5.0						
WRA	**Warramunga Arr**	**145.50**	**254**	PKPbc	**PKPab**	**23 35 41.1**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=92,slow=3.2,SNR=11						

*SOME **25** 23:18:00.5, 39°.67N×74°.05E, h10km*
*IDC **25** 23:18:00.3±0.7, 39°.57N×73°.98E, h0km, mb3.9/17, mbtmp3.9/22, ML3.3/6, MS3.5/10, Error ellipse: s-maj=13.3km s-min=10.6km az=104.0*
*KRNET **25** 23:18:02.7±0.1, 39°.77N×73°.88E, h17km, mb4.2*
*MOS **25** 23:18:02.0±1.6, 39°.61N×73°.88E, h10km, mb4.2/8, Error ellipse: s-maj=7.9km s-min=4.7km az=89.8*
*NNC **25** 23:18:04.7±1.1, 39°.80N×74°.02E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=8.9km s-min=5.3km az=171.0*
*NEIC **25** 23:18:06.1±2.9, 39°.81N±0°.05×73°.70E±0°.07, h10km±2km, mb4.1/6, Error ellipse: s-maj=11.5km s-min=4.9km az=129.0*
ISC 25 23:18:01.9±1.3, 39°.69N±0°.03×73°.87E±0°.02, h2km±8km, n188, σ2^{s}25/243, mb4.0/28, MS3.4/6, 50C-26D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.42**	**319**	⇑*e*P	**Pg**	**23 18 10.2**	**+0.1**
SFK				⇑*e*S	**Sg**	**23 18 16.0**	**+0.3**
OHH	**Osh**	**1.17**	**315**	⇓*i*P	**Pb**	**23 18 23.9**	**-1.1**
OHH				⇓*i*S	**Sb**	**23 18 39.2**	**-1.5**
SALK	**Salom-Alik**	**1.19**	**358**	⇓*e*P	**Pb**	**23 18 23.4**	**-1.9**
SALK				⇓*e*S	**Sb**	**23 18 38.5**	**-2.7**
DRK	**Karamyk**	**1.61**	**263**		**Pn**	**23 18 32.3**	**+0.6**
DRK	**Karamyk**	**1.61**	**263**	⇑*e*P	**Pn**	**23 18 32.5**	**+0.8**
DRK				⇑*i*S	**Sb**	**23 18 54.4**	**+0.9**
DRK	**Karamyk**	**1.61**	**263**	PN	**Pn**	**23 18 32.3**	**+0.6**
ARSB	**Arslanbob**	**1.76**	**338**		**Pn**	**23 18 34.6**	**+1.0**
ARSB	**Arslanbob**	**1.76**	**338**	⇓*i*P	**Pn**	**23 18 34.0**	**+0.4**
ARSB				⇓*i*S	**Sb**	**23 18 56.5**	**-1.2**
ARSB	**Arslanbob**	**1.76**	**338**	PN	**Pn**	**23 18 34.6**	**+1.0**
ARLS	**Aral**	**2.19**	**9**	⇑*i*P	**Pn**	**23 18 39.9**	**+0.3**
ARLS				⇑*i*S	**Sn**	**23 19 07.1**	**-0.2**
BTK	**Batken**	**2.38**	**280**	⇑*i*P	**Pn**	**23 18 43.5**	**+1.5**
BTK				⇑*i*S	**Sb**	**23 19 13.8**	**-1.4**
NRN	**Naryn**	**2.38**	**42**		**Pn**	**23 18 43.9**	**+1.7**
NRN	**Naryn**	**2.38**	**42**	⇑*i*P	**Pn**	**23 18 42.5**	**+0.2**
NRN				⇑*i*S	**Sn**	**23 19 11.5**	**-0.7**
NRN	**Naryn**	**2.38**	**42**	PN	**Pn**	**23 18 43.9**	**+1.7**
AML	**Almayashu**	**2.44**	**357**	P	**Pn**	**23 18 45.3**	**+2.2**
	SNR=389						
AML	**Almayashu**	**2.44**	**357**	⇑*i*P	**Pn**	**23 18 43.8**	**+0.7**
AML				⇑*i*S	**Sn**	**23 19 13.6**	**-0.1**
AML	**Almayashu**	**2.44**	**357**	*i* PN	**Pn**	**23 18 45.0**	**+1.9**
ARK	**Arkit**	**2.55**	**326**	⇑*i*P	**Pn**	**23 18 45.4**	**+1.0**
ARK				⇑*i*S	**Sn**	**23 19 16.5**	**+0.4**
UCH	**Uchtor**	**2.58**	**11**	P	**Pb**	**23 18 47.8**	**-1.3**
	SNR=11						
UCH	**Uchtor**	**2.58**	**11**	⇑*i*P	**Pn**	**23 18 45.5**	**+0.4**
UCH				⇑*i*S	**Sn**	**23 19 16.9**	**-0.4**
UCH	**Uchtor**	**2.58**	**11**	*i* PN	**Pn**	**23 18 47.7**	**+2.6**
TRKS	**Terek-Say**	**2.77**	**312**	⇑*e*P	**Pn**	**23 18 47.4**	**-0.1**
TRKS				⇑*e*S	**Sn**	**23 19 20.7**	**-0.9**
GAR	**Garm**	**2.84**	**257**	Pn	**Pn**	**23 18 50.9**	**+2.5**
GAR	**Garm**	**2.84**	**257**	⇑*i*P	**Pn**	**23 18 50.4**	**+2.0**
GAR				⇑*i*S	**Sn**	**23 19 25.1**	**+1.9**
GAR	**Garm**	**2.84**	**257**	*i* PN	**Pn**	**23 18 51.1**	**+2.7**
EKS2	**Erkin-Say**	**2.97**	**359**	P	**Pn**	**23 18 53.1**	**+3.0**
	SNR=28						
EKS2	**Erkin-Say**	**2.97**	**359**	⇑*i*P	**Pn**	**23 18 50.8**	**+0.7**
EKS2				⇑*i*S	**Sn**	**23 19 25.9**	**-0.5**
EKS2	**Erkin-Say**	**2.97**	**359**	*i* PN	**Pn**	**23 18 52.2**	**+2.1**
MNAS	**Manas**	**2.98**	**340**	⇑*i*P	**Pn**	**23 18 51.0**	**+0.7**
MNAS				⇑*i*S	**Sn**	**23 19 26.3**	**-0.3**
AAK	**Ala-Archa**	**2.98**	**9**	P	**Pn**	**23 18 53.4**	**+3.1**
	SNR=83						
AAK	**Ala-Archa**	**2.98**	**9**	⇓Pn	**Pn**	**23 18 53.1**	**+2.7**
	80nm,0.6s						
AAK				Lg	Lg	23 19 35.9	
	208nm,0.6s						
AAK	**Ala-Archa**	**2.98**	**9**	Pn	**Pn**	**23 18 52.4**	**+2.0**
AAK	**Ala-Archa**	**2.98**	**9**	Pn	**Pn**	**23 18 53.0**	**+2.7**
	15nm,0.3s,baz=170,slow=6.7,SNR=95						
AAK				Sn	**Sb**	**23 19 33.2**	**+0.5**
	18nm,0.3s,baz=338,slow=20,SNR=7.1						
AAK				LR	LR	23 20 14.8	
	comp=Z,368nm,20.1s,baz=220,slow=44						
	110nm,0.6s						
AAK	**Ala-Archa**	**2.98**	**9**	⇑*i*P	**Pn**	**23 18 51.0**	**+0.6**
AAK				⇑*i*S	**Sn**	**23 19 26.1**	**-0.6**
KBK	**Karagaybulak**	**3.07**	**15**	P	**Pn**	**23 18 54.6**	**+3.0**
	SNR=64						
KBK	**Karagaybulak**	**3.07**	**15**	⇑*i*P	**Pn**	**23 18 52.4**	**+0.8**
KBK				⇑*i*S	**Sn**	**23 19 28.5**	**-0.5**
KBK	**Karagaybulak**	**3.07**	**15**	*i* PN	**Pn**	**23 18 54.6**	**+3.0**
MRKS	**Merke**	**3.09**	**351**	*e*P	**Pb**	**23 18 58.8**	**+1.2**
	78nm,0.4s						
MRKS				*e*S	**Sg**	**23 19 40.4**	**-0.7**
	320nm,0.3s						
ULHL	**Ulahol**	**3.12**	**34**	P	**Pb**	**23 18 58.1**	**-0.1**
	SNR=35						
ULHL	**Ulahol**	**3.12**	**34**	⇓*i*P	**Pn**	**23 18 53.1**	**+0.8**
ULHL				⇓*i*S	**Sn**	**23 19 29.7**	**-0.6**
ULHL	**Ulahol**	**3.12**	**34**	*i* PN	**Pn**	**23 18 56.2**	**+3.9**
FRU1	**Bishkek**	**3.17**	**10**		**Pn**	**23 18 55.3**	**+2.5**
FRU1	**Bishkek**	**3.17**	**10**	⇓*i*P	**Pn**	**23 18 53.7**	**+0.9**
FRU1				⇓*i*S	**Sn**	**23 19 31.0**	**-0.2**
FRU1	**Bishkek**	**3.17**	**10**	PN	**Pn**	**23 18 55.3**	**+2.5**
BOOM	**Boomskoye usch**	**3.20**	**29**	⇑*e*P	**Pn**	**23 18 54.3**	**+0.9**
BOOM				⇑*e*S	**Sn**	**23 19 31.8**	**-0.5**
CHMS	**Chumysh**	**3.37**	**11**	P	**Pn**	**23 18 58.4**	**+2.8**
	SNR=22						
CHMS	**Chumysh**	**3.37**	**11**	⇓Pn	**Pn**	**23 18 58.8**	**+3.2**
	60nm,0.6s						
CHMS				⇓Lg	Lg	23 19 49.0	
	118nm,0.6s						
CHMS	**Chumysh**	**3.37**	**11**	⇑*i*P	**Pn**	**23 18 56.2**	**+0.6**
CHMS				⇑*i*S	**Sn**	**23 19 35.4**	**-0.8**
CHMS	**Chumysh**	**3.37**	**11**	*i* PN	**Pn**	**23 18 58.2**	**+2.6**
TKM2	**Tokmak 2**	**3.48**	**21**	P	**Pb**	**23 19 02.1**	**-2.3**
	SNR=9.1						
TKM2	**Tokmak 2**	**3.48**	**21**	⇑Pg	**Pb**	**23 19 04.3**	**0.0**
	44nm,0.6s						
TKM2				⇓Lg	Lg	23 19 50.7	
	141nm,0.9s						
TKM2	**Tokmak 2**	**3.48**	**21**	⇓*i*P	**Pn**	**23 18 57.9**	**+0.6**
TKM2				⇓*i*S	**Sn**	**23 19 38.2**	**-0.9**
TKM2	**Tokmak 2**	**3.48**	**21**	*i* PN	**Pn**	**23 19 00.5**	**+3.2**
KDJ	**Kajisay**	**3.50**	**45**		**Pn**	**23 19 00.1**	**+2.6**
KDJ	**Kajisay**	**3.50**	**45**	⇑*e*P	**Pn**	**23 18 58.4**	**+0.9**
KDJ				⇑*e*S	**Sn**	**23 19 39.0**	**-0.5**
KDJ	**Kajisay**	**3.50**	**45**	PN	**Pn**	**23 19 00.1**	**+2.6**
USP	**Ospenovka**	**3.60**	**7**	P	**Pn**	**23 19 01.4**	**+2.6**
	SNR=15						
USP	**Ospenovka**	**3.60**	**7**	⇓*i*P	**Pn**	**23 18 59.5**	**+0.7**
USP				⇓*i*S	**Sn**	**23 19 40.9**	**-1.0**
USP	**Ospenovka**	**3.60**	**7**	*i* PN	**Pn**	**23 19 01.2**	**+2.4**
TARG	**Taragay, Kyrgy**	**3.62**	**55**	⇓*i*P	**Pn**	**23 19 00.3**	**+0.9**
TARG				⇓*i*S	**Sn**	**23 19 42.3**	**-0.5**
KST	**Kastek**	**3.70**	**25**	*e*P	**Pb**	**23 19 08.1**	**0.0**
	15nm,0.4s						
KST				*e*S	**Sb**	**23 19 56.3**	**+2.9**
	202nm,0.9s						
SGDS	**Sogindy**	**3.80**	**8**	Pg	**Pb**	**23 19 10.7**	**+1.0**
	79nm,0.5s						
SGDS				Lg	Lg	23 20 02.2	
	134nm,0.9s						
IUG	**Iuzhnay**	**3.80**	**311**	*e*P	**Pb**	**23 19 12.5**	**+2.7**
	206nm,0.4s						
IUG				*e*S	**Sg**	**23 20 04.0**	**-0.1**
	431nm,0.6s						
DGS	**Degeres**	**3.82**	**21**	Pg	**Pb**	**23 19 11.2**	**+1.0**
	50nm,0.5s						
DGS				Lg	Lg	23 20 02.2	
	178nm,0.7s						
DGS	**Degeres**	**3.82**	**21**	*e*P	**Pb**	**23 19 10.0**	**-0.2**
	44nm,0.5s						
DGS				*e*S	**Sb**	**23 19 59.7**	**+2.7**
	126nm,0.7s						
SIMJ	**Simiganj**	**3.92**	**256**	Pn	**Pn**	**23 19 05.9**	**+2.7**
MTBS	**Maitube**	**3.94**	**28**	Pg	**Pb**	**23 19 13.1**	**+1.0**
	23nm,0.5s						
MTBS				Lg	Lg	23 20 05.8	
	114nm,1.0s						
MTBS	**Maitube**	**3.94**	**28**	*e*P	**Pb**

142nm,1.4s
ZHN Zhinishke 4.88 43 Pg Pb 23 19 29.7 +1.5
23nm,0.7s
ZHN Lg Lg 23 20 33.9
56nm,0.7s
ZHN Zhinishke 4.88 43 *e*P **Pb 23 19 29.7 +1.5**
23nm,0.7s
ZHN *e*S **Sb 23 20 33.9 +6.4**
56nm,0.7s
KURS Kuram 4.98 39 Pg **Pb 23 19 31.5 +1.7**
32nm,1.2s
KURS Lg Lg 23 20 37.3
52nm,1.1s
KURS Kuram 4.98 39 *e*P **Pb 23 19 31.2 +1.4**
7.6nm,0.5s
KURS *e*S **Sb 23 20 36.0 +5.9**
40nm,1.2s
UZB Uzynbulak 5.19 47 Lg Lg 23 20 45.1
68nm,0.9s
UZB Uzynbulak 5.19 47 *e*P **Pb 23 19 34.6 +1.1**
8.5nm,0.6s
UZB *e*S **Sb 23 20 42.0 +5.7**
16nm,0.8s
BTLS Baital 5.35 1 Pg **Pb 23 19 39.6 +3.6**
22nm,0.8s
BTLS Lg Lg 23 20 51.7
BTLS Baital 5.35 1 *e*P **Pb 23 19 40.5 +4.5**
13nm,0.4s
BTLS *e*S **Sg 23 20 52.2 -1.3**
30nm,0.7s
ARXS Arharly 5.39 32 Pg **Pb 23 19 40.4 +3.5**
18nm,0.7s
ARXS Lg Lg 23 20 53.0
134nm,1.0s
ARXS Arharly 5.39 32 *e*P **Pb 23 19 39.3 +2.4**
18nm,0.5s
ARXS *e*S **Sg 23 20 50.5 -4.7**
79nm,0.8s
SHLS Shalkode 5.45 49 *e*P **Pg 23 19 44.8 -1.5**
11nm,0.6s
SHLS *e*S **Sg 23 20 59.8 +3.0**
38nm,0.8s
PDGK Podgornoye 5.57 47 ⇑Pn **Pn 23 19 27.3 +1.4**
11nm,0.7s
PDGK ⇑Pg **Pb 23 19 43.6 +3.7**
44nm,0.8s
PDGK ⇑Lg Lg 23 20 55.8
93nm,0.9s
BLB Baldybastay 5.58 37 Pg **Pb 23 19 42.3 +2.1**
123nm,0.8s
BLB Lg Lg 23 20 56.3
46nm,0.9s
NIL Nilore 6.05 185 Pn **Pn 23 19 37.1 +4.7**
NIL Nilore 6.05 185 PN **Pn 23 19 37.1 +4.7**
KNOS Konyrlen 6.11 39 Pg **Pb 23 19 51.3 +2.1**
8.4nm,0.6s
KNOS Lg Lg 23 21 11.5
TDK Taldyqorghan 6.28 31 *e*P **Pb 23 19 56.4 +4.4**
22nm,0.5s
TDK *e*S **Sg 23 21 19.5 -4.1**
104nm,1.1s
DJR Jarkent 6.40 42 Pg **Pb 23 19 57.5 +3.5**
6.8nm,0.5s
DJR Lg Lg 23 21 21.9
31nm,1.1s
DJR Jarkent 6.40 42 *e*P **Pb 23 19 57.5 +3.5**
6.8nm,0.5s
DJR *e*S **Sg 23 21 21.9 -5.4**
31nm,1.1s
KBL Kabul 6.43 218 Pn **Pn 23 19 40.9 +3.1**
KBL Kabul 6.43 218 PN **Pn 23 19 40.9 +3.1**
KAPS Kapalarasan 6.90 34 Pg **Pb 23 20 06.2 +3.5**
5.7nm,0.5s
KAPS Lg Lg 23 21 36.8
32nm,0.9s
KAPS Kapalarasan 6.90 34 *e*P Pb 23 20 07.9 +5.3
2.8nm,0.5s
KAPS *e*S **Sg 23 21 39.5 -4.1**
22nm,0.4s
DHRM DHARAMSHALA 7.69 164 *e*P **Pn 23 19 56.5 +1.5**
DHRM *e*S **Sn 23 21 24.3 +1.5**
DHRM IAML 23 21 33.9
comp=E,91nm,0.7s
DHRM IAML 23 21 34.5
comp=N,66nm,0.7s
BHK Bhakra 8.52 165 *e*P **Pn 23 20 07.8 +1.5**
BHK *e*S **Sn 23 21 41.1 -1.8**
BHK IAML 23 21 48.8
comp=N,48nm,0.4s
BHK IAML 23 21 49.9
comp=E,36nm,0.8s
KLP Kalpa 8.89 155 *e*P **Pn 23 20 12.2 +0.6**
KLP *e*S **Sn 23 21 46.9 -5.7**
KLP IAML 23 21 59.3
comp=E,48nm,0.6s
KLP IAML 23 21 59.4
comp=N,56nm,0.1s
SMLA Simla 8.96 162 *e*P **Pn 23 20 13.1 +0.8**
SMLA *e*S **Sn 23 21 48.9 -4.9**
SMLA IAML 23 21 53.6
comp=E,35nm,0.8s
SMLA IAML 23 21 58.0
comp=E,41nm,0.8s
MKAR Makanchi Array 9.38 38 Pn **Pn 23 20 19.3 +1.2**
baz=225,slow=16
MKAR Lg Lg 23 22 58.3
comp=E,0.2nm,0.3s,baz=230,slow=26,SNR=5.2
HRA Herat 10.69 244 **Pn 23 20 36.8 +0.5**
WMQ Urumqi 11.12 64 *e*P Pn 23 20 49.3 +7.3
WMQ pmax pmax
comp=Z,9.0nm,0.8s
KURBB Kurchatov Arra 11.41 15 Pn **Pn 23 20 45.3 -0.5**
baz=207,slow=12,SNR=2.3
KURBB Sn **Sn 23 22 49.3 -4.4**
baz=204,slow=30,SNR=2.6
KURBB Lg Lg 23 24 04.8
comp=Z,0.1nm,0.3s,baz=206,slow=29,SNR=3.6
LGTI Lohaghat 11.49 151 *e*P **Pn 23 20 46.6 -0.4**
LGTI *ex* x 23 22 47.2
LGTI IAML 23 22 57.8
comp=N,12nm,0.5s
LGTI IAML 23 22 57.8
comp=E,10nm,0.7s
KURK Kurchatov 11.52 15 P **Pn 23 20 45.3 -2.0**
BVA0 Borovoye Array 13.55 351 Pn **Pn 23 21 14.2 -0.8**
comp=E,5.1nm,0.7s,baz=161,slow=12,SNR=10
BVA0 ⇓Sn **Sn 23 23 49.2 +3.1**
comp=E,2.3nm,0.7s
BVAR Borovoye Array 13.55 351 Pn **Pn 23 21 13.5 -1.5**
comp=E,0.1nm,0.3s,baz=166,slow=13,SNR=12
BVAR Sn **Sn 23 23 39.9 -6.1**
baz=158,slow=23,SNR=2.1
BVAR Lg Lg 23 25 06.5
baz=163,slow=22
BVAR LR LR 23 26 34.2
comp=E,86nm,19.9s,baz=149,slow=38
comp=E,2.4nm,0.6s
BRVK Borovoye 13.59 351 ⇓Pn **Pn 23 21 17.6 +1.9**
comp=E,6.5nm,0.7s
BRVK Borovoye 13.59 351 Pn **Pn 23 21 13.3 -2.3**
BRVK Borovoye 13.59 351 P **Pn 23 21 13.3 -2.3**
AB31 Akbulak array 13.77 319 ⇑Pn **Pn 23 21 19.0 +1.0**
comp=E,4.8nm,0.6s,baz=130,slow=12,SNR=100
AB31 ⇑Sn **Sn 23 23 55.7 +4.2**
comp=E,2.7nm,0.6s,baz=122,slow=27,SNR=4.6
ABKAR Akbulak array 13.77 319 **Pn 23 21 16.7 -1.4**
ABKAR Akbulak array 13.77 319 **Pn 23 21 17.0 -1.0**
AKTO Aktyubinsk 15.48 319 Pn **Pn 23 21 41.1 -0.1**
comp=E,0.6nm,0.3s,baz=127,slow=12,SNR=13
AKTO LR LR 23 28 06.1
comp=E,197nm,18.8s,baz=65,slow=39
comp=E,3.6nm,0.6s
ZAA0 Zalesovo Array 16.08 24 **Pn 23 21 49.3 +0.4**
ZALV Zalesovo Beam 16.08 24 **Pn 23 21 49.3 +0.4**
ZALV Zalesovo Beam 16.08 24 Pn **Pn 23 21 48.0 -0.9**
comp=E,0.1nm,0.3s,baz=206,slow=13,SNR=5.6
comp=E,1.4nm,0.9s
ZALV Zalesovo Beam 16.08 24 *i*P **Pn 23 21 49.5 +0.6**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
SVE Sverdlovsk 19.21 338 *e*P **Pn 23 22 30.5 +2.6**
ARTI Arti 19.57 334 P **Pn 23 22 32.5 +0.3**
ARTI IAmb IAmb 23 22 38.2
comp=Z,5.2nm,0.9s
ARTI Arti 19.57 334 P **P 23 22 30.0 -0.9**
comp=Z,0.4nm,0.3s,baz=153,slow=7.2,SNR=6.1
ARTI LR LR 23 30 44.2
comp=Z,94nm,18.2s,baz=102,slow=39
comp=Z,3.6nm,0.7s
ARTI Arti 19.57 334 P **P 23 22 31.8 +0.9**
AKT Akhty 19.91 284 *e*P **P 23 22 34.1 -0.8**
AKT pmax pmax
comp=Z,32nm,1.8s
GTA Gaotai 19.99 82 *e*P **P 23 22 37.3 +1.5**
GTA pP Pn 23 22 40.0 +2.5
GTA pmax pmax
comp=Z,4.0nm,0.8s
SHL Shillong 20.65 128 **P 23 22 41.2 -1.9**
SHL IAmb IAmb 23 22 48.4
comp=Z,9.1nm,0.7s
SHL Shillong 20.65 128 P **P 23 22 41.2 -1.9**
SHL pmax pmax
comp=Z,9.0nm,0.7s
BELG Belogornoye 22.06 314 *i*P **P 23 22 57.9 +0.1**
BELG pmax pmax
comp=Z,4.0nm,0.9s
GNI Garni 22.30 281 P **P 23 22 59.3 -1.5**
GNI IAmb IAmb 23 23 13.1
comp=Z,12nm,1.2s
GNI Garni 22.30 281 *i*P **P 23 23 02.4 +1.6**
GNI pmax pmax
comp=Z,20nm,1.3s
NCK Nalchik 22.89 289 *i*P **P 23 23 08.3 +1.5**
NCK pmax pmax
comp=Z,13nm,1.0s
KBZ Khabaz 23.40 290 P **P 23 23 13.9 +1.9**
comp=Z,1.5nm,0.8s,baz=90,slow=13,SNR=4.3
comp=Z,1.5nm,0.8s
KIV Kislovodsk 23.55 291 P **P 23 23 12.6 -1.0**
KIV Kislovodsk 23.55 291 *e*P **P 23 23 14.1 +0.5**
KIV pmax pmax
comp=Z,5.0nm,1.1s
SHA1 Shidzhatmaz 23.57 290 *i*P **P 23 23 14.0 0.0**
LZH Lanzhou 23.88 89 *e*P **P 23 23 20.0 +3.0**
LZH sP sP 23 23 26.5 +7.2
LZH pmax pmax
comp=Z,10.0nm,0.9s
KIRV Kirov 24.52 329 LR LR 23 33 42.2
comp=Z,120nm,18.6s,baz=132,slow=38
KIRV Kirov 24.52 329 *i*P **P 23 23 23.5 +1.0**
SONM Songino Array 24.72 60 P **P 23 23 23.8 -0.7**
comp=Z,1.1nm,0.8s,baz=255,slow=12,SNR=5.9
comp=Z,1.1nm,0.8s
PZH PanZhiHua 26.68 111 P **P 23 23 48.3 +5.8**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.8s
HHC Hu-ho-hao-te 28.64 75 *e*P **P 23 24 01.3 +1.3**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,110nm,4.2s
CMAR Chiang Mai Arr 30.28 127 P **P 23 24 12.1 -2.4**
comp=Z,0.6nm,0.3s,baz=316,slow=9.0,SNR=4.3
comp=Z,0.6nm,0.3s
ASF Jabal al Asfar 30.70 268 LR LR 23 40 47.4
comp=Z,190nm,19.1s,baz=332,slow=44
BRTR Keskin Array B 30.77 283 P **P 23 24 17.7 -1.1**
comp=Z,0.7nm,0.7s,baz=69,slow=8.0,SNR=2.7
comp=Z,0.7nm,0.7s
AKASG Malin Array Be 32.85 305 P **P 23 24 36.3 -0.5**
comp=Z,0.3nm,0.4s,baz=79,slow=7.4,SNR=5.2
AKASG LR LR 23 40 40.0
comp=Z,79nm,18.6s,baz=87,slow=41
comp=Z,0.3nm,0.4s
AKASG Malin Array Be 32.85 305 *ce*P **P 23 24 39.0 +2.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 36.20 323 P **P 23 25 05.9 +0.3**
comp=Z,2.1nm,0.5s,baz=111,slow=9.5,SNR=28
comp=Z,2.1nm,0.5s
FINES FINESS Array B 36.20 323 *i*P **P 23 25 06.4 +0.7**
FINES pmax pmax
comp=Z,2.0nm,0.4s
ARCES ARCESS Array B 39.12 335 P **P 23 25 30.6 +0.3**
comp=Z,3.2nm,0.8s,baz=101,slow=6.3,SNR=9.1
comp=Z,3.2nm,0.8s
VRAC Vranov 41.06 303 LR LR 23 44 41.1
comp=Z,40nm,18.4s,baz=48,slow=39
HFS Hagfors 42.03 320 P **P 23 25 54.5 0.0**
comp=Z,2.0nm,0.5s,baz=104,slow=9.6,SNR=14
HFS LR LR 23 42 55.8
comp=Z,71nm,18.0s,baz=66,slow=36
comp=Z,2.0nm,0.5s
GERES GERESS Array B 43.02 303 P **P 23 26 02.6 -0.1**
comp=Z,0.9nm,0.5s,baz=76,slow=8.2,SNR=4.6
comp=Z,0.9nm,0.5s
CLL Collm 43.03 307 *i*P **P 23 26 04.6 +1.9**
NB2 NORSAR Subarra 43.26 321 P **P 23 26 04.2 -0.3**
comp=Z,1.1nm,0.6s,baz=91,slow=7.9
NOA NORSAR Array B 43.26 321 P **P 23 26 03.8 -0.7**
comp=Z,1.4nm,0.6s,baz=91,slow=7.9,SNR=11
NOA LR LR 23 44 55.7
comp=Z,49nm,19.4s,baz=70,slow=37
comp=Z,1.4nm,0.6s
LESA Schwarzleotal 43.99 301 *e*P **P 23 26 11.2 +0.6**
comp=Z,1.0nm,0.4s
WTTA Wattenberg 44.72 301 *e*P **P 23 26 16.8 +0.2**
comp=Z,1.2nm,0.5s
SPITS Spitsbergen Ar 44.93 346 P **P 23 26 17.0 -0.7**
comp=Z,3.8nm,0.8s,baz=96,slow=14,SNR=1.1
comp=Z,3.8nm,0.8s
SPITS Spitsbergen Ar 44.93 346 P **P 23 26 17.0 -0.7**
MOTA Moosalm 45.05 301 *e*P **P 23 26 19.7 +0.5**
comp=Z,0.5nm,0.3s
DAVA Damuels 45.87 302 *e*P **P 23 26 25.8 +0.1**
comp=Z,2.0nm,0.5s
ESDC Sonseca Array 57.99 297 P **P 23 27 55.3 -0.8**
comp=Z,0.4nm,0.5s,baz=58,slow=6.7,SNR=6.3
comp=Z,0.4nm,0.5s
TORD Torodi Ar. Bea 68.05 269 P **P 23 29 01.6 -1.5**
comp=Z,1.8nm,0.6s,baz=47,slow=5.4,SNR=22
comp=Z,1.8nm,0.6s
ILAR Eielson Array 71.08 17 P **P 23 29 19.4 -1.8**
comp=Z,0.5nm,0.8s,baz=325,slow=4.2,SNR=5.8
comp=Z,0.5nm,0.8s
YKA Yellowknife Ar 77.93 4 P **P 23 30 00.2 -0.8**
comp=Z,0.8nm,0.8s,baz=351,slow=6.0,SNR=5.2
comp=Z,0.8nm,0.8s
YKA Yellowknife Ar 77.93 4 *ce*P **P 23 30 04.6 +3.6**
YKA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 81.83 124 P **P 23 30 20.8 -1.9**
comp=Z,0.7nm,0.6s,baz=329,slow=5.3,SNR=11
comp=Z,0.7nm,0.6s
ASAR Alice Springs 84.29 127 P **P 23 30 33.7 -1.7**
comp=Z,0.6nm,0.5s,baz=313,slow=5.7,SNR=4.9
comp=Z,0.6nm,0.5s

TEH ***25*** *23:31:23.2,34.°26N×45.°61E,h9km±34km,ML2.9*
ISN ***25*** *23:31:23.3±0.4,34.°25N×45.°49E,h10km±11km,ML2.9*
ISC 25 23:31:23.8±1.0, 34.°27N±0.°03×45.°60E±0.°04, h18km, n13,
σ0.°84/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.24**	**357**	Pg	**Pg**	**23 31 28.5**	**-0.9**
GLG1	**Gilan-e-Gharb**	**0.30**	**121**	Pg	**Pg**	**23 31 29.4**	**-1.0**
IDHR	**Dehrash**	**0.78**	**56**	Pg	**Pb**	**23 31 37.9**	**-1.0**
IGHG	**Ghaleghazi**	**0.80**	**85**	Pg	**Pb**	**23 31 39.4**	**0.0**
ILBA	**Ilam Banvizeh**	**0.82**	**142**	Pg	**Pb**	**23 31 38.8**	**-0.7**
IBDR	**Badra**	**1.19**	**167**	*e*Pg	**Pb**	**23 31 46.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**23 32 03.0**	**+0.6**
KCHF	**Cheshme Sefid,**	**1.19**	**89**	Pg	**Pn**	**23 31 45.7**	**-0.1**
ILIN	**Lien**	**1.30**	**60**	Pg	**Pn**	**23 31 48.2**	**+1.0**
BHD	**Baghdad**	**1.43**	**226**	*e*Pn	**Pb**	**23 31 50.0**	**+0.2**
BHD				*e*Sn	**Sg**	**23 32 09.0**	**-0.9**
IKRK	**Kirkuk**	**1.53**	**318**	*e*Pn	**Pb**	**23 31 52.0**	**+0.3**
IKRK				*e*Sn	**Sg**	**23 32 13.0**	**-0.4**
IKRK				AML	AML	23 32 16.1	
	comp=E,167nm,0.4s						
IKRK				AML	AML	23 32 16.1	
	comp=N,219nm,0.5s						
SNQR	**Sonqor, Kerman**	**1.77**	**70**	Pg	**Pb**	**23 31 56.7**	**+0.8**
SDS1	**Sardasht. Az.**	**1.88**	**357**	Pn	**Pb**	**23 31 58.0**	**+0.3**
IDOB	**Doab**	**2.19**	**102**	Pn	**Pn**	**23 32 01.3**	**+1.7**

TEH 25 23:34:53.3, 36.°73N×54.°91E, h6km±143km, ML3.6,
Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.66**	**37**	Pg	Pb	23 35 06.9	-0.4
IGLO	**Ghaloghah**	**0.90**	**256**	Pg	Pb	23 35 11.6	+0.1
IKIA	**Kiasar**	**1.12**	**243**	Pg	Pn	23 35 15.6	-0.1
MRVT	**Maraveh tapeh**	**1.32**	**45**	Pg	Pg	23 35 19.2	+0.6
IANJ	**Anjilo**	**1.50**	**213**	Pg	Pg	23 35 21.9	-0.1
IALA	**Alasht**	**1.81**	**250**	Pn	Pg	23 35 28.1	0.0
IFIR	**Firoozkooh**	**2.06**	**239**	Pn	Pg	23 35 32.1	-0.7
ILAS	**Lasjerd**	**2.08**	**230**	Pn	Pg	23 35 32.4	-0.8
IPRN	**Peran**	**2.13**	**258**	Pn	Pg	23 35 33.4	-0.8
ISFR	**Sfrayin**	**2.50**	**82**	Pn	Pb	23 35 37.4	-1.3
TAPT	**Tabas- Tapeh t**	**2.59**	**135**	Pn	Pb	23 35 38.4	-1.8
MZPU	**Pul - Mazandar**	**2.71**	**265**	Pn	Pb	23 35 41.5	-0.7
IEMG	**Emamgholi**	**3.07**	**76**	Pn	Pn	23 35 45.3	+2.7
TNSJ	**Nastanj**	**3.09**	**153**	Pn	Pn	23 35 45.4	+2.7
IAKL	**Akhelmad**	**3.09**	**91**	Pn	Pn	23 35 45.8	+2.8
KLST	**Kelardasht - M**	**3.11**	**267**	Pn	Pb	23 35 46.3	-2.9
IVRN	**Varamin**	**3.11**	**237**	Pn	Pb	23 35 47.0	-2.1
ISFB	**Sefidab**	**3.22**	**223**	Pn	Pn	23 35 46.9	+2.4
IPAY	**Payeh**	**3.30**	**94**	Pn	Pb	23 35 49.4	-3.0
KRSH	**Karshahi**	**3.57**	**220**	Pn	Pn	23 35 52.2	+2.8
TKDS	**Koohdasht(Taba**	**3.60**	**149**	Pn	Pn	23 35 52.5	+2.8
IQOM	**Qom**	**3.65**	**240**	Pn	Pn	23 35 53.7	+3.2
ANAR	**Anarak**	**3.66**	**196**	Pn	Pn	23 35 52.9	+2.3
IKRD	**Kardeh**	**3.70**	**88**	Pn	Pn	23 35 54.4	+3.2
LHJ2	**Lahijan - Gila**	**3.91**	**278**	Pn	Pn	23 35 56.8	+2.9
TPRV	**Parvadeh(Tabas**	**3.97**	**158**	Pn	Pn	23 35 58.1	+3.3
JIR1	**Jirandeh**	**4.11**	**271**	Pn	Pn	23 35 59.6	+2.9
IMYA	**Miami**	**4.20**	**94**	Pn	Pn	23 36 00.9	+2.9
IKLH	**Kolahrood**	**4.37**	**220**	Pn	Pn	23 36 03.5	+3.1
IZEF	**Zefreh**	**4.38**	**210**	Pn	Pn	23 36 03.1	+2.5
QABG	**Abgarm-Qazvin**	**4.43**	**258**	Pn	Pn	23 36 04.9	+3.7
ICHK	**Chekchek**	**4.49**	**185**	Pn	Pn	23 36 04.6	+2.5
TBJM	**Torbat-e-JAM**	**4.63**	**107**	Pn	Pn	23 36 06.9	+3.0
AFRZ	**Afriz**	**4.71**	**133**	Pn	Pn	23 36 08.0	+3.0
IGAR	**Gharneh**	**4.92**	**210**	Pn	Pn	23 36 11.4	+3.4
ITEG	**Tejag**	**4.96**	**139**	Pn	Pn	23 36 11.4	+2.9
IPIR	**Pirpir**	**5.22**	**221**	Pn	Pn	23 36 15.4	+3.2
IRAM	**Ramesheh**	**5.34**	**204**	Pn	Pn	23 36 17.1	+3.4
GRMI	**Germi**	**5.93**	**293**	Pn	Pn	23 36 23.6	+1.8
KHGB	**Koh Gabri**	**6.47**	**168**	Pn	Pn	23 36 32.5	+3.2
KRM1	**Kerman Provinc**	**6.51**	**162**	Pn	Pn	23 36 33.3	+3.4

ROM 25 23:44:41.6±0.1, 42.°480N±0.°004×13.°311E±0.°006,
h10km, ML2.6/64, 12C, Error ellipse: s-maj=0.5km
s-min=0.3km az=59.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.08**	**292**	⇑P	Pg	23 44 44.5	+0.5
RM33				S	Sg	23 44 46.3	+0.5
RM33				AML	AML		
	comp=N,14500μm,0.5s						
RM33				AML	AML		
	comp=N,14600μm,0.5s						
RM33				AML	AML		
	comp=E,17800μm,1.1s						
RM33				AML	AML		
	comp=E,17700μm,1.1s						
RM33				AML	AML		
	comp=E,17700μm,0.9s						
RM33				AML	AML		
	comp=E,17800μm,0.9s						
CAMP	**Campotosto**	**0.09**	**52**	⇑P	Pg	23 44 44.7	+0.5
CAMP				S	Sg	23 44 46.6	+0.5
CAMP				AML	AML		
	comp=E,4670μm,0.6s						
CAMP				AML	AML		
	comp=N,8390μm,0.4s						
CAMP				AML	AML		
	comp=N,8390μm,1.6s						
CAMP				AML	AML		
	comp=E,4670μm,1.4s						
SMA1	**SAN MARTINO**	**0.15**	**7**	⇑P	Pg	23 44 45.5	+0.5
SMA1				S	Sg	23 44 48.6	+1.1
SMA1				AML	AML		
	comp=E,19200μm,0.4s						
SMA1				AML	AML		
	comp=N,18300μm,0.4s						
SMA1				AML	AML		
	comp=N,18300μm,1.6s						
SMA1				AML	AML		
	comp=E,19200μm,1.6s						
GIGS	**Gran Sasso**	**0.19**	**99**	⇑P	Pg	23 44 46.1	+0.4
GIGS				S	Sg	23 44 49.3	+0.7
GIGS				AML	AML		
	comp=E,598μm,0.5s						
GIGS				AML	AML		
	comp=N,984μm,0.8s						
GIGS				AML	AML		
	comp=N,984μm,0.8s						
LNSS	**Leonessa**	**0.23**	**302**	⇑P	Pg	23 44 46.9	+0.5
LNSS				S	Sg	23 44 51.0	+1.2
LNSS				AML	AML		
	comp=N,4330μm,0.2s						
LNSS				AML	AML		
	comp=N,4955μm,0.2s						
LNSS				AML	AML		
	comp=E,7590μm,0.2s						
LNSS				AML	AML		
	comp=E,7440μm,0.2s						
LNSS				AML	AML		
	comp=N,4330μm,0.2s						
FIAM	**Fiamignano**	**0.26**	**214**	⇑P	Pg	23 44 47.4	+0.5
FIAM				S	Sb	23 44 51.7	-1.2
FIAM				AML	AML		
	comp=E,1525μm,1.2s						
FIAM				AML	AML		
	comp=N,1375μm,1.1s						
FIAM				AML	AML		
	comp=E,777μm,0.3s						
FIAM				AML	AML		
	comp=N,1370μm,1.1s						
FIAM				AML	AML		
	comp=N,654μm,1.1s						
FIAM				AML	AML		
	comp=E,778μm,0.3s						
FIAM				AML	AML		
	comp=E,1525μm,0.8s						
FIAM				AML	AML		
	comp=N,654μm,0.9s						
FIAM				AML	AML		
	comp=N,1370μm,0.9s						
TERO	**Teramo**	**0.26**	**56**	⇑P	Pg	23 44 47.0	+0.2
TERO				S	Sg	23 44 51.0	+0.6
TERO				AML	AML		
	comp=N,1760μm,0.2s						
TERO				AML	AML		
	comp=E,716μm,1.6s						
TERO				AML	AML		
	comp=N,792μm,0.5s						
TERO				AML	AML		
	comp=E,716μm,1.6s						
TERO				AML	AML		
	comp=N,792μm,0.5s						
TERO				AML	AML		
	comp=E,1450μm,0.7s						
TERO				AML	AML		
	comp=E,1450μm,1.3s						
TERO				AML	AML		
	comp=E,716μm,0.4s						
TERO				AML	AML		
	comp=N,792μm,1.5s						
MTRA	**Matera**	**0.28**	**13**	⇑P	Pg	23 44 47.5	+0.1
MTRA				S	Sg	23 44 51.7	+0.5
MTRA				AML	AML		
	comp=E,8850μm,0.3s						
MTRA				AML	AML		
	comp=N,8035μm,0.3s						
MTRA				AML	AML		
	comp=N,8115μm,0.3s						
MTRA				AML	AML		
	comp=E,8850μm,0.3s						
MTRA				AML	AML		
	comp=N,8035μm,0.3s						
MTRA				AML	AML		
	comp=E,8825μm,0.3s						
FAGN	**Fagnano**	**0.29**	**136**	P	Pg	23 44 48.2	+0.7
FAGN				AML	AML		
	comp=E,2840μm,0.5s						
FAGN				AML	AML		
	comp=N,3340μm,1.5s						
FAGN				AML	AML		

comp=N,3340μm,0.5s
NRCA Norcia 0.38 338 ⇑P Pg 23 44 49.2 0.0
NRCA S Sg 23 44 55.1 +0.8
NRCA AML AML
comp=E,1455μm,0.4s
NRCA AML AML
comp=N,1061μm,0.2s
NRCA AML AML
comp=E,1560μm,0.4s
NRCA AML AML
comp=N,1165μm,0.2s
NRCA AML AML
comp=E,1455μm,0.4s
NRCA AML AML
comp=N,1061μm,1.8s
NRCA AML AML
comp=N,1165μm,1.8s
VCEL Villa Celiera 0.40 102 P Pg 23 44 49.8 +0.2
VCEL S Sb 23 44 57.0 0.0
VCEL AML AML
comp=E,1415μm,0.9s
VCEL AML AML
comp=N,1170μm,0.8s
VCEL AML AML
comp=E,1415μm,1.1s
MMO1 Montemonaco 0.42 2 ⇑P Pg 23 44 49.9 0.0
MMO1 S Sg 23 44 56.2 +0.8
T0110 Collepietro 0.43 126 P Pg 23 44 50.4 +0.4
T0110 S Sb 23 44 57.8 0.0
T0110 AML AML
comp=E,875μm,0.4s
T0110 AML AML
comp=N,1026μm,0.3s
MC2 Monte Cornacci 0.44 348 P Pg 23 44 50.4 +0.1
MC2 S Sb 23 44 57.3 -1.0
PTQR Pietraquaria 0.46 172 P Pg 23 44 50.9 +0.3
MF5 Montefalcone A 0.52 12 ⇑P Pg 23 44 52.0 +0.3
MF5 S Sb 23 45 00.2 -0.3
MF5 AML AML
comp=E,769μm,0.4s
MF5 AML AML
comp=N,1004μm,0.4s
MF5 AML AML
comp=E,768μm,0.4s
MF5 AML AML
comp=E,768μm,1.6s
MF5 AML AML
comp=N,1004μm,1.6s
OFFI Offida 0.53 31 P Pb 23 44 52.8 -0.2
OFFI S Sb 23 45 02.2 +1.4
OFFI AML AML
comp=E,1162μm,0.5s
OFFI AML AML
comp=E,1162μm,1.5s
OFFI AML AML
comp=N,518μm,0.7s
TRTR Tortoreto Alta 0.55 53 P Pb 23 44 53.2 -0.1
CESX Cesi 0.56 284 ⇑P Pg 23 44 52.1 -0.3
CESX S Sb 23 45 00.8 -0.6
CESX AML AML
comp=E,354μm,1.3s
CESX AML AML
comp=N,540μm,0.3s
FDMO Fiordimonte 0.58 344 P Pg 23 44 52.7 -0.2
FDMO S Sb 23 45 01.8 -0.4
FDMO AML AML
comp=E,286μm,0.5s
FDMO AML AML
comp=N,274μm,0.6s
FDMO AML AML
comp=E,286μm,1.5s
GUMA Gualdo di Mace 0.58 2 P Pg 23 44 53.1 +0.2
GUMA S Sb 23 45 02.2 0.0
CESI CESI - Serrava 0.60 330 P Pg 23 44 53.1 -0.2
CESI S Sb 23 45 02.4 -0.5
MTCE Montecelio 0.62 223 P Pg 23 44 53.4 -0.2
MOMA Monte Martano 0.64 301 P Pg 23 44 53.6 -0.3
MOMA S Sb 23 45 03.4 -0.4
MOMA AML AML
comp=E,791μm,0.3s
MOMA AML AML
comp=N,788μm,0.2s
MOMA AML AML
comp=E,791μm,0.3s
MOMA AML AML
comp=N,798μm,0.2s
MOMA AML AML
comp=N,788μm,0.3s
MOMA AML AML
comp=E,792μm,0.3s
INTR Introdacqua 0.64 137 P Pg 23 44 53.8 -0.2
INTR AML AML
comp=E,297μm,1.3s
INTR AML AML
comp=E,197μm,0.6s
INTR AML AML
comp=N,544μm,1.1s
INTR AML AML
comp=N,549μm,1.1s
INTR AML AML
comp=N,549μm,0.9s
INTR AML AML
comp=E,297μm,1.2s
INTR AML AML
comp=N,544μm,0.9s
VVLD Villa Vallelon 0.65 159 P Pb 23 44 55.2 +0.1
MNTP Montappone 0.67 10 P Pb 23 44 55.0 -0.3
MNTP S Sn 23 45 06.4 -1.2
RCAV Rocca di Cave 0.69 203 P Pb 23 44 55.6 -0.1
RCAV AML AML
comp=E,188μm,1.1s
RCAV AML AML
comp=N,344μm,0.6s
ASSB Assisi San Ben 0.74 320 P Pg 23 44 55.6 -0.3
LPEL Lama dei Pelig 0.78 123 P Pg 23 44 56.0 -0.6
LPEL S Sb 23 45 07.5 -0.3
SNTG Esanatoglia 0.82 341 P Pg 23 44 56.9 -0.6
SNTG S Sb 23 45 09.7 +0.5
SNTG AML AML
comp=E,136μm,1.6s
SNTG AML AML
comp=N,182μm,1.0s
SNTG AML AML
comp=E,136μm,0.4s
RDP Rocca di Papa 0.85 212 P Pg 23 44 57.5 -0.3
EL6 Elcito 0.86 350 P Pg 23 44 57.8 -0.4
MURB Monte Urbino 0.97 324 P Pg 23 45 00.3 0.0
SSFR Montelago di S 1.03 338 P Pg 23 45 01.2 -0.2
SSFR AML AML
comp=E,312μm,1.6s
SSFR AML AML
comp=E,254μm,0.2s
SSFR AML AML
comp=N,214μm,1.4s
SSFR AML AML
comp=E,312μm,0.4s
SSFR AML AML
comp=N,214μm,0.6s
SSFR AML AML
comp=N,274μm,1.6s
ATLO AVT- Montelove 1.07 322 P Pg 23 45 01.6 -0.4

ROM 25 23:45:41.4±0.1, 42°.490N±0°.003×13°.319E±0°.004, h13km, ML1.8/8, 4C, Error ellipse: s-maj=0.3km s-min=0.1km az=340.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.08**	**284**	⇑P		Pg	23 45 44.5	+0.2
RM33				S		Sg	23 45 46.3	-0.1
RM33				AML		AML		
comp=E,858μm,1.1s								
RM33				AML		AML		
comp=E,807μm,1.1s								
RM33				AML		AML		
comp=E,858μm,1.1s								
RM33				AML		AML		
comp=E,807μm,0.9s								
RM33				AML		AML		
comp=E,858μm,0.9s								
RM33				AML		AML		
comp=N,570μm,0.4s								
RM33				AML		AML		
comp=N,562μm,0.4s								
CAMP	**Campotosto**	**0.08**	**55**	⇑P		Pg	23 45 44.7	+0.4
CAMP				S		Sg	23 45 46.7	+0.2
SMA1	**SAN MARTINO**	**0.14**	**5**	P		Pb	23 45 45.6	-0.4
SMA1				S		Sb	23 45 48.3	-0.7
SMA1				AML		AML		
comp=E,656μm,0.4s								
SMA1				AML		AML		
comp=N,900μm,0.3s								
SMA1				AML		AML		
comp=E,656μm,1.6s								
SMA1				AML		AML		
comp=N,900μm,1.7s								
GIGS	**Gran Sasso**	**0.19**	**102**	P		Pg	23 45 46.1	+0.4
GIGS				S		Sg	23 45 49.4	+0.7
LNSS	**Leonessa**	**0.23**	**299**	⇑P		Pg	23 45 46.9	+0.4
LNSS				S		Sg	23 45 50.8	+0.8
LNSS				AML		AML		
comp=E,380μm,0.2s								
LNSS				AML		AML		
comp=N,246μm,0.2s								
TERO	**Teramo**	**0.25**	**58**	P		Pg	23 45 47.1	+0.4
TERO				S		Sg	23 45 51.1	+0.8
FIAM	**Fiamignano**	**0.27**	**214**	P		Pg	23 45 47.3	+0.3
FIAM				S		Sb	23 45 51.8	-0.7
MTRA	**Matera**	**0.27**	**12**	⇑P		Pg	23 45 47.5	+0.3
MTRA				S		Sg	23 45 51.7	+0.6
MTRA				AML		AML		
comp=E,384μm,0.2s								
MTRA				AML		AML		
comp=N,476μm,0.1s								
GAVE	**Gavelli**	**0.37**	**303**	P		Pg	23 45 49.1	+0.2
GAVE				S		Sg	23 45 54.8	+0.7
NRCA	**Norcia**	**0.38**	**336**	P		Pg	23 45 49.2	+0.3
NRCA				S		Sg	23 45 54.9	+0.8

BGSI ***25*** *23:47:37.0±2.4, 26°.97S×29°.53E, h31km±68km, ML4.2*
PRE ***25*** *23:47:38.7±1.5, 26°.46S×29°.00E, h2km, ML3.4, Fault plane solution: NP1:φs12.00000°, δ43.00000°, λ-122.00000°.*
IDC ***25*** *23:47:39.8±0.6, 26°.44S×28°.90E, h0km, mb4.2/15, mbtmp4.2/20, ML4.1/4, MS5.6/1, Error ellipse: s-maj=14.6km s-min=12.0km az=118.0*
NEIC ***25*** *23:47:40.8±1.4, 26°.50S±0°.06×29°.01E±0°.04, h5km±1km, mb4.6/9, Error ellipse: s-maj=11.7km s-min=3.5km az=206.0*
ISC 25 23:47:40.4±1.4, 26°.47S±0°.03×28°.99E±0°.03, h11km±8km, n105, σ1°.84/162, mb4.5/20, 12C-24D, South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**1.04**	**63**	⇑*i*P		**Pb**	**23 47 58.3**	**-2.2**
CRLN				*e*S		**Sb**	**23 48 12.4**	**-1.8**
CRLN				IAML			23 48 20.5	
comp=Z,330nm,0.8s								
RUST	**Rust De Winter**	**1.29**	**341**	⇑*i*P		**Pn**	**23 48 04.2**	**-0.3**
RUST				*e*S		**Sb**	**23 48 21.8**	**+0.3**
RUST				IAML			23 48 22.6	
comp=Z,733nm,0.3s								
HRAO	**HartRAO**	**1.31**	**296**	⇑*i*P		**Pn**	**23 48 04.7**	**-0.1**
HRAO				*e*S		**Sn**	**23 48 22.1**	**-0.1**
TSWA	**Tswaing Meteor**	**1.33**	**322**	⇑*i*P		**Pn**	**23 48 04.4**	**-0.6**
TSWA				*e*S		**Sb**	**23 48 22.1**	**-0.4**
TSWA				IAML			23 48 35.7	
comp=Z,921nm,0.8s								
WDLM	**Western Deep L**	**1.41**	**271**	*e*P		**Pn**	**23 48 06.1**	**-0.1**
WDLM				*e*S		**Sg**	**23 48 25.7**	**-0.1**
WDLM				IAML			23 48 29.1	
comp=Z,4μm,0.2s								
DULL	**Dullstroom, Mp**	**1.53**	**44**	⇓*i*P		**Pn**	**23 48 07.2**	**-0.7**
DULL				*e*S		**Sn**	**23 48 28.0**	**+0.1**
DULL				IAML			23 48 28.2	
comp=Z,211nm,0.4s								
PRYS	**Parys**	**1.53**	**252**	⇓*i*P		**Pg**	**23 48 09.1**	**-0.8**
PRYS				*e*S		**Sg**	**23 48 29.2**	**-0.5**
PRYS				IAML			23 48 31.9	
comp=Z,827nm,0.2s								
NYAT	**Nyati, Northwe**	**1.69**	**310**	⇑*i*P		**Pn**	**23 48 10.8**	**+0.8**
NYAT				*e*S		**Sb**	**23 48 32.5**	**-0.4**
NYAT				IAML			23 48 34.0	
comp=Z,755nm,0.3s								
SNKL	**Senekal, Frees**	**2.10**	**211**	*e*P		**Pn**	**23 48 16.4**	**+0.7**
SNKL				⇓*i*P		**Pb**	**23 48 16.9**	**-1.8**
SNKL				*e*S		**Sb**	**23 48 43.0**	**-1.9**
SNKL				IAML			23 48 48.3	
comp=Z,842nm,0.5s								
NHAM	**Northam, North**	**2.16**	**315**	*e*P		**Pn**	**23 48 18.0**	**+1.5**
NHAM				*e*S		**Sn**	**23 48 43.9**	**+0.5**
NHAM				IAML			23 48 47.7	
comp=Z,534nm,0.4s								
PILG	**Pilgrimsrest,**	**2.18**	**46**	⇓*i*P		**Pn**	**23 48 17.1**	**+0.3**
PILG				*e*S		**Sn**	**23 48 44.3**	**+0.5**
PILG				IAML			23 48 49.5	
comp=Z,194nm,0.5s								
MRCO	**Marico , North**	**2.54**	**292**	*e*P		**Pn**	**23 48 22.9**	**+1.3**
MRCO				*e*S		**Sn**	**23 48 53.3**	**+0.7**
MRCO				IAML			23 48 59.0	
comp=Z,631nm,0.4s								
POGA	**Pongola**	**2.58**	**110**	Pn		**Pn**	**23 48 22.7**	**+0.6**
POGA				Sn		**Sn**	**23 48 53.3**	**-0.1**
POGA	**Pongola**	**2.58**	**110**	⇓*i*P		**Pn**	**23 48 22.6**	**+0.6**
POGA				*e*S		**Sn**	**23 48 53.5**	**+0.1**
POGA				IAML			23 49 06.2	
comp=Z,316nm,0.4s								
LEPH	**Lephalale, Lim**	**2.81**	**337**	⇑*i*P		**Pn**	**23 48 26.7**	**+1.3**
LEPH				*e*S		**Sn**	**23 48 59.0**	**-0.5**
LEPH				IAML			23 49 12.5	
comp=Z,275nm,0.5s								
TEMBE	**Tembe Elephant**	**3.12**	**101**	⇓*i*P		**Pn**	**23 48 30.4**	**+0.9**
TEMBE				*e*S		**Sn**	**23 49 06.3**	**-0.5**
TEMBE				IAML			23 49 25.2	
comp=Z,325nm,0.5s								
MTLB	**Matlabas, Limp**	**3.17**	**326**	*e*P		**Pn**	**23 48 31.4**	**+1.1**
MTLB				*e*S		**Sn**	**23 49 07.8**	**-0.4**
MTLB				IAML			23 49 21.6	
comp=Z,276nm,0.5s								
PMBG	**Pietermaritzbu**	**3.32**	**156**	⇓*i*P		**Pn**	**23 48 33.3**	**+1.0**
PMBG				*e*S		**Sn**	**23 49 12.8**	**+1.0**
PMBG				IAML			23 49 13.8	
comp=Z,273nm,0.6s								
SWZ	**Schweizer**	**3.35**	**257**	⇓*i*P		**Pn**	**23 48 33.5**	**+0.7**
SWZ				*e*S		**Sn**	**23 49 12.8**	**+0.2**
SWZ				IAML			23 49 25.5	
comp=Z,253nm,0.2s								
LBTB	**Lobatse**	**3.39**	**295**	Pn		**Pn**	**23 48 34.8**	**+1.5**
LBTB				Lg		**Sb**	**23 49 23.6**	**+1.9**
LBTB	**Lobatse**	**3.39**	**295**	⇑*i*P		**Pn**	**23 48 35.2**	**+1.9**
LBTB				*e*S		**Sn**	**23 49 13.5**	**-0.1**
LBTB				IAML			23 49 27.1	
comp=Z,308nm,0.3s								
LBTB	**Lobatse**	**3.39**	**295**	Pn		**Pn**	**23 48 34.5**	**+1.2**
comp=Z,5.5nm,0.3s,baz=120,slow=9.0,SNR=90								
LBTB				Lg		Lg	23 49 24.1	
comp=Z,222nm,0.3s,baz=20,slow=21,SNR=21								
LBTB				LR		LR	23 49 56.4	
comp=Z,122nm,18.9s,baz=130,slow=41								
comp=Z,17nm,0.3s								
MOPA	**Mopani**	**3.66**	**37**	⇓*i*P		**Pn**	**23 48 37.3**	**+0.3**
MOPA				*e*S		**Sn**	**23 49 18.9**	**-1.2**
MOPA				IAML			23 49 32.8	
comp=Z,293nm,0.5s								
CRAIL	**Swartwater, Li**	**3.71**	**349**	*e*P		**Pn**	**23 48 38.5**	**+0.7**
CRAIL				*e*S		**Sn**	**23 49 20.3**	**-1.3**
BOSA	**Boshof**	**3.95**	**236**	⇓*i*P		**Pn**	**23 48 40.9**	**-0.1**
BOSA				*e*S		**Sn**	**23 49 27.1**	**-0.3**
BOSA				IAML			23 49 45.2	
comp=Z,120nm,0.5s								
BOSA	**Boshof**	**3.95**	**236**	Pn		**Pn**	**23 48 41.0**	**-0.1**
comp=Z,5.4nm,0.3s,baz=58,slow=12,SNR=171								
BOSA				Pg		**Pb**	**23 48 52.3**	**+2.2**
comp=Z,38nm,0.3s,baz=60,slow=16,SNR=29								
BOSA				Sn		**Sn**	**23 49 26.2**	**-1.2**
comp=Z,16nm,0.3s,baz=78,slow=19,SNR=5.3								
BOSA				Lg		Lg	23 49 42.2	
comp=Z,105nm,0.3s,baz=338,slow=21,SNR=19								
comp=Z,16nm,0.3s								
MREMI	**Moremi**	**4.13**	**340**	*i*P		**Pn**	**23 48 44.4**	**+0.9**
MREMI				*i*S		**Sn**	**23 49 36.1**	**+4.3**
MREMI				IAML			23 49 54.6	
comp=E,2μm,0.4s								
KSTD	**Kokstad**	**4.14**	**176**	*i*P		**Pn**	**23 48 44.8**	**+1.0**
KSTD				*e*S		**Sn**	**23 49 32.7**	**+0.4**
KSTD				IAML			23 49 55.3	
comp=Z,99nm,0.4s								
LPHEP	**Lephephe**	**4.20**	**317**	*i*P		**Pn**	**23 48 46.4**	**+1.8**
LPHEP				IAML			23 49 51.9	
comp=N,242nm,1.2s								
MUSN	**Musina, Limpop**	**4.24**	**11**	⇓*i*P		**Pn**	**23 48 45.2**	**+0.3**
MUSN				*e*S		**Sn**	**23 49 32.5**	**-2.0**
MUSN				IAML			23 49 55.9	
comp=Z,93nm,0.5s								
KDWAN	**Kaudwane**	**4.99**	**307**	*i*P		**Pn**	**23 48 56.3**	**+0.9**
KDWAN				*i*S		**Sn**	**23 49 58.1**	**+4.9**
HVD	**Gariep Dam**	**5.14**	**216**	*e*P		**Pn**	**23 48 57.9**	**+0.3**
HVD				*e*S		**Sn**	**23 49 56.1**	**-0.9**
HVD				IAML			23 50 30.3	
comp=Z,54nm,0.5s								
BROLN	**Tlhalogang**	**5.55**	**344**	*i*P		**Pn**	**23 49 03.9**	**+0.7**
BROLN				*i*S		**Sn**	**23 50 08.2**	**+1.1**
BROLN				IAML			23 50 34.6	
comp=N,134nm,1.9s								
MATP	**Matopo**	**6.03**	**356**	Pn		**Pn**	**23 49 11.9**	**+2.2**
comp=N,2.2nm,0.3s,baz=181,slow=13,SNR=85								
MATP				Sn		**Sn**	**23 50 17.0**	**-1.9**
comp=N,2.5nm,0.3s,baz=206,slow=11,SNR=6.1								
MATP				Lg		Lg	23 50 46.8	
comp=N,13nm,0.3s,baz=251,slow=21,SNR=11								
comp=N,3.7nm,0.3s								
BLWY	**Bulawayo**	**6.31**	**357**	*e*P		**Pn**	**23 49 13.6**	**+0.1**
BLWY				*e*S		**Sn**	**23 50 21.4**	**-4.3**
BLWY				IAML			23 50 59.1	
comp=Z,178nm,0.4s								
SOOWA	**Sowa**	**6.41**	**336**	*i*P		**Pn**	**23 49 16.1**	**+1.3**
SOOWA				IAML			23 51 06.0	
comp=E,567nm,0.4s								
SOE	**Somerset East**	**6.90**	**205**	Pn		**Pn**	**23 49 22.9**	**+1.3**
SOE				Sn		**Sn**	**23 50 38.4**	**-1.7**
SOE	**Somerset East**	**6.90**	**205**	⇓*i*P		**Pn**	**23 49 22.9**	**+1.3**
SOE				*e*S		**Sn**	**23 50 37.7**	**-2.5**
SOE				IAML			23 51 25.8	
comp=Z,35nm,0.5s								
CKGRV	**CKGRV**	**6.94**	**315**	*i*P		**Pn**	**23 49 23.2**	**+1.0**
CKGRV				IAML			23 51 43.6	
comp=E,522nm,1.2s								
GRAF	**Camdeboo Natio**	**7.00**	**213**	*e*P		**Pn**	**23 49 24.3**	**+1.4**
GRAF				*e*S		**Sn**	**23 50 40.0**	**-2.6**
GRAF				IAML			23 51 23.6	
comp=Z,43nm,0.6s								
BFON	**Badsfontein, M**	**7.05**	**220**	*e*P		**Pn**	**23 49 24.8**	**+1.1**
BFON				*e*S		**Sn**	**23 50 41.2**	**-2.8**
BFON				IAML			23 51 23.5	
comp=Z,49nm,0.6s								
KGCAE	**Kacgae**	**7.14**	**299**	*i*P		**Pn**	**23 49 25.7**	**+0.7**
KGCAE				*i*S		**Sn**	**23 50 44.0**	**-2.3**
KGCAE				IAML			23 51 39.2	
comp=N,368nm,1.1s								
GRHM	**Grahamstown, E**	**7.16**	**198**			**Pn**	**23 49 25.8**	**+0.7**
GRHM	**Grahamstown, E**	**7.16**	**198**	*e*P		**Pn**	**23 49 24.6**	**-0.5**
GRHM				*e*S		**Sn**	**23 50 44.4**	**-2.0**
GRHM				IAML			23 51 24.2	
comp=Z,18nm,0.5s								
KEIM	**Keimoes**	**7.46**	**251**	*e*P		**Pn**	**23 49 29.4**	**+0.1**
KEIM				*e*S		**Sn**	**23 50 51.1**	**-2.8**
KEIM				IAML			23 51 33.9	
comp=Z,29nm,0.5s								
PHDHD	**Phuduhudu**	**7.46**	**326**	*i*P		**Pn**	**23 49 30.2**	**+0.8**
PHDHD				IAML			23 51 42.1	
comp=E,415nm,0.8s								
BRAK	**Brakfontein**	**7.51**	**224**	⇓*i*P		**Pn**	**23 49 30.3**	**+0.3**
BRAK				*e*S		**Sn**	**23 50 52.0**	**-3.3**
BRAK				IAML			23 51 37.2	
comp=Z,30nm,0.5s								
ROOI	**Rooidraai Farm**	**7.65**	**217**	⇓*i*P		**Pn**	**23 49 32.6**	**+0.7**
ROOI				*e*S		**Sn**	**23 50 56.1**	**-2.5**
ROOI				IAML			23 51 45.3	
comp=Z,28nm,0.6s								
AUGR	**Augrabies**	**7.97**	**253**	⇓*i*P		**Pn**	**23 49 36.5**	**+0.2**
AUGR				*e*S		**Sn**	**23 51 02.2**	**-4.3**
AUGR				IAML			23 51 48.1	
comp=Z,28nm,0.6s								
NMMU	**Nelson Mandela**	**8.04**	**200**	*e*P		**Pn**	**23 49 37.6**	**+0.5**
NMMU				*e*S		**Sn**	**23 51 04.6**	**-3.4**
GRAN	**Grantham**	**8.32**	**224**	⇓*i*P		**Pn**	**23 49 41.3**	**+0.3**
GRAN				*e*S		**Sn**	**23 51 11.3**	**-3.7**
GRAN				IAML			23 52 09.9	
comp=Z,27nm,0.6s								
FRAZ	**Fraserburg**	**8.57**	**229**	⇓*i*P		**Pn**	**23 49 44.9**	**+0.2**
FRAZ				*e*S		**Sn**	**23 51 18.2**	**-3.2**
FRAZ				IAML			23 52 09.1	
comp=Z,17nm,0.6s								
KOOLE	**Kule**	**8.71**	**292**	*i*P		**Pn**	**23 49 45.5**	**-1.1**
KOOLE				IAML			23 52 25.6	
comp=N,265nm,1.0s								
GRTLG	**Ghanzi**	**8.74**	**304**	*i*P		**Pn**	**23 49 47.3**	**+0.3**
GRTLG				*i*S		**Sn**	**23 51 23.8**	**-1.9**
GRTLG				IAML			23 52 22.3	
comp=N,115nm,1.6s								
MERW	**Merweville**	**8.97**	**225**	*e*P		**Pn**	**23 49 50.2**	**+0.1**
MERW				*e*S		**Sn**	**23 51 26.3**	**-4.9**
MERW				IAML			23 52 34.0	
comp=Z,19nm,0.5s								
SUR	**Sutherland**	**9.25**	**229**			**Pn**	**23 49 54.4**	**+0.5**
SUR	**Sutherland**	**9.25**	**229**	⇓*i*P		**Pn**	**23 49 54.4**	**+0.5**
SUR				*e*S		**Sn**	**23 51 35.5**	**-2.6**
SUR				IAML			23 52 36.4	
comp=Z,17nm,0.6s								
SUR	**Sutherland**	**9.25**	**229**	Pn		**Pn**	**23 49 54.1**	**+0.1**
comp=Z,7.4nm,0.3s,baz=34,slow=7.3,SNR=98								
SUR				Sn		**Sn**	**23 51 33.4**	**-4.7**
comp=Z,7.7nm,0.3s,baz=95,slow=18,SNR=4.5								
SUR				Lg		Lg	23 52 29.0	
comp=Z,6.0nm,0.3s,baz=315,slow=19,SNR=6.1								
comp=Z,15nm,0.3s								
KSANE	**Kasane**	**9.33**	**337**	*i*P		**Pn**	**23 49 54.9**	**-0.1**
KSANE				IAML			23 52 33.1	
comp=N,98nm,0.5s								
CVNA	**Calvinia**	**9.50**	**236**	*e*P		**Pn**	**23 49 56.7**	**-0.6**
CVNA				*e*S		**Sn**	**23 51 40.1**	**-4.1**
CVNA				IAML			23 52 43.5	
comp=Z,17nm,0.4s								
KRI	**Karoi**	**9.61**	**4**	*e*P		**Pn**	**23 49 57.6**	**-1.2**
KRI				*e*S		**Sn**	**23 51 40.8**	**-6.1**
MATJ	**Matjiesfontein**	**9.96**	**225**	⇓*i*P		**Pn**	**23 50 03.8**	**+0.2**
MATJ				*e*S		**Sn**	**23 51 52.1**	**-3.2**
MATJ				IAML			23 52 58.0	
comp=Z,20nm,0.6s								
QNGWA	**Qangwa**	**9.97**	**312**	*i*P		**Pn**	**23 50 04.7**	**+0.9**
QNGWA				IAML			23 52 54.4	
comp=N,50nm,1.4s								
KOMG	**Komaggas**	**10.69**	**249**	*e*P		**Pn**	**23 50 13.0**	**-0.4**
KOMG				*e*S		**Sn**	**23 52 08.0**	**-5.1**
KOMG				IAML			23 53 18.2	
comp=Z,16nm,0.5s								
PRTV	**Porterville,We**	**10.82**	**230**	⇓*i*P		**Pn**	**23 50 14.5**	**-0.9**
PRTV				*e*S		**Sn**	**23 52 11.9**	**-4.7**
PRTV				IAML			23 53 27.9	
comp=Z,18nm,0.6s								
CER	**Ceres**	**10.86**	**228**	⇓*e*P		**Pn**	**23 50 15.1**	**-0.8**
CER				⇓*i*P			23 50 15.4	
CER				*e*S		**Sn**	**23 52 12.3**	**-5.1**
CER				IAML			23 53 24.6	
comp=Z,11nm,0.6s								
LSZ	**Lusaka**	**11.16**	**356**			**Pn**	**23 50 19.7**	**-0.4**
ELIM	**Elim**	**11.36**	**222**	⇓*e*P		**Pn**	**23 50 22.3**	**-0.4**
ELIM				⇓*i*P			23 50 22.4	
ELIM				*e*S		**Sn**	**23 52 24.8**	**-4.9**
ELIM				IAML			23 53 48.7	
comp=Z,8.0nm,0.7s								
WIN	**Windhoek**	**11.50**	**287**	Pn		**Pn**	**23 50 25.4**	**+0.6**
WIN	**Windhoek**	**11.50**	**287**	*e*P		**Pn**	**23 50 25.5**	**+0.6**
TSUM	**Tsumeb**	**12.76**	**302**	Pn		**Pn**	**23 50 42.3**	**+0.4**
comp=Z,3.1nm,0.3s,baz=133,slow=12,SNR=13								
TSUM				Sn		**Sn**	**23 53 00.5**	**-3.6**
comp=Z,0.8nm,0.3s,baz=234,slow=18,SNR=4.2								
TSUM				Lg		Lg	23 54 20.8	
comp=Z,1.6nm,0.3s,baz=258,slow=21,SNR=6.4								
DBIC	**Dimbokro**	**46.50**	**310**	P		**P**	**23 56 08.0**	**0.0**
comp=Z,6.0nm,0.9s,baz=127,slow=10,SNR=4.4								
comp=Z,6.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**47.49**	**323**	P		**P**	**23 56 15.5**	**-0.1**
TORD				IAmb		IAmb	23 56 17.2	
comp=Z,5.5nm,1.1s								
TORD	**Torodi Ar. Bea**	**47.49**	**323**	P		**P**	**23 56 15.6**	**-0.1**
comp=Z,4.1nm,0.9s,baz=123,slow=5.4,SNR=40								
comp=Z,4.1nm,0.9s								
TROLL	**Troll, Antarti**	**47.88**	**191**	⇑P		**P**	**23 56 19.6**	**+1.4**
comp=Z,142nm,0.9s								
SNAA	**Sanae**	**48.59**	**193**	P		**P**	**23 56 25.0**	**+1.4**

SNAA				IAmb	IAmb	23 56 26.5	
	comp=Z,6.6nm,1.0s						
SNAA	**Sanae**	**48.59**	**193**	⇑P	**P**	**23 56 25.0**	**+1.4**
	comp=Z,90nm,0.8s						
SNAA	**Sanae**	**48.59**	**193**	P	**P**	**23 56 24.9**	**+1.4**
	comp=Z,4.7nm,0.8s,baz=46,slow=4.7,SNR=17						
	comp=Z,4.7nm,0.8s						
VNA2	**Neumayer--Watz**	**49.01**	**195**	⇑P	**P**	**23 56 26.7**	**-0.1**
	comp=Z,4.5nm,0.7s,baz=353,slow=9.0						
VNA1	**Neumayer--Stat**	**49.02**	**196**	⇑P	**P**	**23 56 27.5**	**+0.6**
	comp=Z,7.2nm,0.9s						
VNA3	**Neumayer Olymp**	**49.77**	**195**	⇑P	**P**	**23 56 32.4**	**-0.1**
	comp=Z,3.5nm,0.6s						
QSPA	**South Pole Qui**	**63.72**	**180**	P	**P**	**23 58 13.1**	**+1.2**
QSPA				IAmb	IAmb	23 58 14.4	
	comp=Z,4.1nm,1.0s						
QSPA	**South Pole Qui**	**63.72**	**180**	P	**P**	**23 58 12.8**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=233,slow=5.4,SNR=11						
	comp=Z,1.1nm,0.4s						
BRTR	**Keskin Array B**	**65.99**	**4**	P	**P**	**23 58 28.4**	**+1.5**
	comp=Z,0.5nm,0.9s,baz=197,slow=4.5,SNR=2.4						
	comp=Z,0.5nm,0.9s						
HRA	**Herat**	**68.24**	**29**	P	**P**	**23 58 42.8**	**+1.4**
BDFB	**Brasilia**	**71.76**	**261**	P	**P**	**23 59 04.1**	**+0.7**
	comp=Z,4.8nm,0.9s,baz=92,slow=6.6,SNR=5.7						
	comp=Z,4.8nm,0.9s						
ESDC	**Sonseca Array**	**72.63**	**334**	P	**P**	**23 59 09.0**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=153,slow=5.0,SNR=6.6						
	comp=Z,0.9nm,0.6s						
AKASG	**Malin Array Be**	**76.83**	**0**	P	**P**	**23 59 32.4**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=178,slow=5.2,SNR=5.1						
	comp=Z,0.7nm,0.5s						
KKAR	**Karatay Array**	**79.06**	**30**	P	**P**	**23 59 46.0**	**+1.4**
KKAR	**Karatay Array**	**79.06**	**30**	IAmb	IAmb	23 59 47.4	
	comp=Z,4.6nm,1.0s						
ARTI	**Arti**	**86.22**	**16**	P	**P**	**00 00 21.5**	**0.0**
ARTI				IAmb	IAmb	00 00 24.2	
	comp=Z,3.6nm,0.8s						
BVAR	**Borovoye Array**	**86.97**	**24**	P	**P**	**00 00 26.3**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=225,slow=5.8,SNR=9.8						
	comp=Z,1.9nm,0.8s						
HFS	**Hagfors**	**87.19**	**352**	P	**P**	**00 00 27.5**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=134,slow=4.2,SNR=1.0						
	comp=Z,0.5nm,0.5s						
MAKZ	**Makanchi**	**87.22**	**33**	P	**P**	**00 00 28.3**	**+1.7**
MK31	**Makanchi Array**	**87.36**	**33**	IAmb	IAmb	00 00 30.1	
	comp=Z,2.5nm,0.9s						
MKAR	**Makanchi Array**	**87.36**	**33**	P	**P**	**00 00 28.8**	**+1.4**
	comp=Z,2.6nm,0.9s,baz=231,slow=4.5,SNR=14						
	comp=Z,2.6nm,0.9s						
FINES	**FINESS Array B**	**87.63**	**359**	P	**P**	**00 00 29.4**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=154,slow=4.8,SNR=15						
	comp=Z,1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**88.35**	**29**	P	**P**	**00 00 32.9**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=230,slow=4.9,SNR=5.9						
	comp=Z,0.6nm,0.7s						
LPAZ	**La Paz**	**89.04**	**252**	P	**P**	**00 00 37.6**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=79,slow=5.2,SNR=4.4						
	comp=Z,1.2nm,0.8s						
ASAR	**Alice Springs**	**91.98**	**118**	P	**P**	**00 00 50.6**	**+0.8**
	comp=Z,0.5nm,1.0s,baz=224,slow=3.9,SNR=2.3						
	comp=Z,0.5nm,1.0s						
TOO	**Toolangi**	**92.79**	**135**	P	**P**	**00 00 50.4**	**-2.9**
BORG	**Borgarnes**	**98.91**	**340**	LR	LR	00 48 45.8	
	comp=Z,3μm,18.2s,baz=25,slow=37						
ILAR	**Eielson Array**	**141.60**	**357**	PKP	**PKPdf**	**00 07 10.9**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=316,slow=1.7,SNR=3.0						
PDAR	**Pinedale Array**	**142.62**	**307**	PKP	**PKPdf**	**00 07 14.6**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=64,slow=6.1,SNR=2.5						
NVAR	**Mina Array Bea**	**150.09**	**302**	PKPbc	**PKiKP**	**00 07 34.4**	**+1.9**
	comp=Z,1.9nm,0.6s,baz=67,slow=4.9,SNR=11						

NEIC 25 23:50:35.9±0.6, 36°.816N±0°.004×97°.71W±0°.01, h6km±2km, ML2.5/39, Error ellipse: s-maj=1.5km s-min=0.6km az=101.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.13**	**286**		Pg	23 50 39.2	+0.6
GC02				Sg	Sg	23 50 41.0	+0.6
KAN17	**Caldwell West**	**0.23**	**348**		Pg	23 50 41.3	+0.8
KAN17				Sg	Sg	23 50 44.6	+1.0
KAN17				IAML		23 50 45.0	
	comp=E,939nm,0.3s						
KAN14	**Manchester OK**	**0.25**	**304**		Pg	23 50 41.4	+0.6
KAN13	**South Haven SW**	**0.27**	**43**		Pg	23 50 41.9	+0.7
KAN13				Sg	Sg	23 50 46.1	+1.3
KAN13				IAML		23 50 46.3	
	comp=E,951nm,0.3s						
KAN13				IAML		23 50 46.3	
	comp=N,1μm,0.2s						
KAN09	**Caldwell North**	**0.33**	**12**		Pg	23 50 43.2	+0.9
KAN09				Sg	Sg	23 50 47.9	+1.2
KAN09				IAML		23 50 53.1	
	comp=E,776nm,0.3s						
KAN01	**Argonia South**	**0.34**	**353**		Pg	23 50 42.9	+0.4
KAN01				Sg	Sg	23 50 48.1	+1.1
KAN01				IAML		23 50 49.7	
	comp=E,380nm,0.1s						
CROK	**Carrier**	**0.38**	**216**		Pg	23 50 43.9	+0.6
CROK				Sg	Sg	23 50 49.2	+0.9
CROK				IAML		23 50 51.3	
	comp=E,641nm,0.3s						
CROK				IAML		23 50 51.4	
	comp=N,564nm,0.2s						
BLOK	**Blackwell**	**0.40**	**98**		Pg	23 50 44.3	+0.6
BLOK				Sg	Sg	23 50 49.8	+1.0
BLOK				IAML		23 50 50.2	
	comp=E,299nm,0.2s						
KAN08	**Anthony NE Sta**	**0.46**	**333**	Pg	Pg	23 50 45.0	+0.2
KAN08				Sg	Sg	23 50 52.1	+1.2
KAN08				IAML		23 50 52.3	
	comp=E,442nm,0.8s						
KAN08				IAML		23 50 56.0	
	comp=N,250nm,0.1s						
KAN12	**Harper NE Stat**	**0.53**	**334**		Pg	23 50 46.3	+0.1
KAN12				Sg	Sg	23 50 54.3	+1.2
KAN12				IAML		23 50 58.2	
	comp=N,484nm,0.3s						
OK048	**Pawnee Station**	**0.73**	**123**		Pg	23 50 53.0	+0.3
OK048				Sg	Sg	23 51 00.1	+0.7
OK048				IAML		23 51 00.3	
	comp=N,171nm,0.2s						
OK038	**West end E0370**	**0.90**	**248**		Pg	23 50 53.0	-0.2
T35A	**Sooner Cattle**	**0.96**	**84**	Pg	Pg	23 50 53.5	-0.9
T35A				IAML		23 51 09.6	
	comp=N,89nm,0.2s						
NOKA	**Waynoka**	**1.00**	**260**		Pg	23 50 55.1	0.0
NOKA				IAML		23 51 14.6	
	comp=N,166nm,0.3s						
NOKA				IAML		23 51 14.7	
	comp=E,138nm,0.2s						
QUOK	**Quay**	**1.03**	**128**		Pg	23 50 55.5	-0.1
OK029	**Liberty Lake**	**1.04**	**169**	Pg	Pg	23 50 55.6	-0.2
OK029				IAML		23 51 12.0	
	comp=E,138nm,0.2s						
OK029				IAML		23 51 16.2	
	comp=E,82nm,0.3s						
OK052	**Battle Ridge R**	**1.10**	**138**		Pg	23 50 57.1	+0.1
OK052				IAML		23 51 13.7	
	comp=E,127nm,0.4s						
DEOK	**Depew**	**1.38**	**135**		Pb	23 51 01.9	-0.2
CSTR	**Hydro, Custer**	**1.41**	**214**		Pn	23 51 02.2	0.0
FNO	**Franklin**	**1.57**	**171**		Pb	23 51 05.0	-0.5
TUL3	**Leonard**	**1.79**	**120**	Pn	Pn	23 51 07.8	+0.4
R32A	**Long Quarter,**	**1.79**	**334**		Pn	23 51 08.1	+0.7
W35A	**Tecumseh**	**1.79**	**158**		Pn	23 51 08.2	+0.8
X34A	**Smith Ranch, M**	**2.21**	**183**	Pn	Pn	23 51 13.2	0.0
WMOK	**Wichita Mounta**	**2.25**	**203**		Pn	23 51 14.2	+0.5
WMOK	**Wichita Mounta**	**2.25**	**203**		Pn	23 51 14.5	+0.8
RLO	**Rose Lookout**	**2.26**	**106**	Pn	Pn	23 51 15.3	+1.5
KSU1	**Kansas State U**	**2.44**	**20**	Pn	Pn	23 51 16.6	+0.3
U38A	**Gravette**	**2.70**	**97**	Pn	Pn	23 51 20.6	+0.7

RSNC 25 23:50:56.3±0.0, 13°N±2°×8°1W±°, h1km±3km, M3.1, mb3.8, ML3.1, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.30**	**297**	P	Pb	23 51 03.4	-1.1
PRVC				S	Sb	23 51 08.2	-1.7
SAIC	**Isla e San And**	**0.93**	**221**	P	Pg	23 51 14.6	+0.5
SAIC				S	Sb	23 51 28.5	+0.6
RNCC	**Cayo Roncador,**	**1.03**	**71**	P	Pg	23 51 16.1	+0.1
RNCC				S	Sb	23 51 30.7	-0.2
SERC	**Banco Serrana,**	**1.26**	**34**	P	Pg	23 51 19.3	-1.1
SERC				S	Sb	23 51 37.4	-0.1
BCIP	**Isla Barro Col**	**4.23**	**163**	P	Pn	23 51 58.3	-3.7
BCIP				S	Sn	23 52 46.3	-5.7
SJCC	**San Jacinto, C**	**6.68**	**119**	P	Pn	23 52 32.0	-3.7
SJCC				S	Sn	23 53 47.2	-5.3

*IDC **25** 23:54:43.9±1.1, 47°.86S×165°.27E, h0km, mb4.1/5, mbtmp4.1/6, ML3.4/1, MS4.0/4, Error ellipse: s-maj=37.8km s-min=21.1km az=64.0*

ISC 25 23:54:45.7±0.8, 47°.8S±0°.1×165°.4E±0°.1, h13km, n22, σ1§57/12, mb4.0/5, 2C, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**5.67**	**46**	Pn	**Pn**	**23 56 09.5**	**-0.1**
	1.0nm,0.3s,baz=238,slow=14,SNR=1.5						
RPZ				Sn	**Sn**	**23 57 14.3**	**-0.3**
	2.5nm,0.3s,baz=359,slow=9.6,SNR=1.7						
RPZ				LR	LR	23 58 49.0	
	comp=Z,1μm,19.6s,baz=281,slow=42						
	5.2nm,0.4s						
URZ	**Urewera**	**12.79**	**46**	LR	LR	00 03 19.6	
	comp=Z,952nm,18.6s,baz=284,slow=40						
RAO	**Raoul Island**	**22.55**	**41**	LR	LR	00 08 16.8	
	comp=Z,263nm,18.0s,baz=266,slow=36						
STKA	**Stephens Creek**	**24.06**	**303**	P	**P**	**00 00 00.8**	**+0.2**
	1.2nm,0.3s,baz=142,slow=9.2,SNR=6.0						
STKA				LR	LR	00 08 30.0	
	comp=Z,305nm,19.4s,baz=74,slow=34						
	1.2nm,0.3s						
ASAR	**Alice Springs**	**34.70**	**303**	P	**P**	**00 01 34.8**	**-0.4**
	2.0nm,0.7s,baz=140,slow=8.8,SNR=15						
	2.0nm,0.7s						
WRA	**Warramunga Arr**	**37.44**	**307**	P	**P**	**00 01 58.0**	**-0.7**
	2.0nm,0.9s,baz=140,slow=8.0,SNR=12						
	2.0nm,0.9s						
H01W1	**Cape Leeuwin H**	**39.86**	**270**	T	T	00 44 22.7	
	baz=126,slow=76,SNR=52						
H01W2	**Cape Leeuwin H**	**39.87**	**270**	T	T	00 44 20.2	
	baz=126,slow=76,SNR=43						
H01W3	**Cape Leeuwin H**	**39.88**	**270**	T	T	00 44 24.0	
	baz=126,slow=76,SNR=41						
QSPA	**South Pole Qui**	**42.36**	**180**	P	**P**	**00 02 39.1**	**-0.2**
	2.8nm,0.8s,baz=14,slow=4.6,SNR=5.7						
	2.8nm,0.8s						
SNAA	**Sanae**	**60.57**	**184**	⇑P	**P**	**00 04 52.2**	**-3.2**
	comp=Z,45nm,0.8s						
SNAA	**Sanae**	**60.57**	**184**	P	**P**	**00 04 54.0**	**-1.3**
	comp=Z,1.9nm,0.9s,baz=178,slow=9.9,SNR=10						
	comp=Z,1.9nm,0.9s						
VNA3	**Neumayer Olymp**	**61.25**	**182**	⇑P	**P**	**00 05 02.6**	**+2.7**
H04S2	**CROZET ISLANDS**	**69.37**	**222**	T	T	01 22 03.3	
	baz=139,slow=75,SNR=27						
H04S1	**CROZET ISLANDS**	**69.37**	**222**	T	T	01 22 05.5	
	baz=139,slow=75,SNR=30						
H04S3	**CROZET ISLANDS**	**69.39**	**222**	T	T	01 22 02.1	
	baz=139,slow=75,SNR=26						
H08S2	**Diego Garcia H**	**86.34**	**263**	T	T	01 42 15.2	
	baz=138,slow=76,SNR=227						
H08S1	**Diego Carcia H**	**86.35**	**263**	T	T	01 42 16.1	
	baz=138,slow=76,SNR=140						
H08S3	**Diego Garcia H**	**86.36**	**263**	T	T	01 42 16.7	
	baz=138,slow=76,SNR=279						
ARCES	**ARCESS Array B**	**150.74**	**332**	PKPbc	**PKiKP**	**00 14 37.8**	**+1.0**
	comp=Z,8.8nm,0.9s,baz=61,slow=2.3,SNR=3.7						
AKASG	**Malin Array Be**	**151.54**	**292**	PKPbc	**PKPbc**	**00 14 39.6**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=79,slow=2.2,SNR=4.1						
FINES	**FINESS Array B**	**153.27**	**316**	PKPbc	**PKPbc**	**00 14 42.6**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=62,slow=3.3,SNR=1.5						

*IDC **25** 23:57:22.1±0.4, 23°.34N×118°.47E, h0km, mb4.8/36, mbtmp4.8/40, ML4.4/3, MS5.3/59, Error ellipse: s-maj=14.2km s-min=10.6km az=69.0*

*BJI **25** 23:57:22.7, 23°.33N×118°.60E, h20km, mb5.3/75, mB5.6/61, ML6.4/13, Ms6.2/93, Ms7 5.9/92*

*ASIES **25** 23:57:23.4, 23°.38N×118°.52E, h12km, ML6.2, Mw5.8, Moment Tensor Solution. Moment tensor: Scale 10^{24}Nm; M_{rr}-1.79; $M_{\theta\theta}$1.56; $M_{\phi\phi}$0.23; $M_{r\theta}$-2.95; $M_{\theta\phi}$-3.88; $M_{\phi r}$-0.36; Fault plane solution: $M_0$5.17244×10^{24} NP1:ϕ_s92.51000°, δ75.96000°, λ-137.84000°. NP2:ϕ_s350.12000°, δ49.37000°, λ-18.65000°. Principal axes: T Plg16.7880°, Azm215.7090°; N Plg45.9780°, Azm107.5180°; P Plg39.2020°, Azm319.9540°;*

*TAP **25** 23:57:23.4, 23°.38N×118°.52E, h12km±1km, ML6.2, D*

*BGR **25** 23:57:23.7, 23°.15N×118°.66E, h10km, mb5.2, Ms5.8*

*NEIC **25** 23:57:24.9, 23°.41N×118°.61E, h13km*

*NEIC **25** 23:57:24.9, 23°.41N×118°.61E, h14km*

*NEIC **25** 23:57:24.9, 23°.31N×118°.72E, h14km, Moment Tensor Solution. Duration: 3s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.35; $M_{\theta\theta}$1.74; $M_{\phi\phi}$-0.39; $M_{r\theta}$-0.74; $M_{\theta\phi}$-3.98; $M_{\phi r}$-0.46; Fault plane solution: $M_0$4.27000×10^{17} NP1: ϕ_s84.26000°, δ78.70000°, λ-164.25000°. NP2: ϕ_s351.10000°, δ74.56000°, λ-11.73000°. Principal axes: T 4.8135, Plg3.0000°, Azm217.0000°; N -1.0850, Plg71.0000°, Azm119.0000°; P -3.7284, Plg19.0000°, Azm308.0000°;*

*GCMT **25** 23:57:25.7±0.1, 23°.35N×118°.52E, h20km, MW5.8/167, Moment Tensor Solution. s138,c274; s167,c354; Duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.00±.05; $M_{\theta\theta}$1.66±.05; $M_{\phi\phi}$-0.66±.05; $M_{r\theta}$-0.65±.09; $M_{\theta\phi}$-5.59±.05; $M_{\phi r}$-1.37±.10; Best double couple: $M_0$5.95000×10^{17} NP1:ϕ_s353.00000°, δ80.00000°, λ-15.00000°. NP2:ϕ_s85.00000°, δ76.00000°, λ-170.00000°. Principal axes: T 6.2280, Plg3.0000°, Azm40.0000°; N -0.5540, Plg72.0000°, Azm139.0000°; P -5.6730, Plg17.0000°, Azm309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IPGP **25** 23:57:25.0, 23°.40N×118°.60E, h14km, Mw5.8, Fault plane solution: NP1:ϕ_s351.00000°, δ84.00000°, λ-11.00000°. NP2:ϕ_s82.00000°, δ79.00000°, λ-173.00000°.*

*NEIC **25** 23:57:25.7±1.8, 23°.40N±0°.05×118°.58E±0°.05, h16km±1km, mb5.6/481, Ms_20 5.6/628, Mwb5.7/12, Mww5.7/26, Error ellipse: s-maj=8.3km s-min=8.2km az=240.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.34; $M_{\theta\theta}$1.09; $M_{\phi\phi}$-1.43; $M_{r\theta}$0.30; $M_{\theta\phi}$-4.14; $M_{\phi r}$-0.43; Fault plane solution: $M_0$4.37000×10^{17} NP1:ϕ_s81.32000°, δ83.46000°, λ176.20000°. NP2:ϕ_s171.75000°, δ86.23000°, λ6.55000°. Principal axes: T 4.2203, Plg7.0000°, Azm37.0000°; N 0.2822, Plg82.0000°, Azm202.0000°; P -4.5025, Plg2.0000°, Azm306.0000°;*

ISC 25 23:57:25.8±0.3, 23°.35N±0°.02×118°.58E±0°.02, h22km±3km, h22km:pP-P, n1517, σ1§17/1459, mb5.5/354, MS5.6/380, 114C-60D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCHM	**Qimei**	**0.79**	**100**	⇑*i*P	**Pb**	**23 57 39.6**	**-1.3**
VCHM				*i* S	**Sb**	**23 57 50.7**	**-0.4**
PNG	**Penghu**	**0.92**	**76**	⇑*i*P	**Pb**	**23 57 41.6**	**-1.4**
PNG				*i* S	**Sb**	**23 57 54.5**	**-0.3**
PHUB	**P'eng-hu**	**0.92**	**79**	⇑*i*P	**Pb**	**23 57 41.8**	**-1.3**
PHUB				*i* S	**Sb**	**23 57 54.2**	**-0.8**
ZPLA	**Ao Xicun**	**0.96**	**307**	⇓*e*P	**Pn**	**23 57 45.5**	**+1.6**
ZPLA				*e*S	**Sn**	**23 57 58.5**	**+1.6**
WDGT	**Dungji**	**0.99**	**95**	⇑*i*P	**Pb**	**23 57 43.1**	**-1.2**
WDGT				*i* S	**Sb**	**23 57 56.4**	**-0.6**
KNM	**Kinmen**	**1.07**	**353**	*i* P	**Pn**	**23 57 44.4**	**-1.2**
KNM				*e*S	**Sn**	**23 57 59.6**	**-0.2**
KNMB	**Chin-men Tao**	**1.13**	**351**		**Pn**	**23 57 44.9**	**-1.4**
KNMB				Sn	**Sb**	**23 57 59.9**	**-1.0**
KNMB	**Chin-men Tao**	**1.13**	**351**	⇑*i*P	**Pn**	**23 57 44.7**	**-1.6**
KNMB				*i* S	**Sb**	**23 57 59.4**	**-1.4**
TSCK	**Chigu Township**	**1.40**	**98**	⇑*e*P	**Pn**	**23 57 49.5**	**-0.5**
TSCK				*e*S	**Sb**	**23 58 09.0**	**+0.5**
SCLT	**Jiali**	**1.49**	**96**	*e*P	**Pn**	**23 57 51.1**	**-0.2**
SCLT				S	**Sb**	**23 58 11.2**	**0.0**
CHN8	**Yiju**	**1.50**	**90**	⇑*i*P	**Pn**	**23 57 51.0**	**-0.4**
CHN8				S	**Sn**	**23 58 10.7**	**+0.5**
WSL	**Shuilin Townsh**	**1.52**	**83**	⇑P	**Pn**	**23 57 51.0**	**-0.7**
WSL				*e*S	**Sb**	**23 58 12.0**	**-0.1**
WSF	**Szhu**	**1.53**	**79**	*e*P	**Pn**	**23 57 51.2**	**-0.6**
WSF				S	**Sb**	**23 58 11.9**	**-0.5**
TAI1	**Yung-k'ang**	**1.54**	**101**	*e*P	**Pn**	**23 57 51.2**	**-0.8**
TAI1				*e*S	**Sb**	**23 58 12.4**	**-0.4**
ICHU	**Yijhu**	**1.56**	**89**	⇑P	**Pn**	**23 57 51.9**	**-0.4**
ICHU				*i* S	**Sb**	**23 58 13.6**	**+0.4**
SSHA	**Shanhua**	**1.58**	**97**	*e*P	**Pn**	**23 57 52.2**	**-0.4**
SSHA				*e*S	**Sb**	**23 58 13.4**	**-0.5**
QZH	**Quanzhou**	**1.59**	**0**	⇑*i*Pn	**Pn**	**23 57 51.0**	**-1.6**
QZH				Pg	**Pb**	**23 57 53.0**	**-1.5**
QZH				Sn	**Sn**	**23 58 10.0**	**-2.5**
QZH				Sg	**Sb**	**23 58 14.0**	**-0.1**
QZH				smax	smax		
	comp=N,77μm,0.4s						
QZH				smax	smax		
	comp=E,210μm,0.4s						
WTCT	**Ta-ch'eng**	**1.64**	**71**	*e*P	**Pn**	**23 57 52.5**	**-0.8**
WTCT				*e*S	**Sb**	**23 58 15.1**	**-0.5**
SHHT	**Tainan City**	**1.66**	**101**	*e*P	**Pn**	**23 57 53.3**	**-0.3**
CHN3	**Shinhua**	**1.66**	**99**	*e*P	**Pn**	**23 57 53.7**	**+0.1**
CHN3				*e*S	**Sb**	**23 58 16.2**	**0.0**
WTK	**Tuku**	**1.69**	**78**	⇑*e*P	**Pn**	**23 57 53.0**	**-1.1**
WTK				*e*S	**Sb**	**23 58 16.1**	**-0.9**
CHY	**Chiayi**	**1.70**	**85**	⇑*e*P	**Pn**	**23 57 54.0**	**-0.1**
CHY				*e*S	**Sn**	**23 58 14.6**	**-0.6**
WSSB	**Gushan**	**1.70**	**114**	*e*P	**Pn**	**23 57 53.7**	**-0.5**
SNJT	**Kaohsiung City**	**1.72**	**110**	*e*P	**Pn**	**23 57 54.5**	**+0.1**
SNJT				*e*S	**Sb**	**23 58 18.9**	**+1.1**
WRL	**Guolierlin Hig**	**1.73**	**71**	*e*P	**Pn**	**23 57 54.2**	**-0.4**
CHN2	**Minshiung**	**1.75**	**84**	*e*P	**Pn**	**23 57 54.5**	**-0.3**
TWK	**Hsinying**	**1.75**	**92**	⇑P	**Pn**	**23 57 54.7**	**-0.2**
PTMZ	**Houxiangcun**	**1.75**	**16**	⇑*i*P	**Pn**	**23 57 53.5**	**-1.4**
PTMZ				*e*S	**Sn**	**23 58 17.1**	**+0.5**
SNST	**Tainan City**	**1.76**	**94**	*e*P	**Pn**	**23 57 54.7**	**-0.4**
KAU	**Kaohsiung**	**1.77**	**116**	*e*P	**Pn**	**23 57 55.2**	**+0.1**
KAU				*e*S	**Sb**	**23 58 18.6**	**-0.6**
TWM1	**Shoushan**	**1.77**	**107**	⇓P	**Pn**	**23 57 55.7**	**+0.5**
CHN1	**Nanshi**	**1.79**	**95**	⇑*e*P	**Pn**	**23 57 55.0**	**-0.5**
CHN1				*e*S	**Sn**	**23 58 18.7**	**+1.0**
SCST	**Cishan**	**1.82**	**104**	⇓*e*P	**Pn**	**23 57 55.8**	**0.0**
VWUC	**VWUC**	**1.82**	**26**	⇑P	**Pn**	**23 57 54.3**	**-1.5**
VWUC				*e*S	**Sn**	**23 58 17.0**	**-1.2**
WDL	**Douliou City**	**1.83**	**78**	*e*P	**Pn**	**23 57 55.5**	**-0.4**
WDL				*e*S	**Sn**	**23 58 18.8**	**+0.3**
CHN4	**Tsaushan**	**1.85**	**89**	⇑P	**Pn**	**23 57 55.8**	**-0.4**
CHN4				*e*S	**Sn**	**23 58 19.7**	**+0.8**
WGK	**Gukeng**	**1.85**	**79**	⇑*i*P	**Pn**	**23 57 55.8**	**-0.4**
WGK				*e*S	**Sb**	**23 58 20.6**	**-1.0**
SGST	**Jiashian**	**1.86**	**98**	⇑*i*P	**Pn**	**23 57 55.5**	**-1.2**
SGST				*e*S	**Sb**	**23 58 20.6**	**-1.3**
WCKO	**Fanlu**	**1.86**	**87**	⇑*i*P	**Pn**	**23 57 55.6**	**-0.8**
WCKO				S	**Sn**	**23 58 19.2**	**0.0**
SGLT	**Jiouru**	**1.86**	**109**	*e*P	**Pn**	**23 57 56.4**	**0.0**
SGLT				*e*S	**Sb**	**23 58 22.4**	**+0.4**
WTP	**Ta-pu**	**1.87**	**93**	⇑P	**Pn**	**23 57 55.9**	**-0.6**
WTP				*e*S	**Sn**	**23 58 19.0**	**-0.5**
TPUB	**Ta-pu**	**1.88**	**91**		**Pn**	**23 57 55.9**	**-0.7**
TPUB	**Ta-pu**	**1.88**	**91**	P	**Pn**	**23 57 56.9**	**+0.2**
TPUB	**Ta-pu**	**1.88**	**91**	⇑*i*P	**Pn**	**23 57 56.0**	**-0.7**
TPUB				*e*S	**Sn**	**23 58 20.2**	**+0.4**
TWP	**Hsiaoliuchiu**	**1.92**	**121**	⇑*e*P	**Pn**	**23 57 58.1**	**+1.0**
TWP				*e*S	**Sn**	**23 58 22.1**	**+1.4**
WLCH	**Liuqiu**	**1.93**	**121**	⇑*e*P	**Pn**	**23 57 57.3**	**-0.1**
WLCH				*e*S	**Sn**	**23 58 21.8**	**+0.9**
WCH1	**Changhua City**	**1.94**	**68**	*e*P	**Pn**	**23 57 56.8**	**-0.6**
WCH1				*e*S	**Sn**	**23 58 20.5**	**-0.6**
WCHH	**Zhanghua**	**1.95**	**68**	*e*P	**Pn**	**23 57 56.1**	**-1.0**
SSD	**Sandimen**	**1.98**	**107**	⇓P	**Pn**	**23 57 57.8**	**-0.3**
WNT	**Mingjian**	**2.00**	**74**	⇑*i*P	**Pn**	**23 57 57.5**	**-0.8**
WNT				*e*S	**Sn**	**23 58 23.4**	**+0.8**
TSMG	**Majia**	**2.00**	**108**	⇓*i*P	**Pn**	**23 57 57.9**	**-0.4**
STYH	**Taoyuan**	**2.02**	**95**	⇑*e*P	**Pn**	**23 57 58.4**	**-0.2**
STYH				S	**Sn**	**23 58 23.8**	**+0.5**
WJS	**Zhushan**	**2.02**	**76**	⇑P	**Pn**	**23 57 57.9**	**-0.7**
WJS				*e*S	**Sn**	**23 58 22.6**	**-0.6**
MASBT	**Mashibuluo**	**2.02**	**111**	⇓*i*P	**Pn**	**23 57 58.2**	**-0.5**
ALS	**Alishan**	**2.05**	**85**	⇑*i*P	**Pn**	**23 57 58.8**	**-0.4**
ALS				*e*S	**Sn**	**23 58 24.8**	**+0.5**
TCU	**Taichung**	**2.08**	**67**	⇑*e*P	**Pn**	**23 57 58.8**	**-0.6**
WHYT	**Xinyi Township**	**2.11**	**80**	⇑*i*P	**Pn**	**23 57 59.2**	**-0.7**
WHYT			

CHKH	**Chenggong**	**2.59**	**93**	⇑*i*P		**Pn**		**23 58 06.8**	**+0.4**
FUSS	**Fushou**	**2.60**	**69**	⇑*i*P		**Pn**		**23 58 05.8**	**-0.9**
WARBT	**Fenglin Townsh**	**2.60**	**81**	⇑P		**Pn**		**23 58 06.0**	**-0.5**
WARBT				S		**Sn**		**23 58 36.5**	**-1.0**
HGSD	**Ruisui**	**2.61**	**86**	⇑*e*P		**Pn**		**23 58 07.2**	**+0.5**
HGSD				*e*S		**Sn**		**23 58 38.0**	**+0.2**
HSN	**Hsinchu**	**2.62**	**56**	*e*P		**Pn**		**23 58 06.7**	**-0.1**
HSN				*e*S		**Sn**		**23 58 39.5**	**+1.5**
SBCB	**Hsinchu**	**2.62**	**56**	⇑*i*P		**Pn**		**23 58 05.9**	**-1.0**
SBCB				*e*S		**Sn**		**23 58 37.4**	**-0.7**
EGFH	**Guangfu**	**2.63**	**82**	*e*P		**Pn**		**23 58 07.0**	**+0.1**
EGFH				*e*S		**Sn**		**23 58 38.5**	**+0.3**
ECBN	**Changbin**	**2.64**	**90**	*e*P		**Pn**		**23 58 07.8**	**+0.7**
ECBN				*e*S		**Sn**		**23 58 38.5**	**+0.1**
NFF	**Wufeng Townshi**	**2.65**	**61**	⇑*i*P		**Pn**		**23 58 06.2**	**-1.1**
NFF				*e*S		**Sn**		**23 58 37.4**	**-1.3**
ESL	**Shilin**	**2.66**	**79**	*e*P		**Pn**		**23 58 07.5**	**+0.2**
ESL				*e*S		**Sn**		**23 58 39.7**	**+0.8**
LXIB	**Xiulin Townshi**	**2.68**	**75**	*e*P		**Pn**		**23 58 07.4**	**-0.4**
LXIB				*e*S		**Sn**		**23 58 39.5**	**-0.2**
ETM	**Tongmen**	**2.74**	**76**	*e*P		**Pn**		**23 58 08.4**	**-0.1**
ETM				*e*S		**Sn**		**23 58 41.3**	**+0.4**
TEGC	**Jichi Village**	**2.74**	**82**	*e*P		**Pn**		**23 58 08.8**	**+0.4**
LDUT	**Ludao**	**2.74**	**104**	⇓*e*P		**Pn**		**23 58 08.6**	**+0.1**
LDUT				*i*S		**Sn**		**23 58 41.9**	**+0.9**
KSHI	**Guanxi Townshi**	**2.76**	**58**	*e*P		**Pn**		**23 58 08.2**	**-0.6**
SHUL	**Shoufeng**	**2.77**	**80**	⇑*i*P		**Pn**		**23 58 09.1**	**+0.3**
SHUL				*e*S		**Sn**		**23 58 42.2**	**+0.6**
MHZQ	**Yeshan**	**2.77**	**8**	⇑P		**Pn**		**23 58 07.2**	**-1.7**
NNS	**Nan Shan**	**2.77**	**66**	⇑*e*P		**Pn**		**23 58 08.0**	**-1.1**
NNS				*e*S		**Sn**		**23 58 41.3**	**-0.7**
NNSB	**Datong**	**2.78**	**67**	*e*P		**Pn**		**23 58 07.7**	**-1.5**
NNSB				*e*S		**Sn**		**23 58 42.0**	**-0.1**
ETLH	**Xiulin Townshi**	**2.79**	**72**	⇑P		**Pn**		**23 58 08.6**	**-0.7**
ETLH				*e*S		**Sn**		**23 58 42.4**	**+0.1**
TEYL	**Yanliau Villag**	**2.81**	**79**	*e*P		**Pn**		**23 58 09.9**	**+0.5**
TEYL				*e*S		**Sn**		**23 58 43.4**	**+0.7**
HWA	**Hwalien**	**2.84**	**77**	*e*P		**Pn**		**23 58 10.0**	**+0.1**
TWD	**Chiawan**	**2.85**	**75**	*e*P		**Pn**		**23 58 09.7**	**-0.3**
TWD				*e*S		**Sn**		**23 58 43.3**	**-0.5**
NSK	**Sanguang**	**2.86**	**62**	⇑*i*P		**Pn**		**23 58 09.3**	**-0.9**
NSK				*e*S		**Sn**		**23 58 43.0**	**-1.1**
NCUH	**Zhongli**	**2.87**	**55**	P		**Pn**		**23 58 09.6**	**-0.7**
YHNB	**Yeheng**	**2.87**	**62**	Pn		**Pn**		**23 58 09.2**	**-1.1**
YHNB	**Yeheng**	**2.87**	**62**	P		**Pn**		**23 58 09.7**	**-0.7**
YHNB	**Yeheng**	**2.87**	**62**	⇑*i*P		**Pn**		**23 58 09.4**	**-1.0**
NCU	**National Centr**	**2.88**	**55**	⇑*e*P		**Pn**		**23 58 11.0**	**+0.7**
NACB	**Ninganchiao**	**2.88**	**73**			**Pn**		**23 58 09.3**	**-1.1**
NACB	**Ninganchiao**	**2.88**	**73**	P		**Pn**		**23 58 10.4**	**0.0**
NACB	**Ninganchiao**	**2.88**	**73**	P		**Pn**		**23 58 09.5**	**-0.9**
ETL	**Fush Village**	**2.90**	**73**	P		**Pn**		**23 58 10.4**	**-0.3**
ENTT	**Nioudou**	**3.02**	**64**	⇑*i*P		**Pn**		**23 58 11.6**	**-0.7**
ENTT				*e*S		**Sn**		**23 58 47.4**	**-0.3**
NWLT	**Wulai**	**3.02**	**61**	⇑*i*P		**Pn**		**23 58 11.4**	**-1.0**
NWLT				*e*S		**Sn**		**23 58 48.0**	**0.0**
LAY	**Lan-yu**	**3.03**	**115**	*e*P		**Pn**		**23 58 11.3**	**-1.2**
LAY				*e*S		**Sn**		**23 58 49.2**	**+1.0**
EAHA	**Aohua**	**3.05**	**71**	*e*P		**Pn**		**23 58 12.2**	**-0.5**
EAHA				*e*S		**Sn**		**23 58 49.6**	**+1.0**
MATB	**Ma-tsu**	**3.05**	**24**	⇑*i*P		**Pn**		**23 58 11.4**	**-1.4**
LYUB	**Lan-yu**	**3.08**	**115**	⇓*e*P		**Pn**		**23 58 10.6**	**-2.5**
LYUB				*e*S		**Sn**		**23 58 44.7**	**-4.6**
ENA	**Nanau**	**3.08**	**69**	P		**Pn**		**23 58 12.4**	**-0.8**
FUSB	**Fushanzhiwuyua**	**3.08**	**62**	⇑*i*P		**Pn**		**23 58 12.3**	**-0.9**
FUSB				*e*S		**Sn**		**23 58 49.4**	**-0.1**
EWUT	**Wuta**	**3.12**	**69**	⇑P		**Pn**		**23 58 12.6**	**-1.1**
EWUT				*e*S		**Sn**		**23 58 50.3**	**0.0**
TWS1	**Kuangyinshan**	**3.12**	**55**	⇑P		**Pn**		**23 58 11.6**	**-2.1**
TWS1				*e*S		**Sn**		**23 58 50.2**	**-0.1**
TWE	**Neicheng**	**3.13**	**63**	⇑*i*P		**Pn**		**23 58 13.4**	**-0.5**
TWE				*e*S		**Sn**		**23 58 51.3**	**+0.6**
NDS	**Dongshan**	**3.14**	**65**	*e*P		**Pn**		**23 58 13.5**	**-0.5**
NDS				*e*S		**Sn**		**23 58 51.4**	**+0.6**
TAP	**Taipei**	**3.15**	**57**	*e*P		**Pn**		**23 58 12.6**	**-1.6**
TAP				*e*S		**Sn**		**23 58 52.4**	**+1.2**
SXFK	**Yanhouchang**	**3.16**	**345**	*e*P		**Pn**		**23 58 13.4**	**-0.8**
SXFK				*e*S		**Sn**		**23 58 49.1**	**-2.1**
NTST	**Danshui**	**3.18**	**55**	*e*P		**Pn**		**23 58 13.9**	**-0.6**
NTST				*e*S		**Sn**		**23 58 51.7**	**-0.1**
TWA	**Mucha**	**3.19**	**59**	⇑P		**Pn**		**23 58 10.5**	**-4.2**
TWA				*e*S		**Sn**		**23 58 51.8**	**-0.2**
ILA	**Ilan**	**3.22**	**63**	*e*P		**Pn**		**23 58 14.7**	**-0.4**
ESAO	**Su ao**	**3.22**	**67**	*e*P		**Pn**		**23 58 14.9**	**-0.2**
TWC	**Suao**	**3.24**	**67**	⇑*i*P		**Pn**		**23 58 15.3**	**-0.1**
TWC				*e*S		**Sn**		**23 58 53.6**	**+0.3**
ANP	**Anpu**	**3.25**	**55**	*e*P		**Pn**		**23 58 14.6**	**-0.9**
NTC	**Toucheng**	**3.32**	**63**	*e*P		**Pn**		**23 58 16.7**	**+0.2**
TWY	**Chenhua**	**3.35**	**54**	⇑P		**Pn**		**23 58 16.2**	**-0.7**
LYJJ	**Jianjiangzhen**	**3.36**	**18**	⇑P		**Pn**		**23 58 15.9**	**-1.2**
TIPB	**Shuangxi**	**3.37**	**61**	⇑P		**Pn**		**23 58 16.2**	**-1.0**
NWF	**Wu-fen Shan**	**3.39**	**59**	⇑P		**Pn**		**23 58 16.4**	**-1.1**
NWF				*e*S		**Sn**		**23 58 57.1**	**+0.1**
WFSB	**Wu-fen Shan**	**3.39**	**59**	⇑*e*P		**Pn**		**23 58 16.3**	**-1.0**
EGS		**3.40**	**63**	⇑P		**Pn**		**23 58 17.4**	**-0.2**
EGS				*e*S		**Sn**		**23 58 57.2**	**-0.1**
SXI1	**Grass Mountain**	**3.47**	**59**	⇑P		**Pn**		**23 58 17.4**	**-1.2**
EOS2	**EOS2**	**3.50**	**72**	*e*P		**Pn**		**23 58 20.2**	**+1.3**
EOS4	**EOS4**	**3.51**	**77**	*e*P		**Pn**		**23 58 19.8**	**+1.1**
TWB1	**Santiao Chiao**	**3.52**	**61**	⇑*i*P		**Pn**		**23 58 18.5**	**-0.7**
TWB1				*e*S		**Sn**		**23 58 58.9**	**-1.3**
EOS3	**EOS3**	**3.54**	**74**	*e*P		**Pn**		**23 58 19.7**	**+0.3**
XPSS	**Dashiqiu**	**3.85**	**22**	⇑P		**Pn**		**23 58 22.6**	**-1.2**
XPSS				*e*S		**Sn**		**23 59 05.4**	**-3.0**
PCYT	**Pengchaiyu**	**3.91**	**54**	⇓P		**Pn**		**23 58 24.0**	**-0.5**
PCYT				*e*S		**Sn**		**23 59 09.4**	**-0.4**
HKC	**Hong Kong Obse**	**4.20**	**257**	⇑P		**Pn**		**23 58 29.0**	**+0.5**
YOJ	**Yonaguni jima**	**4.20**	**74**	Pn		**Pn**		**23 58 27.9**	**-0.7**
YOJ	**Yonaguni jima**	**4.20**	**74**	P		**Pn**		**23 58 29.3**	**+0.7**
YOJ	**Yonaguni jima**	**4.20**	**74**	⇑*i*P		**Pn**		**23 58 28.6**	**0.0**
HKPS	**Hong Kong Po S**	**4.24**	**256**			**Pn**		**23 58 28.8**	**-0.3**
HKPS	**Hong Kong Po S**	**4.24**	**256**	Pn		**Pn**		**23 58 28.0**	**-1.0**
HKPS	**Hong Kong Po S**	**4.24**	**256**	P		**Pn**		**23 58 29.2**	**+0.1**
MCO	**Taipa Grande**	**4.80**	**256**	P		**Pn**		**23 58 36.0**	**-0.8**
GZH	**Guangzhou**	**4.83**	**268**	Pn		**Pn**		**23 58 32.5**	**-4.7**
GZH				Sn		**Sn**		**23 59 26.8**	**-5.7**
GZH				smax	smax				
	comp=N,57μm,0.9s								
GZH				smax	smax				
	comp=E,68μm,0.8s								
SZP	**Santa**	**6.03**	**163**	P		**Pn**		**23 58 53.5**	**-0.2**
JMJ	**Miyako jima 2**	**6.30**	**75**	P		**Pn**		**23 58 59.4**	**+1.9**
CNSH	**ChangSha**	**7.01**	**315**	Pn		**Pn**		**23 59 05.3**	**-1.9**
CNSH				Sn		**Sn**		**00 00 25.5**	**-0.7**
CNSH				smax	smax				
	comp=N,32μm,1.2s								
CNSH				smax	smax				
	comp=E,28μm,0.9s								
CNSH				LR	LR				
	comp=E,65μm,4.9s								
CNSH				LR	LR				
	comp=Z,110μm,7.5s								
GULI	**GuiLin**	**7.74**	**286**	Pn		**Pn**		**23 59 16.0**	**-1.2**
GULI				Sn		**Sn**		**00 00 47.0**	**+2.7**
GULI				LR	LR				
	comp=N,108μm,8.7s								
GULI				LR	LR				
	comp=E,72μm,7.1s								
GULI				LR	LR				
	comp=Z,101μm,7.0s								
SSE	**Sheshan**	**8.06**	**16**	P		**Pn**		**23 59 20.8**	**-0.7**
SSE				smax	smax				
	comp=N,4μm,1.4s								
SSE				smax	smax				
	comp=E,6μm,1.0s								
WHN	**Wuhan**	**8.10**	**333**	⇓P		**Pn**		**23 59 21.3**	**-0.8**
WHN				pP				23 59 25.3	
WHN				sP				23 59 28.0	
WHN				S		**Sn**		**00 00 53.3**	**+0.2**
WHN				pmax	pmax				
	comp=Z,860nm,0.8s								
WHN				LR	LR				
	comp=Z,290μm,8.4s								
NJ2	**Nanjing**	**8.68**	**2**	*e*P		**Pn**		**23 59 28.8**	**-1.2**
NJ2				S		**Sn**		**00 01 01.8**	**-5.4**
NJ2				pmax	pmax				
	comp=Z,240nm,0.9s								
NJ2				smax	smax				
	comp=N,18μm,1.0s								
NJ2				smax	smax				
	comp=E,15μm,1.4s								
NJ2				LR	LR				
	comp=N,97μm,7.3s								
NJ2				LR	LR				
	comp=Z,77μm,10.9s								
QIZ	**Qiongzhong**	**9.22**	**244**	Pn		**Pn**		**23 59 36.9**	**-0.6**
QIZ	**Qiongzhong**	**9.22**	**244**	P		**Pn**		**23 59 39.0**	**+1.5**
QIZ				sP				23 59 44.0	
QIZ				pmax	pmax				
	comp=Z,220nm,0.7s								
QIZ				LR	LR				
	comp=N,111μm,12.1s								
QIZ				LR	LR				
	comp=E,71μm,12.6s								
QIZ				LR	LR				
	comp=Z,96μm,9.1s								
JOW	**Kunigami**	**9.44**	**66**	Pn		**Pn**		**23 59 39.2**	**-1.3**
	12nm,0.3s,baz=244,slow=12,SNR=8.9								
	32nm,0.4s								
JOW	**Kunigami**	**9.44**	**66**	P		**Pn**		**23 59 39.8**	**-0.8**
TGY	**Tagaytay City**	**9.46**	**166**	Pn		**Pn**		**23 59 41.5**	**+0.6**
	82nm,0.3s,baz=270,slow=3.2,SNR=12								
TGY				Sn		**Sn**		**00 01 27.1**	**+0.3**
	12nm,0.3s,baz=29,slow=19,SNR=1.0								
ENH	**Enshi**	**10.65**	**312**	Pn		**Pn**		**23 59 56.5**	**-0.7**
GYA	**Guiyang**	**11.25**	**288**	⇑P		**Pn**		**00 00 04.8**	**-0.7**
GYA				S		**Sn**		**00 02 03.0**	**-7.7**
GYA				pmax	pmax				
	comp=Z,89nm,0.6s								
GYA				LR	LR				
	comp=Z,80μm,7.6s								
LYN	**LuoYang**	**12.38**	**336**	⇓P		**Pn**		**00 00 19.0**	**-1.7**
LYN				S		**Sn**		**00 02 42.3**	**+4.3**
LYN				SS		**SnSn**		**00 02 58.3**	**+7.8**
LYN				pmax	pmax				
	comp=Z,92nm,1.7s								
LYN				pmax	pmax				
	comp=Z,1μm,4.4s								
LYN				LR	LR				
	comp=N,102μm,9.4s								
LYN				LR	LR				
	comp=Z,71μm,8.1s								
TIA	**Tai'an**	**12.88**	**355**	P		**Pn**		**00 00 26.5**	**-1.1**
TIA				pmax	pmax				
	comp=Z,36nm,1.0s								
TIA				pmax	pmax				
	comp=Z,490nm,7.1s								
TIA				LR	LR				
	comp=E,302μm,11.4s								
TIA				LR	LR				
	comp=Z,42μm,7.7s								
XAN	**Xi'an**	**13.61**	**324**	⇑P		**Pn**		**00 00 36.5**	**-1.1**
XAN				pP		P		00 00 41.5	-4.8
XAN				S		**Sn**		**00 03 08.0**	**-0.1**
XAN				SS		**SnSn**		**00 03 25.5**	**+4.8**
XAN				pmax	pmax				
	comp=Z,210nm,1.2s								
XAN				pmax	pmax				
	comp=Z,2μm,4.3s								
XAN				LR	LR				
	comp=E,55μm,7.4s								
XAN				LR	LR				
	comp=Z,93μm,8.6s								
SLVN	**Son La**	**13.73**	**264**	Pn		**Pn**		**00 00 39.2**	**-0.1**
SLVN	**Son La**	**13.73**	**264**	P		**Pn**		**00 00 40.2**	**+0.9**
HNS	**HongShan**	**14.40**	**347**	⇑P		**Pn**		**00 00 47.0**	**-1.3**
HNS				PP		**PnPn**		**00 01 00.8**	**+4.4**
HNS				S		**Sn**		**00 03 29.8**	**+2.5**
HNS				sS		S		00 03 37.5	-9.5
HNS				SS		**SnSn**		**00 03 47.5**	**+7.3**
HNS				pmax	pmax				
	comp=Z,100nm,1.2s								
HNS				LR	LR				
	comp=E,76μm,10.6s								
HNS				LR	LR				
	comp=Z,48μm,10.6s								
JNU	**Nakatsue**	**14.56**	**45**			**P**		**00 00 53.9**	**-3.0**
JNU	**Nakatsue**	**14.56**	**45**	Pn		**Pn**		**00 00 51.8**	**+1.3**
	0.7nm,0.3s,baz=234,slow=9.4,SNR=22								
JNU				LR	LR			00 07 00.4	
	comp=Z,21μm,20.4s,baz=219,slow=40								
	117nm,1.0s								
JNU	**Nakatsue**	**14.56**	**45**	P		**Pn**		**00 00 53.1**	**+2.5**
KMI	**Kunming**	**14.56**	**280**	⇓P		**Pn**		**00 00 48.8**	**-2.1**
KMI				pP		P		00 00 56.0	-1.2
KMI				S		**Sn**		**00 03 34.0**	**+2.2**
KMI				pmax	pmax				
	comp=Z,64nm,1.1s								
KMI				pmax	pmax				
	comp=Z,800nm,5.3s								
KMI				LR	LR				
	comp=N,27μm,8.1s								
KMI				LR	LR				
	comp=E,54μm,12.3s								
KMI				LR	LR				
	comp=Z,37μm,12.1s								
JTU	**Tsushima**	**14.61**	**38**	P		**Pn**		**00 00 53.8**	**+2.7**
DLV	**Lat**	**14.86**	**222**	P		**P**		**00 00 58.7**	**-1.9**
TJN	**Taejon**	**15.04**	**28**	Pn		**Pn**		**00 00 57.9**	**+0.9**
TJN	**Taejon**	**15.04**	**28**	P		**Pn**		**00 00 59.6**	**+2.6**
CD2	**Chengdu**	**15.19**	**303**	P		**Pn**		**00 00 58.3**	**-0.8**
CD2				S		**S**		**00 03 55.5**	**-7.9**
CD2				pmax	pmax				
	comp=Z,610nm,0.8s								
CD2				pmax	pmax				
	comp=Z,2μm,5.9s								
CD2				LR	LR				
	comp=N,84μm,7.2s								
CD2				LR	LR				
	comp=E,67μm,7.2s								
CD2				LR	LR				
	comp=Z,69μm,7.8s								
TIY	**Taiyuan**	**15.26**	**341**	P		**Pn**		**00 01 01.5**	**+1.5**
TIY				S		**Sn**		**00 03 49.3**	**+0.9**
TIY				pmax	pmax				
	comp=Z,84nm,1.1s								
TIY				pmax	pmax				
	comp=Z,2μm,4.2s								
TIY				LR	LR				
	comp=N,25μm,8.0s								
TIY				LR	LR				
	comp=E,11μm,5.2s								
TIY				LR	LR				
	comp=Z,9μm,8.3s								
PZH	**PanZhiHua**	**15.60**	**285**	P		**Pn**		**00 01 05.0**	**+0.5**
PZH				S		**Sn**		**00 03 59.0**	**+2.2**
PZH				SS		**S**		**00 04 17.3**	**+5.4**
PZH				pmax	pmax				
	comp=Z,80nm,0.7s								
PZH				pmax	pmax				
	comp=Z,910nm,4.3s								
PZH				LR	LR				
	comp=E,31μm,12.0s								
PZH				LR	LR				
	comp=Z,31μm,9.2s								
INCN	**Inchon**	**15.70**	**24**	Pn		**Pn**		**00 01 04.6**	**-1.0**
INCN	**Inchon**	**15.70**	**24**	P		**Pn**		**00 01 07.1**	**+1.5**
DL2	**Dalian**	**15.73**	**9**	⇑*i*P		**Pn**		**00 01 06.5**	**+0.5**
DL2				S		**Sn**		**00 04 01.0**	**+1.4**
DL2				pmax	pmax				
	comp=Z,190nm,1.0s								
DL2				pmax	pmax				
	comp=Z,3μm,4.3s								
DL2				LR	LR				
	comp=N,92μm,9.8s								
DL2				LR	LR				
	comp=Z,57μm,11.1s								
KSAR	**Wonju Array Be**	**16.16**	**28**	P		**P**		**00 01 13.4**	**-1.3**
KSRS	**Korea Array**	**16.19**	**28**	Pn		**Pn**		**00 01 12.8**	**+0.9**
	1.6nm,0.3s,baz=207,slow=14,SNR=74								
KSRS				LR	LR			00 07 35.5	
	comp=Z,6μm,19.3s,baz=215,slow=38								
	122nm,1.0s								
KS19	**Wonju Array Si**	**16.21**	**27**	P		**Pn**		**00 01 13.5**	**+1.3**
BJT	**Baijiatuau**	**16.75**	**354**	P		**P**		**00 01 20.2**	**-0.9**
BJI	**Beijing**	**16.77**	**354**	P		**Pn**		**00 01 20.0**	**+0.8**
BJI				S		**Sn**		**00 04 24.5**	**-0.4**
BJI				pmax	pmax				
	comp=Z,470nm,3.7s								
BJI				LR	LR				
	comp=N,9μm,12.8s								
BJI				LR	LR				
	comp=E,47μm,14.6s								
BJI				LR	LR				
	comp=Z,9μm,13.1s								
JMN	**Monobe**	**16.94**	**49**			**Pn**		**00 01 19.0**	**-2.5**
JMN	**Monobe**	**16.94**	**49**	P		**P**		**00 01 22.5**	**-0.8**
KKM	**Kota Kinabalu**	**17.35**	**188**	Pn		**Pn**		**00 01 25.5**	**-1.4**
KKM	**Kota Kinabalu**	**17.35**	**188**	P		**P**		**00 01 28.5**	**+0.4**
DAV	**Davao City (W)**	**17.53**	**156**	P		**P**		**00 01 31.5**	**+1.6**
DAV	**Davao City (W)**	**17.53**	**156**	P		**P**		**00 01 30.2**	**+0.3**
	99nm,0.3s,baz=344,slow=5.5,SNR=9.7								
DAV				LR	LR			00 08 40.0	
	comp=Z,9μm,19.5s,baz=265,slow=39								
DAV	**Davao City (W)**	**17.53**	**156**	P		**P**		**00 01 31.0**	**+1.1**
DAV	**Davao City (W)**	**17.53**	**156**	P		**P**		**00 01 32.0**	**+2.1**
PHRA	**Phrae**	**17.81**	**258**	P		**P**		**00 01 33.4**	**+0.4**
LZH	**Lanzhou**	**18.00**	**318**	⇓P		**Pn**		**00 01 34.3**	**-0.5**
LZH				sP		sP		00 01 46.3	+2.2
LZH				S		**S**		**00 04 58.3**	**-2.6**
LZH				pmax	pmax				
	comp=Z,79nm,1.5s								
LZH				pmax	pmax				
	comp=Z,5μm,4.5s								
LZH				LR	LR				
	comp=N,34μm,12.4s								
LZH				LR	LR				
	comp=E,30μm,11.3s								
LZH				LR	LR				
	comp=Z,30μm,10.3s								
MYLDM	**Lahad Datu**	**18.06**	**180**			**P**		**00 01 37.1**	**+1.3**
MYLDM				IAmb	IAmb			00 01 46.6	
	comp=Z,583nm,1.7s								
MYLDM	**Lahad Datu**	**18.06**	**180**	P		**P**		**00 01 37.7**	**+1.9**
TNCH	**TengChong**	**18.38**	**279**	⇓*i*P		**P**		**00 01 38.8**	**-0.7**
TNCH				pP		Pn		00 01 41.3	+1.7
TNCH				PP		**PnPn**		**00 01 54.3**	**+3.1**
TNCH				S		**Sn**		**00 04 59.8**	**-4.7**
TNCH				pmax	pmax				
	comp=Z,75nm,2.4s								
TNCH				pmax	pmax				
	comp=Z,2μm,6.9s								
TNCH				LR	LR				
	comp=Z,24μm,4.4s								
TNCH				LR	LR				
	comp=Z,28μm,5.5s								
TNCH				LR	LR				
	comp=Z,26μm,13.3s								
HHC	**Hu-ho-hao-te**	**18.42**	**343**	⇓*i*P		**Pn**		**00 01 42.0**	**+2.1**
HHC				pP		pP		00 01 46.3	+0.5
HHC				PP		**PnPn**		**00 01 53.8**	**+2.1**
HHC				S		**Sn**		**00 05 06.0**	**+0.8**
HHC				SS		**SnSn**		**00 05 27.5**	**+8.3**
HHC				pmax	pmax				
	comp=Z,40nm,2.1s								
HHC				pmax	pmax				
	comp=Z,1μm,4.1s								
HHC				LR	LR				
	comp=Z,37μm,12.7s								
HHC				LR	LR				
	comp=Z,108μm,14.1s								
HHC				LR	LR				
	comp=Z,36μm,13.8s								
BTO	**Baotou**	**18.66**	**339**	*e*P		**Pn**		**00 01 44.5**	**+1.7**
BTO				pP		**pP**		**00 01 49.0**	**+0.6**
BTO				sP		**sP**		**00 01 52.5**	**+1.2**
BTO				PP		**PnPn**		**00 01 59.8**	**+4.9**
BTO				pmax	pmax				
	comp=Z,60nm,1.1s								
BTO				pmax	pmax				
	comp=Z,5μm,6.3s								
BTO				LR	LR				
	comp=Z,62μm,8.2s								
BTO				LR	LR				
	comp=Z,29μm,7.2s								
BTO				LR	LR				
	comp=Z,50μm,7.0s								
CHTO	**Chiang Mai**	**18.87**	**260**	P		**P**		**00 01 44.2**	**-0.5**
SNY	**Shenyang**	**18.90**	**12**	⇓P		**Pn**		**00 01 46.3**	**+0.8**
SNY				S		**Sn**		**00 05 17.3**	**+0.9**
SNY				pmax	pmax				
	comp=Z,62nm,1.7s								
SNY				pmax	pmax				
	comp=Z,2μm,4.3s								
SNY				LR	LR				
	comp=Z,57μm,15.8s								
SNY				LR	LR				
	comp=Z,154μm,15.2s								
SNY				LR	LR				
	comp=Z,35μm,11.6s								
CM31	**Chiang Mai Arr**	**18.98**	**259**	P		**Pn**		**00 01 46.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**18.98**	**259**	P		**Pn**		**00 01 46.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**18.98**	**259**	P		**Pn**		**00 01 47.0**	**+0.4**
	comp=Z,18nm,0.9s,baz=62,slow=8.9,SNR=67								
CMAR				LR	LR			00 08 19.4	
	comp=Z,17μm,20.8s,baz=80,slow=35								
INU	**Inuyama**	**19.99**	**49**	P		**P**		**00 01 56.9**	**0.0**
INU	**Inuyama**	**19.99**	**49**	P		**Pn**		**00 01 58.6**	**-0.1**
JGF	**Kuroka**	**20.36**	**49**	P		**P**		**00 02 00.4**	**-0.5**
JGF	**Kuroka**	**20.36**	**49**	P		**P**		**00 02 01.9**	**+1.0**
SRDT	**SRDT**	**20.46**	**248**	P		Pn		00 02 03.6	-0.7
JSG	**Sagara**	**20.49**	**52**	P		**P**		**00 02 00.4**	**-1.8**
JSG				IAmb	IAmb			00 02 15.3	
	comp=Z,705nm,1.6s								
XLT	**XiLinHaoTe**	**20.60**	**355**	*e*P		Pn		00 02 05.8	-0.1
XLT				pP		pP		00 02 10.3	+0.6
XLT				sP		sP		00 02 13.0	+0.5
XLT

ZIRO	**ZIRO**	**22.71**	**286**	*e*P	**P**	**00 02 26.0**	**-0.4**
ZIRO				IAmb	IAmb	00 02 29.1	
	comp=Z,182nm,0.6s						
ZIRO				IAMs_20	IAMs_20	00 23 56.8	
	comp=Z,5μm,14.7s						
MDJ	**Mudanjiang**	**23.05**	**20**	P	**P**	**00 02 27.9**	**-1.7**
MDJ	**Mudanjiang**	**23.05**	**20**	P	**P**	**00 02 28.8**	**-0.8**
MDJ				sP	pP	00 02 34.3	-1.5
MDJ				S	**S**	**00 06 39.8**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,65nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,1μm,6.9s						
MDJ				LR	LR		
	comp=Z,58μm,13.1s						
MDJ				LR	LR		
	comp=Z,81μm,13.1s						
MDJ				LR	LR		
	comp=Z,31μm,12.4s						
KSM	**Kuching**	**23.18**	**201**	P	**P**	**00 02 30.4**	**-0.7**
KSM	**Kuching**	**23.18**	**201**	P	**P**	**00 02 30.0**	**-1.1**
SRIT	**Nakonsritamara**	**23.37**	**234**	P	**P**	**00 02 34.0**	**+0.9**
SRIT				IAmb	IAmb	00 02 58.9	
	comp=Z,204nm,1.2s						
SRIT				IAMs_20	IAMs_20	00 12 29.2	
	comp=Z,22μm,20.0s						
SRIT	**Nakonsritamara**	**23.37**	**234**	P	**P**	**00 02 34.9**	**+1.9**
BNX	**BinXian**	**23.46**	**16**	⇓P	**P**	**00 02 33.0**	**-0.7**
BNX				sP	**pP**	**00 02 37.8**	**-2.2**
BNX				S	**S**	**00 06 48.3**	**+2.4**
BNX				sS	**sS**	**00 06 56.3**	**-0.5**
BNX				pmax	pmax		
	comp=Z,44nm,1.4s						
BNX				pmax	pmax		
	comp=Z,870nm,5.7s						
BNX				LR	LR		
	comp=Z,37μm,11.4s						
BNX				LR	LR		
	comp=Z,77μm,10.3s						
BNX				LR	LR		
	comp=Z,23μm,9.2s						
USA0B	**Ussuriysk Arra**	**23.54**	**25**	P	**P**	**00 02 33.3**	**-1.1**
USRK	**Ussuriysk Ar.**	**23.54**	**25**	P	**P**	**00 02 33.6**	**-0.8**
USRK	**Ussuriysk Ar.**	**23.54**	**25**	P	**P**	**00 02 34.4**	**0.0**
	comp=Z,29nm,0.9s,baz=202,slow=9.7,SNR=27						
	comp=Z,29nm,0.9s						
AZL	**Aizawl**	**23.73**	**276**	⇓*i*P	**P**	**00 02 35.0**	**-1.7**
AZL				IAmb	IAmb	00 02 37.1	
	comp=Z,50nm,0.9s						
AZL				IAMs_20	IAMs_20	00 24 48.2	
	comp=Z,6μm,18.2s						
JMM	**Marumori**	**23.89**	**48**	IAmb	IAmb	00 02 45.7	
	comp=Z,250nm,1.6s						
JMM	**Marumori**	**23.89**	**48**	P	**P**	**00 02 36.8**	**-1.1**
TNTI	**Ternate**	**24.01**	**158**	P	**P**	**00 02 40.6**	**+1.5**
TNTI	**Ternate**	**24.01**	**158**	P	**P**	**00 02 40.7**	**+1.5**
GOMU	**GeErMu**	**24.21**	**307**	P	**P**	**00 02 41.5**	**+0.1**
GOMU				pP	pP	00 02 45.5	-2.4
GOMU				sP	sP	00 02 48.0	-2.6
GOMU				S	**S**	**00 07 02.0**	**+3.1**
GOMU				pmax	pmax		
	comp=Z,54nm,1.0s						
GOMU				LR	LR		
	comp=Z,30μm,10.3s						
GOMU				LR	LR		
	comp=Z,54μm,10.5s						
GOMU				LR	LR		
	comp=Z,76μm,10.2s						
SHL	**Shillong**	**24.39**	**281**	P	**P**	**00 02 41.9**	**-1.0**
SHL				IAMs_20	IAMs_20	00 11 36.4	
	comp=Z,15μm,19.0s						
SHL	**Shillong**	**24.39**	**281**	*e*P	**P**	**00 02 41.5**	**-1.4**
SHL				IAmb	IAmb	00 02 45.3	
	comp=Z,76nm,0.9s						
BKB	**Balikpapan**	**24.51**	**184**	P	**P**	**00 02 43.4**	**-0.5**
BKB	**Balikpapan**	**24.51**	**184**	P	**P**	**00 02 44.2**	**+0.4**
LUWI	**Luwuk**	**24.58**	**170**	P	**P**	**00 02 44.3**	**-0.1**
LUWI	**Luwuk**	**24.58**	**170**	P	**P**	**00 02 44.7**	**+0.3**
KULM	**Kulim**	**24.93**	**227**	P	**P**	**00 02 47.5**	**-0.1**
KULM	**Kulim**	**24.93**	**227**	P	**P**	**00 02 48.5**	**+0.9**
IPM	**Ipoh**	**25.29**	**225**	P	**P**	**00 02 50.3**	**-0.6**
IPM	**Ipoh**	**25.29**	**225**	P	**P**	**00 02 50.9**	**+0.1**
LSA	**Lhasa**	**25.31**	**290**	P	**P**	**00 02 52.2**	**+0.7**
LSA	**Lhasa**	**25.31**	**290**	*i* P	**P**	**00 02 52.8**	**+1.2**
	SNR=62						
LSA	**Lhasa**	**25.31**	**290**	P	**P**	**00 02 52.8**	**+1.2**
LSA				S	**S**	**00 07 18.3**	**+1.4**
LSA				pmax	pmax		
	comp=Z,55nm,0.9s						
LSA				LR	LR		
	comp=Z,32μm,18.7s						
LSA				LR	LR		
	comp=Z,9μm,13.7s						
JTM	**Tenmabayashi**	**25.68**	**42**	P	**P**	**00 02 53.5**	**-0.6**
JTM	**Tenmabayashi**	**25.68**	**42**	P	**P**	**00 02 55.1**	**+0.9**
MYKOM	**Kota Tinggi**	**25.75**	**216**	P	**P**	**00 02 55.0**	**-0.1**
MYKOM				IAmb	IAmb	00 03 05.8	
	comp=Z,191nm,1.3s						
MYKOM	**Kota Tinggi**	**25.75**	**216**	P	**P**	**00 02 55.4**	**+0.3**
HIA	**Hailar**	**25.89**	**2**	P	**P**	**00 02 55.4**	**-0.6**
HIA	**Hailar**	**25.89**	**2**	IAMs_20	IAMs_20	00 13 06.6	
	comp=Z,17μm,18.0s						
ULN	**Ulaanbaatar**	**26.14**	**342**	P	**P**	**00 02 58.0**	**-0.5**
ULN	**Ulaanbaatar**	**26.14**	**342**	IAMs_20	IAMs_20	00 13 13.2	
	comp=Z,19μm,18.0s						
BTDF	**Bukit Timah Da**	**26.16**	**215**	P	**P**	**00 03 00.5**	**+1.8**
SANI	**Sanana**	**26.25**	**163**	P	**P**	**00 02 57.7**	**-1.9**
SONM	**Songino Array**	**26.30**	**341**	P	**P**	**00 03 00.7**	**+0.8**
SONM	**Songino Array**	**26.30**	**341**	P	**P**	**00 02 59.6**	**-0.3**
	comp=Z,6.3nm,0.7s,baz=163,slow=9.7,SNR=21						
SONM				LR	LR	00 13 32.0	
	comp=Z,17μm,19.1s,baz=154,slow=37						
	comp=Z,6.3nm,0.7s						
DGPR	**DIGLIPUR**	**26.34**	**252**	*e*P	**P**	**00 03 00.8**	**+0.4**
GUMO	**Guam**	**26.71**	**107**	P	**P**	**00 03 03.8**	**0.0**
GUMO	**Guam**	**26.71**	**107**	LR	LR	00 12 57.5	
	comp=Z,4μm,19.4s,baz=293,slow=35						
GUMO	**Guam**	**26.71**	**107**	P	**P**	**00 03 04.5**	**+0.7**
PBA	**Port Blair**	**27.20**	**249**	IAMs_20	IAMs_20	00 14 01.0	
	comp=Z,14μm,19.0s						
PBA	**Port Blair**	**27.20**	**249**	*e*P	**P**	**00 03 12.9**	**+4.7**
GTK	**Tadong**	**27.35**	**285**	*e*P	**P**	**00 03 09.9**	**+0.3**
GTK				IAmb	IAmb	00 03 17.0	
	comp=Z,224nm,1.0s						
GTK				IAMs_20	IAMs_20	00 24 43.6	
	comp=Z,7μm,16.8s						
LHMI	**Lhok Sumawe**	**27.56**	**233**	P	**P**	**00 03 12.0**	**+0.6**
LHMI				IAmb	IAmb	00 03 36.7	
	comp=Z,123nm,1.2s						
ERM	**Erimo**	**27.67**	**42**	P	**P**	**00 03 13.6**	**+1.5**
ERM				IAmb	IAmb	00 03 20.1	
	comp=Z,174nm,0.9s						
ERM	**Erimo**	**27.67**	**42**	P	**P**	**00 03 14.5**	**+2.4**
HEH	**HeiHe**	**27.73**	**12**	*e*P	**P**	**00 03 12.0**	**-0.6**
HEH				pP	**pP**	**00 03 18.5**	**-0.6**
HEH				sS	**sS**	**00 08 03.5**	**-1.1**
HEH				pmax	pmax		
	comp=Z,52nm,1.6s						
HEH				pmax	pmax		
	comp=Z,740nm,6.8s						
HEH				LR	LR		
	comp=Z,48μm,12.4s						
HEH				LR	LR		
	comp=Z,12μm,12.6s						
HEH				LR	LR		
	comp=Z,58μm,12.0s						
KLR	**Kul'dur**	**27.84**	**19**	P	**P**	**00 03 13.4**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=215,slow=11,SNR=5.2						
KLR				LR	LR	00 14 00.8	
	comp=Z,9μm,18.3s,baz=203,slow=36						
	comp=Z,3.3nm,0.6s						
PSI	**Prapat**	**27.92**	**226**	LR	LR	00 14 31.8	
	comp=Z,7μm,19.1s,baz=66,slow=37						
PSI	**Prapat**	**27.92**	**226**	P	**P**	**00 03 14.3**	**-0.4**
RPSI	**Rantau Prapat**	**28.00**	**226**	P	**P**	**00 03 15.0**	**-0.3**
KAPI	**Kappang**	**28.21**	**178**	P	**P**	**00 03 17.0**	**-0.1**
KAPI	**Kappang**	**28.21**	**178**	P	**P**	**00 03 18.4**	**+1.3**
BKNI	**Bangkinang**	**28.53**	**219**	P	**P**	**00 03 20.2**	**+0.1**
JKA	**Kamikawa-asahi**	**28.59**	**38**	P	**P**	**00 03 19.4**	**-1.0**
FAKI	**Fak Fak**	**29.31**	**151**	P	**P**	**00 03 26.4**	**-0.5**
FAKI	**Fak Fak**	**29.31**	**151**	P	**P**	**00 03 27.8**	**+0.8**
BNDI	**Bandanaira**	**29.82**	**157**	P	**P**	**00 03 32.3**	**+0.8**
GSI	**Gunungsitoli**	**29.93**	**226**	P	**P**	**00 03 32.0**	**-0.4**
GSI	**Gunungsitoli**	**29.93**	**226**	P	**P**	**00 03 34.3**	**+1.9**
BOK	**Bokaro**	**29.94**	**277**	*e*P	**P**	**00 03 32.6**	**0.0**
BOK				IAmb	IAmb	00 03 39.3	
	comp=Z,22nm,0.5s						
BOK				IAMs_20	IAMs_20	00 23 33.5	
	comp=Z,5μm,15.7s						
YSS	**Yuzh-Sakhalins**	**30.52**	**34**	P	**P**	**00 03 37.8**	**+0.5**
YSS	**Yuzh-Sakhalins**	**30.52**	**34**	P	**P**	**00 03 39.4**	**+2.1**
SMRI	**Semarang**	**31.24**	**196**	P	**P**	**00 03 43.2**	**-0.9**
SMRI				IAmb	IAmb	00 03 52.9	
	comp=Z,118nm,0.9s						
SMRI	**Semarang**	**31.24**	**196**	P	**P**	**00 03 45.6**	**+1.6**
LEM	**Lembang**	**31.85**	**201**	LR	LR	00 17 11.8	
	comp=Z,4μm,18.2s,baz=15,slow=37						
JAGI	**Jajag, Banyuwa**	**31.92**	**188**	P	**P**	**00 03 49.8**	**-0.2**
JAGI				IAmb	IAmb	00 04 28.5	
	comp=Z,122nm,1.2s						
JAGI	**Jajag, Banyuwa**	**31.92**	**188**	P	**P**	**00 03 51.8**	**+1.8**
MMRI	**Maumere**	**31.99**	**173**	P	**P**	**00 03 50.8**	**+0.2**
MMRI	**Maumere**	**31.99**	**173**	P	**P**	**00 03 52.2**	**+1.6**
PLAI	**Plampang**	**31.99**	**182**	P	**P**	**00 03 52.3**	**+1.7**
UGM	**Wanagama**	**32.05**	**195**	P	**P**	**00 03 51.6**	**+0.5**
UGM	**Wanagama**	**32.05**	**195**	P	**P**	**00 03 53.1**	**+1.9**
BBJI	**Bungbulang**	**32.43**	**201**	P	**P**	**00 03 55.2**	**+0.6**
WMQ	**Urumqi**	**32.56**	**316**	*e*P	**P**	**00 03 57.0**	**+1.5**
WMQ				sP	sP	00 04 04.3	-0.5
WMQ				PP	**PP**	**00 05 07.8**	**-1.4**
WMQ				S	**S**	**00 09 12.0**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,68nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,410nm,3.8s						
WMQ				LR	LR		
	comp=Z,19μm,14.1s						
WMQ				LR	LR		
	comp=Z,11μm,12.1s						
WMQ				LR	LR		
	comp=Z,5μm,17.9s						
GENI	**Genyem**	**33.27**	**138**	P	**P**	**00 04 03.8**	**+1.9**
SOEI	**Soe**	**33.37**	**170**	P	**P**	**00 04 03.1**	**+0.3**
SOEI				IAmb	IAmb	00 04 52.5	
	comp=Z,86nm,1.0s						
SOEI	**Soe**	**33.37**	**170**	P	**P**	**00 04 05.1**	**+2.3**
ALBI	**Allahabad**	**33.50**	**281**	*e*P	**P**	**00 04 02.5**	**-1.3**
ALBI				IAmb	IAmb	00 04 11.0	
	comp=Z,58nm,0.9s						
SAUI	**Saumlaki**	**33.53**	**157**	P	**P**	**00 04 03.2**	**-0.9**
SAUI	**Saumlaki**	**33.53**	**157**	P	**P**	**00 04 03.9**	**-0.2**
JAY	**Jayapura**	**33.55**	**137**	LR	LR	00 17 14.8	
	comp=Z,4μm,20.6s,baz=332,slow=36						
LGTI	**Lohaghat**	**34.76**	**288**	*e*P	**P**	**00 04 16.2**	**+1.5**
LGTI				*i* x	x	00 04 24.3	
XMIS	**Christmas Isla**	**35.92**	**202**	P	**P**	**00 04 25.8**	**+1.0**
XMIS				IAmb	IAmb	00 04 31.1	
	comp=Z,105nm,1.1s						
TABU	**Tabubil**	**36.02**	**139**	P	**P**	**00 04 26.7**	**+1.0**
ZSN	**Zaisan**	**36.08**	**320**	*e*P	**P**	**00 04 24.9**	**-0.9**
	comp=Z,97nm,1.1s						
ZSN				*e*S	**S**	**00 10 04.0**	**+0.1**
JHNI	**Jhansi**	**36.44**	**282**	*e*P	**P**	**00 04 26.8**	**-2.3**
DDI	**Dehra Dun**	**36.68**	**290**	*e*P	**P**	**00 04 30.9**	**-0.4**
MK31	**Makanchi Array**	**37.32**	**318**	P	**P**	**00 04 36.5**	**0.0**
MKAR	**Makanchi Array**	**37.32**	**318**	P	**P**	**00 04 36.5**	**0.0**
	comp=Z,15nm,0.6s,baz=113,slow=9.6,SNR=130						
	comp=Z,15nm,0.6s						
WUS	**Wushi**	**37.37**	**308**	P	**P**	**00 04 37.4**	**+0.3**
WUS				IAmb	IAmb	00 04 45.3	
	comp=Z,104nm,1.1s						
SMLA	**Simla**	**37.46**	**291**	*e*P	**P**	**00 04 37.6**	**-0.2**
SMLA				IAmb	IAmb	00 04 43.8	
	comp=Z,270nm,2.0s						
MAKZ	**Makanchi**	**37.52**	**318**	P	**P**	**00 04 38.4**	**+0.3**
DRS	**Darwin Rock St**	**37.55**	**160**	P	**P**	**00 04 37.2**	**-1.4**
SONA	**Sohna**	**37.55**	**286**	*e*P	**P**	**00 04 38.7**	**+0.1**
BHPL	**Bhopal**	**37.71**	**278**	*e*P	**P**	**00 04 38.9**	**-1.2**
BHPL				*e*S	**S**	**00 10 28.5**	**-0.9**
BHPL				*i* x	x	00 13 18.7	
BHPL				*ex*	x	00 16 13.5	
BHPL				*i* x	x	00 18 46.1	
BHPL				IAMs_20	IAMs_20	00 22 25.9	
	comp=Z,6μm,18.6s						
MANU	**Manus Island**	**37.71**	**128**	P	**P**	**00 04 40.6**	**+0.5**
MANU				IAmb	IAmb	00 04 48.6	
	comp=Z,92nm,0.8s						
MDRS	**Chennai**	**37.72**	**261**	IAMs_20	IAMs_20	00 22 51.4	
	comp=Z,8μm,18.9s						
SHLS	**Shalkode**	**37.78**	**311**	*e*P	**P**	**00 04 37.2**	**-3.3**
HYB	**Hyderabad**	**37.90**	**269**	*e*P	**P**	**00 04 41.6**	**-0.1**
HYB				IVmB_BB		00 04 49.0	
	comp=Z,318nm,3.3s						
HYB				IVMs_BB	IVMs_BB	00 22 29.7	
	comp=Z,2μm,13.1s						
MTN	**Manton Dam**	**38.01**	**160**	P	**P**	**00 04 40.7**	**-1.8**
MTN	**Manton Dam**	**38.01**	**160**	P	**P**	**00 04 40.5**	**-2.0**
	comp=Z,171nm,1.1s						
MTN	**Manton Dam**	**38.01**	**160**	P	**P**	**00 04 41.0**	**-1.5**
KUDL	**Kundal**	**38.08**	**286**	*e*P	**P**	**00 04 40.6**	**-2.5**
KUDL				IAmb	IAmb	00 04 44.3	
	comp=Z,19nm,0.7s						
UZB	**Uzynbulak**	**38.08**	**311**	*e*P	**P**	**00 04 42.1**	**-1.0**
BHK	**Bhakra**	**38.11**	**292**	*ex*	**P**	**00 04 43.9**	**+0.6**
DHRM	**DHARAMSHALA**	**38.24**	**293**	*e*P	**P**	**00 04 44.2**	**-0.5**
DHRM				IAmb	IAmb	00 04 52.2	
	comp=Z,294nm,1.4s						
DHRM				IAMs_20	IAMs_20	00 20 53.6	
	comp=Z,7μm,17.4s						
KDU	**Kakadu**	**38.30**	**158**	P	**P**	**00 04 43.2**	**-1.8**
	comp=Z,145nm,0.9s						
KDU	**Kakadu**	**38.30**	**158**	P	**P**	**00 04 43.4**	**-1.6**
PRZ	**Przheval'sk**	**38.32**	**310**	P	**P**	**00 04 45.2**	**+0.1**
PRZ				IAmb	IAmb	00 04 54.5	
	comp=Z,175nm,1.1s						
PRZ				IAMs_20	IAMs_20	00 22 54.5	
	comp=Z,7μm,18.0s						
SATY	**Saty**	**38.49**	**311**	*e*P	**P**	**00 04 45.5**	**-1.0**
ZHN	**Zhinishke**	**38.50**	**311**	*e*P	**P**	**00 04 45.8**	**-0.8**
AKL	**Akola**	**38.53**	**274**	*e*P	**P**	**00 04 47.2**	**+0.2**
AKL				IAmb	IAmb	00 04 49.8	
	comp=Z,28nm,0.7s						
KDJ	**Kajisay**	**39.09**	**309**	P	**P**	**00 04 51.2**	**-0.5**
TDK	**Taldyqorghan**	**39.11**	**313**	*e*P	**P**	**00 04 50.9**	**-0.7**
TDK				*i* LR	LR	00 22 29.0	
KSH	**Kashi**	**39.38**	**304**	P	**P**	**00 04 57.0**	**+3.0**
KSH				sP	sP	00 05 03.8	+0.4
KSH				PP	**PnPn**	**00 06 29.3**	**+2.0**
KSH				S	**S**	**00 10 57.5**	**+3.1**
KSH				pmax	pmax		
	comp=Z,79nm,1.3s						
KSH				pmax	pmax		
	comp=Z,620nm,5.5s						
KSH				LR	LR		
	comp=Z,12μm,20.6s						
KSH				LR	LR		
	comp=Z,6μm,13.7s						
KSH				LR	LR		
	comp=Z,9μm,18.6s						
YAK	**Yakutsk**	**39.40**	**8**	P	**P**	**00 04 52.4**	**-1.3**
YAK				IAmb	IAmb	00 05 12.3	
	comp=Z,94nm,0.9s						
YAK	**Yakutsk**	**39.40**	**8**	IAMs_20	IAMs_20	00 21 54.5	
	comp=Z,7μm,18.0s						
YAK	**Yakutsk**	**39.40**	**8**	LR	LR	00 22 11.9	
	comp=Z,6μm,19.5s,baz=189,slow=38						
MDOK	**Medeo**	**39.47**	**310**	*e*P	**P**	**00 04 54.1**	**-0.6**
MDOK				LR	LR	00 23 00.2	
	comp=Z,4μm,13.6s						
ZAA0	**Zalesovo Array**	**39.69**	**329**	P	**P**	**00 04 55.1**	**-1.1**
ZAA0				IAmb	IAmb	00 05 03.4	
	comp=Z,115nm,0.9s						
ZALV	**Zalesovo Beam**	**39.69**	**329**	P	**P**	**00 04 55.4**	**-0.9**
ZALV	**Zalesovo Beam**	**39.69**	**329**	P	**P**	**00 04 55.2**	**-1.0**
	comp=Z,23nm,0.6s,baz=114,slow=7.2,SNR=75						
ZALV				LR	LR	00 21 54.5	
	comp=Z,5μm,18.4s,baz=127,slow=37						
	comp=Z,23nm,0.6s						
NRN	**Naryn**	**39.77**	**307**	P	**P**	**00 04 57.7**	**+0.2**
NRN				IAmb	IAmb	00 05 06.8	
	comp=Z,168nm,1.0s						
ULHL	**Ulahol**	**39.79**	**309**	P	**P**	**00 04 55.0**	**-2.6**
	SNR=9.3						
AJM	**Ajmer**	**39.83**	**284**	*e*P	**P**	**00 04 57.0**	**-0.8**
AJM				IAmb	IAmb	00 05 05.1	
	comp=Z,51nm,1.0s						
KNRA	**Kununurra**	**40.04**	**165**	P	**P**	**00 04 58.5**	**-1.0**
KNRA				IAmb	IAmb	00 05 24.7	
	comp=Z,127nm,1.2s						
KNRA	**Kununurra**	**40.04**	**165**	P	**P**	**00 04 58.0**	**-1.4**
	comp=Z,92nm,1.2s						
SALM	**Salem**	**40.10**	**260**	*e*P	**P**	**00 05 01.6**	**+1.5**
KUU	**Kurty**	**40.17**	**311**	*e*P	**P**	**00 04 59.4**	**-1.0**
	comp=Z,4μm,11.9s						
KUU				LR	LR	00 23 28.1	
	comp=Z,5μm,13.9s						
SEM	**Semipalatinsk**	**40.17**	**322**	*e*P	**P**	**00 04 59.0**	**-1.5**
	comp=Z,78nm,0.9s						
SEM				*e*S	**S**	**00 11 05.4**	**-0.8**
SEM				LR	LR	00 23 33.1	
TKM2	**Tokmak 2**	**40.43**	**309**	P	**P**	**00 05 03.3**	**+0.6**
	SNR=7.8						
KBK	**Karagaybulak**	**40.82**	**309**	P	**P**	**00 05 06.9**	**+0.9**
	SNR=14						
NIL	**Nilore**	**40.86**	**295**	P	**P**	**00 05 06.1**	**-0.1**
NIL				IAmb	IAmb	00 05 15.5	
	comp=Z,148nm,0.9s						
NIL	**Nilore**	**40.86**	**295**	IAMs_20	IAMs_20	00 22 16.6	
	comp=Z,9μm,19.0s						
UCH	**Uchtor**	**41.03**	**308**	P	P	00 05 16.0	+7.9
	SNR=8.2						
CHMS	**Chumysh**	**41.05**	**309**	P	**P**	**00 05 07.8**	**+0.1**
	SNR=8.8						
FRU1	**Bishkek**	**41.09**	**309**	P	**P**	**00 05 07.8**	**-0.2**
FRU1				IAMs_20	IAMs_20	00 24 17.7	
	comp=Z,8μm,20.0s						
AAK	**Ala-Archa**	**41.14**	**309**	P	**P**	**00 05 08.8**	**+0.1**
AAK	**Ala-Archa**	**41.14**	**309**	IAMs_20	IAMs_20	00 24 17.1	
	comp=Z,8μm,19.0s						
AAK	**Ala-Archa**	**41.14**	**309**	*i* P	**P**	**00 05 08.9**	**+0.3**
	SNR=14						
AAK	**Ala-Archa**	**41.14**	**309**	LR	LR	00 24 39.7	
	comp=Z,8μm,19.2s,baz=98,slow=40						
KURK	**Kurchatov**	**41.24**	**322**	P	**P**	**00 05 08.2**	**-0.8**
KURK				IAmb	IAmb	00 05 21.6	
	comp=Z,194nm,1.4s						
COCO	**West Island**	**41.24**	**213**	P	**P**	**00 05 09.4**	**0.0**
COCO				IAmb	IAmb	00 05 20.1	
	comp=Z,179nm,1.1s						
SGDS	**Sogindy**	**41.24**	**310**	*e*P	**P**	**00 05 08.2**	**-1.2**
KURBB	**Kurchatov Arra**	**41.25**	**322**	P	**P**	**00 05 08.8**	**-0.4**
	comp=Z,46nm,1.1s,baz=125,slow=7.3,SNR=123						
KURBB				LR	LR	00 21 49.1	
	comp=Z,3μm,19.9s,baz=128,slow=36						
	comp=Z,46nm,1.1s						
USP	**Ospenovka**	**41.29**	**310**	P	**P**	**00 05 09.9**	**+0.2**
	SNR=13						
PATS	**Pohnpei**	**41.54**	**107**	P	**P**	**00 05 12.4**	**+0.4**
PATS	**Pohnpei**	**41.54**	**107**	P	**P**	**00 05 11.3**	**-0.7**
	comp=Z,442nm,1.3s						
PATS	**Pohnpei**	**41.54**	**107**	P	**P**	**00 05 13.7**	**+1.7**
AML	**Almayashu**	**41.61**	**308**	P	**P**	**00 05 13.7**	**+1.0**
	SNR=26						
FITZ	**Fitzroy Crossi**	**41.77**	**170**	P	**P**	**00 05 13.6**	**-0.1**
PETK	**Petropavlovsk-**	**41.90**	**35**	P	**P**	**00 05 12.3**	**-2.2**
PETK	**Petropavlovsk-**	**41.90**	**35**	P	**P**	**00 05 15.7**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=236,slow=6.2,SNR=5.8						
	comp=Z,1.4nm,0.6s						
POO	**Poona**	**41.93**	**272**	*e*P	**P**	**00 05 15.2**	**-0.1**
POO				IAMs_20	IAMs_20	00 25 01.8	
	comp=Z,5μm,18.9s						
KAD	**Karad**	**41.94**	**270**	*e*P	**P**	**00 05 11.8**	**-3.5**
ARSB	**Arslanbob**	**41.97**	**306**	P	**P**	**00 05 15.6**	**+0.2**
BTLS	**Baital**	**42.07**	**312**	*e*P	**P**	**00 05 14.9**	**-1.1**
BTLS				*e*S	**S**	**00 11 33.0**	**-1.1**
PET	**Petropavlovsk**	**42.36**	**35**	P	**P**	**00 05 18.6**	**+0.3**
PET	**Petropavlovsk**	**42.36**	**35**	P	**P**	**00 05 19.8**	**+1.6**
TRD	**Trivandrum**	**42.48**	**257**	IAMs_20	IAMs_20	00 23 59.6	
	comp=Z,6μm,19.5s						
DRK	**Karamyk**	**42.56**	**303**	P	**P**	**00 05 21.7**	**+1.3**
DRK				IAmb	IAmb	00 05 30.0	
	comp=Z,90nm,0.9s						
MA2	**Magadan**	**42.69**	**24**	IAMs_20	IAMs_20	00 24 06.5	
	comp=Z,7μm,20.0s						
MA2	**Magadan**	**42.69**	**24**	P	**P**	**00 05 23.4**	**+2.6**
RABL	**Rabaul**	**42.69**	**126**	P	**P**	**00 05 22.6**	**+1.2**
GOA	**Goa**	**42.79**	**268**	*e*P	**P**	**00 05 22.4**	**+0.2**
GOA				IAMs_20	IAMs_20	00 26 01.4	
	comp=Z,5μm,20.0s						
PMG	**Port Moresby**	**42.91**	**136**	P	**P**	**00 05 23.1**	**+0.1**
PMG				IAmb	IAmb	00 05 32.0	
	comp=Z,136nm,1.1s						
PMG	**Port Moresby**	**42.91**	**136**	LR	LR	00 23 12.1	
	comp=Z,1μm,20.4s,baz=312,slow=36						
PMG	**Port Moresby**	**42.91**	**136**	P	**P**	**00 05 23.5**	**+0.4**
PMG	**Port Moresby**	**42.91**	**136**	P	**P**	**00 05 23.4**	**+0.4**
DZA	**Taraz**	**43.47**	**308**	*e*P	**P**	**00 05 26.1**	**-1.3**
GAR	**Garm**	**43.64**	**303**	P	**P**	**00 05 28.8**	**-0.1**
GAR				IAMs_20	IAMs_20	00 26 36.5	
	comp=Z,9μm,21.0s						
KKAR	**Karatay Array**	**44.10**	**308**	P	**P**	**00 05 32.6**	**+0.1**
KKAR				IAmb	IAmb	00 05 41.0	
	comp=Z,56nm,0.9s						
KKAR	**Karatay Array**	**44.10**	**308**	P	**P**	**00 05 32.1**	**-0.4**
COEN	**Coen**	**44.20**	**145**	P	**P**	**00 05 33.5**	**0.0**
COEN	**Coen**	**44.20**	**145**	P	**P**	**00 05 33.7**	**+0.2**
	comp=Z,529nm,1.1s						
COEN	**Coen**	**44.20**	**145**	P	**P**	**00 05 33.7**	**+0.2**
IUG	**Iuzhnay**	**44.28**	**307**	*e*P	**P**	**00 05 33.1**	**-1.0**
	comp=Z,80nm,0.9s						
KBL	**Kabul**	**44.38**	**296**	P	**P**	**00 05 35.2**	**+

comp=Z,2µm,21.8s,baz=330,slow=34
CTAO Charters Tower 50.91 146 P P 00 06 26.5 +0.9
CTAO Charters Tower 50.91 146 P P 00 06 26.8 +1.2
SHEM Shemya Is, Ala 51.00 40 LR LR 00 27 27.0
comp=Z,1µm,21.6s,baz=262,slow=35
AUAYR Ayr State High 51.10 144 P P 00 06 28.6 +1.6
TATA Tatamba Isabel 51.18 123 P P 00 06 28.8 +1.1
HNR Honiara 51.94 124 P P 00 06 34.3 +0.9
HNR IAmb IAmb 00 07 17.1
comp=Z,84nm,0.9s
HNR Honiara 51.94 124 LR LR 00 28 47.1
comp=Z,2µm,19.0s,baz=290,slow=36
ALEG Aligegeo Malai 52.09 123 P P 00 06 34.9 +0.4
MORW Morawa 52.17 183 P P 00 06 35.3 +0.5
MORW IAmb IAmb 00 06 37.0
comp=Z,58nm,1.1s
MORW Morawa 52.17 183 P P 00 06 33.0 -1.9
comp=Z,34nm,1.1s
MORW Morawa 52.17 183 P P 00 06 36.3 +1.5
ABKAR Akbulak array 52.33 315 P P 00 06 35.3 -0.7
ABKAR Akbulak array 52.33 315 IAmb IAmb 00 06 43.7
comp=Z,27nm,0.9s
BILL Bilibino 53.28 20 P P 00 06 42.9 +0.2
BILL IAmb IAmb 00 06 50.6
comp=Z,52nm,1.1s
BILL IAMs_20 IAMs_20 00 29 25.1
comp=Z,7µm,22.0s
NGOA Tingoa Renbel 53.39 126 P P 00 06 44.2 +0.1
OOD Oodnadatta 53.46 161 P P 00 06 44.2 -0.1
AKTO Aktyubinsk 53.72 316 LR LR 00 28 51.0
comp=Z,5µm,18.3s,baz=116,slow=35
ARTI Arti 54.44 324 P P 00 06 50.3 -1.0
ARTI IAmb IAmb 00 06 59.9
comp=Z,58nm,0.9s
ARTI Arti 54.44 324 LR LR 00 30 57.4
comp=Z,4µm,18.8s,baz=99,slow=37
DGAR Diego Garcia 54.47 241 IAMs_20 IAMs_20 00 30 16.6
comp=Z,4µm,18.0s
KMBL Kambalda 54.49 177 P P 00 06 53.9 +2.0
FORT Forrest 54.58 170 P P 00 06 52.2 -0.3
FORT IAmb IAmb 00 07 25.2
comp=Z,75nm,0.9s
FORT Forrest 54.58 170 P P 00 06 51.4 -1.1
comp=Z,65nm,0.9s
FORT Forrest 54.58 170 P P 00 06 53.9 +1.4
KLBR Kellerberrin 54.63 181 P P 00 06 53.6 +0.7
comp=Z,42nm,0.9s
KLBR Kellerberrin 54.63 181 P P 00 06 54.3 +1.4
INKA Innaminka 55.11 156 P P 00 06 57.3 +0.9
MULG Mulgathing 55.35 164 P P 00 06 58.1 0.0
QLP Quilpie 55.49 152 P P 00 06 59.8 +0.6
comp=Z,0.0nmcomp=Z,112nm,1.1s
QLP Quilpie 55.49 152 P P 00 06 59.7 +0.5
LCRK Leigh Creek 56.71 160 P P 00 07 08.3 +0.5
LUES Luesalemba Tem 57.32 121 P P 00 07 14.1 +1.6
EIDS Eidsvold 57.77 145 IAmb IAmb 00 07 24.0
comp=Z,83nm,1.0s
EIDS Eidsvold 57.77 145 P P 00 07 16.0 +0.6
comp=Z,115nm,1.2s
EIDS Eidsvold 57.77 145 P P 00 07 16.4 +1.0
BBOO Buckleboo 58.28 163 P P 00 07 18.4 -0.5
comp=Z,102nm,1.0s
BBOO Buckleboo 58.28 163 P P 00 07 18.9 0.0
WHYH Whyalla 58.92 161 P P 00 07 25.4 +2.1
STKA Stephens Creek 59.16 157 P P 00 07 24.5 -0.5
comp=Z,28nm,1.0s,baz=339,slow=7.5,SNR=20
comp=Z,28nm,1.0s
STKA Stephens Creek 59.16 157 P P 00 07 25.1 +0.1
MZR Muzera 59.36 284 P P 00 07 25.2 -1.6
KIRV Kirov 59.54 325 LR LR 00 34 38.3
comp=Z,3µm,18.3s,baz=97,slow=38
AULRC Lightning Ridg 59.61 150 P P 00 07 28.8 +0.7
HTT Hallett 59.70 160 P P 00 07 29.3 +0.6
TW1H Toowoomba 1 Ha 59.99 146 P P 00 07 32.3 +1.4
GAMB Gambell 60.36 29 P P 00 07 33.0 +0.2
baz=263
CMSA Cobar Meteorol 60.43 153 P P 00 07 35.1 +1.3
SPIA Saint Paul Isl 60.52 36 P P 00 07 34.1 0.0
baz=268
P08K Saint George I 60.89 37 P P 00 07 36.0 -0.6
P08K Saint George I 60.89 37 P P 00 07 37.1 +0.5
baz=269
VLAKA Lakatoro 61.78 125 P P 00 07 44.1 +0.9
ARMA Armidale 62.16 148 P P 00 07 46.3 +0.7
ARMA IAmb IAmb 00 07 55.4
comp=Z,33nm,0.8s
ARMA Armidale 62.16 148 P P 00 07 47.1 +1.5
TNA Tin City 62.16 27 P P 00 07 44.5 -0.6
baz=265
AUDCS Dubbo College 62.28 151 P P 00 07 47.5 +1.2
KOUNC Koumac, New Ca 62.35 131 P P 00 07 48.7 +1.7
AUPHS Peel High Scho 62.37 149 P P 00 07 48.4 +1.5
M11K Mekoryuk 62.71 33 P P 00 07 48.6 -0.2
baz=270
GNI Garni 63.31 305 P P 00 07 54.1 +0.7
GNI IAmb IAmb 00 08 07.8
comp=Z,64nm,1.1s
C16K Lisburne Hills 63.38 24 P P 00 07 53.5 +0.3
C16K IAmb IAmb 00 08 01.2
comp=Z,37nm,1.0s
C16K Lisburne Hills 63.38 24 P P 00 07 53.5 +0.3
baz=266
K13K Kusilvak Mount 63.46 31 P P 00 07 53.9 +0.1
K13K IAmb IAmb 00 08 02.8
comp=Z,27nm,0.9s
K13K Kusilvak Mount 63.46 31 P P 00 07 54.0 +0.2
baz=270
F15K North Star Dit 63.53 27 P P 00 07 54.0 -0.2
F15K IAmb IAmb 00 08 04.9
comp=Z,53nm,1.2s
F15K IAMs_20 IAMs_20 00 36 06.1
comp=Z,5µm,19.0s
F15K North Star Dit 63.53 27 P P 00 07 53.8 -0.4
baz=268
ARPS Mount Arapiles 63.69 159 P P 00 07 55.8 +0.2
G15K Niukluk 63.77 28 P P 00 07 56.0 +0.3
baz=269
YNG Young 63.95 153 P P 00 07 58.7 +1.4
J14K Nanvaranak Lak 63.97 30 P P 00 07 56.2 -0.9
J14K IAmb IAmb 00 08 01.7
comp=Z,122nm,1.9s
J14K Nanvaranak Lak 63.97 30 P P 00 07 57.3 +0.2
baz=271
KBZ Khabaz 64.14 309 P P 00 07 58.2 -0.3
comp=Z,17nm,0.9s,baz=120,slow=5.9,SNR=34
KBZ LR LR 00 40 52.6
comp=Z,3µm,18.0s,baz=87,slow=41
comp=Z,17nm,0.9s
C17K DeLong Mountai 64.19 24 P P 00 07 58.7 +0.1
baz=268
D17K Noatak River 64.20 25 P P 00 07 58.4 -0.2
baz=269
MGCD Mangrove Creek 64.22 150 P P 00 08 00.9 +1.8
KIV Kislovodsk 64.26 309 P P 00 07 58.4 -1.2
KIV Kislovodsk 64.26 309 *i* P **P 00 07 59.2 -0.3**
SNR=17
KIV Kislovodsk 64.26 309 ⇑P **P 00 07 59.5 0.0**
RDOG Red Dog Mine 64.28 24 P P 00 07 59.4 +0.3
RDOG IAmb IAmb 00 08 10.4
comp=Z,43nm,1.4s
RDOG Red Dog Mine 64.28 24 P P 00 07 59.0 -0.1
baz=269
FALS False Pass 64.41 39 P P 00 07 59.8 -0.3
baz=275
L14K Kuka Creek 64.42 32 P P 00 08 01.7 +1.6
L14K Kuka Creek 64.42 32 P P 00 08 00.2 +0.1
baz=272
G16K Koyuk River 64.48 27 P P 00 07 59.5 -0.9
G16K IAmb IAmb 00 08 09.6
comp=Z,26nm,0.9s
G16K IAMs_20 IAMs_20 00 35 26.1
comp=Z,4µm,19.0s
G16K Koyuk River 64.48 27 P P 00 08 00.2 -0.2
baz=270
KARS Kars 64.49 305 P P 00 08 01.0 -0.2
SYDH Sydney Hard Ro 64.52 151 P P 00 08 02.9 +1.9
H16K Elim 64.53 28 P P 00 08 01.4 +0.6
baz=271
E17K Hotham Inlet 64.68 25 P P 00 08 02.6 +0.9
baz=270
B18K Kokolik River 64.71 23 P P 00 08 01.5 -0.4
baz=269
M14K Bethel 64.80 32 P P 00 08 03.1 +0.5
M14K IAmb IAmb 00 08 12.1
comp=Z,56nm,0.9s
M14K Bethel 64.80 32 P P 00 08 02.5 0.0
baz=273
DZM Mont Dzumac 64.86 131 P P 00 08 04.4 +0.7
DZM IAmb IAmb 00 08 22.0
comp=Z,34nm,1.0s
DZM IAMs_20 IAMs_20 00 31 03.5
comp=Z,3µm,22.0s
DZM Mont Dzumac 64.86 131 *e*P **P 00 08 04.3 +0.7**
comp=Z,100nm,1.2s
DZM *e*S **S 00 16 42.3 -1.7**
comp=Z,1µm,29.6s
DZM *e*SS **SS 00 20 53.3 -2.8**
comp=Z,1µm,27.2s
DZM *e*LQ LQ 00 24 41.4
comp=Z,3µm,26.1s
DZM *e*LR LR 00 27 30.0
comp=Z,6µm,23.2s
DZM Mont Dzumac 64.86 131 LR LR 00 31 59.9
comp=Z,2µm,21.3s,baz=313,slow=32
DZM Mont Dzumac 64.86 131 P P 00 08 05.5 +1.8
F17K Baldwin Pennin 64.92 26 P P 00 08 04.5 +1.3
F17K IAmb IAmb 00 08 12.1
comp=Z,43nm,1.1s
F17K IAMs_20 IAMs_20 00 36 50.7
comp=Z,4µm,21.0s
F17K Baldwin Pennin 64.92 26 P P 00 08 03.7 +0.4
baz=271
C18K Utukok River 64.92 23 P P 00 08 03.8 +0.4
C18K IAmb IAmb 00 08 11.7
comp=Z,44nm,1.1s
C18K Utukok River 64.92 23 P P 00 08 03.5 +0.1
baz=270
K15K Wolf Creek Mou 64.92 31 P P 00 08 03.6 +0.2
K15K IAmb IAmb 00 08 13.4
comp=Z,65nm,1.0s
K15K Wolf Creek Mou 64.92 31 P P 00 08 03.6 +0.2
baz=273
L15K Ungalak Mounta 64.97 31 P P 00 08 04.1 +0.3
baz=273
A19K Wainwright 64.98 22 P P 00 08 03.3 -0.2
baz=269
N14K Kuskokwak Cree 64.98 33 P P 00 08 04.0 +0.2
baz=274
CAN Canberra 65.08 153 P P 00 08 04.5 -0.2
CAN Canberra 65.08 153 P P 00 08 06.7 +1.9
BRAT Ballarat 65.10 158 P P 00 08 05.7 +1.0
E18K Tukpahlearik C 65.16 25 P P 00 08 06.0 +1.2
E18K IAmb IAmb 00 08 14.9
comp=Z,43nm,0.9s
E18K IAMs_20 IAMs_20 00 38 04.0
comp=Z,5µm,18.0s
E18K Tukpahlearik C 65.16 25 P P 00 08 04.5 -0.3
baz=271,SNR=6.6
YATNC Mamie plateau, 65.17 130 P P 00 08 07.4 +1.9
G17K Kiwalik Mounta 65.19 27 P P 00 08 04.9 -0.1
baz=272
CNB Canberra Magne 65.23 153 P P 00 08 07.1 +1.4
I17K Unalakleet 65.23 29 P P 00 08 06.0 +0.7
I17K IAmb IAmb 00 08 15.2
comp=Z,52nm,0.9s
I17K IAMs_20 IAMs_20 00 36 20.2
comp=Z,3µm,18.0s
I17K Unalakleet 65.23 29 P P 00 08 05.4 0.0
baz=273
J16K Anvik River 65.30 29 P P 00 08 07.2 +1.4
J16K Anvik River 65.30 29 P P 00 08 05.8 0.0
baz=273
OUENC Ouen Island, N 65.37 131 P P 00 08 08.7 +1.9
M15K Kasigluk River 65.42 32 P P 00 08 07.1 +0.5
baz=274
C19K Lookout Ridge 65.50 23 P P 00 08 08.0 +0.9
C19K IAmb IAmb 00 08 16.7
comp=Z,55nm,0.8s
C19K Lookout Ridge 65.50 23 P P 00 08 07.3 +0.2
baz=271,SNR=6.1
H17K Granite Mounta 65.52 28 P P 00 08 08.4 +1.2
H17K IAmb IAmb 00 08 16.9
comp=Z,59nm,0.8s
H17K IAMs_20 IAMs_20 00 37 46.8
comp=Z,3µm,18.0s
H17K Granite Mounta 65.52 28 P P 00 08 06.9 -0.3
baz=273
F18K Selawik 65.55 26 P P 00 08 07.2 -0.2
baz=272
GURO Guroymak-BITLI 65.66 303 P P 00 08 08.6 -0.2
GURO IAmb IAmb 00 08 18.9
comp=Z,28nm,1.1s
TOO Toolangi 65.67 157 P P 00 08 08.4 -0.2
N15K Kwethluk River 65.76 33 P P 00 08 09.7 +0.9
N15K IAmb IAmb 00 08 18.4
comp=Z,58nm,0.9s
N15K Kwethluk River 65.76 33 P P 00 08 08.6 -0.3
baz=275
L16K Owhat River 65.93 31 P P 00 08 11.2 +1.2
L16K IAmb IAmb 00 08 24.9
comp=Z,28nm,1.1s
L16K Owhat River 65.93 31 P P 00 08 09.5 -0.4
baz=275
J17K VABM Dome 65.98 29 P P 00 08 11.6 +1.3
J17K VABM Dome 65.98 29 P P 00 08 09.8 -0.4
baz=274
O15K Ungalikthiuk R 65.98 34 P P 00 08 10.7 +0.4
baz=276
G18K Tagagawik 65.99 26 P P 00 08 10.8 +0.5
G18K IAMs_20 IAMs_20 00 38 30.2
comp=Z,3µm,20.0s
G18K Tagagawik 65.99 26 P P 00 08 10.3 0.0
baz=274
D19K Kuna River 66.06 24 P P 00 08 11.3 +0.7
D19K IAMs_20 IAMs_20 00 38 03.8
comp=Z,6µm,22.0s
D19K Kuna River 66.06 24 P P 00 08 10.9 +0.2
baz=273
H18K Honhosa River 66.16 27 P P 00 08 11.9 +0.5
H18K IAmb IAmb 00 08 20.7
comp=Z,26nm,0.9s
H18K IAMs_20 IAMs_20 00 38 48.8
comp=Z,3µm,20.0s
H18K Honhosa River 66.16 27 P P 00 08 12.2 +0.8
baz=274
M16K Timber Creek 66.24 32 P P 00 08 12.8 +0.9
M16K IAmb IAmb 00 08 21.5
comp=Z,57nm,0.9s
M16K Timber Creek 66.24 32 P P 00 08 12.5 +0.6
baz=276
F19K Shaleruckik Mo 66.29 25 P P 00 08 12.4 +0.3
F19K IAmb IAmb 00 08 38.3
comp=Z,28nm,1.1s
F19K IAMs_20 IAMs_20 00 36 02.9
comp=Z,4µm,22.0s
F19K Shaleruckik Mo 66.29 25 P P 00 08 12.6 +0.5
baz=274
RAYN Ar Rayn 66.30 286 P P 00 08 12.4 -0.6
RAYN IAmb IAmb 00 08 22.2
comp=Z,74nm,1.1s
RAYN Ar Rayn 66.30 286 *i* P **P 00 08 12.5 -0.6**
SNR=13
B20K Meade River 66.32 22 P P 00 08 12.2 0.0
B20K IAMs_20 IAMs_20 00 37 15.6
comp=Z,5µm,22.0s
B20K Meade River 66.32 22 P P 00 08 12.8 +0.5
baz=273
LVZ Lovozero 66.33 336 IAMs_20 IAMs_20 00 36 16.4
comp=Z,5µm,21.0s
N16K Nishlik Lake 66.39 32 P P 00 08 12.4 -0.5
baz=276
K17K Iditarod 66.39 30 P P 00 08 14.0 +1.2
K17K Iditarod 66.39 30 P P 00 08 12.6 -0.3
baz=275
A21K Barrow 66.43 20 P P 00 08 12.8 -0.1
baz=273
L17K Donlin 66.45 31 P P 00 08 13.0 -0.3
baz=276
E19K Redstone River 66.45 25 P P 00 08 14.2 +1.0
E19K IAmb IAmb 00 08 21.9
comp=Z,48nm,0.9s
E19K IAMs_20 IAMs_20 00 41 21.3
comp=Z,4µm,18.0s
E19K Redstone River 66.45 25 P P 00 08 13.1 -0.1
baz=274,SNR=23
D20K Etivluk River 66.59 23 P P 00 08 14.7 +0.6
baz=274,SNR=17
CHNA Chernabura Isl 66.61 39 P P 00 08 12.8 -1.6
baz=278
CNBA Chernabura Isl 66.61 39 P P 00 08 14.8 +0.4
G19K Purcell Mounta 66.61 26 P P 00 08 13.0 -1.2
G19K IAmb IAmb 00 08 26.0
comp=Z,50nm,1.1s
G19K IAMs_20 IAMs_20 00 37 52.6
comp=Z,4µm,19.0s
G19K Purcell Mounta 66.61 26 P P 00 08 14.1 -0.1
baz=275
OBN Obninsk 66.68 322 P P 00 08 15.0 +0.2
OBN IAmb IAmb 00 08 23.3
comp=Z,32nm,1.0s
OBN IAMs_20 IAMs_20 00 40 37.6
comp=Z,3µm,19.0s
OBN Obninsk 66.68 322 LR LR 00 37 60.0
comp=Z,3µm,18.3s,baz=68,slow=37
E20K Nigu River 66.78 24 P P 00 08 15.4 0.0
baz=275
O16K Kokwok River B 66.82 33 P P 00 08 15.7 +0.1
O16K IAmb IAmb 00 08 20.1
comp=Z,97nm,1.6s
O16K Kokwok River B 66.82 33 P P 00 08 15.6 0.0
baz=277
GCSA Galena City Sc 66.83 28 P P 00 08 14.9 -0.7
baz=276
H19K Roundabout Mou 66.93 27 P P 00 08 17.4 +1.2
H19K IAMs_20 IAMs_20 00 39 10.0
comp=Z,4µm,18.0s
H19K Roundabout Mou 66.93 27 P P 00 08 16.3 0.0
baz=276,SNR=18
M17K Holitna River 66.93 31 P P 00 08 17.7 +1.4
M17K IAmb IAmb 00 08 27.8
comp=Z,51nm,1.0s
M17K Holitna River 66.93 31 P P 00 08 16.3 0.0
baz=277
A22K Sinclair Lake 66.98 21 P P 00 08 15.9 -0.6
baz=275,SNR=14
J18K Innoko River 67.03 29 P P 00 08 17.9 +0.9
J18K IAmb IAmb 00 08 26.3
comp=Z,57nm,1.0s
J18K IAMs_20 IAMs_20 00 37 27.8
comp=Z,3µm,18.0s
J18K Innoko River 67.03 29 P P 00 08 16.2 -0.7
baz=276
F20K Avaraart Lake 67.07 25 P P 00 08 18.0 +0.9
F20K IAmb IAmb 00 08 29.1
comp=Z,129nm,1.9s
F20K IAMs_20 IAMs_20 00 38 10.6
comp=Z,4µm,18.0s
F20K Avaraart Lake 67.07 25 P P 00 08 17.2 +0.1
baz=276
N17K Nushagak Hills 67.16 32 P 00 08 18.9 +1.2
N17K IAmb IAmb 00 08 27.8
comp=Z,63nm,1.1s
N17K Nushagak Hills 67.16 32 P P 00 08 16.9 -0.9
baz=277
L18K Granite Mounta 67.19 30 P P 00 08 19.5 +1.6
L18K IAmb IAmb 00 08 27.2
comp=Z,34nm,0.9s
L18K IAMs_20 IAMs_20 00 42 05.9
comp=Z,3µm,19.0s
L18K Granite Mounta 67.19 30 P P 00 08 18.0 0.0
baz=277
C21K Knifeblade Rid 67.22 23 P P 00 08 18.8 +0.8
baz=276
B21K Ikpikpuk River 67.23 22 P P 00 08 18.8 +0.8
B21K Ikpikpuk River 67.23 22 P P 00 08 18.5 +0.4
baz=276
O17K Koliganek Bris 67.30 33 P P 00 08 18.3 -0.4
baz=278
R16K Pilot Point 67.35 35 P P 00 08 18.7 -0.3
baz=278
TTA Tatalina 67.41 30 P P 00 08 20.1 +0.7
TTA IAmb IAmb 00 08 28.9
comp=Z,42nm,1.0s
TTA Tatalina 67.41 30 P P 00 08 19.0 -0.5
baz=277
TTA Tatalina 67.41 30 P P 00 08 21.4 +1.9
J19K Poorman 67.45 28 P P 00 08 20.6 +0.9
J19K IAmb IAmb 00 08 29.4
comp=Z,62nm,1.1s
J19K IAMs_20 IAMs_20 00 37 26.9
comp=Z,3µm,19.0s
J19K Poorman 67.45 28 P P 00 08 19.5 -0.2
baz=277
MSEY Mahe Island 67.51 254 P P 00 08 20.2 -0.6
MSEY IAmb IAmb 00 09 27.0
comp=Z,59nm,1.4s
B22K Teshekpuk Lake 67.56 21 P P 00 08 20.1 0.0
B22K IAMs_20 IAMs_20 00 37 03.4
comp=Z,5µm,21.0s
B22K Teshekpuk Lake 67.56 21 P P 00 08 20.0 -0.2
baz=276
E21K Killik River 67.58 24 IAMs_20 IAMs_20 00 39 04.1
comp=Z,5µm,19.0s
E21K Killik River 67.58 24 P P 00 08 20.0 -0.4
baz=277
H20K Anotleneega Mo 67.58 27 P P 00 08 20.4 0.0
baz=277
Q16K King Salmon 67.67 34 P P 00 08 21.1 0.0
baz=278
M18K Stony River 67.69 31 P P 00 08 21.1 0.0
baz=278
P17K Kvichak River 67.71 34 P P 00 08 21.0 -0.3
baz=278
N18K Kilae Creek 67.77 32 P P 00 08 23.0 +1.3
N18K IAmb IAmb 00 08 32.8
comp=Z,28nm,1.0s
N18K IAMs_20 IAMs_20 00 41 22.5
comp=Z,3µm,19.0s
N18K Kilae Creek 67.77 32 P P 00 08 21.4 -0.3
baz=278
I20K Naaghedeneel 67.84 27 P P 00 08 23.4 +1.4
I20K Naaghedeneel 67.84 27 P P 00 08 21.9 -0.1
baz=278
SVW2 Sparrevohn 67.86 32 P P 00 08 22.2 -0.1
SVW2 IAmb IAmb 00 08 34.8
comp=Z,29nm,1.1s
SVW2 Sparrevohn 67.86 32 P P 00 08 24.3 +2.1
F21K Alatna River 67.92 25 P P 00 08 22.8 +0.3
F21K IAmb IAmb 00 08 31.5
comp=Z,29nm,0.8s
F21K IAMs_20 IAMs_20 00 39 26.1
comp=Z,5µm,19.0s
F21K Alatna River 67.92 25 P P 00 08 22.2 -0.4
baz=278
IMAR Indian Mountai 67.98 26 P P 00 08 23.3 +0.4
R17L Mt. Peulik Vol 67.99 35 P P 00 08 22.4 -0.7
baz=279
D22K Ayikyak River 68.00 23 P P 00 08 23.6 +0.6
D22K IAMs_20 IAMs_20 00 40 07.0
comp=Z,5µm,19.0s
D22K Ayikyak River 68.00 23 P P 00 08 23.0 0.0
baz=278,SNR=12
G21K Allakaket 68.01 26 IAMs_20 IAMs_20 00 37 04.4
comp=Z,4µm,20.0s
G21K Allakaket 68.01 26 P P 00 08 22.6 -0.5
baz=278
L19K White Mountain 68.05 30 IAmb IAmb 00 08 33.4
comp=Z,73nm,1.1s
L19K IAMs_20 IAMs_20 00 40 55.7
comp=Z,3µm,18.0s
L19K White Mountain 68.05 30 P P 00 08 23.1 -0.3
baz=278
J20K Nowinta River 68.07 28 P P 00 08 24.7 +1.2
J20K IAmb IAmb 00 08 32.8
comp=Z,43nm,0.9s
J20K Nowinta River 68.07 28 P P 00 08 23.3 -0.1
baz=278
K20K Telida 68.23 29 P P 00 08 26.1 +1.6
K20K IAmb IAmb 00 08 35.6
comp=Z,38nm,0.9s
K20K IAMs_20 IAMs_20 00 38 14.3
comp=Z,5µm,18.0s
K20K Telida 68.23 29 P P 00 08 24.5 0.0
baz=279
O18K Koktuh Hills 68.23 33 P P 00 08 25.2 +0.6
O18K Koktuh Hills 68.23 33 P P 00 08 24.5 -0.1
baz=279
JOF Joensuu 68.26 331 *e*P **P 00 08 24.2 -0.4**
P18K Big Mountain, 68.29 33 P P 00 08 24.3 -0.7
baz=279
M19K Big River Lodg 68.30 31 P P 00 08 26.3 +1.3
M19K IAmb IAmb 00 08 36.2
comp=Z,39nm,1.0s
M19K IAMs_20 IAMs_20 00 41 14.5
comp=Z,3µm,18.0s
M19K Big River Lodg 68.30 31 P P 00 08 24.4 -0.7
baz=279
F22K John River 68.38 24 P P 00 08 25.3 -0.2
baz=279

H21K Melozitna Rive 68.42 26 IAmb IAmb 00 08 35.4
comp=Z,61nm,0.9s
H21K IAMs_20 IAMs_20 00 38 18.2
comp=Z,3µm,19.0s
H21K Melozitna Rive 68.42 26 P **P** **00 08 25.6 -0.1**
baz=279
E22K Anaktuvuk Pass 68.42 24 IAmb IAmb 00 08 35.1
comp=Z,77nm,1.1s
E22K Anaktuvuk Pass 68.42 24 P **P** **00 08 25.7 0.0**
baz=279
N19K Bonanza Creek 68.43 32 P **P** **00 08 25.8 -0.1**
N19K IAmb IAmb 00 08 30.6
comp=Z,92nm,1.4s
N19K Bonanza Creek 68.43 32 P **P** **00 08 25.9 -0.1**
baz=279
ACHA Angle Creek He 68.44 35 P **P** **00 08 26.0 0.0**
ACHA IAmb IAmb 00 09 04.4
comp=Z,44nm,1.3s
L20K Farewell, AK 68.45 30 P **P** **00 08 25.8 -0.1**
baz=279
Q18K Katmai Hardscr 68.53 34 P **P** **00 08 26.9 +0.3**
baz=280
C23K Itkillik River 68.58 22 P **P** **00 08 27.1 +0.6**
C23K IAmb IAmb 00 08 38.4
comp=Z,50nm,1.0s
C23K IAMs_20 IAMs_20 00 37 57.5
comp=Z,5µm,18.0s
C23K Itkillik River 68.58 22 P **P** **00 08 27.2 +0.6**
baz=279,SNR=11
O19K Port Alsworth 68.61 32 P **P** **00 08 27.3 +0.4**
O19K IAmb IAmb 00 08 36.5
comp=Z,92nm,1.4s
O19K Port Alsworth 68.61 32 P **P** **00 08 27.8 +0.9**
baz=280
CHIR Chirikof Islan 68.69 37 P **P** **00 08 27.9 +0.4**
baz=280
D23K Nanushuk River 68.70 23 IAmb IAmb 00 08 39.6
comp=Z,55nm,0.9s
D23K Nanushuk River 68.70 23 P **P** **00 08 28.6 +1.2**
baz=280
G22K Bettles 68.73 25 P **P** **00 08 28.0 +0.5**
baz=280
KEV Kevo 68.86 338 IAMs_20 IAMs_20 00 42 54.1
comp=Z,3µm,19.0s
M20K Styx River 68.90 31 P **P** **00 08 30.0 +1.2**
M20K IAmb IAmb 00 08 38.1
comp=Z,33nm,0.8s
M20K IAMs_20 IAMs_20 00 43 15.1
comp=Z,3µm,19.0s
M20K Styx River 68.90 31 P **P** **00 08 29.1 +0.3**
baz=280
CHUM Lake Minchumin 68.92 28 P **P** **00 08 29.2 +0.5**
baz=280
H22K Ishtalitna Cre 68.96 26 P **P** **00 08 29.7 +0.6**
baz=280
R18K Karluk 69.01 35 P **P** **00 08 30.1 +0.6**
baz=281
CAST Castle Rocks 69.10 29 P **P** **00 08 30.9 +0.9**
CAST IAmb IAmb 00 08 40.6
comp=Z,48nm,1.0s
CAST IAMs_20 IAMs_20 00 38 29.4
comp=Z,4µm,19.0s
CAST Castle Rocks 69.10 29 P **P** **00 08 30.9 +0.9**
baz=280,SNR=11
PPLA Purkeypile 69.15 29 P **P** **00 08 30.5 +0.1**
baz=280
TOLK Toolik Lake Re 69.16 23 IAmb IAmb 00 08 38.8
comp=Z,40nm,0.8s
TOLK Toolik Lake Re 69.16 23 P **P** **00 08 30.1 -0.2**
baz=281,SNR=20
Q19K Cape Douglas, 69.18 34 P **P** **00 08 30.4 -0.1**
baz=281
COLD Coldfoot 69.18 25 P **P** **00 08 31.0 +0.6**
COLD IAmb IAmb 00 08 34.9
comp=Z,67nm,1.7s
COLD Coldfoot 69.18 25 P **P** **00 08 30.8 +0.4**
baz=281,SNR=5.9
E23K Chandalar 69.25 24 IAmb IAmb 00 08 42.8
comp=Z,40nm,0.8s
E23K Chandalar 69.25 24 P **P** **00 08 31.2 +0.3**
baz=281
P19K Oil Pt 69.25 33 P **P** **00 08 31.3 +0.3**
baz=281
C24K Franklin Bluff 69.26 22 IAMs_20 IAMs_20 00 40 21.2
comp=Z,4µm,19.0s
C24K Franklin Bluff 69.26 22 P **P** **00 08 30.7 -0.1**
baz=281,SNR=14
D24K Happy Valley 69.33 22 P **P** **00 08 32.0 +0.7**
D24K IAMs_20 IAMs_20 00 43 08.1
comp=Z,5µm,19.0s
D24K Happy Valley 69.33 22 P **P** **00 08 30.9 -0.3**
baz=281
G23K Bananza Creek 69.35 25 P **P** **00 08 32.4 +0.9**
G23K IAmb IAmb 00 08 41.0
comp=Z,52nm,1.2s
G23K IAMs_20 IAMs_20 00 41 14.8
comp=Z,3µm,20.0s
G23K Bananza Creek 69.35 25 P **P** **00 08 31.4 -0.1**
baz=281,SNR=8.6
MLY Manley 69.38 27 P **P** **00 08 32.5 +0.8**
MLY IAmb IAmb 00 08 43.3
comp=Z,59nm,1.1s
MLY IAMs_20 IAMs_20 00 38 14.7
comp=Z,3µm,18.0s
MLY Manley 69.38 27 P **P** **00 08 31.6 -0.1**
baz=281
ARCES ARCESS Array B 69.42 338 P **P** **00 08 32.5 +0.7**
ARCES ARCESS Array B 69.42 338 P **P** **00 08 30.9 -0.9**
comp=Z,9.2nm,0.8s,baz=72,slow=8.7,SNR=10.0
comp=Z,9.2nm,0.8s
BPAW Bear Paw Mtn. 69.45 28 P **P** **00 08 32.9 +0.8**
BPAW IAmb IAmb 00 08 35.5
comp=Z,76nm,1.5s
BPAW IAMs_20 IAMs_20 00 41 02.7
comp=Z,3µm,18.0s
BPAW Bear Paw Mtn. 69.45 28 P **P** **00 08 32.5 +0.4**
baz=281
N20K Mount Spurr 69.45 31 P **P** **00 08 31.7 -0.6**
baz=281
SPCR Spurr Chakacha 69.45 31 P **P** **00 08 31.7 -0.6**
baz=281
O20K Slope Mountain 69.47 32 P **P** **00 08 32.7 +0.3**
baz=281
SKT Skwentna 69.62 30 P **P** **00 08 34.5 +1.3**
SKT Skwentna 69.62 30 P **P** **00 08 33.4 +0.2**
baz=281
E24K Your Creek 69.66 24 P **P** **00 08 34.5 +1.1**
E24K IAmb IAmb 00 08 45.3
comp=Z,36nm,0.9s
E24K Your Creek 69.66 24 P **P** **00 08 33.8 +0.4**
baz=282
GAZ Gaziantep 69.68 303 P **P** **00 08 34.0 -0.2**
GAZ IAmb IAmb 00 08 44.7
comp=Z,31nm,1.1s
GAZ IAMs_20 IAMs_20 00 42 45.5
comp=Z,3µm,22.0s
OHAK Old Harbor 69.70 35 P **P** **00 08 33.6 -0.1**
OHAK Old Harbor 69.70 35 P **P** **00 08 34.1 +0.4**
baz=282
H23K Yukon River 69.71 26 P **P** **00 08 35.5 +1.7**
H23K IAmb IAmb 00 08 43.8
comp=Z,81nm,1.1s
H23K IAMs_20 IAMs_20 00 40 20.5
comp=Z,4µm,22.0s
H23K Yukon River 69.71 26 P **P** **00 08 33.7 0.0**
baz=282
SPB2 Spitsbergen Ar 69.79 348 P **P** **00 08 35.1 +1.1**
SPITS Spitsbergen Ar 69.79 348 P **P** **00 08 33.5 -0.5**
comp=Z,29nm,1.1s,baz=79,slow=4.3,SNR=4.9
SPITS LR LR 00 42 11.3
comp=Z,4µm,19.0s,baz=31,slow=38
comp=Z,29nm,1.1s
SPA3 Spitsbergen Ar 69.79 348 P **P** **00 08 34.2 +0.2**
SPB3 Spitsbergen Ar 69.79 348 P **P** **00 08 35.9 +2.0**
Q20K Shuyak Island 69.88 34 P **P** **00 08 34.8 0.0**
baz=282
TRF Thorofare Moun 69.89 29 P **P** **00 08 34.8 -0.2**
baz=282
I23K Minto, Yukon-K 69.93 27 P **P** **00 08 35.8 +0.9**
I23K IAmb IAmb 00 08 44.5
comp=Z,77nm,1.6s
I23K IAMs_20 IAMs_20 00 43 15.1
comp=Z,3µm,18.0s
I23K Minto, Yukon-K 69.93 27 P **P** **00 08 35.1 +0.1**
baz=282
KDAK Kodiak Island 69.95 35 P **P** **00 08 35.6 +0.4**
KDAK Kodiak Island 69.95 35 LR LR 00 41 06.9
comp=Z,2µm,19.5s,baz=118,slow=38
KDAK Kodiak Island 69.95 35 P **P** **00 08 34.6 -0.7**
baz=282
F24K Squaw Lake 70.00 24 P **P** **00 08 36.0 +0.5**
F24K IAmb IAmb 00 08 47.3
comp=Z,37nm,0.8s
F24K Squaw Lake 70.00 24 P **P** **00 08 35.5 0.0**
baz=283
CAPN Captain Cook N 70.05 31 P **P** **00 08 35.4 -0.4**
baz=282
BWN Browne 70.09 28 P **P** **00 08 37.0 +1.0**
BWN IAmb IAmb 00 08 52.2
comp=Z,45nm,0.9s
BWN IAMs_20 IAMs_20 00 41 07.5
comp=Z,2µm,18.0s
SUA Susitna One 70.09 31 P **P** **00 08 37.0 +0.7**
SUA Susitna One 70.09 31 P **P** **00 08 36.1 -0.1**
baz=282
D25K Kavik River 70.14 22 IAmb IAmb 00 08 48.0
comp=Z,72nm,0.9s
D25K IAMs_20 IAMs_20 00 38 32.6
comp=Z,4µm,20.0s
D25K Kavik River 70.14 22 P **P** **00 08 37.2 +0.8**
baz=283,SNR=27
NEA2 Nenana 70.17 27 P **P** **00 08 36.9 +0.4**
NEA2 IAMs_20 IAMs_20 00 43 25.6
comp=Z,3µm,18.0s
NEA2 Nenana 70.17 27 P **P** **00 08 36.5 0.0**
baz=283,SNR=11
CNPM China Poot 70.27 33 P **P** **00 08 37.3 0.0**
BNN Bunyan 70.31 305 P **P** **00 08 37.8 -0.2**
BNN IAmb IAmb 00 08 52.0
comp=Z,35nm,0.9s
BNN IAMs_20 IAMs_20 00 41 43.6
comp=Z,3µm,22.0s
M22K Willow 70.32 30 P **P** **00 08 37.9 +0.4**
M22K Willow 70.32 30 P **P** **00 08 37.9 +0.4**
baz=283
G24K Hadweenzic Riv 70.34 25 P **P** **00 08 37.6 0.0**
G24K IAmb IAmb 00 08 46.4
comp=Z,35nm,1.1s
G24K IAMs_20 IAMs_20 00 38 31.0
comp=Z,5µm,20.0s
G24K Hadweenzic Riv 70.34 25 P **P** **00 08 37.6 0.0**
baz=283
H24K Noodor Dome 70.38 26 P **P** **00 08 38.6 +0.8**
H24K IAMs_20 IAMs_20 00 40 34.0
comp=Z,3µm,21.0s
H24K Noodor Dome 70.38 26 P **P** **00 08 37.8 0.0**
baz=283
BRLK Bradley Lake 70.39 32 P **P** **00 08 39.0 +1.0**
BRLK IAmb IAmb 00 08 49.2
comp=Z,65nm,1.0s
MCK McKinley 70.42 28 P **P** **00 08 38.2 +0.1**
baz=283
BRSE Bradley Lake S 70.47 32 P **P** **00 08 38.3 -0.1**
baz=283
C26K Camden Bay 70.50 21 P **P** **00 08 39.1 +0.7**
baz=284
RND Reindeer 70.53 28 P **P** **00 08 39.0 +0.1**
RND IAMs_20 IAMs_20 00 39 00.1
comp=Z,3µm,20.0s
WRH Wood River Hil 70.61 27 P **P** **00 08 40.2 +1.0**
WRH IAmb IAmb 00 08 49.0
comp=Z,37nm,1.0s
WRH IAMs_20 IAMs_20 00 39 41.1
comp=Z,3µm,18.0s
COLA College 70.61 27 P **P** **00 08 40.4 +1.3**
COLA IAmb IAmb 00 08 48.4
comp=Z,50nm,1.1s
COLA College 70.61 27 IAMs_20 IAMs_20 00 43 34.3
comp=Z,4µm,19.0s
COLA College 70.61 27 P **P** **00 08 38.9 -0.3**
baz=284
COLA College 70.61 27 P **P** **00 08 41.2 +2.0**
RC01 Rabbit Creek A 70.65 31 P **P** **00 08 40.4 +0.9**
RC01 IAmb IAmb 00 08 49.0
comp=Z,48nm,1.1s
RC01 Rabbit Creek A 70.65 31 P **P** **00 08 39.3 -0.2**
baz=283
CCB Clear Creek Bu 70.69 27 P **P** **00 08 40.0 +0.3**
CCB IAMs_20 IAMs_20 00 40 23.2
comp=Z,3µm,18.0s
POKR Poker Plat Res 70.73 27 P **P** **00 08 41.3 +1.3**
POKR IAmb IAmb 00 08 49.2
comp=Z,64nm,1.1s
POKR IAMs_20 IAMs_20 00 41 16.3
comp=Z,4µm,21.0s
POKR Poker Plat Res 70.73 27 P **P** **00 08 40.1 +0.1**
baz=284,SNR=13
WAT1 Susitna Watana 70.79 29 P **P** **00 08 40.3 -0.1**
baz=284
O22K Cooper Landing 70.80 32 P **P** **00 08 41.3 +0.9**
O22K IAMs_20 IAMs_20 00 42 11.4
comp=Z,2µm,18.0s
O22K Cooper Landing 70.80 32 P **P** **00 08 40.3 -0.1**
baz=283
PMR Palmer 70.82 30 IAmb IAmb 00 09 29.7
comp=Z,113nm,1.8s
PMR IAMs_20 IAMs_20 00 41 01.0
comp=Z,3µm,18.0s
PMR Palmer 70.82 30 P **P** **00 08 40.9 +0.4**
baz=284
PMR Palmer 70.82 30 P **P** **00 08 42.8 +2.3**
F25K Christian Rive 70.82 24 P **P** **00 08 41.6 +1.1**
F25K IAmb IAmb 00 08 49.7
comp=Z,23nm,0.8s
F25K IAMs_20 IAMs_20 00 41 33.7
comp=Z,5µm,21.0s
F25K Christian Rive 70.82 24 P **P** **00 08 39.9 -0.6**
baz=284
G25K Bearman Lake 70.86 25 P **P** **00 08 39.9 -0.7**
baz=284,SNR=8.9
GHO Glory Hole Cre 70.87 30 P **P** **00 08 40.7 -0.2**
GHO IAmb IAmb 00 08 47.8
comp=Z,107nm,1.6s
GHO IAMs_20 IAMs_20 00 42 15.3
comp=Z,3µm,22.0s
BZK Bozkurt 70.90 308 IAMs_20 IAMs_20 00 44 27.9
comp=Z,4µm,21.0s
FIA1 FINESS Array S 70.96 329 P **P** **00 08 40.8 -0.6**
FIA1 IAmb IAmb 00 08 50.4
comp=Z,54nm,0.9s
FINES FINESS Array B 70.96 329 P **P** **00 08 40.8 -0.6**
comp=Z,12nm,0.9s,baz=83,slow=5.3,SNR=21
FINES LR LR 00 40 15.1
comp=Z,5µm,19.2s,baz=75,slow=36
comp=Z,12nm,0.9s
C27K Jago River 70.98 22 IAmb IAmb 00 08 53.4
comp=Z,36nm,0.9s
C27K IAMs_20 IAMs_20 00 39 05.7
comp=Z,4µm,18.0s
C27K Jago River 70.98 22 P **P** **00 08 41.3 0.0**
baz=286,SNR=15
MSVF Nonsavu 70.99 120 P **P** **00 08 42.9 +0.6**
MSVF IAmb IAmb 00 08 49.9
comp=Z,57nm,1.0s
MSVF Nonsavu 70.99 120 LR LR 00 36 47.8
comp=Z,1µm,20.1s,baz=315,slow=33
MSVF Nonsavu 70.99 120 P **P** **00 08 44.0 +1.7**
SEW Seward 71.02 32 P **P** **00 08 40.7 -1.0**
baz=284
IL31 71.04 27 P **P** **00 08 42.8 +1.1**
IL31 IAmb IAmb 00 09 09.0
comp=Z,61nm,1.9s
ILAR Eielson Array 71.04 27 P **P** **00 08 41.3 -0.5**
ILAR Eielson Array 71.04 27 P **P** **00 08 42.0 +0.1**
comp=Z,1.1nm,0.7s,baz=282,slow=5.5,SNR=14
ILAR LR LR 00 42 22.2
comp=Z,1µm,18.6s,baz=330,slow=38
comp=Z,1.1nm,0.7s
TAU Tasmania Unive 71.05 158 P **P** **00 08 43.0 +1.0**
TAU IAmb IAmb 00 08 50.4
comp=Z,54nm,1.1s
TAU Tasmania Unive 71.05 158 P **P** **00 08 43.9 +1.9**
IL03 Eielson Array 71.05 27 P **P** **00 08 42.2 +0.3**
HDA Harding Lake 71.10 27 P **P** **00 08 42.5 +0.3**
HDA IAMs_20 IAMs_20 00 40 44.2
comp=Z,3µm,18.0s
HDA Harding Lake 71.10 27 P **P** **00 08 41.1 -1.1**
baz=284
SML Sawmill 71.14 30 P **P** **00 08 43.5 +1.0**
SML IAmb IAmb 00 08 52.4
comp=Z,69nm,1.2s
SML IAMs_20 IAMs_20 00 43 31.3
comp=Z,3µm,19.0s
SML Sawmill 71.14 30 P **P** **00 08 41.4 -1.1**
baz=284
KNK Knik Glacier 71.17 30 P **P** **00 08 43.6 +0.9**
KNK IAMs_20 IAMs_20 00 41 22.3
comp=Z,3µm,18.0s
KNK Knik Glacier 71.17 30 P **P** **00 08 41.7 -1.0**
baz=284
WAT6 Susitna Watana 71.22 29 P **P** **00 08 42.2 -0.9**
baz=284
FYU Fort Yukon 71.24 25 P **P** **00 08 43.9 +0.9**
FYU IAmb IAmb 00 09 12.4
comp=Z,35nm,1.1s
FYU IAMs_20 IAMs_20 00 39 07.8
comp=Z,3µm,20.0s
ASF Jabal al Asfar 71.25 298 LR LR 00 44 57.2
comp=Z,2µm,18.1s,baz=331,slow=40
DHY Denali Highway 71.25 29 P **P** **00 08 42.7 -0.6**
DHY IAmb IAmb 00 10 09.9
comp=Z,32nm,0.9s
DHY Denali Highway 71.25 29 P **P** **00 08 43.5 +0.2**
baz=285
BMAR Burnt Mountain 71.26 24 P **P** **00 08 44.3 +1.1**
KEF Keuruu 71.34 330 *e*P **P** **00 08 44.2 +0.5**
ILGA Ilgaz 71.34 307 P **P** **00 08 45.1 +0.8**
F26K Sheenjek River 71.35 24 P **P** **00 08 44.2 +0.6**
F26K IAmb IAmb 00 08 55.9
comp=Z,38nm,1.1s
F26K Sheenjek River 71.35 24 P **P** **00 08 43.6 -0.1**
baz=286,SNR=24
PWL Port Wells 71.37 31 P **P** **00 08 44.2 +0.3**
PWL Port Wells 71.37 31 P **P** **00 08 42.6 -1.3**
baz=284
PRP Porcupine Dome 71.40 26 P **P** **00 08 45.2 +1.1**
PRP IAmb IAmb 00 08 53.4
comp=Z,49nm,1.0s
PRP IAMs_20 IAMs_20 00 44 06.1
comp=Z,4µm,18.0s
PRP Porcupine Dome 71.40 26 P **P** **00 08 43.7 -0.5**
baz=285,SNR=14
M23K Glacier View 71.42 30 P **P** **00 08 44.5 +0.3**
baz=285
ARBE Arbavere 71.49 327 *e*P **P** **00 08 44.4 -0.2**
SCM Sheep Creek Mo 71.59 30 P **P** **00 08 45.8 +0.5**
SCM IAMs_20 IAMs_20 00 45 27.3
comp=Z,3µm,20.0s
SCM Sheep Creek Mo 71.59 30 P **P** **00 08 45.6 +0.3**
baz=285
G26K Porcupine Rive 71.69 24 P **P** **00 08 46.2 +0.5**
baz=286
KIRS Kirsehir-Merke 71.69 305 ⇓P **P** **00 08 45.7 -0.7**
J25K Salcha River, 71.71 27 P **P** **00 08 46.1 +0.1**
J25K IAMs_20 IAMs_20 00 44 34.3
comp=Z,4µm,19.0s
J25K Salcha River, 71.71 27 P **P** **00 08 45.8 -0.1**
baz=286
BR131 Keskin Array S 71.74 306 P **P** **00 08 46.2 -0.4**
BRTR Keskin Array B 71.74 306 P **P** **00 08 45.8 -1.0**
BRTR Keskin Array B 71.74 306 P **P** **00 08 46.3 -0.5**
comp=Z,8.1nm,0.8s,baz=110,slow=5.3,SNR=40
BRTR LR LR 00 44 38.8
comp=Z,1µm,21.0s,baz=88,slow=40
comp=Z,8.1nm,0.8s
K24K Donnelly Dome 71.76 28 P **P** **00 08 45.6 -0.6**
baz=286,SNR=9.0
AKASG Malin Array Be 71.90 318 P **P** **00 08 46.4 -0.9**
AKASG Malin Array Be 71.90 318 P **P** **00 08 45.8 -1.4**
comp=Z,2.8nm,0.6s,baz=62,slow=6.2,SNR=17
AKASG LR LR 00 43 05.7
comp=Z,4µm,18.4s,baz=72,slow=38
comp=Z,2.8nm,0.6s
AKBB Malin Array Si 71.90 318 IAmb IAmb 00 08 55.8
comp=Z,88nm,1.9s
KIEV Kiev 71.91 318 P **P** **00 08 45.9 -1.4**
KIEV IAmb IAmb 00 08 55.8
comp=Z,79nm,1.9s
KIEV Kiev 71.91 318 IAMs_20 IAMs_20 00 42 53.6
comp=Z,4µm,18.0s
KIEV Kiev 71.91 318 *i* P **P** **00 08 45.3 -2.0**
SNR=9.6
AK05 Malin Array Si 71.94 318 P **P** **00 08 46.1 -1.3**
GLI Glacier Island 71.95 31 P **P** **00 08 46.4 -1.0**
GLI IAmb IAmb 00 09 12.1
comp=Z,89nm,1.2s
GLI Glacier Island 71.95 31 P **P** **00 08 47.3 -0.1**
baz=286
D27M Malcolm River 72.02 22 P **P** **00 08 48.3 +0.5**
D27M IAmb IAmb 00 08 58.2
comp=Z,42nm,1.2s
D27M IAMs_20 IAMs_20 00 42 06.2
comp=Z,4µm,19.0s
D27M Malcolm River 72.02 22 P **P** **00 08 48.0 +0.3**
baz=288
P23K Montague Islan 72.04 32 P **P** **00 08 48.5 +0.6**
baz=286
M24K Tolsona, Glenn 72.04 29 P **P** **00 08 48.4 +0.4**
M24K Tolsona, Glenn 72.04 29 P **P** **00 08 48.0 0.0**
baz=286
MEF Metsahovi 72.06 328 *e*P **P** **00 08 47.9 -0.1**
VAF Ylistaro 72.08 332 *e*P **P** **00 08 47.9 -0.2**
PAX Paxson 72.12 29 P **P** **00 08 47.8 -0.6**
PAX Paxson 72.12 29 P **P** **00 08 48.5 0.0**
baz=286
E27K Coleen River 72.13 23 P **P** **00 08 48.8 +0.4**
E27K IAmb IAmb 00 08 58.9
comp=Z,47nm,1.4s
E27K IAMs_20 IAMs_20 00 39 44.1
comp=Z,5µm,20.0s
E27K Coleen River 72.13 23 P **P** **00 08 48.6 +0.2**
baz=288
RIDG Independent Ri 72.17 28 P **P** **00 08 48.8 +0.1**
RIDG IAmb IAmb 00 08 52.6
comp=Z,41nm,0.9s
RIDG IAMs_20 IAMs_20 00 45 28.5
comp=Z,3µm,19.0s
RIDG Independent Ri 72.17 28 P **P** **00 08 48.6 -0.1**
baz=286
MMAI Mount Meron Ar 72.22 299 P **P** **00 08 48.0 -1.6**
comp=Z,4.1nm,0.8s,baz=50,slow=7.8,SNR=5.0
MMAI LR LR 00 44 22.4
comp=Z,2µm,19.1s,baz=26,slow=39
comp=Z,4.1nm,0.8s
FID Port Fidalgo 72.28 31 IAMs_20 IAMs_20 00 42 01.1
comp=Z,3µm,19.0s
BALJ Balqa 72.29 298 P **P** **00 08 50.1 +0.1**
ANTO Ankara 72.33 306 P **P** **00 08 50.0 -0.1**
ANTO IAmb IAmb 00 08 59.9
comp=Z,49nm,1.2s
ANTO Ankara 72.33 306 ⇓P **P** **00 08 49.7 -0.4**
KLU Klutina 72.33 30 P **P** **00 08 50.4 +0.7**
KLU IAmb IAmb 00 09 06.5
comp=Z,102nm,1.8s
KLU IAMs_20 IAMs_20 00 43 03.8
comp=Z,3µm,19.0s
KLU Klutina 72.33 30 P **P** **00 08 49.4 -0.3**
baz=286
BR231 Keskin MP Arra 72.35 306 P **P** **00 08 50.5 +0.2**
HIN Hinchinbrook I 72.36 31 IAMs_20 IAMs_20 00 42 25.8
comp=Z,4µm,18.0s
I26K Coal Creek Min 72.42 26 P **P** **00 08 51.0 +1.0**
I26K IAMs_20 IAMs_20 00 41 46.8
comp=Z,3µm,18.0s
I26K Coal Creek Min 72.42 26 P **P** **00 08 50.6 +0.5**
baz=288
HARP HAARP 72.42 29 P **P** **00 08 50.5 +0.3**
baz=287
SCRK Sand Creek 72.47 27 P **P** **00 08 50.8 +0.3**
SCRK IAmb IAmb 00 08 58.0
comp=Z,156nm,2.0s
SCRK Sand Creek 72.47 27 P **P** **00 08 50.7 +0.1**
baz=287,SNR=8.9
J26L Joseph Creek 72.49 27 P **P** **00 08 49.8 -0.9**
J26L IAMs_20 IAMs_20 00 42 12.9
comp=Z,3µm,18.0s
J26L Joseph Creek 72.49 27 P **P** **00 08 50.9 +0.2**
baz=287
DIV Divide 72.50 30 P **P** **00 08 50.4 -0.4**
DIV IAmb IAmb 00 09 08.9
comp=Z,63nm,1.3s
ATD Arta Tunnel 72.53 275 P **P** **00 08 50.7 -1.0**
ATD Arta Tunnel 72.53 275 LR LR 00 41 09.0
comp=Z,82nm,19.0s,baz=74,slow=36
G27K Doyon Strip 72.53 24 P **P** **00 08 50.6 -0.3**
G27K Doyon Strip 72.53 24 P **P** **00 08 51.5 +0.7**
baz=288,SNR=7.8
GHAJ Ghor Haditha 72.58 297 P **P** **00 08 51.7 0.0**
EYAK Cordova Ski Ar 72.68 31 P **P** **00 08 52.1 +0.4**
baz=287

E28M	Babbage River	72.71	22	P	P	00 08 51.9	+0.1
E28M				IAMs_20	IAMs_20	00 46 02.7	
	comp=Z,4μm,18.0s						
E28M	Babbage River	72.71	22	P	P	00 08 52.2	+0.4
	baz=290						
D28M	Stokes Point	72.74	21	P	P	00 08 52.4	+0.5
	baz=290						
MTSE	Matsula	72.77	327	eP	P	00 08 52.4	+0.1
H27K	Steamboat Moun	72.77	25	P	P	00 08 52.4	+0.2
	baz=289						
MENT	Mentasta	72.89	28	P	P	00 08 54.3	+1.3
MENT				IAmb	IAmb	00 09 02.3	
	comp=Z,39nm,0.9s						
MENT				IAMs_20	IAMs_20	00 41 16.6	
	comp=Z,3μm,18.0s						
MENT	Mentasta	72.89	28	P	P	00 08 55.2	+2.2
N25K	Chitina, Valde	72.90	30	P	P	00 08 53.7	+0.5
N25K				IAMs_20	IAMs_20	00 41 05.0	
	comp=Z,3μm,21.0s						
N25K	Chitina, Valde	72.90	30	P	P	00 08 53.0	-0.2
	baz=287						
NOR	Nord	72.92	354	i P	P	00 08 51.8	-1.0
NOR				IAmb	IAmb	00 09 01.2	
	comp=Z,51nm,1.5s						
F28M	Old Crow	72.93	23	IAMs_20	IAMs_20	00 42 40.3	
	comp=Z,5μm,20.0s						
F28M	Old Crow	72.93	23	P	P	00 08 53.9	+0.8
	baz=290,SNR=12						
I27K	Kandik River	72.93	25	P	P	00 08 53.4	+0.2
	baz=289						
L26K	Log Cabin Wild	73.03	28	P	P	00 08 54.2	+0.4
L26K				IAMs_20	IAMs_20	00 43 06.2	
	comp=Z,4μm,19.0s						
L26K	Log Cabin Wild	73.03	28	P	P	00 08 53.8	0.0
	baz=288						
RAF	Rauma	73.08	330	eP	P	00 08 53.8	-0.3
BMRM	Bremner River	73.09	30	P	P	00 08 53.9	-0.4
BMRM				IAmb	IAmb	00 09 19.9	
	comp=Z,51nm,1.0s						
BMRM	Bremner River	73.09	30	P	P	00 08 54.3	0.0
	baz=288						
SORM	Soroca	73.14	316	⇓P	P	00 08 53.2	-1.4
CSS	Mathiatis	73.31	301	P	P	00 08 55.6	-0.3
CSS				IAMs_20	IAMs_20	00 45 17.2	
	comp=Z,3μm,19.0s						
GLB	Gilahina Butte	73.31	30	P	P	00 08 56.1	+0.6
GLB				IAmb	IAmb	00 09 04.7	
	comp=Z,116nm,1.6s						
GLB				IAMs_20	IAMs_20	00 41 17.8	
	comp=Z,3μm,21.0s						
MDUB	Mudurnu	73.34	307	P	P	00 08 56.0	-0.2
E29M	Blow River	73.36	22	P	P	00 08 56.1	+0.5
E29M				IAMs_20	IAMs_20	00 46 30.6	
	comp=Z,4μm,19.0s						
E29M	Blow River	73.36	22	P	P	00 08 55.9	+0.3
	baz=291,SNR=14						
M26K	Nabesna, AK	73.38	29	P	P	00 08 56.9	+1.0
M26K				IAmb	IAmb	00 09 05.1	
	comp=Z,46nm,0.8s						
M26K				IAMs_20	IAMs_20	00 45 40.6	
	comp=Z,3μm,18.0s						
M26K	Nabesna, AK	73.38	29	P	P	00 08 55.3	-0.7
	baz=288,SNR=10						
EGAK	Eagle	73.39	26	IAMs_20	IAMs_20	00 42 35.5	
	comp=Z,3μm,19.0s						
EGAK	Eagle	73.39	26	P	P	00 08 55.8	0.0
	baz=289						
VSVD	Vaisvydziai	73.50	324	eP	P	00 08 56.6	0.0
VRDI	Verde Repeater	73.55	30	P	P	00 08 57.8	+0.7
VRDI				IAmb	IAmb	00 09 07.3	
	comp=Z,42nm,1.1s						
VRDI				IAMs_20	IAMs_20	00 41 33.9	
	comp=Z,3μm,19.0s						
PABE	Paberze	73.62	324	IAmb	IAmb	00 09 06.7	
	comp=Z,57nm,1.0s						
PABE	Paberze	73.62	324	eP	P	00 08 57.5	+0.2
I28M	Miner Creek	73.64	25	P	P	00 08 58.0	+0.5
I28M				IAmb	IAmb	00 09 01.8	
	comp=Z,86nm,1.8s						
I28M				IAMs_20	IAMs_20	00 42 26.4	
	comp=Z,4μm,20.0s						
I28M	Miner Creek	73.64	25	P	P	00 08 57.7	+0.2
	baz=290						
TLCR		73.67	313	⇓P	P	00 08 57.1	-0.8
L27K	Beaver Creek,	73.67	28	P	P	00 08 58.4	+0.8
L27K				IAmb	IAmb	00 09 24.7	
	comp=Z,43nm,1.1s						
L27K				IAMs_20	IAMs_20	00 41 01.2	
	comp=Z,3μm,21.0s						
L27K	Beaver Creek,	73.67	28	P	P	00 08 57.5	-0.1
	baz=289						
MCARA	McCarthy VSAT	73.69	30	P	P	00 08 56.8	-1.0
MCARA				IAmb	IAmb	00 09 08.3	
	comp=Z,44nm,0.9s						
MCARA				IAMs_20	IAMs_20	00 41 06.8	
	comp=Z,4μm,20.0s						
MCARA	McCarthy VSAT	73.69	30	P	P	00 08 58.2	+0.5
	baz=289						
BCAR	Beaver Creek A	73.69	28	P	P	00 08 58.5	+0.8
JURR	Jurilovca	73.75	312	⇑P	P	00 08 56.9	-1.4
CRQM	Cirque	73.84	30	P	P	00 08 59.4	+0.6
CRQM				IAmb	IAmb	00 09 31.5	
	comp=Z,84nm,1.3s						
CRQM				IAMs_20	IAMs_20	00 40 28.4	
	comp=Z,3μm,18.0s						
G29M	Pine Creek	73.85	24	P	P	00 08 58.9	+0.4
	baz=292						
CRQE	Cirque	73.86	30	P	P	00 08 59.3	+0.4
	baz=289						
M27K	Edge Creek, AK	73.89	29	P	P	00 08 59.4	+0.4
M27K	Edge Creek, AK	73.89	29	P	P	00 08 58.2	-0.8
	baz=289						
VLDR	Vladesti	73.97	313	⇑P	P	00 08 59.6	0.0
H29M	Whitestone	73.97	24	P	P	00 08 58.9	-0.3
	baz=291						
TGL	Tana Glacier	73.98	30	P	P	00 08 59.8	+0.3
TGL				IAmb	IAmb	00 09 09.7	
	comp=Z,46nm,1.2s						
TGL				IAMs_20	IAMs_20	00 40 32.6	
	comp=Z,3μm,19.0s						
TPGR	Topolog	74.03	312	⇓P	P	00 08 59.6	-0.5
BORA	Eskisehir	74.05	307	P	P	00 08 59.4	-1.0
CFR	Carcaliu	74.13	313	⇑P	P	00 09 00.3	-0.2
BVCY	Beaver Creek	74.31	28	P	P	00 09 01.7	+0.3
	baz=290						
DAWY	Dawson	74.35	27	IAMs_20	IAMs_20	00 42 36.1	
	comp=Z,3μm,19.0s						
DAWY	Dawson	74.35	27	P	P	00 09 01.2	-0.4
	baz=291						
KEKH	Kekaha	74.35	73	P	P	00 09 03.2	+1.0
F30M	Barrier River	74.39	23	P	P	00 09 01.8	+0.1
	baz=293						
HARR	Harsova	74.41	312	⇓P	P	00 09 02.1	-0.1
G30M	tAoh Zraii Nji	74.48	23	IAmb	IAmb	00 09 10.3	
	comp=Z,49nm,0.9s						
G30M	tAoh Zraii Nji	74.48	23	P	P	00 09 01.7	-0.5
	baz=293						
GRNC	Granite Creek	74.49	30	IAMs_20	IAMs_20	00 40 54.9	
	comp=Z,2μm,20.0s						
SUW	Suwalki	74.51	322	eP	P	00 09 01.9	-0.7
SUW	Suwalki	74.51	322	IAmb	IAmb	00 09 10.5	
	comp=Z,85nm,0.9s						
SUW				IAMs_20	IAMs_20	00 45 10.2	
	comp=Z,4μm,19.0s						
SUW	Suwalki	74.51	322	eP	P	00 09 02.0	-0.7
EPYK	Eagle Plains	74.54	24	IAMs_20	IAMs_20	00 40 48.8	
	comp=Z,4μm,20.0s						
EPYK	Eagle Plains	74.54	24	P	P	00 09 02.1	-0.5
	baz=293,SNR=5.4						
PBUR	Paburge	74.56	325	eP	P	00 09 04.1	+1.3
PANC	Panciu	74.58	314	⇓P	P	00 09 03.4	+0.2
CTG	Chitna Glacier	74.60	30	P	P	00 09 03.2	0.0
	baz=290						
CTGM	Chitina Glacie	74.60	30	P	P	00 09 02.7	-0.5
CTGM				IAmb	IAmb	00 09 12.7	
	comp=Z,56nm,1.0s						
CTGM				IAMs_20	IAMs_20	00 41 36.8	
	comp=Z,3μm,19.0s						
ISP	Isparta	74.62	305	IAmb	IAmb	00 09 12.8	
	comp=Z,44nm,0.9s						
ISP	Isparta	74.62	305	eP	P	00 09 03.1	-0.5
ICOR	Ion Corvin	74.67	312	⇓P	P	00 09 10.7	+7.0
ODBI	Odobesti	74.68	313	⇓P	P	00 09 04.6	+0.9
J29N	Klondike Camp	74.69	26	P	P	00 09 03.9	+0.4
J29N				IAMs_20	IAMs_20	00 46 33.9	
	comp=Z,4μm,18.0s						
J29N	Klondike Camp	74.69	26	P	P	00 09 02.4	-1.1
	baz=292						
YUK3	Moose Creek	74.71	29	P	P	00 09 03.5	-0.4
	baz=291						
TESR	Tescani	74.72	314	⇓P	P	00 09 03.5	-0.5
PRAR	RASCA	74.73	315	⇑P	P	00 09 03.3	-0.8
LOGN	Logan Glacier	74.80	30	P	P	00 09 05.7	+1.3
LOGN				IAmb	IAmb	00 09 31.1	
	comp=Z,59nm,1.0s						
LOGN				IAMs_20	IAMs_20	00 41 52.2	
	comp=Z,4μm,19.0s						
VRI	Vrincioaia	74.86	314	⇓P	P	00 09 04.6	-0.3
INK	Inuvik	74.88	22	IAMs_20	IAMs_20	00 46 20.8	
	comp=Z,4μm,19.0s						
INK	Inuvik	74.88	22	P	P	00 09 03.9	-0.6
	comp=Z,4.6nm,0.9s,baz=302,slow=6.4,SNR=14						
INK				LR	LR	00 46 32.4	
	comp=Z,3μm,18.9s,baz=307,slow=39						
	comp=Z,4.6nm,0.9s						
INK	Inuvik	74.88	22	P	P	00 09 04.8	+0.4
	baz=295,SNR=9.9						
PLOR	Plostina	74.92	314	⇑P	P	00 09 05.8	+0.6
ONER	Baraj Valea Uz	74.94	314	⇑P	P	00 09 03.6	-1.7
BISRR	Bisoca	74.97	313	⇑P	P	00 09 05.9	+0.3
I30M	Mount Dempster	75.12	25	IAmb	IAmb	00 09 14.8	
	comp=Z,48nm,0.9s						
I30M				IAMs_20	IAMs_20	00 43 22.2	
	comp=Z,3μm,19.0s						
I30M	Mount Dempster	75.12	25	P	P	00 09 05.3	-0.7
	baz=293						
F31M	Tsiigehtchic	75.17	22	IAmb	IAmb	00 09 13.7	
	comp=Z,32nm,0.8s						
F31M				IAMs_20	IAMs_20	00 43 48.6	
	comp=Z,3μm,21.0s						
F31M	Tsiigehtchic	75.17	22	P	P	00 09 06.0	-0.1
	baz=295,SNR=10.0						
O28M	Mount Upton	75.19	30	P	P	00 09 07.2	+0.4
	baz=291						
K29M	Barlow Dome	75.20	26	P	P	00 09 06.7	+0.1
K29M				IAMs_20	IAMs_20	00 43 50.6	
	comp=Z,4μm,18.0s						
K29M	Barlow Dome	75.20	26	P	P	00 09 06.6	+0.1
	baz=293						
YUK8	Steele Glacier	75.20	29	P	P	00 09 06.2	-0.6
	baz=292						
G31M	Satah River	75.21	23	IAmb	IAmb	00 09 15.4	
	comp=Z,170nm,1.9s						
G31M				IAMs_20	IAMs_20	00 44 10.5	
	comp=Z,5μm,21.0s						
G31M	Satah River	75.21	23	P	P	00 09 07.2	+0.9
	baz=295						
L29M	L29M	75.23	27	P	P	00 09 07.6	+0.9
L29M				IAmb	IAmb	00 09 17.7	
	comp=Z,41nm,1.1s						
L29M				IAMs_20	IAMs_20	00 46 45.4	
	comp=Z,4μm,18.0s						
L29M	L29M	75.23	27	P	P	00 09 06.9	+0.3
	baz=292						
TURR	Turia	75.28	314	⇓P	P	00 09 06.8	-0.5
NEHR	Nehoiu	75.29	313	⇓P	P	00 09 07.6	+0.3
BURAR	Bucovina Array	75.31	316	P	P	00 09 06.9	-0.6
BURAR	Bucovina Array	75.31	316	⇑P	P	00 09 06.4	-1.0
M29M	Somme Creek	75.34	28	P	P	00 09 07.6	+0.1
M29M				IAMs_20	IAMs_20	00 44 45.4	
	comp=Z,3μm,19.0s						
M29M	Somme Creek	75.34	28	P	P	00 09 06.9	-0.5
	baz=292						
J30M	Hart River	75.39	26	P	P	00 09 08.8	+1.1
J30M				IAMs_20	IAMs_20	00 44 10.6	
	comp=Z,3μm,21.0s						
J30M	Hart River	75.39	26	P	P	00 09 07.6	-0.1
	baz=294						
PINM	Pinnacle	75.41	31	P	P	00 09 07.3	-0.5
	baz=291						
OZUR		75.42	314	⇑P	P	00 09 08.0	0.0
MLR	Muntele Rosu	75.50	313	IAmb	IAmb	00 09 18.7	
	comp=Z,56nm,1.1s						
MLR				IAMs_20	IAMs_20	00 44 12.3	
	comp=Z,4μm,20.0s						
MLR	Muntele Rosu	75.50	313	P	P	00 09 07.8	-0.9
	comp=Z,9.4nm,0.9s,baz=60,slow=2.3,SNR=12						
MLR				LR	LR	00 44 23.7	
	comp=Z,4μm,21.1s,baz=44,slow=37						
	comp=Z,9.4nm,0.9s						
MLR	Muntele Rosu	75.50	313	⇓P	P	00 09 07.3	-1.4
A36M	Sachs Harbour	75.62	17	IAmb	IAmb	00 09 17.9	
	comp=Z,58nm,0.8s						
A36M				IAMs_20	IAMs_20	00 47 53.1	
	comp=Z,4μm,19.0s						
A36M	Sachs Harbour	75.62	17	P	P	00 09 08.6	-0.1
	baz=302,SNR=30						
H31M	Peel River	75.65	24	IAMs_20	IAMs_20	00 42 24.3	
	comp=Z,3μm,20.0s						
H31M	Peel River	75.65	24	P	P	00 09 08.5	-0.5
	baz=295						
YUK4	Talbot Arm	75.68	29	P	P	00 09 08.8	-0.7
	baz=292						
DOPR	Dopca	75.72	314	⇑P	P	00 09 10.0	+0.2
YUK6	Outpost Mounta	75.96	29	P	P	00 09 10.7	-0.5
	baz=293						
MAYO	Mayo, Yukon	75.97	26	P	P	00 09 12.2	+1.4
MAYO				IAmb	IAmb	00 09 54.3	
	comp=Z,54nm,0.9s						
PNL	Peninsula	75.97	31	P	P	00 09 10.3	-0.7
	baz=292						
M30M	Minto, Yukon	76.00	27	P	P	00 09 12.2	+1.0
M30M				IAmb	IAmb	00 09 21.9	
	comp=Z,40nm,1.1s						
M30M				IAMs_20	IAMs_20	00 44 23.8	
	comp=Z,3μm,20.0s						
M30M	Minto, Yukon	76.00	27	P	P	00 09 10.1	-1.0
	baz=294						
O29M	Mount Kennedy	76.11	30	IAMs_20	IAMs_20	00 42 32.9	
	comp=Z,3μm,20.0s						
O29M	Mount Kennedy	76.11	30	P	P	00 09 10.8	-1.1
	baz=293						
KWP	Kalwaria Pacla	76.22	318	IAMs_20	IAMs_20	00 42 59.9	
	comp=Z,4μm,20.0s						
N30M	Aishikik Lake	76.33	29	P	P	00 09 13.4	+0.5
N30M				IAmb	IAmb	00 09 37.6	
	comp=Z,85nm,1.5s						
N30M				IAMs_20	IAMs_20	00 42 46.4	
	comp=Z,4μm,21.0s						
N30M	Aishikik Lake	76.33	29	P	P	00 09 11.8	-1.2
	baz=294						
ELND	Elena	76.38	311	⇑P	P	00 09 13.0	-0.5
HYT	Haines Junctio	76.39	29	P	P	00 09 14.5	+1.0
HYT				IAMs_20	IAMs_20	00 42 55.1	
	comp=Z,3μm,20.0s						
HYT	Haines Junctio	76.39	29	P	P	00 09 12.9	-0.6
	baz=293						
ARR	Arges	76.42	314	⇓P	P	00 09 13.8	0.0
HUMR	Humele	76.46	313	⇑P	P	00 09 13.8	-0.1
P29M	Windy Craggy	76.76	30	P	P	00 09 15.8	+0.3
P29M				IAMs_20	IAMs_20	00 42 57.1	
	comp=Z,3μm,20.0s						
P29M	Windy Craggy	76.76	30	P	P	00 09 15.7	+0.3
	baz=294						
DAG	Danmarks Havn	76.82	351	i P	P	00 09 14.0	-1.4
DAG				IAmb	IAmb	00 09 18.6	
	comp=Z,46nm,1.5s						
N31M	Braeburn, Yuko	76.89	28	P	P	00 09 17.2	+1.0
N31M				IAmb	IAmb	00 09 30.7	
	comp=Z,55nm,1.4s						
N31M				IAMs_20	IAMs_20	00 43 02.2	
	comp=Z,3μm,19.0s						
N31M	Braeburn, Yuko	76.89	28	P	P	00 09 15.8	-0.3
	baz=295						
P30M	Million Dollar	76.92	30	P	P	00 09 15.9	-0.5
	baz=294						
ARG	Arkhangelos	76.95	304	P	P	00 09 15.1	-1.8
LOT	Lotru	76.96	314	⇑P	P	00 09 16.8	-0.1
MARR	Marisel-Cluj	76.97	315	⇓P	P	00 09 16.6	-0.3
O30N	Mendenhall	77.05	29	P	P	00 09 16.3	-0.8
O30N				IAMs_20	IAMs_20	00 47 54.5	
	comp=Z,3μm,18.0s						
O30N	Mendenhall	77.05	29	P	P	00 09 16.5	-0.6
	baz=295						
HFS	Hagfors	77.12	330	P	P	00 09 16.4	-1.0
	comp=Z,11nm,0.8s,baz=72,slow=4.8,SNR=21						
HFS				LR	LR	00 47 25.6	
	comp=Z,5μm,18.5s,baz=54,slow=39						
	comp=Z,11nm,0.8s						
M31M	Drury Creek, Y	77.18	27	P	P	00 09 16.8	-1.0
M31M				IAmb	IAmb	00 09 25.9	
	comp=Z,72nm,1.9s						
M31M				IAMs_20	IAMs_20	00 45 16.8	
	comp=Z,2μm,18.0s						
M31M	Drury Creek, Y	77.18	27	P	P	00 09 17.6	-0.1
	baz=296						
DRGR		77.19	315	⇓P	P	00 09 18.1	-0.1
FURI	Furi	77.31	274	LR	LR	00 44 47.2	
	comp=Z,1μm,19.4s,baz=62,slow=37						
C36M	Paulatuk	77.37	19	IAmb	IAmb	00 09 25.8	
	comp=Z,51nm,1.0s						
C36M				IAMs_20	IAMs_20	00 44 52.5	
	comp=Z,3μm,21.0s						
C36M	Paulatuk	77.37	19	P	P	00 09 18.4	-0.2
	baz=303,SNR=37						
PLBC	Pleasant Camp	77.47	30	P	P	00 09 19.7	+0.3
	baz=295						
NC405	NORSAR Array S	77.59	332	IAmb	IAmb	00 09 28.4	
	comp=Z,67nm,0.8s						
FARO	Faro, Yukon	77.61	27	P	P	00 09 20.1	-0.1
FARO				IAmb	IAmb	00 09 28.2	
	comp=Z,99nm,1.9s						
FARO	Faro, Yukon	77.61	27	P	P	00 09 20.0	-0.2
	baz=297						
WHY	Whitehorse	77.64	29	P	P	00 09 20.6	+0.1
WHY				IAMs_20	IAMs_20	00 43 29.0	
	comp=Z,3μm,20.0s						
WHY	Whitehorse	77.64	29	P	P	00 09 19.8	-0.7
	baz=296						
BORR	Bors	77.68	316	⇑P	P	00 09 20.0	-0.7
NC303	NORSAR Array S	77.69	332	IAmb	IAmb	00 09 29.0	
	comp=Z,60nm,1.1s						
NIE	Niedzica	77.76	319	eP	P	00 09 22.4	+1.1
OJC	Ojcow	77.77	319	eP	P	00 09 21.4	+0.1
OJC	Ojcow	77.77	319	IAmb	IAmb	00 09 31.2	
	comp=Z,33nm,1.0s						
NB201	NORSAR Array S	77.80	332	IAmb	IAmb	00 09 29.4	
	comp=Z,55nm,0.9s						
NB2	NORSAR Subarra	77.84	332	P	P	00 09 20.3	-1.1
	comp=Z,31nm,0.8s,baz=64,slow=5.6						
NB2	NORSAR Subarra	77.84	332	P	P	00 09 20.3	-1.1
	baz=64,slow=5.6						
NOA	NORSAR Array B	77.84	332	P	P	00 09 20.3	-1.1
	comp=Z,11nm,0.9s,baz=64,slow=5.5,SNR=32						
NOA				LR	LR	00 46 34.3	
	comp=Z,5μm,18.9s,baz=60,slow=38						
	comp=Z,11nm,0.9s						
KARP	Karpathos	77.91	304	IAmb	IAmb	00 09 31.3	
	comp=Z,82nm,1.0s						
KARP	Karpathos	77.91	304	eP	P	00 09 23.3	+1.0
NC204	NORSAR Array S	77.93	332	IAmb	IAmb	00 09 30.4	
	comp=Z,43nm,1.2s						
PUNG	Punghina	77.93	313	⇓P	P	00 09 22.0	-0.2
SURR	Surduc	77.94	315	⇓P	P	00 09 22.1	-0.2
SKAG	Skagway	77.95	30	P	P	00 09 22.7	+0.7
SKAG				IAmb	IAmb	00 09 46.5	
	comp=Z,48nm,1.2s						
SKAG				IAMs_20	IAMs_20	00 46 14.4	
	comp=Z,2μm,19.0s						
SKAG	Skagway	77.95	30	P	P	00 09 21.8	-0.3
	baz=296						
SKAG	Skagway	77.95	30	P	P	00 09 24.1	+2.1
SIRR	Siria	78.06	315	⇑P	P	00 09 23.0	+0.1
HERR	Herculane	78.06	314	⇑P	P	00 09 23.0	0.0
OUZ	Omahuta	78.16	137	IAMs_20	IAMs_20	00 44 57.8	
	comp=Z,3μm,21.0s						
S31K	Pelican	78.17	32	P	P	00 09 22.9	-0.4
	baz=295						
N32M	Quiet Lake	78.21	28	P	P	00 09 23.7	+0.2
N32M				IAMs_20	IAMs_20	00 45 55.0	
	comp=Z,3μm,20.0s						
N32M	Quiet Lake	78.21	28	P	P	00 09 23.5	0.0
	baz=297						
MMPY	Sheldon Lake,	78.29	26	P	P	00 09 23.4	-0.6
MMPY				IAMs_20	IAMs_20	00 46 11.1	
	comp=Z,3μm,18.0s						
MMPY	Sheldon Lake,	78.29	26	P	P	00 09 24.6	+0.7
	baz=298						
BZS	Buzias	78.32	315	⇑P	P	00 09 23.7	-0.7
MDVR	Moldovita	78.56	314	⇓P	P	00 09 24.2	-1.6
PSZ	Piszkesteto	78.57	317	IAMs_20	IAMs_20	00 45 32.1	
	comp=Z,3μm,19.0s						
PSZ	Piszkesteto	78.57	317	eP	P	00 09 26.1	+0.3
PSZ	Piszkesteto	78.57	317	⇑P	P	00 09 24.9	-0.9
BSD	Bornholm Skovb	78.59	325	i P	P	00 09 18.6	-7.1
BSD				IAmb	IAmb	00 09 33.8	
	comp=Z,57nm,1.0s						
P32M	Atlin	78.63	30	P	P	00 09 26.8	+0.9
P32M				IAmb	IAmb	00 09 34.6	
	comp=Z,87nm,1.9s						
P32M				IAMs_20	IAMs_20	00 49 19.4	
	comp=Z,3μm,18.0s						
P32M	Atlin	78.63	30	P	P	00 09 25.1	-0.8
	baz=297						
P33M	Teslin, Yukon	78.75	29	P	P	00 09 26.8	+0.2
P33M				IAMs_20	IAMs_20	00 44 10.5	
	comp=Z,3μm,19.0s						
P33M	Teslin, Yukon	78.75	29	P	P	00 09 26.3	-0.3
	baz=297						
R32K	Eaglecrest	78.85	31	IAMs_20	IAMs_20	00 44 57.2	
	comp=Z,2μm,19.0s						
R32K	Eaglecrest	78.85	31	P	P	00 09 27.1	0.0
	baz=296						
OKC	Ostrava-Krasne	78.90	320	eP	P	00 09 28.5	+1.0
DBG	Daneborg	78.99	349	i P	P	00 09 27.6	+0.1
DBG				IAmb	IAmb	00 09 36.8	
	comp=Z,19nm,1.0s						
JMIC	Jan Mayen	79.01	345	LR	LR	00 46 38.3	
	comp=Z,3μm,21.1s,baz=37,slow=37						
HATHI	Halema'uma'u T	79.14	74	IAMs_20	IAMs_20	00 36 21.4	
	comp=Z,3μm,22.0s						
S32K	Killisnoo	79.18	32	P	P	00 09 28.5	-0.3
	baz=296						
KONO	Kongsberg	79.19	331	P	P	00 09 29.4	+0.6
KNHH	Kane Nui o Ham	79.23	74	P	P	00 09 30.3	+0.3
NEEM	North Greenlan	79.24	358	i P	P	00 09 28.7	-0.5
NEEM				IAmb	IAmb	00 09 38.9	
	comp=Z,81nm,1.3s						
MORC	Moravsky Berou	79.28	320	IAMs_20	IAMs_20	00 45 59.8	
	comp=Z,3μm,20.0s						
MORC	Moravsky Berou	79.28	320	eP	P	00 09 29.7	0.0
MORC	Moravsky Berou	79.28	320	⇓P	P	00 09 29.3	-0.4
JAVC	Velka Javorina	79.57	319	eP	P	00 09 32.3	+1.0
Q32M	Nakina River	79.58	30	IAMs_20	IAMs_20	00 44 54.6	
	comp=Z,4μm,21.0s						
Q32M	Nakina River	79.58	30	P	P	00 09 31.3	0.0
	baz=298						
KSP	Ksiaz	79.59	321	eP	P	00 09 31.8	+0.5
KRLC	Kraliky	79.62	320	eP	P	00 09 31.2	-0.3
IDI	Anoyia	79.74	304	LR	LR	00 50 59.9	
	comp=Z,857nm,19.0s,baz=67,slow=40						
LIT	Litokhoron	79.75	309	P	P	00 09 32.5	+0.1
OSTC	Ostas	79.75	321	eP	P	00 09 32.9	+0.7
OSTC				AMS	AMS	00 48 40.0	
	comp=Z,4μm,15.9s						

WRAK	**Wrangell Islan**	80.75	32	P	P	00 09 37.0	-0.3
	baz=298						
PUK	**Puka**	80.82	312	IAMs_20	IAMs_20	00 49 27.3	
	comp=Z,3μm,20.0s						
GOPC	**GO Pecny, Ondr**	80.85	321	AMS	AMS	00 49 30.0	
	comp=Z,4μm,16.4s						
DLBC	**Dease Lake**	80.86	30	P	P	00 09 37.0	-1.1
DLBC				IAmb	IAmb	00 10 02.9	
	comp=Z,86nm,1.9s						
DLBC				IAMs_20	IAMs_20	00 45 34.3	
	comp=Z,3μm,18.0s						
DLBC	**Dease Lake**	80.86	30	P	P	00 09 38.4	+0.3
	comp=Z,3.3nm,0.8s,baz=351,slow=4.9,SNR=2.6						
DLBC				LR	LR	00 45 55.4	
	comp=Z,2μm,21.6s,baz=326,slow=36						
	comp=Z,3.3nm,0.8s						
DLBC	**Dease Lake**	80.86	30	P	P	00 09 37.8	-0.2
	baz=300						
RONA	**Rosalia, Austr**	80.88	318	*i* P	P	00 09 38.4	0.0
	comp=Z,6.1nm,1.0s						
MUD	**Monsted U'grnd**	80.90	328	*i* P	P	00 09 30.5	-7.7
MUD				IAmb	IAmb	00 09 46.7	
	comp=Z,33nm,1.0s						
BRG	**Berggiesshubel**	80.93	322	⇓ *i* P	P	00 09 38.2	-0.2
BRG				Amp		00 09 39.5	
	comp=Z,13nm,1.1s						
BRG	**Berggiesshubel**	80.93	322	P	P	00 09 46.2	+7.7
BRG				Amp		00 09 47.0	
	comp=Z,14nm,0.9s						
BRG	**Berggiesshubel**	80.93	322	PP	PP	00 12 40.0	-2.6
BRG	**Berggiesshubel**	80.93	322	SKS	S	00 19 48.0	+2.0
BRG	**Berggiesshubel**	80.93	322	SS	SS	00 25 02.0	+2.6
BRG	**Berggiesshubel**	80.93	322	*e*P	P	00 09 38.1	-0.4
	comp=Z,13nm,1.1s,baz=62,slow=5.2						
TOZ	**Tahuroa Road**	80.93	138	IAMs_20	IAMs_20	00 44 05.2	
	comp=Z,2μm,19.0s						
PRU	**Pruhonice**	80.97	321	*e*P	P	00 09 38.3	-0.4
PRU				*e*pP	pP	00 09 46.2	+0.4
PRU				*e*SKS	S	00 19 47.3	+0.9
PRU				AMS	AMS	00 49 50.0	
	comp=Z,4μm,15.9s						
WRGLY	**Wrigley**	81.01	24	P	P	00 09 38.9	+0.3
WRGLY				IAMs_20	IAMs_20	00 46 56.0	
	comp=Z,3μm,20.0s						
WRGLY	**Wrigley**	81.01	24	P	P	00 09 39.0	+0.4
	baz=305						
HIZ	**Hauiti**	81.03	139	IAMs_20	IAMs_20	00 44 52.8	
	comp=Z,3μm,18.0s						
CONA	**Conrad Observa**	81.05	318	*e*P	P	00 09 39.4	+0.1
	comp=Z,14nm,1.4s						
BEHE	**Becsehely**	81.09	317	IAMs_20	IAMs_20	00 46 40.0	
	comp=Z,3μm,19.0s						
PDG	**Podgorica**	81.11	312	IAMs_20	IAMs_20	00 52 23.6	
	comp=Z,2μm,19.0s						
QRZ	**Quartz Range**	81.15	142	IAMs_20	IAMs_20	00 43 17.0	
	comp=Z,2μm,19.0s						
CLL	**Collm**	81.27	322	IAmb	IAmb	00 09 48.4	
	comp=Z,40nm,1.0s						
CLL	**Collm**	81.27	322	*e*P	P	00 09 39.7	-0.6
	comp=Z,21nm,1.0s,baz=62,slow=5.2						
CLL	**Collm**	81.27	322	*i* P	P	00 09 40.1	-0.1
	comp=Z,23nm,1.1s						
CLL				*e*pP	PcP	00 09 45.0	-1.4
CLL				*i* sP	pP	00 09 47.4	0.0
	comp=Z,41nm,1.0s						
CLL				*e*PP	PP	00 12 47.0	+1.6
CLL				*e*S	S	00 19 47.0	-2.5
CLL				*e*PS	PnS	00 20 38.0	+0.3
CLL				*e*SS	SS	00 25 06.0	+1.6
CLL				*e*SSS	SSS	00 28 48.0	
CLL				AMS	AMS	00 42 00.0	
	comp=N,6μm,21.3s						
CLL				AMS	AMS	00 42 00.0	
	comp=E,5μm,21.9s						
CLL				AMS	AMS	00 46 00.0	
	comp=Z,5μm,19.3s						
JCZ	**Jackson Bay**	81.32	146	P	P	00 09 42.4	+1.8
HSKC	**Hora Svate Kat**	81.34	322	*e*P	P	00 09 40.2	-0.5
HSKC				AMS	AMS	00 50 30.0	
	comp=Z,4μm,15.2s						
ABPO	**Ambohimpanom**	81.35	245	P	P	00 09 40.6	-0.8
ABPO	**Ambohimpanom**	81.35	245	IAMs_20	IAMs_20	00 44 33.8	
	comp=Z,2μm,18.0s						
ZVC	**Zvikov**	81.41	320	*e*P	P	00 09 41.1	+0.1
ZVC				*e*pP	pP	00 09 48.9	+0.7
ZVC				AMS	AMS	00 49 50.0	
	comp=Z,5μm,16.7s						
GORT1	**Trebel**	81.44	324	*e*P	P	00 09 41.3	+0.3
	comp=Z,70nm,1.5s,baz=62,slow=5.2						
T35M	**Bob Quinn**	81.48	31	P	P	00 09 42.2	+0.9
T35M				IAmb	IAmb	00 11 25.3	
	comp=Z,158nm,2.0s						
T35M				IAMs_20	IAMs_20	00 48 54.9	
	comp=Z,3μm,20.0s						
DCZ	**Deep Cove**	81.49	148	IAMs_20	IAMs_20	00 42 54.9	
	comp=Z,2μm,19.0s						
BSEG	**Bad Segeberg**	81.52	325	*e*P	P	00 09 41.5	0.0
	comp=Z,24nm,1.1s,baz=62,slow=5.2						
TKNZ	**Takaka Hill**	81.53	142	P	P	00 09 41.5	-0.2
ARSA	**Arzberg**	81.55	318	*i* P	P	00 09 41.8	-0.1
	comp=Z,14nm,2.0s						
CKRC	**Cesky Krumlov**	81.61	320	*e*P	P	00 09 41.8	-0.3
CKRC				*e*SKS	S	00 19 56.5	+3.3
CKRC				AMS	AMS	00 53 30.0	
	comp=Z,4μm,16.0s						
FLTG	**Flechtingen**	81.78	324	*e*P	P	00 09 42.1	-0.8
	comp=Z,31nm,1.5s,baz=62,slow=5.2						
INZ	**Inchbonnie**	81.81	144	IAmb	IAmb	00 09 48.9	
	comp=Z,63nm,1.1s						
INZ				IAMs_20	IAMs_20	00 44 17.4	
	comp=Z,3μm,19.0s						
KHC	**Kasperske Hory**	81.90	320	P	P	00 09 43.6	-0.1
KHC	**Kasperske Hory**	81.90	320	*e*P	P	00 09 43.7	0.0
KHC				*e*pP	pP	00 09 50.1	-0.8
KHC				*e*SKS	S	00 19 57.3	+1.0
KHC				AMS	AMS	00 50 00.0	
	comp=Z,4μm,15.6s						
GEC2	**GERESS Array S**	81.96	320	*e*P	P	00 09 43.6	-0.5
	comp=Z,19nm,1.2s,baz=62,slow=5.2						
GERES	**GERESS Array B**	81.96	320	P	P	00 09 43.6	-0.5
GERES	**GERESS Array B**	81.96	320	P	P	00 09 43.7	-0.3
	comp=Z,6.0nm,0.9s,baz=57,slow=4.9,SNR=18						
GERES				LR	LR	00 50 17.2	
	comp=Z,3μm,19.1s,baz=67,slow=39						
	comp=Z,6.0nm,0.9s						
WKZ	**Wanaka**	81.97	146	IAMs_20	IAMs_20	00 43 25.6	
	comp=Z,4μm,21.0s						
TANN	**Tannenbergstha**	81.98	322	*e*P	P	00 09 43.7	-0.4
	comp=Z,21nm,1.5s,baz=62,slow=5.2						
THZ	**Tophouse**	81.98	142	IAMs_20	IAMs_20	00 45 51.0	
	comp=Z,2μm,18.0s						
NEUB	**Neuenburg**	82.00	323	*e*P	P	00 09 44.7	+0.6
	comp=Z,60nm,1.4s,baz=62,slow=5.2						
MOA	**Molln**	82.06	319	*i* P	P	00 09 44.5	0.0
	comp=Z,27nm,1.1s,SNR=5.5						
NKC	**Novy Kostel**	82.07	321	*e*P	P	00 09 43.5	-1.0
NKC				AMS	AMS	00 51 10.0	
	comp=Z,4μm,16.9s						
SOKA	**Soboth**	82.10	317	*e*P	P	00 09 43.9	-0.9
	comp=Z,27nm,1.9s						
PLN	**Plauen**	82.12	322	*e*P	P	00 09 44.4	-0.3
	comp=Z,7.1nm,1.0s,baz=62,slow=5.2						
WHZ	**Wether Hill Ro**	82.18	148	IAMs_20	IAMs_20	00 43 04.3	
	comp=Z,2μm,20.0s						
KIBK	**Kibwezi**	82.24	264	P	P	00 09 46.4	+0.2
URZ	**Urewera**	82.25	137	LR	LR	00 42 59.9	
	comp=Z,1μm,21.8s,baz=22,slow=33						
LBZ	**Lake Benmore**	82.26	145	P	P	00 09 46.2	+0.8
RPZ	**Rata Peaks**	82.26	145	P	P	00 09 45.6	+0.1
RPZ				IAmb	IAmb	00 09 51.5	
	comp=Z,63nm,0.9s						
RPZ				IAMs_20	IAMs_20	00 42 14.5	
	comp=Z,3μm,21.0s						
KULLO	**Kullorsuaq**	82.27	359	*i* P	P	00 09 44.4	-0.7
KULLO				IAmb	IAmb	00 09 51.7	
	comp=Z,145nm,1.8s						
LTZ	**Lake Taylor**	82.30	143	P	P	00 09 46.1	+0.5
LTZ				IAmb	IAmb	00 10 22.2	
	comp=Z,81nm,1.5s						
LTZ				IAMs_20	IAMs_20	00 42 46.4	
	comp=Z,3μm,18.0s						
NRDL	**Niedersach Rie**	82.31	324	*e*P	P	00 09 45.9	+0.2
	comp=Z,27nm,1.5s,baz=62,slow=5.2						
MOX	**Moxa**	82.35	322	*e*P	P	00 09 45.6	-0.4
	comp=Z,24nm,1.5s,baz=62,slow=5.2						
MOX				*e*L	L	00 47 38.5	
	comp=Z,4μm,19.7s						
MANZ	**Manzenberg**	82.37	321	*e*P	P	00 09 46.0	-0.1
	comp=Z,2.4nm,1.1s,baz=62,slow=5.2						
SCO	**Scoresbysund**	82.38	348	P	P	00 09 46.4	+0.7
SCO				IAMs_20	IAMs_20	00 45 27.7	
	comp=Z,4μm,21.0s						
SCO	**Scoresbysund**	82.38	348	*i* P	P	00 09 44.9	-0.8
SCO				IAmb	IAmb	00 10 00.5	
	comp=Z,38nm,1.5s						
RTZ	**Ruatahuna**	82.39	138	P	P	00 09 46.6	+0.3
RTZ				IAmb	IAmb	00 10 00.0	
	comp=Z,52nm,1.1s						
RTZ				IAMs_20	IAMs_20	00 43 06.9	
	comp=Z,3μm,20.0s						
ROTZ	**Rotzenmuhle**	82.42	321	*e*P	P	00 09 46.3	0.0
	comp=Z,3.5nm,1.0s,baz=62,slow=5.2						
BKZ	**Black Stump Fm**	82.43	138	P	P	00 09 47.8	+1.3
BKZ				IAmb	IAmb	00 09 52.3	
	comp=Z,52nm,1.1s						
BKZ				IAMs_20	IAMs_20	00 44 24.0	
	comp=Z,3μm,18.0s						
BKZ	**Black Stump Fm**	82.43	138	P	P	00 09 48.4	+1.9
LODK	**Lodwar**	82.44	270	P	P	00 09 47.0	-0.1
OBKA	**Obir**	82.47	317	*i* P	P	00 09 46.7	-0.1
	comp=Z,15nm,1.0s						
CLZ	**Clausthal**	82.48	324	*e*P	P	00 09 46.7	0.0
	comp=Z,66nm,1.6s,baz=62,slow=5.2						
KMBO	**Kilima Mbogo**	82.48	266	P	P	00 09 48.0	+0.4
KMBO				IAmb	IAmb	00 09 57.6	
	comp=Z,32nm,1.0s						
KMBO	**Kilima Mbogo**	82.48	266	*i* P	P	00 09 48.5	+0.8
	SNR=15						
KMBO	**Kilima Mbogo**	82.48	266	P	P	00 09 48.1	+0.5
	comp=Z,9.8nm,0.9s,baz=60,slow=8.1,SNR=22						
	comp=Z,9.8nm,0.9s						
BIOA	**Bad Ischl, Aus**	82.51	319	*i* P	P	00 09 47.6	+0.7
	comp=Z,30nm,2.6s						
OXZ	**Oxford**	82.53	144	IAMs_20	IAMs_20	00 43 37.6	
	comp=Z,3μm,20.0s						
MXZ	**Matakaoa Point**	82.59	136	IAMs_20	IAMs_20	00 41 58.1	
	comp=Z,3μm,19.0s						
RETH	**Rethem/Aller,**	82.60	325	*e*P	P	00 09 47.0	-0.1
	comp=Z,167nm,3.0s,baz=62,slow=5.2						
SNZO	**South Karori**	82.71	141	IAMs_20	IAMs_20	00 44 01.4	
	comp=Z,3μm,18.0s						
KHZ	**Kahutara**	82.76	142	IAMs_20	IAMs_20	00 47 02.7	
	comp=Z,3μm,18.0s						
GVZ	**Greta Valley S**	82.84	143	IAMs_20	IAMs_20	00 44 33.8	
	comp=Z,3μm,19.0s						
GTTG	**Gottingen**	82.85	323	*e*P	P	00 09 48.5	0.0
	comp=Z,16nm,1.0s,baz=62,slow=5.2						
KBA	**Koelnbreinsper**	82.96	318	*i* pP	P	00 09 51.6	+2.1
	comp=Z,11nm,1.5s						
MYKA	**Terra Mystica**	82.98	318	*i* pP	P	00 09 51.6	+2.2
	comp=Z,11nm,1.6s						
GRA1	**Grafenberg Arr**	83.02	321	P	P	00 09 49.6	+0.1
GRA1				IAmb	IAmb	00 10 01.6	
	comp=Z,55nm,1.2s						
GRA1				IAMs_20	IAMs_20	00 49 59.4	
	comp=Z,3μm,19.0s						
GRF	**Grafenberg Arr**	83.02	321	*e*P	P	00 09 49.5	0.0
	comp=Z,63nm,1.6s,baz=62,slow=5.2						
GRF				*e*L	L	00 47 44.0	
	comp=Z,3μm,18.4s						
GRFO	**Grafenberg**	83.02	321	P	P	00 09 49.5	0.0
GRFO				IAmb	IAmb	00 10 01.6	
	comp=Z,56nm,1.2s						
GRFO				IAMs_20	IAMs_20	00 47 43.5	
	comp=Z,3μm,18.0s						
SUMG	**Summit**	83.06	353	IAmb	IAmb	00 09 58.9	
	comp=Z,27nm,0.8s						
SUMG				IAMs_20	IAMs_20	00 45 24.7	
	comp=Z,4μm,20.0s						
SUMG	**Summit**	83.06	353	*i* P	P	00 09 49.0	-0.8
SUMG				IAmb	IAmb	00 09 58.6	
	comp=Z,32nm,0.9s						
VOI	**Vohitsoka**	83.08	243	P	P	00 09 49.5	-0.8
VOI				IAmb	IAmb	00 09 57.5	
	comp=Z,82nm,1.7s						
VOI				IAMs_20	IAMs_20	00 45 29.5	
	comp=Z,3μm,19.0s						
MSWZ	**Moikau Station**	83.10	141	P	P	00 09 47.5	-2.3
PRED	**Cave del Predi**	83.11	318	P	P	00 09 50.4	+0.3
PRED				IAmb	IAmb	00 10 00.8	
	comp=Z,48nm,1.7s						
MQZ	**McQueen's Vall**	83.12	144	P	P	00 09 49.5	-0.4
MQZ				IAMs_20	IAMs_20	00 43 45.2	
	comp=Z,3μm,18.0s						
LESA	**Schwarzleotal**	83.21	319	*i* P	P	00 09 49.9	-0.7
	comp=Z,16nm,1.1s						
SABO	**M.te Sabotino**	83.30	317	IAMs_20	IAMs_20	00 47 52.5	
	comp=Z,2μm,19.0s						
ABTA	**Abfaltersbach**	83.62	318	*e*P	P	00 09 51.8	-0.9
	comp=Z,12nm,1.3s						
IBBN	**Ibbenburen**	83.66	325	*e*P	P	00 09 52.4	-0.3
	comp=Z,62nm,1.6s,baz=62,slow=5.2						
FUR	**Furstenfeldbru**	83.70	320	*e*P	P	00 09 53.1	0.0
	comp=Z,108nm,1.7s,baz=62,slow=5.2						
KASTN	**Kahler Asten**	83.86	324	*e*P	P	00 09 53.7	-0.2
	comp=Z,76nm,2.2s,baz=62,slow=5.2						
WTTA	**Wattenberg**	83.91	319	*i* P	P	00 09 54.0	-0.3
	comp=Z,18nm,1.0s						
WATA	**Walderalm**	83.91	319	*i* P	P	00 09 53.6	-0.7
	comp=Z,13nm,1.3s						
TIP	**Timpagrande**	84.17	310	IAMs_20	IAMs_20	00 52 27.0	
	comp=Z,2μm,21.0s						
SQTA	**Sankt Quirin**	84.19	319	*i* P	P	00 09 55.4	-0.3
	comp=Z,48nm,1.1s						
MOTA	**Moosalm**	84.19	319	*i* P	P	00 09 55.2	-0.5
	comp=Z,47nm,1.0s						
RETA	**Reutte**	84.33	320	*i* P	P	00 09 56.3	0.0
	comp=Z,14nm,1.1s						
TNS	**Taunus Mts**	84.33	323	*e*P	P	00 09 56.1	-0.1
	comp=Z,23nm,1.4s,baz=62,slow=5.2						
BUG	**Bochum–Univer**	84.36	324	*e*P	P	00 09 56.0	-0.2
	comp=Z,37nm,1.3s,baz=62,slow=5.2						
CTI	**Castel Tesino**	84.47	318	P	P	00 09 55.4	-1.7
CTI				IAmb	IAmb	00 10 05.4	
	comp=Z,53nm,1.6s						
CTI				IAMs_20	IAMs_20	00 54 56.2	
	comp=Z,3μm,20.0s						
CUC	**Castrocucco**	84.48	311	IAMs_20	IAMs_20	00 53 51.0	
	comp=Z,3μm,20.0s						
FETA	**Feichten**	84.57	319	*e*P	P	00 09 57.4	-0.3
	comp=Z,54nm,1.1s						
UBR	**Ueberruh**	84.63	320	*e*P	P	00 09 57.2	-0.6
	comp=Z,26nm,1.1s,baz=62,slow=5.2						
STU	**Stuttgart**	84.63	321	P	P	00 09 57.4	-0.3
STU				IAmb	IAmb	00 10 06.2	
	comp=Z,28nm,1.1s						
YKA	**Yellowknife Ar**	84.64	22	P	P	00 09 56.9	-0.6
YKA	**Yellowknife Ar**	84.64	22	P	P	00 09 57.6	+0.1
	comp=Z,3.4nm,0.9s,baz=319,slow=5.1,SNR=20						
YKA				LR	LR	00 49 17.5	
	comp=Z,2μm,20.5s,baz=327,slow=37						
	comp=Z,3.4nm,0.9s						
YKAB2	**New Yellowknif**	84.69	22	P	P	00 09 58.2	+0.5
GUMA	**Gualdo di Mace**	84.78	315	P	P	00 09 58.4	-0.3
TEOL	**Teolo**	84.78	317	P	P	00 09 58.3	-0.3
INTR	**Introdacqua**	84.88	314	P	P	00 09 59.7	+0.5
MCQ	**Macquarie Isla**	84.93	158	P	P	00 09 59.0	+0.3
DAVA	**Damuels**	84.95	320	*i* P	P	00 09 59.3	-0.3
	comp=Z,11nm,1.0s,SNR=4.1						
FDMO	**Fiordimonte**	84.96	315	IAMs_20	IAMs_20	00 53 18.3	
	comp=Z,2μm,21.0s						
CAMP	**Campotosto**	84.97	314	P	P	00 10 00.2	+0.4
CAMP				IAMs_20	IAMs_20	00 50 10.8	
	comp=Z,4μm,21.0s						
BBB	**Bella Bella**	85.03	35	LR	LR	00 46 35.5	
	comp=Z,684nm,21.7s,baz=326,slow=35						
FUORN	**Ofenpass-Fuorn**	85.05	319	IAmb	IAmb	00 10 08.7	
	comp=Z,32nm,1.0s						
FUORN				IAMs_20	IAMs_20	00 46 33.3	
	comp=Z,3μm,21.0s						
DAVOX	**Davos/Dischmat**	85.20	319	P	P	00 10 00.4	-0.5
	comp=Z,9.2nm,0.9s,baz=42,slow=9.3,SNR=12						
DAVOX				LR	LR	00 50 49.0	
	comp=Z,3μm,19.2s,baz=35,slow=38						
	comp=Z,9.2nm,0.9s						
BFO	**Black Forest**	85.34	321	P	P	00 10 01.3	-0.1
BFO	**Black Forest**	85.34	321	*e*P	P	00 10 00.6	-0.8
	comp=Z,29nm,1.4s,baz=62,slow=5.2						
BTNL	**Ternell**	85.42	324	*d*P	P	00 09 59.3	-2.4
MEM	**Membach**	85.47	324	*dx*	x	00 10 08.6	
CESX	**Cesi**	85.48	315	P	P	00 10 02.0	-0.1
CESX				IAmb	IAmb	00 10 09.4	
	comp=Z,47nm,1.3s						
CESX				IAMs_20	IAMs_20	00 50 21.2	
	comp=Z,2μm,22.0s						
BHOU	**Houvegnez**	85.61	324	*d*P	P	00 10 04.4	+1.7
	comp=Z,13nm,1.1s						
TUE	**Stuetta**	85.67	319	IAmb	IAmb	00 10 12.2	
	comp=Z,59nm,1.2s						
ZCCA	**Zocca**	85.69	317	P	P	00 10 02.9	-0.3
BSTI	**Sart Tilman**	85.73	324	*dx*	pP	00 10 11.4	+1.0
WLF	**Walferdange**	85.89	323	*e*P	P	00 10 04.2	+0.2
	comp=Z,28nm,1.0s,baz=62,slow=5.2						
WLF	**Walferdange**	85.89	323	*d*P	P	00 10 04.5	+0.5
	comp=Z,46nm,1.1s						
OSSC	**Osservatorio P**	85.92	316	P	P	00 10 03.1	-1.2
OSSC				IAmb	IAmb	00 10 44.1	
	comp=Z,50nm,1.4s						
BCLA	**Clavier**	85.96	324	*d*P	P	00 10 04.0	-0.3
	comp=Z,9.5nm,1.4s						
ECH	**Echery**	86.08	321	IAMs_20	IAMs_20	00 54 30.3	
	comp=Z,3μm,18.0s						
SOEG	**Soedalen**	86.08	349	*i* P	P	00 10 03.6	-1.0
SOEG				IAmb	IAmb	00 10 13.1	
	comp=Z,22nm,1.0s						
UCC	**Uccle**	86.26	325	P	P	00 10 03.8	-2.0
UCC	**Uccle**	86.26	325	*dx*	P	00 10 06.0	+0.2
BMRD	**Maredsous**	86.31	324	*dx*	pP	00 10 12.9	-0.4
ICESG	**Greenland Ices**	86.48	352	*i* P	P	00 10 06.1	-0.9
ICESG				IAmb	IAmb	00 10 15.5	
	comp=Z,40nm,1.1s						
DOU	**Dourbes**	86.51	324	*d*P	P	00 10 13.0	+6.0
	comp=Z,12nm,1.4s						
BORG	**Borgarnes**	86.89	344	IAMs_20	IAMs_20	00 48 35.0	
	comp=Z,4μm,20.0s						
SENIN	**Lac Senin/Sane**	86.95	320	P	P	00 10 08.8	-0.8
EKA	**Eskdalemuir Ar**	87.30	331	P	P	00 10 10.3	-0.5
	comp=Z,5.1nm,0.9s,baz=38,slow=3.8,SNR=8.1						
	comp=Z,5.1nm,0.9s						
EKB	**Eskdalemuir**	87.31	331	P	P	00 10 11.5	+0.6
ILULI	**Ilulissat**	87.41	356	IAMs_20	IAMs_20	00 47 36.3	
	comp=Z,3μm,20.0s						
BNI	**Bardonecchia**	88.00	319	P	P	00 10 15.6	+1.0
BNI				IAmb	IAmb	00 10 24.0	
	comp=Z,32nm,1.3s						
MBAR	**Mbarara**	88.26	269	P	P	00 10 16.1	-0.2
MBAR	**Mbarara**	88.26	269	LR	LR	00 52 12.9	
	comp=Z,1μm,18.1s,baz=66,slow=37						
CLF	**Chambon-Foret**	88.94	323	P	P	00 10 20.0	+1.2
LLLB	**Lillooet**	89.14	34	P	P	00 10 20.9	+1.2
ANGG	**Ammassalik, Gr**	89.47	350	IAMs_20	IAMs_20	00 47 58.9	
	comp=Z,4μm,22.0s						
PGC	**Sidney**	89.48	36	P	P	00 10 22.2	+1.0
PGC				IAmb	IAmb	00 10 32.4	
	comp=Z,43nm,1.3s						
SFJD	**Kangerlussuaq**	89.57	356	P	P	00 10 21.9	+0.6
SFJD	**Kangerlussuaq**	89.57	356	LR	LR	00 51 22.0	
	comp=Z,4μm,19.3s,baz=2.5,slow=36						
SFJD	**Kangerlussuaq**	89.57	356	*i* P	P	00 10 19.2	-2.0
SFJD				IAmb	IAmb	00 10 23.6	
	comp=Z,71nm,1.4s						
DY2G	**Dye2**	89.72	354	*i* P	P	00 10 20.8	-1.6
DY2G				IAmb	IAmb	00 10 25.8	
	comp=Z,138nm,1.8s						
B04A	**Port Angeles**	89.79	36	P	P	00 10 23.6	+0.8
B04A				IAmb	IAmb	00 10 46.3	
	comp=Z,33nm,1.1s						
NLWA	**Neilton Lookou**	89.98	37	P	P	00 10 24.0	+0.3
WISH	**Wishkah**	90.19	37	P	P	00 10 23.8	-0.8
GNW	**Green Mountain**	90.45	36	P	P	00 10 26.4	+0.6
GNW				IAmb	IAmb	00 10 37.5	
	comp=Z,41nm,1.3s						
RAR	**Rarotonga**	90.98	113	IAMs_20	IAMs_20	00 42 57.3	
	comp=Z,3μm,18.0s						
F03A	**Seaside**	91.00	38	P	P	00 10 28.4	0.0
D05A	**Enumclaw**	91.14	36	P	P	00 10 29.5	+0.5
F04D	**Rainier, OR**	91.22	38	P	P	00 10 31.1	+1.6
G03D	**McMinnville, O**	91.59	39	P	P	00 10 31.1	-0.1
F04A	**Amboy**	91.65	38	P	P	00 10 31.6	+0.2
F04A				IAmb	IAmb	00 10 42.5	
	comp=Z,57nm,1.7s						
LTY	**Liberty**	91.81	36	P	P	00 10 32.5	+0.3
LTY				IAmb	IAmb	00 10 43.0	
	comp=Z,25nm,1.2s						
LTY				IAMs_20	IAMs_20	00 55 18.4	
	comp=Z,2μm,19.0s						
B08A	**Colville Reser**	91.83	34	P	P	00 10 33.0	+0.8
B08A				IAmb	IAmb	00 10 43.2	
	comp=Z,54nm,1.4s						
MAHO	**Mahon**	92.26	315	P	P	00 10 33.1	-1.2
MAHO				IAMs_20	IAMs_20	00 58 09.5	
	comp=Z,3μm,19.0s						
BUCK	**Buck Mountain**	92.35	39	P	P	00 10 35.9	+1.0
J01E	**Myrtle Point**	92.39	41	P	P	00 10 34.1	-0.8
J01E				IAMs_20	IAMs_20	00 58 11.3	
	comp=Z,2μm,18.0s						
MXC	**Moxie City**	92.43	36	P	P	00 10 35.8	+0.7
MXC				IAmb	IAmb	00 10 46.9	
	comp=Z,19nm,0.9s						
HOOD	**Mount Hood Mea**	92.44	38	P	P	00 10 34.6	-0.7
HOOD				IAmb	IAmb	00 10 46.5	
	comp=Z,33nm,1.2s						
H04A	**Detroit L

YBH	**Yreka Blue Hor**	**93.96**	**41**	P	**P**	**00 10 41.6**	**-0.7**
YBH	**Yreka Blue Hor**	**93.96**	**41**	P	**P**	**00 10 43.4**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=288,slow=3.2,SNR=4.6						
	comp=Z,1.5nm,0.8s						
I07A	**Izee**	**94.41**	**38**	P	**P**	**00 10 43.9**	**-0.5**
I07A				IAmb	IAmb	00 11 44.0	
	comp=Z,32nm,1.8s						
F10A	**Beach Ranch, E**	**94.46**	**35**	P	**P**	**00 10 44.8**	**+0.2**
FFC	**Flin Flon**	**94.82**	**22**	P	**P**	**00 10 45.3**	**-0.5**
O02D	**Mt. Diablo Mer**	**94.83**	**42**	P	**P**	**00 10 46.0**	**-0.3**
O02D				IAmb	IAmb	00 10 57.3	
	comp=Z,45nm,1.8s						
BMO	**Blue Mountains**	**95.14**	**36**	P	**P**	**00 10 46.6**	**-1.0**
HATC	**Hat Creek Radi**	**95.26**	**41**	P	**P**	**00 10 48.2**	**-0.1**
HATC				IAmb	IAmb	00 10 59.0	
	comp=Z,33nm,1.1s						
J08A	**Circle Bar Ran**	**95.45**	**38**	P	**P**	**00 10 48.5**	**-0.7**
J08A				IAmb	IAmb	00 11 00.4	
	comp=Z,27nm,1.7s						
MSO	**Missoula**	**95.59**	**33**	P	**P**	**00 10 49.8**	**+0.1**
MSO				IAmb	IAmb	00 13 39.0	
	comp=Z,28nm,1.9s						
ORV	**Oroville**	**95.99**	**42**	P	**P**	**00 10 50.7**	**-0.9**
LSZ	**Lusaka**	**96.28**	**256**	P	**P**	**00 10 51.6**	**-1.7**
LSZ				IAmb	IAmb	00 11 00.9	
	comp=Z,16nm,0.8s						
LSZ	**Lusaka**	**96.28**	**256**	IAMs_20	IAMs_20	00 57 43.0	
	comp=Z,3μm,18.0s						
AFDM	**Forest Hills D**	**96.69**	**43**	P	**P**	**00 10 54.7**	**-0.1**
EGMT	**Eagleton**	**96.78**	**30**	IAMs_20	IAMs_20	00 55 59.5	
	comp=Z,2μm,21.0s						
MFID	**Camas Ranch**	**96.89**	**37**	P	**P**	**00 10 56.2**	**+0.6**
MFID				IAmb	IAmb	00 11 04.6	
	comp=Z,23nm,1.9s						
CART	**Cartagena**	**96.96**	**316**	IAMs_20	IAMs_20	01 03 26.9	
	comp=Z,2μm,18.0s						
MPK	**Martis Peak**	**97.06**	**42**	P	Pdif	00 10 57.8	+1.0
MPK				IAmb	IAmb	00 11 12.5	
	comp=Z,18nm,1.3s						
PAHR	**Pah Rah Range**	**97.20**	**41**	P	**P**	**00 10 56.0**	**-1.2**
EMB	**Emerald Bay**	**97.21**	**42**	P	**P**	**00 10 57.3**	**-0.1**
EMB				IAmb	IAmb	00 11 08.5	
	comp=Z,15nm,1.3s						
DLMT	**Dillon**	**97.28**	**34**	IAMs_20	IAMs_20	00 58 09.0	
	comp=Z,2μm,19.0s						
ESDC	**Sonseca Array**	**97.53**	**319**	P	**P**	**00 10 58.2**	**-0.4**
	comp=Z,1.1nm,1.0s,baz=98,slow=5.5,SNR=1.6						
ESDC				LR	LR	00 58 05.3	
	comp=Z,3μm,18.2s,baz=16,slow=37						
	comp=Z,1.1nm,1.0s						
HLID	**Hailey**	**97.56**	**36**	P	**P**	**00 10 58.7**	**-0.1**
BOZ	**Bozeman (W)**	**97.60**	**33**	P	**P**	**00 10 57.8**	**-1.1**
CMB	**Columbia Colle**	**97.60**	**43**	P	**P**	**00 10 58.8**	**-0.1**
YERR	**Yerington**	**97.73**	**42**	P	**P**	**00 10 59.2**	**-0.4**
YERR				IAmb	IAmb	00 11 09.3	
	comp=Z,38nm,2.0s						
POGA	**Pongola**	**97.79**	**244**	IAMs_20	IAMs_20	00 52 28.2	
	comp=Z,2μm,20.0s						
PAB	**San Pablo**	**97.84**	**319**	IAMs_20	IAMs_20	00 56 59.0	
	comp=Z,3μm,18.0s						
WAKR	**Walker**	**97.91**	**42**	P	**P**	**00 10 59.1**	**-1.4**
BMN	**Battle Mountai**	**98.03**	**40**	P	Pdif	00 11 01.9	+1.0
YHL	**Hebgen Lake**	**98.35**	**33**	IAMs_20	IAMs_20	00 58 57.4	
	comp=Z,2μm,19.0s						
KVN	**Kaiserville**	**98.39**	**41**	P	Pdif	00 11 03.0	+0.4
RYN	**Ryan**	**98.39**	**42**	P	**P**	**00 11 02.2**	**-0.4**
RYN				IAmb	IAmb	00 11 19.4	
	comp=Z,20nm,1.7s						
YHB	**Horse Butte**	**98.42**	**33**	P	Pdif	00 11 03.0	+0.3
YHB				IAmb	IAmb	00 14 54.8	
	comp=Z,33nm,1.9s						
YHB				IAMs_20	IAMs_20	00 55 46.1	
	comp=Z,2μm,18.0s						
PPT2	**Papeete2**	**98.42**	**105**	*e*S	**S**	**00 22 26.8**	**-3.8**
PPT2	comp=Z,886nm,27.5s						
				*e*SS	**SS**	**00 29 14.7**	**-0.9**
	comp=Z,581nm,25.8s						
YMR	**Madison River**	**98.59**	**33**	IAMs_20	IAMs_20	00 58 28.7	
	comp=Z,2μm,20.0s						
LHV	**Little Huntoon**	**98.64**	**42**	P	**P**	**00 11 03.5**	**0.0**
LHV				IAmb	IAmb	00 14 27.2	
	comp=Z,18nm,1.6s						
NVAR	**Mina Array Bea**	**98.65**	**42**	P	Pdif	00 11 04.4	+0.6
	comp=Z,0.3nm,0.4s,baz=295,slow=4.7,SNR=1.6						
NVAR				LR	LR	00 49 50.0	
	comp=Z,448nm,20.6s,baz=266,slow=32						
	comp=Z,0.3nm,0.4s						
YNM	**Yellowstone No**	**98.68**	**33**	IAMs_20	IAMs_20	00 58 43.1	
	comp=Z,2μm,20.0s						
YNR	**Norris Junctio**	**98.70**	**33**	IAMs_20	IAMs_20	00 56 43.6	
	comp=Z,3μm,22.0s						
OMMB	**Old Mammoth Mi**	**98.73**	**43**	P	**P**	**00 11 03.9**	**-0.5**
NV11	**Mina Array Sit**	**98.74**	**42**	P	**P**	**00 11 03.4**	**-0.8**
YFT	**Old Faithful**	**98.81**	**33**	P	Pdif	00 11 05.3	+0.8
YFT				IAmb	IAmb	00 11 41.2	
	comp=Z,17nm,1.6s						
YFT				IAMs_20	IAMs_20	00 58 25.5	
	comp=Z,3μm,20.0s						
YNE	**Yellowstone No**	**98.83**	**33**	IAMs_20	IAMs_20	00 56 53.9	
	comp=Z,3μm,21.0s						
YMP	**Mirror Lake Pl**	**98.95**	**33**	IAMs_20	IAMs_20	00 56 07.0	
	comp=Z,2μm,19.0s						
ELK	**Elko**	**98.97**	**38**	P	**P**	**00 11 04.3**	**-1.0**
H17A	**Grant Village**	**98.98**	**33**	P	**P**	**00 11 03.6**	**-1.6**
H17A				IAmb	IAmb	00 14 52.4	
	comp=Z,19nm,1.7s						
FLWY	**Flagg Ranch**	**99.14**	**34**	P	**Pdif**	**00 11 05.4**	**-0.5**
FLWY				IAmb	IAmb	00 12 10.0	
	comp=Z,24nm,1.6s						
FLWY				IAMs_20	IAMs_20	01 00 37.3	
	comp=Z,2μm,19.0s						
MTE	**Manteigas**	**99.17**	**321**	IAMs_20	IAMs_20	00 59 52.0	
	comp=Z,3μm,19.0s						
FXWY	**Fox Creek**	**99.29**	**34**	IAMs_20	IAMs_20	00 58 37.2	
	comp=Z,2μm,21.0s						
MOOW	**Moose Ponds**	**99.36**	**34**	P	**Pdif**	**00 11 06.2**	**-0.7**
MOOW				IAmb	IAmb	00 14 55.5	
	comp=Z,22nm,1.9s						
DSP	**Deep Springs**	**99.52**	**42**	P	**Pdif**	**00 11 06.6**	**-0.8**
DSP				IAmb	IAmb	00 11 18.6	
	comp=Z,21nm,1.9s						
MAW	**Mawson**	**99.53**	**199**	P	**Pdif**	**00 11 06.9**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=26,slow=12,SNR=4.2						
	comp=Z,1.8nm,0.8s						
TPH	**Tonopah**	**99.53**	**41**	P	**Pdif**	**00 11 07.2**	**-0.6**
HVU	**Hansel Valley**	**99.65**	**36**	IAMs_20	IAMs_20	00 57 55.1	
	comp=Z,2μm,19.0s						
GMN	**Gold Mountain**	**100.00**	**42**	Pdif	**Pdif**	**00 11 09.1**	**-0.8**
BGU	**Big Grassy Mou**	**100.10**	**37**	IAMs_20	IAMs_20	01 02 20.9	
	comp=Z,2μm,19.0s						
BCW	**Bitter Crk WRg**	**100.11**	**45**	IAMs_20	IAMs_20	00 45 21.0	
	comp=Z,1μm,18.0s						
GRAC	**Grapevine Rang**	**100.13**	**42**	IAMs_20	IAMs_20	01 02 00.3	
	comp=Z,1μm,18.0s						
PESTR	**Estremoz**	**100.21**	**320**	IAMs_20	IAMs_20	01 03 48.5	
	comp=Z,3μm,18.0s						
Q12A	**Willow Creek R**	**100.34**	**39**	IAMs_20	IAMs_20	01 01 58.4	
	comp=Z,1μm,18.0s						
HWUT	**Hardware Ranch**	**100.43**	**36**	IAMs_20	IAMs_20	01 00 00.5	
	comp=Z,3μm,20.0s						
TBI	**Tubuai**	**100.61**	**111**	*e*S	**Sdif**	**00 22 42.4**	**-6.2**
	comp=Z,2μm,30.2s						
TBI				*e*SS	**SS**	**00 29 44.3**	**-1.6**
	comp=Z,2μm,26.8s						
TBI	**Tubuai**	**100.61**	**111**	*e*LR	LR	00 43 59.3	
	comp=Z,1μm,33.0s						
TBI				*e*LR	LR	00 44 00.0	
	comp=Z,5μm,32.0s						
PD31	**Pinedale Array**	**100.66**	**34**	Pdif	**Pdif**	**00 11 11.5**	**-1.2**
PDAR	**Pinedale Array**	**100.66**	**34**	Pdif	**Pdif**	**00 11 11.8**	**-1.0**
PDAR	**Pinedale Array**	**100.66**	**34**	P	**Pdif**	**00 11 12.8**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=316,slow=2.5,SNR=1.2						
S11A	**Rachel**	**100.70**	**41**	Pdif	**Pdif**	**00 11 13.5**	**+0.6**
DUG	**Dugway, Tooele**	**100.71**	**38**	Pdif	**Pdif**	**00 11 12.0**	**-0.9**
DUG				IAMs_20	IAMs_20	01 02 53.3	
	comp=Z,2μm,18.0s						
JLU	**Jordanelle**	**101.19**	**37**	Pdif	**Pdif**	**00 11 13.5**	**-1.6**
JLU				IAMs_20	IAMs_20	00 58 55.7	
	comp=Z,2μm,19.0s						
PVAQ	**Vaqueiros**	**101.24**	**319**	IAMs_20	IAMs_20	00 58 57.0	
	comp=Z,2μm,20.0s						
E28A	**Huff**	**101.86**	**27**	IAMs_20	IAMs_20	00 59 46.5	
	comp=Z,2μm,19.0s						
TCRU	**Three Creeks R**	**102.00**	**39**	IAMs_20	IAMs_20	01 03 53.5	
	comp=Z,1μm,19.0s						
ELS	**Elsinore Mount**	**102.20**	**45**	IAMs_20	IAMs_20	01 06 46.3	
	comp=Z,2μm,20.0s						
RDMU	**Red Mountain**	**102.23**	**35**	IAMs_20	IAMs_20	01 01 58.1	
	comp=Z,2μm,18.0s						
RSSD	**Black Hills**	**102.34**	**30**	IAMs_20	IAMs_20	01 03 06.5	
	comp=Z,2μm,18.0s						
Q16A	**Castle Valley**	**102.51**	**38**	IAMs_20	IAMs_20	01 02 58.9	
	comp=Z,2μm,20.0s						
MTPU	**Mount Pierson**	**102.54**	**39**	IAMs_20	IAMs_20	01 04 43.8	
	comp=Z,2μm,20.0s						
PFO	**Pinyon Flats O**	**102.85**	**45**	IAMs_20	IAMs_20	00 58 20.5	
	comp=Z,2μm,22.0s						
U15A	**North Rim**	**103.58**	**40**	IAMs_20	IAMs_20	01 01 18.3	
	comp=Z,2μm,20.0s						
AVE	**Averroes**	**103.72**	**316**	IAMs_20	IAMs_20	00 57 57.9	
	comp=Z,2μm,18.0s						
N23A	**Red Feather La**	**103.87**	**33**	IAMs_20	IAMs_20	01 00 41.4	
	comp=Z,2μm,21.0s						
ESJX	**Sierra Juarez**	**104.20**	**46**	IAMs_20	IAMs_20	01 04 48.3	
	comp=Z,2μm,21.0s						
F33A	**5 Mile Ranch,**	**104.20**	**24**	IAMs_20	IAMs_20	00 59 20.3	
	comp=Z,3μm,21.0s						
VTX	**Valle De La Tr**	**104.69**	**46**	IAMs_20	IAMs_20	01 08 14.5	
	comp=Z,2μm,18.0s						
ISCO	**Idaho Springs**	**104.86**	**34**	IAMs_20	IAMs_20	01 08 37.5	
	comp=Z,3μm,21.0s						
S22A	**4UR Ranch, Cre**	**105.74**	**36**	IAMs_20	IAMs_20	01 05 45.1	
	comp=Z,2μm,20.0s						
G40A	**Rib Lake**	**106.85**	**21**	IAMs_20	IAMs_20	00 59 06.1	
	comp=Z,3μm,22.0s						
KSCO	**Kaye Shedlock'**	**106.95**	**32**	IAMs_20	IAMs_20	01 08 40.9	
	comp=Z,2μm,19.0s						
BGNE	**Belgrade**	**107.12**	**28**	IAMs_20	IAMs_20	01 01 07.9	
	comp=Z,3μm,20.0s						
TUC	**Tucson**	**107.29**	**42**	IAMs_20	IAMs_20	01 06 50.8	
	comp=Z,2μm,18.0s						
ANMO	**Albuquerque**	**107.99**	**38**	IAMs_20	IAMs_20	01 03 18.8	
	comp=Z,2μm,19.0s						
Y22D	**IRIS PASSCAL I**	**108.36**	**39**	IAMs_20	IAMs_20	01 08 18.7	
	comp=Z,2μm,19.0s						
TORD	**Torodi Ar. Bea**	**108.41**	**294**	PKiKP	**PKiKP**	**00 15 53.3**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=35,slow=6.5,SNR=2.2						
WIN	**Windhoek**	**108.63**	**253**	IAMs_20	IAMs_20	01 01 17.7	
	comp=Z,2μm,19.0s						
HSIG		**109.41**	**45**	IAMs_20	IAMs_20	00 53 29.2	
	comp=Z,1μm,20.0s						
SRIG	**Santa Rosalia**	**109.67**	**47**	IAMs_20	IAMs_20	01 04 27.5	
	comp=Z,2μm,22.0s						
ELIS	**Ellis County**	**110.84**	**32**	IAMs_20	IAMs_20	01 02 24.9	
	comp=Z,2μm,22.0s						
OK051	**E0350 and S346**	**111.72**	**30**	IAMs_20	IAMs_20	01 07 43.8	
	comp=Z,3μm,22.0s						
QSPA	**South Pole Qui**	**113.14**	**180**	PKiKP	**PKiKP**	**00 16 00.2**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=254,slow=3.7,SNR=2.0						
ELIB	**Princess Elisa**	**113.61**	**200**	*e*PKiKP	**PKiKP**	**00 16 01.3**	**-0.5**
TXAR	**Lajitas Array**	**113.70**	**40**	PKiKP	**PKiKP**	**00 16 02.6**	**-0.7**
	comp=Z,1.1nm,0.9s,baz=214,slow=1.8,SNR=4.0						
Z35A	**Perchaven, San**	**114.10**	**32**	IAMs_20	IAMs_20	01 09 07.0	
	comp=Z,2μm,20.0s						
HPIG		**114.22**	**43**	IAMs_20	IAMs_20	01 12 30.4	
	comp=Z,2μm,19.0s						
FW06	**Azle**	**114.23**	**33**	IAMs_20	IAMs_20	01 09 33.7	
	comp=Z,2μm,20.0s						
WVT	**Waverly**	**115.79**	**24**	IAMs_20	IAMs_20	01 05 29.0	
	comp=Z,2μm,20.0s						
CLTN	**Cedars of Leba**	**116.36**	**22**	IAMs_20	IAMs_20	01 04 33.0	
	comp=Z,2μm,21.0s						
833A	**Chaparral WMA,**	**116.92**	**37**	IAMs_20	IAMs_20	01 08 37.2	
	comp=Z,2μm,21.0s						
SWET	**Sewanee**	**117.29**	**22**	IAMs_20	IAMs_20	01 07 18.5	
	comp=Z,2μm,21.0s						
735A	**Kenedy**	**117.37**	**36**	IAMs_20	IAMs_20	01 10 11.1	
	comp=Z,2μm,20.0s						
X48A	**Hartselle**	**117.57**	**24**	IAMs_20	IAMs_20	01 06 33.1	
	comp=Z,2μm,20.0s						
FPAL	**Fort Paine**	**118.01**	**23**	IAMs_20	IAMs_20	01 07 47.7	
	comp=Z,1μm,21.0s						
TROLL	**Troll, Antarti**	**120.00**	**199**	⇑PKPdf	**PKPdf**	**00 16 13.4**	**-0.7**
	comp=Z,176nm,0.6s						
SNAA	**Sanae**	**121.70**	**199**	⇑PKPdf	**PKPdf**	**00 16 15.7**	**-1.5**
	comp=Z,24nm,0.7s						
SNAA	**Sanae**	**121.70**	**199**	PKP	**PKPdf**	**00 16 15.8**	**-1.4**
	comp=Z,2.3nm,1.1s,baz=100,slow=1.3,SNR=6.8						
MOIG	**Morelia**	**122.26**	**45**	IAMs_20	IAMs_20	01 17 12.6	
	comp=Z,1μm,20.0s						
VNA2	**Neumayer--Watz**	**123.34**	**199**	⇑PKPdf	**PKPdf**	**00 16 19.7**	**-0.7**
	comp=Z,7.3nm,0.6s,baz=68,slow=1,3						
VNA1	**Neumayer--Stat**	**123.73**	**199**	⇑PKPdf	**PKPdf**	**00 16 18.6**	**-2.4**
	comp=Z,9.1nm,1.0s						
UNM	**Universidad Na**	**123.81**	**44**	IAMs_20	IAMs_20	01 16 02.7	
	comp=Z,1μm,20.0s						
VNA3	**Neumayer Olymp**	**123.84**	**198**	⇑PKPdf	**PKPdf**	**00 16 20.0**	**-1.3**
	comp=Z,4.0nm,0.7s						
DWPF	**Disney Wildern**	**125.32**	**22**	IAMs_20	IAMs_20	01 17 30.1	
	comp=Z,2μm,19.0s						
060A	**Indiantown**	**126.67**	**21**	IAMs_20	IAMs_20	01 13 34.8	
	comp=Z,2μm,20.0s						
TEIG	**Tepich**	**129.39**	**33**	IAMs_20	IAMs_20	01 21 40.0	
	comp=Z,2μm,20.0s						
CAMR	**Camarioca**	**129.96**	**24**	IAMs_20	IAMs_20	01 19 03.1	
	comp=Z,2μm,20.0s						
CCIG	**Comitan**	**130.47**	**40**	IAMs_20	IAMs_20	01 06 01.5	
	comp=Z,1μm,22.0s						
MTO3	**Montecristo**	**133.58**	**39**	IAMs_20	IAMs_20	01 19 48.8	
	comp=Z,1μm,21.0s						
SNET	**Serv Nac Est T**	**134.22**	**39**	IAMs_20	IAMs_20	01 19 48.9	
	comp=Z,2μm,22.0s						
GRTK	**Grand Turk**	**134.42**	**13**	IAMs_20	IAMs_20	01 18 49.5	
	comp=Z,1μm,20.0s						
GTBY	**Guantanamo Bay**	**134.96**	**18**	IAMs_20	IAMs_20	01 17 32.3	
	comp=Z,2μm,21.0s						
TGUH	**Tegucigalpa,Un**	**135.03**	**37**	IAMs_20	IAMs_20	01 24 38.0	
	comp=Z,969nm,21.0s						
MTDJ	**Mount Denham**	**135.78**	**22**	IAMs_20	IAMs_20	01 19 02.3	
	comp=Z,2μm,19.0s						
PAPH	**Port-au-Prince**	**137.05**	**15**	IAMs_20	IAMs_20	01 16 38.4	
	comp=Z,1μm,21.0s						
AGPR	**Aguadilla, PR**	**138.07**	**8**	IAMs_20	IAMs_20	01 16 00.2	
	comp=Z,1μm,21.0s						
ESPN	**Las Esperanzas**	**138.17**	**35**	IAMs_20	IAMs_20	01 22 55.0	
	comp=Z,1μm,21.0s						
UUPR	**Utuado, UPR, P**	**138.33**	**8**	IAMs_20	IAMs_20	01 15 31.1	
	comp=Z,1μm,22.0s						
CELP	**Cerrillos**	**138.52**	**7**	IAMs_20	IAMs_20	01 29 18.2	
	comp=Z,1μm,18.0s						
CRPR	**Cabo Rojo, PR**	**138.52**	**8**	IAMs_20	IAMs_20	01 15 46.2	
	comp=Z,1μm,20.0s						
SJG	**San Juan**	**138.54**	**7**	IAMs_20	IAMs_20	01 16 58.5	
	comp=Z,2μm,22.0s						
HUMP	**Col San Antoni**	**138.54**	**6**	IAMs_20	IAMs_20	01 16 30.5	
	comp=Z,1μm,22.0s						
MLPR	**Magueyes Islan**	**138.57**	**8**	IAMs_20	IAMs_20	01 17 14.4	
	comp=Z,1μm,20.0s						
SMRT	**St. Maarten**	**138.82**	**2**	IAMs_20	IAMs_20	01 16 36.0	
	comp=Z,2μm,20.0s						
ANWB	**Willy Bob**	**139.23**	**1**	IAMs_20	IAMs_20	01 14 02.9	
	comp=Z,2μm,21.0s						
SABA	**Saba**	**139.24**	**3**	IAMs_20	IAMs_20	01 20 09.2	
	comp=Z,2μm,20.0s						
SEUS	**St. Eustatius**	**139.38**	**2**	IAMs_20	IAMs_20	01 22 10.8	
	comp=Z,2μm,21.0s						
JTS	**Las Juntas de**	**139.40**	**37**	IAMs_20	IAMs_20	01 25 19.9	
	comp=Z,1μm,20.0s						
HDC	**Heredia**	**140.10**	**36**	IAMs_20	IAMs_20	01 22 34.3	
	comp=Z,1μm,21.0s						
GDHS	**Morne Mazeau,**	**140.62**	**1**	IAMs_20	IAMs_20	01 18 23.3	
	comp=Z,2μm,20.0s						
BRU2	**Volcan**	**141.88**	**36**	IAMs_20	IAMs_20	01 25 56.2	
	comp=Z,1μm,19.0s						
FDF	**Fort de France**	**142.15**	**360**	IAMs_20	IAMs_20	01 15 33.1	
	comp=Z,2μm,20.0s						
BCIP	**Isla Barro Col**	**143.00**	**31**	IAMs_20	IAMs_20	01 22 39.5	
	comp=Z,1μm,21.0s						
HATO	**Hato, Curacao**	**143.93**	**13**	IAMs_20	IAMs_20	01 22 15.6	
	comp=Z,1μm,21.0s						
GRGR	**Grenville**	**144.74**	**0**	IAMs_20	IAMs_20	01 17 01.8	
	comp=Z,1μm,22.0s						
SDV	**Santo Domingo**	**146.72**	**17**		**PKPdf**	**00 17 05.6**	**+0.1**
SDV	**Santo Domingo**	**146.72**	**17**	*e*P	**PKPdf**	**00 17 06.0**	**+0.6**
ROSC	**El Rosal**	**149.28**	**26**	PKP	**PKPdf**	**00 17 10.1**	**+0.2**
	comp=Z,19nm,0.8s,baz=2.5,slow=3.0,SNR=15						
ROSC				PKPbc	**PKiKP**	**00 17 15.4**	**-0.1**
	comp=Z,26nm,0.9s,baz=148,slow=12,SNR=5.6						
RCBR	**Riachuelo**	**149.88**	**301**	IAMs_20	IAMs_20	01 16 53.0	
	comp=Z,1μm,21.0s						
OTAV	**Otavalo**	**151.30**	**38**	PKPdf	**PKPdf**	**00 17 14.2**	**+0.9**
OTAV	**Otavalo**	**151.30**	**38**	*e*P	**PKPdf**	**00 17 12.5**	**-0.7**
NBLA	**Lagarto - SE**	**154.35**	**295**	*e*P	**PKPdf**	**00 17 16.2**	**-0.8**
LL01	**San Ignacio de**	**158.93**	**157**	IAMs_20	IAMs_20	01 28 57.1	
	comp=Z,1μm,22.0s						
MACA	**Manacapuru-AM**	**159.92**	**358**	PKPdf	**PKPdf**	**00 17 23.5**	**-0.6**
MACA				PKPab	**PKPab**	**00 18 03.1**	**-0.1**
MACA	**Manacapuru-AM**	**159.92**	**358**	*e*P	**PKPdf**	**00 17 23.4**	**-0.7**
PLCA	**Paso Flores**	**161.03**	**158**	PKP	**PKPdf**	**00 17 25.8**	**+1.2**
	comp=Z,2.6nm,0.9s,baz=193,slow=1.9,SNR=3.9						
CZSB	**Cruzeiro do Su**	**161.06**	**37**	PKPab	**PKPab**	**00 18 08.5**	**+0.2**
CZSB	**Cruzeiro do Su**	**161.06**	**37**	*e*P	**PKPdf**	**00 17 24.9**	**-0.5**
BDFB	**Brasilia**	**165.23**	**299**	PKP	**PKPdf**	**00 17 29.9**	**+0.5**
	comp=Z,5.8nm,1.1s,baz=96,slow=10,SNR=3.7						
BDFB				PKPab	**PKPab**	**00 18 26.7**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=63,slow=4.5,SNR=2.1						
ETMB	**Extrema**	**165.78**	**20**	PKPdf	**PKPdf**	**00 17 29.0**	**-0.8**
VILB	**Vilhena**	**169.60**	**353**	PKPdf	**PKPdf**	**00 17 33.2**	**+0.7**
VILB					**PKPab**	**00 18 46.8**	**+1.1**
LPAZ	**La Paz**	**170.56**	**43**	PKP	**PKPdf**	**00 17 34.2**	**+0.5**
	comp=Z,4.9nm,1.1s,baz=32,slow=3.2,SNR=11						
LPAZ	**La Paz**	**170.56**	**43**	*e*P	**PKPdf**	**00 17 34.1**	**+0.3**
PTLB	**Pontes e Lacer**	**171.85**	**344**	*e*P	**PKPdf**	**00 17 34.6**	**+1.1**
BBSD	**Serra de San D**	**173.82**	**353**	*e*P	**PKPdf**	**00 17 34.9**	**+0.5**
AQDB	**Aquidauana**	**173.97**	**297**		**PKPdf**	**00 17 33.8**	**-0.5**
BDQN	**Bodoquena, MS**	**174.79**	**303**	*e*P	**PKPdf**	**00 17 37.8**	**+3.2**
CPUP	**Villa Florida**	**175.25**	**230**	PKP	**PKPdf**	**00 17 34.3**	**-0.3**
	comp=Z,4.1nm,1.0s,baz=117,slow=3.8,SNR=4.5						
CPUP				PKPab	**PKPab**	**00 19 09.2**	**-1.5**
	comp=Z,2.5nm,1.0s,baz=170,slow=9.2,SNR=3.1						

ISN ***26*** *00:10:57.0±0.6, 34°.40N×45°.71E, h6km±3km, ML3.9*
TEH ***26*** *00:10:59.6, 34°.33N×45°.67E, h8km±22km, ML3.4*
ISC 26 00:10:59.3±1.6, 34°.31N±0°.03×45°.65E±0°.04, h3km±13km, n19, σ1°13/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**345**	Pg	**Pg**	**00 11 03.6**	**+0.4**
GLG1	**Gilan-e-Gharb**	**0.29**	**133**	Pg	**Pg**	**00 11 06.0**	**+1.0**
IDHR	**Dehrash**	**0.72**	**57**	Pg	**Pg**	**00 11 13.1**	**-0.1**
IDHR				Sg	**Sb**	**00 11 23.7**	**-1.3**
IGHG	**Ghaleghazi**	**0.76**	**88**	Pg	**Pb**	**00 11 14.6**	**-0.7**
ILBA	**Ilam Banvizeh**	**0.83**	**146**	Pg	**Pg**	**00 11 15.6**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.15**	**91**	Pg	**Pg**	**00 11 21.5**	**+0.1**
IBDR	**Badra**	**1.22**	**169**	*e*Pg	**Pn**	**00 11 22.0**	**-1.2**
IBDR				*e*Sg	**Sn**	**00 11 40.0**	**-0.2**
ILIN	**Lien**	**1.24**	**60**	Pg	**Pn**	**00 11 23.3**	**-0.5**
IKRK	**Kirkuk**	**1.53**	**316**	*e*Pn	**Pn**	**00 11 26.0**	**-1.5**
IKRK				*e*Sn	**Sb**	**00 11 48.0**	**-0.1**
IKRK				AML	AML	00 11 52.0	
	comp=E,2μm,0.4s						
IKRK				AML	AML	00 11 58.8	
	comp=N,2μm,0.7s						
SNQR	**Sonqor, Kerman**	**1.72**	**71**	Pg	**Pg**	**00 11 31.8**	**-0.5**
SDS1	**Sardasht. Az.**	**1.84**	**356**	Pn	**Pb**	**00 11 33.4**	**-0.3**
IDOB	**Doab**	**2.16**	**103**	Pn	**Pb**	**00 11 37.5**	**-1.7**
MAHB	**Mahabad**	**2.45**	**1**	Pn	**Pn**

KHC	Kasperske Hory	3.67	254	ePN	Pn	00 13 13.9	+1.3
KHC				ePG	Pb	00 13 20.8	+0.5
KHC				eSG	Sg	00 14 11.5	-0.9
	comp=Z,22nm,0.4s						
GERES	GERESS Array B	3.70	249	Pn	Pn	00 13 15.8	+2.6
	comp=Z,0.4nm,0.3s,baz=69,slow=14,SNR=6.5						
GERES				Lg	Lg	00 14 09.6	
	comp=Z,2.0nm,0.3s,baz=58,slow=26,SNR=6.4						
	comp=Z,1.2nm,0.5s						
ARSA	Arzberg	3.78	218	i Pn	Pn	00 13 12.3	-1.8
	comp=Z,1.5nm,0.3s						
ARSA				Sg	Sg	00 14 12.8	-3.1
	comp=Z,4.0nm,0.5s						
CLL	Collm	3.92	288	ePg	Pg	00 13 32.0	+2.4
CLL				eSg	Sg	00 14 21.0	+0.7
	comp=Z,15nm,0.6s						
MOA	Molln	3.92	234	i Pn	Pn	00 13 15.3	-0.8
	comp=Z,0.2nm,0.2s						
MOA				eSg	Sg	00 14 18.4	-2.1
	comp=Z,14nm,0.7s						
BIOA	Bad Ischl, Aus	4.35	236	i Pn	Pn	00 13 23.4	+1.5
	comp=Z,1.1nm,0.4s						
BIOA				eSg	Sg	00 14 36.9	+2.8
	comp=Z,16nm,0.4s						
LESA	Schwarzleotal	5.03	238	ePn	Pn	00 13 33.0	+1.7
	comp=Z,1.0nm,0.4s						
LESA				eSg	Sg	00 14 55.9	-0.1
	comp=Z,2.7nm,0.3s						
BSD	Bornholm Skovb	5.44	335	i P	Pn	00 13 38.1	+1.2
BSD				i S	Sn	00 14 36.5	-3.6
BSD				IAML		00 14 41.0	
	comp=Z,0.9nm,0.2s						
LUNU	Lund	6.32	330	i P	Pn	00 13 50.2	+1.3
LUNU				i S	Sn	00 14 56.0	-5.7
BLEU	Blekinge	6.33	344	i P	Pn	00 13 50.8	+1.7
BLEU				eS	Sn	00 14 57.4	-4.7
AKASG	Malin Array Be	6.57	82	Pn	Pn	00 13 56.6	+4.2
	comp=Z,0.4nm,0.3s,baz=270,slow=13,SNR=1.5						
AKASG				Sn	Sn	00 15 05.3	-2.7
	comp=Z,1.1nm,0.3s,baz=267,slow=21,SNR=4.6						
AKASG				Lg	Lg	00 15 38.2	
	comp=Z,1.3nm,0.3s,baz=268,slow=24,SNR=4.5						
MLR	Muntele Rosu	6.71	133	Pn	Pn	00 13 56.8	+2.4
	comp=Z,0.1nm,0.3s,baz=354,slow=13,SNR=1.9						
	comp=Z,4.8nm,1.1s						
DEL	Delary	6.92	336	i P	Pn	00 13 58.4	+1.3
DEL				i S	Sn	00 15 10.9	-5.5
DAVOX	Davos/Dischmat	6.96	243	Pn	Pn	00 13 59.8	+1.8
	comp=Z,0.3nm,0.3s,baz=36,slow=8.7,SNR=1.8						
DAVOX				Lg	Lg	00 15 55.5	
	comp=Z,0.2nm,0.3s,baz=221,slow=20,SNR=1.9						
	comp=Z,5.9nm,1.0s						
FABU	Falkenberg	7.69	334	i P	Pn	00 14 08.6	+0.8
BORU	Boraas	8.23	336	i P	Pn	00 14 15.9	+0.7
BORU				i S	Sn	00 15 42.3	-6.4
ONAU	Onsala	8.26	333	i P	Pn	00 14 18.1	+2.5
ONAU				i S	Sn	00 15 42.5	-7.0
NOA	NORSAR Array B	11.63	341	Pn	Pn	00 15 01.1	-0.7
	baz=156,slow=14,SNR=2.0						
	comp=Z,0.5nm,0.7s						
FINES	FINESS Array B	11.88	17	Pn	Pn	00 15 03.9	-1.3
	comp=Z,0.2nm,0.3s,baz=197,slow=12,SNR=7.1						
FINES				Sn	Sn	00 17 10.9	-7.4
	comp=Z,0.2nm,0.3s,baz=206,slow=21,SNR=5.0						
	comp=Z,1.6nm,0.5s						
ARCES	ARCESS Array B	19.58	7	Pn	P	00 16 42.7	-1.2
	baz=188,slow=12,SNR=1.9						
	comp=Z,3.3nm,0.8s						

*TEH **26** 00:13:15.4, 34°.33N×45°.62E, h10km±236km, ML2.6*
*ISN **26** 00:13:16.1±1.6, 34°.35N×45°.59E, h25km, ML2.6*
ISC 26 00:13:14.9±1.6, 34°36N±0°.05×45°5E±0°.1, h19km±5km, n6, σ0°63/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.15	14	Pg	Pg	00 13 19.1	-0.3
KGS1				Sg	Sg	00 13 22.9	+0.5
GLG1	Gilan-e-Gharb	0.39	128	Pg	Pg	00 13 22.4	-0.7
IDHR	Dehrash	0.78	63	Pg	Pb	00 13 29.3	-0.6
KCHF	Cheshme Sefid,	1.24	93	Pg	Pb	00 13 38.2	+0.3
IBDR	Badra	1.28	165	ePg	Pn	00 13 38.0	+0.2
	baz=347						
IBDR				eSg	Sg	00 13 57.0	+0.5
IBDR				AML	AML	00 14 10.2	
	comp=N,20nm,0.9s						
ILIN	Lien	1.30	64	Pg	Pg	00 13 40.1	0.0

*IDC **26** 00:15:15.7±1.1, 23°.09N×118°.65E, h0km, mb3.8/6, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=42.3km s-min=20.6km az=69.0*
*TAP **26** 00:15:16.6, 23°.34N×118°.57E, h14km±1km, ML4.7, D*
ISC 26 00:15:14.8±1.2, 23°33N±0°.03×118°61E±0°.02, h1km±9km, n142, σ1°13/238, mb3.8/6, 1C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCHM	Qimei	0.76	99	⇓iP	Pn	00 15 31.6	-1.1
VCHM				S	Sb	00 15 42.3	+0.5
PNG	Penghu	0.90	74	eP	Pn	00 15 33.7	-0.9
PNG				eS	Sb	00 15 45.9	+0.2
PHUB	P'eng-hu	0.90	78	⇓P	Pn	00 15 33.8	-0.8
PHUB				i S	Sb	00 15 46.0	+0.2
WDGT	Dungji	0.97	94	⇓iP	Pn	00 15 35.2	-0.3
WDGT				S	Sn	00 15 48.2	-1.7
ZPLA	Ao Xicun	0.99	307	⇓eP	Pn	00 15 37.2	+1.4
ZPLA				eS	Sn	00 15 49.9	-0.7
KNM	Kinmen	1.10	352	eP	Pg	00 15 36.2	+0.3
KNM				S	Sg	00 15 50.3	+0.3
KNMB	Chin-men Tao	1.15	350	eP	Pb	00 15 36.8	-0.7
KNMB				eS	Sb	00 15 51.4	-1.6
DSXP	Dongshan	1.15	289	⇓P	Pb	00 15 36.6	-1.0
DSXP				eS	Sg	00 15 51.6	-0.2
TSCK	Chigu Township	1.37	97	eP	Pg	00 15 41.5	+0.5
TSCK				i S	Sg	00 16 00.2	+1.4
SCLT	Jiali	1.46	96	i P	Pg	00 15 43.3	+0.5
SCLT				S	Sg	00 16 03.0	+1.1
CHN8	Yiju	1.47	89	eP	Pg	00 15 43.2	+0.3
CHN8				S	Sg	00 16 03.1	+1.0
WSL	Shuilin Townsh	1.50	82	eP	Pb	00 15 43.5	+0.1
WSL				S	Sg	00 16 04.0	+1.1
WSF	Szhu	1.51	78	eP	Pg	00 15 44.3	+0.5
WSF				eS	Sb	00 16 03.0	-0.3
TAI1	Yung-k'ang	1.52	101	eP	Pg	00 15 43.9	+0.1
TAI1				eS	Sb	00 16 03.1	-0.4
ICHU	Yijhu	1.53	88	eP	Pb	00 15 43.8	-0.3
ICHU				eS	Sg	00 16 04.5	+0.5
SSHA	Shanhua	1.56	97	eP	Pg	00 15 44.6	0.0
SSHA				eS	Sb	00 16 03.9	-0.7
QZH	Quanzhou	1.61	359	⇑iPn	Pn	00 15 43.0	-1.4
QZH				Pg	Pb	00 15 45.0	-0.3
QZH				Sn	Sn	00 16 02.0	-3.8
QZH				Sg	Sb	00 16 05.3	-0.9
QZH				smax	smax		
	comp=N,4μm,0.4s						
QZH				smax	smax		
	comp=E,6μm,0.3s						
WTCT	Ta-ch'eng	1.62	70	eP	Pg	00 15 46.4	+0.5
WTCT				i S	Sg	00 16 07.3	+0.4
CHN3	Shinhua	1.63	98	eP	Pb	00 15 44.7	-1.0
CHN3				eS	Sg	00 16 07.6	+0.3
WSSB	Gushan	1.67	114	P	Pb	00 15 45.5	-0.8
WSSB				eS	Sn	00 16 05.9	-1.4
WTK	Tuku	1.67	77	eP	Pb	00 15 45.5	-0.9
WTK				eS	Sb	00 16 07.2	-0.7
AXDP	Jialang	1.67	340	eP	Pb	00 15 46.1	-0.3
AXDP				i S	Sb	00 16 07.6	-0.4
CHY	Chiayi	1.68	84	eP	Pb	00 15 46.3	-0.1
CHY				S	Sb	00 16 08.2	+0.1
CHN2	Minshiung	1.73	83	eP	Pb	00 15 47.6	+0.3
TWK	Hsinying	1.73	92	P	Pb	00 15 46.8	-0.6
TWK				eS	Sb	00 16 09.0	-0.6
SNST	Tainan City	1.74	93	eP	Pb	00 15 46.8	-0.7
SNST				eS	Sn	00 16 08.5	-0.5
TWM1	Shoushan	1.74	106	eP	Pg	00 15 47.9	-0.3
PTMZ	Houxiangcun	1.77	15	P	Pb	00 15 47.5	-0.5
PTMZ				i S	Sb	00 16 10.5	-0.3
CHN1	Nanshi	1.77	94	eP	Pb	00 15 47.2	-0.8
CHN1				eS	Sb	00 16 09.4	-1.4
SCST	Cishan	1.79	104	eP	Pb	00 15 48.4	0.0
WDLH	Douliu	1.81	78	eP	Pn	00 15 46.2	-0.8
WDLH				eS	Sb	00 16 12.4	+0.6
WDL	Douliou City	1.81	77	eP	Pb	00 15 47.5	-1.3
WDL				eS	Sb	00 16 11.3	-0.7
CHN4	Tsaushan	1.82	89	eP	Pb	00 15 48.1	-0.8
CHN4				eS	Sb	00 16 11.4	-1.0
VWUC	VWUC	1.83	25	eP	Pn	00 15 46.4	-1.0
VWUC				eS	Sb	00 16 11.2	-1.2
WGK	Gukeng	1.83	78	eP	Pb	00 15 48.4	-0.6
WGK				eS	Sb	00 16 12.3	-0.2
SGST	Jiashian	1.83	97	eP	Pn	00 15 47.2	-0.2
SGST				eS	Sn	00 16 10.5	-0.8
WCKO	Fanlu	1.84	86	eP	Pb	00 15 48.2	-1.0
WCKO				eS	Sb	00 16 12.0	-0.7
WTP	Ta-pu	1.84	92	P	Pb	00 15 48.2	-1.1
WTP				eS	Sn	00 16 11.3	-0.3
TPUB	Ta-pu	1.86	90	P	Pb	00 15 48.2	-1.3
TPUB	Ta-pu	1.86	90	i P	Pb	00 15 48.2	-1.3
TPUB				S	Sn	00 16 11.5	-0.5
TWP	Hsiaoliuchiu	1.89	121	eP	Pb	00 15 50.2	+0.2
WLCH	Liuqiu	1.90	120	eP	Pb	00 15 49.6	-0.7
WLCH				eS	Sb	00 16 12.7	-1.8
WCHH	Zhanghua	1.94	67	eP	Pn	00 15 49.1	+0.2
WCHH				eS	Sb	00 16 14.8	-0.8
WNT	Mingjian	1.98	73	eP	Pb	00 15 50.1	-1.5
WNT				eS	Sb	00 16 16.7	-0.2
MASBT	Mashibuluo	2.00	110	eS	Sn	00 16 14.4	-0.9
STYH	Taoyuan	2.00	94	i P	Pb	00 15 50.8	-1.2
STYH				i S	Sb	00 16 15.6	-1.8
WJS	Zhushan	2.00	75	eP	Pb	00 15 51.3	-0.8
WJS				eS	Sn	00 16 15.2	-0.4
ALS	Alishan	2.02	84	eP	Pn	00 15 50.9	+0.5
ALS				eS	Sn	00 16 15.5	-1.0
WHYT	Xinyi Township	2.09	79	eP	Pn	00 15 51.3	+0.2
WHYT				eS	Sn	00 16 16.9	-0.9
WDJ	Dajia District	2.12	61	eP	Pn	00 15 51.2	-0.2
TYC	Yuchr	2.14	74	eP	Pb	00 15 52.7	-1.6
TYC				eS	Sn	00 16 19.3	+0.4
SMLT	Sun Moon Lake	2.17	75	eP	Pn	00 15 51.7	-0.6
SMLT				eS	Sn	00 16 19.7	-0.2
SSLB	Suanglung	2.20	77	P	Pn	00 15 52.2	-0.3
SSLB	Suanglung	2.20	77	i P	Pn	00 15 52.8	+0.3
SSLB				i S	Sn	00 16 20.1	-0.4
ELDTW	Lidau	2.22	93	P	Pb	00 15 53.9	-1.9
ELDTW				eS	Sn	00 16 20.7	-0.3
TWQ1	Liyutan	2.23	62	eP	Pn	00 15 52.9	0.0
TWQ1				eS	Sn	00 16 19.7	-1.4
WCS	Beigang Elemen	2.23	71	eP	Pn	00 15 53.5	+0.6
WCS				eS	Sb	00 16 22.1	-2.0
EAST	Anshuo	2.27	114	eP	Pn	00 15 54.5	-2.1
EAST				eS	Sn	00 16 21.8	-0.3
ECL	Taimali	2.28	108	eP	Pn	00 15 52.9	-0.7
ECL				eS	Sn	00 16 22.3	-0.1
ECL	Taimali	2.28	108	S	Pn	00 15 52.7	-0.9
TAW	Tawu	2.32	114	eP	Pn	00 15 54.8	+0.7
TAW				eS	Sn	00 16 22.8	-0.5
TAWH	Dawu Township	2.32	115	P	Pn	00 15 54.7	+0.6
TAWH				eS	Sn	00 16 22.8	-0.6
TWG	Pinlang	2.32	102	P	Pb	00 15 55.5	-2.0
TWG				i S	Sn	00 16 23.4	0.0
TWGBT	Beinan	2.33	102	P	Pn	00 15 55.3	+1.0
TWGBT	Beinan	2.33	102	i P	Pb	00 15 55.6	-2.1
TWGBT				eS	Sn	00 16 23.6	-0.1
NMLH	Miaoli	2.33	58	eP	Pn	00 15 54.6	+0.3
LONT	Longtian	2.36	100	eP	Pn	00 15 55.9	-2.2
LONT				eS	Sn	00 16 24.0	-0.3
VWDT	VWDT	2.36	79	P	Pb	00 15 56.2	-1.9
VWDT				eS	Sn	00 16 25.0	+0.6
HEN	Hengchun	2.36	123	eP	Pb	00 15 55.7	-2.5
WUSB	Renai	2.39	73	eP	Pn	00 15 55.7	+0.5
WUSB				i S	Sn	00 16 24.8	-0.5
EHD	Haiduan	2.39	94	eP	Pb	00 15 56.9	-1.8
ECS	Chishang	2.41	95	P	Pb	00 15 57.6	-1.4
ECS				S	Sb	00 16 26.6	-2.7
SMST	Manzhou Townsh	2.43	122	eP	Pn	00 15 56.4	+0.7
OWD	Renai	2.43	75	eP	Pb	00 15 57.2	-2.3
OWD				eS	Sn	00 16 26.5	+0.1
TWK1	Hengchun	2.45	124	⇓iP	Pn	00 15 56.5	+0.5
TWK1				eS	Sn	00 16 26.1	-0.4
TWKBT	Hengchun	2.46	124	eP	Pn	00 15 56.5	+0.4
TWKBT				eS	Sn	00 16 26.2	-0.6
TWF1	Yuli	2.47	89	i P	Pb	00 15 57.6	-2.4
TWF1				eS	Sn	00 16 27.6	+0.5
YULB	Yu-li	2.47	88	P	Pn	00 15 55.7	-0.5
YULB	Yu-li	2.47	88	eP	Pb	00 15 57.7	-2.3
YULB				eS	Sn	00 16 26.5	-0.6
FULB	Fuli	2.47	92	P	Pb	00 15 58.3	-1.8
FULB				i S	Sb	00 16 28.8	-2.2
EYUL	Yuli	2.49	89	eP	Pb	00 15 58.4	-1.9
EYUL				eS	Sn	00 16 27.1	-0.5
EHY	Hungye	2.50	85	eP	Pn	00 15 57.9	+1.2
EHY				eS	Sn	00 16 27.4	-0.4
EDH	Donghe	2.50	98	eP	Pb	00 15 58.4	-2.2
EDH				i S	Sb	00 16 29.0	-2.9
TDCB	Techi	2.51	68	eP	Pb	00 15 57.0	0.0
EHYH	Wanrong	2.52	86	eP	Pb	00 15 58.9	-2.0
EHYH				S	Sn	00 16 28.8	+0.5
TWT	Tachien	2.52	68	eP	Pn	00 15 57.1	-0.1
NSTT	Nanjuang	2.54	59	eP	Pn	00 15 57.3	0.0
NSTT				eS	Sn	00 16 28.3	-0.6
CHKT	Chengkung	2.54	95	eP	Pb	00 15 59.3	-2.0
CHKT				eS	Sn	00 16 30.0	+1.1
LIOB	Emei	2.56	59	eP	Pn	00 15 57.7	+0.2
CHKH	Chenggong	2.56	92	eP	Pb	00 15 59.4	-2.2
CHKH				eS	Sb	00 16 30.8	-2.9
WHF	Hehuan Shan	2.56	71	eP	Pn	00 15 58.9	+1.0
WHF				eS	Sn	00 16 30.8	+0.7
WARBT	Fenglin Townsh	2.58	81	eP	Pn	00 15 58.5	+0.8
WARBT				eS	Sn	00 16 30.9	+1.1
EGFH	Guangfu	2.61	82	eP	Pn	00 15 59.1	+1.0
EGFH				eS	Sn	00 16 31.2	+0.7
SBCB	Hsinchu	2.62	56	eP	Pn	00 15 59.0	+0.8
ESL	Shilin	2.63	79	eP	Pb	00 16 00.6	-2.2
ESL				eS	Sn	00 16 31.8	+0.6
LXIB	Xiulin Townshi	2.66	74	eP	Pn	00 15 59.8	+0.7
LXIB				S	Sn	00 16 33.1	+1.1
LDUT	Ludao	2.71	103	eP	Pn	00 16 00.7	+1.1
LDUT				i S	Sn	00 16 33.5	+0.4
ETM	Tongmen	2.72	76	eP	Pn	00 16 00.8	+1.2
SHUL	Shoufeng	2.75	80	eP	Pb	00 16 02.1	-2.6
KSHI	Guanxi Townshi	2.75	58	eP	Pn	00 16 00.5	+0.4
KSHI				eS	Sn	00 16 35.6	+1.5
NNS	Nan Shan	2.76	66	eP	Pn	00 16 00.6	+0.3
NNS				S	Sn	00 16 33.6	-0.8
NNSB	Datong	2.77	66	eP	Pn	00 15 59.9	-0.5
NNSB				eS	Sn	00 16 34.0	-0.5
ETLH	Xiulin Townshi	2.77	71	eP	Pn	00 16 00.9	+0.4
ETLH				S	Sn	00 16 35.4	+0.7
TEYL	Yanliau Villag	2.79	78	eP	Pb	00 16 02.9	-2.6
HWA	Hwalien	2.82	76	eP	Pn	00 16 02.0	+0.9
HWA				eS	Sn	00 16 37.5	+1.7
TWD	Chiawan	2.84	74	eP	Pn	00 16 02.7	+1.4
TWD				eS	Sn	00 16 36.0	-0.1
NSK	Sanguang	2.85	61	eP	Pn	00 16 01.3	-0.3
NSK				eS	Sn	00 16 35.5	-1.0
YHNB	Yeheng	2.86	62	P	Pn	00 16 01.3	-0.4
YHNB	Yeheng	2.86	62	eP	Pn	00 16 01.1	-0.6
YHNB				eS	Sn	00 16 36.1	-0.8
NACB	Ninganchiao	2.86	72	P	Pn	00 16 01.6	0.0
NACB	Ninganchiao	2.86	72	eP	Pn	00 16 01.7	0.0
ETL	Fush Village	2.88	73	eP	Pn	00 16 02.8	+0.9
ENTT	Nioudou	3.00	64	eP	Pn	00 16 03.7	+0.2
LAY	Lan-yu	3.00	115	eP	Pn	00 16 03.4	-0.2
NWLT	Wulai	3.01	61	P	Pn	00 16 03.6	-0.1
NWLT				eS	Sn	00 16 39.3	-1.2
EAHA	Aohua	3.03	70	eP	Pn	00 16 04.7	+0.7
LYUB	Lan-yu	3.05	115	eP	Pn	00 16 02.2	-1.9
ENA	Nanau	3.07	68	eP	Pn	00 16 05.3	+0.9
FUSB	Fushanzhiwuyua	3.07	62	P	Pn	00 16 04.5	-0.1
FUSB				eS	Sn	00 16 40.7	-1.4
EWUT	Wuta	3.11	68	eP	Pn	00 16 05.8	+0.8
TWE	Neicheng	3.12	63	eP	Pn	00 16 05.4	+0.2
TWE				eS	Sn	00 16 41.9	-1.2
NDS	Dongshan	3.12	65	eP	Pn	00 16 05.3	+0.1
SXFK	Yanhouchang	3.18	344	eP	Pn	00 16 04.5	-1.6
TWC	Suao	3.23	66	eP	Pn	00 16 08.0	+1.4
TWC				eS	Sn	00 16 45.1	-0.6
ANP	Anpu	3.24	55	eP	Pn	00 16 07.1	+0.2
YM01	YM01	3.25	56	eP	Pn	00 16 06.8	-0.2
YM08	YM08	3.29	55	eP	Pn	00 16 07.2	-0.4
TIPB	Shuangxi	3.36	60	eP	Pn	00 16 08.5	0.0
TIPB				eS	Sn	00 16 47.9	-1.3
EGS		3.39	63	eP	Pn	00 16 10.2	+1.3
EGS				eS	Sn	00 16 49.3	-0.5
SXI1	Grass Mountain	3.46	59	eP	Pn	00 16 09.0	-0.9
EOS4	EOS4	3.49	76	eP	Pn	00 16 12.1	+2.2
EOS4				eS	Sn	00 16 52.5	+0.8
TWB1	Santiao Chiao	3.51	61	eP	Pn	00 16 10.8	+0.2
TWB1				eS	Sn	00 16 51.7	-1.1
EOS3	EOS3	3.53	74	eP	Pn	00 16 12.6	+1.9
EOS3				eS	Sn	00 16 51.9	-1.0
XPSS	Dashiqiu	3.86	21	eP	Pn	00 16 14.4	-0.9
PCYT	Pengchaiyu	3.90	53	eP	Pn	00 16 15.7	-0.2
KSRS	Korea Array	16.20	27	Pn	P	00 19 06.3	-0.6
	comp=E,0.2nm,0.3s,baz=217,slow=12,SNR=2.8						
	comp=E,1.2nm,0.6s						
MKAR	Makanchi Array	37.35	318	P	P	00 22 32.8	+3.8
	comp=E,1.2nm,0.7s,baz=113,slow=7.3,SNR=1.2						
	comp=E,1.2nm,0.7s						
ZALV	Zalesovo Beam	39.72	329	P	P	00 22 51.6	+2.9
	comp=E,1.0nm,0.8s,baz=103,slow=6.4,SNR=1.7						
	comp=E,1.0nm,0.8s						
PETK	Petropavlovsk-	41.90	35	P	P	00 23 09.3	+2.5
	comp=E,1.9nm,0.4s,baz=251,slow=9.0,SNR=4.3						
	comp=E,1.9nm,0.4s						
WRA	Warramunga Arr	45.66	159	P	P	00 23 36.3	-1.0
	comp=E,1.4nm,0.9s,baz=344,slow=8.7,SNR=11						
	comp=E,1.4nm,0.9s						
BVAR	Borovoye Array	46.87	322	P	P	00 23 47.5	+1.0
	comp=E,0.6nm,0.8s,baz=111,slow=8.2,SNR=2.7						
	comp=E,0.6nm,0.8s						
ASAR	Alice Springs	49.02	161	P	P	00 24 02.8	-0.7
	comp=E,0.3nm,0.5s,baz=341,slow=6.8,SNR=4.5						
	comp=E,0.3nm,0.5s						

TAP 26 00:15:42.6, 22°36N×120°79E, h7km, ML2.1, 3C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAST	Anshuo	0.06	68	⇑iP	Pg	00 15 45.0	+0.6
EAST				i S	Sg	00 15 46.8	+1.1
TAWH	Dawu Township	0.09	103	⇑iP	Pg	00 15 45.3	+0.5
TAWH				i S	Sg	00 15 47.4	+1.1
TAW	Tawu	0.10	92	i P	Pg	00 15 45.7	+0.7
TAW				i S	Sg	00 15 47.9	+1.4
SCZT	Fangliau	0.16	274	⇑iP	Pg	00 15 46.5	+0.6
SCZT				S	Sg	00 15 49.0	+0.9
ECL	Taimali	0.28	33	P	Pg	00 15 48.8	+0.7
MASBT	Mashibuluo	0.29	330	eP	Pg	00 15 49.1	+0.8
MASBT	Mashibuluo	0.29	330	eP	Pg	00 15 49.0	+0.6
TSMG	Majia	0.37	339	eP	Pg	00 15 50.0	+0.1
TSMG	Majia	0.37	339	eP	Pg	00 15 50.1	+0.3
TSMG				eS	Sb	00 15 56.8	-0.6

*TEH **26** 00:18:06.6, 34°.33N×45°.63E, h10km±105km, ML2.7*
*ISN **26** 00:18:07.8±1.1, 34°.37N×45°.65E, h22km±8km, ML2.8*
ISC 26 00:18:07.0±1.0, 34°34N±0°.04×45°64E±0°.05, h11km±10km, n10, σ1°09/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.17	346	Pg	Pg	00 18 10.4	-0.4
KGS1				Sg	Sg	00 18 14.1	+0.5
GLG1	Gilan-e-Gharb	0.32	135	Pg	Pg	00 18 13.3	-0.2
IDHR	Dehrash	0.71	59	Pg	Pg	00 18 20.5	-0.5
IGHG	Ghaleghazi	0.77	90	Pg	Pg	00 18 22.1	+0.2
ILBA	Ilam Banvizeh	0.85	146	Pg	Pb	00 18 23.1	-0.8
KCHF	Cheshme Sefid,	1.16	93	Pg	Pb	00 18 29.3	0.0
ILIN	Lien	1.24	62	Pg	Pb	00 18 30.6	0.0
IBDR	Badra	1.25	169	ePg	Pb	00 18 31.0	+0.4
IBDR				eSg	Sg	00 18 48.0	+0.8
IKRK	Kirkuk	1.50	315	ePn	Pg	00 18 36.0	+0.1
IKRK				eSn	Sg	00 18 55.0	-0.4
IKRK				AML	AML	00 18 59.5	
	comp=E,150nm,0.6s						
IKRK				AML	AML	00 19 05.5	
	comp=N,130nm,0.3s						
RAFI	Al-Rafai	2.64	171	ePn	Pn	00 18 51.0	+1.5
RAFI				eSn	Sb	00 19 24.0	-2.7

*IDC **26** 00:24:37.0±0.5, 53°.83S×134°.49W, h0km, mb4.5/14, mbtmp4.5/14, MS5.0/31, Error ellipse: s-maj=18.7km s-min=16.4km az=157.0*
*MOS **26** 00:24:38.4±1.0, 54°.00S×134°.21W, h10km, mb5.4/25, Error ellipse: s-maj=18.9km s-min=12.6km az=72.1*
*NEIC **26** 00:24:40.5±1.3, 53°.95±0°.1×134°.2W±0°.2, h10km±1km, mb5.3/217, Error ellipse: s-maj=19.1km s-min=16.2km az=185.0*
*GCMT **26** 00:24:43.5±0.1, 54°.00S±0°.01×134°.35W±0°.01, h13km±1km, MW5.4/136, Moment Tensor Solution. s87,c129; s136,c236; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.16±.03; $M_{\theta\theta}$1.20±.03; $M_{\phi\phi}$-1.04±.03; $M_{r\theta}$0.18±.07; $M_{\theta\phi}$1.18±.03; $M_{r\phi}$0.25±.06; Best double couple: $M_0$1.65400×10^{17} NP1:ϕ_s22.00000°, δ89.00000°, λ170.00000°. NP2:$

PAE Paea 38.02 336 *eP* **P 00 31 57.2 -1.0**
comp=Z,26nm,1.2s
PAE Paea 38.02 336 *eLR* LR 00 42 11.4
comp=Z,929nm,22.6s
PPTF Pamatai, Papee 38.09 336 P **P 00 31 58.0 -0.8**
PPT2 Papeete2 38.09 336 *eP* **P 00 31 57.2 -1.7**
comp=Z,96nm,1.4s
PPT2 *eS* **S 00 37 52.4 +0.8**
comp=Z,571nm,28.2s
PPT2 *eLR* LR 00 42 16.4
PPT Papeete 38.11 336 P **P 00 31 57.3 -1.7**
comp=Z,30nm,1.0s,baz=115,slow=8.1,SNR=12
PPT LR LR 00 45 02.6
comp=Z,2µm,18.5s,baz=222,slow=32
comp=Z,30nm,1.0s
COYC Coyhaique 39.87 104 P **P 00 32 13.1 -0.4**
VAH Vaihoa 39.93 340 *eP* **P 00 32 12.0 -2.2**
comp=Z,218nm,1.4s
VAH Vaihoa 39.93 340 *eLR* LR 00 43 05.4
comp=Z,5µm,21.7s
PMOR Pomariorio Ree 40.21 339 *eP* **P 00 32 16.9 +0.4**
comp=Z,115nm,1.2s
PMOR Pomariorio Ree 40.21 339 *eLR* LR 00 43 13.2
comp=Z,5µm,22.7s
LL02 Futaleuf 41.41 101 P **P 00 32 26.7 +0.4**
LL01 San Ignacio de 41.58 100 P **P 00 32 28.2 +0.6**
LL04 Puerto Octay 42.50 98 P **P 00 32 36.0 +0.8**
LR05 Currie 43.17 98 P **P 00 32 41.2 +0.6**
H03S2 Juan Fernandez 43.38 86 T T 01 19 22.5
baz=224,slow=74,SNR=66
H03S1 Juan Fernandez 43.38 86 T T 01 19 24.0
baz=224,slow=74,SNR=71
H03S3 Juan Fernandez 43.40 86 T T 01 19 19.5
baz=224,slow=74,SNR=90
VA04 Juan Fernndez 43.57 85 P **P 00 32 44.3 +0.4**
H03N3 Juan Fernandez 43.65 85 T T 01 19 39.0
baz=226,slow=72
H03N2 Juan Fernandez 43.65 85 T T 01 19 34.6
baz=226,slow=72
H03N1 Juan Fernandez 43.66 85 T T 01 19 28.7
baz=226,slow=72
PLCA Paso Flores 43.70 100 P **P 00 32 44.9 -0.1**
PLCA Paso Flores 43.70 100 LR LR 00 46 20.4
comp=Z,993nm,21.1s,baz=229,slow=30
PLCA Paso Flores 43.70 100 P **P 00 32 44.9 -0.1**
PLCA pmax pmax
comp=Z,34nm,1.4s
PLCA Paso Flores 43.70 100 *eP* **P 00 32 44.8 -0.3**
GO06 Curarrehue 43.90 98 P **P 00 32 46.6 0.0**
TAOE Nuku Hiva Isla 45.12 352 *eLR* LR 00 45 28.0
comp=Z,5µm,25.2s
BI02 San Fabin de 45.96 95 P **P 00 33 03.7 +0.7**
BO02 Sierra Bellavi 47.53 93 P **P 00 33 15.7 +0.4**
BO02 IAmb IAmb 00 33 21.4
comp=Z,44nm,1.4s
MT05 Renca 48.54 92 P **P 00 33 24.4 +1.3**
MT05 IAmb IAmb 00 33 31.1
comp=Z,53nm,1.1s
MT13 San Alfonso 48.56 93 P **P 00 33 23.2 -0.1**
MT13 IAmb IAmb 00 33 27.1
comp=Z,37nm,1.4s
PEL Peldehue 48.74 92 P **P 00 33 24.4 -0.3**
PEL IAmb IAmb 00 33 42.7
comp=Z,45nm,1.2s
PEL Peldehue 48.74 92 P **P 00 33 24.4 -0.3**
PEL pmax pmax
comp=Z,45nm,1.2s
VNA3 Neumayer Olymp 49.20 159 ⇑P **P 00 33 26.9 -0.8**
comp=Z,6.6nm,0.9s
VNA3 ⇓S **S 00 40 36.1 +3.4**
comp=Z,0.2nm,0.3s
VNA2 Neumayer--Watz 49.91 160 ⇑P **P 00 33 32.4 -0.7**
comp=Z,12nm,0.8s,baz=217,slow=7.2
VNA2 ⇓S **S 00 40 42.5 -0.2**
comp=Z,0.0nm,0.1s,baz=314,slow=42
VNA1 Neumayer--Stat 49.95 159 ⇑P **P 00 33 32.8 -0.5**
comp=Z,15nm,1.1s
SNAA Sanae 50.20 162 P **P 00 33 34.4 -0.9**
SNAA Sanae 50.20 162 ⇑P **P 00 33 34.0 -1.3**
comp=Z,84nm,1.0s
SNAA ⇓S **S 00 40 48.1 +1.3**
comp=Z,11µm,8.3s
SNAA Sanae 50.20 162 P **P 00 33 34.6 -0.7**
comp=Z,6.0nm,1.0s,baz=216,slow=8.3,SNR=8.5
SNAA LR LR 00 52 27.8
comp=Z,3µm,21.9s,baz=187,slow=33
comp=Z,6.0nm,1.0s
TRQA Tornquist 50.45 103 P **P 00 33 37.8 +0.2**
TRQA Tornquist 50.45 103 P **P 00 33 37.8 +0.2**
TRQA pmax pmax
comp=Z,31nm,1.4s
CASY Casey 50.60 208 P **P 00 33 38.6 +0.4**
TROLL Troll, Antarti 50.84 164 ⇑P **P 00 33 40.2 -0.1**
comp=Z,237nm,1.1s
TROLL ⇑S **S 00 40 56.9 +1.0**
comp=Z,8.0nm,0.1s
CO01 Juntas del Tor 51.37 89 P **P 00 33 44.2 -0.7**
MSVF Nonsavu 51.38 296 P **P 00 33 44.5 -0.4**
MSVF Nonsavu 51.38 296 P **P 00 33 44.5 -0.4**
MSVF pmax pmax
comp=Z,31nm,1.5s
NVL N'lazarevskaya 53.34 167 *eP* **P 00 33 57.6 -1.0**
NVL *eS* **S 00 41 28.3 -1.5**
NVL pmax pmax
comp=Z,10.0nm,1.0s
NVL MLR MLR
comp=Z,1µm,18.0s
ELIB Princess Elisa 53.51 172 *dP* **P 00 33 59.2 -0.9**
comp=Z,18nm,1.3s
ELIB *dx* x 00 34 13.1
MILA Mila 53.59 255 P **P 00 33 59.3 -1.8**
DZM Mont Dzumac 54.43 281 *eLR* LR 00 49 50.5
comp=Z,1µm,29.1s
DZM Mont Dzumac 54.43 281 LR LR 00 53 35.1
comp=Z,818nm,18.0s,baz=206,slow=32
CNB Canberra Magne 54.70 257 P **P 00 34 12.4 +3.2**
comp=Z,47nm,1.4s
CAN Canberra 54.90 257 P **P 00 34 12.8 +2.1**
CAN IAmb IAmb 00 34 33.2
comp=Z,54nm,1.4s
CAN Canberra 54.90 257 P **P 00 34 11.4 +0.7**
comp=Z,30nm,1.3s
CAN Canberra 54.90 257 P **P 00 34 12.8 +2.1**
CAN pmax pmax
comp=Z,54nm,1.4s
TOO Toolangi 55.32 252 P **P 00 34 15.1 +1.5**
TOO Toolangi 55.32 252 P **P 00 34 16.4 +2.8**
comp=Z,16nm,1.3s
TOO Toolangi 55.32 252 P **P 00 34 15.1 +1.5**
TOO pmax pmax
comp=Z,26nm,1.3s
ARMA Armidale 56.90 263 P **P 00 34 25.8 +0.8**
ARMA IAmb IAmb 00 34 29.6
comp=Z,34nm,1.2s
ARMA Armidale 56.90 263 P **P 00 34 27.5 +2.4**
comp=Z,38nm,2.5s
AF01 San Pedro de A 57.75 85 P **P 00 34 30.9 -0.5**
ARPS Mount Arapiles 57.94 250 P **P 00 34 32.9 +0.8**
comp=Z,24nm,1.3s
MAW Mawson 58.18 188 P **P 00 34 32.9 -0.5**
MAW Mawson 58.18 188 P **P 00 34 32.1 -1.3**
comp=Z,12nm,1.0s,baz=175,slow=9.4,SNR=14
MAW LR LR 00 56 46.7
comp=Z,859nm,18.7s,baz=94,slow=33
comp=Z,12nm,1.0s
PB01 IPOC Station P 58.45 83 P **P 00 34 36.0 0.0**
HMBC Humberstone 58.81 82 P **P 00 34 39.0 +0.4**
HMBC IAmb IAmb 00 34 55.6
comp=Z,45nm,1.4s
PB08 IPOC Station P 59.34 82 P **P 00 34 42.1 -0.5**
ITQB Itaqui 59.54 99 P **P 00 34 42.5 -0.9**
ITQB IAmb IAmb 00 34 57.2
comp=Z,35nm,1.0s
ITQB Itaqui 59.54 99 *eP* **P 00 34 43.5 +0.1**
CMSA Cobar Meteorol 59.54 257 P **P 00 34 45.3 +1.9**
comp=Z,36nm,1.6s
GO01 Chusmiza 59.69 82 P **P 00 34 44.5 -0.6**
GO01 IAmb IAmb 00 35 02.3
comp=Z,28nm,1.4s
PLTB Pedras Altas 59.75 103 P **P 00 34 44.5 -0.4**
PLTB IAmb IAmb 00 34 58.1
comp=Z,40nm,1.5s
PLTB Pedras Altas 59.75 103 *eP* **P 00 34 44.2 -0.7**
CPSB Cacapava Do Su 60.84 102 *eP* **P 00 34 52.1 -0.3**
EIDS Eidsvold 60.97 266 P **P 00 34 54.4 +1.2**
EIDS IAmb IAmb 00 35 10.4
comp=Z,38nm,1.2s
EIDS Eidsvold 60.97 266 P **P 00 34 54.8 +1.6**
comp=Z,23nm,1.0s
PB18 Visviri 61.15 80 P **P 00 34 55.4 +0.3**
PB18 IAmb IAmb 00 35 23.6
comp=Z,34nm,1.4s
NNA Nana 61.43 70 LR LR 00 55 06.7
comp=Z,2µm,19.2s,baz=222,slow=30
CPUP Villa Florida 61.61 96 P **P 00 34 57.6 0.0**
CPUP IAmb IAmb 00 35 14.9
comp=Z,24nm,1.2s
CPUP Villa Florida 61.61 96 P **P 00 34 56.5 -1.1**
comp=Z,4.0nm,0.9s,baz=236,slow=5.5,SNR=6.0
CPUP LR LR 00 57 11.4
comp=Z,1µm,19.4s,baz=194,slow=32
comp=Z,4.0nm,0.9s
CPUP Villa Florida 61.61 96 P **P 00 34 57.6 0.0**
CPUP pmax pmax
comp=Z,24nm,1.2s
CPUP Villa Florida 61.61 96 *eP* **P 00 34 55.9 -1.7**
STKA Stephens Creek 61.64 254 P **P 00 34 58.3 +0.6**
STKA Stephens Creek 61.64 254 P **P 00 34 59.3 +1.5**
comp=Z,3.4nm,1.3s
STKA Stephens Creek 61.64 254 P **P 00 34 55.5 -2.3**
comp=Z,4.0nm,0.9s,baz=170,slow=7.1,SNR=4.2
STKA LR LR 00 56 59.3
comp=Z,766nm,20.6s,baz=234,slow=32
comp=Z,4.0nm,0.9s
STKA Stephens Creek 61.64 254 P **P 00 34 58.3 +0.6**
STKA pmax pmax
comp=Z,4.0nm,1.2s
HTT Hallett 62.00 251 P **P 00 35 02.0 +1.8**
comp=Z,24nm,1.4s
LPAZ La Paz 62.96 80 P **P 00 35 07.2 -0.3**
LPAZ IAmb IAmb 00 35 23.0
comp=Z,33nm,1.5s
LPAZ La Paz 62.96 80 P **P 00 35 06.5 -1.0**
comp=Z,1.7nm,0.7s,baz=203,slow=3.8,SNR=13
LPAZ LR LR 00 55 59.5
comp=Z,514nm,18.7s,baz=210,slow=30
comp=Z,1.7nm,0.7s
LPAZ La Paz 62.96 80 P **P 00 35 07.2 -0.3**
LPAZ pmax pmax
comp=Z,33nm,1.5s
LPAZ La Paz 62.96 80 *eP* **P 00 35 06.7 -0.8**
ITAB Concordia 63.97 101 *eP* **P 00 35 12.6 -0.7**
BBOO Buckleboo 64.06 249 P **P 00 35 14.4 +0.5**
BBOO Buckleboo 64.06 249 P **P 00 35 13.8 0.0**
comp=Z,33nm,1.5s
QLP Quilpie 64.08 260 P **P 00 35 13.0 -1.0**
comp=Z,75nm,1.5s
ATAH Atahualpa 64.59 65 LR LR 00 56 48.1
comp=Z,1µm,19.4s,baz=315,slow=30
TER01 Tubaro-SC 64.73 104 *eP* **P 00 35 18.3 0.0**
AMBA Amambai (Brazi 65.57 96 *eP* **P 00 35 23.0 -0.8**
PTGB Pitanga 65.92 99 *eP* **P 00 35 26.2 +0.1**
BDQN Bodoquena, MS 66.44 93 *eP* **P 00 35 28.4 -1.0**
BBSD Serra de San D 66.68 87 *eP* **P 00 35 30.1 -0.9**
AQDB Aquidauana 67.04 94 P **P 00 35 34.1 +0.9**
AQDB Aquidauana 67.04 94 *eP* **P 00 35 30.5 -2.7**
CTA Charters Tower 67.86 266 LR LR 01 00 19.4
comp=Z,844nm,20.7s,baz=117,slow=32
CTAO Charters Tower 67.86 266 P **P 00 35 38.4 0.0**
CTAO Charters Tower 67.86 266 P **P 00 35 38.4 0.0**
CTAO pmax pmax
comp=Z,69nm,1.5s
FRTB Fartura 68.44 100 *eP* **P 00 35 42.1 +0.1**
PTLB Pontes e Lacer 68.92 87 P **P 00 35 44.7 -0.4**
PTLB Pontes e Lacer 68.92 87 *eP* **P 00 35 44.2 -0.8**
ETMB Extrema 69.23 78 P **P 00 35 46.8 -0.2**
ETMB Extrema 69.23 78 *eP* **P 00 35 46.4 -0.7**
FORT Forrest 69.99 245 P **P 00 35 50.7 -0.8**
FORT Forrest 69.99 245 P **P 00 35 52.8 +1.3**
comp=Z,47nm,0.8s
VAO Valinhos 70.21 102 *eP* **P 00 35 53.6 +0.5**
VILB Vilhena 70.25 85 P **P 00 35 54.3 +1.0**
VILB IAmb IAmb 00 36 15.3
comp=Z,53nm,1.5s
VILB Vilhena 70.25 85 *eP* **P 00 35 54.9 +1.5**
SALV Santo Antonio 70.60 90 *eP* **P 00 35 55.8 +0.4**
PARB Paraibuna 70.72 103 *eP* **P 00 35 55.0 -1.2**
OTAV Otavalo 70.77 61 P **P 00 35 56.3 -0.7**
OTAV IAmb IAmb 00 35 59.8
comp=Z,30nm,1.5s
OTAV Otavalo 70.77 61 P **P 00 35 56.3 -0.7**
OTAV pmax pmax
comp=Z,30nm,1.5s
OTAV Otavalo 70.77 61 *eP* **P 00 35 59.4 +2.4**
ITRB Iturama 70.78 97 *eP* **P 00 35 57.1 +0.6**
QIS Mount Isa 71.41 261 P **P 00 36 01.6 +1.3**
comp=Z,19nm,1.5s
SAML Samuel 71.69 80 P **P 00 36 01.5 -0.5**
SAML IAmb IAmb 00 36 19.0
comp=Z,29nm,1.4s
SAML Samuel 71.69 80 P **P 00 36 01.5 -0.5**
SAML pmax pmax
comp=Z,29nm,1.5s
SAML Samuel 71.69 80 *eP* **P 00 36 00.2 -1.8**
MAN01 Angra dos Reis 72.05 104 *eP* **P 00 36 04.5 +0.3**
AS31 Alice Springs 72.28 254 P **P 00 36 04.5 -1.1**
ASAR Alice Springs 72.28 254 P **P 00 36 03.9 -1.7**
ASAR Alice Springs 72.28 254 P **P 00 36 02.7 -2.9**
comp=Z,14nm,1.1s,baz=139,slow=6.4,SNR=25
ASAR LR LR 01 04 41.6
comp=Z,925nm,18.4s,baz=157,slow=33
comp=Z,14nm,1.1s
ASAR Alice Springs 72.28 254 P **P 00 36 03.9 -1.7**
KMBL Kambalda 72.78 240 P **P 00 36 09.9 +1.5**
comp=Z,58nm,1.8s
VAS01 Vassouras-RJ 72.80 104 *eP* **P 00 36 08.4 -0.2**
BSCB Bom Sucesso 73.04 102 *eP* **P 00 36 10.0 -0.1**
ARAG Araguaiana, MT 73.05 93 *eP* **P 00 36 08.9 -1.3**
PDRB Porto dos Gac 73.37 87 *eP* **P 00 36 11.4 -0.6**
IPMB Ipameri, GO 73.39 98 *eP* **P 00 36 12.6 +0.3**
H01W1 Cape Leeuwin H 73.75 233 T T 01 57 45.3
baz=144,slow=76,SNR=156
H01W2 Cape Leeuwin H 73.76 233 T T 01 57 45.7
baz=144,slow=76,SNR=140
H01W3 Cape Leeuwin H 73.77 233 T T 01 57 46.6
baz=144,slow=76,SNR=167
NWAO Narrogin (SRO) 73.87 236 LR LR 01 01 22.1
comp=Z,855nm,19.1s,baz=50,slow=30
PMNB Patos De Minas 73.99 99 *eP* **P 00 36 16.0 +0.1**
CAM01 Campos-RJ 74.18 105 *eP* **P 00 36 16.8 +0.1**
WRKA Warakurna 74.36 249 P **P 00 36 18.5 +0.7**
comp=Z,47nm,1.3s
COEN Coen 74.47 268 P **P 00 36 18.4 -0.1**
COEN Coen 74.47 268 P **P 00 36 20.5 +2.0**
comp=Z,17nm,1.8s
KLBR Kellerberrin 74.69 237 P **P 00 36 22.3 +2.7**
comp=Z,35nm,1.3s
WR0 Warramunga Arr 74.82 257 P **P 00 36 21.1 +0.6**
WR0 IAmb IAmb 00 36 24.3
comp=Z,34nm,1.4s
WB2 Warramunga Arr 74.94 257 P **P 00 36 20.3 -0.9**
WRA Warramunga Arr 74.95 257 P **P 00 36 19.7 -1.6**
WRA Warramunga Arr 74.95 257 P **P 00 36 18.0 -3.3**
comp=Z,4.5nm,0.8s,baz=143,slow=5.1,SNR=23
WRA LR LR 01 06 32.6
comp=Z,1µm,18.9s,baz=151,slow=34
comp=Z,4.5nm,0.8s
WRA Warramunga Arr 74.95 257 P **P 00 36 19.7 -1.6**
WRA pmax pmax
comp=Z,2.0nm,1.5s
WRAB Tennant Creek 74.95 257 P **P 00 36 22.1 +0.9**
WRAB IAmb IAmb 00 36 24.9
comp=Z,31nm,1.4s
WRAB Tennant Creek 74.95 257 P **P 00 36 22.1 +0.9**
WRAB pmax pmax
comp=Z,31nm,1.4s
WB0 Warramunga Arr 75.05 257 P **P 00 36 21.1 -0.7**
WB0 IAmb IAmb 00 36 25.5
comp=Z,35nm,1.4s
MUN Mundaring 75.14 236 P **P 00 36 22.2 0.0**
comp=Z,47nm,2.2s
BDFB Brasilia 75.34 96 P **P 00 36 22.8 -0.9**
BDFB Brasilia 75.34 96 P **P 00 36 22.0 -1.7**
comp=Z,1.9nm,0.4s,baz=269,slow=9.1,SNR=5.0
comp=Z,1.9nm,0.4s
BDFB Brasilia 75.34 96 P **P 00 36 22.8 -0.9**
BDFB pmax pmax
comp=Z,14nm,1.0s
PMG Port Moresby 75.72 274 LR LR 01 05 31.8
comp=Z,538nm,19.0s,baz=163,slow=32
DIAM Diamantina, MG 75.79 101 *eP* **P 00 36 26.6 +0.3**
JTS Las Juntas de 76.29 50 P **P 00 36 29.4 +0.5**
JTS IAmb IAmb 00 36 32.9
comp=Z,32nm,1.4s
JTS Las Juntas de 76.29 50 P **P 00 36 29.4 +0.5**
JTS pmax pmax
comp=Z,32nm,1.5s
SNDB Serra Nova Dou 76.30 92 *eP* **P 00 36 28.9 -0.2**
TRIS Tristan da Cun 76.55 136 P **P 00 36 29.3 -0.8**
ROSC El Rosal 76.82 62 P **P 00 36 32.1 -0.2**
ROSC El Rosal 76.82 62 P **P 00 36 32.9 +0.6**
comp=Z,14nm,0.8s,baz=128,slow=4.2,SNR=13
comp=Z,14nm,0.8s
RIB01 Linhares ES 76.88 105 *eP* **P 00 36 32.2 0.0**
SJMB Sao Joao De Ma 76.91 104 *eP* **P 00 36 31.5 -0.9**
KRVT Keravat (AS076 76.94 281 LR LR 01 05 46.5
comp=Z,509nm,19.9s,baz=192,slow=32
TLIG Tlapa 77.45 35 P **P 00 36 36.2 +0.8**
TLIG IAmb IAmb 00 36 41.5
comp=Z,28nm,1.2s
CRIN San Cristobal 77.49 47 P **P 00 36 34.9 -0.7**
MORW Morawa 77.60 238 P **P 00 36 37.3 +1.1**
MORW IAmb IAmb 00 36 40.6
comp=Z,54nm,1.3s
MORW Morawa 77.60 238 P **P 00 36 38.1 +1.9**
comp=Z,35nm,1.4s
ACON Acoyapa 77.67 49 P **P 00 36 36.9 +0.3**
MACA Manacapuru-AM 77.81 79 IAmb IAmb 00 36 50.9
comp=Z,41nm,1.1s
NPGB Novo Progresso 77.81 85 *eP* **P 00 36 36.8 -0.8**
JANB Januaria 77.98 99 *eP* **P 00 36 37.6 -0.9**
MTO3 Montecristo 78.03 44 P **P 00 36 39.8 +1.0**
GUA01 Guaratinga, BA 79.39 103 *eP* **P 00 36 46.7 +0.5**
ITTB Itaituba 79.73 83 *eP* **P 00 36 49.0 +0.9**
LPIG La Paz 80.36 22 LR LR 01 03 34.8
comp=Z,934nm,20.8s,baz=320,slow=29
CMC01 Camacan, BA 80.52 103 *eP* **P 00 36 51.8 -0.6**
SMTB Santa Maria do 80.96 93 *eP* **P 00 36 54.5 -0.3**
ZAIG Zacatecas 81.07 29 P **P 00 36 56.1 +0.8**
FITZ Fitzroy Crossi 81.37 251 P **P 00 36 57.0 +0.1**
FITZ Fitzroy Crossi 81.37 251 LR LR 01 09 59.7
comp=Z,934nm,18.0s,baz=156,slow=34
SDV Santo Domingo 82.17 63 P **P 00 37 00.3 -1.0**
SDV IAmb IAmb 00 37 03.3
comp=Z,24nm,1.4s
BOAV Boa Vista 82.41 75 IAmb IAmb 00 37 19.5
comp=Z,51nm,1.4s
MTN Manton Dam 82.43 259 P **P 00 37 03.6 +1.2**
MTN IAmb IAmb 00 37 18.6
comp=Z,26nm,1.1s
SRIG Santa Rosalia 83.06 20 P **P 00 37 07.1 +1.9**
TEIG Tepich 83.71 43 P **P 00 37 10.0 +1.2**
HPIG 84.19 25 P **P 00 37 11.5 +0.2**
HPIG IAmb IAmb 00 37 16.7
comp=Z,34nm,1.3s
HSIG 84.97 20 P **P 00 37 15.6 +0.6**
HSIG IAmb IAmb 00 37 20.5
comp=Z,25nm,1.3s
NBLA Lagarto - SE 85.02 102 *eP* **P 00 37 16.6 +0.9**
JAY Jayapura 85.03 273 LR LR 01 14 52.4
comp=Z,272nm,18.2s,baz=348,slow=36
HBVL Hebbronville 86.28 31 P **P 00 37 22.6 +1.1**
VTX Valle De La Tr 86.39 16 P **P 00 37 22.5 +0.4**
VTX IAmb IAmb 00 37 27.7
comp=Z,22nm,1.2s
ESJX Sierra Juarez 86.97 16 P **P 00 37 25.5 +0.4**
ESJX IAmb IAmb 00 37 30.9
comp=Z,40nm,1.4s
TXAR Lajitas Array 86.99 26 P **P 00 37 24.4 -0.7**
TXAR Lajitas Array 86.99 26 P **P 00 37 23.5 -1.6**
comp=Z,1.8nm,0.9s,baz=191,slow=7.4,SNR=10
comp=Z,1.8nm,0.9s
TXAR Lajitas Array 86.99 26 P **P 00 37 24.4 -0.7**
CBX Cerro Bola 87.16 15 P **P 00 37 26.4 +0.5**
CBX IAmb IAmb 00 37 31.4
comp=Z,36nm,1.4s
833A Chaparral WMA, 87.24 30 P **P 00 37 27.3 +1.1**
CPBX Cerro Prieto 87.48 16 P **P 00 37 29.0 +1.8**
YUH Yuha Desert 87.60 15 P **P 00 37 28.3 +0.4**
YUH IAmb IAmb 00 37 42.2
comp=Z,19nm,1.3s
H11S2 WAKE ISLAND Hy 87.97 306 T T 02 14 48.5
baz=148,slow=76,SNR=73
H11S3 WAKE ISLAND Hy 87.98 305 T T 02 14 50.4
baz=148,slow=76,SNR=44
ALPN Alpine 87.98 26 P **P 00 37 30.1 +0.2**
H11S1 WAKE ISLAND Hy 87.98 306 T T 02 14 52.8
baz=148,slow=76,SNR=51
VHRN Van Horn 88.03 25 IAmb IAmb 00 37 35.3
comp=Z,33nm,1.4s
SOR Soroa 88.18 46 P **P 00 37 31.4 +0.5**
SOR IAmb IAmb 00 37 35.7
comp=Z,36nm,1.5s
SOR Soroa 88.18 46 P **P 00 37 31.4 +0.5**
SOR pmax pmax
comp=Z,36nm,1.5s
TUC Tucson 88.19 20 P **P 00 37 30.7 -0.1**
TUC Tucson 88.19 20 P **P 00 37 30.7 -0.1**
TUC pmax pmax
comp=Z,47nm,1.4s
735A Kenedy 88.22 31 P **P 00 37 31.1 +0.2**
ELS Elsinore Mount 88.36 14 IAmb IAmb 00 37 37.0
comp=Z,32nm,1.4s
HNDO Hondo 88.40 30 P **P 00 37 32.2 +0.5**
PFO Pinyon Flats O 88.47 15 P **P 00 37 32.4 +0.3**
PFO IAmb IAmb 00 37 42.3
comp=Z,33nm,1.5s
PFO Pinyon Flats O 88.47 15 LR LR 01 07 51.1
comp=Z,953nm,19.3s,baz=340,slow=29
PFO Pinyon Flats O 88.47 15 P **P 00 37 32.4 +0.3**
PFO pmax pmax
comp=Z,33nm,1.5s
EPT El Paso 88.61 23 P **P 00 37 32.9 +0.1**
PASC Pasadena Art C 88.77 13 P **P 00 37 33.4 +0.1**
PASC IAmb IAmb 00 37 39.0
comp=Z,25nm,1.2s
BATI Baumata 88.85 254 LR LR 01 16 25.0
comp=Z,1µm,18.0s,baz=180,slow=35
PECS Pecos 88.87 26 IAmb IAmb 00 37 47.8
comp=Z,29nm,1.4s
H11N3 WAKE ISLAND Hy 88.92 306 T T 02 16 01.2
baz=148,slow=76,SNR=17
H11N1 WAKE ISLAND Hy 88.93 306 T T 02 16 01.4
baz=148,slow=76,SNR=8.8
H11N2 WAKE ISLAND Hy 88.94 306 T T 02 15 56.9
baz=148,slow=76,SNR=15
MNHN Monahans 89.13 27 P **P 00 37 34.9 -0.4**
MNHN IAmb IAmb 00 37 40.3
comp=Z,27nm,1.2s
OZNA Ozona 89.18 28 P **P 00 37 35.9 +0.4**
OZNA IAmb IAmb 00 37 40.9
comp=Z,20nm,1.1s
MLDN Muldoon 89.31 32 P **P 00 37 38.0 +2.0**
BCW Bitter Crk WRg 89.36 12 P **P 00 37 37.4 +1.2**
CCAC Calif City Air 89.75 13 P **P 00 37 38.7 +0.7**
CCAC IAmb IAmb 00 37 43.0
comp=Z,16nm,0.9s
HKT Hockley 89.86 33 P **P 00 37 40.9 +2.4**
HKT IAmb IAmb 00 37 44.5
comp=Z,27nm,1.3s
HKT Hockley 89.86 33 P **P 00 37 40.9 +2.4**
HKT pmax pmax
comp=Z,27nm,1.3s
GSC Goldstone, Bar 90.07 14 IAmb IAmb 00 37 45.3
comp=Z,15nm,1.1s
435B Jarrell 90.08 31 P **P 00 37 40.0 +0.4**
435B IAmb IAmb 00 37 46.1
comp=Z,38nm,1.3s
X16A Lo Mia Camp, P 90.11 19 P **P 00 37 40.4 +0.5**
SGCY Sterling City 90.12 28 P **P 00 37 39.5 -0.4**
SGCY IAmb IAmb 00 37 50.5
comp=Z,22nm,1.2s
BRDY Brady 90.13 30 P **P 00 37 40.1 +0.2**
BRDY IAmb IAmb 00 37 44.7
comp=Z,16nm,1.2s
W13A Hualapai Mount 90.33 17 IAmb IAmb 00 37 46.8
comp=Z,19nm,1.4s
X18A Snowflake 90.51 20 IAmb IAmb 00 37 47.5
comp=Z,29nm,1.3s
V12A Nelson 90.79 16 IAmb IAmb 00 37 48.6
comp=Z,27nm,1.4s
SAO San Andreas Ge 90.93 10 P **P 00 37 43.4 0.0**
SAO IAmb IAmb 00 37 58.7
comp=Z,18nm,1.1s
SAO San Andreas Ge 90.93 10 P **P 00 37 43.4 0.0**
SAO pmax pmax

comp=Z,18nm,1.1s
GWY Greenwater Val 90.96 14 IAmb IAmb 00 37 58.8
comp=Z,16nm,1.3s
SN05 Snyder 5 91.09 28 IAmb IAmb 00 37 58.0
comp=Z,16nm,1.1s
WUAZ Wupatki 91.19 19 IAmb IAmb 00 37 50.4
comp=Z,29nm,1.4s
WHTX Lake Whitney, 91.25 31 P **P 00 37 46.9 +1.9**
WCT Wildcat Mounta 91.56 14 IAmb IAmb 00 37 52.5
comp=Z,16nm,1.3s
FW13 Cleburne 91.59 31 P **P 00 37 46.7 +0.1**
FW13 IAmb IAmb 00 37 53.8
comp=Z,9.9nm,0.7s
MSTX Muleshoe 91.62 26 P **P 00 37 48.4 +1.5**
MSTX IAmb IAmb 00 37 51.8
comp=Z,21nm,1.3s
GRAC Grapevine Rang 91.66 13 IAmb IAmb 00 38 05.7
comp=Z,22nm,1.4s
ANMO Albuquerque 91.66 23 P **P 00 37 46.1 -1.0**
ANMO IAmb IAmb 00 37 52.1
comp=Z,19nm,1.2s
ANMO Albuquerque 91.66 23 P **P 00 37 46.1 -1.0**
ANMO pmax pmax
comp=Z,19nm,1.2s
PLPT Palo Pinto 91.76 30 IAmb IAmb 00 37 49.6
comp=Z,19nm,1.4s
TPNV Topopah Spring 91.77 14 P **P 00 37 48.1 +0.7**
TPNV IAmb IAmb 00 38 14.4
comp=Z,17nm,1.4s
TPNV Topopah Spring 91.77 14 P **P 00 37 48.2 +0.7**
TPNV pmax pmax
comp=Z,17nm,1.4s
061Z Ochoppi 91.78 46 P **P 00 37 47.6 0.0**
FW07 Weatherford 91.81 30 P **P 00 37 47.9 +0.3**
FW07 IAmb IAmb 00 38 01.6
comp=Z,13nm,1.0s
DKNS Dickens 91.82 27 P **P 00 37 47.9 +0.2**
DKNS IAmb IAmb 00 37 53.3
comp=Z,16nm,1.5s
OBIP Obispado Ponce 91.94 62 P **P 00 37 49.7 +1.2**
OBIP IAmb IAmb 00 37 53.5
comp=Z,26nm,1.3s
DSP Deep Springs 91.94 13 IAmb IAmb 00 38 02.6
comp=Z,16nm,1.4s
GMN Gold Mountain 91.97 14 IAmb IAmb 00 37 54.1
comp=Z,13nm,1.4s
FW03 Perrin-Whitt E 92.05 30 P **P 00 37 49.4 +0.7**
FW03 IAmb IAmb 00 37 54.1
comp=Z,16nm,1.0s
OMMB Old Mammoth Mi 92.05 12 IAmb IAmb 00 38 11.9
comp=Z,19nm,1.5s
FW06 Azle 92.13 30 P **P 00 37 50.2 +1.1**
CMB Columbia Colle 92.30 11 P **P 00 37 50.4 +0.6**
CMB Columbia Colle 92.30 11 P **P 00 37 50.4 +0.6**
CMB pmax pmax
comp=Z,10.0nm,1.5s
LCMT Little Creek M 92.31 17 IAmb IAmb 00 38 05.0
comp=Z,12nm,1.2s
KNB Kanab 92.39 17 P **P 00 37 50.7 +0.3**
KNB IAmb IAmb 00 37 56.0
comp=Z,27nm,1.3s
KNB Kanab 92.39 17 P **P 00 37 50.7 +0.3**
KNB pmax pmax
comp=Z,27nm,1.3s
PRN Pahroc Range 92.40 15 P **P 00 37 51.5 +1.1**
PRN IAmb IAmb 00 37 57.5
comp=Z,16nm,1.5s
TPH Tonopah 92.74 13 P **P 00 37 52.4 +0.4**
TPH Tonopah 92.74 13 P **P 00 37 52.4 +0.4**
TPH pmax pmax
comp=Z,65nm,1.4s
LHV Little Huntoon 92.74 12 P **P 00 37 52.8 +1.1**
LHV IAmb IAmb 00 37 57.9
comp=Z,12nm,1.4s
AMTX Amarillo 92.77 26 P **P 00 37 52.7 +0.6**
AMTX IAmb IAmb 00 37 57.0
comp=Z,25nm,1.2s
TDBA Terre de Bas, 92.78 67 P **P 00 37 53.1 +0.6**
WAKR Walker 92.88 12 P **P 00 37 53.9 +1.2**
WAKR IAmb IAmb 00 38 08.1
comp=Z,16nm,1.5s
NVAR Mina Array Bea 92.94 13 P **P 00 37 53.5 +0.6**
NVAR Mina Array Bea 92.94 13 P **P 00 37 52.5 -0.5**
comp=Z,0.2nm,0.5s,baz=208,slow=8.4,SNR=5.5
NVAR LR LR 01 11 48.9
comp=Z,1μm,19.0s,baz=223,slow=30
comp=Z,0.2nm,0.5s
RYN Ryan 93.11 12 P **P 00 37 54.3 +0.6**
RYN IAmb IAmb 00 38 08.8
comp=Z,17nm,1.5s
LOOK Love County 93.20 30 P **P 00 37 53.6 -0.4**
LOOK IAmb IAmb 00 38 04.4
comp=Z,18nm,1.1s
MVCO Mesa Verde 93.39 20 IAmb IAmb 00 38 00.1
comp=Z,28nm,1.4s
MTPU Mount Pierson 93.50 17 IAmb IAmb 00 38 10.9
comp=Z,13nm,1.2s
HMU Henry Mountain 93.66 18 IAmb IAmb 00 38 01.9
comp=Z,21nm,1.2s
PSUT Pine Spring 93.69 16 IAmb IAmb 00 38 02.2
comp=Z,12nm,1.2s
VBMS Vicksburg 93.72 36 P **P 00 37 57.5 +1.1**
RTBA Rita Blanca 93.97 25 P **P 00 37 58.5 +0.9**
RTBA IAmb IAmb 00 38 01.9
comp=Z,22nm,1.5s
TCRU Three Creeks R 94.00 17 P **P 00 37 58.5 +0.6**
SPR3 Spring Creek 3 94.07 15 P **P 00 37 58.2 0.0**
KMRM Mail Ridge 94.14 8 P **P 00 37 58.1 -0.2**
KMRM IAmb IAmb 00 38 21.6
comp=Z,20nm,1.4s
T25A Trinidad 94.23 24 P **P 00 37 57.6 -1.3**
T25A IAmb IAmb 00 38 04.2
comp=Z,30nm,1.5s
S22A 4UR Ranch, Cre 94.26 21 P **P 00 37 59.2 0.0**
CSTR Hydro, Custer 94.30 28 P **P 00 37 59.5 +0.4**
FNO Franklin 94.31 30 P **P 00 37 59.6 +0.6**
FNO IAmb IAmb 00 38 13.3
comp=Z,12nm,0.7s
Q16A Castle Valley 94.53 18 IAmb IAmb 00 38 15.9
comp=Z,23nm,1.4s
SRU San Rafael Swe 94.83 18 P **P 00 38 01.8 +0.2**
SRU IAmb IAmb 00 38 06.9
comp=Z,16nm,1.3s
SRU San Rafael Swe 94.83 18 P **P 00 38 01.8 +0.2**
SRU pmax pmax
comp=Z,16nm,1.3s
DUG Dugway, Tooele 95.48 16 P **P 00 38 05.0 +0.5**
DUG IAmb IAmb 00 38 09.8
comp=Z,10nm,1.2s
DUG Dugway, Tooele 95.48 16 P **P 00 38 05.0 +0.5**
DUG pmax pmax
comp=Z,10.0nm,1.3s
OK048 Pawnee Station 95.52 29 P **P 00 38 05.2 +0.6**
OK048 IAmb IAmb 00 38 10.6
comp=Z,13nm,0.7s
GUMO Guam 95.54 285 LR LR 01 12 37.8
comp=Z,117nm,21.4s,baz=99,slow=30
Y45A Yeager Farm, C 95.55 36 P **P 00 38 05.9 +1.1**
TNTI Ternate 95.56 264 P **P 00 38 05.8 +0.4**
JAGI Jajag, Banyuwa 95.60 248 P **P 00 38 06.2 +0.6**
YBH Yreka Blue Hor 95.73 9 LR LR 01 13 11.5
comp=Z,1μm,18.4s,baz=268,slow=30
BOSA Boshof 95.98 162 LR LR 01 17 18.9
comp=Z,986nm,19.8s,baz=194,slow=33
RDMU Red Mountain 96.43 19 P **P 00 38 09.4 +0.5**
KSCO Kaye Shedlock' 96.44 24 P **P 00 38 09.2 +0.4**
KSCO IAmb IAmb 00 38 24.2
comp=Z,18nm,1.3s
PDAR Pinedale Array 98.56 18 P **P 00 38 16.8 -1.7**
comp=Z,0.3nm,0.6s,baz=182,slow=6.2,SNR=3.8
PDAR LR LR 01 13 28.7
comp=Z,578nm,21.7s,baz=299,slow=30
comp=Z,0.3nm,0.6s
ILAR Eielson Array 118.69 354 PKP **PKPdf 00 43 24.4 -2.3**
comp=Z,0.9nm,0.8s,baz=221,slow=1.2,SNR=8.2
KSRS Korea Array 123.49 289 PKP **PKPdf 00 43 36.6 -0.1**
comp=Z,0.4nm,0.3s,baz=106,slow=2.7,SNR=2.1
KSAR Wonju Array Be 123.50 289 **PKiKP 00 43 37.6 +0.6**
KSAR Wonju Array Be 123.50 289 PKIKP **PKiKP 00 43 37.6 +0.6**
NJ2 Nanjing 124.85 278 *eP* **PKiKP 00 43 41.5 +1.6**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
CMAR Chiang Mai Arr 126.17 250 PKPdf **PKiKP 00 43 43.5 +0.6**
CMAR Chiang Mai Arr 126.17 250 PKP **PKPdf 00 43 40.8 -1.7**
comp=Z,0.7nm,0.3s,baz=194,slow=2.6,SNR=7.8
CMAR Chiang Mai Arr 126.17 250 PKIKP **PKiKP 00 43 43.5 +0.6**
TORD Torodi Ar. Bea 126.66 122 PKPdf **PKPdf 00 43 42.4 -1.2**
TORD Torodi Ar. Bea 126.66 122 PKP **PKPdf 00 43 41.7 -1.8**
comp=Z,1.3nm,1.0s,baz=162,slow=2.3,SNR=7.0
PZH PanZhiHua 130.86 259 PKP **PKiKP 00 43 52.5 +0.2**
HNS HongShan 131.03 280 *e*PKP **PKiKP 00 43 55.5 +3.4**
CD2 Chengdu 132.95 265 PKP **PKPdf 00 43 55.5 +0.4**
HHC Hu-ho-hao-te 135.14 281 *eP* **PKPdf 00 43 55.8 -3.2**
BTO Baotou 135.88 280 *e*PKP **PKPdf 00 43 58.0 -2.3**
BTO sPKP 00 44 11.8
BTO PP **PP 00 46 40.3 +0.5**
BTO Baotou 135.88 280 SS SS 01 04 41.5 +2.7
BTO Baotou 135.88 280 LR LR
comp=N,280nm,9.6s
BTO Baotou 135.88 280 LR LR
comp=Z,300nm,4.7s
BTO Baotou 135.88 280 LR LR
comp=E,360nm,10.5s
BTO Baotou 135.88 280 pmax pmax
comp=Z,15nm,0.8s
TAM Tamanrasset 136.71 120 **PKPdf 00 44 02.9 +0.4**
TAM Tamanrasset 136.71 120 PKIKP **PKPdf 00 44 02.9 +0.4**
ICESG Greenland Ices 140.27 34 *i P* **PKPdf 00 44 06.2 -1.6**
GTA Gaotai 141.13 271 *eP* **PKiKP 00 44 11.5 -1.3**
GTA pP sPKPdf 00 44 17.8 +4.4
GTA pmax pmax
comp=Z,4.0nm,1.5s
SONM Songino Array 142.26 286 PKP **PKPdf 00 44 07.5 -4.3**
comp=Z,1.9nm,1.0s,baz=157,slow=3.5,SNR=6.5
ESDC Sonseca Array 143.91 92 PKPdf **PKPdf 00 44 14.7 -0.2**
ESDC Sonseca Array 143.91 92 PKP PKPbc 00 44 13.5 +0.8
comp=Z,1.6nm,1.0s,baz=206,slow=2.3,SNR=3.7
SCO Scoresbysund 146.55 34 PKPdf **PKPdf 00 44 18.5 +0.2**
SCO Scoresbysund 146.55 34 PKP2 **PKPdf 00 44 18.5 +0.2**
SCO Scoresbysund 146.55 34 *i P* **PKPdf 00 44 17.8 -0.5**
NOR Nord 146.85 14 *i P* **PKPdf 00 44 17.8 -0.8**
MOY Mondy 147.19 289 *e*PKP2 **PKPbc 00 44 21.8 -0.7**
MOY pmax pmax
comp=Z,51nm,1.5s
DAG Danmarks Havn 147.46 23 *i* P **PKPdf 00 44 19.5 -0.2**
WMQ Urumqi 151.00 267 *e*PKPbc **PKPbc 00 44 30.0 -2.3**
EKA Eskdalemuir Ar 152.10 67 PKPbc **PKPbc 00 44 32.9 -1.4**
comp=Z,3.2nm,0.8s,baz=241,slow=2.9,SNR=6.0
NRIK Noril'sk 155.48 325 **PKPab 00 44 59.1 +1.1**
NRIK Noril'sk 155.48 325 PKP2 **PKPab 00 44 59.1 +1.1**
MKAR Makanchi Array 155.82 268 PKP **PKPdf 00 44 32.2 -1.1**
comp=Z,0.9nm,1.0s,baz=90,slow=6.1,SNR=4.1
MKAR PKPab **PKPab 00 44 59.8 -0.4**
comp=Z,7.5nm,0.9s,baz=250,slow=7.2,SNR=7.6
ZAA0 Zalesovo Array 157.16 286 PKPdif PKPdf 00 44 46.6 +12
ZALV Zalesovo Beam 157.16 286 PKP **PKPdf 00 44 33.4 -1.3**
comp=Z,0.3nm,0.5s,baz=166,slow=0.6,SNR=3.6
ZALV PKPab **PKPab 00 45 04.1 -1.5**
comp=Z,4.7nm,1.0s,baz=115,slow=2.1,SNR=8.3
CLL Collm 160.05 84 *i* PKPab **PKPab 00 45 20.7 +2.4**
comp=Z,11nm,1.2s
CLL AMS AMS 02 04 00.0
comp=Z,400nm,19.3s
NOA NORSAR Array B 160.28 55 PKP **PKPdf 00 44 36.6 -1.7**
comp=Z,1.1nm,1.1s,baz=297,slow=1.2,SNR=2.2
MAK Makhachkala 169.03 187 *e*PKIKP **PKPdf 00 44 45.6 -0.8**
MAK *e* 00 49 42.5
MAK *e* 00 51 45.1
MAK *e*SS SS 01 10 40.5 -0.4

*IDC **26** 00:26:50.1±1.5, 37.°73N×19.°90E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=46.4km s-min=27.6km az=120.0*
*THE **26** 00:26:50.9, 37.°56N×20.°43E, h0km±2km, ML3.4/15, Error ellipse: s-maj=2.5km s-min=0.5km az=232.0*
*ATH **26** 00:26:50.9, 37.°58N×20.°43E, h10km±1km, ML3.3/18, Error ellipse: s-maj=1.8km s-min=0.8km az=47.0*
ISC 26 00:26:51.0±1.2, 37.°58N±0.°03×20.°45E±0.°04, h13km±7km, n58, σ1=02/93, mb3.8/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.31**	**75**	P	**Pg**	**00 26 57.3**	**+0.1**
KRI1				S	**Sg**	**00 27 01.4**	**-0.1**
13μm,0.5s							
LTHK	**Lithakia**	**0.34**	**68**	P	**Pg**	**00 26 57.7**	**-0.1**
LTHK				S	**Sg**	**00 27 02.7**	**+0.4**
16μm,0.2s							
LTHK	**Lithakia**	**0.34**	**68**	P	**Pg**	**00 26 57.7**	**-0.1**
LTHK				S	**Sg**	**00 27 02.1**	**-0.2**
LTHK				AML	AML	00 27 04.1	
comp=E,36227μm,0.2s							
LTHK				AML	AML	00 27 04.3	
comp=N,23786μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.54**	**12**	P	**Pg**	**00 27 01.7**	**+0.1**
PSDA				S	**Sb**	**00 27 09.6**	**-0.4**
comp=N,8μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.54**	**12**	P	**Pg**	**00 27 01.6**	**0.0**
PSDA				S	**Sb**	**00 27 09.7**	**-0.3**
RTZL	**Ratzakli, Kefa**	**0.56**	**28**	P	**Pg**	**00 27 01.8**	**-0.1**
RTZL				S	**Sb**	**00 27 10.2**	**-0.3**
VLS	**Valsamata**	**0.60**	**11**	P	**Pg**	**00 27 02.6**	**-0.2**
VLS				S	**Sb**	**00 27 11.2**	**-0.7**
comp=N,6μm,0.3s							
VLS	**Valsamata**	**0.60**	**11**	P	**Pg**	**00 27 02.6**	**-0.2**
VLS				S	**Sg**	**00 27 10.8**	**0.0**
VLS				AML	AML	00 27 12.1	
comp=E,16312μm,0.3s							
VLS				AML	AML	00 27 12.4	
comp=N,8652μm,0.4s							
LXR1	**Lixouri, Cepha**	**0.62**	**360**	P	**Pb**	**00 27 03.3**	**-0.3**
LXR1				S	**Sb**	**00 27 12.5**	**+0.3**
comp=N,17μm,0.4s							
DMLN	**Damoulianata-K**	**0.66**	**355**	P	**Pg**	**00 27 04.0**	**+0.2**
DMLN				S	**Sn**	**00 27 14.3**	**-2.0**
comp=N,6μm,0.4s							
DMLN	**Damoulianata-K**	**0.66**	**355**	P	**Pb**	**00 27 03.1**	**-1.2**
DMLN				S	**Sb**	**00 27 13.5**	**+0.1**
SMHA	**Samh**	**0.69**	**13**	P	**Pb**	**00 27 03.4**	**-1.4**
SMHA				S	**Sb**	**00 27 13.4**	**-0.8**
FSK	**Fiskardo**	**0.88**	**6**	P	**Pb**	**00 27 07.6**	**-0.5**
FSK				S	**Sn**	**00 27 20.9**	**-0.8**
comp=N,3μm,0.4s							
FSK	**Fiskardo**	**0.88**	**6**	P	**Pb**	**00 27 07.4**	**-0.8**
FSK				S	**Sg**	**00 27 19.7**	**+0.2**
FSK				AML	AML	00 27 21.9	
comp=E,5830μm,0.2s							
FSK				AML	AML	00 27 25.4	
comp=N,4124μm,0.6s							
RLS	**Riolos of Patr**	**0.94**	**59**	P	**Pb**	**00 27 08.7**	**-0.4**
RLS				S	**Sn**	**00 27 22.8**	**-0.4**
comp=N,1μm,0.3s							
RLS	**Riolos of Patr**	**0.94**	**59**	P	**Pb**	**00 27 08.6**	**-0.5**
RLS				S	**Sn**	**00 27 22.6**	**-0.5**
RLS				AML	AML	00 27 23.6	
comp=N,3232μm,0.4s							
RLS				AML	AML	00 27 25.8	
comp=E,2474μm,0.3s							
AMT	**Artemida-Makis**	**1.01**	**92**	P	**Pg**	**00 27 10.1**	**-0.2**
AMT				S	**Sn**	**00 27 23.6**	**-1.2**
AMT				AML	AML	00 27 28.1	
comp=E,11379μm,0.4s							
AMT				AML	AML	00 27 30.6	
comp=N,13787μm,0.4s							
EVGI	**Lefkada island**	**1.05**	**9**	P	**Pn**	**00 27 10.6**	**-0.8**
EVGI				S	**Sg**	**00 27 27.0**	**+2.1**
comp=N,3μm,0.4s							
EVGI	**Lefkada island**	**1.05**	**9**	P	**Pn**	**00 27 10.6**	**-0.8**
EVGI				S	**Sn**	**00 27 24.9**	**-1.1**
DRO	**Drossia**	**1.07**	**69**	P	**Pn**	**00 27 11.0**	**-0.7**
DRO				S	**Sg**	**00 27 27.7**	**+2.2**
comp=N,2μm,0.4s							
DRO	**Drossia**	**1.07**	**69**	P	**Pb**	**00 27 10.6**	**-0.7**
DRO				S	**Sg**	**00 27 26.5**	**+1.0**
DRO				AML	AML	00 27 29.6	
comp=E,4484μm,0.5s							
DRO				AML	AML	00 27 36.7	
comp=N,3484μm,0.4s							
AST1	**Astakos**	**1.08**	**28**	P	**Pg**	**00 27 11.6**	**-0.3**
AST1				S	**Sg**	**00 27 28.1**	**+2.1**
comp=N,2μm,0.7s							
DRAG	**Dragano-Lefkad**	**1.10**	**5**	P	**Pb**	**00 27 11.6**	**-0.3**
DRAG				S	**Sg**	**00 27 28.7**	**+2.1**
DRAG	**Dragano-Lefkad**	**1.10**	**5**	P	**Pn**	**00 27 11.4**	**-0.8**
DRAG				S	**Sb**	**00 27 25.8**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.15**	**10**	P	**Pb**	**00 27 12.1**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.15**	**10**	P	**Pb**	**00 27 12.1**	**-0.6**
NYDR				S	**Sg**	**00 27 27.7**	**-0.2**
PYL	**PYLOS**	**1.24**	**123**	P	**Pg**	**00 27 14.2**	**-0.7**
PYL				S	**Sg**	**00 27 33.0**	**+2.0**
comp=N,760nm,0.4s							
PYL	**PYLOS**	**1.24**	**123**	P	**Pg**	**00 27 14.2**	**-0.7**
PYL				S	**Sg**	**00 27 30.9**	**-0.1**
PYL				AML	AML	00 27 34.3	
comp=N,1325μm,0.4s							
PYL				AML	AML	00 27 34.5	
comp=E,1710μm,0.5s							
ITM	**Ithomi**	**1.25**	**108**	P	**Pg**	**00 27 14.7**	**-0.2**
ITM				S	**Sg**	**00 27 33.6**	**+2.4**
comp=E,620nm,0.8s							
ITM	**Ithomi**	**1.25**	**108**	P	**Pg**	**00 27 14.5**	**-0.4**
ITM				S	**Sg**	**00 27 31.1**	**0.0**
ITM				AML	AML	00 27 41.6	
comp=E,1137μm,0.5s							
ITM				AML	AML	00 27 44.1	
comp=N,1310μm,0.4s							
TSLK	**Tsoukalades, L**	**1.25**	**8**	P	**Pb**	**00 27 14.2**	**-0.2**
TSLK				S	**Sg**	**00 27 33.6**	**+2.3**
comp=N,2μm,0.7s							
TSLK	**Tsoukalades, L**	**1.25**	**8**	P	**Pb**	**00 27 14.1**	**-0.4**
TSLK				AML	AML	00 27 39.5	
comp=E,3069μm,0.7s							
TSLK				AML	AML	00 27 41.8	
comp=N,3780μm,0.7s							
UPR	**University Cam**	**1.27**	**56**	P	**Pg**	**00 27 15.1**	**-0.3**
UPR				S	**Sg**	**00 27 31.5**	**-0.4**
KLV	**Kalavryta, Ach**	**1.43**	**71**	P	**Pb**	**00 27 17.1**	**-0.4**
KLV	**Kalavryta, Ach**	**1.43**	**71**	P	**Pb**	**00 27 16.8**	**-0.7**
KLV				S	**Sg**	**00 27 37.0**	**0.0**
KLV				AML	AML	00 27 51.1	
comp=N,725μm,0.7s							
KLV				AML	AML	00 27 55.7	
comp=E,659μm,1.2s							
EFP	**Efpalio**	**1.43**	**53**	P	**Pb**	**00 27 16.9**	**-0.6**
EFP				S	**Sg**	**00 27 38.2**	**+1.2**
comp=E,742nm,0.5s							
EFP	**Efpalio**	**1.43**	**53**	P	**Pb**	**00 27 16.8**	**-0.7**
EFP				S	**Sg**	**00 27 36.2**	**-0.8**
EFP				AML	AML	00 27 44.0	
comp=N,1545μm,0.8s							
EFP				AML	AML	00 27 48.5	
comp=E,1326μm,0.6s							
ANX	**Ano Chora**	**1.54**	**49**	P	**Pb**	**00 27 19.1**	**-0.3**
ANX	**Ano Chora**	**1.54**	**49**	P	**Pb**	**00 27 18.9**	**-0.5**
ANX				AML	AML	00 27 50.1	
comp=E,2158μm,0.5s							
ANX				AML	AML	00 27 53.2	
comp=N,2130μm,0.6s							
GUR	**Goura**	**1.54**	**76**	P	**Pg**	**00 27 19.7**	**-0.9**
GUR	**Goura**	**1.54**	**76**	P	**Pb**	**00 27 18.9**	**-0.6**
GUR				AML	AML	00 27 49.9	
comp=N,1462μm,0.4s							
GUR				AML	AML	00 27 53.0	
comp=E,1869μm,0.5s							
KALE	**Kalithea**	**1.56**	**58**	P	**Pb**	**00 27 19.1**	**-0.7**
KALE	**Kalithea**	**1.56**	**58**	P	**Pb**	**00 27 19.0**	**-0.7**
KALE				AML	AML	00 27 50.4	
comp=N,999μm,0.4s							
KALE				AML	AML	00 27 53.1	
comp=E,1325μm,0.6s							
EVR	**Evrytania**	**1.71**	**38**	P	**Pg**	**00 27 22.8**	**-1.1**
EVR				S	**Sg**	**00 27 44.9**	**-1.1**
EVR				AML	AML	00 27 59.9	
comp=N,874μm,0.8s							
EVR				AML	AML	00 28 03.3	
comp=E,588μm,0.6s							
DLFA	**Delphi**	**1.85**	**60**	P	**Pb**	**00 27 24.4**	**-0.3**
IGT	**Igoumenitsa**	**1.95**	**357**	P	**Pb**	**00 27 25.8**	**-0.6**
MAKR	**Makrakomi, Fth**	**1.95**	**42**	P	**Pb**	**00 27 26.9**	**+0.5**
MAKR				AML	AML	00 28 06.8	
comp=N,957μm,0.7s							
MAKR				AML	AML	00 28 07.2	
comp=E,1896μm,0.6s							
LTK	**Loutraki**	**2.05**	**77**	P	**Pb**	**00 27 27.3**	**-0.7**
JAN	**Janina**	**2.10**	**9**	P	**Pb**	**00 27 27.9**	**-0.9**
AXAR	**Ágios Charalam**	**2.11**	**55**	P	**Pb**	**00 27 28.5**	**-0.5**
AXAR				AML	AML	00 28 09.8	
comp=N,1240μm,0.5s							
AXAR				AML	AML	00 28 13.4	
comp=E,1287μm,0.5s							
VLI	**Veliai**	**2.17**	**113**	P	**Pb**	**00 27 28.8**	**-1.3**
KEK	**Kerkira**	**2.19**	**347**	P	**Pb**	**00 27 28.4**	**-2.0**
THL	**Klokotos Trika**	**2.33**	**31**	P	**Pb**	**00 27 32.1**	**-0.7**
HFS	**Hagfors**	**22.98**	**351**	P	**P**	**00 31 54.7**	**-0.3**
comp=E,4.7nm,1.1s,baz=170,slow=11,SNR=5.2							
comp=E,4.7nm,1.1s							
FINES	**FINESS Array B**	**24.14**	**7**	P	**P**	**00 32 05.7**	**-0.7**
comp=E,2.1nm,0.9s,baz=180,slow=8.6,SNR=8.9							
comp=E,2.1nm,0.9s							
TORD	**Torodi Ar. Bea**	**29.53**	**219**	P	**P**	**00 32 55.0**	**-0.3**
comp=E,0.3nm,0.9s,baz=22,slow=9.8,SNR=1.9							
comp=E,0.3nm,0.9s							
MKAR	**Makanchi Array**	**45.67**	**58**	P	**P**	**00 35 14.9**	**+3.6**
comp=E,0.2nm,0.4s,baz=265,slow=6.2,SNR=5.1							
comp=E,0.2nm,0.4s							
ZALV	**Zalesovo Beam**	**46.13**	**48**	P	**P**	**00 35 17.7**	**+2.9**
comp=E,1.0nm,0.5s,baz=267,slow=9.0,SNR=6.1							
comp=E,1.0nm,0.5s							

*ISN **26** 00:26:53.2±0.6, 34.°44N×45.°82E, h7km±3km, ML3.1*
*TEH **26** 00:26:54.9, 34.°37N×45.°73E, h5km±23km, ML2.9*
ISC 26 00:26:55.2±1.2, 34.°38N±0.°05×45.°74E±0.°06, h4km±12km, n10, σ0=67/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.18**	**316**	Pg	**Pg**	**00 26 58.5**	**-0.2**
KGS1				Sg	**Sg**	**00 27 01.9**	**+0.8**
GLG1	**Gilan-e-Gharb**	**0.30**	**151**	Pg	**Pg**	**00 27 01.1**	**+0.1**
IDHR	**Dehrash**	**0.62**	**59**	Pg	**Pb**	**00 27 08.0**	**-0.8**
IGHG	**Ghaleghazi**	**0.69**	**94**	Pg	**Pb**	**00 27 09.8**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.08**	**95**	Pg	**Pn**	**00 27 17.2**	**-0.2**
ILIN	**Lien**	**1.15**	**62**	Pg	**Pn**	**00 27 18.8**	**+0.6**
IBDR	**Badra**	**1.27**	**173**	*e*Pg	**Pg**	**00 27 19.0**	**-0.6**
IBDR				*e*Sg	**Sn**	**00 27 37.0**	**-0.3**
IKRK	**Kirkuk**	**1.54**	**312**	*e*Pn	**Pn**	**00 27 23.0**	**-0.4**
IKRK				*e*Sn	**Sg**	**00 27 45.0**	**+0.4**
IKRK				AML	AML	00 27 46.6	
comp=E,409nm,0.4s							
IKRK				AML	AML	00 27 47.3	
comp=N,242nm,0.7s							
SDS1	**Sardasht. Az.**	**1.78**	**353**	Pg	**Pb**	**00 27 28.4**	**-0.2**
RAFI	**Al-Rafai**	**2.67**	**173**	*e*Pn	**Pn**	**00 27 39.0**	**+0.1**
RAFI				*e*Sn	**Sn**	**00 28 13.0**	**+1.3**

RSNC 26 00:27:01.0±0.0, 13.°N±2.°×8.°1W±., h2km±3km, M3.0, mb4.3, ML3.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.26**	**318**	P	Pg	00 27 07.2	+1.1
PRVC				S	Sg	00 27 11.5	+1.9
SAIC	**Isla e San And**	**0.82**	**219**	P	Pb	00 27 17.6	-0.4
SAIC				S	Sb	00 27 30.7	+1.1
RNCC	**Cayo Roncador,**	**1.13**	**69**	P	Pg	00 27 21.7	-1.0
RNCC				S	Sb	00 27 38.1	-0.3
SERC	**Banco Serrana,**	**1.35**	**36**	P	Pn	00 27 25.4	-1.6
SERC				S	Sg	00 27 43.6	-1.0
BCIP	**Isla Barro Col**	**4.20**	**162**	P	Pn	00 28 03.1	-3.0
BCIP				S	Sn	00 28 50.8	-5.0
JTS	**Las Juntas de**	**4.68**	**233**	P	Pn	00 28 13.1	+0.4
JTS				S	Sn	00 29 11.6	+3.9
AZU	**Azuero**	**5.43**	**170**	P	Pn	00 28 21.4	-1.6
39nm,1.4s							
AZU				S	Sn	00 29 20.4	-5.7
39nm,1.4s							
CAPC	**Capurgana**	**5.88**	**140**	P	Pn	00 28 32.5	+3.3
54nm,1.2s							
CAPC				S	Sn	00 29 32.4	-4.8
54nm,1.2s							
LCBC	**Los crdobas,**	**6.38**	**132**	P	Pn	00 28 32.5	-3.7
80nm,1.3s							
LCBC				S	Sn	00 29 48.6	-1.1
80nm,1.3s							
SJCC	**San Jacinto, C**	**6.72**	**118**	P	Pn	00 28 37.4	-3.5
SJCC				S	Sn	00 29 52.1	-6.1

*BJI **26** 00:38:32.5, 34.°34N×45.°22E, h19km, mb4.7/38, mB5.4/11, Ms4.9/8, Ms7 4.6/8*

MOS ***26*** *00:38:34.9±1.1, 34°.36N×45°.73E, h13km, mb5.0/45, MS4.4/6, Error ellipse: s-maj=4.7km s-min=3.0km az=112.0*
ISN ***26*** *00:38:35.9±1.0, 34°.40N×45°.75E, h14km±6km, ML5.1*
GII ***26*** *00:38:35.2±0.4, 34°.39N×45°.75E, h10km, Mws4.9, confirmed*
TEH ***26*** *00:38:36.1, 34°.38N×45°.74E, h8km±26km, ML5.3*
NEIC ***26*** *00:38:36.7±1.6, 34°.39N±0°.06×45°.75E±0°.08, h10km±1km, mb4.9/140, Error ellipse: s-maj=11.2km s-min=10.8km az=125.0*
IDC ***26*** *00:38:38.9±1.7, 34°.49N×45°.64E, h25km±10km, mb4.5/30, mbtmp4.7/40, ML4.7/7, MS4.5/12, Error ellipse: s-maj=9.9km s-min=8.2km az=107.0*
GCMT ***26*** *00:38:38.7±0.3, 34°.31N±0°.02×45°.69E±0°.02, h15km±1km, MW5.0/104, Moment Tensor Solution. s22,c26; s104,c156; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.63±.15; Mθθ1.37±.13; Mφφ-0.74±.13; Mrθ1.06±.43; Mθφ3.76±.12; Mφr0.81±.47; Best double couple: Mo=4.07700×10^16 NP1:φs=7.00000°, δ80.00000°, λ170.00000°. NP2:φs=99.00000°, δ80.00000°, λ10.00000°. Principal axes: T 4.5640, Plg14.0000°, Azm323.0000°; N -0.9760, Plg76.0000°, Azm144.0000°; P -3.5910, Plg0.0000°, Azm53.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
AFAD ***26*** *00:38:38.0±0.0, 34°.17N×45°.12E, h15km, MW5.0*
OMAN ***26*** *00:38:39.5±0.1, 33°.86N×46°.10E, h10km, mb5.1/38, ms4.5/2, Error ellipse: s-maj=1.3km s-min=0.8km az=230.0*
NAO ***26*** *00:39:00.1, 36°.50N×44°.11E, h33km, mb4.6*

ISC 26 00:38:35.9±0.2, 34°32N±0°.02×45°76E±0°.03, h10km, n877, σ1§80/885, mb4.8/169, MS4.6/14, 60C-23D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.23**	**322**	Pg	**Pg**	**00 38 40.1**	**-0.5**
GLG1	**Gilan-e-Gharb**	**0.24**	**149**	Pg	**Pg**	**00 38 42.7**	**+1.8**
IDHR	**Dehrash**	**0.64**	**54**	Pg	**Pg**	**00 38 48.3**	**-0.1**
IGHG	**Ghaleghazi**	**0.67**	**89**	Pg	**Pb**	**00 38 50.4**	**+0.6**
ILBA	**Ilam Banvizeh**	**0.79**	**152**	Pg	**Pg**	**00 38 52.1**	**+1.0**
KCHF	**Cheshme Sefid,**	**1.06**	**92**	Pg	**Pb**	**00 38 57.1**	**+0.6**
ILIN	**Lien**	**1.16**	**59**	Pg	**Pg**	**00 38 57.8**	**-0.4**
IBDR	**Badra**	**1.22**	**173**	*e*Pg	**Pn**	**00 39 00.0**	**+1.1**
IBDR				*e*Sg	**Sn**	**00 39 17.0**	**+1.5**
IKRK	**Kirkuk**	**1.58**	**313**	*e*Pn	**Pn**	**00 39 04.0**	**0.0**
IKRK				*e*Sn	**Sg**	**00 39 26.0**	**-0.8**
IKRK	comp=E,29μm,0.7s			AML	AML	00 39 33.6	
IKRK	comp=N,29μm,0.5s			AML	AML	00 39 33.9	
SNQR	**Sonqor, Kerman**	**1.63**	**70**	Pg	**Pb**	**00 39 06.6**	**+0.4**
SDS1	**Sardasht. Az.**	**1.83**	**353**	Pg	**Pb**	**00 39 09.0**	**-0.6**
IDOB	**Doab**	**2.08**	**104**	Pn	**Pb**	**00 39 13.7**	**-0.1**
MAHB	**Mahabad**	**2.44**	**359**	Pn	**Pb**	**00 39 17.8**	**-2.1**
RAFI	**Al-Rafai**	**2.61**	**173**	*e*Pn	**Pn**	**00 39 21.0**	**+2.9**
RAFI				*e*Sn	**Sn**	**00 39 53.0**	**+3.2**
IHSH	**Hashtrud**	**3.22**	**22**	Pn	**Pn**	**00 39 28.8**	**+2.1**
IAZR	**Azarshahr**	**3.35**	**3**	Pn	**Pn**	**00 39 30.4**	**+1.8**
CUKT	**Cukurca**	**3.40**	**330**	P	**Pn**	**00 39 30.3**	**+1.2**
CUKT				S	**Sn**	**00 40 10.3**	**+0.8**
CUKT	**Cukurca**	**3.40**	**330**	P	**Pn**	**00 39 29.6**	**+0.5**
QABG	**Abgarm-Qazvin**	**3.43**	**65**	Pn	**Pn**	**00 39 32.3**	**+2.7**
YOVA	**Hakkari_Yksek**	**3.47**	**340**	P	**Pn**	**00 39 30.4**	**+0.3**
YOVA				S	**Sb**	**00 40 14.8**	**-5.0**
HAKT	**HAKKARI**	**3.63**	**333**	P	**Pn**	**00 39 33.6**	**+1.3**
HAKT				S	**Sn**	**00 40 14.0**	**-1.4**
AHWZ	**Ahwaz**	**3.85**	**140**	Pn	**Pn**	**00 39 38.5**	**+3.4**
JIR1	**Jirandeh**	**4.07**	**53**	Pn	**Pn**	**00 39 40.7**	**+2.4**
SIRN	**Sirnak**	**4.17**	**320**	P	**Pn**	**00 39 39.1**	**-0.5**
IGZV	**Ghazvin**	**4.19**	**59**	Pn	**Pn**	**00 39 42.2**	**+2.3**
CSN1	**Caspian**	**4.22**	**39**	Pn	**Pn**	**00 39 42.8**	**+2.7**
IMRD	**Marand**	**4.38**	**359**	Pn	**Pn**	**00 39 44.4**	**+1.8**
IQOM	**Qom**	**4.41**	**82**	Pn	**Pn**	**00 39 45.1**	**+2.0**
PERV	**Siirt/Pervari-**	**4.45**	**325**	P	**Pn**	**00 39 45.2**	**+1.6**
LHJ2	**Lahijan - Gila**	**4.50**	**50**	Pn	**Pn**	**00 39 47.0**	**+2.8**
GEVA	**Gevas**	**4.54**	**332**	P	**Pn**	**00 39 46.1**	**+1.3**
GEVA				S	**Sn**	**00 40 36.8**	**-0.8**
OZAP	**Van, Ozalp-Mer**	**4.56**	**342**	P	**Pn**	**00 39 47.8**	**+2.8**
AKDM	**Akdamar-Van**	**4.58**	**332**	P	**Pn**	**00 39 47.8**	**+2.4**
IPIR	**Pirpir**	**4.59**	**109**	Pn	**Pn**	**00 39 47.3**	**+1.7**
TVAN	**Van**	**4.61**	**336**	P	**Pn**	**00 39 47.5**	**+1.8**
JHBN	**Jahan bin**	**4.61**	**116**	Pn	**Pn**	**00 39 47.7**	**+1.8**
VANB	**Van**	**4.67**	**337**	P	**Pn**	**00 39 47.6**	**+1.1**
MIDY	**Mardin/Midyat-**	**4.69**	**312**	P	**Pn**	**00 39 45.9**	**-0.9**
QAMS	**Qamsar**	**4.72**	**96**	Pn	**Pn**	**00 39 50.2**	**+2.9**
GAS1	**Astara - Iran**	**4.76**	**31**	Pn	**Pn**	**00 39 49.6**	**+2.1**
SRTM	**Siirt_Merkez**	**4.80**	**321**	P	**Pn**	**00 39 48.7**	**+0.5**
ZNGN	**Zangian**	**4.80**	**116**	Pn	**Pn**	**00 39 50.2**	**+1.6**
KLST	**Kelardasht - M**	**4.85**	**62**	Pn	**Pn**	**00 39 52.1**	**+3.0**
IKLH	**Kolahrood**	**4.95**	**100**	Pn	**Pn**	**00 39 53.5**	**+3.0**
IVRN	**Varamin**	**4.96**	**81**	Pn	**Pn**	**00 39 52.9**	**+2.3**
VMUR	**Van-Muradiye**	**4.98**	**340**	P	**Pn**	**00 39 53.4**	**+2.6**
BLIS	**Bitlis-Merkez**	**5.03**	**325**	P	**Pn**	**00 39 51.8**	**+0.3**
CLDR	**Caldiran**	**5.03**	**343**	P	**Pn**	**00 39 54.1**	**+2.5**
CLDR	**Caldiran**	**5.03**	**343**	P	**Pn**	**00 39 54.8**	**+3.2**
BTMN	**Batman**	**5.09**	**316**	P	**Pn**	**00 39 52.9**	**+0.7**
BTMN				S	**Sn**	**00 40 49.5**	**-1.5**
MAKU	**Maku**	**5.09**	**351**	Pn	**Pn**	**00 39 54.5**	**+2.1**
ADCV	**BITLIS_Adilcev**	**5.10**	**332**	P	**Pn**	**00 39 54.2**	**+1.8**
GURO	**Guroymak-BITLI**	**5.18**	**326**	P	**Pn**	**00 39 54.4**	**+0.9**
GURO	**Guroymak-BITLI**	**5.18**	**326**	Pn	**Pn**	**00 39 53.4**	**-0.1**
MZPU	**Pul - Mazandar**	**5.20**	**64**	Pn	**Pn**	**00 39 57.0**	**+3.1**
IBRJ	**Brojen**	**5.21**	**116**	Pn	**Pn**	**00 39 55.4**	**+1.4**
KRSH	**Karshahi**	**5.30**	**92**	Pn	**Pn**	**00 39 57.6**	**+2.3**
IDMV	**Damavand**	**5.30**	**75**	Pn	**Pn**	**00 39 57.4**	**+2.0**
ABEH	**Behbahan**	**5.31**	**133**	Pn	**Pn**	**00 39 57.4**	**+2.1**
MAZI	**Mazidag**	**5.33**	**307**	P	**Pn**	**00 39 55.7**	**+0.1**
ISFB	**Sefidab**	**5.36**	**88**	Pn	**Pn**	**00 39 57.6**	**+1.6**
MLAZ	**Malazgirt-MUS**	**5.45**	**333**	P	**Pn**	**00 39 59.6**	**+2.3**
DYDN	**Diyadin**	**5.47**	**343**	P	**Pn**	**00 40 00.7**	**+3.1**
MUSM	**Mu-Merkez**	**5.56**	**323**	P	**Pn**	**00 39 58.9**	**+0.1**
DORK	**Agr/Tutak/Do**	**5.59**	**336**	P	**Pn**	**00 40 00.4**	**+1.2**
IGAR	**Gharneh**	**5.59**	**108**	Pn	**Pn**	**00 40 01.4**	**+2.0**
IZEF	**Zefreh**	**5.67**	**103**	Pn	**Pn**	**00 40 03.0**	**+2.6**
AGRB	**Hanur-Agry**	**5.69**	**338**	P	**Pn**	**00 40 03.4**	**+2.8**
IGDI	**IGDIR**	**5.69**	**347**	P	**Pn**	**00 40 03.2**	**+2.6**
IPRN	**Peran**	**5.71**	**69**	Pn	**Pn**	**00 40 03.7**	**+2.9**
TASB	**TASBURUN-IGDIR**	**5.78**	**348**	P	**Pn**	**00 40 04.4**	**+2.7**
DIYA	**Diyarbakir**	**5.81**	**310**	P	**Pn**	**00 40 02.4**	**+0.3**
DYBB	**Diyarbakir**	**5.81**	**310**	P	**Pn**	**00 40 02.3**	**+0.1**
KOTA	**Agri, Merkez-K**	**5.84**	**340**	P	**Pn**	**00 40 04.7**	**+2.1**
GNI	**Garni**	**5.87**	**352**	P	**Pn**	**00 40 06.1**	**+3.0**
GNI	**Garni**	**5.87**	**352**	Pn	**Pn**	**00 40 02.7**	**-0.4**
GNI	**Garni**	**5.87**	**352**	Pn	**Pn**	**00 40 07.3**	**+4.2**
GNI	**Garni**	**5.87**	**352**	Pn	**Pn**	**00 40 03.1**	**+0.1**
GNI	comp=N,2.3nm,0.3s,baz=234,slow=1.2,SNR=16			Lg	Lg	00 41 34.8	
GNI	comp=N,1.9nm,0.3s,baz=194,slow=13,SNR=3.2			LR	LR	00 42 24.7	
GNI	comp=N,3μm,18.4s,baz=174,slow=40 comp=N,17nm,0.7s **Garni**	**5.87**	**352**	*ce*P	**Pn**	**00 40 05.5**	**+2.4**
GNI	comp=Z,60nm,0.8s			pmax	pmax		
GNI	**Garni**	**5.87**	**352**	P	**Pn**	**00 40 02.4**	**-0.7**
	comp=Z,358nm,0.9s,comp=Z,3μmcomp=Z,2.3nm						
IFIR	**Firoozkooh**	**5.89**	**75**	Pn	**Pn**	**00 40 06.2**	**+2.8**
KLNJ	**Kolanjah**	**5.93**	**122**	Pn	**Pn**	**00 40 05.4**	**+1.3**
VRTB	**Varto-Mus**	**5.94**	**326**	P	**Pn**	**00 40 05.9**	**+2.0**
VRTB	**Varto-Mus**	**5.94**	**326**	P	**Pn**	**00 40 06.1**	**+2.2**
HANI	**Diyarbakir_Han**	**5.95**	**315**	P	**Pn**	**00 40 04.2**	**+0.1**
SLHN	**Bingol, Solhan**	**5.99**	**322**	P	**Pn**	**00 40 05.2**	**+0.5**
ILAS	**Lasjerd**	**6.01**	**78**	Pn	**Pn**	**00 40 06.9**	**+1.7**
IALA	**Alasht**	**6.03**	**71**	Pn	**Pn**	**00 40 08.8**	**+3.3**
IRAM	**Ramesheh**	**6.10**	**112**	Pn	**Pn**	**00 40 07.7**	**+1.4**
EATA	**Eleskirt**	**6.11**	**336**	P	**Pn**	**00 40 09.3**	**+2.8**
BNGB	**Bingl**	**6.19**	**320**	P	**Pn**	**00 40 08.5**	**+1.1**
KARO	**Karliova-Bingo**	**6.25**	**324**	P	**Pn**	**00 40 10.5**	**+2.3**
DIGO	**Kars**	**6.37**	**343**	P	**Pn**	**00 40 14.3**	**+4.3**
URFA	**Urfa**	**6.43**	**301**	P	**Pn**	**00 40 11.1**	**+0.4**
KOPR	**Koprukoy-ERZUR**	**6.46**	**332**	P	Pn	00 40 16.4	+5.3
HOMI	**Horasan**	**6.49**	**333**	P	Pn	00 40 16.8	+5.2
ECAT	**Cat-ERZURUM**	**6.51**	**325**	P	**Pn**	**00 40 13.8**	**+1.8**
EJDE	**Erzurum, Palan**	**6.55**	**328**	P	**Pn**	**00 40 14.8**	**+2.2**
ERZM	**Erzurum**	**6.58**	**329**	P	**Pn**	**00 40 15.7**	**+2.7**
SVRC	**Sivrice-ELAZID**	**6.59**	**310**	P	**Pn**	**00 40 13.6**	**+0.6**
KARS	**Kars**	**6.64**	**342**	P	**Pn**	**00 40 16.4**	**+2.8**
KARS	**Kars**	**6.64**	**342**	Pn	**Pn**	**00 40 13.8**	**+0.2**
KARS	**Kars**	**6.64**	**342**	P	**Pn**	**00 40 13.9**	**+0.2**
ANAR	**Anarak**	**6.74**	**97**	Pn	**Pn**	**00 40 17.5**	**+2.6**
IKIA	**Kiasar**	**6.75**	**72**	Pn	**Pn**	**00 40 18.0**	**+2.8**
SENK	**Senkaya-Erzuru**	**6.79**	**337**	P	**Pn**	**00 40 19.9**	**+4.2**
IANJ	**Anjilo**	**6.80**	**78**	Pn	**Pn**	**00 40 18.8**	**+2.9**
PTK	**Pertek**	**6.85**	**314**	P	**Pn**	**00 40 17.5**	**+0.9**
IGLO	**Ghaloghah**	**6.94**	**69**	Pn	**Pn**	**00 40 20.7**	**+2.9**
ERZN	**Erzincan**	**7.14**	**319**	P	Pg	00 40 56.7	+4.2
AHBU	**AHRAM**	**7.21**	**138**	Pn	**Pn**	**00 40 22.7**	**+1.4**
AKT	**Akhty**	**7.31**	**12**	*e*P	**Pn**	**00 40 27.0**	**+4.2**
AKT				*e*S	**Sn**	**00 41 52.3**	**+6.4**
AKT	comp=Z,24nm,0.6s			pmax	pmax		
AKT	comp=E,33nm,0.8s			smax	smax		
AKT	comp=N,22nm,0.6s			smax	smax		
AKT	comp=Z,2μm,14.0s			MLR	MLR		
SHI	**Shiraz**	**7.40**	**127**	Pn	**Pn**	**00 40 25.5**	**+1.4**
TBLG	**Delisi**	**7.44**	**354**	P	Pn	00 40 29.9	+5.4
GAZ	**Gaziantep**	**7.51**	**295**	P	**Pn**	**00 40 25.7**	**+0.2**
GAZ	**Gaziantep**	**7.51**	**295**	Pn	**Pn**	**00 40 24.7**	**-0.7**
ICHK	**Chekchek**	**7.53**	**104**	Pn	**Pn**	**00 40 26.6**	**+0.6**
DSBU	**Dashti - Bushe**	**7.58**	**140**	Pn	**Pn**	**00 40 27.5**	**+1.1**
ASF	**Jabal al Asfar**	**7.73**	**256**	Pn	**Pn**	**00 40 28.1**	**-0.4**
ASF	comp=Z,7.8nm,0.3s,baz=72,slow=0.0,SNR=35 comp=Z,6.2nm,0.3s,baz=48,slow=0.0,SNR=6.6 comp=Z,15nm,0.3s			Lg	Lg	00 42 35.0	
ASF	**Jabal al Asfar**	**7.73**	**256**	P	**Pn**	**00 40 29.3**	**+0.8**
KMRS	**Kahramanmaras**	**7.86**	**296**	P	**Pn**	**00 40 29.5**	**-0.7**
DARE	**Darende-Malaty**	**7.90**	**305**	P	**Pn**	**00 40 32.1**	**+1.2**
BEIL	**Beino**	**7.91**	**274**	*e*P	**Pn**	**00 40 31.0**	**0.0**
TAHT	**Tahtakopru-Hat**	**8.09**	**287**	P	**Pn**	**00 40 32.1**	**-1.2**
HWQ	**Hawqa**	**8.12**	**272**	*e*P	**Pn**	**00 40 35.0**	**+1.1**
KTUT	**Trabzon**	**8.17**	**326**	P	**Pn**	**00 40 38.3**	**+3.8**
ZAHL	**Zahle**	**8.20**	**270**	*e*P	**Pn**	**00 40 36.3**	**+1.3**
RCY	**Rachaya**	**8.29**	**267**	*e*P	**Pn**	**00 40 36.3**	**0.0**
SHBL	**Chebaa**	**8.39**	**266**	*e*P	**Pn**	**00 40 37.4**	**-0.2**
BHL	**Bhannes**	**8.39**	**270**	*e*P	**Pn**	**00 40 38.9**	**+1.3**
NATI	**Neve Ativ**	**8.41**	**266**	P	Pn	00 40 43.4	+5.7
NATI	**Neve Ativ**	**8.41**	**266**	P	**Pn**	**00 40 37.1**	**-0.7**
QRWL	**Qaraoun**	**8.41**	**268**	*e*P	**Pn**	**00 40 38.5**	**+0.6**
GEM	**Giv'at Ha'Em**	**8.48**	**265**	P	**Pn**	**00 40 38.6**	**-0.2**
DQRL	**Deir Qamar**	**8.48**	**269**	*e*P	**Pn**	**00 40 40.0**	**+1.1**
SHMJ	**Saham**	**8.49**	**262**	P	Pn	00 40 44.6	+5.6
QIR1	**Qir**	**8.53**	**131**	Pn	**Pn**	**00 40 39.8**	**+0.3**
SARI	**SarD1z-Kayseri**	**8.56**	**301**	P	**Pn**	**00 40 40.2**	**+0.2**
KOZT	**Kozan**	**8.65**	**294**	P	**Pn**	**00 40 41.7**	**+0.6**
SWQJ	**Swaqa**	**8.72**	**252**	P	Pn	00 40 51.1	+8.9
MMAOB	**Mount Meron ar**	**8.73**	**264**	P	**Pn**	**00 40 42.6**	**+0.4**
MMAI	**Mount Meron Ar**	**8.73**	**264**	Pn	**Pn**	**00 40 42.1**	**-0.1**
MMAI	comp=Z,6.4nm,0.3s,baz=73,slow=17,SNR=38			Lg	Lg	00 43 11.2	
MAK	**Makhachkala**	**8.73**	**8**	*e*P	**Pn**	**00 40 41.3**	**-0.8**
MAK	comp=Z,18nm,0.3s,baz=63,slow=32,SNR=3.3 comp=Z,3.4nm,0.3s			*e*S	**Sn**	**00 42 21.6**	**+1.0**
MAK	comp=Z,347nm,1.5s			pmax	pmax		
MAK	comp=Z,4μm,15.0s			MLR	MLR		
QRNJ	**Al-Qirein**	**8.75**	**260**	P	Pn	00 40 50.0	+7.6
BALJ	**Balqa**	**8.77**	**258**	Pn	**Pn**	**00 40 43.5**	**+0.8**
HMDT	**Nahal Hemdat**	**8.81**	**259**	P	Pn	00 40 52.6	+9.3
HMDT	**Nahal Hemdat**	**8.81**	**259**	P	**Pn**	**00 40 42.7**	**-0.5**
JHRM	**Jahrom**	**8.85**	**129**	Pn	**Pn**	**00 40 43.5**	**-0.3**
MMLI	**Mount Malkishu**	**8.85**	**261**	P	**Pn**	**00 40 44.3**	**+0.5**
UJAP	**Al Uja**	**8.95**	**258**	P	**Pn**	**00 40 47.2**	**+2.1**
UJAP	**Al Uja**	**8.95**	**258**	P	Pn	00 40 55.5	+10
TNSJ	**Nastanj**	**9.00**	**89**	Pn	**Pn**	**00 40 48.9**	**+2.9**
MRVT	**Maraveh tapeh**	**9.01**	**65**	Pn	**Pn**	**00 40 48.8**	**+2.8**
GHAJ	**Ghor Haditha**	**9.09**	**253**	Pn	**Pn**	**00 40 47.1**	**0.0**
GHAJ	**Ghor Haditha**	**9.09**	**253**	P	**Pn**	**00 40 47.5**	**+0.4**
GHAJ	**Ghor Haditha**	**9.09**	**253**	P	**Pn**	**00 40 46.6**	**-0.5**
OFRI	**`Ofer**	**9.16**	**262**	P	**Pn**	**00 40 48.0**	**-0.1**
BNN	**Bunyan**	**9.16**	**302**	P	**Pn**	**00 40 47.4**	**-0.8**
BNN	**Bunyan**	**9.16**	**302**	Pn	**Pn**	**00 40 48.1**	**-0.1**
LISJ	**El Lisan**	**9.18**	**253**	P	Pn	00 40 56.9	+8.6
TPRV	**Parvadeh(Tabas**	**9.20**	**95**	Pn	**Pn**	**00 40 50.7**	**+2.0**
SLTI	**Sal'it**	**9.21**	**260**	P	**Pn**	**00 40 49.2**	**+0.4**
MSBI	**Mazada**	**9.25**	**254**	P	Pn	00 40 56.7	+7.4
MSBI	**Mazada**	**9.25**	**254**	P	**Pn**	**00 40 49.3**	**0.0**
NCK	**Nalchik**	**9.31**	**350**	*i* P	**Pn**	**00 40 52.9**	**+2.8**
TAPT	**Tabas- Tapeh t**	**9.42**	**83**	Pn	**Pn**	**00 40 52.4**	**+0.7**
HSNJ	**Maan**	**9.44**	**247**	P	Pn	00 41 02.6	+11
TKDS	**Koohdasht(Taba**	**9.47**	**91**	Pn	**Pn**	**00 40 54.7**	**+2.3**
AMAZ	**Amatzia**	**9.53**	**256**	P	**Pn**	**00 40 52.9**	**-0.2**
AMAZ	**Amatzia**	**9.53**	**256**	S	**Sn**	**00 42 40.5**	**+0.2**
SHMA	**Al-Shehemyia**	**9.57**	**151**	P	**Pn**	**00 40 50.9**	**-2.7**
SHMA	SNR=8.0			S	Sn	00 42 32.9	-8.3
KBZ	**Khabaz**	**9.65**	**348**	Pn	**Pn**	**00 40 56.4**	**+1.7**
	comp=Z,5.5nm,1.0s,baz=175,slow=8.6,SNR=15						
KBZ	**Khabaz**	**9.65**	**348**	*ce*P	**Pn**	**00 40 53.9**	**-0.8**
ZFRI	**Zfri**	**9.70**	**250**	P	Pn	00 41 05.0	+10
SHA1	**Shidzhatmaz**	**9.70**	**347**	*e*P	**Pn**	**00 40 57.2**	**+1.5**
KHGB	**Koh Gabri**	**9.88**	**111**	Pn	**Pn**	**00 40 59.1**	**+0.9**
SBZV	**Sabzevar**	**9.90**	**75**	Pn	**Pn**	**00 41 01.5**	**+3.1**
KVAR	**Kislovodsk Arr**	**9.91**	**347**	Pn	Pn	00 41 03.8	+5.4
KVAR	baz=298,slow=14			LR	LR	00 44 40.7	
	comp=Z,4μm,19.1s,baz=8.5,slow=37						
KIV	**Kislovodsk**	**9.91**	**347**	P	Pn	00 41 03.2	+4.8
KIV	**Kislovodsk**	**9.91**	**347**	Pn	**Pn**	**00 40 59.4**	**+1.0**
KIV	**Kislovodsk**	**9.91**	**347**	*e*P	**Pn**	**00 40 59.2**	**+0.8**
KIV				*e*S	**Sn**	**00 42 53.1**	**+3.4**
KIV	comp=Z,77nm,1.1s			pmax	pmax		
KIV	**Kislovodsk**	**9.91**	**347**	P	**Pn**	**00 40 57.7**	**-0.7**
	comp=Z,67nm,1.3s						
PRNI	**Paran**	**9.92**	**249**	P	Pn	00 41 04.4	+5.9
PRNI	**Paran**	**9.92**	**249**	P	**Pn**	**00 40 57.9**	**-0.6**
LAR1	**LAR**	**9.93**	**130**	Pn	**Pn**	**00 40 58.0**	**-0.7**
HRFI	**Mount Harif**	**10.04**	**248**	S	**Sn**	**00 42 52.9**	**0.0**
HRFI	**Mount Harif**	**10.04**	**248**	P	**Pn**	**00 40 59.5**	**-0.7**
VSLR	**Vesyoloye**	**10.15**	**336**	*i* P	**Pn**	**00 41 04.4**	**+2.8**
KZIT	**Kziot**	**10.17**	**254**	P	Pn	00 41 12.4	+11
KZIT	**Kziot**	**10.17**	**254**	P	**Pn**	**00 41 01.5**	**-0.4**
AQBJ	**Aqaba**	**10.18**	**246**	P	**Pn**	**00 41 04.2**	**+2.2**
KRMI	**Paran Flat**	**10.24**	**249**	P	**Pn**	**00 41 02.4**	**-0.5**
MBRI	**Mt Berech**	**10.25**	**247**	P	**Pn**	**00 41 07.4**	**+4.3**
MBRI	**Mt Berech**	**10.25**	**247**	P	**Pn**	**00 41 02.8**	**-0.3**
CSS	**Mathiatis**	**10.26**	**277**	Pn	**Pn**	**00 41 02.4**	**-0.7**
CSS	**Mathiatis**	**10.26**	**277**	P	Pn	00 41 10.1	+7.0
CSS	**Mathiatis**	**10.26**	**277**	P	**Pn**	**00 41 03.3**	**+0.2**
	comp=Z,35nm,1.1s						
EIL	**Elat**	**10.28**	**246**	Pn	**Pn**	**00 41 03.9**	**+0.4**
	comp=Z,5.1nm,0.3s,baz=77,slow=7.0,SNR=27						
EIL	comp=Z,4.2nm,0.3s,baz=1.9,slow=19,SNR=3.9 comp=Z,12nm,0.4s			Lg	Lg	00 44 03.3	
EIL	**Elat**	**10.28**	**246**	P	**Pn**	**00 41 04.0**	**+0.6**
EIL	**Elat**	**10.28**	**246**	P	**Pn**	**00 41 03.2**	**-0.2**
ISFR	**Sfrayin**	**10.32**	**71**	Pn	**Pn**	**00 41 07.7**	**+3.5**
SOC	**Sochi**	**10.37**	**335**	*e*P	**Pn**	**00 41 05.4**	**+0.8**
SOC				*e*		00 43 04.4	
SOC	comp=Z,14nm,0.6s			pmax	pmax		
SOC	comp=Z,3μm,15.0s			MLR	MLR		
KRM1	**Kerman Provinc**	**10.45**	**108**	Pn	**Pn**	**00 41 07.6**	**+1.6**
SMRA	**Abu-Samra**	**10.51**	**154**	P	**Pn**	**00 41 04.5**	**-2.1**
SMRA	SNR=5.9			S	**Sn**	**00 42 58.4**	**-6.0**
TRNA	**Turayna**	**10.67**	**152**	P	**Pn**	**00 41 06.6**	**-2.1**
	SNR=6.1						
RAYN	**Ar Rayn**	**10.77**	**181**	Pn	**Pn**	**00 41 09.0**	**-1.2**
RAYN	**Ar Rayn**	**10.77**	**181**	*i* Pn	**Pn**	**00 41 08.8**	**-1.3**
	SNR=76						
RAYN	**Ar Rayn**	**10.77**	**181**	P	**Pn**	**00 41 09.4**	**-0.8**
RAYN				S	Sn	00 43 02.8	-8.0
RAYN	**Ar Rayn**	**10.77**	**181**	P	**Pn**	**00 41 09.0**	**-1.2**
IEMG	**Emamgholi**	**10.91**	**70**	Pn	**Pn**	**00 41 15.4**	**+3.1**
GOF	**Gofitskoye**	**10.92**	**350**	*ce*P	Pn	00 41 17.0	+4.8
ITEG	**Tejag**	**10.93**	**94**	Pn	**Pn**	**00 41 14.3**	**+1.8**
LABN	**Labinsk**	**11.01**	**341**	*e*P	**Pn**	**00 41 16.2**	**+2.8**
LABN				pmax	pmax		
	comp=Z,55nm,1.2s						
DIKM	**Dikmen**	**11.04**	**315**	P	**Pn**	**00 41 13.5**	**-0.4**
	comp=Z,30nm,1.0s						
AFRZ	**Afriz**	**11.06**	**91**	Pn	**Pn**	**00 41 17.9**	**+3.7**
BR104	**Keskin Array S**	**11.07**	**303**	P	**Pn**	**00 41 14.0**	**-0.4**
	comp=Z,6.9nm,0.9s,comp=Z,73nm						
BR131	**Keskin Array S**	**11.08**	**303**	Pn	**Pn**	**00 41 15.4**	**+0.9**
BR131	**Keskin Array S**	**11.08**	**303**	P	**Pn**	**00 41 15.4**	**+0.9**
BRTR	**Keskin Array B**	**11.08**	**303**		**Pn**	**00 41 14.8**	**+0.3**
BRTR	**Keskin Array B**	**11.08**	**303**	Pn	**Pn**	**00 41 16.5**	**+1.9**
	comp=Z,2.5nm,0.8s,baz=126,slow=12,SNR=14						
BR105	**Keskin Array S**	**11.09**	**303**	P	**Pn**	**00 41 14.3**	**-0.4**
	comp=Z,11nm,1.0s,comp=Z,110nm						
BR106	**Keskin Array S**	**11.10**	**303**	P	**Pn**	**00 41 14.4**	**-0.4**
	comp=Z,10nm,1.0s,comp=Z,91nm						
JRN	**Qarnain Island**	**11.20**	**145**	P	**Pn**	**00 41 15.2**	**-0.7**
JRN				S	**Sn**	**00 43 14.0**	**-7.2**
GENO	**Geno**	**11.29**	**125**	Pn	**Pn**	**00 41 17.7**	**+0.2**
SLWR	**Sila**	**11.45**	**152**	P	**Pn**	**00 41 18.8**	**-0.7**
SLWR				S	**Sn**	**00 43 22.0**	**-5.5**
IKRD	**Kardeh**	**11.47**	**74**	Pn	**Pn**	**00 41 23.2**	**+3.2**
IBND	**Bandar-abas**	**11.52**	**124**	Pn	**Pn**	**00 41 21.1**	**+0.8**
ANTO	**Ankara**	**11.73**	**302**		**Pn**	**00 41 25.1**	**+1.7**
ANTO	**Ankara**	**11.73**	**302**	P	**Pn**	**00 41 25.1**	**+1.7**
ANTO	**Ankara**	**11.73**	**302**	P	**Pn**	**00 41 23.1**	**-0.3**
	comp=Z,11nm,1.5s						
BR231	**Keskin MP Arra**	**11.73**	**302**	Pn	**Pn**	**00 41 24.5**	**+1.0**
IMYA	**Miami**	**11.89**	**76**	Pn	**Pn**	**00 41 28.1**	**+2.5**
KBAM	**BAM**	**11.98**	**112**	Pn	**Pn**	**00 41 28.5**	**+1.7**
BZK	**Bozkurt**	**11.98**	**313**	P	**Pn**	**00 41 26.3**	**-0.3**
	comp=Z,38nm,1.2s						
KHNJ	**Kahnooj**	**12.04**	**119**	Pn	**Pn**	**00 41 27.4**	**-0.2**
ERBR	**Yeremizino-Bor**	**12.07**	**342**	*e*P	**Pn**	**00 41 31.0**	**+3.2**
ERBR				pmax	pmax		
	comp=Z,93nm,1.5s						
**

comp=Z,19nm,1.0s
WBK Wadi Bani Khal 16.45 132 P Pn 00 42 24.8 -2.0
SNR=20
WBK S Sn 00 45 19.9 -10
MFTR Murfatlar 16.62 311 ⇑P P 00 42 30.5 -0.7
JURR Jurilovca 16.65 314 ⇑P P 00 42 30.7 -0.9
NE56 Odesa 16.70 322 P Pn 00 42 29.2 -0.6
TLCR 16.92 315 ⇑P Pn 00 42 33.2 +0.6
TLCR 16.92 315 P Pn 00 42 33.2 +0.6
TPGR Topolog 16.97 313 ⇓P P 00 42 34.8 -0.5
JLN Jalan Bani Buh 17.06 132 P Pn 00 42 33.0 -1.5
SNR=31
JLN S Sn 00 45 32.2 -12
MHTO MHTO 17.11 138 P Pn 00 42 32.9 -2.3
SNR=33
MHTO S Sn 00 45 33.6 -12
VRH Novokhopyorsk 17.12 351 *e*P **Pn 00 42 33.5 -1.6**
VRH pmax pmax
comp=Z,60nm,1.0s
PURM Purcari 17.13 320 ⇓P P 00 42 35.8 -1.1
PURM Purcari 17.13 320 P Pn 00 42 35.0 -0.3
comp=Z,108nm,0.7s
IDI Anoyia 17.17 279 Pn **Pn 00 42 35.2 -0.7**
IDI Anoyia 17.17 279 P Pn 00 42 36.1 +0.2
comp=Z,19nm,0.5s,baz=76,slow=15,SNR=32
HARR Harsova 17.18 312 ⇑P P 00 42 37.3 -0.3
HARR Harsova 17.18 312 P P 00 42 37.2 -0.3
CFR Carcaliu 17.31 314 ⇑P P 00 42 38.4 -0.6
CFR Carcaliu 17.31 314 P P 00 42 38.7 -0.3
DOK Doka 17.33 152 P Pn 00 42 35.2 -2.8
SNR=99
RDO Rodhopi 17.36 299 Pn **Pn 00 42 36.6 -1.6**
VSR Storozhevoye 17.55 346 *e*P **Pn 00 42 39.2 -1.2**
VSR pmax pmax
comp=Z,50nm,1.0s
VLDR Vladesti 17.71 316 ⇑P P 00 42 43.0 -0.4
ELND Elena 17.72 305 ⇑P P 00 42 44.1 +0.6
WHFO Wadi Hawf 17.84 154 P Pn 00 42 41.2 -3.1
SNR=19
MILM Milestii Mici 17.94 320 ⇑P Pn 00 42 44.9 -0.4
MILM Milestii Mici 17.94 320 P Pn 00 42 44.9 -0.4
VORR Voronezh 17.98 347 *e*P **Pn 00 42 45.1 -0.6**
VORR pmax pmax
comp=Z,90nm,0.6s
KIS Kishinev 17.99 320 P Pn 00 42 45.6 -0.3
comp=Z,26nm,0.6s
BELG Belogornoye 18.11 4 P Pn 00 42 46.0 -1.4
comp=Z,4.8nm,0.3s,baz=130,slow=1.6,SNR=21
BELG S **Sn 00 46 04.9 -4.5**
comp=Z,9.0nm,0.7s,baz=187,slow=17,SNR=1.5
BELG ScP **ScP 00 50 54.5 -1.8**
comp=Z,15nm,0.9s,baz=197,slow=2.7,SNR=4.2
comp=Z,70nm,0.7s
BAL3X Bal3x, Balta 18.20 323 P Pn 00 42 48.1 -0.4
ABTO Aybut 18.20 156 P Pn 00 42 45.4 -3.4
SNR=12
ABTO S **Sn 00 46 04.3 -7.7**
GHRR 18.23 315 ⇑P P 00 42 49.5 +0.5
GHRR 18.23 315 P Pn 00 42 48.5 -0.3
ABKAR Akbulak array 18.24 31 P Pn 00 42 47.4 -1.6
ABKAR Akbulak array 18.24 31 Pn 00 42 47.1 -1.9
ISR Istrita 18.25 312 ⇑P P 00 42 50.7 +1.2
ISR Istrita 18.25 312 P P 00 42 50.6 +1.2
ISR Istrita 18.25 312 P Pn 00 42 48.9 -0.3
comp=Z,28nm,0.8s
ODBI Odobesti 18.27 314 P Pn 00 42 49.1 -0.3
comp=Z,15nm,0.8s
BISRR Bisoca 18.36 313 P Pn 00 42 50.2 -0.4
comp=Z,84nm,0.9s
RBK Rabkut 18.38 154 P P 00 42 48.2 -2.7
SNR=16
RBK S **Sn 00 46 07.2 -9.1**
AKTO Aktyubinsk 18.43 25 P P 00 42 51.2 0.0
comp=Z,1.9nm,0.3s,baz=214,slow=9.1,SNR=126
AKTO S **Sn 00 46 08.9 -8.2**
comp=Z,4.3nm,0.9s,baz=176,slow=20,SNR=1.8
AKTO ScP **ScP 00 50 54.9 -2.2**
comp=Z,3.9nm,0.9s,baz=150,slow=4.5,SNR=5.3
comp=Z,54nm,0.9s
DMTO DMTO 18.47 151 P P 00 42 49.1 -2.7
SNR=38
DMTO S Sn 00 46 08.2 -10
VRI Vrincioaia 18.52 314 ⇑P Pn 00 42 53.0 +0.6
VRI Vrincioaia 18.52 314 P Pn 00 42 53.0 +0.6
VRI Vrincioaia 18.52 314 P P 00 42 52.0 -0.3
comp=Z,16nm,1.0s
PLOR5 Plostina Array 18.55 314 P P 00 42 52.3 -0.3
comp=Z,29nm,0.9s
NEHR Nehoiu 18.55 312 ⇓P Pn 00 42 53.8 +0.9
PLOR Plostina 18.56 314 ⇑P Pn 00 42 52.9 0.0
PLOR Plostina 18.56 314 P Pn 00 42 52.9 0.0
PLOR3 Plostina Array 18.56 314 P P 00 42 52.4 -0.4
comp=Z,18nm,0.8s
MLR Muntele Rosu 18.80 312 P 00 42 54.4 -1.1
MLR Muntele Rosu 18.80 312 P Pn 00 42 56.2 +0.2
comp=Z,1.0nm,0.3s,baz=191,slow=7.8,SNR=14
comp=Z,9.0nm,0.7s
MLR Muntele Rosu 18.80 312 ⇑P Pn 00 42 56.6 +0.5
MLR Muntele Rosu 18.80 312 P Pn 00 42 56.5 +0.5
MLR Muntele Rosu 18.80 312 P P 00 42 55.0 -0.5
comp=Z,25nm,0.8s
COVR Voineasa-Covas 18.82 314 ⇑P Pn 00 42 56.4 +0.3
TESR Tescani 18.91 316 ⇑P P 00 42 56.3 -0.4
TESR Tescani 18.91 316 P P 00 42 56.2 -0.4
comp=Z,67nm,0.7s
LPSR Galich'ya Gora 18.91 347 *e*P **P 00 42 55.7 -0.8**
LPSR pmax pmax
comp=Z,404nm,1.3s
SORM Soroca 18.96 322 ⇑P P 00 42 56.5 -0.6
SORM Soroca 18.96 322 P P 00 42 56.5 -0.6
SORM Soroca 18.96 322 P P 00 42 55.6 -1.5
comp=Z,65nm,0.8s
ONER Baraj Valea Uz 18.96 315 ⇓P Pn 00 42 58.1 +0.3
TURR Turia 19.04 314 ⇓P Pn 00 42 59.4 +0.6
SIMJ Simiganj 19.17 70 P P 00 43 00.1 +0.5
OZUR 19.20 314 ⇓P Pn 00 43 00.6 -0.1
KBL Kabul 19.21 83 P Pn 00 43 01.4 +0.3
KBL Kabul 19.21 83 P Pn 00 43 02.5 +1.5
SNR=10
KBL Kabul 19.21 83 P Pn 00 43 01.4 +0.3
KBL pmax pmax
comp=Z,35nm,1.1s
MTUR Matau 19.22 311 ⇑P Pn 00 43 01.2 +0.2
MTUR Matau 19.22 311 P Pn 00 43 01.2 +0.2
DOPR Dopca 19.37 313 ⇓P Pn 00 43 02.8 0.0
ITM Ithomi 19.54 285 P P 00 43 03.0 -0.5
ITM IAmb IAmb 00 43 07.4
comp=Z,45nm,0.7s
ARR Arges 19.55 311 ⇑P P 00 43 03.9 +0.2
PRAR RASCA 19.63 317 ⇓P P 00 43 04.1 -0.3
NDNU Novodnistrovsk 19.76 322 P P 00 43 05.0 -0.8
MDB Medias 20.07 312 ⇑P Pn 00 43 10.5 -0.6
MDB Medias 20.07 312 P Pn 00 43 11.2 +0.1
LOT Lotru 20.14 310 ⇑P P 00 43 10.7 +0.5
SRE Strehaia 20.18 307 ⇓P Pn 00 43 12.2 -0.1
SRE Strehaia 20.18 307 P Pn 00 43 12.1 -0.2
KMPD K-Podol'skiy 20.21 321 P P 00 43 10.0 -0.7
comp=Z,25µm,1.0s,comp=Z,176µm
GAR Garm 20.22 70 P P 00 43 12.0 +0.9
GAR IAmb IAmb 00 43 28.5
comp=Z,53nm,0.9s
AK07 Malin Array Si 20.23 328 P P 00 43 10.1 -0.8
AK09 Malin Array Si 20.24 329 P P 00 43 10.2 -0.8
AK10 Malin Array Si 20.24 328 P P 00 43 10.2 -0.9
AK06 Malin Array Si 20.25 328 P P 00 43 10.4 -0.8
AK08 Malin Array Si 20.27 329 P P 00 43 10.5 -0.8
AK05 Malin Array Si 20.28 328 P P 00 43 10.6 -0.9
AKASG Malin Array Be 20.33 329 P P 00 43 11.2 -0.9
AKASG IAmb IAmb 00 43 13.1
comp=Z,49nm,0.8s
AKASG Malin Array Be 20.33 329 P P 00 43 11.7 -0.3
comp=Z,11nm,0.5s,baz=140,slow=9.9,SNR=145
AKASG S **S 00 46 56.0 -3.8**
comp=Z,2.1nm,1.0s,baz=134,slow=20,SNR=2.3
AKASG ScP **ScP 00 51 00.3 -1.1**
comp=Z,1.7nm,0.8s,baz=90,slow=1.9,SNR=6.2
comp=Z,11nm,0.5s
AKBB Malin Array Si 20.33 329*ce*P **P 00 43 11.3 -0.8**
AKBB pmax pmax
comp=Z,149nm,1.5s
AKBB Malin Array Si 20.33 329 P P 00 43 11.2 -0.8
KIEV Kiev 20.33 329 P P 00 43 11.3 -0.7
KIEV IAmb IAmb 00 43 16.2
comp=Z,97nm,1.1s
KIEV Kiev 20.33 329 ⇑P P 00 43 11.0 -1.0
KIEV Kiev 20.33 329 P P 00 43 11.3 -0.7
KIEV pmax pmax
comp=Z,97nm,1.2s
KIEV Kiev 20.33 329 P P 00 43 11.2 -0.8
comp=Z,255nm,0.8s
BURAR Bucovina Array 20.34 317 ⇓P P 00 43 12.7 +0.5
BURAR Bucovina Array 20.34 317 P P 00 43 12.7 +0.5
FNA Florina 20.34 296 P P 00 43 12.2 -0.1
FNA Florina 20.34 296 P P 00 43 12.3 -0.1
FNA pmax pmax
comp=Z,30nm,0.8s
BUR08 Bucovina Ar. S 20.36 317 P P 00 43 12.3 -0.3
BUR08 IAmb IAmb 00 43 15.9
comp=Z,44nm,0.7s
LUBAR Lubar, Ukraine 20.44 325 P P 00 43 12.4 -0.8
RMGR Halanga-Turnu 20.51 307 ⇑P Pn 00 43 15.5 -0.8
ARCR ARCALIA 20.55 315 ⇑P Pn 00 43 15.4 -1.3
IUG Iuzhnay 20.56 61 *e*P **P 00 43 15.5 +0.7**
comp=Z,43nm,1.1s
IUG Iuzhnay 20.56 61 *e*P **P 00 43 15.4 +0.7**
IUG pmax pmax
comp=Z,43nm,1.1s
HORU Horodok 20.63 322 P P 00 43 14.3 -1.0
BRLS Borolday 20.66 58 *e*P **P 00 43 14.3 -1.4**
BRLS Borolday 20.66 58 *e*P **P 00 43 14.3 -1.4**
MI29 MI29, Kamyanyy 20.74 326 P P 00 43 16.1 -0.4
comp=Z,623nm,0.8s,comp=Z,19µm
GZR Gura Zlata 20.75 309 ⇓P P 00 43 16.6 -0.1
HERR Herculane 20.78 307 ⇓P P 00 43 17.8 +0.8
KSV Kosov 20.81 318 P P 00 43 16.6 -0.7
MI30 MI30,Zelenitsa 20.82 327 P P 00 43 15.7 -1.6
comp=Z,157nm,0.8s
CJR Cluj-Napoca 20.82 313 ⇓P P 00 43 17.9 +0.5
CJR Cluj-Napoca 20.82 313 P P 00 43 17.9 +0.5
BOVS Bovan 20.82 304 ⇑P P 00 43 17.8 +0.4
MARR Marisel-Cluj 21.09 313 ⇑P P 00 43 20.8 +0.4
KKAR Karatay Array 21.15 58 P P 00 43 21.0 -0.1
KKAR Karatay Array 21.15 58 P P 00 43 21.4 +0.4
KKAR IAmb IAmb 00 43 30.6
comp=Z,22nm,1.1s
KKAR Karatay Array 21.15 58 P P 00 43 21.0 -0.1
KKAR 00 43 21.5
KKAR pmax pmax
comp=Z,22nm,1.1s
RAKU Rahkiv 21.16 317 P P 00 43 21.3 +0.3
MI28 Mi28,Pidlybu 21.18 327 P P 00 43 20.5 -0.7
comp=Z,2µm,0.7s,comp=Z,19µm
MDVR Moldovita 21.21 307 ⇑P P 00 43 22.4 +0.7
SURR Surduc 21.31 309 ⇑P P 00 43 22.3 -0.4
STNU Starunia 21.35 319 P P 00 43 22.4 -0.7
BMR Baia Mare 21.36 315 ⇑P P 00 43 23.5 +0.4
BMR Baia Mare 21.36 315 P P 00 43 23.9 +0.7
DRGR 21.40 312 ⇑P P 00 43 23.7 0.0
DRGR 21.40 312 P P 00 43 23.7 0.0
DRK Karamyk 21.42 69 P P 00 43 25.0 +0.7
DRK Karamyk 21.42 69 P P 00 43 25.0 +0.7
DRK pmax pmax
comp=Z,36nm,1.0s
MESR Meseseni 21.42 314 ⇑P P 00 43 24.4 +0.5
BZS Buzias 21.58 309 ⇑P P 00 43 25.9 +0.3
BZS Buzias 21.58 309 P P 00 43 25.9 +0.3
DZA Taraz 21.68 59 *e*P **P 00 43 27.1 +0.3**
DZA Taraz 21.68 59 *e*P **P 00 43 27.0 +0.3**
PUK Puka 21.69 298 P P 00 43 26.7 -0.2
PUK IAmb IAmb 00 43 41.8
comp=Z,61nm,1.4s
OBN Obninsk 21.75 346 P P 00 43 25.9 -1.4
OBN Obninsk 21.75 346 P P 00 43 26.8 -0.5
comp=Z,49nm,0.6s,baz=145,slow=2.1,SNR=12
comp=Z,49nm,0.6s
OBN Obninsk 21.75 346 ⇑P P 00 43 23.2 -4.1
OBN Obninsk 21.75 346*de*P **P 00 43 25.9 -1.4**
OBN *e**SP **sP 00 43 31.5 -0.2**
OBN *i* 00 43 52.1
OBN *i* 00 47 22.8
OBN *e*S **S 00 47 30.3 +2.6**
OBN *e*SS **SnSn 00 47 56.5 +4.2**
OBN *e*SSS SSS 00 48 11.3
OBN pmax pmax
comp=Z,132nm,1.6s
OBN MLR MLR
comp=Z,1µm,18.0s
OBN Obninsk 21.75 346 P P 00 43 26.8 -0.5
comp=Z,86nm,0.6s
MEZ Mezhgor'ye 21.79 317 P P 00 43 27.1 -0.7
KORU Korolevo 21.81 316 P P 00 43 27.7 -0.3
SIRR Siria 21.82 310 ⇑P P 00 43 28.7 +0.5
TRSU Trosnyk 21.88 316 P P 00 43 30.0 +1.2
SJES Sjenica 21.92 302 ⇑*i*P **P 00 43 28.2 -1.2**
BERU Beregovo 22.13 316 P P 00 43 30.9 -0.6
MOS Moscow 22.14 348 *e*P **P 00 43 30.0 -1.5**
MOS *e* 00 43 53.6
MOS *e*S **S 00 47 31.0 -4.3**
MOS pmax pmax
comp=Z,209nm,1.1s
RNPP5 Staryi Chortor 22.20 326 P P 00 43 31.6 -0.6
MUKU Mukachevo 22.22 316 P P 00 43 31.9 -0.5
PDG Podgorica 22.23 299 ⇑*i*P **P 00 43 33.2 +0.6**
SHIU Shidnytsya 22.26 319 P P 00 43 32.5 -0.3
RNPP2 Kostyukhnivka 22.27 326 P P 00 43 32.5 -0.4
RNPP8 Varash 22.29 326 P P 00 43 32.6 -0.5
RNPP9 Sopachiv 22.32 326 P P 00 43 32.9 -0.6
HOLU Holmets 22.43 316 P P 00 43 34.1 -0.6
RUDO Rudo 22.44 302 ⇑*i*P **P 00 43 32.1 -2.8**
BBLS Lazi&#263i 22.48 303 ⇑*i*P **P 00 43 34.8 -0.6**
ARSB Arslanbob 22.55 64 P P 00 43 36.4 +0.2
ARSB Arslanbob 22.55 64 P P 00 43 36.4 +0.2
ARSB pmax pmax
comp=Z,14nm,1.3s
TEKS Tekeris 22.60 305 ⇑*i*P **P 00 43 33.5 -3.0**
FRGS Fruska Gora 22.60 306 ⇑*i*P **P 00 43 34.5 -2.1**
KOLS Kolonicke sedl 22.70 317 *e*P **P 00 43 38.2 +0.6**
KOLS pmax pmax
comp=Z,39nm,0.7s
KOLS Kolonicke sedl 22.70 317 *e*P **P 00 43 38.2 +0.6**
NIL Nilore 22.79 84 P P 00 43 39.2 +0.5
NIL IAmb IAmb 00 43 46.7
comp=Z,43nm,0.9s
NIL Nilore 22.79 84 P P 00 43 39.2 +0.5
NIL Nilore 22.79 84 P P 00 43 39.2 +0.5
NIL pmax pmax
comp=Z,43nm,1.0s
KWP Kalwaria Pacla 22.84 319 *e*PKP **P 00 43 39.1 +0.1**
KWP Kalwaria Pacla 22.84 319 IAmb IAmb 00 43 56.0
comp=Z,56nm,1.0s
KWP Kalwaria Pacla 22.84 319 P P 00 43 38.3 -0.7
comp=Z,44nm,1.4s
ATD Arta Tunnel 22.84 187 P 00 43 39.9 +0.6
ATD IAmb IAmb 00 43 48.8
comp=Z,28nm,1.0s
ATD Arta Tunnel 22.84 187 P P 00 43 42.9 +3.5
comp=Z,1.1nm,0.9s,baz=308,slow=7.2,SNR=7.1
TREB Trebinje 22.95 300 ⇑*i*P **P 00 43 39.6 -0.6**
STON Ston 23.45 300 ⇑*i*P **P 00 43 43.5 -1.8**
KECS Kecovo 23.51 315 *e*P **P 00 43 47.6 +1.7**
KECS pmax pmax
comp=Z,32nm,0.7s
KECS Kecovo 23.51 315 *e*P **P 00 43 47.6 +1.7**
STHS Stebnicka Huta 23.53 317 *e*P **P 00 43 46.0 -0.1**
STHS pmax pmax
comp=Z,6.0nm,0.7s
STHS Stebnicka Huta 23.53 317 *e*P **P 00 43 46.0 -0.1**
PSZ Piszkesteto 23.61 313 *e*P **P 00 43 46.9 -0.1**
PSZ Piszkesteto 23.61 313 ⇓P P 00 43 46.7 -0.3
PSZ Piszkesteto 23.61 313 P P 00 43 46.6 -0.3
ARTI Arti 23.71 18 P P 00 43 46.9 -0.8
ARTI Arti 23.71 18*c i*P **P 00 43 47.6 -0.1**
ARTI 00 44 14.5
ARTI S **S 00 48 04.6 +2.1**
ARTI SS **SnSn 00 48 47.0 +6.9**
ARTI pmax pmax
comp=Z,13nm,0.8s
MORH Mrgy, Hungar 23.73 308 ⇓P P 00 43 48.5 +0.4
MORH Mrgy, Hungar 23.73 308 P P 00 43 47.7 -0.3
comp=Z,31nm,0.8s
MNK Minsk 23.75 334 *i* P **P 00 43 46.2 -1.9**
comp=E,65nm,1.1s
MNK *i* P **P 00 43 46.2 -1.9**
comp=N,83nm,1.1s
MNK *i* P **P 00 43 46.2 -1.9**
comp=Z,81nm,0.8s,baz=141
MNK *i* PP **PnPn 00 44 13.9 -1.7**
MNK *i* S **S 00 48 03.5 +0.3**
MNK *i* SS **SnSn 00 48 50.0 +8.9**
MNK *i* LQ LQ 00 51 09.3
MNK *i* LR LR 00 52 30.7
MNK *i* LRM MLR 00 53 06.6
comp=Z,3µm,15.2s
MNK *i* LRM MLR 00 53 37.4
comp=N,3µm,16.9s
MNK Minsk 23.75 334 *i* P **P 00 43 46.1 -1.9**
MNK *i* 00 44 13.8
MNK *i* S **S 00 48 03.4 +0.3**
MNK *i* SS **SnSn 00 48 50.0 +8.9**
MNK pmax pmax
comp=Z,81nm,0.8s
MNK pmax pmax
comp=N,83nm,1.1s
MNK pmax pmax
comp=E,65nm,1.1s
MNK MLR MLR
comp=Z,3µm,15.0s
MNK MLR MLR
comp=N,3µm,17.0s
MATE Matera 23.84 294 ⇓P P 00 43 48.3 -0.8
AAK Ala-Archa 23.89 61 P P 00 43 51.3 +1.5
AAK Ala-Archa 23.89 61 P P 00 43 52.7 +2.9
AAK Ala-Archa 23.89 61 P P 00 43 51.3 +1.5
AAK pmax pmax
comp=Z,23nm,1.4s
FRU1 Bishkek 24.02 61 P P 00 43 52.2 +1.2
FRU1 Bishkek 24.02 61 P P 00 43 52.2 +1.2
FRU1 pmax pmax
comp=Z,15nm,0.9s
NIE Niedzica 24.07 316 *e*PKP **P 00 43 52.4 +1.2**
NIE Niedzica 24.07 316 P P 00 43 50.6 -0.7
comp=Z,10nm,0.8s
BTLS Baital 24.14 55 *e*P **P 00 43 52.3 +0.3**
comp=Z,12nm,0.7s
BTLS Baital 24.14 55 *e*P **P 00 43 52.3 +0.3**
BTLS pmax pmax
comp=Z,12nm,0.7s
SGDS Sogindy 24.15 59 *e*P **P 00 43 52.5 +0.3**
SGDS Sogindy 24.15 59 *e*P **P 00 43 52.5 +0.3**
BLY Banja Luka 24.26 304 ⇑*i*P **P 00 43 50.2 -2.8**
CEL Celeste 24.34 288 P P 00 43 53.8 0.0
CEL IAmb IAmb 00 44 04.4
comp=Z,42nm,0.9s
CEL Celeste 24.34 288 P P 00 43 53.5 -0.4
comp=Z,45nm,1.5s
KIRV Kirov 24.39 5*ce*P **P 00 43 54.0 0.0**
LANS Liptovska Anna 24.42 315 *e*P **P 00 43 55.2 +0.7**
LANS pmax pmax
comp=Z,9.0nm,0.8s
LANS Liptovska Anna 24.42 315 *e*P **P 00 43 55.2 +0.7**
NACGM Naroch 24.46 333 *e*P **P 00 43 54.0 -0.8**
comp=E,3µm,0.8s
VYHS Vyhne 24.50 313 *e*P **P 00 43 55.1 -0.1**
VYHS Vyhne 24.50 313 *e*P **P 00 43 55.1 -0.1**
A051A Mrakovica 24.52 304 ⇑*i*P **P 00 43 53.7 -1.8**
SRO Srobarova 24.54 312 *e*P **P 00 43 56.3 +0.8**
SRO pmax pmax
comp=Z,20nm,0.8s
SRO Srobarova 24.54 312 *e*P **P 00 43 56.3 +0.8**
A050A Klekovaca 24.64 303 ⇑*i*P **P 00 43 55.8 -0.8**
KSH Kashi 24.64 69 P P 00 43 55.0 -1.7
KSH sP sP 00 44 01.0 -0.3
KSH pmax pmax
comp=Z,17nm,0.9s
SVE Sverdlovsk 24.69 20 *e*P **P 00 43 57.5 +0.7**
SVE pmax pmax
comp=Z,62nm,1.0s
OJC Ojcow 24.75 318 *e*PKP **P 00 43 57.6 +0.2**
OJC Ojcow 24.75 318 P P 00 43 56.8 -0.6
comp=Z,61nm,0.8s
MPLH Magyarpolny 24.78 310 P P 00 43 57.2 -0.6
comp=Z,107nm,0.8s
NRN Naryn 24.82 64 P P 00 43 59.4 +0.9
NRN IAmb IAmb 00 44 28.2
comp=Z,19nm,0.9s
NRN Naryn 24.82 64 P P 00 43 59.4 +0.9
NRN pmax pmax
comp=Z,19nm,0.9s
BEHE Becsehely 25.04 308 P P 00 43 59.6 -0.5
SUW Suwalki 25.29 328 *e*PKP **P 00 44 02.2 -0.1**
SUW Suwalki 25.29 328 *e*P **P 00 44 01.7 -0.6**
JAVC Velka Javorina 25.35 313 *e*P **P 00 44 03.7 +0.7**
SMOL Smolenice 25.36 313 *e*P **P 00 44 03.1 +0.1**
SMOL pmax pmax
comp=Z,11nm,1.0s
KOGS Kog 25.38 307 *i* P **P 00 44 03.1 0.0**
MODS Modra-Piesok 25.40 312 *e*P **P 00 44 02.8 -0.5**
MODS pmax pmax
comp=Z,108nm,1.5s
MODS Modra-Piesok 25.40 312 *e*P **P 00 44 02.8 -0.5**
KUU Kurty 25.46 59 *e*P **P 00 44 04.3 +0.4**
comp=Z,14nm,0.9s
KUU Kurty 25.46 59 *e*P **P 00 44 04.3 +0.4**
KUU pmax pmax
comp=Z,14nm,0.9s
MAUC Maruska 25.48 315 *e*P **P 00 44 04.7 +0.6**
OKC Ostrava-Krasne 25.50 316 *e*P **P 00 44 04.3 +0.1**
OKC Ostrava-Krasne 25.50 316 *e*P **P 00 44 04.3 +0.1**
WDD Wied Dalam 25.55 282 P P 00 44 04.3 -0.5
RAFF Raffo Rosso 25.58 286 P P 00 44 05.0 -0.1
BRVK Borovoye 25.58 35 P P 00 44 05.8 +0.9
BRVK IAmb IAmb 00 44 19.8
comp=Z,24nm,0.9s
BRVK Borovoye 25.58 35 P P 00 44 06.2 +1.3
BRVK Borovoye 25.58 35*ce*P **P 00 44 05.9 +1.0**
BRVK pmax pmax
comp=Z,39nm,1.7s
BVAR Borovoye Array 25.61 36 P P 00 44 06.3 +1.1
comp=Z,12nm,0.7s,baz=249,slow=7.3,SNR=60
BVAR PcP **PcP 00 47 36.4 +0.6**
comp=Z,1.7nm,0.5s,baz=168,slow=3.3,SNR=6.1
BVAR ScP **ScP 00 51 14.2 -1.1**
comp=Z,2.4nm,0.6s,baz=256,slow=2.3,SNR=11
comp=Z,12nm,0.7s
CRES Cresnjevec Ost 25.72 306 ⇑*i*P **P 00 44 04.8 -1.5**
TNSS Tian-Shan 25.74 61 *e*P **P 00 44 07.1 +0.1**
TNSS Tian-Shan 25.74 61 *e*P **P 00 44 07.0 +0.1**
RONA Rosalia, Austr 25.76 310 *e*P **P 00 44 06.7 +0.1**
comp=Z,16nm,0.7s,SNR=6.7
BOJS Bojanci 25.78 305 *i* P **P 00 44 06.4 -0.4**
BOJS Bojanci 25.78 305 ⇑*i*P **P 00 44 06.4 -0.4**
MORC Moravsky Berou 25.82 315 P P 00 44 06.8 -0.4
MORC IAmb IAmb 00 44 09.1
comp=Z,36nm,1.2s
MORC Moravsky Berou 25.82 315 *e*P **P 00 44 06.8 -0.4**
MORC Moravsky Berou 25.82 315 ⇑P P 00 44 07.2 0.0
MORC Moravsky Berou 25.82 315 P P 00 44 07.3 +0.1
MDOK Medeo 25.83 61 *e*P **P 00 44 07.9 +0.4**
MDOK Medeo 25.83 61 *e*P **P 00 44 07.9 +0.4**
PABE Paberze 26.00 331 *e*P **P 00 44 08.4 -0.2**
ARSA Arzberg 26.10 309 *i* P **P 00 44 10.0 +0.3**
comp=Z,11nm,0.7s
CONA Conrad Observa 26.11 310 *i* P **P 00 44 09.4 -0.5**
comp=Z,20nm,1.7s,SNR=7.0
FURI Furi 26.13 196 P P 00 44 11.3 +0.8
FURI IAmb IAmb 00 44 19.7
comp=Z,33nm,0.9s
VRAC Vranov 26.18 314 *e*P **P 00 44 10.3 -0.2**
VRAC Vranov 26.18 314 ⇑P P 00 44 10.7 +0.2
VRAC Vranov 26.18 314 P P 00 44 10.6 +0.2
KRUC Moravsky 26.20 313 *e*P **P 00 44 10.2 -0.4**
SOKA Soboth 26.25 307 *i* P **P 00 44 11.1 0.0**
comp=Z,11nm,0.9s
VSVD Vaisvydziai 26.36 332 *e*P **P 00 44 11.5 -0.4**
KRLC Kraliky 26.39 315 *e*P **P 00 44 12.1 -0.3**
KRLC Kraliky 26.39 315 *e*P **P 00 44 12.1 -0.3**
CEY Cerknica 26.40 305 ⇑*i*P **P 00 44 11.3 -1.1**
LJU Ljubljana 26.41 306 *i* P **P 00 44 12.8 +0.3**
CAMP Campotosto 26.51 298 P P 00 44 13.5 -0.2
OBKA Obir 26.52 307 *e*P **P 00 44 13.6 0.0**
comp=Z,15nm,1.5s
OBKA Obir 26.52 307 ⇑*i*P **P 00 44 12.4 -1.2**
ARXS Arharly 26.57 59 *e*P **P 00 44 14.4 +0.3**
NRCA Norcia 26.77 298 IAmb IAmb 00 44 16.7
comp=Z,15nm,0.8s
DPC Dobruska-Polom 26.78 316 *e*P **P 00 44 15.7 -0.2**
DPC Dobruska-Polom 26.78 316 *e*P **P 00 44 15.7 -0.2**
DPC Dobruska-Polom 26.78 316 P P 00 44 15.3 -0.6
comp=Z,16nm,1.0s
DPC pP **pP 00 44 19.3 +0.2**
comp=Z,16nm,1.0s

SATY Saty 26.80 61 *eP* **P 00 44 16.4 +0.2**
SATY Saty 26.80 61 *eP* **P 00 44 16.4 +0.2**
FDMO Fiordimonte 26.81 299 IAmb IAmb 00 44 17.3
comp=Z,16nm,0.7s
ZHN Zhinishke 26.84 61 *eP* **P 00 44 16.9 +0.3**
ZHN Zhinishke 26.84 61 *eP* **P 00 44 16.8 +0.3**
KLMR Klimovskoe 26.85 353 *eP* **P 00 44 14.2 -2.1**
KLMR *eS* **S 00 48 54.2 +1.7**
KLMR pmax pmax
comp=Z,35nm,0.8s
OSTC Ostas 26.93 316 *eP* **P 00 44 17.0 -0.2**
OSTC Ostas 26.93 316 *eP* **P 00 44 17.0 -0.2**
KSP Ksiaz 27.01 317 *e*PKP **P 00 44 17.3 -0.6**
KSP Ksiaz 27.01 317 P **P 00 44 17.4 -0.5**
comp=Z,24nm,0.9s
CHVC Chvalec 27.04 316 *eP* **P 00 44 18.0 -0.2**
CHVC Chvalec 27.04 316 *eP* **P 00 44 18.0 -0.2**
MOA Molln 27.10 309 *eP* **P 00 44 18.7 -0.1**
comp=Z,18nm,0.9s,SNR=6.6
TDK Taldyqorghan 27.13 57 *eP* **P 00 44 19.5 +0.4**
comp=Z,8.2nm,0.7s
TDK Taldyqorghan 27.13 57 *eP* **P 00 44 19.4 +0.4**
TDK pmax pmax
comp=Z,8.0nm,0.7s
MYKA Terra Mystica 27.15 307 *i* P **P 00 44 19.3 0.0**
comp=Z,9.4nm,0.9s
PRED Cave del Predi 27.16 306 P **P 00 44 19.4 +0.1**
PRED IAmb IAmb 00 44 26.9
comp=Z,26nm,1.2s
PBUR Paburge 27.19 330 *eP* **P 00 44 19.3 -0.1**
WUS Wushi 27.21 65 P **P 00 44 20.5 +0.5**
UZB Uzynbulak 27.26 61 *eP* **P 00 44 20.7 +0.3**
UZB Uzynbulak 27.26 61 *eP* **P 00 44 20.7 +0.3**
VSU Vasula 27.28 338 *ce*P **P 00 44 22.1 +1.9**
VSU pmax pmax
comp=Z,49nm,1.3s
CKRC Cesky Krumlov 27.39 311 *eP* **P 00 44 20.9 -0.5**
CKRC Cesky Krumlov 27.39 311 *eP* **P 00 44 23.7 +2.3**
BIOA Bad Ischl, Aus 27.45 309 *i* P **P 00 44 21.8 -0.1**
comp=Z,16nm,0.8s,SNR=7.2
KBA Koelnbreinsper 27.47 307 *eP* **P 00 44 22.0 -0.3**
comp=Z,14nm,0.8s
SHLS Shalkode 27.58 61 *eP* **P 00 44 26.1 +2.8**
SHLS Shalkode 27.58 61 *eP* **P 00 44 26.0 +2.8**
PRU Pruhonice 27.68 314 *eP* **P 00 44 24.5 +0.6**
PRU Pruhonice 27.68 314 *eP* **P 00 44 24.5 +0.6**
GKP Gorka Klasztor 27.68 322 *e*PKP **P 00 44 23.6 -0.3**
ZVC Zvikov 27.68 313 *eP* **P 00 44 23.7 -0.2**
GERES GERESS Array B 27.78 311 P **P 00 44 23.5 -1.4**
GERES GERESS Array B 27.78 311 P **P 00 44 24.2 -0.7**
comp=Z,1.5nm,0.4s,baz=97,slow=8.7,SNR=9.3
GERES PcP **PcP 00 47 40.4 -0.7**
comp=Z,0.9nm,0.6s,baz=150,slow=2.2,SNR=2.5
comp=Z,1.5nm,0.4s
ABTA Abfaltersbach 27.93 306 *i* P **P 00 44 26.2 -0.1**
comp=Z,6.5nm,0.9s
KHC Kasperske Hory 27.95 312 *eP* **P 00 44 26.3 -0.1**
KHC Kasperske Hory 27.95 312 *ce*P **P 00 44 26.5 +0.1**
KHC pmax pmax
comp=Z,34nm,1.7s
KHC Kasperske Hory 27.95 312 P **P 00 44 25.8 -0.6**
comp=Z,8.3nm,1.0s
LESA Schwarzleotal 28.00 308 *i* P **P 00 44 26.4 -0.5**
comp=Z,11nm,0.8s
SLIT Slitere, Latvi 28.17 333 *eP* **P 00 44 26.8 -1.3**
TEOL Teolo 28.20 303 P **P 00 44 28.1 -0.5**
TEOL IAmb IAmb 00 44 38.1
comp=Z,18nm,0.7s
ARBE Arbavere 28.30 339 *eP* **P 00 44 29.1 -0.2**
CTI Castel Tesino 28.35 305 P **P 00 44 29.6 -0.5**
CTI IAmb IAmb 00 44 30.5
comp=Z,14nm,0.7s
CTI Castel Tesino 28.35 305 P **P 00 44 29.6 -0.5**
CTI pmax pmax
comp=Z,14nm,0.7s
BRG Berggiesshubel 28.38 315 Amp 00 44 32.1
comp=Z,3.6nm,0.9s
BRG Berggiesshubel 28.38 315 P P 00 44 39.2 +9.1
BRG Amp 00 44 40.2
comp=Z,3.9nm,0.8s
BRG PP **PnPn 00 45 21.0 +2.2**
BRG Amp 00 45 21.8
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 28.38 315 *eP* **P 00 44 29.2 -0.9**
BRG 00 44 39.2
BRG 00 45 21.0
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 28.38 315 *eP* **P 00 44 29.3 -0.9**
WTTA Wattenberg 28.64 307 *eP* **P 00 44 32.1 -0.7**
comp=Z,15nm,0.9s,SNR=6.9
WATA Walderalm 28.70 307 *i* P **P 00 44 32.5 -0.7**
comp=Z,11nm,0.9s
KURBB Kurchatov Arra 28.84 46 P **P 00 44 35.5 +1.3**
comp=Z,8.0nm,0.5s,baz=253,slow=9.0,SNR=33
KURBB PcP **PcP 00 47 44.4 +0.8**
comp=Z,0.7nm,0.6s,baz=241,slow=3.6,SNR=1.6
KURBB ScP **ScP 00 51 23.3 -1.7**
comp=Z,3.1nm,0.8s,baz=250,slow=4.2,SNR=15
comp=Z,8.0nm,0.5s
SQTA Sankt Quirin 28.91 307 *eP* **P 00 44 34.4 -0.7**
comp=Z,9.7nm,0.5s,SNR=6.6
KURK Kurchatov 28.93 45 P **P 00 44 36.1 +1.1**
KURK IAmb IAmb 00 44 43.5
comp=Z,19nm,0.8s
KURK Kurchatov 28.93 45 P **P 00 44 36.2 +1.1**
KURK Kurchatov 28.93 45 P **P 00 44 35.5 +0.5**
KURK 00 47 44.4
MOTA Moosalm 29.02 307 *i* P **P 00 44 35.1 -0.9**
comp=Z,16nm,0.8s
CLL Collm 29.09 316 P **P 00 44 35.4 -1.0**
CLL Collm 29.09 316 P **P 00 44 35.4 -1.0**
CLL pmax pmax
comp=Z,18nm,1.4s
CLL Collm 29.09 316 *i* P **P 00 44 35.4 -1.0**
comp=Z,17nm,1.4s
CLL Collm 29.09 316 P **P 00 44 35.9 -0.6**
comp=Z,8.2nm,1.1s
FETA Feichten 29.19 306 *i* P **P 00 44 37.0 -0.6**
comp=Z,14nm,1.5s
RETA Reutte 29.27 307 *i* P **P 00 44 37.4 -0.8**
comp=Z,9.1nm,0.8s
VSL Villasalto 29.41 291 P **P 00 44 39.1 -0.3**
MEF Metsahovi 29.41 338 *eP* **P 00 44 38.2 -0.9**
FUORN Ofenpass-Fuorn 29.41 305 P **P 00 44 36.7 -2.9**
GRA1 Grafenberg Arr 29.59 312 P **P 00 44 40.2 -0.7**
GRA1 IAmb IAmb 00 44 41.6
comp=Z,19nm,0.8s
GRF Grafenberg Arr 29.59 312 P **P 00 44 40.2 -0.7**
GRF pmax pmax
comp=Z,19nm,0.8s
GRFO Grafenberg 29.59 312 P **P 00 44 40.3 -0.6**
GRFO IAmb IAmb 00 44 41.5
comp=Z,18nm,0.8s
GRFO Grafenberg 29.59 312 P **P 00 44 40.3 -0.6**
GRFO pmax pmax
comp=Z,18nm,0.8s
KEST Kesra 29.75 283 P **P 00 44 42.2 -0.3**
comp=Z,16nm,1.1s,baz=351,slow=5.3,SNR=6.2
comp=Z,16nm,1.1s
SEM Semipalatinsk 29.80 47 *eP* **P 00 44 43.1 +0.2**
SEM Semipalatinsk 29.80 47 *eP* **P 00 44 43.1 +0.2**
DAVA Damuels 29.81 307 *i* P **P 00 44 42.2 -0.8**
comp=Z,13nm,0.4s,SNR=7.3
BSD Bornholm Skovb 29.81 324 *i* P **P 00 44 40.0 -2.8**
BSD IAmb IAmb 00 44 46.2
comp=Z,48nm,1.1s
FIA1 FINESS Array S 29.92 341 P **P 00 44 43.1 -0.6**
FINES FINESS Array B 29.92 341 P **P 00 44 42.6 -1.1**
FINES FINESS Array B 29.92 341 P **P 00 44 42.9 -0.8**
comp=Z,9.0nm,0.5s,baz=144,slow=9.9,SNR=66
comp=Z,9.0nm,0.5s
TUE Stuetta 30.00 305 P **P 00 44 43.0 -1.8**
TUE Stuetta 30.00 305 P **P 00 44 44.1 -0.7**
comp=Z,53nm,1.4s
JOF Joensuu 30.02 347 *eP* **P 00 44 44.7 +0.2**
BLEU Blekinge 30.03 326 *i* P **P 00 44 44.3 -0.4**
MKAR Makanchi Array 30.15 55 P **P 00 44 47.5 +1.5**
comp=Z,5.2nm,0.6s,baz=252,slow=7.8,SNR=27
comp=Z,5.2nm,0.6s
LUNU Lund 30.80 324 *i* P **P 00 44 51.0 -0.5**

KEF Keuruu 30.85 341 *eP* **P 00 44 51.7 -0.2**
RAF Rauma 30.86 337 *eP* **P 00 44 50.1 -1.8**
DEL Delary 31.03 325 *i* P **P 00 44 52.0 -1.5**
BNI Bardonecchia 31.64 302 P **P 00 44 58.5 -0.8**
BNI Bardonecchia 31.64 302 P **P 00 44 58.5 -0.8**
BNI pmax pmax
comp=Z,48nm,0.7s
FABU Falkenberg 31.85 326 *i* P **P 00 45 00.2 -0.5**
VAF Ylistaro 32.16 340 *eP* **P 00 45 02.3 -1.0**
BORU Boraas 32.16 327 *i* P **P 00 45 02.8 -0.6**
LODK Lodwar 32.23 200 P **P 00 45 06.2 +1.6**
LODK Lodwar 32.23 200 P **P 00 45 04.8 +0.2**
ONAU Onsala 32.43 326 *i* P **P 00 45 05.3 -0.4**
WLF Walferdange 32.76 310 IAmb IAmb 00 45 08.6
comp=Z,19nm,0.9s
WLF Walferdange 32.76 310 *d*P **P 00 45 07.0 -1.8**
comp=Z,12nm,1.1s
TJOU Tjoern 32.89 327 *i* P **P 00 45 08.6 -1.3**
SSB Saint Sauveur 33.17 302 IAmb IAmb 00 45 11.6
comp=Z,9.1nm,0.8s
HFS Hagfors 33.18 331 P **P 00 45 11.8 -0.6**
comp=Z,28nm,0.6s,baz=132,slow=8.8,SNR=101
comp=Z,28nm,0.6s
MUD Monsted U'grnd 33.30 323 *i* P **P 00 45 12.0 -1.4**
MUD IAmb IAmb 00 45 18.9
comp=Z,27nm,0.9s
RCHB Rochefort 33.45 311 *d*P **P 00 45 14.7 -0.1**
RCHB *dx* x 00 45 24.9
RCHB *d*PP **PnPn 00 46 23.7 -1.9**
WMQ Urumqi 33.60 61 *eP* **P 00 45 17.8 +1.5**
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ LR LR
comp=Z,940nm,14.3s
WMQ LR LR
comp=Z,1μm,11.5s
WMQ LR LR
comp=Z,410nm,15.7s
ZALV Zalesovo Beam 33.63 42 P **P 00 45 16.1 -0.3**
comp=Z,4.4nm,0.5s,baz=248,slow=8.6,SNR=13
ZALV ScP **ScP 00 51 39.1 -1.8**
comp=Z,0.3nm,0.4s,baz=251,slow=4.4,SNR=3.8
ZALV LR LR 01 01 07.8
comp=Z,606nm,20.2s,baz=230,slow=40
comp=Z,4.4nm,0.5s
DOU Dourbes 33.83 310 *d*P **P 00 45 17.6 -0.6**
APA Apatity 34.05 352 ⇓ *i*P P 00 45 14.0 -5.8
APA pmax pmax
comp=Z,14nm,1.1s
APA MLR MLR
comp=Z,1μm,13.0s
OSL Oslo 34.30 329 *eP* **P 00 45 21.5 -0.6**
NC602 NORSAR Array S 34.40 331 P **P 00 45 21.8 -1.2**
NC602 NORSAR Array S 34.40 331 *eP* **P 00 45 21.7 -1.2**
HOMB Homborsund 34.45 326 *eP* **P 00 45 22.7 -0.7**
HOMB Homborsund 34.45 326 *i* P **P 00 45 21.0 -2.4**
NC405 NORSAR Array S 34.55 331 IAmb IAmb 00 45 24.8
comp=Z,11nm,0.8s
KONO Kongsberg 34.63 328 P **P 00 45 24.1 -0.8**
KONO IAmb IAmb 00 45 29.0
comp=Z,25nm,1.1s
KONO Kongsberg 34.63 328 *eP* **P 00 45 24.1 -0.8**
KONO Kongsberg 34.63 328 P **P 00 45 24.1 -0.8**
KONO pmax pmax
comp=Z,25nm,1.2s
NB2 NORSAR Subarra 34.70 331 P **P 00 45 24.2 -1.4**
comp=Z,6.3nm,0.7s,baz=125,slow=9.3
NB2 NORSAR Subarra 34.70 331 P **P 00 45 24.2 -1.4**
baz=125,slow=9.3
NOA NORSAR Array B 34.70 331 P **P 00 45 24.4 -1.3**
comp=Z,3.6nm,0.6s,baz=125,slow=8.7,SNR=25
comp=Z,3.6nm,0.6s
NAO01 NORSAR Array S 34.73 331 IAmb IAmb 00 45 29.5
comp=Z,12nm,0.9s
SNART Snartemo 35.09 325 *i* P P 00 45 20.8 -8.2
SKAR Skarslia 35.71 329 *eP* **P 00 45 34.5 +0.2**
BLS5 Blasjo 35.92 327 *eP* **P 00 45 36.2 +0.1**
ODD1 Odda 36.07 327 *eP* **P 00 45 37.9 +0.5**
KMBO Kilima Mbogo 36.16 195 P **P 00 45 40.9 +2.1**
comp=Z,1.9nm,0.8s,baz=68,slow=19,SNR=3.1
comp=Z,1.9nm,0.8s
NSS Namsos 36.53 336 *eP* **P 00 45 40.7 -0.5**
MOR8 Moi Rana 36.86 339 *eP* **P 00 45 43.3 -0.7**
BER Bergen 36.86 328 *eP* **P 00 45 44.3 +0.2**
TAM Tamanrasset 36.94 263 P **P 00 45 46.3 +0.9**
TAM IAmb IAmb 00 45 48.8
comp=Z,19nm,1.0s
TAM Tamanrasset 36.94 263 P **P 00 45 46.3 +0.9**
TAM pmax pmax
comp=Z,19nm,1.0s
KTK1 Kautokeino 36.96 347 *eP* **P 00 45 44.2 -0.7**
ASK Askoy 36.97 328 *eP* **P 00 45 44.9 -0.1**
ARA0 ARCESS Array S 37.01 348 *eP* **P 00 45 45.1 -0.2**
ARCES ARCESS Array B 37.01 348 P **P 00 45 45.0 -0.3**
comp=Z,8.8nm,0.5s,baz=169,slow=8.7,SNR=56
comp=Z,8.8nm,0.5s
ARCES ARCESS Array B 37.01 348 P **P 00 45 45.3 0.0**
ARCES pmax pmax
comp=Z,43nm,1.4s
KIBK Kibwezi 37.18 193 P **P 00 45 49.5 +2.1**
KIBK Kibwezi 37.18 193 P **P 00 45 49.4 +2.1**
STOK Stokkvaagen 37.39 339 *eP* **P 00 45 48.1 -0.4**
KONS Konsvik 37.47 339 *eP* **P 00 45 48.6 -0.6**
FAUS Fauske 37.49 341 *eP* **P 00 45 48.8 -0.5**
MBAR Mbarara 37.49 205 P **P 00 45 49.9 -0.2**
MBAR Mbarara 37.49 205 P **P 00 45 51.6 +1.5**
comp=Z,4.1nm,0.2s,baz=39,slow=12,SNR=9.7
comp=Z,4.1nm,0.2s
MBAR Mbarara 37.49 205 P **P 00 45 51.4 +1.4**
FOO Floro 37.54 329 *eP* **P 00 45 49.8 0.0**
STEI Steigen 37.90 342 *eP* **P 00 45 52.6 -0.2**
CWF Charnwood Fore 37.97 314 *eP* **P 00 45 51.8 -1.7**
JETT Jettan, Norway 37.97 346 *eP* **P 00 45 53.3 -0.2**
SWN1 Swindon 38.07 312 *eP* **P 00 45 54.2 -0.3**
SWN1 IAmb IAmb 00 45 56.1
comp=Z,57nm,0.6s
HAMF Hammerfest 38.29 348 *eP* **P 00 45 56.8 +0.8**
STRD Stroud 38.34 312 *eP* **P 00 45 55.5 -1.1**
STRD IAmb IAmb 00 45 58.7
comp=Z,51nm,0.9s
TRO Tromso 38.34 345 *eP* **P 00 45 55.9 -0.6**
MONM Monmouth 38.74 312 *eP* **P 00 45 58.7 -1.3**
MCH1 Michaelchurch 38.88 312 *eP* **P 00 46 00.1 -1.1**
MCH1 IAmb IAmb 00 46 01.0
comp=Z,19nm,0.6s
FOEL Foel Wylfa 39.12 314 *eP* **P 00 46 02.4 -0.9**
FOEL IAmb IAmb 00 46 03.9
comp=Z,27nm,0.9s
KESW Keswick, Cumbr 39.35 316 *eP* **P 00 46 04.6 -0.5**
EKA Eskdalemuir Ar 39.52 317 P **P 00 46 05.7 -0.8**
comp=Z,10nm,0.6s,baz=102,slow=8.9,SNR=50
EKA PcP **PcP 00 48 14.1 +0.2**
comp=Z,4.2nm,0.9s,baz=122,slow=4.2,SNR=4.0
comp=Z,10nm,0.6s
ESK Eskdalemuir 39.54 317 *eP* **P 00 46 05.2 -1.5**
EDI Edinburgh 39.66 318 *eP* **P 00 46 07.1 -0.6**
EDI IAmb IAmb 00 46 08.6
comp=Z,44nm,0.6s
ESBB Sonseca Array 39.66 293 P **P 00 46 08.2 +0.2**
ESDC Sonseca Array 39.66 293 P **P 00 46 07.6 -0.4**
ESDC Sonseca Array 39.66 293 P **P 00 46 07.2 -0.7**
comp=Z,3.6nm,0.7s,baz=75,slow=8.2,SNR=25
ESDC PcP **PcP 00 48 14.9 +0.2**
comp=Z,1.5nm,0.7s,baz=40,slow=3.8,SNR=4.9
comp=Z,3.6nm,0.7s
LRW Lerwick 39.76 325 *eP* **P 00 46 07.4 -1.1**
GOMU GeErMu 39.76 73 P **P 00 46 10.8 +1.5**
GOMU pP sP 00 46 14.3 +0.4
GOMU sP pP 00 46 18.5 +5.9
GOMU pmax pmax
comp=Z,6.0nm,0.8s
MCD Coleburn Disti 40.07 321 *eP* **P 00 46 10.3 -0.8**
MCD IAmb IAmb 00 46 11.4
comp=Z,42nm,0.8s
PGBU Glenifferbraes 40.35 318 *eP* **P 00 46 13.3 -0.1**
PGBU IAmb IAmb 00 46 14.3
comp=Z,30nm,0.9s
SHL Shillong 40.62 90 P **P 00 46 15.7 -0.6**
SHL IAmb IAmb 00 46 42.1
comp=Z,43nm,1.5s
SHL Shillong 40.62 90 P **P 00 46 15.7 -0.6**
SHL pmax pmax
comp=Z,43nm,1.5s
LAWE Loch Awe, Argy 40.94 318 *eP* **P 00 46 17.6 -0.7**
LINV Loch Inver, As 41.21 321 *eP* **P 00 46 19.2 -1.2**

PBRG Braganca 41.46 296 *eP* **P 00 46 23.5 +0.7**
MVO Moncorvo 41.76 295 *eP* **P 00 46 25.0 -0.3**
MVO A A 00 46 30.0
comp=Z,44nm,1.7s
NRIK Noril'sk 41.95 21 P **P 00 46 27.1 +0.7**
NRIK IAmb IAmb 00 46 34.7
comp=Z,35nm,1.2s
NRIK Noril'sk 41.95 21 P **P 00 46 27.6 +1.2**
comp=Z,7.2nm,0.7s,baz=215,slow=5.4,SNR=6.6
NRIK LR LR 01 07 31.3
comp=Z,945nm,19.0s,baz=234,slow=41
comp=Z,7.2nm,0.7s
PVRL Vila Real 42.26 296 *eP* **P 00 46 29.4 0.0**
PBAR Barrancos 42.28 291 *eP* **P 00 46 29.3 -0.2**
PCBR Castelo Branco 42.31 294 *eP* **P 00 46 29.8 +0.1**
PMRV Marv??o 42.31 293 *eP* **P 00 46 29.9 +0.1**
PVIS Viseu 42.48 295 *eP* **P 00 46 31.2 0.0**
PGAV Gavieira, Arco 42.57 297 *eP* **P 00 46 32.4 +0.4**
PESTR Estremoz 42.57 292 *eP* **P 00 46 31.3 -0.6**
PBEJ Beja 42.95 291 *eP* **P 00 46 35.0 0.0**
PBEJ A A 00 46 36.7
comp=Z,69nm,1.6s
GTA Gaotai 43.01 67 *eP* **P 00 46 37.0 +1.4**
GTA pP sP 00 46 43.0 +2.7
GTA pmax pmax
comp=Z,8.0nm,1.3s
PMTG Montargil 43.02 293 *ep*P pP 00 46 38.7 -0.1
TORD Torodi Ar. Bea 45.08 253 P **P 00 46 52.2 -0.1**
TORD IAmb IAmb 00 46 58.5
comp=Z,14nm,1.2s
TORD Torodi Ar. Bea 45.08 253 P **P 00 46 52.2 -0.1**
comp=Z,8.0nm,0.8s,baz=47,slow=5.7,SNR=86
TORD PcP **PcP 00 48 33.2 +0.2**
comp=Z,1.7nm,0.6s,baz=29,slow=2.4,SNR=4.5
comp=Z,8.0nm,0.8s
SPITS Spitsbergen Ar 45.74 352 P **P 00 46 57.0 +0.2**
comp=Z,3.3nm,0.3s,baz=143,slow=12,SNR=38
comp=Z,3.3nm,0.3s
SPITS Spitsbergen Ar 45.74 352 P **P 00 46 57.0 +0.2**
SONM Songino Array 46.51 54 P **P 00 47 04.7 +1.2**
comp=Z,0.6nm,0.6s,baz=300,slow=11,SNR=2.8
SONM LR LR 01 09 15.2
comp=Z,457nm,18.7s,baz=318,slow=40
LZH Lanzhou 46.88 70 P P 00 47 01.3 -5.2
LZH sP pP 00 47 07.8 -2.1
LZH pmax pmax
comp=Z,17nm,1.5s
ULN Ulaanbaatar 46.95 54 P **P 00 47 06.4 -0.5**
ULN IAmb IAmb 00 47 15.4
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 46.95 54 P **P 00 47 06.4 -0.5**
ULN pmax pmax
comp=Z,7.0nm,0.9s
PZH PanZhiHua 48.39 83 P **P 00 47 19.8 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
CD2 Chengdu 48.41 77 *eP* **P 00 47 18.0 -0.3**
CHTO Chiang Mai 49.48 94 P **P 00 47 26.9 +0.2**
CHTO IAmb IAmb 00 47 35.3
comp=Z,11nm,0.6s
CHTO Chiang Mai 49.48 94 P **P 00 47 26.9 +0.2**
CHTO pmax pmax
comp=Z,11nm,0.6s
CM31 Chiang Mai Arr 49.66 94 P **P 00 47 28.1 +0.1**
CMAR Chiang Mai Arr 49.66 94 P **P 00 47 28.1 +0.1**
CMAR Chiang Mai Arr 49.66 94 P **P 00 47 28.3 +0.3**
comp=Z,6.8nm,0.8s,baz=295,slow=8.1,SNR=14
CMAR LR LR 01 10 36.6
comp=Z,248nm,18.7s,baz=140,slow=38
comp=Z,6.8nm,0.8s
SCO Scoresbysund 50.64 336 *i* P **P 00 47 34.8 +0.1**
SCO IAmb IAmb 00 47 42.2
comp=Z,8.8nm,1.4s
PHRA Phrae 50.70 94 P **P 00 47 36.4 +0.6**
DAG Danmarks Havn 51.06 345 *i* P **P 00 47 37.0 -0.8**
DAG IAmb IAmb 00 47 44.4
comp=Z,10nm,0.8s
HHC Hu-ho-hao-te 51.46 62 *eP* **P 00 47 40.8 -0.7**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,540nm,4.4s
XAN Xi'an 51.47 71 P **P 00 47 41.8 +0.3**
XAN pP sP 00 47 52.0 +5.8
XAN pmax pmax
comp=Z,29nm,0.8s
LSZ Lusaka 52.08 202 P **P 00 47 48.6 +2.3**
LSZ Lusaka 52.08 202 P **P 00 47 48.6 +2.3**
LSZ pmax pmax
comp=Z,12nm,1.4s
NOR Nord 52.30 351 *i* P **P 00 47 46.8 -0.2**
NOR IAmb IAmb 00 47 54.1
comp=Z,9.9nm,1.0s
MACI Morro de la Ar 52.84 282 P **P 00 47 51.2 -0.7**
ABPO Ambohimpanom 53.06 178 P **P 00 47 53.0 -0.5**
ABPO IAmb IAmb 00 48 00.4
comp=Z,14nm,1.2s
ABPO Ambohimpanom 53.06 178 P **P 00 47 53.0 -0.5**
ABPO pmax pmax
comp=Z,14nm,1.3s
BSI Banda Aceh 53.98 111 P **P 00 48 01.4 +1.1**
LYN LuoYang 54.06 69 *eP* P 00 48 08.0 +7.4
LYN pmax pmax
comp=Z,19nm,0.6s
DBIC Dimbokro 54.10 251 P **P 00 48 00.9 -0.2**
comp=Z,7.5nm,0.5s,baz=42,slow=6.9,SNR=18
comp=Z,7.5nm,0.5s
HNS HongShan 54.82 65 ⇑P P 00 48 12.8 +6.7
HNS pmax pmax
comp=Z,6.0nm,0.6s
BJI Beijing 55.07 62 P **P 00 48 11.0 +3.2**
BJI pmax pmax
comp=Z,3.0nm,0.8s
BJI pmax pmax
comp=Z,230nm,8.6s
BJI LR LR
comp=Z,240nm,20.6s
BJI LR LR
comp=Z,190nm,18.4s
BJI LR LR
comp=Z,120nm,19.2s
LHMI Lhok Sumawe 55.43 110 P **P 00 48 14.7 +3.9**
SRIT Nakonsritamara 55.51 104 P **P 00 48 10.2 -1.2**
SRIT IAmb IAmb 00 48 13.2
comp=Z,13nm,1.0s
MLSI Meulaboh, Aceh 55.61 111 P **P 00 48 15.1 +3.0**
comp=Z,26nm,0.6s
TIXI Tiksi 55.68 22 P **P 00 48 11.6 -0.2**
TIXI IAmb IAmb 00 48 26.0
comp=Z,6.2nm,0.7s
TIXI Tiksi 55.68 22 P **P 00 48 11.8 +0.1**
comp=Z,3.4nm,0.4s,baz=9.1,slow=4.0,SNR=9.6
comp=Z,3.4nm,0.4s
SUMG Summit 55.92 339 P **P 00 48 13.3 -0.7**
SUMG IAmb IAmb 00 48 25.7
comp=Z,9.0nm,0.8s
SUMG Summit 55.92 339 P **P 00 48 13.3 -0.7**
SUMG pmax pmax
comp=Z,9.0nm,0.8s
SUMG Summit 55.92 339 *i* P **P 00 48 14.0 0.0**
SUMG IAmb IAmb 00 48 19.1
comp=Z,7.9nm,0.6s
ICESG Greenland Ices 56.79 335 *i* P **P 00 48 19.6 -0.6**
ICESG IAmb IAmb 00 48 43.5
comp=Z,28nm,1.4s
BROLN Tlhalogang 57.84 200 *i* P **P 00 48 29.2 +1.4**
NEEM North Greenlan 58.25 345 *i* P **P 00 48 29.5 -0.8**
NEEM IAmb IAmb 00 48 36.5
comp=Z,8.7nm,0.8s
HEH HeiHe 59.50 47 *eP* **P 00 48 39.8 +0.8**
DY2G Dye2 59.84 332 *i* P **P 00 48 40.9 -0.5**
DY2G IAmb IAmb 00 48 45.5
comp=Z,19nm,0.6s
NJ2 Nanjing 59.95 70 *eP* **P 00 48 42.5 +0.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
GRTLG Ghanzi 60.10 207 *i* P **P 00 48 45.9 +2.3**
KGCAE Kacgae 61.11 205 *i* P **P 00 48 52.4 +2.0**
NRS Narsarsuaq 61.14 326 *i* P **P 00 48 48.8 -1.2**
NRS IAmb IAmb 00 48 52.3
comp=Z,24nm,0.8s
KOOLE Kule 61.97 207 *i* P **P 00 48 58.1 +1.9**
LBTB Lobatse 62.04 201 P **P 00 48 58.2 +1.6**
LBTB IAmb IAmb 00 48 59.2
comp=Z,10nm,0.9s

LBTB	**Lobatse**	**62.04**	**201**	P	**P**	**00 48 58.2**	**+1.6**
LBTB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KLR	**Kul'dur**	**62.50**	**47**	*e*P	**P**	**00 49 02.6**	**+3.2**
KLR				pmax	pmax		
	comp=Z,7.0nm,1.5s						
WIN	**Windhoek**	**62.80**	**210**	P	**P**	**00 49 03.4**	**+1.5**
WIN				IAmb	IAmb	00 49 10.6	
	comp=Z,11nm,0.9s						
WIN	**Windhoek**	**62.80**	**210**	P	**P**	**00 49 03.4**	**+1.5**
WIN				pmax	pmax		
	comp=Z,11nm,0.9s						
EUNU	**Eureka**	**62.86**	**352**	P	**P**	**00 49 03.0**	**+1.5**
KSAR	**Wonju Array Be**	**64.53**	**61**	P	**P**	**00 49 11.9**	**-1.1**
KSAR	**Wonju Array Be**	**64.53**	**61**	P	**P**	**00 49 11.9**	**-1.1**
KSRS	**Korea Array**	**64.55**	**61**	P	**P**	**00 49 12.6**	**-0.6**
	comp=Z,4.1nm,0.7s,baz=287,slow=7.1,SNR=11						
	comp=Z,4.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**64.59**	**53**	P	**P**	**00 49 12.5**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=309,slow=6.2,SNR=5.2						
	comp=Z,1.7nm,0.6s						
BOSA	**Boshof**	**65.53**	**200**	P	**P**	**00 49 20.7**	**+1.1**
BOSA	**Boshof**	**65.53**	**200**	P	**P**	**00 49 20.6**	**+1.1**
	comp=Z,8.2nm,0.6s,baz=20,slow=6.3,SNR=38						
	comp=Z,8.2nm,0.6s						
BOSA	**Boshof**	**65.53**	**200**	P	**P**	**00 49 20.7**	**+1.1**
BOSA				pmax	pmax		
	comp=Z,13nm,0.7s						
SEY	**Seymchan**	**67.00**	**28**	P	**P**	**00 49 29.4**	**+0.9**
	comp=Z,13nm,0.7s,baz=263,slow=8.9,SNR=8.2						
	comp=Z,13nm,0.7s						
SEY	**Seymchan**	**67.00**	**28**	*e*P	**P**	**00 49 32.1**	**+3.6**
SEY				pmax	pmax		
	comp=Z,17nm,1.1s						
RES	**Resolute Bay**	**68.22**	**350**	P	**P**	**00 49 37.4**	**+1.3**
RES				IAmb	IAmb	00 49 44.1	
	comp=Z,7.9nm,1.2s						
RES	**Resolute Bay**	**68.22**	**350**	P	**P**	**00 49 37.4**	**+1.3**
RES				pmax	pmax		
	comp=Z,8.0nm,1.3s						
JOW	**Kunigami**	**69.62**	**71**	LR	LR	01 24 38.1	
	comp=Z,419nm,18.5s,baz=181,slow=40						
ASAJ	**Asahikawa**	**71.44**	**49**	LR	LR	01 24 06.2	
	comp=Z,337nm,18.2s,baz=38,slow=38						
MJAR	**Matsushiro Arr**	**72.29**	**58**	LR	LR	01 23 50.5	
	comp=Z,372nm,20.3s,baz=90,slow=38						
SCHQ	**Schefferville**	**74.11**	**326**	IAmb	IAmb	00 50 17.3	
	comp=Z,14nm,0.8s						
SCHQ	**Schefferville**	**74.11**	**326**	P	**P**	**00 50 11.2**	**-0.9**
	comp=Z,6.2nm,0.6s,baz=38,slow=6.3,SNR=14						
	comp=Z,6.2nm,0.6s						
PETK	**Petropavlovsk-**	**74.85**	**35**	LR	LR	01 25 21.8	
	comp=Z,369nm,18.5s,baz=118,slow=38						
C18K	**Utukok River**	**75.40**	**10**		pP	00 50 23.9	+1.0
C27K	**Jago River**	**76.12**	**3**	P	**P**	**00 50 24.4**	**+1.0**
C27K				IAmb	IAmb	00 50 31.6	
	comp=Z,8.9nm,1.0s						
D25K	**Kavik River**	**76.27**	**4**	P	**P**	**00 50 25.2**	**+0.9**
D25K				IAmb	IAmb	00 50 34.9	
	comp=Z,8.7nm,0.9s						
E18K	**Tukpahlearik C**	**76.62**	**10**	P	**P**	**00 50 27.4**	**+1.1**
E18K				IAmb	IAmb	00 50 31.8	
	comp=Z,7.8nm,0.7s						
TOLK	**Toolik Lake Re**	**76.71**	**6**	P	**P**	**00 50 27.6**	**+0.8**
TOLK				IAmb	IAmb	00 50 38.0	
	comp=Z,9.2nm,0.8s						
GBN	**Guysborough**	**76.98**	**316**	P	**P**	**00 50 29.8**	**+1.1**
E22K	**Anaktuvuk Pass**	**77.00**	**7**	P	**P**	**00 50 29.4**	**+0.9**
E22K				IAmb	IAmb	00 50 35.3	
	comp=Z,16nm,1.4s						
E19K	**Redstone River**	**77.05**	**9**	P	**P**	**00 50 29.2**	**+0.5**
E19K				IAmb	IAmb	00 50 36.4	
	comp=Z,18nm,1.1s						
E23K	**Chandalar**	**77.28**	**6**		pP	00 50 34.8	+1.2
E28M	**Babbage River**	**77.31**	**2**	P	**P**	**00 50 32.2**	**+2.0**
E28M				IAmb	IAmb	00 50 40.9	
	comp=Z,5.8nm,0.8s						
E24K	**Your Creek**	**77.35**	**5**	P	**P**	**00 50 31.3**	**+0.9**
E24K				IAmb	IAmb	00 50 39.3	
	comp=Z,10nm,1.1s						
F19K	**Shaleruckik Mo**	**77.57**	**9**	P	**P**	**00 50 31.7**	**+0.1**
F19K				IAmb	IAmb	00 50 36.8	
	comp=Z,8.0nm,0.9s						
ICQ	**Pointe Anglais**	**77.60**	**322**	P	**P**	**00 50 32.0**	**0.0**
INK	**Inuvik**	**77.68**	**360**	P	**P**	**00 50 33.0**	**+0.8**
INK	**Inuvik**	**77.68**	**360**	P	**P**	**00 50 33.0**	**+0.8**
INK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BMAR	**Burnt Mountain**	**78.26**	**4**	P	**P**	**00 50 37.2**	**+1.7**
F28M	**Old Crow**	**78.29**	**2**	P	**P**	**00 50 37.1**	**+1.5**
F28M				IAmb	IAmb	00 50 43.2	
	comp=Z,6.0nm,0.8s						
G19K	**Purcell Mounta**	**78.31**	**9**	IAmb	IAmb	00 50 40.6	
	comp=Z,8.0nm,0.7s						
IMAR	**Indian Mountai**	**78.88**	**8**	P	**P**	**00 50 39.4**	**+0.5**
G30M	**tAoh Zraii Nji**	**79.00**	**1**	IAmb	IAmb	00 50 46.7	
	comp=Z,16nm,0.9s						
G27K	**Doyon Strip**	**79.03**	**3**	P	**P**	**00 50 40.6**	**+0.9**
G27K				IAmb	IAmb	00 50 47.7	
	comp=Z,7.6nm,0.8s						
G29M	**Pine Creek**	**79.04**	**2**	P	**P**	**00 50 40.8**	**+1.0**
G31M	**Satah River**	**79.07**	**0**	P	**P**	**00 50 39.4**	**-0.5**
H24K	**Noodor Dome**	**79.60**	**6**	P	**P**	**00 50 43.9**	**+1.0**
EPYK	**Eagle Plains**	**79.61**	**1**	P	**P**	**00 50 43.1**	**+0.2**
H29M	**Whitestone**	**79.73**	**2**	IAmb	IAmb	00 50 51.0	
	comp=Z,9.3nm,0.8s						
MLY	**Manley**	**80.13**	**7**	P	**P**	**00 50 46.8**	**+1.0**
MLY				IAmb	IAmb	00 50 53.8	
	comp=Z,11nm,1.1s						
H31M	**Peel River**	**80.19**	**0**	IAmb	IAmb	00 50 53.3	
	comp=Z,15nm,1.1s						
POKR	**Poker Plat Res**	**80.35**	**6**	P	**P**	**00 50 47.1**	**+0.2**
POKR				IAmb	IAmb	00 50 55.1	
	comp=Z,12nm,1.1s						
I26K	**Coal Creek Min**	**80.45**	**4**	P	**P**	**00 50 48.7**	**+1.3**
I26K				IAmb	IAmb	00 50 55.2	
	comp=Z,9.6nm,0.9s						
I28M	**Miner Creek**	**80.45**	**2**	IAmb	IAmb	00 50 54.4	
	comp=Z,11nm,1.1s						
COLA	**College**	**80.55**	**6**	P	**P**	**00 50 48.9**	**+0.9**
COLA				IAmb	IAmb	00 50 53.7	
	comp=Z,15nm,0.8s						
COLA	**College**	**80.55**	**6**	P	**P**	**00 50 48.9**	**+0.9**
IL31		**80.73**	**5**	P	**P**	**00 50 50.0**	**+1.1**
ILAR	**Eielson Array**	**80.73**	**5**	P	**P**	**00 50 49.3**	**+0.3**
ILAR	**Eielson Array**	**80.73**	**5**	P	**P**	**00 50 48.8**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=331,slow=4.5,SNR=4.8						
	comp=Z,2.0nm,0.8s						
ILAR	**Eielson Array**	**80.73**	**5**	P	**P**	**00 50 49.3**	**+0.3**
EGAK	**Eagle**	**81.08**	**3**	P	**P**	**00 50 51.6**	**+0.8**
EGAK				IAmb	IAmb	00 50 56.2	
	comp=Z,8.3nm,0.9s						
HDA	**Harding Lake**	**81.09**	**6**	P	**P**	**00 50 50.0**	**-0.9**
J26L	**Joseph Creek**	**81.23**	**4**	P	**P**	**00 50 52.8**	**+1.0**
SCRK	**Sand Creek**	**81.72**	**4**	P	**P**	**00 50 56.4**	**+2.0**
SCRK				IAmb	IAmb	00 51 00.4	
	comp=Z,7.6nm,0.8s						
DAWY	**Dawson**	**81.86**	**2**	P	**P**	**00 50 56.6**	**+1.6**
DAWY				IAmb	IAmb	00 51 02.6	
	comp=Z,15nm,1.4s						
K29M	**Barlow Dome**	**82.13**	**1**	IAmb	IAmb	00 51 03.9	
	comp=Z,8.1nm,1.0s						
YKA	**Yellowknife Ar**	**82.23**	**351**	P	**P**	**00 50 56.4**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=48,slow=7.9,SNR=14						
	comp=Z,2.3nm,0.7s						
WRGLY	**Wrigley**	**82.40**	**355**	P	**P**	**00 50 57.4**	**-0.3**
WRGLY				IAmb	IAmb	00 51 03.1	
	comp=Z,12nm,0.7s						
L27K	**Beaver Creek,**	**82.76**	**3**	P	**P**	**00 51 00.7**	**+0.9**
KLU	**Klutina**	**84.05**	**6**	P	**P**	**00 51 07.6**	**+1.1**
BCPM	**Bancas Point**	**85.96**	**3**	P	**P**	**00 51 17.5**	**+1.5**
NWAO	**Narrogin (SRO)**	**94.73**	**127**	LR	LR	01 29 05.5	
	comp=Z,103nm,20.9s,baz=285,slow=32						
WRA	**Warramunga Arr**	**99.85**	**107**	P	**Pdif**	**00 52 20.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=315,slow=4.1,SNR=4.9						
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	**101.51**	**111**	P	**Pdif**	**00 52 28.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=305,slow=3.3,SNR=1.4						
LPAZ	**La Paz**	**118.58**	**269**	PKP	**PKiKP**	**00 57 26.1**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=30,slow=5.4,SNR=1.7						
QSPA	**South Pole Qui**	**124.16**	**180**	PKP	**PKiKP**	**00 57 35.8**	**+1.7**
	comp=Z,1.5nm,0.6s,baz=224,slow=2.6,SNR=2.4						

ROM 26 00:41:48.4±0.1, 42°.493N±0°.004×13°.309E±0°.006,

h11km, ML1.9/20, 3C, Error ellipse: s-maj=0.5km s-min=0.3km az=59.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.07**	**283**	P	Pg	00 41 51.3	+0.4
RM33				S	Sg	00 41 53.0	+0.3
RM33				AML	AML		
	comp=E,1575μm,1.1s						
RM33				AML	AML		
	comp=N,1125μm,0.4s						
RM33				AML	AML		
	comp=N,1155μm,0.4s						
RM33				AML	AML		
	comp=E,1530μm,1.1s						
RM33				AML	AML		
	comp=E,1375μm,0.3s						
RM33				AML	AML		
	comp=E,1355μm,0.3s						
RM33				AML	AML		
	comp=N,905μm,0.1s						
RM33				AML	AML		
	comp=N,924μm,0.1s						
CAMP	**Campotosto**	**0.09**	**60⇑**	*i*P	Pg	00 41 51.5	+0.4
CAMP				S	Sg	00 41 53.5	+0.5
SMA1	**SAN MARTINO**	**0.14**	**8**	P	Pg	00 41 52.3	+0.5
SMA1				S	Sg	00 41 55.2	+1.1
SMA1				AML	AML		
	comp=E,1640μm,0.3s						
SMA1				AML	AML		
	comp=N,1224μm,0.3s						
SMA1				AML	AML		
	comp=E,1637μm,0.3s						
SMA1				AML	AML		
	comp=N,1226μm,0.3s						
GIGS	**Gran Sasso**	**0.20**	**102**	P	Pg	00 41 52.9	+0.2
GIGS				S	Sg	00 41 56.1	+0.5
GIGS				AML	AML		
	comp=N,45μm,0.1s						
LNSS	**Leonessa**	**0.23**	**299⇑**	*i*P	Pg	00 41 53.7	+0.5
LNSS				S	Sg	00 41 57.5	+1.1
LNSS				AML	AML		
	comp=E,712μm,0.1s						
LNSS				AML	AML		
	comp=N,528μm,1.1s						
LNSS				AML	AML		
	comp=E,712μm,0.1s						
LNSS				AML	AML		
	comp=N,454μm,1.1s						
LNSS				AML	AML		
	comp=E,727μm,0.2s						
LNSS				AML	AML		
	comp=N,528μm,0.9s						
LNSS				AML	AML		
	comp=N,454μm,0.9s						
LNSS				AML	AML		
	comp=E,712μm,0.1s						
LNSS				AML	AML		
	comp=N,450μm,0.1s						
LNSS				AML	AML		
	comp=E,727μm,0.2s						
LNSS				AML	AML		
	comp=N,526μm,0.2s						
TERO	**Teramo**	**0.25**	**59**	P	Pg	00 41 53.8	+0.1
TERO				S	Sg	00 41 57.8	+0.7
TERO				AML	AML		
	comp=E,95μm,0.8s						
TERO				AML	AML		
	comp=N,113μm,0.3s						
TERO				AML	AML		
	comp=E,95μm,1.2s						
TERO				AML	AML		
	comp=N,68μm,0.2s						
TERO				AML	AML		
	comp=N,104μm,0.2s						
FIAM	**Fiamignano**	**0.27**	**212**	P	Pg	00 41 54.3	+0.4
FIAM				S	Sb	00 41 58.7	-1.2
FIAM				AML	AML		
	comp=E,45μm,0.2s						
MTRA	**Matera**	**0.27**	**14⇑**	*i*P	Pg	00 41 54.2	+0.2
MTRA				S	Sg	00 41 58.5	+0.7
MTRA				AML	AML		
	comp=N,594μm,1.0s						
MTRA				AML	AML		
	comp=E,768μm,0.2s						
MTRA				AML	AML		
	comp=E,779μm,0.2s						
MTRA				AML	AML		
	comp=N,586μm,1.0s						
MTRA				AML	AML		
	comp=E,779μm,0.2s						
MTRA				AML	AML		
	comp=N,497μm,0.3s						
MTRA				AML	AML		
	comp=N,481μm,0.3s						
MTRA				AML	AML		
	comp=E,768μm,0.2s						
FAGN	**Fagnano**	**0.30**	**138**	P	Pg	00 41 55.2	+0.7
FAGN				S	Sb	00 42 00.5	-0.5
FAGN				AML	AML		
	comp=N,228μm,1.5s						
FAGN				AML	AML		
	comp=E,247μm,0.3s						
FAGN				AML	AML		
	comp=N,217μm,0.3s						
FAGN				AML	AML		
	comp=E,247μm,0.3s						
NRCA	**Norcia**	**0.37**	**337**	P	Pg	00 41 56.0	+0.2
NRCA				S	Sg	00 42 01.7	+0.9
NRCA				AML	AML		
	comp=E,180μm,0.2s						
NRCA				AML	AML		
	comp=N,152μm,1.3s						
NRCA				AML	AML		
	comp=E,180μm,1.8s						
NRCA				AML	AML		
	comp=N,152μm,0.7s						
NRCA				AML	AML		
	comp=E,179μm,0.2s						
NRCA				AML	AML		
	comp=N,146μm,0.1s						
NRCA				AML	AML		
	comp=E,255μm,0.3s						
VCEL	**Villa Celiera**	**0.41**	**104**	P	Pb	00 41 57.3	-0.4
VCEL				S	Sb	00 42 03.6	-0.3
MMO1	**Montemonaco**	**0.41**	**2**	P	Pg	00 41 56.7	+0.2
MMO1				S	Sb	00 42 03.0	-1.0
MC2	**Monte Cornacci**	**0.43**	**348**	P	Pg	00 41 57.4	+0.4
MC2				S	Sb	00 42 04.0	-0.7
T0110	**Collepietro**	**0.44**	**127**	P	Pg	00 41 57.3	+0.2
T0110				S	Sb	00 42 04.2	-0.7
PTQR	**Pietraquaria**	**0.47**	**172**	P	Pg	00 41 57.9	+0.2
PTQR				S	Sg	00 42 04.7	+0.7
MF5	**Montefalcone A**	**0.51**	**13**	P	Pg	00 41 58.7	+0.4
MF5				S	Sb	00 42 06.7	-0.2

*IDC **26** 00:49:46.5±1.0, 28°.85N×51°.46E, h0km, mb4.0/21, mbtmp4.0/26, ML3.6/5, MS4.4/3, Error ellipse: s-maj=20.6km s-min=15.5km az=169.0*
*NEIC **26** 00:49:46.3±2.6, 28°.61N±0°.10×51°.4E±0°.1, h10km±2km, mb4.1/12, Error ellipse: s-maj=18.7km s-min=12.5km az=216.0*
*TEH **26** 00:49:47.9, 28°.83N×51°.50E, h12km±28km, ML3.8*
*DSN **26** 00:49:51.8±1.7, 28°.51N×51°.63E, h10km, ML3.8/12, Error ellipse: s-maj=21.9km s-min=9.9km az=1.0*
*OMAN **26** 00:49:53.0±0.1, 28°.55N×51°.79E, h10km, mb5.0/3, ml4.1/10, Error ellipse: s-maj=1.2km s-min=0.9km az=347.0*
*NAO **26** 00:50:20.9, 31°.68N×48°.71E, h33km, mb3.8*

ISC 26 00:49:47.4±0.4, 28°.79N±0°.04×51°.54E±0°.04, h10km, n114, σ1876/142, mb4.0/27, MS4.4/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.23**	**290**	Pg	**Pg**	**00 49 52.1**	**+0.1**
DSBU	**Dashti - Bushe**	**0.49**	**210**	Pg	**Pg**	**00 49 58.1**	**+1.2**
SHI	**Shiraz**	**1.21**	**45**	Pg	**Pb**	**00 50 10.7**	**+0.2**
QIR1	**Qir**	**1.36**	**103**	Pg	**Pb**	**00 50 14.3**	**+1.3**
JHRM	**Jahrom**	**1.81**	**98**	Pn	**Pb**	**00 50 21.1**	**+0.4**
LMD1	**Lamerd**	**2.04**	**135**	Pn	**Pn**	**00 50 24.3**	**+2.5**
KLNJ	**Kolanjah**	**2.21**	**1**	Pn	**Pn**	**00 50 25.9**	**+1.4**
LAR1	**LAR**	**2.74**	**113**	Pn	**Pn**	**00 50 34.2**	**+2.8**
SHMA	**Al-Shehemyia**	**2.96**	**190**	P	**Pb**	**00 50 38.6**	**-1.7**
	SNR=13						
IRAM	**Ramesheh**	**3.10**	**13**	Pn	**Pn**	**00 50 38.2**	**+1.7**
IBRJ	**Brojen**	**3.12**	**356**	Pn	**Pn**	**00 50 38.1**	**+1.2**
ZNGN	**Zangian**	**3.37**	**350**	Pn	**Pn**	**00 50 41.8**	**+1.4**
JHBN	**Jahan bin**	**3.52**	**348**	Pn	**Pn**	**00 50 44.2**	**+1.8**
IGAR	**Gharneh**	**3.63**	**7**	Pn	**Pn**	**00 50 45.2**	**+1.3**
IMEH	**Mehriz**	**3.72**	**45**	Pn	**Pn**	**00 50 47.5**	**+2.4**
IPIR	**Pirpir**	**3.92**	**352**	Pn	**Pn**	**00 50 49.1**	**+1.1**
TRNA	**Turayna**	**4.04**	**184**	P	**Pn**	**00 50 53.1**	**+3.8**
	SNR=25						
SMRA	**Abu-Samra**	**4.08**	**189**	P	**Pn**	**00 50 53.5**	**+3.7**
SMRA				S	**Sn**	**00 51 40.1**	**+2.5**
IZEF	**Zefreh**	**4.15**	**9**	Pn	**Pn**	**00 50 52.8**	**+1.8**
ICHK	**Chekchek**	**4.24**	**35**	Pn	**Pn**	**00 50 53.8**	**+1.4**
IKLH	**Kotahrood**	**4.52**	**0**	Pn	**Pn**	**00 50 57.3**	**+1.2**
KHGB	**Koh Gabri**	**4.58**	**69**	Pn	**Pn**	**00 50 58.6**	**+1.6**
SLWR	**Sila**	**4.70**	**178**	P	**Pn**	**00 51 00.5**	**+2.2**
SLWR				S	**Sn**	**00 51 55.3**	**+2.4**
ANAR	**Anarak**	**4.78**	**23**	Pn	**Pn**	**00 51 01.2**	**+1.7**
SHME	**Shamm**	**4.92**	**123**	P	**Pn**	**00 51 02.4**	**+1.1**
SHME	**Shamm**	**4.92**	**123**	P	**Pn**	**00 51 02.5**	**+1.1**
SHME				S	**Sn**	**00 51 57.2**	**-1.1**
QAMS	**Qamsar**	**4.94**	**359**	Pn	**Pn**	**00 51 03.3**	**+1.4**
GHWR	**Ruwais**	**4.95**	**166**	P	**Pn**	**00 51 04.4**	**+2.6**
GHWR				S	**Sn**	**00 52 00.5**	**+1.3**
BANOM	**Banah**	**5.10**	**123**	*i* P	**Pn**	**00 51 04.7**	**+0.7**
	SNR=20						
BANOM	**Banah**	**5.10**	**123**	P	**Pn**	**00 51 04.8**	**+0.8**
BANOM				S	**Sn**	**00 52 02.0**	**-1.0**
KRSH	**Karshahi**	**5.19**	**5**	Pn	**Pn**	**00 51 06.6**	**+1.3**
NAZ	**Nazwa, Dubai**	**5.28**	**135**	P	**Pn**	**00 51 08.3**	**+2.0**
NAZ	**Nazwa, Dubai**	**5.28**	**135**	P	**Pn**	**00 51 09.1**	**+2.7**
NAZ				S	**Sn**	**00 52 07.7**	**+0.4**
MASF	**Masafi**	**5.34**	**128**	P	**Pn**	**00 51 08.2**	**+1.0**
	SNR=13						
MASF				S	**Sn**	**00 52 07.6**	**-1.2**
MSFE	**Esma-Masafi**	**5.35**	**129**	*i* P	**Pn**	**00 51 08.2**	**+0.9**
	SNR=13						
ASUD	**Al Ashush, Dub**	**5.35**	**140**	P	**Pn**	**00 51 09.5**	**+2.1**
ASUD	**Al Ashush, Dub**	**5.35**	**140**	P	**Pn**	**00 51 09.6**	**+2.2**
ASUD				S	**Sn**	**00 52 09.2**	**+0.1**
FAQ	**Al Faqa, Dubai**	**5.42**	**137**	P	**Pn**	**00 51 10.0**	**+1.8**
FAQ	**Al Faqa, Dubai**	**5.42**	**137**	P	**Pn**	**00 51 10.4**	**+2.2**
FAQ				S	**Sn**	**00 52 10.6**	**0.0**
MDH	**Madha**	**5.48**	**128**	P	**Pn**	**00 51 10.0**	**+0.9**
MDH	**Madha**	**5.48**	**128**	P	**Pn**	**00 51 10.2**	**+1.0**
MDH				S	**Sn**	**00 52 11.6**	**-0.7**
ISFB	**Sefidab**	**5.58**	**6**	Pn	**Pn**	**00 51 11.6**	**+1.0**
HATD	**Hatta, Dubai**	**5.69**	**133**	P	**Pn**	**00 51 13.0**	**+1.0**
HATD				S	**Sn**	**00 52 15.5**	**-2.0**
HATD	**Hatta, Dubai**	**5.69**	**133**	P	**Pn**	**00 51 14.4**	**+2.3**
HATD				S	**Sn**	**00 52 16.8**	**-0.7**
ASHO	**Ashiyiah**	**5.75**	**134**	P	**Pn**	**00 51 13.9**	**+1.1**
ASHO	**Ashiyiah**	**5.75**	**134**	P	**Pn**	**00 51 14.1**	**+1.3**
ASHO				S	**Sn**	**00 52 16.9**	**-2.0**
MZR	**Muzera**	**6.02**	**163**	*i* P	**Pn**	**00 51 18.0**	**+1.5**
	SNR=7.4						
MZR	**Muzera**	**6.02**	**163**	P	**Pn**	**00 51 18.9**	**+2.3**
	SNR=5.4						
MZR				S	**Sn**	**00 52 25.9**	**+0.3**
ALNE	**Al Ain**	**6.04**	**140**	*i* P	**Pn**	**00 51 18.5**	**+1.7**
	SNR=9.6						
ALNE	**Al Ain**	**6.04**	**140**	P	**Pn**	**00 51 18.5**	**+1.7**
	SNR=9.5						
ALNE				S	**Sn**	**00 52 28.0**	**+2.0**
IQOM	**Qom**	**6.05**	**356**	Pn	**Pn**	**00 51 17.9**	**+0.8**
KBAM	**BAM**	**6.07**	**85**	Pn	**Pn**	**00 51 19.8**	**+2.6**
JASK	**Jask - Hormozg**	**6.33**	**116**	P	**Pn**	**00 51 21.3**	**+0.5**
JASK				S	**Sn**	**00 52 32.8**	**-0.5**
SOHO	**SOHO**	**6.44**	**135**	*i* P	**Pn**	**00 51 23.0**	**+0.6**
	SNR=18						
SOHO	**SOHO**	**6.44**	**135**	P	**Pn**	**00 51 22.9**	**+0.6**
SOHO				S	**Sn**	**00 52 34.6**	**-1.3**
ILAS	**Lasjerd**	**6.69**	**10**	Pn	**Pn**	**00 51 27.0**	**+1.1**
IDMV	**Damavand**	**6.78**	**3**	Pn	**Pn**	**00 51 27.6**	**+0.3**
ARQ	**Araqi**	**7.04**	**139**	P	**Pn**	**00 51 31.2**	**+0.7**
	SNR=34						
ARQ				S	**Sn**	**00 52 48.9**	**-1.7**
QABG	**Abgarm-Qazvin**	**7.10**	**347**	Pn	**Pn**	**00 51 33.6**	**+2.1**
HOQ	**Hoqain**	**7.33**	**134**	P	**Pn**	**00 51 36.0**	**+1.4**
	SNR=7.4						
HOQ				S	**Sn**	**00 52 56.1**	**-1.7**
IALA	**Alasht**	**7.35**	**8**	Pn	**Pn**	**00 51 37.1**	**+2.0**
RAYN	**Ar Rayn**	**7.54**	**227**	Pn	**Pn**	**00 51 34.8**	**-2.7**
RAYN	**Ar Rayn**	**7.54**	**227**	*i* P	**Pn**	**00 51 37.5**	**+0.1**
	SNR=31						
RAYN	**Ar Rayn**	**7.54**	**227**	P	**Pn**	**00 51 37.6**	**+0.1**
BSY	**Bisya**	**7.89**	**138**	P	**Pn**	**00 51 43.1**	**+0.9**
	SNR=15						
BSY				S	**Sn**	**00 53 08.1**	**-3.5**
SMDO	**Samad**	**8.18**	**133**	P	**Pn**	**00 51 47.1**	**+0.9**
SMDO				S	**Sn**	**00 53 16.1**	**-2.7**
WSAR	**Wadi Sarin**	**8.44**	**129**	Pn	**Pn**	**00 51 49.8**	**0.0**
	1.3nm,0.3s,baz=298,slow=11,SNR=9.7						
WSAR				Sn	**Sn**	**00 53 21.8**	**-3.3**
	1.1nm,0.3s,baz=180,slow=14,SNR=3.1						
	6.4nm,0.5s						
JMDO	**Jabal Madar**	**8.71**	**136**	P	**Pn**	**00 51 55.3**	**+1.8**
	SNR=23						
JMDO				S	**Sn**	**00 53 27.4**	**-4.5**
WBK	**Wadi Bani Khal**	**9.09**	**131**	P	**Pn**	**00 52 00.2**	**+1.4**
WBK				S	**Sn**	**00 53 38.8**	**-2.5**
NGCH	**Negor - Chabah**	**9.21**	**110**	P	**Pn**	**00 52 00.2**	**-0.1**
NGCH				S	**Sn**	**00 53 39.5**	**-4.5**
JLN	**Jalan Bani Buh**	**9.71**	**131**	P	**Pn**	**00 52 06.7**	**-0.4**
JLN				S	**Sn**	**00 53 50.9**	**-5.3**
MHTO	**MHTO**	**9.71**	**142**	P	**Pn**	**00 52 08.0**	**+0.8**
	SNR=20						
MHTO				S	**Sn**	**00 53 51.6**	**-4.8**
DOK	**Doka**	**10.40**	**166**	P	**Pn**	**00 52 16.9**	**+0.3**
DOK				S	**Sn**	**00 54 09.7**	**-3.5**
WHFO	**Wadi Hawf**	**11.01**	**169**	P	**Pn**	**00 52 25.0**	**-0.1**
	SNR=11						
WHFO				S	**Sn**	**00 54 23.4**	**-5.0**
DMTO	**DMTO**	**11.45**	**163**	P	**Pn**	**00 52 31.0**	**-0.1**
	SNR=20						
DMTO				S	**Sn**	**00 54 37.3**	**-1.8**
ABTO	**Aybut**	**11.49**	**172**	P	**Pn**	**00 52 31.6**	**-0.1**
	SNR=9.8						
MMAI	**Mount Meron

comp=Z,0.4nm,0.3s
MK31 Makanchi Array 29.96 45 P **P 00 55 56.2 +0.4**
MK31 IAmb IAmb 00 55 58.3
comp=Z,3.0nm,1.1s
MKAR Makanchi Array 29.96 45 P **P 00 55 56.5 +0.7**
comp=Z,1.2nm,0.7s,baz=259,slow=7.0,SNR=11
comp=Z,1.2nm,0.7s
KWP Kalwaria Pacla 30.23 321 P **P 00 55 58.5 +0.3**
KWP IAmb IAmb 00 56 08.0
comp=Z,4.3nm,1.0s
ZALV Zalesovo Beam 34.90 35 P **P 00 56 38.5 -0.4**
comp=Z,1.2nm,0.5s,baz=231,slow=9.4,SNR=7.2
comp=Z,1.2nm,0.5s
KEST Kesra 36.13 292 P **P 00 56 50.7 +0.8**
comp=Z,4.6nm,0.9s,baz=53,slow=10,SNR=1.9
comp=Z,4.6nm,0.9s
FINES FINESS Array B 36.78 340 P **P 00 56 54.9 0.0**
comp=Z,1.9nm,0.8s,baz=132,slow=11,SNR=9.0
comp=Z,1.9nm,0.8s
HFS Hagfors 40.39 332 P **P 00 57 25.4 +0.1**
comp=Z,0.6nm,0.3s,baz=142,slow=9.8,SNR=7.6
comp=Z,0.6nm,0.3s
GTA Gaotai 40.93 62 *e*P **P 00 57 32.8 +2.6**
GTA pmax pmax
comp=Z,5.0nm,1.1s
NB2 NORSAR Subarra 41.91 332 P **P 00 57 37.2 -0.7**
comp=Z,1.3nm,0.7s,baz=123,slow=8.6
NOA NORSAR Array B 41.91 332 P **P 00 57 37.1 -0.7**
comp=Z,0.2nm,0.5s,baz=122,slow=8.3,SNR=2.2
comp=Z,0.2nm,0.5s
ARCES ARCESS Array B 43.46 347 P **P 00 57 50.4 +0.1**
comp=Z,4.8nm,0.9s,baz=148,slow=7.1,SNR=6.0
comp=Z,4.8nm,0.9s
SONM Songino Array 46.02 50 P **P 00 58 12.2 +1.1**
comp=Z,0.4nm,0.4s,baz=283,slow=7.2,SNR=4.0
comp=Z,0.4nm,0.4s
EKA Eskdalemuir Ar 46.92 320 P **P 00 58 16.4 -1.5**
comp=Z,1.5nm,0.8s,baz=111,slow=7.9,SNR=2.2
comp=Z,1.5nm,0.8s
TORD Torodi Ar. Bea 48.72 262 P **P 00 58 32.5 0.0**
comp=Z,1.7nm,0.7s,baz=52,slow=8.2,SNR=13
comp=Z,1.7nm,0.7s
SPITS Spitsbergen Ar 51.92 351 P **P 00 58 55.1 -0.8**
comp=Z,5.4nm,0.8s,baz=122,slow=5.4,SNR=1.7
comp=Z,5.4nm,0.8s
DBIC Dimbokro 57.46 259 P **P 00 59 37.0 +0.1**
comp=Z,5.5nm,0.6s,baz=36,slow=5.0,SNR=9.4
comp=Z,5.5nm,0.6s
KLR Kul'dur 62.64 47 LR LR 01 27 31.3
comp=Z,349nm,20.8s,baz=22,slow=36
RES Resolute Bay 74.49 351 LR LR 01 37 32.1
comp=Z,204nm,19.6s,baz=280,slow=38
ILAR Eielson Array 85.65 8 P **P 01 02 25.7 -0.3**
comp=Z,0.4nm,0.8s,baz=323,slow=3.7,SNR=5.5
comp=Z,0.4nm,0.8s
YKA Yellowknife Ar 88.36 354 P **P 01 02 39.7 +0.6**
comp=Z,0.3nm,0.6s,baz=13,slow=5.2,SNR=4.8
comp=Z,0.3nm,0.6s
WRA Warramunga Arr 93.38 111 P **P 01 03 05.2 +2.0**
comp=Z,0.3nm,0.8s,baz=313,slow=4.4,SNR=1.4
comp=Z,0.3nm,0.8s

RSNC 26 01:06:33.6±0.0, 13°N±2°×8°1W±°, *h*2km±4km, M3.1, mb4.1, ML3.1, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.29 298**		P	Pg	01 06 40.3	+1.1
PRVC				S	Sg	01 06 44.5	+1.5
SAIC	**Isla e San And**	**0.92 221**		P	Pg	01 06 51.5	+0.3
SAIC				S	Sn	01 07 06.3	-1.0
RNCC	**Cayo Roncador,**	**1.04 71**		P	Pg	01 06 52.9	-0.6
RNCC				S	Sb	01 07 08.0	-0.3
SERC	**Banco Serrana,**	**1.26 34**		P	Pg	01 06 56.4	-1.4
SERC				S	Sg	01 07 13.9	-0.3
BCIP	**Isla Barro Col**	**4.23 163**		P	Pn	01 07 35.4	-3.8
BCIP				S	Sn	01 08 23.8	-5.4
JTS	**Las Juntas de**	**4.78 233**		P	Pn	01 07 47.0	+0.3
JTS				S	Sn	01 08 41.5	-1.2
AZU	**Azuero**	**5.47 171**		P	Pn	01 07 55.8	-0.4
AZU	30nm,1.0s			S	Sn	01 08 56.3	-3.6
SJCC	**San Jacinto, C**	**6.69 119**		P	Pn	01 08 11.3	-1.7
SJCC				S	Sn	01 09 23.2	-6.6

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*TEH **26** 01:07:12.9, 34°.31N×45°.67E, h9km±14km, ML3.1*
*ISN **26** 01:07:13.8±1.4, 34°.38N×45°.65E, h22km±10km, ML3.3*
ISC 26 01:07:13.4±1.1, 34°33N±0°.03×45°67E±0°.04, h11km±12km, n17, σ1°35/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.19 339**		Pg	**Pg**	**01 07 17.5**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.29 138**		Pg	**Pg**	**01 07 19.0**	**-0.3**
IDHR	**Dehrash**	**0.70 58**		Pg	**Pg**	**01 07 26.5**	**-0.4**
IGHG	**Ghaleghazi**	**0.74 90**		Pg	**Pg**	**01 07 28.0**	**+0.2**
ILBA	**Ilam Banvizeh**	**0.83 148**		Pg	**Pb**	**01 07 28.7**	**-1.3**
KCHF	**Cheshme Sefid,**	**1.13 92**		Pg	**Pb**	**01 07 34.8**	**-0.3**
ILIN	**Lien**	**1.22 61**		Pg	**Pb**	**01 07 36.3**	**-0.3**
IBDR	**Badra**	**1.24 170**		*e*Pg	**Pb**	**01 07 37.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**01 07 55.0**	**+1.8**
BHD	**Baghdad**	**1.51 226**		*e*Pn	**Pb**	**01 07 41.0**	**-0.4**
BHD				*e*Sn	**Sg**	**01 08 02.0**	**+0.1**
IKRK	**Kirkuk**	**1.53 315**		*e*Pn	**Pb**	**01 07 41.0**	**-0.8**
IKRK				*e*Sn	**Sg**	**01 08 02.0**	**-0.6**
IKRK	comp=N,412nm,0.4s			AML	AML	01 08 05.8	
IKRK	comp=E,698nm,0.5s			AML	AML	01 08 05.9	
SNQR	**Sonqor, Kerman**	**1.70 71**		Pg	**Pg**	**01 07 45.8**	**-0.2**
SDS1	**Sardasht. Az.**	**1.82 355**		Pn	**Pb**	**01 07 46.7**	**-0.2**
IDOB	**Doab**	**2.15 104**		Pn	**Pb**	**01 07 51.1**	**-1.4**
MAHB	**Mahabad**	**2.43 1**		Pn	**Pb**	**01 07 55.1**	**-2.1**
RAFI	**Al-Rafai**	**2.63 172**		*e*Pn	**Pn**	**01 07 57.0**	**+1.2**
RAFI				*e*Sn	**Sb**	**01 08 30.0**	**-2.8**
IAZR	**Azarshahr**	**3.35 4**		Pn	**Pn**	**01 08 08.1**	**+2.1**
IMRD	**Marand**	**4.37 0**		Pn	**Pn**	**01 08 21.9**	**+1.9**

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*TEH **26** 01:11:34.8, 34°.36N×45°.72E, h4km±45km, ML3.0*
*ISN **26** 01:11:35.2±1.2, 34°.41N×45°.66E, h22km±8km, ML2.9*
ISC 26 01:11:34.6±1.5, 34°38N±0°.04×45°70E±0°.04, h3km±13km, n14, σ0°43/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.15 324**		Pg	**Pg**	**01 11 38.2**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.32 147**		Pg	**Pg**	**01 11 40.7**	**0.0**
IDHR	**Dehrash**	**0.65 61**		Pg	**Pg**	**01 11 46.5**	**-0.6**
IGHG	**Ghaleghazi**	**0.72 94**		Pg	**Pg**	**01 11 48.5**	**+0.1**
IGHG				Sg	**Sb**	**01 12 00.1**	**-0.2**
ILBA	**Ilam Banvizeh**	**0.86 151**		Pg	**Pg**	**01 11 50.8**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.12 95**		Pg	**Pg**	**01 11 56.3**	**+0.3**
ILIN	**Lien**	**1.17 62**		Pg	**Pg**	**01 11 57.3**	**+0.2**
IBDR	**Badra**	**1.28 171**		*e*Pg	**Pn**	**01 11 59.0**	**-0.3**
IBDR				*e*Sg	**Sn**	**01 12 17.0**	**0.0**
IKRK	**Kirkuk**	**1.51 313**		*e*Pn	**Pn**	**01 12 02.0**	**-0.5**
IKRK				*e*Sn	**Sb**	**01 12 23.0**	**+0.2**
IKRK	comp=N,193nm,0.2s			AML	AML	01 12 27.4	
IKRK	comp=E,175nm,0.5s			AML	AML	01 12 27.9	
BHD	**Baghdad**	**1.56 225**		*e*Pn	**Pn**	**01 12 03.0**	**-0.1**
BHD				*e*Sn	**Sb**	**01 12 24.0**	**-0.1**
SNQR	**Sonqor, Kerman**	**1.66 73**		Pg	**Pb**	**01 12 05.9**	**-0.1**
SDS1	**Sardasht. Az.**	**1.77 354**		Pg	**Pb**	**01 12 07.4**	**-0.5**
IDOB	**Doab**	**2.14 105**		Pn	**Pn**	**01 12 11.9**	**+0.5**
RAFI	**Al-Rafai**	**2.67 172**		*e*Pn	**Pn**	**01 12 19.0**	**+0.5**
RAFI				*e*Sn	**Sn**	**01 12 52.0**	**+0.7**

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*ISN **26** 01:13:53.7±1.0, 34°.36N×45°.74E, h6km±61km, ML2.4*
*TEH **26** 01:13:54.8, 34°.38N×45°.76E, h11km±297km, ML2.5*
ISC 26 01:13:55.0±1.1, 34°39N±0°.05×45°76E±0°.04, h10km±12km, n8, σ1°04/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.18 310**		Pg	**Pg**	**01 13 58.8**	**-0.1**
KGS1				Sg	**Sg**	**01 14 02.6**	**+1.1**
GLG1	**Gilan-e-Gharb**	**0.30 155**		Pg	**Pb**	**01 14 00.9**	**-1.7**
IDHR	**Dehrash**	**0.61 59**		Pg	**Pg**	**01 14 06.5**	**-0.3**
IGHG	**Ghaleghazi**	**0.68 95**		Pg	**Pb**	**01 14 08.7**	**-0.3**
IBDR	**Badra**	**1.28 173**		*e*Pg	**Pg**	**01 14 20.0**	**+0.4**
IBDR				*e*Sg	**Sn**	**01 14 38.0**	**+1.8**
IKRK	**Kirkuk**	**1.54 311**		*e*Pn	**Pg**	**01 14 24.0**	**-0.5**
IKRK				*e*Sn	**Sg**	**01 14 45.0**	**+0.5**
IKRK	comp=N,58nm,0.3s			AML	AML	01 14 49.9	
IKRK	comp=E,53nm,0.3s			AML	AML	01 14 50.0	
BHD	**Baghdad**	**1.60 226**		*e*Pn	**Pb**	**01 14 24.0**	**-0.6**
BHD				*e*Sn	**Sg**	**01 14 46.0**	**-0.4**
SNQR	**Sonqor, Kerman**	**1.61 73**		Pg	**Pg**	**01 14 26.0**	**0.0**

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*GII **26** 01:19:39.1±0.3, 34°.32N×45°.65E, h10km, mB5.0/3, Md5.0/2, Mws4.8, confirmed*
*MOS **26** 01:19:39.4±1.3, 34°.21N×45°.66E, h10km, mb4.7/24, Error ellipse: s-maj=6.7km s-min=3.7km az=104.1*
*IDC **26** 01:19:40.1±0.6, 34°.34N×45°.68E, h0km, mb4.4/29, mbtmp4.4/39, ML3.9/8, Error ellipse: s-maj=12.5km s-min=9.9km az=164.0*
*ISN **26** 01:19:41.9±1.0, 34°.40N×45°.68E, h14km±7km, ML4.5*
*NEIC **26** 01:19:41.5±1.7, 34°.31N±0°.03×45°.70E±0°.09, h10km±1km, mb4.9/85, Error ellipse: s-maj=12.1km s-min=5.7km az=90.0*
*TEH **26** 01:19:42.0, 34°.35N×45°.65E, h9km±28km, ML4.6*
*NAO **26** 01:19:44.5, 34°.52N×45°.85E, h33km, mb3.9*
*OMAN **26** 01:19:48.1±0.1, 33°.78N×46°.13E, h10km, mb4.6/28, Error ellipse: s-maj=1.9km s-min=1.2km az=248.0*
ISC 26 01:19:41.4±0.7, 34°27N±0°.02×45°69E±0°.03, h12km±4km, n545, σ2°00/577, mb4.7/130, 36C-11D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.24 131**		Pg	**Pb**	**01 19 48.8**	**+1.1**
KGS1	**Ghasr-e-Shirin**	**0.25 340**		Pg	**Pg**	**01 19 46.1**	**-0.6**
IDHR	**Dehrash**	**0.72 53**		Pg	**Pg**	**01 19 55.3**	**0.0**
IGHG	**Ghaleghazi**	**0.73 85**		Pg	**Pb**	**01 19 56.9**	**+0.8**
IGHG				Sg	**Sn**	**01 20 09.5**	**+0.5**
ILBA	**Ilam Banvizeh**	**0.77 146**		Pg	**Pb**	**01 19 58.5**	**+1.7**
KCHF	**Cheshme Sefid,**	**1.12 89**		Pg	**Pn**	**01 20 03.8**	**+0.8**
KCHF				Sg	**Sn**	**01 20 20.6**	**+2.1**
IBDR	**Badra**	**1.17 170**		*e*Pg	**Pg**	**01 20 06.0**	**+2.0**
IBDR				*e*Sg	**Sn**	**01 20 24.0**	**+4.4**
ILIN	**Lien**	**1.23 58**		Pg	**Pb**	**01 20 04.8**	**0.0**
BHD	**Baghdad**	**1.48 228**		*e*Pn	**Pg**	**01 20 11.0**	**+1.2**
BHD				*e*Sn	**Sg**	**01 20 32.0**	**+3.0**
IKRK	**Kirkuk**	**1.58 316**		*e*Pn	**Pb**	**01 20 10.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**01 20 31.0**	**-1.4**
IKRK	comp=E,9μm,0.5s			AML	AML	01 20 34.6	
IKRK	comp=N,8μm,0.6s			AML	AML	01 20 40.3	
SNQR	**Sonqor, Kerman**	**1.70 69**		Pg	**Pg**	**01 20 13.6**	**-0.5**
SDS1	**Sardasht. Az.**	**1.88 355**		Pn	**Pb**	**01 20 15.2**	**-0.7**
IDOB	**Doab**	**2.12 102**		Pn	**Pb**	**01 20 20.2**	**+0.3**
MAHB	**Mahabad**	**2.49 0**		Pn	**Pn**	**01 20 23.5**	**+1.5**
RAFI	**Al-Rafai**	**2.56 172**		*e*Pn	**Pn**	**01 20 26.0**	**+3.2**
RAFI				*e*Sn	**Sb**	**01 21 00.0**	**+1.1**
IHSH	**Hashtrud**	**3.29 22**		Pn	**Pn**	**01 20 35.4**	**+2.3**
IAZR	**Azarshahr**	**3.41 4**		Pn	**Pn**	**01 20 37.1**	**+2.4**
CUKT	**Cukurca**	**3.42 331**		*e*P	**Pn**	**01 20 35.8**	**+1.1**
QABG	**Abgarm-Qazvin**	**3.50 65**		Pn	**Pn**	**01 20 38.9**	**+3.0**
AHWZ	**Ahwaz**	**3.84 139**		Pn	**Pn**	**01 20 44.0**	**+3.6**
IGZV	**Ghazvin**	**4.26 59**		Pn	**Pn**	**01 20 48.9**	**+2.5**
CSN1	**Caspian**	**4.29 39**		Pn	**Pn**	**01 20 49.5**	**+2.9**
IMRD	**Marand**	**4.43 0**		Pn	**Pn**	**01 20 50.5**	**+1.7**
IQOM	**Qom**	**4.47 81**		Pn	**Pn**	**01 20 51.6**	**+2.2**
AKDM	**Akdamar-Van**	**4.61 332**		*e*P	**Pn**	**01 20 53.6**	**+2.6**
IPIR	**Pirpir**	**4.62 109**		Pn	**Pn**	**01 20 53.6**	**+2.2**
JHBN	**Jahan bin**	**4.64 115**		Pn	**Pn**	**01 20 53.7**	**+2.1**
VANB	**Van**	**4.70 337**		*e*P	**Pn**	**01 20 54.2**	**+1.9**
GAS1	**Astara - Iran**	**4.83 31**		Pn	**Pn**	**01 20 56.4**	**+2.5**
ZNGN	**Zangian**	**4.83 115**		Pn	**Pn**	**01 20 56.5**	**+2.2**
GRMI	**Germi**	**4.86 21**		Pn	**Pn**	**01 20 56.8**	**+2.3**
IKLH	**Kolahrood**	**4.99 99**		Pn	**Pn**	**01 20 59.8**	**+3.3**
IVRN	**Varamin**	**5.03 80**		Pn	**Pn**	**01 20 59.0**	**+2.2**
CLDR	**Caldiran**	**5.07 344**		*e*P	**Pn**	**01 21 00.0**	**+2.5**
MAKU	**Maku**	**5.14 351**		Pn	**Pn**	**01 21 00.5**	**+2.1**
GURO	**Guroymak-BITLI**	**5.19 326**		*e*P	**Pn**	**01 20 58.1**	**-1.0**
GURO	**Guroymak-BITLI**	**5.19 326**		Pn	**Pn**	**01 20 59.1**	**0.0**
IBRJ	**Brojen**	**5.23 115**		Pn	**Pn**	**01 21 01.6**	**+1.8**
ABEH	**Behbahan**	**5.32 132**		Pn	**Pn**	**01 21 03.7**	**+3.0**
MAZI	**Mazidag**	**5.32 308**		*e*P	**Pn**	**01 21 01.2**	**+0.4**
KRSH	**Karshahi**	**5.35 91**		Pn	**Pn**	**01 21 04.2**	**+2.9**
IDMV	**Damavand**	**5.37 74**		Pn	**Pn**	**01 21 03.9**	**+2.2**
ISFB	**Sefidab**	**5.42 87**		Pn	**Pn**	**01 21 03.7**	**+1.5**
MLAZ	**Malazgirt-MUS**	**5.48 333**		*e*P	**Pn**	**01 20 59.1**	**-3.9**
IGAR	**Gharneh**	**5.63 108**		Pn	**Pn**	**01 21 07.1**	**+1.9**
IZEF	**Zefreh**	**5.71 102**		Pn	**Pn**	**01 21 08.4**	**+2.2**
AGRB	**Hanur-Agry**	**5.72 339**		*e*P	**Pn**	**01 21 08.5**	**+2.1**
DYBB	**Diyarbakir**	**5.81 311**		*e*P	**Pg**	**01 21 28.2**	**-4.4**
TASB	**TASBURUN-IGDIR**	**5.82 349**		*e*P	Pn	01 21 12.2	+4.6
GNI	**Garni**	**5.92 353**		*e*P	**Pn**	**01 21 09.9**	**+0.8**
GNI	**Garni**	**5.92 353**		Pn	**Pn**	**01 21 11.1**	**+2.0**
GNI	**Garni**	**5.92 353**		Pn	**Pn**	**01 21 11.4**	**+2.4**
GNI	**Garni**	**5.92 353**		Pn	**Pn**	**01 21 10.9**	**+1.9**
GNI	comp=N,1.5nm,0.3s,baz=320,slow=2.9,SNR=12			Lg	Lg	01 22 44.4	
GNI	comp=N,0.3nm,0.3s,baz=266,slow=17,SNR=1.6						
GNI	comp=N,20nm,0.8s						
GNI	**Garni**	**5.92 353**		P	**Pn**	**01 21 11.1**	**+2.0**
GNI	**Garni**	**5.92 353**		P	**Pn**	**01 21 07.9**	**-1.2**
GNI	comp=N,80nm,0.7s,comp=N,898nmcomp=N,0.5nm						
KLNJ	**Kolanjah**	**5.94 122**		Pn	**Pn**	**01 21 11.1**	**+1.5**
VRTB	**Varto-Mus**	**5.95 326**		*e*P	**Pn**	**01 21 08.7**	**-0.8**
IFIR	**Firoozkooh**	**5.96 75**		Pn	**Pn**	**01 21 11.9**	**+2.1**
ILAS	**Lasjerd**	**6.08 77**		Pn	**Pn**	**01 21 13.2**	**+1.9**
IRAM	**Ramesheh**	**6.13 112**		Pn	**Pn**	**01 21 13.3**	**+1.3**
BNGB	**Bingl**	**6.20 321**		*e*P	**Pn**	**01 21 14.0**	**+1.1**
KARO	**Karliova-Bingo**	**6.26 325**		*e*P	**Pb**	**01 21 32.7**	**+2.3**
URFA	**Urfa**	**6.41 302**		*e*P	**Pn**	**01 21 15.1**	**-0.7**
KOPR	**Koprukoy-ERZUR**	**6.48 333**		*e*P	**Pg**	**01 21 43.7**	**-1.8**
SVRC	**Sivrice-ELAZID**	**6.59 310**		*e*P	**Pn**	**01 21 19.0**	**+0.7**
KARS	**Kars**	**6.68 343**		*e*P	**Pn**	**01 21 23.7**	**+4.2**
KARS	**Kars**	**6.68 343**		Pn	**Pn**	**01 21 22.4**	**+2.9**
KARS	**Kars**	**6.68 343**		P	**Pn**	**01 21 22.4**	**+2.9**
ANAR	**Anarak**	**6.78 97**		Pn	**Pn**	**01 21 22.1**	**+1.2**
IKIA	**Kiasar**	**6.82 71**		Pn	**Pn**	**01 21 25.0**	**+3.5**
SENK	**Senkaya-Erzuru**	**6.82 338**		*e*P	Pn	01 21 27.0	+5.5
PTK	**Pertek**	**6.85 314**		*e*P	**Pn**	**01 21 22.8**	**+0.9**
IGLO	**Ghaloghah**	**7.01 69**		Pn	**Pn**	**01 21 27.4**	**+3.3**
AHBU	**AHRAM**	**7.20 137**		Pn	**Pn**	**01 21 29.0**	**+2.4**
AKT	**Akhty**	**7.38 12**		*e*P	**Pn**	**01 21 32.6**	**+3.6**
AKT				*e*S	**Sn**	**01 23 00.4**	**+7.7**
AKT	comp=Z,11nm,0.6s			pmax	pmax		
AKT	comp=N,12nm,0.6s			smax	smax		
AKT	comp=E,10.0nm,0.6s			smax	smax		
AKT	comp=Z,308nm,12.0s			MLR	MLR		
GAZ	**Gaziantep**	**7.48 295**		*e*P	**Pn**	**01 21 31.5**	**+1.0**
GAZ	**Gaziantep**	**7.48 295**		Pn	**Pn**	**01 21 31.2**	**+0.7**
ASF	**Jabal al Asfar**	**7.66 257**		Pn	**Pn**	**01 21 33.2**	**+0.2**
ASF	comp=Z,1.1nm,0.3s,baz=156,slow=0.0,SNR=9.0			Lg	Lg	01 23 44.5	
ASF	comp=Z,2.7nm,0.3s,baz=327,slow=0.0,SNR=8.1						
ASF	comp=Z,3.2nm,0.2s						
KMRS	**Kahramanmaras**	**7.83 297**		*e*P	**Pn**	**01 21 35.7**	**+0.5**
DARE	**Darende-Malaty**	**7.89 305**		*e*P	Pn	01 21 44.4	+8.4
TAHT	**Tahtakopru-Hat**	**8.05 288**		*e*P	**Pn**	**01 21 38.5**	**+0.3**
HSUJ	**Al Zarqa**	**8.25 257**		P	Pg	01 22 24.3	+5.0
KSHT	**Keshet**	**8.34 264**		S	Sn	**01 23 15.6**	**-0.8**
KSHT	**Keshet**	**8.34 264**		P	**Pn**	**01 21 39.3**	**-2.9**
NATI	**Neve Ativ**	**8.35 266**		P	**Pn**	**01 21 40.3**	**-2.0**
GEM	**Giv'at Ha'Em**	**8.42 266**		P	Pg	01 22 27.8	+5.2
GEM	**Giv'at Ha'Em**	**8.42 266**		S	Sn	**01 23 17.4**	**-0.9**
GEM	**Giv'at Ha'Em**	**8.42 266**		P	**Pn**	**01 21 40.6**	**-2.7**
QIR1	**Qir**	**8.53 131**		Pn	**Pn**	**01 21 45.6**	**+0.7**
CEYT	**Ceyhan**	**8.54 291**		*e*P	**Pn**	**01 21 46.8**	**+1.8**
SARI	**SarD1z-Kayseri**	**8.54 302**		*e*P	**Pn**	**01 21 47.9**	**+2.8**
KOZT	**Kozan**	**8.62 295**		*e*P	**Pn**	**01 21 46.1**	**0.0**
SWQJ	**Swaqa**	**8.66 252**		P	**Pg**	**01 22 30.4**	**+3.3**
MMA0B	**Mount Meron ar**	**8.67 265**		P	**Pn**	**01 21 44.2**	**-2.5**
MMAI	**Mount Meron Ar**	**8.67 265**		Pn	**Pn**	**01 21 47.0**	**+0.2**
MMAI	comp=Z,1.4nm,0.3s,baz=75,slow=14,SNR=10			Lg	Lg	01 24 14.9	
MMAI	comp=Z,3.6nm,0.3s,baz=77,slow=39,SNR=3.4						
MMAI	comp=Z,0.8nm,0.3s						
QRNJ	**Al-Qirein**	**8.69 260**		P	**Pg**	**01 22 27.1**	**-0.6**
HMDT	**Nahal Hemdat**	**8.75 260**		P	**Pg**	**01 22 27.1**	**-1.8**
HMDT	**Nahal Hemdat**	**8.75 260**		S	**Sn**	**01 23 25.2**	**-1.2**
HMDT	**Nahal Hemdat**	**8.75 260**		P	**Pn**	**01 21 45.6**	**-2.1**
MMLI	**Mount Malkishu**	**8.79 261**		P	**Pn**	**01 21 46.7**	**-1.6**
MAK	**Makhachkala**	**8.79 9**		*e*P	Pn	01 21 42.4	-5.9
MAK	comp=Z,529nm,1.9s			pmax	pmax		
MAK	comp=Z,280nm,11.0s			MLR	MLR		
JHRM	**Jahrom**	**8.85 128**		Pn	**Pn**	**01 21 50.0**	**+0.6**
UJAP	**Al Uja**	**8.89 258**		P	**Pg**	**01 22 32.5**	**+1.0**
UJAP	**Al Uja**	**8.89 258**		P	**Pn**	**01 21 47.2**	**-2.5**
BLGI	**Bet Lehem HaGe**	**8.90 263**		P	**Pn**	**01 21 47.7**	**-2.2**
BLGI	**Bet Lehem HaGe**	**8.90 263**		S	**Sn**	**01 23 27.2**	**-3.0**
SVSK	**Karacayir**	**8.94 312**		*e*P	**Pn**	**01 21 52.2**	**+1.8**
GHAJ	**Ghor Haditha**	**9.02 254**		Pn	**Pn**	**01 21 51.0**	**-0.6**
GHAJ	**Ghor Haditha**	**9.02 254**		P	**Pn**	**01 21 49.7**	**-1.9**
OFRI	**`Ofer**	**9.10 263**		P	**Pn**	**01 21 50.5**	**-2.1**
BNN	**Bunyan**	**9.14 303**		Pn	**Pn**	**01 21 54.0**	**+0.7**
SLTI	**Sal'it**	**9.15 260**		P	**Pn**	**01 21 50.9**	**-2.4**
MSBI	**Mazada**	**9.19 254**		P	**Pn**	**01 21 51.1**	**-2.6**
TPRV	**Parvadeh(Tabas**	**9.25 95**		Pn	**Pn**	**01 21 57.3**	**+2.5**
NCK	**Nalchik**	**9.36 351**		*i* P	**Pn**	**01 21 59.5**	**+3.4**
YTIR	**Yattir**	**9.36 255**		P	**Pn**	**01 21 54.3**	**-2.0**
AMAZ	**Amatzia**	**9.46 256**		P	**Pn**	**01 21 55.3**	**-2.3**
ZFRI	**Zfri**	**9.63 250**		P	**Pn**	**01 21 57.6**	**-2.3**
KBZ	**Khabaz**	**9.69 348**		Pn	**Pn**	**01 22 04.0**	**+3.4**
SHA1	**Shidzhatmaz**	**9.74 347**		*i* P	**Pn**	**01 22 04.8**	**+3.2**
PRNI	**Paran**	**9.85 250**		P	**Pn**	**01 22 01.3**	**-1.6**
LAR1	**LAR**	**9.94 129**		Pn	**Pn**	**01 22 05.1**	**+0.9**
KVAR	**Kislovodsk Arr**	**9.95 347**		Pn	Pn	01 22 09.5	+5.2
KIV	**Kislovodsk**	**9.95 347**		Pn	Pn	01 22 09.1	+4.8
KIV	**Kislovodsk**	**9.95 347**		*e*P	**Pn**	**01 22 06.0**	**+1.7**
KIV	comp=Z,39nm,1.1s			pmax	pmax		
KIV	**Kislovodsk**	**9.95 347**		P	**Pn**	**01 22 03.1**	**-1.2**
SBZV	**Sabzevar**	**9.96 74**		Pn	**Pn**	**01 22 08.2**	**+3.6**
HRFI	**Mount Harif**	**9.97 248**		P	**Pn**	**01 22 02.6**	**-2.0**
KZIT	**Kziot**	**10.10 254**		P	**Pn**	**01 22 04.7**	**-1.7**
KRMI	**Paran Flat**	**10.17 249**		P	**Pn**	**01 22 05.2**	**-2.1**
MBRI	**Mt Berech**	**10.18 247**		P	**Pn**	**01 22 06.0**	**-1.4**
EIL	**Elat**	**10.21 246**		Pn	**Pn**	**01 22 08.9**	**+1.1**
EIL	comp=Z,0.4nm,0.3s,baz=2.1,slow=6.5,SNR=4.0			Lg	Lg	01 25 00.7	
EIL	comp=Z,0.7nm,0.3s,baz=32,slow=13,SNR=2.9						
EIL	comp=Z,3.9nm,0.6s						
EIL	**Elat**	**10.21 246**		P	**Pn**	**01 22 05.8**	**-2.0**
CSS	**Mathiatis**	**10.21 277**		P	**Pn**	**01 22 07.1**	**-0.8**
SOC	**Sochi**	**10.40 335**		*e*P	**Pn**	**01 22 13.0**	**+2.7**
SOC				*e*		01 24 15.1	
SOC	comp=Z,24nm,0.8s			pmax	pmax		
SOC	comp=Z,227nm,14.0s			MLR	MLR		
KRM1	**Kerman Provinc**	**10.48 108**		Pn	**Pn**	**01 22 14.0**	**+2.2**
TRNA	**Turayna**	**10.64 152**		P	**Pn**	**01 22 15.4**	**+1.6**
TRNA	SNR=13			S	**Sn**	**01 24 08.0**	**-4.9**
RAYN	**Ar Rayn**	**10.71 181**		Pn	**Pn**	**01 22 13.6**	**-1.1**
RAYN	**Ar Rayn**	**10.71 181**		*i* Pn	**Pn**	**01 22 13.9**	**-0.8**
RAYN	**Ar Rayn**	**10.71 181**		P	**Pn**	**01 22 14.2**	**-0.5**
RAYN	SNR=13			S	**Sn**	**01 24 12.2**	**-2.5**
RAYN	**Ar Rayn**	**10.71 181**		P	**Pn**	**01 22 13.6**	**-1.1**
LABN	**Labinsk**	**11.04 341**		*e*P	**Pn**	**01 22 16.9**	**-2.3**
LABN	comp=Z,17nm,0.4s			pmax	pmax		
DIKM	**Dikmen**	**11.04 315**		P	**Pn**	**01 22 18.1**	**-1.1**
BRTR	**Keskin Array B**	**11.07 303**		Pn	**Pn**	**01 22 22.

KLYT Kilyos 14.89 303 P **Pn 01 23 10.9 -0.8**
comp=Z,33nm,1.4s,comp=Z,874nm
BIDO Bidbid 15.26 131 P **Pn 01 23 15.8 -0.9**
BIDO S **Sn 01 25 56.8 -8.9**
SNR=5.4
KARP Karpathos 15.26 280 P **P 01 23 20.5 -1.1**
KARP Karpathos 15.26 280 P **Pn 01 23 16.1 -0.7**
BSY Bisya 15.29 136 P **Pn 01 23 15.7 -1.5**
SNR=9.3
CTYL Yalikoy Yolu 15.50 303 P **Pn 01 23 19.0 -0.8**
comp=Z,16nm,0.9s
SMDO Samad 15.55 133 P **Pn 01 23 19.7 -1.0**
SNR=10
SMDO S Sn 01 26 03.5 -10
SNR=7.8
WSAR Wadi Sarin 15.78 131 Pn **Pn 01 23 22.5 -1.1**
comp=Z,19nm,0.5s,baz=319,slow=11,SNR=59
WSAR Sn Sn 01 26 08.7 -10
comp=Z,2.4nm,0.3s,baz=142,slow=21,SNR=16
NGCH Negor - Chabah 16.06 119 P **Pn 01 23 26.0 -1.2**
JMDO Jabal Madar 16.11 134 P **Pn 01 23 28.0 +0.2**
SNR=14
JMDO S **Sn 01 26 19.7 -6.6**
EZN Ezine 16.42 295 P **Pn 01 23 30.7 -0.9**
comp=Z,14nm,1.3s
WBK Wadi Bani Khal 16.45 131 P **Pn 01 23 32.1 -0.1**
WBK S **Sn 01 26 26.7 -8.1**
NE56 Odesa 16.70 322 P **Pn 01 23 34.2 -1.0**
JLN Jalan Bani Buh 17.06 131 P **Pn 01 23 38.9 -1.1**
SNR=12
JLN S Sn 01 26 37.7 -12
SNR=7.8
MHTO MHTO 17.11 138 P **Pn 01 23 38.7 -1.8**
SNR=16
MHTO S Sn 01 26 39.9 -11
SNR=14
IDI Anoyia 17.12 279 **Pn 01 23 41.0 +0.4**
IDI Anoyia 17.12 279 P **P 01 23 42.0 -0.4**
comp=Z,5.1nm,0.5s,baz=86,slow=13,SNR=10
VRH Novokhopyorsk 17.17 352 *eP* **Pn 01 23 39.2 -1.8**
VRH pmax pmax
comp=Z,18nm,0.6s
DOK Doka 17.31 152 P **Pn 01 23 41.1 -1.9**
SNR=11
DOK S **Sn 01 26 46.7 -8.9**
SNR=6.9
VORD Divnogorie 17.33 346 *eP* **Pn 01 23 41.5 -1.5**
VORD pmax pmax
comp=Z,20nm,1.0s
RDO Rodhopi 17.34 299 Pn **Pn 01 23 42.4 -0.9**
VSR Storozhevoye 17.59 346 *eP* **Pn 01 23 44.7 -1.6**
VSR pmax pmax
comp=Z,20nm,1.0s
WHFO Wadi Hawf 17.81 154 P **Pn 01 23 48.4 -0.9**
SNR=8.2
VORR Voronezh 18.02 347 *eP* **Pn 01 23 51.5 0.0**
VORR pmax pmax
comp=Z,38nm,0.4s
BELG Belogornoye 18.17 4 P **Pn 01 23 51.9 -1.5**
comp=Z,1.8nm,0.3s,baz=172,slow=5.0,SNR=14
comp=Z,43nm,0.8s
ABTO Aybut 18.17 156 P **Pn 01 23 53.3 -0.5**
SNR=9.1
ABTO S **Sn 01 27 07.9 -8.7**
BAL3X Bal3x, Balta 18.21 323 P **Pn 01 23 52.7 -1.2**
ISR Istrita 18.25 312 P **Pn 01 23 53.2 -1.3**
comp=Z,16nm,1.2s
ODBI Odobesti 18.27 314 P **Pn 01 23 53.3 -1.4**
comp=Z,6.8nm,0.7s
ABKAR Akbulak array 18.31 31 P **Pn 01 23 54.3 -0.9**
RBK Rabkut 18.35 153 P **P 01 23 54.6 -1.4**
DMTO DMTO 18.45 151 P **P 01 23 56.5 -0.5**
SNR=22
AKTO Aktyubinsk 18.50 25 P **Pn 01 23 57.8 +0.3**
comp=Z,2.2nm,0.3s,baz=209,slow=9.0,SNR=69
AKTO ScP **ScP 01 32 01.8 -0.5**
comp=Z,2.5nm,0.9s,baz=220,slow=2.7,SNR=4.8
comp=Z,40nm,1.0s
NEHR Nehoiu 18.55 313 ⇓P **Pn 01 23 58.8 +0.6**
PLOR Plostina 18.56 314 ⇑P Pn 01 24 06.4 +8.1
PLOR Plostina 18.56 314 ⇑P Pn 01 24 06.4 +8.1
MLR Muntele Rosu 18.80 312 P **Pn 01 24 01.4 +0.1**
comp=Z,0.1nm,0.3s,baz=170,slow=22,SNR=2.8
comp=Z,1.9nm,0.9s
MLR Muntele Rosu 18.80 312 ⇑P **Pn 01 24 05.7 +4.4**
MLR Muntele Rosu 18.80 312 ⇑P **Pn 01 24 05.7 +4.4**
MLR Muntele Rosu 18.80 312 P **P 01 23 59.6 -1.2**
comp=Z,11nm,2.6s
COVR Voineasa-Covas 18.82 314 ⇑P **Pn 01 24 03.7 +2.3**
TESR Tescani 18.91 316 ⇓P **Pn 01 24 03.3 +0.8**
TESR Tescani 18.91 316 P **P 01 24 00.9 -1.1**
comp=Z,12nm,0.8s
LPSR Galich'ya Gora 18.95 347 *eP* **P 01 24 01.0 -1.3**
LPSR pmax pmax
comp=Z,155nm,0.9s
ONER Baraj Valea Uz 18.96 315 ⇑P **P 01 24 02.4 -0.1**
SORM Soroca 18.97 322 ⇓P **P 01 24 01.9 -0.6**
SORM Soroca 18.97 322 ⇓P **P 01 24 01.9 -0.6**
SORM Soroca 18.97 322 P **P 01 24 01.5 -1.0**
comp=Z,20nm,0.6s
TURR Turia 19.04 314 ⇑P **Pn 01 24 05.4 +1.2**
OZUR 19.20 314 ⇑P **Pn 01 24 06.2 +0.2**
SIMJ Simiganj 19.24 70 P **P 01 24 06.5 +0.7**
KBL Kabul 19.27 83 P **Pn 01 24 07.5 +0.5**
KBL Kabul 19.27 83 P **Pn 01 24 09.0 +1.9**
SNR=10.0
KBL Kabul 19.27 83 P **Pn 01 24 07.6 +0.5**
KBL pmax pmax
comp=Z,14nm,0.8s
DOPR Dopca 19.37 313 ⇑P **Pn 01 24 08.0 -0.1**
ARR Arges 19.55 311 ⇑P **Pn 01 24 10.9 +0.6**
PRAR RASCA 19.63 318 ⇑P **P 01 24 10.0 +0.2**
NDNU Novodnistrovsk 19.77 322 P **P 01 24 10.2 -1.0**
LOT Lotru 20.13 310 ⇑P Pn 01 24 16.3 -0.9
KMPD K-Podol'skiy 20.22 321 P **P 01 24 15.1 -1.0**
comp=Z,4μm,0.7s
AK07 Malin Array Si 20.25 328 P **P 01 24 15.4 -1.0**
AK09 Malin Array Si 20.26 329 P **P 01 24 15.5 -1.1**
AK10 Malin Array Si 20.26 329 P **P 01 24 15.6 -1.0**
AK06 Malin Array Si 20.27 329 P **P 01 24 15.7 -1.0**
BURAR Bucovina Array 20.34 317 ⇓P **P 01 24 18.3 +0.7**
BURAR Bucovina Array 20.34 317 ⇓P **P 01 24 18.3 +0.7**
AKASG Malin Array Be 20.35 329 P **P 01 24 16.4 -1.1**
AKASG Malin Array Be 20.35 329 P **P 01 24 17.1 -0.4**
comp=Z,7.7nm,0.7s,baz=142,slow=9.7,SNR=39
comp=Z,7.7nm,0.7s
AKBB Malin Array Si 20.35 329 P **P 01 24 16.2 -1.4**
AKBB Malin Array Si 20.35 329 *ceP* **P 01 24 16.8 -0.7**
AKBB pmax pmax
comp=Z,23nm,0.9s
AKBB Malin Array Si 20.35 329 P **P 01 24 16.5 -1.0**
KIEV Kiev 20.35 329 P **P 01 24 16.4 -1.1**
KIEV Kiev 20.35 329 ⇑P **P 01 24 16.7 -0.8**
KIEV Kiev 20.35 329 ⇑P **P 01 24 16.7 -0.8**
KIEV Kiev 20.35 329 P **P 01 24 16.5 -1.1**
comp=Z,92nm,0.8s
BUR08 Bucovina Ar. S 20.36 317 P **P 01 24 17.9 0.0**
BUR08 IAmb IAmb 01 24 29.3
comp=Z,64nm,2.0s
LUBAR Lubar, Ukraine 20.45 325 P **P 01 24 17.7 -1.0**
ARCR ARCALIA 20.55 315 ⇓P Pn 01 24 21.1 -0.9
GZR Gura Zlata 20.74 309 ⇑P **P 01 24 22.5 +0.6**
MI29 MI29, Kamyanyy 20.75 326 P **P 01 24 21.7 -0.2**
comp=Z,122nm,0.8s
HERR Herculane 20.77 308 ⇑P **P 01 24 23.2 +1.0**
BOVS Bovan 20.81 304 ⇓P Pn 01 24 27.4 +2.3
KSV Kosov 20.82 319 P **P 01 24 21.5 -1.2**
MI30 MI30,Zelenitsa 20.83 328 P **P 01 24 20.8 -2.0**
comp=Z,52nm,0.8s
MARR Marisel-Cluj 21.09 313 ⇑P **P 01 24 26.6 +0.8**
MI28 Mi28,Pidlybu 21.20 327 P **P 01 24 25.6 -1.1**
comp=Z,556nm,0.8s
MI28 pP **pP 01 24 28.9 -1.2**
comp=Z,556nm,0.8s
KKAR Karatay Array 21.23 58 P **P 01 24 26.5 -0.7**
KKAR Karatay Array 21.23 58 P **P 01 24 26.5 -0.7**
KKAR pmax pmax
comp=Z,6.0nm,1.0s
BMR Baia Mare 21.36 315 ⇓P **P 01 24 29.6 +1.1**
BMR Baia Mare 21.36 315 ⇓P **P 01 24 29.6 +1.1**
DRGR 21.39 313 ⇑P **P 01 24 29.6 +0.6**
DRGR 21.39 313 ⇑P **P 01 24 29.6 +0.6**
DRK Karamyk 21.49 68 P **P 01 24 32.0 +1.8**
DRK Karamyk 21.49 68 P **P 01 24 32.1 +1.8**
DRK pmax pmax
comp=Z,21nm,1.0s
BZS Buzias 21.57 309 ⇑P **P 01 24 32.4 +1.6**
BZS Buzias 21.57 309 ⇑P **P 01 24 32.4 +1.6**
OBN Obninsk 21.79 346 P **P 01 24 30.8 -2.2**
OBN IAmb IAmb 01 24 32.3
comp=Z,30nm,0.5s
OBN Obninsk 21.79 346 P **P 01 24 31.6 -1.4**
comp=Z,22nm,0.4s,baz=198,slow=20,SNR=5.0
comp=Z,22nm,0.4s
OBN Obninsk 21.79 346 ⇑P **P 01 24 31.9 -1.2**
OBN Obninsk 21.79 346 *d iP* **P 01 24 31.8 -1.2**
OBN *e**SP **pP 01 24 36.1 -0.5**
OBN PPP PPP 01 25 02.0
OBN *i* 01 28 29.2
OBN *e*S **S 01 28 36.3 +2.6**
OBN SS **SnSn 01 29 10.0 +12**
OBN pmax pmax
comp=Z,68nm,1.7s
OBN MLR MLR
comp=Z,193nm,16.0s
OBN Obninsk 21.79 346 P **P 01 24 32.0 -1.0**
comp=Z,43nm,0.8s
SIRR Siria 21.81 311 ⇑P **P 01 24 36.2 +2.7**
KORU Korolevo 21.81 316 P **P 01 24 32.3 -1.1**
MORS Morshin 21.92 319 P **P 01 24 32.3 -2.2**
MOS Moscow 22.18 348 *eP* **P 01 24 38.7 +1.5**
MOS *e* 01 25 00.8
MOS *e*S Sn 01 28 46.7 -5.8
MOS pmax pmax
comp=Z,57nm,0.9s
MOS pmax pmax
comp=E,25nm,0.8s
MOS pmax pmax
comp=N,48nm,1.0s
RNPP5 Staryi Chortor 22.22 326 P **P 01 24 36.6 -1.1**
MUKU Mukachevo 22.22 317 P **P 01 24 36.6 -1.2**
SHIU Shidnytsya 22.26 319 P **P 01 24 37.1 -1.1**
RNPP8 Varash 22.30 326 P **P 01 24 37.5 -1.1**
RNPP1 Kostyukhnivka 22.36 326 P **P 01 24 38.0 -1.1**
ARSB Arslanbob 22.63 64 P **P 01 24 42.7 +0.4**
ARSB Arslanbob 22.63 64 P **P 01 24 42.7 +0.4**
ARSB pmax pmax
comp=Z,5.0nm,1.1s
KOLS Kolonicke sedl 22.71 317 *eP* **P 01 24 43.8 +0.8**
KOLS pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 22.71 317 *eP* **P 01 24 43.8 +0.8**
KWP Kalwaria Pacla 22.84 319 *eP* **P 01 24 44.9 +0.5**
KWP Kalwaria Pacla 22.84 319 P **P 01 24 43.7 -0.7**
KWP IAmb IAmb 01 24 50.3
comp=Z,29nm,1.3s
KWP Kalwaria Pacla 22.84 319 P **P 01 24 43.7 -0.7**
KWP pmax pmax
comp=Z,29nm,1.3s
NIL Nilore 22.84 84 P **P 01 24 43.5 -1.0**
NIL IAmb IAmb 01 24 51.9
comp=Z,21nm,0.8s
NIL Nilore 22.84 84 P **P 01 24 43.6 -1.0**
NIL pmax pmax
comp=Z,21nm,0.8s
AML Almayashu 23.29 62 P **P 01 24 51.2 +1.7**
SNR=12
EKS2 Erkin-Say 23.45 61 P **P 01 24 53.0 +2.2**
SNR=8.9
MORH Mrgy, Hungar 23.72 308 ⇑P **P 01 24 53.8 +0.5**
MNK Minsk 23.77 334 *i P* **P 01 24 52.7 -0.9**
comp=E,26nm,1.0s
MNK *i* P **P 01 24 52.7 -0.9**
comp=N,29nm,1.0s,baz=141
MNK *i* P **P 01 24 52.7 -0.9**
comp=Z,52nm,0.9s
MNK *i* PP **PnPn 01 25 20.7 -0.6**
MNK *i* S **S 01 29 11.9 +3.2**
MNK *i* SS **SnSn 01 29 50.1 +3.1**
MNK *i* LQ LQ 01 32 17.2
MNK *i* LR LR 01 34 06.2
MNK *i* LRM MLR 01 35 28.3
comp=Z,163nm,16.2s
MNK Minsk 23.77 334 *i P* **P 01 24 52.7 -0.9**
MNK *i* 01 25 20.6
MNK *i* S **S 01 29 11.9 +3.2**
MNK *i* SS **SnSn 01 29 50.0 +3.1**
MNK pmax pmax
comp=N,29nm,1.0s
MNK pmax pmax
comp=Z,52nm,0.9s
MNK pmax pmax
comp=E,26nm,1.0s
MNK MLR MLR
comp=Z,163nm,16.0s
ARTI Arti 23.77 18 P **P 01 24 52.9 -0.7**
ARTI IAmb IAmb 01 25 01.3
comp=Z,47nm,1.0s
ARTI Arti 23.77 18 P **P 01 24 53.4 -0.2**
comp=Z,6.3nm,0.6s,baz=247,slow=4.4,SNR=11
comp=Z,6.3nm,0.6s
ARTI Arti 23.77 18 *c iP* **P 01 24 53.2 -0.4**
ARTI S **S 01 29 10.7 +1.9**
ARTI pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 23.96 61 P **P 01 24 56.2 +0.4**
AAK Ala-Archa 23.96 61 P **P 01 24 58.0 +2.1**
AAK Ala-Archa 23.96 61 *i P* **P 01 24 57.3 +1.5**
AAK pmax pmax
comp=Z,6.0nm,1.5s
USP Ospenovka 24.09 60 P **P 01 24 58.5 +1.6**
SNR=8.8
CHMS Chumysh 24.22 60 P **P 01 24 59.8 +1.7**
SNR=5.6
KBK Karagaybulak 24.30 61 P **P 01 25 01.1 +2.2**
SNR=6.5
LANS Liptovska Anna 24.42 315 *eP* **P 01 25 01.0 +1.2**
LANS pmax pmax
comp=Z,3.0nm,0.8s
LANS Liptovska Anna 24.42 315 *eP* **P 01 25 01.0 +1.2**
KIRV Kirov 24.45 5 P **P 01 24 59.5 -0.4**
comp=Z,46nm,0.6s,baz=186,slow=0.5,SNR=34
comp=Z,46nm,0.6s
NACGM Naroch 24.49 333 *eP* **P 01 24 59.7 -0.6**
comp=E,1μm,0.8s
VYHS Vyhne 24.50 314 *eP* **P 01 25 02.1 +1.6**
VYHS Vyhne 24.50 314 *eP* **P 01 25 02.1 +1.6**
KSH Kashi 24.71 69 P **P 01 25 01.5 -1.2**
KSH sP sP 01 25 09.8 +1.9
KSH pmax pmax
comp=E,12nm,1.0s
OJC Ojcow 24.75 318 *eP* **P 01 25 02.8 0.0**
OJC Ojcow 24.75 318 P **P 01 25 01.9 -0.9**
OJC Ojcow 24.75 318 P **P 01 25 01.9 -0.9**
OJC pmax pmax
comp=Z,13nm,1.2s
SVE Sverdlovsk 24.76 20 *eP* **P 01 25 03.4 +0.7**
SVE pmax pmax
comp=Z,30nm,0.9s
TKM2 Tokmak 2 24.82 61 P **P 01 25 05.8 +2.1**
SNR=7.2
NRN Naryn 24.89 64 P **P 01 25 06.0 +1.5**
NRN IAmb IAmb 01 25 07.5
comp=Z,14nm,0.6s
NRN Naryn 24.89 64 P **P 01 25 06.0 +1.5**
NRN pmax pmax
comp=Z,14nm,0.6s
SUW Suwalki 25.31 328 *eP* **P 01 25 07.5 -0.3**
SUW Suwalki 25.31 328 P **P 01 25 06.9 -0.8**
SUW Suwalki 25.31 328 *eP* **P 01 25 07.8 0.0**
SUW Suwalki 25.31 328 P **P 01 25 06.9 -0.8**
SUW pmax pmax
comp=Z,93nm,0.9s
JAVC Velka Javorina 25.35 314 *eP* **P 01 25 09.4 +1.1**
SMOL Smolenice 25.36 313 *eP* **P 01 25 09.2 +0.9**
MODS Modra-Piesok 25.39 312 *eP* **P 01 25 10.6 +2.0**
MODS Modra-Piesok 25.39 312 *eP* **P 01 25 10.6 +2.0**
MAUC Maruska 25.48 315 *eP* **P 01 25 10.4 +1.0**
BRVK Borovoye 25.66 35 P **P 01 25 11.0 +1.0**
BRVK IAmb IAmb 01 25 23.0
comp=Z,9.0nm,0.8s
BRVK Borovoye 25.66 35 *ceP* **P 01 25 12.3 +1.4**
BRVK pmax pmax
comp=Z,12nm,1.0s
BVAR Borovoye Array 25.68 36 P **P 01 25 11.8 +0.7**
comp=Z,5.7nm,0.6s,baz=234,slow=8.8,SNR=24
BVAR PcP **PcP 01 28 42.2 +1.0**
comp=Z,2.9nm,0.7s,baz=248,slow=2.4,SNR=6.3
BVAR ScP **ScP 01 32 20.2 -0.3**
comp=Z,1.4nm,0.7s,baz=228,slow=1.7,SNR=7.8
comp=Z,5.7nm,0.6s
RONA Rosalia, Austr 25.75 310 *eP* **P 01 25 11.5 -0.4**
comp=Z,3.2nm,0.7s
MORC Moravsky Berou 25.82 315 P **P 01 25 11.5 -1.0**
MORC IAmb IAmb 01 25 29.3
comp=Z,28nm,1.9s
MORC Moravsky Berou 25.82 315 *eP* **P 01 25 12.7 +0.2**
MORC Moravsky Berou 25.82 315 ⇑P **P 01 25 12.7 +0.2**
MORC Moravsky Berou 25.82 315 ⇑P **P 01 25 12.7 +0.2**
PABE Paberze 26.02 331 P **P 01 25 13.1 -1.0**
PABE Paberze 26.02 331 *eP* **P 01 25 14.0 -0.2**
ARSA Arzberg 26.09 309 *i P* **P 01 25 13.4 -1.6**
comp=Z,8.1nm,1.5s
CONA Conrad Observa 26.11 311 *i P* **P 01 25 15.1 -0.1**
comp=Z,13nm,2.0s
VRAC Vranov 26.18 314 P **P 01 25 16.0 +0.2**
comp=Z,1.5nm,0.5s,baz=100,slow=11,SNR=4.9
comp=Z,1.5nm,0.5s
VRAC Vranov 26.18 314 *eP* **P 01 25 15.9 +0.2**
VRAC Vranov 26.18 314 ⇑P **P 01 25 15.8 0.0**
VRAC Vranov 26.18 314 P **P 01 25 16.0 +0.2**
KRUC Moravsky 26.20 313 *eP* **P 01 25 15.8 -0.1**
SOKA Soboth 26.24 307 *eP* **P 01 25 16.3 0.0**
comp=Z,15nm,1.6s
VSVD Vaisvydziai 26.38 332 *eP* **P 01 25 17.2 -0.1**
DPC Dobruska-Polom 26.78 316 *eP* **P 01 25 20.6 -0.6**
DPC Dobruska-Polom 26.78 316 *eP* **P 01 25 20.6 -0.6**
KLMR Klimovskoe 26.90 353 *eP* **P 01 25 19.3 -2.7**
KLMR pmax pmax
comp=Z,18nm,1.1s
OSTC Ostas 26.93 316 *eP* **P 01 25 21.8 -0.7**
OSTC Ostas 26.93 316 *eP* **P 01 25 21.8 -0.7**
KSP Ksiaz 27.02 317 *eP* **P 01 25 23.2 0.0**
KSP Ksiaz 27.02 317 P **P 01 25 22.3 -0.9**
comp=Z,8.4nm,1.0s
CHVC Chvalec 27.04 316 *eP* **P 01 25 23.5 0.0**
CHVC Chvalec 27.04 316 *eP* **P 01 25 23.5 0.0**
MOA Molln 27.09 310 *i P* **P 01 25 24.3 +0.3**
comp=Z,1.0nm,0.6s
PBUR Paburge 27.21 330 *eP* **P 01 25 25.0 +0.2**
WUS Wushi 27.28 65 P **P 01 25 27.5 +1.6**
VSU Vasula 27.31 338 *ceP* **P 01 25 26.2 +0.4**
VSU pmax pmax
comp=Z,34nm,1.7s
BIOA Bad Ischl, Aus 27.45 309 *eP* **P 01 25 27.7 +0.5**
comp=Z,8.3nm,1.2s
KBA Koelnbreinsper 27.46 308 *i P* **P 01 25 28.1 +0.7**
comp=Z,11nm,1.4s
GERES GERESS Array B 27.77 311 P **P 01 25 28.7 -1.4**
GERES GERESS Array B 27.77 311 P **P 01 25 29.6 -0.6**
comp=Z,0.5nm,0.4s,baz=97,slow=8.0,SNR=4.2
comp=Z,0.5nm,0.4s
KHC Kasperske Hory 27.95 312 *eP* **P 01 25 34.6 +2.9**
KHC Kasperske Hory 27.95 312 *eP* **P 01 25 34.6 +2.9**
LESA Schwarzleotal 27.99 308 *i P* **P 01 25 33.0 +0.9**
comp=Z,9.9nm,1.5s
ARBE Arbavere 28.33 339 *eP* **P 01 25 34.9 0.0**
WTTA Wattenberg 28.63 307 *eP* **P 01 25 37.5 -0.5**
comp=Z,3.9nm,1.0s
WATA Walderalm 28.69 307 *eP* **P 01 25 37.4 -1.0**
comp=Z,15nm,1.5s
SQTA Sankt Quirin 28.91 307 *eP* **P 01 25 40.4 +0.1**
comp=Z,2.0nm,0.5s
KURBB Kurchatov Arra 28.92 46 P **P 01 25 41.8 +1.6**
comp=Z,7.2nm,0.6s,baz=253,slow=9.0,SNR=66
KURBB PcP **PcP 01 28 49.1 +0.1**
comp=Z,0.5nm,0.6s,baz=247,slow=3.0,SNR=5.8
KURBB ScP **ScP 01 32 30.0 -0.3**
comp=Z,1.9nm,0.9s,baz=252,slow=4.2,SNR=12
comp=Z,7.2nm,0.6s
MOTA Moosalm 29.00 307 *eP* **P 01 25 40.7 -0.6**
comp=Z,7.6nm,1.1s
KURK Kurchatov 29.01 45 P **P 01 25 42.2 +1.2**
KURK Kurchatov 29.01 45 P **P 01 25 41.8 +0.8**
KURK 01 28 49.1
CLL Collm 29.09 316 *i P* P 01 25 32.7 -9.1
CLL pmax pmax
comp=Z,6.0nm,1.3s
FETA Feichten 29.18 306 *eP* **P 01 25 42.3 -0.5**
comp=Z,2.6nm,0.6s
FUORN Ofenpass-Fuorn 29.40 306 P **P 01 25 45.5 +0.6**
FUORN IAmb IAmb 01 26 25.0
comp=Z,18nm,1.7s
MEF Metsahovi 29.44 338 *eP* **P 01 25 44.2 -0.5**
DAVOX Davos/Dischmat 29.69 306 P **P 01 25 47.8 +0.4**
comp=Z,1.3nm,0.5s,baz=56,slow=3.6,SNR=2.0
comp=Z,1.3nm,0.5s
DAVA Damuels 29.80 307 *eP* **P 01 25 48.0 -0.3**
comp=Z,13nm,1.4s
BSD Bornholm Skovb 29.82 324 *i P* **P 01 25 46.8 -1.4**
BSD IAmb IAmb 01 25 47.2
comp=Z,41nm,1.0s
FIA1 FINESS Array S 29.96 341 P **P 01 25 48.0 -1.3**
FINES FINESS Array B 29.96 341 P **P 01 25 48.5 -0.7**
comp=Z,5.7nm,0.6s,baz=146,slow=10,SNR=62
comp=Z,5.7nm,0.6s
BLEU Blekinge 30.05 326 *i P* **P 01 25 49.8 -0.3**
JOF Joensuu 30.06 347 *eP* **P 01 25 49.8 -0.4**
MK31 Makanchi Array 30.22 54 P **P 01 25 52.9 +1.0**
MK31 Makanchi Array 30.22 54 P **P 01 25 52.9 +1.0**
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 30.22 54 P **P 01 25 53.2 +1.3**
comp=Z,3.1nm,0.8s,baz=252,slow=10.0,SNR=22
comp=Z,3.1nm,0.8s
LUNU Lund 30.81 324 *i P* **P 01 25 57.0 +0.2**
KEF Keuruu 30.88 341 *eP* **P 01 25 57.7 +0.3**
RAF Rauma 30.89 337 *eP* **P 01 25 56.8 -0.7**
DEL Delary 31.04 325 *i P* **P 01 25 57.5 -1.4**
COP Copenhagen 31.34 323 *i P* **P 01 25 59.7 -1.8**
COP IAmb IAmb 01 26 00.9
comp=Z,77nm,0.9s
SENIN Lac Senin/Sane 31.37 304 P **P 01 26 01.3 -0.9**
BNI Bardonecchia 31.63 302 P **P 01 26 03.2 -1.1**
BNI IAmb IAmb 01 26 10.2
comp=Z,16nm,0.9s
BNI Bardonecchia 31.63 302 P **P 01 26 03.3 -1.1**
BNI pmax pmax
comp=Z,16nm,1.0s
FABU Falkenberg 31.86 326 *i P* **P 01 26 05.3 -0.9**
BORU Boraas 32.17 327 *i P* **P 01 26 08.3 -0.6**
VAF Ylistaro 32.19 340 *eP* **P 01 26 08.4 -0.5**
ONAU Onsala 32.44 326 *i P* **P 01 26 10.7 -0.5**
SSRD Sdr. Stenderup 32.66 322 *i P* P 01 26 08.1 -5.0
SSRD IAmb IAmb 01 26 09.0
comp=Z,63nm,0.8s
TJOU Tjoern 32.91 327 *i P* **P 01 26 14.8 -0.5**
HFS Hagfors 33.20 331 P **P 01 26 17.6 -0.3**
comp=Z,14nm,0.5s,baz=128,slow=9.6,SNR=70
comp=Z,14nm,0.5s
MUD Monsted U'grnd 33.31 323 *i P* **P 01 26 18.4 -0.4**
MUD IAmb IAmb 01 26 20.6
comp=Z,15nm,0.7s
WMQ Urumqi 33.67 61 *eP* **P 01 26 24.0 +1.7**
WMQ pmax pmax
comp=Z,12nm,0.7s
ZAA0 Zalesovo Array 33.71 42 P **P 01 26 23.1 +0.7**
ZAA0 IAmb IAmb 01 26 23.8
comp=Z,4.4nm,0.5s
ZALV Zalesovo Beam 33.71 42 P **P 01 26 22.7 +0.3**
ZALV Zalesovo Beam 33.71 42 P **P 01 26 23.1 +0.7**
comp=Z,3.2nm,0.4s,baz=257,slow=8.7,SNR=23
comp=Z,3.2nm,0.4s
LVZ Lovozero 34.27 353 P **P 01 26 25.8 -1.3**
LVZ Lovozero 34.27 353 P **P 01 26 25.8 -1.3**
LVZ pmax pmax
comp=Z,212nm,1.9s
OSL Oslo 34.31 329 *eP* **P 01 26 27.4 -0.1**
OSL IAmb IAmb 01 26 27.5
comp=Z,18nm,1.0s
NC602 NORSAR Array S 34.42 331 *eP* **P 01 26 28.5 +0.1**
HOMB Homborsund 34.46 326 *eP* **P 01 26 29.0 +0.2**
HOMB IAmb IAmb 01 26 30.4
comp=Z,460nm,3.0s
HOMB Homborsund 34.46 326 *i P* **P 01 26 27.0 -1.8**
NC405 NORSAR Array S 34.57 331 P **P 01 26 28.6 -1.2**
NC405 IAmb IAmb 01 26 51.9
comp=Z,64nm,2.0s
KONO Kongsberg 34.65 328 *eP* **P 01 26 30.1 -0.3**
KONO Kongsberg 34.65 328 *ceP* **P 01 26 30.7 +0.3**
KONO pmax pmax
comp=Z,28nm,2.5s
NB2 NORSAR Subarra 34.72 331 P **P 01 26 29.8 -1.3**
comp=Z,1.2nm,0.6s,baz=124,slow=9.3
NOA NORSAR Array B 34.72 331 P **P 01 26 30.0 -1.1**

comp=Z,2.5nm,0.8s,baz=125,slow=8.7,SNR=11
comp=Z,2.5nm,0.8s
SNART Snartemo 35.10 325 *eP* **P 01 26 34.5 +0.2**
SNART IAmb IAmb 01 26 35.4
comp=Z,27nm,1.0s
SKAR Skarslia 35.73 329 *eP* **P 01 26 40.1 +0.3**
BLS5 Blasjo 35.94 327 *eP* **P 01 26 41.9 +0.3**
ODD1 Odda 36.09 327 *eP* **P 01 26 43.4 +0.6**
ODD1 IAmb IAmb 01 26 44.1
comp=Z,10nm,1.0s
NSS Namsos 36.56 336 *eP* **P 01 26 46.7 0.0**
NSS IAmb IAmb 01 26 47.6
comp=Z,10nm,0.9s
HYA Hoyanger 36.87 329 *eP* **P 01 26 49.4 0.0**
BER Bergen 36.88 328 *eP* **P 01 26 49.7 +0.2**
BER IAmb IAmb 01 26 50.3
comp=Z,9.2nm,0.6s
MOR8 Moi Rana 36.89 339 *eP* **P 01 26 49.1 -0.4**
MOR8 IAmb IAmb 01 26 53.4
comp=Z,20nm,1.1s
ASK Askoy 36.98 328 *eP* **P 01 26 50.5 +0.2**
ASK IAmb IAmb 01 26 51.0
comp=Z,13nm,1.0s
KTK1 Kautokeino 37.00 347 *eP* **P 01 26 50.2 -0.3**
KTK1 IAmb IAmb 01 26 50.5
comp=Z,59nm,1.2s
VADS Vadso 37.01 351 *eP* **P 01 26 50.6 +0.1**
VADS IAmb IAmb 01 26 52.3
comp=Z,68nm,1.3s
KEV Kevo 37.01 349 P **P 01 26 50.3 -0.2**
KEV Kevo 37.01 349 P **P 01 26 50.3 -0.2**
KEV pmax pmax
comp=Z,248nm,1.9s
ARA0 ARCESS Array S 37.05 348 *eP* **P 01 26 50.7 -0.3**
ARCES ARCESS Array B 37.05 348 P **P 01 26 50.6 -0.4**
comp=Z,7.2nm,0.6s,baz=161,slow=7.7,SNR=51
comp=Z,7.2nm,0.6s
STOK Stokkvaagen 37.42 339 *eP* **P 01 26 53.8 -0.2**
FAUS Fauske 37.52 341 *eP* **P 01 26 55.1 +0.3**
FAUS IAmb IAmb 01 27 03.5
comp=Z,597nm,3.0s
STEI Steigen 37.93 342 *eP* **P 01 26 58.3 0.0**
JETT Jettan, Norway 38.01 346 *eP* **P 01 26 58.9 -0.2**
JETT IAmb IAmb 01 26 59.3
comp=Z,24nm,0.8s
HAMF Hammerfest 38.33 348 *eP* **P 01 27 01.7 0.0**
TRO Tromso 38.38 345 *eP* **P 01 27 01.8 -0.2**
EKA Eskdalemuir Ar 39.52 317 P **P 01 27 11.6 -0.3**
comp=Z,1.3nm,0.4s,baz=102,slow=9.3,SNR=19
comp=Z,1.3nm,0.4s
ESDC Sonseca Array 39.63 293 P **P 01 27 13.9 +0.8**
comp=Z,2.0nm,1.1s,baz=254,slow=28,SNR=4.9
comp=Z,2.0nm,1.1s
SHL Shillong 40.68 90 P **P 01 27 21.4 -0.7**
SHL IAmb IAmb 01 27 27.9
comp=Z,11nm,0.4s
SHL Shillong 40.68 90 P **P 01 27 21.4 -0.7**
SHL pmax pmax
comp=Z,11nm,0.4s
NRIK Noril'sk 42.02 21 P **P 01 27 32.5 +0.2**
NRIK IAmb IAmb 01 27 40.7
comp=Z,10nm,0.8s
NRIK Noril'sk 42.02 21 P **P 01 27 31.6 -0.7**
comp=Z,16nm,1.1s,baz=234,slow=5.6,SNR=10
comp=Z,16nm,1.1s
NRIK Noril'sk 42.02 21 P **P 01 27 32.5 +0.2**
NRIK pmax pmax
comp=Z,10.0nm,0.9s
GTA Gaotai 43.08 67 *eP* **P 01 27 43.3 +1.8**
GTA pP sP 01 27 48.0 +1.2
GTA pmax pmax
comp=Z,5.0nm,1.3s
TORD Torodi Ar. Bea 45.01 253 P **P 01 27 56.5 -0.6**
TORD Torodi Ar. Bea 45.01 253 P **P 01 27 57.4 +0.4**
comp=Z,1.2nm,0.7s,baz=52,slow=5.5,SNR=12
comp=Z,1.2nm,0.7s
SPB2 Spitsbergen Ar 45.78 352 P **P 01 28 02.0 -0.4**
SPA2 Spitsbergen Ar 45.78 352 P **P 01 28 02.2 -0.3**
SPB3 Spitsbergen Ar 45.78 352 P **P 01 28 02.6 +0.2**
SPA0 Spitsbergen Ar 45.78 352 *eP* **P 01 28 02.9 +0.5**
SPITS Spitsbergen Ar 45.78 352 P **P 01 28 02.7 +0.3**
comp=Z,6.0nm,0.4s,baz=148,slow=11,SNR=46
SPITS ScP **ScP 01 33 30.2 -2.5**
comp=Z,2.2nm,0.4s,baz=172,slow=4.4,SNR=5.0
comp=Z,6.0nm,0.4s
SPITS Spitsbergen Ar 45.78 352 P **P 01 28 02.8 +0.3**
SPITS pmax pmax
comp=Z,58nm,1.2s
SONM Songino Array 46.59 54 P **P 01 28 09.8 +0.4**
comp=Z,0.5nm,0.4s,baz=288,slow=9.4,SNR=3.7
comp=Z,0.5nm,0.4s
ULN Ulaanbaatar 47.02 54 P **P 01 28 13.2 +0.4**
ULN IAmb IAmb 01 29 36.6
comp=Z,9.9nm,1.4s
ULN Ulaanbaatar 47.02 54 *ceP* **P 01 28 14.8 +2.0**
ULN pmax pmax
comp=Z,2.0nm,0.8s
PZH PanZhiHua 48.45 83 P **P 01 28 25.3 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
CHTO Chiang Mai 49.53 94 P **P 01 28 32.0 -0.3**
CHTO Chiang Mai 49.53 94 P **P 01 28 32.0 -0.3**
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 49.70 94 P **P 01 28 33.9 +0.2**
CMAR Chiang Mai Arr 49.70 94 P **P 01 28 34.0 +0.4**
comp=Z,1.5nm,0.3s,baz=296,slow=8.4,SNR=13
comp=Z,1.5nm,0.3s
DAG Danmarks Havn 51.10 345 *i P* **P 01 28 43.0 -0.3**
DAG IAmb IAmb 01 28 43.4
comp=Z,5.5nm,1.0s
XAN Xi'an 51.53 71 P **P 01 28 47.5 +0.2**
XAN pP sP 01 28 52.5 -0.2
XAN pmax pmax
comp=Z,21nm,0.7s
HHC Hu-ho-hao-te 51.54 62 *eP* **P 01 28 46.5 -0.8**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,73nm,5.7s
NOR Nord 52.35 351 *i P* **P 01 28 52.0 -0.7**
NOR IAmb IAmb 01 28 55.2
comp=Z,4.2nm,0.8s
GYA Guiyang 52.51 81 ⇑P **P 01 28 53.0 -1.8**
GYA pmax pmax
comp=Z,27nm,0.5s
DBIC Dimbokro 54.03 251 P **P 01 29 06.4 +0.5**
comp=Z,2.0nm,0.7s,baz=44,slow=8.5,SNR=3.9
comp=Z,2.0nm,0.7s
LHMI Lhok Sumawe 55.46 109 P **P 01 29 16.4 +0.1**
TIXI Tiksi 55.75 22 P **P 01 29 18.3 +0.7**
TIXI IAmb IAmb 01 29 20.3
comp=Z,9.7nm,1.2s
TIXI Tiksi 55.75 22 *ceP* **P 01 29 18.3 +0.7**
TIXI pmax pmax
comp=Z,9.0nm,1.3s
SUMG Summit 55.95 339 P **P 01 29 19.1 -0.4**
SUMG IAmb IAmb 01 29 51.8
comp=Z,29nm,2.0s
SUMG Summit 55.95 339 P **P 01 29 19.1 -0.4**
SUMG pmax pmax
comp=Z,29nm,2.0s
SUMG Summit 55.95 339 *i P* **P 01 29 18.8 -0.7**
SUMG IAmb IAmb 01 29 32.6
comp=Z,3.5nm,0.8s
ICESG Greenland Ices 56.82 335 *i P* **P 01 29 24.2 -1.4**
ICESG IAmb IAmb 01 29 27.9
comp=Z,8.1nm,1.0s
NEEM North Greenlan 58.29 345 *i P* **P 01 29 38.9 +3.0**
NEEM IAmb IAmb 01 29 45.9
comp=Z,3.9nm,0.7s
HEH HeiHe 59.58 47 *eP* **P 01 29 45.0 +0.1**
HEH pmax pmax
comp=Z,8.0nm,0.6s
DY2G Dye2 59.87 332 *i P* **P 01 29 46.3 -0.6**
DY2G IAmb IAmb 01 29 50.6
comp=Z,85nm,1.8s
NJ2 Nanjing 60.02 70 *eP* **P 01 29 48.3 +0.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
KSAR Wonju Array Be 64.60 61 P **P 01 30 17.6 -1.2**
KSAR Wonju Array Be 64.60 61 P **P 01 30 17.6 -1.2**
KSRS Korea Array 64.63 61 P **P 01 30 18.8 -0.2**
comp=Z,4.6nm,0.7s,baz=284,slow=7.0,SNR=13
comp=Z,4.6nm,0.7s
USRK Ussuriysk Ar. 64.67 53 P **P 01 30 18.8 -0.3**
USRK Ussuriysk Ar. 64.67 53 P **P 01 30 17.9 -1.2**
comp=Z,1.2nm,0.6s,baz=268,slow=5.4,SNR=2.9
comp=Z,1.2nm,0.6s
USRK Ussuriysk Ar. 64.67 53 P **P 01 30 18.8 -0.3**
BOSA Boshof 65.47 200 P **P 01 30 26.1 +1.6**
BOSA IAmb IAmb 01 31 40.9
comp=Z,38nm,1.8s
BOSA Boshof 65.47 200 P **P 01 30 25.9 +1.5**
comp=Z,3.6nm,0.6s,baz=9.5,slow=5.5,SNR=9.7
comp=Z,3.6nm,0.6s
BOSA Boshof 65.47 200 P **P 01 30 26.1 +1.6**
BOSA pmax pmax
comp=Z,38nm,1.8s
SEY Seymchan 67.07 28 *ceP* **P 01 30 33.3 -1.0**
SEY pmax pmax
comp=Z,11nm,0.9s
RES Resolute Bay 68.27 350 P **P 01 30 42.3 +0.7**
RES IAmb IAmb 01 30 43.1
comp=Z,21nm,1.9s
RES Resolute Bay 68.27 350 P **P 01 30 42.3 +0.7**
RES pmax pmax
comp=Z,21nm,1.9s
A36M Sachs Harbour 73.84 357 P **P 01 31 15.3 -0.1**
A36M IAmb IAmb 01 31 16.6
comp=Z,16nm,0.8s
SCHQ Schefferville 74.12 326 P **P 01 31 16.1 -1.3**
SCHQ Schefferville 74.12 326 P **P 01 31 17.2 -0.3**
comp=Z,3.4nm,0.7s,baz=24,slow=8.3,SNR=4.0
comp=Z,3.4nm,0.7s
B21K Ikpikpuk River 75.35 7 P **P 01 31 23.9 -0.3**
B21K IAmb IAmb 01 31 38.5
comp=Z,39nm,1.9s
RDOG Red Dog Mine 75.75 11 P **P 01 31 27.2 +0.6**
C27K Jago River 76.18 3 P **P 01 31 29.7 +0.7**
C27K IAmb IAmb 01 31 36.7
comp=Z,9.4nm,1.3s
C36M Paulatuk 76.41 356 P **P 01 31 29.6 -0.7**
C36M IAmb IAmb 01 31 36.9
comp=Z,7.0nm,0.8s
D27M Malcolm River 76.68 2 P **P 01 31 32.8 +0.8**
TOLK Toolik Lake Re 76.77 6 P **P 01 31 32.6 +0.2**
TOLK IAmb IAmb 01 31 38.8
comp=Z,6.7nm,0.8s
E19K Redstone River 77.11 9 P **P 01 31 34.7 +0.4**
E19K IAmb IAmb 01 31 45.4
comp=Z,15nm,1.4s
E27K Coleen River 77.71 3 P **P 01 31 38.3 +0.6**
E27K IAmb IAmb 01 31 39.1
comp=Z,5.2nm,0.7s
INK Inuvik 77.73 360 P **P 01 31 37.8 +0.1**
INK IAmb IAmb 01 31 38.3
comp=Z,10nm,1.4s
INK Inuvik 77.73 360 P **P 01 31 37.8 +0.1**
INK pmax pmax
comp=Z,10.0nm,1.5s
BMAR Burnt Mountain 78.32 4 P **P 01 31 41.9 +0.7**
F28M Old Crow 78.34 2 P **P 01 31 41.4 +0.1**
F28M IAmb IAmb 01 32 06.3
comp=Z,25nm,1.9s
F31M Tsiigehtchic 78.60 360 P **P 01 31 42.4 -0.2**
F31M IAmb IAmb 01 31 43.5
comp=Z,10nm,0.7s
IMAR Indian Mountai 78.94 8 P **P 01 31 44.9 +0.3**
G30M tAoh Zrail Nji 79.06 1 P **P 01 31 45.0 -0.2**
G30M IAmb IAmb 01 31 46.1
comp=Z,6.3nm,0.7s
G31M Satah River 79.12 360 P **P 01 31 45.1 -0.3**
G31M IAmb IAmb 01 31 46.0
comp=Z,9.5nm,0.8s
H21K Melozitna Rive 79.36 8 P **P 01 31 47.8 +0.9**
H21K IAmb IAmb 01 33 27.1
comp=Z,38nm,1.9s
EPYK Eagle Plains 79.66 1 P **P 01 31 48.5 0.0**
EPYK IAmb IAmb 01 31 49.0
comp=Z,40nm,1.6s
J20K Nowinta River 80.64 9 P **P 01 31 54.9 +1.2**
J20K IAmb IAmb 01 31 58.0
comp=Z,25nm,1.5s
ILAR Eielson Array 80.79 5 P **P 01 31 54.7 +0.1**
ILAR Eielson Array 80.79 5 P **P 01 31 54.9 +0.3**
comp=Z,1.2nm,0.8s,baz=320,slow=3.7,SNR=13
comp=Z,1.2nm,0.8s
I30M Mount Dempster 80.82 1 P **P 01 31 54.5 -0.4**
I30M IAmb IAmb 01 31 56.0
comp=Z,5.9nm,0.7s
CCB Clear Creek Bu 80.84 6 P **P 01 31 54.4 -0.4**
CCB IAmb IAmb 01 34 00.6
comp=Z,37nm,2.0s
J25K Salcha River, 81.06 5 P **P 01 31 56.4 +0.3**
J25K IAmb IAmb 01 32 05.7
comp=Z,35nm,2.0s
EGAK Eagle 81.13 3 P **P 01 31 56.8 +0.4**
EGAK IAmb IAmb 01 33 25.1
comp=Z,31nm,1.8s
SCRK Sand Creek 81.78 4 P **P 01 32 00.5 +0.5**
SCRK IAmb IAmb 01 32 42.4
comp=Z,25nm,1.8s
YKA Yellowknife Ar 82.27 351 P **P 01 32 02.5 +0.1**
comp=Z,2.3nm,1.1s,baz=48,slow=8.0,SNR=7.1
comp=Z,2.3nm,1.1s
L26K Log Cabin Wild 82.77 4 P **P 01 32 05.8 +0.8**
L26K IAmb IAmb 01 33 33.3
comp=Z,28nm,1.8s
BCAR Beaver Creek A 82.81 3 P **P 01 32 06.3 +1.0**
SKT Skwentna 83.08 8 P **P 01 32 05.9 -0.7**
MMPY Sheldon Lake, 83.42 359 P **P 01 32 09.6 +1.1**
MMPY IAmb IAmb 01 33 29.3
comp=Z,39nm,1.8s
M24K Tolsona, Glenn 83.48 6 P **P 01 32 09.5 +0.7**
SML Sawmill 83.59 7 P **P 01 32 09.2 -0.2**
SCM Sheep Creek Mo 83.65 6 P **P 01 32 09.6 -0.1**
SCM Sheep Creek Mo 83.65 6 P **P 01 32 09.6 -0.1**
SCM pmax pmax
comp=Z,176nm,1.8s
SCM pmax pmax
comp=Z,166nm,1.6s
SUA Susitna One 83.67 8 P **P 01 32 09.8 -0.1**
KLU Klutina 84.11 6 P **P 01 32 12.7 +0.7**
CTGM Chitina Glacie 84.93 3 P **P 01 32 17.4 +1.0**

*IDC **26** 01:37:21.8±1.4, 7°.53S×114°.21E, h0km, mb3.9/7, mbtmp3.9/8, ML3.3/1, Error ellipse: s-maj=95.6km s-min=17.6km az=51.0*
*NEIC **26** 01:37:23.6±1.6, 7°.40S±0°.05×114°.36E±0°.08, h10km±1km, mb4.1/10, Error ellipse: s-maj=13.7km s-min=7.7km az=285.0*
*DJA **26** 01:37:25.1±0.4, 7°.S±3°×11°.4E±°, h11km±3km, M4.2/21, mb4.6/4, mB5.0/1, MLv4.0/21, Mw(mB)4.3/1*
ISC 26 01:37:26.6±0.6,**7°.47S**±0°.05×**114°.39E**±0°.05,**h35**km,**n42,** σ1**s43**/45,**mb4.0**/10,**Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABJI	**Asem Bagus**	**0.36**	**205**	P	**Pn**	01 37 34.7	-0.7
ABJI				S	**Sn**	01 37 40.6	-0.8
KMMI	**Kalianget**	**0.59**	**315**	P	**Pn**	01 37 37.6	-0.9
BLJI	**Banyuglugur**	**0.83**	**250**	P	**Pn**	01 37 41.6	-0.3
SRBI	**Singaraja**	**1.02**	**127**	P	**Pn**	01 37 45.2	+0.7
JAGI	**Jajag, Banyuwa**	**1.03**	**193**		**Pn**	01 37 44.9	+0.3
JAGI					**Sn**	01 37 57.0	-0.7
JAGI	**Jajag, Banyuwa**	**1.03**	**193**	P	**Pn**	01 37 45.3	+0.7
GMJI	**Gumukmas**	**1.23**	**229**	P	**Pn**	01 37 48.6	+1.2
DNP	**Denpasar**	**1.46**	**146**	P	**Pn**	01 37 52.7	+2.3
GRJI	**Gresik**	**1.97**	**286**	P	**Pn**	01 37 58.1	+0.6
TBJI	**Tambak Boyo**	**2.60**	**284**	P	**Pn**	01 38 06.5	+0.3
PWJI	**Pagerwojo**	**2.62**	**258**	P	**Pn**	01 38 07.9	+1.4
NGJI	**Ngawi**	**2.90**	**272**	P	**Pn**	01 38 11.6	+1.2
PCJI	**Pacitan**	**3.26**	**257**	P	**Pn**	01 38 17.0	+1.7
PLAI	**Plampang**	**3.62**	**112**	P	**Pn**	01 38 21.2	+1.0
UGM	**Wanagama**	**3.85**	**263**	Pn	**Pn**	01 38 21.6	-1.9
UGM	**Wanagama**	**3.85**	**263**	P	**Pn**	01 38 23.9	+0.4
KPJI	**Karang Pucung**	**5.41**	**271**	P	**Pn**	01 38 46.3	+1.4
	22nm,1.3s,0.1nm						
KAPI	**Kappang**	**5.86**	**66**	Pn	**Pn**	01 38 49.6	-1.5
BSSI	**Bau Bau, Buton**	**6.20**	**78**	P	**Pn**	01 38 55.7	-0.1
	46nm,0.7s,1μm						
SPSI	**Sidrap Palu**	**6.38**	**57**	P	**Pn**	01 38 58.2	-0.1
FITZ	**Fitzroy Crossi**	**15.23**	**135**	Pn	**Pn**	01 40 58.1	-1.1
FITZ	**Fitzroy Crossi**	**15.23**	**135**	Pn	**Pn**	01 40 57.8	-1.3
	0.1nm,0.3s,baz=311,slow=11,SNR=1.6						
FITZ				Sn	**Sn**	01 43 40.5	-6.2
	0.1nm,0.3s,baz=113,slow=10,SNR=1.4						
	1.2nm,0.7s						
KNRA	**Kununurra**	**16.27**	**121**	P	**P**	01 41 14.8	-0.5
KNRA				IAmb	IAmb	01 41 35.7	
	comp=Z,24nm,1.4s						
WB0	**Warramunga Arr**	**22.93**	**124**	P	**P**	01 42 28.2	+0.3
WRA	**Warramunga Arr**	**22.98**	**125**	P	**P**	01 42 28.5	+0.1
WRA	**Warramunga Arr**	**22.98**	**125**	P	**P**	01 42 28.4	+0.1
	comp=Z,1.0nm,0.5s,baz=298,slow=12,SNR=16						
	comp=Z,1.0nm,0.5s						
WRAB	**Tennant Creek**	**22.98**	**125**	P	**P**	01 42 29.9	+1.4
WRAB				IAmb	IAmb	01 43 05.4	
	comp=Z,8.0nm,1.1s						
WB2	**Warramunga Arr**	**22.99**	**125**	P	**P**	01 42 28.4	-0.1
WB2				IAmb	IAmb	01 42 38.4	
	comp=Z,4.0nm,0.8s						
WR0	**Warramunga Arr**	**23.15**	**124**	P	**P**	01 42 30.0	-0.1
WR0				IAmb	IAmb	01 43 03.0	
	comp=Z,5.9nm,1.1s						
ASAR	**Alice Springs**	**24.70**	**133**	P	**P**	01 42 46.1	+1.4
	comp=Z,5.4nm,0.5s,baz=306,slow=8.8,SNR=48						
	comp=Z,5.4nm,0.5s						
COEN	**Coen**	**28.99**	**105**	P	**P**	01 43 23.2	-0.1
CMAR	**Chiang Mai Arr**	**29.93**	**330**	P	**P**	01 43 31.9	+0.3
	comp=Z,0.6nm,0.3s,baz=133,slow=7.5,SNR=1.5						
	comp=Z,0.6nm,0.3s						
BBOO	**Buckleboo**	**32.26**	**144**	P	**P**	01 43 53.7	+1.7
STKA	**Stephens Creek**	**35.10**	**137**	P	**P**	01 44 18.4	+1.6
STKA	**Stephens Creek**	**35.10**	**137**	P	**P**	01 44 18.5	+1.8
	comp=Z,1.2nm,0.4s,baz=314,slow=12,SNR=4.3						
	comp=Z,1.2nm,0.4s						
SONM	**Songino Array**	**55.51**	**353**	P	**P**	01 46 59.3	+1.0
	comp=Z,0.7nm,0.6s,baz=169,slow=8.6,SNR=3.7						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**61.09**	**335**	P	**P**	01 47 37.3	+0.2
	comp=Z,0.2nm,0.6s,baz=160,slow=7.2,SNR=1.7						
	comp=Z,0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**66.06**	**341**	P	**P**	01 48 10.0	+0.2
PETK	**Petropavlovsk-**	**70.61**	**26**	P	**P**	01 48 38.2	-0.1
ABKAR	**Akbulak array**	**73.72**	**326**	P	**P**	01 48 57.5	+0.5
BRTR	**Keskin Array B**	**87.66**	**310**	P	**P**	01 50 11.7	-0.3
	comp=Z,0.8nm,0.9s,baz=121,slow=5.4,SNR=5.8						
	comp=Z,0.8nm,0.9s						
L42A	**Oliver, Polo**	**139.55**	**28**	PKPdf	**PKPdf**	01 56 49.0	-1.8

JMA 26 01:38:02.8±0.1,**26°N**±1°×**130°.1E**±0°.6,**h43**km,**MV4.0**/18, **NEAR MINAMI-DAITOJIMA IS,Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMZ	**Minamidaito 2**	**1.03**	**103**	*i* P	Pn	01 38 21.1	+0.3
JMZ				*e*S	Sn	01 38 33.4	-0.7
JKDJ	**Kitadaitoujima**	**1.07**	**95**	P	Pn	01 38 21.9	+0.5
JKDJ				*e*S	Sn	01 38 35.2	+0.1
JYRO	**Yoronjima**	**1.77**	**304**	P	Pn	01 38 32.1	+1.1
JYRO				*e*S	Sn	01 38 52.9	+0.5
JOW	**Kunigami**	**1.82**	**296**	*i* P	Pn	01 38 32.8	+1.2
JOW				*e*S	Sn	01 38 53.7	+0.2
JOKE	**Okinoerabujima**	**1.90**	**314**	*e*P	Pn	01 38 34.0	+1.3
JNTH	**Nagotoyohara**	**1.93**	**284**	P	Pn	01 38 33.8	+0.7
JNTH				*e*S	Sn	01 38 55.2	-1.0
JTK	**Tokunoshima**	**2.02**	**329**	*e*P	Pn	01 38 35.8	+1.4
JTK				*e*S	Sn	01 38 59.6	+1.2
JJT3	**Tamagusuku3**	**2.09**	**273**	P	Pn	01 38 36.8	+1.4
JJT3				*e*S	Sn	01 39 01.1	+0.8
JIH	**Iheya**	**2.15**	**298**	P	Pn	01 38 37.6	+1.3
JIH				*e*S	Sn	01 39 01.8	+0.1
JAMN	**Amaminishikomi**	**2.34**	**339**	*e*P	Pn	01 38 39.4	+0.6
JAMN				*e*S	Sn	01 39 06.3	0.0
JAM	**Amami Oshima**	**2.40**	**349**	*e*P	Pn	01 38 41.0	+1.4
JAGN	**Aguni-jima**	**2.63**	**282**	*e*P	Pn	01 38 43.9	+1.2
JAGN				*e*S	Sn	01 39 13.4	0.0
JYAK	**Yakushimahirau**	**4.19**	**5**	*e*P	Pn	01 39 05.8	+1.6

*RSNC **26** 01:50:35.6±0.0, 13°N±1°×8°1W±°, h2km±1km, M3.7, mb4.6, mB6.2, ML3.7, Mw(mB)5.9*
*CATAC **26** 01:50:35.9±0.6, 13°.31N×81°.14W, h9km±16km, MB5.2, mb4.6, ML4.5*
*IDC **26** 01:50:36.2±0.8, 13°.25N×81°.32W, h0km, mb3.9/11, mbtmp4.0/14, ML3.0/4, Error ellipse: s-maj=24.9km s-min=18.1km az=31.0*
*NEIC **26** 01:50:38.5±1.2, 13°.09N±0°.06×81°.37W±0°.05, h10km±1km, mb4.4/10, Error ellipse: s-maj=13.4km s-min=2.9km az=142.0*
ISC 26 01:50:35.9±1.3,**13°.16N**±0°.04×**81°.16W**±0°.03,**h3**km±8km, **n112,** σ2**s07**/132,**mb4.0**/14,**3C,Caribbean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.30**	**317**	P	**Pg**	01 50 41.1	-0.5
PRVC				S	**Sg**	01 50 45.3	-0.2
PRVC	**Isla de Provid**	**0.30**	**317**	*i* P	**Pg**	01 50 41.1	-0.5
PRVC				*i* S	**Sg**	01 50 44.9	-0.6
PRVC				IAML		01 50 45.8	
	comp=Z,16μm,1.0s						
SAIC	**Isla e San And**	**0.82**	**221**	P	**Pg**	01 50 51.4	-0.2
SAIC				S	**Sb**	01 51 04.0	-0.2
RNCC	**Cayo Roncador,**	**1.12**	**68**	P	**Pg**	01 50 56.5	-0.8
RNCC				S	**Sb**	01 51 12.7	-0.1
SERC	**Banco Serrana,**	**1.36**	**34**	P	**Pn**	01 51 00.3	-1.5
SERC				S	**Sg**	01 51 18.8	-0.9
BLUN	**Bluefields**	**2.80**	**246**	*i* P	**Pn**	01 51 20.4	-1.2
BLUN				IAML		01 51 31.6	
	comp=Z,290nm,1.0s						
ESPN	**Las Esperanzas**	**3.21**	**253**		**Pn**	01 51 25.2	-2.1
ESPN	**Las Esperanzas**	**3.21**	**253**	*i* P	**Pn**	01 51 26.4	-0.9
ESPN				IAML		01 51 47.8	
	comp=Z,870nm,1.0s						
ESPN	**Las Esperanzas**	**3.21**	**253**	*e*P	**Pn**	01 51 26.3	-1.0
TRT2	**Tortugero**	**3.61**	**225**	*i* P	**Pn**	01 51 30.1	-2.6
TRT2				IAML		01 51 33.4	
	comp=Z,330nm,1.0s						
ITAL	**Pital**	**4.07**	**229**	*e*P	**Pn**	01 51 38.9	-0.2
ACON	**Acoyapa**	**4.10**	**254**	Pn	**Pn**	01 51 38.1	-1.3
ACON	**Acoyapa**	**4.10**	**254**	*i* P	**Pn**	01 51 38.6	-0.8
ACON				IAML		01 52 58.1	
	comp=Z,610nm,1.0s						
RAFA	**San Farael, Vo**	**4.11**	**220**	*i* P	**Pn**	01 51 39.0	-0.9
RAFA				IAML		01 53 16.9	
	comp=Z,600nm,1.0s						
CVIMO	**Finca Echandi**	**4.14**	**222**	*e*P	**Pn**	01 51 39.0	-1.2
BCIP	**Isla Barro Col**	**4.17**	**162**	Pn	**Pn**	01 51 36.7	-3.8
BCIP	**Isla Barro Col**	**4.17**	**162**	P	**Pn**	01 51 36.9	-3.5
BCIP				S	**Sn**	01 52 25.0	-4.7
BCIP	**Isla Barro Col**	**4.17**	**162**	*i* P	**Pn**	01 51 37.0	-3.5
BCIP				*i* S	**Sn**	01 52 25.6	-4.1
BCIP				IAML		01 52 53.5	
	comp=Z,170nm,1.0s						
HDC	**Heredia**	**4.27**	**223**	Pn	**Pn**	01 51 40.8	-1.1
HDC	**Heredia**	**4.27**	**223**	*i* P	**Pn**	01 51 41.2	-0.7
HDC				IAML		01 52 01.6	
	comp=Z,430nm,1.0s						
BELE	**Belen**	**4.34**	**224**	*e*P	**Pn**	01 51 42.8	0.0
VACR	**Volcan Arenal**	**4.36**	**233**	*e*P	**Pn**	01 51 42.2	-0.9
SOCE	**Pocosol**	**4.37**	**231**	Pn	**Pn**	01 51 41.8	-1.4
SOCE	**Pocosol**	**4.37**	**231**	*i* P	**Pn**	01 51 42.8	-0.4
SOCE				IAML		01 52 11.6	
	comp=Z,200nm,1.0s						
SOCE	**Pocosol**	**4.37**	**231**	*e*P	**Pn**	01 51 42.7	-0.6
LCR2	**La Lucha 2**	**4.40**	**220**	*e*P	**Pn**	01 51 42.5	-1.2
ABE2	**San Pablo**	**4.46**	**220**	*e*P	**Pn**	01 51 44.1	-0.5
TENO	**El Achiote**	**4.46**	**237**	*e*P	**Pn**	01 51 44.8	+0.2
EDP2	**Potrero Grande**	**4.57**	**206**	*e*P	**Pn**	01 51 45.2	-0.7
BRU2	**Volcan**	**4.59**	**199**	Pn	**Pn**	01 51 45.0	-1.4
BRU2	**Volcan**	**4.59**	**199**	*i* P	**Pn**	01 51 45.0	-1.4
BRU2				*i* S	**Sn**	01 52 38.2	-2.1
BRU2				IAML		01 52 45.4	
	comp=Z,360nm,1.0s						
HORNC	**Hornillas**	**4.62**	**239**	*e*P	**Pn**	01 51 46.1	-0.7
CUI	**Cuipilapa**	**4.64**	**238**	*e*P	**Pn**	01 51 46.5	-0.5
LLNJ	**Naranjito**	**4.66**	**219**	*e*P	**Pn**	01 51 46.9	-0.3
JTS	**Las Juntas de**	**4.68**	**233**	Pn	**Pn**	01 51 46.6	-0.9
JTS	**Las Juntas de**	**4.68**	**233**	Pn	**Pn**	01 51 46.8	-0.7
	comp=Z,6.6nm,0.3s,baz=32,slow=13,SNR=27						
JTS				Sn	**Sn**	01 52 36.6	-5.8
	comp=Z,1.5nm,0.3s,baz=182,slow=20,SNR=1.7						
	comp=Z,21nm,0.4s						
JTS	**Las Juntas de**	**4.68**	**233**	P	**Pn**	01 51 47.0	-0.5
JTS	**Las Juntas de**	**4.68**	**233**	*e*P	**Pn**	01 51 46.6	-0.9
OCHAL	**Ojochal**	**4.72**	**211**	*i* P	**Pn**	01 51 48.1	+0.2
OCHAL				IAML		01 51 56.2	
	comp=Z,170nm,1.0s						

OCHAL *i* S **Sn** **01 52 44.5 +1.3**
NELY Ciudad Neily 4.81 202 *e*P **Pn** **01 51 49.0 -0.2**
RCPN Sur Rio San Ju 4.82 275 *i* P **Pn** **01 51 48.1 -1.4**
RCPN IAML 01 52 44.6
comp=Z,1.8nm,1.0s
CDITO Canoas 4.86 200 *i* P **Pn** **01 51 48.3 -1.6**
CDITO IVmB_BB 01 52 16.6
comp=Z,6μm,1.0s
CDITO *i* S **Sn** **01 52 46.6 -0.1**
CDITO IAML 01 52 57.5
comp=Z,390nm,1.0s
LPPC Paso Canoas 4.88 200 *e*P **Pn** **01 51 49.7 -0.5**
EDAD Golfito 4.89 204 *e*P **Pn** **01 51 49.9 -0.5**
RCVN Varillal2 4.92 276 *i* P **Pn** **01 51 49.2 -1.7**
RCVN *i* S **Sn** **01 52 44.5 -3.9**
RCVN IAML 01 52 46.7
comp=Z,5μm,1.0s
RCFN Al S de San Ju 4.94 275 *i* P **Pn** **01 51 50.4 -0.7**
RCFN *i* S **Sn** **01 52 45.7 -3.1**
RCFN IAML 01 53 20.8
comp=Z,1μm,1.0s
LIMN Finca el Limon 5.08 270 *i* P **Pn** **01 51 52.4 -0.6**
LIMN IVmB_BB 01 52 18.1
comp=Z,1μm,1.0s
LIMN IAmb IAmb 01 52 22.2
comp=Z,190nm,1.0s
LIMN IAML 01 53 27.9
comp=Z,290nm,1.0s
PIRO Carate, Puerto 5.19 205 *i* P **Pn** **01 51 54.1 -0.3**
PIRO *i* S **Sn** **01 52 54.9 +0.1**
GMAL Guarumal, Vera 5.36 181 P **Pn** **01 51 55.8 -1.0**
comp=Z,38nm,0.5s
GMAL S **Sn** **01 52 55.1 -4.0**
comp=Z,38nm,0.5s
AZU Azuero 5.40 171 P **Pn** **01 51 55.5 -1.9**
comp=Z,65nm,2.2s
AZU S **Sn** **01 52 57.6 -2.5**
comp=Z,65nm,2.2s
YUSH Yuscaran 5.59 279 *i* P **Pn** **01 51 59.0 -1.0**
CACAO El Cacao, Vera 5.78 177 P **Pn** **01 52 03.6 +1.0**
comp=Z,67nm,0.7s
CACAO S **Sn** **01 53 06.4 -3.1**
comp=Z,67nm,0.7s
CAPC Capurgana 5.84 140 P **Pn** **01 52 02.9 -0.6**
comp=Z,58nm,1.0s
CAPC S **Sn** **01 53 08.1 -2.9**
comp=Z,58nm,1.0s
TGUH Tegucigalpa,Un 6.01 279 Pn **Pn** **01 52 05.1 -0.8**
MTDJ Mount Denham 6.13 34 Pn **Pn** **01 52 08.0 +0.5**
MTDJ Mount Denham 6.13 34 P **Pn** **01 52 07.3 -0.2**
comp=Z,54nm,1.0s
CSGN Cosiguina Volc 6.24 269 *i* P **Pn** **01 52 07.1 -1.9**
CSGN IAmb IAmb 01 52 35.9
comp=Z,16nm,0.8s
CSGN IAML 01 52 45.1
comp=Z,36nm,1.0s
STH Stony Hill 6.44 40 *i* P **Pn** **01 52 12.0 +0.4**
GWJ Greenwich 6.49 41 *i* P **Pn** **01 52 12.3 -0.1**
SJCC San Jacinto, C 6.69 118 P **Pn** **01 52 12.2 -3.0**
comp=Z,27nm,0.8s
SJCC S **Sn** **01 53 27.4 -4.6**
comp=Z,27nm,0.8s
MTO3 Montecristo 8.07 280 Pn **Pn** **01 52 29.5 -4.7**
CRJC Cerrejon, Guaj 8.37 104 P Pn 01 52 32.3 -5.9
comp=Z,22nm,0.9s,comp=Z,12μm
CRJC S Sn 01 54 03.2 -10
comp=Z,22nm,0.9s,comp=Z,12μm
GTBY Guantanamo Bay 8.88 40 Pn **Pn** **01 52 43.9 -1.2**
GTBY Guantanamo Bay 8.88 40 P **Pn** **01 52 47.4 +2.2**
comp=Z,40nm,0.7s
OCAC Ocana 9.12 122 P **Pn** **01 52 47.8 -0.8**
comp=Z,18nm,0.7s
OCAC S **Sn** **01 54 26.2 -5.7**
comp=Z,18nm,0.7s
SOR Soroa 9.74 350 Pn **Pn** **01 52 56.3 -0.7**
TEIG Tepich 9.79 317 Pn **Pn** **01 52 56.3 -1.4**
TEIG Tepich 9.79 317 Pn **Pn** **01 52 56.9 -0.8**
baz=151,slow=24,SNR=22
TEIG Sn **Sn** **01 54 42.3 -5.9**
baz=262,slow=24,SNR=1.1
TEIG Tepich 9.79 317 P **Pn** **01 52 56.6 -1.1**
PAPH Port-au-Prince 10.05 57 Pn **Pn** **01 53 05.5 +4.2**
ROSC El Rosal 10.67 140 Pn **Pn** **01 53 13.7 +3.7**
comp=Z,0.6nm,0.3s,baz=319,slow=20,SNR=1.9
ROSC Sn **Sn** **01 55 07.6 -2.7**
comp=Z,0.6nm,0.3s,baz=9.9,slow=23,SNR=2.3
comp=Z,4.2nm,0.5s
SDDR Presa de Saban 11.11 57 Pn **Pn** **01 53 20.3 +4.5**
SDV Santo Domingo 11.17 111 Pn **Pn** **01 53 16.9 +0.2**
SDV Santo Domingo 11.17 111 Pn **Pn** **01 53 16.4 -0.3**
comp=Z,0.9nm,0.3s,baz=299,slow=5.0,SNR=3.8
SDV Sn **Sn** **01 55 15.3 -6.9**
comp=Z,3.3nm,0.3s,baz=6.5,slow=23,SNR=8.9
BAUV El Baul 13.54 107 Pn **Pn** **01 53 47.6 -1.3**
OBIP Obispado Ponce 14.83 69 Pn **P** **01 54 10.7 -1.9**
OBIP IAmb IAmb 01 54 19.0
comp=Z,15nm,0.8s
SJG San Juan 15.27 69 Pn **P** **01 54 16.3 -1.1**
SJG IAmb IAmb 01 54 23.4
comp=Z,23nm,0.9s
SJG San Juan 15.27 69 Pn **Pn** **01 54 13.9 +1.5**
comp=Z,0.4nm,0.3s,baz=271,slow=9.5,SNR=2.3
comp=Z,1.9nm,0.3s
PDPR Patillas Dam, 15.36 70 Pn **P** **01 54 17.6 -0.9**
GCPR Guaynabo City 15.38 69 Pn **P** **01 54 16.8 -2.0**
GCPR IAmb IAmb 01 54 44.0
comp=Z,32nm,1.2s
833A Chaparral WMA, 22.72 314 P **P** **01 55 39.9 +0.8**
833A IAmb IAmb 01 56 22.3
comp=Z,14nm,0.9s
T50A Nancy 23.99 353 P **P** **01 55 53.1 +1.3**
TXAR Lajitas Array 26.36 311 P **P** **01 56 13.8 +0.2**
TXAR Lajitas Array 26.36 311 P **P** **01 56 13.4 -0.2**
comp=Z,1.0nm,0.8s,baz=140,slow=9.7,SNR=7.6
comp=Z,1.0nm,0.8s
TX31 Lajitas Ar. Si 26.37 311 P **P** **01 56 13.8 +0.2**
TX31 IAmb IAmb 01 56 21.1
comp=Z,9.3nm,1.4s
PDAR Pinedale Array 38.37 326 P **P** **01 57 59.1 +0.5**
PDAR Pinedale Array 38.37 326 P **P** **01 57 58.9 +0.3**
comp=Z,0.7nm,0.8s,baz=128,slow=9.6,SNR=5.6
comp=Z,0.7nm,0.8s
NVAR Mina Array Bea 41.43 314 P **P** **01 58 23.4 -0.7**
comp=Z,0.4nm,0.8s,baz=117,slow=9.2,SNR=3.0
comp=Z,0.4nm,0.8s
BDFB Brasilia 43.52 130 P **P** **01 58 41.1 -0.1**
BDFB IAmb IAmb 01 59 10.1
comp=Z,8.9nm,1.3s
BDFB Brasilia 43.52 130 P **P** **01 58 44.7 +3.6**
comp=Z,2.7nm,0.7s,baz=262,slow=15,SNR=4.8
comp=Z,2.7nm,0.7s
ILULI Ilulissat 59.19 12 P **P** **02 00 41.0 +3.2**
A36M Sachs Harbour 64.37 346 P **P** **02 01 13.2 +0.5**
BCAR Beaver Creek A 65.23 334 P **P** **02 01 19.1 +0.5**
BMAR Burnt Mountain 67.86 338 P **P** **02 01 35.7 +0.4**
ILAR Eielson Array 67.92 335 P **P** **02 01 35.7 +0.1**
comp=Z,0.8nm,0.8s,baz=122,slow=4.2,SNR=6.2
comp=Z,0.8nm,0.8s
ESDC Sonseca Array 71.91 52 P **P** **02 02 02.2 +1.5**
comp=Z,1.0nm,0.8s,baz=293,slow=6.7,SNR=4.6
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 79.75 30 P **P** **02 02 45.7 +0.6**
comp=Z,0.6nm,0.8s,baz=279,slow=5.5,SNR=2.7
comp=Z,0.6nm,0.8s
TORD Torodi Ar. Bea 80.26 79 P **P** **02 02 50.3 +1.6**
comp=Z,0.6nm,0.8s,baz=270,slow=5.0,SNR=3.4
comp=Z,0.6nm,0.8s
HFS Hagfors 81.11 30 P **P** **02 02 52.6 +0.2**
comp=Z,1.9nm,0.8s,baz=284,slow=5.8,SNR=2.1
comp=Z,1.9nm,0.8s
GERES GERESS Array B 83.38 42 P **P** **02 03 06.9 +2.2**
ARCES ARCESS Array B 83.48 20 P **P** **02 03 05.2 +0.5**
comp=Z,2.3nm,0.6s,baz=306,slow=4.3,SNR=6.2
comp=Z,2.3nm,0.6s
FINES FINESS Array B 86.58 27 P **P** **02 03 20.9 +0.6**
comp=Z,1.7nm,0.8s,baz=268,slow=3.9,SNR=5.9
comp=Z,1.7nm,0.8s
VNA3 Neumayer Olymp 96.54 162 ⇑P P 02 04 12.7 +6.3
comp=Z,0.0nm,0.2s
VNA1 Neumayer--Stat 96.76 161 ⇑P **P** **02 04 10.6 +3.2**
comp=Z,0.1nm,0.2s
VNA2 Neumayer--Watz 97.13 161 ⇑P Pdif 02 04 16.0 +6.8
comp=Z,0.1nm,0.2s,baz=331,slow=15
PZH PanZhiHua 140.48 356 PKP **PKPdf** **02 10 07.5 -0.1**
WR0 Warramunga Arr 145.17 254 PKPdf **PKPbc** **02 10 14.6 -0.8**
ASAR Alice Springs 145.22 247 PKPbc **PKPbc** **02 10 14.2 -1.3**
comp=Z,0.4nm,0.5s,baz=119,slow=3.2,SNR=4.3
WB0 Warramunga Arr 145.33 254 **PKPbc** **02 10 14.3 -1.6**
WB2 Warramunga Arr 145.35 254 **PKPbc** **02 10 14.5 -1.5**
WRAB Tennant Creek 145.35 254 **PKPbc** **02 10 14.7 -1.2**
WRA Warramunga Arr 145.36 254 PKPbc **PKPbc** **02 10 15.1 -0.9**
comp=Z,2.2nm,0.9s,baz=92,slow=3.3,SNR=13

IDC 26 01:53:14.5±45.0, 18°.84S×173°.39W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=858.2km s-min=180.4km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.42**	**243**	P	P	02 01 10.6	-0.5
	0.6nm,0.5s,baz=59,slow=5.9,SNR=1.6						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**49.14**	**255**	P	P	02 02 04.8	+0.4
	1.9nm,0.8s,baz=90,slow=8.0,SNR=24						
	1.9nm,0.8s						
WRA	**Warramunga Arr**	**49.16**	**260**	P	P	02 02 04.2	-0.4
	0.9nm,0.4s,baz=98,slow=7.2,SNR=39						
	0.9nm,0.4s						

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*ISN **26** 01:56:40.0±0.3, 34°.26N×45°.51E, h8km±5km, ML2.6*
*TEH **26** 01:56:40.2, 34°.22N×45°.58E, h10km±153km, ML2.7*
ISC 26 01:56:40.6±0.9, 34°.23N±0°.04×45°.57E±0°.04, h10km, n9, σ0°60/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.28**	**3**	**Pg**	**Pg**	**01 56 46.2**	**0.0**
KGS1				Sg	**Sg**	**01 56 50.8**	**+0.9**
GLG1	**Gilan-e-Gharb**	**0.30**	**112**	Pg	**Pg**	**01 56 46.5**	**-0.3**
IDHR	**Dehrash**	**0.82**	**55**	Pg	**Pg**	**01 56 55.9**	**-0.6**
IGHG	**Ghaleghazi**	**0.83**	**83**	Pg	**Pb**	**01 56 57.0**	**-0.4**
IBDR	**Badra**	**1.16**	**165**	*e*Pg	**Pn**	**01 57 03.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**01 57 20.0**	**+1.3**
KCHF	**Cheshme Sefid,**	**1.22**	**88**	Pg	**Pb**	**01 57 03.4**	**-0.5**
ILIN	**Lien**	**1.34**	**59**	Pg	**Pg**	**01 57 06.2**	**-0.1**
BHD	**Baghdad**	**1.38**	**226**	*e*Pg	**Pb**	**01 57 06.0**	**-0.5**
BHD				*e*Sg	**Sg**	**01 57 25.0**	**0.0**
IKRK	**Kirkuk**	**1.54**	**319**	*e*Pn	**Pb**	**01 57 09.0**	**-0.3**
IKRK				*e*Sn	**Sg**	**01 57 30.0**	**-0.3**
IKRK				AML	AML	01 57 34.9	
	comp=N,116nm,0.5s						
IKRK				AML	AML	01 57 35.0	
	comp=E,90nm,0.4s						

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*CATAC **26** 01:57:02.0±0.6, 13°.40N×81°.00W, h2km±15km, mb5.5, MB5.7, ML4.9*
*IDC **26** 01:57:03.1±0.9, 13°.14N×81°.00W, h0km, mb3.9/8, mbtmp4.0/11, ML3.1/4, MS3.9/8, Error ellipse: s-maj=25.6km s-min=19.4km az=45.0*
*RSNC **26** 01:57:03.7±0.0, 13°N±1°×8°1W±°, h1km±2km, M4.1, mB5.4, mb4.6, ML3.8, Mw(mB)4.8*
*NEIC **26** 01:57:06.7±1.6, 13°.16N±0°.07×81°.25W±0°.07, h10km±1km, mb4.4/25, Error ellipse: s-maj=12.6km s-min=11.4km az=117.0*
*UPA **26** 01:57:10.8±11.0, 12°.83N×80°.79W, h10km±274km*
ISC 26 01:57:03.2±1.4, 13°.22N±0°.03×80°.99W±0°.04, h2km±9km, n119, σ1°90/133, mb4.3/17, MS4.1/5, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.39**	**293**	Pg	**Pb**	**01 57 10.2**	**-2.7**
PRVC	**Isla de Provid**	**0.39**	**293**	P	**Pb**	**01 57 10.2**	**-2.7**
PRVC				S	**Sg**	**01 57 15.2**	**-0.6**
PRVC	**Isla de Provid**	**0.39**	**293**	*i* P	**Pg**	**01 57 09.6**	**-1.1**
PRVC				*i* S	**Sg**	**01 57 15.2**	**-0.6**
PRVC				IAML		01 57 23.3	
	comp=Z,25μm,1.0s						
RNCC	**Cayo Roncador,**	**0.95**	**68**	P	**Pn**	**01 57 23.3**	**-0.3**
RNCC				S	**Sn**	**01 57 38.9**	**+1.2**
SAIC	**Isla e San And**	**0.97**	**226**	P	**Pg**	**01 57 21.9**	**0.0**
SAIC				S	**Sg**	**01 57 36.0**	**+1.4**
SERC	**Banco Serrana,**	**1.22**	**30**	P	**Pn**	**01 57 26.5**	**-0.9**
SERC				S	**Sn**	**01 57 44.5**	**0.0**
BLUN	**Bluefields**	**2.97**	**246**	*i* P	**Pn**	**01 57 50.0**	**-1.4**
BLUN				IAML		01 58 52.2	
	comp=Z,570nm,1.0s						
ESPN	**Las Esperanzas**	**3.38**	**253**		**Pn**	**01 57 55.5**	**-1.6**
ESPN	**Las Esperanzas**	**3.38**	**253**	*i* P	**Pn**	**01 57 56.2**	**-0.9**
ESPN				IAML		01 59 04.8	
	comp=Z,1μm,1.0s						
TRT2	**Tortugero**	**3.77**	**226**	*i* P	**Pn**	**01 58 01.6**	**-0.8**
CNI2	**El Empalme, Bo**	**4.04**	**201**	*e*P	Pn	01 57 56.5	-10
CNI2				*e*S	**Sn**	**01 58 52.2**	**-1.9**
COVE	**Coope Vega, Sa**	**4.16**	**234**	*i* P	**Pn**	**01 58 07.1**	**-0.7**
COVE				IAML		01 59 50.1	
	comp=Z,980nm,1.0s						
BCIP	**Isla Barro Col**	**4.18**	**164**	Pn	**Pn**	**01 58 05.8**	**-2.3**
BCIP	**Isla Barro Col**	**4.18**	**164**	P	**Pn**	**01 58 05.9**	**-2.3**
BCIP				S	**Sn**	**01 58 53.4**	**-4.3**
BCIP	**Isla Barro Col**	**4.18**	**164**	*i* P	**Pn**	**01 58 06.0**	**-2.1**
BCIP				*i* S	**Sn**	**01 58 54.0**	**-3.7**
BCIP				IAML		01 59 07.2	
	comp=Z,220nm,1.0s						
BCIP	**Isla Barro Col**	**4.18**	**164**	*e*P	Sn	01 58 49.8	-7.9
ACON	**Acoyapa**	**4.27**	**254**	Pn	**Pn**	**01 58 07.9**	**-1.4**
ACON	**Acoyapa**	**4.27**	**254**	P	**Pn**	**01 58 09.5**	**+0.2**
ACON				S	**Sn**	**01 58 55.8**	**-3.9**
ACON	**Acoyapa**	**4.27**	**254**	*i* P	**Pn**	**01 58 08.8**	**-0.5**
ACON				IAML		01 59 34.4	
	comp=Z,910nm,1.0s						
CHGR2	**Aguacate**	**4.40**	**195**	*e*P	**Pn**	**01 58 09.9**	**-1.3**
HDC	**Heredia**	**4.42**	**224**	Pn	**Pn**	**01 58 11.3**	**-0.2**
HDC	**Heredia**	**4.42**	**224**	*i* P	**Pn**	**01 58 11.0**	**-0.6**
HDC				IAML		01 59 44.1	
	comp=Z,480nm,1.0s						
CHPO	**Chepo, Panama**	**4.43**	**155**	*e*P	**Pn**	**01 58 09.4**	**-2.0**
CHPO				*e*S	**Sn**	**01 59 01.2**	**-2.4**
CNTA3	**Canitas, Panam**	**4.48**	**152**	*e*P	Pn	01 58 06.9	-5.3
CNTA3				*e*S	**Sn**	**01 59 00.1**	**-4.8**
SOCE	**Pocosol**	**4.53**	**232**	Pn	**Pn**	**01 58 11.3**	**-1.6**
SOCE	**Pocosol**	**4.53**	**232**	*i* P	**Pn**	**01 58 11.9**	**-1.1**
SOCE				IAML		01 59 43.1	
	comp=Z,330nm,1.0s						
BRU2	**Volcan**	**4.70**	**201**	Pn	**Pn**	**01 58 15.5**	**+0.1**
BRU2	**Volcan**	**4.70**	**201**	*e*P	Pb	01 58 22.4	-4.1
BRU2				*e*S	**Sn**	**01 59 08.8**	**-1.9**
BCO2	**Palmira**	**4.72**	**199**	*e*P	**Pn**	**01 58 15.2**	**-0.4**
BCO2				*e*S	**Sn**	**01 59 08.4**	**-2.7**
JTS	**Las Juntas de**	**4.85**	**234**	Pn	**Pn**	**01 58 17.2**	**-0.1**
JTS	**Las Juntas de**	**4.85**	**234**	Pn	**Pn**	**01 58 17.5**	**+0.2**
	comp=Z,2.9nm,0.3s,baz=76,slow=19,SNR=13						
JTS				Sn	**Sn**	**01 59 11.3**	**-2.8**
	comp=Z,8.7nm,0.3s,baz=242,slow=19,SNR=12						
JTS				LR	LR	02 00 17.0	
	comp=Z,856nm,19.7s,baz=63,slow=40						
	comp=Z,10nm,0.4s						
JTS	**Las Juntas de**	**4.85**	**234**	P	**Pn**	**01 58 16.7**	**-0.6**
JTS				S	**Sn**	**01 59 12.6**	**-1.5**
JTS	**Las Juntas de**	**4.85**	**234**	*e*P	**Pb**	**01 58 32.2**	**+3.3**
OCHAL	**Ojochal**	**4.85**	**213**	*i* P	**Pn**	**01 58 18.4**	**+1.1**
OCHAL				IVmB_BB		01 58 33.9	
	comp=Z,2μm,1.0s						
OCHAL				IAmb	IAmb	01 58 47.3	
	comp=Z,170nm,0.6s						
OCHAL				*i* S	**Sn**	**01 59 15.0**	**+0.8**
OCHAL				IAML		01 59 22.6	
	comp=Z,280nm,1.0s						
CARN	**Rivas**	**4.87**	**246**	*i* P	**Pn**	**01 58 16.0**	**-1.5**
CARN				IAML		01 59 55.0	
	comp=Z,670nm,1.0s						
DVD	**David**	**4.96**	**197**	*e*P	Pn	01 58 24.6	+5.8
DVD				*e*S	**Sn**	**01 59 16.8**	**-0.1**
CDITO	**Canoas**	**4.97**	**202**	*i* P	**Pn**	**01 58 18.3**	**-0.7**
CDITO				IAmb	IAmb	01 58 39.8	
	comp=Z,120nm,1.5s						
CDITO				IAML		01 59 21.0	
	comp=Z,440nm,1.0s						
RCPN	**Sur Rio San Ju**	**4.97**	**274**	*i* P	**Pn**	**01 58 18.0**	**-1.1**
RCPN				IAML		01 58 19.2	
	comp=Z,1.6nm,1.0s						
RCVN	**Varillal2**	**5.07**	**275**	*i* P	**Pn**	**01 58 19.1**	**-1.4**
RCVN				IAmb	IAmb	01 58 42.4	
	comp=Z,3μm,0.8s						
RCVN				IVmB_BB		01 59 17.6	
	comp=Z,63μm,1.0s						
RCVN				IAML		02 00 03.5	
	comp=Z,9μm,1.0s						
RCFN Al S de San Ju 5.09 274 *i* P **Pn** **01 58 17.5 -3.2**
RCFN IVmB_BB 01 58 46.9
comp=Z,15μm,1.0s
RCFN IAmb IAmb 01 58 47.1
comp=Z,1μm,0.7s
RCFN IAML 01 59 50.2
comp=Z,2μm,1.0s
LIMN Finca el Limon 5.24 269 *i* P **Pn** **01 58 21.1 -1.6**
LIMN IAmb IAmb 01 58 47.6
comp=Z,170nm,0.7s
LIMN IVmB_BB 01 59 10.5
comp=Z,2μm,1.0s
LIMN IAML 02 00 24.1
comp=Z,580nm,1.0s
CHIT3 Chitre 5.26 174 *e*P **Pn** **01 58 20.8 -2.1**
CHIT3 *e*S **Sn** **01 59 22.2 -2.0**
UNAN Cigeo UNAN 5.27 259 *i* P **Pn** **01 58 24.3 +1.3**
UNAN IAmb IAmb 01 58 52.9
comp=Z,2μm,1.1s
UNAN IVmB_BB 01 58 54.6
comp=Z,15μm,1.0s
UNAN IAML 02 00 00.6
comp=Z,4μm,1.0s
PIRO Carate, Puerto 5.31 206 *i* P **Pn** **01 58 22.8 -0.8**
PIRO *i* S **Sn** **01 59 26.7 +1.3**
GMAL Guarumal, Vera 5.43 183 P **Pn** **01 58 24.1 -1.1**
comp=Z,46nm,1.0s,comp=Z,1μm
GMAL S **Sn** **01 59 25.1 -3.2**
comp=Z,46nm,1.0s,comp=Z,1μm
GMAL Guarumal, Vera 5.43 183 *e*P **Pn** **01 58 25.1 -0.1**
GMAL *e*S **Sn** **01 59 24.7 -3.6**
AZU Azuero 5.44 172 P **Pn** **01 58 26.2 +0.8**
comp=Z,31nm,1.2s
AZU S **Sn** **01 59 25.0 -3.6**
comp=Z,31nm,1.2s
AZU Azuero 5.44 172 *e*P Pg 01 58 58.4 +11
AZU *e*S **Sn** **01 59 26.9 -1.7**
CAPC Capurgana 5.79 142 P **Pn** **01 58 30.7 +0.5**
comp=Z,51nm,1.4s
CAPC S **Sn** **01 59 34.4 -2.9**
comp=Z,51nm,1.4s
CACAO El Cacao, Vera 5.84 179 P **Pn** **01 58 31.3 +0.4**
comp=Z,78nm,0.9s
CACAO S **Sn** **01 59 38.5 0.0**
comp=Z,78nm,0.9s
CACAO El Cacao, Vera 5.84 179 *e*P Pb 01 58 40.9 -4.9
CACAO *e*S **Sn** **01 59 43.6 +5.1**
CRIN San Cristobal 5.93 266 Pn **Pn** **01 58 33.6 +1.5**
MTDJ Mount Denham 5.99 33 Pn **Pn** **01 58 33.8 +0.7**
MTDJ Mount Denham 5.99 33 P **Pn** **01 58 33.6 +0.6**
comp=Z,64nm,1.2s
TGUH Tegucigalpa,Un 6.16 278 Pn **Pn** **01 58 35.0 -0.4**
TGUH Tegucigalpa,Un 6.16 278 P **Pn** **01 58 34.9 -0.5**
comp=Z,145nm,0.8s,comp=Z,2μm
LCBC Los crdobas, 6.28 133 P **Pn** **01 58 33.3 -3.6**
comp=Z,317nm,0.6s
LCBC S **Sn** **01 59 50.2 +0.9**
comp=Z,317nm,0.6s
SJCC San Jacinto, C 6.58 119 P **Pn** **01 58 41.7 +0.5**
comp=Z,56nm,1.0s
SJCC S **Sn** **01 59 53.8 -3.2**
comp=Z,56nm,1.0s
UREC San Jos de Ur 7.64 135 P **Pn** **01 58 56.0 +0.4**
comp=Z,19nm,0.9s
UREC S **Sn** **02 00 19.4 -3.5**
comp=Z,19nm,0.9s
MTO3 Montecristo 8.21 279 Pn **Pn** **01 59 01.6 -2.1**
GTBY Guantanamo Bay 8.73 39 P **Pn** **01 59 11.6 +1.0**
comp=Z,41nm,1.3s
OCAC Ocana 9.02 123 P **Pn** **01 59 18.4 +3.7**
comp=Z,22nm,0.6s
OCAC S **Sn** **02 00 54.5 -2.5**
comp=Z,22nm,0.6s
PTBC PUERTO BERRIO, 9.25 135 P **Pn** **01 59 17.8 +0.1**
comp=Z,7.1nm,0.9s
PETF Flores 9.32 294 Pn **Pn** **01 59 17.2 -1.6**
SOR Soroa 9.71 349 Pn Pn 01 59 25.8 +1.7
TEIG Tepich 9.86 316 Pn **Pn** **01 59 24.5 -1.5**
TEIG Tepich 9.86 316 Pn **Pn** **01 59 25.0 -1.1**
baz=138,slow=24,SNR=14
TEIG Tepich 9.86 316 P **Pn** **01 59 24.6 -1.5**
comp=Z,61nm,0.5s,comp=Z,7μm
PAMC Pamplona, Colo 10.04 125 P **Pn** **01 59 30.6 +1.6**
ROSC El Rosal 10.62 141 Sn Sn 02 01 26.1 -10
comp=Z,0.7nm,0.3s,baz=131,slow=21,SNR=1.5
SDV Santo Domingo 11.04 112 Pn **Pn** **01 59 41.8 -0.7**
comp=Z,1.2nm,0.3s,baz=18,slow=11,SNR=2.0
SDV Sn **Sn** **02 01 41.0 -5.8**
comp=Z,6.5nm,0.3s,baz=325,slow=20,SNR=19
SDV LR LR 02 04 22.0
comp=Z,359nm,19.5s,baz=312,slow=40
comp=Z,5.1nm,0.5s
BAUV El Baul 13.40 107 Pn **Pn** **02 00 11.4 -3.2**
CMIG Matias Romero 13.95 288 LR LR 02 06 06.4
comp=Z,440nm,20.3s,baz=118,slow=39
SJG San Juan 15.10 69 Pn **P** **02 00 44.0 +0.9**
SJG IAmb IAmb 02 00 50.2
comp=Z,24nm,1.1s
SJG San Juan 15.10 69 Pn **P** **02 00 39.2 -4.0**
comp=Z,0.1nm,0.3s,baz=258,slow=11,SNR=1.8
comp=Z,6.8nm,0.9s
PDPR Patillas Dam, 15.19 70 Pn **P** **02 00 45.0 +0.9**
Z47A Carrollton 20.91 343 P Pn 02 01 48.6 -0.9
Z47A IAmb IAmb 02 01 55.5
comp=Z,17nm,0.9s
CZSB Cruzeiro do Su 22.38 158 P **P** **02 02 05.0 +2.0**
CZSB IAmb IAmb 02 02 33.0
comp=Z,26nm,1.3s
V53A Saluda 22.41 356 P **P** **02 02 05.1 +1.8**
V53A IAmb IAmb 02 02 15.2
comp=Z,10nm,1.1s
TKL Tuckaleechee C 22.48 354 P **P** **02 02 05.3 +1.3**
comp=Z,2.3nm,0.9s,baz=165,slow=13,SNR=1.8
comp=Z,2.3nm,0.9s
435B Jarrell 23.23 321 P **P** **02 02 12.4 +0.5**
435B IAmb IAmb 02 02 18.2
comp=Z,20nm,1.2s
HNDO Hondo 23.47 317 P **P** **02 02 12.9 -1.4**
HNDO IAmb IAmb 02 02 21.3
comp=Z,20nm,1.2s
ABTX Abilene, Hawle 25.77 322 P **P** **02 02 36.5 +1.0**
ABTX IAmb IAmb 02 02 45.0
comp=Z,11nm,1.0s
TXAR Lajitas Array 26.44 311 P **P** **02 02 41.9 0.0**
TXAR Lajitas Array 26.44 311 P **P** **02 02 42.6 +0.8**
comp=Z,4.2nm,0.9s,baz=128,slow=8.1,SNR=22
comp=Z,4.2nm,0.9s
TX31 Lajitas Ar. Si 26.44 311 P **P** **02 02 42.1 +0.3**
TX31 IAmb IAmb 02 02 43.5
comp=Z,7.7nm,1.0s
ALPN Alpine 26.99 313 P **P** **02 02 48.1 +1.2**
ALPN IAmb IAmb 02 02 56.6
comp=Z,7.8nm,1.3s
OK051 E0350 and S346 27.20 331 P **P** **02 02 50.4 +1.9**
LPAZ La Paz 31.96 156 P **P** **02 03 30.8 -0.7**
comp=Z,0.4nm,0.6s,baz=336,slow=10.0,SNR=1.6
comp=Z,0.4nm,0.6s
PD31 Pinedale Array 38.41 325 P **P** **02 04 27.3 +0.8**
PDAR Pinedale Array 38.41 325 P **P** **02 04 26.4 -0.1**
comp=Z,0.7nm,0.8s,baz=129,slow=11,SNR=6.0
comp=Z,0.7nm,0.8s
PSUT Pine Spring 38.51 317 P **P** **02 04 28.1 +0.7**
NVAR Mina Array Bea 41.50 314 P **P** **02 04 52.7 +0.5**
NVAR Mina Array Bea 41.50 314 P **P** **02 04 53.3 +1.1**
comp=Z,1.8nm,0.9s,baz=126,slow=8.2,SNR=11
comp=Z,1.8nm,0.9s
KVN Kaiserville 41.64 315 P **P** **02 04 54.1 +0.8**
BMN Battle Mountai 41.72 317 P **P** **02 04 54.3 +0.4**
WVOR Wild Horse Val 43.65 319 P **P** **02 05 10.0 +0.5**
WVOR IAmb IAmb 02 05 25.3
comp=Z,7.3nm,1.1s
RPN Rapa Nui 48.64 214 LR LR 02 21 30.8
comp=Z,167nm,18.2s,baz=51,slow=30
FRB Frobisher Bay 51.21 7 LR LR 02 27 39.0
comp=Z,201nm,18.9s,baz=120,slow=36
PLTB Pedras Altas 51.87 150 P **P** **02 06 13.6 +0.4**
A36M Sachs Harbour 64.34 346 P **P** **02 07 40.5 +0.4**
SUMG Summit 64.35 13 P **P** **02 07 42.9 +2.2**
BCAR Beaver Creek A 65.25 334 P **P** **02 07 47.0 +0.7**
J26L Joseph Creek 66.48 335 P **P** **02 07 55.2 +1.0**
J26L IAmb IAmb 02 08 36.0
comp=Z,6.6nm,1.4s
ILAR Eielson Array 67.93 335 P **P** **02 08 03.8 +0.5**
comp=Z,0.8nm,0.9s,baz=114,slow=4.5,SNR=5.4
comp=Z,0.8nm,0.9s
SII Sitkinak Islan 69.81 326 P **P** **02 08 15.7 +0.5**

ESDC	**Sonseca Array**	71.75	52	P	**P**	02 08 27.8	+0.4
	comp=Z,0.6nm,0.7s,baz=260,slow=7.3,SNR=1.7						
	comp=Z,0.6nm,0.7s						
SENIN	**Lac Senin/Sane**	79.40	45	P	P	02 09 14.3	+3.0
HFS	**Hagfors**	80.97	30	LR	LR	02 40 27.0	
	comp=Z,69nm,21.1s,baz=248,slow=32						
DAVOX	**Davos/Dischmat**	81.09	44	LR	LR	02 40 30.7	
	comp=Z,82nm,20.0s,baz=253,slow=32						
VRAC	**Vranov**	84.97	41	LR	LR	02 42 10.7	
	comp=Z,66nm,20.7s,baz=238,slow=32						
FINES	**FINESS Array B**	86.45	27	P	**P**	**02 09 48.4**	**+1.1**
	comp=Z,4.7nm,1.0s,baz=289,slow=8.7,SNR=3.1						
	comp=Z,4.7nm,1.0s						
USA0B	**Ussuriysk Arra**	115.45	334	PKPdf	**PKPdf**	**02 15 48.7**	**+1.7**
PZH	**PanZhiHua**	140.43	356	PKP	**PKiKP**	**02 16 35.3**	**-2.3**
ASAR	**Alice Springs**	145.39	247		**PKPab**	**02 16 43.1**	**-0.7**
ASAR	**Alice Springs**	145.39	247	PKPbc	**PKPbc**	**02 16 42.6**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=104,slow=4.2,SNR=4.5						
WB0	**Warramunga Arr**	145.50	254		**PKPdf**	**02 16 41.6**	**-2.4**
WB2	**Warramunga Arr**	145.52	254		**PKPdf**	**02 16 42.1**	**-1.9**
WRA	**Warramunga Arr**	145.53	254	PKPbc	**PKPab**	**02 16 43.4**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=92,slow=3.0,SNR=11						

IDC 26 01:57:05.8±2.4, 18°.40N×94°.43E, h0km, mb3.7/4, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=44.8km s-min=22.3km az=23.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	4.29	88	Pn	Pn	01 58 13.8	+1.4
	1.2nm,0.3s,baz=271,slow=17,SNR=2.4						
CMAR				Sn	Sn	01 58 59.0	-4.2
	1.4nm,0.3s,baz=274,slow=16,SNR=5.6						
CMAR				Lg	Lg	01 59 21.4	
	0.2nm,0.3s,baz=270,slow=33,SNR=7.9						
	1.3nm,0.3s						
MKAR	**Makanchi Array**	30.04	343	P	P	02 03 16.4	-0.1
	0.5nm,0.5s,baz=144,slow=9.8,SNR=6.8						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	34.56	342	P	P	02 03 56.5	+0.4
	0.6nm,0.5s,baz=153,slow=7.9,SNR=5.1						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	36.26	350	P	P	02 04 10.4	-0.2
	0.3nm,0.3s,baz=179,slow=6.9,SNR=2.4						
	0.3nm,0.3s						
ILAR	**Eielson Array**	84.95	22	P	P	02 09 42.0	-0.6
	0.2nm,0.4s,baz=303,slow=5.2,SNR=2.1						
	0.2nm,0.4s						

ROM 26 02:04:30.0±0.1, 42°.493N±0°.004×13°.302E±0°.005, h11km, ML1.7/10, 2C-1D, Error ellipse: s-maj=0.5km s-min=0.3km az=59.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	0.07	284	⇓*i*P	Pg	02 04 32.9	+0.4
RM33				S	Sg	02 04 34.5	+0.2
RM33				AML	AML		
	comp=E,1035μm,0.3s						
RM33				AML	AML		
	comp=N,438μm,0.2s						
RM33				AML	AML		
	comp=E,890μm,0.3s						
RM33				AML	AML		
	comp=E,888μm,0.1s						
RM33				AML	AML		
	comp=N,439μm,0.2s						
RM33				AML	AML		
	comp=N,436μm,0.1s						
CAMP	**Campotosto**	0.09	61	⇑*i*P	Pg	02 04 33.1	+0.3
CAMP				S	Sg	02 04 35.1	+0.3
SMA1	**SAN MARTINO**	0.14	10	P	Pg	02 04 33.9	+0.5
SMA1				S	Sg	02 04 36.8	+1.0
SMA1				AML	AML		
	comp=E,2140μm,0.3s						
SMA1				AML	AML		
	comp=N,1615μm,0.3s						
SMA1				AML	AML		
	comp=E,2143μm,0.3s						
SMA1				AML	AML		
	comp=N,1618μm,0.3s						
GIGS	**Gran Sasso**	0.20	102	P	Pg	02 04 34.5	+0.2
GIGS				S	Sg	02 04 37.7	+0.3
LNSS	**Leonessa**	0.22	300	P	Pg	02 04 35.2	+0.5
LNSS				S	Sg	02 04 39.0	+1.0
LNSS				AML	AML		
	comp=E,458μm,0.2s						
LNSS				AML	AML		
	comp=N,364μm,0.2s						
LNSS				AML	AML		
	comp=E,439μm,0.1s						
LNSS				AML	AML		
	comp=N,339μm,0.2s						
LNSS				AML	AML		
	comp=E,458μm,0.2s						
LNSS				AML	AML		
	comp=N,364μm,0.2s						
TERO	**Teramo**	0.26	60	P	Pg	02 04 35.5	+0.1
TERO				S	Sg	02 04 39.7	+0.7
TERO				AML	AML		
	comp=N,101μm,1.1s						
TERO				AML	AML		
	comp=E,92μm,0.8s						
TERO				AML	AML		
	comp=N,100μm,1.1s						
TERO				AML	AML		
	comp=E,92μm,1.2s						
FIAM	**Fiamignano**	0.26	211	P	Pg	02 04 35.8	+0.4
FIAM				S	Sg	02 04 40.2	+1.1
FIAM				AML	AML		
	comp=E,49μm,1.5s						
FIAM				AML	AML		
	comp=N,52μm,1.4s						
MTRA	**Matera**	0.27	15	⇑*i*P	Pg	02 04 35.8	+0.2
MTRA				S	Sg	02 04 40.1	+0.6
MTRA				AML	AML		
	comp=E,700μm,0.2s						
MTRA				AML	AML		
	comp=N,697μm,0.1s						
MTRA				AML	AML		
	comp=E,699μm,0.2s						
MTRA				AML	AML		
	comp=N,698μm,0.1s						
FAGN	**Fagnano**	0.31	137	P	Pb	02 04 37.0	-0.5
FAGN				S	Sb	02 04 42.5	-0.2
GAVE	**Gavelli**	0.36	304	P	Pg	02 04 37.5	+0.2
GAVE				S	Sb	02 04 43.2	-1.1
NRCA	**Norcia**	0.37	338	P	Pg	02 04 37.5	+0.1
NRCA				S	Sg	02 04 43.2	+0.9
NRCA				AML	AML		
	comp=E,192μm,0.2s						
NRCA				AML	AML		
	comp=N,186μm,1.4s						
NRCA				AML	AML		
	comp=N,186μm,0.6s						
NRCA				AML	AML		
	comp=N,145μm,0.1s						
NRCA				AML	AML		
	comp=E,192μm,0.2s						
MMO1	**Montemonaco**	0.41	3	P	Pg	02 04 38.3	+0.2
MMO1				S	Sb	02 04 44.6	-0.9
VCEL	**Villa Celiera**	0.41	104	P	Pg	02 04 38.7	+0.5
VCEL				S	Sb	02 04 45.2	-0.5
MC2	**Monte Cornacci**	0.43	349	P	Pg	02 04 38.8	+0.2
MC2				S	Sb	02 04 45.7	-0.6
T0110	**Collepietro**	0.44	127	P	Pg	02 04 38.9	+0.1
T0110				S	Sb	02 04 45.8	-0.8
PTQR	**Pietraquaria**	0.48	171	P	Pb	02 04 40.0	-0.5
PTQR				S	Sg	02 04 46.2	+0.5
MF5	**Montefalcone A**	0.51	13	P	Pg	02 04 40.3	+0.3
MF5				S	Sb	02 04 48.4	-0.1
FDMO	**Fiordimonte**	0.57	344	P	Pg	02 04 41.0	-0.1
FDMO				S	Sb	02 04 49.6	-0.5
FDMO				AML	AML		
	comp=E,29μm,0.2s						

ROM 26 02:05:21.2±0.1, 42°.494N±0°.003×13°.313E±0°.005, h11km, ML1.9/14, 3C-2D, Error ellipse: s-maj=0.4km s-min=0.0km az=75.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	0.07	282	⇓*i*P	Pg	02 05 24.1	+0.3
RM33				S	Sg	02 05 25.8	+0.1
RM33				AML	AML		
	comp=E,1860μm,1.1s						
RM33				AML	AML		
	comp=N,1109μm,0.4s						
RM33				AML	AML		
	comp=N,1101μm,0.4s						
RM33				AML	AML		
	comp=N,1106μm,0.4s						
RM33				AML	AML		
	comp=N,1102μm,0.4s						
RM33				AML	AML		
	comp=E,1780μm,1.1s						
RM33				AML	AML		
	comp=E,1855μm,1.1s						
RM33				AML	AML		
	comp=E,1832μm,0.2s						
RM33				AML	AML		
	comp=E,1771μm,0.2s						
RM33				AML	AML		
	comp=N,951μm,0.2s						
RM33				AML	AML		
	comp=N,954μm,0.2s						
CAMP	**Campotosto**	0.08	59	⇑*i*P	Pg	02 05 24.3	+0.4
CAMP				S	Sg	02 05 26.2	+0.4
SMA1	**SAN MARTINO**	0.14	7	P	Pg	02 05 25.2	+0.5
SMA1				S	Sg	02 05 28.0	+0.9
SMA1				AML	AML		
	comp=E,3150μm,0.3s						
SMA1				AML	AML		
	comp=N,2485μm,0.3s						
SMA1				AML	AML		
	comp=E,3152μm,0.3s						
SMA1				AML	AML		
	comp=N,2484μm,0.3s						
GIGS	**Gran Sasso**	0.19	103	P	Pg	02 05 25.8	+0.3
GIGS				S	Sg	02 05 28.8	+0.4
GIGS				AML	AML		
	comp=E,78μm,1.5s						
GIGS				AML	AML		
	comp=E,78μm,1.5s						
GIGS				AML	AML		
	comp=N,96μm,1.6s						
GIGS				AML	AML		
	comp=E,78μm,0.5s						
GIGS				AML	AML		
	comp=N,70μm,0.4s						
GIGS				AML	AML		
	comp=E,54μm,0.2s						
LNSS	**Leonessa**	0.23	299	⇓*i*P	Pg	02 05 26.6	+0.5
LNSS				S	Sg	02 05 30.4	+1.0
LNSS				AML	AML		
	comp=E,886μm,0.2s						
LNSS				AML	AML		
	comp=N,594μm,1.1s						
LNSS				AML	AML		
	comp=N,662μm,0.2s						
LNSS				AML	AML		
	comp=E,924μm,0.2s						
LNSS				AML	AML		
	comp=E,890μm,0.2s						
LNSS				AML	AML		
	comp=N,594μm,0.9s						
LNSS				AML	AML		
	comp=E,889μm,0.2s						
LNSS				AML	AML		
	comp=N,547μm,0.2s						
LNSS				AML	AML		
	comp=E,923μm,0.2s						
LNSS				AML	AML		
	comp=N,663μm,0.2s						
TERO	**Teramo**	0.25	59	P	Pg	02 05 26.6	+0.2
TERO				S	Sg	02 05 30.7	+0.8
TERO				AML	AML		
	comp=N,204μm,0.2s						
TERO				AML	AML		
	comp=E,124μm,0.8s						
TERO				AML	AML		
	comp=N,92μm,0.2s						
FIAM	**Fiamignano**	0.27	213	P	Pg	02 05 27.1	+0.3
FIAM				S	Sg	02 05 31.5	+1.0
FIAM				AML	AML		
	comp=E,75μm,0.2s						
MTRA	**Matera**	0.27	13	P	Pg	02 05 27.0	+0.2
MTRA				S	Sg	02 05 31.2	+0.6
MTRA				AML	AML		
	comp=E,1084μm,0.2s						
MTRA				AML	AML		
	comp=N,858μm,0.2s						
MTRA				AML	AML		
	comp=N,868μm,0.2s						
MTRA				AML	AML		
	comp=N,858μm,0.2s						
MTRA				AML	AML		
	comp=E,1066μm,0.2s						
MTRA				AML	AML		
	comp=E,1084μm,0.2s						
MTRA				AML	AML		
	comp=E,1083μm,0.2s						
MTRA				AML	AML		
	comp=N,859μm,0.2s						
MTRA				AML	AML		
	comp=N,870μm,0.2s						
MTRA				AML	AML		
	comp=E,1066μm,0.2s						
FAGN	**Fagnano**	0.30	139	P	Pg	02 05 28.0	+0.6
FAGN				S	Sb	02 05 33.3	-0.3
NRCA	**Norcia**	0.37	337	⇑*i*P	Pg	02 05 28.9	+0.2
NRCA				S	Sg	02 05 34.5	+0.9
NRCA				AML	AML		
	comp=E,232μm,1.0s						
NRCA				AML	AML		
	comp=N,182μm,1.6s						
NRCA				AML	AML		
	comp=E,232μm,1.0s						
NRCA				AML	AML		
	comp=N,182μm,0.4s						
NRCA				AML	AML		
	comp=N,168μm,0.1s						
NRCA				AML	AML		
	comp=E,231μm,0.2s						
MMO1	**Montemonaco**	0.41	1	⇑*i*P	Pg	02 05 29.4	+0.2
MMO1				S	Sb	02 05 35.9	-0.8
MC2	**Monte Cornacci**	0.43	348	P	Pg	02 05 30.0	+0.2
MC2				S	Sb	02 05 36.9	-0.6
T0110	**Collepietro**	0.44	128	P	Pg	02 05 30.2	+0.4
T0110				S	Sb	02 05 37.0	-0.5
T0110				AML	AML		
	comp=N,108μm,0.3s						
PTQR	**Pietraquaria**	0.48	172	P	Pg	02 05 30.6	+0.1
PTQR				S	Sg	02 05 37.6	+0.7
MOMA	**Monte Martano**	0.63	300	P	Pg	02 05 33.8	+0.3
MOMA				S	Sb	02 05 42.8	-0.4
MOMA				AML	AML		
	comp=N,78μm,0.4s						
MOMA				AML	AML		
	comp=E,50μm,0.2s						

*IDC **26** 02:10:27.5±0.6, 53°.80S×134°.51W, h0km, mb4.3/14, mbtmp4.3/14, MS3.9/7, Error ellipse: s-maj=25.8km s-min=16.4km az=158.0*

ISC 26 02:10:29.2±0.7, 53°.8S±0°.2×134°.5W±0°.1, h10km, n38, σ0972/21, mb4.4/16, MS3.9/7, 5C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	32.44	334	*e*LR	LR	02 25 34.2	
	1μm,27.0s						
PMSA	**Palmer Station**	35.66	136	LR	LR	02 28 10.5	
	comp=Z,201nm,18.7s,baz=271,slow=30						
QSPA	**South Pole Qui**	36.38	180	P	**P**	**02 17 34.5**	**+1.3**
	0.7nm,0.3s,baz=55,slow=3.0,SNR=3.7						
	0.7nm,0.3s						
RAR	**Rarotonga**	37.81	319	LR	LR	02 29 39.2	
	comp=Z,180nm,19.1s,baz=157,slow=30						
PPT2	**Papeete2**	37.98	336	*e*LR	LR	02 28 07.2	
	192nm,22.5s						
PPT2				*e*LR	LR	02 28 09.2	
	192nm,24.8s						
PPT	**Papeete**	38.01	336	LR	LR	02 28 33.3	
	comp=Z,190nm,20.9s,baz=166,slow=29						
H03S2	**Juan Fernandez**	43.48	86	T	T	03 04 55.0	
	baz=223,slow=74,SNR=17						
H03S1	**Juan Fernandez**	43.49	86	T	T	03 05 01.2	
	baz=223,slow=74,SNR=17						
H03S3	**Juan Fernandez**	43.50	86	T	T	03 05 08.8	
	baz=223,slow=74,SNR=19						
H03N3	**Juan Fernandez**	43.76	85	T	T	03 05 11.0	
	baz=226,slow=72,SNR=115						
H03N2	**Juan Fernandez**	43.76	85	T	T	03 05 12.7	
	baz=226,slow=72,SNR=223						
H03N1	**Juan Fernandez**	43.77	85	T	T	03 05 13.0	
	baz=226,slow=72,SNR=151						
VNA3	**Neumayer Olymp**	49.30	159	⇑P	P	**02 19 17.3**	**-0.3**
	comp=Z,3.4nm,0.8s						
VNA2	**Neumayer--Watz**	50.02	160	⇑P	P	**02 19 23.2**	**+0.1**
	comp=Z,7.0nm,0.6s,baz=220,slow=9.2						
VNA1	**Neumayer--Stat**	50.05	159	⇑P	P	**02 19 23.5**	**+0.2**
	comp=Z,5.8nm,0.8s						
SNAA	**Sanae**	50.29	162	⇑P	P	**02 19 24.8**	**-0.4**
	comp=Z,40nm,0.7s						
SNAA	**Sanae**	50.29	162	P	P	**02 19 24.9**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=244,slow=6.5,SNR=14						
SNAA				LR	LR	02 38 07.0	
	comp=Z,103nm,20.8s,baz=191,slow=33						
	comp=Z,1.2nm,0.6s						
TROLL	**Troll, Antarti**	50.93	164	⇑P	P	**02 19 30.0**	**-0.2**
	comp=Z,106nm,1.2s						
MAW	**Mawson**	58.23	188	P	P	**02 20 22.7**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=177,slow=6.2,SNR=5.7						
MAW				LR	LR	02 44 09.7	
	comp=Z,113nm,18.7s,baz=208,slow=35						
	comp=Z,2.9nm,0.8s						
NNA	**Nana**	61.51	70	P	P	**02 20 45.4**	**-0.8**
	comp=Z,7.4nm,0.8s,baz=236,slow=7.5,SNR=3.8						
	comp=Z,7.4nm,0.8s						
STKA	**Stephens Creek**	61.55	254	P	P	**02 20 46.6**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=131,slow=8.6,SNR=5.0						
	comp=Z,2.1nm,0.8s						
CPUP	**Villa Florida**	61.73	97	P	P	**02 20 46.8**	**-0.8**
	comp=Z,2.1nm,0.9s,baz=268,slow=5.8,SNR=3.3						
	comp=Z,2.1nm,0.9s						
LPAZ	**La Paz**	63.06	81	P	P	**02 20 58.1**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=206,slow=3.0,SNR=8.0						
	comp=Z,1.8nm,0.6s						
SIV	**San Ignacio**	67.45	86	P	P	**02 21 24.5**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=217,slow=7.0,SNR=12						
	comp=Z,2.9nm,0.8s						
ASAR	**Alice Springs**	72.19	254	P	P	**02 21 53.6**	**-0.7**
	comp=Z,4.1nm,0.9s,baz=139,slow=6.2,SNR=22						
	comp=Z,4.1nm,0.9s						
H01W1	**Cape Leeuwin H**	73.70	233	T	T	03 43 25.6	
	baz=144,slow=76,SNR=27						
H01W2	**Cape Leeuwin H**	73.71	233	T	T	03 43 25.4	
	baz=144,slow=76,SNR=35						
H01W3	**Cape Leeuwin H**	73.72	233	T	T	03 43 28.1	
	baz=144,slow=76,SNR=31						
WRA	**Warramunga Arr**	74.85	257	P	P	**02 22 09.3**	**-0.6**
	comp=Z,3.0nm,0.9s,baz=143,slow=5.2,SNR=20						
	comp=Z,3.0nm,0.9s						
BDFB	**Brasilia**	75.46	97	P	P	**02 22 13.3**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=201,slow=9.6,SNR=3.6						
	comp=Z,1.7nm,0.6s						
ROSC	**El Rosal**	76.89	63	P	P	**02 22 23.7**	**+1.8**
	comp=Z,3.4nm,0.4s,baz=356,slow=23,SNR=2.1						
	comp=Z,3.4nm,0.4s						
TXAR	**Lajitas Array**	86.98	27	P	P	**02 23 14.7**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=177,slow=5.0,SNR=5.7						
	comp=Z,0.7nm,0.7s						
SUR	**Sutherland**	91.55	159	LR	LR	03 00 55.2	
	comp=Z,23nm,18.8s,baz=332,slow=33						
ANMO	**Albuquerque**	91.64	23	LR	LR	02 57 22.1	
	comp=Z,126nm,18.3s,baz=211,slow=31						
PDAR	**Pinedale Array**	98.53	18	P	Pdif	02 24 08.6	+1.1
	comp=Z,0.2nm,0.5s,baz=199,slow=5.3,SNR=2.1						
	comp=Z,0.2nm,0.5s						
ILAR	**Eielson Array**	118.61	354	PKP	**PKPdf**	**02 29 15.7**	**0.0**
	comp=Z,0.8nm,0.9s,baz=203,slow=2.7,SNR=6.2						
TORD	**Torodi Ar. Bea**	126.79	123	PKP	**PKPdf**	**02 29 32.4**	**-0.6**
	comp=Z,0.9nm,1.0s,baz=202,slow=3.4,SNR=3.4						
EKA	**Eskdalemuir Ar**	152.18	67	PKPbc	**PKPbc**	**02 30 23.3**	**-0.3**
	comp=Z,3.8nm,1.1s,baz=201,slow=3.0,SNR=3.7						

*ISN **26** 02:21:25.6±0.7, 34°.20N×45°.63E, h0km±15km, ML2.8*
*TEH **26** 02:21:26.8, 34°.19N×45°.55E, h14km±92km, ML2.8*

ISC 26 02:21:27.8±0.9, 34°.21N±0°.04×45°.60E±0°.04, h10km, n10, σ1912/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	0.27	111	Pg	**Pg**	**02 21 33.3**	**-0.1**
KGS1	**Ghasr-e-Shirin**	0.29	358	Sg	**Sg**	**02 21 38.6**	**+0.9**
ILBA	**Ilam Banvizeh**	0.77	139	Pg	**Pg**	**02 21 41.7**	**-1.0**
IGHG	**Ghaleghazi**	0.81	81	Pg	**Pb**	**02 21 43.6**	**-0.5**
IGHG				Sg	**Sb**	**02 21 55.8**	**+0.6**
IBDR	**Badra**	1.13	166	*e*Pg	**Pn**	**02 21 49.0**	**-0.7**
IBDR				*e*Sg	**Sn**	**02 22 05.0**	**-0.3**
KCHF	**Cheshme Sefid,**	1.19	87	Pg	**Pg**	**02 21 51.2**	**+0.4**
ILIN	**Lien**	1.33	58	Pg	**Pn**	**02 21 52.5**	**-0.1**
BHD	**Baghdad**	1.39	228	*e*Pn	**Pg**	**02 21 54.0**	**-0.4**
BHD				*e*Sn	**Sg**	**02 22 15.0**	**+2.6**
IKRK	**Kirkuk**	1.57	319	*e*Pn	**Pg**	**02 21 57.0**	**-1.0**
IKRK				*e*Sn	**Sg**	**02 22 20.0**	**+1.5**
IKRK				AML	AML	02 22 21.0	
	comp=N,130nm,0.2s						
IKRK				AML	AML	02 22 21.4	
	comp=E,133nm,0.6s						
SNQR	**Sonqor, Kerman**	1.79	68	Pn	**Pb**	**02 22 00.5**	**-0.4**

*BEO **26** 02:31:01.8±4.6, 36°.65N×20°.00E, h123km±2km, ML3.8/13*
*IDC **26** 02:31:08.8±1.0, 37°.71N×20°.52E, h0km, mb3.7/10, mbtmp3.6/21, ML3.5/9, MS3.4/8, Error ellipse: s-maj=17.5km s-min=15.1km az=178.0*
*THE **26** 02:31:10.4, 37°.65N×20°.53E, h5km±1km, ML4.1/17, Error ellipse: s-maj=1.4km s-min=0.5km az=24.0*
*ATH **26** 02:31:10.2, 37°.65N×20°.52E, h12km±1km, ML3.9/24, Error ellipse: s-maj=1.6km s-min=0.7km az=44.0*
*NAO **26** 02:31:32.7, 39°.88N×20°.51E, h10km, mb3.9*

ISC 26 02:31:10.5±0.9, 37°.68N±0°.03×20°.52E±0°.03, h17km±5km, n133, σ1975/190, mb3.7/10, MS3.4/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	0.24	93	P	**Pg**	**02 31 15.4**	**-0.5**
KRI1				S	**Sg**	**02 31 18.8**	**-0.8**
	163μm,0.5s						
LTHK	**Lithakia**	0.26	82	P	**Pg**	**02 31 15.5**	**-0.7**
LTHK				S	**Sg**	**02 31 18.9**	**-1.2**
	100μm,0.3s						
LTHK	**Lithakia**	0.26	82	P	**Pg**	**02 31 15.5**	**-0.7**
LTHK				S	**Sg**	**02 31 18.7**	**-1.4**
LTHK				AML	AML	02 31 19.4	
LTHK				AML	AML	02 31 21.2	
PSDA	**Pessada-Kefalo**	0.44	7	P	**Pg**	**02 31 19.3**	**-0.1**
PSDA				S	**Sg**	**02 31 25.6**	**+0.1**
	41μm,0.2s						
PSDA	**Pessada-Kefalo**	0.44	7	P	**Pg**	**02 31 19.4**	**-0.1**
PSDA				S	**Sg**	**02 31 25.4**	**-0.1**
RTZL	**Ratzakli, Kefa**	0.45	27	P	**Pg**	**02 31 19.4**	**-0.2**
RTZL				S	**Sg**	**02 31 25.6**	**-0.1**
VLS	**Valsamata**	0.51	7	P	**Pg**	**02 31 20.2**	**-0.4**
VLS				S	**Sg**	**02 31 27.9**	**+0.5**
	29μm,0.3s						
VLS	**Valsamata**	0.51	7	P	**Pg**	**02 31 20.4**	**-0.3**
VLS				S	**Sg**	**02 31 27.9**	**+0.5**
VLS				AML	AML	02 31 28.8	
	comp=E,75641μm,0.3s						
VLS				AML	AML	02 31 29.6	
	comp=N,39327μm,0.4s						
LXR1	**Lixouri, Cepha**	0.53	353	P	**Pg**	**02 31 21.2**	**+0.2**
LXR1				S	**Sb**	**02 31 29.8**	**+1.1**
	comp=N,60μm,0.4s						
DMLN	**Damoulianata-K**	0.57	349	P	**Pg**	**02 31 21.9**	**0.0**
DMLN				S	**Sb**	**02 31 30.4**	**+0.3**
	comp=N,23μm,0.5s						
DMLN	**Damoulianata-K**	0.57	349	P	**Pg**	**02 31 22.0**	**0.0**
DMLN				S	**Sg**	**02 31 30.1**	**+0.5**
SMHA	**Samh**	0.58	10	P	**Pg**	**02 31 21.0**	**-1.1**
SMHA				S	**Sg**	**02 31 29.4**	**-0.5**
FSK	**Fiskardo**	0.78	3	P	**Pg**	**02 31 25.0**	**-0.8**
FSK				S	**Sb**	**02 31 37.1**	**+1.0**
	comp=N,18μm,0.4s						
FSK	**Fiskardo**	0.78	3	P	**Pg**	**02 31 25.2**	**-0.6**
FSK				S	**Sb**	**02 31 36.9**	**+0.8**
FSK				AML	AML	02 31 38.8	
	comp=N,32598μm,0.4s						
FSK				AML	AML	02 31 40.1	
	comp=E,35692μm,0.4s						

RLS	**Riolos of Patr**	**0.84**	**63**	P	**Pg**	**02 31 25.9**	**-1.0**
RLS				S	**Sb**	**02 31 38.5**	**+0.7**
comp=E,9μm,0.4s							
RLS	**Riolos of Patr**	**0.84**	**63**	P	**Pg**	**02 31 26.0**	**-0.9**
RLS				S	**Sb**	**02 31 38.5**	**+0.7**
RLS				AML	AML	02 31 40.4	
comp=E,16074μm,0.3s							
RLS				AML	AML	02 31 43.8	
comp=N,18875μm,0.5s							
EVGI	**Lefkada island**	**0.95**	**7**	P	**Pg**	**02 31 27.7**	**-1.3**
EVGI				S	**Sn**	**02 31 43.0**	**+0.7**
comp=N,12μm,0.3s							
EVGI	**Lefkada island**	**0.95**	**7**	P	**Pg**	**02 31 28.1**	**-0.9**
EVGI				S	**Sb**	**02 31 42.1**	**+1.2**
AMT	**Artemida-Makis**	**0.96**	**98**	P	**Pg**	**02 31 28.2**	**-0.9**
AMT				S	**Sg**	**02 31 40.7**	**-1.0**
AST1	**Astakos**	**0.98**	**27**	P	**Pb**	**02 31 28.6**	**-0.4**
AST1				S	**Sn**	**02 31 43.3**	**+0.4**
comp=N,13μm,0.9s							
DRO	**Drossia**	**0.98**	**73**	P	**Pg**	**02 31 28.3**	**-1.3**
DRO				S	**Sb**	**02 31 42.2**	**+0.3**
comp=N,11μm,0.5s							
DRO	**Drossia**	**0.98**	**73**	P	**Pg**	**02 31 28.5**	**-1.2**
DRO				S	**Sg**	**02 31 42.0**	**-0.6**
DRO				AML	AML	02 31 52.0	
comp=E,21247μm,0.6s							
DRO				AML	AML	02 31 56.6	
comp=N,23529μm,0.4s							
DRAG	**Dragano-Lefkad**	**1.01**	**3**	P	**Pb**	**02 31 29.5**	**-0.1**
DRAG				S	**Sn**	**02 31 44.8**	**+1.0**
DRAG	**Dragano-Lefkad**	**1.01**	**3**	P	**Pb**	**02 31 29.3**	**-0.2**
DRAG				S	**Sb**	**02 31 44.0**	**+1.4**
NYDR	**Nydri-Lefkada**	**1.05**	**8**	P	**Pb**	**02 31 29.5**	**-0.7**
NYDR				S	**Sn**	**02 31 45.7**	**+1.1**
comp=N,5μm,0.7s							
NYDR	**Nydri-Lefkada**	**1.05**	**8**	P	**Pb**	**02 31 29.8**	**-0.4**
NYDR				S	**Sn**	**02 31 45.3**	**+0.7**
TSLK	**Tsoukalades, L**	**1.15**	**5**	P	**Pb**	**02 31 31.8**	**-0.2**
TSLK				S	**Sn**	**02 31 49.6**	**+2.3**
comp=N,7μm,0.6s							
TSLK	**Tsoukalades, L**	**1.15**	**5**	P	**Pb**	**02 31 31.6**	**-0.4**
TSLK				AML	AML	02 31 54.6	
comp=N,14218μm,0.7s							
TSLK				AML	AML	02 31 56.7	
comp=E,15152μm,0.9s							
UPR	**University Cam**	**1.17**	**58**	P	**Pb**	**02 31 31.7**	**-0.6**
UPR				S	**Sg**	**02 31 48.0**	**-0.5**
ITM	**Ithomi**	**1.23**	**113**	P	**Pn**	**02 31 32.9**	**0.0**
ITM				S	**Sn**	**02 31 50.0**	**+0.9**
comp=E,4μm,0.7s							
ITM	**Ithomi**	**1.23**	**113**	P	**Pn**	**02 31 32.7**	**-0.2**
ITM				S	**Sn**	**02 31 49.5**	**+0.4**
ITM				AML	AML	02 32 02.0	
comp=N,5997μm,0.6s							
ITM				AML	AML	02 32 02.0	
comp=E,8244μm,0.8s							
PYL	**PYLOS**	**1.25**	**128**	P	**Pn**	**02 31 33.2**	**0.0**
PYL				S	**Sg**	**02 31 51.7**	**+0.8**
comp=E,4μm,0.4s							
PYL	**PYLOS**	**1.25**	**128**	P	**Pn**	**02 31 33.0**	**-0.3**
PYL				S	**Sb**	**02 31 48.8**	**-0.6**
PYL				AML	AML	02 31 53.8	
comp=E,12207μm,0.6s							
PYL				AML	AML	02 31 54.1	
comp=N,4971μm,0.3s							
EFP	**Efpalio**	**1.33**	**55**	P	**Pn**	**02 31 34.2**	**-0.1**
EFP				S	**Sg**	**02 31 54.3**	**+0.8**
comp=N,4μm,0.8s							
EFP	**Efpalio**	**1.33**	**55**	P	**Pn**	**02 31 34.2**	**-0.1**
EFP				S	**Sg**	**02 31 53.1**	**-0.4**
EFP				AML	AML	02 31 59.0	
comp=N,8947μm,1.0s							
EFP				AML	AML	02 32 01.6	
comp=E,7749μm,0.5s							
KLV	**Kalavryta, Ach**	**1.34**	**74**	P	**Pn**	**02 31 34.6**	**0.0**
KLV	**Kalavryta, Ach**	**1.34**	**74**	P	**Pn**	**02 31 34.2**	**-0.4**
KLV				S	**Sb**	**02 31 52.4**	**+0.2**
KLV				AML	AML	02 31 59.9	
comp=E,3056μm,0.9s							
KLV				AML	AML	02 32 05.4	
comp=N,4909μm,0.5s							
ANX	**Ano Chora**	**1.44**	**50**	P	**Pn**	**02 31 36.4**	**+0.5**
ANX				S	**Sg**	**02 31 56.9**	**-0.1**
comp=N,11μm,0.6s							
ANX	**Ano Chora**	**1.44**	**50**	P	**Pn**	**02 31 36.3**	**+0.5**
ANX				S	**Sn**	**02 31 54.9**	**+0.5**
ANX				AML	AML	02 32 02.3	
comp=E,16100μm,0.7s							
ANX				AML	AML	02 32 05.6	
comp=N,26970μm,0.6s							
KALE	**Kalithea**	**1.47**	**60**	P	**Pn**	**02 31 36.5**	**+0.2**
KALE	**Kalithea**	**1.47**	**60**	P	**Pn**	**02 31 36.6**	**+0.2**
KALE				AML	AML	02 32 04.8	
comp=E,5211μm,0.4s							
KALE				AML	AML	02 32 07.8	
comp=N,7126μm,0.7s							
GUR	**Goura**	**1.47**	**79**	P	**Pn**	**02 31 36.9**	**+0.6**
GUR	**Goura**	**1.47**	**79**	P	**Pn**	**02 31 36.9**	**+0.6**
GUR				AML	AML	02 32 10.0	
comp=E,10777μm,0.6s							
GUR				AML	AML	02 32 10.8	
comp=N,9108μm,0.5s							
EVR	**Evrytania**	**1.60**	**39**	P	**Pb**	**02 31 40.0**	**+0.3**
EVR				AML	AML	02 32 13.1	
comp=N,5979μm,0.9s							
EVR				AML	AML	02 32 16.6	
comp=E,4388μm,1.2s							
DLFA	**Delphi**	**1.76**	**62**	P	**Pb**	**02 31 41.9**	**-0.4**
DLFA				AML	AML	02 32 15.8	
comp=E,3297μm,0.9s							
DLFA				AML	AML	02 32 20.5	
comp=N,3380μm,0.9s							
MAKR	**Makrakomi, Fth**	**1.84**	**43**	P	**Pb**	**02 31 43.6**	**-0.2**
MAKR				AML	AML	02 32 17.4	
comp=N,8605μm,1.0s							
MAKR				AML	AML	02 32 21.7	
comp=E,8609μm,0.8s							
IGT	**Igoumenitsa**	**1.86**	**356**	P	**Pn**	**02 31 42.7**	**+1.1**
IGT				AML	AML	02 32 14.5	
comp=E,4062μm,0.6s							
IGT				AML	AML	02 32 18.6	
comp=N,2345μm,0.8s							
LTK	**Loutraki**	**1.97**	**79**	P	**Pb**	**02 31 45.8**	**-0.2**
LTK				AML	AML	02 32 24.3	
comp=N,656μm,0.8s							
LTK				AML	AML	02 32 33.9	
comp=E,584μm,0.8s							
JAN	**Janina**	**2.00**	**7**	P	**Pb**	**02 31 46.1**	**-0.3**
JAN				AML	AML	02 32 24.1	
comp=E,3358μm,0.7s							
JAN				AML	AML	02 32 30.1	
comp=N,2625μm,0.7s							
AXAR	**Agios Charalam**	**2.01**	**56**	P	**Pb**	**02 31 46.5**	**-0.1**
AXAR				AML	AML	02 32 26.9	
comp=N,10113μm,1.0s							
AXAR				AML	AML	02 32 28.7	
comp=E,7519μm,0.8s							
KEK	**Kerkira**	**2.11**	**345**	P	**Pn**	**02 31 46.7**	**+1.7**
KEK				AML	AML	02 32 31.7	
comp=E,2481μm,0.7s							
KEK				AML	AML	02 32 43.5	
comp=N,2061μm,0.9s							
VLI	**Veliai**	**2.16**	**116**	P	**Pb**	**02 31 48.1**	**-1.0**
THL	**Klokotos Trika**	**2.22**	**31**	P	**Pb**	**02 31 49.7**	**-0.5**
THL				AML	AML	02 32 30.2	
comp=N,1808μm,0.9s							
THL				AML	AML	02 32 33.2	
comp=E,3018μm,0.8s							
VIL2	**Platees**	**2.24**	**75**	P	**Pb**	**02 31 49.3**	**-1.3**
VIL2				AML	AML	02 32 36.5	
comp=E,2604μm,0.7s							
VIL2				AML	AML	02 32 37.3	
comp=N,1566μm,0.8s							
TYRN	**Tyrnavos**	**2.44**	**33**	P	**Pb**	**02 31 52.5**	**-1.3**
PENT	**Pentalofos**	**2.56**	**11**	P	**Pb**	**02 31 54.7**	**-1.4**
KZN	**Kozani**	**2.80**	**20**	P	**Pb**	**02 31 58.4**	**-1.8**
FNA	**Florina**	**3.18**	**12**	*e*Pn	**Pn**	**02 32 02.3**	**+2.5**
OHR	**Ohrid**	**3.44**	**4**	*e*Pn	**Pn**	**02 32 05.6**	**+2.2**
OHR	**Ohrid**	**3.44**	**4**	*i* Pn	**Pn**	**02 32 06.5**	**+3.1**
VAY	**Valandovo**	**3.97**	**23**	*i* Pn	**Pn**	**02 32 14.7**	**+4.1**
SRS	**Serrai**	**4.18**	**34**	*e*Pn	**Pn**	**02 32 15.4**	**+1.8**
IDI	**Anoyia**	**4.25**	**123**	Pn	**Pn**	**02 32 16.1**	**+1.6**
comp=N,5.2nm,0.4s,baz=203,slow=8.0,SNR=22							
IDI				Sn	**Sn**	**02 33 06.5**	**+2.6**
comp=N,8.6nm,0.3s,baz=291,slow=8.0,SNR=9.2							
PEHC	**Pehcevo**	**4.49**	**23**	*i* Pn	**Pn**	**02 32 21.8**	**+3.9**
PDG	**Podgorica**	**4.85**	**349**	*e*Pn	**Pn**	**02 32 22.4**	**-0.3**
VAE	**Valguarnera**	**4.85**	**270**	Pn	**Pn**	**02 32 24.5**	**+1.6**
comp=N,7.9nm,0.5s,baz=164,slow=7.0,SNR=8.7							
VAE				Sn	**Sn**	**02 33 18.8**	**+0.1**
comp=N,2.2nm,0.3s,baz=352,slow=11,SNR=4.5							
BOSS	**Bosilegrad**	**5.04**	**17**	*e*Pn	**Pn**	**02 32 26.4**	**+1.0**
BARS	**Barje**	**5.23**	**11**	*e*Pn	**Pn**	**02 32 29.2**	**+1.2**
BARS				*e*Sn	**Sn**	**02 33 27.4**	**-0.5**
TREB	**Trebinje**	**5.30**	**342**	*e*Pn	**Pn**	**02 32 28.5**	**-0.4**
VTS	**Vitosha**	**5.36**	**22**	*e*Pn	**Pn**	**02 32 31.7**	**+1.9**
SELS	**Selova**	**5.56**	**5**	*e*Pn	**Pn**	**02 32 33.7**	**+1.2**
SJES	**Sjenica**	**5.60**	**356**	*e*Pn	**Pn**	**02 32 34.3**	**+1.2**
SJES				*e*Sn	**Sn**	**02 33 33.8**	**-3.2**
SJES	**Sjenica**	**5.60**	**356**	*e*Pn	**Pn**	**02 32 34.6**	**+1.5**
STON	**Ston**	**5.62**	**338**	*e*Pn	**Pn**	**02 32 31.0**	**-2.2**
ZAPS	**Zavoj**	**5.82**	**15**	*e*Pn	**Pn**	**02 32 37.7**	**+1.6**
IVAS	**Ivanjica**	**5.90**	**357**	*e*Pn	**Pn**	**02 32 38.7**	**+1.5**
IVAS				*e*Sn	**Sn**	**02 33 41.1**	**-3.4**
RUDO	**Rudo**	**6.00**	**352**	*e*Pn	**Pn**	**02 32 36.0**	**-2.5**
BOVS	**Bovan**	**6.02**	**8**	*e*Pn	**Pn**	**02 32 39.7**	**+0.9**
GRUS	**Gruza**	**6.21**	**1**	*e*Pn	**Pn**	**02 32 42.4**	**+1.0**
BBLS	**Lazi&#263i**	**6.24**	**353**	*e*Pn	**Pn**	**02 32 42.9**	**+1.0**
BBLS	**Lazi&#263i**	**6.24**	**353**	*e*Pn	**Pn**	**02 32 42.8**	**+0.9**
DIVS	**Divibare**	**6.43**	**357**	*e*Pn	**Pn**	**02 32 44.9**	**+0.4**
DIVS				*e*Sn	**Sn**	**02 33 53.4**	**-4.1**
TEKS	**Tekeris**	**6.91**	**354**	*e*Pn	**Pn**	**02 32 50.1**	**-0.9**
TEKS	**Tekeris**	**6.91**	**354**	*e*Pn	**Pn**	**02 32 48.2**	**-2.8**
A050A	**Klekovaca**	**7.44**	**337**	*e*Pn	**Pn**	**02 32 59.1**	**+0.8**
FRGS	**Fruska Gora**	**7.50**	**356**	*e*Pn	**Pn**	**02 32 58.0**	**-1.0**
FRGS	**Fruska Gora**	**7.50**	**356**	*e*Pn	**Pn**	**02 32 57.7**	**-1.3**
BLY	**Banja Luka**	**7.50**	**341**	*e*Pn	**Pn**	**02 33 00.8**	**+1.7**
A051A	**Mrakovica**	**7.82**	**341**	*e*Pn	**Pn**	**02 33 02.8**	**-0.7**
BOJS	**Bojanci**	**8.76**	**335**	*e*Pn	**Pn**	**02 33 14.5**	**-1.8**
MLR	**Muntele Rosu**	**8.80**	**26**	Pn	**Pn**	**02 33 20.3**	**+3.2**
comp=N,0.5nm,0.3s,baz=238,slow=10,SNR=9.6							
comp=N,3.6nm,0.6s							
CRES	**Cresnjevec Ost**	**8.98**	**337**	*e*Pn	**Pn**	**02 33 18.8**	**-0.6**
KEST	**Kesra**	**9.18**	**261**	Pn	**Pn**	**02 33 23.2**	**+1.0**
comp=N,0.2nm,0.3s,baz=35,slow=7.8,SNR=4.7							
KEST				Sn	**Sn**	**02 35 01.7**	**-3.5**
comp=N,0.2nm,0.3s,baz=266,slow=17,SNR=1.1							
KEST				LR	LR	02 37 33.2	
comp=N,140nm,20.2s,baz=232,slow=42							
comp=N,3.5nm,0.8s							
CEY	**Cerknica**	**9.25**	**332**	*e*Pn	**Pn**	**02 33 22.1**	**-1.0**
SOKA	**Soboth**	**9.87**	**337**	*i* Pn	**Pn**	**02 33 31.5**	**-0.2**
comp=N,3.5nm,0.4s							
SOKA				*i* Sn	**Sn**	**02 35 16.3**	**-5.8**
comp=N,4.8nm,0.6s							
OBKA	**Obir**	**9.88**	**335**	*i* Pn	**Pn**	**02 33 32.5**	**+0.7**
comp=N,1.3nm,0.3s							
OBKA				*i* Sn	**Sn**	**02 35 21.1**	**-1.1**
comp=N,12nm,0.7s							
OBKA	**Obir**	**9.88**	**335**	*e*Pn	**Pn**	**02 33 31.7**	**0.0**
ARSA	**Arzberg**	**10.25**	**341**	*i* Pn	**Pn**	**02 33 37.3**	**+0.4**
comp=N,0.8nm,0.3s							
ARSA				*e*Sn	**Sn**	**02 35 27.0**	**-4.4**
comp=N,1.0nm,0.3s							
MYKA	**Terra Mystica**	**10.30**	**333**	*i* Pn	**Pn**	**02 33 40.0**	**+2.5**
comp=N,1.6nm,0.5s							
MYKA				*i* Sn	**Sn**	**02 35 30.9**	**-1.6**
comp=N,3.1nm,0.5s							
BRTR	**Keskin Array B**	**10.46**	**75**	Pn	**Pn**	**02 33 41.6**	**+1.8**
comp=N,0.1nm,0.3s,baz=260,slow=13,SNR=3.0							
comp=N,0.2nm,0.5s							
CONA	**Conrad Observa**	**10.80**	**343**	*i* Pn	**Pn**	**02 33 44.3**	**-0.1**
comp=N,0.3nm,0.3s							
ABTA	**Abfaltersbach**	**10.83**	**329**	*i* Pn	**Pn**	**02 33 46.0**	**+1.2**
comp=N,1.5nm,0.5s							
VYHS	**Vyhne**	**10.88**	**354**	*e*PN	**Pn**	**02 33 45.3**	**-0.2**
VYHS				*e*SN	**Sn**	**02 35 44.4**	**-2.4**
MOA	**Molln**	**11.15**	**338**	*i* Pn	**Pn**	**02 33 50.3**	**+1.2**
comp=N,0.7nm,0.3s							
MOA				*i* Sn	**Sn**	**02 35 49.6**	**-3.9**
comp=N,2.0nm,0.4s							
BIOA	**Bad Ischl, Aus**	**11.21**	**335**	*i* Pn	**Pn**	**02 33 50.9**	**+0.9**
comp=N,1.3nm,0.3s							
BIOA				*e*Sn	**Sn**	**02 35 55.8**	**+0.9**
comp=N,6.0nm,0.6s							
LESA	**Schwarzleotal**	**11.32**	**332**	*i* Pn	**Pn**	**02 33 52.7**	**+1.2**
comp=N,3.9nm,0.6s							
LESA				*i* Sn	**Sn**	**02 35 57.5**	**-0.1**
comp=N,7.6nm,0.5s							
WTTA	**Wattenberg**	**11.60**	**328**	*i* Pn	**Pn**	**02 33 57.6**	**+2.1**
comp=N,0.7nm,0.3s							
WTTA				*e*Sn	**Sn**	**02 36 00.4**	**-4.2**
comp=N,16nm,0.9s							
WATA	**Walderalm**	**11.68**	**329**	*i* Pn	**Pn**	**02 33 59.3**	**+2.8**
comp=N,0.5nm,0.2s							
WATA				*i* Sn	**Sn**	**02 36 03.1**	**-3.5**
comp=N,14nm,1.2s							
SQTA	**Sankt Quirin**	**11.75**	**327**	*i* Pn	**Pn**	**02 33 59.7**	**+2.3**
comp=N,0.3nm,0.2s							
SQTA				*i* Sn	**Sn**	**02 36 06.9**	**-1.3**
comp=N,6.7nm,0.7s							
FETA	**Feichten**	**11.81**	**325**	*i* Pn	**Pn**	**02 33 59.1**	**+0.9**
comp=N,0.2nm,0.3s							
FETA				*i* Sn	**Sn**	**02 36 05.3**	**-4.4**
comp=N,6.6nm,1.1s							
CKRC	**Cesky Krumlov**	**12.02**	**340**	*e*PN	**Pn**	**02 34 01.4**	**+0.4**
DAVOX	**Davos/Dischmat**	**12.03**	**323**	Pn	**Pn**	**02 34 01.5**	**+0.2**
comp=N,0.1nm,0.3s,baz=149,slow=19,SNR=2.4							
DAVOX				Sn	**Sn**	**02 36 07.7**	**-7.4**
comp=N,0.3nm,0.3s,baz=201,slow=8.6,SNR=3.5							
comp=N,1.1nm,0.7s							
GERES	**GERESS Array B**	**12.21**	**338**	Pn	**Pn**	**02 34 03.3**	**-0.4**
comp=N,0.2nm,0.3s,baz=151,slow=14,SNR=3.7							
GERES				Sn	**Sn**	**02 36 13.0**	**-6.5**
comp=N,0.2nm,0.3s,baz=147,slow=18,SNR=3.3							
comp=N,0.6nm,0.5s							
DAVA	**Damuels**	**12.39**	**324**	*i* Pn	**Pn**	**02 34 07.4**	**+1.1**
comp=N,1.0nm,0.3s							
DAVA				*e*Sn	**Sn**	**02 36 22.4**	**-1.6**
comp=N,15nm,1.1s							
KHC	**Kasperske Hory**	**12.51**	**339**	*e*PN	**Pn**	**02 34 07.5**	**-0.1**
KHC				*e*SN	**Sn**	**02 36 18.9**	**-7.6**
MMAI	**Mount Meron Ar**	**13.01**	**106**	Pn	**Pn**	**02 34 17.2**	**+2.6**
comp=N,0.6nm,0.3s,baz=285,slow=11,SNR=1.3							
comp=N,0.6nm,0.4s							
EIL	**Elat**	**14.42**	**119**	Pn	**Pn**	**02 34 33.8**	**0.0**
comp=N,0.3nm,0.3s,baz=252,slow=3.2,SNR=1.8							
EIL				Sn	Sn	02 37 03.3	-10
comp=N,0.5nm,0.3s,baz=21,slow=7.8,SNR=2.5							
comp=N,1.6nm,0.5s							
AKASG	**Malin Array Be**	**14.43**	**23**	Pn	**Pn**	**02 34 33.4**	**-0.4**
comp=N,0.1nm,0.3s,baz=212,slow=10.0,SNR=2.1							
comp=N,0.1nm,0.3s							
GNI	**Garni**	**19.00**	**75**	LR	LR	02 43 23.8	
comp=N,68nm,19.5s,baz=266,slow=39							
ESDC	**Sonseca Array**	**19.21**	**284**	P	**Pn**	**02 35 34.6**	**0.0**
baz=82,slow=9.8,SNR=2.8							
comp=N,1.1nm,0.9s							
HFS	**Hagfors**	**22.90**	**351**	P	**P**	**02 36 13.4**	**+0.2**
comp=N,3.2nm,0.6s,baz=151,slow=13,SNR=12							
comp=N,3.2nm,0.6s							
EKA	**Eskdalemuir Ar**	**23.84**	**325**	P	**P**	**02 36 23.1**	**+0.5**
comp=N,1.7nm,0.7s,baz=126,slow=9.7,SNR=2.6							
comp=N,1.7nm,0.7s							
FINES	**FINESS Array B**	**24.05**	**7**	P	**P**	**02 36 25.3**	**+0.8**
comp=N,1.4nm,0.5s,baz=163,slow=9.5,SNR=14							
FINES				LR	LR	02 46 56.4	
comp=N,122nm,19.9s,baz=212,slow=40							
comp=N,1.4nm,0.5s							
NB2	**NORSAR Subarra**	**24.11**	**349**	P	**P**	**02 36 25.7**	**+0.6**
comp=Z,8.1nm,1.4s,baz=161,slow=11							
NOA	**NORSAR Array B**	**24.11**	**349**	P	**P**	**02 36 24.8**	**-0.3**
comp=Z,0.3nm,0.7s,baz=157,slow=7.3,SNR=3.9							
NOA				LR	LR	02 46 41.6	
comp=Z,31nm,19.4s,baz=160,slow=39							
comp=Z,0.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**29.64**	**219**	P	**P**	**02 37 16.2**	**+1.0**
comp=Z,0.5nm,0.6s,baz=36,slow=9.3,SNR=4.4							
comp=Z,0.5nm,0.6s							
ARCES	**ARCESS Array B**	**32.03**	**3**	P	**P**	**02 37 36.5**	**+0.7**
comp=Z,2.9nm,1.0s,baz=196,slow=9.4,SNR=1.2							
ARCES				LR	LR	02 50 27.9	
comp=Z,57nm,19.3s,baz=20,slow=36							
comp=Z,2.9nm,1.0s							
BORG	**Borgarnes**	**36.55**	**331**	LR	LR	02 54 08.4	
comp=Z,61nm,18.4s,baz=258,slow=38							
BVAR	**Borovoye Array**	**37.45**	**49**	P	**P**	**02 38 22.7**	**0.0**
comp=Z,0.4nm,0.6s,baz=255,slow=6.4,SNR=2.6							
comp=Z,0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**42.53**	**53**	P	**P**	**02 39 04.5**	**-0.4**
comp=Z,0.6nm,0.3s,baz=278,slow=8.9,SNR=2.7							
KURBB				LR	LR	03 00 46.7	
comp=Z,53nm,18.4s,baz=178,slow=42							
comp=Z,0.6nm,0.3s							
MKAR	**Makanchi Array**	**45.57**	**58**	P	**P**	**02 39 29.7**	**+0.2**
comp=Z,0.5nm,0.5s,baz=276,slow=7.2,SNR=7.4							
comp=Z,0.5nm,0.5s							
ZALV	**Zalesovo Beam**	**46.03**	**48**	P	**P**	**02 39 33.0**	**0.0**
comp=Z,0.8nm,0.5s,baz=299,slow=9.3,SNR=3.2							
comp=Z,0.8nm,0.5s							
OPO	**Ambohidratompo**	**61.32**	**151**	LR	LR	03 10 27.4	
comp=Z,55nm,18.4s,baz=336,slow=38							

ISN ***26*** *02:33:05.2±1.0, 34°.38N×45°.76E, h6km±77km, ML2.9*
TEH ***26*** *02:33:06.7, 34°.39N×45°.74E, h10km±70km, ML2.6*
ISC 26 02:33:07.3±1.2, 34°.40N±0°.04×45°.76E±0°.04, h7km±11km, n11, σ0s63/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.17**	**307**	Pg	**Pg**	**02 33 10.6**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.31**	**156**	Pg	**Pg**	**02 33 13.3**	**-0.2**
IDHR	**Dehrash**	**0.60**	**60**	Pg	**Pg**	**02 33 19.0**	**+0.1**
IGHG	**Ghaleghazi**	**0.67**	**96**	Pg	**Pb**	**02 33 20.9**	**-0.7**
ILBA	**Ilam Banvizeh**	**0.86**	**154**	Pg	**Pg**	**02 33 23.0**	**-0.8**
KCHF	**Cheshme Sefid,**	**1.07**	**96**	Pg	**Pn**	**02 33 29.6**	**+0.7**
KCHF				Sg	**Sn**	**02 33 43.4**	**-0.7**
ILIN	**Lien**	**1.12**	**62**	Pg	**Pg**	**02 33 28.6**	**-0.2**
IBDR	**Badra**	**1.30**	**174**	*e*Pg	**Pn**	**02 33 32.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**02 33 50.0**	**+1.1**
IKRK	**Kirkuk**	**1.53**	**311**	*e*Pn	**Pn**	**02 33 35.0**	**-0.1**
IKRK				*e*Sn	**Sg**	**02 33 57.0**	**+0.4**
IKRK				AML	AML	02 33 60.0	
comp=E,100nm,0.4s							
IKRK				AML	AML	02 34 04.5	
comp=N,368nm,0.3s							
SNQR	**Sonqor, Kerman**	**1.61**	**73**	Pg	**Pg**	**02 33 38.2**	**+0.1**
BHD	**Baghdad**	**1.61**	**226**	*e*Pn	**Pn**	**02 33 36.0**	**-0.1**
BHD				*e*Sn	**Sn**	**02 33 58.0**	**+0.9**

TAP ***26*** *02:44:39.1, 24°.81N×122°.46E, h21km, ML3.0, D*
JMA ***26*** *02:44:39.3±0.2, 25°.N±2°.×122°.4E±0°.5, h18km, MV2.4/10,*
NW OFF ISHIGAKIJIMA IS
ISC 26 02:44:39.1±1.0, 24°.81N±0°.03×122°.44E±0°.02, h20km±5km, n56, σ0s54/110, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.43**	**206**	*i* P	**Pg**	**02 44 47.6**	**-0.3**
EOS2				*i* S	**Sb**	**02 44 54.2**	**+0.3**
TWB1	**Santiao Chiao**	**0.46**	**296**	P	**Pg**	**02 44 47.9**	**-0.5**
TWB1				*e*S	**Sg**	**02 44 53.6**	**-1.2**
EGS		**0.46**	**275**	*i* P	**Pg**	**02 44 48.0**	**-0.5**
EGS				*i* S	**Sg**	**02 44 54.9**	**-0.1**
EOS3	**EOS3**	**0.53**	**192**	*i* P	**Pb**	**02 44 49.5**	**-0.2**
EOS3				S	**Sg**	**02 44 57.7**	**+0.8**
TWC	**Suao**	**0.57**	**250**	*e*P	**Pb**	**02 44 49.1**	**-1.3**
TWC				*e*S	**Sg**	**02 44 58.7**	**+0.5**
TIPB	**Shuangxi**	**0.58**	**287**	||P	**Pb**	**02 44 50.7**	**+0.1**
TIPB				S	**Sb**	**02 44 58.7**	**+0.3**
JYNG	**Yonagunijimaku**	**0.58**	**127**	*e*P	**Pb**	**02 44 50.3**	**-0.3**
JYNG				S	**Sb**	**02 44 57.9**	**-0.5**
SXI1	**Grass Mountain**	**0.58**	**299**	||P	**Pb**	**02 44 50.6**	**-0.1**
SXI1				*e*S	**Sb**	**02 44 58.5**	**-0.1**
ESAO	**Su ao**	**0.59**	**247**	P	**Pb**	**02 44 50.8**	**+0.1**
ESAO				*i* S	**Sg**	**02 44 59.1**	**+0.3**
YOJ	**Yonaguni jima**	**0.62**	**123**	P	**Pb**	**02 44 50.9**	**-0.5**
YOJ				S	**Sb**	**02 44 59.1**	**-0.6**
YOJ	**Yonaguni jima**	**0.62**	**123**	*i* P	**Pb**	**02 44 51.0**	**-0.3**
YOJ				*e*S	**Sb**	**02 44 59.0**	**-0.6**
ILA	**Ilan**	**0.63**	**266**	*e*P	**Pn**	**02 44 52.9**	**0.0**
ILA				*e*S	**Sn**	**02 45 02.4**	**+0.1**
NWF	**Wu-fen Shan**	**0.65**	**294**	*e*P	**Pg**	**02 44 52.6**	**+0.5**
NWF				S	**Sg**	**02 45 01.5**	**+0.6**
WFSB	**Wu-fen Shan**	**0.65**	**294**	*e*P	**Pg**	**02 44 52.3**	**+0.2**
WFSB				S	**Sg**	**02 45 01.4**	**+0.6**
NDS	**Dongshan**	**0.68**	**255**	P	**Pb**	**02 44 51.7**	**-0.5**
NDS				*e*S	**

IDC 26 02:48:06.8±1.4, 16°.87S×178°.33W, h0km, mb3.8/6, mbtmp3.9/6, Error ellipse: s-maj=47.9km s-min=26.5km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.68**	**190**	P	P	02 52 58.8	-0.3
	3.7nm,0.7s,baz=40,slow=7.9,SNR=6.5						
	3.7nm,0.7s						
STKA	**Stephens Creek**	**39.20**	**240**	P	P	02 55 37.5	+0.6
	1.6nm,0.7s,baz=79,slow=10,SNR=4.2						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**44.91**	**258**	P	P	02 56 23.0	-0.7
	0.4nm,0.6s,baz=93,slow=7.7,SNR=5.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**45.16**	**253**	P	P	02 56 25.5	-0.1
	4.5nm,0.6s,baz=89,slow=8.2,SNR=79						
	4.5nm,0.6s						
ILAR	**Eielson Array**	**84.86**	**13**	P	P	03 00 42.5	-0.5
	0.2nm,0.5s,baz=219,slow=4.9,SNR=4.3						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**86.55**	**43**	P	P	03 00 52.8	+0.6
	0.3nm,0.9s,baz=202,slow=4.7,SNR=1.9						
	0.3nm,0.9s						

*SJA **26** 02:54:14.4±0.7, 24°.32S×67°.18W, h196km±5km, ML3.3, MW3.2*
*GUC **26** 02:54:16.9±0.7, 24°.20S×67°.66W, h229km±9km, ML3.5*
ISC 26 02:54:13.6±1.8, 24°.25S±0°.04×67°.21W±0°.05, h204km±15km, n24, σ2s 01/42, 1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.57**	**325**	*e*P	**Pn**	**02 54 50.5**	**+1.8**
AF01	**San Pedro de A**	**1.57**	**325**	*e*S	**Sn**	**02 55 16.3**	**+0.4**
SLA	**San Lorenzo**	**1.62**	**107**	⇓*i*P	**Pn**	**02 54 50.5**	**+1.6**
SLA	**San Lorenzo**	**1.62**	**107**	*e*P	**Pn**	**02 54 50.7**	**+1.8**
SLA				*e*S	**Sn**	**02 55 14.6**	**-1.8**
FSA	**Cafayete**	**2.16**	**149**	*e*P	**Pn**	**02 54 56.1**	**+1.9**
FSA				*e*S	**Sn**	**02 55 24.2**	**-1.9**
GO02	**Mina Guanaco**	**2.35**	**247**	*e*P	**Pn**	**02 54 58.0**	**+1.6**
GO02				*i* S	**Sn**	**02 55 29.4**	**-0.4**
GO02				IAML		02 55 30.4	
	comp=N,282nm,0.3s						
GO02	**Mina Guanaco**	**2.35**	**247**	*e*P	**Pn**	**02 54 58.0**	**+1.6**
GO02				*e*S	**Sn**	**02 55 29.0**	**-0.8**
YJA	**Yavi**	**2.59**	**37**	*e*P	**Pn**	**02 55 01.4**	**+2.2**
YJA				*e*S	**Sn**	**02 55 28.6**	**-6.1**
PB14	**IPOC Station P**	**2.94**	**262**	*e*P	**Pn**	**02 55 04.2**	**+1.2**
PB14				*i* S	**Sn**	**02 55 39.4**	**-2.3**
PB14				IAML		02 55 41.7	
	comp=E,34nm,0.4s						
PB14	**IPOC Station P**	**2.94**	**262**	*e*P	**Pn**	**02 55 04.3**	**+1.2**
PB14				*e*S	**Sn**	**02 55 40.5**	**-1.2**
PB14				IAML		02 55 42.1	
	comp=Z,33nm,0.2s						
AHML	**Horco Molle**	**3.04**	**147**	*e*P	**Pn**	**02 55 06.2**	**+2.3**
PB09	**IPOC Station P**	**3.08**	**322**	*e*P	**Pn**	**02 55 06.6**	**+2.1**
PB09				*i* S	**Sn**	**02 55 43.6**	**-0.9**
PB09				IAML		02 55 44.5	
	comp=N,66nm,0.2s						
PB09	**IPOC Station P**	**3.08**	**322**	*e*P	**Pn**	**02 55 06.7**	**+2.1**
PB09				*e*S	**Sn**	**02 55 44.1**	**-0.4**
PB09				IAML		02 55 46.0	
	comp=Z,56nm,0.6s						
PB04	**IPOC Station P**	**3.31**	**305**	*e*P	**Pn**	**02 55 08.2**	**+0.9**
PB04				*i* S	**Sn**	**02 55 46.3**	**-3.1**
PB04				IAML		02 55 49.6	
	comp=N,81nm,0.3s						
PB04	**IPOC Station P**	**3.31**	**305**	*e*P	**Pn**	**02 55 08.9**	**+1.5**
PB04				*e*S	**Sn**	**02 55 48.2**	**-1.2**
PB04				IAML		02 55 49.6	
	comp=Z,56nm,0.1s						
AC01	**Pan de Azucar**	**3.61**	**238**	*e*P	**Pn**	**02 55 11.4**	**+0.7**
AC01				*i* S	**Sn**	**02 55 53.4**	**-2.1**
AC01	**Pan de Azucar**	**3.61**	**238**	*e*P	**Pn**	**02 55 11.6**	**+0.9**
AC01				IAML		02 55 54.0	
	comp=Z,30nm,1.0s						
AC01				*e*S	**Sn**	**02 55 54.1**	**-1.5**
PB01	**IPOC Station P**	**3.83**	**326**	*e*P	**Pn**	**02 55 14.7**	**+1.2**
PB01				*i* S	**Sn**	**02 55 57.8**	**-2.7**
PB01	**IPOC Station P**	**3.83**	**326**	*e*P	**Pn**	**02 55 14.9**	**+1.4**
PB01				*e*S	**Sn**	**02 55 58.0**	**-2.6**
PB01				IAML		02 56 00.0	
	comp=Z,41nm,0.2s						
GO03	**Copiapo**	**4.30**	**219**	*e*P	**Pn**	**02 55 20.5**	**+1.2**
GO03				*e*S	**Sn**	**02 56 10.1**	**-1.0**
PB08	**IPOC Station P**	**4.47**	**336**	*e*P	**Pn**	**02 55 24.0**	**+2.1**
PB08				*e*S	**Sn**	**02 56 14.4**	**-1.1**
PB08				IAML		02 56 16.1	
	comp=Z,11nm,0.3s						
HMBC	**Humberstone**	**4.67**	**327**	*e*P	**Pn**	**02 55 25.3**	**+1.2**
HMBC				IAML		02 56 20.3	
	comp=Z,19nm,0.3s						
GO01	**Chusmiza**	**4.92**	**338**	*e*P	**Pn**	**02 55 30.4**	**+2.8**
AC04	**Llanos de Chal**	**5.25**	**221**	*e*P	**Pn**	**02 55 31.9**	**+0.6**
AC04				*e*S	**Sn**	**02 56 30.7**	**-1.9**
AC04				IAML		02 56 57.7	
	comp=Z,23nm,2.0s						

*TEH **26** 02:54:26.4, 34°.38N×45°.71E, h12km±19km, ML3.0*
*ISN **26** 02:54:27.4±1.3, 34°.44N×45°.72E, h18km±9km, ML3.0*
ISC 26 02:54:26.7±1.0, 34°.37N±0°.03×45°.69E±0°.04, h16km±10km, n15, σ1s 24/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.16**	**328**	Pg	**Pg**	**02 54 30.2**	**-0.7**
GLG1	**Gilan-e-Gharb**	**0.31**	**145**	Pg	**Pg**	**02 54 33.1**	**-0.2**
IDHR	**Dehrash**	**0.66**	**60**	Pg	**Pg**	**02 54 39.2**	**-0.5**
IDHR				Sg	**Sb**	**02 54 48.3**	**-0.8**
IGHG	**Ghaleghazi**	**0.72**	**93**	Pg	**Pb**	**02 54 41.1**	**-0.1**
ILBA	**Ilam Banvizeh**	**0.86**	**150**	Pg	**Pg**	**02 54 42.7**	**-0.6**
ILIN	**Lien**	**1.18**	**62**	Pg	**Pg**	**02 54 49.6**	**0.0**
IBDR	**Badra**	**1.27**	**171**	*e*Pg	**Pg**	**02 54 51.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**02 55 10.0**	**+2.2**
IKRK	**Kirkuk**	**1.52**	**313**	*e*Pn	**Pb**	**02 54 55.0**	**+0.5**
IKRK				*e*Sn	**Sg**	**02 55 16.0**	**+0.4**
IKRK				AML	AML	02 55 20.6	
	comp=N,208nm,0.2s						
IKRK				AML	AML	02 55 24.8	
	comp=E,295nm,0.5s						
BHD	**Baghdad**	**1.55**	**225**	*e*Pn	**Pg**	**02 54 56.0**	**-0.5**
BHD				*e*Sn	**Sg**	**02 55 18.0**	**+1.4**
SNQR	**Sonqor, Kerman**	**1.67**	**72**	Pg	**Pg**	**02 54 58.4**	**-0.5**
SDS1	**Sardasht. Az.**	**1.79**	**355**	Pg	**Pb**	**02 54 58.7**	**-0.5**
IDOB	**Doab**	**2.14**	**105**	Pn	**Pb**	**02 55 04.0**	**-1.3**
MAHB	**Mahabad**	**2.39**	**0**	Pn	**Pb**	**02 55 07.7**	**-1.9**
HSAM	**Samen**	**2.41**	**93**	Pn	**Pn**	**02 55 07.7**	**+1.8**
RAFI	**Al-Rafai**	**2.66**	**172**	*e*Pn	**Pb**	**02 55 12.0**	**-2.0**
RAFI				*e*Sn	**Sb**	**02 55 45.0**	**-1.5**

ROM 26 03:03:23.1±0.1, 42°.491N±0°.004×13°.313E±0°.005, h12km±1km, ML2.1/17, 4C-2D, Error ellipse: s-maj=0.4km s-min=0.1km az=161.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.07**	**284**	⇑P	Pg	03 03 26.0	+0.3
RM33				S	Sg	03 03 27.8	+0.2
RM33				AML	AML		
	comp=E,2260μm,1.1s						
RM33				AML	AML		
	comp=E,2365μm,1.1s						
RM33				AML	AML		
	comp=N,1053μm,0.2s						
RM33				AML	AML		
	comp=N,1090μm,0.2s						
RM33				AML	AML		
	comp=N,1090μm,1.8s						
RM33				AML	AML		
	comp=N,1053μm,1.8s						
RM33				AML	AML		
	comp=E,1947μm,0.3s						
RM33				AML	AML		
	comp=E,1917μm,0.3s						
RM33				AML	AML		
	comp=N,953μm,0.1s						
RM33				AML	AML		
	comp=N,934μm,0.1s						
CAMP	**Campotosto**	**0.08**	**58**	⇓P	Pg	03 03 26.2	+0.4
CAMP				S	Sg	03 03 28.2	+0.3
CAMP				AML	AML		
	comp=N,811μm,0.4s						
CAMP				AML	AML		
	comp=E,468μm,0.7s						
CAMP				AML	AML		
	comp=E,388μm,0.4s						
CAMP				AML	AML		
	comp=N,811μm,0.4s						
SMA1	**SAN MARTINO**	**0.14**	**7**	⇓P	Pg	03 03 27.1	+0.5
SMA1				S	Sg	03 03 30.0	+0.9
SMA1				AML	AML		
	comp=N,2670μm,0.4s						
SMA1				AML	AML		
	comp=E,1098μm,1.4s						
SMA1				AML	AML		
	comp=E,1098μm,0.6s						
SMA1				AML	AML		
	comp=N,2667μm,0.4s						
GIGS	**Gran Sasso**	**0.19**	**102**	P	Pg	03 03 27.6	+0.3
GIGS				S	Sg	03 03 30.8	+0.5
GIGS				AML	AML		
	comp=E,55μm,0.3s						
LNSS	**Leonessa**	**0.23**	**299**	⇑P	Pg	03 03 28.4	+0.4
LNSS				S	Sg	03 03 32.4	+1.1
LNSS				AML	AML		
	comp=N,529μm,0.1s						
LNSS				AML	AML		
	comp=E,954μm,0.2s						
LNSS				AML	AML		
	comp=E,984μm,0.1s						
LNSS				AML	AML		
	comp=N,634μm,0.2s						
LNSS				AML	AML		
	comp=N,529μm,0.1s						
LNSS				AML	AML		
	comp=E,983μm,0.1s						
LNSS				AML	AML		
	comp=N,634μm,0.2s						
LNSS				AML	AML		
	comp=E,954μm,0.2s						
TERO	**Teramo**	**0.25**	**58**	P	Pg	03 03 28.6	+0.2
TERO				S	Sg	03 03 32.7	+0.8
TERO				AML	AML		
	comp=E,197μm,0.6s						
TERO				AML	AML		
	comp=N,254μm,1.4s						
TERO				AML	AML		
	comp=N,254μm,0.6s						
TERO				AML	AML		
	comp=N,241μm,0.4s						
TERO				AML	AML		
	comp=E,157μm,0.1s						
FIAM	**Fiamignano**	**0.27**	**213**	P	Pg	03 03 28.9	+0.3
FIAM				S	Sg	03 03 33.2	+0.9
FIAM				AML	AML		
	comp=N,100μm,1.2s						
FIAM				AML	AML		
	comp=E,96μm,0.2s						
FIAM				AML	AML		
	comp=N,100μm,0.8s						
FIAM				AML	AML		
	comp=N,80μm,0.5s						
FIAM				AML	AML		
	comp=E,96μm,0.2s						
FIAM				AML	AML		
	comp=N,160μm,0.4s						
MTRA	**Matera**	**0.27**	**13**	⇑P	Pg	03 03 29.0	+0.3
MTRA				S	Sg	03 03 33.2	+0.7
MTRA				AML	AML		
	comp=E,828μm,0.2s						
MTRA				AML	AML		
	comp=E,842μm,0.2s						
MTRA				AML	AML		
	comp=N,1380μm,0.1s						
MTRA				AML	AML		
	comp=N,1345μm,0.1s						
MTRA				AML	AML		
	comp=N,1378μm,0.1s						
MTRA				AML	AML		
	comp=E,828μm,0.2s						
MTRA				AML	AML		
	comp=E,841μm,0.2s						
MTRA				AML	AML		
	comp=N,1344μm,0.1s						
FAGN	**Fagnano**	**0.30**	**138**	P	Pb	03 03 30.0	-0.4
FAGN				AML	AML		
	comp=E,328μm,1.2s						
FAGN				AML	AML		
	comp=N,308μm,1.5s						
FAGN				AML	AML		
	comp=N,308μm,0.5s						
FAGN				AML	AML		
	comp=E,328μm,0.8s						
FAGN				AML	AML		
	comp=E,320μm,0.3s						
NRCA	**Norcia**	**0.37**	**337**	⇑P	Pg	03 03 30.7	+0.2
NRCA				S	Sg	03 03 36.3	+0.8
NRCA				AML	AML		
	comp=N,223μm,0.1s						
NRCA				AML	AML		
	comp=E,218μm,0.1s						
NRCA				AML	AML		
	comp=N,223μm,0.1s						
NRCA				AML	AML		
	comp=E,218μm,0.1s						
MMO1	**Montemonaco**	**0.41**	**1**	P	Pg	03 03 31.5	+0.3
MMO1				S	Sb	03 03 37.8	-0.7
T0110	**Collepietro**	**0.43**	**127**	P	Pg	03 03 32.0	+0.3
T0110				S	Sb	03 03 38.9	-0.4
MF5	**Montefalcone A**	**0.51**	**12**	P	Pb	03 03 33.6	-0.5
FDMO	**Fiordimonte**	**0.57**	**343**	P	Pg	03 03 34.2	0.0
FDMO				S	Sb	03 03 43.0	-0.2
FDMO				AML	AML		
	comp=E,171μm,0.1s						
FDMO				AML	AML		
	comp=N,198μm,0.2s						
FDMO				AML	AML		
	comp=N,198μm,1.8s						
FDMO				AML	AML		
	comp=E,171μm,1.9s						

ROM 26 03:03:39.0±0.1, 42°.487N±0°.004×13°.316E±0°.006, h10km, ML2.0/12, 5C-2D, Error ellipse: s-maj=0.5km s-min=0.4km az=45.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.08**	**286**	⇑*i*P	Pg	03 03 41.9	+0.4
RM33				S	Sg	03 03 43.7	+0.3
RM33				AML	AML		
	comp=N,6570μm,0.2s						
RM33				AML	AML		
	comp=E,6145μm,1.1s						
RM33				AML	AML		
	comp=N,6740μm,0.2s						
RM33				AML	AML		
	comp=E,6175μm,1.1s						
RM33				AML	AML		
	comp=E,5487μm,0.4s						
RM33				AML	AML		
	comp=E,5292μm,0.4s						
RM33				AML	AML		
	comp=N,6739μm,0.2s						
RM33				AML	AML		
	comp=N,6570μm,0.2s						
CAMP	**Campotosto**	**0.08**	**54**	⇑*i*P	Pg	03 03 42.1	+0.5
CAMP				S	Sg	03 03 44.1	+0.6
SMA1	**SAN MARTINO**	**0.14**	**6**	P	Pg	03 03 43.0	+0.5
SMA1				S	Sg	03 03 45.4	+0.6
SMA1				AML	AML		
	comp=E,2320μm,0.3s						
SMA1				AML	AML		
	comp=N,955μm,0.2s						
GIGS	**Gran Sasso**	**0.19**	**101**	⇑*i*P	Pg	03 03 43.5	+0.4
GIGS				S	Sg	03 03 46.9	+0.9
GIGS				AML	AML		
	comp=N,344μm,0.7s						
GIGS				AML	AML		
	comp=E,214μm,1.1s						
GIGS				AML	AML		
	comp=E,168μm,0.1s						
GIGS				AML	AML		
	comp=N,240μm,0.2s						
LNSS	**Leonessa**	**0.23**	**300**	⇑*i*P	Pg	03 03 44.3	+0.4
LNSS				S	Sg	03 03 48.5	+1.2
LNSS				AML	AML		
	comp=E,2455μm,0.2s						
LNSS				AML	AML		
	comp=N,1785μm,0.2s						
LNSS				AML	AML		
	comp=E,2390μm,0.2s						
LNSS				AML	AML		
	comp=N,1585μm,0.2s						
LNSS				AML	AML		
	comp=E,2390μm,0.1s						
LNSS				AML	AML		
	comp=E,2453μm,0.2s						
LNSS				AML	AML		
	comp=N,1782μm,0.2s						
LNSS				AML	AML		
	comp=N,1588μm,0.2s						
TERO	**Teramo**	**0.25**	**57**	⇓*i*P	Pg	03 03 44.5	+0.2
TERO				S	Sg	03 03 48.5	+0.8
TERO				AML	AML		
	comp=E,300μm,0.2s						
TERO				AML	AML		
	comp=E,539μm,0.2s						
TERO				AML	AML		
	comp=N,668μm,1.2s						
TERO				AML	AML		
	comp=N,668μm,0.8s						
TERO				AML	AML		
	comp=E,300μm,0.2s						
TERO				AML	AML		
	comp=N,340μm,0.4s						
TERO				AML	AML		
	comp=N,501μm,0.1s						
FIAM	**Fiamignano**	**0.26**	**214**	P	Pg	03 03 44.9	+0.5
FIAM				S	Sg	03 03 48.8	+0.7
FIAM				AML	AML		
	comp=N,186μm,1.1s						
FIAM				AML	AML		
	comp=E,258μm,0.6s						
FIAM				AML	AML		
	comp=N,149μm,0.7s						
FIAM				AML	AML		
	comp=N,316μm,0.7s						
FIAM				AML	AML		
	comp=E,259μm,0.6s						
MTRA	**Matera**	**0.28**	**12**	P	Pg	03 03 44.9	+0.2
MTRA				S	Sg	03 03 49.2	+0.7
FAGN	**Fagnano**	**0.30**	**138**	P	Pb	03 03 45.9	-0.6
FAGN				AML	AML		
	comp=E,792μm,0.2s						
FAGN				AML	AML		
	comp=N,980μm,0.3s						
FAGN				AML	AML		
	comp=E,792μm,0.2s						
NRCA	**Norcia**	**0.38**	**337**	⇑*i*P	Pg	03 03 46.6	+0.1
NRCA				S	Sg	03 03 52.5	+1.0
NRCA				AML	AML		
	comp=E,1300μm,0.5s						
NRCA				AML	AML		
	comp=N,648μm,0.8s						
NRCA				AML	AML		
	comp=N,648μm,1.2s						
NRCA				AML	AML		
	comp=E,1300μm,1.5s						
NRCA				AML	AML		
	comp=E,1225μm,0.2s						
NRCA				AML	AML		
	comp=E,1227μm,0.2s						
NRCA				AML	AML		
	comp=N,650μm,0.1s						
VCEL	**Villa Celiera**	**0.40**	**103**	P	Pg	03 03 47.5	+0.5
VCEL				S	Sb	03 03 54.1	-0.3
MMO1	**Montemonaco**	**0.41**	**1**	P	Pg	03 03 47.3	+0.1
MMO1				S	Sg	03 03 53.8	+1.1
T0110	**Collepietro**	**0.43**	**127**	⇓*i*P	Pg	03 03 47.9	+0.3
T0110				S	Sg	03 03 54.1	+0.9
T0110				AML	AML		
	comp=E,368μm,1.6s						
T0110				AML	AML		
	comp=N,354μm,1.1s						
T0110				AML	AML		
	comp=E,368μm,0.4s						
MC2	**Monte Cornacci**	**0.44**	**348**	P	Pb	03 03 48.9	-0.1
MC2				S	Sb	03 03 54.9	-0.8
PTQR	**Pietraquaria**	**0.47**	**172**	P	Pb	03 03 49.3	-0.1
MF5	**Montefalcone A**	**0.51**	**12**	P	Pb	03 03 49.7	-0.5
MF5				S	Sb	03 03 57.5	-0.2
MF5				AML	AML		
	comp=N,348μm,0.4s						
CESX	**Cesi**	**0.56**	**283**	P	Pg	03 03 49.7	-0.2
CESX				S	Sb	03 03 58.3	-0.6
CESX				AML	AML		
	comp=E,93μm,0.6s						
FDMO	**Fiordimonte**	**0.57**	**343**	P	Pb	03 03 51.0	-0.3
FDMO				S	Sb	03 03 58.9	-0.5
FDMO				AML	AML		
	comp=E,171μm,0.1s						
FDMO				AML	AML		
	comp=N,198μm,0.2s						
FDMO				AML	AML		
	comp=N,198μm,1.8s						
FDMO				AML	AML		
	comp=E,171μm,1.9s						
FDMO				AML	AML		
	comp=N,198μm,0.2s						
FDMO				AML	AML		
	comp=E,171μm,0.1s						
MOMA	**Monte Martano**	**0.64**	**300**	P	Pg	03 03 51.5	+0.1
MOMA				S	Sb	03 04 00.6	-0.6
MOMA				AML	AML		
	comp=E,225μm,1.5s						
MOMA				AML	AML		
	comp=N,219μm,1.3s						
MOMA				AML	AML		
	comp=N,219μm,0.7s						
MOMA				AML	AML		
	comp=E,225μm,0.5s						
MOMA				AML	AML		
	comp=N,214μm,0.3s						
INTR	**Introdacqua**	**0.65**	**137**	P	Pg	03 03 51.5	-0.1
INTR				S	Sb	03 04 01.5	0.0

ROM 26 03:04:18.5±0.1, 42°.487N±0°.003×13°.309E±0°.004, h12km, ML2.2/25, 5C-3D, Error ellipse: s-maj=0.3km s-min=0.1km az=65.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RM33	**Pellescritta (**	**0.07**	**287**	⇓*i*P	Pg	03 04 21.4	+0.2
RM33				S	Sg	03 04 23.2	0.0
RM33				AML	AML		
	comp=E,6615μm,0.3s						
RM33				AML	AML		
	comp=E,6535μm,0.2s						
RM33				AML	AML		
	comp=N,3170μm,1.1s						
RM33				AML	AML		
	comp=N,2980μm,1.1s						
RM33				AML	AML		
	comp=E,6615μm,0.2s						
RM33				AML	AML		
	comp=E,6535μm,0.2s						
CAMP	**Campotosto**	**0.09**	**57**	⇑*i*P	Pg	03 04 21.7	+0.3
CAMP				S	Sg	03 04 23.6	+0.1
CAMP				AML	AML		
	comp=E,1475μm,0.7s						
CAMP				AML	AML		
	comp=N,2290μm,0.4s						
CAMP				AML	AML		
	comp=N,2290μm,1.6s						
CAMP				AML	AML		
	comp=E,1475μm,1.3s						
CAMP				AML	AML		
	comp=E,1122μm,0.3s						
CAMP				AML	AML		
	comp=N,2294μm,0.4s						
SMA1	**SAN MARTINO**	**0.14**	**8**	P	Pg	03 04 22.5	+0.3
SMA1				S	Sg	03 04 25.3	+0.6
SMA1				AML	AML		
	comp=E,20500μm,0.3s						
SMA1				AML	AML		
	comp=N,12285μm,0.2s						
SMA1				AML	AML		
	comp=N,12285μm,1.8s						
SMA1				AML	AML		
	comp=N,12304μm,0.2s						

SMA1				AML	AML	
	comp=E,20481μm,0.3s					
GIGS	**Gran Sasso**	**0.20 101**	⇑ *i* P		Pg	03 04 23.1 +0.2
GIGS				S	Sg	03 04 26.3 +0.3
GIGS				AML	AML	
	comp=N,406μm,0.7s					
GIGS				AML	AML	
	comp=E,370μm,1.1s					
GIGS				AML	AML	
	comp=E,370μm,0.9s					
GIGS				AML	AML	
	comp=N,406μm,1.3s					
GIGS				AML	AML	
	comp=E,230μm,0.3s					
LNSS	**Leonessa**	**0.23 300**	⇓ *i* P		Pg	03 04 23.8 +0.3
LNSS				S	Sg	03 04 27.6 +0.8
LNSS				AML	AML	
	comp=E,4040μm,0.1s					
LNSS				AML	AML	
	comp=N,2815μm,0.2s					
LNSS				AML	AML	
	comp=E,4040μm,0.2s					
LNSS				AML	AML	
	comp=E,4170μm,0.1s					
LNSS				AML	AML	
	comp=N,3205μm,0.2s					
LNSS				AML	AML	
	comp=E,4170μm,1.9s					
LNSS				AML	AML	
	comp=E,4040μm,1.9s					
LNSS				AML	AML	
	comp=N,3205μm,1.8s					
LNSS				AML	AML	
	comp=N,2812μm,0.2s					
LNSS				AML	AML	
	comp=E,4170μm,0.1s					
LNSS				AML	AML	
	comp=N,3206μm,0.2s					
LNSS				AML	AML	
	comp=E,4040μm,0.1s					
TERO	**Teramo**	**0.26 58**		P	Pg	03 04 24.0 0.0
TERO				S	Sg	03 04 28.1 +0.5
TERO				AML	AML	
	comp=E,316μm,0.9s					
TERO				AML	AML	
	comp=N,280μm,1.5s					
TERO				AML	AML	
	comp=E,316μm,0.9s					
TERO				AML	AML	
	comp=N,281μm,1.5s					
TERO				AML	AML	
	comp=N,550μm,0.4s					
TERO				AML	AML	
	comp=E,316μm,0.8s					
TERO				AML	AML	
	comp=E,512μm,0.7s					
TERO				AML	AML	
	comp=N,280μm,0.5s					
TERO				AML	AML	
	comp=N,499μm,0.2s					
TERO				AML	AML	
	comp=E,463μm,0.2s					
FIAM	**Fiamignano**	**0.26 213**	⇑ *i* P		Pg	03 04 24.4 +0.4
FIAM				S	Sg	03 04 28.6 +0.9
FIAM				AML	AML	
	comp=E,332μm,0.5s					
FIAM				AML	AML	
	comp=N,215μm,0.9s					
FIAM				AML	AML	
	comp=E,731μm,0.4s					
FIAM				AML	AML	
	comp=E,333μm,0.5s					
MTRA	**Matera**	**0.28 13**	⇑ *i* P		Pg	03 04 24.4 +0.1
MTRA				S	Sg	03 04 28.6 +0.4
MTRA				AML	AML	
	comp=E,7140μm,0.2s					
MTRA				AML	AML	
	comp=N,5360μm,0.4s					
MTRA				AML	AML	
	comp=E,7140μm,0.2s					
MTRA				AML	AML	
	comp=E,7095μm,0.2s					
MTRA				AML	AML	
	comp=N,5415μm,0.4s					
MTRA				AML	AML	
	comp=E,7095μm,1.8s					
MTRA				AML	AML	
	comp=E,7140μm,1.8s					
MTRA				AML	AML	
	comp=N,5001μm,0.1s					
MTRA				AML	AML	
	comp=E,7143μm,0.2s					
MTRA				AML	AML	
	comp=E,7094μm,0.2s					
MTRA				AML	AML	
	comp=N,4947μm,0.1s					
FAGN	**Fagnano**	**0.30 137**		P	Pb	03 04 25.6 -0.2
FAGN				AML	AML	
	comp=N,1285μm,1.2s					
FAGN				AML	AML	
	comp=N,1285μm,0.8s					
FAGN				AML	AML	
	comp=E,2140μm,0.3s					
NRCA	**Norcia**	**0.38 338**		P	Pg	03 04 26.1 0.0
NRCA				S	Sg	03 04 31.8 +0.7
NRCA				AML	AML	
	comp=E,931μm,0.1s					
NRCA				AML	AML	
	comp=N,777μm,1.2s					
NRCA				AML	AML	
	comp=E,931μm,1.9s					
NRCA				AML	AML	
	comp=N,749μm,0.1s					
NRCA				AML	AML	
	comp=E,928μm,0.1s					
NRCA				AML	AML	
	comp=E,931μm,0.1s					
VCEL	**Villa Celiera**	**0.40 103**		P	Pb	03 04 27.2 -0.4
VCEL				S	Sb	03 04 33.2 -0.6
VCEL				AML	AML	
	comp=N,1165μm,0.9s					
VCEL				AML	AML	
	comp=E,842μm,1.6s					
VCEL				AML	AML	
	comp=E,842μm,0.4s					
MMO1	**Montemonaco**	**0.41 2**		P	Pg	03 04 26.8 +0.1
MMO1				S	Sg	03 04 33.0 +0.7
MC2	**Monte Cornacci**	**0.43 348**	⇓ *i* P		Pg	03 04 27.2 +0.1
MC2				S	Sb	03 04 34.2 -0.6
T0110	**Collepietro**	**0.43 127**		P	Pg	03 04 27.4 +0.2
T0110				S	Sb	03 04 34.4 -0.3
T0110				AML	AML	
	comp=N,862μm,0.3s					
T0110				AML	AML	
	comp=E,624μm,0.4s					
T0110				AML	AML	
	comp=N,864μm,0.3s					
T0110				AML	AML	
	comp=E,624μm,0.4s					
PTQR	**Pietraquaria**	**0.47 172**		P	Pg	03 04 27.8 0.0
PTQR				S	Sb	03 04 34.9 -0.8
PTQR				AML	AML	
	comp=E,90μm,0.3s					
MF5	**Montefalcone A**	**0.51 12**		P	Pg	03 04 29.0 +0.4
MF5				S	Sb	03 04 37.0 +0.1
MF5				AML	AML	
	comp=E,378μm,0.3s					
MF5				AML	AML	
	comp=N,457μm,0.4s					
TRTR	**Tortoreto Alta**	**0.55 54**		P	Pb	03 04 30.2 +0.1
CESX	**Cesi**	**0.55 283**		P	Pg	03 04 29.0 -0.3
CESX				S	Sg	03 04 37.0 +0.3
CESX				AML	AML	
	comp=N,265μm,0.3s					
CESX				AML	AML	
	comp=E,161μm,0.2s					
FDMO	**Fiordimonte**	**0.57 344**		P	Pg	03 04 29.6 -0.2
FDMO				S	Sb	03 04 38.2 -0.4
FDMO				AML	AML	
	comp=N,194μm,1.4s					
FDMO				AML	AML	
	comp=N,194μm,1.4s					
FDMO				AML	AML	
	comp=E,186μm,0.5s					
FDMO				AML	AML	
	comp=N,169μm,0.3s					
FDMO				AML	AML	
	comp=E,182μm,0.2s					
CERT	**Cerreto**	**0.59 204**		P	Pg	03 04 29.9 -0.2
CERT				S	Sb	03 04 38.6 -0.5
CERT				AML	AML	
	comp=E,217μm,1.5s					
CERT				AML	AML	
	comp=N,117μm,1.0s					
CERT				AML	AML	
	comp=N,117μm,1.0s					
CERT				AML	AML	
	comp=E,217μm,0.5s					
CESI	**CESI - Serrava**	**0.60 330**	⇑ *i* P		Pg	03 04 30.0 -0.2
CESI				S	Sb	03 04 39.1 -0.2
CESI				AML	AML	
	comp=N,280μm,0.3s					
CESI				AML	AML	
	comp=E,156μm,1.6s					
CESI				AML	AML	
	comp=N,280μm,1.7s					
CESI				AML	AML	
	comp=E,156μm,0.4s					
CESI				AML	AML	
	comp=N,280μm,0.3s					
CESI				AML	AML	
	comp=E,136μm,0.2s					
MOMA	**Monte Martano**	**0.63 300**		P	Pg	03 04 30.8 0.0
MOMA				S	Sb	03 04 40.0 -0.3
MOMA				AML	AML	
	comp=E,256μm,1.2s					
MOMA				AML	AML	
	comp=N,356μm,1.0s					
MOMA				AML	AML	
	comp=E,256μm,0.8s					
MOMA				AML	AML	
	comp=N,313μm,0.4s					
MOMA				AML	AML	
	comp=N,458μm,0.4s					
INTR	**Introdacqua**	**0.65 137**		P	Pg	03 04 30.8 -0.3
VVLD	**Villa Vallelon**	**0.66 159**		P	Pb	03 04 31.9 0.0
ASSB	**Assisi San Ben**	**0.73 319**		P	Pg	03 04 32.4 -0.3
LPEL	**Lama dei Pelig**	**0.78 124**		P	Pg	03 04 32.9 -0.8
LPEL				S	Sg	03 04 43.9 -0.1
LPEL				AML	AML	
	comp=E,182μm,0.3s					

*JMA **26** 03:11:41.4±0.6, 44°N±3°×14°8E±°, h0km, MV3.6/10, SE OFF ETOROFU*
*SKHL **26** 03:11:42.0±0.7, 44°.30N×148°.20E, h40km±9km, mb4.5/3*
ISC 26 03:11:40.9±4.1, **44°.3N**±0°.1×**148°.0E**±0°.2, **h17**km±27km, **n9,**
σ0**9**67/17, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.93**	**354**	*e* P	**Pb**	**03 11 58.4**	**-0.2**
KUR				AMB	AMB	03 11 58.8	
	170nm,0.2s						
KUR				*i* S	**Sb**	**03 12 10.2**	**-0.5**
KUR				A	A	03 12 10.9	
	160nm,0.2s						
KUR				A	A	03 12 10.9	
	310nm,0.2s						
SHO	**Shikotan**	**0.95**	**243**	*i* P	**Pn**	**03 11 59.8**	**+0.3**
SHO				AMB	AMB	03 11 59.9	
	70nm,0.2s						
SHO				*e* S	**Sn**	**03 12 12.5**	**-0.1**
SHO				A	A	03 12 12.8	
	170nm,0.2s						
SHO				A	A	03 12 12.8	
	650nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.56**	**261**	*e* P	**Pb**	**03 12 09.2**	**-0.1**
YUK				AMB	AMB	03 12 09.8	
	150nm,0.2s						
YUK				*e* S	**Sb**	**03 12 28.9**	**+0.1**
YUK				A	A	03 12 32.2	
	230nm,0.3s						
YUK				A	A	03 12 32.2	
	120nm,0.3s						
NEM2	**Nemuro 2**	**1.88**	**241**	*e* P	**Pn**	**03 12 12.5**	**+0.2**
NEM2				*e* S	**Sn**	**03 12 35.1**	**-0.6**
NMR	**Nemuro--Hokkai**	**1.89**	**241**	*e* P	**Pn**	**03 12 12.5**	**+0.1**
NMR				*e* S	**Sn**	**03 12 35.6**	**-0.2**
JRA	**Rausu**	**2.10**	**261**	*e* P	**Pb**	**03 12 17.7**	**-0.8**
JRA				*e* S	**Sb**	**03 12 44.4**	**0.0**
JNK	**Nakash**	**2.48**	**254**	*e* P	**Pn**	**03 12 22.2**	**+1.7**
AKK	**Akkeshi**	**2.63**	**242**	*e* P	**Pn**	**03 12 23.3**	**+0.7**
AKK				*e* S	**Sn**	**03 12 54.0**	**0.0**
JAK	**Akkeshi**	**2.73**	**242**	*e* P	**Pn**	**03 12 24.7**	**+0.7**
JAK				*e* S	**Sn**	**03 12 56.0**	**-0.5**

MIRAS 26 03:19:02.0, 54°.68N×58°.13E, h3km, ML2.0/3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KI04	**Katav-Ivanovsk**	**0.06**	**9**	*i* P	Pg	03 19 03.8	+0.6
	2μm,0.1s						
KI04				S	Sg	03 19 04.3	+0.3
	5μm,0.1s						
KI04				*i* AML	AML	03 19 04.3	
	5μm,0.1s						
KI05	**Katav-Ivanovsk**	**0.19**	**352**	*e* P	Pg	03 19 05.8	+0.2
	276nm,0.1s						
KI05				S	Sg	03 19 07.7	-0.4
	202nm,0.1s						
KI05				*i* AML	AML	03 19 07.8	
	272nm,0.1s						
ARTI	**Arti**	**1.71**	**5**	P	Pb	03 19 33.8	-0.3
	1.3nm,0.4s						
ARTI				S	Sg	03 19 56.9	-0.1
	3.3nm,0.4s						
ARTI				*i* AML	AML	03 20 08.1	
	5.7nm,2.6s						

*AEIC **26** 03:28:30.4±0.9, 53°.2N±0°.1×164°.36W±0°.09, h20km±9km, Error ellipse: s-maj=16.7km s-min=6.0km az=159.0*
NEIC 26 03:28:29.1±0.6, **53°.14N**±0°.08×**164°.39W**±0°.08, **h10**km±2km, **ML2.9**(AEIC), **Error ellipse: s-maj=14.8km s-min=6.8km az=163.0, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**1.27**	**322**		Pn	03 28 52.2	-0.6
AKSA					Sb	03 29 09.2	-0.1
AHB	**Akutan Harbor**	**1.29**	**319**		Pn	03 28 53.0	-0.2
AHB					Sg	03 29 10.9	+0.2
AKBBA	**Akutan Broad B**	**1.33**	**317**		Pn	03 28 53.4	-0.3
AKBBA					Sg	03 29 11.8	0.0
ZRO	**Akutan Zero**	**1.34**	**316**		Pn	03 28 53.8	-0.1
ZRO					Sn	03 29 11.7	-0.1
AKMO	**Akutan Morgan**	**1.36**	**315**		Pn	03 28 54.0	-0.1
AKMO					Sn	03 29 12.2	+0.1
AKV	**Akutan Volcano**	**1.36**	**317**		Pn	03 28 54.1	-0.1
AKV					Sg	03 29 13.0	+0.2
AKRB	**Akutan Reef Bi**	**1.41**	**315**		Pn	03 28 54.6	-0.2
LVA	**Lava Point**	**1.42**	**317**		Pn	03 28 54.6	-0.3
AKGG	**Akutan Green G**	**1.43**	**319**		Pn	03 28 55.0	0.0
UNV	**Unalaska Valle**	**1.45**	**300**		Sn	03 29 14.3	-0.1
UNV	**Unalaska Valle**	**1.45**	**300**	Pn	Pn	03 28 54.7	-0.6
MREP	**Makushin Rep't**	**1.56**	**296**		Pn	03 28 57.2	+0.3
MTBL	**Makushin Table**	**1.60**	**302**		Pb	03 28 58.2	-0.5
MGOD	**Makushin Gods**	**1.62**	**295**		Pn	03 28 57.9	+0.1
MSW	**Makushin Switc**	**1.63**	**299**		Pn	03 28 58.1	+0.3
MAPS	**Pakushin South**	**1.67**	**295**		Pn	03 28 58.6	+0.3
ISNN	**Isanotski Nort**	**1.73**	**12**		Pn	03 29 59.0	-0.2
ISNN					Sn	03 29 21.7	+0.3
OKTU	**Okmok Mt. Tuli**	**2.21**	**278**		Pn	03 29 06.2	+0.4
CHGN	**Chignik**	**4.69**	**45**	Pn	Pn	03 29 37.9	-1.9

*IDC **26** 03:29:57.7±11.0, 18°.86N×145°.39E, h278km±112km, mb3.4/10, mbtmp4.0/10, Error ellipse: s-maj=28.5km s-min=18.6km az=64.0*
*NEIC **26** 03:29:57.9±1.1, 18°.8N±0°.1×145°.3E±0°.1, h274km±8km, mb4.1/43, Error ellipse: s-maj=21.7km s-min=15.4km az=136.0*
ISC 26 03:29:51.3±0.7, **18°.8N**±0°.1×**145°.3E**±0°.2, **h214**km, **n59,**
σ0**9**92/58, **mb4.1**/31, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	**Kuroka**	**18.12**	**339**	P	**Pn**	**03 33 50.6**	**+0.6**
JGF				IAmb	IAmb	03 33 51.5	
	comp=Z,11nm,1.0s						
JMM	**Marumori**	**19.37**	**349**	P	**Pn**	**03 34 03.8**	**-0.9**
JKA	**Kamikawa-asahi**	**25.32**	**355**	P	**P**	**03 35 00.4**	**+2.1**
MTN	**Manton Dam**	**34.41**	**205**		**P**	**03 36 21.6**	**+3.0**
WB0	**Warramunga Arr**	**39.81**	**196**	P	**P**	**03 37 03.6**	**-0.3**
WR0	**Warramunga Arr**	**39.95**	**196**	P	**P**	**03 37 05.0**	**-0.2**
WR0				IAmb	IAmb	03 37 44.0	
	comp=Z,12nm,1.5s						
WRAB	**Tennant Creek**	**39.98**	**196**	P	**P**	**03 37 06.0**	**+0.6**
WRAB				IAmb	IAmb	03 37 37.0	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**39.99**	**196**	P	**P**	**03 37 05.8**	**+0.4**
WRA	**Warramunga Arr**	**39.99**	**196**	P	**P**	**03 37 05.4**	**-0.1**
WRA	**Warramunga Arr**	**39.99**	**196**	P	**P**	**03 37 06.1**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=20,slow=8.4,SNR=11						
	comp=Z,1.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**41.45**	**209**	P	**P**	**03 37 18.0**	**+0.6**
ASAR	**Alice Springs**	**43.66**	**195**	P	**P**	**03 37 36.6**	**+1.5**
UNV	**Unalaska Valle**	**50.78**	**35**	P	**P**	**03 38 31.3**	**+1.7**
J16K	**Anvik River**	**57.52**	**26**	P	**P**	**03 39 18.7**	**+0.6**
MK31	**Makanchi Array**	**58.09**	**314**	P	**P**	**03 39 22.7**	**+0.3**
MKAR	**Makanchi Array**	**58.09**	**314**	P	**P**	**03 39 23.6**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=91,slow=8.2,SNR=7.7						
	comp=Z,0.8nm,0.6s						
H18K	**Honhosa River**	**59.18**	**24**	P	**P**	**03 39 29.3**	**-0.2**
G18K	**Tagagawik**	**59.37**	**23**	P	**P**	**03 39 30.9**	**+0.1**
D19K	**Kuna River**	**60.64**	**21**	P	**P**	**03 39 39.6**	**+0.2**
D19K				IAmb	IAmb	03 40 21.9	
	comp=Z,14nm,1.4s						
KURBB	**Kurchatov Arra**	**60.96**	**318**	P	**P**	**03 39 41.9**	**0.0**
	comp=Z,1.0nm,0.5s,baz=92,slow=7.4,SNR=13						
	comp=Z,1.0nm,0.5s						
CAST	**Castle Rocks**	**61.17**	**27**	P	**P**	**03 39 42.7**	**-0.3**
CAST				IAmb	IAmb	03 39 46.3	
	comp=Z,7.3nm,1.4s						
NRIK	**Noril'sk**	**61.36**	**340**	P	**P**	**03 39 43.9**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=146,slow=6.0,SNR=3.7						
	comp=Z,1.8nm,0.5s						
H21K	**Melozitna Rive**	**61.53**	**25**	P	**P**	**03 39 46.1**	**+0.7**
H21K				IAmb	IAmb	03 40 23.5	
	comp=Z,7.0nm,1.4s						
B21K	**Ikpikpuk River**	**62.24**	**20**	P	**P**	**03 39 49.7**	**-0.4**
B21K				IAmb	IAmb	03 39 58.9	
	comp=Z,5.5nm,1.2s						
D22K	**Ayikyak River**	**62.62**	**21**	P	**P**	**03 39 53.7**	**+1.0**
D22K				IAmb	IAmb	03 39 53.9	
	comp=Z,4.7nm,1.0s						
B22K	**Teshekpuk Lake**	**62.89**	**19**	P	**P**	**03 39 54.3**	**0.0**
D23K	**Nanushuk River**	**63.34**	**21**	P	**P**	**03 39 57.8**	**+0.5**
D23K				IAmb	IAmb	03 39 59.0	
	comp=Z,4.4nm,1.4s						
H24K	**Noodor Dome**	**63.54**	**25**	P	**P**	**03 39 58.1**	**-0.6**
H24K				IAmb	IAmb	03 40 17.6	
	comp=Z,6.2nm,1.4s						
TOLK	**Toolik Lake Re**	**63.63**	**22**	P	**P**	**03 39 60.0**	**+0.7**
TOLK				IAmb	IAmb	03 40 00.8	
	comp=Z,10nm,1.3s						
C23K	**Itkillik River**	**63.63**	**20**	P	**P**	**03 39 59.4**	**+0.3**
C23K				IAmb	IAmb	03 40 20.7	
	comp=Z,4.7nm,1.2s						
ILAR	**Eielson Array**	**63.71**	**26**	P	**P**	**03 39 58.5**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=256,slow=5.9,SNR=8.3						
	comp=Z,0.8nm,0.7s						
D25K	**Kavik River**	**64.92**	**21**	P	**P**	**03 40 08.0**	**+0.4**
D25K				IAmb	IAmb	03 40 47.6	
	comp=Z,5.0nm,1.4s						
BMAR	**Burnt Mountain**	**65.16**	**24**	P	**P**	**03 40 09.8**	**+0.6**
BVAR	**Borovoye Array**	**66.12**	**320**	P	**P**	**03 40 15.6**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=88,slow=6.9,SNR=12						
	comp=Z,2.0nm,0.5s						
KKAR	**Karatay Array**	**66.38**	**310**	P	**P**	**03 40 17.5**	**0.0**
D27M	**Malcolm River**	**66.79**	**22**	P	**P**	**03 40 19.9**	**+0.3**
D27M				IAmb	IAmb	03 40 37.2	
	comp=Z,4.4nm,1.5s						
F28M	**Old Crow**	**66.98**	**24**	P	**P**	**03 40 21.2**	**+0.5**
F28M				IAmb	IAmb	03 40 31.0	
	comp=Z,6.2nm,1.4s						
M29M	**Somme Creek**	**67.14**	**29**	P	**P**	**03 40 22.0**	**+0.1**
H29M	**Whitestone**	**67.44**	**25**	P	**P**	**03 40 23.0**	**-0.7**
H29M				IAmb	IAmb	03 40 51.2	
	comp=Z,7.8nm,1.5s						
G30M	**tAoh Zraii Nji**	**68.34**	**24**	P	**P**	**03 40 28.6**	**-0.7**
G30M				IAmb	IAmb	03 40 40.0	
	comp=Z,11nm,1.5s						
G31M	**Satah River**	**69.11**	**25**	P	**P**	**03 40 33.7**	**-0.2**
A36M	**Sachs Harbour**	**72.09**	**19**	P	**P**	**03 40 51.6**	**-0.3**
A36M				IAmb	IAmb	03 41 16.6	
	comp=Z,5.5nm,1.4s						
ABKAR	**Akbulak array**	**72.97**	**317**	P	**P**	**03 40 56.8**	**-0.7**
ABKAR				IAmb	IAmb	03 40 58.2	
	comp=Z,1.3nm,0.4s						
YKA	**Yellowknife Ar**	**78.07**	**28**	P	**P**	**03 41 25.3**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=290,slow=6.0,SNR=6.5						
	comp=Z,0.5nm,0.6s						
LTY	**Liberty**	**79.10**	**44**	P	**P**	**03 41 31.6**	**-0.6**
B08A	**Colville Reser**	**79.66**	**42**	P	**P**	**03 41 34.9**	**-0.3**
B08A				IAmb	IAmb	03 41 56.0	
	comp=Z,6.0nm,1.4s						
J05D	**Fort Rock, OR**	**79.81**	**48**	P	**P**	**03 41 36.4**	**+0.2**
J05D				IAmb	IAmb	03 41 36.5	
	comp=Z,4.2nm,1.2s						
PINE	**Pine Mountain**	**79.87**	**47**	P	**P**	**03 41 36.9**	**+0.3**
PINE				IAmb	IAmb	03 41 37.7	
	comp=Z,3.1nm,0.7s						
YERR	**Yerington**	**82.51**	**51**	P	**P**	**03 41 49.9**	**-0.6**
KVN	**Kaiserville**	**83.33**	**51**	P	**P**	**03 41 54.5**	**-0.2**
NVAR	**Mina Array Bea**	**83.38**	**52**	P	**P**	**03 41 54.7**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=266,slow=5.9,SNR=14						
	comp=Z,1.7nm,0.6s						
NV11	**Mina Array Sit**	**83.49**	**52**	P	**P**	**03 41 55.2**	**-0.3**
DSP	**Deep Springs**	**83.97**	**53**	P	**P**	**03 41 58.0**	**+0.3**
MZP	**Montezuma Peak**	**84.30**	**52**	P	**P**	**03 41 59.2**	**-0.6**
FINES	**FINESS Array B**	**86.60**	**335**	P	**P**	**03 42 08.0**	**-2.3**
	comp=Z,0.7nm,0.4s,baz=48,slow=4.4,SNR=12						
	comp=Z,0.7nm,0.4s						
PDAR	**Pinedale Array**	**88.03**	**45**	P	**P**	**03 42 16.8**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=144,slow=1.3,SNR=4.2						
	comp=Z,0.1nm,0.3s						
BAUV	**El Baul**	**137.10**	**53**	PKPpre	PKPpre	03 48 35.3	
LPAZ	**La Paz**	**148.08**	**91**	PKPbc	**PKPdf**	**03 49 11.6**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=26,slow=6.4,SNR=4.7						
TRQA	**Tornquist**	**149.49**	**135**	PKPbc	**PKPbc**	**03 49 13.4**	**-2.1**

*RSNC **26** 03:43:03.8±0.0, 13°N±1°×8°1W±°, h3km±2km, M4.7, mB5.4, mb5.1, ML4.4, Mw4.8, Mw(mB)4.8, MwMwp4.6, Mwp5.0*
*IDC **26** 03:43:03.1±0.5, 13°.23N×81°.03W, h0km, mb4.2/23, mbtmp4.2/29, ML3.2/5, MS4.0/43, Error ellipse: s-maj=16.9km s-min=11.3km az=49.0*
*CATAC **26** 03:43:04.1±0.6, 13°.47N×81°.07W, h10km±1km, MB5.5, mb5.3, ML5.4*
*NEIC **26** 03:43:05.4±1.8, 13°.20N±0°.06×81°.04W±0°.05, h10km±1km, mb4.7/147, Error ellipse: s-maj=11.6km s-min=5.9km az=213.0*
*GCMT **26** 03:43:07.4±0.2, 13°.28N±0°.01×80°.97W±0°.02, h19km±1km, MW4.9/101, Moment Tensor Solution. s23,c25; s101,c147; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.36±.10; $M_{\theta\theta}$-1.35±.08; $M_{\phi\phi}$1.71±.09; $M_{r\theta}$-0.82±.19; $M_{\theta\phi}$2.31±.08; $M_{\phi r}$-0.47±.17; Best double couple: $M_0$2.92100×10^{16} NP1:ϕ_s253.00000°, δ90.00000°, λ18.00000°. NP2:ϕ_s163.00000°, δ72.00000°, λ180.00000°. Principal axes: T 3.1380, Plg13.0000°, Azm119.0000°; N -0.4330, Plg72.0000°, Azm254.0000°; P -2.7030, Plg13.0000°, Azm26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*JSN **26** 03:43:50.4±0.5, 16°.04N×79°.07W, h0km±670km*
ISC 26 03:43:04.1±1.1, **13°.23N**±0°.03×**81°.02W**±0°.03, **h11**km±7km, **n345,** σ1$61/319, **mb4.6**/87, **MS4.1**/39, **2C, Caribbean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.37**	**293**	Pg	**Pg**	**03 43 10.7**	**-0.7**
PRVC				Sg	**Sg**	**03 43 13.3**	**-3.0**
PRVC	**Isla de Provid**	**0.37**	**293**	P	**Pg**	**03 43 10.5**	**-0.9**
PRVC				S	**Sg**	**03 43 15.7**	**-0.6**
PRVC	**Isla de Provid**	**0.37**	**293**	*i* P	**Pg**	**03 43 10.5**	**-0.9**
PRVC				*i* S	**Sg**	**03 43 15.4**	**-0.9**
PRVC				IAML		03 43 16.2	
	comp=Z,37μm,1.0s						

RNCC Cayo Roncador, 0.96 69 P Pg 03 43 22.6 0.0
RNCC S **Sn** **03 43 37.6 +0.3**
SAIC Isla e San And 0.97 225 P Pg 03 43 21.8 -0.9
SAIC S **Sb** **03 43 35.6 -0.1**
SERC Banco Serrana, 1.23 31 P Pn 03 43 26.2 -1.0
SERC S **Sb** **03 43 43.3 +0.1**
BLUN Bluefields 2.96 246 *i* P **Pn 03 43 50.8 -0.2**
BLUN IAML 03 44 43.4
comp=Z,3µm,1.0s
ESPN Las Esperanzas 3.37 253 Pn 03 43 55.5 -1.2
ESPN Las Esperanzas 3.37 253 *i* P **Pn 03 43 56.0 -0.7**
ESPN IAML 03 45 04.6
comp=Z,5µm,1.0s
ESPN Las Esperanzas 3.37 253 *eP* **Pn 03 43 55.2 -1.5**
TRT2 Tortugero 3.76 225 *i* P **Pn 03 44 01.2 -0.9**
TRT2 IAML 03 44 54.7
comp=Z,2µm,1.0s
IRES Siquirres 3.96 218 *eP* **Pn 03 44 03.9 -0.9**
RVLA Villa Bonita 4.00 219 *eP* **Pn 03 44 05.1 -0.2**
COVE Coope Vega, Sa 4.15 233 *i* P **Pn 03 44 07.9 +0.5**
COVE IAML 03 45 50.2
comp=Z,3µm,1.0s
VTCV VTCV, Calle Va 4.18 220 *eP* **Pn 03 44 07.3 -0.8**
BCIP Isla Barro Col 4.20 164 Pn **Pn 03 44 05.5 -2.6**
BCIP Isla Barro Col 4.20 164 P **Pn 03 44 05.7 -2.4**
BCIP S **Sn** **03 44 53.7 -3.6**
BCIP Isla Barro Col 4.20 164 *i* P **Pn 03 44 05.8 -2.4**
BCIP *i* S **Sn** **03 44 53.4 -3.9**
BCIP IAML 03 44 55.2
comp=Z,770nm,1.0s
TURIB Turrialba 4.21 219 *eP* **Pn 03 44 08.0 -0.4**
ITAL Pital 4.22 229 *eP* **Pn 03 44 08.6 +0.1**
ACON Acoyapa 4.25 253 Pn **Pn 03 44 07.2 -1.6**
ACON Acoyapa 4.25 253 P **Pn 03 44 08.0 -0.8**
ACON Acoyapa 4.25 253 *i* P **Pn 03 44 08.9 +0.1**
ACON IAML 03 45 40.0
comp=Z,4µm,1.0s
RAFA San Farael, Vo 4.25 220 *i* P **Pn 03 44 08.6 -0.6**
RAFA IAML 03 45 21.1
comp=Z,2µm,1.0s
RAFA San Farael, Vo 4.25 220 *eP* **Pn 03 44 08.6 -0.6**
VINA Juan Vinas 4.26 219 *eP* **Pn 03 44 08.6 -0.6**
PCAYA Pacayas 4.28 220 *eP* **Pn 03 44 09.2 -0.3**
CVIMO Finca Echandi 4.29 222 *eP* **Pn 03 44 08.1 -1.5**
CORON Coronado 4.36 222 *eP* **Pn 03 44 10.9 +0.3**
VPS6 Volcano Poas 4.36 227 *eP* **Pn 03 44 11.1 +0.4**
REPA Paraso 4.39 220 *eP* **Pn 03 44 10.0 -0.9**
HDC Heredia 4.42 224 Pn **Pn 03 44 11.2 0.0**
HDC Heredia 4.42 224 *eP* **Pn 03 44 11.5 +0.3**
HDC *e*S **Sn** **03 45 04.5 +1.7**
LUJA Lujan 4.44 223 *eP* **Pn 03 44 12.7 +1.0**
VERA Finca Concepci 4.45 238 *eP* **Pn 03 44 11.4 -0.2**
VACR Volcan Arenal 4.51 233 *eP* **Pn 03 44 12.5 +0.1**
SOCE Pocosol 4.52 232 Pn **Pn 03 44 12.8 +0.2**
SOCE Pocosol 4.52 232 *i* P **Pn 03 44 13.0 +0.4**
SOCE IAML 03 45 44.3
comp=Z,860nm,1.0s
SOCE Pocosol 4.52 232 *eP* **Pn 03 44 12.8 +0.2**
LCR2 La Lucha 2 4.54 221 *eP* **Pn 03 44 12.4 -0.6**
ABE2 San Pablo 4.60 221 *eP* **Pn 03 44 14.0 +0.2**
ACOS Acosta 4.60 222 *eP* **Pn 03 44 14.5 +0.7**
TENO El Achiote 4.62 237 *eP* **Pn 03 44 15.2 +1.3**
EDP2 Potrero Grande 4.69 207 *eP* **Pn 03 44 15.5 +0.5**
BRU2 Volcan 4.71 201 Pn **Pn 03 44 14.4 -0.8**
MTEVE Monteverde 4.72 233 *eP* **Pn 03 44 15.5 0.0**
HORNC Hornillas 4.78 239 *eP* **Pn 03 44 18.4 +2.2**
CUI Cuipilapa 4.80 238 *eP* **Pn 03 44 16.8 +0.3**
CONN Concepcion 4.80 250 *i* P Pn 03 44 21.3 +4.9
CONN IAML 03 44 43.1
comp=Z,18µm,1.0s
LLNJ Naranjito 4.80 219 *eP* **Pn 03 44 16.4 -0.1**
JTS Las Juntas de 4.84 233 Pn **Pn 03 44 16.6 -0.4**
JTS Las Juntas de 4.84 233 Pn **Pn 03 44 17.0 +0.1**
comp=Z,33nm,0.3s,baz=57,slow=15,SNR=71
JTS Sn **Sn** **03 45 11.3 -1.7**
comp=Z,12nm,0.3s,baz=192,slow=17,SNR=3.6
JTS LR LR 03 46 15.6
comp=Z,2µm,18.2s,baz=164,slow=40
JTS Las Juntas de 4.84 233 P **Pn 03 44 17.0 +0.1**
JTS Las Juntas de 4.84 233 *eP* **Pn 03 44 17.0 +0.1**
JUNT Juntas 4.85 233 *eP* **Pn 03 44 16.9 -0.2**
OCHAL Ojochal 4.85 212 *i* P **Pn 03 44 17.7 +0.6**
OCHAL IVmB_BB 03 44 27.8
comp=Z,6µm,1.0s
OCHAL IAmb IAmb 03 44 41.6
comp=Z,490nm,0.8s
OCHAL *i* S **Sn** **03 45 13.4 +0.1**
OCHAL IAML 03 45 26.3
comp=Z,930nm,1.0s
CDITO Canoas 4.97 202 *i* P **Pn 03 44 19.4 +0.6**
CDITO IAmb IAmb 03 44 28.9
comp=Z,320nm,0.9s
CDITO *i* S **Sn** **03 45 16.4 0.0**
CDITO IVmB_BB 03 45 17.9
comp=Z,9µm,1.0s
CDITO IAML 03 45 25.3
comp=Z,2µm,1.0s
RCVN Varillal2 5.05 275 *i* P **Pn 03 44 19.0 -1.0**
RCVN IAML 03 45 49.6
comp=Z,27µm,1.0s
LIMN Finca el Limon 5.21 269 *i* P **Pn 03 44 21.6 -0.6**
LIMN IAmb IAmb 03 44 47.2
comp=Z,810nm,1.0s
LIMN IVmB_BB 03 44 51.2
comp=Z,8µm,1.0s
LIMN IAML 03 46 07.6
comp=Z,2µm,1.0s
MGAN Managua 5.22 259 Pn **Pn 03 44 22.4 +0.2**
GMAL Guarumal, Vera 5.44 182 P **Pn 03 44 24.2 -1.0**
comp=Z,188nm,0.7s,comp=Z,3µm
GMAL S **Sn** **03 45 24.6 -3.2**
comp=Z,188nm,0.7s,comp=Z,3µm
AZU Azuero 5.45 172 P **Pn 03 44 23.4 -2.0**
comp=Z,82nm,0.8s,comp=Z,1µmcomp=Z,3µm
AZU S **Sn** **03 45 25.1 -3.1**
comp=Z,82nm,0.8s,comp=Z,1µmcomp=Z,3µm
INDI Punta indio, G 5.52 233 *i* P **Pn 03 44 27.5 +1.2**
INDI IVmB_BB 03 44 33.6
comp=Z,110µm,1.0s
INDI IAmb IAmb 03 44 34.0
comp=Z,12µm,0.8s
INDI IAML 03 46 12.8
comp=Z,20µm,1.0s
CAPC Capurgana 5.81 141 P **Pn 03 44 29.1 -1.2**
comp=Z,64nm,0.9s
CAPC S **Sn** **03 45 34.3 -2.8**
comp=Z,64nm,0.9s
CACAO El Cacao, Vera 5.85 178 P **Pn 03 44 31.1 +0.2**
comp=Z,201nm,0.8s,comp=Z,2µm
CACAO S **Sn** **03 45 38.7 +0.7**
comp=Z,201nm,0.8s,comp=Z,2µm
CRIN San Cristobal 5.91 266 Pn **Pn 03 44 30.5 -1.1**
MTDJ Mount Denham 5.99 34 Pn **Pn 03 44 33.0 +0.1**
MTDJ Mount Denham 5.99 34 *i* P **Pn 03 44 33.0 +0.1**
MTDJ Mount Denham 5.99 34 P **Pn 03 44 33.5 +0.6**
comp=Z,233nm,0.8s,comp=Z,3µmcomp=Z,2µm
TGUH Tegucigalpa,Un 6.14 278 Pn **Pn 03 44 33.9 -1.0**
TGUH Tegucigalpa,Un 6.14 278 P **Pn 03 44 34.2 -0.7**
comp=Z,288nm,1.2s,comp=Z,6µmcomp=Z,3µm
HOJ Hope 6.28 40 *i* P **Pn 03 44 37.7 +1.0**
STH Stony Hill 6.29 40 *i* P **Pn 03 44 37.6 +0.6**
LCBC Los crdobas, 6.30 133 P **Pn 03 44 36.7 -0.3**
comp=Z,410nm,0.9s,comp=Z,4µm
LCBC S **Sn** **03 45 48.4 -0.7**
comp=Z,410nm,0.9s,comp=Z,4µm
GWJ Greenwich 6.34 40 *i* P **Pn 03 44 38.8 +1.0**
SJCC San Jacinto, C 6.61 119 P **Pn 03 44 39.8 -1.5**
comp=Z,175nm,0.7s,comp=Z,2µm
SJCC S **Sn** **03 45 51.9 -4.9**
comp=Z,175nm,0.7s,comp=Z,2µm
LCND La Caada 6.69 271 *i* P **Pn 03 44 40.6 -1.8**
LCND IVmB_BB 03 45 10.6
comp=Z,2µm,1.0s
LCND IAmb IAmb 03 45 10.7
comp=Z,150nm,0.8s
LCND IAML 03 47 03.0
comp=Z,250nm,1.0s
PTAC Punta Ardita, 6.82 152 P **Pn 03 44 42.8 -1.4**
comp=Z,59nm,0.9s
PTAC S **Sn** **03 45 58.2 -3.7**
comp=Z,59nm,0.9s
APAC Apartado, Choc 6.86 140 P **Pn 03 44 45.5 +0.8**
comp=Z,119nm,0.7s,comp=Z,2µm
APAC S **Sn** **03 46 03.2 +0.3**
comp=Z,119nm,0.7s,comp=Z,2µm
ARGC Ariguani, Magd 7.43 116 P **Pn 03 44 52.2 -0.4**
comp=Z,128nm,0.8s,comp=Z,3µm
ARGC S **Sn** **03 46 15.4 -1.6**
comp=Z,128nm,0.8s,comp=Z,3µm
SCLA Alcaldia de Sa 7.52 274 *i* P **Pn 03 44 53.4 -0.4**
SCLA IAmb IAmb 03 45 15.9
comp=Z,67nm,1.0s
SCLA IVmB_BB 03 45 33.6
comp=Z,1µm,1.0s
SCLA IAML 03 47 23.4
comp=Z,400nm,1.0s
UREC San Jos de Ur 7.66 135 P **Pn 03 44 54.9 -0.9**
comp=Z,175nm,0.8s,comp=Z,1µm
UREC S **Sn** **03 46 20.1 -2.6**
comp=Z,175nm,0.8s,comp=Z,1µm
DBBC Dabeiba 7.78 142 P **Pn 03 44 58.5 +1.1**
comp=Z,88nm,0.7s,comp=Z,16µm
SNET Serv Nac Est T 8.01 274 Pn **Pn 03 44 59.2 -1.4**
MTO3 Montecristo 8.19 279 Pn **Pn 03 45 01.2 -1.9**
MTO3 Montecristo 8.19 279 *i* P **Pn 03 45 01.5 -1.7**
MTO3 IAmb IAmb 03 45 22.2
comp=Z,35nm,0.8s
MTO3 IVmB_BB 03 45 47.9
comp=Z,820nm,1.0s
ESQI Esquipulas 8.19 280 Pn **Pn 03 45 02.8 -0.3**
CRJC Cerrejon, Guaj 8.25 105 P **Pn 03 45 00.3 -3.6**
comp=Z,61nm,0.7s
CRJC S **Sn** **03 46 30.9 -6.4**
comp=Z,61nm,0.7s
ZARC Zaragoza, Cauc 8.32 133 P **Pn 03 45 04.1 -0.7**
comp=Z,117nm,1.3s,comp=Z,1µmcomp=Z,2µm
ZARC S **Sn** **03 46 34.4 -4.4**
comp=Z,117nm,1.3s,comp=Z,1µmcomp=Z,2µm
GTBY Guantanamo Bay 8.74 40 Pn **Pn 03 45 10.4 -0.1**
GTBY Guantanamo Bay 8.74 40 *i* P **Pn 03 45 11.0 +0.5**
GTBY Guantanamo Bay 8.74 40 P **Pn 03 45 11.1 +0.6**
comp=Z,86nm,0.5s
URIC Uribia, Colomb 8.94 99 P **Pn 03 45 09.7 -3.6**
comp=Z,38nm,0.9s
URIC S **Sn** **03 46 47.3 -6.9**
comp=Z,38nm,0.9s
OCAC Ocana 9.04 122 P **Pn 03 45 13.3 -1.6**
comp=Z,125nm,0.7s,comp=Z,1µm
OCAC S **Sn** **03 46 51.5 -5.4**
comp=Z,125nm,0.7s,comp=Z,1µm
PTBC PUERTO BERRIO, 9.27 135 P **Pn 03 45 16.9 -1.0**
comp=Z,56nm,1.0s
PTBC S **Sn** **03 46 58.6 -3.7**
comp=Z,56nm,1.0s
PETF Flores 9.30 294 Pn **Pn 03 45 17.7 -0.6**
BRJC Barrancabermej 9.48 130 P **Pn 03 45 20.4 -0.3**
comp=Z,105nm,1.4s,comp=Z,1µm
BRJC S **Sn** **03 47 04.3 -3.1**
comp=Z,105nm,1.4s,comp=Z,1µm
SOR Soroa 9.70 349 Pn **Pn 03 45 25.4 +1.7**
GUY2C Guyana, Caldas 9.71 144 P **Pn 03 45 25.7 +1.4**
comp=Z,25nm,0.7s
NORC Norcasia 9.73 141 P **Pn 03 45 24.9 +0.6**
comp=Z,22nm,0.7s,comp=Z,424nm
NORC S **Sn** **03 47 12.0 -1.7**
comp=Z,22nm,0.7s,comp=Z,424nm
CAMR Camarioca 9.78 358 Pn **Pn 03 45 26.7 +1.8**
TEIG Tepich 9.83 316 Pn **Pn 03 45 26.0 +0.5**
TEIG Tepich 9.83 316 Pn **Pn 03 45 25.2 -0.3**
baz=314,slow=24,SNR=44
TEIG Sn **Sn** **03 47 10.6 -5.5**
baz=50,slow=24,SNR=1.1
TEIG Tepich 9.83 316 P **Pn 03 45 24.6 -0.9**
comp=Z,138nm,0.6s,comp=Z,5µm
TEIG S **Sn** **03 47 09.2 -6.8**
comp=Z,138nm,0.6s,comp=Z,5µm
MALC Bahia Malaga 9.85 158 P Pn 03 45 33.4 +7.6
MALC S **Sn** **03 47 16.3 -0.3**
PAPH Port-au-Prince 9.90 57 Pn **Pn 03 45 26.5 0.0**
PAMC Pamplona, Colo 10.06 125 P **Pn 03 45 29.5 +0.4**
PAMC S **Sn** **03 47 22.1 -0.2**
BARC Barichara 10.15 130 P **Pn 03 45 29.3 -0.8**
BARC S **Sn** **03 47 21.6 -2.6**
SPBC San Pablo de B 10.18 137 P **Pn 03 45 30.5 +0.1**
comp=Z,9.7nm,1.5s,comp=Z,1µm
YOTC Yotoco, Valle 10.28 153 P **Pn 03 45 31.7 -0.1**
comp=Z,31nm,0.8s
HUEH Huehuetenango 10.38 283 Pn **Pn 03 45 34.5 +1.3**
ROSC El Rosal 10.64 141 Pn **Pn 03 45 39.4 +2.5**
ROSC El Rosal 10.64 141 Pn **Pn 03 45 38.1 +1.2**
comp=Z,1.1nm,0.3s,baz=91,slow=5.3,SNR=15
ROSC Sn **Sn** **03 47 34.1 -2.2**
comp=Z,0.3nm,0.3s,baz=180,slow=23,SNR=3.0
ROSC LR LR 03 50 15.9
comp=Z,1µm,19.0s,baz=340,slow=41
comp=Z,28nm,0.8s
ROSC El Rosal 10.64 141 P Pn 03 45 41.8 +4.9
comp=Z,44nm,1.1s
RUSC La Rusia 10.69 132 P **Pn 03 45 38.4 +0.6**
comp=Z,63nm,1.1s
RUSC S **Sn** **03 47 35.9 -1.9**
comp=Z,63nm,1.1s
SDDR Presa de Saban 10.96 57 Pn **Pn 03 45 42.6 +1.6**
SDV Santo Domingo 11.07 112 Pn **Pn 03 45 40.9 -1.7**
SDV Santo Domingo 11.07 112 Pn **Pn 03 45 41.7 -0.9**
comp=Z,4.4nm,0.3s,baz=306,slow=7.1,SNR=17
SDV Sn **Sn** **03 47 40.3 -6.3**
comp=Z,24nm,0.3s,baz=204,slow=23,SNR=15
SDV LR LR 03 50 32.6
comp=Z,706nm,21.4s,baz=285,slow=41
comp=Z,31nm,0.6s
SDV Santo Domingo 11.07 112 *eP* **Pn 03 45 40.6 -2.0**
SDV *e*S **Sn** **03 47 39.5 -7.2**
CHIC Chingaza 11.17 139 P **Pn 03 45 45.2 +1.0**
comp=Z,127nm,1.1s
CHIC S **Sn** **03 47 47.6 -1.8**
comp=Z,127nm,1.1s
POPC Popayan, Colom 11.46 158 P **Pn 03 45 47.7 -0.3**
OTAV Otavalo 13.16 169 Pn **Pn 03 46 12.9 +1.4**
OTAV Otavalo 13.16 169 *eP* **Pn 03 46 09.7 -1.7**
BAUV El Baul 13.43 107 Pn **Pn 03 46 11.6 -3.1**
CMIG Matias Romero 13.93 288 Pn **Pn 03 46 21.6 +0.1**
comp=Z,0.1nm,0.3s,baz=179,slow=14,SNR=3.2
CMIG Lg Lg 03 50 24.8
comp=Z,0.1nm,0.3s,baz=172,slow=21,SNR=2.0
CMIG LR LR 03 52 08.2
comp=Z,1µm,18.7s,baz=135,slow=39
comp=Z,2.8nm,1.0s
UUPR Utuado, UPR, P 14.64 68 Pn **Pn 03 46 31.9 +0.6**
CELP Cerrillos 14.71 69 Pn **Pn 03 46 31.4 -1.0**
SJG San Juan 15.11 69 P **P 03 46 43.3 +0.3**
SJG IAmb IAmb 03 46 50.4
comp=Z,28nm,0.8s
SJG San Juan 15.11 69 Pn **Pn 03 46 38.1 +0.4**
comp=Z,0.3nm,0.3s,baz=206,slow=24,SNR=1.4
SJG Sn Sn 03 49 14.6 -11
comp=Z,0.1nm,0.3s,baz=223,slow=20,SNR=1.3
SJG LR LR 03 52 00.3
comp=Z,387nm,19.2s,baz=242,slow=36
comp=Z,2.3nm,0.5s
PDPR Patillas Dam, 15.20 70 P **P 03 46 44.5 +0.6**
GCPR Guaynabo City 15.23 69 P **P 03 46 44.6 +0.3**
GCPR IAmb IAmb 03 47 01.6
comp=Z,25nm,0.9s
656A Willston 16.12 355 **P 03 46 53.3 -0.8**
656A IAmb IAmb 03 46 57.3
comp=Z,77nm,1.2s
PCRV Puerto La Cruz 16.32 99 Pn **Pn 03 46 54.7 +1.2**
comp=Z,0.2nm,0.3s,baz=31,slow=17,SNR=3.2
comp=Z,20nm,1.2s
553A Crawfordville 17.17 350 **P 03 47 06.4 +0.7**
TLIG Tlapa 17.46 286 P **P 03 47 09.5 +0.4**
TIGA Tifton 18.28 353 P **Pn 03 47 16.4 -1.3**
352A Blakely 18.52 349 P **Pn 03 47 22.2 +1.5**
352A IAmb IAmb 03 47 24.0
comp=Z,49nm,1.1s
250A Grady 19.27 346 P **Pn 03 47 31.7 +1.8**
154A Montrose 19.39 355 P **Pn 03 47 31.6 +0.4**
154A IAmb IAmb 03 47 38.9
comp=Z,54nm,1.0s
152A Waverly Hall 19.64 351 P **Pn 03 47 34.0 -0.3**
GOGA Godfrey 20.21 354 P Pn 03 47 40.8 -0.3
ATAH Atahualpa 20.40 173 P **P 03 47 42.6 +0.9**
comp=Z,2.3nm,0.5s,baz=51,slow=22,SNR=2.1
comp=Z,2.3nm,0.5s
LRAL Lakeview Retre 20.46 345 P **P 03 47 42.3 +0.5**
146A Union 20.67 340 P Pn 03 47 46.2 -0.3
146A IAmb IAmb 03 47 59.5
comp=Z,33nm,1.0s
Y52A Lilburn 20.73 353 IAmb IAmb 03 47 51.1
comp=Z,20nm,0.8s
Y60A Bolivia 20.84 7 Pn 03 47 49.4 +1.0
Z47A Carrollton 20.89 343 IAmb IAmb 03 47 49.3
comp=Z,38nm,0.8s
BIRD Birdtown, Kers 21.33 1 P **P 03 47 51.2 +0.1**
PAULI Pauline 21.51 358 IAmb IAmb 03 47 55.6
comp=Z,37nm,1.0s
HKT Hockley 21.56 323 P **P 03 47 56.7 +3.0**
HKT IAmb IAmb 03 48 08.4
comp=Z,60nm,1.5s
BG3 Lake Jocassee 21.74 356 IAmb IAmb 03 48 01.1
comp=Z,53nm,1.2s
KMSC Kings Mountain 21.82 359 P **P 03 47 56.9 +0.4**
KMSC IAmb IAmb 03 47 58.7
comp=Z,19nm,0.9s
X48A Hartselle 21.82 346 IAmb IAmb 03 48 17.0
comp=Z,28nm,1.1s
W57A Gilead 21.85 2 IAmb IAmb 03 47 58.6
comp=Z,29nm,1.1s
W52A Murphy 21.93 354 IAmb IAmb 03 48 00.0
comp=Z,32nm,1.3s
Y45A Yeager Farm, C 21.96 341 P **P 03 47 59.9 +1.9**
W50A Signal Mountai 22.22 351 IAmb IAmb 03 48 23.7
comp=Z,32nm,1.2s
CPCT Cooper Cave 22.35 352 IAmb IAmb 03 48 06.8
comp=Z,28nm,1.0s
CZSB Cruzeiro do Su 22.40 158 P **P 03 48 03.8 +0.9**
CZSB Cruzeiro do Su 22.40 158 *eP* **P 03 48 01.7 -1.1**
V53A Saluda 22.40 356 IAmb IAmb 03 48 23.6
comp=Z,27nm,1.0s
TKL Tuckaleechee C 22.47 354 IAmb IAmb 03 48 28.2
comp=Z,28nm,1.1s
TKL Tuckaleechee C 22.47 354 P **P 03 48 04.4 +0.9**
comp=Z,18nm,1.0s,baz=161,slow=10,SNR=8.4
TKL LR LR 03 57 05.6
comp=Z,194nm,20.1s,baz=202,slow=38
comp=Z,18nm,1.0s
V55A Taylorsville 22.52 360 IAmb IAmb 03 48 08.3
comp=Z,23nm,1.0s
V58A Windy Hill, Pi 22.53 4 P **P 03 48 05.3 +1.3**
V58A IAmb IAmb 03 48 07.7
comp=Z,36nm,1.4s
BOAV Boa Vista 22.95 116 P **P 03 48 08.3 -0.4**
BOAV IAmb IAmb 03 48 11.6
comp=Z,23nm,1.1s
BOAV Boa Vista 22.95 116 *eP* **P 03 48 08.8 +0.1**
V48A Smith Brothers 23.02 348 IAmb IAmb 03 48 31.3
comp=Z,50nm,1.4s
435B Jarrell 23.21 321 P **P 03 48 13.1 +1.8**
CLTN Cedars of Leba 23.26 349 IAmb IAmb 03 48 32.4
comp=Z,23nm,1.1s
WVT Waverly 23.61 346 P **P 03 48 15.8 +0.6**
WVT IAmb IAmb 03 48 36.3
comp=Z,16nm,1.1s
X40A Basin Creek Fa 23.72 335 IAmb IAmb 03 48 29.1
comp=Z,20nm,1.1s
UALR University of 23.78 336 P **P 03 48 17.4 +0.6**
UALR IAmb IAmb 03 48 26.5
comp=Z,20nm,0.9s
T59A Double "B" Far 23.84 7 P **P 03 48 18.3 +0.9**
T59A IAmb IAmb 03 48 21.1
comp=Z,18nm,1.0s
BLA Blacksburg 23.89 1 P **P 03 48 19.2 +1.3**
T50A Nancy 23.94 352 IAmb IAmb 03 48 21.6
comp=Z,14nm,0.7s
T47A Sharon Grove 24.28 348 IAmb IAmb 03 48 30.8
comp=Z,21nm,0.9s
DRIO Del Rio 24.29 315 P **P 03 48 23.9 +2.2**
DRIO IAmb IAmb 03 49 06.3
comp=Z,17nm,1.0s
S51A Beattyville 24.42 355 IAmb IAmb 03 48 25.7
comp=Z,10nm,0.9s
S54A Dingess, Beckl 24.47 359 IAmb IAmb 03 48 26.3
comp=Z,26nm,1.1s
LCAR Lake Charles 24.50 340 P **P 03 48 23.6 +0.1**
LCAR IAmb IAmb 03 48 27.3
comp=Z,26nm,1.4s
FCAR Ozark Folk Cen 24.68 338 P **P 03 48 25.5 +0.3**
FCAR IAmb IAmb 03 48 27.9
comp=Z,14nm,0.9s
PBMO Poplar Bluff 24.92 342 P **P 03 48 27.4 +0.1**
R50A Paris 25.12 354 IAmb IAmb 03 48 32.2
comp=Z,27nm,1.1s
R49A Shelbyville 25.23 352 IAmb IAmb 03 48 39.0
comp=Z,25nm,1.0s
WCI Wyandotte Cave 25.34 350 P **P 03 48 31.7 +0.6**
Q54A Coxs Mills 25.65 0 IAmb IAmb 03 48 38.6
comp=Z,14nm,0.9s
ABTX Abilene, Hawle 25.75 322 P **P 03 48 35.5 +0.7**
MACA Manacapuru-AM 25.93 128 P **P 03 48 37.7 +1.0**
MACA Manacapuru-AM 25.93 128 *eP* **P 03 48 36.1 -0.7**
FVM French Village 26.04 343 IAmb IAmb 03 48 41.6
comp=Z,21nm,1.1s
P53A Whipple 26.16 359 IAmb IAmb 03 48 43.8
comp=Z,13nm,0.9s
BLO Bloomington 26.29 350 IAmb IAmb 03 48 42.2
comp=Z,18nm,0.8s
CCM Cathedral Cave 26.35 342 P **P 03 48 40.5 +0.3**
TXAR Lajitas Array 26.42 311 P **P 03 48 41.7 +0.5**
TXAR Lajitas Array 26.42 311 P **P 03 48 42.2 +1.1**
comp=Z,6.4nm,0.8s,baz=129,slow=9.9,SNR=18
TXAR LR LR 04 01 52.7
comp=Z,131nm,18.2s,baz=117,slow=43
comp=Z,6.4nm,0.8s
TX31 Lajitas Ar. Si 26.42 311 P **P 03 48 42.0 +0.8**
TX31 IAmb IAmb 03 48 50.2
comp=Z,20nm,1.1s
MVL Millersville 26.98 8 IAmb IAmb 03 48 48.8
comp=Z,10nm,0.9s
ETMB Extrema 27.21 147 *eP* **P 03 48 48.0 -0.2**
ODSA Odessa 27.26 317 P **P 03 48 50.6 +2.0**
ODSA IAmb IAmb 03 48 56.9
comp=Z,13nm,1.0s
VHRN Van Horn 28.16 312 P **P 03 48 58.3 +1.4**
VHRN IAmb IAmb 03 49 08.4
comp=Z,16nm,1.1s
SAML Samuel 28.27 140 P **P 03 48 56.7 -1.0**
SAML IAmb IAmb 03 49 23.6
comp=Z,10nm,0.8s
SAML Samuel 28.27 140 *eP* **P 03 48 57.2 -0.5**
P38A Dawn 28.52 339 IAmb IAmb 03 49 10.8
comp=Z,8.6nm,0.9s
MDP Montagnes des 29.13 103 LR LR 04 02 36.6
comp=Z,258nm,20.7s,baz=274,slow=40
LPIG La Paz 29.72 296 LR LR 04 01 58.1
comp=Z,589nm,18.1s,baz=131,slow=38
ITTB Itaituba 30.59 123 *eP* **P 03 49 19.3 +0.9**
SADO Sadowa 31.47 3 LR LR 04 02 15.3
comp=Z,585nm,18.7s,baz=234,slow=37
ANMO Albuquerque 31.56 318 LR LR 04 05 37.3
comp=Z,144nm,18.2s,baz=298,slow=43
LPAZ La Paz 31.98 156 P **P 03 49 31.7 +0.6**
comp=Z,0.9nm,0.6s,baz=4.0,slow=14,SNR=3.6
LPAZ LR LR 04 04 19.7
comp=Z,132nm,20.3s,baz=296,slow=40
comp=Z,0.9nm,0.6s
FRNY Flat Rock 32.13 10 P **P 03 49 32.9 +1.4**
NPGB Novo Progresso 32.49 127 *eP* **P 03 49 35.7 +0.7**
TUC Tucson 33.20 310 P **P 03 49 41.5 +0.2**
VILB Vilhena 33.20 141 P **P 03 49 40.9 -0.4**
VILB Vilhena 33.20 141 *eP* **P 03 49 41.4 +0.1**
ECSD EROS Data Cent 33.22 339 P **P 03 49 40.7 -0.5**
ECSD IAmb IAmb 03 50 05.3
comp=Z,13nm,1.3s
TRQ Mont Tremblant 33.34 8 P **P 03 49 43.0 +0.9**
TRQ IAmb IAmb 03 49 44.9
comp=Z,14nm,1.1s
PDRB Porto dos Gac 34.49 135 *eP* **P 03 49 52.8 +0.2**
CLDB Colider 34.64 133 *eP* **P 03 49 54.0 +0.2**
X16A Lo Mia Camp, P 34.70 313 P **P 03 49 55.6 +1.2**
X16A IAmb IAmb 03 50 03.3
comp=Z,7.5nm,0.9s
GO01 Chusmiza 34.70 160 P **P 03 49 55.5 +0.7**
GO01 IAmb IAmb 03 49 58.1
comp=Z,10nm,0.9s
F33A 5 Mile Ranch, 34.98 341 IAmb IAmb 03 50 03.2
comp=Z,8.9nm,0.8s
SIV San Ignacio 35.10 145 LR LR 04 05 29.4
comp=Z,204nm,18.8s,baz=356,slow=38
WUAZ Wupatki 35.21 314 P **P 03 50 00.7 +2.0**
WUAZ IAmb IAmb 03 50 07.3
comp=Z,10nm,1.0s
PTLB Pontes e Lacer 35.78 142 *eP* **P 03 50 03.1 -0.5**
PB01 IPOC Station P 35.89 161 P **P 03 50 05.6 +1.0**
BBSD Serra de San D 36.33 146 *eP* **P 03 50 07.4 -0.8**
BLYC Blythe 36.65 310 P **P 03 50 11.8 +0.9**

V12A **Nelson** 37.78 312 P **P** 03 50 22.2 +1.6
PFO **Pinyon Flats O** 38.06 308 LR LR 04 08 33.6
comp=Z,230nm,18.8s,baz=132,slow=40
SHPR **Sheep Range** 38.37 313 P **P** 03 50 26.6 +1.0
PDAR **Pinedale Array** 38.39 325 P **P** 03 50 26.3 +0.5
PDAR **Pinedale Array** 38.39 325 P **P** 03 50 26.6 +0.8
comp=Z,1.4nm,0.7s,baz=130,slow=11,SNR=14
comp=Z,1.4nm,0.7s
SNDB **Serra Nova Dou** 38.68 129 *eP* **P** 03 50 29.3 +1.0
PRN **Pahroc Range** 38.72 315 P **P** 03 50 30.6 +2.0
HWUT **Hardware Ranch** 38.80 323 P **P** 03 50 29.4 +0.2
ULM **Lac du Bonnet** 38.87 345 IAmb IAmb 03 50 36.5
comp=Z,11nm,0.8s
ULM **Lac du Bonnet** 38.87 345 P **P** 03 50 28.7 -0.7
comp=Z,8.9nm,0.7s,baz=162,slow=8.8,SNR=9.8
comp=Z,8.9nm,0.7s
PB14 **IPOC Station P** 39.03 165 P **P** 03 50 32.9 +1.6
BGU **Big Grassy Mou** 39.28 321 P **P** 03 50 34.2 +0.9
SNOW **Snow King Moun** 39.51 325 IAmb IAmb 03 50 43.0
comp=Z,15nm,1.2s
LOHW **Long Hollow** 39.52 326 P **P** 03 50 35.7 +0.4
MOOW **Moose Ponds** 39.69 326 P **P** 03 50 37.6 +1.0
SMTB **Santa Maria do** 39.80 122 *eP* **P** 03 50 38.2 +0.5
CCAC **Calif City Air** 39.86 310 P **P** 03 50 38.4 +0.4
CCAC IAmb IAmb 03 50 53.4
comp=Z,14nm,0.9s
YNE **Yellowstone No** 40.14 328 P **P** 03 50 40.8 +0.4
ELK **Elko** 40.57 319 P **P** 03 50 44.9 +0.9
ELK **Elko** 40.57 319 P **P** 03 50 44.6 +0.5
comp=Z,1.0nm,0.7s,baz=130,slow=9.2,SNR=3.5
ELK LR LR 04 09 33.3
comp=Z,139nm,21.9s,baz=158,slow=39
comp=Z,1.0nm,0.7s
ARAG **Araguaiana, MT** 40.76 134 *eP* **P** 03 50 45.3 -0.2
DSP **Deep Springs** 40.76 313 P **P** 03 50 46.7 +1.4
NV11 **Mina Array Sit** 41.37 314 IAmb IAmb 03 50 59.9
comp=Z,10nm,1.0s
NVAR **Mina Array Bea** 41.47 314 P **P** 03 50 52.9 +1.4
NVAR **Mina Array Bea** 41.47 314 P **P** 03 50 52.2 +0.7
comp=Z,2.1nm,0.9s,baz=125,slow=8.8,SNR=11
NVAR LR LR 04 12 07.4
comp=Z,315nm,18.4s,baz=130,slow=42
comp=Z,2.1nm,0.9s
KVN **Kaiserville** 41.62 315 P **P** 03 50 53.9 +1.3
KVN IAmb IAmb 03 51 01.6
comp=Z,12nm,1.0s
HLID **Hailey** 41.66 323 P **P** 03 50 53.4 +0.6
MFID **Camas Ranch** 42.41 322 P **P** 03 51 00.4 +1.4
SCHQ **Schefferville** 42.97 12 P **P** 03 51 04.2 +1.0
comp=Z,14nm,0.9s,baz=233,slow=7.7,SNR=8.3
SCHQ LR LR 04 10 30.1
comp=Z,195nm,18.3s,baz=242,slow=38
comp=Z,14nm,0.9s
BDFB **Brasilia** 43.46 130 P **P** 03 51 08.2 +0.4
BDFB IAmb IAmb 03 51 09.4
comp=Z,14nm,0.9s
BDFB **Brasilia** 43.46 130 P **P** 03 51 08.7 +0.9
comp=Z,14nm,0.9s,baz=295,slow=8.7,SNR=16
BDFB LR LR 04 13 14.3
comp=Z,173nm,18.8s,baz=321,slow=42
comp=Z,14nm,0.9s
WVOR **Wild Horse Val** 43.62 319 IAmb IAmb 03 51 20.8
comp=Z,25nm,1.2s
J08A **Circle Bar Ran** 44.00 320 IAmb IAmb 03 51 18.8
comp=Z,9.6nm,1.3s
CPUP **Villa Florida** 45.58 150 P **P** 03 51 21.9 -2.4
comp=Z,3.9nm,0.9s,baz=310,slow=7.1,SNR=6.4
CPUP LR LR 04 11 17.3
comp=Z,150nm,21.2s,baz=338,slow=37
PINE **Pine Mountain** 45.76 320 P **P** 03 51 27.0 +1.0
PINE IAmb IAmb 03 51 33.9
comp=Z,12nm,1.0s
JANB **Januaria** 45.93 127 *eP* **P** 03 51 27.6 +0.2
YBH **Yreka Blue Hor** 45.97 316 P **P** 03 51 27.1 -0.4
comp=Z,1.2nm,0.9s,baz=310,slow=11,SNR=2.2
YBH LR LR 04 14 13.1
comp=Z,263nm,20.8s,baz=148,slow=41
comp=Z,1.2nm,0.9s
NEW **Newport** 45.98 327 P **P** 03 51 28.2 +0.8
comp=Z,1.2nm,0.6s,baz=79,slow=2.1,SNR=3.8
comp=Z,1.2nm,0.6s
J04A **Umpqua Nationa** 46.25 318 P **P** 03 51 31.2 +1.4
DIAM **Diamantina, MG** 48.35 130 *eP* **P** 03 51 46.7 +0.3
RPN **Rapa Nui** 48.63 214 LR LR 04 07 49.8
comp=Z,295nm,18.6s,baz=33,slow=31
RCBR **Riachuelo** 48.64 110 LR LR 04 12 31.5
comp=Z,116nm,21.6s,baz=277,slow=36
CPSB **Cacapava Do Su** 50.86 149 *eP* **P** 03 52 04.1 -1.1
FRB **Frobisher Bay** 51.20 7 LR LR 04 13 31.8
comp=Z,202nm,18.2s,baz=188,slow=36
RIB01 **Linhares ES** 51.44 128 *eP* **P** 03 52 10.1 +0.3
PLTB **Pedras Altas** 51.89 150 P **P** 03 52 12.2 -0.7
PLTB **Pedras Altas** 51.89 150 *eP* **P** 03 52 12.7 -0.2
PLCA **Paso Flores** 54.56 170 P **P** 03 52 32.1 -0.3
comp=Z,3.0nm,0.9s,baz=338,slow=9.4,SNR=4.6
comp=Z,3.0nm,0.9s
YKA **Yellowknife Ar** 54.69 342 P **P** 03 52 33.4 +0.4
comp=Z,1.4nm,1.0s,baz=141,slow=7.4,SNR=6.4
comp=Z,1.4nm,1.0s
SFJD **Kangerlussuaq** 57.37 14 LR LR 04 18 55.1
comp=Z,114nm,18.7s,baz=226,slow=38
DY2G **Dye2** 58.03 16 *i* P **P** 03 52 55.6 -1.5
ICESG **Greenland Ices** 61.66 16 *i* P **P** 03 53 20.8 -1.4
ICESG IAmb IAmb 03 53 23.2
comp=Z,14nm,0.8s
SOEG **Soedalen** 63.48 19 *i* P **P** 03 53 33.4 -0.5
SOEG IAmb IAmb 03 53 35.1
comp=Z,4.8nm,0.6s
SUMG **Summit** 64.35 13 P **P** 03 53 40.2 +0.2
SUMG **Summit** 64.35 13 *i* P **P** 03 53 40.0 0.0
SUMG IAmb IAmb 03 53 42.0
comp=Z,15nm,0.8s
INK **Inuvik** 64.44 341 P **P** 03 53 40.7 +0.5
BCAR **Beaver Creek A** 65.23 334 P **P** 03 53 46.1 +0.5
BORG **Borgarnes** 65.40 24 LR LR 04 20 35.0
comp=Z,66nm,18.1s,baz=241,slow=34
E29M **Blow River** 65.90 340 IAmb IAmb 03 54 09.6
comp=Z,6.0nm,1.0s
NEEM **North Greenlan** 66.02 7 *i* P **P** 03 53 50.5 -0.1
NEEM IAmb IAmb 03 53 52.0
comp=Z,20nm,1.1s
F28M **Old Crow** 66.23 339 P **P** 03 53 52.6 +0.7
F28M IAmb IAmb 03 53 53.9
comp=Z,10nm,1.4s
SCO **Scoresbysund** 67.52 18 *i* P **P** 03 53 59.7 -0.3
SCO IAmb IAmb 03 54 02.5
comp=Z,3.8nm,1.0s
HDA **Harding Lake** 67.83 335 P **P** 03 54 03.0 +0.9
BMAR **Burnt Mountain** 67.84 338 P **P** 03 54 02.8 +0.6
IL03 **Eielson Array** 67.89 335 P **P** 03 54 03.1 +0.6
IL31 **67.91 335** IAmb IAmb 03 54 04.2
comp=Z,4.8nm,0.9s
ILAR **Eielson Array** 67.91 335 P **P** 03 54 02.9 +0.4
ILAR **Eielson Array** 67.91 335 P **P** 03 54 03.4 +0.8
comp=Z,2.1nm,0.8s,baz=110,slow=4.5,SNR=20
comp=Z,2.1nm,0.8s
CCB **Clear Creek Bu** 68.25 335 P **P** 03 54 04.4 -0.3
CCB IAmb IAmb 03 54 04.6
comp=Z,7.4nm,1.4s
RND **Reindeer** 68.38 333 P **P** 03 54 06.2 +0.5
I23K **Minto, Yukon-K** 69.02 335 P **P** 03 54 10.2 +0.7
KDAK **Kodiak Island** 69.08 327 LR LR 04 26 50.0
comp=Z,102nm,18.1s,baz=322,slow=38
H23K **Yukon River** 69.27 336 P **P** 03 54 11.8 +0.8
H23K IAmb IAmb 03 54 12.6
comp=Z,6.9nm,1.1s
PPLA **Purkeypile** 69.75 332 P **P** 03 54 13.2 -1.1
TOLK **Toolik Lake Re** 70.00 339 P **P** 03 54 16.2 +0.7
TOLK IAmb IAmb 03 54 23.8
comp=Z,7.2nm,1.4s
J20K **Nowinta River** 70.84 334 P **P** 03 54 22.3 +1.6
IMAR **Indian Mountai** 70.99 336 P **P** 03 54 22.1 +0.5
MDT **Midelt** 71.62 60 LR LR 04 23 52.7
comp=Z,94nm,18.3s,baz=332,slow=34
ESDC **Sonseca Array** 71.76 52 P **P** 03 54 28.6 +1.8
ESDC IAmb IAmb 03 54 35.2
comp=Z,5.3nm,1.2s
ESDC **Sonseca Array** 71.76 52 P **P** 03 54 28.4 +1.6
comp=Z,1.6nm,0.7s,baz=280,slow=6.0,SNR=8.6
ESDC LR LR 04 23 05.5
comp=Z,126nm,18.6s,baz=286,slow=34
comp=Z,1.6nm,0.7s
F20K **Avaraart Lake** 71.95 337 P **P** 03 54 27.9 +0.6
F20K IAmb IAmb 03 54 32.1
comp=Z,4.1nm,0.9s
EKA **Eskdalemuir Ar** 72.32 36 P **P** 03 54 30.5 +0.7
comp=Z,2.1nm,0.8s,baz=265,slow=5.8,SNR=4.1
comp=Z,2.1nm,0.8s
J17K **VABM Dome** 72.92 333 P **P** 03 54 34.5 +1.3
J17K IAmb IAmb 03 54 51.8
comp=Z,11nm,1.1s
SENIN **Lac Senin/Sane** 79.40 45 P **P** 03 55 11.8 +1.0
NB2 **NORSAR Subarra** 79.62 30 P **P** 03 55 12.9 +1.5
comp=Z,8.8nm,1.2s,baz=279,slow=5.6
NOA **NORSAR Array B** 79.62 30 P **P** 03 55 12.1 +0.7
comp=Z,1.6nm,0.9s,baz=279,slow=5.4,SNR=5.0
comp=Z,1.6nm,0.9s
TORD **Torodi Ar. Bea** 80.11 79 P **P** 03 55 15.2 +0.3
comp=Z,0.5nm,0.9s,baz=286,slow=5.7,SNR=2.6
TORD LR LR 04 26 02.8
comp=Z,54nm,20.2s,baz=267,slow=32
comp=Z,0.5nm,0.9s
HFS **Hagfors** 80.97 30 P **P** 03 55 19.8 +1.2
comp=Z,2.6nm,0.8s,baz=281,slow=5.4,SNR=3.8
HFS LR LR 04 30 39.8
comp=Z,77nm,18.1s,baz=256,slow=35
comp=Z,2.6nm,0.8s
DAVOX **Davos/Dischmat** 81.10 44 LR LR 04 27 25.5
comp=Z,143nm,18.1s,baz=268,slow=33
FUORN **Ofenpass-Fuorn** 81.39 44 P **P** 03 55 23.5 +2.0
CLL **Collm** 82.29 39 *i* P **P** 03 55 27.6 +1.8
CLL AMS AMS 04 29 00.0
comp=Z,100nm,18.2s
KEST **Kesra** 82.69 55 LR LR 04 31 35.6
comp=Z,68nm,18.1s,baz=248,slow=35
GERES **GERESS Array B** 83.23 42 P **P** 03 55 31.8 +0.9
comp=Z,1.3nm,0.9s,baz=266,slow=4.0,SNR=3.8
comp=Z,1.3nm,0.9s
ARCES **ARCESS Array B** 83.37 20 P **P** 03 55 31.8 +0.8
comp=Z,2.3nm,0.7s,baz=297,slow=4.0,SNR=4.4
ARCES LR LR 04 27 31.5
comp=Z,61nm,21.1s,baz=306,slow=32
comp=Z,2.3nm,0.7s
VRAC **Vranov** 84.98 41 LR LR 04 30 42.2
comp=Z,197nm,18.8s,baz=267,slow=34
MODS **Modra-Piesok** 85.65 41 *eP* **P** 03 55 45.4 +2.3
VAE **Valguarnera** 86.30 53 LR LR 04 30 29.3
comp=Z,111nm,18.5s,baz=318,slow=33
FINES **FINESS Array B** 86.45 27 P **P** 03 55 47.7 +1.0
comp=Z,4.0nm,0.9s,baz=297,slow=4.2,SNR=6.9
FINES LR LR 04 28 40.2
comp=Z,78nm,21.2s,baz=270,slow=32
comp=Z,4.0nm,0.9s
VYHS **Vyhne** 86.62 41 *eP* **P** 03 55 49.9 +2.1
SHEM **Shemya Is, Ala** 88.37 324 LR LR 04 36 02.9
comp=Z,35nm,21.3s,baz=351,slow=36
MLR **Muntele Rosu** 92.19 42 LR LR 04 35 03.2
comp=Z,150nm,18.5s,baz=280,slow=34
AKASG **Malin Array Be** 92.22 37 LR LR 04 34 20.2
comp=Z,92nm,20.6s,baz=286,slow=33
OBN **Obninsk** 94.18 31 LR LR 04 34 36.4
comp=Z,62nm,20.6s,baz=201,slow=33
MA2 **Magadan** 96.36 336 LR LR 04 43 49.3
comp=Z,66nm,18.1s,baz=112,slow=38
PETK **Petropavlovsk-** 97.09 329 LR LR 04 43 43.8
comp=Z,29nm,18.9s,baz=63,slow=38
KIRV **Kirov** 97.88 24 LR LR 04 38 09.2
comp=Z,62nm,18.3s,baz=322,slow=34
HHC **Hu-ho-hao-te** 124.95 348 *eP* **PKPdf** 04 02 00.0 -4.9
NJ2 **Nanjing** 131.12 337 *eP* **PKPdf** 04 02 17.3 +0.5
NJ2 pmax pmax
comp=Z,11nm,0.5s
PZH **PanZhiHua** 140.41 356 PKP **PKPdf** 04 02 34.3 -0.1
WR0 **Warramunga Arr** 145.32 254 **PKPab** 04 02 43.0 0.0
AS31 **Alice Springs** 145.37 247 **PKPbc** 04 02 42.0 -0.9
ASAR **Alice Springs** 145.37 247 PKPbc **PKPab** 04 02 43.2 +0.1
comp=Z,3.9nm,0.7s,baz=107,slow=3.7,SNR=20
WB0 **Warramunga Arr** 145.48 254 PKPdf **PKPdf** 04 02 42.7 -0.6
WB2 **Warramunga Arr** 145.50 254 PKPdf **PKPdf** 04 02 41.7 -1.7
WRA **Warramunga Arr** 145.51 254 PKPdf **PKPdf** 04 02 42.8 -0.6
WRA **Warramunga Arr** 145.51 254 PKPbc **PKPab** 04 02 43.6 0.0
comp=Z,3.1nm,0.7s,baz=92,slow=2.9,SNR=23
CMAR **Chiang Mai Arr** 148.51 0 PKPbc **PKPbc** 04 02 51.0 -0.9
comp=Z,0.8nm,0.3s,baz=354,slow=3.4,SNR=1.8

*RSNC **26** 03:51:24.9±0.0, 13°N±3°×8°1W±°, h1km±3km, M3.3, mb3.9, ML3.3*
*IDC **26** 03:51:29.8±2.8, 13°45N×81°70W, h0km, mb3.4/1, mbtmp3.2/3, ML2.7/2, Error ellipse: s-maj=58.9km s-min=34.8km az=100.0*
ISC 26 03:51:24.5±0.8,**13°22N**±0°.05×**81°06W**±0°.04,**h10**km,**n12**, σ1§**90**/**21**,**Caribbean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.33**	**298**	P	**Pb**	**03 51 32.4**	**-0.1**
PRVC				S	**Sb**	**03 51 37.2**	**-0.7**
SAIC	**Isla e San And**	**0.93**	**223**	P	**Pn**	**03 51 43.5**	**-0.1**
SAIC				S	**Sn**	**03 51 57.7**	**+0.7**
RNCC	**Cayo Roncador,**	**1.01**	**69**	P	**Pb**	**03 51 44.8**	**+0.7**
RNCC				S	**Sn**	**03 51 59.9**	**+0.9**
SERC	**Banco Serrana,**	**1.26**	**33**	P	**Pn**	**03 51 48.2**	**0.0**
SERC				S	**Sg**	**03 52 05.6**	**+0.5**
BCIP	**Isla Barro Col**	**4.20**	**163**	P	**Pn**	**03 52 27.1**	**-1.6**
BCIP				S	**Sn**	**03 53 14.7**	**-3.2**
JTS	**Las Juntas de**	**4.79**	**233**	Pn	**Pn**	**03 52 39.0**	**+2.1**
	1.3nm,0.3s,baz=98,slow=23,SNR=5.3						
JTS				Sn	**Sn**	**03 53 32.7**	**+0.2**
	2.7nm,0.3s,baz=259,slow=21,SNR=6.9						
	2.7nm,0.3s						
JTS	**Las Juntas de**	**4.79**	**233**	P	**Pn**	**03 52 38.8**	**+2.0**
JTS				S	**Sn**	**03 53 32.9**	**+0.4**
AZU	**Azuero**	**5.45**	**172**	P	**Pn**	**03 52 46.4**	**+0.6**
AZU				S	**Sn**	**03 53 47.9**	**-0.8**
TEIG	**Tepich**	**9.81**	**316**	Pn	**Pn**	**03 53 46.3**	**+0.6**
	baz=23,slow=24,SNR=1.0						
TEIG				Sn	**Sn**	**03 55 30.2**	**-5.8**
	baz=328,slow=24,SNR=1.1						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**26.39**	**311**	P	**P**	**03 57 01.5**	**+0.1**
	0.5nm,0.8s,baz=119,slow=9.2,SNR=2.5						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**145.33**	**247**	PKP	**PKiKP**	**04 11 09.6**	**+2.1**
	0.3nm,0.3s,baz=104,slow=3.9,SNR=4.1						
WRA	**Warramunga Arr**	**145.47**	**254**	PKP	**PKiKP**	**04 11 09.2**	**+1.4**
	0.5nm,0.6s,baz=93,slow=3.1,SNR=5.8						

*IDC **26** 03:59:07.0±1.1, 37°30N×20°40E, h0km, mb3.5/8, mbtmp3.5/17, ML3.4/6, MS3.3/5, Error ellipse: s-maj=20.1km s-min=15.4km az=5.0*
*ATH **26** 03:59:08.0, 37°27N×20°46E, h6km±1km, ML3.7/10, Error ellipse: s-maj=2.5km s-min=1.3km az=57.0*
*THE **26** 03:59:09.4, 37°32N×20°54E, h1km±2km, ML3.8/12, Error ellipse: s-maj=2.4km s-min=0.6km az=230.0*
*NAO **26** 03:59:16.3, 37°20N×20°56E, h10km, mb3.8*
ISC 26 03:59:07.7±1.4,**37°29N**±0°.03×**20°43E**±0°.04,**h5**km±9km, **n68**,σ1§**12**/82,**mb3.5**/8,**MS3.9**/3,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.49**	**40**	P	**Pg**	**03 59 17.4**	**+0.3**
KRI1				S	**Sg**	**03 59 23.4**	**-0.1**
	22μm,0.3s						
LTHK	**Lithakia**	**0.54**	**38**	P	**Pg**	**03 59 18.2**	**+0.2**
LTHK				S	**Sg**	**03 59 24.9**	**-0.1**
	14μm,0.5s						
LTHK	**Lithakia**	**0.54**	**38**	P	**Pg**	**03 59 18.2**	**+0.2**
LTHK				S	**Sg**	**03 59 25.2**	**+0.2**
LTHK				AML	AML	03 59 25.4	
	comp=N,28026μm,0.4s						
LTHK				AML	AML	03 59 29.2	
	comp=E,21543μm,0.4s						
RTZL	**Ratzakli, Kefa**	**0.84**	**19**	P	**Pg**	**03 59 23.8**	**0.0**
RTZL				S	**Sb**	**03 59 35.8**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.84**	**9**	P	**Pb**	**03 59 24.5**	**-0.3**
PSDA				S	**Sb**	**03 59 35.7**	**-0.7**
	comp=E,15μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.84**	**9**	P	**Pb**	**03 59 24.4**	**-0.3**
PSDA				S	**Sb**	**03 59 36.0**	**-0.4**
VLS	**Valsamata**	**0.90**	**8**	P	**Pg**	**03 59 25.1**	**+0.1**
VLS				S	**Sb**	**03 59 37.4**	**-0.8**
	comp=E,7μm,0.4s						
VLS	**Valsamata**	**0.90**	**8**	P	**Pg**	**03 59 24.7**	**-0.3**
VLS				S	**Sb**	**03 59 38.2**	**0.0**
VLS				AML	AML	03 59 41.4	
	comp=E,15549μm,0.4s						
VLS				AML	AML	03 59 42.8	
	comp=N,13531μm,0.4s						
DMLN	**Damoulianata-K**	**0.95**	**358**	P	**Pn**	**03 59 27.8**	**-0.1**
DMLN				S	**Sb**	**03 59 40.4**	**+0.7**
	comp=N,18μm,0.6s						
DMLN	**Damoulianata-K**	**0.95**	**358**	P	**Pg**	**03 59 26.2**	**+0.2**
SMHA	**Samh**	**0.98**	**10**	P	**Pg**	**03 59 25.7**	**-0.8**
AMT	**Artemida-Makis**	**1.05**	**76**	P	**Pg**	**03 59 27.2**	**-0.7**
AMT				S	**Sb**	**03 59 41.7**	**-0.9**
AMT				AML	AML	03 59 48.3	
	comp=E,29925μm,0.3s						
AMT				AML	AML	03 59 48.4	
	comp=N,38493μm,0.3s						
PYL	**PYLOS**	**1.12**	**110**	P	**Pg**	**03 59 29.0**	**-0.2**
PYL				S	**Sb**	**03 59 45.0**	**+0.4**
	comp=N,2μm,0.3s						
PYL	**PYLOS**	**1.12**	**110**	P	**Pg**	**03 59 28.5**	**-0.7**
PYL				AML	AML	03 59 47.5	
	comp=N,2933μm,0.2s						
PYL				AML	AML	03 59 48.1	
	comp=E,3733μm,0.2s						
RLS	**Riolos of Patr**	**1.13**	**47**	P	**Pg**	**03 59 28.5**	**-0.9**
RLS				S	**Sg**	**03 59 43.7**	**-0.4**
	comp=E,2μm,0.6s						
RLS	**Riolos of Patr**	**1.13**	**47**	P	**Pg**	**03 59 28.3**	**-1.1**
RLS				AML	AML	03 59 48.9	
	comp=E,4960μm,0.5s						
RLS				AML	AML	03 59 54.4	
	comp=N,4780μm,0.8s						
FSK	**Fiskardo**	**1.18**	**5**	P	**Pg**	**03 59 30.1**	**-0.2**
FSK				S	**Sb**	**03 59 46.9**	**+0.7**
	comp=N,5μm,0.7s						
FSK	**Fiskardo**	**1.18**	**5**	P	**Pg**	**03 59 30.0**	**-0.3**
FSK				AML	AML	03 59 55.5	
	comp=E,9094μm,0.5s						
FSK				AML	AML	03 59 56.0	
	comp=N,8598μm,1.0s						
ITM	**Ithomi**	**1.20**	**95**	P	**Pg**	**03 59 29.8**	**-1.0**
ITM				S	**Sg**	**03 59 46.3**	**-0.1**
	comp=N,3μm,0.4s						
ITM	**Ithomi**	**1.20**	**95**	P	**Pg**	**03 59 29.8**	**-1.0**
ITM				AML	AML	03 59 50.3	
	comp=N,6009μm,0.2s						
ITM				AML	AML	03 59 54.4	
	comp=E,4552μm,0.7s						
DRO	**Drossia**	**1.22**	**56**	P	**Pg**	**03 59 30.1**	**-1.0**
DRO				S	**Sg**	**03 59 46.5**	**-0.4**
	comp=E,5μm,0.5s						
DRO	**Drossia**	**1.22**	**56**	P	**Pg**	**03 59 30.0**	**-1.0**
DRO				S	**Sg**	**03 59 46.4**	**-0.4**
DRO				AML	AML	03 59 55.6	
	comp=E,12221μm,0.6s						
DRO				AML	AML	03 59 57.8	
	comp=N,9125μm,0.4s						
EVGI	**Lefkada island**	**1.35**	**8**	P	**Pb**	**03 59 33.9**	**+0.4**
EVGI				S	**Sn**	**03 59 53.0**	**+1.4**
	comp=N,4μm,0.4s						
EVGI	**Lefkada island**	**1.35**	**8**	P	**Pg**	**03 59 33.0**	**-0.6**
AST1	**Astakos**	**1.36**	**23**	P	**Pg**	**03 59 33.2**	**-0.6**
NYDR	**Nydri-Lefkada**	**1.44**	**9**	P	**Pn**	**03 59 34.9**	**+0.4**
NYDR				S	**Sn**	**03 59 54.2**	**+0.3**
	comp=N,3μm,0.5s						
KLV	**Kalavryta, Ach**	**1.56**	**61**	P	**Pn**	**03 59 36.3**	**0.0**
KLV				S	**Sg**	**03 59 57.8**	**-0.2**
KLV	**Kalavryta, Ach**	**1.56**	**61**	P	**Pn**	**03 59 35.6**	**-0.7**
EFP	**Efpalio**	**1.64**	**45**	P	**Pn**	**03 59 37.2**	**0.0**
EFP	**Efpalio**	**1.64**	**45**	P	**Pn**	**03 59 37.0**	**-0.2**
EFP				AML	AML	04 00 07.3	
	comp=E,1963μm,0.7s						
EFP				AML	AML	04 00 12.6	
	comp=N,2896μm,0.8s						
GUR	**Goura**	**1.66**	**66**	P	**Pn**	**03 59 37.5**	**-0.1**
GUR	**Goura**	**1.66**	**66**	P	**Pn**	**03 59 37.0**	**-0.6**
GUR				AML	AML	04 00 13.6	
	comp=N,4646μm,0.7s						
GUR				AML	AML	04 00 19.7	
	comp=E,3229μm,0.7s						
ANX	**Ano Chora**	**1.76**	**42**	P	**Pn**	**03 59 39.6**	**+0.5**
OHR	**Ohrid**	**3.83**	**4**	*i* Pn	**Pn**	**04 00 10.6**	**+3.1**
IDI	**Anoyia**	**4.12**	**118**	Pn	**Pn**	**04 00 12.5**	**+1.0**
	comp=E,2.9nm,0.4s,baz=240,slow=15,SNR=1.2						
IDI				Sn	**Sn**	**04 01 01.2**	**+1.2**
	comp=E,5.6nm,0.3s,baz=310,slow=21,SNR=6.5						
VAY	**Valandovo**	**4.36**	**22**	*i* Pn	**Pn**	**04 00 15.3**	**+0.7**
VAE	**Valguarnera**	**4.79**	**274**	Pn	**Pn**	**04 00 20.6**	**-0.1**
	comp=E,3.8nm,0.6s,baz=75,slow=16,SNR=1.2						
VAE				Sn	**Sn**	**04 01 17.7**	**+1.0**
	comp=E,3.0nm,0.3s,baz=27,slow=20,SNR=1.9						
PEHC	**Pehcevo**	**4.88**	**22**	*i* Pn	**Pn**	**04 00 23.8**	**+1.9**
KEST	**Kesra**	**9.05**	**263**	Pn	**Pn**	**04 01 18.2**	**-1.0**
	comp=E,0.1nm,0.3s,baz=287,slow=6.0,SNR=1.2						
	comp=E,2.2nm,0.9s						
MLR	**Muntele Rosu**	**9.19**	**25**	Pn	**Pn**	**04 01 21.5**	**+0.5**
	comp=E,0.1nm,0.3s,baz=147,slow=16,SNR=1.5						
	comp=E,1.5nm,0.6s						
OBKA	**Obir**	**10.20**	**336**	*i* Pn	Pn	04 01 40.6	+5.7
	comp=E,1.0nm,0.3s						
SOKA	**Soboth**	**10.21**	**339**	*i* Pn	**Pn**	**04 01 38.6**	**+3.7**
	comp=E,1.5nm,0.6s						
ARSA	**Arzberg**	**10.60**	**342**	*i* Pn	Pn	04 01 47.2	+7.0
	comp=E,2.0nm,0.6s						
SRO	**Srobarova**	**10.64**	**352**	*e*PN	**Pn**	**04 01 42.3**	**+1.6**
BRTR	**Keskin Array B**	**10.64**	**73**	Pn	**Pn**	**04 01 41.9**	**+1.0**
	comp=E,0.5nm,1.0s,baz=256,slow=13,SNR=2.0						
CONA	**Conrad Observa**	**11.15**	**344**	*e*Pn	Pn	04 01 53.0	+5.1
	comp=E,0.6nm,0.4s						
VYHS	**Vyhne**	**11.26**	**355**	*e*PN	**Pn**	**04 01 50.1**	**+0.8**
MOA	**Molln**	**11.49**	**339**	*i* Pn	**Pn**	**04 01 53.9**	**+1.5**
	comp=E,0.5nm,0.3s						
BIOA	**Bad Ischl, Aus**	**11.54**	**336**	*i* Pn	**Pn**	**04 01 53.9**	**+0.7**
	comp=E,0.9nm,0.3s						
LESA	**Schwarzleotal**	**11.63**	**333**	*i* Pn	**Pn**	**04 01 58.1**	**+3.7**
	comp=E,1.6nm,0.4s						
DAVOX	**Davos/Dischmat**	**12.30**	**324**	Pn	**Pn**	**04 02 03.2**	**-0.5**
	comp=E,0.1nm,0.3s,baz=170,slow=20,SNR=1.8						
DAVOX				Sn	**Sn**	**04 04 16.0**	**-5.2**
	comp=E,0.1nm,0.3s,baz=195,slow=21,SNR=2.5						
DAVOX				LR	LR	04 08 00.9	
	comp=E,62nm,19.9s,baz=72,slow=44						
	comp=E,1.0nm,0.5s						
VRAC	**Vranov**	**12.34**	**348**	LR	LR	04 08 12.3	
	comp=E,43nm,21.9s,baz=47,slow=44						
GERES	**GERESS Array B**	**12.55**	**339**	Pn	**Pn**	**04 02 06.8**	**-0.2**
	comp=E,0.1nm,0.3s,baz=157,slow=14,SNR=2.2						
	comp=E,0.4nm,0.4s						
KHC	**Kasperske Hory**	**12.84**	**339**	*e*PN	Pn	04 02 16.3	+5.3
EIL	**Elat**	**14.29**	**118**	Pn	**Pn**	**04 02 31.7**	**+0.9**
	comp=E,0.2nm,0.3s,baz=63,slow=9.5,SNR=2.5						
	comp=E,2.4nm,0.6s						
ESDC	**Sonseca Array**	**19.23**	**285**	P	**P**	**04 03 32.8**	**0.0**
	baz=91,slow=11,SNR=2.1						
	comp=E,0.6nm,0.7s						
HFS	**Hagfors**	**23.27**	**351**	P	**P**	**04 04 15.7**	**-0.3**
	comp=E,0.8nm,0.5s,baz=163,slow=10,SNR=1.7						
	comp=E,0.8nm,0.5s						
EKA	**Eskdalemuir Ar**	**24.12**	**326**	P	**P**	**04 04 24.7**	**+0.4**
	comp=E,0.8nm,0.6s,baz=126,slow=7.2,SNR=5.3						
	comp=E,0.8nm,0.6s						
BELG	**Belogornoye**	**24.30**	**43**	LR	LR	04 14 20.9	
	comp=E,35nm,19.7s,baz=185,slow=38						
FINES	**FINESS Array B**	**24.44**	**7**	P	**P**	**04 04 27.4**	**+0.2**
	comp=E,1.6nm,0.9s,baz=191,slow=8.9,SNR=4.5						
	comp=E,1.6nm,0.9s						
NB2	**NORSAR Subarra**	**24.48**	**349**	P	**P**	**04 04 27.9**	**+0.3**
	comp=Z,2.0nm,1.1s,baz=162,slow=9.3						
NOA	**NORSAR Array B**	**24.48**	**349**	P	**P**	**04 04 27.9**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=163,slow=9.1,SNR=2.0						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.29**	**220**	P	**P**	**04 05 11.0**

n9,σ1°33/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.19**	**310**	Pg	**Pg**	**04 04 40.6**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.30**	**156**	Pg	**Pb**	**04 04 43.2**	**-1.0**
IDHR	**Dehrash**	**0.60**	**58**	Pg	**Pb**	**04 04 48.7**	**-0.8**
IGHG	**Ghaleghazi**	**0.67**	**95**	Pg	**Pb**	**04 04 50.7**	**0.0**
KCHF	**Cheshme Sefid,**	**1.06**	**96**	Pg	**Pn**	**04 04 57.6**	**-0.4**
ILIN	**Lien**	**1.12**	**61**	Pg	**Pb**	**04 04 58.0**	**-0.5**
IBDR	**Badra**	**1.28**	**174**	*e*Pg	**Pg**	**04 05 01.0**	**-0.1**
	baz=352						
IBDR				*e*Sg	**Sn**	**04 05 20.0**	**+1.9**
IKRK	**Kirkuk**	**1.55**	**311**	*e*Pn	**Pb**	**04 05 04.0**	**-1.5**
IKRK				*e*Sn	**Sg**	**04 05 28.0**	**+1.7**
IKRK				AML	AML	04 05 33.9	
	comp=N,156nm,0.4s						
IKRK				AML	AML	04 05 34.1	
	comp=E,166nm,0.4s						
IDOB	**Doab**	**2.09**	**106**	Pn	**Pb**	**04 05 13.6**	**-1.3**

*TEH **26** 04:26:28.1, 34°.24N×45°.60E, h10km±136km, ML2.6*
*ISN **26** 04:26:30.5±1.5, 34°.22N×45°.63E, h40km±56km, ML2.8*
ISC 26 04:26:28.6±1.1, 34°.26N±0°.06×45°.61E±0°.08, h10km, n7, σ0°47/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.24**	**356**	Pg	**Pg**	**04 26 33.8**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.29**	**121**	Pg	**Pg**	**04 26 34.2**	**-0.2**
IDHR	**Dehrash**	**0.78**	**55**	Pg	**Pg**	**04 26 43.7**	**+0.1**
IBDR	**Badra**	**1.18**	**167**	*e*Pg	**Pn**	**04 26 51.0**	**-0.1**
	baz=347						
IBDR				*e*Sg	**Sn**	**04 27 08.0**	**+0.8**
ILIN	**Lien**	**1.29**	**59**	Pg	**Pg**	**04 26 53.9**	**+0.5**
IKRK	**Kirkuk**	**1.54**	**318**	*e*Pn	**Pb**	**04 26 57.0**	**-0.3**
IKRK				*e*Sn	**Sg**	**04 27 18.0**	**-0.2**
IKRK				AML	AML	04 27 22.4	
	comp=N,179nm,0.3s						
IKRK				AML	AML	04 27 24.5	
	comp=E,89nm,0.5s						
SNQR	**Sonqor, Kerman**	**1.77**	**70**	Pg	**Pg**	**04 27 02.1**	**-0.4**

*NEIC **26** 04:27:08.1±2.1, 3°.66S±0°.05×140°.06E±0°.05, h35km±2km, mb4.5/16, Error ellipse: s-maj=10.0km s-min=5.6km az=223.0*
*IDC **26** 04:27:09.5±1.0, 3°.54S×140°.43E, h90km±12km, mb3.7/6, mbtmp4.2/7, Error ellipse: s-maj=37.6km s-min=16.6km az=106.0*
*DJA **26** 04:27:09.9±1.1, 4°.S±6°.×14°.1E±°., h10km, M4.4/3, MLv4.4/3*
ISC 26 04:27:08.1±0.6, 3.76S±0°.06×140°.06E±0°.08, h50km, n32, σ2°.15/31, mb4.3/11, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.16**	**5**	P	**Pn**	**04 27 30.0**	**+2.0**
GENI				S	**Sn**	**04 27 45.7**	**+2.9**
WAMI	**Wamena**	**1.35**	**265**	P	Pn	04 27 39.1	+8.5
JAY	**Jayapura**	**1.39**	**28**	P	**Pn**	**04 27 30.8**	**-0.4**
	623nm,0.4s,baz=185,slow=11,SNR=406						
JAY				S	**Sn**	**04 27 45.3**	**-3.1**
	914nm,0.4s,baz=207,slow=15,SNR=10						
JAY	**Jayapura**	**1.39**	**28**	P	**Pn**	**04 27 30.8**	**-0.4**
JAY				S	**Sn**	**04 27 46.2**	**-2.3**
FAKI	**Fak Fak**	**7.84**	**276**	Pn	**Pn**	**04 28 59.6**	**-0.1**
COEN	**Coen**	**10.59**	**163**	Pn	**Pn**	**04 29 40.0**	**+2.7**
MTN	**Manton Dam**	**12.63**	**224**	Pn	**Pn**	**04 30 07.7**	**+2.6**
KNRA	**Kununurra**	**16.25**	**222**	Pn	**P**	**04 30 54.4**	**-1.0**
KNRA				IAmb	IAmb	04 31 01.6	
	comp=Z,18nm,0.6s						
WB0	**Warramunga Arr**	**16.85**	**199**		**P**	**04 31 02.8**	**+0.8**
WB0				IAmb	IAmb	04 31 06.8	
	comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**17.03**	**199**	Pn	**P**	**04 31 04.2**	**+0.1**
WRA	**Warramunga Arr**	**17.03**	**199**	P	**P**	**04 31 05.9**	**+1.8**
	comp=Z,28nm,0.8s,baz=26,slow=12,SNR=115						
WRA				S	**Sn**	**04 34 05.4**	**-6.0**
	comp=Z,4.4nm,0.7s,baz=8.8,slow=22,SNR=6.3						
TOLI2	**Tolitoli**	**19.87**	**284**	Pn	**Pn**	**04 31 36.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**20.06**	**224**	P	Pn	04 31 39.1	-0.5
FITZ	**Fitzroy Crossi**	**20.06**	**224**	P	Pn	04 31 39.6	+0.1
	comp=Z,3.8nm,0.4s,baz=41,slow=9.9,SNR=30						
FITZ				S	**S**	**04 35 17.4**	**-2.9**
	comp=Z,7.8nm,0.7s,baz=156,slow=16,SNR=5.2						
	comp=Z,3.8nm,0.4s						
AS31	**Alice Springs**	**20.67**	**196**	P	Pn	04 31 44.9	-1.8
ASAR	**Alice Springs**	**20.67**	**196**	P	Pn	04 31 45.1	-1.6
ASAR	**Alice Springs**	**20.67**	**196**	P	Pn	04 31 45.5	-1.2
	comp=Z,5.7nm,0.5s,baz=32,slow=10.0,SNR=78						
ASAR				S	**S**	**04 35 30.2**	**-2.1**
	comp=Z,2.0nm,0.7s,baz=14,slow=27,SNR=6.2						
	comp=Z,5.7nm,0.5s						
EIDS	**Eidsvold**	**23.96**	**155**	P	**P**	**04 32 19.5**	**+1.6**
EIDS				IAmb	IAmb	04 32 20.3	
	comp=Z,21nm,0.7s						
MBWA	**Marble Bar**	**26.27**	**227**	P	**P**	**04 32 41.2**	**+2.3**
MBWA				IAmb	IAmb	04 32 43.1	
	comp=Z,11nm,0.8s						
PSA00	**Pilbara Seismi**	**26.44**	**226**	P	**P**	**04 32 42.5**	**+2.0**
PSA00				IAmb	IAmb	04 33 02.8	
	comp=Z,31nm,1.3s						
STKA	**Stephens Creek**	**28.01**	**177**	P	**P**	**04 32 53.6**	**-0.9**
	comp=Z,0.4nm,0.2s,baz=357,slow=18,SNR=1.3						
	comp=Z,0.4nm,0.2s						
ARMA	**Armidale**	**28.68**	**159**	P	**P**	**04 33 03.0**	**+2.4**
ARMA				IAmb	IAmb	04 33 44.2	
	comp=Z,24nm,1.4s						
BBOO	**Buckleboo**	**29.15**	**187**	P	**P**	**04 33 04.0**	**-0.6**
BBOO				IAmb	IAmb	04 33 47.4	
	comp=Z,8.7nm,1.1s						
FORT	**Forrest**	**29.17**	**202**	P	**P**	**04 33 04.3**	**-0.4**
MORW	**Morawa**	**33.97**	**220**	P	**P**	**04 33 48.2**	**+1.2**
TKNZ	**Takaka Hill**	**47.44**	**146**	P	**P**	**04 35 38.4**	**+0.5**
SONM	**Songino Array**	**59.24**	**334**	P	**P**	**04 37 05.0**	**+0.5**
SONM				IAmb	IAmb	04 37 12.9	
	comp=Z,2.3nm,1.4s						
BVAR	**Borovoye Array**	**80.94**	**325**	P	**P**	**04 39 14.2**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=110,slow=6.0,SNR=2.9						
	comp=Z,0.4nm,0.3s						
E18K	**Tukpahlearik C**	**82.16**	**20**	P	**P**	**04 39 23.5**	**+0.2**
J20K	**Nowinta River**	**83.07**	**24**	P	**P**	**04 39 27.4**	**-0.6**
J20K				IAmb	IAmb	04 39 41.5	
	comp=Z,8.8nm,1.4s						
QSPA	**South Pole Qui**	**86.20**	**180**	P	**P**	**04 39 42.1**	**-2.0**
	comp=Z,1.2nm,0.9s,baz=0.0,slow=4.8,SNR=3.2						
	comp=Z,1.2nm,0.9s						
ILAR	**Eielson Array**	**86.22**	**24**	P	P	04 39 38.8	-5.2
	comp=Z,0.4nm,0.6s,baz=260,slow=4.6,SNR=9.0						
	comp=Z,0.4nm,0.6s						

LDG 26 04:30:55.6±0.2, 45°.00N×6°.21E, h0km, Error ellipse: s-maj=65.0km s-min=4.8km az=126.0, Landslide, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPG	**La Plagne**	**0.62**	**37**	*e*Pg	Pg	04 31 08.0	+0.4
LPL	**La Plagne**	**0.63**	**35**	*e*Pg	Pg	04 31 08.1	+0.4

*NEIC **26** 04:42:54.0±1.8, 5°.49S±0°.09×151°.8E±0°.2, h35km±2km, mb4.4/21, Error ellipse: s-maj=29.3km s-min=8.3km az=118.0*
*IDC **26** 04:42:56.0±5.5, 5°.37S×151°.69E, h60km±48km, mb3.7/7, mbtmp4.0/8, ML2.0/1, MS3.2/8, Error ellipse: s-maj=55.1km s-min=30.1km az=126.0*
ISC 26 04:42:54.3±0.7, 5°.5S±0°.1×151°.8E±0°.2, h45km, n45, σ1°07/41, mb4.2/16, MS3.2/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.34**	**15**	Pn	**Pn**	**04 43 16.5**	**-0.1**
RABL				Sn	**Sn**	**04 43 35.4**	**+2.1**
MANU	**Manus Island**	**5.60**	**308**	Pn	Pn	04 44 19.8	+4.6
PMG	**Port Moresby**	**6.03**	**230**		**Pn**	**04 44 21.3**	**+0.2**
PMG				Sn	**Sn**	**04 45 25.6**	**-3.3**
PMG	**Port Moresby**	**6.03**	**230**	P	**Pn**	**04 44 23.7**	**+2.6**
	2.6nm,0.3s,baz=37,slow=9.8,SNR=9.7						
PMG				S	**Sn**	**04 45 30.6**	**+1.7**
	24nm,0.5s,baz=145,slow=21,SNR=1.5						
PMG				LR	LR	04 46 11.8	
	comp=Z,62nm,20.6s,baz=170,slow=32						
	30nm,0.8s						

CTA	**Charters Tower**	**15.48**	**200**	LR	LR	04 52 07.5	
	comp=Z,77nm,20.0s,baz=96,slow=35						
EIDS	**Eidsvold**	**19.78**	**182**	P	**P**	**04 47 22.0**	**+1.1**
EIDS				IAmb	IAmb	04 47 47.8	
	comp=Z,20nm,1.4s						
MTN	**Manton Dam**	**21.67**	**249**		**P**	**04 47 41.6**	**+0.2**
MTN				IAmb	IAmb	04 47 44.7	
	comp=Z,12nm,1.0s						
DZM	**Mont Dzumac**	**21.73**	**141**	LR	LR	04 55 17.3	
	comp=Z,85nm,19.5s,baz=19,slow=34						
WB0	**Warramunga Arr**	**22.10**	**229**	P	**P**	**04 47 45.6**	**-0.5**
WR0	**Warramunga Arr**	**22.11**	**228**	P	**P**	**04 47 45.8**	**-0.3**
WRAB	**Tennant Creek**	**22.24**	**228**	P	**P**	**04 47 47.9**	**+0.4**
WRAB				IAmb	IAmb	04 48 04.1	
	comp=Z,11nm,1.1s						
WB2	**Warramunga Arr**	**22.24**	**228**	P	**P**	**04 47 47.5**	**0.0**
WRA	**Warramunga Arr**	**22.25**	**228**	P	**P**	**04 47 47.0**	**-0.6**
WRA	**Warramunga Arr**	**22.25**	**228**	P	**P**	**04 47 47.7**	**+0.1**
	comp=Z,4.1nm,0.7s,baz=53,slow=9.9,SNR=33						
	comp=Z,4.1nm,0.7s						
AS31	**Alice Springs**	**24.98**	**222**	P	**P**	**04 48 13.8**	**-0.2**
ASAR	**Alice Springs**	**24.98**	**222**	P	**P**	**04 48 14.2**	**+0.2**
	comp=Z,4.6nm,0.7s,baz=57,slow=9.0,SNR=48						
ASAR				LR	LR	04 59 22.3	
	comp=Z,46nm,19.6s,baz=88,slow=40						
	comp=Z,4.6nm,0.7s						
STKA	**Stephens Creek**	**27.94**	**199**	LR	LR	04 59 42.3	
	comp=Z,45nm,18.7s,baz=30,slow=36						
BATI	**Baumata**	**28.26**	**259**	LR	LR	05 02 49.8	
	comp=Z,78nm,18.8s,baz=198,slow=42						
FITZ	**Fitzroy Crossi**	**28.46**	**242**	P	**P**	**04 48 44.8**	**-0.6**
JOW	**Kunigami**	**39.39**	**326**	LR	LR	05 03 42.4	
	comp=Z,59nm,20.6s,baz=179,slow=32						
SMRI	**Semarang**	**41.14**	**266**	P	**P**	**04 50 35.8**	**+1.2**
NWAO	**Narrogin (SRO)**	**42.20**	**225**	LR	LR	05 08 09.2	
	comp=Z,52nm,19.3s,baz=350,slow=36						
M16K	**Timber Creek**	**76.50**	**22**	P	**P**	**04 54 40.6**	**+1.2**
CNPM	**China Poot**	**78.76**	**26**	P	**P**	**04 54 51.2**	**-0.8**
G18K	**Tagagawik**	**79.71**	**19**	P	**P**	**04 54 56.7**	**-0.3**
G18K				IAmb	IAmb	04 55 11.0	
	comp=Z,6.2nm,1.4s						
J20K	**Nowinta River**	**80.18**	**21**	P	**P**	**04 55 00.1**	**+0.5**
MKAR	**Makanchi Array**	**80.20**	**319**	P	**P**	**04 54 59.6**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=52,slow=30,SNR=4.2						
	comp=Z,0.4nm,0.6s						
E19K	**Redstone River**	**81.14**	**18**	P	**P**	**04 55 05.0**	**+0.3**
E19K				IAmb	IAmb	04 55 16.4	
	comp=Z,7.6nm,1.1s						
ZALV	**Zalesovo Beam**	**81.18**	**327**	P	**P**	**04 55 03.4**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=106,slow=6.7,SNR=4.5						
	comp=Z,0.6nm,0.3s						
D19K	**Kuna River**	**81.53**	**17**	P	**P**	**04 55 06.9**	**+0.1**
D19K				IAmb	IAmb	04 55 30.9	
	comp=Z,11nm,1.2s						
ILAR	**Eielson Array**	**83.17**	**22**	P	**P**	**04 55 14.4**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=240,slow=5.1,SNR=8.3						
	comp=Z,0.3nm,0.6s						
H24K	**Noodor Dome**	**83.32**	**21**	P	**P**	**04 55 16.0**	**-0.2**
H24K				IAmb	IAmb	04 55 37.2	
	comp=Z,5.8nm,1.4s						
J25K	**Salcha River,**	**83.67**	**23**	P	**P**	**04 55 17.8**	**-0.3**
D23K	**Nanushuk River**	**84.01**	**18**	P	**P**	**04 55 20.2**	**+0.6**
D23K				IAmb	IAmb	04 55 27.2	
	comp=Z,3.1nm,1.1s						
M27K	**Edge Creek, AK**	**84.12**	**25**	P	**P**	**04 55 21.3**	**+0.8**
F24K	**Squaw Lake**	**84.15**	**20**	P	**P**	**04 55 20.9**	**+0.5**
F24K				IAmb	IAmb	04 55 29.7	
	comp=Z,5.4nm,1.3s						
TOLK	**Toolik Lake Re**	**84.18**	**18**	P	**P**	**04 55 21.0**	**+0.5**
TOLK				IAmb	IAmb	04 55 44.6	
	comp=Z,2.5nm,1.1s						
BVAR	**Borovoye Array**	**89.20**	**323**	P	**P**	**04 55 45.0**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=92,slow=4.5,SNR=3.7						
	comp=Z,0.7nm,0.7s						
NVAR	**Mina Array Bea**	**93.28**	**52**	P	**P**	**04 56 05.2**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=247,slow=6.2,SNR=4.4						
	comp=Z,0.7nm,0.7s						
T50A	**Nancy**	**119.67**	**50**	PKPdf	**PKPdf**	**05 01 38.0**	**-1.9**
GERES	**GERESS Array B**	**124.12**	**328**	PKPdf	**PKPdf**	**05 01 48.2**	**0.0**
GERES	**GERESS Array B**	**124.12**	**328**	PKP	**PKPdf**	**05 01 47.3**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=49,slow=3.0,SNR=2.8						
BOAV	**Boa Vista**	**147.60**	**94**	PKPbc	**PKPbc**	**05 02 35.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**149.57**	**287**	PKPbc	**PKPbc**	**05 02 39.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**149.57**	**287**	PKPbc	**PKPbc**	**05 02 39.5**	**-0.5**
	comp=Z,3.9nm,0.7s,baz=82,slow=3.1,SNR=21						

*NEIC **26** 05:14:11.5±1.0, 35°.24N±0°.01×97°.79W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=2.2km az=319.0*
NEIC 26 05:14:11.8±0.9, 35°.23N±0°.01×97°.79W±0°.01, h6km±2km, mb_Lg2.1/4, ML2.2/43, ML2.7/19, Error ellipse: s-maj=1.8km s-min=1.2km az=161.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNO	**Franklin**	**0.32**	**85**	Pg	Pg	05 14 18.2	+0.2
BCOK	**Bluff Creek, N**	**0.45**	**19**		Pg	05 14 20.6	+0.1
BCOK					Sg	05 14 27.2	+0.9
OK029	**Liberty Lake**	**0.62**	**25**	Pg	Pg	05 14 23.4	-0.5
OK029				Sg	Sg	05 14 32.5	+0.5
OK029				IAML		05 14 32.8	
	88nm,0.4s						
OK029				IAML		05 14 41.3	
	93nm,2.5s						
X34A	**Smith Ranch, M**	**0.63**	**184**	Pg	Pg	05 14 24.3	+0.3
X34A				IAML		05 14 34.6	
	comp=N,174nm,0.3s						
X34A				IAML		05 14 34.7	
	comp=E,86nm,0.5s						
W35A	**Tecumseh**	**0.75**	**96**	Pg	Pg	05 14 25.6	-0.6
W35A					Sg	05 14 36.3	+0.4
W35A				IAML		05 14 39.9	
	comp=N,92nm,0.5s						
CSTR	**Hydro, Custer**	**0.84**	**299**	Pg	Pg	05 14 27.2	-0.8
WMOK	**Wichita Mounta**	**0.95**	**239**	Pg	Pg	05 14 29.3	-0.8
WMOK	**Wichita Mounta**	**0.95**	**239**		Sg	05 14 42.5	-0.1
OK031	**S. Brethren Rd**	**1.05**	**47**	Pg	Pg	05 14 31.4	-0.7
OK031				IAML		05 14 47.8	
	comp=N,79nm,0.4s						
OK031				IAML		05 14 47.9	
	comp=N,113nm,0.2s						
OK052	**Battle Ridge R**	**1.10**	**46**	Pg	Pg	05 14 32.2	-0.8
DEOK	**Depew**	**1.21**	**60**	Pg	Pg	05 14 34.2	-0.9
DEOK				IAML		05 14 53.9	
	comp=N,55nm,0.8s						
DEOK				IAML		05 14 55.1	
	comp=E,71nm,0.3s						
CROK	**Carrier**	**1.28**	**353**		Pn	05 14 35.5	-0.8
QUOK	**Quay**	**1.28**	**43**		Pn	05 14 35.4	-0.9
LOOK	**Love County**	**1.33**	**158**		Pn	05 14 36.5	-0.5
LOOK				IAML		05 14 59.2	
	comp=E,62nm,0.2s						
LOOK				IAML		05 15 03.4	
	comp=N,49nm,0.5s						
OK048	**Pawnee Station**	**1.36**	**30**		Pn	05 14 36.9	-0.5
OK038	**West end E0370**	**1.47**	**328**		Pn	05 14 38.6	-0.3
WTFS	**Witchita Falls**	**1.57**	**201**		Pn	05 14 40.5	+0.3
GC02	**Grant County #**	**1.62**	**358**		Pn	05 14 40.8	-0.1
NOKA	**Waynoka**	**1.68**	**327**		Pn	05 14 41.5	-0.3
TUL3	**Leonard**	**1.76**	**67**	Pn	Pn	05 14 42.7	-0.2
TUL3				IAmb_Lg		05 15 08.3	
	comp=Z,9.1nm,0.9s						
KAN17	**Caldwell West**	**1.81**	**1**	Pn	Pn	05 14 44.2	+0.7
KAN09	**Caldwell North**	**1.91**	**4**	Pn	Pn	05 14 44.8	0.0
KAN01	**Argonia South**	**1.92**	**1**	Pn	Pn	05 14 44.4	-0.7
Z35A	**Perchaven, San**	**1.95**	**167**	Pn	Pn	05 14 45.5	+0.1
T35A	**Sooner Cattle**	**1.97**	**31**	Pn	Pn	05 14 45.8	+0.1
SMWD	**Samnorwood**	**2.02**	**267**	Pn	Pn	05 14 46.6	+0.2
SMWD				IAmb_Lg		05 15 17.7	
	comp=Z,9.4nm,0.9s						
FW06	**Azle**	**2.26**	**175**	Pn	Pn	05 14 49.6	-0.1
RLO	**Rose Lookout**	**2.43**	**67**	Pn	Pn	05 14 52.3	+0.2
PLPT	**Palo Pinto**	**2.45**	**190**	Pn	Pn	05 14 52.1	-0.2
AMTX	**Amarillo**	**3.21**	**265**	Pn	Pn	05 15 02.8	-0.1
R32A	**Long Quarter,**	**3.27**	**347**	Pn	Pn	05 15 04.0	+0.4
HHAR	**Hobbs**	**3.30**	**70**	Pn	Pn	05 15 03.5	-0.5
WHAR	**Wooly Hollow**	**4.50**	**88**	Pn	Pn	05 15 19.6	-0.9
FCAR	**Ozark Folk Cen**	**4.66**	**80**	Pn	Pn	05 15 20.8	-1.9

*KRSC **26** 05:20:13.8±2.5, 49°.91N×157°.06E, h40km±27km, Ml5.1, Felt [IV] at Severo-Kurilsk; [II] at Podgornay.*
*MOS **26** 05:20:14.4±1.0, 49°.98N×156°.12E, h65km, mb4.7/15, Error ellipse: s-maj=10.5km s-min=3.6km az=74.2*

MOS Felt (III) at Severo-Kuril'sk.
*IDC **26** 05:20:15.8±0.4, 50°.06N×156°.26E, h61km±3km, mb3.8/24, mbtmp4.2/32, MS3.4/43, Error ellipse: s-maj=11.5km s-min=8.1km az=126.0*
*NEIC **26** 05:20:16.1±1.4, 50°.03N±0°.09×156°.2E±0°.1, h64km±7km, mb4.6/159, Error ellipse: s-maj=14.4km s-min=9.8km az=139.0*
ISC 26 05:20:15.6±0.5, 49°.98N±0°.05×156°.40E±0°.04, h65km±4km, h65km:pP-P, n325, σ1°41/310, mb4.6/113, 2C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.73**	**346**	*e*P	**Pn**	**05 20 30.5**	**+0.1**
SKR				*e*S	**Sn**	**05 20 41.7**	**+0.4**
SKR	**Severo-Kuril's**	**0.73**	**346**	||/PN	**Pn**	**05 20 30.1**	**-0.3**
SKR				*e*S	**Sn**	**05 20 41.0**	**-0.3**
SKR				pmax	pmax		
	comp=Z,2μm,0.3s						
SKR				smax	smax		
	comp=N,39μm,0.6s						
SKR				smax	smax		
	comp=E,29μm,0.4s						
PAU	**Pauzhetka**	**1.51**	**10**	*e*P	**Pn**	**05 20 40.6**	**+0.1**
PAU				*e*S	**Sn**	**05 21 00.2**	**+0.8**
PAU	**Pauzhetka**	**1.51**	**10**	PN	**Pn**	**05 20 40.6**	**+0.1**
PAU				S	**Sn**	**05 21 00.1**	**+0.8**
ASAK	**Asacha**	**2.59**	**21**	*e*P	**Pn**	**05 20 55.5**	**+0.4**
ASAK	**Asacha**	**2.59**	**21**	PN	**Pn**	**05 20 55.5**	**+0.4**
MTVR	**Mutnovka**	**2.75**	**23**	*e*P	**Pn**	**05 20 57.7**	**+0.3**
MTVR				*e*S	**Sn**	**05 21 30.6**	**+1.1**
MTVR	**Mutnovka**	**2.75**	**23**	PN	**Pn**	**05 20 57.6**	**+0.3**
MTVR				S	**Sn**	**05 21 30.5**	**+1.1**
RUS	**Russkaya**	**2.79**	**28**	*e*P	**Pn**	**05 20 57.4**	**-0.4**
RUS				*e*S	**Sn**	**05 21 29.0**	**-1.4**
RUS	**Russkaya**	**2.79**	**28**	PN	**Pn**	**05 20 57.4**	**-0.4**
RUS				S	**Sn**	**05 21 29.0**	**-1.4**
APC	**Apacha**	**2.99**	**9**	*e*P	**Pn**	**05 21 01.3**	**+0.8**
APC	**Apacha**	**2.99**	**9**	PN	**Pn**	**05 21 01.3**	**+0.8**
KRMR	**Karymshinskiy**	**3.06**	**20**	*e*P	**Pn**	**05 21 02.6**	**+1.2**
KRMR	**Karymshinskiy**	**3.06**	**20**	PN	**Pn**	**05 21 02.5**	**+1.2**
PEA0B	**Petropavlovsk-**	**3.24**	**14**		**Pn**	**05 21 04.9**	**+1.0**
PEA0B	**Petropavlovsk-**	**3.24**	**14**	PN	**Pn**	**05 21 05.4**	**+1.5**
PETK	**Petropavlovsk-**	**3.24**	**14**		**Pn**	**05 21 04.1**	**+0.2**
PETK	**Petropavlovsk-**	**3.24**	**14**	P	**Pn**	**05 21 05.0**	**+1.1**
	comp=E,40nm,0.4s,baz=196,slow=14,SNR=117						
PETK				S	**Sn**	**05 21 40.0**	**-1.3**
	comp=E,49nm,0.5s,baz=196,slow=22,SNR=5.5						
PETK				LR	LR	05 22 40.7	
	comp=E,550nm,20.0s,baz=205,slow=46						
PETK	**Petropavlovsk-**	**3.24**	**14**	PN	**Pn**	**05 21 05.0**	**+1.1**
PETK				S	**Sn**	**05 21 40.0**	**-1.3**
PET	**Petropavlovsk**	**3.36**	**24**		**Pn**	**05 21 06.2**	**+0.7**
PET				Sn	**Sn**	**05 21 44.9**	**+0.7**
PET	**Petropavlovsk**	**3.36**	**24**	*e*P	**Pn**	**05 21 06.5**	**+1.0**
PET				*e*S	**Sn**	**05 21 44.6**	**+0.5**
PET	**Petropavlovsk**	**3.36**	**24**	*e*PN	**Pn**	**05 21 06.3**	**+0.7**
PET				*e*S	**Sn**	**05 21 45.1**	**+0.9**
PET				pmax	pmax		
	comp=Z,164nm,0.5s						
PET				smax	smax		
	comp=N,1μm,0.5s						
PET				smax	smax		
	comp=E,965nm,0.5s						
PET				MLR	MLR		
	comp=Z,300nm,5.0s						
PET	**Petropavlovsk**	**3.36**	**24**	P	**Pn**	**05 21 06.0**	**+0.5**
INSR	**Institute**	**3.39**	**23**	*e*P	**Pn**	**05 21 07.4**	**+1.4**
INSR				*e*S	**Sn**	**05 21 46.0**	**+1.1**
INSR	**Institute**	**3.39**	**23**	PN	**Pn**	**05 21 07.3**	**+1.4**
INSR				S	**Sn**	**05 21 45.9**	**+1.1**
DALK	**Dalny**	**3.39**	**25**	*e*P	**Pn**	**05 21 06.6**	**+0.6**
DALK				*e*S	**Sn**	**05 21 46.4**	**+1.4**
DALK	**Dalny**	**3.39**	**25**	PN	**Pn**	**05 21 06.6**	**+0.6**
DALK				S	**Sn**	**05 21 46.3**	**+1.4**
UGLR	**Uglovaya**	**3.57**	**24**	*e*P	**Pn**	**05 21 10.0**	**+1.5**
UGLR	**Uglovaya**	**3.57**	**24**	PN	**Pn**	**05 21 10.0**	**+1.5**
AVH	**Avacha**	**3.60**	**23**	*e*P	**Pn**	**05 21 11.0**	**+2.1**
AVH	**Avacha**	**3.60**	**23**	PN	**Pn**	**05 21 11.0**	**+2.1**
KOK	**Koryaka**	**3.60**	**22**	*e*P	**Pn**	**05 21 11.3**	**+2.3**
KOK	**Koryaka**	**3.60**	**22**	PN	**Pn**	**05 21 11.2**	**+2.3**
SMAR	**Somma**	**3.61**	**24**	*e*P	**Pn**	**05 21 11.4**	**+2.2**
SMAR	**Somma**	**3.61**	**24**	PN	**Pn**	**05 21 11.4**	**+2.2**
KRER	**Koryakskii**	**3.64**	**23**	*e*P	**Pn**	**05 21 11.6**	**+2.0**
KRER	**Koryakskii**	**3.64**	**23**	PN	**Pn**	**05 21 11.5**	**+2.0**
SDLR	**Sedlovina**	**3.65**	**24**	*e*P	**Pn**	**05 21

KLR pmax pmax
comp=Z,11nm,1.2s
JMM Marumori 16.48 229 Pn **Pn 05 24 00.7 -1.7**
KIWB Kanaga Island 16.76 73 Pn **Pn 05 24 05.8 0.0**
GSTR Great Sitkin T 17.41 72 **P 05 24 14.7 +0.3**
USA0B Ussuriysk Arra 17.56 260 Pn **Pn 05 24 12.9 -2.8**
USA0B Ussuriysk Arra 17.56 260 P **Pn 05 24 12.9 -2.8**
USA0B pmax pmax
comp=Z,10.0nm,1.1s
USRK Ussuriysk Ar. 17.56 260 Pn **Pn 05 24 12.5 -3.2**
USRK Ussuriysk Ar. 17.56 260 P **P 05 24 16.6 +0.7**
comp=Z,2.2nm,0.8s,baz=64,slow=13,SNR=2.5
USRK LR LR 05 30 27.4
comp=Z,83nm,21.5s,baz=54,slow=35
JSD Sado 17.63 234 **Pn 05 24 15.3 -1.3**
HEH HeiHe 18.54 282 *eP* **Pn 05 24 30.0 +2.4**
HEH pmax pmax
comp=Z,20nm,0.9s
BILL Bilibino 18.77 12 *i* P **Pn 05 24 30.2 0.0**
MJAR Matsushiro Arr 18.80 231 P **Pn 05 24 30.5 -0.2**
comp=Z,1.3nm,0.3s,baz=28,slow=11,SNR=5.7
MJAR LR LR 05 31 50.3
comp=Z,63nm,21.8s,baz=44,slow=37
MJB9 Matsu-Tunnel 18.80 231 P **P 05 24 28.9 -0.7**
MAJO Matsushiro 18.80 231 P **P 05 24 28.3 -1.3**
MAJO Matsushiro 18.80 231 P **P 05 24 28.3 -1.3**
MAJO pmax pmax
comp=Z,8.0nm,0.8s
MDJ Mudanjiang 18.90 264 P **P 05 24 28.7 -2.0**
YAK Yakutsk 19.03 319 P **P 05 24 30.0 -2.0**
YAK IAmb IAmb 05 24 48.4
comp=Z,67nm,1.2s
YAK Yakutsk 19.03 319 P **P 05 24 32.4 +0.5**
comp=Z,17nm,0.4s,baz=314,slow=16,SNR=4.8
YAK LR LR 05 32 04.1
comp=Z,114nm,20.9s,baz=102,slow=38
YAK Yakutsk 19.03 319 *eP* **P 05 24 30.7 -1.2**
YAK *eS* **Sn 05 28 04.9 -0.6**
YAK pmax pmax
comp=Z,23nm,1.2s
YAK pmax pmax
comp=N,19nm,1.7s
YAK pmax pmax
comp=E,10.0nm,0.8s
YAK smax smax
comp=E,468nm,4.8s
YAK smax smax
comp=N,284nm,4.1s
INU Inuyama 20.33 231 P **P 05 24 45.8 -0.5**
KSRS Korea Array 23.93 249 P **P 05 25 24.4 +1.0**
comp=N,2.8nm,0.8s,baz=49,slow=9.8,SNR=8.2
KSRS pP **pP 05 25 39.5 +1.0**
comp=N,3.8nm,1.0s,baz=49,slow=9.5,SNR=4.2
KSRS LR LR 05 33 53.4
comp=N,42nm,19.8s,baz=65,slow=34
comp=N,2.8nm,0.8s
KSAR Wonju Array Be 23.96 249 P **P 05 25 22.1 -1.6**
KSAR Wonju Array Be 23.96 249 P **P 05 25 22.1 -1.6**
K13K Kusilvak Mount 24.45 46 P **P 05 25 28.6 +0.8**
K13K IAmb IAmb 05 25 47.8
comp=Z,34nm,1.4s
TIXI Tiksi 25.08 340 P **P 05 25 31.9 -1.7**
TIXI Tiksi 25.08 340 LR LR 05 35 26.0
comp=Z,63nm,20.1s,baz=206,slow=36
TIXI Tiksi 25.08 340 *ceP* **P 05 25 32.0 -1.5**
TIXI pmax pmax
comp=Z,15nm,2.5s
JNU Nakatsue 25.28 238 P **P 05 25 33.9 -1.8**
JNU IAmb IAmb 05 25 52.3
comp=Z,19nm,1.0s
JNU Nakatsue 25.28 238 LR LR 05 35 46.6
comp=Z,38nm,21.8s,baz=84,slow=37
CNBA Chernabura Isl 26.94 63 P **P 05 25 50.2 -0.3**
M16K Timber Creek 27.04 49 P **P 05 25 50.5 -0.8**
M16K IAmb IAmb 05 26 17.0
comp=Z,26nm,1.4s
J17K VABM Dome 27.24 44 P **P 05 25 52.0 -1.1**
J17K IAmb IAmb 05 26 29.8
comp=Z,20nm,1.2s
O16K Kokwok River B 27.42 52 P **P 05 25 55.2 +0.5**
O16K IAmb IAmb 05 26 24.0
comp=Z,28nm,1.4s
C18K Utukok River 27.73 32 P **P 05 25 57.4 -0.1**
C18K IAmb IAmb 05 26 01.8
comp=Z,18nm,1.2s
M17K Holitna River 27.80 48 P **P 05 25 58.2 +0.1**
G18K Tagagawik 27.88 38 P **P 05 25 59.8 +1.0**
J18K Innoko River 28.30 44 P **P 05 26 03.4 +0.8**
F19K Shaleruckik Mo 28.44 37 P **P 05 26 03.3 -0.4**
H19K Roundabout Mou 28.70 39 P **P 05 26 07.2 +1.2**
H19K IAmb IAmb 05 26 47.6
comp=Z,11nm,0.9s
E19K Redstone River 28.79 35 P **P 05 26 08.4 +1.5**
J19K Poorman 28.84 43 P **P 05 26 08.1 +0.8**
J20K Nowinta River 29.50 43 P **P 05 26 14.7 +1.4**
B20K Meade River 29.53 30 P **P 05 26 14.1 +0.7**
B20K IAmb IAmb 05 26 35.9
comp=Z,22nm,1.3s
Q19K Cape Douglas, 29.73 53 P **P 05 26 16.5 +1.2**
IMAR Indian Mountai 29.87 39 P **P 05 26 17.2 +0.7**
G21K Allakaket 30.05 38 P **P 05 26 19.3 +1.3**
G21K IAmb IAmb 05 26 36.2
comp=Z,15nm,1.5s
B21K Ikpikpuk River 30.27 32 P **P 05 26 20.9 +1.0**
BPAW Bear Paw Mtn. 30.88 43 P **P 05 26 25.8 +0.3**
E22K Anaktuvuk Pass 30.95 35 P **P 05 26 26.0 +0.1**
E22K IAmb IAmb 05 26 31.6
comp=Z,15nm,1.5s
H11N2 WAKE ISLAND Hy 31.32 161 T T 05 59 30.5
baz=347,slow=76,SNR=139
H11N1 WAKE ISLAND Hy 31.34 161 T T 05 59 31.7
baz=347,slow=76,SNR=88
H11N3 WAKE ISLAND Hy 31.34 161 T T 05 59 32.6
baz=347,slow=76,SNR=194
C23K Itkillik River 31.68 32 P **P 05 26 31.9 -0.4**
E23K Chandalar 31.75 35 P **P 05 26 33.9 +0.8**
TOLK Toolik Lake Re 31.84 34 P **P 05 26 34.3 +0.4**
E24K Your Creek 32.17 35 P **P 05 26 37.2 +0.5**
D24K Happy Valley 32.18 33 P **P 05 26 37.2 +0.5**
COLA College 32.25 41 *i* P **P 05 26 36.3 -1.1**
COLA pmax pmax
comp=Z,18nm,1.4s
HHC Hu-ho-hao-te 32.34 271 *eP* **P 05 26 38.8 +0.2**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,92nm,5.9s
F24K Squaw Lake 32.35 36 P **P 05 26 39.5 +1.2**
POKR Poker Plat Res 32.43 41 P **P 05 26 40.4 +1.4**
SONM Songino Array 32.44 286 LR LR 05 40 20.7
comp=Z,51nm,19.6s,baz=245,slow=37
H11S1 WAKE ISLAND Hy 32.47 162 T T 06 00 58.3
baz=347,slow=76,SNR=962
H11S3 WAKE ISLAND Hy 32.48 162 T T 06 00 57.3
baz=347,slow=76,SNR=1776
H11S2 WAKE ISLAND Hy 32.48 162 T T 06 00 58.5
baz=347,slow=76,SNR=1472
ILAR Eielson Array 32.67 42 P **P 05 26 41.6 +0.6**
ILAR Eielson Array 32.67 42 P **P 05 26 41.4 +0.3**
comp=Z,1.2nm,0.9s,baz=254,slow=7.6,SNR=9.7
ILAR pP **pP 05 26 56.3 -0.4**
comp=Z,1.6nm,0.7s,baz=264,slow=7.7,SNR=9.1
ILAR LR LR 05 39 42.9
comp=Z,51nm,21.2s,baz=262,slow=36
comp=Z,1.2nm,0.9s
D25K Kavik River 33.07 33 P **P 05 26 44.7 +0.2**
NJ2 Nanjing 33.07 251 *eP* **P 05 26 45.0 +0.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
PRP Porcupine Dome 33.23 40 P **P 05 26 46.7 +0.5**
PRP IAmb IAmb 05 27 03.4
comp=Z,9.4nm,1.0s
J25K Salcha River, 33.32 42 P **P 05 26 47.4 +0.5**
J25K IAmb IAmb 05 26 49.6
comp=Z,9.8nm,1.4s
RIDG Independent Ri 33.60 43 P **P 05 26 48.1 -1.2**
BMAR Burnt Mountain 33.62 37 P **P 05 26 50.7 +1.4**
C27K Jago River 34.03 33 P **P 05 26 53.9 +1.0**
C27K IAmb IAmb 05 26 55.1
comp=Z,7.4nm,1.2s
I26K Coal Creek Min 34.23 41 P **P 05 26 55.0 +0.4**
M26K Nabesna, AK 34.58 46 P **P 05 26 58.9 +1.1**
M26K IAmb IAmb 05 27 15.5
comp=Z,11nm,1.1s
MCARA McCarthy VSAT 34.71 47 P **P 05 27 01.2 +2.3**

E27K Coleen River 34.76 35 P **P 05 27 00.3 +1.1**
G27K Doyon Strip 34.77 38 P **P 05 27 01.7 +2.4**
D27M Malcolm River 34.99 34 P **P 05 27 02.4 +1.2**
D27M IAmb IAmb 05 27 03.2
comp=Z,5.7nm,0.7s
L27K Beaver Creek, 35.02 44 IAmb IAmb 05 27 19.7
comp=Z,7.2nm,0.8s
F28M Old Crow 35.42 36 P **P 05 27 06.1 +1.2**
F28M IAmb IAmb 05 27 07.4
comp=Z,5.2nm,0.7s
I28M Miner Creek 35.56 40 P **P 05 27 07.1 +0.9**
I28M IAmb IAmb 05 27 07.9
comp=Z,6.9nm,1.1s
G29M Pine Creek 36.19 37 IAmb IAmb 05 27 14.0
comp=Z,9.6nm,0.9s
O29M Mount Kennedy 37.06 49 P **P 05 27 20.4 +1.4**
I30M Mount Dempster 37.07 40 P **P 05 27 19.9 +0.8**
I30M IAmb IAmb 05 27 36.0
comp=Z,12nm,1.1s
NRIK Noril'sk 37.19 327 LR LR 05 42 55.5
comp=Z,59nm,21.0s,baz=292,slow=37
GUMO Guam 37.50 199 LR LR 05 39 26.5
comp=Z,48nm,20.1s,baz=78,slow=31
INK Inuvik 37.75 35 P **P 05 27 25.6 +1.1**
INK Inuvik 37.75 35 P **P 05 27 25.7 +1.1**
INK pmax pmax
comp=Z,6.0nm,1.0s
F31M Tsiigehtchic 37.79 36 P **P 05 27 26.4 +1.5**
F31M IAmb IAmb 05 27 26.5
comp=Z,6.1nm,0.9s
H31M Peel River 37.81 39 P **P 05 27 26.5 +1.3**
H31M IAmb IAmb 05 27 33.4
comp=Z,16nm,1.4s
A36M Sachs Harbour 39.98 28 P **P 05 27 44.6 +1.4**
A36M IAmb IAmb 05 27 49.4
comp=Z,8.4nm,0.8s
C36M Paulatuk 40.92 32 P **P 05 27 52.0 +1.0**
R33M Jennings River 41.00 48 P **P 05 27 52.2 +0.3**
ZALV Zalesovo Beam 42.56 304 P **P 05 28 03.7 -0.8**
comp=Z,0.7nm,0.5s,baz=68,slow=8.1,SNR=1.7
ZALV PcP **PcP 05 29 55.3 -0.5**
comp=Z,0.6nm,0.6s,baz=72,slow=3.8,SNR=3.7
ZALV LR LR 05 45 34.2
comp=Z,28nm,18.3s,baz=76,slow=36
comp=Z,0.7nm,0.5s
WMQ Urumqi 45.84 290 *eP* **P 05 28 32.0 +1.0**
WMQ PcP **PcP 05 30 07.5 +0.2**
WMQ pmax pmax
comp=Z,16nm,0.9s
YKA Yellowknife Ar 47.03 39 P **P 05 28 40.8 +0.8**
comp=Z,2.8nm,0.8s,baz=300,slow=8.2,SNR=14
YKA pP **pP 05 28 56.6 +0.4**
comp=Z,2.1nm,0.8s,baz=299,slow=7.6,SNR=6.5
comp=Z,2.8nm,0.8s
KURK Kurchatov 47.44 302 P **P 05 28 43.1 -0.2**
KURK *PP **pP 05 28 58.5 -1.2**
KURK 05 30 12.9
MKAR Makanchi Array 47.44 296 P **P 05 28 43.2 -0.2**
comp=Z,0.7nm,0.4s,baz=43,slow=5.1,SNR=14
MKAR pP **pP 05 28 57.1 -2.8**
comp=Z,0.9nm,0.7s,baz=60,slow=7.2,SNR=4.6
MKAR LR LR 05 49 54.7
comp=Z,91nm,19.5s,baz=338,slow=38
comp=Z,0.7nm,0.4s
KURBB Kurchatov Arra 47.53 302 P **P 05 28 43.1 -1.0**
comp=Z,1.6nm,0.3s,baz=62,slow=7.7,SNR=2.1
KURBB pP **pP 05 28 58.5 -2.0**
comp=Z,1.2nm,0.3s,baz=65,slow=8.5,SNR=2.2
KURBB PcP **PcP 05 30 12.9 -0.2**
comp=Z,1.0nm,0.4s,baz=67,slow=3.5,SNR=2.0
comp=Z,1.6nm,0.3s
PZH PanZhiHua 47.65 261 P **P 05 28 44.3 -1.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,140nm,4.3s
KMI Kunming 47.99 259 ⇓P **P 05 28 48.8 +0.7**
KMI pmax pmax
comp=Z,14nm,0.5s
BVAR Borovoye Array 50.52 309 P **P 05 29 05.8 -1.0**
comp=Z,1.0nm,0.4s,baz=56,slow=9.2,SNR=8.1
BVAR LR LR 05 51 06.0
comp=Z,45nm,19.4s,baz=53,slow=37
comp=Z,1.0nm,0.4s
BRVK Borovoye 50.56 309 *ceP* **P 05 29 06.8 -0.3**
BRVK pmax pmax
comp=Z,3.0nm,1.3s
B08A Colville Reser 52.27 57 P **P 05 29 20.7 +0.7**
B08A IAmb IAmb 05 29 21.2
comp=Z,5.7nm,0.9s
E09A Wood Farm, Sta 54.01 58 P **P 05 29 33.3 +0.5**
E09A IAmb IAmb 05 29 34.6
comp=Z,6.7nm,0.9s
PINE Pine Mountain 54.10 62 P **P 05 29 34.0 +0.2**
ARTI Arti 54.22 317 LR LR 05 53 51.6
comp=Z,41nm,18.5s,baz=30,slow=37
J05D Fort Rock, OR 54.24 63 P **P 05 29 36.7 +1.9**
J05D IAmb IAmb 05 29 37.8
comp=Z,7.1nm,1.0s
L04D Klamath Falls 54.28 65 P **P 05 29 37.0 +2.0**
YBH Yreka Blue Hor 54.34 65 LR LR 05 50 21.1
comp=Z,38nm,18.8s,baz=333,slow=33
AAK Ala-Archa 54.37 296 LR LR 05 53 32.2
comp=Z,72nm,20.6s,baz=52,slow=37
AAK Ala-Archa 54.37 296 *i* P **P 05 29 36.3 +0.6**
AAK pmax pmax
comp=Z,10.0nm,2.5s
PHRA Phrae 54.41 256 P **P 05 29 35.9 -0.1**
CHTO Chiang Mai 54.98 257 P **P 05 29 39.4 -0.8**
CHTO IAmb IAmb 05 29 44.4
comp=Z,3.9nm,0.8s
CHTO Chiang Mai 54.98 257 P **P 05 29 39.4 -0.8**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 55.25 257 P **P 05 29 43.9 +1.8**
comp=Z,2.3nm,0.8s,baz=24,slow=7.1,SNR=10
comp=Z,2.3nm,0.8s
ARCES ARCESS Array B 55.51 341 P **P 05 29 42.7 -0.6**
comp=Z,5.7nm,1.0s,baz=36,slow=7.3,SNR=3.7
ARCES LR LR 05 58 19.3
comp=Z,50nm,18.4s,baz=5.0,slow=41
comp=Z,5.7nm,1.0s
J08A Circle Bar Ran 55.78 62 IAmb IAmb 05 29 48.3
comp=Z,5.9nm,1.1s
PLID Pearl Lake 56.07 59 IAmb IAmb 05 29 49.9
comp=Z,8.4nm,0.9s
MSO Missoula 56.09 56 P **P 05 29 49.2 +1.3**
MSO IAmb IAmb 05 30 07.6
comp=Z,11nm,1.3s
WVOR Wild Horse Val 56.27 62 P **P 05 29 50.9 +1.6**
WVOR Wild Horse Val 56.27 62 P **P 05 29 50.9 +1.6**
WVOR pmax pmax
comp=Z,10.0nm,1.0s
OVMT Ovando 56.45 55 P **P 05 29 51.3 +0.8**
KIRV Kirov 56.51 323 LR LR 05 55 22.5
comp=Z,41nm,18.5s,baz=40,slow=37
MFID Camas Ranch 57.23 60 IAmb IAmb 05 29 57.8
comp=Z,5.0nm,1.1s
DLMT Dillon 57.75 56 P **P 05 30 00.9 +1.2**
DLMT IAmb IAmb 05 30 11.0
comp=Z,7.3nm,1.3s
PNTR Pine Nut 57.86 66 P **P 05 30 00.2 -0.5**
HLID Hailey 57.92 59 P **P 05 30 01.6 +0.6**
HLID IAmb IAmb 05 30 03.9
comp=Z,5.2nm,1.2s
ABKAR Akbulak array 58.04 310 P **P 05 30 00.8 -0.7**
YERR Yerington 58.14 66 IAmb IAmb 05 30 21.7
comp=Z,5.2nm,0.9s
AKTO Aktyubinsk 58.20 312 LR LR 05 55 32.3
comp=Z,38nm,18.2s,baz=292,slow=36
WAKR Walker 58.33 66 IAmb IAmb 05 30 23.3
comp=Z,4.2nm,0.7s
KVN Kaiserville 58.76 65 P **P 05 30 08.3 +1.4**
KVN IAmb IAmb 05 30 26.1
comp=Z,5.6nm,0.9s
KVN Kaiserville 58.76 65 P **P 05 30 08.3 +1.4**
KVN pmax pmax
comp=Z,6.0nm,0.9s
YHL Hebgen Lake 58.84 56 P **P 05 30 09.2 +1.7**
YHL IAmb IAmb 05 30 10.0
comp=Z,6.4nm,0.9s
NVAR Mina Array Bea 59.05 66 P **P 05 30 10.5 +1.5**
comp=Z,1.0nm,0.6s,baz=297,slow=7.3,SNR=8.1
NVAR pP **pP 05 30 27.5 +1.8**
comp=Z,3.3nm,0.8s,baz=293,slow=7.2,SNR=13
comp=Z,1.0nm,0.6s

HNR Honiara 59.24 176 P **P 05 30 10.7 +0.7**
comp=Z,94nm,0.5s,baz=194,slow=3.4,SNR=1.9
HNR LR LR 05 51 46.8
comp=Z,36nm,21.4s,baz=331,slow=32
ELK Elko 59.30 62 P **P 05 30 11.6 +0.9**
ELK IAmb IAmb 05 30 31.0
comp=Z,3.6nm,0.9s
ELK Elko 59.30 62 P **P 05 30 11.6 +0.9**
ELK pmax pmax
comp=Z,4.0nm,0.9s
YNE Yellowstone No 59.37 55 P **P 05 30 12.4 +1.3**
RLMT Red Lodge 59.68 55 P **P 05 30 15.2 +1.9**
FXWY Fox Creek 59.73 57 IAmb IAmb 05 30 16.5
comp=Z,3.3nm,0.8s
TPH Tonopah 59.92 66 P **P 05 30 15.0 +0.1**
TPH Tonopah 59.92 66 P **P 05 30 15.0 +0.1**
TPH pmax pmax
comp=Z,33nm,1.0s
DSP Deep Springs 59.95 67 P **P 05 30 15.7 +0.8**
DSP IAmb IAmb 05 30 34.5
comp=Z,5.2nm,1.0s
LOHW Long Hollow 59.98 57 P **P 05 30 15.6 +0.4**
SNOW Snow King Moun 59.99 57 IAmb IAmb 05 30 18.6
comp=Z,5.2nm,0.8s
R11B Troy Canyon, C 60.70 64 IAmb IAmb 05 30 39.0
comp=Z,4.8nm,1.0s
HWUT Hardware Ranch 60.79 59 P **P 05 30 21.8 +1.0**
HWUT IAmb IAmb 05 30 40.6
comp=Z,4.5nm,0.9s
SPR3 Spring Creek 3 60.99 63 P **P 05 30 23.2 +0.8**
SPR3 IAmb IAmb 05 30 42.0
comp=Z,5.4nm,0.8s
DUG Dugway, Tooele 61.05 61 IAmb IAmb 05 30 24.9
comp=Z,5.3nm,0.9s
PD31 Pinedale Array 61.11 57 P **P 05 30 24.2 +1.2**
PDAR Pinedale Array 61.11 57 P **P 05 30 24.4 +1.3**
comp=Z,6.6nm,0.8s,baz=329,slow=2.6,SNR=42
PDAR pP **pP 05 30 40.8 +1.1**
comp=Z,5.3nm,1.0s,baz=336,slow=3.3,SNR=7.9
comp=Z,6.6nm,0.8s
WCT Wildcat Mounta 61.14 66 P **P 05 30 24.3 +1.2**
WCT IAmb IAmb 05 30 41.8
comp=Z,4.6nm,1.1s
TPNV Topopah Spring 61.25 66 IAmb IAmb 05 30 26.2
comp=Z,9.4nm,1.2s
FRB Frobisher Bay 61.27 21 LR LR 05 58 19.5
comp=Z,86nm,18.5s,baz=120,slow=37
BELG Belogornoye 61.56 319 LR LR 05 58 42.7
comp=Z,40nm,18.4s,baz=41,slow=38
BSUT Blindstream Ca 61.97 60 IAmb IAmb 05 30 32.7
comp=Z,4.6nm,1.1s
FINES FINESS Array B 62.03 335 P **P 05 30 28.2 -0.3**
comp=Z,0.5nm,0.5s,baz=19,slow=6.5,SNR=5.8
FINES LR LR 06 00 12.7
comp=Z,55nm,18.2s,baz=22,slow=39
comp=Z,0.5nm,0.5s
FINES FINESS Array B 62.03 335 *i* P **P 05 30 29.2 +0.6**
FINES pmax pmax
comp=Z,1.0nm,0.8s
SHPR Sheep Range 62.20 66 IAmb IAmb 05 30 49.6
comp=Z,5.9nm,1.4s
MVU Marysvale 62.54 62 P **P 05 30 33.7 +1.0**
MSU Marysvale 62.55 62 P **P 05 30 34.0 +1.3**
MSU Marysvale 62.55 62 P **P 05 30 34.1 +1.3**
TMUT Trail Mountain 62.56 61 IAmb IAmb 05 30 51.9
comp=Z,6.3nm,0.9s
Q16A Castle Valley 62.84 61 P **P 05 30 36.2 +1.6**
Q16A IAmb IAmb 05 30 36.5
comp=Z,3.1nm,0.7s
MTPU Mount Pierson 62.87 62 P **P 05 30 36.5 +1.4**
MTPU IAmb IAmb 05 30 54.5
comp=Z,3.9nm,0.9s
LCMT Little Creek M 62.97 64 IAmb IAmb 05 30 54.8
comp=Z,4.9nm,0.9s
SRU San Rafael Swe 63.08 61 P **P 05 30 37.9 +1.7**
SRU San Rafael Swe 63.08 61 P **P 05 30 37.9 +1.7**
SRU pmax pmax
comp=Z,11nm,0.9s
RSSD Black Hills 63.09 53 P **P 05 30 37.6 +1.3**
RSSD Black Hills 63.09 53 P **P 05 30 37.6 +1.3**
RSSD pmax pmax
comp=Z,10.0nm,0.8s
KNB Kanab 63.21 64 IAmb IAmb 05 30 56.6
comp=Z,9.3nm,1.0s
PFO Pinyon Flats O 63.41 69 LR LR 05 55 56.7
comp=Z,28nm,19.6s,baz=275,slow=34
OBN Obninsk 63.86 326 LR LR 06 00 00.4
comp=Z,29nm,22.0s,baz=166,slow=37
ISCO Idaho Springs 65.31 57 IAmb IAmb 05 30 53.4
comp=Z,9.1nm,1.1s
MVCO Mesa Verde 65.54 61 P **P 05 30 53.5 +1.1**
MVCO IAmb IAmb 05 31 11.3
comp=Z,6.4nm,0.8s
F33A 5 Mile Ranch, 65.68 47 P **P 05 30 53.3 +0.5**
F33A IAmb IAmb 05 30 54.1
comp=Z,8.5nm,0.9s
X16A Lo Mia Camp, P 65.83 65 P **P 05 30 55.6 +1.5**
X16A IAmb IAmb 05 31 13.6
comp=Z,5.7nm,0.9s
NB2 NORSAR Subarra 65.85 342 P **P 05 30 53.3 -0.4**
comp=Z,0.5nm,0.5s,baz=24,slow=6.5
NOA NORSAR Array B 65.85 342 P **P 05 30 53.0 -0.7**
comp=Z,0.6nm,0.6s,baz=26,slow=6.9,SNR=4.1
NOA LR LR 06 05 50.6
comp=Z,18nm,18.8s,baz=25,slow=42
comp=Z,0.6nm,0.6s
NOA NORSAR Array B 65.85 342 P **P 05 30 53.0 -0.7**
HFS Hagfors 66.17 341 P **P 05 30 55.4 -0.3**
comp=Z,3.5nm,1.0s,baz=21,slow=8.4,SNR=2.4
HFS LR LR 06 02 40.7
comp=Z,33nm,19.5s,baz=71,slow=38
comp=Z,3.5nm,1.0s
SDCO Great Sand Dun 66.83 59 P **P 05 31 01.6 +0.9**
ECSD EROS Data Cent 67.09 49 P **P 05 31 01.9 +0.1**
ECSD IAmb IAmb 05 31 03.0
comp=Z,7.3nm,0.9s
ANMO Albuquerque 68.32 61 P **P 05 31 11.5 +1.5**
ANMO Albuquerque 68.32 61 LR LR 05 58 45.3
comp=Z,24nm,20.1s,baz=170,slow=34
ANMO Albuquerque 68.32 61 P **P 05 31 11.5 +1.5**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
319A Douglas 69.27 66 IAmb IAmb 05 31 35.1
comp=Z,7.6nm,0.8s
SCHQ Schefferville 69.47 25 P **P 05 31 16.5 -0.1**
comp=Z,2.2nm,0.8s,baz=55,slow=14,SNR=1.3
comp=Z,2.2nm,0.8s
AKASG Malin Array Be 70.04 327 P **P 05 31 18.7 -1.4**
comp=Z,0.2nm,0.3s,baz=31,slow=6.6,SNR=3.0
AKASG LR LR 06 04 04.9
comp=Z,39nm,18.7s,baz=24,slow=38
comp=Z,0.2nm,0.3s
AK22 Malin Array Si 70.05 328 P **P 05 31 18.1 -2.0**
KIV Kislovodsk 70.08 315 *eP* **P 05 31 18.8 -1.8**
KIV pmax pmax
comp=Z,6.0nm,1.0s
AK11 Malin Array Si 70.08 327 P **P 05 31 18.6 -1.7**
AK19 Malin Array Si 70.10 328 P **P 05 31 19.0 -1.5**
KBZ Khabaz 70.16 315 LR LR 06 04 12.0
comp=Z,27nm,18.1s,baz=16,slow=38
MSTX Muleshoe 71.10 60 IAmb IAmb 05 31 45.6
comp=Z,7.3nm,1.0s
GNI Garni 72.07 312 LR LR 06 05 45.5
comp=Z,34nm,20.5s,baz=46,slow=38
VHRN Van Horn 72.20 63 P **P 05 31 34.9 +1.3**
WR0 Warramunga Arr 72.27 202 P **P 05 31 34.2 +0.4**
WR0 IAmb IAmb 05 31 34.9
comp=Z,6.7nm,1.1s
WB2 Warramunga Arr 72.30 202 P **P 05 31 34.5 +0.5**
WB2 IAmb IAmb 05 31 35.0
comp=Z,13nm,1.4s
WRA Warramunga Arr 72.30 202 P **P 05 31 34.3 +0.2**
WRA Warramunga Arr 72.30 202 P **P 05 31 34.1 +0.1**
comp=Z,3.9nm,0.9s,baz=17,slow=6.2,SNR=11
WRA pP **pP 05 31 50.7 -0.8**
comp=Z,1.5nm,0.8s,baz=19,slow=6.4,SNR=4.2
comp=Z,3.9nm,0.9s
WMOK Wichita Mounta 72.71 56 IAmb IAmb 05 31 37.9
comp=Z,7.0nm,1.0s
FITZ Fitzroy Crossi 73.03 211 P **P 05 31 39.2 +0.9**
comp=Z,3.0nm,0.8s,baz=261,slow=19,SNR=3.6
comp=Z,3.0nm,0.8s
MNHN Monahans 73.06 61 P **P 05 31 39.4 +0.7**
MNHN IAmb IAmb 05 31 57.8
comp=Z,13nm,1.1s
DEOK Depew 73.09 54 P **P 05 31 39.0 +0.3**
DEOK IAmb IAmb 05 31 39.9

comp=Z,8.5nm,0.9s
R40A Maddies Statio 73.36 50 P **P 05 31 40.4 +0.2**
R40A IAmb IAmb 05 31 40.7
comp=Z,6.6nm,0.8s
EKA Eskdalemuir Ar 73.68 348 P **P 05 31 41.9 +0.1**
comp=Z,0.4nm,0.3s,baz=22,slow=5.2,SNR=7.6
comp=Z,0.4nm,0.3s
TX31 Lajitas Ar. Si 74.04 63 P **P 05 31 45.4 +0.9**
TX31 IAmb IAmb 05 32 03.5
comp=Z,8.5nm,0.8s
TXAR Lajitas Array 74.04 63 P **P 05 31 45.4 +0.9**
TXAR Lajitas Array 74.04 63 P **P 05 31 45.6 +1.1**
comp=Z,5.1nm,0.8s,baz=298,slow=3.9,SNR=44
TXAR pP **pP 05 32 02.4 +0.5**
comp=Z,7.4nm,0.8s,baz=300,slow=4.5,SNR=21
comp=Z,5.1nm,0.8s
HHAR Hobbs 74.07 52 P **P 05 31 44.2 -0.3**
HHAR IAmb IAmb 05 32 09.0
comp=Z,13nm,1.3s
CLL Collm 74.39 337 *i* P **P 05 31 43.9 -2.1**
CLL pmax pmax
comp=Z,3.0nm,0.9s
LANS Liptovska Anna 74.55 332 *e*P **P 05 31 46.8 -0.3**
LANS Liptovska Anna 74.55 332 *e*P **P 05 31 46.8 -0.3**
VRAC Vranov 75.25 334 LR LR 06 08 35.3
comp=Z,66nm,18.1s,baz=60,slow=39
VYHS Vyhne 75.33 332 *e*P **P 05 31 51.9 +0.4**
VYHS Vyhne 75.33 332 *e*P **P 05 31 51.9 +0.4**
JCT Junction City 75.38 60 P **P 05 31 51.3 -0.8**
JCT IAmb IAmb 05 31 53.5
comp=Z,10nm,1.2s
JCT Junction City 75.38 60 P **P 05 31 51.3 -0.8**
JCT pmax pmax
comp=Z,10.0nm,1.2s
MLR Muntele Rosu 75.63 326 LR LR 06 07 40.2
comp=Z,46nm,19.8s,baz=64,slow=38
DRIO Del Rio 75.72 61 P **P 05 31 55.2 +1.2**
DRIO IAmb IAmb 05 32 13.3
comp=Z,8.7nm,1.0s
ASAR Alice Springs 75.99 201 P **P 05 31 56.5 +1.1**
comp=Z,2.0nm,0.7s,baz=15,slow=5.4,SNR=18
ASAR pP **pP 05 32 12.8 -0.3**
comp=Z,0.7nm,0.7s,baz=13,slow=5.3,SNR=3.1
ASAR LR LR 06 02 10.8
comp=Z,26nm,22.0s,baz=3.0,slow=33
comp=Z,2.0nm,0.7s
GERES GERESS Array B 76.46 336 P **P 05 31 58.1 0.0**
comp=Z,0.6nm,0.5s,baz=27,slow=5.9,SNR=1.6
comp=Z,0.6nm,0.5s
BRTR Keskin Array B 77.48 318 P **P 05 32 04.3 +0.2**
comp=Z,0.8nm,0.9s,baz=36,slow=5.8,SNR=2.2
comp=Z,0.8nm,0.9s
U49A Red Boiling Sp 77.90 47 P **P 05 32 05.7 -0.5**
U49A IAmb IAmb 05 32 07.0
comp=Z,9.4nm,1.0s
DAVOX Davos/Dischmat 79.36 337 LR LR 06 14 59.7
comp=Z,47nm,18.1s,baz=16,slow=41
MMAI Mount Meron Ar 82.25 313 P **P 05 32 30.4 +0.6**
comp=Z,2.5nm,0.5s,baz=30,slow=5.8,SNR=4.6
comp=Z,2.5nm,0.5s
RAYN Ar Rayn 84.74 301 P **P 05 32 42.1 -0.6**
RAYN IAmb IAmb 05 32 58.9
comp=Z,4.6nm,0.7s
RAYN Ar Rayn 84.74 301 P **P 05 32 42.1 -0.6**
RAYN pmax pmax
comp=Z,5.0nm,0.7s
EIL Elat 85.24 312 LR LR 06 14 14.0
comp=Z,34nm,18.8s,baz=64,slow=38
ESDC Sonseca Array 89.06 345 LR LR 06 22 43.8
comp=Z,34nm,18.5s,baz=302,slow=42
URZ Urewera 89.74 164 LR LR 06 04 27.9
comp=Z,21nm,21.3s,baz=85,slow=30
H03N2 Juan Fernandez 136.55 89 T T 08 11 47.2
baz=313,slow=77,SNR=129
H03N1 Juan Fernandez 136.56 89 T T 08 11 48.5
baz=313,slow=77,SNR=128
H03N3 Juan Fernandez 136.56 89 T T 08 11 47.9
baz=313,slow=77,SNR=140
QSPA South Pole Qui 139.72 180 PKhKP PKPpre 05 39 28.9
comp=Z,0.5nm,0.3s,baz=14,slow=1.6,SNR=3.5
CPUP Villa Florida 144.96 60 PKP **PKPdf 05 39 44.9 -0.2**
comp=Z,6.1nm,1.0s,baz=320,slow=2.2,SNR=10
CPUP pPKP **pPKPdf 05 40 01.6 -2.2**
comp=Z,2.4nm,0.8s,baz=16,slow=2.3,SNR=3.4
PLCA Paso Flores 146.24 92 PKPbc **PKPdf 05 39 47.0 0.0**
comp=Z,2.8nm,0.7s,baz=273,slow=4.3,SNR=11
PLCA pPKPbc **pPKPdf 05 40 05.5 -0.2**
comp=Z,2.5nm,0.9s,baz=229,slow=3.2,SNR=2.9
PLCA Paso Flores 146.24 92 PKP2 **PKPdf 05 39 47.0 0.0**
ELIB Princess Elisa 149.66 207 *d*PKPdf **PKPbc 05 39 56.4 0.0**

RSNC 26 05:20:58.1±0.0, 13°N±2°×8°1W±°, h1km±3km, M3.3, mb4.0, ML3.3, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.28**	**303**	P	Pb	05 21 04.8	-1.2
PRVC				S	Sb	05 21 09.3	-2.0
SAIC	**Isla e San And**	**0.89**	**220**	P	Pb	05 21 15.9	-0.5
SAIC				S	Sn	05 21 30.1	-1.2
RNCC	**Cayo Roncador,**	**1.06**	**70**	P	Pg	05 21 17.8	-0.7
RNCC				S	Sb	05 21 33.7	0.0
SERC	**Banco Serrana,**	**1.29**	**35**	P	Pg	05 21 21.8	-1.0
SERC				S	Sg	05 21 39.2	-0.4
BCIP	**Isla Barro Col**	**4.22**	**163**	P	Pn	05 22 00.1	-3.5
BCIP				S	Sn	05 22 48.2	-5.4
JTS	**Las Juntas de**	**4.75**	**233**	P	Pn	05 22 11.3	+0.4
AZU	**Azuero**	**5.46**	**171**	P	Pn	05 22 18.3	-2.3
AZU				S	Sn	05 23 20.7	-3.4

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*IDC **26** 05:21:00.4±1.9, 4°.59S×150°.71E, h0km, mb4.2/4, mbtmp4.2/5, ML2.4/1, Error ellipse: s-maj=98.0km s-min=24.3km az=124.0*
*NEIC **26** 05:21:06.6±1.9, 5°.24S±0°.08×151°.5E±0°.1, h51km±10km, mb4.3/13, Error ellipse: s-maj=21.0km s-min=8.7km az=113.0*
ISC 26 05:21:06.2±0.8, 5°.3S±0°.2×151°.4E±0°.3, h50km, n22, σ1°01/23, mb4.2/11, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.28**	**35**	Pn	**Pn**	05 21 27.5	**-0.3**
PMG	**Port Moresby**	**5.91**	**226**		**Pn**	05 22 31.8	**+0.6**
PMG	**Port Moresby**	**5.91**	**226**	Pn	**Pn**	05 22 30.6	**-0.7**
5.7nm,0.3s,baz=31,slow=14,SNR=10
PMG Sn **Sn** 05 23 38.0 +0.2
2.8nm,0.3s,baz=46,slow=7.5,SNR=2.4
30nm,0.5s
COEN Coen 11.87 223 Pn **Pn** 05 23 54.7 +1.8
WB0 Warramunga Arr 21.98 227 P **P** 05 25 55.3 -0.9
WB0 IAmb IAmb 05 25 59.0
comp=Z,15nm,1.4s
WR0 Warramunga Arr 21.99 227 P **P** 05 25 55.5 -0.8
WR0 IAmb IAmb 05 26 02.6
comp=Z,11nm,0.9s
WRAB Tennant Creek 22.12 227 P **P** 05 25 57.0 -0.6
WRAB IAmb IAmb 05 25 59.8
comp=Z,8.8nm,0.8s
WB2 Warramunga Arr 22.12 227 P **P** 05 25 56.8 -0.9
WB2 IAmb IAmb 05 25 59.8
comp=Z,7.3nm,0.8s
WRA Warramunga Arr 22.13 227 P **P** 05 25 56.5 -1.3
comp=Z,6.3nm,0.7s,baz=49,slow=11,SNR=34
comp=Z,6.3nm,0.7s
KNRA Kununurra 24.55 243 P **P** 05 26 21.8 +0.3
KNRA IAmb IAmb 05 26 30.6
comp=Z,10nm,0.9s
AS31 Alice Springs 24.90 221 P **P** 05 26 25.8 +1.1
ASAR Alice Springs 24.91 221 P **P** 05 26 25.1 +0.3
comp=Z,3.0nm,0.7s,baz=51,slow=9.1,SNR=36
comp=Z,3.0nm,0.7s
FITZ Fitzroy Crossi 28.25 241 P **P** 05 26 54.5 -0.3
FITZ Fitzroy Crossi 28.25 241 P **P** 05 26 53.6 -1.1
comp=Z,8.2nm,0.6s,baz=64,slow=7.3,SNR=22
comp=Z,8.2nm,0.6s
BBOO Buckleboo 30.94 206 P **P** 05 27 17.4 -1.1
BBOO IAmb IAmb 05 27 56.0
comp=Z,9.2nm,1.2s
MBWA Marble Bar 34.56 240 P **P** 05 27 49.9 -0.4
ILAR Eielson Array 83.09 22 P **P** 05 33 25.3 -0.9
comp=Z,0.4nm,0.8s,baz=231,slow=5.7,SNR=2.3
comp=Z,0.4nm,0.8s
QSPA South Pole Qui 84.71 180 P **P** 05 33 35.5 +0.8
U33K Whale Pass 86.28 33 P **P** 05 33 40.3 -2.1
WHY Whitehorse 86.64 28 P **P** 05 33 44.3 0.0
D27M Malcolm River 87.12 19 P **P** 05 33 47.8 +1.3
D27M IAmb IAmb 05 33 48.8
comp=Z,3.6nm,1.3s
TORD Torodi Ar. Bea 149.14 287 PKPbc **PKPbc 05 40 49.7 -0.4**
comp=Z,2.5nm,0.7s,baz=79,slow=3.1,SNR=14

RSNC 26 05:40:18.5±0.4, 2°S±3°×7°8W±°, h199km±6km, M3.1, mb4.3, ML2.6, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIAT	**Ana Tenorio**	**0.73**	**328**	P	Pn	05 40 47.5	+0.4
PIAT				S	Sn	05 41 08.1	-1.1
COHC	**Cochancay**	**1.62**	**239**	P	Pn	05 40 54.3	+1.1
COHC				S	Sn	05 41 21.5	+1.4
OTAV	**Otavalo**	**1.93**	**343**	P	Pn	05 40 56.6	-0.2
CUSE	**Cuicocha Este**	**1.98**	**345**	P	Pn	05 40 57.8	+0.5
CUSE				S	Sn	05 41 28.2	+0.7
BONI	**La Bonita**	**2.09**	**9**	P	Pn	05 40 57.8	-0.4
BONI				S	Sn	05 41 29.6	+0.5
TULM	**Tulcn-Chalpat**	**2.32**	**2**	P	Pn	05 41 01.2	+0.3
GCUF	**Volcan Galeras**	**2.88**	**11**	P	Pn	05 41 07.0	-0.2
GCUF				S	Sn	05 41 44.1	-1.1
PPLP	**Puerto Lpez**	**2.91**	**271**	P	Pn	05 41 07.4	+0.4
PPLP				S	Sn	05 41 44.2	-0.7
CRUC	**La Cruz**	**3.30**	**16**	P	Pn	05 41 12.8	+0.8
CRUC				S	Sn	05 41 55.0	+1.0
MCRA	**Macar, Loja**	**3.43**	**217**	P	Pn	05 41 13.5	+0.1
BBAC	**Balboa, Cauca**	**3.67**	**10**	P	Pn	05 41 14.7	-1.7
FLOC	**Florencia**	**3.88**	**35**	P	Pn	05 41 17.8	-1.0
POPC	**Popayan, Colom**	**4.30**	**16**	P	Pn	05 41 23.1	-1.2
JAMC	**Jamundi, Valle**	**4.95**	**14**	P	Pn	05 41 31.0	-1.5
CZSB	**Cruzeiro do Su**	**7.96**	**140**	P	Pn	05 42 11.2	-0.1

RSNC 26 05:51:51.9±0.0, 13°N±2°×8°1W±°, h11km±4km, mb3.8, ML3.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.18**	**327**	P	Pg	05 51 55.2	-0.7
PRVC				S	Sg	05 51 59.2	+0.5
SAIC	**Isla e San And**	**0.81**	**213**	P	Pg	05 52 06.0	-1.6
SAIC				S	Sg	05 52 18.1	0.0
RNCC	**Cayo Roncador,**	**1.19**	**73**	P	Pb	05 52 11.8	-2.7
RNCC				S	Sb	05 52 29.0	-0.9
SERC	**Banco Serrana,**	**1.37**	**39**	P	Pn	05 52 15.2	-1.8
SERC				S	Sb	05 52 35.0	-0.1
BCIP	**Isla Barro Col**	**4.26**	**161**	P	Pn	05 52 56.9	+0.1
BCIP				S	Sn	05 53 40.6	-6.0
JTS	**Las Juntas de**	**4.64**	**232**	P	Pn	05 53 01.1	-0.9
JTS				S	Sn	05 53 53.7	-2.3
GMAL	**Guarumal, Vera**	**5.42**	**180**	P	Pn	05 53 15.2	+2.4
GMAL				S	Sn	05 54 10.9	-4.3

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*IDC **26** 06:08:27.7±1.0, 29°.43N×104°.51E, h0km, mb3.8/7, mbtmp3.9/7, Error ellipse: s-maj=44.4km s-min=19.0km az=50.0*
ISC 26 06:08:32.8±1.2, 29°.5N±0°.2×104°.6E±0°.2, h35km, n7, σ0°34/7, mb3.8/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.02**	**62**	P	**P**	**06 13 13.3**	**0.0**
2.2nm,0.9s,baz=242,slow=10,SNR=5.9
2.2nm,0.9s
MKAR Makanchi Array 24.47 321 P **P 06 13 48.8 +0.3**
2.0nm,0.5s,baz=127,slow=9.4,SNR=11
2.0nm,0.5s
KURBB Kurchatov Arra 28.77 325 P **P 06 14 27.4 +0.3**
1.7nm,0.2s,baz=129,slow=10,SNR=4.1
1.7nm,0.2s
BVAR Borovoye Array 34.31 323 P **P 06 15 15.3 -0.4**
0.7nm,0.6s,baz=126,slow=9.6,SNR=3.9
0.7nm,0.6s
WRA Warramunga Arr 56.91 146 P **P 06 18 14.3 -0.2**
0.8nm,0.8s,baz=337,slow=7.8,SNR=5.5
0.8nm,0.8s
AKASG Malin Array Be 58.78 314 P **P 06 18 27.3 0.0**
0.4nm,0.6s,baz=85,slow=7.4,SNR=2.6
0.4nm,0.6s
ASAR Alice Springs 59.91 149 P **P 06 18 35.6 +0.2**
0.6nm,0.7s,baz=331,slow=6.9,SNR=8.7
0.6nm,0.7s

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*ISN **26** 06:15:57.9±0.5, 34°.19N×45°.53E, h6km±10km, ML2.5*
*TEH **26** 06:15:58.9, 34°.18N×45°.59E, h10km±232km, ML2.5*
ISC 26 06:15:59.3±1.0, 34°.20N±0°.04×45°.59E±0°.04, h10km, n9, σ0°70/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.28**	**108**	Pg	**Pg**	**06 16 04.8**	**-0.1**
KGS1	**Ghasr-e-Shirin**	**0.31**	**360**	Pg	**Pg**	**06 16 05.8**	**+0.4**
ILBA	**Ilam Banvizeh**	**0.77**	**138**	Pg	**Pg**	**06 16 13.5**	**-0.6**
IGHG	**Ghaleghazi**	**0.82**	**81**	Pg	**Pb**	**06 16 15.3**	**-0.4**
IDHR	**Dehrash**	**0.83**	**53**	Pg	**Pg**	**06 16 14.7**	**-0.5**
IBDR	**Badra**	**1.12**	**165**	*e*Pg	**Pn**	**06 16 21.0**	**0.0**
IBDR				*e*Sg	**Sn**	**06 16 38.0**	**+1.5**
KCHF	**Cheshme Sefid,**	**1.21**	**86**	Pg	**Pg**	**06 16 22.5**	**+0.1**
BHD	**Baghdad**	**1.37**	**228**	*e*Pn	**Pg**	**06 16 25.0**	**-0.5**
BHD				*e*Sn	**Sg**	**06 16 44.0**	**+0.7**
IKRK	**Kirkuk**	**1.58**	**320**	*e*Pn	**Pb**	**06 16 28.0**	**-0.6**
IKRK				*e*Sn	**Sg**	**06 16 50.0**	**-0.1**
IKRK				AML	AML	06 17 01.6	
comp=N,8.4nm,0.9s

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*TEH **26** 06:29:16.6, 34°.19N×45°.57E, h10km±92km, ML2.6*
*ISN **26** 06:29:19.2±1.4, 34°.21N×45°.58E, h25km, ML2.5*
ISC 26 06:29:17.4±1.4, 34°.23N±0°.06×45°.62E±0°.09, h10km, n7, σ0°45/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.27**	**115**	Pg	**Pg**	**06 29 23.0**	**+0.1**
KGS1	**Ghasr-e-Shirin**	**0.28**	**355**	Pg	**Pg**	**06 29 23.1**	**+0.1**
IDHR	**Dehrash**	**0.79**	**53**	Pg	**Pb**	**06 29 33.4**	**0.0**
IGHG	**Ghaleghazi**	**0.80**	**82**	Pg	**Pg**	**06 29 32.6**	**-0.2**
IBDR	**Badra**	**1.14**	**167**	*e*Pg	**Pn**	**06 29 39.0**	**-0.5**
baz=345
IBDR *e*Sg **Sn** 06 29 56.0 +0.8
IBDR AML AML 06 30 08.2
comp=N,10nm,0.9s
ILIN Lien 1.31 58 Pg **Pg 06 29 42.8 +0.3**
SNQR Sonqor, Kerman 1.78 69 Pn **Pg 06 29 51.6 +0.1**

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*IDC **26** 06:36:11.8±0.8, 13°.12N×81°.10W, h0km, mb3.6/8, mbtmp3.8/12, ML3.3/5, MS3.6/32, Error ellipse: s-maj=25.8km s-min=16.9km az=40.0*
*CATAC **26** 06:36:12.9±0.6, 13°.39N×81°.19W, h19km±7km, MB5.2, mb5.0, ML5.0*
*NEIC **26** 06:36:12.8±1.5, 13°.07N±0°.06×81°.21W±0°.07, h10km±1km, mb4.5/63, Mwr4.4/10, Error ellipse: s-maj=11.3km s-min=10.3km az=241.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.32; $M_{\theta\theta}$-2.72; $M_{\phi\phi}$2.40; $M_{r\theta}$-3.14; $M_{\theta\phi}$2.22; $M_{\phi r}$-2.51; Fault plane solution: $M_0$5.27000×10^{15} NP1:ϕ_s150.27000°, δ41.31000°, λ174.92000°. NP2:ϕ_s244.09000°, δ86.65000°, λ48.80000°. Principal axes: T 5.6671, Plg35.0000°, Azm119.0000°; N -0.9216, Plg41.0000°, Azm247.0000°; P -4.7455, Plg29.0000°, Azm6.0000°;*
*NEIC **26** 06:36:12.8, 13°.07N×81°.21W, h10km*
*RSNC **26** 06:36:13.0±0.0, 13°N±1°×8°1W±°, h3km±2km, M4.0, mb4.8, mB5.2, ML3.9, Mw4.5, Mw(mB)4.5*
ISC 26 06:36:12.3±1.1, 13°.14N±0°.04×81°.20W±0°.03, h10km±7km, n204, σ1°27/199, mb4.4/32, MS3.7/27, 1C, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.28**	**327**	P	**Pg**	**06 36 17.7**	**-0.4**
PRVC				S	**Sg**	**06 36 21.3**	**-0.7**
PRVC	**Isla de Provid**	**0.28**	**327**	*i* P	**Pg**	**06 36 17.7**	**-0.4**
PRVC				*i* S	**Sg**	**06 36 21.4**	**-0.6**
PRVC				IAML		06 36 26.8	
comp=Z,27μm,1.0s
SAIC Isla e San And 0.78 220 P **Pb 06 36 28.1 +0.2**
SAIC S **Sn 06 36 40.2 -0.8**
RNCC Cayo Roncador, 1.17 68 P **Pb 06 36 34.4 -0.2**
RNCC S **Sn 06 36 51.7 +1.1**
SERC Banco Serrana, 1.40 35 P **Pn 06 36 37.3 -0.6**
SERC S **Sb 06 36 56.8 +0.3**
BLUN Bluefields 2.75 246 *i* P **Pn 06 36 56.3 -0.2**
BLUN IAML 06 37 46.8
comp=Z,790nm,1.0s
ESPN Las Esperanzas 3.17 253 Pn **Pn 06 37 02.2 0.0**
ESPN Las Esperanzas 3.17 253 *i* P **Pn 06 37 02.2 0.0**
ESPN IAML 06 38 03.3
comp=Z,3μm,1.0s
ESPN Las Esperanzas 3.17 253 *e*P **Pn 06 37 02.0 -0.2**
TRT2 Tortugero 3.57 224 *i* P **Pn 06 37 08.0 +0.3**
TRT2 IAML 06 38 05.6
comp=Z,740nm,1.0s
IRES Siquirres 3.77 217 *e*P **Pn 06 37 09.9 -0.7**
BRIBI Bribri 3.85 205 *e*P **Pn 06 37 13.2 +1.6**
CVTV Tajo 3.99 219 *e*P **Pn 06 37 13.8 0.0**
VTCV VTCV, Calle Va 3.99 219 *e*P **Pn 06 37 14.1 +0.3**
TURIB Turrialba 4.03 217 *e*P **Pn 06 37 14.5 +0.3**
ACON Acoyapa 4.05 254 Pn **Pn 06 37 14.6 +0.2**
ACON Acoyapa 4.05 254 P **Pn 06 37 14.5 +0.2**
ACON Acoyapa 4.05 254 *i* P **Pn 06 37 15.5 +1.1**
ACON *i* S **Sn 06 38 02.0 +0.2**
ACON IAML 06 38 25.5
comp=Z,1μm,1.0s
RAFA San Farael, Vo 4.06 219 *i* P **Pn 06 37 14.9 0.0**
RAFA IAML 06 38 32.1
comp=Z,940nm,1.0s
RAFA San Farael, Vo 4.06 219 *e*P **Pn 06 37 15.3 +0.4**
VICA Volcano Irazu 4.07 220 *e*P **Pn 06 37 15.3 +0.4**
VINA Juan Vinas 4.07 218 *e*P **Pn 06 37 15.4 +0.5**
PCAYA Pacayas 4.10 219 *e*P **Pn 06 37 15.8 +0.6**
CVIMO Finca Echandi 4.10 221 *e*P **Pn 06 37 16.1 +0.9**
BCIP Isla Barro Col 4.17 161 Pn **Pn 06 37 14.7 -1.3**
BCIP Isla Barro Col 4.17 161 P **Pn 06 37 14.4 -1.6**
BCIP S **Sn 06 38 02.8 -2.0**
BCIP Isla Barro Col 4.17 161 *i* P **Pn 06 37 14.7 -1.3**
BCIP *i* S **Sn 06 38 03.0 -1.8**
BCIP IAML 06 38 20.7
comp=Z,430nm,1.0s
CORON Coronado 4.17 221 *e*P **Pn 06 37 17.3 +1.0**
REPA Paraso 4.20 219 *e*P **Pn 06 37 17.0 +0.4**
HDC Heredia 4.22 223 **Pn 06 37 16.5 -0.4**
BELE Belen 4.29 223 *e*P **Pn 06 37 19.1 +1.3**
FORC Fortuna 4.31 232 *e*P **Pn 06 37 19.9 +2.0**
SOCE Pocosol 4.32 231 Pn **Pn 06 37 18.1 -0.1**
BUS1 Rivas 4.35 215 *e*P **Pn 06 37 19.5 +0.6**
LCR2 La Lucha 2 4.35 219 *e*P **Pn 06 37 19.5 +0.8**
ACOS Acosta 4.41 221 *e*P **Pn 06 37 20.4 +1.0**
RAZU San Marcos de 4.43 219 *e*P **Pn 06 37 20.7 +1.0**
BURE Buenos Aires 4.46 208 *e*P **Pn 06 37 20.9 +0.8**
TRB2 Turrubares 4.51 225 *e*P **Pn 06 37 22.3 +1.5**
BRU2 Volcan 4.56 199 **Pn 06 37 21.3 -0.2**
HORNC Hornillas 4.58 239 *e*P **Pn 06 37 23.1 +1.4**
CUI Cuipilapa 4.59 238 *e*P **Pn 06 37 23.5 +1.6**
CONN Concepcion 4.60 251 *i* P **Pn 06 37 24.1 +2.2**
CONN IAML 06 37 49.3
comp=Z,8μm,1.0s
LLNJ Naranjito 4.62 218 *e*P **Pn 06 37 23.8 +1.6**
COLC Colonia 4.62 238 *e*P **Pn 06 37 23.3 +1.0**
JTS Las Juntas de 4.64 233 **Pn 06 37 23.4 +1.0**
JTS Las Juntas de 4.64 233 Pn **Pn 06 37 24.1 +1.6**
comp=Z,6.8nm,0.3s,baz=88,slow=22,SNR=40
JTS Sn **Sn 06 38 16.5 +0.1**
comp=Z,19nm,0.3s,baz=244,slow=18,SNR=14
JTS LR LR 06 39 16.6
comp=Z,340nm,18.3s,baz=224,slow=39
comp=Z,16nm,0.3s
JTS Las Juntas de 4.64 233 P **Pn 06 37 23.6 +1.1**
JTS S **Sn 06 38 15.0 -1.4**
JTS Las Juntas de 4.64 233 *e*P **Pn 06 37 23.5 +1.0**
JUNT Juntas 4.65 233 *e*P **Pn 06 37 23.6 +1.0**
OCHAL Ojochal 4.68 211 *i* P **Pn 06 37 25.1 +2.1**
OCHAL *i* S **Sn 06 38 19.8 +2.4**
OCHAL IAML 06 38 25.4
comp=Z,400nm,1.0s
RCPN Sur Rio San Ju 4.78 275 *i* P **Pn 06 37 24.9 +0.4**
RCPN *i* S **Sn 06 38 17.7 -2.3**
RCPN IAML 06 38 20.3
comp=Z,3.1nm,1.0s
CDITO Canoas 4.82 200 *i* P **Pn 06 37 26.8 +1.8**
CDITO IAmb IAmb 06 37 35.9
comp=Z,170nm,1.0s
CDITO *i* S **Sn 06 38 22.6 +1.6**
CDITO IVmB_BB 06 38 24.3
comp=Z,3μm,1.0s
CDITO IAML 06 38 30.2
comp=Z,540nm,1.0s
RCVN Varillal2 4.88 276 *i* P **Pn 06 37 26.1 +0.2**
RCVN *i* S **Sn 06 38 19.8 -2.7**
RCVN IAML 06 38 52.6
comp=Z,13μm,1.0s
MGAN Managua 5.02 259 Pn **Pn 06 37 27.7 -0.1**
LIMN Finca el Limon 5.03 270 *i* P **Pn 06 37 28.4 +0.4**
LIMN IAmb IAmb 06 37 55.8
comp=Z,330nm,0.9s
LIMN IVmB_BB 06 38 06.5
comp=Z,3μm,1.0s
LIMN IAML 06 39 15.0
comp=Z,850nm,1.0s
INDI Punta indio, G 5.32 233 *i* P **Pn 06 37 34.6 +2.7**
INDI IVmB_BB 06 37 39.4
comp=Z,61μm,1.0s
INDI IAmb IAmb 06 37 53.4
comp=Z,8μm,0.8s
INDI IAML 06 39 19.1
comp=Z,14μm,1.0s
GMAL Guarumal, Vera 5.34 180 P **Pn 06 37 33.2 +1.1**
comp=Z,100nm,0.8s,comp=Z,1μm
GMAL S **Sn 06 38 31.6 -2.2**
comp=Z,100nm,0.8s,comp=Z,1μm
AZU Azuero 5.39 170 P **Pn 06 37 32.2 -0.6**
comp=Z,86nm,0.7s
AZU S **Sn 06 38 33.5 -1.5**
comp=Z,86nm,0.7s
CRIN San Cristobal 5.72 266 Pn **Pn 06 37 36.7 -0.7**
CACAO El Cacao, Vera 5.77 177 P **Pn 06 37 40.2 +2.2**
comp=Z,100nm,0.7s,comp=Z,1μm
CACAO S **Sn 06 38 44.9 +0.7**
comp=Z,100nm,0.7s,comp=Z,1μm
CAPC Capurgana 5.86 139 P **Pn 06 37 40.1 +0.8**
comp=Z,69nm,1.3s
CAPC S **Sn 06 38 43.3 -3.2**
comp=Z,69nm,1.3s
TGUH Tegucigalpa,Un 5.97 280 Pn **Pn 06 37 41.2 +0.3**
TGUH Tegucigalpa,Un 5.97 280 P **Pn 06 37 40.9 -0.1**
comp=Z,380nm,0.9s,comp=Z,3μm
TGUH Tegucigalpa,Un 5.97 280 *i* P **Pn 06 37 41.6 +0.6**
TGUH IVmB_BB 06 38 03.3
comp=Z,3μm,1.0s
TGUH IAmb IAmb 06 38 03.8
comp=Z,390nm,0.9s
TGUH IAML 06 39 32.0
comp=Z,1μm,1.0s
MTDJ Mount Denham 6.17 34 Pn **Pn 06 37 44.0 +0.3**
MTDJ Mount Denham 6.17 34 P **Pn 06 37 44.7 +1.1**
comp=Z,55nm,0.9s
LCBC Los crdobas, 6.37 131 P **Pn 06 37 48.6 +2.3**
comp=Z,210nm,1.1s
LCBC S **Sn 06 39 00.4 +1.2**
comp=Z,210nm,1.1s
STH Stony Hill 6.48 40 ⇑ *i* P **Pn 06 37 49.1 +1.2**
LCND La Caada 6.51 272 *i* P **Pn 06 37 47.9 -0.4**
LCND IVmB_BB 06 38 12.9
comp=Z,680nm,1.0s
LCND IAmb IAmb 06 38 13.0
comp=Z,65nm,1.0s
LCND IAML 06 40 06.3
comp=Z,99nm,1.0s
GWJ Greenwich 6.53 41 *i* P **Pn 06 37 49.9 +1.2**
SJCC San Jacinto, C 6.72 118 P **Pn 06 37 50.0 -1.2**
comp=Z,21nm,1.5s
SJCC S **Sn 06 39 06.3 -1.7**
comp=Z,21nm,1.5s
APAC Apartado, Choc 6.91 138 P **Pn 06 37 55.1 +1.4**
comp=Z,37nm,0.8s
SCLA Alcaldia de Sa 7.34 275 *i* P **Pn 06 38 00.6 +0.9**
SCLA IAmb IAmb 06 38 10.6
comp=Z,27nm,0.6s
SCLA IVmB_BB 06 38 33.3
comp=Z,550nm,1.0s
SCLA IAML 06 40 18.8

comp=Z,110nm,1.0s
UREC San Jos de Ur 7.73 133 P **Pn 06 38 07.4 +2.4**
SNET Serv Nac Est T 7.83 275 Pn **Pn 06 38 04.5 -1.9**
MTO3 Montecristo 8.03 280 **Pn 06 38 09.0 -0.2**
MTO3 Montecristo 8.03 280 *i* P **Pn 06 38 08.8 -0.4**
MTO3 IAmb IAmb 06 38 15.1
comp=Z,35nm,0.8s
ESQI Esquipulas 8.03 281 **Pn 06 38 09.8 +0.6**
PETF Flores 9.17 295 Pn **Pn 06 38 25.8 +1.0**
SOR Soroa 9.75 350 Pn **Pn 06 38 33.7 +1.0**
TEIG Tepich 9.78 317 Pn **Pn 06 38 33.3 +0.3**
TEIG Tepich 9.78 317 Pn **Pn 06 38 33.8 +0.7**
baz=303,slow=24,SNR=17
TEIG Sn **Sn 06 40 18.7 -4.3**
baz=37,slow=24,SNR=1.1
CAMR Camarioca 9.87 359 Pn **Pn 06 38 34.9 +0.5**
PAPH Port-au-Prince 10.10 57 **Pn 06 38 37.5 0.0**
RTAL Retalhuleu 10.28 279 Pn **Pn 06 38 38.7 -1.3**
ROSC El Rosal 10.68 140 Pn **Pn 06 38 44.1 -1.7**
ROSC El Rosal 10.68 140 Pn **Pn 06 38 45.5 -0.3**
comp=Z,2.5nm,0.3s,baz=112,slow=23,SNR=2.7
ROSC Sn **Sn 06 40 44.8 -1.0**
comp=Z,0.6nm,0.3s,baz=177,slow=24,SNR=1.6
ROSC LR LR 06 43 25.9
comp=Z,498nm,18.8s,baz=330,slow=41
comp=Z,5.8nm,0.4s
SDDR Presa de Saban 11.16 57 **Pn 06 38 53.0 +0.9**
SDV Santo Domingo 11.20 111 Pn **Pn 06 38 51.8 -1.0**
SDV Santo Domingo 11.20 111 Pn **Pn 06 38 52.4 -0.3**
comp=Z,1.7nm,0.3s,baz=6.0,slow=2.3,SNR=4.1
SDV Sn **Sn 06 40 52.3 -5.9**
comp=Z,2.0nm,0.3s,baz=222,slow=21,SNR=8.7
SDV LR LR 06 44 04.2
comp=Z,264nm,19.7s,baz=276,slow=43
comp=Z,6.6nm,0.4s
HATO Hato, Curacao 11.99 93 Pn **Pn 06 39 03.2 -0.1**
GRTK Grand Turk 12.71 48 Pn **Pn 06 39 12.7 -0.6**
OTAV Otavalo 13.10 168 Pn **Pn 06 39 16.4 -2.7**
BAUV El Baul 13.57 107 Pn **Pn 06 39 23.9 -1.2**
CMIG Matias Romero 13.78 288 Pn **Pn 06 39 30.4 +2.5**
comp=Z,0.4nm,0.3s,baz=70,slow=12,SNR=17
CMIG LR LR 06 45 13.0
comp=Z,462nm,19.6s,baz=108,slow=39
comp=Z,1.4nm,0.3s
MLPR Magueyes Islan 14.46 69 Pn **Pn 06 39 38.2 +1.1**
AOPR Arecibo Observ 14.84 68 Pn **Pn 06 39 42.0 -0.3**
UUPR Utuado, UPR, P 14.84 68 Pn **Pn 06 39 41.8 -0.6**
OBIP Obispado Ponce 14.88 69 **Pn 06 39 43.7 +0.8**
SJG San Juan 15.31 69 Pn **Pn 06 39 48.7 0.0**
SJG IAmb IAmb 06 40 01.8
comp=Z,32nm,1.0s
SJG San Juan 15.31 69 Pn **P 06 39 56.4 +2.9**
comp=Z,0.5nm,0.3s,baz=255,slow=6.8,SNR=12
SJG LR LR 06 44 43.9
comp=Z,126nm,21.8s,baz=245,slow=34
PDPR Patillas Dam, 15.40 70 Pn **Pn 06 39 50.5 +0.6**
GCPR Guaynabo City 15.43 69 Pn **Pn 06 39 50.5 +0.3**
GCPR IAmb IAmb 06 40 19.1
comp=Z,32nm,1.2s
HUMP Col San Antoni 15.60 69 Pn **Pn 06 39 53.7 +1.3**
COHC Cochancay 15.62 173 Pn **Pn 06 39 52.5 -0.3**
TLIG Tlapa 17.31 287 Pn **Pn 06 40 13.0 -1.4**
456A Hilliard 17.52 358 Pn **Pn 06 40 15.9 -0.8**
456A IAmb IAmb 06 40 48.1
comp=Z,61nm,1.3s
SABA Saba 17.88 73 **P 06 40 21.6 -0.3**
SABA IAmb IAmb 06 40 59.1
comp=Z,75nm,1.3s
TIGA Tifton 18.35 354 P **P 06 40 27.7 +0.7**
TIGA IAmb IAmb 06 40 57.4
comp=Z,44nm,1.4s
TDBA Terre de Bas, 19.14 80 P **Pn 06 40 37.0 +0.3**
250A Grady 19.32 347 P **Pn 06 40 38.6 -0.1**
152A Waverly Hall 19.71 351 P **P 06 40 41.1 -0.8**
CSU Charleston Sou 19.79 3 P **Pn 06 40 43.7 -0.6**
GOGA Godfrey 20.29 355 P Pn 06 40 49.3 -0.9
GOGA IAmb IAmb 06 41 13.7
comp=Z,33nm,1.5s
ATAH Atahualpa 20.33 172 LR LR 06 48 05.5
comp=Z,134nm,20.0s,baz=358,slow=35
LRAL Lakeview Retre 20.50 346 P **P 06 40 50.7 +0.2**
Y52A Lilburn 20.80 353 P Pn 06 40 55.0 -1.2
Z47A Carrollton 20.93 344 P **Pn 06 40 56.1 +0.9**
Z47A IAmb IAmb 06 41 15.8
comp=Z,31nm,1.3s
HODGE Hodges 21.02 358 P **P 06 40 56.1 -0.1**
HODGE IAmb IAmb 06 41 33.5
comp=Z,18nm,1.4s
JSC Jenkinsville 21.05 360 P **P 06 40 57.7 +1.2**
Y49A Blount Mountai 21.16 348 P **P 06 40 59.6 +1.8**
HKT Hockley 21.53 323 P **P 06 41 02.7 +1.1**
HKT IAmb IAmb 06 41 35.7
comp=Z,15nm,1.3s
PAULI Pauline 21.59 359 P **P 06 41 03.0 +0.6**
PAULI IAmb IAmb 06 41 08.5
comp=Z,12nm,1.0s
FPAL Fort Paine 21.68 350 P **P 06 41 05.3 +2.0**
BG3 Lake Jocassee 21.82 356 P **P 06 41 06.0 +1.3**
BG3 IAmb IAmb 06 41 15.4
comp=Z,18nm,1.1s
X48A Hartselle 21.87 347 P **P 06 41 07.2 +1.9**
W50A Signal Mountai 22.28 351 P **P 06 41 09.3 -0.5**
W50A IAmb IAmb 06 41 17.2
comp=Z,20nm,1.3s
CZSB Cruzeiro do Su 22.38 157 P **P 06 41 11.0 +0.1**
CZSB IAmb IAmb 06 41 30.9
comp=Z,46nm,1.4s
SWET Sewanee 22.39 350 P **P 06 41 11.6 +0.6**
V53A Saluda 22.48 357 P **P 06 41 12.0 +0.1**
V53A IAmb IAmb 06 41 22.2
comp=Z,24nm,1.4s
TKL Tuckaleechee C 22.54 355 P **P 06 41 13.9 +1.3**
TKL IAmb IAmb 06 41 23.1
comp=Z,16nm,1.3s
TKL Tuckaleechee C 22.54 355 LR LR 06 49 22.0
comp=Z,211nm,18.1s,baz=166,slow=35
PLAL Pickwick Lake 22.62 345 P **P 06 41 13.5 +0.2**
PLAL IAmb IAmb 06 41 27.3
comp=Z,25nm,1.1s
833A Chaparral WMA, 22.71 315 P **P 06 41 14.6 +0.3**
833A IAmb IAmb 06 41 33.7
comp=Z,12nm,1.1s
FCAR Ozark Folk Cen 24.70 338 P **P 06 41 34.3 +0.7**
R50A Paris 25.20 354 P **P 06 41 37.6 -0.5**
R50A IAmb IAmb 06 41 43.7
comp=Z,27nm,1.5s
SAND Sanderson 25.59 314 P **P 06 41 39.7 -2.2**
R61A Willards 25.63 11 P **P 06 41 41.6 -0.4**
ABTX Abilene, Hawle 25.71 322 P **P 06 41 42.3 -0.6**
ABTX IAmb IAmb 06 42 05.0
comp=Z,8.8nm,1.0s
MACA Manacapuru-AM 26.02 127 P **P 06 41 44.9 -1.0**
MACA IAmb IAmb 06 41 56.0
comp=Z,12nm,0.6s
U38A Gravette 26.05 335 P **P 06 41 47.6 +1.7**
TXAR Lajitas Array 26.34 311 P **P 06 41 48.5 -0.2**
TXAR Lajitas Array 26.34 311 P **P 06 41 50.4 +1.7**
comp=Z,1.1nm,0.8s,baz=109,slow=8.3,SNR=6.9
comp=Z,1.1nm,0.8s
TX31 Lajitas Ar. Si 26.34 311 P **P 06 41 48.5 -0.3**
TX31 IAmb IAmb 06 42 22.1
comp=Z,11nm,1.5s
MDP Montagnes des 29.28 103 LR LR 06 55 38.8
comp=Z,102nm,18.9s,baz=278,slow=40
LPIG La Paz 29.60 296 LR LR 06 54 54.7
comp=Z,212nm,20.0s,baz=116,slow=38
SADO Sadowa 31.57 3 LR LR 06 55 17.3
comp=Z,203nm,19.4s,baz=230,slow=36
LPAZ La Paz 31.97 156 LR LR 06 58 11.3
comp=Z,137nm,18.4s,baz=307,slow=41
K30B Basset 33.47 335 P **P 06 42 51.0 -0.7**
SIV San Ignacio 35.13 145 LR LR 06 58 50.7
comp=Z,88nm,18.3s,baz=350,slow=39
PFO Pinyon Flats O 37.98 308 LR LR 07 01 55.3
comp=Z,99nm,18.0s,baz=91,slow=40
PDAR Pinedale Array 38.36 326 P **P 06 43 35.6 +1.8**
comp=Z,0.7nm,0.8s,baz=134,slow=11,SNR=6.0
comp=Z,0.7nm,0.8s
ELK Elko 40.52 319 LR LR 07 04 51.3
comp=Z,109nm,18.8s,baz=180,slow=42
NVAR Mina Array Bea 41.41 314 P **P 06 44 01.2 +2.0**
comp=Z,0.1nm,0.3s,baz=118,slow=8.9,SNR=2.3
comp=Z,0.1nm,0.3s
AC05 El Transito 43.04 166 P **P 06 44 10.0 -2.5**
AC05 IAmb IAmb 06 44 34.5
comp=Z,17nm,1.1s
BDFB Brasilia 43.54 130 LR LR 07 02 43.9
comp=Z,63nm,18.6s,baz=254,slow=37
YBH Yreka Blue Hor 45.91 316 LR LR 07 08 00.5
comp=Z,100nm,18.9s,baz=154,slow=42
RPN Rapa Nui 48.45 214 LR LR 07 00 54.5
comp=Z,103nm,18.1s,baz=56,slow=31
RCBR Riachuelo 48.78 110 LR LR 07 06 06.5
comp=Z,32nm,20.0s,baz=262,slow=37
FRB Frobisher Bay 51.32 7 LR LR 07 06 33.9
comp=Z,73nm,18.2s,baz=199,slow=36
PLCA Paso Flores 54.50 170 P **P 06 45 41.0 +0.7**
comp=Z,0.5nm,0.7s,baz=125,slow=20,SNR=1.2
comp=Z,0.5nm,0.7s
SFJD Kangerlussuaq 57.50 14 LR LR 07 10 10.8
comp=Z,35nm,21.8s,baz=216,slow=36
M31M Drury Creek, Y 61.76 335 P **P 06 46 31.2 +0.3**
RES Resolute Bay 62.02 356 LR LR 07 14 33.5
comp=Z,94nm,18.8s,baz=354,slow=37
I30M Mount Dempster 63.94 337 P **P 06 46 45.7 +0.2**
I30M IAmb IAmb 06 47 15.4
comp=Z,9.5nm,1.4s
G31M Satah River 64.00 339 P **P 06 46 46.6 +0.9**
G31M IAmb IAmb 06 47 01.8
comp=Z,8.4nm,1.4s
A36M Sachs Harbour 64.37 346 P **P 06 46 48.7 +0.7**
M27K Edge Creek, AK 65.02 333 P **P 06 46 53.5 +0.8**
M27K IAmb IAmb 06 47 05.3
comp=Z,7.6nm,1.2s
BCAR Beaver Creek A 65.23 334 P **P 06 46 54.6 +0.8**
G29M Pine Creek 65.30 339 P **P 06 46 55.2 +1.0**
BORG Borgarnes 65.56 24 LR LR 07 14 14.2
comp=Z,34nm,18.1s,baz=265,slow=35
F28M Old Crow 66.26 339 P **P 06 47 01.6 +1.2**
F28M IAmb IAmb 06 47 10.3
comp=Z,4.3nm,1.2s
J26L Joseph Creek 66.47 335 P **P 06 47 02.8 +0.9**
J26L IAmb IAmb 06 47 20.6
comp=Z,8.1nm,1.4s
E28M Babbage River 66.56 340 P **P 06 47 03.6 +1.3**
E28M IAmb IAmb 06 47 12.4
comp=Z,2.6nm,0.9s
J25K Salcha River, 67.25 335 P **P 06 47 07.5 +0.7**
J25K IAmb IAmb 06 47 17.7
comp=Z,4.0nm,0.9s
IL03 Eielson Array 67.90 335 P **P 06 47 11.1 +0.2**
IL31 67.92 335 P **P 06 47 12.2 +1.4**
ILAR Eielson Array 67.92 335 P **P 06 47 12.4 +1.5**
ILAR Eielson Array 67.92 335 P **P 06 47 12.7 +1.7**
comp=Z,0.6nm,0.8s,baz=118,slow=4.4,SNR=5.8
comp=Z,0.6nm,0.8s
O22K Cooper Landing 68.11 330 P **P 06 47 12.3 +0.2**
PFVI Vila Bisbo 68.19 55 P **P 06 47 14.0 +0.8**
SUA Susitna One 68.80 331 P **P 06 47 17.1 +0.5**
D25K Kavik River 69.12 340 P **P 06 47 19.4 +1.0**
D25K IAmb IAmb 06 47 29.0
comp=Z,4.5nm,0.9s
OHAK Old Harbor 69.36 326 P **P 06 47 19.8 -0.3**
B22K Teshekpuk Lake 71.75 340 P **P 06 47 36.6 +2.2**
MDT Midelt 71.82 60 LR LR 07 17 44.3
comp=Z,23nm,18.3s,baz=335,slow=35
F20K Avaraart Lake 71.96 337 P **P 06 47 36.9 +1.2**
F20K IAmb IAmb 06 48 15.0
comp=Z,3.1nm,1.2s
ESDC Sonseca Array 71.96 52 P **P 06 47 37.5 +1.2**
comp=Z,0.3nm,0.5s,baz=274,slow=5.6,SNR=1.6
comp=Z,0.3nm,0.5s
B21K Ikpikpuk River 72.00 339 P **P 06 47 37.4 +1.4**
EKA Eskdalemuir Ar 72.50 36 P **P 06 47 39.4 +0.2**
comp=Z,2.1nm,0.9s,baz=208,slow=42,SNR=1.9
comp=Z,2.1nm,0.9s
PPT Papeete 74.05 247 LR LR 07 12 27.3
comp=Z,42nm,21.8s,baz=340,slow=29
SPITS Spitsbergen Ar 78.78 12 LR LR 07 25 48.9
comp=Z,49nm,18.4s,baz=266,slow=38
NOA NORSAR Array B 79.79 30 LR LR 07 21 55.7
comp=Z,20nm,19.0s,baz=275,slow=34
TORD Torodi Ar. Bea 80.31 79 P **P 06 48 25.0 +0.7**
comp=Z,0.2nm,0.4s,baz=301,slow=5.6,SNR=3.3
TORD LR LR 07 19 06.7
comp=Z,38nm,21.9s,baz=240,slow=32
comp=Z,0.2nm,0.4s
HFS Hagfors 81.15 30 LR LR 07 24 02.6
comp=Z,32nm,18.5s,baz=253,slow=35
DAVOX Davos/Dischmat 81.29 44 LR LR 07 20 58.9
comp=Z,60nm,18.2s,baz=284,slow=33
FINES FINESS Array B 86.62 27 LR LR 07 25 51.4
comp=Z,17nm,20.0s,baz=304,slow=34
MLR Muntele Rosu 92.38 42 LR LR 07 27 18.3
comp=Z,62nm,18.9s,baz=256,slow=33
AKASG Malin Array Be 92.40 37 LR LR 07 27 34.7
comp=Z,39nm,19.9s,baz=280,slow=33
GYA Guiyang 139.91 349 PKP **PKPdf 06 55 42.0 +0.2**
PZH PanZhiHua 140.49 356 PKP **PKPdf 06 55 42.5 -0.4**
ASAR Alice Springs 145.17 247 PKPbc **PKPdf 06 55 51.2 +0.2**
comp=Z,0.3nm,0.7s,baz=107,slow=3.4,SNR=2.6
WRA Warramunga Arr 145.31 254 PKPbc **PKPdf 06 55 51.6 +0.2**
comp=Z,1.1nm,0.7s,baz=92,slow=3.0,SNR=3.0

RSNC 26 06:38:43.3±0.0, 7°N±1°×7°6W±°, h6km±2km, M1.6, ML1.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.11**	**65**	P	Pg	06 38 45.6	-0.1
DBBC				S	Sg	06 38 48.1	+0.7
APAC	**Apartado, Choc**	**0.96**	**344**	P	Pg	06 38 59.6	-2.2
APAC				S	Sg	06 39 13.5	-0.8
APAC	**Apartado, Choc**	**0.96**	**344**	S	Sg	06 39 14.0	-0.3
37nm,0.8s							
HELC	**Santa Helena**	**1.10**	**135**	P	Pg	06 39 04.3	-0.1
HELC				S	Sb	06 39 19.4	-0.2
CBOC	**Ciudad Bolivar**	**1.14**	**165**	P	Pg	06 39 03.6	-1.6
CBOC				S	Sg	06 39 18.7	-1.3
ZARC	**Zaragoza, Cauc**	**1.53**	**70**	P	Pn	06 39 09.9	-1.3
ZARC				S	Sn	06 39 30.1	-1.4
PTBC	**PUERTO BERRIO,**	**1.89**	**103**	P	Pn	06 39 15.3	-0.9

*ATH **26** 06:40:38.8, 37.°57N×20.°70E, h17km±2km, ML3.0/3, Error ellipse: s-maj=5.4km s-min=1.6km az=52.0*
*THE **26** 06:40:41.2, 37.°64N×20.°75E, h13km, ML2.6/5, Error ellipse: s-maj=1.6km s-min=0.8km az=41.0*
ISC 26 06:40:38.0±1.9, 37°51N±0.°07×20°65E±0.°08, h16km±8km, n15, σ0°74/24, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.20**	**41**	P	**Pg**	**06 40 43.9**	**+1.2**
KRI1				S	**Sg**	**06 40 45.6**	**-0.3**
13μm,0.2s							
LTHK	**Lithakia**	**0.24**	**36**	P	**Pb**	**06 40 44.1**	**0.0**
LTHK				S	**Sg**	**06 40 46.0**	**-1.2**
9μm,0.2s							
LTHK	**Lithakia**	**0.24**	**36**	P	**Pg**	**06 40 43.8**	**+0.4**
LTHK				S	**Sg**	**06 40 45.9**	**-1.3**
LTHK				AML	AML	06 40 46.2	
comp=E,17469μm,0.2s							
LTHK				AML	AML	06 40 46.4	
comp=N,18170μm,0.1s							
RTZL	**Ratzakli, Kefa**	**0.57**	**9**	P	**Pg**	**06 40 49.7**	**+0.4**
RTZL				S	**Sb**	**06 40 57.0**	**-0.5**
PSDA	**Pessada-Kefalo**	**0.60**	**355**	P	**Pb**	**06 40 50.7**	**+0.5**
PSDA				S	**Sb**	**06 40 58.0**	**-0.4**
comp=N,712nm,0.3s							
PSDA	**Pessada-Kefalo**	**0.60**	**355**	P	**Pg**	**06 40 50.3**	**+0.4**
PSDA				S	**Sg**	**06 40 57.1**	**-0.9**
VLS	**Valsamata**	**0.67**	**356**	P	**Pg**	**06 40 51.6**	**+0.5**
VLS				S	**Sb**	**06 40 59.9**	**-0.4**
comp=N,475nm,0.3s							
VLS	**Valsamata**	**0.67**	**356**	P	**Pg**	**06 40 50.6**	**-0.5**
VLS				S	**Sg**	**06 40 58.8**	**-1.1**
VLS				AML	AML	06 41 00.8	
comp=N,1083μm,0.2s							
VLS				AML	AML	06 41 04.2	
comp=E,806μm,0.2s							
RLS	**Riolos of Patr**	**0.84**	**50**	P	**Pb**	**06 40 55.2**	**+0.9**
RLS				S	**Sb**	**06 41 04.5**	**-0.9**
comp=E,215nm,0.4s							
DRO	**Drossia**	**0.95**	**62**	P	**Pn**	**06 40 57.1**	**+0.4**
PYL	**PYLOS**	**1.06**	**125**	P	**Pb**	**06 40 57.8**	**-0.3**
ITM	**Ithomi**	**1.07**	**108**	P	**Pb**	**06 40 58.1**	**0.0**
EVGI	**Lefkada island**	**1.11**	**0**	P	**Pb**	**06 40 59.3**	**+0.5**
NYDR	**Nydri-Lefkada**	**1.20**	**2**	P	**Pb**	**06 41 00.7**	**+0.4**
EFP	**Efpalio**	**1.35**	**47**	P	**Pn**	**06 41 02.7**	**+0.6**

*ISN **26** 06:45:45.6±0.8, 34.°40N×45.°60E, h10km±38km, ML2.7*
*TEH **26** 06:45:46.5, 34.°38N×45.°66E, h8km, ML2.7*
ISC 26 06:45:46.7±1.0, 34°39N±0.°04×45°65E±0.°05, h12km±11km, n9, σ0°27/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.12**	**337**	Pg	**Pg**	**06 45 49.9**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.35**	**142**	Pg	**Pg**	**06 45 53.3**	**-0.4**
IDHR	**Dehrash**	**0.68**	**63**	Pg	**Pg**	**06 46 00.1**	**+0.1**
IGHG	**Ghaleghazi**	**0.76**	**94**	Pg	**Pg**	**06 46 01.6**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.16**	**95**	Pg	**Pg**	**06 46 09.0**	**0.0**
ILIN	**Lien**	**1.21**	**64**	Pg	**Pn**	**06 46 09.4**	**-0.2**
IBDR	**Badra**	**1.30**	**169**	*e*Pg	**Pb**	**06 46 11.0**	**0.0**
IBDR				*e*Sg	**Sg**	**06 46 29.0**	**+0.5**
IKRK	**Kirkuk**	**1.47**	**314**	*e*Pn	**Pb**	**06 46 14.0**	**0.0**
IKRK				*e*Sn	**Sg**	**06 46 34.0**	**-0.1**
IKRK				AML	AML	06 46 52.5	
comp=N,17nm,0.9s							
BHD	**Baghdad**	**1.54**	**224**	*e*Pn	**Pn**	**06 46 14.0**	**+0.1**
BHD				*e*Sn	**Sg**	**06 46 36.0**	**-0.1**

RSNC 26 06:55:31.2±0.0, 13°N±1°×8°1W±°, h1km±1km, M3.1, mb4.2, mB4.9, ML3.1, Mw(mB)4.2, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.20**	**330**	P	Pg	06 55 36.6	+1.5
PRVC				S	Sg	06 55 40.3	+2.6
SAIC	**Isla e San And**	**0.79**	**214**	P	Pb	06 55 47.2	-0.6
SAIC				S	Sb	06 55 59.7	+0.7
RNCC	**Cayo Roncador,**	**1.20**	**72**	P	Pg	06 55 52.9	-1.3
RNCC				S	Sg	06 56 09.8	+0.1
SERC	**Banco Serrana,**	**1.39**	**39**	P	Pn	06 55 56.1	-1.6
SERC				S	Sg	06 56 15.6	-0.2
ACON	**Acoyapa**	**4.01**	**253**	P	Pn	06 56 33.4	-0.5
BCIP	**Isla Barro Col**	**4.25**	**161**	P	Pn	06 56 33.1	-3.9
BCIP				S	Sn	06 57 21.3	-6.0
JTS	**Las Juntas de**	**4.63**	**232**	P	Pn	06 56 42.7	+0.3
GMAL	**Guarumal, Vera**	**5.40**	**180**	P	Pn	06 56 51.1	-1.9
15nm,1.5s,1μm							
GMAL				S	Sn	06 57 51.6	-4.3
15nm,1.5s,1μm							
AZU	**Azuero**	**5.46**	**170**	P	Pn	06 56 50.9	-2.9
31nm,1.5s							
AZU				S	Sn	06 57 53.0	-4.3
31nm,1.5s							
CACAO	**El Cacao, Vera**	**5.83**	**176**	P	Pn	06 56 56.8	-2.1
26nm,1.3s,740nm							
CACAO				S	Sn	06 58 02.7	-3.7
26nm,1.3s,740nm							
CAPC	**Capurgana**	**5.94**	**139**	P	Pn	06 56 58.4	-2.0
79nm,1.4s							
CAPC				S	Sn	06 58 03.9	-5.3
79nm,1.4s							
MTDJ	**Mount Denham**	**6.15**	**35**	P	Pn	06 57 04.4	+1.0
40nm,1.7s							
LCBC	**Los crdobas,**	**6.46**	**131**	P	Pn	06 57 01.0	-6.5
151nm,1.0s							
LCBC				S	Sn	06 58 20.9	-1.0
151nm,1.0s							
SJCC	**San Jacinto, C**	**6.80**	**118**	P	Pn	06 57 08.2	-4.1
9.8nm,2.4s							
SJCC				S	Sn	06 58 23.9	-6.6
9.8nm,2.4s							
APAC	**Apartado, Choc**	**6.99**	**138**	P	Pn	06 57 06.4	-8.4
16nm,1.0s							
APAC				S	Sn	06 58 33.5	-1.6
16nm,1.0s							
OCAC	**Ocana**	**9.23**	**121**	P	Pn	06 57 49.3	+3.6
7.3nm,0.6s							
OCAC				S	Sn	06 59 24.2	-6.1
7.3nm,0.6s							
TEIG	**Tepich**	**9.69**	**317**	P	Pn	06 57 52.5	+0.6
TEIG				S	Sn	06 59 36.8	-4.7

*BUT **26** 06:57:57.1±3.5, 44.°45N±0.°02×114.°13W±0.°03, h8km±5km, Error ellipse: s-maj=3.6km s-min=2.9km az=160.0*
NEIC 26 06:57:53.9±2.3, 44°46N±0°02×114°14W±0°05, h5km±1km, ML2.8/86, ML3.0/29(BUT), Error ellipse: s-maj=6.4km s-min=3.7km az=264.0, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCYI	**Bear Canyon**	**0.55**	**106**		Pb	06 58 07.3	+1.1
BCYI					Sb	06 58 14.1	-0.3
ICI	**Italian Canyon**	**0.87**	**98**		Pn	06 58 13.4	+0.3
HLID	**Hailey**	**0.92**	**193**		Pn	06 58 14.0	+0.3
HLID				IAML		06 58 28.2	
393nm,0.1s							
HLID				IAML		06 58 28.6	
423nm,0.2s							
MCMT	**McKenzie Canyo**	**0.99**	**68**		Pn	06 58 15.7	+1.0
DLMT	**Dillon**	**1.42**	**50**		Pg	06 58 21.3	+0.1
DLMT				Sg	Sn	06 58 40.3	+0.6
DLMT				IAML		06 58 46.0	
174nm,0.2s							
PLID	**Pearl Lake**	**1.47**	**296**		Pb	06 58 21.8	0.0
PLID				IAML		06 58 48.0	
107nm,0.2s							
MFID	**Camas Ranch**	**1.61**	**230**		Pb	06 58 23.9	-0.2
LRM	**Limekiln Ridge**	**1.81**	**41**	Pn	Pb	06 58 27.9	+0.2
QLMT	**Earthquake Lak**	**1.97**	**78**	Pn	Pn	06 58 28.5	+0.4
BPMT	**Black Pine Rid**	**2.04**	**14**	Pn	Pb	06 58 32.0	+0.4
BOZ	**Bozeman (W)**	**2.11**	**57**	Pn	Pb	06 58 32.6	-0.2
BOZ				IAML		06 59 04.4	
64nm,0.5s							
BOZ				IAML		06 59 04.6	
108nm,0.5s							
YHB	**Horse Butte**	**2.12**	**81**		Pn	06 58 31.4	+1.1
YHB				IAML		06 59 04.7	
comp=N,52nm,0.4s							
MCID	**Moose Creek**	**2.14**	**96**		Pg	06 58 34.3	-0.6
YHL	**Hebgen Lake**	**2.15**	**78**	Pn	Pb	06 58 32.3	-1.2
YHL				IAML		06 59 06.6	
comp=N,76nm,0.6s							
YHL				IAML		06 59 11.1	
comp=E,89nm,0.8s							
YMR	**Madison River**	**2.28**	**84**		Pb	06 58 35.4	-0.2
BMO	**Blue Mountains**	**2.29**	**281**	Pn	Pb	06 58 35.4	-0.5
YFT	**Old Faithful**	**2.37**	**89**		Pn	06 58 34.8	+1.2
YHH	**Holmes Hill**	**2.37**	**81**		Pn	06 58 34.9	+1.2
MSO	**Missoula**	**2.37**	**3**	Pn	Pn	06 58 34.2	+0.6
MSO				IAML		06 59 13.9	
comp=E,53nm,0.4s							
MSO				IAML		06 59 16.7	
comp=E,53nm,0.5s							
FXWY	**Fox Creek**	**2.39**	**109**		Pb	06 58 36.6	-0.9
YNR	**Norris Junctio**	**2.48**	**83**	Pn	Pn	06 58 36.4	+1.1
TPAW	**Teton Pass**	**2.50**	**112**		Pn	06 58 36.9	+1.4
TPAW				IAML		06 59 16.1	
comp=E,32nm,0.5s							
TPAW				IAML		06 59 21.9	
comp=E,41nm,1.0s							
FLWY	**Flagg Ranch**	**2.50**	**97**		Pn	06 58 37.3	+1.9
FLWY				IAML		06 59 24.1	
comp=E,34nm,1.8s							
SNOW	**Snow King Moun**	**2.64**	**111**		Pn	06 58 37.9	+0.5
SNOW				IAML		06 59 21.4	
comp=E,31nm,2.1s							
SNOW				IAML		06 59 30.6	
comp=E,31nm,2.9s							
F10A	**Beach Ranch, E**	**2.66**	**306**		Pn	06 58 37.2	-0.3
LOHW	**Long Hollow**	**2.69**	**107**		Pn	06 58 39.0	+1.0
OVMT	**Ovando**	**2.72**	**17**		Pn	06 58 39.0	+0.5
AHID	**Auburn Hatcher**	**2.78**	**126**		Pn	06 58 40.2	+0.9
AHID				IAML		06 59 29.7	
comp=E,29nm,3.1s							
AHID				IAML		06 59 31.2	
comp=E,26nm,1.8s							
LYMT	**Lyon Mountain**	**2.82**	**27**	Pn	Pn	06 58 39.0	-0.9
YMP	**Mirror Lake Pl**	**2.86**	**83**	Pn	Pn	06 58 40.8	+0.4
YMP				IAML		06 59 43.0	
comp=N,29nm,4.5s							
HVU	**Hansel Valley**	**2.86**	**159**		Pn	06 58 40.5	+0.2
HVU				IAML		06 59 36.1	
comp=E,50nm,0.5s							
YNE	**Yellowstone No**	**2.99**	**78**	Pn	Pn	06 58 42.6	+0.3
YNE				IAML		06 59 36.7	
comp=N,25nm,0.4s							

J08A	**Circle Bar Ran**	**3.32 252**	Pn	Pb	06 58 50.1	-3.3
J08A			IAML		06 59 46.1	
	comp=E,27nm,1.2s					
J08A			IAML		06 59 48.7	
	comp=N,26nm,0.4s					
HWUT	**Hardware Ranch**	**3.42 146**	Pn	Pn	06 58 49.6	+1.6
HWUT			IAML		06 59 10.8	
	comp=N,15nm,4.6s					
HWUT			IAML		07 00 19.9	
	comp=N,14nm,4.9s					
G08A	**Pilot Rock**	**3.53 285**	Pn	Pn	06 58 52.6	+3.2
RLMT	**Red Lodge**	**3.53 77**	Pn	Pn	06 58 51.2	+1.6
RLMT			IAML		06 59 54.5	
	comp=N,17nm,0.6s					
RLMT			IAML		07 00 54.1	
	comp=N,22nm,5.0s					
PD31	**Pinedale Array**	**3.73 115**	Pn	Pn	06 58 53.8	+1.4
PDAR	**Pinedale Array**	**3.73 115**	Pn	Pn	06 58 55.0	+2.6
ELK	**Elko**	**3.80 193**		Pn	06 58 53.4	+0.1
WVOR	**Wild Horse Val**	**3.85 240**	Pn	Pn	06 58 54.5	+0.6
WVOR			IAML		07 01 05.9	
	comp=N,12nm,4.8s					
I07A	**Izee**	**3.87 266**	Pn	Pn	06 58 55.8	+1.6
I07A			IAML		07 00 04.3	
	comp=N,12nm,2.8s					
I07A			IAML		07 01 17.0	
	comp=E,18nm,4.9s					
TCUT	**Toone Canyon**	**3.90 148**	Pn	Pn	06 58 55.0	+0.3
CTU	**Camp Tracy**	**4.16 154**	Pn	Pn	06 58 58.6	+0.4
CTU			IAML		07 00 32.8	
	comp=E,8.1nm,5.0s					
D08A	**Wollman Farm,**	**4.24 309**	Pn	Pn	06 59 00.3	+1.2
D08A			IAML		07 00 17.4	
	comp=E,15nm,4.7s					
D08A			IAML		07 01 09.8	
	comp=N,20nm,4.7s					
HAWA	**Hanford**	**4.26 299**	Pn	Pn	06 59 00.9	+1.4
HAWA			IAML		06 59 52.6	
	comp=N,17nm,5.0s					
HAWA			IAML		07 00 13.4	
	comp=N,17nm,4.9s					
NEW	**Newport**	**4.33 333**	Pn	Pn	06 59 02.0	+1.5
JLU	**Jordanelle**	**4.34 152**	Pn	Pn	06 59 00.5	-0.3
JLU			IAML		06 59 35.2	
	comp=E,8.0nm,4.3s					
JLU			IAML		07 00 17.5	
	comp=N,8.9nm,3.6s					
DUG	**Dugway, Tooele**	**4.37 167**		Pn	06 59 01.1	0.0
DUG			IAML		06 59 31.5	
	comp=N,10nm,4.8s					
DUG			IAML		07 01 26.9	
	comp=N,14nm,5.0s					
C09A	**Chrisman Ranch**	**4.41 321**	Pn	Pn	06 59 02.6	+1.1
E07A	**Sunnyside**	**4.53 300**	Pn	Pn	06 59 04.2	+1.0
E07A			IAML		07 00 40.6	
	comp=N,15nm,3.8s					
E07A			IAML		07 02 02.6	
	comp=E,14nm,2.4s					
BMN	**Battle Mountai**	**4.63 211**	Pn	Pn	06 59 04.5	-0.2
BMN			IAML		07 00 22.7	
	comp=N,6.8nm,3.0s					
BMN			IAML		07 00 40.7	
	comp=E,8.1nm,4.8s					
EGMT	**Eagleton**	**4.69 39**	Pn	Pn	06 59 08.4	+3.1
MXC	**Moxie City**	**4.82 298**	Pn	Pn	06 59 09.3	+2.2
MXC			IAML		07 00 49.4	
	comp=E,11nm,3.1s					
J05D	**Fort Rock, OR**	**5.26 260**	Pn	Pn	06 59 14.5	+1.2
B08A	**Colville Reser**	**5.30 319**	Pn	Pn	06 59 15.4	+1.7
HOOD	**Mount Hood Mea**	**5.41 282**	Pn	Pn	06 59 15.5	+0.1
H04A	**Detroit Lake**	**5.75 275**	Pn	Pn	06 59 22.9	+2.9

*SJA **26** 07:24:03.3±0.6,24°.30S×67°.16W,h204km±6km,ML3.4, MW3.3*
*GUC **26** 07:24:06.5±0.7,24°.26S×67°.66W,h228km±9km,ML3.6*
ISC 26 07:24:02.6±2.0,24°.31S±0°.04×67°.20W±0°.05, h210km±18km,n18,σ1°78/34,2C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.60**	**105**	*eP*	**Pn**	**07 24 39.0**	**+0.7**
SLA				*eS*	**Sn**	**07 25 04.7**	**-1.4**
FSA	**Cafayete**	**2.11**	**148**	*eP*	**Pn**	**07 24 44.2**	**+1.1**
GO02	**Mina Guanaco**	**2.33**	**248**	⇑*iP*	**Pn**	**07 24 47.1**	**+1.5**
GO02				*i* S	**Sn**	**07 25 18.6**	**-0.6**
GO02				IAML		07 25 19.7	
	comp=E,140nm,0.2s						
GO02	**Mina Guanaco**	**2.33**	**248**	*eP*	**Pn**	**07 24 47.2**	**+1.6**
GO02				*eS*	**Sn**	**07 25 19.3**	**+0.1**
YJA	**Yavi**	**2.63**	**36**	*eP*	**Pn**	**07 24 50.2**	**+1.1**
YJA				*eS*	**Sn**	**07 25 24.7**	**-0.8**
PB14	**IPOC Station P**	**2.93**	**263**	*eP*	**Pn**	**07 24 53.4**	**+1.1**
PB14				*i* S	**Sn**	**07 25 28.1**	**-3.1**
PB14	**IPOC Station P**	**2.93**	**263**	*eP*	**Pn**	**07 24 53.5**	**+1.1**
PB14				*eS*	**Sn**	**07 25 33.7**	**+2.5**
PB09	**IPOC Station P**	**3.13**	**323**	*eP*	**Pn**	**07 24 56.7**	**+2.1**
PB09				*eS*	**Sn**	**07 25 34.1**	**-1.1**
PB09				IAML		07 25 36.0	
	comp=N,89nm,0.3s						
PB09	**IPOC Station P**	**3.13**	**323**	*eP*	Pn	07 24 38.3	-16
PB09				*eS*	**Sn**	**07 25 34.4**	**-0.8**
PB09				IAML		07 25 34.6	
	comp=Z,85nm,0.4s						
PB04	**IPOC Station P**	**3.35**	**305**	*eP*	**Pn**	**07 24 58.2**	**+1.2**
PB04				*i* S	**Sn**	**07 25 36.8**	**-2.9**
PB04	**IPOC Station P**	**3.35**	**305**	*eP*	**Pn**	**07 24 58.4**	**+1.3**
PB04				*eS*	**Sn**	**07 25 37.8**	**-2.0**
PB04				IAML		07 25 41.0	
	comp=Z,76nm,0.2s						
AC01	**Pan de Azucar**	**3.58**	**239**	⇑*eP*	**Pn**	**07 25 00.6**	**+1.0**
AC01				*eS*	**Sn**	**07 25 42.6**	**-1.8**
AC01	**Pan de Azucar**	**3.58**	**239**	*eP*	**Pn**	**07 25 00.4**	**+0.8**
AC01				*eS*	**Sn**	**07 25 43.2**	**-1.2**
AC01				IAML		07 25 44.0	
	comp=Z,28nm,1.1s						
GO03	**Copiapo**	**4.26**	**219**	*eP*	**Pn**	**07 25 09.2**	**+1.2**
GO03				*eS*	**Sn**	**07 25 58.5**	**-1.0**
PB08	**IPOC Station P**	**4.53**	**336**	*eP*	**Pn**	**07 25 14.1**	**+2.4**
PB08				*eS*	**Sn**	**07 26 04.4**	**-1.8**
PB08	**IPOC Station P**	**4.53**	**336**	*eP*	**Pn**	**07 25 13.4**	**+1.6**
PB08				*eS*	**Sn**	**07 26 04.7**	**-1.5**
HMBC	**Humberstone**	**4.72**	**328**	*eP*	**Pn**	**07 25 15.4**	**+1.5**
HMBC				*eS*	**Sn**	**07 26 06.6**	**-3.6**
AC04	**Llanos de Chal**	**5.21**	**221**	*eP*	**Pn**	**07 25 20.8**	**+0.9**
AC04				*eS*	**Sn**	**07 26 18.6**	**-2.4**
AC04				IAML		07 26 32.5	
	comp=Z,22nm,4.7s						

*NEIC **26** 07:24:27.5±1.5,18°.68N±0°.09×64°.50W±0°.03,h35km±2km, ML2.9/32,Md3.5/12(RSPR),Error ellipse: s-maj=16.1km s-min=3.1km az=344.0*
*RSPR **26** 07:24:27.9±1.5,18°.95N±0°.08×64°.52W±0°.04,h35km±10km, Error ellipse: s-maj=12.1km s-min=1.9km az=153.0*
ISC 26 07:24:24.3±2.4,18°.7N±0°.2×64°.50W±0°.04,h13km±15km, n22,σ0°96/34,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.41**	**246**		**Pn**	**07 24 50.9**	**+1.3**
HUMP					**Sn**	**07 25 08.9**	**+0.8**
HUMP				IAML		07 25 11.3	
	comp=N,164nm,0.2s						
HUMP				IAML		07 25 12.2	
	comp=E,210nm,0.2s						
SMRT	**St. Maarten**	**1.52**	**116**		**Pn**	**07 24 51.1**	**-0.1**
SMRT				IAML		07 25 28.6	
	comp=E,169nm,0.4s						
SMRT				IAML		07 25 32.9	
	comp=N,174nm,0.2s						
GCPR	**Guaynabo City**	**1.56**	**255**		**Pn**	**07 24 52.4**	**+0.7**
GCPR					**Sn**	**07 25 11.3**	**-0.5**
GCPR				IAML		07 25 19.1	
	comp=E,96nm,0.6s						
PDPR	**Patillas Dam,**	**1.61**	**244**		**Pn**	**07 24 52.9**	**+0.5**
SABA	**Saba**	**1.63**	**132**	Pn	**Pn**	**07 24 53.0**	**+0.3**
SABA				IAML		07 25 40.3	
	comp=E,163nm,0.5s						
SABA				IAML		07 25 42.1	
	comp=N,137nm,0.4s						
SJG	**San Juan**	**1.68**	**249**	Pn	**Pn**	**07 24 53.5**	**+0.1**
SJG	**San Juan**	**1.68**	**249**	Sn	**Sn**	**07 25 14.1**	**-0.7**
SJG				IAML		07 25 20.6	
	comp=N,84nm,0.4s						
SJG	**San Juan**	**1.68**	**249**	*eP*	**Pn**	**07 24 54.9**	**+1.5**
SEUS	**St. Eustatius**	**1.90**	**130**	Pn	**Pn**	**07 24 55.9**	**-0.5**
SEUS				IAML		07 25 15.6	
	comp=N,126nm,0.5s						
EMPR	**Esperanza - Ma**	**1.94**	**263**	Pn	**Pn**	**07 24 57.2**	**+0.2**
EMPR				IAML		07 25 37.5	
	comp=N,156nm,0.5s						
CELP	**Cerrillos**	**2.08**	**252**		**Pn**	**07 24 59.6**	**+0.7**
CELP					**Sn**	**07 25 24.6**	**0.0**
CELP				IAML		07 25 30.2	
	comp=N,55nm,0.4s						
OBIP	**Obispado Ponce**	**2.11**	**251**		**Pn**	**07 25 00.1**	**+0.8**
OBIP					**Sn**	**07 25 24.4**	**-1.1**
OBIP				IAML		07 25 28.6	
	comp=E,71nm,0.5s						
OBIP				IAML		07 25 28.9	
	comp=N,53nm,0.4s						
UUPR	**Utuado, UPR, P**	**2.16**	**258**		**Pn**	**07 25 00.4**	**+0.4**
UUPR					**Sn**	**07 25 26.8**	**+0.1**
AOPR	**Arecibo Observ**	**2.17**	**260**		**Pn**	**07 25 00.8**	**+0.7**
AOPR					**Sn**	**07 25 26.9**	**0.0**
SKI	**Saint Kitts**	**2.18**	**129**	*eP*	**Pg**	**07 25 06.6**	**+0.5**
AGPR	**Aguadilla, PR**	**2.49**	**264**	Pn	**Pn**	**07 25 05.9**	**+1.3**
AGPR				IAML		07 25 32.9	
	comp=N,76nm,2.7s						
AGPR					**Sn**	**07 25 33.2**	**-1.6**
AGPR				IAML		07 25 52.2	
	comp=E,70nm,1.6s						
LSP	**Las Mesas**	**2.51**	**258**		**Pn**	**07 25 06.5**	**+1.5**
LSP					**Sn**	**07 25 35.5**	**0.0**
MLPR	**Magueyes Islan**	**2.53**	**253**		**Pn**	**07 25 04.8**	**-0.3**
MLPR					**Sn**	**07 25 35.3**	**-0.5**
MLPR				IAML		07 25 41.2	
	comp=E,40nm,0.8s						
PRSN	**Puerto Rico Se**	**2.56**	**259**		**Pn**	**07 25 05.9**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.58**	**254**		**Pn**	**07 25 07.0**	**+1.3**
CRPR					**Sn**	**07 25 36.5**	**-0.5**
ANWB	**Willy Bob**	**2.79**	**112**	*eP*	**Pb**	**07 25 12.7**	**-1.4**
ANWB				*eS*	**Sn**	**07 25 44.8**	**+2.5**
ANBD	**Bethesda, Anti**	**3.10**	**122**	*eP*	**Pb**	**07 25 18.5**	**-0.8**
ANBD				*eS*	**Sb**	**07 25 57.2**	**+0.2**

*CNRM **26** 07:27:46.5,36°.56N×10°.97W,h24km,ML2.9*
*INMG **26** 07:27:47.6±1.2,36°.64N×11°.17W,h31km±16km,ML2.0, Error ellipse: s-maj=10.8km s-min=4.9km az=82.0*
*IGIL **26** 07:27:47.1,36°.64N×11°.17W,h32km,ML1.4*
ISC 26 07:27:44.9±2.8,36°.63N±0°.08×11°.2W±0°.1,h35km,n23, σ1°07/36,1C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.96**	**74**	⇑*iP*	**Pn**	**07 28 16.6**	**+1.0**
PFVI				*eS*	**Sn**	**07 28 38.5**	**-0.5**
PFVI				A	A	07 28 40.3	
	15nm,0.6s						
PFVI	**Vila Bisbo**	**1.96**	**74**	P	**Pn**	**07 28 15.4**	**-0.2**
PFVI	**Vila Bisbo**	**1.96**	**74**	S	**Sn**	**07 28 39.1**	**+0.1**
MORF	**Marmelete**	**2.14**	**71**	*eS*	**Sn**	**07 28 42.8**	**-0.7**
MORF				A	A	07 28 44.3	
	6.1nm,0.3s						
MORF	**Marmelete**	**2.14**	**71**	*eS*	**Sn**	**07 28 42.7**	**-0.9**
MORF				IAML		07 28 43.5	
	comp=N,6.1nm,0.1s						
PTEO	**Sao Teotonio**	**2.17**	**64**	*eP*	**Pn**	**07 28 19.7**	**+1.2**
PTEO				*eS*	**Sn**	**07 28 44.1**	**-0.2**
PTEO				A	A	07 28 45.8	
	comp=N,9.5nm,0.7s						
MESJ	**Messejana**	**2.66**	**62**	*eP*	**Pn**	**07 28 26.2**	**+1.0**
MESJ				*eS*	**Sn**	**07 28 55.7**	**-0.6**
MESJ				A	A	07 29 09.3	
	comp=N,2.5nm,0.4s						
MESJ	**Messejana**	**2.66**	**62**	*eP*	**Pn**	**07 28 26.2**	**+1.0**
MESJ				*eS*	**Sn**	**07 28 54.9**	**-1.4**
MESJ				IAML		07 28 55.1	
	comp=N,0.6nm,0.1s						
PBDV	**Barranco-do-Ve**	**2.68**	**76**	*eP*	**Pn**	**07 28 27.0**	**+1.4**
PBDV				*eS*	**Sn**	**07 28 56.5**	**-0.4**
PBDV				A	A	07 29 03.2	
	comp=N,4.0nm,0.5s						
PMAFR	**Mafra**	**2.77**	**32**	*eP*	**Pn**	**07 28 27.5**	**+0.7**
PMAFR				*eS*	**Sn**	**07 28 58.3**	**-0.7**
PVAQ	**Vaqueiros**	**2.89**	**73**	*eP*	**Pn**	**07 28 29.7**	**+1.4**
PVAQ				*eS*	**Sn**	**07 29 00.6**	**-1.2**
PVAQ				A	A	07 29 08.5	
	comp=N,4.0nm,0.5s						
PVAQ	**Vaqueiros**	**2.89**	**73**	P	**Pn**	**07 28 29.7**	**+1.4**
PVAQ	**Vaqueiros**	**2.89**	**73**	S	**Sn**	**07 29 01.9**	**+0.1**
EVO	**Evora**	**3.16**	**52**	*eS*	**Sn**	**07 29 08.4**	**-0.2**
PMTG	**Montargil**	**3.38**	**43**	*eP*	**Pn**	**07 28 35.8**	**+0.6**
PMTG				*eS*	**Sn**	**07 29 12.9**	**-1.2**
PMTG				A	A	07 29 13.8	
	comp=N,4.0nm,0.8s						
PSBE	**So Bento**	**3.45**	**33**	*eP*	**Pn**	**07 28 37.0**	**+0.9**
PSBE				*eS*	**Sn**	**07 29 15.2**	**-0.5**
PESTR	**Estremoz**	**3.62**	**51**	*eP*	**Pn**	**07 28 40.0**	**+1.5**
PESTR				*eS*	**Sn**	**07 29 18.9**	**-1.2**
PESTR				A	A	07 29 28.0	
	comp=N,2.4nm,0.8s						
PBAR	**Barrancos**	**3.65**	**64**	*eP*	**Pn**	**07 28 40.4**	**+1.6**
PBAR				*eS*	**Sn**	**07 29 19.4**	**-1.2**
PBAR				A	A	07 29 27.3	
	comp=N,1.9nm,0.9s						
PCAS	**Casmilo, Conde**	**4.02**	**31**	*eP*	**Pn**	**07 28 45.0**	**+1.0**
PCAS				*eS*	**Sn**	**07 29 28.3**	**-1.5**
PMRV	**Marv??o**	**4.10**	**46**	*eP*	**Pn**	**07 28 45.4**	**+0.4**
PMRV				*eS*	**Sn**	**07 29 29.4**	**-2.4**
PCBR	**Castelo Branco**	**4.34**	**41**	*eP*	**Pn**	**07 28 49.2**	**+0.9**
MD31	**MD31**	**6.49**	**123**	P	**Pn**	**07 29 18.3**	**+0.4**
MDT	**Midelt**	**6.62**	**123**	P	**Pn**	**07 29 19.4**	**-0.4**

RSNC 26 08:08:20.2±0.0,13°N±2°×8°1W±°,h4km±5km,M3.0,mb4.0, ML3.0,Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.26**	**319**	P	Pg	08 08 25.7	+0.5
PRVC				S	Sg	08 08 29.9	+1.3
SAIC	**Isla e San And**	**0.82**	**219**	P	Pg	08 08 36.2	+0.3
SAIC				S	Sn	08 08 50.1	-0.9
RNCC	**Cayo Roncador,**	**1.14**	**70**	P	Pb	08 08 42.5	0.0
RNCC				S	Sg	08 08 56.3	-0.6
SERC	**Banco Serrana,**	**1.36**	**36**	P	Pn	08 08 44.0	-2.0
SERC				S	Sg	08 09 02.2	-1.8
BCIP	**Isla Barro Col**	**4.20**	**161**	P	Pn	08 09 21.0	-4.1
BCIP				S	Sn	08 10 08.7	-6.0
JTS	**Las Juntas de**	**4.67**	**232**	P	Pn	08 09 31.6	0.0
JTS				S	Sn	08 10 27.9	+1.6
GMAL	**Guarumal, Vera**	**5.38**	**180**	P	Pn	08 09 40.0	-1.4
	12nm,1.3s						
GMAL				S	Sn	08 10 39.3	-4.5
	12nm,1.3s						
AZU	**Azuero**	**5.43**	**170**	P	Pn	08 09 41.3	-0.7
	35nm,1.7s						
AZU				S	Sn	08 10 40.9	-4.1
	35nm,1.7s						
TGUH	**Tegucigalpa,Un**	**5.98**	**279**	P	Pn	08 09 48.8	-0.9
	21nm,0.7s						
SJCC	**San Jacinto, C**	**6.73**	**118**	P	Pn	08 09 55.7	-4.3
SJCC				S	Sn	08 11 09.7	-7.5

IDC 26 08:17:33.0±4.0,4°.53S×150°.97E,h0km,mb3.5/2, mbtmp3.5/2,Error ellipse: s-maj=149.8km s-min=51.8km az=115.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.15**	**218**	Sn	Sn	08 20 15.9	-0.5
	2.0nm,0.3s,baz=101,slow=17,SNR=1.1						
WRA	**Warramunga Arr**	**22.30**	**225**	P	P	08 22 31.5	-0.8
	1.0nm,0.5s,baz=50,slow=10.0,SNR=10						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**25.16**	**219**	P	P	08 23 00.7	+0.4
	0.6nm,0.7s,baz=56,slow=9.6,SNR=12						
	0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.49**	**288**	PKPbc	PKPbc	08 37 22.5	-0.4
	0.5nm,0.6s,baz=87,slow=3.0,SNR=3.4						

WEL 26 08:22:20.8,38°S±12°×17°6E±1°9,h171km±25km,M2.6/16, mB6.0/1,MLv2.6/16,Mw(mB)5.6/1,Error ellipse: s-maj=29.6km s-min=18.9km az=94.2,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKRZ	**Makatiti**	**0.54**	**53**	P	Pn	08 22 36.9	-8.0
MUGZ	**Murupara**	**0.67**	**91**	P	Pn	08 22 45.4	0.0
WTVZ	**West Tongariro**	**0.70**	**202**	P	Pn	08 22 46.7	+1.0
TWVZ	**Taurewa**	**0.71**	**212**	P	Pn	08 22 46.5	+0.8
OTVZ	**Oturere**	**0.72**	**196**	P	Pn	08 22 47.1	+1.2
TOZ	**Tahuroa Road**	**0.81**	**336**	P	Pn	08 22 45.8	-0.5
MTHZ	**Maungataniwha**	**0.82**	**118**	P	Pn	08 22 47.0	+0.6
TUVZ	**Tukino**	**0.83**	**195**	P	Pn	08 22 47.4	+0.9
BKZ	**Black Stump Fm**	**0.83**	**148**	P	Pn	08 22 47.1	+0.7
RTZ	**Ruatahuna**	**0.84**	**100**	P	Pn	08 22 46.6	0.0
WNVZ	**Wahianoa**	**0.90**	**196**	P	Pn	08 22 47.5	+0.5
MOVZ	**Moawhango**	**0.95**	**188**	P	Pn	08 22 47.8	+0.5
URZ	**Urewera**	**0.96**	**78**	P	Pn	08 22 46.5	-0.8
RAHZ	**Arahi**	**1.01**	**117**	P	Pn	08 22 48.7	+1.0
KWHZ	**Kaweka Forest**	**1.03**	**158**	P	Pn	08 22 49.3	+1.4
KRHZ	**Kereru**	**1.23**	**164**	P	Pn	08 22 50.4	+1.0
MWZ	**Matawai**	**1.27**	**84**	P	Pn	08 22 46.6	-3.3
RIGZ	**Rimuhau**	**1.46**	**100**	P	Pn	08 22 51.8	+0.1
MKAZ	**Moumakai**	**1.49**	**336**	P	Pn	08 22 50.4	-1.5
KAHZ	**Kahuranaki**	**1.52**	**151**	P	Pn	08 22 53.4	+1.2
TSZ	**Takapari Road**	**1.59**	**179**	P	Pn	08 22 53.4	+0.5
HAZ	**Te Kaha**	**1.63**	**65**	P	Pn	08 22 51.1	-2.2
TWGZ	**Tauwhareparae**	**1.65**	**80**	P	Pn	08 22 44.2	-9.3
CNGZ	**Carnagh Statio**	**1.79**	**91**	P	Pn	08 22 55.0	0.0
WMGZ	**Waiomatatini S**	**2.07**	**73**	P	Pn	08 22 56.6	-1.4
MRZ	**Mangatainoka R**	**2.21**	**187**	P	Pn	08 22 59.1	-0.5
OGWZ	**Otaki Gorge**	**2.42**	**194**	P	Pn	08 23 01.3	-0.7
HOWZ	**Holdsworth Sta**	**2.45**	**187**	P	Pn	08 23 01.3	-1.0
KIW	**Kapiti Island**	**2.52**	**198**	P	Pn	08 23 02.0	-1.1
MTW	**Mount Morrison**	**2.71**	**187**	P	Pn	08 23 03.7	-1.7
DUWZ	**D'Urville Isla**	**2.80**	**213**	P	Pn	08 23 04.6	-1.9
MSWZ	**Moikau Station**	**2.99**	**190**	P	Pn	08 23 07.1	-1.8
TCW	**Tory Channel**	**3.02**	**204**	P	Pn	08 23 07.6	-1.6
TUWZ	**Tuamarina**	**3.33**	**207**	P	Pn	08 23 11.8	-1.2
NNZ	**Nelson**	**3.37**	**215**	P	Pn	08 23 11.4	-2.2
THZ	**Tophouse**	**4.02**	**214**	P	Pn	08 23 19.6	-2.3
KHZ	**Kahutara**	**4.34**	**204**	P	Pn	08 23 23.7	-2.2
LTZ	**Lake Taylor**	**5.13**	**212**	P	Pn	08 23 32.7	-3.5
WACZ	**Wakanui South**	**6.28**	**208**	P	Pn	08 23 48.5	-2.7

*IDC **26** 08:29:17.2±1.2,55°.99N×162°.10E,h0km,mb3.8/6, mbtmp3.7/7,ML2.4/1,MS2.7/2,Error ellipse: s-maj=32.8km s-min=23.3km az=162.0*
*KRSC **26** 08:29:21.1±0.6,55°.57N×162°.34E,h80km±16km,Ml3.9*
ISC 26 08:29:23.7±0.9,55°.59N±0°.04×162°.32E±0°.04,h64km±9km, n42,σ1°35/53,mb3.6/7,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.68**	**24**	*eP*	**Pn**	**08 29 37.7**	**-0.3**
KBG	**Krutoberegovo**	**0.70**	**18**	*eP*	**Pn**	**08 29 37.9**	**-0.3**
KBG				*eS*	**Sn**	**08 29 50.9**	**+2.1**
ZLN	**Zelenaya**	**0.96**	**297**	*eP*	**Pn**	**08 29 41.0**	**-0.4**
ZLN				*eS*	**Sn**	**08 29 55.6**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**0.98**	**292**	*eP*	**Pn**	**08 29 41.3**	**-0.5**
BZGR				*eS*	**Sn**	**08 29 55.3**	**+0.2**
CIRR	**Tsirk**	**1.03**	**301**	*eP*	**Pn**	**08 29 42.2**	**-0.3**
CIRR				*eS*	**Sn**	**08 29 57.2**	**+0.9**
BZP	**Bezymyannyi-Pe**	**1.06**	**289**	*eP*	**Pn**	**08 29 42.1**	**-0.7**
BZMR	**Bezymyannaya**	**1.09**	**289**	*eP*	**Pn**	**08 29 42.6**	**-0.6**
BZMR				*eS*	**Sn**	**08 29 58.6**	**+0.9**
SMKR	**Semkarok**	**1.11**	**335**	*eP*	**Pn**	**08 29 43.3**	**0.0**
SMKR				*eS*	**Sn**	**08 29 59.0**	**+1.1**
TUMD	**Tumrok D**	**1.16**	**251**	*eP*	**Pn**	**08 29 42.8**	**-1.2**
TUMD				*eS*	**Sn**	**08 29 58.3**	**-0.8**
KRSR	**Krestovskiy**	**1.17**	**303**	*eP*	**Pn**	**08 29 43.5**	**-0.7**
KIRR	**Kirishev**	**1.18**	**289**	*eP*	**Pn**	**08 29 44.2**	**-0.1**
KLY	**Klyuchi**	**1.19**	**308**	*eP*	**Pn**	**08 29 42.6**	**-1.6**
KLY				*eS*	**Sn**	**08 29 57.9**	**-1.7**
KMNR	**Kamenistaya**	**1.19**	**279**	*eP*	**Pn**	**08 29 44.2**	**-0.3**
KPT	**Kopyto**	**1.25**	**289**	*eP*	**Pn**	**08 29 45.2**	**0.0**
SRKR	**Sorokina**	**1.25**	**329**	*eP*	**Pn**	**08 29 45.5**	**+0.3**
TUMR	**Tumrok**	**1.28**	**257**	*eP*	**Pn**	**08 29 45.3**	**-0.3**
KOZ	**Kozyrevsk**	**1.46**	**290**	*eP*	**Pn**	**08 29 48.4**	**+0.4**
ESO	**Esso**	**2.08**	**281**	*eP*	**Pn**	**08 29 55.3**	**-0.9**
BKI	**Bering**	**2.12**	**99**	*eP*	**Pn**	**08 29 56.2**	**-0.5**
BKI				*eS*	**Sn**	**08 30 20.8**	**-1.2**
SPN	**Mys Shipunski**	**2.83**	**209**	*eP*	**Pn**	**08 30 04.7**	**-1.8**
SPN				*eS*	**Sn**	**08 30 37.7**	**-1.8**
NLC	**Nalytchevo**	**2.98**	**217**	*eS*	**Sn**	**08 30 42.8**	**-0.3**
KRER	**Koryakskii**	**3.10**	**224**	*eP*	**Pn**	**08 30 10.5**	**+0.2**
SMAR	**Somma**	**3.11**	**223**	*eP*	**Pn**	**08 30 10.4**	**-0.1**
AVH	**Avacha**	**3.13**	**223**	*eP*	**Pn**	**08 30 10.9**	**+0.3**
UGLR	**Uglovaya**	**3.14**	**222**	*eP*	**Pn**	**08 30 10.9**	**+0.1**
DALK	**Dalny**	**3.31**	**221**	*eP*	**Pn**	**08 30 12.7**	**-0.3**
DALK				*eS*	**Sn**	**08 30 50.9**	**-0.1**
PET	**Petropavlovsk**	**3.35**	**221**	*eP*	**Pn**	**08 30 13.5**	**0.0**
PET				*eS*	**Sn**	**08 30 52.3**	**+0.3**
PETK	**Petropavlovsk-**	**3.67**	**229**	Pn	**Pn**	**08 30 17.9**	**0.0**
	1.3nm,0.3s,baz=65,slow=16,SNR=12						
PETK				Sn	**Sn**	**08 31 06.7**	**+6.7**
	0

JMA Felt I J1 at NE OFF IWATE PREF .
NIED ***26*** *09:01:03.1, 40°.11N×142°.43E, h36km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr=5.05; Mθθ=-0.83; Mφφ=-4.22; Mrθ=3.41; Mφr=7.97; Fault plane solution: M0=9.98000×10¹⁴ NP1:φs=23.00000°, δ=75.00000°, λ=91.00000°. NP2:φs=200.00000°, δ=15.00000°, λ=87.00000°.*
IDC ***26*** *09:01:06.1±2.1, 40°.06N×142°.43E, h74km±17km, mb3.6/13, mbtmp3.9/17, MS3.0/8 Error ellipse: s-maj=25.3km s-min=13.4km az=102.0*
ISC 26 09:01:03.0±1.2, 40°.10N±0°.04×142°.42E±0°.07, h41km±11km, n59, σ1$75/55, mb4.2/17, MS2.9/4, 15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.45**	**250**	⇓*i*P	**Pn**	**09 01 13.3**	**+0.1**
JTH				⇓S	**Sn**	**09 01 20.6**	**+0.3**
JKEN	**Kujiedanarisaw**	**0.55**	**282**	⇓*i*P	**Pn**	**09 01 14.4**	**-0.1**
JKEN				⇓S	**Sn**	**09 01 22.2**	**-0.4**
MIYJ	**Miyakonagasawa**	**0.69**	**222**	⇓*i*P	**Pn**	**09 01 16.4**	**0.0**
MIYJ				⇓S	**Sn**	**09 01 25.5**	**-0.4**
JANG	**Nango**	**0.74**	**292**	⇓*i*P	**Pn**	**09 01 17.1**	**+0.1**
JANG				⇓S	**Sn**	**09 01 26.9**	**-0.2**
JKZ	**Kuzumaki**	**0.84**	**263**	⇓*i*P	**Pn**	**09 01 19.1**	**+0.7**
JKZ				⇓S	**Sn**	**09 01 30.0**	**+0.4**
JOM	**Ohasama**	**1.07**	**235**	⇓*i*P	**Pn**	**09 01 22.6**	**+1.1**
OFUJ	**Ofunato**	**1.17**	**210**	P	**Pn**	**09 01 23.6**	**+0.7**
JARK	**Aomorirokkasho**	**1.21**	**319**	⇓*i*P	**Pn**	**09 01 23.9**	**+0.6**
JTM	**Tenmabayashi**	**1.24**	**304**	Pn	**Pn**	**09 01 24.6**	**+0.9**
JTM	**Tenmabayashi**	**1.24**	**304**	⇓*i*P	**Pn**	**09 01 24.7**	**+0.9**
JAH	**Hinai**	**1.37**	**274**	⇓*i*P	**Pn**	**09 01 27.1**	**+1.5**
JAH				⇓S	**Sn**	**09 01 43.9**	**+1.5**
JMK	**Ichinoseki**	**1.47**	**219**	P	**Pn**	**09 01 28.1**	**+1.2**
JMK				S	**Sn**	**09 01 46.8**	**+1.8**
JRG	**Rokugo**	**1.54**	**244**	P	**Pn**	**09 01 29.5**	**+1.5**
ERM	**Erimo**	**2.00**	**16**	Pn	**Pn**	**09 01 35.3**	**+1.1**
JMM	**Marumori**	**2.56**	**210**		**Pn**	**09 01 44.7**	**+2.8**
JSD	**Sado**	**3.83**	**239**	Pn	**Pn**	**09 02 02.1**	**+2.7**
JKA	**Kamikawa-asahi**	**4.02**	**2**	Pn	**Pn**	**09 02 02.5**	**+0.5**
ASAJ	**Asahikawa**	**4.02**	**2**	P	**Pn**	**09 02 04.4**	**+2.4**
	4.2nm,0.4s,baz=225,slow=11,SNR=14						
ASAJ				S	**Sn**	**09 02 52.4**	**+4.6**
	13nm,0.7s,baz=127,slow=20,SNR=1.4						
MJAR	**Matsushiro Arr**	**4.85**	**224**	P	**Pn**	**09 02 17.4**	**+3.9**
	16nm,0.7s,baz=32,slow=13,SNR=50						
MJAR				LR	LR	09 04 15.1	
	comp=Z,111nm,19.1s,baz=54,slow=39						
MJB9	**Matsu-Tunnel**	**4.85**	**224**		**Pn**	**09 02 16.6**	**+3.1**
MAJO	**Matsushiro**	**4.85**	**224**		**Pn**	**09 02 14.7**	**+1.3**
JGF	**Kuroka**	**6.01**	**223**	Pn	**Pn**	**09 02 33.4**	**+4.0**
INU	**Inuyama**	**6.38**	**224**	Pn	**Pn**	**09 02 34.8**	**+0.3**
USRK	**Ussuriysk Ar.**	**8.76**	**301**	Pn	**Pn**	**09 03 07.6**	**+0.6**
USRK	**Ussuriysk Ar.**	**8.76**	**301**	P	Pn	09 03 12.1	+5.1
	5.4nm,0.7s,baz=101,slow=13,SNR=9.1						
JNU	**Nakatsue**	**11.59**	**237**	P	**Pn**	**09 03 48.1**	**+2.3**
	2.5nm,0.8s,baz=61,slow=14,SNR=1.4						
JNU				LR	LR	09 08 42.6	
	comp=Z,46nm,18.1s,baz=47,slow=39						
KSRS	**Korea Array**	**11.62**	**261**	P	Pn	09 03 53.4	+7.3
	0.6nm,0.3s,baz=73,slow=14,SNR=4.4						
KSRS				LR	LR	09 08 03.1	
	comp=Z,75nm,19.0s,baz=90,slow=36						
KLR	**Kul'dur**	**11.86**	**324**	LR	LR	09 08 05.4	
	comp=Z,83nm,21.1s,baz=217,slow=35						
PET	**Petropavlovsk**	**17.03**	**35**	Pn	**Pn**	**09 04 52.2**	**-5.6**
YAK	**Yakutsk**	**23.29**	**345**	LR	LR	09 16 34.7	
	comp=Z,31nm,19.0s,baz=114,slow=40						
GUMO	**Guam**	**26.49**	**175**	LR	LR	09 17 04.0	
	comp=Z,12nm,19.2s,baz=81,slow=36						
SONM	**Songino Array**	**26.86**	**299**	P	**P**	**09 06 38.5**	**-1.3**
	0.7nm,0.5s,baz=81,slow=9.3,SNR=3.9						
SONM				LR	LR	09 16 41.0	
	comp=Z,42nm,18.9s,baz=274,slow=35						
	0.7nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.20**	**127**	T	T	09 37 44.8	
	baz=319,slow=76,SNR=77						
H11N1	**WAKE ISLAND Hy**	**29.21**	**127**	T	T	09 37 43.0	
	baz=319,slow=76,SNR=59						
H11N3	**WAKE ISLAND Hy**	**29.22**	**127**	T	T	09 37 47.0	
	baz=319,slow=76,SNR=43						
H11S1	**WAKE ISLAND Hy**	**30.01**	**129**	T	T	09 38 53.3	
	baz=316,slow=74						
H11S3	**WAKE ISLAND Hy**	**30.02**	**129**	T	T	09 38 52.4	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**30.03**	**129**	T	T	09 39 01.2	
	baz=316,slow=74						
ZALV	**Zalesovo Beam**	**40.49**	**310**	P	**P**	**09 08 38.0**	**+0.4**
	1.2nm,0.5s,baz=108,slow=8.5,SNR=4.9						
	1.2nm,0.5s						
NRIK	**Noril'sk**	**40.84**	**334**	P	**P**	**09 08 40.0**	**-0.2**
	1.4nm,0.3s,baz=56,slow=12,SNR=3.8						
	1.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**43.09**	**253**	P	**P**	**09 08 57.6**	**-1.5**
	1.3nm,0.3s,baz=89,slow=7.3,SNR=1.7						
	1.3nm,0.3s						
MKAR	**Makanchi Array**	**43.22**	**300**	P	**P**	**09 09 00.4**	**+0.5**
	0.9nm,0.8s,baz=79,slow=9.3,SNR=5.5						
	0.9nm,0.8s						
IMAR	**Indian Mountai**	**43.63**	**32**	P	**P**	**09 09 04.4**	**+1.5**
D22K	**Ayikyak River**	**44.29**	**28**	P	**P**	**09 09 09.8**	**+1.7**
D22K				IAmb	IAmb	09 09 16.9	
	comp=Z,8.4nm,1.4s						
E22K	**Anaktuvuk Pass**	**44.54**	**29**	P	**P**	**09 09 10.4**	**+0.2**
KURK	**Kurchatov**	**44.72**	**306**		**P**	**09 09 12.4**	**+0.6**
KURK				IAmb	IAmb	09 09 16.2	
	comp=Z,5.0nm,0.8s						
KURBB	**Kurchatov Arra**	**44.79**	**306**	P	**P**	**09 09 11.9**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=82,slow=8.6,SNR=15						
	comp=Z,3.4nm,0.7s						
E24K	**Your Creek**	**45.78**	**29**	P	**P**	**09 09 20.8**	**+0.6**
E24K				IAmb	IAmb	09 09 33.9	
	comp=Z,8.1nm,1.5s						
ILAR	**Eielson Array**	**46.50**	**34**	P	**P**	**09 09 26.4**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=268,slow=5.5,SNR=2.6						
	comp=Z,0.3nm,0.7s						
RIDG	**Independent Ri**	**47.48**	**35**	P	**P**	**09 09 32.5**	**-0.9**
BVAR	**Borovoye Array**	**49.14**	**311**	P	**P**	**09 09 46.9**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=68,slow=8.3,SNR=9.8						
	comp=Z,1.9nm,0.5s						
ARTI	**Arti**	**54.72**	**317**		**P**	**09 10 28.3**	**+0.5**
ARTI				IAmb	IAmb	09 10 29.3	
	comp=Z,6.5nm,0.7s						
ARTI	**Arti**	**54.72**	**317**	LR	LR	09 35 38.5	
	comp=Z,31nm,18.9s,baz=68,slow=38						
ABKAR	**Akbulak array**	**56.60**	**309**		**P**	**09 10 41.6**	**+0.3**
WRA	**Warramunga Arr**	**60.20**	**189**	P	**P**	**09 11 05.6**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=7.8,slow=7.7,SNR=2.7						
	comp=Z,0.5nm,0.6s						
ASAR	**Alice Springs**	**63.93**	**189**	P	**P**	**09 11 30.9**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=6.1,slow=6.5,SNR=4.7						
	comp=Z,0.4nm,0.8s						
KBZ	**Khabaz**	**69.52**	**310**	P	**P**	**09 12 08.1**	**+1.0**
	comp=Z,2.1nm,0.8s,baz=31,slow=14,SNR=5.3						
	comp=Z,2.1nm,0.8s						
NOA	**NORSAR Array B**	**71.67**	**337**	P	**P**	**09 12 19.5**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=39,slow=6.1,SNR=3.3						
	comp=Z,0.8nm,0.7s						
AKASG	**Malin Array Be**	**72.36**	**322**	P	**P**	**09 12 24.2**	**0.0**
	comp=Z,0.8nm,0.6s,baz=45,slow=6.2,SNR=5.0						
	comp=Z,0.8nm,0.6s						

DJA 26 09:04:25.0±1.3, 11°S±7°×12°4E±°, h10km, M3.0/4, MLv3.0/4, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.74**	**307**	P	Pb	09 04 39.7	-0.3
SOEI	**Soe**	**0.90**	**0**	P	Pg	09 04 41.6	-0.8
SOEI				S	Sb	09 04 55.5	+0.6

RSNC 26 09:06:02.4±0.0, 13°N±2°×8°1W±°, h3km±4km, M3.0, mb3.8, ML3.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.34**	**301**	P	Pg	09 06 09.7	+0.7
PRVC				S	Sg	09 06 14.6	+1.1
SAIC	**Isla e San And**	**0.92**	**224**	P	Pb	09 06 20.9	0.0
SAIC				S	Sn	09 06 35.2	-0.7
RNCC	**Cayo Roncador,**	**1.01**	**68**	P	Pg	09 06 21.8	-0.1
RNCC				S	Sb	09 06 36.5	+0.1
SERC	**Banco Serrana,**	**1.27**	**32**	P	Pg	09 06 25.3	-1.6
SERC				S	Sg	09 06 42.3	-1.1
BCIP	**Isla Barro Col**	**4.18**	**163**	P	Pn	09 07 04.3	-2.9
BCIP				S	Sn	09 07 52.3	-4.3
ACON	**Acoyapa**	**4.20**	**253**	P	Pn	09 07 06.8	-0.6
JTS	**Las Juntas de**	**4.78**	**233**	P	Pn	09 07 16.1	+0.6
JTS				S	Sn	09 08 10.6	-0.9
GMAL	**Guarumal, Vera**	**5.41**	**182**	P	Pn	09 07 24.5	+0.5
	9.1nm,2.4s						
AZU	**Azuero**	**5.43**	**172**	P	Pn	09 07 22.5	-1.8
	22nm,1.4s						
AZU				S	Sn	09 08 23.8	-3.6
	22nm,1.4s						
TGUH	**Tegucigalpa,Un**	**6.10**	**279**	P	Pn	09 07 32.9	-0.8
	11nm,0.9s						
SJCC	**San Jacinto, C**	**6.63**	**119**	P	Pn	09 07 38.4	-2.5
SJCC				S	Sn	09 08 52.0	-5.1

IDC ***26*** *09:09:31.1±1.4, 16°.80S×172°.23W, h0km, mb4.0/5, mbtmp4.0/5, MS3.1/5, Error ellipse: s-maj=52.3km s-min=31.1km az=136.0*
ISC 26 09:09:32.2±1.3, 16°.7S±0°.3×172°.2W±0°.3, h10km, n12, σ0$76/7, mb4.0/5, MS3.1/3, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.35**	**262**	LR	LR	09 15 05.2	
	comp=Z,156nm,19.7s,baz=106,slow=36						
RAR	**Rarotonga**	**12.61**	**113**	LR	LR	09 15 38.1	
	comp=Z,78nm,19.2s,baz=305,slow=29						
DZM	**Mont Dzumac**	**20.81**	**252**	LR	LR	09 20 46.9	
	comp=Z,92nm,20.6s,baz=124,slow=32						
PPT	**Papeete**	**21.67**	**96**	LR	LR	09 20 09.7	
	comp=Z,20nm,20.3s,baz=293,slow=30						
HNR	**Honiara**	**28.02**	**281**	LR	LR	09 25 00.8	
	comp=Z,68nm,21.0s,baz=112,slow=33						
STKA	**Stephens Creek**	**44.39**	**241**	P	**P**	**09 17 43.8**	**+0.6**
	1.8nm,0.8s,baz=62,slow=10,SNR=3.7						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**50.66**	**258**	P	**P**	**09 18 31.4**	**-0.8**
	0.9nm,0.5s,baz=96,slow=7.2,SNR=19						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**50.80**	**253**	P	**P**	**09 18 33.5**	**+0.3**
	5.4nm,0.5s,baz=87,slow=8.6,SNR=138						
	5.4nm,0.5s						
QSPA	**South Pole Qui**	**73.36**	**180**	P	**P**	**09 21 03.9**	**-0.3**
	0.9nm,0.6s,baz=32,slow=8.0,SNR=2.2						
	0.9nm,0.6s						
ILAR	**Eielson Array**	**83.49**	**11**	P	**P**	**09 22 00.3**	**+0.5**
	0.3nm,0.8s,baz=212,slow=6.2,SNR=4.0						
	0.3nm,0.8s						
GERES	**GERESS Array B**	**147.57**	**353**	PKPbc	**PKPbc**	**09 29 17.1**	**+0.2**
	0.4nm,0.3s,baz=10.0,slow=3.3,SNR=1.8						
BRTR	**Keskin Array B**	**147.86**	**321**	PKPbc	**PKPab**	**09 29 19.6**	**-1.0**
	1.0nm,0.8s,baz=52,slow=2.5,SNR=4.0						

NEIC ***26*** *09:11:45.0±1.5, 34°.65N±0°.02×96°.32W±0°.03, h5km±5km, mb_Lg2.9/64, ML3.0/19, Error ellipse: s-maj=3.3km s-min=2.1km az=109.0*
NEIC 26 09:11:45.1±1.6, 34°.65N±0°.02×96°.33W±0°.03, h5km±1km, Error ellipse: s-maj=3.7km s-min=2.9km az=107.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W35A	**Tecumseh**	**0.67**	**318**		Pg	09 11 58.3	+0.3
W35A					Sg	09 12 07.5	+0.8
W35A				IAML		09 12 10.2	
	comp=E,887nm,0.4s						
W35A				IAML		09 12 12.2	
	comp=N,773nm,0.3s						
LOOK	**Love County**	**0.96**	**227**		Pg	09 12 02.8	-0.9
LOOK					Sg	09 12 16.9	-0.5
LOOK				IAML		09 12 30.0	
	comp=N,210nm,0.5s						
FNO	**Franklin**	**1.07**	**305**		Pg	09 12 04.7	-0.9
FNO					Sg	09 12 19.8	+0.3
FNO				IAML		09 12 25.5	
	comp=E,257nm,0.3s						
FNO				IAML		09 12 25.5	
	comp=N,392nm,0.5s						
X34A	**Smith Ranch, M**	**1.24**	**268**		Pg	09 12 08.6	-0.4
X34A					Sn	09 12 26.2	-0.1
ADOK	**Arcadia Dam**	**1.31**	**320**	Pg	Pn	09 12 09.1	-1.0
TUL3	**Leonard**	**1.33**	**19**		Pn	09 12 09.8	-0.5
TUL3					Sb	09 12 28.1	+0.3
TUL3				IAML		09 12 32.4	
	comp=N,322nm,0.4s						
TUL3				IAML		09 12 34.6	
	comp=E,279nm,0.4s						
OK052	**Battle Ridge R**	**1.39**	**344**		Pn	09 12 10.5	-0.7
Z35A	**Perchaven, San**	**1.53**	**210**		Pn	09 12 12.8	-0.2
QUOK	**Quay**	**1.54**	**349**		Pn	09 12 13.4	+0.1
Z38A	**Mt. Pleasant**	**1.78**	**141**		Pb	09 12 17.7	-0.6
Z38A				IAmb_Lg		09 12 42.9	
	comp=Z,47nm,0.7s						
OK048	**Pawnee Station**	**1.83**	**344**		Pn	09 12 17.8	+0.6
RLO	**Rose Lookout**	**1.85**	**35**		Pn	09 12 18.4	+0.9
OK051	**E0350 and S346**	**1.89**	**348**		Pn	09 12 18.4	+0.3
FW06	**Azle**	**1.96**	**212**		Pn	09 12 20.0	+1.0
WTFS	**Witchita Falls**	**1.98**	**244**		Pn	09 12 19.6	+0.3
WMOK	**Wichita Mounta**	**2.02**	**273**	Pn	Pn	09 12 20.5	+0.6
FW03	**Perrin-Whitt E**	**2.16**	**222**		Pn	09 12 23.1	+1.3
CSTR	**Hydro, Custer**	**2.17**	**298**		Pb	09 12 24.6	-0.4
FW16	**Waxahatchie**	**2.22**	**193**		Pn	09 12 23.9	+1.4
FW16				IAmb_Lg		09 12 58.0	
	comp=Z,39nm,1.0s						
BLOK	**Blackwell**	**2.22**	**341**		Pb	09 12 24.5	-1.2
T35A	**Sooner Cattle**	**2.26**	**356**		Pn	09 12 24.3	+1.1
T35A				IAmb_Lg		09 13 02.0	
	comp=Z,46nm,0.9s						
MIAR	**Mount Ida**	**2.27**	**92**		Pb	09 12 25.5	-1.1
CROK	**Carrier**	**2.29**	**324**	Pg	Pg	09 12 29.3	+0.4
FW07	**Weatherford**	**2.29**	**212**		Pb	09 12 25.6	-1.4
FW07				IAmb_Lg		09 12 57.6	
	comp=Z,39nm,0.8s						
U38A	**Gravette**	**2.38**	**41**		Pn	09 12 26.1	+1.2
PLPT	**Palo Pinto**	**2.47**	**223**	IAmb_Lg		09 13 04.3	
	comp=Z,36nm,0.7s						
KAN09	**Caldwell North**	**2.69**	**337**	IAmb_Lg		09 13 13.2	
	comp=Z,35nm,0.7s						
KAN01	**Argonia South**	**2.75**	**335**	IAmb_Lg		09 13 15.7	
	comp=Z,27nm,0.8s						
X40A	**Basin Creek Fa**	**2.89**	**92**	IAmb_Lg		09 13 24.0	
	comp=Z,31nm,1.2s						
ELIS	**Ellis County**	**2.89**	**300**	IAmb_Lg		09 13 20.7	
	comp=Z,31nm,0.8s						
KAN08	**Anthony NE Sta**	**2.89**	**333**	IAmb_Lg		09 13 17.6	
	comp=Z,38nm,0.9s						
SMWD	**Samnorwood**	**3.25**	**279**	IAmb_Lg		09 13 34.8	
	comp=Z,24nm,0.7s						
ABTX	**Abilene, Hawle**	**3.43**	**235**	IAmb_Lg		09 13 41.9	
	comp=Z,25nm,0.8s						
FCAR	**Ozark Folk Cen**	**3.66**	**69**	IAmb_Lg		09 13 49.8	
	comp=Z,25nm,0.8s						
435B	**Jarrell**	**4.00**	**196**	IAmb_Lg		09 13 58.7	
	comp=Z,23nm,0.9s						
SN07	**Snyder 07**	**4.10**	**249**	IAmb_Lg		09 14 06.2	
	comp=Z,33nm,0.7s						
MGMO	**Mountain Grove**	**4.13**	**52**	IAmb_Lg		09 14 00.6	
	comp=Z,34nm,0.8s						
SN05	**Snyder 5**	**4.19**	**246**	IAmb_Lg		09 14 07.3	
	comp=Z,36nm,0.8s						
KSU1	**Kansas State U**	**4.44**	**357**	IAmb_Lg		09 14 07.6	
	comp=Z,34nm,0.8s						
CBKS	**Cedar Bluff**	**4.97**	**328**	IAmb_Lg		09 14 35.7	
	comp=Z,29nm,0.7s						
CCM	**Cathedral Cave**	**5.33**	**49**	IAmb_Lg		09 14 41.0	
	comp=Z,25nm,1.0s						
MSTX	**Muleshoe**	**5.38**	**265**	IAmb_Lg		09 14 43.6	
	comp=Z,20nm,1.1s						
P38A	**Dawn**	**5.44**	**23**	IAmb_Lg		09 14 37.2	
	comp=Z,17nm,0.7s						
HNDO	**Hondo**	**5.69**	**207**	IAmb_Lg		09 14 50.7	
	comp=Z,26nm,1.0s						
FVM	**French Village**	**5.81**	**53**	IAmb_Lg		09 14 53.5	
	comp=Z,22nm,0.7s						
P40A	**Paris**	**5.95**	**34**	IAmb_Lg		09 14 57.1	
	comp=Z,25nm,0.8s						
MNHN	**Monahans**	**6.33**	**240**	IAmb_Lg		09 15 07.5	
	comp=Z,13nm,0.8s						
DRIO	**Del Rio**	**6.36**	**216**	IAmb_Lg		09 15 11.7	
	comp=Z,20nm,0.9s						
S44A	**Carbondale**	**6.47**	**60**	IAmb_Lg		09 15 19.3	
	comp=Z,21nm,0.9s						
KSCO	**Kaye Shedlock'**	**6.66**	**313**	IAmb_Lg		09 15 28.6	
	comp=Z,19nm,1.1s						
SAND	**Sanderson**	**6.78**	**228**	IAmb_Lg		09 15 22.0	
	comp=Z,13nm,0.7s						

IDC ***26*** *09:13:11.5±0.6, 13°.08N×81°.20W, h0km, mb4.2/19, mbtmp4.2/24, ML3.0/4, MS4.2/52, Error ellipse: s-maj=18.4km s-min=13.1km az=53.0*
CATAC ***26*** *09:13:11.7±0.6, 13°.58N×81°.12W, h11km±3km, MB5.5, mb5.3, ML5.4*
RSNC ***26*** *09:13:11.1±0.0, 13°N±1°×8°1W±°, h0km±1km, M4.7, mB5.3, mb5.0, ML4.4, Mw4.9, Mw(mB)4.8, MwMwp4.8, Mwp5.1*
NEIC ***26*** *09:13:13.6±2.8, 13°.12N±0°.03×81°.04W±0°.07, h10km±1km, mb4.6/145, Error ellipse: s-maj=11.1km s-min=5.5km az=79.0*
GCMT ***26*** *09:13:16.6±0.1, 13°.27N±0°.01×81°.02W±0°.01, h12km, MW5.0/127, Moment Tensor Solution. s47,c70; s127,c199; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.32±.07; Mθθ=1.99±.07; Mφφ=2.31±.08; Mrθ=0.48±.19; Mθφ=3.58±.06; Mφr=0.15±.19; Best double couple: M0=4.20900×1016 NP1:φs=254.00000°, δ=86.00000°, λ=-6.00000°. NP2:φs=345.00000°, δ=84.00000°, λ=-176.00000°. Principal axes: T 4.3380, Plg1.0000°, Azm300.0000°; N -0.2560, Plg82.0000°, Azm39.0000°; P -4.0800, Plg7.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 26 09:13:12.8±0.3, 13°.19N±0°.03×81°.03W±0°.03, h10km, n307, σ1$89/271, mb4.6/79, MS4.2/47, 2C, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.37**	**299**	P	**Pg**	**09 13 18.4**	**-1.7**
PRVC				S	**Sg**	**09 13 23.5**	**-1.6**
PRVC	**Isla de Provid**	**0.37**	**299**	*i* P	**Pg**	**09 13 18.5**	**-1.7**
PRVC				*i* S	**Sg**	**09 13 23.6**	**-1.6**
PRVC				IAML		09 13 28.9	
	comp=Z,54μm,1.0s						
SAIC	**Isla e San And**	**0.93**	**226**	P	**Pg**	**09 13 29.7**	**-1.0**
SAIC				S	**Sn**	**09 13 44.3**	**-1.1**
RNCC	**Cayo Roncador,**	**0.99**	**67**	P	**Pg**	**09 13 30.8**	**-1.0**
RNCC				S	**Sb**	**09 13 46.2**	**+1.1**
SERC	**Banco Serrana,**	**1.26**	**31**	P	**Pn**	**09 13 34.4**	**-2.1**
SERC				S	**Sb**	**09 13 52.8**	**-0.3**
BLUN	**Bluefields**	**2.93**	**247**	*i* P	**Pn**	**09 13 58.3**	**-1.1**
BLUN				IAML		09 14 51.9	
	comp=Z,2μm,1.0s						
ESPN	**Las Esperanzas**	**3.34**	**253**		**Pn**	**09 14 03.8**	**-1.3**
ESPN	**Las Esperanzas**	**3.34**	**253**	*i* P	**Pn**	**09 14 03.7**	**-1.4**
ESPN				IAML		09 15 25.5	
	comp=Z,5μm,1.0s						
TRT2	**Tortugero**	**3.73**	**226**	*i* P	**Pn**	**09 14 08.7**	**-1.7**
TAAN	**Batan**	**3.83**	**217**	*e*P	**Pn**	**09 14 10.6**	**-1.3**
IRES	**Siquirres**	**3.92**	**218**	*e*P	**Pn**	**09 14 11.9**	**-1.2**
RVLA	**Villa Bonita**	**3.96**	**220**	*e*P	**Pn**	**09 14 12.5**	**-1.1**
SARA	**Sarapiqu**	**4.00**	**227**	*e*P	**Pn**	**09 14 14.7**	**+0.5**
RVSTA	**Santa Teresita**	**4.10**	**219**	*e*P	**Pn**	**09 14 14.3**	**-1.3**
COVE	**Coope Vega, Sa**	**4.12**	**234**	*i* P	**Pn**	**09 14 15.1**	**-0.7**
COVE				IAML		09 15 46.2	
	comp=Z,5μm,1.0s						
CVTV	**Tajo**	**4.14**	**220**	*e*P	**Pn**	**09 14 15.7**	**-0.7**
VTCV	**VTCV, Calle Va**	**4.14**	**220**	*e*P	**Pn**	**09 14 14.5**	**-1.8**
VTLA	**Turrialba Volc**	**4.16**	**221**	*e*P	**Pn**	**09 14 15.7**	**-1.0**
BCIP	**Isla Barro Col**	**4.17**	**164**		**Pn**	**09 14 13.7**	**-2.8**
BCIP	**Isla Barro Col**	**4.17**	**164**	P	**Pn**	**09 14 13.3**	**-3.2**
BCIP				S	**Sn**	**09 15 01.6**	**-3.7**
BCIP	**Isla Barro Col**	**4.17**	**164**	*i* P	**Pn**	**09 14 13.3**	**-3.2**
BCIP				*i* S	**Sn**	**09 15 02.0**	**-3.3**
BCIP				IAML		09 15 08.0	
	comp=Z,940nm,1.0s						
TURIB	**Turrialba**	**4.18**	**219**	*e*P	**Pn**	**09 14 14.1**	**-2.6**
ITAL	**Pital**	**4.18**	**230**	*e*P	**Pn**	**09 14 16.0**	**-0.8**
LCHIL	**Los Chiles**	**4.19**	**240**	*e*P	**Pn**	**09 14 16.7**	**-0.2**
RAFA	**San Farael, Vo**	**4.21**	**221**	*i* P	**Pn**	**09 14 15.8**	**-1.6**
RAFA				IAML		09 15 25.0	
	comp=Z,2μm,1.0s						
RAFA	**San Farael, Vo**	**4.21**	**221**	*e*P	**Pn**	**09 14 16.2**	**-1.2**
VICA	**Volcano Irazu**	**4.22**	**221**	*e*P	**Pn**	**09 14 16.3**	**-1.2**
VINA	**Juan Vinas**	**4.22**	**219**	*e*P	**Pn**	**09 14 16.0**	**-1.4**
ACON	**Acoyapa**	**4.22**	**254**	Pn	**Pn**	**09 14 15.6**	**-1.8**
ACON	**Acoyapa**	**4.22**	**254**	P	**Pn**	**09 14 15.5**	**-1.8**
ACON	**Acoyapa**	**4.22**	**254**	*i* P	**Pn**	**09 14 15.5**	**-1.8**
ACON				IAML		09 15 47.1	
	comp=Z,3μm,1.0s						
PCAYA	**Pacayas**	**4.25**	**220**	*e*P	**Pn**	**09 14 16.3**	**-1.5**
CVIMO	**Finca Echandi**	**4.25**	**222**	*e*P	**Pn**	**09 14 16.7**	**-1.1**
CORON	**Coronado**	**4.33**	**223**	*e*P	**Pn**	**09 14 17.5**	**-1.3**
**VPS

comp=Z,2µm,1.0s
GMAL Guarumal, Vera 5.40 182 P **Pn 09 14 31.8 -1.7**
comp=Z,198nm,0.9s,comp=Z,11µm
GMAL S **Sn 09 15 33.1 -2.6**
comp=Z,198nm,0.9s,comp=Z,11µm
AZU Azuero 5.42 172 P **Pn 09 14 31.3 -2.4**
comp=Z,150nm,1.1s,comp=Z,4µm
AZU S **Sn 09 15 33.7 -2.5**
comp=Z,150nm,1.1s,comp=Z,4µm
INDI Punta indio, G 5.49 233 *i* P **Pn 09 14 36.1 +1.4**
INDI IVmB_BB 09 14 37.3
comp=Z,180µm,1.0s
INDI IAML 09 14 52.9
comp=Z,29µm,1.0s
INDI IAmb IAmb 09 14 53.0
comp=Z,28µm,0.9s
CAPC Capurgana 5.79 141 P **Pn 09 14 37.5 -1.4**
comp=Z,93nm,0.8s,comp=Z,2µm
CAPC S **Sn 09 15 43.6 -1.8**
comp=Z,93nm,0.8s,comp=Z,2µm
CACAO El Cacao, Vera 5.81 178 P **Pn 09 14 38.6 -0.5**
comp=Z,251nm,0.7s,comp=Z,3µm
CACAO S **Sn 09 15 46.0 +0.1**
comp=Z,251nm,0.7s,comp=Z,3µm
CRIN San Cristobal 5.89 266 Pn 09 14 39.4 -0.9
MTDJ Mount Denham 6.03 33 Pn **Pn 09 14 41.7 -0.5**
MTDJ Mount Denham 6.03 33 P **Pn 09 14 42.8 +0.6**
comp=Z,150nm,0.7s,comp=Z,4µmcomp=Z,4µm
TGUH Tegucigalpa,Un 6.13 279 Pn **Pn 09 14 42.4 -1.2**
TGUH Tegucigalpa,Un 6.13 279 P **Pn 09 14 42.7 -0.9**
comp=Z,473nm,1.0s,comp=Z,6µmcomp=Z,4µm
LCBC Los crdobas, 6.29 133 P **Pn 09 14 44.8 -0.8**
comp=Z,468nm,1.0s,comp=Z,7µm
LCBC S **Sn 09 15 56.2 -1.4**
comp=Z,468nm,1.0s,comp=Z,7µm
HOJ Hope 6.32 40 *i* P **Pn 09 14 45.7 -0.3**
STH Stony Hill 6.33 39 ‖ *i* P **Pn 09 14 46.0 -0.3**
GWJ Greenwich 6.38 40 ‖ *i* P **Pn 09 14 46.8 -0.2**
SJCC San Jacinto, C 6.60 119 P **Pn 09 14 47.0 -3.0**
comp=Z,123nm,0.7s,comp=Z,2µmcomp=Z,6µm
SJCC S **Sn 09 16 01.4 -4.1**
comp=Z,123nm,0.7s,comp=Z,2µmcomp=Z,6µm
LCND La Caada 6.68 272 *i* P **Pn 09 14 48.9 -2.2**
LCND IAmb IAmb 09 15 14.6
comp=Z,63nm,0.6s
LCND IVmB_BB 09 15 30.4
comp=Z,1µm,1.0s
LCND IAML 09 16 59.1
comp=Z,360nm,1.0s
PTAC Punta Ardita, 6.79 152 P **Pn 09 14 49.8 -2.8**
comp=Z,51nm,0.8s,comp=Z,1µm
PTAC S **Sn 09 16 06.5 -3.6**
comp=Z,51nm,0.8s,comp=Z,1µm
APAC Apartado, Choc 6.84 140 P **Pn 09 14 51.1 -2.2**
comp=Z,148nm,0.6s,comp=Z,2µmcomp=Z,4µm
APAC S **Sn 09 16 12.2 +0.9**
comp=Z,148nm,0.6s,comp=Z,2µmcomp=Z,4µm
ARGC Ariguani, Magd 7.43 116 P **Pn 09 15 00.6 -0.7**
comp=Z,78nm,0.6s,comp=Z,2µmcomp=Z,4µm
ARGC S **Sn 09 16 23.1 -2.6**
comp=Z,78nm,0.6s,comp=Z,2µmcomp=Z,4µm
SCLA Alcaldia de Sa 7.51 275 *i* P **Pn 09 15 00.9 -1.6**
SCLA IAmb IAmb 09 15 20.7
comp=Z,67nm,1.0s
SCLA IVmB_BB 09 15 40.9
comp=Z,960nm,1.0s
SCLA IAML 09 17 23.4
comp=Z,270nm,1.0s
UREC San Jos de Ur 7.64 134 P **Pn 09 15 02.8 -1.5**
comp=Z,64nm,0.6s,comp=Z,1µm
UREC S **Sn 09 16 24.8 -6.3**
comp=Z,64nm,0.6s,comp=Z,1µm
PAVA Las Pavas 7.71 275 *i* P **Pn 09 15 03.9 -1.4**
PAVA IAmb IAmb 09 15 10.7
comp=Z,110nm,0.9s
PAVA IVmB_BB 09 16 02.4
comp=Z,2µm,1.0s
PAVA IAML 09 17 30.5
comp=Z,1µm,1.0s
DBBC Dabeiba 7.76 142 P **Pn 09 15 06.1 +0.2**
MTO3 Montecristo 8.18 279 Pn 09 15 10.9 -1.0
MTO3 Montecristo 8.18 279 *i* P **Pn 09 15 10.1 -1.8**
MTO3 IVmB_BB 09 15 38.0
comp=Z,1µm,1.0s
MTO3 IAmb IAmb 09 15 38.4
comp=Z,100nm,0.9s
ESQI Esquipulas 8.19 281 Pn 09 15 12.8 +1.0
CRJC Cerrejon, Guaj 8.26 104 P Pn 09 15 07.1 -5.7
comp=Z,50nm,0.8s
CRJC S **Sn 09 16 40.1 -6.1**
comp=Z,50nm,0.8s
ZARC Zaragoza, Cauc 8.30 132 P **Pn 09 15 12.1 -1.3**
comp=Z,75nm,0.7s,comp=Z,831nmcomp=Z,2µm
ZARC S **Sn 09 16 44.9 -2.4**
comp=Z,75nm,0.7s,comp=Z,831nmcomp=Z,2µm
GTBY Guantanamo Bay 8.78 39 Pn **Pn 09 15 19.4 -0.4**
GTBY Guantanamo Bay 8.78 39 P **Pn 09 15 18.9 -0.9**
comp=Z,76nm,0.6s
CBOC Ciudad Bolivar 8.80 145 P **Pn 09 15 21.0 +0.6**
comp=Z,52nm,0.7s
HELC Santa Helena 8.82 142 P **Pn 09 15 23.3 +2.5**
comp=Z,28nm,0.9s
URIC Uribia, Colomb 8.95 99 P **Pn 09 15 17.5 -4.7**
comp=Z,23nm,1.0s,comp=Z,2µm
URIC S **Sn 09 16 56.4 -6.8**
comp=Z,23nm,1.0s,comp=Z,2µm
OCAC Ocana 9.03 122 P **Pn 09 15 22.1 -1.4**
comp=Z,109nm,0.6s,comp=Z,1µmcomp=Z,3µm
OCAC S **Sn 09 17 00.4 -5.1**
comp=Z,109nm,0.6s,comp=Z,1µmcomp=Z,3µm
PTBC PUERTO BERRIO, 9.25 135 P **Pn 09 15 25.1 -1.3**
comp=Z,17nm,0.9s
PTBC S **Sn 09 17 06.7 -4.0**
comp=Z,17nm,0.9s
PETF Flores 9.30 295 Pn 09 15 27.8 +0.7
BRJC Barrancabermej 9.47 130 P **Pn 09 15 28.7 -0.6**
comp=Z,86nm,0.5s,comp=Z,1µm
GUY2C Guyana, Caldas 9.69 144 P **Pn 09 15 34.7 +1.9**
comp=Z,23nm,0.6s,comp=Z,2µm
NORC Norcasia 9.71 141 P **Pn 09 15 33.4 +0.6**
comp=Z,21nm,0.8s
SOR Soroa 9.73 349 Pn **Pn 09 15 33.8 +0.9**
CAMR Camarioca 9.82 358 Pn 09 15 36.6 +2.5
TEIG Tepich 9.85 316 Pn 09 15 33.1 -1.5
TEIG Tepich 9.85 316 Pn **Pn 09 15 33.3 -1.2**
baz=142,slow=20,SNR=15
TEIG Sn **Sn 09 17 19.7 -5.7**
baz=47,slow=24
TEIG Tepich 9.85 316 P **Pn 09 15 33.0 -1.5**
comp=Z,227nm,0.7s,comp=Z,15µm
PAPH Port-au-Prince 9.93 57 Pn 09 15 37.4 +1.8
PAMC Pamplona, Colo 10.05 125 P **Pn 09 15 38.6 +0.9**
PAMC S **Sn 09 17 28.6 -2.3**
YOTC Yotoco, Valle 10.25 153 P **Pn 09 15 41.3 +1.1**
comp=Z,24nm,0.8s
ROSC El Rosal 10.62 141 Pn 09 15 43.5 -1.9
ROSC El Rosal 10.62 141 Pn **Pn 09 15 46.8 +1.3**
comp=Z,1.8nm,0.3s,baz=48,slow=23,SNR=2.7
ROSC Sn **Sn 09 17 42.2 -2.5**
comp=Z,2.5nm,0.3s,baz=32,slow=23,SNR=1.7
ROSC LR LR 09 20 16.5
comp=Z,2µm,20.9s,baz=342,slow=40
comp=Z,13nm,0.7s
RUSC La Rusia 10.68 132 P **Pn 09 15 45.6 -0.7**
comp=Z,34nm,1.3s,comp=Z,2µm
ORTC Ortega, Tolima 10.85 148 P **Pn 09 15 52.2 +3.9**
comp=Z,53nm,0.9s
SDDR Presa de Saban 10.99 57 Pn 09 15 51.6 +1.4
SDV Santo Domingo 11.06 112 Pn **Pn 09 15 50.3 -1.1**
SDV Santo Domingo 11.06 112 Pn **Pn 09 15 49.0 -2.4**
comp=Z,4.2nm,0.3s,baz=299,slow=6.6,SNR=11
SDV Sn **Sn 09 17 48.4 -7.0**
comp=Z,19nm,0.3s,baz=320,slow=20,SNR=15
SDV LR LR 09 20 42.6
comp=Z,1µm,20.7s,baz=308,slow=40
SDV Santo Domingo 11.06 112 P **Pn 09 15 50.0 -1.4**
comp=Z,36nm,0.6s,comp=Z,2µm
SDV S **Sn 09 17 48.3 -7.1**
comp=Z,36nm,0.6s,comp=Z,2µm
SDV Santo Domingo 11.06 112 *e*P **Pn 09 15 49.8 -1.6**
TAMC Tame, Arauca 11.31 126 P **Pn 09 15 54.2 -0.4**
comp=Z,57nm,0.8s
POPC Popayan, Colom 11.43 157 P **Pn 09 15 56.3 -0.1**
comp=Z,19nm,1.0s
POPC S **Sn 09 18 10.0 +5.6**
comp=Z,19nm,1.0s
VILC Villavicencio, 11.57 141 P **Pn 09 15 59.7 +1.4**
comp=Z,49nm,0.8s,comp=Z,453nm
TULM Tulcn-Chalpat 12.81 165 P Pn 09 16 20.3 +4.8
OTAV Otavalo 13.12 169 Pn 09 16 19.6 -0.2
OTAV Otavalo 13.12 169 *e*P **Pn 09 16 22.5 +2.7**
BAUV El Baul 13.43 107 Pn **Pn 09 16 21.3 -2.2**
CMIG Matias Romero 13.93 288 Pn **Pn 09 16 28.7 -1.6**
comp=Z,0.1nm,0.3s,baz=21,slow=12,SNR=2.1
CMIG LR LR 09 22 18.3
comp=Z,2µm,18.2s,baz=116,slow=40
comp=Z,1.2nm,0.8s
OBIP Obispado Ponce 14.70 69 Pn **Pn 09 16 42.2 +1.2**
SJG San Juan 15.14 69 Pn **P 09 16 51.1 -0.9**
comp=Z,9.3nm,0.2s,baz=263,slow=6.1,SNR=8.5
SJG LR LR 09 22 10.4
comp=Z,738nm,19.5s,baz=238,slow=35
HUMP Col San Antoni 15.42 69 P **P 09 16 53.5 -1.7**
HUMP IAmb IAmb 09 17 09.2
comp=Z,26nm,0.9s
COHC Cochancay 15.66 173 Pn **Pn 09 16 52.6 -1.1**
PCRV Puerto La Cruz 16.33 99 Pn **P 09 17 06.8 +1.4**
comp=Z,0.4nm,0.3s,baz=2.3,slow=15,SNR=1.8
PCRV LR LR 09 24 24.5
comp=Z,498nm,20.7s,slow=41
comp=Z,10nm,1.0s
TLIG Tlapa 17.46 287 P **P 09 17 19.5 +1.6**
ATAH Atahualpa 20.36 172 P **P 09 17 50.0 -0.1**
comp=Z,1.2nm,0.4s,baz=288,slow=20,SNR=1.1
ATAH LR LR 09 26 45.2
comp=Z,486nm,20.3s,baz=346,slow=40
comp=Z,1.2nm,0.4s
LRAL Lakeview Retre 20.49 346 IAmb IAmb 09 17 59.6
TBTG Tabatinga, AM 20.50 147 *e*P Pn 09 17 52.6 -0.7
Z47A Carrollton 20.93 343 P **P 09 17 57.2 +1.6**
Z47A IAmb IAmb 09 18 07.6
comp=Z,41nm,0.9s
Y49A Blount Mountai 21.15 348 P **P 09 17 59.4 +1.3**
Y49A IAmb IAmb 09 18 09.9
comp=Z,30nm,1.2s
BIRD Birdtown, Kers 21.36 1 P **P 09 18 01.3 +0.9**
BIRD IAmb IAmb 09 18 41.1
comp=Z,24nm,1.2s
HBVL Hebbronville 21.52 313 P **P 09 18 03.9 +1.7**
PAULI Pauline 21.55 358 IAmb IAmb 09 18 07.6
comp=Z,21nm,0.8s
HKT Hockley 21.58 323 P **P 09 18 04.7 +2.0**
HKT IAmb IAmb 09 18 13.8
comp=Z,45nm,1.2s
BG3 Lake Jocassee 21.77 356 P **P 09 18 05.8 +1.0**
BG3 IAmb IAmb 09 18 43.0
comp=Z,26nm,1.0s
X48A Hartselle 21.86 347 P **P 09 18 07.2 +1.5**
X48A IAmb IAmb 09 18 32.2
comp=Z,41nm,1.2s
W57A Gilead 21.88 2 P **P 09 18 08.3 +2.3**
W57A IAmb IAmb 09 18 18.3
comp=Z,28nm,1.2s
Y45A Yeager Farm, C 21.99 341 P **P 09 18 07.2 +0.2**
CZSB Cruzeiro do Su 22.37 158 *e*P **P 09 18 12.6 +1.2**
CPCT Cooper Cave 22.38 352 P **P 09 18 13.6 +2.3**
CPCT IAmb IAmb 09 18 18.2
comp=Z,27nm,1.2s
TKL Tuckaleechee C 22.50 354 LR LR 09 26 26.6
comp=Z,621nm,18.2s,baz=178,slow=35
V58A Windy Hill, Pi 22.57 4 P **P 09 18 15.3 +2.0**
V58A IAmb IAmb 09 18 28.6
comp=Z,23nm,1.3s
BOAV Boa Vista 22.95 116 P **P 09 18 18.1 +0.6**
BOAV IAmb IAmb 09 18 56.3
comp=Z,32nm,1.4s
BOAV Boa Vista 22.95 116 *e*P **P 09 18 17.9 +0.4**
WLAR White Oak Lake 23.18 334 P **P 09 18 19.9 +0.2**
435B Jarrell 23.23 322 P **P 09 18 20.3 +0.1**
U54A Nelsons Funny 23.24 358 P **P 09 18 21.1 +0.7**
U54A IAmb IAmb 09 18 48.5
comp=Z,25nm,0.9s
CLTN Cedars of Leba 23.30 349 P **P 09 18 20.9 +0.1**
CLTN IAmb IAmb 09 18 37.4
comp=Z,23nm,1.1s
HNDO Hondo 23.46 317 P **P 09 18 22.6 -0.1**
WVT Waverly 23.64 346 P **P 09 18 26.6 +2.3**
WVT IAmb IAmb 09 18 55.0
comp=Z,15nm,1.1s
X40A Basin Creek Fa 23.75 335 P **P 09 18 25.2 -0.2**
X40A IAmb IAmb 09 18 42.9
comp=Z,39nm,1.5s
T50A Nancy 23.97 352 IAmb IAmb 09 18 34.8
comp=Z,11nm,0.8s
DRIO Del Rio 24.31 315 IAmb IAmb 09 19 04.7
comp=Z,22nm,1.2s
JCT Junction City 24.42 318 P **P 09 18 30.8 -1.0**
JCT IAmb IAmb 09 19 01.1
comp=Z,20nm,1.1s
LCAR Lake Charles 24.53 340 P **P 09 18 31.0 -1.7**
LCAR IAmb IAmb 09 18 48.0
comp=Z,20nm,1.1s
FCAR Ozark Folk Cen 24.71 338 P **P 09 18 35.1 +0.9**
FCAR IAmb IAmb 09 18 52.5
comp=Z,14nm,1.0s
NNA Nana 25.36 170 LR LR 09 28 26.8
comp=Z,343nm,19.3s,baz=341,slow=36
WCI Wyandotte Cave 25.37 350 P **P 09 18 41.3 +1.1**
SAND Sanderson 25.67 314 IAmb IAmb 09 19 06.8
comp=Z,13nm,1.0s
Q52A Bidwell 25.69 358 P **P 09 18 43.8 +0.8**
MACA Manacapuru-AM 25.92 127 *e*P **P 09 18 44.4 -1.1**
SGCY Sterling City 26.21 319 P **P 09 18 46.7 -1.3**
SGCY IAmb IAmb 09 18 55.3
comp=Z,13nm,0.9s
CCM Cathedral Cave 26.38 342 P **P 09 18 49.5 +0.1**
TXAR Lajitas Array 26.43 311 P **P 09 18 50.5 +0.4**
comp=Z,7.6nm,0.8s,baz=132,slow=8.7,SNR=18
TXAR LR LR 09 32 02.3
comp=Z,196nm,19.6s,baz=124,slow=43
comp=Z,7.6nm,0.8s
APMT Aspermont 26.54 322 P **P 09 18 50.8 -0.1**
APMT IAmb IAmb 09 19 05.0
comp=Z,14nm,0.9s
SN05 Snyder 5 26.70 321 IAmb IAmb 09 19 28.5
comp=Z,17nm,1.1s
HPIG 26.81 304 IAmb IAmb 09 18 58.5
comp=Z,12nm,1.2s
R40A Maddies Statio 26.92 340 P **P 09 18 54.7 +0.5**
R40A IAmb IAmb 09 19 16.0
comp=Z,20nm,1.0s
MNHN Monahans 26.94 316 IAmb IAmb 09 19 04.2
comp=Z,11nm,1.1s
ALPN Alpine 26.99 313 IAmb IAmb 09 19 17.8
comp=Z,29nm,1.5s
ETMB Extrema 27.18 147 P **P 09 18 55.2 -1.6**
ETMB IAmb IAmb 09 19 30.7
comp=Z,19nm,1.3s
ETMB Extrema 27.18 147 *e*P **P 09 18 56.2 -0.6**
PECS Pecos 27.72 314 IAmb IAmb 09 19 22.9
comp=Z,15nm,1.0s
SAML Samuel 28.25 140 P 09 19 06.6 +0.3
SAML IAmb IAmb 09 19 42.6
comp=Z,10nm,0.8s
SAML Samuel 28.25 140 *e*P **P 09 19 06.7 +0.4**
MDP Montagnes des 29.13 103 LR LR 09 32 36.0
comp=Z,513nm,20.9s,baz=276,slow=40
LPIG La Paz 29.72 296 LR LR 09 31 49.7
comp=Z,1µm,19.4s,baz=129,slow=38
ITTB Itaituba 30.58 123 *e*P **P 09 19 25.7 -1.4**
SADO Sadowa 31.51 3 LR LR 09 32 26.0
comp=Z,730nm,19.7s,baz=228,slow=36
ANMO Albuquerque 31.58 318 LR LR 09 35 36.7
comp=Z,290nm,18.9s,baz=302,slow=43
LPAZ La Paz 31.95 156 P **P 09 19 39.8 +0.1**
comp=Z,0.7nm,0.6s,baz=340,slow=9.6,SNR=4.2
LPAZ LR LR 09 33 55.8
comp=Z,369nm,21.3s,baz=282,slow=39
comp=Z,0.7nm,0.6s
LPAZ La Paz 31.95 156 *e*P **P 09 19 39.8 +0.1**
NPGB Novo Progresso 32.47 127 *e*P **P 09 19 43.9 +0.1**
VILB Vilhena 33.18 141 *e*P **P 09 19 50.0 +0.1**
TUC Tucson 33.22 310 P **P 09 19 51.7 +1.5**
TUC IAmb IAmb 09 19 57.7
comp=Z,5.9nm,1.1s
PDRB Porto dos Gac 34.48 135 *e*P **P 09 20 00.8 -0.4**
CLDB Colider 34.62 133 *e*P **P 09 20 02.9 +0.4**
GO01 Chusmiza 34.67 160 P 09 20 03.9 +0.6
X16A Lo Mia Camp, P 34.72 313 IAmb IAmb 09 20 20.4
comp=Z,12nm,1.1s
F33A 5 Mile Ranch, 35.02 341 IAmb IAmb 09 20 08.5
comp=Z,8.1nm,0.8s
SIV San Ignacio 35.08 145 LR LR 09 34 59.7
comp=Z,310nm,19.6s,baz=335,slow=37
WUAZ Wupatki 35.23 314 IAmb IAmb 09 20 15.8
comp=Z,13nm,1.0s
PTLB Pontes e Lacer 35.76 142 P **P 09 20 12.2 0.0**
PTLB Pontes e Lacer 35.76 142 *e*P **P 09 20 11.4 -0.8**
PB01 IPOC Station P 35.86 161 P **P 09 20 13.2 +0.1**
PB01 IAmb IAmb 09 20 35.9
comp=Z,15nm,1.0s
HMU Henry Mountain 36.13 318 IAmb IAmb 09 20 31.9
comp=Z,12nm,1.2s
BBSD Serra de San D 36.30 146 *e*P **P 09 20 16.4 -0.5**
U15A North Rim 36.34 315 IAmb IAmb 09 20 48.9
comp=Z,9.9nm,1.3s
BLYC Blythe 36.67 310 IAmb IAmb 09 20 27.7
comp=Z,11nm,1.2s
MTPU Mount Pierson 37.13 317 IAmb IAmb 09 20 40.3
comp=Z,12nm,1.5s
PFO Pinyon Flats O 38.07 308 LR LR 09 38 53.6
comp=Z,372nm,18.3s,baz=136,slow=41
PDAR Pinedale Array 38.41 326 P **P 09 20 34.6 -0.2**
comp=Z,1.8nm,0.7s,baz=126,slow=11,SNR=9.8
PDAR LR LR 09 39 44.4
comp=Z,130nm,18.6s,baz=127,slow=42
comp=Z,1.8nm,0.7s
PSUT Pine Spring 38.50 317 IAmb IAmb 09 21 00.2
comp=Z,11nm,1.0s
SNDB Serra Nova Dou 38.67 129 *e*P **P 09 20 36.7 -0.3**
ULM Lac du Bonnet 38.90 345 IAmb IAmb 09 20 48.0
comp=Z,18nm,1.2s
ULM Lac du Bonnet 38.90 345 P **P 09 20 37.8 -0.7**
comp=Z,6.4nm,0.6s,baz=153,slow=8.0,SNR=8.0
comp=Z,6.4nm,0.6s
SPR3 Spring Creek 3 39.06 317 IAmb IAmb 09 20 54.6
comp=Z,14nm,1.5s
SPUT South Promonto 39.17 322 IAmb IAmb 09 20 58.3
comp=Z,14nm,1.5s
S11A Rachel 39.34 315 IAmb IAmb 09 20 54.8
comp=Z,18nm,1.0s
Q12A Willow Creek R 39.42 317 IAmb IAmb 09 21 27.9
comp=Z,16nm,1.3s
SNOW Snow King Moun 39.53 325 IAmb IAmb 09 21 03.9
comp=Z,12nm,1.1s
TPAW Teton Pass 39.66 325 IAmb IAmb 09 21 06.0
comp=Z,11nm,1.1s
SMTB Santa Maria do 39.79 122 *e*P **P 09 20 45.6 -0.8**
RLMT Red Lodge 39.86 328 IAmb IAmb 09 21 09.0
comp=Z,11nm,1.1s
CCAC Calif City Air 39.87 310 IAmb IAmb 09 20 55.0
comp=Z,19nm,1.0s
ISA Isabella, Lake 40.42 310 P **P 09 20 52.4 +0.9**
ARAG Araguaiana, MT 40.74 134 *e*P **P 09 20 53.7 -0.5**
DSP Deep Springs 40.78 313 P **P 09 20 56.3 +2.0**
NVAR Mina Array Bea 41.49 314 P **P 09 21 00.6 +0.2**
comp=Z,4.8nm,1.0s,baz=127,slow=5.7,SNR=9.5
NVAR LR LR 09 42 07.4
comp=Z,642nm,18.4s,baz=130,slow=42
comp=Z,4.8nm,1.0s
HLID Hailey 41.68 323 P **P 09 21 03.5 +1.7**
BMN Battle Mountai 41.71 317 IAmb IAmb 09 21 21.9
comp=Z,8.3nm,0.9s
YERR Yerington 42.40 314 IAmb IAmb 09 21 15.7
comp=Z,9.8nm,1.2s
MFID Camas Ranch 42.43 322 IAmb IAmb 09 21 25.5
comp=Z,12nm,1.2s
PNTR Pine Nut 42.69 314 P **P 09 21 11.8 +1.5**
SCHQ Schefferville 43.01 12 P **P 09 21 13.3 +1.0**
comp=Z,7.0nm,0.9s,baz=190,slow=12,SNR=4.1
SCHQ LR LR 09 38 24.2
comp=Z,273nm,21.6s,baz=229,slow=35
comp=Z,7.0nm,0.9s
AC05 El Transito 43.06 166 P **P 09 21 12.1 -1.1**
AC05 IAmb IAmb 09 21 21.9
comp=Z,18nm,0.8s
MPK Martis Peak 43.08 314 P **P 09 21 15.1 +1.6**
BDFB Brasilia 43.44 130 P 09 21 17.0 +0.6
BDFB IAmb IAmb 09 21 22.1
comp=Z,10nm,0.9s
BDFB Brasilia 43.44 130 P **P 09 21 15.5 -0.9**
comp=Z,5.3nm,0.6s,baz=280,slow=5.4,SNR=5.4
BDFB LR LR 09 41 23.4
comp=Z,349nm,18.9s,baz=308,slow=39
comp=Z,5.3nm,0.6s
WVOR Wild Horse Val 43.64 319 IAmb IAmb 09 21 25.3
comp=Z,18nm,1.1s
SDBA SAO DESIDERIO 43.94 124 *e*P **P 09 21 19.1 -1.2**
J08A Circle Bar Ran 44.02 320 IAmb IAmb 09 21 55.4
comp=Z,11nm,1.3s
F10A Beach Ranch, E 44.71 324 IAmb IAmb 09 21 50.2
comp=Z,6.4nm,0.9s
IPMB Ipameri, GO 44.81 133 *e*P **P 09 21 26.6 -0.7**
E09A Wood Farm, Sta 45.54 324 P **P 09 21 34.3 +1.6**
E09A IAmb IAmb 09 21 57.9
comp=Z,9.8nm,1.1s
CPUP Villa Florida 45.55 150 P **P 09 21 31.5 -1.5**
comp=Z,1.9nm,0.8s,baz=1.0,slow=8.1,SNR=3.5
CPUP LR LR 09 44 12.1
comp=Z,278nm,18.2s,baz=331,slow=41
comp=Z,1.9nm,0.8s
CPUP Villa Florida 45.55 150 *e*P **P 09 21 32.9 0.0**
JANB Januaria 45.92 126 *e*P **P 09 21 35.5 -0.7**
YBH Yreka Blue Hor 45.99 316 LR LR 09 44 23.1
comp=Z,408nm,20.6s,baz=150,slow=41
H04A Detroit Lake 47.00 320 P **P 09 21 45.0 +0.7**
DIAM Diamantina, MG 48.34 129 *e*P **P 09 21 54.1 -1.0**
RCBR Riachuelo 48.64 110 LR LR 09 42 53.0
comp=Z,173nm,21.4s,baz=299,slow=36
ITQB Itaqui 48.69 151 *e*P **P 09 21 56.9 -0.5**
PSAL Palomas, Salto 49.44 153 *e*P **P 09 22 03.1 0.0**
CPSB Cacapava Do Su 50.84 149 *e*P **P 09 22 12.3 -1.4**
FRB Frobisher Bay 51.24 7 LR LR 09 43 41.9
comp=Z,252nm,18.6s,baz=190,slow=36
RIB01 Linhares ES 51.43 128 *e*P **P 09 22 18.3 -0.2**
PLTB Pedras Altas 51.86 150 P 09 22 20.3 -1.2
PLTB Pedras Altas 51.86 150 *e*P **P 09 22 20.7 -0.8**
BBB Bella Bella 54.05 326 LR LR 09 48 01.0
comp=Z,145nm,19.8s,baz=172,slow=39
PLCA Paso Flores 54.52 170 *e*P **P 09 22 40.8 -0.2**
YKA Yellowknife Ar 54.72 342 P **P 09 22 42.1 0.0**
comp=Z,1.7nm,1.1s,baz=138,slow=7.4,SNR=4.3
comp=Z,1.7nm,1.1s
RES Resolute Bay 61.97 356 LR LR 09 50 53.2
comp=Z,330nm,18.0s,baz=213,slow=36
A36M Sachs Harbour 64.36 346 P **P 09 23 48.2 -0.2**
SUMG Summit 64.39 13 P **P 09 23 51.0 +1.9**
BORG Borgarnes 65.44 24 LR LR 09 47 46.5
comp=Z,169nm,22.0s,baz=245,slow=32
E29M Blow River 65.93 340 IAmb IAmb 09 24 07.6
comp=Z,5.7nm,1.1s
F28M Old Crow 66.27 339 P **P 09 24 03.4 +2.5**
F28M IAmb IAmb 09 24 08.9
comp=Z,6.5nm,1.1s
E28M Babbage River 66.57 340 IAmb IAmb 09 24 21.5
comp=Z,4.9nm,0.9s
D27M Malcolm River 67.31 340 IAmb IAmb 09 24 13.8
comp=Z,7.5nm,1.1s
IL31 67.94 335 P **P 09 24 13.4 +1.9**
ILAR Eielson Array 67.94 335 P **P 09 24 12.0 +0.4**
comp=Z,1.4nm,0.8s,baz=115,slow=4.9,SNR=8.6
comp=Z,1.4nm,0.8s
C27K Jago River 68.35 340 IAmb IAmb 09 24 33.3
comp=Z,5.7nm,1.0s
KDAK Kodiak Island 69.11 327 LR LR 09 57 10.4
comp=Z,79nm,18.6s,baz=294,slow=38
MDT Midelt 71.65 60 LR LR 09 52 57.9
comp=Z,182nm,18.5s,baz=338,slow=33
ESDC Sonseca Array 71.79 52 P **P 09 24 37.6 +1.7**
comp=Z,3.3nm,0.8s,baz=279,slow=6.1,SNR=11
ESDC LR LR 09 50 31.5
comp=Z,191nm,21.9s,baz=275,slow=31
comp=Z,3.3nm,0.8s
JMIC Jan Mayen 71.93 19 LR LR 09 52 25.7
comp=Z,45nm,21.9s,baz=208,slow=33
EKA Eskdalemuir Ar 72.36 36 P **P 09 24 41.8 +2.9**
comp=Z,3.2nm,0.7s,baz=270,slow=6.7,SNR=6.3
comp=Z,3.2nm,0.7s
DBIC Dimbokro 75.09 87 LR LR 09 57 49.1
comp=Z,55nm,18.1s,baz=260,slow=36
SPITS Spitsbergen Ar 78.69 12 LR LR 09 59 50.3
comp=Z,144nm,21.6s,baz=244,slow=36
NOA NORSAR Array B 79.66 30 P **P 09 25 21.3 +0.8**
comp=Z,1.4nm,0.9s,baz=266,slow=18,SNR=3.0
NOA LR LR 09 59 21.4
comp=Z,71nm,18.7s,baz=300,slow=35
comp=Z,1.4nm,0.9s
TORD Torodi Ar. Bea 80.13 79 P **P 09 25 24.8 +0.9**
comp=Z,0.5nm,0.8s,baz=242,slow=3.1,SNR=2.5

TORD LR LR 10 00 20.7
comp=Z,103nm,18.1s,baz=284,slow=35
comp=Z,0.5nm,0.8s
HFS Hagfors 81.01 30 P **P 09 25 30.8 +3.1**
comp=Z,2.0nm,0.8s,baz=297,slow=6.3,SNR=2.7
HFS LR LR 09 56 35.5
comp=Z,153nm,21.3s,baz=254,slow=32
comp=Z,2.0nm,0.8s
DAVOX Davos/Dischmat 81.13 44 LR LR 09 57 26.2
comp=Z,209nm,18.9s,baz=270,slow=33
GERES GERESS Array B 83.27 42 P **P 09 25 41.4 +1.5**
comp=Z,0.8nm,0.7s,baz=230,slow=12,SNR=2.7
GERES LR LR 09 59 25.6
comp=Z,299nm,19.1s,baz=272,slow=33
comp=Z,0.8nm,0.7s
ARCES ARCESS Array B 83.41 20 P **P 09 25 42.3 +2.2**
comp=Z,4.0nm,0.9s,baz=311,slow=4.6,SNR=4.3
ARCES LR LR 09 57 53.0
comp=Z,112nm,22.0s,baz=292,slow=32
comp=Z,4.0nm,0.9s
VRAC Vranov 85.02 41 LR LR 10 01 20.0
comp=Z,255nm,18.3s,baz=262,slow=34
VAE Valguarnera 86.33 53 LR LR 10 00 52.2
comp=Z,152nm,19.1s,baz=321,slow=33
FINES FINESS Array B 86.49 27 P **P 09 25 56.6 +0.9**
comp=Z,3.5nm,0.7s,baz=204,slow=4.2,SNR=9.2
FINES LR LR 09 59 00.0
comp=Z,160nm,21.4s,baz=292,slow=32
comp=Z,3.5nm,0.7s
SHEM Shemya Is, Ala 88.39 324 LR LR 10 05 06.5
comp=Z,44nm,22.0s,baz=80,slow=35
MLR Muntele Rosu 92.22 42 P **P 09 26 24.0 +0.7**
AKASG Malin Array Be 92.26 37 LR LR 10 04 08.3
comp=Z,135nm,21.0s,baz=262,slow=33
OBN Obninsk 94.22 31 LR LR 10 04 45.6
comp=Z,127nm,21.3s,baz=358,slow=33
IDI Anoyia 95.06 52 LR LR 10 05 43.5
comp=Z,58nm,21.0s,baz=316,slow=33
MA2 Magadan 96.39 336 LR LR 10 13 02.6
comp=Z,95nm,20.2s,baz=105,slow=37
PETK Petropavlovsk- 97.11 329 LR LR 10 12 52.7
comp=Z,81nm,21.3s,baz=27,slow=37
NRIK Noril'sk 97.28 4 LR LR 10 13 12.4
comp=Z,145nm,18.9s,baz=341,slow=37
KIRV Kirov 97.92 24 LR LR 10 06 14.3
comp=Z,133nm,21.0s,baz=322,slow=32
BRTR Keskin Array B 99.74 45 LR LR 10 12 14.9
comp=Z,57nm,18.4s,baz=306,slow=36
WMQ Urumqi 122.34 10 *e*PKP **PKiKP 09 32 09.8 +1.0**
WMQ LR LR
comp=N,190nm,23.5s
WMQ LR LR
comp=E,460nm,24.0s
WMQ LR LR
comp=Z,160nm,24.3s
HHC Hu-ho-hao-te 124.98 348 *e*P **PKPdf 09 32 08.3 -5.5**
NJ2 Nanjing 131.15 337 *e*P **PKPdf 09 32 25.0 -0.6**
NJ2 pmax pmax
comp=Z,12nm,0.5s
STKA Stephens Creek 136.79 237 PKP **PKiKP 09 32 37.1 -0.9**
comp=Z,2.5nm,0.8s,baz=139,slow=4.7,SNR=6.1
GYA Guiyang 139.88 349 PKP **PKPdf 09 32 39.0 -3.3**
GYA PP **PP 09 35 37.5 +0.9**
PZH PanZhiHua 140.45 356 PKP **PKPdf 09 32 42.5 -0.8**
ASAR Alice Springs 145.35 247 PKPbc **PKPbc 09 32 50.5 -1.2**
comp=Z,3.8nm,0.9s,baz=114,slow=3.4,SNR=21
WRA Warramunga Arr 145.49 254 PKPbc **PKPdf 09 32 51.1 -1.0**
comp=Z,4.5nm,0.8s,baz=97,slow=2.9,SNR=24
CMAR Chiang Mai Arr 148.55 0 PKPbc **PKPbc 09 33 00.2 -0.7**
comp=Z,1.2nm,0.5s,baz=328,slow=3.2,SNR=7.3

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*ATH **26** 09:14:50.2, 35°.17N×23°.21E, h55km±4km, ML3.5/5, Error ellipse: s-maj=5.4km s-min=2.0km az=55.0*
*IDC **26** 09:14:51.7±3.6, 35°.26N×23°.27E, h61km±35km, mb3.7/9, mbtmp3.9/12, ML3.5/3, MS2.8/3, Error ellipse: s-maj=28.2km s-min=23.3km az=142.0*
*THE **26** 09:14:52.3, 35°.12N×23°.19E, h33km±30km, ML3.5/3, Error ellipse: s-maj=30.3km s-min=1.3km az=55.0*
*ISK **26** 09:15:28.9, 36°.02N×26°.75E, h8km, ML2.2/10*
ISC 26 09:14:51.0±1.2, 35°.15N±0°.08×23°.33E±0°.08, h58km±8km, n39, σ2°07/28, mb3.9/9, Crete

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.30**	**75**	P		**Pn**	**09 15 00.1**	**-0.7**
KNDR				S		**Sn**	**09 15 07.8**	**-0.1**
KNDR				AML		AML	09 15 12.3	
	comp=E,28313μm,0.6s							
KNDR				AML		AML	09 15 14.0	
	comp=N,23738μm,0.7s							
IMMV	**Iera Moni Meta**	**0.62**	**60**	P		Pn	09 15 05.4	+1.3
IMMV				S		**Sn**	**09 15 16.3**	**+2.7**
	comp=N,4μm,0.6s							
IMMV	**Iera Moni Meta**	**0.62**	**60**	P		Pn	09 15 05.7	+1.6
IMMV				S		**Sn**	**09 15 15.8**	**+2.2**
CHAN	**Chania**	**0.69**	**58**	P		Pn	09 15 06.3	+1.3
CHAN				S		**Sn**	**09 15 17.8**	**+2.7**
CHAN				AML		AML	09 15 22.4	
	comp=N,6672μm,0.5s							
CHAN				AML		AML	09 15 24.2	
	comp=E,7339μm,0.8s							
GVD	**Gavdhos**	**0.70**	**116**	P		Pn	09 15 06.8	+1.8
GVD				S		**Sn**	**09 15 17.1**	**+1.7**
	comp=E,4μm,0.4s							
GVD	**Gavdhos**	**0.70**	**116**	P		Pn	09 15 06.8	+1.8
GVD				S		**Sn**	**09 15 18.5**	**+3.1**
GVD				AML		AML	09 15 25.5	
	comp=N,6966μm,0.3s							
GVD				AML		AML	09 15 30.7	
	comp=E,8565μm,0.4s							
ANKY	**Antikythira Is**	**0.71**	**358**	P		**Pn**	**09 15 05.1**	**-0.1**
ANKY				S		**Sn**	**09 15 16.5**	**+0.9**
	comp=E,3μm,0.7s							
ANKY	**Antikythira Is**	**0.71**	**358**	P		**Pn**	**09 15 05.4**	**+0.2**
ANKY				S		**Sn**	**09 15 16.9**	**+1.2**
ANKY				AML		AML	09 15 20.7	
	comp=E,6223μm,0.8s							
ANKY				AML		AML	09 15 25.7	
	comp=N,4394μm,0.5s							
PRNS	**Prines Rethymn**	**0.98**	**77**	P		Pn	09 15 10.3	+1.6
IDI	**Anoyia**	**1.29**	**84**	P		Pn	09 15 15.3	+2.5
IDI	**Anoyia**	**1.29**	**84**	P		Pn	09 15 15.3	+2.5
IDI				S		**Sn**	**09 15 33.4**	**+4.3**
IDI				AML		AML	09 15 40.2	
	comp=N,1208μm,0.8s							
IDI				AML		AML	09 15 41.2	
	comp=E,810μm,0.7s							
VLI	**Veliai**	**1.59**	**349**	P		Pn	09 15 18.5	+1.6
VLI	**Veliai**	**1.59**	**349**	P		**Pn**	**09 15 18.2**	**+1.3**
KARP	**Karpathos**	**3.16**	**82**	Pg		Pn	09 15 40.4	+2.1
KARP	**Karpathos**	**3.16**	**82**	P		Pn	09 15 40.4	+2.1
DAT	**Datca**	**3.79**	**64**	Pg		**Pn**	**09 15 47.9**	**+0.9**
ARG	**Arkhangelos**	**4.05**	**73**	Pn		**Pn**	**09 15 50.9**	**+0.5**
TURN	**Turunc**	**4.30**	**67**	Pn		Pn	09 15 55.7	+1.8
DALY	**Dalyan (Mula)**	**4.63**	**67**	Pn		Pn	09 15 59.9	+1.6
DALY				Sn		Sn	09 16 22.8	-28
FETY	**Fethiye**	**4.90**	**71**	Pn		**Pn**	**09 16 03.5**	**+1.4**
CAME	**Cameli-Denizli**	**5.16**	**68**	Pn		Pn	09 16 07.4	+1.6
AKAS	**Kas**	**5.22**	**76**	Pn		Pn	09 16 08.3	+1.7
AKAS				Sn		Sn	09 16 37.2	-28
ELL	**Elmali**	**5.57**	**72**	Pn		Pn	09 16 13.2	+1.8
KORT	**Korkueli**	**5.98**	**70**	Pn		Pn	09 16 18.9	+1.9
BRTR	**Keskin Array B**	**9.38**	**58**	P		Pn	09 17 05.9	+2.3
	comp=E,0.1nm,0.3s,baz=232,slow=14,SNR=6.6							
	comp=E,1.5nm,0.8s							
MMAI	**Mount Meron Ar**	**10.24**	**99**	P		**Pn**	**09 17 15.7**	**+0.5**
	comp=E,0.9nm,0.3s,baz=267,slow=11,SNR=2.1							
MMAI				S		**Sn**	**09 19 02.7**	**-5.8**
	comp=E,0.5nm,0.3s,baz=315,slow=26,SNR=1.6							
	comp=E,0.7nm,0.2s							
MLR	**Muntele Rosu**	**10.52**	**10**	LR		LR	09 21 36.0	
	comp=E,49nm,19.6s,baz=115,slow=39							
AKASG	**Malin Array Be**	**16.12**	**14**	P		**Pn**	**09 18 31.6**	**-2.0**
	comp=E,0.4nm,0.3s,baz=204,slow=12,SNR=2.1							
	comp=E,0.3nm,0.5s							
KBZ	**Khabaz**	**17.34**	**55**	LR		LR	09 26 15.2	
	comp=E,26nm,18.5s,baz=284,slow=40							
GNI	**Garni**	**17.66**	**67**	LR		LR	09 26 46.3	
	comp=E,44nm,19.9s,baz=294,slow=40							
HFS	**Hagfors**	**25.77**	**349**	P		**P**	**09 20 16.3**	**+0.3**
	comp=E,1.3nm,0.4s,baz=136,slow=9.6,SNR=9.3							
	comp=E,1.3nm,0.4s							
FINES	**FINESS Array B**	**26.37**	**3**	P		**P**	**09 20 20.3**	**-1.1**
	comp=E,0.8nm,0.5s,baz=182,slow=9.7,SNR=5.3							
	comp=E,0.8nm,0.5s							
TORD	**Torodi Ar. Bea**	**29.36**	**227**	P		**P**	**09 20 49.3**	**+0.7**
	comp=E,0.5nm,0.7s,baz=33,slow=9.0,SNR=3.8							
	comp=E,0.5nm,0.7s							
ARCES	**ARCESS Array B**	**34.46**	**1**	P		**P**	**09 21 31.5**	**-1.3**
	comp=E,2.0nm,0.7s,baz=178,slow=8.1,SNR=4.2							
	comp=E,2.0nm,0.7s							
BVAR	**Borovoye Array**	**37.44**	**47**	P		**P**	**09 21 57.8**	**-0.7**
	comp=E,0.5nm,0.4s,baz=261,slow=9.0,SNR=2.3							
	comp=E,0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**42.29**	**51**	P		**P**	**09 22 38.0**	**-0.7**
	comp=E,1.3nm,0.2s,baz=273,slow=8.0,SNR=1.4							
	comp=E,1.3nm,0.2s							
MKAR	**Makanchi Array**	**45.03**	**56**	P		**P**	**09 23 01.1**	**+0.3**
	comp=E,0.9nm,0.5s,baz=270,slow=7.9,SNR=14							
	comp=E,0.9nm,0.5s							
ZALV	**Zalesovo Beam**	**46.09**	**46**	P		**P**	**09 23 08.9**	**-0.2**
	comp=E,1.7nm,0.4s,baz=269,slow=8.3,SNR=8.3							
	comp=E,1.7nm,0.4s							
SONM	**Songino Array**	**60.65**	**50**	P		**P**	**09 24 57.5**	**+1.4**
	comp=E,0.5nm,0.5s,baz=279,slow=8.5,SNR=3.0							
	comp=E,0.5nm,0.5s							

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*IDC **26** 09:16:12.9±0.9, 13°.11N×81°.00W, h0km, mb4.0/9, mbtmp4.0/10, ML4.2/1, Error ellipse: s-maj=25.5km s-min=21.9km az=20.0*
*RSNC **26** 09:16:14.6±0.0, 13°.N±2°.×8°.1W±°., h4km±4km, M4.0, mb5.0, ML4.0*
*UCR **26** 09:16:22.8±1.7, 12°.53N×81°.04W, h20km±999km, MW4.1*
ISC 26 09:16:14.0±0.5, 13°.19N±0°.04×81°.00W±0°.03, h10km, n63, σ1°60/84, mb3.9/9, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.40**	**298**	P		**Pg**	**09 16 21.2**	**-0.6**
PRVC				S		**Sg**	**09 16 25.2**	**-1.9**
SAIC	**Isla e San And**	**0.94**	**227**	P		**Pg**	**09 16 32.3**	**+0.1**
SAIC				S		**Sn**	**09 16 47.7**	**+0.8**
RNCC	**Cayo Roncador,**	**0.97**	**66**	P		**Pg**	**09 16 33.0**	**+0.4**
RNCC				S		**Sb**	**09 16 47.7**	**+2.0**
SERC	**Banco Serrana,**	**1.26**	**29**	P		**Pn**	**09 16 36.9**	**-0.7**
SERC				S		**Sb**	**09 16 54.0**	**-0.1**
ESPN	**Las Esperanzas**	**3.37**	**253**	*e*P		**Pb**	**09 17 13.2**	**-0.6**
SARA	**Sarapiqu**	**4.01**	**228**	*e*P		**Pn**	**09 17 17.3**	**+1.8**
BCIP	**Isla Barro Col**	**4.15**	**164**	P		**Pn**	**09 17 16.2**	**-1.3**
BCIP				S		**Sn**	**09 18 03.7**	**-2.4**
BCIP	**Isla Barro Col**	**4.15**	**164**	*e*P		**Pn**	**09 17 15.9**	**-1.6**
VINA	**Juan Vinas**	**4.23**	**220**	*e*P		**Pn**	**09 17 19.4**	**+0.7**
PCAYA	**Pacayas**	**4.26**	**221**	*e*P		**Pn**	**09 17 19.5**	**+0.4**
CVIMO	**Finca Echandi**	**4.26**	**223**	*e*P		**Pn**	**09 17 20.4**	**+1.2**
CORON	**Coronado**	**4.34**	**223**	*e*P		**Pn**	**09 17 21.4**	**+1.2**
VPS6	**Volcano Poas**	**4.34**	**227**	*e*P		**Pn**	**09 17 21.9**	**+1.5**
ZANG	**Zanguenga, Cho**	**4.35**	**165**	*e*P		**Pn**	**09 17 19.4**	**-0.7**
REPA	**Paraso**	**4.36**	**220**	*e*P		**Pn**	**09 17 20.8**	**+0.3**
LUPE	**Guadalupe**	**4.39**	**223**	*e*P		**Pn**	**09 17 22.1**	**+1.2**
SJS	**Escuela Geolog**	**4.40**	**223**	*e*P		**Pn**	**09 17 21.7**	**+0.8**
LUJA	**Lujan**	**4.42**	**223**	*e*P		**Pn**	**09 17 22.8**	**+1.5**
SANTA	**Santa Ana**	**4.49**	**224**	*e*P		**Pn**	**09 17 24.7**	**+2.5**
BUS1	**Rivas**	**4.50**	**217**	*e*P		**Pn**	**09 17 22.9**	**+0.3**
LCR2	**La Lucha 2**	**4.51**	**221**	*e*P		**Pn**	**09 17 23.0**	**+0.3**
ABE2	**San Pablo**	**4.57**	**221**	*e*P		**Pn**	**09 17 24.5**	**+1.1**
ACOS	**Acosta**	**4.58**	**223**	*e*P		**Pn**	**09 17 24.2**	**+0.8**
BURE	**Buenos Aires**	**4.60**	**210**	*e*P		**Pn**	**09 17 23.9**	**+0.3**
BRU2	**Volcan**	**4.67**	**201**	*e*P		**Pn**	**09 17 24.5**	**-0.2**
TRB2	**Turrubares**	**4.69**	**226**	*e*P		**Pn**	**09 17 25.8**	**+0.9**
LLNJ	**Naranjito**	**4.78**	**220**	*e*P		**Pn**	**09 17 27.7**	**+1.7**
JTS	**Las Juntas de**	**4.82**	**234**	Pn		**Pn**	**09 17 27.1**	**+0.4**
	11nm,0.3s,baz=73,slow=23,SNR=6.2							
JTS				Sn		**Sn**	**09 18 21.8**	**-0.8**
	6.2nm,0.3s,baz=336,slow=20,SNR=1.2							
	51nm,0.5s							
JTS	**Las Juntas de**	**4.82**	**234**	P		**Pn**	**09 17 27.4**	**+0.7**
JTS				S		**Sn**	**09 18 22.6**	**0.0**
LPPC	**Paso Canoas**	**4.96**	**201**	*e*P		**Pn**	**09 17 29.6**	**+1.0**
EDAD	**Golfito**	**4.98**	**205**	*e*P		**Pn**	**09 17 29.6**	**+0.7**
GMAL	**Guarumal, Vera**	**5.39**	**182**	P		**Pn**	**09 17 34.4**	**-0.1**
	104nm,0.8s							
GMAL				S		**Sn**	**09 18 34.1**	**-2.6**
	104nm,0.8s							
AZU	**Azuero**	**5.41**	**172**	P		**Pn**	**09 17 33.7**	**-1.0**
	121nm,1.3s							
AZU				S		**Sn**	**09 18 35.1**	**-2.0**
	121nm,1.3s							
CAPC	**Capurgana**	**5.77**	**141**	P		**Pn**	**09 17 38.6**	**-1.1**
	98nm,1.4s							
CAPC				S		**Sn**	**09 18 44.1**	**-1.9**
	98nm,1.4s							
CACAO	**El Cacao, Vera**	**5.80**	**179**	P		**Pn**	**09 17 41.4**	**+1.2**
	152nm,1.4s							
CACAO				S		**Sn**	**09 18 47.7**	**+0.8**
	152nm,1.4s							
MTDJ	**Mount Denham**	**6.02**	**33**	P		**Pn**	**09 17 44.3**	**+1.0**
	534nm,1.4s							
MTDJ				S		**Sn**	**09 18 48.2**	**-4.2**
	534nm,1.4s							
TGUH	**Tegucigalpa,Un**	**6.16**	**279**	P		**Pn**	**09 17 44.9**	**-0.3**
	825nm,1.1s							
TGUH				S		**Sn**	**09 18 52.3**	**-3.5**
	825nm,1.1s							
LCBC	**Los crdobas,**	**6.26**	**133**	P		**Pn**	**09 17 47.2**	**+0.7**
	287nm,0.9s							
LCBC				S		**Sn**	**09 18 59.4**	**+1.3**
	287nm,0.9s							
SJCC	**San Jacinto, C**	**6.58**	**119**	P		**Pn**	**09 17 49.5**	**-1.4**
	122nm,0.8s							
SJCC				S		**Sn**	**09 19 02.9**	**-3.1**
	122nm,0.8s							
PTAC	**Punta Ardita,**	**6.77**	**152**	P		Pn	09 17 58.5	+5.0
	58nm,1.0s							
PTAC				S		**Sn**	**09 19 08.4**	**-2.4**
	58nm,1.0s							
APAC	**Apartado, Choc**	**6.82**	**140**	P		**Pn**	**09 17 55.3**	**+1.2**
	103nm,1.0s							
APAC				S		**Sn**	**09 19 12.5**	**+0.6**
	103nm,1.0s							
ARGC	**Ariguani, Magd**	**7.40**	**116**	P		**Pn**	**09 18 02.6**	**+0.5**
	103nm,0.8s							
UREC	**San Jos de Ur**	**7.62**	**135**	P		**Pn**	**09 18 06.2**	**+1.0**
	49nm,0.8s							
CRJC	**Cerrejon, Guaj**	**8.23**	**104**	P		**Pn**	**09 18 11.2**	**-2.4**
	72nm,1.1s							
CRJC				S		**Sn**	**09 19 42.8**	**-3.9**
	72nm,1.1s							
ZARC	**Zaragoza, Cauc**	**8.28**	**133**	P		**Pn**	**09 18 14.7**	**+0.5**
	59nm,0.9s							
ZARC				S		**Sn**	**09 19 45.5**	**-2.4**
	59nm,0.9s							
GTBY	**Guantanamo Bay**	**8.77**	**39**	P		**Pn**	**09 18 22.5**	**+1.7**
	49nm,1.2s							
CBOC	**Ciudad Bolivar**	**8.78**	**145**	P		**Pn**	**09 18 22.5**	**+1.2**
	37nm,0.9s							
OCAC	**Ocana**	**9.01**	**122**	P		**Pn**	**09 18 26.1**	**+1.8**
	108nm,0.7s							
OCAC				S		**Sn**	**09 20 02.6**	**-3.4**
	108nm,0.7s							
PTBC	**PUERTO BERRIO,**	**9.23**	**135**	P		**Pn**	**09 18 26.2**	**-1.1**
	38nm,0.9s							
PTBC				S		**Sn**	**09 20 07.7**	**-3.6**
	38nm,0.9s							
BRJC	**Barrancabermej**	**9.44**	**130**	P		**Pn**	**09 18 30.6**	**+0.4**
BRJC				S		**Sn**	**09 20 13.1**	**-3.4**
SJG	**San Juan**	**15.12**	**69**	Pn		**P**	**09 19 52.1**	**-0.9**
	1.5nm,0.3s,baz=306,slow=20,SNR=2.3							
TXAR	**Lajitas Array**	**26.46**	**311**	P		**P**	**09 21 52.7**	**+1.3**
	2.2nm,0.9s,baz=106,slow=8.0,SNR=5.1							
	2.2nm,0.9s							
PDAR	**Pinedale Array**	**38.43**	**326**	P		**P**	**09 23 38.6**	**+2.5**
	0.7nm,0.8s,baz=123,slow=9.8,SNR=2.6							
	0.7nm,0.8s							
ULM	**Lac du Bonnet**	**38.91**	**345**	P		**P**	**09 23 39.6**	**-0.1**
	4.4nm,0.7s,baz=134,slow=5.3,SNR=4.1							
	4.4nm,0.7s							
NVAR	**Mina Array Bea**	**41.51**	**314**	P		**P**	**09 24 01.3**	**-0.6**
	0.5nm,0.7s,baz=143,slow=7.9,SNR=1.6							
	0.5nm,0.7s							
BDFB	**Brasília**	**43.42**	**130**	P		**P**	**09 24 16.9**	**-0.5**
	3.3nm,0.8s,baz=246,slow=18,SNR=2.4							
	3.3nm,0.8s							
ILAR	**Eielson Array**	**67.95**	**335**	P		**P**	**09 27 13.9**	**+1.0**
	0.7nm,0.8s,baz=102,slow=4.3,SNR=4.3							
	0.7nm,0.8s							
ESDC	**Sonseca Array**	**71.78**	**52**	P		**P**	**09 27 39.1**	**+2.1**
	1.6nm,0.7s,baz=279,slow=5.0,SNR=5.0							
	1.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**80.11**	**79**	P		**P**	**09 28 24.6**	**-0.3**
	0.5nm,0.7s,baz=291,slow=6.6,SNR=2.3							
	0.5nm,0.7s							
FINES	**FINESS Array B**	**86.48**	**27**	P		**P**	**09 28 57.8**	**+0.9**
	2.5nm,0.9s,baz=278,slow=4.1,SNR=1.8							
	2.5nm,0.9s							
ASAR	**Alice Springs**	**145.37**	**247**	PKPbc		**PKPbc**	**09 35 52.7**	**-0.2**
	0.9nm,0.6s,baz=108,slow=3.6,SNR=3.7							
WRA	**Warramunga Arr**	**145.51**	**254**	PKPbc		**PKPbc**	**09 35 53.6**	**+0.2**
	2.2nm,0.7s,baz=92,slow=3.3,SNR=7.6							
CMAR	**Chiang Mai Arr**	**148.56**	**0**	PKPbc		**PKPbc**	**09 36 02.8**	**+0.7**
	1.3nm,0.4s,baz=350,slow=4.6,SNR=1.4							

RSNC 26 09:27:08.7±0.0, 13°.N±1°.×8°.1W±°., h0km±1km, M3.4, mb4.2, ML3.4, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.29**	**296**	P		Pb	09 27 15.6	-1.1
PRVC				S		Sb	09 27 20.7	-1.4
SAIC	**Isla e San And**	**0.93**	**220**	P		Pg	09 27 26.9	+0.4
SAIC				S		Sb	09 27 41.5	+1.0
RNCC	**Cayo Roncador,**	**1.03**	**72**	P		Pg	09 27 28.8	+0.3
RNCC				S		Sb	09 27 43.0	-0.6
SERC	**Banco Serrana,**	**1.25**	**35**	P		Pg	09 27 31.8	-1.0
SERC				S		Sb	09 27 49.5	-0.5
BCIP	**Isla Barro Col**	**4.24**	**163**	P		Pn	09 28 10.7	-3.9
BCIP				S		Sn	09 28 59.0	-5.9
JTS	**Las Juntas de**	**4.78**	**232**	P		Pn	09 28 22.0	-0.1
JTS				S		Sn	09 29 18.6	+0.3
GMAL	**Guarumal, Vera**	**5.45**	**181**	P		Pn	09 28 29.5	-1.8
	16nm,0.6s							
GMAL				S		Sn	09 29 30.6	-4.2
	16nm,0.6s							
AZU	**Azuero**	**5.49**	**171**	P		Pn	09 28 29.2	-2.5
	27nm,1.6s							
AZU				S		Sn	09 29 31.4	-4.2
	27nm,1.6s							
TGUH	**Tegucigalpa,Un**	**6.05**	**278**	P		Pn	09 28 40.0	+0.3
	25nm,0.7s							
TGUH				S		Sn	09 29 45.5	-4.3
	25nm,0.7s							
LCBC	**Los crdobas,**	**6.37**	**133**	P		Pn	09 28 43.1	-0.9
	271nm,1.2s							
LCBC				S		Sn	09 29 56.5	-1.0
	271nm,1.2s							
SJCC	**San Jacinto, C**	**6.69**	**119**	P		Pn	09 28 44.4	-4.0
	9.8nm,1.1s							
SJCC				S		Sn	09 29 58.6	-6.8
	9.8nm,1.1s							
APAC	**Apartado, Choc**	**6.93**	**140**	P		Pn	09 28 48.8	-2.8
	9.8nm,0.8s							
APAC				S		Sn	09 30 08.6	-2.6
	9.8nm,0.8s							
ZARC	**Zaragoza, Cauc**	**8.39**	**132**	P		Pn	09 29 09.7	-2.0
	6.9nm,0.7s							
ZARC				S		Sn	09 30 40.5	-6.7
	6.9nm,0.7s							
CBOC	**Ciudad Bolivar**	**8.89**	**145**	P		Pn	09 29 17.4	-1.3

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*IDC **26** 09:28:33.8±4.8, 13°.18N×80°.66W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=212.3km s-min=28.6km az=67.0*
*RSNC **26** 09:28:36.0±0.0, 13°.N±2°.×8°.1W±°., h2km±3km, M3.5, mb4.7, ML3.5*
ISC 26 09:28:35.9±0.7, 13°.16N±0°.05×81°.00W±0°.04, h10km, n13, σ1°10/21, mb3.4/3, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.42**	**301**	P		**Pg**	**09 28 43.2**	**-1.0**
PRVC				S		**Sg**	**09 28 48.2**	**-1.5**
SAIC	**Isla e San And**	**0.94**	**228**	P		**Pb**	**09 28 54.6**	**+0.3**
SAIC				S		**Sn**	**09 29 09.0**	**+0.4**
RNCC	**Cayo Roncador,**	**0.97**	**65**	P		**Pg**	**09 28 55.1**	**+0.5**
RNCC				S		**Sb**	**09 29 09.6**	**+1.9**
SERC	**Banco Serrana,**	**1.27**	**29**	P		**Pn**	**09 28 59.1**	**-0.7**
SERC				S		**Sb**	**09 29 15.2**	**-1.3**
BCIP	**Isla Barro Col**	**4.13**	**164**	P		**Pn**	**09 29 38.1**	**-1.0**
BCIP				S		**Sn**	**09 30 26.1**	**-1.5**
JTS	**Las Juntas de**	**4.81**	**234**	P		**Pn**	**09 29 49.5**	**+0.9**
JTS				S		**Sn**	**09 30 45.0**	**+0.5**
JTS				S		**Sn**	**09 30 45.5**	**+1.0**
AZU	**Azuero**	**5.38**	**172**	P		**Pn**	**09 29 56.3**	**-0.1**
AZU				S		**Sn**	**09 30 57.1**	**-1.4**
ATAH	**Atahualpa**	**20.33**	**173**	P		**P**	**09 33 11.7**	**-1.2**
	3.8nm,0.6s,baz=327,slow=12,SNR=2.6							
	3.8nm,0.6s							
TXAR	**Lajitas Array**	**26.48**	**311**	P		**P**	**09 34 14.7**	**+1.0**
	1.4nm,0.8s,baz=122,slow=8.6,SNR=9.4							
	1.4nm,0.8s							
PDAR	**Pinedale Array**	**38.46**	**326**	P		**P**	**09 35 59.4**	**+1.0**
	0.1nm,0.4s,baz=139,slow=8.4,SNR=1.6							
	0.1nm,0.4s							
NVAR	**Mina Array Bea**	**41.53**	**314**	P		**P**	**09 36 25.1**	**+1.2**
	0.7nm,0.8s,baz=114,slow=11,SNR=2.6							
	0.7nm,0.8s							
ASAR	**Alice Springs**	**145.37**	**247**	PKPbc		**PKPbc**	**09 48 14.8**	**-0.1**
	0.3nm,0.7s,baz=108,slow=3.3,SNR=2.1							
WRA	**Warramunga Arr**	**145.52**	**254**	PKPbc		**PKPdf**	**09 48 15.2**	**-0.2**

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*SOME **26** 09:30:04.8, 43°.68N×82°.25E, h10km*
*NNC **26** 09:30:06.3±2.9, 43°.73N×82°.22E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=20.1km s-min=14.6km az=106.0, Suspected Mining explosion.*
**ISC 26 09:30:04.5±2.9, 43°.65N±0°.07×

ISC 26 09:39:28.4±1.4, 10.74N±0.04×62.09W±0.05, h80km±18km, n22, σ1.54/34, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.68**	**97**	*eP*	**Pn**	**09 39 45.0**	**+1.2**
TRN				*eS*	**Sn**	**09 39 55.2**	**-0.1**
GRFF	**Grenada Fort F**	**1.35**	**15**	*eP*	**Pn**	**09 39 51.9**	**0.0**
GRFF				*eS*	**Sn**	**09 40 07.6**	**-1.9**
GRGR	**Grenville**	**1.45**	**17**	*eP*	**Pn**	**09 39 53.1**	**-0.1**
GRGR				*eS*	**Sn**	**09 40 10.4**	**-1.4**
GRW	**Mount Saint Ca**	**1.48**	**16**	*eP*	**Pn**	**09 39 53.7**	**+0.2**
GRW				*eS*	**Sn**	**09 40 11.7**	**-0.8**
GRHS	**Sauteurs**	**1.54**	**16**	*eP*	**Pn**	**09 39 53.8**	**-0.5**
GRHS				*eS*	**Sn**	**09 40 12.4**	**-1.5**
GRSS	**Sisters**	**1.62**	**17**	*eP*	**Pn**	**09 39 56.2**	**+0.9**
GRSS				*eS*	**Sn**	**09 40 14.8**	**-1.0**
TOSP	**Speyside**	**1.62**	**70**	*eP*	**Pn**	**09 39 56.9**	**+1.6**
GCMP	**Grenada, Carri**	**1.86**	**20**	*eP*	**Pn**	**09 39 58.9**	**+0.4**
GCMP				*eS*	**Sn**	**09 40 20.3**	**-0.9**
SVT	**Saint Vincent**	**2.56**	**19**	*eP*	**Pn**	**09 40 08.7**	**+0.9**
PCRV	**Puerto La Cruz**	**2.57**	**258**	*eP*	**Pn**	**09 40 09.5**	**+1.5**
PCRV				*eS*	**Sn**	**09 40 38.5**	**+0.1**
SVB	**Belmont**	**2.65**	**18**	*eP*	**Pn**	**09 40 09.0**	**0.0**
SVV	**Soufriere Volc**	**2.71**	**18**	*eP*	**Pn**	**09 40 11.5**	**+1.7**
SLAC	**Saint Lucia, A**	**3.35**	**20**	*eP*	**Pn**	**09 40 20.4**	**+1.8**
SLBI	**Saint Lucia, B**	**3.44**	**18**	*eP*	**Pn**	**09 40 21.5**	**+1.7**
BIM	**Bigot**	**3.89**	**15**	*eP*	**Pn**	**09 40 27.2**	**+1.3**
TACV	**Tcata**	**4.89**	**263**	*eP*	**Pn**	**09 40 41.4**	**+1.8**
TACV				*eS*	**Sn**	**09 41 34.2**	**-0.8**
LUEV	**Luepa**	**4.90**	**173**	*eP*	**Pn**	**09 40 40.7**	**+0.9**
LUEV				*eS*	**Sn**	**09 41 32.1**	**-3.2**
CACV	**CAICARA DEL OR**	**5.41**	**235**	*eP*	Pn	09 40 42.4	-4.2
CACV				*eS*	Sn	09 41 36.6	-11
BENV	**Beln**	**5.48**	**262**	*eP*	**Pn**	**09 40 49.8**	**+2.2**
BENV				*eS*	**Sn**	**09 41 47.8**	**-1.5**
BAUV	**El Baul**	**6.13**	**254**	*eP*	**Pn**	**09 40 57.3**	**+0.8**
BAUV				*eS*	**Sn**	**09 42 02.6**	**-2.6**
ANBD	**Bethesda, Anti**	**6.28**	**3**	*eP*	**Pn**	**09 41 00.3**	**+1.8**
MAPV	**Macapo**	**6.33**	**262**	*eP*	**Pn**	**09 41 00.2**	**+1.0**
MAPV				*eS*	**Sn**	**09 42 07.5**	**-2.8**

*IDC **26** 09:43:09.3±2.6, 17.19S×174.55W, h241km±23km, mb3.6/9, mbtmp4.3/12, Error ellipse: s-maj=22.3km s-min=16.3km az=154.0*

ISC 26 09:43:10.0±0.7, 17.2S±0.2×174.57W±0.08, h250km, n14, σ1.04/16, mb3.9/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.07**	**265**	P	**Pn**	**09 44 51.3**	**-0.4**
	18nm,0.8s,baz=111,slow=11,SNR=20						
MSVF				S	**S**	**09 46 14.1**	**+0.9**
	1.5nm,0.6s,baz=84,slow=17,SNR=1.3						
RAR	**Rarotonga**	**14.54**	**108**	P	**P**	**09 46 24.5**	**-0.3**
	7.9nm,0.4s,baz=238,slow=6.6,SNR=3.7						
DZM	**Mont Dzumac**	**18.53**	**252**	P	**Pn**	**09 47 10.1**	**-1.9**
	5.2nm,0.6s,baz=90,slow=20,SNR=1.8						
URZ	**Urewera**	**22.22**	**198**	P	**P**	**09 47 45.3**	**-0.6**
	2.3nm,0.3s,baz=116,slow=3.2,SNR=6.4						
	2.3nm,0.3s						
STKA	**Stephens Creek**	**42.18**	**241**	P	**P**	**09 50 38.8**	**+0.2**
	3.9nm,0.5s,baz=84,slow=10,SNR=15						
	3.9nm,0.5s						
WRA	**Warramunga Arr**	**48.36**	**258**	P	**P**	**09 51 26.2**	**-1.0**
	3.2nm,0.6s,baz=95,slow=7.0,SNR=80						
	3.2nm,0.6s						
ASAR	**Alice Springs**	**48.51**	**253**	P	**P**	**09 51 28.2**	**-0.1**
	15nm,0.7s,baz=88,slow=8.5,SNR=236						
ASAR				PcP	**PcP**	**09 52 51.6**	**+1.3**
	0.5nm,0.7s,baz=98,slow=4.0,SNR=1.1						
	15nm,0.7s						
QSPA	**South Pole Qui**	**72.86**	**180**	P	**P**	**09 54 12.4**	**+0.9**
	1.1nm,0.8s,baz=132,slow=1.3,SNR=6.4						
	1.1nm,0.8s						
NVAR	**Mina Array Bea**	**76.40**	**42**	P	**P**	**09 54 32.8**	**+0.4**
	0.8nm,0.8s,baz=220,slow=7.7,SNR=5.0						
	0.8nm,0.8s						
TXAR	**Lajitas Array**	**82.54**	**56**	P	**P**	**09 55 05.0**	**-0.4**
	0.3nm,0.9s,baz=174,slow=10.0,SNR=1.7						
	0.3nm,0.9s						
ILAR	**Eielson Array**	**84.41**	**12**	P	**P**	**09 55 12.6**	**-1.4**
	0.8nm,1.0s,baz=226,slow=6.5,SNR=6.7						
	0.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**92.11**	**289**	P	**P**	**09 55 52.7**	**+1.1**
	1.4nm,0.3s,baz=46,slow=6.4,SNR=1.1						
	1.4nm,0.3s						
BVAR	**Borovoye Array**	**118.59**	**321**	PKP	**PKiKP**	**10 01 29.2**	**+1.2**
	0.8nm,0.5s,baz=130,slow=2.3,SNR=2.6						
MMAI	**Mount Meron Ar**	**148.76**	**306**	PKPbc	**PKiKP**	**10 02 30.3**	**+0.6**
	0.6nm,0.3s,baz=64,slow=6.6,SNR=2.4						

*RSNC **26** 09:44:08.2±0.0, 13.N±2.×8.1W±., h2km±2km, M3.4, mb4.3, ML3.4*

*IDC **26** 09:44:09.5±3.6, 13.22N×81.23W, h0km, mb3.4/3, mbtmp3.4/4, ML2.8/2, Error ellipse: s-maj=69.3km s-min=31.8km az=105.0*

*CATAC **26** 09:44:09.7±0.6, 13.35N×81.09W, h11km±6km, MB4.6, mb4.5, ML4.0*

ISC 26 09:44:07.7±1.4, 13.21N±0.04×81.00W±0.04, h7km±9km, n26, σ1.80/43, mb3.1/3, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.39**	**295**	P	**Pg**	**09 44 15.1**	**-0.1**
PRVC				S	**Sg**	**09 44 19.9**	**-0.4**
PRVC	**Isla de Provid**	**0.39**	**295**	*i* P	**Pg**	**09 44 14.9**	**-0.3**
PRVC				*i* S	**Sg**	**09 44 20.2**	**-0.1**
PRVC				IAML		09 44 28.1	
	comp=Z,5μm,1.0s						
RNCC	**Cayo Roncador,**	**0.96**	**68**	P	**Pn**	**09 44 27.4**	**-0.2**
RNCC				S	**Sn**	**09 44 42.1**	**+0.7**
SAIC	**Isla e San And**	**0.96**	**226**	P	**Pb**	**09 44 26.6**	**-0.1**
SAIC				S	**Sn**	**09 44 41.0**	**-0.5**
SERC	**Banco Serrana,**	**1.23**	**30**	P	**Pb**	**09 44 30.9**	**-0.5**
SERC				S	**Sn**	**09 44 48.6**	**+0.3**
BLUN	**Bluefields**	**2.96**	**246**	*i* P	**Pn**	**09 44 55.5**	**+0.4**
BLUN				IAML		09 45 47.2	
	comp=Z,160nm,1.0s						
ESPN	**Las Esperanzas**	**3.37**	**253**	*i* P	**Pn**	**09 45 01.4**	**+0.6**
ESPN				IAML		09 46 18.4	
	comp=Z,400nm,1.0s						
TRT2	**Tortugero**	**3.76**	**226**	*i* P	**Pn**	**09 45 05.7**	**-0.4**
TRT2				IAML		09 45 44.7	
	comp=Z,110nm,1.0s						
TRT2				*i* S	**Sn**	**09 45 47.7**	**-2.8**
BCIP	**Isla Barro Col**	**4.18**	**164**	P	**Pn**	**09 45 10.1**	**-1.8**
BCIP				S	**Sn**	**09 45 58.3**	**-2.7**
ACON	**Acoyapa**	**4.25**	**254**	*i* P	**Pn**	**09 45 14.8**	**+1.9**
ACON				*i* S	**Sn**	**09 46 06.9**	**+4.0**
ACON				IAML		09 46 37.9	
	comp=Z,240nm,1.0s						
JTS	**Las Juntas de**	**4.83**	**234**	Pn	**Pn**	**09 45 21.7**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=48,slow=16,SNR=8.2						
JTS				Sn	**Sn**	**09 46 16.2**	**-1.0**
	comp=Z,6.3nm,0.3s,baz=45,slow=18,SNR=8.4						
	comp=Z,4.6nm,0.3s						
JTS	**Las Juntas de**	**4.83**	**234**	P	**Pn**	**09 45 21.6**	**+0.7**
JTS				S	**Sn**	**09 46 17.1**	**-0.1**
OCHAL	**Ojochal**	**4.84**	**213**	*i* P	**Pn**	**09 45 22.5**	**+1.5**
OCHAL				IAML		09 45 33.6	
	comp=Z,100nm,1.0s						
OCHAL				*i* S	**Sn**	**09 46 19.6**	**+2.2**
RCPN	**Sur Rio San Ju**	**4.96**	**274**	*i* P	**Pn**	**09 45 22.5**	**-0.3**
RCPN				IAML		09 45 27.6	
	comp=Z,0.6nm,1.0s						
RCVN	**Varillal2**	**5.06**	**275**	*i* P	**Pn**	**09 45 23.9**	**-0.3**
RCVN				*i* S	**Sn**	**09 46 18.5**	**-4.5**
RCVN				IAML		09 47 11.8	
	comp=Z,2μm,1.0s						
LIMN	**Finca el Limon**	**5.22**	**269**	*i* P	**Pn**	**09 45 26.3**	**-0.1**
LIMN				IVmB_BB		09 45 48.1	
	comp=Z,630nm,1.0s						
LIMN				IAmb	IAmb	09 45 48.6	
	comp=Z,53nm,0.9s						
LIMN				IAML		09 47 22.7	
	comp=Z,95nm,1.0s						
GMAL	**Guarumal, Vera**	**5.42**	**182**	P	**Pn**	**09 45 28.8**	**-0.2**
	comp=Z,27nm,1.1s						
GMAL				S	**Sn**	**09 46 30.2**	**-1.4**
	comp=Z,27nm,1.1s						
AZU	**Azuero**	**5.43**	**172**	P	**Pn**	**09 45 30.6**	**+1.4**
	comp=Z,27nm,1.9s						
AZU				S	**Sn**	**09 46 29.8**	**-2.2**
	comp=Z,27nm,1.9s						
LCBC	**Los crdobas,**	**6.28**	**133**	P	**Pn**	**09 45 42.8**	**+2.0**
	comp=Z,201nm,1.0s						
LCBC				S	**Sn**	**09 46 53.5**	**+0.7**
	comp=Z,201nm,1.0s						
LCBC	**Los crdobas,**	**6.28**	**133**	S	**Sn**	**09 46 53.6**	**+0.7**
SJCC	**San Jacinto, C**	**6.59**	**119**	P	**Pn**	**09 45 43.9**	**-1.2**
SJCC				S	**Sn**	**09 46 57.4**	**-3.2**
TEIG	**Tepich**	**9.86**	**316**	Pn	**Pn**	**09 46 30.2**	**+0.3**
	baz=156,slow=24,SNR=8.7						
TEIG				Sn	**Sn**	**09 48 16.2**	**-4.6**
	baz=242,slow=24,SNR=1.3						
TXAR	**Lajitas Array**	**26.44**	**311**	P	**P**	**09 49 46.7**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=130,slow=10.0,SNR=8.6						
	comp=Z,1.0nm,0.8s						
PDAR	**Pinedale Array**	**38.41**	**325**	P	**P**	**09 51 31.4**	**+1.3**
	comp=Z,0.3nm,0.8s,baz=133,slow=6.3,SNR=1.8						
	comp=Z,0.3nm,0.8s						
NVAR	**Mina Array Bea**	**41.49**	**314**	P	**P**	**09 51 57.9**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=138,slow=6.1,SNR=2.1						
	comp=Z,0.2nm,0.7s						
WRA	**Warramunga Arr**	**145.52**	**254**	PKPbc	**PKPab**	**10 03 49.0**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=91,slow=3.2,SNR=2.6						

RSNC 26 09:45:15.7±0.0, 7.N±1.×7.3W±., h143km±2km, M2.2, ML1.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**188**	P	Pn	09 45 35.0	-0.5
BARC				S	Sn	09 45 49.6	-0.9
BRJC	**Barrancabermej**	**0.61**	**285**	P	Pn	09 45 37.4	+0.5
BRJC				S	Sn	09 45 53.5	+0.6
PAMC	**Pamplona, Colo**	**0.69**	**40**	P	Pn	09 45 37.8	-0.2
PAMC				S	Sn	09 45 55.2	+0.3
RUSC	**La Rusia**	**0.91**	**176**	P	Pn	09 45 39.3	-0.4
RUSC				S	Sn	09 45 57.3	-0.6
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	P	Pn	09 45 41.8	-1.1
PTBC				S	Sn	09 46 02.6	-1.1
TAMC	**Tame, Arauca**	**1.40**	**105**	P	Pn	09 45 43.2	-0.5
TAMC				S	Sn	09 46 04.4	-0.7
OCAC	**Ocana**	**1.43**	**353**	P	Pn	09 45 43.4	-0.8
OCAC				S	Sn	09 46 05.0	-1.0
SPBC	**San Pablo de B**	**1.47**	**219**	P	Pn	09 45 43.9	-0.6
SPBC				S	Sn	09 46 06.5	-0.1
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	P	Pn	09 45 47.9	-0.5
ZARC				S	Sn	09 46 13.1	-0.3
NORC	**Norcasia**	**2.11**	**234**	P	Pn	09 45 51.7	-0.1
NORC				S	Sn	09 46 19.2	-0.3
CHIC	**Chingaza**	**2.24**	**195**	P	Pn	09 45 53.4	-0.4
CHIC				S	Sn	09 46 22.2	-0.8
ROSC	**El Rosal**	**2.28**	**211**	P	Pn	09 45 55.5	+1.3
ROSC				S	Sn	09 46 23.0	-0.7
HELC	**Santa Helena**	**2.44**	**256**	P	Pn	09 45 57.4	+1.3
HELC				S	Sn	09 46 27.3	+0.1
GUY2C	**Guyana, Caldas**	**2.71**	**235**	P	Pn	09 46 00.0	+0.4
GUY2C				S	Sn	09 46 32.2	-1.1
PRAC	**Prado**	**3.53**	**209**	P	Pn	09 46 09.4	-0.3
PRAC				S	Sn	09 46 51.3	-0.2
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	09 46 09.9	-0.2
ORTC				S	Sn	09 46 52.2	0.0
SJCC	**San Jacinto, C**	**3.67**	**327**	P	Pn	09 46 09.2	-2.3
SJCC				S	Sn	09 46 52.2	-2.5
LCBC	**Los crdobas,**	**3.78**	**303**	P	Pn	09 46 14.7	+1.8

*IDC **26** 09:47:05.1±2.3, 30.29S×177.85W, h45km±19km, mb3.7/4, mbtmp3.9/5, ML3.0/1, Error ellipse: s-maj=34.2km s-min=16.6km az=107.0*

ISC 26 09:47:04.5±1.1, 30.37S±0.08×177.8W±0.2, h46km, n12, σ1.34/14, mb4.0/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.11**	**356**	P	**Pn**	**09 47 24.0**	**+0.3**
	470nm,0.2s,baz=204,slow=18,SNR=2.0						
RAO				S	**Sn**	**09 47 37.0**	**-0.9**
	2μm,0.3s,baz=134,slow=17,SNR=17						
URZ	**Urewera**	**8.92**	**207**	P	**Pn**	**09 49 10.8**	**+0.2**
	0.2nm,0.3s,baz=113,slow=15,SNR=1.0						
URZ				S	**Sn**	**09 50 47.4**	**-2.3**
	4.3nm,0.6s,baz=95,slow=9.8,SNR=1.2						
	3.2nm,0.8s						
STKA	**Stephens Creek**	**34.63**	**257**	P	**P**	**09 53 50.9**	**+1.5**
	2.6nm,0.6s,baz=79,slow=8.6,SNR=6.0						
	2.6nm,0.6s						
ASAR	**Alice Springs**	**43.26**	**267**	P	**P**	**09 55 01.7**	**-0.1**
	0.7nm,0.5s,baz=103,slow=7.4,SNR=8.0						
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**44.25**	**272**	P	**P**	**09 55 09.7**	**0.0**
	1.9nm,0.6s,baz=111,slow=7.8,SNR=17						
	1.9nm,0.6s						
QSPA	**South Pole Qui**	**59.74**	**180**	P	**P**	**09 57 05.7**	**+1.3**
	0.7nm,0.8s,baz=103,slow=3.1,SNR=0.9						
	0.7nm,0.8s						
FINES	**FINESS Array B**	**145.17**	**340**	PKPbc	**PKPdf**	**10 06 35.8**	**-0.4**
	1.6nm,0.6s,baz=47,slow=3.3,SNR=9.4						
NOA	**NORSAR Array B**	**148.74**	**352**	PKPbc	**PKPbc**	**10 06 44.4**	**-1.7**
	0.6nm,0.8s,baz=13,slow=4.2,SNR=2.4						
HFS	**Hagfors**	**149.24**	**349**	PKPbc	**PKiKP**	**10 06 47.2**	**-1.3**
	1.1nm,0.7s,baz=108,slow=12,SNR=1.7						
AKASG	**Malin Array Be**	**151.37**	**323**	PKPbc	**PKiKP**	**10 06 52.1**	**-1.1**
	0.2nm,0.3s,baz=66,slow=1.7,SNR=2.0						
MMAI	**Mount Meron Ar**	**151.67**	**284**	PKPbc	**PKiKP**	**10 06 55.6**	**+1.1**
	0.8nm,0.4s,baz=134,slow=6.2,SNR=1.9						
BRTR	**Keskin Array B**	**152.72**	**299**	PKPbc	**PKiKP**	**10 06 58.2**	**+1.6**
	0.2nm,0.3s,baz=357,slow=14,SNR=2.1						

*IDC **26** 09:47:44.9±1.9, 13.16N×81.24W, h0km, mb3.4/4, mbtmp3.7/6, ML1.6/1, MS3.2/8, Error ellipse: s-maj=39.1km s-min=29.2km az=117.0*

*RSNC **26** 09:47:45.2±0.0, 13.N±2.×8.1W±., h4km±6km, M3.6, mb4.5, ML3.6*

*CATAC **26** 09:47:47.6±0.6, 13.27N×81.26W, h10km±74km, ML4.2*

ISC 26 09:47:44.3±1.2, 13.17N±0.04×81.06W±0.03, h11km±8km, n40, σ2.07/48, mb3.4/4, MS3.0/4, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.36**	**305**	P	**Pg**	**09 47 51.2**	**-0.2**
PRVC				S	**Sg**	**09 47 55.7**	**-0.5**
PRVC	**Isla de Provid**	**0.36**	**305**	*i* P	**Pg**	**09 47 50.4**	**-1.0**
PRVC				*i* S	**Sg**	**09 47 55.0**	**-1.2**
PRVC				IAML		09 48 05.4	
	comp=Z,13μm,1.0s						
SAIC	**Isla e San And**	**0.90**	**225**	P	**Pb**	**09 48 02.4**	**+0.6**
SAIC				S	**Sn**	**09 48 15.7**	**-0.1**
RNCC	**Cayo Roncador,**	**1.03**	**67**	P	**Pb**	**09 48 04.1**	**0.0**
RNCC				S	**Sg**	**09 48 19.9**	**+2.5**
SERC	**Banco Serrana,**	**1.30**	**31**	P	**Pn**	**09 48 07.9**	**-0.5**
SERC				S	**Sn**	**09 48 26.3**	**+0.5**
BLUN	**Bluefields**	**2.89**	**247**	*i* P	**Pn**	**09 48 29.6**	**-0.7**
BLUN				IAML		09 49 23.7	
	comp=Z,230nm,1.0s						
ESPN	**Las Esperanzas**	**3.31**	**253**	*i* P	**Pn**	**09 48 37.0**	**+1.0**
ESPN				IAML		09 49 42.0	
	comp=Z,700nm,1.0s						
TRT2	**Tortugero**	**3.69**	**225**	*i* P	**Pn**	**09 48 38.8**	**-2.5**
TRT2				IAML		09 50 08.4	
	comp=Z,190nm,1.0s						
BCIP	**Isla Barro Col**	**4.16**	**163**	P	Pn	09 48 43.3	-4.5
BCIP				S	**Sn**	**09 49 33.0**	**-3.4**
ACON	**Acoyapa**	**4.19**	**254**	P	**Pn**	**09 48 50.3**	**+2.1**
ACON	**Acoyapa**	**4.19**	**254**	*i* P	**Pn**	**09 48 49.3**	**+1.1**
ACON				*i* S	**Sn**	**09 49 43.0**	**+5.8**
ACON				IAML		09 50 17.7	
	comp=Z,450nm,1.0s						
JTS	**Las Juntas de**	**4.77**	**233**	Pn	**Pn**	**09 48 54.5**	**-1.6**
	comp=Z,9.5nm,0.5s,baz=83,slow=22,SNR=6.9						
JTS				Sn	**Sn**	**09 49 52.5**	**+1.0**
	comp=Z,2.0nm,0.3s,baz=354,slow=19,SNR=5.2						
JTS				LR	LR	09 50 57.8	
	comp=Z,424nm,19.6s,baz=44,slow=42						
JTS	**Las Juntas de**	**4.77**	**233**	P	**Pn**	**09 48 54.4**	**-1.8**
OCHAL	**Ojochal**	**4.78**	**212**	*i* P	**Pn**	**09 48 55.5**	**-0.8**
OCHAL				IAML		09 49 31.8	
	comp=Z,140nm,1.0s						
OCHAL				*i* S	**Sn**	**09 49 51.7**	**0.0**
RCPN	**Sur Rio San Ju**	**4.91**	**275**	*i* P	**Pn**	**09 48 55.2**	**-3.0**
RCPN				IAML		09 49 04.5	
	comp=Z,1.1nm,1.0s						
RCVN	**Varillal2**	**5.01**	**275**	*i* P	**Pn**	**09 48 57.1**	**-2.5**
RCVN				*i* S	**Sn**	**09 49 54.3**	**-3.4**
RCVN				IAML		09 50 27.6	
	comp=Z,6μm,1.0s						
LIMN	**Finca el Limon**	**5.17**	**269**	*i* P	**Pn**	**09 49 02.6**	**+0.8**
LIMN				IAML		09 50 42.6	
	comp=Z,250nm,1.0s						
GMAL	**Guarumal, Vera**	**5.38**	**182**	P	**Pn**	**09 49 05.4**	**+0.9**
	comp=Z,26nm,0.6s						
GMAL				S	**Sn**	**09 50 03.7**	**-2.8**
	comp=Z,26nm,0.6s						
AZU	**Azuero**	**5.40**	**172**	P	**Pn**	**09 49 06.3**	**+1.4**
	comp=Z,30nm,1.8s						
AZU				S	**Sn**	**09 50 04.5**	**-2.6**
	comp=Z,30nm,1.8s						
CACAO	**El Cacao, Vera**	**5.79**	**178**	P	**Pn**	**09 49 09.4**	**-0.9**
	comp=Z,31nm,0.8s						
TGUH	**Tegucigalpa,Un**	**6.10**	**279**	P	**Pn**	**09 49 16.0**	**+1.4**
	comp=Z,71nm,0.8s						
LCBC	**Los crdobas,**	**6.29**	**132**	P	**Pn**	**09 49 20.3**	**+3.2**
	comp=Z,126nm,0.8s						
SJCC	**San Jacinto, C**	**6.62**	**119**	P	**Pn**	**09 49 18.0**	**-3.7**
	comp=Z,19nm,0.7s						
SJCC				S	**Sn**	**09 50 34.7**	**-2.6**
	comp=Z,19nm,0.7s						
ZARC	**Zaragoza, Cauc**	**8.31**	**132**	P	**Pn**	**09 49 47.5**	**+2.6**
	comp=Z,8.3nm,1.1s						
ZARC				S	**Sn**	**09 51 16.1**	**-2.8**
	comp=Z,8.3nm,1.1s						
GTBY	**Guantanamo Bay**	**8.81**	**40**	P	**Pn**	**09 49 50.7**	**-1.0**
	comp=Z,34nm,1.0s						
TEIG	**Tepich**	**9.85**	**316**	Pn	**Pn**	**09 50 06.3**	**+0.5**
	baz=54,slow=24,SNR=1.0						
TEIG				Sn	**Sn**	**09 51 53.7**	**-2.8**
	baz=252,slow=24,SNR=1.3						
TEIG	**Tepich**	**9.85**	**316**	P	**Pn**	**09 50 05.9**	**0.0**
ROSC	**El Rosal**	**10.62**	**141**	LR	LR	09 54 11.6	
	comp=Z,164nm,21.5s,baz=26,slow=36						
SDV	**Santo Domingo**	**11.09**	**112**	LR	LR	09 55 01.0	
	comp=Z,107nm,20.5s,baz=280,slow=39						
CMIG	**Matias Romero**	**13.90**	**288**	LR	LR	09 56 03.6	
	comp=Z,143nm,18.2s,baz=106,slow=36						
SJG	**San Juan**	**15.18**	**69**	Pn	**P**	**09 51 22.7**	**-1.1**
	comp=Z,5.8nm,0.3s,baz=340,slow=21,SNR=2.8						
TXAR	**Lajitas Array**	**26.42**	**311**	P	**P**	**09 53 23.3**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=120,slow=7.4,SNR=6.5						
	comp=Z,0.6nm,0.7s						
MDP	**Montagnes des**	**29.16**	**103**	LR	LR	10 07 04.9	
	comp=Z,35nm,18.2s,baz=275,slow=40						
ANMO	**Albuquerque**	**31.58**	**318**	LR	LR	10 09 20.2	
	comp=Z,26nm,18.0s,baz=267,slow=41						
PDAR	**Pinedale Array**	**38.41**	**326**	P	**P**	**09 55 07.6**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=168,slow=13,SNR=2.4						
	comp=Z,0.3nm,0.7s						
NVAR	**Mina Array Bea**	**41.48**	**314**	P	**P**	**09 55 32.9**	**+1.1**
	comp=Z,0.6nm,0.9s,baz=110,slow=9.7,SNR=2.1						
NVAR				LR	LR	10 15 08.5	
	comp=Z,34nm,19.0s,baz=115,slow=40						
	comp=Z,0.6nm,0.9s						
RCBR	**Riachuelo**	**48.66**	**110**	LR	LR	10 21 02.0	
	comp=Z,15nm,18.9s,baz=260,slow=41						
ILAR	**Eielson Array**	**67.94**	**335**	P	**P**	**09 58 44.3**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=86,slow=4.6,SNR=2.0						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**145.31**	**247**	PKPbc	**PKPbc**	**10 07 23.4**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=116,slow=4.0,SNR=1.2						
WRA	**Warramunga Arr**	**145.46**	**254**	PKPbc	**PKiKP**	**10 07 26.3**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=95,slow=3.1,SNR=1.4						

*IDC **26** 09:56:58.4±0.5, 47.86S×165.42E, h0km, mb4.5/12, mbtmp4.5/14, ML4.2/2, MS4.5/37, Error ellipse: s-maj=21.3km s-min=16.2km az=62.0*

*NOU **26** 09:57:00.2, 47.91S×165.27E, h25km, mb4.8/27, Off W. Coast of S. Island, N.Z.*

*NEIC **26** 09:57:00.5±2.7, 47.91S±0.08×165.4E±0.2, h10km±1km, mb4.9/23, Error ellipse: s-maj=18.6km s-min=11.3km az=295.0*

*GCMT **26** 09:57:04.5±0.1, 47.73S±0.01×165.11E±0.01, h13km, MW5.2/117, Moment Tensor Solution. s90, c141; s117, c198; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.06±.12; $M_{\theta\theta}$1.95±.12; $M_{\phi\phi}$-1.89±.12; $M_{r\theta}$1.04±.28; $M_{\theta\phi}$7.82±.14; $M_{\phi r}$-1.26±.28; Best double couple: $M_0$8.21300×10^{16} NP1:ϕ_s276.00000°, δ82.00000°, λ-8.00000°. NP2:ϕ_s7.00000°, δ82.00000°, λ-172.00000°. Principal axes: T 8.0820, Plg0.0000°, Azm322.0000°; N 0.2630, Plg79.0000°, Azm53.0000°; P -8.3440, Plg11.0000°, Azm232.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*WEL **26** 09:57:05.3, 48.05S×165.91E, h9km, ML5.1, Mw5.1, Moment Tensor Solution. s5 Moment tensor: Scale 10^{16} Nm; M_{rr}2.31; $M_{\theta\theta}

OXZ	Oxford	6.53	48	P		Pn	09 58 34.1	-1.5
MQZ	McQueen's Vall	6.58	53			Pn	09 58 34.8	-1.6
MQZ	McQueen's Vall	6.58	53	P		Pn	09 58 34.3	-2.1
AKCZ	Akaroa Harbour	6.62	55	P		Pn	09 58 35.3	-1.5
INZ	Inchbonnie	6.71	42			Pn	09 58 40.4	+2.4
INZ	Inchbonnie	6.71	42	P		Pn	09 58 39.3	+1.2
INZ				S		Sn	09 59 56.0	+1.2
OKCZ	Okains Bay	6.79	55	P		Pn	09 58 38.4	-0.9
LTZ	Lake Taylor	7.05	46			Pn	09 58 44.7	+1.9
LTZ	Lake Taylor	7.05	46	P		Pn	09 58 40.5	-2.3
DSZ	Denniston Nort	7.65	39			Pn	09 58 52.3	+1.2
DSZ	Denniston Nort	7.65	39	P		Pn	09 58 50.6	-0.5
MCQ	Macquarie Isla	7.75	209	Pn		Pn	09 58 50.5	-1.8
MCQ	Macquarie Isla	7.75	209	P		Pn	09 58 50.5	-1.8
KHZ	Kahutara	7.95	50	P		Pn	09 58 59.7	+4.6
KHZ	Kahutara	7.95	50	P		Pn	09 58 53.4	-1.7
THZ	Tophouse	8.13	44	Pn		Pn	09 58 59.0	+1.4
THZ	Tophouse	8.13	44	P		Pn	09 58 57.9	+0.2
MRNZ	Matariki Terra	8.35	42			Pn	09 59 02.2	+1.6
MRNZ	Matariki Terra	8.35	42	P		Pn	09 59 00.5	-0.2
QRZ	Quartz Range	8.72	39	Pn		Pn	09 59 06.4	+0.7
QRZ	Quartz Range	8.72	39	P		Pn	09 59 05.8	+0.1
QRZ	Quartz Range	8.72	39	P		Pn	09 59 05.5	-0.2
TKNZ	Takaka Hill	8.74	41	P		Pn	09 59 08.4	+2.5
NNZ	Nelson	8.78	44	P		Pn	09 59 09.2	+2.8
SNZO	South Karori	9.35	49	P		Pn	09 59 15.5	+1.2
DUWZ	D'Urville Isla	9.36	44	P		Pn	09 59 17.5	+3.0
MSWZ	Moikau Station	9.55	51	P		Pn	09 59 21.1	+4.0
KIW	Kapiti Island	9.79	48	P		Pn	09 59 24.0	+3.6
MTW	Mount Morrison	9.87	51	P		Pn	09 59 25.6	+4.1
OGWZ	Otaki Gorge	9.95	48	P		Pn	09 59 26.4	+3.8
MRZ	Mangataitoka R	10.28	49	P		Pn	09 59 30.2	+3.2
NBEZ	Newall Road No	10.59	39	P		Pn	09 59 33.2	+1.9
KHEZ	Kahui Hut	10.62	39	P		Pn	09 59 33.6	+1.8
KHEZ	Kahui Hut	10.62	39	P		Pn	09 59 31.7	-0.2
PREZ	Palmer Road	10.65	40	P		Pn	09 59 34.4	+2.2
LREZ	Lake Rotokare	10.66	41	P		Pn	09 59 37.5	+5.3
NEZ	North Egmont	10.68	39	P		Pn	09 59 36.2	+3.6
PKE	Pukeiti	10.70	39	P		Pn	09 59 34.9	+2.1
DREZ	Durham Road	10.79	40	P		Pn	09 59 39.8	+5.7
VRZ	Vera Road	11.09	41	P		Pn	09 59 40.2	+2.0
WNVZ	Wahianoa	11.31	45	P		Pn	09 59 45.8	+4.4
NGZ	Ngauruhoe	11.43	44	P		Pn	09 59 47.3	+4.3
OTVZ	Oturere	11.47	44	P		Pn	09 59 45.9	+2.3
NNVZ	North Ngauruho	11.47	44	P		Pn	09 59 46.5	+2.9
WTVZ	West Tongariro	11.48	44	P		Pn	09 59 47.6	+4.0
ETVZ	East Tongariro	11.52	44	P		Pn	09 59 48.3	+4.2
TMVZ	Te Maari	11.53	44	P		Pn	09 59 49.0	+4.7
HIZ	Hauiti	11.64	40			Pn	09 59 45.0	-0.7
HIZ	Hauiti	11.64	40	P		Pn	09 59 45.1	-0.5
HIZ	Hauiti	11.64	40	P		Pn	09 59 45.1	-0.5
RITZ	Rihia Road	11.71	44	P		Pn	09 59 50.8	+4.2
BKZ	Black Stump Fm	11.87	47	P		Pn	09 59 53.2	+4.4
BKZ	Black Stump Fm	11.87	47	P		Pn	09 59 48.9	+0.1
TLZ	Tolley Road	12.09	42	P		Pn	09 59 53.8	+2.0
RTZ	Ruatahuna	12.54	47			Pn	09 59 58.5	+0.5
AWAZ	Awhitu Peninsu	12.79	36	P		Pn	10 00 05.1	+3.8
RIGZ	Rimuhau	12.86	49	P		Pn	10 00 06.5	+4.1
WTAZ	Waiatarua	12.87	35	P		Pn	10 00 06.5	+3.9
URZ	Urewera	12.88	46	Pn		Pn	10 00 02.1	-0.5
	0.8nm,0.3s,baz=280,slow=6.1,SNR=5.4							
URZ				Sn		Sn	10 02 17.9	-8.4
	0.7nm,0.3s,baz=186,slow=21,SNR=1.6							
URZ				LR		LR	10 05 54.5	
	comp=Z,12μm,19.8s,baz=312,slow=42							
	7.7nm,0.7s							
URZ	Urewera	12.88	46	P		Pn	10 00 02.9	+0.3
URZ	Urewera	12.88	46	P		Pn	10 00 02.8	+0.3
MKAZ	Moumakai	12.96	37	P		Pn	10 00 06.7	+3.0
MWZ	Matawai	13.02	47	P		Pn	10 00 06.4	+1.8
MBAZ	Motutapu North	13.14	36	P		Pn	10 00 11.0	+4.8
WIAZ	Waiheke Island	13.22	37	P		Pn	10 00 09.4	+2.2
CTZ	Chatham Island	13.23	78	P		Pn	10 00 08.8	+1.5
CTZ	Chatham Island	13.23	78	P		Pn	10 00 07.5	+0.2
ABAZ	Army Bay	13.27	35	P		P	10 00 12.9	-5.0
TAU	Tasmania Unive	13.62	285	P		Pn	10 00 10.0	-2.6
WCZ	Waipu Caves	13.67	32	P		Pn	10 00 15.8	+2.5
MOQ	Moorlands	13.93	286	P		Pn	10 00 14.9	-2.0
OUZ	Omahuta	14.06	29	P		Pn	10 00 18.2	-0.5
GLAD	Gladstone	14.18	293	P		Pn	10 00 17.8	-2.5
CNB	Canberra Magne	17.31	311	P		Pn	10 01 00.6	-0.8
CAN	Canberra	17.49	310			P	10 01 05.0	+0.2
CAN				IAmb		IAmb	10 01 12.0	
	comp=Z,74nm,1.2s							
CAN	Canberra	17.49	310	P		Pn	10 01 02.7	-0.9
TOO	Toolangi	17.83	298			Pn	10 01 08.0	+0.2
ARPS	Mount Arapiles	20.56	294	P		P	10 01 37.6	-0.8
RAO	Raoul Island	22.65	41	LR		LR	10 11 58.0	
	comp=Z,4μm,18.7s,baz=199,slow=40							
STKA	Stephens Creek	24.12	303	P		P	10 02 16.1	+0.5
STKA	Stephens Creek	24.12	303	P		P	10 02 15.7	+0.1
	comp=Z,5.2nm,0.9s,baz=130,slow=14,SNR=8.0							
STKA				LR		LR	10 10 16.0	
	comp=Z,2μm,20.1s,baz=119,slow=33							
	comp=Z,5.2nm,0.9s							
STKA	Stephens Creek	24.12	303	P		P	10 02 12.8	-2.8
HTT	Hallett	24.57	296	P		P	10 02 17.2	-2.6
DZM	Mont Dzumac	25.77	2	eP		P	10 02 32.3	+1.5
	comp=Z,132nm,24.8s							
DZM				eS		S	10 06 57.1	-3.4
	comp=Z,681nm,26.1s							
DZM				eLR		LR	10 08 56.1	
	comp=Z,2μm,22.1s							
DZM	Mont Dzumac	25.77	2	LR		LR	10 11 11.5	
	comp=Z,2μm,18.2s,baz=196,slow=33							
LCRK	Leigh Creek	27.12	300	P		P	10 02 39.2	-3.6
MULG	Mulgathing	29.72	295	P		P	10 03 03.7	-2.3
CTA	Charters Tower	31.76	324	LR		LR	10 14 17.0	
	comp=Z,1μm,21.4s,baz=144,slow=33							
MSVF	Nonsavu	31.82	23	LR		LR	10 15 15.8	
	comp=Z,1μm,18.1s,baz=197,slow=34							
AS31	Alice Springs	34.76	303	P		P	10 03 50.4	+0.1
ASAR	Alice Springs	34.76	303	P		P	10 03 51.3	+1.1
ASAR	Alice Springs	34.76	303	P		P	10 03 50.6	+0.3
	comp=Z,2.9nm,0.6s,baz=132,slow=6.6,SNR=32							
ASAR				LR		LR	10 17 00.5	
	comp=Z,2μm,20.0s,baz=162,slow=35							
	comp=Z,2.9nm,0.6s							
WRKA	Warakurna	37.02	295	P		P	10 04 07.0	-2.7
WR0	Warramunga Arr	37.38	307	P		P	10 04 11.2	-1.4
WR0				IAmb		IAmb	10 04 19.3	
	comp=Z,8.4nm,0.8s							
WB2	Warramunga Arr	37.50	307	P		P	10 04 12.9	-0.8
WB2				IAmb		IAmb	10 04 21.7	
	comp=Z,16nm,1.1s							
WRA	Warramunga Arr	37.50	307	P		P	10 04 14.2	+0.4
WRA	Warramunga Arr	37.50	307	P		P	10 04 12.8	-0.9
	comp=Z,6.5nm,0.9s,baz=140,slow=7.8,SNR=26							
WRA				LR		LR	10 18 00.5	
	comp=Z,1μm,20.3s,baz=162,slow=34							
	comp=Z,6.5nm,0.9s							
WRAB	Tennant Creek	37.50	307	P		P	10 04 13.1	-0.7
WRAB				IAmb		IAmb	10 04 23.8	
	comp=Z,28nm,1.4s							
WB0	Warramunga Arr	37.62	307	P		P	10 04 15.5	+0.8
WB0				IAmb		IAmb	10 04 24.7	
	comp=Z,8.2nm,0.9s							
HNR	Honiara	38.60	351	LR		LR	10 17 26.4	
	comp=Z,1μm,20.7s,baz=178,slow=32							
RAR	Rarotonga	38.61	59	LR		LR	10 19 16.7	
	comp=Z,1μm,20.4s,baz=218,slow=35							
NWAO	Narrogin (SRO)	38.93	275	LR		LR	10 18 30.9	
	comp=Z,485nm,18.3s,baz=80,slow=33							
H01W1	Cape Leeuwin H	39.85	270	T		T	10 47 00.3	
	baz=125,slow=75,SNR=388							
H01W2	Cape Leeuwin H	39.86	270	T		T	10 47 03.9	
	baz=125,slow=75,SNR=194							
H01W3	Cape Leeuwin H	39.87	270	T		T	10 47 01.6	
	baz=125,slow=75,SNR=352							
PMG	Port Moresby	41.33	332	LR		LR	10 18 52.8	
	comp=Z,617nm,20.8s,baz=150,slow=32							
MEEK	Meekatharra	42.05	283	P		P	10 04 49.7	-1.9
QSPA	South Pole Qui	42.24	180	P		P	10 04 54.7	+1.9
QSPA				IAmb		IAmb	10 04 56.1	
	comp=Z,45nm,1.1s							
QSPA	South Pole Qui	42.24	180	P		P	10 04 54.0	+1.2
	comp=Z,23nm,1.0s,baz=22,slow=3.7,SNR=41							
QSPA				LR		LR	10 20 25.7	
	comp=Z,334nm,18.6s,baz=27,slow=33							
	comp=Z,23nm,1.0s							
TBI	Tubuai	43.31	72	eS		S	10 11 28.8	-1.0
	comp=Z,2μm,29.5s							
TBI				eSS		SS	10 14 41.1	-1.9
	comp=Z,6μm,28.8s							
TBI				eLR		LR	10 16 56.5	
	comp=Z,1μm,28.2s							
TBI				eLR		LR	10 17 01.5	
	comp=Z,6μm,29.0s							
FITZ	Fitzroy Crossi	43.89	299	P		P	10 05 07.3	+0.8
FITZ	Fitzroy Crossi	43.89	299	LR		LR	10 23 13.7	
	comp=Z,2μm,18.2s,baz=149,slow=36							
MTN	Manton Dam	45.09	309	P		P	10 05 16.8	+0.7
MTN				IAmb		IAmb	10 05 26.1	
	comp=Z,20nm,0.8s							
PPT2	Papeete2	47.49	66	eP		P	10 05 36.2	+1.1
	comp=Z,75nm,26.0s							
PPT2				eS		S	10 12 31.3	+0.9
	comp=Z,388nm,28.2s							
PPT2				eSS		SS	10 15 58.0	-0.1
	comp=Z,514nm,23.5s							
PPT2				eLR		LR	10 18 52.4	
	comp=Z,1μm,28.8s							
PPT2				eLR		LR	10 18 53.5	
	comp=Z,1μm,22.2s							
PPT	Papeete	47.51	66	P		P	10 05 33.9	-1.2
	comp=Z,16nm,1.0s,baz=256,slow=23,SNR=2.0							
PPT				LR		LR	10 24 54.9	
	comp=Z,706nm,18.1s,baz=221,slow=35							
	comp=Z,16nm,1.0s							
JAY	Jayapura	49.96	327	LR		LR	10 26 38.5	
	comp=Z,618nm,19.3s,baz=135,slow=36							
MAW	Mawson	51.15	209	P		P	10 06 01.7	-0.6
	comp=Z,3.2nm,0.9s,baz=83,slow=6.9,SNR=4.3							
MAW				LR		LR	10 25 02.6	
	comp=Z,497nm,21.5s,baz=114,slow=33							
	comp=Z,3.2nm,0.9s							
BATI	Baumata	51.33	303	LR		LR	10 27 48.2	
	comp=Z,939nm,18.2s,baz=178,slow=36							
BELA	Belgrano 2	53.90	175	P		P	10 06 22.8	+0.2
BELA				IAmb		IAmb	10 06 38.6	
	comp=Z,7.8nm,1.1s							
TROLL	Troll, Antarti	59.80	186	⇑P		P	10 07 04.5	-0.1
	comp=Z,139nm,0.7s							
TAOE	Nuku Hiva Isla	60.03	68	eS		S	10 15 21.5	+1.1
	comp=Z,164nm,27.2s							
TAOE				eSS		SS	10 19 15.9	-1.1
	comp=Z,372nm,27.1s							
TAOE				eLR		LR	10 24 42.7	
	comp=Z,1μm,22.4s							
SNAA	Sanae	60.45	184	P		P	10 07 08.7	-0.4
SNAA	Sanae	60.45	184	⇑P		P	10 07 09.0	-0.1
	comp=Z,207nm,0.8s							
SNAA	Sanae	60.45	184	P		P	10 07 08.8	-0.3
	comp=Z,14nm,1.1s,baz=180,slow=6.7,SNR=24							
SNAA				LR		LR	10 31 17.5	
	comp=Z,225nm,18.8s,baz=182,slow=34							
	comp=Z,14nm,1.1s							
VNA3	Neumayer Olymp	61.13	182	⇑P		P	10 07 13.4	-0.2
	comp=Z,6.7nm,0.9s							
PMSA	Palmer Station	61.27	158	LR		LR	10 28 44.2	
	comp=Z,564nm,21.3s,baz=232,slow=31							
VNA2	Neumayer--Watz	61.38	183	⇑P		P	10 07 15.5	+0.1
	comp=Z,7.2nm,0.8s,baz=165,slow=6.1							
VNA1	Neumayer--Stat	61.69	182	⇑P		P	10 07 17.6	+0.2
	comp=Z,11nm,0.9s							
LEM	Lembang	63.65	290	LR		LR	10 35 13.6	
	comp=Z,392nm,20.2s,baz=144,slow=36							
DAV	Davao City (W)	64.98	315	LR		LR	10 37 26.3	
	comp=Z,209nm,19.5s,baz=140,slow=37							
RPN	Rapa Nui	67.38	106	LR		LR	10 30 50.6	
	comp=Z,125nm,20.5s,baz=231,slow=30							
H04S2	CROZET ISLANDS	69.28	222	T		T	11 24 26.9	
	baz=139,slow=75,SNR=125							
H04S1	CROZET ISLANDS	69.28	222	T		T	11 24 22.5	
	baz=139,slow=75,SNR=164							
H04S3	CROZET ISLANDS	69.29	222	T		T	11 24 29.5	
	baz=139,slow=75,SNR=108							
TGY	Tagaytay City	73.31	315	LR		LR	10 43 45.9	
	comp=Z,183nm,18.1s,baz=205,slow=38							
COYC	Coyhaique	74.21	142	P		P	10 08 37.9	+1.3
COYC				IAmb		IAmb	10 08 40.6	
	comp=Z,24nm,1.0s							
LL02	Futaleuf	76.24	141	P		P	10 08 48.1	-0.2
LL02				IAmb		IAmb	10 08 51.7	
	comp=Z,18nm,0.9s							
PSI	Prapat	76.54	290	LR		LR	10 41 49.7	
	comp=Z,283nm,21.9s,baz=136,slow=35							
LL01	San Ignacio de	76.66	140	IAmb		IAmb	10 08 53.4	
	comp=Z,23nm,1.4s							
PLCA	Paso Flores	78.81	140	P		P	10 09 03.6	+0.8
PLCA				IAmb		IAmb	10 09 06.5	
	comp=Z,12nm,1.1s							
PLCA	Paso Flores	78.81	140	P		P	10 09 03.2	+0.4
	comp=Z,7.7nm,1.0s,baz=191,slow=5.7,SNR=11							
PLCA				LR		LR	10 35 08.2	
	comp=Z,257nm,21.7s,baz=216,slow=29							
	comp=Z,7.7nm,1.0s							
GO06	Curarrehue	79.34	139	P		P	10 09 07.5	+1.7
GO06				IAmb		IAmb	10 09 08.7	
	comp=Z,18nm,1.2s							
JOW	Kunigami	81.51	327	LR		LR	10 42 51.8	
	comp=Z,363nm,21.2s,baz=150,slow=34							
TRQA	Tornquist	84.60	144	P		P	10 09 33.9	+0.5
MT13	San Alfonso	84.69	136	P		P	10 09 35.7	+1.7
H08S2	Diego Garcia H	86.32	263	T		T	11 44 33.2	
	baz=138,slow=76,SNR=527							
H08S1	Diego Garcia H	86.33	263	T		T	11 44 34.6	
	baz=138,slow=76,SNR=454							
H08S3	Diego Garcia H	86.34	263	T		T	11 44 40.4	
	baz=138,slow=76,SNR=670							
JNU	Nakatsue	86.37	332	P		P	10 09 43.3	+1.4
	comp=Z,3.3nm,1.0s,baz=200,slow=15,SNR=1.5							
JNU				LR		LR	10 47 20.3	
	comp=Z,134nm,18.5s,baz=152,slow=35							
	comp=Z,3.3nm,1.0s							
MJAR	Matsushiro Arr	87.49	338	LR		LR	10 44 15.9	
	comp=Z,48nm,22.0s,baz=156,slow=32							
CMAR	Chiang Mai Arr	88.70	300	P		P	10 09 53.9	+0.5
	comp=Z,1.1nm,0.4s,baz=180,slow=3.1,SNR=5.6							
CMAR				LR		LR	10 52 27.6	
	comp=Z,91nm,18.1s,baz=155,slow=38							
	comp=Z,1.1nm,0.4s							
NJ2	Nanjing	89.84	322	eP		P	10 10 01.3	+2.8
NJ2				pmax		pmax		
	comp=Z,3.0nm,0.6s							
KSRS	Korea Array	91.30	331	P		P	10 10 05.8	+0.8
	comp=Z,0.7nm,0.7s,baz=118,slow=15,SNR=2.7							
KSRS				LR		LR	10 46 52.0	
	comp=Z,159nm,22.0s,baz=165,slow=33							
	comp=Z,0.7nm,0.7s							
PZH	PanZhiHua	93.46	306	P		P	10 10 18.0	+2.4
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,90nm,4.9s							
ASAJ	Asahikawa	93.79	344	LR		LR	10 47 04.9	
	comp=Z,333nm,21.8s,baz=152,slow=32							
OPO	Ambohidratompo	93.87	237	LR		LR	10 43 51.2	
	comp=Z,81nm,19.5s,baz=16,slow=30							
BOSA	Boshof	95.84	215	LR		LR	10 49 58.5	
	comp=Z,178nm,18.6s,baz=194,slow=33							
CPUP	Villa Florida	96.75	142	P		P	10 10 30.4	-0.3
	comp=Z,3.1nm,1.0s,baz=133,slow=3.8,SNR=5.4							
CPUP				LR		LR	10 47 02.4	
	comp=Z,169nm,20.9s,baz=204,slow=31							
	comp=Z,3.1nm,1.0s							
MDJ	Mudanjiang	97.34	335	P		Pdif	10 10 38.5	+5.8
MDJ				pmax		pmax		
	comp=Z,11nm,1.5s							
NNA	Nana	98.88	119	LR		LR	10 46 43.9	
	comp=Z,198nm,20.0s,baz=202,slow=30							
LBTB	Lobatse	98.93	216	LR		LR	10 49 08.7	
	comp=Z,109nm,19.3s,baz=154,slow=32							
HHC	Hu-ho-hao-te	100.39	322	eP		Pdif	10 10 49.3	+2.7
BWN	Browne	117.19	20			PKiKP	10 15 45.6	+1.6
ZALV	Zalesovo Beam	122.09	317	PKP		PKiKP	10 15 53.8	+0.1
	comp=Z,0.3nm,0.3s,baz=96,slow=10,SNR=1.4							
KKAR	Karatay Array	123.05	299			PKiKP	10 15 57.5	+1.4
KURBB	Kurchatov Arra	123.13	311	PKP		PKPdf	10 15 54.5	-1.2
	comp=Z,0.1nm,0.3s,baz=186,slow=0.1,SNR=2.0							
BVAR	Borovoye Array	128.66	310	PKP		PKPdf	10 16 06.5	+0.2
	comp=Z,0.5nm,0.6s,baz=145,slow=5.3,SNR=1.6							
TORD	Torodi Ar. Bea	142.79	207			PKPdf	10 16 32.7	-0.9
TORD	Torodi Ar. Bea	142.79	207	PKhKP		PKPpre	10 16 28.6	
	comp=Z,0.7nm,0.6s,baz=139,slow=2.5,SNR=2.1							
TORD				PKP		PKPdf	10 16 33.4	-0.2
	comp=Z,0.9nm,0.6s,baz=115,slow=1.3,SNR=5.4							
BRTR	Keskin Array B	144.72	275			PKPdf	10 16 36.7	+0.2
BRTR	Keskin Array B	144.72	275	PKP		PKPab	10 16 35.2	-0.1
	comp=Z,5.1nm,0.8s,baz=141,slow=4.1,SNR=18							
SCHQ	Schefferville	147.34	58	PKPbc		PKPbc	10 16 43.2	+0.5
	comp=Z,1.8nm,0.7s,baz=278,slow=14,SNR=1.1							
SPITS	Spitsbergen Ar	147.42	349	PKPbc		PKPbc	10 16 42.8	+0.5
	comp=Z,2.5nm,0.5s,baz=79,slow=6.2,SNR=9.6							
ARCES	ARCESS Array B	150.85	332	PKPbc		PKiKP	10 16 51.9	+0.1
	comp=Z,12nm,1.1s,baz=105,slow=1.4,SNR=13							
AKASG	Malin Array Be	151.57	292	PKPbc		PKPbc	10 16 52.7	-0.7
	comp=Z,3.6nm,0.7s,baz=80,slow=2.4,SNR=14							
FINES	FINESS Array B	153.35	316	PKPbc		PKiKP	10 16 57.5	+0.4
	comp=Z,1.5nm,0.8s,baz=122,slow=1.8,SNR=2.8							

NNC 26 09:57:48.2±1.7, 53°.47N×88°.03E, h0km, mb3.2, mpv4.2, 4C-4D, Error ellipse: s-maj=14.2km s-min=13.3km az=144.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	1.97	285	⇓Pn	Pn	09 58 22.5	-0.3
	1.0nm,0.7s						
ZAA0				⇑Lg	Lg	09 58 51.1	
	4.1nm,0.8s						
KURK	Kurchatov	6.42	248	⇑Pn	Pn	09 59 24.1	+0.1
	1μm,0.1s						
KURK				⇑Sn	Sn	10 00 38.6	+0.7
	1.4nm,1.1s						
KURK				⇑Lg	Lg	10 01 11.4	
	4.9nm,1.1s						
KURBB	Kurchatov Arra	6.52	248	⇓Pn	Pn	09 59 26.7	+1.4
	1.2nm,0.3s,baz=62,slow=14						
KURBB				⇓Sn	Sn	10 00 41.2	+1.0
	2.3nm,0.5s						
KURBB				⇓Lg	Lg	10 01 16.6	
	4.5nm,0.7s						

*IDC **26** 10:05:03.6±1.1, 36°.09N×141°.09E, h0km, mb3.7/4, mbtmp3.6/9, ML3.2/5, Error ellipse: s-maj=24.0km s-min=20.3km az=70.0*

*NIED **26** 10:05:08.3, 36°.18N×140°.93E, h44km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.06; $M_{\theta\theta}$5.44; $M_{\phi\phi}$-5.38; $M_{r\theta}$-3.86; $M_{\theta\phi}$-1.57; $M_{\phi r}$6.79; Fault plane solution: $M_0$9.60000×10^{14} NP1: ϕ_s145.00000°, δ90.00000°, λ-54.00000°. NP2: ϕ_s236.00000°, δ36.00000°, λ-180.00000°.*

*JMA **26** 10:05:08.3±0.1, 36°.2N±0°.3×140°.9E±0°.8, h44km±1km, MD3.9/40, MV3.7/40, E OFF IBARAKI PREF*

JMA Felt II J1 at E OFF IBARAKI PREF .

ISC 26 10:05:07.8±1.4, 36°.22N±0°.05×141°.06E±0°.07, h29km±10km, n41, σ1s14/32, mb3.7/4, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	Hitachinakayam	0.40	288	⇓iP	Pn	10 05 17.2	-0.4
JHYU				⇓S	Sb	10 05 23.0	+0.5
JHYU	Hitachinakayam	0.40	288	A	A	10 05 17.2	
	comp=E,30nm,0.3s,comp=N,61nm,0.3s						
JIHU	Itakohorinouch	0.50	240	⇓P	Pb	10 05 18.4	+0.4
JIHU				⇓eS	Sb	10 05 25.6	+0.5
JIHU	Itakohorinouch	0.50	240	A	A	10 05 18.4	
	comp=E,26nm,0.8s,comp=N,24nm,0.4s						
JHO	Hitachi	0.56	315	⇓iP	Pb	10 05 19.2	+0.1
JHO				⇓S	Sb	10 05 26.4	-0.3
JHO	Hitachi	0.56	315	A	A	10 05 19.2	
	comp=E,9.0nm,1.2s,comp=N,4.0nm,0.5s						
JYT	Yasato	0.70	271	⇓iP	Pb	10 05 20.5	-0.8
JYT				⇓S	Sb	10 05 28.5	-2.2
JYT	Yasato	0.70	271	A	A	10 05 20.5	
	comp=E,6.0nm,0.4s,comp=N,5.0nm,0.4s						
JSMT	Sammumatsuo	0.76	221	A	A	10 05 21.3	
	comp=E,10.0nm,3.2s,comp=N,10.0nm,3.1s						
ONAJ	Iwakimizuishiy	0.91	347	iP	Pb	10 05 24.4	-0.5
ONAJ				S	Sb	10 05 35.5	-1.2
JFFD	Fukushimafurud	0.96	336	A	A	10 05 25.5	
	comp=E,7.0nm,0.4s,comp=N,3.0nm,0.5s						
JCN	Nagara	1.06	221	A	A	10 05 25.6	
	comp=E,8.0nm,2.0s,comp=N,7.0nm,4.1s						
JFK	Kawauchi	1.16	353	iP	Pn	10 05 27.9	-0.2
TOK	Tokyo	1.18	244	A	A	10 05 27.1	
	comp=E,9.0nm,1.6s,comp=N,7.0nm,0.3s						
JAG	Ashikaga	1.31	280	⇓iP	Pn	10 05 29.3	-0.9
JOTO	OTAMA O

BZP	**Bezymyannyi-Pe**	**1.81**	**350**	*e*P	Pn	10 07 52.4 +1.8
BZGR	**Bezymyannyi-Gr**	**1.83**	**353**	*e*P	Pn	10 07 53.1 +2.3
BZGR				*e*S	Sn	10 08 15.9 +3.3
PET	**Petropavlovsk**	**1.83**	**234**	*e*P	Pn	10 07 52.5 +1.9
PET				*e*S	Sn	10 08 14.8 +2.1
BZMR	**Bezymyannaya**	**1.84**	**349**	*e*P	Pn	10 07 53.2 +2.3
BZMR				*e*S	Sn	10 08 16.7 +3.7
KIRR	**Kirishev**	**1.88**	**347**	*e*P	Pn	10 07 53.5 +2.0
ZLN	**Zelenaya**	**1.90**	**355**	*e*P	Pn	10 07 54.5 +2.8
KPT	**Kopyto**	**1.91**	**345**	*e*P	Pn	10 07 54.3 +2.4
CIRR	**Tsirk**	**2.00**	**354**	*e*P	Pn	10 07 56.2 +3.1
KRSR	**Krestovskiy**	**2.11**	**352**	*e*P	Pn	10 07 56.8 +2.1
KRMR	**Karymshinskiy**	**2.20**	**235**	*e*P	Pn	10 07 57.7 +1.9
ESO	**Esso**	**2.27**	**323**	*e*P	Pn	10 07 56.9 +0.2
KBTR	**Krutoberegovo**	**2.30**	**25**	*e*P	Pn	10 07 59.6 +2.5
RUS	**Russkaya**	**2.30**	**223**	*e*P	Pn	10 07 59.1 +1.9
KBG	**Krutoberegovo**	**2.32**	**23**	*e*P	Pn	10 07 59.4 +2.0
MTVR	**Mutnovka**	**2.41**	**228**	*e*P	Pn	10 08 01.1 +2.4
GRL	**Gorelyy**	**2.41**	**230**	*e*P	Pn	10 08 01.4 +2.7
BDR	**Baidarnaya**	**2.44**	**1**	*e*S	Sn	10 08 31.3 +3.5
SMKR	**Semkarok**	**2.46**	**5**	*e*P	Pn	10 08 01.8 +2.3
SMKR				*e*S	Sn	10 08 31.5 +3.1
ASAK	**Asacha**	**2.60**	**229**	*e*P	Pn	10 08 04.5 +3.1
KDTR	**Khodutka, Kamc**	**2.96**	**219**	*e*P	Pn	10 08 10.6 +4.5
KDTR				*e*S	Sn	10 08 46.2 +5.8

RSNC 26 10:13:22.0±0.0, 13°N±2°×8°1W±°, h1km±3km, M3.0, mb3.9, mB5.0, ML3.0, Mw(mB)4.3, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.34**	**299**	P	Pb	10 13 29.7	-1.2
PRVC				S	Sg	10 13 34.7	+1.8
SAIC	**Isla e San And**	**0.92**	**224**	P	Pb	10 13 40.9	+0.1
SAIC				S	Sn	10 13 55.8	-0.2
RNCC	**Cayo Roncador,**	**1.01**	**69**	P	Pg	10 13 41.4	0.0
RNCC				S	Sb	10 13 56.2	+0.1
SERC	**Banco Serrana,**	**1.27**	**32**	P	Pg	10 13 45.4	-0.9
SERC				S	Sg	10 14 03.0	+0.3
BCIP	**Isla Barro Col**	**4.19**	**163**	P	Pn	10 14 24.7	-2.4
BCIP				S	Sn	10 15 11.9	-4.9
JTS	**Las Juntas de**	**4.79**	**233**	P	Pn	10 14 36.5	+1.1
GMAL	**Guarumal, Vera** 13nm,1.5s,1μm	**5.42**	**182**	P	Pn	10 14 42.3	-1.7
GMAL				S	Sn	10 15 43.5	-3.5
SJCC	**San Jacinto, C** 13nm,1.5s,1μm	**6.64**	**119**	P	Pn	10 14 58.1	-2.7
SJCC				S	Sn	10 16 11.6	-5.6

*CATAC **26** 10:17:45.8±0.6, 13°.54N×81°.07W, h1km±13km, mb4.3, ML4.1*
*RSNC **26** 10:17:48.4±0.0, 13°N±2°×8°1W±°, h1km±2km, M3.1, mb4.5, ML3.1*

ISC 26 10:17:47.5±1.5, 13°.23N±0°.04×81°.07W±0°.05, h8km±12km, n17, σ1§81/27, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.32**	**297**	P	**Pb**	**10 17 55.0**	**-0.5**
PRVC				S	**Sb**	**10 17 59.6**	**-1.3**
PRVC	**Isla de Provid**	**0.32**	**297**	*i* P	**Pg**	**10 17 51.9**	**-2.0**
PRVC				*i* S	**Sb**	**10 17 59.3**	**-1.6**
PRVC	comp=Z,4μm,1.0s			IAML		10 18 02.6	
SAIC	**Isla e San And**	**0.93**	**222**	P	**Pg**	**10 18 06.0**	**+0.5**
SAIC				S	**Sg**	**10 18 20.2**	**+2.6**
RNCC	**Cayo Roncador,**	**1.01**	**70**	P	**Pn**	**10 18 08.5**	**+0.5**
RNCC				S	**Sn**	**10 18 24.0**	**+1.6**
SERC	**Banco Serrana,**	**1.25**	**33**	P	**Pn**	**10 18 12.2**	**+0.9**
SERC				S	**Sn**	**10 18 30.2**	**+1.8**
BLUN	**Bluefields**	**2.91**	**246**	*i* P	**Pn**	**10 18 34.2**	**+0.1**
BLUN	comp=Z,110nm,1.0s			IAML		10 18 45.3	
ESPN	**Las Esperanzas**	**3.32**	**252**	*i* P	**Pn**	**10 18 40.3**	**+0.6**
ESPN				*i* S	**Sb**	**10 19 29.9**	**+2.7**
ESPN	comp=Z,230nm,1.0s			IAML		10 19 49.3	
ACON	**Acoyapa**	**4.20**	**253**	P	**Pn**	**10 18 53.3**	**+1.4**
ACON	**Acoyapa**	**4.20**	**253**	*i* P	**Pn**	**10 18 51.9**	**0.0**
ACON	comp=Z,130nm,1.0s			IAML		10 20 26.5	
BCIP	**Isla Barro Col**	**4.21**	**163**	P	**Pn**	**10 18 50.3**	**-1.8**
BCIP				S	**Sn**	**10 19 39.0**	**-2.6**
BCIP	**Isla Barro Col**	**4.21**	**163**	*i* P	**Pn**	**10 18 51.0**	**-1.1**
BCIP	comp=Z,130nm,1.0s			IAML		10 19 46.9	
JTS	**Las Juntas de**	**4.79**	**233**	P	**Pn**	**10 19 01.1**	**+1.0**
OCHAL	**Ojochal**	**4.82**	**212**	*i* P	**Pn**	**10 19 02.4**	**+1.9**
OCHAL	comp=Z,57nm,1.4s			IAmb	IAmb	10 19 06.2	
OCHAL	comp=Z,100nm,1.0s			IAML		10 19 26.9	
LIMN	**Finca el Limon**	**5.16**	**269**	*i* P	**Pn**	**10 19 04.4**	**-0.8**
LIMN	comp=Z,33nm,0.9s			IAmb	IAmb	10 19 28.8	
LIMN	comp=Z,85nm,1.0s			IAML		10 20 45.6	
AZU	**Azuero**	**5.46**	**172**	P	**Pn**	**10 19 08.4**	**-0.8**
AZU	comp=Z,48nm,2.3s			S	**Sn**	**10 20 09.8**	**-2.5**
LCBC	**Los crdobas,**	**6.34**	**133**	P	**Pn**	**10 19 23.8**	**+2.5**
LCBC	comp=Z,189nm,1.4s			S	**Sn**	**10 20 36.1**	**+2.2**
SJCC	**San Jacinto, C**	**6.65**	**119**	P	**Pn**	**10 19 25.2**	**-0.5**
SJCC				S	**Sn**	**10 20 38.9**	**-2.9**

*NEIC **26** 10:25:14.5±1.1, 34°.64N±0°.02×96°.34W±0°.01, h6km±5km, ML2.2/17, ML2.6/8, Error ellipse: s-maj=3.4km s-min=1.1km az=156.0*

NEIC 26 10:25:15.2±1.6, 34°.68N±0°.03×96°.34W±0°.02, h16km±8km, Error ellipse: s-maj=4.9km s-min=1.5km az=164.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W35A	**Tecumseh**	**0.65**	**318**		Pg	10 25 27.4	-0.5
W35A					Sg	10 25 36.7	+0.1
W35A	comp=E,73nm,0.4s			IAML		10 25 39.3	
FNO	**Franklin**	**1.04**	**304**		Pb	10 25 35.1	+0.1
FNO	comp=N,68nm,4.8s			IAML		10 25 38.5	
FNO					Sg	10 25 49.2	+0.1
FNO	comp=E,42nm,0.1s			IAML		10 25 55.9	
DEOK	**Depew**	**1.17**	**354**		Pn	10 25 36.9	-0.1
DEOK					Sg	10 25 53.3	+0.2
DEOK	comp=N,39nm,0.2s			IAML		10 25 56.8	
DEOK	comp=E,45nm,0.1s			IAML		10 25 57.9	
TUL3	**Leonard**	**1.31**	**20**		Pb	10 25 39.2	-0.3
TUL3					Sg	10 25 57.4	-0.3
TUL3	comp=E,28nm,0.2s			IAML		10 26 03.4	
OK031	**S. Brethren Rd**	**1.34**	**342**		Pb	10 25 39.8	-0.2
OK052	**Battle Ridge R**	**1.37**	**344**		Pn	10 25 39.8	+0.1
QUOK	**Quay**	**1.52**	**349**		Pn	10 25 41.9	+0.1
Z35A	**Perchaven, San**	**1.54**	**210**		Pn	10 25 42.2	+0.1
RLO	**Rose Lookout**	**1.84**	**36**		Pb	10 25 47.3	-1.1
WMOK	**Wichita Mounta**	**2.01**	**272**	Pn	Pn	10 25 49.8	+1.3
MIAR	**Mount Ida**	**2.29**	**92**		Pn	10 25 53.9	+1.6
U38A	**Gravette**	**2.38**	**42**		Pn	10 25 55.5	+1.9

*TEH **26** 10:44:37.0, 34°.21N×45°.60E, h11km±23km, ML3.2*
*ISN **26** 10:44:38.7±1.0, 34°.22N×45°.51E, h25km±7km, ML3.1*

ISC 26 10:44:37.6±0.9, 34°22N±0°.03×45°59E±0°.04, h10km, n20, σ0§89/24, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.28**	**360**	Pg	**Pg**	**10 44 43.2**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.29**	**112**	Pg	**Pg**	**10 44 42.9**	**-0.5**
ILBA	**Ilam Banvizeh**	**0.79**	**139**	Pg	**Pg**	**10 44 52.0**	**-0.8**
IDHR	**Dehrash**	**0.81**	**54**	Pg	**Pg**	**10 44 52.3**	**-1.1**
IGHG	**Ghaleghazi**	**0.82**	**82**	Pg	**Pb**	**10 44 53.6**	**-0.5**
IBDR	**Badra**	**1.15**	**166**	*e*Pg	**Pn**	**10 45 00.0**	**+0.3**
IBDR				*e*Sg	**Sn**	**10 45 16.0**	**+0.6**
KCHF	**Cheshme Sefid,**	**1.20**	**87**	Pg	**Pg**	**10 45 00.3**	**-0.5**
ILIN	**Lien**	**1.33**	**58**	Pg	**Pg**	**10 45 02.6**	**-0.6**
BHD	**Baghdad**	**1.39**	**227**	*e*Pn	**Pb**	**10 45 03.0**	**-0.6**
BHD				*e*Sn	**Sg**	**10 45 22.0**	**-0.2**
IKRK	**Kirkuk**	**1.56**	**319**	*e*Pn	**Pb**	**10 45 06.0**	**-0.6**
IKRK				*e*Sn	**Sg**	**10 45 27.0**	**-0.9**
IKRK	comp=N,332nm,0.5s			AML	AML	10 45 31.4	
IKRK	comp=E,258nm,1.8s			AML	AML	10 45 37.5	
SNQR	**Sonqor, Kerman**	**1.80**	**69**	Pg	**Pb**	**10 45 10.5**	**-0.3**
IBZA	**Bozab**	**1.89**	**82**	Pn	**Pb**	**10 45 11.4**	**-1.0**
SDS1	**Sardasht. Az.**	**1.92**	**357**	Pn	**Pb**	**10 45 12.6**	**-0.3**
IKFM	**Kafar-mosalman**	**2.00**	**110**	Pn	**Pb**	**10 45 13.2**	**-0.9**
HSAM	**Samen**	**2.50**	**89**	Pn	**Pn**	**10 45 19.6**	**+1.0**
RAFI	**Al-Rafai**	**2.53**	**170**	*e*Pn	**Pn**	**10 45 20.0**	**+1.2**
RAFI				*e*Sn	**Sn**	**10 45 51.0**	**+1.3**
MAHB	**Mahabad**	**2.54**	**2**	Pn	**Pn**	**10 45 19.9**	**+0.8**
BDRS	**Dareh Seyedi**	**2.74**	**95**	Pn	**Pn**	**10 45 22.6**	**+0.6**
HAGD	**Aghdareh**	**2.99**	**77**	Pn	**Pn**	**10 45 27.1**	**+1.8**
QABG	**Abgarm-Qazvin**	**3.60**	**65**	Pn	**Pn**	**10 45 34.8**	**+1.2**

DJA 26 10:46:13.5±0.3, 8°S±6°×11°7E±°, h10km, M3.8/12, mb4.3/1, MLv3.5/12, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**1.28**	**276**	P	Pn	10 46 35.8	-1.7
DNP	**Denpasar**	**1.35**	**250**	P	Pg	10 46 39.7	+0.2
PLAI	**Plampang**	**1.40**	**116**	P	Pn	10 46 38.1	-1.0
ABJI	**Asem Bagus**	**2.28**	**280**	P	Pn	10 46 51.5	+0.2
JAGI	**Jajag, Banyuwa**	**2.34**	**264**	P	Pn	10 46 51.4	-0.6
KMMI	**Kalianget**	**2.77**	**295**	P	Pn	10 46 58.8	+0.9
GMJI	**Gumukmas**	**3.02**	**269**	P	Pn	10 47 03.1	+1.6
WBSI	**Waikabubak, Su**	**3.19**	**117**	P	Pn	10 47 04.7	+0.9
BSSI	**Bau Bau, Buton**	**4.46**	**63**	P	Pn	10 47 20.1	-1.2
BKSI	**Bulukumba**	**4.61**	**52**	P	Pn	10 47 24.1	+0.8
PCJI	**Pacitan**	**5.27**	**270**	P	Pn	10 47 32.3	-0.1

WEL 26 10:52:49.3±0.4, 45°S±2°×16°9E±°, h5km, M2.2/6, ML2.4/7, MLv2.2/6, Error ellipse: s-maj=3.6km s-min=2.9km az=124.0, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WNPS	**Wanaka Nationa**	**0.20**	**210**	P	Pg	10 52 53.3	+0.1
WNPS				S	Sg	10 52 56.7	+0.9
WKZ	**Wanaka**	**0.36**	**212**	P	Pg	10 52 57.2	+0.9
WKZ				S	Sg	10 53 02.3	+1.4
JCZ	**Jackson Bay**	**0.58**	**321**	P	Pb	10 53 01.4	-0.6
JCZ				S	Sg	10 53 08.6	+0.7
TWAS	**Twizel Area Sc**	**0.64**	**66**	S	Sg	10 53 10.9	+0.9
LBZ	**Lake Benmore**	**0.66**	**78**	P	Pb	10 53 02.9	-0.4
LBZ				S	Sg	10 53 11.2	+0.7
HDWS	**Haast DOC Work**	**0.66**	**345**	P	Pb	10 53 02.8	-0.6
HDWS				S	Sg	10 53 11.1	+0.5
EAZ	**Earnscleugh**	**0.71**	**179**	P	Pg	10 53 03.4	+0.5
MSZ	**Milford Sound**	**0.98**	**261**	P	Pg	10 53 08.3	+0.2
MSZ				S	Sg	10 53 21.4	+0.5
FOZ	**Fox Glacier**	**1.06**	**21**	P	Pg	10 53 09.3	-0.4
ODZ	**Otahua Downs**	**1.10**	**119**	P	Pg	10 53 10.3	-0.1
MLZ	**Mavora Lakes**	**1.18**	**224**	P	Pb	10 53 12.2	0.0
MLZ				S	Sg	10 53 27.4	+0.1
TUZ	**Tuapeka**	**1.45**	**170**	P	Pn	10 53 16.4	+0.2
TUZ				S	Sb	10 53 33.7	-1.8
WHZ	**Wether Hill Ro**	**1.66**	**214**	P	Pb	10 53 19.9	-0.5

JMA 26 10:55:08.3±0.7, 44°N±4°×15°0E±°, h30km, MV3.7/12, SE OFF ETOROFU, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.17**	**260**	*e*P	Pn	10 55 55.3	-0.8
NEM2				*e*S	Sn	10 56 29.8	-3.0
JRA	**Rausu**	**3.54**	**271**	*e*P	Pn	10 56 03.0	+1.9
JRA				*e*S	Sn	10 56 42.8	+0.9
JAK	**Akkeshi**	**4.00**	**257**	*e*P	Pn	10 56 06.9	-0.6
JAK				*e*S	Sn	10 56 49.8	-3.6
JTKR	**Abashiri--Toko**	**4.41**	**272**	*e*P	Pn	10 56 14.7	+1.5
JTKR				*e*S	Sn	10 57 07.2	+3.8
JAR	**Ashorobuto**	**4.59**	**263**	*e*P	Pn	10 56 16.1	+0.4
JAR				*e*S	Sn	10 57 06.7	-1.3
JOB	**Onbets**	**4.64**	**258**	*e*P	Pn	10 56 16.6	+0.3
JOB				*e*S	Sn	10 57 07.2	-1.9
JCH	**Churui**	**5.05**	**256**	*e*P	Pn	10 56 22.0	0.0
JCH				*e*S	Sn	10 57 17.7	-1.6
JNBK	**Urakawa-nobuka**	**5.59**	**254**	*e*P	Pn	10 56 29.2	-0.2
JNBK				*e*S	Sn	10 57 28.2	-4.3
JANG	**Nango**	**7.29**	**243**	*e*P	Pn	10 56 49.8	-2.9
JANG				*e*S	Sn	10 58 04.3	-10

*IDC **26** 10:55:24.5±1.3, 33°.87N×48°.75E, h0km, mb3.7/11, mbtmp3.8/20, ML3.7/9, Error ellipse: s-maj=25.8km s-min=16.2km az=164.0*
*TEH **26** 10:55:25.4, 33°.89N×48°.69E, h6km±35km, ML3.9*

ISC 26 10:55:26.9±0.6, 33°.86N±0°.04×48°.66E±0°.03, h11km, n88, σ1§75/88, mb3.9/14, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRS	**Dareh Seyedi**	**0.20**	**63**	Pg	**Pg**	**10 55 30.3**	**-1.1**
HSAM	**Samen**	**0.35**	**352**	Pg	**Pg**	**10 55 33.8**	**-0.3**
IDOB	**Doab**	**0.41**	**260**	Pg	**Pb**	**10 55 35.6**	**-0.6**
IKFM	**Kafar-mosalman**	**0.76**	**244**	Pg	**Pb**	**10 55 41.7**	**-0.4**
IBZA	**Bozab**	**0.90**	**313**	Pg	**Pg**	**10 55 43.5**	**-0.7**
HAGD	**Aghdareh**	**1.03**	**22**	Pg	**Pb**	**10 55 45.4**	**-1.6**
SNQR	**Sonqor, Kerman**	**1.31**	**320**	Pg	**Pn**	**10 55 51.3**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.41**	**287**	Pg	**Pg**	**10 55 53.8**	**-0.1**
ILIN	**Lien**	**1.75**	**307**	Pg	**Pb**	**10 55 59.4**	**+0.1**
IGHG	**Ghaleghazi**	**1.80**	**286**	Pn	**Pg**	**10 56 00.7**	**-0.6**
QABG	**Abgarm-Qazvin**	**1.99**	**22**	Pn	**Pn**	**10 56 02.6**	**+1.9**
ILBA	**Ilam Banvizeh**	**2.06**	**264**	Pn	**Pb**	**10 56 04.1**	**-0.2**
IDHR	**Dehrash**	**2.06**	**295**	Pn	**Pb**	**10 56 04.6**	**+0.2**
IPIR	**Pirpir**	**2.21**	**122**	Pn	**Pn**	**10 56 06.1**	**+2.3**
IQOM	**Qom**	**2.22**	**63**	Pn	**Pn**	**10 56 05.8**	**+2.0**
QAMS	**Qamsar**	**2.28**	**92**	Pn	**Pn**	**10 56 06.9**	**+2.1**
GLG1	**Gilan-e-Gharb**	**2.30**	**277**	Pn	**Pn**	**10 56 07.2**	**-1.2**
JHBN	**Jahan bin**	**2.34**	**133**	Pn	**Pn**	**10 56 08.0**	**+2.4**
IKLH	**Kolahrood**	**2.50**	**102**	Pn	**Pn**	**10 56 10.0**	**+2.3**
ZNGN	**Zangian**	**2.54**	**133**	Pn	**Pn**	**10 56 10.5**	**+2.3**
KGS1	**Ghasr-e-Shirin**	**2.63**	**285**	Pn	**Pb**	**10 56 11.9**	**-2.0**
IVRN	**Varamin**	**2.77**	**65**	Pn	**Pn**	**10 56 14.0**	**+2.7**
IBRJ	**Brojen**	**2.93**	**131**	Pn	**Pn**	**10 56 16.2**	**+2.5**
JIR1	**Jirandeh**	**2.99**	**18**	Pn	**Pn**	**10 56 16.7**	**+2.3**
ISFB	**Sefidab**	**3.01**	**80**	Pn	**Pn**	**10 56 16.6**	**+2.0**
IGAR	**Gharneh**	**3.19**	**116**	Pn	**Pn**	**10 56 19.6**	**+2.4**
IZEF	**Zefreh**	**3.22**	**106**	Pn	**Pn**	**10 56 20.2**	**+2.6**
IDMV	**Damavand**	**3.26**	**57**	Pn	**Pn**	**10 56 21.0**	**+2.8**
KLST	**Kelardasht - M**	**3.30**	**36**	Pn	**Pn**	**10 56 21.8**	**+3.1**
IRAM	**Ramesheh**	**3.74**	**122**	Pn	**Pn**	**10 56 26.9**	**+2.1**
IFIR	**Firoozkooh**	**3.81**	**61**	Pn	**Pn**	**10 56 28.5**	**+2.8**
IPRN	**Peran**	**3.84**	**51**	Pn	**Pn**	**10 56 28.1**	**+2.1**
ISRB	**Sarab**	**4.04**	**349**	Pn	**Pn**	**10 56 31.6**	**+2.8**
ANAR	**Anarak**	**4.29**	**98**	Pn	**Pn**	**10 56 34.3**	**+2.2**
IAZR	**Azarshahr**	**4.39**	**331**	Pn	**Pn**	**10 56 36.5**	**+2.8**
GAS1	**Astara - Iran**	**4.52**	**2**	Pn	**Pn**	**10 56 38.0**	**+2.8**
IGLO	**Ghaloghah**	**4.99**	**57**	Pn	**Pn**	**10 56 44.5**	**+2.7**
TNSJ	**Nastanj**	**6.61**	**87**	Pn	**Pn**	**10 57 06.8**	**+2.8**
TKDS	**Koohdasht(Taba**	**7.05**	**90**	Pn	**Pn**	**10 57 12.5**	**+2.3**
TAPT	**Tabas- Tapeh t**	**7.10**	**79**	Pn	**Pn**	**10 57 13.5**	**+2.7**
ASF	**Jabal al Asfar** 0.7nm,0.3s,baz=29,slow=19,SNR=1.9 1.7nm,0.3s	**10.02**	**264**	Pn	**Pn**	**10 57 52.0**	**+1.2**
KVAR	**Kislovodsk Arr** baz=180,slow=4.0 2.9nm,0.3s	**11.09**	**337**	Pn	**Pn**	**10 58 07.6**	**+2.0**
MMAI	**Mount Meron Ar** 0.7nm,0.3s,baz=70,slow=18,SNR=1.5 0.6nm,0.4s	**11.11**	**269**	Pn	**Pn**	**10 58 07.2**	**+1.5**
EIL	**Elat** 0.7nm,0.3s,baz=356,slow=13,SNR=2.5 2.4nm,0.5s	**12.39**	**254**	Pn	**Pn**	**10 58 22.5**	**-0.7**
BR104	**Keskin Array S** 2.5nm,1.1s	**13.37**	**300**	P	**Pn**	**10 58 40.9**	**+4.2**
BRTR	**Keskin Array B** 0.1nm,0.3s,baz=123,slow=5.3,SNR=1.4 0.4nm,0.7s	**13.38**	**300**	Pn	**Pn**	**10 58 38.6**	**+1.8**
BR106	**Keskin Array S** 2.3nm,1.0s	**13.40**	**300**	P	**Pn**	**10 58 40.4**	**+3.4**
WSAR	**Wadi Sarin** 1.1nm,0.3s,baz=324,slow=12,SNR=6.4 2.5nm,0.4s	**13.73**	**138**	Pn	**Pn**	**10 58 38.8**	**-2.7**
KLYT	**Kilyos** 45nm,1.9s	**17.20**	**301**	P	**P**	**10 59 30.6**	**+2.0**
CTYL	**Yalikoy Yolu** 53nm,0.8s,10μm	**17.80**	**301**	P	**P**	**10 59 37.8**	**+2.5**
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=229,slow=8.8,SNR=2.2 1.1nm,0.4s	**17.93**	**20**	P	**Pn**	**10 59 34.8**	**-1.2**
BELG	**Belogornoye** 0.4nm,0.3s,baz=101,slow=16,SNR=2.1 8.1nm,0.7s	**18.54**	**358**	P	**P**	**10 59 42.2**	**-1.1**
NE56	**Odesa**	**18.59**	**319**	P	**P**	**10 59 43.9**	**0.0**
IDI	**Anoyia** 1.7nm,0.3s,baz=83,slow=6.4,SNR=7.5 12nm,0.8s	**19.62**	**281**	P	**P**	**10 59 55.6**	**+0.2**
PLOR3	**Plostina Array** 6.7nm,1.1s	**20.64**	**312**	P	**P**	**11 00 07.9**	**+1.5**
SORM	**Soroca**	**20.85**	**319**	P	**P**	**11 00 08.7**	**+0.2**
MLR	**Muntele Rosu** 6.2nm,3.0s	**20.91**	**310**	P	**P**	**11 00 11.1**	**+1.7**
TESR	**Tescani** 6.1nm,1.1s	**20.95**	**314**	P	Pn	11 00 12.2	0.0
NDNU	**Novodnistrovsk**	**21.65**	**319**	P	**P**	**11 00 17.8**	**+0.7**
AK07	**Malin Array Si**	**21.93**	**325**	P	**P**	**11 00 19.9**	**-0.3**
AK10	**Malin Array Si**	**21.94**	**325**	P	**P**	**11 00 21.2**	**+0.9**
AK06	**Malin Array Si**	**21.96**	**325**	P	**P**	**11 00 21.4**	**+0.9**
AK08	**Malin Array Si**	**21.96**	**326**	P	**P**	**11 00 21.4**	**+0.9**
AK05	**Malin Array Si**	**21.98**	**325**	P	**P**	**11 00 21.6**	**+0.9**
AK02	**Malin Array Si**	**22.00**	**326**	P	**P**	**11 00 21.2**	**+0.3**
AK12	**Malin Array Si**	**22.02**	**325**	P	**P**	**11 00 21.8**	**+0.7**
AK01	**Malin Array Si**	**22.02**	**326**	P	**P**	**11 00 21.6**	**+0.5**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=134,slow=8.7,SNR=6.5 0.2nm,0.3s	**22.02**	**326**	P	**P**	**11 00 20.6**	**-0.6**
AKBB	**Malin Array Si**	**22.02**	**326**	P	**P**	**11 00 22.1**	**+0.9**
KIEV	**Kiev** 31nm,2.8s	**22.03**	**326**	P	**P**	**11 00 22.1**	**+0.9**
AK14	**Malin Array Si**	**22.03**	**325**	P	**P**	**11 00 22.1**	**+0.9**
AK11	**Malin Array Si**	**22.04**	**326**	P	**P**	**11 00 22.2**	**+0.9**
AK15	**Malin Array Si**	**22.07**	**326**	P	**P**	**11 00 21.9**	**+0.3**
AK22	**Malin Array Si**	**22.14**	**326**	P	**P**	**11 00 22.9**	**+0.5**
LUBAR	**Lubar, Ukraine**	**22.23**	**322**	P	**P**	**11 00 22.7**	**-0.7**
MI30	**MI30,Zelenitsa** 17nm,1.6s	**22.55**	**325**	P	**P**	**11 00 26.6**	**-0.2**
KSV	**Kosov**	**22.78**	**316**	P	**P**	**11 00 30.5**	**+1.2**
BVAR	**Borovoye Array** 0.9nm,0.8s,baz=241,slow=8.3,SNR=5.4 0.9nm,0.8s	**24.64**	**32**	P	**P**	**11 00 46.5**	**-0.8**
MPLH	**Magyarpolny** 15nm,1.3s	**26.94**	**309**	P	**P**	**11 01 08.3**	**+0.2**
MPLH	15nm,1.3s			pP	**pP**	**11 01 11.4**	**-0.8**
KURBB	**Kurchatov Arra** 1.2nm,0.2s,baz=240,slow=9.3,SNR=5.1 1.2nm,0.2s	**27.48**	**43**	P	**P**	**11 01 10.1**	**-2.8**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=249,slow=10.0,SNR=1.5 0.3nm,0.6s	**28.48**	**53**	P	**P**	**11 01 22.1**	**+0.2**
FINES	**FINESS Array B** 1.9nm,1.0s,baz=164,slow=5.6,SNR=4.0 1.9nm,1.0s	**31.18**	**339**	P	**P**	**11 01 45.7**	**+0.1**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=289,slow=5.0,SNR=1.9 0.3nm,0.3s	**32.38**	**41**	P	**P**	**11 01 55.7**	**-0.7**
HFS	**Hagfors** 1.5nm,0.5s,baz=122,slow=8.8,SNR=7.6 1.5nm,0.5s	**34.77**	**330**	P	**P**	**11 02 17.5**	**+0.5**
NOA	**NORSAR Array B** 0.4nm,0.6s,baz=131,slow=7.6,SNR=3.4 0.4nm,0.6s	**36.29**	**330**	P	**P**	**11 02 29.2**	**-0.9**
EKA	**Eskdalemuir Ar** 3.0nm,0.9s,baz=99,slow=8.7,SNR=2.7 3.0nm,0.9s	**41.49**	**317**	P	**P**	**11 03 12.8**	**-0.9**
TORD	**Torodi Ar. Bea** 0.7nm,0.7s,baz=53,slow=8.7,SNR=4.2 0.7nm,0.7s	**47.27**	**256**	P	**P**	**11 03 59.9**	**-0.6**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=333,slow=3.6,SNR=2.5 0.3nm,0.8s	**80.94**	**7**	P	**P**	**11 07 40.7**	**-0.2**

*IDC **26** 11:03:45.3±0.8, 6°.32S×143°.18E, h0km, mb4.1/9, mbtmp4.2/12, ML2.0/1, MS3.4/6, Error ellipse: s-maj=25.4km s-min=16.3km az=84.0*
*NEIC **26** 11:03:45.6±2.6, 6°.2S±0°.2×143°.2E±0°.1, h10km±2km, mb4.1/9, Error ellipse: s-maj=26.4km s-min=18.3km az=14.0*

ISC 26 11:03:50.1±0.6, 6°50S±0°.06×143°00E±0°.08, h35km, n29, σ1§68/29, mb4.1/8, MS3.2/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura** 6.8nm,0.5s,baz=132,slow=11,SNR=12	**4.57**	**330**	Pn	**Pn**	**11 04 56.7**	**-0.2**
JAY	3.6nm,0.3s,baz=224,slow=4.5,SNR=4.4			Sn	**Sn**	**11 05 49.2**	**+0.4**
PMG	**Port Moresby**	**5.03**	**125**		**Pn**	**11 05 01.8**	**-1.3**
PMG	**Port Moresby** 3.6nm,0

comp=Z,1.6nm,0.8s
NRIK Noril'sk 84.56 343 P **P** **11 16 19.3 0.0**
comp=Z,2.1nm,0.6s,baz=135,slow=2.9,SNR=4.0
comp=Z,2.1nm,0.6s
BVAR Borovoye Array 84.85 325 P **P** **11 16 22.1 +1.0**
comp=Z,3.7nm,0.8s,baz=103,slow=6.5,SNR=14
comp=Z,3.7nm,0.8s
ILAR Eielson Array 87.52 24 P **P** **11 16 33.2 -0.9**
comp=Z,0.4nm,0.7s,baz=258,slow=4.2,SNR=2.8
comp=Z,0.4nm,0.7s
AKTO Aktyubinsk 91.77 320 LR LR 12 01 43.4
comp=Z,100nm,18.5s,baz=241,slow=38

RSNC 26 11:15:06.0±0.0, 13°N±3°×8°1W±°, h16km±4km, mb3.9, ML2.7, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.28**	**288**	P	Pg	11 15 11.0	-1.0
PRVC				S	Sg	11 15 16.3	+0.1
SAIC	**Isla e San And**	**0.96**	**219**	P	Pb	11 15 22.4	-1.9
SAIC				S	Sg	11 15 37.1	-0.2
RNCC	**Cayo Roncador,**	**1.01**	**74**	P	Pb	11 15 22.9	-2.3
RNCC				S	Sb	11 15 38.0	-0.2
SERC	**Banco Serrana,**	**1.22**	**35**	P	Pn	11 15 26.9	-1.4
SERC				S	Sn	11 15 44.5	0.0
BCIP	**Isla Barro Col**	**4.28**	**163**	P	Pn	11 16 05.9	-4.6
BCIP				S	Sn	11 16 53.5	-6.6
JTS	**Las Juntas de**	**4.81**	**232**	P	Pn	11 16 17.8	-0.1
SJCC	**San Jacinto, C**	**6.70**	**120**	P	Pn	11 16 40.2	-3.7
SJCC				S	Sn	11 17 53.7	-6.3

*TEH **26** 11:21:54.5, 34°21N×45°65E, h10km±140km, ML2.9*
*ISN **26** 11:21:55.3±1.2, 34°21N×45°56E, h26km±55km, ML2.9*
ISC 26 11:21:54.6±0.9, 34°21N±0°04×45°65E±0°05, h10km, n11, σ0s47/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.24**	**114**	Pg	**Pg**	**11 22 00.2**	**+0.6**
KGS1	**Ghasr-e-Shirin**	**0.30**	**351**	Pg	**Pg**	**11 22 00.9**	**+0.3**
ILBA	**Ilam Banvizeh**	**0.75**	**141**	Pg	**Pg**	**11 22 08.9**	**-0.3**
IGHG	**Ghaleghazi**	**0.77**	**81**	Pg	**Pb**	**11 22 10.7**	**+0.4**
IDHR	**Dehrash**	**0.78**	**51**	Pg	**Pg**	**11 22 09.7**	**0.0**
IBDR	**Badra**	**1.13**	**168**	*e*Pg	**Pn**	**11 22 17.0**	**+0.6**
IBDR				*e*Sg	**Sg**	**11 22 31.0**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.16**	**87**	Pg	**Pb**	**11 22 16.1**	**-0.8**
ILIN	**Lien**	**1.29**	**57**	Pg	**Pg**	**11 22 19.8**	**+0.3**
BHD	**Baghdad**	**1.41**	**229**	*e*Pn	**Pn**	**11 22 20.0**	**-0.4**
BHD				*e*Sn	**Sb**	**11 22 39.0**	**-0.1**
IKRK	**Kirkuk**	**1.60**	**318**	*e*Pn	**Pn**	**11 22 23.0**	**0.0**
IKRK				*e*Sn	**Sn**	**11 22 44.0**	**+0.3**
IKRK				AML	AML	11 22 49.4	
	comp=N,173nm,0.3s						
IKRK				AML	AML	11 22 49.5	
	comp=E,172nm,0.4s						
SNQR	**Sonqor, Kerman**	**1.76**	**68**	Pg	**Pg**	**11 22 27.6**	**-0.7**

*KOLA **26** 11:30:45.5, 68°06N×33°42E, h0km, ML2.0, Error ellipse: s-maj=2.5km s-min=1.5km az=90.0, Olenegorsk City, Mines*
HEL 26 11:30:44.9±0.2, 68°13N×33°33E, h0km, ML1.6, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.54**	**194**	P	Pg	11 30 53.6	-1.5
APA0				S	Sg	11 31 00.4	-1.7
LVZ	**Lovozero**	**0.55**	**114**	P	Pg	11 30 54.5	-0.8
LVZ				S	Sg	11 31 01.2	-1.2
LVZ	**Lovozero**	**0.55**	**114**	PG	Pg	11 30 54.9	-0.5
LVZ				SG	Sg	11 31 01.4	-1.0
APA	**Apatity**	**0.56**	**177**	P	Pg	11 30 54.3	-1.3
APA				S	Sg	11 31 01.3	-1.5
TERR	**Teriberka**	**1.26**	**30**	P	Pg	11 31 08.2	-0.8
TERR				S	Sg	11 31 25.7	+0.4
VRF	**Varrio**	**1.46**	**257**	PG	Pn	11 31 10.8	-1.6
	baz=75						
VRF				MSG		11 31 28.7	
	comp=Z,4.0nm,0.2s						
VRF				SB	Sg	11 31 30.2	-1.5
PRVG	**Vayda Guba**	**1.68**	**346**	P	Pg	11 31 17.3	+0.2
PRVG				S	Sg	11 31 39.5	+0.7
RAJF	**Raja-Jooseppi**	**1.90**	**283**	PG	Pn	11 31 18.7	+0.2
RAJF				SG	Sn	11 31 43.1	0.0
VADS	**Vadso**	**2.46**	**326**	P	Pn	11 31 26.8	+0.7
VADS				S	Sb	11 31 58.9	-1.7
KU6	**Riekki**	**2.50**	**214**	PB	Pn	11 31 27.8	+1.0
KU6				MSG		11 31 58.8	
	comp=Z,1.5nm,0.2s						
KU6				SG	Sb	11 32 00.7	-1.3
MSF	**Maaselka**	**2.79**	**219**	PB	Pn	11 31 32.3	+1.5
MSF				SB	Sb	11 32 08.2	-2.0
KEV	**Kevo**	**2.81**	**309**	PB	Pn	11 31 32.1	+1.1
	baz=118						
KEV				MSG		11 32 07.6	
	comp=Z,3.6nm,0.2s						
KEV				SG	Sb	11 32 10.5	-0.2
ARCES	**ARCESS Array B**	**3.17**	**300**	P	Pn	11 31 35.5	-0.5
ARCES				S	Sn	11 32 15.6	+1.1
RNF	**Rovaniemi**	**3.21**	**245**	PN	Pn	11 31 37.0	+0.4
RANF	**Ranua**	**3.33**	**233**	PN	Pn	11 31 38.1	+0.1
HEF	**Hetta**	**3.61**	**279**	PN	Pn	11 31 41.4	-0.6
KLF	**Kolari**	**3.69**	**260**	PG	Pb	11 31 50.9	+0.1
	baz=72						
KLF				SG	Sb	11 32 38.2	+2.3
KTK1	**Kautokeino**	**3.81**	**288**	PN	Pn	11 31 45.4	+0.6
KTK1				SG	Sb	11 32 43.2	+3.6
PAJU	**Pajala**	**4.07**	**259**	PG	Pb	11 31 58.4	+1.1
PAJU				SN	Sn	11 32 35.9	-0.7
RMF	**Romuvaara**	**4.16**	**201**	PN	Pn	11 31 50.4	+0.8
ERTU	**Ertsjaerv**	**4.59**	**255**	PN	Pn	11 31 55.1	-0.4
	baz=61						
ERTU				SN	Sn	11 32 48.4	-1.0

*GCG **26** 11:38:50.6±0.9, 15°12N×89°57W, h14km±4km, MD3.8*
*CATAC **26** 11:38:51.8±0.2, 14°96N×89°60W, h5km, ML4.0*
*SNET **26** 11:38:52.0±1.5, 14°98N×89°56W, h13km±8km, ML3.6*
ISC 26 11:38:49.7±1.0, 15°02N±0°02×89°53W±0°02, h16km±8km, n62, σ0s60/110, 5C-16D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRL	**Marmol**	**0.16**	**292**	⇑*i*P	**Pb**	**11 38 54.1**	**-0.4**
MRL				*e*S	**Sb**	**11 38 58.2**	**+0.5**
ESQI	**Esquipulas**	**0.50**	**158**	*e*P	**Pg**	**11 38 59.7**	**0.0**
ESQI				*e*S	**Sg**	**11 39 06.4**	**0.0**
ESQI	**Esquipulas**	**0.50**	**158**	*i*P	**Pb**	**11 38 59.9**	**-0.3**
ESQI				*i*S	**Sg**	**11 39 06.4**	**0.0**
ESQI				IAML		11 39 06.5	
	comp=Z,5μm,1.0s						
MTO3	**Montecristo**	**0.64**	**165**	*i*P	**Pg**	**11 39 02.4**	**-0.1**
MTO3				*i*S	**Sg**	**11 39 10.4**	**-0.6**
MTO3				IAML		11 39 12.0	
	comp=Z,3μm,1.0s						
JUAM	**Asuncion Mita**	**0.70**	**194**	*i*P	**Pg**	**11 39 03.0**	**-0.5**
JUAM				IAML		11 39 03.6	
	comp=Z,4μm,1.0s						
JUAM				*i*S	**Sg**	**11 39 12.5**	**-0.4**
NBG	**Las Nubes**	**0.90**	**241**	*e*P	**Pn**	**11 39 08.0**	**0.0**
NBG				*e*S	**Sn**	**11 39 22.0**	**+1.1**
SLOZ	**Alcaldia de Sa**	**1.02**	**194**	⇓*i*P	**Pb**	**11 39 08.9**	**-0.2**
SLOZ				*e*S	**Sn**	**11 39 23.9**	**+0.3**
LLGN	**La Laguna**	**1.03**	**146**	*e*P	**Pn**	**11 39 09.6**	**0.0**
LLGN				*e*S	**Sn**	**11 39 23.7**	**-0.1**
LLGN				IAML		11 39 27.2	
	comp=Z,2μm,0.3s						
LLGN	**La Laguna**	**1.03**	**146**	*i*P	**Pn**	**11 39 09.6**	**0.0**
LLGN				*i*S	**Sn**	**11 39 23.7**	**-0.1**
LLGN				IAML		11 39 27.0	
	comp=Z,4μm,1.0s						
UNIC	**Universidad Ca**	**1.03**	**181**	⇓*i*P	**Pb**	**11 39 09.4**	**0.0**
UNIC				*e*S	**Sb**	**11 39 22.7**	**-0.1**
UNIC	**Universidad Ca**	**1.03**	**181**	*i*P	**Pb**	**11 39 09.4**	**0.0**
UNIC				IAML		11 39 09.5	
	comp=Z,3μm,1.0s						
UNIC				*i*S	**Sb**	**11 39 22.8**	**0.0**
LOAL	**Lomas de Alarc**	**1.05**	**193**	⇑*i*P	**Pn**	**11 39 09.7**	**-0.2**
LOAL				*e*S	**Sn**	**11 39 24.6**	**+0.4**
LOAL	**Lomas de Alarc**	**1.05**	**193**	*i*P	**Pn**	**11 39 09.7**	**-0.2**
LOAL				IAML		11 39 09.8	
	comp=Z,5μm,1.0s						
LOAL				*i*S	**Sn**	**11 39 24.4**	**+0.2**
GUMI	**Mixco**	**1.12**	**250**	*i*P	**Pg**	**11 39 11.1**	**-0.3**
GUMI				*i*S	**Sn**	**11 39 26.9**	**+0.8**
GUMI				IAML		11 39 31.0	
	comp=Z,8μm,1.0s						
RTR	**El Retiro**	**1.12**	**186**	⇓*e*P	**Pn**	**11 39 11.1**	**+0.1**
NUBE	**Las Nubes**	**1.14**	**192**	⇓*i*P	**Pn**	**11 39 11.2**	**0.0**
NUBE				*e*S	**Sn**	**11 39 26.6**	**0.0**
NUBE	**Las Nubes**	**1.14**	**192**	*i*P	**Pb**	**11 39 11.1**	**-0.1**
NUBE				IAML		11 39 11.5	
	comp=Z,3μm,1.0s						
NUBE				*i*S	**Sn**	**11 39 27.5**	**+0.9**
SNJE	**San Jose**	**1.15**	**184**	⇓*i*P	**Pn**	**11 39 11.5**	**+0.1**
SNJE				⇓*i*P	**Pn**	**11 39 11.5**	**+0.1**
SNJE				⇓*e*P	**Pg**	**11 39 11.7**	**-0.3**
IZABA	**Izabal, Puerto**	**1.15**	**52**	*i*P	**Pg**	**11 39 12.3**	**+0.3**
IZABA				*i*S	**Sg**	**11 39 29.1**	**+2.0**
IZABA				IAML		11 39 32.3	
	comp=Z,26nm,1.0s						
SBLS	**San Blas**	**1.18**	**184**	⇓*i*P	**Pb**	**11 39 12.0**	**+0.1**
SBLS				*e*S	**Sg**	**11 39 29.7**	**+1.7**
CEVE	**Cerro Verde**	**1.19**	**184**	⇓*i*P	**Pg**	**11 39 12.3**	**-0.5**
CEVE	**Cerro Verde**	**1.19**	**184**	*i*P	**Pg**	**11 39 12.3**	**-0.5**
CEVE				IAML		11 39 41.5	
	comp=Z,2μm,1.0s						
PCG	**Pacaya**	**1.22**	**239**	*e*P	**Pg**	**11 39 13.9**	**+0.6**
PCG				*e*S	**Sg**	**11 39 30.6**	**+1.5**
PIC2	**El Picacho**	**1.30**	**168**	*e*P	**Pg**	**11 39 14.6**	**-0.3**
PIC2				*e*S	**Sg**	**11 39 33.2**	**+1.4**
BOQS	**Boqueron**	**1.30**	**169**	⇓*e*P	**Pg**	**11 39 14.6**	**-0.4**
PMON	**Piamonte**	**1.32**	**171**	⇑*e*P	**Pg**	**11 39 14.8**	**-0.5**
PMON				*e*S	**Sg**	**11 39 33.3**	**+0.8**
PMON	**Piamonte**	**1.32**	**171**	*i*P	**Pg**	**11 39 14.7**	**-0.5**
PMON				*i*S	**Sg**	**11 39 32.9**	**+0.4**
PMON				IAML		11 39 37.3	
	comp=Z,6μm,1.0s						
UEES	**Universidad Ev**	**1.33**	**168**	⇓*i*P	**Pg**	**11 39 15.0**	**-0.4**
UEES				⇑*i*Sg	**Sg**	**11 39 33.1**	**+0.4**
UEES	**Universidad Ev**	**1.33**	**168**	*i*P	**Pb**	**11 39 14.6**	**+0.2**
UEES				*i*S	**Sg**	**11 39 33.0**	**+0.2**
UEES				IAML		11 39 38.3	
	comp=Z,3μm,1.0s						
LFU	**La Fuente**	**1.33**	**162**	*e*P	**Pg**	**11 39 15.3**	**-0.1**
LFU				*e*	**Sg**	**11 39 33.4**	**+0.7**
LFU				*e*S	**Sg**	**11 39 33.4**	**+0.7**
UESS	**Universidad de**	**1.33**	**166**	*e*S	**Sg**	**11 39 33.7**	**+0.8**
JAYA	**Jayaque - finc**	**1.36**	**177**	*e*P	**Pb**	**11 39 15.1**	**+0.1**
JAYA				*e*S	**Sg**	**11 39 33.8**	**-0.1**
JAYA				IAML		11 39 35.1	
	comp=Z,1μm,0.2s						
JAYA	**Jayaque - finc**	**1.36**	**177**	*i*P	**Pb**	**11 39 15.1**	**+0.1**
JAYA				*i*S	**Sg**	**11 39 33.6**	**-0.2**
JAYA				IAML		11 39 34.9	
	comp=Z,3μm,1.0s						
FUG	**Fuego 3**	**1.39**	**246**	*i*P	**Pg**	**11 39 16.9**	**+0.3**
FUG				*e*S	**Sg**	**11 39 35.5**	**+0.8**
ESSG	**Sabana Grande**	**1.41**	**243**	*i*P	**Pb**	**11 39 15.9**	**+0.2**
ESSG				*i*S	**Sg**	**11 39 35.1**	**-0.2**
ESSG				IAML		11 39 39.0	
	comp=Z,1μm,1.0s						
LOMA	**Loma Larga**	**1.41**	**166**	*e*P	**Pg**	**11 39 16.3**	**-0.7**
LOMA				IAML		11 39 38.4	
	comp=Z,1μm,0.3s						
LOMA	**Loma Larga**	**1.41**	**166**	*i*P	**Pg**	**11 39 16.4**	**-0.7**
LOMA				*i*S	**Sg**	**11 39 35.1**	**-0.4**
LOMA				IAML		11 39 40.3	
	comp=Z,1μm,1.0s						
PAVA	**Las Pavas**	**1.42**	**156**	⇓*i*P	**Pg**	**11 39 16.8**	**-0.4**
PAVA	**Las Pavas**	**1.42**	**156**	*i*P	**Pg**	**11 39 16.5**	**-0.7**
PAVA				*i*S	**Sg**	**11 39 36.0**	**+0.2**
PAVA				IAML		11 39 38.3	
	comp=Z,11μm,1.0s						
LFRS	**El Faro**	**1.46**	**162**	⇑*e*P	**Pb**	**11 39 17.2**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.53**	**149**	*e*P	**Pg**	**11 39 18.4**	**-0.8**
SCLA				IAML		11 39 41.6	
	comp=Z,558nm,0.4s						
SCLA	**Alcaldia de Sa**	**1.53**	**149**	*i*P	**Pg**	**11 39 18.3**	**-0.8**
SCLA				*i*S	**Sg**	**11 39 39.1**	**+0.1**
SCLA				IAML		11 39 46.7	
	comp=Z,1μm,1.0s						
QUIS	**Sacapulas**	**1.53**	**280**	*i*P	**Pb**	**11 39 17.7**	**-0.2**
QUIS				IAML		11 39 18.3	
	comp=Z,4μm,1.0s						
QUIS				*i*S	**Sg**	**11 39 37.9**	**-1.3**
COEG	**Centro de Oper**	**1.53**	**156**	⇓*i*P	**Pg**	**11 39 18.4**	**-0.8**
COEG	**Centro de Oper**	**1.53**	**156**	*i*P	**Pg**	**11 39 18.8**	**-0.4**
COEG				*i*S	**Sg**	**11 39 38.8**	**-0.4**
COEG				IAML		11 39 41.7	
	comp=Z,2μm,1.0s						
LALI	**Alcalda de L**	**1.54**	**172**	*e*P	**Pb**	**11 39 18.0**	**+0.1**
PQSS	**Presa 15 de Se**	**1.68**	**146**	⇓*i*P	**Pb**	**11 39 20.6**	**+0.3**
PQSS				IAML		11 39 45.9	
	comp=Z,406nm,0.2s						
PQSS	**Presa 15 de Se**	**1.68**	**146**	*i*P	**Pb**	**11 39 20.6**	**+0.3**
PQSS				*i*S	**Sg**	**11 39 44.1**	**+0.2**
PQSS				IAML		11 39 45.7	
	comp=Z,940nm,1.0s						
TECA	**Tecapa**	**1.82**	**147**	⇓*i*P	**Pb**	**11 39 23.2**	**+0.4**
SOKI	**Kika Raxquin**	**1.82**	**264**	*i*P	**Pb**	**11 39 23.1**	**+0.1**
SOKI				*i*S	**Sg**	**11 39 48.3**	**-0.2**
SOKI				IAML		11 39 59.3	
	comp=Z,950nm,1.0s						
PETF	**Flores**	**1.91**	**350**	*e*P	**Pg**	**11 39 25.4**	**-1.1**
PETF	**Flores**	**1.91**	**350**	*i*P	**Pg**	**11 39 26.4**	**-0.1**
PETF				IAML		11 39 55.1	
	comp=Z,2μm,1.0s						
HUEH	**Huehuetenango**	**1.93**	**279**	⇓*e*P	**Pb**	**11 39 24.7**	**+0.1**
HUEH				*e*S	**Sg**	**11 39 50.5**	**-1.3**
HUEH	**Huehuetenango**	**1.93**	**279**	*i*P	**Pb**	**11 39 25.0**	**+0.3**
HUEH				*i*S	**Sg**	**11 39 50.8**	**-1.0**
HUEH				IAML		11 40 02.3	
	comp=Z,2μm,1.0s						
PACA	**Pacayal**	**1.94**	**143**	*e*P	**Pb**	**11 39 25.1**	**+0.3**
PACA				*i*Sg	**Sg**	**11 39 52.0**	**-0.2**
PACA	**Pacayal**	**1.94**	**143**	*i*P	**Pb**	**11 39 25.0**	**+0.2**
PACA				*i*S	**Sg**	**11 39 51.0**	**-1.2**
PACA				IAML		11 39 58.6	
	comp=Z,5μm,1.0s						
RANC	**El Ranchito**	**1.99**	**142**	*i*P	**Pb**	**11 39 25.7**	**0.0**
RANC				*i*S	**Sg**	**11 39 54.0**	**+0.2**
RANC				IAML		11 40 02.1	
	comp=Z,560nm,1.0s						
STG3	**Santiaguito 3,**	**2.00**	**261**	*e*P	**Pb**	**11 39 25.7**	**-0.1**
STG3				*e*S	**Sb**	**11 39 50.0**	**-0.5**
LCND	**La Caada**	**2.33**	**137**	*i*P	**Pb**	**11 39 31.6**	**+0.1**
LCND				IAML		11 40 06.3	
	comp=Z,510nm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.39**	**113**	*i*P	**Pb**	**11 39 33.1**	**+0.6**
TGUH				*i*S	**Sg**	**11 40 06.8**	**+0.1**
TGUH				IAML		11 40 12.9	
	comp=Z,1μm,1.0s						
CNCH	**Conchagua**	**2.39**	**136**	*i*P	**Pb**	**11 39 32.6**	**0.0**
CNCH				*i*S	**Sg**	**11 40 05.5**	**-1.3**
CNCH				IAML		11 40 08.7	
	comp=Z,2μm,1.0s						
POTN	**Potosi Cosigui**	**2.81**	**135**	*i*P	**Pb**	**11 39 39.4**	**-0.3**
POTN				*i*S	**Sg**	**11 40 18.4**	**-1.8**
POTN				IAML		11 40 21.9	
	comp=Z,140nm,1.0s						

*RSNC **26** 11:47:38.0±0.0, 13°N±2°×8°1W±°, h3km±4km, M3.3, mb4.5, ML3.3*
*IDC **26** 11:47:40.2±3.0, 13°23N×81°38W, h0km, mb3.3/1, mbtmp3.3/2, ML3.2/1, Error ellipse: s-maj=71.8km s-min=39.8km az=112.0*
ISC 26 11:47:37.6±0.8, 13°20N±0°05×81°04W±0°04, h10km, n13, σ1s52/21, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.36**	**299**	P	**Pb**	**11 47 44.8**	**-1.3**
PRVC				S	**Sg**	**11 47 48.9**	**-0.7**
SAIC	**Isla e San And**	**0.93**	**225**	P	**Pb**	**11 47 56.0**	**+0.2**
SAIC				S	**Sn**	**11 48 10.2**	**+0.1**
RNCC	**Cayo Roncador,**	**1.00**	**68**	P	**Pg**	**11 47 57.2**	**+0.4**
RNCC				S	**Sb**	**11 48 12.1**	**+2.0**
SERC	**Banco Serrana,**	**1.26**	**31**	P	**Pn**	**11 48 00.9**	**-0.4**
SERC				S	**Sb**	**11 48 18.3**	**+0.4**
BCIP	**Isla Barro Col**	**4.18**	**163**	P	**Pn**	**11 48 39.9**	**-1.6**
BCIP				S	**Sn**	**11 49 27.8**	**-2.6**
JTS	**Las Juntas de**	**4.80**	**233**	Pn	**Pn**	**11 48 50.4**	**+0.4**
	1.1nm,0.3s,baz=73,slow=19,SNR=2.0						
JTS				Sn	**Sn**	**11 49 45.5**	**-0.3**
	1.8nm,0.3s,baz=232,slow=20,SNR=5.8						
	2.4nm,0.3s						
JTS	**Las Juntas de**	**4.80**	**233**	P	**Pn**	**11 48 49.6**	**-0.5**
AZU	**Azuero**	**5.43**	**172**	P	**Pn**	**11 48 58.9**	**+0.3**
	38nm,1.1s						
AZU				S	**Sn**	**11 50 00.3**	**-0.9**
	38nm,1.1s						
LCBC	**Los crdobas,**	**6.30**	**133**	P	**Pn**	**11 49 13.2**	**+2.6**
	124nm,1.3s						
SJCC	**San Jacinto, C**	**6.62**	**119**	P	**Pn**	**11 49 13.8**	**-1.2**
SJCC				S	**Sn**	**11 50 27.6**	**-3.0**
TXAR	**Lajitas Array**	**26.42**	**311**	P	**P**	**11 53 16.6**	**+1.8**
	0.4nm,0.8s,baz=120,slow=9.9,SNR=4.4						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**145.34**	**247**	PKPbc	**PKiKP**	**12 07 19.6**	**-1.0**
	0.3nm,0.6s,baz=104,slow=3.7,SNR=2.8						
WRA	**Warramunga Arr**	**145.48**	**254**	PKPbc	**PKPab**	**12 07 18.9**	**+1.7**
	0.4nm,0.5s,baz=92,slow=3.3,SNR=2.4						

*CATAC **26** 11:50:26.9±0.2, 13°32N×81°05W, h9km, mb5.9, MB6.0, ML4.8*
*IDC **26** 11:50:27.0±1.4, 13°10N×81°06W, h0km, mb3.6/4, mbtmp3.8/7, ML3.3/3, MS3.6/25, Error ellipse: s-maj=31.2km s-min=28.9km az=55.0*
*RSNC **26** 11:50:27.1±0.0, 13°N±2°×8°1W±°, h4km±4km, M4.4, mb4.6, mB5.5, ML3.9, Mw(mB)5.0*
*UCR **26** 11:50:31.6±1.0, 12°64N×80°98W, h4km±16km, MW4.4*
ISC 26 11:50:27.0±1.2, 13°19N±0°04×81°03W±0°04, h12km±8km, n85, σ2s38/90, mb3.5/4, MS3.6/21, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.38**	**299**	P	**Pg**	**11 50 33.5**	**-1.0**
PRVC				S	**Sg**	**11 50 38.7**	**-0.8**
PRVC	**Isla de Provid**	**0.38**	**299**	*i*P	**Pg**	**11 50 33.5**	**-1.0**
PRVC				*i*S	**Sg**	**11 50 38.5**	**-1.0**
PRVC				IAML		11 50 47.3	
	comp=Z,13μm,1.0s						
SAIC	**Isla e San And**	**0.94**	**226**	P	**Pb**	**11 50 45.0**	**-0.1**
SAIC				S	**Sn**	**11 50 59.2**	**-0.1**
RNCC	**Cayo Roncador,**	**0.98**	**67**	P	**Pb**	**11 50 45.7**	**-0.3**
RNCC				S	**Sn**	**11 51 00.4**	**-0.1**
SERC	**Banco Serrana,**	**1.26**	**30**	P	**Pn**	**11 50 49.2**	**-1.3**
SERC				S	**Sb**	**11 51 06.1**	**-0.9**
BLUN	**Bluefields**	**2.93**	**247**	*i*P	**Pn**	**11 51 12.9**	**-0.6**
BLUN				IAML		11 52 06.7	
	comp=Z,1μm,1.0s						
ESPN	**Las Esperanzas**	**3.35**	**253**	*i*P	**Pn**	**11 51 19.7**	**+0.5**
ESPN				IAML		11 52 28.2	
	comp=Z,2μm,1.0s						
ESPN	**Las Esperanzas**	**3.35**	**253**	*e*P	**Pb**	**11 51 23.8**	**-2.5**
COVE	**Coope Vega, Sa**	**4.12**	**234**	*i*P	**Pn**	**11 51 29.2**	**-0.6**
COVE				IAML		11 53 06.3	
	comp=Z,1μm,1.0s						
CVTR	**Volcan Turrial**	**4.14**	**221**	*e*P	**Pn**	**11 51 30.8**	**+0.4**
CVTV	**Tajo**	**4.14**	**220**	*e*P	**Pn**	**11 51 30.3**	**-0.1**
VTCV	**VTCV, Calle Va**	**4.14**	**220**	*e*P	**Pn**	**11 51 30.8**	**+0.4**
CVTQ	**Turrialba Volc**	**4.15**	**221**	*e*P	**Pn**	**11 51 30.9**	**+0.3**
VTLA	**Turrialba Volc**	**4.16**	**221**	*e*P	**Pn**	**11 51 31.1**	**+0.5**
BCIP	**Isla Barro Col**	**4.17**	**164**	P	**Pn**	**11 51 28.5**	**-2.0**
BCIP				S	**Sn**	**11 52 16.5**	**-2.7**
BCIP	**Isla Barro Col**	**4.17**	**164**	*i*P	**Pn**	**11 51 28.8**	**-1.7**
BCIP				*i*S	**Sn**	**11 52 16.3**	**-2.9**
BCIP	**Isla Barro Col**	**4.17**	**164**	*e*P	**Pn**	**11 51 28.3**	**-2.1**
VICA	**Volcano Irazu**	**4.22**	**221**	*e*P	**Pn**	**11 51 31.9**	**+0.3**
ACON	**Acoyapa**	**4.23**	**254**	P	**Pn**	**11 51 33.0**	**+1.7**
REPA	**Paraso**	**4.35**	**220**	*e*P	**Pn**	**11 51 33.7**	**+0.6**
ZANG	**Zanguenga, Cho**	**4.36**	**165**	*e*P	**Pn**	**11 51 31.5**	**-1.6**
VACR	**Volcan Arenal**	**4.48**	**233**	*e*P	**Pn**	**11 51 35.9**	**+1.0**
BUS1	**Rivas**	**4.50**	**217**	*e*P	**Pn**	**11 51 35.7**	**+0.3**
LCR2	**La Lucha 2**	**4.50**	**221**	*e*P	**Pn**	**11 51 35.9**	**+0.5**
LCR2				*e*S	**Sn**	**11 52 25.9**	**-1.9**
ABE2	**San Pablo**	**4.56**	**221**	*e*P	**Pn**	**11 51 37.2**	**+1.1**
ACOS	**Acosta**	**4.57**	**223**	*e*P	**Pn**	**11 51 37.0**	**+0.9**
BRU2	**Volcan**	**4.67**	**201**	*e*P	**Pn**	**11 51 36.8**	**-0.7**
JTS	**Las Juntas de**	**4.81**	**234**	Pn	**Pn**	**11 51 40.2**	**+0.9**
	comp=Z,10.0nm,0.3s,baz=38,slow=7.5,SNR=12						
JTS				Sn	**Sn**	**11 52 34.6**	**-0.4**
	comp=Z,12nm,0.3s,baz=267,slow=22,SNR=6.6						
	comp=Z,19nm,0.3s						
JTS	**Las Juntas de**	**4.81**	**234**	P	**Pn**	**11 51 40.0**	**+0.7**
JTS				S	**Sn**	**11 52 30.8**	**-4.2**
RCPN	**Sur Rio San Ju**	**4.95**	**274**	*i*P	**Pn**	**11 51 41.1**	**-0.2**
RCPN				IAML		11 52 42.6	
	comp=Z,3.5nm,1.0s						
RCVN	**Varillal2**	**5.04**	**275**	*i*P	**Pn**	**11 51 41.7**	**-1.0**
RCVN				IAmb	IAmb	11 51 43.1	
	comp=Z,4μm,0.5s						
RCVN				IVmB_BB		11 51 50.3

OCAC	Ocana	9.03	122	P	Pn	11 52 40.9	+3.5
	comp=Z,18nm,0.6s						
OCAC				S	Sn	11 54 16.1	-3.1
	comp=Z,18nm,0.6s						
PTBC	PUERTO BERRIO,	9.25	135	P	Pn	11 52 40.0	-0.3
	comp=Z,6.1nm,0.8s						
PTBC				S	Sn	11 54 20.7	-3.8
	comp=Z,6.1nm,0.8s						
BRJC	Barrancabermej	9.46	130	P	Pn	11 52 47.1	+3.9
	comp=Z,23nm,0.7s						
BRJC				S	Sn	11 54 25.9	-3.8
	comp=Z,23nm,0.7s						
GUY2C	Guyana, Caldas	9.69	144	P	Pn	11 52 48.5	+1.7
	comp=Z,6.3nm,0.7s						
NORC	Norcasia	9.71	141	P	Pn	11 52 49.2	+2.5
	comp=Z,7.8nm,1.7s						
TEIG	Tepich	9.86	316	P	Pn	11 52 48.4	-0.2
TEIG				S	Sn	11 54 31.8	-7.5
ROSC	El Rosal	10.61	141	Sn	Sn	11 54 58.4	-0.2
	comp=Z,1.3nm,0.3s,baz=203,slow=23,SNR=1.3						
ROSC				LR	LR	11 57 38.4	
	comp=Z,355nm,18.1s,baz=18,slow=41						
SDV	Santo Domingo	11.06	112	Pn	Pn	11 53 06.2	+0.9
	comp=Z,0.5nm,0.3s,baz=302,slow=6.6,SNR=5.2						
SDV				Sn	Sn	11 55 02.3	-6.8
	comp=Z,2.2nm,0.3s,baz=21,slow=21,SNR=3.2						
SDV				LR	LR	11 57 44.1	
	comp=Z,214nm,21.7s,baz=270,slow=40						
	comp=Z,9.2nm,0.7s						
CMIG	Matias Romero	13.93	288	Pn	Pn	11 53 47.4	+3.0
	comp=Z,0.1nm,0.3s,baz=60,slow=8.1,SNR=1.6						
CMIG				LR	LR	11 59 31.7	
	comp=Z,297nm,19.6s,baz=118,slow=39						
	comp=Z,1.0nm,0.8s						
SJG	San Juan	15.13	69	LR	LR	11 59 25.9	
	comp=Z,119nm,18.6s,baz=249,slow=36						
ATAH	Atahualpa	20.36	172	LR	LR	12 02 22.2	
	comp=Z,97nm,21.2s,baz=360,slow=35						
TKL	Tuckaleechee C	22.51	354	LR	LR	12 03 56.5	
	comp=Z,226nm,18.3s,baz=170,slow=36						
TXAR	Lajitas Array	26.44	311	P	P	11 56 05.5	+1.5
	comp=Z,3.2nm,0.8s,baz=133,slow=9.2,SNR=26						
	comp=Z,3.2nm,0.8s						
MDP	Montagnes des	29.13	103	LR	LR	12 09 50.6	
	comp=Z,73nm,19.8s,baz=130,slow=40						
LPIG	La Paz	29.73	296	LR	LR	12 09 21.8	
	comp=Z,157nm,18.1s,baz=120,slow=38						
SADO	Sadowa	31.51	3	LR	LR	12 09 48.4	
	comp=Z,166nm,18.2s,baz=242,slow=37						
LPAZ	La Paz	31.95	156	LR	LR	12 10 52.1	
	comp=Z,51nm,18.8s,baz=308,slow=38						
PFO	Pinyon Flats O	38.08	308	LR	LR	12 16 06.0	
	comp=Z,90nm,18.6s,baz=86,slow=40						
PDAR	Pinedale Array	38.42	326	P	P	11 57 50.7	+1.9
	comp=Z,0.7nm,1.0s,baz=122,slow=9.8,SNR=2.7						
	comp=Z,0.7nm,1.0s						
NVAR	Mina Array Bea	41.49	314	P	P	11 58 16.5	+2.1
	comp=Z,0.7nm,0.8s,baz=127,slow=8.4,SNR=4.6						
NVAR				LR	LR	12 19 20.9	
	comp=Z,89nm,19.1s,baz=138,slow=42						
	comp=Z,0.7nm,0.8s						
RPN	Rapa Nui	48.60	214	LR	LR	12 15 12.6	
	comp=Z,85nm,18.5s,baz=78,slow=31						
INK	Inuvik	64.47	341	LR	LR	12 30 59.3	
	comp=Z,111nm,18.9s,baz=264,slow=38						
ILAR	Eielson Array	67.94	335	P	P	12 01 28.7	+3.2
	comp=Z,0.3nm,0.7s,baz=101,slow=4.7,SNR=2.2						
	comp=Z,0.3nm,0.7s						
MDT	Midelt	71.64	60	LR	LR	12 29 35.6	
	comp=Z,31nm,18.0s,baz=354,slow=33						
ESDC	Sonseca Array	71.79	52	LR	LR	12 30 50.3	
	comp=Z,35nm,18.5s,baz=208,slow=34						
NOA	NORSAR Array B	79.65	30	LR	LR	12 34 11.1	
	comp=Z,12nm,21.2s,baz=205,slow=33						
TORD	Torodi Ar. Bea	80.13	79	LR	LR	12 33 05.6	
	comp=Z,42nm,19.4s,baz=310,slow=32						
HFS	Hagfors	81.01	30	LR	LR	12 38 03.0	
	comp=Z,26nm,18.1s,baz=248,slow=35						
DAVOX	Davos/Dischmat	81.13	44	LR	LR	12 30 50.2	
	comp=Z,47nm,21.2s,baz=260,slow=30						
KEST	Kesra	82.72	55	LR	LR	12 36 19.4	
	comp=Z,38nm,20.5s,baz=348,slow=33						
ARCES	ARCESS Array B	83.41	20	LR	LR	12 35 06.0	
	comp=Z,28nm,21.7s,baz=328,slow=32						
VRAC	Vranov	85.01	41	LR	LR	12 37 28.5	
	comp=Z,57nm,19.9s,baz=238,slow=33						
MLR	Muntele Rosu	92.22	42	LR	LR	12 41 17.5	
	comp=Z,46nm,18.3s,baz=258,slow=33						
AKASG	Malin Array Be	92.25	37	LR	LR	12 41 54.1	
	comp=Z,26nm,20.1s,baz=244,slow=33						
ASAR	Alice Springs	145.35	247	PKPbc	PKPab	12 10 07.2	+1.4
	comp=Z,0.8nm,0.6s,baz=109,slow=3.6,SNR=4.7						
WRA	Warramunga Arr	145.50	254	PKPbc	PKPab	12 10 06.8	+0.4
	comp=Z,0.8nm,0.7s,baz=90,slow=3.7,SNR=7.9						

*NOU **26** 11:50:56.6, 38.′16S×176.′83E, h179km, MLv3.6/10, North Island, New Zealand*
*WEL **26** 11:51:02.8, 38.°S±6.′×17.′6E±.′, h125km±10km, M2.8/64, MLv2.8/64, Error ellipse: s-maj=8.8km s-min=8.3km az=105.9*

ISC 26 11:50:57.8±1.8, 38.′14S±0.′05×176.′57E±0.′06, h172km±10km, n130, σ§91/130, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKRZ	Makatiti	0.08	273	P	Pn	11 51 21.0	+0.2
TARZ	Mount Tarawera	0.11	209	P	Pn	11 51 20.4	-0.4
EDRZ	Edgecumbe	0.14	75	P	Pn	11 51 20.3	-0.5
OMRZ	Omania	0.16	283	P	Pn	11 51 20.3	-0.6
RRRZ	Republican Roa	0.20	193	P	Pn	11 51 20.4	-0.5
KARZ	Kaharoa	0.29	295	P	Pn	11 51 20.5	-0.6
OPRZ	Ohinepanea	0.30	357	P	Pn	11 51 20.0	-1.0
HRRZ	Handcock Road	0.34	222	P	Pn	11 51 20.9	-0.3
MUGZ	Murupara	0.37	155	P	Pn	11 51 20.7	-0.5
PRRZ	Plateau Road	0.38	202	P	Pn	11 51 21.0	-0.3
URZ	Urewera	0.44	106	P	Pn	11 51 20.7	-0.8
URZ	Urewera	0.44	106	P	Pn	11 51 20.6	-0.8
ALRZ	Allen Road	0.46	203	P	Pn	11 51 21.5	-0.1
TGRZ	Tauranga	0.48	329	P	Pn	11 51 20.9	-0.8
WPRZ	Whakappatarin	0.49	220	P	Pn	11 51 21.7	-0.1
RTZ	Ruatahuna	0.57	146	P	Pn	11 51 20.6	-1.5
KMRZ	Kaimai	0.58	301	P	Pn	11 51 21.7	-0.5
KUTZ	Kaahu Road	0.68	239	P	Pn	11 51 22.8	+0.1
MRHZ	Matea Rd	0.70	190	P	Pn	11 51 22.9	0.0
MTHZ	Maungataniwha	0.74	163	P	Pn	11 51 23.2	+0.2
RAGZ	Rawiri	0.75	118	P	Pn	11 51 23.4	+0.3
MWZ	Matawai	0.78	105	P	Pn	11 51 23.1	-0.1
TLZ	Tolley Road	0.83	257	P	Pn	11 51 23.9	+0.2
WATZ	Wairara	0.87	229	P	Pn	11 51 24.2	+0.4
RAHZ	Arahi	0.87	153	P	Pn	11 51 24.7	+0.8
SNGZ	Shannon Statio	0.88	137	P	Pn	11 51 24.6	+0.7
TOZ	Tahuroa Road	0.94	296	P	Pn	11 51 24.3	0.0
RATZ	Rangitukua	0.96	221	P	Pn	11 51 24.9	+0.4
NMHZ	Naumai	0.97	169	P	Pn	11 51 25.9	+1.3
RITZ	Rihia Road	1.00	214	P	Pn	11 51 25.6	+0.8
BKZ	Black Stump Fm	1.02	183	P	Pn	11 51 25.3	+0.3
BKZ	Black Stump Fm	1.02	183	P	Pn	11 51 25.2	+0.2
HAZ	Te Kaha	1.03	68	P	Pn	11 51 24.2	-0.8
TKGZ	Te Karaka	1.05	107	P	Pn	11 51 25.7	+0.6
WHHZ	Waihua	1.07	151	P	Pn	11 51 26.3	+1.0
KATZ	Kakaramea	1.08	219	P	Pn	11 51 26.0	+0.5
RIGZ	Rimuhau	1.09	121	P	Pn	11 51 26.3	+0.8
TWGZ	Tauwhareparae	1.11	92	P	Pn	11 51 26.5	+0.8
ARHZ	Aropaoanui	1.17	164	P	Pn	11 51 27.3	+1.3
NTVZ	North Tongarir	1.19	216	P	Pn	11 51 27.0	+0.6
TMVZ	Te Maari	1.19	215	P	Pn	11 51 27.0	+0.6
KRVZ	Karewarewa	1.20	217	P	Pn	11 51 27.2	+0.7
ETVZ	East Tongariro	1.20	214	P	Pn	11 51 27.2	+0.7
PKGZ	Pakihiroa	1.22	77	P	Pn	11 51 26.8	+0.1
KNZ	Kokohu	1.23	136	P	Pn	11 51 27.5	+0.9
WTVZ	West Tongariro	1.24	218	P	Pn	11 51 27.6	+0.7
NNVZ	North Ngauruho	1.24	217	P	Pn	11 51 27.7	+0.8
OTVZ	Oturere	1.24	215	P	Pn	11 51 27.9	+0.9
SNVZ	South Ngauruho	1.27	215	P	Pn	11 51 28.1	+0.9
NGZ	Ngauruhoe	1.28	216	P	Pn	11 51 28.2	+1.0
TWVZ	Taurewa	1.28	223	P	Pn	11 51 27.9	+0.6
KWHZ	Kaweka Forest	1.28	185	P	Pn	11 51 28.2	+1.0
PRGZ	Paritu Road	1.29	128	P	Pn	11 51 28.1	+0.9
MCHZ	McNeill Hill	1.30	176	P	Pn	11 51 28.7	+1.4
COVZ	Chateau Observ	1.33	217	P	Pn	11 51 28.5	+0.9
CNGZ	Carnagh Statio	1.33	105	P	Pn	11 51 28.9	+1.4
PUZ	Puketiti	1.33	87	P	Pn	11 51 27.8	+0.3
TUVZ	Tukino	1.33	212	P	Pn	11 51 28.6	+0.9
FWVZ	Far West T-bar	1.37	215	P	Pn	11 51 28.9	+0.8
WHVZ	Whangaehu Hut	1.37	214	P	Pn	11 51 29.0	+0.8
HIZ	Hauiti	1.40	254	P	Pn	11 51 29.0	+0.9
HIZ	Hauiti	1.40	254	P	Pn	11 51 29.1	+0.9
WNVZ	Wahianoa	1.41	212	P	Pn	11 51 29.2	+0.8
MOVZ	Moawhango	1.42	207	P	Pn	11 51 28.8	+0.4
MHGZ	Mahia Peninsul	1.45	134	P	Pn	11 51 30.1	+1.4
WMGZ	Waiomatatini S	1.49	78	P	Pn	11 51 29.5	+0.5
PKVZ	Pokaka	1.49	220	P	Pn	11 51 30.1	+0.9
KRHZ	Kereru	1.51	186	P	Pn	11 51 30.0	+0.8
MTVZ	Mangateitei	1.51	214	P	Pn	11 51 30.3	+1.0
MKAZ	Moumakai	1.53	312	P	Pn	11 51 29.7	+0.3
KUZ	Kuaotunu	1.55	334	P	Pn	11 51 29.5	-0.1
KUZ	Kuaotunu	1.55	334	P	Pn	11 51 29.4	-0.3
CKHZ	Cape Kidnapper	1.56	166	P	Pn	11 51 31.2	+1.5
KAHZ	Kahuranaki	1.67	172	P	Pn	11 51 32.3	+1.5
VRZ	Vera Road	1.73	235	P	Pn	11 51 32.6	+1.2
ETAZ	East Tamaki Re	1.77	312	P	Pn	11 51 32.7	+0.8
WIAZ	Waiheke Island	1.77	319	P	Pn	11 51 32.4	+0.5
AWAZ	Awhitu Peninsu	1.87	305	P	Pn	11 51 33.5	+0.6
PXZ	Pawanui	1.90	173	P	Pn	11 51 34.3	+1.1
MBAZ	Motutapu North	1.91	315	P	Pn	11 51 34.2	+0.8
WPHZ	Waipukurau	1.92	183	P	Pn	11 51 34.3	+0.9
TSZ	Takapari Road	1.97	194	P	Pn	11 51 34.8	+0.7
WTAZ	Waiatarua	2.00	307	P	Pn	11 51 35.1	+0.8
WAZ	Wanganui	2.03	217	P	Pn	11 51 38.7	+4.0
ABAZ	Army Bay	2.07	317	P	Pn	11 51 36.2	+1.1
PRHZ	Porangahau	2.12	179	P	Pn	11 51 36.7	+1.0
DVHZ	Dannevirke	2.18	188	P	Pn	11 51 36.8	+0.5
ANWZ	Angora Road	2.31	182	P	Pn	11 51 38.9	+1.0
POWZ	Post Office Ro	2.33	195	P	Pn	11 51 38.7	+0.7
PRWZ	Pori Road	2.45	191	P	Pn	11 51 40.5	+1.0
BFZ	Birch Farm	2.55	186	P	Pn	11 51 41.2	+0.6
BFZ	Birch Farm	2.55	186	P	Pn	11 51 41.1	+0.5
MRZ	Mangatainoka R	2.63	197	P	Pn	11 51 41.9	+0.3
TIWZ	Tintock	2.68	191	P	Pn	11 51 42.9	+0.6
WCZ	Waipu Caves	2.83	320	P	Pn	11 51 45.1	+1.1
HOWZ	Holdsworth Sta	2.87	196	P	Pn	11 51 44.6	+0.1
OGWZ	Otaki Gorge	2.88	202	P	Pn	11 51 44.9	+0.2
KIW	Kapiti Island	3.00	205	P	Pn	11 51 46.0	-0.1
TMWZ	Te Maipa	3.01	190	P	Pn	11 51 46.6	+0.4
MTW	Mount Morrison	3.12	195	P	Pn	11 51 47.3	-0.3
TRWZ	Traveller	3.32	192	P	Pn	11 51 50.0	-0.1
PAWZ	Paruwai Farm	3.35	195	P	Pn	11 51 50.1	-0.4
MSWZ	Moikau Station	3.42	197	P	Pn	11 51 50.9	-0.4
WEL	Wellington	3.43	203	P	Pn	11 51 51.2	-0.2
SNZO	South Karori	3.48	204	P	Pn	11 51 51.6	-0.3
BHW	Baring Head	3.52	201	P	Pn	11 51 52.0	-0.4
TCW	Tory Channel	3.54	209	P	Pn	11 51 52.5	-0.3
PLWZ	Palliser	3.57	196	P	Pn	11 51 52.5	-0.7
OUZ	Omahuta	3.77	320	P	Pn	11 51 57.6	+1.8
OUZ	Omahuta	3.77	320	P	Pn	11 51 57.6	+1.8
TUWZ	Tuamarina	3.86	211	P	Pn	11 51 57.1	+0.3
NNZ	Nelson	3.94	218	P	Pn	11 51 57.1	-0.7
QRZ	Quartz Range	4.12	228	P	Pn	11 51 59.6	-0.5
QRZ	Quartz Range	4.12	228	P	Pn	11 52 01.3	+1.1
BSWZ	Blackbirch Sta	4.13	209	P	Pn	11 51 59.9	-0.3
MRNZ	Matariki Terra	4.38	221	P	Pn	11 52 03.1	-0.4
THZ	Tophouse	4.58	217	P	Pn	11 52 06.6	+0.4
KHZ	Kahutara	4.86	208	P	Pn	11 52 09.1	-0.6
KHZ	Kahutara	4.86	208	P	Pn	11 52 09.1	-0.6
GVZ	Greta Valley S	5.52	208	P	Pn	11 52 17.4	-1.0
LTZ	Lake Taylor	5.68	214	P	Pn	11 52 19.3	-1.1
OKCZ	Okains Bay	6.18	204	P	Pn	11 52 25.9	-1.1
OXZ	Oxford	6.22	212	P	Pn	11 52 24.9	-2.6
MQZ	McQueen's Vall	6.30	207	P	Pn	11 52 26.2	-2.3
AKCZ	Akaroa Harbour	6.36	205	P	Pn	11 52 28.0	-1.3
MHCZ	Mount Hutt	6.58	214	P	Pn	11 52 31.8	-0.6
ARCZ	Arundel	7.09	213	P	Pn	11 52 38.5	-0.5
TMZ	Timaru	7.51	212	P	Pn	11 52 43.4	-1.2
ODZ	Otahua Downs	8.20	211	P	Pn	11 52 52.7	-0.9
ODZ	Otahua Downs	8.20	211	P	Pn	11 52 53.0	-0.7

*SJA **26** 12:41:28.8±1.1, 22.°24S×67.′16W, h125km, ML2.8, MW2.9*
*SCB **26** 12:41:29.3±1.2, 22.°17S×67.′30W, h187km±15km, ML2.9/3, MW3.2, Error ellipse: s-maj=12.1km s-min=7.4km az=0.0*

ISC 26 12:41:27.0±2.4, 22.°19S±0.′07×67.°34W±0.′07, h212km±21km, n15, σ§54/24, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	1.81	282	*i* P	Pn	12 42 06.1	+1.4
PB09				IAML		12 42 51.6	
	comp=Z,18nm,1.5s						
PB09	IPOC Station P	1.81	282	Pg	Pn	12 42 06.1	+1.4
MOCB	Mochara	1.84	60	Pg	Pn	12 42 06.2	+0.8
MOCB				Sg	S	12 42 32.7	-2.1
MOCB				IAML		12 42 35.1	
	comp=Z,108nm,0.4s						
PB01	IPOC Station P	2.30	299	*i* P	Pn	12 42 10.0	+0.3
PB01				IAML		12 42 43.8	
	comp=Z,23nm,0.1s						
PB01	IPOC Station P	2.30	299	Pg	Pn	12 42 10.8	+1.2
PB01				Sg	S	12 42 42.4	0.0
PB01				IAML		12 42 43.3	
	comp=Z,30nm,0.2s						
PB04	IPOC Station P	2.60	266	*i* P	Pn	12 42 13.9	+0.9
PB04				*e*S	S	12 42 46.9	-1.6
PB04				IAML		12 42 49.5	
	comp=Z,41nm,0.2s						
PB08	IPOC Station P	2.65	320	*i* P	Pn	12 42 15.7	+2.0
PB08				*e*S	S	12 42 49.7	-0.1
PB08				IAML		12 42 51.6	
	comp=Z,18nm,0.2s						
PB08	IPOC Station P	2.65	320	Pg	Pn	12 42 16.0	+2.3
PB08				Sg	S	12 42 50.0	+0.2
PB08				IAML		12 42 50.9	
	comp=Z,20nm,0.2s						
HMBC	Humberstone	3.04	308	*i* P	Pn	12 42 18.0	0.0
HMBC				*e*S	S	12 42 56.1	-1.3
HMBC				IAML		12 43 05.1	
	comp=Z,46nm,1.3s						
GO01	Chusmiza	3.05	325	*i* P	Pn	12 42 19.8	+1.5
GO01				IAML		12 43 03.4	
	comp=Z,22nm,0.1s						
GO01	Chusmiza	3.05	325	Pg	Pn	12 42 20.3	+1.9
TA01	Diego Aracena	3.10	301	*i* P	Pn	12 42 18.7	+0.3
TA01				*e*S	S	12 42 56.4	-1.9
TA01				IAML		12 43 00.1	
	comp=Z,13nm,0.7s						
PB14	IPOC Station P	3.71	229	*i* P	Pn	12 42 27.6	+1.5
PB14				*e*S	S	12 43 10.4	-1.6
PB14				IAML		12 43 31.1	
	comp=Z,18nm,2.2s						
PB12	IPOC Station P	4.53	321	*i* P	Pn	12 42 35.8	-0.1
PB12				*e*S	S	12 43 27.3	-2.6
PB12				IAML		12 43 50.4	
	comp=Z,10nm,2.1s						
PB12	IPOC Station P	4.53	321	Pg	Pn	12 42 37.2	+1.3

*ISN **26** 12:49:13.7±1.3, 34.°20N×45.′45E, h16km±999km, ML2.9*
*TEH **26** 12:49:14.1, 34.°22N×45.′61E, h10km±23km, ML3.1*

ISC 26 12:49:14.3±1.0, 34.°21N±0.′03×45.°57E±0.′05, h10km, n18, σ§21/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.29	108	Pg	Pg	12 49 20.0	-0.3
KGS1	Ghasr-e-Shirin	0.30	3	Pg	Pg	12 49 19.9	-0.4
ILBA	Ilam Banvizeh	0.79	137	Pg	Pg	12 49 29.1	-0.3
IDHR	Dehrash	0.83	54	Pg	Pg	12 49 29.3	-1.1
IGHG	Ghaleghazi	0.83	81	Pg	Pb	12 49 30.5	-0.6
IBDR	Badra	1.13	165	*e*Pg	Pb	12 49 35.0	-1.0
IBDR				*e*Sg	Sb	12 49 50.0	-0.8
KCHF	Cheshme Sefid,	1.22	86	Pg	Pg	12 49 36.9	-0.8
ILIN	Lien	1.35	58	Pg	Pb	12 49 39.1	-0.7
IKRK	Kirkuk	1.56	320	*e*Pn	Pn	12 49 42.0	-0.2
IKRK				*e*Sn	Sb	12 50 03.0	-0.2
IKRK				AML	AML	12 50 08.0	
	comp=E,182nm,0.4s						
IKRK				AML	AML	12 50 14.5	
	comp=N,228nm,0.5s						
SNQR	Sonqor, Kerman	1.82	68	Pg	Pb	12 49 47.2	-0.6
SDS1	Sardasht. Az.	1.94	358	Pn	Pb	12 49 49.7	-0.1
IKFM	Kafar-mosalman	2.01	109	Pn	Pb	12 49 49.9	-1.0
IDOB	Doab	2.21	100	Pn	Pb	12 49 52.1	-2.2
HSAM	Samen	2.51	89	Pn	Pn	12 49 56.3	+0.9
RAFI	Al-Rafai	2.52	169	*e*Pn	Pn	12 49 57.0	+1.8
RAFI				*e*Sn	Sn	12 50 27.0	+1.0
MAHB	Mahabad	2.56	2	Pn	Pn	12 49 57.2	+1.2
HAGD	Aghdareh	3.01	77	Pn	Pn	12 50 04.2	+1.9
QABG	Abgarm-Qazvin	3.62	64	Pn	Pn	12 50 12.8	+2.2

*IDC **26** 12:50:56.4±0.9, 23.°26N×118.′54E, h0km, mb3.9/8, mbtmp3.9/12, ML3.6/4, MS3.5/20, Error ellipse: s-maj=22.4km s-min=16.9km az=74.0*
*BJI **26** 12:50:57.2, 23.°31N×118.′61E, h9km, mb4.4/21, mB4.4/7, ML5.0/9, Ms4.4/21, Ms7 3.9/17*
*ASIES **26** 12:50:58.2, 23.°36N×118.′60E, h27km, ML4.9, Mw4.1, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}=0.43; $M_{\theta\theta}$=0.77; $M_{\phi\phi}$=-0.34; $M_{r\theta}$=0.03; $M_{\theta\phi}$=-1.54; $M_{\phi r}$=0.72; Fault plane solution: M_0=1.82562×10^{22} NP1: ϕ_s=167.05000°, δ=79.20000°, λ=-25.89000°. NP2: ϕ_s=262.25000°, δ=64.60000°, λ=-168.02000°. Principal axes: T Plg=9.8290°, Azm=216.8390°; N Plg=62.0870°, Azm=325.9290°; P Plg=25.8420°, Azm=122.0250°;*
*TAP **26** 12:50:58.2, 23.°36N×118.′60E, h27km, ML4.9, D*
*NEIC **26** 12:50:59.1±2.5, 23.°47N±0.′05×118.′72E±0.′06, h10km±1km, mb4.5/20, Error ellipse: s-maj=9.9km s-min=9.0km az=234.0*

ISC 26 12:50:58.1±1.1, 23.°37N±0.′03×118.°59E±0.′02, h9km±7km, n250, σ1§28/287, mb4.4/19, MS3.5/17, 42C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCHM	Qimei	0.79	101	⇑*i* P	Pg	12 51 12.8	-0.4
VCHM				*i* S	Sg	12 51 23.5	0.0
PNG	Penghu	0.91	77	⇑*i* P	Pg	12 51 15.0	-0.6
PNG				*e*S	Sg	12 51 26.9	-0.5
PHUB	P'eng-hu	0.91	81	⇑*i* P	Pg	12 51 15.1	-0.6
PHUB				*i* S	Sg	12 51 27.4	-0.1
ZPLA	Ao Xicun	0.95	306	⇑*i* P	Pg	12 51 16.1	-0.4
ZPLA				S	Sg	12 51 28.5	-0.4
WDGT	Dungji	0.99	96	⇑*i* P	Pg	12 51 16.5	-0.6
WDGT				*i* S	Sg	12 51 29.7	-0.3
KNM	Kinmen	1.06	352	*i* P	Pg	12 51 17.9	-0.5
KNM				S	Sg	12 51 32.1	-0.1
KNMB	Chin-men Tao	1.11	350	Pb	Pb	12 51 18.9	-0.6
KNMB	Chin-men Tao	1.11	350	P	Pb	12 51 18.6	-0.9
KNMB				*i* S	Sg	12 51 33.1	-0.8
DSXP	Dongshan	1.12	288	⇑P	Pb	12 51 18.5	-1.2
DSXP				*i* S	Sb	12 51 33.6	-0.8
TSCK	Chigu Township	1.39	99	*e*P	Pn	12 51 23.4	-0.3
SCLT	Jiali	1.49	97	*e*P	Pn	12 51 24.6	-0.4
SCLT				*e*S	Sg	12 51 45.4	-0.6
CHN8	Yiju	1.49	90	*e*P	Pn	12 51 24.8	-0.3
CHN8				*e*S	Sb	12 51 45.1	+0.2
WSL	Shuilin Townsh	1.51	84	*e*P	Pn	12 51 25.1	-0.3
WSF	Szhu	1.52	79	*e*P	Pn	12 51 24.6	-0.9
WSF				*e*S	Sb	12 51 45.5	-0.4
TAI	Tainan	1.52	104	*e*P	Pn	12 51 24.5	-1.0
TAI1	Yung-k'ang	1.54	102	*e*P	Pn	12 51 25.4	-0.4
ICHU	Yijhu	1.55	90	P	Pn	12 51 25.5	-0.4
ICHU				*e*S	Sb	12 51 46.3	-0.5
QZH	Quanzhou	1.57	0	Pn	Pn	12 51 24.8	-1.4
QZH				Pg	Pb	12 51 27.0	-0.4
QZH				Sn	Sn	12 51 45.0	-1.7
QZH				Sg	Sb	12 51 47.3	0.0
QZH				smax	smax		
	comp=N,6μm,0.3s						
QZH				smax	smax		
	comp=E,18μm,0.3s						
SSHA	Shanhua	1.58	98	*e*P	Pn	12 51 24.9	-1.4
SSHA				*e*S	Sb	12 51 47.2	-0.3
WTCT	Ta-ch'eng	1.63	72	*e*P	Pn	12 51 26.0	-0.9
AXDP	Jialang	1.63	340	⇓*i* P	Pn	12 51 26.1	-0.9
AXDP				*e*S	Sn	12 51 46.2	-1.9
SHHT	Tainan City	1.65	102	*e*P	Pn	12 51 27.8	+0.5
CHN3	Shinhua	1.66	100	*e*P	Pn	12 51 27.0	-0.4
CHN3				*e*S	Sb	12 51 49.4	-0.4
WTK	Tuku	1.68	79	*e*P	Pn	12 51 26.5	-1.2
WTK				*e*S	Sn	12 51 49.4	0.0
CHY	Chiayi	1.69	85	*e*P	Pn	12 51 27.5	-0.3
CHY				*e*S	Sb	12 51 49.9	-0.8
WSSB	Gushan	1.70	115

OWD				eS	Sn	12 52 06.9	-1.5
TWF1	Yuli	2.49	90	⇑P	Pn	12 51 38.8	0.0
YULB	Yu-li	2.49	89		Pn	12 51 38.8	0.0
YULB	Yu-li	2.49	89	P	Pn	12 51 39.4	+0.6
YULB	Yu-li	2.49	89	⇑i P	Pn	12 51 38.6	-0.2
TWK1	Hengchun	2.49	124	P	Pn	12 51 38.2	-0.6
TWK1				S	Sn	12 52 08.4	-0.9
FULB	Fuli	2.49	93	eP	Pn	12 51 39.6	+0.7
TWKBT	Hengchun	2.49	124	P	Pn	12 51 37.9	-1.0
TWKBT				S	Sn	12 52 08.2	-1.2
EYUL	Yuli	2.51	90	eP	Pn	12 51 39.2	+0.1
EHY	Hungye	2.51	86	⇑P	Pn	12 51 39.0	-0.1
TWT	Tachien	2.53	69	⇑P	Pn	12 51 38.5	-1.0
EDH	Donghe	2.53	98	eP	Pn	12 51 39.6	+0.3
EHYH	Wanrong	2.53	87	eP	Pn	12 51 39.8	+0.3
NSTT	Nanjuang	2.54	60	⇑i P	Pn	12 51 38.7	-0.9
LIOB	Emei	2.56	60	P	Pn	12 51 39.1	-0.7
CHKT	Chengkung	2.56	95	eP	Pn	12 51 41.0	+1.1
WHF	Hehuan Shan	2.57	72	eP	Pn	12 51 40.0	-0.3
FUSS	Fushou	2.58	70	⇑eP	Pn	12 51 39.5	-0.9
CHKH	Chenggong	2.58	93	eP	Pn	12 51 40.7	+0.6
TSEB	Hengchuen, Pin	2.58	124	eP	Pn	12 51 37.3	-2.9
WARBT	Fenglin Townsh	2.59	82	⇑P	Pn	12 51 39.8	-0.5
HSN	Hsinchu	2.60	56	eP	Pn	12 51 40.7	+0.3
HGSD	Ruisui	2.60	87	P	Pn	12 51 41.0	+0.6
SBCB	Hsinchu	2.61	57	⇑P	Pn	12 51 40.0	-0.5
EGFH	Guangfu	2.62	83	eP	Pn	12 51 40.8	+0.1
HSN1	Hsinchu	2.63	57	eP	Pn	12 51 39.7	-1.0
ECBN	Changbin	2.63	91	eP	Pn	12 51 41.2	+0.4
NFF	Wufeng Townshi	2.63	61	eP	Pn	12 51 39.8	-1.1
ESL	Shilin	2.65	80	eP	Pn	12 51 40.7	-0.3
NJD	Zhudong	2.66	59	eP	Pn	12 51 40.8	-0.3
LXIB	Xiulin Townshi	2.67	75	⇑P	Pn	12 51 41.0	-0.5
LDUT	Ludao	2.74	104	eP	Pn	12 51 42.2	0.0
KSHI	Guanxi Townshi	2.75	59	eP	Pn	12 51 42.0	-0.4
MHZQ	Yeshan	2.75	8	eP	Pn	12 51 41.9	-0.6
SHUL	Shoufeng	2.76	81	eP	Pn	12 51 42.8	+0.3
NNS	Nan Shan	2.76	67	P	Pn	12 51 41.5	-1.2
NNS				eS	Sn	12 52 14.7	-1.6
NNSB	Datong	2.77	67	⇑P	Pn	12 51 41.4	-1.3
NNSH	Datong	2.77	67	eP	Pn	12 51 41.7	-1.1
NHW	Xinwu Township	2.77	53	P	Pn	12 51 42.2	-0.6
ETLH	Xiulin Townshi	2.78	72	eP	Pn	12 51 41.9	-1.0
TEYL	Yanliau Villag	2.80	79	eP	Pn	12 51 43.5	+0.4
HWA	Hwalien	2.83	77	eP	Pn	12 51 44.3	+0.8
TWD	Chiawan	2.84	75	eP	Pn	12 51 43.1	-0.6
TWD				eS	Sn	12 52 17.8	-0.3
NSK	Sanguang	2.85	62	⇑i P	Pn	12 51 42.9	-1.0
NCUH	Zhongli	2.86	56	eP	Pn	12 51 42.9	-1.0
NCU	National Centr	2.86	56	eP	Pn	12 51 44.2	+0.3
YHNB	Yeheng	2.86	62		Pn	12 51 43.0	-1.1
YHNB	Yeheng	2.86	62	P	Pn	12 51 43.1	-0.9
YHNB	Yeheng	2.86	62	⇑i P	Pn	12 51 42.9	-1.1
YHNB				eS	Sn	12 52 15.4	-3.2
NACB	Ninganchiao	2.87	73	Pn	Pn	12 51 43.2	-0.9
NACB	Ninganchiao	2.87	73	P	Pn	12 51 43.8	-0.2
NACB	Ninganchiao	2.87	73	eP	Pn	12 51 43.2	-0.9
NTY	Taoyuan	2.96	56	eP	Pn	12 51 44.4	-0.9
ENTT	Nioudou	3.00	64	⇑i P	Pn	12 51 45.2	-0.7
NWLT	Wulai	3.01	62	⇑eP	Pn	12 51 45.1	-0.9
MATB	Ma-tsu	3.03	24	eP	Pn	12 51 45.6	-0.7
LAY	Lan-yu	3.04	115	eP	Pn	12 51 45.2	-1.2
EAHA	Aohua	3.04	71	eP	Pn	12 51 45.1	-1.3
ENA	Nanau	3.07	69	eP	Pn	12 51 45.8	-1.1
FUSB	Fushanzhiwuyua	3.07	63	⇑P	Pn	12 51 45.9	-1.0
LYUB	Lan-yu	3.08	116	i P	Pn	12 51 44.4	-2.6
LYUB				eS	Sn	12 52 19.0	-4.9
TWS1	Kuangyinshan	3.10	56	eP	Pn	12 51 45.8	-1.5
EWUT	Wuta	3.11	69	eP	Pn	12 51 46.6	-0.8
TWE	Neicheng	3.12	64	eP	Pn	12 51 46.9	-0.6
TWE				eS	Sn	12 52 24.6	-0.3
NDS	Dongshan	3.12	66	eP	Pn	12 51 47.1	-0.5
SXFK	Yanhouchang	3.14	344	eP	Pn	12 51 47.1	-0.8
NTST	Danshui	3.16	55	eP	Pn	12 51 47.3	-0.8
VDOS	Pratas Island	3.16	213	eP	Pn	12 51 47.3	-0.9
TWA	Mucha	3.17	59	eP	Pn	12 51 44.7	-3.5
ESAO	Su ao	3.21	67	eP	Pn	12 51 47.6	-1.2
TWC	Suao	3.23	67	eP	Pn	12 51 49.1	+0.1
ANP	Anpu	3.23	55	eP	Pn	12 51 48.5	-0.6
YM01	YM01	3.25	56	P	Pn	12 51 48.4	-0.9
YM01				eS	Sn	12 52 24.0	-4.1
YM08	YM08	3.28	56	eP	Pn	12 51 48.7	-1.1
TWY	Chenhua	3.34	55	eP	Pn	12 51 50.1	-0.4
LYJJ	Jianjiangzhen	3.34	18	eP	Pn	12 51 49.9	-0.7
LYJJ				eS	Sn	12 52 28.5	-2.0
TIPB	Shuangxi	3.36	61	eP	Pn	12 51 49.5	-1.4
NWF	Wu-fen Shan	3.37	59	eP	Pn	12 51 50.0	-1.0
WFSB	Wu-fen Shan	3.37	59	eP	Pn	12 51 49.6	-1.4
EGS		3.39	64	eP	Pn	12 51 51.5	+0.2
SXI1	Grass Mountain	3.46	59	eP	Pn	12 51 50.8	-1.4
EOS2	EOS2	3.49	72	eP	Pn	12 51 53.2	+0.7
EOS4	EOS4	3.50	77	eP	Pn	12 51 52.8	+0.5
TWB1	Santiao Chiao	3.51	62	eP	Pn	12 51 51.7	-1.1
TWB1				eS	Sn	12 52 30.8	-3.6
EOS3	EOS3	3.53	74	eP	Pn	12 51 53.3	+0.3
XPSS	Dashiqiu	3.83	22	eP	Pn	12 51 56.6	-0.7
PCYT	Pengchaiyu	3.89	54	eP	Pn	12 51 57.5	-0.6
YOJ	Yonaguni jima	4.19	74	Pn	Pn	12 51 58.5	-3.7
YOJ	Yonaguni jima	4.19	74	eP	Pn	12 52 00.8	-1.4
HKPS	Hong Kong Po S	4.25	256	Pn	Pn	12 52 03.3	+0.3
HKPS	Hong Kong Po S	4.25	256	eP	Pn	12 52 02.6	-0.5
GZH	Guangzhou	4.83	268	Pn	Pn	12 52 06.5	-4.6
GZH				Pg	Pb	12 52 23.0	0.0
GZH				Sn	Sn	12 53 01.5	-5.8
GZH				smax	smax		
	comp=N,4μm,0.5s						
GZH				smax	smax		
	comp=E,3μm,0.7s						
JMJ	Miyako jima 2	6.29	75	eP	Pn	12 52 31.4	+0.2
CNSH	ChangSha	7.00	314	Pn	Pn	12 52 39.5	-1.4
CNSH				Sn	Sn	12 53 59.8	-0.9
CNSH				smax	smax		
	comp=N,940nm,0.8s						
CNSH				smax	smax		
	comp=E,880nm,1.3s						
CNSH				LR	LR		
	comp=N,2μm,5.9s						
NJ2	Nanjing	8.66	1	eP	Pn	12 53 02.5	-1.1
NJ2				S	Sn	12 54 42.8	+1.5
NJ2				pmax	pmax		
	comp=Z,13nm,0.7s						
NJ2				smax	smax		
	comp=N,990nm,1.4s						
NJ2				smax	smax		
	comp=E,740nm,1.9s						
NJ2				LR	LR		
	comp=N,1μm,7.7s						
NJ2				LR	LR		
	comp=Z,1μm,6.2s						
QIZ	Qiongzhong	9.23	244	Pn	Pn	12 53 16.3	+4.8
QIZ	Qiongzhong	9.23	244	P	Pn	12 53 13.5	+2.0
QIZ				S	Sn	12 54 57.5	+1.9
QIZ				smax	smax		
	comp=N,130nm,1.2s						
QIZ				smax	smax		
	comp=E,97nm,1.0s						
QIZ				LR	LR		
	comp=N,960nm,8.6s						
QIZ				LR	LR		
	comp=E,1μm,9.4s						
QIZ				LR	LR		
	comp=Z,2μm,10.7s						
JOW	Kunigami	9.43	67	Pn	Pn	12 53 15.0	+0.8
	1.5nm,0.3s,baz=197,slow=17,SNR=8.1						
	9.2nm,0.7s						
JOW	Kunigami	9.43	67	eP	Pn	12 53 13.3	-0.9
LYN	LuoYang	12.36	336	eP	Pn	12 53 41.8	-13
LYN				pmax	pmax		
	comp=Z,20nm,0.7s						
LYN				LR	LR		
	comp=N,1μm,8.8s						
LYN				LR	LR		
	comp=E,2μm,10.5s						
LYN				LR	LR		
	comp=Z,480nm,7.6s						
XAN	Xi'an	13.60	324	P	Pn	12 54 10.8	-0.4
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN				LR	LR		
	comp=Z,860nm,9.8s						
XAN				LR	LR		
	comp=Z,540nm,9.1s						

HNS	HongShan	14.38	347	eP	Pn	12 54 23.8	+1.9
HNS				LR	LR		
	comp=Z,420nm,12.7s						
HNS				LR	LR		
	comp=Z,1μm,14.3s						
HNS				LR	LR		
	comp=Z,240nm,10.4s						
JNU	Nakatsue	14.54	45	Pn	Pn	12 54 25.8	+1.6
	comp=Z,0.1nm,0.3s,baz=220,slow=21,SNR=2.4						
JNU				LR	LR	13 00 22.2	
	comp=Z,160nm,19.8s,baz=232,slow=39						
	comp=Z,4.2nm,0.9s						
KMI	Kunming	14.57	280	⇑P	Pn	12 54 26.3	+1.5
KMI				pmax	pmax		
	comp=Z,19nm,0.5s						
KMI				LR	LR		
	comp=Z,440nm,5.9s						
KMI				LR	LR		
	comp=Z,570nm,9.0s						
KMI				LR	LR		
	comp=Z,460nm,6.5s						
PZH	PanZhiHua	15.60	285	P	Pn	12 54 40.5	+2.0
PZH				S	Sn	12 57 30.0	-1.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,90nm,4.1s						
PZH				LR	LR		
	comp=Z,370nm,14.0s						
PZH				LR	LR		
	comp=Z,360nm,8.0s						
KSRS	Korea Array	16.17	28	Pn	P	12 54 47.6	-1.2
	comp=Z,0.2nm,0.3s,baz=209,slow=14,SNR=7.5						
KSRS				Lg	Lg	12 59 30.4	
	comp=Z,0.1nm,0.3s,baz=209,slow=30,SNR=5.6						
KSRS				LR	LR	13 00 23.3	
	comp=Z,72nm,18.9s,baz=225,slow=35						
	comp=Z,2.9nm,0.9s						
LZH	Lanzhou	17.99	318	P	P	12 55 13.5	+4.3
LZH				pP	sP	12 55 18.3	+5.4
LZH				S	Sn	12 58 30.0	+0.4
LZH				pmax	pmax		
	comp=Z,20nm,1.5s						
LZH				LR	LR		
	comp=Z,360nm,7.6s						
LZH				LR	LR		
	comp=Z,340nm,8.3s						
LZH				LR	LR		
	comp=Z,290nm,10.0s						
TNCH	TengChong	18.39	279	P	Pn	12 55 12.0	-1.6
TNCH				S	Sn	12 58 34.3	-5.0
TNCH				sS	S	12 58 42.8	-1.3
TNCH				pmax	pmax		
	comp=Z,11nm,0.3s						
TNCH				pmax	pmax		
	comp=Z,110nm,4.4s						
TNCH				LR	LR		
	comp=Z,2μm,7.5s						
TNCH				LR	LR		
	comp=Z,500nm,5.3s						
TNCH				LR	LR		
	comp=Z,360nm,11.3s						
CMAR	Chiang Mai Arr	18.99	259	P	Pn	12 55 20.8	-0.1
	comp=Z,0.1nm,0.3s,baz=52,slow=10,SNR=5.2						
CMAR				Lg	Lg	13 00 57.2	
	comp=Z,0.2nm,0.3s,baz=84,slow=28,SNR=1.3						
CMAR				LR	LR	13 01 53.3	
	comp=Z,141nm,20.2s,baz=80,slow=35						
	comp=Z,0.6nm,0.8s						
MJAR	Matsushiro Arr	21.43	48	LR	LR	13 05 43.9	
	comp=Z,92nm,19.1s,baz=222,slow=41						
GTA	Gaotai	22.57	319	eP	P	12 56 02.8	+3.9
GTA				pP	sP	12 56 09.5	+6.9
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						
USRK	Ussuriysk Ar.	23.52	25	LR	LR	13 04 05.7	
	comp=Z,88nm,20.6s,baz=188,slow=33						
SONM	Songino Array	26.29	341	P	P	12 56 34.2	+0.2
	comp=Z,0.7nm,0.7s,baz=169,slow=10.0,SNR=4.3						
SONM				LR	LR	13 07 04.2	
	comp=Z,121nm,20.6s,baz=138,slow=37						
	comp=Z,0.7nm,0.7s						
GUMO	Guam	26.71	107	LR	LR	13 06 22.1	
	comp=Z,36nm,21.4s,baz=84,slow=35						
KLR	Kul'dur	27.82	19	LR	LR	13 07 32.7	
	comp=Z,99nm,19.5s,baz=204,slow=36						
PSI	Prapat	27.94	226	LR	LR	13 06 58.4	
	comp=Z,87nm,18.8s,baz=24,slow=34						
ASAJ	Asahikawa	28.57	38	LR	LR	13 09 15.6	
	comp=Z,75nm,19.2s,baz=194,slow=38						
MK31	Makanchi Array	37.31	318	P	P	12 58 10.7	0.0
MK31				IAmb	IAmb	12 58 43.1	
	comp=Z,7.9nm,1.3s						
YAK	Yakutsk	39.38	8	LR	LR	13 18 13.4	
	comp=Z,59nm,18.1s,baz=113,slow=41						
ZAA0	Zalesovo Array	39.68	329		P	12 58 32.7	+2.3
ZALV	Zalesovo Beam	39.68	329		P	12 58 30.7	+0.3
ZALV	Zalesovo Beam	39.68	329	P	P	12 58 29.5	-0.9
	comp=Z,1.0nm,0.6s,baz=123,slow=7.7,SNR=2.3						
ZALV				LR	LR	13 14 29.0	
	comp=Z,47nm,18.6s,baz=72,slow=36						
	comp=Z,1.0nm,0.6s						
NRN	Naryn	39.76	307		P	12 58 34.9	+3.2
NRN				IAmb	IAmb	12 58 42.8	
	comp=Z,4.5nm,0.4s						
NIL	Nilore	40.86	295	P	P	12 58 41.3	+0.8
NIL				IAmb	IAmb	12 58 46.3	
	comp=Z,9.2nm,1.2s						
AAK	Ala-Archa	41.14	309	LR	LR	13 16 28.9	
	comp=Z,108nm,19.6s,baz=106,slow=37						
KURK	Kurchatov	41.23	322	P	P	12 58 44.4	+1.1
KURBB	Kurchatov Arra	41.24	322	P	P	12 58 43.3	0.0
	comp=Z,2.5nm,1.0s,baz=130,slow=7.2,SNR=8.8						
	comp=Z,2.5nm,1.0s						
ARSB	Arslanbob	41.96	306	P	P	12 58 52.0	+2.3
MA2	Magadan	42.66	24	LR	LR	13 17 41.1	
	comp=Z,62nm,18.9s,baz=342,slow=38						
KKAR	Karatay Array	44.10	308	P	P	12 59 07.4	+0.7
COEN	Coen	44.21	145	P	P	12 59 07.2	-0.7
KBL	Kabul	44.38	296	P	P	12 59 10.2	+0.8
KBL				IAmb	IAmb	12 59 16.0	
	comp=Z,3.8nm,0.7s						
WB0	Warramunga Arr	45.56	159	P	P	12 59 17.0	-1.5
WB0				IAmb	IAmb	12 59 41.9	
	comp=Z,9.8nm,1.3s						
WRAB	Tennant Creek	45.70	159	P	P	12 59 18.2	-1.5
WRAB				IAmb	IAmb	12 59 19.2	
	comp=Z,7.6nm,0.9s						
WRA	Warramunga Arr	45.70	159	P	P	12 59 18.3	-1.4
WRA	Warramunga Arr	45.70	159	P	P	12 59 18.1	-1.6
	comp=Z,4.2nm,0.7s,baz=343,slow=8.8,SNR=27						
	comp=Z,4.2nm,0.7s						
WB2	Warramunga Arr	45.71	159	P	P	12 59 18.6	-1.1
WB2				IAmb	IAmb	12 59 19.2	
	comp=Z,8.7nm,0.8s						
WR0	Warramunga Arr	45.79	159	P	P	12 59 19.2	-1.2
WR0				IAmb	IAmb	12 59 19.7	
	comp=Z,5.6nm,0.8s						
BVAR	Borovoye Array	46.82	322	P	P	12 59 27.8	-0.3
	comp=Z,0.9nm,0.7s,baz=100,slow=8.1,SNR=3.7						
	comp=Z,0.9nm,0.7s						
BRVK	Borovoye	46.90	322	P	P	12 59 28.3	-0.4
BRVK				IAmb	IAmb	12 59 33.4	
	comp=Z,3.8nm,1.1s						
TIXI	Tiksi	48.66	4	LR	LR	13 20 02.3	
	comp=Z,79nm,19.2s,baz=204,slow=36						
AS31	Alice Springs	49.06	161	P	P	12 59 44.8	-1.0
ASAR	Alice Springs	49.06	161	P	P	12 59 45.5	-0.3
ASAR	Alice Springs	49.06	161	P	P	12 59 44.8	-1.1
	comp=Z,1.3nm,0.8s,baz=343,slow=6.8,SNR=16						
	comp=Z,1.3nm,0.8s						
NRIK	Noril'sk	49.60	346	P	P	12 59 49.4	+0.1
	comp=Z,1.3nm,0.5s,baz=145,slow=7.9,SNR=4.4						
	comp=Z,1.3nm,0.5s						
CTAO	Charters Tower	50.92	146	P	P	12 59 59.4	-0.6
CTAO				IAmb	IAmb	13 00 01.4	
	comp=Z,8.4nm,1.0s						
DZM	Mont Dzumac	64.87	131	LR	LR	13 26 55.6	
	comp=Z,46nm,19.3s,baz=234,slow=33						
D19K	Kuna River	66.04	24	P	P	13 01 45.9	+0.9
B21K	Ikpikpuk River	67.21	22	P	P	13 01 52.5	+0.2
B22K	Teshekpuk Lake	67.54	21	P	P	13 01 54.8	+0.4
D22K	Ayikyak River	67.98	23	P	P	13 01 57.4	+0.1
ARCES	ARCESS Array B	69.41	338	LR	LR	13 38 33.2	
	comp=Z,41nm,18.5s,baz=290,slow=41						
SPITS	Spitsbergen Ar	69.77	348	LR	LR	13 34 50.6	
	comp=Z,44nm,20.0s,baz=30,slow=38						

FINES	FINESS Array B	70.94	329	P	P	13 02 13.9	-1.7
ILAR	Eielson Array	71.02	27	P	P	13 02 17.6	+1.5
	comp=Z,0.2nm,0.5s,baz=270,slow=5.2,SNR=4.3						
	comp=Z,0.2nm,0.5s						
BCAR	Beaver Creek A	73.67	28	P	P	13 02 33.2	+1.2
HFS	Hagfors	77.11	330	LR	LR	13 41 09.2	
	comp=Z,50nm,19.0s,baz=73,slow=39						
NOA	NORSAR Array B	77.82	332	LR	LR	13 40 08.7	
	comp=Z,59nm,19.6s,baz=30,slow=38						

TEH ***26*** *12:53:15.1, 34°.22N×45°.54E, h10km, 363km, ML2.6*
ISN ***26*** *12:53:16.1±1.5, 34°.28N×45°.61E, h25km, ML2.6*
ISC 26 12:53:15.6±1.5, 34°.26N±0°.06×45°.57E±0°.10, h18km, n5, σ0.62/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.25	4	Pg	Pg	12 53 21.3	-0.1
GLG1	Gilan-e-Gharb	0.32	117	Pg	Pg	12 53 21.9	-0.6
IDHR	Dehrash	0.81	57	Pg	Pb	12 53 31.2	-0.1
IGHG	Ghaleghazi	0.83	85	Pg	Pg	12 53 32.1	+0.1
IGHG				Sg	Sn	12 53 44.9	+0.3
IBDR	Badra	1.18	165	ePg	Pn	12 53 37.0	-0.3
IBDR				eSg	Sg	12 53 55.0	+1.0
IBDR				AML	AML	12 54 00.6	
	comp=N,7.6nm,1.2s						

JMA ***26*** *13:04:01.7±0.1, 38°.9N±0°.3×141°.9E±0°.6, h51km, MV3.9/37, KINKAZAN REGION*
JMA Felt II J1 at KINKAZAN REGION .
IDC ***26*** *13:04:02.9±2.4, 38°.91N×142°.14E, h70km±17km, mb3.6/9, mbtmp3.9/13, MS3.2/6, Error ellipse: s-maj=26.2km s-min=11.6km az=106.0*
NEIC ***26*** *13:04:02.1±1.5, 38°.87N±0°.06×141°.8E±0°.1, h49km±3km, mb4.5/12, Error ellipse: s-maj=16.0km s-min=7.9km az=111.0*
ISC 26 13:04:01.9±1.0, 38°.90N±0°.05×141°.92E±0°.08, h49km±7km, n62, σ1.9±24/62, mb4.4/17, MS3.8/5, 14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.26	313	⇓P	Pn	13 04 10.8	+0.1
OFUJ				⇓S	Sn	13 04 17.0	+0.1
JKMT	Kesennumamotoy	0.36	256	⇓P	Pn	13 04 11.7	+0.2
JKMT				⇓S	Sn	13 04 18.4	+0.1
JMK	Ichinoseki	0.55	276	⇓i P	Pn	13 04 13.8	+0.1
JMK				⇓S	Sn	13 04 22.3	+0.2
JIO	Ouri	0.63	225	⇓i P	Pn	13 04 14.7	0.0
JIO				⇓S	Sn	13 04 23.6	-0.3
JOM	Ohasama	0.75	320	⇓i P	Pn	13 04 16.2	-0.1
JOM				⇓S	Sn	13 04 26.6	-0.2
JRG	Rokugo	1.11	297	⇓i P	Pn	13 04 21.1	-0.1
JOU	Okura	1.12	242	⇓i P	Pn	13 04 21.2	0.0
JOU				⇓S	Sn	13 04 35.6	+0.1
JYK	Kaneyama	1.22	271	⇓i P	Pn	13 04 22.7	+0.1
JMM	Marumori	1.36	221	Pn	Pn	13 04 23.8	-0.7
JMM	Marumori	1.36	221	i P	Pn	13 04 24.0	-0.4
JMM				S	Sn	13 04 40.8	-0.5
JTM	Tenmabayashi	2.00	341	Pn	Pn	13 04 33.1	-0.1
JSD	Sado	3.00	254	Pn	Pn	13 04 46.8	-0.1
ERM	Erimo	3.25	17	Pn	Pn	13 04 50.6	+0.2
MJAR	Matsushiro Arr	3.77	232	P	Pn	13 04 59.7	+2.2
	6.1nm,0.6s,baz=35,slow=12,SNR=31						
MJAR				S	Sn	13 05 45.7	+5.1
	3.7nm,0.6s,baz=331,slow=17,SNR=1.3						
MJB9	Matsu-Tunnel	3.77	233		Pn	13 04 58.8	+1.3
MAJO	Matsushiro	3.77	232	Pn	Pn	13 04 58.8	+1.4
JGF	Kuroka	4.91	229	Pn	Pn	13 05 14.9	+1.8
ASAJ	Asahikawa	5.24	5	P	Pn	13 05 17.9	+0.3
	3.2nm,0.3s,baz=201,slow=18,SNR=9.7						
ASAJ				S	Sn	13 06 18.3	+1.6
	14nm,0.8s,baz=136,slow=33,SNR=1.8						
JKA	Kamikawa-asahi	5.24	5	Pn	Pn	13 05 17.9	+0.3
INU	Inuyama	5.28	229	Pn	Pn	13 05 18.5	+0.2
USA0B	Ussuriysk Arra	9.13	309	Pn	Pn	13 06 10.7	-0.2
USRK	Ussuriysk Ar.	9.13	309	P	Pn	13 06 13.8	+2.8
	10nm,0.7s,baz=116,slow=14,SNR=12						
MDJ	Mudanjiang	10.83	306	P	Pn	13 06 33.5	-0.7
MDJ				pmax	pmax		
	comp=Z,12nm,1.8s						
KSRS	Korea Array	11.11	267	P	Pn	13 06 42.0	+4.0
	comp=Z,1.0nm,0.6s,baz=77,slow=14,SNR=4.9						
KSRS				LR	LR	13 10 22.2	
	comp=Z,45nm,20.7s,baz=130,slow=34						
NJ2	Nanjing	19.96	257	eP	P	13 08 29.3	-0.6
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HHC	Hu-ho-hao-te	23.32	284	eP	P	13 09 05.5	-0.2
HHC				pmax	pmax		
	comp=Z,15nm,0.6s						
HHC				pmax	pmax		
	comp=Z,80nm,5.9s						
SHEM	Shemya Is, Ala	26.09	47	LR	LR	13 26 19.2	
	comp=Z,8.2nm,18.0s,baz=268,slow=52						
SONM	Songino Array	27.12	301	P	P	13 09 41.5	+1.2
	comp=Z,0.4nm,0.5s,baz=106,slow=7.8,SNR=2.1						
SONM				LR	LR	13 20 54.9	
	comp=Z,35nm,21.2s,baz=174,slow=37						
	comp=Z,0.4nm,0.5s						
H11N2	WAKE ISLAND Hy	28.82	124	T	T	13 40 21.6	
	baz=317,slow=76,SNR=282						
H11N1	WAKE ISLAND Hy	28.82	124	T	T	13 40 21.2	
	baz=317,slow=76,SNR=360						
H11N3	WAKE ISLAND Hy	28.83	124	T	T	13 40 22.1	
	baz=317,slow=76,SNR=289						
H11S1	WAKE ISLAND Hy	29.59	126	T	T	13 41 21.2	
	baz=318,slow=76,SNR=97						
H11S3	WAKE ISLAND Hy	29.59	126	T	T	13 41 18.4	
	baz=318,slow=76,SNR=157						
H11S2	WAKE ISLAND Hy	29.61	126	T	T	13 41 20.6	
	baz=318,slow=76,SNR=106						
WMQ

comp=Z,0.5nm,0.9s,baz=356,slow=4.2,SNR=4.1
comp=Z,0.5nm,0.9s

FINES	FINESS Array B	67.35	332	P	P	13 14 50.9	-0.6
FINES	FINESS Array B	67.35	332	P	P	13 14 50.3	-1.2

comp=Z,1.9nm,0.9s,baz=46,slow=11,SNR=5.4
comp=Z,1.9nm,0.9s

KBZ	Khabaz	69.99	310	P	P	13 15 08.4	+0.2

comp=Z,1.3nm,0.7s,baz=39,slow=9.6,SNR=4.2
comp=Z,1.3nm,0.7s

ULM	Lac du Bonnet	77.73	34	LR	LR	13 52 14.5	

comp=Z,43nm,18.6s,baz=332,slow=37

SADO	Sadowa	88.86	28	LR	LR	14 02 32.9	

comp=Z,33nm,18.7s,baz=256,slow=40

TKL	Tuckaleechee C	94.64	36	LR	LR	14 02 52.1	

comp=Z,34nm,18.2s,baz=290,slow=37

RSNC 26 13:13:29.4±0.0, 13°N±2°×8°1W±°, h1km±3km, M3.1, mb4.1, ML3.1, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	Isla de Provid	0.30	294	P	Pb	13 13 36.5	-1.1
PRVC				S	Sb	13 13 41.4	-1.7
SAIC	Isla e San And	0.94	221	P	Pg	13 13 47.8	+0.4
SAIC				S	Sb	13 14 01.9	+0.5
RNCC	Cayo Roncador,	1.01	71	P	Pg	13 13 48.5	-0.4
RNCC				S	Sb	13 14 03.2	-0.4
SERC	Banco Serrana,	1.24	34	P	Pg	13 13 52.1	-1.2
SERC				S	Sg	13 14 09.7	+0.3
BCIP	Isla Barro Col	4.24	163	P	Pn	13 14 30.3	-4.8
BCIP				S	Sn	13 15 18.5	-6.8
JTS	Las Juntas de	4.80	233	P	Pn	13 14 43.0	+0.1
SJCC	San Jacinto, C	6.67	119	P	Pn	13 15 04.9	-3.8
SJCC				S	Sn	13 16 17.1	-8.4

UPA 26 13:20:59.0±1.0, 8°37N×82°87W, h17km±20km, MD2.9, MW3.7,3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	Petroterminale	0.17	182	⇓iP	Pg	13 21 03.2	-0.3
PTPM				⇓iS	Sb	13 21 07.3	+0.6
PEDE3	Pedregal, Chir	0.45	89	eP	Pb	13 21 08.7	+0.3
BRU2	Volcan	0.46	23	iP	Pb	13 21 09.7	+1.0
BRU2				eS	Sb	13 21 16.2	+1.0
BCO2	Palmira	0.48	45	⇓iP	Pb	13 21 09.4	+0.2
BCO2				iS	Sb	13 21 17.6	+1.5
PTAR3	Potrerillos Ar	0.49	50	eP	Pb	13 21 10.1	+0.9
PTAR3				eS	Sb	13 21 17.1	+0.9
PSOM3	Paja de Sombre	0.63	60	eP	Pg	13 21 11.2	-0.2
CHGR2	Aguacate	0.91	52	eP	Pb	13 21 15.2	-1.2
CHGR2				iS	Sb	13 21 27.7	-0.5

*BJI **26** 13:24:01.9, 23°.33N×118°.62E, h10km, mb4.4/3, ML4.4/5*
*ASIES **26** 13:24:02.5, 23°.38N×118°.61E, h5km, ML4.7, Mw3.8,*
Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}=4.33; $M_{\theta\theta}$=4.70; $M_{\phi\phi}$=-0.37; $M_{r\theta}$=0.91; $M_{\theta\phi}$=-2.71; $M_{\phi r}$=2.79;
Fault plane solution: M_0=6.03636×10^{21} NP1:
ϕ_s=137.72000°, δ=60.90000°, λ=-59.95000°. NP2:
ϕ_s=267.78000°, δ=40.85000°, λ=-131.98000°. Principal axes:
T Plg=11.0140°, Azm=206.5860°; N Plg=25.9440°, Azm=302.0200°; P Plg=61.4850°, Azm=95.5920°;
*TAP **26** 13:24:02.5, 23°.38N×118°.61E, h5km, ML4.7, D*
*IDC **26** 13:24:03.2±1.0, 23°.01N×118°.60E, h0km, mb3.7/5,*
mbtmp3.7/6, ML3.4/1, MS2.9/4, Error ellipse: s-maj=51.7km
s-min=20.0km az=70.0

ISC 26 13:24:02.0±1.3, 23°.36N±0°.03×118°.58E±0°.03, h3km±9km, n156, σ0°84/234, mb3.6/5, 9C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCHM	Qimei	0.79	101	iP	Pb	13 24 17.8	-0.7
VCHM				iS	Sg	13 24 28.0	+0.5
PNG	Penghu	0.91	77	iP	Pg	13 24 19.7	+0.1
PNG				S	Sg	13 24 31.7	+0.3
PHUB	P'eng-hu	0.92	80	P	Pg	13 24 20.0	+0.3
PHUB				iS	Sg	13 24 32.1	+0.5
ZPLA	Ao Xicun	0.95	307	⇓iP	Pn	13 24 21.1	-1.2
ZPLA				S	Sn	13 24 33.9	-2.4
WDGT	Dungji	0.99	96	⇓iP	Pb	13 24 21.4	-0.5
WDGT				S	Sg	13 24 34.4	+0.3
KNM	Kinmen	1.06	353	eP	Pn	13 24 22.9	-0.9
KNM				S	Sb	13 24 36.9	-0.3
KNMB	Chin-men Tao	1.11	351	⇑P	Pg	13 24 23.2	-0.1
KNMB				iS	Sb	13 24 38.2	-0.6
TSCK	Chigu Township	1.40	99	eP	Pn	13 24 27.8	-0.7
TSCK				iS	Sg	13 24 47.2	+0.2
SCLT	Jiali	1.49	97	⇑iP	Pb	13 24 29.6	-0.9
SCLT				S	Sb	13 24 49.4	-0.4
CHN8	Yiju	1.50	90	⇑iP	Pb	13 24 29.6	-0.8
CHN8				eS	Sg	13 24 50.8	+0.7
WSL	Shuilin Townsh	1.52	84	eP	Pn	13 24 29.9	-0.3
WSL				eS	Sg	13 24 51.2	+0.3
WSF	Szhu	1.53	79	eP	Pb	13 24 30.6	-0.4
WSF				eS	Sg	13 24 51.2	0.0
TAI1	Yung-k'ang	1.55	102	eP	Pg	13 24 31.4	-0.3
TAI1				eS	Sn	13 24 50.4	-0.6
ICHU	Yijhu	1.56	90	⇑eP	Pn	13 24 30.4	-0.3
ICHU				iS	Sg	13 24 52.2	+0.1
QZH	Quanzhou	1.57	0	Pn	Pn	13 24 29.5	-1.4
QZH				Pg	Pg	13 24 31.8	-0.4
QZH				Sn	Sn	13 24 49.8	-1.9
QZH				Sg	Sb	13 24 52.0	-0.1
QZH				smax	smax		

comp=N,3μm,0.4s

QZH				smax	smax		

comp=E,7μm,0.4s

SSHA	Shanhua	1.58	98	P	Pb	13 24 31.4	-0.5
SSHA				eS	Sg	13 24 52.6	-0.3
WTCT	Ta-ch'eng	1.63	72	eP	Pn	13 24 30.9	-0.8
WTCT				iS	Sb	13 24 53.8	0.0
CHN3	Shinhua	1.66	100	P	Pb	13 24 32.4	-0.9
CHN3				eS	Sb	13 24 54.4	-0.3
WTK	Tuku	1.69	79	P	Pn	13 24 31.6	-0.8
WTK				eS	Sb	13 24 55.4	0.0
CHY	Chiayi	1.69	85	eP	Pn	13 24 32.5	-0.1
CHY				iS	Sb	13 24 55.8	+0.2
WSSB	Gushan	1.71	115	eP	Pn	13 24 31.7	-1.0
SNJT	Kaohsiung City	1.72	110	eP	Pb	13 24 34.1	-0.3
WRL	Guolierlin Hig	1.73	72	eP	Pn	13 24 32.2	-0.9
PTMZ	Houxiangcun	1.74	16	eP	Pn	13 24 31.9	-1.2
PTMZ				iS	Sb	13 24 56.8	0.0
TWK	Hsinying	1.75	93	eP	Pb	13 24 33.6	-1.3
TWK				eS	Sb	13 24 57.1	-0.2
SNST	Tainan City	1.77	94	eP	Pn	13 24 33.4	-0.1
SNST				eS	Sn	13 24 56.0	-0.5
TWM1	Shoushan	1.78	107	eP	Pb	13 24 34.2	-1.1
TWM1				eS	Sb	13 24 58.2	+0.3
CHN1	Nanshi	1.80	95	iP	Pn	13 24 33.4	-0.5
CHN1				eS	Sb	13 24 57.4	-1.2
SCST	Cishan	1.82	105	eP	Pb	13 24 35.2	-0.8
WDLH	Douliu	1.82	79	eP	Pb	13 24 34.8	-1.2
WDLH				eS	Sn	13 24 57.0	-0.9
WGK	Gukeng	1.84	80	eP	Pn	13 24 34.3	-0.3
CHN4	Tsaushan	1.85	90	eP	Pn	13 24 34.5	-0.2
WCKO	Fanlu	1.86	87	eP	Pn	13 24 34.7	-0.1
WCKO				iS	Sb	13 24 59.6	-0.7
SGST	Jiashian	1.86	98	iP	Pn	13 24 33.9	-1.0
SGST				eS	Sb	13 24 59.3	-1.1
SGLT	Jiouru	1.87	110	eP	Pb	13 24 35.7	-1.1
WTP	Ta-pu	1.87	93	eP	Pn	13 24 34.5	-0.5
WTP				eS	Sn	13 24 58.7	-0.4
TPUB	Ta-pu	1.88	92	P	Pn	13 24 34.6	-0.5
TPUB	Ta-pu	1.88	92	eP	Pn	13 24 34.4	-0.8
TPUB				eS	Sb	13 24 59.7	-1.3
TWP	Hsiaoliuchiu	1.93	121	eP	Pb	13 24 36.4	-1.5
TWP				eS	Sb	13 25 01.8	-0.5
WCH1	Changhua City	1.93	68	eP	Pb	13 24 36.4	-1.5
WCH1				eS	Sn	13 24 59.4	-1.2
CHN5	Tsauling	1.94	83	eP	Pn	13 24 35.3	-0.6
CHN5				iS	Sn	13 24 59.8	-1.1
WCHH	Zhanghua	1.94	68	eP	Pn	13 24 35.1	-0.9
WNT	Mingjian	1.99	75	eP	Pn	13 24 36.2	-0.4
TSMG	Majia	2.01	109	eP	Pn	13 24 36.0	-0.8
WJS	Zhushan	2.02	77	eP	Pn	13 24 36.2	-0.8
WJS				eS	Sn	13 25 02.4	-0.4
STYH	Taoyuan	2.02	95	eP	Pn	13 24 36.8	-0.3
STYH				eS	Sn	13 25 01.6	-1.3
MASBT	Mashibuluo	2.03	111	P	Pn	13 24 36.5	-0.7
MASBT				eS	Sb	13 25 04.0	-1.2
ALS	Alishan	2.04	85	⇓P	Pn	13 24 37.3	-0.3
ALS				eS	Sn	13 25 02.8	-1.1
WHYT	Xinyi Township	2.11	81	P	Pn	13 24 37.6	-0.7
WHYT				eS	Sn	13 25 04.3	-0.7
SCZT	Fangliau	2.12	117	eP	Pn	13 24 37.6	-0.8
WDJ	Dajia District	2.12	62	eP	Pn	13 24 37.7	-0.7
TYC	Yuchr	2.15	75	P	Pn	13 24 38.2	-0.6
TYC				eS	Sn	13 25 04.9	-1.1
SMLT	Sun Moon Lake	2.19	76	⇑eP	Pn	13 24 37.8	-1.6
SMLT				eS	Sn	13 25 05.1	-2.0
SSLB	Suanglung	2.21	79	P	Pn	13 24 39.2	-0.5
SSLB	Suanglung	2.21	79	⇑P	Pn	13 24 38.9	-0.8
SSLB				iS	Sn	13 25 06.8	-0.9
TWQ1	Liyutan	2.23	64	eP	Pn	13 24 39.4	-0.5
WCS	Beigang Elemen	2.24	72	eP	Pn	13 24 39.4	-0.7
WCS				eS	Sn	13 25 07.2	-1.1
ELDTW	Lidau	2.24	94	P	Pn	13 24 40.0	-0.2
EAST	Anshuo	2.31	115	eP	Pn	13 24 40.3	-0.7
EAST				eS	Sn	13 25 08.8	-1.1
ECL	Taimali	2.31	109	eP	Pn	13 24 40.4	-0.7
NMLH	Miaoli	2.33	60	eP	Pn	13 24 41.0	-0.3
SLIU	Shizi	2.34	119	eP	Pn	13 24 40.7	-0.7
WHP	Taichung City	2.35	67	P	Pn	13 24 40.7	-0.9
TWG	Pinlang	2.35	103	P	Pn	13 24 41.4	-0.2
TAW	Tawu	2.36	115	eP	Pn	13 24 41.0	-0.6
TAWH	Dawu Township	2.36	115	eP	Pn	13 24 41.1	-0.5
TAWH				eS	Sn	13 25 09.3	-1.8
TWGBT	Beinan	2.36	103	P	Pn	13 24 42.0	+0.3
TWGBT	Beinan	2.36	103	P	Pn	13 24 41.4	-0.3
TWGBT				eS	Sn	13 25 12.1	+0.9
TWDT	VWDT	2.38	80	⇓P	Pn	13 24 42.1	+0.2
VWDT				eS	Sn	13 25 11.3	-0.3
LONT	Longtian	2.39	100	eP	Pn	13 24 42.6	+0.5
HEN	Hengchun	2.41	124	eP	Pn	13 24 42.0	-0.3
HEN				eS	Sn	13 25 12.8	+0.5
WUSB	Renai	2.41	74	P	Pn	13 24 42.0	-0.5
WUSB				S	Sn	13 25 11.4	-1.1
EHD	Haiduan	2.42	95	P	Pn	13 24 43.0	+0.4
EHD				S	Sn	13 25 11.7	-1.0
ECS	Chishang	2.44	96	P	Pn	13 24 43.3	+0.5
ECS				eS	Sn	13 25 12.0	-1.1
OWD	Renai	2.45	76	iP	Pn	13 24 42.8	-0.2
OWD				eS	Sn	13 25 12.8	-0.7
SMST	Manzhou Townsh	2.47	122	eP	Pn	13 24 42.8	-0.4
SMST				eS	Sn	13 25 14.6	+0.6
TWK1	Hengchun	2.49	124	⇑P	Pn	13 24 43.1	-0.4
TWK1				eS	Sn	13 25 13.0	-1.5
TWF1	Yuli	2.49	90	eP	Pn	13 24 43.9	+0.3
TWF1				eS	Sn	13 25 13.8	-0.7
YULB	Yu-li	2.49	89	P	Pn	13 24 43.9	+0.3
YULB	Yu-li	2.49	89	eP	Pn	13 24 43.6	+0.1
FULB	Fuli	2.50	93	eP	Pn	13 24 44.5	+0.9
FULB				eS	Sn	13 25 15.5	+0.9
TWKBT	Hengchun	2.50	124	P	Pn	13 24 42.9	-0.7
TWKBT				eS	Sn	13 25 14.4	-0.2
EYUL	Yuli	2.51	90	eP	Pn	13 24 44.3	+0.5
EHY	Hungye	2.52	86	eP	Pn	13 24 44.7	+0.8
EHY				eS	Sn	13 25 14.3	-0.8
TDCB	Techi	2.52	69	eP	Pn	13 24 43.3	-0.7
EDH	Donghe	2.53	98	P	Pn	13 24 44.6	+0.5
EDH				iS	Sn	13 25 15.1	-0.4
TWT	Tachien	2.53	69	eP	Pn	13 24 43.4	-0.8
TWT				eS	Sn	13 25 15.1	-0.6
EHYH	Wanrong	2.54	87	eP	Pn	13 24 44.8	+0.7
NSTT	Nanjuang	2.54	60	P	Pn	13 24 43.6	-0.7
LIOB	Emei	2.56	60	eP	Pn	13 24 43.8	-0.7
CHKT	Chengkung	2.57	95	eP	Pn	13 24 45.5	+0.9
WHF	Hehuan Shan	2.58	72	iP	Pn	13 24 45.3	+0.2
WHF				eS	Sn	13 25 16.8	-0.3
FUSS	Fushou	2.59	70	eP	Pn	13 24 44.5	-0.6
CHKH	Chenggong	2.59	93	eP	Pn	13 24 45.7	+0.8
CHKH				eS	Sn	13 25 16.7	-0.2
WARBT	Fenglin Townsh	2.60	82	eP	Pn	13 24 45.6	+0.7
WARBT				eS	Sn	13 25 17.6	+0.6
HSN	Hsinchu	2.61	56	P	Pn	13 24 45.9	+0.7
HSN				eS	Sn	13 25 18.3	+1.0
HGSD	Ruisui	2.61	87	P	Pn	13 24 46.2	+1.1
HGSD				eS	Sn	13 25 16.7	-0.7
SBCB	Hsinchu	2.62	57	eP	Pn	13 24 44.4	-0.8
EGFH	Guangfu	2.63	83	eP	Pn	13 24 46.1	+0.7
EGFH				S	Sn	13 25 18.4	+0.6
NFF	Wufeng Townshi	2.64	61	eP	Pn	13 24 44.8	-0.8
ESL	Shilin	2.65	80	eP	Pn	13 24 45.9	+0.2
ESL				eS	Sn	13 25 18.4	0.0
LXIB	Xiulin Townshi	2.67	75	eP	Pn	13 24 45.9	-0.2
LXIB				eS	Sn	13 25 18.6	-0.5
ETM	Tongmen	2.73	77	eP	Pn	13 24 47.2	+0.4
LDUT	Ludao	2.75	104	eP	Pn	13 24 46.9	-0.1
LDUT				iS	Sn	13 25 19.9	-0.7
MHZQ	Yeshan	2.75	8	eP	Pn	13 24 46.9	-0.2
KSHI	Guanxi Townshi	2.75	59	eP	Pn	13 24 46.7	-0.4
SHUL	Shoufeng	2.77	81	eP	Pn	13 24 47.9	+0.6
NNS	Nan Shan	2.77	67	eP	Pn	13 24 46.5	-0.9
NNS				iS	Sn	13 25 19.6	-1.8
NNSB	Datong	2.77	67	eP	Pn	13 24 46.4	-1.1
NNSB				S	Sn	13 25 20.9	-0.6
ETLH	Xiulin Townshi	2.78	72	eP	Pn	13 24 47.1	-0.5
ETLH				eS	Sn	13 25 22.0	+0.2
HWA	Hwalien	2.84	77	eP	Pn	13 24 48.8	+0.6
TWD	Chiawan	2.85	75	eP	Pn	13 24 48.4	0.0
TWD				eS	Sn	13 25 22.4	-0.8
NSK	Sanguang	2.85	62	⇑eP	Pn	13 24 47.6	-1.7
NCUH	Zhongli	2.86	56	eP	Pn	13 24 47.9	-0.8
YHNB	Yeheng	2.87	62	P	Pn	13 24 47.8	-0.9
YHNB	Yeheng	2.87	62	⇑P	Pn	13 24 47.8	-0.9
YHNB				iS	Sn	13 25 22.8	-1.0
NACB	Ninganchiao	2.87	73	P	Pn	13 24 49.4	+0.6
NACB	Ninganchiao	2.87	73	eP	Pn	13 24 48.4	-0.4
ENTT	Nioudou	3.01	64	eP	Pn	13 24 50.2	-0.4
NWLT	Wulai	3.02	62	eP	Pn	13 24 50.0	-0.7
MATB	Ma-tsu	3.04	24	eP	Pn	13 24 50.4	-0.6
EAHA	Aohua	3.04	71	eP	Pn	13 24 52.3	+1.2
EAHA				eS	Sn	13 25 27.0	-1.1
FUSB	Fushanzhiwuyua	3.08	63	eP	Pn	13 24 50.9	-0.8
ENA	Nanau	3.08	69	eP	Pn	13 24 51.6	0.0
ENA				eS	Sn	13 25 28.4	-0.5
EWUT	Wuta	3.12	69	eP	Pn	13 24 52.5	+0.5
EWUT				eS	Sn	13 25 28.4	-1.5
TWE	Neicheng	3.13	64	eP	Pn	13 24 51.9	-0.4
TWE				eS	Sn	13 25 30.6	+0.5
NDS	Dongshan	3.13	66	eP	Pn	13 24 52.2	-0.1
SXFK	Yanhouchang	3.14	344	eP	Pn	13 24 52.1	-0.4
NTST	Danshui	3.17	55	eP	Pn	13 24 52.6	-0.3
ESAO	Su ao	3.22	67	eP	Pn	13 24 54.1	+0.7
ESAO				eS	Sn	13 25 31.2	-1.2
TWC	Suao	3.23	67	eP	Pn	13 24 54.0	+0.3
TWC				eS	Sn	13 25 31.8	-0.9
ANP	Anpu	3.24	55	eP	Pn	13 24 53.2	-0.6
YM01	YM01	3.25	56	eP	Pn	13 24 53.4	-0.7
YM08	YM08	3.29	56	eP	Pn	13 24 53.4	-1.1
TWY	Chenhua	3.34	55	eP	Pn	13 24 54.7	-0.5
TIPB	Shuangxi	3.37	61	eP	Pn	13 24 54.4	-1.2
TIPB				eS	Sn	13 25 34.8	-1.3
WFSB	Wu-fen Shan	3.38	59	eP	Pn	13 24 54.6	-1.0
EGS		3.40	64	eP	Pn	13 24 56.2	+0.3
SXI1	Grass Mountain	3.46	60	eP	Pn	13 24 56.3	-0.7
EOS2	EOS2	3.50	72	eP	Pn	13 24 58.8	+1.6
TWB1	Santiao Chiao	3.51	62	eP	Pn	13 24 57.1	-0.4
EOS3	EOS3	3.54	74	eP	Pn	13 24 58.5	+0.7
XPSS	Dashiqiu	3.84	22	eP	Pn	13 25 01.7	-0.3
PCYT	Pengchaiyu	3.90	54	eP	Pn	13 25 02.4	-0.4
YOJ	Yonaguni jima	4.20	74	eP	Pn	13 25 07.8	+0.8
QIZ	Qiongzhong	9.22	244	P	Pn	13 26 15.3	-0.7
QIZ				S	Sn	13 28 00.5	+0.1
QIZ				smax	smax		

comp=N,38nm,1.0s

QIZ				smax	smax		

comp=E,47nm,1.8s

XAN	Xi'an	13.59	324	P	Pn	13 27 19.0	+3.2
XAN				pmax	pmax		

comp=Z,9.0nm,0.8s

JNU	Nakatsue	14.54	45	LR	LR	13 33 13.9	

comp=Z,58nm,20.2s,baz=248,slow=37

KSRS	Korea Array	16.18	28	Pn	P	13 27 53.4	-0.3

0.1nm,0.3s,baz=206,slow=12,SNR=4.6

KSRS				LR	LR	13 34 12.1	

comp=Z,13nm,21.6s,baz=225,slow=37
1.3nm,0.8s

MJAR	Matsushiro Arr	21.43	48	LR	LR	13 37 12.3	

comp=Z,34nm,20.4s,baz=188,slow=36

ZALV	Zalesovo Beam	39.68	329	P	P	13 31 38.6	+3.3

0.4nm,0.4s,baz=140,slow=7.8,SNR=3.9
0.4nm,0.4s

AAK	Ala-Archa	41.13	309	LR	LR	13 51 13.3	

comp=Z,32nm,19.4s,baz=31,slow=39

KURBB	Kurchatov Arra	41.23	322	P	P	13 31 52.1	+3.9

1.3nm,0.9s,baz=127,slow=7.1,SNR=9.3
1.3nm,0.9s

WRA	Warramunga Arr	45.70	159	P	P	13 32 23.3	-1.2

1.3nm,0.7s,baz=343,slow=8.9,SNR=13
1.3nm,0.7s

ASAR	Alice Springs	49.06	161	P	P	13 32 49.5	-1.1

1.0nm,0.7s,baz=340,slow=6.9,SNR=19
1.0nm,0.7s

ILAR	Eielson Array	71.02	27	P	P	13 35 25.8	+4.8

0.4nm,0.9s,baz=276,slow=5.8,SNR=2.0
0.4nm,0.9s

*ISN **26** 13:25:17.2±0.8, 34°.29N×45°.60E, h6km±21km, ML3.0*
*TEH **26** 13:25:19.1, 34°.27N×45°.65E, h10km±154km, ML2.9*

ISC 26 13:25:20.0±0.9, 34°29N±0°.04×45°68E±0°.05, h18km, n9, σ0°99/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.22	341	Pg	Pg	13 25 24.4	-1.0
GLG1	Gilan-e-Gharb	0.26	133	Pg	Pg	13 25 24.1	-2.0
IDHR	Dehrash	0.71	55	Pg	Pb	13 25 33.5	-0.6
IDHR				Sg	Sb	13 25 44.7	+1.0
IGHG	Ghaleghazi	0.74	87	Pg	Pb	13 25 34.6	0.0
KCHF	Cheshme Sefid,	1.13	91	Pg	Pb	13 25 42.4	+1.2
IBDR	Badra	1.20	170	ePg	Pn	13 25 42.0	+0.1
IBDR				eSg	Sg	13 26 00.0	+1.1
BHD	Baghdad	1.48	227	ePn	Pn	13 25 46.0	+0.2
BHD				eSn	Sb	13 26 06.0	+0.4
IKRK	Kirkuk	1.56	316	ePn	Pn	13 25 47.0	+0.1
IKRK				eSn	Sb	13 26 08.0	+0.3
IKRK				AML	AML	13 26 12.8	

comp=N,229nm,0.6s

IKRK				AML	AML	13 26 13.2	

comp=E,221nm,0.4s

SNQR	Sonqor, Kerman	1.71	70	Pg	Pb	13 25 51.8	+0.7

*TEH **26** 13:32:52.8, 34°.37N×45°.77E, h10km±198km, ML2.7*
*ISN **26** 13:32:53.5±0.6, 34°.18N×45°.12E, h7km±4km, ML3.0*

ISC 26 13:32:51.8±1.1, 34°37N±0°.04×45°71E±0°.04, h24km±9km, n9, σ2°18/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.17	324	Pg	Pb	13 32 56.9	-0.2
KGS1				Sg	Sb	13 33 01.0	+0.4
GLG1	Gilan-e-Gharb	0.30	147	Pg	Pb	13 32 58.7	-0.1
IDHR	Dehrash	0.65	59	Pg	Pb	13 33 04.2	-0.4
IDHR				Sg	Sb	13 33 14.1	+0.7
IGHG	Ghaleghazi	0.71	93	Pg	Pb	13 33 06.1	+0.4
ILIN	Lien	1.17	61	Pg	Pb	13 33 14.9	+1.4
IBDR	Badra	1.27	172	ePg	Pb	13 33 18.0	+3.0
IBDR				eSg	Sb	13 33 35.0	+4.2
IKRK	Kirkuk	1.53	313	ePn	Pb	13 33 21.0	+1.5
IKRK				eSn	Sb	13 33 41.0	+2.5
IKRK				AML	AML	13 33 46.0	

comp=E,382nm,0.5s

IKRK				AML	AML	13 33 46.1	

comp=N,173nm,0.1s

BHD	Baghdad	1.56	226	ePn	Pn	13 33 17.0	-1.0
BHD				eSn	Sn	13 33 34.0	-3.4
RAFI	Al-Rafai	2.66	173	ePn	Pb	13 33 38.0	-0.7
RAFI				eSn	Sb	13 34 10.0	-0.8

IDC 26 13:40:23.7±1.8, 2°45N×127°60E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=150.7km s-min=24.8km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.21	164	P	P	13 45 33.0	+0.4

1.1nm,0.7s,baz=343,slow=10.0,SNR=9.2
1.1nm,0.7s

ASAR	Alice Springs	26.67	167	P	P	13 46 04.7	+0.1

0.2nm,0.5s,baz=352,slow=7.5,SNR=7.9
0.2nm,0.5s

STKA	Stephens Creek	36.63	160	P	P	13 47 30.9	-1.2

0.5nm,0.3s,baz=355,slow=6.6,SNR=5.2
0.5nm,0.3s

KURBB

SMHA				S	Sb	13 44 22.8	-0.8
FSK	**Fiskardo**	**0.80**	**11**	P	Pg	13 44 17.5	-0.7
FSK				S	Sb	13 44 29.3	+0.6
598nm,0.4s							
FSK	**Fiskardo**	**0.80**	**11**	P	Pg	13 44 17.5	-0.7
FSK				S	Sb	13 44 28.9	+0.2
RLS	**Riolos of Patr**	**0.95**	**66**	P	Pg	13 44 20.3	-0.7
RLS				S	Sn	13 44 34.0	-0.6
280nm,0.6s							
RLS	**Riolos of Patr**	**0.95**	**66**	P	Pg	13 44 20.5	-0.5
RLS				S	Sn	13 44 34.1	-0.5
AXS	**Araxos**	**0.95**	**57**	P	Pb	13 44 21.3	+0.5
AXS				S	Sb	13 44 33.7	+0.5
EVGI	**Lefkada island**	**0.97**	**14**	P	Pg	13 44 20.6	-0.8
EVGI				S	Sb	13 44 34.6	+0.8
595nm,0.2s							
EVGI	**Lefkada island**	**0.97**	**14**	P	Pg	13 44 20.9	-0.6
EVGI				S	Sn	13 44 34.9	-0.3
NYDR	**Nydri-Lefkada**	**1.07**	**14**	P	Pg	13 44 22.3	-1.0
NYDR				S	Sn	13 44 37.8	+0.3
405nm,0.5s							
NYDR	**Nydri-Lefkada**	**1.07**	**14**	P	Pg	13 44 22.5	-0.8
NYDR				S	Sb	13 44 36.6	+0.1
AMT	**Artemida-Makis**	**1.08**	**97**	P	Pb	13 44 23.3	+0.4
AMT				S	Sn	13 44 38.8	+1.1
DRO	**Drossia**	**1.10**	**75**	P	Pg	13 44 22.8	-1.1
DRO				S	Sn	13 44 39.1	+0.8
612nm,0.5s							
DRO	**Drossia**	**1.10**	**75**	P	Pb	13 44 23.4	+0.1
PDO	**Prodromos**	**1.13**	**35**	P	Pb	13 44 23.6	-0.1
PDO				S	Sn	13 44 40.4	+1.4
TSLK	**Tsoukalades, L**	**1.17**	**11**	P	Pb	13 44 23.9	-0.6
TSLK				S	Sn	13 44 40.6	+0.5
502nm,0.5s							
TSLK	**Tsoukalades, L**	**1.17**	**11**	P	Pn	13 44 24.9	+0.6
TSLK				S	Sn	13 44 41.7	+1.6
PVO	**Paravola**	**1.31**	**44**	P	Pb	13 44 27.1	+0.2
PVO				S	Sg	13 44 46.5	+1.5
ITM	**Ithomi**	**1.34**	**111**	P	Pg	13 44 28.1	-0.3
ITM				S	Sg	13 44 46.3	+0.5
160nm,0.6s							
ITM	**Ithomi**	**1.34**	**111**	P	Pg	13 44 28.0	-0.3
PYL	**PYLOS**	**1.34**	**125**	P	Pn	13 44 27.2	+0.4
VVK	**Vomvokou**	**1.36**	**56**	P	Pg	13 44 28.6	-0.3
EFP	**Efpalio**	**1.43**	**58**	P	Pb	13 44 28.7	-0.2
KLV	**Kalavryta, Ach**	**1.46**	**75**	P	Pg	13 44 30.2	-0.5
ANX	**Ano Chora**	**1.53**	**53**	P	Pb	13 44 30.3	-0.4
GUR	**Goura**	**1.59**	**80**	P	Pb	13 44 31.5	-0.2
ESDC	**Sonseca Array**	**19.09**	**284**	P	Pn	13 48 52.4	+27
0.4nm,0.6s,baz=94,slow=16,SNR=5.5							
ESDC				LR	LR	13 55 55.5	
comp=Z,29nm,20.4s,baz=334,slow=34							
0.4nm,0.6s							
FINES	**FINESS Array B**	**24.06**	**7**	P	**P**	**13 49 17.3**	**+0.5**
1.2nm,0.6s,baz=171,slow=9.7,SNR=6.7							
1.2nm,0.6s							
ZALV	**Zalesovo Beam**	**46.12**	**48**	P	**P**	**13 52 24.9**	**-1.0**
0.9nm,0.5s,baz=274,slow=7.7,SNR=4.3							
0.9nm,0.5s							
LBTB	**Lobatse**	**62.55**	**175**	LR	LR	14 27 49.7	
comp=Z,72nm,18.7s,baz=74,slow=41							

*NEIC **26** 13:46:12.7±2.2, 34°.64N±0°.02×96°.33W±0°.03, h6km±3km, mb_Lg2.3/14, ML2.6/21, ML3.1/9, Error ellipse: s-maj=3.4km s-min=2.0km az=111.0*

NEIC 26 13:46:12.6±2.4, 34°.67N±0°.02×96°.35W±0°.03, h5km±1km, Error ellipse: s-maj=3.8km s-min=2.9km az=111.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W35A	**Tecumseh**	**0.64**	**318**		Pg	13 46 25.3	+0.3
W35A				Sg	Sb	13 46 34.7	-0.9
W35A				IAML		13 46 37.8	
comp=E,249nm,0.4s							
W35A				IAML		13 46 39.7	
comp=N,239nm,0.3s							
LOOK	**Love County**	**0.96**	**225**	Pg	Pb	13 46 31.8	0.0
LOOK				Sg	Sb	13 46 44.6	-0.2
LOOK				IAML		13 46 50.3	
comp=N,85nm,0.4s							
FNO	**Franklin**	**1.04**	**304**		Pg	13 46 32.0	-0.5
FNO					Sb	13 46 47.6	+0.6
FNO				IAML		13 46 53.1	
comp=N,157nm,0.5s							
FNO				IAML		13 46 54.3	
comp=E,146nm,0.1s							
DEOK	**Depew**	**1.17**	**354**		Pg	13 46 34.8	-0.3
DEOK				IAML		13 46 55.2	
comp=N,109nm,0.2s							
DEOK				IAML		13 46 56.3	
comp=E,151nm,0.2s							
X34A	**Smith Ranch, M**	**1.22**	**267**		Pg	13 46 35.9	-0.1
X34A					Sn	13 46 54.0	+0.8
TUL3	**Leonard**	**1.32**	**20**	Pg	Pn	13 46 37.3	-0.4
TUL3					Sn	13 46 55.8	+0.2
TUL3				IAML		13 46 59.9	
comp=N,77nm,0.4s							
TUL3				IAML		13 47 01.8	
comp=E,72nm,0.3s							
OK031	**S. Brethren Rd**	**1.34**	**343**		Pn	13 46 37.8	-0.2
OK052	**Battle Ridge R**	**1.37**	**345**		Pn	13 46 38.2	-0.2
OK052				IAmb_Lg		13 46 56.7	
comp=Z,16nm,1.3s							
QUOK	**Quay**	**1.52**	**349**		Pn	13 46 40.2	-0.3
Z35A	**Perchaven, San**	**1.53**	**209**		Pn	13 46 40.3	-0.3
Z38A	**Mt. Pleasant**	**1.81**	**141**		Pb	13 46 45.5	-0.7
RLO	**Rose Lookout**	**1.84**	**36**		Pn	13 46 44.9	0.0
OK051	**E0350 and S346**	**1.87**	**348**		Pn	13 46 45.1	-0.1
WTFS	**Witchita Falls**	**1.97**	**243**	Pn	Pn	13 46 46.5	-0.2
FW06	**Azle**	**1.97**	**211**		Pn	13 46 47.6	+1.0
WMOK	**Wichita Mounta**	**2.00**	**273**	Pn	Pn	13 46 47.9	+0.9
T35A	**Sooner Cattle**	**2.24**	**357**	Pn	Pn	13 46 49.9	-0.5
MIAR	**Mount Ida**	**2.29**	**92**	Pn	Pn	13 46 51.5	+0.5
FW07	**Weatherford**	**2.30**	**212**	IAmb_Lg		13 47 26.6	
comp=Z,14nm,0.9s							
PLPT	**Palo Pinto**	**2.47**	**222**	Pn	Pn	13 46 53.5	0.0
ABTX	**Abilene, Hawle**	**3.42**	**234**	IAmb_Lg		13 48 05.2	
comp=Z,9.3nm,1.0s							
DKNS	**Dickens**	**3.92**	**256**	IAmb_Lg		13 48 25.2	
comp=Z,8.2nm,1.0s							
BRDY	**Brady**	**4.04**	**214**	IAmb_Lg		13 48 23.8	
comp=Z,8.0nm,0.8s							
AMTX	**Amarillo**	**4.39**	**274**	IAmb_Lg		13 48 40.0	
comp=Z,8.2nm,1.0s							

*NEIC **26** 13:52:51.5±2.3, 34°.64N±0°.02×96°.32W±0°.03, h6km±5km, mb_Lg2.3/7, ML2.5/21, ML3.0/9, Error ellipse: s-maj=3.8km s-min=2.4km az=124.0*

NEIC 26 13:52:50.4±2.5, 34°.64N±0°.01×96°.35W±0°.03, h5km±1km, Error ellipse: s-maj=4.7km s-min=2.9km az=111.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W35A	**Tecumseh**	**0.67**	**320**		Pb	13 53 04.2	-0.4
W35A				IAML		13 53 16.6	
comp=E,217nm,0.4s							
W35A				IAML		13 53 18.5	
comp=N,191nm,0.3s							
LOOK	**Love County**	**0.94**	**227**	Pg	Pb	13 53 09.3	+0.1
LOOK				IAML		13 53 29.5	
comp=E,72nm,0.2s							
FNO	**Franklin**	**1.06**	**306**	Pg	Pg	13 53 10.8	0.0
FNO					Sn	13 53 26.4	-0.8
FNO				IAML		13 53 31.8	
comp=N,148nm,0.3s							
FNO				IAML		13 53 33.0	
comp=E,123nm,0.1s							
DEOK	**Depew**	**1.21**	**354**		Pb	13 53 13.8	0.0
DEOK				IAML		13 53 33.9	
comp=N,95nm,0.2s							
DEOK				IAML		13 53 35.0	
comp=E,118nm,0.2s							
X34A	**Smith Ranch, M**	**1.23**	**269**		Pn	13 53 14.2	-0.1
TUL3	**Leonard**	**1.35**	**20**		Pb	13 53 16.0	-0.1
TUL3					Sn	13 53 34.5	+0.3
TUL3				IAML		13 53 38.6	
comp=N,65nm,0.4s							
TUL3				IAML		13 53 40.6	
comp=E,85nm,0.2s							
OK031	**S. Brethren Rd**	**1.37**	**343**		Pn	13 53 15.8	-0.4
OK052	**Battle Ridge R**	**1.40**	**345**		Pn	13 53 16.2	-0.4
Z35A	**Perchaven, San**	**1.51**	**210**		Pn	13 53 18.0	0.0
QUOK	**Quay**	**1.56**	**349**		Pn	13 53 18.8	0.0
OK048	**Pawnee Station**	**1.84**	**345**		Pn	13 53 22.8	+0.2
RLO	**Rose Lookout**	**1.87**	**35**	Pn	Pn	13 53 22.8	-0.3
OK051	**E0350 and S346**	**1.90**	**348**		Pn	13 53 23.5	0.0
WTFS	**Witchita Falls**	**1.96**	**244**		Pn	13 53 24.1	-0.2
FW03	**Perrin-Whitt E**	**2.14**	**222**	IAmb_Lg		13 54 03.5	
comp=Z,9.4nm,0.8s							
T35A	**Sooner Cattle**	**2.27**	**357**	Pn	Pn	13 53 28.9	+0.2
BRDY	**Brady**	**4.02**	**214**	IAmb_Lg		13 55 00.7	
comp=Z,5.4nm,0.8s							
SN07	**Snyder 07**	**4.08**	**249**	IAmb_Lg		13 55 09.1	
comp=Z,8.4nm,0.8s							
JCT	**Junction City**	**5.07**	**216**	IAmb_Lg		13 55 43.7	
comp=Z,12nm,0.9s							
DRIO	**Del Rio**	**6.34**	**216**	IAmb_Lg		13 56 17.6	
comp=Z,4.9nm,0.9s							

*IDC **26** 14:12:19.1±4.3, 39°.83S×71°.21W, h102km±37km, mb4.1/9, mbtmp4.4/10, MS3.5/1, Error ellipse: s-maj=29.3km s-min=13.8km az=95.0*

*SJA **26** 14:12:23.0±0.8, 39°.82S×71°.47W, h170km±4km, ML4.5, MW4.1*

*NEIC **26** 14:12:24.4±1.1, 39°.86S±0°.05×71°.42W±0°.09, h160km±5km, mb4.6/25, Error ellipse: s-maj=10.4km s-min=6.7km az=95.0*

*GUC **26** 14:12:25.0±0.8, 39°.86S×71°.52W, h161km±4km, ML4.5*

*VAO **26** 14:12:26.0±0.5, 39°.70S×71°.01W, h153km±11km, mb4.6*

ISC 26 14:12:24.5±0.6, 39°.84S±0°.03×71°.48W±0°.05, h162km±5km, n123, σ1°49/138, mb4.5/19, 6C-7D, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO06	**Curarrehue**	**0.25**	**2**	Pn	**Pn**	**14 12 46.7**	**+0.1**
GO06				Sn	**Sn**	**14 13 02.8**	**-0.6**
GO06	**Curarrehue**	**0.25**	**2**	⇓*i*P	**Pn**	**14 12 46.6**	**+0.1**
GO06				*i* S	**Sn**	**14 13 03.2**	**-0.2**
GO06	**Curarrehue**	**0.25**	**2**	*e*P	Pn	14 12 41.1	-5.5
GO06				*e*P		14 12 46.7	
GO06				*e*S	**Sn**	**14 13 03.7**	**+0.3**
LR05	**Currie**	**0.56**	**225**	Pn	**Pn**	**14 12 47.4**	**-0.1**
LR05				Sn	**Sn**	**14 13 04.7**	**-0.5**
LR05	**Currie**	**0.56**	**225**	⇓*i*P	**Pn**	**14 12 47.6**	**+0.2**
LR05				*i* S	**Sn**	**14 13 04.9**	**-0.3**
LR05				IAML		14 13 07.0	
comp=E,4μm,0.5s							
LR05	**Currie**	**0.56**	**225**	*e*P	**Pn**	**14 12 47.7**	**+0.2**
LR05				*e*S	**Sn**	**14 13 05.6**	**+0.4**
LR03	**Panguipulli**	**0.69**	**287**		**Pn**	**14 12 48.5**	**+0.3**
LR03				Sn	**Sn**	**14 13 06.3**	**-0.2**
LR03	**Panguipulli**	**0.69**	**287**	*i* P	**Pn**	**14 12 48.7**	**+0.4**
LR03				*i* S	**Sn**	**14 13 03.7**	**-2.8**
LR03				IAML		14 13 07.6	
comp=N,7μm,0.8s							
LR03	**Panguipulli**	**0.69**	**287**	*e*P	**Pn**	**14 12 48.1**	**-0.1**
LR03				*e*S	**Sn**	**14 13 06.0**	**-0.4**
LR03				IAML		14 13 12.2	
comp=Z,4μm,0.2s							
PLCA	**Paso Flores**	**1.15**	**142**	Pn	**Pn**	**14 12 51.3**	**-0.4**
PLCA	**Paso Flores**	**1.15**	**142**	LR	LR	14 13 04.8	
comp=Z,127nm,18.7s,baz=351,slow=44							
PLCA	**Paso Flores**	**1.15**	**142**	*e*P	**Pn**	**14 12 51.6**	**-0.1**
PLCA				*e*S	**Sn**	**14 13 12.5**	**-0.3**
PLCA	**Paso Flores**	**1.15**	**142**	*e*P	**Pn**	**14 12 51.6**	**-0.1**
PLCA				*e*S	**Sn**	**14 13 12.0**	**-0.7**
LL04	**Puerto Octay**	**1.28**	**213**		**Pn**	**14 12 52.3**	**-0.5**
LL04	**Puerto Octay**	**1.28**	**213**	⇓*i*P	**Pn**	**14 12 52.5**	**-0.4**
LL04	**Puerto Octay**	**1.28**	**213**	*e*P	**Pn**	**14 12 52.7**	**-0.1**
LL04				*e*S	Sn	14 13 01.0	-14
LR02	**Universidad Au**	**1.36**	**271**	*i* P	**Pn**	**14 12 53.9**	**+0.3**
LR02				*i* S	**Sn**	**14 13 14.6**	**-1.3**
LL03	**Petrohue**	**1.48**	**208**	Pn	**Pn**	**14 12 54.5**	**-0.2**
LR04	**Corral**	**1.50**	**268**	Pn	**Pn**	**14 12 55.0**	**+0.1**
LC02	**Puerto Saavedr**	**1.81**	**305**		**Pn**	**14 12 59.3**	**+1.1**
LC02	**Puerto Saavedr**	**1.81**	**305**	*i* P	**Pn**	**14 12 59.1**	**+0.9**
LC02				*i* S	**Sn**	**14 13 23.4**	**-0.8**
LC02				IAML		14 13 27.8	
comp=N,15μm,0.2s							
LL05	**Los Muermos**	**2.18**	**223**		**Pn**	**14 13 00.8**	**-1.5**
LL05	**Los Muermos**	**2.18**	**223**	*i* P	**Pn**	**14 13 00.8**	**-1.5**
LL05				*i* S	**Sn**	**14 13 28.9**	**-2.8**
LL05				IAML		14 13 32.1	
comp=N,1μm,0.2s							
BI04	**Isla Mocha**	**2.35**	**307**	*e*P	**Pn**	**14 13 05.0**	**+0.7**
BI04				*e*S	**Sn**	**14 13 33.3**	**-1.8**
BI04				IAML		14 13 36.3	
comp=N,7μm,0.2s							
LL01	**San Ignacio de**	**2.63**	**195**		**Pn**	**14 13 07.4**	**-0.3**
LL01	**San Ignacio de**	**2.63**	**195**	⇓*i*P	**Pn**	**14 13 07.7**	**-0.1**
LL01				*i* S	**Sn**	**14 13 39.9**	**-1.5**
LL01				IAML		14 13 43.8	
comp=E,352nm,0.8s							
LL01	**San Ignacio de**	**2.63**	**195**	*e*P	**Pn**	**14 13 07.5**	**-0.2**
LL01				*e*S	**Sn**	**14 13 42.2**	**+0.9**
LL06	**Loncomilla**	**2.88**	**214**	Pn	**Pn**	**14 13 08.8**	**-2.0**
LL06	**Loncomilla**	**2.88**	**214**	⇓*i*P	**Pn**	**14 13 08.8**	**-2.0**
LL06				*i* S	**Sn**	**14 13 43.0**	**-3.7**
LL06				IAML		14 13 45.1	
comp=N,4μm,0.6s							
TBIO	**Turbio**	**3.15**	**192**	⇓*i*P	**Pn**	**14 13 13.6**	**-0.6**
BI02	**San Fabin de**	**3.17**	**3**	Pn	**Pn**	**14 13 14.8**	**+0.2**
BI02	**San Fabin de**	**3.17**	**3**	⇑*i*P	**Pn**	**14 13 15.1**	**+0.4**
BI02				*i* S	**Sn**	**14 13 53.6**	**+0.1**
LL02	**Futaleuf**	**3.36**	**185**	Pn	**Pn**	**14 13 16.1**	**-0.8**
BI05	**Punta Hualpn**	**3.36**	**336**	Pn	**Pn**	**14 13 16.7**	**-0.2**
BI05	**Punta Hualpn**	**3.36**	**336**	*i* P	**Pn**	**14 13 16.7**	**-0.2**
BI05				*i* S	**Sn**	**14 13 54.0**	**-3.6**
BI05				IAML		14 13 58.8	
comp=E,552nm,0.2s							
GO07	**Millades Hill,**	**3.66**	**206**		**Pn**	**14 13 18.6**	**-2.0**
GO07	**Millades Hill,**	**3.66**	**206**	⇓*i*P	**Pn**	**14 13 18.7**	**-1.9**
GO07				*i* S	**Sn**	**14 13 59.4**	**-5.0**
GO07	**Millades Hill,**	**3.66**	**206**	*e*P	**Pn**	**14 13 18.8**	**-1.8**
GO07				*e*S	**Sn**	**14 14 01.4**	**-3.0**
GO07				IAML		14 14 06.0	
comp=Z,1μm,0.2s							
ML02	**Panimavida**	**4.07**	**1**		**Pn**	**14 13 25.5**	**-0.5**
GO05	**Hualane**	**4.83**	**356**		**Pn**	**14 13 35.0**	**-1.0**
GO05	**Hualane**	**4.83**	**356**	*e*P	**Pn**	**14 13 34.8**	**-1.1**
GO05				*e*S	**Sn**	**14 14 28.8**	**-3.0**
GO05				IAML		14 14 31.7	
comp=Z,323nm,0.2s							
BO02	**Sierra Bellavi**	**5.07**	**7**	Pn	**Pn**	**14 13 38.4**	**-0.7**
BO02	**Sierra Bellavi**	**5.07**	**7**	*e*P	**Pn**	**14 13 37.9**	**-1.2**
BO02				*e*S	**Sn**	**14 14 35.7**	**-1.7**
BO02				IAML		14 14 42.3	
comp=Z,247nm,0.1s							
BO01	**Tunca**	**5.45**	**3**	Pn	**Pn**	**14 13 42.1**	**-1.9**
BO01	**Tunca**	**5.45**	**3**	*e*P	**Pn**	**14 13 42.4**	**-1.6**
BO01				*e*S	**Sn**	**14 14 41.1**	**-5.1**
BO01				IAML		14 14 45.4	
comp=Z,94nm,0.5s							
COYC	**Coyhaique**	**5.75**	**184**		**Pn**	**14 13 46.9**	**-1.0**
BO04	**La Punta**	**5.88**	**7**		**Pn**	**14 13 48.0**	**-1.8**
MT01	**Popeta**	**5.96**	**2**		**Pn**	**14 13 48.2**	**-2.7**
MT09	**Talagante**	**6.06**	**4**		**Pn**	**14 13 49.5**	**-2.8**
LMEL	**Las Melosas**	**6.07**	**10**		**Pn**	**14 13 52.2**	**-0.2**
MT13	**San Alfonso**	**6.16**	**9**		**Pn**	**14 13 52.2**	**-1.4**
TRQA	**Tornquist**	**7.62**	**80**	Pn	**Pn**	**14 14 12.3**	**-0.4**
H03S1	**Juan Fernandez**	**8.43**	**313**	T	T	14 22 10.7	
baz=145,slow=74,SNR=3.0							
H03S3	**Juan Fernandez**	**8.45**	**313**	T	T	14 22 07.6	
baz=145,slow=74,SNR=2.8							
H03S2	**Juan Fernandez**	**8.45**	**313**	T	T	14 22 21.1	
baz=145,slow=74,SNR=13							
VA04	**Juan Fernndez**	**8.54**	**314**		**Pn**	**14 14 25.9**	**+0.9**
ZON	**Zonda**	**8.58**	**16**	Pn	**Pn**	**14 14 22.4**	**-3.2**
PSAL	**Palomas, Salto**	**14.28**	**57**	*e*P	**Pn**	**14 15 37.9**	**-1.4**
PB14	**IPOC Station P**	**15.20**	**4**	P	**P**	**14 15 52.5**	**+0.1**
PB14				IAmb	IAmb	14 15 54.3	
comp=Z,30nm,0.7s							
CPSB	**Cacapava Do Su**	**17.48**	**63**	*e*P	**P**	**14 16 15.0**	**-2.2**
PB04	**IPOC Station P**	**17.49**	**4**	P	**P**	**14 16 17.8**	**+0.3**
PB04				IAmb	IAmb	14 16 19.3	
comp=Z,26nm,0.9s							
CPUP	**Villa Florida**	**17.92**	**46**	P	**P**	**14 16 19.2**	**-2.7**
comp=Z,1.4nm,0.3s,baz=213,slow=11,SNR=3.9							
PB01	**IPOC Station P**	**18.81**	**6**	IAmb	IAmb	14 16 33.9	
comp=Z,24nm,0.9s							
TA01	**Diego Aracena**	**19.24**	**4**	P	**P**	**14 16 35.9**	**-0.5**
HMBC	**Humberstone**	**19.54**	**4**	IAmb	IAmb	14 16 41.6	
comp=Z,20nm,0.7s							
PB08	**IPOC Station P**	**19.73**	**6**	IAmb	IAmb	14 16 48.3	
comp=Z,23nm,1.2s							
AMBA	**Amambai (Brazi**	**21.90**	**45**	*e*P	**P**	**14 17 02.4**	**-2.4**
PB18	**Visviri**	**22.24**	**5**	IAmb	IAmb	14 17 13.2	
comp=Z,13nm,0.7s							
BDQN	**Bodoquena, MS**	**23.09**	**37**	*e*P	**P**	**14 17 14.3**	**-1.6**
AQDB	**Aquidauana**	**23.57**	**40**	P	**P**	**14 17 18.4**	**-1.9**
LPAZ	**La Paz**	**23.64**	**8**	IAmb	IAmb	14 17 24.8	
comp=Z,14nm,1.0s							
LPAZ	**La Paz**	**23.64**	**8**	P	**P**	**14 17 22.6**	**+1.0**
comp=Z,10nm,0.7s,baz=187,slow=7.8,SNR=23							
LPAZ				S	**S**	**14 21 30.8**	**+5.9**
comp=Z,2.2nm,0.4s,baz=138,slow=6.6,SNR=8.2							
comp=Z,10nm,0.7s							
LPAZ	**La Paz**	**23.64**	**8**	*e*P	**P**	**14 17 22.7**	**+1.0**
LDASE	**Londrina, Braz**	**23.78**	**52**	*e*P	**P**	**14 17 21.4**	**-0.8**
BBSD	**Serra de San D**	**24.47**	**26**	*e*P	**P**	**14 17 27.4**	**-1.1**
RPRD	**Ribas do Rio P**	**24.59**	**43**	*e*P	**P**	**14 17 28.8**	**-0.8**
PTLB	**Pontes e Lacer**	**26.59**	**27**	*e*P	**P**	**14 17 47.4**	**-0.2**
ITRB	**Iturama**	**27.06**	**48**	*e*P	**P**	**14 17 50.5**	**-1.3**
SALV	**Santo Antonio**	**27.54**	**34**	*e*P	**P**	**14 17 56.1**	**-0.1**
VILB	**Vilhena**	**28.57**	**24**	P	**P**	**14 18 04.7**	**-0.6**
VILB				IAmb	IAmb	14 18 08.3	
comp=Z,11nm,0.7s							
VILB	**Vilhena**	**28.57**	**24**	*e*P	**P**	**14 18 05.2**	**-0.1**
ARAG	**Araguaiana, MT**	**29.55**	**41**	*e*P	**P**	**14 18 13.9**	**0.0**
IPMB	**Ipameri, GO**	**29.66**	**49**	*e*P	**P**	**14 18 13.3**	**-1.7**
ETMB	**Extrema**	**30.26**	**10**	*e*P	**P**	**14 18 21.1**	**+0.8**
PDRB	**Porto dos Gac**	**31.00**	**29**	*e*P	**P**	**14 18 26.4**	**-0.3**
BDFB	**Brasilia**	**31.63**	**47**	P	**P**	**14 18 30.9**	**-1.5**
BDFB	**Brasilia**	**31.63**	**47**	P	**P**	**14 18 31.2**	**-1.2**
comp=Z,16nm,0.5s,baz=211,slow=7.8,SNR=18							
comp=Z,16nm,0.5s							
SAML	**Samuel**	**31.64**	**16**	P	**P**	**14 18 32.0**	**-0.3**
SAML				IAmb	IAmb	14 18 33.2	
comp=Z,13nm,1.4s							
SAML	**Samuel**	**31.64**	**16**	*e*P	**P**	**14 18 31.6**	**-0.7**
SNDB	**Serra Nova Dou**	**33.00**	**38**	*e*P	**P**	**14 18 43.0**	**-1.2**
NPGB	**Novo Progresso**	**35.72**	**28**	*e*P	**P**	**14 19 06.8**	**-0.8**
SDBA	**SAO DESIDERIO**	**36.01**	**48**	*e*P	**P**	**14 19 08.9**	**-1.2**
SMTB	**Santa Maria do**	**37.50**	**41**	*e*P	**P**	**14 19 22.1**	**-0.6**
MACA	**Manacapuru-AM**	**37.80**	**18**	*e*P	**P**	**14 19 24.9**	**-0.2**
OTAV	**Otavalo**	**40.39**	**349**	*e*P	**P**	**14 19 49.9**	**+2.7**
BOAV	**Boa Vista**	**43.22**	**16**	P	**P**	**14 20 09.2**	**-0.4**
BOAV				IAmb	IAmb	14 20 10.1	
comp=Z,10nm,0.7s							
BOAV	**Boa Vista**	**43.22**	**16**	*e*P	**P**	**14 20 09.2**	**-0.4**
VNA3	**Neumayer Olymp**	**43.83**	**156**	⇑P	**P**	**14 20 14.1**	**+0.2**
comp=Z,4.0nm,0.6s							
VNA1	**Neumayer--Stat**	**44.17**	**155**	⇑P	**P**	**14 20 16.3**	**-0.3**
comp=Z,4.8nm,0.8s							
VNA2	**Neumayer--Watz**	**44.50**	**155**	⇑P	**P**	**14 20 19.5**	**+0.3**
comp=Z,4.4nm,0.4s,baz=287,slow=8.9							
NBPB	**Pedra_Branca-C**	**44.61**	**49**	*e*P	**P**	**14 20 21.4**	**+0.7**
NBCA	**Caruaru-PE**	**44.65**	**55**	*e*P	**P**	**14 20 21.3**	**+0.1**
SNAA	**Sanae**	**46.05**	**156**	P	**P**	**14 20 31.6**	**+0.1**
SNAA	**Sanae**	**46.05**	**156**	⇑P	**P**	**14 20 30.7**	**-0.8**
comp=Z,5.3nm,0.2s							
SNAA	**Sanae**	**46.05**	**156**	P	**P**	**14 20 31.8**	**+0.3**
comp=Z,4.7nm,0.8s,baz=330,slow=17,SNR=38							
comp=Z,4.7nm,0.8s							
TROLL	**Troll, Antarti**	**47.75**	**156**	⇑P	**P**	**14 20 45.4**	**+0.7**
comp=Z,283nm,0.7s							
BAUV	**El Baul**	**48.64**	**5**	P	**P**	**14 20 51.7**	**-0.3**
QSPA	**South Pole Qui**	**50.41**	**180**	P	**P**	**14 21 05.8**	**+0.8**
QSPA	**South Pole Qui**	**50.41**	**180**	P	**P**	**14 21 06.4**	**+1.4**
comp=Z,5.7nm,0.7s,baz=147,slow=3.2,SNR=17							
comp=Z,5.7nm,0.7s							
MAW	**Mawson**	**67.47**	**163**	P	**P**	**14 23 03.2**	**+0.9**
comp=Z,2.8nm,0.7s,baz=171,slow=7.9,SNR=6.7							
comp=Z,2.8nm,0.7s							
TXAR	**Lajitas Array**	**75.05**	**331**	P	**P**	**14 23 49.8**	**+1.5**
comp=Z,0.9nm,0.7s,baz=153,slow=8.3,SNR=8.6							
comp=Z,0.9nm,0.7s							
DBIC	**Dimbokro**	**76.72**	**70**	P	**P**	**14 23 58.1**	**+0.2**
comp=Z,7.9nm,0.5s,baz=206,slow=5.7,SNR=17							
comp=Z,7.9nm,0.5s							
LCAR	**Lake Charles**	**77.68**	**344**	P	**P**	**14 24 03.0**	**+0.2**
CCM	**Cathedral Cave**	**79.61**	**344**	P	**P**	**14 24 13.6**	**+0.4**
CCM		

STON Ston 0.73 295 *e*Pg **Pg 14 17 50.7 -1.3**
STON Sg **Sb 14 18 02.3 -0.7**
STON Ston 0.73 295 ⇑*i*Pg **Pg 14 17 50.5 -1.5**
STON *e*Sg **Sg 14 18 01.8 +0.2**
KOME Kolasin 0.74 67 ⇓*i*Pg **Pg 14 17 51.0 -1.2**
KOME *i* Sg **Sb 14 18 03.5 +0.2**
ULC Ulcinj 0.77 141 ⇓*i*Pg **Pg 14 17 51.6 -1.2**
ULC *i* Sg **Sb 14 18 03.9 -0.2**
KALIN Kalinovik 0.95 353 ⇑*i*Pg **Pg 14 17 54.6 -1.6**
KALIN *e*Sg **Sg 14 18 08.3 -0.2**
PLE Pljevlja 0.96 37 ⇑*i*Pg **Pg 14 17 55.5 -1.0**
PLE *i* Sg **Sn 14 18 11.1 -0.6**
IVA Berane 1.00 72 ⇑*i*Pg **Pg 14 17 56.1 -1.2**
IVA *i* Sg **Sn 14 18 12.6 -0.1**
PVY Plav 1.01 88 ⇑*i*Pg **Pg 14 17 56.4 -0.9**
PVY *i* Sg **Sn 14 18 12.2 -0.6**
PUK Puka 1.09 118 Pg **Pg 14 17 58.4 -0.6**
RUDO Rudo 1.20 28 ⇓*i*Pg **Pb 14 17 58.7 -2.2**
RUDO *e*Sg **Sg 14 18 16.7 +0.2**
SJES Sjenica 1.23 55 *e*Pg **Pn 14 18 00.4 -1.1**
SJES *e*Sg **Sn 14 18 19.9 +1.6**
SJES Sjenica 1.23 55 Pg **Pn 14 18 00.0 -1.5**
SJES *e*Sg **Sb 14 18 17.3 -0.2**
LSTV Lastovo 1.27 280 *e*Pg **Pn 14 17 59.6 -2.3**
LSTV Sg **Sb 14 18 15.9 -2.7**
MAKA Makarska 1.37 303 *e*Pg **Pn 14 18 02.4 -0.9**
MAKA Sg **Sg 14 18 22.2 +0.3**
BBLS Lazi&#263i 1.43 24 *e*Pg **Pn 14 18 04.1 -0.1**
BBLS *e*Sg **Sg 14 18 25.0 +1.0**
BBLS Lazi&#263i 1.43 24 ⇑*i*Pg **Pn 14 18 04.1 -0.1**
BBLS *e*Sg **Sb 14 18 23.7 +0.4**
IVAS Ivanjica 1.53 48 *e*Pn **Pn 14 18 05.0 -0.5**
IVAS *e*Sn **Sg 14 18 28.4 +1.3**
TIR Tirane 1.54 142 **Pn 14 18 05.4 -0.2**
TIR Tirane 1.54 142 *e*Pg **Pb 14 18 06.0 -0.7**
TIR *e*Sg **Sb 14 18 26.5 +0.2**
TIR Tirane 1.54 142 ⇓P **Pb 14 18 06.5 -0.1**
TIR ⇑S **Sg 14 18 29.4 +2.0**
TIR Tirane 1.54 142 P **Pb 14 18 06.3 -0.4**
HAPS Han Pijesak,BI 1.54 10 *e*Pg **Pb 14 18 06.6 -0.3**
HAPS *e*Sg **Sg 14 18 28.6 +0.9**
HAPS Han Pijesak,BI 1.54 10 ⇑*i*Pn **Pn 14 18 06.2 +0.4**
HAPS *e*Sn **Sb 14 18 26.9 +0.3**
DIVS Divibare 1.84 33 *e*Pn **Pn 14 18 10.5 +0.6**
DIVS *e*Sn **Sg 14 18 36.5 -0.7**
SELS Selova 1.97 70 *e*Pn **Pb 14 18 12.9 -1.1**
SELS *e*Sn **Sb 14 18 38.4 -0.2**
GRUS Gruza 2.04 49 *e*Pn **Pn 14 18 13.1 +0.6**
GRUS *e*Sn **Sb 14 18 40.2 -0.5**
TEKS Tekeris 2.10 19 *e*Pn **Pn 14 18 13.3 -0.1**
TEKS *e*Sn **Sb 14 18 42.8 +0.4**
TEKS Tekeris 2.10 19 *e*Pn **Pn 14 18 13.5 +0.1**
TEKS *e*Sn **Sn 14 18 39.9 +0.3**
TRUS Trudelj 2.12 38 *e*Pn **Pn 14 18 14.0 +0.4**
TRUS *e*Sn **Sb 14 18 42.7 -0.3**
KIJV Kijevo 2.15 313 *e*Pn **Pn 14 18 15.5 +1.4**
KIJV Sn **Sb 14 18 44.1 +0.1**
OHR Ohrid 2.19 131 *i* Pn **Pb 14 18 18.0 +0.1**
DOB Doboj 2.20 351 *e*Pn **Pn 14 18 15.4 +0.7**
DOB *e*Sn **Sn 14 18 41.7 -0.3**
BARS Barje 2.39 83 *e*Pn **Pn 14 18 18.7 +1.4**
BARS *e*Sn **Sn 14 18 48.6 +1.9**
BLY Banja Luka 2.41 335 *e*Pn **Pn 14 18 19.5 +1.8**
BLY *e*Sn **Sb 14 18 51.2 -0.3**
BLY Banja Luka 2.41 335 *e*Pn **Pn 14 18 18.5 +0.8**
BLY *e*Sn **Sn 14 18 47.6 +0.3**
ZIRJ Zirje 2.42 298 *e*Pn **Pn 14 18 18.2 +0.4**
A050A Klekovaca 2.44 323 *e*Pn **Pn 14 18 19.3 +1.2**
A050A *e*Sn **Sn 14 18 48.9 +0.9**
MORI Morici 2.48 303 *e*Pn **Pn 14 18 19.8 +1.2**
MORI Sn **Sb 14 18 51.5 -1.9**
SCTE Santa Cesarea 2.49 182 Pn **Pn 14 18 18.0 -0.7**
BOVS Bovan 2.52 64 *e*Pn **Pn 14 18 19.4 +0.3**
BOVS *e*Sn **Sb 14 18 52.6 -1.8**
BOVS Bovan 2.52 64 ⇑P **Pn 14 18 19.7 +0.6**
BOVS ⇓S **Sb 14 18 52.7 -1.8**
AVAS Avala Beograd 2.55 32 *e*Pn **Pn 14 18 19.5 0.0**
AVAS *e*Sn **Sb 14 18 53.3 -2.0**
A051A Mrakovica 2.74 334 *e*Pn **Pn 14 18 22.4 +0.2**
A051A *e*Sn **Sn 14 18 55.6 +0.2**
FRGS Fruska Gora 2.74 18 *e*Pn **Pn 14 18 21.2 -1.0**
FRGS *e*Sn **Sn 14 18 56.4 +1.0**
FRGS Fruska Gora 2.74 18 *e*Pn **Pn 14 18 22.3 +0.1**
FRGS *e*Sn **Sn 14 18 55.8 +0.4**
UDBI Udbina 2.85 315 *e*Pn **Pn 14 18 25.9 +2.3**
UDBI Sn **Sb 14 19 01.7 -2.2**
BOSS Bosilegrad 2.87 90 *e*Pn **Pn 14 18 24.8 +0.8**
BOSS *e*Sn **Sn 14 19 00.9 +2.3**
KUBS Kucevo 2.91 49 *e*Pn **Pn 14 18 23.3 -1.1**
KUBS *e*Sn **Sn 14 19 01.8 +2.3**
ZAGS Zajecar 2.94 64 *e*Pn **Pn 14 18 25.3 +0.4**
ZAGS *e*Sn **Sn 14 19 02.4 +2.1**
DUGI Dugi Otok 2.95 300 *e*Pn **Pn 14 18 25.9 +0.9**
KEK Kerkira 2.99 162 Pn **Pn 14 18 25.1 -0.5**
ZAPS Zavoj 3.05 75 *e*Pn **Pn 14 18 27.8 +1.4**
ZAPS *e*Sn **Sn 14 19 04.7 +1.6**
VIRC Vir 3.11 305 *e*Pn **Pn 14 18 28.0 +0.8**
VIRC Sn **Sn 14 19 06.7 +2.4**
PLIT Plitvice 3.16 318 *e*Pn **Pn 14 18 29.9 +1.9**
MDVR Moldovita 3.17 44 ⇓P **Pn 14 18 28.9 +0.8**
BLKB Belogradchik 3.17 69 ⇓S **Sn 14 19 08.4 +2.4**
VAY Valandovo 3.21 111 *i* Pn **Pn 14 18 30.3 +1.6**
VRSS Vrsac 3.23 37 *e*Pn **Pn 14 18 29.4 +0.5**
VRSS *e*Sn **Sn 14 19 08.8 +2.3**
PEHC Pehcevo 3.29 102 *i* Pn **Pn 14 18 31.8 +2.0**
CUC Castrocucco 3.31 220 Pn **Pn 14 18 28.9 -1.2**
NVLJ Novalja 3.37 308 *e*Pn **Pn 14 18 31.4 +0.7**
NVLJ Sn **Sn 14 19 12.9 +2.2**
PAOL Paolisi 3.38 244 Pn **Pn 14 18 31.0 +0.1**
INTR Introdacqua 3.52 263 **Pn 14 18 32.8 -0.2**
RABC Rab 3.53 310 *e*Pn **Pn 14 18 33.9 +0.9**
DJES Djerdap 3.54 52 *e*Pn **Pn 14 18 33.6 +0.4**
DJES *e*Sn **Sn 14 19 16.5 +1.3**
HERR Herculane 3.61 49 ⇑P **Pn 14 18 35.4 +1.3**
HERR ⇑S **Sn 14 19 18.2 +1.4**
MORH Mrgy, Hungar 3.65 1 *e*Pn **Pn 14 18 34.4 -0.3**
MORH *e*Sn **Sn 14 19 17.9 +0.1**
MORH Mrgy, Hungar 3.65 1 ⇑P **Pn 14 18 35.0 +0.4**
MORH Mrgy, Hungar 3.65 1 P **Pn 14 18 34.9 +0.2**
TIP Timpagrande 3.66 203 Pn **Pn 14 18 33.5 -1.3**
BZS Buzias 3.75 34 ⇑P **Pn 14 18 36.4 +0.4**
BZS ⇓S **Sn 14 19 21.8 +1.5**
BOJS Bojanci 3.80 322 *i* Pn **Pn 14 18 37.9 +1.2**
BOJS *i* Sn **Sn 14 19 25.6 +4.0**
BOJS IAML 14 19 47.0
comp=Z,104nm,0.8s
BOJS Bojanci 3.80 322 *e*Pn **Pn 14 18 36.5 -0.2**
BOJS *e*Sn **Sn 14 19 21.1 -0.5**
CAMP Campotosto 3.83 271 **Pn 14 18 37.1 -0.2**
SRE Strehaia 3.95 56 ⇓P **Pn 14 18 40.3 +1.6**
CRES Cresnjevec Ost 3.97 326 ⇑*i*Pn **Pn 14 18 39.8 +0.8**
CRES *e*Sn **Sn 14 19 25.2 -0.5**
NRCA Norcia 4.05 276 **Pn 14 18 40.9 +0.6**
SURR Surduc 4.08 37 ⇑P **Pn 14 18 40.7 +0.2**
FDMO Fiordimonte 4.08 279 **Pn 14 18 41.3 +0.7**
GZR Gura Zlata 4.14 45 ⇑P **Pn 14 18 42.3 +0.9**
GZR ⇑S **Sn 14 19 30.3 +0.4**
SIRR Siria 4.30 30 ⇓P **Pn 14 18 43.7 0.0**
CEY Cerknica 4.37 318 ⇑*i*Pn **Pn 14 18 45.1 +0.5**
CEY *e*Sn **Sn 14 19 34.8 -0.8**
SKDS Skadanscina 4.45 314 *e*Pn **Pn 14 18 45.5 -0.2**
SKDS *e*Sn **Sn 14 19 36.2 -1.4**
MPLH Magyarpolny 4.67 351 P **Pn 14 18 49.9 +1.3**
LOT Lotru 4.72 51 ⇑P **Pn 14 18 50.8 +1.4**
LOT ⇑S **Sn 14 19 46.1 +1.8**
SOKA Soboth 4.84 330 *e*Pn **Pn 14 18 52.5 +1.5**
comp=Z,27nm,0.6s,SNR=15
SOKA *i* Sn **Sn 14 19 47.9 +0.7**
comp=Z,5.2nm,0.4s
OBKA Obir 4.89 325 *i* Pn **Pn 14 18 53.7 +1.9**
comp=Z,3.9nm,0.2s
OBKA *i* Sn **Sn 14 19 50.2 +1.6**
comp=Z,23nm,0.4s
OBKA Sg **Sg 14 20 19.7 +4.7**
comp=Z,56nm,0.6s
OBKA Obir 4.89 325 *e*Pn **Pn 14 18 51.4 -0.4**
OBKA *e*Sn **Sn 14 19 47.1 -1.5**
DRGR 5.15 33 ⇑P **Pn 14 18 56.5 +1.2**
ARSA Arzberg 5.17 336 *i* Pn **Pn 14 18 57.5 +1.9**
comp=Z,13nm,0.5s,SNR=9.8
ARSA *i* Sn **Sn 14 19 56.2 +0.9**
comp=Z,6.8nm,0.4s
ARSA Arzberg 5.17 336 *e*Pn **Pn 14 18 55.6 0.0**
ARSA *e*Sn **Sn 14 19 53.8 -1.5**
MARR Marisel-Cluj 5.23 37 ⇓P **Pn 14 18 57.3 +0.8**
MARR ⇓S **Sn 14 19 57.7 +0.9**
RDO Rodhopi 5.37 103 **Pn 14 18 58.1 -0.2**
RONA Rosalia, Austr 5.39 343 *e*Pn **Pn 14 19 00.3 +1.7**
comp=Z,3.5nm,0.3s,SNR=6.5
RONA *i* Sn **Sn 14 20 02.2 +1.4**
comp=Z,4.9nm,0.3s
MYKA Terra Mystica 5.39 321 *i* Pn **Pn 14 18 59.5 +0.9**
comp=Z,3.2nm,0.3s
MYKA *i* Sn **Sn 14 20 02.0 +1.2**
comp=Z,5.4nm,0.3s
PSZ Piszkesteto 5.43 9 **Pn 14 18 59.4 +0.2**
PSZ Piszkesteto 5.43 9 ⇑P **Pn 14 18 59.8 +0.6**
CONA Conrad Observa 5.70 341 *i* Pn **Pn 14 19 04.8 +1.8**
comp=Z,2.1nm,0.3s
CONA *e*Sn **Sn 14 20 09.3 +0.8**
comp=Z,8.8nm,0.5s
MODS Modra-Piesok 5.88 351 *e*PN **Pn 14 19 06.8 +1.4**
MODS *e*SN **Sn 14 20 11.6 -1.3**
VYHS Vyhne 5.94 2 *e*PN **Pn 14 19 07.5 +1.5**
VYHS *e*SN **Sn 14 20 14.5 +0.4**
ITM Ithomi 5.95 153 Pn **Pn 14 19 05.3 -1.0**
ABTA Abfaltersbach 6.03 316 *i* Pn **Pn 14 19 08.0 +0.6**
comp=Z,4.8nm,0.3s
ABTA *i* Sn **Sn 14 20 15.9 -0.6**
comp=Z,18nm,0.5s
MLR Muntele Rosu 6.05 59 Pn **Pn 14 19 09.3 +1.6**
comp=Z,0.6nm,0.3s,baz=198,slow=13,SNR=3.6
MLR Sn **Sn 14 20 19.5 +2.3**
comp=Z,0.6nm,0.3s,baz=124,slow=23,SNR=1.8
comp=Z,3.6nm,0.5s
MLR Muntele Rosu 6.05 59 ⇓P **Pn 14 19 08.8 +1.0**
KECS Kecovo 6.07 12 *e*PN **Pn 14 19 11.5 +3.6**
KECS *e*SN **Sn 14 20 16.2 -1.2**
CTI Castel Tesino 6.08 307 **Pn 14 19 07.7 -0.4**
MOA Molln 6.11 331 *i* Pn **Pn 14 19 10.2 +1.8**
comp=Z,4.4nm,0.3s
MOA *i* Sn **Sn 14 20 19.9 +1.5**
comp=Z,13nm,0.5s
BIOA Bad Ischl, Aus 6.21 327 *i* Pn **Pn 14 19 10.9 +1.0**
comp=Z,3.7nm,0.3s
BIOA *i* Sn **Sn 14 20 21.8 +0.8**
comp=Z,11nm,0.5s
RAFF Raffo Rosso 6.25 213 Pn **Pn 14 19 08.9 -1.4**
JAVC Velka Javorina 6.33 354 *e*PN **Pn 14 19 11.9 +0.4**
LESA Schwarzleotal 6.42 321 *i* Pn **Pn 14 19 13.7 +0.9**
comp=Z,4.1nm,0.3s
LESA *i* Sn **Sn 14 20 26.9 +0.7**
comp=Z,8.8nm,0.4s
HOLU Holmets 6.53 23 P **Pn 14 19 15.3 +1.1**
MUKU Mukachevo 6.55 25 P **Pn 14 19 14.2 -0.3**
KRUC Moravsky 6.68 347 *e*PN **Pn 14 19 13.4 -2.9**
KRUC *e*SN **Sn 14 20 31.4 -1.1**
VRI Vrincioaia 6.71 58 ⇑P **Pn 14 19 16.4 -0.3**
WTTA Wattenberg 6.82 316 *i* Pn **Pn 14 19 19.3 +0.9**
comp=Z,4.6nm,0.3s
WTTA *i* Sn **Sn 14 20 36.9 +0.8**
comp=Z,14nm,0.4s
KOLS Kolonicke sedl 6.87 21 *e*PN **Pn 14 19 21.1 +2.2**
ODBI Odobesti 6.87 59 P **Pn 14 19 18.7 -0.2**
comp=Z,16nm,0.6s,comp=Z,0.1nm
BURAR Bucovina Array 6.89 41 **Pn 14 19 20.0 +0.8**
BURAR Bucovina Array 6.89 41 ⇑P **Pn 14 19 20.8 +1.5**
VRAC Vranov 6.89 349 Pn **Pn 14 19 21.2 +2.0**
comp=Z,0.6nm,0.3s,baz=189,slow=10,SNR=1.7
VRAC Sn **Sn 14 20 40.0 +2.3**
comp=Z,1.0nm,0.3s,baz=232,slow=21,SNR=4.3
comp=Z,1.8nm,0.4s
WATA Walderalm 6.90 316 *i* Pn **Pn 14 19 20.5 +1.2**
comp=Z,3.2nm,0.2s
WATA *i* Sn **Sn 14 20 38.9 +0.9**
comp=Z,14nm,0.4s
BUR08 Bucovina Ar. S 6.90 40 **Pn 14 19 20.5 +1.1**
CKRC Cesky Krumlov 6.94 336 *e*PN **Pn 14 19 22.0 +2.2**
SQTA Sankt Quirin 7.01 314 *i* Pn **Pn 14 19 22.6 +1.7**
comp=Z,7.0nm,0.3s
SQTA *i* Sn **Sn 14 20 41.0 +0.1**
comp=Z,18nm,0.5s
STHS Stebnicka Huta 7.10 14 *e*PN **Pn 14 19 26.1 +4.1**
STHS *e*SN **Sn 14 20 45.7 +2.9**
FETA Feichten 7.15 311 *i* Pn **Pn 14 19 23.3 +0.3**
comp=Z,0.7nm,0.2s
FETA *i* Sn **Sn 14 20 43.0 -1.3**
comp=Z,9.2nm,0.5s
GEC2 GERESS Array S 7.16 333 **Pn 14 19 22.3 -0.6**
GERES GERESS Array B 7.16 333 Pn **Pn 14 19 24.1 +1.2**
comp=Z,0.8nm,0.3s,baz=153,slow=14,SNR=5.4
GERES Sn **Sn 14 20 41.8 -2.5**
comp=Z,0.8nm,0.3s,baz=140,slow=19,SNR=2.9
comp=Z,1.0nm,0.3s
FUORN Ofenpass-Fuorn 7.20 307 Pn **Pn 14 19 23.7 0.0**
KHC Kasperske Hory 7.44 334 **Pn 14 19 28.4 +1.6**
KHC Kasperske Hory 7.44 334 *e*PN **Pn 14 19 28.3 +1.6**
KHC *e*SN **Sn 14 20 50.4 -0.9**
KHC Kasperske Hory 7.44 334 P **Pn 14 19 29.2 +2.4**
comp=Z,11nm,0.7s,comp=Z,0.1nm
DAVOX Davos/Dischmat 7.51 307 Pn **Pn 14 19 28.5 +0.7**
comp=Z,0.7nm,0.3s,baz=137,slow=19,SNR=3.4
DAVOX Sn **Sn 14 20 54.0 +0.9**
comp=Z,1.0nm,0.3s,baz=341,slow=22,SNR=4.3
comp=Z,1.8nm,0.3s
KRLC Kralicky 7.62 351 *e*PN **Pn 14 19 31.7 +2.5**
TUE Stuetta 7.68 304 Pn **Pn 14 19 31.5 +1.4**
KMPD K-Podol'skiy 8.15 40 P **Pn 14 19 36.7 +0.3**
IDI Anoyia 8.76 144 Pn **Pn 14 19 42.5 -2.4**
comp=Z,6.4nm,0.8s,baz=224,slow=16,SNR=1.7
IDI Sn **Sn 14 21 16.4 -7.4**
comp=Z,1.3nm,0.3s,baz=214,slow=10.0,SNR=6.1
SENIN Lac Senin/Sane 8.93 299 **Pn 14 19 48.7 +1.4**
KARP Karpathos 9.66 134 P **Pn 14 19 59.7 +2.5**
RNPP1 Kostyukhnivka 10.06 27 P **Pn 14 20 03.6 +1.1**
AK20 Malin Array Si 10.86 38 P **Pn 14 20 13.1 -0.4**
AKBB Malin Array Si 10.93 38 P **Pn 14 20 14.2 -0.3**
HFS Hagfors 17.85 352 P **Pn 14 21 46.3 0.0**
comp=Z,0.2nm,0.3s,baz=158,slow=12,SNR=2.7
comp=Z,3.0nm,0.9s
NOA NORSAR Array B 19.04 349 P **Pn 14 22 01.7 +0.8**
comp=Z,0.2nm,0.5s,baz=164,slow=10,SNR=2.5
FINES FINESS Array B 19.44 11 P **P 14 22 04.8 +0.3**
comp=Z,0.1nm,0.3s,baz=185,slow=15,SNR=4.9
comp=Z,3.0nm,0.8s
FIA1 FINESS Array S 19.44 11 P **P 14 22 04.4 0.0**
LVZ Lovozero 26.81 13 P **P 14 23 19.0 +0.8**
LVZ pP **sP 14 23 22.3 -0.1**
TORD Torodi Ar. Bea 32.76 212 LR LR 14 37 35.7
comp=Z,58nm,18.1s,baz=128,slow=37
BRVK Borovoye 35.53 55 P **P 14 24 34.9 -0.1**
BVAR Borovoye Array 35.60 55 P **P 14 24 35.7 0.0**
comp=Z,1.7nm,0.7s,baz=284,slow=5.8,SNR=8.3
comp=Z,1.7nm,0.7s
KDJ Kajisay 42.53 70 P **P 14 25 33.8 -0.3**
ZALV Zalesovo Beam 43.97 51 P **P 14 25 44.2 -1.0**
comp=Z,0.9nm,0.6s,baz=281,slow=8.1,SNR=4.8
comp=Z,0.9nm,0.6s
WMQ Urumqi 49.02 64 *e*P **P 14 26 28.0 +2.9**
WMQ pmax pmax
comp=Z,15nm,0.9s
BATG Bathurst New B 57.29 306 P **P 14 27 26.3 +0.5**
SONM Songino Array 58.86 52 P **P 14 27 36.6 -0.4**
SONM IAmb IAmb 14 27 37.2
comp=Z,1.3nm,1.0s
SONM Songino Array 58.86 52 P **P 14 27 36.7 -0.4**
comp=Z,0.9nm,0.6s,baz=298,slow=9.4,SNR=5.2
comp=Z,0.9nm,0.6s
G65A Princeton 59.23 305 P **P 14 27 39.1 -0.3**
HHC Hu-ho-hao-te 65.79 56 *e*P **P 14 28 22.0 -1.5**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,66nm,5.3s
C23K Itkillik River 67.64 356 P **P 14 28 34.6 -0.1**
PZH PanZhiHua 67.78 74 P **P 14 28 36.5 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
E29M Blow River 67.98 351 P **P 14 28 36.1 -0.7**
E29M IAmb IAmb 14 28 51.9
comp=Z,2.8nm,1.1s

*IDC **26** 15:06:19.9±0.8,2°.55N×94°.41E,h0km,mb4.2/15,*
mbtmp4.3/17,ML4.2/2,MS3.7/19,Error ellipse:
s-maj=28.0km s-min=14.4km az=49.0
*DJA **26** 15:06:19.9±0.7,3°.N±3°×9°.4E±°,h10km,M4.8/20,mB5.4/11,*
mb4.9/20,MLv4.8/16,Mw(mB)4.8/11
*BJI **26** 15:06:19.4,2°.36N×94°.44E,h19km,mb4.6/51,mB4.8/14,*
Ms4.4/17,Ms7 4.1/19
*NEIC **26** 15:06:22.4±1.1,2°.68N±0°.05×94°.56E±0°.09,h10km±1km,*
mb4.6/27,Error ellipse: s-maj=15.4km s-min=8.5km
az=274.0
ISC 26 15:06:23.6±0.5,2°.69N±0°.06×94°.55E±0°.07,h21km,n124,
σ1§59/100,mb4.6/50,MS3.9/25,3C-1D,Off west coast of
northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**1.79**	**99**	P	**Pn**	**15 06 52.7**	**-0.6**
MLSI	**Meulaboh, Aceh**	**2.42**	**50**	P	**Pn**	**15 07 02.1**	**+0.1**
BSI	**Banda Aceh**	**2.89**	**15**	P	**Pn**	**15 07 07.2**	**-1.2**
GSI	**Gunungsitoli**	**3.32**	**114**	Pn	**Pn**	**15 07 13.7**	**-0.7**
GSI	**Gunungsitoli**	**3.32**	**114**	P	**Pn**	**15 07 13.5**	**-0.8**
LHMI	**Lhok Sumawe**	**3.47**	**43**	Pn	**Pn**	**15 07 16.9**	**+0.4**
LHMI	**Lhok Sumawe**	**3.47**	**43**	P	**Pn**	**15 07 18.0**	**+1.5**
TSI	**Tuntungan**	**4.08**	**78**	P	**Pn**	**15 07 25.8**	**+0.9**
RPSI	**Rantau Prapat**	**4.37**	**90**		**Pn**	**15 07 28.4**	**-0.3**
RPSI	**Rantau Prapat**	**4.37**	**90**		**Pn**	**15 07 30.2**	**+1.4**
PSI	**Prapat**	**4.37**	**88**	Pn	**Pn**	**15 07 30.2**	**+1.3**
	3.8nm,0.3s,baz=308,slow=12,SNR=14						
PSI				LR	LR	15 08 34.7	
	comp=Z,158nm,18.8s,baz=264,slow=30 29nm,0.6s						
PBSI	**Pulau Batu**	**4.62**	**126**	P	**Pn**	**15 07 32.1**	**-0.1**
MNSI	**Mandailing Nat**	**5.36**	**110**	P	**Pn**	**15 07 42.6**	**+0.1**
	110nm,0.5s,2μm0.5nm						
SISI	**Saibi**	**6.04**	**131**	P	**Pn**	**15 07 50.1**	**-1.7**
	103nm,1.1s,0.5nm						
KULM	**Kulim**	**6.61**	**67**		**Pn**	**15 07 59.2**	**-0.4**
PPI	**Padang Panjang**	**6.62**	**118**	P	**Pn**	**15 08 00.0**	**+0.2**
	204nm,1.1s,2μm0.7nm						
IPM	**Ipoh**	**6.70**	**74**		**Pn**	**15 08 00.6**	**-0.3**
PDSI	**Padang**	**6.90**	**121**	P	**Pn**	**15 08 04.3**	**+0.6**
	44nm,0.6s,4μm0.2nm						
MYKOM	**Kota Tinggi**	**9.33**	**95**	Pn	**Pn**	**15 08 36.5**	**-0.4**
DGPR	**DIGLIPUR**	**10.54**	**351**	*ex*	**Pn**	**15 08 50.4**	**-3.2**
MNAI	**Manna**	**10.93**	**130**	P	**Pn**	**15 08 57.7**	**-1.3**
KSM	**Kuching**	**15.79**	**94**	Pn	**Pn**	**15 10 05.3**	**+0.4**
LEM	**Lembang**	**16.11**	**126**	Pn	**P**	**15 10 12.2**	**-0.1**
	0.9nm,0.3s,baz=78,slow=22,SNR=1.7						
LEM				LR	LR	15 16 51.2	
	comp=Z,268nm,21.1s,baz=255,slow=39						
CM31	**Chiang Mai Arr**	**16.25**	**15**		**Pn**	**15 10 10.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**16.25**	**15**		**Pn**	**15 10 10.8**	**0.0**
CMAR	**Chiang Mai Arr**	**16.25**	**15**	Pn	**Pn**	**15 10 11.2**	**+0.4**
	0.6nm,0.3s,baz=202,slow=11,SNR=25						
CMAR				LR	LR	15 16 32.4	
	comp=Z,152nm,21.2s,baz=200,slow=37 17nm,1.1s						
CHTO	**Chiang Mai**	**16.59**	**15**	Pn	**Pn**	**15 10 13.6**	**-1.6**
STKI	**Sintang**	**17.12**	**98**	P	**P**	**15 10 22.6**	**-0.8**
	45nm,1.3s						
SBUM	**Sibu**	**17.65**	**90**	Pn	**Pn**	**15 10 27.4**	**-1.0**
SLVN	**Son La**	**20.65**	**25**	P	**P**	**15 11 01.8**	**-0.3**
MTKI	**Muara Teweh, K**	**20.65**	**100**	P	**P**	**15 11 02.8**	**+0.6**
	56nm,0.9s						
KMMI	**Kalianget**	**21.66**	**117**	P	**P**	**15 11 12.8**	**-0.2**
	40nm,1.1s						
KKM	**Kota Kinabalu**	**21.85**	**80**	P	**P**	**15 11 14.4**	**-0.8**
KKM				IAmb	IAmb	15 11 37.2	
	comp=Z,28nm,0.9s						
QIZ	**Qiongzhong**	**22.08**	**42**	P	**P**	**15 11 20.5**	**+3.0**
QIZ				S	**S**	**15 15 23.5**	**+3.3**
QIZ				LR	LR		
	comp=Z,650nm,18.0s						
QIZ				LR	LR		
	comp=Z,610nm,18.6s						
QIZ				LR	LR		
	comp=Z,570nm,16.4s						
TNCH	**TengChong**	**22.54**	**9**	⇑P	**P**	**15 11 21.3**	**-1.2**
TNCH				pP	pP	15 11 26.5	-1.4
TNCH				S	**S**	**15 15 19.3**	**-10**
TNCH				pmax	pmax		
	comp=Z,23nm,0.7s						
TNCH				pmax	pmax		
	comp=Z,86nm,2.8s						
TNCH				LR	LR		
	comp=Z,260nm,7.8s						
TNCH				LR	LR		
	comp=Z,200nm,9.3s						
TNCH				LR	LR		
	comp=Z,210nm,9.5s						
BOK	**Bokaro**	**22.60**	**339**	*ex*	**P**	**15 11 24.6**	**+1.6**
KMI	**Kunming**	**23.66**	**19**	⇑P	**P**	**15 11 35.0**	**+1.0**
KMI				pmax	pmax		
	comp=Z,20nm,1.3s						
KMI				LR	LR		
	comp=Z,360nm,10.3s						
KMI				LR	LR		
	comp=Z,250nm,11.9s						
KMI				LR	LR		
	comp=Z,410nm,12.8s						
H08S2	**Diego Garcia H**	**24.29**	**245**	T	T	15 37 01.1	
	baz=65,slow=76,SNR=1531						
H08S3	**Diego Garcia H**	**24.29**	**245**	T	T	15 36 52.4	
	baz=65,slow=76,SNR=1412						
H08S1	**Diego Carcia H**	**24.30**	**245**	T	T	15 37 00.3	
	baz=65,slow=76,SNR=1167						
PZH	**PanZhiHua**	**24.66**	**16**	P	**P**	**15 11 44.0**	**+0.8**
PZH				S	**S**	**15 16 04.3**	**+0.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,140nm,5.3s						
PZH				LR	LR		
	comp=Z,210nm,12.0s						
PZH				LR	LR		
	comp=Z,330nm,14.0s						
PZH				LR	LR		
	comp=Z,210nm,12.5s						
PCI	**Palu**	**25.53**	**98**	P	**P**	**15 11 51.2**	**+0.1**
	comp=Z,51nm,1.1s,comp=Z,1μm						
GYA	**Guiyang**	**26.34**	**25**	P	**P**	**15 12 01.8**	**+3.4**
GYA				pmax	pmax		
	comp=Z,14nm,1.0s						
GYA				LR	LR		
	comp=Z,420nm,18.1s						
XAN	**Xi'an**	**33.95**	**22**	P	**P**	**15 13 05.5**	**-0.2**
XAN				pmax	pmax		
	comp=Z,19nm,0.8s						
XAN				LR	LR		
	comp=Z,400nm,15.5s						
XAN				LR	LR		
	comp=Z,320nm,12.2s						
XAN				LR	LR		
	comp=Z,470nm,16.7s						
LZH	**Lanzhou**	**34.33**	**13**	P	**P**	**15 13 12.5**	**+3.5**
LZH				sP	pwP	15 13 19.0	+1.3
LZH				pmax	pmax		
	comp=Z,9.0nm,1.4s						
LZH				LR	LR		
	comp=Z,180nm,7.6s						
LZH				LR	LR		
	comp=Z,180nm,7.9s						
LZH				LR	LR		
	comp=Z,93nm,9.3s						
LYN	**LuoYang**	**35.82**	**26**	*e*P	**P**	**15 13 23.0**	**+1.3**
LYN				pmax	pmax		
	comp=Z,20nm,1.0s						
GTA	**Gaotai**	**36.86**	**7**	*e*P	**P**	**15 13 30.8**	**+0.1**
GTA				pP	sP	15 13 38.0	-1.0
GTA				sP	pwP	15 13 42.0	+2.6
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
SWI	**Sorong**	**36.86**	**95**	P	**P**	**15 13 30.6**	**-0.3**
NJ2	**Nanjing**	**37.09**	**35**	*e*P	**P**	**15 13 33.5**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HNS	**HongShan**	**39.20**	**26**	⇑P	**P**	**15 13 51.8**	**+1.5**
HNS				pmax	pmax		
	comp=Z,23nm,1.3s						
HNS				LR	LR		
	comp=Z,190nm,13.9s						
HNS				LR	LR

KSH	Kashi	40.37	338	P	P	15 13 59.0 -1.1
KSH				pP	pP	15 14 06.5 +0.5
KSH				sP	pwP	15 14 09.3 +0.5
KSH				pmax	pmax	
comp=Z,6.0nm,1.0s						
WUS	Wushi	40.75	342	IAmb	IAmb	15 14 07.2
comp=Z,11nm,0.8s						
HHC	Hu-ho-hao-te	40.98	20	eP	P	15 14 07.3 +2.1
HHC				pmax	pmax	
comp=Z,14nm,0.7s						
HHC				pmax	pmax	
comp=Z,87nm,5.0s						
HHC				LR	LR	
comp=Z,220nm,18.3s						
HHC				LR	LR	
comp=Z,300nm,18.3s						
HHC				LR	LR	
comp=Z,220nm,18.6s						
H01W3	Cape Leeuwin H	41.65	156	T	T	15 58 51.5
baz=332,slow=76,SNR=83						
H01W2	Cape Leeuwin H	41.66	156	T	T	15 58 53.6
baz=332,slow=76,SNR=63						
H01W1	Cape Leeuwin H	41.67	155	T	T	15 58 52.7
baz=332,slow=76,SNR=70						
NRN	Naryn	42.03	339	IAmb	IAmb	15 14 23.6
comp=Z,10nm,1.1s						
BJI	Beijing	42.03	25	P	P	15 14 15.3 +1.6
BJI				ScP	ScP	15 19 59.8 +1.8
BJI				pmax	pmax	
comp=Z,4.0nm,0.9s						
BJI				pmax	pmax	
comp=Z,34nm,3.7s						
BJI				LR	LR	
comp=Z,79nm,15.8s						
BJI				LR	LR	
comp=Z,74nm,19.9s						
BJI				LR	LR	
comp=Z,41nm,21.5s						
PRZ	Przheval'sk	42.17	342	IAmb	IAmb	15 14 18.2
comp=Z,19nm,1.2s						
KDJ	Kajisay	42.24	341	IAmb	IAmb	15 14 18.0
comp=Z,13nm,1.1s						
GAR	Garm	42.36	332	IAmb	IAmb	15 14 27.9
comp=Z,20nm,1.2s						
SIMJ	Simiganj	42.73	330	P	P	15 14 18.1 -1.4
SIMJ				IAmb	IAmb	15 14 30.6
comp=Z,9.9nm,1.3s						
AAK	Ala-Archa	43.63	338	P	P	15 14 26.9 +0.1
AAK				IAmb	IAmb	15 14 29.4
comp=Z,11nm,1.4s						
AAK	Ala-Archa	43.63	338	LR	LR	15 35 24.2
comp=Z,70nm,18.6s,baz=146,slow=40						
WRA	Warramunga Arr	45.06	122	P	P	15 14 38.0 -0.4
comp=Z,3.6nm,0.9s,baz=300,slow=8.8,SNR=16						
WRA				PcP	PcP	15 16 19.0 -0.2
comp=Z,0.5nm,0.8s,baz=301,slow=3.5,SNR=1.6						
comp=Z,3.6nm,0.9s						
WB2	Warramunga Arr	45.07	122	P	P	15 14 37.5 -1.0
WB2				IAmb	IAmb	15 14 47.1
comp=Z,9.6nm,1.1s						
WR0	Warramunga Arr	45.24	122	P	P	15 14 39.7 -0.2
WR0				IAmb	IAmb	15 14 51.0
comp=Z,11nm,1.1s						
JNU	Nakatsue	45.52	44	LR	LR	15 35 59.3
comp=Z,104nm,18.2s,baz=224,slow=39						
KKAR	Karatay Array	45.58	335	P	P	15 14 41.8 -0.4
KKAR	Karatay Array	45.58	335	IAmb	IAmb	15 14 43.5
comp=Z,4.5nm,1.1s						
SONM	Songino Array	46.12	11	P	P	15 14 47.0 +0.5
comp=Z,3.6nm,0.8s,baz=191,slow=9.2,SNR=17						
SONM				PcP	PcP	15 16 23.4 +0.9
comp=Z,1.4nm,0.8s,baz=184,slow=5.2,SNR=2.8						
SONM				LR	LR	15 36 10.0
comp=Z,66nm,18.3s,baz=182,slow=39						
comp=Z,3.6nm,0.8s						
KSAR	Wonju Array Be	46.17	37	P	P	15 14 46.3 -0.7
KSRS	Korea Array	46.20	37	P	P	15 14 47.5 +0.4
comp=Z,4.5nm,1.1s,baz=232,slow=8.7,SNR=9.0						
KSRS				LR	LR	15 34 50.4
comp=Z,82nm,19.7s,baz=220,slow=37						
comp=Z,4.5nm,1.1s						
ASAR	Alice Springs	46.40	127	P	P	15 14 48.9 -0.1
comp=Z,1.4nm,0.9s,baz=295,slow=7.9,SNR=12						
ASAR				PcP	PcP	15 16 23.6 -0.2
comp=Z,0.9nm,0.8s,baz=310,slow=3.1,SNR=4.4						
comp=Z,1.4nm,0.9s						
CN2	Changchun	49.25	29	eP	P	15 15 11.3 +0.6
CN2				eS	S	15 22 12.0 -3.6
CN2				SS	SS	15 25 44.0 -3.3
CN2				pmax	pmax	
comp=Z,10.0nm,0.8s						
CN2				pmax	pmax	
comp=Z,100nm,3.0s						
CN2				LR	LR	
comp=Z,200nm,11.0s						
CN2				LR	LR	
comp=Z,300nm,11.0s						
CN2				LR	LR	
comp=Z,200nm,10.0s						
KURBB	Kurchatov Arra	49.65	347	P	P	15 15 14.2 +0.6
comp=Z,4.3nm,0.8s,baz=169,slow=7.1,SNR=32						
comp=Z,4.3nm,0.8s						
KURK	Kurchatov	49.72	347	P	P	15 15 14.5 +0.4
KURK				IAmb	IAmb	15 15 16.2
comp=Z,9.9nm,1.1s						
GUMO	Guam	50.87	75	LR	LR	15 36 14.0
comp=Z,36nm,21.3s,baz=82,slow=35						
BNX	BinXian	51.62	29	‖P	P	15 15 29.3 +0.7
BNX				pmax	pmax	
comp=Z,12nm,0.9s						
ZALV	Zalesovo Beam	51.72	353	P	P	15 15 29.2 0.0
ZALV	Zalesovo Beam	51.72	353	P	P	15 15 30.1 +0.9
comp=Z,5.5nm,0.8s,baz=172,slow=5.7,SNR=26						
ZALV				LR	LR	15 40 31.6
comp=Z,34nm,18.5s,baz=163,slow=40						
comp=Z,5.5nm,0.8s						
RAYN	Ar Rayn	51.73	298	P	P	15 15 30.4 +0.5
RAYN				IAmb	IAmb	15 15 33.5
comp=Z,7.6nm,1.1s						
MJAR	Matsushiro Arr	52.44	45	LR	LR	15 40 12.1
comp=Z,98nm,18.9s,baz=236,slow=39						
USRK	Ussuriysk Ar.	52.92	33	P	P	15 15 39.4 +1.0
comp=Z,4.1nm,0.9s,baz=190,slow=9.7,SNR=4.2						
comp=Z,4.1nm,0.9s						
BVAR	Borovoye Array	54.01	342	P	P	15 15 46.4 +0.2
comp=Z,5.8nm,0.9s,baz=142,slow=7.4,SNR=25						
comp=Z,5.8nm,0.9s						
BRVK	Borovoye	54.07	342	P	P	15 15 46.8 +0.2
BRVK				IAmb	IAmb	15 15 47.6
comp=Z,8.5nm,1.1s						
HEH	HeiHe	54.95	25	eP	P	15 15 54.0 +1.0
HEH				pmax	pmax	
comp=Z,7.0nm,1.3s						
ABKAR	Akbulak array	54.98	333	P	P	15 15 53.1 -0.2
ABKAR	Akbulak array	54.98	333	IAmb	IAmb	15 15 56.0
comp=Z,6.3nm,0.9s						
KLR	Kul'dur	56.17	28	LR	LR	15 41 47.6
comp=Z,57nm,18.8s,baz=205,slow=38						
STKA	Stephens Creek	56.31	132	P	P	15 16 03.2 +0.1
comp=Z,2.8nm,1.0s,baz=258,slow=4.9,SNR=3.9						
comp=Z,2.8nm,1.0s						
KMBO	Kilima Mbogo	57.41	267	LR	LR	15 37 40.6
comp=Z,54nm,18.9s,baz=92,slow=33						
ASAJ	Asahikawa	59.11	39	LR	LR	15 43 17.3
comp=Z,89nm,19.3s,baz=336,slow=37						
KBZ	Khabaz	61.23	320	P	P	15 16 37.1 0.0
comp=Z,3.2nm,1.0s,baz=149,slow=6.1,SNR=4.8						
comp=Z,3.2nm,1.0s						
H04N2	CROZET ISLANDS	61.56	212	T	T	16 23 35.5
baz=51,slow=75,SNR=175						
H04N1	CROZET ISLANDS	61.57	212	T	T	16 23 36.3
baz=51,slow=75,SNR=232						
H04N3	CROZET ISLANDS	61.57	212	T	T	16 23 40.1
baz=51,slow=75,SNR=220						
H04S1	CROZET ISLANDS	61.93	212	T	T	16 24 09.2
baz=50,slow=76,SNR=30						
H04S3	CROZET ISLANDS	61.94	212	T	T	16 24 05.1
baz=50,slow=76,SNR=42						
H04S2	CROZET ISLANDS	61.95	212	T	T	16 24 10.7
baz=50,slow=76,SNR=36						
MBAR	Mbarara	63.88	268	LR	LR	15 41 43.1
comp=Z,26nm,19.6s,baz=142,slow=33						
YAK	Yakutsk	64.77	17	LR	LR	15 47 50.4
comp=Z,146nm,20.1s,baz=206,slow=38						
CSS	Mathiatis	65.07	307	P	P	15 17 03.7 +0.8
comp=Z,12nm,1.2s						
BRTR	Keskin Array B	66.16	313	P	P	15 17 09.3 -0.7
comp=Z,1.7nm,0.8s,baz=114,slow=5.5,SNR=6.7						
comp=Z,1.7nm,0.8s						
NRIK	Noril'sk	66.71	357	P	P	15 17 11.7 -1.0
NRIK	Noril'sk	66.71	357	P	P	15 17 13.3 +0.6
comp=Z,6.9nm,1.0s,baz=163,slow=6.5,SNR=8.2						
comp=Z,6.9nm,1.0s						
MA2	Magadan	71.17	27	LR	LR	15 53 20.6
comp=Z,89nm,18.5s,baz=108,slow=40						
BAL3X	Bal'ax, Balta	71.41	320	P	P	15 17 43.1 +0.8
LBTB	Lobatse	72.19	243	LR	LR	15 45 41.3
comp=Z,72nm,19.2s,baz=74,slow=33						
TIXI	Tiksi	72.21	11	P	P	15 17 45.9 -0.8
TIXI	Tiksi	72.21	11	LR	LR	15 52 50.2
comp=Z,98nm,19.4s,baz=202,slow=39						
AK07	Malin Array Si	72.44	323	P	P	15 17 47.8 -0.7
AKASG	Malin Array Be	72.48	323	P	P	15 17 47.8 -0.8
comp=Z,0.3nm,0.5s,baz=92,slow=5.3,SNR=5.1						
comp=Z,0.3nm,0.5s						
VRI	Vrincioaia	72.74	317	P	P	15 17 50.9 +0.5
comp=Z,9.3nm,1.4s						
PLOR3	Plostina Array	72.79	317	P	P	15 17 51.6 +0.9
BOSA	Boshof	73.25	239	LR	LR	15 45 59.1
comp=Z,40nm,20.1s,baz=28,slow=33						
NACGM	Naroch	75.15	326	eP	P	15 18 04.7 +0.4
comp=Z,14nm,1.1s,baz=107						
KOLS	Kolonicke sedl	76.38	320	eP	P	15 18 12.8 +1.3
FINES	FINESS Array B	77.47	333	P	P	15 18 17.1 -0.2
comp=Z,5.3nm,1.0s,baz=54,slow=7.1,SNR=4.6						
comp=Z,5.3nm,1.0s						
VYHS	Vyhne	78.54	319	eP	P	15 18 26.0 +2.4
MODS	Modra-Piesok	79.55	319	eP	P	15 18 31.7 +2.6
GERES	GERESS Array B	81.96	319	P	P	15 18 42.6 +0.5
comp=Z,0.4nm,0.4s,baz=46,slow=7.6,SNR=5.4						
comp=Z,0.4nm,0.4s						
TXAR	Lajitas Array	143.69	27	PKP	PKPdf	15 25 56.6 -1.4
comp=Z,0.7nm,0.8s,baz=210,slow=1.8,SNR=6.2						
CPUP	Villa Florida	144.22	226	PKP	PKPbc	15 25 57.1 +0.2
comp=Z,4.9nm,1.1s,baz=110,slow=3.4,SNR=4.6						

*NEIC **26** 15:19:38.3±1.1, 55°.28N±0°.07×159°.36W±0°.09, h21km±9km, ML3.3/30, ML3.3(AEIC), Error ellipse: s-maj=11.2km s-min=5.1km az=149.0*

*AEIC **26** 15:19:38.4±1.1, 55°.23N±0°.07×159°.38W±0°.09, h31km±8km, Error ellipse: s-maj=10.5km s-min=5.9km az=154.0*

ISC 26 15:19:38.4±1.0, 55°.26N±0°.04×159°.40W±0°.04, h22km±10km, n85, σ0=58/83, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNA	Chernabura Isl	0.45	194	P	Pb	15 19 47.8	+0.2
CNBA	Chernabura Isl	0.46	194		Pb	15 19 47.6	-0.2
CNBA					Sb	15 19 54.3	+0.1
VNKR	Veniaminof 5	0.77	1		Pb	15 19 53.1	0.0
VNSG	Veniaminof 6	0.88	12		Pb	15 19 54.9	-0.2
VNHG	Veniaminof 1	0.97	8		Pb	15 19 56.6	+0.1
VNFG	Fog Glacier, M	1.03	355		Pb	15 19 57.7	+0.1
CHGN	Chignik	1.18	28		Pn	15 19 58.7	-0.8
PS1A	Pavlof South-1	1.35	278		Pn	15 20 01.6	-0.3
PS1A					Sn	15 20 19.5	+0.4
PVV	Pavlof Volcano	1.37	276		Pn	15 20 01.5	-0.7
PVV					Sb	15 20 20.2	-0.2
PS4A	Pavlof South-4	1.41	274		Pn	15 20 02.5	-0.2
PS4A					Sn	15 20 21.0	+0.4
S12K	Black Hills	1.58	287		Pn	15 20 04.7	-0.4
S12K	Black Hills	1.58	287		Sn	15 20 24.3	-0.5
ANPB	Aniakchak Plen	1.67	22		Pn	15 20 06.4	+0.2
ANNE	Aniakchak Nort	1.82	24		Pn	15 20 08.6	+0.2
CHIR	Chirikof Islan	2.22	74		Pn	15 20 13.8	0.0
CHIR					Sn	15 20 41.0	+0.4
CHIR	Chirikof Islan	2.22	74	IAML		15 20 41.8	
comp=E,129nm,0.9s							
CHIR				IAML		15 20 42.0	
comp=N,155nm,1.2s							
CHIR	Chirikof Islan	2.22	74	P	Pn	15 20 14.0	+0.2
FALS	False Pass	2.35	262	P	Pn	15 20 17.1	+1.5
R16K	Pilot Point	2.52	23		Pn	15 20 18.1	+0.2
R16K	Pilot Point	2.52	23	IAML		15 20 51.5	
comp=E,172nm,0.9s							
R16K				IAML		15 21 15.0	
comp=N,121nm,1.1s							
ISLZ	Isanotski Laza	2.54	260		Pn	15 20 19.6	+1.2
ISNN	Isanotski Nort	2.56	262		Pn	15 20 18.9	+0.4
PLK4	Peulik 4	2.91	34		Pn	15 20 23.3	-0.2
PLK4				IAML		15 21 02.6	
comp=N,172nm,0.9s							
PLK1	Peulik 1	2.98	30		Pn	15 20 24.5	+0.3
PLK2	Peulik 2	3.03	33		Pn	15 20 25.9	+0.9
PLK5	Peulik 5	3.07	26		Pn	15 20 26.6	+1.0
SII	Sitkinak Islan	3.21	64	Pn	Pn	15 20 27.1	-0.4
SII				IAML		15 21 18.7	
comp=E,133nm,1.1s							
SII				IAML		15 21 37.6	
comp=N,116nm,0.9s							
SII	Sitkinak Islan	3.21	64	P	Pn	15 20 27.5	0.0
CNTC	Contact Creek	3.58	31		Pn	15 20 32.4	-0.2
ANCK	Angle Creek	3.65	35		Pn	15 20 33.7	+0.2
ACHA	Angle Creek He	3.71	36		Pn	15 20 34.9	+0.5
Q16K	King Salmon	3.74	23		Pn	15 20 35.2	+0.5
P16K	Nushagak River	3.85	11		Pn	15 20 36.9	+0.7
KAKN	Katmai Knife C	3.87	36		Pn	15 20 37.5	+0.9
AHB	Akutan Harbor	3.90	255		Pn	15 20 38.5	+1.5
O15K	Ungalikthiuk R	3.93	357		Pn	15 20 37.3	-0.1
OHAK	Old Harbor	3.94	58		Pn	15 20 36.9	-0.5
OHAK	Old Harbor	3.94	58	P	Pn	15 20 36.8	-0.5
O14K	Tigyukauivet M	4.13	347	IAML		15 22 01.8	
comp=N,25nm,0.9s							
P17K	Kvichak River	4.26	21		Pn	15 20 42.7	+0.9
UNV	Unalaska Valle	4.37	254	P	Pn	15 20 44.0	+0.6
O16K	Kokwok River B	4.40	9		Pn	15 20 44.4	+0.7
O16K	Kokwok River B	4.40	9	IAML		15 22 02.8	
comp=E,18nm,0.8s							
O16K				IAML		15 22 08.1	
comp=N,19nm,1.0s							
KDAK	Kodiak Island	4.54	53		Pn	15 20 45.0	-0.7
KDAK	Kodiak Island	4.54	53	IAML		15 22 01.6	
comp=N,21nm,1.2s							
O17K	Koliganek Bris	4.69	14		Pn	15 20 47.8	0.0
N14K	Kuskokwak Cree	4.83	346		Pn	15 20 49.8	+0.1
N15K	Kwethluk River	4.93	356		Pn	15 20 51.4	+0.2
N15K				IAML		15 22 12.8	
comp=E,24nm,1.2s							
N15K				IAML		15 22 20.5	
comp=N,27nm,0.9s							
O18K	Koktuh Hills	5.12	24		Pn	15 20 54.0	+0.2
O18K	Koktuh Hills	5.12	24	IAML		15 22 31.8	
comp=N,14nm,1.2s							
N16K	Nishlik Lake	5.24	3		Pn	15 20 55.5	+0.2
N17K	Nushagak Hills	5.41	12		Pn	15 20 58.0	+0.4
N17K	Nushagak Hills	5.41	12	IAML		15 21 41.4	
comp=N,9.6nm,1.1s							
N17K				IAML		15 22 41.5	
comp=E,9.8nm,0.7s							
M13K	Dall Lake	5.58	339	Pn	Pn	15 21 00.1	+0.2
M14K	Bethel	5.67	347		Pn	15 21 00.8	-0.4
N18K	Kilae Creek	5.74	18		Pn	15 21 01.7	-0.6
M16K	Timber Creek	5.78	2		Pn	15 21 03.2	+0.4
ILSW	Iliamna Southw	5.80	33	Pn	Pn	15 21 03.2	0.0
N19K	Bonanza Creek	6.14	23	Pn	Pn	15 21 08.4	+0.6
M17K	Holitna River	6.24	9		Pn	15 21 09.0	-0.1
M11K	Mekoryuk	6.29	328	Pn	Pn	15 21 09.8	+0.2
L14K	Kuka Creek	6.33	346	Pn	Pn	15 21 09.8	-0.5
BRLK	Bradley Lake	6.43	42	Pn	Pn	15 21 10.9	-0.8
L16K	Owhat River	6.47	360	Pn	Pn	15 21 11.8	-0.3
L18K	Granite Mounta	7.12	10	Pn	Pn	15 21 20.7	-0.4
K15K	Wolf Creek Mou	7.14	352	Pn	Pn	15 21 21.3	-0.1
M19K	Big River Lodg	7.15	19		Pn	15 21 22.0	+0.4
K13K	Kusilvak Mount	7.23	340	Pn	Pn	15 21 22.7	+0.1
L19K	White Mountain	7.33	17	Pn	Pn	15 21 24.1	+0.1
K17K	Iditarod	7.50	4		Pn	15 21 25.9	-0.4
L20K	Farewell, AK	7.78	19		Pn	15 21 31.1	+0.9
J14K	Nanvaranak Lak	7.81	346		Pn	15 21 29.4	-1.0
TTA	Tatalina	7.88	11		Pn	15 21 30.9	-0.7
TTA	Tatalina	7.88	11	P	Pn	15 21 32.1	+0.4
J16K	Anvik River	8.07	356	Pn	Pn	15 21 33.6	-0.5
PWL	Port Wells	8.11	42	Pn	Pn	15 21 33.6	-1.1
J17K	VABM Dome	8.16	1	Pn	Pn	15 21 34.4	-1.0
KNK	Knik Glacier	8.43	39	Pn	Pn	15 21 39.1	+0.1
HIN	Hinchinbrook I	8.59	48	Pn	Pn	15 21 40.0	-1.3
GLI	Glacier Island	8.61	44	Pn	Pn	15 21 40.5	-0.9
I17K	Unalakleet	8.68	356	Pn	Pn	15 21 42.0	-0.4
EYAK	Cordova Ski Ar	8.98	48	P	Pn	15 21 46.6	0.0
KLU	Klutina	9.43	43	Pn	Pn	15 21 51.9	-0.8
H17K	Granite Mounta	9.71	359	Pn	Pn	15 21 56.1	-0.4
H19K	Roundabout Mou	10.40	7	Pn	Pn	15 22 05.8	-0.1

KRSC 26 15:20:18.1±1.8, 50°.25N×156°.90E, h89km±25km, MI3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.66	311	eP	Pn	15 20 35.1	+0.9
SKR				eS	Sn	15 20 46.9	+0.8
PAU	Pauzhetka	1.22	357	eP	Pn	15 20 41.2	+0.8
PAU				eS	Sn	15 20 58.4	+1.4
KDTR	Khodutka, Kamc	1.73	25	eP	Pn	15 20 48.9	+2.2
KDTR				eS	Sn	15 21 11.3	+2.8
ASAK	Asacha	2.23	16	eP	Pn	15 20 55.4	+2.0
MTVR	Mutnovka	2.38	19	eP	Pn	15 20 57.8	+2.4
MTVR				eS	Sn	15 21 26.6	+2.7
RUS	Russkaya	2.41	24	eP	Pn	15 20 57.1	+1.5
RUS				eS	Sn	15 21 25.2	+0.7
GRL	Gorelyy	2.42	17	eP	Pn	15 20 58.7	+2.8
GRL				eS	Sn	15 21 28.4	+3.5
DALK	Dalny	3.02	22	eP	Pn	15 21 06.7	+2.9
DALK				eS	Sn	15 21 42.3	+3.4
AVH	Avacha	3.23	20	eP	Pn	15 21 10.7	+3.9
AVH				eS	Sn	15 21 46.9	+2.7
KOK	Koryaka	3.23	19	eP	Pn	15 21 09.8	+3.0
SMAR	Somma	3.24	21	eP	Pn	15 21 09.8	+2.7
KRER	Koryakskii	3.27	20	eP	Pn	15 21 10.2	+2.8
KRER				eS	Sn	15 21 46.7	+1.4
KRX	Arik	3.30	19	es	Pn	15 21 10.0	+2.2
SPN	Mys Shipunski	3.45	33	eS	Sn	15 21 50.3	+0.8
KBTR	Krutoberegovo	6.95	28	eP	Pn	15 21 58.0	+0.9

KRSC 26 15:35:00.8±0.8, 56°.06N×164°.83E, h49km±14km, MI3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	1.07	143	eP	Pn	15 35 20.9	+1.5
BKI				eS	Sn	15 35 35.1	+1.9
KBTR	Krutoberegovo	1.14	278	eP	Pn	15 35 20.9	+0.6
KBTR				eS	Sn	15 35 35.0	+0.2
KBG	Krutoberegovo	1.21	280	eP	Pn	15 35 22.1	+0.9
KBG				eS	Sn	15 35 37.1	+0.7
SMKR	Semkarok	1.94	287	eP	Pn	15 35 33.9	+2.5
SMKR				eS	Sn	15 35 58.0	+3.4
BDR	Baidarnaya	2.08	286	eS	Sn	15 36 02.4	+4.3
SRKR	Sorokina	2.12	288	eS	Sn	15 36 00.9	+1.9
ZLN	Zelenaya	2.26	271	eP	Pn	15 35 39.3	+3.5
CIRR	Tsirk	2.29	273	eP	Pn	15 35 39.8	+3.6
KLY	Klyuchi	2.35	278	eP	Pn	15 35 38.4	+1.6
KLY				eS	Sn	15 36 06.4	+1.9
KRSR	Krestovskiy	2.39	276	eP	Pn	15 35 40.9	+3.4
KRSR				eS	Sn	15 36 10.4	+4.7
BZP	Bezymyannyi-Pe	2.42	268	eP	Pn	15 35 41.1	+3.2
BZP				eS	Sn	15 36 09.1	+2.7
BZMR	Bezymyannaya	2.44	269	eP	Pn	15 35 41.5	+3.3
BZMR				eS	Sn	15 36 10.3	+3.3
KIRR	Kirishev	2.52	269	eP	Pn	15 35 43.2	+3.8
KIRR				eS	Sn	15 36 12.8	+3.9
KMNR	Kamenistaya	2.60	265	eP	Pn	15 35 44.5	+4.1
TUMD	Tumrok D	2.66	253	eS	Sn	15 36 14.8	+2.7
TUMR	Tumrok	2.77	256	eP	Pn	15 35 46.9	+4.2
PALN	Palana	4.01	321	eP	Pn	15 36 03.4	+3.8
TILK	Tilichiki	4.45	8	eP	Pn	15 36 09.6	+3.9
KRER	Koryakskii	4.48	234	eP	Pn	15 36 10.0	+3.7
KRER				eS	Sn	15 37 00.0	+2.8
SMAR	Somma	4.48	234	eP	Pn	15 36 10.3	+3.9
SMAR				eS	Sn	15 36 59.7	+2.5
KRX	Arik	4.49	236	eP	Pn	15 36 10.3	+3.9
KRX				eS	Sn	15 37 00.1	+2.7
AVH	Avacha	4.51	234	eP	Pn	15 36 10.4	+3.8
AVH				eS	Sn	15 37 01.4	+3.7
KMSK	Kamenskaya	6.46	6	eP	Pn	15 36 37.2	+4.0

*THE **26** 15:39:48.0, 37°.35N×20°.71E, h4km, ML2.9/10, Error ellipse: s-maj=1.3km s-min=0.5km az=55.0*

ATH 26 15:39:48.1, 37°.32N×20°.67E, h12km±1km, ML3.0/6, Error ellipse: s-maj=2.9km s-min=1.2km az=47.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	Lithakia	0.41	19	P	Pg	15 39 55.8	-0.6
LTHK				S	Sg	15 40 01.7	-0.1
LTHK				AML	AML	15 40 02.3	
comp=N,26778μm,0.4s							
LTHK				AML	AML	15 40 04.6	
comp=E,7785μm,0.2s							
LTHK	Lithakia	0.41	19	P	Pg	15 39 55.8	-0.6
LTHK				S	Sg	15 40 02.0	+0.1
PSDA	Pessada-Kefalo	0.80	355	P	Pg	15 40 02.9	-0.7
PSDA				S	Sg	15 40 13.2	-0.8
PSDA	Pessada-Kefalo	0.80	355	P	Pg	15 40 03.0	-0.6
PSDA				S	Sb	15 40 14.8	+0.1
AMT	Artemida-Makis	0.86	75	P	Pg	15 40 04.0	-0.7
AMT				S	Sg	15 40 15.8	-0.1
AMT				AML	AML	15 40 21.6	
comp=E,5400μm,0.6s							
AMT				AML	AML	15 40 23.4	
comp=N,5720μm,0.5s							
VLS	Valsamata	0.86	356	P	Pg	15 40 03.5	-1.2
VLS				S	Sg	15 40 15.6	-0.4
comp=N,1μm,0.1s							
VLS	Valsamata	0.86	356	P	Pg	15 40 03.8	-0.9
VLS				S	Sg	15 40 16.0	0.0
VLS				AML	AML	15 40 18.0	
comp=N,2890μm,0.1s							
VLS				AML	AML	15 40 23.4	
comp=E,2460μm,0.4s							
VLS	Valsamata	0.86	356	P	Pg	15 40 03.9	-0.8
VLS				S	Sb	15 40 16.4	-0.1
SMHA	Samh	0.93	359	P	Pg	15 40 04.4	-1.7
SMHA				S	Sb	15 40 18.6	+0.1
DMLN	Damoulianata-K	0.95	346	P	Pg	15 40 05.4	-1.0
DMLN				S	Sb	15 40 19.1	+0.1
comp=E,2μ

FSK				S	Sn	15 40 25.4	0.0
EVGI	**Lefkada island**	**1.30**	**360**	P	Pn	15 40 11.2	-0.9
EVGI				S	Sn	15 40 29.4	0.0
comp=N,445nm,0.2s							
EVGI	**Lefkada island**	**1.30**	**360**	P	Pn	15 40 11.3	-0.8
EVGI	**Lefkada island**	**1.30**	**360**	P	Pn	15 40 11.2	-0.9
EVGI				S	Sg	15 40 30.7	+0.7
KLV	**Kalavryta, Ach**	**1.38**	**58**	P	Pn	15 40 12.7	-0.6
KLV	**Kalavryta, Ach**	**1.38**	**58**	P	Pn	15 40 13.1	-0.2
NYDR	**Nydri-Lefkada**	**1.39**	**1**	P	Pn	15 40 13.1	-0.2
NYDR				S	Sb	15 40 32.0	+0.2
comp=N,300nm,0.6s							
NYDR	**Nydri-Lefkada**	**1.39**	**1**	P	Pn	15 40 13.0	-0.3
GUR	**Goura**	**1.47**	**65**	P	Pn	15 40 13.8	-0.7
GUR	**Goura**	**1.47**	**65**	P	Pn	15 40 14.1	-0.4
EFP	**Efpalio**	**1.48**	**41**	P	Pn	15 40 15.0	+0.5
TSLK	**Tsoukalades, L**	**1.50**	**360**	P	Pn	15 40 15.1	+0.2
TSLK				S	Sg	15 40 35.9	-0.6
comp=N,498nm,0.6s							
TSLK	**Tsoukalades, L**	**1.50**	**360**	P	Pn	15 40 15.2	+0.3
ANX	**Ano Chora**	**1.61**	**38**	P	Pn	15 40 17.0	+0.5
VLI	**Veliai**	**1.91**	**108**	P	Pn	15 40 21.6	+1.1
IGT	**Igoumenitsa**	**2.23**	**353**	P	Pn	15 40 25.5	+0.6
THL	**Klokotos Trika**	**2.48**	**25**	P	Pn	15 40 29.3	+1.0
THL	**Klokotos Trika**	**2.48**	**25**	P	Pn	15 40 29.2	+0.9
TYRN	**Tyrnavos**	**2.69**	**27**	P	Pn	15 40 31.5	+0.3

*NEIC **26** 15:42:49.8±1.6, 34°.05N±0°.02×97°.43W±0°.02, h6km±7km, mb_Lg2.6/30, ML2.7/20, ML3.1/8, Error ellipse: s-maj=2.9km s-min=2.5km az=211.0*

NEIC 26 15:42:49.7±1.9, 34°.07N±0°.02×97°.42W±0°.02, h5km±2km, Error ellipse: s-maj=3.3km s-min=3.0km az=198.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOOK	**Love County**	**0.21**	**111**		Pg	15 42 54.9	+1.0
LOOK				IAML		15 43 01.1	
comp=E,2μm,0.2s							
X34A	**Smith Ranch, M**	**0.63**	**327**	Pg	Pb	15 43 02.5	-0.7
X34A				IAML		15 43 16.2	
comp=E,278nm,0.8s							
Z35A	**Perchaven, San**	**0.75**	**169**		Pg	15 43 03.5	-0.5
Z35A				Sg	Sg	15 43 13.9	+0.1
WTFS	**Witchita Falls**	**0.92**	**251**		Pg	15 43 06.7	-0.6
FW06	**Azle**	**1.10**	**186**		Pg	15 43 10.1	-0.7
FW03	**Perrin-Whitt E**	**1.16**	**208**		Pg	15 43 11.1	-0.8
FW03				IAML		15 43 30.4	
comp=E,185nm,0.4s							
W35A	**Tecumseh**	**1.17**	**22**		Pg	15 43 11.4	-0.7
W35A				IAML		15 43 33.4	
comp=N,156nm,0.3s							
FNO	**Franklin**	**1.18**	**1**		Pg	15 43 11.6	-0.8
FNO				IAML		15 43 35.0	
comp=E,129nm,0.2s							
FNO				IAML		15 43 35.5	
comp=N,140nm,0.2s							
FW07	**Weatherford**	**1.40**	**193**		Pn	15 43 14.7	-1.1
PLPT	**Palo Pinto**	**1.46**	**211**		Pn	15 43 15.2	-1.6
FW13	**Cleburne**	**1.71**	**180**	Pn	Pn	15 43 20.2	0.0
OK029	**Liberty Lake**	**1.72**	**359**		Pn	15 43 20.9	+0.5
OK029				IAmb_Lg		15 43 47.7	
comp=Z,30nm,0.8s							
CSTR	**Hydro, Custer**	**1.89**	**327**		Pn	15 43 23.1	+0.4
DEOK	**Depew**	**1.92**	**23**		Pn	15 43 23.6	+0.5
OK031	**S. Brethren Rd**	**1.94**	**14**		Pn	15 43 23.7	+0.4
ELIS	**Ellis County**	**2.58**	**321**	IAmb_Lg		15 44 11.0	
comp=Z,18nm,0.8s							
DKNS	**Dickens**	**2.94**	**263**	IAmb_Lg		15 44 27.6	
comp=Z,24nm,0.8s							
SN07	**Snyder 07**	**3.06**	**252**	IAmb_Lg		15 44 31.5	
comp=Z,15nm,0.8s							
SN05	**Snyder 5**	**3.13**	**249**	IAmb_Lg		15 44 34.9	
comp=Z,20nm,0.8s							
435B	**Jarrell**	**3.28**	**182**	IAmb_Lg		15 44 40.4	
comp=Z,19nm,0.8s							
JCT	**Junction City**	**4.11**	**210**	IAmb_Lg		15 45 10.0	
comp=Z,22nm,0.8s							
OZNA	**Ozona**	**4.43**	**226**	IAmb_Lg		15 45 17.2	
comp=Z,12nm,1.0s							
MNHN	**Monahans**	**5.26**	**240**	IAmb_Lg		15 45 42.3	
comp=Z,12nm,0.9s							
DRIO	**Del Rio**	**5.38**	**211**	IAmb_Lg		15 45 43.7	
comp=Z,14nm,0.8s							
PBMO	**Poplar Bluff**	**6.31**	**63**	IAmb_Lg		15 46 14.3	
comp=Z,5.7nm,0.8s							
ALPN	**Alpine**	**6.43**	**237**	IAmb_Lg		15 46 26.1	
comp=Z,6.4nm,0.7s							
T25A	**Trinidad**	**6.46**	**300**	IAmb_Lg		15 46 22.9	
comp=Z,9.4nm,0.9s							

*AEIC **26** 15:43:34.6±0.6, 53°.11N±0°.06×164°.6W±0°.1, h26km±8km, Error ellipse: s-maj=10.8km s-min=4.9km az=48.0*

NEIC 26 15:43:34.2±0.5, 53°.10N±0°.05×164°.60W±0°.10, h24km±12km, ML3.1(AEIC), Error ellipse: s-maj=10.8km s-min=2.8km az=51.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**1.23**	**328**		Pn	15 43 55.3	-0.6
AKSA					Sn	15 44 11.1	-0.7
AHB	**Akutan Harbor**	**1.25**	**325**		Pn	15 43 55.9	-0.3
AHB					Sn	15 44 12.4	+0.1
AKBBA	**Akutan Broad B**	**1.28**	**322**		Pn	15 43 56.4	-0.2
AKBBA					Sb	15 44 13.4	-0.2
ZRO	**Akutan Zero**	**1.29**	**321**		Pn	15 43 56.6	-0.2
ZRO					Sb	15 44 13.7	-0.3
AKMO	**Akutan Morgan**	**1.30**	**320**		Pn	15 43 56.9	-0.1
AKMO					Sn	15 44 13.9	+0.3
AKV	**Akutan Volcano**	**1.31**	**322**		Pn	15 43 56.9	-0.2
AKV					Sb	15 44 15.0	+0.3
AKRB	**Akutan Reef Bi**	**1.35**	**320**		Pn	15 43 57.7	0.0
UNV	**Unalaska Valle**	**1.36**	**304**		Pn	15 43 57.6	-0.1
LVA	**Lava Point**	**1.37**	**322**		Pn	15 43 57.8	+0.1
AKGG	**Akutan Green G**	**1.38**	**324**		Pn	15 43 58.2	+0.3
AKGG					Sb	15 44 17.0	+0.5
WEBT	**Westdahl Beart**	**1.50**	**357**		Pn	15 44 00.2	+0.6
MGOD	**Makushin Gods**	**1.53**	**298**		Pn	15 44 00.0	0.0
MSW	**Makushin Switc**	**1.54**	**303**		Pn	15 44 00.5	+0.3
ISNN	**Isanotski Nort**	**1.81**	**15**		Pn	15 44 03.9	0.0
P08K	**Saint George I**	**4.53**	**323**	Pn	Pn	15 44 39.6	-1.5

*NAO **26** 16:05:51.9, 35°.66N×22°.52E, h10km, mb4.6*
*ISK **26** 16:06:11.6, 38°.15N×23°.57E, h9km, ML3.8/24*
*IDC **26** 16:06:11.6±0.6, 38°.19N×23°.39E, h0km, mb4.1/14, mbtmp4.0/20, ML3.5/5, MS2.9/9, Error ellipse: s-maj=14.3km s-min=12.0km az=99.0*
*MOS **26** 16:06:12.3±0.9, 38°.22N×23°.41E, h11km, mb4.5/10, Error ellipse: s-maj=8.2km s-min=6.0km az=89.2*
*ATH **26** 16:06:13.1, 38°.21N×23°.40E, h9km±1km, ML3.8/31, Error ellipse: s-maj=1.8km s-min=0.5km az=152.0*
*NEIC **26** 16:06:13.5±1.6, 38°.23N±0°.05×23°.40E±0°.07, h7km±5km, mb4.4/20, Error ellipse: s-maj=7.8km s-min=7.0km az=111.0*
*THE **26** 16:06:13.2, 38°.21N×23°.38E, h2km±2km, ML3.7/18, Error ellipse: s-maj=2.1km s-min=0.3km az=121.0*
*BEO **26** 16:06:15.1±0.7, 38°.40N×23°.65E, h0km, ML3.5/9*

ISC 26 16:06:13.0±1.0, 38°.22N±0°.02×23°.39E±0°.01, h6km±6km, n247, σ1°03/298, mb4.3/32, MS2.9/6, 22C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATH	**Athens Observa**	**0.35**	**134**	P	**Pg**	**16 06 20.5**	**+0.6**
ATH				S	**Sg**	**16 06 25.4**	**+0.9**
14μm,0.6s							
ATH	**Athens Observa**	**0.35**	**134**	P	**Pg**	**16 06 20.0**	**+0.1**
ATH				S	**Sg**	**16 06 24.4**	**-0.1**
ATH				AML	AML	16 06 28.6	
comp=N,35602μm,0.6s							
ATH				AML	AML	16 06 30.0	
comp=E,45704μm,0.4s							
LTK	**Loutraki**	**0.39**	**240**	P	**Pg**	**16 06 20.3**	**-0.3**
LTK				S	**Sg**	**16 06 26.1**	**+0.4**
ATHU	**Athens Univers**	**0.40**	**129**	P	**Pg**	**16 06 21.0**	**+0.3**
ATHU				S	**Sg**	**16 06 26.5**	**+0.6**
comp=E,7μm,0.6s							
PTL	**Penteli**	**0.41**	**114**	P	**Pg**	**16 06 21.2**	**+0.3**
PTL				S	**Sg**	**16 06 27.1**	**+0.8**
comp=E,9μm,0.6s							
PTL	**Penteli**	**0.41**	**114**	P	**Pg**	**16 06 21.0**	**0.0**
PTL				S	**Sg**	**16 06 26.4**	**+0.1**
PTL				AML	AML	16 06 28.3	
comp=N,22876μm,0.6s							
PTL				AML	AML	16 06 29.3	
comp=E,11942μm,0.6s							
DION	**Dionisos Attik**	**0.45**	**108**	P	**Pg**	**16 06 21.9**	**+0.2**
DION				S	**Sg**	**16 06 28.0**	**+0.5**
comp=E,21μm,0.5s							
DION	**Dionisos Attik**	**0.45**	**108**	P	**Pg**	**16 06 21.7**	**0.0**
DION				S	**Sg**	**16 06 27.4**	**-0.1**
DION				AML	AML	16 06 29.7	
comp=N,27192μm,0.7s							
DION				AML	AML	16 06 34.4	
comp=E,26868μm,0.4s							
VLY	**Voula,Athens**	**0.48**	**139**	P	**Pg**	**16 06 22.3**	**0.0**
VLY				S	**Sg**	**16 06 29.1**	**+0.5**
comp=E,14μm,0.7s							
VLY	**Voula,Athens**	**0.48**	**139**	P	**Pg**	**16 06 22.4**	**0.0**
VLY				S	**Sg**	**16 06 28.1**	**-0.6**
VLY				AML	AML	16 06 29.8	
comp=E,26401μm,0.8s							
VLY				AML	AML	16 06 30.2	
comp=N,29329μm,0.6s							
KYMI	**Kymi, Euboea I**	**0.69**	**53**	P	**Pg**	**16 06 26.5**	**+0.2**
KYMI				S	**Sb**	**16 06 37.0**	**-0.3**
comp=N,7μm,0.5s							
KYMI	**Kymi, Euboea I**	**0.69**	**53**	P	**Pg**	**16 06 26.3**	**0.0**
KYMI				S	**Sg**	**16 06 35.2**	**-0.1**
KYMI				AML	AML	16 06 39.1	
comp=E,15283μm,0.6s							
KYMI				AML	AML	16 06 40.5	
comp=N,14432μm,0.5s							
DLFA	**Delphi**	**0.75**	**290**	P	**Pg**	**16 06 27.2**	**-0.3**
DLFA				S	**Sg**	**16 06 38.1**	**+0.8**
DLFA				AML	AML	16 06 42.5	
comp=E,9801μm,0.4s							
DLFA				AML	AML	16 06 42.5	
comp=N,16079μm,0.5s							
AXAR	**Agios Charalam**	**0.80**	**314**	P	**Pg**	**16 06 28.5**	**+0.2**
AXAR				S	**Sb**	**16 06 40.6**	**+0.3**
comp=N,21μm,0.5s							
AXAR	**Agios Charalam**	**0.80**	**314**	P	**Pg**	**16 06 28.0**	**-0.3**
AXAR				S	**Sg**	**16 06 39.7**	**+1.0**
AXAR				AML	AML	16 06 46.6	
comp=E,41860μm,0.5s							
AXAR				AML	AML	16 06 49.7	
comp=N,41407μm,0.5s							
KARY	**Karystos**	**0.84**	**102**	P	**Pg**	**16 06 29.0**	**-0.2**
KARY				S	**Sb**	**16 06 41.2**	**-0.5**
comp=N,4μm,0.5s							
KARY	**Karystos**	**0.84**	**102**	P	**Pg**	**16 06 29.1**	**-0.2**
KARY				S	**Sg**	**16 06 39.8**	**-0.3**
KARY				AML	AML	16 06 43.3	
comp=N,9036μm,0.6s							
KARY				AML	AML	16 06 43.8	
comp=E,7393μm,0.5s							
YDRA	**Hydra**	**0.87**	**176**	P	**Pg**	**16 06 29.4**	**-0.3**
YDRA				S	**Sg**	**16 06 41.0**	**0.0**
GUR	**Goura**	**0.88**	**252**	P	**Pg**	**16 06 29.3**	**-0.6**
GUR				S	**Sg**	**16 06 41.5**	**+0.3**
comp=E,10μm,0.5s							
GUR	**Goura**	**0.88**	**252**	P	**Pg**	**16 06 29.9**	**+0.1**
GUR				S	**Sg**	**16 06 41.5**	**+0.3**
GUR				AML	AML	16 06 45.2	
comp=N,17900μm,0.4s							
GUR				AML	AML	16 06 45.3	
comp=E,20491μm,0.6s							
AOS2	**Alonissos-2**	**0.99**	**21**	P	**Pg**	**16 06 32.4**	**+0.3**
AOS2				S	**Sg**	**16 06 45.2**	**+0.3**
AOS2				AML	AML	16 06 50.1	
comp=E,23220μm,0.5s							
AOS2				AML	AML	16 06 50.6	
comp=N,19302μm,0.6s							
KLV	**Kalavryta, Ach**	**1.00**	**260**	P	**Pg**	**16 06 31.7**	**-0.4**
KLV				S	**Sb**	**16 06 46.1**	**0.0**
comp=N,4μm,0.9s							
KLV	**Kalavryta, Ach**	**1.00**	**260**	P	**Pg**	**16 06 31.9**	**-0.2**
KLV				S	**Sg**	**16 06 45.1**	**0.0**
KLV				AML	AML	16 06 50.5	
comp=N,9446μm,1.1s							
KLV				AML	AML	16 06 55.0	
comp=E,5151μm,0.7s							
KALE	**Kalithea**	**1.00**	**280**	P	**Pg**	**16 06 32.0**	**-0.2**
KALE				S	**Sb**	**16 06 46.2**	**-0.1**
comp=E,6μm,0.6s							
KALE	**Kalithea**	**1.00**	**280**	P	**Pg**	**16 06 32.1**	**-0.2**
KALE				S	**Sb**	**16 06 46.3**	**-0.1**
KALE				AML	AML	16 06 53.2	
comp=N,11449μm,0.7s							
KALE				AML	AML	16 06 53.5	
comp=E,12463μm,0.5s							
AOS	**Alonnisos**	**1.02**	**22**	P	**Pg**	**16 06 32.2**	**-0.5**
AOS				S	**Sb**	**16 06 46.8**	**-0.1**
comp=E,11μm,0.5s							
NEO	**Neokhori**	**1.09**	**353**	P	**Pg**	**16 06 33.8**	**-0.2**
NEO				S	**Sb**	**16 06 49.3**	**+0.3**
comp=E,12μm,0.6s							
NEO	**Neokhori**	**1.09**	**353**	P	**Pg**	**16 06 33.7**	**-0.4**
NEO				S	**Sg**	**16 06 48.4**	**+0.1**
NEO				AML	AML	16 06 50.4	
comp=E,22087μm,0.5s							
NEO				AML	AML	16 06 52.6	
comp=N,27391μm,0.7s							
SKY	**Skiros Island**	**1.12**	**54**	P	**Pg**	**16 06 34.5**	**0.0**
SKY				S	**Sb**	**16 06 50.0**	**+0.4**
SKY				AML	AML	16 06 54.8	
comp=N,11507μm,0.3s							
SKY				AML	AML	16 06 55.9	
comp=E,10631μm,0.4s							
XOR	**Xorichti**	**1.16**	**352**	P	**Pg**	**16 06 35.1**	**-0.1**
XOR				S	**Sb**	**16 06 51.3**	**+0.6**
comp=E,2μm,0.9s							
EFP	**Efpalio**	**1.19**	**281**	P	**Pg**	**16 06 34.8**	**-1.0**
EFP				S	**Sn**	**16 06 52.8**	**+0.1**
comp=E,3μm,0.7s							
EFP	**Efpalio**	**1.19**	**281**	P	**Pg**	**16 06 35.1**	**-0.7**
EFP				S	**Sb**	**16 06 51.9**	**+0.3**
EFP				AML	AML	16 06 56.8	
comp=E,5993μm,0.7s							
EFP				AML	AML	16 06 58.4	
comp=N,5294μm,1.2s							
ANX	**Ano Chora**	**1.22**	**288**	P	**Pg**	**16 06 35.8**	**-0.6**
ANX				S	**Sn**	**16 06 53.6**	**+0.1**
comp=N,5μm,0.7s							
ANX	**Ano Chora**	**1.22**	**288**	P	**Pg**	**16 06 36.1**	**-0.2**
ANX				S	**Sb**	**16 06 53.1**	**+0.6**
ANX				AML	AML	16 06 58.2	
comp=N,9067μm,0.7s							
ANX				AML	AML	16 07 02.1	
comp=E,12558μm,0.8s							
MAKR	**Makrakomi, Fth**	**1.27**	**309**	P	**Pn**	**16 06 37.1**	**-0.2**
MAKR				S	**Sn**	**16 06 55.2**	**+0.5**
comp=E,5μm,0.8s							
MAKR	**Makrakomi, Fth**	**1.27**	**309**	P	**Pn**	**16 06 37.5**	**+0.1**
MAKR				S	**Sb**	**16 06 53.7**	**-0.2**
DRO	**Drossia**	**1.35**	**259**	P	**Pn**	**16 06 38.4**	**-0.1**
DRO				S	**Sb**	**16 06 56.3**	**-0.2**
DRO				AML	AML	16 07 04.0	
comp=E,8109μm,0.5s							
DRO				AML	AML	16 07 04.8	
comp=N,8538μm,0.7s							
EVR	**Evrytania**	**1.43**	**300**	P	**Pn**	**16 06 39.4**	**-0.1**
EVR				S	**Sg**	**16 06 59.4**	**+0.6**
comp=N,1μm,0.8s							
EVR	**Evrytania**	**1.43**	**300**	P	**Pn**	**16 06 39.6**	**+0.1**
EVR				S	**Sb**	**16 06 58.2**	**-0.3**
EVR				AML	AML	16 07 13.3	
comp=N,2488μm,0.8s							
EVR				AML	AML	16 07 16.1	
comp=E,3154μm,0.7s							
AMT	**Artemida-Makis**	**1.50**	**243**	P	**Pn**	**16 06 40.6**	**+0.1**
AMT				AML	AML	16 07 04.2	
comp=N,9745μm,0.9s							
AMT				AML	AML	16 07 06.9	
comp=E,13703μm,0.8s							
RLS	**Riolos of Patr**	**1.53**	**265**	P	**Pn**	**16 06 40.7**	**-0.1**
RLS				AML	AML	16 07 08.3	
comp=N,1994μm,0.5s							
RLS				AML	AML	16 07 09.8	
comp=E,2171μm,0.6s							
VLI	**Veliai**	**1.54**	**194**	P	**Pn**	**16 06 40.2**	**-0.8**
ITM	**Ithomi**	**1.56**	**229**	Pn	**Pn**	**16 06 41.2**	**-0.1**
ITM				Sn	**Sg**	**16 07 02.7**	**-0.4**
ITM	**Ithomi**	**1.56**	**229**		**Pb**	**16 06 41.7**	**-0.6**
ITM	**Ithomi**	**1.56**	**229**	P	**Pn**	**16 06 41.1**	**-0.1**
ITM				AML	AML	16 07 07.0	
comp=N,3928μm,0.4s							
ITM				AML	AML	16 07 07.1	
comp=E,5655μm,0.5s							
PAIG	**Paliouri**	**1.72**	**7**	Pn	**Pn**	**16 06 42.9**	**-0.6**
PAIG				Sn	**Sn**	**16 07 06.5**	**+0.7**
THL	**Klokotos Trika**	**1.72**	**322**	P	**Pn**	**16 06 44.0**	**+0.5**
THL				AML	AML	16 07 08.4	
comp=N,835μm,0.8s							
THL				AML	AML	16 07 15.9	
comp=E,1102μm,0.9s							
LIT	**Litokhoron**	**2.01**	**340**		**Pn**	**16 06 47.4**	**-0.1**
LIT	**Litokhoron**	**2.01**	**340**	P	**Pn**	**16 06 47.4**	**-0.1**
APE	**Apeiranthos**	**2.05**	**123**	Pn	**Pn**	**16 06 44.6**	**-3.5**
APE	**Apeiranthos**	**2.05**	**123**	⇑P	**Pn**	**16 06 47.9**	**-0.1**
PLG	**Polygyros**	**2.15**	**1**	P	**Pn**	**16 06 50.2**	**+0.7**
PLG				AML	AML	16 07 16.4	
comp=N,1150μm,0.5s							
PLG				AML	AML	16 07 17.6	
comp=E,1642μm,1.1s							
OUR	**Ouranopolis**	**2.16**	**12**	Pn	**Pn**	**16 06 49.4**	**-0.2**
SIGR	**SIGRI**	**2.17**	**62**	Pn	**Pn**	**16 06 47.8**	**-1.8**
LIA	**Limnos Island**	**2.18**	**39**	P	**Pn**	**16 06 49.8**	**0.0**
LIA				AML	AML	16 07 30.2	
comp=E,3986μm,0.6s							
LIA				AML	AML	16 07 31.9	
comp=N,4679μm,1.2s							
VLS	**Valsamata**	**2.21**	**270**	P	**Pn**	**16 06 51.8**	**+1.6**
VLS				AML	AML	16 07 33.8	
comp=N,1542μm,1.1s							
VLS				AML	AML	16 07 35.7	
comp=E,981μm,0.5s							
FSK	**Fiskardo**	**2.24**	**277**	P	**Pb**	**16 06 52.6**	**-1.2**
FSK				AML	AML	16 07 37.7	
comp=N,984μm,0.8s							
FSK				AML	AML	16 07 44.8	
comp=E,1428μm,0.9s							
ANKY	**Antikythira Is**	**2.35**	**182**	P	**Pn**	**16 06 52.5**	**+0.4**
ANKY				AML	AML	16 07 31.2	
comp=E,2397μm,0.9s							
ANKY				AML	AML	16 07 40.1	
comp=N,1853μm,0.8s							
HORT	**Hortiatis**	**2.39**	**355**	Pn	**Pn**	**16 06 53.1**	**+0.3**
SOH	**Sokhos**	**2.60**	**359**	P	**Pn**	**16 06 57.8**	**+2.1**
SOH				AML	AML	16 07 28.4	
comp=E,1529μm,0.6s							
SOH				AML	AML	16 07 31.6	
comp=N,618μm,0.4s							
IGT	**Igoumenitsa**	**2.73**	**300**	P	**Pb**	**16 07 00.3**	**-1.9**
IGT				AML	AML	16 07 48.9	
comp=N,507μm,0.7s							
IGT				AML	AML	16 07 49.4	
comp=E,568μm,0.6s							
GADA	**Gvkgeada**	**2.77**	**44**	Pn	**Pn**	**16 06 56.8**	**-1.1**
EZN	**Ezine**	**2.79**	**54**	Pn	**Pn**	**16 06 57.0**	**-1.2**
IMMV	**Iera Moni Meta**	**2.79**	**170**	Pn	**Pn**	**16 06 56.5**	**-1.8**
IMMV	**Iera Moni Meta**	**2.79**	**170**	P	**Pn**	**16 06 59.6**	**+1.3**
IMMV				AML	AML	16 07 50.8	
comp=E,2882μm,1.0s							
IMMV				AML	AML	16 07 51.8	
comp=N,2884μm,1.0s							
SRS	**Serrai**	**2.90**	**3**	*e*Pn	**Pn**	**16 06 58.9**	**-0.8**
SRS				*e*Sn	**Sn**	**16 07 33.7**	**-1.2**
KNDR	**Palaiochora Ch**	**2.99**	**175**	Pn	**Pn**	**16 06 59.3**	**-1.6**
FNA	**Florina**	**3.00**	**329**	Pn	**Pn**	**16 07 02.9**	**+1.7**
FNA	**Florina**	**3.00**	**329**		**Pn**	**16 07 02.0**	**+0.9**
FNA	**Florina**	**3.00**	**329**	*e*Pn	**Pn**	**16 07 02.2**	**+1.0**
FNA				*e*Sn	**Sn**	**16 07 38.9**	**+1.4**
FNA	**Florina**	**3.00**	**329**	P	**Pn**	**16 07 02.0**	**+0.9**
COMU	**Canakkale**	**3.04**	**51**	Pn	**Pn**	**16 07 00.5**	**-1.2**
IDI	**Anoyia**	**3.16**	**157**	Pn	**Pn**	**16 07 01.1**	**-2.3**
IDI	**Anoyia**	**3.16**	**157**	Pn	**Pn**	**16 07 03.5**	**+0.2**
IDI	**Anoyia**	**3.16**	**157**	Pn	**Pn**	**16 07 04.1**	**+0.7**
comp=N,37nm,0.7s,baz=331,slow=14,SNR=20							
IDI				Sn	**Sn**	**16 07 40.4**	**-1.0**
comp=N,14nm,0.3s,baz=300,slow=15,SNR=7.3							
VAY	**Valandovo**	**3.16**	**349**	*e*Pn	**Pn**	**16 07 04.8**	**+1.5**
VAY				*e*Sn	**Sn**	**16 07 40.1**	**-1.3**
VAY	**Valandovo**	**3.16**	**349**	*i* Pn	**Pn**	**16 07 05.6**	**+2.3**
KEK	**Kerkira**	**3.17**	**299**	Pn	**Pn**	**16 07 05.5**	**+2.0**
KEK	**Kerkira**	**3.17**	**299**	Pn	**Pn**	**16 07 05.2**	**+1.7**
GELI	**Tayfur-Gelibol**	**3.23**	**47**	Pn	**Pn**	**16 07 03.4**	**-0.9**
ENEZ	**Enez**	**3.30**	**39**	Pn	**Pn**	**16 07 04.8**	**-0.4**
RDO	**Rodhopi**	**3.36**	**29**	Pn	**Pn**	**16 07 05.7**	**-0.3**
RDO	**Rodhopi**	**3.36**	**29**	Pn	**Pn**	**16 07 05.2**	**-0.8**
ALN	**Alexandroupoli**	**3.37**	**37**	Pn	**Pn**	**16 07 05.7**	**-0.5**
ALN	**Alexandroupoli**	**3.37**	**37**	Pn	**Pn**	**16 07 06.0**	**-0.2**
ALN	**Alexandroupoli**	**3.37**	**37**	P	**Pn**	**16 07 06.0**	**-0.2**
GVD	**Gavdhos**	**3.42**	**170**	Pn	**Pn**	**16 07 05.1**	**-1.8**
ERIK	**Erikli-Kesan**	**3.44**	**44**	Pn	**Pn**	**16 07 06.4**	**-0.7**
OHR	**Ohrid**	**3.52**	**326**	*e*Pn	**Pn**	**16 07 11.9**	**+3.7**
OHR				*e*Sn	**Sn**	**16 07 51.9**	**+1.7**
OHR	**Ohrid**	**3.52**	**326**	*i* Pn	**Pn**	**16 07 12.0**	**+3.7**
PEHC	**Pehcevo**	**3.58**	**354**	*i* Pn	**Pn**	**16 07 10.1**	**+1.0**
KDZ	**Kurdzhali**	**3.72**	**23**	Pn	**Pn**	**16 07 10.6**	**-0.4**
ZKR	**Zakros**	**3.84**	**143**	Pn	**Pn**	**16 07 10.4**	**-2.3**
KARP	**Karpathos**	**4.03**	**130**		**Pn**	**16 07 15.6**	**+0.3**
PLD	**Plovdiv**	**4.06**	**14**	Pn	**Pn**	**16 07 15.5**	**-0.1**
TIR	**Tirane**	**4.14**	**320**	*e*Pn	**Pn**	**16 07 18.5**	**+1.7**
TIR	**Tirane**	**4.14**	**320**	⇑P	**Pn**	**16 07 20.9**	**+4.1**
ARG	**Arkhangelos**	**4.27**	**116**	Pn	**Pn**	**16 07 19.4**	**+0.8**
ARG	**Arkhangelos**	**4.27**	**116**	P	**Pn**	**16 07 19.4**	**+0.8**
BOSS	**Bosilegrad**	**4.33**	**351**	*e*Pn	**Pn**	**16 07 20.1**	**+0.7**
EDRB	**Edirne**	**4.44**	**34**	Pn	**Pn**	**16 07 20.9**	**0.0**
BARS	**Barje**	**4.75**	**346**	*e*Pn	**Pn**	**16 07 26.0**	**+0.9**
BARS				*e*Sn	**Sn**	**16 08 18.9**	**-1.6**
ELND	**Elena**	**5.07**	**21**	⇑P	**Pn**	**16 07 29.8**	**+0.2**
ZAPS	**Zavoj**	**5.08**	**354**	*e*

BR131 Keskin Array S 8.12 76 P **Pn 16 08 13.0 +1.4**
BRTR Keskin Array B 8.12 76 Pn **Pn 16 08 13.6 +2.0**
comp=N,0.1nm,0.3s,baz=258,slow=12,SNR=10
comp=N,2.4nm,0.8s
INTR Introdacqua 8.20 300 Pn **Pn 16 08 13.3 +0.7**
KIRS Kirsehir-Merke 8.28 80 ⇑P **Pn 16 08 15.1 +1.3**
A051A Mrakovica 8.35 326 *e*Pn **Pn 16 08 14.0 -0.6**
MARR Marisel-Cluj 8.46 359 ⇑P **Pn 16 08 16.5 +0.4**
MORH Mrgy, Hungar 8.73 338 ⇑P **Pn 16 08 20.7 +0.9**
CAMP Campotosto 8.75 303 Pn **Pn 16 08 20.9 +0.6**
NRCA Norcia 9.08 304 Pn **Pn 16 08 24.2 -0.4**
FDMO Fiordimonte 9.19 305 Pn **Pn 16 08 26.0 -0.2**
BOJS Bojanci 9.48 323 *e*Pn **Pn 16 08 29.5 -0.5**
BURAR Bucovina Array 9.49 8 ⇑P **Pn 16 08 31.7 +1.5**
BUR08 Bucovina Ar. S 9.51 7 Pn **Pn 16 08 30.2 -0.4**
CRES Cresnjevec Ost 9.62 325 *e*Pn **Pn 16 08 30.9 -1.1**
CEY Cerknica 10.05 321 *e*Pn **Pn 16 08 36.5 -1.3**
SOKA Soboth 10.46 327 *i* Pn **Pn 16 08 42.9 -0.7**
comp=N,1.1nm,0.2s
OBKA Obir 10.55 325 *i* Pn **Pn 16 08 44.2 -0.6**
comp=N,2.3nm,0.6s
MMAI Mount Meron Ar 11.06 114 Pn **Pn 16 08 51.8 0.0**
comp=N,0.7nm,0.3s,baz=297,slow=15,SNR=5.8
comp=N,3.0nm,0.6s
ABTA Abfaltersbach 11.70 320 *i* Pn **Pn 16 09 00.3 -0.2**
comp=N,2.7nm,0.6s
LESA Schwarzleotal 12.09 323 *i* Pn **Pn 16 09 05.3 -0.6**
comp=N,1.2nm,0.4s
VRAC Vranov 12.12 338 LR LR 16 14 45.0
comp=N,40nm,18.5s,baz=206,slow=42
GEC2 GERESS Array S 12.73 330 Pn **Pn 16 09 15.8 +1.2**
GERES GERESS Array B 12.73 330 Pn **Pn 16 09 15.5 +1.0**
comp=N,0.1nm,0.3s,baz=152,slow=6.0,SNR=3.6
comp=N,0.5nm,0.4s
GERES GERESS Array B 12.73 330 *e*P **Pn 16 09 16.0 +1.5**
KHC Kasperske Hory 13.00 330 *i* P **Pn 16 09 18.6 +0.3**
DAVOX Davos/Dischmat 13.12 315 Pn **Pn 16 09 21.3 +1.2**
comp=N,0.2nm,0.3s,baz=355,slow=18,SNR=2.7
DAVOX LR LR 16 16 21.3
comp=N,36nm,18.9s,baz=94,slow=46
comp=N,1.1nm,0.4s
AKASG Malin Array Be 13.15 16 Pn **Pn 16 09 23.2 +3.0**
comp=N,0.5nm,0.3s,baz=74,slow=6.0,SNR=2.5
AKASG LR LR 16 14 52.4
comp=N,46nm,18.8s,baz=133,slow=40
SOC Sochi 13.45 61 *e*P **Pn 16 09 23.0 -1.4**
SOC *e* 16 11 53.6
SOC pmax pmax
comp=Z,40nm,0.9s
SENIN Lac Senin/Sane 14.41 310 P **P 16 09 45.5 +0.8**
BFO Black Forest 14.89 318 P **P 16 09 50.8 +0.9**
BFO Black Forest 14.89 318 P **P 16 09 50.8 +0.9**
CLL Collm 15.00 334 *i* P **Pn 16 09 45.3 -0.2**
CLL Collm 15.00 334 *es*P **P 16 09 50.0 -1.0**
SHA1 Shidzhatmaz 15.55 63 *i* P **Pn 16 09 53.1 +0.1**
KIV Kislovodsk 15.62 62 *e*P **Pn 16 09 52.3 -1.5**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KBZ Khabaz 15.71 63 *i* P **Pn 16 09 55.8 +0.9**
VSU Vasula 20.38 5*ce*P **P 16 10 50.3 +0.2**
VSU pmax pmax
comp=Z,28nm,1.0s
ESBB Sonseca Array 21.30 282 P **P 16 11 00.7 +0.3**
ESBB IAmb IAmb 16 11 30.3
comp=Z,25nm,1.4s
ESDC Sonseca Array 21.30 282 P **P 16 11 00.2 -0.2**
comp=Z,1.3nm,0.7s,baz=73,slow=11,SNR=7.7
comp=Z,1.3nm,0.7s
BELG Belogornoye 22.02 42 LR LR 16 20 00.0
comp=Z,20nm,20.7s,baz=192,slow=38
BELG Belogornoye 22.02 42 *i* P **P 16 11 10.0 +2.0**
BELG pmax pmax
comp=Z,4.0nm,0.9s
HFS Hagfors 22.78 347 P **P 16 11 14.8 -1.2**
comp=Z,5.5nm,0.7s,baz=172,slow=12,SNR=8.9
HFS LR LR 16 20 52.5
comp=Z,41nm,20.5s,baz=212,slow=39
comp=Z,5.5nm,0.7s
FINES FINESS Array B 23.31 3 P **P 16 11 21.4 0.0**
FINES FINESS Array B 23.31 3 P **P 16 11 20.6 -0.8**
comp=Z,3.0nm,0.9s,baz=243,slow=15,SNR=2.1
FINES LR LR 16 21 24.2
comp=Z,97nm,18.4s,baz=216,slow=39
comp=Z,3.0nm,0.9s
FINES FINESS Array B 23.31 3 P **P 16 11 21.4 0.0**
NC602 NORSAR Array S 23.74 345 P **P 16 11 24.6 -1.1**
NC602 IAmb IAmb 16 11 26.8
comp=Z,12nm,0.8s
NB201 NORSAR Array S 24.08 346 P **P 16 11 27.3 -1.7**
NB201 IAmb IAmb 16 11 30.7
comp=Z,10nm,0.9s
NB2 NORSAR Subarra 24.09 345 P **P 16 11 27.8 -1.3**
comp=Z,10nm,1.0s,baz=159,slow=9.3
NOA NORSAR Array B 24.09 345 P **P 16 11 28.4 -0.7**
comp=Z,4.0nm,0.8s,baz=148,slow=9.6,SNR=11
NOA LR LR 16 22 04.0
comp=Z,13nm,20.5s,baz=275,slow=40
comp=Z,4.0nm,0.8s
NC204 NORSAR Array S 24.39 345 P **P 16 11 32.2 +0.3**
NC204 IAmb IAmb 16 11 32.4
comp=Z,12nm,0.9s
PVAQ Vaqueiros 24.54 278 P **P 16 11 32.9 -0.6**
EKA Eskdalemuir Ar 24.74 322 P **P 16 11 34.8 -0.2**
comp=Z,3.6nm,0.7s,baz=116,slow=9.4,SNR=8.3
comp=Z,3.6nm,0.7s
ESK Eskdalemuir 24.75 322 P **P 16 11 36.6 +1.4**
ESK Eskdalemuir 24.75 322 P **P 16 11 36.6 +1.4**
ESK pmax pmax
comp=Z,37nm,1.4s
KLMR Klimovskoe 24.82 19 *e*P **P 16 11 34.5 -1.2**
KLMR pmax pmax
comp=Z,14nm,1.2s
KIRV Kirov 26.42 31 LR LR 16 22 25.7
comp=Z,31nm,19.6s,baz=258,slow=37
ARTI Arti 29.44 40*d i*P **P 16 12 17.8 +0.6**
ARTI 16 13 09.0
ARTI S **S 16 17 13.1 +1.6**
ARTI SS **SnSn 16 18 36.4 -1.4**
ARTI pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 31.40 1 LR LR 16 26 31.8
comp=Z,49nm,20.7s,baz=156,slow=39
TORD Torodi Ar. Bea 31.55 223 P **P 16 12 35.7 -0.5**
TORD Torodi Ar. Bea 31.55 223 P **P 16 12 35.9 -0.4**
comp=Z,3.8nm,0.6s,baz=29,slow=10.0,SNR=20
comp=Z,3.8nm,0.6s
KKAR Karatay Array 35.70 67 P **P 16 13 12.8 +0.6**
KKAR Karatay Array 35.70 67 P **P 16 13 12.8 +0.6**
GAR Garm 36.36 74 P **P 16 13 19.1 +1.1**
ARSB Arslanbob 37.83 69 P **P 16 13 32.0 +1.5**
ARSB Arslanbob 37.83 69 P **P 16 13 32.0 +1.5**
ARSB pmax pmax
comp=Z,1.0nm,1.3s
KURBB Kurchatov Arra 40.38 54 P **P 16 13 51.9 +0.4**
comp=Z,1.6nm,0.6s,baz=280,slow=8.8,SNR=15
comp=Z,1.6nm,0.6s
KURK Kurchatov 40.43 54 P **P 16 13 52.5 +0.5**
KURK Kurchatov 40.43 54 P **P 16 13 52.5 +0.5**
KURK pmax pmax
comp=Z,2.0nm,0.8s
DBIC Dimbokro 40.51 226 P **P 16 13 52.5 -0.4**
comp=Z,6.7nm,0.6s,baz=24,slow=8.6,SNR=11
comp=Z,6.7nm,0.6s
KDJ Kajisay 40.72 67 P **P 16 13 55.2 +0.5**
KDJ Kajisay 40.72 67 P **P 16 13 55.2 +0.5**
KDJ pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 43.35 59 P **P 16 14 16.2 +0.3**
comp=Z,1.3nm,0.5s,baz=271,slow=7.7,SNR=22
comp=Z,1.3nm,0.5s
ZAA0 Zalesovo Array 43.98 48 P **P 16 14 20.4 -0.4**
ZAA0 IAmb IAmb 16 14 21.8
comp=Z,3.9nm,0.8s
ZALV Zalesovo Beam 43.98 48 P **P 16 14 20.5 -0.3**
ZALV Zalesovo Beam 43.98 48 P **P 16 14 20.8 0.0**
comp=Z,3.5nm,0.7s,baz=273,slow=8.5,SNR=20
comp=Z,3.5nm,0.7s
SONM Songino Array 58.67 52 P **P 16 16 11.4 +0.1**
comp=Z,1.1nm,0.9s,baz=280,slow=9.8,SNR=6.0
comp=Z,1.1nm,0.9s
ULN Ulaanbaatar 59.06 51*ce*P **P 16 16 15.3 +1.3**
ULN pmax pmax
comp=Z,4.0nm,1.7s
YAK Yakutsk 63.95 30 P **P 16 16 46.9 +0.3**
YAK Yakutsk 63.95 30*ce*P **P 16 16 47.9 +1.4**
YAK pmax pmax
comp=Z,27nm,2.5s
BOSA Boshof 66.51 178 P **P 16 17 04.5 +0.9**
BOSA Boshof 66.51 178 P **P 16 17 02.6 -1.0**
comp=Z,1.8nm,0.7s,baz=348,slow=9.6,SNR=6.0
comp=Z,1.8nm,0.7s
BOSA Boshof 66.51 178 P **P 16 17 04.5 +0.9**
BOSA pmax pmax
comp=Z,8.0nm,1.3s
CMAR Chiang Mai Arr 67.64 84 P **P 16 17 09.8 -1.2**
comp=Z,0.8nm,0.7s,baz=300,slow=7.7,SNR=9.1
comp=Z,0.8nm,0.7s
A36M Sachs Harbour 67.90 350 P **P 16 17 12.1 +0.2**
A36M IAmb IAmb 16 17 15.8
comp=Z,4.6nm,1.1s
C23K Itkillik River 72.17 358 P **P 16 17 38.8 +0.7**
E29M Blow River 72.79 353 P **P 16 17 42.0 +0.2**
E29M IAmb IAmb 16 17 42.5
comp=Z,2.1nm,0.7s
F31M Tsiigehtchic 73.24 351 P **P 16 17 44.2 -0.2**
USA0B Ussuriysk Arra 75.68 45 P **P 16 17 58.3 -0.8**
USA0B Ussuriysk Arra 75.68 45 P **P 16 17 58.3 -0.8**
USA0B pmax pmax
comp=Z,9.0nm,1.2s
USRK Ussuriysk Ar. 75.68 45 P **P 16 17 58.1 -1.0**
USRK Ussuriysk Ar. 75.68 45 P **P 16 17 58.1 -1.0**
IMAR Indian Mountai 76.11 359 P **P 16 18 00.5 -0.6**
ILAR Eielson Array 77.06 356 P **P 16 18 06.6 0.0**
ILAR Eielson Array 77.06 356 P **P 16 18 06.6 0.0**
WRH Wood River Hil 77.43 356 P **P 16 18 08.7 +0.1**
KSRS Korea Array 77.54 52 P **P 16 18 08.2 -1.6**
comp=Z,0.7nm,0.7s,baz=310,slow=4.7,SNR=4.8
comp=Z,0.7nm,0.7s
KSRS Korea Array 77.54 52 *e*P **P 16 18 09.8 +0.1**
KSRS pmax pmax
comp=Z,1.0nm,0.5s
J19K Poorman 78.12 360 P **P 16 18 13.0 +0.5**
J19K IAmb IAmb 16 18 20.0
comp=Z,6.6nm,1.4s
BCAR Beaver Creek A 78.36 353 P **P 16 18 14.4 +0.5**
WRA Warramunga Arr 118.28 94 PKP **PKPdf 16 25 00.2 -1.4**
comp=Z,0.3nm,0.8s,baz=340,slow=2.2,SNR=1.9
ASAR Alice Springs 119.93 98 PKP **PKPdf 16 25 02.8 -2.0**
comp=Z,0.2nm,0.5s,baz=304,slow=1.5,SNR=6.8

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*IDC **26** 16:07:27.2±1.5, 12°.22N×84°.58W, h0km, mb3.8/3, mbtmp3.8/3, MS3.2/9, Error ellipse: s-maj=122.2km s-min=30.5km az=64.0*
*UCR **26** 16:07:31.6±0.8, 10°.83N×86°.03W, h32km±2km, MW4.5*
*CATAC **26** 16:07:31.6±0.4, 10°.84N×86°.03W, h25km±3km, ML4.3*
*NEIC **26** 16:07:32.4±0.6, 10°.8N±0°.1×86°.0W±0°.1, h40km±5km, mb4.2/6, Error ellipse: s-maj=19.9km s-min=7.3km az=224.0*
ISC 26 16:07:30.7±1.2, 10°.82N±0°.03×86°.03W±0°.03, h26km±10km, n98, σ0°98/124, mb4.2/6, MS3.2/7, 1C-8D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRUZ	**La Cruz**	**0.47**	**56**	⇓*i*P	**Pn**	**16 07 43.1**	**+1.4**
LCRUZ				*e*S	**Sn**	**16 07 51.1**	**+2.0**
ERIA	**Liberia**	**0.60**	**108**	*e*P	**Pn**	**16 07 44.5**	**+0.9**
ERIA				*e*S	**Sn**	**16 07 54.3**	**+1.8**
CARN	**Rivas**	**0.62**	**53**	*i* P	**Pn**	**16 07 44.3**	**+0.6**
CARN				*i* S	**Sn**	**16 07 53.2**	**+0.4**
CARN				IAML		16 07 57.7	
comp=Z,49μm,1.0s							
VRLE	**La Escondida,**	**0.65**	**93**	⇓*i*P	**Pn**	**16 07 44.6**	**+0.3**
GPS3	**Bodega del ICE**	**0.65**	**95**	*e*P	**Pn**	**16 07 45.3**	**+0.9**
ARIN	**Rivas**	**0.66**	**16**	*i* P	**Pn**	**16 07 44.6**	**+0.2**
ARIN				*i* S	**Sn**	**16 07 54.6**	**+0.7**
ARIN				IAML		16 07 55.3	
comp=Z,15μm,1.0s							
GPS2	**Hotel Rincn d**	**0.67**	**96**	⇓*i*P	**Pn**	**16 07 44.9**	**+0.4**
SACU	**Santa Cruz**	**0.70**	**142**	*e*P	**Pn**	**16 07 45.2**	**+0.3**
SACU				*e*S	**Sn**	**16 07 56.2**	**+1.3**
JAPN	**AI SSO del Vol**	**0.78**	**26**	*i* P	**Pn**	**16 07 47.0**	**+1.0**
JAPN				IAML		16 08 01.0	
comp=Z,11μm,1.0s							
BAGA	**Bagaces**	**0.81**	**111**	⇓*i*P	**Pn**	**16 07 47.1**	**+0.8**
BAGA				*e*S	**Sn**	**16 07 58.7**	**+1.2**
MORN	**AI O del Volca**	**0.81**	**27**	*i* P	**Pn**	**16 07 47.1**	**+0.6**
MORN				*i* S	**Sn**	**16 07 58.6**	**+0.9**
MORN				IAML		16 08 04.4	
comp=Z,2μm,1.0s							
COLC	**Colonia**	**0.82**	**101**	⇓*e*P	**Pn**	**16 07 47.0**	**+0.4**
CONN	**Concepcion**	**0.84**	**28**	*i* P	**Pn**	**16 07 47.2**	**+0.4**
CONN				*i* S	**Sn**	**16 07 59.1**	**+0.7**
CONN				IAML		16 07 59.7	
comp=Z,73μm,1.0s							
HORNC	**Hornillas**	**0.84**	**97**	⇓*i*P	**Pn**	**16 07 47.4**	**+0.4**
CUI	**Cuipilapa**	**0.86**	**101**	⇓*i*P	**Pn**	**16 07 47.7**	**+0.5**
NICO	**Nicoya**	**0.89**	**140**	*e*P	**Pb**	**16 07 47.5**	**+0.1**
NICO				*e*S	**Sn**	**16 08 00.8**	**+1.3**
NADN	**Granada**	**0.93**	**360**	*i* P	**Pb**	**16 07 47.8**	**-0.3**
NADN				*i* S	**Sn**	**16 08 00.7**	**+0.2**
NADN				IAML		16 08 07.6	
comp=Z,17μm,1.0s							
CNAS	**Canas**	**0.99**	**113**	*e*P	**Pn**	**16 07 49.8**	**+0.8**
TENO	**El Achiote**	**1.04**	**96**	*e*P	**Pb**	**16 07 50.0**	**-0.1**
INDI	**Punta indio, G**	**1.08**	**151**	*i* P	**Pn**	**16 07 49.8**	**-0.3**
INDI				*i* S	**Sn**	**16 08 04.8**	**+0.6**
INDI				IAML		16 08 14.4	
comp=Z,170μm,1.0s							
NANN	**Nandasmo**	**1.12**	**355**	*i* P	**Pb**	**16 07 52.2**	**+0.8**
NANN				*i* S	**Sn**	**16 08 06.3**	**+1.0**
NANN				IAML		16 08 11.4	
comp=Z,88μm,1.0s							
VERA	**Finca Concepci**	**1.14**	**88**	*e*P	**Pb**	**16 07 52.0**	**+0.3**
SABN	**Sabanita**	**1.14**	**353**	*i* P	**Pn**	**16 07 51.5**	**+0.5**
SABN				IAML		16 08 12.6	
comp=Z,14μm,1.0s							
MASN	**Masaya**	**1.17**	**354**	*i* P	**Pn**	**16 07 52.0**	**+0.6**
MASN				*i* S	**Sn**	**16 08 07.2**	**+0.7**
MASN				IAML		16 08 10.9	
comp=Z,2μm,1.0s							
JUNT	**Juntas**	**1.18**	**117**	*e*P	**Pn**	**16 07 52.1**	**+0.6**
JTS	**Las Juntas de**	**1.18**	**116**	Pn	**Pn**	**16 07 52.0**	**+0.5**
JTS	**Las Juntas de**	**1.18**	**116**	LR	LR	16 08 36.9	
comp=Z,373nm,19.8s,baz=265,slow=36							
JTS	**Las Juntas de**	**1.18**	**116**	⇓*e*P	**Pn**	**16 07 52.1**	**+0.6**
MAS3	**AI N del Volca**	**1.21**	**353**	*i* P	**Pn**	**16 07 52.4**	**+0.5**
MAS3				*i* S	**Sb**	**16 08 08.2**	**0.0**
MAS3				IAML		16 08 19.5	
comp=Z,5μm,1.0s							
MTEVE	**Monteverde**	**1.28**	**113**	*e*P	**Pb**	**16 07 54.1**	**-0.2**
LCHIL	**Los Chiles**	**1.31**	**80**	*e*P	**Pn**	**16 07 53.9**	**+0.6**
LCHIL				*e*S	**Sb**	**16 08 10.7**	**-0.2**
UNAN	**Cigeo UNAN**	**1.31**	**349**	*i* P	**Pn**	**16 07 53.9**	**+0.6**
UNAN				*i* S	**Sn**	**16 08 10.4**	**+0.5**
UNAN				IAML		16 08 22.1	
comp=Z,22μm,1.0s							
ABCN	**Banco Central**	**1.32**	**348**	*i* P	**Pb**	**16 07 54.8**	**-0.1**
ABCN				*i* S	**Sb**	**16 08 11.5**	**0.0**
ABCN				IAML		16 08 14.4	
comp=Z,10μm,1.0s							
MGAN	**Managua**	**1.34**	**351**	Pn	**Pn**	**16 07 54.3**	**+0.6**
MGAN	**Managua**	**1.34**	**351**	*i* P	**Pn**	**16 07 54.4**	**+0.7**
MGAN				IAML		16 07 54.7	
comp=Z,3μm,1.0s							
MGAN				*i* S	**Sb**	**16 08 11.6**	**-0.3**
MGAN	**Managua**	**1.34**	**351**	*e*P	**Pn**	**16 07 54.3**	**+0.6**
MGAN				*e*S	**Sn**	**16 08 11.1**	**+0.4**
TISN	**Laguna Tiscapa**	**1.34**	**350**	*i* P	**Pn**	**16 07 52.4**	**-1.3**
TISN				IAML		16 08 10.0	
comp=Z,500nm,1.0s							
R4DEC	**Barrio San Lui**	**1.34**	**351**	*i* P	**Pn**	**16 07 54.3**	**+0.6**
R4DEC				IAML		16 07 54.7	
comp=Z,3μm,1.0s							
R4DEC				*i* S	**Sb**	**16 08 11.8**	**-0.1**
FORC	**Fortuna**	**1.38**	**105**	*e*P	**Pb**	**16 07 55.8**	**0.0**
APQ2	**Apoyeque**	**1.40**	**348**	*i* P	**Pn**	**16 07 55.5**	**+0.9**
APQ2				*i* S	**Sn**	**16 08 13.1**	**+0.9**
APQ2				IAML		16 08 15.3	
comp=Z,5μm,1.0s							
ACON	**Acoyapa**	**1.42**	**36**		**Pn**	**16 07 55.1**	**+0.4**
ACON	**Acoyapa**	**1.42**	**36**	*i* P	**Pn**	**16 07 55.0**	**+0.2**
ACON				*i* S	**Sn**	**16 08 12.7**	**+0.1**
ACON				IAML		16 08 17.6	
comp=Z,9μm,1.0s							
ACON	**Acoyapa**	**1.42**	**36**	⇑*i*P	**Pn**	**16 07 55.1**	**+0.4**
ACON				*e*S	**Sn**	**16 08 12.3**	**-0.3**
APYN	**Apoyeque**	**1.44**	**347**	*i* P	**Pn**	**16 07 55.9**	**+0.7**
APYN				*i* S	**Sn**	**16 08 13.6**	**+0.3**
APYN				IAML		16 08 14.9	
comp=Z,130nm,1.0s							
SOCE	**Pocosol**	**1.45**	**107**	Pn	**Pn**	**16 07 55.9**	**+0.7**
SOCE	**Pocosol**	**1.45**	**107**	*i* P	**Pn**	**16 07 56.3**	**+1.0**
SOCE				*i* S	**Sn**	**16 08 14.4**	**+0.9**
SOCE				IAML		16 08 26.0	
comp=Z,3μm,1.0s							
SOCE	**Pocosol**	**1.45**	**107**	*e*P	**Pn**	**16 07 56.2**	**+0.9**
SBEN	**San Benito**	**1.48**	**359**	*i* P	**Pn**	**16 07 56.7**	**+1.0**
SBEN				*i* S	**Sb**	**16 08 15.6**	**-0.4**
SBEN				IAML		16 08 22.3	
comp=Z,5μm,1.0s							
CBL1	**Cabuya**	**1.53**	**143**	*e*P	**Pn**	**16 07 56.7**	**+0.4**
ARZA	**Esparza**	**1.57**	**121**	*e*P	**Pb**	**16 07 58.7**	**-0.3**
COVE	**Coope Vega, Sa**	**1.60**	**93**	*i* P	**Pn**	**16 07 57.9**	**+0.6**
COVE				*i* S	**Sb**	**16 08 19.1**	**-0.3**
COVE				IAML		16 08 23.8	
comp=Z,2μm,1.0s							
MOMN	**Momotombo**	**1.66**	**342**	*i* P	**Pn**	**16 07 58.9**	**+0.7**
MOMN				*i* S	**Sn**	**16 08 18.7**	**0.0**
MOMN				IAML		16 08 21.1	
comp=Z,100nm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.68**	**340**	*i* P	**Pn**	**16 07 59.6**	**+1.3**
LEVN				*i* S	**Sn**	**16 08 19.2**	**+0.2**
LEVN				IAML		16 08 31.8	
comp=Z,2μm,1.0s							
MACN	**El Madrono**	**1.76**	**339**	*i* P	**Pn**	**16 08 00.3**	**+0.8**
MACN				*i* S	**Sn**	**16 08 21.9**	**+0.8**
MACN				IAML		16 08 25.8	
comp=Z,1μm,1.0s							
CNGA	**AI SSO del Vol**	**1.79**	**338**	*i* P	**Pn**	**16 08 00.9**	**+0.9**
CNGA				*i* S	**Sn**	**16 08 22.6**	**+0.6**
CNGA				IAML		16 08 31.3	
comp=Z,2μm,1.0s							
HERN	**Volcan Telica**	**1.95**	**336**	*i* P	**Pn**	**16 08 02.4**	**+0.2**
HERN				IAML		16 08 26.2	
comp=Z,3μm,1.0s							
HDC	**Heredia**	**2.05**	**113**	Pn	**Pn**	**16 08 05.0**	**+1.4**
HDC	**Heredia**	**2.05**	**113**	*i* P	**Pb**	**16 08 05.7**	**-1.6**
HDC				IAML		16 08 12.6	
comp=Z,2μm,1.0s							
PKGN	**Cerro Pekin**	**2.06**	**333**	*i* P	**Pn**	**16 08 04.7**	**+1.0**
PKGN				*i* S	**Sn**	**16 08 29.9**	**+1.4**
PKGN				IAML		16 08 37.6	
comp=Z,4μm,1.0s							
CRIN	**San Cristobal**	**2.12**	**332**	Pn	**Pn**	**16 08 05.3**	**+0.7**
CRIN	**San Cristobal**	**2.12**	**332**	*i* P	**Pn**	**16 08 05.3**	**+0.7**
CRIN				*i* S	**Sn**	**16 08 31.0**	**+0.9**
CRIN				IAML		16 08 33.1	
comp=Z,3μm,1.0s							
CRIN	**San Cristobal**	**2.12**	**332**	*e*P	**Pn**	**16 08 05.4**	**+0.8**
ESPN	**Las Esperanzas**	**2.18**	**51**		**Pn**	**16 08 06.1**	**+0.9**
ESPN	**Las Esperanzas**	**2.18**	**51**	*i* P	**Pn**	**16 08 06.1**	**+0.9**
ESPN				*i* S	**Sn**	**16 08 32.3**	**+1.0**
ESPN				IAML		16 08 34.5	
comp=Z,1μm,1.0s							
ESPN	**Las Esperanzas**	**2.18**	**51**	*e*P	**Pn**	**16 08 06.1**	**+0.9**
LIMN	**Finca el Limon**	**2.25**	**352**	*i* P	**Pn**	**16 08 06.9**	**+0.5**
LIMN				IAML		16 08 45.1	
comp=Z,920nm,1.0s							
LCR2	**La Lucha 2**	**2.26**	**118**	*e*P	**Pn**	**16 08 07.8**	**+1.2**
TRT2	**Tortugero**	**2.27**	**96**	*i* P	**Pn**	**16 08 06.6**	**+0.1**
TRT2				*i* S	**Sb**	**16 08 36.5**	**-2.1**
TRT2				IAML		16 08 49.0	
comp=Z,790nm,1.0s							
RAFA	**San Farael, Vo**	**2.34**	**111**	*i* P	**Pn**	**16 08 09.0**	**+1.2**
RAFA				IAML		16 09 37.5	
comp=Z,3μm,1.0s							
BLUN	**Bluefields**	**2.50**	**62**	*i* P	**Pn**	**16 08 10.7**	**+1.0**
BLUN				IAML		16 08 11.0	
comp=Z,1μm,1.0s							
BUS1	**Rivas**	**2.57**	**119**	*e*P	**Pn**	**16 08 12.5**	**+1.4**
POTN	**Potosi Cosigui**	**2.61**	**326**	*i* P	**Pn**	**16 08 11.7**	**+0.5**
POTN				*i* S	**Sn**	**16 08 43.3**	**+1.3**
POTN				IAML		16 08 52.1	
comp=Z,260nm,1.0s							
CSGN	**Cosiguina Volc**	**2.62**	**325**	*i* P	**Pn**	**16 08 12.1**	**+0.7**
CSGN				*i* S	**Sn**	**16 08 43.3**	**+0.9**
CSGN				IAML		16 08 51.5	
comp=Z,210nm,1.0s							
OCHAL	**Ojochal**	**2.90**	**126**	*i* P	**Pn**	**16 08 17.6**	**+2.4**
OCHAL				IAML		16 09 04.5	
comp=Z,460nm,1.0s							
CNCH	**Conchagua**	**3.02**	**324**	*i* P	**Pn**	**16 08 18.1**	**+1.2**
CNCH				IAML		16 08 48.2	
comp=Z,520nm,1.0s							
TGUH	**Tegucigalpa,Un**	**3.44**	**339**		**Pn**	**16 08 23.1**	**+0.3**
MTO3	**Montecristo**	**4.82**	**318**		**Pn**	**16 08 43.2**	**+1.3**
CMIG	**Matias Romero**	**10.62**	**307**	LR	LR	16 14 57.3	
comp=Z,72nm,18.1s,baz=123,slow=41							
SOR	**Soroa**	**12.25**	**13**	Pn	**Pn**	**16 10 23.9**	**+0.4**
SDV	**Santo Domingo**	**15.29**	**96**	LR	LR	16 16 23.0	
comp=Z,62nm,22.0s,baz=246,slow=38							
AGPR	**Aguadilla, PR**	**19.80**	**65**	P	**P**	**16 11 58.7**	**-0.7**
SJG	**San Juan**	**20.55**	**67**	LR	LR	16 18 42.2	
comp=Z,38nm,20.5s,baz=206,slow=36							
GOGA	**Godfrey**	**22.61**	**6**	P	**P**	**16 12 30.6**	**+1.1**
GOGA				IAmb	IAmb	16 13 14.5	
comp=Z,10nm,1.2s							
PLAL	**Pickwick Lake**	**24.13**	**356**	P	**P**	**16 12 42.5**	**-1.9**
CPCT	**Cooper Cave**	**24.56**	**3**	P	**P**	**16 12 50.6**	**+2.2**
CPCT				IAmb	IAmb	16 13 16.1	
comp=Z,12nm,1.3s							
TXAR	**Lajitas Array**	**24.71**	**321**	P	**P**	**16 12 49.3**	**-0.8**
TXAR	**Lajitas Array**	**24.71**	**321**	P	**P**	**16 12 49.5**	**-0.5**
comp=Z,3.1nm,0.5s,baz=142,slow=10,SNR=16							
comp=Z,3.1nm,0.5s							
TX31	**Lajitas Ar. Si**	**24.71**	**321**	P	**P**	**16 12 49.4**	**-0.7**
TX31				IAmb	IAmb	16 12 54.5	
comp=Z,4.5nm,0.6s							
TKL	**Tuckaleechee C**	**24.81**	**4**	LR	LR	16 21 17.0	
comp=Z,65nm,18.1s,baz=309,slow=36							
MNHN	**Monahans**	**25.64**	**325**	P	**P**	**16 12 58.9**	**+0.6**
MDP	**Montagnes des**	**33.53**	**97**	LR	LR	16 28 37.4	
comp=Z,19nm,21.2s,baz=89,slow=39							
NVAR	**Mina Array Bea**	**39.84**	**319**	LR	LR	16 34 35.6	
comp=Z,66nm,20.4s,baz=318,slow=41							
RPN	**Rapa Nui**	**43.98**	**211**	LR	LR	16 29 14.4	
comp=Z,24nm,20.1s,baz=115,slow=28							
PLCA	**Paso Flores**	**53.25**	**165**	P	P	16 16 55.1	+7.9
comp=Z,1.3nm,0.9s,baz=349,slow=10,SNR=3.2							
comp=Z,1.3nm,0.9s							
ILAR	**Eielson Array**	**68.07**	**336**	P	**P**	**16 18 23.9**	**-3.9**
comp=Z,0.2nm,0.8s,baz=139,slow=4.9,SNR=6.5							
comp=Z,0.2nm,0.8s							
MDT	**Midelt**	**77.06**	**59**	LR	LR	16 47 10.4	
comp=Z,23nm,21.0s,baz=4.0,slow=32							
SPITS	**Spitsbergen Ar**	**82.01**	**12**	LR	LR	16 56 02.7	
comp=Z,23nm,18.4s,baz=284,slow=36							
CMAR	**Chiang Mai Arr**	**150.50**	**350**	PKPbc	**PKPdf**	**16 27 18.5**	**+2.8**
comp=Z,0.5nm,0.7s,baz=356,slow=3.2,SNR=4.7

O14K	Tigyukauivet M	12.93	50	P	P	16 23 54.2	+1.1
O14K	Tigyukauivet M	12.93	50	P	Pn	16 23 49.5	-0.4
	baz=246						
K13K	Kusilvak Mount	12.96	36	P	Pn	16 23 50.0	-0.2
	baz=229						
N14K	Kuskokwak Cree	13.03	47	P	Pn	16 23 51.4	+0.3
	baz=242						
PETK	Petropavlovsk-	13.11	282	P	Pn	16 23 51.9	-0.3
	8.5nm,0.5s,baz=88,slow=13,SNR=24						
M14K	Bethel	13.32	43	Pn	Pn	16 23 54.5	-0.1
M14K	Bethel	13.32	43	P	Pn	16 23 55.0	+0.4
	baz=239						
L14K	Kuka Creek	13.34	40	P	Pn	16 23 55.0	+0.1
	baz=235						
O15K	Ungalikthiuk R	13.59	51	P	Pn	16 23 57.9	-0.2
	baz=249						
CHGN	Chignik	13.60	64	P	Pn	16 23 58.3	+0.1
	baz=262						
M15K	Kasigluk River	13.83	45	P	Pn	16 24 01.4	+0.4
	baz=241						
N15K	Kwethluk River	13.86	47	P	Pn	16 24 00.8	-0.6
	baz=244						
J14K	Nanvaranak Lak	13.88	34	P	Pn	16 24 01.9	+0.3
	baz=229						
L15K	Ungalak Mounta	14.01	40	P	P	16 24 04.3	-0.8
	baz=236						
K15K	Wolf Creek Mou	14.34	38	Pn	Pn	16 24 07.3	-0.1
K15K	Wolf Creek Mou	14.34	38	P	P	16 24 09.8	+1.0
	baz=234						
P16K	Nushagak River	14.43	53	P	P	16 24 08.6	-1.2
	baz=252						
O16K	Kokwok River B	14.56	51	P	P	16 24 10.9	-0.4
	baz=250						
N16K	Nishlik Lake	14.58	47	P	P	16 24 11.0	-0.5
	baz=246						
M16K	Timber Creek	14.74	45	P	P	16 24 12.9	-0.3
	baz=243						
L16K	Owhat River	14.84	42		Pn	16 24 13.1	-0.4
L16K	Owhat River	14.84	42	P	P	16 24 14.1	-0.2
	baz=240						
R17L	Mt. Peulik Vol	14.92	59	P	P	16 24 14.9	-0.3
	baz=259						
Q16K	King Salmon	15.00	55	P	P	16 24 15.9	-0.1
	baz=255,SNR=7.6						
O17K	Koliganek Bris	15.10	51	P	P	16 24 16.9	-0.3
	baz=251						
CHIR	Chirikof Islan	15.11	67	P	P	16 24 17.0	-0.4
	baz=267						
P17K	Kvichak River	15.24	54	P	P	16 24 18.9	+0.2
	baz=254,SNR=8.9						
J16K	Anvik River	15.27	36	P	P	16 24 19.2	+0.1
	baz=233						
Q17K	Contact Creek	15.29	57	P	P	16 24 19.9	+0.5
	baz=258,SNR=18						
N17K	Nushagak Hills	15.32	48	P	P	16 24 20.2	+0.5
	baz=248						
L17K	Donlin	15.54	42	P	P	16 24 23.3	+1.3
	baz=241						
M17K	Holitna River	15.56	45	P	Pn	16 24 22.4	+0.2
	baz=245						
ACHA	Angle Creek He	15.57	58		Pn	16 24 22.2	-0.3
ACHA				IAmb	IAmb	16 24 28.0	
	comp=Z,25nm,0.8s						
H16K	Elim	15.60	31	P	Pn	16 24 22.6	0.0
	baz=226						
I17K	Unalakleet	15.61	34	P	Pn	16 24 22.5	-0.3
	baz=231						
K17K	Iditarod	15.83	40	P	Pn	16 24 25.4	0.0
	baz=239						
Q18K	Katmai Hardscr	15.83	56	P	Pn	16 24 24.9	-0.6
	baz=257,SNR=7.9						
P18K	Big Mountain,	15.89	54	P	Pn	16 24 26.0	-0.3
	baz=255						
J17K	VABM Dome	15.90	37	P	Pn	16 24 25.9	-0.3
	baz=236						
R18K	Karluk	15.93	60	P	Pn	16 24 26.2	-0.4
	baz=262						
N18K	Kilae Creek	15.98	49	P	Pn	16 24 27.5	+0.2
	baz=249						
O18K	Koktuh Hills	16.03	52	P	Pn	16 24 27.7	-0.3
O18K	Koktuh Hills	16.03	52	P	Pn	16 24 28.0	0.0
	baz=253,SNR=8.7						
L18K	Granite Mounta	16.24	43	P	Pn	16 24 30.3	-0.1
	baz=243						
M18K	Stony River	16.31	46	P	Pn	16 24 31.0	-0.2
	baz=247						
OHAK	Old Harbor	16.51	62	P	P	16 24 32.4	-0.3
	baz=264						
H17K	Granite Mounta	16.54	32	P	Pn	16 24 33.5	-0.5
H17K				IAmb	IAmb	16 24 37.4	
	comp=Z,16nm,1.1s						
H17K	Granite Mounta	16.54	32	P	Pn	16 24 33.2	-0.8
	baz=230						
O19K	Port Alsworth	16.56	51	P	Pn	16 24 34.5	+0.3
	baz=253,SNR=23						
Q19K	Cape Douglas,	16.58	56	P	Pn	16 24 33.7	-0.8
	baz=258						
N19K	Bonanza Creek	16.67	49	P	Pn	16 24 35.9	+0.2
	baz=251						
G17K	Kiwalik Mounta	16.68	30	P	Pn	16 24 36.3	+0.7
	baz=227						
J18K	Innoko River	16.83	39	P	Pn	16 24 37.6	+0.1
	baz=240						
TTA	Tatalina	16.85	41	P	Pn	16 24 37.2	-0.6
TTA				IAmb	IAmb	16 24 40.5	
	comp=Z,27nm,1.0s						
TTA	Tatalina	16.85	41	P	Pn	16 24 37.9	+0.1
	baz=242,SNR=6.6						
P19K	Oil Pt	16.95	54	P	Pn	16 24 37.7	-1.2
P19K	Oil Pt	16.95	54	P	Pn	16 24 38.5	-0.4
	baz=256						
KDAK	Kodiak Island	16.95	60	P	P	16 24 36.8	-0.7
	comp=Z,22nm,0.4s,baz=122,slow=4.0,SNR=74						
KDAK	Kodiak Island	16.95	60	P	Pn	16 24 37.6	-1.3
	baz=263						
L19K	White Mountain	17.01	44	P	Pn	16 24 38.7	-0.9
	baz=246						
ILSW	Iliamna Southw	17.07	52	P	Pn	16 24 39.5	-0.9
M19K	Big River Lodg	17.10	46	P	Pn	16 24 40.4	-0.2
	baz=248						
Q20K	Shuyak Island	17.16	57	P	P	16 24 39.7	-0.2
	baz=261						
F17K	Baldwin Pennin	17.17	27	P	Pn	16 24 40.7	-0.7
	baz=224						
H18K	Honhosa River	17.19	33	P	Pn	16 24 41.5	-0.1
	baz=232						
O20K	Slope Mountain	17.35	52	P	Pn	16 24 42.2	-1.4
	baz=256						
GCSA	Galena City Sc	17.46	35	P	Pn	16 24 43.4	-1.3
	baz=236						
E17K	Hotham Inlet	17.48	25	P	Pn	16 24 44.2	-0.8
	baz=221						
J19K	Poorman	17.52	38	P	Pn	16 24 45.1	-0.4
	baz=240						
L20K	Farewell, AK	17.54	44	P	Pn	16 24 45.4	-0.4
	baz=247						
G18K	Tagagawik	17.56	31	P	Pn	16 24 45.4	-0.6
G18K	Tagagawik	17.56	31	P	Pn	16 24 45.9	-0.1
	baz=230						
C16K	Lisburne Hills	17.64	19	P	P	16 24 45.2	+0.3
	baz=212						
M20K	Styx River	17.65	46	P	Pn	16 24 48.7	+1.5
	baz=250,SNR=13						
HOM	Homer	17.73	54	P	P	16 24 46.2	+0.1
	baz=258						
K20K	Telida	17.83	41	P	Pn	16 24 48.2	-1.0
	baz=244						
N20K	Mount Spurr	17.85	49	P	Pn	16 24 48.4	-1.0
	baz=253,SNR=5.4						
CNPM	China Poot	17.91	55	P	Pn	16 24 48.6	-1.6
RDOG	Red Dog Mine	17.98	22	P	Pn	16 24 49.7	-1.1
	baz=217						
H19K	Roundabout Mou	18.06	34	P	Pn	16 24 51.0	-0.8
	baz=234						
E18K	Tukpahlearik C	18.06	25	P	Pn	16 24 50.9	-0.9
	baz=223						
BRLK	Bradley Lake	18.13	54	P	P	16 24 49.9	-0.6
J20K	Nowinta River	18.17	39	P	Pn	16 24 52.1	-1.1
	baz=242						
BRSE	Bradley Lake S	18.20	54	P	P	16 24 51.5	+0.3
	baz=259,SNR=5.0						
G19K	Purcell Mounta	18.22	31	P	Pn	16 24 53.0	-0.6
	baz=232						
I20K	Naaghedeneel	18.35	37	P	Pn	16 24 54.4	-0.9
	baz=239						
SKT	Skwentna	18.39	47	P	Pn	16 24 54.3	-1.5
SKT				IAmb	IAmb	16 25 01.7	
	comp=Z,23nm,0.8s						
SKT	Skwentna	18.39	47	P	Pn	16 24 54.8	-1.0
	baz=252,SNR=8.6						
PPLA	Purkeypile	18.42	44	P	Pn	16 24 55.4	-0.9
	baz=248						
F19K	Shaleruckik Mo	18.44	29	P	P	16 24 54.0	+0.3
	baz=229						
H20K	Anotleneega Mo	18.58	35	P	Pn	16 24 56.0	-1.9
	baz=237,SNR=12						
SUA	Susitna One	18.60	49	P	P	16 24 55.8	+0.2
	baz=254						
CAST	Castle Rocks	18.67	42	P	P	16 24 57.0	+0.7
CAST				IAmb	IAmb	16 24 58.9	
	comp=Z,12nm,0.8s						
CAST	Castle Rocks	18.67	42	P	Pn	16 24 57.6	-1.4
	baz=247,SNR=5.6						
CHUM	Lake Minchumin	18.76	41	P	Pn	16 24 58.2	-1.9
	baz=245,SNR=12						
C18K	Utukok River	18.84	22	P	P	16 24 58.8	+0.7
	baz=219						
SEW	Seward	18.91	53	P	P	16 24 58.9	+0.2
	baz=259						
M22K	Willow	18.96	48	P	P	16 24 59.6	+0.3
	baz=254						
RC01	Rabbit Creek A	18.97	50	P	P	16 24 59.7	+0.2
	baz=256						
E19K	Redstone River	19.02	28	P	P	16 25 00.1	+0.2
	baz=229						
F20K	Avraart Lake	19.20	30	P	P	16 25 02.6	+0.7
	baz=232						
IMAR	Indian Mountai	19.24	34	P	P	16 25 02.8	+0.5
H21K	Melozitna Rive	19.40	36	P	P	16 25 04.8	+0.8
	baz=240						
TRF	Thorofare Moun	19.43	43	P	P	16 25 05.1	+0.5
	baz=249,SNR=6.2						
D19K	Kuna River	19.48	25	P	P	16 25 05.5	+0.5
	baz=225						
GHO	Glory Hole Cre	19.52	49	P	P	16 25 05.7	+0.2
C19K	Lookout Ridge	19.57	23	P	P	16 25 06.3	+0.4
	baz=221						
PWL	Port Wells	19.59	51	P	P	16 25 06.3	+0.1
PWL	Port Wells	19.59	51	P	P	16 25 06.7	+0.5
	baz=259						
G21K	Allakaket	19.61	33	IAmb	IAmb	16 25 08.5	
	comp=Z,22nm,1.1s						
G21K	Allakaket	19.61	33	P	P	16 25 07.6	+1.3
	baz=237						
KNK	Knik Glacier	19.65	50	P	P	16 25 07.0	+0.2
KNK	Knik Glacier	19.65	50	P	P	16 25 06.8	0.0
	baz=257						
SML	Sawmill	19.80	49	P	P	16 25 09.0	+0.5
SML	Sawmill	19.80	49	P	P	16 25 08.9	+0.5
	baz=256,SNR=5.9						
E20K	Nigu River	19.84	27	P	P	16 25 09.8	+0.9
	baz=229						
MLY	Manley	19.87	39	P	P	16 25 10.1	+0.9
MLY				IAmb	IAmb	16 25 13.6	
	comp=Z,22nm,1.4s						
MLY	Manley	19.87	39	P	P	16 25 10.2	+1.0
	baz=244						
P23K	Montague Islan	19.90	54	P	P	16 25 10.1	+0.6
	baz=262						
WAT1	Susitna Watana	19.97	46	P	P	16 25 10.8	+0.5
	baz=253						
F21K	Alatna River	20.01	31	P	P	16 25 11.0	+0.3
	baz=235						
RND	Reindeer	20.02	44	P	P	16 25 10.9	+0.1
RND				IAmb	IAmb	16 25 38.8	
	comp=Z,13nm,1.1s						
H22K	Ishtalitna Cre	20.03	36	P	P	16 25 11.1	+0.3
	baz=241						
D20K	Etivluk River	20.03	26	P	P	16 25 11.6	+0.7
	baz=227						
M23K	Glacier View	20.08	49	P	P	16 25 11.9	+0.5
	baz=257						
MCK	McKinley	20.09	43	P	P	16 25 11.5	0.0
	baz=250						
GLI	Glacier Island	20.19	52	P	P	16 25 11.7	-0.9
	baz=260						
WAT6	Susitna Watana	20.26	47	P	P	16 25 13.9	+0.4
	baz=255,SNR=6.4						
SCM	Sheep Creek Mo	20.27	49	P	P	16 25 13.6	+0.1
SCM	Sheep Creek Mo	20.27	49	P	P	16 25 13.6	+0.1
	baz=257						
NEA2	Nenana	20.35	41	IAmb	IAmb	16 25 18.3	
	comp=Z,11nm,0.8s						
NEA2	Nenana	20.35	41	P	P	16 25 14.9	+0.7
	baz=248						
Q23K	Middleton Isla	20.37	56	P	P	16 25 14.5	+0.1
	baz=265						
I23K	Minto, Yukon-K	20.45	39	IAmb	IAmb	16 25 20.9	
	comp=Z,23nm,1.5s						
I23K	Minto, Yukon-K	20.45	39	P	P	16 25 15.7	+0.4
	baz=246						
G22K	Bettles	20.50	33	P	P	16 25 16.0	+0.3
	baz=239						
DHY	Denali Highway	20.56	45	P	P	16 25 16.6	0.0
DHY	Denali Highway	20.56	45	P	P	16 25 16.7	0.0
	baz=254,SNR=11						
F22K	John River	20.59	32	P	P	16 25 16.8	0.0
	baz=236						
E21K	Killik River	20.59	28	P	P	16 25 17.3	+0.5
	baz=232						
H23K	Yukon River	20.67	37	P	P	16 25 18.0	+0.4
	baz=244						
WRH	Wood River Hil	20.70	41	IAmb	IAmb	16 25 33.8	
	comp=Z,19nm,1.2s						
B20K	Meade River	20.81	23	P	P	16 25 19.9	+0.9
	baz=224						
C21K	Knifeblade Rid	20.82	26	P	P	16 25 19.7	+0.5
	baz=229						
KLU	Klutina	20.86	50	P	P	16 25 20.5	+0.7
	baz=260						
M24K	Tolsona, Glenn	20.86	48	P	P	16 25 20.9	+1.1
	baz=258						
CCB	Clear Creek Bu	20.88	41	IAmb	IAmb	16 25 22.6	
	comp=Z,5.3nm,0.6s						
G23K	Bananza Creek	20.90	35	P	P	16 25 21.1	+1.0
	baz=241						
COLA	College	20.94	40	P	P	16 25 21.1	+0.7
	baz=249						
E22K	Anaktuvuk Pass	21.06	30	P	P	16 25 22.4	+0.6
E22K				IAmb	IAmb	16 25 24.5	
	comp=Z,10nm,0.7s						
E22K	Anaktuvuk Pass	21.06	30	P	P	16 25 22.4	+0.6
	baz=236,SNR=7.2						
COLD	Coldfoot	21.09	33	P	P	16 25 22.6	+0.6
	baz=240						
HDA	Harding Lake	21.14	42	IAmb	IAmb	16 25 32.5	
	comp=Z,6.1nm,0.6s						
HDA	Harding Lake	21.14	42	P	P	16 25 23.1	+0.5
	baz=251						
B21K	Ikpikpuk River	21.18	25	IAmb	IAmb	16 25 25.3	
	comp=Z,6.8nm,0.7s						
B21K	Ikpikpuk River	21.18	25	P	P	16 25 23.6	+0.7
	baz=228						
POKR	Poker Plat Res	21.19	40	IAmb	IAmb	16 25 24.6	
	comp=Z,10nm,0.8s						
POKR	Poker Plat Res	21.19	40	P	P	16 25 22.9	-0.2
	baz=249						
D22K	Ayikyak River	21.24	28	IAmb	IAmb	16 25 26.5	
	comp=Z,11nm,0.8s						
D22K	Ayikyak River	21.24	28	P	P	16 25 24.8	+1.3
	baz=233						
IL31		21.29	41	IAmb	IAmb	16 25 26.6	
	comp=Z,4.2nm,0.6s						
ILAR	Eielson Array	21.29	41	P	P	16 25 23.1	-1.0
	comp=Z,2.4nm,0.6s,baz=241,slow=9.3,SNR=36						
	comp=Z,2.4nm,0.6s						
H24K	Noodor Dome	21.30	38	IAmb	IAmb	16 25 26.6	
	comp=Z,11nm,1.0s						
H24K	Noodor Dome	21.30	38	P	P	16 25 25.3	+1.0
	baz=246						
PAX	Paxson	21.37	46	P	P	16 25 26.1	+1.0
	baz=256,SNR=6.5						
HARP	HAARP	21.39	48	P	P	16 25 25.5	+0.3
	baz=258						
BMRM	Bremner River	21.41	52	P	P	16 25 25.4	0.0
	baz=262						
K24K	Donnelly Dome	21.45	44	P	P	16 25 25.7	-0.1
	baz=254						
N25K	Chitina, Valde	21.50	50	P	P	16 25 26.7	+0.2
	baz=261						
E23K	Chandalar	21.71	32	IAmb	IAmb	16 25 29.7	
	comp=Z,7.1nm,0.6s						
E23K	Chandalar	21.71	32	P	P	16 25 29.0	+0.5
	baz=239,SNR=7.8						
G24K	Hadweenzic Riv	21.80	36	P	P	16 25 30.5	+1.1
	baz=245,SNR=6.9						
J25K	Salcha River,	21.86	42	P	P	16 25 29.4	-0.6
	baz=252						
D23K	Nanushuk River	21.87	29	P	P	16 25 30.8	+0.8
	baz=236						
B22K	Teshekpuk Lake	21.96	25	P	P	16 25 30.9	0.0
	baz=229						
F24K	Squaw Lake	22.02	34	P	P	16 25 32.5	+1.0
	baz=242						
TOLK	Toolik Lake Re	22.03	30	IAmb	IAmb	16 25 34.0	
	comp=Z,14nm,0.6s						
TOLK	Toolik Lake Re	22.03	30	P	P	16 25 32.8	+1.1
	baz=238,SNR=8.9						
A22K	Sinclair Lake	22.04	22	P	P	16 25 32.5	+1.0
	baz=225						
PRP	Porcupine Dome	22.08	40	P	P	16 25 31.6	-0.6
PRP				IAmb	IAmb	16 25 34.0	
	comp=Z,6.1nm,0.6s						
PRP	Porcupine Dome	22.08	40	P	P	16 25 32.7	+0.5
	baz=250,SNR=6.1						
E24K	Your Creek	22.09	32	P	P	16 25 33.4	+1.2
	baz=240						
CRQE	Cirque	22.12	53	P	P	16 25 32.5	-0.1
	baz=264						
MENT	Mentasta	22.15	47	P	P	16 25 33.0	+0.2
MENT				IAmb	IAmb	16 25 37.1	
	comp=Z,17nm,1.0s						
MCARA	McCarthy VSAT	22.22	51	P	P	16 25 34.1	+0.7
	baz=263						
H25L	Birch Creek	22.24	38	P	P	16 25 34.3	+0.8
	baz=248						
SCRK	Sand Creek	22.26	44	IAmb	IAmb	16 25 42.0	
	comp=Z,9.6nm,0.8s						
SCRK	Sand Creek	22.26	44	P	P	16 25 33.5	-0.4
	baz=256						
G25K	Bearman Lake	22.33	36	P	P	16 25 35.1	+0.8
	baz=247						
L26K	Log Cabin Wild	22.33	47	IAmb	IAmb	16 25 36.7	
	comp=Z,18nm,1.1s						
L26K	Log Cabin Wild	22.33	47	P	P	16 25 34.5	0.0
	baz=259,SNR=7.9						
M26K	Nabesna, AK	22.38	48	P	P	16 25 34.9	0.0
	baz=260						
C23K	Itkillik River	22.40	27	P	P	16 25 35.5	+0.5
C23K				IAmb	IAmb	16 25 36.6	
	comp=Z,6.8nm,0.8s						
C23K	Itkillik River	22.40	27	P	P	16 25 35.5	+0.5
	baz=234						
D24K	Happy Valley	22.54	30	P	P	16 25 37.4	+1.2
	baz=238						
J26L	Joseph Creek	22.57	43	P	P	16 25 37.1	+0.4
	baz=255						
MESA	MESA	22.64	54	P	P	16 25 38.5	+1.1
	baz=267						
F25K	Christian Rive	22.83	35	P	P	16 25 40.4	+1.4
	baz=245,SNR=7.7						
C24K	Franklin Bluff	22.88	28	P	P	16 25 40.0	+0.8
	baz=237						
M27K	Edge Creek, AK	22.89	49	P	P	16 25 40.6	+1.0
	baz=262						
I26K	Coal Creek Min	22.96	41	P	P	16 25 40.5	+0.4
	baz=254						
CTG	Chitna Glacier	22.99	52	P	P	16 25 41.0	+0.5
	baz=266						
L27K	Beaver Creek,	23.02	47	P	P	16 25 41.5	+0.9
	baz=260						
BCAR	Beaver Creek A	23.04	47	P	P	16 25 41.7	+0.8
G26K	Porcupine Rive	23.25	37	P	P	16 25 44.1	+1.5
	baz=249						
BVCY	Beaver Creek	23.36	49	P	P	16 25 45.0	+1.2
	baz=263,SNR=5.5						
D25K	Kavik River	23.37	30	P	P	16 25 44.7	+0.9
	baz=241						
F26K	Sheenjek River	23.39	35	P	P	16 25 45.5	+1.5
	baz=247						
YUK3	Moose Creek	23.48	50	P	P	16 25 46.2	+1.1
	baz=265,SNR=14						
PINM	Pinnacle	23.49	55	P	P	16 25 45.7	+0.8
	baz=269						
O28M	Mount Upton	23.54	53	P	P	16 25 47.5	+1.8
	baz=267						
EGAK	Eagle	23.65	43	P	P	16 25 46.6	+0.3
EGAK	Eagle	23.65	43	P	P	16 25 46.9	+0.6
	baz=257,SNR=14						
I27K	Kandik River	23.66	41	P	P	16 25 47.3	+0.8
	baz=255						
YUK8	Steele Glacier	23.77	52	P	P	16 25 48.3	+0.5
	baz=266						
G27K	Doyon Strip	23.99	38	P	P	16 25 50.5	+1.1
	baz=252						
C26K	Camden Bay	24.11	30	P	P	16 25 52.2	+1.8
	baz=242						
DAWY	Dawson	24.26	45	P	P	16 25 52.8	+0.8
DAWY				IAmb	IAmb	16 25 55.5	
	comp=Z,12nm,0.7s						
DAWY	Dawson	24.26	45	P	P	16 25 53.2	+1.2
	baz=261,SNR=9.2						
I28M	Miner Creek	24.30	42	IAmb	IAmb	16 25 53.4	
	comp=Z,13nm,0.8s						
I28M	Miner Creek	24.30	42	P	P	16 25 52.6	+0.2
	baz=257,SNR=8.9						
YUK4	Talbot Arm	24.32	52	P	P	16 25 55.5	+2.8
	baz=267,SNR=13						
O29M	Mount Kennedy	24.33	54	P	P	16 25 53.5	+0.8
	baz=270						
C27K	Jago River	24.35	31	P	P	16 25 53.6	+1.1
	baz=244						
YUK6	Outpost Mounta	24.44	53	P	P	16 25 56.1	+2.3
	baz=268						
E27K	Coleen River	24.47	35	P	P	16 25 55.3	+1.5
	baz=249						
M29M	Somme Creek	24.48	49	P	P	16 25 56.0	+2.0
	baz=265						
L29M	L29M	24.69	47	P	P	16 25 57.1	+1.3
	baz=264						
P29M	Windy Craggy	24.76	56	P	P	16 25 57.7	+1.2
	baz=272						
HYT	Haines Junctio	24.86	53	P	P	16 25 58.6	+1.1
	baz=270						
F28M	Old Crow	24.90	37	P	P	16 25 58.7	+1.0
F28M	Old Crow	24.90	37	P	P	16 25 58.9	+1.3
	baz=252						
K29M	Barlow Dome	25.05	46	P	P	16 25 59.9	+0.7
	baz=263						
N30M	Aishikik Lake	25.07	51	P	P	16 26 00.6	+1.3
	baz=268						
D27M	Malcolm River	25.07	33	P	P	16 25 60.0	+0.7
	baz=248,SNR=12						
H29M	Whitestone	25.10	40	P	P	16 25 60.0	+0.5
	baz=257						
P30M	Million Dollar	25.14	55	P	P	16 26 01.1	+1.2
	baz=272						
M30M	Minto, Yukon	25.26	49	P	P	16 26 03.1	+2.2
	baz=266,SNR=5.2						
E28M	Babbage River	25.33	34	P	P	16 26 01.7	+0.2
	baz=251						
G29M	Pine Creek	25.40	39	P	P	16 26 01.8	-0.3
	baz=256						
J30M	Hart River	25.66	44	P	P	16 26 04.5	-0.1
	baz=263						
I30M	Mount Dempster	25.73	43	IAmb	IAmb	16 26 17.1	
	comp=Z,9.1nm,0.6s						
I30M	Mount Dempster	25.73	43	P	P	16 26 05.0	-0.3
	baz=261						
EPYK	Eagle Plains	25.79	40	P	P	16 26 05.4	-0.3
	baz=258						
E29M	Blow River	25.84	35	P	P	16 26 06.0	0.0
	baz=253						
G30M	tAoh Zraii Nji	26.11	39	P	P	16 26 08.8	+0.3
	baz=258						
M31M	Drury Creek, Y	26.36	50	P	P	16 26 09.7	-1.2
	baz=269						
F30M	Barrier River	26.41	37	P	P	16 26 11.8	+0.6
	baz=257						
H31M	Peel River	26.65	42	P	P	16 26 13.2	-0.2
	baz=262						
G31M	Satah River	26.85	39	P	P	16 26 15.8	+0.7
	baz=260						
N32M	Quiet Lake	27.01	52	P	P	16 26 16.2	-0.4
	baz=273						
F31M	Tsiigehtchic	27.14	38	P	P	16 26 17.4	-0.3
	baz=260						
P33M	Teslin, Yukon	27.20	54	P	P	16 26 18.4	0.0
	baz=275						
INK	Inuvik	27.39	36	P	P	16 26 20.0	+0.2
	baz=258						
Q32M	Nakina River	27.61	57	P	P	16 26 22.1	-0.1
	baz=278						
CRAG	Craig	27.79	64	P	P	16 26 23.6	+0.1

baz=284
R33M Jennings River 28.22 56 P P 16 26 28.6 +1.1
baz=278
V35K Ketchikan 28.66 64 P P 16 26 31.3 +0.1
baz=285
DLBC Dease Lake 28.85 58 P P 16 26 33.9 +0.9
baz=280
A36M Sachs Harbour 30.86 30 P P 16 26 51.5 +1.1
A36M IAmb IAmb 16 26 53.0
comp=Z,10nm,0.8s
A36M Sachs Harbour 30.86 30 P P 16 26 51.7 +1.3
baz=260,SNR=10.0
C36M Paulatuk 30.93 35 P P 16 26 52.3 +1.2
baz=266
TOAD Toad River Com 31.22 56 P P 16 26 55.0 +1.1
baz=283
KOTAN Kotaneelee Air 31.55 53 P P 16 26 58.0 +1.4
baz=281
MJAR Matsushiro Arr 32.79 258 P P 16 27 09.2 +1.5
comp=Z,1.0nm,0.6s,baz=35,slow=6.0,SNR=2.5
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 35.46 47 P P 16 27 30.9 +0.6
comp=Z,2.1nm,0.6s,baz=284,slow=8.6,SNR=15
comp=Z,2.1nm,0.6s
KSRS Korea Array 38.46 268 P P 16 27 57.5 +1.6
comp=Z,1.3nm,0.6s,baz=50,slow=8.0,SNR=6.1
comp=Z,1.3nm,0.6s
NEW Newport 39.67 70 P P 16 28 06.1 +0.2
comp=Z,3.0nm,0.5s,baz=275,slow=12,SNR=4.1
comp=Z,3.0nm,0.5s
PNTR Pine Nut 43.41 83 P P 16 28 37.1 +0.6
PNTR IAmb IAmb 16 28 39.7
comp=Z,6.3nm,0.7s
WAKR Walker 43.87 83 P P 16 28 41.3 +1.1
BOZ Bozeman (W) 44.28 70 P P 16 28 42.8 -0.5
BOZ IAmb IAmb 16 29 03.0
comp=Z,6.7nm,0.8s
KVN Kaiserville 44.34 82 P P 16 28 44.5 +0.7
NVAR Mina Array Bea 44.61 82 P P 16 28 47.2 +1.2
comp=Z,2.1nm,0.6s,baz=298,slow=6.8,SNR=13
comp=Z,2.1nm,0.6s
ELK Elko 45.02 78 P P 16 28 48.8 -0.5
ELK Elko 45.02 78 P P 16 28 50.1 +0.8
comp=Z,2.2nm,0.7s,baz=292,slow=11,SNR=9.2
comp=Z,2.2nm,0.7s
SONM Songino Array 45.17 295 P P 16 28 51.5 +1.3
comp=Z,2.3nm,0.6s,baz=64,slow=7.8,SNR=17
comp=Z,2.3nm,0.6s
TPH Tonopah 45.49 82 IAmb IAmb 16 28 54.2
comp=Z,16nm,0.6s
HHC Hu-ho-hao-te 46.30 284 eP P 16 28 57.5 -1.6
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,110nm,4.5s
R11B Troy Canyon, C 46.31 81 P P 16 29 00.1 +0.7
baz=310,SNR=7.3
TPNV Topopah Spring 46.81 83 IAmb IAmb 16 29 05.2
comp=Z,5.6nm,0.8s
DUG Dugway, Tooele 46.82 77 IAmb IAmb 16 37 14.2
comp=Z,8.4nm,0.6s
PDAR Pinedale Array 47.15 72 P P 16 29 05.5 -0.3
PDAR Pinedale Array 47.15 72 P P 16 29 05.8 -0.1
comp=Z,2.1nm,0.8s,baz=308,slow=4.3,SNR=18
comp=Z,2.1nm,0.8s
GSC Goldstone, Bar 47.55 85 IAmb IAmb 16 29 10.3
comp=Z,8.0nm,0.6s
SRU San Rafael Swe 48.87 76 IAmb IAmb 16 35 16.1
comp=Z,18nm,1.2s
SPITS Spitsbergen Ar 49.35 355 P P 16 29 21.8 -0.1
comp=Z,2.2nm,0.4s,baz=30,slow=6.8,SNR=12
comp=Z,2.2nm,0.4s
HMU Henry Mountain 49.50 78 IAmb IAmb 16 29 25.0
comp=Z,6.0nm,0.8s
U15A North Rim 49.55 80 IAmb IAmb 16 29 25.9
comp=Z,5.2nm,0.9s
N23A Red Feather La 50.43 72 P P 16 29 30.4 -0.4
baz=310
T25A Trinidad 53.79 74 IAmb IAmb 16 35 39.0
comp=Z,11nm,0.9s
T25A Trinidad 53.79 74 P P 16 29 55.3 -0.2
baz=312
GTA Gaotai 54.12 290 eP P 16 29 58.5 +0.7
GTA pmax pmax
comp=Z,7.0nm,0.7s
Y22D IRIS PASSCAL I 54.38 79 P P 16 29 59.6 -0.1
baz=314
121A Cookes Peak, D 54.92 81 P P 16 30 04.1 +0.4
baz=314
KURBB Kurchatov Arra 57.62 312 P P 16 30 22.1 -0.1
comp=Z,0.6nm,0.5s,baz=42,slow=6.7,SNR=10
comp=Z,0.6nm,0.5s
MKAR Makanchi Array 58.52 307 P P 16 30 27.9 -0.7
comp=Z,0.3nm,0.3s,baz=47,slow=7.2,SNR=8.0
comp=Z,0.3nm,0.3s
L44A Lake County Fo 59.62 59 P P 16 30 36.4 +0.3
baz=315
TXAR Lajitas Array 59.68 80 P P 16 30 37.0 +0.1
comp=Z,1.7nm,0.5s,baz=295,slow=4.7,SNR=13
comp=Z,1.7nm,0.5s
PZH PanZhiHua 62.03 278 P P 16 30 54.3 +1.6
O48B Farmland 62.45 59 P P 16 30 55.0 -0.2
baz=316
NB2 NORSAR Subarra 66.59 354 P P 16 31 21.6 -0.1
comp=Z,0.7nm,0.5s,baz=6.4,slow=6.2
NOA NORSAR Array B 66.59 354 P P 16 31 22.1 +0.3
comp=Z,1.4nm,0.7s,baz=7.2,slow=6.1,SNR=5.4
comp=Z,1.4nm,0.7s
L61B Northampton 67.04 50 P P 16 31 23.9 -0.9
baz=321
HFS Hagfors 67.31 352 P P 16 31 25.9 -0.3
comp=Z,1.8nm,0.6s,baz=64,slow=3.4,SNR=5.1
comp=Z,1.8nm,0.6s
CMAR Chiang Mai Arr 69.75 274 P P 16 31 42.8 +0.9
comp=Z,1.3nm,0.7s,baz=27,slow=6.1,SNR=5.1
comp=Z,1.3nm,0.7s
AKASG Malin Array Be 74.28 341 P P 16 32 08.0 -0.3
comp=Z,0.4nm,0.3s,baz=23,slow=6.4,SNR=4.5
comp=Z,0.4nm,0.3s
STKA Stephens Creek 90.09 211 P P 16 33 31.4 +1.2
comp=Z,2.9nm,0.8s,baz=40,slow=14,SNR=3.6
comp=Z,2.9nm,0.8s
QSPA South Pole Qui 142.07 180 PKhKP PKPpre 16 39 55.9
comp=Z,1.3nm,0.5s,baz=213,slow=1.3,SNR=9.3
MAW Mawson 146.49 218 PKPbc PKiKP 16 40 10.6 -1.6
comp=Z,6.3nm,0.7s,baz=120,slow=3.6,SNR=7.7
BOSA Boshof 149.47 311 PKPbc PKiKP 16 40 18.9 -0.9
comp=Z,1.5nm,0.8s,baz=358,slow=4.5,SNR=4.2

RSNC 26 16:23:01.0±0.0, 13°N±1°×8°1W±°, h3km±2km, M3.0, mb3.8, ML3.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.27**	**290**	P	Pg	16 23 07.3	+1.0
PRVC				S	Sg	16 23 11.5	+1.6
SAIC	**Isla e San And**	**0.95**	**219**	P	Pg	16 23 18.6	-0.6
SAIC				S	Sb	16 23 32.8	-0.3
RNCC	**Cayo Roncador,**	**1.02**	**73**	P	Pg	16 23 19.0	-1.7
RNCC				S	Sg	16 23 34.0	0.0
SERC	**Banco Serrana,**	**1.23**	**35**	P	Pg	16 23 23.1	-1.5
SERC				S	Sg	16 23 40.1	-0.5
BCIP	**Isla Barro Col**	**4.27**	**163**	P	Pn	16 24 09.6	+2.6
BCIP				S	Sn	16 24 49.7	-7.7
JTS	**Las Juntas de**	**4.80**	**232**	P	Pn	16 24 14.0	-0.3
SJCC	**San Jacinto, C**	**6.71**	**119**	P	Pn	16 24 36.2	-4.3

*IDC **26** 16:23:45.1±0.5, 3°.99S×129°.72E, h0km, mb4.5/16, mbtmp4.4/19, ML4.5/2, MS3.2/9, Error ellipse: s-maj=26.7km s-min=13.3km az=76.0*
*DJA **26** 16:23:49.5±0.7, 4°S±2°×13°0E±°, h19km±6km, M4.5/21, mB5.0/7, mb4.7/21, MLv4.6/17, Mw(mB)4.3/7*
*NEIC **26** 16:23:51.8±1.3, 3°.91S±0°.07×129°.80E±0°.05, h50km±9km, mb4.6/32, Error ellipse: s-maj=11.0km s-min=7.3km az=162.0*
ISC 26 16:23:50.1±0.3, 3°.97S±0°.04×129°.76E±0°.05, h35km, n135, σ1°79/132, mb4.5/35, MS3.2/6, 1D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.57**	**166**	P	**Pn**	**16 24 02.0**	**+0.3**
BNDI	**Bandanaira**	**0.57**	**166**	P	**Pn**	**16 24 01.5**	**-0.2**
MSAI	**Masohi**	**1.04**	**307**	P	**Pn**	**16 24 05.6**	**-2.6**
MSAI				S	**Sn**	**16 24 16.3**	**-5.2**
AAI	**Ambon**	**1.59**	**280**	P	**Pn**	**16 24 13.8**	**-2.0**
FAKI	**Fak Fak**	**2.69**	**67**		**Pn**	**16 24 32.6**	**+1.7**
FAKI	**Fak Fak**	**2.69**	**67**	P	**Pn**	**16 24 32.9**	**+2.0**
FAKI	**Fak Fak**	**2.69**	**67**	P	**Pn**	**16 24 32.8**	**+1.9**
FAKI				S	**Sn**	**16 25 02.0**	**-0.3**
NLAI	**Namlea**	**2.76**	**285**	P	**Pn**	**16 24 34.7**	**+2.9**
SWI	**Sorong**	**3.43**	**26**	P	**Pn**	**16 24 41.2**	**+0.1**
KMPI	**Kaimana, Papua**	**3.94**	**86**	P	**Pn**	**16 24 50.1**	**+2.0**
LBMI	**Labuha**	**4.01**	**326**	P	**Pn**	**16 24 47.2**	**-1.8**
SANI	**Sanana**	**4.23**	**297**	P	**Pn**	**16 24 50.9**	**-1.1**
SANI	**Sanana**	**4.23**	**297**	P	**Pn**	**16 24 50.8**	**-1.2**
RKPI	**Ransiki, Papua**	**5.04**	**61**	P	**Pn**	**16 25 04.1**	**+0.9**
TNTI	**Ternate**	**5.28**	**333**	Pn	**Pn**	**16 25 07.0**	**+0.4**
TNTI	**Ternate**	**5.28**	**333**	P	**Pn**	**16 25 07.6**	**+1.0**
TNTI	**Ternate**	**5.28**	**333**	P	**Pn**	**16 25 06.9**	**+0.3**
KDI	**Fendari**	**7.13**	**273**	P	**Pn**	**16 25 34.9**	**+3.0**
KMSI	**Cibinong**	**7.33**	**308**	P	**Pn**	**16 25 34.3**	**-0.5**
LUWI	**Luwuk**	**7.57**	**292**		**Pn**	**16 25 38.4**	**+0.5**
LUWI	**Luwuk**	**7.57**	**292**	P	**Pn**	**16 25 38.4**	**+0.5**
64nm,0.8s,0.3nm
SOEI Soe 7.92 223 Pn 16 25 46.1 +3.1
SOEI Soe 7.92 223 P Pn 16 25 45.1 +2.1
SOEI Soe 7.92 223 P Pn 16 25 44.8 +1.8
38nm,1.3s
DRS Darwin Rock St 8.48 172 P Pn 16 25 52.0 +1.5
APSI Ampana 8.66 290 P Pn 16 25 55.1 +2.2
45nm,0.7s
BATI Baumata 8.66 224 Pn Pn 16 25 56.4 +3.4
12nm,0.3s,baz=74,slow=2.1,SNR=20
BATI Sn **Sn 16 27 32.4 +2.8**
baz=171,slow=22
BATI LR LR 16 29 23.9
comp=Z,238nm,21.0s,baz=88,slow=39
BATI Baumata 8.66 224 P Pn 16 25 55.5 +2.5
MTN Manton Dam 8.92 171 Pn Pn 16 25 58.0 +1.4
MTN Manton Dam 8.92 171 P Pn 16 25 58.2 +1.6
MRSI Marisa 8.98 299 P Pn 16 25 57.4 0.0
20nm,0.4s,825nm
KDU Kakadu 9.07 163 P Pn 16 25 58.5 0.0
BNSI Bone 9.64 267 P Pn 16 26 08.6 +2.2
25nm,0.7s
BKSI Bulukumba 9.70 262 P Pn 16 26 10.6 +3.3
23nm,0.8s
TTSI Tana Toraja 9.97 275 P Pn 16 26 13.8 +2.9
20nm,0.7s
SPSI Sidrap Palu 9.97 270 P Pn 16 26 14.5 +3.5
KAPI Kappang 10.04 264 Pn Pn 16 26 14.2 +2.4
TOLI2 Tolitoli 10.30 299 Pn Pn 16 26 16.1 +0.7
TOLI2 Tolitoli 10.30 299 P Pn 16 26 16.5 +1.0
KNRA Kununurra 11.68 185 Pn Pn 16 26 35.3 +1.0
PLAI Plampang 12.85 247 P Pn 16 26 52.6 +2.2
PLAI Plampang 12.85 247 P Pn 16 26 54.0 +3.6
35nm,1.0s
FITZ Fitzroy Crossi 14.61 196 Pn Pn 16 27 12.4 -2.0
0.8nm,0.3s,baz=20,slow=13,SNR=6.4
FITZ Sn **Sn 16 29 56.4 +1.2**
0.5nm,0.3s,baz=40,slow=13,SNR=1.9
FITZ LR LR 16 34 25.5
comp=Z,107nm,18.7s,baz=17,slow=44
5.5nm,0.6s
JAGI Jajag, Banyuwa 16.15 253 P Pn 16 27 36.7 +2.1
27nm,1.1s
WB0 Warramunga Arr 16.34 164 Pn Pn 16 27 34.1 -2.8
WRA Warramunga Arr 16.49 165 Pn Pn 16 27 35.1 -3.7
WRA Warramunga Arr 16.49 165 Pn Pn 16 27 34.7 -4.2
0.8nm,0.3s,baz=350,slow=13,SNR=28
WRA Sn **Sn 16 30 32.9 -8.1**
0.7nm,0.3s,baz=354,slow=20,SNR=4.7
WB2 Warramunga Arr 16.50 165 Pn Pn 16 27 34.9 -4.0
COEN Coen 16.54 128 Pn Pn 16 27 36.2 -3.3
COEN Coen 16.54 128 P P 16 27 42.3 +0.5
WR0 Warramunga Arr 16.56 164 Pn Pn 16 27 35.5 -4.2
GMJI Gumukmas 16.78 254 P P 16 27 45.8 +1.4
23nm,1.4s
PMG Port Moresby 18.09 108 P Pn 16 27 59.0 +0.1
5.2nm,0.9s,baz=336,slow=20,SNR=1.9
PWJI Pagerwojo 18.31 256 P P 16 28 02.1 +0.8
18nm,0.5s
QIS Mount Isa 19.07 151 P P 16 28 10.3 +0.6
MBWA Marble Bar 19.68 209 P P 16 28 16.7 +0.4
PSA00 Pilbara Seismi 19.97 208 P P 16 28 19.3 -0.3
PSA00 IAmb IAmb 16 28 24.4
comp=Z,25nm,1.1s
PSA00 Pilbara Seismi 19.97 208 P P 16 28 20.1 +0.6
AS31 Alice Springs 19.98 169 P P 16 28 19.7 0.0
ASAR Alice Springs 19.99 169 P P 16 28 19.7 0.0
ASAR Alice Springs 19.99 169 P P 16 28 19.9 +0.2
comp=Z,3.0nm,0.3s,baz=346,slow=11,SNR=357
ASAR S **S 16 31 59.4 -3.4**
comp=Z,1.4nm,0.8s,baz=356,slow=23,SNR=4.6
ASAR PcP **PcP 16 32 34.9 -0.5**
comp=Z,1.9nm,0.4s,baz=340,slow=1.0,SNR=7.3
ASAR LR LR 16 36 57.9
comp=Z,66nm,18.6s,baz=352,slow=40
comp=Z,22nm,0.8s
WRKA Warakurna 21.00 184 P P 16 28 30.8 +0.2
BBJI Bungbulang 22.27 260 P P 16 28 43.9 -0.6
CTAO Charters Tower 22.69 136 P P 16 28 48.7 -0.2
CTAO Charters Tower 22.69 136 P P 16 28 50.2 +1.3
GUMO Guam 23.00 40 LR LR 16 37 30.4
comp=Z,31nm,19.8s,baz=202,slow=36
OOD Oodnadatta 24.36 167 P P 16 29 04.9 0.0
MEEK Meekatharra 24.94 204 P P 16 29 09.1 -1.2
INKA Innaminka 25.86 157 P P 16 29 19.4 +0.9
MULG Mulgathing 26.48 172 P P 16 29 24.6 +0.4
FORT Forrest 26.72 183 P P 16 29 25.8 -0.4
LCRK Leigh Creek 27.52 164 P P 16 29 33.9 +0.4
MORW Morawa 28.16 206 P P 16 29 39.8 +0.6
KMBL Kambalda 28.25 194 P P 16 29 39.3 -0.7
BBOO Buckleboo 29.29 169 P P 16 29 49.2 -0.1
STKA Stephens Creek 29.90 160 P P 16 29 54.8 +0.1
comp=Z,2.8nm,0.5s,baz=336,slow=8.1,SNR=13
STKA LR LR 16 41 55.9
comp=Z,82nm,20.6s,baz=20,slow=36
comp=Z,2.8nm,0.5s
STKA Stephens Creek 29.90 160 P P 16 29 54.8 +0.1
IPM Ipoh 29.91 286 P P 16 29 54.2 -0.8
IPM IAmb IAmb 16 29 55.6
comp=Z,12nm,0.7s
IPM Ipoh 29.91 286 P P 16 29 54.9 -0.1
KULM Kulim 30.50 287 P P 16 30 00.3 +0.1
HTT Hallett 30.53 165 P P 16 30 01.3 +1.0
CMSA Cobar Meteorol 31.25 153 P P 16 30 07.2 +0.6
ARPS Mount Arapiles 34.48 163 P P 16 30 35.8 +1.1
CAN Canberra 35.92 153 P P 16 30 48.6 +1.4
JNU Nakatsue 36.90 2 LR LR 16 45 07.0
comp=Z,45nm,20.0s,baz=166,slow=35
NJ2 Nanjing 37.30 345 eP P 16 31 00.8 +1.9
NJ2 pmax pmax
comp=Z,4.0nm,0.6s
CMAR Chiang Mai Arr 37.67 307 P P 16 31 02.3 0.0
CMAR Chiang Mai Arr 37.67 307 P P 16 31 03.1 +0.9
comp=Z,3.6nm,0.6s,baz=139,slow=7.5,SNR=34
CMAR PcP **PcP 16 33 20.9 +1.5**
comp=Z,1.4nm,0.6s,baz=171,slow=2.8,SNR=8.5
comp=Z,3.6nm,0.6s
CHTO Chiang Mai 37.86 308 P P 16 31 04.0 0.0
PZH PanZhiHua 40.65 320 P P 16 31 27.5 +0.2
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.9s
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,20nm,3.5s
MJAR Matsushiro Arr 41.07 10 P P 16 31 29.7 -0.7
comp=Z,3.7nm,0.7s,baz=182,slow=8.6,SNR=11
comp=Z,3.7nm,0.7s
MAJO Matsushiro 41.07 10 P P 16 31 29.1 -1.3
MAJO IAmb IAmb 16 31 30.8
comp=Z,6.4nm,0.8s
MJB9 Matsu-Tunnel 41.07 10 P P 16 31 29.3 -1.1
MJB9 IAmb IAmb 16 31 30.8
comp=Z,6.1nm,0.8s
KSRS Korea Array 41.25 358 P P 16 31 31.4 -0.3
comp=Z,1.2nm,0.7s,baz=176,slow=9.5,SNR=6.4
KSRS LR LR 16 46 59.0
comp=Z,23nm,21.9s,baz=150,slow=34
comp=Z,1.2nm,0.7s
HNS HongShan 43.48 343 eP P 16 31 49.8 -0.2
LZH Lanzhou 46.65 331 eP P 16 32 20.5 +5.1
LZH pP pP 16 32 27.0 +2.5
LZH pmax pmax
comp=Z,21nm,1.5s
SHL Shillong 47.02 311 P P 16 32 18.2 -0.4
USRK Ussuriysk Ar. 47.99 2 P P 16 32 26.4 +0.9
comp=Z,4.0nm,0.6s,baz=182,slow=8.2,SNR=12
comp=Z,4.0nm,0.6s
GTA Gaotai 51.23 330 eP P 16 32 51.0 +0.5
GTA pP pP 16 32 55.3 -4.4
GTA pmax pmax
comp=Z,4.0nm,0.8s
KLR Kul'dur 53.01 2 LR LR 16 54 08.3
comp=Z,23nm,21.2s,baz=124,slow=34
SONM Songino Array 55.51 341 P P 16 33 22.6 +0.8
comp=Z,4.1nm,1.1s,baz=159,slow=7.1,SNR=12
comp=Z,4.1nm,1.1s
MKAR Makanchi Array 65.58 326 P P 16 34 30.6 +0.2
comp=Z,5.5nm,0.5s,baz=117,slow=8.5,SNR=77
comp=Z,5.5nm,0.5s
KSH Kashi 65.65 317 P P 16 34 31.0 -0.1
KSH pmax pmax
comp=Z,6.0nm,0.7s
YAK Yakutsk 65.81 360 P P 16 34 30.7 -0.8
KDJ Kajisay 66.11 320 IAmb IAmb 16 34 35.2
comp=Z,4.9nm,0.6s
NRN Naryn 66.54 319 IAmb IAmb 16 34 37.6
comp=Z,3.1nm,0.7s
AAK Ala-Archa 68.10 319 P P 16 34 46.6 -0.2
AAK IAmb IAmb 16 34 48.0
comp=Z,2.4nm,0.6s
DRK Karamyk 68.53 315 IAmb IAmb 16 34 51.4
comp=Z,4.3nm,0.6s
ZAA0 Zalesovo Array 68.78 333 P P 16 34 49.0 -1.5
ZAA0 IAmb IAmb 16 34 50.9
comp=Z,3.3nm,0.8s
ZALV Zalesovo Beam 68.78 333 P P 16 34 48.1 -2.4
ZALV Zalesovo Beam 68.78 333 P P 16 34 49.9 -0.6
comp=Z,3.9nm,0.8s,baz=107,slow=5.8,SNR=13
comp=Z,3.9nm,0.8s
SEY Seymchan 68.89 11 P P 16 34 52.0 +1.1
comp=Z,6.0nm,0.7s,baz=214,slow=5.6,SNR=15
comp=Z,6.0nm,0.7s
GAR Garm 69.39 314 P P 16 34 53.5 -1.2
GAR IAmb IAmb 16 34 59.7
comp=Z,15nm,1.2s
KURBB Kurchatov Arra 69.83 328 P P 16 34 57.2 +0.2
comp=Z,11nm,0.7s,baz=128,slow=5.7,SNR=97
comp=Z,11nm,0.7s
KURK Kurchatov 69.83 328 P P 16 34 57.0 -0.1
SIMJ Simiganj 70.20 313 P P 16 34 58.8 -1.0
SIMJ IAmb IAmb 16 35 00.1
comp=Z,3.9nm,0.8s
KKAR Karatay Array 70.93 318 P P 16 35 03.4 -0.6
KKAR Karatay Array 70.93 318 IAmb IAmb 16 35 04.2
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 75.39 328 P P 16 35 30.3 +0.2
comp=Z,3.5nm,0.5s,baz=126,slow=7.5,SNR=24
comp=Z,3.5nm,0.5s
BRVK Borovoye 75.47 328 P P 16 35 29.9 -0.6
BRVK IAmb IAmb 16 35 31.7
comp=Z,8.4nm,0.8s
TIXI Tiksi 75.48 360 P P 16 35 29.5 -0.7
TIXI IAmb IAmb 16 35 30.9
comp=Z,2.7nm,0.5s
NRIK Noril'sk 78.58 346 IAmb IAmb 16 36 03.5
comp=Z,5.6nm,0.5s
NRIK Noril'sk 78.58 346 P P 16 35 48.4 +0.7
comp=Z,3.2nm,0.7s,baz=132,slow=7.0,SNR=8.3
comp=Z,3.2nm,0.7s
ABKAR Akbulak array 80.01 321 P P 16 35 55.6 -0.3
ABKAR Akbulak array 80.01 321 IAmb IAmb 16 35 56.6
comp=Z,8.8nm,0.6s
QSPA South Pole Qui 85.99 180 P P 16 36 26.0 -0.7
comp=Z,2.1nm,0.7s,baz=30,slow=0.5,SNR=6.5
comp=Z,2.1nm,0.7s
RAYN Ar Rayn 86.31 294 P P 16 36 28.2 -0.9
KBZ Khabaz 90.45 314 P P 16 36 48.1 -0.2
comp=Z,2.0nm,0.8s,baz=144,slow=5.4,SNR=4.9
comp=Z,2.0nm,0.8s
ILAR Eielson Array 90.72 25 P P 16 36 50.1 +1.1
comp=Z,0.4nm,0.6s,baz=254,slow=4.4,SNR=5.5
comp=Z,0.4nm,0.6s
ELIB Princess Elisa 91.29 197 dP P 16 36 52.4 +0.5
comp=Z,5.0nm,0.8s
KMBO Kilima Mbogo 92.43 269 P P 16 36 58.8 +0.3
comp=Z,0.7nm,0.3s,baz=51,slow=2.4,SNR=4.1
comp=Z,0.7nm,0.3s
EIL Elat 96.13 299 LR LR 17 26 38.8
comp=Z,6.7nm,19.1s,baz=247,slow=39
TORD Torodi Ar. Bea 127.94 284 PKP PKPdf 16 42 53.5 +0.2
comp=Z,2.6nm,0.6s,baz=44,slow=2.3,SNR=14
CPUP Villa Florida 149.11 168 PKPbc PKPbc 16 43 36.0 +0.5
comp=Z,6.5nm,0.8s,baz=138,slow=1.7,SNR=11
LPAZ La Paz 153.20 139 PKPbc PKPbc 16 43 47.2 +1.1
comp=Z,1.0nm,0.3s,baz=256,slow=0.7,SNR=5.5

*IDC **26** 16:24:02.3±6.6, 34°.87N×23°.09E, h0km, mb3.7/5, mbtmp3.6/6, ML2.5/1, MS2.9/3, Error ellipse: s-maj=133.7km s-min=47.8km az=20.0*
*ATH **26** 16:24:09.1, 34°.89N×23°.11E, h17km±2km, ML3.1/6, Error ellipse: s-maj=2.7km s-min=1.7km az=28.0*
*THE **26** 16:24:11.2, 35°.02N×23°.27E, h9km±1km, ML3.0/5, Error ellipse: s-maj=2.0km s-min=0.9km az=52.0*
ISC 26 16:24:07.1±2.4, 34°.85N±0°.09×23°.07E±0°.08, h27km±12km, n23, σ1°10/32, mb3.8/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.64**	**53**	P	**Pb**	**16 24 19.6**	**-0.1**
KNDR				S	**Sb**	**16 24 27.4**	**-0.9**
KNDR				AML	AML	16 24 32.5	
comp=N,6891μm,0.6s
KNDR AML AML 16 24 34.5
comp=E,6681μm,0.6s
GVD Gavdhos 0.84 90 P Pn 16 24 24.6 +1.5
GVD S **Sn 16 24 35.1 +0.5**
comp=E,3μm,0.3s
GVD Gavdhos 0.84 90 P Pn 16 24 24.3 +1.2
GVD S **Sn 16 24 35.2 +0.6**
GVD AML AML 16 24 38.4
comp=E,6622μm,0.4s
GVD AML AML 16 24 38.4
comp=N,7151μm,0.3s
IMMV Iera Moni Meta 0.97 51 P Pb 16 24 25.0 -0.3
IMMV S **Sb 16 24 36.1 -1.6**
comp=N,1μm,0.6s
IMMV Iera Moni Meta 0.97 51 P Pn 16 24 25.8 +0.9
IMMV S **Sn 16 24 38.0 +0.2**
IMMV AML AML 16 24 39.5
comp=N,2634μm,0.7s
IMMV AML AML 16 24 44.9
comp=E,2348μm,0.5s
ANKY Antikythira Is 1.04 11 P Pn 16 24 27.4 +1.6
ANKY S **Sn 16 24 39.9 +0.5**
comp=E,958nm,0.8s
ANKY Antikythira Is 1.04 11 P Pn 16 24 27.5 +1.6
ANKY S **Sn 16 24 40.6 +1.1**
ANKY AML AML 16 24 46.6
comp=N,2084μm,0.6s
ANKY AML AML 16 24 49.1
comp=E,1644μm,0.7s
CHAN Chania 1.04 50 P Pn 16 24 27.0 +1.0
CHAN S **Sn 16 24 40.3 +0.7**
PRNS Prines Rethymn 1.29 66 P Pn 16 24 29.7 +0.5
PRNS S **Sn 16 24 43.9 -1.7**
IDI Anoyia 1.56 73 P Pn 16 24 34.5 +1.4
IDI S **Sb 16 24 54.7 0.0**
comp=E,158nm,0.7s
IDI Anoyia 1.56 73 P Pb 16 24 35.5 +0.1
IDI S **Sb 16 24 56.2 +1.5**
IDI AML AML 16 25 02.5
comp=N,356μm,0.6s
IDI AML AML 16 25 07.9
comp=E,510μm,0.5s
VLI Veliai 1.87 357 P Pb 16 24 40.2 -0.4
VLI S **Sb 16 25 02.7 -0.9**
comp=E,368nm,0.7s
VLI Veliai 1.87 357 P Pb 16 24 41.2 +0.6
VLI AML AML 16 25 15.6
comp=E,699μm,0.7s
VLI AML AML 16 25 18.9
comp=N,775μm,0.7s
BRTR Keskin Array B 9.73 57 Pn Pn 16 26 25.9 +0.5
baz=238,slow=14,SNR=2.4
comp=N,0.5nm,0.9s
KEST Kesra 11.25 278 LR LR 16 32 36.2
comp=N,98nm,18.2s,baz=16,slow=46
AKASG Malin Array Be 16.47 14 Pn Pn 16 27 57.7 +1.6
comp=N,1.0nm,0.3s,baz=212,slow=9.7,SNR=8.4

HFS	Hagfors	26.03	349	P	P	16 29 36.7	-1.0
	comp=N,1.4nm,0.8s,baz=166,slow=19,SNR=1.2						
	comp=N,1.4nm,0.8s						
NOA	NORSAR Array B	27.30	347	LR	LR	16 42 42.1	
	comp=N,12nm,18.1s,baz=305,slow=41						
KIRV	Kirov	29.48	28	LR	LR	16 42 46.6	
	comp=N,29nm,20.2s,baz=307,slow=38						
KURBB	Kurchatov Arra	42.65	51	P	P	16 31 59.7	-1.3
	comp=N,0.4nm,0.4s,baz=278,slow=8.9,SNR=4.0						
	comp=N,0.4nm,0.4s						
MKAR	Makanchi Array	45.38	56	P	P	16 32 22.1	-0.9
	comp=N,0.6nm,0.5s,baz=267,slow=7.5,SNR=11						
	comp=N,0.6nm,0.5s						
ZALV	Zalesovo Beam	46.46	46	P	P	16 32 29.9	-1.5
	comp=N,0.6nm,0.3s,baz=264,slow=8.3,SNR=4.4						
	comp=N,0.6nm,0.3s						
SONM	Songino Array	61.01	50	P	P	16 34 18.0	-0.2
	comp=N,0.7nm,0.8s,baz=291,slow=6.0,SNR=4.2						
	comp=N,0.7nm,0.8s						

*IDC **26** 16:27:00.9±1.3, 60°.34S×27°.15W, h0km, mb4.1/3, mbtmp4.1/4, ML4.3/1, MS3.3/10, Error ellipse: s-maj=61.2km s-min=35.4km az=61.0*

ISC 26 16:27:04.0±1.0, 60°.6S±0°.2×27°.2W±0°.3, h19km, n28, σ1§96/12, mb4.0/3, MS3.5/8, 5C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.71	151	⇑P	Pn	16 30 05.1	+1.8
	comp=Z,13nm,0.5s						
VNA3	Neumayer Olymp	12.81	154	⇑P	Pn	16 30 05.4	+0.7
	comp=Z,3.3nm,0.4s						
VNA3				⇓S	Sn	16 32 18.6	-7.9
	comp=Z,1.9nm,0.6s						
VNA2	Neumayer--Watz	13.10	151	⇑P	Pn	16 30 09.8	+1.1
	comp=Z,2.0nm,0.4s,baz=307,slow=16						
SNAA	Sanae	14.71	149	⇑P	Pn	16 30 32.2	+1.4
	comp=Z,195nm,0.6s						
SNAA	Sanae	14.71	149	Pn	Pn	16 30 33.7	+2.9
	comp=Z,1.4nm,0.3s,baz=313,slow=14,SNR=85						
SNAA				Sn	Sn	16 33 09.5	-3.5
	comp=Z,0.1nm,0.3s,baz=217,slow=23,SNR=1.5						
SNAA				LR	LR	16 35 33.9	
	comp=Z,51nm,18.6s,baz=34,slow=34						
	comp=Z,8.5nm,0.6s						
TROLL	Troll, Antarti	16.31	147	⇑P	Pn	16 30 54.0	+2.3
	comp=Z,62nm,0.5s						
PMSA	Palmer Station	17.27	240	LR	LR	16 36 16.7	
	comp=Z,148nm,21.7s,baz=90,slow=32						
PLCA	Paso Flores	33.07	287	LR	LR	16 44 58.8	
	comp=Z,18nm,18.4s,baz=160,slow=33						
SUR	Sutherland	42.00	70	LR	LR	16 46 51.6	
	comp=Z,24nm,21.6s,baz=256,slow=28						
H04S2	CROZET ISLANDS	45.84	110	T	T	17 25 24.9	
	baz=223,slow=75,SNR=90						
H04S3	CROZET ISLANDS	45.85	110	T	T	17 25 26.6	
	baz=223,slow=75,SNR=105						
H04S1	CROZET ISLANDS	45.86	110	T	T	17 25 27.8	
	baz=223,slow=75,SNR=71						
BOSA	Boshof	47.23	72	LR	LR	16 52 10.0	
	comp=Z,41nm,18.5s,baz=192,slow=32						
LBTB	Lobatse	50.45	70	LR	LR	16 51 20.8	
	comp=Z,27nm,21.9s,baz=223,slow=29						
TSUM	Tsumeb	51.99	58	LR	LR	16 53 36.8	
	comp=Z,49nm,20.8s,baz=151,slow=31						
H10S2	ASCENSION HYDR	52.34	16	T	T	17 33 04.0	
	baz=188,slow=74,SNR=5.3						
H10S3	ASCENSION HYDR	52.35	16	T	T	17 33 04.8	
	baz=32,slow=74,SNR=4.7						
LPAZ	La Paz	53.09	308	P	P	16 36 19.8	-0.9
	comp=Z,0.7nm,0.4s,baz=232,slow=5.2,SNR=2.1						
	comp=Z,0.7nm,0.4s						
H10N1	ASCENSION HYDR	53.46	16	T	T	17 34 31.6	
	baz=187						
H10N3	ASCENSION HYDR	53.46	16	T	T	17 34 30.7	
	baz=187,slow=74						
H10N2	ASCENSION HYDR	53.48	16	T	T	17 34 30.4	
	baz=187,slow=74						
DBIC	Dimbokro	69.29	24	LR	LR	17 01 21.2	
	comp=Z,34nm,18.2s,baz=118,slow=30						
MBAR	Mbarara	74.25	62	LR	LR	17 08 15.9	
	comp=Z,38nm,19.1s,baz=216,slow=33						
TORD	Torodi Ar. Bea	77.00	29	P	P	16 38 54.5	-0.8
	comp=Z,0.7nm,0.5s,baz=198,slow=6.5,SNR=4.4						
	comp=Z,0.7nm,0.5s						
URZ	Urewera	79.53	199	LR	LR	17 13 06.4	
	comp=Z,20nm,18.1s,baz=58,slow=35						
ASAR	Alice Springs	94.67	163	P	P	16 40 24.4	+0.8
	comp=Z,0.6nm,0.7s,baz=193,slow=3.2,SNR=7.7						
	comp=Z,0.6nm,0.7s						
ZALV	Zalesovo Beam	144.16	69	PKP	PKPab	16 46 34.9	+0.1
	comp=Z,0.7nm,0.5s,baz=276,slow=4.2,SNR=2.7						
SONM	Songino Array	150.68	95	PKPbc	PKPbc	16 46 53.8	+0.1
	comp=Z,0.3nm,0.5s,baz=198,slow=3.9,SNR=3.1						

*ISN **26** 16:32:25.6±1.1, 34°.28N×45°.78E, h13km, ML2.8*
*TEH **26** 16:32:26.6, 34°.19N×45°.62E, h8km±73km, ML2.8*

ISC 26 16:32:27.0±0.9, 34°.21N±0°.04×45°.63E±0°.05, h10km, n11, σ0§98/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.25	112	Pg	Pg	16 32 32.1	-0.1
KGS1	Ghasr-e-Shirin	0.30	354	Pg	Pg	16 32 32.9	-0.1
KGS1				Sg	Sg	16 32 38.2	+1.2
ILBA	Ilam Banvizeh	0.76	140	Pg	Pg	16 32 41.2	-0.4
IGHG	Ghaleghazi	0.79	81	Pg	Pb	16 32 42.7	-0.3
IDHR	Dehrash	0.80	52	Pg	Pg	16 32 41.7	-0.7
IBDR	Badra	1.12	167	ePn	Pn	16 32 49.0	+0.2
IBDR				eSn	Sn	16 33 06.0	+1.7
KCHF	Cheshme Sefid,	1.17	86	Pg	Pn	16 32 49.6	-0.1
ILIN	Lien	1.31	57	Pg	Pg	16 32 52.1	-0.1
IKRK	Kirkuk	1.59	319	ePn	Pb	16 32 56.0	-0.5
IKRK				eSn	Sg	16 33 18.0	-0.2
IKRK				AML	AML	16 33 21.3	
	comp=N,144nm,0.7s						
IKRK				AML	AML	16 33 21.5	
	comp=E,106nm,0.8s						
SNQR	Sonqor, Kerman	1.77	68	Pg	Pb	16 32 59.9	+0.1
RAFI	Al-Rafai	2.51	171	ePn	Pn	16 33 09.0	+1.1
RAFI				eSn	Sb	16 33 41.0	-2.2

*THE **26** 16:35:15.6, 37°.37N×20°.57E, h14km, ML2.8/8, Error ellipse: s-maj=1.5km s-min=0.8km az=27.0*
*ATH **26** 16:35:19.8, 37°.46N×20°.65E, h8km±1km, ML2.8/10, Manual Solution by A.Papageorgiou First location: 2018/11/26 16:36:53, This location: 2020/07/20 07:52:10 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*

ISC 26 16:35:17.6±1.7, 37°.43N±0°.05×20°.61E±0°.05, h9km±9km, n22, σ0§95/43, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.28	36	P	Pg	16 35 22.4	-0.8
KRI1				S	Sg	16 35 28.3	+1.2
	3μm,0.3s						
LTHK	Lithakia	0.33	33	P	Pg	16 35 23.4	-0.7
LTHK				S	Sg	16 35 29.7	+1.2
	2μm,0.5s						
LTHK	Lithakia	0.33	33	P	Pb	16 35 25.7	0.0
LTHK				S	Sg	16 35 29.4	+0.9
PSDA	Pessada-Kefalo	0.68	358	P	Pb	16 35 32.3	+0.7
PSDA				S	Sg	16 35 40.8	+1.2
VLS	Valsamata	0.74	359	P	Pg	16 35 30.5	-1.5
VLS				S	Sg	16 35 42.4	+0.7
	812nm,0.3s						
VLS	Valsamata	0.74	359	P	Pn	16 35 33.7	-0.6
VLS				S	Sb	16 35 42.9	-0.2
SMHA	Samh	0.82	2	P	Pn	16 35 35.0	-0.3
SMHA				S	Sb	16 35 45.2	0.0
DMLN	Damoulianata-K	0.83	347	P	Pg	16 35 32.3	-1.2
DMLN				S	Sb	16 35 45.4	-0.1
	2μm,0.7s						
DMLN	Damoulianata-K	0.83	347	P	Pg	16 35 34.0	+0.5
DMLN				S	Sb	16 35 45.7	+0.2
RLS	Riolos of Patr	0.92	47	P	Pg	16 35 33.6	-1.8
RLS				S	Sg	16 35 47.6	+0.2
	360nm,0.6s						
RLS	Riolos of Patr	0.92	47	P	Pn	16 35 37.7	+0.9
RLS				S	Sn	16 35 49.5	-0.8
DRO	Drossia	1.02	59	P	Pg	16 35 35.4	-1.7
DRO				S	Sb	16 35 51.5	+0.6
	720nm,0.5s						
DRO	Drossia	1.02	59	P	Pn	16 35 38.8	+0.7
DRO				S	Sn	16 35 52.8	+0.2
FSK	Fiskardo	1.03	358	P	Pg	16 35 35.6	-1.7
FSK				S	Sg	16 35 51.0	+0.3
	420nm,0.6s						
FSK	Fiskardo	1.03	358	P	Pn	16 35 38.5	+0.3
FSK				S	Sb	16 35 52.0	+0.9
PYL	PYLOS	1.05	120	P	Pn	16 35 39.9	+1.3
PYL				S	Sb	16 35 51.9	0.0
ITM	Ithomi	1.08	103	P	Pb	16 35 37.7	-0.8
ITM				S	Sn	16 35 53.8	-0.3
EVGI	Lefkada island	1.19	2	P	Pn	16 35 38.0	-2.5
EVGI				S	Sb	16 35 54.8	-1.1
	395nm,0.5s						
EVGI	Lefkada island	1.19	2	P	Pg	16 35 41.0	+0.6
EVGI				S	Sn	16 35 57.3	+0.5
TSLK	Tsoukalades, L	1.39	1	P	Pg	16 35 44.8	+0.5
TSLK				S	Sg	16 36 03.3	+1.0
EFP	Efpalio	1.43	46	P	Pg	16 35 45.1	+0.1
ANX	Ano Chora	1.56	41	P	Pg	16 35 47.8	+0.3
ANX				S	Sg	16 36 07.5	-0.1

DJA 26 16:39:11.2±0.2, 0°S±3°×12°4E±°, h70km±9km, M4.0/19, mb4.0/7, mB4.7/2, MLv4.1/19, Mw(mB)3.9/2, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	0.81	332	P	Pn	16 39 27.2	-0.2
KMSI				S	Sn	16 39 40.4	+1.0
LUWI	Luwuk	1.82	241	P	Pn	16 39 42.1	+1.7
SANI	Sanana	2.49	139	P	Pn	16 39 48.3	-1.2
MRSI	Marisa	2.50	284	P	Pn	16 39 47.4	-2.2
APSI	Ampana	2.81	254	P	Pn	16 39 54.4	+0.5
TNTI	Ternate	3.14	73	P	Pn	16 39 58.4	0.0
NLAI	Namlea	4.11	138	P	Pn	16 40 11.5	-0.1
KDI	Kendari	4.16	205	P	Pn	16 40 12.0	-0.3
PCI	Palu	4.58	261	P	Pn	16 40 19.6	+1.5
TTSI	Tana Toraja	5.37	238	P	Pn	16 40 28.6	-0.3
SPSI	Sidrap Palu	5.95	230	P	Pn	16 40 37.9	+1.2
	15nm,0.4s,0.1nm						
BNSI	Bone	5.99	225	P	Pn	16 40 37.7	+0.4
	12nm,1.5s,0.1nm						
BKSI	Bulukumba	6.66	219	P	Pn	16 40 46.8	+0.4
FAKI	Fak Fak	8.35	109	P	Pn	16 41 08.0	-1.6
	6.4nm,0.8s						

*AFAD **26** 16:52:13.9±0.0, 36°.30N×28°.66E, h9km±2km, ML2.5*
*THE **26** 16:52:14.4, 36°.42N×28°.75E, h0km±2km, ML2.2/1, Error ellipse: s-maj=7.0km s-min=1.5km az=106.0*
*ISK **26** 16:52:14.9, 36°.42N×28°.69E, h6km, ML3.0/15*

ISC 26 16:52:15.3±1.1, 36°.43N±0°.03×28°.68E±0°.02, h7km±10km, n40, σ1§63/60, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	Dalyan (Mula)	0.39	357	Pg	Pg	16 52 22.8	-0.1
DALY				Sg	Sb	16 52 29.4	-1.3
FETY	Fethiye	0.39	58	Pg	Pg	16 52 22.5	-0.4
FETY				Sg	Sb	16 52 28.9	-1.8
IZZE	Mula-Seydike	0.44	89	P	Pg	16 52 22.8	-1.1
IZZE				S	Sb	16 52 30.7	-1.6
IZZE				*i* AML	AML	16 52 31.0	
	comp=N,2μm,0.2s						
IZZE				*i* AML	AML	16 52 34.0	
	comp=E,2μm,0.4s						
SABU	Mula-Dalaman	0.46	31	P	Pb	16 52 24.3	-1.4
SABU				S	Sb	16 52 33.9	+1.1
SABU				*i* AML	AML	16 52 34.0	
	comp=N,442nm,0.2s						
SABU				*i* AML	AML	16 52 35.0	
	comp=E,381nm,0.5s						
MRSB	Marmaris-Mugla	0.48	307	Pg	Pb	16 52 25.3	-0.8
ARG	Arkhangelos	0.49	245	Pg	Pb	16 52 25.2	-1.0
ARG	Arkhangelos	0.49	245	P	Pb	16 52 25.0	-1.2
ARG				S	Sb	16 52 33.9	+0.3
	362nm,0.3s						
TURN	Turunc	0.49	315	P	Pg	16 52 24.6	-0.1
TURN				*i* AML	AML	16 52 36.0	
	comp=N,172nm,0.3s						
TURN				*i* AML	AML	16 52 37.0	
	comp=E,160nm,0.3s						
TURN	Turunc	0.49	315	Pg	Pb	16 52 25.2	-1.0
CAME	Cameli-Denizli	0.72	44	Pg	Pb	16 52 28.9	-1.4
YER	Yerkesik	0.77	336	Pg	Pg	16 52 29.9	-0.3
YER	Yerkesik	0.77	336	P	Pb	16 52 30.4	-0.7
YER				S	Sn	16 52 43.6	-1.0
AKAS	Kas	0.78	104	Pg	Pb	16 52 29.9	-1.3
KNIK	Mula-Seydike	0.83	60	P	Pg	16 52 30.7	-0.6
KNIK				S	Sn	16 52 44.8	-1.4
KNIK				*i* AML	AML	16 52 46.0	
	comp=N,167nm,0.4s						
KNIK				*i* AML	AML	16 52 47.0	
	comp=E,182nm,0.6s						
CAEL	Denizli, Camel	0.87	37	P	Pg	16 52 31.4	-0.5
CAEL				*i* AML	AML	16 52 57.0	
	comp=E,235nm,0.5s						
CAEL				*i* AML	AML	16 53 02.0	
	comp=N,203nm,0.7s						
DATC	Datca-Mugla	0.88	292	Pg	Pb	16 52 32.2	-0.7
DNZT	Denizli-Tavas-	0.90	18	P	Pb	16 52 32.2	-1.0
DNZT				*i* AML	AML	16 52 51.0	
	comp=E,86nm,0.6s						
DNZT				*i* AML	AML	16 52 54.0	
	comp=N,46nm,0.9s						
DAT	Datca	0.93	289	P	Pn	16 52 33.9	-1.0
DAT				S	Sn	16 52 53.2	+4.7
DAT				*i* AML	AML	16 52 54.0	
	comp=N,171nm,0.4s						
DAT				*i* AML	AML	16 52 54.0	
	comp=E,197nm,0.6s						
DAT	Datca	0.93	289	Pg	Pb	16 52 33.8	0.0
DAT	Datca	0.93	289	P	Pb	16 52 33.1	-0.7
DAT				S	Sn	16 52 48.3	-0.3
YAZI	Mula-Dat§a-	1.02	285	P	Pb	16 52 35.0	-0.2
YAZI				*i* AML	AML	16 52 58.0	
	comp=N,85nm,0.4s						
YAZI				*i* AML	AML	16 52 58.0	
	comp=E,46nm,0.4s						
ELL	Elmali	1.04	72	Pg	Pn	16 52 35.3	-1.1
TAVA	DENIZLI_Tavas	1.05	10	P	Pn	16 52 35.6	-1.0
TAVA				S	Sn	16 52 54.2	+2.7
TAVA				*i* AML	AML	16 52 55.0	
	comp=E,177nm,0.4s						
TAVA				*i* AML	AML	16 52 56.0	
	comp=N,116nm,0.4s						
APMY	Acipayam-Deniz	1.16	26	Pn	Pn	16 52 37.4	-0.6
BDRM	Kayabasi	1.18	303	P	Pn	16 52 37.8	-0.3
BDRM				*i* AML	AML	16 53 00.0	
	comp=E,77nm,0.3s						
DNIZ	Denizli-Tavas-	1.23	14	P	Pn	16 52 38.9	-0.1
DNIZ				*i* AML	AML	16 52 59.0	
	comp=N,461nm,0.3s						
DNIZ				*i* AML	AML	16 53 01.0	
	comp=E,732nm,0.3s						
BODT	Bodrum	1.27	300	Pn	Pg	16 52 39.9	+0.3
AKUM	Antalya-Kumluc	1.35	94	P	Pg	16 52 40.9	-0.3
AKUM				S	Sn	16 53 02.6	+3.9
AKUM				*i* AML	AML	16 53 05.0	
	comp=N,49nm,0.4s						
AKUM				*i* AML	AML	16 53 08.0	
	comp=E,93nm,0.4s						
ESEN	Aydn-Nazilli	1.39	349	P	Pg	16 52 41.7	-0.3
ESEN				S	Sg	16 53 01.7	+1.7
ESEN				*i* AML	AML	16 53 03.0	
	comp=N,62nm,0.6s						
ESEN				*i* AML	AML	16 53 05.0	
	comp=E,78nm,0.3s						
KORT	Korkueli	1.46	66	P	Pg	16 52 43.9	+0.5
KORT				S	Sg	16 53 09.3	+7.0
KORT				*i* AML	AML	16 53 11.0	
	comp=N,92nm,0.9s						
KORT				*i* AML	AML	16 53 11.0	
	comp=E,183nm,1.0s						
KORT	Korkueli	1.46	66	Pn	Pg	16 52 42.4	-0.9
INCE	Denizli-Bozkur	1.47	29	P	Pg	16 52 43.3	-0.2
INCE				S	Sg	16 53 05.5	+3.0
INCE				*i* AML	AML	16 53 06.0	
	comp=N,125nm,0.5s						
INCE				*i* AML	AML	16 53 06.0	
	comp=E,122nm,0.4s						
KARP	Karpathos	1.51	235	P	Pn	16 52 42.2	-0.5
KARP				S	Sg	16 53 03.5	-0.3
NAZL	Nazilli-Aydin	1.56	349	Pn	Pb	16 52 44.1	-0.5
BRDR	BURDUR-Merkez	1.68	41	P	Pg	16 52 46.6	-1.0
BRDR				*i* AML	AML	16 53 15.0	
	comp=N,44nm,0.4s						
BRDR				*i* AML	AML	16 53 22.0	
	comp=E,50nm,0.9s						
GCAM	G?zelcaml?	1.72	318	P	Pb	16 52 46.4	-0.7
GCAM				S	Sg	16 53 12.0	+1.5
GCAM				*i* AML	AML	16 54 00.0	
	comp=N,263nm,2.1s						
GCAM				*i* AML	AML	16 54 00.0	
	comp=E,106nm,2.4s						
KIRA	zmir-Kiraz	1.78	353	P	Pb	16 52 47.7	-0.6
KIRA				S	Sg	16 53 11.4	-1.1
KIRA				*i* AML	AML	16 53 18.0	
	comp=N,36nm,0.6s						
KIRA				*i* AML	AML	16 53 18.0	
	comp=E,34nm,0.4s						
IZMR	zmir-demi	1.80	342	P	Pb	16 52 47.6	-1.0
IZMR				S	Sg	16 53 12.2	-1.0
IZMR				*i* AML	AML	16 53 23.0	
	comp=N,20nm,0.4s						
IZMR				*i* AML	AML	16 53 26.0	
	comp=E,24nm,1.2s						
PASA	Karahalli, USA	2.02	18	P	Pn	16 52 49.8	-0.1
PASA				S	Sg	16 53 19.4	-0.9
PASA				*i* AML	AML	16 53 21.0	
	comp=N,16nm,0.3s						
PASA				*i* AML	AML	16 53 28.0	
	comp=E,23nm,0.5s						
KZIL	AFYON_Kizioren	2.17	32	P	Pb	16 52 54.2	-0.8
KZIL				S	Sg	16 53 26.8	+1.9
KZIL				*i* AML	AML	16 53 28.0	
	comp=E,23nm,0.6s						
KZIL				*i* AML	AML	16 53 43.0	
	comp=N,16nm,0.9s						

RSNC 26 17:07:05.6±0.0, 13°N±2°×8°1W±°, h0km±2km, M3.3, mb4.3, ML3.3, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	Isla de Provid	0.32	293	P	Pb	17 07 13.5	-0.7
PRVC				S	Sb	17 07 18.4	-1.6
SAIC	Isla e San And	0.95	222	P	Pb	17 07 24.9	-0.1
SAIC				S	Sb	17 07 38.9	+0.8
RNCC	Cayo Roncador,	1.00	71	P	Pb	17 07 25.4	-0.4
RNCC				S	Sb	17 07 40.1	+0.7
SERC	Banco Serrana,	1.23	33	P	Pg	17 07 27.4	-1.8
SERC				S	Sb	17 07 46.2	0.0
BCIP	Isla Barro Col	4.23	163	P	Pn	17 08 08.2	-3.2
BCIP				S	Sn	17 08 56.4	-5.1
JTS	Las Juntas de	4.81	233	P	Pn	17 08 19.9	+0.5
JTS				S	Sn	17 09 15.9	-0.1
AZU	Azuero	5.48	172	P	Pn	17 08 24.6	-3.9
	17nm,1.0s						
AZU				S	Sn	17 09 27.6	-4.7
	17nm,1.0s						
CAPC	Capurgana	5.86	141	P	Pn	17 08 33.4	-0.3
	82nm,1.7s						
CAPC				S	Sn	17 09 38.9	-2.7
	82nm,1.7s						
SJCC	San Jacinto, C	6.66	119	P	Pn	17 08 42.7	-2.1
	13nm,1.2s						
SJCC				S	Sn	17 09 55.6	-5.9
	13nm,1.2s						
CRJC	Cerrejon, Guaj	8.30	105	P	Pn	17 09 05.0	-2.4

*TEH **26** 17:13:57.6, 34°.38N×45°.68E, h9km±55km, ML2.7*
*ISN **26** 17:13:59.2±1.2, 34°.41N×45°.66E, h22km±8km, ML3.1*

ISC 26 17:13:58.4±1.1, 34°.40N±0°.04×45°.72E±0°.04, h5km±11km, n12, σ0§59/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.15	314	Pg	Pg	17 14 01.0	-0.3
KGS1				Sg	Sg	17 14 04.0	+0.7
GLG1	Gilan-e-Gharb	0.33	151	Pg	Pg	17 14 04.7	-0.2
IDHR	Dehrash	0.63	62	Pg	Pg	17 14 10.3	-0.2
IGHG	Ghaleghazi	0.71	96	Pg	Pg	17 14 12.6	+0.6
IGHG				Sg	Sb	17 14 23.9	+0.3
ILBA	Ilam Banvizeh	0.88	152	Pg	Pg	17 14 14.1	-1.1
KCHF	Cheshme Sefid,	1.10	96	Sg	Sn	17 14 35.7	-0.7
ILIN	Lien	1.15	63	Pg	Pb	17 14 20.1	-0.8
IBDR	Badra	1.30	172	*e*Pg	Pn	17 14 23.0	-0.2
IBDR				*e*Sg	Sb	17 14 41.0	+0.7
IKRK	Kirkuk	1.50	312	*e*Pn	Pn	17 14 26.0	0.0
IKRK				*e*Sn	Sg	17 14 47.0	+0.2
IKRK				AML	AML	17 14 49.6	
	comp=N,352nm,0.3s						
IKRK				AML	AML	17 14 50.3	
	comp=E,284nm,0.3s						
BHD	Baghdad	1.59	225	*e*Pn	Pn	17 14 27.0	-0.1
BHD				*e*Sn	Sn	17 14 48.0	0.0
SNQR	Sonqor, Kerman	1.64	73	Pg	Pb	17 14 29.2	0.0
RAFI	Al-Rafai	2.69	173	*e*Pn	Pn	17 14 43.0	+0.7
RAFI				*e*Sn	Sn	17 15 16.0	+0.7

*ATH **26** 17:16:02.6, 40°.46N×21°.60E, h6km±2km, ML2.9/13, Manual Solution by A.Papageorgiou First location: 2018/11/26 17:17:08, This location: 2019/01/18 10:33:40 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 2 km*
*THE **26** 17:16:02.0, 40°.45N×21°.59E, h14km, ML2.6/12, Error ellipse: s-maj=0.6km s-min=0.4km az=254.0*
*SKO **26** 17:16:03.2, 40°.46N×21°.62E, h4km, ML2.7*

ISC 26 17:16:02.5±0.9, 40°.45N±0°.02×21°.60E±0°.02, h14km±6km, n46, σ0§73/75, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	Kozani	0.20	139	P	Pg	17 16 06.8	-0.2
KZN				S	Sg	17 16 10.3	+0.3
	11μm,0.4s						
KZN	Kozani	0.20	139	P	Pg	17 16 07.0	+0.1
KZN				S	Sg	17 16 09.1	-1.0
FNA	Florina	0.37	332	P	Pg	17 16 09.3	-0.7
FNA				S	Sg	17 16 15.1	0.0
	6μm,0.2s						
FNA	Florina	0.37	332	⇑*i*Pg	Pg	17 16 09.3	-0.7
FNA				*i* Sg	Sg	17 16 15.1	0.0
FNA	Florina	0.37	332	P	Pg	17 16 09.3	-0.7
FNA				S	Sg	17 16 14.6	-0.5
NASA	Naoussa	0.40	63	P	Pg	17 16 10.3	-0.1
NASA				S	Sg	17 16 16.4	+0.6
PENT	Pentalofos	0.44	234	P	Pg	17 16 10.3	-0.9
PENT				S	Sg	17 16 17.0	-0.2
PENT	Pentalofos	0.44	234	P	Pg	17 16 10.8	-0.5
PENT				S	Sg	17 16 17.3	+0.1
VERN	Vergina	0.55	86	P	Pg	17 16 13.0	-0.3
VERN				S	Sg	17 16 20.4	-0.2
LIT	Litokhoron	0.77	117	P	Pg	17 16 16.3	-1.0
LIT				S	Sg	17 16 28.0	+0.6
	782nm,0.2s						
LIT	Litokhoron	0.77	117	*i* Pg	P

comp=E,425nm,0.6s
THL Klokotos Trika 0.94 160 P **Pg 17 16 19.5 -1.2**
THE Thessaloniki 1.05 80 P **Pg 17 16 21.9 -0.9**
THE S **Sg 17 16 36.7 +0.2**
comp=E,88nm,0.4s
VAY Valandovo 1.14 40 *i* Pg **Pg 17 16 23.5 -0.9**
VAY *i* Sg **Sg 17 16 39.2 +0.1**
VAY *e*Lg Lg 17 16 41.2
comp=N,71nm,0.7s
VAY *e*Lg Lg 17 16 41.2
comp=E,34nm,0.5s
HORT Hortiatis 1.15 82 P **Pg 17 16 23.4 -1.2**
HORT S **Sg 17 16 39.1 -0.5**
comp=E,172nm,0.4s
HORT Hortiatis 1.15 82 P **Pg 17 16 23.4 -1.2**
HORT S **Sb 17 16 40.2 +1.2**
KNT Kendrikon 1.21 54 P **Pg 17 16 24.4 -1.4**
KNT S **Sg 17 16 40.8 -0.8**
comp=E,58nm,0.6s
KNT Kendrikon 1.21 54 *i* Pg **Pg 17 16 24.6 -1.2**
KNT *i* Sg **Sb 17 16 41.9 +1.2**
KNT Kendrikon 1.21 54 P **Pg 17 16 24.7 -1.1**
KNT S **Sb 17 16 41.9 +1.2**
IGT Igoumenitsa 1.34 227 P **Pb 17 16 28.0 +0.6**
SOH Sokhos 1.38 74 P **Pn 17 16 26.6 -0.8**
SOH S **Sb 17 16 45.0 -0.7**
comp=E,152nm,0.5s
SOH Sokhos 1.38 74 *i* Pg **Pn 17 16 27.8 +0.4**
SOH *i* Sg **Sb 17 16 45.6 0.0**
SOH Sokhos 1.38 74 P **Pn 17 16 27.4 +0.1**
PLG Polygyros 1.41 93 P **Pn 17 16 27.7 -0.1**
PLG S **Sb 17 16 46.6 +0.1**
MAKR Makrakomi, Fth 1.50 164 P **Pn 17 16 28.1 -0.8**
MAKR S **Sn 17 16 47.9 -0.4**
comp=E,272nm,0.6s
MAKR Makrakomi, Fth 1.50 164 P **Pn 17 16 28.8 -0.1**
MAKR S **Sn 17 16 48.8 +0.5**
EVR Evrytania 1.54 174 P **Pn 17 16 30.3 +0.7**
XOR Xorichti 1.64 131 P **Pn 17 16 30.1 -0.8**
XOR S **Sn 17 16 51.6 -0.1**
comp=E,65nm,0.6s
XOR Xorichti 1.64 131 P **Pn 17 16 30.4 -0.5**
PEHC Pehcevo 1.65 36 *i* Pn **Pn 17 16 31.1 0.0**
SRS Serrai 1.65 66 P **Pn 17 16 31.3 +0.3**
NEO Neokhori 1.69 132 P **Pn 17 16 31.6 -0.1**
KKB Krupnik 1.80 39 *i* Pn **Pn 17 16 33.1 0.0**
OUR Ouranopolis 1.82 93 P **Pn 17 16 33.5 +0.1**
KOKK Kokkinochori, 1.86 78 P **Pn 17 16 34.1 +0.2**
AXAR Agios Charalam 1.87 154 P **Pn 17 16 34.4 +0.3**
ANX Ano Chora 1.88 172 P **Pn 17 16 34.4 +0.2**
MMB Musomishta 1.96 55 *i* Pn **Pn 17 16 35.4 +0.1**
EFP Efpalio 2.04 173 P **Pn 17 16 37.2 +0.8**
BARS Barje 2.37 4 *i* Pn **Pn 17 16 41.1 +0.2**

JMA ***26*** *17:21:03.5±0.2,24°N±2°×122°6E±0°.7,h30km±4km,*
MV2.4/11,NW OFF ISHIGAKIJIMA IS
TAP ***26*** *17:21:03.7,24°.04N×122°.64E,h31km,ML2.7,C*
ISC 26 17:21:03.1±1.1,23°.97N±0°.04×122°.64E±0°.02,h27km±12km,
n51,σ0$969/77,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.33**	**298**	*i* P	**Pn**	**17 21 11.3**	**-0.4**
EOS4				*i* S	**Sn**	**17 21 16.8**	**-0.6**
EOS3	**EOS3**	**0.43**	**317**	*i* P	**Pn**	**17 21 12.8**	**-0.6**
JYNG	**Yonagunijimaku**	**0.56**	**30**	P	**Pb**	**17 21 14.0**	**-0.4**
JYNG				*e*S	**Sb**	**17 21 21.4**	**-0.6**
EOS2	**EOS2**	**0.58**	**321**	*e*P	**Pn**	**17 21 15.7**	**+0.2**
YOJ	**Yonaguni jima**	**0.60**	**35**	*e*P	**Pb**	**17 21 14.7**	**-0.4**
YOJ				*e*S	**Sb**	**17 21 22.3**	**-0.8**
YOJ	**Yonaguni jima**	**0.60**	**35**	P	**Pb**	**17 21 14.9**	**-0.2**
YOJ				S	**Sb**	**17 21 22.9**	**-0.3**
EWUT	**Wuta**	**0.92**	**301**	*e*P	**Pb**	**17 21 20.3**	**-0.1**
EWUT				S	**Sb**	**17 21 34.6**	**+2.4**
ENA	**Nanau**	**0.94**	**299**	P	**Pb**	**17 21 20.6**	**-0.1**
ESAO	**Su ao**	**0.94**	**310**	*e*P	**Pb**	**17 21 21.0**	**+0.2**
ESAO				*e*S	**Sb**	**17 21 33.7**	**+0.7**
TWD	**Chiawan**	**0.96**	**277**	P	**Pn**	**17 21 20.4**	**-0.3**
TWD				S	**Sn**	**17 21 32.9**	**-0.6**
TWC	**Suao**	**0.96**	**312**	*i* P	**Pb**	**17 21 20.9**	**-0.2**
TWC				*i* S	**Sb**	**17 21 33.3**	**-0.2**
NACB	**Ninganchiao**	**0.98**	**282**	P	**Pn**	**17 21 20.5**	**-0.5**
NACB				*e*S	**Sn**	**17 21 33.1**	**-0.8**
SHUL	**Shoufeng**	**1.00**	**260**	*e*P	**Pn**	**17 21 20.6**	**-0.7**
ETM	**Tongmen**	**1.05**	**270**	*e*P	**Pn**	**17 21 21.7**	**-0.3**
ETM				*e*S	**Sn**	**17 21 34.2**	**-1.5**
IRIF	**Iriomote-Funau**	**1.06**	**70**	P	**Pn**	**17 21 22.4**	**+0.3**
IRIF				S	**Sb**	**17 21 37.3**	**+0.9**
NDS	**Dongshan**	**1.07**	**308**	*e*P	**Pb**	**17 21 23.4**	**+0.4**
ETLH	**Xiulin Townshi**	**1.08**	**283**	P	**Pn**	**17 21 22.5**	**-0.1**
ETLH				*i* S	**Sb**	**17 21 36.9**	**-0.2**
EGS		**1.09**	**324**	*e*P	**Pb**	**17 21 23.4**	**+0.2**
LXIB	**Xiulin Townshi**	**1.12**	**273**	P	**Pn**	**17 21 23.1**	**0.0**
LXIB				S	**Sn**	**17 21 37.6**	**-0.1**
EGFH	**Guangfu**	**1.15**	**255**	*e*P	**Pn**	**17 21 23.0**	**-0.4**
EGFH				*e*S	**Sn**	**17 21 38.7**	**+0.6**
TWE	**Neicheng**	**1.16**	**311**	*i* P	**Pb**	**17 21 24.8**	**+0.2**
TWE				*i* S	**Sb**	**17 21 40.5**	**+1.3**
WARBT	**Fenglin Townsh**	**1.17**	**258**	P	**Pn**	**17 21 23.6**	**-0.1**
WARBT				S	**Sn**	**17 21 36.9**	**-1.9**
ENTT	**Nioudou**	**1.19**	**305**	*i* P	**Pb**	**17 21 25.5**	**+0.6**
ENTT				*i* S	**Sb**	**17 21 40.0**	**+0.1**
HGSD	**Ruisui**	**1.21**	**247**	*e*P	**Pn**	**17 21 24.9**	**+0.7**
NNSB	**Datong**	**1.23**	**292**	P	**Pn**	**17 21 24.9**	**+0.2**
FUSB	**Fushanzhiwuyua**	**1.24**	**310**	*e*P	**Pb**	**17 21 26.0**	**+0.1**
TIPB	**Shuangxi**	**1.25**	**324**	*e*P	**Pb**	**17 21 26.4**	**+0.4**
NNS	**Nan Shan**	**1.25**	**292**	*e*P	**Pb**	**17 21 25.5**	**-0.5**
WHF	**Hehuan Shan**	**1.27**	**278**	P	**Pn**	**17 21 25.4**	**+0.1**
JKRS	**Kuro-shima**	**1.28**	**78**	P	**Pb**	**17 21 26.6**	**+0.1**
JKRS				S	**Sb**	**17 21 43.1**	**+0.5**
EHY	**Hungye**	**1.29**	**249**	P	**Pn**	**17 21 24.9**	**-0.4**
EHY				S	**Sn**	**17 21 41.1**	**-0.6**
FUSS	**Fushou**	**1.30**	**283**	*e*P	**Pn**	**17 21 26.2**	**+0.5**
NWLT	**Wulai**	**1.31**	**308**	*e*P	**Pb**	**17 21 26.3**	**-0.8**
SXI1	**Grass Mountain**	**1.32**	**328**	*e*P	**Pn**	**17 21 25.9**	**+0.1**
OWD	**Renai**	**1.34**	**270**	*e*P	**Pn**	**17 21 26.6**	**+0.5**
YHNB	**Yeheng**	**1.35**	**302**	*e*P	**Pb**	**17 21 26.8**	**-0.9**
YULB	**Yu-li**	**1.36**	**245**	*e*P	**Pn**	**17 21 26.6**	**+0.4**
YULB				*i* S	**Sn**	**17 21 43.8**	**+0.5**
EYUL	**Yuli**	**1.36**	**243**	*e*P	**Pn**	**17 21 27.1**	**+0.9**
NSK	**Sanguang**	**1.36**	**301**	*e*P	**Pb**	**17 21 27.1**	**-1.0**
TWT	**Tachien**	**1.37**	**282**	*e*P	**Pn**	**17 21 27.4**	**+0.9**
TWF1	**Yuli**	**1.37**	**244**	*e*P	**Pn**	**17 21 25.8**	**-0.7**
VWDT	**VWDT**	**1.39**	**262**	*e*P	**Pn**	**17 21 27.5**	**+0.9**
VWDT				S	**Sn**	**17 21 45.2**	**+1.2**
WUSB	**Renai**	**1.39**	**271**	*e*P	**Pn**	**17 21 27.6**	**+0.7**
WUSB				*e*S	**Sn**	**17 21 45.3**	**+0.9**
JIJ	**Ishigaki jima**	**1.43**	**74**	P	**Pn**	**17 21 27.6**	**+0.4**
JIJ				S	**Sn**	**17 21 45.4**	**+0.3**
FULB	**Fuli**	**1.45**	**238**	*e*P	**Pb**	**17 21 29.4**	**0.0**
CHKT	**Chengkung**	**1.45**	**234**	*e*P	**Pn**	**17 21 27.0**	**-0.5**
CHKT				*i* S	**Sn**	**17 21 44.2**	**-1.4**
YM01	**YM01**	**1.52**	**321**	*e*P	**Pb**	**17 21 30.7**	**0.0**
NFF	**Wufeng Townshi**	**1.54**	**296**	*e*P	**Pb**	**17 21 30.2**	**-0.7**
SSLB	**Suanglung**	**1.55**	**264**	*e*P	**Pn**	**17 21 29.2**	**+0.3**
SMLT	**Sun Moon Lake**	**1.59**	**267**	*e*P	**Pn**	**17 21 30.4**	**+0.9**
SMLT				S	**Sn**	**17 21 49.3**	**0.0**
JISG	**Ishigakijimahi**	**1.65**	**68**	P	**Pn**	**17 21 29.9**	**-0.2**
JISG				S	**Sn**	**17 21 50.3**	**-0.2**

ISN ***26*** *17:26:43.8±0.6,34°.30N×45°.49E,h8km±3km,ML3.0*
TEH ***26*** *17:26:44.7,34°.32N×45°.66E,h8km±22km,ML3.0*
ISC 26 17:26:44.3±1.3,34°.31N±0°.03×45°.60E±0°.03,h1km±13km,
n21,σ0$994/26,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**358**	Pg	**Pg**	**17 26 48.9**	**+0.8**
GLG1	**Gilan-e-Gharb**	**0.33**	**127**	Pg	**Pg**	**17 26 50.9**	**+0.3**
IDHR	**Dehrash**	**0.76**	**59**	Pg	**Pg**	**17 26 58.4**	**-0.5**
IDHR				Sg	**Sg**	**17 27 08.9**	**+0.1**
IGHG	**Ghaleghazi**	**0.81**	**88**	Pg	**Pg**	**17 26 60.0**	**+0.2**
ILBA	**Ilam Banvizeh**	**0.85**	**143**	Pg	**Pg**	**17 27 00.7**	**0.0**
KCHF	**Cheshme Sefid,**	**1.20**	**91**	Pg	**Pb**	**17 27 07.6**	**-0.3**
IBDR	**Badra**	**1.23**	**167**	*e*Pg	**Pg**	**17 27 08.0**	**+0.1**
IBDR				*e*Sg	**Sn**	**17 27 25.0**	**-0.8**
ILIN	**Lien**	**1.28**	**61**	Pg	**Pn**	**17 27 08.4**	**-1.1**
BHD	**Baghdad**	**1.45**	**225**	*e*Pn	**Pb**	**17 27 11.0**	**-1.1**
BHD				*e*Sn	**Sg**	**17 27 31.0**	**+0.1**
IKRK	**Kirkuk**	**1.50**	**317**	*e*Pn	**Pb**	**17 27 12.0**	**-0.9**
IKRK				*e*Sn	**Sg**	**17 27 33.0**	**+0.5**
IKRK				AML	AML	17 27 37.3	
IKRK	comp=E,344nm,0.4s			AML	AML	17 27 37.4	
IKRK	comp=N,227nm,0.3s						
SNQR	**Sonqor, Kerman**	**1.76**	**71**	Pg	**Pb**	**17 27 17.1**	**-0.5**
IKFM	**Kafar-mosalman**	**2.03**	**112**	Pn	**Pb**	**17 27 20.8**	**-1.2**
IDOB	**Doab**	**2.21**	**103**	Pn	**Pn**	**17 27 23.1**	**+0.8**
MAHB	**Mahabad**	**2.45**	**2**	Pn	**Pb**	**17 27 27.3**	**-2.0**
HSAM	**Samen**	**2.49**	**91**	Pn	**Pn**	**17 27 27.2**	**+0.9**
RAFI	**Al-Rafai**	**2.62**	**170**	*e*Pn	**Pn**	**17 27 28.0**	**+0.3**
RAFI				*e*Sn	**Sn**	**17 28 01.0**	**+0.9**
BDRS	**Dareh Seyedi**	**2.75**	**97**	Pn	**Pn**	**17 27 30.8**	**+1.0**
HAGD	**Aghdareh**	**2.97**	**79**	Pn	**Pn**	**17 27 33.7**	**+0.9**
IAZR	**Azarshahr**	**3.38**	**5**	Pn	**Pn**	**17 27 39.9**	**+1.6**
GRMI	**Germi**	**4.86**	**22**	Pn	**Pn**	**17 27 59.3**	**+0.7**
IKLH	**Kolahrood**	**5.08**	**100**	Pn	**Pn**	**17 28 02.9**	**+1.1**

TEH ***26*** *17:38:08.8,34°.38N×45°.68E,h10km±168km,ML2.7*
ISN ***26*** *17:38:11.9±1.2,34°.33N×45°.68E,h40km±40km,ML2.6*
ISC 26 17:38:09.8±1.3,34°.39N±0°.04×45°.70E±0°.05,h1km±16km,
n8,σ0$969/11,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.15**	**323**	Pg	**Pg**	**17 38 12.3**	**-0.4**
KGS1				Sg	**Sg**	**17 38 15.3**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.32**	**147**	Pg	**Pg**	**17 38 15.9**	**-0.1**
IDHR	**Dehrash**	**0.65**	**61**	Pg	**Pg**	**17 38 21.5**	**-0.7**
IGHG	**Ghaleghazi**	**0.72**	**94**	Pg	**Pg**	**17 38 23.6**	**0.0**
ILBA	**Ilam Banvizeh**	**0.87**	**151**	Pg	**Pg**	**17 38 25.3**	**-1.1**
ILIN	**Lien**	**1.17**	**63**	Pg	**Pg**	**17 38 32.1**	**-0.2**
IBDR	**Badra**	**1.29**	**171**	*e*Pg	**Pg**	**17 38 34.0**	**-0.4**
IBDR	baz=350			*e*Sg	**Sg**	**17 38 52.0**	**+0.9**
IKRK	**Kirkuk**	**1.51**	**313**	*e*Pn	**Pn**	**17 38 38.0**	**+0.1**
IKRK				*e*Sn	**Sb**	**17 38 58.0**	**-0.1**
IKRK				AML	AML	17 39 01.1	
IKRK	comp=N,92nm,0.5s			AML	AML	17 39 04.8	
IKRK	comp=E,92nm,0.2s						

TEH ***26*** *17:50:48.5,34°.33N×45°.62E,h8km±37km,ML2.5*
ISN ***26*** *17:50:51.1±1.5,34°.28N×45°.61E,h25km,ML2.4*
ISC 26 17:50:48.7±1.3,34°.33N±0°.05×45°.62E±0°.07,h9km±10km,
n9,σ0$970/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.18**	**353**	Pg	**Pg**	**17 50 52.3**	**-0.3**
KGS1				Sg	**Sg**	**17 50 55.9**	**+0.8**
GLG1	**Gilan-e-Gharb**	**0.32**	**131**	Pg	**Pg**	**17 50 54.5**	**-0.6**
GLG1				Sg	**Sg**	**17 51 00.3**	**+0.9**
IDHR	**Dehrash**	**0.74**	**59**	Pg	**Pg**	**17 51 02.3**	**-0.7**
IDHR				Sg	**Sb**	**17 51 13.3**	**-0.9**
IGHG	**Ghaleghazi**	**0.79**	**89**	Pg	**Pg**	**17 51 03.8**	**-0.1**
IGHG				Sg	**Sb**	**17 51 16.1**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.18**	**92**	Pg	**Pn**	**17 51 11.8**	**+0.2**
IBDR	**Badra**	**1.24**	**168**	*e*Pg	**Pn**	**17 51 12.0**	**-0.2**
IBDR	baz=347			*e*Sg	**Sn**	**17 51 30.0**	**+0.9**
IBDR				AML	AML	17 51 34.9	
IBDR	comp=E,110nm,0.3s			AML	AML	17 51 35.5	
IBDR	comp=N,53nm,0.4s						
ILIN	**Lien**	**1.26**	**62**	Pg	**Pg**	**17 51 13.1**	**+0.2**
SNQR	**Sonqor, Kerman**	**1.74**	**72**	Pg	**Pb**	**17 51 20.9**	**-0.1**
IKFM	**Kafar-mosalman**	**2.02**	**113**	Pn	**Pb**	**17 51 24.9**	**-0.7**

NEIC ***26*** *18:00:26.7±1.9,2°.78N±0°.08×128°.6E±0°.1,h222km±8km,*
mb4.7/40,Error ellipse: s-maj=15.6km s-min=10.4km
az=63.0
DJA ***26*** *18:00:27.1±0.2,3°N±2°×12°8E±°,h213km±2km,M4.5/64,*
mb4.9/64,mB5.0/37,MLv5.2/19,Mw(mB)4.4/37,
MwMwp5.0/1,Mwp5.3/1
IDC ***26*** *18:00:27.6±1.5,2°.70N×128°.58E,h232km±15km,mb3.9/15,*
mbtmp4.6/19,Error ellipse: s-maj=16.6km s-min=7.0km
az=74.0
ISC 26 18:00:25.2±0.4,2°.77N±0°.05×128°.55E±0°.06,h200km,n182,
σ1$54/184,mb4.6/51,1C-1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.31**	**211**	Pn	**Pn**	**18 01 10.2**	**+3.1**
TNTI	**Ternate**	**2.31**	**211**	P	**Pn**	**18 01 10.5**	**+3.4**
TNTI	**Ternate**	**2.31**	**211**	P	**Pn**	**18 01 10.0**	**+2.9**
TNTI				S	**Sn**	**18 01 42.8**	**+3.0**
LBMI	**Labuha**	**3.55**	**197**	P	**Pn**	**18 01 24.7**	**+3.2**
SWI	**Sorong**	**4.51**	**143**	P	**Pn**	**18 01 36.8**	**+3.3**
KMSI	**Cibinong**	**5.07**	**245**	P	**Pn**	**18 01 41.5**	**+1.0**
DAV	**Davao City (W)**	**5.20**	**325**	Pn	**Pn**	**18 01 44.8**	**+2.6**
DAV	**Davao City (W)**	**5.20**	**325**	P	**Pn**	**18 01 45.3**	**+3.0**
DAV	293nm,0.5s,baz=102,slow=2.0,SNR=20 **Davao City (W)**	**5.20**	**325**	P	**Pn**	**18 01 45.2**	**+3.0**
SANI	**Sanana**	**5.43**	**208**	P	**Pn**	**18 01 45.2**	**0.0**
SANI	**Sanana**	**5.43**	**208**	P	**Pn**	**18 01 45.4**	**+0.2**
MSAI	**Masohi**	**6.09**	**176**	P	**Pn**	**18 01 57.8**	**+4.1**
NLAI	365nm,1.0s,3μm1.1nm **Namlea**	**6.14**	**194**	P	**Pn**	**18 01 56.2**	**+1.8**
FAKI	264nm,0.6s,4μm1.5nm **Fak Fak**	**6.75**	**147**	Pn	**Pn**	**18 02 05.1**	**+2.8**
FAKI	**Fak Fak**	**6.75**	**147**	P	**Pn**	**18 02 05.7**	**+3.4**
FAKI	**Fak Fak**	**6.75**	**147**	P	**Pn**	**18 02 05.0**	**+2.7**
LUWI	304nm,0.9s,2μm1.0nm **Luwuk**	**6.91**	**237**	Pn	**Pn**	**18 02 03.4**	**-1.0**
LUWI	**Luwuk**	**6.91**	**237**	P	**Pn**	**18 02 06.3**	**+1.9**
LUWI	**Luwuk**	**6.91**	**237**	P	**Pn**	**18 02 04.8**	**+0.4**
MRSI	**Marisa**	**6.99**	**251**	P	**Pn**	**18 02 06.1**	**+0.7**
RKPI	283nm,0.7s,3μm1.2nm **Ransiki, Papua**	**7.05**	**127**	P	**Pn**	**18 02 10.9**	**+4.7**
BNDI	321nm,1.0s,1.1nm **Bandanaira**	**7.37**	**169**	P	**Pn**	**18 02 14.3**	**+4.0**
BNDI	**Bandanaira**	**7.37**	**169**	P	**Pn**	**18 02 11.8**	**+1.5**
APSI	269nm,1.0s,1.0nm **Ampana**	**7.81**	**242**	P	**Pn**	**18 02 16.1**	**0.0**
TOLI2	**Tolitoli**	**7.94**	**258**	Pn	**Pn**	**18 02 17.9**	**+0.1**
TOLI2	**Tolitoli**	**7.94**	**258**	P	**Pn**	**18 02 18.2**	**+0.4**
KDI	**Kendari**	**8.94**	**222**	P	**Pn**	**18 02 30.3**	**-0.4**
PCI	37nm,0.8s **Palu**	**9.45**	**247**	P	**Pn**	**18 02 37.2**	**-0.2**
MYLDM	133nm,1.1s,1μm **Lahad Datu**	**10.31**	**284**		**Pn**	**18 02 50.4**	**+1.8**
MYLDM	**Lahad Datu**	**10.31**	**284**	P	**Pn**	**18 02 50.0**	**+1.4**
TTSI	**Tana Toraja**	**10.47**	**237**	P	**Pn**	**18 02 50.8**	**+0.2**
SPSI	233nm,0.9s,2μm **Sidrap Palu**	**11.04**	**233**	P	**Pn**	**18 02 58.1**	**+0.2**
BNSI	165nm,1.0s **Bone**	**11.04**	**230**	P	**Pn**	**18 02 58.4**	**+0.4**
BKSI	89nm,0.7s,1μm **Bulukumba**	**11.64**	**226**	P	**Pn**	**18 03 06.8**	**+1.1**
KAPI	144nm,0.7s,1μm **Kappang**	**11.71**	**229**	Pn	**Pn**	**18 03 06.7**	**+0.2**
KAPI	**Kappang**	**11.71**	**229**	P	**Pn**	**18 03 08.3**	**+1.8**
BSSI	**Bau Bau, Buton**	**11.97**	**222**	P	**Pn**	**18 03 09.9**	**+0.1**
GENI	99nm,0.7s,972nm4μm **Genyem**	**12.77**	**115**	P	**P**	**18 03 23.3**	**-0.2**
GENI	**Genyem**	**12.77**	**115**	P	**Pn**	**18 03 22.8**	**+2.8**
MMRI	**Maumere**	**12.96**	**209**	P	**Pn**	**18 03 24.8**	**+2.4**
SOEI	**Soe**	**13.16**	**199**		**Pn**	**18 03 26.2**	**+1.3**
SOEI	**Soe**	**13.16**	**199**	P	**Pn**	**18 03 27.3**	**+2.4**
SOEI	**Soe**	**13.16**	**199**	P	**Pn**	**18 03 26.9**	**+2.0**
JAY	47nm,0.7s **Jayapura**	**13.23**	**113**	P	**Pn**	**18 03 27.2**	**+1.4**
JAY	85nm,0.8s,baz=242,slow=5.9,SNR=35 **Jayapura**	**13.23**	**113**	P	**P**	**18 03 30.4**	**+1.7**
TGY	89nm,0.7s,811nm **Tagaytay City**	**13.54**	**327**	P	**P**	**18 03 32.7**	**+0.6**
BATI	182nm,0.4s,baz=126,slow=3.4,SNR=4.1 **Baumata**	**13.78**	**201**	P	**Pn**	**18 03 33.9**	**+1.3**
BATI	38nm,0.4s,baz=10,slow=2.4,SNR=15 **Baumata**	**13.78**	**201**	P	**Pn**	**18 03 33.8**	**+1.2**
MTKI	55nm,0.6s **Muara Teweh, K**	**14.14**	**255**	P	**Pn**	**18 03 37.9**	**+0.8**
WSI	117nm,1.0s,2μm **Waingapu**	**14.85**	**214**	P	**Pn**	**18 03 46.6**	**+0.9**
DRS	77nm,1.2s **Darwin Rock St**	**15.28**	**171**	P	**Pn**	**18 03 50.7**	**-0.3**
WBSI	**Waikabubak, Su**	**15.34**	**216**	P	**Pn**	**18 03 51.3**	**-0.5**
	68nm,0.8s						
MTN	**Manton Dam**	**15.72**	**171**	P	**P**	**18 03 54.6**	**-1.6**
MTN	**Manton Dam**	**15.72**	**171**	P	**P**	**18 03 55.6**	**-0.6**
PLAI	**Plampang**	**15.75**	**223**	P	**P**	**18 03 58.3**	**+1.7**
PLAI	**Plampang**	**15.75**	**223**	P	**P**	**18 03 57.5**	**+0.9**
KDU	90nm,0.8s,1μm **Kakadu**	**15.84**	**166**	P	**P**	**18 03 57.5**	**0.0**
SBUM	**Sibu**	**16.32**	**269**		**P**	**18 04 03.5**	**+0.7**
SBUM	comp=Z,22nm,1.0s			IAmb	IAmb	18 04 08.1	
SBUM	**Sibu**	**16.32**	**269**	P	**P**	**18 04 04.7**	**+1.9**
SZP	**Santa**	**16.70**	**332**	P	**Pn**	**18 04 09.3**	**+1.3**
SRBI	**Singaraja**	**17.13**	**231**	P	**P**	**18 04 13.5**	**+1.8**
STKI	comp=Z,113nm,1.1s,comp=Z,910nm **Sintang**	**17.28**	**261**	P	**P**	**18 04 14.8**	**+1.4**
DNP	comp=Z,63nm,1.2s **Denpasar**	**17.50**	**229**	P	**P**	**18 04 17.1**	**+1.3**
KMMI	**Kalianget**	**17.52**	**236**	P	**P**	**18 04 18.3**	**+2.3**
ABJI	comp=Z,122nm,1.0s **Asem Bagus**	**17.73**	**234**	P	**P**	**18 04 19.7**	**+1.5**
JAGI	comp=Z,86nm,0.9s **Jajag, Banyuwa**	**18.19**	**232**	P	**P**	**18 04 24.4**	**+1.1**
JAGI				IAmb	IAmb	18 04 26.3	
JAGI	comp=Z,74nm,1.1s **Jajag, Banyuwa**	**18.19**	**232**	P	**P**	**18 04 24.7**	**+1.4**
JAGI	**Jajag, Banyuwa**	**18.19**	**232**	P	**P**	**18 04 24.4**	**+1.1**
BLJI	comp=Z,68nm,0.7s **Banyuglugur**	**18.22**	**235**	P	**P**	**18 04 24.9**	**+1.3**
KSM	comp=Z,67nm,1.1s **Kuching**	**18.28**	**266**	P	**P**	**18 04 25.2**	**+0.9**
KSM	**Kuching**	**18.28**	**266**	P	**P**	**18 04 26.5**	**+2.2**
KNRA	**Kununurra**	**18.33**	**179**	P	**P**	**18 04 24.3**	**-0.5**
GMJI	**Gumukmas**	**18.64**	**234**	P	**P**	**18 04 29.7**	**+1.6**
GRJI	comp=Z,90nm,1.2s **Gresik**	**18.71**	**239**	P	**P**	**18 04 29.9**	**+1.0**
TBJI	comp=Z,203nm,1.1s,comp=Z,2μm **Tambak Boyo**	**19.20**	**240**	P	**P**	**18 04 35.9**	**+1.6**
GUMO	**Guam**	**19.38**	**55**	P	**P**	**18 04 36.7**	**+0.5**
UWJI	comp=Z,69nm,0.8s,baz=190,slow=17,SNR=2.7 **Ujung Watu**	**19.81**	**243**	P	**P**	**18 04 42.2**	**+1.5**
NGJI	**Ngawi**	**19.81**	**239**	P	**P**	**18 04 42.3**	**+1.6**
PWJI	comp=Z,111nm,0.7s **Pagerwojo**	**19.85**	**237**	P	**P**	**18 04 40.7**	**-0.5**
PCJI	comp=Z,143nm,0.8s **Pacitan**	**20.47**	**238**	P	**P**	**18 04 48.5**	**+0.7**
FITZ	comp=Z,95nm,1.5s **Fitzroy Crossi**	**20.93**	**188**	P	**P**	**18 04 51.4**	**-1.3**
TWGBT	comp=Z,15nm,0.6s,baz=14,slow=7.2,SNR=43 **Beinan**	**21.20**	**341**	P	**P**	**18 04 56.6**	**+1.1**
TPI	comp=Z,15nm,0.6s **Tanjungpandan**	**21.60**	**255**	P	**P**	**18 04 59.1**	**-0.6**
YULB	comp=Z,38nm,0.9s **Yu-li**	**21.67**	**342**	P	**P**	**18 04 57.4**	**-2.9**
YULB				IAmb	IAmb	18 05 00.3	
TPUB	comp=Z,55nm,1.4s **Ta-pu**	**21.80**	**340**		**P**	**18 04 59.8**	**-1.8**
TPUB	**Ta-pu**	**21.80**	**340**	P	**P**	**18 05 02.4**	**+0.8**
KPJI	**Karang Pucung**	**22.00**	**243**	P	**P**	**18 05 04.0**	**+0.3**
COEN	comp=Z,78nm,0.8s **Coen**	**22.06**	**139**	P	**P**	**18 05 02.4**	**-1.8**
COEN	**Coen**	**22.06**	**139**	P	**P**	**18 05 03.5**	**-0.7**
PMG	**Port Moresby**	**22.14**	**123**	P	**P**	**18 05 02.6**	**-2.3**
PMG				IAmb	IAmb	18 05 18.2	
PMG	comp=Z,13nm,0.8s **Port Moresby**	**22.14**	**123**	P	**P**	**18 05 03.8**	**-1.1**
SSLB	comp=Z,7.1nm,0.7s,baz=340,slow=8.6,SNR=3.7 **Suanglung**	**22.15**	**341**	P	**P**	**18 05 03.5**	**-1.5**
SSLB	comp=Z,7.1nm,0.7s			IAmb	IAmb	18 05 05.6	
SSLB	comp=Z,24nm,0.7s **Suanglung**	**22.15**	**341**	P	**P**	**18 05 05.3**	**+0.3**
YHNB	**Yeheng**	**22.85**	**343**	P	**P**	**18 05 11.2**	**-0.2**
PPBI	**Pangkal Pinang**	**22.94**	**258**	P	**P**	**18 05 12.7**	**+0.4**
LEM	**Lembang**	**22.97**	**245**	P	**P**	**18 05 13.6**	**+0.9**
WB0	comp=Z,159nm,0.8s,comp=Z,2μm **Warramunga Arr**	**23.12**	**166**	P	**P**	**18 05 11.9**	**-1.9**
BBJI	**Bungbulang**	**23.20**	**244**	P	**P**	**18 05 14.4**	**-0.3**
WRA	**Warramunga Arr**	**23.28**	**166**	P	**P**	**18 05 14.0**	**-1.2**
WRA	comp=Z,43nm,1.0s,baz=348,slow=9.9,SNR=79			S	**S**	**18 09 09.6**	**-3.0**
WB2	comp=Z,0.8nm,0.8s,baz=345,slow=15,SNR=2.1 **Warramunga Arr**	**23.28**	**166**	P	**P**	**18 05 14.0**	**-1.3**
WB1	comp=Z,43nm,1.0s **Warramunga Ar.**	**23.29**	**166**	P	**P**	**18 05 14.6**	**

HNS				pmax	pmax		
	comp=Z,12nm,1.0s						
HTT	**Hallett**	**37.31**	**166**	P	**P**	**18 07 18.7**	**+0.3**
CMSA	**Cobar Meteorol**	**37.81**	**156**	P	**P**	**18 07 22.5**	**0.0**
BJT	**Baijiatuau**	**38.74**	**345**	P	**P**	**18 07 30.6**	**+0.5**
BJI	**Beijing**	**38.76**	**345**	P	**P**	**18 07 30.3**	**0.0**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,37nm,6.6s						
AUMBR	**Murray Bridge**	**39.03**	**166**	P	**P**	**18 07 32.8**	**+0.3**
ARMA	**Armidale**	**39.68**	**148**	P	**P**	**18 07 37.1**	**-1.1**
ARMA				IAmb	IAmb	18 07 38.7	
	comp=Z,12nm,0.7s						
LZH	**Lanzhou**	**40.26**	**328**	P	**P**	**18 07 44.3**	**+1.4**
LZH				pP	pP	18 08 34.3	+9.3
LZH				pmax	pmax		
	comp=Z,23nm,1.4s						
HHC	**Hu-ho-hao-te**	**40.89**	**340**	*e*P	**P**	**18 07 47.0**	**-1.0**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,77nm,4.8s						
ARPS	**Mount Arapiles**	**41.24**	**164**	P	**P**	**18 07 51.3**	**+0.6**
USRK	**Ussuriysk Ar.**	**41.37**	**4**	P	**P**	**18 07 51.6**	**0.0**
	comp=Z,2.2nm,0.8s,baz=190,slow=7.3,SNR=2.5						
	comp=Z,2.2nm,0.8s						
SHL	**Shillong**	**41.91**	**306**	P	**P**	**18 07 56.5**	**0.0**
SHL				IAmb	IAmb	18 07 57.4	
	comp=Z,17nm,0.6s						
TOO	**Toolangi**	**43.11**	**160**	P	**P**	**18 08 05.2**	**-0.7**
GTA	**Gaotai**	**44.86**	**328**	*e*P	**P**	**18 08 20.0**	**+0.1**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ULN	**Ulaanbaatar**	**48.60**	**341**	P	**P**	**18 08 48.6**	**-0.2**
SONM	**Songino Array**	**48.80**	**340**	P	**P**	**18 08 48.9**	**-1.3**
SONM	**Songino Array**	**48.80**	**340**	P	**P**	**18 08 50.1**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=154,slow=7.8,SNR=15						
	comp=Z,2.6nm,0.7s						
MSVF	**Nonsavu**	**52.86**	**115**	P	**P**	**18 09 22.3**	**+1.3**
WMQ	**Urumqi**	**54.55**	**324**	*e*P	**P**	**18 09 33.0**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
YAK	**Yakutsk**	**59.12**	**1**	P	**P**	**18 10 02.2**	**-2.2**
YAK				IAmb	IAmb	18 10 04.8	
	comp=Z,12nm,0.7s						
MKAR	**Makanchi Array**	**59.38**	**325**	P	**P**	**18 10 06.2**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=115,slow=8.4,SNR=26						
	comp=Z,2.0nm,0.6s						
WHZ	**Wether Hill Ro**	**59.69**	**149**	P	**P**	**18 10 07.4**	**-1.2**
WHZ				IAmb	IAmb	18 10 30.4	
	comp=Z,35nm,1.3s						
THZ	**Tophouse**	**59.84**	**143**	P	**P**	**18 10 09.1**	**-0.7**
THZ				IAmb	IAmb	18 10 31.2	
	comp=Z,41nm,1.3s						
KSH	**Kashi**	**60.01**	**315**	P	**P**	**18 10 12.3**	**+1.2**
KSH				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KDJ	**Kajisay**	**60.27**	**318**	P	**P**	**18 10 11.7**	**-1.3**
BKZ	**Black Stump Fm**	**60.66**	**139**	P	**P**	**18 10 13.4**	**-2.0**
BKZ				IAmb	IAmb	18 10 15.9	
	comp=Z,16nm,0.8s						
RTZ	**Ruatahuna**	**60.70**	**138**	P	**P**	**18 10 14.9**	**-0.8**
ZALV	**Zalesovo Beam**	**62.27**	**333**	P	**P**	**18 10 23.9**	**-2.0**
ZALV	**Zalesovo Beam**	**62.27**	**333**	P	**P**	**18 10 24.4**	**-1.4**
	comp=Z,1.6nm,0.7s,baz=108,slow=8.0,SNR=7.7						
	comp=Z,1.6nm,0.7s						
KURK	**Kurchatov**	**63.53**	**327**	P	**P**	**18 10 32.4**	**-1.8**
KURK				IAmb	IAmb	18 10 34.2	
	comp=Z,6.1nm,0.7s						
KURBB	**Kurchatov Arra**	**63.53**	**327**	P	**P**	**18 10 33.5**	**-0.7**
	comp=Z,3.8nm,0.6s,baz=126,slow=6.1,SNR=14						
	comp=Z,3.8nm,0.6s						
GAR	**Garm**	**63.91**	**312**	P	**P**	**18 10 35.8**	**-1.4**
GAR				IAmb	IAmb	18 10 37.7	
	comp=Z,11nm,1.1s						
KKAR	**Karatay Array**	**65.17**	**317**	P	**P**	**18 10 43.2**	**-1.9**
BVAR	**Borovoye Array**	**69.11**	**327**	P	**P**	**18 11 08.8**	**-0.9**
	comp=Z,4.2nm,0.9s,baz=119,slow=8.6,SNR=15						
	comp=Z,4.2nm,0.9s						
BRVK	**Borovoye**	**69.19**	**327**	P	**P**	**18 11 08.6**	**-1.5**
ABKAR	**Akbulak array**	**74.04**	**321**	P	**P**	**18 11 37.4**	**-1.7**
QSPA	**South Pole Qui**	**92.68**	**180**	P	**P**	**18 13 13.5**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=258,slow=1.1,SNR=13						
	comp=Z,1.6nm,0.9s						
AK07	**Malin Array Si**	**93.81**	**321**	P	**P**	**18 13 19.4**	**-0.3**
BAL3X	**Bal3x, Balta**	**93.95**	**318**	P	**P**	**18 13 19.8**	**-0.6**
MI28	**Mi28,Pidlybu**	**94.71**	**321**	P	**P**	**18 13 23.6**	**-0.2**
	comp=Z,50nm,0.8s						
LUBAR	**Lubar, Ukraine**	**94.84**	**320**	P	**P**	**18 13 24.1**	**-0.3**
ODBI	**Odobesti**	**96.03**	**316**	P	**P**	**18 13 30.1**	**+0.2**

*NNC **26** 18:12:57.4±2.5, 36°.95N×71°.06E, h157km±41km, mb3.1, mpv3.9, Error ellipse: s-maj=22.3km s-min=14.8km az=24.0*

ISC 26 18:12:58.3±3.0,**37°.0N**±0°.2×**70°.9E**±0°.1,**h150**km,**n10, σ1§74/14,3C-5D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.56**	**22**	P	**Pn**	**18 14 18.1**	**-1.5**
SNR=127							
EKS2	**Erkin-Say**	**6.08**	**20**	P	**Pn**	**18 14 25.2**	**-0.9**
SNR=12							
KK31	**Karatay Array**	**6.11**	**357**	⇓P	**Pn**	**18 14 25.9**	**-0.5**
6.1nm,0.3s,baz=176,slow=12,SNR=237							
KK31				S	**Sn**	**18 15 36.9**	**+1.6**
2.5nm,0.3s,baz=190,slow=26,SNR=6.2							
KBK	**Karagaybulak**	**6.46**	**28**	P	**Pn**	**18 14 34.1**	**+2.9**
SNR=6.2							
CHMS	**Chumysh**	**6.68**	**25**	⇓P	**Pn**	**18 14 33.4**	**-0.7**
2.6nm,0.6s							
CHMS				⇓S	**Sn**	**18 15 48.6**	**-0.6**
11nm,0.8s							
USP	**Ospenovka**	**6.84**	**23**	P	**Pn**	**18 14 35.1**	**-1.2**
SNR=9.6							
TKM2	**Tokmak 2**	**6.93**	**30**	P	**Pn**	**18 14 40.8**	**+3.3**
SNR=13							
TKM2	**Tokmak 2**	**6.93**	**30**	⇑P	**Pn**	**18 14 36.5**	**-1.1**
4.6nm,0.5s							
TKM2				⇑S	**Sn**	**18 15 54.4**	**-0.9**
4.7nm,0.8s							
AB31	**Akbulak array**	**14.61**	**330**	⇓P	**Pn**	**18 16 16.4**	**-1.3**
1.6nm,0.3s,baz=138,slow=12,SNR=106							
AB31				⇑S	**Sn**	**18 19 00.6**	**+0.8**
0.7nm,0.7s,baz=151,slow=24,SNR=4.8							
AKTO	**Aktyubinsk**	**16.31**	**329**	⇓P	**P**	**18 16 40.2**	**+1.3**
1.6nm,0.8s							

*TEH **26** 18:16:48.2, 34°.30N×45°.66E, h7km±27km, ML3.6*
*ISN **26** 18:16:49.3±1.2, 34°.31N×45°.54E, h23km±8km, ML3.5*

ISC 26 18:16:48.6±1.3,**34°29N**±0°.03×**45°62E**±0°.03,**h3**km±11km, **n25,σ0§71/33,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.22**	**353**	Pg	**Pg**	**18 16 52.7**	**-0.1**
KGS1				Sg	**Sg**	**18 16 56.5**	**+0.8**
GLG1	**Gilan-e-Gharb**	**0.30**	**126**	Pg	**Pg**	**18 16 54.4**	**0.0**
IDHR	**Dehrash**	**0.75**	**57**	Pg	**Pg**	**18 17 02.0**	**-1.1**
IDHR				Sg	**Sg**	**18 17 13.4**	**+0.5**
IGHG	**Ghaleghazi**	**0.79**	**87**	Pg	**Pg**	**18 17 03.3**	**-0.4**
IGHG				Sg	**Sb**	**18 17 15.2**	**-1.1**
ILBA	**Ilam Banvizeh**	**0.82**	**143**	Pg	**Pg**	**18 17 03.9**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.18**	**90**	Pg	**Pg**	**18 17 10.5**	**-0.7**
KCHF				Sg	**Sb**	**18 17 26.5**	**-1.0**
IBDR	**Badra**	**1.21**	**168**	*e*Pg	**Pg**	**18 17 12.0**	**+0.3**
IBDR				*e*Sg	**Sb**	**18 17 29.0**	**+0.9**
ILIN	**Lien**	**1.27**	**60**	Pg	**Pg**	**18 17 12.5**	**-0.6**
BHD	**Baghdad**	**1.45**	**226**	*e*Pn	**Pg**	**18 17 15.0**	**-0.8**
BHD				*e*Sn	**Sg**	**18 17 35.0**	**-0.2**
IKRK	**Kirkuk**	**1.53**	**317**	*e*Pn	**Pn**	**18 17 16.0**	**-0.9**
IKRK				*e*Sn	**Sn**	**18 17 37.0**	**-0.3**
IKRK				AML	AML	18 17 41.3	
	comp=E,680nm,0.4s						
IKRK				AML	AML	18 17 41.5	
	comp=N,773nm,0.1s						
SNQR	**Sonqor, Kerman**	**1.75**	**71**	Pg	**Pn**	**18 17 20.8**	**+0.6**
SDS1	**Sardasht. Az.**	**1.86**	**357**	Pn	**Pn**	**18 17 22.5**	**+0.9**
IKFM	**Kafar-mosalman**	**2.00**	**112**	Pn	**Pn**	**18 17 24.0**	**+0.7**
IDOB	**Doab**	**2.18**	**103**	Pn	**Pn**	**18 17 26.5**	**+0.4**
HSAM	**Samen**	**2.47**	**91**	Pn	**Pn**	**18 17 30.4**	**+0.3**
MAHB	**Mahabad**	**2.47**	**2**	Pn	**Pn**	**18 17 31.3**	**+1.3**
RAFI	**Al-Rafai**	**2.59**	**171**	*e*Pn	**Pn**	**18 17 32.0**	**+0.5**
RAFI				*e*Sn	**Sn**	**18 18 04.0**	**+0.5**
HAGD	**Aghdareh**	**2.95**	**79**	Pn	**Pn**	**18 17 37.2**	**+0.5**
IAZR	**Azarshahr**	**3.39**	**5**	Pn	**Pn**	**18 17 43.6**	**+0.8**
IHRS	**Heris**	**4.18**	**16**	Pn	**Pn**	**18 17 54.5**	**+0.9**
IMRD	**Marand**	**4.42**	**1**	Pn	**Pn**	**18 17 57.1**	**+0.4**
GRMI	**Germi**	**4.87**	**21**	Pn	**Pn**	**18 18 03.5**	**+0.6**
KRSH	**Karshahi**	**5.41**	**92**	Pn	**Pn**	**18 18 10.5**	**0.0**
ISFB	**Sefidab**	**5.48**	**87**	Pn	**Pn**	**18 18 11.3**	**0.0**
IZEF	**Zefreh**	**5.77**	**102**	Pn	**Pn**	**18 18 15.3**	**-0.1**

*IDC **26** 18:35:00.2±2.5, 40°.21N×144°.25E, h0km, mb3.6/6, mbtmp3.6/9, ML2.9/3, Error ellipse: s-maj=57.9km s-min=24.7km az=80.0*
*JMA **26** 18:35:02.9±0.4, 40°.3N±0°.7×14°.4E±°, h11km±4km, MV3.3/35, FAR E OFF SANRIKU*

ISC 26 18:35:03.8±1.4,**40°25N**±0°.06×**143°9E**±0°.1,**h16**km,**n23, σ1§44/28,mb3.5/6,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.61**	**259**	P	**Pn**	**18 35 29.9**	**-1.6**
JKEN	**Kujiedanarisaw**	**1.69**	**269**	P	**Pn**	**18 35 31.1**	**-1.6**
MIYJ	**Miyakonagasawa**	**1.75**	**248**	P	**Pn**	**18 35 32.7**	**-0.7**
MIYJ				*e*S	**Sn**	**18 35 54.3**	**-1.1**
JANG	**Nango**	**1.84**	**275**	*i* P	**Pn**	**18 35 33.2**	**-1.5**
JEM	**Erimo**	**1.85**	**342**	*e*P	**Pn**	**18 35 33.3**	**-1.5**
JEM				*e*S	**Sn**	**18 35 56.0**	**-2.0**
JOM	**Ohasama**	**2.17**	**250**	P	**Pn**	**18 35 38.9**	**-0.3**
JNBK	**Urakawa-nobuka**	**2.21**	**337**	*e*P	**Pn**	**18 35 39.2**	**-0.6**
JTM	**Tenmabayashi**	**2.24**	**285**	P	**Pn**	**18 35 39.5**	**-0.7**
JCH	**Churui**	**2.40**	**350**	P	**Pn**	**18 35 41.3**	**-1.1**
JCH				*e*S	**Sn**	**18 36 08.7**	**-2.7**
JOT	**Ohata**	**2.46**	**298**	*e*P	**Pn**	**18 35 42.3**	**-0.8**
JMK	**Ichinoseki**	**2.46**	**239**	P	**Pn**	**18 35 42.8**	**-0.3**
JAH	**Hinai**	**2.52**	**270**	P	**Pn**	**18 35 43.9**	**0.0**
JAH				*e*S	**Sn**	**18 36 13.8**	**-0.5**
JRG	**Rokugo**	**2.67**	**252**	P	**Pn**	**18 35 46.6**	**+0.5**
JYK	**Kaneyama**	**3.06**	**245**	P	**Pn**	**18 35 51.7**	**+0.3**
ASAJ	**Asahikawa**	**3.99**	**346**	Pn	**Pn**	**18 36 04.0**	**-0.2**
	0.6nm,0.3s,baz=196,slow=17,SNR=7.1						
ASAJ				Sn	**Sn**	**18 36 54.5**	**+4.0**
	0.7nm,0.3s,baz=6.1,slow=23,SNR=1.9						
	4.2nm,0.4s						
MJAR	**Matsushiro Arr**	**5.82**	**232**	Pn	**Pn**	**18 36 29.5**	**+0.1**
	0.1nm,0.3s,baz=40,slow=12,SNR=8.2						
	1.7nm,0.6s						
USRK	**Ussuriysk Ar.**	**9.69**	**298**	Pn	**Pn**	**18 37 24.8**	**+2.4**
	0.3nm,0.3s,baz=96,slow=13,SNR=5.4						
	3.8nm,0.7s						
SONM	**Songino Array**	**27.80**	**298**	P	**P**	**18 40 53.9**	**+1.8**
	0.4nm,0.6s,baz=94,slow=11,SNR=2.6						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**41.28**	**310**	P	**P**	**18 42 48.6**	**+0.5**
	0.5nm,0.5s,baz=114,slow=9.2,SNR=2.2						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**44.15**	**300**	P	**P**	**18 43 12.1**	**+0.6**
	1.3nm,0.9s,baz=85,slow=12,SNR=2.4						
	1.3nm,0.9s						
KURBB	**Kurchatov Arra**	**45.64**	**306**	P	**P**	**18 43 23.2**	**0.0**
	1.1nm,0.4s,baz=79,slow=8.5,SNR=7.3						
	1.1nm,0.4s						
BVAR	**Borovoye Array**	**49.91**	**311**	P	**P**	**18 43 56.7**	**+0.3**
	0.4nm,0.7s,baz=78,slow=7.8,SNR=2.0						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**60.54**	**190**	P	**P**	**18 45 12.5**	**-0.7**
	0.4nm,0.9s,baz=16,slow=4.3,SNR=1.6						
	0.4nm,0.9s						

*TRN **26** 18:35:27.1, 10°.77N×62°.45W, h57km, MD3.4, North of the Paria peninsula.*
*FUNV **26** 18:35:27.7, 10°.59N×62°.39W, h27km, MW3.9*

ISC 26 18:35:24.2±1.3,**10°67N**±0°.04×**62°40W**±0°.04, **h107**km±13km,**n27,σ1§81/51,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSQC	**Port of Spain**	**0.86**	**90**	*e*P	**Pn**	**18 35 44.3**	**+0.6**
PSQC				*e*S	**Sn**	**18 35 56.0**	**-2.4**
TRN	**Trinidad (W)**	**0.98**	**91**	*e*P	**Pn**	**18 35 45.8**	**+0.9**
TRN				*e*S	**Sn**	**18 35 58.4**	**-2.1**
TPP	**Pointe-a-Pierr**	**1.00**	**111**	*e*P	**Pn**	**18 35 46.1**	**+1.0**
TPP				*e*S	**Sn**	**18 36 01.2**	**+0.4**
TBH	**Brigand Hill**	**1.32**	**98**	*e*P	**Pn**	**18 35 51.7**	**+2.9**
TBH				*e*S	**Sn**	**18 36 08.1**	**+0.7**
GRFF	**Grenada Fort F**	**1.51**	**25**	*e*P	**Pn**	**18 35 51.6**	**+0.5**
GRFF				*e*S	**Sn**	**18 36 09.1**	**-2.2**
GRGR	**Grenville**	**1.62**	**27**	*e*P	**Pn**	**18 35 52.6**	**+0.2**
GRGR				*e*S	**Sn**	**18 36 12.5**	**-1.3**
GRW	**Mount Saint Ca**	**1.64**	**26**	*e*P	**Pn**	**18 35 53.4**	**+0.7**
GRW				*e*S	**Sn**	**18 36 12.1**	**-2.2**
TPR	**Prospect**	**1.67**	**72**	*e*P	**Pn**	**18 35 55.7**	**+2.8**
TPR				*e*S	**Sn**	**18 36 14.5**	**-0.3**
GRHS	**Sauteurs**	**1.71**	**26**	*e*P	**Pn**	**18 35 54.4**	**+0.9**
GRHS				*e*S	**Sn**	**18 36 13.4**	**-2.2**
CUMV	**Cumana_UDO**	**1.78**	**262**	*e*P	**Pn**	**18 35 56.6**	**+2.2**
GRSS	**Sisters**	**1.79**	**25**	*e*P	**Pn**	**18 35 55.1**	**+0.7**
GRSS				*e*S	**Sn**	**18 36 16.3**	**-1.1**
TOSP	**Speyside**	**1.93**	**71**	*e*P	**Pn**	**18 35 57.0**	**+0.9**
TOSP				*e*S	**Sn**	**18 36 20.7**	**+0.2**
GCMP	**Grenada, Carri**	**2.04**	**28**	*e*P	**Pn**	**18 35 58.0**	**+0.4**
GCMP				*e*S	**Sn**	**18 36 21.3**	**-1.7**
PCRV	**Puerto La Cruz**	**2.26**	**258**	*e*P	**Pn**	**18 36 02.1**	**+1.6**
PCRV				*e*S	**Sn**	**18 36 26.6**	**-1.5**
PCRV	**Puerto La Cruz**	**2.26**	**258**	*e*P	**Pn**	**18 36 02.5**	**+2.1**
PCRV				*e*S	**Sn**	**18 36 27.5**	**-0.7**
SLAC	**Saint Lucia, A**	**3.52**	**24**	*e*S	**Sn**	**18 36 56.7**	**-1.4**
SLBI	**Saint Lucia, B**	**3.61**	**23**	*e*P	**Pn**	**18 36 19.8**	**+1.5**
SLBI				*e*S	**Sn**	**18 36 58.8**	**-1.2**
BIM	**Bigot**	**4.03**	**19**	*e*P	**Pn**	**18 36 25.4**	**+1.4**
BIM				*e*S	**Sn**	**18 37 09.4**	**-1.0**
MERV	**Las Mercedes**	**4.09**	**250**	*e*P	**Pn**	**18 36 26.7**	**+1.9**
MERV				*e*S	**Sn**	**18 37 11.2**	**-0.6**
TACV	**Tcata**	**4.58**	**264**	*e*P	**Pn**	**18 36 34.6**	**+3.1**
TACV				*e*S	**Sn**	**18 37 25.0**	**+1.2**
LUEV	**Luepa**	**4.89**	**169**	*e*P	**Pn**	**18 36 37.0**	**+1.2**
LUEV				*e*S	**Sn**	**18 37 27.9**	**-3.4**
CACV	**CAICARA DEL OR**	**5.13**	**233**	*e*P	**Pn**	**18 36 35.5**	**-3.2**
CACV				*e*S	Sn	18 37 25.5	-11
BENV	**Beln**	**5.17**	**263**	*e*P	**Pn**	**18 36 41.2**	**+1.9**
BENV				*e*S	**Sn**	**18 37 35.5**	**-2.3**
TURV	**Turiamo**	**5.36**	**268**	*e*P	**Pn**	**18 36 44.2**	**+2.3**
TURV				*e*S	**Sn**	**18 37 40.6**	**-1.8**
BAUV	**El Baul**	**5.82**	**253**	*e*P	**Pn**	**18 36 49.4**	**+1.2**
BAUV				*e*S	**Sn**	**18 37 50.9**	**-2.8**
BAUV	**El Baul**	**5.82**	**253**	*e*P	**Pn**	**18 36 50.0**	**+1.8**
BAUV				*e*S	**Sn**	**18 37 53.1**	**-0.6**
MAPV	**Macapo**	**6.02**	**263**	*e*P	**Pn**	**18 36 52.5**	**+1.5**
MAPV				*e*S	**Sn**	**18 37 56.3**	**-2.3**

*TEH **26** 18:42:57.6, 34°.38N×45°.65E, h9km±13km, ML3.1*
*ISN **26** 18:42:57.9±1.4, 34°.41N×45°.58E, h20km±10km, ML3.0*

ISC 26 18:42:57.8±1.1,**34°37N**±0°.03×**45°60E**±0°.03,**h6**km±12km, **n17,σ0§90/23,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.14**	**357**	Pg	**Pg**	**18 43 00.8**	**+0.2**
GLG1	**Gilan-e-Gharb**	**0.36**	**135**	Pg	**Pg**	**18 43 04.9**	**+0.1**
IDHR	**Dehrash**	**0.73**	**63**	Pg	**Pg**	**18 43 10.8**	**-1.0**
IGHG	**Ghaleghazi**	**0.80**	**93**	Pg	**Pg**	**18 43 12.8**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.90**	**146**	Pg	**Pg**	**18 43 14.5**	**-1.4**
KCHF	**Cheshme Sefid,**	**1.20**	**94**	Pg	**Pb**	**18 43 20.1**	**-0.9**
KCHF				Sg	**Sg**	**18 43 36.9**	**+0.7**
ILIN	**Lien**	**1.25**	**64**	Pg	**Pb**	**18 43 21.1**	**-0.9**
ILIN				Sg	**Sg**	**18 43 38.8**	**+0.8**
IBDR	**Badra**	**1.29**	**168**	*e*Pg	**Pb**	**18 43 22.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**18 43 40.0**	**+0.9**
IKRK	**Kirkuk**	**1.46**	**315**	*e*Pn	**Pb**	**18 43 24.0**	**-1.4**
IKRK				*e*Sn	**Sg**	**18 43 45.0**	**+0.4**
IKRK				AML	AML	18 43 55.4	
	comp=N,284nm,0.3s						
IKRK				AML	AML	18 43 57.6	
	comp=E,213nm,0.4s						
BHD	**Baghdad**	**1.49**	**223**	*e*Pn	**Pn**	**18 43 25.0**	**-0.2**
BHD				*e*Sn	**Sg**	**18 43 46.0**	**+0.2**
SNQR	**Sonqor, Kerman**	**1.74**	**73**	Pg	**Pb**	**18 43 29.0**	**-1.4**
SDS1	**Sardasht. Az.**	**1.78**	**357**	Pg	**Pb**	**18 43 30.5**	**-0.4**
IKFM	**Kafar-mosalman**	**2.05**	**114**	Pn	**Pb**	**18 43 34.1**	**-1.3**
HSAM	**Samen**	**2.49**	**93**	Pn	**Pn**	**18 43 39.9**	**+0.7**
RAFI	**Al-Rafai**	**2.67**	**171**	*e*Pn	**Pn**	**18 43 42.0**	**+0.6**
RAFI				*e*Sn	**Sn**	**18 44 15.0**	**+0.8**
HAGD	**Aghdareh**	**2.96**	**80**	Pn	**Pn**	**18 43 46.3**	**+0.7**
IAZR	**Azarshahr**	**3.32**	**5**	Pn	**Pn**	**18 43 51.4**	**+0.9**

*TEH **26** 18:45:36.3, 34°.29N×45°.63E, h9km±83km, ML2.8*
*ISN **26** 18:45:37.3±1.2, 34°.31N×45°.54E, h23km±8km, ML3.0*

ISC 26 18:45:36.7±1.0,**34°31N**±0°.03×**45°61E**±0°.04,**h11**km±9km, **n12,σ0§85/19,Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**356**	Pg	**Pg**	**18 45 41.0**	**0.0**
KGS1				Sg	**Sg**	**18 45 45.0**	**+1.1**
GLG1	**Gilan-e-Gharb**	**0.32**	**128**	Pg	**Pg**	**18 45 42.6**	**-0.6**
IDHR	**Dehrash**	**0.75**	**59**	Pg	**Pg**	**18 45 50.2**	**-1.1**
IDHR				Sg	**Sg**	**18 46 01.7**	**+0.5**
IGHG	**Ghaleghazi**	**0.80**	**88**	Pg	**Pg**	**18 45 52.2**	**0.0**
IGHG				Sg	**Sb**	**18 46 03.9**	**+0.3**
ILBA	**Ilam Banvizeh**	**0.85**	**144**	Pg	**Pb**	**18 45 52.0**	**-1.4**
KCHF	**Cheshme Sefid,**	**1.19**	**91**	Pg	**Pn**	**18 45 58.9**	**-0.5**
IBDR	**Badra**	**1.23**	**167**	*e*Pg	**Pg**	**18 46 00.0**	**-0.2**
IBDR				*e*Sg	**Sg**	**18 46 17.0**	**+0.8**
ILIN	**Lien**	**1.27**	**61**	Pg	**Pn**	**18 46 00.7**	**0.0**
BHD	**Baghdad**	**1.45**	**225**	*e*Pn	**Pb**	**18 46 03.0**	**-0.8**
BHD				*e*Sn	**Sg**	**18 46 23.0**	**-0.5**
IKRK	**Kirkuk**	**1.51**	**317**	*e*Pn	**Pb**	**18 46 04.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**18 46 25.0**	**-0.2**
IKRK				AML	AML	18 46 29.4	
	comp=N,239nm,0.5s						
IKRK				AML	AML	18 46 29.5	
	comp=E,239nm,0.4s						
SNQR	**Sonqor, Kerman**	**1.76**	**71**	Pg	**Pb**	**18 46 09.1**	**0.0**
RAFI	**Al-Rafai**	**2.61**	**170**	*e*Pn	**Pb**	**18 46 20.0**	**+1.2**
RAFI				*e*Sn	**Sn**	**18 46 52.0**	**+1.4**

RSNC 26 18:57:43.9±0.0,**13°N**±2°×**8°1W**±°,**h1**km±2km,**M3.0,mb3.9, ML3.0,Caribbean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.28**	**299**	P	Pb	18 57 50.7	-1.1
PRVC				S	Sb	18 57 55.4	-1.6
SAIC	**Isla e San And**	**0.91**	**220**	P	Pb	18 58 02.0	-0.5
SAIC				S	Sb	18 58 15.9	+0.7
RNCC	**Cayo Roncador,**	**1.05**	**71**	P	Pg	18 58 03.5	-0.5
RNCC				S	Sb	18 58 18.7	-0.3
SERC	**Banco Serrana,**	**1.27**	**35**	P	Pg	18 58 07.2	-1.0
SERC				S	Sb	18 58 25.1	-0.3
BCIP	**Isla Barro Col**	**4.24**	**163**	P	Pn	18 58 47.6	-2.0
BCIP				S	Sn	18 59 34.8	-5.0
JTS	**Las Juntas de**	**4.77**	**232**	P	Pn	18 58 57.6	+0.6
SJCC	**San Jacinto, C**	**6.69**	**119**	P	Pn	18 59 20.3	-3.2
SJCC				S	Sn	19 00 34.0	-6.5

*AEIC **26** 19:27:14.9±0.6, 53°.11N±0°.05×164°.55W±0°.09, h25km±4km, Error ellipse: s-maj=9.2km s-min=4.3km az=51.0*

NEIC 26 19:27:13.8±0.4,**53°07N**±0°.03×**164°44W**±0°.09, **h28**km±12km,**ML2.6**(AEIC),**Error ellipse: s-maj=7.7km s-min=2.7km az=71.0,Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**1.31**	**326**		Pn	19 27 35.7	-0.4
AKSA					Sn	19 27 52.0	-0.6
AHB	**Akutan Harbor**	**1.33**	**323**		Pn	19 27 36.5	-0.1
AHB					Sb	19 27 54.8	0.0
AKBBA	**Akutan Broad B**	**1.36**	**320**		Pn	19 27 36.9	-0.1
AKBBA					Sn	19 27 54.2	+0.1
ZRO	**Akutan Zero**	**1.38**	**319**		Pn	19 27 37.0	-0.1
ZRO					Sn	19 27 54.5	+0.1
AKMO	**Akutan Morgan**	**1.39**	**318**		Pn	19 27 37.3	0.0
A

PNIG	Pinotepa	2.86	273	eP	Pn	19 33 43.9	+1.4
PNIG				i S	Sn	19 34 17.3	-0.3
CCIG	Comitan	2.89	89		Pn	19 33 43.4	+0.4
CCIG	Comitan	2.89	89	eP	Pb	19 33 48.1	-0.2
CCIG				eS	Sb	19 34 24.5	+0.3
HLIG	Huajuapan de L	2.98	302	eP	Pb	19 33 49.3	-0.6
HLIG				eS	Sb	19 34 25.0	-1.8
TPIG	Tehuac#an	3.02	316	eP	Pb	19 33 50.4	0.0
TPIG				eS	Sb	19 34 27.0	-0.8
FTIG	Fresnillo de T	3.29	300	eP	Pb	19 33 54.1	-0.9
FTIG				eS	Sb	19 34 33.8	-1.8
MGIG	Malinaltepec	3.48	287	eP	Pb	19 33 56.0	-2.2
MGIG				eS	Sb	19 34 40.9	-0.1
TLIG	Tlapa	3.52	292	Pn	Pn	19 33 49.8	-1.9
TLIG	Tlapa	3.52	292	eP	Pn	19 33 54.6	+2.9
TLIG				i S	Sb	19 34 42.7	+0.5
HUEH	Huehuetenango	3.63	104	Pn	Pn	19 33 50.9	-2.4
RTAL	Retalhuleu	3.75	117		Pn	19 33 53.1	-1.6
CRIG	Cruz Grande	3.85	278	eP	Pb	19 34 02.2	-2.3
CRIG				eS	Sb	19 34 49.3	-2.3
PPM	Popocatepetl	4.34	311	eP	Pb	19 34 11.1	-2.0
PPM				eS	Sb	19 35 09.6	+3.5
SCIG	Sabancuy	4.64	54	eP	Pn	19 34 09.3	+2.3
SCIG				eS	Sn	19 35 00.2	-1.3
PETF	Flores	5.11	82	Pn	Pn	19 34 12.4	-1.0
ESQI	Esquipulas	5.85	106	Pn	Pn	19 34 21.6	-2.1
MTO3	Montecristo	5.88	107	Pn	Pn	19 34 20.9	-3.3
TEIG	Tepich	7.63	58	Pn	Pn	19 34 49.4	+1.4
435B	Jarrell	14.63	352	Pn	Pn	19 36 24.5	+0.6
JCT	Junction City	14.79	344		Pn	19 36 28.5	+2.5
TX31	Lajitas Ar. Si	15.19	330	Pn	Pn	19 36 30.1	-1.5
TXAR	Lajitas Array	15.19	330	Pn	Pn	19 36 30.0	-1.6
TXAR	Lajitas Array	15.19	330	Pn	P	19 36 38.8	+2.0
	0.1nm,0.3s,baz=153,slow=12,SNR=6.9						
	1.3nm,0.9s						
BRDY	Brady	15.37	347	Pn	Pn	19 36 33.8	0.0
BRDY				IAmb	IAmb	19 36 44.7	
	comp=Z,12nm,1.2s						
OZNA	Ozona	15.59	341		Pn	19 36 35.6	-1.2
OZNA				IAmb	IAmb	19 36 47.5	
	comp=Z,10.0nm,0.8s						
WHTX	Lake Whitney,	15.81	353		P	19 36 41.8	-1.7
WHTX				IAmb	IAmb	19 36 47.9	
	comp=Z,13nm,0.6s						
ALPN	Alpine	16.06	333		Pn	19 36 43.5	+0.5
FW13	Cleburne	16.16	353		P	19 36 48.3	+0.8
LPIG	La Paz	16.22	301	LR	LR	19 42 45.4	
	comp=Z,53nm,21.3s,baz=227,slow=35						
MNHN	Monahans	16.54	337		Pn	19 36 47.1	-1.9
MNHN				IAmb	IAmb	19 36 58.4	
	comp=Z,16nm,0.7s						
PLPT	Palo Pinto	16.73	351	Pn	Pn	19 36 49.9	-1.5
PLPT				IAmb	IAmb	19 37 00.0	
	comp=Z,20nm,1.1s						
ABTX	Abilene, Hawle	16.80	347	Pn	Pn	19 36 51.0	-1.2
ABTX				IAmb	IAmb	19 37 00.8	
	comp=Z,24nm,1.2s						
FW03	Perrin-Whitt E	16.92	352	P	P	19 36 55.1	-0.8
FW03				IAmb	IAmb	19 37 01.6	
	comp=Z,13nm,0.7s						
PECS	Pecos	17.02	334	P	Pn	19 36 55.4	+0.3
VHRN	Van Horn	17.03	330		P	19 36 56.4	-0.8
ODSA	Odessa	17.17	338	Pn	Pn	19 36 56.2	-0.8
ODSA				IAmb	IAmb	19 37 04.8	
	comp=Z,10nm,0.9s						
SN05	Snyder 5	17.35	344		Pn	19 36 58.2	-1.0
SN07	Snyder 07	17.55	344		P	19 37 02.7	-0.2
APMT	Aspermont	17.58	346	P	P	19 37 03.1	-0.1
POST	Post	17.70	342		P	19 37 05.0	+0.5
LOOK	Love County	17.76	354		Pn	19 37 02.6	-1.6
DKNS	Dickens	18.10	344	P	Pn	19 37 08.0	-0.6
DKNS				IAmb	IAmb	19 37 14.6	
	comp=Z,10nm,0.8s						
X34A	Smith Ranch, M	18.43	353		P	19 37 13.6	+1.1
W35A	Tecumseh	18.88	356	P	Pn	19 37 18.4	+0.4
W35A				IAmb	IAmb	19 37 25.3	
	comp=Z,12nm,0.8s						
SMWD	Samnorwood	19.32	347	P	P	19 37 21.9	-0.4
AMTX	Amarillo	19.45	344	P	P	19 37 23.9	+0.1
AMTX				IAmb	IAmb	19 37 32.5	
	comp=Z,6.8nm,0.7s						
319A	Douglas	19.81	322	P	P	19 37 27.1	-0.7
319A				IAmb	IAmb	19 37 36.1	
	comp=Z,13nm,1.1s						
121A	Cookes Peak, D	19.85	327		P	19 37 28.6	+0.3
121A				IAmb	IAmb	19 37 37.6	
	comp=Z,7.7nm,0.9s						
DUN6	Lazy B Ranch	20.57	325	P	P	19 37 32.7	-3.3
BNM	Barren Site	20.59	332	P	P	19 37 33.9	-2.6
T42A	Van Buren	21.00	9	P	P	19 37 40.9	+0.3
T42A				IAmb	IAmb	19 37 45.8	
	comp=Z,6.5nm,0.9s						
ANMO	Albuquerque	21.19	334	P	P	19 37 47.2	+4.3
	comp=Z,0.9nm,0.6s,baz=95,slow=12,SNR=2.2						
	comp=Z,0.9nm,0.6s						
RTBA	Rita Blanca	21.20	343	P	P	19 37 41.9	-1.0
RTBA				IAmb	IAmb	19 37 48.1	
	comp=Z,7.5nm,0.8s						
T25A	Trinidad	22.36	340	P	P	19 37 53.6	-1.8
T25A				IAmb	IAmb	19 38 04.2	
	comp=Z,8.1nm,1.1s						
SDV	Santo Domingo	25.00	104	LR	LR	19 48 11.0	
	comp=Z,41nm,19.3s,baz=66,slow=38						
PFO	Pinyon Flats O	25.84	316	LR	LR	19 48 45.2	
	comp=Z,68nm,21.4s,baz=162,slow=36						
PDAR	Pinedale Array	29.16	338	P	P	19 39 01.3	+2.7
	comp=Z,0.5nm,0.8s,baz=163,slow=12,SNR=3.7						
	comp=Z,0.5nm,0.8s						
NV11	Mina Array Sit	29.94	322	P	P	19 39 00.5	-5.0
NV11				IAmb	IAmb	19 39 12.1	
	comp=Z,4.0nm,1.1s						
NVAR	Mina Array Bea	30.02	322	P	P	19 39 02.8	-3.6
NVAR	Mina Array Bea	30.02	322	P	P	19 39 10.6	+4.2
	comp=Z,3.8nm,0.8s,baz=137,slow=9.3,SNR=17						
	comp=Z,3.8nm,0.8s						
J08A	Circle Bar Ran	33.53	328	P	P	19 39 37.0	0.0
PLID	Pearl Lake	33.67	333	P	P	19 39 38.6	+0.2
PLID				IAmb	IAmb	19 40 18.2	
	comp=Z,4.2nm,1.4s						
RPN	Rapa Nui	45.27	198	LR	LR	19 55 55.5	
	comp=Z,25nm,20.7s,baz=52,slow=30						
YKA	Yellowknife Ar	48.17	348	P	P	19 41 38.6	+1.3
	comp=Z,1.5nm,0.7s,baz=153,slow=7.2,SNR=7.7						
	comp=Z,1.5nm,0.7s						
CPUP	Villa Florida	56.07	138	LR	LR	20 05 30.7	
	comp=Z,22nm,18.1s,baz=58,slow=35						

*KNET **26** 19:37:13.5±0.8, 42°.11N×75°.23E, h0km, ml1.4, Error ellipse: s-maj=5.8km s-min=3.7km az=166.0*
*SOME **26** 19:37:14.1, 42°.12N×75°.23E, h10km*
*NNC **26** 19:37:19.8±1.9, 42°.31N×75°.21E, h0km, mb2.7, mpv2.5, Error ellipse: s-maj=11.3km s-min=6.4km az=179.0*

ISC 26 19:37:13.9±1.3, 42°.05N±0°.05×75°.24E±0°.02, h12km±10km, n31, σ1°52/55, 10C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBK	Karagaybulak	0.64	340	⇓P	Pb	19 37 26.7	-0.4
KBK	9.9nm,0.1s,SNR=6.2						
				⇑S	Sb	19 37 35.0	-1.0
	131nm,0.1s						
ULHL	Ulahol	0.77	75	⇑P	Pg	19 37 28.1	-0.7
ULHL	1.9nm,0.1s,SNR=31						
				⇑S	Sg	19 37 38.0	-1.0
	8.2nm,0.2s						
TKM2	Tokmak 2	0.91	17	⇓P	Pb	19 37 30.8	-0.8
TKM2	1.9nm,0.1s,SNR=36						
				⇑S	Sb	19 37 42.6	-1.1
	12nm,0.1s						
TKM2	Tokmak 2	0.91	17	⇓P	Pb	19 37 31.1	-0.6
TKM2	0.3nm,0.2s						
				⇓S	Sb	19 37 42.7	-1.1
	3.6nm,0.3s						
CHMS	Chumysh	1.01	339	⇓P	Pn	19 37 33.2	-0.7
CHMS	1.5nm,0.1s,SNR=6.4						
				⇑S	Sn	19 37 46.3	-1.7
	19nm,0.2s						
CHMS	Chumysh	1.01	339	⇑P	Pn	19 37 33.1	-0.7
CHMS	0.5nm,0.3s						
				⇓S	Sb	19 37 46.2	-0.4
	5.0nm,0.2s						
KST	Kastek	1.12	28	P	Pn	19 37 39.1	+3.6
	0.7nm,0.1s						
KST				S	Sn	19 37 49.6	-1.4
	7.4nm,0.2s						
KST	Kastek	1.12	28	eP	Pg	19 37 34.8	-0.8
	0.6nm,0.1s						
KST				eS	Sb	19 37 49.3	-0.6
	7.4nm,0.1s						
AML	Almayashu	1.15	274	⇑P	Pn	19 37 36.5	+0.3
	1.5nm,0.1s,SNR=8.3						
AML				⇑S	Sb	19 37 51.4	+0.5
	7.8nm,0.3s						
EKS2	Erkin-Say	1.24	300	⇓P	Pg	19 37 38.2	+0.4
	0.9nm,0.1s,SNR=6.9						
EKS2				⇑S	Sn	19 37 54.7	+0.9
	3.9nm,0.2s						
DGS	Degeres	1.25	18	P	Pg	19 37 41.0	+3.0
	1.0nm,0.1s						
DGS				S	Sg	19 37 52.5	-1.8
	3.1nm,0.2s						
DGS	Degeres	1.25	18	eP	Pg	19 37 37.4	-0.6
	1.7nm,0.1s						
DGS				eS	Sn	19 37 53.9	-0.2
	2.4nm,0.1s						
USP	Ospenovka	1.33	336	⇓P	Pg	19 37 38.8	-0.6
	1.4nm,0.1s,SNR=11						
USP				⇑S	Sn	19 37 56.0	+0.1
	4.5nm,0.1s						
MTBS	Maitube	1.39	39	P	Pg	19 37 43.9	+3.3
	1.4nm,0.1s						
MTBS				S	Sg	19 37 57.8	-0.8
	3.5nm,0.3s						
MTBS	Maitube	1.39	39	eP	Pg	19 37 39.7	-0.9
	0.5nm,0.0s						
MTBS				eS	Sg	19 37 57.6	-1.0
	4.9nm,0.2s						
SGDS	Sogindy	1.47	342	P	Pg	19 37 45.5	+3.4
	0.8nm,0.1s						
SGDS				S	Sg	19 38 00.3	-0.9
	4.6nm,0.1s						
TNSS	Tian-Shan	1.60	52	P	Pg	19 37 49.3	+4.7
	0.8nm,0.2s						
TNSS				S	Sg	19 38 07.0	+1.5
	1.7nm,0.3s						
TNSS	Tian-Shan	1.60	52	eP	Pg	19 37 44.5	-0.1
	0.9nm,0.2s						
TNSS				eS	Sg	19 38 06.1	+0.6
	1.5nm,0.3s						
MRKS	Merke	1.64	296	P	Pg	19 37 50.0	+4.6
	0.9nm,0.2s						
MRKS				S	Sg	19 38 08.1	+1.3
	3.7nm,0.3s						
MRKS	Merke	1.64	296	eP	Pg	19 37 44.7	-0.7
	0.3nm,0.0s						
MRKS				eS	Sg	19 38 06.6	-0.2
	3.3nm,0.1s						
MDOK	Medeo	1.74	50	Pg	Pg	19 37 52.7	+5.5
	0.7nm,0.1s						
MDOK				Lg	Lg	19 38 13.2	
	2.5nm,0.3s						
MDOK	Medeo	1.74	50	eP	Pg	19 37 47.2	-0.1
	0.9nm,0.3s						
MDOK				eS	Sg	19 38 11.1	+1.3
	2.7nm,0.3s						
KOTS	Kotyrbulak	1.82	49	eP	Pg	19 37 48.3	-0.5
	1.5nm,0.3s						
KOTS				eS	Sg	19 38 13.0	+0.6
	9.0nm,0.3s						
KTBS	Karatobe	1.97	32	eP	Pb	19 37 50.0	+0.3
	0.8nm,0.1s						
KTBS				eS	Sg	19 38 15.4	-1.8
	11nm,0.3s						
CHKK	Chushkaly	2.21	35	P	Pg	19 37 59.8	+3.5
	1.7nm,0.1s						
CHKK				S	Sg	19 38 24.8	-0.1
	8.3nm,0.1s						
SATY	Saty	2.55	66	eP	Pg	19 38 01.2	-1.5
	0.3nm,0.1s						
SATY				eS	Sg	19 38 34.8	-0.9
	5.1nm,0.1s						
ARXS	Arharly	2.87	40	Pg	Pg	19 38 11.0	+2.1
	1.1nm,0.1s						
ARXS				Lg	Lg	19 38 44.0	
	3.2nm,0.3s						
ARXS	Arharly	2.87	40	eP	Pb	19 38 06.2	+1.1
	0.5nm,0.1s						
ARXS				eS	Sg	19 38 43.4	-2.7
	3.2nm,0.2s						
BTLS	Baital	3.11	344	Pg	Pg	19 38 14.1	+0.6
	1.1nm,0.4s						
BTLS				Lg	Lg	19 38 49.3	
	3.6nm,0.5s						
BTLS	Baital	3.11	344	eP	Pb	19 38 10.2	+1.2
	0.2nm,0.1s						
BTLS				eS	Sg	19 38 50.5	-3.2
	2.8nm,0.1s						
KK31	Karatay Array	3.65	288	⇓Pg	Pg	19 38 24.0	+0.3
	0.3nm,0.6s,baz=106,slow=16,SNR=4.6						
KK31				⇓Lg	Lg	19 39 12.3	
	0.6nm,0.5s,baz=103,slow=29,SNR=6.7						

*MDD **26** 19:55:45.7±1.1, 37°.66N×16°.06W, h0km, Mb4.6/9, M_mb4.0/9, Error ellipse: s-maj=8.3km s-min=7.8km az=39.0*
*IGIL **26** 19:55:46.0, 37°.26N×16°.28W, h20km, ML2.5*
*INMG **26** 19:55:49.3±2.1, 37°.26N×16°.29W, h16km, ML2.7, Error ellipse: s-maj=10.9km s-min=4.4km az=125.0*
*CNRM **26** 19:55:50.8, 36°.97N×15°.74W, h28km, ML4.2*

ISC 26 19:55:43.1±1.9, 37°.36N±0°.07×16°.0W±0°.1, h10km, n64, σ3°21/96, 9C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPST	Porto Santo, M	4.28	184	eP	Pn	19 56 49.7	+1.4
PMPST				eS	Sn	19 57 32.8	-5.5
PMPS	Porto Santo	4.30	184	eP	Pn	19 56 47.3	-1.3
PMPS				eS	Sn	19 57 31.1	-7.7
PMOZ	Porto Moniz, M	4.63	193	eS	Sn	19 57 37.6	-10
PMOZ	Porto Moniz, M	4.63	193	Sn	Sn	19 57 41.5	-5.6
PMOZ	Porto Moniz, M	4.63	193	P	Pn	19 56 54.4	+1.2
PMOZ	Porto Moniz, M	4.63	193	S	Sn	19 57 45.7	-1.4
PMAFR	Mafra	5.51	71	eP	Pn	19 57 08.9	+3.7
PMAFR				eS	Sn	19 58 09.0	+0.3
PMAFR				A	A	19 58 12.2	
	16nm,0.6s						
PMAFR	Mafra	5.51	71	Pn	Pn	19 57 08.3	+3.1
PMAFR				Sn	Sn	19 58 07.1	-1.6
PFVI	Vila Bisbo	5.71	90	eP	Pn	19 57 11.3	+3.3
PFVI				eS	Sn	19 58 12.9	-0.7
PFVI				A	A	19 58 22.6	
	6.0nm,0.3s						
PFVI	Vila Bisbo	5.71	90	P	Pn	19 57 10.8	+2.8
PFVI	Vila Bisbo	5.71	90	S	Sn	19 58 15.2	+1.6
PTEO	Sao Teotonio	5.78	86	eP	Pn	19 57 11.7	+2.9
PTEO				eS	Sn	19 58 13.8	-1.4
MORF	Marmelete	5.84	88	eP	Pn	19 57 12.8	+3.0
MORF				eS	Sn	19 58 15.8	-1.0
MORF				A	A	19 58 20.0	
	4.0nm,0.2s						
MORF	Marmelete	5.84	88	eP	Pn	19 57 12.7	+3.0
PSBE	So Bento	6.04	67	eP	Pn	19 57 16.9	+4.5
PSBE				eS	Sn	19 58 21.6	0.0
MESJ	Messejana	6.18	83	eP	Pn	19 57 18.3	+3.9
MESJ				eS	Sn	19 58 24.3	-0.8
MESJ				A	A	19 58 28.7	
	3.4nm,0.2s						
MESJ	Messejana	6.18	83	eS	Sn	19 58 24.1	-1.1
MESJ				IAML		19 58 26.6	
	comp=N,4.3nm,0.3s						
PMTG	Montargil	6.34	72	eP	Pn	19 57 19.6	+3.0
PMTG				eS	Sn	19 58 27.9	-1.2
PMTG				A	A	19 58 34.8	
	comp=N,2.9nm,0.5s						
EVO	Evora	6.41	77	eP	Pn	19 57 22.0	+4.5
EVO				eS	Sn	19 58 29.4	-1.3
EVO				A	A	19 58 34.1	
	comp=N,4.6nm,0.3s						
EVO	Evora	6.41	77	Pn	Pn	19 57 20.0	+2.5
EVO				Sn	Sn	19 58 28.3	-2.4
PBDV	Barranco-do-Ve	6.42	89	eP	Pn	19 57 21.1	+3.4
PBDV				eS	Sn	19 58 30.3	-0.7
PBDV				A	A	19 58 40.5	
	comp=N,2.8nm,0.5s						
PCAS	Casmilo, Conde	6.44	63	eP	Pn	19 57 21.8	+3.8
PCAS				eS	Sn	19 58 30.1	-1.4
PBEJ	Beja	6.47	82	eS	Sn	19 58 32.1	-0.1
PBEJ				A	A	19 58 34.3	
	comp=N,2.3nm,0.2s						
PVAQ	Vaqueiros	6.58	87	eP	Pn	19 57 23.9	+4.0
PVAQ				eS	Sn	19 58 33.1	-1.9
PVAQ				A	A	19 58 39.2	
	comp=N,3.8nm,0.3s						
PVAQ	Vaqueiros	6.58	87	Pn	Pn	19 57 21.8	+1.9
PVAQ				Sn	Sn	19 58 32.3	-2.6
PVAQ	Vaqueiros	6.58	87	P	Pn	19 57 23.0	+3.1
PVAQ	Vaqueiros	6.58	87	S	Sn	19 58 36.9	+1.9
EGRO	El Granado	6.76	86	Pn	Pn	19 57 25.4	+3.1
EGRO				Sn	Sn	19 58 35.6	-3.8
EGRO	El Granado	6.76	86	Pn	Pn	19 57 25.5	+3.1
EGRO				⇑iVmb_V		19 57 31.8	
	comp=N,170nm,SNR=1.3						
EGRO				Sn	Sn	19 58 38.2	-1.3
PESTR	Estremoz	6.79	75	eS	Sn	19 58 37.2	-2.8
PESTR	Estremoz	6.79	75	Pn	Pn	19 57 25.1	+2.4
PESTR				Sn	Sn	19 58 36.6	-3.5
PESTR	Estremoz	6.79	75	P	Pn	19 57 27.0	+4.3
PESTR	Estremoz	6.79	75	S	Sn	19 58 43.2	+3.2
PMRV	Marv??o	7.06	70	eP	Pn	19 57 29.4	+3.0
PMRV				eS	Sn	19 58 44.3	-2.4
PMRV				A	A	19 58 47.1	
	comp=N,2.7nm,0.5s						
PBAR	Barrancos	7.13	81	eP	Pn	19 57 31.6	+4.2
PBAR				eS	Sn	19 58 46.9	-1.6
PBAR				A	A	19 58 51.1	
	comp=N,2.5nm,0.4s						
PBAR	Barrancos	7.13	81	Pn	Pn	19 57 31.2	+3.8
PBAR				Sn	Sn	19 58 44.5	-4.0
PVIS	Viseu	7.13	59	eS	Sn	19 58 46.0	-2.6
EBAD	Badajoz	7.21	76	Pn	Pn	19 57 31.7	+3.2
EBAD				Sn	Sn	19 58 47.1	-3.4
EBAD	Badajoz	7.21	76	Pn	Pn	19 57 31.5	+2.9
EBAD				⇑iVmb_V		19 57 37.9	
	comp=N,184nm,SNR=1.5						
EBAD				Sn	Sn	19 58 47.9	-2.6
EMIN	Mina Concepcio	7.41	84	Pn	Pn	19 57 34.6	+3.4
EMIN				Sn	Sn	19 58 51.0	-4.2
EMIN	Mina Concepcio	7.41	84	Pn	Pn	19 57 34.2	+3.0
EMIN				⇑iVmb_V		19 57 35.7	
	comp=N,104nm,SNR=0.9						
EMIN				Sn	Sn	19 58 54.0	-1.3
PGAV	Gavieira, Arco	7.52	50	eS	Sn	19 58 53.7	-4.5
PGAV				A	A	19 58 59.2	
	comp=N,3.5nm,0.6s						
PCAB	Cabril	7.53	52	eS	Sn	19 58 55.8	-2.5
ELOB	Lobios	7.59	51	Pn	Pn	19 57 34.7	+0.9
ELOB				⇑iVmb_V		19 57 39.3	
	comp=N,288nm,SNR=1.2						
ELOB				Sn	Sn	19 58 54.3	-5.7
EMAZ	Mazaricos	7.74	42	Sn	Sn	19 58 55.6	-7.9
MVO	Moncorvo	7.92	59	eS	Sn	19 59 03.7	-4.2
MVO				A	A	19 59 07.5	
	comp=N,3.4nm,0.2s						
ESPR	Espera	8.11	90	Sn	Sn	19 59 11.8	-0.7
EAGO	Agolada(Pontev	8.13	46	Pn	Pn	19 57 42.1	+0.9
EAGO				⇑iVmb_V		19 57 44.4	
	comp=N,349nm,SNR=1.3						
EAGO				Sn	Sn	19 59 04.9	-8.3
EPLA	Plasencia	8.20	68	Sn	Sn	19 59 11.1	-3.7
PBRG	Braganca	8.40	55	eS	Sn	19 59 16.1	-3.7
ECAB	El Cabril	8.40	82	Pn	Pn	19 57 47.5	+2.6
ECAB				Sn	Sn	19 59 14.7	-5.1
ECAB	El Cabril	8.40	82	Pn	Pn	19 57 47.8	+2.9
ECAB				⇑iVmb_V		19 57 48.2	
	comp=N,147nm,SNR=1.2						
ECAB				Sn	Sn	19 59 17.6	-2.3
ECAL	Calabor	8.47	54	Pn	Pn	19 57 47.4	+1.5
ECAL				⇑iVmb_V		19 57 51.0	
	comp=N,327nm,SNR=1.2						
ECAL				Sn	Sn	19 59 16.1	-5.4
EADA	Adamuz	9.07	81	Pn	Pn	19 57 57.4	+3.4
EADA	Adamuz	9.07	81	Pn	Pn	19 57 56.9	+2.8
EADA				⇑iVmb_V		19 57 59.6	
	comp=N,110nm,SNR=1.0						
EADA				Sn	Sn	19 59 33.8	-2.4
TTIG	Tnine Tigouga,	9.24	135	P	Pn	19 57 57.6	+1.2
TTIG	Tnine Tigouga,	9.24	135	S	Sn	19 59 35.8	-4.7
PAB	San Pablo	9.38	73	Pn	Pn	19 58 00.5	+2.1
PAB				⇑iVmb_V		19 58 09.7	
	comp=N,142nm,SNR=1.1						
PAB				Sn	Sn	19 59 39.9	-4.1
PSIM	Granatula de C	9.75	78	Pn	Pn	19 58 06.2	+2.8
PSIM				Sn	Sn	19 59 49.2	-3.7
MD31	MD31	10.22	113	P	Pn	19 58 11.8	+1.9
MD31	MD31	10.22	113	S	Sn	20 00 02.2	-2.5
MDT	Midelt	10.36	113	P	Pn	19 58 13.8	+1.9
MDT	Midelt	10.36	113	S	Sn	20 00 05.2	-2.9
ZGR	Zagora	11.24	127	P	Pn	19 58 23.8	-0.1

*IDC **26** 20:03:40.6±2.2, 8°.91N×137°.83E, h0km, mb3.5/6, mbtmp3.6/7, ML3.8/1, MS2.1/1, Error ellipse: s-maj=84.8km s-min=21.9km az=72.0*

ISC 26 20:03:44.9±2.1, 8°.9N±0°.2×137°.8E±0°.5, h29km, n11, σ0°65/7, mb3.4/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	11.71	166	Pn	Pn	20 06 30.6	+0.4
	0.6nm,0.3s,baz=329,slow=14,SNR=1.4						
	7.1nm,0.8s						
DAV	Davao City (W)	12.27	262	LR	LR	20 11 20.0	
	comp=Z,8.5nm,19.2s,baz=144,slow=37						
WRA	Warramunga Arr	28.88	187	P	P	20 09 40.5	-0.8
	0.2nm,0.6s,baz=4.1,slow=10,SNR=1.7						
	0.2nm,0.6s						
H11S3	WAKE ISLAND Hy	29.57	68	T	T	20 40 54.6	
	baz=254,slow=75,SNR=3.1						
H11S1	WAKE ISLAND Hy	29.59	68	T	T	20 40 53.9	
	baz=254,slow=75,SNR=3.3						
H11S2	WAKE ISLAND Hy	29.59	68	T	T	20 40 54.2	
	baz=254,slow=75,SNR=3.8						
ASAR	Alice Springs	32.60	187	P	P	20 10 14.0	-0.1
	0.2nm,0.7s,baz=18,slow=12,SNR=4.0						
	0.2nm,0.7s						
CMAR	Chiang Mai Arr	38.88	288	P	P	20 11 08.4	+0.3
	0.3nm,0.4s,baz=113,slow=6.7,SNR=5.2						
	0.3nm,0.4s						
MKAR	Makanchi Array	60.27	319	P	P	20 13 50.9	+0.1
	0.8nm,0.8s,baz=116,slow=6.6,SNR=2.8						
	0.8nm,0.8s						
KURBB	Kurchatov Arra	63.90	322	P	P	20 14 15.7	+0.8
	0.4nm,0.9s,baz=108,slow=5.9,SNR=2.4						
	0.4nm,0.9s						
BVAR	Borovoye Array	69

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.42**	**71**	P	**Pg**	**20 07 33.1**	**-0.1**
LTHK				S	**Sg**	**20 07 39.1**	**0.0**
PSDA	**Pessada-Kefalo**	**0.57**	**20**	P	**Pb**	**20 07 36.6**	**+0.2**
PSDA				S	**Sg**	**20 07 44.0**	**+0.2**
PSDA	**Pessada-Kefalo**	**0.57**	**20**	P	**Pg**	**20 07 36.4**	**+0.3**
VLS	**Valsamata**	**0.63**	**19**	P	**Pb**	**20 07 36.9**	**-0.6**
VLS				S	**Sb**	**20 07 44.9**	**-1.2**
	165nm,0.2s						
VLS	**Valsamata**	**0.63**	**19**	P	**Pb**	**20 07 36.8**	**-0.7**
FSK	**Fiskardo**	**0.90**	**12**	P	**Pn**	**20 07 42.8**	**+0.1**
FSK				S	**Sb**	**20 07 54.1**	**+0.4**
	190nm,0.6s						
RLS	**Riolos of Patr**	**1.02**	**61**	P	**Pb**	**20 07 43.6**	**-0.4**
RLS				S	**Sb**	**20 07 57.1**	**0.0**
	150nm,0.5s						
RLS	**Riolos of Patr**	**1.02**	**61**	P	**Pb**	**20 07 44.0**	**0.0**
EVGI	**Lefkada island**	**1.07**	**14**	P	**Pn**	**20 07 45.5**	**+0.4**
EVGI				S	**Sn**	**20 07 59.9**	**+0.2**
	135nm,0.4s						
DRO	**Drossia**	**1.16**	**71**	P	**Pg**	**20 07 47.2**	**+0.1**
DRO				S	**Sg**	**20 08 02.9**	**+0.7**
	235nm,0.4s						
NYDR	**Nydri-Lefkada**	**1.17**	**14**	P	**Pg**	**20 07 47.3**	**-0.1**
NYDR				S	**Sg**	**20 08 03.0**	**+0.3**
	128nm,0.8s						

*TEH **26** 20:20:47.4, 34.′22N×45.′63E, h9km±16km, ML3.3*
*ISN **26** 20:20:49.3±1.4, 34.′28N×45.′60E, h24km±9km, ML3.1*
ISC 26 20:20:48.2±1.3,**34.′23N**±0.′03×**45.′64E**±0.′04,**h5**km±12km,
n17,σ1§**03**/22,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.25**	**118**	Pg	**Pg**	**20 20 53.1**	**0.0**
KGS1	**Ghasr-e-Shirin**	**0.28**	**351**	Pg	**Pg**	**20 20 53.4**	**-0.2**
ILBA	**Ilam Banvizeh**	**0.77**	**142**	Pg	**Pg**	**20 21 02.2**	**-0.7**
IDHR	**Dehrash**	**0.77**	**52**	Pg	**Pg**	**20 21 02.8**	**-0.2**
IGHG	**Ghaleghazi**	**0.77**	**82**	Pg	**Pg**	**20 21 03.4**	**+0.4**
IBDR	**Badra**	**1.14**	**168**	*e*Pg	**Pn**	**20 21 11.0**	**+0.2**
IBDR				*e*Sg	**Sn**	**20 21 28.0**	**+1.2**
KCHF	**Cheshme Sefid,**	**1.16**	**87**	Pg	**Pb**	**20 21 10.1**	**-0.6**
KCHF				Sg	**Sn**	**20 21 27.1**	**-0.4**
ILIN	**Lien**	**1.29**	**57**	Pg	**Pn**	**20 21 12.7**	**-0.3**
BHD	**Baghdad**	**1.42**	**228**	*e*Pn	**Pb**	**20 21 15.0**	**-0.2**
BHD				*e*Sn	**Sg**	**20 21 35.0**	**+1.1**
IKRK	**Kirkuk**	**1.58**	**318**	*e*Pn	**Pb**	**20 21 17.0**	**-1.0**
IKRK				*e*Sn	**Sb**	**20 21 38.0**	**-0.3**
IKRK				AML	AML	20 21 41.7	
	comp=N,434nm,0.4s						
IKRK				AML	AML	20 21 45.4	
	comp=E,230nm,0.3s						
SNQR	**Sonqor, Kerman**	**1.75**	**69**	Pg	**Pb**	**20 21 21.1**	**+0.2**
SDS1	**Sardasht. Az.**	**1.92**	**356**	Pn	**Pb**	**20 21 22.5**	**-1.3**
HSAM	**Samen**	**2.45**	**90**	Pn	**Pn**	**20 21 29.9**	**+0.8**
MAHB	**Mahabad**	**2.53**	**1**	Pn	**Pn**	**20 21 31.1**	**+1.1**
RAFI	**Al-Rafai**	**2.53**	**171**	*e*Pn	**Pn**	**20 21 31.0**	**+1.1**
RAFI				*e*Sn	**Sb**	**20 22 03.0**	**-2.5**
HAGD	**Aghdareh**	**2.95**	**77**	Pn	**Pn**	**20 21 37.2**	**+1.3**
GRMI	**Germi**	**4.91**	**21**	Pn	**Pn**	**20 22 04.0**	**+1.2**

DJA 26 20:21:15.2±0.3,**3.′S**±2.′×**11.′9E**±.′,**h10**km,**M4.0**/14,**mb4.0**/3,
MLv4.0/14,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.36**	**107**	P	Pg	20 21 21.4	-1.0
TTSI				S	Sg	20 21 27.2	-0.1
SPSI	**Sidrap Palu**	**1.06**	**164**	P	Pg	20 21 33.6	-2.0
SPSI				S	Sg	20 21 49.3	-0.1
BNSI	**Bone**	**1.58**	**156**	P	Pn	20 21 43.3	0.0
BNSI				S	Sg	20 22 07.1	+0.9
PCI	**Palu**	**2.05**	**10**	P	Pn	20 21 50.0	+0.2
PCI				S	Sb	20 22 16.9	-1.4
BKSI	**Bulukumba**	**2.45**	**165**	P	Pn	20 21 55.8	+0.5
BKSI				S	Sb	20 22 28.3	-1.5
APSI	**Ampana**	**2.97**	**47**	P	Pn	20 22 02.4	0.0
KDI	**Kendari**	**3.30**	**108**	P	Pn	20 22 07.0	0.0
BSSI	**Bau Bau, Buton**	**3.34**	**162**	P	Pn	20 22 07.0	-0.5
LUWI	**Luwuk**	**3.80**	**60**	P	Pn	20 22 14.1	+0.2
MRSI	**Marisa**	**4.20**	**36**	P	Pn	20 22 18.0	-1.3
PLAI	**Plampang**	**6.09**	**196**	P	Pn	20 22 44.2	-1.1
	16nm,1.3s,0.1nm						
WBSI	**Waikabubak, Su**	**6.66**	**181**	P	Pn	20 22 52.8	-0.4

*AEIC **26** 20:25:21.8±1.2, 53.′42N±0.′06×165.′55W±0.′08, h26km±8km,*
Error ellipse: s-maj=10.4km s-min=2.8km az=141.0
NEIC 26 20:25:21.7±1.6,**53.′47N**±0.′07×**165.′63W**±0.′08,
h20km±14km,**ML2.7**(AEIC),**Error ellipse: s-maj=10.3km**
s-min=5.4km az=152.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.64**	**306**		Pn	20 25 35.2	-0.3
UNV					Sn	20 25 45.4	+0.2
AKBBA	**Akutan Broad B**	**0.66**	**344**		Pn	20 25 35.2	-0.6
AHB	**Akutan Harbor**	**0.66**	**350**		Pn	20 25 35.4	-0.4
AHB					Sn	20 25 46.1	+0.5
ZRO	**Akutan Zero**	**0.66**	**342**		Pn	20 25 35.4	-0.5
AKMO	**Akutan Morgan**	**0.66**	**340**		Pn	20 25 35.5	-0.4
AKMO					Sn	20 25 46.2	+0.5
AKSA	**Akutan Strait**	**0.67**	**356**		Pb	20 25 35.1	+0.5
AKSA					Sn	20 25 45.2	-0.6
AKRB	**Akutan Reef Bi**	**0.71**	**339**		Pn	20 25 36.5	0.0
AKRB					Sn	20 25 47.8	+0.9
LVA	**Lava Point**	**0.73**	**341**	Pn	Pb	20 25 35.4	-0.4
MREP	**Makushin Rep't**	**0.75**	**297**		Pn	20 25 37.1	0.0
MTBL	**Makushin Table**	**0.80**	**309**		Pn	20 25 38.3	+0.4
MGOD	**Makushin Gods**	**0.81**	**294**		Pn	20 25 37.8	-0.2
MSW	**Makushin Switc**	**0.82**	**303**		Sn	20 25 50.6	+1.0
MAPS	**Makushin South**	**0.85**	**294**		Pn	20 25 38.3	-0.2
WEBT	**Westdahl Beart**	**1.23**	**24**		Pn	20 25 43.7	-0.1
OKER	**Okmok East Rim**	**1.45**	**270**		Pn	20 25 46.7	-0.1
OKNC	**Okmok New Cone**	**1.49**	**270**		Pn	20 25 47.8	+0.4
SSLS	**Shishaldin Sou**	**1.57**	**37**		Pn	20 25 48.1	-0.3
ISLZ	**Isanotski Laza**	**1.69**	**41**		Pn	20 25 49.7	-0.3
ISNN	**Isanotski Nort**	**1.74**	**38**		Pn	20 25 51.6	+0.8
S12K	**Black Hills**	**3.05**	**41**	Pn	Pn	20 26 08.0	-0.7
N15K	**Kwethluk River**	**7.37**	**22**	Pn	Pn	20 27 09.1	+1.2
O16K	**Kokwok River B**	**7.41**	**31**	Pn	Pn	20 27 07.9	-0.6
M16K	**Timber Creek**	**8.38**	**23**	Pn	Pn	20 27 23.0	+1.1
N17K	**Nushagak Hills**	**8.44**	**30**	Pn	Pn	20 27 23.6	+1.1
O18K	**Koktuh Hills**	**8.59**	**38**	Pn	Pn	20 27 26.6	+1.9
L16K	**Owhat River**	**8.89**	**19**	Pn	Pn	20 27 27.1	-1.7
M17K	**Holitna River**	**9.09**	**26**	Pn	Pn	20 27 32.4	+1.0
K15K	**Wolf Creek Mou**	**9.11**	**12**	Pn	Pn	20 27 30.4	-1.4
N19K	**Bonanza Creek**	**9.52**	**35**	Pn	Pn	20 27 38.4	+0.9
J17K	**VABM Dome**	**10.52**	**16**	Pn	Pn	20 27 50.3	-0.8

NOU 26 20:31:06.2,11.′75S×164.′98E,h79km,mb4.3/10,**Santa**
Cruz Islands Region,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**3.28**	**293**	P	Pn	20 31 54.8	-0.5
NGOA	**Tingoa Renbel**	**4.82**	**272**	P	Pn	20 32 16.3	0.0
TATA	**Tatamba Isabel**	**6.09**	**303**	P	Pn	20 32 34.3	+0.6
KOUNC	**Koumac, New Ca**	**8.78**	**184**	P	Pn	20 33 10.2	-0.1
DZM	**Mont Dzumac**	**10.36**	**172**	P	Pn	20 33 31.1	-0.9
NOUC	**Port Laguerre**	**10.37**	**173**	P	Pn	20 33 32.4	+0.3
OUENC	**Ouen Island, N**	**10.76**	**171**	P	Pn	20 33 37.9	+0.5
MSVF	**Nonsavu**	**13.97**	**117**	P	Pn	20 34 20.4	-0.3

NOU 26 20:38:04.0,14.′24S×166.′59E,h0km,mb3.5/7,**Vanuatu**
Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	**Lakatoro**	**2.02**	**157**	P	Pn	20 38 38.2	-1.2
DVP	**Devils Point**	**3.79**	**156**	P	Pn	20 39 04.2	+0.5
YATNC	**Mamie plateau,**	**7.78**	**178**	P	Pn	20 39 57.7	-0.9
DZM	**Mont Dzumac**	**7.79**	**181**	P	Pn	20 39 58.4	-0.4
OUENC	**Ouen Island, N**	**8.14**	**178**	P	Pn	20 40 04.6	+1.1

*NNC **26** 20:50:56.0±2.6, 37.′60N×71.′80E, h198km±33km, mb2.7,*
mpv3.8, Error ellipse: s-maj=27.0km s-min=15.5km
az=24.0

ISC 26 20:50:53.0±3.5,**37.′4N**±0.′2×**71.′6E**±0.′1,**h150**km,**n11,**
σ1§**13**/14,**4C-2D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.99**	**18**	P	**Pn**	**20 52 07.2**	**+0.6**
	SNR=138						
EKS2	**Erkin-Say**	**5.51**	**17**	P	**Pn**	**20 52 13.8**	**+0.6**
	SNR=19						
KK31	**Karatay Array**	**5.75**	**352**	⇓P	**Pn**	**20 52 18.1**	**+1.7**
	3.1nm,0.2s,baz=181,slow=14,SNR=136						
KK31				⇑S	**Sn**	**20 53 23.0**	**+1.4**
	16nm,0.7s,baz=40,slow=51,SNR=15						
KBK	**Karagaybulak**	**5.84**	**25**	P	**Pn**	**20 52 19.1**	**+1.4**
	SNR=6.8						
CHMS	**Chumysh**	**6.08**	**22**	P	**Pn**	**20 52 21.2**	**+0.4**
	SNR=8.5						
CHMS	**Chumysh**	**6.08**	**22**	⇑P	**Pn**	**20 52 21.0**	**+0.3**
	13nm,0.8s						
CHMS				⇑S	**Sn**	**20 53 29.1**	**-0.4**
	5.1nm,0.9s						
USP	**Ospenovka**	**6.26**	**20**	P	**Pn**	**20 52 24.1**	**+1.0**
	SNR=5.2						
TKM2	**Tokmak 2**	**6.30**	**28**	P	**Pn**	**20 52 23.6**	**-0.2**
	SNR=6.0						
TKM2	**Tokmak 2**	**6.30**	**28**	⇑P	**Pn**	**20 52 23.5**	**-0.2**
	3.1nm,0.8s						
AB31	**Akbulak array**	**14.55**	**328**	P	**Pn**	**20 54 11.1**	**-0.5**
	0.3nm,0.4s,baz=143,slow=12,SNR=21						
AB31				S	**Sn**	**20 56 50.8**	**-2.2**
	0.5nm,0.5s,baz=146,slow=22,SNR=5.3						
BVA0	**Borovoye Array**	**15.64**	**357**	⇓P	**Pn**	**20 54 25.0**	**-0.2**
	2.0nm,0.6s,baz=0.0,slow=0.1,SNR=4.8						

IDC 26 21:10:34.6±4.7,**6.′09S**×**141.′32E,h0**km,**mb3.7**/1,
mbtmp3.5/3,**ML3.3**/2,**MS2.8**/1,**Error ellipse:**
s-maj=158.7km s-min=33.3km az=96.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.35**	**206**	Pn	Pn	21 14 12.7	-0.1
	0.1nm,0.3s,baz=29,slow=14,SNR=6.4						
WRA				Sn	Sn	21 17 05.2	+1.6
	0.1nm,0.3s,baz=27,slow=22,SNR=2.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**18.87**	**201**	P	P	21 14 56.8	+0.1
	0.1nm,0.3s,baz=30,slow=12,SNR=16						
	2.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.40**	**231**	LR	LR	21 23 36.6	
	comp=Z,29nm,18.7s,baz=132,slow=40						
MKAR	**Makanchi Array**	**74.04**	**322**	P	P	21 22 12.4	0.0
	0.7nm,0.9s,baz=99,slow=8.9,SNR=1.2						
	0.7nm,0.9s						

*ISN **26** 21:12:49.5±0.3, 34.′30N×45.′59E, h13km±11km, ML2.6*
*TEH **26** 21:12:50.2, 34.′29N×45.′62E, h10km±74km, ML2.6*
ISC 26 21:12:50.2±1.1,**34.′30N**±0.′03×**45.′61E**±0.′04,**h18**km,**n11,**
σ0§**40**/15,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**356**	Pg	**Pb**	**21 12 55.3**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.31**	**127**	Pg	**Pg**	**21 12 56.7**	**-0.3**
IDHR	**Dehrash**	**0.76**	**58**	Pg	**Pb**	**21 13 04.8**	**-0.2**
IGHG	**Ghaleghazi**	**0.80**	**88**	Pg	**Pb**	**21 13 05.8**	**+0.1**
IGHG				Sg	**Sn**	**21 13 17.8**	**-0.5**
ILBA	**Ilam Banvizeh**	**0.84**	**143**	Pg	**Pb**	**21 13 06.2**	**-0.1**
KCHF	**Cheshme Sefid,**	**1.19**	**91**	Pg	**Pb**	**21 13 12.9**	**+0.6**
IBDR	**Badra**	**1.22**	**167**	*e*Pg	**Pb**	**21 13 13.0**	**+0.3**
IBDR				*e*Sg	**Sg**	**21 13 30.0**	**+0.3**
ILIN	**Lien**	**1.28**	**61**	Pg	**Pg**	**21 13 14.9**	**0.0**
BHD	**Baghdad**	**1.45**	**225**	*e*Pn	**Pb**	**21 13 17.0**	**+0.3**
BHD				*e*Sn	**Sg**	**21 13 37.0**	**-0.1**
IKRK	**Kirkuk**	**1.51**	**317**	*e*Pn	**Pb**	**21 13 18.0**	**+0.3**
IKRK				*e*Sn	**Sg**	**21 13 39.0**	**-0.1**
IKRK				AML	AML	21 13 43.5	
	comp=N,107nm,0.2s						
IKRK				AML	AML	21 13 43.6	
	comp=E,101nm,0.5s						
SNQR	**Sonqor, Kerman**	**1.76**	**71**	Pg	**Pb**	**21 13 23.0**	**+0.9**

IDC 26 21:36:21.8±2.2,**4.′41N**×**124.′87E,h0**km,**mb3.4**/3,
mbtmp3.4/3,**Error ellipse: s-maj=195.3km**
s-min=29.4km az=64.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.92**	**159**	P	P	21 41 55.9	0.0
	0.4nm,0.6s,baz=338,slow=10,SNR=8.7						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**29.26**	**163**	P	P	21 42 25.9	+0.1
	0.2nm,0.6s,baz=340,slow=7.2,SNR=2.2						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**55.95**	**326**	P	P	21 46 01.8	-0.1
	0.5nm,0.8s,baz=124,slow=8.2,SNR=1.9						
	0.5nm,0.8s						

*NEIC **26** 21:49:02.3±1.8, 4.′22S±0.′10×152.′81E±0.′07, h42km±6km,*
mb4.7/35, Error ellipse: s-maj=14.3km s-min=9.5km
az=168.0
*IDC **26** 21:49:04.2±5.2, 4.′30S×152.′78E, h65km±43km, mb3.8/9,*
mbtmp4.1/10, ML2.4/1, MS3.3/6, Error ellipse:
s-maj=40.4km s-min=18.7km az=99.0
ISC 26 21:49:02.5±0.5,**4.′24S**±0.′07×**152.′83E**±0.′09,**h50**km,**n68,**
σ1§**12**/65,**mb4.6**/26,**MS3.2**/5,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.67**	**274**	Pn	**Pn**	**21 49 15.1**	**-0.8**
RABL				Sn	**Sn**	**21 49 25.1**	**-0.5**
MANU	**Manus Island**	**5.88**	**292**	Pn	**Pn**	**21 50 29.7**	**+2.6**
PMG	**Port Moresby**	**7.62**	**227**	Pn	**Pn**	**21 50 50.8**	**-0.3**
PMG	**Port Moresby**	**7.62**	**227**	P	**Pn**	**21 50 53.2**	**+2.2**
	3.0nm,0.3s,baz=19,slow=12,SNR=7.2						
PMG				S	**Sn**	**21 52 16.3**	**+0.2**
	18nm,0.6s,baz=29,slow=21,SNR=2.6						
	13nm,0.5s						
PMG	**Port Moresby**	**7.62**	**227**	P	**Pn**	**21 50 54.5**	**+3.5**
TABU	**Tabubil**	**11.62**	**264**	P	Pn	21 51 53.7	+7.9
PATS	**Pohnpei**	**12.29**	**26**	Pn	**Pn**	**21 51 53.4**	**-1.5**
COEN	**Coen**	**13.56**	**224**	Pn	**Pn**	**21 52 13.6**	**+1.2**
CTAO	**Charters Tower**	**17.01**	**202**		**P**	**21 52 57.8**	**-0.4**
GUMO	**Guam**	**19.40**	**336**	LR	LR	21 59 27.1	
	comp=Z,28nm,21.5s,baz=132,slow=32						
QIS	**Mount Isa**	**20.71**	**217**	P	**P**	**21 53 38.0**	**-0.8**
EIDS	**Eidsvold**	**21.08**	**184**	P	**P**	**21 53 44.0**	**+1.2**
MTN	**Manton Dam**	**23.08**	**247**	P	**P**	**21 54 03.6**	**-0.5**
MTN				IAmb	IAmb	21 54 11.6	
	comp=Z,31nm,1.4s						
WB0	**Warramunga Arr**	**23.69**	**228**	P	**P**	**21 54 09.0**	**-1.0**
WB0				IAmb	IAmb	21 54 10.4	
	comp=Z,29nm,0.6s						
WR0	**Warramunga Arr**	**23.70**	**227**	P	**P**	**21 54 09.0**	**-1.1**
WR0				IAmb	IAmb	21 54 10.5	
	comp=Z,27nm,0.6s						
WRAB	**Tennant Creek**	**23.83**	**228**	P	**P**	**21 54 10.1**	**-1.1**
WB2	**Warramunga Arr**	**23.83**	**228**	P	**P**	**21 54 10.2**	**-1.0**
WRA	**Warramunga Arr**	**23.84**	**228**	P	**P**	**21 54 10.3**	**-1.0**
	comp=Z,27nm,0.6s,baz=54,slow=10,SNR=163						
WRA				LR	LR	22 03 55.2	
	comp=Z,98nm,21.2s,baz=26,slow=38						
INKA	**Innaminka**	**26.06**	**205**	P	**P**	**21 54 34.1**	**+2.7**
KNRA	**Kununurra**	**26.25**	**243**	P	**P**	**21 54 33.8**	**+0.6**
AS31	**Alice Springs**	**26.58**	**222**	P	**P**	**21 54 35.5**	**-0.7**
ASAR	**Alice Springs**	**26.59**	**222**	P	**P**	**21 54 34.7**	**-1.6**
ASAR	**Alice Springs**	**26.59**	**222**	P	**P**	**21 54 35.4**	**-0.9**
	comp=Z,4.0nm,0.5s,baz=54,slow=8.9,SNR=75						
ASAR				LR	LR	22 06 32.0	
	comp=Z,65nm,18.3s,baz=51,slow=40						
	comp=Z,4.0nm,0.5s						
STKA	**Stephens Creek**	**29.45**	**200**	P	**P**	**21 55 00.2**	**-1.5**
STKA	**Stephens Creek**	**29.45**	**200**	P	**P**	**21 55 00.4**	**-1.3**
	comp=Z,2.0nm,0.6s,baz=22,slow=15,SNR=5.1						
STKA				LR	LR	22 06 28.5	
	comp=Z,59nm,21.6s,baz=27,slow=36						
	comp=Z,2.0nm,0.6s						
BATI	**Baumata**	**29.52**	**257**	LR	LR	22 09 08.1	
	comp=Z,118nm,18.0s,baz=114,slow=41						
FITZ	**Fitzroy Crossi**	**29.96**	**241**	P	**P**	**21 55 04.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**29.96**	**241**	LR	LR	22 05 54.5	
	comp=Z,60nm,21.1s,baz=22,slow=34						
BBOO	**Buckleboo**	**32.47**	**207**	P	**P**	**21 55 28.0**	**-0.3**
BBOO				IAmb	IAmb	21 55 37.5	
	comp=Z,31nm,1.5s						
FORT	**Forrest**	**35.24**	**219**	P	**P**	**21 55 51.3**	**-1.1**
MBWA	**Marble Bar**	**36.28**	**239**	P	**P**	**21 55 59.9**	**-1.5**
PSA00	**Pilbara Seismi**	**36.34**	**239**	P	**P**	**21 55 59.8**	**-2.2**
LTZ	**Lake Taylor**	**42.09**	**159**	P	**P**	**21 56 51.1**	**+1.4**
LTZ				IAmb	IAmb	21 57 05.8	
	comp=Z,17nm,1.2s						
MORW	**Morawa**	**42.72**	**231**	P	**P**	**21 56 53.3**	**-1.7**
MORW				IAmb	IAmb	21 57 08.7	
	comp=Z,15nm,1.1s						
PETK	**Petropavlovsk-**	**57.28**	**3**	P	**P**	**21 58 45.8**	**+0.9**
	comp=Z,2.4nm,0.6s,baz=166,slow=6.5,SNR=4.6						
	comp=Z,2.4nm,0.6s						
SONM	**Songino Array**	**65.87**	**328**	P	**P**	**21 59 44.2**	**+1.1**
SONM	**Songino Array**	**65.87**	**328**	P	**P**	**21 59 43.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=136,slow=7.0,SNR=5.3						
	comp=Z,0.5nm,0.6s						
M16K	**Timber Creek**	**74.96**	**22**	P	**P**	**22 00 38.7**	**+0.5**
L19K	**White Mountain**	**77.22**	**22**	P	**P**	**22 00 51.4**	**+0.3**
L19K				IAmb	IAmb	22 01 34.3	
	comp=Z,15nm,1.4s						
SUA	**Susitna One**	**78.44**	**24**	P	**P**	**22 00 57.2**	**-0.8**
SUA				IAmb	IAmb	22 01 07.8	
	comp=Z,18nm,1.4s						
E19K	**Redstone River**	**79.64**	**17**	P	**P**	**22 01 04.8**	**+0.5**
E19K				IAmb	IAmb	22 01 48.4	
	comp=Z,6.5nm,1.2s						
IMAR	**Indian Mountai**	**79.85**	**20**	P	**P**	**22 01 05.8**	**+0.3**
MKAR	**Makanchi Array**	**79.93**	**319**	P	**P**	**22 01 06.7**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=92,slow=9.4,SNR=1.2						
	comp=Z,0.2nm,0.6s						
MLY	**Manley**	**80.35**	**21**	P	**P**	**22 01 08.5**	**+0.2**
MLY				IAmb	IAmb	22 01 10.0	
	comp=Z,3.5nm,0.7s						
I23K	**Minto, Yukon-K**	**80.91**	**21**	P	**P**	**22 01 11.2**	**+0.1**
B20K	**Meade River**	**81.29**	**15**	P	**P**	**22 01 13.7**	**+0.6**
B20K				IAmb	IAmb	22 01 23.2	
	comp=Z,20nm,1.4s						
ILAR	**Eielson Array**	**81.63**	**22**	P	**P**	**22 01 14.2**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=247,slow=5.9,SNR=15						
	comp=Z,0.9nm,0.6s						
B21K	**Ikpikpuk River**	**81.74**	**16**	P	**P**	**22 01 16.1**	**+0.6**
B21K				IAmb	IAmb	22 01 20.9	
	comp=Z,14nm,1.5s						
J25K	**Salcha River,**	**82.13**	**23**	P	**P**	**22 01 17.5**	**-0.2**
J25K				IAmb	IAmb	22 01 17.9	
	comp=Z,3.3nm,0.8s						
M27K	**Edge Creek, AK**	**82.56**	**25**	P	**P**	**22 01 20.9**	**+0.8**
M27K				IAmb	IAmb	22 01 38.3	
	comp=Z,9.3nm,1.2s						
D24K	**Happy Valley**	**83.18**	**18**	P	**P**	**22 01 23.9**	**+1.0**
BMAR	**Burnt Mountain**	**83.71**	**20**	P	**P**	**22 01 26.7**	**+0.9**
I28M	**Miner Creek**	**84.58**	**23**	P	**P**	**22 01 30.2**	**-0.1**
D27M	**Malcolm River**	**85.71**	**19**	P	**P**	**22 01 36.5**	**+0.6**
D27M				IAmb	IAmb	22 01 37.6	
	comp=Z,3.0nm,0.6s						
QSPA	**South Pole Qui**	**85.72**	**180**	P	**P**	**22 01 36.2**	**+0.1**
QSPA				IAmb	IAmb	22 02 13.4	
	comp=Z,4.2nm,1.4s						
QSPA	**South Pole Qui**	**85.72**	**180**	P	**P**	**22 01 36.5**	**+0.4**
	comp=Z,3.2nm,0.6s,baz=307,slow=0.6,SNR=11						
	comp=Z,2.3nm,0.6s						
E28M	**Babbage River**	**85.93**	**20**	P	**P**	**22 01 38.0**	**+1.1**
E28M				IAmb	IAmb	22 01 38.1	
	comp=Z,3.4nm,0.8s						
MAW	**Mawson**	**86.10**	**203**	P	**P**	**22 01 37.6**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=136,slow=5.4,SNR=2.0						
	comp=Z,1.1nm,0.6s						
BVAR	**Borovoye Array**	**88.81**	**323**	P	**P**	**22 01 50.3**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=101,slow=6.2,SNR=5.3						
	comp=Z,0.8nm,0.5s						
LTY	**Liberty**	**90.70**	**43**		pP	22 02 13.3	-1.6
GERES	**GERESS Array B**	**123.60**	**329**	PKPdf	**PKiKP**	**22 07 55.8**	**+0.8**
GERES	**GERESS Array B**	**123.60**	**329**	PKP	**PKPdf**	**22 07 54.0**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=80,slow=1.6,SNR=5.4						
EKA	**Eskdalemuir Ar**	**125.51**	**343**	PKP	**PKiKP**	**22 07 59.0**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=20,slow=2.7,SNR=4.3						
BOAV	**Boa Vista**	**146.65**	**92**	PKPbc	**PKPdf**	**22 08 38.5**	**+0.2**
VAO	**Valinhos**	**146.73**	**145**	PKPbc	**PKPab**	**22 08 40.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**150.16**	**289**	PKPbc	**PKPbc**	**22 08 48.5**	**-0.5**
	comp=Z,2.8nm,0.3s,baz=81,slow=2.4,SNR=69						
BDFB	**Brasilia**	**151.43**	**134**	PKiKP	**PKiKP**	**22 08 52.6**	**+0.1**
BDFB	**

PCDR			⇑eSg	Sg	22 06 21.9	+0.5
PCDR			IAML		22 06 28.2	
	comp=N,107nm,2.3s					
PCDR			IAML		22 06 32.4	
	comp=N,112nm,1.8s					
PCDR	**Punta Cana, DR**	**1.58 129**	*i* P	**Pb**	**22 05 59.8**	**-0.4**
PCDR			*e*S	**Sg**	**22 06 23.1**	**+1.7**
LONE3	**El Aguacate, B**	**1.90 242**	*i* P	**Pn**	**22 06 04.9**	**+1.2**
LONE3			*e*S	**Sb**	**22 06 30.2**	**+0.3**
LOBA2	**Hotel Casa Bon**	**1.95 223**	⇓*e*Pg	**Pb**	**22 06 05.7**	**-0.7**
LOBA2			⇓*e*Sg	**Sb**	**22 06 32.6**	**+1.6**
LOBA2			IAML		22 06 34.5	
	comp=N,536nm,0.4s					
LOBA2			IAML		22 06 36.5	
	comp=E,14nm,4.2s					
PODR	**Polo**	**2.02 229**	⇑*e*Pg	**Pb**	**22 06 07.6**	**-0.1**
PODR			IAML		22 06 40.0	
	comp=E,46nm,2.4s					
PODR			IAML		22 06 45.3	
	comp=N,29nm,1.0s					
PODR	**Polo**	**2.02 229**	*i* P	**Pb**	**22 06 08.0**	**+0.3**
PODR			IAML		22 06 16.1	
	comp=Z,16nm,1.3s					
PODR			*e*S	**Sb**	**22 06 35.0**	**+1.8**
LOBH	**Bahia de las A**	**2.47 229**	*i* P	**Pb**	**22 06 14.6**	**-0.8**
LOBH			*e*S	**Sb**	**22 06 48.2**	**+2.1**

*IDC **26** 22:05:29.1±1.0, 35°.65N×34°.52W, h0km, mb3.7/8, mbtmp3.7/8, MS3.4/30, Error ellipse: s-maj=34.2km s-min=21.9km az=159.0*

ISC 26 22:05:31.7±0.9, 35°.6N±0°.2×34°.5W±0°.1, h17km, n36, σ0887/8, mb3.7/8, MS3.4/30, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**24.46**	**71**	LR	LR	22 18 39.5	
	comp=Z,45nm,18.4s,baz=276,slow=32						
MDT	**Midelt**	**24.84**	**88**	LR	LR	22 18 22.1	
	comp=Z,60nm,20.0s,baz=298,slow=31						
BBTS	**Babate**	**26.38**	**138**	LR	LR	22 18 54.3	
	comp=Z,75nm,20.3s,baz=148,slow=30						
EKA	**Eskdalemuir Ar**	**29.14**	**38**	P	**P**	**22 11 32.0**	**+0.4**
	2.3nm,1.0s,baz=244,slow=12,SNR=2.3						
	2.3nm,1.0s						
SCHQ	**Schefferville**	**29.39**	**321**	LR	LR	22 22 04.1	
	comp=Z,90nm,21.8s,baz=199,slow=34						
SFJD	**Kangerlussuaq**	**32.77**	**348**	LR	LR	22 22 46.6	
	comp=Z,124nm,18.2s,baz=162,slow=32						
SJG	**San Juan**	**32.98**	**246**	LR	LR	22 25 07.1	
	comp=Z,11nm,19.0s,baz=79,slow=36						
SADO	**Sadowa**	**34.91**	**299**	LR	LR	22 24 29.0	
	comp=Z,42nm,19.5s,baz=33,slow=33						
FRB	**Frobisher Bay**	**34.95**	**334**	LR	LR	22 25 41.4	
	comp=Z,66nm,18.1s,baz=280,slow=35						
NOA	**NORSAR Array B**	**38.42**	**34**	LR	LR	22 26 07.7	
	comp=Z,16nm,20.4s,baz=335,slow=32						
HFS	**Hagfors**	**39.30**	**36**	LR	LR	22 27 03.5	
	comp=Z,23nm,18.1s,baz=257,slow=33						
TORD	**Torodi Ar. Bea**	**39.52**	**115**	P	**P**	**22 13 01.1**	**-0.7**
	0.3nm,0.7s,baz=303,slow=8.0,SNR=2.3						
TORD				LR	LR	22 28 42.1	
	comp=Z,87nm,18.5s,baz=316,slow=35						
	0.3nm,0.7s						
DBIC	**Dimbokro**	**39.63**	**130**	LR	LR	22 28 52.0	
	comp=Z,32nm,18.0s,baz=272,slow=35						
TKL	**Tuckaleechee C**	**39.69**	**285**	LR	LR	22 27 24.0	
	comp=Z,68nm,19.8s,baz=14,slow=33						
RCBR	**Riachuelo**	**41.26**	**182**	LR	LR	22 26 59.6	
	comp=Z,8.2nm,18.2s,baz=330,slow=31						
SDV	**Santo Domingo**	**42.33**	**240**	LR	LR	22 30 30.7	
	comp=Z,18nm,19.4s,baz=288,slow=36						
ULM	**Lac du Bonnet**	**45.95**	**308**	LR	LR	22 32 15.4	
	comp=Z,104nm,20.9s,baz=57,slow=35						
AKASG	**Malin Array Be**	**47.40**	**51**	P	**P**	**22 14 03.9**	**-1.1**
	0.3nm,0.4s,baz=278,slow=7.3,SNR=5.7						
	0.3nm,0.4s						
OBN	**Obninsk**	**51.21**	**44**	LR	LR	22 35 52.6	
	comp=Z,32nm,18.7s,baz=202,slow=36						
JTS	**Las Juntas de**	**52.16**	**254**	LR	LR	22 36 05.3	
	comp=Z,21nm,18.4s,baz=16,slow=35						
YKA	**Yellowknife Ar**	**54.64**	**326**	LR	LR	22 37 29.2	
	comp=Z,69nm,18.9s,baz=320,slow=35						
PDAR	**Pinedale Array**	**56.83**	**302**	P	**P**	**22 15 14.8**	**-0.6**
	0.3nm,0.6s,baz=72,slow=12,SNR=2.2						
	0.3nm,0.6s						
ANMO	**Albuquerque**	**57.45**	**292**	LR	LR	22 37 39.3	
	comp=Z,60nm,21.7s,baz=227,slow=34						
TXAR	**Lajitas Array**	**57.60**	**285**	P	**P**	**22 15 20.8**	**-0.2**
	0.5nm,0.8s,baz=88,slow=8.2,SNR=5.8						
TXAR				LR	LR	22 39 11.2	
	comp=Z,28nm,18.3s,baz=336,slow=35						
	0.5nm,0.8s						
KBZ	**Khabaz**	**58.11**	**56**	P	**P**	**22 15 25.0**	**+0.8**
	1.9nm,0.9s,baz=318,slow=15,SNR=4.1						
	1.9nm,0.9s						
BELG	**Belogornoye**	**58.22**	**46**	LR	LR	22 38 37.4	
	comp=Z,42nm,21.3s,baz=270,slow=34						
NEW	**Newport**	**59.90**	**310**	LR	LR	22 42 07.6	
	comp=Z,68nm,18.7s,baz=345,slow=37						
LPAZ	**La Paz**	**60.67**	**218**	P	**P**	**22 15 43.5**	**+0.7**
	2.6nm,0.9s,baz=8.5,slow=5.4,SNR=5.2						
	2.6nm,0.9s						
NVAR	**Mina Array Bea**	**64.65**	**300**	LR	LR	22 44 04.6	
	comp=Z,58nm,19.0s,baz=294,slow=36						
PFO	**Pinyon Flats O**	**65.50**	**295**	LR	LR	22 43 30.4	
	comp=Z,48nm,19.2s,baz=282,slow=35						
YBH	**Yreka Blue Hor**	**66.19**	**305**	LR	LR	22 44 16.8	
	comp=Z,62nm,19.5s,baz=348,slow=35						
MBAR	**Mbarara**	**70.43**	**105**	LR	LR	22 46 45.5	
	comp=Z,16nm,18.0s,baz=310,slow=35						
FURI	**Furi**	**71.22**	**92**	LR	LR	22 46 59.0	
	comp=Z,26nm,18.6s,baz=68,slow=35						
TIXI	**Tiksi**	**72.37**	**5**	LR	LR	22 45 38.8	
	comp=Z,21nm,18.0s,baz=356,slow=33						
ZALV	**Zalesovo Beam**	**76.59**	**32**	P	**P**	**22 17 21.7**	**+0.7**
	0.2nm,0.3s,baz=320,slow=4.3,SNR=1.6						
	0.2nm,0.3s						
LBTB	**Lobatse**	**82.85**	**128**	LR	LR	22 52 29.1	
	comp=Z,18nm,18.3s,baz=273,slow=34						

IDC 26 22:08:40.0±1.9, 6°.95S×129°.09E, h0km, mb3.5/2, mbtmp3.5/4, ML3.7/2, MS3.1/2, Error ellipse: s-maj=210.8km s-min=29.4km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.88**	**159**	Pn	Pn	22 11 57.5	-0.7
	0.4nm,0.3s,baz=332,slow=13,SNR=26						
WRA				Sn	Sn	22 14 19.0	-14
	1.0nm,0.3s,baz=335,slow=23,SNR=9.4						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**17.25**	**165**	P	Pn	22 12 43.1	+0.5
	0.2nm,0.3s,baz=346,slow=11,SNR=12						
ASAR				S	Sn	22 15 44.3	-11
	0.6nm,0.5s,baz=356,slow=27,SNR=5.8						
	0.5nm,0.4s						
PMG	**Port Moresby**	**18.05**	**99**	LR	LR	22 21 28.3	
	comp=Z,34nm,18.2s,baz=27,slow=43						
SONM	**Songino Array**	**58.11**	**342**	P	P	22 18 34.9	-0.6
	0.3nm,0.6s,baz=134,slow=6.2,SNR=1.9						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	22 19 39.6	+0.4
	0.4nm,0.6s,baz=111,slow=7.2,SNR=6.6						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**71.14**	**334**	LR	LR	22 55 04.7	
	comp=Z,16nm,18.2s,baz=48,slow=39						

RSNC 26 22:21:10.7±0.0, 13°N±1°×8°1W±°, h0km±1km, M3.0, mb4.0, mB5.9, ML3.0, Mw(mB)5.5, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.20**	**336**	P	Pg	22 21 16.1	+1.5
PRVC				S	Sg	22 21 19.8	+2.6
SAIC	**Isla e San And**	**0.77**	**213**	P	Pb	22 21 26.6	-0.4
SAIC				S	Sb	22 21 38.8	+0.7
RNCC	**Cayo Roncador,**	**1.22**	**71**	P	Pg	22 21 32.8	-1.3
RNCC				S	Sg	22 21 50.0	+0.1
SERC	**Banco Serrana,**	**1.41**	**39**	P	Pn	22 21 35.7	-1.9
SERC				S	Sg	22 21 55.3	-0.7
BCIP	**Isla Barro Col**	**4.24**	**160**	P	Pn	22 22 13.0	-3.6
BCIP				S	Sn	22 23 00.6	-6.3
JTS	**Las Juntas de**	**4.61**	**232**	P	Pn	22 22 21.8	+0.1
GMAL	**Guarumal, Vera**	**5.39**	**180**	P	Pn	22 22 31.6	-0.9
	19nm,1.4s,11μm						
AZU	**Azuero**	**5.46**	**169**	P	Pn	22 22 31.0	-2.3
	22nm,0.9s						
AZU				S	Sn	22 23 33.3	-3.5
	22nm,0.9s						
SJCC	**San Jacinto, C**	**6.81**	**118**	P	Pn	22 22 47.5	-4.6
SJCC				S	Sn	22 24 03.1	-7.4

*IDC **26** 22:26:31.1±1.1, 37°.36N×142°.07E, h0km, mb3.9/12, mbtmp3.8/16, ML3.4/4, MS2.9/3, Error ellipse: s-maj=24.6km s-min=17.2km az=101.0*
*NIED **26** 22:26:37.6, 37°.38N×141°.74E, h43km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}1.76; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-1.79; $M_{r\theta}$1.96; $M_{\theta\phi}$3.92; $M_{\phi r}$6.01; Fault plane solution: $M_0$7.57000×10¹⁴ NP1:φs5.00000°, δ82.00000°, λ123.00000°. NP2:φs107.00000°, δ34.00000°, λ14.00000°.*
*JMA **26** 22:26:37.6±0.2, 37°.4N±0°.4×141°.7E±0°.9, h43km±2km, MD4.1/40, MV4.2/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NEIC **26** 22:26:40.3±1.3, 37°.44N±0°.06×141°.55E±0°.08, h43km±8km, mb4.3/24, Error ellipse: s-maj=9.9km s-min=8.3km az=62.0*

ISC 26 22:26:38.5±0.7, 37°.41N±0°.05×141°.73E±0°.08, h39km±4km, n84, σ1929/84, mb4.2/26, 1C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.68**	**267**	⇓*i*P	**Pn**	**22 26 51.1**	**-0.7**
JFK				⇓S	**Sn**	**22 27 00.2**	**-0.9**
JFK	**Kawauchi**	**0.68**	**267**	A	A	22 26 51.1	
	comp=E,19nm,0.4s,comp=N,7.0nm,0.9s						
JMST	**Minamisoumatoc**	**0.74**	**296**	⇓*i*P	**Pn**	**22 26 51.9**	**-0.6**
JMST				⇓S	**Sn**	**22 27 01.9**	**-0.6**
JMST	**Minamisoumatoc**	**0.74**	**296**	A	A	22 26 51.9	
	comp=E,6.0nm,1.4s,comp=N,8.0nm,0.8s						
ONAJ	**Iwakimizuishiy**	**0.80**	**248**	⇓*i*P	**Pn**	**22 26 52.5**	**-0.9**
ONAJ				⇓S	**Sn**	**22 27 02.8**	**-1.3**
ONAJ	**Iwakimizuishiy**	**0.80**	**248**	A	A	22 26 52.5	
	comp=E,25nm,0.3s,comp=N,11nm,0.3s						
JMM	**Marumori**	**0.87**	**302**		**Pn**	**22 26 53.8**	**-0.5**
JMM				Sn	**Sn**	**22 27 04.3**	**-1.5**
JMM	**Marumori**	**0.87**	**302**	⇓*i*P	**Pn**	**22 26 53.9**	**-0.4**
JMM				⇓S	**Sn**	**22 27 04.8**	**-1.0**
JIKH	**Ishinomakikobu**	**0.93**	**347**	*i* P	**Pn**	**22 26 54.5**	**-0.6**
JIKH				*e*S	**Sn**	**22 27 06.4**	**-0.8**
JIO	**Ouri**	**1.09**	**344**	*i* P	**Pn**	**22 26 56.9**	**-0.4**
JIO				S	**Sn**	**22 27 10.3**	**-0.8**
JOTO	**OTAMA OYAMA**	**1.12**	**278**	*i* P	**Pn**	**22 26 58.1**	**+0.4**
JOTO				S	**Sn**	**22 27 12.9**	**+1.0**
JOTO	**OTAMA OYAMA**	**1.12**	**278**	A	A	22 26 58.1	
	comp=E,13nm,0.3s,comp=N,17nm,0.4s						
JHO	**Hitachi**	**1.22**	**230**	⇓*i*P	**Pn**	**22 26 57.7**	**-1.4**
JHO				⇓S	**Sn**	**22 27 12.4**	**-1.9**
JOU	**Okura**	**1.28**	**319**	*e*P	**Pn**	**22 27 00.2**	**+0.4**
JOU	**Okura**	**1.28**	**319**	A	A	22 27 00.2	
	comp=E,4.0nm,0.6s,comp=N,4.0nm,1.0s						
JYAR	**Yonezawaarcadi**	**1.36**	**292**	A	A	22 27 00.9	
	comp=E,9.0nm,1.1s,comp=N,9.0nm,1.1s						
JSB	**Shiboa**	**1.51**	**254**	A	A	22 27 02.9	
	comp=E,7.0nm,1.1s,comp=N,5.0nm,0.7s						
JYS	**Shiratake**	**1.55**	**302**	*i* P	**Pn**	**22 27 04.5**	**+0.9**
JYS				S	**Sn**	**22 27 24.6**	**+2.1**
JMK	**Ichinoseki**	**1.60**	**346**	*e*P	**Pn**	**22 27 04.4**	**+0.2**
JFY	**Yanaizu**	**1.61**	**271**	⇓*i*P	**Pn**	**22 27 04.8**	**+0.4**
JSD	**Sado**	**2.82**	**284**	Pn	**Pn**	**22 27 20.6**	**-0.5**
MJAR	**Matsushiro Arr**	**2.95**	**254**	Pn	**Pn**	**22 27 23.9**	**+1.0**
	comp=N,2.1nm,0.3s,baz=82,slow=16,SNR=30						
MJAR				Sn	**Sn**	**22 28 02.0**	**+5.1**
	comp=N,2.4nm,0.3s,baz=78,slow=30,SNR=7.7						
MJAR				LR	LR	22 28 49.5	
	comp=N,202nm,20.6s,baz=358,slow=43						
	comp=N,8.8nm,0.3s						
MAJO	**Matsushiro**	**2.95**	**254**	Pn	**Pn**	**22 27 23.7**	**+0.9**
MJB9	**Matsu-Tunnel**	**2.95**	**254**	Pn	**Pn**	**22 27 23.4**	**+0.6**
JTM	**Tenmabayashi**	**3.42**	**352**	Pn	**Pn**	**22 27 30.7**	**+1.5**
JGF	**Kuroka**	**3.96**	**244**	Pn	**Pn**	**22 27 37.5**	**+0.9**
JSG	**Sagara**	**3.96**	**228**	Pn	**Pn**	**22 27 40.5**	**+3.9**
INU	**Inuyama**	**4.32**	**243**	Pn	**Pn**	**22 27 42.8**	**+1.1**
JHJ2	**Mitsune**	**4.56**	**201**	Pn	**Pn**	**22 27 46.1**	**+1.1**
JHJ	**Hachijo jima 2**	**4.56**	**201**	Pn	**Pn**	**22 27 44.0**	**-1.0**
	baz=138,slow=16						
JHJ				Sn	**Sn**	**22 28 35.8**	**-0.9**
	baz=90,slow=20						
ERM	**Erimo**	**4.73**	**13**	Pn	**Pn**	**22 27 47.8**	**+0.5**
ASAJ	**Asahikawa**	**6.74**	**5**	Pn	**Pn**	**22 28 13.8**	**-1.1**
	comp=N,1.1nm,0.3s,baz=191,slow=16,SNR=1.6						
ASAJ				Sn	**Sn**	**22 29 31.4**	**+1.1**
	comp=N,1.6nm,0.3s,baz=203,slow=18,SNR=2.4						
	comp=N,2.3nm,0.3s						
JKA	**Kamikawa-asahi**	**6.74**	**5**	Pn	**Pn**	**22 28 15.2**	**+0.4**
JMN	**Monobe**	**7.37**	**242**	Pn	**Pn**	**22 28 23.0**	**-0.7**
JNU	**Nakatsue**	**9.85**	**247**	Pn	**Pn**	**22 29 00.8**	**+3.3**
	comp=N,0.2nm,0.3s,baz=24,slow=19,SNR=1.3						
JNU				LR	LR	22 32 59.7	
	comp=N,46nm,20.7s,baz=102,slow=38						
USRK	**Ussuriysk Ar.**	**10.02**	**316**	Pn	**Pn**	**22 28 59.7**	**-0.2**
USRK	**Ussuriysk Ar.**	**10.02**	**316**	Pn	**Pn**	**22 29 00.1**	**+0.3**
	comp=N,0.2nm,0.3s,baz=124,slow=13,SNR=1.9						
	comp=N,0.9nm,0.5s						
KSRS	**Korea Array**	**10.98**	**274**	Pn	**Pn**	**22 29 13.2**	**+0.3**
	comp=N,0.3nm,0.3s,baz=84,slow=14,SNR=1.9						
KSRS				LR	LR	22 33 11.0	
	comp=N,62nm,18.6s,baz=115,slow=35						
	comp=N,0.5nm,0.3s						
HNS	**HongShan**	**21.44**	**278**	⇑P	**P**	**22 31 21.8**	**-1.5**
HNS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**23.59**	**288**	*e*P	**P**	**22 31 46.3**	**+0.5**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,84nm,5.4s						
ULN	**Ulaanbaatar**	**27.36**	**304**	P	**P**	**22 32 19.1**	**-0.8**
SONM	**Songino Array**	**27.79**	**303**	P	**P**	**22 32 23.8**	**0.0**
SONM	**Songino Array**	**27.79**	**303**	P	**P**	**22 32 23.9**	**0.0**
	comp=Z,1.7nm,0.5s,baz=104,slow=9.1,SNR=15						
	comp=Z,1.7nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.12**	**122**	T	T	23 01 59.5	
	baz=314,slow=75,SNR=96						
H11N1	**WAKE ISLAND Hy**	**28.13**	**122**	T	T	23 01 57.1	
	baz=314,slow=75,SNR=52						
H11N3	**WAKE ISLAND Hy**	**28.14**	**122**	T	T	23 01 58.3	
	baz=314,slow=75,SNR=52						
H11S1	**WAKE ISLAND Hy**	**28.85**	**124**	T	T	23 02 51.5	
	baz=316,slow=76,SNR=87						
H11S3	**WAKE ISLAND Hy**	**28.85**	**124**	T	T	23 02 51.8	
	baz=316,slow=76,SNR=88						
H11S2	**WAKE ISLAND Hy**	**28.87**	**124**	T	T	23 02 51.6	
	baz=316,slow=76,SNR=43						
PZH	**PanZhiHua**	**35.39**	**264**	P	**P**	**22 33 33.0**	**+2.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**22 34 24.6**	**+0.2**
ZALV	**Zalesovo Beam**	**41.85**	**312**	P	**P**	**22 34 24.4**	**0.0**
	comp=Z,0.8nm,0.4s,baz=93,slow=8.0,SNR=5.8						
	comp=Z,0.8nm,0.4s						
MK31	**Makanchi Array**	**44.14**	**302**	P	**P**	**22 34 42.7**	**-0.4**
MKAR	**Makanchi Array**	**44.14**	**302**	P	**P**	**22 34 43.2**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=81,slow=10,SNR=22						
	comp=Z,2.3nm,0.7s						
MAKZ	**Makanchi**	**44.34**	**302**	P	**P**	**22 34 44.5**	**-0.3**
MAKZ				IAmb	IAmb	22 34 51.4	
	comp=Z,12nm,1.2s						
B20K	**Meade River**	**45.55**	**25**	P	**P**	**22 34 55.6**	**+1.6**
KURK	**Kurchatov**	**45.90**	**308**	P	**P**	**22 34 56.4**	**-0.6**
KURK				IAmb	IAmb	22 34 57.6	
	comp=Z,5.9nm,1.0s						
KURBB	**Kurchatov Arra**	**45.97**	**308**	P	**P**	**22 34 57.5**	**0.0**
	comp=Z,3.9nm,0.5s,baz=82,slow=8.5,SNR=38						
	comp=Z,3.9nm,0.5s						
B21K	**Ikpikpuk River**	**46.34**	**26**	P	**P**	**22 35 01.9**	**+1.7**
CAST	**Castle Rocks**	**46.78**	**34**	P	**P**	**22 35 06.5**	**+2.7**
CAST				IAmb	IAmb	22 35 46.6	
	comp=Z,5.7nm,1.5s						
D22K	**Ayikyak River**	**46.92**	**27**	P	**P**	**22 35 06.9**	**+2.1**
TARG	**Taragay, Kyrgy**	**48.46**	**296**	P	**P**	**22 35 17.5**	**-0.1**
TARG				IAmb	IAmb	22 35 19.1	
	comp=Z,2.4nm,0.6s						
KDJ	**Kajisay**	**48.79**	**297**	P	**P**	**22 35 20.1**	**+0.2**
KDJ				IAmb	IAmb	22 35 20.8	
	comp=Z,1.7nm,0.6s						
ILAR	**Eielson Array**	**49.05**	**33**	P	**P**	**22 35 19.1**	**-2.2**
	comp=Z,0.6nm,1.0s,baz=263,slow=6.3,SNR=3.1						
	comp=Z,0.6nm,1.0s						
BVAR	**Borovoye Array**	**50.51**	**312**	P	**P**	**22 35 32.4**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=72,slow=8.8,SNR=8.2						
	comp=Z,0.9nm,0.4s						
AAK	**Ala-Archa**	**50.53**	**298**	P	**P**	**22 35 33.2**	**+0.1**
BRVK	**Borovoye**	**50.56**	**312**	P	**P**	**22 35 32.8**	**-0.1**
BRVK				IAmb	IAmb	22 35 34.3	
	comp=Z,2.4nm,1.1s						
ARSB	**Arslanbob**	**52.03**	**297**	P	**P**	**22 35 44.8**	**+0.6**
KKAR	**Karatay Array**	**53.16**	**300**	P	**P**	**22 35 53.3**	**+0.9**
I30M	**Mount Dempster**	**53.43**	**31**	P	**P**	**22 35 56.0**	**+1.8**
H31M	**Peel River**	**54.14**	**30**	P	**P**	**22 36 00.8**	**+1.5**
H31M				IAmb	IAmb	22 36 17.4	
	comp=Z,4.0nm,1.1s						
GAR	**Garm**	**54.77**	**295**	P	**P**	**22 36 04.3**	**-0.1**
SIMJ	**Simiganj**	**55.84**	**295**	P	**P**	**22 36 11.8**	**-0.3**
SIMJ				IAmb	IAmb	22 36 13.3	
	comp=Z,3.0nm,0.8s						
ARTI	**Arti**	**56.36**	**318**	P	**P**	**22 36 15.2**	**-0.1**
ARTI				IAmb	IAmb	22 36 16.0	
	comp=Z,4.0nm,0.7s						
WB0	**Warramunga Arr**	**57.28**	**188**	P	**P**	**22 36 21.5**	**-0.8**
WB0				IAmb	IAmb	22 37 04.3	
	comp=Z,4.8nm,1.2s						
WB2	**Warramunga Arr**	**57.46**	**188**	P	**P**	**22 36 22.5**	**-1.0**
WRA	**Warramunga Arr**	**57.46**	**188**	P	**P**	**22 36 21.6**	**-1.9**
	comp=Z,0.6nm,0.4s,baz=5.8,slow=7.3,SNR=12						
	comp=Z,0.6nm,0.4s						
ABKAR	**Akbulak array**	**57.89**	**310**	P	**P**	**22 36 25.5**	**-0.8**
ABKAR				IAmb	IAmb	22 36 26.6	
	comp=Z,1.3nm,0.7s						
FINES	**FINESS Array B**	**68.60**	**332**	P	**P**	**22 37 36.9**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=53,slow=12,SNR=4.6						
	comp=Z,1.5nm,0.7s						
NOA	**NORSAR Array B**	**73.94**	**337**	P	**P**	**22 38 07.7**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=48,slow=5.3,SNR=1.4						
	comp=Z,0.4nm,0.7s						
AKASG	**Malin Array Be**	**74.16**	**322**	P	**P**	**22 38 10.2**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=47,slow=6.4,SNR=5.1						
	comp=Z,0.5nm,0.4s						
BRTR	**Keskin Array B**	**78.79**	**312**	P	**P**	**22 38 37.7**	**+0.3**
BRTR	**Keskin Array B**	**78.79**	**312**	P	**P**	**22 38 37.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=71,slow=6.2,SNR=1.7						
	comp=Z,0.2nm,0.3s						
GERES	**GERESS Array B**	**82.53**	**328**	P	**P**	**22 38 57.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=34,slow=11,SNR=1.8						
	comp=Z,0.2nm,0.3s						

*BKK **26** 22:41:46.8±1.0, 24°N±7°×10°0E±1°3, h10km, M4.6/13, mb5.0/8, mB4.9/6, Mjma4.1/13, ML4.9/10, MLv4.7/13, Mw(mB)4.2/6*
*IDC **26** 22:41:53.8±0.9, 23°.40N×99°.64E, h0km, mb3.6/9, mbtmp3.6/10, ML3.6/1, MS3.5/2, Error ellipse: s-maj=37.1km s-min=14.0km az=76.0*

ISC 26 22:41:55.4±0.8, 23°.51N±0°.07×99°.9E±0°.2, h10km, n21, σ1871/20, mb3.6/9, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAMP	**Lampang**	**4.97**	**183**	P	**Pn**	**22 43 13.7**	**+3.6**
	156nm,0.9s,1μm0.8nm0.5nm						
PHRA	**Phrae**	**4.99**	**177**	P	**Pn**	**22 43 10.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**5.11**	**191**	Pn	**Pn**	**22 43 09.7**	**-2.3**
	0.6nm,0.3s,baz=1.6,slow=13,SNR=12						
CMAR				Pg	**Pb**	**22 43 25.8**	**+0.8**
	9.0nm,0.3s,baz=1.5,slow=14,SNR=8.6						
CMAR				Lg	Lg	22 44 31.1	
	7.2nm,0.3s,baz=11,slow=25,SNR=5.8						
	1.1nm,0.4s						
CM01	**Chiang Mai Arr**	**5.14**	**190**	P	**Pn**	**22 43 13.2**	**+0.7**
	148nm,0.7s,1μm0.3nm0.5nm						
CM13	**Chiang Mai Arr**	**5.15**	**191**	P	**Pn**	**22 43 12.1**	**-0.6**
	60nm,0.6s,653nm0.1nm0.2nm						
CM04	**Chiang Mai Arr**	**5.16**	**190**	P	**Pn**	**22 43 11.2**	**-1.6**
	159nm,0.7s,1μm0.3nm0.6nm						
CM05	**Chiang Mai Arr**	**5.16**	**190**	P	**Pn**	**22 43 11.6**	**-1.2**
	125nm,0.7s,1μm0.3nm0.4nm						
MHMT	**Maesarieng**	**5.62**	**200**	P	**Pb**	**22 43 37.3**	**+3.6**
PHIT	**Phitsanulok**	**6.30**	**176**	P	**Pg**	**22 43 53.8**	**-2.4**
PSI	**Prapat**	**20.61**	**183**	LR	LR	22 55 54.0	
	comp=Z,45nm,20.3s,baz=328,slow=41						
SONM	**Songino Array**	**24.82**	**10**	P	**P**	**22 47 19.6**	**+1.8**
	0.4nm,0.8s,baz=

comp=Z,2μm,1.0s
CCIG Comitan 2.20 13 *i* P **Pn 22 44 35.9 -0.8**
CCIG *i* S **Sn 22 45 04.0 -0.2**
CCIG IAML 22 45 08.2
comp=Z,510nm,1.0s
NBG Las Nubes 2.27 78 *e*P **Pn 22 44 39.2 +1.4**
FAME Alcaldia de Sa 2.56 96 *i* P **Pn 22 44 41.5 -0.1**
FAME IAML 22 46 41.7
comp=Z,2.8nm,1.0s
LOAL Lomas de Alarc 2.77 92 *i* P **Pn 22 44 45.1 +0.5**
LOAL IAML 22 45 35.1
comp=Z,2μm,1.0s
NUBE Las Nubes 2.78 94 *i* P **Pn 22 44 44.7 0.0**
NUBE IAML 22 46 46.8
comp=Z,390nm,1.0s
JUAM Asuncion Mita 2.85 85 *i* P **Pn 22 44 46.0 +0.4**
JUAM IAML 22 45 40.8
comp=Z,960nm,1.0s
CEVE Cerro Verde 2.94 95 *i* P **Pn 22 44 47.4 +0.4**
CEVE IAML 22 45 27.1
comp=Z,350nm,1.0s
JAYA Jayaque - finc 3.13 98 *i* P **Pn 22 44 49.0 -0.6**
JAYA IAML 22 45 27.8
comp=Z,480nm,1.0s

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*NOU **26** 22:46:51.6, 19.°18S×170.°15E, h1km, ML4.7/10, Vanuatu Islands*
*IDC **26** 22:46:52.9±0.6, 19.°25S×170.°01E, h0km, mb4.5/16, mbtmp4.4/18, ML4.0/2, MS3.8/22, Error ellipse: s-maj=21.6km s-min=16.0km az=110.0*
*BJI **26** 22:46:56.8, 19.°14S×170.°13E, h35km, mb4.7/40, mB5.1/13, Ms5.0/1, Ms7 4.9/1*
*GCMT **26** 22:46:59.2±0.3, 19.°05S±0.°04×169.°86E±0.°02, h12km±1km, MW4.9/67, Moment Tensor Solution. s25,c25; s67,c83; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr~1.74±.19; Mθθ0.01±.14; Mφφ1.73±.13; Mrθ~1.30±.45; Mθφ~1.50±.10; Mφr~0.66±.36; Best double couple: M0=2.71000×10^16 NP1:φs119.00000°, δ56.00000°, λ-136.00000°. NP2: φs1.00000°, δ54.00000°, λ-43.00000°. Principal axes: T 2.6010, Plg1.0000°, Azm239.0000°; N 0.2190, Plg37.0000°, Azm148.0000°; P -2.8190, Plg53.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **26** 22:47:00.2±2.0, 19.°23S±0.°09×169.°75E±0.°08, h39km±6km, mb4.9/38 Error ellipse: s-maj=12.9km s-min=10.3km az=178.0*
ISC 26 22:46:58.8±0.4,**19.°21S**±0.°05×**169.°82E**±0.°06,**h35**km,**n116,** σ1§**10**/108,**mb4.8**/46,**MS3.8**/19,**6C-2D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.14**	**313**	P	**Pn**	**22 47 30.2**	**-1.8**
MARNC	**Mare, Loyalty**	**2.82**	**216**	P	**Pn**	**22 47 41.2**	**-0.2**
VLAKA	**Lakatoro**	**3.84**	**323**	P	**Pn**	**22 47 56.0**	**+0.6**
YATNC	**Mamie plateau,**	**3.95**	**224**	P	**Pn**	**22 47 55.5**	**-1.4**
PINNC	**Pines Island,**	**4.05**	**213**		**Pn**	**22 47 57.4**	**-0.9**
OUENC	**Ouen Island, N**	**4.24**	**221**	P	**Pn**	**22 47 59.0**	**-1.9**
DZM	**Mont Dzumac**	**4.26**	**227**	Pn	**Pn**	**22 47 59.6**	**-1.6**
DZM	**Mont Dzumac**	**4.26**	**227**	*e*Pn	**Pn**	**22 48 01.6**	**+0.3**
DZM	330nm,1.3s			*e*Sn	**Sn**	**22 48 50.3**	**+0.5**
	433nm,1.2s						
DZM	**Mont Dzumac**	**4.26**	**227**	Pn	**Pn**	**22 48 00.8**	**-0.4**
DZM	6.1nm,0.3s,baz=60,slow=20,SNR=12			Sn	**Sn**	**22 48 50.7**	**+0.9**
DZM	8.4nm,0.3s,baz=60,slow=18,SNR=4.2			LR	LR	22 49 29.5	
	comp=Z,3μm,18.6s,baz=33,slow=36						
	18nm,0.4s						
NOUC	**Port Laguerre**	**4.38**	**228**	P	**Pn**	**22 48 02.7**	**-0.1**
ONTNC	**Ouen Toro**	**4.41**	**225**	Pn	**Pn**	**22 48 01.2**	**-2.0**
ONTNC	**Ouen Toro**	**4.41**	**225**	P	**Pn**	**22 48 04.0**	**+0.7**
KOUNC	**Koumac, New Ca**	**5.38**	**255**	Pn	**Pn**	**22 48 15.3**	**-1.2**
KOUNC	**Koumac, New Ca**	**5.38**	**255**	P	**Pn**	**22 48 17.9**	**+1.3**
MSVF	**Nonsavu**	**7.95**	**81**	Pn	**Pn**	**22 48 53.5**	**+1.5**
MSVF	**Nonsavu**	**7.95**	**81**	Pn	**Pn**	**22 48 53.2**	**+1.3**
	3.4nm,0.3s,baz=260,slow=16,SNR=106						
MSVF	comp=Z,3μm,19.1s,baz=259,slow=35			LR	LR	22 51 24.5	
HNR	**Honiara**	**13.63**	**314**	Pn	**Pn**	**22 50 08.8**	**-0.9**
HNR	**Honiara**	**13.63**	**314**	LR	LR	22 54 58.5	
	comp=Z,207nm,19.0s,baz=142,slow=35						
URZ	**Urewera**	**20.02**	**163**	Pn	**P**	**22 51 28.0**	**-0.6**
URZ	0.5nm,0.3s,baz=51,slow=14,SNR=6.3			LR	LR	22 57 24.3	
	comp=Z,288nm,21.7s,baz=64,slow=32						
	9.9nm,0.8s						
RTZ	**Ruatahuna**	**20.32**	**164**	P	Pn	22 51 33.4	-0.7
RTZ	comp=Z,107nm,1.2s			IAmb	IAmb	22 51 35.6	
BKZ	**Black Stump Fm**	**20.71**	**165**	P	**P**	**22 51 36.7**	**+0.5**
CTAO	**Charters Tower**	**22.21**	**264**	P	**P**	**22 51 52.9**	**+0.5**
PMG	**Port Moresby**	**23.99**	**291**	P	**P**	**22 52 10.3**	**-0.1**
PMG	comp=Z,52nm,1.2s			IAmb	IAmb	22 52 20.6	
PMG	**Port Moresby**	**23.99**	**291**	LR	LR	23 00 20.7	
	comp=Z,265nm,18.7s,baz=128,slow=33						
FOZ	**Fox Glacier**	**24.25**	**180**	P	**P**	**22 52 13.2**	**+0.7**
FOZ	comp=Z,37nm,1.0s			IAmb	IAmb	22 52 15.3	
CAN	**Canberra**	**24.42**	**225**	P	**P**	**22 52 14.0**	**-0.2**
RPZ	**Rata Peaks**	**24.46**	**178**	P	**P**	**22 52 14.9**	**+0.5**
RPZ	comp=Z,39nm,1.1s			IAmb	IAmb	22 52 17.2	
RPZ	**Rata Peaks**	**24.46**	**178**	LR	LR	23 00 24.3	
	comp=Z,243nm,21.1s,baz=128,slow=33						
COEN	**Coen**	**26.05**	**277**	P	**P**	**22 52 27.5**	**-1.6**
STKA	**Stephens Creek**	**28.33**	**238**	P	**P**	**22 52 51.0**	**+1.6**
STKA	**Stephens Creek**	**28.33**	**238**	P	**P**	**22 52 51.2**	**+1.8**
	comp=Z,2.5nm,0.5s,baz=72,slow=5.3,SNR=7.8						
STKA	comp=Z,286nm,20.1s,baz=26,slow=35			LR	LR	23 03 37.7	
	comp=Z,2.5nm,0.5s						
RAR	**Rarotonga**	**28.59**	**99**	LR	LR	23 04 01.1	
	comp=Z,97nm,18.2s,baz=272,slow=36						
WRA	**Warramunga Arr**	**33.40**	**263**	P	**P**	**22 53 34.0**	**-0.3**
	comp=Z,4.3nm,0.9s,baz=94,slow=8.1,SNR=19						
WRA	comp=Z,2.0nm,0.9s,baz=100,slow=2.5,SNR=5.8			PcP	**PcP**	**22 56 15.0**	**-0.5**
WRA	comp=Z,150nm,21.9s,baz=100,slow=34			LR	LR	23 06 00.7	
	comp=Z,4.3nm,0.9s						
AS31	**Alice Springs**	**33.67**	**256**	P	**P**	**22 53 36.2**	**-0.5**
AS31	comp=Z,11nm,0.4s			IAmb	IAmb	22 53 39.6	
ASAR	**Alice Springs**	**33.67**	**256**	P	**P**	**22 53 35.8**	**-0.9**
ASAR	**Alice Springs**	**33.67**	**256**	P	**P**	**22 53 36.5**	**-0.2**
	comp=Z,17nm,0.5s,baz=84,slow=9.0,SNR=80						
ASAR	comp=Z,2.0nm,0.8s,baz=95,slow=3.2,SNR=4.8			PcP	**PcP**	**22 56 15.8**	**-0.4**
ASAR	comp=Z,367nm,19.6s,baz=94,slow=36			LR	LR	23 07 01.0	
	comp=Z,17nm,0.5s						
TBI	**Tubuai**	**38.08**	**104**	*e*SS	SS	23 02 53.5	+0.3
TBI	comp=Z,2μm,29.5s			*e*LR	LR	23 04 35.9	
	comp=Z,910nm,27.2s						
TBI	comp=Z,973nm,27.2s			*e*LR	LR	23 04 36.6	
PPT2	**Papeete2**	**38.50**	**94**	*e*S	**S**	**23 00 12.3**	**+0.6**
PPT2	comp=Z,65nm,25.0s			*e*SS	**SS**	**23 03 02.9**	**+0.9**
PPT2	comp=Z,335nm,29.8s			*e*LR	LR	23 04 42.5	
PPT2	comp=Z,473nm,29.0s			*e*LR	LR	23 04 48.0	
	comp=Z,314nm,29.8s						
PPT	**Papeete**	**38.51**	**94**	LR	LR	23 09 44.1	
	comp=Z,30nm,18.5s,baz=220,slow=36						
FORT	**Forrest**	**39.36**	**245**	P	**P**	**22 54 28.6**	**+3.6**
FORT	comp=Z,31nm,0.8s			IAmb	IAmb	22 54 29.5	
FAKI	**Fak Fak**	**40.13**	**289**	P	**P**	**22 54 31.0**	**-0.6**
FAKI	comp=Z,16nm,0.8s			IAmb	IAmb	22 54 35.0	
GUMO	**Guam**	**40.82**	**321**	LR	LR	23 09 53.1	
	comp=Z,49nm,21.9s,baz=124,slow=34						
FITZ	**Fitzroy Crossi**	**41.79**	**264**	P	**P**	**22 54 45.5**	**+0.2**
BATI	**Baumata**	**45.42**	**275**	LR	LR	23 15 22.8	
	comp=Z,154nm,18.0s,baz=148,slow=38						
PSA00	**Pilbara Seismi**	**46.75**	**258**	P	**P**	**22 55 25.7**	**+0.8**
MBWA	**Marble Bar**	**46.90**	**259**	P	**P**	**22 55 25.6**	**-0.6**
MBWA	**Marble Bar**	**46.90**	**259**	P	**P**	**22 55 26.3**	**+0.2**
NWAO	**Narrogin (SRO)**	**48.72**	**243**	P	**P**	**22 55 40.8**	**+0.7**
NWAO	**Narrogin (SRO)**	**48.72**	**243**	P	**P**	**22 55 40.4**	**+0.3**
NWAO				pP	**sP**	**22 55 52.1**	**-1.9**
TAOE	**Nuku Hiva Isla**	**49.46**	**85**	*e*LR	LR	23 09 53.4	
	comp=Z,185nm,24.1s						
CASY	**Casey**	**60.38**	**204**	P	**P**	**22 57 04.8**	**+0.7**
CASY				pP	**pwP**	**22 57 16.9**	**+0.2**
CASY				PcP	**PcP**	**22 57 49.2**	**+0.3**
CCD	**Concordia, Ant**	**61.05**	**192**	P	**P**	**22 57 08.8**	**-0.3**
MJAR	**Matsushiro Arr**	**62.98**	**332**	P	**P**	**22 57 21.6**	**-0.5**
	comp=Z,4.9nm,0.9s,baz=160,slow=7.3,SNR=9.2						
	comp=Z,4.9nm,0.9s						
MJB9	**Matsu-Tunnel**	**62.99**	**332**	P	**P**	**22 57 21.6**	**-0.5**
KSRS	**Korea Array**	**68.79**	**325**	P	**P**	**22 57 58.7**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=134,slow=5.2,SNR=2.2						
	comp=Z,1.3nm,0.8s						
NJ2	**Nanjing**	**70.57**	**316**	*e*P	**P**	**22 58 13.0**	**+2.5**
NJ2	comp=Z,9.0nm,0.6s			pmax	pmax		
QSPA	**South Pole Qui**	**70.85**	**180**	P	**P**	**22 58 12.1**	**+0.2**
QSPA	comp=Z,12nm,0.9s			IAmb	IAmb	22 58 13.2	
QSPA	**South Pole Qui**	**70.85**	**180**	P	**P**	**22 58 11.8**	**0.0**
	comp=Z,8.9nm,0.9s,baz=16,slow=2.9,SNR=21						
QSPA	comp=Z,58nm,19.4s,baz=24,slow=33			LR	LR	23 25 46.3	
	comp=Z,8.9nm,0.9s						
QSPA	**South Pole Qui**	**70.85**	**180**	P	**P**	**22 58 11.9**	**0.0**
USRK	**Ussuriysk Ar.**	**71.96**	**332**	P	**P**	**22 58 19.0**	**+0.4**
USRK	**Ussuriysk Ar.**	**71.96**	**332**	P	**P**	**22 58 19.3**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=143,slow=5.0,SNR=4.4						
	comp=Z,4.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**71.96**	**332**	P	**P**	**22 58 19.2**	**+0.6**
PSI	**Prapat**	**72.96**	**279**	LR	LR	23 32 44.0	
	comp=Z,52nm,18.4s,baz=157,slow=38						
CN2	**Changchun**	**74.72**	**328**	*e*P	**P**	**22 58 35.5**	**+0.6**
CN2	comp=Z,10.0nm,0.9s			pmax	pmax		
BNX	**BinXian**	**75.22**	**331**	⇓P	**P**	**22 58 38.0**	**+0.3**
BNX	comp=Z,8.0nm,1.3s			pmax	pmax		
KLR	**Kul'dur**	**76.07**	**335**	P	**P**	**22 58 43.9**	**+1.4**
	comp=Z,5.4nm,0.8s,baz=134,slow=5.2,SNR=10						
	comp=Z,5.4nm,0.8s						
ENH	**Enshi**	**76.08**	**309**	P	**P**	**22 58 42.3**	**-0.7**
LYN	**LuoYang**	**76.34**	**314**	*e*P	**P**	**22 58 45.0**	**+0.6**
LYN	comp=Z,22nm,0.5s			pmax	pmax		
HNS	**HongShan**	**76.54**	**318**	⇑P	**P**	**22 58 46.5**	**+1.0**
HNS	comp=Z,9.0nm,1.0s			pmax	pmax		
BJT	**Baijiatuan**	**77.25**	**321**	P	**P**	**22 58 48.6**	**-0.8**
BJI	**Beijing**	**77.26**	**321**	P	**P**	**22 58 48.3**	**-1.2**
BJI	comp=Z,4.0nm,0.7s			pmax	pmax		
BJI	comp=Z,57nm,4.2s			pmax	pmax		
XAN	**Xi'an**	**78.49**	**312**	P	**P**	**22 58 56.5**	**-0.1**
XAN				pP	PcP	22 59 04.8	-0.8
XAN	comp=Z,16nm,1.2s			pmax	pmax		
HEH	**HeiHe**	**78.63**	**334**	*e*P	**P**	**22 58 57.0**	**+0.2**
HEH	comp=Z,10.0nm,1.2s			pmax	pmax		
MAW	**Mawson**	**78.67**	**202**	P	**P**	**22 58 56.7**	**-0.2**
	comp=Z,10nm,0.9s,baz=100,slow=9.8,SNR=12						
MAW	comp=Z,70nm,19.0s,baz=104,slow=33			LR	LR	23 30 24.3	
	comp=Z,10nm,0.9s						
KMI	**Kunming**	**78.72**	**302**	⇑P	**P**	**22 58 59.0**	**+0.7**
KMI	comp=Z,16nm,0.9s			pmax	pmax		
CM31	**Chiang Mai Arr**	**78.99**	**294**	P	**P**	**22 59 00.6**	**+1.0**
CM31	comp=Z,10nm,0.8s			IAmb	IAmb	22 59 04.5	
CMAR	**Chiang Mai Arr**	**78.99**	**294**	P	**P**	**22 59 00.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**78.99**	**294**	P	**P**	**22 59 00.8**	**+1.3**
	comp=Z,3.1nm,0.3s,baz=130,slow=3.9,SNR=24						
	comp=Z,3.1nm,0.3s						
CHTO	**Chiang Mai**	**79.14**	**294**	P	**P**	**22 59 00.9**	**+0.5**
PZH	**PanZhiHua**	**80.15**	**302**	P	**P**	**22 59 08.0**	**+2.1**
PZH	comp=Z,10.0nm,1.0s			pmax	pmax		
PZH	comp=Z,80nm,5.5s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**80.55**	**319**	*e*P	**P**	**22 59 09.0**	**+1.3**
HHC	comp=Z,9.0nm,0.6s			pmax	pmax		
HHC	comp=Z,83nm,3.6s			pmax	pmax		
CD2	**Chengdu**	**80.65**	**307**	*e*P	**P**	**22 59 09.0**	**+0.6**
BELA	**Belgrano 2**	**82.08**	**175**	P	**P**	**22 59 14.6**	**-0.6**
ILSW	**Iliamna Southw**	**84.45**	**18**	P	**P**	**22 59 27.8**	**+0.2**
ELIB	**Princess Elisa**	**86.27**	**190**	*d*P	**P**	**22 59 36.3**	**-0.4**
	comp=Z,4.2nm,1.1s						
AFDM	**Forest Hills D**	**86.74**	**47**	P	**P**	**22 59 39.7**	**+0.3**
AFDM	comp=Z,6.3nm,1.1s			IAmb	IAmb	22 59 43.4	
YBH	**Yreka Blue Hor**	**86.89**	**44**	LR	LR	23 31 03.2	
	comp=Z,90nm,19.6s,baz=286,slow=30						
ULN	**Ulaanbaatar**	**87.17**	**323**	P	**P**	**22 59 41.5**	**+0.2**
ULN	comp=Z,12nm,1.0s			IAmb	IAmb	22 59 45.5	
GTA	**Gaotai**	**87.50**	**313**	P	**P**	**22 59 44.0**	**+0.8**
GTA	comp=Z,6.0nm,1.5s			pmax	pmax		
SONM	**Songino Array**	**87.52**	**323**	P	**P**	**22 59 43.1**	**+0.1**
SONM	comp=Z,9.8nm,1.0s			IAmb	IAmb	22 59 44.3	
SONM	**Songino Array**	**87.52**	**323**	P	**P**	**22 59 43.5**	**+0.4**
	comp=Z,6.8nm,0.9s,baz=134,slow=4.2,SNR=22						
	comp=Z,6.8nm,0.9s						
PFO	**Pinyon Flats O**	**87.66**	**53**	LR	LR	23 29 40.7	
	comp=Z,64nm,21.5s,baz=302,slow=29						
NVAR	**Mina Array Bea**	**88.37**	**48**	P	**P**	**22 59 48.4**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=234,slow=4.3,SNR=5.5						
	comp=Z,1.2nm,0.7s						
TROLL	**Troll, Antarti**	**88.61**	**184**	⇑P	**P**	**22 59 47.6**	**-0.4**
	comp=Z,251nm,0.8s						
LPIG	**La Paz**	**88.91**	**64**	LR	LR	23 30 41.4	
	comp=Z,102nm,20.4s,baz=224,slow=30						
TPNV	**Topopah Spring**	**89.21**	**50**	P	**P**	**22 59 51.4**	**0.0**
TPNV	comp=Z,14nm,1.8s			IAmb	IAmb	23 01 52.7	
SNAA	**Sanae**	**89.22**	**182**	⇑P	**P**	**22 59 49.4**	**-1.4**
	comp=Z,38nm,0.8s						
SNAA	**Sanae**	**89.22**	**182**	P	**P**	**22 59 48.6**	**-2.1**
	comp=Z,4.1nm,1.1s,baz=182,slow=11,SNR=5.3						
	comp=Z,4.1nm,1.1s						
VNA3	**Neumayer Olymp**	**89.79**	**180**	⇑P	**P**	**22 59 50.6**	**-2.8**
	comp=Z,4.5nm,0.9s						
ILAR	**Eielson Array**	**90.04**	**17**	P	**P**	**22 59 52.1**	**-2.3**
	comp=Z,0.4nm,0.7s,baz=235,slow=4.3,SNR=2.8						
	comp=Z,0.4nm,0.7s						
VNA2	**Neumayer--Watz**	**90.09**	**181**	⇑P	**P**	**22 59 52.8**	**-1.9**
	comp=Z,2.8nm,0.8s,baz=135,slow=3.0						
PRN	**Pahroc Range**	**90.27**	**50**	P	**P**	**22 59 56.1**	**-0.1**
PRN	comp=Z,6.0nm,0.9s			IAmb	IAmb	23 00 01.7	
J08A	**Circle Bar Ran**	**90.42**	**44**	P	**P**	**22 59 56.9**	**+0.1**
J08A	comp=Z,8.4nm,1.2s			IAmb	IAmb	23 00 01.0	
X16A	**Lo Mia Camp, P**	**91.80**	**54**	P	**P**	**23 00 04.5**	**+0.9**
X16A	comp=Z,3.9nm,1.1s			IAmb	IAmb	23 00 06.1	
U15A	**North Rim**	**91.91**	**52**	P	**P**	**23 00 05.2**	**+1.1**
U15A	comp=Z,3.8nm,0.9s			IAmb	IAmb	23 00 09.2	
MAYO	**Mayo, Yukon**	**92.63**	**21**	P	**P**	**23 00 06.5**	**+0.1**
ANMO	**Albuquerque**	**95.83**	**55**	LR	LR	23 34 57.6	
	comp=Z,27nm,20.1s,baz=59,slow=30						
PDAR	**Pinedale Array**	**96.19**	**47**	P	**P**	**23 00 21.4**	**-2.2**
	comp=Z,0.1nm,0.4s,baz=244,slow=7.5,SNR=1.9						
PDAR	comp=Z,36nm,18.9s,baz=311,slow=31			LR	LR	23 37 05.5	
	comp=Z,0.1nm,0.4s						
TXAR	**Lajitas Array**	**96.27**	**61**	P	**P**	**23 00 22.0**	**-2.1**
	comp=Z,0.3nm,0.7s,baz=229,slow=6.8,SNR=3.1						
TXAR	comp=Z,38nm,18.9s,baz=205,slow=31			LR	LR	23 36 48.2	
	comp=Z,0.3nm,0.7s						
WMQ	**Urumqi**	**97.58**	**314**	*e*P	Pdif	23 00 31.5	+1.8
WMQ	comp=Z,9.0nm,0.7s			pmax	pmax		
RCBR	**Riachuelo**	**144.50**	**132**	PKPdf	PKPbc	23 06 31.7	+0.6
LIT	**Litokhoron**	**145.08**	**314**		**PKPbc**	**23 06 31.3**	**-0.9**
IDI	**Anoyia**	**145.17**	**305**	PKPbc	**PKPdf**	**23 06 34.0**	**+0.9**
	comp=Z,24nm,0.9s,baz=68,slow=5.4,SNR=6.1						
FNA	**Florina**	**145.51**	**315**	PKPdf	**PKPdf**	**23 06 32.4**	**-1.1**
ESDC	**Sonseca Array**	**158.91**	**347**	PKPab	**PKPab**	**23 07 28.8**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=20,slow=4.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**167.10**	**244**	PKP	**PKPdf**	**23 07 00.6**	**-1.3**
	comp=Z,2.2nm,1.2s,baz=27,slow=3.2,SNR=4.7						
TORD				PKPab	**PKPab**	**23 08 05.6**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=91,slow=3.3,SNR=3.8						

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*IDC **26** 22:58:12.9±1.0, 36.°65N×141.°47E, h0km, mb3.7/11, mbtmp3.7/13, ML3.0/2, MS3.1/2, Error ellipse: s-maj=25.5km s-min=19.2km az=69.0*
*NIED **26** 22:58:15.7, 36.°79N×141.°35E, h44km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr~2.98; Mθθ~2.52; Mφφ5.50; Mrθ4.42; Mθφ0.87; Mφr2.49; Fault plane solution: M0 7.00000×10^14 NP1: φs223.00000°, δ74.00000°, λ-53.00000°. NP2: φs333.00000°, δ40.00000°, λ-154.00000°.*
*JMA **26** 22:58:15.7±0.1, 36.°8N±0.°3×141.°4E±0.°6, h44km±1km, MD4.2/38, MV3.9/38, E OFF IBARAKI PREF*
JMA Felt I J1 at E OFF IBARAKI PREF .
ISC 26 22:58:15.0±2.1,**36.°78N**±0.°05×**141.°41E**±0.°09,**h11**km±**11**km, **n47**,σ1§**25**/28,**mb3.6**/11,**2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.58**	**304**	*i* P	**Pg**	**22 58 27.0**	**+0.6**
ONAJ				*e*S	**Sg**	**22 58 34.9**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.58**	**304**	A	A	22 58 27.0	
	comp=E,13nm,0.6s,comp=N,7.0nm,0.8s						
JHO	**Hitachi**	**0.69**	**256**	P	**Pg**	**22 58 28.4**	**-0.1**
JHO				S	**Sg**	**22 58 37.6**	**0.0**
JHO	**Hitachi**	**0.69**	**256**	A	A	22 58 28.4	
	comp=E,6.0nm,0.9s,comp=N,6.0nm,1.1s						
JFK	**Kawauchi**	**0.73**	**324**	*i* P	**Pg**	**22 58 29.1**	**0.0**
JFK	**Kawauchi**	**0.73**	**324**	A	A	22 58 29.1	
	comp=E,5.0nm,1.4s,comp=N,4.0nm,0.6s						
JFFD	**Fukushimafurud**	**0.75**	**295**	*i* P	**Pg**	**22 58 29.1**	**-0.3**
JFFD	**Fukushimafurud**	**0.75**	**295**	A	A	22 58 29.1	
	comp=E,3.0nm,1.8s,comp=N,6.0nm,1.0s						
JHYU	**Hitachinakayam**	**0.79**	**237**	⇓*i*P	**Pb**	**22 58 30.1**	**-0.7**
JHYU				⇓S	**Sb**	**22 58 40.9**	**-0.6**
JHYU	**Hitachinakayam**	**0.79**	**237**	A	A	22 58 30.1	
	comp=E,7.0nm,0.7s,comp=N,9.0nm,0.7s						
JIHU	**Itakohorinouch**	**1.08**	**222**	A	A	22 58 34.4	
	comp=E,35nm,0.5s,comp=N,25nm,2.2s						
JYT	**Yasato**	**1.12**	**241**	A	A	22 58 34.8	
	comp=E,12nm,0.3s,comp=N,11nm,0.5s						
JOTO	**OTAMA OYAMA**	**1.16**	**313**	P	**Pn**	**22 58 35.8**	**-1.4**
JOTO				S	**Sb**	**22 58 49.6**	**-2.6**
JOTO	**OTAMA OYAMA**	**1.16**	**313**	A	A	22 58 35.8	
	comp=E,16nm,1.1s,comp=N,14nm,3.1s						
JMM	**Marumori**	**1.19**	**336**	*i* P	**Pn**	**22 58 36.2**	**-1.4**
JMM				S	**Sb**	**22 58 51.0**	**-2.0**
JSB	**Shiboa**	**1.21**	**280**	A	A	22 58 35.9	
	comp=E,16nm,1.1s,comp=N,7.0nm,1.3s						
JFY	**Yanaizu**	**1.50**	**295**	A	A	22 58 40.2	
	comp=E,2.0nm,1.2s,comp=N,2.0nm,7.6s						
JYAR	**Yonezawaarcadi**	**1.52**	**319**	A	A	22 58 40.5	
	comp=E,14nm,1.1s,comp=N,11nm,1.1s						
JAG	**Ashikaga**	**1.61**	**258**	P	**Pn**	**22 58 42.0**	**-1.4**
JCN	**Nagara**	**1.67**	**216**	A	A	22 58 43.0	
	comp=E,11nm,3.4s,comp=N,8.0nm,2.3s						
JOU	**Okura**	**1.69**	**340**	A	A	22 58 43.3	
	comp=E,4.0nm,1.6s,comp=N,4.0nm,6.8s						
JOFO	**Osakifurukawao**	**1.86**	**348**	A	A	22 58 45.8	
	comp=E,13nm,1.6s,comp=N,10.0nm,3.0s						
JYA	**Atsumi**	**2.25**	**324**	A	A	22 58 51.2	
	comp=E,3.0nm,0.9s,comp=N,3.0nm,2.4s						
MJAR	**Matsushiro Arr**	**2.58**	**266**	Pn	**Pn**	**22 58 56.5**	**-0.3**
	comp=N,1.2nm,0.3s,baz=92,slow=13,SNR=45						
MJAR				Sn	**Sn**	**22 59 28.8**	**+0.6**
	comp=N,3.7nm,0.3s,baz=86,slow=19,SNR=3.3						
MJAR				LR	LR	23 00 00.5	
	comp=N,64nm,21.8s,baz=54,slow=41						
	comp=N,15nm,0.6s						
USRK	**Ussuriysk Ar.**	**10.31**	**319**	Pn	Pn	23 00 48.8	+6.0
	comp=N,0.1nm,0.3s,baz=144,slow=11,SNR=1.4						
KSRS	**Korea Array**	**10.79**	**278**	Pn	**Pn**	**23 00 51.9**	**+2.5**
	comp=N,0.3nm,0.3s,baz=92,slow=14,SNR=1.4						
KSRS				LR	LR	23 05 01.5	
	comp=N,35nm,18.4s,baz=80,slow=38						
	comp=N,0.6nm,0.3s						
SONM	**Songino Array**	**27.92**	**304**	P	**P**	**23 04 05.3**	**+0.1**
	comp=N,0.6nm,0.6s,baz=108,slow=9.3,SNR=3.8						
	comp=N,0.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.02**	**120**	T	T	23 33 28.0	
	baz=313,slow=75,SNR=143						
H11N1	**WAKE ISLAND Hy**	**28.03**	**120**	T	T	23 33 35.8	
	baz=313,slow=75,SNR=125						
H11N3	**WAKE ISLAND Hy**	**28.04**	**120**	T	T	23 33 36.5	
	baz=313,slow=75,SNR=146						
H11S1	**WAKE ISLAND Hy**	**28.73**	**122**	T	T	23 34 10.1	
	baz=315,slow=76,SNR=69						
H11S3	**WAKE ISLAND Hy**	**28.73**	**123**	T	T	23 34 11.7	
	baz=315,slow=76,SNR=64						
H11S2	**WAKE ISLAND Hy**	**28.74**	**123**	T	T	23 34 11.4	
	baz=315,slow=76,SNR=81						
TGY	**Tagaytay City**	**29.06**	**224**	LR	LR	23 14 16.4	
	comp=N,84nm,21.5s,baz=126,slow=33						
ZALV	**Zalesovo Beam**	**42.08**	**313**	P	**P**	**23 06 06.2**	**-0.5**
	comp=N,0.5nm,0.4s,baz=88,slow=7.4,SNR=3.9						
ZALV				PcP	**PcP**	**23 08 00.9**	**-0.4**
	comp=N,0.4nm,0.4s,baz=73,slow=5.0,SNR=2.2						

BOB			S	Sg	23 04 26.3	-0.9
BOB	**Bobbio (Coli)**	**0.12 341**	⇓P	**Pg**	23 04 24.1	-0.7
BOB			S	**Sg**	23 04 26.3	-0.9
BOB			AML	AML		
	comp=N,64750µm,1.2s					
BOB			AML	AML		
	comp=N,64750µm,1.2s					
BOB			AML	AML		
	comp=N,69100µm,1.2s					
BOB			AML	AML		
	comp=E,71800µm,0.4s					
BOB			AML	AML		
	comp=E,72900µm,0.4s					
BOB			AML	AML		
	comp=N,64750µm,0.8s					
BOB			AML	AML		
	comp=N,69100µm,0.8s					
BOB			AML	AML		
	comp=E,54138µm,0.1s					
BOB			AML	AML		
	comp=E,53115µm,0.1s					
BOB			AML	AML		
	comp=N,59678µm,0.4s					
BOB			AML	AML		
	comp=N,54835µm,0.4s					
GORR	**Gorreto**	**0.16 253**	Pg	**Pg**	23 04 25.4	+0.2
GORR			Sg	**Sg**	23 04 29.3	+1.3
GORR	**Gorreto**	**0.16 253**	P	**Pg**	23 04 25.5	+0.2
GORR			S	**Sg**	23 04 28.6	+0.6
GORR	**Gorreto**	**0.16 253**	⇑rP	**Pg**	23 04 25.5	+0.2
GORR			S	**Sg**	23 04 28.7	+0.7
GORR			AML	AML		
	comp=N,16050µm,0.4s					
GORR			AML	AML		
	comp=E,26050µm,0.7s					
GORR			AML	AML		
	comp=N,13863µm,0.3s					
GORR			AML	AML		
	comp=E,25248µm,0.3s					
BDGO	**Bedonia Gallar**	**0.17 150**	P	**Pg**	23 04 25.2	-0.2
BDGO			S	**Sg**	23 04 28.8	+0.6
BVT	**Borgo Val di T**	**0.26 131**	P	**Pg**	23 04 25.7	-1.1
BVT			S	**Sg**	23 04 29.5	-1.0
MSSA	**Maissana**	**0.34 178**	P	**Pb**	23 04 28.1	-1.0
MSSA			S	**Sb**	23 04 33.5	-0.8
GRAM	**Graiana**	**0.43 112**	P	**Pb**	23 04 29.5	-1.2
GRAM			S	**Sb**	23 04 36.0	-1.1
GRAM	**Graiana**	**0.43 112**	⇓P	**Pb**	23 04 29.6	-1.2
GRAM			S	**Sb**	23 04 36.1	-1.1
GRAM			AML	AML		
	comp=N,5565µm,0.3s					
GRAM			AML	AML		
	comp=E,5770µm,1.4s					
GRAM			AML	AML		
	comp=N,5568µm,0.3s					
GRAM			AML	AML		
	comp=E,5254µm,0.2s					
RNCA	**Ronca, Sant'Ol**	**0.43 246**	Sg	**Sb**	23 04 37.3	+0.1
RNCA	**Ronca, Sant'Ol**	**0.43 246**	Pg	**Pb**	23 04 30.2	-0.6
RNCA	**Ronca, Sant'Ol**	**0.43 246**	P	**Pb**	23 04 30.2	-0.6
RNCA			S	**Sb**	23 04 36.9	-0.3
RNCA	**Ronca, Sant'Ol**	**0.43 246**	⇑P	**Pb**	23 04 30.2	-0.6
RNCA			S	**Sb**	23 04 37.0	-0.1
RNCA			AML	AML		
	comp=E,2755µm,0.5s					
RNCA			AML	AML		
	comp=N,2430µm,0.2s					
RNCA			AML	AML		
	comp=N,2430µm,0.2s					
RNCA			AML	AML		
	comp=E,2352µm,0.1s					
GENL	**Genova Univers**	**0.46 237**	P	**Pb**	23 04 30.6	-0.5
GENL			S	**Sb**	23 04 37.6	-0.1
GENL	**Genova Univers**	**0.46 237**	AML	AML		
	comp=E,4059µm,0.2s					
GENL			AML	AML		
	comp=E,4060µm,0.2s					
GENL			AML	AML		
	comp=N,3600µm,0.7s					
GENL			AML	AML		
	comp=N,2984µm,0.3s					
GNV	**Genova**	**0.47 242**	P	**Pb**	23 04 31.0	-0.3
GNV			S	**Sb**	23 04 38.4	+0.4
SARZ	**Sarezzano**	**0.47 297**	P	**Pb**	23 04 32.0	+0.5
SARZ	**Sarezzano**	**0.47 297**	P	**Pb**	23 04 31.9	+0.5
SARZ			AML	AML		
	comp=E,4620µm,0.5s					
SARZ			AML	AML		
	comp=N,3230µm,1.3s					
SARZ			AML	AML		
	comp=N,3305µm,1.3s					
SARZ			AML	AML		
	comp=E,4480µm,0.5s					
SARZ			AML	AML		
	comp=E,4481µm,0.5s					
SARZ			AML	AML		
	comp=E,4620µm,0.5s					
SARZ			AML	AML		
	comp=N,3225µm,0.5s					
SARZ			AML	AML		
	comp=N,3244µm,0.5s					
NEVI	**Neviano degli**	**0.58 96**	P	**Pb**	23 04 33.3	0.0
PRMA	**PARMA**	**0.59 79**	P	**Pb**	23 04 33.6	+0.3
PRMA			S	**Sn**	23 04 44.7	+0.1
PRMA	**PARMA**	**0.59 79**	P	**Pb**	23 04 33.8	+0.4
PRMA			AML	AML		
	comp=N,6810µm,0.5s					
PRMA			AML	AML		
	comp=E,8685µm,0.4s					
PRMA			AML	AML		
	comp=N,6813µm,0.5s					
PRMA			AML	AML		
	comp=E,8687µm,0.4s					
EUCT	**Pavia**	**0.61 335**	P	**Pb**	23 04 34.7	+0.9
EUCT			AML	AML		
	comp=E,4825µm,0.9s					
EUCT			AML	AML		
	comp=N,3900µm,0.7s					
EUCT			AML	AML		
	comp=E,4820µm,0.9s					
EUCT			AML	AML		
	comp=N,3900µm,1.3s					
EUCT			AML	AML		
	comp=E,4820µm,1.1s					
EUCT			AML	AML		
	comp=E,4488µm,0.5s					
EUCT			AML	AML		
	comp=N,3629µm,0.5s					
CTL8	**Castelleone**	**0.65 16**	P	**Pb**	23 04 35.2	+0.7
PLMA	**Palmaria, Port**	**0.65 157**	P	**Pb**	23 04 33.4	-1.0
PLMA			S	**Sb**	23 04 42.6	-0.7
PLMA	**Palmaria, Port**	**0.65 157**	P	**Pb**	23 04 33.4	-1.0
PLMA			S	**Sb**	23 04 42.8	-0.5
PLMA			AML	AML		
	comp=E,2040µm,0.3s					
PLMA			AML	AML		
	comp=N,2015µm,0.6s					
PLMA			AML	AML		
	comp=E,1516µm,0.2s					
PLMA			AML	AML		
	comp=N,1810µm,0.2s					
EQUI	**Equi**	**0.67 136**	P	**Pg**	23 04 33.5	-0.9
EQUI			S	**Sb**	23 04 43.0	-1.0
EQUI	**Equi**	**0.67 136**	P	**Pg**	23 04 33.6	-0.9
EQUI			AML	AML		
	comp=N,1475µm,1.4s					
EQUI			AML	AML		
	comp=E,999µm,0.3s					
EQUI			AML	AML		
	comp=N,1475µm,0.6s					
EQUI			AML	AML		
	comp=E,675µm,0.1s					
EQUI			AML	AML		
	comp=N,1385µm,0.3s					
PCP	**Piancastagn**	**0.69 261**	Sg	**Sb**	23 04 45.5	+0.9
PCP	**Piancastagn**	**0.69 261**	Pg	**Pb**	23 04 34.8	-0.5
PCP	**Piancastagn**	**0.69 261**	P	**Pb**	23 04 34.6	-0.6
PCP			S	**Sb**	23 04 45.0	+0.4
PCP	**Piancastagn**	**0.69 261**	P	**Pb**	23 04 34.8	-0.5
PCP			S	**Sb**	23 04 45.8	+1.1
PCP			AML	AML		
	comp=N,1185µm,0.7s					
PCP			AML	AML		
	comp=E,1088µm,0.3s					
PCP			AML	AML		
	comp=N,993µm,0.2s					
PCP			AML	AML		
	comp=E,1091µm,0.3s					
SARO	**Sassorosso**	**0.80 126**	P	**Pb**	23 04 36.0	-1.0
SARO			S	**Sb**	23 04 47.3	-0.3
SARO	**Sassorosso**	**0.80 126**	P	**Pb**	23 04 36.0	-1.0
SARO			S	**Sb**	23 04 47.4	-0.2
SARO			AML	AML		
	comp=N,2495µm,0.5s					
SARO			AML	AML		
	comp=N,2490µm,0.5s					
SARO			AML	AML		
	comp=N,2490µm,1.5s					
SARO			AML	AML		
	comp=E,1855µm,0.4s					
SARO			AML	AML		
	comp=N,2492µm,0.5s					
SARO			AML	AML		
	comp=E,1854µm,0.4s					
VLC	**Villacollemand**	**0.80 128**	P	**Pb**	23 04 36.3	-0.8
VLC			AML	AML		
	comp=E,626µm,0.8s					
VLC			AML	AML		
	comp=N,766µm,1.0s					
VLC			AML	AML		
	comp=E,640µm,0.8s					
VLC			AML	AML		
	comp=E,626µm,0.8s					
VLC			AML	AML		
	comp=E,640µm,1.2s					
VLC			AML	AML		
	comp=E,626µm,1.2s					
VLC			AML	AML		
	comp=N,784µm,1.0s					
VLC			AML	AML		
	comp=E,543µm,0.4s					
VLC			AML	AML		
	comp=E,550µm,0.4s					
VLC			AML	AML		
	comp=N,664µm,0.6s					
VLC			AML	AML		
	comp=N,649µm,0.6s					
ORZI	**Orzinuovi**	**0.81 22**	P	**Pb**	23 04 37.7	+0.5
A312A	**Bozzolo (MN)**	**0.83 56**	P	**Pb**	23 04 37.9	+0.4
GSCL	**Gusciola**	**0.83 111**	P	**Pb**	23 04 37.4	-0.1
GSCL	**Gusciola**	**0.83 111**	P	**Pb**	23 04 37.5	-0.1
GSCL			S	**Sb**	23 04 48.9	+0.3
GSCL			AML	AML		
	comp=N,900µm,1.3s					
GSCL			AML	AML		
	comp=E,732µm,0.6s					
GSCL			AML	AML		
	comp=N,900µm,0.7s					
GSCL			AML	AML		
	comp=E,732µm,1.4s					
GSCL			AML	AML		
	comp=N,691µm,0.4s					
GSCL			AML	AML		
	comp=E,732µm,0.6s					
ROTM	**Rocchetta Tana**	**0.84 284**	Sg	**Sn**	23 04 52.8	+1.8
ROTM	**Rocchetta Tana**	**0.84 284**	Pg	**Pn**	23 04 39.2	+0.5
ROTM	**Rocchetta Tana**	**0.84 284**	P	**Pn**	23 04 39.5	+0.7
MILN	**Milano**	**0.85 347**	P	**Pn**	23 04 39.0	+0.1
MILN			AML	AML		
	comp=E,10250µm,0.6s					
MILN			AML	AML		
	comp=E,7810µm,0.3s					
MILN			AML	AML		
	comp=N,16150µm,0.4s					
MILN			AML	AML		
	comp=N,13450µm,0.4s					
MILN			AML	AML		
	comp=N,13450µm,1.6s					
MILN			AML	AML		
	comp=E,10250µm,1.4s					
MILN			AML	AML		
	comp=N,16150µm,1.6s					
MILN			AML	AML		
	comp=N,13428µm,0.4s					
MILN			AML	AML		
	comp=N,16173µm,0.4s					
MILN			AML	AML		
	comp=E,10248µm,0.6s					
MILN			AML	AML		
	comp=E,7807µm,0.3s					
QLNO	**Quiliano**	**0.89 249**	P	**Pb**	23 04 38.3	-0.3
QLNO			S	**Sb**	23 04 50.7	+0.4
QLNO			AML	AML		
	comp=E,660µm,0.2s					
QLNO			AML	AML		
	comp=N,753µm,0.5s					
QLNO			AML	AML		
	comp=E,660µm,0.1s					
QLNO			AML	AML		
	comp=N,622µm,0.3s					
CADC	**Capriano del C**	**0.92 29**	P	**Pn**	23 04 40.1	+0.3
CARD	**Cardoso**	**0.94 131**	P	**Pg**	23 04 38.5	-1.0
CARD	**Cardoso**	**0.94 131**	P	**Pb**	23 04 38.8	-0.6
CARD			AML	AML		
	comp=N,2835µm,0.8s					
CARD			AML	AML		
	comp=E,2110µm,0.5s					
CARD			AML	AML		
	comp=N,2835µm,1.2s					
CARD			AML	AML		
	comp=N,2253µm,0.5s					
CARD			AML	AML		
	comp=E,1985µm,0.1s					
BDI	**Bagni Di Lucca**	**0.98 127**	P	**Pb**	23 04 39.5	-0.6
BDI			AML	AML		
	comp=N,1520µm,0.5s					
BDI			AML	AML		
	comp=N,1322µm,0.3s					
BDI			AML	AML		
	comp=N,1520µm,1.5s					
BDI			AML	AML		
	comp=E,1705µm,0.8s					
BDI			AML	AML		
	comp=E,1520µm,0.8s					
BDI			AML	AML		
	comp=E,1300µm,0.3s					
BDI			AML	AML		
	comp=N,1322µm,0.3s					
BDI			AML	AML		
	comp=N,1518µm,0.5s					
BDI			AML	AML		
	comp=E,1481µm,0.4s					
CANO	**Canova, Maglio**	**1.01 244**	Sg	**Sb**	23 04 54.5	+0.8
CANO	**Canova, Maglio**	**1.01 244**	Pg	**Pb**	23 04 40.5	-0.1
CANO	**Canova, Maglio**	**1.01 244**	P	**Pb**	23 04 40.5	-0.1
CANO			S	**Sb**	23 04 54.2	+0.4
CANO			AML	AML		
	comp=E,3115µm,0.4s					
CANO			AML	AML		
	comp=N,2765µm,1.4s					
CANO			AML	AML		
	comp=E,3112µm,0.4s					
CANO			AML	AML		
	comp=N,2485µm,0.3s					
NDIM	**Novi di Modena**	**1.02 76**	P	**Pn**	23 04 43.1	+1.9
NDIM			AML	AML		
	comp=E,2020µm,0.8s					
NDIM			AML	AML		
	comp=E,2035µm,0.8s					
NDIM			AML	AML		
	comp=N,2305µm,1.6s					
NDIM			AML	AML		
	comp=N,1640µm,0.8s					
NDIM			AML	AML		
	comp=N,2305µm,0.4s					
NDIM			AML	AML		
	comp=N,1444µm,0.5s					
NDIM			AML	AML		
	comp=E,2031µm,0.8s					
NDIM			AML	AML		
	comp=E,2022µm,0.8s					
NDIM			AML	AML		
	comp=N,1809µm,0.8s					
MERA	**Merate**	**1.02 357**	P	**Pn**	23 04 42.3	+1.1
MAIM	**Mastiano**	**1.02 136**	P	**Pb**	23 04 40.0	-0.7
MAIM			S	**Sb**	23 04 53.6	-0.5
MAIM			AML	AML		
	comp=N,1130µm,0.6s					
MAIM			AML	AML		
	comp=N,1130µm,1.4s					
MAIM			AML	AML		
	comp=E,1215µm,0.6s					
MAIM			AML	AML		
	comp=N,1130µm,0.6s					
MAIM			AML	AML		
	comp=E,1216µm,0.6s					
A313A	**Volta Mantovan**	**1.05 51**	P	**Pn**	23 04 42.6	+1.0
CNCS	**Concesio**	**1.08 28**	P	**Pn**	23 04 42.7	+0.7
SBPO	**S.Benedetto Po**	**1.08 68**	P	**Pn**	23 04 42.9	+0.8
POPM	**Popiglio**	**1.08 124**	P	**Pb**	23 04 41.5	-0.4
POPM			AML	AML		
	comp=N,1315µm,1.0s					
POPM			AML	AML		
	comp=N,1315µm,1.0s					
POPM			AML	AML		
	comp=E,1320µm,0.8s					
POPM			AML	AML		
	comp=N,1248µm,0.3s					
POPM			AML	AML		
	comp=E,1322µm,0.2s					
CAVE	**Cavezzo**	**1.09 78**	P	**Pn**	23 04 43.0	+0.9
CAVE			AML	AML		
	comp=N,2230µm,0.3s					
CAVE			AML	AML		
	comp=E,3215µm,0.5s					
CAVE			AML	AML		
	comp=E,3215µm,1.5s					
CAVE			AML	AML		
	comp=N,2232µm,0.3s					
CAVE			AML	AML		
	comp=E,3217µm,0.5s					
ZCCA	**Zocca**	**1.10 105**	P	**Pn**	23 04 43.4	+1.1
ZCCA			AML	AML		
	comp=E,1110µm,0.5s					
ZCCA			AML	AML		
	comp=E,1002µm,0.5s					
ZCCA			AML	AML		
	comp=N,776µm,0.4s					
ZCCA			AML	AML		
	comp=N,694µm,0.5s					
ZCCA			AML	AML		
	comp=E,1005µm,0.5s					
ZCCA			AML	AML		
	comp=E,1110µm,0.5s					
ZCCA			AML	AML		
	comp=N,776µm,0.4s					
ZCCA			AML	AML		
	comp=N,694µm,0.5s					
RAVA	**Ravarino**	**1.16 84**	P	**Pn**	23 04 44.7	+1.7
RAVA			AML	AML		
	comp=N,2060µm,0.3s					
RAVA			AML	AML		
	comp=N,2060µm,1.7s					
RAVA			AML	AML		
	comp=E,2115µm,0.4s					
RAVA			AML	AML		
	comp=N,2060µm,0.3s					
RAVA			AML	AML		
	comp=E,2115µm,0.4s					
RORO	**Rocca Rossa**	**1.16 243**	Sg	**Sn**	23 04 58.8	-0.1
RORO	**Rocca Rossa**	**1.16 243**	Pg	**Pg**	23 04 42.6	-1.2
RORO	**Rocca Rossa**	**1.16 243**	P	**Pg**	23 04 42.3	-1.4
RORO			S	**Sb**	23 04 58.3	+0.2
RORO			AML	AML		
	comp=E,491µm,0.6s					
RORO			AML	AML		
	comp=N,712µm,0.5s					
RORO			AML	AML		
	comp=N,555µm,0.3s					
RORO			AML	AML		
	comp=E,476µm,0.2s					
PII	**Pisa**	**1.19 141**	P	**Pg**	23 04 42.7	-1.4
PII			S	**Sb**	23 04 58.9	+0.2
PII			AML	AML		
	comp=E,1265µm,0.3s					
PII			AML	AML		
	comp=N,948µm,0.7s					
PII			AML	AML		
	comp=N,948µm,1.3s					
PII			AML	AML		
	comp=E,1266µm,0.3s					
PII			AML	AML		
	comp=N,862µm,0.4s					
ZONE	**Zone**	**1.19 21**	P	**Pb**	23 04 43.7	-0.1
ZONE			AML	AML		
	comp=N,374µm,0.7s					
ZONE			AML	AML		
	comp=E,1465µm,0.7s					
ZONE			AML	AML		
	comp=N,1590µm,0.7s					
ZONE			AML	AML		
	comp=E,404µm,0.3s					
ZONE			AML	AML		
	comp=E,1465µm,1.3s					
ZONE			AML	AML		
	comp=E,1399µm,0.3s					
ZONE			AML	AML		
	comp=E,405µm,0.3s					
ZONE			AML	AML		
	comp=N,1075µm,0.3s					
ZONE			AML	AML		
	comp=N,248µm,0.3s					
MONC	**Moncucco Torin**	**1.20 291**	P	**Pn**	23 04 46.5	+2.9
MONC			AML	AML		
	comp=E,1705µm,1.3s					
MONC			AML	AML		
	comp=N,1350µm,0.4s					
MONC			AML	AML		
	comp=E,1705µm,0.7s					
MONC			AML	AML		
	comp=E,1622µm,0.5s					
MONC			AML	AML		
	comp=N,1348µm,0.4s					
VOBA	**Vobarno**	**1.22 35**	P	**Pn**	23 04 44.6	+0.7
MTCR	**Monte La Croce**	**1.24 120**	P	**Pn**	23 04 44.4	0.0
MTCR			AML	AML		
	comp=E,827µm,0.4s					
MTCR			AML	AML		
	comp=E,828µm,0.4s					
MTCR			AML	AML		
	comp=N,763µm,0.4s					
MTCR			AML	AML		
	comp=E,827µm,0.4s					
MTCR			AML	AML		
	comp=N,763µm,0.4s					
GBOS	**Grotte di Boss**	**1.26 252**	Sn	**Sn**	23 05 03.1	+1.8
GBOS	**Grotte di Boss**	**1.26 252**	Pn	**Pn**	23 04 45.2	+0.6
GBOS	**Grotte di Boss**	**1.26 252**	P	**Pg**	23 04 44.5	-1.1
GBOS			S	**Sb**	23 05 01.4	+0.4
GBOS			AML	AML		
	comp=N,506µm,0.5s					
GBOS			AML	AML		
	comp=E,366µm,0.4s					
GBOS			AML	AML		
	comp=E,366µm,0.4s					
GBOS			AML	AML		
	comp=N,500µm,0.5s					
ZEN8	**San Zeno di Mo**	**1.31 41**	P	**Pg**	23 04 46.5	-0.1
VARE	**Varese**	**1.32 337**	P	**Pg**	23 04 46.4	-0.4
VARE			S	**Sn**	23 05 04.1	+1.2
VARE			AML	AML		
	comp=N,770µm,0.7s					
VARE			AML	AML		
	comp=E,1050µm,0.5s					
VARE			AML	AML		
	comp=N,770µm,1.3s					
VARE			AML	AML		
	comp=E,1046µm,0.5s					
VARE			AML	AML		
	comp=N,770µm,0.7s					
MPPT	**Montemurlo**	**1.33 121**	P	**Pg**	23 04 46.2	-0.8
MPPT			AML	AML		
	comp=E,524µm,1.0s					
MPPT			AML	AML		
	comp=N,530µm,0.6s					
MPPT			AML	AML		
	comp=E,524µm,1.0s					
MPPT			AML	AML		
	comp=N,530µm,0.6s					
MPPT			AML	AML		
	comp=E,475µm,0.4s					
BAG8	**Bagolino**	**1.35 30**	P	**Pg**	23 04 46.8	-0.6
CRMI	**Carmignano**	**1.36 129**	P	**Pg**	23 04 46.5	-1.0
CRMI			AML	AML		
	comp=E,312µm,1.4s					
CRMI			AML	AML		
	comp=N,244µm,1.0s					
CRMI			AML	AML		
	comp=E,260µm,1.4s					
CRMI			AML	AML		

	comp=N,254µm,1.6s					
CRMI				AML	AML	
	comp=N,254µm,0.4s					
CRMI				AML	AML	
	comp=E,260µm,0.6s					
CRMI				AML	AML	
	comp=E,312µm,0.6s					
CRMI				AML	AML	
	comp=E,251µm,0.5s					
CRMI				AML	AML	
	comp=E,273µm,0.6s					
CRMI				AML	AML	
	comp=N,236µm,0.4s					
CRMI				AML	AML	
	comp=N,233µm,0.4s					
MGRO	**Montegrosso**	**1.36 244**	Sn	**Sn**	**23 05 04.9 +1.0**	
MGRO	**Montegrosso**	**1.36 244**	Pn	**Pn**	**23 04 45.7 -0.3**	
MOCL	**Monte Cuccoli**	**1.37 118**	P	**Pg**	**23 04 46.5 -1.1**	
MOCL			AML	AML		
	comp=E,1036µm,0.4s					
MOCL			AML	AML		
	comp=N,657µm,0.7s					
MOCL			AML	AML		
	comp=N,657µm,0.7s					
MOCL			AML	AML		
	comp=E,1036µm,0.4s					
MAGA	**Magasa**	**1.38 35**	P	**Pn**	**23 04 46.3 +0.1**	
MAGA			S	**Sn**	**23 05 05.6 +1.3**	
MAGA			AML	AML		
	comp=N,3005µm,0.3s					
MAGA			AML	AML		
	comp=N,3005µm,1.7s					
MAGA			AML	AML		
	comp=E,4945µm,0.4s					
MAGA			AML	AML		
	comp=N,3004µm,0.3s					
MAGA			AML	AML		
	comp=E,4947µm,0.4s					
BALD	**Monte Baldo**	**1.39 42**	P	**Pb**	**23 04 46.8 -0.4**	
BALD			S	**Sn**	**23 05 06.0 +1.3**	
MBAL	**Monte Baldo -**	**1.42 42**	P	**Pn**	**23 04 46.9 +0.1**	
MBAL			AML	AML		
	comp=E,1089µm,0.5s					
MBAL			AML	AML		
	comp=N,772µm,0.3s					
MBAL			AML	AML		
	comp=E,868µm,1.4s					
MBAL			AML	AML		
	comp=N,990µm,0.7s					
MBAL			AML	AML		
	comp=E,868µm,0.6s					
MBAL			AML	AML		
	comp=N,772µm,0.3s					
MBAL			AML	AML		
	comp=E,731µm,0.4s					
MBAL			AML	AML		
	comp=E,1034µm,0.3s					
MBAL			AML	AML		
	comp=N,802µm,0.3s					
FIU	**Minerbio Fiu**	**1.42 90**	P	**Pg**	**23 04 48.6 0.0**	
FIU			AML	AML		
	comp=E,2970µm,1.3s					
FIU			AML	AML		
	comp=N,2595µm,0.5s					
FIU			AML	AML		
	comp=E,2970µm,0.7s					
FIU			AML	AML		
	comp=N,2595µm,0.5s					
FIU			AML	AML		
	comp=E,2328µm,0.5s					
PIAF	**les Granges de**	**1.46 249**	Pn	**Pn**	**23 04 47.5 +0.2**	
PIAF			Sn	**Sg**	**23 05 07.3 -0.9**	
SEI	**Scarperia**	**1.46 114**	P	**Pg**	**23 04 50.5 +1.1**	
SEI			AML	AML		
	comp=N,1560µm,0.4s					
SEI			AML	AML		
	comp=E,1065µm,0.6s					
SEI			AML	AML		
	comp=N,1561µm,0.4s					
SEI			AML	AML		
	comp=E,1064µm,0.6s					
TRAV	**Traversella**	**1.51 305**	P	**Pb**	**23 04 48.7 -0.5**	
TRAV			AML	AML		
	comp=N,454µm,0.7s					
TRAV			AML	AML		
	comp=E,566µm,0.8s					
TRAV			AML	AML		
	comp=E,497µm,0.3s					
TRAV			AML	AML		
	comp=N,455µm,0.7s					
BRIS	**BRISIGHELLA**	**1.52 109**	P	**Pg**	**23 04 53.3 +2.7**	
BRIS			AML	AML		
	comp=N,749µm,1.3s					
BRIS			AML	AML		
	comp=E,680µm,0.7s					
BRIS			AML	AML		
	comp=N,572µm,0.6s					
BRIS			AML	AML		
	comp=N,749µm,0.7s					
BRIS			AML	AML		
	comp=E,654µm,0.5s					
BRIS			AML	AML		
	comp=E,681µm,0.7s					
BRIS			AML	AML		
	comp=N,696µm,0.6s					
BRIS			AML	AML		
	comp=N,572µm,0.6s					
BRIS			AML	AML		
	comp=E,654µm,0.6s					
VARA	**Varagna**	**1.53 39**	P	**Pn**	**23 04 48.5 +0.1**	
VARA			AML	AML		
	comp=E,1585µm,0.8s					
VARA			AML	AML		
	comp=N,2235µm,0.4s					
VARA			AML	AML		
	comp=N,1540µm,0.3s					
VARA			AML	AML		
	comp=E,2155µm,0.4s					
VARA			AML	AML		
	comp=E,1585µm,1.2s					
VARA			AML	AML		
	comp=E,2158µm,0.4s					
VARA			AML	AML		
	comp=N,1539µm,0.3s					
VARA			AML	AML		
	comp=N,2234µm,0.4s					
VARA			AML	AML		
	comp=E,1514µm,0.3s					
RONC	**Roncone**	**1.54 30**	P	**Pb**	**23 04 49.3 -0.5**	
RONC			AML	AML		
	comp=E,2630µm,0.4s					
RONC			AML	AML		
	comp=N,1675µm,0.4s					
RONC			AML	AML		
	comp=N,2890µm,0.4s					
RONC			AML	AML		
	comp=E,1695µm,1.1s					
RONC			AML	AML		
	comp=N,1675µm,1.6s					
RONC			AML	AML		
	comp=E,2634µm,0.5s					
RONC			AML	AML		
	comp=N,2891µm,0.4s					
RONC			AML	AML		
	comp=N,1677µm,0.4s					
RONC			AML	AML		
	comp=E,1684µm,0.3s					
SAOF	**Saorge**	**1.55 245**	Pn	**Pn**	**23 04 48.7 +0.2**	
SAOF			Sn	**Sb**	**23 05 09.7 +0.4**	
SAOF	**Saorge**	**1.55 245**	P	**Pn**	**23 04 48.5 0.0**	
SAOF			AML	AML		
	comp=E,480µm,1.6s					
SAOF			AML	AML		
	comp=N,386µm,0.8s					
SAOF			AML	AML		
	comp=N,354µm,0.4s					
SAOF			AML	AML		
	comp=E,472µm,0.5s					
ENR	**Entracque**	**1.55 255**	Sn	**Sg**	**23 05 10.1 -1.3**	
ENR	**Entracque**	**1.55 255**	Pn	**Pb**	**23 04 49.2 -0.7**	
ENR	**Entracque**	**1.55 255**	P	**Pn**	**23 04 49.0 +0.4**	
ENR			AML	AML		
	comp=E,390µm,0.6s					
ENR			AML	AML		
	comp=N,596µm,1.4s					
ENR			AML	AML		
	comp=N,558µm,0.3s					
ENR			AML	AML		
	comp=E,390µm,0.6s					
MABI	**Malga Bissina**	**1.57 27**	P	**Pn**	**23 04 49.3 +0.3**	
MABI			AML	AML		
	comp=E,980µm,0.9s					
MABI			AML	AML		
	comp=N,540µm,1.1s					
MABI			AML	AML		
	comp=N,540µm,0.9s					
MABI			AML	AML		
	comp=E,979µm,0.9s					
MABI			AML	AML		
	comp=N,443µm,0.3s					
BHB	**Bricherasio**	**1.61 278**	Sn	**Sg**	**23 05 13.9 +0.8**	
BHB	**Bricherasio**	**1.61 278**	Pn	**Pg**	**23 04 51.8 -0.4**	
BHB	**Bricherasio**	**1.61 278**	P	**Pb**	**23 04 50.9 +0.1**	
BHB			AML	AML		
	comp=N,752µm,0.6s					
BHB			AML	AML		
	comp=E,1130µm,0.5s					
BHB			AML	AML		
	comp=N,752µm,1.4s					
BHB			AML	AML		
	comp=E,1130µm,0.5s					
BHB			AML	AML		
	comp=N,752µm,0.6s					
STV	**Sant Anna di V**	**1.61 256**	Pn	**Pn**	**23 04 49.8 +0.4**	
BURY	**Giardini Botan**	**1.65 239**	Pn	**Pn**	**23 04 49.6 -0.2**	
LUSI	**Trento, Gardas**	**1.66 37**	P	**Pn**	**23 04 50.0 0.0**	
LUSI			AML	AML		
	comp=E,1052µm,0.9s					
LUSI			AML	AML		
	comp=N,1405µm,1.5s					
LUSI			AML	AML		
	comp=E,1052µm,1.1s					
LUSI			AML	AML		
	comp=N,1346µm,0.2s					
LUSI			AML	AML		
	comp=E,967µm,0.6s					
TURF	**col de Turini**	**1.66 247**	Pn	**Pn**	**23 04 50.6 +0.4**	
TURF			Sn	**Sn**	**23 05 12.2 +0.9**	
CIRO	**Champorcher**	**1.67 305**	P	**Pn**	**23 04 50.5 +0.1**	
CIRO			AML	AML		
	comp=E,220µm,0.7s					
CIRO			AML	AML		
	comp=E,220µm,1.3s					
CIRO			AML	AML		
	comp=N,252µm,0.8s					
CIRO			AML	AML		
	comp=E,204µm,0.7s					
CIRO			AML	AML		
	comp=N,252µm,0.8s					
LMD	**Lutirano**	**1.68 109**	P	**Pg**	**23 04 53.4 -0.3**	
LMD			AML	AML		
	comp=E,310µm,0.6s					
LMD			AML	AML		
	comp=N,252µm,0.9s					
LMD			AML	AML		
	comp=N,252µm,1.1s					
LMD			AML	AML		
	comp=E,310µm,0.6s					
LMD			AML	AML		
	comp=N,252µm,0.9s					
SATI	**Passo dei Sala**	**1.68 317**	P	**Pb**	**23 04 51.5 -0.7**	
SATI			AML	AML		
	comp=N,218µm,0.6s					
SATI			AML	AML		
	comp=E,203µm,0.7s					
SATI			AML	AML		
	comp=N,218µm,1.4s					
SATI			AML	AML		
	comp=N,218µm,0.6s					
SATI			AML	AML		
	comp=E,181µm,0.4s					
SBF	**Sospel**	**1.68 243**	*e*Pn	**Pn**	**23 04 50.6 +0.2**	
SBF	**Sospel**	**1.68 243**	*e*P	**Pg**	**23 04 52.6 -1.1**	
SBF			*e*Sn	**Sn**	**23 05 11.0 -0.8**	
	comp=E,162nm,0.3s					
DOSS	**Dosso del Somm**	**1.71 43**	P	**Pn**	**23 04 50.9 0.0**	
DOSS			AML	AML		
	comp=E,903µm,0.7s					
DOSS			AML	AML		
	comp=N,876µm,0.5s					
DOSS			AML	AML		
	comp=N,910µm,0.7s					
DOSS			AML	AML		
	comp=N,876µm,1.5s					
DOSS			AML	AML		
	comp=E,903µm,1.3s					
DOSS			AML	AML		
	comp=N,910µm,1.3s					
DOSS			AML	AML		
	comp=E,892µm,0.5s					
DOSS			AML	AML		
	comp=N,876µm,0.5s					
DOSS			AML	AML		
	comp=E,903µm,0.7s					
DOSS			AML	AML		
	comp=N,910µm,0.7s					
DOSS			AML	AML		
	comp=E,892µm,0.5s					
PZZ	**Stroppo**	**1.71 266**	Sn	**Sg**	**23 05 15.7 -0.8**	
PZZ	**Stroppo**	**1.71 266**	Pn	**Pb**	**23 04 52.2 -0.5**	
PZZ	**Stroppo**	**1.71 266**	P	**Pn**	**23 04 51.4 +0.5**	
PZZ			AML	AML		
	comp=E,748µm,0.6s					
PZZ			AML	AML		
	comp=N,929µm,0.7s					
PZZ			AML	AML		
	comp=N,929µm,0.7s					
PZZ			AML	AML		
	comp=E,747µm,0.6s					
SPIF	**crte de Spivo**	**1.73 251**	Pn	**Pb**	**23 04 52.2 -0.8**	
SPIF			Sn	**Sb**	**23 05 14.5 -0.1**	
ESCA	**l'Escarene**	**1.74 243**	Pn	**Pn**	**23 04 51.8 +0.7**	
ESCA			Sn	**Sn**	**23 05 14.1 +1.1**	
CSNT	**Castellina Chi**	**1.75 132**	P	**Pn**	**23 04 51.8 +0.5**	
CSNT			AML	AML		
	comp=N,272µm,0.4s					
CSNT			AML	AML		
	comp=E,160µm,0.8s					
CSNT			AML	AML		
	comp=N,272µm,0.5s					
CSNT			AML	AML		
	comp=E,156µm,0.5s					
MON	**Monaco**	**1.76 239**	Pn	**Pn**	**23 04 51.3 0.0**	
MON			Sn	**Sn**	**23 05 14.3 +0.9**	
GAGG	**Gaggia**	**1.76 35**	P	**Pn**	**23 04 51.7 +0.2**	
GAGG			AML	AML		
	comp=E,393µm,1.3s					
GAGG			AML	AML		
	comp=N,690µm,0.7s					
GAGG			AML	AML		
	comp=N,376µm,1.3s					
GAGG			AML	AML		
	comp=N,376µm,0.7s					
GAGG			AML	AML		
	comp=E,393µm,0.7s					
GAGG			AML	AML		
	comp=E,732µm,0.7s					
GAGG			AML	AML		
	comp=N,364µm,0.4s					
GAGG			AML	AML		
	comp=E,363µm,0.4s					
GAGG			AML	AML		
	comp=E,732µm,0.7s					
GAGG			AML	AML		
	comp=N,690µm,0.7s					
MMK	**Mattmark**	**1.77 323**	P	**Pn**	**23 04 52.2 +0.5**	
MMK			AML	AML		
	comp=E,63µm,0.6s					
MMK			AML	AML		
	comp=N,72µm,0.7s					
MMK			AML	AML		
	comp=E,63µm,1.4s					
MMK			AML	AML		
	comp=N,56µm,0.4s					
MMK			AML	AML		
	comp=E,63µm,0.6s					
ISO	**Isola**	**1.82 256**	Pn	**Pn**	**23 04 52.9 +0.7**	
ISO			Sn	**Sn**	**23 05 16.3 +1.2**	
TUE	**Stuetta**	**1.82 357**	P	**Pb**	**23 04 53.7 -0.9**	
TUE			AML	AML		
	comp=E,318µm,0.9s					
TUE			AML	AML		
	comp=N,256µm,1.2s					
TUE			AML	AML		
	comp=E,398µm,1.1s					
TUE			AML	AML		
	comp=N,316µm,1.2s					
TUE			AML	AML		
	comp=E,398µm,0.9s					
TUE			AML	AML		
	comp=N,316µm,0.8s					
TUE			AML	AML		
	comp=N,256µm,0.8s					
TUE			AML	AML		
	comp=E,303µm,0.5s					
TUE			AML	AML		
	comp=N,247µm,0.6s					
TUE			AML	AML		
	comp=E,375µm,0.5s					
TUE			AML	AML		
	comp=N,301µm,0.4s					
MVIF	**Mont Vial**	**1.85 247**	Pn	**Pn**	**23 04 53.7 +1.0**	
ASQU	**Asqua**	**1.85 117**	P	**Pb**	**23 04 53.9 -1.1**	
ASQU			AML	AML		
	comp=E,201µm,1.6s					
ASQU			AML	AML		
	comp=N,182µm,0.7s					
ASQU			AML	AML		
	comp=E,201µm,0.4s					
ASQU			AML	AML		
	comp=N,182µm,1.3s					
ASQU			AML	AML		
	comp=E,187µm,0.6s					
ASQU			AML	AML		
	comp=N,182µm,0.7s					
PANI	**Panarotta**	**1.90 42**	P	**Pn**	**23 04 53.8 +0.2**	
PANI			AML	AML		
	comp=N,431µm,0.7s					
PANI			AML	AML		
	comp=E,430µm,0.8s					
PANI			AML	AML		
	comp=N,431µm,0.7s					
PANI			AML	AML		
	comp=E,430µm,0.8s					
SURF	**Saint Ours**	**1.93 266**	Pn	**Pb**	**23 04 55.1 -1.3**	
SURF			Sn	**Sb**	**23 05 20.2 -0.2**	
MBDF	**Montbardon**	**1.95 273**	*e*Pn	**Pb**	**23 04 55.5 -1.2**	
MBDF	**Montbardon**	**1.95 273**	*e*P	**Pg**	**23 04 57.2 -1.6**	
MBDF			*e*Sn	**Sn**	**23 05 18.8 +0.3**	
	comp=E,30nm,0.2s					
RRL	**Rocca Remolon**	**1.95 279**	Sn	**Sb**	**23 05 21.9 +0.9**	
RRL	**Rocca Remolon**	**1.95 279**	Pn	**Pb**	**23 04 56.7 -0.1**	
CARE	**Lago del Cares**	**1.96 25**	P	**Pn**	**23 04 55.1 +0.7**	
CARE			AML	AML		
	comp=N,232µm,0.8s					
CARE			AML	AML		
	comp=E,220µm,0.3s					
CARE			AML	AML		
	comp=N,232µm,1.2s					
CARE			AML	AML		
	comp=N,225µm,0.5s					
CARE			AML	AML		
	comp=E,307µm,1.0s					
CARE			AML	AML		
	comp=E,221µm,0.3s					
CARE			AML	AML		
	comp=N,194µm,0.5s					
JAUF	**Jausiers**	**1.98 265**	Pn	**Pn**	**23 04 55.7 +1.2**	
JAUF			Sn	**Sb**	**23 05 21.4 -0.4**	
CGRP	**Cima Grappa**	**2.03 52**	P	**Pn**	**23 04 55.4 +0.1**	
CGRP			AML	AML		
	comp=E,728µm,0.6s					
CGRP			AML	AML		
	comp=N,590µm,0.6s					
CGRP			AML	AML		
	comp=E,716µm,0.6s					
CGRP			AML	AML		
	comp=N,570µm,0.6s					
CGRP			AML	AML		
	comp=E,716µm,1.4s					
CGRP			AML	AML		
	comp=E,728µm,1.4s					
CGRP			AML	AML		
	comp=N,570µm,1.4s					
CGRP			AML	AML		
	comp=N,590µm,1.4s					
CGRP			AML	AML		
	comp=E,716µm,0.6s					
CGRP			AML	AML		
	comp=E,727µm,0.6s					
CGRP			AML	AML		
	comp=N,570µm,0.6s					
CGRP			AML	AML		
	comp=N,590µm,0.6s					
REMY	**Saint-Rhmy-en**	**2.04 306**	P	**Pn**	**23 04 56.5 +1.1**	
REMY			AML	AML		
	comp=E,248µm,0.6s					
REMY			AML	AML		
	comp=N,608µm,0.7s					
REMY			AML	AML		
	comp=N,608µm,1.3s					
REMY			AML	AML		
	comp=E,248µm,1.4s					
REMY			AML	AML		
	comp=N,608µm,0.7s					
REMY			AML	AML		
	comp=E,248µm,0.6s					
CRE	**Caprese Michel**	**2.04 120**	P	**Pn**	**23 04 56.3 +0.9**	
CRE			AML	AML		
	comp=E,258µm,0.8s					
CRE			AML	AML		
	comp=N,236µm,0.4s					
CRE			AML	AML		
	comp=N,236µm,1.6s					
CRE			AML	AML		
	comp=E,258µm,1.2s					
CRE			AML	AML		
	comp=N,236µm,0.4s					
CRE			AML	AML		
	comp=E,258µm,0.8s					
MRGE	**Morge**	**2.06 304**	P	**Pn**	**23 04 56.9 +1.3**	
MRGE			AML	AML		
	comp=E,199µm,0.7s					
MRGE			AML	AML		
	comp=N,254µm,0.5s					
MRGE			AML	AML		
	comp=E,199µm,1.3s					
MRGE			AML	AML		
	comp=N,254µm,0.5s					
MRGE			AML	AML		
	comp=E,199µm,0.7s					
CTI	**Castel Tesino**	**2.06 47**	P	**Pn**	**23 04 55.8 +0.2**	
CTI			AML	AML		
	comp=E,716µm,0.3s					
CTI			AML	AML		
	comp=N,892µm,0.3s					
CTI			AML	AML		
	comp=E,716µm,0.3s					
CTI			AML	AML		
	comp=N,894µm,0.3s					
OZOL	**Ozolo**	**2.06 31**	P	**Pn**	**23 04 56.6 +0.9**	
OZOL			AML	AML		
	comp=E,852µm,0.5s					
OZOL			AML	AML		
	comp=N,556µm,0.4s					
OZOL			AML	AML		
	comp=N,611µm,0.4s					
OZOL			AML	AML		
	comp=N,556µm,0.4s					
OZOL			AML	AML		
	comp=E,756µm,0.4s					
OZOL			AML	AML		
	comp=E,853µm,0.5s					
CALF	**Calern**	**2.06 245**	Pn	**Pn**	**23 04 56.3 +0.6**	
CALF			Sn	**Sn**	**23 05 22.1 +0.9**	
MOSI	**Grossmontoni**	**2.10 20**	P	**Pb**	**23 04 58.3 -0.9**	
MOSI			AML	AML		
	comp=E,846µm,0.9s					
MOSI			AML	AML		
	comp=N,820µm,0.5s					
MOSI			AML	AML		
	comp=E,847µm,0.9s					
MOSI			AML	AML		
	comp=N,820µm,0.5s					
LPG	**La Plagne**	**2.13 294**	*e*Pn	**Pb**	**23 04 58.3 -1.5**	
LPG	**La Plagne**	**2.13 294**	*e*P	**Pg**	**23 05 00.7 -1.4**	
LPG			*e*Sn	**Sb**	**23 05 25.3 -0.8**	
	comp=N,36nm,0.3s					
OGAG	**Argentiere**	**2.13 266**	Pn	**Pb**	**23 04 58.5 -1.3**	
PGF	**Pioggiola**	**2.13 190**	*e*Pn	**Pn**	**23 04 56.0 -0.6**	
PGF			*e*Sn	**Sn**	**23 05 19.5 -3.4**	

comp=N,22nm,0.2s
LPL La Plagne 2.15 295 *e*Pn **Pn 23 04 58.4 +1.5**
LPL La Plagne 2.15 295 *e*P **Pg 23 05 01.3 -1.2**
LPL *e*Sn **Sn 23 05 24.3 +0.9**
comp=N,58nm,0.3s
SALSA La sagne 2.17 250 Pn **Pn 23 04 58.1 +1.1**
SALSA Sn **Sn 23 05 25.2 +1.5**
ZIAN Ziano 2.18 41 P **Pn 23 04 57.9 +0.7**
ZIAN AML AML
comp=N,578µm,0.4s
ZIAN AML AML
comp=E,572µm,0.4s
ZIAN AML AML
comp=N,377µm,0.4s
ZIAN AML AML
comp=E,572µm,1.6s
ZIAN AML AML
comp=N,578µm,1.6s
ZIAN AML AML
comp=E,365µm,0.4s
ZIAN AML AML
comp=E,572µm,0.4s
ZIAN AML AML
comp=N,579µm,0.4s
ZIAN AML AML
comp=N,377µm,0.4s
ZIAN AML AML
comp=E,365µm,0.4s
CAFI Castiglion Fio 2.21 126 P **Pn 23 04 58.7 +1.1**
CAFI AML AML
comp=N,98µm,1.4s
CAFI AML AML
comp=N,98µm,0.6s
CAFI AML AML
comp=E,135µm,0.6s
CAFI AML AML
comp=N,630µm,1.1s
CAFI AML AML
comp=N,92µm,0.4s
CAFI AML AML
comp=E,135µm,0.6s
CAFI AML AML
comp=E,140µm,0.6s
KOSI Kohlern 2.24 35 P **Pn 23 04 59.3 +1.2**
KOSI AML AML
comp=N,393µm,0.9s
KOSI AML AML
comp=E,365µm,0.6s
KOSI AML AML
comp=N,393µm,0.9s
KOSI AML AML
comp=E,365µm,0.6s
BNALP Bannalp 2.34 342 P **Pb 23 05 02.3 -1.1**
BNALP AML AML
comp=E,167µm,0.7s
BNALP AML AML
comp=N,146µm,0.9s
BNALP AML AML
comp=E,167µm,1.3s
BNALP AML AML
comp=N,117µm,0.3s
BNALP AML AML
comp=E,167µm,0.6s
PE3 Peglio 2.35 113 AML AML
comp=E,676µm,0.5s
PE3 AML AML
comp=E,676µm,0.5s
PE3 AML AML
comp=N,696µm,0.5s
PE3 AML AML
comp=N,696µm,1.5s
PE3 AML AML
comp=N,696µm,0.5s
TRIGF Trigance 2.40 249 Pn **Pn 23 05 01.6 +1.3**
TRIGF Sn **Sn 23 05 30.5 +1.0**
ATVO AVT- Monte Val 2.45 120 AML AML
comp=E,135µm,1.0s
ATVO AML AML
comp=E,136µm,1.2s
ATVO AML AML
comp=N,128µm,0.7s
ATVO AML AML
comp=N,128µm,0.7s
PESA Pesaro 2.50 105 AML AML
comp=N,190µm,1.5s
PESA AML AML
comp=N,190µm,0.5s
PESA AML AML
comp=E,188µm,0.4s
PESA AML AML
comp=N,189µm,0.5s
PESA AML AML
comp=E,187µm,0.4s
FETA Feichten 2.52 19 *e*Pn **Pb 23 05 04.5 -1.9**
comp=E,3.5nm,0.4s,SNR=11
FETA *e*Sn **Sb 23 05 37.4 +0.1**
comp=E,19nm,0.4s
ATTE AVT- Monte Tez 2.52 124 P **Pn 23 05 03.3 +1.4**
ATTE AML AML
comp=E,174µm,1.5s
ATTE AML AML
comp=N,149µm,1.5s
ATTE AML AML
comp=E,174µm,0.5s
ATTE AML AML
comp=N,149µm,0.5s
ATTE AML AML
comp=E,128µm,0.9s
ATTE AML AML
comp=N,120µm,0.9s
LMR La Mourre 2.53 240 *e*Pn **Pn 23 05 01.8 -0.2**
LMR *e*Sn **Sn 23 05 31.4 -1.2**
comp=N,39nm,0.3s
BLAF les Blancs 2.58 255 Pn **Pn 23 05 04.4 +1.7**
BLAF Sn **Sn 23 05 35.2 +1.4**
ORIF Oris-en-Rattie 2.59 277 *e*P **Pb 23 05 06.7 -0.9**
ORIF *e*Sn **Sn 23 05 35.8 +1.5**
comp=N,123nm,0.6s
CIMO Cimolais 2.65 50 P **Pn 23 05 04.1 +0.5**
CIMO AML AML
comp=E,132µm,0.7s
CIMO AML AML
comp=N,124µm,1.6s
CIMO AML AML
comp=E,130µm,0.7s
CIMO AML AML
comp=N,128µm,0.5s
CIMO AML AML
comp=E,132µm,1.3s
CIMO AML AML
comp=E,130µm,1.3s
CIMO AML AML
comp=N,124µm,0.4s
CIMO AML AML
comp=E,125µm,0.5s
CIMO AML AML
comp=E,116µm,0.4s
CIMO AML AML
comp=N,127µm,0.5s
CIMO AML AML
comp=N,115µm,0.5s
DAVA Damuels 2.65 6 *e*Pn **Pb 23 05 06.5 -2.1**
comp=N,4.5nm,0.2s
DAVA *e*Sn **Sb 23 05 40.0 -1.0**
comp=N,45nm,0.3s
AJAC Base Areonaval 2.78 191 AML AML
comp=N,88µm,0.2s
AJAC AML AML
comp=E,128µm,0.4s
ASSB Assisi San Ben 2.79 124 P **Pb 23 05 08.3 -2.7**
SQTA Sankt Quirin 2.83 24 *e*Pn **Pn 23 05 08.9 +2.7**
comp=E,11nm,0.3s,SNR=18
SQTA *e*Sn **Sb 23 05 44.0 -2.3**
comp=E,30nm,0.3s
ARTF Artigues 2.87 250 Pn **Pn 23 05 07.6 +0.9**
ARTF Sn **Sn 23 05 41.3 +0.4**
DST2 Trieste 2.89 55 P **Pn 23 05 07.4 +0.6**
DST2 AML AML
comp=E,408µm,0.8s
DST2 AML AML
comp=N,518µm,0.8s
DST2 AML AML
comp=E,403µm,0.7s
DST2 AML AML
comp=N,518µm,0.8s
SMRF Simiane la Rot 2.90 258 *e*Pn **Pn 23 05 08.9 +1.8**
SMRF *e*Sn **Sn 23 05 40.6 -1.1**
comp=N,30nm,0.3s
MOTA Moosalm 2.92 22 *e*Pn **Pn 23 05 09.8 +2.4**
comp=N,3.7nm,0.2s
MOTA *e*Sn **Sb 23 05 46.5 -2.2**
comp=N,46nm,0.5s
RETA Reutte 2.97 17 *e*Pn **Pn 23 05 10.3 +2.2**
comp=N,1.2nm,0.2s,SNR=12
RETA *e*Sn **Sn 23 05 47.2 +3.8**
comp=N,44nm,0.3s
ABTA Abfaltersbach 2.97 44 *e*Pn **Pn 23 05 10.1 +2.0**
comp=N,8.8nm,0.5s,SNR=6.6
ABTA *e*Sn **Sn 23 05 45.8 +2.3**
comp=N,17nm,0.3s
CLUD Cludinico 2.98 52 P **Pn 23 05 08.9 +0.7**
CLUD AML AML
comp=E,176µm,1.1s
CLUD AML AML
comp=N,188µm,1.2s
CLUD AML AML
comp=E,164µm,1.1s
CLUD AML AML
comp=N,178µm,0.7s
CLUD AML AML
comp=N,188µm,0.8s
CLUD AML AML
comp=E,176µm,0.9s
CLUD AML AML
comp=E,164µm,0.9s
WTTA Wattenberg 3.01 29 *i* Pn **Pn 23 05 11.2 +2.6**
comp=E,8.9nm,0.2s,SNR=14
WTTA *i* Sn **Sn 23 05 48.0 +3.5**
comp=E,53nm,0.5s
WTTA Wattenberg 3.01 29 AML AML
comp=N,144µm,0.8s
WTTA AML AML
comp=E,138µm,0.4s
WTTA AML AML
comp=N,144µm,0.8s
WTTA AML AML
comp=N,144µm,1.2s
WTTA AML AML
comp=E,138µm,1.6s
WTTA AML AML
comp=E,138µm,0.5s
WATA Walderalm 3.05 28 *i* Pn **Pn 23 05 11.7 +2.5**
comp=E,4.9nm,0.2s,SNR=12
WATA *i* Sn **Sn 23 05 49.0 +3.5**
comp=E,18nm,0.3s
FDMO Fiordimonte 3.05 121 P **Pn 23 05 11.0 +1.8**
FDMO AML AML
comp=E,43µm,0.8s
FDMO AML AML
comp=N,46µm,0.5s
FDMO AML AML
comp=E,43µm,1.2s
FDMO AML AML
comp=N,46µm,1.5s
FDMO AML AML
comp=E,36µm,0.8s
FDMO AML AML
comp=N,46µm,0.5s
CABF La Chapelle 3.10 310 *e*Pn **Pn 23 05 11.9 +2.1**
CABF La Chapelle 3.10 310 *e*P **Pb 23 05 15.0 -1.2**
CABF *e*Sn **Sn 23 05 47.4 +0.8**
comp=N,28nm,0.5s
VINO Villanova 3.10 58 P **Pn 23 05 10.0 +0.2**
VINO AML AML
comp=E,126µm,0.7s
VINO AML AML
comp=N,142µm,0.6s
VINO AML AML
comp=E,126µm,1.3s
VINO AML AML
comp=N,142µm,0.6s
VINO AML AML
comp=E,126µm,0.7s
MF5 Montefalcone A 3.31 119 P **Pn 23 05 15.9 +3.2**
MF5 AML AML
comp=E,200µm,1.1s
MF5 AML AML
comp=N,143µm,1.6s
MF5 AML AML
comp=E,200µm,0.9s
MF5 AML AML
comp=N,143µm,0.4s
MF5 AML AML
comp=E,201µm,1.1s
MF5 AML AML
comp=N,133µm,0.7s
SKDS Skadanscina 3.32 73 *e*Pn **Pn 23 05 12.1 -0.7**
ACOM Acomizza, Ital 3.39 55 P **Pn 23 05 15.5 +1.5**
ACOM AML AML
comp=E,256µm,0.4s
ACOM AML AML
comp=E,252µm,0.4s
ACOM AML AML
comp=E,256µm,1.6s
ACOM AML AML
comp=E,252µm,1.6s
ACOM AML AML
comp=N,180µm,0.6s
ACOM AML AML
comp=N,190µm,0.6s
ACOM AML AML
comp=E,252µm,0.4s
ACOM AML AML
comp=E,256µm,0.4s
ACOM AML AML
comp=N,190µm,0.6s
ACOM AML AML
comp=N,180µm,0.6s
RM33 Pellescritta (3.44 127 P **Pn 23 05 16.7 +2.1**
RM33 AML AML
comp=E,253µm,1.4s
RM33 AML AML
comp=N,38µm,0.3s
RM33 AML AML
comp=N,162µm,0.8s
RM33 AML AML
comp=E,61µm,1.0s
VIVF Saint-Julien-I 3.45 275 *e*Pn **Pn 23 05 16.3 +1.7**
VIVF Saint-Julien-I 3.45 275 *e*P **Pb 23 05 18.9 -3.3**
VIVF *e*Sn **Sn 23 05 56.2 +1.0**
comp=E,7.2nm,0.2s
MYKA Terra Mystica 3.51 54 *i* Pn **Pn 23 05 16.8 +1.3**
comp=E,0.9nm,0.2s
MYKA *i* Sn **Sn 23 05 55.9 -0.9**
comp=E,15nm,0.5s
LESA Schwarzleotal 3.54 37 *i* Pn **Pn 23 05 18.2 +2.2**
comp=E,8.0nm,0.5s
LESA *e*Sn **Sn 23 06 01.0 +3.2**
comp=E,32nm,0.5s
KBA Koelnbreinsper 3.62 47 *i* Pn **Pn 23 05 18.8 +1.7**
comp=E,5.0nm,0.4s
KBA *e*Sn **Sn 23 06 00.6 +1.0**
comp=E,16nm,0.4s
CEY Cerknica 3.65 71 *e*Pn **Pn 23 05 13.7 -3.6**
HINF Hinteralfeld 3.66 331 *e*Pn **Pn 23 05 18.7 +1.2**
HINF Hinteralfeld 3.66 331 *e*P **Pb 23 05 22.0 -3.8**
HINF *e*Sn **Sn 23 06 00.7 +0.2**
comp=E,11nm,0.2s
OBKA Obir 4.00 61 *i* Pn **Pn 23 05 22.9 +0.7**
comp=E,0.5nm,0.1s
OBKA Sg **Sg 23 06 32.0 +2.3**
comp=E,23nm,0.5s
OBKA Obir 4.00 61 *e*Pn **Pn 23 05 22.8 +0.6**
HAU Haudompre 4.00 328 *e*Pn **Pn 23 05 23.7 +1.5**
HAU Haudompre 4.00 328 *e*P **Pn 23 05 26.4 +4.2**
HAU *e*Sn **Sn 23 06 09.1 +0.2**
comp=E,56nm,0.3s
CDF Champ du Feu 4.06 339 *e*Pn **Pn 23 05 24.0 +0.9**
CDF Champ du Feu 4.06 339 *e*P **Pb 23 05 28.0 -4.7**
CDF *e*Sn **Sn 23 06 09.9 -0.6**
comp=E,19nm,0.4s
LASF Ste Croix 4.09 264 *e*Pn **Pn 23 05 24.2 +0.8**
LASF *e*Sn **Sn 23 06 09.4 -1.7**
comp=E,8.2nm,0.3s
BOJS Bojanci 4.16 76 *e*Pn **Pn 23 05 24.8 +0.5**
BIOA Bad Ischl, Aus 4.18 42 *i* Pn **Pn 23 05 25.8 +1.2**
comp=E,2.0nm,0.2s
BIOA *i* Sn **Sn 23 06 15.3 +2.0**
comp=E,13nm,0.5s
CRES Cresnjevec Ost 4.37 72 *e*Pn **Pn 23 05 28.3 +1.1**
SOKA Soboth 4.37 60 *i* Pn **Pn 23 05 28.5 +1.1**
comp=E,1.1nm,0.3s
SOKA *i* Sn **Sn 23 06 18.4 +0.3**
comp=E,4.0nm,0.5s
SMF Signal de Mont 4.44 299 *e*Pn **Pn 23 05 29.9 +1.6**
SMF Signal de Mont 4.44 299 *e*P Pn 23 05 33.2 +4.9
SMF *e*Sn **Sn 23 06 19.2 -0.5**
comp=E,17nm,0.4s
MOA Molln 4.60 44 *i* Pn **Pn 23 05 31.9 +1.6**
comp=E,1.4nm,0.2s,SNR=9.7
MOA *i* Sn **Sn 23 06 24.0 +0.4**
comp=E,5.9nm,0.4s
PAGF Fort de Pagny 4.69 328 *e*Pn **Pn 23 05 33.6 +1.9**
baz=146
PAGF *e*Sn **Sn 23 06 26.1 +0.2**
comp=E,11nm,0.3s
SFTF Sexfontaines 4.71 321 *e*Pn **Pn 23 05 33.7 +1.8**
baz=135
SFTF *e*Sn **Sn 23 06 26.1 -0.1**
comp=E,4.7nm,0.3s
LOR Lormes 4.73 306 *e*Pn **Pn 23 05 33.3 +1.1**
baz=125
LOR *e*Sn **Sn 23 06 25.8 -0.9**
comp=E,11nm,0.3s
AVF Avril sur Loir 4.81 299 *e*Pn **Pn 23 05 35.0 +1.7**
AVF Avril sur Loir 4.81 299 *e*P **Pn 23 05 37.7 +4.4**
AVF *e*Sn **Sn 23 06 27.9 -0.8**
comp=E,3.4nm,0.3s
SSF Saint Saulge 4.83 302 *e*Pn **Pn 23 05 35.2 +1.6**
SSF Saint Saulge 4.83 302 *e*P **Pn 23 05 38.2 +4.6**
SSF *e*Sn **Sn 23 06 29.4 +0.1**
comp=E,6.0nm,0.3s
MEZF Maizieres J'vi 4.92 323 *e*Pn **Pn 23 05 36.7 +1.9**
baz=139
MEZF *e*Sn **Sn 23 06 30.8 -0.7**
comp=E,8.4nm,0.4s
ARSA Arzberg 4.94 56 *i* Pn **Pn 23 05 35.8 +0.8**
comp=E,1.4nm,0.2s
ARSA *i* Sn **Sn 23 06 30.9 -1.0**
comp=E,2.6nm,0.4s
ARSA Arzberg 4.94 56 *e*Pn **Pn 23 05 35.0 0.0**
SAVF Savonnieres en 4.98 324 *e*Pn **Pn 23 05 37.5 +1.9**
SAVF *e*Sn **Sn 23 06 33.0 +0.1**
comp=E,4.7nm,0.3s
A050A Klekovaca 5.02 89 *e*Pn **Pn 23 05 37.5 +1.2**
BGF Bois d'Agland 5.04 295 *e*Pn **Pn 23 05 38.1 +1.6**
BGF Bois d'Agland 5.04 295 *e*P **Pn 23 05 41.2 +4.7**
BGF *e*Sn **Sn 23 06 33.3 -1.3**
comp=E,18nm,0.3s
GERES GERESS Array B 5.09 33 Pn **Pn 23 05 37.0 -0.3**
comp=E,0.7nm,0.3s,baz=215,slow=12,SNR=17
GERES Sn **Sn 23 06 33.4 -2.4**
comp=E,4.6nm,0.3s,baz=214,slow=19,SNR=18
comp=E,1.7nm,0.3s
A051A Mrakovica 5.28 83 *e*Pn **Pn 23 05 39.8 0.0**
KHC Kasperske Hory 5.28 30 *e*PN **Pn 23 05 39.7 -0.1**
KHC *e*PG **Pg 23 06 00.0 -2.4**
KHC *e*SN **Sn 23 06 37.3 -3.1**
KHC *e*x x 23 07 00.0
CAF Calviac 5.30 276 *e*Pn **Pn 23 05 40.7 +0.6**
CAF Calviac 5.30 276 *e*P **Pn 23 05 44.2 +4.1**
CAF *e*Sn **Sn 23 06 38.8 -2.2**
comp=E,1.5nm,0.2s
CKRC Cesky Krumlov 5.32 37 *e*PN **Pn 23 05 40.7 +0.4**
CKRC *e*SN **Sn 23 06 39.1 -2.2**
TCF Toulx Ste Croi 5.38 290 *e*Pn **Pn 23 05 42.0 +0.8**
TCF Toulx Ste Croi 5.38 290 *e*P Pn 23 05 46.1 +4.9
TCF *e*Sn **Sn 23 06 41.1 -1.9**
comp=E,7.8nm,0.3s
MTLF Montolieu 5.42 259 *e*Pn **Pn 23 05 41.4 -0.2**
MTLF Montolieu 5.42 259 *e*P **Pn 23 05 46.3 +4.7**
MTLF *e*Sn **Sn 23 06 40.9 -2.9**
comp=E,3.3nm,0.2s
HYF Humbligny 5.45 301 *e*Pn **Pn 23 05 43.6 +1.5**
HYF Humbligny 5.45 301 *e*P Pn 23 05 47.0 +4.9
HYF *e*Sn **Sn 23 06 43.5 -1.1**
BLY Banja Luka 5.48 86 *e*Pn **Pn 23 05 40.4 -2.0**
CONA Conrad Observa 5.49 51 *i* Pn **Pn 23 05 43.3 +0.6**
comp=E,1.3nm,0.2s
CONA *i* Sn **Sn 23 06 45.2 -0.4**
comp=E,4.4nm,0.4s
RONA Rosalia, Austr 5.62 55 *i* Pn **Pn 23 05 45.0 +0.6**
comp=E,1.3nm,0.2s
RONA *i* Sn **Sn 23 06 47.0 -1.7**
comp=E,6.6nm,0.3s
RJF Les Rejaudoux 5.70 279 *e*P **Pn 23 05 49.5 +3.9**
RJF *e*Sn **Sn 23 06 50.1 -0.7**
comp=E,3.6nm,0.4s
ZVC Zvikov 5.76 32 *e*PN **Pn 23 05 47.9 +1.6**
ZVC *e*SN **Sn 23 06 49.1 -3.1**
NKC Novy Kostel 5.93 19 *e*SN **Sn 23 06 52.8 -3.6**
TREC Trest 6.19 39 *e*PN **Pn 23 05 51.3 -0.9**
STON Ston 6.20 104 *e*Pn **Pn 23 05 52.4 +0.1**
LFF La Frestale 6.24 276 *e*Pn **Pn 23 05 54.0 +1.0**
LFF *e*Sn **Sn 23 07 03.4 -0.7**
comp=E,1.8nm,0.3s
KRUC Moravsky 6.46 45 *e*PN **Pn 23 05 56.0 0.0**
KRUC *e*SN **Sn 23 07 06.5 -2.9**
BAIF Baives 6.50 328 *e*Pn **Pn 23 05 57.3 +0.9**
BAIF Baives 6.50 328 *e*P Pn 23 06 02.1 +5.7
BAIF *e*Sn **Sn 23 07 08.5 -1.7**
comp=E,3.4nm,0.3s
MODS Modra-Piesok 6.53 52 *e*PN **Pn 23 05 57.1 +0.2**
MODS *e*SN **Sn 23 07 06.0 -5.1**
TREB Trebinje 6.70 104 *e*Pn **Pn 23 05 58.1 -1.1**
VRAC Vranov 6.72 44 *e*SN **Sn 23 07 15.0 -0.9**
EPF Esparros 6.82 259 *e*Pn **Pn 23 06 01.7 +0.7**
EPF *e*Sn **Sn 23 07 16.4 -2.0**
comp=E,2.0nm,0.3s
BRG Berggiesshubel 6.91 24 Pg **Pg 23 06 31.7 -1.7**
BRG Amp 23 06 35.8
comp=Z,2.3nm,0.8s
BRG Berggiesshubel 6.91 24 Sn **Sn 23 07 29.2 +8.9**
BRG Amp 23 07 32.1
comp=Z,3.2nm,0.8s
BRG Berggiesshubel 6.91 24 Sg **Sg 23 07 58.0 -4.7**
BRG Amp 23 08 10.2
comp=Z,5.7nm,1.0s
MFF Saint Martin d 7.04 289 *e*Pn **Pn 23 06 05.2 +1.3**
MFF *e*Sn **Sn 23 07 22.3 -1.4**
comp=Z,1.6nm,0.2s
CLL Collm 7.06 18 *e*Pg **Pg 23 06 34.0 -2.4**
CLL *e*Sn Sn 23 07 11.0 -13
CLL *i* x x 23 07 23.0
CLL *i* Sg **Sg 23 08 15.7 +8.0**
comp=Z,11nm,1.0s
RUDO Rudo 7.17 95 *e*Pn **Pn 23 06 03.2 -2.6**
UPC Upice 7.32 35 *e*SN **Sn 23 07 26.8 -3.9**
VYHS Vyhne 7.49 56 *e*PN **Pn 23 06 09.4 -0.7**
VYHS *e*SN **Sn 23 07 31.0 -3.8**
ETSF Etsaut 7.49 260 *e*P **Pn 23 06 14.8 +4.6**
ETSF *e*Sn **Sn 23 07 33.5 -1.4**
comp=Z,1.4nm,0.3s
LDF La Druitiere 7.71 304 *e*Pn **Pn 23 06 13.4 +0.3**
LDF *e*Sn **Sn 23 07 37.4 -2.7**
comp=Z,1.3nm,0.3s
SJPF Ste Jean 7.90 263 *e*Pn **Pn 23 06 17.2 +1.4**
FLN La Foliniere 8.00 304 *e*Pn **Pn 23 06 18.1 +1.1**
FLN *e*Sn **Sn 23 07 45.5 -1.7**
comp=Z,1.3nm,0.2s
GRR Gorron 8.06 301 *e*Pn **Pn 23 06 19.1 +1.2**
GRR *e*Sn **Sn 23 07 47.1 -1.7**
comp=Z,1.2nm,0.2s
KEST Kesra 8.91 181 Pn **Pn 23 06 33.4 +3.7**
comp=Z,0.3nm,0.3s,baz=338,slow=19,SNR=1.2
comp=Z,2.4nm,0.6s
SGMF Saint Gilles 9.07 298 *e*Pn **Pn 23 06 33.1 +1.4**
SGMF *e*Sn **Sn 23 08 10.4 -3.2**
comp=Z,0.8nm,0.2s
QUIF Quistinic 9.36 295 *e*Pn **Pn 23 06 36.9 +1.2**
QUIF *e*Sn **Sn 23 08 17.9 -2.7**
comp=Z,0.6nm,0.2s
ROSF Rostrenen 9.55 297 *e*Pn **Pn 23 06 39.3 +1.0**
ROSF *e*Sn **Sn 23 08 23.0 -2.4**
comp=Z,1.1nm,0.2s
ESDC Sonseca Array 11.16 248 Pn **Pn 23 07 02.9 +2.4**
comp=Z,0.2nm,0.3s,baz=55,slow=14,SNR=1.5
comp=Z,0.2nm,0.4s
EKA Eskdalemuir Ar 13.41 327 Pn **Pn 23 07 31.7 +0.6**
baz=140,slow=14
comp=Z,0.6nm,0.7s
TORD Torodi Ar. Bea 32.10 194 P **P 23 10 50.0 +2.0**
comp=Z,0.3nm,0.7s,baz=14,slow=9.2,SNR=2.1
comp=Z,0.3nm,0.7s

IDC 26 23:06:59.9±2.1, 6°94S×129°19E, h0km, mb3.6/1, mbtmp3.6/3, ML3.8/2, Error ellipse: s-maj=112.3km

s-min=31.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.86**	**159**	Pn	Pn	23 10 16.8	-1.0
	0.5nm,0.3s,baz=338,slow=13,SNR=26						
WRA				Sn	Sn	23 12 39.6	-13
	0.8nm,0.3s,baz=341,slow=22,SNR=9.6						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**17.24**	**165**	P	P	23 11 03.1	-0.8
	0.4nm,0.3s,baz=338,slow=8.6,SNR=7.6						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**67.74**	**327**	P	P	23 17 59.4	0.0
	0.4nm,0.5s,baz=116,slow=8.1,SNR=5.9						
	0.4nm,0.5s						

*IDC **26** 23:08:00.6±1.2, 13°.18N×81°.02W, h0km, mb3.5/4, mbtmp3.7/7, ML3.3/3, MS3.2/9, Error ellipse: s-maj=33.1km s-min=22.3km az=56.0*

*RSNC **26** 23:08:01.1±0.0, 13°.N±1°×8°.1W±°, h2km±2km, M4.0, mB5.2, mb4.5, ML3.6, Mw(mB)4.6, MwMwp5.8, Mwp5.9*

ISC 26 23:08:00.9±0.6, 13°.20N±0°.04×81°.02W±0°.04, h10km, n42, σ2°.34/54, mb3.6/4, MS3.2/5, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.38**	**297**	P	**Pb**	**23 08 08.0**	**-1.7**
PRVC				S	**Sg**	**23 08 12.4**	**-1.0**
SAIC	**Isla e San And**	**0.95**	**226**	P	**Pb**	**23 08 19.1**	**-0.3**
SAIC				S	**Sn**	**23 08 32.9**	**-0.9**
RNCC	**Cayo Roncador,**	**0.97**	**68**	P	**Pg**	**23 08 20.7**	**+1.0**
RNCC				S	**Sb**	**23 08 35.5**	**+2.7**
SERC	**Banco Serrana,**	**1.25**	**30**	P	**Pn**	**23 08 24.2**	**-0.2**
SERC				S	**Sb**	**23 08 42.0**	**+1.3**
BCIP	**Isla Barro Col**	**4.17**	**164**	P	**Pn**	**23 09 02.9**	**-1.8**
BCIP				S	**Sn**	**23 09 50.6**	**-3.0**
JTS	**Las Juntas de**	**4.82**	**233**	Pn	**Pn**	**23 09 14.0**	**+0.4**
	2.2nm,0.3s,baz=62,slow=5.2,SNR=2.9						
JTS				Sn	**Sn**	**23 10 09.7**	**+0.2**
	6.5nm,0.3s,baz=12,slow=19,SNR=8.9						
JTS				LR	LR	23 11 12.8	
	comp=Z,179nm,18.1s,baz=118,slow=40						
	6.6nm,0.3s						
JTS	**Las Juntas de**	**4.82**	**233**	P	**Pn**	**23 09 14.2**	**+0.6**
JTS				S	**Sn**	**23 10 08.7**	**-0.8**
GMAL	**Guarumal, Vera**	**5.41**	**182**	P	**Pn**	**23 09 21.8**	**+0.1**
	34nm,0.8s,1μm						
GMAL				S	**Sn**	**23 10 21.7**	**-2.4**
	34nm,0.8s,1μm						
AZU	**Azuero**	**5.43**	**172**	P	**Pn**	**23 09 21.1**	**-0.8**
	21nm,0.8s						
AZU				S	**Sn**	**23 10 23.0**	**-1.5**
	21nm,0.8s						
CAPC	**Capurgana**	**5.79**	**141**	P	**Pn**	**23 09 27.8**	**+0.8**
	53nm,1.0s						
CAPC				S	**Sn**	**23 10 32.7**	**-0.8**
	53nm,1.0s						
CACAO	**El Cacao, Vera**	**5.82**	**178**	P	**Pn**	**23 09 28.8**	**+1.4**
	54nm,1.1s						
CACAO				S	**Sn**	**23 10 33.0**	**-1.2**
	54nm,1.1s						
CRIN	**San Cristobal**	**5.90**	**266**	P	Pn	23 09 22.7	-5.8
	42nm,0.4s,2μm						
MTDJ	**Mount Denham**	**6.02**	**33**	*i* P	**Pn**	**23 09 29.7**	**-0.4**
MTDJ	**Mount Denham**	**6.02**	**33**	P	**Pn**	**23 09 31.0**	**+0.9**
	64nm,1.2s						
TGUH	**Tegucigalpa,Un**	**6.14**	**279**	P	**Pn**	**23 09 32.5**	**+0.7**
	74nm,0.8s,1μm						
LCBC	**Los crdobas,**	**6.28**	**133**	P	**Pn**	**23 09 35.9**	**+2.2**
	109nm,1.0s						
LCBC				S	**Sn**	**23 10 48.7**	**+3.1**
	109nm,1.0s						
STH	**Stony Hill**	**6.32**	**39**	*i* P	**Pn**	**23 09 35.5**	**+1.4**
GWJ	**Greenwich**	**6.37**	**40**	*i* P	**Pn**	**23 09 36.5**	**+1.5**
SJCC	**San Jacinto, C**	**6.60**	**119**	P	**Pn**	**23 09 37.1**	**-1.0**
	35nm,0.8s						
SJCC				S	**Sn**	**23 10 50.7**	**-2.7**
	35nm,0.8s						
APAC	**Apartado, Choc**	**6.84**	**140**	P	**Pn**	**23 09 40.8**	**-0.6**
	30nm,0.9s						
APAC				S	**Sn**	**23 11 00.5**	**+1.1**
	30nm,0.9s						
UREC	**San Jos de Ur**	**7.64**	**135**	P	**Pn**	**23 09 53.6**	**+1.2**
CRJC	**Cerrejon, Guaj**	**8.25**	**104**	P	**Pn**	**23 10 00.6**	**-0.2**
	24nm,0.6s						
CRJC				S	**Sn**	**23 11 27.4**	**-6.7**
	24nm,0.6s						
ZARC	**Zaragoza, Cauc**	**8.30**	**133**	P	**Pn**	**23 09 59.1**	**-2.3**
	16nm,1.1s						
ZARC				S	**Sn**	**23 11 31.5**	**-3.8**
	16nm,1.1s						
GTBY	**Guantanamo Bay**	**8.76**	**39**	P	**Pn**	**23 10 09.0**	**+1.3**
	26nm,1.6s						
URIC	**Uribia, Colomb**	**8.94**	**99**	P	Pn	23 10 06.2	-4.0
	19nm,1.3s						
URIC				S	**Sn**	**23 11 45.2**	**-5.8**
	19nm,1.3s						
PTBC	**PUERTO BERRIO,**	**9.25**	**135**	P	**Pn**	**23 10 14.5**	**0.0**
	6.0nm,0.8s						
PTBC				S	**Sn**	**23 11 56.0**	**-2.7**
	6.0nm,0.8s						
TEIG	**Tepich**	**9.85**	**316**	Pn	**Pn**	**23 10 23.4**	**+0.8**
	0.2nm,0.3s,baz=143,slow=20,SNR=11						
TEIG				Sn	**Sn**	**23 12 09.2**	**-4.2**
	0.2nm,0.3s,baz=180,slow=20,SNR=1.1						
	2.2nm,0.8s						
TEIG	**Tepich**	**9.85**	**316**	P	**Pn**	**23 10 22.5**	**-0.2**
TEIG				S	**Sn**	**23 12 08.1**	**-5.3**
ROSC	**El Rosal**	**10.62**	**141**	LR	LR	23 15 24.5	
	comp=Z,130nm,20.0s,baz=338,slow=42						
SDV	**Santo Domingo**	**11.06**	**112**	Pn	**Pn**	**23 10 39.6**	**+0.2**
	1.0nm,0.3s,baz=308,slow=19,SNR=1.8						
SDV				Sn	**Sn**	**23 12 36.7**	**-6.6**
	5.3nm,0.3s,baz=252,slow=9.6,SNR=17						
SDV				LR	LR	23 15 31.1	
	comp=Z,70nm,21.3s,baz=288,slow=41						
	2.8nm,0.3s						
CMIG	**Matias Romero**	**13.93**	**288**	LR	LR	23 17 04.0	
	comp=Z,90nm,18.1s,baz=94,slow=39						
TXAR	**Lajitas Array**	**26.44**	**311**	P	**P**	**23 13 39.2**	**+1.0**
	0.8nm,0.8s,baz=125,slow=7.8,SNR=7.5						
	0.8nm,0.8s						
MDP	**Montagnes des**	**29.12**	**103**	LR	LR	23 27 14.5	
	comp=Z,32nm,18.9s,baz=283,slow=40						
LPAZ	**La Paz**	**31.95**	**156**	P	**P**	**23 14 28.3**	**+0.5**
	0.8nm,0.6s,baz=330,slow=14,SNR=2.1						
	0.8nm,0.6s						
SIV	**San Ignacio**	**35.08**	**145**	LR	LR	23 31 11.7	
	comp=Z,40nm,18.8s,baz=290,slow=40						
PDAR	**Pinedale Array**	**38.41**	**326**	P	**P**	**23 15 24.1**	**+1.2**
	0.1nm,0.4s,baz=116,slow=6.1,SNR=2.3						
	0.1nm,0.4s						
BDFB	**Brasilia**	**43.44**	**130**	LR	LR	23 35 14.5	
	comp=Z,30nm,18.4s,baz=358,slow=38						
RPN	**Rapa Nui**	**48.61**	**214**	LR	LR	23 32 46.3	
	comp=Z,59nm,18.6s,baz=101,slow=31						
RCBR	**Riachuelo**	**48.63**	**110**	LR	LR	23 38 33.2	
	comp=Z,12nm,18.2s,baz=256,slow=38						
ILAR	**Eielson Array**	**67.93**	**335**	P	**P**	**23 19 00.8**	**+1.1**
	0.5nm,1.0s,baz=101,slow=4.7,SNR=2.9						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**145.36**	**247**	PKPbc	**PKPdf**	**23 27 40.8**	**+0.9**
	0.7nm,0.5s,baz=110,slow=3.7,SNR=3.3						
WRA	**Warramunga Arr**	**145.51**	**254**	PKPbc	**PKPab**	**23 27 42.2**	**+1.7**
	1.5nm,0.6s,baz=91,slow=3.1,SNR=3.8						

*AFAD **26** 23:08:59.6±0.0, 36°.64N×25°.47E, h7km±4km, ML3.1*

*GII **26** 23:09:00.2±0.4, 36°.43N×25°.66E, h2km, Mws3.2, confirmed*

*ATH **26** 23:09:03.9, 36°.68N×25°.67E, h35km±2km, ML3.6/17, Error ellipse: s-maj=2.3km s-min=0.8km az=223.0*

*IDC **26** 23:09:03.1±0.7, 36°.55N×25°.82E, h0km, mb3.8/11, mbtmp3.7/17, ML3.4/6, Error ellipse: s-maj=17.0km s-min=10.4km az=128.0*

*THE **26** 23:09:05.1, 36°.67N×25°.72E, h6km±1km, ML3.6/8, Error ellipse: s-maj=1.3km s-min=0.4km az=261.0*

*ISK **26** 23:09:06.1, 36°.48N×25°.81E, h11km, ML3.4/24*

ISC 26 23:09:04.7±0.9, 36°.57N±0°.02×25°.73E±0°.02, h18km±4km, n126, σ1°.65/160, mb3.9/11, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR8	**Santorini-Mono**	**0.26**	**231**	P	**Pg**	**23 09 11.3**	**+0.7**
THR2	**Thira island,**	**0.27**	**242**	P	**Pg**	**23 09 11.5**	**+0.9**
CMBO	**Columbo, Santo**	**0.28**	**249**	P	**Pb**	**23 09 11.8**	**+0.7**
CMBO				S	**Sb**	**23 09 16.1**	**+0.6**
	7μm,0.6s						
CMBO	**Columbo, Santo**	**0.28**	**249**	P	**Pb**	**23 09 11.5**	**+0.3**
CMBO				S	**Sn**	**23 09 16.9**	**-2.7**
CMBO				AML	AML	23 09 20.7	
	comp=E,17287μm,0.6s						
CMBO				AML	AML	23 09 21.2	
	comp=N,22786μm,0.6s						
THR3	**Thira Island,**	**0.31**	**238**	P	**Pb**	**23 09 12.2**	**+0.5**
SNT5	**Nea Kammeni, S**	**0.32**	**238**	P	**Pb**	**23 09 12.4**	**+0.6**
SNT5				S	**Sn**	**23 09 18.5**	**-2.1**
SAP3	**Santorini-Thir**	**0.34**	**246**	P	**Pb**	**23 09 12.6**	**+0.4**
SAP3				S	**Sb**	**23 09 18.3**	**+1.0**
THR6	**Thira Island,**	**0.34**	**231**	P	**Pn**	**23 09 13.2**	**-1.6**
THR5	**Thira Island,**	**0.34**	**243**	P	**Pb**	**23 09 12.7**	**+0.4**
APE	**Apeiranthos**	**0.52**	**342**	Pg	**Pb**	**23 09 13.5**	**-1.8**
APE				Sg	**Sb**	**23 09 19.1**	**-3.4**
APE	**Apeiranthos**	**0.52**	**342**	P	**Pb**	**23 09 13.6**	**-1.8**
APE				S	**Sb**	**23 09 19.9**	**-2.6**
	comp=N,8μm,0.2s						
APE	**Apeiranthos**	**0.52**	**342**	P	**Pb**	**23 09 13.7**	**-1.6**
APE				S	**Sb**	**23 09 23.2**	**+0.7**
APE	**Apeiranthos**	**0.52**	**342**	P	**Pb**	**23 09 13.5**	**-1.8**
APE				S	**Sb**	**23 09 19.7**	**-2.9**
APE				AML	AML	23 09 24.6	
	comp=E,19038μm,0.2s						
APE				AML	AML	23 09 24.7	
	comp=N,14563μm,0.2s						
TNSA	**Tinos**	**1.07**	**335**	P	**Pn**	**23 09 23.5**	**-1.2**
TNSA				S	**Sb**	**23 09 35.3**	**-2.9**
TNSA				AML	AML	23 09 38.1	
	comp=E,6714μm,0.4s						
TNSA				AML	AML	23 09 39.2	
	comp=N,10384μm,0.2s						
KLNA	**Kalymnos**	**1.07**	**69**	P	**Pb**	**23 09 23.9**	**-0.7**
KLNA				S	**Sb**	**23 09 38.3**	**0.0**
KLNA				AML	AML	23 09 42.1	
	comp=N,8487μm,0.3s						
KLNA				AML	AML	23 09 42.6	
	comp=E,6593μm,0.3s						
MHLO	**Agia Marina, M**	**1.07**	**277**	P	**Pn**	**23 09 24.9**	**+0.1**
MHLO				S	**Sg**	**23 09 40.1**	**+0.5**
	comp=E,6μm,0.5s						
MHLO	**Agia Marina, M**	**1.07**	**277**	P	**Pb**	**23 09 23.3**	**-1.5**
MHLO				S	**Sb**	**23 09 37.1**	**-1.3**
MHLO				AML	AML	23 09 41.3	
	comp=E,15382μm,0.6s						
MHLO				AML	AML	23 09 41.6	
	comp=N,11113μm,0.5s						
NISR	**Nisiros**	**1.13**	**88**	P	**Pg**	**23 09 26.6**	**+0.1**
NISR				S	**Sg**	**23 09 42.0**	**+0.8**
	comp=N,6μm,0.5s						
NISR	**Nisiros**	**1.13**	**88**	P	**Pg**	**23 09 25.9**	**-0.6**
NISR				S	**Sg**	**23 09 41.5**	**+0.3**
NISR				AML	AML	23 09 46.6	
	comp=E,15372μm,0.7s						
NISR				AML	AML	23 09 48.3	
	comp=N,8626μm,0.3s						
BODT	**Bodrum**	**1.36**	**68**	Pn	**Pg**	**23 09 31.3**	**+0.4**
BODT				Sn	**Sg**	**23 09 49.7**	**+1.1**
BODT	**Bodrum**	**1.36**	**68**	P	**Pn**	**23 09 28.8**	**0.0**
BODT				S	**Sb**	**23 09 47.6**	**+0.9**
YKAV	**Yalikavak-Bodr**	**1.36**	**66**	Pn	**Pg**	**23 09 31.5**	**+0.6**
YKAV				Sn	**Sg**	**23 09 49.9**	**+1.2**
YAZI	**Mula-Dat§a-**	**1.39**	**85**	P	**Pb**	**23 09 30.2**	**+0.1**
YAZI				S	**Sg**	**23 09 51.3**	**+1.7**
YAZI				*i* AML	AML	23 09 56.0	
	comp=N,219nm,0.7s						
YAZI				*i* AML	AML	23 10 01.0	
	comp=N,284nm,0.5s						
SMG	**Samos**	**1.44**	**38**	P	**Pn**	**23 09 28.9**	**-1.0**
SMG				S	**Sn**	**23 09 48.1**	**-0.2**
	comp=N,2μm,0.3s						
SMG	**Samos**	**1.44**	**38**	P	**Pn**	**23 09 28.4**	**-1.4**
SMG				S	**Sn**	**23 09 46.4**	**-1.9**
SMG				AML	AML	23 09 54.2	
	comp=N,4432μm,0.3s						
SMG				AML	AML	23 09 55.2	
	comp=E,6212μm,0.3s						
IDI	**Anoyia**	**1.45**	**208**	Pn	**Pg**	**23 09 32.2**	**-0.5**
IDI				Sn	**Sg**	**23 09 51.4**	**-0.2**
IDI	**Anoyia**	**1.45**	**208**	Pg	**Pb**	**23 09 30.7**	**-0.5**
	comp=E,6.4nm,0.3s,baz=52,slow=6.3,SNR=71						
IDI				Lg	Lg	23 09 50.3	
	comp=E,26nm,0.3s,baz=323,slow=20,SNR=11						
IDI	**Anoyia**	**1.45**	**208**	P	**Pb**	**23 09 30.8**	**-0.5**
IDI				S	**Sg**	**23 09 50.9**	**-0.7**
IDI				AML	AML	23 09 56.6	
	comp=E,1467μm,0.4s						
IDI				AML	AML	23 09 59.0	
	comp=N,1369μm,0.6s						
BDRM	**Kayabasi**	**1.46**	**70**	P	**Pn**	**23 09 30.0**	**-0.2**
BDRM				S	**Sg**	**23 09 52.9**	**+1.0**
BDRM				*i* AML	AML	23 09 55.0	
	comp=N,499nm,0.4s						
DAT	**Datca**	**1.50**	**83**	P	**Pn**	**23 09 30.8**	**+0.1**
DAT				S	**Sg**	**23 09 56.2**	**+3.2**
DAT				*i* AML	AML	23 09 58.0	
	comp=N,318nm,0.5s						
DAT				*i* AML	AML	23 09 58.0	
	comp=N,274nm,0.5s						
DAT	**Datca**	**1.50**	**83**	Pn	**Pg**	**23 09 32.9**	**-0.6**
ZKR	**Zakros**	**1.51**	**165**	Pn	**Pg**	**23 09 32.7**	**-1.0**
ZKR	**Zakros**	**1.51**	**165**	P	**Pg**	**23 09 32.5**	**-1.2**
ZKR	**Zakros**	**1.51**	**165**	P	**Pg**	**23 09 32.5**	**-1.2**
ZKR				AML	AML	23 09 56.4	
	comp=E,1881μm,0.6s						
ZKR				AML	AML	23 10 00.4	
	comp=N,1145μm,0.6s						
KARP	**Karpathos**	**1.55**	**131**	Pn	**Pb**	**23 09 32.3**	**-0.5**
KARP	**Karpathos**	**1.55**	**131**	P	**Pb**	**23 09 32.4**	**-0.5**
KARP				S	**Sg**	**23 09 55.2**	**+0.5**
KARP				AML	AML	23 10 00.6	
	comp=E,3078μm,0.7s						
KARP				AML	AML	23 10 03.1	
	comp=N,3078μm,0.5s						
GCAM	**G?zelcaml?**	**1.65**	**46**	P	**Pn**	**23 09 32.0**	**-0.7**
GCAM				S	**Sg**	**23 09 58.3**	**+0.5**
GCAM				*i* AML	AML	23 10 01.0	
	comp=N,1μm,0.6s						
GCAM				*i* AML	AML	23 10 02.0	
	comp=N,829nm,0.2s						
GCAM	**G?zelcaml?**	**1.65**	**46**	Pn	**Pg**	**23 09 35.6**	**-0.7**
KARY	**Karystos**	**1.78**	**325**	P	**Pn**	**23 09 34.0**	**-0.6**
KARY				S	**Sn**	**23 09 56.4**	**-0.4**
	comp=N,938nm,0.5s						
KARY	**Karystos**	**1.78**	**325**	P	**Pn**	**23 09 34.3**	**-0.3**
KARY				AML	AML	23 10 02.0	
	comp=N,1755μm,0.5s						
KARY				AML	AML	23 10 05.2	
	comp=E,1157μm,0.7s						
IMMV	**Iera Moni Meta**	**1.80**	**232**	Pn	**Pg**	**23 09 37.7**	**-1.6**
IMMV	**Iera Moni Meta**	**1.80**	**232**	P	**Pb**	**23 09 36.1**	**-1.0**
IMMV				S	**Sg**	**23 10 00.9**	**-1.8**
	comp=E,750nm,0.7s						
IMMV	**Iera Moni Meta**	**1.80**	**232**	P	**Pb**	**23 09 35.9**	**-1.2**
IMMV				S	**Sg**	**23 10 00.5**	**-2.2**
IMMV				AML	AML	23 10 15.3	
	comp=N,1296μm,0.8s						
IMMV				AML	AML	23 10 16.0	
	comp=E,1380μm,0.7s						
ARG	**Arkhangelos**	**1.97**	**100**	Pn	**Pb**	**23 09 39.1**	**-0.8**
ARG	**Arkhangelos**	**1.97**	**100**	P	**Pb**	**23 09 38.1**	**-1.8**
VLY	**Voula,Athens**	**2.00**	**310**	P	**Pn**	**23 09 36.9**	**-0.7**
VLY				AML	AML	23 10 11.9	
	comp=N,2360μm,0.6s						
VLY				AML	AML	23 10 12.4	
	comp=E,3481μm,0.6s						
TURN	**Turunc**	**2.03**	**84**	P	**Pb**	**23 09 39.5**	**-1.6**
TURN				S	**Sg**	**23 10 12.8**	**+2.8**
TURN				*i* AML	AML	23 10 15.0	
	comp=E,184nm,0.4s						
TURN				*i* AML	AML	23 10 19.0	
	comp=E,222nm,0.6s						
TURN	**Turunc**	**2.03**	**84**	Pn	**Pb**	**23 09 40.7**	**-0.3**
DION	**Dionisos Attik**	**2.08**	**317**	P	**Pn**	**23 09 38.0**	**-0.6**
ATHU	**Athens Univers**	**2.08**	**312**	P	**Pn**	**23 09 38.5**	**-0.2**
ATHU				AML	AML	23 10 15.4	
	comp=E,662μm,0.7s						
ATHU				AML	AML	23 10 17.1	
	comp=N,772μm,0.7s						
BLCB	**Balcova**	**2.09**	**30**	Pn	**Pb**	**23 09 42.8**	**+0.8**
PTL	**Penteli**	**2.09**	**315**	P	**Pn**	**23 09 38.7**	**-0.1**
PTL				AML	AML	23 10 14.1	
	comp=E,958μm,0.5s						
PTL				AML	AML	23 10 15.3	
	comp=N,1199μm,0.6s						
YER	**Yerkesik**	**2.12**	**74**	Pn	**Pb**	**23 09 42.5**	**-0.2**
ATH	**Athens Observa**	**2.13**	**312**	P	**Pn**	**23 09 39.2**	**-0.2**
ATH				AML	AML	23 10 13.9	
	comp=N,2496μm,0.5s						
ATH				AML	AML	23 10 16.4	
	comp=E,3099μm,0.8s						
GVD	**Gavdhos**	**2.19**	**218**	Pn	**Pb**	**23 09 43.1**	**-0.6**
GVD	**Gavdhos**	**2.19**	**218**	P	**Pb**	**23 09 43.9**	**+0.2**
MULA	**Mugla, Merkez-**	**2.19**	**71**	P	**Pb**	**23 09 43.2**	**-0.5**
MULA				S	**Sg**	**23 10 18.5**	**+3.5**
MULA				*i* AML	AML	23 10 21.0	
	comp=E,66nm,0.7s						
MULA				*i* AML	AML	23 10 29.0	
	comp=E,119nm,0.5s						
VLI	**Veliai**	**2.25**	**275**	P	**Pn**	**23 09 41.6**	**+0.5**
VLI	**Veliai**	**2.25**	**275**	P	**Pn**	**23 09 41.5**	**+0.5**
IZMR	**zmir-demi**	**2.36**	**48**	P	**Pn**	**23 09 42.6**	**+0.1**
IZMR				S	**Sg**	**23 10 19.9**	**-0.7**
IZMR				*i* AML	AML	23 10 26.0	
	comp=E,74nm,0.4s						
IZMR				*i* AML	AML	23 10 27.0	
	comp=E,88nm,0.6s						
DALY	**Dalyan (Mula)**	**2.36**	**83**	Pn	**Pb**	**23 09 45.6**	**-1.1**
KYMI	**Kymi, Euboea I**	**2.43**	**328**	P	**Pn**	**23 09 43.2**	**-0.3**
KYMI				AML	AML	23 10 24.1	
	comp=E,594μm,0.5s						
KYMI				AML	AML	23 10 25.9	
	comp=N,681μm,0.4s						
NAZL	**Nazilli-Aydin**	**2.47**	**55**	Pn	**Pb**	**23 09 47.5**	**-1.1**
SABU	**Mula-Dalaman**	**2.62**	**84**	P	**Pb**	**23 09 48.3**	**-2.7**
SABU				*i* AML	AML	23 10 36.0	
	comp=N,49nm,0.7s						
SABU				*i* AML	AML	23 10 42.0	
	comp=N,68nm,0.6s						
DKL	**Dikili**	**2.66**	**20**	Pn	**Pb**	**23 09 51.7**	**-0.1**
TAVA	**DENIZLI_Tavas**	**2.70**	**70**	P	**Pn**	**23 09 48.7**	**+1.4**
TAVA				*i* AML	AML	23 10 37.0	
	comp=N,47nm,1.1s						
TAVA				*i* AML	AML	23 10 43.0	
	comp=N,46nm,0.6s						
FETY	**Fethiye**	**2.70**	**88**	Pn	**Pb**	**23 09 49.7**	**-2.8**
IZZE	**Mula-Seydike**	**2.82**	**92**	P	**Pb**	**23 09 51.3**	**-3.1**
IZZE				*i* AML	AML	23 10 47.0	
	comp=N,158nm,0.5s						
IZZE				*i* AML	AML	23 10 47.0	
	comp=N,80nm,0.6s						
CAME	**Cameli-Denizli**	**2.89**	**82**	Pn	**Pb**	**23 09 53.1**	**-2.7**
APMY	**Acipayam-Deniz**	**3.00**	**72**	Pn	**Pn**	**23 09 53.9**	**+2.5**
ITM	**Ithomi**	**3.11**	**282**	Pn	**Pb**	**23 09 57.8**	**-1.6**
AKAS	**Kas**	**3.15**	**95**	Pn	**Pb**	**23 09 56.3**	**-3.8**
AXAR	**Agios Charalam**	**3.27**	**313**	P	**Pn**	**23 09 56.5**	**+1.4**
ELL	**Elmali**	**3.37**	**86**	Pn	**Pn**	**23 09 58.5**	**+2.0**
SIMA	**Simav-Kutahya**	**3.59**	**45**	Pn	**Pb**	**23 10 03.9**	**-3.8**
BASM	**Basmaki-Afyon**	**3.70**	**67**	Pn	**Pb**	**23 10 05.5**	**-4.0**
CSS	**Mathiatis**	**6.38**	**102**	S	**Sn**	**23 11 50.2**	**-0.2**
CSS	**Mathiatis**	**6.38**	**102**	P	**Pn**	**23 10 36.6**	**-1.2**
BRTR	**Keskin Array B**	**6.98**	**61**	Pn	**Pn**	**23 10 48.0**	**+1.9**
	comp=N,0.3nm,0.3s,baz=242,slow=16,SNR=9.3						
	comp=N,0.7nm,0.3s						
MMA0B	**Mount Meron ar**	**8.71**	**111**	P	**Pn**	**23 11 08.1**	**-1.7**
MMA0B	**Mount Meron ar**	**8.71**	**111**	S	**Sn**	**23 12 47.0**	**-0.6**
MMAI	**Mount Meron ar**	**8.71**	**111**	Pn	**Pn**	**23 11 09.1**	**-0.7**
	comp=N,1.4nm,0.3s,baz=306,slow=12,SNR=9.8						
MMAI				Sn	**Sn**	**23 12 43.8**	**-3.8**
	comp=N,1.0nm,0.3s,baz=312,slow=28,SNR=2.3						
	comp=N,0.8nm,0.3s						
GEM	**Giv'at Ha'Em**	**8.82**	**109**	P	**Pn**	**23 11 09.6**	**-1.7**
GEM	**Giv'at Ha'Em**	**8.82**	**109**	S	**Sn**	**23 12 49.3**	**-1.0**
NATI	**Neve Ativ**	**8.86**	**109**	P	**Pn**	**23 11 10.4**	**-1.3**
NATI	**Neve Ativ**	**8.86**	**109**	S	**Sn**	**23 12 50.4**	**-0.6**
MLR	**Muntele Rosu**	**8.91**	**1**	Pn	**Pn**	**23 11 14.5**	**+1.9**
	comp=N,0.1nm,0.3s,baz=200,slow=6.8,SNR=5.8						
	comp=N,2.2nm,0.7s						
MMLI	**Mount Malkishu**	**9.00**	**114**	P	**Pn**	**23 11 11.4**	**-2.4**
MMLI	**Mount Malkishu**	**9.00**	**114**	S	**Sn**	**23 12 53.6**	**-1.1**
SALP	**Salfit**	**9.02**	**117**	P	**Pn**	**23 11 12.2**	**-1.9**
SALP	**Salfit**	**9.02**	**117**	S	**Sn**	**23 12 53.9**	**-1.3**
KSHT	**Keshet**	**9.03**	**110**	P	**Pn**	**23 11 12.8**	**-1.5**
KSHT	**Keshet**	**9.03**	**110**	S	**Sn**	**23 12 54.3**	**-1.2**
KZIT	**Kziot**	**9.16**	**126**	P	**Pn**	**23 11 13.4**	**-2.6**
KZIT	**Kziot**	**9.16**	**126**	S	**Sn**	**23 12 56.6**	**-2.1**
HMDT	**Nahal Hemdat**	**9.17**	**115**	P	**Pn**	**23 11 13.7**	**-2.4**
HMDT	**Nahal Hemdat**	**9.17**	**115**	S	**Sn**	**23 12 57.6**	**-1.2**
YTIR	**Yattir**	**9.37**	**121**	P	**Pn**	**23 11 16.8**	**-2.0**
YTIR	**Yattir**	**9.37**	**121**	S	**Sn**	**23 13 02.1**	**-1.7**
MSBI	**Mazada**	**9.56**	**120**	P	**Pn**	**23 11 19.2**	**-2.2**
MSBI	**Mazada**	**9.56**	**120**	S	**Sn**	**23 13 06.7**	**-1.7**
GHAJ	**Ghor Haditha**	**9.71**	**120**	P	**Pn**	**23 11 21.4**	**-2.0**
GHAJ	**Ghor Haditha**	**9.71**	**120**	S	**Sn**	**23 13 10.1**	**-2.0**
KRMI	**Paran Flat**	**9.90**	**128**	P	**Pn**	**23 11 23.7**	**-2.4**
KRMI	**Paran Flat**	**9.90**	**128**	S	**Sn**	**23 13 14.1**	**-2.6**
PRNI	**Paran**	**9.92**	**126**	P	**Pn**	**23 11 24.4**	**-2.0**
PRNI	**Paran**	**9.92**	**126**	S	**Sn**	**23 13 15.1**	**-2.2**
HRFI	**Mount Harif**	**10.15**	**127**	P	**Pn**

*IDC **26** 23:30:59.7±11.0, 18.70N×145.59E, h210km±106km, mb3.2/8, mbtmp3.8/8, Error ellipse: s-maj=34.4km s-min=18.1km az=79.0*

ISC 26 23:30:58.6±1.0, 18.7N±0.2×145.5E±0.2, h200km, n8, σ0.76/9, mb3.5/8, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.95**	**197**	P	**P**	**23 38 13.8**	**+0.1**
	1.0nm,0.3s,baz=19,slow=9.0,SNR=25						
WRA				PcP	**PcP**	**23 40 14.5**	**-0.5**
	0.3nm,0.4s,baz=15,slow=3.3,SNR=5.1						
	1.0nm,0.3s						
SONM	**Songino Array**	**43.04**	**321**	P	**P**	**23 38 38.5**	**-0.2**
	0.2nm,0.4s,baz=134,slow=9.3,SNR=1.7						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.34**	**314**	P	**P**	**23 40 33.7**	**+0.9**
	0.5nm,0.6s,baz=90,slow=9.1,SNR=4.3						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**61.21**	**318**	P	**P**	**23 40 52.5**	**+0.3**
	0.6nm,0.6s,baz=91,slow=7.2,SNR=6.6						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**63.71**	**26**	P	**P**	**23 41 08.1**	**-0.5**
	0.3nm,0.7s,baz=253,slow=5.1,SNR=4.2						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**66.37**	**320**	P	**P**	**23 41 26.6**	**+0.7**
	1.5nm,0.5s,baz=90,slow=8.0,SNR=11						
	1.5nm,0.5s						
NVAR	**Mina Array Bea**	**83.26**	**52**	P	**P**	**23 43 04.1**	**+0.8**
	0.6nm,0.7s,baz=253,slow=5.6,SNR=3.7						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**86.81**	**335**	P	**P**	**23 43 19.2**	**-1.0**
	1.5nm,0.8s,baz=52,slow=5.4,SNR=4.5						
	1.5nm,0.8s						

*BJI **26** 23:33:46.2, 35.92N×140.04E, h60km, mb5.0/72, mB4.9/37, Ms4.3/51, Ms7 4.0/54*

*NEIC **26** 23:33:51.4, 36.07N×139.76E, h54km*

*JMA **26** 23:33:51.1±0.1, 36.1N±0.3×139.9E±0.4, h44km±1km, MD5.0/39, MW4.9/39, SW IBARAKI PREF*

JMA Felt IV J1 at SW IBARAKI PREF .

*NIED **26** 23:33:51.1, 36.07N×139.86E, h44km, MW4.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr1.57; Mθθ-1.82; Mφφ0.25; Mrθ0.60; Mθφ-0.79; Mφr1.43; Fault plane solution: M0 2.44000×10^16 NP1:φs43.00000°, δ66.00000°, λ60.00000°. NP2:φs278.00000°, δ37.00000°, λ139.00000°.*

*NEIC **26** 23:33:51.4±1.6, 36.07N±0.05×139.76E±0.07, h54km±5km, mb5.1/447, Mwr4.8/21 Error ellipse: s-maj=8.5km s-min=6.9km az=120.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.94; Mθθ-1.52; Mφφ0.58; Mrθ0.38; Mθφ-0.61; Mφr1.17; Fault plane solution: M0 1.91000×10^16 NP1:φs40.67000°, δ69.90000°, λ50.19000°. NP2:φs288.26000°, δ43.83000°, λ150.24000°. Principal axes: T 1.9498, Plg49.0000°, Azm267.0000°; N -0.0793, Plg37.0000°, Azm57.0000°; P -1.8705, Plg15.0000°, Azm159.0000°;*

*MOS **26** 23:33:52.1±0.8, 36.37N×139.69E, h65km, mb5.5/82 Error ellipse: s-maj=6.2km s-min=3.7km az=119.0*

*GCMT **26** 23:33:52.4±0.3, 35.92N±0.02×139.83E±0.02, h60km±1km, MW4.9/96, Moment Tensor Solution. s57, c73; s96, c137; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.94±.12; Mθθ-2.10±.10; Mφφ0.16±.09; Mrθ0.86±.08; Mθφ-1.34±.09; Mφr1.44±.06; Best double couple: M0 2.93400×10^16 NP1:φs43.00000°, δ65.00000°, λ64.00000°. NP2: φs271.00000°, δ35.00000°, λ132.00000°. Principal axes: T 2.7460, Plg61.0000°, Azm273.0000°; N 0.3770, Plg23.0000°, Azm54.0000°; P -3.1220, Plg16.0000°, Azm151.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **26** 23:33:52.8±1.1, 36.02N×139.65E, h73km±8km, mb4.7/31, mbtmp5.0/33, MS3.8/55 Error ellipse: s-maj=11.0km s-min=9.1km az=96.0*

ISC 26 23:33:50.5±0.3, 36.04N±0.03×139.87E±0.03, h56km±2km, h56km: pP-P, n1491, σ1.44/1469, mb5.1/391, MS3.9/68, 99C-32D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.32**	**55**	P	**Pn**	**23 33 59.8**	**-0.5**
JYT				S	**Sn**	**23 34 06.1**	**-1.2**
JYT	**Yasato**	**0.32**	**55**	A	A	23 33 59.8	
	comp=E,300nm,0.3s,comp=N,433nm,0.6s						
TOK	**Tokyo**	**0.37**	**195**	*i* P	**Pn**	**23 34 01.9**	**+1.2**
TOK	**Tokyo**	**0.37**	**195**	A	A	23 34 01.9	
	comp=E,389nm,0.6s,comp=N,335nm,0.6s						
JAG	**Ashikaga**	**0.51**	**318**	⇓P	**Pn**	**23 34 01.8**	**-0.4**
JAG				⇓S	**Sn**	**23 34 09.5**	**-1.3**
JAG	**Ashikaga**	**0.51**	**318**	A	A	23 34 01.8	
	comp=E,259nm,0.5s,comp=N,379nm,0.3s						
JIHU	**Itakohorinouch**	**0.54**	**98**	A	A	23 34 02.5	
	comp=E,166nm,4.2s,comp=N,138nm,1.2s						
JSMT	**Sammumatsuo**	**0.62**	**130**	A	A	23 34 03.8	
	comp=E,91nm,2.5s,comp=N,89nm,1.6s						
JHYU	**Hitachinakayam**	**0.65**	**63**	A	A	23 34 04.0	
	comp=E,53nm,2.3s,comp=N,230nm,0.6s						
JCN	**Nagara**	**0.68**	**157**	A	A	23 34 04.8	
	comp=E,133nm,1.3s,comp=N,189nm,1.4s						
JSGW	**Sagamiharawaka**	**0.70**	**231**	A	A	23 34 04.8	
	comp=E,52nm,1.0s,comp=N,68nm,0.8s						
JRY	**Ryogami san**	**0.79**	**268**	⇓*i*P	**Pn**	**23 34 05.4**	**-0.2**
JRY				⇓S	**Sn**	**23 34 16.0**	**-0.7**
JRY	**Ryogami san**	**0.79**	**268**	A	A	23 34 05.4	
	comp=E,36nm,1.2s,comp=N,47nm,1.9s						
JHO	**Hitachi**	**0.80**	**45**	A	A	23 34 05.8	
	comp=E,66nm,0.7s,comp=N,110nm,0.9s						
JYO	**Yokosk**	**0.84**	**192**	A	A	23 34 07.0	
	comp=E,197nm,1.0s,comp=N,141nm,1.1s						
JKT	**Katashina**	**0.88**	**325**	⇓P	**Pn**	**23 34 06.4**	**-0.5**
JKT				⇓*e*S	**Sn**	**23 34 18.0**	**-1.0**
JKT	**Katashina**	**0.88**	**325**	A	A	23 34 06.4	
	comp=E,172nm,0.3s,comp=N,156nm,0.2s						
JKUC	**kamogawauchiur**	**0.92**	**163**	A	A	23 34 08.2	
	comp=E,74nm,4.0s,comp=N,96nm,3.3s						
JSB	**Shiboa**	**0.92**	**2**	A	A	23 34 07.5	
	comp=E,185nm,0.6s,comp=N,172nm,1.3s						
JOD2	**Odawara 2**	**1.01**	**220**	⇓P	**Pn**	**23 34 08.9**	**+0.4**
JOD2				⇓*e*S	**Sn**	**23 34 22.5**	**+0.7**
JOD2	**Odawara 2**	**1.01**	**220**	A	A	23 34 08.9	
	comp=E,79nm,1.6s,comp=N,110nm,1.8s						
TATJ	**Tateyama 2**	**1.01**	**179**	A	A	23 34 09.5	
	comp=E,188nm,1.8s,comp=N,253nm,2.0s						
JGK	**Kuni**	**1.12**	**298**	A	A	23 34 10.5	
	comp=E,43nm,0.9s,comp=N,45nm,1.4s						
JFFD	**Fukushimafurud**	**1.18**	**28**	A	A	23 34 11.3	
	comp=E,85nm,1.5s,comp=N,72nm,0.4s						
JYN	**Shimob**	**1.21**	**244**	*i* P	**Pn**	**23 34 12.2**	**+1.0**
JYN	**Shimob**	**1.21**	**244**	A	A	23 34 12.2	
	comp=E,75nm,0.8s,comp=N,75nm,1.1s						
JFNN	**Fujinakano**	**1.29**	**229**	A	A	23 34 13.3	
	comp=E,53nm,1.7s,comp=N,66nm,0.8s						
JHTM	**Izuhatsuma**	**1.29**	**213**	A	A	23 34 13.5	
	comp=E,115nm,0.6s,comp=N,109nm,1.6s						
ONAJ	**Iwakimizuishiy**	**1.29**	**35**	A	A	23 34 13.0	
	comp=E,119nm,0.4s,comp=N,65nm,0.7s						
JUON	**Uonuma**	**1.33**	**331**	⇓*i*P	**Pn**	**23 34 12.9**	**0.0**
JUON	**Uonuma**	**1.33**	**331**	A	A	23 34 12.9	
	comp=E,26nm,3.5s,comp=N,18nm,3.0s						
BSO3	**Boso 3**	**1.34**	**157**	⇓*i*P	**Pn**	**23 34 13.1**	**+0.4**
JFY	**Yanaizu**	**1.37**	**354**	⇓*i*P	**Pn**	**23 34 13.6**	**+0.3**
JFY	**Yanaizu**	**1.37**	**354**	A	A	23 34 13.6	
	comp=E,71nm,1.2s,comp=N,26nm,1.5s						
JIM2	**Oshima 3**	**1.37**	**195**	⇓*i*P	**Pn**	**23 34 13.3**	**-0.1**
JIM2	**Oshima 3**	**1.37**	**195**	A	A	23 34 13.3	
	comp=E,76nm,1.2s,comp=N,65nm,0.5s						
JNT	**Takato**	**1.42**	**264**	A	A	23 34 15.0	
	comp=E,65nm,0.8s,comp=N,40nm,1.1s						
MJAR	**Matsushiro Arr**	**1.43**	**291**	P	**Pn**	**23 34 14.3**	**+0.1**
	comp=N,3μm,0.4s,baz=100,slow=12,SNR=4018						
MJAR				S	**Sn**	**23 34 30.6**	**-1.3**
	comp=N,1μm,0.5s,baz=106,slow=16,SNR=7.3						
MJAR				LR	LR	23 34 51.7	
	comp=N,4μm,19.2s,baz=136,slow=46						
MAJO	**Matsushiro**	**1.44**	**291**	Pn	**Pn**	**23 34 14.3**	**+0.1**
MAJO	**Matsushiro**	**1.44**	**291**	P	**Pn**	**23 34 14.8**	**+0.5**
MAJO	**Matsushiro**	**1.44**	**291**	*d i* P	**Pn**	**23 34 14.7**	**+0.5**
MJB9	**Matsu-Tunnel**	**1.44**	**291**	Pn	**Pn**	**23 34 13.8**	**-0.5**
JNG	**Nsakai**	**1.48**	**285**	A	A	23 34 15.8	
	comp=E,17nm,1.4s,comp=N,21nm,2.9s						
JFK	**Kawauchi**	**1.55**	**31**	A	A	23 34 16.6	
	comp=E,34nm,1.2s,comp=N,26nm,0.5s						
JIZS	**Izushimoda**	**1.55**	**212**	A	A	23 34 17.2	
	comp=E,42nm,1.5s,comp=N,29nm,1.0s						
JOTO	**OTAMA OYAMA**	**1.56**	**14**	A	A	23 34 16.8	
	comp=E,150nm,1.6s,comp=N,131nm,0.3s						
JTHY	**Toshimahigashi**	**1.59**	**198**	A	A	23 34 17.9	
	comp=E,35nm,0.7s,comp=N,43nm,1.6s						
SHZ3	**Shizuoka 3**	**1.67**	**235**	A	A	23 34 18.9	
	comp=E,42nm,2.9s,comp=N,50nm,1.8s						
JJN	**Nakama**	**1.73**	**308**	A	A	23 34 19.4	
	comp=E,39nm,0.7s,comp=N,26nm,1.0s						
JIZZ	**Izumozaki**	**1.75**	**328**	A	A	23 34 19.5	
	comp=E,43nm,1.6s,comp=N,58nm,2.9s						
JNIO	**Niijimaoohara**	**1.75**	**196**	A	A	23 34 20.2	
	comp=E,52nm,3.0s,comp=N,32nm,3.9s						
JNY	**Yasuok**	**1.77**	**248**	A	A	23 34 20.2	
	comp=E,32nm,1.6s,comp=N,45nm,1.5s						
JSKK	**Shikinejimakit**	**1.79**	**198**	A	A	23 34 20.8	
	comp=E,31nm,1.4s,comp=N,18nm,4.2s						
JNS	**Sasagawa**	**1.83**	**346**	A	A	23 34 20.5	
	comp=E,12nm,3.4s,comp=N,11nm,2.2s						
JMST	**Minamisoumatoc**	**1.86**	**26**	A	A	23 34 21.1	
	comp=E,49nm,0.7s,comp=N,40nm,0.5s						
JYAR	**Yonezawaarcadi**	**1.88**	**7**	A	A	23 34 21.2	
	comp=E,49nm,1.4s,comp=N,43nm,1.2s						
JSG	**Sagara**	**1.94**	**226**	Pn	**Pn**	**23 34 22.6**	**+1.5**
JSG	**Sagara**	**1.94**	**226**	P	**Pn**	**23 34 23.5**	**+2.4**
JSG	**Sagara**	**1.94**	**226**	A	A	23 34 22.8	
	comp=E,44nm,1.6s,comp=N,33nm,1.7s						
JKO	**Kozu shima**	**1.95**	**198**	A	A	23 34 23.0	
	comp=E,58nm,3.6s,comp=N,30nm,2.2s						
JMM	**Marumori**	**1.96**	**22**	Pn	**Pn**	**23 34 21.3**	**0.0**
JMM	**Marumori**	**1.96**	**22**	P	**Pn**	**23 34 22.1**	**+0.8**
JMM	**Marumori**	**1.96**	**22**	A	A	23 34 22.5	
	comp=E,30nm,3.5s,comp=N,42nm,0.5s						
JKKS	**Kakegawashinom**	**2.01**	**231**	A	A	23 34 23.7	
	comp=E,28nm,2.6s,comp=N,27nm,1.9s						
JGN	**Niukaw**	**2.08**	**276**	A	A	23 34 24.4	
	comp=E,8.0nm,4.4s,comp=N,6.0nm,2.1s						
JGF	**Kuroka**	**2.09**	**259**	Pn	**Pn**	**23 34 24.7**	**+1.6**
JGF	**Kuroka**	**2.09**	**259**	P	**Pn**	**23 34 25.2**	**+2.0**
JGF	**Kuroka**	**2.09**	**259**	A	A	23 34 24.7	
	comp=E,17nm,2.5s,comp=N,23nm,1.8s						
HMMJ	**Hamamatsu 2**	**2.12**	**237**	A	A	23 34 25.2	
	comp=E,8.0nm,1.3s,comp=N,14nm,2.6s						
JTT	**Ttatey**	**2.13**	**286**	A	A	23 34 25.1	
	comp=E,12nm,2.4s,comp=N,12nm,2.7s						
JYS	**Shirataka**	**2.18**	**4**	A	A	23 34 25.6	
	comp=E,47nm,1.0s,comp=N,35nm,1.2s						
JAO	**Obara**	**2.27**	**251**	A	A	23 34 27.4	
	comp=E,23nm,1.1s,comp=N,20nm,1.5s						
JSD	**Sado**	**2.37**	**328**	**Pn**	**Pn**	**23 34 26.6**	**-0.3**
JSD	**Sado**	**2.37**	**328**	P	**Pn**	**23 34 27.1**	**+0.2**
JOU	**Okura**	**2.40**	**15**	A	A	23 34 28.9	
	comp=E,28nm,0.7s,comp=N,28nm,0.8s						
INU	**Inuyama**	**2.43**	**254**	Pn	**Pn**	**23 34 28.8**	**+1.1**
INU	**Inuyama**	**2.43**	**254**	P	**Pn**	**23 34 29.4**	**+1.7**
TTO5	**TONANKAI O.B.S**	**2.51**	**225**	A	A	23 34 30.9	
	comp=E,36nm,1.6s,comp=N,41nm,1.8s						
JYA	**Atsumi**	**2.55**	**357**	A	A	23 34 30.9	
	comp=E,32nm,1.1s,comp=N,16nm,0.8s						
JICN	**Ichinomiyachia**	**2.58**	**254**	A	A	23 34 31.6	
	comp=E,35nm,1.4s,comp=N,40nm,2.1s						
JYTA	**Yamagatataniai**	**2.59**	**261**	A	A	23 34 31.9	
	comp=E,7.0nm,0.9s,comp=N,12nm,2.1s						
JIKH	**Ishinomakibobu**	**2.60**	**29**	A	A	23 34 31.6	
	comp=E,27nm,3.0s,comp=N,15nm,1.2s						
JAA	**Atsumi**	**2.64**	**239**	A	A	23 34 32.6	
	comp=E,7.0nm,1.4s,comp=N,7.0nm,2.2s						
JOFO	**Osakifurukawao**	**2.68**	**18**	A	A	23 34 32.9	
	comp=E,94nm,4.2s,comp=N,85nm,3.4s						
JYK	**Kaneyama**	**2.90**	**8**	A	A	23 34 35.9	
	comp=E,13nm,2.4s,comp=N,14nm,1.1s						
JHJ2	**Mitsune**	**2.93**	**181**	Pn	**Pn**	**23 34 34.8**	**+0.3**
JHJ2	**Mitsune**	**2.93**	**181**	P	**Pn**	**23 34 34.8**	**+0.3**
JHJ2	**Mitsune**	**2.93**	**181**	A	A	23 34 36.9	
	comp=E,13nm,2.9s,comp=N,9.0nm,0.9s						
JYYZ	**Yamagatayuza**	**2.97**	**1**	A	A	23 34 36.9	
	comp=E,29nm,3.8s,comp=N,32nm,3.5s						
JEG	**Eigenji**	**2.98**	**253**	A	A	23 34 37.4	
	comp=E,6.0nm,1.4s,comp=N,10.0nm,1.8s						
JKMT	**Kesennumamotoy**	**3.04**	**24**	A	A	23 34 37.9	
	comp=E,19nm,2.3s,comp=N,9.0nm,1.9s						
JIE	**Ise**	**3.07**	**238**	A	A	23 34 38.9	
	comp=E,9.0nm,1.6s,comp=N,8.0nm,1.5s						
JMK	**Ichinoseki**	**3.09**	**20**	A	A	23 34 38.6	
	comp=E,10.0nm,1.8s,comp=N,6.0nm,1.2s						
JFM	**Mihama**	**3.20**	**262**	A	A	23 34 40.5	
	comp=E,9.0nm,1.4s,comp=N,10.0nm,1.1s						
OFUJ	**Ofunato**	**3.35**	**25**	A	A	23 34 42.4	
	comp=E,15nm,3.1s,comp=N,8.0nm,0.9s						
JRG	**Rokugo**	**3.40**	**10**	A	A	23 34 43.0	
	comp=E,11nm,3.6s,comp=N,13nm,1.3s						
JYW	**Yuwa**	**3.50**	**4**	A	A	23 34 44.4	
	comp=E,20nm,1.3s,comp=N,32nm,2.2s						
JOM	**Ohasama**	**3.60**	**18**	A	A	23 34 45.9	
	comp=E,14nm,1.1s,comp=N,6.0nm,2.8s						
JSZI	**Iwateshizukuis**	**3.79**	**13**	A	A	23 34 48.4	
	comp=E,29nm,1.8s,comp=N,28nm,1.9s						
JKY	**Yasaka**	**3.90**	**265**	A	A	23 34 50.2	
	comp=E,6.0nm,1.8s,comp=N,13nm,2.0s						
JMIK	**Miki**	**4.12**	**254**	A	A	23 34 53.5	
	comp=E,7.0nm,1.2s,comp=N,10.0nm,1.1s						
JNTW	**Noshirotokiwa**	**4.23**	**3**	A	A	23 34 54.5	
	comp=E,16nm,3.4s,comp=N,19nm,2.9s						
JTM	**Tenmabayashi**	**4.83**	**11**	Pn	**Pn**	**23 35 01.9**	**+1.4**
JTM	**Tenmabayashi**	**4.83**	**11**	P	**Pn**	**23 35 02.9**	**+2.4**
JMN	**Monobe**	**5.44**	**247**	Pn	**Pn**	**23 35 09.7**	**+0.7**
JMN	**Monobe**	**5.44**	**247**	P	**Pn**	**23 35 09.9**	**+0.9**
ERM	**Erimo**	**6.49**	**22**	Pn	**Pn**	**23 35 22.6**	**-0.7**
ERM	**Erimo**	**6.49**	**22**	P	**Pn**	**23 35 23.5**	**+0.2**
ERM	**Erimo**	**6.49**	**22**	*ce*P	**Pn**	**23 35 23.2**	**-0.1**
ERM				pmax	pmax		
	comp=Z,94nm,0.7s						
JNU	**Nakatsue**	**7.97**	**251**	Pn	**Pn**	**23 35 44.9**	**+1.2**
JNU	**Nakatsue**	**7.97**	**251**	P	**Pn**	**23 35 44.5**	**+0.8**
	comp=Z,61nm,0.7s,baz=73,slow=8.3,SNR=26						
JNU				LR	LR	23 39 11.9	
	comp=Z,1μm,19.6s,baz=62,slow=41						
JNU	**Nakatsue**	**7.97**	**251**	P	**Pn**	**23 35 45.3**	**+1.6**
ASAJ	**Asahikawa**	**8.33**	**14**	P	**Pn**	**23 35 48.4**	**-0.1**
	comp=Z,27nm,0.3s,baz=206,slow=11,SNR=14						
ASAJ				S	**Sn**	**23 37 19.4**	**-1.7**
	comp=Z,26nm,0.5s,baz=216,slow=19,SNR=1.5						
ASAJ				LR	LR	23 39 23.6	
	comp=Z,467nm,21.9s,baz=100,slow=39						
ASAJ	**Asahikawa**	**8.33**	**14**	P	**Pn**	**23 35 49.7**	**+1.2**
JKA	**Kamikawa-asahi**	**8.33**	**14**	Pn	**Pn**	**23 35 49.7**	**+1.2**
NMR	**Nemuro--Hokkai**	**8.59**	**30**	*e*P	**Pn**	**23 35 48.5**	**-3.6**
NMR				*e*S	**Sn**	**23 37 19.6**	**-7.9**
JTU	**Tsushima**	**8.70**	**263**	P	**Pn**	**23 35 57.2**	**+3.6**
RUSJ	**Misakicho**	**9.04**	**25**	*e*P	**Pn**	**23 35 56.4**	**-1.8**
RUSJ				*e*S	**Sn**	**23 37 34.0**	**-4.5**
JCJ	**Chichijima**	**9.14**	**167**	Pn	**Pn**	**23 35 56.4**	**-3.3**
JCJ	**Chichijima**	**9.14**	**167**	P	Pn	23 35 51.6	-8.1
	baz=0.0,slow=0.0						
JCJ				S	Sn	23 37 27.1	-14
	baz=0.0,slow=0.0						
JCJ	**Chichijima**	**9.14**	**167**	P	**Pn**	**23 35 57.6**	**-2.0**
YUK	**Yuzh-Kuril'sk**	**9.21**	**28**	P	**Pn**	**23 35 58.1**	**-2.3**
YUK				*i* S	**Sn**	**23 37 36.6**	**-5.9**
TEY	**Ternei**	**9.32**	**346**	*e*P	**Pn**	**23 36 05.6**	**+3.6**
SHO	**Shikotan**	**9.46**	**32**	*e*P	**Pn**	**23 36 02.4**	**-1.6**
SHO				pmax	pmax		
	comp=Z,38nm,0.4s						
PSTR	**Posyet**	**9.63**	**316**	*i* P	**Pn**	**23 36 03.9**	**-2.4**
KSRS	**Korea Array**	**9.69**	**282**	P	**Pn**	**23 36 10.1**	**+2.9**
	comp=Z,17nm,0.3s,baz=96,slow=14,SNR=64						
KSRS				LR	LR	23 39 46.9	
	comp=Z,1μm,20.0s,baz=90,slow=37						
KSAR	**Wonju Array Be**	**9.72**	**282**	Pn	**Pn**	**23 36 10.6**	**+3.0**
KSAR	**Wonju Array Be**	**9.72**	**282**	P	**Pn**	**23 36 10.6**	**+3.0**
KS19	**Wonju Array Si**	**9.74**	**282**	Pn	**Pn**	**23 36 10.6**	**+2.7**
TJN	**Taejon**	**10.12**	**276**	Pn	**Pn**	**23 36 16.9**	**+3.9**
TJN	**Taejon**	**10.12**	**276**	P	**Pn**	**23 36 16.9**	**+3.9**
USA0B	**Ussuriysk Arra**	**10.13**	**326**	Pn	**Pn**	**23 36 11.8**	**-1.4**
USA0B	**Ussuriysk Arra**	**10.13**	**326**	P	**Pn**	**23 36 11.8**	**-1.4**
USRK	**Ussuriysk Ar.**	**10.13**	**326**	Pn	**Pn**	**23 36 11.7**	**-1.4**
USRK	**Ussuriysk Ar.**	**10.13**	**326**	P	**Pn**	**23 36 17.7**	**+4.5**
	comp=Z,56nm,0.7s,baz=140,slow=13,SNR=41						
USRK				LR	LR	23 39 53.3	
	comp=Z,503nm,21.5s,baz=145,slow=36						
USRK	**Ussuriysk Ar.**	**10.13**	**326**	P	**Pn**	**23 36 11.7**	**-1.4**
KUR	**Kuril'sk**	**11.00**	**31**	*e*P	**Pn**	**23 36 26.9**	**+1.9**
KUR				*e*S	**Sn**	**23 38 21.2**	**-5.2**
KUR				smax	smax		
	comp=N,248nm,0.5s						
KUR				smax	smax		
	comp=E,123nm,0.6s						
YSS	**Yuzh-Sakhalins**	**11.11**	**10**	Pn	**Pn**	**23 36 24.6**	**-1.9**
YSS	**Yuzh-Sakhalins**	**11.11**	**10**	*e*P	**Pn**	**23 36 25.6**	**-0.9**
YSS				*e*S	**Sn**	**23 38 27.9**	**-1.2**
YSS				pmax	pmax		
	comp=Z,500nm,3.2s						
YSS				pmax	pmax		
	comp=Z,80nm,0.8s						
YSS				MLR	MLR		
	comp=Z,1μm,12.0s						
YSS				MLR	MLR		
	comp=N,900nm,15.0s						
YSS				MLR	MLR		
	comp=E,700nm,13.0s						
MDJ	**Mudanjiang**	**11.60**	**321**	Pn	**Pn**	**23 36 35.4**	**+2.2**
MDJ	**Mudanjiang**	**11.60**	**321**	P	**Pn**	**23 36 37.0**	**+3.7**
MDJ				PP	**PnPn**	**23 36 44.8**	**+3.6**
MDJ				sP		23 36 53.0	
MDJ				S	**Sn**	**23 38 47.8**	**+6.6**
MDJ				SS	**SnSn**	**23 39 00.8**	**+7.1**
MDJ				PcP	**PcP**	**23 42 22.3**	**+2.2**
MDJ				pmax	pmax		
	comp=E,21nm,0.8s						
MDJ				LR	LR		
	comp=E,600nm,18.9s						
MDJ				LR	LR		
	comp=E,450nm,21.3s						
MDJ				LR	LR		
	comp=E,1μm,23.7s						
JMZ	**Minamidaito 2**	**12.60**	**218**	Pn	**Pn**	**23 36 43.8**	**-3.1**
UGL	**Uglegorsk**	**13.12**	**6**	*e*P	**P**	**23 37 04.2**	**+1.8**
JOW	**Kunigami**	**13.49**	**230**		**Pn**	**23 36 56.6**	**-2.5**
JOW	**Kunigami**	**13.49**	**230**	P	**P**	**23 37 06.3**	**-0.4**
	comp=E,19nm,0.4s,baz=60,slow=14,SNR=7.0						
JOW				LR	LR	23 42 04.1	
	comp=E,238nm,21.6s,baz=160,slow=37						
CN2	**Changchun**	**13.50**	**309**	*e*P	**Pn**	**23 36 59.3**	**+0.2**
CN2				*e*S	**Sn**	**23 39 30.5**	**+3.1**
CN2				pmax	pmax		
	comp=E,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=E,300nm,4.3s						
CN2				LR	LR		
	comp=E,300nm,12.0s						
CN2				LR	LR		
	comp=E,400nm,12.0s						
CN2				LR	LR		
	comp=E,400nm,13.0s						
BNX	**BinXian**	**13.50**	**320**	⇓P	**Pn**	**23 37 00.5**	**+1.4**
BNX				S	**Sn**	**23 39 29.3**	**+1.8**
BNX				pmax	pmax		
	comp=E,38nm,1.2s						
BNX				pmax	pmax		
	comp=E,350nm,4.1s						
BNX				LR	LR		
	comp=E,470nm,14.1s						
SNY	**Shenyang**	**13.93**	**299**	⇓P	**Pn**	**23 37 06.5**	**+1.6**
SNY				pmax	pmax		
	comp=E,20nm,0.9s						
SNY				pmax	pmax		
	comp=E,100nm,3.8s						
SNY				LR	LR		
	comp=E,470nm,13.0s						
SNY				LR	LR		
	comp=E,450nm,16.1s						
SNY				LR	LR		
	comp=E,760nm,15.7s						
KLR	**Kul'dur**	**14.46**	**338**	P	**Pn**	**23 37 11.2**	**-0.7**
	comp=E,3.8nm,0.4s,baz=145,slow=14,SNR=18						
KLR				LR	LR	23 42 46.4	
	comp=E,517nm,18.0s,baz=143,slow=37						
DL2	**Dalian**	**14.77**	**287**	P	**P**	**23 37 22.0**	**+1.3**
DL2				sP		23 37 36.5	
DL2				S	**S**	**23 40 08.5**	**-5.6**
DL2				pmax	pmax		
	comp=Z,85nm,0.5s						
DL2				pmax	pmax		
	comp=Z,260nm,8.9s						
DL2				LR	LR		
	comp=N,470nm,12.7s						
DL2				LR	LR		
	comp=E,920nm,12.4s						
DL2				LR	LR		
	comp=Z,1μm,24.1s						
GRNR	**Gornyy**	**14.93**	**351**	⇓*i*P	**Pn**	**23 37 15.6**	**-2.4**
GRNR				pmax	pmax		
	comp=N,8.0nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GRNR				MLR	MLR		
	comp=E,220nm,18.0s						
GRNR				MLR	MLR		
	comp=N,210nm,12.0s						
GRNR				MLR	MLR		
	comp=Z,300nm,14.0s						
**S

XLT S **S** **23 41 54.0 -2.4**
XLT SS **SnSn** **23 42 23.0 +7.9**
XLT pmax pmax
comp=Z,36nm,0.8s
XLT LR LR
comp=Z,650nm,15.4s
XLT LR LR
comp=Z,780nm,15.3s
HNS HongShan 20.20 281 ⇑P **P** **23 38 18.5 -2.1**
HNS pP **pP** **23 38 29.8 -3.2**
HNS PP **sP** **23 38 40.3 +0.2**
HNS SS **SnSn** **23 42 26.5 +1.7**
HNS pmax pmax
comp=Z,54nm,0.9s
HNS LR LR
comp=Z,350nm,17.1s
HNS LR LR
comp=Z,470nm,18.7s
HNS LR LR
comp=Z,510nm,19.0s
SSLB Suanglung 20.40 238 P **P** **23 38 21.8 -1.2**
SSLB Suanglung 20.40 238 P Pn 23 38 25.7 +0.3
YULB Yu-li 20.43 237 P **P** **23 38 22.1 -1.1**
YULB Yu-li 20.43 237 P Pn 23 38 25.9 +0.2
TPUB Ta-pu 20.95 238 P **P** **23 38 26.5 -2.2**
TPUB IAmb IAmb 23 38 30.8
comp=Z,66nm,1.2s
TWG Pinlang 20.97 236 P **P** **23 38 29.4 +0.4**
TWG IAmb IAmb 23 38 33.8
comp=Z,35nm,0.6s
PEA0B Petropavlovsk- 21.17 31 P **P** **23 38 31.5 +0.7**
PEA0B IAmb IAmb 23 38 51.6
comp=Z,63nm,1.1s
PEA0B Petropavlovsk- 21.17 31 P **P** **23 38 31.5 +0.7**
PEA0B pmax pmax
comp=Z,63nm,1.2s
PETK Petropavlovsk- 21.17 31 P **P** **23 38 30.7 -0.1**
PETK Petropavlovsk- 21.17 31 P **P** **23 38 31.9 +1.1**
comp=Z,15nm,0.7s,baz=219,slow=6.0,SNR=11
PETK LR LR 23 46 27.8
comp=Z,176nm,21.0s,baz=218,slow=36
comp=Z,15nm,0.7s
PET Petropavlovsk 21.51 32 *ce*P **P** **23 38 36.2 +1.7**
PET pmax pmax
comp=Z,87nm,1.3s
PET Petropavlovsk 21.51 32 P **P** **23 38 36.4 +1.9**
comp=Z,55nm,1.3s
WHN Wuhan 22.00 263 P **P** **23 38 39.5 -0.4**
WHN sP **sP** **23 39 02.5 +2.9**
WHN LR LR
comp=Z,2μm,17.8s
LYN LuoYang 22.39 274 P **P** **23 38 41.0 -3.2**
LYN pP pP 23 38 55.8 -0.9
LYN SS **SnSn** **23 43 28.8 +10**
LYN pmax pmax
comp=Z,23nm,0.9s
LYN pmax pmax
comp=Z,220nm,7.2s
LYN LR LR
comp=Z,530nm,17.2s
LYN LR LR
comp=Z,570nm,16.8s
LYN LR LR
comp=Z,790nm,16.8s
HHC Hu-ho-hao-te 22.64 291 *e*P **P** **23 38 42.8 -4.0**
HHC S **S** **23 42 49.5 -1.3**
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,94nm,3.9s
HHC LR LR
comp=Z,150nm,15.3s
HHC LR LR
comp=Z,330nm,15.3s
HHC LR LR
comp=Z,410nm,15.3s
MA2 Magadan 24.59 13 P **P** **23 39 06.2 +1.2**
MA2 IAmb IAmb 23 39 08.0
comp=Z,79nm,0.9s
MA2 Magadan 24.59 13 LR LR 23 50 47.8
comp=Z,171nm,18.2s,baz=208,slow=41
MA2 Magadan 24.59 13 P **P** **23 39 08.1 +3.1**
MA2 Magadan 24.59 13 P **P** **23 39 06.2 +1.2**
MA2 pmax pmax
comp=Z,79nm,0.9s
MA2 Magadan 24.59 13 P **P** **23 39 07.1 +2.1**
comp=Z,114nm,0.8s
XAN Xi'an 25.37 275 ⇓P **P** **23 39 10.8 -1.7**
XAN S **S** **23 43 32.8 -2.2**
XAN pmax pmax
comp=Z,32nm,0.5s
XAN pmax pmax
comp=Z,110nm,4.8s
XAN LR LR
comp=Z,540nm,16.7s
XAN LR LR
comp=Z,530nm,15.6s
XAN LR LR
comp=Z,520nm,17.5s
ENH Enshi 26.02 266 P **P** **23 39 17.0 -1.4**
ENH IAmb IAmb 23 39 18.2
comp=Z,61nm,0.7s
YAK Yakutsk 26.79 349 P **P** **23 39 23.3 -1.5**
YAK Yakutsk 26.79 349 LR LR 23 50 14.6
comp=Z,293nm,18.3s,baz=128,slow=37
YAK Yakutsk 26.79 349 *e*P **P** **23 39 23.8 -1.1**
YAK *e**PP **pP** **23 39 36.1 -2.7**
YAK *e* 23 40 07.2
YAK *e* 23 42 45.3
YAK *e*S **S** **23 43 55.8 -0.9**
YAK *e**SS **sS** **23 44 23.4 +3.0**
YAK *e*SS **SnSn** **23 45 04.5 -0.8**
YAK pmax pmax
comp=Z,101nm,1.0s
YAK pmax pmax
comp=N,33nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,200nm,4.1s
YAK pmax pmax
comp=N,311nm,3.7s
YAK pmax pmax
comp=E,227nm,3.5s
YAK smax smax
comp=N,500nm,3.6s
YAK smax smax
comp=E,137nm,3.2s
ULN Ulaanbaatar 26.91 306 P **P** **23 39 24.9 -1.4**
ULN Ulaanbaatar 26.91 306 P **P** **23 39 25.9 -0.5**
ULN P **P** **23 39 25.9 -0.5**
ULN Ulaanbaatar 26.91 306 *ce*P **P** **23 39 27.1 +0.7**
ULN pmax pmax
comp=Z,25nm,1.3s
SONM Songino Array 27.33 306 P **P** **23 39 29.0 -1.1**
SONM Songino Array 27.33 306 P **P** **23 39 29.1 -1.1**
comp=Z,10nm,0.6s,baz=108,slow=8.5,SNR=25
SONM PcP **PcP** **23 42 48.5 +0.4**
comp=Z,1.6nm,0.6s,baz=102,slow=3.1,SNR=4.2
SONM ScP **ScP** **23 46 23.8 0.0**
comp=Z,0.7nm,0.8s,baz=123,slow=5.3,SNR=3.6
SONM LR LR 23 50 44.3
comp=Z,286nm,19.5s,baz=124,slow=37
comp=Z,10nm,0.6s
BOD Bodaibo 27.73 330 *e*P **P** **23 39 32.6 -0.8**
BOD pmax pmax
comp=Z,36nm,1.1s
SEY Seymchan 28.01 12 *i*P **P** **23 39 37.6 +1.8**
SEY pmax pmax
comp=Z,20nm,0.9s
H11N2 WAKE ISLAND Hy 28.75 117 T T 00 09 57.6
baz=312,slow=75,SNR=206
H11N1 WAKE ISLAND Hy 28.76 117 T T 00 09 58.3
baz=312,slow=75,SNR=211
H11N3 WAKE ISLAND Hy 28.77 117 T T 00 09 56.9
baz=312,slow=75,SNR=348
LZH Lanzhou 29.02 281 P **P** **23 39 42.0 -3.3**
LZH pmax pmax
comp=Z,8.0nm,1.3s
LZH LR LR
comp=Z,290nm,15.1s
LZH LR LR
comp=Z,240nm,14.1s
LZH LR LR
comp=Z,380nm,13.4s
SHEM Shemya Is, Ala 29.24 44 LR LR 23 49 47.9
comp=Z,67nm,21.5s,baz=243,slow=32
H11S1 WAKE ISLAND Hy 29.41 119 T T 00 10 48.6
baz=314,slow=76,SNR=360
H11S3 WAKE ISLAND Hy 29.41 119 T T 00 10 46.0
baz=314,slow=76,SNR=228
H11S2 WAKE ISLAND Hy 29.43 119 T T 00 10 49.8
baz=314,slow=76,SNR=245
GYA Guiyang 29.83 261 P **P** **23 39 51.0 -1.6**
GYA pmax pmax
comp=Z,43nm,1.1s
GYA LR LR
comp=Z,330nm,21.2s
ZAK Zakamensk 29.93 310 *e*P **P** **23 39 52.2 -1.0**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
CD2 Chengdu 30.44 271 *e*P **P** **23 39 57.0 -0.8**
QIZ Qiongzhong 31.39 245 P **P** **23 40 06.8 +0.6**
QIZ S **S** **23 45 13.5 +3.7**
QIZ LR LR
comp=Z,380nm,13.5s
QIZ LR LR
comp=Z,320nm,12.9s
QIZ LR LR
comp=Z,300nm,24.5s
GTA Gaotai 31.68 288 *e*P **P** **23 40 08.0 -0.7**
GTA PcP **PcP** **23 43 00.5 +1.1**
GTA pmax pmax
comp=Z,14nm,0.8s
GTA LR LR
comp=Z,150nm,14.5s
GTA LR LR
comp=Z,230nm,15.6s
GTA LR LR
comp=Z,280nm,16.7s
KMI Kunming 33.59 262 ⇓P **P** **23 40 24.8 -0.8**
KMI pmax pmax
comp=Z,17nm,1.3s
KMI LR LR
comp=Z,250nm,17.1s
KMI LR LR
comp=Z,240nm,15.3s
KMI LR LR
comp=Z,310nm,21.6s
PZH PanZhiHua 33.77 265 P **P** **23 40 25.8 -1.3**
PZH S **S** **23 45 45.8 -1.2**
PZH pmax pmax
comp=Z,40nm,0.5s
PZH pmax pmax
comp=Z,60nm,3.5s
PZH LR LR
comp=Z,230nm,14.5s
PZH LR LR
comp=Z,250nm,16.5s
PZH LR LR
comp=Z,230nm,19.1s
BILL Bilibino 35.33 17 *ce*P **P** **23 40 40.2 +0.3**
BILL pmax pmax
comp=Z,8.0nm,1.0s
TIXI Tiksi 36.13 354 P **P** **23 40 45.7 -1.0**
TIXI IAmb IAmb 23 40 51.2
comp=Z,20nm,0.7s
TIXI Tiksi 36.13 354 LR LR 23 56 42.1
comp=Z,167nm,18.4s,baz=194,slow=38
TIXI Tiksi 36.13 354 *i*P **P** **23 40 46.1 -0.7**
TIXI pmax pmax
comp=Z,20nm,0.6s
TIXI Tiksi 36.13 354 P **P** **23 40 46.2 -0.5**
TIXI sP **sP** **23 41 06.0 -1.6**
GOMU GeErMu 36.15 284 P **P** **23 40 46.8 -1.0**
GOMU S **S** **23 46 18.0 -5.8**
GOMU pmax pmax
comp=Z,22nm,0.6s
GOMU LR LR
comp=Z,180nm,14.6s
GOMU LR LR
comp=Z,300nm,14.1s
GOMU LR LR
comp=Z,500nm,14.9s
TNCH TengChong 37.02 264 ⇑P **P** **23 40 54.5 -0.7**
TNCH pP pP 23 41 08.5 -0.9
TNCH S **S** **23 46 35.3 -1.8**
TNCH sS ScP 23 46 57.8 +0.6
TNCH pmax pmax
comp=Z,51nm,1.1s
TNCH pmax pmax
comp=Z,100nm,4.9s
TNCH LR LR
comp=Z,150nm,11.6s
TNCH LR LR
comp=Z,150nm,15.6s
TNCH LR LR
comp=Z,230nm,26.5s
JAY Jayapura 38.37 179 LR LR 23 53 28.0
comp=Z,150nm,21.9s,baz=342,slow=31
PHRA Phrae 39.02 254 P **P** **23 41 10.5 -1.3**
SPIA Saint Paul Isl 39.13 41 P **P** **23 41 11.9 -0.3**
baz=259
NIKH Nikolski High 39.36 48 P **P** **23 41 14.1 -0.1**
baz=266
P08K Saint George I 39.40 42 P **P** **23 41 14.8 +0.3**
baz=261
FAKI Fak Fak 39.41 192 P **P** **23 41 14.1 -0.8**
FAKI IAmb IAmb 23 41 28.4
comp=Z,22nm,0.7s
FAKI Fak Fak 39.41 192 P **P** **23 41 17.6 +2.6**
FAKI Fak Fak 39.41 192 P **P** **23 41 14.2 -0.8**
comp=Z,33nm,0.9s
CHTO Chiang Mai 39.84 256 P **P** **23 41 16.8 -1.8**
CHTO Chiang Mai 39.84 256 P **P** **23 41 16.8 -1.8**
CHTO pmax pmax
comp=Z,6.0nm,1.0s
CMAR Chiang Mai Arr 40.05 255 P **P** **23 41 19.2 -1.1**
CMAR Chiang Mai Arr 40.05 255 P **P** **23 41 19.6 -0.7**
comp=Z,1.8nm,0.5s,baz=48,slow=7.2,SNR=13
CMAR PcP **PcP** **23 43 24.6 +0.2**
comp=Z,1.7nm,0.4s,baz=30,slow=2.5,SNR=10
CMAR LR LR 23 59 24.8
comp=Z,109nm,18.6s,baz=65,slow=38
comp=Z,1.8nm,0.5s
SANI Sanana 40.05 202 P **P** **23 41 22.3 +2.0**
WMQ Urumqi 40.19 298 *e*P **P** **23 41 22.0 +0.7**
WMQ pmax pmax
comp=Z,47nm,0.9s
WMQ pmax pmax
comp=Z,91nm,5.1s
WMQ LR LR
comp=Z,160nm,22.9s
GAMB Gambell 40.20 31 P **P** **23 41 21.7 +0.7**
baz=250
UNV Unalaska Valle 40.82 47 P **P** **23 41 27.6 +1.3**
baz=267
LSA Lhasa 41.07 276 P **P** **23 41 30.3 +1.1**
LSA IAmb IAmb 23 41 31.3
comp=Z,34nm,0.8s
LSA Lhasa 41.07 276 *i*P **P** **23 41 29.7 +0.5**
SNR=5.4
LSA Lhasa 41.07 276 P **P** **23 41 29.5 +0.3**
LSA pmax pmax
comp=Z,41nm,1.1s
LSA Lhasa 41.07 276 P **P** **23 41 30.3 +1.1**
LSA P **P** **23 41 30.3 +1.1**
LSA Lhasa 41.07 276 P **P** **23 41 30.3 +1.1**
LSA pmax pmax
comp=Z,34nm,0.8s
LSA Lhasa 41.07 276 P **P** **23 41 29.9 +0.7**
ZAA0 Zalesovo Array 41.67 313 P **P** **23 41 33.2 -0.1**
ZALV Zalesovo Beam 41.67 313 P **P** **23 41 32.6 -0.7**
comp=Z,93nm,0.6s,baz=92,slow=6.6,SNR=356
ZALV PcP **PcP** **23 43 29.0 -0.1**
comp=Z,16nm,0.5s,baz=100,slow=3.1,SNR=15
ZALV ScP **ScP** **23 47 13.4 -1.0**
comp=Z,1.6nm,0.8s,baz=93,slow=2.9,SNR=3.7
ZALV LR LR 23 59 46.7
comp=Z,101nm,18.3s,baz=72,slow=37
comp=Z,93nm,0.6s
ZSN Zaisan 41.78 303 *e*P **P** **23 41 34.6 +0.2**
comp=Z,25nm,0.6s
ZSN Zaisan 41.78 303 *e*P **P** **23 41 34.5 +0.2**
ZSN pmax pmax
comp=Z,25nm,0.6s
M11K Mekoryuk 41.80 37 P **P** **23 41 34.7 +0.5**
baz=259
SBUM Sibu 42.09 224 P **P** **23 41 35.3 -1.8**
SHL Shillong 42.15 269 P **P** **23 41 35.5 -2.3**
SHL IAmb IAmb 23 41 37.2
comp=Z,32nm,0.8s
SHL Shillong 42.15 269 P **P** **23 41 36.7 -1.1**
SNR=8.4
SHL Shillong 42.15 269 P **P** **23 41 35.5 -2.3**
SHL pmax pmax
comp=Z,32nm,0.8s
K13K Kusilvak Mount 42.83 35 P **P** **23 41 42.8 +0.2**
baz=259
F14K Arctic Creek 42.93 30 P **P** **23 41 43.2 -0.1**
baz=254
M13K Dall Lake 43.20 37 P **P** **23 41 45.5 -0.1**
baz=262
S12K Black Hills 43.48 44 P **P** **23 41 48.0 +0.1**
baz=268
J14K Nanvaranak Lak 43.48 34 P **P** **23 41 48.2 +0.3**
baz=260
MK31 Makanchi Array 43.60 303 P **P** **23 41 48.1 -1.0**
MK31 IAmb IAmb 23 41 51.0
comp=Z,22nm,0.8s
MK31 Makanchi Array 43.60 303 P **P** **23 41 48.1 -1.0**
MK31 pmax pmax
comp=Z,23nm,0.8s
MKAR Makanchi Array 43.60 303 P **P** **23 41 49.1 0.0**
comp=Z,28nm,0.6s,baz=86,slow=8.7,SNR=198
MKAR PcP **PcP** **23 43 35.8 +0.1**
comp=Z,2.6nm,0.6s,baz=71,slow=4.9,SNR=2.8
MKAR ScP **ScP** **23 47 21.6 -0.8**
comp=Z,1.0nm,0.8s,baz=84,slow=4.5,SNR=2.0
MKAR LR LR 00 00 38.1
comp=Z,270nm,18.2s,baz=62,slow=37
comp=Z,28nm,0.6s
NRIK Noril'sk 43.66 336 P **P** **23 41 48.4 -0.8**
NRIK IAmb IAmb 23 41 51.1
comp=Z,64nm,1.3s
NRIK Noril'sk 43.66 336 P **P** **23 41 49.2 +0.1**
comp=Z,19nm,0.5s,baz=119,slow=7.9,SNR=43
NRIK PcP **PcP** **23 43 35.6 +0.2**
comp=Z,14nm,0.7s,baz=90,slow=5.1,SNR=4.9
NRIK S **S** **23 48 10.9 -3.7**
comp=Z,0.6nm,0.3s,baz=56,slow=3.6,SNR=1.1
NRIK PKiKP **PKiKP** **23 50 35.9 -1.0**
comp=Z,1.0nm,0.3s,baz=106,slow=1.1,SNR=2.1
NRIK LR LR 00 01 03.1
comp=Z,188nm,20.5s,baz=120,slow=37
comp=Z,19nm,0.5s
L14K Kuka Creek 43.66 36 P **P** **23 41 49.1 -0.1**
baz=262
F15K North Star Dit 43.67 30 P **P** **23 41 48.9 -0.4**
baz=255
G15K Niukluk 43.74 31 P **P** **23 41 50.1 +0.2**
baz=257
MAKZ Makanchi 43.81 303 P **P** **23 41 50.7 -0.1**
MAKZ IAmb IAmb 23 41 52.8
comp=Z,25nm,0.7s
MAKZ Makanchi 43.81 303 P **P** **23 41 50.7 -0.1**
MAKZ pmax pmax
comp=Z,25nm,0.7s
MAKZ Makanchi 43.81 303 P **P** **23 41 50.8 -0.1**
MAKZ sP **sP** **23 42 11.3 -0.5**
M14K Bethel 43.93 37 P **P** **23 41 53.6 +2.2**
M14K IAmb IAmb 23 41 58.1
comp=Z,20nm,0.8s
M14K Bethel 43.93 37 P **P** **23 41 51.0 -0.4**
baz=263
N14K Kuskokwak Cree 43.97 38 P **P** **23 41 51.9 +0.1**
baz=264
KSM Kuching 43.97 225 P **P** **23 41 52.0 -0.3**
O14K Tigyukauivet M 44.12 39 P **P** **23 41 52.9 0.0**
baz=265
C16K Lisburne Hills 44.13 26 P **P** **23 41 52.5 -0.5**
baz=252
L15K Ungalak Mounta 44.27 36 P **P** **23 41 54.6 +0.4**
baz=263
BNSI Bone 44.29 209 P **P** **23 41 55.8 +1.0**
K15K Wolf Creek Mou 44.34 35 P **P** **23 41 55.2 +0.5**
baz=262
H16K Elim 44.42 31 P **P** **23 41 55.9 +0.6**
baz=259
G16K Koyuk River 44.52 30 P **P** **23 41 55.8 -0.3**
baz=258
M15K Kasigluk River 44.54 37 P **P** **23 41 56.6 +0.3**
baz=264
D17K Noatak River 44.79 27 P **P** **23 41 59.0 +0.8**
baz=255,SNR=5.1
N15K Kwethluk River 44.79 38 P **P** **23 41 59.6 +1.3**
baz=265
O15K Ungalikthiuk R 44.85 39 P **P** **23 41 59.0 +0.1**
baz=267
CHNA Chernabura Isl 44.89 46 P **P** **23 42 00.2 +1.0**
baz=271
J16K Anvik River 44.90 33 P **P** **23 41 59.8 +0.6**
baz=262
RDOG Red Dog Mine 44.94 27 P **P** **23 42 00.0 +0.6**
baz=255
I17K Unalakleet 44.95 33 P **P** **23 42 01.0 +1.5**
I17K Unalakleet 44.95 33 P **P** **23 42 00.3 +0.7**
baz=261
C17K DeLong Mountai 44.96 26 P **P** **23 42 00.3 +0.7**
baz=254
KAPI Kappang 44.99 209 P **P** **23 41 59.6 -0.8**
KAPI IAmb IAmb 23 42 23.1
comp=Z,31nm,1.2s
KAPI Kappang 44.99 209 P **P** **23 41 59.6 -0.8**
KAPI pmax pmax
comp=Z,31nm,1.2s
E17K Hotham Inlet 45.10 28 P **P** **23 42 01.8 +1.0**
baz=257,SNR=5.2
BKSI Bulukumba 45.13 208 P **P** **23 42 02.2 +0.7**
F17K Baldwin Pennin 45.19 29 P **P** **23 42 03.1 +1.8**
F17K IAmb IAmb 23 42 05.3
comp=Z,20nm,1.0s
F17K Baldwin Pennin 45.19 29 P **P** **23 42 02.1 +0.7**
baz=258
L16K Owhat River 45.23 36 P **P** **23 42 02.4 +0.6**
baz=264,SNR=5.1
G17K Kiwalik Mounta 45.24 30 P **P** **23 42 02.9 +1.0**
baz=260
M16K Timber Creek 45.41 37 P **P** **23 42 03.6 +0.3**
baz=266
H17K Granite Mounta 45.45 31 P **P** **23 42 04.3 +0.7**
H17K Granite Mounta 45.45 31 P **P** **23 42 04.0 +0.4**
baz=261
N16K Nishlik Lake 45.47 38 P **P** **23 42 04.2 +0.4**
baz=266
KURK Kurchatov 45.57 309 P **P** **23 42 04.1 -0.6**
KURK Kurchatov 45.57 309 P **P** **23 42 04.5 -0.2**
KURK Kurchatov 45.57 309 P **P** **23 42 04.8 +0.1**
KURK 23 43 42.1
KURK Kurchatov 45.57 309 P **P** **23 42 04.5 -0.2**
KURK pP **pP** **23 42 19.1 -0.2**
KURK sP **sP** **23 42 25.1 -0.7**
J17K VABM Dome 45.60 33 P **P** **23 42 07.3 +2.6**
J17K IAmb IAmb 23 42 12.1
comp=Z,24nm,1.1s
J17K VABM Dome 45.60 33 P **P** **23 42 05.7 +1.0**
baz=263
KURBB Kurchatov Arra 45.64 309 P **P** **23 42 04.8 -0.4**
comp=Z,62nm,0.5s,baz=84,slow=8.1,SNR=490
KURBB PcP **PcP** **23 43 42.1 -0.5**
comp=Z,5.2nm,0.8s,baz=81,slow=3.8,SNR=2.8
KURBB LR LR 00 01 56.2
comp=Z,166nm,19.0s,baz=183,slow=37
comp=Z,62nm,0.5s
E18K Tukpahlearik C 45.65 28 P **P** **23 42 06.6 +1.6**
E18K IAmb IAmb 23 42 09.1
comp=Z,25nm,0.9s
E18K Tukpahlearik C 45.65 28 P **P** **23 42 06.0 +1.0**
baz=258
B18K Kokolik River 45.68 25 P **P** **23 42 05.5 +0.2**
baz=255
SRIT Nakonsritamara 45.69 243 P **P** **23 42 05.5 -0.5**
SRIT IAmb IAmb 23 42 13.0
comp=Z,16nm,0.8s
C18K Utukok River 45.71 26 P **P** **23 42 06.6 +1.0**
C18K IAmb IAmb 23 42 13.8
comp=Z,23nm,0.7s
C18K Utukok River 45.71 26 P **P** **23 42 05.9 +0.2**
baz=256,SNR=6.6
PMG Port Moresby 45.72 170 LR LR 00 00 43.5
comp=Z,85nm,18.9s,baz=8.0,slow=35
O16K Kokwok River B 45.76 39 P **P** **23 42 06.4 +0.4**
baz=268
P16K Nushagak River 45.79 40 P **P** **23 42 07.3 +1.1**
baz=268
L17K Donlin 45.82 35 P **P** **23 42 07.3 +0.8**
baz=265
F18K Selawik 45.85 29 P **P** **23 42 07.5 +0.9**
baz=260,SNR=6.7

K17K	**Iditarod**	45.87	34	P	P	23 42 09.0	+2.1
K17K				IAmb	IAmb	23 42 13.8	
	comp=Z,20nm,0.8s						
K17K	**Iditarod**	45.87	34	P	P	23 42 07.2	+0.3
	baz=264						
G18K	**Tagagawik**	46.12	30	P	P	23 42 10.6	+1.8
G18K				IAmb	IAmb	23 42 12.4	
	comp=Z,15nm,0.8s						
G18K	**Tagagawik**	46.12	30	P	P	23 42 09.0	+0.2
	baz=261,SNR=7.5						
H18K	**Honhosa River**	46.13	31	P	P	23 42 08.8	-0.1
H18K				IAmb	IAmb	23 42 15.2	
	comp=Z,46nm,1.4s						
H18K	**Honhosa River**	46.13	31	P	P	23 42 09.2	+0.3
	baz=262						
A19K	**Wainwright**	46.15	24	P	P	23 42 10.0	+1.0
	baz=255						
M17K	**Holitna River**	46.17	36	P	P	23 42 11.7	+2.5
M17K				IAmb	IAmb	23 42 14.5	
	comp=Z,16nm,0.8s						
M17K	**Holitna River**	46.17	36	P	P	23 42 09.3	0.0
	baz=267						
SHLS	**Shalkode**	46.20	298	*e*P	P	23 42 07.4	-2.5
	comp=Z,26nm,1.1s						
SHLS	**Shalkode**	46.20	298	*e*P	P	23 42 07.4	-2.5
SHLS				pmax	pmax		
	comp=Z,25nm,1.1s						
N17K	**Nushagak Hills**	46.25	38	P	P	23 42 10.1	+0.2
	baz=268						
O17K	**Koliganek Bris**	46.27	39	P	P	23 42 11.2	+1.2
	baz=268						
C19K	**Lookout Ridge**	46.38	26	P	P	23 42 12.5	+1.6
C19K				IAmb	IAmb	23 42 22.1	
	comp=Z,25nm,0.8s						
C19K	**Lookout Ridge**	46.38	26	P	P	23 42 11.2	+0.4
	baz=257						
Q16K	**King Salmon**	46.48	40	P	P	23 42 12.2	+0.6
	baz=270						
UZB	**Uzynbulak**	46.52	298	*e*P	P	23 42 12.3	-0.1
UZB	**Uzynbulak**	46.52	298	*e*P	P	23 42 12.3	-0.1
TDK	**Taldyqorghan**	46.57	301	*e*P	P	23 42 12.7	+0.1
	comp=Z,26nm,0.6s						
TDK	**Taldyqorghan**	46.57	301	*e*P	P	23 42 12.7	+0.1
TDK				pmax	pmax		
	comp=Z,26nm,0.6s						
L18K	**Granite Mounta**	46.58	35	P	P	23 42 13.7	+1.3
L18K				IAmb	IAmb	23 42 18.1	
	comp=Z,32nm,1.5s						
L18K	**Granite Mounta**	46.58	35	P	P	23 42 12.9	+0.4
	baz=266						
P17K	**Kvichak River**	46.59	39	P	P	23 42 13.0	+0.5
	baz=270						
F19K	**Shaleruckik Mo**	46.62	29	P	P	23 42 14.0	+1.3
F19K	**Shaleruckik Mo**	46.62	29	P	P	23 42 13.6	+0.9
	baz=261						
R17L	**Mt. Peulik Vol**	46.64	42	P	P	23 42 14.4	+1.4
	baz=271						
J18K	**Innoko River**	46.66	34	P	P	23 42 13.9	+0.9
	baz=265						
GCSA	**Galena City Sc**	46.71	32	P	P	23 42 13.9	+0.5
	baz=264						
D19K	**Kuna River**	46.78	27	P	P	23 42 15.1	+1.1
D19K	**Kuna River**	46.78	27	P	P	23 42 14.7	+0.7
	baz=259						
G19K	**Purcell Mounta**	46.79	30	P	P	23 42 15.2	+1.1
G19K	**Purcell Mounta**	46.79	30	P	P	23 42 14.9	+0.9
	baz=262						
WUS	**Wushi**	46.83	296	P	P	23 42 15.1	+0.2
WUS	**Wushi**	46.83	296	P	P	23 42 15.4	+0.4
Q17K	**Contact Creek**	46.88	41	P	P	23 42 15.1	+0.1
	baz=271						
N18K	**Kilae Creek**	46.90	37	P	P	23 42 15.5	+0.5
	baz=269						
E19K	**Redstone River**	46.93	28	P	P	23 42 16.6	+1.4
E19K				IAmb	IAmb	23 42 19.3	
	comp=Z,21nm,0.7s						
E19K	**Redstone River**	46.93	28	P	P	23 42 15.7	+0.6
	baz=261						
ZHN	**Zhinishke**	46.93	298	*e*P	P	23 42 15.5	-0.1
ZHN	**Zhinishke**	46.93	298	*e*P	P	23 42 15.5	-0.1
TTA	**Tatalina**	46.94	34	P	P	23 42 16.7	+1.3
	baz=266						
M18K	**Stony River**	46.95	36	P	P	23 42 16.6	+1.2
	baz=268						
H19K	**Roundabout Mou**	46.98	31	P	P	23 42 16.4	+0.9
H19K				IAmb	IAmb	23 42 21.9	
	comp=Z,18nm,0.8s						
H19K	**Roundabout Mou**	46.98	31	P	P	23 42 16.7	+1.2
	baz=264						
SATY	**Saty**	46.98	298	*e*P	P	23 42 16.1	0.0
SATY	**Saty**	46.98	298	*e*P	P	23 42 16.0	0.0
PRZ	**Przheval'sk**	47.12	298	P	P	23 42 18.0	+0.9
PRZ	**Przheval'sk**	47.12	298	P	P	23 42 18.0	+0.9
PRZ				pmax	pmax		
	comp=Z,88nm,0.9s						
ACHA	**Angle Creek He**	47.18	41	P	P	23 42 17.3	0.0
ACHA				IAmb	IAmb	23 42 21.8	
	comp=Z,16nm,1.1s						
J19K	**Poorman**	47.19	33	P	P	23 42 19.1	+1.9
J19K				IAmb	IAmb	23 42 23.3	
	comp=Z,16nm,1.0s						
J19K	**Poorman**	47.19	33	P	P	23 42 18.4	+1.2
	baz=266						
P18K	**Big Mountain,**	47.22	39	P	P	23 42 19.0	+1.5
P18K				IAmb	IAmb	23 42 23.8	
	comp=Z,42nm,1.1s						
P18K	**Big Mountain,**	47.22	39	P	P	23 42 18.1	+0.6
	baz=270						
O18K	**Koktuh Hills**	47.23	39	P	P	23 42 19.9	+2.3
O18K				IAmb	IAmb	23 42 22.2	
	comp=Z,19nm,0.8s						
O18K	**Koktuh Hills**	47.23	39	P	P	23 42 18.0	+0.5
	baz=270						
Q18K	**Katmai Hardscr**	47.34	40	P	P	23 42 19.3	+0.7
	baz=271						
D20K	**Etivluk River**	47.36	26	P	P	23 42 20.2	+1.7
	baz=260						
B20K	**Meade River**	47.41	25	P	P	23 42 20.0	+1.2
B20K	**Meade River**	47.41	25	P	P	23 42 20.2	+1.5
	baz=259						
L19K	**White Mountain**	47.44	35	P	P	23 42 20.2	+1.1
L19K				IAmb	IAmb	23 42 25.6	
	comp=Z,27nm,1.4s						
L19K	**White Mountain**	47.44	35	P	P	23 42 20.4	+1.3
	baz=268						
E20K	**Nigu River**	47.45	27	P	P	23 42 20.3	+1.1
	baz=261						
F20K	**Avaraart Lake**	47.45	29	P	P	23 42 21.0	+1.8
F20K	**Avaraart Lake**	47.45	29	P	P	23 42 20.7	+1.6
	baz=263						
N19K	**Bonanza Creek**	47.59	37	P	P	23 42 21.5	+1.1
	baz=270						
H20K	**Anotleneega Mo**	47.63	31	P	P	23 42 21.2	+0.6
	baz=265						
M19K	**Big River Lodg**	47.65	36	P	P	23 42 23.0	+2.2
	baz=269						
O19K	**Port Alsworth**	47.67	38	P	P	23 42 21.5	+0.6
O19K				IAmb	IAmb	23 42 27.5	
	comp=Z,45nm,1.3s						
O19K	**Port Alsworth**	47.67	38	P	P	23 42 22.9	+2.0
	baz=270						
R18K	**Karluk**	47.67	42	P	P	23 42 23.2	+2.3
	baz=273						
TARG	**Taragay, Kyrgy**	47.73	297	P	P	23 42 22.7	+0.5
TARG	**Taragay, Kyrgy**	47.73	297	P	P	23 42 22.7	+0.5
TARG				pmax	pmax		
	comp=Z,78nm,0.7s						
I20K	**Naaghedeneel**	47.74	32	P	P	23 42 23.7	+2.3
	baz=266						
K20K	**Telida**	47.84	34	P	P	23 42 24.1	+1.9
K20K				IAmb	IAmb	23 42 25.5	
	comp=Z,14nm,0.6s						
K20K	**Telida**	47.84	34	P	P	23 42 23.2	+0.9
	baz=268						
J20K	**Nowinta River**	47.85	33	P	P	23 42 24.1	+1.8
J20K				IAmb	IAmb	23 42 38.5	
	comp=Z,25nm,1.3s						
J20K	**Nowinta River**	47.85	33	P	P	23 42 23.6	+1.3
	baz=267						
SOEI	**Soe**	47.87	201	P	P	23 42 20.9	-2.2
SOEI	**Soe**	47.87	201	P	P	23 42 26.4	+3.3
SOEI	**Soe**	47.87	201	P	P	23 42 21.7	-1.4
	comp=Z,48nm,0.9s						
L20K	**Farewell, AK**	47.90	35	P	P	23 42 24.1	+1.4
	baz=269						
MDOK	**Medeo**	47.92	299	*e*P	P	23 42 23.3	0.0
MDOK	**Medeo**	47.92	299	*e*P	P	23 42 23.3	0.0
AAA	**Alma-Ata**	48.01	299	*e*P	P	23 42 24.0	+0.1
	comp=Z,22nm,0.5s						
AAA	**Alma-Ata**	48.01	299	*e*P	P	23 42 24.0	+0.1
AAA				pmax	pmax		
	comp=Z,22nm,0.5s						
TATA	**Tatamba Isabel**	48.01	153	P	P	23 42 27.2	+3.1
TNSS	**Tian-Shan**	48.02	299	*e*P	P	23 42 24.3	-0.1
TNSS	**Tian-Shan**	48.02	299	*e*P	P	23 42 24.3	-0.1
Q19K	**Cape Douglas,**	48.04	40	P	P	23 42 24.1	+0.3
Q19K	**Cape Douglas,**	48.04	40	P	P	23 42 25.8	+1.9
	baz=272						
KDJ	**Kajisay**	48.08	297	P	P	23 42 24.8	+0.1
KDJ	**Kajisay**	48.08	297	P	P	23 42 24.8	+0.1
KDJ				pmax	pmax		
	comp=Z,31nm,0.7s						
C21K	**Knifeblade Rid**	48.09	26	P	P	23 42 25.3	+1.3
	baz=262,SNR=8.6						
B21K	**Ikpikpuk River**	48.21	25	P	P	23 42 26.5	+1.5
B21K	**Ikpikpuk River**	48.21	25	P	P	23 42 27.3	+2.3
	baz=262						
P19K	**Oil Pt**	48.23	39	P	P	23 42 26.5	+1.1
	baz=272						
M20K	**Styx River**	48.24	36	P	P	23 42 27.3	+1.9
	baz=270						
G21K	**Allakaket**	48.27	30	P	P	23 42 27.1	+1.5
G21K				IAmb	IAmb	23 42 31.2	
	comp=Z,13nm,0.8s						
G21K	**Allakaket**	48.27	30	P	P	23 42 27.5	+2.0
	baz=266,SNR=9.1						
E21K	**Killik River**	48.28	27	P	P	23 42 26.9	+1.2
E21K				IAmb	IAmb	23 42 29.4	
	comp=Z,22nm,0.9s						
E21K	**Killik River**	48.28	27	P	P	23 42 26.6	+1.0
	baz=263						
A22K	**Sinclair Lake**	48.31	23	P	P	23 42 26.7	+1.0
	baz=260						
OHAK	**Old Harbor**	48.32	42	P	P	23 42 26.2	+0.2
OHAK	**Old Harbor**	48.32	42	P	P	23 42 26.6	+0.6
	baz=274						
F21K	**Alatna River**	48.34	29	P	P	23 42 27.4	+1.4
F21K				IAmb	IAmb	23 42 32.3	
	comp=Z,12nm,0.8s						
F21K	**Alatna River**	48.34	29	P	P	23 42 26.9	+0.8
	baz=265						
BATI	**Baumata**	48.48	202	LR	LR	00 02 36.1	
	comp=Z,99nm,22.0s,baz=21,slow=36						
BATI	**Baumata**	48.48	202	P	P	23 42 27.2	-0.4
	comp=Z,38nm,0.8s						
H21K	**Melozitna Rive**	48.50	31	P	P	23 42 27.7	+0.4
H21K				IAmb	IAmb	23 42 33.0	
	comp=Z,19nm,1.4s						
H21K	**Melozitna Rive**	48.50	31	P	P	23 42 28.4	+1.1
	baz=267,SNR=7.1						
CHUM	**Lake Minchumin**	48.64	33	P	P	23 42 29.3	+1.0
	baz=269,SNR=5.2						
KDAK	**Kodiak Island**	48.66	41	LR	LR	00 06 05.3	
	comp=Z,33nm,19.6s,baz=67,slow=40						
KDAK	**Kodiak Island**	48.66	41	P	P	23 42 30.3	+1.7
	baz=274						
KDAK	**Kodiak Island**	48.66	41	P	P	23 42 29.5	+0.9
PPLA	**Purkeypile**	48.69	34	P	P	23 42 29.7	+0.8
	baz=270						
N20K	**Mount Spurr**	48.69	37	P	P	23 42 30.5	+1.5
	baz=271,SNR=6.8						
SPCR	**Spurr Chakacha**	48.69	37	P	P	23 42 30.0	+1.1
	baz=271						
Q20K	**Shuyak Island**	48.71	40	P	P	23 42 30.2	+1.2
	baz=274						
B22K	**Teshekpuk Lake**	48.72	24	P	P	23 42 29.7	+0.8
B22K				IAmb	IAmb	23 42 32.3	
	comp=Z,23nm,0.9s						
B22K	**Teshekpuk Lake**	48.72	24	P	P	23 42 30.7	+1.8
	baz=262,SNR=10						
ULHL	**Ulahol**	48.73	298	P	P	23 42 31.7	+2.1
	SNR=9.5						
CAST	**Castle Rocks**	48.74	34	P	P	23 42 31.3	+2.1
CAST				IAmb	IAmb	23 42 33.3	
	comp=Z,8.8nm,0.6s						
CAST	**Castle Rocks**	48.74	34	P	P	23 42 30.2	+1.0
	baz=270,SNR=7.0						
D22K	**Ayikyak River**	48.80	26	P	P	23 42 31.0	+1.4
D22K	**Ayikyak River**	48.80	26	P	P	23 42 31.9	+2.3
	baz=264,SNR=19						
I21K	**Tanana**	48.82	31	P	P	23 42 31.6	+1.9
	baz=268						
F22K	**John River**	48.87	28	P	P	23 42 31.1	+1.0
	baz=266						
KDU	**Kakadu**	48.97	190	P	P	23 42 31.5	+0.1
	comp=Z,31nm,0.7s						
SKT	**Skwentna**	49.00	36	P	P	23 42 32.2	+1.0
	baz=271						
TKM2	**Tokmak 2**	49.01	299	P	P	23 42 32.8	+0.9
	SNR=10						
TKM2	**Tokmak 2**	49.01	299	*i* P	P	23 42 32.2	+0.4
TKM2				pmax	pmax		
	comp=Z,50nm,0.6s						
HNR	**Honiara**	49.03	153	LR	LR	00 02 20.0	
	comp=Z,52nm,20.7s,baz=328,slow=35						
HOM	**Homer**	49.03	39	P	P	23 42 32.3	+0.8
	baz=273						
E22K	**Anaktuvuk Pass**	49.05	27	P	P	23 42 33.3	+1.7
E22K				IAmb	IAmb	23 42 35.3	
	comp=Z,24nm,0.8s						
E22K	**Anaktuvuk Pass**	49.05	27	P	P	23 42 33.2	+1.6
	baz=266						
G22K	**Bettles**	49.09	29	P	P	23 42 33.6	+1.9
	baz=267						
H22K	**Ishtalitna Cre**	49.10	30	P	P	23 42 32.6	+0.7
	baz=268						
NRN	**Naryn**	49.11	297	P	P	23 42 32.8	+0.1
NRN	**Naryn**	49.11	297	P	P	23 42 32.8	+0.1
NRN				pmax	pmax		
	comp=Z,43nm,1.1s						
CAPN	**Captain Cook N**	49.22	37	P	P	23 42 33.1	+0.3
	baz=273						
BPAW	**Bear Paw Mtn.**	49.23	33	P	P	23 42 32.4	-0.5
BPAW				IAmb	IAmb	23 42 33.4	
	comp=Z,20nm,1.1s						
BPAW	**Bear Paw Mtn.**	49.23	33	P	P	23 42 33.1	+0.2
	baz=270						
PLAI	**Plampang**	49.24	209	P	P	23 42 36.5	+3.0
KTH	**Kantishna Hill**	49.26	34	P	P	23 42 34.0	+0.8
KTH				IAmb	IAmb	23 42 37.7	
	comp=Z,17nm,1.0s						
KMMI	**Kalianget**	49.30	215	P	P	23 42 32.6	-1.3
	comp=Z,20nm,0.6s						
MTN	**Manton Dam**	49.32	191	P	P	23 42 33.5	-0.6
MTN	**Manton Dam**	49.32	191	P	P	23 42 33.9	-0.1
	comp=Z,55nm,0.6s						
PPBI	**Pangkal Pinang**	49.34	227	P	P	23 42 33.4	-0.9
MLY	**Manley**	49.34	32	P	P	23 42 35.5	+1.7
MLY				IAmb	IAmb	23 42 40.4	
	comp=Z,13nm,0.8s						
MLY	**Manley**	49.34	32	P	P	23 42 34.6	+0.8
	baz=269,SNR=8.2						
SUA	**Susitna One**	49.39	36	P	P	23 42 35.6	+1.3
SUA				IAmb	IAmb	23 42 51.7	
	comp=Z,19nm,0.9s						
SUA	**Susitna One**	49.39	36	P	P	23 42 35.9	+1.6
	baz=272						
BRSE	**Bradley Lake S**	49.48	39	P	P	23 42 36.5	+1.6
	baz=274						
D23K	**Nanushuk River**	49.53	26	P	P	23 42 37.3	+2.2
D23K				IAmb	IAmb	23 42 38.6	
	comp=Z,13nm,0.8s						
D23K	**Nanushuk River**	49.53	26	P	P	23 42 36.4	+1.2
	baz=266						
KBK	**Karagaybulak**	49.54	299	P	P	23 42 36.6	+0.8
	SNR=170						
TRF	**Thorofare Moun**	49.54	34	P	P	23 42 37.8	+2.3
	baz=271						
SGDS	**Sogindy**	49.56	300	*e*P	P	23 42 35.9	0.0
SGDS	**Sogindy**	49.56	300	*e*P	P	23 42 35.8	0.0
BTLS	**Baital**	49.58	302	*e*P	P	23 42 35.9	+0.1
	comp=Z,27nm,0.7s						
BTLS	**Baital**	49.58	302	*e*P	P	23 42 35.8	0.0
BTLS				pmax	pmax		
	comp=Z,27nm,0.7s						
CHMS	**Chumysh**	49.59	299	P	P	23 42 36.4	+0.4
	SNR=21						
COLD	**Coldfoot**	49.62	29	P	P	23 42 38.0	+2.2
	baz=268						
C23K	**Itkillik River**	49.62	25	P	P	23 42 37.5	+1.7
C23K				IAmb	IAmb	23 42 39.5	
	comp=Z,27nm,0.9s						
C23K	**Itkillik River**	49.62	25	P	P	23 42 37.6	+1.8
	baz=265						
G23K	**Bananza Creek**	49.67	29	P	P	23 42 38.0	+1.8
G23K				IAmb	IAmb	23 42 42.0	
	comp=Z,11nm,0.9s						
G23K	**Bananza Creek**	49.67	29	P	P	23 42 38.2	+1.9
	baz=269						
M22K	**Willow**	49.68	36	P	P	23 42 38.0	+1.8
	baz=273						
KSH	**Kashi**	49.68	294	P	P	23 42 40.5	+3.7
KSH				pP	sP	23 42 55.5	-2.5
KSH				pmax	pmax		
	comp=Z,37nm,0.8s						
USP	**Ospenovka**	49.70	299	P	P	23 42 37.2	+0.4
	SNR=54						
FRU1	**Bishkek**	49.73	299	P	P	23 42 37.3	+0.2
FRU1	**Bishkek**	49.73	299	P	P	23 42 37.3	+0.2
FRU1				pmax	pmax		
	comp=Z,80nm,1.0s						
COEN	**Coen**	49.83	176	P	P	23 42 38.8	+0.9
COEN				IAmb	IAmb	23 42 41.7	
	comp=Z,14nm,0.8s						
COEN	**Coen**	49.83	176	P	P	23 42 38.8	+0.9
	comp=Z,19nm,1.0s						
COEN	**Coen**	49.83	176	P	P	23 42 39.3	+1.4
H23K	**Yukon River**	49.85	31	P	P	23 42 39.4	+1.8
H23K				IAmb	IAmb	23 42 44.6	
	comp=Z,23nm,0.8s						
H23K	**Yukon River**	49.85	31	P	P	23 42 39.9	+2.2
	baz=270,SNR=15						
AAK	**Ala-Archa**	49.87	299	P	P	23 42 38.2	-0.1
AAK	**Ala-Archa**	49.87	299	*i* P	P	23 42 38.6	+0.3
	SNR=78						
AAK	**Ala-Archa**	49.87	299	LR	LR	00 04 56.1	
	comp=Z,264nm,19.5s,baz=76,slow=38						
AAK	**Ala-Archa**	49.87	299	P	P	23 42 38.7	+0.3
AAK				P	P	23 42 38.7	+0.3
AAK	**Ala-Archa**	49.87	299	*ce*P	P	23 42 38.5	+0.2
AAK				pmax	pmax		
	comp=Z,44nm,0.8s						
AAK	**Ala-Archa**	49.87	299	P	P	23 42 38.6	+0.3
E23K	**Chandalar**	49.87	28	P	P	23 42 39.4	+1.6
E23K	**Chandalar**	49.87	28	P	P	23 42 39.5	+1.7
	baz=268,SNR=31						
BWN	**Browne**	49.90	33	P	P	23 42 39.0	+1.1
RC01	**Rabbit Creek A**	49.90	37	P	P	23 42 39.3	+1.2
	baz=274						
TOLK	**Toolik Lake Re**	49.91	27	P	P	23 42 39.7	+1.6
TOLK	**Toolik Lake Re**	49.91	27	P	P	23 42 40.2	+2.1
	baz=267,SNR=7.0						
I23K	**Minto, Yukon-K**	49.93	31	P	P	23 42 40.1	+2.0
I23K				IAmb	IAmb	23 43 04.2	
	comp=Z,21nm,1.4s						
I23K	**Minto, Yukon-K**	49.93	31	P	P	23 42 39.9	+1.7
	baz=270						
O22K	**Cooper Landing**	49.94	38	P	P	23 42 39.6	+1.3
O22K	**Cooper Landing**	49.94	38	P	P	23 42 40.1	+1.7
	baz=274						
UCH	**Uchtor**	49.97	298	P	P	23 42 40.7	+1.3
	SNR=8.6						
NEA2	**Nenana**	50.06	32	P	P	23 42 40.6	+1.4
NEA2				IAmb	IAmb	23 43 01.4	
	comp=Z,27nm,1.1s						
NEA2	**Nenana**	50.06	32	P	P	23 42 40.8	+1.6
	baz=271,SNR=12						
SEW	**Seward**	50.11	38	P	P	23 42 41.2	+1.6
	baz=275						
MCK	**McKinley**	50.14	33	P	P	23 42 40.9	+1.0
	baz=272						
PMR	**Palmer**	50.16	36	P	P	23 42 41.3	+1.4
	baz=274						
D24K	**Happy Valley**	50.21	26	P	P	23 42 41.9	+1.6
D24K	**Happy Valley**	50.21	26	P	P	23 42 41.5	+1.2
	baz=268						
PSI	**Prapat**	50.22	238	LR	LR	00 04 43.0	
	comp=Z,56nm,19.2s,baz=335,slow=37						
GHO	**Glory Hole Cre**	50.24	36	P	P	23 42 41.9	+1.2
GHO				IAmb	IAmb	23 42 57.4	
	comp=Z,25nm,0.9s						
C24K	**Franklin Bluff**	50.28	25	P	P	23 42 41.8	+1.0
C24K	**Franklin Bluff**	50.28	25	P	P	23 42 42.6	+1.8
	baz=267,SNR=16						
E24K	**Your Creek**	50.30	28	P	P	23 42 42.6	+1.6
E24K				IAmb	IAmb	23 42 44.4	
	comp=Z,29nm,1.4s						
E24K	**Your Creek**	50.30	28	P	P	23 42 42.9	+1.8
	baz=269						
BVAR	**Borovoye Array**	50.33	313	P	P	23 42 41.3	-0.1
	comp=Z,33nm,0.6s,baz=80,slow=7.2,SNR=107						
BVAR				PcP	PcP	23 43 59.2	-0.1
	comp=Z,4.7nm,0.5s,baz=90,slow=2.9,SNR=1.9						
BVAR				LR	LR	00 04 34.1	
	comp=Z,69nm,19.6s,baz=78,slow=37						
	comp=Z,33nm,0.6s						
WAT1	**Susitna Watana**	50.35	34	P	P	23 42 43.1	+1.6
	baz=273						
EKS2	**Erkin-Say**	50.37	299	P	P	23 42 42.3	+0.3
	SNR=36						
BRVK	**Borovoye**	50.38	313	P	P	23 42 41.3	-0.5
BRVK	**Borovoye**	50.38	313	P	P	23 42 41.8	-0.1
BRVK				P	P	23 42 41.8	-0.1
BRVK	**Borovoye**	50.38	313	*ce*P	P	23 42 41.7	-0.1
BRVK				pmax	pmax		
	comp=Z,26nm,0.8s						
BRVK	**Borovoye**	50.38	313	P	P	23 42 41.6	-0.2
WRH	**Wood River Hil**	50.49	32	P	P	23 42 43.6	+1.2
WRH				IAmb	IAmb	23 42 52.4	
	comp=Z,9.6nm,0.8s						
KNK	**Knik Glacier**	50.49	36	P	P	23 42 43.5	+1.0
	baz=274						
F24K	**Squaw Lake**	50.52	28	P	P	23 42 43.9	+1.2
F24K	**Squaw Lake**	50.52	28	P	P	23 42 43.7	+1.1
	baz=270						
SML	**Sawmill**	50.52	36	P	P	23 42 45.0	+2.2
SML	**Sawmill**	50.52	36	P	P	23 42 44.1	+1.3
	baz=274						
H24K	**Noodor Dome**	50.54	31	P	P	23 42 44.6	+1.8
H24K				IAmb	IAmb	23 43 12.2	
	comp=Z,14nm,1.0s						
H24K	**Noodor Dome**	50.54	31	P	P	23 42 44.7	+1.8
	baz=271						
COLA	**College**	50.57	32	P	P	23 42 44.2	+1.1
	baz=272						
COLA	**College**	50.57	32	P	P	23 42 45.5	+2.5
AML	**Almagashu**	50.58	298	P	P	23 42 45.0	+1.0
	SNR=41						
PWL	**Port Wells**	50.59	37	P	P	23 42 44.2	+0.9
	baz=275						
CCB	**Clear Creek Bu**	50.60	32	P	P	23 42 44.6	+1.3
CCB				IAmb	IAmb	23 43 07.7	
	comp=Z,15nm,1.2s						
G24K	**Hadweenzic Riv**	50.68	29	P	P	23 42 46.4	+2.5
G24K				IAmb	IAmb	23 42 48.1	
	comp=Z,27nm,1.4s						
G24K	**Hadweenzic Riv**	50.68	29	P	P	23 42 44.4	+0.5
	baz=271						
POKR	**Poker Plat Res**	50.74	31	P	P	23 42 46.1	+1.7
POKR	**Poker Plat Res**	50.74	31	P	P	23 42 46.1	+1.7
	baz=272,SNR=36						
WAT6	**Susitna Watana**	50.74	35	P	P	23 42 46.0	+1.4
	baz=274						
M23K	**Glacier View**	50.81	36	P	P	23 42 46.1	+1.2
	baz=275						
DH

D25K	Kavik River	51.09	26	P	P	23 42 47.7 +0.8
	baz=270					
P23K	Montague Islan	51.14	38	P	P	23 42 47.7 +0.3
	baz=276					
PWJI	Pagerwojo	51.17	217	P	P	23 42 46.2 -1.9
	comp=Z,54nm,0.8s					
G25K	Bearman Lake	51.23	29	P	P	23 42 48.6 +0.7
	baz=272					
ARSB	Arslanbob	51.32	297	P	P	23 42 49.6 +0.4
ARSB				IAmb	IAmb	23 42 51.1
	comp=Z,22nm,0.7s					
ARSB	Arslanbob	51.32	297	P	P	23 42 49.6 +0.4
ARSB				pmax	pmax	
	comp=Z,22nm,0.7s					
H25L	Birch Creek	51.36	30	P	P	23 42 49.6 +0.7
	baz=273					
F25K	Christian Rive	51.38	28	P	P	23 42 51.3 +2.2
F25K	Christian Rive	51.38	28	P	P	23 42 50.3 +1.1
	baz=272,SNR=7.5					
M24K	Tolsona, Glenn	51.51	35	P	P	23 42 49.7 -0.6
	baz=276					
PRP	Porcupine Dome	51.52	31	P	P	23 42 51.6 +1.3
PRP				IAmb	IAmb	23 43 12.3
	comp=Z,12nm,1.0s					
PRP	Porcupine Dome	51.52	31	P	P	23 42 51.7 +1.3
	baz=274,SNR=9.1					
K24K	Donnelly Dome	51.54	33	P	P	23 42 50.7 +0.3
	baz=275					
FYU	Fort Yukon	51.58	30	P	P	23 42 50.8 +0.3
FYU				IAmb	IAmb	23 42 54.4
	comp=Z,20nm,0.8s					
C26K	Camden Bay	51.60	25	P	P	23 42 51.6 +0.9
	baz=271					
J25K	Salcha River,	51.65	32	P	P	23 42 51.6 +0.4
J25K	Salcha River,	51.65	32	P	P	23 42 51.2 0.0
	baz=274					
KLU	Klutina	51.70	36	P	P	23 42 53.2 +1.6
KLU				IAmb	IAmb	23 42 56.2
	comp=Z,16nm,0.9s					
KLU	Klutina	51.70	36	P	P	23 42 50.8 -0.9
	baz=276					
Q23K	Middleton Isla	51.74	39	P	P	23 42 52.1 +0.3
	baz=278					
PAX	Paxson	51.75	34	P	P	23 42 51.7 -0.3
	baz=276					
BMAR	Burnt Mountain	51.79	28	P	P	23 42 54.1 +1.9
EYAK	Cordova Ski Ar	51.89	37	P	P	23 42 52.9 0.0
	baz=277					
EYAK	Cordova Ski Ar	51.89	37	P	P	23 42 56.5 +3.5
F26K	Sheenjek River	51.95	28	P	P	23 42 55.0 +1.7
F26K				IAmb	IAmb	23 42 57.9
	comp=Z,34nm,1.2s					
F26K	Sheenjek River	51.95	28	P	P	23 42 55.8 +2.4
	baz=273					
HARP	HAARP	51.95	35	P	P	23 42 54.9 +1.5
	baz=276					
RIDG	Independent Ri	51.96	33	P	P	23 42 55.3 +1.8
	baz=276					
C27K	Jago River	52.02	26	P	P	23 42 54.7 +0.9
C27K				IAmb	IAmb	23 42 57.2
	comp=Z,11nm,0.7s					
C27K	Jago River	52.02	26	P	P	23 42 55.3 +1.5
	baz=272					
KPJI	Karang Pucung	52.03	220	P	P	23 42 51.9 -2.6
	comp=Z,36nm,0.8s					
DZA	Taraz	52.04	300	*e*P	P	23 42 54.5 0.0
	comp=Z,36nm,0.8s					
DZA	Taraz	52.04	300	*e*P	P	23 42 54.4 0.0
DZA				pmax	pmax	
	comp=Z,36nm,0.8s					
G26K	Porcupine Rive	52.13	29	P	P	23 42 55.9 +1.2
	baz=274					
GSI	Gunungsitoli	52.23	238	P	P	23 42 54.7 -1.4
GSI	Gunungsitoli	52.23	238	P	P	23 42 54.7 -1.4
	comp=Z,39nm,0.8s,comp=Z,2µm					
GSI				pP	pP	23 43 07.5 -3.4
	comp=Z,39nm,0.8s,comp=Z,2µm					
LEM	Lembang	52.31	222	P	P	23 42 54.9 -1.9
	comp=Z,65nm,0.9s					
SCRK	Sand Creek	52.31	33	P	P	23 42 56.3 0.0
SCRK				IAmb	IAmb	23 43 17.0
	comp=Z,23nm,1.1s					
SCRK	Sand Creek	52.31	33	P	P	23 42 57.7 +1.4
	baz=276,SNR=13					
N25K	Chitina, Valde	52.31	36	P	P	23 42 57.0 +0.8
	baz=278					
BMRM	Bremner River	52.39	37	P	P	23 42 58.6 +1.8
	baz=278					
J26L	Joseph Creek	52.44	32	P	P	23 42 57.5 +0.4
J26L	Joseph Creek	52.44	32	P	P	23 42 58.9 +1.8
	baz=276					
KNRA	Kununurra	52.50	194	P	P	23 42 58.3 +0.4
KNRA				IAmb	IAmb	23 43 08.5
	comp=Z,25nm,0.8s					
KNRA	Kununurra	52.50	194	P	P	23 42 59.0 +1.1
	comp=Z,28nm,0.7s					
KKAR	Karatay Array	52.55	300	P	P	23 42 58.2 0.0
KKAR	Karatay Array	52.55	300	P	P	23 42 58.1 -0.1
KKAR				IAmb	IAmb	23 42 59.4
	comp=Z,48nm,0.9s					
KKAR	Karatay Array	52.55	300	P	P	23 42 58.2 0.0
KKAR				pmax	pmax	
	comp=Z,48nm,1.0s					
MENT	Mentasta	52.55	34	P	P	23 42 58.4 +0.4
MENT				IAmb	IAmb	23 43 10.2
	comp=Z,16nm,0.9s					
KAIM	Kayak Island	52.64	38	P	P	23 42 58.9 +0.4
	baz=279					
L26K	Log Cabin Wild	52.71	34	P	P	23 43 00.2 +1.1
L26K				IAmb	IAmb	23 43 16.7
	comp=Z,17nm,0.8s					
L26K	Log Cabin Wild	52.71	34	P	P	23 43 01.3 +2.3
	baz=278,SNR=6.9					
DRK	Karamyk	52.76	296	P	P	23 43 00.3 +0.2
DRK	Karamyk	52.76	296	P	P	23 43 00.3 +0.2
DRK				pmax	pmax	
	comp=Z,62nm,0.7s					
E27K	Coleen River	52.87	27	P	P	23 43 01.9 +1.7
E27K				IAmb	IAmb	23 43 06.3
	comp=Z,10nm,0.8s					
E27K	Coleen River	52.87	27	P	P	23 43 01.3 +1.1
	baz=275,SNR=11					
M26K	Nabesna, AK	52.95	35	P	P	23 43 01.9 +0.9
M26K				IAmb	IAmb	23 43 22.8
	comp=Z,16nm,1.0s					
M26K	Nabesna, AK	52.95	35	P	P	23 43 03.0 +2.1
	baz=278					
G27K	Doyon Strip	52.98	29	P	P	23 43 02.9 +1.9
G27K	Doyon Strip	52.98	29	P	P	23 43 03.4 +2.4
	baz=276					
D27M	Malcolm River	53.01	26	P	P	23 43 02.4 +1.2
D27M				IAmb	IAmb	23 43 19.1
	comp=Z,11nm,0.9s					
D27M	Malcolm River	53.01	26	P	P	23 43 02.6 +1.4
	baz=275					
BRLS	Borolday	53.04	300	*e*P	P	23 43 03.4 +1.6
	comp=Z,20nm,0.5s					
BRLS	Borolday	53.04	300	*e*P	P	23 43 03.4 +1.6
BRLS				pmax	pmax	
	comp=Z,20nm,0.5s					
MCARA	McCarthy VSAT	53.09	36	P	P	23 43 01.5 -0.4
MCARA	McCarthy VSAT	53.09	36	P	P	23 43 04.3 +2.4
	baz=279					
H27K	Steamboat Moun	53.10	30	P	P	23 43 04.0 +2.1
	baz=277					
I27K	Kandik River	53.13	31	P	P	23 43 02.7 +0.5
	baz=277					
CRQM	Cirque	53.13	37	P	P	23 43 03.4 +0.9
CRQE	Cirque	53.16	37	P	P	23 43 03.8 +1.3
	baz=279					
IUG	Iuzhnay	53.18	299	*e*P	P	23 43 03.3 +0.4
	comp=Z,48nm,0.9s					
IUG	Iuzhnay	53.18	299	*e*P	P	23 43 03.3 +0.4
IUG				pmax	pmax	
	comp=Z,48nm,0.9s					
BTK	Batken	53.28	297	P	P	23 43 03.5 -0.2
BTK	Batken	53.28	297	P	P	23 43 03.5 -0.2
BTK				pmax	pmax	
	comp=Z,26nm,0.7s					
L27K	Beaver Creek,	53.39	34	P	P	23 43 05.5 +1.4
L27K				IAmb	IAmb	23 43 26.0
	comp=Z,15nm,0.9s					
L27K	Beaver Creek,	53.39	34	P	P	23 43 04.6 +0.5
	baz=279,SNR=7.5					
BCAR	Beaver Creek A	53.41	34	P	P	23 43 05.9 +1.6
EGAK	Eagle	53.43	32	P	P	23 43 05.4 +1.1
	baz=278					
M27K	Edge Creek, AK	53.47	35	P	P	23 43 06.2 +1.3
M27K				IAmb	IAmb	23 43 27.1
	comp=Z,24nm,1.0s					
M27K	Edge Creek, AK	53.47	35	P	P	23 43 07.4 +2.5
	baz=279					
F28M	Old Crow	53.58	28	P	P	23 43 07.3 +1.9
F28M	Old Crow	53.58	28	P	P	23 43 06.2 +0.8
	baz=277,SNR=9.2					
E28M	Babbage River	53.59	27	P	P	23 43 07.1 +1.6
E28M				IAmb	IAmb	23 43 08.9
	comp=Z,10.0nm,0.8s					
E28M	Babbage River	53.59	27	P	P	23 43 07.6 +2.2
	baz=277,SNR=9.4					
NIL	Nilore	53.75	288	P	P	23 43 07.3 +0.1
NIL	Nilore	53.75	288	P	P	23 43 07.3 +0.1
NIL				pmax	pmax	
	comp=Z,57nm,0.7s					
NIL	Nilore	53.75	288	P	P	23 43 07.6 +0.5
D28M	Stokes Point	53.79	26	P	P	23 43 09.6 +2.7
	baz=277					
MESA	MESA	53.81	37	P	P	23 43 08.2 +0.8
	baz=281					
I28M	Miner Creek	53.85	31	P	P	23 43 08.8 +1.3
I28M				IAmb	IAmb	23 43 29.3
	comp=Z,19nm,0.9s					
I28M	Miner Creek	53.85	31	P	P	23 43 08.2 +0.7
	baz=279					
BVCY	Beaver Creek	53.93	34	P	P	23 43 10.7 +2.6
	baz=280					
CTG	Chitna Glacier	53.97	36	P	P	23 43 10.4 +2.0
	baz=281					
GAR	Garm	54.00	296	P	P	23 43 08.9 -0.2
E29M	Blow River	54.22	27	P	P	23 43 12.0 +2.0
E29M	Blow River	54.22	27	P	P	23 43 11.7 +1.7
	baz=278,SNR=16					
YUK3	Moose Creek	54.23	35	P	P	23 43 12.6 +2.1
	baz=281					
DAWY	Dawson	54.30	32	P	P	23 43 13.1 +2.3
	baz=280					
H29M	Whitestone	54.37	30	P	P	23 43 12.8 +1.7
H29M				IAmb	IAmb	23 43 28.8
	comp=Z,18nm,1.3s					
H29M	Whitestone	54.37	30	P	P	23 43 13.5 +2.4
	baz=279					
G29M	Pine Creek	54.39	29	P	P	23 43 12.8 +1.4
G29M	Pine Creek	54.39	29	P	P	23 43 13.1 +1.8
	baz=279					
O28M	Mount Upton	54.55	36	P	P	23 43 14.4 +1.5
	baz=282					
PINM	Pinnacle	54.66	37	P	P	23 43 14.5 +1.1
	baz=282					
J29N	Klondike Camp	54.74	32	P	P	23 43 15.4 +1.5
J29N				IAmb	IAmb	23 43 30.8
	comp=Z,14nm,0.7s					
EPYK	Eagle Plains	55.00	29	P	P	23 43 18.0 +2.3
EPYK	Eagle Plains	55.00	29	P	P	23 43 17.9 +2.3
	baz=281,SNR=14					
BCPM	Bancas Point	55.00	37	P	P	23 43 14.2 -1.6
M29M	Somme Creek	55.02	34	P	P	23 43 18.1 +2.0
M29M				IAmb	IAmb	23 43 20.2
	comp=Z,17nm,1.1s					
M29M	Somme Creek	55.02	34	P	P	23 43 17.3 +1.3
	baz=282,SNR=5.9					
L29M	L29M	55.04	33	P	P	23 43 18.5 +2.4
L29M				IAmb	IAmb	23 43 38.7
	comp=Z,27nm,1.0s					
L29M	L29M	55.04	33	P	P	23 43 19.0 +2.9
	baz=282,SNR=9.9					
SVE	Sverdlovsk	55.07	319	*de*P	P	23 43 16.8 +0.5
SVE				pmax	pmax	
	comp=Z,61nm,1.2s					
SVE				MLR	MLR	
	comp=Z,195nm,17.0s					
G30M	tAoh Zraii Nji	55.08	28	P	P	23 43 17.0 +0.7
G30M	tAoh Zraii Nji	55.08	28	P	P	23 43 17.7 +1.3
	baz=281					
SIMJ	Simiganj	55.08	296	P	P	23 43 16.7 -0.2
SIMJ	Simiganj	55.08	296	P	P	23 43 16.9 0.0
F30M	Barrier River	55.13	28	P	P	23 43 19.3 +2.7
	baz=281					
K29M	Barlow Dome	55.16	32	P	P	23 43 19.1 +2.1
K29M				IAmb	IAmb	23 43 38.9
	comp=Z,18nm,1.1s					
K29M	Barlow Dome	55.16	32	P	P	23 43 18.5 +1.5
	baz=282					
YUK4	Talbot Arm	55.17	36	P	P	23 43 19.6 +2.3
	baz=283					
PNL	Peninsula	55.18	38	P	P	23 43 17.9 +0.8
	baz=283					
PNL	Peninsula	55.18	38	P	P	23 43 21.5 +4.4
I30M	Mount Dempster	55.36	31	P	P	23 43 20.3 +1.8
I30M	Mount Dempster	55.36	31	P	P	23 43 20.6 +2.1
	baz=282,SNR=31					
YUK6	Outpost Mounta	55.39	36	P	P	23 43 21.6 +2.7
	baz=283					
O29M	Mount Kennedy	55.44	37	P	P	23 43 20.8 +1.7
O29M				IAmb	IAmb	23 43 23.0
	comp=Z,33nm,1.1s					
O29M	Mount Kennedy	55.44	37	P	P	23 43 21.9 +2.8
	baz=283					
FITZ	Fitzroy Crossi	55.51	196	LR	LR	00 06 43.3
	comp=Z,42nm,21.6s,baz=36,slow=36					
J30M	Hart River	55.51	31	P	P	23 43 21.4 +1.8
J30M	Hart River	55.51	31	P	P	23 43 20.5 +1.0
	baz=282					
M30M	Minto, Yukon	55.75	34	P	P	23 43 23.1 +1.9
M30M	Minto, Yukon	55.75	34	P	P	23 43 23.1 +1.9
	baz=283					
INK	Inuvik	55.83	27	P	P	23 43 22.6 +1.0
INK				IAmb	IAmb	23 43 24.6
	comp=Z,15nm,0.8s					
INK	Inuvik	55.83	27	P	P	23 43 23.1 +1.6
	baz=282,SNR=17					
INK	Inuvik	55.83	27	P	P	23 43 22.6 +1.0
INK				pmax	pmax	
	comp=Z,15nm,0.8s					
HYT	Haines Junctio	55.83	36	P	P	23 43 23.2 +1.3
HYT				IAmb	IAmb	23 43 46.1
	comp=Z,15nm,0.9s					
HYT	Haines Junctio	55.83	36	P	P	23 43 23.4 +1.5
	baz=284					
G31M	Satah River	55.84	28	P	P	23 43 21.6 -0.1
G31M				IAmb	IAmb	23 43 26.4
	comp=Z,14nm,0.8s					
G31M	Satah River	55.84	28	P	P	23 43 22.3 +0.6
	baz=282,SNR=20					
WRAB	Tennant Creek	55.92	186	P	P	23 43 22.9 +0.1
WRAB	Tennant Creek	55.92	186	P	P	23 43 22.9 +0.1
WRAB				pmax	pmax	
	comp=Z,36nm,1.0s					
WB2	Warramunga Arr	55.93	186	P	P	23 43 22.3 -0.5
WR0	Warramunga Arr	55.93	186	P	P	23 43 22.9 +0.1
WRA	Warramunga Arr	55.93	186	P	P	23 43 22.6 -0.3
	comp=Z,24nm,0.5s,baz=3.2,slow=7.2,SNR=108					
WRA				S	S	23 51 03.8 -2.8
	comp=Z,2.8nm,0.9s,baz=1.6,slow=12,SNR=6.7					
WRA				LR	LR	00 06 52.4
	comp=Z,106nm,20.7s,baz=2.5,slow=35					
	comp=Z,24nm,0.5s					
F31M	Tsiigehtchic	55.93	28	P	P	23 43 23.2 +0.9
F31M				IAmb	IAmb	23 43 25.4
	comp=Z,35nm,1.2s					
F31M	Tsiigehtchic	55.93	28	P	P	23 43 23.7 +1.4
	baz=283,SNR=14					
P29M	Windy Craggy	56.01	37	P	P	23 43 25.4 +2.3
	baz=284					
H31M	Peel River	56.06	30	P	P	23 43 24.4 +1.0
H31M	Peel River	56.06	30	P	P	23 43 24.7 +1.3
	baz=283					
CTA	Charters Tower	56.15	173	LR	LR	00 08 50.0
	comp=Z,39nm,19.1s,baz=303,slow=37					
P30M	Million Dollar	56.26	37	P	P	23 43 26.9 +2.0
	baz=285					
QIS	Mount Isa	56.29	180	P	P	23 43 25.7 +0.2
	comp=Z,16nm,0.8s					
QIS	Mount Isa	56.29	180	P	P	23 43 28.5 +3.1
ARTI	Arti	56.39	319	P	P	23 43 25.6 -0.2
ARTI	Arti	56.39	319	LR	LR	00 12 22.0
	comp=Z,13nm,19.9s,baz=72,slow=41					
ARTI	Arti	56.39	319	*c i*P	P	23 43 25.7 -0.1
ARTI				*PP	pP	23 43 39.0 -1.8
ARTI						23 44 20.4
ARTI						23 45 26.7
ARTI				S	S	23 51 14.8 +2.7
ARTI				pmax	pmax	
	comp=Z,65nm,0.5s					
ARTI	Arti	56.39	319	P	P	23 43 25.7 -0.1
ARTI				pP	pP	23 43 40.2 -0.6
N31M	Braeburn, Yuko	56.48	35	P	P	23 43 27.9 +1.5
	baz=285					
O30N	Mendenhall	56.51	36	P	P	23 43 27.7 +1.0
	baz=285					
KBL	Kabul	56.61	291	P	P	23 43 27.8 -0.2
KBL	Kabul	56.61	291	P	P	23 43 27.5 -0.4
	SNR=20					
KBL				P	P	23 43 27.5 -0.4
	SNR=20					
KBL	Kabul	56.61	291	P	P	23 43 27.8 -0.2
KBL				pmax	pmax	
	comp=Z,40nm,0.8s					
PLBC	Pleasant Camp	56.73	37	P	P	23 43 30.5 +2.4
	baz=286					
M31M	Drury Creek, Y	56.93	34	P	P	23 43 30.9 +1.4
M31M	Drury Creek, Y	56.93	34	P	P	23 43 31.3 +1.8
	baz=285					
WHY	Whitehorse	57.12	36	P	P	23 43 33.0 +1.9
	baz=286					
S31K	Pelican	57.21	39	P	P	23 43 33.8 +2.3
	baz=287					
SKAG	Skagway	57.23	37	P	P	23 43 33.3 +1.6
	baz=286					
FARO	Faro, Yukon	57.39	34	P	P	23 43 34.2 +1.4
FARO	Faro, Yukon	57.39	34	P	P	23 43 35.7 +2.9
	baz=286					
ABKAR	Akbulak array	57.63	310	P	P	23 43 34.6 -0.1
ABKAR	Akbulak array	57.63	310	P	P	23 43 34.5 -0.1
A36M	Sachs Harbour	57.64	22	P	P	23 43 35.3 +1.0
A36M	Sachs Harbour	57.64	22	P	P	23 43 35.4 +1.1
	baz=287,SNR=53					
N32M	Quiet Lake	57.82	35	P	P	23 43 36.8 +0.9
	baz=287					
SIT	Sitka	57.94	40	P	P	23 43 37.4 +0.7
	baz=288					
P32M	Atlin	57.98	37	P	P	23 43 38.1 +1.0
	baz=288					
R32K	Eaglecrest	57.98	38	P	P	23 43 36.6 -0.5
	baz=288					
S32K	Killisnoo	58.20	39	P	P	23 43 38.7 +0.2
	baz=288					
P33M	Teslin, Yukon	58.23	36	P	P	23 43 40.6 +1.8
P33M				IAmb	IAmb	23 43 42.3
	comp=Z,22nm,1.1s					
P33M	Teslin, Yukon	58.23	36	P	P	23 43 41.1 +2.3
	baz=288,SNR=5.7					
AKTO	Aktyubinsk	58.41	312	LR	LR	00 10 14.4
	comp=Z,90nm,18.2s,baz=64,slow=37					
C36M	Paulatuk	58.84	24	P	P	23 43 43.7 +0.9
C36M	Paulatuk	58.84	24	P	P	23 43 44.1 +1.4
	baz=290,SNR=25					
Q32M	Nakina River	58.89	37	P	P	23 43 45.6 +2.1
	baz=289					
R33M	Jennings River	59.38	36	P	P	23 43 48.7 +1.9
	baz=290					
U33K	Whale Pass	59.40	41	P	P	23 43 49.0 +2.1
	baz=290					
CRAG	Craig	59.62	41	P	P	23 43 49.5 +1.1
	baz=290					
AS31	Alice Springs	59.65	186	P	P	23 43 50.3 +1.4
ASAR	Alice Springs	59.65	186	P	P	23 43 49.1 +0.2
ASAR	Alice Springs	59.65	186	P	P	23 43 48.9 -0.1
	comp=Z,3.9nm,0.5s,baz=1.2,slow=6.2,SNR=39					
ASAR				S	S	23 51 52.7 -2.6
	comp=Z,1.1nm,0.8s,baz=15,slow=18,SNR=6.3					
ASAR				LR	LR	00 09 09.1
	comp=Z,103nm,21.1s,baz=16,slow=36					
ASAR				PKP2bc	P'P'bc	00 13 27.7 +5.7
	comp=Z,2.3nm,0.9s,baz=184,slow=2.1,SNR=12					
	comp=Z,3.9nm,0.5s					
S34M	Telegraph Cree	59.80	38	P	P	23 43 51.3 +1.6
	baz=290					
MBWA	Marble Bar	60.00	202	P	P	23 43 51.8 +0.5
MBWA	Marble Bar	60.00	202	P	P	23 43 54.3 +3.0
DLBC	Dease Lake	60.17	37	P	P	23 43 53.4 +1.2
DLBC				IAmb	IAmb	23 43 55.5
	comp=Z,9.5nm,0.8s					
DLBC	Dease Lake	60.17	37	P	P	23 43 54.2 +2.0
	baz=291					
KIRV	Kirov	60.29	323	LR	LR	00 11 17.4
	comp=Z,174nm,21.2s,baz=73,slow=37					
KIRV	Kirov	60.29	323	*ce*P	P	23 43 53.1 +0.2
PSA00	Pilbara Seismi	60.36	202	P	P	23 43 57.5 +3.7
T35M	Bob Quinn	60.58	39	P	P	23 43 57.5 +2.4
T35M				IAmb	IAmb	23 44 00.8
	comp=Z,14nm,0.8s					
T35M	Bob Quinn	60.58	39	P	P	23 43 58.2 +3.1
	baz=292					
ALE	Alert	61.17	3	P	P	23 43 59.6 +1.0
ALE				pP	pP	23 44 15.2 +1.4
SPITS	Spitsbergen Ar	61.25	349	P	P	23 43 59.9 +0.7
	comp=Z,6.5nm,0.5s,baz=60,slow=8.5,SNR=19					
SPITS				LR	LR	00 11 20.2
	comp=Z,81nm,20.6s,baz=8.0,slow=37					
	comp=Z,6.5nm,0.5s					
WRGLY	Wrigley	61.34	31	P	P	23 44 01.2 +1.3
WRGLY				IAmb	IAmb	23 44 21.8
	comp=Z,23nm,1.0s					
WRGLY	Wrigley	61.34	31	P	P	23 44 01.7 +1.8
	baz=294					
EUNU	Eureka	61.34	8	P	P	23 44 00.9 +1.0
LIRD	Liard River Hi	61.69	35	P	P	23 44 04.2 +1.7
	baz=293					
WRKA	Warakurna	61.73	192	P	P	23 44 03.8 +0.8
	comp=Z,38nm,0.6s					
WRKA	Warakurna	61.73	192	P	P	23 44 04.0 +1.0
NOR	Nord	61.96	356	*i* P	P	23 44 03.2 -0.7
NOR				IAmb	IAmb	23 44 04.9
	comp=Z,8.2nm,0.7s					
TOAD	Toad River Com	62.32	36	P	P	23 44 08.8 +2.0
	baz=294,SNR=6.2					
KOTAN	Kotaneelee Air	62.34	34	P	P	23 44 08.8 +2.0
	baz=295					
LVZ	Lovozero	62.50	336	P	P	23 44 07.5 -0.3
LVZ	Lovozero	62.50	336	P	P	23 44 07.5 -0.3
LVZ				pmax	pmax	
	comp=Z,65nm,1.3s					
DZM	Mont Dzumac	63.03	152	*e*LR	LR	00 03 03.8
	comp=Z,290nm,24.1s					
DZM	Mont Dzumac	63.03	152	LR	LR	00 11 58.7
	comp=Z,78nm,19.6s,baz=49,slow=36					
APA	Apatity	63.08	336	‖ *i* P	P	23 44 09.4 -2.1
APA				*i*		23 44 47.8
APA				pmax	pmax	
	comp=Z,20nm,0.7s					
APA				MLR	MLR	
	comp=Z,500nm,16.0s					
INKA	Innaminka	63.45	179	P	P	23 44 17.7 +3.3
OOD	Oodnadatta	63.62	184	P	P	23 44 19.0 +3.5
BELG	Belogornoye	63.68	317	LR	LR	00 14 04.7
	comp=Z,104nm,18.1s,baz=55,slow=38					
BELG	Belogornoye	63.68	317	*i* P	P	23 44 15.7 0.0
BELG				pmax	pmax	
	comp=Z,23nm,0.8s					
RES	Resolute Bay	63.86	14	P	P	23 44 17.1 +0.6
RES				IAmb	IAmb	23 44 18.4
	comp=Z,17nm,0.8s					
RES	Resolute Bay	63.86	14	LR	LR	00 15 53.9
	comp=Z,48nm,18.5s,baz=217,slow=39					
RES	Resolute Bay	63.86	14	P	P	23 44 17.2 +0.6
RES				pmax	pmax	
	comp=Z,17nm,0.9s					
KEV	Kevo	63.92	339	P	P	23 44 17.1 0.0
KEV	Kevo	63.92	339	P	P	23 44 17.1 0.0
KEV				pmax	pmax	
	comp=Z,70nm,1.3s					
KLMR	Klimovskoe	63.93	328	*c i* P	P	23 44 17.0 -0.2
KLMR				pmax	pmax	
	comp=Z,45nm,0.6s					
ARA0	ARCESS Array S	64.48	339	*e*P	P	23 44 21.2 +0.4
ARCES	ARCESS Array B	64.48	339	P	P	23 44 20.9 +0.1
	comp=Z,11nm,0.7s,baz=53,slow=7.6,SNR=47					
ARCES				LR	LR	00 16 05.0
	comp=Z,107nm,18.0s,baz=58,slow=39					
	comp=Z,11nm,0.7s					
MSVF	Nonsavu	64.54	139	LR	LR	00 13 45.3
	comp=Z,40nm,18.3s,baz=348,slow=37					
YKA	Yellowknife Ar	65.28	30	P	P	23 44 25.8 -0.3
YKA	Yellowknife Ar	65.28	30	P	P	23 44 26.9 +0.8
	comp=Z,5.8nm,0.8s,baz=302,slow=7.0,SNR=24					
	comp=Z,5.8nm,0.8s					
KTK1	Kautokeino	65.44	339	*e*P	P	23 44 26.6 -0.4

MEEK Meekatharra 65.49 201 P P 23 44 31.3 +3.5
JETT Jettan, Norway 65.89 340 *e*P **P 23 44 30.4 +0.4**
LCRK Leigh Creek 66.16 182 P P 23 44 34.0 +2.0
MULG Mulgathing 66.20 185 P P 23 44 36.3 +4.1
TULEG Thule 66.24 7 *i* P **P 23 44 32.1 +0.2**
JOF Joensuu 66.25 332 *e*P **P 23 44 32.7 +0.5**
NEEM North Greenlan 66.58 3 *i* P **P 23 44 34.5 -0.1**
NEEM IAmb IAmb 23 44 36.3
comp=Z,51nm,0.9s
DAG Danmarks Havn 66.65 355 *i* P **P 23 44 34.2 -0.4**
DAG IAmb IAmb 23 44 35.6
comp=Z,17nm,0.6s
MOS Moscow 67.30 323 *e*P **P 23 44 38.4 -0.7**
MOS *e* 23 45 04.4
MOS pmax pmax
comp=Z,56nm,0.8s
FORT Forrest 67.39 191 P P 23 44 43.7 +3.9
VRH Novokhopyorsk 67.48 318*c i*P **P 23 44 39.6 -0.7**
VRH pmax pmax
comp=Z,108nm,0.6s
STKA Stephens Creek 67.58 178 P P 23 44 41.4 +0.4
STKA Stephens Creek 67.58 178 P P 23 44 41.7 +0.7
comp=Z,4.8nm,0.7s,baz=346,slow=6.8,SNR=7.2
STKA LR LR 00 15 07.2
comp=Z,77nm,20.2s,baz=22,slow=37
comp=Z,4.8nm,0.7s
STKA Stephens Creek 67.58 178 P P 23 44 41.4 +0.4
STKA pmax pmax
comp=Z,1.0nm,0.8s
OBN Obninsk 68.14 323 P P 23 44 43.8 -0.5
OBN Obninsk 68.14 323 LR LR 00 15 51.3
comp=Z,170nm,21.8s,baz=1.0,slow=37
OBN Obninsk 68.14 323*de*P **P 23 44 43.8 -0.5**
OBN *PP **pP 23 44 59.0 -0.8**
OBN *SP **sP 23 45 04.0 -2.0**
OBN *e* 23 54 24.6
OBN SS SS 23 57 56.0 -6.5
OBN pmax pmax
comp=Z,42nm,0.6s
OBN MLR MLR
comp=Z,184nm,16.0s
OBN Obninsk 68.14 323 P P 23 44 43.9 -0.5
comp=Z,73nm,0.7s
OBN Obninsk 68.14 323 P P 23 44 44.0 -0.3
LPSR Galich'ya Gora 68.26 320 *e*P **P 23 44 44.8 -0.4**
LPSR pmax pmax
comp=Z,99nm,0.8s
STEI Steigen 68.39 340 *e*P **P 23 44 44.9 -0.8**
PUL Pulkovo 68.40 329*ce*P **P 23 44 46.8 +0.9**
PUL pmax pmax
comp=Z,71nm,0.6s
MORW Morawa 68.54 202 P P 23 44 45.5 -1.5
MORW IAmb IAmb 23 44 48.9
comp=Z,15nm,0.9s
BBOO Buckleboo 68.59 183 P P 23 44 51.0 +3.7
VORR Voronezh 68.59 319 *e*P **P 23 44 46.9 -0.4**
VORR pmax pmax
comp=Z,60nm,0.6s
AKT Akhty 68.67 306 *e*P **P 23 44 47.5 -0.6**
AKT *e**SP **pP 23 45 06.6 +3.1**
AKT *e* 23 45 11.1
AKT pmax pmax
comp=Z,22nm,0.5s
FAUS Fauske 68.76 340 *e*P **P 23 44 48.3 +0.2**
VSR Storozhevoye 68.85 319 *e*P **P 23 44 46.5 -2.4**
VSR pmax pmax
comp=Z,50nm,0.8s
PTPS Port Pirie 68.88 182 P P 23 44 50.3 +1.2
comp=Z,230nm,0.5s
KULLO Kullorsuaq 69.07 5 *i* P **P 23 44 49.5 -0.4**
KULLO IAmb IAmb 23 44 50.9
comp=Z,36nm,0.7s
FIA1 FINESS Array S 69.11 332 P P 23 44 50.0 -0.3
FINES FINESS Array B 69.11 332 P P 23 44 49.8 -0.5
FINES FINESS Array B 69.11 332 P P 23 44 50.1 -0.1
comp=Z,33nm,0.7s,baz=64,slow=7.9,SNR=94
FINES LR LR 00 17 10.5
comp=Z,79nm,18.8s,baz=51,slow=38
comp=Z,33nm,0.7s
KEF Keuruu 69.11 333 *e*P **P 23 44 50.3 0.0**
HTT Hallett 69.12 181 P P 23 44 53.7 +3.0
VAF Ylistaro 69.35 334 *e*P **P 23 44 52.6 +0.9**
BLDU Ballidu 69.79 201 P P 23 44 58.9 +4.1
GOF Gofitskoye 69.82 311*ce*P **P 23 44 55.1 +0.1**
MOR8 Moi Rana 69.85 339 *e*P **P 23 44 53.8 -1.1**
JLN Jalan Bani Buh 69.87 283 P P 23 44 56.1 +0.4
JLN P P **23 44 56.1 +0.4**
WSAR Wadi Sarin 69.92 285 LR LR 00 18 34.8
comp=Z,50nm,20.2s,baz=82,slow=38
WBK Wadi Bani Khal 69.98 284 P P 23 44 57.3 +0.9
BIDO Bidbid 70.17 285 P P 23 44 58.5 +1.0
NCK Nalchik 70.29 310 *i* P **P 23 44 58.4 +0.5**
NCK pmax pmax
comp=Z,23nm,1.0s
BANOM Banah 70.34 288 P P 23 44 58.9 +0.3
ARBE Arbavere 70.38 330 *e*P **P 23 44 58.9 +0.8**
SHME Shamm 70.40 288 *i* P **P 23 44 59.1 +0.3**
SNR=10
SHME Shamm 70.40 288 P P 23 44 59.5 +0.7
SHME P P **23 44 59.5 +0.7**
SMDO Samad 70.47 285 P P 23 45 00.4 +1.0
SMDO P P **23 45 00.4 +1.0**
MEF Metsahovi 70.52 331 *e*P **P 23 44 59.1 +0.2**
KBZ Khabaz 70.60 310 P P 23 44 59.9 +0.2
comp=Z,36nm,0.9s,baz=36,slow=2.4,SNR=52
KBZ LR LR 00 19 46.6
comp=Z,83nm,19.0s,baz=48,slow=39
comp=Z,36nm,0.9s
KBZ Khabaz 70.60 310*ce*P **P 23 45 00.5 +0.8**
KBZ pmax pmax
comp=Z,43nm,0.9s
KIV Kislovodsk 70.61 311 P P 23 45 00.1 +0.1
KIV Kislovodsk 70.61 311 *i* P **P 23 45 00.5 +0.5**
SNR=42
KIV Kislovodsk 70.61 311 P P 23 45 01.0 +1.0
KIV P P **23 45 01.0 +1.0**
KIV Kislovodsk 70.61 311 *e*P **P 23 45 00.4 +0.5**
KIV pmax pmax
comp=Z,91nm,1.1s
KIV MLR MLR
comp=Z,60nm,17.0s
KIV Kislovodsk 70.61 311 P P 23 45 00.5 +0.5
comp=Z,87nm,1.0s,comp=Z,601nm
KIV Kislovodsk 70.61 311 P P 23 45 00.4 +0.5
KIV pP **pP 23 45 15.0 -0.5**
VSU Vasula 70.67 329*ce*P **P 23 45 00.3 +0.4**
VSU pmax pmax
comp=Z,107nm,1.3s
HOOD Mount Hood Mea 70.68 48 P P 23 45 00.7 +0.2
HOOD IAmb IAmb 23 45 03.6
comp=Z,22nm,1.0s
H04A Detroit Lake 70.69 48 P P 23 44 59.5 -0.9
H04A IAmb IAmb 23 45 03.7
comp=Z,19nm,1.0s
MASF Masafi 70.74 288 P P 23 45 01.9 +0.9
MASF P P **23 45 01.9 +0.9**
MSFE Esma-Masafi 70.74 288 *i* P **P 23 45 01.4 +0.4**
SNR=7.4
SHA1 Shidzhatmaz 70.74 310 *i* P **P 23 45 00.7 -0.3**
HOQ Hoqain 70.77 286 P P 23 45 01.7 +0.6
JMDO Jabal Madar 70.79 284 P P 23 45 01.5 +0.2
MXC Moxie City 70.81 46 P P 23 45 01.3 +0.3
MXC IAmb IAmb 23 45 04.5
comp=Z,31nm,1.5s
UOSS Minazif 70.92 287 P P 23 45 01.0 -1.0
UOSS IAmb IAmb 23 45 02.9
comp=Z,16nm,0.8s
UOSS Minazif 70.92 287 *i* P **P 23 45 02.1 0.0**
SNR=5.4
UOSS Minazif 70.92 287 P P 23 45 02.3 +0.2
UOSS P P **23 45 02.3 +0.2**
RAF Rauma 70.99 333 *e*P **P 23 45 02.0 +0.3**
I04A Tendick Farm, 71.02 49 P P 23 45 02.8 +0.4
I04A IAmb IAmb 23 45 05.3
comp=Z,14nm,1.0s
HATD Hatta, Dubai 71.04 287 *i* P **P 23 45 03.2 +0.4**
SNR=9.1
HATD Hatta, Dubai 71.04 287 P P 23 45 03.4 +0.6
HATD P P **23 45 03.4 +0.6**
E07A Sunnyside 71.08 46 P P 23 45 02.1 -0.6
E07A IAmb IAmb 23 45 05.6
comp=Z,21nm,1.2s
SOHO SOHO 71.09 286 *i* P **P 23 45 03.0 0.0**
SNR=15

SOHO SOHO 71.09 286 P P 23 45 03.4 +0.4
SOHO P P **23 45 03.4 +0.4**
ASHO Ashiyiah 71.17 287 *i* P **P 23 45 05.0 +1.3**
SNR=7.1
ASHO Ashiyiah 71.17 287 P P 23 45 03.8 +0.2
SNR=5.3
GNI Garni 71.30 306 LR LR 00 19 11.1
comp=Z,129nm,18.2s,baz=54,slow=38
GNI Garni 71.30 306 P P 23 45 05.2 +0.9
BSY Bisya 71.30 285 P P 23 45 04.7 +0.3
SNR=5.3
BSY P **P 23 45 04.7 +0.3**
SNR=5.3
G06A Carlson Farm, 71.33 47 P P 23 45 05.8 +1.6
D08A Wollman Farm, 71.35 45 P P 23 45 04.3 0.0
HAWA Hanford 71.36 46 P P 23 45 04.6 +0.3
F07A Phinny Hill Vi 71.39 46 P P 23 45 04.4 -0.1
F07A IAmb IAmb 23 45 07.6
comp=Z,17nm,0.8s
FAQ Al Faqa, Dubai 71.50 287 P P 23 45 05.6 +0.1
FAQ Al Faqa, Dubai 71.50 287 P P 23 45 05.7 +0.1
ARQ Araqi 71.52 286 P P 23 45 06.4 +0.7
E08A Dider Farm, El 71.58 46 P P 23 45 06.6 +1.0
MHTO MHTO 71.62 283 P P 23 45 06.4 +0.1
SNR=10
MHTO P **P 23 45 06.4 +0.1**
SNR=10
SUMG Summit 71.67 359 P P 23 45 07.2 +1.0
SUMG Summit 71.67 359 P P 23 45 07.2 +1.0
SUMG pmax pmax
comp=Z,44nm,0.8s
SUMG Summit 71.67 359 *i* P **P 23 45 06.4 +0.2**
SUMG IAmb IAmb 23 45 08.7
comp=Z,42nm,0.8s
NEW Newport 71.70 43 P P 23 45 07.1 +0.7
NEW Newport 71.70 43 P P 23 45 07.1 +0.7
NEW pmax pmax
comp=Z,6.0nm,0.9s
MTSE Matsula 71.70 330 *e*P **P 23 45 06.7 +0.5**
ALNE Al Ain 71.74 287 *i* P **P 23 45 07.3 +0.2**
SNR=17
ALNE Al Ain 71.74 287 P P 23 45 07.2 +0.2
SNR=5.7
NSS Namsos 71.76 339 *e*P **P 23 45 06.2 -0.2**
ASUD Al Ashush, Dub 71.77 287 *i* P **P 23 45 08.0 +0.8**
SNR=6.2
ASUD Al Ashush, Dub 71.77 287 P P 23 45 07.8 +0.6
ASUD P P **23 45 07.8 +0.6**
NWAO Narrogin (SRO) 71.81 200 P P 23 45 10.7 +3.7
PINE Pine Mountain 71.92 49 P P 23 45 09.2 +1.2
PINE IAmb IAmb 23 45 11.5
comp=Z,25nm,0.9s
L04D Klamath Falls 71.93 51 P P 23 45 07.9 -0.1
L04D IAmb IAmb 23 45 11.6
comp=Z,51nm,1.3s
J05D Fort Rock, OR 72.02 49 P P 23 45 09.5 +0.9
J05D IAmb IAmb 23 45 31.5
comp=Z,15nm,1.1s
E09A Wood Farm, Sta 72.09 45 P P 23 45 09.9 +1.2
KMRM Mail Ridge 72.09 53 P P 23 45 09.3 +0.3
KARS Kars 72.12 307 P P 23 45 09.9 +0.7
KARS Kars 72.12 307 P P 23 45 09.9 +0.7
KARS pmax pmax
comp=Z,137nm,1.4s
G08A Pilot Rock 72.29 47 P P 23 45 12.0 +1.8
KCPM Cahto Peak 72.46 54 P P 23 45 11.9 +0.6
KCPM IAmb IAmb 23 45 14.4
comp=Z,15nm,0.9s
BCA Borcka 72.61 309 ⇑P **P 23 45 12.9 +1.0**
MNK Minsk 72.61 325 *i* P **P 23 45 10.3 -1.4**
comp=N,19nm,1.0s,baz=52
MNK *i* P **P 23 45 10.9 -0.8**
comp=E,35nm,1.1s
MNK *i* P **P 23 45 10.9 -0.8**
comp=Z,76nm,0.8s
MNK *i* pP **pP 23 45 27.4 +0.2**
MNK *i* PP **PP 23 47 52.2 -1.0**
MNK *i* S **S 23 54 30.4 -1.6**
MNK *i* sS **sS 23 54 58.9 +0.5**
MNK *i* SS **SS 23 59 10.7 -0.4**
MNK *i* LQ LQ 00 12 11.2
MNK *i* LR LR 00 17 01.9
MNK Minsk 72.61 325 *e*P **P 23 45 10.2 -1.4**
SOC Sochi 72.63 311 *e*P P 23 45 06.0 -6.0
SOC *e* 23 47 59.3
SOC *e*PPP PPP 23 49 39.7
SOC *e*S S 23 54 22.5 -10
SOC *e*SSS SSS 00 02 25.0
SOC MLR MLR
comp=Z,274nm,18.0s
I07A Izee 72.64 48 P P 23 45 13.2 +1.0
O02D Mt. Diablo Mer 72.71 53 P P 23 45 13.8 +1.1
O02D IAmb IAmb 23 45 16.6
comp=Z,38nm,1.5s
NACGM Naroch 72.86 326⇑*i*P **P 23 45 13.6 +0.5**
F10A Beach Ranch, E 72.92 45 P P 23 45 15.1 +1.3
SCO Scoresbysund 72.96 354 P P 23 45 14.3 +0.8
SCO IAmb IAmb 23 45 15.4
comp=Z,15nm,0.7s
SCO Scoresbysund 72.96 354 P P 23 45 14.3 +0.8
SCO pmax pmax
comp=Z,15nm,0.7s
SCO Scoresbysund 72.96 354 *i* P **P 23 45 13.8 +0.4**
SCO IAmb IAmb 23 45 15.6
comp=Z,16nm,0.8s
HATC Hat Creek Radi 73.22 52 P P 23 45 16.5 +0.9
HATC IAmb IAmb 23 45 18.7
comp=Z,29nm,0.9s
TBLU Trondheim 73.22 339 *e*P **P 23 45 14.1 -1.1**
UMMG Uummannaq 73.23 4 *i* P **P 23 45 14.6 -0.4**
UMMG IAmb IAmb 23 45 16.1
comp=Z,29nm,0.9s
VSVD Vaisvydziai 73.43 328 *e*P **P 23 45 16.9 +0.5**
BMO Blue Mountains 73.51 46 P P 23 45 18.0 +0.7
BMO Blue Mountains 73.51 46 P P 23 45 18.0 +0.7
BMO pmax pmax
comp=Z,9.0nm,0.9s
J08A Circle Bar Ran 73.66 48 P P 23 45 19.4 +1.2
J08A IAmb IAmb 23 45 22.0
comp=Z,22nm,1.2s
PABE Paberze 73.72 328 P P 23 45 17.5 -0.6
PABE Paberze 73.72 328 *e*P **P 23 45 18.6 +0.5**
ORV Oroville 73.88 53 P P 23 45 20.3 +0.8
ORV Oroville 73.88 53 P P 23 45 20.3 +0.8
ORV pmax pmax
comp=Z,11nm,0.9s
GURO Guroymak-BITLI 73.92 306 P P 23 45 20.6 +0.7
GURO IAmb IAmb 23 45 21.9
comp=Z,20nm,0.9s
MZR Muzera 74.06 287 *i* P **P 23 45 20.5 -0.3**
SNR=15
MZR Muzera 74.06 287 P P 23 45 20.7 -0.1
WVOR Wild Horse Val 74.08 49 P P 23 45 22.2 +1.5
WVOR Wild Horse Val 74.08 49 P P 23 45 22.2 +1.5
WVOR pmax pmax
comp=Z,10.0nm,1.0s
KOPT Kop Dagi 74.11 308 P P 23 45 20.9 -0.3
KOPT IAmb IAmb 23 45 26.9
comp=Z,39nm,1.3s
PLID Pearl Lake 74.14 46 P P 23 45 21.6 +0.5
PBUR Paburge 74.24 329 *e*P **P 23 45 22.0 +0.8**
MSO Missoula 74.29 43 P P 23 45 22.4 +0.6
AK03 Malin Array Si 74.30 322 P P 23 45 21.3 -0.3
AKASG Malin Array Be 74.31 322 P P 23 45 21.2 -0.5
AKASG Malin Array Be 74.31 322 P P 23 45 21.4 -0.4
comp=Z,11nm,0.4s,baz=50,slow=6.2,SNR=144
AKASG PP **PP 23 48 06.4 -1.3**
comp=Z,1.5nm,0.7s,baz=45,slow=9.2,SNR=2.8
AKASG LR LR 00 21 19.4
comp=Z,185nm,18.2s,baz=52,slow=38
comp=Z,11nm,0.4s
AKBB Malin Array Si 74.31 322 P P 23 45 20.8 -0.9
AKBB Malin Array Si 74.31 322*ce*P **P 23 45 21.5 -0.2**
AKBB pmax pmax
comp=Z,18nm,0.6s
AKBB Malin Array Si 74.31 322 P P 23 45 21.3 -0.4
AK01 Malin Array Si 74.33 322 P P 23 45 21.4 -0.4
AK23 Malin Array Si 74.33 322 P P 23 45 21.2 -0.6
KIEV Kiev 74.33 322 P P 23 45 21.2 -0.5
KIEV Kiev 74.33 322 *i* P **P 23 45 21.6 -0.2**
SNR=30
KIEV Kiev 74.33 322 ⇑P **P 23 45 21.6 -0.2**
KIEV Kiev 74.33 322 P P 23 45 21.5 -0.2
KIEV Kiev 74.33 322 P P 23 45 21.3 -0.5

comp=Z,238nm,0.8s,comp=Z,3μm
AK04 Malin Array Si 74.33 322 P P 23 45 21.4 -0.4
AK09 Malin Array Si 74.34 322 P P 23 45 21.6 -0.3
AK21 Malin Array Si 74.36 322 P P 23 45 21.5 -0.5
AK10 Malin Array Si 74.36 322 P P 23 45 21.8 -0.2
AK15 Malin Array Si 74.37 322 P P 23 45 21.7 -0.3
NC405 NORSAR Array S 74.40 337 P P 23 45 22.0 -0.1
NC303 NORSAR Array S 74.42 337 P P 23 45 21.6 -0.6
NC303 IAmb IAmb 23 45 23.5
comp=Z,35nm,1.2s
HFS Hagfors 74.47 335 P P 23 45 22.3 -0.1
comp=Z,21nm,0.8s,baz=46,slow=6.2,SNR=31
HFS LR LR 00 20 31.8
comp=Z,160nm,21.3s,baz=71,slow=38
comp=Z,21nm,0.8s
DOMB Dombas 74.51 338 *e*P **P 23 45 23.0 +0.3**
MOL Molde 74.54 339 *e*P **P 23 45 23.3 +0.4**
AFDM Forest Hills D 74.56 53 P P 23 45 24.6 +1.2
NC204 NORSAR Array S 74.58 337 P P 23 45 23.1 0.0
NB201 NORSAR Array S 74.58 337 P P 23 45 23.1 -0.1
NB2 NORSAR Subarra 74.61 337 P P 23 45 23.2 -0.1
comp=Z,41nm,1.0s,baz=42,slow=5.9
NB2 PP **PP 23 48 08.8 -1.2**
comp=Z,7.4nm,1.0s,baz=38,slow=8.6
NB2 NORSAR Subarra 74.61 337 P P 23 45 23.2 -0.1
baz=42,slow=5.9
NOA NORSAR Array B 74.61 337 P P 23 45 23.3 -0.1
comp=Z,12nm,0.6s,baz=41,slow=5.9,SNR=81
NOA PP **PP 23 48 08.9 -1.1**
comp=Z,3.8nm,0.8s,baz=45,slow=8.8,SNR=5.5
NOA LR LR 00 21 09.4
comp=Z,143nm,19.8s,baz=45,slow=38
comp=Z,12nm,0.6s
OVMT Ovando 74.67 43 P P 23 45 25.2 +1.1
NC602 NORSAR Array S 74.74 336 IAmb IAmb 23 45 25.3
comp=Z,33nm,1.3s
NC602 NORSAR Array S 74.74 336 *e*P **P 23 45 23.7 -0.3**
ILULI Ilulissat 74.74 4 *i* P **P 23 45 23.7 -0.1**
NBO00 NORSAR Array S 74.76 337 P P 23 45 23.9 -0.2
NBO00 IAmb IAmb 23 45 25.3
comp=Z,24nm,0.8s
NAO01 NORSAR Array S 74.86 337 P P 23 45 24.0 -0.7
NAO01 IAmb IAmb 23 45 26.2
comp=Z,30nm,1.1s
SLWR Sila 74.86 289 P P 23 45 25.2 -0.2
MI28 Mi28,Pidlybu 74.94 323 P P 23 45 25.4 0.0
comp=Z,418nm,0.8s
MPK Martis Peak 74.97 52 P P 23 45 27.1 +0.9
MPK IAmb IAmb 23 45 29.1
comp=Z,19nm,1.0s
AKN Aaknes 75.01 339 *e*P **P 23 45 26.4 +0.8**
SUW Suwalki 75.05 327 *e*P **P 23 45 25.8 -0.1**
SUW Suwalki 75.05 327 *e*P **P 23 45 26.4 +0.5**
EMB Emerald Bay 75.11 53 P P 23 45 28.2 +1.3
EMB IAmb IAmb 23 45 29.7
comp=Z,17nm,0.9s
PAHR Pah Rah Range 75.15 52 P P 23 45 27.5 +0.4
PAHR IAmb IAmb 23 45 29.8
comp=Z,16nm,0.9s
ICESG Greenland Ices 75.18 360 *i* P **P 23 45 27.2 +0.4**
ICESG IAmb IAmb 23 45 28.8
comp=Z,28nm,0.7s
FFC Flin Flon 75.20 32 P P 23 45 27.3 +0.5
FFC IAmb IAmb 23 45 29.3
comp=Z,30nm,1.4s
FFC Flin Flon 75.20 32 P P 23 45 27.3 +0.5
FFC pmax pmax
comp=Z,30nm,1.4s
PNTR Pine Nut 75.37 52 P P 23 45 29.3 +0.9
FCC Fort Churchill 75.44 26 P P 23 45 28.5 +0.5
FCC IAmb IAmb 23 45 47.9
comp=Z,24nm,1.2s
FCC Fort Churchill 75.44 26 P P 23 45 28.5 +0.5
FCC pmax pmax
comp=Z,24nm,1.2s
RNPP9 Sopachiv 75.50 324 P P 23 45 28.7 +0.1
LUBAR Lubar, Ukraine 75.54 322 P P 23 45 28.5 -0.3
RNPP8 Varash 75.56 324 P P 23 45 28.5 -0.4
OSL Oslo 75.61 336 *e*P **P 23 45 29.7 +0.7**
RNPP5 Staryi Chortor 75.62 324 P P 23 45 29.2 -0.1
YERR Yerington 75.66 52 P P 23 45 31.3 +1.3
YERR IAmb IAmb 23 45 32.9
comp=Z,19nm,0.8s
DMTO DMTO 75.79 282 P P 23 45 30.9 +0.1
SKAR Skarslia 75.80 338 *e*P **P 23 45 30.8 +0.6**
WAKR Walker 75.80 53 P P 23 45 33.4 +2.6
EGMT Eagleton 75.83 40 P P 23 45 31.9 +1.3
EGMT IAmb IAmb 23 45 33.1
comp=Z,17nm,0.8s
BAL3x Bal3x, Balta 75.83 319 P P 23 45 30.3 -0.2
BBGB Big Mountain B 75.84 55 P P 23 45 33.2 +2.2
BBGB IAmb IAmb 23 45 39.9
comp=Z,28nm,0.9s
DLMT Dillon 75.92 44 P P 23 45 32.5 +1.3
DLMT IAmb IAmb 23 45 34.0
comp=Z,18nm,0.8s
DOK Doka 75.94 283 P P 23 45 31.5 -0.2
DOK P P **23 45 31.5 -0.2**
FOO Floro 76.03 340 *e*P **P 23 45 30.8 -0.6**
BMN Battle Mountai 76.10 50 P P 23 45 33.8 +1.4
BMN IAmb IAmb 23 45 35.6
comp=Z,19nm,0.8s
BMN Battle Mountai 76.10 50 P P 23 45 33.8 +1.4
BMN pmax pmax
comp=Z,19nm,0.8s
RAO Raoul Island 76.13 143 LR LR 00 16 37.3
comp=Z,54nm,18.1s,baz=323,slow=34
KONO Kongsberg 76.20 336 P P 23 45 32.6 +0.2
KONO IAmb IAmb 23 45 37.8
comp=Z,15nm,0.9s
KONO Kongsberg 76.20 336*ce*P **P 23 45 34.0 +1.6**
KONO pmax pmax
comp=Z,42nm,2.5s
BOZ Bozeman (W) 76.31 43 P P 23 45 34.4 +0.9
BOZ Bozeman (W) 76.31 43 P P 23 45 34.4 +0.9
BOZ pmax pmax
comp=Z,9.0nm,0.9s
RYN Ryan 76.32 52 P P 23 45 35.4 +1.6
KVN Kaiserville 76.34 52 IAmb IAmb 23 45 36.9
comp=Z,21nm,0.9s
SORM Soroca 76.36 320 ⇑P **P 23 45 33.3 -0.3**
SORM Soroca 76.36 320 P P 23 45 33.2 -0.3
SORM Soroca 76.36 320 P P 23 45 33.0 -0.5
comp=Z,43nm,1.5s
DIKM Dikmen 76.43 312 ⇑P **P 23 45 35.7 +1.7**
RBK Rabkut 76.50 282 P P 23 45 34.9 0.0
RBK P P **23 45 34.9 0.0**
LHV Little Huntoon 76.55 52 P P 23 45 36.5 +1.8
LHV IAmb IAmb 23 45 38.4
comp=Z,20nm,0.8s
PURM Purcari 76.56 318 ⇓P **P 23 45 35.0 +0.3**
NVAR Mina Array Bea 76.57 52 P P 23 45 36.8 +1.6
NVAR Mina Array Bea 76.57 52 P P 23 45 37.0 +1.8
comp=Z,12nm,0.7s,baz=302,slow=5.2,SNR=49
comp=Z,12nm,0.7s
WHFO Wadi Hawf 76.61 282 P P 23 45 34.9 -0.6
MILM Milestii Mici 76.89 319 ⇑P **P 23 45 36.5 -0.1**
MILM Milestii Mici 76.89 319 P P 23 45 36.4 -0.1
ASK Askoy 76.89 339 *e*P **P 23 45 37.1 +0.9**
QLMT Earthquake Lak 76.89 44 P P 23 45 38.2 +1.3
ODD1 Odda 76.92 338 *e*P **P 23 45 37.3 +0.7**
BER Bergen 76.93 339 *e*P **P 23 45 37.3 +0.8**
SFJD Kangerlussuaq 76.97 4 *i* P **P 23 45 37.0 +0.4**
SFJD IAmb IAmb 23 45 38.5
comp=Z,18nm,0.8s
BZK Bozkurt 77.00 313 ⇑P **P 23 45 38.4 +1.2**
YHL Hebgen Lake 77.02 44 P P 23 45 38.7 +0.9
KMPD K-Podol'skiy 77.06 321 P P 23 45 36.9 -0.6
comp=Z,13μm,0.9s,comp=Z,109μm
YHB Horse Butte 77.08 44 P P 23 45 39.5 +1.6
YHB IAmb IAmb 23 45 40.9
comp=Z,9.6nm,0.8s
YMR Madison River 77.25 44 P P 23 45 40.7 +1.7
GCMT Greycliff 77.27 42 P P 23 45 40.6 +1.7
ABTO Aybut 77.30 282 P P 23 45 39.2 -0.2
ABTO P P **23 45 39.2 -0.2**
BLS5 Blasjo 77.37 338 *e*P **P 23 45 39.8 +0.8**
IASR Iasi 77.38 320 ⇑P **P 23 45 39.3 0.0**
DSP Deep Springs 77.40 53 P P 23 45 42.2 +2.7
DSP Deep Springs 77.40 53 IAmb IAmb 23 45 43.0
comp=Z,10nm,0.9s
TPH Tonopah 77.47 52 P P 23 45 41.3 +1.0
TPH Tonopah 77.47 52 P P 23 45 41.3 +1.0
TPH pmax pmax

comp=Z,75nm,0.9s
YNE Yellowstone No 77.58 43 P **P 23 45 42.3 +1.5**
MZP Montezuma Peak 77.59 52 P **P 23 45 42.2 +1.2**
HOMB Homborsund 77.63 336 *e*P **P 23 45 40.6 +0.2**
H17A Grant Village 77.64 44 **P 23 45 43.1 +1.9**
H17A IAmb IAmb 23 45 45.7
comp=Z,18nm,1.0s
DY2G Dye2 77.70 3 *i* P **P 23 45 41.2 +0.2**
DY2G IAmb IAmb 23 45 42.9
comp=Z,44nm,0.7s
BSD Bornholm Skovb 77.72 331 *e*P **P 23 45 41.3 +0.2**
BSD Bornholm Skovb 77.72 331 *i* P **P 23 45 40.1 -0.9**
BSD IAmb IAmb 23 45 41.5
comp=Z,38nm,0.9s
BNN Bunyan 77.72 309 P **P 23 45 41.5 -0.1**
FLWY Flagg Ranch 77.77 44 P **P 23 45 42.8 +1.0**
FLWY IAmb IAmb 23 45 45.8
comp=Z,15nm,1.1s
GAZ Gaziantep 77.84 307 P **P 23 45 42.9 +0.7**
FXWY Fox Creek 77.86 45 P **P 23 45 43.9 +1.5**
BCW Bitter Crk WRg 77.86 56 P **P 23 45 43.2 +0.8**
BCW IAmb IAmb 23 45 53.4
comp=Z,39nm,1.5s
GMN Gold Mountain 77.90 53 P **P 23 45 44.2 +1.5**
RLMT Red Lodge 77.91 43 P **P 23 45 43.5 +0.9**
BIR Birlad 77.93 319 ⇑P **P 23 45 43.8 +1.4**
BIR Birlad 77.93 319 P **P 23 45 43.7 +1.4**
MOOW Moose Ponds 77.95 44 P **P 23 45 44.1 +1.2**
PRAR RASCA 77.96 320 ⇑P **P 23 45 43.0 +0.5**
VLDR Vladesti 77.96 318 ⇑P **P 23 45 43.2 +0.6**
TLCR 77.98 318 ⇑P **P 23 45 43.2 +0.5**
TLCR 77.98 318 P **P 23 45 43.1 +0.5**
HVU Hansel Valley 77.99 47 P **P 23 45 44.8 +1.7**
HVU IAmb IAmb 23 45 46.0
comp=Z,11nm,0.7s
HVU Hansel Valley 77.99 47 P **P 23 45 44.8 +1.7**
HVU pmax pmax
comp=Z,11nm,0.7s
SNART Snartemo 77.99 337 *e*P **P 23 45 42.8 +0.3**
TPAW Teton Pass 78.00 45 P **P 23 45 45.0 +1.9**
FRB Frobisher Bay 78.01 12 LR LR 00 22 50.9
comp=Z,52nm,19.8s,baz=294,slow=38
GRAC Grapevine Rang 78.01 53 P **P 23 45 45.1 +2.0**
GRAC IAmb IAmb 23 45 46.2
comp=Z,15nm,0.7s
LOHW Long Hollow 78.11 44 P **P 23 45 44.1 +0.3**
GKP Gorka Klasztor 78.12 329 *e*P **P 23 45 43.4 +0.1**
GKP Gorka Klasztor 78.12 329 *e*P **P 23 45 44.0 +0.7**
SNOW Snow King Moun 78.12 45 P **P 23 45 45.7 +1.8**
KWP Kalwaria Pacla 78.20 324 *e*P **P 23 45 44.6 +0.7**
KWP Kalwaria Pacla 78.20 324 P **P 23 45 43.8 -0.1**
KWP Kalwaria Pacla 78.20 324 P **P 23 45 43.8 -0.1**
KWP pmax pmax
comp=Z,107nm,1.2s
KWP Kalwaria Pacla 78.20 324 P **P 23 45 44.7 +0.8**
comp=Z,90nm,1.0s
COP Copenhagen 78.24 333 *i* P **P 23 45 43.0 -0.9**
COP IAmb IAmb 23 45 45.4
comp=Z,71nm,0.9s
TESR Tescani 78.29 320 ⇑P **P 23 45 44.7 +0.3**
TESR Tescani 78.29 320 P **P 23 45 44.3 -0.1**
comp=Z,36nm,0.9s
BUR08 Bucovina Ar. S 78.30 321 P **P 23 45 44.5 -0.1**
BUR08 IAmb IAmb 23 45 46.0
comp=Z,20nm,1.1s
R11B Troy Canyon, C 78.35 51 P **P 23 45 46.7 +1.6**
R11B IAmb IAmb 23 45 48.0
comp=Z,17nm,1.2s
R11B Troy Canyon, C 78.35 51 P **P 23 45 46.9 +1.8**
baz=307
CFR Carcaliu 78.36 318 ⇑P **P 23 45 44.8 0.0**
CFR Carcaliu 78.36 318 P **P 23 45 44.7 0.0**
AHID Auburn Hatcher 78.36 45 P **P 23 45 45.3 +0.2**
BGU Big Grassy Mou 78.36 48 P **P 23 45 46.7 +1.6**
DGMT Dagmar 78.38 38 P **P 23 45 45.9 +1.0**
DGMT IAmb IAmb 23 45 47.6
comp=Z,12nm,0.9s
Q12A Willow Creek R 78.41 50 P **P 23 45 46.8 +1.4**
Q12A IAmb IAmb 23 45 48.4
comp=Z,17nm,0.7s
TPGR Topolog 78.41 317 ⇑P **P 23 45 44.6 -0.5**
PANC Panciu 78.44 319 ⇑P **P 23 45 46.5 +1.3**
SPUT South Promonto 78.47 47 P **P 23 45 46.7 +1.0**
LAO LASA Array 78.53 40 P **P 23 45 46.8 +1.0**
ONER Baraj Valea Uz 78.54 320 ⇑P **P 23 45 47.1 +1.3**
ODBI Odobesti 78.56 319 ⇑P **P 23 45 47.7 +1.8**
BR131 Keskin Array S 78.57 311 P **P 23 45 46.1 -0.1**
BR131 IAmb IAmb 23 45 47.7
comp=Z,26nm,1.2s
BR131 Keskin Array S 78.57 311 *i* P **P 23 45 46.3 0.0**
BRTR Keskin Array B 78.57 311 P **P 23 45 46.1 -0.1**
BRTR Keskin Array B 78.57 311 P **P 23 45 46.3 0.0**
comp=Z,4.5nm,0.4s,baz=59,slow=2.5,SNR=58
BRTR PP **PP 23 48 43.2 -0.8**
comp=Z,3.0nm,0.9s,baz=66,slow=5.2,SNR=5.6
comp=Z,4.5nm,0.4s
BR106 Keskin Array S 78.58 311 P **P 23 45 46.4 +0.1**
comp=Z,11nm,1.2s,comp=Z,112nm
BR105 Keskin Array S 78.59 311 P **P 23 45 46.7 +0.4**
comp=Z,11nm,0.7s,comp=Z,145nm
WCT Wildcat Mounta 78.61 53 P **P 23 45 47.9 +1.4**
ANGG Ammassalik, Gr 78.65 359 *i* P **P 23 45 46.1 +0.2**
S11A Rachel 78.67 52 P **P 23 45 47.9 +1.1**
S11A IAmb IAmb 23 45 49.9
comp=Z,17nm,0.8s
VRI Vrincioaia 78.67 319 ⇑P **P 23 45 46.9 +0.3**
VRI Vrincioaia 78.67 319 P **P 23 45 46.8 +0.3**
PLOR Plostina 78.72 319 ⇑P **P 23 45 48.1 +1.2**
PLOR Plostina 78.72 319 P **P 23 45 48.0 +1.2**
SPR3 Spring Creek 3 78.74 50 P **P 23 45 49.3 +1.9**
KIRS Kirsehir-Merke 78.76 310 ⇑P **P 23 45 47.5 +0.3**
TPNV Topopah Spring 78.76 52 P **P 23 45 48.0 +0.6**
TPNV IAmb IAmb 23 45 50.2
comp=Z,14nm,0.8s
TPNV Topopah Spring 78.76 52 P **P 23 45 48.0 +0.6**
TPNV pmax pmax
comp=Z,14nm,0.9s
SNCC San Nicolas Is 78.77 57 P **P 23 45 47.3 0.0**
HWUT Hardware Ranch 78.81 46 P **P 23 45 49.3 +1.7**
HWUT IAmb IAmb 23 45 50.7
comp=Z,14nm,1.1s
TLBR Topalu 78.81 317 ⇑P **P 23 45 48.3 +1.1**
MUD Monsted U'grnd 78.82 335 *i* P **P 23 45 46.1 -0.9**
MUD IAmb IAmb 23 45 48.6
comp=Z,13nm,0.9s
BISRR Bisoca 78.88 319 ⇑P **P 23 45 49.0 +1.2**
KOLS Kolonicke sedl 78.88 323 *e*P **P 23 45 48.1 +0.5**
KOLS pmax pmax
comp=Z,15nm,0.7s
KOLS Kolonicke sedl 78.88 323 *e*P **P 23 45 48.1 +0.5**
KOLS *e*PP **PP 23 48 47.5 +1.3**
TURR Turia 78.92 320 ⇑P **P 23 45 49.3 +1.4**
DUG Dugway, Tooele 78.94 48 P **P 23 45 49.3 +1.0**
DUG IAmb IAmb 23 45 51.3
comp=Z,11nm,0.8s
DUG Dugway, Tooele 78.94 48 P **P 23 45 49.3 +1.0**
DUG pmax pmax
comp=Z,11nm,0.8s
GWY Greenwater Val 78.94 53 P **P 23 45 49.5 +1.1**
COVR Voineasa-Covas 78.96 319 ⇑P **P 23 45 49.2 +1.0**
ANTO Ankara 79.00 311 P **P 23 45 48.6 +0.1**
ANTO IAmb IAmb 23 45 52.5
comp=Z,19nm,0.7s
ANTO Ankara 79.00 311 P **P 23 45 49.1 +0.7**
ANTO P **P 23 45 49.1 +0.7**
ANTO Ankara 79.00 311 ⇑P **P 23 45 49.3 +0.8**
ANTO Ankara 79.00 311 P **P 23 45 49.2 +0.7**
ANTO Ankara 79.00 311 P **P 23 45 48.8 +0.3**
comp=Z,11nm,1.2s
OZUR 79.02 320 ⇑P **P 23 45 49.7 +1.2**
BR231 Keskin MP Arra 79.03 311 P **P 23 45 49.0 +0.3**
BR231 IAmb IAmb 23 45 52.6
comp=Z,12nm,0.6s
STHS Stebnicka Huta 79.05 324 *e*P **P 23 45 48.9 +0.4**
STHS pmax pmax
comp=Z,16nm,1.1s
STHS Stebnicka Huta 79.05 324 *e*P **P 23 45 48.8 +0.3**
UZHM Uzhgorod 79.08 323 P **P 23 45 48.6 -0.1**
ARCR ARCALIA 79.10 321 ⇓P **P 23 45 50.2 +1.3**
BMR Baia Mare 79.14 322 ⇑P **P 23 45 50.6 +1.5**
BMR Baia Mare 79.14 322 P **P 23 45 50.5 +1.5**
OJC Ojcow 79.16 326 *e*P **P 23 45 49.6 +0.5**
OJC Ojcow 79.16 326 P **P 23 45 49.5 +0.5**
OJC Ojcow 79.16 326 P **P 23 45 49.5 +0.4**
OJC pmax pmax
comp=Z,46nm,1.1s
OJC Ojcow 79.16 326 P **P 23 45 49.3 +0.2**
comp=Z,45nm,1.0s
NEHR Nehoiu 79.18 319 ⇑P **P 23 45 50.5 +1.2**
TCUT Toone Canyon 79.21 47 P **P 23 45 51.8 +2.0**
TCUT IAmb IAmb 23 45 52.7
comp=Z,15nm,0.8s
ICOR Ion Corvin 79.22 317 ⇑P **P 23 45 50.9 +1.4**
PD31 Pinedale Array 79.24 45 P **P 23 45 50.7 +0.7**
PDAR Pinedale Array 79.24 45 P **P 23 45 50.1 +0.1**
PDAR Pinedale Array 79.24 45 P **P 23 45 51.1 +1.1**
comp=Z,2.1nm,0.6s,baz=297,slow=0.2,SNR=14
comp=Z,2.1nm,0.6s
PRN Pahroc Range 79.25 52 P **P 23 45 51.7 +1.7**
ISR Istrita 79.25 319 ⇑P **P 23 45 49.6 -0.2**
ISR Istrita 79.25 319 P **P 23 45 49.6 -0.2**
CTU Camp Tracy 79.27 47 P **P 23 45 51.5 +1.4**
DOPR Dopca 79.31 320 ⇑P **P 23 45 51.1 +1.1**
PSUT Pine Spring 79.32 50 P **P 23 45 51.8 +1.3**
MLR Muntele Rosu 79.33 319 P **P 23 45 50.3 0.0**
MLR Muntele Rosu 79.33 319 LR LR 00 24 46.2
comp=Z,106nm,18.5s,baz=48,slow=38
MLR Muntele Rosu 79.33 319 ⇑P **P 23 45 51.2 +0.9**
MLR Muntele Rosu 79.33 319 P **P 23 45 51.1 +0.9**
GSC Goldstone, Bar 79.38 54 P **P 23 45 52.1 +1.4**
GSC Goldstone, Bar 79.38 54 P **P 23 45 52.1 +1.4**
GSC pmax pmax
comp=Z,7.0nm,1.0s
JLU Jordanelle 79.50 47 P **P 23 45 53.1 +1.6**
MDUB Mudurnu 79.58 313 P **P 23 45 51.8 +0.1**
NUUK Nuuk 79.69 5 *i* P **P 23 45 52.6 +1.0**
SHPR Sheep Range 79.73 52 P **P 23 45 53.8 +1.1**
MESR Meseseni 79.77 322 ⇑P **P 23 45 52.3 -0.2**
RAYN Ar Rayn 79.87 292 P **P 23 45 53.2 -0.3**
RAYN IAmb IAmb 23 45 54.6
comp=Z,28nm,0.9s
RAYN Ar Rayn 79.87 292 *i* P **P 23 45 53.8 +0.2**
SNR=28
RAYN Ar Rayn 79.87 292 P **P 23 45 53.7 +0.2**
RAYN Ar Rayn 79.87 292 P **P 23 45 53.9 +0.4**
ELS Elsinore Mount 79.95 56 P **P 23 45 54.3 +0.5**
BSUT Blindstream Ca 79.95 47 P **P 23 45 55.4 +1.3**
MARR Marisel-Cluj 80.00 321 ⇑P **P 23 45 55.1 +1.2**
LANS Liptovska Anna 80.06 325 *e*P **P 23 45 55.4 +1.3**
LANS pmax pmax
comp=Z,9.0nm,0.8s
LANS Liptovska Anna 80.06 325 *e*P **P 23 45 55.4 +1.3**
LANS *e*PP **PP 23 49 00.6 +4.6**
TNR Turnu Rosu 80.10 320 ⇑P **P 23 45 55.9 +1.6**
TNR Turnu Rosu 80.10 320 P **P 23 45 55.9 +1.6**
ARR Arges 80.10 320 ⇑P **P 23 45 55.7 +1.3**
DRGR 80.13 322 ⇑P **P 23 45 55.0 +0.5**
DRGR 80.13 322 P **P 23 45 55.0 +0.5**
TCRU Three Creeks R 80.14 49 P **P 23 45 55.9 +0.9**
MVU Marysvale 80.35 49 P **P 23 45 57.5 +1.4**
MVU IAmb IAmb 23 45 59.0
comp=Z,25nm,0.8s
MSU Marysvale 80.37 49 P **P 23 45 58.2 +2.0**
MSU Marysvale 80.37 49 P **P 23 45 58.2 +2.0**
BSEG Bad Segeberg 80.37 332 *e*P **P 23 45 56.0 +0.5**
comp=Z,42nm,1.3s,baz=40,slow=5.2
V12A Nelson 80.40 53 P **P 23 45 57.0 +0.8**
TMUT Trail Mountain 80.47 48 P **P 23 45 57.2 +0.4**
LOT Lotru 80.50 320 ⇑P **P 23 45 57.8 +1.2**
MORC Moravsky Berou 80.50 326 P **P 23 45 56.2 -0.2**
MORC IAmb IAmb 23 45 58.0
comp=Z,17nm,1.0s
MORC Moravsky Berou 80.50 326 *e*P **P 23 45 56.9 +0.5**
MORC Moravsky Berou 80.50 326 ⇑P **P 23 45 57.8 +1.3**
MORC Moravsky Berou 80.50 326 P **P 23 45 57.7 +1.3**
OSTC Ostas 80.52 327 *e*P **P 23 45 56.9 +0.4**
OSTC Ostas 80.52 327 *e*P **P 23 45 56.9 +0.4**
CHVC Chvalec 80.57 328 *e*P **P 23 45 57.4 +0.7**
CHVC Chvalec 80.57 328 *e*P **P 23 45 57.4 +0.7**
RAR Rarotonga 80.60 125 LR LR 00 17 58.7
comp=Z,56nm,20.1s,baz=328,slow=33
PFO Pinyon Flats O 80.62 55 P **P 23 45 57.9 +0.4**
PFO IAmb IAmb 23 46 00.1
comp=Z,17nm,0.9s
PFO Pinyon Flats O 80.62 55 P **P 23 45 57.9 +0.4**
PFO pmax pmax
comp=Z,17nm,0.9s
KRLC Kraliky 80.62 327 *e*P **P 23 45 57.8 +0.7**
KRLC Kraliky 80.62 327 *e*P **P 23 45 57.8 +0.7**
DPC Dobruska-Polom 80.63 327 *e*P **P 23 45 58.0 +0.9**
DPC Dobruska-Polom 80.63 327 *e*P **P 23 45 58.0 +0.9**
DPC Dobruska-Polom 80.63 327 P **P 23 45 57.7 +0.6**
comp=Z,18nm,1.2s
LCMT Little Creek M 80.63 51 P **P 23 45 59.0 +1.5**
RDMU Red Mountain 80.63 46 P **P 23 45 58.4 +0.9**
RDMU IAmb IAmb 23 46 01.6
comp=Z,31nm,1.2s
P17A Butcher Ranch, 80.64 48 P **P 23 45 59.1 +1.6**
P17A IAmb IAmb 23 46 00.4
comp=Z,18nm,0.7s
UPC Upice 80.65 327 *e*P **P 23 45 57.9 +0.8**
UPC Upice 80.65 327 *e*P **P 23 45 57.9 +0.8**
DEV Deva 80.65 321 ⇑P **P 23 45 58.5 +1.3**
DEV Deva 80.65 321 P **P 23 45 58.5 +1.3**
MTPU Mount Pierson 80.66 50 P **P 23 45 59.4 +1.6**
GORT1 Trebel 80.72 331 *e*P **P 23 45 58.2 +0.8**
comp=Z,32nm,1.2s,baz=40,slow=5.2
Q16A Castle Valley 80.73 48 P **P 23 45 59.6 +1.5**
PSZ Piszkesteto 80.73 324 P **P 23 45 58.0 +0.2**
PSZ IAmb IAmb 23 45 59.5
comp=Z,26nm,1.0s
PSZ Piszkesteto 80.73 324 *e*P **P 23 45 58.9 +1.2**
PSZ Piszkesteto 80.73 324 ⇑P **P 23 45 58.4 +0.7**
PSZ Piszkesteto 80.73 324 P **P 23 45 58.4 +0.7**
VYHS Vyhne 80.82 325 *e*P **P 23 45 58.8 +0.7**
VYHS pmax pmax
comp=Z,19nm,1.2s
VYHS Vyhne 80.82 325 *e*P **P 23 45 58.8 +0.7**
VYHS *e*PP **PP 23 49 04.5 +2.2**
P18A Preston Nutter 80.83 47 P **P 23 45 59.3 +0.6**
P18A IAmb IAmb 23 46 02.3
comp=Z,12nm,0.8s
KNB Kanab 80.90 51 P **P 23 46 00.4 +1.5**
KNB IAmb IAmb 23 46 02.4
comp=Z,17nm,1.0s
KNB Kanab 80.90 51 P **P 23 46 00.4 +1.5**
KNB pmax pmax
comp=Z,17nm,1.0s
PKCU Pink Cliffs 80.95 50 P **P 23 46 00.2 +0.8**
SRU San Rafael Swe 81.00 48 P **P 23 46 00.5 +1.0**
SRU IAmb IAmb 23 46 02.0
comp=Z,15nm,0.7s
SRU San Rafael Swe 81.00 48 P **P 23 46 00.5 +1.0**
SRU pmax pmax
comp=Z,15nm,0.7s
ULM Lac du Bonnet 81.01 32 P **P 23 45 58.8 -0.2**
ULM Lac du Bonnet 81.01 32 P **P 23 45 59.7 +0.7**
comp=Z,5.9nm,0.7s,baz=326,slow=3.8,SNR=8.9
comp=Z,5.9nm,0.7s
GZR Gura Zlata 81.05 321 ⇑P **P 23 46 00.4 +0.9**
GZR Gura Zlata 81.05 321 P **P 23 46 00.3 +0.9**
ELND Elena 81.06 317 ⇑P **P 23 46 00.6 +1.1**
JAVC Velka Javorina 81.10 326 *e*P **P 23 46 01.1 +1.4**
SURR Surduc 81.14 321 ⇑P **P 23 46 00.1 +0.3**
PVCC Panska Ves 81.25 328 *e*P **P 23 46 01.3 +1.0**
PVCC Panska Ves 81.25 328 *e*P **P 23 46 01.3 +1.0**
FLTG Flechtingen 81.26 331 *e*P **P 23 46 00.1 -0.2**
comp=Z,18nm,0.7s,baz=40,slow=5.2
BRG Berggiesshubel 81.26 329 *i* P **P 23 46 00.8 +0.4**
BRG Amp 23 46 02.9
comp=Z,9.7nm,0.7s
BRG PP **PP 23 49 05.8 0.0**
BRG Amp 23 49 06.9
comp=Z,5.6nm,0.9s
BRG Berggiesshubel 81.26 329 *i* P **P 23 46 00.7 +0.4**
BRG 23 49 05.7
BRG pmax pmax
comp=Z,10.0nm,0.7s
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 81.26 329 *e*P **P 23 46 00.8 +0.4**
comp=Z,18nm,1.2s,baz=40,slow=5.2
CBX Cerro Bola 81.27 56 P **P 23 46 01.3 +0.4**
VRAC Vranov 81.27 326 *e*P **P 23 46 01.0 +0.5**
VRAC Vranov 81.27 326 ⇑P **P 23 46 01.4 +1.0**
VRAC Vranov 81.27 326 P **P 23 46 01.4 +1.0**
CLL Collm 81.33 329 P **P 23 46 00.6 -0.1**
CLL IAmb IAmb 23 46 01.7
comp=Z,30nm,1.0s
CLL Collm 81.33 329 ⇑*i*P **P 23 46 00.8 +0.1**
CLL pmax pmax
comp=Z,27nm,1.0s
CLL MLR MLR
comp=Z,300nm,23.3s
CLL Collm 81.33 329 *e*P **P 23 46 00.8 +0.1**
comp=Z,28nm,1.0s,baz=40,slow=5.2
CLL Collm 81.33 329 ⇑*i*P **P 23 46 00.8 +0.1**
comp=Z,27nm,1.0s
CLL *es*P **sP 23 46 23.0 +0.3**
CLL *i* PP **PP 23 49 05.8 -0.5**
comp=Z,11nm,1.2s
CLL AMS AMS 00 29 00.0
comp=Z,100nm,19.3s
CLL Collm 81.33 329 P **P 23 46 00.4 -0.3**
comp=Z,33nm,0.9s
RSSD Black Hills 81.39 41 P **P 23 46 02.7 +1.2**
RSSD Black Hills 81.39 41 P **P 23 46 02.7 +1.2**
RSSD pmax pmax
comp=Z,7.0nm,0.6s
W13A Hualapai Mount 81.40 53 P **P 23 46 02.7 +1.0**
SMOL Smolenice 81.46 325 *e*P **P 23 46 02.9 +1.4**
SMOL pmax pmax
comp=Z,14nm,1.2s
BAND Balkesir-Ban 81.48 314 ⇑P **P 23 46 02.2 +0.5**
BZS Buzias 81.49 321 ⇑P **P 23 46 02.3 +0.6**
BZS Buzias 81.49 321 P **P 23 46 02.3 +0.6**
MMAI Mount Meron Ar 81.52 305 P **P 23 46 02.9 +0.7**
comp=Z,17nm,0.9s,baz=46,slow=6.6,SNR=26
MMAI LR LR 00 26 01.9
comp=Z,103nm,19.6s,baz=348,slow=38
comp=Z,17nm,0.9s
KRUC Moravsky 81.53 326 *e*P **P 23 46 02.3 +0.4**
SRO Srobarova 81.56 325 *e*P **P 23 46 03.3 +1.3**
SRO pmax pmax
comp=Z,16nm,0.9s
SRO Srobarova 81.56 325 *e*P **P 23 46 03.3 +1.3**
YUH Yuha Desert 81.56 56 P **P 23 46 03.8 +1.5**
YUH IAmb IAmb 23 46 04.9
comp=Z,16nm,0.8s
URZ Urewera 81.56 151 LR LR 00 17 48.6
comp=Z,104nm,20.5s,baz=62,slow=32
NRDL Niedersach Rie 81.57 332 *e*P **P 23 46 02.1 +0.2**
comp=Z,8.1nm,0.8s,baz=40,slow=5.2
HERR Herculane 81.59 320 ⇑P **P 23 46 02.9 +0.6**
U15A North Rim 81.60 51 P **P 23 46 04.7 +1.9**
U15A IAmb IAmb 23 46 06.0
comp=Z,11nm,0.8s
HMU Henry Mountain 81.61 49 P **P 23 46 04.1 +1.3**
HMU IAmb IAmb 23 46 05.5
comp=Z,17nm,0.8s
MODS Modra-Piesok 81.63 325 *e*P **P 23 46 03.2 +0.8**
MODS pmax pmax
comp=Z,35nm,1.2s
MODS Modra-Piesok 81.63 325 *e*P **P 23 46 03.2 +0.8**
RETH Rethem/Aller, 81.66 332 *e*P **P 23 46 02.7 +0.3**
comp=Z,33nm,1.3s,baz=40,slow=5.2
PRU Pruhonice 81.67 328 *e*P **P 23 46 03.3 +0.8**
PRU Pruhonice 81.67 328 *e*P **P 23 46 03.3 +0.8**
HSKC Hora Svate Kat 81.68 329 *e*P **P 23 46 03.0 +0.4**
CSS Mathiatis 81.68 307 P **P 23 46 02.5 -0.4**
CSS IAmb IAmb 23 46 07.1
comp=Z,14nm,0.6s
CSS Mathiatis 81.68 307 P **P 23 46 03.0 +0.1**
comp=Z,22nm,0.7s
O20A White River Ci 81.69 46 P **P 23 46 04.0 +0.9**
O20A IAmb IAmb 23 46 05.4
comp=Z,13nm,1.0s
BLYC Blythe 81.82 54 P **P 23 46 05.2 +1.6**
BLYC IAmb IAmb 23 46 06.5
comp=Z,17nm,0.8s
NEUB Neuenburg 81.90 330 *e*P **P 23 46 04.0 +0.3**
comp=Z,26nm,0.9s,baz=40,slow=5.2
ESJX Sierra Juarez 81.93 56 P **P 23 46 04.9 +0.4**
ESJX IAmb IAmb 23 46 07.4
comp=Z,26nm,0.8s
CLZ Clausthal 81.97 331 *e*P **P 23 46 04.6 +0.5**
comp=Z,28nm,1.2s,baz=40,slow=5.2
MDVR Moldovita 82.02 321 ⇑P **P 23 46 05.2 +0.6**
BKZ Black Stump Fm 82.11 152 P **P 23 46 09.2 +4.3**
TANN Tannenbergstha 82.23 329 *e*P **P 23 46 05.9 +0.3**
comp=Z,23nm,1.6s,baz=40,slow=5.2
ZVC Zvikov 82.23 328 *e*P **P 23 46 05.9 +0.4**
PV21 Cone Mtn., Par 82.28 48 P **P 23 46 07.7 +1.4**
PV21 IAmb IAmb 23 46 09.0
comp=Z,13nm,0.7s
PLN Plauen 82.30 329 *e*P **P 23 46 06.2 +0.3**
comp=Z,4.0nm,0.7s,baz=40,slow=5.2
PV23 Carpenter Ridg 82.33 48 P **P 23 46 07.5 +1.0**
PV10 Paradox Valley 82.36 48 P **P 23 46 08.9 +2.2**
PV14 Lion Creek, Pa 82.37 48 P **P 23 46 07.1 +0.3**
PV14 IAmb IAmb 23 46 08.6
comp=Z,22nm,0.9s
MPLH Magyarpolny 82.38 324 P **P 23 46 06.6 +0.2**
comp=Z,39nm,1.2s
MOX Moxa 82.40 330 *e*P **P 23 46 06.6 +0.2**
comp=Z,6.0nm,0.7s,baz=40,slow=5.2
MOX *e*L L 00 49 55.4
comp=Z,330nm,21.3s
VTX Valle De La Tr 82.42 57 P **P 23 46 08.1 +1.2**
VTX IAmb IAmb 23 46 09.7
comp=Z,18nm,1.0s
PV20 West Nyswonger 82.42 48 P **P 23 46 07.8 +0.8**
PV04 Paradox Valley 82.43 48 P **P 23 46 08.5 +1.5**
PV04 IAmb IAmb 23 46 10.0
comp=Z,10nm,0.9s
RDO Rodhopi 82.43 316 IAmb IAmb 23 46 08.3
comp=Z,15nm,1.0s
PV19 Morning Glory 82.43 48 P **P 23 46 08.1 +1.0**
PV19 IAmb IAmb 23 46 09.9
comp=Z,19nm,0.7s
GHAJ Ghor Haditha 82.45 303 P **P 23 46 07.2 +0.2**
AGMN Agassiz Nation 82.45 34 P **P 23 46 06.9 +0.2**
PV16 Nyswonger Mesa 82.47 48 P **P 23 46 08.3 +1.0**
PV16 IAmb IAmb 23 46 13.8
comp=Z,9.5nm,0.7s
PV11 David Mesa, Pa 82.51 48 P **P 23 46 07.8 +0.4**
PV11 IAmb IAmb 23 46 17.3
comp=Z,16nm,0.7s
N23A Red Feather La 82.51 44 P **P 23 46 08.2 +0.8**
N23A IAmb IAmb 23 46 10.4
comp=Z,21nm,1.2s
N23A Red Feather La 82.51 44 P **P 23 46 09.1 +1.6**
baz=312
PV18 Skein Mesa, Pa 82.52 48 P **P 23 46 08.6 +1.0**
KPL Plockton 82.53 342 *e*P **P 23 46 07.5 +0.7**
KPL IAmb IAmb 23 46 08.3
comp=Z,23nm,0.7s
MORH Mrgy, Hungar 82.54 323 ⇑P **P 23 46 06.9 -0.3**
PV03 Paradox Valley 82.55 48 P **P 23 46 08.2 +0.5**
PV07 Paradox Valley 82.55 47 P **P 23 46 08.5 +0.8**
RONA Rosalia, Austr 82.58 325 *i* P **P 23 46 08.3 +0.9**
comp=Z,9.7nm,0.6s,SNR=6.0
CONA Conrad Observa 82.61 326 *i* P **P 23 46 08.5 +0.9**
comp=Z,9.8nm,0.7s,SNR=9.4
IBBN Ibbenburen 82.61 333 *e*P **P 23 46 07.4 +0.1**
comp=Z,24nm,0.5s,baz=40,slow=5.2
PV13 Radium Mtn., P 82.63 48 P **P 23 46 08.6 +0.5**
PV13 IAmb IAmb 23 46 12.2
comp=Z,21nm,1.0s
CKRC Cesky Krumlov 82.64 327 *e*P **P 23 46 08.2 +0.5**
CKRC Cesky Krumlov 82.64 327 *e*P **P 23 46 08.2 +0.5**
PV02 Paradox Valley 82.65 48 P **P 23 46 08.7 +0.5**
Y14A Wickenburg 82.69 53 P **P 23 46 08.9 +0.6**
Y14A IAmb IAmb 23 46 11.0
comp=Z,12nm,0.6s
MANZ Manzenberg 82.70 329 *e*P **P 23 46 08.3 +0.3**
comp=Z,2.2nm,0.7s,baz=40,slow=5.2
FRGS Fruska Gora 82.72 322 ⇑*i*P **P 23 46 07.4 -0.8**
KHC Kasperske Hory 82.73 328 IAmb IAmb 23 46 09.7
comp=Z,15nm,1.0s
KHC Kasperske Hory 82.73 328 *e*P **P 23 46 08.8 +0.6**
KHC Kasperske Hory 82.73 328 *e*P **P 23 46 08.8 +0.6**
KHC Kasperske Hory 82.73 328 P **P 23 46 08.4 +0.2**
comp=Z,16nm,1.4s
WUAZ Wupatki 82.75 51 P **P 23 46 10.1 +1.4**
WUAZ IAmb IAmb 23 46 11.8
comp=Z,14nm,0.9s
PV01 Paradox Valley 82.80 48 P **P 23 46 08.9 -0.1**
PV01 IAmb IAmb 23 46 11.8
comp=Z,17nm,1.2s
NNZ Nelson 82.80 155 P **P 23 46 08.2 -0.1**

BOVS	Bovan	82.81	320	⇑P		P	23 46 08.2 -0.4
ROTZ	Rotzenmuhle	82.83	329	eP		P	23 46 09.3 +0.7
	comp=Z,2.3nm,0.8s,baz=40,slow=5.2						
GEC2	GERESS Array S	82.89	327	eP		P	23 46 09.0 -0.1
	comp=Z,9.8nm,1.1s,baz=40,slow=5.2						
GERES	GERESS Array B	82.89	327	P		P	23 46 08.6 -0.4
GERES	GERESS Array B	82.89	327	P		P	23 46 09.0 -0.1
	comp=Z,4.0nm,0.5s,baz=44,slow=6.6,SNR=24						
GERES				PP		PP	23 49 18.3 -1.0
	comp=Z,0.5nm,0.5s,baz=46,slow=8.5,SNR=2.5						
	comp=Z,4.0nm,0.5s						
GERES	GERESS Array B	82.89	327	P		P	23 46 09.0 -0.1
113A	Mohawk Valley,	82.92	55	IAmb		IAmb	23 46 11.9
	comp=Z,21nm,1.4s						
INVG	Invergeldie, C	82.92	341	eP		P	23 46 09.2 +0.3
INVG				IAmb		IAmb	23 46 10.1
	comp=Z,6.9nm,0.6s						
WET	Wettzell	83.02	328	eP		P	23 46 10.1 +0.5
	comp=Z,18nm,1.4s,baz=40,slow=5.2						
ARSA	Arzberg	83.26	326	i P		P	23 46 11.3 +0.3
	comp=Z,6.1nm,0.7s						
TEKS	Tekeris	83.29	322	⇑iP		P	23 46 10.9 -0.2
GRA1	Grafenberg Arr	83.30	329	IAmb		IAmb	23 46 15.5
	comp=Z,27nm,0.9s						
GRF	Grafenberg Arr	83.30	329	eP		P	23 46 11.9 +0.8
	comp=Z,23nm,0.8s,baz=40,slow=5.2						
GRF				eL		L	00 51 16.2
	comp=Z,264nm,21.5s						
GRFO	Grafenberg	83.30	329	P		P	23 46 12.1 +1.0
GRFO				IAmb		IAmb	23 46 15.9
	comp=Z,29nm,1.0s						
GRFO	Grafenberg	83.30	329	P		P	23 46 12.1 +1.0
GRFO				pmax		pmax	
	comp=Z,29nm,1.0s						
MOA	Molln	83.39	327	i P		P	23 46 11.9 +0.3
	comp=Z,13nm,1.2s						
X16A	Lo Mia Camp, P	83.40	52	P		P	23 46 13.5 +1.4
X16A				IAmb		IAmb	23 46 15.3
	comp=Z,16nm,1.0s						
MVCO	Mesa Verde	83.44	48	P		P	23 46 13.6 +1.3
PEHC	Pehcevo	83.46	318	i P		P	23 46 12.8 +0.7
BRIGG	Briggsdale	83.63	44	P		P	23 46 13.9 +0.8
BRIGG				IAmb		IAmb	23 46 15.0
	comp=Z,15nm,1.1s						
EKA	Eskdalemuir Ar	83.64	340	P		P	23 46 12.9 +0.2
	comp=Z,2.1nm,0.4s,baz=40,slow=4.4,SNR=35						
EKA				PP		PP	23 49 24.5 -0.6
	comp=Z,3.3nm,0.9s,baz=39,slow=8.2,SNR=3.2						
	comp=Z,2.1nm,0.4s						
ESK	Eskdalemuir	83.67	340	eP		P	23 46 13.0 +0.2
BIOA	Bad Ischl, Aus	83.78	327	i P		P	23 46 14.1 +0.4
	comp=Z,8.7nm,0.6s,SNR=5.8						
BBLS	Lazi&#263i	83.84	321	⇑iP		P	23 46 14.6 +0.6
PERS	Pernice	83.91	325	i P		P	23 46 14.4 +0.1
HAPS	Han Pijesak,BI	83.91	322	⇑iP		P	23 46 15.1 +0.6
SOKA	Soboth	83.91	325	i P		P	23 46 14.5 +0.2
	comp=Z,26nm,0.9s,SNR=15						
VAY	Valandovo	83.95	318	i P		P	23 46 14.9 +0.3
SJES	Sjenica	83.98	320	⇑iP		P	23 46 15.3 +0.5
RUDO	Rudo	84.03	321	⇑iP		P	23 46 14.8 -0.2
F33A	5 Mile Ranch,	84.06	36	P		P	23 46 15.5 +0.5
F33A				IAmb		IAmb	23 46 16.7
	comp=Z,12nm,0.8s						
S22A	4UR Ranch, Cre	84.09	47	P		P	23 46 17.0 +1.3
S22A	4UR Ranch, Cre	84.09	47	P		P	23 46 17.3 +1.6
	baz=312						
RJOB	Jochberg	84.12	327	eP		P	23 46 16.0 +0.6
	comp=Z,14nm,1.0s,baz=40,slow=5.2						
A051A	Mrakovica	84.25	323	⇑iP		P	23 46 15.8 -0.3
Q24A	Divide	84.26	45	P		P	23 46 16.9 +0.3
Q24A	Divide	84.26	45	P		P	23 46 17.5 +1.0
	baz=313						
OBKA	Obir	84.26	326	i P		P	23 46 15.9 -0.2
	comp=Z,4.9nm,0.7s						
OBKA	Obir	84.26	326	⇑iP		P	23 46 15.7 -0.5
X18A	Snowflake	84.28	51	P		P	23 46 18.3 +1.7
X18A				IAmb		IAmb	23 46 19.4
	comp=Z,9.7nm,0.8s						
BLY	Banja Luka	84.31	323	⇑iP		P	23 46 16.3 0.0
CRES	Cresnjevec Ost	84.35	325	i P		P	23 46 16.2 -0.2
CRES	Cresnjevec Ost	84.35	325	⇑iP		P	23 46 16.3 -0.2
KBA	Koelnbreinsper	84.38	327	i P		P	23 46 17.4 +0.6
	comp=Z,10nm,0.7s						
HPK	Haverah Park	84.39	338	eP		P	23 46 17.0 +0.5
LESA	Schwarzleotal	84.41	327	i P		P	23 46 17.1 +0.2
	comp=Z,10nm,0.8s						
FUR	Furstenfeldbru	84.45	328	eP		P	23 46 17.4 +0.4
	comp=Z,23nm,0.8s,baz=40,slow=5.2						
UPM	Unac-Piva	84.57	321	⇑iP		P	23 46 19.1 +1.2
MYKA	Terra Mystica	84.58	326	i P		P	23 46 17.2 -0.6
	comp=Z,9.5nm,0.5s,SNR=5.2						
BTNL	Ternell	84.60	332	dP		P	23 46 17.7 0.0
MEM	Membach	84.62	333	dP		P	23 46 17.5 -0.3
	comp=Z,7.2nm,0.9s						
BOJS	Bojanci	84.68	324	⇑iP		P	23 46 17.7 -0.5
PRED	Cave del Predi	84.76	326	P		P	23 46 17.4 -1.2
PRED				IAmb		IAmb	23 46 22.3
	comp=Z,8.6nm,0.8s						
BSTI	Sart Tilman	84.81	333	dP		P	23 46 18.9 +0.2
A050A	Klekovaca	84.82	323	⇑iP		P	23 46 19.0 0.0
LIT	Litokhoron	84.84	317	P		P	23 46 18.7 -0.4
LIT	Litokhoron	84.84	317	P		P	23 46 18.7 -0.4
LIT				pmax		pmax	
	comp=Z,39nm,0.7s						
SDCO	Great Sand Dun	84.87	46	P		P	23 46 21.1 +1.4
PUK	Puka	84.88	320	P		P	23 46 20.2 +0.8
PUK				IAmb		IAmb	23 46 28.5
	comp=Z,28nm,1.0s						
CEY	Cerknica	84.89	325	⇑iP		P	23 46 18.7 -0.6
PDG	Podgorica	84.94	320	P		P	23 46 18.8 -0.7
PDG	Podgorica	84.94	320	⇑iP		P	23 46 19.6 +0.1
PDG	Podgorica	84.94	320	⇑P		P	23 46 19.9 +0.4
JAVS	Javornik	84.94	325	i P		P	23 46 18.8 -0.8
WATA	Walderalm	84.96	328	i P		P	23 46 19.5 -0.3
	comp=Z,3.0nm,0.5s						
BRY	Bratogost	84.97	321	⇑iP		P	23 46 18.9 -1.0
WTTA	Wattenberg	84.99	328	i P		P	23 46 20.0 0.0
	comp=Z,4.0nm,0.6s						
ABTA	Abfaltersbach	85.00	327	i P		P	23 46 19.0 -0.9
	comp=Z,13nm,1.1s						
BCLA	Clavier	85.04	333	dP		P	23 46 19.3 -0.6
	comp=Z,5.5nm,0.9s						
OHR	Ohrid	85.06	318	i P		P	23 46 21.3 +1.1
UCC	Uccle	85.08	333	P		P	23 46 20.6 +0.6
UCC	Uccle	85.08	333	P		P	23 46 20.6 +0.6
UCC				pmax		pmax	
	comp=Z,3.0nm,1.3s						
BGES	Gesves	85.15	333	dP		P	23 46 20.0 -0.5
	comp=Z,6.4nm,0.8s						
MOTA	Moosalm	85.16	328	i P		P	23 46 20.5 -0.2
	comp=Z,3.5nm,0.7s						
TUC	Tucson	85.16	53	P		P	23 46 22.2 +1.2
TUC				IAmb		IAmb	23 46 23.6
	comp=Z,10nm,0.8s						
TUC	Tucson	85.16	53	P		P	23 46 22.2 +1.2
TUC				pmax		pmax	
	comp=Z,10.0nm,0.9s						
RETA	Reutte	85.19	328	i P		P	23 46 21.0 +0.2
	comp=Z,11nm,0.7s,SNR=6.8						
TREB	Trebinje	85.20	321	⇑iP		P	23 46 19.2 -1.6
SQTA	Sankt Quirin	85.21	328	i P		P	23 46 20.6 -0.4
	comp=Z,6.5nm,0.8s						
SKDS	Skadanscina	85.23	325	⇑iP		P	23 46 20.0 -1.0
RCHB	Rochefort	85.28	333	dP		P	23 46 20.9 -0.2
	comp=Z,8.7nm,0.9s						
HCY	Herceg Novi	85.32	321	⇑iP		P	23 46 21.4 0.0
PPT2	Papeete2	85.33	116	eS		SKSac	23 56 47.0 +4.7
	comp=Z,40nm,29.2s						
PPT2				eSS		SS	00 02 21.7 -2.9
	comp=Z,28nm,24.0s						
PPT2	Papeete2	85.33	116	eLR		LR	00 13 06.9
	comp=Z,373nm,31.0s						
PPT2				eLR		LR	00 13 17.8
	comp=Z,207nm,28.8s						
BMRD	Maredsous	85.33	333	dP		P	23 46 21.0 -0.3
	comp=Z,8.8nm,0.9s						
WLF	Walferdange	85.33	332	P		P	23 46 22.3 +0.9
WLF				IAmb		IAmb	23 46 23.7
	comp=Z,34nm,1.5s						
WLF	Walferdange	85.33	332	P		P	23 46 22.3 +0.9
WLF				pmax		pmax	
	comp=Z,34nm,1.5s						
WLF	Walferdange	85.33	332	dP		P	23 46 23.2 +1.8
CWF	Charnwood Fore	85.34	338	eP		P	23 46 21.3 -0.1
STON	Ston	85.42	321	⇑iP		P	23 46 20.7 -1.2
ECSD	EROS Data Cent	85.46	37	IAmb		IAmb	23 46 23.6
	comp=Z,8.9nm,0.8s						
BFO	Black Forest	85.55	330	P		P	23 46 21.9 -0.6
BFO				IAmb		IAmb	23 46 23.5
	comp=Z,21nm,1.2s						
BFO	Black Forest	85.55	330	P		P	23 46 21.9 -0.6
BFO				pmax		pmax	
	comp=Z,21nm,1.2s						
BFO	Black Forest	85.55	330	eP		P	23 46 22.5 +0.1
	comp=Z,11nm,0.7s,baz=40,slow=5.2						
DOU	Dourbes	85.57	333	dP		P	23 46 22.0 -0.5
FETA	Feichten	85.57	328	i P		P	23 46 22.6 -0.2
	comp=Z,12nm,1.2s						
DAVA	Damuels	85.73	328	i P		P	23 46 23.5 -0.1
	comp=Z,13nm,0.8s						
FOEL	Foel Wylfa	85.79	339	eP		P	23 46 23.9 +0.3
FOEL				IAmb		IAmb	23 46 25.0
	comp=Z,27nm,0.5s						
CTI	Castel Tesino	85.92	327	IAmb		IAmb	23 46 27.5
	comp=Z,16nm,1.2s						
T25A	Trinidad	85.92	46	IAmb		IAmb	23 46 27.4
	comp=Z,15nm,0.8s						
T25A	Trinidad	85.92	46	P		P	23 46 26.2 +1.4
	baz=313						
FUORN	Ofenpass-Fuorn	86.08	328	P		P	23 46 25.7 +0.3
DUN6	Lazy B Ranch	86.10	52	P		P	23 46 26.4 +0.8
ECH	Echery	86.11	330	P		P	23 46 24.5 -0.8
ECH				IAmb		IAmb	23 46 26.0
	comp=Z,10.0nm,0.8s						
ECH	Echery	86.11	330	P		P	23 46 24.5 -0.8
ECH				pmax		pmax	
	comp=Z,10.0nm,0.8s						
ANMO	Albuquerque	86.17	49	P		P	23 46 27.3 +1.3
ANMO	Albuquerque	86.17	49	ceP		P	23 46 28.5 +2.4
ANMO				pmax		pmax	
	comp=Z,4.0nm,1.3s						
LENM	Lemitar	86.37	50	P		P	23 46 27.1 +0.1
BGNE	Belgrade	86.38	40	P		P	23 46 26.6 -0.1
TEOL	Teolo	86.44	326	P		P	23 46 28.5 +1.5
TEOL				IAmb		IAmb	23 46 30.8
	comp=Z,14nm,0.7s						
MCH1	Michaelchurch	86.51	338	eP		P	23 46 27.2 +0.1
MONM	Monmouth	86.58	338	eP		P	23 46 27.7 +0.3
BNM	Barren Site	86.60	50	P		P	23 46 28.9 +0.7
SCHQ	Schefferville	86.62	15	P		P	23 46 28.5 +0.8
	comp=Z,10nm,0.7s,baz=347,slow=6.8,SNR=12						
	comp=Z,10nm,0.7s						
IDI	Anoyia	86.74	312	P		P	23 46 28.6 -0.1
121A	Cookes Peak, D	86.94	51	P		P	23 46 30.6 +0.7
121A				IAmb		IAmb	23 46 32.8
	comp=Z,7.1nm,0.9s						
121A	Cookes Peak, D	86.94	51	P		P	23 46 30.9 +1.0
	baz=312						
TAOE	Nuku Hiva Isla	87.15	103	eLR		LR	00 14 12.2
	comp=Z,263nm,30.4s						
G40A	Rib Lake	87.28	33	P		P	23 46 30.8 -0.3
G40A				IAmb		IAmb	23 46 32.7
	comp=Z,19nm,1.1s						
ZCCA	Zocca	87.53	326	P		P	23 46 35.1 +2.8
FDMO	Fiordimonte	87.56	324	P		P	23 46 32.6 +0.1
NRCA	Norcia	87.70	324	P		P	23 46 33.5 +0.3
CAMP	Campotosto	87.79	323	P		P	23 46 34.0 +0.4
INTR	Introdacqua	87.94	323	P		P	23 46 34.2 -0.2
TBI	Tubuai	89.10	120	eLR		LR	00 14 57.4
	comp=Z,1μm,27.2s						
SMWD	Samnorwood	89.75	45	P		P	23 46 43.5 +0.5
SMWD				IAmb		IAmb	23 46 45.5
	comp=Z,14nm,1.0s						
VLDQ	Val d'Or	89.83	24	P		P	23 46 41.6 -1.4
VLDQ				IAmb		IAmb	23 46 43.5
	comp=Z,9.4nm,0.7s						
VHRN	Van Horn	89.88	51	P		P	23 46 44.7 +1.0
P38A	Dawn	90.06	38	P		P	23 46 45.5 +1.2
P38A				IAmb		IAmb	23 46 45.7
	comp=Z,7.5nm,0.7s						
DKNS	Dickens	90.38	47	P		P	23 46 48.1 +2.1
T35A	Sooner Cattle	90.53	42	P		P	23 46 47.3 +0.8
T35A				IAmb		IAmb	23 46 48.4
	comp=Z,8.2nm,0.8s						
N41A	Harden Midland	90.54	36	P		P	23 46 47.2 +0.8
L44A	Lake County Fo	90.74	33	P		P	23 46 48.2 +0.9
	baz=323						
LPIG	La Paz	90.76	59	LR		LR	00 19 24.4
	comp=Z,33nm,21.8s,baz=2.0,slow=30						
OK029	Liberty Lake	90.83	43	P		P	23 46 49.0 +1.0
APMT	Aspermont	91.09	46	P		P	23 46 49.3 +0.1
APMT				IAmb		IAmb	23 46 53.6
	comp=Z,7.9nm,0.8s						
DEOK	Depew	91.33	43	P		P	23 46 51.0 +0.8
SGCY	Sterling City	91.49	48	P		P	23 46 52.1 +1.0
S39A	Bolivar	91.63	39	P		P	23 46 51.4 -0.2
S39A				IAmb		IAmb	23 46 52.6
	comp=Z,8.1nm,0.8s						
TX31	Lajitas Ar. Si	91.71	51	P		P	23 46 52.6 +0.4
TX31				IAmb		IAmb	23 46 55.4
	comp=Z,4.5nm,0.8s						
TXAR	Lajitas Array	91.71	51	P		P	23 46 53.2 +1.0
TXAR	Lajitas Array	91.71	51	P		P	23 46 53.6 +1.4
	comp=Z,3.6nm,0.5s,baz=303,slow=3.0,SNR=66						
	comp=Z,3.6nm,0.5s						
R40A	Maddies Statio	91.71	38	P		P	23 46 52.5 +0.6
R40A				IAmb		IAmb	23 46 53.3
	comp=Z,6.3nm,0.7s						
O48B	Farmland	93.51	33	P		P	23 47 01.6 +1.4
	baz=325						
P49A	Miami Univ. Ec	94.30	33	P		P	23 47 04.3 +0.5
	baz=325						
KEST	Kesra	95.04	322	P		P	23 47 06.7 -0.7
	comp=Z,3.4nm,0.9s,baz=36,slow=19,SNR=1.2						
	comp=Z,3.4nm,0.9s						
ESDC	Sonseca Array	97.61	333	P		P	23 47 18.3 -0.7
	comp=Z,0.5nm,0.5s,baz=23,slow=3.8,SNR=4.5						
	comp=Z,0.5nm,0.5s						
M65A	Busby, Falmout	97.86	23	P		Pdif	23 47 20.5 +0.6
	baz=336						
TORD	Torodi Ar. Bea	117.12	313	PKP		PKPdf	23 52 29.3 -0.6
	comp=Z,1.4nm,0.5s,baz=23,slow=1.8,SNR=24						
TORD				PKKPbc		PKKPbc	00 02 55.1 +1.9
	comp=Z,0.5nm,0.7s,baz=209,slow=2.6,SNR=4.7						
TORD				PKKPab		PKKPab	00 03 00.2 0.0
	comp=Z,0.3nm,0.7s,baz=202,slow=4.5,SNR=1.8						
MAW	Mawson	118.12	205	PKP		PKiKP	23 52 30.7 +0.7
	comp=Z,0.8nm,0.5s,baz=63,slow=6.8,SNR=2.1						
BOSA	Boshof	125.16	258	PKP		PKPdf	23 52 44.1 -0.9
	comp=Z,2.4nm,0.6s,baz=103,slow=2.1,SNR=7.0						
QSPA	South Pole Qui	125.79	180	PKP		PKiKP	23 52 45.4 +0.1
	comp=Z,2.6nm,0.7s,baz=304,slow=3.6,SNR=8.9						
DBIC	Dimbokro	126.13	315	PKP		PKPdf	23 52 47.0 -0.1
	comp=Z,1.7nm,0.4s,baz=27,slow=4.2,SNR=7.8						
DBIC				PP		PP	23 54 37.4 -3.4
	comp=Z,4.4nm,0.8s,baz=27,slow=11,SNR=3.5						
TROLL	Troll, Antarti	137.91	198	⇑PKPdf		PKPdf	23 53 01.1 -6.6
	comp=Z,51nm,0.6s						
SNAA	Sanae	139.44	197	⇑PKPdf		PKPdf	23 53 02.1 -8.3
	comp=Z,11nm,0.6s						
SNAA	Sanae	139.44	197	PKhKP		PKPpre	23 52 59.9
	comp=Z,0.9nm,0.5s,baz=196,slow=7.7,SNR=13						
VNA2	Neumayer--Watz	141.02	196	⇑PKPdf		PKPdf	23 53 05.9 -7.3
	comp=Z,1.7nm,0.6s,baz=103,slow=2.3						
VNA3	Neumayer Olymp	141.29	195	⇑PKPdf		PKPdf	23 53 07.8 -6.0
	comp=Z,2.0nm,0.7s						
VNA1	Neumayer--Stat	141.42	196	⇑PKPdf		PKPdf	23 53 07.7 -6.2
	comp=Z,3.0nm,0.8s						
ITTB	Itaituba	145.35	28	eP		PKPbc	23 53 22.1 -0.4
TMAB	Tom-Au,PA,Br	145.69	14	eP		PKPab	23 53 24.2 +0.3
SAML	Samuel	145.82	44	eP		PKPdf	23 53 22.9 -0.5
NPGB	Novo Progresso	147.94	29	eP		PKPdf	23 53 27.4 +0.4
H03N2	Juan Fernandez	148.15	97	T		T	02 38 50.6
	baz=291,slow=76,SNR=56						
H03N3	Juan Fernandez	148.16	97	T		T	02 38 51.6
	baz=291,slow=76,SNR=75						
H03N1	Juan Fernandez	148.16	97	T		T	02 38 50.7
	baz=291,slow=76,SNR=58						
LPAZ	La Paz	148.26	59	PKPbc		PKiKP	23 53 32.6 -0.7
	comp=Z,6.2nm,0.7s,baz=302,slow=1.9,SNR=20						
RCBR	Riachuelo	149.68	352	PKPbc		PKPbc	23 53 34.7 +0.1
	comp=Z,3.5nm,0.6s,baz=11,slow=10,SNR=7.9						
CLDB	Colider	151.20	33	eP		PKPdf	23 53 32.4 +0.3
SIV	San Ignacio	152.67	48	PKP		PKPdf	23 53 34.3 0.0
	comp=Z,2.0nm,0.8s,baz=200,slow=2.9,SNR=9.3						
SIV				PKPbc		PKiKP	23 53 41.9 +0.3
	comp=Z,11nm,0.7s,baz=272,slow=1.3,SNR=36						
NBAN	Anadia - AL	153.51	351	eP		PKPdf	23 53 36.1 +0.6
BDFB	Brasilia	158.50	21	PKPab		PKPab	23 54 17.9 +0.9
	comp=Z,4.1nm,0.7s,baz=297,slow=2.3,SNR=5.3						
CPUP	Villa Florida	162.41	61	PKP2		PKPab	23 54 34.0 +0.1
	comp=Z,1.2nm,0.8s,baz=336,slow=7.1,SNR=3.4						
CPUP	Villa Florida	162.41	61	PKP2		PKPab	23 54 34.0 +0.1

TEH ***26*** *23:44:31.5,* $34^{\circ}.34N_{\times}45^{\circ}.64E$*, h10km±238km, ML2.6*
ISN ***26*** *23:44:32.8±1.2,* $34^{\circ}.31N_{\times}45^{\circ}.68E$*, h37km±39km, ML2.8*
ISC 26 23:44:32.0±1.4, $34^{\circ}.34N_{\pm}0^{\circ}.05_{\times}45^{\circ}.66E_{\pm}0^{\circ}.06$, h10km±13km, n7, σ0§56/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.18	341	Pg	Pg	23 44 35.9	+0.1
GLG1	Gilan-e-Gharb	0.30	137	Pg	Pg	23 44 38.1	0.0
IDHR	Dehrash	0.70	59	Pg	Pg	23 44 44.9	-0.6
IGHG	Ghaleghazi	0.75	90	Pg	Pg	23 44 46.7	+0.1
IGHG				Sg	Sb	23 44 58.7	+0.9
KCHF	Cheshme Sefid,	1.15	93	Pg	Pb	23 44 54.0	0.0
IBDR	Badra	1.25	169	ePg	Pn	23 44 55.0	-0.5
IBDR				eSg	Sb	23 45 12.0	+0.3
	baz=350						
IKRK	Kirkuk	1.52	315	ePn	Pn	23 44 59.0	-0.2
IKRK				eSn	Sb	23 45 20.0	+0.5
IKRK				AML	AML	23 45 23.9	
	comp=E,122nm,0.3s						
IKRK				AML	AML	23 45 24.1	
	comp=N,136nm,0.5s						

AUST 26 23:58:57.4±0.3, $31^{\circ}.S_{\pm}4^{\circ}.S_{\times}12^{\circ}.2E_{\pm}^{\circ}$, h5km, mb3.9/3, ML3.1/9, Error ellipse: s-maj=9.6km s-min=4.9km az=32.9, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBL	Kambalda	0.26	140	P	Pb	23 59 03.8	-0.8
KMBL				S	Sg	23 59 06.5	+0.7
KLBR	Kellerberrin	3.39	262	P	Pn	23 59 51.8	+0.8
BLDU	Ballidu	4.32	276	P	Pn	00 00 02.8	-0.9
MUN	Mundaring	4.75	259	P	Pn	00 00 09.2	-0.4
MUN	Mundaring	4.75	259	S	Sn	00 01 02.2	-2.9
MEEK	Meekatharra	5.26	328	P	Pn	00 00 17.2	+0.5
	comp=Z,19nm,2.8s,comp=Z,0.1nm						
MEEK	Meekatharra	5.26	328	S	Sn	00 01 14.9	-2.8
MORW	Morawa	5.32	292	P	Pn	00 00 17.9	+0.4
	comp=Z,18nm,1.5s,comp=Z,0.1nm						
FORT	Forrest	5.48	88	P	Pn	00 00 21.1	+1.4
	comp=Z,57nm,2.1s,comp=Z,0.1nm						
PSAD3	Pilbara Seismi	9.64	349	P	Pn	00 01 15.8	-1.0
MULG	Mulgathing	10.68	88	P	Pn	00 01 31.7	+0.6
BBOO	Buckleboo	12.31	101	P	Pn	00 01 51.3	-2.0
OOD	Oodnadatta	12.65	78	P	Pn	00 01 58.8	+0.8

IDC ***27*** *00:03:51.8±1.2,* $29^{\circ}.22N_{\times}141^{\circ}.70E$*, h0km, mb3.7/6, mbtmp3.7/7, Error ellipse: s-maj=46.9km s-min=17.9km az=75.0*
ISC 27 00:03:52.3±1.0, $29^{\circ}.28N_{\pm}0^{\circ}.10_{\times}141^{\circ}.7E_{\pm}0^{\circ}.3$, h10km, n8, σ2§23/9, mb3.8/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	2.22	169	Pn	Pn	00 04 28.6	-0.5
	60nm,0.3s,baz=180,slow=0.0						
JCJ				Sn	Sb	00 04 58.7	-1.4
	baz=180,slow=0.0						
MJAR	Matsushiro Arr	7.81	339	Pn	Pn	00 05 42.1	-4.0
	0.2nm,0.3s,baz=156,slow=12,SNR=6.0						
MJAR				Sn	Sn	00 07 06.1	-8.4
	0.2nm,0.3s,baz=55,slow=13,SNR=4.8						
SONM	Songino Array	32.86	314	P	P	00 10 27.7	+1.3
	0.6nm,0.8s,baz=114,slow=8.2,SNR=5.5						
	0.6nm,0.8s						
ZALV	Zalesovo Beam	47.57	318	P	P	00 12 30.8	+2.9
	0.4nm,0.4s,baz=111,slow=8.9,SNR=2.7						
	0.4nm,0.4s						
MKAR	Makanchi Array	48.77	308	P	P	00 12 37.4	0.0
	1.1nm,0.8s,baz=91,slow=7.6,SNR=3.6						
	1.1nm,0.8s						
WRA	Warramunga Arr	49.45	189	P	P	00 12 43.2	+0.5
	0.9nm,0.5s,baz=7.4,slow=7.7,SNR=8.5						
	0.9nm,0.5s						
ASAR	Alice Springs	53.17	189	P	P	00 13 11.2	+0.6
	0.6nm,0.6s,baz=9.1,slow=7.6,SNR=3.3						
	0.6nm,0.6s						
ILAR	Eielson Array	56.02	29	P	P	00 13 32.1	+1.2
	0.5nm,0.9s,baz=255,slow=6.9,SNR=2.8						
	0.5nm,0.9s						

STR ***27*** *00:11:53.7±0.8,* $43^{\circ}.N_{\pm}4^{\circ}.S_{\times}1^{\circ}.1E_{\pm}^{\circ}$*, h5km, MLv2.9/8, Error ellipse: s-maj=0.0km s-min=0.0km az=117.9, preliminary*
ROM ***27*** *00:11:55.3±0.1,* $43^{\circ}.142N_{\pm}0^{\circ}.005_{\times}10^{\circ}.834E_{\pm}0^{\circ}.007$*, h6km, ML2.5/74, Error ellipse: s-maj=0.7km s-min=0.3km az=219.0*
GEN ***27*** *00:11:55.7,* $43^{\circ}.19N_{\times}10^{\circ}.88E$*, h6km±2km, Ml2.5

PII	**Pisa**	**0.68 342**	P	**Pg**	**00 12 07.8**	**-0.4**
PII			S	**Sg**	**00 12 15.8**	**-1.5**
PII			AML	AML		
	comp=E,1260μm,0.3s					
PII			AML	AML		
	comp=N,2060μm,0.3s					
PII			AML	AML		
	comp=N,2060μm,1.7s					
MAON	**Monte Argentar**	**0.69 160**	P	**Pn**	**00 12 10.3**	**+0.6**
MAON			S	**Sn**	**00 12 21.0**	**+1.0**
MAON	**Monte Argentar**	**0.69 160**	P	**Pn**	**00 12 10.4**	**+0.6**
MAON			S	**Sn**	**00 12 21.1**	**+1.0**
MAON			AML	AML		
	comp=E,1172μm,0.7s					
MAON			AML	AML		
	comp=N,1400μm,0.4s					
MCIV	**Monte Civitell**	**0.70 115**	P	**Pn**	**00 12 09.7**	**-0.4**
MCIV			AML	AML		
	comp=E,1325μm,1.2s					
MCIV			AML	AML		
	comp=N,2495μm,0.2s					
MCIV			AML	AML		
	comp=E,1325μm,0.8s					
CRMI	**Carmignano**	**0.72 9**	P	**Pb**	**00 12 08.7**	**-0.3**
CRMI			AML	AML		
	comp=E,372μm,0.4s					
CRMI			AML	AML		
	comp=N,498μm,0.7s					
LATE	**Laterza**	**0.86 122**	P	**Pn**	**00 12 13.5**	**+1.3**
LATE			AML	AML		
	comp=N,1100μm,1.2s					
LATE			AML	AML		
	comp=N,1100μm,0.8s					
LATE			AML	AML		
	comp=E,596μm,0.3s					
MAIM	**Mastiano**	**0.87 344**	P	**Pg**	**00 12 11.1**	**-0.7**
MAIM			S	**Sg**	**00 12 21.6**	**-1.7**
MAIM	**Mastiano**	**0.87 344**	P	**Pg**	**00 12 11.0**	**-0.7**
MAIM			AML	AML		
	comp=N,456μm,0.3s					
MAIM			AML	AML		
	comp=E,372μm,0.4s					
CAFI	**Castiglion Fio**	**0.88 73**	P	**Pb**	**00 12 11.9**	**+0.3**
CAFI			AML	AML		
	comp=E,243μm,0.8s					
CAFI			AML	AML		
	comp=N,192μm,1.1s					
MPPT	**Montemurlo**	**0.91 13**	P	**Pb**	**00 12 11.7**	**-0.4**
MPPT			AML	AML		
	comp=E,220μm,0.9s					
MPPT			AML	AML		
	comp=N,235μm,0.6s					
MPPT			AML	AML		
	comp=E,220μm,0.9s					
MPPT			AML	AML		
	comp=N,234μm,0.6s					
MPPT			AML	AML		
	comp=N,234μm,1.4s					
MPPT			AML	AML		
	comp=E,220μm,1.1s					
MTCR	**Monte La Croce**	**0.96 8**	P	**Pb**	**00 12 13.0**	**-0.1**
MTCR	**Monte La Croce**	**0.96 8**	P	**Pg**	**00 12 12.8**	**-0.7**
MTCR			AML	AML		
	comp=E,215μm,0.4s					
MTCR			AML	AML		
	comp=N,316μm,0.7s					
MTCR			AML	AML		
	comp=N,316μm,1.3s					
POPM	**Popiglio**	**0.97 358**	P	**Pg**	**00 12 13.1**	**-0.6**
POPM			S	**Sg**	**00 12 25.1**	**-1.3**
POPM	**Popiglio**	**0.97 358**	P	**Pg**	**00 12 13.0**	**-0.6**
POPM			S	**Sg**	**00 12 25.3**	**-1.1**
POPM			AML	AML		
	comp=N,756μm,0.2s					
POPM			AML	AML		
	comp=E,536μm,0.9s					
CARD	**Cardoso**	**0.98 346**	P	**Pg**	**00 12 13.2**	**-0.6**
CARD			S	**Sg**	**00 12 25.2**	**-1.6**
CARD	**Cardoso**	**0.98 346**	P	**Pg**	**00 12 13.0**	**-0.9**
CARD			S	**Sg**	**00 12 24.8**	**-1.9**
CARD			AML	AML		
	comp=E,416μm,0.7s					
CARD			AML	AML		
	comp=N,379μm,1.3s					
CARD			AML	AML		
	comp=E,416μm,1.3s					
CRE	**Caprese Michel**	**0.99 56**	P	**Pn**	**00 12 14.3**	**+0.3**
CRE			S	**Sb**	**00 12 26.7**	**+0.3**
CRE			AML	AML		
	comp=E,224μm,0.6s					
CRE			AML	AML		
	comp=N,269μm,0.4s					
BDI	**Bagni Di Lucca**	**1.00 351**	P	**Pg**	**00 12 13.4**	**-0.8**
BDI			S	**Sg**	**00 12 26.4**	**-1.0**
BDI	**Bagni Di Lucca**	**1.00 351**	P	**Pg**	**00 12 13.4**	**-0.8**
BDI			S	**Sg**	**00 12 26.3**	**-1.0**
BDI			AML	AML		
	comp=E,256μm,1.1s					
BDI			AML	AML		
	comp=N,394μm,1.0s					
BDI			AML	AML		
	comp=N,343μm,1.0s					
BDI			AML	AML		
	comp=E,237μm,1.2s					
BDI			AML	AML		
	comp=E,256μm,0.9s					
BDI			AML	AML		
	comp=N,343μm,1.0s					
BDI			AML	AML		
	comp=N,394μm,1.0s					
MORSI	**Morsiglia**	**1.07 264**	Pg	**Pg**	**00 12 15.0**	**-0.6**
MORSI			Sg	**Sg**	**00 12 29.4**	**-0.2**
SSP9	**Sansepolcro**	**1.08 62**	P	**Pn**	**00 12 15.9**	**+0.7**
SSP9			AML	AML		
	comp=N,191μm,1.4s					
SSP9			AML	AML		
	comp=E,148μm,0.8s					
SSP9			AML	AML		
	comp=N,190μm,1.4s					
SSP9			AML	AML		
	comp=N,190μm,0.6s					
SFI	**Santa Sofia**	**1.12 42**	P	**Pn**	**00 12 16.0**	**+0.2**
SFI			AML	AML		
	comp=N,136μm,1.1s					
SFI			AML	AML		
	comp=E,126μm,1.3s					
VLC	**Villacollemand**	**1.13 344**	P	**Pg**	**00 12 16.1**	**-0.6**
VLC			AML	AML		
	comp=E,150μm,1.3s					
VLC			AML	AML		
	comp=E,150μm,1.3s					
VLC			AML	AML		
	comp=N,168μm,1.0s					
VLC			AML	AML		
	comp=E,128μm,1.0s					
VLC			AML	AML		
	comp=N,145μm,1.0s					
VLC			AML	AML		
	comp=E,150μm,0.7s					
ATTE	**AVT- Monte Tez**	**1.13 83**	P	**Pn**	**00 12 16.5**	**+0.5**
ATTE			AML	AML		
	comp=E,162μm,1.1s					
ATTE			AML	AML		
	comp=N,160μm,1.3s					
ATTE			AML	AML		
	comp=E,162μm,0.9s					
ATTE			AML	AML		
	comp=N,160μm,0.7s					
SARO	**Sassorosso**	**1.15 345**	P	**Pb**	**00 12 16.5**	**+0.2**
SARO			AML	AML		
	comp=N,699μm,0.5s					
SARO			AML	AML		
	comp=E,422μm,0.6s					
PARC	**Parchiule**	**1.19 61**	P	**Pn**	**00 12 17.5**	**+0.8**
PARC			AML	AML		
	comp=E,116μm,0.7s					
PARC			AML	AML		
	comp=N,115μm,1.5s					
PARC			AML	AML		
	comp=N,115μm,0.5s					
BRIS	**BRISIGHELLA**	**1.19 25**	P	**Pn**	**00 12 20.4**	**+3.7**
EQUI	**Equi**	**1.19 336**	P	**Pg**	**00 12 17.0**	**-0.9**
EQUI			AML	AML		
	comp=E,135μm,1.4s					
EQUI			AML	AML		
	comp=N,136μm,0.4s					
LMD	**Lutirano**	**1.19 33**	P	**Pn**	**00 12 17.3**	**+0.5**
LMD			AML	AML		
	comp=E,108μm,1.3s					
LMD			AML	AML		
	comp=N,122μm,0.8s					
LMD			AML	AML		
	comp=N,122μm,1.2s					
PLMA	**Palmaria, Port**	**1.20 325**	P	**Pg**	**00 12 17.2**	**-0.8**
ATVO	**AVT- Monte Val**	**1.20 75**	P	**Pn**	**00 12 17.9**	**+0.9**
ATVO			AML	AML		
	comp=E,152μm,0.5s					
ATVO			AML	AML		
	comp=N,135μm,0.7s					
MURB	**Monte Urbino**	**1.27 81**	P	**Pn**	**00 12 19.0**	**+1.2**
MURB			AML	AML		
	comp=N,394μm,0.3s					
MURB			AML	AML		
	comp=E,418μm,0.3s					
APEC	**Apecchio**	**1.27 67**	P	**Pn**	**00 12 18.9**	**+1.0**
APEC			AML	AML		
	comp=E,240μm,0.4s					
APEC			AML	AML		
	comp=N,220μm,0.6s					
ZCCA	**Zocca**	**1.28 5**	P	**Pg**	**00 12 20.1**	**+0.5**
GSCL	**Gusciola**	**1.29 353**	P	**Pg**	**00 12 19.2**	**-0.4**
GSCL			AML	AML		
	comp=N,340μm,1.1s					
GSCL			AML	AML		
	comp=E,280μm,0.3s					
MOMA	**Monte Martano**	**1.32 101**	P	**Pg**	**00 12 19.7**	**-0.5**
MOMA			AML	AML		
	comp=E,106μm,1.4s					
MOMA			AML	AML		
	comp=N,92μm,1.4s					
MOMA			AML	AML		
	comp=E,106μm,0.6s					
PIEI	**Pieia**	**1.34 69**	P	**Pg**	**00 12 20.0**	**-0.6**
PIEI			AML	AML		
	comp=E,80μm,0.5s					
PIEI			AML	AML		
	comp=N,55μm,1.2s					
PIEI			AML	AML		
	comp=E,80μm,1.5s					
TOLF	**Tolfa**	**1.34 139**	P	**Pg**	**00 12 20.2**	**-0.4**
PGF	**Pioggiola**	**1.44 249**	*e*Pn	**Pn**	**00 12 21.7**	**+1.5**
PGF			*e*Sn	**Sn**	**00 12 39.8**	**+1.1**
	comp=E,23nm,0.3s					
PGF	**Pioggiola**	**1.44 249**	Pg	**Pn**	**00 12 21.6**	**+1.5**
PGF	**Pioggiola**	**1.44 249**	Sg	**Sn**	**00 12 39.6**	**+0.9**
SSFR	**Montelago di S**	**1.48 75**	P	**Pg**	**00 12 21.9**	**-1.5**
SSFR			AML	AML		
	comp=E,122μm,0.3s					
SSFR			AML	AML		
	comp=N,115μm,0.2s					
GRAM	**Graiana**	**1.52 339**	P	**Pb**	**00 12 22.5**	**0.0**
ARRO	**Arrone**	**1.52 108**	P	**Pg**	**00 12 22.9**	**-1.1**
ARRO			AML	AML		
	comp=N,68μm,1.6s					
ARRO			AML	AML		
	comp=N,68μm,0.4s					
ARRO			AML	AML		
	comp=E,70μm,1.4s					
FDMO	**Fiordimonte**	**1.67 91**	P	**Pb**	**00 12 24.8**	**-0.3**
RM33	**Pellescritta (**	**1.86 107**	P	**Pb**	**00 12 27.9**	**-0.4**
GORR	**Gorreto**	**1.89 325**	Sg	**Sg**	**00 12 54.9**	**-0.7**
GORR	**Gorreto**	**1.89 325**	Pg	**Pb**	**00 12 29.8**	**+0.9**
AJAC	**Base Areonaval**	**1.90 234**	Pg	**Pb**	**00 12 29.0**	**0.0**
AJAC			Sg	**Sb**	**00 12 53.7**	**+1.3**
SMA1	**SAN MARTINO**	**1.91 103**	P	**Pb**	**00 12 29.2**	**-0.1**
SMA1			AML	AML		
	comp=E,71μm,1.6s					
SMA1			AML	AML		
	comp=N,89μm,1.3s					
SMA1			AML	AML		
	comp=N,89μm,0.7s					
SMA1			AML	AML		
	comp=E,71μm,0.4s					
RNCA	**Ronca, Sant'Ol**	**1.94 317**	Pn	**Pn**	**00 12 28.9**	**+1.9**
MF5	**Montefalcone A**	**1.94 92**	P	**Pb**	**00 12 29.5**	**-0.3**
RCAV	**Rocca di Cave**	**2.00 127**	P	**Pb**	**00 12 29.6**	**-1.2**
CANO	**Canova, Maglio**	**2.19 302**	Pn	**Pn**	**00 12 31.1**	**+0.7**
PCP	**Piancastagn**	**2.20 313**	Pn	**Pn**	**00 12 32.2**	**+1.5**
RORO	**Rocca Rossa**	**2.25 298**	Pn	**Pn**	**00 12 32.3**	**+1.0**
MGRO	**Montegrosso**	**2.39 295**	Sn	**Sn**	**00 13 02.0**	**-0.3**
MGRO	**Montegrosso**	**2.39 295**	Pn	**Pn**	**00 12 33.8**	**+0.4**
GBOS	**Grotte di Boss**	**2.45 299**	Sn	**Sn**	**00 13 03.7**	**-0.1**
GBOS	**Grotte di Boss**	**2.45 299**	Pn	**Pn**	**00 12 34.7**	**+0.6**
SAOF	**Saorge**	**2.54 292**	Pn	**Pn**	**00 12 35.7**	**+0.4**
SAOF			Sn	**Sn**	**00 13 06.0**	**+0.1**
PIAF	**les Granges de**	**2.54 295**	Pn	**Pn**	**00 12 36.1**	**+0.7**
PIAF			Sn	**Sn**	**00 13 06.4**	**+0.4**
SBF	**Sospel**	**2.58 289**	*e*Pn	**Pn**	**00 12 36.0**	**+0.1**
SBF			*e*Sn	**Sn**	**00 13 06.0**	**-1.0**
	comp=E,6.9nm,0.3s					
MBAL	**Monte Baldo -**	**2.62 1**	AML	AML		
	comp=E,120μm,0.1s					
MBAL			AML	AML		
	comp=N,93μm,1.5s					
MBAL			AML	AML		
	comp=N,93μm,0.5s					
TURF	**col de Turini**	**2.65 291**	Pn	**Pn**	**00 12 37.0**	**+0.1**
TURF			Sn	**Sn**	**00 13 08.8**	**+0.1**
SPIF	**crte de Spivo**	**2.78 292**	Pn	**Pn**	**00 12 39.8**	**+1.1**
SPIF			Sn	**Sn**	**00 13 12.0**	**+0.1**
MVIF	**Mont Vial**	**2.79 288**	Pn	**Pn**	**00 12 40.0**	**+1.2**
CALF	**Calern**	**2.92 285**	Pn	**Pn**	**00 12 41.1**	**+0.6**
CALF			Sn	**Sn**	**00 13 14.7**	**-0.5**
ISO	**Isola**	**2.95 293**	Pn	**Pn**	**00 12 42.3**	**+1.3**
PZZ	**Stroppo**	**3.04 299**	Pn	**Pn**	**00 12 43.1**	**+0.9**
SALSA	**La sagne**	**3.11 286**	Pn	**Pn**	**00 12 44.1**	**+0.9**
BHB	**Bricherasio**	**3.11 306**	Pn	**Pn**	**00 12 44.7**	**+1.6**
LMR	**La Mourre**	**3.16 276**	*e*Pn	**Pn**	**00 12 44.0**	**+0.3**
LMR			*e*Sn	**Sn**	**00 13 18.3**	**-2.7**
	comp=N,1.6nm,0.2s					
SURF	**Saint Ours**	**3.22 297**	Pn	**Pn**	**00 12 45.5**	**+0.7**
SURF			Sn	**Sn**	**00 13 23.0**	**+0.1**
JAUF	**Jausiers**	**3.24 296**	Pn	**Pn**	**00 12 46.7**	**+1.6**
JAUF			Sn	**Sn**	**00 13 22.9**	**-0.4**
TRIGF	**Trigance**	**3.28 283**	Pn	**Pn**	**00 12 46.5**	**+1.0**
TRIGF			Sn	**Sn**	**00 13 23.8**	**-0.4**
MBDF	**Montbardon**	**3.36 301**	*e*Pn	**Pn**	**00 12 47.6**	**+1.0**
MBDF			*e*Sn	**Sn**	**00 13 24.8**	**-1.4**
	comp=N,1.4nm,0.2s					
CREF	**Crivoux**	**3.37 297**	Pn	**Pn**	**00 12 48.2**	**+1.4**
CREF			Sn	**Sn**	**00 13 26.3**	**-0.3**
RRL	**Rocca Remolon**	**3.44 304**	Sn	**Sn**	**00 13 28.2**	**-0.2**
RRL	**Rocca Remolon**	**3.44 304**	Pn	**Pn**	**00 12 49.2**	**+1.4**
OGMO	**Fort Saint-Gob**	**3.66 307**	Pn	**Pn**	**00 12 52.0**	**+1.3**
ARTF	**Artigues**	**3.69 280**	Pn	**Pn**	**00 12 52.7**	**+1.6**
LEPF	**PUYLOUBIER**	**3.76 279**	Pn	**Pn**	**00 12 52.6**	**+0.6**
LPG	**La Plagne**	**3.79 311**	*e*P	**Pb**	**00 12 58.7**	**-2.7**
LPL	**La Plagne**	**3.81 311**	*e*Pn	**Pn**	**00 12 55.8**	**+2.8**
LPL			*e*Sn	**Sn**	**00 13 36.5**	**-1.0**
	comp=N,0.7nm,0.3s					
BSTF	**la Bastide-des**	**3.85 284**	Pn	**Pn**	**00 12 54.5**	**+1.2**
ABTA	**Abfaltersbach**	**3.87 18**	*i* Pn	**Pn**	**00 12 57.3**	**+3.7**
	comp=N,2.2nm,0.5s					
SMRF	**Simiane la Rot**	**3.92 285**	*e*Pn	**Pn**	**00 12 56.6**	**+2.4**
SMRF			*e*Sn	**Sn**	**00 13 37.4**	**-2.4**
	comp=N,0.9nm,0.2s					
FETA	**Feichten**	**3.95 359**	*e*Pn	**Pn**	**00 12 59.3**	**+4.5**
	comp=N,5.2nm,0.8s,SNR=6.7					
RUSF	**Rustrel**	**3.97 284**	Pn	**Pn**	**00 12 56.7**	**+1.7**
ORIF	**Oris-en-Rattie**	**4.01 299**	*e*P	**Pn**	**00 12 59.8**	**+4.3**
ORIF			*e*Sn	**Sn**	**00 13 40.5**	**-1.7**
	comp=N,4.3nm,0.4s					
SQTA	**Sankt Quirin**	**4.16 4**	*i* Pn	**Pn**	**00 13 02.1**	**+4.5**
	comp=N,13nm,0.5s,SNR=9.6					
WTTA	**Wattenberg**	**4.23 8**	*i* Pn	**Pn**	**00 13 02.7**	**+4.1**
	comp=N,1.7nm,0.3s					
DAVA	**Damuels**	**4.26 351**	*i* Pn	**Pn**	**00 13 03.4**	**+4.4**
	comp=N,3.0nm,0.3s,SNR=5.0					
MOTA	**Moosalm**	**4.28 3**	*i* Pn	**Pn**	**00 13 03.8**	**+4.5**
	comp=N,5.2nm,0.5s					
WATA	**Walderalm**	**4.29 7**	*i* Pn	**Pn**	**00 13 03.2**	**+3.7**
	comp=N,2.0nm,0.3s					
RETA	**Reutte**	**4.41 360**	*i* Pn	**Pn**	**00 13 05.2**	**+4.1**
	comp=N,1.7nm,0.3s,SNR=11					
LESA	**Schwarzleotal**	**4.54 16**	*i* Pn	**Pn**	**00 13 06.6**	**+3.7**
	comp=N,1.7nm,0.3s					
SOKA	**Soboth**	**4.69 38**	*i* Pn	**Pn**	**00 13 09.4**	**+4.5**
	comp=N,0.6nm,0.3s					
VIVF	**Saint-Julien-l**	**4.78 294**	*e*Pn	**Pn**	**00 13 07.6**	**+1.6**
VIVF			*e*Sn	**Sn**	**00 13 58.0**	**-3.0**
	comp=N,0.2nm,0.2s					
CABF	**La Chapelle**	**4.88 318**	*e*Pn	**Pn**	**00 13 10.3**	**+2.8**
CABF			*e*Sn	**Sn**	**00 14 03.2**	**-0.4**
	comp=N,0.2nm,0.2s					
LASF	**Ste Croix**	**5.15 284**	*e*Pn	**Pn**	**00 13 12.2**	**+1.0**
LASF			*e*Sn	**Sn**	**00 14 06.3**	**-4.0**
	comp=N,0.5nm,0.2s					
ARSA	**Arzberg**	**5.34 37**	*e*Pn	Pn	00 13 18.7	+4.9
	comp=N,1.7nm,0.5s					
HINF	**Hinteralfeld**	**5.50 331**	*e*Pn	**Pn**	**00 13 17.5**	**+1.5**
HINF			*e*Sn	**Sn**	**00 14 18.6**	**-0.2**
	comp=N,0.7nm,0.3s					
HAU	**Haudompre**	**5.84 329**	*e*Pn	**Pn**	**00 13 22.8**	**+2.1**
HAU			*e*Sn	**Sn**	**00 14 27.0**	**-0.2**
	comp=N,0.4nm,0.2s					
CDF	**Champ du Feu**	**5.88 336**	*e*Pn	**Pn**	**00 13 22.7**	**+1.4**
CDF			*e*Sn	**Sn**	**00 14 27.4**	**-0.9**
	comp=N,1.0nm,0.3s					
SMF	**Signal de Mont**	**6.11 308**	*e*Pn	**Pn**	**00 13 26.5**	**+2.2**
SMF			*e*Sn	**Sn**	**00 14 32.3**	**-1.4**
	comp=N,0.9nm,0.3s					
MTLF	**Montolieu**	**6.29 275**	*e*Pn	**Pn**	**00 13 27.9**	**+1.1**
KHC	**Kasperske Hory**	**6.35 17**	*e*PN	Pn	00 13 33.9	+6.2
LOR	**Lormes**	**6.46 313**	*e*Pn	**Pn**	**00 13 31.4**	**+2.3**
LOR			*e*Sn	**Sn**	**00 14 40.5**	**-1.9**
	comp=N,0.6nm,0.2s					
AVF	**Avril sur Loir**	**6.47 308**	*e*Pn	**Pn**	**00 13 31.8**	**+2.6**
SSF	**Saint Saulge**	**6.53 310**	*e*Pn	**Pn**	**00 13 32.1**	**+2.0**
PAGF	**Fort de Pagny**	**6.53 329**	*e*Pn	**Pn**	**00 13 33.0**	**+2.9**
PAGF			*e*Sn	**Sn**	**00 14 44.5**	**+0.3**
	comp=N,0.5nm,0.2s					
CAF	**Calviac**	**6.58 289**	*e*Pn	**Pn**	**00 13 32.0**	**+1.3**
CAF			*e*Sn	**Sn**	**00 14 42.9**	**-2.4**
	comp=N,0.8nm,0.3s					
BGF	**Bois d'Agland**	**6.65 304**	*e*Pn	**Pn**	**00 13 33.4**	**+1.7**

*IDC **27** 00:13:28.8±0.6, 11°.63S×14°.08W, h0km, mb4.2/24, mbtmp4.2/24, MS4.2/61, Error ellipse: s-maj=19.5km s-min=13.2km az=129.0*

*NEIC **27** 00:13:31.2±1.1, 11°.68S±0°.07×13°.94W±0°.09, h10km±1km, mb4.9/49, Error ellipse: s-maj=14.8km s-min=11.7km az=242.0*

*GCMT **27** 00:13:34.2±0.1, 11°.69S±0°.01×14°.00W±0°.01, h20km, MW5.2/143, Moment Tensor Solution. s90,c134; s143,c242; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}=0.69±.14; $M_{\theta\theta}$=3.21±.14; $M_{\phi\phi}$=3.90±.15; $M_{r\theta}$=1.71±.24; $M_{\theta\phi}$=7.35±.12; $M_{\phi r}$=0.88±.25; Best double couple: M_0=8.40700×10^{16} NP1:ϕ_s=76.00000°, δ=81.00000°, λ=-11.00000°. NP2:ϕ_s=168.00000°, δ=79.00000°, λ=-171.00000°. Principal axes: T 8.5130, Plg1.0000°, Azm122.0000°; N -0.2150, Plg76.0000°, Azm216.0000°; P -8.3010, Plg14.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 00:13:29.9±0.4, 11°.71S±0°.06×13°.98W±0°.07, h7km, n198, σ1s24/133, mb4.7/59, MS4.3/63, 3C-1D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**2.81**	**347**	T	T	00 17 15.4	
	baz=165,slow=74,SNR=4853						
H10S3	**ASCENSION HYDR**	**2.82**	**346**	T	T	00 17 17.1	
	baz=55,slow=74,SNR=3479						
ASCN	**Ascension**	**3.77**	**354**	Pn	**Pn**	**00 14 27.6**	**-0.9**
ASCN				Sn	**Sn**	**00 15 10.6**	**-2.6**
H10N1	**ASCENSION HYDR**	**3.87**	**353**	T	T	00 18 29.6	
	baz=179						
H10N3	**ASCENSION HYDR**	**3.88**	**352**	T	T	00 18 34.0	
	baz=179						
H10N2	**ASCENSION HYDR**	**3.89**	**353**	T	T	00 18 32.9	
	baz=179						
SHEL	**Horse Pasture**	**9.05**	**119**		Pn	00 15 38.7	-2.4
DBIC	**Dimbokro**	**20.39**	**27**	P	**P**	**00 18 07.5**	**-0.1**
DBIC				IAmb	IAmb	00 18 15.3	
	comp=Z,44nm,0.9s						
DBIC	**Dimbokro**	**20.39**	**27**	P	**P**	**00 18 07.2**	**-0.3**
	comp=Z,22nm,1.1s,baz=190,slow=9.6,SNR=23						
DBIC				LR	LR	00 24 14.8	
	comp=Z,926nm,19.0s,baz=190,slow=32						
	comp=Z,22nm,1.1s						
NBCA	**Caruaru-PE**	**21.97**	**277**	*e*P	**P**	**00 18 23.5**	**-1.2**
NBAN	**Anadia - AL**	**22.00**	**273**	*e*P	**P**	**00 18 23.9**	**-1.0**
ACRG	**Accra**	**22.02**	**39**	P	**P**	**00 18 24.4**	**-0.8**
ACRG				IAmb	IAmb	00 18 28.4	
	comp=Z,78nm,1.0s						
RCBR	**Riachuelo**	**22.43**	**283**	P	**P**	**00 18 29.4**	**-0.2**
RCBR				IAmb	IAmb	00 18 31.8	
	comp=Z,27nm,0.8s						
RCBR	**Riachuelo**	**22.43**	**283**	P	**P**	**00 18 28.4**	**-1.2**
	comp=Z,9.7nm,0.7s,baz=113,slow=17,SNR=12						
RCBR				LR	LR	00 24 53.0	
	comp=Z,453nm,21.3s,baz=103,slow=31						
	comp=Z,9.7nm,0.7s						
RCBR	**Riachuelo**	**22.43**	**283**	*e*P	**P**	**00 18 29.4**	**-0.2**
GUA01	**Guaratinga, BA**	**25.49**	**256**	*e*P	**P**	**00 18 59.7**	**+0.6**
MBO	**M'Bour**	**26.10**	**353**		**P**	**00 19 03.5**	**-1.0**
BBTS	**Babate**	**26.32**	**354**	LR	LR	00 26 56.6	
	comp=Z,403nm,20.4s,baz=346,slow=31						
TORD	**Torodi Ar. Bea**	**29.18**	**33**	P	**P**	**00 19 32.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**29.18**	**33**	P	**P**	**00 19 31.9**	**-0.3**
	comp=Z,7.2nm,0.9s,baz=218,slow=10,SNR=51						
TORD				LR	LR	00 29 41.6	
	comp=Z,417nm,20.3s,baz=206,slow=33						
	comp=Z,7.2nm,0.9s						
TSUM	**Tsumeb**	**31.29**	**108**	LR	LR	00 29 44.9	
	comp=Z,827nm,21.7s,baz=276,slow=31						
WIN	**Windhoek**	**31.54**	**114**	P	**P**	**00 19 51.9**	**-1.4**
WIN				IAmb	IAmb	00 19 57.9	
	comp=Z,17nm,1.1s						
BDFB	**Brasilia**	**33.27**	**259**	P	**P**	**00 20 06.9**	**-1.6**
	comp=Z,3.5nm,0.7s,baz=99,slow=8.4,SNR=6.3						
BDFB				LR	LR	00 31 11.3	
	comp=Z,354nm,19.7s,baz=95,slow=32						
	comp=Z,3.5nm,0.7s						
BB19B	**Bebedouro**	**34.35**	**250**	*e*P	**P**	**00 20 17.8**	**0.0**
ITRB	**Iturama**	**35.85**	**253**	*e*P	**P**	**00 20 31.0**	**+0.4**
LDASE	**Londrina, Braz**	**37.15**	**247**	*e*P	**P**	**00 20 42.5**	**+0.8**
SUR	**Sutherland**	**38.00**	**128**	LR	LR	00 32 41.2	
	comp=Z,987nm,21.4s,baz=292,slow=30						
RPRD	**Ribas do Rio P**	**39.06**	**252**	*e*P	**P**	**00 20 58.9**	**+1.0**
TAM	**Tamanrasset**	**39.25**	**29**	P	**P**	**00 20 59.1**	**-0.4**
LBTB	**Lobatse**	**39.67**	**115**	P	**P**	**00 21 03.5**	**+0.4**
LBTB	**Lobatse**	**39.67**	**115**	LR	LR	00 34 31.6	
	comp=Z,603nm,22.0s,baz=278,slow=32						
BOSA	**Boshof**	**40.27**	**121**	P	**P**	**00 21 07.8**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=280,slow=6.1,SNR=1.7						
BOSA				LR	LR	00 34 30.6	
	comp=Z,851nm,21.7s,baz=274,slow=31						
	comp=Z,1.5nm,0.7s						
AQDB	**Aquidauana**	**40.92**	**252**	P	**P**	**00 21 13.4**	**+0.1**
AQDB				IAmb	IAmb	00 21 15.6	
	comp=Z,51nm,1.7s						
NPGB	**Novo Progresso**	**41.05**	**273**	*e*P	**P**	**00 21 14.1**	**-0.5**
LSZ	**Lusaka**	**41.12**	**100**	P	**P**	**00 21 14.6**	**-0.5**
PLTB	**Pedras Altas**	**41.56**	**235**	P	**P**	**00 21 19.6**	**+1.1**
PLTB				IAmb	IAmb	00 21 43.1	
	comp=Z,32nm,1.4s						
MATP	**Matopo**	**41.63**	**108**	LR	LR	00 35 58.5	
	comp=Z,359nm,21.6s,baz=244,slow=32						
PDRB	**Porto dos Gac**	**41.83**	**266**	*e*P	**P**	**00 21 21.0**	**+0.1**
BDQN	**Bodoquena, MS**	**41.90**	**252**	*e*P	**P**	**00 21 22.2**	**+0.8**
MDP	**Montagnes des**	**41.92**	**291**	LR	LR	00 35 59.0	
	comp=Z,270nm,21.5s,baz=105,slow=32						
MURT	**Porto Murtinho**	**42.82**	**251**	*e*P	**P**	**00 21 29.4**	**+0.6**
CPUP	**Villa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,231nm,19.8s,baz=106,slow=33						
SAML	**Samuel**	**48.43**	**268**	P	**P**	**00 22 13.2**	**-0.2**
SAML	**Samuel**	**48.43**	**268**	*e*P	**P**	**00 22 13.8**	**+0.3**
PVAQ	**Vaqueiros**	**49.20**	**7**	*e*LR	LR	00 38 04.0	
PVAQ				A	A	00 40 10.3	
	comp=Z,553nm,22.0s						
TRQA	**Tornquist**	**50.12**	**230**	P	**P**	**00 22 26.8**	**+0.7**
TRQA				IAmb	IAmb	00 22 34.0	
	comp=Z,11nm,1.1s						
PMRV	**Marv??o**	**51.24**	**7**	*e*LR	LR	00 37 30.6	
PMRV				A	A	00 41 17.6	
	comp=Z,570nm,20.0s						
ETMB	**Extrema**	**51.29**	**267**	P	**P**	**00 22 34.3**	**-0.8**
ETMB	**Extrema**	**51.29**	**267**	*e*P	**P**	**00 22 35.2**	**+0.1**
KMBO	**Kilima Mbogo**	**51.90**	**82**	P	**P**	**00 22 40.5**	**+0.5**
KMBO	**Kilima Mbogo**	**51.90**	**82**	P	**P**	**00 22 40.6**	**+0.6**
	comp=Z,0.4nm,0.2s,baz=239,slow=11,SNR=3.6						
KMBO				LR	LR	00 43 18.9	
	comp=Z,231nm,19.4s,baz=284,slow=34						
	comp=Z,0.4nm,0.2s						
ESDC	**Sonseca Array**	**51.96**	**10**	P	**P**	**00 22 40.0**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=177,slow=6.4,SNR=2.9						
ESDC				LR	LR	00 43 47.2	
	comp=Z,330nm,19.4s,baz=182,slow=35						
	comp=Z,0.6nm,0.7s						
KEST	**Kesra**	**52.08**	**24**	P	**P**	**00 22 40.8**	**+0.1**
	comp=Z,12nm,1.0s,baz=262,slow=8.0,SNR=4.4						
KEST				LR	LR	00 44 45.4	
	comp=Z,594nm,18.3s,baz=245,slow=36						
	comp=Z,12nm,1.0s						
MTE	**Manteigas**	**52.18**	**6**	*e*S	**S**	**00 30 15.1**	**+8.7**
MTE				*e*LR	LR	00 39 38.9	
MTE				A	A	00 41 44.6	
	comp=Z,444nm,20.0s						
KIBK	**Kibwezi**	**52.39**	**84**	P	**P**	**00 22 43.6**	**+0.1**
LPAZ	**La Paz**	**52.62**	**258**	P	**P**	**00 22 44.9**	**-0.9**
LPAZ	**La Paz**	**52.62**	**258**	P	**P**	**00 22 44.8**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=105,slow=4.7,SNR=6.6						
	comp=Z,1.9nm,0.7s						
MVO	**Moncorvo**	**53.00**	**7**	*e*LR	LR	00 38 45.7	
MVO				A	A	00 42 36.9	
	comp=Z,403nm,18.0s						
H05S1	**Guadeloupe/Mar**	**53.20**	**298**	T	T	01 20 11.4	
	SNR=34						
PGAV	**Gavieira, Arco**	**53.66**	**5**	*e*LR	LR	00 41 47.7	
PGAV				A	A	00 42 37.7	
	comp=Z,355nm,18.0s						
GO02	**Mina Guanaco**	**54.08**	**247**	P	**P**	**00 22 56.5**	**+0.4**
GO02				IAmb	IAmb	00 23 13.6	
	comp=Z,26nm,1.4s						
H05N1	**Guadeloupe/Mar**	**54.25**	**300**	T	T	01 21 31.8	
	SNR=13						
PB14	**IPOC Station P**	**54.79**	**248**	P	**P**	**00 23 01.4**	**+0.1**
PB14				IAmb	IAmb	00 23 16.1	
	comp=Z,24nm,1.1s						
PCRV	**Puerto La Cruz**	**54.83**	**291**	LR	LR	00 45 10.4	
	comp=Z,87nm,19.9s,slow=35						
GO03	**Copiapo**	**54.84**	**245**	P	**P**	**00 23 02.1**	**+0.8**
GO03				IAmb	IAmb	00 23 06.6	
	comp=Z,20nm,0.9s						
AC06	**Mina Casimiro**	**54.93**	**245**	P	**P**	**00 23 02.3**	**+0.5**
CO01	**Juntas del Tor**	**54.96**	**242**	P	**P**	**00 23 03.4**	**+1.0**
AC05	**El Transito**	**54.99**	**243**	P	**P**	**00 23 02.5**	**+0.1**
AC05				IAmb	IAmb	00 23 07.2	
	comp=Z,21nm,1.0s						
VAE	**Valguarnera**	**55.72**	**27**	LR	LR	00 45 49.3	
	comp=Z,652nm,18.6s,baz=322,slow=35						
FURI	**Furi**	**56.22**	**71**	LR	LR	00 44 55.8	
	comp=Z,436nm,20.9s,baz=254,slow=34						
PLCA	**Paso Flores**	**57.24**	**229**	LR	LR	00 43 51.7	
	comp=Z,61nm,21.0s,baz=74,slow=32						
VNA2	**Neumayer--Watz**	**59.32**	**177**	⇑P	**P**	**00 23 31.2**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=341,slow=6.0						
SJG	**San Juan**	**59.40**	**299**	LR	LR	00 43 57.3	
	comp=Z,71nm,19.1s,baz=114,slow=31						
IDI	**Anoyia**	**59.48**	**37**	LR	LR	00 50 09.5	
	comp=Z,101nm,20.3s,baz=254,slow=37						
SDV	**Santo Domingo**	**59.92**	**287**	LR	LR	00 47 06.1	
	comp=Z,169nm,21.5s,baz=85,slow=34						
SNAA	**Sanae**	**60.31**	**176**	P	**P**	**00 23 39.5**	**+0.4**
SNAA				IAmb	IAmb	00 23 53.8	
	comp=Z,6.8nm,0.9s						
SNAA	**Sanae**	**60.31**	**176**	⇑P	**P**	**00 23 40.1**	**+1.0**
	comp=Z,98nm,0.9s						
SNAA	**Sanae**	**60.31**	**176**	P	**P**	**00 23 40.6**	**+1.5**
	comp=Z,3.7nm,0.8s,baz=328,slow=6.3,SNR=11						
	comp=Z,3.7nm,0.8s						
ATD	**Arta Tunnel**	**60.98**	**70**	LR	LR	00 47 27.8	
	comp=Z,10nm,21.8s,baz=224,slow=33						
TROLL	**Troll, Antarti**	**61.09**	**174**	⇑P	**P**	**00 23 44.1**	**-0.4**
	comp=Z,62nm,0.8s						
NNA	**Nana**	**61.39**	**263**	LR	LR	00 49 51.2	
	comp=Z,246nm,19.4s,baz=89,slow=36						
DAVOX	**Davos/Dischmat**	**62.02**	**18**	P	**P**	**00 23 49.8**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=174,slow=19,SNR=2.9						
DAVOX				LR	LR	00 49 33.6	
	comp=Z,666nm,21.8s,baz=230,slow=35						
	comp=Z,1.9nm,0.7s						
ROSC	**El Rosal**	**62.22**	**282**	LR	LR	00 50 38.2	
	comp=Z,432nm,18.8s,baz=124,slow=36						
DAVA	**Damuels**	**62.48**	**18**	*i* P	**P**	**00 23 55.2**	**+1.0**
	comp=Z,12nm,1.3s						
FETA	**Feichten**	**62.50**	**19**	*i* P	**P**	**00 23 55.0**	**+0.7**
	comp=Z,6.2nm,1.1s						
EIL	**Elat**	**62.57**	**48**	LR	LR	00 50 03.3	
	comp=Z,252nm,19.2s,baz=249,slow=35						
SQTA	**Sankt Quirin**	**62.83**	**19**	*e*P	**P**	**00 23 57.1**	**+0.7**
	comp=Z,8.6nm,1.5s						
ABTA	**Abfaltersbach**	**62.84**	**20**	*i* P	**P**	**00 23 56.7**	**+0.2**
	comp=Z,6.3nm,1.0s						
MOTA	**Moosalm**	**62.91**	**19**	*e*P	**P**	**00 23 57.2**	**+0.1**
	comp=Z,7.3nm,1.4s						
RETA	**Reutte**	**62.93**	**19**	*i* P	**P**	**00 23 57.5**	**+0.5**
	comp=Z,7.6nm,1.5s						
MYKA	**Terra Mystica**	**63.13**	**21**	*i* P	**P**	**00 24 00.7**	**+2.3**
	comp=Z,6.2nm,1.0s						
PMSA	**Palmer Station**	**63.15**	**202**	LR	LR	00 44 20.3	
	comp=Z,139nm,21.2s,baz=44,slow=29						
OBKA	**Obir**	**63.35**	**22**	*e*P	**P**	**00 24 01.2**	**+1.3**
	comp=Z,11nm,1.5s						
LESA	**Schwarzleotal**	**63.49**	**20**	*e*P	**P**	**00 24 02.4**	**+1.6**
	comp=Z,2.1nm,0.6s						
ATAH	**Atahualpa**	**63.60**	**268**	LR	LR	00 50 16.4	
	comp=Z,330nm,21.3s,baz=105,slow=35						
SOKA	**Soboth**	**63.67**	**22**	*i* P	**P**	**00 24 03.4**	**+1.4**
	comp=Z,9.6nm,1.5s						
BIOA	**Bad Ischl, Aus**	**64.05**	**20**	*i* P	**P**	**00 24 05.2**	**+0.8**
	comp=Z,1.8nm,0.8s						
ELIB	**Princess Elisa**	**64.25**	**168**	*d*P	**P**	**00 24 06.1**	**+0.5**
	comp=Z,5.6nm,1.0s						
ARSA	**Arzberg**	**64.33**	**22**	*e*P	**P**	**00 24 06.9**	**+0.6**
	comp=Z,8.5nm,1.8s						
MOA	**Molln**	**64.40**	**21**	*i* P	**P**	**00 24 07.4**	**+0.7**
	comp=Z,7.4nm,1.3s						
MMAI	**Mount Meron Ar**	**64.76**	**45**	LR	LR	00 51 09.7	
	comp=Z,114nm,21.2s,baz=161,slow=35						
RONA	**Rosalia, Austr**	**65.00**	**22**	*i* P	**P**	**00 24 12.7**	**+2.1**
	comp=Z,14nm,1.4s						
CONA	**Conrad Observa**	**65.03**	**22**	*i* P	**P**	**00 24 11.8**	**+0.9**
	comp=Z,8.5nm,1.4s						
GEC2	**GERESS Array S**	**65.06**	**20**	P	**P**	**00 24 10.9**	**-0.2**
GEC2				IAmb	IAmb	00 24 13.2	
	comp=Z,22nm,1.7s						
GERES	**GERESS Array B**	**65.06**	**20**	P	**P**	**00 24 10.7**	**-0.4**
GERES	**GERESS Array B**	**65.06**	**20**	P	**P**	**00 24 10.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=191,slow=8.0,SNR=5.9						
	comp=Z,0.3nm,0.3s						
KHC	**Kasperske Hory**	**65.27**	**20**	*e*P	**P**	**00 24 12.5**	**+0.1**
SRO	**Srobarova**	**65.85**	**23**	*e*P	P	00 24 25.9	+10
MODS	**Modra-Piesok**	**65.92**	**22**	*e*P	P	00 24 26.4	+10
VRAC	**Vranov**	**66.45**	**21**	LR	LR	00 54 28.7	
	comp=Z,196nm,18.2s,baz=230,slow=37						
PSZ	**Piszkesteto**	**66.56**	**24**	P	**P**	**00 24 21.4**	**+0.7**
PSZ				IAmb	IAmb	00 24 37.4	
	comp=Z,16nm,1.1s						
VYHS	**Vyhne**	**66.61**	**23**	*e*P	P	00 24 29.8	+8.8
BRG	**Berggiesshubel**	**66.90**	**19**	*e*P	P	00 24 32.0	+9.2
BRG				Amp		00 24 33.0	
	comp=Z,3.0nm,0.9s						
BRG	**Berggiesshubel**	**66.90**	**19**	S	S	00 33 28.0	+12
CLL	**Collm**	**66.99**	**18**	*e*S	S	00 33 28.0	+11
CLL				*e*SS	**SS**	**00 37 37.0**	**+1.0**
CLL				*e*SSS	SSS	00 40 52.0	
CLL				AMS	AMS	00 49 00.0	
	comp=N,400nm,21.3s						
CLL				AMS	AMS	00 49 00.0	
	comp=E,200nm,21.6s						
KECS	**Kecovo**	**67.25**	**24**	*e*P	P	00 24 34.5	+9.5
MLR	**Muntele Rosu**	**67.36**	**29**	P	**P**	**00 24 25.8**	**-0.2**
MLR	**Muntele Rosu**	**67.36**	**29**	P	**P**	**00 24 26.4**	**+0.5**
	comp=E,12nm,1.2s,baz=131,slow=7.0,SNR=6.5						
MLR				LR	LR	00 54 04.9	
	comp=E,345nm,20.3s,baz=239,slow=36						
	comp=E,12nm,1.2s						
MLR	**Muntele Rosu**	**67.36**	**29**	P	**P**	**00 24 26.3**	**+0.4**
	comp=E,18nm,1.2s						
LANS	**Liptovska Anna**	**67.39**	**23**	*e*P	P	00 24 37.2	+11
EKA	**Eskdalemuir Ar**	**67.40**	**7**	P	**P**	**00 24 26.7**	**+0.9**
	comp=E,1.5nm,0.8s,baz=170,slow=8.6,SNR=2.2						
	comp=E,1.5nm,0.8s						
BR105	**Keskin Array S**	**67.60**	**38**	P	**P**	**00 24 28.0**	**+0.4**
	comp=E,4.2nm,1.1s						
BR104	**Keskin Array S**	**67.61**	**38**	P	**P**	**00 24 29.0**	**+1.3**
	comp=E,3.5nm,0.9s						
BRTR	**Keskin Array B**	**67.62**	**38**	P	**P**	**00 24 28.2**	**+0.5**
	comp=E,2.6nm,1.2s,baz=209,slow=7.1,SNR=7.0						
BRTR				LR	LR	00 55 34.6	
	comp=E,87nm,19.0s,baz=238,slow=37						
	comp=E,2.6nm,1.2s						
RAYN	**Ar Rayn**	**67.89**	**59**	P	**P**	**00 24 29.3**	**-0.4**
BERU	**Beregovo**	**67.94**	**25**	P	**P**	**00 24 30.4**	**+1.0**
UZHM	**Uzhgorod**	**68.10**	**25**	P	**P**	**00 24 30.4**	**+0.1**
BRIU	**Brid**	**68.18**	**26**	P	**P**	**00 24 29.9**	**-1.0**
KOLS	**Kolonicke sedl**	**68.33**	**25**	*e*P	P	00 24 42.8	+11
GAZ	**Gaziantep**	**68.35**	**42**	P	**P**	**00 24 32.5**	**+0.2**
GAZ				IAmb	IAmb	00 24 35.2	
	comp=Z,17nm,1.4s						
OJC	**Ojcow**	**68.38**	**23**	P	**P**	**00 24 32.3**	**+0.2**
OJC				IAmb	IAmb	00 24 48.5	
	comp=Z,13nm,1.2s						
BNN	**Bunyan**	**68.45**	**40**	P	**P**	**00 24 32.9**	**-0.1**
MSEY	**Mahe Island**	**68.97**	**91**	P	**P**	**00 24 34.9**	**-1.8**
KMPD	**K-Podol'skiy**	**69.85**	**27**	P	**P**	**00 24 41.1**	**-0.1**
	comp=Z,1μm,1.0s						
BAL3X	**Bal3x, Balta**	**70.86**	**29**	P	**P**	**00 24 48.5**	**+1.0**
LUBAR	**Lubar, Ukraine**	**71.42**	**27**	P	**P**	**00 24 51.0**	**+0.2**
RNPP9	**Sopachiv**	**71.72**	**25**	P	**P**	**00 24 53.0**	**+0.4**
AK13	**Malin Array Si**	**72.50**	**27**	P	**P**	**00 24 57.7**	**+0.4**
AK13				pP	**pP**	**00 25 01.1**	**+2.5**
AK19	**Malin Array Si**	**72.56**	**27**	P	**P**	**00 24 58.1**	**+0.5**
AK16	**Malin Array Si**	**72.56**	**27**	P	**P**	**00 24 57.3**	**-0.3**
AK12	**Malin Array Si**	**72.57**	**27**	P	**P**	**00 24 57.0**	**-0.7**
AK02	**Malin Array Si**	**72.60**	**27**	P	**P**	**00 24 57.5**	**-0.4**
KIEV	**Kiev**	**72.63**	**27**	P	**P**	**00 24 58.2**	**+0.2**
KIEV				IAmb	IAmb	00 25 07.9	
	comp=Z,23nm,1.2s						
AKASG	**Malin Array Be**	**72.64**	**27**	P	**P**	**00 24 57.5**	**-0.6**
AKASG				IAmb	IAmb	00 25 07.6	
	comp=Z,15nm,1.2s						
AKASG	**Malin Array Be**	**72.64**	**27**	P	**P**	**00 24 57.1**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=230,slow=6.9,SNR=18						
AKASG				LR	LR	00 58 21.6	
	comp=Z,263nm,20.1s,baz=237,slow=37						
	comp=Z,1.7nm,0.7s						
AKBB	**Malin Array Si**	**72.64**	**27**	P	**P**	**00 24 58.0**	**-0.1**
AKBB	**Malin Array Si**	**72.64**	**27**	P	**P**	**00 24 58.8**	**+0.7**
MAW	**Mawson**	**74.24**	**157**	P	**P**	**00 25 07.7**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=290,slow=9.8,SNR=2.3						
MAW				LR	LR	00 50 40.5	
	comp=Z,151nm,20.4s,baz=293,slow=30						
	comp=Z,2.0nm,0.7s						
NACGM	**Naroch**	**74.70**	**23**	*e*P	P	00 25 06.4	-3.7
	comp=E,561nm,0.8s						
GNI	**Garni**	**74.92**	**43**	LR	LR	01 01 02.2	
	comp=E,34nm,18.8s,baz=255,slow=38						
HFS	**Hagfors**	**74.95**	**14**	LR	LR	00 58 07.6	
	comp=E,159nm,19.4s,baz=228,slow=36						
NOA	**NORSAR Array B**	**75.21**	**12**	P	**P**	**00 25 11.1**	**-2.0**
	comp=E,0.8nm,1.1s,baz=193,slow=7.9,SNR=1.4						
NOA				LR	LR	00 57 09.7	
	comp=E,209nm,19.9s,baz=210,slow=35						
	comp=E,0.8nm,1.1s						
NC405	**NORSAR Array S**	**75.39**	**13**	P	**P**	**00 25 14.9**	**+0.9**
PKME	**Peaks-Kenny Pk**	**75.47**	**323**	P	**P**	**00 25 16.2**	**+1.5**
KIV	**Kislovodsk**	**75.57**	**39**	P	**P**	**00 25 14.8**	**-0.8**
KIV				IAmb	IAmb	00 25 47.9	
	comp=Z,16nm,1.1s						
KBZ	**Khabaz**	**75.58**	**39**	P	**P**	**00 25 15.9**	**+0.5**
	comp=Z,2.8nm,1.0s,baz=279,slow=15,SNR=1.0						
KBZ				LR	LR	01 01 40.0	
	comp=Z,66nm,18.9s,baz=260,slow=38						
	comp=Z,2.8nm,1.0s						
DWPF	**Disney Wildern**	**76.27**	**303**	P	**P**	**00 25 18.8**	**-0.9**
BORG	**Borgarnes**	**76.43**	**357**	LR	LR	00 54 59.2	
	comp=Z,119nm,19.4s,baz=166,slow=33						
QSPA	**South Pole Qui**	**78.44**	**180**	P	**P**	**00 25 32.6**	**+1.2**
QSPA				IAmb	IAmb	00 25 54.7	
	comp=Z,13nm,1.1s						
QSPA	**South Pole Qui**	**78.44**	**180**	P	**P**	**00 25 31.3**	**-0.1**
	comp=Z,3.3nm,0.6s,baz=234,slow=1.5,SNR=2.8						
QSPA				LR	LR	00 55 09.0	
	comp=Z,146nm,19.9s,baz=216,slow=32						
	comp=Z,3.3nm,0.6s						
OBN	**Obninsk**	**78.90**	**27**	LR	LR	01 02 13.1	
	comp=Z,338nm,19.2s,baz=192,slow=37						
WSAR	**Wadi Sarin**	**79.04**	**63**	LR	LR	01 01 53.0	
	comp=Z,163nm,18.0s,baz=254,slow=37						
FINES	**FINESS Array B**	**79.43**	**18**	P	**P**	**00 25 37.3**	**+0.7**
FINES	**FINESS Array B**	**79.43**	**18**	P	**P**	**00 25 36.1**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=237,slow=6.1,SNR=7.6						
FINES				LR	LR	01 00 30.1	
	comp=Z,271nm,20.4s,baz=230,slow=36						
	comp=Z,0.8nm,0.5s						
SCHQ	**Schefferville**	**79.76**	**332**	LR	LR	00 55 49.5	
	comp=Z,166nm,21.3s,baz=151,slow=32						
TKL	**Tuckaleechee C**	**80.88**	**309**	LR	LR	00 53 44.0	
	comp=Z,110nm,20.8s,baz=174,slow=30						
SADO	**Sadowa**	**81.28**	**319**	LR	LR	00 55 44.2	
	comp=Z,225nm,18.8s,baz=77,slow=31						
BELG	**Belogornoye**	**82.76**	**33**	LR	LR	01 03 18.5	
	comp=Z,67nm,20.5s,baz=257,slow=36						
SFJD	**Kangerlussuaq**	**82.91**	**346**	LR	LR	00 56 39.1	
	comp=Z,66nm,21.0s,baz=150,slow=31						
ARCES	**ARCESS Array B**	**85.58**	**13**	LR	LR	01 04 19.7	
	comp=Z,168nm,18.3s,baz=231,slow=36						
FRB	**Frobisher Bay**	**85.87**	**339**	LR	LR	00 57 56.2	
	comp=Z,56nm,18.8s,baz=116,slow=31						
KIRV	**Kirov**	**86.68**	**28**	LR	LR	01 07 05.7	
	comp=Z,261nm,19.1s,baz=250,slow=37						
AKTO	**Aktyubinsk**	**87.79**	**37**	LR	LR	01 08 31.2	
	comp=Z,78nm,20.4s,baz=132,slow=38						
ABKAR	**Akbulak array**	**88.55**	**39**	P	**P**	**00 26 23.5**	**+0.1**
ABKAR				IAmb	IAmb	00 26 34.0	
	comp=Z,5.7nm,1.1s						
ABKAR	**Akbulak array**	**88.55**	**39**	P	**P**	**00 26 23.3**	**-0.1**
RPN	**Rapa Nui**	**89.42**	**243**	LR	LR	01 00 05.2	
	comp=Z,65nm,20.3s,baz=83,slow=31						
ARTI	**Arti**	**90.15**	**32**	P	**P**	**00 26 28.7**	**-2.0**
ARTI				IAmb	IAmb	00 26 41.7	
	comp=Z,6.1nm,1.0s						
ARTI	**Arti**	**90.15**	**32**	LR	LR	01 10 23.9	
	comp=Z,125nm,18.1s,baz=264,slow=38						
OK031	**S. Brethren Rd**	**91.09**	**306**	P	**P**	**00 26 33.6**	**-2.1**
SPITS	**Spitsbergen Ar**	**91.32**	**6**	LR	LR	01 04 01.4	
	comp=Z,63nm,21.8s,baz=173,slow=33						
ULM	**Lac du Bonnet**	**93.78**	**320**	LR	LR	01 02 10.6	
	comp=Z,220nm,18.5s,baz=118,slow=31						
TXAR	**Lajitas Array**	**95.37**	**299**	P	**P**	**00 26 55.1**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=108,slow=6.8,SNR=4.1						
	comp=Z,0.5nm,0.8s						
BVAR	**Borovoye Array**	**95.89**	**37**	P	**P**	**00 26 57.5**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=242,slow=3.1,SNR=2.8						
BVAR				LR	LR	01 15 02.6	
	comp=Z,126nm,19.2s,baz=266,slow=38						
	comp=Z,0.4nm,0.7s						
AAK	**Ala-Archa**	**96.71**	**48**	LR	LR	01 12 08.9	
	comp=Z,129nm,19.3s,baz=266,slow=36						
TAOE	**Nuku Hiva Isla**	**122.71**	**251**	*e*LR	LR	01 10 21.1	
	comp=Z,150nm,31.3s						
TBI	**Tubuai**	**124.22**	**231**	*e*LR	LR	01 10 59.8	
	comp=Z,495nm,26.2s						
HHC	**Hu-ho-hao-te**	**124.29**	**48**	*e*P	**PKPdf**	**00 32 25.0**	**-5.1**
PPT2	**Papeete2**	**127.36**	**237**	*e*LR	LR	01 12 30.3	
	comp=Z,93nm,24.2s						
NJ2	**Nanjing**	**132.22**	**57**	*e*P	**PKPdf**	**00 32 45.3**	**0.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WRA	**Warramunga Arr**	**135.71**	**135**	PKP	**PKPdf**	**00 32 52.6**	**+0.3**
	comp=Z,0.9nm,1.1s,baz=249,slow=2.7,SNR=3.0						

ATH 27 00:14:10.9, 37°.66N×20°.54E, h12km±2km, ML2.5/5, Error ellipse: s-maj=3.8km s-min=1.0km az=45.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.24**	**78**	P	Pg	00 14 15.7	-0.3
LTHK				S	Sg	00 14 18.8	-0.6
LTHK				AML	AML	00 14 19.5	
	comp=N,2782μm,0.3s						
LTHK				AML	AML	00 14 21.9	
	comp=E,2583μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.45**	**4**	P	Pg	00 14 19.9	0.0
PSDA				S	Sg	00 14 26.5	+0.5
VLS	**Valsamata**	**0.52**	**4**	P	Pg	00 14 20.8	-0.3
VLS				S	Sg	00 14 28.1	+0.1
VLS				AML	AML	00 14 29.0	
	comp=E,1204μm,0.4s						
VLS				AML	AML	00 14 30.1	
	comp=N,782μm,0.2s						
DMLN	**Damoulianata-K**	**0.59**	**347**	P	Pg	00 14 22.4	-0.1
DMLN				S	Sg	00 14 30.9	+0.5
SMHA	**Samh**	**0.60**	**8**	P	Pg	00 14 21.5	-1.1
SMHA				S	Sg	00 14 30.6	+0.1
SMHA				AML	AML	00 14 31.8	
	comp=E,3463μm,0.2s						
SMHA				AML	AML	00 14 34.5	
	comp=N,3224μm,0.3s						
FSK	**Fiskardo**	**0.80**	**1**	P	Pg	00 14 25.7	-0.7
FSK				S	Sb	00 14 37.2	-0.2
RLS	**Riolos of Patr**	**0.83**	**61**	P	Pg	00 14 26.6	-0.4
AMT	**Artemida-Makis**	**0.94**	**97**	P	Pg	00 14 29.0	0.0
AMT				AML	AML	00 14 46.7	
	comp=N,891μm,0.2s						
AMT				AML	AML	00 14 49.1	
	comp=E,1002μm,0.3s						
EVGI	**Lefkada island**	**0.96**	**5**	P	Pg	00 14 28.7	-0.9
DRO	**Drossia**	**0.97**	**72**	P	Pg	00 14 28.6	-1.0
DRO				AML	AML	00 14 49.0	
	comp=N,220μm,0.4s						
DRO				AML	AML	00 14 49.0	
	comp=E,382μm,0.4s						
NYDR	**Nydri-Lefkada**	**1.06**	**7**	P	Pb	00 14 30.1	-1.0
ITM	**Ithomi**	**1.20**	**113**	P	Pn	00 14 33.2	-0.3
PYL	**PYLOS**	**1.22**	**128**	P	Pb	00 14 34.0	0.0
KLV	**Kalavryta, Ach**	**1.33**	**73**	P	Pn	00 14 34.7	-0.6

ATH 27 00:14:46.4, 37°.60N×20°.67E, h9km±1km, ML2.3/4, Manual Solution by M.Kolligri This location: 2020/07/02 04:46:20 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 3 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.13**	**63**	P	Pg	00 14 49.9	+0.5
KRI1				S	Sg	00 14 51.6	+0.1
LTHK	**Lithakia**	**0.17**	**51**	P	Pg	00 14 50.1	+0.1
LTHK				S	Sg	00 14 51.7	-0.8
PSDA	**Pessada-Kefalo**	**0.52**	**353**	P	Pg	00 14 55.5	-0.9
PSDA				S	Sg	00 15 03.5	+0.3
VLS	**Valsamata**	**0.58**	**354**	P	Pg	00 14 57.6	0.0
AMT	**Artemida-Makis**	**0.83**	**95**	P	Pb	00 15 02.7	-0.3

CATAC ***27*** *00:39:17.6±0.4, 12°.85N×90°.50W, h20km, ML3.8*
GCG ***27*** *00:39:20.1±0.6, 13°.10N×90°.72W, h3km±9km, MD4.0*
SNET ***27*** *00:39:21.0±2.5, 13°.04N×90°.29W, h19km, ML3.6*

ISC 27 00:39:16.5±2.2, 12°.90N±0°.06×90°.55W±0°.04, h18km±5km, n62, σ0°68/91, 1C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.24**	**37**	*e*P	**Pn**	**00 39 38.6**	**-0.5**
NUBE				*e*S	**Sb**	**00 39 54.4**	**-0.9**
NUBE	**Las Nubes**	**1.24**	**37**	*i* P	**Pn**	**00 39 38.6**	**-0.5**
NUBE				*i* S	**Sb**	**00 39 54.6**	**-0.7**
NUBE				IAML		00 39 57.4	
	comp=Z,780nm,1.0s						
CEVE	**Cerro Verde**	**1.29**	**44**	*e*P	**Pn**	**00 39 39.5**	**-0.3**
CEVE				*e*S	**Sn**	**00 39 57.0**	**+0.3**
CEVE	**Cerro Verde**	**1.29**	**44**	*i* P	**Pn**	**00 39 39.6**	**-0.2**
CEVE				*i* S	**Sb**	**00 39 57.5**	**+0.9**
CEVE				IAML		00 40 00.5	
	comp=Z,3μm,1.0s						
SBLS	**San Blas**	**1.30**	**44**	*e*P	**Pn**	**00 39 39.4**	**-0.5**
SBLS				*e*S	**Sn**	**00 39 56.3**	**-0.5**
JAYA	**Jayaque - fin

ESQI	**Esquipulas**	**2.02**	**35**	*eP*		**Pn**	**00 39 50.4**	**+0.7**
ESQI	**Esquipulas**	**2.02**	**35**	*i* P		**Pn**	**00 39 50.8**	**+1.0**
ESQI				*i* S		**Sb**	**00 40 17.5**	**-0.2**
ESQI				IAML			00 40 37.7	
	comp=Z,550nm,1.0s							
STG3	**Santiaguito 3,**	**2.06**	**331**	‖ *iP*		**Pb**	**00 39 52.4**	**-1.0**
STG3				‖ *iS*		**Sb**	**00 40 17.4**	**-1.3**
SOKI	**Kika Raxquin**	**2.08**	**337**	*i* P		**Pb**	**00 39 52.5**	**-1.5**
SOKI				*i* S		**Sb**	**00 40 20.1**	**+0.5**
SOKI				IAML			00 40 22.1	
	comp=Z,440nm,1.0s							
PACA	**Pacayal**	**2.24**	**75**	*eP*		**Pn**	**00 39 53.6**	**+0.9**
PACA	**Pacayal**	**2.24**	**75**	*i* P		**Pn**	**00 39 53.4**	**+0.6**
PACA				*i* S		**Sb**	**00 40 22.5**	**-1.4**
PACA				IAML			00 40 30.0	
	comp=Z,2μm,1.0s							
LCY	**Lacayo**	**2.25**	**76**	*eP*		**Pn**	**00 39 53.3**	**+0.3**
RANC	**El Ranchito**	**2.26**	**76**	*eP*		**Pn**	**00 39 53.7**	**+0.6**
RANC	**El Ranchito**	**2.26**	**76**	*i* P		**Pn**	**00 39 53.4**	**+0.3**
RANC				*i* S		**Sn**	**00 40 21.9**	**+1.3**
RANC				IAML			00 41 23.1	
	comp=Z,430nm,1.0s							
BLLM	**Bellamira**	**2.31**	**76**	*eP*		**Pn**	**00 39 53.9**	**+0.2**
MRL	**Marmol**	**2.32**	**21**	‖ *iP*		**Pb**	**00 39 58.2**	**+0.2**
QUIS	**Sacapulas**	**2.43**	**348**	*i* P		**Pb**	**00 39 59.1**	**-0.7**
QUIS				*i* S		**Sb**	**00 40 28.3**	**-1.2**
QUIS				IAML			00 40 31.7	
	comp=Z,640nm,1.0s							
LCND	**La Caada**	**2.62**	**81**	*eP*		**Pn**	**00 39 58.2**	**+0.3**
LCND	**La Caada**	**2.62**	**81**	*i* P		**Pn**	**00 39 58.5**	**+0.6**
LCND				IAML			00 40 41.7	
	comp=Z,180nm,1.0s							
CNCH	**Conchagua**	**2.67**	**82**	*eP*		**Pn**	**00 39 58.4**	**-0.3**
CNCH	**Conchagua**	**2.67**	**82**	*i* P		**Pn**	**00 39 58.6**	**-0.1**
CNCH				*i* S		**Sn**	**00 40 32.2**	**+1.5**
CNCH				IAML			00 40 42.6	
	comp=Z,420nm,1.0s							
CSGN	**Cosiguina Volc**	**2.92**	**88**	*i* P		**Pn**	**00 40 02.5**	**+0.5**
CSGN				*i* S		**Sn**	**00 40 37.7**	**+1.1**
CSGN				IAML			00 40 50.5	
	comp=Z,40nm,1.0s							
COMHN	**El Horno**	**3.29**	**62**	*i* P		**Pn**	**00 40 09.0**	**+1.7**
TGUH	**Tegucigalpa,Un**	**3.39**	**70**	*i* P		**Pn**	**00 40 09.1**	**+0.5**
TGUH				IAML			00 41 11.3	
	comp=Z,86nm,1.0s							
CRIN	**San Cristobal**	**3.42**	**93**	*i* P		**Pn**	**00 40 08.8**	**-0.1**
CRIN				*i* S		**Sn**	**00 40 48.0**	**-1.0**
CRIN				IAML			00 41 02.1	
	comp=Z,320nm,1.0s							
YUSH	**Yuscaran**	**3.75**	**73**	*i* P		**Pn**	**00 40 13.6**	**0.0**
MOMN	**Momotombo**	**3.94**	**97**	*i* P		**Pn**	**00 40 16.3**	**+0.2**
MOMN				IAML			00 40 32.2	
	comp=Z,2.9nm,1.0s							
PETF	**Flores**	**4.05**	**9**	*i* P		**Pn**	**00 40 19.1**	**+1.6**
PETF				IAML			00 41 24.0	
	comp=Z,220nm,1.0s							
LIMN	**Finca el Limon**	**4.08**	**87**	*i* P		**Pn**	**00 40 17.7**	**-0.4**
LIMN				IAML			00 40 23.2	
	comp=Z,46nm,1.0s							
RCFN	**Al S de San Ju**	**4.27**	**81**	*i* P		**Pn**	**00 40 21.5**	**+0.8**
RCFN				IAML			00 40 44.6	
	comp=Z,380nm,1.0s							

*SJA **27** 00:49:21.4±0.8, 20°.41S×69°.34W, h110km±4km, ML3.6, MW3.6*
*GUC **27** 00:49:22.8±0.8, 20°.40S×69°.31W, h106km±3km, ML3.5*
ISC 27 00:49:21.1±1.6, **20°.41S**±0°.04×**69°.34W**±0°.06, **h116**km±9km, **n24**, σ0s**72**/42, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PX03	**IPOC Station P**	**0.27**	**271**	*eP*	**Pn**	**00 49 37.1**	**-0.6**
PX03				*eS*	**Sn**	**00 49 49.1**	**-0.9**
PB08	**IPOC Station P**	**0.32**	**33**	*eP*	**Pn**	**00 49 38.3**	**+0.1**
PB08				*i* S	**Sn**	**00 49 50.2**	**-0.7**
PB08				IAML		00 49 51.8	
	comp=N,1μm,0.3s						
PB08	**IPOC Station P**	**0.32**	**33**	*eP*	**Pn**	**00 49 38.1**	**-0.1**
PB08				*eS*	**Sn**	**00 49 50.4**	**-0.6**
PB08				IAML		00 49 51.2	
	comp=Z,981nm,0.2s						
HMBC	**Humberstone**	**0.53**	**284**	*eP*	**Pn**	**00 49 39.3**	**+0.3**
HMBC				*i* S	**Sn**	**00 49 52.1**	**-0.3**
HMBC				IAML		00 49 54.6	
	comp=N,3μm,0.4s						
HMBC	**Humberstone**	**0.53**	**284**	*eP*	**Pn**	**00 49 38.6**	**-0.4**
HMBC				*eS*	**Sn**	**00 49 52.6**	**+0.2**
HMBC				IAML		00 49 54.1	
	comp=Z,2μm,0.4s						
PB01	**IPOC Station P**	**0.64**	**192**	*eP*	**Pn**	**00 49 40.3**	**+0.5**
PB01				*i* S	**Sn**	**00 49 53.4**	**-0.4**
PB01				IAML		00 49 54.3	
	comp=E,4μm,0.2s						
PB01	**IPOC Station P**	**0.64**	**192**	*eP*	**Pn**	**00 49 40.0**	**+0.2**
PB01				*eS*	**Sn**	**00 49 53.6**	**-0.3**
PB01				IAML		00 49 54.2	
	comp=Z,2μm,0.2s						
GO01	**Chusmiza**	**0.75**	**11**	*eP*	**Pn**	**00 49 41.6**	**+0.5**
GO01				*i* S	**Sn**	**00 49 55.9**	**-0.2**
GO01				IAML		00 49 56.4	
	comp=N,3μm,0.4s						
GO01	**Chusmiza**	**0.75**	**11**	*eP*	**Pn**	**00 49 41.4**	**+0.3**
GO01				*eS*	**Sn**	**00 49 56.5**	**+0.5**
TA02	**Huaiquique**	**0.75**	**280**	*eP*	**Pn**	**00 49 41.2**	**+0.7**
TA02				*i* S	**Sn**	**00 49 54.5**	**-0.7**
TA02	**Huaiquique**	**0.75**	**280**	*eP*	**Pn**	**00 49 41.3**	**+0.7**
TA02				*eS*	**Sn**	**00 49 55.2**	**+0.1**
TA02				IAML		00 49 56.2	
	comp=Z,2μm,0.1s						
TA01	**Diego Aracena**	**0.80**	**259**	*eP*	**Pn**	**00 49 41.5**	**+0.5**
TA01				*i* S	**Sn**	**00 49 55.1**	**-0.7**
TA01				IAML		00 49 56.6	
	comp=E,2μm,0.2s						
TA01	**Diego Aracena**	**0.80**	**259**	*eP*	**Pn**	**00 49 41.4**	**+0.5**
TA01				*eS*	**Sn**	**00 49 56.2**	**+0.3**
TA01				IAML		00 49 56.3	
	comp=Z,631nm,0.5s						
PATCX	**Punta Patache**	**0.86**	**242**	*eP*	**Pn**	**00 49 42.5**	**+0.9**
PATCX				*eS*	**Sn**	**00 49 57.1**	**0.0**
PATCX				IAML		00 49 59.2	
	comp=Z,2μm,0.7s						
PB09	**IPOC Station P**	**1.38**	**176**	*eP*	**Pn**	**00 49 48.4**	**+1.2**
PB09				*i* S	**Sn**	**00 50 07.3**	**+0.4**
PB09				IAML		00 50 09.1	
	comp=N,913nm,0.4s						
PB09	**IPOC Station P**	**1.38**	**176**	*eP*	**Pn**	**00 49 48.3**	**+1.2**
PB09				*eS*	**Sn**	**00 50 08.3**	**+1.4**
PB09				IAML		00 50 10.0	
	comp=Z,776nm,0.4s						
PB12	**IPOC Station P**	**2.01**	**332**	*eP*	**Pn**	**00 49 55.1**	**+0.4**
PB12				*i* S	**Sn**	**00 50 19.9**	**-0.5**
PB12				IAML		00 50 22.4	
	comp=N,181nm,0.2s						
PB12	**IPOC Station P**	**2.01**	**332**	*eP*	**Pn**	**00 49 55.3**	**+0.5**
PB04	**IPOC Station P**	**2.06**	**201**	*eP*	**Pn**	**00 49 55.8**	**+0.5**
PB04				*i* S	**Sn**	**00 50 20.3**	**-1.1**
PB04				IAML		00 50 22.0	
	comp=E,480nm,0.2s						
PB04	**IPOC Station P**	**2.06**	**201**	*eP*	**Pn**	**00 49 56.0**	**+0.7**
PB04				*eS*	**Sn**	**00 50 20.7**	**-0.7**
PB04				IAML		00 50 24.4	
	comp=Z,371nm,0.2s						
AF01	**San Pedro de A**	**2.75**	**157**	*eP*	Pn	00 50 19.8	+15
AF01				*eS*	Sn	00 50 50.0	+12
AF01				IAML		00 51 29.1	
	comp=Z,155nm,0.6s						
LPAZ	**La Paz**	**4.26**	**16**	*eP*	Pn	00 50 14.8	-10
PB14	**IPOC Station P**	**4.31**	**193**	*eP*	**Pn**	**00 50 24.2**	**-0.8**
PB14				IAML		00 51 17.1	
	comp=Z,30nm,0.2s						
GO02	**Mina Guanaco**	**4.74**	**183**	*eP*	**Pn**	**00 50 31.2**	**+0.4**
GO02				*eS*	**Sn**	**00 51 22.9**	**-1.9**

NEIC 27 00:50:21.1±1.9, **38°.75N**±0°.01×**97°.57W**±0°.01, **h5**km±1km, **mb_Lg2.4**/11, **Error ellipse: s-maj=3.0km s-min=2.3km az=171.0, Kansas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSU1	**Kansas State U**	**0.83**	**64**	Pg	Pg	00 50 37.0	+0.1
KSU1				Sg	Sg	00 50 47.8	+0.2
R32A	**Long Quarter,**	**0.95**	**251**	Pg	Pg	00 50 39.2	-0.1
R32A				Sg	Sg	00 50 52.1	+0.4
KAN12	**Harper NE Stat**	**1.49**	**193**	Pg	Pn	00 50 48.6	+0.1
KAN08	**Anthony NE Sta**	**1.55**	**192**		Pn	00 50 49.7	+0.3
KAN01	**Argonia South**	**1.60**	**186**		Pn	00 50 49.8	-0.1
KAN01				IAmb_Lg		00 51 13.8	
	comp=Z,19nm,0.7s						
KAN09	**Caldwell North**	**1.61**	**182**		Pb	00 50 51.3	0.0
CBKS	**Cedar Bluff**	**1.70**	**273**		Pb	00 50 52.3	-0.5
KAN17	**Caldwell West**	**1.71**	**185**	Pg	Pb	00 50 53.1	+0.2
KAN13	**South Haven SW**	**1.73**	**178**		Pb	00 50 53.6	+0.3
KAN14	**Manchester OK**	**1.81**	**190**	Pn	Pn	00 50 53.0	+0.1
GC02	**Grant County #**	**1.91**	**187**	Pn	Pn	00 50 54.0	-0.2
BLOK	**Blackwell**	**2.00**	**172**	Pn	Pn	00 50 54.9	-0.6
T35A	**Sooner Cattle**	**2.01**	**155**	IAmb_Lg		00 51 25.0	
	comp=Z,32nm,0.9s						
CROK	**Carrier**	**2.26**	**189**	Pn	Pn	00 50 59.2	+0.1
NOKA	**Waynoka**	**2.37**	**208**	Pn	Pn	00 51 00.4	-0.2
N35A	**Tabor**	**2.58**	**34**	Pn	Pn	00 51 03.3	-0.2
QUOK	**Quay**	**2.66**	**165**	Pn	Pn	00 51 04.8	+0.2
OK052	**Battle Ridge R**	**2.81**	**167**	Pn	Pn	00 51 06.1	-0.6
ELIS	**Ellis County**	**3.06**	**209**	Pn	Pn	00 51 10.5	+0.4
TUL3	**Leonard**	**3.16**	**153**	Pn	Pn	00 51 12.5	+1.0
TUL3				IAmb_Lg		00 52 07.2	
	comp=Z,16nm,0.9s						
P38A	**Dawn**	**3.25**	**73**	Pn	Pn	00 51 13.6	+0.8
P38A				IAmb_Lg		00 52 07.6	
	comp=Z,10nm,0.7s						
RLO	**Rose Lookout**	**3.27**	**141**	IAmb_Lg		00 52 13.6	
	comp=Z,12nm,0.8s						
U38A	**Gravette**	**3.42**	**131**	IAmb_Lg		00 52 14.0	
	comp=Z,7.3nm,0.7s						
S39A	**Bolivar**	**3.50**	**106**	Pn	Pn	00 51 16.1	-0.1
W35A	**Tecumseh**	**3.63**	**171**	Pn	Pn	00 51 18.8	+0.9
HHAR	**Hobbs**	**3.79**	**129**	Pn	Pn	00 51 20.7	+0.6
WMOK	**Wichita Mounta**	**4.12**	**194**	Pn	Pn	00 51 25.8	+1.1
X34A	**Smith Ranch, M**	**4.14**	**183**	Pn	Pn	00 51 26.5	+1.5
R40A	**Maddies Statio**	**4.18**	**95**	Pn	Pn	00 51 27.0	+1.5
MGMO	**Mountain Grove**	**4.48**	**109**	Pn	Pn	00 51 30.8	+1.2
CCM	**Cathedral Cave**	**5.01**	**96**	Pn	Pn	00 51 37.5	+0.5
FCAR	**Ozark Folk Cen**	**5.19**	**122**	Pn	Pn	00 51 39.6	+0.2
MIAR	**Mount Ida**	**5.28**	**141**	Pn	Pn	00 51 40.7	+0.1
WHAR	**Wooly Hollow**	**5.45**	**128**	Pn	Pn	00 51 43.3	+0.4
X40A	**Basin Creek Fa**	**5.70**	**137**	Pn	Pn	00 51 46.1	-0.3
LCAR	**Lake Charles**	**5.76**	**116**	Pn	Pn	00 51 47.7	+0.5

*CATAC **27** 01:17:40.3±1.1, 13°.24N×80°.86W, h0km, MB6.0, mb6.2, ML5.4*
*IDC **27** 01:17:41.9±0.6, 13°.21N×81°.02W, h0km, mb4.2/18, mbtmp4.3/22, ML3.6/4, MS4.1/45, Error ellipse: s-maj=19.3km s-min=12.7km az=48.0*
*RSNC **27** 01:17:43.2±0.0, 13°.N±1°×8°.1W±°, h3km±2km, M4.5, mB5.2, mb5.1, ML4.2, Mw4.9, Mw(mB)4.5, MwMwp4.7, Mwp5.1*
*NEIC **27** 01:17:44.8±1.7, 13°.15N±0°.04×81°.02W±0°.06, h10km±1km, mb4.5/140, Error ellipse: s-maj=10.9km s-min=5.3km az=240.0*
*GCMT **27** 01:17:45.8±0.2, 13°.24N±0°.01×81°.02W±0°.01, h12km, MW4.9/114, Moment Tension Solution. s25,c31; s114,c173; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.35±.07; $M_{\theta\theta}$=-1.33±.06; $M_{\phi\phi}$=1.69±.06; $M_{r\theta}$=-0.15±.19; $M_{\theta\phi}$=1.95±.05; $M_{\phi r}$=0.17±.17; Best double couple: M_0=2.47900×10^{16} NP1:ϕ_s=161.00000°, δ=87.00000°, λ=-174.00000°. NP2:ϕ_s=71.00000°, δ=84.00000°, λ=-3.00000°. Principal axes: T 2.6490, Plg2.0000°, Azm296.0000°; N -0.3340, Plg=84.0000°, Azm=191.0000°; P -2.3100, Plg=6.0000°, Azm=26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 01:17:43.0±1.1, **13°.22N**±0°.03×**81°.00W**±0°.03, **h5**km±7km, **n305**, σ1s**85**/319, **mb4.5**/78, **MS4.2**/40, **1C-3D, Caribbean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.39**	**294**	P	**Pg**	**01 17 49.6**	**-0.9**
PRVC				S	**Sg**	**01 17 53.5**	**-2.1**
PRVC	**Isla de Provid**	**0.39**	**294**	*i* P	**Pg**	**01 17 49.7**	**-0.8**
PRVC				IAML		01 17 53.8	
	comp=Z,34μm,1.0s						
PRVC				*i* S	**Sg**	**01 17 54.9**	**-0.7**
RNCC	**Cayo Roncador,**	**0.96**	**68**	P	**Pb**	**01 18 02.2**	**+0.1**
RNCC				S	**Sn**	**01 18 17.0**	**0.0**
SAIC	**Isla e San And**	**0.97**	**226**	P	**Pg**	**01 18 01.0**	**-0.6**
SAIC				S	**Sg**	**01 18 14.0**	**-0.2**
SERC	**Banco Serrana,**	**1.23**	**30**	P	**Pg**	**01 18 05.8**	**-0.9**
SERC				S	**Sb**	**01 18 23.0**	**+0.1**
BLUN	**Bluefields**	**2.96**	**246**	P	**Pn**	**01 18 29.4**	**-1.3**
BLUN				S	**Sn**	**01 19 06.2**	**-0.4**
ESPN	**Las Esperanzas**	**3.37**	**253**		**Pn**	**01 18 35.0**	**-1.4**
ESPN	**Las Esperanzas**	**3.37**	**253**	P	**Pn**	**01 18 35.0**	**-1.4**
ESPN				S	**Sn**	**01 19 13.6**	**-3.2**
ESPN	**Las Esperanzas**	**3.37**	**253**	*i* P	**Pn**	**01 18 35.0**	**-1.4**
ESPN				*i* S	**Pg**	**01 18 46.8**	**-0.9**
ESPN				IAML		01 18 55.1	
	comp=Z,3μm,1.0s						
TRT2	**Tortugero**	**3.76**	**226**	*i* P	**Pn**	**01 18 40.8**	**-0.9**
TRT2				*i* S	**Sn**	**01 19 19.9**	**-6.4**
TRT2				IAML		01 20 39.4	
	comp=Z,1μm,1.0s						
BCIP	**Isla Barro Col**	**4.18**	**164**	Pn	**Pn**	**01 18 45.1**	**-2.4**
BCIP	**Isla Barro Col**	**4.18**	**164**	P	**Pn**	**01 18 44.8**	**-2.7**
BCIP				S	**Sn**	**01 19 31.2**	**-5.6**
BCIP	**Isla Barro Col**	**4.18**	**164**	*i* P	**Pn**	**01 18 45.1**	**-2.4**
BCIP				IAML		01 19 52.7	
	comp=Z,630nm,1.0s						
ACON	**Acoyapa**	**4.26**	**254**		**Pn**	**01 18 47.0**	**-1.5**
ACON	**Acoyapa**	**4.26**	**254**	P	**Pn**	**01 18 46.9**	**-1.6**
ACON				S	**Sb**	**01 19 49.7**	**-0.4**
ACON	**Acoyapa**	**4.26**	**254**	*i* P	**Pn**	**01 18 47.9**	**-0.6**
ACON				IAML		01 20 17.6	
	comp=Z,2μm,1.0s						
HDC	**Heredia**	**4.42**	**224**		**Pn**	**01 18 51.1**	**+0.3**
HDC	**Heredia**	**4.42**	**224**	*e*P	**Pn**	**01 18 51.7**	**+0.8**
SOCE	**Pocosol**	**4.52**	**232**	Pn	**Pn**	**01 18 52.1**	**-0.2**
SOCE	**Pocosol**	**4.52**	**232**	*i* P	**Pn**	**01 18 52.4**	**+0.2**
SOCE				*i* S	**Pg**	**01 19 08.5**	**-1.3**
SOCE				IAML		01 20 31.7	
	comp=Z,690nm,1.0s						
BRU2	**Volcan**	**4.70**	**201**	Pn	**Pn**	**01 18 54.0**	**-0.7**
BRU2	**Volcan**	**4.70**	**201**	*i* P	**Pn**	**01 18 53.8**	**-0.9**
BRU2				*i* S	**Sn**	**01 19 49.2**	**-0.5**
BRU2				IAML		01 19 54.5	
	comp=Z,1μm,1.0s						
CONN	**Concepcion**	**4.81**	**251**	*i* P	**Pb**	**01 19 05.7**	**-2.1**
JTS	**Las Juntas de**	**4.84**	**233**	Pn	**Pn**	**01 18 56.4**	**-0.1**
	comp=Z,15nm,0.3s,baz=348,slow=6.4,SNR=46						
JTS				Sn	**Sn**	**01 19 48.8**	**-4.2**
	comp=Z,24nm,0.3s,baz=291,slow=9.2,SNR=4.8						
JTS				LR	LR	01 20 55.4	
	comp=Z,3μm,18.6s,baz=94,slow=40						
	comp=Z,32nm,0.3s						
JTS	**Las Juntas de**	**4.84**	**233**	P	**Pn**	**01 18 56.6**	**0.0**
JTS				S	**Sn**	**01 19 50.8**	**-2.2**
OCHAL	**Ojochal**	**4.85**	**213**	*i* P	Pn	01 18 48.5	-8.1
OCHAL				*i* S	**Sn**	**01 19 55.6**	**+2.5**
OCHAL				IAML		01 20 10.3	
	comp=Z,630nm,1.0s						
CARN	**Rivas**	**4.86**	**246**	*i* P	Pn	01 19 02.7	+5.9
CARN				*i* S	**Sg**	**01 20 23.5**	**+4.3**
CARN				IAML		01 20 34.1	
	comp=Z,2μm,1.0s						
JAPN	**AI SSO del Vol**	**4.87**	**250**	*i* P	Pb	01 19 03.3	-5.5
RCPN	**Sur Rio San Ju**	**4.96**	**274**	*i* P	**Pn**	**01 18 57.3**	**-1.1**
RCPN				IVmB_BB		01 19 55.0	
	comp=Z,78nm,1.0s						
RCPN				IAML		01 19 56.0	
	comp=Z,4.4nm,1.0s						
RCVN	**Varillal2**	**5.06**	**275**	*i* P	**Pn**	**01 18 58.2**	**-1.6**
RCVN				IAmb	IAmb	01 19 07.4	
	comp=Z,6μm,0.5s						
RCVN				*i* S	**Sn**	**01 19 55.4**	**-3.3**
RCVN				IVmB_BB		01 19 56.4	
	comp=Z,180μm,1.0s						
RCVN				IAML		01 20 33.3	
	comp=Z,18μm,1.0s						
RCFN	**Al S de San Ju**	**5.08**	**274**	*i* P	**Pn**	**01 18 58.7**	**-1.3**
RCFN				IAmb	IAmb	01 19 22.9	
	comp=Z,2μm,0.7s						
RCFN				IVmB_BB		01 19 58.4	
	comp=Z,32μm,1.0s						
RCFN				IAML		01 20 34.7	
	comp=Z,4μm,1.0s						
NANN	**Nandasmo**	**5.16**	**256**	*i* P	Pb	01 19 08.4	-5.3
NANN				IAmb	IAmb	01 19 28.4	
	comp=Z,10μm,0.6s						
NANN				IVmB_BB		01 19 34.0	
	comp=Z,78μm,1.0s						
NANN				IAML		01 21 07.4	
	comp=Z,15μm,1.0s						
LIMN	**Finca el Limon**	**5.23**	**269**	*i* P	**Pn**	**01 19 00.8**	**-1.2**
MGAN	**Managua**	**5.23**	**259**	Pn	**Pn**	**01 19 02.9**	**+1.0**
MGAN	**Managua**	**5.23**	**259**	P	**Pb**	**01 19 14.0**	**-0.9**
GMAL	**Guarumal, Vera**	**5.42**	**182**	P	**Pn**	**01 19 03.2**	**-1.4**
	comp=Z,191nm,0.6s,comp=Z,2μm						
GMAL				S	**Sn**	**01 20 02.3**	**-5.1**
	comp=Z,191nm,0.6s,comp=Z,2μm						
AZU	**Azuero**	**5.44**	**172**	P	**Pn**	**01 19 03.3**	**-1.5**
	comp=Z,144nm,0.7s,comp=Z,1μm						
AZU				S	**Sn**	**01 20 04.8**	**-3.0**
	comp=Z,144nm,0.7s,comp=Z,1μm						
INDI	**Punta indio, G**	**5.53**	**233**	*i* P	**Pn**	**01 19 06.4**	**+0.4**
INDI				IAmb	IAmb	01 19 18.0	
	comp=Z,9μm,0.8s						
INDI				IVmB_BB		01 19 25.4	
	comp=Z,110μm,1.0s						
INDI				IAML		01 19 56.8	
	comp=Z,11μm,1.0s						
MACN	**El Madrono**	**5.58**	**263**	*i* P	**Pn**	**01 19 06.1**	**-0.7**
MACN				*i* S	Pg	01 19 25.1	-4.9
MACN				IAmb	IAmb	01 19 35.9	
	comp=Z,55nm,0.5s						
MACN				IVmB_BB		01 19 47.3	
	comp=Z,1μm,1.0s						
MACN				IAML		01 21 02.1	
	comp=Z,140nm,1.0s						
CNGA	**AI SSO del Vol**	**5.60**	**263**	*i* P	Pn	01 19 13.4	+6.3
CNGA				*i* S	**Pg**	**01 19 27.5**	**-3.0**
CAPC	**Capurgana**	**5.79**	**141**	P	**Pn**	**01 19 08.1**	**-1.6**
	comp=Z,70nm,0.6s						
CAPC				S	**Sn**	**01 20 13.2**	**-3.4**
	comp=Z,70nm,0.6s						
CACAO	**El Cacao, Vera**	**5.84**	**179**	P	**Pn**	**01 19 10.4**	**+0.2**
	comp=Z,230nm,0.7s,comp=Z,3μm						
CACAO				S	**Sn**	**01 20 17.5**	**-0.1**
	comp=Z,230nm,0.7s,comp=Z,3μm						
PKGN	**Cerro Pekin**	**5.85**	**265**	*i* P	Pn	01 18 58.4	-12
PKGN				*i* S	**Pg**	**01 19 35.4**	**+0.2**
CRIN	**San Cristobal**	**5.92**	**266**		**Pn**	**01 19 12.9**	**+1.5**
CRIN	**San Cristobal**	**5.92**	**266**	P	**Pn**	**01 19 10.5**	**-0.9**
	comp=Z,727nm,0.7s,comp=Z,7μm						
MTDJ	**Mount Denham**	**6.00**	**33**	Pn	**Pn**	**01 19 13.0**	**+0.5**
MTDJ	**Mount Denham**	**6.00**	**33**	‖ *iP*	**Pn**	**01 19 12.7**	**+0.1**
MTDJ	**Mount Denham**	**6.00**	**33**	P	**Pn**	**01 19 12.1**	**-0.4**
	comp=Z,298nm,0.7s,comp=Z,3μm						
MTDJ				S	**Sn**	**01 20 29.5**	**+7.9**
	comp=Z,298nm,0.7s,comp=Z,3μm						
TGUH	**Tegucigalpa,Un**	**6.15**	**279**	Pn	**Pn**	**01 19 13.5**	**-1.2**
TGUH	**Tegucigalpa,Un**	**6.15**	**279**	P	**Pn**	**01 19 12.6**	**-2.1**
	comp=Z,252nm,0.7s,comp=Z,1μmcomp=Z,3μm						
TGUH				S	**Sn**	**01 20 30.7**	**+5.1**
	comp=Z,252nm,0.7s,comp=Z,1μmcomp=Z,3μm						
TGUH	**Tegucigalpa,Un**	**6.15**	**279**	*i* P	**Pn**	**01 19 13.9**	**-0.8**
TGUH				IAmb	IAmb	01 19 34.4	
	comp=Z,260nm,0.7s						
TGUH				IVmB_BB		01 19 55.0	
	comp=Z,4μm,1.0s						
TGUH				IAML		01 21 17.8	
	comp=Z,2μm,1.0s						
HOJ	**Hope**	**6.28**	**40**	‖ *iP*	**Pn**	**01 19 17.2**	**+0.9**
LCBC	**Los crdobas,**	**6.28**	**133**	P	**Pn**	**01 19 16.4**	**0.0**
	comp=Z,251nm,0.9s						
LCBC				S	**Sn**	**01 20 29.6**	**+1.0**
	comp=Z,251nm,0.9s						
STH	**Stony Hill**	**6.30**	**39**	‖ *iP*	**Pn**	**01 19 17.1**	**+0.5**
GWJ	**Greenwich**	**6.35**	**40**	‖ *iP*	**Pn**	**01 19 18.1**	**+0.7**
SJCC	**San Jacinto, C**	**6.59**	**119**	P	**Pn**	**01 19 18.7**	**-2.0**
	comp=Z,155nm,0.7s,comp=Z,1μmcomp=Z,4μm						
CNCH	**Conchagua**	**6.65**	**271**	*i* P	**Pn**	**01 19 20.8**	**-0.8**
CNCH				IVmB_BB		01 19 40.9	
	comp=Z,4μm,1.0s						
CNCH				IAmb	IAmb	01 19 42.5	
	comp=Z,240nm,0.6s						
CNCH				IAML		01 21 38.4	
	comp=Z,770nm,1.0s						
APAC	**Apartado, Choc**	**6.84**	**140**	P	**Pn**	**01 19 24.8**	**+0.7**
	comp=Z,96nm,0.6s,comp=Z,1μmcomp=Z,3μm						
APAC				S	**Sn**	**01 20 41.5**	**-0.9**
	comp=Z,96nm,0.6s,comp=Z,1μmcomp=Z,3μm						
ARGC	**Ariguani, Magd**	**7.42**	**116**	P	**Pn**	**01 19 31.3**	**-0.6**
	comp=Z,111nm,0.7s,comp=Z,3μm						
ARGC				S	**Sn**	**01 20 55.1**	**-1.4**
	comp=Z,111nm,0.7s,comp=Z,3μm						
UREC	**San Jos de Ur**	**7.64**	**135**	P	**

ROSC El Rosal 10.62 141 Pn **Pn 01 20 17.3 +1.0**
comp=Z,2.6nm,0.3s,baz=315,slow=22,SNR=9.2
ROSC Sn **Sn 01 22 13.9 -2.0**
comp=Z,2.9nm,0.3s,baz=17,slow=24,SNR=4.5
ROSC LR LR 01 24 46.5
comp=Z,2µm,20.5s,baz=340,slow=40
comp=Z,17nm,0.6s
ROSC El Rosal 10.62 141 P **Pn 01 20 18.4 +2.1**
comp=Z,29nm,0.7s
ROSC S **Sn 01 22 13.0 -2.9**
comp=Z,29nm,0.7s
RUSC La Rusia 10.67 132 P **Pn 01 20 18.7 +1.6**
comp=Z,24nm,1.1s
RUSC S **Sn 01 22 13.0 -4.3**
comp=Z,24nm,1.1s
ORTC Ortega, Tolima 10.86 148 P **Pn 01 20 21.4 +2.2**
comp=Z,45nm,0.8s
ORTC S Sn 01 22 09.2 -12
comp=Z,45nm,0.8s
SDDR Presa de Saban 10.95 57 Pn **Pn 01 20 21.9 +1.4**
SDDR Presa de Saban 10.95 57 P **Pn 01 20 24.1 +3.6**
comp=Z,80nm,0.8s
CVER Cruz Verde, Cu 11.02 141 P **Pn 01 20 23.2 +1.4**
comp=Z,40nm,0.9s
CVER S **Sn 01 22 23.1 -2.7**
comp=Z,40nm,0.9s
SDV Santo Domingo 11.05 112 Pn **Pn 01 20 21.1 -0.9**
comp=Z,3.5nm,0.3s,baz=300,slow=7.5,SNR=11
SDV Sn **Sn 01 22 19.9 -6.2**
comp=Z,37nm,0.3s,baz=322,slow=20,SNR=31
SDV LR LR 01 25 12.6
comp=Z,935nm,21.2s,baz=300,slow=41
comp=Z,16nm,0.4s
SDV Santo Domingo 11.05 112 P **Pn 01 20 21.6 -0.4**
SDV S **Sn 01 22 19.7 -6.4**
SDV Santo Domingo 11.05 112 *e*P **Pn 01 20 21.8 -0.2**
CHIC Chingaza 11.15 139 P **Pn 01 20 25.3 +1.7**
CHIC S **Sn 01 22 26.3 -2.6**
OTAV Otavalo 13.14 169 Pn **Pn 01 20 49.6 -1.2**
OTAV Otavalo 13.14 169 *e*P **Pn 01 20 53.5 +2.6**
BAUV El Baul 13.41 107 Pn **Pn 01 20 52.8 -1.3**
CMIG Matias Romero 13.94 288 LR LR 01 26 48.4
comp=Z,2µm,18.1s,baz=131,slow=39
UUPR Utuado, UPR, P 14.63 68 Pn **Pn 01 21 11.8 +1.0**
OBIP Obispado Ponce 14.67 69 Pn **Pn 01 21 12.3 +1.0**
IGPR InterUniversit 15.10 70 Pn **Pn 01 21 17.1 0.0**
SJG San Juan 15.11 69 Pn **Pn 01 21 17.6 +0.4**
SJG IAmb IAmb 01 21 26.1
comp=Z,25nm,0.8s
SJG San Juan 15.11 69 Pn **Pn 01 21 18.3 +1.1**
comp=Z,0.4nm,0.3s,baz=253,slow=11,SNR=1.4
SJG Sn **Sn 01 24 01.4 -3.6**
comp=Z,0.6nm,0.3s,baz=333,slow=18,SNR=2.0
SJG LR LR 01 26 41.0
comp=Z,551nm,19.9s,baz=241,slow=36
comp=Z,8.0nm,0.8s
PDPR Patillas Dam, 15.20 70 P **P 01 21 23.4 -0.1**
HUMP Col San Antoni 15.39 70 P **P 01 21 25.0 -0.7**
HUMP IAmb IAmb 01 21 38.3
comp=Z,18nm,0.8s
PCRV Puerto La Cruz 16.31 99 LR LR 01 28 53.7
comp=Z,395nm,19.9s,slow=41
TLIG Tlapa 17.48 287 P **P 01 21 48.5 -0.5**
ATAH Atahualpa 20.39 173 P Pn 01 22 23.5 +0.2
comp=Z,1.3nm,0.5s,baz=336,slow=20,SNR=1.2
ATAH LR LR 01 30 44.6
comp=Z,338nm,19.8s,baz=347,slow=38
LRAL Lakeview Retre 20.47 345 P Pn 01 22 23.4 -0.4
LRAL IAmb IAmb 01 22 24.9
comp=Z,18nm,1.1s
TBTG Tabatinga, AM 20.50 147 *e*P Pn 01 22 23.9 -0.3
Y52A Lilburn 20.74 353 P Pn 01 22 27.1 +0.2
Y52A IAmb IAmb 01 22 36.7
comp=Z,14nm,0.8s
Z47A Carrollton 20.91 343 P Pn 01 22 28.0 -0.8
Z47A IAmb IAmb 01 22 32.9
comp=Z,32nm,0.8s
PAULI Pauline 21.52 358 P **P 01 22 33.8 +0.8**
PAULI IAmb IAmb 01 22 35.5
comp=Z,29nm,1.1s
HBVL Hebbronville 21.52 312 P **P 01 22 33.4 +0.3**
HBVL IAmb IAmb 01 22 44.8
comp=Z,47nm,1.3s
HKT Hockley 21.58 323 P **P 01 22 34.5 +1.0**
HKT IAmb IAmb 01 23 02.1
comp=Z,14nm,1.0s
FPAL Fort Paine 21.64 350 P **P 01 22 35.5 +1.3**
FPAL IAmb IAmb 01 22 45.2
comp=Z,15nm,1.0s
X48A Hartselle 21.84 346 P **P 01 22 37.8 +1.4**
X48A IAmb IAmb 01 22 46.3
comp=Z,16nm,0.8s
Y45A Yeager Farm, C 21.98 341 P **P 01 22 39.2 +1.4**
SWET Sewanee 22.35 349 P **P 01 22 43.3 +1.4**
SWET IAmb IAmb 01 23 20.3
comp=Z,12nm,0.9s
CPCT Cooper Cave 22.36 352 P **P 01 22 43.6 +1.6**
CPCT IAmb IAmb 01 23 04.7
comp=Z,14nm,0.9s
CZSB Cruzeiro do Su 22.38 158 *e*P **P 01 22 43.9 +1.5**
V53A Saluda 22.41 356 P **P 01 22 44.2 +1.6**
V53A IAmb IAmb 01 23 14.7
comp=Z,16nm,0.9s
TKL Tuckaleechee C 22.48 354 P **P 01 22 45.3 +2.0**
TKL IAmb IAmb 01 23 11.9
comp=Z,22nm,1.1s
TKL Tuckaleechee C 22.48 354 LR LR 01 30 55.6
comp=Z,531nm,18.7s,baz=178,slow=35
PLAL Pickwick Lake 22.60 345 P **P 01 22 46.0 +1.6**
PLAL IAmb IAmb 01 22 47.6
comp=Z,11nm,0.9s
BOAV Boa Vista 22.94 116 *e*P **P 01 22 49.1 +0.9**
V48A Smith Brothers 23.03 348 P **P 01 22 49.9 +0.8**
V48A IAmb IAmb 01 22 56.4
comp=Z,16nm,1.1s
U54A Nelsons Funny 23.22 358 P **P 01 22 52.3 +1.3**
435B Jarrell 23.23 321 P **P 01 22 51.4 +0.2**
HNDO Hondo 23.46 317 P **P 01 22 53.0 -0.6**
HNDO IAmb IAmb 01 23 20.6
comp=Z,13nm,0.8s
X40A Basin Creek Fa 23.74 335 P **P 01 22 57.2 +1.0**
X40A IAmb IAmb 01 23 34.9
comp=Z,11nm,1.1s
T50A Nancy 23.95 352 P **P 01 22 59.9 +1.7**
T50A IAmb IAmb 01 23 01.5
comp=Z,13nm,0.7s
WHTX Lake Whitney, 24.02 324 P **P 01 22 59.6 +0.7**
WHTX IAmb IAmb 01 23 25.3
comp=Z,15nm,0.7s
MIAR Mount Ida 24.10 334 P **P 01 23 01.9 +2.3**
MIAR IAmb IAmb 01 23 24.0
comp=Z,7.9nm,0.9s
T47A Sharon Grove 24.30 348 P **P 01 23 02.1 +0.8**
T47A IAmb IAmb 01 23 03.5
comp=Z,15nm,0.9s
BRDY Brady 24.45 320 P **P 01 23 02.9 0.0**
BRDY IAmb IAmb 01 23 33.6
comp=Z,14nm,0.7s
LCAR Lake Charles 24.52 340 P **P 01 23 04.9 +1.4**
LCAR IAmb IAmb 01 23 06.7
comp=Z,9.6nm,0.9s
FCAR Ozark Folk Cen 24.70 338 P **P 01 23 06.5 +1.4**
FCAR IAmb IAmb 01 23 12.9
comp=Z,15nm,1.1s
PBMO Poplar Bluff 24.94 342 P **P 01 23 08.5 +1.3**
PLPT Palo Pinto 25.12 324 P **P 01 23 09.5 +0.6**
PLPT IAmb IAmb 01 23 51.2
comp=Z,11nm,0.7s
R50A Paris 25.14 354 P **P 01 23 10.6 +1.6**
R49A Shelbyville 25.25 352 P **P 01 23 11.2 +1.2**
R49A IAmb IAmb 01 23 12.6
comp=Z,18nm,1.0s
WCI Wyandotte Cave 25.35 350 P **P 01 23 12.1 +1.2**
USIN University of 25.35 348 P **P 01 23 12.3 +1.4**
SSFO Shawnee State 25.45 356 P **P 01 23 13.8 +1.9**
Q52A Bidwell 25.67 358 P **P 01 23 15.6 +1.8**
SAND Sanderson 25.68 314 P **P 01 23 14.5 +0.4**
SAND IAmb IAmb 01 23 49.7
comp=Z,8.9nm,1.1s
HHAR Hobbs 25.74 335 P **P 01 23 15.7 +1.1**
HHAR IAmb IAmb 01 23 24.1
comp=Z,8.0nm,0.9s
ABTX Abilene, Hawle 25.76 322 P **P 01 23 15.0 +0.2**
ABTX IAmb IAmb 01 23 17.1
comp=Z,20nm,1.1s

MGMO Mountain Grove 25.88 339 P **P 01 23 17.7 +1.9**
MGMO IAmb IAmb 01 23 44.8
comp=Z,12nm,1.1s
MACA Manacapuru-AM 25.92 128 P **P 01 23 17.9 +1.5**
MACA Manacapuru-AM 25.92 128 *e*P **P 01 23 17.8 +1.5**
FVM French Village 26.05 343 P **P 01 23 19.3 +1.9**
FVM IAmb IAmb 01 23 42.5
comp=Z,18nm,1.2s
SGCY Sterling City 26.21 319 P **P 01 23 20.2 +1.2**
SGCY IAmb IAmb 01 23 20.6
comp=Z,7.0nm,0.7s
CCM Cathedral Cave 26.36 342 P **P 01 23 20.4 +0.2**
CCM IAmb IAmb 01 23 30.1
comp=Z,16nm,0.9s
TX31 Lajitas Ar. Si 26.44 311 P **P 01 23 21.6 +0.6**
TX31 IAmb IAmb 01 23 22.6
comp=Z,15nm,0.9s
TXAR Lajitas Array 26.44 311 P **P 01 23 21.5 +0.4**
TXAR Lajitas Array 26.44 311 P **P 01 23 21.3 +0.3**
comp=Z,8.1nm,0.8s,baz=129,slow=9.3,SNR=95
TXAR PcP **PcP 01 26 47.8 +1.3**
comp=Z,0.8nm,0.6s,baz=134,slow=5.2,SNR=4.3
comp=Z,8.1nm,0.8s
SN05 Snyder 5 26.70 320 P **P 01 23 24.5 +1.2**
SN05 IAmb IAmb 01 24 03.9
comp=Z,10nm,0.9s
R40A Maddies Statio 26.91 340 P **P 01 23 26.9 +1.9**
R40A IAmb IAmb 01 23 35.5
comp=Z,15nm,0.9s
MNHN Monahans 26.94 316 P **P 01 23 25.2 -0.3**
MNHN IAmb IAmb 01 23 25.6
comp=Z,5.0nm,0.7s
ALPN Alpine 26.99 313 P **P 01 23 26.4 +0.4**
ETMB Extrema 27.19 147 *e*P **P 01 23 27.1 -0.6**
VHRN Van Horn 28.18 312 P **P 01 23 36.6 -0.1**
VHRN IAmb IAmb 01 23 44.2
comp=Z,8.5nm,1.1s
SAML Samuel 28.25 140 P **P 01 23 37.0 -0.3**
SAML IAmb IAmb 01 24 02.9
comp=Z,4.7nm,0.8s
SAML Samuel 28.25 140 *e*P **P 01 23 36.5 -0.7**
MDP Montagnes des 29.11 103 LR LR 01 37 05.9
comp=Z,373nm,20.5s,baz=281,slow=40
LPIG La Paz 29.74 296 LR LR 01 36 28.9
comp=Z,829nm,18.5s,baz=136,slow=38
ITTB Itaituba 30.57 123 *e*P **P 01 23 59.2 +1.3**
SADO Sadowa 31.49 3 LR LR 01 36 56.0
comp=Z,530nm,18.9s,baz=230,slow=37
ANMO Albuquerque 31.58 318 LR LR 01 39 57.2
comp=Z,155nm,19.5s,baz=300,slow=42
LPAZ La Paz 31.96 156 P **P 01 24 09.8 -0.9**
comp=Z,0.9nm,0.6s,baz=350,slow=12,SNR=2.2
LPAZ LR LR 01 39 35.1
comp=Z,204nm,19.4s,baz=290,slow=41
comp=Z,0.9nm,0.6s
LPAZ La Paz 31.96 156 *e*P **P 01 24 12.5 +1.8**
NPGB Novo Progresso 32.47 127 *e*P **P 01 24 15.5 +0.9**
VILB Vilhena 33.19 141 *e*P **P 01 24 20.7 -0.2**
K30B Basset 33.48 335 P **P 01 24 24.6 +1.4**
PDRB Porto dos Gac 34.47 135 *e*P **P 01 24 32.9 +0.8**
CLDB Colider 34.62 133 *e*P **P 01 24 33.5 +0.1**
X16A Lo Mia Camp, P 34.72 313 P **P 01 24 35.3 +1.0**
X16A IAmb IAmb 01 24 36.7
comp=Z,5.1nm,0.9s
SIV San Ignacio 35.08 145 P **P 01 24 35.7 -1.7**
comp=Z,3.1nm,0.8s,baz=316,slow=10,SNR=9.4
SIV LR LR 01 39 32.0
comp=Z,224nm,19.6s,baz=342,slow=37
comp=Z,3.1nm,0.8s
WUAZ Wupatki 35.23 314 P **P 01 24 39.9 +1.2**
WUAZ IAmb IAmb 01 24 41.1
comp=Z,8.0nm,0.9s
HMU Henry Mountain 36.13 318 P **P 01 24 48.0 +1.5**
HMU IAmb IAmb 01 24 49.2
comp=Z,14nm,1.4s
BBSD Serra de San D 36.31 146 *e*P **P 01 24 46.8 -1.1**
W13A Hualapai Mount 36.81 312 P **P 01 24 52.8 +0.5**
PKCU Pink Cliffs 36.89 316 P **P 01 24 54.0 +0.9**
RDMU Red Mountain 36.99 323 P **P 01 24 54.6 +0.9**
RDMU IAmb IAmb 01 25 35.1
comp=Z,8.4nm,1.4s
KNB Kanab 37.01 315 P **P 01 24 55.7 +1.8**
KNB IAmb IAmb 01 24 57.3
comp=Z,6.0nm,1.0s
LCMT Little Creek M 37.30 315 P **P 01 24 56.7 +0.4**
MVU Marysvale 37.41 318 P **P 01 24 58.7 +1.3**
TCRU Three Creeks R 37.62 318 P **P 01 25 00.5 +1.4**
TCRU IAmb IAmb 01 25 01.5
comp=Z,6.8nm,0.5s
V12A Nelson 37.80 312 P **P 01 25 02.0 +1.5**
PFO Pinyon Flats O 38.08 308 LR LR 01 43 32.8
comp=Z,238nm,18.2s,baz=134,slow=41
SHPR Sheep Range 38.38 313 P **P 01 25 05.6 +0.1**
PD31 Pinedale Array 38.41 325 P **P 01 25 05.2 -0.5**
PDAR Pinedale Array 38.41 325 P **P 01 25 05.4 -0.3**
comp=Z,2.3nm,0.8s,baz=136,slow=9.8,SNR=21
comp=Z,2.3nm,0.8s
PSUT Pine Spring 38.50 317 P **P 01 25 07.7 +1.1**
PSUT IAmb IAmb 01 25 16.0
comp=Z,6.8nm,0.8s
SNDB Serra Nova Dou 38.66 129 *e*P **P 01 25 09.7 +1.9**
DUG Dugway, Tooele 38.74 320 P **P 01 25 09.7 +1.2**
DUG IAmb IAmb 01 25 11.3
comp=Z,9.4nm,1.4s
PRN Pahroc Range 38.74 315 P **P 01 25 10.2 +1.7**
HWUT Hardware Ranch 38.82 323 P **P 01 25 10.0 +0.9**
ULM Lac du Bonnet 38.88 345 P **P 01 25 11.1 +1.8**
ULM IAmb IAmb 01 25 13.6
comp=Z,7.5nm,0.9s
ULM Lac du Bonnet 38.88 345 P **P 01 25 07.8 -1.5**
comp=Z,6.2nm,0.9s,baz=150,slow=7.2,SNR=7.6
comp=Z,6.2nm,0.9s
SPR3 Spring Creek 3 39.06 317 P **P 01 25 11.9 +0.5**
SPUT South Promonto 39.17 322 P **P 01 25 12.7 +0.7**
AHID Auburn Hatcher 39.27 324 P **P 01 25 13.7 +0.8**
AHID IAmb IAmb 01 25 14.6
comp=Z,5.8nm,0.8s
BGU Big Grassy Mou 39.30 321 P **P 01 25 13.8 +0.7**
GWY Greenwater Val 39.32 312 P **P 01 25 13.9 +0.5**
TPNV Topopah Spring 39.37 313 P **P 01 25 15.0 +1.2**
LOHW Long Hollow 39.54 326 P **P 01 25 15.9 +0.7**
R11B Troy Canyon, C 39.58 316 P **P 01 25 16.4 +0.9**
TPAW Teton Pass 39.65 325 P **P 01 25 17.0 +0.8**
MOOW Moose Ponds 39.71 326 P **P 01 25 17.2 +0.6**
FXWY Fox Creek 39.79 325 P **P 01 25 17.5 +0.2**
RLMT Red Lodge 39.85 328 P **P 01 25 18.7 +1.0**
RLMT IAmb IAmb 01 25 31.8
comp=Z,10nm,1.1s
YNE Yellowstone No 40.15 328 P **P 01 25 21.2 +0.9**
GMN Gold Mountain 40.24 313 P **P 01 25 22.2 +1.0**
ISA Isabella, Lake 40.42 310 P **P 01 25 23.1 +0.6**
MZP Montezuma Peak 40.51 314 P **P 01 25 23.9 +0.5**
TPH Tonopah 40.57 314 P **P 01 25 25.0 +1.2**
ELK Elko 40.59 319 P **P 01 25 25.3 +1.3**
ARAG Araguaiana, MT 40.74 134 *e*P **P 01 25 24.8 -0.3**
DSP Deep Springs 40.78 313 P **P 01 25 26.7 +1.4**
DSP IAmb IAmb 01 25 29.1
comp=Z,7.9nm,1.3s
NV11 Mina Array Sit 41.39 314 P **P 01 25 31.6 +1.1**
NVAR Mina Array Bea 41.49 314 P **P 01 25 30.7 -0.7**
comp=Z,2.8nm,0.8s,baz=126,slow=8.1,SNR=13
NVAR LR LR 01 46 37.9
comp=Z,441nm,19.1s,baz=134,slow=42
comp=Z,2.8nm,0.8s
LHV Little Huntoon 41.55 314 P **P 01 25 32.4 +0.8**
LHV IAmb IAmb 01 25 40.5
comp=Z,5.4nm,0.8s
KVN Kaiserville 41.64 315 P **P 01 25 33.4 +0.9**
HLID Hailey 41.67 323 P **P 01 25 33.9 +1.2**
BMN Battle Mountai 41.71 317 P **P 01 25 33.3 +0.1**
BMN IAmb IAmb 01 25 35.2
comp=Z,8.6nm,1.1s
WAKR Walker 42.32 314 P **P 01 25 38.7 +0.5**
MFID Camas Ranch 42.43 322 P **P 01 25 39.4 +0.5**
MFID IAmb IAmb 01 25 40.7
comp=Z,10.0nm,1.3s
PNTR Pine Nut 42.69 314 P **P 01 25 41.6 +0.3**
PNTR IAmb IAmb 01 25 49.7
comp=Z,6.3nm,0.8s
PAHR Pah Rah Range 42.82 315 P **P 01 25 41.2 -0.9**
SCHQ Schefferville 42.98 12 P **P 01 25 42.9 -0.2**
comp=Z,8.3nm,0.8s,baz=219,slow=7.6,SNR=9.0
SCHQ LR LR 01 45 01.9
comp=Z,200nm,18.4s,baz=234,slow=38
comp=Z,8.3nm,0.8s

EMB Emerald Bay 42.99 314 P **P 01 25 44.0 +0.3**
MPK Martis Peak 43.08 314 P **P 01 25 43.7 -0.7**
BDFB Brasilia 43.44 130 P **P 01 25 48.4 +1.0**
BDFB IAmb IAmb 01 25 50.9
comp=Z,11nm,1.1s
BDFB Brasilia 43.44 130 P **P 01 25 46.9 -0.5**
comp=Z,5.5nm,0.7s,baz=284,slow=11,SNR=9.8
BDFB LR LR 01 45 53.4
comp=Z,255nm,18.4s,baz=316,slow=39
comp=Z,5.5nm,0.7s
WVOR Wild Horse Val 43.64 319 P **P 01 25 48.8 +0.1**
WVOR IAmb IAmb 01 25 55.3
comp=Z,10nm,0.9s
E09A Wood Farm, Sta 45.54 324 P **P 01 26 03.6 -0.1**
E09A IAmb IAmb 01 26 10.3
comp=Z,9.2nm,1.0s
CPUP Villa Florida 45.56 150 LR LR 01 47 06.3
comp=Z,147nm,18.9s,baz=334,slow=39
YBH Yreka Blue Hor 45.99 316 LR LR 01 48 52.8
comp=Z,331nm,20.4s,baz=152,slow=41
NEW Newport 46.00 327 LR LR 01 47 31.7
comp=Z,116nm,18.9s,baz=144,slow=39
RCBR Riachuelo 48.62 110 LR LR 01 47 00.5
comp=Z,180nm,20.9s,baz=291,slow=36
RPN Rapa Nui 48.63 214 LR LR 01 42 29.3
comp=Z,367nm,18.6s,baz=50,slow=31
FRB Frobisher Bay 51.22 7 LR LR 01 48 31.3
comp=Z,210nm,19.3s,baz=188,slow=36
PLTB Pedras Altas 51.87 150 P **P 01 26 52.1 -0.4**
PLTB Pedras Altas 51.87 150 *e*P **P 01 26 51.8 -0.7**
PLCA Paso Flores 54.54 170 *e*P **P 01 27 13.1 +1.0**
YKA Yellowknife Ar 54.70 342 P **P 01 27 12.6 -0.3**
comp=Z,0.8nm,0.8s,baz=134,slow=6.0,SNR=4.6
comp=Z,0.8nm,0.8s
SFJD Kangerlussuaq 57.38 14 LR LR 01 53 34.8
comp=Z,155nm,18.5s,baz=222,slow=38
ICESG Greenland Ices 61.67 16 *i* P **P 01 28 00.5 -1.6**
ICESG IAmb IAmb 01 28 05.9
comp=Z,9.8nm,0.9s
RES Resolute Bay 61.95 356 LR LR 01 56 12.0
comp=Z,177nm,18.5s,baz=290,slow=37
BBTS Babate 62.40 80 LR LR 01 49 35.0
comp=Z,95nm,21.0s,baz=152,slow=31
A36M Sachs Harbour 64.34 346 P **P 01 28 19.4 0.0**
SUMG Summit 64.36 13 P **P 01 28 20.6 +0.7**
SUMG Summit 64.36 13 *i* P **P 01 28 19.2 -0.7**
SUMG IAmb IAmb 01 28 29.7
comp=Z,45nm,1.6s
INK Inuvik 64.46 341 P **P 01 28 20.7 +0.6**
INK IAmb IAmb 01 28 21.5
comp=Z,5.7nm,1.1s
I28M Miner Creek 65.39 337 P **P 01 28 26.6 +0.2**
I28M IAmb IAmb 01 28 35.2
comp=Z,6.1nm,1.1s
BORG Borgarnes 65.41 24 LR LR 01 55 15.0
comp=Z,81nm,18.6s,baz=247,slow=34
E29M Blow River 65.92 340 P **P 01 28 29.9 +0.3**
E29M IAmb IAmb 01 28 31.7
comp=Z,6.4nm,1.1s
NEEM North Greenlan 66.03 7 *i* P **P 01 28 30.2 -0.4**
NEEM IAmb IAmb 01 28 31.8
comp=Z,31nm,1.3s
F28M Old Crow 66.25 339 P **P 01 28 32.3 +0.5**
F28M IAmb IAmb 01 28 33.4
comp=Z,4.9nm,1.1s
J26L Joseph Creek 66.48 335 P **P 01 28 34.5 +1.0**
E28M Babbage River 66.55 340 P **P 01 28 34.4 +0.7**
J25K Salcha River, 67.26 335 P **P 01 28 38.5 +0.1**
D27M Malcolm River 67.29 340 P **P 01 28 38.9 +0.4**
D27M IAmb IAmb 01 28 40.6
comp=Z,5.3nm,0.9s
ILAR Eielson Array 67.93 335 P **P 01 28 42.0 -0.6**
comp=Z,2.0nm,0.8s,baz=114,slow=4.3,SNR=19
comp=Z,2.0nm,0.8s
KDAK Kodiak Island 69.10 327 LR LR 02 01 38.5
comp=Z,156nm,18.4s,baz=323,slow=38
D25K Kavik River 69.11 340 P **P 01 28 50.2 +0.3**
MDT Midelt 71.61 60 P **P 01 29 06.7 +0.7**
comp=Z,2.7nm,0.9s,baz=348,slow=7.8,SNR=3.7
MDT LR LR 01 57 38.1
comp=Z,124nm,18.1s,baz=290,slow=34
comp=Z,2.7nm,0.9s
ESDC Sonseca Array 71.76 52 P **P 01 29 07.1 +0.4**
comp=Z,2.9nm,0.8s,baz=280,slow=6.1,SNR=18
ESDC LR LR 01 57 45.0
comp=Z,125nm,18.8s,baz=268,slow=34
comp=Z,2.9nm,0.8s
EKA Eskdalemuir Ar 72.32 36 P **P 01 29 09.6 0.0**
comp=Z,3.5nm,1.0s,baz=263,slow=5.7,SNR=3.7
comp=Z,3.5nm,1.0s
L16K Owhat River 72.99 331 P **P 01 29 14.1 +0.6**
D19K Kuna River 73.07 338 P **P 01 29 14.0 +0.1**
J16K Anvik River 73.61 332 P **P 01 29 18.3 +1.2**
ESPZ Base Esperanza 78.60 169 P **P 01 29 45.2 -0.1**
SPITS Spitsbergen Ar 78.67 12 LR LR 02 06 52.8
comp=Z,114nm,18.8s,baz=247,slow=38
SENIN Lac Senin/Sane 79.40 45 P **P 01 29 51.4 +0.8**
NBO00 NORSAR Array S 79.41 30 P **P 01 29 50.6 +0.6**
NB2 NORSAR Subarra 79.62 30 P **P 01 29 52.4 +1.2**
comp=Z,5.0nm,1.0s,baz=279,slow=5.6
NOA NORSAR Array B 79.62 30 P **P 01 29 51.0 -0.2**
comp=Z,1.2nm,0.8s,baz=279,slow=5.4,SNR=5.6
NOA LR LR 02 03 51.5
comp=Z,49nm,18.6s,baz=270,slow=35
comp=Z,1.2nm,0.8s
TORD Torodi Ar. Bea 80.10 79 P **P 01 29 54.8 +0.1**
TORD Torodi Ar. Bea 80.10 79 P **P 01 29 54.7 +0.1**
comp=Z,0.5nm,0.8s,baz=284,slow=5.0,SNR=3.8
comp=Z,0.5nm,0.8s
HFS Hagfors 80.98 30 P **P 01 29 58.8 +0.3**
comp=Z,1.9nm,0.7s,baz=270,slow=6.6,SNR=3.7
HFS LR LR 02 05 47.6
comp=Z,88nm,18.3s,baz=256,slow=36
comp=Z,1.9nm,0.7s
DAVOX Davos/Dischmat 81.10 44 LR LR 02 01 46.2
comp=Z,170nm,18.5s,baz=265,slow=33
FUORN Ofenpass-Fuorn 81.39 44 P **P 01 30 01.1 -0.2**
CLL Collm 82.29 39 *e*P **P 01 30 07.0 +1.4**
CLL AMS AMS 02 04 00.0
comp=Z,100nm,18.1s
KEST Kesra 82.69 55 LR LR 02 03 42.9
comp=Z,98nm,18.4s,baz=245,slow=33
ARCES ARCESS Array B 83.38 20 P **P 01 30 09.7 -1.2**
comp=Z,2.1nm,0.6s,baz=347,slow=3.7,SNR=6.8
ARCES LR LR 02 02 45.9
comp=Z,76nm,21.4s,baz=292,slow=32
comp=Z,2.1nm,0.6s
VRAC Vranov 84.98 41 LR LR 02 05 50.4
comp=Z,245nm,18.1s,baz=266,slow=34
VAE Valguarnera 86.30 53 LR LR 02 04 58.8
comp=Z,167nm,18.5s,baz=334,slow=33
FINES FINESS Array B 86.46 27 P **P 01 30 27.6 +1.1**
FINES FINESS Array B 86.46 27 P **P 01 30 26.4 -0.1**
comp=Z,2.4nm,0.7s,baz=273,slow=2.5,SNR=7.3
FINES LR LR 02 03 19.4
comp=Z,89nm,20.9s,baz=280,slow=32
comp=Z,2.4nm,0.7s
FIA1 FINESS Array S 86.46 27 P **P 01 30 27.4 +0.9**
PABE Paberze 87.49 33 P **P 01 30 33.6 +1.9**
SHEM Shemya Is, Ala 88.39 324 LR LR 02 13 25.0
comp=Z,34nm,18.1s,baz=20,slow=38
AKASG Malin Array Be 92.22 37 LR LR 02 09 00.1
comp=Z,111nm,20.6s,baz=248,slow=33
OBN Obninsk 94.19 31 LR LR 02 08 54.2
comp=Z,79nm,21.1s,baz=1.0,slow=33
IDI Anoyia 95.02 52 P **P 01 31 07.1 -0.2**
PETK Petropavlovsk- 97.11 329 LR LR 02 18 04.7
comp=Z,31nm,20.7s,baz=79,slow=37
KIRV Kirov 97.89 24 LR LR 02 11 07.9
comp=Z,70nm,21.4s,baz=330,slow=33
ASAR Alice Springs 145.38 247 PKPbc **PKPbc 01 37 22.0 -0.8**
comp=Z,1.1nm,0.6s,baz=104,slow=3.8,SNR=8.7
WRA Warramunga Arr 145.52 254 PKPbc **PKPdf 01 37 22.6 -0.7**
comp=Z,6.4nm,0.7s,baz=92,slow=2.9,SNR=12
CMAR Chiang Mai Arr 148.53 0 PKPbc **PKPbc 01 37 31.8 -0.1**
comp=Z,1.6nm,0.3s,baz=345,slow=3.6,SNR=5.3

SDD 27 01:19:41.5±2.6, 17°.80N×68°.34W, h61$^{km}_{\pm}$59^{km}, MD2.7, ML2.2, MW2.2, 8C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.72**	**356⇑**	*e*Sg	Sn	01 20 04.9	-1.8
PCDR				IAML		01 20 40.3	
comp=N,58nm,1.4s							
MLPR	**Magueyes Islan**	**1.24**	**82⇑**	*e*Pg	Pn	01 20 02.1	-0.6

MLPR					IAML		01 20 22.8	
	comp=N,20nm,2.6s							
MLPR					IAML		01 20 24.2	
	comp=E,15nm,1.8s							
AGPR	**Aguadilla, PR**	**1.34**	**60**	⇑*e*Pg	Pn		01 20 03.3	-0.8
AGPR				⇑*e*Sg	Sn		01 20 19.1	-2.0
AGPR				IAML			01 20 19.8	
	comp=E,44nm,1.4s							
AGPR				IAML			01 20 27.0	
	comp=N,55nm,2.6s							
MIDR	**Miches**	**1.36**	**330**	⇑*e*Pg	Pn		01 20 01.7	-2.7
MIDR				IAML			01 20 18.5	
	comp=E,16nm,0.7s							
MIDR				⇑*e*Sg	Sn		01 20 18.9	-2.7
MIDR				IAML			01 20 21.9	
	comp=N,12nm,0.6s							
MIDR				IAML			01 20 36.5	
	comp=N,12nm,1.9s							
HATOM	**Hato Mayor del**	**1.40**	**315**	⇑*e*Pg	Pn		01 20 05.3	+0.3
HATOM				*e*Sg	Sn		01 20 22.0	-0.5
HATOM				IAML			01 20 23.2	
	comp=E,10nm,2.1s							
HATOM				IAML			01 21 01.8	
	comp=N,24nm,2.6s							
LOBA2	**Hotel Casa Bon**	**2.64**	**277**	⇑*e*Pg	Pn		01 20 19.5	-2.2
LOBA2				IAML			01 20 46.2	
	comp=N,787nm,0.6s							

*SFS **27** 01:25:00.4, 36.°63N×4.°66W, h81km, ML2.3/22, MLv2.3/22*
*MDD **27** 01:25:00.2±0.4, 36.°65N×4.°63W, h82km±4km, Mb2.8/13, Error ellipse: s-maj=3.2km s-min=2.1km az=161.0*
*INMG **27** 01:25:00.4±2.0, 36.°63N×4.°61W, h80km±7km, ML2.2, Error ellipse: s-maj=5.0km s-min=4.7km az=16.0*
*CNRM **27** 01:25:00.9, 36.°43N×4.°80W, h72km*
*IGIL **27** 01:25:01.5, 36.°65N×4.°63W, h74km, ML2.1*
ISC 27 01:24:58.3±1.2, 36.°63N±0.°02×4.°63W±0.°02, h92km±7km, n91, σ1°65/146, 12C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAL	**Malaga-Limoner**	**0.20**	**50**	Pn	**Pn**	**01 25 12.1**	**+0.6**
EMAL				Sn	**Sn**	**01 25 20.3**	**-1.1**
EGOR	**Sierra Gorda,**	**0.63**	**41**	Sn	**Sn**	**01 25 26.9**	**+0.3**
EGOR				Pn	**Pn**	**01 25 15.4**	**+0.9**
EGOR	**Sierra Gorda,**	**0.63**	**41**	P	**Pn**	**01 25 15.4**	**+0.9**
EGOR				S	**Sn**	**01 25 27.0**	**+0.4**
EJIF	**Jimena Fronter**	**0.70**	**255**	P	**Pn**	**01 25 16.5**	**+1.5**
EJIF				S	**Sn**	**01 25 26.2**	**-1.3**
EXMOR	**Moron de la Fr**	**0.82**	**307**	S	**Sn**	**01 25 27.5**	**-2.1**
ELGU	**Los Guajares,**	**0.83**	**73**	Pn	**Pn**	**01 25 16.8**	**+0.4**
ELGU				Sn	**Sn**	**01 25 29.4**	**-0.5**
ELGU	**Los Guajares,**	**0.83**	**73**	P	**Pn**	**01 25 16.9**	**+0.4**
ELGU				⇑*i*Vmb_V		01 25 22.3	
	1μm,SNR=4.7						
ELGU				S	**Sn**	**01 25 29.5**	**-0.5**
CEU	**Ceuta**	**0.95**	**220**	Pn	**Pn**	**01 25 18.3**	**+0.8**
ECEU	**Ceuta**	**0.95**	**220**	Sn	**Sn**	**01 25 32.2**	**+0.1**
EXCAB	**Granada**	**0.99**	**56**	P	**Pn**	**01 25 19.9**	**+1.8**
EXCAB				S	**Sn**	**01 25 33.7**	**+0.8**
ESPR	**Espera**	**1.02**	**284**	Pn	**Pn**	**01 25 19.7**	**+1.4**
ESPR				Sn	**Sn**	**01 25 31.9**	**-1.4**
ESPR	**Espera**	**1.02**	**284**	P	**Pn**	**01 25 19.9**	**+1.6**
ESPR				S	**Sn**	**01 25 32.0**	**-1.3**
EQTA	**Presa de Quent**	**1.11**	**58**	Pn	**Pn**	**01 25 21.1**	**+1.7**
EQTA				Sn	**Sn**	**01 25 35.7**	**+0.3**
EQUE	**Quentar**	**1.11**	**59**	P	**Pn**	**01 25 21.1**	**+1.7**
EQUE				⇑*i*Vmb_V		01 25 21.7	
	579nm,SNR=4.8						
EQUE				S	**Sn**	**01 25 34.8**	**-0.6**
PALE	**Palemas**	**1.52**	**158**	P	**Pn**	**01 25 25.5**	**+1.2**
PALE	**Palemas**	**1.52**	**158**	S	**Sn**	**01 25 43.1**	**-1.1**
EADA	**Adamuz**	**1.53**	**1**	Pn	**Pn**	**01 25 25.9**	**+1.3**
EADA				Sn	**Sn**	**01 25 43.4**	**-1.0**
EADA	**Adamuz**	**1.53**	**1**	P	**Pn**	**01 25 25.7**	**+1.2**
EADA				⇑*i*Vmb_V		01 25 26.0	
	726nm,SNR=6.8						
EADA				S	**Sn**	**01 25 43.1**	**-1.4**
ECAB	**El Cabril**	**1.57**	**337**	Pn	**Pn**	**01 25 25.8**	**+0.8**
ECAB				Sn	**Sn**	**01 25 44.3**	**-1.1**
ECAB	**El Cabril**	**1.57**	**337**	P	**Pn**	**01 25 26.0**	**+0.9**
ECAB				⇑*i*Vmb_V		01 25 33.8	
	183nm,SNR=2.0						
ECAB				S	**Sn**	**01 25 43.6**	**-1.8**
E0802	**Ubeda,Jaen**	**1.71**	**35**	P	**Pn**	**01 25 27.9**	**+1.1**
E0802				S	**Sn**	**01 25 47.5**	**-1.1**
GOG	**Mont Gurugu**	**1.93**	**136**	P	**Pn**	**01 25 30.9**	**+1.2**
GOG	**Mont Gurugu**	**1.93**	**136**	S	**Sn**	**01 25 54.5**	**+0.8**
ENIJ	**Nijar**	**1.97**	**79**	Pn	**Pn**	**01 25 31.4**	**+1.3**
ENIJ	**Nijar**	**1.97**	**79**	P	**Pn**	**01 25 31.0**	**+0.9**
ENIJ				⇑*i*Vmb_V		01 25 32.4	
	291nm,SNR=1.5						
ENIJ				S	**Sn**	**01 25 53.3**	**-1.2**
EMIN	**Mina Concepcio**	**1.99**	**305**	Sn	**Sn**	**01 25 53.4**	**-1.5**
EMIN				Pn	**Pn**	**01 25 31.4**	**+1.0**
EMIN	**Mina Concepcio**	**1.99**	**305**	P	**Pn**	**01 25 31.6**	**+1.3**
EMIN				⇑*i*Vmb_V		01 25 39.4	
	357nm,SNR=3.6						
EMIN				S	**Sn**	**01 25 53.7**	**-1.2**
AKLM	**AKL**	**2.21**	**163**	P	**Pn**	**01 25 32.2**	**-1.1**
EGRO	**El Granado**	**2.46**	**292**	Pn	**Pn**	**01 25 37.9**	**+1.4**
EGRO				Sn	**Sn**	**01 26 04.3**	**-1.6**
EGRO	**El Granado**	**2.46**	**292**	P	**Pn**	**01 25 38.0**	**+1.5**
EGRO				⇑*i*Vmb_V		01 25 44.0	
	289nm,SNR=2.9						
EGRO				S	**Sn**	**01 26 04.3**	**-1.6**
PBAR	**Barrancos**	**2.46**	**309**	*e*P	**Pn**	**01 25 38.2**	**+1.6**
PBAR				*e*S	**Sn**	**01 26 05.4**	**-0.7**
PBAR				A	A	01 26 08.1	
	4.0nm,0.1s						
PBAR	**Barrancos**	**2.46**	**309**	Pn	**Pn**	**01 25 37.7**	**+1.1**
PBAR				Sn	**Sn**	**01 26 05.5**	**-0.5**
TAF	**Taforalt**	**2.55**	**135**	P	**Pn**	**01 25 40.2**	**+2.3**
TAF	**Taforalt**	**2.55**	**135**	S	**Sn**	**01 26 09.0**	**+0.6**
PVAQ	**Vaqueiros**	**2.59**	**288**	*e*P	**Pn**	**01 25 39.5**	**+1.1**
PVAQ				*e*S	**Sn**	**01 26 07.5**	**-1.6**
PVAQ				A	A	01 26 10.1	
	13nm,0.2s						
PVAQ	**Vaqueiros**	**2.59**	**288**	Pn	**Pn**	**01 25 39.4**	**+1.1**
PVAQ				Sn	**Sn**	**01 26 07.6**	**-1.6**
PVAQ	**Vaqueiros**	**2.59**	**288**	P	**Pn**	**01 25 40.3**	**+1.9**
PVAQ	**Vaqueiros**	**2.59**	**288**	S	**Sn**	**01 26 09.4**	**+0.3**
PBDV	**Barranco-do-Ve**	**2.72**	**284**	*e*P	**Pn**	**01 25 42.1**	**+2.0**
PBDV				*e*S	**Sn**	**01 26 10.8**	**-1.4**
PBDV				A	A	01 26 15.1	
	5.0nm,0.1s						
JBK	**JBK**	**2.84**	**143**	P	**Pn**	**01 25 43.4**	**+1.5**
JBK	**JBK**	**2.84**	**143**	S	**Sn**	**01 26 15.4**	**0.0**
EBAD	**Badajoz**	**2.84**	**319**	Pn	**Pn**	**01 25 43.3**	**+1.5**
EBAD				Sn	**Sn**	**01 26 14.3**	**-0.9**
EBAD	**Badajoz**	**2.84**	**319**	P	**Pn**	**01 25 43.2**	**+1.5**
EBAD				⇑*i*Vmb_V		01 25 53.1	
	303nm,SNR=2.8						
EBAD				S	**Sn**	**01 26 13.3**	**-1.8**
PAB	**San Pablo**	**2.92**	**4**	P	**Pn**	**01 25 44.0**	**+1.3**
PAB				⇑*i*Vmb_V		01 25 51.7	
	211nm,SNR=1.6						
PAB				S	**Sn**	**01 26 15.6**	**-1.5**
PBEJ	**Beja**	**2.94**	**299**	*e*S	**Sn**	**01 26 16.4**	**-0.9**
PBEJ				A	A	01 26 18.7	
	2.3nm,0.2s						
MESJ	**Messejana**	**3.11**	**294**	*e*P	**Pn**	**01 25 46.8**	**+1.5**
MESJ				*e*S	**Sn**	**01 26 19.8**	**-1.8**
MESJ				A	A	01 26 22.5	
	5.3nm,0.4s						
MESJ	**Messejana**	**3.11**	**294**	*e*P	**Pn**	**01 25 46.8**	**+1.5**
MESJ				*e*S	**Sn**	**01 26 19.8**	**-1.8**
MESJ				IAML		01 26 22.1	
	comp=N,3.7nm,0.3s						
IFR	**Ifrane**	**3.13**	**188**	Pn	**Pn**	**01 25 46.6**	**+0.7**
IFR				Sn	**Sn**	**01 26 20.1**	**-2.3**
PESTR	**Estremoz**	**3.24**	**314**	*e*P	**Pn**	**01 25 49.0**	**+1.9**
PESTR				*e*S	**Sn**	**01 26 23.7**	**-1.0**
PESTR				A	A	01 26 24.3	
	comp=N,3.1nm,0.7s						
PESTR	**Estremoz**	**3.24**	**314**	Pn	**Pn**	**01 25 48.9**	**+1.8**
EVO	**Evora**	**3.29**	**306**	*e*P	**Pn**	**01 25 49.6**	**+1.9**
EVO				*e*S	**Sn**	**01 26 24.7**	**-1.2**
EVO				A	A	01 26 27.7	
	comp=N,5.8nm,0.1s						
EVO	**Evora**	**3.29**	**306**	Pn	**Pn**	**01 25 49.4**	**+1.6**
EVO				Sn	**Sn**	**01 26 24.8**	**-1.1**
MORF	**Marmelete**	**3.29**	**283**	⇑*e*P	**Pn**	**01 25 49.4**	**+1.6**
MORF				*e*S	**Sn**	**01 26 25.2**	**-0.9**
MORF				A	A	01 26 29.3	
	comp=N,10nm,0.2s						
MORF	**Marmelete**	**3.29**	**283**	*e*P	**Pn**	**01 25 49.4**	**+1.6**
MORF				*e*S	**Sn**	**01 26 24.3**	**-1.8**
MORF				IAML		01 26 27.6	
	comp=E,11nm,0.1s						
PTEO	**Sao Teotonio**	**3.40**	**287**	*e*P	**Pn**	**01 25 51.7**	**+2.5**
PTEO				*e*S	**Sn**	**01 26 27.9**	**-0.7**
PTEO				A	A	01 26 31.3	
	comp=E,6.0nm,0.5s						
PFVI	**Vila Bisbo**	**3.41**	**280**	*e*P	**Pn**	**01 25 50.9**	**+1.6**
PFVI				*e*S	**Sn**	**01 26 26.3**	**-2.4**
PFVI				A	A	01 26 29.3	
	comp=E,9.1nm,0.1s						
PFVI	**Vila Bisbo**	**3.41**	**280**	Pn	**Pn**	**01 25 50.7**	**+1.5**
PFVI				Sn	**Sn**	**01 26 26.3**	**-2.4**
PFVI	**Vila Bisbo**	**3.41**	**280**	P	**Pn**	**01 25 50.6**	**+1.3**
PFVI	**Vila Bisbo**	**3.41**	**280**	S	**Sn**	**01 26 28.4**	**-0.3**
PMRV	**Marv??o**	**3.54**	**323**	*e*P	**Pn**	**01 25 52.9**	**+1.7**
PMRV				*e*S	**Sn**	**01 26 30.6**	**-1.5**
CZD	**Col de Zad**	**3.61**	**186**	P	**Pn**	**01 25 51.5**	**-0.8**
CZD	**Col de Zad**	**3.61**	**186**	S	**Sn**	**01 26 32.8**	**-1.3**
EPLA	**Plasencia**	**3.61**	**342**	P	**Pn**	**01 25 53.8**	**+1.7**
EPLA				⇑*i*Vmb_V		01 26 03.8	
	comp=E,337nm,SNR=2.6						
EPLA				S	**Sn**	**01 26 32.2**	**-1.5**
PMTG	**Montargil**	**3.75**	**312**	*e*P	**Pn**	**01 25 55.9**	**+2.0**
PMTG				*e*S	**Sn**	**01 26 35.8**	**-1.1**
PMTG				A	A	01 26 42.0	
	comp=E,2.4nm,0.7s						
MD31	**MD31**	**3.76**	**182**	P	**Pn**	**01 25 55.8**	**+1.6**
MD31	**MD31**	**3.76**	**182**	S	**Sn**	**01 26 36.6**	**-0.8**
MDT	**Midelt**	**3.81**	**180**	P	**Pn**	**01 25 55.2**	**+0.4**
MDT	**Midelt**	**3.81**	**180**	S	**Sn**	**01 26 36.2**	**-2.4**
EVIV	**Cofrentes, Val**	**3.82**	**45**	P	**Pn**	**01 25 56.0**	**+1.0**
EVIV				S	**Sn**	**01 26 35.7**	**-3.1**
UCM	**Universidad Co**	**3.83**	**16**	Pn	**Pn**	**01 25 57.0**	**+2.0**
UCM				Sn	**Sn**	**01 26 36.7**	**-2.2**
PCBR	**Castelo Branco**	**3.91**	**326**	*e*P	**Pn**	**01 25 58.0**	**+1.9**
PCBR				*e*S	**Sn**	**01 26 38.9**	**-2.0**
PCBR				A	A	01 26 42.4	
	comp=E,1.8nm,0.4s						
GUD	**Guadarrama**	**4.02**	**5**	P	**Pn**	**01 25 59.1**	**+1.4**
GUD				S	**Sn**	**01 26 40.0**	**-3.8**
AVE	**Averroes**	**4.04**	**215**	Pn	**Pn**	**01 25 59.1**	**+1.2**
AVE				Sn	**Sn**	**01 26 41.5**	**-2.5**
ECHE	**Chera**	**4.13**	**43**	Pn	**Pn**	**01 26 00.3**	**+1.2**
ECHE	**Chera**	**4.13**	**43**	P	**Pn**	**01 26 00.2**	**+1.2**
ECHE				S	**Sn**	**01 26 43.4**	**-2.8**
PMAFR	**Mafra**	**4.36**	**304**	*e*S	**Sn**	**01 26 51.3**	**-0.5**
MTE	**Manteigas**	**4.40**	**330**	*e*S	**Sn**	**01 26 53.6**	**+0.6**
MTE				A	A	01 26 54.2	
	comp=E,3.6nm,1.0s						
PCAS	**Casmilo, Conde**	**4.58**	**319**	*e*S	**Sn**	**01 26 56.3**	**-0.7**
ETOR	**Torete**	**4.64**	**25**	P	**Pn**	**01 26 07.6**	**+1.6**
ETOR				⇑*i*Vmb_V		01 26 14.7	
	comp=E,191nm,SNR=0.8						
ETOR				S	**Sn**	**01 26 54.6**	**-4.1**
PVIS	**Viseu**	**4.81**	**329**	*e*P	**Pn**	**01 26 11.0**	**+2.6**
PVIS				*e*S	**Sn**	**01 27 02.4**	**-0.5**
MVO	**Moncorvo**	**4.90**	**338**	*e*P	**Pn**	**01 26 11.7**	**+2.2**
MVO				*e*S	**Sn**	**01 27 03.9**	**-1.1**
MVO				A	A	01 27 05.3	
	comp=E,2.5nm,0.4s						
EMOS	**Mosqueruela**	**4.95**	**40**	S	**Sn**	**01 27 02.9**	**-3.5**
PVRL	**Vila Real**	**5.22**	**333**	*e*P	**Pn**	**01 26 16.1**	**+2.1**
PVRL				*e*S	**Sn**	**01 27 11.2**	**-1.7**
PVRL				A	A	01 27 13.6	
	comp=E,3.9nm,0.3s						
PBRG	**Braganca**	**5.42**	**343**	*e*P	**Pn**	**01 26 18.8**	**+2.2**
PBRG				*e*S	**Sn**	**01 27 16.0**	**-1.7**
PBRG				A	A	01 27 19.4	
	comp=E,1.8nm,0.4s						
PCAB	**Cabril**	**5.72**	**334**	*e*S	**Sn**	**01 27 23.5**	**-1.4**
PGAV	**Gavieira, Arco**	**6.03**	**333**	*e*S	**Sn**	**01 27 31.6**	**-1.0**
TIO	**Tiouine**	**6.10**	**202**	P	**Pn**	**01 26 25.6**	**-0.4**
TIO	**Tiouine**	**6.10**	**202**	S	**Sn**	**01 27 33.0**	**-1.5**
TTIG	**Tnine Tigouga,**	**6.85**	**209**	P	**Pn**	**01 26 35.2**	**-1.1**
TTIG	**Tnine Tigouga,**	**6.85**	**209**	S	**Sn**	**01 27 48.8**	**-4.0**
EALK	**Alkurruntz**	**7.00**	**19**	P	**Pn**	**01 26 41.2**	**+3.0**
EALK				S	**Sn**	**01 27 51.5**	**-4.8**

*CATAC **27** 01:26:06.3±0.7, 12.°86N×90.°48W, h11km±4km, ML3.8*
*GCG **27** 01:26:07.8±0.4, 12.°95N×90.°57W, h9km±9km, MD4.0*
*SNET **27** 01:26:08.7±1.6, 13.°03N×90.°44W, h16km, ML3.8*
*IDC **27** 01:26:09.5±1.8, 13.°78N×89.°80W, h0km, mb3.9/2, mbtmp3.8/4, ML3.1/2, Error ellipse: s-maj=66.6km s-min=17.7km az=38.0*
ISC 27 01:26:08.7±2.1, 12.°98N±0.°06×90.°42W±0.°04, h16km±12km, n61, σ1°30/89, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.11**	**34**	*e*P	**Pb**	**01 26 28.4**	**-1.2**
NUBE				*e*S	**Sb**	**01 26 44.3**	**+0.4**
NUBE	**Las Nubes**	**1.11**	**34**	*i*P	**Pb**	**01 26 28.6**	**-1.0**
NUBE				IAML		01 26 30.4	
	comp=Z,1μm,1.0s						
NUBE				*i*S	**Sn**	**01 26 45.7**	**+0.9**
CEVE	**Cerro Verde**	**1.14**	**43**	⇑*e*P	**Pb**	**01 26 29.5**	**-0.8**
CEVE				*e*S	**Sn**	**01 26 45.9**	**+0.1**
CEVE	**Cerro Verde**	**1.14**	**43**	*i*P	**Pb**	**01 26 29.7**	**-0.6**
CEVE				*i*S	**Sn**	**01 26 47.0**	**+1.2**
CEVE				IAML		01 26 50.5	
	comp=Z,4μm,1.0s						
SBLS	**San Blas**	**1.15**	**42**	*e*P	**Pb**	**01 26 29.6**	**-0.9**
SBLS				*e*S	**Sn**	**01 26 46.8**	**+0.7**
JAYA	**Jayaque - finc**	**1.16**	**55**	⇑*e*P	**Pb**	**01 26 29.3**	**-1.2**
JAYA				*e*S	**Sb**	**01 26 45.5**	**+0.1**
JAYA	**Jayaque - finc**	**1.16**	**55**	*i*P	**Pb**	**01 26 29.4**	**-1.2**
JAYA				*i*S	**Sn**	**01 26 47.1**	**+1.0**
JAYA				IAML		01 26 49.7	
	comp=Z,5μm,1.0s						
RTR	**El Retiro**	**1.18**	**40**	*e*P	**Pb**	**01 26 29.8**	**-1.1**
LALI	**Alcalda de L**	**1.18**	**65**	*e*P	**Pb**	**01 26 30.1**	**-0.7**
LALI	**Alcalda de L**	**1.18**	**65**	*i*P	**Pb**	**01 26 29.6**	**-1.2**
LALI				*i*S	**Sn**	**01 26 47.7**	**+1.3**
LALI				IAML		01 26 52.8	
	comp=Z,630nm,1.0s						
SNJE	**San Jose**	**1.19**	**42**	*e*P	**Pb**	**01 26 30.0**	**-1.0**
LOAL	**Lomas de Alarc**	**1.19**	**32**	*e*P	**Pb**	**01 26 29.9**	**-1.0**
LOAL	**Lomas de Alarc**	**1.19**	**32**	*i*P	**Pb**	**01 26 30.3**	**-0.6**
LOAL				*i*S	**Sn**	**01 26 47.5**	**+0.9**
LOAL				IAML		01 26 50.0	
	comp=Z,4μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.21**	**31**	*e*P	**Pb**	**01 26 30.1**	**-1.1**
CEDA	**San Andres**	**1.29**	**51**	*e*P	**Pn**	**01 26 30.5**	**-1.6**
PMON	**Piamonte**	**1.30**	**56**	*e*P	**Pn**	**01 26 31.4**	**-1.0**
PMON				*e*S	**Sn**	**01 26 49.9**	**+0.4**
PMON	**Piamonte**	**1.30**	**56**	*i*P	**Pn**	**01 26 31.7**	**-0.7**
PMON				*i*S	**Sg**	**01 26 51.4**	**+0.6**
PMON				IAML		01 26 57.7	
	comp=Z,2μm,1.0s						
UNIC	**Universidad Ca**	**1.31**	**41**	*e*P	**Pn**	**01 26 31.4**	**-1.0**
UNIC	**Universidad Ca**	**1.31**	**41**	*i*P	**Pn**	**01 26 31.4**	**-1.0**
UNIC				*i*S	**Sg**	**01 26 50.8**	**-0.2**
UNIC				IAML		01 26 56.1	
	comp=Z,630nm,1.0s						
BOQS	**Boqueron**	**1.34**	**56**	*e*P	**Pn**	**01 26 32.6**	**-0.4**
BOQS				*e*S	**Sg**	**01 26 53.1**	**+1.0**
SNET	**Serv Nac Est T**	**1.35**	**59**	*e*P	**Pn**	**01 26 32.6**	**-0.5**
UEES	**Universidad Ev**	**1.36**	**58**	*e*P	**Pn**	**01 26 32.1**	**-1.1**
LOMA	**Loma Larga**	**1.38**	**62**	*e*P	**Pn**	**01 26 32.8**	**-0.7**
LOMA	**Loma Larga**	**1.38**	**62**	*i*P	**Pn**	**01 26 32.8**	**-0.7**
LOMA				*i*S	**Sb**	**01 26 51.9**	**+0.1**
LOMA				IAML		01 27 05.1	
	comp=Z,1μm,1.0s						
PCG	**Pacaya**	**1.41**	**353**	*i*P	**Pn**	**01 26 32.8**	**-1.2**
ESSG	**Sabana Grande**	**1.45**	**344**	*i*P	**Pn**	**01 26 33.3**	**-1.1**
ESSG				*i*S	**Sn**	**01 26 51.6**	**-1.5**
ESSG				IAML		01 26 57.6	
	comp=Z,1μm,1.0s						
LFRS	**El Faro**	**1.47**	**64**	*e*P	**Pn**	**01 26 33.8**	**-0.9**
LFRS				*e*S	**Sb**	**01 26 54.8**	**+0.5**
FUG	**Fuego 3**	**1.51**	**344**	*e*P	**Pn**	**01 26 35.0**	**-0.3**
NBG	**Las Nubes**	**1.59**	**3**	*i*P	**Pb**	**01 26 37.4**	**-0.7**
NBG				*i*S	**Sg**	**01 27 00.4**	**+0.1**
PAVA	**Las Pavas**	**1.62**	**63**	*e*P	**Pn**	**01 26 35.8**	**-0.9**
PAVA	**Las Pavas**	**1.62**	**63**	*i*P	**Pn**	**01 26 36.7**	**0.0**
PAVA				IAML		01 27 09.8	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**1.63**	**67**	*e*P	**Pn**	**01 26 36.2**	**-0.6**
COEG	**Centro de Oper**	**1.63**	**67**	*i*P	**Pn**	**01 26 36.5**	**-0.4**
COEG				*i*S	**Sb**	**01 26 59.1**	**+0.3**
COEG				IAML		01 27 09.9	
	comp=Z,1μm,1.0s						
TECO	**Alcaldia de Te**	**1.69**	**71**	*e*P	**Pn**	**01 26 36.0**	**-1.7**
TECO				*e*S	**Sn**	**01 26 58.6**	**-0.4**
TECO	**Alcaldia de Te**	**1.69**	**71**	*i*P	**Pn**	**01 26 36.3**	**-1.4**
TECO				*i*S	**Sn**	**01 26 59.3**	**+0.3**
TECO				IAML		01 27 08.8	
	comp=Z,320nm,1.0s						
MTO3	**Montecristo**	**1.74**	**36**	*e*P	**Pn**	**01 26 38.2**	**-0.3**
MTO3	**Montecristo**	**1.74**	**36**	*i*P	**Pn**	**01 26 38.3**	**-0.3**
MTO3				IAML		01 26 48.4	
	comp=Z,730nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.80**	**66**	*e*P	**Pn**	**01 26 38.8**	**-0.4**
SCLA	**Alcaldia de Sa**	**1.80**	**66**	*i*P	**Pn**	**01 26 38.8**	**-0.4**
SCLA				*i*S	**Sn**	**01 26 55.0**	**-6.7**
SCLA				IAML		01 27 10.1	
	comp=Z,460nm,1.0s						
ESQI	**Esquipulas**	**1.89**	**34**	*e*P	**Pn**	**01 26 40.8**	**+0.4**
ESQI	**Esquipulas**	**1.89**	**34**	*i*P	**Pn**	**01 26 41.0**	**+0.6**
ESQI				IAML		01 27 27.6	
	comp=Z,1μm,1.0s						
STG3	**Santiaguito 3,**	**2.05**	**327**	*i*P	**Pn**	**01 26 42.3**	**-0.4**
STG3				*i*S	**Sn**	**01 27 06.3**	**-1.7**
SOKI	**Kika Raxquin**	**2.06**	**333**	*i*P	**Pn**	**01 26 42.6**	**-0.5**
SOKI				*i*S	**Sn**	**01 27 08.3**	**-0.3**
SOKI				IAML		01 27 12.4	
	comp=Z,830nm,1.0s						
PACA	**Pacayal**	**2.10**	**77**	*i*P	**Pn**	**01 26 44.7**	**+1.3**
PACA				*i*S	**Sg**	**01 27 19.5**	**+3.1**
MRL	**Marmol**	**2.20**	**19**	*e*P	**Pn**	**01 26 46.3**	**+1.4**
QUIS	**Sacapulas**	**2.38**	**344**	*i*P	**Pn**	**01 26 48.9**	**+1.6**
QUIS				*i*S	**Sb**	**01 27 19.0**	**-1.6**
LCND	**La Caada**	**2.49**	**82**	*e*P	**Pn**	**01 26 48.3**	**-0.3**
LCND	**La Caada**	**2.49**	**82**	*i*P	**Pn**	**01 26 47.8**	**-0.8**
LCND				*i*S	**Sg**	**01 27 28.2**	**-0.6**
LCND				IAML		01 27 28.8	
	comp=Z,290nm,1.0s						
CNCH	**Conchagua**	**2.54**	**83**	*e*P	**Pn**	**01 26 48.7**	**-0.7**
CNCH	**Conchagua**	**2.54**	**83**	*i*P	**Pn**	**01 26 48.6**	**-0.8**
CNCH				IAML		01 27 30.7	
	comp=Z,450nm,1.0s						
CSGN	**Cosiguina Volc**	**2.79**	**90**	*i*P	**Pn**	**01 26 51.0**	**-1.9**
CSGN				IAML		01 26 59.7	
	comp=Z,56nm,1.0s						
POTN	**Potosi Cosigui**	**2.84**	**89**	*i*P	**Pn**	**01 26 52.9**	**-0.6**
POTN				IAML		01 26 57.1	
	comp=Z,110nm,1.0s						
PKGN	**Cerro Pekin**	**3.38**	**95**	*i*P	**Pn**	**01 26 59.7**	**-1.1**
PKGN				*i*S	**Sn**	**01 27 41.4**	**+0.8**
PKGN				IAML		01 27 48.5	
	comp=Z,300nm,1.0s						
MACN	**El Madrono**	**3.69**	**98**	*i*P	**Pn**	**01 27 03.8**	**-1.4**
MACN				IAML		01 27 50.7	
	comp=Z,44nm,1.0s						
CMIG	**Matias Romero**	**5.94**	**314**	Pn	**Pn**	**01 27 36.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=99,slow=13,SNR=1.9						
CMIG				Sn	**Sn**	**01 28 46.5**	**+2.7**
	comp=Z,0.6nm,0.3s,baz=138,slow=14,SNR=2.3						
	comp=Z,1.5nm,0.4s						
JTS	**Las Juntas de**	**5.99**	**116**	Pn	**Pn**	**01 27 37.7**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=309,slow=17,SNR=4.9						
JTS				Sn	**Sn**	**01 28 46.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=232,slow=19,SNR=1.2						
JTS				Lg	Lg	01 29 15.8	
	comp=Z,0.4nm,0.3s,baz=299,slow=19,SNR=2.5						
	comp=Z,3.5nm,0.4s						
TEIG	**Tepich**	**7.49**	**16**	Pn	**Pn**	**01 27 53.9**	**-3.5**
	comp=Z,201nm,0.3s,baz=322,slow=0.0,SNR=1.9						
TXAR	**Lajitas Array**	**20.39**	**325**	P	**P**	**01 30 45.9**	**+0.7**
	comp=Z,16nm,0.4s,baz=138,slow=10,SNR=4.3		

comp=N,10708µm,0.7s
DRO AML AML 01 27 43.4
comp=E,14027µm,0.7s
TSLK Tsoukalades, L 1.18 11 P Pb 01 27 12.6 +0.4
TSLK AML AML 01 27 36.1
comp=E,9606µm,1.0s
TSLK AML AML 01 27 41.6
comp=N,8461µm,0.5s
ITM Ithomi 1.33 111 Pb 01 27 15.3 +0.5
ITM Ithomi 1.33 111 P Pb 01 27 15.2 +0.4
ITM S **Sb 01 27 34.5 +3.0**
comp=N,2µm,0.7s
ITM Ithomi 1.33 111 P Pb 01 27 15.2 +0.4
PYL PYLOS 1.34 124 P Pb 01 27 15.0 +0.1
PYL S **Sb 01 27 34.0 +2.4**
comp=N,2µm,0.7s
PYL PYLOS 1.34 124 P Pb 01 27 14.4 -0.5
PYL AML AML 01 27 39.6
comp=N,1850µm,0.4s
PYL AML AML 01 27 44.6
comp=E,2845µm,0.5s
EFP Efpalio 1.44 57 P Pb 01 27 16.9 +0.3
EFP AML AML 01 27 51.0
comp=E,4787µm,0.9s
EFP AML AML 01 27 52.1
comp=N,2665µm,0.5s
KLV Kalavryta, Ach 1.46 74 P Pb 01 27 18.1 +1.0
KLV S **Sb 01 27 38.9 +3.6**
comp=N,2µm,0.8s
KLV Kalavryta, Ach 1.46 74 P Pb 01 27 17.7 +0.6
KLV S **Sb 01 27 37.5 +2.2**
KLV AML AML 01 27 47.8
comp=E,3025µm,0.7s
KLV AML AML 01 27 51.0
comp=N,4962µm,0.8s
ANX Ano Chora 1.54 52 P Pb 01 27 19.4 +1.0
ANX AML AML 01 27 48.6
comp=N,12188µm,0.6s
ANX AML AML 01 27 49.5
comp=E,8562µm,0.8s
KALE Kalithea 1.58 62 P Pb 01 27 20.5 +1.5
GUR Goura 1.59 80 P Pb 01 27 20.0 +0.8
IGT Igoumenitsa 1.87 359 P Pb 01 27 23.2 -0.7
IGT S **Sb 01 27 49.6 +2.8**
IGT AMP
comp=N,2.2nm,0.6s,baz=355
IGT Igoumenitsa 1.87 359 P Pb 01 27 22.6 -1.3
DLFA Delphi 1.87 64 P Pb 01 27 24.4 +0.4
MAKR Makrakomi, Fth 1.94 45 P Pb 01 27 26.4 +1.2
LTK Loutraki 2.09 79 P Pb 01 27 26.7 -1.0
KEK Kerkira 2.09 348 Pn 01 27 25.7 +1.4
AXAR Agios Charalam 2.12 58 P Pb 01 27 27.8 -0.4
SRN Sarande 2.23 353 P Pn 01 27 27.9 +1.7
SRN S **Sb 01 27 59.2 +2.0**
SRN AMP
comp=E,1.9nm,0.6s,baz=349
THL Klokotos Trika 2.30 34 P Pb 01 27 30.6 -0.7
VIL2 Platees 2.36 76 P Pb 01 27 30.8 -1.6
LSK Leskovik 2.49 4 P Pn 01 27 32.0 +2.1
LSK S **Sb 01 28 05.3 +0.5**
LSK AMP
comp=N,4.8nm,0.6s,baz=0.0
PENT Pentalofos 2.60 13 P Pb 01 27 34.9 -1.5
ATH Athens Observa 2.67 82 P Pb 01 27 35.5 -2.1
ATHU Athens Univers 2.73 83 P Pn 01 27 34.7 +1.7
NEO Neokhori 2.78 53 P Pn 01 27 36.2 +2.4
PTL Penteli 2.80 81 P Pn 01 27 36.0 +2.0
NEST Nestorio 2.80 11 P Pn 01 27 36.7 +2.6
NEST S **Sb 01 28 13.5 -0.2**
NEST AMP
comp=N,1.1nm,0.8s,baz=7.0
SCTE Santa Cesarea 2.82 329 S **Sb 01 28 16.6 +2.3**
SCTE AMP
comp=E,3.0nm,0.6s,baz=327
SCTE Santa Cesarea 2.82 329 Pn **Pn 01 27 35.9 +1.5**
LIT Litokhoron 2.95 34 Pn **Pn 01 27 38.5 +2.5**
KBN Korca 2.97 6 P **Pn 01 27 38.6 +2.1**
KBN S **Sb 01 28 17.3 -1.5**
KBN AMP
comp=E,1.1nm,0.9s,baz=3.0
TIP Timpagrande 3.21 299 Pn **Pn 01 27 39.2 -0.6**
FNA Florina 3.21 14 P **Pn 01 27 43.0 +3.2**
FNA S **Sn 01 28 20.9 +3.4**
FNA AMP
comp=E,0.2nm,0.8s,baz=11
FNA Florina 3.21 14 Pn 01 27 41.7 +1.9
FNA Florina 3.21 14 *e*Pn **Pn 01 27 42.1 +2.3**
FNA *e*Sn **Sn 01 28 20.5 +3.1**
OHR Ohrid 3.46 5 *e*Pn **Pn 01 27 46.0 +2.8**
OHR *e*Sn **Sn 01 28 26.4 +2.9**
OHR Ohrid 3.46 5 *i* Pn **Pn 01 27 46.9 +3.7**
CEL Celeste 3.58 281 Pn 01 27 45.2 +0.4
THE Thessaloniki 3.59 33 P **Pn 01 27 46.9 +2.0**
THE S **Sn 01 28 31.4 +4.8**
THE AMP
comp=N,0.2nm,0.6s,baz=31
TIR Tirane 3.70 354 Pn 01 27 47.0 +0.6
TIR Tirane 3.70 354 *e*Pn **Pn 01 27 48.7 +2.3**
TIR *e*Sn **Sn 01 28 33.4 +4.1**
VAY Valandovo 4.03 24 *e*Pn **Pn 01 27 52.8 +1.8**
VAY *e*Sn **Sn 01 28 40.6 +3.1**
VAY Valandovo 4.03 24 *i* Pn **Pn 01 27 54.0 +3.0**
CUC Castrocucco 4.25 305 Pn **Pn 01 27 53.1 -0.9**
SRS Serrai 4.26 35 *e*Pn **Pn 01 27 56.0 +1.9**
SRS *e*Sn **Sn 01 28 44.8 +1.6**
IDI Anoyia 4.35 122 Pn **Pn 01 27 55.3 -0.1**
IDI Anoyia 4.35 122 Pn **Pn 01 27 52.6 -2.8**
comp=N,9.6nm,1.1s,baz=285,slow=12,SNR=1.3
IDI Sn **Sn 01 28 44.0 -1.5**
comp=N,1.4nm,0.3s,baz=311,slow=19,SNR=2.0
PUK Puka 4.39 355 Pn **Pn 01 27 56.6 +0.6**
PEHC Pehcevo 4.55 25 *i* Pn **Pn 01 28 00.7 +2.5**
DRME Dracevica, Mon 4.61 349 ⇑*i*Pn **Pn 01 28 00.3 +1.4**
DRME *i* Sn **Sn 01 28 53.3 +1.6**
MMB Musomishta 4.68 33 P **Pn 01 28 02.6 +2.7**
KKB Krupnik 4.69 26 P **Pn 01 28 02.3 +2.3**
VAE Valguarnera 4.73 270 Pn **Pn 01 28 03.3 +2.7**
comp=N,18nm,0.8s,baz=60,slow=20,SNR=2.6
VAE Sn **Sn 01 28 58.5 +3.6**
comp=N,3.2nm,0.3s,baz=237,slow=16,SNR=5.4
BUM Brajici-Budva 4.77 347 ⇓*i*Pn **Pn 01 28 02.7 +1.6**
BUM *e*Sn **Sn 01 28 56.9 +1.1**
RAFF Raffo Rosso 4.80 267 Pn **Pn 01 27 59.9 -1.6**
PDG Podgorica 4.84 350 Pn **Pn 01 28 02.2 +0.2**
PDG Podgorica 4.84 350 *e*Pn **Pn 01 28 02.9 +0.9**
PDG *e*Sn **Sn 01 28 58.7 +1.4**
PDG Podgorica 4.84 350 *e*Pn **Pn 01 28 02.4 +0.4**
PDG Podgorica 4.84 350 ⇓*i*Pn **Pn 01 28 02.8 +0.8**
PDG *e*Sn **Sn 01 28 58.0 +0.7**
PVY Plav 4.94 357 *e*Pn **Pn 01 28 05.3 +1.8**
PVY *i* Sn **Sn 01 29 03.9 +3.9**
HCY Herceg Novi 4.99 344 *e*Pn **Pn 01 28 01.5 -2.6**
HCY Herceg Novi 4.99 344 ⇓*i*Pn **Pn 01 28 04.1 0.0**
HCY *i* Sn **Sn 01 29 01.5 +0.4**
CEME Cevo 5.00 348 ⇓*i*Pn **Pn 01 28 05.8 +1.4**
CEME *i* Sn **Sn 01 29 02.1 +0.6**
BOSS Bosilegrad 5.09 18 *e*Pn **Pn 01 28 06.5 +0.9**
IVA Berane 5.21 356 ⇑*i*Pn **Pn 01 28 09.1 +1.8**
IVA *i* Sn **Sn 01 29 11.3 +4.5**
KOME Kolasin 5.22 353 ⇑*i*Pn **Pn 01 28 08.8 +1.4**
KOME *i* Sn **Sn 01 29 07.6 +0.6**
RZN Rozhen 5.25 39 P **Pn 01 28 10.4 +2.5**
BARS Barje 5.27 12 *e*Pn **Pn 01 28 09.2 +1.3**
TREB Trebinje 5.28 344 *e*Pn **Pn 01 28 07.3 -0.8**
RDO Rodhopi 5.30 47 Pn **Pn 01 28 09.5 +1.1**
BRY Bratogost 5.42 346 *e*Pn **Pn 01 28 10.1 0.0**
BRY Bratogost 5.42 346 ⇑*i*Pn **Pn 01 28 11.0 +0.9**
BRY *i* Sn **Sn 01 29 12.2 +0.4**
VTS Vitosha 5.42 23 P **Pn 01 28 12.2 +2.1**
KDZ Kurdzhali 5.52 43 P **Pn 01 28 13.3 +1.9**
SELS Selova 5.58 6 *e*Pn **Pn 01 28 12.9 +0.6**
SELS *e*Sn **Sn 01 29 16.4 +0.7**
STON Ston 5.59 339 *e*Pn **Pn 01 28 10.9 -1.4**
SJES Sjenica 5.60 357 *e*Pn **Pn 01 28 13.6 +1.0**
SJES *e*Sn **Sn 01 29 18.1 +1.8**
SJES Sjenica 5.60 357 *e*Pn **Pn 01 28 13.7 +1.1**
UPM Unac-Piva 5.64 349 *e*Pn **Pn 01 28 13.3 0.0**
UPM Unac-Piva 5.64 349 *e*Pn **Pn 01 28 14.0 +0.7**
UPM *i* Sn **Sn 01 29 19.8 +2.3**
ZAPS Zavoj 5.87 16 *e*Pn **Pn 01 28 16.7 +0.5**
IVAS Ivanjica 5.91 359 *e*Pn **Pn 01 28 16.9 +0.1**
RUDO Rudo 6.00 353 *e*Pn **Pn 01 28 17.0 -1.0**

BOVS Bovan 6.05 9 *e*Pn **Pn 01 28 18.2 -0.5**
BOVS *e*Sn **Sn 01 29 26.4 -0.9**
BOVS Bovan 6.05 9 ⇓P **Pn 01 28 19.3 +0.6**
GRUS Gruza 6.22 2 *e*Pn **Pn 01 28 20.9 -0.2**
BBLS Lazi&#263i 6.24 354 *e*Pn **Pn 01 28 22.7 +1.4**
BBLS *e*Sn **Sn 01 29 32.4 +0.4**
BBLS Lazi&#263i 6.24 354 *e*Pn **Pn 01 28 23.9 +2.6**
MPEP Malo Peshtene 6.24 23 P **Pn 01 28 23.6 +2.3**
DIVS Divibare 6.43 358 *e*Pn **Pn 01 28 23.1 -0.9**
HAPS Han Pijesak,BI 6.50 351 *e*Pn **Pn 01 28 25.2 +0.2**
TRUS Trudelj 6.55 0 *e*Pn **Pn 01 28 25.8 +0.2**
ELND Elena 6.74 37 ⇑P **Pn 01 28 30.7 +2.6**
TEKS Tekeris 6.91 355 *e*Pn **Pn 01 28 28.7 -1.8**
AVAS Avala Beograd 7.03 1 *e*Pn **Pn 01 28 32.0 -0.1**
AVAS *e*Sn **Sn 01 29 50.6 -0.7**
HERR Herculane 7.38 11 ⇓P **Pn 01 28 39.9 +3.0**
A050A Klekovaca 7.40 338 *e*Pn **Pn 01 28 38.0 +0.7**
BLY Banja Luka 7.47 342 *e*Pn **Pn 01 28 39.4 +1.2**
FRGS Fruska Gora 7.50 357 *e*Pn **Pn 01 28 36.8 -1.8**
NRCA Norcia 7.58 315 Pn **Pn 01 28 38.7 -1.0**
A051A Mrakovica 7.79 342 *e*Pn **Pn 01 28 42.6 0.0**
BZS Buzias 8.00 6 ⇑P **Pn 01 28 47.1 +1.7**
ARR Arges 8.34 21 ⇑P **Pn 01 28 52.5 +2.4**
BOJS Bojanci 8.72 336 *e*Pn **Pn 01 28 56.3 +1.0**
MLR Muntele Rosu 8.87 26 Pn **Pn 01 28 57.8 +0.3**
MLR Muntele Rosu 8.87 26 Pn **Pn 01 28 56.8 -0.7**
comp=N,0.6nm,0.3s,baz=295,slow=14,SNR=11
MLR LR LR 01 32 46.3
comp=N,114nm,21.1s,baz=215,slow=41
comp=N,6.0nm,0.9s
MLR Muntele Rosu 8.87 26 ⇓P **Pn 01 29 01.6 +4.2**
CRES Cresnjevec Ost 8.94 337 *e*Pn **Pn 01 28 58.2 -0.1**
KEST Kesra 9.06 261 Pn **Pn 01 29 02.1 +2.1**
comp=N,0.2nm,0.3s,baz=107,slow=14,SNR=1.5
KEST Sn **Sn 01 30 40.5 -0.9**
comp=N,0.2nm,0.3s,baz=52,slow=17,SNR=1.1
KEST LR LR 01 32 58.1
comp=N,106nm,21.6s,baz=95,slow=40
comp=N,2.5nm,0.5s
DOPR Dopca 9.10 23 ⇑P **Pn 01 29 03.4 +2.8**
SKDS Skadanscina 9.20 331 *e*Pn **Pn 01 29 02.1 +0.2**
CEY Cerknica 9.21 333 *e*Pn **Pn 01 29 02.8 +0.8**
COVR Voineasa-Covas 9.26 26 ⇑P **Pn 01 29 07.1 +4.3**
TURR Turia 9.38 25 ⇑P **Pn 01 29 07.4 +3.0**
PLOR Plostina 9.43 28 ⇑P **Pn 01 29 09.2 +4.2**
VRI Vrincioaia 9.47 28 ⇑P **Pn 01 29 09.8 +4.2**
OBKA Obir 9.84 336 *i* Pn **Pn 01 29 12.8 +2.2**
comp=N,1.0nm,0.2s
OBKA Obir 9.84 336 *e*Pn **Pn 01 29 11.1 +0.4**
SOKA Soboth 9.84 338 *i* Pn **Pn 01 29 10.6 -0.1**
comp=N,1.8nm,0.4s
MYKA Terra Mystica 10.25 333 *e*Pn **Pn 01 29 18.5 +2.1**
comp=N,1.0nm,0.4s
RONA Rosalia, Austr 10.46 345 *i* Pn **Pn 01 29 20.9 +1.6**
comp=N,2.1nm,0.4s
BRTR Keskin Array B 10.58 75 Pn **Pn 01 29 20.4 -0.6**
baz=262,slow=10.0,SNR=2.2
BRTR LR LR 01 34 20.1
comp=N,211nm,18.7s,baz=288,slow=43
CTI Castel Tesino 10.60 325 Pn **Pn 01 29 21.2 +0.1**
KBA Koelnbreinsper 10.74 333 *i* Pn **Pn 01 29 25.4 +2.2**
comp=N,10nm,0.7s
ABTA Abfaltersbach 10.78 330 *i* Pn **Pn 01 29 25.4 +1.8**
comp=N,1.1nm,0.5s
VYHS Vyhne 10.88 355 *e*PN **Pn 01 29 25.5 +0.6**
MOA Molln 11.12 338 *i* Pn **Pn 01 29 29.2 +1.1**
comp=N,0.7nm,0.4s
BIOA Bad Ischl, Aus 11.17 336 *i* Pn **Pn 01 29 30.7 +1.7**
comp=N,1.1nm,0.3s
LESA Schwarzleotal 11.28 332 *i* Pn **Pn 01 29 32.2 +1.8**
comp=N,1.6nm,0.4s
WTTA Wattenberg 11.55 329 *i* Pn **Pn 01 29 36.1 +1.9**
comp=N,0.4nm,0.2s
WATA Walderalm 11.63 329 *i* Pn **Pn 01 29 37.5 +2.2**
comp=N,0.8nm,0.2s
SQTA Sankt Quirin 11.69 328 *i* Pn **Pn 01 29 37.5 +1.4**
comp=N,0.9nm,0.4s
FETA Feichten 11.75 326 *e*Pn **Pn 01 29 38.3 +1.4**
comp=N,2.8nm,0.7s
MOTA Moosalm 11.84 328 *i* Pn **Pn 01 29 39.5 +1.4**
comp=N,0.6nm,0.3s
VRAC Vranov 11.96 348 Pn **Pn 01 29 43.0 +3.4**
comp=N,0.2nm,0.3s,baz=80,slow=12,SNR=2.4
comp=N,0.9nm,0.5s
DAVOX Davos/Dischmat 11.96 323 Pn **Pn 01 29 40.8 +0.9**
comp=N,0.1nm,0.3s,baz=157,slow=15,SNR=1.8
DAVOX Sn **Sn 01 31 49.6 -3.2**
comp=N,0.1nm,0.3s,baz=350,slow=18,SNR=1.3
DAVOX LR LR 01 34 55.6
comp=N,56nm,19.2s,baz=85,slow=40
comp=N,1.1nm,0.8s
RETA Reutte 12.09 327 *e*Pn **Pn 01 29 43.5 +2.0**
comp=N,0.2nm,0.2s
GERES GERESS Array B 12.18 339 Pn **Pn 01 29 46.3 +3.5**
comp=N,0.3nm,0.3s,baz=150,slow=10,SNR=5.0
GERES Sn **Sn 01 31 51.8 -6.0**
comp=N,0.1nm,0.3s,baz=142,slow=24,SNR=2.1
comp=N,0.7nm,0.4s
DAVA Damuels 12.33 325 *e*Pn **Pn 01 29 48.3 +3.4**
comp=N,1.4nm,0.6s
KHC Kasperske Hory 12.47 339 *e*PN **Pn 01 29 47.1 +0.4**
MMAI Mount Meron Ar 13.12 106 Pn **Pn 01 29 54.5 -1.2**
comp=N,0.5nm,0.3s,baz=284,slow=13,SNR=1.8
MMAI Sn **Sn 01 32 13.3 -7.7**
comp=N,0.6nm,0.3s,baz=298,slow=34,SNR=1.4
comp=N,0.5nm,0.6s
AKASG Malin Array Be 14.49 23 Pn **Pn 01 30 13.8 -0.3**
comp=N,0.3nm,0.3s,baz=217,slow=12,SNR=5.5
AKASG LR LR 01 35 58.6
comp=N,50nm,20.2s,baz=200,slow=38
comp=N,0.2nm,0.4s
EIL Elat 14.52 119 Pn **Pn 01 30 13.4 -1.3**
comp=N,0.3nm,0.3s,baz=310,slow=16,SNR=2.1
comp=N,2.8nm,0.7s
CLL Collm 14.61 341 *es*PP 01 30 31.0
PABE Paberze 18.01 7 Pn 01 30 59.3 0.0
PABE AMb AMb 01 31 00.5
comp=Z,37nm,0.9s
KBZ Khabaz 18.11 63 P **Pn 01 30 58.6 -1.9**
comp=Z,0.1nm,0.3s,baz=276,slow=18,SNR=1.6
comp=Z,2.0nm,0.9s
ESDC Sonseca Array 19.09 284 P **Pn 01 31 13.1 +0.5**
comp=Z,1.6nm,0.9s,baz=86,slow=10,SNR=4.6
GNI Garni 19.12 75 LR LR 01 39 07.6
comp=Z,80nm,21.9s,baz=294,slow=39
OBN Obninsk 20.64 27 LR LR 01 40 57.9
comp=Z,40nm,21.8s,baz=177,slow=41
MDT Midelt 20.94 264 P Pn 01 31 33.3 -1.3
comp=Z,1.9nm,0.9s,baz=118,slow=15,SNR=2.1
MDT LR LR 01 40 00.4
comp=Z,24nm,18.5s,baz=114,slow=38
comp=Z,1.9nm,0.9s
HFS Hagfors 22.89 351 P **P 01 31 52.1 -0.3**
comp=Z,1.6nm,0.5s,baz=159,slow=12,SNR=9.7
comp=Z,1.6nm,0.5s
NC602 NORSAR Array S 23.76 349 P **P 01 32 00.5 -0.7**
NC602 AMb AMb 01 32 32.2
comp=Z,13nm,1.1s
EKA Eskdalemuir Ar 23.78 326 P **P 01 32 01.7 +0.4**
comp=Z,2.7nm,0.9s,baz=116,slow=8.1,SNR=3.9
comp=Z,2.7nm,0.9s
FINES FINESS Array B 24.07 7 P **P 01 32 04.3 +0.3**
comp=Z,3.3nm,0.4s,baz=171,slow=9.7,SNR=28
comp=Z,3.3nm,0.4s
FIA1 FINESS Array S 24.07 7 P **P 01 32 03.8 -0.2**
NC405 NORSAR Array S 24.09 350 P **P 01 32 04.9 +0.6**
NB201 NORSAR Array S 24.10 349 P **P 01 32 05.1 +0.8**
NB2 NORSAR Subarra 24.10 349 P **P 01 32 05.3 +0.9**
comp=Z,8.0nm,1.4s,baz=162,slow=9.3
NOA NORSAR Array B 24.10 349 P **P 01 32 04.4 0.0**
comp=Z,0.8nm,0.7s,baz=162,slow=9.8,SNR=5.5
comp=Z,0.8nm,0.7s
NBO00 NORSAR Array S 24.16 349 P **P 01 32 05.3 +0.4**
NBO00 AMb AMb 01 32 12.6
comp=Z,15nm,1.2s
NC303 NORSAR Array S 24.25 349 P **P 01 32 07.2 +1.4**
NC303 AMb AMb 01 32 14.2
comp=Z,22nm,1.5s
NC204 NORSAR Array S 24.39 349 P **P 01 32 08.7 +1.6**
NC204 AMb AMb 01 32 45.7
comp=Z,16nm,1.4s
KIRV Kirov 28.15 33 LR LR 01 44 30.9
comp=Z,73nm,18.2s,baz=229,slow=38
TORD Torodi Ar. Bea 29.55 219 P **P 01 32 55.2 +1.5**
comp=Z,0.3nm,0.4s,baz=29,slow=9.0,SNR=9.7
comp=Z,0.3nm,0.4s
ABKAR Akbulak array 30.64 55 P **P 01 33 02.8 -0.3**

ABKAR Akbulak array 30.64 55 P **P 01 33 02.2 -0.8**
ABKAR AMb AMb 01 33 36.1
comp=Z,1.5nm,0.8s
ARTI Arti 31.42 41 P **P 01 33 09.9 0.0**
ARTI AMb AMb 01 33 16.6
comp=Z,8.3nm,1.3s
ARTI Arti 31.42 41 LR LR 01 45 15.5
comp=Z,34nm,19.1s,baz=296,slow=35
ARCES ARCESS Array B 32.05 3 P **P 01 33 15.4 +0.1**
comp=Z,1.4nm,0.7s,baz=188,slow=11,SNR=11
comp=Z,1.4nm,0.7s
KEV Kevo 32.35 4 P **P 01 33 17.7 -0.2**
BVAR Borovoye Array 37.55 49 P **P 01 34 02.1 -0.8**
comp=Z,0.4nm,0.4s,baz=259,slow=6.5,SNR=2.3
comp=Z,0.4nm,0.4s
KKAR Karatay Array 38.12 66 P **P 01 34 08.4 +0.5**
DBIC Dimbokro 38.43 223 P **P 01 34 08.9 -1.8**
DBIC AMb AMb 01 34 31.3
comp=Z,21nm,1.5s
KURBB Kurchatov Arra 42.64 53 P **P 01 34 44.8 -0.4**
comp=Z,1.5nm,0.2s,baz=280,slow=9.2,SNR=3.6
comp=Z,1.5nm,0.2s
MK31 Makanchi Array 45.68 58 P **P 01 35 09.6 -0.1**
MKAR Makanchi Array 45.68 58 P **P 01 35 08.8 -0.9**
comp=Z,0.5nm,0.4s,baz=266,slow=7.1,SNR=9.1
comp=Z,0.5nm,0.4s
ZAA0 Zalesovo Array 46.13 48 P **P 01 35 13.1 +0.1**
ZAA0 AMb AMb 01 35 19.5
comp=Z,7.8nm,1.2s
ZALV Zalesovo Beam 46.13 48 P **P 01 35 13.3 +0.3**
ZALV Zalesovo Beam 46.13 48 P **P 01 35 12.6 -0.4**
comp=Z,3.0nm,0.5s,baz=276,slow=9.0,SNR=15
ZALV LR LR 01 57 55.7
comp=Z,22nm,18.4s,baz=46,slow=41
comp=Z,3.0nm,0.5s
IVI Ivigtut 47.70 322 P **P 01 35 25.6 +0.4**
SONM Songino Array 60.88 50 P **P 01 37 01.3 -0.2**
SONM AMb AMb 01 37 08.5
comp=Z,3.1nm,1.2s
SONM Songino Array 60.88 50 P **P 01 37 01.1 -0.4**
comp=Z,1.1nm,0.8s,baz=288,slow=8.2,SNR=6.5
comp=Z,1.1nm,0.8s

IDC 27 01:33:00.1±6.6, 17°.16S×14°.92W, h0km, mb3.8/4, mbtmp3.8/4, MS3.6/5, Error ellipse: s-maj=249.0km s-min=137.7km az=110.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**30.93**	**99**	LR	LR	01 48 52.6	
	comp=Z,107nm,20.8s,baz=260,slow=31						
TORD	**Torodi Ar. Bea**	**34.30**	**30**	P	P	01 39 48.3	-0.1
	1.6nm,0.8s,baz=208,slow=8.3,SNR=7.1						
	1.6nm,0.8s						
SUR	**Sutherland**	**35.62**	**122**	LR	LR	01 51 29.2	
	comp=Z,110nm,18.1s,baz=289,slow=31						
LBTB	**Lobatse**	**38.49**	**109**	LR	LR	01 53 10.3	
	comp=Z,112nm,20.2s,baz=269,slow=31						
BOSA	**Boshof**	**38.56**	**115**	LR	LR	01 54 19.1	
	comp=Z,60nm,18.0s,baz=270,slow=33						
SIV	**San Ignacio**	**44.17**	**265**	LR	LR	01 58 35.6	
	comp=Z,74nm,18.4s,baz=32,slow=35						
MMAI	**Mount Meron Ar**	**69.28**	**44**	P	P	01 44 09.4	0.0
	0.2nm,0.3s,baz=213,slow=10,SNR=1.9						
	0.2nm,0.3s						
BRTR	**Keskin Array B**	**72.46**	**37**	P	P	01 44 28.9	+0.1
	1.2nm,0.8s,baz=201,slow=7.0,SNR=8.2						
	1.2nm,0.8s						
AKASG	**Malin Array Be**	**77.88**	**27**	P	P	01 44 59.5	0.0
	0.8nm,0.6s,baz=224,slow=5.6,SNR=7.2						
	0.8nm,0.6s						

TEH ***27*** *01:36:48.9, 34°.19N×45°.57E, h12km±419km, ML2.8*
ISN ***27*** *01:36:48.8±0.7, 34°.20N×45°.58E, h14km±6km, ML2.5*
ISC 27 01:36:49.3±1.0, 34°.19N±0°.04×45°.57E±0°.05, h10km, n10, σ0°.77/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.29**	**106**	Pg	**Pg**	**01 36 55.2**	**0.0**
GLG1				Sg	**Sg**	**01 36 59.6**	**+0.5**
KGS1	**Ghasr-e-Shirin**	**0.31**	**2**	Pg	**Pg**	**01 36 55.6**	**0.0**
ILBA	**Ilam Banvizeh**	**0.77**	**137**	Pg	**Pg**	**01 37 03.6**	**-0.7**
IGHG	**Ghaleghazi**	**0.83**	**80**	Pg	**Pb**	**01 37 05.7**	**-0.4**
IDHR	**Dehrash**	**0.84**	**53**	Pg	**Pg**	**01 37 04.6**	**-1.0**
IBDR	**Badra**	**1.12**	**165**	*e*Pg	**Pb**	**01 37 10.0**	**-0.8**
IBDR				*e*Sg	**Sg**	**01 37 24.5**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.22**	**86**	Pg	**Pb**	**01 37 12.1**	**-0.5**
ILIN	**Lien**	**1.36**	**57**	Pg	**Pb**	**01 37 14.7**	**-0.2**
IKRK	**Kirkuk**	**1.58**	**320**	*e*Pn	**Pb**	**01 37 18.0**	**-0.6**
IKRK				*e*Sn	**Sg**	**01 37 40.0**	**-0.1**
IKRK				AML	AML	01 37 43.7	
	comp=N,92nm,0.3s						
IKRK				AML	AML	01 37 44.2	
	comp=E,52nm,0.3s						
RAFI	**Al-Rafai**	**2.50**	**169**	*e*Pn	**Pn**	**01 37 31.0**	**+0.9**
RAFI				*e*Sn	**Sn**	**01 38 02.0**	**+1.3**

OTT 27 01:38:16.5±0.2, 72°.81N×91°.60W, h18km, MN3.5/3, 127km northeast from Fort Ross, Nu, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**2.10**	**335**	PN	Pn	01 38 50.8	0.0
RES				SN	Sn	01 39 16.1	-0.2
RES				LG	Lg	01 39 22.3	
RES				Trac		01 39 23.3	
	comp=Z,93nm,0.2s						
ILON	**Igloolik, Nuna**	**4.69**	**133**	PN	Pn	01 39 26.0	-0.2
ILON				SN	Sn	01 40 17.5	-2.6
ILON				LG	Lg	01 40 42.5	
ILON				Trac		01 40 44.4	
	comp=Z,43nm,0.2s						
CLRN	**Clyde River**	**7.61**	**97**	SN	Sn	01 41 26.6	-5.1
BLKN	**Baker Lake**	**8.68**	**193**	PN	Pn	01 40 20.9	0.0
BLKN				SN	Sn	01 41 51.1	-7.0
BLKN				LG	Lg	01 42 48.0	
BLKN				Trac		01 42 51.5	
	comp=Z,10nm,0.4s						
A36M	**Sachs Harbour**	**10.13**	**282**	PN	Pn	01 40 41.0	+0.2
A36M				SN	Sn	01 42 26.8	-6.9
A36M				Trac		01 43 15.4	
	comp=Z,64nm,1.9s						
C36M	**Paulatuk**	**10.99**	**268**	PN	Pn	01 40 50.6	-1.9
C36M				SN	Sn	01 42 48.6	-6.1
C36M				Trac		01 43 26.9	
	comp=Z,607nm,5.2s						
FRB	**Frobisher Bay**	**12.36**	**126**	PN	Pn	01 41 09.2	-2.0
FRB				SN	Sn	01 43 18.1	-10
FRB				LG	Lg	01 44 41.9	
FRB				Trac		01 44 45.1	
	comp=Z,402nm,3.3s						
YKAW3	**Yellowknife Wh**	**13.36**	**232**	PN	Pn	01 41 23.0	-1.9
YKAW3				SN	Sn	01 43 42.6	-10
YKAW3				LG	Lg	01 45 12.0	
FCC	**Fort Churchill**	**14.14**	**185**	PN	Pn	01 41 33.5	-2.1
FCC				SN	Sn	01 44 01.1	-11
FCC				Trac		01 45 43.3	
	comp=Z,612nm,4.8s						

CATAC ***27*** *01:39:55.5±1.2, 12°.89N×90°.54W, h2km±7km, ML4.7*
IDC ***27*** *01:39:57.7±1.1, 13°.84N×89°.69W, h0km, mb4.0/12, mbtmp4.1/15, ML3.7/3, MS3.8/10, Error ellipse: s-maj=36.4km s-min=16.1km az=37.0*
SNET ***27*** *01:39:57.2±1.0, 12°.89N×90°.43W, h12km, ML4.9*
NEIC ***27*** *01:39:58.0±2.0, 12°.98N±0°.07×90°.35W±0°.07, h10km±1km, mb4.5/144, Mwr4.4/19, Error ellipse: s-maj=14.1km s-min=9.5km az=216.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-5.66; $M_{\theta\theta}$3.61; $M_{\phi\phi}$2.05; $M_{r\theta}$-1.28; $M_{\theta\phi}$-2.26; $M_{r\phi}$1.55; Fault plane solution: $M_0$5.81000×10^{15} NP1:ϕ_s130.25000°, δ54.98000°, λ-84.77000°. NP2:ϕ_s301.19000°, δ35.36000°, λ-97.41000°. Principal axes: T 5.5564, Plg10.0000°, Azm216.0000°; N 0.4745, Plg4.0000°, Azm307.0000°; P -6.0309, Plg79.0000°, Azm60.0000°;*
NEIC ***27*** *01:39:58, 12°.98N×90°.36W, h10km*
GCG ***27*** *01:40:16.7±0.5, 14°.64N×90°.72W, h39km±12km, MD4.5*
ISC 27 01:39:59.7±1.1, 13°.00N±0°.05×90°.43W±0°.04, h33km±3km,

n233,σ1$44/224,mb4.5/76,MS3.9/10,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.10**	**35**	*eP*	**Pn**	**01 40 18.7**	**-0.1**
NUBE				*eS*	**Sn**	**01 40 33.6**	**+0.6**
NUBE	**Las Nubes**	**1.10**	**35**	*i P*	**Pn**	**01 40 18.9**	**+0.1**
NUBE				*i S*	**Sb**	**01 40 35.1**	**+0.8**
NUBE				IAML		01 40 45.6	
	comp=Z,10μm,1.0s						
CEVE	**Cerro Verde**	**1.14**	**43**	*eP*	**Pn**	**01 40 19.9**	**+0.4**
CEVE				*eS*	**Sb**	**01 40 36.7**	**+1.1**
CEVE	**Cerro Verde**	**1.14**	**43**	*i P*	**Pn**	**01 40 19.7**	**+0.2**
CEVE				*i S*	**Sb**	**01 40 36.5**	**+0.9**
CEVE				IAML		01 40 39.4	
	comp=Z,21μm,1.0s						
SBLS	**San Blas**	**1.15**	**43**	*eP*	**Pn**	**01 40 19.8**	**+0.2**
JAYA	**Jayaque - finc**	**1.15**	**56**	*eP*	**Pn**	**01 40 19.6**	**0.0**
JAYA				*eS*	**Sn**	**01 40 36.0**	**+1.6**
JAYA	**Jayaque - finc**	**1.15**	**56**	*i P*	**Pn**	**01 40 19.5**	**-0.1**
JAYA				*i S*	**Sb**	**01 40 37.5**	**+1.5**
JAYA				IAML		01 40 41.0	
	comp=Z,27μm,1.0s						
RTR	**El Retiro**	**1.17**	**40**	*eP*	**Pn**	**01 40 20.1**	**+0.2**
LOAL	**Lomas de Alarc**	**1.18**	**32**	*eP*	**Pn**	**01 40 20.2**	**+0.4**
LOAL	**Lomas de Alarc**	**1.18**	**32**	*i P*	**Pn**	**01 40 20.4**	**+0.6**
LOAL				*i S*	**Sb**	**01 40 37.9**	**+1.4**
LOAL				IAML		01 40 39.7	
	comp=Z,25μm,1.0s						
SNJE	**San Jose**	**1.18**	**43**	*eP*	**Pn**	**01 40 20.3**	**+0.3**
LALI	**Alcalda de L**	**1.18**	**66**	*eP*	**Pn**	**01 40 19.4**	**-0.5**
LALI				*eS*	**Sn**	**01 40 35.6**	**+0.8**
LALI	**Alcalda de L**	**1.18**	**66**	*i P*	**Pn**	**01 40 19.9**	**0.0**
LALI				*i S*	**Sb**	**01 40 38.0**	**+1.4**
LALI				IAML		01 40 43.2	
	comp=Z,4μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.20**	**32**	*eP*	**Pn**	**01 40 20.4**	**+0.3**
SLOZ				*eS*	**Sb**	**01 40 37.6**	**+0.5**
CEDA	**San Andres**	**1.28**	**51**	*eP*	**Pn**	**01 40 21.5**	**+0.1**
CEDA	**San Andres**	**1.28**	**51**	*i P*	**Pn**	**01 40 21.9**	**+0.6**
PMON	**Piamonte**	**1.29**	**57**	*eP*	**Pn**	**01 40 21.6**	**+0.1**
PMON	**Piamonte**	**1.29**	**57**	*i P*	**Pn**	**01 40 22.1**	**+0.6**
PMON				*i S*	**Sb**	**01 40 42.1**	**+2.2**
PMON				IAML		01 40 48.4	
	comp=Z,11μm,1.0s						
UNIC	**Universidad Ca**	**1.30**	**41**	*eP*	**Pn**	**01 40 21.9**	**+0.3**
UNIC	**Universidad Ca**	**1.30**	**41**	*i P*	**Pn**	**01 40 22.0**	**+0.5**
UNIC				*i S*	**Sb**	**01 40 41.2**	**+1.2**
UNIC				IAML		01 40 46.8	
	comp=Z,4μm,1.0s						
BOQS	**Boqueron**	**1.33**	**57**	*eP*	**Pn**	**01 40 22.5**	**+0.3**
BOQS				*eS*	**Sb**	**01 40 41.9**	**+0.7**
SNET	**Serv Nac Est T**	**1.35**	**59**		**Pn**	**01 40 23.1**	**+0.9**
SNET	**Serv Nac Est T**	**1.35**	**59**	*eP*	**Pn**	**01 40 22.0**	**-0.3**
SNET	**Serv Nac Est T**	**1.35**	**59**	*i P*	**Pn**	**01 40 22.9**	**+0.6**
SNET				*i S*	**Sb**	**01 40 42.6**	**+1.1**
SNET				IAML		01 40 45.0	
	comp=Z,11μm,1.0s						
PANCS	**Alcalda de**	**1.36**	**63**	*eP*	**Pn**	**01 40 22.2**	**-0.2**
PANCS	**Alcalda de**	**1.36**	**63**	*i P*	**Pn**	**01 40 22.4**	**0.0**
PANCS				*i S*	**Sb**	**01 40 41.8**	**+0.1**
PANCS				IAML		01 40 45.1	
	comp=Z,11μm,1.0s						
UEES	**Universidad Ev**	**1.36**	**58**	*eP*	**Pn**	**01 40 21.9**	**-0.5**
UEES	**Universidad Ev**	**1.36**	**58**	*i P*	**Pn**	**01 40 22.9**	**+0.5**
UEES				*i S*	**Sb**	**01 40 43.4**	**+1.7**
UEES				IAML		01 40 49.4	
	comp=Z,4μm,1.0s						
PIC2	**El Picacho**	**1.36**	**57**	*eP*	**Pn**	**01 40 22.7**	**+0.2**
LOMA	**Loma Larga**	**1.38**	**62**	*eP*	**Pn**	**01 40 22.6**	**-0.2**
LOMA	**Loma Larga**	**1.38**	**62**	*i P*	**Pn**	**01 40 23.1**	**+0.4**
LOMA				*i S*	**Sb**	**01 40 43.1**	**+0.7**
LOMA				IAML		01 40 55.5	
	comp=Z,5μm,1.0s						
UESS	**Universidad de**	**1.39**	**59**	*eP*	**Pn**	**01 40 23.7**	**+0.8**
PCG	**Pacaya**	**1.40**	**353**	*i P*	**Pn**	**01 40 23.6**	**+0.6**
IGN	**Direccin Gen**	**1.42**	**60**	*i P*	**Pn**	**01 40 24.0**	**+0.9**
IGN				*i S*	**Sb**	**01 40 45.3**	**+2.0**
IGN				IAML		01 40 59.5	
	comp=Z,21μm,1.0s						
UDBS	**Universidad Do**	**1.43**	**60**	*i P*	**Pn**	**01 40 24.2**	**+0.9**
UDBS				*i S*	**Sb**	**01 40 44.5**	**+0.8**
UDBS				IAML		01 40 47.5	
	comp=Z,6μm,1.0s						
ESSG	**Sabana Grande**	**1.43**	**344**	*i P*	**Pn**	**01 40 22.6**	**-0.8**
ESSG				*i S*	**Sn**	**01 40 40.0**	**-1.1**
ESSG				IAML		01 40 43.2	
	comp=Z,8μm,1.0s						
AEIL	**Aeropuerto Ilo**	**1.45**	**61**	*eP*	**Pn**	**01 40 24.2**	**+0.6**
LFRS	**El Faro**	**1.47**	**65**	*eP*	**Pn**	**01 40 23.6**	**-0.3**
FUG	**Fuego 3**	**1.49**	**344**	*i P*	**Pn**	**01 40 24.6**	**+0.3**
JUAM	**Asuncion Mita**	**1.50**	**28**	*i P*	**Pn**	**01 40 25.3**	**+1.0**
JUAM				*i S*	**Sb**	**01 40 46.4**	**+0.6**
JUAM				IAML		01 40 54.4	
	comp=Z,9μm,1.0s						
NBG	**Las Nubes**	**1.58**	**3**	*eP*	**Pn**	**01 40 27.6**	**+2.0**
GCG4	**OSOP**	**1.58**	**356**	*i P*	**Pn**	**01 40 26.1**	**+0.6**
GCG4				*i S*	**Sb**	**01 40 48.0**	**-0.2**
GCG4				IAML		01 40 54.9	
	comp=Z,11μm,1.0s						
PAVA	**Las Pavas**	**1.61**	**64**	*eP*	**Pn**	**01 40 26.4**	**+0.5**
PAVA	**Las Pavas**	**1.61**	**64**	*i P*	**Pn**	**01 40 26.5**	**+0.5**
PAVA				IAML		01 41 15.8	
	comp=Z,6μm,1.0s						
COEG	**Centro de Oper**	**1.63**	**68**	*eP*	**Pn**	**01 40 26.5**	**+0.4**
COEG	**Centro de Oper**	**1.63**	**68**	*i P*	**Pn**	**01 40 26.4**	**+0.4**
COEG				*i S*	**Sb**	**01 40 51.3**	**+1.9**
COEG				IAML		01 41 00.4	
	comp=Z,5μm,1.0s						
TECO	**Alcaldia de Te**	**1.69**	**71**	*eP*	**Pn**	**01 40 26.8**	**-0.1**
TECO	**Alcaldia de Te**	**1.69**	**71**	*i P*	**Pn**	**01 40 27.0**	**+0.1**
TECO				*i S*	**Sn**	**01 40 49.6**	**+2.2**
TECO				IAML		01 40 59.6	
	comp=Z,2μm,1.0s						
SULM	**Suchitepequez,**	**1.70**	**320**	*i P*	**Pb**	**01 40 32.5**	**+2.1**
UESV	**Universidad de**	**1.72**	**68**	*eP*	**Pn**	**01 40 27.6**	**+0.3**
UESV	**Universidad de**	**1.72**	**68**	*i P*	**Pn**	**01 40 28.1**	**+0.8**
UESV				*i S*	**Sb**	**01 40 54.3**	**+2.4**
UESV				IAML		01 41 03.8	
	comp=Z,4μm,1.0s						
MTO3	**Montecristo**	**1.73**	**37**	Pn	**Pn**	**01 40 28.3**	**+0.6**
MTO3	**Montecristo**	**1.73**	**37**	*eP*	**Pn**	**01 40 28.6**	**+1.0**
MTO3	**Montecristo**	**1.73**	**37**	*i P*	**Pn**	**01 40 28.7**	**+1.0**
MTO3				IAML		01 40 39.6	
	comp=Z,5μm,1.0s						
SCLA	**Alcaldia de Sa**	**1.80**	**67**	*eP*	**Pn**	**01 40 29.1**	**+0.7**
SCLA	**Alcaldia de Sa**	**1.80**	**67**	*i P*	**Pn**	**01 40 29.0**	**+0.7**
SCLA				*i S*	**Sb**	**01 40 57.6**	**+3.4**
SCLA				IAML		01 41 09.1	
	comp=Z,3μm,1.0s						
CHTG	**Tecpan**	**1.83**	**343**	*i P*	**Pn**	**01 40 29.6**	**+0.5**
CHTG				*i S*	**Sn**	**01 40 54.1**	**+2.8**
CHTG				IAML		01 41 00.5	
	comp=Z,17μm,1.0s						
ESQI	**Esquipulas**	**1.88**	**34**		**Pn**	**01 40 30.4**	**+0.9**
ESQI	**Esquipulas**	**1.88**	**34**	*eP*	**Pn**	**01 40 30.7**	**+1.2**
ESQI	**Esquipulas**	**1.88**	**34**	*i P*	**Pn**	**01 40 30.8**	**+1.2**
ESQI				IAML		01 41 17.9	
	comp=Z,8μm,1.0s						
PQSS	**Presa 15 de Se**	**1.92**	**71**	*eP*	**Pn**	**01 40 30.4**	**+0.4**
RTAL	**Retalhuleu**	**1.95**	**321**		**Pn**	**01 40 31.2**	**+0.8**
RTAL	**Retalhuleu**	**1.95**	**321**	*i P*	**Pb**	**01 40 34.7**	**+0.1**
RTAL				*i S*	**Sn**	**01 40 53.9**	**0.0**
STG3	**Santiaguito 3,**	**2.03**	**327**	*i P*	**Pn**	**01 40 32.5**	**+0.8**
SOKI	**Kika Raxquin**	**2.04**	**333**	*i P*	**Pn**	**01 40 32.7**	**+0.6**
SOKI				*i S*	**Sn**	**01 40 58.6**	**+1.9**
PACA	**Pacayal**	**2.10**	**77**	*i P*	**Pn**	**01 40 34.0**	**+1.4**
PACA				IAML		01 41 12.1	
	comp=Z,16μm,1.0s						
RANC	**El Ranchito**	**2.13**	**78**	*i P*	**Pn**	**01 40 33.6**	**+0.6**
RANC				IAML		01 41 09.7	
	comp=Z,2μm,1.0s						
VSM	**San Miguel**	**2.14**	**78**	*eP*	**Pn**	**01 40 34.0**	**+0.7**
BLLM	**Bellamira**	**2.18**	**78**	*eP*	**Pn**	**01 40 34.0**	**+0.4**
MRL	**Marmol**	**2.19**	**19**	*i P*	**Pn**	**01 40 36.2**	**+2.3**
HUEH	**Huehuetenango**	**2.53**	**336**		**Pn**	**01 40 40.5**	**+1.9**
CNCH	**Conchagua**	**2.54**	**84**	*eP*	**Pn**	**01 40 38.7**	**0.0**
CNCH	**Conchagua**	**2.54**	**84**	*i P*	**Pn**	**01 40 39.1**	**+0.4**
CNCH				IAML		01 41 28.4	
	comp=Z,4μm,1.0s						
POTN	**Potosi Cosigui**	**2.85**	**90**	*i P*	**Pn**	**01 40 43.2**	**+0.4**
POTN				IAML		01 40 47.7	
	comp=Z,550nm,1.0s						
TGUH	**Tegucigalpa,Un**	**3.24**	**71**	Pn	**Pn**	**01 40 48.8**	**+0.4**
CRIN	**San Cristobal**	**3.31**	**95**		**Pn**	**01 40 49.2**	**+0.1**
CCIG	**Comitan**	**3.66**	**333**		**Pn**	**01 40 56.6**	**+2.5**
PETF	**Flores**	**3.93**	**8**		**Pn**	**01 40 59.4**	**+1.7**
MGAN	**Managua**	**4.17**	**101**	Pn	**Pn**	**01 41 00.9**	**-0.1**
ACON	**Acoyapa**	**5.23**	**101**		**Pn**	**01 41 15.4**	**-0.2**
CMIG	**Matias Romero**	**5.92**	**314**	Pn	**Pn**	**01 41 26.6**	**+1.5**
	comp=Z,3.0nm,0.3s,baz=152,slow=11,SNR=19						
CMIG				Sn	**Sn**	**01 42 30.6**	**-1.2**
	comp=Z,5.7nm,0.3s,baz=299,slow=18,SNR=2.0						
	comp=Z,8.4nm,0.4s						
JTS	**Las Juntas de**	**6.00**	**116**	Pn	**Pn**	**01 41 27.4**	**+1.2**
JTS	**Las Juntas de**	**6.00**	**116**	Pn	**Pn**	**01 41 26.7**	**+0.5**
	comp=Z,5.1nm,0.3s,baz=107,slow=22,SNR=22						
JTS				Sn	**Sn**	**01 42 33.2**	**-0.7**
	baz=336,slow=20						
	comp=Z,9.8nm,0.3s						
ESPN	**Las Esperanzas**	**6.04**	**97**		**Pn**	**01 41 27.1**	**+0.5**
SOCE	**Pocosol**	**6.26**	**114**	Pn	**Pn**	**01 41 30.6**	**+0.8**
TEIG	**Tepich**	**7.48**	**16**	Pn	**Pn**	**01 41 47.2**	**+0.8**
BRU2	**Volcan**	**8.67**	**118**	Pn	**Pn**	**01 42 02.7**	**-0.3**
TLIG	**Tlapa**	**9.07**	**301**	Pn	**Pn**	**01 42 10.9**	**+2.5**
SOR	**Soroa**	**12.03**	**35**	Pn	**Pn**	**01 42 49.0**	**+0.2**
MOIG	**Morelia**	**12.27**	**304**	Pn	**Pn**	**01 42 54.8**	**+2.3**
CAMR	**Camarioca**	**13.20**	**39**	Pn	**Pn**	**01 43 03.8**	**-0.9**
ROSC	**El Rosal**	**17.85**	**116**	P	**P**	**01 44 11.6**	**+5.2**
	comp=Z,4.4nm,0.5s,baz=65,slow=6.0,SNR=3.7						
ROSC				S	Sn	01 47 11.3	-13
	comp=Z,2.4nm,0.4s,baz=253,slow=19,SNR=1.1						
HNDO	**Hondo**	**18.39**	**335**	P	**P**	**01 44 12.8**	**+1.0**
DRIO	**Del Rio**	**18.88**	**332**		**P**	**01 44 18.5**	**+1.1**
VBMS	**Vicksburg**	**19.13**	**360**	P	**Pn**	**01 44 21.4**	**+0.4**
VBMS				IAmb	IAmb	01 44 36.2	
	comp=Z,36nm,0.8s						
JCT	**Junction City**	**19.43**	**335**		**Pn**	**01 44 25.1**	**+0.3**
146A	**Union**	**19.59**	**3**	P	**P**	**01 44 26.0**	**+1.1**
143A	**Socs Landing,**	**19.63**	**358**	P	**P**	**01 44 25.5**	**0.0**
143A				IAmb	IAmb	01 44 38.4	
	comp=Z,19nm,0.8s						
BRDY	**Brady**	**19.84**	**338**		**Pn**	**01 44 29.6**	**+0.1**
SDV	**Santo Domingo**	**19.86**	**100**	P	**P**	**01 44 25.9**	**-2.4**
	comp=Z,0.8nm,0.3s,baz=333,slow=4.5,SNR=1.3						
	comp=Z,3.4nm,0.3s						
HPIG		**19.90**	**316**	P	**Pn**	**01 44 31.0**	**+0.5**
SAND	**Sanderson**	**20.05**	**329**	P	Pn	01 44 32.7	+0.6
LRAL	**Lakeview Retre**	**20.19**	**8**	P	**P**	**01 44 30.9**	**-0.6**
Z47A	**Carrollton**	**20.22**	**6**	P	**P**	**01 44 33.1**	**+1.2**
Z47A				IAmb	IAmb	01 44 38.5	
	comp=Z,25nm,0.7s						
Z41A	**Richland Creek**	**20.28**	**354**	P	**P**	**01 44 33.5**	**+1.0**
Z41A				IAmb	IAmb	01 44 45.0	
	comp=Z,19nm,0.7s						
TXAR	**Lajitas Array**	**20.38**	**325**	P	**P**	**01 44 35.0**	**+1.3**
TXAR	**Lajitas Array**	**20.38**	**325**	P	**P**	**01 44 34.9**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=150,slow=11,SNR=21						
TXAR				ScP	**ScP**	**01 52 26.1**	**+6.1**
	comp=Z,0.7nm,0.9s,baz=151,slow=3.9,SNR=4.8						
	comp=Z,2.8nm,0.8s						
OZNA	**Ozona**	**20.39**	**333**	P	**P**	**01 44 35.4**	**+1.6**
WLAR	**White Oak Lake**	**20.74**	**354**	P	**P**	**01 44 39.4**	**+1.9**
WLAR				IAmb	IAmb	01 45 00.9	
	comp=Z,26nm,0.8s						
Y45A	**Yeager Farm, C**	**20.79**	**2**		Pn	01 44 40.7	+0.1
FW06	**Azle**	**20.92**	**343**	P	**P**	**01 44 40.4**	**+0.9**
PLPT	**Palo Pinto**	**21.00**	**341**	P	**P**	**01 44 41.9**	**+1.6**
PLPT				IAmb	IAmb	01 45 14.2	
	comp=Z,21nm,1.1s						
Y49A	**Blount Mountai**	**21.08**	**9**	P	**P**	**01 44 42.5**	**+1.3**
Y49A				IAmb	IAmb	01 44 51.7	
	comp=Z,23nm,1.0s						
FW03	**Perrin-Whitt E**	**21.13**	**342**	P	**P**	**01 44 42.9**	**+1.1**
ALPN	**Alpine**	**21.17**	**327**	P	**P**	**01 44 43.3**	**+1.0**
ALPN				IAmb	IAmb	01 44 53.9	
	comp=Z,23nm,0.8s						
Z35A	**Perchaven, San**	**21.18**	**344**	P	**P**	**01 44 44.0**	**+1.8**
MNHN	**Monahans**	**21.50**	**330**	P	**P**	**01 44 47.3**	**+1.5**
MNHN				IAmb	IAmb	01 44 57.4	
	comp=Z,25nm,0.8s						
X48A	**Hartselle**	**21.58**	**8**	P	**P**	**01 44 47.8**	**+1.3**
MIAR	**Mount Ida**	**21.64**	**353**	P	**P**	**01 44 48.6**	**+1.5**
MIAR				IAmb	IAmb	01 45 24.6	
	comp=Z,32nm,1.5s						
SN05	**Snyder 5**	**21.98**	**336**	P	**P**	**01 44 52.0**	**+1.1**
PLAL	**Pickwick Lake**	**21.99**	**5**	P	**P**	**01 44 52.1**	**+1.2**
PECS	**Pecos**	**22.08**	**328**	P	**P**	**01 44 53.5**	**+1.5**
APMT	**Aspermont**	**22.08**	**338**	P	**P**	**01 44 54.9**	**+2.9**
APMT				IAmb	IAmb	01 45 34.4	
	comp=Z,29nm,1.3s						
SN07	**Snyder 07**	**22.17**	**336**	P	**P**	**01 44 54.0**	**+1.1**
VHRN	**Van Horn**	**22.22**	**325**	P	**P**	**01 44 54.1**	**+0.5**
VHRN				IAmb	IAmb	01 45 03.9	
	comp=Z,21nm,0.9s						
WHAR	**Wooly Hollow**	**22.26**	**356**	P	**P**	**01 44 53.9**	**+0.1**
WHAR				IAmb	IAmb	01 45 07.8	
	comp=Z,34nm,1.4s						
POST	**Post**	**22.39**	**335**	P	**P**	**01 44 56.1**	**+0.8**
SWET	**Sewanee**	**22.49**	**10**	P	**P**	**01 44 57.3**	**+1.0**
SWET				IAmb	IAmb	01 45 14.1	
	comp=Z,19nm,1.1s						
DKNS	**Dickens**	**22.69**	**337**	P	**P**	**01 45 00.4**	**+1.9**
W35A	**Tecumseh**	**22.81**	**346**	P	**P**	**01 44 59.4**	**-0.4**
FCAR	**Ozark Folk Cen**	**22.84**	**356**	P	**P**	**01 45 00.9**	**+0.8**
V48A	**Smith Brothers**	**22.88**	**8**	P	**P**	**01 45 02.4**	**+2.0**
V48A				IAmb	IAmb	01 45 09.4	
	comp=Z,19nm,1.3s						
LCAR	**Lake Charles**	**22.98**	**358**	P	**P**	**01 45 02.6**	**+1.2**
LCAR				IAmb	IAmb	01 45 22.7	
	comp=Z,28nm,1.4s						
FNO	**Franklin**	**23.04**	**345**	P	**P**	**01 45 01.4**	**-0.7**
WVT	**Waverly**	**23.15**	**5**	P	**P**	**01 45 02.4**	**-0.8**
WVT				IAmb	IAmb	01 45 04.4	
	comp=Z,28nm,1.5s						
CLTN	**Cedars of Leba**	**23.29**	**8**	P	**P**	**01 45 04.7**	**+0.2**
CLTN				IAmb	IAmb	01 45 06.2	
	comp=Z,18nm,1.1s						
ATAH	**Atahualpa**	**23.30**	**148**	LR	LR	01 52 57.0	
	comp=Z,136nm,18.3s,baz=353,slow=33						
TKL	**Tuckaleechee C**	**23.35**	**14**	LR	LR	01 55 02.1	
	comp=Z,399nm,18.8s,baz=192,slow=40						
HHAR	**Hobbs**	**23.40**	**353**	P	**P**	**01 45 06.7**	**+1.0**
RLO	**Rose Lookout**	**23.43**	**351**	P	**P**	**01 45 05.4**	**-0.5**
RLO				IAmb	IAmb	01 45 15.9	
	comp=Z,13nm,0.8s						
OK052	**Battle Ridge R**	**23.60**	**347**	P	**P**	**01 45 07.4**	**-0.2**
OK052				IAmb	IAmb	01 45 36.9	
	comp=Z,18nm,1.1s						
MSTX	**Muleshoe**	**23.70**	**334**	P	**P**	**01 45 07.7**	**-1.0**
SMWD	**Samnorwood**	**23.73**	**340**	P	**P**	**01 45 09.4**	**+0.5**
SMWD				IAmb	IAmb	01 45 18.7	
	comp=Z,11nm,0.7s						
QUOK	**Quay**	**23.75**	**347**	P	**P**	**01 45 09.3**	**+0.3**
QUOK				IAmb	IAmb	01 45 17.8	
	comp=Z,18nm,0.9s						
U49A	**Red Boiling Sp**	**23.78**	**9**	P	**P**	**01 45 09.2**	**-0.1**
U49A				IAmb	IAmb	01 45 19.3	
	comp=Z,24nm,1.1s						
T45A	**Paducah**	**23.97**	**4**	P	**P**	**01 45 11.0**	**-0.1**
OK048	**Pawnee Station**	**24.04**	**347**	IAmb	IAmb	01 45 26.2	
	comp=Z,14nm,0.9s						
AMTX	**Amarillo**	**24.05**	**337**	P	**P**	**01 45 13.6**	**+1.6**
AMTX				IAmb	IAmb	01 45 23.0	
	comp=Z,23nm,1.5s						
OK051	**E0350 and S346**	**24.10**	**347**	P	**P**	**01 45 11.4**	**-0.9**
OK051				IAmb	IAmb	01 45 27.0	
	comp=Z,20nm,1.0s						
BLOK	**Blackwell**	**24.43**	**347**	P	**P**	**01 45 14.4**	**-0.9**
BLOK				IAmb	IAmb	01 45 24.1	
	comp=Z,12nm,0.7s						
T35A	**Sooner Cattle**	**24.43**	**348**	P	**P**	**01 45 14.6**	**-0.8**
T35A				IAmb	IAmb	01 45 24.0	
	comp=Z,9.7nm,0.9s						
S44A	**Carbondale**	**24.61**	**2**	P	**P**	**01 45 17.9**	**+1.0**
SIUC	**Southern Illin**	**24.64**	**2**	P	**P**	**01 45 17.6**	**+0.4**
S39A	**Bolivar**	**24.73**	**355**	P	**P**	**01 45 17.6**	**-0.3**
S39A				IAmb	IAmb	01 45 27.3	
	comp=Z,12nm,0.9s						
CCM	**Cathedral Cave**	**24.96**	**358**	P	**P**	**01 45 19.9**	**-0.2**
CCM				IAmb	IAmb	01 45 20.8	
	comp=Z,7.0nm,0.8s						
121A	**Cookes Peak, D**	**25.11**	**324**	P	**P**	**01 45 23.0**	**+1.3**
WCI	**Wyandotte Cave**	**25.39**	**8**	P	**P**	**01 45 23.5**	**-0.5**
MVCO	**Mesa Verde**	**29.03**	**329**	IAmb	IAmb	01 46 08.0	
	comp=Z,8.0nm,0.9s						
U15A	**North Rim**	**30.49**	**324**	IAmb	IAmb	01 46 23.5	
	comp=Z,7.3nm,1.0s						
HMU	**Henry Mountain**	**30.73**	**328**	IAmb	IAmb	01 46 29.6	
	comp=Z,14nm,1.2s						
ECSD	**EROS Data Cent**	**31.09**	**351**	IAmb	IAmb	01 46 23.8	
	comp=Z,7.2nm,1.0s						
KNB	**Kanab**	**31.21**	**324**	IAmb	IAmb	01 46 28.3	
	comp=Z,7.7nm,1.0s						
LCMT	**Little Creek M**	**31.45**	**323**	IAmb	IAmb	01 46 30.3	
	comp=Z,5.3nm,0.9s						
V12A	**Nelson**	**31.56**	**320**	P	**P**	**01 46 20.7**	**+1.5**
V12A				IAmb	IAmb	01 46 32.4	
	comp=Z,10nm,1.2s						
P18A	**Preston Nutter**	**31.77**	**330**	IAmb	IAmb	01 46 32.3	
	comp=Z,4.7nm,1.0s						
CCUT	**Cedar City**	**31.89**	**324**	IAmb	IAmb	01 46 35.3	
	comp=Z,11nm,1.1s						
P17A	**Butcher Ranch,**	**31.89**	**329**	IAmb	IAmb	01 46 33.7	
	comp=Z,8.3nm,1.0s						
ETMB	**Extrema**	**33.05**	**132**	P	**P**	**01 46 32.6**	**+0.4**
SADO	**Sadowa**	**33.10**	**15**	LR	LR	02 00 53.6	
	comp=Z,348nm,18.6s,baz=248,slow=39						
F33A	**5 Mile Ranch,**	**33.11**	**352**	IAmb	IAmb	01 46 33.5	
	comp=Z,9.0nm,1.0s						
TPNV	**Topopah Spring**	**33.21**	**320**	IAmb	IAmb	01 46 46.9	
	comp=Z,5.6nm,1.1s						
SPR3	**Spring Creek 3**	**33.44**	**325**	IAmb	IAmb	01 46 53.3	
	comp=Z,5.6nm,1.0s						
TCUT	**Toone Canyon**	**33.48**	**331**	IAmb	IAmb	01 46 53.0	
	comp=Z,5.0nm,0.8s						
R11B	**Troy Canyon, C**	**33.72**	**323**	IAmb	IAmb	01 46 50.2	
	comp=Z,5.1nm,1.0s						
ISA	**Isabella, Lake**	**33.88**	**317**	IAmb	IAmb	01 46 46.9	
	comp=Z,5.5nm,1.1s						
HWUT	**Hardware Ranch**	**33.94**	**331**	IAmb	IAmb	01 46 51.8	
	comp=Z,8.1nm,1.0s						
PDAR	**Pinedale Array**	**33.97**	**334**	P	**P**	**01 46 39.2**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=138,slow=12,SNR=2.6						
PDAR				PcP	**PcP**	**01 49 19.2**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=134,slow=6.4,SNR=2.1						
	comp=Z,0.3nm,0.7s						
DSP	**Deep Springs**	**34.55**	**319**	P	**P**	**01 46 47.2**	**+2.0**
DSP				IAmb	IAmb	01 46 58.5	
	comp=Z,8.4nm,1.4s						
HVU	**Hansel Valley**	**34.65**	**330**	P	**P**	**01 46 47.2**	**+1.0**
SAML	**Samuel**	**34.75**	**127**	P	**P**	**01 46 46.9**	**-0.3**
SAML				IAmb	IAmb	01 46 59.6	
	comp=Z,5.3nm,1.0s						
LOHW	**Long Hollow**	**35.10**	**334**	IAmb	IAmb	01 47 00.1	
	comp=Z,4.3nm,0.8s						
TPAW	**Teton Pass**	**35.15**	**334**	IAmb	IAmb	01 47 01.9	
	comp=Z,11nm,1.2s						
ELK	**Elko**	**35.16**	**326**	IAmb	IAmb	01 47 02.3	
	comp=Z,5.3nm,0.8s						
NV11	**Mina Array Sit**	**35.32**	**321**	IAmb	IAmb	01 47 05.3	
	comp=Z,14nm,1.3s						
NVAR	**Mina Array Bea**	**35.41**	**321**	P	**P**	**01 46 54.7**	**+1.9**
NVAR	**Mina Array Bea**	**35.41**	**321**	P	**P**	**01 46 55.6**	**+2.8**
	comp=Z,6.4nm,0.9s,baz=132,slow=7.9,SNR=17						
NVAR				PcP	**PcP**	**01 49 25.1**	**+2.8**
	comp=Z,1.1nm,0.7s,baz=116,slow=4.1,SNR=4.3						
	comp=Z,6.4nm,0.9s						
AGMN	**Agassiz Nation**	**35.48**	**354**	IAmb	IAmb	01 47 01.3	
	comp=Z,8.6nm,0.9s						
KVN	**Kaiserville**	**35.67**	**322**	IAmb	IAmb	01 47 07.9	
	comp=Z,12nm,1.1s						
YMR	**Madison River**	**36.11**	**335**	IAmb	IAmb	01 47 09.7	
	comp=Z,5.6nm,0.9s						
WAKR	**Walker**	**36.16**	**320**	P	**P**

ISC 27 01:40:31.2±0.9, 44.18N±0.03×79.35E±0.02, h11km±9km, n30, σ1§07/56, 4C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNOS	**Konyrlen**	**0.22**	**324**	P	**Pg**	**01 40 36.1**	**+0.2**
	9.0nm,0.1s						
KNOS				S	**Sg**	**01 40 38.9**	**-0.2**
	70nm,0.1s						
DJR	**Jarkent**	**0.35**	**65**	P	**Pg**	**01 40 37.7**	**-0.5**
	9.8nm,0.1s						
DJR				S	**Sg**	**01 40 41.9**	**-0.9**
	26nm,0.1s						
DJR	**Jarkent**	**0.35**	**65**	*e*P	**Pg**	**01 40 37.7**	**-0.5**
	9.0nm,0.0s						
DJR				*e*S	**Sg**	**01 40 42.2**	**-0.6**
	24nm,0.1s						
BLB	**Baldybastay**	**0.64**	**262**	P	**Pg**	**01 40 43.5**	**-0.1**
	5.7nm,0.1s						
BLB				S	**Sg**	**01 40 52.5**	**+0.5**
	19nm,0.1s						
PDGK	**Podgornoye**	**0.86**	**173**	⇓P	**Pg**	**01 40 46.8**	**-1.0**
	0.7nm,0.2s						
PDGK				⇓S	**Sg**	**01 40 58.5**	**-0.6**
	0.5nm,0.2s						
SHLS	**Shalkode**	**1.03**	**176**	P	**Pn**	**01 40 52.1**	**+0.4**
	4.0nm,0.1s						
SHLS				S	**Sn**	**01 41 06.5**	**+0.3**
	12nm,0.1s						
SHLS	**Shalkode**	**1.03**	**176**	*e*P	**Pb**	**01 40 51.9**	**+0.8**
	1.1nm,0.0s						
SHLS				*e*S	**Sn**	**01 41 06.7**	**+0.5**
	15nm,0.1s						
UZB	**Uzynbulak**	**1.06**	**193**	P	**Pg**	**01 40 51.5**	**-0.3**
	2.6nm,0.2s						
UZB				S	**Sg**	**01 41 05.4**	**-0.1**
	2.1nm,0.1s						
UZB	**Uzynbulak**	**1.06**	**193**	*e*P	**Pg**	**01 40 51.4**	**-0.3**
	1.4nm,0.0s						
UZB				*e*S	**Sg**	**01 41 05.6**	**0.0**
	2.3nm,0.1s						
ARXS	**Arharly**	**1.10**	**272**	P	**Pg**	**01 40 52.0**	**-0.3**
	2.2nm,0.1s						
ARXS				S	**Sg**	**01 41 06.2**	**-0.4**
	2.4nm,0.2s						
ARXS	**Arharly**	**1.10**	**272**	*e*P	**Pg**	**01 40 52.1**	**-0.3**
	1.7nm,0.1s						
ARXS				*e*S	**Sg**	**01 41 06.7**	**0.0**
	2.5nm,0.1s						
KAPS	**Kapalarasan**	**1.10**	**0**	*e*P	**Pg**	**01 40 52.2**	**-0.2**
	1.5nm,0.1s						
KAPS				*e*S	**Sg**	**01 41 06.5**	**-0.3**
KURS	**Kuram**	**1.10**	**231**	*e*P	**Pb**	**01 40 52.5**	**+0.2**
	0.1nm,0.0s						
KURS				*e*S	**Sb**	**01 41 07.3**	**+0.6**
	2.6nm,0.1s						
ZHN	**Zhinishke**	**1.22**	**214**	*e*P	**Pb**	**01 40 54.5**	**+0.2**
	2.3nm,0.1s						
ZHN				*e*S	**Sb**	**01 41 10.6**	**+0.6**
	13nm,0.1s						
SATY	**Saty**	**1.32**	**212**	P	**Pn**	**01 40 56.6**	**+0.9**
	7.7nm,0.1s						
SATY				S	**Sb**	**01 41 14.2**	**+1.1**
	9.0nm,0.1s						
SATY	**Saty**	**1.32**	**212**	*e*P	**Pb**	**01 40 56.4**	**+0.3**
	2.6nm,0.1s						
SATY				*e*S	**Sb**	**01 41 14.1**	**+1.1**
	13nm,0.1s						
CHKK	**Chushkaly**	**1.74**	**260**	*e*P	**Pb**	**01 41 03.5**	**+0.4**
	4.1nm,0.0s						
CHKK				*e*S	**Sb**	**01 41 26.1**	**+1.1**
	9.8nm,0.1s						
KOTS	**Kotyrbulak**	**1.88**	**240**	*e*P	**Pb**	**01 41 06.4**	**+0.7**
	0.9nm,0.1s						
KOTS				*e*S	**Sg**	**01 41 31.1**	**-0.7**
	18nm,0.2s						
MDOK	**Medeo**	**1.96**	**239**	⇓Pn	**Pn**	**01 41 06.1**	**+1.6**
	1.1nm,0.3s						
MDOK				⇑Sn	**Sg**	**01 41 33.7**	**-0.6**
	3.4nm,0.5s						
MDOK	**Medeo**	**1.96**	**239**	*e*P	**Pb**	**01 41 07.8**	**+0.8**
	2.8nm,0.1s						
MDOK				*e*S	**Sg**	**01 41 33.4**	**-0.8**
	4.8nm,0.1s						
KTBS	**Karatobe**	**1.99**	**257**	Pg	**Pb**	**01 41 07.4**	**0.0**
	0.7nm,0.3s						
KTBS				Lg	Lg	01 41 33.4	
	5.9nm,0.5s						
KTBS	**Karatobe**	**1.99**	**257**	*e*P	**Pb**	**01 41 08.0**	**+0.6**
	0.2nm,0.1s						
KTBS				*e*S	**Sb**	**01 41 33.9**	**+1.7**
	5.9nm,0.5s						
TNSS	**Tian-Shan**	**2.09**	**238**	Pg	**Pb**	**01 41 09.9**	**+0.5**
	0.4nm,0.1s						
TNSS				Lg	Lg	01 41 37.1	
	2.1nm,0.3s						
TNSS	**Tian-Shan**	**2.09**	**238**	*e*P	**Pb**	**01 41 10.3**	**+1.0**
	0.3nm,0.0s						
TNSS				*e*S	**Sg**	**01 41 38.0**	**-0.5**
	2.0nm,0.2s						
MTBS	**Maitube**	**2.37**	**245**	Pg	**Pb**	**01 41 14.4**	**+0.5**
	1.1nm,0.1s						
MTBS				Lg	Lg	01 41 44.8	
	5.2nm,0.3s						
MTBS	**Maitube**	**2.37**	**245**	*e*P	**Pb**	**01 41 15.3**	**+1.4**
	0.4nm,0.1s						
MTBS				*e*S	**Sg**	**01 41 46.4**	**-0.9**
	6.1nm,0.1s						
KST	**Kastek**	**2.71**	**246**	*e*P	**Pg**	**01 41 22.4**	**-0.8**
	0.1nm,0.0s						
KST				*e*S	**Sg**	**01 41 58.6**	**+0.2**
	0.8nm,0.1s						
DGS	**Degeres**	**2.76**	**251**	Pg	**Pb**	**01 41 20.3**	**-0.4**
	0.9nm,0.4s						
DGS				Lg	Lg	01 41 54.8	
	6.6nm,0.4s						
DGS	**Degeres**	**2.76**	**251**	*e*P	**Pg**	**01 41 23.1**	**-1.1**
	0.9nm,0.2s						
DGS				*e*S	**Sg**	**01 41 59.8**	**-0.1**
	3.7nm,0.2s						
TKM2	**Tokmak 2**	**3.01**	**246**	⇑Pg	**Pb**	**01 41 23.0**	**-1.9**
	0.3nm,0.7s						
TKM2				⇑Sn	**Sn**	**01 41 49.6**	**-5.5**
	0.3nm,0.5s						
TKM2				⇑Lg	Lg	01 42 03.0	
	0.3nm,0.2s						

*IDC **27** 01:52:23.1±0.6, 11.53S×66.34E, h0km, mb4.1/16, mbtmp4.1/16, MS3.7/10, Error ellipse: s-maj=21.4km s-min=16.5km az=71.0*
*NEIC **27** 01:52:26.2±1.7, 11.4S±0.1×66.45E±0.06, h10km±1km, mb4.6/34, Error ellipse: s-maj=19.5km s-min=6.4km az=153.0*

ISC 27 01:52:25.4±0.5, 11.48S±0.09×66.43E±0.08, h13km, n82, σ0§89/69, mb4.5/44, MS3.8/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**7.07**	**58**	T	T	02 01 16.7	
	baz=237,slow=76						
H08S2	**Diego Garcia H**	**7.09**	**58**	T	T	02 01 19.6	
	baz=237,slow=76						
H08S3	**Diego Garcia H**	**7.09**	**58**	T	T	02 01 21.1	
	baz=237,slow=76						
MSEY	**Mahe Island**	**12.78**	**301**	Pn	**Pn**	**01 55 26.7**	**-0.3**
HMDM	**Hanimaadhoo**	**19.34**	**21**	P	**P**	**01 56 49.1**	**-1.6**
OPO	**Ambohidratompo**	**19.87**	**247**	LR	LR	02 02 10.0	
	comp=Z,77nm,21.2s,baz=153,slow=30						
ABPO	**Ambohimpanom**	**19.98**	**246**	P	**Pn**	**01 56 58.7**	**-0.9**
KIBK	**Kibwezi**	**29.58**	**286**	P	**P**	**01 58 29.9**	**-0.7**
KMBO	**Kilima Mbogo**	**30.74**	**287**	P	**P**	**01 58 41.0**	**0.0**
KMBO	**Kilima Mbogo**	**30.74**	**287**	P	**P**	**01 58 41.3**	**+0.4**
	0.4nm,0.3s,baz=95,slow=5.4,SNR=5.0						
	0.4nm,0.3s						
ATD	**Arta Tunnel**	**32.74**	**314**	P	**P**	**01 58 58.2**	**-0.1**
ATD				IAmb	IAmb	01 59 03.7	
	comp=Z,9.2nm,1.0s						
GSI	**Gununguitoli**	**33.46**	**70**	P	**P**	**01 59 04.6**	**0.0**
LODK	**Lodwar**	**34.27**	**294**	P	**P**	**01 59 11.4**	**-0.3**
PSI	**Prapat**	**35.29**	**68**	LR	LR	02 11 15.0	
	comp=Z,93nm,18.6s,baz=244,slow=32						
H04N2	**CROZET ISLANDS**	**36.74**	**197**	T	T	02 38 32.4	
	baz=26,slow=75						
H04N1	**CROZET ISLANDS**	**36.74**	**197**	T	T	02 38 34.0	
	baz=26,slow=75						
H04N3	**CROZET ISLANDS**	**36.75**	**197**	T	T	02 38 33.0	
	baz=26,slow=75						
LSZ	**Lusaka**	**37.37**	**260**		**P**	**01 59 39.0**	**+0.6**
LSZ				IAmb	IAmb	01 59 51.6	
	comp=Z,15nm,1.4s						
LBTB	**Lobatse**	**40.88**	**245**	P	**P**	**02 00 09.1**	**+1.4**
LBTB				IAmb	IAmb	02 00 39.2	
	comp=Z,10.0nm,1.4s						
CMAR	**Chiang Mai Arr**	**43.75**	**48**	P	**P**	**02 00 31.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**43.75**	**48**	P	**P**	**02 00 32.2**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=237,slow=8.2,SNR=5.3						
CMAR				LR	LR	02 16 31.1	
	comp=Z,34nm,20.4s,baz=255,slow=33						
	comp=Z,1.1nm,0.3s						
SHL	**Shillong**	**44.39**	**34**	P	**P**	**02 00 35.8**	**-0.4**
SHL				IAmb	IAmb	02 01 04.4	
	comp=Z,6.7nm,0.4s						
PHRA	**Phrae**	**44.71**	**49**	P	**P**	**02 00 38.8**	**+0.2**
HRA	**Herat**	**45.79**	**355**	P	**P**	**02 00 46.9**	**-0.2**
KBL	**Kabul**	**45.84**	**3**	P	**P**	**02 00 47.4**	**-0.2**
KBL				IAmb	IAmb	02 00 49.9	
	comp=Z,8.2nm,1.3s						
SUR	**Sutherland**	**46.73**	**236**	P	**P**	**02 00 56.0**	**+1.3**
H01W3	**Cape Leeuwin H**	**49.08**	**126**	T	T	02 53 44.5	
	baz=287,slow=75,SNR=90						
H01W2	**Cape Leeuwin H**	**49.09**	**126**	T	T	02 53 44.7	
	baz=287,slow=75,SNR=122						
H01W1	**Cape Leeuwin H**	**49.10**	**126**	T	T	02 53 45.7	
	baz=287,slow=75,SNR=95						
SIMJ	**Simiganj**	**49.94**	**3**	P	**P**	**02 01 17.7**	**-1.5**
SIMJ				IAmb	IAmb	02 01 21.7	
	comp=Z,7.4nm,1.4s						
GAR	**Garm**	**50.35**	**4**	P	**P**	**02 01 21.6**	**-0.7**
GAR				IAmb	IAmb	02 01 25.1	
	comp=Z,18nm,1.4s						
DRK	**Karamyk**	**50.94**	**5**	P	**P**	**02 01 26.3**	**-0.7**
BTK	**Batken**	**51.44**	**4**	P	**P**	**02 01 30.4**	**0.0**
BTK				IAmb	IAmb	02 01 33.5	
	comp=Z,11nm,1.4s						
ARSB	**Arslanbob**	**52.89**	**6**	P	**P**	**02 01 41.5**	**+0.3**
MMAI	**Mount Meron Ar**	**53.24**	**327**	P	**P**	**02 01 45.2**	**+1.3**
	comp=Z,0.1nm,0.2s,baz=152,slow=7.8,SNR=2.2						
MMAI				LR	LR	02 22 19.5	
	comp=Z,60nm,20.3s,baz=154,slow=34						
	comp=Z,0.1nm,0.2s						
NRN	**Naryn**	**53.38**	**9**	P	**P**	**02 01 45.1**	**-0.1**
NRN				IAmb	IAmb	02 01 47.9	
	comp=Z,5.4nm,1.3s						
WUS	**Wushi**	**53.73**	**12**	P	**P**	**02 01 48.5**	**+1.1**
WUS				IAmb	IAmb	02 01 49.9	
	comp=Z,6.3nm,1.3s						
KDJ	**Kajisay**	**54.25**	**10**	P	**P**	**02 01 52.1**	**+0.8**
AAK	**Ala-Archa**	**54.36**	**7**	P	**P**	**02 01 52.7**	**+0.7**
AAK				IAmb	IAmb	02 01 55.3	
	comp=Z,4.4nm,1.1s						
KKAR	**Karatay Array**	**54.45**	**4**	P	**P**	**02 01 53.0**	**+0.5**
KKAR	**Karatay Array**	**54.45**	**4**	P	**P**	**02 01 52.8**	**+0.3**
KKAR				IAmb	IAmb	02 01 55.7	
	comp=Z,1.6nm,1.3s						
PRZ	**Przheval'sk**	**54.81**	**11**	P	**P**	**02 01 55.2**	**-0.2**
MAW	**Mawson**	**56.11**	**182**	P	**P**	**02 02 03.8**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=331,slow=7.1,SNR=3.6						
MAW				LR	LR	02 22 05.0	
	comp=Z,77nm,19.8s,baz=281,slow=32						
	comp=Z,2.1nm,0.8s						
MKAR	**Makanchi Array**	**59.72**	**13**	P	**P**	**02 02 29.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=207,slow=9.1,SNR=2.3						
	comp=Z,0.4nm,0.5s						
ABKAR	**Akbulak array**	**60.74**	**355**	P	**P**	**02 02 36.8**	**+0.1**
ABKAR	**Akbulak array**	**60.74**	**355**	P	**P**	**02 02 36.4**	**-0.3**
ABKAR				IAmb	IAmb	02 02 38.5	
	comp=Z,5.4nm,1.1s						
KURBB	**Kurchatov Arra**	**62.74**	**9**	P	**P**	**02 02 50.1**	**0.0**
	comp=Z,0.7nm,0.2s,baz=202,slow=6.9,SNR=8.5						
KURBB				LR	LR	02 28 45.7	
	comp=Z,124nm,21.4s,baz=162,slow=35						
	comp=Z,0.7nm,0.2s						
KURK	**Kurchatov**	**62.84**	**9**	P	**P**	**02 02 50.5**	**-0.2**
KURK				IAmb	IAmb	02 02 52.9	
	comp=Z,6.6nm,1.2s						
BVAR	**Borovoye Array**	**64.34**	**3**	P	**P**	**02 03 00.3**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=184,slow=5.9,SNR=6.3						
	comp=Z,1.3nm,0.9s						
ASAR	**Alice Springs**	**64.95**	**111**	P	**P**	**02 03 05.2**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=269,slow=5.8,SNR=20						
	comp=Z,2.3nm,0.8s						
WRA	**Warramunga Arr**	**65.55**	**107**	P	**P**	**02 03 10.4**	**+1.1**
	comp=Z,3.0nm,0.7s,baz=274,slow=5.7,SNR=18						
	comp=Z,3.0nm,0.7s						
WB2	**Warramunga Arr**	**65.56**	**107**	P	**P**	**02 03 09.5**	**+0.1**
WB2				IAmb	IAmb	02 03 11.6	
	comp=Z,6.2nm,0.9s						
ZAA0	**Zalesovo Array**	**67.03**	**12**	P	**P**	**02 03 17.8**	**-0.2**
ZAA0				IAmb	IAmb	02 03 20.3	
	comp=Z,6.9nm,1.3s						
ZALV	**Zalesovo Beam**	**67.03**	**12**	P	**P**	**02 03 17.8**	**-0.1**
ZALV	**Zalesovo Beam**	**67.03**	**12**	P	**P**	**02 03 16.9**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=210,slow=5.0,SNR=6.4						
	comp=Z,0.7nm,0.5s						
ARTI	**Arti**	**67.95**	**355**	P	**P**	**02 03 25.1**	**+1.4**
ARTI				IAmb	IAmb	02 03 25.6	
	comp=Z,8.9nm,1.3s						
SONM	**Songino Array**	**68.90**	**28**	P	**P**	**02 03 31.0**	**+0.9**
	comp=Z,2.2nm,0.9s,baz=224,slow=6.1,SNR=9.9						
SONM				LR	LR	02 32 56.9	
	comp=Z,175nm,21.2s,baz=26,slow=35						
	comp=Z,2.2nm,0.9s						
AKASG	**Malin Array Be**	**69.89**	**336**	P	**P**	**02 03 34.9**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=127,slow=5.0,SNR=8.3						
	comp=Z,0.4nm,0.4s						
OBN	**Obninsk**	**70.94**	**342**	LR	LR	02 35 24.5	
	comp=Z,54nm,18.5s,baz=5.5,slow=36						
SNAA	**Sanae**	**72.70**	**198**	P	**P**	**02 03 51.5**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=360,slow=4.2,SNR=3.7						
	comp=Z,1.4nm,0.9s						
ARSA	**Arzberg**	**73.96**	**327**	*e*P	**P**	**02 04 02.5**	**+1.9**
	comp=Z,6.2nm,1.3s						
OBKA	**Obir**	**74.05**	**326**	*i* P	**P**	**02 04 01.8**	**+0.7**
	comp=Z,12nm,1.4s						
CONA	**Conrad Observa**	**74.20**	**327**	*i* P	**P**	**02 04 02.2**	**+0.2**
	comp=Z,2.8nm,0.8s						
MOA	**Molln**	**75.00**	**327**	*i* P	**P**	**02 04 06.8**	**+0.2**
	comp=Z,3.0nm,0.7s						
ABTA	**Abfaltersbach**	**75.32**	**325**	*e*P	**P**	**02 04 09.3**	**+0.8**
	comp=Z,3.2nm,0.9s						
KSRS	**Korea Array**	**75.37**	**46**	LR	LR	02 36 39.9	
	comp=Z,34nm,20.8s,baz=25,slow=35						
LESA	**Schwarzleotal**	**75.62**	**326**	*i* P	**P**	**02 04 10.6**	**+0.4**
	comp=Z,7.2nm,1.4s						
JNU	**Nakatsue**	**75.68**	**51**	LR	LR	02 36 45.5	
	comp=Z,57nm,19.6s,baz=286,slow=35						
WTTA	**Wattenberg**	**76.11**	**325**	*i* P	**P**	**02 04 12.0**	**-1.2**
	comp=Z,8.0nm,1.1s						
WATA	**Walderalm**	**76.19**	**325**	*i* P	**P**	**02 04 13.5**	**0.0**
	comp=Z,3.9nm,0.9s						
SQTA	**Sankt Quirin**	**76.33**	**325**	*e*P	**P**	**02 04 15.9**	**+1.5**
	comp=Z,4.1nm,1.0s						
MOTA	**Moosalm**	**76.46**	**325**	*e*P	**P**	**02 04 15.7**	**+0.6**
	comp=Z,2.6nm,0.8s						
FETA	**Feichten**	**76.49**	**324**	*e*P	**P**	**02 04 14.9**	**-0.4**
	comp=Z,2.7nm,1.2s						
BRG	**Berggiesshubel**	**76.99**	**329**	*e*P	**P**	**02 04 20.3**	**+2.5**
BRG				Amp		02 04 21.7	
	comp=Z,13nm,1.6s						
DAVA	**Damuels**	**77.12**	**324**	*i* P	**P**	**02 04 19.4**	**+0.6**
	comp=Z,5.3nm,1.0s						
QSPA	**South Pole Qui**	**78.58**	**180**	P	**P**	**02 04 27.5**	**+0.8**
QSPA				IAmb	IAmb	02 04 28.4	
	comp=Z,6.3nm,1.1s						
QSPA	**South Pole Qui**	**78.58**	**180**	P	**P**	**02 04 25.9**	**-0.8**
	comp=Z,1.6nm,0.2s,baz=254,slow=5.2,SNR=5.0						
	comp=Z,1.6nm,0.2s						
MJAR	**Matsushiro Arr**	**82.55**	**50**	P	**P**	**02 04 48.6**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=266,slow=4.9,SNR=2.1						
	comp=Z,1.1nm,0.3s						
ESDC	**Sonseca Array**	**82.64**	**313**	P	**P**	**02 04 48.3**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=96,slow=3.1,SNR=6.1						
	comp=Z,1.3nm,0.9s						
PDAR	**Pinedale Array**	**148.64**	**354**	PKPbc	**PKPbc**	**02 12 13.2**	**+0.3**
	comp=Z,2.3nm,0.9s,baz=74,slow=2.0,SNR=12						
NVAR	**Mina Array Bea**	**152.83**	**8**	PKPbc	**PKiKP**	**02 12 23.8**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=280,slow=1.8,SNR=14						
TXAR	**Lajitas Array**	**159.98**	**334**	PKP	**PKPdf**	**02 12 22.6**	**-2.6**
	comp=Z,0.2nm,0.8s,baz=82,slow=1.3,SNR=2.5						
TXAR				PKPab	**PKPab**	**02 13 03.8**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=69,slow=4.9,SNR=3.6						

*IDC **27** 01:53:17.4±6.4, 17.57S×14.41W, h0km, mb4.0/4, mbtmp4.0/4, MS3.7/14, Error ellipse: s-maj=145.5km s-min=125.4km az=59.0*
*NEIC **27** 01:53:23.9±1.1, 17.4S±0.1×13.7W±0.1, h10km±1km, mb4.8/13, Error ellipse: s-maj=25.1km s-min=16.6km az=180.0*

ISC 27 01:53:23.0±0.8, 17.4S±0.2×13.70W±0.10, h10km, n33, σ1§01/18, mb4.6/10, MS3.7/14, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEL	**Horse Pasture**	**7.75**	**81**	Pn	**Pn**	**01 55 16.7**	**+0.7**
RCBR	**Riachuelo**	**24.56**	**295**	LR	LR	02 06 31.2	
	comp=Z,64nm,18.7s,baz=84,slow=33						
DBIC	**Dimbokro**	**25.44**	**21**	P	**P**	**01 58 51.1**	**-0.1**
DBIC				IAmb	IAmb	01 59 05.5	
	comp=Z,24nm,1.2s						
TSUM	**Tsumeb**	**29.74**	**98**	LR	LR	02 09 30.6	
	comp=Z,128nm,21.0s,baz=265,slow=32						
TORD	**Torodi Ar. Bea**	**33.92**	**28**	P	**P**	**02 00 06.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**33.92**	**28**	P	**P**	**02 00 06.4**	**-0.2**
	comp=Z,2.5nm,1.0s,baz=216,slow=6.9,SNR=7.8						
	comp=Z,2.5nm,1.0s						
SUR	**Sutherland**	**34.51**	**122**	LR	LR	02 11 26.1	
	comp=Z,124nm,21.1s,baz=305,slow=31						
BOSA	**Boshof**	**37.41**	**115**	P	**P**	**02 00 35.5**	**-1.1**
BOSA				IAmb	IAmb	02 00 42.9	
	comp=Z,16nm,1.8s						
GRHM	**Grahamstown, E**	**39.26**	**122**	P	P	02 00 49.4	-2.6
GRHM				IAmb	IAmb	02 01 04.0	
	comp=Z,43nm,1.5s						
LSZ	**Lusaka**	**40.19**	**93**	P	**P**	**02 01 00.7**	**+0.6**
CPUP	**Villa Florida**	**41.31**	**250**	LR	LR	02 16 35.8	
	comp=Z,45nm,21.2s,baz=94,slow=34						
MDP	**Montagnes des**	**44.47**	**297**	LR	LR	02 17 34.4	
	comp=Z,47nm,20.0s,baz=83,slow=33						
VILB	**Vilhena**	**45.02**	**269**	P	**P**	**02 01 39.7**	**+0.4**
VILB				IAmb	IAmb	02 01 52.4	
	comp=Z,25nm,1.7s						
SAML	**Samuel**	**48.80**	**273**	P	**P**	**02 02 08.8**	**0.0**
PMOZ	**Porto Moniz, M**	**50.03**	**356**	P	**P**	**02 02 18.9**	**+1.0**
MDT	**Midelt**	**50.66**	**10**	LR	LR	02 20 55.0	
	comp=Z,58nm,18.2s,baz=196,slow=32						
KMBO	**Kilima Mbogo**	**52.60**	**78**	LR	LR	02 24 48.8	
	comp=Z,88nm,18.1s,baz=92,slow=36						
PLCA	**Paso Flores**	**53.87**	**232**	LR	LR	02 21 57.8	
	comp=Z,97nm,21.6s,baz=85,slow=32						
MORF	**Marmelete**	**54.59**	**5**	P	**P**	**02 02 52.8**	**+1.1**
PCRV	**Puerto La Cruz**	**57.30**	**295**	LR	LR	02 27 43.6	
	comp=Z,84nm,18.1s,slow=36						
ESDC	**Sonseca Array**	**57.48**	**9**	P	**P**	**02 03 11.2**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=195,slow=9.0,SNR=2.8						
	comp=Z,0.9nm,0.9s						
FURI	**Furi**	**57.96**	**67**	LR	LR	02 26 16.3	
	comp=Z,116nm,19.5s,baz=240,slow=34						
CZSB	**Cruzeiro do Su**	**58.20**	**272**	P	**P**	**02 03 18.7**	**+0.8**
CZSB				IAmb	IAmb	02 03 21.6	
	comp=Z,14nm,1.1s						
BAUV	**El Baul**	**59.73**	**292**	P	**P**	**02 03 28.5**	**+0.1**
SJG	**San Juan**	**62.50**	**302**	LR	LR	02 25 46.6	
	comp=Z,36nm,19.7s,baz=74,slow=31						
ROSC	**El Rosal**	**63.77**	**285**	LR	LR	02 31 06.3	
	comp=Z,210nm,18.2s,baz=150,slow=36						
ATAH	**Atahualpa**	**63.79**	**271**	LR	LR	02 29 48.5	
	comp=Z,100nm,21.2s,baz=99,slow=35						
MMAI	**Mount Meron Ar**	**68.63**	**43**	P	**P**	**02 04 27.2**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=232,slow=8.1,SNR=4.5						
	comp=Z,1.6nm,0.8s						
JTS	**Las Juntas de**	**75.56**	**286**	LR	LR	02 38 07.3	
	comp=Z,81nm,20.4s,baz=110,slow=36						
AKASG	**Malin Array Be**	**77.55**	**26**	P	**P**	**02 05 17.0**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=225,slow=5.6,SNR=11						
	comp=Z,1.6nm,0.8s						
LDAQ	**Lac Daran**	**82.84**	**325**	P	**P**	**02 05 45.6**	**-2.1**
LDAQ				IAmb	IAmb	02 05 46.3	
	comp=Z,10nm,1.0s						
FINES	**FINESS Array B**	**84.70**	**18**	P	**P**	**02 05 57.4**	**+0.6**
SWET	**Sewanee**	**86.09**	**309**	P	**P**	**02 06 04.9**	**+0.5**

*SDD **27** 02:08:40.0±1.8, 18.64N×68.98W, h153km±12km, MD2.7, ML2.6, MW3.2*
*OSPL **27** 02:08:41.0±1.3, 18.08N×68.99W, h148km±11km, ML2.4*

ISC 27 02:08:42.3±3.0, 18.5N±0.1×69.11W±0.07, h125km±21km, n13, σ1§00/25, 13C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.40**	**71**	⇑*e*Pg	**Pn**	**02 08 59.9**	**-0.4**
HIDR				⇑*e*Sg	**Sn**	**02 09 13.9**	**+0.1**
HIDR				IAML		02 09 15.0	
	comp=N,93nm,0.2s						
HATOM	**Hato Mayor del**	**0.41**	**322**	⇑*e*Pg	**Pn**	**02 08 59.9**	**-0.5**
HATOM				⇑*e*Sg	**Sn**	**02 09 14.2**	**+0.1**
HATOM				IAML		02 09 14.8	
	comp=N,22nm,0.4s						
MIDR	**Miches**	**0.53**	**7**	⇑*e*Pg	**Pn**	**02 09 00.2**	**-0.8**
MIDR				⇑*e*Sg	**Sn**	**02 09 15.3**	**+0.2**
MIDR				IAML		02 09 17.1	
	comp=N,33nm,0.2s						
PCDR	**Punta Cana, DR**	**0.70**	**85**	*i* P	**Pn**	**02 09 02.2**	**+0.1**
PCDR				*e*S	**Sn**	**02 09 18.0**	**+0.9**
PCDR				IAML		02 09 18.9	
	comp=Z,36nm,0.9s						
DR08	**Loma La Naviza**	**0.99**	**300**	*e*

CACAO	El Cacao, Vera	2.29 275	*e*P		Pg	02 12 45.8	-0.6
FRIJ	El Hiral	2.37 331	*e*P		Pb	02 12 43.2	-1.6
BCIP	Isla Barro Col	2.38 328	P		Pb	02 12 44.8	-0.2
BCIP			S		Sb	02 13 12.3	-1.8
BCIP	Isla Barro Col	2.38 328	*e*P		Pb	02 12 44.8	-0.2
BCIP			*i* S		Sb	02 13 13.6	-0.5
GMAL	Guarumal, Vera	2.72 283	*i* P		Pb	02 12 52.1	+1.3
LCBC	Los crdobas,	2.77 52	P		Pb	02 12 52.0	+0.4
LCBC			S		Sb	02 13 25.2	-0.1
CBOC	Ciudad Bolivar	2.84 116	P		Pb	02 12 53.3	+0.4
HELC	Santa Helena	3.16 107	P		Pg	02 13 03.6	+0.4
SJCC	San Jacinto, C	4.33 50	P		Pn	02 13 12.1	+4.3
SJCC			S		Sn	02 13 57.6	-0.4
SPBC	San Pablo de B	4.70 108	P		Pb	02 13 20.8	-4.0

TEH ***27*** *02:19:39.3, 34°.22N×45°.59E, h10km±139km, ML2.7*
ISN ***27*** *02:19:39.2±0.6, 34°.23N×45°.57E, h15km±3km, ML2.7*
ISC 27 02:19:39.6±0.9, 34°.23N±0°.03×45°.58E±0°.04, h10km, n11, σ0.9 71/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.27	1	Pg	Pg	02 19 45.4	+0.1
GLG1	Gilan-e-Gharb	0.30	113	Pg	Pg	02 19 45.4	-0.2
ILBA	Ilam Banvizeh	0.80	139	Pg	Pg	02 19 54.5	-0.5
IDHR	Dehrash	0.81	55	Pg	Pg	02 19 55.0	-0.4
IGHG	Ghaleghazi	0.82	83	Pg	Pb	02 19 55.7	-0.5
IBDR	Badra	1.16	165	*e*Pg	Pb	02 20 01.0	-0.7
IBDR				*e*Sg	Sb	02 20 16.0	-0.7
KCHF	Cheshme Sefid,	1.21	88	Pg	Pb	02 20 02.2	-0.5
ILIN	Lien	1.33	59	Pg	Pg	02 20 04.9	-0.3
BHD	Baghdad	1.39	227	*e*Pn	Pg	02 20 05.5	-0.7
BHD				*e*Sn	Sg	02 20 25.0	+0.8
IKRK	Kirkuk	1.55	319	*e*Pn	Pb	02 20 08.0	-0.5
IKRK				*e*Sn	Sg	02 20 29.0	-0.5
RAFI	Al-Rafai	2.54	170	*e*Pn	Pn	02 20 22.0	+1.1
RAFI				*e*Sn	Sn	02 20 53.0	+1.1

IDC ***27*** *02:38:30.5±0.8, 22°.00S×170°.66E, h0km, mb4.4/10, mbtmp4.4/12, ML4.2/2, MS4.2/30, Error ellipse: s-maj=25.2km s-min=21.7km az=79.0*
NEIC ***27*** *02:38:32.1±1.6, 22°.05S±0°.1×170°.71E±0°.08, h10km±1km, mb4.7/20, Error ellipse: s-maj=23.1km s-min=12.4km az=167.0*
GCMT ***27*** *02:38:35.1±0.2, 22°.19S±0°.02×170°.65E±0°.01, h18km, MW5.1/103, Moment Tensor Solution. s44,c58; s103,c152; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=4.25±.27; Mθθ=0.32±.17; Mφφ=4.57±.17; Mrθ=1.40±.48; Mrφ=2.11±.10; Mθφ=1.05±.34; Best double couple: M=5.18900×1016 NP1:φs=179.00000°, δ52.00000°, λ-120.00000°. NP2:φs=42.00000°, δ47.00000°, λ-57.00000°. Principal axes: T 5.3810, Plg3.0000°, Azm290.0000°; N -0.3840, Plg23.0000°, Azm198.0000°; P -4.9970, Plg67.0000°, Azm27.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 02:38:32.0±0.5, 22°.02S±0°.09×170°.63E±0°.07, h10km, n121, σ1.93 33/98, mb4.6/23, MS4.2/27, 10C-11D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.89	268	Pn	Pn	02 39 31.8	-0.2
DZM				Sn	Sn	02 40 15.1	-2.7
DZM	Mont Dzumac	3.89	268	Pn	Pn	02 39 31.3	-0.7
39nm,0.3s,baz=122,slow=13,SNR=217							
DZM				Sn	Sn	02 40 16.5	-1.2
42nm,0.3s,baz=207,slow=15,SNR=11							
193nm,0.4s							
MSVF	Nonsavu	8.18	60		Pn	02 40 27.8	-3.2
MSVF	Nonsavu	8.18	60	Pn	Pn	02 40 35.2	+4.2
1.4nm,0.3s,baz=192,slow=17,SNR=9.9							
MSVF				LR	LR	02 43 11.0	
comp=Z,2μm,18.6s,baz=264,slow=34							
RAO	Raoul Island	12.58	127	LR	LR	02 45 18.2	
comp=Z,2μm,20.9s,baz=298,slow=32							
HNR	Honiara	16.19	319	LR	LR	02 47 43.2	
comp=Z,2μm,21.8s,baz=124,slow=34							
URZ	Urewera	17.12	162	P	P	02 42 33.2	+0.1
0.3nm,0.3s,baz=166,slow=4.8,SNR=4.4							
7.5nm,0.7s							
RTZ	Ruatahuna	17.41	163		P	02 42 37.2	+0.7
EIDS	Eidsvold	18.21	256	P	Pn	02 42 44.2	-0.9
EIDS				IAmb	IAmb	02 42 57.4	
comp=Z,27nm,1.2s							
ARMA	Armidale	18.97	240	P	P	02 42 53.4	-0.3
CTAO	Charters Tower	22.83	270	P	P	02 43 34.5	-1.0
CTAO				IAmb	IAmb	02 43 47.1	
comp=Z,17nm,0.9s							
CAN	Canberra	23.09	230	P	P	02 43 38.8	+0.8
CAN				IAmb	IAmb	02 43 47.5	
comp=Z,44nm,1.4s							
PMG	Port Moresby	25.79	295	P	P	02 44 04.2	+0.8
PMG				IAmb	IAmb	02 44 09.9	
comp=Z,19nm,0.7s							
COEN	Coen	27.29	282	P	P	02 44 17.1	+0.1
COEN				IAmb	IAmb	02 44 28.5	
comp=Z,15nm,1.0s							
STKA	Stephens Creek	27.61	243	P	P	02 44 20.2	+0.4
STKA	Stephens Creek	27.61	243	P	P	02 44 19.9	+0.1
comp=Z,2.9nm,0.7s,baz=71,slow=9.5,SNR=6.6							
comp=Z,2.9nm,0.7s							
AS31	Alice Springs	33.83	260	P	P	02 45 14.4	-0.4
ASAR	Alice Springs	33.83	260	P	P	02 45 14.3	-0.5
ASAR	Alice Springs	33.83	260	P	P	02 45 14.9	+0.1
comp=Z,5.2nm,0.8s,baz=88,slow=8.8,SNR=43							
ASAR				PcP	PcP	02 47 53.4	-0.5
comp=Z,0.6nm,0.8s,baz=107,slow=3.2,SNR=2.6							
ASAR				LR	LR	02 59 12.2	
comp=Z,612nm,18.7s,baz=105,slow=37							
comp=Z,5.2nm,0.8s							
WB0	Warramunga Arr	33.88	267	P	P	02 45 14.7	-0.6
WB0				IAmb	IAmb	02 45 25.1	
comp=Z,8.9nm,0.9s							
WB2	Warramunga Arr	33.89	267	P	P	02 45 14.5	-0.9
WB2				IAmb	IAmb	02 45 22.5	
comp=Z,12nm,1.2s							
WRA	Warramunga Arr	33.90	267	P	P	02 45 14.5	-0.9
comp=Z,3.6nm,0.5s,baz=100,slow=8.1,SNR=31							
WRA				PcP	PcP	02 47 53.7	-0.4
comp=Z,1.0nm,0.8s,baz=93,slow=3.2,SNR=3.9							
WRA				LR	LR	02 59 22.3	
comp=Z,1μm,18.3s,baz=102,slow=37							
comp=Z,3.6nm,0.5s							
JAY	Jayapura	34.95	300	LR	LR	02 58 34.4	
comp=Z,467nm,21.7s,baz=166,slow=34							
MTN	Manton Dam	38.68	277	P	P	02 45 55.9	-0.4
MTN				IAmb	IAmb	02 45 57.5	
comp=Z,23nm,1.1s							
KNRA	Kununurra	40.03	272	P	P	02 46 07.3	-0.3
KNRA				IAmb	IAmb	02 46 09.3	
comp=Z,15nm,0.8s							
FITZ	Fitzroy Crossi	42.33	267	P	P	02 46 26.4	-0.2
FITZ	Fitzroy Crossi	42.33	267	LR	LR	03 04 25.7	
comp=Z,911nm,18.3s,baz=105,slow=37							
GUMO	Guam	43.49	322	LR	LR	03 02 29.6	
comp=Z,280nm,18.9s,baz=148,slow=33							
BATI	Baumata	46.45	277	LR	LR	03 06 17.4	
comp=Z,2μm,21.5s,baz=126,slow=36							
MBWA	Marble Bar	47.16	261	P	P	02 47 04.7	-0.3
NWAO	Narrogin (SRO)	48.16	245	P	P	02 47 13.2	+0.5
SBA	Scott Base	55.91	181	P	P	02 48 09.9	+0.2
LEM	Lembang	62.48	274	LR	LR	03 15 52.1	
comp=Z,323nm,21.7s,baz=98,slow=36							
MJAR	Matsushiro Arr	65.81	332	P	P	02 49 17.1	-0.5
comp=Z,0.9nm,0.3s,baz=166,slow=6.4,SNR=4.8							
MJAR				LR	LR	03 15 16.8	
comp=Z,106nm,21.4s,baz=130,slow=34							
comp=Z,0.9nm,0.3s							
JNU	Nakatsue	66.68	324	LR	LR	03 14 41.5	
comp=Z,55nm,20.9s,baz=96,slow=33							
QSPA	South Pole Qui	68.05	180	P	P	02 49 32.0	+0.4
QSPA	South Pole Qui	68.05	180	P	P	02 49 31.2	-0.4
comp=Z,4.7nm,0.7s,baz=11,slow=2.8,SNR=8.7							
comp=Z,4.7nm,0.7s							
ASAJ	Asahikawa	70.65	339	LR	LR	03 17 44.0	
comp=Z,101nm,20.1s,baz=128,slow=33							
PSI	Prapat	74.17	280	LR	LR	03 25 49.0	
comp=Z,133nm,18.2s,baz=113,slow=38							
SHEM	Shemya Is, Ala	74.49	2	LR	LR	03 17 46.2	
comp=Z,151nm,19.1s,baz=108,slow=32							
USRK	Ussuriysk Ar.	74.80	332	P	P	02 50 11.9	-0.5
USRK	Ussuriysk Ar.	74.80	332	LR	LR	03 20 18.2	
comp=Z,83nm,21.4s,baz=186,slow=34							
PETK	Petropavlovsk-	75.65	352	LR	LR	03 17 36.2	
comp=Z,222nm,21.2s,baz=155,slow=31							
MAW	Mawson	76.36	202	P	P	02 50 22.0	+0.9
comp=Z,2.1nm,0.6s,baz=131,slow=10,SNR=5.3							
comp=Z,2.1nm,0.6s							
KLR	Kul'dur	78.93	335	LR	LR	03 24 09.7	
comp=Z,58nm,19.3s,baz=160,slow=35							
CMAR	Chiang Mai Arr	80.83	294	P	P	02 50 48.4	+1.8
comp=Z,1.6nm,0.3s,baz=148,slow=4.2,SNR=12							
CMAR				LR	LR	03 28 33.0	
comp=Z,34nm,19.5s,baz=100,slow=37							
comp=Z,1.6nm,0.3s							
MA2	Magadan	82.92	350	LR	LR	03 23 04.9	
comp=Z,218nm,19.6s,baz=142,slow=32							
PMSA	Palmer Station	83.86	159	LR	LR	03 24 42.9	
comp=Z,95nm,18.8s,baz=232,slow=33							
KDAK	Kodiak Island	85.22	19	LR	LR	03 27 24.8	
comp=Z,99nm,18.2s,baz=108,slow=34							
LZH	Lanzhou	85.55	312	*e*P	P	02 51 13.0	+2.2
LZH				pP	pwP	02 51 18.5	+2.3
LZH				sP	sP	02 51 21.8	+7.4
LZH				pmax	pmax		
comp=Z,14nm,1.1s							
TROLL	Troll, Antarti	85.86	184	⇑P	P	02 51 09.5	-2.3
comp=Z,62nm,0.7s							
SNAA	Sanae	86.45	182	⇑P	P	02 51 11.7	-2.9
comp=Z,31nm,0.9s							
SNAA	Sanae	86.45	182	P	P	02 51 13.5	-1.1
comp=Z,2.4nm,0.9s,baz=148,slow=1.9,SNR=4.3							
comp=Z,2.4nm,0.9s							
VNA3	Neumayer Olymp	86.99	180	⇑P	P	02 51 15.4	-1.8
comp=Z,2.3nm,0.8s							
VNA2	Neumayer--Watz	87.30	181	⇑P	P	02 51 16.7	-2.0
comp=Z,2.7nm,0.7s,baz=160,slow=3.3							
VNA1	Neumayer--Stat	87.58	180	⇑P	P	02 51 16.7	-3.3
comp=Z,3.8nm,0.9s							
PFO	Pinyon Flats O	88.73	53	LR	LR	03 26 54.1	
comp=Z,78nm,18.2s,baz=301,slow=33							
YAK	Yakutsk	89.91	342	LR	LR	03 27 19.9	
comp=Z,118nm,21.3s,baz=104,slow=33							
SONM	Songino Array	90.21	323	P	P	02 51 32.7	-0.2
comp=Z,2.7nm,0.9s,baz=124,slow=3.3,SNR=10							
SONM				LR	LR	03 29 33.1	
comp=Z,94nm,21.9s,baz=146,slow=34							
comp=Z,2.7nm,0.9s							
BBB	Bella Bella	91.09	33	LR	LR	03 26 40.0	
comp=Z,114nm,18.7s,baz=351,slow=32							
ILAR	Eielson Array	92.49	17	P	P	02 51 44.1	+1.2
ILAR	Eielson Array	92.49	17	P	P	02 51 41.5	-1.4
comp=Z,0.3nm,0.7s,baz=211,slow=1.7,SNR=4.4							
ILAR				LR	LR	03 31 19.5	
comp=Z,113nm,18.2s,baz=216,slow=34							
comp=Z,0.3nm,0.7s							
F21K	Alatna River	92.90	13	P	P	02 51 46.5	+1.7
F21K				IAmb	IAmb	02 52 08.5	
comp=Z,2.5nm,0.8s							
D22K	Ayikyak River	94.46	13	P	P	02 51 56.5	+4.7
PLCA	Paso Flores	95.60	138	LR	LR	03 24 58.6	
comp=Z,80nm,19.6s,baz=264,slow=29							
TIXI	Tiksi	97.72	348	LR	LR	03 33 35.8	
comp=Z,64nm,19.7s,baz=218,slow=34							
INK	Inuvik	98.76	18	LR	LR	03 31 26.1	
comp=Z,86nm,20.3s,baz=264,slow=32							
FINES	FINESS Array B	133.64	337	PKP	PKiKP	02 57 49.5	-0.1
comp=Z,3.9nm,1.0s,baz=127,slow=3.7,SNR=2.7							
MLR	Muntele Rosu	142.90	318	⇓P	PKiKP	02 58 11.7	+2.4
KOLS	Kolonicke sedl	143.24	325	*e*PKP	PKiKP	02 58 10.6	+0.9
ARR	Arges	143.77	318	⇓P	PKPbc	02 58 05.9	+0.7
TNR	Turnu Rosu	143.86	319	⇑P	PKPdf	02 58 06.6	-1.0
MARR	Marisel-Cluj	144.03	321	⇓P	PKPbc	02 58 06.5	+0.6
DRGR		144.20	321	⇓P	PKPbc	02 58 07.1	+0.7
LOT	Lotru	144.27	319	⇓P	PKPbc	02 58 06.8	0.0
GZR	Gura Zlata	144.90	319	⇓P	PKPab	02 58 08.7	0.0
SIRR	Siria	145.09	321	⇓P	PKPbc	02 58 08.9	-0.4
SURR	Surduc	145.10	320	⇓P	PKPab	02 58 09.5	+0.2
MORC	Moravsky Berou	145.11	329	*e*PKP	PKPbc	02 58 08.7	-0.5
MORC	Moravsky Berou	145.11	329	⇓P	PKPdf	02 58 09.6	-0.1
PSZ	Piszkesteto	145.12	325	⇑P	PKPdf	02 58 10.3	+0.4
OSTC	Ostas	145.18	331	*e*PKP	PKPdf	02 58 09.8	0.0
OSTC				*ex*	x	02 58 17.2	
MAUC	Maruska	145.25	328	*e*PKP	PKPdf	02 58 11.0	+1.0
KRLC	Kraliky	145.26	330	*e*PKP	PKPdf	02 58 09.9	-0.1
KRLC				*ex*	x	02 58 16.4	
DPC	Dobruska-Polom	145.28	331	*e*PKP	PKPdf	02 58 10.3	+0.3
DPC				*ex*	x	02 58 16.9	
UPC	Upice	145.31	331	*e*PKP	PKPdf	02 58 10.3	+0.3
VYHS	Vyhne	145.32	326	*e*PKP	PKPdf	02 58 10.2	+0.1
BZS	Buzias	145.47	320	⇓P	PKPdf	02 58 09.2	-1.2
JAVC	Velka Javorina	145.66	328	*e*PKP	PKPab	02 58 11.9	+0.6
MDVR	Moldovita	145.86	319	⇓P	PKPbc	02 58 11.8	0.0
VRAC	Vranov	145.88	329	*e*PKP	PKPdf	02 58 11.2	+0.2
VRAC	Vranov	145.88	329	⇑P	PKPbc	02 58 11.8	+0.2
BRG	Berggiesshubel	145.93	333	*e*PKP	PKPab	02 58 12.0	-0.2
BRG				Amp		02 58 15.1	
comp=Z,13nm,1.0s							
BRG	Berggiesshubel	145.93	333	P	PKiKP	02 58 19.1	+3.9
BRG				Amp		02 58 19.9	
comp=Z,25nm,1.0s							
CLL	Collm	145.98	335	*i* PKPbc	PKPdf	02 58 11.3	+0.2
comp=Z,9.0nm,1.1s							
CLL				*i* (PKPab)	PKPab	02 58 13.0	+0.7
comp=Z,22nm,1.5s							
CLL				*i* PKiKP	sPKPbc	02 58 15.5	+0.1
CLL				*i* PKPmax		02 58 18.1	
comp=Z,21nm,0.9s							
KRUC	Moravsky	146.15	329	*e*PKP	PKPbc	02 58 12.0	-0.4
MODS	Modra-Piesok	146.18	328	*e*PKP	PKPbc	02 58 12.9	+0.3
MODS				*e*		02 58 20.6	
EKA	Eskdalemuir Ar	146.41	354	PKPbc	PKPbc	02 58 12.7	-0.3
comp=Z,0.6nm,0.5s,baz=15,slow=3.0,SNR=2.3							
BOVS	Bovan	146.45	317	⇑P	PKPbc	02 58 13.3	-0.2
MORH	Mrgy, Hungar	146.84	323	⇑P	PKPbc	02 58 14.9	+0.4
ZVC	Zvikov	146.89	331	*e*PKP	PKPbc	02 58 14.6	0.0
RONA	Rosalia, Austr	147.12	327	*i* PKiKP	PKiKP	02 58 22.3	+4.5
comp=Z,14nm,1.2s							
CONA	Conrad Observa	147.18	328	*i* PKP	PKPbc	02 58 15.8	+0.2
comp=Z,11nm,1.1s							
CKRC	Cesky Krumlov	147.29	331	*e*PKP	PKPbc	02 58 16.1	+0.3
CKRC				*ex*	x	02 58 21.7	
KHC	Kasperske Hory	147.39	332	*e*PKP	PKPbc	02 58 15.9	-0.2
GERES	GERESS Array B	147.55	331	PKPbc	PKPbc	02 58 16.4	-0.2
comp=Z,3.2nm,0.9s,baz=27,slow=9.0,SNR=9.2							
ARSA	Arzberg	147.81	327	*i* PKiKP	PKPab	02 58 24.0	+4.4
comp=Z,6.0nm,0.9s							
MOA	Molln	148.01	329	*i* PKP	PKPab	02 58 21.0	+0.6
comp=Z,5.2nm,1.1s							
BIOA	Bad Ischl, Aus	148.42	330	*i* PKiKP	PKPab	02 58 23.1	+1.0
comp=Z,4.6nm,1.1s							
SOKA	Soboth	148.45	327	*e*PKP	PKPbc	02 58 18.7	-0.3
comp=Z,5.9nm,1.3s							
LESA	Schwarzleotal	149.06	330	*i* PKP	PKPab	02 58 25.9	+1.2
comp=Z,7.0nm,0.6s							
MYKA	Terra Mystica	149.17	328	*i* PKiKP	PKPab	02 58 24.7	-0.5
comp=Z,6.0nm,0.6s							
WATA	Walderalm	149.62	331	*i* PKP	PKiKP	02 58 24.1	+1.0
comp=Z,8.4nm,1.1s							
ABTA	Abfaltersbach	149.63	330	*e*PKP	PKiKP	02 58 24.8	+1.8
comp=Z,8.7nm,1.0s							
WTTA	Wattenberg	149.65	331	*i* PKiKP	PKPab	02 58 26.1	-1.1
comp=Z,9.5nm,1.0s							
MOTA	Moosalm	149.82	332	*i* PKiKP	PKPab	02 58 26.6	-1.3
comp=Z,12nm,0.7s							
RETA	Reutte	149.86	332	*i* PKiKP	PKPab	02 58 26.4	-1.6
comp=Z,6.5nm,1.4s							
SQTA	Sankt Quirin	149.87	331	*i* PKP	PKPab	02 58 29.3	+1.2
comp=Z,12nm,0.7s							
FETA	Feichten	150.24	332	*e*PKP	PKPbc	02 58 22.6	-1.0
comp=Z,7.9nm,1.1s							
DAVA	Damuels	150.40	333	*i* PKiKP	PKPab	02 58 27.6	-2.7
comp=Z,8.1nm,0.7s							
TORD	Torodi Ar. Bea	166.26	232	PKP	PKPdf	02 58 38.2	-0.2
comp=Z,0.6nm,0.8s,baz=8.5,slow=3.8,SNR=4.0							
TORD				PKPab	PKPab	02 59 41.0	+1.7
comp=Z,0.8nm,0.8s,baz=83,slow=2.8,SNR=4.7							

IDC 27 02:43:12.9±2.8, 21°.41S×179°.86W, h0km, mb4.0/3, mbtmp4.0/3, MS4.1/5, Error ellipse: s-maj=278.7km s-min=34.1km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	35.83	245	LR	LR	03 01 50.2	
comp=Z,283nm,21.5s,baz=224,slow=31							
ASAR	Alice Springs	42.63	258	P	P	02 51 10.6	-0.7
2.4nm,0.8s,baz=101,slow=6.7,SNR=19							
2.4nm,0.8s							
WRA	Warramunga Arr	42.77	263	P	P	02 51 12.9	+0.4
3.5nm,0.6s,baz=95,slow=8.3,SNR=32							
3.5nm,0.6s							
TXAR	Lajitas Array	89.00	58	P	P	02 56 10.1	0.0
0.3nm,0.7s,baz=232,slow=6.7,SNR=4.3							
0.3nm,0.7s							
CMIG	Matias Romero	91.60	72	LR	LR	03 27 35.0	
comp=Z,106nm,21.1s,baz=198,slow=29							
NNA	Nana	97.49	106	LR	LR	03 30 37.1	
comp=Z,88nm,21.2s,baz=229,slow=29							
ATAH	Atahualpa	97.99	101	LR	LR	03 30 19.2	
comp=Z,152nm,21.7s,baz=259,slow=29							
JTS	Las Juntas de	98.21	82	LR	LR	03 32 27.6	
comp=Z,62nm,20.9s,baz=264,slow=30							

BJI ***27*** *02:45:31.7, 17°.50S×178°.23W, h568km, mb5.0/66, mB5.0/33*
MOS ***27*** *02:45:32.5±1.2, 17°.82S×178°.62W, h572km, mb5.1/22, Error ellipse: s-maj=8.6km s-min=7.8km az=84.1*
NEIC ***27*** *02:45:32.6, 17°.86S×178°.58W, h567km*
IDC ***27*** *02:45:32.2±0.5, 17°.90S×178°.56W, h566km±5km, mb4.6/24, mbtmp5.5/27, Error ellipse: s-maj=10.4km s-min=8.3km az=104.0*
NEIC ***27*** *02:45:32.6, 17°.86S×178°.58W, h570km, Moment Tensor Solution. Duration: 3s5 Moment tensor: Scale 1017Nm; Mrr=1.45; Mθθ=2.32; Mφφ=-0.87; Mrθ=2.89; Mrφ=1.44; Mθr=1.07; Fault plane solution: M0=3.96000×1017 NP1: φs=283.22000°, δ77.25000°, λ-59.08000°. NP2:φs=33.44000°, δ33.20000°, λ-156.24000°. Principal axes: T 4.0148, Plg26.0000°, Azm349.0000°; N -0.1082, Plg30.0000°, Azm96.0000°; P -3.9066, Plg48.0000°, Azm226.0000°;*
NEIC ***27*** *02:45:32.6, 17°.86S×178°.58W, h567km*
NEIC ***27*** *02:45:33.3±1.9, 17°.89S±0°.08×178°.57W±0°.10, h574km±4km, mb5.0/530, Mwb5.7/24, Mww5.7/18, Error ellipse: s-maj=13.5km s-min=11.5km az=115.0, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr=0.83; Mθθ=2.76; Mφφ=-1.94; Mrθ=3.75; Mrφ=1.48; Mθr=1.70; Fault plane solution: M0=5.02000×1017 NP1:φs=31.93000°, δ33.24000°, λ-169.44000°. NP2:φs=293.06000°, δ84.23000°, λ-57.21000°. Principal axes: T 5.1494, Plg31.0000°, Azm356.0000°; N -0.2659, Plg33.0000°, Azm109.0000°; P -4.8836, Plg41.0000°, Azm234.0000°;*
GCMT ***27*** *02:45:36.3±0.2, 17°.87S±0°.01×178°.60W±0°.02, h581km±1km, MW5.7/129, Moment Tensor Solution. s129,c226; Duration: 1s8 Moment tensor: Scale 1017 Nm; Mrr=1.50±.05; Mθθ=3.21±.07; Mφφ=-1.71±.08; Mrθ=2.94±.07; Mφφ=1.80±.07; Mθr=-1.59±.08; Best double couple: M=4.70500×1017 NP1:φs=289.00000°, δ78.00000°, λ-51.00000°. NP2:φs=34.00000°, δ41.00000°, λ-161.00000°. Principal axes: T 4.7710, Plg23.0000°, Azm350.0000°; N -0.1320, Plg38.0000°, Azm100.0000°; P -4.6390, Plg43.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 27 02:45:32.7±0.2, 17°.92S±0°.03×178°.53W±0°.03, h574km±2km, h576km; pP-P, n1304, σ1.14/1219, mb5.1/389, 148C-25D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.27	273	P	P	02 46 52.6	+1.1
MSVF				S	S	02 47 59.6	+3.9
MSVF	Nonsavu	3.27	273	P	P	02 46 51.7	+0.1
415nm,0.5s,baz=125,slow=3.9,SNR=368							
MSVF				S	S	02 47 58.0	+2.4
174nm,1.1s,baz=36,slow=22,SNR=14							
MSVF	Nonsavu	3.27	273	P	P	02 46 52.6	+1.1
MSVF				S	S	02 47 59.6	+3.9
FUTU	Fugatoga	3.62	6	P	P	02 46 53.6	-0.2
FUTU				S	S	02 48 00.8	+1.1
AFI	Afiamalu	7.62	59	P	P	02 47 25.9	-1.8
AFI	Afiamalu	7.62	59	P	P	02 47 25.9	-1.8
NIUE	Niue	8.24	99	P	P	02 47 33.9	+0.3
NIUE	Niue	8.24	99	P	P	02 47 34.5	+1.0
comp=Z,1μm,1.1s							
FUNA	Funafuti	9.60	346	P	P	02 47 44.6	-2.5
RIZ	Raoul Island	11.28	177	P	P	02 48 02.3	-1.7
RAO	Raoul Island	11.29	177	P	P	02 48 03.0	-1.0
RAO	Raoul Island	11.29	177	P	P	02 48 02.1	-1.9
comp=Z,440nm,0.3s,baz=81,slow=11,SNR=10							
RAO				S	S	02 50 09.3	+0.9
comp=Z,449nm,0.4s,baz=116,slow=23,SNR=3.9							
RAO	Raoul Island	11.29	177	P	P	02 48 03.0	-1.0
GLKZ	Green Lake	11.30	177	P	P	02 48 01.7	-2.4
GLKZ				S	S	02 50 09.0	+0.4
DZM	Mont Dzumac	14.72	251	P	P	02 48 38.5	-0.6
DZM	Mont Dzumac	14.72	251	*e*P	P	02 48 38.0	-1.1
comp=Z,541nm,0.8s							
DZM				*e*S	S	02 51 09.6	-2.3
comp=Z,217nm,1.4s							
DZM	Mont Dzumac	14.72	251	P	P	02 48 38.8	-0.3
comp=Z,224nm,0.6s,baz=88,slow=9.6,SNR=49							
DZM				S	S	02 51 12.7	+0.8
comp=Z,46nm,1.1s,ba

SNVZ	South Ngauruho	21.79	192	P	P	02 49 43.3	-0.4
MCHZ	McNeill Hill	21.84	190	P	P	02 49 44.4	+0.3
TUVZ	Tukino	21.86	192	P	P	02 49 43.7	-0.7
KWHZ	Kaweka Forest	21.87	191	P	P	02 49 43.7	-0.7
VRZ	Vera Road	21.92	194	P	P	02 49 48.2	+3.5
WNVZ	Wahianoa	21.93	192	P	P	02 49 44.3	-0.8
PKVZ	Pokaka	21.95	193	P	P	02 49 45.0	0.0
CKHZ	Cape Kidnapper	21.99	189	P	P	02 49 45.6	+0.3
KRHZ	Kereru	22.09	191	P	P	02 49 45.9	-0.4
KAHZ	Kahuranaki	22.16	189	P	P	02 49 46.7	-0.1
NEZ	North Egmont	22.22	195	P	P	02 49 51.4	+3.9
KHEZ	Kahui Hut	22.26	195	P	P	02 49 52.0	+4.1
PXZ	Pawanui	22.39	189	P	P	02 49 48.4	-0.4
HNR	Honiara	22.54	289	P	P	02 49 52.6	+2.1
comp=Z,78nm,0.3s,baz=254,slow=5.3,SNR=4.1							
TSZ	Takapari Road	22.57	191	P	P	02 49 50.2	-0.4
PRHZ	Porangahau	22.65	190	P	P	02 49 47.0	-4.3
DVHZ	Dannevirke	22.76	191	P	P	02 49 51.7	-0.6
BFZ	Birch Farm	23.12	190	P	P	02 49 55.1	-0.4
MRZ	Mangatainoka R	23.22	191	P	P	02 49 55.0	-1.3
OGWZ	Otaki Gorge	23.45	192	P	P	02 49 58.1	-0.2
HOWZ	Holdsworth Sta	23.46	191	P	P	02 49 57.4	-1.1
TMWZ	Te Maipa	23.60	191	P	P	02 49 59.4	-0.3
MTW	Mount Morrison	23.72	191	P	P	02 50 01.3	+0.6
TRWZ	Traveller	23.92	191	P	P	02 50 02.2	-0.3
QRZ	Quartz Range	24.09	197	P	P	02 50 04.0	0.0
NNZ	Nelson	24.23	195	P	P	02 50 04.2	-1.1
LHI	Lord Howe Isla	24.38	232	P	P	02 50 07.5	+0.7
THZ	Tophouse	24.87	195	P	P	02 50 10.1	-0.9
DSZ	Denniston Nort	25.14	197	P	P	02 50 13.5	+0.1
KHZ	Kahutara	25.33	194	P	P	02 50 13.8	-1.1
GVZ	Greta Valley S	25.97	194	P	P	02 50 19.4	-1.2
LTZ	Lake Taylor	25.98	196	P	P	02 50 20.1	-0.7
INZ	Inchbonnie	26.15	197	P	P	02 50 21.8	-0.3
OXZ	Oxford	26.55	196	P	P	02 50 25.1	-0.6
MQZ	McQueen's Vall	26.76	194	P	P	02 50 27.5	0.0
RPZ	Rata Peaks	27.18	197	P	P	02 50 30.4	-0.8
RPZ	Rata Peaks	27.18	197	P	P	02 50 30.1	-1.0
comp=Z,51nm,0.7s,baz=270,slow=1.8,SNR=19							
RPZ				S	S	02 54 26.1	-4.1
comp=Z,28nm,1.0s,baz=167,slow=18,SNR=3.0							
comp=Z,51nm,0.7s							
PPT2	Papeete2	27.56	94	eP	P	02 50 36.5	+1.5
comp=Z,76nm,1.3s							
PPT2				epP	pP	02 52 07.5	+2.3
comp=Z,90nm,1.4s							
PPT2				eS	S	02 54 41.4	+4.4
comp=Z,1μm,30.0s							
PPT2				esS	sS	02 57 23.9	-5.1
comp=Z,4μm,25.0s							
PPT	Papeete	27.56	94	P	P	02 50 35.6	+0.7
comp=Z,56nm,0.8s,baz=58,slow=3.6,SNR=6.4							
comp=Z,56nm,0.8s							
TBI	Tubuai	27.70	106	eS	S	02 54 45.3	+6.4
comp=Z,4μm,28.2s							
TBI				esS	sS	02 57 27.5	-3.5
comp=Z,9μm,30.5s							
EIDS	Eidsvold	29.16	250	P	P	02 50 47.7	-1.0
EIDS	Eidsvold	29.16	250	P	P	02 50 48.2	-0.5
comp=Z,312nm,0.9s							
PMOR	Pomariorio Ree	29.50	89	eP	P	02 50 53.3	+1.6
comp=Z,125nm,1.2s							
MLZ	Mavora Lakes	29.55	199	P	P	02 50 52.6	+0.8
ARMA	Armidale	29.84	240	P	P	02 50 55.0	+0.4
ARMA	Armidale	29.84	240	P	P	02 50 55.5	+0.9
comp=Z,367nm,0.7s							
DCZ	Deep Cove	29.95	200	P	P	02 50 55.0	-0.1
WHZ	Wether Hill Ro	30.07	199	P	P	02 50 56.2	0.0
KWJN	Gagan, Kwajale	30.30	332	P	P	02 50 59.1	+0.5
PYZ	Puysegur Point	30.72	200	P	P	02 51 02.0	+0.2
MGCD	Mangrove Creek	31.19	235	P	P	02 51 07.0	+1.0
comp=Z,486nm,0.7s							
RIV	Riverview	31.39	234	P	P	02 51 08.5	+0.8
comp=Z,316nm,1.2s							
CNB	Canberra Magne	33.33	232	P	P	02 51 25.1	+0.9
comp=Z,1μm,0.7s							
CTAO	Charters Tower	33.33	261	P	P	02 51 24.2	-0.2
CTAO	Charters Tower	33.33	261	P	P	02 51 24.2	-0.2
CTAO				pmax	pmax		
comp=Z,188nm,0.8s							
CTAO	Charters Tower	33.33	261	P	P	02 51 23.9	-0.5
CTAO				pP	pP	02 53 00.1	+1.6
CTAO				PcP	PcP	02 53 49.4	+0.2
CTAO				ScP	ScP	02 56 41.8	+2.2
PATS	Pohnpei	33.59	315	P	P	02 51 26.8	+0.2
PATS	Pohnpei	33.59	315	P	P	02 51 26.3	-0.3
comp=Z,246nm,1.4s							
CAN	Canberra	33.61	232	P	P	02 51 27.4	+0.9
CAN	Canberra	33.61	232	P	P	02 51 27.2	+0.7
comp=Z,426nm,1.0s							
CAN	Canberra	33.61	232	P	P	02 51 27.4	+0.9
CAN				pmax	pmax		
comp=Z,310nm,0.8s							
CAN	Canberra	33.61	232	P	P	02 51 27.3	+0.8
YNG	Young	33.69	235	P	P	02 51 27.8	+0.6
comp=Z,734nm,1.1s							
MILA	Mila	34.19	230	P	P	02 51 32.0	+0.6
comp=Z,88nm,1.1s							
PMG	Port Moresby	34.35	280	P	P	02 51 33.7	+0.8
PMG	Port Moresby	34.35	280	P	P	02 51 33.7	+0.8
PMG				pmax	pmax		
comp=Z,525nm,1.0s							
PMG	Port Moresby	34.35	280	P	P	02 51 33.3	+0.3
CMSA	Cobar Meteorol	35.05	240	P	P	02 51 38.6	+0.1
comp=Z,558nm,0.8s							
MTSU	Mount Surprise	35.30	264	P	P	02 51 40.1	-0.7
comp=Z,129nm,0.9s							
QLP	Quilpie	35.42	249	P	P	02 51 41.4	-0.3
comp=Z,947nm,0.7s							
JOHN	Johnston Islan	35.56	15	P	P	02 51 42.5	-0.4
COEN	Coen	36.99	270	P	P	02 51 54.9	+0.1
COEN	Coen	36.99	270	P	P	02 51 54.7	-0.1
comp=Z,391nm,1.1s							
MANU	Manus Island	37.00	291	P	P	02 51 54.2	-0.7
TOO	Toolangi	37.07	231	P	P	02 51 56.0	+0.9
TOO	Toolangi	37.07	231	P	P	02 51 56.1	+0.9
comp=Z,405nm,1.1s							
TOO	Toolangi	37.07	231	P	P	02 51 56.0	+0.9
TOO				pmax	pmax		
comp=Z,303nm,0.9s							
MOO	Moorlands	38.01	223	P	P	02 52 03.3	+0.7
comp=Z,321nm,1.1s							
TAU	Tasmania Unive	38.15	222	P	P	02 52 04.6	+0.8
TAU	Tasmania Unive	38.15	222	P	P	02 52 04.6	+0.8
TAU				pmax	pmax		
comp=Z,204nm,0.8s							
TAU	Tasmania Unive	38.15	222	P	P	02 52 04.5	+0.7
TAU				PcP	PcP	02 54 04.8	+1.5
TAOE	Nuku Hiva Isla	38.34	82	ePP	PP	02 53 52.3	-0.2
comp=Z,236nm,28.3s							
TAOE				eS	S	02 57 24.6	+4.3
comp=Z,62nm,25.9s							
TAOE				eSS	SS	03 00 37.4	-4.0
comp=Z,769nm,24.3s							
STKA	Stephens Creek	38.52	241	P	P	02 52 07.9	+0.9
STKA	Stephens Creek	38.52	241	P	P	02 52 07.9	+0.9
comp=Z,425nm,0.7s,baz=89,slow=9.8,SNR=589							
comp=Z,425nm,0.7s							
ARPS	Mount Arapiles	39.55	234	P	P	02 52 15.5	+0.3
comp=Z,607nm,0.9s							
WAKE	Wake Island	39.74	338	P	P	02 52 16.4	-0.4
MCQ	Macquarie Isla	40.41	200	P	P	02 52 22.7	+1.1
MCQ	Macquarie Isla	40.41	200	P	P	02 52 22.7	+1.1
MCQ				pmax	pmax		
comp=Z,139nm,1.2s							
MGBR	Mount Gambier	40.80	233	P	P	02 52 25.3	+0.2
JAY	Jayapura	42.80	286	P	P	02 52 41.3	+0.1
comp=Z,324nm,1.1s,comp=Z,2μm							
GENI	Genyem	43.26	286	P	P	02 52 45.4	+0.6
comp=Z,539nm,1.0s							
BBOO	Buckleboo	43.30	241	P	P	02 52 45.3	+0.4
BBOO	Buckleboo	43.30	241	P	P	02 52 45.1	+0.3
comp=Z,796nm,1.1s							
MWH	Mokuaweoweo	43.46	32	P	P	02 52 46.3	-0.4
HUH	Hualalai	43.51	32	P	P	02 52 46.9	+0.1
UWE	Uwekahuna	43.56	33	P	P	02 52 47.5	+0.3
PUH	Pauahi	43.57	33	P	P	02 52 47.0	-0.1
BYL	Byron's Ledge	43.58	33	P	P	02 52 47.6	+0.4
MLH	Mauna Loa	43.58	33	P	P	02 52 47.1	-0.2
KNHH	Kane Nui o Ham	43.59	33	P	P	02 52 47.5	+0.2
HMH	Humu'ula Sheep	43.62	32	P	P	02 52 47.7	0.0
STCH	Steam Cracks	43.62	33	P	P	02 52 47.7	+0.2
JOKA	Jonika Flow	43.73	33	P	P	02 52 48.5	+0.2
KEKH	Kekaha	43.73	26		P	02 52 48.0	-0.1

HPAH	Hawaii Prepara	43.87	32		P	02 52 49.1	-0.3
DHH	Diamond Head	43.92	28	P	P	02 52 49.9	+0.2
DHH	Diamond Head	43.92	28	P	P	02 52 49.9	+0.2
KIP	Kipapa	43.97	28	P	P	02 52 49.9	-0.1
KIP	Kipapa	43.97	28	P	P	02 52 49.9	-0.1
KIP				pmax	pmax		
comp=Z,139nm,0.8s							
KIP	Kipapa	43.97	28	P	P	02 52 50.3	+0.3
WRAB	Tennant Creek	44.51	260	P	P	02 52 53.0	-1.4
WRAB	Tennant Creek	44.51	260	d iP	P	02 52 53.2	-1.2
WRAB				pmax	pmax		
comp=Z,356nm,1.4s							
WRA	Warramunga Arr	44.52	260	P	P	02 52 53.2	-1.2
comp=Z,138nm,0.7s,baz=92,slow=7.2,SNR=392							
WRA				PcP	PcP	02 54 25.1	0.0
comp=Z,24nm,0.7s,baz=89,slow=4.1,SNR=6.1							
WRA				ScP	ScP	02 57 23.9	+0.9
comp=Z,3.2nm,0.6s,baz=81,slow=5.2,SNR=5.8							
WRA				S	S	02 58 44.1	-4.9
comp=Z,5.0nm,0.7s,baz=97,slow=13,SNR=2.8							
comp=Z,138nm,0.7s							
AS31	Alice Springs	44.68	254	P	P	02 52 54.9	-0.8
AS31	Alice Springs	44.68	254	P	P	02 52 55.5	-0.1
comp=Z,0.0nmcomp=Z,458nm,0.7s							
ASAR	Alice Springs	44.68	254	P	P	02 52 54.9	-0.8
ASAR	Alice Springs	44.68	254	P	P	02 52 55.5	-0.2
comp=Z,1μm,0.6s,baz=88,slow=8.3,SNR=5979							
ASAR				PcP	PcP	02 54 25.7	+0.1
comp=Z,33nm,0.5s,baz=99,slow=3.4,SNR=5.6							
ASAR				ScP	ScP	02 57 24.9	+1.3
comp=Z,7.8nm,0.8s,baz=105,slow=4.0,SNR=4.4							
ASAR				S	S	02 58 47.3	-3.8
comp=Z,22nm,0.9s,baz=89,slow=15,SNR=21							
KDU	Kakadu	47.45	269	P	P	02 53 16.0	-0.6
comp=Z,297nm,0.7s							
MTN	Manton Dam	48.69	268	P	P	02 53 24.7	-1.2
MTN	Manton Dam	48.69	268	P	P	02 53 24.9	-1.0
comp=Z,243nm,0.9s							
KMPI	Kaimana, Papua	48.85	281	P	P	02 53 28.0	+0.9
WRKA	Warakurna	49.73	252	P	P	02 53 33.3	-0.2
comp=Z,924nm,1.0s							
SAUI	Saumlaki	49.75	275	P	P	02 53 33.6	-0.1
FORT	Forrest	49.90	245	P	P	02 53 33.6	-1.0
FORT	Forrest	49.90	245	P	P	02 53 33.8	-0.7
comp=Z,737nm,0.7s							
KNRA	Kununurra	50.38	264	P	P	02 53 37.4	-0.8
KNRA	Kununurra	50.38	264	P	P	02 53 37.6	-0.6
comp=Z,315nm,0.7s							
FAKI	Fak Fak	50.47	281	P	P	02 53 38.1	-0.9
FAKI	Fak Fak	50.47	281	P	P	02 53 39.2	+0.2
BNDI	Bandanaira	52.13	278	P	P	02 53 51.5	+0.6
SWI	Sorong	52.14	283	P	P	02 53 50.8	-0.2
FITZ	Fitzroy Crossi	52.91	261	P	P	02 53 56.0	-0.5
FITZ	Fitzroy Crossi	52.91	261	P	P	02 53 56.3	-0.2
MSAI	Masohi	53.44	279	P	P	02 53 59.9	-0.3
comp=Z,188nm,0.6s							
AAI	Ambon	54.01	279	P	P	02 54 03.8	-0.5
comp=Z,261nm,0.5s,comp=Z,4μm							
NLAI	Namlea	55.19	279	P	P	02 54 12.5	0.0
comp=Z,323nm,1.0s							
KMBL	Kambalda	55.20	244	P	P	02 54 11.5	-0.9
comp=Z,201nm,1.2s							
DRV	Dumont d'Urvil	55.61	199	P	P	02 54 15.6	+1.1
DRV				PcP	PcP	02 55 06.5	+1.0
LBMI	Labuha	55.72	282	P	P	02 54 19.2	+3.0
SOEI	Soe	55.96	270	P	P	02 54 18.7	+0.7
SOEI	Soe	55.96	270	P	P	02 54 18.8	+0.7
BATI	Baumata	56.42	270	P	P	02 54 22.0	+0.9
comp=Z,197nm,0.8s,comp=Z,2μmcomp=Z,2μm							
SANI	Sanana	56.63	280	P	P	02 54 21.7	-0.8
comp=Z,252nm,1.1s,comp=Z,2μm							
PSAD2	Pilbara Seismi	57.68	255	P	P	02 54 29.1	-0.5
comp=Z,312nm,1.2s							
PSA00	Pilbara Seismi	57.80	255	P	P	02 54 29.7	-0.6
PSA00	Pilbara Seismi	57.80	255	P	P	02 54 29.8	-0.6
comp=Z,351nm,1.1s							
MBWA	Marble Bar	57.96	256	P	P	02 54 30.8	-0.6
MBWA	Marble Bar	57.96	256	P	P	02 54 30.8	-0.6
comp=Z,291nm,0.9s							
MMRI	Maumere	58.19	271	P	P	02 54 31.3	-1.7
MMRI	Maumere	58.19	271	P	P	02 54 32.2	-0.9
comp=Z,286nm,0.9s							
MEEK	Meekatharra	58.32	249	P	P	02 54 33.1	-0.8
comp=Z,149nm,1.2s							
KLBR	Kellerberrin	58.72	244	P	P	02 54 35.8	-0.6
comp=Z,748nm,0.9s							
NWAO	Narrogin (SRO)	59.10	242	P	P	02 54 38.3	-0.6
NWAO				IAmb	IAmb	02 54 40.7	
comp=Z,100nm,0.8s							
NWAO	Narrogin (SRO)	59.10	242	P	P	02 54 38.3	-0.6
NWAO				pmax	pmax		
comp=Z,99nm,0.8s							
NWAO	Narrogin (SRO)	59.10	242	P	P	02 54 38.5	-0.5
KDI	Kendari	59.19	276	P	P	02 54 39.1	-0.7
comp=Z,126nm,1.1s,comp=Z,4μm							
RKGY	Rocky Gully	59.27	240	P	P	02 54 40.2	+0.2
comp=Z,319nm,1.0s							
BASI	Baing, Sumba	59.35	269	P	P	02 54 41.3	+0.4
comp=Z,313nm,1.3s,comp=Z,3μm							
BLDU	Ballidu	59.67	245	P	P	02 54 42.0	-0.8
comp=Z,193nm,0.9s							
LUWI	Luwuk	60.00	279	P	P	02 54 44.3	-0.9
LUWI	Luwuk	60.00	279	P	P	02 54 45.6	+0.4
comp=Z,361nm,1.1s,comp=Z,3μmcomp=Z,2μm							
MUN	Mundaring	60.02	243	P	P	02 54 44.9	-0.1
comp=Z,155nm,0.9s							
MORW	Morawa	60.37	246	P	P	02 54 46.1	-1.3
MORW	Morawa	60.37	246	P	P	02 54 46.8	-0.6
comp=Z,192nm,0.8s							
MTKN	Mount Kenneth	60.39	243	P	P	02 54 49.0	+1.6
comp=Z,520nm,1.1s							
SBA	Scott Base	60.40	184	P	P	02 54 48.7	+2.0
SBA				IAmb	IAmb	02 54 50.7	
comp=Z,90nm,1.0s							
SBA	Scott Base	60.40	184	P	P	02 54 48.7	+2.0
SBA				pmax	pmax		
comp=Z,90nm,1.0s							
SBA	Scott Base	60.40	184	P	P	02 54 49.5	+2.8
BSSI	Bau Bau, Buton	60.55	273	P	P	02 54 48.0	-0.8
comp=Z,116nm,1.0s,comp=Z,1μm							
WBSI	Waikabubak, Su	60.63	269	P	P	02 54 48.8	-0.6
comp=Z,160nm,1.0s,comp=Z,2μm							
BKSI	Bulukumba	61.14	274	P	P	02 54 51.6	-1.1
BNSI	Bone	61.43	275	P	P	02 54 54.3	-0.3
comp=Z,254nm,1.2s,comp=Z,2μm							
KAPI	Kappang	61.58	274	P	P	02 54 54.9	-0.7
KAPI				IAmb	IAmb	02 54 57.3	
comp=Z,78nm,0.9s							
KAPI	Kappang	61.58	274	P	P	02 54 54.9	-0.7
KAPI				pmax	pmax		
comp=Z,78nm,0.9s							
KAPI	Kappang	61.58	274	P	P	02 54 55.1	-0.4
SPSI	Sidrap Palu	61.89	275	P	P	02 54 56.3	-1.2
comp=Z,143nm,0.9s,comp=Z,2μm							
PLAI	Plampang	62.38	269	P	P	02 54 59.9	-0.8
comp=Z,445nm,0.8s,comp=Z,3μm							
TOLI2	Tolitoli	62.61	281	P	P	02 55 00.9	-1.3
TOLI2				IAmb	IAmb	02 55 03.7	
comp=Z,71nm,0.9s							
GIRL	Giralia	62.78	253	P	P	02 55 03.5	+0.3
GIRL	Giralia	62.78	253	P	P	02 55 03.5	+0.3
comp=Z,546nm,1.0s							
PCI	Palu	62.80	278	P	P	02 55 04.2	+0.7
comp=Z,410nm,1.0s,comp=Z,5μm							
CCD	Concordia, Ant	64.83	194	P	P	02 55 16.8	+1.0
CCD				pP	pwP	02 57 12.9	+0.6
SRBI	Singaraja	65.02	269	P	P	02 55 16.8	-0.7
comp=Z,295nm,1.0s,comp=Z,3μm							
JAGI	Jajag, Banyuwa	65.93	269	P	P	02 55 21.6	-1.6
comp=Z,452nm,1.0s,comp=Z,4μm							
ABJI	Asem Bagus	66.03	269	P	P	02 55 23.2	-0.7
comp=Z,258nm,1.0s,comp=Z,2μm							
CASY	Casey	66.08	205	P	P	02 55 23.8	+0.6
CASY	Casey	66.08	205	P	P	02 55 24.0	+0.8
MYLDM	Lahad Datu	66.21	284	P	P	02 55 26.8	+1.8
KMMI	Kalianget	66.50	270	P	P	02 55 26.6	-0.1
comp=Z,202nm,0.9s,comp=Z,5μm							
GMJI	Gumukmas	66.66	269	P	P	02 55 26.6	-1.1
comp=Z,238nm,0.7s,comp=Z,3μm							
BLJI	Banyuglugur	66.66	269	P	P	02 55 26.9	-0.8
TGY	Tagaytay City	67.65	294	P	P	02 55 34.6	+0.9
comp=Z,153nm,0.3s,baz=188,slow=23,SNR=3.3							
comp=Z,153nm,0.3s							
JGF	Kuroka	67.68	322	P	P	02 55 31.6	-1.9
JGF				IAmb	IAmb	02 55 35.1	
comp=Z,24nm,0.7s							

INU	Inuyama	67.71	322	P	P	02 55 33.1	-0.6
MJAR	Matsushiro Arr	67.85	323	P	P	02 55 33.9	-0.6
comp=Z,31nm,0.7s,baz=156,slow=6.1,SNR=47							
comp=Z,31nm,0.7s							
MAJO	Matsushiro	67.86	323	P	P	02 55 33.4	-1.1
MAJO				IAmb	IAmb	02 55 35.7	
comp=Z,34nm,0.5s							
MAJO	Matsushiro	67.86	323	c iP	P	02 55 34.0	-0.6
MAJO				pmax	pmax		
comp=Z,21nm,0.5s							
MAJO	Matsushiro	67.86	323	P	P	02 55 34.0	-0.6
MAJO				pP	pP	02 57 28.7	-1.2
MJB9	Matsu-Tunnel	67.86	323	IAmb	IAmb	02 55 35.7	
comp=Z,33nm,0.5s							
PWJI	Pagerwojo	68.29	268	P	P	02 55 37.1	-0.5
comp=Z,253nm,0.7s,comp=Z,3μm							
JMN	Monobe	68.53	319	P	P	02 55 37.8	-1.0
JMN				IAmb	IAmb	02 55 40.6	
comp=Z,61nm,1.3s							
KKM	Kota Kinabalu	68.64	284	IAmb	IAmb	02 55 41.3	
comp=Z,85nm,1.1s							
PCJI	Pacitan	68.83	268	P	P	02 55 40.9	-0.1
JSD	Sado	68.89	325	IAmb	IAmb	02 55 42.3	
comp=Z,34nm,0.6s							
JTM	Tenmabayashi	69.42	328	IAmb	IAmb	02 55 45.8	
comp=Z,105nm,1.3s							
KIWB	Kanaga Island	69.49	1	P	P	02 55 43.0	-1.0
ADK	Adak	69.53	1	P	P	02 55 42.9	-1.3
ADK	Adak	69.53	1	P	P	02 55 42.9	-1.3
ADK				pmax	pmax		
comp=Z,120nm,0.9s							
ADK	Adak	69.53	1	P	P	02 55 43.5	-0.8
ADK				sP	sP	02 58 38.2	-1.6
UGM	Wanagama	69.53	268	P	P	02 55 44.9	-0.3
ATKA	Atka Island	69.93	3	P	P	02 55 45.1	-1.5
JNU	Nakatsue	70.07	316	P	P	02 55 47.4	-0.6
comp=Z,18nm,1.0s,baz=53,slow=2.4,SNR=4.6							
comp=Z,18nm,1.0s							
SHEM	Shemya Is, Ala	70.65	355	P	P	02 55 49.3	-1.5
comp=Z,128nm,0.8s,baz=16,slow=6.3,SNR=9.9							
comp=Z,128nm,0.8s							
STKI	Sintang	71.02	276	P	P	02 55 54.6	+0.7
NIKH	Nikolski High	71.09	6	P	P	02 55 52.5	-0.9
baz=190,SNR=5.9							
KPJI	Karang Pucung	71.21	268	P	P	02 55 54.6	-0.5
comp=Z,273nm,0.8s,comp=Z,2μm							
ASAJ	Asahikawa	71.24	331	P	P	02 55 54.8	+0.2
comp=Z,22nm,0.6s,baz=225,slow=7.8,SNR=18							
comp=Z,22nm,0.6s							
NACB	Ninganchiao	71.83	304	IAmb	IAmb	02 55 59.6	
comp=Z,78nm,0.9s							
QSPA	South Pole Qui	72.13	180	P	P	02 56 00.7	+1.1
QSPA	South Pole Qui	72.13	180	P	P	02 56 00.8	+1.1
comp=Z,212nm,0.9s,baz=20,slow=1.2,SNR=363							
comp=Z,212nm,0.9s							
SSLB	Suanglung	72.15	303	IAmb	IAmb	02 56 01.3	
comp=Z,49nm,0.9s							
UNV	Unalaska Valle	72.22	7	P	P	02 55 58.7	-1.2
baz=192							
YHNB	Yeheng	72.25	304	IAmb	IAmb	02 56 06.1	
comp=Z,52nm,1.0s							
KSM	Kuching	72.58	277	P	P	02 56 02.9	-0.1
CNJI	Cibinong	72.93	268	P	P	02 56 04.0	-1.0
comp=Z,170nm,1.0s,comp=Z,2μm							
PET	Petropavlovsk	73.36	346	eP	P	02 56 07.1	+0.6
PET				e*PP	pP	02 58 05.5	+1.0
PET				eS	S	03 04 49.2	-0.4
PET				pmax	pmax		
comp=Z,100nm,13.6s							
YSS	Yuzh-Sakhalins	73.38	333⇑	eP	P	02 56 07.2	+0.4
YSS				eS	S	03 04 51.6	+1.5
YSS				pmax	pmax		
comp=Z,70nm,1.0s							
YSS				smax	smax		
comp=E,900nm,7.1s							
YSS				MLR	MLR		
comp=Z,800nm,16.0s							
YSS				MLR	MLR		
comp=N,700nm,15.0s							
YSS				MLR	MLR		
comp=E,800nm,15.0s							
SKJI	Sukabumi	73.56	268	P	P	02 56 07.9	-0.7
PEA0B	Petropavlovsk-	73.67	345	P	P	02 56 07.6	-0.7
PEA0B				IAmb	IAmb	02 56 10.0	
comp=Z,69nm,0.7s							
PEA0B	Petropavlovsk-	73.67	345	ceP	P	02 56 07.8	-0.5
PETK	Petropavlovsk-	73.67	345	P	P	02 56 07.5	-0.8
comp=Z,44nm,0.6s,baz=120,slow=7.2,SNR=61							
comp=Z,44nm,0.6s							
TPI	Tanjungpandan	73.76	272	P	P	02 56 09.5	-0.3
CHNA	Chernabura Isl	74.24	11	P	P	02 56 10.3	-1.2
baz=199							
KSRS	Korea Array	74.64	318	P	P	02 56 14.3	+0.2
comp=Z,6.2nm,0.6s,baz=129,slow=6.1,SNR=16							
comp=Z,6.2nm,0.6s							
S12K	Black Hills	74.65	10	P	P	02 56 12.6	-1.2
baz=196							
KSAR	Wonju Array Be	74.66	318	P	P	02 56 14.8	+0.6
KSAR	Wonju Array Be	74.66	318	P	P	02 56 14.8	+0.6
SSE	Sheshan	75.67	310	P	P	02 56 17.0	-3.0

MDJ pP pP 02 58 32.8 -0.2
MDJ pmax pmax
comp=Z,38nm,1.0s
MDJ pmax pmax
comp=Z,350nm,3.5s
Q17K Contact Creek 78.18 12 P **P 02 56 32.5 -0.7**
baz=202,SNR=11
O14K Tigyukauivet M 78.19 9 P **P 02 56 32.3 -0.7**
baz=197
PFO Pinyon Flats O 78.25 49 P **P 02 56 34.9 +0.7**
PFO Pinyon Flats O 78.25 49 *i* P **P 02 56 35.0 +0.8**
PFO pmax pmax
comp=Z,60nm,2.8s
KSI Kapahiang 78.31 270 P **P 02 56 34.6 -0.3**
O15K Ungalikthiuk R 78.34 10 P **P 02 56 33.9 +0.1**
baz=198
Q16K King Salmon 78.42 11 P **P 02 56 33.9 -0.4**
baz=201,SNR=7.2
KDAK Kodiak Island 78.44 14 P **P 02 56 33.7 -0.7**
KDAK IAmb IAmb 02 56 37.2
comp=Z,74nm,0.9s
KDAK Kodiak Island 78.44 14 P **P 02 56 34.4 0.0**
baz=205
KDAK Kodiak Island 78.44 14 ⇓ *i* P **P 02 56 34.7 +0.3**
KDAK pmax pmax
comp=Z,81nm,1.0s
P16K Nushagak River 78.51 11 P **P 02 56 34.1 -0.6**
baz=200
SLBS Sierra La Lagu 78.67 61 P **P 02 56 37.5 +1.0**
Q18K Katmai Hardscr 78.72 12 P **P 02 56 35.4 -0.6**
baz=203,SNR=19
N14K Kuskokwak Cree 78.77 9 P **P 02 56 36.3 +0.2**
baz=196
WAKR Walker 78.81 43 IAmb IAmb 02 56 40.4
comp=Z,42nm,0.9s
HATC Hat Creek Radi 78.83 40 IAmb IAmb 02 56 40.2
comp=Z,63nm,0.9s
MPK Martis Peak 78.87 42 IAmb IAmb 02 56 39.3
comp=Z,55nm,0.7s
P17K Kvichak River 78.94 11 P **P 02 56 36.5 -0.5**
baz=201,SNR=24
HUMO Hull Mountain 78.98 38 IAmb IAmb 02 56 41.1
comp=Z,53nm,1.0s
GRNR Gornyy 79.00 333 ⇑ *i* P **P 02 56 38.2 +0.6**
GRNR pmax pmax
comp=Z,40nm,1.2s
O16K Kokwok River B 79.02 10 IAmb IAmb 02 56 38.1
comp=Z,37nm,0.6s
O16K Kokwok River B 79.02 10 P **P 02 56 36.3 -1.1**
baz=200
M13K Dall Lake 79.02 8 IAmb IAmb 02 58 32.8
comp=Z,243nm,1.9s
M13K Dall Lake 79.02 8 P **P 02 56 37.7 +0.3**
baz=195
PNTR Pine Nut 79.03 43 IAmb IAmb 02 56 40.6
comp=Z,68nm,0.8s
L04D Klamath Falls 79.14 39 IAmb IAmb 02 56 41.5
comp=Z,54nm,0.7s
YERR Yerington 79.20 43 IAmb IAmb 02 56 42.1
comp=Z,46nm,0.7s
Q20K Shuyak Island 79.24 14 P **P 02 56 38.7 +0.1**
baz=205
N15K Kwethluk River 79.24 9 IAmb IAmb 02 56 40.8
comp=Z,46nm,0.6s
N15K Kwethluk River 79.24 9 P **P 02 56 38.7 0.0**
baz=198
Q19K Cape Douglas, 79.26 13 IAmb IAmb 02 56 45.4
comp=Z,105nm,0.8s
Q19K Cape Douglas, 79.26 13 P **P 02 56 38.3 -0.5**
baz=204
LHV Little Huntoon 79.28 44 IAmb IAmb 02 56 42.9
comp=Z,47nm,0.9s
QIZ Qiongzhong 79.36 294 P **P 02 56 40.8 +0.6**
QIZ S **S 03 05 55.5 +0.7**
QIZ sS **sS 03 09 32.0 +1.4**
P18K Big Mountain, 79.36 12 P **P 02 56 38.6 -0.7**
baz=202,SNR=32
O17K Koliganek Bris 79.36 11 P **P 02 56 38.5 -0.7**
baz=201,SNR=7.6
NVAR Mina Array Bea 79.51 44 P **P 02 56 41.4 +0.5**
NVAR Mina Array Bea 79.51 44 P **P 02 56 41.9 +1.0**
comp=Z,26nm,0.8s,baz=226,slow=9.1,SNR=105
NVAR pP **pP 02 58 40.8 -0.7**
comp=Z,3.2nm,0.8s,baz=223,slow=8.5,SNR=2.3
NVAR PKKPbc **PKKPbc 03 15 26.2 +0.7**
comp=Z,0.5nm,0.7s,baz=54,slow=4.6,SNR=4.5
comp=Z,26nm,0.8s
DL2 Dalian 79.53 317 P P 02 56 45.8 +5.2
DL2 S **S 03 05 57.0 +1.3**
DL2 pmax pmax
comp=Z,81nm,0.6s
M14K Bethel 79.53 8 IAmb IAmb 02 56 42.4
comp=Z,108nm,1.2s
M14K Bethel 79.53 8 P **P 02 56 40.3 +0.2**
baz=196,SNR=7.5
NV11 Mina Array Sit 79.61 44 IAmb IAmb 02 58 52.0
comp=Z,55nm,1.3s
M15K Kasigluk River 79.66 9 P **P 02 56 40.9 +0.1**
baz=197,SNR=7.4
K04D Chiloquin, OR 79.71 39 IAmb IAmb 02 56 59.6
comp=Z,34nm,0.8s
N16K Nishlik Lake 79.74 10 P **P 02 56 41.6 +0.3**
baz=199
O18K Koktuh Hills 79.79 12 P **P 02 56 41.3 -0.3**
baz=202,SNR=44
CN2 Changchun 79.97 322 *eP* **P 02 56 43.0 +0.2**
CN2 SKS **S 03 05 59.8 -0.3**
CN2 pmax pmax
comp=Z,30nm,1.1s
P19K Oil Pt 80.00 13 IAmb IAmb 02 56 42.8
comp=Z,47nm,0.7s
P19K Oil Pt 80.00 13 P **P 02 56 42.1 -0.6**
baz=204
L14K Kuka Creek 80.01 8 IAmb IAmb 02 56 45.0
comp=Z,61nm,1.1s
L14K Kuka Creek 80.01 8 P **P 02 56 42.1 -0.4**
baz=195
TPH Tonopah 80.04 45 IAmb IAmb 02 56 46.6
comp=Z,90nm,0.9s
BNX BinXian 80.04 325 ⇑ P **P 02 56 43.3 +0.1**
BNX pmax pmax
comp=Z,50nm,0.8s
N17K Nushagak Hills 80.06 11 P **P 02 56 42.6 -0.3**
baz=201
KLR Kul'dur 80.07 329 P **P 02 56 43.5 +0.3**
comp=Z,6.4nm,0.7s,baz=118,slow=5.9,SNR=14
comp=Z,6.4nm,0.7s
KLR Kul'dur 80.07 329 *ceP* **P 02 56 43.6 +0.3**
KLR pmax pmax
comp=Z,20nm,1.5s
M16K Timber Creek 80.23 10 P **P 02 56 44.7 +0.9**
baz=199,SNR=21
O19K Port Alsworth 80.28 12 P **P 02 56 43.6 -0.4**
baz=203,SNR=37
CNPM China Poot 80.32 14 IAmb IAmb 02 56 45.6
comp=Z,74nm,1.0s
ILSW Iliamna Southw 80.33 13 IAmb IAmb 02 56 44.6
comp=Z,95nm,0.8s
K13K Kusilvak Mount 80.35 7 P **P 02 56 44.6 +0.2**
baz=193
HOM Homer 80.35 13 P **P 02 56 44.3 -0.1**
baz=206
J05D Fort Rock, OR 80.40 39 IAmb IAmb 02 56 48.5
comp=Z,89nm,0.8s
N18K Kilae Creek 80.43 11 P **P 02 56 44.3 -0.6**
baz=202,SNR=6.7
V12A Nelson 80.46 48 pP pP 02 58 46.6 -0.2
Q09A Carvers 80.47 44 IAmb IAmb 02 56 48.7
comp=Z,72nm,0.8s
L15K Ungalak Mounta 80.49 8 P **P 02 56 45.1 0.0**
baz=196,SNR=8.8
O20K Slope Mountain 80.52 13 P **P 02 56 44.8 -0.6**
baz=205,SNR=6.5
WHN Wuhan 80.53 306 ⇑ P **P 02 56 46.8 +0.8**
WHN S **SKSac 03 06 07.5 -2.4**
WHN pmax pmax
comp=Z,68nm,0.9s
CNSH ChangSha 80.58 304 P **P 02 56 47.5 +1.1**
CNSH pmax pmax
comp=Z,36nm,1.1s
BRLK Bradley Lake 80.62 14 IAmb IAmb 02 56 47.3
comp=Z,82nm,0.8s
BRSE Bradley Lake S 80.63 14 P **P 02 56 45.8 -0.1**
baz=207,SNR=7.2
SHPR Sheep Range 80.64 47 pP pP 02 58 48.2 +0.5
H04A Detroit Lake 80.67 37 IAmb IAmb 02 56 49.7
comp=Z,29nm,0.7s

L16K Owhat River 80.81 9 IAmb IAmb 02 56 49.3
comp=Z,62nm,1.0s
L16K Owhat River 80.81 9 P **P 02 56 47.4 +0.6**
baz=198,SNR=20
S11A Rachel 80.81 46 IAmb IAmb 02 56 50.6
comp=Z,46nm,0.9s
N19K Bonanza Creek 80.82 12 IAmb IAmb 02 56 48.0
comp=Z,37nm,0.8s
N19K Bonanza Creek 80.82 12 P **P 02 56 46.1 -0.9**
baz=203
M17K Holitna River 80.84 10 P **P 02 56 47.9 +1.0**
baz=200
PINE Pine Mountain 80.87 38 IAmb IAmb 02 56 51.1
comp=Z,65nm,0.8s
I05D Terrebonne, OR 80.96 38 IAmb IAmb 02 56 51.7
comp=Z,105nm,1.6s
PPSI Pulau Pagai 81.04 270 P **P 02 56 51.1 +2.0**
K15K Wolf Creek Mou 81.08 8 P **P 02 56 49.0 +0.9**
baz=196
PRN Pahroc Range 81.17 46 IAmb IAmb 02 56 52.0
comp=Z,36nm,0.9s
TIA Tai'an 81.18 312 P **P 02 56 49.0 -0.3**
TIA S **SKSac 03 06 14.5 +0.4**
TIA pmax pmax
comp=Z,14nm,1.1s
SMAI San Martin Ant 81.18 159 IAmb IAmb 02 56 52.6
comp=Z,76nm,0.8s
MA2 Magadan 81.18 345 *ceP* **P 02 56 47.5 -1.2**
MA2 pmax pmax
comp=Z,105nm,2.5s
DIB Dawson Inlet, 81.19 26 IAmb IAmb 02 57 03.2
comp=Z,144nm,1.6s
M18K Stony River 81.20 11 P **P 02 56 48.9 +0.1**
baz=202
SEW Seward 81.25 14 P **P 02 56 49.3 +0.3**
baz=208,SNR=5.1
J14K Nanvaranak Lak 81.27 7 IAmb IAmb 02 56 51.4
comp=Z,50nm,1.1s
J14K Nanvaranak Lak 81.27 7 P **P 02 56 49.2 +0.2**
baz=194
R11B Troy Canyon, C 81.28 45 P **P 02 56 50.3 +0.3**
R11B Troy Canyon, C 81.28 45 P **P 02 56 50.9 +0.9**
baz=239
F04A Amboy 81.29 36 IAmb IAmb 02 56 52.9
comp=Z,56nm,1.2s
BMN Battle Mountai 81.30 43 IAmb IAmb 02 56 53.0
comp=Z,45nm,1.0s
HOOD Mount Hood Mea 81.36 37 IAmb IAmb 02 56 52.7
comp=Z,46nm,0.8s
PPI Padang Panjang 81.37 272 P **P 02 56 50.3 -0.5**
L17K Donlin 81.39 9 P **P 02 56 50.9 +1.2**
baz=200,SNR=17
GULI GuiLin 81.43 300 P **P 02 56 52.0 +1.2**
GULI S **SKSac 03 06 15.3 -0.9**
GULI pmax pmax
comp=Z,30nm,1.0s
WVOR Wild Horse Val 81.49 40 IAmb IAmb 02 56 54.0
comp=Z,60nm,0.9s
G05A Wamic 81.50 37 IAmb IAmb 02 56 53.4
comp=Z,55nm,0.9s
O22K Cooper Landing 81.52 14 P **P 02 56 49.9 -0.6**
baz=208,SNR=8.2
N20K Mount Spurr 81.63 13 P **P 02 56 49.9 -1.2**
baz=205,SNR=19
SPCR Spurr Chakacha 81.63 13 P **P 02 56 50.0 -1.1**
baz=205,SNR=15
P23K Montague Islan 81.66 15 P **P 02 56 51.2 0.0**
baz=210
L18K Granite Mounta 81.73 10 P **P 02 56 52.2 +0.7**
baz=201,SNR=24
TUC Tucson 81.80 52 P **P 02 56 54.3 +1.6**
TUC Tucson 81.80 52 P **P 02 56 54.3 +1.6**
TUC pmax pmax
comp=Z,23nm,1.0s
M19K Big River Lodg 81.84 11 IAmb IAmb 02 56 53.4
comp=Z,29nm,0.8s
M19K Big River Lodg 81.84 11 P **P 02 56 51.5 -0.6**
baz=203,SNR=9.8
G06A Carlson Farm, 81.89 37 IAmb IAmb 02 56 55.3
comp=Z,37nm,1.1s
I07A Izee 81.89 39 IAmb IAmb 02 56 55.9
comp=Z,44nm,0.9s
K17K Iditarod 81.94 9 IAmb IAmb 02 56 59.5
comp=Z,33nm,0.8s
K17K Iditarod 81.94 9 P **P 02 56 53.2 +0.6**
baz=199
L19K White Mountain 82.02 11 IAmb IAmb 02 56 55.1
comp=Z,36nm,0.8s
L19K White Mountain 82.02 11 P **P 02 56 53.0 0.0**
baz=203
RC01 Rabbit Creek A 82.06 14 IAmb IAmb 02 56 54.7
comp=Z,66nm,1.0s
RC01 Rabbit Creek A 82.06 14 P **P 02 56 52.7 -0.5**
baz=208,SNR=7.3
M20K Styx River 82.06 12 P **P 02 56 53.2 -0.1**
baz=204
J08A Circle Bar Ran 82.10 40 IAmb IAmb 02 56 56.9
comp=Z,70nm,1.1s
Q12A Willow Creek R 82.14 45 IAmb IAmb 02 56 56.5
comp=Z,38nm,1.0s
J16K Anvik River 82.15 8 IAmb IAmb 02 56 56.1
comp=Z,48nm,0.8s
J16K Anvik River 82.15 8 P **P 02 56 54.2 +0.6**
baz=197
BELA Belgrano 2 82.16 173 P **P 02 56 54.1 +0.5**
SUA Susitna One 82.17 13 P **P 02 56 53.2 -0.7**
baz=207,SNR=33
PWL Port Wells 82.18 14 IAmb IAmb 02 56 55.0
comp=Z,84nm,0.8s
PWL Port Wells 82.18 14 P **P 02 56 53.2 -0.6**
baz=209,SNR=9.9
X16A Lo Mia Camp, P 82.28 50 IAmb IAmb 02 56 58.9
comp=Z,37nm,0.9s
D05A Enumclaw 82.28 35 IAmb IAmb 02 56 57.0
comp=Z,59nm,1.1s
CBB Campbell River 82.28 31 IAmb IAmb 02 56 57.3
comp=Z,74nm,1.2s
SISI Saibi 82.35 271 P **P 02 56 57.1 +1.3**
KAIM Kayak Island 82.37 17 P **P 02 56 54.8 0.0**
baz=213
SPR3 Spring Creek 3 82.46 45 P **P 02 56 56.1 0.0**
SPR3 pP **pwP 02 58 59.6 -1.3**
L20K Farewell, AK 82.47 11 P **P 02 56 54.7 -0.5**
baz=204
J17K VABM Dome 82.47 9 IAmb IAmb 02 56 57.5
comp=Z,31nm,0.8s
J17K VABM Dome 82.47 9 P **P 02 56 55.6 +0.4**
baz=199,SNR=12
SKT Skwentna 82.47 12 P **P 02 56 53.8 -1.5**
baz=206,SNR=6.3
GLI Glacier Island 82.50 15 P **P 02 56 54.5 -1.0**
GLI Glacier Island 82.50 15 P **P 02 56 54.6 -0.8**
baz=210,SNR=5.5
TTA Tatalina 82.51 10 P **P 02 56 55.5 +0.1**
TTA IAmb IAmb 02 56 57.6
comp=Z,48nm,1.0s
TTA pP **pP 02 58 56.9 -0.5**
TTA Tatalina 82.51 10 P **P 02 56 55.8 +0.3**
baz=202,SNR=20
TTA Tatalina 82.51 10 P **P 02 56 55.6 +0.1**
TTA *PP **pP 02 58 56.9 -0.5**
TTA pmax pmax
comp=Z,48nm,1.0s
KNB Kanab 82.52 47 P **P 02 56 56.7 +0.3**
KNB pP **pwP 02 59 00.0 -1.0**
KNB Kanab 82.52 47 P **P 02 56 56.7 +0.3**
KNB *PP **pwP 02 59 00.0 -1.0**
KNB pmax pmax
comp=Z,26nm,0.8s
319A Douglas 82.53 54 IAmb IAmb 02 56 59.6
comp=Z,29nm,0.9s
EYAK Cordova Ski Ar 82.55 16 P **P 02 56 55.2 -0.4**
baz=211
PSUT Pine Spring 82.55 46 P **P 02 56 54.5 -1.9**
PSUT pP **pP 02 58 57.7 -0.6**
M22K Willow 82.57 13 P **P 02 56 55.0 -0.7**
baz=207,SNR=22
CRAG Craig 82.58 24 P **P 02 56 56.1 +0.2**
baz=223
U15A North Rim 82.61 48 P **P 02 56 58.2 +1.3**
U15A IAmb IAmb 02 56 59.6
comp=Z,45nm,0.8s
U15A **pwP 02 59 01.2 -0.5**
SZCU Shurtz Canyon 82.62 47 P **P 02 56 58.0 +1.2**
SZCU **pwP 02 59 01.6 +0.2**
KNK Knik Glacier 82.64 14 IAmb IAmb 02 56 57.6
comp=Z,54nm,0.8s

KNK Knik Glacier 82.64 14 P **P 02 56 55.6 -0.5**
baz=209,SNR=13
PMR Palmer 82.64 14 IAmb IAmb 02 56 57.0
comp=Z,36nm,0.5s
PMR Palmer 82.64 14 P **P 02 56 55.4 -0.7**
baz=208,SNR=14
GRNB Grenville Isla 82.71 27 P **P 02 56 57.3 +0.6**
GRNB IAmb IAmb 02 56 59.4
comp=Z,58nm,1.2s
I17K Unalakleet 82.72 8 P **P 02 56 56.6 +0.2**
baz=197
ELK Elko 82.75 43 P **P 02 56 57.5 +0.1**
ELK pP **pP 02 58 59.8 +0.4**
HEH HeiHe 82.87 328 *eP* **P 02 56 56.8 -0.7**
HEH S **SKSac 03 06 23.5 -0.9**
HEH pmax pmax
comp=Z,12nm,0.7s
HEH pmax pmax
comp=Z,290nm,4.9s
G08A Pilot Rock 82.89 38 P **P 02 56 58.0 +0.1**
G08A pP **pP 02 58 59.6 -0.4**
J18K Innoko River 82.89 10 IAmb IAmb 02 56 59.3
comp=Z,52nm,0.8s
J18K Innoko River 82.89 10 P **P 02 56 57.4 +0.1**
baz=201
KULM Kulim 82.92 278 IAmb IAmb 02 57 00.2
comp=Z,50nm,1.1s
SIT Sitka 82.94 22 P **P 02 56 57.8 +0.2**
baz=221
SML Sawmill 83.02 14 IAmb IAmb 02 57 04.6
comp=Z,34nm,0.9s
SML Sawmill 83.02 14 P **P 02 56 57.5 -0.5**
baz=209
LTY Liberty 83.05 36 IAmb IAmb 02 57 00.9
comp=Z,31nm,0.9s
U33K Whale Pass 83.05 24 P **P 02 56 58.5 +0.2**
baz=223
V35K Ketchikan 83.07 25 IAmb IAmb 02 57 00.2
comp=Z,44nm,1.1s
V35K Ketchikan 83.07 25 P **P 02 56 58.9 +0.5**
baz=224
PKCU Pink Cliffs 83.08 47 IAmb IAmb 02 57 02.6
comp=Z,33nm,0.9s
E07A Sunnyside 83.10 36 P **P 02 56 58.9 +0.1**
E07A IAmb IAmb 02 57 00.7
comp=Z,62nm,1.1s
M23K Glacier View 83.14 14 P **P 02 56 57.9 -0.7**
baz=209,SNR=6.2
PPLA Purkeypile 83.17 12 P **P 02 56 58.0 -1.0**
baz=205
HAWA Hanford 83.18 37 IAmb IAmb 02 57 01.1
comp=Z,57nm,1.1s
DUN6 Lazy B Ranch 83.19 53 IAmb IAmb 02 59 13.1
comp=Z,95nm,1.3s
BMRM Bremner River 83.20 16 P **P 02 56 58.7 -0.3**
baz=212,SNR=8.2
K20K Telida 83.24 11 IAmb IAmb 02 57 00.8
comp=Z,75nm,0.8s
K20K Telida 83.24 11 P **P 02 56 58.8 -0.3**
baz=203
H16K Elim 83.25 7 P **P 02 56 59.0 -0.1**
baz=196,SNR=5.0
MESA MESA 83.27 17 P **P 02 56 59.7 +0.1**
baz=215
SCM Sheep Creek Mo 83.27 14 P **P 02 56 59.0 -0.4**
baz=210,SNR=23
S31K Pelican 83.31 21 IAmb IAmb 02 57 02.5
comp=Z,98nm,1.1s
S31K Pelican 83.31 21 P **P 02 57 00.0 +0.6**
baz=220
KLU Klutina 83.32 15 IAmb IAmb 02 57 01.9
comp=Z,99nm,1.5s
KLU Klutina 83.32 15 P **P 02 56 59.4 -0.2**
baz=211,SNR=7.8
G15K Niukluk 83.40 6 P **P 02 56 60.0 +0.2**
baz=194
CRQE Cirque 83.43 17 P **P 02 57 00.1 -0.2**
baz=214,SNR=14
HNS HongShan 83.45 313 ⇓ P **P 02 57 02.0 +1.3**
HNS pP **pP 02 59 04.3 +0.8**
HNS SKS **SKSac 03 06 28.5 -0.2**
HNS S **S 03 06 37.5 +2.4**
HNS SS **SS 03 12 18.0 -0.7**
HNS pmax pmax
comp=Z,19nm,1.1s
TGL Tana Glacier 83.50 17 IAmb IAmb 02 57 02.9
comp=Z,60nm,1.0s
E08A Dider Farm, El 83.51 37 IAmb IAmb 02 57 02.2
comp=Z,25nm,0.8s
S32K Killisnoo 83.51 22 P **P 02 57 01.0 +0.5**
baz=222
J19K Poorman 83.57 10 IAmb IAmb 02 57 02.7
comp=Z,23nm,0.8s
J19K Poorman 83.57 10 P **P 02 57 00.8 +0.1**
baz=202
WRAK Wrangell Islan 83.57 24 IAmb IAmb 02 57 03.0
comp=Z,38nm,0.9s
WRAK Wrangell Islan 83.57 24 P **P 02 57 01.6 +0.8**
baz=224,SNR=7.6
PNL Peninsula 83.61 19 P **P 02 57 01.0 0.0**
baz=217
TNA Tin City 83.62 4 P **P 02 57 00.9 +0.1**
baz=190
F14K Arctic Creek 83.66 5 P **P 02 57 00.6 -0.5**
baz=192
MVU Marysvale 83.66 46 IAmb IAmb 02 57 06.3
comp=Z,56nm,1.1s
CAST Castle Rocks 83.67 12 P **P 02 56 59.6 -1.6**
baz=205,SNR=58
PINM Pinnacle 83.70 18 P **P 02 57 01.3 -0.2**
baz=216
BJI Beijing 83.72 315 P **P 02 57 02.8 +0.9**
BJI SKS **SKSac 03 06 28.5 -1.8**
BJI pmax pmax
comp=Z,12nm,1.1s
BJI pmax pmax
comp=Z,69nm,4.2s
VRDI Verde Repeater 83.73 16 IAmb IAmb 02 57 03.5
comp=Z,80nm,1.3s
N25K Chitina, Valde 83.75 16 P **P 02 57 01.4 -0.3**
N25K pP **pwP 02 59 06.2 -0.5**
N25K Chitina, Valde 83.75 16 P **P 02 57 01.7 0.0**
baz=212,SNR=24
LYN LuoYang 83.75 309 ⇑ P **P 02 57 03.5 +1.2**
LYN SKS **SKSac 03 06 30.3 -0.5**
LYN S **S 03 06 41.0 +2.8**
LYN pmax pmax
comp=Z,78nm,0.9s
LYN pmax pmax
comp=Z,310nm,4.8s
MFID Camas Ranch 83.76 41 P **P 02 57 02.5 +0.2**
SEY Seymchan 83.77 347 *ceP* **P 02 57 00.6 -1.1**
SEY pmax pmax
comp=Z,53nm,0.6s
GRNC Granite Creek 83.78 17 IAmb IAmb 02 57 03.9
comp=Z,89nm,1.2s
M24K Tolsona, Glenn 83.78 15 P **P 02 57 02.2 +0.4**
baz=211,SNR=13
MAW Mawson 83.81 200 P **P 02 57 02.5 +0.5**
comp=Z,90nm,0.9s,baz=132,slow=5.8,SNR=159
comp=Z,90nm,0.9s
GLB Gilahina Butte 83.81 16 P **P 02 57 02.1 +0.1**
GLB IAmb IAmb 02 57 03.6
comp=Z,51nm,0.6s
GLB pP **pwP 02 59 06.3 -0.6**
H17K Granite Mounta 83.83 8 P **P 02 57 00.8 -1.1**
baz=198
WAT6 Susitna Watana 83.83 14 P **P 02 57 01.8 -0.4**
baz=209,SNR=34
WAT1 Susitna Watana 83.87 13 P **P 02 57 01.6 -0.6**
baz=209
D08A Wollman Farm, 83.91 36 IAmb IAmb 02 57 05.4
comp=Z,40nm,0.8s
G16K Koyuk River 83.97 7 P **P 02 57 02.0 -0.6**
baz=196
MCARA McCarthy VSAT 83.97 16 IAmb IAmb 02 57 05.3
comp=Z,55nm,1.2s
MCARA McCarthy VSAT 83.97 16 P **P 02 57 02.7 -0.1**
baz=214,SNR=5.6
J20K Nowinta River 83.98 10 IAmb IAmb 02 57 04.5
comp=Z,41nm,0.8s
J20K Nowinta River 83.98 10 P **P 02 57 02.7 0.0**
baz=203
F15K North Star Dit 84.04 6 P **P 02 57 02.6 -0.4**
baz=193
CHUM Lake Minchumin 84.04 11 P **P 02 57 02.0 -1.0**
baz=205,SNR=28

TRF	Thorofare Moun	84.05	12	P	P	02 57 02.2	-1.1
	baz=207,SNR=55						
LOGN	Logan Glacier	84.07	17	IAmb	IAmb	02 57 05.3	
	comp=Z,82nm,1.2s						
GCSA	Galena City Sc	84.07	9	P	P	02 57 03.1	0.0
	baz=201,SNR=11						
CTG	Chitna Glacier	84.09	17	P	P	02 57 03.3	-0.2
	baz=215,SNR=15						
CTGM	Chitina Glacie	84.09	17	IAmb	IAmb	02 57 05.3	
	comp=Z,52nm,0.8s						
P29M	Windy Craggy	84.10	19	IAmb	IAmb	02 57 05.9	
	comp=Z,53nm,0.8s						
P29M	Windy Craggy	84.10	19	P	P	02 57 04.0	+0.5
	baz=219						
R32K	Eaglecrest	84.14	22	IAmb	IAmb	02 59 04.2	
	comp=Z,37nm,1.1s						
R32K	Eaglecrest	84.14	22	P	P	02 57 04.2	+0.6
	baz=222						
121A	Cookes Peak, D	84.17	53	P	P	02 57 04.8	+0.2
	baz=245						
H18K	Honhosa River	84.24	8	P	P	02 57 04.1	+0.1
	baz=199						
O28M	Mount Upton	84.26	18	P	P	02 57 04.5	0.0
	baz=216						
G17K	Kiwalik Mounta	84.27	7	P	P	02 57 04.2	+0.1
	baz=197						
F10A	Beach Ranch, E	84.28	38	IAmb	IAmb	02 57 07.1	
	comp=Z,64nm,0.8s						
HARP	HAARP	84.28	15	P	P	02 57 04.0	-0.3
	baz=212,SNR=15						
DHY	Denali Highway	84.34	14	IAmb	IAmb	02 57 11.6	
	comp=Z,28nm,1.0s						
DHY	Denali Highway	84.34	14	P	P	02 57 03.9	-0.8
	baz=210,SNR=11						
O29M	Mount Kennedy	84.37	19	P	P	02 57 04.7	-0.2
	baz=218						
PLBC	Pleasant Camp	84.41	20	P	P	02 57 05.2	+0.3
	baz=220,SNR=13						
HMU	Henry Mountain	84.41	47	IAmb	IAmb	02 59 13.6	
	comp=Z,46nm,1.7s						
B08A	Colville Reser	84.42	35	IAmb	IAmb	02 57 07.2	
	comp=Z,30nm,0.8s						
BPAW	Bear Paw Mtn.	84.49	12	P	P	02 57 04.4	-0.9
	baz=206						
I20K	Naaghedeneel	84.50	10	IAmb	IAmb	02 57 07.4	
	comp=Z,51nm,1.1s						
I20K	Naaghedeneel	84.50	10	P	P	02 57 05.1	-0.1
	baz=203						
MCK	McKinley	84.58	13	P	P	02 57 04.7	-1.0
	baz=208,SNR=29						
GSI	Gunungsitoli	84.59	273	P	P	02 57 07.6	+0.7
	comp=Z,228nm,1.0s						
C09A	Chrisman Ranch	84.69	36	IAmb	IAmb	02 57 08.9	
	comp=Z,37nm,1.1s						
PAX	Paxson	84.69	14	P	P	02 57 05.5	-0.8
	baz=211,SNR=15						
HLID	Hailey	84.72	41	P	P	02 57 08.1	+1.1
HLID				IAmb	IAmb	02 57 10.2	
	comp=Z,24nm,0.9s						
HLID				pP	pP	02 59 10.6	+1.0
P30M	Million Dollar	84.73	19	P	P	02 57 07.3	+0.7
	baz=219						
SKAG	Skagway	84.75	21	IAmb	IAmb	02 57 10.3	
	comp=Z,47nm,1.2s						
SKAG	Skagway	84.75	21	P	P	02 57 07.4	+0.8
	baz=221						
T35M	Bob Quinn	84.78	24	P	P	02 57 07.8	+0.9
	baz=226,SNR=5.2						
YUK8	Steele Glacier	84.80	18	P	P	02 57 07.1	0.0
	baz=217,SNR=14						
M26K	Nabesna, AK	84.83	16	IAmb	IAmb	02 57 09.5	
	comp=Z,72nm,0.9s						
M26K	Nabesna, AK	84.83	16	P	P	02 57 06.8	-0.1
	baz=214						
SPUT	South Promonto	84.85	44	IAmb	IAmb	02 59 15.6	
	comp=Z,53nm,1.6s						
H19K	Roundabout Mou	84.87	9	IAmb	IAmb	02 57 08.7	
	comp=Z,36nm,1.3s						
H19K	Roundabout Mou	84.87	9	P	P	02 57 06.8	-0.1
	baz=201						
HVU	Hansel Valley	84.87	43	IAmb	IAmb	02 59 15.7	
	comp=Z,53nm,1.6s						
G18K	Tagagawik	84.90	8	P	P	02 57 06.6	-0.7
	baz=199						
YUK6	Outpost Mounta	84.94	18	P	P	02 57 07.5	-0.3
	baz=218						
GYA	Guiyang	84.95	300	P	P	02 57 06.5	-2.0
GYA				S	S	03 06 51.0	+0.6
GYA				SS	SS	03 12 43.8	+2.6
GYA				pmax	pmax		
	comp=Z,36nm,1.0s						
YUK3	Moose Creek	85.00	17	P	P	02 57 08.0	0.0
	baz=216,SNR=36						
H20K	Anotlenneega Mo	85.08	10	P	P	02 57 08.0	0.0
	baz=203						
M27K	Edge Creek, AK	85.08	16	IAmb	IAmb	02 57 10.6	
	comp=Z,83nm,1.1s						
M27K	Edge Creek, AK	85.08	16	P	P	02 57 07.9	-0.4
	baz=215						
MENT	Mentasta	85.09	15	IAmb	IAmb	02 57 10.1	
	comp=Z,36nm,1.0s						
S34M	Telegraph Cree	85.10	23	P	P	02 57 09.3	+1.0
	baz=225,SNR=35						
F17K	Baldwin Pennin	85.11	7	P	P	02 57 07.8	-0.3
	baz=196						
HYT	Haines Junctio	85.11	19	IAmb	IAmb	02 57 10.7	
	comp=Z,30nm,0.9s						
HYT	Haines Junctio	85.11	19	P	P	02 57 08.7	+0.2
	baz=219,SNR=8.6						
P17A	Butcher Ranch,	85.13	46	IAmb	IAmb	02 59 17.5	
	comp=Z,48nm,1.5s						
ZEA	Zeya	85.15	331	eP	P	02 57 09.3	+0.7
ZEA				e		03 06 40.7	
ZEA				eS	S	03 06 53.0	+2.1
ZEA				pmax	pmax		
	comp=N,20nm,1.1s						
ZEA				pmax	pmax		
	comp=Z,30nm,1.4s						
ZEA				smax	smax		
	comp=N,300nm,5.8s						
ZEA				smax	smax		
	comp=E,400nm,9.4s						
YUK4	Talbot Arm	85.17	18	P	P	02 57 09.1	+0.3
	baz=218,SNR=5.5						
JLU	Jordanelle	85.18	45	IAmb	IAmb	02 59 17.4	
	comp=Z,41nm,1.5s						
TIY	Taiyuan	85.19	312	eP	P	02 57 10.8	+1.4
TIY				SKS	SKSac	03 06 40.8	+0.9
TIY				S	ScS	03 06 56.5	-2.6
TIY				pmax	pmax		
	comp=Z,35nm,0.5s						
L26K	Log Cabin Wild	85.26	15	IAmb	IAmb	02 57 10.9	
	comp=Z,30nm,1.1s						
L26K	Log Cabin Wild	85.26	15	P	P	02 57 08.8	-0.2
	baz=213,SNR=16						
I21K	Tanana	85.28	11	IAmb	IAmb	02 57 11.2	
	comp=Z,40nm,1.1s						
I21K	Tanana	85.28	11	P	P	02 57 08.6	-0.5
	baz=205						
NEA2	Nenana	85.31	12	P	P	02 57 07.9	-1.3
	baz=208,SNR=10						
K24K	Donnelly Dome	85.34	14	P	P	02 57 08.9	-0.5
	baz=211,SNR=8.1						
G19K	Purcell Mounta	85.35	9	IAmb	IAmb	02 57 10.9	
	comp=Z,17nm,0.7s						
G19K	Purcell Mounta	85.35	9	P	P	02 57 09.0	-0.3
	baz=200						
MLY	Manley	85.38	11	P	P	02 57 08.7	-0.9
MLY				IAmb	IAmb	02 57 10.4	
	comp=Z,40nm,1.3s						
MLY				pP	pP	02 59 12.1	-0.5
MLY	Manley	85.38	11	P	P	02 57 08.3	-1.3
	baz=206,SNR=9.7						
SLVN	Son La	85.39	294	IAmb	IAmb	02 57 13.6	
	comp=Z,28nm,1.0s						
P32M	Atlin	85.40	21	IAmb	IAmb	02 57 12.2	
	comp=Z,31nm,0.9s						
P32M	Atlin	85.40	21	P	P	02 57 10.3	+0.6
	baz=222,SNR=8.4						
BVCY	Beaver Creek	85.40	17	P	P	02 57 09.8	+0.1
	baz=216,SNR=14						
WRH	Wood River Hil	85.41	13	IAmb	IAmb	02 57 11.5	
	comp=Z,61nm,1.0s						
Q32M	Nakina River	85.44	22	IAmb	IAmb	02 57 12.8	
	comp=Z,34nm,0.7s						
Q32M	Nakina River	85.44	22	P	P	02 57 10.9	+0.7
	baz=224,SNR=13						
F18K	Selawik	85.45	7	P	P	02 57 08.9	-0.8
	baz=198						
RIDG	Independent Ri	85.50	14	IAmb	IAmb	02 57 09.4	
	comp=Z,43nm,0.7s						
RIDG	Independent Ri	85.50	14	P	P	02 57 07.2	-3.0
	baz=212						
O30N	Mendenhall	85.50	19	IAmb	IAmb	02 57 12.6	
	comp=Z,31nm,0.8s						
O30N	Mendenhall	85.50	19	P	P	02 57 10.3	0.0
	baz=220,SNR=12						
P18A	Preston Nutter	85.54	46	IAmb	IAmb	02 59 19.5	
	comp=Z,33nm,1.5s						
H21K	Melozitna Rive	85.58	10	P	P	02 57 10.2	-0.2
	baz=204						
HDA	Harding Lake	85.60	13	IAmb	IAmb	02 57 11.7	
	comp=Z,75nm,1.2s						
HDA	Harding Lake	85.60	13	P	P	02 57 09.9	-0.6
	baz=210,SNR=31						
BSUT	Blindstream Ca	85.61	45	IAmb	IAmb	02 59 19.8	
	comp=Z,43nm,1.4s						
CCB	Clear Creek Bu	85.62	13	P	P	02 57 09.7	-0.9
CCB				IAmb	IAmb	02 57 12.3	
	comp=Z,65nm,1.1s						
CCB				pP	pP	02 59 14.3	+0.6
E17K	Hotham Inlet	85.66	6	P	P	02 57 10.4	-0.3
	baz=196,SNR=9.6						
L27K	Beaver Creek,	85.68	16	P	P	02 57 11.0	-0.1
	baz=215,SNR=6.7						
XLT	XiLinHaoTe	85.69	319	eP	P	02 57 12.5	+0.9
XLT				SKS	SKSac	03 06 38.5	-4.1
XLT				S	S	03 06 57.5	+0.8
XLT				pmax	pmax		
	comp=Z,25nm,1.1s						
XLT				pmax	pmax		
	comp=Z,150nm,5.4s						
BCAR	Beaver Creek A	85.69	16	P	P	02 57 10.7	-0.4
BCAR				pP	pP	02 59 14.6	+0.3
IMAR	Indian Mountai	85.72	10	P	P	02 57 10.8	-0.2
N30M	Aishikik Lake	85.73	19	IAmb	IAmb	02 57 13.2	
	comp=Z,22nm,1.0s						
N30M	Aishikik Lake	85.73	19	P	P	02 57 10.8	-0.5
	baz=219						
I23K	Minto, Yukon-K	85.75	12	P	P	02 57 10.0	-1.2
	baz=208,SNR=12						
WHY	Whitehorse	85.81	20	IAmb	IAmb	02 57 14.1	
	comp=Z,31nm,1.0s						
WHY	Whitehorse	85.81	20	P	P	02 57 12.0	+0.2
	baz=221,SNR=11						
COLA	College	85.81	13	P	P	02 57 10.1	-1.4
COLA	College	85.81	13	P	P	02 57 10.3	-1.2
	baz=209						
COLA	College	85.81	13	iP	P	02 57 10.4	-1.2
COLA				pmax	pmax		
	comp=Z,65nm,0.9s						
DLBC	Dease Lake	85.89	23	P	P	02 57 12.0	-0.2
	baz=226,SNR=9.5						
MG03	Isla Dawson	85.90	146	P	P	02 57 12.3	0.0
MG03				IAmb	IAmb	02 57 15.4	
	comp=Z,52nm,0.9s						
SCRK	Sand Creek	85.90	15	IAmb	IAmb	02 57 13.8	
	comp=Z,24nm,0.9s						
SCRK	Sand Creek	85.90	15	P	P	02 57 12.0	-0.2
	baz=213,SNR=17						
F19K	Shaleruckik Mo	85.91	8	IAmb	IAmb	02 57 13.2	
	comp=Z,28nm,1.3s						
F19K	Shaleruckik Mo	85.91	8	P	P	02 57 11.4	-0.5
	baz=200						
ILAR	Eielson Array	85.93	13	P	P	02 57 11.2	-0.9
ILAR	Eielson Array	85.93	13	P	P	02 57 10.9	-1.2
	comp=Z,11nm,0.4s,baz=219,slow=4.8,SNR=177						
ILAR				pP	pP	02 59 14.4	-0.9
	comp=Z,6.9nm,1.1s,baz=230,slow=5.8,SNR=5.9						
ILAR				PP	PP	03 00 42.7	-0.4
	comp=Z,9.3nm,1.0s,baz=222,slow=7.0,SNR=6.4						
ILAR				PKKP	PKKPbc	03 15 08.3	-3.3
	comp=Z,0.7nm,0.6s,baz=331,slow=1.9,SNR=8.6						
	comp=Z,11nm,0.4s						
H22K	Ishtalitna Cre	86.04	11	P	P	02 57 12.2	-0.4
	baz=206						
M29M	Somme Creek	86.10	17	IAmb	IAmb	02 57 16.2	
	comp=Z,23nm,0.9s						
M29M	Somme Creek	86.10	17	P	P	02 57 13.2	+0.1
	baz=218						
TX31	Lajitas Ar. Si	86.10	58	P	P	02 57 15.3	+1.5
TX31				IAmb	IAmb	02 57 16.7	
	comp=Z,20nm,0.9s						
TX31				pP	pP	02 59 16.4	-0.4
TXAR	Lajitas Array	86.10	58	P	P	02 57 15.3	+1.5
TXAR				pP	pP	02 59 16.0	-0.8
TXAR	Lajitas Array	86.10	58	P	P	02 57 15.9	+2.1
	comp=Z,16nm,0.8s,baz=223,slow=6.0,SNR=175						
TXAR				pP	pP	02 59 17.1	+0.2
	comp=Z,5.7nm,1.1s,baz=224,slow=4.8,SNR=5.4						
TXAR				PKKP	PKKPdf	03 15 02.9	+0.1
	comp=Z,0.5nm,0.8s,baz=119,slow=3.8,SNR=4.7						
TXAR				PKKPbc	PKKPbc	03 15 08.9	-0.8
	comp=Z,0.5nm,0.6s,baz=149,slow=2.6,SNR=9.1						
TXAR				PKPPKP	P'P'df	03 23 15.9	0.0
	comp=Z,0.2nm,0.9s,baz=310,slow=27,SNR=1.8						
	comp=Z,16nm,0.8s						
POKR	Poker Plat Res	86.11	13	IAmb	IAmb	02 57 13.7	
	comp=Z,30nm,0.6s						
POKR	Poker Plat Res	86.11	13	P	P	02 57 11.6	-1.4
	baz=210,SNR=26						
SNSI	Sinabang, Aceh	86.12	274	P	P	02 57 16.4	+2.2
E18K	Tukpahlearik C	86.12	7	IAmb	IAmb	02 57 14.5	
	comp=Z,22nm,0.7s						
E18K	Tukpahlearik C	86.12	7	P	P	02 57 12.6	-0.4
	baz=197						
J25K	Salcha River,	86.12	14	IAmb	IAmb	02 57 15.3	
	comp=Z,39nm,1.1s						
J25K	Salcha River,	86.12	14	P	P	02 57 12.5	-0.7
	baz=212						
D17K	Noatak River	86.13	6	P	P	02 57 12.7	-0.3
	baz=195						
N31M	Braeburn, Yuko	86.15	19	IAmb	IAmb	02 57 15.6	
	comp=Z,34nm,0.9s						
N31M	Braeburn, Yuko	86.15	19	P	P	02 57 13.7	+0.4
	baz=220,SNR=12						
P33M	Teslin, Yukon	86.16	21	IAmb	IAmb	02 57 15.6	
	comp=Z,27nm,1.0s						
P33M	Teslin, Yukon	86.16	21	P	P	02 57 13.7	+0.3
	baz=223,SNR=9.3						
XAN	Xi'an	86.18	307	⇓P	P	02 57 15.3	+1.2
XAN				SKS	SKSac	03 06 44.0	-2.0
XAN				S	S	03 07 03.8	+2.1
XAN				pmax	pmax		
	comp=Z,110nm,0.9s						
XAN				pmax	pmax		
	comp=Z,260nm,3.6s						
ANMO	Albuquerque	86.19	52	P	P	02 57 14.9	+0.6
ANMO				IAmb	IAmb	02 59 23.8	
	comp=Z,39nm,1.5s						
ANMO	Albuquerque	86.19	52	ceP	P	02 57 15.2	+0.8
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
R33M	Jennings River	86.22	22	IAmb	IAmb	02 57 17.1	
	comp=Z,45nm,1.2s						
R33M	Jennings River	86.22	22	P	P	02 57 14.4	+0.6
	baz=225						
G21K	Allakaket	86.25	10	IAmb	IAmb	02 57 15.1	
	comp=Z,22nm,0.8s						
G21K	Allakaket	86.25	10	P	P	02 57 13.2	-0.4
	baz=204						
H23K	Yukon River	86.32	12	P	P	02 57 12.8	-1.2
	baz=208						
F20K	Avaraart Lake	86.40	9	P	P	02 57 13.9	-0.4
	baz=202						
LHMI	Lhok Sumawe	86.40	277	P	P	02 57 17.4	+1.9
RDMU	Red Mountain	86.43	45	P	P	02 57 14.4	-0.9
RDMU				pP	pP	02 59 20.1	+1.3
RDMU				IAmb	IAmb	02 59 23.6	
	comp=Z,34nm,1.4s						
AHID	Auburn Hatcher	86.43	43	IAmb	IAmb	02 59 23.7	
	comp=Z,39nm,1.4s						
BILL	Bilibino	86.44	354	ceP	P	02 57 14.3	-0.1
BILL				pmax	pmax		
	comp=Z,31nm,1.0s						
J26L	Joseph Creek	86.45	14	IAmb	IAmb	02 57 16.8	
	comp=Z,27nm,0.6s						
J26L	Joseph Creek	86.45	14	P	P	02 57 14.9	+0.2
	baz=213						
C16K	Lisburne Hills	86.49	5	P	P	02 57 14.9	+0.2
	baz=193						
RDOG	Red Dog Mine	86.49	6	IAmb	IAmb	02 57 16.3	
	comp=Z,41nm,1.3s						
RDOG	Red Dog Mine	86.49	6	P	P	02 57 14.2	-0.5
	baz=195						
E19K	Redstone River	86.57	8	IAmb	IAmb	02 57 16.6	
	comp=Z,31nm,0.7s						
E19K	Redstone River	86.57	8	P	P	02 57 14.8	-0.3
	baz=200						
MLSI	Meulaboh, Aceh	86.62	276	P	P	02 57 16.6	0.0
H24K	Noodor Dome	86.65	12	P	P	02 57 14.1	-1.5
	baz=209						
M30M	Minto, Yukon	86.68	18	IAmb	IAmb	02 57 17.7	
	comp=Z,30nm,0.8s						
M30M	Minto, Yukon	86.68	18	P	P	02 57 15.8	0.0
	baz=219,SNR=24						
L29M	L29M	86.72	17	P	P	02 57 16.2	+0.2
	baz=218						
DLMT	Dillon	86.74	40	IAmb	IAmb	02 57 19.6	
	comp=Z,24nm,0.8s						
N32M	Quiet Lake	86.76	20	P	P	02 57 16.0	-0.2
	baz=223						
PRP	Porcupine Dome	86.87	13	P	P	02 57 15.1	-1.6
PRP				pP	pwP	02 59 21.6	-1.2
PRP	Porcupine Dome	86.87	13	P	P	02 57 15.5	-1.2
	baz=211,SNR=10						
TPAW	Teton Pass	86.87	42	IAmb	IAmb	02 57 20.5	
	comp=Z,26nm,1.1s						
C17K	DeLong Mountai	86.88	6	P	P	02 57 15.5	-1.0
	baz=195						
F21K	Alatna River	86.90	10	P	P	02 57 15.8	-0.8
	baz=204						
GO08	Villa O'Higgin	86.91	140	P	P	02 57 18.8	+1.5
G22K	Bettles	86.95	10	P	P	02 57 16.7	-0.2
	baz=206,SNR=21						
SNOW	Snow King Moun	86.99	42	IAmb	IAmb	02 57 21.1	
	comp=Z,41nm,0.9s						
G23K	Bananza Creek	87.02	11	IAmb	IAmb	02 57 19.0	
	comp=Z,28nm,1.3s						
G23K	Bananza Creek	87.02	11	P	P	02 57 16.8	-0.5
	baz=207						
S22A	4UR Ranch, Cre	87.10	49	IAmb	IAmb	02 59 32.4	
	comp=Z,46nm,1.4s						
S22A	4UR Ranch, Cre	87.10	49	P	P	02 57 19.8	+1.1
	baz=245						
M31M	Drury Creek, Y	87.13	19	IAmb	IAmb	02 57 19.4	
	comp=Z,22nm,1.0s						
M31M	Drury Creek, Y	87.13	19	P	P	02 57 17.6	-0.2
	baz=222,SNR=8.9						
DAWY	Dawson	87.13	16	IAmb	IAmb	02 57 19.9	
	comp=Z,28nm,1.1s						
DAWY				pP	pP	02 59 22.4	+0.9
DAWY	Dawson	87.13	16	P	P	02 57 17.8	-0.1
	baz=217,SNR=14						
O20A	White River Ci	87.14	46	IAmb	IAmb	02 57 21.5	
	comp=Z,19nm,0.9s						
HHC	Hu-ho-hao-te	87.20	314	eP	P	02 57 20.5	+1.7
HHC				sP	sP	03 00 21.0	+0.1
HHC				SKS	SKSac	03 06 52.0	0.0
HHC				sS	sS	03 10 46.8	-3.1
HHC				SS	SS	03 13 14.5	+1.2
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,4.5s						
C18K	Utukok River	87.24	6	P	P	02 57 17.7	-0.6
	baz=196						
EGAK	Eagle	87.26	15	IAmb	IAmb	02 57 18.7	
	comp=Z,18nm,0.8s						
EGAK	Eagle	87.26	15	P	P	02 57 18.1	-0.3
	baz=215,SNR=12						
FLWY	Flagg Ranch	87.31	42	IAmb	IAmb	02 57 22.8	
	comp=Z,28nm,0.8s						
YHB	Horse Butte	87.32	41	IAmb	IAmb	02 57 23.0	
	comp=Z,32nm,1.0s						
F22K	John River	87.37	10	P	P	02 57 18.6	-0.3
	baz=205						
YHL	Hebgen Lake	87.37	41	IAmb	IAmb	02 59 29.3	
	comp=Z,67nm,1.3s						
YFT	Old Faithful	87.40	42	IAmb	IAmb	02 57 24.1	
	comp=Z,20nm,0.9s						
YMR	Madison River	87.42	41	IAmb	IAmb	02 59 29.5	
	comp=Z,79nm,1.5s						
D19K	Kuna River	87.44	7	IAmb	IAmb	02 57 20.6	
	comp=Z,21nm,0.8s						
D19K	Kuna River	87.44	7	P	P	02 57 18.4	-0.8
	baz=199						
PD31	Pinedale Array	87.44	43	P	P	02 57 19.8	-0.3
PD31				IAmb	IAmb	02 57 22.4	
	comp=Z,13nm,0.7s						
PD31				pP	pP	02 59 23.2	-0.6
PDAR	Pinedale Array	87.44	43	P	P	02 57 20.1	+0.1
PDAR	Pinedale Array	87.44	43	P	P	02 57 20.4	+0.3
	comp=Z,8.4nm,0.5s,baz=211,slow=3.1,SNR=123						
PDAR				pP	pP	02 59 23.4	-0.3
	comp=Z,8.2nm,1.1s,baz=224,slow=3.8,SNR=12						
PDAR				PP	PP	03 00 53.5	-2.4
	comp=Z,4.7nm,0.9s,baz=240,slow=5.0,SNR=6.7						
PDAR				PKKPbc	PKKPbc	03 15 06.3	-1.0
	comp=Z,1.3nm,0.8s,baz=97,slow=4.8,SNR=9.3						
PDAR				PKPPKP	P'P'df	03 23 08.9	-3.7
	comp=Z,0.5nm,0.8s,baz=84,slow=6.1,SNR=3.7						
	comp=Z,8.4nm,0.5s						
H25L	Birch Creek	87.45	13	P	P	02 57 17.4	-1.8
	baz=211,SNR=7.5						
COLD	Coldfoot	87.45	11	P	P	02 57 19.3	+0.1
	baz=207,SNR=18						
BOZ	Bozeman (W)	87.45	40	IAmb	IAmb	02 58 34.8	
	comp=Z,24nm,0.9s						
E20K	Nigu River	87.46	8	P	P	02 57 19.3	-0.1
	baz=201						
K29M	Barlow Dome	87.47	17	IAmb	IAmb	02 57 21.9	
	comp=Z,18nm,0.8s						
K29M	Barlow Dome	87.47	17	P	P	02 57 19.6	+0.1
	baz=219						
FARO	Faro, Yukon	87.47	19	P	P	02 57 19.2	-0.3
	baz=222						
G24K	Hadweenzic Riv	87.49	12	IAmb	IAmb	02 57 20.6	
	comp=Z,13nm,0.6s						
G24K	Hadweenzic Riv	87.49	12	P	P	02 57 18.6	-0.9
	baz=210						
WTLY	Watson Lake, Y	87.51	22	IAmb	IAmb	02 57 20.9	
	comp=Z,21nm,1.1s						
WTLY	Watson Lake, Y	87.51	22	P	P	02 57 20.2	+0.4
	baz=227,SNR=7.4						
H17A	Grant Village	87.54	42	IAmb	IAmb	02 57 24.6	
	comp=Z,25nm,0.8s						
YHH	Holmes Hill	87.55	41	P	P	02 57 22.2	+1.5
YHH				pP	pP	02 59 25.1	+0.6
YNR	Norris Junctio	87.62	41	IAmb	IAmb	02 59 31.1	
	comp=Z,48nm,1.5s						
LKWY	Lake	87.73	42	IAmb	IAmb	02 59 31.7	
	comp=Z,31nm,1.1s						
MAYO	Mayo, Yukon	87.73	18	P	P	02 57 21.3	+0.6
	baz=220,SNR=5.6						
KMI	Kunming	87.74	297	⇓P	P	02 57 23.0	+1.1
KMI				pmax	pmax		
	comp=Z,24nm,1.2s						
J29N	Klondike Camp	87.75	16	IAmb	IAmb	02 57 23.2	
	comp=Z,21nm,0.6s						
J29N	Klondike Camp	87.75	16	P	P	02 57 21.4	+0.6
	baz=218,SNR=9.6						
G25K	Bearman Lake	87.82	12	P	P	02 57 20.6	-0.4
	baz=211						
I27K	Kandik River	87.83	14	P	P	02 57 20.6	-0.5
	baz=215						
FYU	Fort Yukon	87.83	13	IAmb	IAmb	02 57 22.1	
	comp=Z,14nm,0.6s						
D20K	Etivluk River	87.83	8	P	P	02 57 20.7	-0.4
	baz=201						
C19K	Lookout Ridge	87.85	7	IAmb	IAmb	02 57 22.9	
	comp=Z,20nm,0.8s						
C19K	Lookout Ridge	87.85	7	P	P	02 57 20.9	-0.2
	baz=198						
B18K	Kokolik River	87.87	6	P	P	02 57 20.8	-0.3
	baz=196	

I28M	Miner Creek	88.11	15	P	P	02 57 22.0	-0.4
	baz=216						
F24K	Squaw Lake	88.13	11	IAmb	IAmb	02 57 24.4	
	comp=Z,18nm,0.8s						
F24K	Squaw Lake	88.13	11	P	P	02 57 22.6	+0.1
	baz=209						
BTO	Baotou	88.15	314	*e*P	P	02 57 23.5	+0.2
BTO				pP	pP	02 59 30.8	+2.9
BTO				PP	PP	03 01 00.0	-1.4
BTO				SKS	SKSac	03 06 56.0	-1.6
BTO				SS	SS	03 13 22.5	-4.4
BTO				pmax	pmax		
	comp=Z,13nm,0.6s						
BTO				pmax	pmax		
	comp=Z,340nm,4.1s						
YNE	Yellowstone No	88.18	41	IAmb	IAmb	02 57 26.8	
	comp=Z,21nm,1.0s						
E23K	Chandalar	88.30	10	IAmb	IAmb	02 57 25.1	
	comp=Z,27nm,1.0s						
E23K	Chandalar	88.30	10	P	P	02 57 23.1	-0.2
	baz=207						
H27K	Steamboat Moun	88.36	14	P	P	02 57 23.4	-0.2
	baz=215						
J30M	Hart River	88.36	17	P	P	02 57 23.6	-0.1
	baz=220						
G26K	Porcupine Rive	88.46	13	P	P	02 57 24.2	+0.3
	baz=213						
C21K	Knifeblade Rid	88.49	8	P	P	02 57 24.1	0.0
	baz=203						
E24K	Your Creek	88.51	11	IAmb	IAmb	02 57 25.9	
	comp=Z,11nm,0.7s						
E24K	Your Creek	88.51	11	P	P	02 57 24.3	+0.1
	baz=208						
D22K	Ayikyak River	88.54	9	P	P	02 57 24.5	+0.2
	baz=205						
MSTX	Muleshoe	88.59	54	IAmb	IAmb	02 57 28.0	
	comp=Z,17nm,0.8s						
DRIO	Del Rio	88.60	59	IAmb	IAmb	02 57 28.0	
	comp=Z,26nm,0.9s						
T25A	Trinidad	88.61	50	P	P	02 57 26.0	+0.4
	baz=246						
F25K	Christian Rive	88.62	12	IAmb	IAmb	02 57 27.0	
	comp=Z,15nm,0.9s						
F25K	Christian Rive	88.62	12	P	P	02 57 25.1	+0.4
	baz=211						
BMAR	Burnt Mountain	88.70	12	P	P	02 57 25.0	-0.1
BMAR				pP	pwP	02 59 31.5	-0.5
RLMT	Red Lodge	88.70	41	IAmb	IAmb	02 57 29.1	
	comp=Z,15nm,0.9s						
OZNA	Ozona	88.73	57	IAmb	IAmb	02 57 28.3	
	comp=Z,15nm,0.8s						
A19K	Wainwright	88.75	6	P	P	02 57 26.1	+0.9
	baz=197						
CMAR	Chiang Mai Arr	88.78	290	P	P	02 57 27.8	+1.2
	comp=Z,33nm,0.9s,baz=109,slow=2.7,SNR=106						
CMAR				PP	PP	03 01 05.3	-1.3
	comp=Z,1.4nm,0.4s,baz=114,slow=4.4,SNR=1.7						
CMAR				PKKPbc	PKKPbc	03 15 03.0	+0.2
	comp=Z,1.5nm,0.3s,baz=298,slow=4.3,SNR=5.2						
	comp=Z,33nm,0.9s						
G27K	Doyon Strip	88.81	14	P	P	02 57 25.5	-0.1
	baz=215						
Q24A	Divide	88.81	48	P	P	02 57 27.1	+0.4
	baz=246						
TOLK	Toolik Lake Re	88.82	10	IAmb	IAmb	02 57 26.0	
	comp=Z,14nm,0.9s						
TOLK	Toolik Lake Re	88.82	10	P	P	02 57 25.6	-0.1
	baz=208,SNR=8.1						
I30M	Mount Dempster	88.85	16	IAmb	IAmb	02 57 27.6	
	comp=Z,34nm,1.1s						
I30M	Mount Dempster	88.85	16	P	P	02 57 25.7	-0.3
	baz=220						
CHTO	Chiang Mai	88.90	290	P	P	02 57 27.0	-0.1
CHTO				IAmb	IAmb	02 57 29.8	
	comp=Z,35nm,0.9s						
CHTO	Chiang Mai	88.90	290	P	P	02 57 27.0	-0.1
CHTO				pmax	pmax		
	comp=Z,35nm,0.9s						
D23K	Nanushuk River	88.93	10	IAmb	IAmb	02 57 28.3	
	comp=Z,36nm,1.0s						
D23K	Nanushuk River	88.93	10	P	P	02 57 26.3	+0.2
	baz=206						
B21K	Ikpikpuk River	88.95	8	IAmb	IAmb	02 57 27.9	
	comp=Z,39nm,1.4s						
B21K	Ikpikpuk River	88.95	8	P	P	02 57 25.9	-0.2
	baz=203						
CD2	Chengdu	88.98	303	P	P	02 57 28.3	+1.0
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
B20K	Meade River	88.98	7	IAmb	IAmb	02 57 49.1	
	comp=Z,68nm,1.6s						
B20K	Meade River	88.98	7	P	P	02 57 26.2	0.0
	baz=200						
F26K	Sheenjek River	89.01	12	IAmb	IAmb	02 57 28.9	
	comp=Z,18nm,1.1s						
F26K	Sheenjek River	89.01	12	P	P	02 57 26.8	+0.3
	baz=213						
N23A	Red Feather La	89.05	46	IAmb	IAmb	02 57 30.8	
	comp=Z,20nm,0.9s						
N23A	Red Feather La	89.05	46	P	P	02 57 26.6	-1.1
	baz=245						
PZH	PanZhiHua	89.07	298	P	P	02 57 28.8	+0.9
PZH				pmax	pmax		
	comp=Z,30nm,1.3s						
PZH				pmax	pmax		
	comp=Z,120nm,5.6s						
H29M	Whitestone	89.11	15	IAmb	IAmb	02 57 28.8	
	comp=Z,32nm,0.8s						
H29M	Whitestone	89.11	15	P	P	02 57 26.9	-0.1
	baz=218						
ELIB	Princess Elisa	89.13	187	*d*P	P	02 57 27.4	0.0
	comp=Z,128nm,0.9s						
ELIB				*d*pP	pwP	02 59 35.7	+2.0
POST	Post	89.23	55	IAmb	IAmb	02 57 29.8	
	comp=Z,17nm,0.8s						
KOTAN	Kotaneelee Air	89.31	24	P	P	02 57 28.4	+0.4
	baz=231,SNR=7.4						
D24K	Happy Valley	89.40	10	IAmb	IAmb	02 57 30.2	
	comp=Z,20nm,0.8s						
D24K	Happy Valley	89.40	10	P	P	02 57 28.4	+0.1
	baz=208						
LL01	San Ignacio de	89.45	135	P	P	02 57 30.7	+1.5
LL01				IAmb	IAmb	02 57 39.1	
	comp=Z,16nm,1.0s						
LL02	Futaleuf	89.50	136	IAmb	IAmb	02 57 33.4	
	comp=Z,30nm,0.9s						
YAK	Yakutsk	89.55	338	*ce*P	P	02 57 28.2	-0.9
YAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SN05	Snyder 5	89.64	55	IAmb	IAmb	02 57 32.6	
	comp=Z,15nm,0.9s						
EPYK	Eagle Plains	89.65	16	P	P	02 57 29.1	-0.4
	baz=219,SNR=25						
HNDO	Hondo	89.72	59	IAmb	IAmb	02 57 33.6	
	comp=Z,20nm,0.8s						
C23K	Itkillik River	89.72	9	IAmb	IAmb	02 57 30.9	
	comp=Z,46nm,1.2s						
C23K	Itkillik River	89.72	9	P	P	02 57 29.8	+0.1
	baz=206,SNR=16						
EGMT	Eagleton	89.73	39	IAmb	IAmb	02 59 39.6	
	comp=Z,35nm,1.5s						
G29M	Pine Creek	89.75	15	IAmb	IAmb	02 57 31.6	
	comp=Z,40nm,1.1s						
G29M	Pine Creek	89.75	15	P	P	02 57 29.5	-0.5
	baz=218						
AMTX	Amarillo	89.77	53	IAmb	IAmb	02 57 33.3	
	comp=Z,16nm,0.9s						
B22K	Teshekpuk Lake	89.77	8	IAmb	IAmb	02 57 30.9	
	comp=Z,29nm,1.1s						
B22K	Teshekpuk Lake	89.77	8	P	P	02 57 29.7	-0.3
	baz=204,SNR=9.2						
H31M	Peel River	89.85	17	IAmb	IAmb	02 57 32.4	
	comp=Z,23nm,0.9s						
H31M	Peel River	89.85	17	P	P	02 57 29.9	-0.5
	baz=222						
F28M	Old Crow	89.87	14	P	P	02 57 30.4	-0.1
	baz=216,SNR=11						
C24K	Franklin Bluff	89.93	10	IAmb	IAmb	02 57 32.7	
	comp=Z,28nm,0.7s						
C24K	Franklin Bluff	89.93	10	P	P	02 57 30.6	0.0
	baz=208						
E27K	Coleen River	89.96	13	P	P	02 57 31.1	+0.1
	baz=215						
D25K	Kavik River	89.98	11	P	P	02 57 30.3	-0.8
	baz=210						
LL04	Puerto Octay	90.04	133	IAmb	IAmb	02 57 34.6	
	comp=Z,13nm,0.8s						
A22K	Sinclair Lake	90.18	8	P	P	02 57 31.6	-0.2
	baz=202						
G30M	tAoh Zraii Nji	90.25	15	P	P	02 57 31.8	-0.5
	baz=220						
ABTX	Abilene, Hawle	90.53	56	IAmb	IAmb	02 59 46.7	
	comp=Z,39nm,1.3s						
BRDY	Brady	90.57	57	IAmb	IAmb	02 59 46.0	
	comp=Z,15nm,1.3s						
SNAA	Sanae	90.58	179	P	P	02 57 33.7	-0.3
SNAA	Sanae	90.58	179	⇓P	P	02 57 34.1	+0.1
	comp=Z,788nm,0.7s						
SNAA	Sanae	90.58	179	P	P	02 57 34.0	0.0
	comp=Z,29nm,0.5s,baz=206,slow=6.8,SNR=241						
	comp=Z,29nm,0.5s						
SNAA	Sanae	90.58	179	*ce*P	P	02 57 34.1	+0.1
SNAA				pmax	pmax		
	comp=Z,65nm,1.0s						
LR05	Currie	90.60	133	IAmb	IAmb	02 57 41.0	
	comp=Z,27nm,0.8s						
LR03	Panguipulli	90.60	132	IAmb	IAmb	02 57 39.1	
	comp=Z,26nm,0.9s						
G31M	Satah River	90.70	16	P	P	02 57 34.0	-0.3
	baz=222,SNR=39						
VNA3	Neumayer Olymp	90.73	176	⇑P	P	02 57 35.0	+0.4
	comp=Z,180nm,0.6s						
C27K	Jago River	90.73	12	IAmb	IAmb	02 57 37.1	
	comp=Z,14nm,0.9s						
C27K	Jago River	90.73	12	P	P	02 57 34.3	-0.2
	baz=213						
E28M	Babbage River	90.75	13	IAmb	IAmb	02 57 36.5	
	comp=Z,17nm,0.9s						
E28M	Babbage River	90.75	13	P	P	02 57 34.2	-0.3
	baz=217						
C26K	Camden Bay	90.76	11	P	P	02 57 34.8	+0.3
	baz=212						
LZH	Lanzhou	90.81	308	*e*P	P	02 57 37.3	+1.5
LZH				pP	pP	02 59 45.8	+4.8
LZH				SKS	SKSac	03 07 11.5	-1.7
LZH				S	ScS	03 07 47.8	+1.7
LZH				pmax	pmax		
	comp=Z,50nm,1.1s						
F30M	Barrier River	90.84	15	P	P	02 57 34.4	-0.6
	baz=220,SNR=11						
E29M	Blow River	90.94	14	P	P	02 57 34.7	-0.7
	baz=218						
D27M	Malcolm River	90.96	13	IAmb	IAmb	02 57 39.3	
	comp=Z,21nm,1.3s						
D27M	Malcolm River	90.96	13	P	P	02 57 35.6	+0.1
	baz=216						
VNA2	Neumayer--Watz	91.17	177	⇓P	P	02 57 37.0	+0.4
	comp=Z,76nm,0.9s,baz=182,slow=3.7						
F31M	Tsiigehtchic	91.23	16	P	P	02 57 36.3	-0.4
	baz=222,SNR=31						
GO06	Curarrehue	91.24	132	IAmb	IAmb	02 57 41.4	
	comp=Z,16nm,0.9s						
NVL	N'lazarevskaya	91.25	183	⇑*i*P	P	02 57 36.5	-0.4
NVL				pmax	pmax		
	comp=Z,45nm,0.8s						
LAO	LASA Array	91.30	41	IAmb	IAmb	02 57 41.0	
	comp=Z,25nm,0.8s						
VNA1	Neumayer--Stat	91.40	177	⇑P	P	02 57 38.4	+0.8
	comp=Z,104nm,0.8s						
PLCA	Paso Flores	91.40	134	IAmb	IAmb	02 57 41.3	
	comp=Z,13nm,1.1s						
PLCA	Paso Flores	91.40	134	*e*P	P	02 57 40.5	+2.1
WRGLY	Wrigley	91.48	22	IAmb	IAmb	02 57 48.7	
	comp=Z,12nm,1.1s						
WRGLY	Wrigley	91.48	22	P	P	02 57 37.8	-0.2
	baz=231						
D28M	Stokes Point	91.50	13	P	P	02 57 37.7	-0.2
	baz=218,SNR=9.5						
PLPT	Palo Pinto	91.64	56	IAmb	IAmb	02 57 41.4	
	comp=Z,15nm,0.9s						
RSSD	Black Hills	91.65	44	P	P	02 57 39.0	-0.6
RSSD				IAmb	IAmb	02 57 41.7	
	comp=Z,21nm,0.9s						
RSSD				pP	pwP	02 59 45.8	-2.0
FW03	Perrin-Whitt E	91.92	56	IAmb	IAmb	02 57 43.5	
	comp=Z,9.7nm,0.8s						
ELIS	Ellis County	91.92	53	IAmb	IAmb	02 57 43.7	
	comp=Z,20nm,1.0s						
INK	Inuvik	91.93	15	IAmb	IAmb	02 57 41.2	
	comp=Z,24nm,0.8s						
INK	Inuvik	91.93	15	P	P	02 57 39.2	-0.7
	baz=222,SNR=31						
OK038	West end E0370	92.58	53	IAmb	IAmb	02 57 46.4	
	comp=Z,15nm,0.8s						
CBKS	Cedar Bluff	92.66	50	IAmb	IAmb	02 57 46.8	
	comp=Z,12nm,0.9s						
ULN	Ulaanbaatar	93.09	319	P	P	02 57 45.2	-0.8
ULN				IAmb	IAmb	02 57 47.7	
	comp=Z,9.7nm,1.0s						
ULN	Ulaanbaatar	93.09	319	*ce*P	P	02 57 46.5	+0.5
ULN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
FNO	Franklin	93.19	54	IAmb	IAmb	02 57 48.4	
	comp=Z,32nm,1.4s						
SONM	Songino Array	93.49	319	P	P	02 57 47.4	-0.4
SONM	Songino Array	93.49	319	P	P	02 57 46.6	-1.1
	comp=Z,3.3nm,1.0s,baz=124,slow=3.8,SNR=15						
SONM				PP	PP	03 01 42.7	0.0
	comp=Z,0.8nm,0.5s,baz=129,slow=6.2,SNR=2.7						
SONM				PKKP	PKKPdf	03 14 50.0	-0.7
	comp=Z,1.2nm,0.9s,baz=186,slow=3.0,SNR=5.8						
	comp=Z,3.3nm,1.0s						
SONM	Songino Array	93.49	319	P	P	02 57 47.4	-0.4
SONM				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KAN17	Caldwell West	93.51	52	IAmb	IAmb	02 57 50.1	
	comp=Z,17nm,0.8s						
KAN09	Caldwell North	93.65	52	IAmb	IAmb	02 57 51.9	
	comp=Z,18nm,1.1s						
KAN13	South Haven SW	93.71	52	IAmb	IAmb	02 57 51.8	
	comp=Z,15nm,0.9s						
BLOK	Blackwell	93.83	53	IAmb	IAmb	03 00 02.0	
	comp=Z,17nm,1.1s						
YKA	Yellowknife Ar	94.39	25	P	P	02 57 50.8	-0.5
YKA	Yellowknife Ar	94.39	25	P	P	02 57 50.5	-0.8
	comp=Z,9.6nm,1.0s,baz=246,slow=4.6,SNR=24						
YKA				PP	PP	03 01 49.3	+0.3
	comp=Z,1.5nm,0.9s,baz=250,slow=7.8,SNR=4.9						
YKA				PKKP	PKKPdf	03 14 48.5	-0.8
	comp=Z,0.4nm,0.4s,baz=162,slow=6.9,SNR=7.1						
	comp=Z,9.6nm,1.0s						
YKA	Yellowknife Ar	94.39	25	P	P	02 57 50.8	-0.5
GTA	Gaotai	94.96	310	P	P	02 57 55.5	+0.8
GTA				SKS	SKSac	03 07 34.5	-1.0
GTA				S	ScS	03 08 20.5	+0.1
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
C36M	Paulatuk	95.14	17	IAmb	IAmb	02 57 56.6	
	comp=Z,17nm,1.1s						
C36M	Paulatuk	95.14	17	P	P	02 57 54.1	-0.5
	baz=231						
TIXI	Tiksi	96.14	345	P	P	02 57 57.2	-1.8
TIXI	Tiksi	96.14	345	*ce*P	P	02 57 57.7	-1.3
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.8s						
A36M	Sachs Harbour	96.52	15	P	P	02 58 00.4	-0.3
	baz=230						
LPAZ	La Paz	103.50	112	PKKPbc	PKKPbc	03 14 23.4	-1.1
	comp=Z,0.9nm,0.4s,baz=72,slow=6.7,SNR=5.4						
ZALV	Zalesovo Beam	108.18	322	PKiKP	PKiKP	03 02 54.7	-1.1
	comp=Z,2.7nm,0.6s,baz=126,slow=1.5,SNR=13						
ZALV				PP	PP	03 03 30.2	-1.0
	comp=Z,0.8nm,0.5s,baz=74,slow=5.1,SNR=3.6						
ZALV				PKKPbc	PKKPbc	03 14 09.2	-1.2
	comp=Z,1.1nm,0.6s,baz=258,slow=7.0,SNR=5.1						
MKAR	Makanchi Array	109.07	314	PKiKP	PKiKP	03 02 56.8	-1.0
	comp=Z,3.5nm,0.5s,baz=192,slow=0.6,SNR=44						
MKAR				PKKPbc	PKKPbc	03 14 07.1	-0.3
	comp=Z,2.1nm,0.8s,baz=276,slow=4.5,SNR=7.2						
SHLS	Shalkode	110.70	310	*e*PKiKP	PKiKP	03 03 00.3	-0.8
SHLS	Shalkode	110.70	310	*i*PKiKP	PKiKP	03 03 00.2	-0.8
UZB	Uzynbulak	111.02	310	*e*PKiKP	PKiKP	03 03 01.4	-0.4
UZB	Uzynbulak	111.02	310	*i*PKiKP	PKiKP	03 03 01.3	-0.4
KPKS	Kokpek	111.29	310	*e*PKiKP	PKiKP	03 03 01.9	-0.3
KPKS	Kokpek	111.29	310	*i*PKiKP	PKiKP	03 03 01.9	-0.3
ZHN	Zhinishke	111.45	310	*e*PKiKP	PKiKP	03 03 02.2	-0.3
ZHN	Zhinishke	111.45	310	*i*PKiKP	PKiKP	03 03 02.2	-0.3
SATY	Saty	111.46	310	*e*PKiKP	PKiKP	03 03 02.3	-0.2
SATY	Saty	111.46	310	*i*PKiKP	PKiKP	03 03 02.3	-0.2
TDK	Taldyqorghan	111.61	312	*e*PKiKP	PKiKP	03 03 02.6	0.0
TDK	Taldyqorghan	111.61	312	*i*PKiKP	PKiKP	03 03 02.6	0.0
KURK	Kurchatov	111.76	318	*c i*PKiKP	PKiKP	03 03 02.0	-0.7
KURK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KURBB	Kurchatov Arra	111.82	318	PKiKP	PKiKP	03 03 01.8	-1.0
	comp=Z,6.5nm,0.8s,baz=94,slow=1.8,SNR=53						
KURBB				PP	PP	03 03 55.8	-1.4
	comp=Z,3.1nm,0.7s,baz=93,slow=6.8,SNR=5.8						
KURBB				PKKPbc	PKKPbc	03 13 56.6	-2.1
	comp=Z,2.5nm,0.8s,baz=268,slow=4.0,SNR=15						
MDOK	Medeo	112.46	310	*e*PKiKP	PKiKP	03 03 04.1	-0.4
MDOK	Medeo	112.46	310	*i*PKiKP	PKiKP	03 03 04.1	-0.4
TNSS	Tian-Shan	112.53	310	*e*PKiKP	PKiKP	03 03 04.3	-0.7
TNSS	Tian-Shan	112.53	310	*i*PKiKP	PKiKP	03 03 04.2	-0.7
AAA	Alma-Ata	112.56	310	*e*PKiKP	PKiKP	03 03 04.4	-0.2
AAA	Alma-Ata	112.56	310	*i*PKiKP	PKiKP	03 03 04.3	-0.2
ULHL	Ulahol	112.99	309	P	PKiKP	03 03 05.7	+0.1
	SNR=5.2						
KSH	Kashi	113.00	306	PKP	PKiKP	03 03 06.5	+0.9
KSH				SS	SS	03 19 12.8	+5.4
TKM2	Tokmak 2	113.51	310	P	PKiKP	03 03 05.8	-0.8
	SNR=13						
KBK	Karagaybulak	113.97	309	P	PKiKP	03 03 07.0	-0.4
	SNR=5.3						
AAK	Ala-Archa	114.31	309	PKKPbc	PKKPbc	03 13 49.4	-1.1
	comp=Z,0.5nm,0.4s,baz=211,slow=11,SNR=3.7						
AAK				PKKPab	PKKPab	03 13 57.8	+0.4
	comp=Z,3.9nm,0.8s,baz=250,slow=4.4,SNR=11						
AAK	Ala-Archa	114.31	309	*c i*PKIKP	PKPdf	03 03 08.0	0.0
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
USP	Ospenovka	114.33	310	P	PKPdf	03 03 07.4	-0.5
	SNR=8.0						
EKS2	Erkin-Say	114.84	309	P	PKPdf	03 03 08.9	-0.1
	SNR=5.6						
AML	Almayashu	114.88	309	P	PKPdf	03 03 09.4	-0.1
	SNR=12						
UUPR	Utuado, UPR, P	115.55	78		PKPdf	03 03 09.1	-1.8
DZA	Taraz	116.64	309	*e*PKiKP	PKPdf	03 03 12.3	-0.1
DZA	Taraz	116.64	309	*i*PKIKP	PKPdf	03 03 12.2	-0.1
BVAR	Borovoye Array	116.79	321	PKP	PKPdf	03 03 11.4	-0.8
	comp=Z,12nm,0.3s,baz=108,slow=2.7,SNR=67						
BRVK	Borovoye	116.85	321	*c i*PKIKP	PKPdf	03 03 12.1	-0.3
BRVK				pmax	pmax		
	comp=Z,11nm,1.0s						
KKAR	Karatay Array	117.24	310		PKPdf	03 03 12.8	-0.7
KKAR	Karatay Array	117.24	310		PKPdf	03 03 12.2	-1.3
KKAR	Karatay Array	117.24	310	PKIKP	PKPdf	03 03 12.8	-0.7
IUG	Iuzhnay	117.60	309	*e*PKiKP	PKPdf	03 03 13.8	-0.6
IUG	Iuzhnay	117.60	309	*i*PKIKP	PKPdf	03 03 13.7	-0.6
KBL	Kabul	118.20	300		PKPdf	03 03 15.1	-0.7
KBL	Kabul	118.20	300	PKIKP	PKPdf	03 03 15.1	-0.7
SIMJ	Simiganj	118.37	305		PKPdf	03 03 14.8	-1.2
SNDB	Serra Nova Dou	120.04	116	*e*P	PKiKP	03 03 22.1	+2.3
BSCB	Bom Sucesso	120.41	128	*e*P	PKiKP	03 03 22.5	+2.0
BDFB	Brasilia	120.92	121	PKP	PKPdf	03 03 20.9	-0.6
	comp=Z,1.5nm,0.6s,baz=104,slow=2.0,SNR=6.1						
BDFB				PKKPab	PKKPbc	03 13 26.6	-0.5
	comp=Z,1.1nm,0.5s,baz=359,slow=2.6,SNR=4.2						
SVE	Sverdlovsk	121.59	326	*e*PKIKP	PKPdf	03 03 21.3	-0.1
SVE				pmax	pmax		
	comp=Z,22nm,0.9s						
ABPO	Ambohimpanom	121.97	233		PKPdf	03 03 22.8	-0.7
ABPO	Ambohimpanom	121.97	233	PKIKP	PKPdf	03 03 22.8	-0.7
DIAM	Diamantina, MG	122.86	127	*e*P	PKiKP	03 03 27.6	+2.1
ARTI	Arti	122.91	326		PKPdf	03 03 23.6	-0.3
ARTI	Arti	122.91	326	PKKPbc	PKKPbc	03 13 19.3	-0.6
	comp=Z,5.4nm,0.9s,baz=246,slow=1.8,SNR=8.7						
ARTI	Arti	122.91	326	*i*PKIKP	PKPdf	03 03 23.4	-0.5
ARTI						03 05 11.5	
ARTI						03 09 40.9	
ABKAR	Akbulak array	123.87	318		PKPdf	03 03 25.7	-0.3
PRPB	Parauapebas	124.01	111	*e*P	PKiKP	03 03 29.7	+2.0
JANB	Januaria	124.22	123	*e*P	PKiKP	03 03 29.7	+1.6
SJMB	Sao Joao De Ma	124.48	129	*e*P	PKiKP	03 03 27.7	-0.5
RIB01	Linhares ES	124.68	130	*e*P	PKiKP	03 03 29.3	+0.5
ARCES	ARCESS Array B	126.31	350	PKP	PKPdf	03 03 29.3	-0.8
	comp=Z,12nm,0.8s,baz=72,slow=0.9,SNR=48						
ARCES	ARCESS Array B	126.31	350	PKIKP	PKPdf	03 03 30.3	+0.2
KIRV	Kirov	126.49	331	*c i*PKIKP	PKiKP	03 03 30.9	-0.3
BOSA	Boshof	128.34	207	PKP	PKiKP	03 03 35.8	-0.3
	comp=Z,14nm,0.9s,baz=178,slow=3.1,SNR=16						
BOSA				PP	PP	03 05 50.6	+3.0
	comp=Z,18nm,1.0s,baz=163,slow=7.0,SNR=10.0						
SOHO	SOHO	128.50	287	PKPdf	PKPdf	03 03 34.5	-1.1
GDU01	Guandu, BA	128.73	125	*e*P	PKPdf	03 03 36.3	0.0
UOSS	Minazif	128.86	288		PKPdf	03 03 36.0	-0.3
UOSS	Minazif	128.86	288	PKPdf	PKPdf	03 03 34.5	-1.8
HATD	Hatta, Dubai	128.91	288	PKiKP	PKPdf	03 03 36.1	-0.3
MSFE	Esma-Masafi	128.92	288	PKiKP	PKPdf	03 03 36.3	-0.2
SHME	Shamm	128.97	289	PKiKP	PKiKP	03 03 36.8	-0.4
ASHO	Ashiyiah	128.97	288	PKPdf	PKPdf	03 03 35.9	-0.7
KLMR	Klimovskoe	129.33	337	*e*PKIKP	PKPdf	03 03 35.9	-0.1
KLMR				*e*		03 05 47.6	
KLMR				*e*		03 06 01.9	
KLMR				pmax	pmax		
	comp=Z,36nm,2.0s						
NAZ	Nazwa, Dubai	129.35	288	PKiKP	PKPdf	03 03 37.6	+0.4
FAQ	Al Faqa, Dubai	129.40	288	PKiKP	PKPdf	03 03 37.7	+0.4
ASUD	Al Ashush, Dub	129.63	287	PKiKP	PKiKP	03 03 38.4	-0.1
ROSB	Rosrio	130.54	110	*e*P	PKiKP	03 03 41.7	+1.0
MZR	Muzera	131.22	285	PKiKP	PKiKP	03 03 41.8	-0.1
FINES	FINESS Array B	133.17	344	PKhKP	PKPpre	03 03 28.8	
	comp=Z,0.9nm,0.4s,baz=100,slow=2.1,SNR=5.5						
FINES				PKP	PKPdf	03 03 41.4	-1.9
	comp=Z,6.2nm,0.8s,baz=75,slow=4.4,SNR=11						
FINES				SKPbc	SKPbc

MNK	Minsk	138.23 337	*i* PKP	PKPdf	03 03 52.0	-0.9
	comp=E,13nm,0.9s					
MNK			*i* PKP	PKPdf	03 03 52.0	-0.9
	comp=N,5.0nm,0.8s					
MNK			*i* PKP	PKPdf	03 03 52.0	-0.9
	comp=Z,17nm,0.8s,baz=40					
MNK			*i* pPKP	pPKPdf	03 06 05.4	-1.1
MNK			*i* PP	PP	03 06 49.5	-0.1
MNK			*i* PPP	PPP	03 09 56.6	
MNK			*i* SKS	SKSdf	03 10 08.1	-1.1
MNK			*i* SKKS	SKKSdf	03 19 41.5	-3.4
MNK			*i* SS	SS	03 24 17.0	+0.6
MNK			*i* SSS	SSS	03 29 36.5	
MNK			*i* LRM	MLR	04 00 11.6	
	comp=Z,138nm,21.7s					
MNK			*i* LRM	MLR	04 02 25.3	
	comp=N,171nm,23.4s					
MNK			*i* LRM	MLR	04 03 23.5	
	comp=E,164nm,21.7s					
MNK	Minsk	138.23 337	*i* PKIKP	PKPdf	03 03 52.0	-0.9
MNK			*i*		03 06 05.4	
MNK			*i*		03 06 49.5	
MNK			*i* PPP	PPP	03 09 56.6	
MNK			*i*		03 10 08.1	
MNK			*i* SS	SS	03 24 17.0	+0.6
MNK			*i* SSS	SSS	03 29 36.5	
MNK			pmax	pmax		
	comp=E,13nm,0.9s					
MNK			pmax	pmax		
	comp=N,5.0nm,0.8s					
MNK			pmax	pmax		
	comp=Z,17nm,0.8s					
MNK			MLR	MLR		
	comp=N,171nm,23.0s					
MNK			MLR	MLR		
	comp=E,164nm,22.0s					
NACGM	Naroch	138.31 338	*e*PKP	PKPdf	03 03 53.4	+0.4
STRU	Stroemstad	138.34 352	*i* P	PKPpre	03 03 43.4	
SOC	Sochi	138.90 317	*i* PKIKP	PKiKP	03 03 56.3	-0.5
SOC			*e*SS	SS	03 24 20.3	-5.2
TJOU	Tjoern	139.25 352	*i* P	PKPpre	03 03 46.0	
HOMB	Homborsund	139.38 354	*i* P	PKPpre	03 03 47.8	
ONAU	Onsala	139.83 351	*i* P	PKPpre	03 03 48.2	
KMBO	Kilima Mbogo	140.02 245	PKhKP	PKPpre	03 03 52.1	
	comp=E,7.0nm,0.9s,baz=70,slow=5.4,SNR=22					
KMBO			SKP		03 06 41.1	
	comp=E,4.1nm,1.0s,baz=110,slow=3.7,SNR=6.8					
FABU	Falkenberg	140.09 350	*i* P	PKPpre	03 03 48.6	
BLEU	Blekinge	140.18 348	*i* P	PKPpre	03 03 48.5	
SUW	Suwalki	140.26 340	*e*PKP	PKPdf	03 03 54.4	-2.2
DEL	Delary	140.40 349	*i* P	PKPpre	03 03 50.2	
AKASG	Malin Array Be	140.52 332	PKhKP	PKPpre	03 03 50.6	
	comp=E,2.6nm,0.3s,baz=44,slow=4.1,SNR=21					
AKASG			PKP	PKPdf	03 03 56.5	-0.6
	comp=E,3.6nm,0.3s,baz=43,slow=3.4,SNR=13					
AKASG			SKPbc	SKPbc	03 06 39.7	-0.2
	comp=E,2.3nm,0.6s,baz=37,slow=3.2,SNR=9.1					
KIEV	Kiev	140.53 332	⇑P	PKPpre	03 03 50.6	
LUNU	Lund	141.27 349	*i* P	PKPpre	03 03 53.0	
BSD	Bornholm Skovb	141.48 348	*i* P	PKPpre	03 03 53.5	
EKA	Eskdalemuir Ar	142.49 4	PKhKP	PKPpre	03 03 56.0	
	comp=E,4.0nm,0.6s,baz=331,slow=2.8,SNR=15					
EKA			PKP	PKPdf	03 04 00.7	+0.2
	comp=E,2.3nm,0.5s,baz=64,slow=1.7,SNR=5.5					
GKP	Gorka Klasztor	142.65 344	*e*PKP	PKPpre	03 03 51.6	
DIKM	Dikmen	142.71 317	⇑P	PKPdf	03 03 59.7	-1.7
SORM	Soroca	142.75 330	⇑P	PKPdf	03 03 58.4	-2.8
PURM	Purcari	143.08 327	⇑P	PKPdf	03 04 01.0	-0.8
MILM	Milestii Mici	143.36 328	⇑P	PKPbc	03 04 01.3	+0.4
MILM	Milestii Mici	143.36 328	⇑PKIKP	PKPbc	03 04 01.3	+0.4
BZK	Bozkurt	143.37 318	⇓P	PKPbc	03 04 01.4	+0.4
KWP	Kalwaria Pacla	144.04 336	*e*PKP	PKPab	03 04 03.1	-0.1
KWP	Kalwaria Pacla	144.04 336	PKP	PKPab	03 04 03.1	-0.1
STNU	Starunia	144.05 334	PKP	PKPbc	03 04 02.9	-0.1
SHIU	Shidnytsya	144.11 335	PKP	PKPab	03 04 03.4	-0.1
PRAR	RASCA	144.30 331	⇑P	PKPab	03 04 05.3	+1.0
BIR	Birlad	144.41 328	⇑P	PKPab	03 04 05.9	+1.2
BIR	Birlad	144.41 328	⇑PKIKP	PKPab	03 04 05.9	+1.2
VLDR	Vladesti	144.47 327	⇑P	PKPab	03 04 05.5	+0.6
TLCR		144.52 326	⇑P	PKPab	03 04 05.6	+0.5
TLCR		144.52 326	⇑PKIKP	PKPab	03 04 05.6	+0.5
VARL	Varlezi	144.55 328	⇑P	PKPab	03 04 05.3	+0.1
OJC	Ojcow	144.59 340	*e*PKP	PKPbc	03 04 04.5	-0.1
MEZ	Mezhgor'ye	144.61 334	PKP	PKPbc	03 04 05.0	+0.2
SCTR	Scanteiesti	144.63 327	⇑P	PKPab	03 04 05.8	+0.3
TATR	Tatarca	144.65 327	⇑P	PKPab	03 04 05.8	+0.1
GHRR		144.66 328	⇑P	PKPab	03 04 06.3	+0.7
GHRR		144.66 328	PKP	PKPab	03 04 05.9	+0.2
BIZ	Bicaz	144.67 330	⇑P	PKiKP	03 04 07.2	-1.4
BRTR	Keskin Array B	144.71 315	PKPbc	PKPbc	03 04 05.5	-0.1
BRTR	Keskin Array B	144.71 315	PKP	PKPdf	03 04 05.2	+0.1
	comp=E,58nm,0.9s,baz=138,slow=2.8,SNR=152					
BRTR			SKP		03 06 45.3	
	comp=E,3.2nm,1.0s,baz=107,slow=3.2,SNR=2.6					
TESR	Tescani	144.72 329	⇑P	PKPab	03 04 05.5	-0.4
STHS	Stebnicka Huta	144.76 337	*e*PKIKP	PKPab	03 04 05.6	-0.4
STHS	Stebnicka Huta	144.76 337	*e*PKP	PKPab	03 04 05.6	-0.4
JURR	Jurilovca	144.76 325	⇑P	PKPab	03 04 06.3	+0.2
KOLS	Kolonicke sedl	144.77 336	*e*PKIKP	PKPab	03 04 06.9	+0.9
KOLS	Kolonicke sedl	144.77 336	*e*PKP	PKPab	03 04 06.9	+0.9
NEGRR	Negrea	144.78 327	⇑P	PKPab	03 04 07.1	+1.0
SLCR	Slobozia Conac	144.80 327	⇑P	PKPab	03 04 07.4	+1.1
KIRS	Kirsehir-Merke	144.80 314	⇑P	PKPbc	03 04 06.0	+0.3
SCHL	Schela	144.83 327	⇑P	PKPab	03 04 07.0	+0.7
IZVR	Izvoarele	144.83 327	⇑P	PKPab	03 04 07.2	+0.8
CFR	Carcaliu	144.89 327	⇑P	PKPab	03 04 06.8	+0.3
CFR	Carcaliu	144.89 327	⇑PKIKP	PKPab	03 04 06.8	+0.3
PANC	Panciu	144.92 328	⇑P	PKPab	03 04 07.7	+1.0
TPGR	Topolog	144.95 326	⇑P	PKPab	03 04 06.8	-0.1
ONER	Baraj Valea Uz	144.97 329	⇑P	PKPab	03 04 06.7	-0.2
UZHM	Uzhgorod	145.01 336	PKP	PKPab	03 04 06.6	-0.3
ODBI	Odobesti	145.04 328	⇑P	PKPab	03 04 08.1	+0.9
KSP	Ksiaz	145.09 344	*e*PKP	PKPab	03 04 06.8	-0.4
KSP	Ksiaz	145.09 344	PKP	PKPbc	03 04 06.0	-0.1
VRI	Vrincioaia	145.13 329	⇑P	PKPbc	03 04 06.7	+0.3
VRI	Vrincioaia	145.13 329	⇑PKIKP	PKPbc	03 04 06.7	+0.3
PLOR	Plostina	145.18 329	⇑P	PKPbc	03 04 06.8	+0.2
PLOR	Plostina	145.18 329	⇑PKIKP	PKPbc	03 04 06.8	+0.2
PLOR3	Plostina Array	145.18 329	PKP	PKPbc	03 04 06.5	-0.1
ANTO	Ankara	145.21 315	PKPbc	PKPbc	03 04 07.0	0.0
ANTO	Ankara	145.21 315	⇑P	PKPdf	03 04 06.1	+0.3
ANTO	Ankara	145.21 315	PKIKP	PKPbc	03 04 07.0	0.0
BMR	Baia Mare	145.28 334	⇑P	PKPbc	03 04 07.2	+0.4
HARR	Harsova	145.32 326	⇑P	PKPab	03 04 08.2	-0.1
HARR	Harsova	145.32 326	⇑PKP2	PKPab	03 04 08.2	-0.1
TURR	Turia	145.35 329	⇑P	PKPab	03 04 07.9	-0.5
GRER		145.35 328	⇑P	PKiKP	03 04 09.2	-0.8
TLBR	Topalu	145.36 326	⇑P	PKPab	03 04 08.5	+0.1
ARCR	ARCALIA	145.36 332	⇑P	PKPbc	03 04 06.9	-0.2
OSTC	Ostas	145.37 343	⇑*e*PKP	PKPab	03 04 08.0	-0.3
OSTC	Ostas	145.37 343	*e*PKP2	PKPab	03 04 08.0	-0.3
CHVC	Chvalec	145.39 344	⇑*e*PKP	PKPbc	03 04 07.6	+0.6
CHVC	Chvalec	145.39 344	*e*PKP2	PKPbc	03 04 07.6	+0.6
MFTR	Murfatlar	145.39 325	⇑P	PKPdf	03 04 06.1	+0.2
COVR	Voineasa-Covas	145.41 329	⇑P	PKPab	03 04 08.0	-0.6
OZUR		145.43 330	⇑P	PKPab	03 04 08.0	-0.7
CLL	Collm	145.45 347	*i* PKIKP	PKPbc	03 04 06.9	-0.2
CLL			*i*		03 04 09.5	
CLL			*e*		03 06 21.0	
CLL			pmax	pmax		
	comp=Z,42nm,1.2s					
CLL			pmax	pmax		
	comp=Z,43nm,1.3s					
CLL	Collm	145.45 347	*e*PKPdf	PKPdf	03 04 06.0	+0.2
CLL			*i* PKPbc	PKPbc	03 04 06.9	-0.2
	comp=Z,42nm,1.2s					
CLL			*i* PKPab	PKPab	03 04 08.6	0.0
CLL			*i* PKiKP	PKiKP	03 04 09.5	-0.5
	comp=Z,43nm,1.3s					
CLL			*e*pPKPdf	pPKPdf	03 06 21.0	+1.4
CLL			*e*SKPbc	SKiKP	03 06 53.0	+0.8
CLL			*e*PP	PP	03 07 35.0	+2.5
CLL			*e*pPP		03 09 28.0	
CLL			*e*sPP		03 10 36.0	
CLL			*e*PPP	PPP	03 10 57.0	
CLL			*e*PPPP		03 13 10.0	
CLL			*e*SKKSac	SKKSac	03 13 26.0	-1.4
CLL			*e*SKSP		03 16 49.0	
CLL			*e*PSKS		03 17 51.0	
CLL			*e*x	x	03 18 53.0	
CLL			*e*(SKKSdf)		03 19 20.0	
CLL			*e*PPS	PPS	03 20 20.0	
CLL			*e*x	x	03 21 48.0	
CLL			*e*SS	SS	03 25 42.0	+3.4
CLL			*e*x	x	03 26 12.0	
CLL			*e*SKSSKSac	SKSac	03 26 58.0	+9.4
CLL			*e*sSS		03 29 12.0	
CLL			*e*SSS	SSS	03 31 06.0	
CLL			*e*sSSS		03 34 36.0	
UPC	Upice	145.47 344	⇑*e*PKP	PKPbc	03 04 07.4	+0.1
UPC	Upice	145.47 344	*e*PKP2	PKPbc	03 04 07.4	+0.1
CVDA	Cernavoda	145.50 325	⇑P	PKPab	03 04 08.2	-0.8
DPC	Dobruska-Polom	145.53 343	⇑*e*PKP	PKPab	03 04 08.4	-0.6
DPC	Dobruska-Polom	145.53 343	*e*PKP2	PKPab	03 04 08.4	-0.6
MANR	Mangalia	145.54 324	⇑P	PKPbc	03 04 06.9	-0.7
KRLC	Kraliky	145.65 342	⇑*e*PKP	PKPbc	03 04 08.6	+0.8
KRLC	Kraliky	145.65 342	*e*PKP2	PKPbc	03 04 08.6	+0.8
BRG	Berggiesshubel	145.65 346	*e*PKP	PKPdf	03 04 06.8	+0.7
BRG			Amp		03 04 07.8	
	comp=Z,6.7nm,0.9s					
BRG	Berggiesshubel	145.65 346	P	PKPab	03 04 09.1	-0.3
BRG			Amp		03 04 09.8	
	comp=Z,24nm,0.8s					
BRG	Berggiesshubel	145.65 346	*e*PKIKP	PKPdf	03 04 06.8	+0.7
BRG					03 04 09.1	
BRG			pmax	pmax		
	comp=Z,7.0nm,0.9s					
BRG			pmax	pmax		
	comp=Z,24nm,0.8s					
BRG			pmax	pmax		
	comp=Z,4.0nm,1.1s					
BRG			pmax	pmax		
	comp=Z,7.0nm,0.9s					
NEHR	Nehoiu	145.66 328	⇑P	PKPab	03 04 08.9	-0.7
AMRR	Amara	145.69 326	⇑P	PKPab	03 04 09.7	0.0
AMRR	Amara	145.69 326	⇑PKP2	PKPab	03 04 09.7	0.0
MORC	Moravsky Berou	145.69 341	*e*PKP	PKPdf	03 04 06.9	+0.6
MORC			*e*		03 04 08.5	
MORC	Moravsky Berou	145.69 341	⇑P	PKPbc	03 04 07.6	-0.4
MORC	Moravsky Berou	145.69 341	⇑PKIKP	PKPbc	03 04 07.6	-0.4
DOPR	Dopca	145.71 330	⇑P	PKPbc	03 04 07.7	-0.4
ISR	Istrita	145.75 328	⇑P	PKPbc	03 04 08.7	+0.4
ISR	Istrita	145.75 328	⇑PKP2	PKPbc	03 04 08.7	+0.4
MLR	Muntele Rosu	145.79 329	⇑P	PKPdf	03 04 07.1	+0.4
MLR	Muntele Rosu	145.79 329	⇑PKIKP	PKPdf	03 04 07.1	+0.4
KECS	Kecovo	145.82 337	*e*PKP2	PKPab	03 04 09.9	-0.2
KECS	Kecovo	145.82 337	*e*PKP	PKPab	03 04 09.9	-0.2
MBAR	Mbarara	145.82 240		PKPdf	03 04 08.7	+0.9
MBAR	Mbarara	145.82 240	PKIKP	PKPdf	03 04 08.7	+0.9
PVCC	Panska Ves	145.83 345	⇑*e*PKP	PKPab	03 04 09.2	-0.9
PVCC	Panska Ves	145.83 345	*e*PKP2	PKPab	03 04 09.2	-0.9
MESR	Meseseni	145.92 334	⇑P	PKPab	03 04 08.9	+0.3
CBBR	Cluj-Babes-Bol	145.96 333	⇑P	PKPab	03 04 10.7	0.0
MAUC	Maruska	145.97 341	⇑*e*PKP	PKPab	03 04 10.1	-0.6
CJR	Cluj-Napoca	145.98 332	⇑P	PKPbc	03 04 09.2	+0.3
CJR	Cluj-Napoca	145.98 332	⇑PKP2	PKPbc	03 04 09.2	+0.3
HSKC	Hora Svate Kat	146.02 346	⇑*e*PKP	PKPbc	03 04 09.6	+0.8
LEHL	Lehliu	146.05 327	⇑P	PKPbc	03 04 09.6	+0.5
MMAI	Mount Meron Ar	146.06 303	PKPbc	PKPbc	03 04 09.9	+0.4
	comp=Z,116nm,0.9s,baz=60,slow=4.9,SNR=112					
MDB	Medias	146.06 331	⇑P	PKPab	03 04 10.4	-0.8
MDB	Medias	146.06 331	⇑PKP2	PKPab	03 04 10.4	-0.8
SULR		146.20 327	⇑P	PKPbc	03 04 08.8	-0.7
MARR	Marisel-Cluj	146.22 333	⇑P	PKPbc	03 04 10.1	+0.5
DRGR		146.30 333	⇑P	PKPbc	03 04 10.2	+0.4
DRGR		146.30 333	⇑PKP2	PKPbc	03 04 10.2	+0.4
PRU	Pruhonice	146.33 345	⇑*e*PKP	PKPbc	03 04 10.6	+0.9
PRU	Pruhonice	146.33 345	*e*PKP2	PKPbc	03 04 10.6	+0.9
VRAC	Vranov	146.39 342	*e*PKP	PKPdf	03 04 08.4	+0.9
VRAC			*e*		03 04 10.3	
VRAC			*e*		03 06 23.1	
VRAC	Vranov	146.39 342	⇑P	PKPbc	03 04 09.7	-0.2
VRAC	Vranov	146.39 342	⇑PKIKP	PKPbc	03 04 09.7	-0.2
VYHS	Vyhne	146.39 339	*e*PKP2	PKPbc	03 04 10.5	+0.6
VYHS	Vyhne	146.39 339	*e*PKP	PKPbc	03 04 10.5	+0.6
VYHS			*e*		03 06 23.7	
JAVC	Velka Javorina	146.46 341	*e*PKP	PKPbc	03 04 09.6	-0.5
JAVC			*e*		03 04 11.8	
PSZ	Piszkesteto	146.51 337	⇑P	PKiKP	03 04 11.7	-0.7
PSZ	Piszkesteto	146.51 337	⇑PKP2	PKiKP	03 04 11.7	-0.7
ARR	Arges	146.51 330	⇑P	PKPbc	03 04 09.2	-1.2
NKC	Novy Kostel	146.59 347	⇑*e*PKP	PKPbc	03 04 11.3	+0.9
NKC	Novy Kostel	146.59 347	*e*PKP2	PKPbc	03 04 11.3	+0.9
PRD	Provadia	146.61 324	P	PKPbc	03 04 10.5	-0.1
SGRR	Singureni	146.67 327	⇑P	PKPab	03 04 15.3	+1.6
KRUC	Moravsky	146.67 342	*e*PKP	PKPdf	03 04 07.9	0.0
KRUC			*e*		03 04 10.9	
KRUC			*e*		03 06 23.2	
TREC	Trest	146.72 343	⇑*e*PKP	PKPbc	03 04 10.8	0.0
TREC	Trest	146.72 343	*e*PKP2	PKPbc	03 04 10.8	0.0
STFAR	Stefanesti-Arg	146.72 329	⇑P	PKiKP	03 04 12.7	-0.2
SMOL	Smolenice	146.84 340	*e*PKP2	PKiKP	03 04 12.8	-0.2
LOT	Lotru	146.86 331	⇑P	PKPbc	03 04 11.7	+0.3
DEV	Deva	146.93 332	⇑P	PKPbc	03 04 11.8	+0.4
DEV	Deva	146.93 332	⇑PKP2	PKPbc	03 04 11.8	+0.4
HUMR	Humele	146.96 328	⇑P	PKPbc	03 04 11.1	-0.4
ISK	Istanbul-Kandi	146.96 320	P	PKPbc	03 04 11.3	-0.3
MODS	Modra-Piesok	147.01 341	*e*PKP2	PKiKP	03 04 12.7	-0.7
MODS	Modra-Piesok	147.01 341	*e*PKP	PKiKP	03 04 12.7	-0.7
MODS			*e*		03 06 31.9	
UCC	Uccle	147.12 357	*d*PKP	PKPbc	03 04 11.5	-0.2
SRO	Srobarova	147.16 339	*e*PKP2	PKiKP	03 04 13.1	-0.6
SRO	Srobarova	147.16 339	*e*PKP	PKiKP	03 04 13.1	-0.6
SIRR	Siria	147.16 334	⇑P	PKPbc	03 04 12.7	+0.6
MEM	Membach	147.19 355	*d*PKP	PKPbc	03 04 11.9	-0.1
BTNL	Ternell	147.20 355	*d*PKPdf	PKPdf	03 04 08.9	+0.1
BSTI	Sart Tilman	147.25 355	*d*PKP	PKPbc	03 04 12.4	+0.3
SZH	Strazhitsa	147.32 326	P	PKPbc	03 04 12.0	-0.5
GRFO	Grafenberg	147.35 348	PKPbc	PKPbc	03 04 12.6	+0.2
GRFO	Grafenberg	147.35 348	PKP2	PKPbc	03 04 12.6	+0.2
GZR	Gura Zlata	147.36 332	⇑P	PKPbc	03 04 11.9	-0.7
GZR	Gura Zlata	147.36 332	⇑PKHKP	PKPpre	03 04 11.9	
KHC	Kasperske Hory	147.36 345	*e*PKPDF	PKPdf	03 04 09.7	+0.6
KHC			⇑*e*PKP	PKPbc	03 04 13.2	+0.7
KHC			*e*PKPAB	PKPab	03 04 17.7	+1.3
KHC			*e*x	x	03 06 25.0	
KHC	Kasperske Hory	147.36 345	*e*PKIKP	PKPdf	03 04 09.7	+0.6
KHC			*e*		03 04 17.7	
SURR	Surduc	147.37 333	⇑P	PKiKP	03 04 13.4	-0.7
BCLA	Clavier	147.44 355	*d*PKP	PKPbc	03 04 13.0	+0.4
BCLA			*d*PKPab	PKPab	03 04 17.0	+0.4
BHOU	Houvegnez	147.44 355	*d*PKP	PKPbc	03 04 13.0	+0.3
CKRC	Cesky Krumlov	147.47 344	*e*PKPDF	PKPdf	03 04 09.8	+0.5
CKRC			⇑*e*PKP	PKiKP	03 04 13.6	-0.7
CKRC	Cesky Krumlov	147.47 344	*e*PKIKP	PKPdf	03 04 09.8	+0.5
CKRC			*e*		03 04 13.6	
BGES	Gesves	147.49 356	*d*PKP	PKPbc	03 04 12.5	-0.2
BGES			*d*PKPab	PKPab	03 04 15.7	-1.1
BMRD	Maredsous	147.59 356	*d*PKP	PKPbc	03 04 13.1	+0.2
GERES	GERESS Array B	147.60 345		PKPdf	03 04 09.9	+0.3
GERES			PKPbc	PKPbc	03 04 13.6	+0.4
GERES	GERESS Array B	147.60 345	PKP	PKPdf	03 04 09.4	-0.2
	comp=Z,28nm,0.8s,baz=92,slow=2.5,SNR=16					
GERES			PKPbc	PKPbc	03 04 13.4	+0.3
	comp=Z,19nm,0.6s,baz=27,slow=3.3,SNR=60					
GERES	GERESS Array B	147.60 345	PKIKP	PKPdf	03 04 09.9	+0.3
ELND	Elena	147.61 326	⇑P	PKPdf	03 04 11.4	+1.7
BZS	Buzias	147.70 333	⇑P	PKPdf	03 04 10.4	+0.7
BZS	Buzias	147.70 333	⇑PKIKP	PKPdf	03 04 10.4	+0.7
RCHB	Rochefort	147.70 355	*d*PKP	PKPbc	03 04 13.3	0.0
SRE	Strehaia	147.72 330	⇑P	PKiKP	03 04 14.4	-0.5
SRE	Strehaia	147.72 330	⇑PKP2	PKiKP	03 04 14.4	-0.5
DOU	Dourbes	147.81 356	*d*PKP	PKPbc	03 04 13.8	+0.3
EDRB	Edirne	147.84 323	P	PKPbc	03 04 13.2	-0.7
CONA	Conrad Observa	147.84 342	*e*PKiKP	PKiKP	03 04 14.7	-0.5
	comp=Z,25nm,0.8s,SNR=13					
CONA			*e*pPKP	pPKPdf	03 06 24.4	+0.5
	comp=Z,28nm,1.4s					
RONA	Rosalia, Austr	147.91 341	*e*PKiKP	PKPbc	03 04 14.5	+0.5
	comp=Z,27nm,0.8s,SNR=9.6					
RONA			*i* pPKP	pPKPdf	03 06 24.7	+0.7
	comp=Z,19nm,1.6s					
HERR	Herculane	147.92 331	⇑P	PKPbc	03 04 14.2	+0.2
BAND	Balkesir-Ban	147.96 320	⇑P	PKPbc	03 04 14.3	0.0
WLF	Walferdange	148.11 354	*d*PKP	PKiKP	03 04 15.0	-0.6
MDVR	Moldovita	148.31 332	⇑P	PKPbc	03 04 15.3	+0.2
DIM	Dimitrovgrad	148.37 325	P	PKPbc	03 04 15.0	-0.2
MOA	Molln	148.37 343	*i* PKiKP	PKiKP	03 04 16.0	-0.3
	comp=Z,20nm,1.1s,SNR=6.9					
MOA			*e*pPKiKP	pPKPab	03 06 28.5	+0.4
	comp=Z,8.9nm,1.8s					
MORH	Mrgy, Hungar	148.40 337	⇑P	PKPbc	03 04 14.8	-0.3
MPEP	Malo Peshtene	148.42 328	P	PKPbc	03 04 15.5	+0.2
ARSA	Arzberg	148.55 342	*i* PKiKP	PKiKP	03 04 16.1	-0.5
	comp=Z,11nm,1.5s					
ARSA			*e*pPKP	pPKPdf	03 06 25.7	+0.7
	comp=Z,9.2nm,1.3s					
KULA	Kula-Manisa	148.66 316	P	PKPbc	03 04 15.2	-1.0
BIOA	Bad Ischl, Aus	148.68 344	*i* PKiKP	PKPbc	03 04 16.2	+0.3
	comp=Z,43nm,1.2s,SNR=9.8					
BIOA			*e*pPKiKP	pPKPab	03 06 28.6	-0.5
	comp=Z,19nm,1.6s					
KDZ	Kurdzhali	148.78 324	P	PKPbc	03 04 15.5	-0.7
PGB	Panagyurishte	148.80 327	P	PKPbc	03 04 16.0	-0.3
FRGS	Fruska Gora	148.82 335	⇑*i* P	PKPbc	03 04 14.7	-1.6
ALN	Alexandroupoli	148.85 322	P	PKPbc	03 04 14.1	-2.3
RDO	Rodhopi	148.99 323	P	PKPbc	03 04 16.1	-0.6
KOGS	Kog	149.04 340	*i* PKPbc	PKPbc	03 04 16.5	-0.2
RZN	Rozhen	149.06 325	P	PKPbc	03 04 16.5	-0.7
BFO	Black Forest	149.16 351		PKPdf	03 04 12.2	+0.2
BFO	Black Forest	149.16 351	PKHKP	PKPpre	03 04 12.2	
LESA	Schwarzleotal	149.17 345	*i* PKiKP	PKPbc	03 04 17.4	+0.2
	comp=Z,2.2nm,0.3s					
LESA			*e*pPKP	pPKPbc	03 06 28.8	-0.4
	comp=Z,12nm,1.2s					
BOVS	Bovan	149.20 331	⇑P	PKPbc	03 04 16.8	-0.4
VTS	Vitosha	149.21 328	P	PKPbc	03 04 17.0	-0.5
PLNA	Plana	149.22 327	P	PKPbc	03 04 17.5	+0.1
SOKA	Soboth	149.22 342	*i* PKiKP	PKPbc	03 04 17.6	+0.3
	comp=Z,22nm,0.9s,SNR=11					
SOKA			*e*pPKP	pPKPbc	03 06 28.2	-1.3
	comp=Z,12nm,1.5s					
KBA	Koelnbreinsper	149.32 344	*i* PKiKP	PKPbc	03 04 17.6	0.0
	comp=Z,14nm,0.6s					
EZN	Ezine	149.37 321	P	PKPbc	03 04 15.9	-1.8
TEKS	Tekeris	149.44 334	*e*P	PKPbc	03 04 17.2	-0.6
OBKA	Obir	149.51 342	*i* PKP	PKPbc	03 04 17.7	-0.3
	comp=Z,8.8nm,0.9s					
OBKA	Obir	149.51 342	⇑*i* P	PKPbc	03 04 17.3	-0.7
WATA	Walderalm	149.51 346	*i* PKiKP	PKiKP	03 04 18.6	-0.1
	comp=Z,39nm,1.2s,SNR=7.1					
WATA			*i* pPKiKP	pPKPbc	03 06 30.4	0.0
	comp=Z,13nm,1.2s					
RETA	Reutte	149.54 348	*i* PKP	PKPbc	03 04 18.1	+0.1
	comp=Z,15nm,0.9s					
RETA			*i* pPKiKP	pPKPbc	03 06 29.6	-0.7
	comp=Z,15nm,1.3s					
WTTA	Wattenberg	149.57 346	*i* PKiKP	PKPbc	03 04 18.3	+0.1
	comp=Z,48nm,0.8s,SNR=11					
WTTA			*e*pPKP	pPKPbc	03 06 31.0	+0.5
	comp=Z,22nm,1.5s					
MOTA	Moosalm	149.61 347	*i* PKiKP	PKiKP	03 04 18.7	-0.3
	comp=Z,34nm,1.0s					
MOTA			*e*pPKP	pPKPdf	03 06 26.0	-0.9
	comp=Z,15nm,1.2s					
YER	Yerkesik	149.65 314	P	PKPbc	03 04 17.9	-0.7
MYKA	Terra Mystica	149.66 343	*i* PKP	PKPbc	03 04 17.0	-1.3
	comp=Z,12nm,0.5s,SNR=7.7					
MYKA			*i* pPKP	pPKPab	03 06 33.2	-0.2
	comp=Z,15nm,1.5s					
KAVA	Kavala	149.66 324	P	PKPbc	03 04 17.9	-0.5
MMB	Musomishta	149.70 326	P	PKPbc	03 04 17.5	-1.0
SQTA	Sankt Quirin	149.70 347	*i* PKiKP	PKPbc	03 04 18.7	+0.3
	comp=Z,24nm,0.7s,SNR=7.5					
SQTA			*e*pPKP	pPKPdf	03

NEIC ***27*** *03:13:55.5±1.7, 22.°1S±0.°1×178.°9W±0.°1, h541km±6km, mb4.6/211, Error ellipse: s-maj=15.1km s-min=14.7km az=175.0*
IDC ***27*** *03:13:55.6±1.0, 22.°09S×178.°85W, h551km±10km, mb4.0/19, mbtmp5.0/23, Error ellipse: s-maj=12.8km s-min=9.7km az=117.0*
GCMT ***27*** *03:13:56.5±0.5, 22.°05S±0.°05×178.°96W±0.°04, h562km±3km, MW5.3/63, Moment Tensor Solution. s63,c75; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr-0.76±.04; Mθθ0.62±.08; Mφφ0.14±.08; Mrθ-0.77±.10; Mθφ0.33±.07; Mφr-0.02±.10; Best double couple: M0 1.09400×1017 NP1:φs80.00000°, δ68.00000°, λ-76.00000°. NP2:φs228.00000°, δ26.00000°, λ-120.00000°. Principal axes: T 1.0710, Plg22.0000°, Azm160.0000°; N 0.0470, Plg13.0000°, Azm255.0000°; P -1.1170, Plg65.0000°, Azm13.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
BGR ***27*** *03:13:56.9, 21.°66S×178.°96W, h551km*
ISC 27 03:13:55.8±0.4, 22.°16S±0.°05×178.°84W±0.°05, h558km±4km, h559km: pP-P, n450, σ1°33/436, mb4.7/162, 38C-38D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.29**	**326**	P	**P**	**03 15 28.7**	**0.0**
MSVF				S	**S**	**03 16 42.8**	**-1.8**
MSVF	**Nonsavu**	**5.29**	**326**	P	**P**	**03 15 28.3**	**-0.5**
	1μm,0.6s,baz=152,slow=7.2,SNR=1334						
MSVF				S	**S**	**03 16 43.4**	**-1.2**
	136nm,0.9s,baz=149,slow=21,SNR=5.9						
RIZ	**Raoul Island**	**7.10**	**174**	P	**P**	**03 15 43.7**	**-1.3**
RIZ				S	**S**	**03 17 11.3**	**-3.1**
RAO	**Raoul Island**	**7.11**	**173**	P	**P**	**03 15 43.9**	**-1.1**
RAO	**Raoul Island**	**7.11**	**173**	P	**P**	**03 15 44.1**	**-0.9**
	268nm,0.3s,baz=56,slow=18,SNR=2.8						
RAO				S	**S**	**03 17 13.0**	**-1.5**
	2μm,0.5s,baz=112,slow=23,SNR=17						
GLKZ	**Green Lake**	**7.12**	**173**	P	**P**	**03 15 43.9**	**-1.2**
GLKZ				S	**S**	**03 17 13.5**	**-1.2**
FUTU	**Fugatoga**	**7.84**	**5**	P	**P**	**03 15 51.6**	**-0.7**
NIUE	**Niue**	**8.89**	**71**	P	**P**	**03 16 01.7**	**-1.0**
NIUE	**Niue**	**8.89**	**71**	P	**P**	**03 16 01.5**	**-1.2**
	comp=Z,141nm,1.0s						
DZM	**Mont Dzumac**	**13.64**	**268**	P	**P**	**03 16 51.0**	**-0.4**
DZM	**Mont Dzumac**	**13.64**	**268**	P	**P**	**03 16 50.3**	**-1.1**
	comp=Z,29nm,0.7s,baz=87,slow=16,SNR=18						
DZM				S	**S**	**03 19 16.3**	**+0.4**
	comp=Z,9.9nm,1.1s,baz=139,slow=20,SNR=1.3						
MXZ	**Matakaoa Point**	**15.54**	**188**	P	**P**	**03 17 11.6**	**+1.2**
MKAZ	**Moumakai**	**15.77**	**198**	P	**P**	**03 17 14.0**	**+1.4**
WMGZ	**Waiomatatini S**	**15.78**	**188**	P	**P**	**03 17 13.9**	**+1.1**
WMGZ				S	**S**	**03 19 52.5**	**-1.3**
HAZ	**Te Kaha**	**15.81**	**190**	P	**P**	**03 17 13.6**	**+0.6**
HAZ				S	**S**	**03 19 51.4**	**-2.8**
PKGZ	**Pakihiroa**	**15.88**	**189**	P	**P**	**03 17 14.8**	**+1.1**
PKGZ				S	**S**	**03 19 56.1**	**+0.8**
PUZ	**Puketiti**	**16.05**	**188**	P	**P**	**03 17 15.0**	**-0.4**
PUZ				S	**S**	**03 19 54.4**	**-3.8**
TWGZ	**Tauwhareparae**	**16.19**	**189**	P	**P**	**03 17 16.1**	**-0.7**
TWGZ				S	**S**	**03 19 58.4**	**-2.2**
TOZ	**Tahuroa Road**	**16.27**	**196**	P	**P**	**03 17 18.5**	**+1.1**
URZ	**Urewera**	**16.42**	**191**	P	**P**	**03 17 17.4**	**-1.3**
	comp=Z,46nm,0.7s,baz=87,slow=3.4,SNR=34						
URZ				S	**S**	**03 19 59.2**	**-4.9**
	comp=Z,20nm,0.7s,baz=280,slow=18,SNR=4.2						
URZ	**Urewera**	**16.42**	**191**	P	**P**	**03 17 15.4**	**-3.3**
URZ				S	**S**	**03 19 58.8**	**-5.3**
MWZ	**Matawai**	**16.42**	**190**	P	**P**	**03 17 19.2**	**+0.4**
MWZ				S	**S**	**03 20 02.4**	**-1.9**
CNGZ	**Carnagh Statio**	**16.46**	**188**	P	**P**	**03 17 19.3**	**+0.2**
MUGZ	**Murupara**	**16.69**	**192**	P	**P**	**03 17 20.9**	**-0.3**
RIGZ	**Rimuhau**	**16.75**	**189**	P	**P**	**03 17 23.1**	**+1.3**
RIGZ				S	**S**	**03 20 06.5**	**-3.1**
RTZ	**Ruatahuna**	**16.79**	**191**	P	**P**	**03 17 21.7**	**-0.5**
RTZ				IAmb	IAmb	03 17 23.4	
	comp=Z,19nm,0.8s						
RTZ	**Ruatahuna**	**16.79**	**191**	P	**P**	**03 17 21.1**	**-1.0**
RTZ				S	**S**	**03 20 04.8**	**-5.5**
TLZ	**Tolley Road**	**16.82**	**195**	P	**P**	**03 17 23.3**	**+0.9**
SNGZ	**Shannon Statio**	**16.89**	**190**	S	**S**	**03 20 11.5**	**-0.3**
MTHZ	**Maungataniwha**	**17.04**	**192**	P	**P**	**03 17 24.1**	**-0.3**
MTHZ				S	**S**	**03 20 12.4**	**-2.1**
RAHZ	**Arahi**	**17.06**	**191**	P	**P**	**03 17 24.0**	**-0.5**
RAHZ				S	**S**	**03 20 13.9**	**-0.7**
HIZ	**Hauiti**	**17.17**	**197**	P	**P**	**03 17 28.6**	**+3.1**
RATZ	**Rangitukua**	**17.28**	**194**	P	**P**	**03 17 27.0**	**+0.4**
NMHZ	**Naumai**	**17.29**	**191**	P	**P**	**03 17 26.6**	**-0.1**
RITZ	**Rihia Road**	**17.36**	**194**	P	**P**	**03 17 27.3**	**0.0**
BKZ	**Black Stump Fm**	**17.41**	**192**	P	**P**	**03 17 26.2**	**-1.6**
BKZ				IAmb	IAmb	03 17 51.5	
	comp=Z,39nm,1.4s						
BKZ	**Black Stump Fm**	**17.41**	**192**	P	**P**	**03 17 26.3**	**-1.4**
NTVZ	**North Tongarir**	**17.52**	**194**	P	**P**	**03 17 29.0**	**+0.1**
TMVZ	**Te Maari**	**17.53**	**194**	P	**P**	**03 17 28.4**	**-0.5**
ETVZ	**East Tongariro**	**17.55**	**194**	P	**P**	**03 17 28.7**	**-0.4**
TWVZ	**Taurewa**	**17.55**	**195**	P	**P**	**03 17 29.4**	**+0.3**
WTVZ	**West Tongariro**	**17.56**	**194**	P	**P**	**03 17 28.9**	**-0.3**
NNVZ	**North Ngauruho**	**17.57**	**194**	P	**P**	**03 17 29.2**	**-0.1**
OTVZ	**Oturere**	**17.59**	**194**	P	**P**	**03 17 28.4**	**-1.1**
NGZ	**Ngauruhoe**	**17.61**	**194**	P	**P**	**03 17 30.2**	**+0.4**
SNVZ	**South Ngauruho**	**17.61**	**194**	P	**P**	**03 17 29.5**	**-0.3**
MCHZ	**McNeill Hill**	**17.64**	**191**	P	**P**	**03 17 29.7**	**-0.2**
KWHZ	**Kaweka Forest**	**17.68**	**192**	P	**P**	**03 17 29.4**	**-0.9**
KWHZ				S	**S**	**03 20 19.0**	**-5.8**
TUVZ	**Tukino**	**17.69**	**194**	P	**P**	**03 17 30.2**	**-0.2**
RAR	**Rarotonga**	**17.75**	**91**	P	**P**	**03 17 30.7**	**-0.4**
WNVZ	**Wahianoa**	**17.76**	**194**	P	**P**	**03 17 30.5**	**-0.6**
WNVZ				S	**S**	**03 20 27.7**	**+1.3**
VRZ	**Vera Road**	**17.77**	**197**	P	**P**	**03 17 34.4**	**+3.4**
PKVZ	**Pokaka**	**17.78**	**195**	P	**P**	**03 17 31.1**	**-0.1**
MOVZ	**Moawhango**	**17.80**	**194**	P	**P**	**03 17 31.5**	**+0.2**
MOVZ				S	**S**	**03 20 22.5**	**-4.3**
KRHZ	**Kereru**	**17.90**	**192**	P	**P**	**03 17 31.7**	**-0.5**
KRHZ				S	**S**	**03 20 23.2**	**-5.1**
KAHZ	**Kahuranaki**	**17.95**	**191**	P	**P**	**03 17 32.7**	**0.0**
KAHZ				S	**S**	**03 20 28.0**	**-1.2**
NEZ	**North Egmont**	**18.09**	**198**	P	**P**	**03 17 38.7**	**+4.7**
LREZ	**Lake Rotokare**	**18.18**	**197**	P	**P**	**03 17 37.6**	**+2.9**
TSZ	**Takapari Road**	**18.38**	**193**	P	**P**	**03 17 36.9**	**+0.3**
PRHZ	**Porangahau**	**18.45**	**191**	P	**P**	**03 17 37.7**	**+0.4**
DVHZ	**Dannevirke**	**18.57**	**192**	P	**P**	**03 17 38.0**	**-0.3**
DVHZ				S	**S**	**03 20 38.2**	**-1.0**
BFZ	**Birch Farm**	**18.93**	**192**	P	**P**	**03 17 40.9**	**-0.7**
BFZ				S	**S**	**03 20 45.9**	**+1.0**
MRZ	**Mangatainoka R**	**19.04**	**193**	P	**P**	**03 17 41.4**	**-1.2**
QRZ	**Quartz Range**	**19.99**	**199**	P	**P**	**03 17 52.1**	**+0.9**
TUWZ	**Tuamarina**	**20.15**	**196**	P	**P**	**03 17 52.4**	**-0.2**
THZ	**Tophouse**	**20.74**	**198**	P	**P**	**03 17 58.4**	**+0.3**
THZ				IAmb	IAmb	03 18 31.0	
	comp=Z,48nm,1.4s						
DSZ	**Denniston Nort**	**21.05**	**200**	P	**P**	**03 18 01.5**	**+0.7**
LTZ	**Lake Taylor**	**21.86**	**198**	P	**P**	**03 18 07.2**	**-0.9**
LTZ				IAmb	IAmb	03 18 11.1	
	comp=Z,22nm,0.8s						
OXZ	**Oxford**	**22.43**	**198**	P	**P**	**03 18 13.0**	**-0.1**
WHZ	**Wether Hill Ro**	**26.01**	**201**	P	**P**	**03 18 45.6**	**+0.8**
ARMA	**Armidale**	**27.66**	**247**	P	**P**	**03 19 01.7**	**+2.0**
ARMA	**Armidale**	**27.66**	**247**	P	**P**	**03 19 01.5**	**+1.9**
	comp=Z,47nm,0.9s						
EIDS	**Eidsvold**	**27.68**	**257**	P	**P**	**03 19 00.5**	**+0.7**
EIDS				IAmb	IAmb	03 19 02.3	
	comp=Z,12nm,0.7s						
EIDS	**Eidsvold**	**27.68**	**257**	P	**P**	**03 19 00.5**	**+0.7**
	comp=Z,19nm,1.1s						
MGCD	**Mangrove Creek**	**28.70**	**241**	P	**P**	**03 19 10.4**	**+1.8**
	comp=Z,115nm,0.8s						
CNB	**Canberra Magne**	**30.66**	**238**	P	**P**	**03 19 27.4**	**+1.9**
	comp=Z,81nm,0.9s						
CAN	**Canberra**	**30.95**	**238**	P	**P**	**03 19 30.1**	**+2.1**
CAN	**Canberra**	**30.95**	**238**	P	**P**	**03 19 29.5**	**+1.5**
	comp=Z,60nm,0.9s						
CTAO	**Charters Tower**	**32.58**	**267**	P	**P**	**03 19 42.2**	**+0.2**
CMSA	**Cobar Meteorol**	**32.87**	**246**	P	**P**	**03 19 45.4**	**+1.0**
	comp=Z,84nm,0.9s						
TOO	**Toolangi**	**34.30**	**235**	P	**P**	**03 19 57.7**	**+1.5**
TOO				IAmb	IAmb	03 19 58.7	
	comp=Z,11nm,0.7s						
TOO	**Toolangi**	**34.30**	**235**	P	**P**	**03 19 57.6**	**+1.3**
	comp=Z,19nm,0.9s						
PMG	**Port Moresby**	**34.99**	**286**	P	**P**	**03 20 02.4**	**0.0**
STKA	**Stephens Creek**	**36.38**	**246**	P	**P**	**03 20 14.8**	**+1.2**
STKA	**Stephens Creek**	**36.38**	**246**	P	**P**	**03 20 14.8**	**+1.2**
	comp=Z,10nm,1.0s						
STKA	**Stephens Creek**	**36.38**	**246**	P	**P**	**03 20 14.5**	**+0.9**
	comp=Z,25nm,0.6s,baz=94,slow=11,SNR=74						
	comp=Z,25nm,0.6s						
ARPS	**Mount Arapiles**	**36.93**	**238**	P	**P**	**03 20 19.0**	**+1.0**
	comp=Z,34nm,0.8s						
COEN	**Coen**	**36.94**	**276**	P	**P**	**03 20 17.9**	**-0.6**
COEN				IAmb	IAmb	03 20 20.1	
	comp=Z,13nm,0.8s						
COEN	**Coen**	**36.94**	**276**	P	**P**	**03 20 18.8**	**+0.4**
	comp=Z,18nm,1.1s						
QIS	**Mount Isa**	**38.65**	**264**	P	**P**	**03 20 32.0**	**-0.3**
	comp=Z,15nm,1.5s						
HTT	**Hallett**	**38.78**	**244**	P	**P**	**03 20 33.8**	**+0.6**
	comp=Z,43nm,1.0s						
BBOO	**Buckleboo**	**41.12**	**245**	P	**P**	**03 20 52.0**	**+0.1**
BBOO				IAmb	IAmb	03 20 52.8	
	comp=Z,35nm,0.8s						
BBOO	**Buckleboo**	**41.12**	**245**	P	**P**	**03 20 52.0**	**+0.1**
	comp=Z,54nm,0.9s						
AS31	**Alice Springs**	**43.40**	**259**	P	**P**	**03 21 10.1**	**+0.2**
AS31				IAmb	IAmb	03 21 11.1	
	comp=Z,15nm,0.7s						
AS31	**Alice Springs**	**43.40**	**259**	P	**P**	**03 21 10.2**	**+0.3**
	comp=Z,24nm,0.6s						
ASAR	**Alice Springs**	**43.40**	**259**	P	**P**	**03 21 10.3**	**+0.4**
	comp=Z,63nm,0.8s,baz=101,slow=7.8,SNR=419						
ASAR				PcP	**PcP**	**03 22 45.4**	**-0.4**
	comp=Z,4.3nm,0.5s,baz=105,slow=4.3,SNR=6.0						
ASAR				ScP	**ScP**	**03 25 45.4**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=110,slow=5.4,SNR=3.5						
ASAR				S	**S**	**03 26 56.2**	**-1.9**
	comp=Z,11nm,1.0s,baz=97,slow=15,SNR=24						
	comp=Z,63nm,0.8s						
WRAB	**Tennant Creek**	**43.61**	**264**	P	**P**	**03 21 11.1**	**-0.4**
WRA	**Warramunga Arr**	**43.62**	**264**	P	**P**	**03 21 11.1**	**-0.5**
	comp=Z,36nm,0.8s,baz=99,slow=6.1,SNR=89						
WRA				PcP	**PcP**	**03 22 47.4**	**+0.8**
	comp=Z,3.6nm,0.8s,baz=101,slow=3.7,SNR=5.1						
WRA				ScP	**ScP**	**03 25 47.1**	**+1.8**
	comp=Z,2.8nm,1.0s,baz=100,slow=4.3,SNR=6.0						
WRA				S	**S**	**03 26 58.2**	**-3.0**
	comp=Z,3.7nm,1.0s,baz=97,slow=13,SNR=9.9						
	comp=Z,36nm,0.8s						
KDU	**Kakadu**	**47.23**	**273**	P	**P**	**03 21 38.7**	**-0.5**
	comp=Z,68nm,1.1s						
FORT	**Forrest**	**47.93**	**248**	P	**P**	**03 21 44.6**	**+0.4**
FORT	**Forrest**	**47.93**	**248**	P	**P**	**03 21 44.3**	**0.0**
	comp=Z,165nm,1.0s						
WRKA	**Warakurna**	**48.28**	**256**	P	**P**	**03 21 47.2**	**+0.3**
	comp=Z,159nm,0.7s						
MTN	**Manton Dam**	**48.42**	**272**	P	**P**	**03 21 47.4**	**-0.7**
MTN	**Manton Dam**	**48.42**	**272**	P	**P**	**03 21 47.3**	**-0.7**
	comp=Z,67nm,0.6s						
KNRA	**Kununurra**	**49.79**	**268**	P	**P**	**03 21 58.5**	**+0.3**
KNRA	**Kununurra**	**49.79**	**268**	P	**P**	**03 21 58.2**	**+0.1**
	comp=Z,66nm,0.7s						
SWI	**Sorong**	**52.94**	**287**	P	**P**	**03 22 20.9**	**0.0**
BATI	**Baumata**	**56.19**	**272**	P	**P**	**03 22 45.6**	**+1.8**
	comp=Z,111nm,0.6s						
PSA00	**Pilbara Seismi**	**56.55**	**258**	P	**P**	**03 22 46.3**	**+0.2**
PSA00				IAmb	IAmb	03 22 47.0	
	comp=Z,56nm,0.9s						
PSA00	**Pilbara Seismi**	**56.55**	**258**	P	**P**	**03 22 45.6**	**-0.5**
	comp=Z,65nm,1.0s						
PSAC1	**Pilbara Seismi**	**56.59**	**258**	P	**P**	**03 22 46.3**	**-0.1**
	comp=Z,63nm,0.9s						
MEEK	**Meekatharra**	**56.65**	**252**	P	**P**	**03 22 46.3**	**-0.5**
	comp=Z,28nm,0.8s						
KLBR	**Kellerberrin**	**56.66**	**246**	P	**P**	**03 22 47.0**	**+0.3**
	comp=Z,155nm,0.8s						
MBWA	**Marble Bar**	**56.74**	**259**	P	**P**	**03 22 47.7**	**+0.3**
MBWA	**Marble Bar**	**56.74**	**259**	P	**P**	**03 22 47.4**	**0.0**
	comp=Z,81nm,0.7s						
SANI	**Sanana**	**57.15**	**282**	P	**P**	**03 22 49.5**	**-0.8**
	comp=Z,44nm,0.7s						
BLDU	**Ballidu**	**57.67**	**247**	P	**P**	**03 22 53.9**	**+0.2**
	comp=Z,51nm,0.7s						
MUN	**Mundaring**	**57.91**	**245**	P	**P**	**03 22 55.8**	**+0.6**
	comp=Z,55nm,0.8s						
MORW	**Morawa**	**58.48**	**249**	P	**P**	**03 22 59.5**	**+0.3**
MORW				IAmb	IAmb	03 23 00.1	
	comp=Z,28nm,0.6s						
MORW	**Morawa**	**58.48**	**249**	P	**P**	**03 22 59.3**	**+0.1**
	comp=Z,47nm,1.0s						
KDI	**Kendari**	**59.44**	**279**	P	**P**	**03 23 05.6**	**-0.2**
	comp=Z,35nm,0.9s,comp=Z,3μm						
WSI	**Waingapu**	**59.49**	**272**	P	**P**	**03 23 07.8**	**+1.7**
WBSI	**Waikabubak, Su**	**60.34**	**271**	P	**P**	**03 23 12.7**	**+0.9**
	comp=Z,45nm,0.8s						
LUWI	**Luwuk**	**60.49**	**282**	P	**P**	**03 23 12.4**	**-0.3**
LUWI	**Luwuk**	**60.49**	**282**	P	**P**	**03 23 13.3**	**+0.6**
	comp=Z,95nm,1.0s,comp=Z,2μm						
BKSI	**Bulukumba**	**61.21**	**276**	P	**P**	**03 23 17.2**	**-0.2**
	comp=Z,32nm,0.7s						
BNSI	**Bone**	**61.58**	**277**	P	**P**	**03 23 20.3**	**+0.5**
	comp=Z,45nm,0.8s						
SPSI	**Sidrap Palu**	**62.06**	**278**	P	**P**	**03 23 21.9**	**-1.0**
	comp=Z,34nm,0.8s						
PLAI	**Plampang**	**62.12**	**272**	P	**P**	**03 23 23.0**	**-0.3**
	comp=Z,117nm,1.0s,comp=Z,1μm						
TOLI2	**Tolitoli**	**63.20**	**283**	P	**P**	**03 23 30.0**	**-0.3**
TOLI2				IAmb	IAmb	03 23 30.9	
	comp=Z,31nm,0.9s						
PCI	**Palu**	**63.21**	**281**	P	**P**	**03 23 32.7**	**+2.3**
	comp=Z,111nm,0.9s						
JAGI	**Jajag, Banyuwa**	**65.60**	**271**	P	**P**	**03 23 44.3**	**-1.2**
QSPA	**South Pole Qui**	**67.91**	**180**	P	**P**	**03 24 01.0**	**+2.0**
QSPA				IAmb	IAmb	03 24 02.2	
	comp=Z,11nm,0.8s						
QSPA	**South Pole Qui**	**67.91**	**180**	P	**P**	**03 24 00.0**	**+1.0**
	comp=Z,9.4nm,0.7s,baz=22,slow=1.7,SNR=24						
QSPA				S	**S**	**03 32 16.8**	**+3.1**
	comp=Z,0.6nm,0.2s,baz=53,slow=20,SNR=1.3						
	comp=Z,9.4nm,0.7s						
UGM	**Wanagama**	**69.16**	**270**	P	**P**	**03 24 07.2**	**-0.1**
KKM	**Kota Kinabalu**	**69.44**	**286**	P	**P**	**03 24 08.6**	**-0.4**
KKM				IAmb	IAmb	03 24 10.0	
	comp=Z,26nm,0.8s						
JGF	**Kuroka**	**70.86**	**323**	P	**P**	**03 24 16.6**	**-0.3**
JGF				IAmb	IAmb	03 24 17.6	
	comp=Z,12nm,0.6s						
MJAR	**Matsushiro Arr**	**71.09**	**325**	P	**P**	**03 24 17.8**	**-0.4**
	comp=Z,17nm,0.8s,baz=158,slow=5.6,SNR=30						
	comp=Z,17nm,0.8s						
MAJO	**Matsushiro**	**71.09**	**325**	P	**P**	**03 24 18.1**	**-0.1**
MAJO				IAmb	IAmb	03 24 18.5	
	comp=Z,19nm,0.8s						
MJB9	**Matsu-Tunnel**	**71.10**	**325**	P	**P**	**03 24 18.3**	**0.0**
MJB9				IAmb	IAmb	03 24 18.5	
	comp=Z,18nm,0.8s						
JNU	**Nakatsue**	**72.95**	**318**	P	**P**	**03 24 28.9**	**-0.2**
NACB	**Ninganchiao**	**73.97**	**305**	P	**P**	**03 24 34.8**	**-0.3**
TPUB	**Ta-pu**	**74.23**	**304**	P	**P**	**03 24 35.9**	**-0.7**
SSLB	**Suanglung**	**74.25**	**304**	P	**P**	**03 24 35.9**	**-0.7**
SMAI	**San Martin Ant**	**77.34**	**159**	P	**P**	**03 24 55.0**	**+2.1**
SMAI				IAmb	IAmb	03 25 11.8	
	comp=Z,29nm,1.4s						
KSRS	**Korea Array**	**77.62**	**319**	P	**P**	**03 24 55.1**	**+0.2**
	comp=Z,4.2nm,0.8s,baz=143,slow=5.3,SNR=9.4						
	comp=Z,4.2nm,0.8s						
KSAR	**Wonju Array Be**	**77.64**	**319**	P	**P**	**03 24 55.5**	**+0.5**
PETK	**Petropavlovsk-**	**77.68**	**346**	P	**P**	**03 24 54.9**	**0.0**
PETK	**Petropavlovsk-**	**77.68**	**346**	P	**P**	**03 24 54.5**	**-0.4**
	comp=Z,24nm,0.8s,baz=135,slow=7.3,SNR=14						
	comp=Z,24nm,0.8s						
MAW	**Mawson**	**79.74**	**200**	P	**P**	**03 25 05.9**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=158,slow=7.6,SNR=3.7						
	comp=Z,1.7nm,0.6s						
SAO	**San Andreas Ge**	**79.77**	**43**	P	**P**	**03 25 06.6**	**+0.2**
USA0B	**Ussuriysk Arra**	**79.90**	**326**	P	**P**	**03 25 08.5**	**+1.6**
USA0B				IAmb	IAmb	03 25 09.0	
	comp=Z,19nm,0.9s						
USRK	**Ussuriysk Ar.**	**79.90**	**326**	P	**P**	**03 25 08.4**	**+1.5**
USRK	**Ussuriysk Ar.**	**79.90**	**326**	P	**P**	**03 25 07.3**	**+0.4**
	comp=Z,17nm,0.8s,baz=121,slow=3.1,SNR=5.9						
	comp=Z,17nm,0.8s						
HOPS	**Hopland Field**	**80.14**	**41**	P	**P**	**03 25 09.4**	**+1.1**
HOPS				IAmb	IAmb	03 25 12.2	
	comp=Z,22nm,1.2s						
NJ2	**Nanjing**	**80.34**	**310**	⇑P	**P**	**03 25 11.0**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,200nm,4.0s						
KMPM	**Mount Pierce**	**80.41**	**39**	P	**P**	**03 25 11.9**	**+2.1**
KMPM				IAmb	IAmb	03 25 12.8	
	comp=Z,30nm,1.0s						
KMRM	**Mail Ridge**	**80.53**	**40**	P	**P**	**03 25 12.5**	**+2.1**
ELS	**Elsinore Mount**	**80.61**	**48**	P	**P**	**03 25 12.2**	**+1.3**
O02D	**Mt. Diablo Mer**	**81.05**	**40**		**P**	**03 25 14.3**	**+1.2**
O02D				IAmb	IAmb	03 25 15.6	
	comp=Z,28nm,1.2s						
ISA	**Isabella, Lake**	**81.05**	**46**		**P**	**03 25 14.0**	**+0.8**
YUH	**Yuha Desert**	**81.10**	**49**	P	**P**	**03 25 14.7**	**+1.3**
CMB	**Columbia Colle**	**81.21**	**43**	P	**P**	**03 25 14.3**	**+0.4**
PFO	**Pinyon Flats O**	**81.26**	**48**	P	**P**	**03 25 15.4**	**+1.0**
PFO	**Pinyon Flats O**	**81.26**	**48**	P	**P**	**03 25 15.0**	**+0.6**
	comp=Z,3.3nm,0.9s,baz=266,slow=6.0,SNR=5.8						
	comp=Z,3.3nm,0.9s						
AFDM	**Forest Hills D**	**81.39**	**42**		**P**	**03 25 15.3**	**+0.5**
MDJ	**Mudanjiang**	**81.43**	**326**	P	**P**	**03 25 16.0**	**+1.2**
MDJ				S	**S**	**03 34 38.8**	**-1.6**
MDJ				sS	sS	03 38 15.0	+2.6
MDJ				pmax	pmax		
	comp=Z,19nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,250nm,3.5s						
YBH	**Yreka Blue Hor**	**82.07**	**39**	P	**P**	**03 25 18.9**	**+0.7**
	comp=Z,7.3nm,0.8s,baz=282,slow=0.8,SNR=14						
	comp=Z,7.3nm,0.8s						
WAKR	**Walker**	**82.09**	**43**	IAmb	IAmb	03 25 20.4	
	comp=Z,11nm,0.9s						
MPK	**Martis Peak**	**82.19**	**42**	IAmb	IAmb	03 25 21.4	
	comp=Z,25nm,1.2s						
HATC	**Hat Creek Radi**	**82.24**	**40**	IAmb	IAmb	03 25 21.6	
	comp=Z,35nm,1.1s						
PNTR	**Pine Nut**	**82.33**	**42**	IAmb	IAmb	03 25 22.0	
	comp=Z,26nm,0.8s						
HUMO	**Hull Mountain**	**82.48**	**38**	IAmb	IAmb	03 25 23.1	
	comp=Z,34nm,1.2s						
YERR	**Yerington**	**82.50**	**43**	IAmb	IAmb	03 25 22.6	
	comp=Z,12nm,0.8s						
LHV	**Little Huntoon**	**82.53**	**44**	IAmb	IAmb	03 25 23.1	
	comp=Z,12nm,1.0s						
GRAC	**Grapevine Rang**	**82.55**	**45**	IAmb	IAmb	03 25 23.2	
	comp=Z,23nm,1.2s						
NVAR	**Mina Array Bea**	**82.77**	**44**	P	**P**	**03 25 22.7**	**+0.7**
NVAR	**Mina Array Bea**	**82.77**	**44**	P	**P**	**03 25 22.6**	**+0.6**
	comp=Z,6.4nm,0.8s,baz=226,slow=8.6,SNR=40						
	comp=Z,6.4nm,0.8s						
PAHR	**Pah Rah Range**	**82.83**	**42**	IAmb	IAmb	03 25 24.2	
	comp=Z,10nm,0.9s						
CN2	**Changchun**	**83.14**	**323**	*e*P	**P**	**03 25 23.8**	**+0.3**
CN2				*e*PP	**PP**	**03 28 46.0**	**+0.6**
KULM	**Kulim**	**83.23**	**278**	P	**P**	**03 25 25.1**	**+0.5**
KULM				IAmb	IAmb	03 25 26.2	
	comp=Z,18nm,0.6s						
BNX	**BinXian**	**83.33**	**325**	⇑P	**P**	**03 25 24.5**	**+0.1**
BNX				pmax	pmax		
	comp=Z,23nm,0.9s						
MG02	**Cerro Sombrero**	**83.75**	**145**	P	**P**	**03 25 29.0**	**+2.5**
RPSI	**Rantau Prapat**	**83.82**	**275**	IAmb	IAmb	03 25 28.5	
	comp=Z,24nm,0.8s						
J05D	**Fort Rock, OR**	**83.89**	**38**		**P**	**03 25 27.8**	**+0.4**
J05D				IAmb	IAmb	03 25 29.9	
	comp=Z,21nm,0.9s						
PRN	**Pahroc Range**	**84.31**	**46**	IAmb	IAmb	03 25 32.3	
	comp=Z,16nm,1.4s						
PINE	**Pine Mountain**	**84.37**	**38**		**P**	**03 25 29.6**	**-0.2**
PINE				IAmb	IAmb	03 25 33.4	
	comp=Z,17nm,1.1s						
TUC	**Tucson**	**84.62**	**52**		**P**	**03 25 32.1**	**+1.0**
TUC				IAmb	IAmb	03 25 33.7	
	comp=Z,7.9nm,0.9s						
ELIB	**Princess Elisa**	**84.91**	**187**	*d*P	**P**	**03 25 32.9**	**+0.9**
ELIB				*d*pP	**pP**	**03 27 34.2**	**+2.1**
N19K	**Bonanza Creek**	**85.01**

comp=Z,8.0nm,0.6s
XLT pmax pmax
comp=Z,120nm,5.3s
TCUT Toone Canyon 88.68 44 IAmb IAmb 03 25 52.0
comp=Z,17nm,1.2s
BSUT Blindstream Ca 88.80 45 IAmb IAmb 03 25 53.3
comp=Z,12nm,1.0s
ANMO Albuquerque 89.05 52 P **P** **03 25 52.4 +0.2**
ANMO IAmb IAmb 03 25 54.2
comp=Z,5.6nm,1.0s
ANMO Albuquerque 89.05 52 P **P** **03 25 53.2 +1.0**
comp=Z,3.7nm,0.9s,baz=0.6,slow=6.7,SNR=15
comp=Z,3.7nm,0.9s
H19K Roundabout Mou 89.08 9 IAmb IAmb 03 25 52.5
comp=Z,14nm,0.9s
ALPN Alpine 89.09 57 IAmb IAmb 03 25 54.7
comp=Z,6.9nm,0.8s
S34M Telegraph Cree 89.09 23 IAmb IAmb 03 25 53.9
comp=Z,13nm,0.9s
MENT Mentasta 89.24 15 IAmb IAmb 03 25 53.5
comp=Z,8.7nm,0.9s
KMI Kunming 89.41 297 ⇓P **P** **03 25 56.0 +1.9**
KMI pmax pmax
comp=Z,12nm,0.9s
I21K Tanana 89.48 11 IAmb IAmb 03 25 53.9
comp=Z,15nm,0.9s
NEA2 Nenana 89.50 12 IAmb IAmb 03 25 53.8
comp=Z,3.7nm,0.8s
G19K Purcell Mounta 89.57 9 IAmb IAmb 03 25 54.5
comp=Z,8.2nm,0.8s
WRH Wood River Hil 89.59 13 IAmb IAmb 03 25 54.0
comp=Z,12nm,0.8s
RDMU Red Mountain 89.60 45 P **P** **03 25 55.2 +0.5**
RDMU IAmb IAmb 03 25 55.8
comp=Z,5.7nm,0.8s
RDMU **pP** **03 27 52.9 -3.2**
AHID Auburn Hatcher 89.72 43 IAmb IAmb 03 25 58.6
comp=Z,7.8nm,0.9s
H21K Melozitna Rive 89.78 10 IAmb IAmb 03 25 56.7
comp=Z,6.9nm,1.0s
CCB Clear Creek Bu 89.80 13 IAmb IAmb 03 25 54.8
comp=Z,9.9nm,1.0s
IMAR Indian Mountai 89.92 10 P **P** **03 25 55.4 +0.2**
CMAR Chiang Mai Arr 89.94 290 P **P** **03 25 58.5 +2.1**
CMAR Chiang Mai Arr 89.94 290 P **P** **03 25 58.2 +1.9**
comp=Z,20nm,0.8s,baz=136,slow=3.2,SNR=92
comp=Z,20nm,0.8s
HHC Hu-ho-hao-te 89.95 315 *e*P **P** **03 25 57.3 +1.2**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,98nm,5.8s
CHTO Chiang Mai 90.07 290 P **P** **03 25 58.3 +1.3**
SAND Sanderson 90.08 58 IAmb IAmb 03 25 58.8
comp=Z,6.6nm,1.1s
IL31 90.10 13 IAmb IAmb 03 25 58.6
comp=Z,7.2nm,1.0s
ILAR Eielson Array 90.10 13 P **P** **03 25 55.1 -1.0**
comp=Z,3.4nm,1.0s,baz=218,slow=5.0,SNR=20
comp=Z,3.4nm,1.0s
F19K Shaleruckik Mo 90.13 8 IAmb IAmb 03 25 56.9
comp=Z,10nm,0.9s
DLMT Dillon 90.16 40 IAmb IAmb 03 26 01.1
comp=Z,6.6nm,1.1s
TPAW Teton Pass 90.19 42 IAmb IAmb 03 25 59.4
comp=Z,6.4nm,0.9s
O20A White River Ci 90.27 46 IAmb IAmb 03 26 00.8
comp=Z,6.8nm,0.9s
J25K Salcha River, 90.29 14 IAmb IAmb 03 25 57.9
comp=Z,16nm,1.4s
SNOW Snow King Moun 90.30 42 IAmb IAmb 03 25 59.9
comp=Z,14nm,1.0s
G21K Allakaket 90.45 10 IAmb IAmb 03 25 58.3
comp=Z,8.0nm,0.9s
LOHW Long Hollow 90.47 42 IAmb IAmb 03 26 08.8
comp=Z,7.4nm,1.4s
F20K Avaraart Lake 90.61 9 IAmb IAmb 03 25 59.4
comp=Z,7.0nm,0.9s
FLWY Flagg Ranch 90.65 42 IAmb IAmb 03 26 01.9
comp=Z,8.4nm,1.1s
PD31 Pinedale Array 90.70 44 IAmb IAmb 03 26 01.0
comp=Z,6.3nm,0.9s
PDAR Pinedale Array 90.70 44 P **P** **03 26 00.1 +0.4**
PDAR Pinedale Array 90.70 44 P **P** **03 25 59.5 -0.2**
comp=Z,5.4nm,0.9s,baz=216,slow=3.0,SNR=28
comp=Z,5.4nm,0.9s
YHL Hebgen Lake 90.74 41 IAmb IAmb 03 26 02.0
comp=Z,4.5nm,0.9s
PZH PanZhiHua 90.80 298 P **P** **03 26 01.5 +1.1**
PZH pmax pmax
comp=Z,7.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,5.2s
L29M L29M 90.83 17 IAmb IAmb 03 26 00.7
comp=Z,6.3nm,0.8s
BTO Baotou 90.86 314 *e*P **P** **03 26 02.0 +1.7**
BTO sP **sP** **03 29 01.5 +4.7**
BTO PP **PP** **03 29 47.8 +1.1**
BTO S **S** **03 36 04.3 -5.6**
BTO pmax pmax
comp=Z,26nm,0.7s
BTO pmax pmax
comp=Z,75nm,3.6s
SDCO Great Sand Dun 91.03 49 IAmb IAmb 03 26 03.0
comp=Z,3.5nm,0.9s
DAWY Dawson 91.27 16 IAmb IAmb 03 26 02.8
comp=Z,8.7nm,1.1s
EGAK Eagle 91.41 15 IAmb IAmb 03 26 02.6
comp=Z,4.8nm,0.8s
YNE Yellowstone No 91.54 41 IAmb IAmb 03 26 05.7
comp=Z,3.8nm,0.9s
K29M Barlow Dome 91.58 17 IAmb IAmb 03 26 04.7
comp=Z,12nm,1.1s
LZH Lanzhou 93.16 308 *e*P **P** **03 26 11.5 +0.4**
LZH pmax pmax
comp=Z,28nm,1.0s
H29M Whitestone 93.26 15 IAmb IAmb 03 26 25.5
comp=Z,5.0nm,1.2s
G30M tAoh Zraii Nji 94.39 15 IAmb IAmb 03 26 16.4
comp=Z,8.2nm,1.1s
SONM Songino Array 96.49 319 P **P** **03 26 25.3 -0.5**
comp=Z,1.1nm,0.9s,baz=104,slow=4.6,SNR=4.1
comp=Z,1.1nm,0.9s
GTA Gaotai 97.42 309 *e*P **P** **03 26 31.0 +0.8**
GTA pmax pmax
comp=Z,3.0nm,1.1s
WMQ Urumqi 107.42 311 Pdif **Pdif** **03 27 16.0 +1.5**
ZALV Zalesovo Beam 111.29 321 PKiKP **PKiKP** **03 31 25.4 -0.8**
comp=Z,1.2nm,0.7s,baz=122,slow=1.9,SNR=5.0
MKAR Makanchi Array 111.76 313 PKiKP **PKiKP** **03 31 27.0 -0.5**
comp=Z,0.9nm,0.7s,baz=21,slow=1.7,SNR=5.3
KURBB Kurchatov Arra 114.72 317 PKP PKPdf 03 31 31.9 -1.0
comp=Z,1.3nm,0.8s,baz=95,slow=1.9,SNR=9.8
KKAR Karatay Array 119.66 308 **PKPdf** **03 31 42.4 -0.3**
KKAR Karatay Array 119.66 308 PKPdf **PKPdf** **03 31 42.4 -0.3**
BVAR Borovoye Array 119.83 319 PKP **PKPdf** **03 31 42.1 -0.6**
comp=Z,3.8nm,0.7s,baz=85,slow=1.6,SNR=15
BRVK Borovoye 119.90 319 **PKPdf** **03 31 42.6 -0.2**
SPITS Spitsbergen Ar 123.47 356 PKP **PKPdf** **03 31 48.4 -0.6**
comp=Z,11nm,0.6s,baz=152,slow=3.8,SNR=5.7
BOSA Boshof 124.42 206 PKP **PKPdf** **03 31 52.2 -0.3**
comp=Z,2.1nm,0.8s,baz=278,slow=3.9,SNR=3.4
SUMG Summit 124.94 14 PKPdf **PKPdf** **03 31 51.7 -0.8**
ARTI Arti 126.21 325 PKPdf **PKPdf** **03 31 54.5 -0.3**
ARCES ARCESS Array B 130.40 349 PKP **PKPdf** **03 32 02.0 -0.5**
comp=Z,3.8nm,0.8s,baz=37,slow=3.0,SNR=13
FINES FINESS Array B 137.13 343 PKhKP PKPpre 03 32 01.1
comp=Z,2.2nm,0.9s,baz=213,slow=20,SNR=2.0
FINES PKP **PKPdf** **03 32 14.4 -0.8**
comp=Z,2.0nm,0.6s,baz=108,slow=6.2,SNR=7.1
OBN Obninsk 137.82 330 PKP **PKiKP** **03 32 18.7 -0.1**
KMBO Kilima Mbogo 137.87 241 PKhKP PKPpre 03 32 09.0
comp=Z,1.2nm,0.7s,baz=67,slow=8.6,SNR=5.6
KMBO PKP **PKPdf** **03 32 18.5 +0.1**
comp=Z,2.0nm,0.8s,baz=270,slow=3.0,SNR=7.4
NB2 NORSAR Subarra140.52 352 PKP **PKPdf** **03 32 14.7 -6.8**
comp=Z,1.5nm,0.7s,baz=13,slow=3.2
NOA NORSAR Array B 140.52 352 PKhKP PKPpre 03 32 14.3
comp=Z,2.8nm,0.8s,baz=13,slow=2.4,SNR=14
NOA PKP **PKPdf** **03 32 21.9 +0.4**
comp=Z,1.6nm,0.7s,baz=18,slow=4.2,SNR=7.5
HFS Hagfors 141.04 350 PKhKP PKPpre 03 32 16.2
comp=Z,12nm,0.8s,baz=48,slow=2.2,SNR=15
HFS PKP **PKPdf** **03 32 22.9 +0.5**
comp=Z,3.4nm,0.6s,baz=64,slow=6.8,SNR=4.5
LODK Lodwar 141.96 246 PKPdf **PKPdf** **03 32 23.4 -2.1**
NACGM Naroch 142.08 336⇑*i*PKP **PKPdf** **03 32 21.5 -2.9**
comp=Z,31nm,0.9s,baz=40
STRU Stroemstad 142.47 352 *i* P **PKPdf** **03 32 20.1 -4.8**
MBAR Mbarara 143.34 236 PKPdf PKPbc 03 32 27.3 +0.6
TJOU Tjoern 143.37 351 *i* P PKPab 03 32 22.8 -2.1
HOMB Homborsund 143.54 353 *i* P PKPab 03 32 24.0 -1.5
SNART Snartemo 143.60 355 *i* P PKPab 03 32 24.5 -1.3
ONAU Onsala 143.94 350 *i* P PKPbc 03 32 24.8 -2.1
AKASG Malin Array Be 144.06 329 PKPbc 03 32 26.9 -0.7
AKASG Malin Array Be 144.06 329 PKP PKPbc 03 32 26.7 -0.8
comp=Z,9.1nm,0.5s,baz=41,slow=4.2,SNR=68
KIEV Kiev 144.07 329 PKPbc 03 32 26.7 -0.8
KIEV Kiev 144.07 329 ⇓P PKPbc 03 32 26.9 -0.7
SUW Suwalki 144.09 338 *e*PKP PKPbc 03 32 27.2 -0.3
FABU Falkenberg 144.18 349 *i* P PKPbc 03 32 25.6 -2.1
BLEU Blekinge 144.22 346 *i* P PKPbc 03 32 25.6 -2.2
OVD Ostervraa, Den 144.27 352 *i* P PKPbc 03 32 27.0 -0.9
DEL Delary 144.47 348 *i* P **PKPdf** **03 32 27.0 -1.5**
MI28 Mi28,Pidlybu 144.62 331 PKP **PKPdf** **03 32 28.9 -0.1**
RNPP9 Sopachiv 145.06 333 PKP **PKPdf** **03 32 29.9 +0.2**
RNPP8 Varash 145.13 333 PKP **PKPdf** **03 32 30.3 +0.5**
RNPP5 Staryi Chortor 145.19 333 PKP **PKPdf** **03 32 30.4 +0.5**
MUD Monsted U'grnd 145.24 352 *i* P **PKPdf** **03 32 30.2 +0.3**
LUBAR Lubar, Ukraine 145.28 329 PKP **PKPdf** **03 32 30.5 +0.4**
LUNU Lund 145.34 348 *i* P **PKPdf** **03 32 30.0 0.0**
BSD Bornholm Skovb 145.52 346 *i* P **PKPdf** **03 32 30.1 -0.2**
BAL3X Bal3x, Balta 145.66 325 PKP **PKPbc** **03 32 32.0 -0.4**
SORM Soroca 146.18 327 ⇓P **PKPbc** **03 32 33.8 -0.1**
SORM Soroca 146.18 327 PKP **PKPbc** **03 32 33.5 -0.4**
PURM Purcari 146.37 323 ⇓P **PKPbc** **03 32 34.6 +0.2**
GKP Gorka Klasztor 146.60 342 *e*PKP **PKPbc** **03 32 35.3 +0.5**
MILM Milestii Mici 146.71 325 ⇓P **PKPbc** **03 32 35.1 -0.2**
EKA Eskdalemuir Ar 146.72 4 PKPbc **PKPbc** **03 32 34.4 -0.7**
comp=Z,9.6nm,0.8s,baz=337,slow=2.8,SNR=16
KMPD K-Podol'skiy 146.83 329 PKP **PKPbc** **03 32 34.4 -1.2**
BRTR Keskin Array B 147.34 310 **PKPbc** **03 32 37.5 0.0**
BRTR Keskin Array B 147.34 310 PKPbc **PKPbc** **03 32 37.1 -0.3**
comp=Z,9.6nm,0.7s,baz=131,slow=4.4,SNR=57
KIRS Kirsehir-Merke 147.36 309 ⇓P **PKPbc** **03 32 37.7 +0.2**
BSEG Bad Segeberg 147.52 350 *e*PKPbc **PKPbc** **03 32 37.7 +0.5**
baz=20,slow=2.4
KWP Kalwaria Pacla 147.73 333 *e*PKP **PKPbc** **03 32 37.9 -0.1**
TLCR 147.76 322 ⇑P **PKPbc** **03 32 38.5 +0.4**
VLDR Vladesti 147.78 324 ⇑P **PKPbc** **03 32 38.9 +0.8**
ANTO Ankara 147.88 311 **PKPbc** **03 32 39.0 +0.2**
ANTO Ankara 147.88 311 ⇑P **PKPbc** **03 32 39.2 +0.4**
MMAI Mount Meron Ar 147.91 297 PKPbc **PKiKP** **03 32 39.9 -0.5**
comp=Z,20nm,0.6s,baz=68,slow=4.8,SNR=51
TESR Tescani 148.12 326 ⇓P **PKPbc** **03 32 39.1 0.0**
CFR Carcaliu 148.15 323 ⇑P **PKPbc** **03 32 39.5 +0.4**
TPGR Topolog 148.18 322 ⇑P **PKPbc** **03 32 40.0 +0.7**
GORT1 Trebel 148.25 348 *e*PKPbc **PKPbc** **03 32 39.7 +0.7**
baz=20,slow=2.4
ONER Baraj Valea Uz 148.37 326 ⇑P **PKiKP** **03 32 40.8 0.0**
OJC Ojcow 148.40 337 *e*PKP **PKPbc** **03 32 39.7 0.0**
KOLS Kolonicke sedl 148.45 333 *e*PKP **PKiKP** **03 32 40.8 -0.1**
STHS Stebnicka Huta 148.50 335 *e*PKP **PKPbc** **03 32 39.8 -0.1**
STHS *e* 03 34 48.6
VRI Vrincioaia 148.50 325 ⇑P **PKPbc** **03 32 40.4 +0.4**
PLOR Plostina 148.55 325 ⇑P **PKPbc** **03 32 40.2 0.0**
HARR Harsova 148.56 322 ⇑P **PKiKP** **03 32 40.9 -0.4**
TLBR Topalu 148.58 322 ⇑P **PKiKP** **03 32 40.9 -0.3**
MANR Mangalia 148.69 320 ⇓P **PKiKP** **03 32 41.2 -0.3**
TURR Turia 148.75 326 ⇑P **PKiKP** **03 32 41.4 -0.2**
RETH Rethem/Aller, 148.83 350 *e*PKPbc **PKPbc** **03 32 41.0 +0.5**
baz=20,slow=2.4
OZUR 148.84 326 ⇑P **PKPbc** **03 32 41.4 +0.5**
FLTG Flechtingen 148.90 348 *e*PKPbc **PKPbc** **03 32 40.9 +0.2**
baz=20,slow=2.4
NRDL Niedersach Rie 148.94 349 *e*PKPbc **PKPbc** **03 32 41.2 +0.5**
baz=20,slow=2.4
NEHR Nehoiu 149.01 324 ⇓P **PKPbc** **03 32 40.8 -0.5**
KSP Ksiaz 149.02 341 *e*PKP **PKiKP** **03 32 41.7 -0.3**
DOPR Dopca 149.13 326 ⇓P **PKiKP** **03 32 42.4 -0.1**
CSS Mathiatis 149.14 302 **PKPbc** **03 32 42.2 +0.2**
MLR Muntele Rosu 149.16 325 ⇑P **PKPbc** **03 32 40.6 -1.1**
OSTC Ostas 149.30 341⇑*e*PKP **PKiKP** **03 32 42.7 +0.1**
OKC Ostrava-Krasne 149.30 338⇑*e*PKP **PKiKP** **03 32 42.5 -0.1**
CHVC Chvalec 149.32 341⇑*e*PKP **PKiKP** **03 32 42.6 -0.1**
CHVC *e*PKPAB **PKPab** **03 32 49.4 +0.5**
UPC Upice 149.41 341⇑*e*PKP **PKiKP** **03 32 42.6 -0.2**
DPC Dobruska-Polom 149.45 341⇑*e*PKP **PKiKP** **03 32 42.9 -0.1**
CLL Collm 149.48 345 *e*PKPdf **PKPdf** **03 32 37.0 0.0**
CLL ⇓*i*PKPbc **PKPbc** **03 32 42.6 +0.4**
comp=Z,45nm,1.0s
CLL *i* PKPab **PKPab** **03 32 49.3 -0.1**
comp=Z,16nm,0.9s
CLL *e*pPKPab **pPKPab** **03 34 52.0 -1.5**
CLL *e*SKPdf **SKPdf** **03 35 18.0 -0.1**
CLZ Clausthal 149.53 349 *e*PKPbc **PKiKP** **03 32 43.0 -0.1**
baz=20,slow=2.4
KRLC Kraliky 149.55 340⇑*e*PKP **PKPbc** **03 32 42.9 +0.4**
KRLC *e*PKPAB **PKPab** **03 32 50.4 +0.5**
MORC Moravsky Berou 149.56 339 *e*PKP **PKPbc** **03 32 42.8 +0.3**
MORC *e* 03 32 50.3
MORC Moravsky Berou 149.56 339 ⇑P **PKiKP** **03 32 43.3 +0.1**
BRG Berggiesshubel 149.65 344 ⇓*i*PKP **PKiKP** **03 32 43.1 -0.2**
BRG Amp 03 32 44.1
comp=Z,24nm,0.8s
BRG Berggiesshubel 149.65 344 P **PKPab** **03 32 50.6 +0.4**
BRG Amp 03 32 51.6
comp=Z,11nm,1.0s
BRG Berggiesshubel 149.65 344 *e*PKPbc **PKiKP** **03 32 43.1 -0.2**
baz=20,slow=2.4
MARR Marisel-Cluj 149.77 329 ⇑P **PKPbc** **03 32 43.3 +0.1**
PVCC Panska Ves 149.80 343⇑*e*PKP **PKiKP** **03 32 43.5 -0.1**
PVCC ⇑*e*PKP **PKiKP** **03 32 43.6 -0.1**
MAUC Maruska 149.81 338⇑*e*PKP **PKiKP** **03 32 43.8 0.0**
NEUB Neuenburg 149.85 347 *e*PKPbc **PKiKP** **03 32 43.5 -0.2**
baz=20,slow=2.4
DRGR 149.87 330 ⇓P **PKPbc** **03 32 42.3 -1.0**
GTTG Gottingen 149.88 349 *e*PKPbc **PKiKP** **03 32 43.7 -0.1**
baz=20,slow=2.4
ARR Arges 149.93 326 ⇓P **PKiKP** **03 32 44.9 +0.7**
HSKC Hora Svate Kat 150.02 344⇑*e*PKP **PKiKP** **03 32 44.0 -0.1**
VYHS Vyhne 150.18 336 *e*PKP **PKPbc** **03 32 44.1 +0.1**
VYHS *e* 03 32 53.0
VYHS *e* 03 34 55.1
PSZ Piszkesteto 150.23 334 ⇓P **PKPbc** **03 32 43.2 -1.0**
VRAC Vranov 150.28 339 *e*PKP **PKiKP** **03 32 44.6 -0.1**
VRAC *e* 03 32 53.3
VRAC Vranov 150.28 339 ⇓P **PKPbc** **03 32 44.2 +0.1**
GOPC GO Pecny, Ondr 150.29 342⇑*e*PKP **PKPbc** **03 32 44.5 +0.3**
PRU Pruhonice 150.29 342⇑*e*PKP **PKiKP** **03 32 44.6 -0.1**
PRU *e*PKPAB **PKPab** **03 32 53.1 +0.2**
JAVC Velka Javorina 150.30 338 *e*PKP **PKiKP** **03 32 45.7 +0.9**
JAVC *e* 03 32 54.6
LOT Lotru 150.32 327 ⇑P **PKPbc** **03 32 44.3 -0.2**
BUG Bochum--Univer 150.39 352 *e*PKPbc **PKPbc** **03 32 44.4 +0.1**
baz=20,slow=2.4
MOX Moxa 150.41 346 *e*PKPbc **PKiKP** **03 32 44.8 -0.1**
baz=20,slow=2.4
TANN Tannenbergstha 150.44 345 *e*PKPbc **PKiKP** **03 32 45.0 0.0**
baz=20,slow=2.4
PLN Plauen 150.44 346 *e*PKPbc **PKiKP** **03 32 44.9 -0.1**
baz=20,slow=2.4
KASTN Kahler Asten 150.47 351 *e*PKPbc **PKPbc** **03 32 44.9 +0.3**
baz=20,slow=2.4
KRUC Moravsky 150.55 339 *e*PKP **PKPbc** **03 32 44.9 +0.1**
KRUC *e* 03 32 54.5
NKC Novy Kostel 150.61 345⇑*e*PKP **PKiKP** **03 32 45.4 0.0**
TREC Trest 150.64 341⇑*e*PKP **PKPbc** **03 32 44.4 -0.6**
SIRR Siria 150.75 330 ⇓P **PKiKP** **03 32 45.8 0.0**
MODS Modra-Piesok 150.85 338 *e*PKP **PKiKP** **03 32 46.4 +0.5**
MODS *e* 03 32 56.5
MODS *e* 03 34 56.8
GZR Gura Zlata 150.85 328 ⇓P **PKPbc** **03 32 45.7 0.0**
ZVC Zvikov 150.89 342⇑*e*PKP **PKPbc** **03 32 45.8 +0.3**
ZVC *e*PKPAB **PKPab** **03 32 55.8 +0.4**
SURR Surduc 150.91 329 ⇑P **PKPbc** **03 32 45.3 -0.4**
MANZ Manzenberg 150.92 345 *e*PKPbc **PKiKP** **03 32 46.1 +0.1**
baz=20,slow=2.4
ROTZ Rotzenmuhle 151.10 345 *e*PKPbc **PKiKP** **03 32 46.4 0.0**
baz=20,slow=2.4
BZS Buzias 151.25 329 ⇑P **PKPbc** **03 32 46.3 -0.1**
UCC Uccle 151.31 356 *d*PKP **PKPbc** **03 32 46.5 +0.1**
KHC Kasperske Hory 151.34 343 *e*PKPDF **PKPdf** **03 32 40.5 +0.5**
KHC ⇑*e*PKP **PKiKP** **03 32 47.0 +0.1**
KHC *e*PKPAB **PKPab** **03 32 57.6 +0.2**
KHC *ex* x 03 35 03.6
MEM Membach 151.35 354 *d*PKP **PKPbc** **03 32 46.4 -0.2**
BTNL Ternell 151.36 353 *d*PKP **PKPbc** **03 32 46.6 0.0**
GRFO Grafenberg 151.40 346 **PKPab** **03 32 58.1 +0.6**
CKRC Cesky Krumlov 151.41 342 *e*PKPDF **PKPdf** **03 32 40.6 +0.5**
CKRC ⇑*e*PKP **PKPbc** **03 32 47.0 +0.2**
TNS Taunus Mts 151.41 350 *e*PKPbc **PKiKP** **03 32 47.1 0.0**
baz=20,slow=2.4
BSTI Sart Tilman 151.42 354 *d*PKP **PKPbc** **03 32 46.8 +0.1**
GERES GERESS Array B 151.56 342 PKPbc **PKPbc** **03 32 47.3 +0.1**
comp=Z,5.7nm,0.8s,baz=48,slow=2.0,SNR=23
GERES PKPab **PKPab** **03 32 57.6 -0.8**
comp=Z,2.4nm,0.8s,baz=0.0,slow=5.3,SNR=6.4
BHOU Houvegnez 151.61 353 *d*PKiKP **PKiKP** **03 32 47.5 +0.1**
BHOU *d*PKP **PKPab** **03 32 58.5 +0.1**
BCLA Clavier 151.61 354 *d*PKP **PKPbc** **03 32 47.2 +0.1**
BCLA *d*PKPab **PKPab** **03 32 57.8 -0.6**
BGES Gesves 151.66 355 *d*PKP **PKPab** **03 32 58.0 -0.7**
CONA Conrad Observa 151.72 339 *i* PKP **PKiKP** **03 32 47.9 +0.1**
comp=Z,14nm,1.0s,SNR=7.0
CONA *i* pPKiKP **pPKiKP** **03 34 58.7 +1.5**
comp=Z,6.2nm,1.4s
RONA Rosalia, Austr 151.76 338 *e*PKP **PKiKP** **03 32 47.9 0.0**
comp=Z,7.5nm,0.6s,SNR=5.9
RONA *i* PKP **PKPab** **03 33 00.2 +0.9**
comp=Z,14nm,1.0s
RONA *ep*PKiKP **pPKiKP** **03 34 57.9 +0.6**
comp=Z,8.3nm,1.3s
BMRD Maredsous 151.77 355 *d*PKP **PKPbc** **03 32 47.4 -0.1**
BMRD *d*PKPab **PKPab** **03 32 58.8 -0.3**
RCHB Rochefort 151.88 354 *d*PKP **PKPbc** **03 32 47.7 0.0**
RCHB *d*PKPab **PKPab** **03 32 59.0 -0.6**
DOU Dourbes 151.99 355 *d*PKP **PKPbc** **03 32 48.0 0.0**
MORH Mrgy, Hungar 152.11 334 ⇓P **PKPbc** **03 32 48.5 +0.1**
WLF Walferdange 152.27 353 *e*PKPbc **PKiKP** **03 32 49.4 +0.7**
baz=20,slow=2.4
WLF Walferdange 152.27 353 *d*PKP **PKiKP** **03 32 49.1 +0.4**
WLF *d*PKPab **PKPab** **03 32 59.5 -1.7**
MOA Molln 152.29 341 *e*PKP **PKPbc** **03 32 48.4 -0.3**
comp=Z,4.8nm,0.9s
MOA *i* pPKP **pPKPbc** **03 34 55.1 -2.8**
comp=Z,6.5nm,1.4s
ARSA Arzberg 152.42 339 *e*PKP **PKPdf** **03 32 45.3 +3.6**
comp=Z,6.9nm,1.7s
ARSA *ep*PKP **pPKPbc** **03 34 56.4 -1.8**
comp=Z,4.6nm,1.4s
BIOA Bad Ischl, Aus 152.62 341 *i* PKP **PKPab** **03 33 03.5 +0.7**
comp=Z,12nm,0.8s,SNR=5.5
SOKA Soboth 153.08 339 *e*PKP **PKPab** **03 33 04.7 -0.2**
comp=Z,8.3nm,1.0s,SNR=5.2
LESA Schwarzleotal 153.14 343 *e*PKP **PKPab** **03 33 01.0 -4.1**
comp=Z,15nm,1.2s
LESA *ep*PKiKP **pPKPbc** **03 34 59.4 -0.5**
comp=Z,4.7nm,1.5s
BFO Black Forest 153.27 349 **PKPab** **03 33 05.5 -0.1**
WATA Walderalm 153.52 344 *i* PKP **PKPbc** **03 32 51.3 -0.3**
comp=Z,3.4nm,0.8s
WATA *i* PKP **PKPab** **03 33 06.8 0.0**
comp=Z,13nm,1.2s
WTTA Wattenberg 153.57 344 *i* PKP **PKPbc** **03 32 51.5 -0.3**
comp=Z,5.4nm,0.8s
WTTA *i* PKP **PKPab** **03 33 07.5 +0.4**
comp=Z,9.0nm,0.8s
WTTA *ep*PKiKP **pPKiKP** **03 35 02.4 +1.2**
comp=Z,6.5nm,1.1s
MYKA Terra Mystica 153.57 340 *e*PKP **PKPab** **03 33 06.7 -0.3**
comp=Z,4.3nm,0.6s
RETA Reutte 153.57 345 *i* PKP **PKPab** **03 33 07.2 +0.2**
comp=Z,7.5nm,1.3s
MOTA Moosalm 153.63 345 *e*PKP **PKPdf** **03 32 42.8 -0.7**
comp=Z,5.6nm,1.0s
MOTA *i* PKP **PKPab** **03 33 07.4 +0.1**
comp=Z,9.7nm,1.0s
MOTA *i* pPKiKP **pPKiKP** **03 35 04.5 +3.3**
comp=Z,9.2nm,1.4s
SQTA Sankt Quirin 153.72 344 *i* PKP **PKPbc** **03 32 51.5 -0.5**
comp=Z,2.2nm,0.7s
SQTA *i* PKP **PKPab** **03 33 08.3 +0.6**
comp=Z,7.9nm,1.2s
ABTA Abfaltersbach 153.80 342 *i* PKP **PKPdf** **03 32 42.9 -0.8**
comp=Z,5.1nm,0.9s
ABTA *e*PKP **PKPab** **03 33 07.5 -0.5**
comp=Z,8.6nm,0.8s
DAVA Damuels 153.96 346 *i* PKP **PKPab** **03 33 08.4 -0.3**
comp=Z,7.1nm,0.8s
FETA Feichten 154.02 345 *e*PKP **PKPdf** **03 32 43.8 -0.3**
comp=Z,7.0nm,0.9s
FETA *i* pPKiKP **pPKiKP** **03 35 05.2 +3.1**
comp=Z,6.3nm,1.5s
ESDC Sonseca Array 162.00 13 PKPab **PKPab** **03 33 43.5 -0.3**
comp=Z,3.4nm,1.1s,baz=342,slow=4.6,SNR=7.1
DBIC Dimbokro 163.54 158 PKP **PKPdf** **03 32 55.4 -0.5**
comp=Z,4.0nm,0.8s,baz=101,slow=2.4,SNR=5.2
TORD Torodi Ar. Bea 171.02 183 PKP **PKPdf** **03 33 00.1 -1.0**
comp=Z,2.7nm,0.8s,baz=346,slow=2.2,SNR=14
TORD PKPab **PKPab** **03 34 24.6 +0.6**
comp=Z,0.9nm,0.8s,baz=162,slow=3.2,SNR=4.8

UPA 27 03:36:32.4±1.3, 9°.16N×83°.40W, h10km±13km, MW4.0, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLIR3	**Monte Lirio, C**	**0.68**	**123**	*e*P	Pb	03 36 46.0	-0.4
MLIR3				*e*S	Sb	03 36 56.4	+0.6
BRU2	**Volcan**	**0.79**	**118**	*e*P	Pb	03 36 48.2	-0.2
BRU2				*e*S	Sb	03 37 00.3	+1.1
BCO2	**Palmira**	**0.97**	**117**	*i* P	Pg	03 36 51.2	+0.1
BCO2				*e*S	Sg	03 37 03.7	0.0
PSOM3	**Paja de Sombre**	**1.17**	**114**	*e*P	Pb	03 36 54.5	-0.1
LOCO3	**Loma Colorada,**	**1.23**	**128**	*e*P	Pn	03 36 54.5	-1.1
LOCO3				*e*S	Sb	03 37 08.1	-3.5
CHGR2	**Aguacate**	**1.26**	**100**	*e*P	Pn	03 36 55.8	-0.3
CHGR2				*e*S	Sb	03 37 11.6	-1.0
JTS	**Las Juntas de**	**1.90**	**306**	*e*P	Pn	03 37 03.7	-1.2

*IDC **27** 03:44:10.5±6.0, 24°.02S×66°.87W, h194km±32km, mb3.1/1, mbtmp3.6/4, Error ellipse: s-maj=88.2km s-min=24.4km az=51.0*
*SJA **27** 03:44:11.8±0.7, 23°.99S×66°.76W, h230km±7km, ML3.8, MW3.7*
*GUC **27** 03:44:13.7±0.8, 23°.97S×67°.21W, h259km±23km, ML4.1*

ISC 27 03:44:14.1±1.1, 23°.93S±0°.04×66°.82W±0°.04, h181km, n27, σ1.58/44, 1C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALTA		**0.53**	**124**	*e*P	**Pn**	**03 44 42.6**	**+2.8**
SLA	**San Lorenzo**	**1.44**	**124**	*e*P	**Pn**	**03 44 47.7**	**+1.9**
SLA				*e*S	**Sn**	**03 45 08.9**	**-1.4**
AF01	**San Pedro de A**	**1.58**	**308**	*e*P	**Pn**	**03 44 50.5**	**+3.2**
YJA	**Yavi**	**2.12**	**35**	*e*P	**Pn**	**03 44 55.1**	**+2.1**
FSA	**Cafayete**	**2.31**	**161**	*e*P	**Pn**	**03 44 55.7**	**+0.9**
FSA				*e*S	**Sn**	**03 45 27.2**	**+0.6**
GO02	**Mina Guanaco**	**2.81**	**243**	*e*P	**Pn**	**03 45 01.6**	**+0.8**
GO02				*i* S	**Sn**	**03 45 39.1**	**+2.0**
GO02	**Mina Guanaco**	**2.81**	**243**	*e*P	**Pn**	**03 45 01.3**	**+0.6**
GO02				*e*S	**Sn**	**03 45 39.5**	**+2.5**
PB09	**IPOC Station P**	**3.08**	**313**⇑	*e*P	**Pn**	**03 45 05.9**	**+2.0**
PB09				*i* S	**Sn**	**03 45 44.0**	**+1.2**
PB09	**IPOC Station P**	**3.08**	**313**	*e*P	**Pn**	**03 45 05.9**	**+2.0**
PB09				*e*S	**Sn**	**03 45 45.8**	**+3.0**
PB09				IAML		03 45 48.1	
comp=Z,154nm,0.3s							
AHML	**Horco Molle**	**3.15**	**155**	*e*P	**Pn**	**03 45 04.6**	**0.0**
AHML				*e*S	**Sn**	**03 45 43.4**	**-0.8**
PB14	**IPOC Station P**	**3.34**	**257**	*e*P	**Pn**	**03 45 08.2**	**+0.9**
PB14				*e*S	**Sn**	**03 45 49.5**	**+0.7**
PB14				IAML		03 45 51.0	
comp=Z,109nm,0.2s							
PB04	**IPOC Station P**	**3.45**	**297**	*e*P	**Pn**	**03 45 09.5**	**+1.0**
PB04				*i* S	**Sn**	**03 45 50.5**	**-0.4**
PB04	**IPOC Station P**	**3.45**	**297**	*e*P	**Pn**	**03 45 09.7**	**+1.2**
PB04				*e*S	**Sn**	**03 45 52.7**	**+1.8**
PB04

PB08	**IPOC Station P**	**4.34**	**330**	*e*S		**Sn**	**03 46 12.8**	**+1.2**
PB08				IAML			03 46 16.1	
comp=Z,50nm,0.7s								
PATCX	**Punta Patache**	**4.37**	**314**	*e*P		**Pn**	**03 45 19.9**	**-0.1**
PATCX				*e*S		**Sn**	**03 46 11.4**	**-0.3**
PATCX				IAML			03 46 17.4	
comp=Z,62nm,0.3s								
TA01	**Diego Aracena**	**4.57**	**316**	*e*P		**Pn**	**03 45 23.2**	**+0.7**
TA01				*e*S		**Sn**	**03 46 16.0**	**-0.2**
TA01				IAML			03 46 24.5	
comp=Z,34nm,0.5s								
CYA	**Choya**	**4.59**	**169**	*e*P		**Pn**	**03 45 23.3**	**+0.5**
HMBC	**Humberstone**	**4.61**	**321**	*e*P		**Pn**	**03 45 22.5**	**-0.7**
HMBC				*e*S		**Sn**	**03 46 16.6**	**-0.8**
HMBC				IAML			03 46 22.3	
comp=Z,154nm,0.3s								
GO01	**Chusmiza**	**4.78**	**332**	*e*P		**Pn**	**03 45 26.6**	**+0.9**
GO01				*e*S		**Sn**	**03 46 24.2**	**+2.4**
GO03	**Copiapo**	**4.78**	**219**	*e*P		**Pn**	**03 45 24.3**	**-0.9**
GO03				*e*S		**Sn**	**03 46 19.5**	**-1.6**
LPAZ	**La Paz**	**7.70**	**351**	P		**Pn**	**03 46 02.5**	**-1.5**
comp=Z,0.8nm,0.5s,baz=119,slow=4.4,SNR=5.0								
LPAZ				S		**Sn**	**03 47 28.8**	**-2.2**
comp=Z,1.1nm,0.7s,baz=196,slow=19,SNR=2.2								
CPUP	**Villa Florida**	**8.93**	**108**	P		Pn	03 46 15.6	-4.0
comp=Z,1.5nm,0.7s,baz=288,slow=10,SNR=5.5								
BDFB	**Brasilia**	**19.51**	**68**	P		**P**	**03 48 24.6**	**-3.2**
comp=Z,3.0nm,0.7s,baz=237,slow=12,SNR=5.8								
TORD	**Torodi Ar. Bea**	**76.39**	**69**	P		P	03 55 39.1	-4.8
comp=Z,0.3nm,0.5s,baz=258,slow=5.6,SNR=4.4								
comp=Z,0.3nm,0.5s								

SNET ***27*** *04:30:17.1±2.0, 12°.88N×90°.66W, h14km, ML4.9*
CATAC ***27*** *04:30:19.0±0.5, 12°.85N×90°.52W, h9km±3km, ML4.8*
NEIC ***27*** *04:30:23.2±1.8, 13°.09N±0°.04×90°.33W±0°.06, h21km±4km, mb4.6/226, Error ellipse: s-maj=9.9km s-min=2.4km az=54.0*
GCMT ***27*** *04:30:24.2±0.4, 12°.94N±0°.02×90°.64W±0°.03, h24km±1km, MW4.9/62, Moment Tensor Solution. s33,c42; s62,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.12±.18; $M_{\theta\theta}$-2.14±.11; $M_{\phi\phi}$0.02±.11; $M_{r\theta}$0.95±.13; $M_{\theta\phi}$0.62±.07; $M_{\phi r}$-1.45±.19; Best double couple: $M_0$2.80900×10^{16} NP1:ϕ_s128.00000°, δ64.00000°, λ112.00000°. NP2: ϕ_s265.00000°, δ33.00000°, λ52.00000°. Principal axes: T 2.9270, Plg64.0000°, Azm75.0000°; N -0.2290, Plg20.0000°, Azm298.0000°; P -2.6910, Plg16.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***27*** *04:30:26.6±2.1, 13°.52N×89°.82W, h54km±19km, mb4.1/20, mbtmp4.4/24, ML3.5/4, MS4.2/36 Error ellipse: s-maj=24.9km s-min=10.3km az=47.0*
GCG ***27*** *04:30:38.3±2.1, 14°.39N×90°.85W, h50km±34km, MD4.5*
ISC 27 04:30:19.9±1.0, 12°.93N±0°.04×90°.45W±0°.03, h14km±6km, n351, σ1≥41/305, mb4.6/109, MS4.2/35, 4C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.16**	**34**	*e*P	**Pg**	**04 30 41.5**	**-0.9**
NUBE				*e*S	**Sg**	**04 30 57.5**	**-0.1**
NUBE	**Las Nubes**	**1.16**	**34**	*i*P	**Pg**	**04 30 41.3**	**-1.1**
NUBE				*i*S	**Sg**	**04 30 58.3**	**+0.7**
NUBE				IAML		04 31 03.7	
comp=Z,8μm,1.0s							
CEVE	**Cerro Verde**	**1.20**	**42**	*e*P	**Pg**	**04 30 42.6**	**-0.5**
CEVE				*e*S	**Sb**	**04 31 00.0**	**+1.9**
CEVE	**Cerro Verde**	**1.20**	**42**	*i*P	**Pg**	**04 30 42.8**	**-0.3**
CEVE				*i*S	**Sn**	**04 31 00.3**	**+1.5**
CEVE				IAML		04 31 02.9	
comp=Z,21μm,1.0s							
JAYA	**Jayaque - finc**	**1.21**	**53⇑**	*e*P	**Pg**	**04 30 42.5**	**-0.8**
JAYA				*e*S	**Sb**	**04 30 59.8**	**+1.5**
JAYA	**Jayaque - finc**	**1.21**	**53**	*i*P	**Pg**	**04 30 42.7**	**-0.6**
JAYA				*i*S	**Sn**	**04 31 02.2**	**+3.3**
JAYA				IAML		04 31 06.0	
comp=Z,20μm,1.0s							
SBLS	**San Blas**	**1.21**	**41⇑**	*e*P	**Pg**	**04 30 42.6**	**-0.6**
LALI	**Alcalda de L**	**1.23**	**63**	*e*P	**Pg**	**04 30 42.4**	**-1.2**
LALI				*e*S	**Sn**	**04 31 00.0**	**+0.9**
LALI	**Alcalda de L**	**1.23**	**63**	*i*P	**Pg**	**04 30 42.9**	**-0.7**
LALI				*i*S	**Sb**	**04 30 59.7**	**+1.0**
LALI				IAML		04 31 07.0	
comp=Z,5μm,1.0s							
IXG	**Ixpaco**	**1.23**	**0**	*i*P	Pb	04 30 50.5	+7.3
RTR	**El Retiro**	**1.24**	**39⇑**	*e*P	**Pg**	**04 30 43.1**	**-0.7**
SNJE	**San Jose**	**1.24**	**41**	*e*P	**Pg**	**04 30 43.1**	**-0.8**
LOAL	**Lomas de Alarc**	**1.24**	**31**	*e*P	**Pg**	**04 30 42.9**	**-1.1**
LOAL				*e*S	**Sg**	**04 30 59.6**	**-0.6**
LOAL	**Lomas de Alarc**	**1.24**	**31**	*i*P	**Pg**	**04 30 43.2**	**-0.7**
LOAL				*i*S	**Sn**	**04 31 02.4**	**+2.8**
LOAL				IAML		04 31 06.7	
comp=Z,24μm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.27**	**30**	*e*P	**Pn**	**04 30 43.1**	**-0.2**
SLOZ				*e*S	**Sg**	**04 31 01.6**	**+0.7**
CEDA	**San Andres**	**1.34**	**50**	*e*P	**Pn**	**04 30 44.5**	**+0.1**
CEDA				*e*S	**Sn**	**04 31 03.7**	**+1.7**
CEDA	**San Andres**	**1.34**	**50**	*i*P	**Pn**	**04 30 44.7**	**+0.4**
CEDA				*i*S	**Sn**	**04 31 05.1**	**+3.1**
CEDA				IAML		04 31 09.2	
comp=Z,31μm,1.0s							
PMON	**Piamonte**	**1.35**	**55**	*e*P	**Pn**	**04 30 44.5**	**0.0**
PMON	**Piamonte**	**1.35**	**55**	*i*P	**Pn**	**04 30 45.0**	**+0.5**
PMON				*i*S	**Sn**	**04 31 05.9**	**+3.6**
PMON				IAML		04 31 11.1	
comp=Z,17μm,1.0s							
UNIC	**Universidad Ca**	**1.36**	**40**	*e*P	**Pn**	**04 30 44.6**	**-0.1**
UNIC				*e*S	**Sb**	**04 31 03.2**	**+0.6**
UNIC	**Universidad Ca**	**1.36**	**40**	*i*P	**Pn**	**04 30 44.7**	**+0.1**
UNIC				*i*S	**Sb**	**04 31 04.2**	**+1.6**
UNIC				IAML		04 31 06.9	
comp=Z,4μm,1.0s							
BOQS	**Boqueron**	**1.39**	**55**	*e*P	**Pn**	**04 30 45.1**	**-0.1**
SNET	**Serv Nac Est T**	**1.40**	**57**		**Pn**	**04 30 45.1**	**-0.1**
SNET	**Serv Nac Est T**	**1.40**	**57**	*e*P	**Pn**	**04 30 45.1**	**-0.1**
SNET	**Serv Nac Est T**	**1.40**	**57**	*i*P	**Pn**	**04 30 45.2**	**0.0**
SNET				*i*S	**Sn**	**04 31 06.9**	**+3.4**
SNET				IAML		04 31 14.8	
comp=Z,12μm,1.0s							
PANCS	**Alcalda de**	**1.41**	**61**	*e*P	**Pn**	**04 30 45.1**	**-0.2**
PANCS	**Alcalda de**	**1.41**	**61**	*i*P	**Pn**	**04 30 45.3**	**+0.1**
PANCS				IAML		04 31 07.8	
comp=Z,14μm,1.0s							
UEES	**Universidad Ev**	**1.41**	**56**	*e*P	**Pn**	**04 30 45.1**	**-0.2**
UEES	**Universidad Ev**	**1.41**	**56**	*i*P	**Pn**	**04 30 46.0**	**+0.7**
UEES				*i*S	**Sn**	**04 31 06.1**	**+2.3**
UEES				IAML		04 31 12.8	
comp=Z,6μm,1.0s							
PIC2	**El Picacho**	**1.41**	**55**	*e*P	**Pn**	**04 30 45.6**	**+0.1**
SEMO	**Seminario San**	**1.42**	**57**	*e*P	**Pn**	**04 30 45.8**	**+0.4**
SEMO	**Seminario San**	**1.42**	**57**	*i*P	**Pn**	**04 30 46.2**	**+0.8**
SEMO				*i*S	**Sn**	**04 31 05.5**	**+1.6**
SEMO				IAML		04 31 25.0	
comp=Z,17μm,1.0s							
LOMA	**Loma Larga**	**1.43**	**60**	*e*P	**Pn**	**04 30 45.4**	**-0.2**
LOMA	**Loma Larga**	**1.43**	**60**	*i*P	**Pn**	**04 30 46.0**	**+0.4**
LOMA				*i*S	**Sn**	**04 31 11.2**	**+6.9**
LOMA				IAML		04 31 18.8	
comp=Z,7μm,1.0s							
UTEC	**Universidad Te**	**1.43**	**58**	*e*P	**Pn**	**04 30 45.9**	**+0.3**
UTEC				*e*S	**Sg**	**04 31 05.7**	**-0.5**
UTEC	**Universidad Te**	**1.43**	**58**	*i*P	**Pn**	**04 30 46.4**	**+0.8**
UTEC				*i*S	**Sg**	**04 31 06.6**	**+0.4**
UTEC				IAML		04 31 15.9	
comp=Z,7μm,1.0s							
UESS	**Universidad de**	**1.44**	**57**	*e*P	**Pn**	**04 30 45.9**	**+0.1**
PCG	**Pacaya**	**1.46**	**354**	*i*P	**Pn**	**04 30 46.1**	**-0.1**
IGN	**Direccin Gen**	**1.47**	**58**	*e*P	**Pn**	**04 30 46.4**	**+0.3**
IGN	**Direccin Gen**	**1.47**	**58**	*i*P	**Pn**	**04 30 47.0**	**+0.9**
IGN				*i*S	**Sb**	**04 31 06.3**	**+0.7**
IGN				IAML		04 31 09.5	
comp=Z,23μm,1.0s							
UDBS	**Universidad Do**	**1.48**	**58**	*e*P	**Pn**	**04 30 46.5**	**+0.2**
UDBS	**Universidad Do**	**1.48**	**58**	*i*P	**Pn**	**04 30 47.1**	**+0.9**
UDBS				IAML		04 31 12.4	
comp=Z,7μm,1.0s							
ESSG	**Sabana Grande**	**1.49**	**346**	*i*P	**Pn**	**04 30 45.6**	**-0.9**
ESSG				*i*S	**Sn**	**04 31 05.3**	**-0.5**
ESSG				IAML		04 31 13.3	
comp=Z,11μm,1.0s							
LFRS	**El Faro**	**1.51**	**63**	*e*P	**Pn**	**04 30 46.7**	**-0.1**
LFU	**La Fuente**	**1.53**	**58**	*e*P	**Pn**	**04 30 47.1**	**+0.1**
FUG	**Fuego 3**	**1.56**	**346**	*e*P	**Pn**	**04 30 47.2**	**-0.3**
JUAM	**Asuncion Mita**	**1.57**	**27**	*i*P	Pg	04 31 09.1	+19
GCG4	**OSOP**	**1.65**	**357**	*i*P	**Pn**	**04 30 49.4**	**+0.7**
GCG4				*i*S	**Sn**	**04 31 10.7**	**+0.9**
GCG4				IAML		04 31 19.5	
comp=Z,15μm,1.0s							
NBG	**Las Nubes**	**1.65**	**3**	*e*P	**Pn**	**04 30 50.4**	**+1.6**
PAVA	**Las Pavas**	**1.66**	**62**	*e*P	**Pn**	**04 30 49.0**	**+0.2**
PAVA	**Las Pavas**	**1.66**	**62**	*i*P	**Pn**	**04 30 49.7**	**+0.9**
PAVA				*i*S	**Sn**	**04 31 05.6**	**-4.4**
PAVA				IAML		04 31 26.6	
comp=Z,9μm,1.0s							
COEG	**Centro de Oper**	**1.67**	**66**	*e*P	**Pn**	**04 30 49.0**	**+0.1**
COEG				*e*S	**Sb**	**04 31 12.2**	**+0.7**
COEG	**Centro de Oper**	**1.67**	**66**	*i*P	**Pn**	**04 30 49.6**	**+0.7**
COEG				IAML		04 31 18.4	
comp=Z,5μm,1.0s							
GUMI	**Mixco**	**1.70**	**355**	*i*P	**Pn**	**04 30 49.8**	**+0.4**
GUMI				*i*S	**Sn**	**04 31 13.2**	**+2.1**
GUMI				IAML		04 31 18.3	
comp=Z,14μm,1.0s							
TECO	**Alcaldia de Te**	**1.73**	**69**	*e*P	**Pn**	**04 30 49.5**	**-0.2**
TECO	**Alcaldia de Te**	**1.73**	**69**	*i*P	**Pn**	**04 30 49.3**	**-0.3**
TECO				*i*S	**Sb**	**04 31 13.3**	**+0.1**
TECO				IAML		04 31 17.8	
comp=Z,2μm,1.0s							
SULM	**Suchitepequez,**	**1.75**	**322**	*i*P	**Pn**	**04 30 51.0**	**+1.1**
UESV	**Universidad de**	**1.76**	**66**	*e*P	**Pn**	**04 30 50.4**	**+0.3**
UESV	**Universidad de**	**1.76**	**66**	*i*P	**Pn**	**04 30 50.7**	**+0.6**
UESV				*i*S	**Sb**	**04 31 14.7**	**+0.6**
UESV				IAML		04 31 24.7	
comp=Z,5μm,1.0s							
MTO3	**Montecristo**	**1.80**	**36**		**Pn**	**04 30 51.1**	**+0.3**
MTO3				Sn	**Sn**	**04 31 10.7**	**-2.9**
MTO3	**Montecristo**	**1.80**	**36**	*e*P	**Pn**	**04 30 51.1**	**+0.3**
MTO3	**Montecristo**	**1.80**	**36**	*i*P	**Pn**	**04 30 51.5**	**+0.7**
MTO3				IAML		04 31 01.2	
comp=Z,4μm,1.0s							
MTO3				*i*S	**Sb**	**04 31 17.7**	**+2.3**
SCLA	**Alcaldia de Sa**	**1.84**	**65⇑**	*e*P	**Pn**	**04 30 51.9**	**+0.7**
SCLA				*e*S	**Sb**	**04 31 16.8**	**+0.4**
SCLA	**Alcaldia de Sa**	**1.84**	**65**	*i*P	**Pn**	**04 30 52.1**	**+0.9**
SCLA				*i*S	**Sg**	**04 31 21.5**	**+2.3**
SCLA				IAML		04 31 23.7	
comp=Z,2μm,1.0s							
CHTG	**Tecpan**	**1.90**	**344**	*i*P	**Pn**	**04 30 52.7**	**+0.5**
CHTG				*i*S	**Sn**	**04 31 17.6**	**+1.6**
CHTG				IAML		04 31 24.5	
comp=Z,19μm,1.0s							
ESQI	**Esquipulas**	**1.94**	**33**		**Pn**	**04 30 52.9**	**+0.2**
ESQI	**Esquipulas**	**1.94**	**33**	*e*P	**Pn**	**04 30 53.3**	**+0.7**
ESQI				*e*S	**Sn**	**04 31 18.7**	**+1.7**
ESQI	**Esquipulas**	**1.94**	**33**	*i*P	**Pn**	**04 30 53.9**	**+1.2**
ESQI				*i*S	**Sb**	**04 31 21.4**	**+2.0**
ESQI				IAML		04 31 55.6	
comp=Z,13μm,1.0s							
TECA	**Tecapa**	**1.97**	**73**	*e*P	**Pn**	**04 30 53.2**	**+0.1**
RTAL	**Retalhuleu**	**2.00**	**323**		**Pn**	**04 30 53.6**	**+0.2**
STG3	**Santiaguito 3,**	**2.08**	**328**	*e*P	**Pn**	**04 30 54.4**	**-0.3**
SOKI	**Kika Raxquin**	**2.10**	**334**	*i*P	**Pn**	**04 30 54.9**	**-0.2**
SOKI				*i*S	**Sn**	**04 31 21.1**	**-0.1**
SOKI				IAML		04 31 30.3	
comp=Z,7μm,1.0s							
PACA	**Pacayal**	**2.13**	**75**	*i*P	**Pn**	**04 30 56.6**	**+1.3**
PACA				IAML		04 31 34.3	
comp=Z,23μm,1.0s							
LCY	**Lacayo**	**2.15**	**77**	*e*P	**Pn**	**04 30 56.2**	**+0.7**
RANC	**El Ranchito**	**2.16**	**76**	*i*P	**Pn**	**04 30 57.0**	**+1.3**
RANC				*i*S	**Sn**	**04 31 23.7**	**+1.3**
RANC				IAML		04 31 38.0	
comp=Z,3μm,1.0s							
QUIS	**Sacapulas**	**2.43**	**345**	*i*P	**Pn**	**04 31 01.5**	**+2.1**
QUIS				*i*S	**Sn**	**04 31 31.9**	**+2.9**
QUIS				IAML		04 31 35.0	
comp=Z,11μm,1.0s							
SMCA	**Catarina**	**2.48**	**321**	*i*P	**Pn**	**04 30 59.4**	**-0.6**
SMCA				*i*S	**Sn**	**04 31 31.3**	**+1.1**
SMCA				IAML		04 31 39.1	
comp=Z,3μm,1.0s							
LCND	**La Caada**	**2.52**	**81**	*e*P	**Pn**	**04 31 00.6**	**+0.1**
LCND	**La Caada**	**2.52**	**81**	*i*P	**Pn**	**04 31 01.0**	**+0.5**
LCND				IAML		04 31 39.5	
comp=Z,2μm,1.0s							
CNCH	**Conchagua**	**2.57**	**82**	*e*P	**Pn**	**04 31 01.2**	**-0.1**
CNCH	**Conchagua**	**2.57**	**82**	*i*P	**Pn**	**04 31 02.3**	**+1.0**
CNCH				IAML		04 31 59.4	
comp=Z,5μm,1.0s							
HUEH	**Huehuetenango**	**2.59**	**337**	Pn	**Pn**	**04 31 02.7**	**+1.1**
INTHN	**La Esperanza I**	**2.66**	**59**	*i*P	**Pn**	**04 31 04.3**	**+1.6**
CSGN	**Cosiguina Volc**	**2.81**	**89**	*i*P	**Pn**	**04 31 05.6**	**+1.0**
CSGN				IAML		04 31 48.5	
comp=Z,320nm,1.0s							
POTN	**Potosi Cosigui**	**2.87**	**88**	*i*P	**Pn**	**04 31 05.3**	**0.0**
POTN				IAML		04 32 01.4	
comp=Z,630nm,1.0s							
COMHN	**El Horno**	**3.19**	**61**	*i*P	**Pn**	**04 31 10.3**	**+0.4**
TGUH	**Tegucigalpa,Un**	**3.28**	**70**	Pn	**Pn**	**04 31 11.3**	**+0.2**
TGUH	**Tegucigalpa,Un**	**3.28**	**70**	*i*P	**Pn**	**04 31 12.2**	**+1.1**
TGUH				IAML		04 32 36.3	
comp=Z,1μm,1.0s							
CRIN	**San Cristobal**	**3.32**	**94**		**Pn**	**04 31 12.2**	**+0.6**
CRIN	**San Cristobal**	**3.32**	**94**	*i*P	**Pn**	**04 31 12.3**	**+0.7**
CRIN				IAML		04 32 14.3	
comp=Z,3μm,1.0s							
PKGN	**Cerro Pekin**	**3.39**	**94**	*i*P	**Pn**	**04 31 13.0**	**+0.5**
PKGN				*i*S	**Sn**	**04 31 52.1**	**-0.5**
PKGN				IAML		04 31 54.2	
comp=Z,3μm,1.0s							
PACN	**Al O del Volca**	**3.59**	**96**	*i*P	**Pn**	**04 31 15.6**	**+0.4**
PACN				*i*S	**Sn**	**04 31 56.4**	**-1.1**
PACN				IAML		04 32 06.2	
comp=Z,600nm,1.0s							
PLRN	**Geotermica Pol**	**3.60**	**95**	*i*P	**Pn**	**04 31 14.7**	**-0.7**
PLRN				*i*S	**Sn**	**04 31 54.9**	**-2.9**
YUSH	**Yuscaran**	**3.65**	**73**	*i*P	**Pn**	**04 31 16.9**	**+0.8**
ILCN	**San Idelfonso**	**3.67**	**95**	*i*P	**Pn**	**04 31 16.4**	**+0.1**
ILCN				IAML		04 32 16.5	
comp=Z,190nm,1.0s							
CNGA	**Al SSO del Vol**	**3.68**	**96**	*i*P	**Pn**	**04 31 17.5**	**+1.0**
CNGA				IAML		04 32 09.7	
comp=Z,500nm,1.0s							
MACN	**El Madrono**	**3.71**	**97**	*i*P	**Pn**	**04 31 16.9**	**0.0**
MACN				IAML		04 32 09.3	
comp=Z,300nm,1.0s							
CCIG	**Comitan**	**3.71**	**334**		**Pn**	**04 31 19.5**	**+2.4**
LEVN	**Ruinas Leon Vi**	**3.77**	**98**	*i*P	**Pn**	**04 31 18.4**	**+0.7**
LEVN				IAML		04 32 09.4	
comp=Z,910nm,1.0s							
MOMN	**Momotombo**	**3.85**	**97**	*i*P	**Pn**	**04 31 19.0**	**+0.2**
MOMN				*i*S	**Sn**	**04 32 01.3**	**-2.6**
MOMN				IAML		04 32 18.3	
comp=Z,23nm,1.0s							
LIMN	**Finca el Limon**	**3.98**	**88**	*i*P	**Pn**	**04 31 20.8**	**+0.1**
LIMN				IAML		04 33 02.2	
comp=Z,480nm,1.0s							
PETF	**Flores**	**4.00**	**8**		**Pn**	**04 31 21.8**	**+0.9**
PETF	**Flores**	**4.00**	**8**	*i*P	**Pn**	**04 31 23.6**	**+2.7**
SAPS	**Ciudad Sandino**	**4.02**	**100**	*i*P	**Pn**	**04 31 22.4**	**+1.3**
SAPS				*i*S	**Sn**	**04 32 05.1**	**-2.9**
SAPS				IAML		04 32 10.9	
comp=Z,880nm,1.0s							
APQ2	**Apoyeque**	**4.09**	**100**	*i*P	**Pn**	**04 31 23.6**	**+1.5**
APQ2				*i*S	**Sn**	**04 32 09.1**	**-0.6**
APQ2				IAML		04 32 22.5	
comp=Z,610nm,1.0s							
TISN	**Laguna Tiscapa**	**4.15**	**100**	*i*P	**Pn**	**04 31 22.0**	**-1.0**
TISN				IAML		04 32 17.8	
comp=Z,52nm,1.0s							
UNAN	**Cigeo UNAN**	**4.16**	**101**	*i*P	**Pn**	**04 31 24.4**	**+1.4**
UNAN				*i*S	**Sn**	**04 32 08.5**	**-3.0**
UNAN				IAML		04 32 15.5	
comp=Z,5μm,1.0s							
RCFN	**Al S de San Ju**	**4.17**	**81**	*i*P	**Pn**	**04 31 24.1**	**+0.8**
RCFN				IAML		04 31 25.8	
comp=Z,3μm,1.0s							
MGAN	**Managua**	**4.17**	**100**		**Pn**	**04 31 23.3**	**+0.1**
RCVN	**Varilla2**	**4.19**	**81**	*i*P	**Pn**	**04 31 24.1**	**+0.5**
RCVN				IAML		04 31 37.9	
comp=Z,4μm,1.0s							
RCPN	**Sur Rio San Ju**	**4.28**	**82**	*i*P	**Pn**	**04 31 25.8**	**+1.0**
NANN	**Nandasmo**	**4.34**	**103**	*i*P	**Pn**	**04 31 28.1**	**+2.6**
NANN				*i*S	**Sn**	**04 32 13.4**	**-2.6**
ACON	**Acoyapa**	**5.24**	**100**		**Pn**	**04 31 38.2**	**+0.3**
CMIG	**Matias Romero**	**5.96**	**315**	P	**Pn**	**04 31 51.5**	**+3.7**
comp=Z,1.6nm,0.3s,baz=150,slow=10.0,SNR=16							
CMIG				S	**Sn**	**04 32 55.2**	**-0.8**
comp=Z,46nm,0.5s,baz=276,slow=19,SNR=2.2							
comp=Z,18nm,0.5s							
JTS	**Las Juntas de**	**5.99**	**115**	P	**Pn**	**04 31 50.5**	**+2.3**
comp=Z,9.5nm,0.3s,baz=110,slow=22,SNR=49							
JTS				S	**Sn**	**04 32 54.2**	**-2.5**
comp=Z,21nm,0.4s,baz=108,slow=20,SNR=1.6							
comp=Z,21nm,0.3s							
ESPN	**Las Esperanzas**	**6.04**	**96**		**Pn**	**04 31 49.6**	**+0.7**
SOCE	**Pocosol**	**6.24**	**113**		**Pn**	**04 31 53.8**	**+2.0**
HDC	**Heredia**	**6.85**	**114**	Pn	**Pn**	**04 32 02.6**	**+2.4**
TEIG	**Tepich**	**7.55**	**16**	Pn	**Pn**	**04 32 11.0**	**+1.4**
TEIG	**Tepich**	**7.55**	**16**	P	**Pn**	**04 32 09.3**	**-0.4**
comp=Z,0.1nm,0.4s,baz=14,slow=24,SNR=18							
BRU2	**Volcan**	**8.65**	**118**	Pn	**Pn**	**04 32 28.2**	**+3.2**
TLIG	**Tlapa**	**9.09**	**301**	Pn	**Pn**	**04 32 33.8**	**+2.8**
UNM	**Universidad Na**	**10.53**	**308**	Pn	**Pn**	**04 32 52.1**	**+1.3**
SOR	**Soroa**	**12.09**	**35**	Pn	**Pn**	**04 33 11.9**	**-0.1**
CAMR	**Camarioca**	**13.26**	**39**	Pn	**Pn**	**04 33 27.9**	**0.0**
ZAIG	**Zacatecas**	**15.12**	**312**	Pn	**Pn**	**04 33 55.4**	**+1.9**
HBVL	**Hebbronville**	**16.04**	**332**	Pn	**Pn**	**04 34 06.3**	**+1.1**
HKT	**Hockley**	**17.66**	**344**		**Pn**	**04 34 25.9**	**+0.4**
ROSC	**El Rosal**	**17.83**	**115**		**P**	**04 34 30.3**	**+1.4**
ROSC				IAmb	IAmb	04 34 47.0	
comp=Z,53nm,1.5s							
ROSC	**El Rosal**	**17.83**	**115**	P	**P**	**04 34 30.1**	**+1.1**
comp=Z,0.8nm,0.3s,baz=260,slow=3.8,SNR=6.7							
comp=Z,6.0nm,0.6s							
HNDO	**Hondo**	**18.44**	**335**	P	**P**	**04 34 36.5**	**+1.3**
COHC	**Cochancay**	**18.91**	**143**	P	**Pn**	**04 34 43.1**	**+2.2**
DRIO	**Del Rio**	**18.94**	**332**	P	**P**	**04 34 41.4**	**+0.8**
VBMS	**Vicksburg**	**19.20**	**360**	P	**P**	**04 34 44.9**	**+1.5**
JCT	**Junction City**	**19.49**	**335**	P	**P**	**04 34 46.8**	**0.0**
146A	**Union**	**19.66**	**3**	P	**P**	**04 34 49.5**	**+1.0**
146A				IAmb	IAmb	04 35 03.1	
comp=Z,55nm,1.1s							
143A	**Socs Landing,**	**19.70**	**358**	P	**P**	**04 34 50.0**	**+1.1**
143A				IAmb	IAmb	04 35 01.4	
comp=Z,27nm,1.0s							
SDV	**Santo Domingo**	**19.86**	**100**	P	**Pn**	**04 34 52.1**	**-0.5**
SDV	**Santo Domingo**	**19.86**	**100**	P	**P**	**04 34 49.9**	**-1.1**
comp=Z,1.3nm,0.3s,baz=309,slow=12,SNR=1.8							
SDV				LR	LR	04 43 26.2	
comp=Z,340nm,20.7s,baz=272,slow=40							
comp=Z,5.5nm,0.5s							
SDV	**Santo Domingo**	**19.86**	**100**	*e*P	**Pn**	**04 34 52.4**	**-0.3**
BRDY	**Brady**	**19.90**	**338**	P	**P**	**04 34 50.9**	**-0.2**
HPIG		**19.94**	**317**	P	**P**	**04 34 52.7**	**+0.8**
WHTX	**Lake Whitney,**	**20.04**	**342**	P	**P**	**04 34 52.9**	**+0.3**
SAND	**Sanderson**	**20.10**	**329**	P	**P**	**04 34 53.8**	**+0.4**
LRAL	**Lakeview Retre**	**20.26**	**8**	P	**P**	**04 34 56.0**	**+0.9**
LRAL				IAmb	IAmb	04 35 12.7	
comp=Z,37nm,1.4s							
Z47A	**Carrollton**	**20.29**	**6**	P	**P**	**04 34 56.1**	**+0.8**
Z47A				IAmb	IAmb	04 35 09.7	
comp=Z,27nm,0.8s							
Z41A	**Richland Creek**	**20.35**	**354**	P	**P**	**04 34 57.2**	**+1.2**
Z41A				IAmb	IAmb	04 35 06.7	
comp=Z,32nm,1.0s							
FW13	**Cleburne**	**20.37**	**343**	P	**P**	**04 34 56.7**	**+0.5**
FW13				IAmb	IAmb	04 35 05.0	
comp=Z,24nm,0.9s							
TREL	**Terrell**	**20.38**	**346**	P	**P**	**04 34 56.5**	**+0.2**
TREL				IAmb	IAmb	04 35 05.3	
comp=Z,30nm,1.1s							
TX31	**Lajitas Ar. Si**	**20.43**	**325**	P	**P**	**04 34 58.2**	**+1.2**
TXAR	**Lajitas Array**	**20.43**	**325**	P	**P**	**04 34 58.5

comp=Z,17nm,0.9s
T50A Nancy 24.51 11 IAmb IAmb 04 35 49.0
comp=Z,10nm,0.8s
S44A Carbondale 24.68 2 IAmb IAmb 04 35 41.6
comp=Z,28nm,1.1s
SIUC Southern Illin 24.71 2 IAmb IAmb 04 35 41.8
comp=Z,29nm,1.1s
S39A Bolivar 24.79 355 IAmb IAmb 04 35 42.9
comp=Z,26nm,1.2s
KAN17 Caldwell West 24.89 346 IAmb IAmb 04 35 43.2
comp=Z,16nm,0.7s
KAN09 Caldwell North 24.95 346 IAmb IAmb 04 35 43.8
comp=Z,26nm,1.0s
CCM Cathedral Cave 25.03 359 P **P** **04 35 42.2 -1.5**
CCM IAmb IAmb 04 35 44.5
comp=Z,32nm,1.4s
USIN University of 25.06 5 P **P** **04 35 42.5 -1.3**
319A Douglas 25.25 320 IAmb IAmb 04 36 08.7
comp=Z,9.2nm,0.9s
WCI Wyandotte Cave 25.47 8 P **P** **04 35 46.9 -0.7**
ANMO Albuquerque 26.28 329 P **P** **04 35 56.7 +1.4**
R32A Long Quarter, 26.43 345 IAmb IAmb 04 35 58.8
comp=Z,15nm,1.0s
P40A Paris 26.53 357 IAmb IAmb 04 35 58.0
comp=Z,20nm,1.3s
P38A Dawn 26.73 355 IAmb IAmb 04 35 59.2
comp=Z,9.2nm,0.8s
TUC Tucson 26.83 319 P **P** **04 36 01.9 +1.7**
CZSB Cruzeiro do Su 27.05 138 P **P** **04 36 04.6 +2.4**
CZSB IAmb IAmb 04 36 23.3
comp=Z,14nm,1.2s
CZSB Cruzeiro do Su 27.05 138 *eP* **P** **04 36 04.5 +2.3**
NNA Nana 28.20 151 P **P** **04 36 14.5 +2.1**
NNA IAmb IAmb 04 36 22.3
comp=Z,18nm,1.1s
WUAZ Wupatki 29.37 324 IAmb IAmb 04 36 26.8
comp=Z,14nm,1.2s
U15A North Rim 30.54 324 IAmb IAmb 04 36 38.7
comp=Z,10nm,1.1s
W13A Hualapai Mount 30.60 320 IAmb IAmb 04 36 39.0
comp=Z,8.4nm,1.3s
HMU Henry Mountain 30.78 328 IAmb IAmb 04 36 46.2
comp=Z,7.8nm,1.0s
ECSD EROS Data Cent 31.15 351 IAmb IAmb 04 36 38.2
comp=Z,14nm,1.1s
KNB Kanab 31.25 324 IAmb IAmb 04 36 53.0
comp=Z,6.6nm,0.8s
PKCU Pink Cliffs 31.27 325 IAmb IAmb 04 36 44.2
comp=Z,17nm,1.2s
O20A White River Ci 31.30 333 IAmb IAmb 04 36 43.0
comp=Z,11nm,1.1s
PFO Pinyon Flats O 31.38 315 LR LR 04 50 40.1
comp=Z,210nm,19.2s,baz=128,slow=39
BOAV Boa Vista 31.41 107 P **P** **04 36 41.5 +0.6**
BOAV Boa Vista 31.41 107 *eP* **P** **04 36 41.7 +0.8**
V12A Nelson 31.61 320 P **P** **04 36 45.1 +2.5**
V12A IAmb IAmb 04 36 47.6
comp=Z,14nm,1.1s
MTPU Mount Pierson 31.63 326 IAmb IAmb 04 36 55.3
comp=Z,8.8nm,0.8s
SZCU Shurtz Canyon 31.81 325 IAmb IAmb 04 37 01.9
comp=Z,7.0nm,0.9s
P18A Preston Nutter 31.82 330 IAmb IAmb 04 36 47.2
comp=Z,6.1nm,1.1s
CCUT Cedar City 31.93 324 IAmb IAmb 04 36 50.6
comp=Z,14nm,1.3s
P17A Butcher Ranch, 31.94 330 IAmb IAmb 04 36 48.8
comp=Z,9.9nm,1.0s
MSU Marysvale 31.96 327 P **P** **04 36 46.9 +1.0**
MSU **pP** **04 36 48.1 -1.5**
PRN Pahroc Range 32.82 322 IAmb IAmb 04 37 12.0
comp=Z,5.9nm,1.2s
PSUT Pine Spring 32.90 325 IAmb IAmb 04 37 05.6
comp=Z,6.6nm,0.9s
ETMB Extrema 33.01 132 P **P** **04 36 55.5 +0.5**
ETMB Extrema 33.01 132 *eP* **P** **04 36 56.3 +1.3**
SADO Sadowa 33.17 15 LR LR 04 51 16.7
comp=Z,984nm,18.6s,baz=240,slow=38
TPNV Topopah Spring 33.26 321 IAmb IAmb 04 37 02.5
comp=Z,6.7nm,1.1s
CTU Camp Tracy 33.38 330 IAmb IAmb 04 37 00.3
comp=Z,7.5nm,1.1s
SPR3 Spring Creek 3 33.49 325 IAmb IAmb 04 37 02.5
comp=Z,7.2nm,1.0s
TCUT Toone Canyon 33.54 331 IAmb IAmb 04 37 02.4
comp=Z,6.4nm,0.8s
MACA Manacapuru-AM 33.60 116 P **P** **04 37 00.3 +0.1**
MACA Manacapuru-AM 33.60 116 *eP* **P** **04 37 00.4 +0.3**
R11B Troy Canyon, C 33.76 323 IAmb IAmb 04 37 05.9
comp=Z,8.2nm,1.2s
Q12A Willow Creek R 33.80 325 IAmb IAmb 04 37 06.4
comp=Z,12nm,1.1s
GRAC Grapevine Rang 33.98 320 IAmb IAmb 04 37 23.2
comp=Z,13nm,1.1s
HWUT Hardware Ranch 33.99 331 IAmb IAmb 04 37 06.9
comp=Z,9.1nm,1.1s
PDAR Pinedale Array 34.02 334 P **P** **04 37 03.8 -0.1**
comp=Z,0.6nm,0.6s,baz=133,slow=11,SNR=5.8
PDAR PcP **PcP** **04 39 41.6 +0.1**
comp=Z,0.3nm,0.3s,baz=111,slow=4.9,SNR=8.9
comp=Z,0.6nm,0.6s
AHID Auburn Hatcher 34.69 333 IAmb IAmb 04 37 10.9
comp=Z,5.1nm,0.9s
HVU Hansel Valley 34.70 330 IAmb IAmb 04 37 25.7
comp=Z,5.2nm,1.0s
SAML Samuel 34.72 127 P **P** **04 37 09.6 -0.3**
SAML Samuel 34.72 127 *eP* **P** **04 37 09.3 -0.5**
LOHW Long Hollow 35.16 334 IAmb IAmb 04 37 15.4
comp=Z,6.7nm,1.1s
TPAW Teton Pass 35.21 334 IAmb IAmb 04 37 17.1
comp=Z,18nm,1.4s
ELK Elko 35.21 326 IAmb IAmb 04 37 24.9
comp=Z,4.5nm,0.8s
NV11 Mina Array Sit 35.36 321 IAmb IAmb 04 37 20.7
comp=Z,15nm,1.1s
OMMB Old Mammoth Mi 35.39 319 IAmb IAmb 04 37 34.1
comp=Z,5.7nm,1.0s
NVAR Mina Array Bea 35.45 321 P **P** **04 37 18.1 +1.9**
NVAR Mina Array Bea 35.45 321 P **P** **04 37 18.7 +2.5**
comp=Z,14nm,0.9s,baz=133,slow=7.8,SNR=40
NVAR PcP **PcP** **04 39 47.3 +1.5**
comp=Z,1.5nm,0.8s,baz=151,slow=2.1,SNR=3.9
NVAR LR LR 04 53 34.8
comp=Z,476nm,18.3s,baz=132,slow=39
comp=Z,14nm,0.9s
LHV Little Huntoon 35.47 320 IAmb IAmb 04 37 22.4
comp=Z,12nm,0.9s
FLWY Flagg Ranch 35.58 335 IAmb IAmb 04 37 28.5
comp=Z,9.2nm,1.2s
KVN Kaiserville 35.72 322 IAmb IAmb 04 37 22.5
comp=Z,14nm,1.1s
YNE Yellowstone No 36.06 336 IAmb IAmb 04 37 23.4
comp=Z,7.4nm,1.3s
BMN Battle Mountai 36.09 324 IAmb IAmb 04 37 24.3
comp=Z,5.9nm,0.9s
YMR Madison River 36.17 335 IAmb IAmb 04 37 24.8
comp=Z,10nm,1.1s
WAKR Walker 36.20 320 IAmb IAmb 04 37 28.2
comp=Z,9.5nm,1.4s
YERR Yerington 36.37 321 IAmb IAmb 04 37 29.7
comp=Z,14nm,1.3s
LPAZ La Paz 36.46 142 P **P** **04 37 27.0 +1.5**
comp=Z,0.6nm,0.6s,baz=324,slow=11,SNR=2.3
comp=Z,0.6nm,0.6s
PNTR Pine Nut 36.66 321 IAmb IAmb 04 37 40.4
comp=Z,8.9nm,0.8s
DLMT Dillon 37.41 334 IAmb IAmb 04 37 35.9
comp=Z,16nm,1.2s
ULM Lac du Bonnet 37.48 354 IAmb IAmb 04 37 32.7
comp=Z,14nm,1.0s
ULM Lac du Bonnet 37.48 354 P P 04 37 29.6 -3.5
comp=Z,6.4nm,0.7s,baz=178,slow=8.4,SNR=7.3
ULM LR LR 04 56 22.6
comp=Z,276nm,19.1s,baz=174,slow=42
comp=Z,6.4nm,0.7s
WVOR Wild Horse Val 38.22 326 IAmb IAmb 04 37 50.1
comp=Z,6.8nm,0.8s
EGMT Eagleton 38.51 339 IAmb IAmb 04 37 58.8
comp=Z,12nm,1.3s
ITTB Itaituba 38.52 114 *eP* **P** **04 37 42.0 -0.3**
GO01 Chusmiza 38.56 147 P **P** **04 37 44.5 +1.4**
PLID Pearl Lake 38.74 331 IAmb IAmb 04 37 46.4
comp=Z,12nm,1.1s
TA01 Diego Aracena 38.79 149 P **P** **04 37 46.0 +1.5**
MSO Missoula 39.14 334 IAmb IAmb 04 37 49.7
comp=Z,19nm,1.4s
VILB Vilhena 39.50 129 *eP* **P** **04 37 51.3 +0.8**

I07A Izee 39.80 327 P **P** **04 37 53.8 +1.0**
F10A Beach Ranch, E 39.97 331 IAmb IAmb 04 37 56.7
comp=Z,15nm,0.9s
NPGB Novo Progresso 40.11 118 *eP* **P** **04 37 55.3 -0.3**
YBH Yreka Blue Hor 40.14 322 P **P** **04 37 57.2 +1.6**
YBH IAmb IAmb 04 38 12.0
comp=Z,14nm,1.4s
YBH Yreka Blue Hor 40.14 322 LR LR 04 57 45.3
comp=Z,245nm,19.4s,baz=150,slow=41
L04D Klamath Falls 40.18 323 P **P** **04 37 57.8 +1.7**
PB04 IPOC Station P 40.30 150 P **P** **04 37 58.9 +1.6**
SIV San Ignacio 40.86 134 P **P** **04 38 02.2 +0.5**
comp=Z,4.6nm,0.8s,baz=302,slow=8.4,SNR=23
SIV LR LR 04 55 30.3
comp=Z,266nm,20.2s,baz=314,slow=37
comp=Z,4.6nm,0.8s
PDRB Porto dos Gac 41.40 125 *eP* **P** **04 38 06.1 -0.1**
NEW Newport 41.62 333 LR LR 05 00 51.4
comp=Z,434nm,18.0s,baz=144,slow=44
H04A Detroit Lake 41.64 326 P **P** **04 38 08.9 +1.0**
MXC Moxie City 41.90 329 P **P** **04 38 11.1 +1.1**
MXC IAmb IAmb 04 38 14.2
comp=Z,17nm,1.4s
BBSD Serra de San D 42.00 135 *eP* **P** **04 38 11.2 +0.1**
FFC Flin Flon 42.67 350 P **P** **04 38 14.5 -1.6**
RPN Rapa Nui 43.84 205 LR LR 04 52 21.2
comp=Z,166nm,18.3s,baz=19,slow=30
SCHQ Schefferville 45.72 19 P **P** **04 38 37.6 -2.9**
SCHQ Schefferville 45.72 19 P **P** **04 38 37.3 -3.2**
comp=Z,6.2nm,0.4s,baz=222,slow=3.9,SNR=29
SCHQ LR LR 04 57 52.1
comp=Z,411nm,19.3s,baz=254,slow=37
comp=Z,6.2nm,0.4s
SNDB Serra Nova Dou 46.05 121 *eP* **P** **04 38 43.5 -0.1**
BDQN Bodoquena, MS 46.88 135 *eP* **P** **04 38 49.8 -0.4**
ARAG Araguaiana, MT 47.65 126 *eP* **P** **04 38 56.2 +0.1**
CPUP Villa Florida 50.60 141 LR LR 05 02 34.0
comp=Z,86nm,19.1s,baz=332,slow=38
BDFB Brasilia 50.67 123 P **P** **04 39 20.1 +0.7**
comp=Z,2.6nm,0.7s,baz=31,slow=5.9,SNR=3.8
comp=Z,2.6nm,0.7s
YKA Yellowknife Ar 52.41 346 P **P** **04 39 28.9 -2.8**
comp=Z,4.5nm,1.0s,baz=146,slow=7.7,SNR=14
YKA LR LR 05 07 05.0
comp=Z,175nm,18.8s,baz=166,slow=42
comp=Z,4.5nm,1.0s
FRB Frobisher Bay 53.03 12 LR LR 05 03 17.1
comp=Z,543nm,18.2s,baz=214,slow=38
PLCA Paso Flores 56.48 162 LR LR 05 00 18.4
comp=Z,157nm,18.2s,baz=356,slow=32
RCBR Riachuelo 57.30 106 LR LR 05 07 35.6
comp=Z,71nm,18.3s,baz=273,slow=39
SFJD Kangerlussuaq 60.08 17 LR LR 05 07 23.5
comp=Z,409nm,18.1s,baz=230,slow=37
RES Resolute Bay 61.79 359 LR LR 05 09 27.1
comp=Z,289nm,19.6s,baz=189,slow=38
INK Inuvik 61.89 343 IAmb IAmb 04 40 39.1
comp=Z,5.9nm,1.1s
INK Inuvik 61.89 343 LR LR 05 13 44.2
comp=Z,149nm,18.8s,baz=228,slow=42
A36M Sachs Harbour 62.59 348 IAmb IAmb 04 41 00.1
comp=Z,8.4nm,1.2s
E29M Blow River 63.21 342 IAmb IAmb 04 40 48.8
comp=Z,5.5nm,1.1s
E28M Babbage River 63.83 342 IAmb IAmb 04 40 52.8
comp=Z,4.6nm,1.2s
IL31 64.42 337 IAmb IAmb 04 40 56.8
comp=Z,7.6nm,1.2s
ILAR Eielson Array 64.42 337 P **P** **04 40 55.5 +0.1**
ILAR Eielson Array 64.42 337 P **P** **04 40 54.2 -1.2**
comp=Z,4.9nm,1.1s,baz=121,slow=4.5,SNR=20
ILAR LR LR 05 12 31.5
comp=Z,190nm,18.1s,baz=110,slow=39
comp=Z,4.9nm,1.1s
KDAK Kodiak Island 64.42 328 LR LR 05 10 20.1
comp=Z,139nm,18.2s,baz=305,slow=37
BMAR Burnt Mountain 64.81 340 P **P** **04 40 57.3 -0.8**
C27K Jago River 65.64 342 IAmb IAmb 04 41 04.8
comp=Z,6.5nm,1.1s
PPT Papeete 65.76 244 LR LR 05 02 01.7
comp=Z,148nm,18.5s,baz=38,slow=28
MLY Manley 66.02 336 P **P** **04 41 05.9 -0.1**
SUMG Summit 66.87 15 P **P** **04 41 09.3 -2.4**
EUNU Eureka 67.17 1 P **P** **04 41 12.3 -0.8**
EUNU IAmb IAmb 04 41 28.0
comp=Z,8.0nm,1.3s
BORG Borgarnes 69.52 25 LR LR 05 11 47.4
comp=Z,134nm,18.6s,baz=271,slow=36
RAR Rarotonga 76.04 244 LR LR 05 08 09.3
comp=Z,67nm,21.6s,baz=78,slow=29
EKA Eskdalemuir Ar 77.95 36 P P 04 42 13.2 -4.4
comp=Z,0.8nm,0.3s,baz=278,slow=6.4,SNR=14
comp=Z,0.8nm,0.3s
ESDC Sonseca Array 79.19 52 P P 04 42 20.4 -4.5
comp=Z,3.3nm,1.0s,baz=290,slow=5.7,SNR=8.1
ESDC LR LR 05 13 38.2
comp=Z,136nm,18.5s,baz=277,slow=33
comp=Z,3.3nm,1.0s
MDT Midelt 79.66 59 LR LR 05 12 48.3
comp=Z,122nm,19.7s,baz=287,slow=32
SPA0 Spitsbergen Ar 80.83 12 P **P** **04 42 32.4 -0.5**
SPITS Spitsbergen Ar 80.83 12 P **P** **04 42 31.1 -1.9**
comp=Z,13nm,0.9s,baz=227,slow=5.7,SNR=6.3
SPITS LR LR 05 21 07.8
comp=Z,201nm,18.0s,baz=272,slow=38
comp=Z,13nm,0.9s
DBIC Dimbokro 84.25 84 P **P** **04 42 50.4 -1.6**
comp=Z,6.0nm,0.8s,baz=280,slow=6.7,SNR=8.4
comp=Z,6.0nm,0.8s
NOA NORSAR Array B 84.36 29 P **P** **04 42 49.3 -2.4**
comp=Z,0.9nm,0.8s,baz=341,slow=19,SNR=3.2
NOA LR LR 05 20 03.1
comp=Z,59nm,19.1s,baz=275,slow=36
comp=Z,0.9nm,0.8s
HFS Hagfors 85.80 29 P **P** **04 42 55.6 -3.2**
comp=Z,1.0nm,0.5s,baz=242,slow=3.2,SNR=5.0
HFS LR LR 05 19 11.9
comp=Z,76nm,21.2s,baz=253,slow=34
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 86.67 18 P **P** **04 43 00.4 -2.6**
comp=Z,1.5nm,0.7s,baz=299,slow=5.0,SNR=4.3
ARCES LR LR 05 21 29.7
comp=Z,64nm,19.5s,baz=296,slow=36
comp=Z,1.5nm,0.7s
TORD Torodi Ar. Bea 89.15 77 P **P** **04 43 13.5 -2.4**
comp=Z,1.0nm,0.7s,baz=295,slow=5.1,SNR=5.6
comp=Z,1.0nm,0.7s
FINES FINESS Array B 90.81 25 P **P** **04 43 20.4 -2.3**
comp=Z,5.2nm,1.2s,baz=311,slow=7.2,SNR=1.6
comp=Z,5.2nm,1.2s
TIXI Tiksi 91.61 348 LR LR 05 30 01.8
comp=Z,186nm,19.0s,baz=34,slow=39
MA2 Magadan 92.73 333 LR LR 05 28 40.4
comp=Z,56nm,19.0s,baz=48,slow=38
NRIK Noril'sk 97.93 1 LR LR 05 30 38.2
comp=Z,273nm,20.3s,baz=13,slow=37
OBN Obninsk 98.93 28 LR LR 05 29 01.3
comp=Z,45nm,19.0s,baz=148,slow=36
YAK Yakutsk 98.94 342 LR LR 05 34 45.9
comp=Z,67nm,20.1s,baz=325,slow=39
KURBB Kurchatov Arra 115.99 8 PKP **PKiKP** **04 49 02.8 +0.2**
comp=Z,0.5nm,0.4s,baz=3.6,slow=4.2,SNR=1.5
BOSA Boshof 118.53 116 PKP **PKiKP** **04 49 10.2 +2.0**
comp=Z,1.9nm,0.4s,baz=244,slow=3.1,SNR=8.7
MAKZ Makanchi 120.15 6 PKPdf **PKPdf** **04 49 11.7 +1.0**
MKAR Makanchi Array 120.20 6 PKP **PKPdf** **04 49 10.3 -0.6**
comp=Z,0.6nm,0.8s,baz=290,slow=4.4,SNR=2.4
CAN Canberra 122.23 236 PKPdf **PKiKP** **04 49 17.3 +2.1**
KBL Kabul 128.93 22 PKPdf **PKPdf** **04 49 27.4 -0.8**
WRA Warramunga Arr 136.59 255 PKP **PKiKP** **04 49 45.1 +0.7**
comp=Z,0.6nm,0.4s,baz=12,slow=0.8,SNR=3.8
ASAR Alice Springs 136.72 249 PKP **PKiKP** **04 49 45.4 +0.8**
comp=Z,0.5nm,0.6s,baz=89,slow=2.4,SNR=1.8
VOI Vohitsoka 138.35 108 PKPdf **PKPdf** **04 49 43.9 -2.1**
PZH PanZhiHua 139.05 343 PKP **PKPdf** **04 49 47.5 +0.3**
TOLI2 Tolitoli 146.03 292 PKPdf **PKPdf** **04 50 00.0 +0.3**
PHRA Phrae 147.04 341 PKPab **PKPdf** **04 50 03.3 +2.0**
CMAR Chiang Mai Arr 147.47 343 PKPbc **PKPdf** **04 50 03.5 +1.5**
comp=Z,7.4nm,0.9s,baz=339,slow=3.4,SNR=30

*IDC **27** 04:51:13.0±1.5, 13°.19N×81°.17W, h0km, mb3.8/4, mbtmp3.8/5, ML3.0/2, MS3.4/9, Error ellipse: s-maj=32.6km s-min=28.3km az=123.0*
*RSNC **27** 04:51:13.8±0.0, 13°.N±1°×8°.1W±°, h3km±2km, M3.8, mB5.5, mb4.5, ML3.7, Mw(mB)5.0*

*NEIC **27** 04:51:13.3±1.6, 13°.15N±0°.07×81°.11W±0°.07, h10km±2km, mb4.3/14, Error ellipse: s-maj=12.3km s-min=11.1km az=214.0*
*CATAC **27** 04:51:15.5±1.0, 13°.27N×81°.26W, h12km±5km, ML4.5*
*UPA **27** 04:51:25.4±2.4, 12°.14N×80°.85W, h0km±999km*
ISC 27 04:51:13.6±1.0, 13°.20N±0°.04×81°.11W±0°.03, h15km±7km, n101, σ2§01/132, mb4.1/9, MS3.5/5, 1D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.31**	**305**	P	**Pg**	**04 51 19.3**	**-0.7**
PRVC				S	**Sg**	**04 51 24.0**	**-0.4**
PRVC	**Isla de Provid**	**0.31**	**305**	*i* P	**Pg**	**04 51 19.4**	**-0.6**
PRVC				*i* S	**Sg**	**04 51 24.0**	**-0.4**
PRVC				IAML		04 51 32.6	
comp=Z,13μm,1.0s							
SAIC	**Isla e San And**	**0.88**	**222**	P	**Pb**	**04 51 30.7**	**+0.1**
SAIC				S	**Sn**	**04 51 44.6**	**+0.6**
RNCC	**Cayo Roncador,**	**1.06**	**69**	P	**Pg**	**04 51 33.6**	**-0.4**
RNCC				S	**Sn**	**04 51 49.0**	**+0.7**
SERC	**Banco Serrana,**	**1.30**	**34**	P	**Pn**	**04 51 36.5**	**-0.7**
SERC				S	**Sb**	**04 51 54.4**	**+0.2**
BLUN	**Bluefields**	**2.86**	**246**	P	**Pn**	**04 52 00.9**	**+2.2**
BLUN				S	**Sn**	**04 52 33.5**	**+0.6**
BLUN	**Bluefields**	**2.86**	**246**	*i* P	**Pn**	**04 52 01.3**	**+2.6**
BLUN				*i* S	**Sn**	**04 52 33.9**	**+1.0**
BLUN				IAML		04 52 54.1	
comp=Z,550nm,1.0s							
ESPN	**Las Esperanzas**	**3.27**	**253**	Pn	**Pn**	**04 52 03.8**	**-0.5**
ESPN	**Las Esperanzas**	**3.27**	**253**	P	**Pn**	**04 52 05.3**	**+1.0**
TRT2	**Tortugero**	**3.68**	**225**	*i* P	**Pn**	**04 52 10.3**	**+0.4**
TRT2				*i* S	**Sn**	**04 52 55.2**	**+2.2**
TRT2				IAML		04 53 13.0	
comp=Z,330nm,1.0s							
COVE	**Coope Vega, Sa**	**4.06**	**233**	*i* P	**Pn**	**04 52 17.7**	**+2.5**
COVE				*i* S	**Sg**	**04 53 18.7**	**-5.3**
COVE				IAML		04 53 45.7	
comp=Z,930nm,1.0s							
ACON	**Acoyapa**	**4.16**	**253**	Pn	**Pn**	**04 52 16.6**	**+0.1**
ACON	**Acoyapa**	**4.16**	**253**	P	**Pn**	**04 52 18.0**	**+1.5**
ACON				S	**Sn**	**04 53 05.6**	**+0.8**
ACON	**Acoyapa**	**4.16**	**253**	*i* P	**Pb**	**04 52 28.1**	**+1.7**
ACON				*i* S	**Sg**	**04 53 23.8**	**-3.3**
BCIP	**Isla Barro Col**	**4.20**	**163**	Pn	**Pn**	**04 52 15.4**	**-1.6**
BCIP	**Isla Barro Col**	**4.20**	**163**	P	**Pn**	**04 52 15.3**	**-1.7**
BCIP				S	**Sn**	**04 53 03.5**	**-2.3**
BCIP	**Isla Barro Col**	**4.20**	**163**	‖ *e*P	**Pn**	**04 52 15.4**	**-1.6**
HDC	**Heredia**	**4.33**	**223**	Pn	**Pn**	**04 52 20.4**	**+1.4**
SOCE	**Pocosol**	**4.43**	**231**	Pn	**Pn**	**04 52 19.7**	**-0.7**
SOCE	**Pocosol**	**4.43**	**231**	*i* P	**Pn**	**04 52 21.2**	**+0.9**
SOCE				IAML		04 53 54.4	
comp=Z,230nm,1.0s							
UPA	**Univ. de Panam**	**4.47**	**160**	*e*P	**Pn**	**04 52 18.9**	**-1.9**
BRU2	**Volcan**	**4.64**	**200**	Pn	**Pn**	**04 52 23.6**	**+0.2**
BRU2	**Volcan**	**4.64**	**200**	*e*P	**Pn**	**04 52 24.4**	**+1.1**
JTS	**Las Juntas de**	**4.75**	**233**	Pn	**Pn**	**04 52 24.4**	**-0.2**
JTS	**Las Juntas de**	**4.75**	**233**	Pn	**Pn**	**04 52 25.8**	**+1.2**
comp=Z,3.6nm,0.3s,baz=72,slow=22,SNR=14							
JTS				Sn	**Sn**	**04 53 19.6**	**+0.1**
comp=Z,4.6nm,0.3s,baz=232,slow=18,SNR=8.0							
JTS				LR	LR	04 54 25.0	
comp=Z,217nm,20.2s,baz=69,slow=41							
comp=Z,7.6nm,0.3s							
JTS	**Las Juntas de**	**4.75**	**233**	P	**Pn**	**04 52 25.8**	**+1.2**
JTS				S	**Sn**	**04 53 20.3**	**+0.8**
OCHAL	**Ojochal**	**4.78**	**212**	*i* P	**Pn**	**04 52 26.7**	**+1.7**
OCHAL				*i* S	**Sn**	**04 53 23.4**	**+3.2**
OCHAL				IAML		04 53 26.1	
comp=Z,250nm,1.0s							
RCPN	**Sur Rio San Ju**	**4.87**	**274**	*i* P	**Pn**	**04 52 27.1**	**+0.7**
RCVN	**Varillal2**	**4.97**	**275**	*i* P	**Pn**	**04 52 28.6**	**+0.8**
RCVN				*i* S	**Sn**	**04 53 23.8**	**-1.2**
RCVN				IAML		04 53 55.1	
comp=Z,9μm,1.0s							
TOTI	**Torti**	**5.05**	**147**	*e*P	**Pn**	**04 52 27.6**	**-1.2**
MGAN	**Managua**	**5.12**	**259**	Pn	**Pn**	**04 52 29.8**	**0.0**
LIMN	**Finca el Limon**	**5.13**	**269**	*i* P	**Pn**	**04 52 31.2**	**+1.3**
GMAL	**Guarumal, Vera**	**5.40**	**181**	P	**Pn**	**04 52 33.8**	**+0.2**
comp=Z,54nm,0.8s							
GMAL				S	**Sn**	**04 53 34.9**	**-0.7**
comp=Z,54nm,0.8s							
GMAL	**Guarumal, Vera**	**5.40**	**181**	*e*P	**Pn**	**04 52 32.9**	**-0.7**
AZU	**Azuero**	**5.43**	**171**	P	**Pn**	**04 52 38.1**	**+4.0**
comp=Z,36nm,1.0s							
AZU				S	**Sn**	**04 53 35.9**	**-0.5**
comp=Z,36nm,1.0s							
AZU	**Azuero**	**5.43**	**171**	*e*P	**Pn**	**04 52 32.0**	**-2.0**
UPD2	**Meteti**	**5.53**	**146**	*e*P	**Pn**	**04 52 34.2**	**-1.2**
CRIN	**San Cristobal**	**5.82**	**266**	Pn	**Pn**	**04 52 38.8**	**-0.6**
CRIN	**San Cristobal**	**5.82**	**266**	P	**Pn**	**04 52 39.0**	**-0.4**
comp=Z,187nm,0.9s							
CACAO	**El Cacao, Vera**	**5.82**	**178**	P	**Pn**	**04 52 40.5**	**+1.1**
comp=Z,47nm,0.5s							
CACAO				S	**Sn**	**04 53 45.4**	**-0.5**
comp=Z,47nm,0.5s							
CACAO	**El Cacao, Vera**	**5.82**	**178**	*e*P	**Pn**	**04 52 40.3**	**+0.9**
CAPC	**Capurgana**	**5.84**	**141**	P	**Pn**	**04 52 40.5**	**+0.8**
comp=Z,64nm,1.2s							
CAPC				S	**Sn**	**04 53 44.2**	**-2.3**
comp=Z,64nm,1.2s							
TGUH	**Tegucigalpa,Un**	**6.06**	**279**	Pn	**Pn**	**04 52 43.2**	**+0.4**
TGUH	**Tegucigalpa,Un**	**6.06**	**279**	P	**Pn**	**04 52 43.5**	**+0.8**
comp=Z,102nm,0.6s,comp=Z,1μm							
TGUH				S	**Sn**	**04 53 48.4**	**-3.5**
comp=Z,102nm,0.6s,comp=Z,1μm							
MTDJ	**Mount Denham**	**6.07**	**34**	Pn	**Pn**	**04 52 44.0**	**+1.1**
MTDJ	**Mount Denham**	**6.07**	**34**	P	**Pn**	**04 52 45.1**	**+2.2**
LCBC	**Los crdobas,**	**6.34**	**132**	P	**Pn**	**04 52 48.5**	**+1.9**
comp=Z,140nm,1.0s							
LCBC				S	**Sn**	**04 54 00.4**	**+1.6**
comp=Z,140nm,1.0s							
STH	**Stony Hill**	**6.38**	**40**	*i* P	**Pn**	**04 52 48.6**	**+1.6**
GWJ	**Greenwich**	**6.42**	**40**	*i* P	**Pn**	**04 52 49.4**	**+1.6**
SJCC	**San Jacinto, C**	**6.67**	**119**	P	**Pn**	**04 52 50.7**	**-0.4**
comp=Z,20nm,0.7s							
SJCC				S	**Sn**	**04 54 04.1**	**-2.9**
comp=Z,20nm,0.7s							
APAC	**Apartado, Choc**	**6.89**	**139**	P	Pn	04 52 58.9	+4.8
comp=Z,17nm,0.6s							
APAC				S	**Sn**	**04 54 13.2**	**+0.8**
comp=Z,17nm,0.6s							
ARGC	**Ariguani, Magd**	**7.50**	**116**	P	**Pn**	**04 53 04.1**	**+1.7**
comp=Z,12nm,0.6s							
ARGC				S	**Sn**	**04 54 26.8**	**-0.5**
comp=Z,12nm,0.6s							
UREC	**San Jos de Ur**	**7.70**	**134**	P	**Pn**	**04 53 08.9**	**+3.6**
comp=Z,13nm,1.1s							
UREC				S	**Sn**	**04 54 32.2**	**-0.1**
comp=Z,13nm,1.1s							
UREC	**San Jos de Ur**	**7.70**	**134**	*e*P	**Pn**	**04 53 07.6**	**+2.3**
MTO3	**Montecristo**	**8.11**	**279**	Pn	**Pn**	**04 53 11.1**	**+0.1**
CRJC	**Cerrejon, Guaj**	**8.33**	**104**	P	**Pn**	**04 53 15.5**	**+1.6**
comp=Z,12nm,0.7s							
CRJC				S	**Sn**	**04 54 40.9**	**-7.0**
comp=Z,12nm,0.7s							
GTBY	**Guantanamo Bay**	**8.82**	**40**	P	**Pn**	**04 53 23.4**	**+2.8**
comp=Z,27nm,0.4s							
CBOC	**Ciudad Bolivar**	**8.85**	**145**	P	**Pn**	**04 53 23.0**	**+1.8**
comp=Z,6.3nm,0.8s							
URIC	**Uribia, Colomb**	**9.03**	**98**	P	**Pn**	**04 53 22.1**	**-1.3**
comp=Z,18nm,1.1s							
URIC				S	**Sn**	**04 54 59.1**	**-5.7**
comp=Z,18nm,1.1s							
OCAC	**Ocana**	**9.10**	**122**	P	**Pn**	**04 53 26.0**	**+1.4**
comp=Z,22nm,0.7s							
OCAC				S	**Sn**	**04 55 04.9**	**-2.0**
comp=Z,22nm,0.7s							
PTBC	**PUERTO BERRIO,**	**9.31**	**135**	P	**Pn**	**04 53 31.1**	**+3.8**
comp=Z,6.1nm,1.0s							
PTBC				S	**Sn**	**04 55 08.6**	**-3.3**
comp=Z,6.1nm,1.0s							
SOR	**Soroa**	**9.71**	**350**	Pn	**Pn**	**04 53 34.8**	**+2.0**
TEIG	**Tepich**	**9.80**	**316**		**Pn**	**04 53 34.2**	**+0.2**
TEIG	**Tepich**	**9.80**	**316**	Pn	**Pn**	**04 53 34.5**	**+0.6**
baz=318,slow=24,SNR=16							
TEIG				Sn	**Sn**	**04 55 18.9**	**-4.9**
baz=218,slow=20,SNR=1.1							
TEIG	**Tepich**	**9.80**	**316**	P	**Pn**	**04 53 34.2**	**+0.2**
comp=Z,71nm,1.6s							
TEIG				S	**Sn**	**04 55 18.9**	**-4.9**
comp=Z,71nm,1.6s							
PAMC	**Pamplona, Colo**	**10.11**	**124**	P	**Pn**	**04 53 41.4**	**+2.6**

ROSC El Rosal 10.67 141 LR LR 04 57 41.8
comp=Z,164nm,21.4s,baz=0.0,slow=36
RUSC La Rusia 10.73 132 Pn **Pn** **04 53 47.3 0.0**
RUSC La Rusia 10.73 132 P **Pn** **04 53 47.7 +0.4**
comp=Z,6.4nm,1.1s
RUSC S **Sn** **04 55 47.1 -0.4**
comp=Z,6.4nm,1.1s
SDV Santo Domingo 11.14 112 Pn **Pn** **04 53 52.3 -0.2**
SDV Santo Domingo 11.14 112 Sn **Sn** **04 55 51.8 -5.2**
comp=Z,3.8nm,0.3s,baz=352,slow=19,SNR=8.1
SDV LR LR 04 58 08.7
comp=Z,207nm,21.3s,baz=247,slow=37
SDV Santo Domingo 11.14 112 P **Pn** **04 53 53.8 +1.3**
comp=Z,11nm,0.6s
SDV S **Sn** **04 55 50.7 -6.3**
comp=Z,11nm,0.6s
CHIC Chingaza 11.20 139 P **Pn** **04 53 55.7 +2.1**
comp=Z,10nm,1.3s
CHIC S **Sn** **04 55 57.3 -1.6**
comp=Z,10nm,1.3s
PRAC Prado 11.25 146 P **Pn** **04 53 54.2 +0.2**
comp=Z,5.9nm,1.1s
PRAC S **Sn** **04 56 02.4 +2.8**
comp=Z,5.9nm,1.1s
060A Indiantown 13.79 3 Pn **Pn** **04 54 28.5 0.0**
CMIG Matias Romero 13.85 288 LR LR 05 00 47.4
comp=Z,137nm,19.3s,baz=100,slow=42
CELP Cerrillos 14.80 69 Pn **Pn** **04 54 42.5 0.0**
SJG San Juan 15.21 69 Pn **Pn** **04 54 47.5 -0.4**
SJG IAmb IAmb 04 55 02.0
comp=Z,21nm,1.2s
SABA Saba 17.77 73 Pn **Pn** **04 55 19.6 -1.0**
SABA IAmb IAmb 04 55 45.2
comp=Z,34nm,0.8s
GDSD La Dsirade Is 19.62 78 P **P** **04 55 42.5 +0.8**
CZSB Cruzeiro do Su 22.40 158 P **P** **04 56 11.1 -0.6**
CZSB IAmb IAmb 04 56 32.8
comp=Z,21nm,1.4s
HNDO Hondo 23.41 317 P **P** **04 56 19.5 -2.6**
HNDO IAmb IAmb 04 56 30.3
comp=Z,15nm,1.2s
X40A Basin Creek Fa 23.71 335 P **P** **04 56 23.8 -1.2**
WHTX Lake Whitney, 23.98 324 P **P** **04 56 26.8 -0.8**
DRIO Del Rio 24.25 315 P **P** **04 56 29.9 -0.3**
SAND Sanderson 25.62 314 P **P** **04 56 42.8 +0.3**
SAND IAmb IAmb 04 56 50.9
comp=Z,4.6nm,1.0s
ABTX Abilene, Hawle 25.72 322 P **P** **04 56 42.9 -0.5**
ABTX IAmb IAmb 04 56 52.8
comp=Z,10nm,1.1s
TXAR Lajitas Array 26.38 311 P **P** **04 56 49.2 -0.3**
TXAR Lajitas Array 26.38 311 P **P** **04 56 51.3 +1.8**
comp=Z,3.0nm,0.8s,baz=129,slow=9.0,SNR=36
comp=Z,3.0nm,0.8s
TX31 Lajitas Ar. Si 26.38 311 P **P** **04 56 48.8 -0.7**
TX31 IAmb IAmb 04 56 52.7
comp=Z,5.6nm,0.9s
LPIG La Paz 29.66 296 LR LR 05 09 25.2
comp=Z,105nm,18.1s,baz=117,slow=37
PFO Pinyon Flats O 38.01 308 LR LR 05 18 32.3
comp=Z,38nm,18.6s,baz=274,slow=43
PDAR Pinedale Array 38.37 326 P **P** **04 58 35.4 +1.0**
comp=Z,0.9nm,0.7s,baz=130,slow=9.9,SNR=9.2
PDAR LR LR 05 16 06.7
comp=Z,36nm,18.9s,baz=60,slow=39
comp=Z,0.9nm,0.7s
PSUT Pine Spring 38.45 317 P **P** **04 58 36.5 +1.3**
TPH Tonopah 40.51 314 P **P** **04 58 51.4 -1.0**
NVAR Mina Array Bea 41.43 314 P **P** **04 59 01.4 +1.5**
comp=Z,1.0nm,0.8s,baz=126,slow=8.3,SNR=6.9
NVAR LR LR 05 19 47.6
comp=Z,78nm,18.2s,baz=160,slow=42
comp=Z,1.0nm,0.8s
RPN Rapa Nui 48.56 214 LR LR 05 15 58.5
comp=Z,49nm,18.3s,baz=37,slow=31
ESDC Sonseca Array 71.85 52 P **P** **05 02 38.4 +2.2**
comp=Z,0.3nm,0.7s,baz=298,slow=6.4,SNR=1.7
comp=Z,0.3nm,0.7s
ASAR Alice Springs 145.28 247 PKPbc **PKPbc** **05 10 52.1 +0.8**
comp=Z,0.5nm,0.5s,baz=133,slow=3.4,SNR=3.6
WRA Warramunga Arr 145.42 254 PKPbc **PKPbc** **05 10 52.8 +1.0**
comp=Z,1.4nm,0.7s,baz=92,slow=3.0,SNR=8.2

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*BJI **27** 05:11:03.7, 12°.88S×45°.24E, h14km, mb4.8/34, mB5.2/10, Ms4.8/16, Ms7 4.4/17*
*IDC **27** 05:11:03.8±0.4, 12°.79S×45°.38E, h0km, mb4.6/30, mbtmp4.6/33, ML4.2/3, MS3.9/21, Error ellipse: s-maj=15.3km s-min=12.0km az=83.0*
*MOS **27** 05:11:03.8±0.9, 12°.73S×45°.30E, h10km, mb5.0/25, Error ellipse: s-maj=10.3km s-min=6.0km az=94.8*
*NEIC **27** 05:11:05.6±1.5, 12°.82S±0°.09×45°.3E±0°.1, h10km±1km, mb5.0/51, Error ellipse: s-maj=17.6km s-min=14.3km az=255.0*
ISC 27 05:11:05.3±0.3, 12°.72S±0°.04×45°.31E±0°.05, h10km, n325, σ1§61/323, mb4.9/125, MS4.1/29, 24C-12D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBV	**Sambava**	**4.56**	**100**	⇓*i*P	**Pn**	**05 12 11.2**	**-3.1**
OPO	**Ambohidratompo**	**6.09**	**163**	Pn	**Pn**	**05 12 32.9**	**-2.7**
	70nm,0.3s,baz=338,slow=12,SNR=4151						
OPO				Sn	Sn	05 13 34.5	-11
	16nm,0.3s,baz=252,slow=17,SNR=2.6						
OPO				LR	LR	05 15 04.0	
	comp=Z,2μm,18.4s,baz=186,slow=40						
ABPO	**Ambohimpanom**	**6.53**	**164**	Pn	**Pn**	**05 12 38.9**	**-2.7**
ABPO	**Ambohimpanom**	**6.53**	**164**	⇓*i*P	**Pn**	**05 12 39.0**	**-2.6**
ABPO	**Ambohimpanom**	**6.53**	**164**	P	**Pn**	**05 12 38.9**	**-2.7**
VOI	**Vohitsoka**	**9.24**	**171**	Pn	**Pn**	**05 13 15.1**	**-3.7**
VOI	**Vohitsoka**	**9.24**	**171**	*e*P	**Pn**	**05 13 16.1**	**-2.8**
FOMA	**Nahampoana Res**	**12.29**	**173**	Pn	**Pn**	**05 13 56.2**	**-4.3**
KIBK	**Kibwezi**	**12.57**	**325**	Pn	**Pn**	**05 14 01.6**	**-2.8**
MSEY	**Mahe Island**	**12.84**	**52**	Pn	**Pn**	**05 14 04.5**	**-3.6**
MSEY	**Mahe Island**	**12.84**	**52**	P	**Pn**	**05 14 04.5**	**-3.6**
RER	**Riviere de l'E**	**13.04**	**131**	Pn	Pn	05 14 05.5	-5.3
KMBO	**Kilima Mbogo**	**14.02**	**325**	*e*P	**Pn**	**05 14 23.6**	**-0.7**
KMBO	**Kilima Mbogo**	**14.02**	**325**	Pn	**Pn**	**05 14 23.2**	**-1.1**
	0.8nm,0.3s,baz=142,slow=12,SNR=17						
KMBO				Sn	**Sn**	**05 17 01.9**	**+1.7**
	1.3nm,0.3s,baz=86,slow=8.1,SNR=8.0						
KMBO				LR	LR	05 19 21.9	
	comp=Z,305nm,19.1s,baz=98,slow=35						
	4.6nm,0.7s						
KMBO	**Kilima Mbogo**	**14.02**	**325**	*i*P	**Pn**	**05 14 24.2**	**-0.1**
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KRI	**Karoi**	**15.71**	**253**	*e*P	**Pn**	**05 14 46.1**	**-0.9**
LSZ	**Lusaka**	**16.80**	**259**	Pn	**Pn**	**05 14 59.2**	**-1.8**
LSZ				IAmb	IAmb	05 15 06.1	
	comp=Z,173nm,0.8s						
LSZ	**Lusaka**	**16.80**	**259**	*e*P	**Pn**	**05 15 00.2**	**-0.8**
LSZ	**Lusaka**	**16.80**	**259**	P	**Pn**	**05 14 59.2**	**-1.8**
LSZ				pmax	pmax		
	comp=Z,173nm,0.9s						
MOPA	**Mopani**	**17.01**	**229**	*e*P	**Pn**	**05 15 00.7**	**-2.8**
MUSN	**Musina, Limpop**	**17.52**	**235**	*e*P	**Pn**	**05 15 09.1**	**-0.8**
BLWY	**Bulawayo**	**17.62**	**243**	*e*P	**Pn**	**05 15 10.7**	**-0.6**
MATP	**Matopo**	**17.83**	**242**	P	**P**	**05 15 14.7**	**+0.1**
	comp=Z,0.8nm,0.3s,baz=63,slow=13,SNR=55						
	comp=Z,19nm,0.9s						
PILG	**Pilgrimsrest,**	**18.37**	**227**	*e*P	**Pn**	**05 15 19.2**	**-1.3**
MBAR	**Mbarara**	**18.80**	**309**	P	**P**	**05 15 24.8**	**-0.5**
MBAR	**Mbarara**	**18.80**	**309**	P	**Pn**	**05 15 26.7**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=128,slow=13,SNR=20						
MBAR				S	**Sn**	**05 18 46.6**	**-10**
	comp=Z,3.7nm,0.2s,baz=210,slow=20,SNR=1.4						
MBAR				LR	LR	05 22 53.1	
	comp=Z,537nm,18.3s,baz=133,slow=38						
	comp=Z,4.1nm,0.3s						
LODK	**Lodwar**	**18.84**	**328**	P	**Pn**	**05 15 28.4**	**+2.3**
DULL	**Dullstroom, Mp**	**19.02**	**226**	*e*P	**P**	**05 15 26.8**	**-1.0**
CRAIL	**Swartwater, Li**	**19.07**	**236**	*e*P	**P**	**05 15 28.0**	**-0.2**
BROLN	**Tlhalogang**	**19.09**	**242**	*i*P	**Pn**	**05 15 28.7**	**-0.5**
WTBG	**Waterberg Wild**	**19.30**	**231**	*e*P	**P**	**05 15 29.9**	**-0.8**
POGA	**Pongola**	**19.34**	**219**	P	**P**	**05 15 30.6**	**-0.3**
POGA	**Pongola**	**19.34**	**219**	*e*P	**Pn**	**05 15 31.9**	**-0.1**
MREMI	**Moremi**	**19.61**	**238**	*i*P	**Pn**	**05 15 34.8**	**-0.7**
LEPH	**Lephalale, Lim**	**19.95**	**234**	*e*P	**P**	**05 15 37.2**	**-0.6**
KSANE	**Kasane**	**20.07**	**253**	*i*P	Pn	05 15 41.2	+0.3
RUST	**Rust De Winter**	**20.14**	**229**	*e*P	**P**	**05 15 40.2**	**+0.4**
TSWA	**Tswaing Meteor**	**20.57**	**230**	*e*P	**P**	**05 15 44.8**	**+0.2**
TSWA				IAmb	IAmb	05 15 48.7	
	comp=Z,44nm,0.9s						
NHAM	**Northam, North**	**20.87**	**232**	*e*P	**P**	**05 15 47.9**	**0.0**
NYAT	**Nyati, Northwe**	**20.93**	**231**	*e*P	**P**	**05 15 47.1**	**-1.3**
HRAO	**HartRAO**	**21.13**	**229**	*e*P	**P**	**05 15 48.9**	**-1.7**
LPHEP	**Lephephe**	**21.28**	**237**	*i*P	**P**	**05 15 52.8**	**+0.6**
PMBG	**Pietermaritzbu**	**21.63**	**217**	*e*P	**P**	**05 15 55.1**	**-0.8**
PMBG				IAmb	IAmb	05 16 00.4	
	comp=Z,73nm,1.3s						
WDLM	**Western Deep L**	**21.63**	**228**	*e*P	**P**	**05 15 55.9**	**-0.2**
WDLM				IAmb	IAmb	05 16 01.1	
	comp=Z,86nm,1.1s						
PRYS	**Parys**	**21.97**	**227**	*e*P	**P**	**05 15 58.6**	**-1.1**
PRYS				IAmb	IAmb	05 16 04.9	
	comp=Z,73nm,1.1s						
LBTB	**Lobatse**	**22.26**	**234**	P	**P**	**05 16 01.5**	**-1.3**
LBTB				IAmb	IAmb	05 16 05.4	
	comp=Z,50nm,0.8s						
LBTB	**Lobatse**	**22.26**	**234**	*e*P	**P**	**05 16 02.3**	**-0.5**
LBTB	**Lobatse**	**22.26**	**234**	LR	LR	05 24 16.7	
	comp=Z,98nm,19.9s,baz=55,slow=36						
LBTB	**Lobatse**	**22.26**	**234**	P	**P**	**05 16 01.5**	**-1.3**
LBTB				pmax	pmax		
	comp=Z,49nm,0.8s						
KDWAN	**Kaudwane**	**22.28**	**239**	*i*P	**P**	**05 16 02.8**	**-0.1**
CKGRV	**CKGRV**	**22.30**	**244**	*i*P	**P**	**05 16 03.7**	**+0.5**
FURI	**Furi**	**22.46**	**343**	LR	LR	05 25 46.9	
	comp=Z,458nm,18.4s,baz=165,slow=39						
SNKL	**Senekal, Frees**	**22.52**	**224**	*e*P	**P**	**05 16 04.0**	**-1.5**
SNKL				IAmb	IAmb	05 16 11.5	
	comp=Z,41nm,0.7s						
KSTD	**Kokstad**	**23.15**	**217**	*e*P	**P**	**05 16 11.0**	**-1.1**
SKOMA	**Sekoma**	**23.37**	**237**	*i*P	**P**	**05 16 14.1**	**-0.3**
SWZ	**Schweizer**	**23.60**	**229**	*e*P	**P**	**05 16 14.7**	**-2.0**
SWZ				IAmb	IAmb	05 16 17.2	
	comp=Z,66nm,0.9s						
QNGWA	**Qangwa**	**24.13**	**251**	*i*P	**P**	**05 16 22.8**	**+1.0**
KGCAE	**Kacgae**	**24.16**	**242**	*i*P	**P**	**05 16 22.3**	**+0.3**
ATD	**Arta Tunnel**	**24.22**	**354**	P	**P**	**05 16 23.1**	**+0.7**
ATD				IAmb	IAmb	05 16 52.1	
	comp=Z,31nm,1.2s						
ATD	**Arta Tunnel**	**24.22**	**354**	LR	LR	05 25 31.1	
	comp=Z,10.0nm,18.4s,baz=174,slow=36						
BOSA	**Boshof**	**24.47**	**227**	P	**P**	**05 16 23.4**	**-1.4**
BOSA				IAmb	IAmb	05 16 26.4	
	comp=Z,27nm,0.6s						
BOSA	**Boshof**	**24.47**	**227**	⇓*i*P	**P**	**05 16 24.2**	**-0.7**
BOSA				IAmb	IAmb	05 16 26.3	
	comp=Z,28nm,0.6s						
BOSA	**Boshof**	**24.47**	**227**	P	**P**	**05 16 23.7**	**-1.1**
	comp=Z,24nm,0.5s,baz=57,slow=9.5,SNR=72						
BOSA				LR	LR	05 25 56.4	
	comp=Z,143nm,19.8s,baz=41,slow=36						
	comp=Z,24nm,0.5s						
GRTLG	**Ghanzi**	**24.55**	**246**	*i*P	**P**	**05 16 26.1**	**+0.4**
HVD	**Gariep Dam**	**25.53**	**223**	*e*P	**P**	**05 16 34.1**	**-0.3**
HVD				IAmb	IAmb	05 16 36.4	
	comp=Z,71nm,1.2s						
KOOLE	**Kule**	**25.95**	**243**	*i*P	**P**	**05 16 38.4**	**+0.1**
GRHM	**Grahamstown, E**	**26.78**	**217**	*e*P	**P**	**05 16 45.6**	**0.0**
GRHM				IAmb	IAmb	05 17 01.6	
	comp=Z,306nm,2.5s						
SOE	**Somerset East**	**26.88**	**219**	P	**P**	**05 16 46.2**	**-0.4**
SOE				IAmb	IAmb	05 17 25.3	
	comp=Z,85nm,1.5s						
ALKP	**Alkanpan, Nort**	**27.38**	**228**	*e*P	**P**	**05 16 51.3**	**+0.1**
TSUM	**Tsumeb**	**27.40**	**253**	LR	LR	05 27 18.8	
	comp=Z,250nm,18.5s,baz=232,slow=36						
BFON	**Badsfontein, M**	**27.48**	**223**	*e*P	**P**	**05 16 52.6**	**+0.6**
BFON				IAmb	IAmb	05 16 55.2	
	comp=Z,319nm,2.4s						
BRAK	**Brakfontein**	**28.00**	**224**	*e*P	**P**	**05 16 56.5**	**-0.1**
AUGR	**Augrabies**	**28.11**	**232**	*e*P	**P**	**05 16 58.1**	**+0.5**
AUGR				IAmb	IAmb	05 16 59.4	
	comp=Z,32nm,1.0s						
SUR	**Sutherland**	**29.78**	**225**	P	**P**	**05 17 12.4**	**-0.1**
SUR	**Sutherland**	**29.78**	**225**	*e*P	**P**	**05 17 13.5**	**+0.9**
SUR				IAmb	IAmb	05 17 13.9	
	comp=Z,49nm,0.8s						
SUR	**Sutherland**	**29.78**	**225**	LR	LR	05 30 15.9	
	comp=Z,162nm,18.5s,baz=36,slow=39						
RAYN	**Ar Rayn**	**36.02**	**0**	P	**P**	**05 18 06.4**	**-0.5**
RAYN	**Ar Rayn**	**36.02**	**0**	P	**P**	**05 18 06.4**	**-0.5**
RAYN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
UOSS	**Minazif**	**38.92**	**16**	P	**P**	**05 18 31.6**	**+0.2**
EIL	**Elat**	**43.31**	**347**	LR	LR	05 36 35.1	
	comp=Z,69nm,18.1s,baz=214,slow=35						
HYB	**Hyderabad**	**44.44**	**48**	*e*P	**P**	**05 19 16.5**	**-0.4**
MMAI	**Mount Meron Ar**	**46.45**	**349**	P	**P**	**05 19 34.6**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=123,slow=18,SNR=1.6						
	comp=Z,0.4nm,0.3s						
HRA	**Herat**	**49.54**	**18**	P	**P**	**05 19 56.1**	**-0.6**
HRA				IAmb	IAmb	05 19 58.9	
	comp=Z,6.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**50.30**	**299**	P	**P**	**05 20 03.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**50.30**	**299**	P	**P**	**05 20 04.1**	**+1.6**
	comp=Z,6.3nm,1.1s,baz=122,slow=6.9,SNR=19						
TORD				PP	**PP**	**05 21 57.6**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=107,slow=8.6,SNR=4.1						
TORD				LR	LR	05 42 32.3	
	comp=Z,280nm,18.1s,baz=136,slow=38						
	comp=Z,6.3nm,1.1s						
TAM	**Tamanrasset**	**52.58**	**312**	P	**P**	**05 20 21.9**	**+2.3**
TAM				IAmb	IAmb	05 20 24.1	
	comp=Z,19nm,1.7s						
TAM	**Tamanrasset**	**52.58**	**312**	P	**P**	**05 20 21.9**	**+2.3**
TAM				pmax	pmax		
	comp=Z,19nm,1.7s						
GNI	**Garni**	**52.60**	**359**	LR	LR	05 43 30.7	
	comp=Z,121nm,21.0s,baz=201,slow=37						
BR131	**Keskin Array S**	**53.30**	**349**	P	**P**	**05 20 25.7**	**+1.1**
BR131	**Keskin Array S**	**53.30**	**349**	P	**P**	**05 20 25.7**	**+1.1**
BR131				pmax	pmax		
	comp=Z,21nm,0.4s						
BRTR	**Keskin Array B**	**53.30**	**349**	P	**P**	**05 20 24.9**	**+0.3**
BRTR	**Keskin Array B**	**53.30**	**349**	P	**P**	**05 20 25.9**	**+1.3**
	comp=Z,3.0nm,0.8s,baz=165,slow=9.2,SNR=11						
	comp=Z,3.0nm,0.8s						
BR106	**Keskin Array S**	**53.31**	**349**	P	**P**	**05 20 25.7**	**+1.0**
	comp=Z,5.0nm,0.8s,comp=Z,161nm						
BR106				pP	**sP**	**05 20 28.7**	**-0.3**
	comp=Z,5.0nm,0.8s,comp=Z,161nm						
DBIC	**Dimbokro**	**53.44**	**288**	P	**P**	**05 20 27.4**	**+1.4**
	comp=Z,9.5nm,1.1s,baz=109,slow=9.1,SNR=4.0						
DBIC				LR	LR	05 43 50.0	
	comp=Z,199nm,18.3s,baz=98,slow=37						
	comp=Z,9.5nm,1.1s						
ANTO	**Ankara**	**53.60**	**348**	P	**P**	**05 20 27.8**	**+1.0**
	comp=Z,7.3nm,0.7s,comp=Z,1μm						
PSI	**Prapat**	**55.42**	**78**	LR	LR	05 40 31.9	
	comp=Z,186nm,19.9s,baz=230,slow=32						
MAK	**Makhachkala**	**55.45**	**2***c*	*i*P	**P**	**05 20 35.8**	**-4.2**
MAK				*e*S	**S**	**05 28 19.3**	**-5.5**
MAK				pmax	pmax		
	comp=Z,216nm,1.2s						
MAK				MLR	MLR		
	comp=Z,138nm,16.0s						
SIMJ	**Simiganj**	**55.71**	**22**	P	**P**	**05 20 42.5**	**+0.3**
SIMJ				IAmb	IAmb	05 20 55.9	
	comp=Z,17nm,0.9s						
MAW	**Mawson**	**56.04**	**172**	P	**P**	**05 20 44.6**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=326,slow=9.2,SNR=6.2						
	comp=Z,3.0nm,0.7s						
KBZ	**Khabaz**	**56.22**	**358**	P	**P**	**05 20 46.4**	**+0.9**
	comp=Z,2.8nm,0.8s,baz=151,slow=5.8,SNR=5.0						
KBZ				LR	LR	05 46 58.4	
	comp=Z,143nm,18.2s,baz=135,slow=38						
	comp=Z,2.8nm,0.8s						
SHA1	**Shidzhatmaz**	**56.24**	**358**	*i*P	**P**	**05 20 46.1**	**+0.1**
SOC	**Sochi**	**56.26**	**355**	*e*P	**P**	**05 20 41.4**	**-4.5**
SOC				*e*		05 22 51.2	
SOC				*e*PPP	PPP	05 24 04.2	
SOC				*e*S	**S**	**05 28 29.8**	**-5.9**
SOC				*e*SS	**SS**	**05 32 27.0**	**+4.1**
KIV	**Kislovodsk**	**56.45**	**358**	P	**P**	**05 20 48.1**	**+0.8**
KIV				IAmb	IAmb	05 20 52.4	
	comp=Z,14nm,1.0s						
KIV	**Kislovodsk**	**56.45**	**358**	*e*P	**P**	**05 20 48.1**	**+0.8**
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
KIV				MLR	MLR		
	comp=Z,51nm,17.0s						
KIV	**Kislovodsk**	**56.45**	**358**	P	**P**	**05 20 49.2**	**+1.8**
	comp=Z,11nm,1.2s						
GAR	**Garm**	**56.50**	**23**	P	**P**	**05 20 48.3**	**+0.4**
GAR				IAmb	IAmb	05 20 56.1	
	comp=Z,23nm,0.9s						
BTK	**Batken**	**57.61**	**23**	P	**P**	**05 20 56.1**	**+0.5**
BTK				IAmb	IAmb	05 21 05.1	
	comp=Z,8.6nm,0.8s						
BTK	**Batken**	**57.61**	**23**	P	**P**	**05 20 56.2**	**+0.5**
BTK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ANN	**Anapa**	**57.69**	**353**	*e*P	**P**	**05 20 53.1**	**-2.9**
ANN				*e*PP	**pP**	**05 20 55.6**	**-3.5**
ANN				*e*S	**S**	**05 28 53.9**	**-0.6**
ANN				pmax	pmax		
	comp=Z,93nm,1.3s						
KEST	**Kesra**	**58.98**	**326**	LR	LR	05 48 18.9	
	comp=Z,127nm,18.0s,baz=9.2,slow=38						
KSH	**Kashi**	**59.30**	**27**	P	**P**	**05 21 05.8**	**-1.7**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSH				LR	LR		
	comp=Z,220nm,14.1s						
KSH				LR	LR		
	comp=Z,170nm,14.4s						
KSH				LR	LR		
	comp=Z,220nm,17.9s						
ISR	**Istrita**	**60.03**	**345**	P	**P**	**05 21 14.0**	**+1.7**
	comp=Z,33nm,2.1s						
BOVS	**Bovan**	**60.08**	**340**	⇑P	**P**	**05 21 13.2**	**+0.6**
KK31	**Karatay Array**	**60.16**	**21**	*i*P	**P**	**05 21 13.4**	**+0.2**
KKAR	**Karatay Array**	**60.16**	**21**	P	**P**	**05 21 13.1**	**-0.1**
KKAR	**Karatay Array**	**60.16**	**21**	IAmb	IAmb	05 21 21.1	
	comp=Z,6.8nm,0.9s						
KKAR	**Karatay Array**	**60.16**	**21**	P	**P**	**05 21 13.1**	**-0.1**
BISRR	**Bisoca**	**60.38**	**345**	P	**P**	**05 21 16.6**	**+1.8**
	comp=Z,39nm,1.8s						
MLR	**Muntele Rosu**	**60.53**	**344**	⇑P	**P**	**05 21 17.4**	**+1.5**
MLR	**Muntele Rosu**	**60.53**	**344**	P	**P**	**05 21 17.3**	**+1.5**
MLR	**Muntele Rosu**	**60.53**	**344**	P	**P**	**05 21 17.5**	**+1.7**
	comp=Z,5.2nm,1.7s						
ELIB	**Princess Elisa**	**60.66**	**188**	*d*P	**P**	**05 21 17.4**	**+1.0**
	comp=Z,11nm,1.0s						
VRI	**Vrincioaia**	**60.68**	**345**	P	**P**	**05 21 17.5**	**+0.8**
	comp=Z,9.9nm,1.1s						
PLOR3	**Plostina Array**	**60.69**	**345**	P	**P**	**05 21 17.6**	**+0.8**
ARR	**Arges**	**60.77**	**343**	⇓P	**P**	**05 21 18.4**	**+1.0**
MDVR	**Moldovita**	**61.10**	**341**	⇑P	**P**	**05 21 20.8**	**+1.1**
AAK	**Ala-Archa**	**61.25**	**24**	P	**P**	**05 21 21.1**	**+0.3**
AAK	**Ala-Archa**	**61.25**	**24***c*	*e*P	**P**	**05 21 22.6**	**+1.7**
AAK				pmax	pmax		
	comp=Z,12nm,2.5s						
CMAR	**Chiang Mai Arr**	**61.30**	**61**	P	**P**	**05 21 21.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**61.30**	**61**	P	**P**	**05 21 22.1**	**+0.7**
	comp=Z,3.4nm,0.9s,baz=252,slow=8.9,SNR=16						
CMAR				LR	LR	05 46 14.9	
	comp=Z,25nm,18.3s,baz=195,slow=34						
	comp=Z,3.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**61.30**	**61**	*i*P	**P**	**05 21 22.6**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GZR	**Gura Zlata**	**61.33**	**342**	⇓P	**P**	**05 21 22.7**	**+1.5**
GZR	**Gura Zlata**	**61.33**	**342**	P	**P**	**05 21 22.6**	**+1.5**
CHTO	**Chiang Mai**	**61.46**	**60**	P	**P**	**05 21 22.6**	**+0.1**
CHTO				IAmb	IAmb	05 21 24.4	
	comp=Z,7.0nm,1.0s						
CHTO	**Chiang Mai**	**61.46**	**60**	P	**P**	**05 21 22.6**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NVL	**N'lazarevskaya**	**61.56**	**192**	*e*P	**P**	**05 21 23.4**	**+1.0**
NVL				*e*S	**S**	**05 29 49.8**	**+5.8**
NVL				pmax	pmax		
	comp=Z,15nm,0.8s						
SURR	**Surduc**	**61.85**	**342**	⇑P	**P**	**05 21 26.1**	**+1.5**
BZS	**Buzias**	**61.88**	**341**	⇑P	**P**	**05 21 25.8**	**+1.0**
BZS	**Buzias**	**61.88**	**341**	P	**P**	**05 21 25.8**	**+1.0**
MARR	**Marisel-Cluj**	**62.39**	**343**	⇑P	**P**	**05 21 30.0**	**+1.7**
MARR	**Marisel-Cluj**	**62.39**	**343**	⇓S	S	05 29 45.7	-10
PHRA	**Phrae**	**62.41**	**61**	P	**P**	**05 21 28.9**	**0.0**
SIRR	**Siria**	**62.45**	**342**	⇑P	**P**	**05 21 29.8**	**+1.1**
SIRR	**Siria**	**62.45**	**342**	⇑S	S	05 29 46.4	-9.5
DRGR		**62.61**	**343**	⇑P	**P**	**05 21 30.9**	**+1.1**
DRGR		**62.61**	**343**	⇓S	**S**	**05 29 49.3**	**-8.6**
DRGR		**62.61**	**343**	P	**P**	**05 21 30.9**	**+1.1**
AB31	**Akbulak array**	**63.05**	**11**	*i*P	**P**	**05 21 32.4**	**-0.1**
ABKAR	**Akbulak array**	**63.05**	**11**	P	**P**	**05 21 32.3**	**-0.2**
ABKAR	**Akbulak array**	**63.05**	**11**	IAmb	IAmb	05 21 35.4	
	comp=Z,32nm,0.9s						
KMPD	**K-Podol'skiy**	**63.26**	**346**	P	**P**	**05 21 34.6**	**+0.6**
	comp=Z,3μm,1.3s						
MORH	**Mrgy, Hungar**	**63.38**	**340**	⇑P	**P**	**05 21 35.6**	**+0.8**
MORH	**Mrgy, Hungar**	**63.38**	**340**	P	**P**	**05 21 35.4**	**+0.6**
	comp=Z,8.5nm,1.2s						
VRH	**Novokhopyorsk**	**63.73**	**357**	*e*P	**P**	**05 21 36.2**	**-0.8**
VRH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AKTO	**Aktyubinsk**	**63.87**	**9**	LR	LR	05 52 01.4	
	comp=Z,55nm,18.0s,baz=135,slow=38						
AKTO	**Aktyubinsk**	**63.87**	**9**	P	**P**	**05 21 37.9**	**0.0**
STNU	**Starunia**	**63.88**	**345**	P	**P**	**05 21 38.5**	**+0.4**
VSR	**Storozhevoye**	**63.89**	**356**	*e*P	P	05 21 31.4	-6.7
VSR				pmax	pm

comp=Z,11nm,1.0s
LESA Schwarzleotal 66.59 336 *e*P **P 05 21 56.3 +0.5**
comp=Z,7.7nm,1.0s
KRUC Moravsky 66.61 340 *e*P **P 05 21 56.0 +0.2**
VRAC Vranov 66.75 340 *e*P **P 05 21 57.1 +0.3**
VRAC Vranov 66.75 340 ⇓P **P 05 21 57.1 +0.3**
VRAC Vranov 66.75 340 P **P 05 21 57.0 +0.3**
MORC Moravsky Berou 66.85 341 P **P 05 21 57.3 -0.1**
MORC IAmb IAmb 05 21 59.1
comp=Z,34nm,1.7s
MORC Moravsky Berou 66.85 341 *e*P **P 05 21 57.8 +0.4**
MORC Moravsky Berou 66.85 341 ⇑P **P 05 21 58.4 +1.0**
MORC Moravsky Berou 66.85 341 P **P 05 21 58.3 +1.0**
WTTA Wattenberg 66.87 336 *i* P **P 05 21 58.3 +0.5**
comp=Z,14nm,1.3s
FUORN Ofenpass-Fuorn 66.91 335 IAmb IAmb 05 22 01.5
comp=Z,12nm,1.4s
FETA Feichten 67.04 335 *i* P **P 05 21 59.9 +1.1**
comp=Z,20nm,1.5s
TREC Trest 67.12 339 *e*P **P 05 21 59.5 +0.4**
TREC Trest 67.12 339 *e*P **P 05 21 59.5 +0.4**
CKRC Cesky Krumlov 67.13 338 *e*P **P 05 22 00.2 +1.0**
CKRC Cesky Krumlov 67.13 338 *e*P **P 05 22 02.7 +3.5**
CKRC *e* 05 22 09.8
VNA3 Neumayer Olymp 67.16 197 ⇑P **P 05 21 55.4 -3.6**
comp=Z,7.4nm,0.8s
MORW Morawa 67.19 116 P **P 05 21 59.2 -0.9**
MORW IAmb IAmb 05 22 01.4
comp=Z,21nm,0.9s
PZH PanZhiHua 67.28 54 P **P 05 22 03.5 +2.8**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.4s
GEC2 GERESS Array S 67.37 338 IAmb IAmb 05 22 03.4
comp=Z,9.0nm,1.1s
GERES GERESS Array B 67.37 338 P **P 05 22 00.1 -0.7**
GERES GERESS Array B 67.37 338 P **P 05 22 00.7 -0.1**
comp=Z,5.8nm,1.0s,baz=155,slow=4.4,SNR=12
comp=Z,5.8nm,1.0s
RETA Reutte 67.40 335 *e*P **P 05 22 01.5 +0.6**
comp=Z,13nm,1.3s
DAVA Damuels 67.60 335 *i* P **P 05 22 02.9 +0.6**
comp=Z,17nm,1.3s
KHC Kasperske Hory 67.66 338 *e*P **P 05 22 02.7 +0.2**
KHC *ep*P **sP 05 22 09.6 +2.7**
KHC Kasperske Hory 67.66 338 *e*P **P 05 22 02.7 +0.2**
KHC *e* 05 22 09.6
ZVC Zvikov 67.69 339 *e*P **P 05 22 02.7 0.0**
ZVC *ex* x 05 22 09.8
DPC Dobruska-Polom 67.74 340 *e*P **P 05 22 03.8 +0.8**
DPC Dobruska-Polom 67.74 340 *e*P **P 05 22 03.8 +0.8**
DPC Dobruska-Polom 67.74 340 P **P 05 22 03.6 +0.6**
comp=Z,6.7nm,0.8s
MKAR Makanchi Array 67.88 26 P **P 05 22 04.0 +0.1**
comp=Z,4.5nm,0.8s,baz=218,slow=6.1,SNR=16
comp=Z,4.5nm,0.8s
OBN Obninsk 67.98 355 *e*P **P 05 22 05.0 +0.7**
OBN *e* 05 22 29.0
OBN *e* 05 24 36.7
OBN *e*PPP PPP 05 26 15.4
OBN pmax pmax
comp=Z,4.0nm,1.2s
KSP Ksiaz 68.17 341 P **P 05 22 07.7 +2.0**
comp=Z,5.5nm,2.9s
WMQ Urumqi 68.24 32 *e*P **P 05 22 07.5 +1.1**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ LR LR
comp=Z,300nm,19.7s
WMQ LR LR
comp=Z,310nm,23.7s
WMQ LR LR
comp=Z,130nm,19.7s
MNK Minsk 68.58 349 *i* P **P 05 22 07.0 -1.1**
comp=E,15nm,0.9s
MNK *i* P **P 05 22 07.0 -1.1**
comp=N,13nm,0.9s
MNK *i* P **P 05 22 07.0 -1.1**
comp=Z,11nm,0.8s,baz=162
MNK *i* PP **PP 05 24 39.9 +0.2**
MNK *i* PPP PPP 05 26 17.9
MNK *i* S **S 05 31 09.6 -0.8**
MNK *i* SS **SS 05 35 35.7 +0.7**
MNK *i* SSS SSS 05 38 51.1
MNK *i* LQ LQ 05 50 50.3
MNK *i* LR LR 05 51 48.5
MNK *i* LRM MLR 05 56 56.6
comp=Z,61nm,21.3s
MNK *i* LRM MLR 05 57 47.0
comp=E,53nm,18.8s
MNK *i* LRM MLR 05 58 14.1
comp=N,54nm,14.0s
MNK Minsk 68.58 349 *i* P **P 05 22 06.9 -1.1**
MNK *i* 05 24 39.9
MNK *i* PPP PPP 05 26 17.8
MNK *i* S **S 05 31 09.6 -0.8**
MNK *i* SS **SS 05 35 35.7 +0.7**
MNK pmax pmax
comp=E,15nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.8s
MNK pmax pmax
comp=N,13nm,0.9s
MNK MLR MLR
comp=Z,61nm,21.0s
BVA0 Borovoye Array 68.94 16 *i* P **P 05 22 10.5 +0.1**
BVAR Borovoye Array 68.94 16 P **P 05 22 10.6 +0.2**
comp=Z,6.3nm,0.9s,baz=212,slow=5.3,SNR=24
comp=Z,6.3nm,0.9s
BRVK Borovoye 68.94 16 P **P 05 22 10.1 -0.3**
BRVK IAmb IAmb 05 22 11.9
comp=Z,23nm,1.6s
BRVK Borovoye 68.94 16*ce*P **P 05 22 11.4 +1.0**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRG Berggiesshubel 68.98 339 *e*P **P 05 22 11.3 +0.6**
BRG Amp 05 22 12.3
comp=Z,5.9nm,1.1s
BRG Berggiesshubel 68.98 339 P P 05 22 18.8 +8.1
BRG Amp 05 22 19.6
comp=Z,4.2nm,0.9s
BRG Berggiesshubel 68.98 339 *e*P **P 05 22 11.3 +0.6**
BRG 05 22 18.7
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,4.0nm,0.9s
BFO Black Forest 69.07 335 P **P 05 22 11.2 -0.1**
BFO Black Forest 69.07 335 P **P 05 22 11.2 -0.1**
BFO pmax pmax
comp=Z,43nm,1.8s
NACGM Naroch 69.16 349 *e*P **P 05 22 12.3 +0.6**
ESDC Sonseca Array 69.38 321 P **P 05 22 14.8 +1.3**
ESDC Sonseca Array 69.38 321 P **P 05 22 14.4 +0.9**
comp=Z,4.4nm,0.8s,baz=121,slow=5.5,SNR=25
comp=Z,4.4nm,0.8s
KURBB Kurchatov Arra 69.44 22 P **P 05 22 13.6 +0.1**
comp=Z,1.2nm,0.6s,baz=219,slow=7.2,SNR=12
comp=Z,1.2nm,0.6s
KURK Kurchatov 69.55 22*ce*P **P 05 22 16.0 +1.8**
KURK pmax pmax
comp=Z,5.0nm,1.7s
CLL Collm 69.67 339 *e*P **P 05 22 17.0 +2.0**
CLL pmax pmax
comp=Z,8.0nm,1.1s
CLL MLR MLR
comp=Z,700nm,19.5s
CLL Collm 69.67 339 *e*P **P 05 22 17.0 +2.0**
comp=Z,8.0nm,1.1s
CLL *e*PP **PP 05 24 51.0 +1.7**
CLL *e*PPP PPP 05 26 24.0
CLL *e*PPPP 05 27 18.0
CLL *e*SSS SSS 05 38 54.0
ARTI Arti 69.71 8 P **P 05 22 15.4 +0.3**
ARTI Arti 69.71 8*d i*P **P 05 22 15.3 +0.2**
ARTI S **S 05 31 27.0 +3.2**
ARTI SS **SS 05 35 49.2 -3.3**
ARTI pmax pmax
comp=Z,50nm,1.3s
PBAR Barrancos 70.42 319 *e*P **P 05 22 19.9 0.0**
SVE Sverdlovsk 70.45 9 *e*P **P 05 22 20.1 +0.5**
SVE pmax pmax
comp=Z,36nm,1.3s
MORF Marmelete 70.99 317 *e*P **P 05 22 23.8 +0.4**

MESJ Messejana 71.00 318 *e*P **P 05 22 25.3 +1.9**
PFVI Vila Bisbo 71.01 317 *e*P **P 05 22 26.2 +2.7**
KIRV Kirov 71.13 2 LR LR 05 57 10.9
comp=Z,74nm,18.1s,baz=192,slow=39
KIRV Kirov 71.13 2*ce*P **P 05 22 24.4 +0.7**
PESTR Estremoz 71.17 319 *e*P **P 05 22 26.6 +2.2**
PTEO Sao Teotonio 71.17 317 *e*P **P 05 22 25.8 +1.4**
PSA00 Pilbara Seismi 71.21 109 P **P 05 22 24.1 -1.0**
PSA00 IAmb IAmb 05 22 26.9
comp=Z,26nm,1.1s
EVO Evora 71.25 318 *e*P **P 05 22 25.7 +0.8**
PMRV Marv??o 71.36 319 *e*P **P 05 22 27.3 +1.7**
BCLA Clavier 71.94 334 *d*P **P 05 22 30.1 +1.3**
comp=Z,5.7nm,1.4s
BMRD Maredsous 72.08 334 *d*P **P 05 22 30.8 +1.2**
MVO Moncorvo 72.14 321 *e*P **P 05 22 32.2 +1.9**
GTA Gaotai 72.51 41 *e*P **P 05 22 33.5 +0.8**
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA LR LR
comp=Z,150nm,16.0s
GTA LR LR
comp=Z,130nm,16.0s
GTA LR LR
comp=Z,140nm,15.6s
VSU Vasula 72.54 350*ce*P **P 05 22 33.9 +1.7**
VSU pmax pmax
comp=Z,14nm,0.7s
KLMR Klimovskoe 73.47 357 *e*P **P 05 22 35.7 -2.0**
KLMR pmax pmax
comp=Z,28nm,1.2s
LZH Lanzhou 73.49 46 *e*P **P 05 22 40.5 +1.9**
LZH pmax pmax
comp=Z,25nm,1.6s
LZH LR LR
comp=Z,210nm,12.4s
LZH LR LR
comp=Z,150nm,14.8s
LZH LR LR
comp=Z,180nm,16.5s
ZALV Zalesovo Beam 74.43 23 P **P 05 22 42.6 -0.8**
comp=Z,4.0nm,0.8s,baz=226,slow=5.7,SNR=18
comp=Z,4.0nm,0.8s
FINES FINESS Array B 75.47 351 P **P 05 22 49.8 +0.5**
comp=Z,6.6nm,0.9s,baz=133,slow=13,SNR=9.5
comp=Z,6.6nm,0.9s
BELA Belgrano 2 75.53 192 P **P 05 22 48.7 -0.8**
BELA IAmb IAmb 05 22 52.0
comp=Z,13nm,1.1s
TOLI2 Tolitoli 76.09 86 IAmb IAmb 05 22 55.6
comp=Z,11nm,1.1s
XAN Xi'an 76.22 50 P **P 05 22 54.8 +0.5**
XAN pmax pmax
comp=Z,18nm,1.1s
HFS Hagfors 76.91 344 P **P 05 22 57.8 +0.3**
comp=Z,4.7nm,0.8s,baz=152,slow=6.7,SNR=7.8
comp=Z,4.7nm,0.8s
FITZ Fitzroy Crossi 77.09 106 LR LR 05 54 07.7
comp=Z,80nm,18.0s,baz=359,slow=34
QSPA South Pole Qui 77.37 180 P **P 05 23 00.7 +0.3**
QSPA South Pole Qui 77.37 180 P **P 05 23 00.6 +0.2**
comp=Z,28nm,1.0s,baz=257,slow=3.4,SNR=41
comp=Z,28nm,1.0s
NC602 NORSAR Array S 78.00 344 P **P 05 23 03.5 -0.1**
NC602 IAmb IAmb 05 23 05.5
comp=Z,39nm,1.6s
NB2 NORSAR Subarra 78.34 344 P **P 05 23 05.9 +0.4**
comp=Z,30nm,1.7s,baz=146,slow=5.6
NB2 NORSAR Subarra 78.34 344 P **P 05 23 05.9 +0.4**
baz=146,slow=5.6
NOA NORSAR Array B 78.34 344 P **P 05 23 06.2 +0.6**
comp=Z,2.8nm,0.9s,baz=135,slow=5.6,SNR=8.0
comp=Z,2.8nm,0.9s
EKA Eskdalemuir Ar 79.04 334 P **P 05 23 10.6 +1.2**
comp=Z,3.2nm,0.8s,baz=93,slow=5.0,SNR=4.9
comp=Z,3.2nm,0.8s
BTO Baotou 79.90 44 *e*P **P 05 23 15.8 +1.2**
BTO pP **sP 05 23 19.3 +0.2**
BTO sP **PcP 05 23 23.5 +1.3**
BTO S **S 05 33 22.3 +3.9**
BTO pmax pmax
comp=Z,17nm,0.5s
BTO pmax pmax
comp=Z,180nm,4.5s
BTO LR LR
comp=Z,220nm,6.3s
BTO LR LR
comp=Z,190nm,4.6s
BTO LR LR
comp=Z,160nm,8.2s
LVZ Lovozero 80.77 356 *i* P **P 05 23 19.3 +0.7**
SONM Songino Array 81.02 37 P **P 05 23 20.5 0.0**
SONM Songino Array 81.02 37 P **P 05 23 21.8 +1.3**
comp=Z,4.4nm,0.9s,baz=237,slow=4.5,SNR=17
comp=Z,4.4nm,0.9s
HHC Hu-ho-hao-te 81.06 45 *e*P **P 05 23 22.0 +1.1**
HHC sP PcP 05 23 31.5 +4.3
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,120nm,5.1s
HHC LR LR
comp=Z,160nm,17.1s
HHC LR LR
comp=Z,160nm,15.7s
HHC LR LR
comp=Z,170nm,15.6s
ULN Ulaanbaatar 81.42 37 P **P 05 23 23.2 +0.5**
ULN IAmb IAmb 05 23 24.7
comp=Z,12nm,1.5s
ULN Ulaanbaatar 81.42 37 P **P 05 23 24.0 +1.3**
HNS HongShan 81.89 49 ⇑P **P 05 23 26.3 +1.1**
HNS pmax pmax
comp=Z,17nm,1.0s
HNS LR LR
comp=Z,200nm,14.3s
HNS LR LR
comp=Z,170nm,16.7s
NJ2 Nanjing 83.16 55 *e*P **P 05 23 32.3 +0.4**
NJ2 pmax pmax
comp=Z,19nm,0.5s
NJ2 pmax pmax
comp=Z,130nm,4.3s
ARCES ARCESS Array B 83.22 353 P **P 05 23 32.5 +1.1**
comp=Z,4.1nm,0.8s,baz=144,slow=4.3,SNR=8.5
comp=Z,4.1nm,0.8s
ASAR Alice Springs 83.73 113 P **P 05 23 34.6 -0.6**
comp=Z,10nm,0.7s,baz=263,slow=4.7,SNR=87
ASAR LR LR 05 55 58.3
comp=Z,217nm,19.0s,baz=250,slow=32
comp=Z,10nm,0.7s
AS31 Alice Springs 83.73 113 P **P 05 23 34.0 -1.2**
AS31 IAmb IAmb 05 23 36.0
comp=Z,5.9nm,1.0s
WRA Warramunga Arr 84.86 109 P **P 05 23 40.5 -0.5**
comp=Z,20nm,1.0s,baz=263,slow=3.8,SNR=71
comp=Z,20nm,1.0s
WRAB Tennant Creek 84.87 109 P **P 05 23 40.1 -0.9**
WRAB Tennant Creek 84.87 109 *i* P **P 05 23 40.5 -0.5**
WRAB pmax pmax
comp=Z,32nm,0.9s
XLT XiLinHaoTe 85.35 43 *e*P P 05 23 37.8 -5.1
XLT sP sP 05 23 48.5 +1.1
XLT pmax pmax
comp=Z,34nm,0.9s
NRIK Noril'sk 87.03 14 P **P 05 23 52.0 +1.5**
comp=Z,1.1nm,0.3s,baz=191,slow=7.8,SNR=6.2
comp=Z,1.1nm,0.3s
STKA Stephens Creek 88.62 122 P **P 05 23 58.3 -0.9**
STKA Stephens Creek 88.62 122 P **P 05 23 58.8 -0.3**
comp=Z,7.2nm,0.9s,baz=320,slow=2.5,SNR=9.4
comp=Z,7.2nm,0.9s
BDFB Brasilia 89.76 254 P **P 05 24 06.0 +1.1**
comp=Z,3.5nm,0.9s,baz=85,slow=5.1,SNR=4.9
comp=Z,3.5nm,0.9s
BDFB Brasilia 89.76 254 P **P 05 24 06.0 +1.1**
CN2 Changchun 91.72 46 *e*P **P 05 24 13.0 -0.2**
KSAR Wonju Array Be 91.84 52 P **P 05 24 13.7 -0.2**
KSAR Wonju Array Be 91.84 52 P **P 05 24 13.7 -0.2**
KSRS Korea Array 91.88 52 P **P 05 24 13.8 -0.2**
comp=Z,3.8nm,0.9s,baz=263,slow=4.6,SNR=8.2
comp=Z,3.8nm,0.9s
SPITS Spitsbergen Ar 92.18 354 P **P 05 24 13.9 -0.8**
comp=Z,25nm,1.0s,baz=296,slow=7.5,SNR=2.1
comp=Z,25nm,1.0s
TIXI Tiksi 99.96 19*ce*P **Pdif 05 24 50.8 +0.8**
TIXI pmax pmax

comp=Z,2.0nm,1.3s
E29M Blow River 124.34 1 PKPdf **PKPdf 05 30 03.8 -0.2**
INK Inuvik 124.46 359 **PKiKP 05 30 05.0 +0.5**
INK Inuvik 124.46 359 PKIKP **PKiKP 05 30 05.0 +0.5**
F28M Old Crow 125.06 2 PKPdf **PKPdf 05 30 04.9 -0.5**
EPYK Eagle Plains 126.39 1 **PKPdf 05 30 08.0 -0.1**
ILAR Eielson Array 127.33 7 PKP **PKPdf 05 30 09.6 -0.3**
comp=Z,1.7nm,0.9s,baz=318,slow=2.7,SNR=12
YKA Yellowknife Ar 128.26 348 PKP **PKPdf 05 30 11.6 -0.1**
comp=Z,1.6nm,0.9s,baz=8.0,slow=2.5,SNR=5.3
ULM Lac du Bonnet 130.98 328 PKP **PKPdf 05 30 15.6 -1.6**
comp=Z,2.5nm,0.7s,baz=146,slow=3.1,SNR=2.8
PDAR Pinedale Array 142.99 329 PKP **PKPdf 05 30 38.7 -1.3**
comp=Z,4.2nm,0.9s,baz=86,slow=2.1,SNR=17
T25A Trinidad 143.60 317 PKPdf PKPbc 05 30 39.7 +1.2
HAWA Hanford 144.08 342 PKPdf **PKPdf 05 30 40.6 -0.8**
OZNA Ozona 144.16 306 PKPdf PKPbc 05 30 40.8 +0.6
TXAR Lajitas Array 146.80 305 PKPbc **PKPbc 05 30 47.6 -0.9**
comp=Z,3.5nm,0.9s,baz=99,slow=4.7,SNR=31
VHRN Van Horn 147.22 308 **PKPbc 05 30 49.1 -0.6**
SPR3 Spring Creek 3 148.21 329 PKPab **PKiKP 05 30 53.9 -0.3**
NVAR Mina Array Bea 150.54 333 PKPbc **PKPdf 05 30 54.6 +1.9**
comp=Z,2.9nm,0.8s,baz=48,slow=1.5,SNR=20
TUC Tucson 150.66 316 PKPdf **PKPdf 05 30 54.4 +1.5**
TUC **PKiKP 05 30 59.4 +0.3**
TUC Tucson 150.66 316 PKIKP **PKiKP 05 30 59.4 +0.3**

DJA 27 05:11:29.6±1.0, 3°S±6°×11°9E±°, h10km, M3.2/6, MLv3.2/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.40**	**121**	P	Pb	05 11 38.2	-0.5
TTSI				S	Sg	05 11 43.5	+0.8
TTSI	**Tana Toraja**	**0.40**	**121**	P	Pg	05 11 38.0	+0.6
TTSI				S	Sb	05 11 44.5	-0.3
SPSI	**Sidrap Palu**	**1.15**	**166**	P	Pb	05 11 50.0	-1.7
SPSI				S	Sn	05 12 07.5	-0.2
SPSI	**Sidrap Palu**	**1.15**	**166**	P	Pb	05 11 49.8	-1.9
BNSI	**Bone**	**1.67**	**158**	P	Pn	05 11 59.7	+0.7
BNSI				S	Sb	05 12 21.5	-0.1
BNSI	**Bone**	**1.67**	**158**	P	Pb	05 12 00.4	-0.1
BNSI				S	Sg	05 12 24.2	+0.8
BKSI	**Bulukumba**	**2.55**	**165**	P	Pn	05 12 13.2	+2.2
BKSI				S	Sn	05 12 42.8	+0.7
BKSI	**Bulukumba**	**2.55**	**165**	P	Pn	05 12 13.2	+2.2
BKSI				S	Sb	05 12 45.5	-1.4

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*MEX **27** 05:37:54.7±0.3, 19°.28N×108°.48W, h4km±16km, MD5.4*
*IDC **27** 05:37:55.1±0.5, 19°.21N×108°.58W, h0km, mb4.6/19, mbtmp4.6/24, ML4.1/5, MS5.0/61, Error ellipse: s-maj=17.7km s-min=11.2km az=57.0*
*MOS **27** 05:37:56.3±1.1, 19°.30N×108°.37W, h12km, mb5.4/26, MS5.1/17, Error ellipse: s-maj=9.6km s-min=6.2km az=91.5*
*GCMT **27** 05:37:58.2±0.1, 19°.41N±0°.01×108°.40W±0°.01, h16km, MW5.6/151, Moment Tensor Solution. s130, c218; s151, c301; Duration: 1s5 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.63±.03; $M_{\theta\theta}$-2.19±.03; $M_{\phi\phi}$2.82±.03; $M_{r\theta}$-0.19±.08; $M_{\theta\phi}$-1.62±.03; $M_{\phi r}$0.20±.08; Best double couple: $M_0$2.99500×10^{17} NP1:ϕ_s299.00000°, δ90.00000°, λ175.00000°. NP2:ϕ_s29.00000°, δ85.00000°, λ0.00000°. Principal axes: T 3.3140, Plg4.0000°, Azm253.0000°; N -0.6410, Plg85.0000°, Azm117.0000°; P -2.6750, Plg3.0000°, Azm344.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **27** 05:37:59.7, 19°.36N×108°.36W, h20km*
*NEIC **27** 05:37:59.2±2.9, 19°.37N±0°.09×108°.35W±0°.09, h10km±1km, mb5.4/613, Ms_20 5.1/705, Mww5.6/95, Error ellipse: s-maj=18.0km s-min=11.1km az=224.0*
*NEIC **27** 05:37:59.7, 18°.96N×108°.58W, h20km, Moment Tensor Solution. Duration: 3s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.29; $M_{\theta\theta}$-2.48; $M_{\phi\phi}$2.77; $M_{r\theta}$-1.09; $M_{\theta\phi}$-1.66; $M_{\phi r}$1.54; Fault plane solution: $M_0$3.56000×10^{17} NP1: ϕ_s298.67000°, δ84.64000°, λ152.88000°. NP2: ϕ_s31.41000°, δ63.01000°, λ6.02000°. Principal axes: T 4.0008, Plg23.0000°, Azm252.0000°; N -0.8758, Plg62.0000°, Azm108.0000°; P -3.1250, Plg15.0000°, Azm348.0000°;*

ISC 27 05:37:56.4±0.3, 19°.24N±0°.04×108°.43W±0°.03, h10km, n1180, σ1°81/635, mb5.4/265, MS5.1/407, 13C-7D, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06E		**2.40**	**259⇑**	*e*P	Pn	05 38 31.0	-4.9
H06E				*e*S	**Sn**	**05 38 59.5**	**-5.9**
H06E1	**SOCORRO T-PHAS**	**2.41**	**259**	Pn	**Pn**	**05 38 32.5**	**-3.5**
H06E1				T	T	05 40 55.9	
H06S1	**SOCORRO T**	**2.45**	**258**	Pn	**Pn**	**05 38 32.8**	**-3.7**
H06S1				T	T	05 41 03.6	
H06S		**2.45**	**258⇑**	*e*P	Pn	05 38 31.8	-4.7
H06S				*e*S	**Sn**	**05 38 58.1**	**-8.4**
CJM	**Chamela**	**3.20**	**85**	*e*P	**Pn**	**05 38 43.3**	**-3.6**
CJM				*e*S	**Sn**	**05 39 17.1**	**-8.0**
PUVA	**Puert Vallarta**	**3.32**	**65**	*e*P	**Pn**	**05 38 45.5**	**-2.9**
PUVA				*e*S	**Sn**	**05 39 21.3**	**-6.6**
CIHU	**Emiliano Zapat**	**3.49**	**89**	*e*P	**Pn**	**05 38 47.4**	**-3.4**
CIHU				*e*S	**Sn**	**05 39 25.4**	**-6.8**
ANIG	**Ahuacatlan**	**4.09**	**63**	*e*P	Pn	05 38 51.2	-7.9
ANIG				*e*S	**Sn**	**05 39 43.0**	**-4.1**
CDAR	**Ciudad de Arme**	**4.19**	**93**	*e*P	**Pn**	**05 38 57.2**	**-3.1**
CDAR				*e*S	**Sn**	**05 39 42.5**	**-7.0**
CEGR	**Campo Tres**	**4.32**	**87⇑**	*e*P	**Pn**	**05 39 00.6**	**-1.8**
CEGR				*e*S	**Sn**	**05 39 48.6**	**-4.2**
MAIG	**Mazatlaan**	**4.35**	**25**	*e*P	**Pn**	**05 38 59.4**	**-3.2**
MAIG				*e*S	Sn	05 39 42.8	-11
COMA	**Comala**	**4.41**	**88**	*e*P	**Pn**	**05 39 00.7**	**-2.8**
COMA				*e*S	**Sn**	**05 39 51.2**	**-3.8**
SOMAC	**Volcano de Col**	**4.54**	**86**	*e*P	**Pn**	**05 39 04.7**	**-0.8**
SOMAC				*e*S	**Sn**	**05 39 55.6**	**-3.0**
MNGA	**Volcan de Coli**	**4.54**	**86**	*e*P	**Pn**	**05 39 04.8**	**-0.7**
MNGA				*e*S	**Sn**	**05 39 59.0**	**+0.5**
EZ5V		**4.56**	**86⇑**	*e*P	**Pn**	**05 39 05.2**	**-0.6**
EZ5V				*e*S	**Sn**	**05 39 58.9**	**-0.2**
INCO	**Volcan de Coli**	**4.56**	**86**	*e*P	**Pn**	**05 39 05.2**	**-0.7**
INCO				*e*S	**Sn**	**05 39 57.2**	**-2.0**
SLBS	**Sierra La Lagu**	**4.64**	**343**	Pn	**Pn**	**05 39 05.4**	**-1.3**
SLBS	**Sierra La Lagu**	**4.64**	**343**	*e*P	**Pn**	**05 39 05.1**	**-1.6**
MMIG	**Aquila**	**4.91**	**100**	*e*P	**Pn**	**05 39 07.9**	**-2.4**
MMIG				*e*S	Sn	05 39 58.0	-9.1
LPIG	**La Paz**	**5.14**	**340**	Pn	**Pn**	**05 39 12.8**	**-0.7**
	6.6nm,0.3s,baz=173,slow=18,SNR=30						
LPIG				Sn	**Sn**	**05 40 13.4**	**+0.5**
	4.9nm,0.3s,baz=256,slow=18,SNR=1.4						
LPIG				LR	LR	05 40 51.5	
	comp=Z,38μm,20.5s,baz=160,slow=34						
	220nm,0.8s						
LPIG	**La Paz**	**5.14**	**340**	*e*P	**Pn**	**05 39 11.1**	**-2.4**
LPIG				*e*S	**Sn**	**05 40 12.4**	**-0.5**
SSIG	**Sanalona**	**5.68**	**12**	*e*P	**Pn**	**05 39 18.6**	**-2.3**
TSIG	**Topolobambo**	**6.35**	**355⇓**	*e*P	**Pn**	**05 39 30.7**	**+0.6**
TSIG				*e*S	**Sn**	**05 40 38.3**	**-4.5**
PDIG	**Papasquiaro**	**6.42**	**25**	*e*P	**Pn**	**05 39 27.9**	**-3.4**
PDIG				*e*S	**Sn**	**05 40 37.6**	**-7.0**
ZAIG	**Zacatecas**	**6.50**	**56**	Pn	**Pn**	**05 39 32.3**	**-0.2**
ZAIG	**Zacatecas**	**6.50**	**56**	*e*P	**Pn**	**05 39 31.9**	**-0.6**
ZIIG	**Zihuatanejo**	**6.81**	**103**	*e*P	**Pn**	**05 39 33.5**	**-2.9**
ZIIG				*e*S	**Sn**	**05 40 54.7**	**+0.7**
IGIG	**Irapuato, Guan**	**6.84**	**76**	*e*P	**Pn**	**05 39 36.5**	**-0.7**
MOIG	**Morelia**	**6.84**	**85**		**Pn**	**05 39 37.1**	**0.0**
MOIG	**Morelia**	**6.84**	**85**	*e*P	**Pn**	**05 39 34.2**	**-2.9**
CSIG	**Choix**	**7.55**	**0**	*e*P	**Pn**	**05 39 47.0**	**+0.4**
JRQG	**Juriquilla Cam**	**7.64**	**78**		**Pn**	**05 39 50.5**	**+2.4**
JRQG	**Juriquilla Cam**	**7.64**	**78**	*e*P	**Pn**	**05 39 46.4**	**-1.8**
ARIG	**Puente Sto Nin**	**7.71**	**96**	*e*P	**Pn**	**05 39 48.8**	**-0.1**
CAIG	**El Cayaco**	**8.06**	**104**	*e*P	**Pn**	**05 39 51.0**	**-2.7**
CAIG				*e*S	Sn	05 41 16.7	-8.2
HPIG		**8.06**	**18**	Pn	**Pn**	**05 39 54.6**	**+0.8**
HPIG		**8.06**	**18**	*e*P	**Pn**	**05 39 55.5**	**+1.6**
ACIG	**Acambay**	**8.09**	**83**	*e*P	**Pn**	**05 39 52.8**	**-1.5**
ACIG				*e*S	**Sn**	**05 41 19.8**	**-6.1**
RPIG	**Rio Verde**	**8.34**	**70**	*e*P	**Pn**	**05 39 59.6**	**+2.1**
MAVM	**Malinalco, Edo**	**8.45**	**90**	*e*P	Pn	05 39 44.9	-14
MAVM				*e*S	Sn	05 41 13.7	-21

PLIG	Platanillo	8.49	94	eP		Pn	05 39 57.0	-2.7
INVM	La Marquesa	8.54	88	eP		Pn	05 40 02.7	+2.1
INVM				eS		Sn	05 41 30.4	-6.9
AOVM	Tlapan	8.60	88	eP		Pn	05 40 02.4	+0.8
AOVM				eS		Sn	05 41 29.1	-10
DAIG	Los Arroyos	8.63	103	eP		Pn	05 40 01.1	-0.4
CJVM	Cuajimalpa	8.63	88	eP		Pn	05 40 00.7	-1.0
CJVM				eS		Sn	05 41 45.0	+5.6
MHVM	Bosque de Chap	8.70	87	eP		Pn	05 40 02.7	0.0
APVM	Azcapotzalco	8.71	87	eP		Pn	05 40 02.7	0.0
APVM				eS		Sn	05 41 35.2	-6.0
BCIG	La Boquilla	8.71	18	eP		Pn	05 40 04.3	+1.6
BCIG				eS		Sn	05 41 40.6	-0.5
UNM	Universidad Na	8.73	88			Pn	05 40 06.4	+3.2
UNM	Universidad Na	8.73	88	eP		Pn	05 40 04.1	+0.9
UNM				eS		Sn	05 41 42.5	+0.6
UNM	Universidad Na	8.73	88	P		Pn	05 40 06.4	+3.2
BJVM	Benito Juarez	8.74	88	eP		Pn	05 40 07.4	+4.1
BJVM				eS		Sn	05 41 31.8	-10
COVM	Coyoacan	8.76	88	eP		Pn	05 39 57.4	-6.0
COVM				eS		Sn	05 41 35.1	-7.3
TLVM	San Miguel Top	8.76	89	eP		Pn	05 40 02.7	-0.9
SRIG	Santa Rosalia	8.77	337	Pn		Pn	05 40 04.8	+1.4
XCVM	Xochimilco	8.79	88	eP		Pn	05 40 00.1	-3.9
PBVM	Pinon	8.82	87	eP		Pn	05 40 04.7	+0.6
YAIG	Yautepec	8.86	91	eP		Pn	05 40 05.7	+0.9
MPVM	San Francisco	8.89	89	eP		Pn	05 40 04.7	-0.6
GUYB	Guaymas	8.90	346	⇓eP		Pn	05 40 06.7	+1.5
GUYB				eS		Sn	05 41 35.8	-10
DEIG	Demacu	8.90	82	eP		Pn	05 40 05.4	0.0
THVM	De Xico	8.93	88	eP		Pn	05 40 02.7	-3.1
TXVM	Universitario	8.98	87	eP		Pn	05 40 06.7	+0.2
CRIG	Cruz Grande	9.19	104	eP		Pn	05 40 08.4	-0.8
PBXN	Popocatepetl	9.24	90	eP		Pn	05 39 57.2	-13
PBXN				eP			05 40 11.6	
PPM	Popocatepetl	9.26	89	eP		Pn	05 40 10.8	+0.2
PBCV	Popocatepetl	9.33	90	eP		Pn	05 40 12.1	+0.7
GTIG	Gomez Farias	9.44	65	eP		Pn	05 40 13.0	+0.5
TLIG	Tlapa	9.51	99	eP		Pn	05 40 13.2	-0.5
MGIG	Malinaltepec	9.52	101	eP		Pn	05 40 13.4	-0.5
MGIG				eS		Sn	05 42 01.7	+0.6
CTUV	Llano Grande	9.70	75	eP		Pn	05 40 16.7	+0.5
FTIG	Fresnillo de T	9.85	96	eP		Pn	05 40 15.4	-2.9
HSIG		10.00	347	Pn		Pn	05 40 22.8	+2.5
LNIG	Linares	10.03	54	eP		Pn	05 40 22.3	+1.6
HLIG	Huajuapan de L	10.17	96	eP		Pn	05 40 21.0	-1.8
PNIG	Pinotepa	10.21	105	eP		Pn	05 40 23.2	0.0
CXUV	Coxquihui	10.25	83	eP		Pn	05 40 20.7	-3.0
TXIG	Tlaxiaco	10.32	99	eP		Pn	05 40 23.8	-1.1
TPIG	Tehuac#an	10.51	93	eP		Pn	05 40 28.4	+0.9
YOIG	Yosondua	10.62	101	eP		Pn	05 40 27.5	-1.5
BAHB	Baha de los	10.73	335	⇓eP		Pn	05 40 32.2	+1.9
BAHB				eS		Sn	05 42 23.1	-7.5
TOIG	Toxpalan	10.83	94	eP		Pn	05 40 31.8	0.0
TX31	Lajitas Ar. Si	10.94	22			Pn	05 40 34.2	+1.0
TXAR	Lajitas Array	10.94	22	Pn		Pn	05 40 33.9	+0.7
TXAR	Lajitas Array	10.94	22	Pn		Pn	05 40 34.2	+1.0
	0.9nm,0.3s,baz=207,slow=14,SNR=63							
TXAR				LR		LR	05 44 19.8	
	comp=Z,5μm,20.1s,baz=200,slow=35 19nm,0.8s							
JAUV	Jalcomulco	10.98	87	eP		Pn	05 40 34.0	+0.3
PEIG	Puerto Escondi	11.23	105	eP		Pn	05 40 29.4	-7.7
VHO	Vista Hermosa	11.32	99	eP		Pn	05 40 35.6	-3.0
LAPR	La Primavera	11.75	343	⇓eP		Pn	05 40 47.7	+3.5
LAPR				eS		Sn	05 42 51.2	-4.3
HBVL	Hebbronville	11.88	47	Pn		Pn	05 40 47.6	+1.6
ALPN	Alpine	11.90	20	Pn		Pn	05 40 48.3	+1.9
VHRN	Van Horn	11.91	14	Pn		Pn	05 40 48.7	+2.2
NEUV	Arroyo Zacate	12.07	95	eP		Pn	05 40 44.6	-4.1
SAND	Sanderson	12.10	27	Pn		Pn	05 40 51.8	+2.7
319A	Douglas	12.11	357			Pn	05 40 50.7	+1.5
HUIG	Huatulco	12.25	104	eP		Pn	05 40 52.1	+1.0
DRIO	Del Rio	12.38	34	Pn		Pn	05 40 53.8	+1.0
PECS	Pecos	12.76	18			Pn	05 41 00.5	+2.5
CMIG	Matias Romero	13.05	97	Pn		Pn	05 41 02.8	+0.8
	3.8nm,0.3s,baz=261,slow=10,SNR=43							
CMIG				LR		LR	05 45 43.0	
	comp=Z,10μm,20.9s,baz=281,slow=36 97nm,0.8s							
CMIG	Matias Romero	13.05	97	eP		Pn	05 41 03.4	+1.4
MNHN	Monahans	13.09	22			Pn	05 41 04.4	+1.9
SFX	San Felipe	13.10	335			Pn	05 41 04.6	+2.0
SFX	San Felipe	13.10	335	eP		Pn	05 41 01.0	-1.6
SFX				eS		Sn	05 43 21.4	-7.1
TUC	Tucson	13.18	351	Pn		Pn	05 41 06.0	+2.1
TUC	Tucson	13.18	351	P		Pn	05 41 06.0	+2.1
HNDO	Hondo	13.19	37			Pn	05 41 04.4	+0.5
121A	Cookes Peak, D	13.25	2	P		P	05 41 09.0	-5.8
	baz=182,SNR=20							
OZNA	Ozona	13.37	28	Pn		Pn	05 41 08.7	+2.3
735A	Kenedy	13.62	43			Pn	05 41 11.4	+1.7
UXUV	UXUV	13.70	96	eP		Pn	05 41 11.2	+0.3
MBIG	Mexicali	14.45	336	eP		Pn	05 41 22.0	+0.9
MBIG				eP		P	05 41 22.5	-5.5
TGIG		14.76	97	eP		Pn	05 41 22.3	-3.2
Y22D	IRIS PASSCAL I	14.83	5	P		P	05 41 29.4	-3.0
	baz=185							
CBX	Cerro Bola	14.97	332	⇓eP		P	05 41 29.6	-4.3
435B	Jarrell	15.11	38	P		Pn	05 41 30.4	+0.4
	baz=223							
TKX	Tecate	15.16	333	IAmb		IAmb	05 41 35.1	
	comp=Z,248nm,1.8s							
SN05	Snyder 5	15.17	25	IAmb		IAmb	05 41 38.7	
	comp=Z,345nm,2.0s							
Y14A	Wickenburg	15.19	345	IAmb		IAmb	05 41 34.8	
	comp=Z,293nm,1.9s							
X18A	Snowflake	15.29	355	IAmb		IAmb	05 41 36.4	
	comp=Z,232nm,1.5s							
SN07	Snyder 07	15.35	25	IAmb		IAmb	05 41 37.7	
	comp=Z,233nm,1.9s							
BLYC	Blythe	15.44	341	IAmb		IAmb	05 41 42.8	
	comp=Z,389nm,1.6s							
HKT	Hockley	15.63	45			Pn	05 41 36.7	-0.1
HKT				IAmb		IAmb	05 41 40.4	
	comp=Z,313nm,1.7s							
HKT	Hockley	15.63	45	P		Pn	05 41 36.7	-0.1
HKT				pmax		pmax		
	comp=Z,313nm,1.7s							
ANMO	Albuquerque	15.74	6			P	05 41 40.5	-1.9
ANMO	Albuquerque	15.74	6	Pn		P	05 41 39.8	-2.7
	comp=Z,0.1nm,0.3s,baz=343,slow=11,SNR=26							
ANMO				LR		LR	05 46 32.7	
	comp=Z,6μm,21.0s,baz=353,slow=33 comp=Z,12nm,1.2s							
ANMO	Albuquerque	15.74	6	ceP		P	05 41 40.8	-1.7
ANMO				pmax		pmax		
	comp=Z,58nm,1.3s							
CCIG	Comitan	15.79	98	P		Pn	05 41 39.3	+0.1
CCIG	Comitan	15.79	98	eP		Pn	05 41 40.0	+0.8
APMT	Aspermont	15.87	26	IAmb		IAmb	05 41 44.1	
	comp=Z,292nm,1.6s							
PFO	Pinyon Flats O	16.00	335	P		P	05 41 43.6	-1.8
PFO	Pinyon Flats O	16.00	335	Pn		P	05 41 41.8	-3.6
	comp=Z,0.1nm,0.3s,baz=153,slow=12,SNR=31							
PFO				LR		LR	05 46 57.3	
	comp=Z,21μm,21.6s,baz=159,slow=34 comp=Z,12nm,1.1s							
PFO	Pinyon Flats O	16.00	335	P		P	05 41 43.6	-1.8
PFO				pmax		pmax		
	comp=Z,250nm,1.8s							
WHTX	Lake Whitney,	16.08	36	IAmb		IAmb	05 41 48.6	
	comp=Z,570nm,1.8s							
CHUJ	Union Juarez	16.13	102	eP		Pn	05 41 43.1	-0.6
CHUJ				eS		Sn	05 44 40.5	-2.3
PLPT	Palo Pinto	16.27	32	IAmb		IAmb	05 41 51.1	
	comp=Z,322nm,1.6s							
HNVL	Huntsville, TX	16.39	43	P		P	05 41 47.1	-2.4
HUEH	Huehuetenango	16.62	101	P		P	05 41 50.7	-1.7
HUEH	Huehuetenango	16.62	101	⇑eP		Pn	05 41 49.0	-0.9
HUEH				eS		Sn	05 44 51.1	-3.8
AMTX	Amarillo	16.69	20	IAmb		IAmb	05 41 57.6	
	comp=Z,395nm,1.9s							
WTFS	Witchita Falls	16.97	30	IAmb		IAmb	05 41 55.5	
	comp=Z,365nm,1.8s							
237A	Washetta, Mont	17.03	39	IAmb		IAmb	05 42 00.4	
	comp=Z,409nm,1.7s							
SNCC	San Nicolas Is	17.12	327	IAmb		IAmb	05 42 00.9	
	comp=Z,486nm,1.6s							
PASC	Pasadena Art C	17.22	332	P		P	05 41 58.9	+0.2
Z35A	Perchaven, San	17.22	33	IAmb		IAmb	05 42 01.4	
	comp=Z,297nm,1.6s							
V12A	Nelson	17.37	342	IAmb		IAmb	05 42 03.1	
	comp=Z,364nm,1.5s							
TREL	Terrell	17.40	37	IAmb		IAmb	05 42 04.0	
	comp=Z,428nm,1.8s							
MYIG	Merida	17.64	81	eP		Pn	05 42 01.6	-0.8
LOOK	Love County	17.78	32			P	05 42 03.2	-1.7
PETF	Flores	17.80	95	IAmb		IAmb	05 42 08.1	
	comp=Z,265nm,1.4s							
PETF	Flores	17.80	95	⇑eP		P	05 42 04.3	-0.9
PETF				eS		Sn	05 45 19.0	-3.9
X34A	Smith Ranch, M	17.96	29	IAmb		IAmb	05 42 17.3	
	comp=Z,395nm,1.7s							
KNB	Kanab	18.12	349	IAmb		IAmb	05 42 12.6	
	comp=Z,375nm,1.7s							
T25A	Trinidad	18.17	10	P		P	05 42 11.7	+2.3
	baz=192,SNR=13							
GWY	Greenwater Val	18.37	338	IAmb		IAmb	05 42 16.1	
	comp=Z,384nm,1.8s							
Z38A	Mt. Pleasant	18.42	38	IAmb		IAmb	05 42 13.9	
	comp=Z,381nm,1.6s							
PKCU	Pink Cliffs	18.45	350	IAmb		IAmb	05 42 23.6	
	comp=Z,347nm,1.8s							
S22A	4UR Ranch, Cre	18.49	4	P		Pn	05 42 15.3	+2.3
	baz=185,SNR=24							
ESQI	Esquipulas	18.84	101	IAmb		IAmb	05 42 31.4	
	comp=Z,429nm,1.3s							
TPNV	Topopah Spring	18.93	340	IAmb		IAmb	05 42 23.7	
	comp=Z,482nm,1.9s							
TEIG	Tepich	18.99	84	P		Pn	05 42 17.9	-1.2
PRN	Pahroc Range	19.00	344	IAmb		IAmb	05 42 24.1	
	comp=Z,469nm,2.0s							
MTPU	Mount Pierson	19.01	351	IAmb		IAmb	05 42 25.0	
	comp=Z,320nm,1.7s							
OK029	Liberty Lake	19.12	28	IAmb		IAmb	05 42 29.5	
	comp=Z,413nm,1.7s							
GRAC	Grapevine Rang	19.34	338	IAmb		IAmb	05 42 31.4	
	comp=Z,308nm,1.4s							
OK031	S. Brethren Rd	19.53	29	IAmb		IAmb	05 42 36.8	
	comp=Z,274nm,1.6s							
OK052	Battle Ridge R	19.58	29	IAmb		IAmb	05 42 39.8	
	comp=Z,471nm,1.9s							
DEOK	Depew	19.60	30	IAmb		IAmb	05 42 39.9	
	comp=Z,247nm,1.3s							
Z41A	Richland Creek	19.74	42	IAmb		IAmb	05 42 42.8	
	comp=Z,202nm,1.2s							
Q16A	Castle Valley	19.75	354	IAmb		IAmb	05 42 34.0	
	comp=Z,355nm,2.0s							
PSUT	Pine Spring	19.79	347	IAmb		IAmb	05 42 41.3	
	comp=Z,446nm,2.0s							
WLAR	White Oak Lake	19.84	40	IAmb		IAmb	05 42 39.0	
	comp=Z,182nm,1.2s							
Q24A	Divide	19.86	8	P		Pn	05 42 29.4	-0.2
	baz=189							
OK048	Pawnee Station	19.86	28	IAmb		IAmb	05 42 40.6	
	comp=Z,274nm,1.4s							
DSP	Deep Springs	19.90	337	IAmb		IAmb	05 42 32.5	
	comp=Z,298nm,1.8s							
MZP	Montezuma Peak	19.98	339	P		Pn	05 42 30.9	-0.1
OK051	E0350 and S346	19.99	28	IAmb		IAmb	05 42 41.9	
	comp=Z,358nm,1.5s							
TUL3	Leonard	19.99	31	P		Pn	05 42 29.2	-1.7
R11B	Troy Canyon, C	20.03	343	IAmb		IAmb	05 42 33.9	
	comp=Z,273nm,1.6s							
R11B	Troy Canyon, C	20.03	343	P		Pn	05 42 32.0	+0.5
	baz=160,SNR=134							
KAN17	Caldwell West	20.04	26	IAmb		IAmb	05 42 40.8	
	comp=Z,251nm,1.6s							
PMPB	Monarch Peak	20.11	330	P		Pn	05 42 32.4	0.0
KAN13	South Haven SW	20.14	26	IAmb		IAmb	05 42 42.9	
	comp=Z,274nm,1.7s							
KAN01	Argonia South	20.14	25	IAmb		IAmb	05 42 41.9	
	comp=Z,419nm,1.9s							
MIAR	Mount Ida	20.15	38	P		Pn	05 42 30.9	-1.9
MIAR	Mount Ida	20.15	38	P		Pn	05 42 30.9	-1.9
MIAR				pmax		pmax		
	comp=Z,58nm,1.1s							
MIAR				MLR		MLR		
	comp=Z,6μm,19.0s							
KAN12	Harper NE Stat	20.17	25	P		Pn	05 42 31.8	-1.2
KAN09	Caldwell North	20.18	26	IAmb		IAmb	05 42 42.3	
	comp=Z,234nm,1.3s							
P17A	Butcher Ranch,	20.26	355	IAmb		IAmb	05 42 36.0	
	comp=Z,278nm,1.8s							
P17A				IAMs_20		IAMs_20	05 49 45.2	
	comp=Z,9μm,19.0s							
TPH	Tonopah	20.27	340	P		Pn	05 42 34.4	0.0
TPH	Tonopah	20.27	340	P		Pn	05 42 34.4	+0.1
TPH				pmax		pmax		
	comp=Z,851nm,1.5s							
TPH				MLR		MLR		
	comp=Z,14μm,20.0s							
143A	Socs Landing,	20.30	45	P		Pn	05 42 33.5	-1.1
KSCO	Kaye Shedlock'	20.33	13	IAmb		IAmb	05 42 45.1	
	comp=Z,290nm,1.3s							
SPR3	Spring Creek 3	20.34	347	IAmb		IAmb	05 42 36.0	
	comp=Z,186nm,1.5s							
SPR3				IAMs_20		IAMs_20	05 49 38.7	
	comp=Z,9μm,18.0s							
P18A	Preston Nutter	20.38	356	IAMs_20		IAMs_20	05 49 51.3	
	comp=Z,8μm,19.0s							
T35A	Sooner Cattle	20.47	28	IAmb		IAmb	05 42 48.4	
	comp=Z,220nm,1.3s							
Q12A	Willow Creek R	20.49	346	IAmb		IAmb	05 42 38.6	
	comp=Z,320nm,1.4s							
Q12A				IAMs_20		IAMs_20	05 49 56.7	
	comp=Z,7μm,18.0s							
OMMB	Old Mammoth Mi	20.50	335	IAmb		IAmb	05 42 45.4	
	comp=Z,254nm,1.5s							
X40A	Basin Creek Fa	20.55	39	IAmb		IAmb	05 42 37.9	
	comp=Z,351nm,1.8s							
RLO	Rose Lookout	20.58	32	P		Pn	05 42 35.6	-2.1
VBMS	Vicksburg	20.63	48	P		Pn	05 42 37.0	-1.4
O20A	White River Ci	20.82	0	IAmb		IAmb	05 42 48.2	
	comp=Z,138nm,1.2s							
O20A				IAMs_20		IAMs_20	05 50 14.9	
	comp=Z,7μm,18.0s							
CCAR	Cane Creek	20.82	42	IAmb		IAmb	05 42 42.4	
	comp=Z,406nm,1.7s							
SAO	San Andreas Ge	20.86	329	IAmb		IAmb	05 42 44.9	
	comp=Z,273nm,1.6s							
LHV	Little Huntoon	20.87	337	IAmb		IAmb	05 42 46.2	
	comp=Z,221nm,1.3s							
LHV				IAMs_20		IAMs_20	05 50 29.1	
	comp=Z,8μm,20.0s							
R32A	Long Quarter,	20.89	22	IAmb		IAmb	05 42 50.9	
	comp=Z,164nm,1.1s							
TGUH	Tegucigalpa,Un	20.91	101	P		Pn	05 42 41.9	0.0
TGUH				IAmb		IAmb	05 42 56.1	
	comp=Z,300nm,1.5s							
CBKS	Cedar Bluff	20.91	19	P		Pn	05 42 40.8	-0.8
CBKS	Cedar Bluff	20.91	19	P		Pn	05 42 40.8	-0.8
CBKS				pmax		pmax		
	comp=Z,447nm,1.3s							
CBKS				MLR		MLR		
	comp=Z,5μm,20.0s							
NV11	Mina Array Sit	20.91	338	IAmb		IAmb	05 42 49.8	
	comp=Z,162nm,1.3s							
346A	Big Creek Wild	20.94	51	IAmb		IAmb	05 42 52.2	
	comp=Z,254nm,1.5s							
Q09A	Carvers	20.95	341	IAmb		IAmb	05 42 56.8	
	comp=Z,171nm,1.2s							
NVAR	Mina Array Bea	20.96	338	P		Pn	05 42 41.6	-0.8
NVAR	Mina Array Bea	20.96	338	P		Pn	05 42 40.6	-1.8
	comp=Z,30nm,1.1s,baz=160,slow=8.8,SNR=135							
NVAR				PcP		PcP	05 46 48.7	+1.2
	comp=Z,0.5nm,0.7s,baz=130,slow=2.8,SNR=3.2 comp=Z,30nm,1.1s							
UALR	University of	21.04	39	IAmb		IAmb	05 42 56.9	
	comp=Z,145nm,1.2s							
U38A	Gravette	21.11	33	IAMs_20		IAMs_20	05 50 10.4	
	comp=Z,7μm,20.0s							
DUG	Dugway, Tooele	21.22	351	IAmb		IAmb	05 42 58.0	
	comp=Z,155nm,1.1s							
DUG				IAMs_20		IAMs_20	05 50 07.8	
	comp=Z,10μm,20.0s							
RDMU	Red Mountain	21.28	358	IAmb		IAmb	05 43 01.4	
	comp=Z,242nm,1.5s							
RDMU				IAMs_20		IAMs_20	05 50 23.1	
	comp=Z,6μm,19.0s							
BSUT	Blindstream Ca	21.32	355	IAmb		IAmb	05 43 03.1	
	comp=Z,399nm,1.9s							
BSUT				IAMs_20		IAMs_20	05 50 32.2	
	comp=Z,6μm,19.0s							
CMB	Columbia Colle	21.43	333	IAMs_20		IAMs_20	05 50 05.0	
	comp=Z,8μm,19.0s							
WHAR	Wooly Hollow	21.43	38	IAmb		IAmb	05 43 02.6	
	comp=Z,234nm,1.2s							
KVN	Kaiserville	21.44	339	IAmb		IAmb	05 42 49.0	
	comp=Z,198nm,1.3s							
WAKR	Walker	21.44	336	P		P	05 42 47.2	+2.1
WAKR				IAmb		IAmb	05 42 57.8	
	comp=Z,252nm,1.4s							
JLU	Jordanelle	21.45	354	IAmb		IAmb	05 43 05.8	
	comp=Z,194nm,1.3s							
JLU				IAMs_20		IAMs_20	05 50 26.6	
	comp=Z,8μm,19.0s							
CRIN	San Cristobal	21.54	104	P		P	05 42 48.6	+2.5
CRIN				IAmb		IAmb	05 43 06.5	
	comp=Z,212nm,1.0s							
BRIGG	Briggsdale	21.56	9	IAmb		IAmb	05 43 00.3	
	comp=Z,169nm,1.2s							
CTU	Camp Tracy	21.57	353	IAMs_20		IAMs_20	05 50 29.9	
	comp=Z,8μm,20.0s							
N23A	Red Feather La	21.68	5	IAmb		IAmb	05 43 03.6	
	comp=Z,144nm,1.1s							
N23A	Red Feather La	21.68	5	P		P	05 42 49.3	+1.6
	baz=186,SNR=24							
146A	Union	21.89	49	P		P	05 42 49.7	0.0
146A				IAmb		IAmb	05 42 53.0	
	comp=Z,278nm,1.3s							
146A				IAMs_20		IAMs_20	05 52 43.2	
	comp=Z,7μm,21.0s							
TCUT	Toone Canyon	21.95	354	IAMs_20		IAMs_20	05 50 44.0	
	comp=Z,8μm,19.0s							
BGU	Big Grassy Mou	21.97	351	IAmb		IAmb	05 42 54.0	
	comp=Z,244nm,1.8s							
BGU				IAMs_20		IAMs_20	05 50 59.4	
	comp=Z,9μm,18.0s							
EMB	Emerald Bay	22.11	335	IAMs_20		IAMs_20	05 50 32.1	
	comp=Z,10μm,21.0s							
ELK	Elko	22.21	346	IAmb		IAmb	05 42 56.7	
	comp=Z,177nm,1.6s							
ELK				IAMs_20		IAMs_20	05 50 52.2	
	comp=Z,5μm,18.0s							
ELK	Elko	22.21	346	P		P	05 42 54.4	+1.1
	comp=Z,42nm,1.3s,baz=168,slow=8.9,SNR=57							
ELK				LR		LR	05 51 11.5	
	comp=Z,6μm,18.2s,baz=162,slow=36 comp=Z,42nm,1.3s							
Y45A	Yeager Farm, C	22.25	45	IAmb		IAmb	05 43 08.0	
	comp=Z,264nm,1.4s							
Y45A				IAMs_20		IAMs_20	05 52 15.6	
	comp=Z,7μm,18.0s							
SPUT	South Promonto	22.26	352	IAmb		IAmb	05 42 58.0	
	comp=Z,226nm,1.5s							
AFDM	Forest Hills D	22.44	334	IAMs_20		IAMs_20	05 50 45.9	
	comp=Z,7μm,19.0s							
HWUT	Hardware Ranch	22.45	354	IAMs_20		IAMs_20	05 51 00.3	
	comp=Z,8μm,20.0s							
PAHR	Pah Rah Range	22.48	337	IAmb		IAmb	05 43 09.7	
	comp=Z,224nm,1.5s							
LCAR	Lake Charles	22.63	39	P		P	05 42 56.8	-0.8
LCAR				IAmb		IAmb	05 43 04.9	
	comp=Z,312nm,1.8s							
MCCM	Marconi Confer	22.65	329	IAmb		IAmb	05 43 07.9	
	comp=Z,150nm,1.5s							
HVU	Hansel Valley	22.77	352	IAmb		IAmb	05 43 03.1	
	comp=Z,259nm,1.9s							
ORV	Oroville	23.17	334	IAMs_20		IAMs_20	05 51 08.4	
	comp=Z,6μm,19.0s							
K22A	Casper	23.39	4	IAMs_20		IAMs_20	05 51 56.6	
	comp=Z,9μm,19.0s							
HOPS	Hopland Field	23.41	330	IAmb		IAmb	05 43 22.8	
	comp=Z,296nm,1.9s							
HOPS				IAMs_20		IAMs_20	05 51 48.0	
	comp=Z,5μm,19.0s							
PDAR	Pinedale Array	23.47	358	P		P	05 43 06.4	0.0
PDAR	Pinedale Array	23.47	358	P		P	05 43 06.8	+0.3
	comp=Z,4.1nm,0.8s,baz=160,slow=6.9,SNR=23							
PDAR				PcP		PcP	05 46 53.4	+1.0
	comp=Z,0.5nm,0.6s,baz=123,slow=3.3,SNR=2.0							
PDAR				LR		LR	05 51 57.1	
	comp=Z,3μm,19.7s,baz=174,slow=36 comp=Z,4.1nm,0.8s							
PBMO	Poplar Bluff	23.54	38	IAmb		IAmb	05 43 28.0	
	comp=Z,92nm,1.2s							
AHID	Auburn Hatcher	23.56	355	IAmb		IAmb	05 43 10.1	
	comp=Z,176nm,1.9s							
AHID				IAMs_20		IAMs_20	05 51 47.4	
	comp=Z,6μm,19.0s							
LRAL	Lakeview Retre	23.57	50	IAmb		IAmb	05 43 22.1	
	comp=Z,87nm,1.1s							
R40A	Maddies Statio	23.61	33	IAmb		IAmb	05 43 17.4	
	comp=Z,98nm,1.1s							
BGNE	Belgrade	23.77	19	IAmb		IAmb	05 43 24.0	
	comp=Z,152nm,1.2s							
PLAL	Pickwick Lake	23.88	45	IAmb		IAmb	05 43 26.2	
	comp=Z,120nm,1.3s							
SOR	Soroa	23.98	77	IAmb		IAmb	05 43 13.6	
	comp=Z,113nm,1.3s							
CCM	Cathedral Cave	23.98	35	P		P	05 43 11.1	-0.1
CCM				IAmb		IAmb	05 43 26.0	
	comp=Z,135nm,1.3s							
CCM	Cathedral Cave	23.98	35	IAMs_20		IAMs_20	05 52 40.7	
	comp=Z,6μm,18.0s					

comp=Z,130nm,1.4s
MFID Camas Ranch 24.89 347 IAmb IAmb 05 43 45.6
comp=Z,132nm,1.6s
SLM Saint Louis 24.95 35 IAmb IAmb 05 43 37.7
comp=Z,108nm,1.2s
RSSD Black Hills 25.07 7 P **P 05 43 22.2 +0.9**
RSSD Black Hills 25.07 7 IAMs_20 IAMs_20 05 51 53.1
comp=Z,5µm,18.0s
RSSD Black Hills 25.07 7 P **P 05 43 22.3 +0.9**
RSSD pmax pmax
comp=Z,40nm,1.1s
RSSD MLR MLR
comp=Z,5µm,18.0s
152A Waverly Hall 25.09 53 IAmb IAmb 05 43 23.8
comp=Z,72nm,1.0s
N38A Joes South For 25.11 28 IAmb IAmb 05 43 37.7
comp=Z,119nm,1.3s
N38A IAMs_20 IAMs_20 05 52 25.5
comp=Z,4µm,18.0s
H17A Grant Village 25.14 356 IAmb IAmb 05 43 35.8
comp=Z,72nm,1.3s
V48A Smith Brothers 25.16 45 IAmb IAmb 05 43 33.4
comp=Z,88nm,1.4s
LKWY Lake 25.30 357 IAmb IAmb 05 43 52.5
comp=Z,107nm,1.4s
LKWY IAMs_20 IAMs_20 05 53 14.4
comp=Z,6µm,18.0s
JCC Jacoby Creek, 25.31 331 IAMs_20 IAMs_20 05 52 18.2
comp=Z,5µm,20.0s
FPAL Fort Paine 25.33 48 IAmb IAmb 05 43 26.2
comp=Z,64nm,1.1s
YMR Madison River 25.44 356 IAmb IAmb 05 43 42.1
comp=Z,165nm,1.6s
TIGA Tifton 25.45 57 IAmb IAmb 05 43 35.5
comp=Z,130nm,1.2s
YMP Mirror Lake Pl 25.46 357 IAmb IAmb 05 43 37.0
comp=Z,102nm,1.5s
J08A Circle Bar Ran 25.49 343 IAmb IAmb 05 43 49.4
comp=Z,72nm,1.2s
YBH Yreka Blue Hor 25.50 335 LR LR 05 52 59.7
comp=Z,4µm,22.0s,baz=158,slow=36
CAMR Camarioca 25.50 77 IAmb IAmb 05 43 46.2
comp=Z,177nm,1.2s
CAMR IAMs_20 IAMs_20 05 53 54.7
comp=Z,4µm,22.0s
YHL Hebgen Lake 25.64 355 IAmb IAmb 05 44 02.9
comp=Z,80nm,1.5s
T47A Sharon Grove 25.71 42 IAmb IAmb 05 43 32.1
comp=Z,63nm,1.0s
T47A IAMs_20 IAMs_20 05 53 11.6
comp=Z,5µm,22.0s
Q44A Meyer Farm, Va 25.81 37 IAMs_20 IAMs_20 05 53 52.2
comp=Z,4µm,19.0s
RLMT Red Lodge 25.81 359 IAMs_20 IAMs_20 05 53 36.9
comp=Z,4µm,18.0s
KRMB Red Mountain 25.83 333 IAmb IAmb 05 43 33.1
comp=Z,154nm,1.4s
X51A Calhoun 25.88 49 IAmb IAmb 05 43 32.0
comp=Z,68nm,1.2s
X51A IAMs_20 IAMs_20 05 54 56.3
comp=Z,5µm,19.0s
K04D Chiloquin, OR 25.89 337 IAmb IAmb 05 43 53.1
comp=Z,134nm,1.3s
P43A Skaggs, Pawne 26.05 35 IAMs_20 IAMs_20 05 53 41.5
comp=Z,6µm,21.0s
KSXB Camp Six Broad 26.07 333 IAmb IAmb 05 43 54.7
comp=Z,123nm,1.2s
L02F Cave Junction 26.18 334 IAmb IAmb 05 43 33.6
comp=Z,212nm,2.0s
L02F IAMs_20 IAMs_20 05 53 01.9
comp=Z,5µm,20.0s
OLIL Olney 26.22 38 IAmb IAmb 05 43 43.0
comp=Z,123nm,1.1s
J05D Fort Rock, OR 26.29 339 IAmb IAmb 05 43 35.2
comp=Z,148nm,1.5s
U49A Red Boiling Sp 26.29 44 IAMs_20 IAMs_20 05 55 09.1
comp=Z,4µm,19.0s
HUMO Hull Mountain 26.34 335 IAMs_20 IAMs_20 05 53 02.0
comp=Z,5µm,22.0s
SUSD Miller 26.34 15 IAMs_20 IAMs_20 05 53 52.7
comp=Z,4µm,18.0s
ECSD EROS Data Cent 26.36 20 IAMs_20 IAMs_20 05 53 38.0
comp=Z,5µm,20.0s
GOGA Godfrey 26.36 53 IAmb IAmb 05 43 46.6
comp=Z,113nm,1.4s
BOZ Bozeman (W) 26.41 355 IAMs_20 IAMs_20 05 53 39.1
comp=Z,7µm,19.0s
I07A Izee 26.45 342 IAMs_20 IAMs_20 05 54 05.6
comp=Z,6µm,19.0s
PLID Pearl Lake 26.53 348 IAmb IAmb 05 43 59.4
comp=Z,134nm,1.8s
PLID IAMs_20 IAMs_20 05 53 57.5
comp=Z,4µm,18.0s
CPCT Cooper Cave 26.57 48 IAmb IAmb 05 43 36.2
comp=Z,130nm,1.8s
CPCT IAMs_20 IAMs_20 05 54 52.0
comp=Z,5µm,18.0s
BMO Blue Mountains 26.59 346 IAmb IAmb 05 43 40.4
comp=Z,144nm,1.8s
PINE Pine Mountain 26.64 340 IAmb IAmb 05 43 38.5
comp=Z,149nm,1.6s
K02D Willamette Mer 26.70 334 IAmb IAmb 05 43 38.6
comp=Z,80nm,1.1s
K02D IAMs_20 IAMs_20 05 53 48.5
comp=Z,5µm,20.0s
W52A Murphy 26.81 49 IAmb IAmb 05 43 38.5
comp=Z,97nm,1.3s
W52A IAMs_20 IAMs_20 05 55 36.3
comp=Z,4µm,19.0s
DBO Dodson Butte 26.88 336 IAmb IAmb 05 43 40.3
comp=Z,135nm,1.7s
DBO IAMs_20 IAMs_20 05 53 18.4
comp=Z,6µm,22.0s
WCI Wyandotte Cave 26.98 41 P **P 05 43 39.1 +0.7**
WCI IAmb IAmb 05 43 53.0
comp=Z,128nm,1.5s
WCI Wyandotte Cave 26.98 41 P **P 05 43 39.1 +0.7**
WCI pmax pmax
comp=Z,128nm,1.5s
L40A Anamosa 27.03 29 IAmb IAmb 05 43 57.3
comp=Z,90nm,1.3s
I04A Tendick Farm, 27.15 337 IAmb IAmb 05 43 42.1
comp=Z,159nm,1.7s
J01E Myrtle Point 27.19 335 IAMs_20 IAMs_20 05 54 14.6
comp=Z,5µm,20.0s
TKL Tuckaleechee C 27.20 48 IAmb IAmb 05 43 58.1
comp=Z,76nm,1.3s
I05D Terrebonne, OR 27.25 340 IAmb IAmb 05 43 50.4
comp=Z,158nm,1.5s
I05D IAMs_20 IAMs_20 05 54 29.0
comp=Z,8µm,19.0s
P46A Rosedale 27.33 38 IAmb IAmb 05 43 56.5
comp=Z,141nm,1.6s
LAO LASA Array 27.43 3 IAmb IAmb 05 43 54.8
comp=Z,64nm,1.2s
LAO IAMs_20 IAMs_20 05 54 45.8
comp=Z,7µm,19.0s
BLO Bloomington 27.44 39 IAmb IAmb 05 43 58.8
comp=Z,101nm,1.5s
BG3 Lake Jocassee 27.47 50 IAmb IAmb 05 44 07.3
comp=Z,142nm,1.5s
BG3 IAMs_20 IAMs_20 05 56 09.0
comp=Z,4µm,19.0s
HODGE Hodges 27.62 52 IAmb IAmb 05 44 08.2
comp=Z,104nm,1.5s
F10A Beach Ranch, E 27.63 347 IAMs_20 IAMs_20 05 55 16.6
comp=Z,4µm,18.0s
BUCK Buck Mountain 27.70 337 IAMs_20 IAMs_20 05 55 07.1
comp=Z,5µm,18.0s
I37A Lemond, Waseca 27.72 24 IAmb IAmb 05 43 56.9
comp=Z,112nm,1.3s
I37A IAMs_20 IAMs_20 05 53 39.2
comp=Z,5µm,20.0s
L42A Oliver, Polo 27.72 31 IAMs_20 IAMs_20 05 54 48.2
comp=Z,7µm,19.0s
TZTN Tazewell 27.81 47 IAmb IAmb 05 43 56.6
comp=Z,119nm,1.4s
TZTN IAMs_20 IAMs_20 05 55 39.8
comp=Z,5µm,19.0s
G06A Carlson Farm, 27.83 341 IAmb IAmb 05 44 16.6
comp=Z,93nm,1.7s
G06A IAMs_20 IAMs_20 05 55 05.2
comp=Z,5µm,19.0s
H04A Detroit Lake 27.84 339 IAmb IAmb 05 43 48.4
comp=Z,156nm,1.6s
MSO Missoula 27.88 352 IAmb IAmb 05 43 49.1
comp=Z,128nm,1.6s
MSO IAMs_20 IAMs_20 05 54 32.1
comp=Z,6µm,19.0s
V53A Saluda 27.88 49 IAMs_20 IAMs_20 05 56 08.8
comp=Z,6µm,19.0s
SFIN Lafayette 27.90 36 IAmb IAmb 05 44 06.7
comp=Z,63nm,1.2s
SFIN IAMs_20 IAMs_20 05 54 57.1
comp=Z,7µm,19.0s
I02E Swisshome, OR 27.95 336 IAMs_20 IAMs_20 05 54 01.7
comp=Z,5µm,21.0s
E28A Huff 27.99 11 IAmb IAmb 05 43 58.4
comp=Z,67nm,1.2s
E28A IAMs_20 IAMs_20 05 54 11.4
comp=Z,4µm,19.0s
G05A Wamic 28.05 340 IAMs_20 IAMs_20 05 55 07.0
comp=Z,5µm,18.0s
M44A Midewin, Midew 28.09 34 IAMs_20 IAMs_20 05 54 56.0
comp=Z,5µm,19.0s
JFWS Jewell Farm 28.15 29 IAMs_20 IAMs_20 05 54 42.4
comp=Z,6µm,18.0s
COR Corvallis 28.15 337 P **P 05 43 50.2 +1.4**
COR Corvallis 28.15 337 IAMs_20 IAMs_20 05 55 21.0
comp=Z,5µm,19.0s
COR Corvallis 28.15 337 P **P 05 43 50.2 +1.4**
COR pmax pmax
comp=Z,580nm,1.9s
COR MLR MLR
comp=Z,5µm,19.0s
PAULI Pauline 28.21 51 IAmb IAmb 05 44 07.5
comp=Z,71nm,1.4s
PAULI IAMs_20 IAMs_20 05 56 41.6
comp=Z,5µm,18.0s
F07A Phinny Hill Vi 28.23 343 IAMs_20 IAMs_20 05 55 21.6
comp=Z,6µm,18.0s
R50A Paris 28.25 43 IAmb IAmb 05 43 51.4
comp=Z,101nm,1.8s
P48A Milroy 28.28 40 IAmb IAmb 05 44 06.9
comp=Z,88nm,1.7s
S51A Beattyville 28.37 45 IAmb IAmb 05 43 59.9
comp=Z,57nm,1.3s
S51A IAMs_20 IAMs_20 05 55 10.5
comp=Z,4µm,20.0s
HQIL Hanson Quary C 28.49 33 IAMs_20 IAMs_20 05 56 11.9
comp=Z,4µm,18.0s
HAWA Hanford 28.58 344 IAMs_20 IAMs_20 05 55 08.9
comp=Z,3µm,19.0s
G03D McMinnville, O 28.68 338 IAMs_20 IAMs_20 05 54 50.8
comp=Z,4µm,20.0s
KMSC Kings Mountain 28.71 51 IAmb IAmb 05 44 17.9
comp=Z,91nm,1.7s
KMSC IAMs_20 IAMs_20 05 56 57.7
comp=Z,4µm,19.0s
L44A Lake County Fo 28.73 33 IAMs_20 IAMs_20 05 53 55.9
comp=Z,4µm,21.0s
L44A Lake County Fo 28.73 33 P **P 05 43 53.4 -0.6**
baz=224
I40A Norwalk 28.75 27 IAmb IAmb 05 44 52.3
comp=Z,76nm,1.7s
P49A Miami Univ. Ec 28.75 40 IAmb IAmb 05 44 03.2
comp=Z,82nm,1.2s
P49A Miami Univ. Ec 28.75 40 P **P 05 43 54.5 +0.3**
baz=232,SNR=5.9
E07A Sunnyside 28.82 344 IAMs_20 IAMs_20 05 56 34.2
comp=Z,4µm,19.0s
HEBO Mount Hebo 28.86 337 IAMs_20 IAMs_20 05 55 52.6
comp=Z,7µm,18.0s
K43A Burlington 28.90 32 IAMs_20 IAMs_20 05 54 42.4
comp=Z,4µm,20.0s
Y57A Sumter 28.94 54 IAmb IAmb 05 44 05.9
comp=Z,79nm,1.4s
O48B Farmland 28.94 39 IAmb IAmb 05 44 10.6
comp=Z,133nm,1.8s
O48B Farmland 28.94 39 P **P 05 43 55.7 -0.3**
baz=230
MXC Moxie City 28.95 343 IAmb IAmb 05 44 02.1
comp=Z,94nm,1.7s
MXC IAMs_20 IAMs_20 05 55 43.9
comp=Z,7µm,19.0s
SPMN Marine on St. 28.98 23 IAmb IAmb 05 44 10.1
comp=Z,104nm,1.7s
SPMN IAMs_20 IAMs_20 05 54 34.3
comp=Z,5µm,19.0s
U54A Nelsons Funny 29.00 48 IAMs_20 IAMs_20 05 56 30.3
comp=Z,4µm,18.0s
F04A Amboy 29.02 340 IAmb IAmb 05 44 22.3
comp=Z,66nm,1.2s
N47A Urbana 29.03 37 IAMs_20 IAMs_20 05 55 10.9
comp=Z,5µm,22.0s
V55A Taylorsville 29.11 50 IAMs_20 IAMs_20 05 56 58.4
comp=Z,7µm,20.0s
Q51A Peebles 29.31 42 IAmb IAmb 05 44 07.6
comp=Z,72nm,1.3s
Q51A IAMs_20 IAMs_20 05 55 25.4
comp=Z,4µm,22.0s
F04D Rainier, OR 29.35 339 IAMs_20 IAMs_20 05 55 33.4
comp=Z,6µm,20.0s
DGMT Dagmar 29.36 6 IAmb IAmb 05 44 09.3
comp=Z,58nm,1.2s
O49A Covington 29.39 40 IAmb IAmb 05 44 08.1
comp=Z,62nm,1.1s
F03A Seaside 29.40 338 IAMs_20 IAMs_20 05 55 47.0
comp=Z,6µm,20.0s
MDND Maddock 29.42 12 IAMs_20 IAMs_20 05 56 04.3
comp=Z,5µm,18.0s
L46A Eue Claire 29.46 35 IAMs_20 IAMs_20 05 55 46.3
comp=Z,6µm,21.0s
I42A Draeger Farm, 29.52 29 IAMs_20 IAMs_20 05 54 31.7
comp=Z,4µm,22.0s
LON Longmire 29.55 341 IAmb IAmb 05 44 19.3
comp=Z,94nm,1.9s
LON IAMs_20 IAMs_20 05 55 39.0
comp=Z,7µm,20.0s
LTY Liberty 29.68 343 IAmb IAmb 05 44 05.8
comp=Z,154nm,2.0s
LTY IAMs_20 IAMs_20 05 56 15.2
comp=Z,6µm,20.0s
NEW Newport 29.80 348 IAmb IAmb 05 44 06.2
comp=Z,139nm,1.8s
NEW Newport 29.80 348 LR LR 05 56 36.6
comp=Z,2µm,19.0s,baz=164,slow=38
N49A Columbus Grove 29.93 39 IAmb IAmb 05 44 17.9
comp=Z,67nm,1.2s
U56A King 29.94 50 IAMs_20 IAMs_20 05 57 22.6
comp=Z,4µm,21.0s
Q52A Bidwell 29.97 43 IAmb IAmb 05 44 38.6
comp=Z,79nm,1.4s
Q52A IAMs_20 IAMs_20 05 56 41.1
comp=Z,4µm,18.0s
S54A Dingess, Beckl 29.99 46 IAMs_20 IAMs_20 05 56 59.8
comp=Z,4µm,18.0s
D05A Enumclaw 30.00 341 IAMs_20 IAMs_20 05 55 53.8
comp=Z,7µm,21.0s
G40A Rib Lake 30.04 26 IAMs_20 IAMs_20 05 56 22.8
comp=Z,3µm,20.0s
ACSO Alum Creek Sta 30.24 41 IAMs_20 IAMs_20 05 55 57.3
comp=Z,3µm,19.0s
BLA Blacksburg 30.32 48 IAMs_20 IAMs_20 05 57 23.5
comp=Z,4µm,19.0s
B08A Colville Reser 30.36 346 IAMs_20 IAMs_20 05 56 07.1
comp=Z,3µm,19.0s
H43A Windswept, Lux 30.49 30 IAMs_20 IAMs_20 05 56 14.9
comp=Z,3µm,20.0s
WISH Wishkah 30.51 339 IAMs_20 IAMs_20 05 56 21.3
comp=Z,6µm,20.0s
GNW Green Mountain 30.59 341 IAmb IAmb 05 44 12.9
comp=Z,116nm,1.9s
GNW IAMs_20 IAMs_20 05 56 16.5
comp=Z,4µm,19.0s
E38A The Farm, Brul 30.61 23 IAMs_20 IAMs_20 05 55 23.9
comp=Z,6µm,18.0s
P53A Whipple 30.82 43 IAmb IAmb 05 44 21.3
comp=Z,50nm,1.1s
P53A IAMs_20 IAMs_20 05 56 48.8
comp=Z,4µm,21.0s
O52A Adamsville 30.89 42 IAmb IAmb 05 44 26.3
comp=Z,68nm,1.3s
O52A IAMs_20 IAMs_20 05 56 26.5
comp=Z,3µm,19.0s
M50A Fremont 30.91 39 IAMs_20 IAMs_20 05 58 31.0
comp=Z,3µm,19.0s
Q54A Coxs Mills 30.92 45 IAmb IAmb 05 44 21.5
comp=Z,80nm,1.5s
Q54A IAMs_20 IAMs_20 05 57 55.4
comp=Z,4µm,19.0s
N51A Ashland 31.02 40 IAMs_20 IAMs_20 05 56 06.9
comp=Z,3µm,19.0s
T57A Hurt 31.04 49 IAMs_20 IAMs_20 05 58 20.8
comp=Z,4µm,21.0s
J47A Sunmer 31.09 35 IAMs_20 IAMs_20 05 56 32.8
comp=Z,5µm,22.0s
B04A Port Angeles 31.24 340 IAMs_20 IAMs_20 05 56 31.8
comp=Z,5µm,18.0s
F42A Maple Grove Fa 31.31 28 IAMs_20 IAMs_20 05 57 00.6
comp=Z,3µm,18.0s
GTBY Guantanamo Bay 31.37 83 IAmb IAmb 05 44 20.0
comp=Z,78nm,1.2s
NMDO Nuevo Mundo 31.44 82 IAMs_20 IAMs_20 05 56 29.8
comp=Z,3µm,20.0s
S57A Dark Hollow, R 31.60 48 IAMs_20 IAMs_20 05 59 16.6
comp=Z,4µm,22.0s
PGC Sidney 31.75 341 IAMs_20 IAMs_20 05 57 17.1
comp=Z,5µm,20.0s
EYMN Ely 31.77 22 IAmb IAmb 05 44 32.4
comp=Z,82nm,1.4s
O54A Avella 31.86 43 IAmb IAmb 05 44 43.1
comp=Z,95nm,1.5s
N53A Lisbon 31.91 42 IAMs_20 IAMs_20 05 56 44.4
comp=Z,3µm,19.0s
MCWV Mont Chateau 31.93 44 IAMs_20 IAMs_20 05 57 54.0
comp=Z,5µm,19.0s
K50A Casco 32.01 37 IAMs_20 IAMs_20 05 56 40.0
comp=Z,4µm,21.0s
Q56A Snyder Ridge, 32.05 46 IAMs_20 IAMs_20 05 58 10.6
comp=Z,5µm,18.0s
CLRS Cowichan Lake 32.11 340 IAMs_20 IAMs_20 05 57 42.8
comp=Z,5µm,20.0s
R58B Mineral 32.45 48 IAMs_20 IAMs_20 05 58 39.1
comp=Z,4µm,20.0s
ULM Lac du Bonnet 32.52 15 IAmb IAmb 05 44 36.6
comp=Z,61nm,1.3s
ULM Lac du Bonnet 32.52 15 P **P 05 44 27.6 +0.2**
comp=Z,13nm,1.0s,baz=211,slow=9.5,SNR=8.8
ULM LR LR 05 57 28.3
comp=Z,3µm,18.2s,baz=200,slow=36
comp=Z,13nm,1.0s
I49A Point Hope 32.64 35 IAMs_20 IAMs_20 05 57 43.8
comp=Z,6µm,20.0s
ALLY Alegheny Colle 32.81 41 IAMs_20 IAMs_20 05 57 26.4
comp=Z,3µm,18.0s
CBN Corbin Frederi 32.92 48 IAmb IAmb 05 44 39.8
comp=Z,74nm,1.1s
CBN IAMs_20 IAMs_20 05 58 53.4
comp=Z,4µm,20.0s
P57A Homestead Farm 33.06 46 IAMs_20 IAMs_20 05 58 43.2
comp=Z,6µm,19.0s
E46A Sault Ste Mari 33.54 31 IAMs_20 IAMs_20 05 56 54.5
comp=Z,4µm,20.0s
CBB Campbell River 33.57 340 IAMs_20 IAMs_20 05 58 22.2
comp=Z,4µm,21.0s
SSPA Standing Stone 33.71 44 IAMs_20 IAMs_20 05 58 17.3
comp=Z,3µm,19.0s
PAPH Port-au-Prince 34.15 85 IAMs_20 IAMs_20 05 57 23.7
comp=Z,3µm,22.0s
M57A Sunshine Farm, 34.56 44 IAMs_20 IAMs_20 05 58 43.8
comp=Z,4µm,18.0s
OTAV Otavalo 34.94 119 P **P 05 44 52.1 +2.8**
OTAV IAmb IAmb 05 45 16.4
comp=Z,119nm,1.6s
OTAV Otavalo 34.94 119 P **P 05 44 52.1 +2.8**
OTAV pmax pmax
comp=Z,119nm,1.6s
OTAV Otavalo 34.94 119 *e*P **P 05 44 49.8 +0.5**
HOLB Holberg 35.02 338 IAMs_20 IAMs_20 05 58 33.7
comp=Z,4µm,20.0s
SDDR Presa de Saban 35.05 84 IAmb IAmb 05 44 52.0
comp=Z,45nm,1.0s
J55A Hilton 35.14 40 IAMs_20 IAMs_20 05 59 58.0
comp=Z,3µm,18.0s
SADO Sadowa 35.22 37 IAMs_20 IAMs_20 05 58 38.1
comp=Z,4µm,21.0s
SADO Sadowa 35.22 37 LR LR 05 59 32.9
comp=Z,2µm,18.6s,baz=246,slow=37
K57A Scipio Center 35.66 42 IAMs_20 IAMs_20 06 00 32.9
comp=Z,3µm,20.0s
BINY Binghamton 35.73 43 IAMs_20 IAMs_20 06 00 45.7
comp=Z,3µm,19.0s
FFC Flin Flon 35.76 6 P **P 05 44 54.8 -0.6**
FFC IAmb IAmb 05 45 05.3
comp=Z,80nm,1.6s
FFC Flin Flon 35.76 6 P **P 05 44 54.8 -0.6**
FFC pmax pmax
comp=Z,80nm,1.7s
FFC MLR MLR
comp=Z,15µm,19.0s
COHC Cochancay 35.88 124 P **P 05 44 58.3 +1.3**
DELO Deloro Mine 35.96 39 IAMs_20 IAMs_20 05 59 25.6
comp=Z,4µm,18.0s
ROSC El Rosal 36.20 109 IAmb IAmb 05 45 11.7
comp=Z,74nm,1.2s
ROSC El Rosal 36.20 109 P **P 05 45 02.2 +2.1**
comp=Z,11nm,0.8s,baz=324,slow=10,SNR=10
comp=Z,11nm,0.8s
BBB Bella Bella 36.31 339 LR LR 06 00 02.8
comp=Z,3µm,19.6s,baz=168,slow=37
L59A Walton 36.34 44 IAMs_20 IAMs_20 05 59 47.8
comp=Z,3µm,20.0s
TRNY Table Rock, Ra 36.40 46 IAMs_20 IAMs_20 06 00 36.5
comp=Z,5µm,20.0s
J59A Piesco 37.31 42 IAMs_20 IAMs_20 05 59 54.4
comp=Z,3µm,19.0s
TRY Troy 37.49 44 IAMs_20 IAMs_20 06 01 50.3
comp=Z,3µm,18.0s
WBO Williamsburg 37.62 39 IAMs_20 IAMs_20 06 00 25.5
comp=Z,3µm,20.0s
NCB Newcomb 37.73 42 IAMs_20 IAMs_20 06 00 04.7
comp=Z,2µm,20.0s
SDV Santo Domingo 38.00 100 P **P 05 45 16.6 +1.4**
SDV IAmb IAmb 05 45 38.0
comp=Z,46nm,0.9s
SDV Santo Domingo 38.00 100 LR LR 06 01 27.0
comp=Z,2µm,21.5s,baz=298,slow=37
L61B Northampton 38.01 45 IAMs_20 IAMs_20 06 02 06.2
comp=Z,3µm,20.0s
L61B Northampton 38.01 45 P **P 05 45 14.8 0.0**
baz=244
UCCT U. Connecticut 38.03 46 IAMs_20 IAMs_20 06 01 34.7
comp=Z,4µm,19.0s
VLDQ Val d'Or 38.18 34 IAMs_20 IAMs_20 05 59 58.4
comp=Z,5µm,21.0s
K62A Royalston 38.40 45 IAMs_20 IAMs_20 06 01 38.5
comp=Z,4µm,22.0s
J61A Chester 38.50 43 IAMs_20 IAMs_20 06 02 14.0
comp=Z,3µm,19.0s
FRNY Flat Rock 38.56 41 IAMs_20 IAMs_20 06 02 07.5
comp=Z,3µm,19.0s
TRQ Mont Tremblant 38.70 38 IAMs_20 IAMs_20 06 00 59.1
comp=Z,3µm,21.0s
HRV Adam Dziewonsk 38.79 45 IAMs_20 IAMs_20 06 01 44.6
comp=Z,5µm,21.0s
VT1 Waterbury 38.83 42 IAMs_20 IAMs_20 06 00 51.7
comp=Z,3µm,20.0s
HNH Hanover 38.84 43 IAMs_20 IAMs_20 06 02 24.9
comp=Z,4µm,19.0s
WES Weston 38.89 45 IAMs_20 IAMs_20 06 02 10.4
comp=Z,3µm,19.0s
BCX Boston College 38.97 46 IAMs_20 IAMs_20 06 02 42.6
comp=Z,4µm,19.0s
M65A Busby, Falmout 39.02 47 P **P 05 45 23.4 +0.1**
baz=247
L64A Middleborough 39.04 46 IAMs_20 IAMs_20 06 02 08.2
comp=Z,4µm,20.0s
LBNH Lisbon 39.31 42 IAMs_20 IAMs_20 06 01 04.5
comp=Z,3µm,20.0s
UUPR Utuado, UPR, P 39.44 84 IAmb IAmb 05 45 35.5
comp=Z,102nm,1.3s
OBIP Obispado Ponce 39.58 85 IAmb IAmb 05 45 29.6
comp=Z,69nm,1.1s
CELP Cerrillos 39.60 85 IAmb IAmb 05 45 36.8
comp=Z,68nm,1.1s
H62A Milan 39.96 42 IAMs_20 IAMs_20 06 04 21.6
comp=Z,3µm,19.0s
SJG San Juan 39.99 85 P **P 05 45 31.1 -0.6**
SJG IAmb IAmb 05 45 40.3
comp=Z,113nm,1.1s
SJG San Juan 39.99 85 LR LR 06 03 00.9
comp=Z,1µm,20.6s,baz=280,slow=38
SJG San Juan 39.99 85 P **P 05 45 31.1 -0.6**
SJG pmax pmax
comp=Z,113nm,1.2s
SJG MLR MLR
comp=Z,2µm,22.0s
GCPR Guaynabo City 40.03 84 IAmb IAmb 05 45 40.6
comp=Z,76nm,1.1s
IGPR InterUniversit 40.06 85 IAmb IAmb 05 45 33.5
comp=Z,70nm,1.1s
U35K Hyder 40.06 341 P **P 05 45 31.6 -0.1**
baz=147

V35K	Ketchikan	40.08	340	P	P	05 45 31.3	-0.6
	baz=145						
I63A	Otisfield	40.09	43	IAMs_20	IAMs_20	06 03 12.2	
	comp=Z,4μm,19.0s						
HUMP	Col San Antoni	40.27	84	P	P	05 45 33.7	-0.3
HUMP				IAmb	IAmb	05 45 42.6	
	comp=Z,173nm,1.6s						
BAUV	El Baul	40.39	99	P	P	05 45 35.3	+0.3
BAUV				IAmb	IAmb	05 46 04.0	
	comp=Z,130nm,1.4s						
G62A	West of Eustis	40.65	42	IAMs_20	IAMs_20	06 04 33.7	
	comp=Z,3μm,21.0s						
CRAG	Craig	40.70	339	P	P	05 45 37.9	+0.9
	baz=143						
FCC	Fort Churchill	40.83	11	P	P	05 45 37.6	-0.4
FCC	Fort Churchill	40.83	11	P	P	05 45 37.6	-0.4
FCC				pmax	pmax		
	comp=Z,42nm,1.1s						
FCC				MLR	MLR		
	comp=Z,5μm,18.0s						
T35M	Bob Quinn	41.03	342	IAMs_20	IAMs_20	06 02 24.5	
	comp=Z,4μm,21.0s						
T35M	Bob Quinn	41.03	342	P	P	05 45 40.6	+0.8
	baz=148						
WRAK	Wrangell Islan	41.21	340	IAMs_20	IAMs_20	05 59 27.4	
	comp=Z,3μm,22.0s						
WRAK	Wrangell Islan	41.21	340	P	P	05 45 41.4	+0.2
	baz=144						
U33K	Whale Pass	41.22	339	P	P	05 45 41.6	+0.3
	baz=143						
TOAD	Toad River Com	41.41	347	P	P	05 45 42.9	0.0
	baz=156,SNR=7.1						
PKME	Peaks-Kenny Pk	41.45	42	IAMs_20	IAMs_20	06 02 20.1	
	comp=Z,3μm,19.0s						
LDAQ	Lac Daran	41.54	38	IAMs_20	IAMs_20	06 02 18.2	
	comp=Z,4μm,21.0s						
T33K	Petersburg	41.73	340	P	P	05 45 45.2	-0.2
	baz=144						
LMQ	La Malbaie	41.87	39	IAMs_20	IAMs_20	06 02 44.0	
	comp=Z,3μm,21.0s						
S34M	Telegraph Cree	42.07	342	P	P	05 45 48.4	+0.1
	baz=147						
LIRD	Liard River Hi	42.10	347	P	P	05 45 48.8	+0.3
	baz=155,SNR=12						
DLBC	Dease Lake	42.21	343	IAmb	IAmb	05 45 53.3	
	comp=Z,109nm,1.6s						
DLBC	Dease Lake	42.21	343	LR	LR	06 04 22.3	
	comp=Z,7μm,18.1s,baz=158,slow=38						
DLBC	Dease Lake	42.21	343	P	P	05 45 51.7	+2.2
	baz=149,SNR=9.4						
F64A	Sherman	42.31	42	IAMs_20	IAMs_20	06 02 57.7	
	comp=Z,3μm,21.0s						
KOTAN	Kotaneelee Air	42.35	348	P	P	05 45 51.4	+0.9
	baz=158,SNR=12						
EMMW	East Machias	42.41	44	IAMs_20	IAMs_20	06 04 39.3	
	comp=Z,3μm,19.0s						
SIT	Sitka	42.71	339	P	P	05 45 54.5	+1.0
	baz=141						
S32K	Killisnoo	42.78	339	P	P	05 45 55.0	+1.0
	baz=142						
SABA	Saba	42.81	85	IAMs_20	IAMs_20	06 05 03.0	
	comp=Z,2μm,20.0s						
SMRT	St. Maarten	42.90	84	P	P	05 45 54.7	-0.8
SEUS	St. Eustatius	43.07	85	IAMs_20	IAMs_20	06 05 31.0	
	comp=Z,2μm,19.0s						
PCRV	Puerto La Cruz	43.20	96	LR	LR	06 04 33.5	
	comp=Z,983nm,21.5s,slow=37						
Q32M	Nakina River	43.28	342	IAmb	IAmb	05 46 01.3	
	comp=Z,93nm,1.7s						
Q32M				IAMs_20	IAMs_20	06 04 19.0	
	comp=Z,3μm,19.0s						
Q32M	Nakina River	43.28	342	P	P	05 46 00.4	+2.1
	baz=146,SNR=5.8						
R33M	Jennings River	43.28	343	P	P	05 46 00.1	+1.8
	baz=148,SNR=12						
WTLY	Watson Lake, Y	43.35	345	IAmb	IAmb	05 46 01.6	
	comp=Z,75nm,1.6s						
WTLY				IAMs_20	IAMs_20	06 02 36.8	
	comp=Z,2μm,20.0s						
WTLY	Watson Lake, Y	43.35	345	P	P	05 46 00.3	+1.6
	baz=151						
R32K	Eaglecrest	43.41	340	P	P	05 46 01.1	+2.0
	baz=143						
YKA	Yellowknife Ar	43.42	356	P	P	05 45 58.4	-0.8
YKA	Yellowknife Ar	43.42	356	P	P	05 45 58.8	-0.3
	comp=Z,2.7nm,0.8s,baz=173,slow=7.9,SNR=12						
YKA				PcP	PcP	05 47 48.4	+1.0
	comp=Z,4.9nm,1.1s,baz=164,slow=2.6,SNR=4.3						
YKA				LR	LR	06 04 35.6	
	comp=Z,5μm,18.1s,baz=162,slow=37						
	comp=Z,2.7nm,0.8s						
S31K	Pelican	43.72	339	IAMs_20	IAMs_20	06 02 53.9	
	comp=Z,2μm,19.0s						
S31K	Pelican	43.72	339	P	P	05 46 03.1	+1.4
	baz=140						
R31K	City Hall, Gus	43.91	340	P	P	05 46 04.7	+1.6
	baz=141						
NNA	Nana	43.95	132	IAMs_20	IAMs_20	05 59 47.2	
	comp=Z,2μm,19.0s						
NNA	Nana	43.95	132	LR	LR	06 00 35.8	
	comp=Z,2μm,19.9s,baz=318,slow=31						
NNA	Nana	43.95	132	i P	P	05 46 06.1	+2.0
NNA				pmax	pmax		
	comp=Z,54nm,1.3s						
P32M	Atlin	44.22	342	P	P	05 46 06.6	+0.9
P32M				IAmb	IAmb	05 46 08.9	
	comp=Z,76nm,1.8s						
P32M				IAMs_20	IAMs_20	06 05 20.9	
	comp=Z,3μm,18.0s						
P32M	Atlin	44.22	342	P	P	05 46 07.5	+1.8
	baz=145						
CZSB	Cruzeiro do Su	44.24	124	P	P	05 46 08.7	+2.3
CZSB	Cruzeiro do Su	44.24	124	eP	P	05 46 07.0	+0.6
P33M	Teslin, Yukon	44.48	343	P	P	05 46 09.9	+2.1
P33M				IAmb	IAmb	05 46 10.9	
	comp=Z,94nm,2.0s						
P33M	Teslin, Yukon	44.48	343	P	P	05 46 08.9	+1.1
	baz=146						
LMN	Caledonia Moun	44.57	43	IAMs_20	IAMs_20	06 04 52.7	
	comp=Z,4μm,21.0s						
ICQ	Pointe Anglais	44.59	38	IAMs_20	IAMs_20	06 04 17.1	
	comp=Z,3μm,19.0s						
SKAG	Skagway	44.61	341	IAMs_20	IAMs_20	06 01 08.1	
	comp=Z,2μm,20.0s						
SKAG	Skagway	44.61	341	P	P	05 46 10.4	+1.8
	baz=142						
TDBA	Terre de Bas,	44.64	87	IAMs_20	IAMs_20	06 07 08.7	
	comp=Z,3μm,20.0s						
ABD	La Joyeuse, An	44.66	86	IAMs_20	IAMs_20	06 08 14.1	
	comp=Z,2μm,20.0s						
PLBC	Pleasant Camp	44.93	340	P	P	05 46 12.8	+1.5
	baz=141						
HAL	Halifax	44.95	45	IAMs_20	IAMs_20	06 05 54.7	
	comp=Z,3μm,19.0s						
GDSD	La Dsirade Is	45.09	86	IAMs_20	IAMs_20	06 08 17.5	
	comp=Z,2μm,19.0s						
WRGLY	Wrigley	45.14	350	IAmb	IAmb	05 46 21.9	
	comp=Z,46nm,1.2s						
WRGLY				IAMs_20	IAMs_20	06 05 41.9	
	comp=Z,2μm,19.0s						
WRGLY	Wrigley	45.14	350	P	P	05 46 13.9	+1.0
	baz=160						
N32M	Quiet Lake	45.34	343	P	P	05 46 16.2	+1.7
	baz=146						
WHY	Whitehorse	45.43	342	IAMs_20	IAMs_20	06 06 15.0	
	comp=Z,2μm,18.0s						
WHY	Whitehorse	45.43	342	P	P	05 46 16.6	+1.1
	baz=144						
P29M	Windy Craggy	45.51	340	IAMs_20	IAMs_20	06 04 00.9	
	comp=Z,2μm,19.0s						
P29M	Windy Craggy	45.51	340	P	P	05 46 16.9	+1.0
	baz=140						
P30M	Million Dollar	45.64	340	P	P	05 46 18.1	+1.1
	baz=141						
O30N	Mendenhall	45.88	341	IAmb	IAmb	05 46 22.3	
	comp=Z,57nm,1.4s						
O30N				IAMs_20	IAMs_20	06 04 30.8	
	comp=Z,2μm,19.0s						
O30N	Mendenhall	45.88	341	P	P	05 46 20.2	+1.3
	baz=142,SNR=10						
PNL	Peninsula	46.10	339	P	P	05 46 21.3	+0.8
	baz=138						
RPN	Rapa Nui	46.10	181	LR	LR	06 01 03.3	
	comp=Z,2μm,18.1s,baz=355,slow=30						
VA02	Isla de Pascua	46.14	181	IAMs_20	IAMs_20	06 00 21.1	
	comp=Z,3μm,22.0s						
O29M	Mount Kennedy	46.30	340	IAMs_20	IAMs_20	06 04 26.6	
	comp=Z,2μm,20.0s						
O29M	Mount Kennedy	46.30	340	P	P	05 46 23.3	+1.1
	baz=139						
FARO	Faro, Yukon	46.31	344	IAmb	IAmb	05 46 45.5	
	comp=Z,52nm,1.9s						
FARO	Faro, Yukon	46.31	344	P	P	05 46 23.2	+1.0
	baz=146						
HYT	Haines Junctio	46.35	341	IAMs_20	IAMs_20	06 07 04.4	
	comp=Z,2μm,19.0s						
HYT	Haines Junctio	46.35	341	P	P	05 46 24.8	+2.1
	baz=140						
N31M	Braeburn, Yuko	46.36	342	IAmb	IAmb	05 46 27.3	
	comp=Z,63nm,1.4s						
N31M				IAMs_20	IAMs_20	06 06 04.5	
	comp=Z,3μm,18.0s						
N31M	Braeburn, Yuko	46.36	342	P	P	05 46 24.7	+2.1
	baz=143,SNR=7.4						
BCPM	Bancas Point	46.39	339	IAMs_20	IAMs_20	06 03 48.7	
	comp=Z,2μm,18.0s						
M31M	Drury Creek, Y	46.56	344	IAmb	IAmb	05 46 28.3	
	comp=Z,64nm,1.6s						
M31M	Drury Creek, Y	46.56	344	P	P	05 46 25.8	+1.7
	baz=145,SNR=9.6						
GBN	Guysborough	46.59	45	IAMs_20	IAMs_20	06 09 15.2	
	comp=Z,3μm,18.0s						
PINM	Pinnacle	46.70	339	P	P	05 46 27.7	+2.3
	baz=137						
YUK6	Outpost Mounta	46.72	340	P	P	05 46 27.6	+2.0
	baz=140						
N30M	Aishikik Lake	46.72	342	P	P	05 46 27.3	+1.7
	baz=141						
YUK4	Talbot Arm	47.11	341	P	P	05 46 31.3	+2.5
	baz=140,SNR=12						
O28M	Mount Upton	47.18	339	P	P	05 46 30.7	+1.3
	baz=137						
MESA	MESA	47.36	338	P	P	05 46 32.5	+1.9
	baz=135						
YUK8	Steele Glacier	47.42	340	P	P	05 46 33.1	+1.9
	baz=138,SNR=11						
SCHQ	Schefferville	47.47	31	P	P	05 46 30.9	-0.4
	comp=Z,3.5nm,0.5s,baz=246,slow=4.9,SNR=6.9						
SCHQ				LR	LR	06 06 59.2	
	comp=Z,2μm,18.5s,baz=246,slow=37						
	comp=Z,3.5nm,0.5s						
LOGN	Logan Glacier	47.49	339	IAMs_20	IAMs_20	06 07 57.2	
	comp=Z,2μm,18.0s						
M30M	Minto, Yukon	47.52	343	IAMs_20	IAMs_20	06 06 08.1	
	comp=Z,2μm,20.0s						
M30M	Minto, Yukon	47.52	343	P	P	05 46 33.2	+1.5
	baz=142						
GRNC	Granite Creek	47.68	339	IAMs_20	IAMs_20	06 04 29.3	
	comp=Z,3μm,21.0s						
CTGM	Chitina Glacie	47.70	339	IAMs_20	IAMs_20	06 04 41.2	
	comp=Z,2μm,21.0s						
CTG	Chitna Glacier	47.71	339	P	P	05 46 34.3	+1.0
	baz=136						
M29M	Somme Creek	47.90	342	IAmb	IAmb	05 46 55.5	
	comp=Z,29nm,1.1s						
M29M				IAMs_20	IAMs_20	06 06 51.9	
	comp=Z,2μm,20.0s						
M29M	Somme Creek	47.90	342	P	P	05 46 36.6	+1.9
	baz=140,SNR=10						
YUK3	Moose Creek	48.01	340	P	P	05 46 37.2	+1.5
	baz=138						
KAIM	Kayak Island	48.09	337	P	P	05 46 37.7	+1.7
	baz=132						
MAYO	Mayo, Yukon	48.10	344	P	P	05 46 37.7	+1.6
	baz=144						
CRQE	Cirque	48.16	338	P	P	05 46 38.8	+2.0
	baz=134						
L29M	L29M	48.32	342	IAMs_20	IAMs_20	06 08 06.0	
	comp=Z,2μm,19.0s						
L29M	L29M	48.32	342	P	P	05 46 39.5	+1.6
	baz=141,SNR=25						
Q23K	Middleton Isla	48.51	335	P	P	05 46 41.2	+1.9
	baz=129						
MCARA	McCarthy VSAT	48.58	339	IAmb	IAmb	05 46 54.2	
	comp=Z,60nm,1.3s						
MCARA	McCarthy VSAT	48.58	339	P	P	05 46 42.0	+2.1
	baz=134						
BVCY	Beaver Creek	48.61	341	P	P	05 46 41.7	+1.6
	baz=137,SNR=8.8						
VRDI	Verde Repeater	48.62	338	IAmb	IAmb	05 46 43.8	
	comp=Z,49nm,1.4s						
K29M	Barlow Dome	48.73	343	IAmb	IAmb	05 46 46.0	
	comp=Z,47nm,1.1s						
K29M	Barlow Dome	48.73	343	P	P	05 46 42.3	+1.2
	baz=142						
BMRM	Bremner River	48.85	338	P	P	05 46 44.1	+2.0
	baz=132						
GLB	Gilahina Butte	48.89	338	IAmb	IAmb	05 46 45.8	
	comp=Z,42nm,1.3s						
M27K	Edge Creek, AK	48.89	340	IAmb	IAmb	05 46 57.5	
	comp=Z,30nm,1.1s						
M27K				IAMs_20	IAMs_20	06 05 23.3	
	comp=Z,2μm,21.0s						
M27K	Edge Creek, AK	48.89	340	P	P	05 46 44.5	+2.0
	baz=136						
EYAK	Cordova Ski Ar	48.99	337	P	P	05 46 45.2	+2.1
	baz=130						
J30M	Hart River	49.01	344	P	P	05 46 45.0	+1.7
	baz=144						
P23K	Montague Islan	49.28	335	P	P	05 46 46.5	+1.3
	baz=128						
N25K	Chitina, Valde	49.28	338	P	P	05 46 47.1	+1.8
	baz=133						
M26K	Nabesna, AK	49.29	340	IAMs_20	IAMs_20	06 05 34.3	
	comp=Z,2μm,22.0s						
M26K	Nabesna, AK	49.29	340	P	P	05 46 46.8	+1.5
	baz=135						
BCAR	Beaver Creek A	49.38	341	P	P	05 46 47.0	+1.0
L27K	Beaver Creek,	49.39	341	IAmb	IAmb	05 46 49.3	
	comp=Z,98nm,1.9s						
L27K				IAMs_20	IAMs_20	06 06 27.3	
	comp=Z,2μm,22.0s						
L27K	Beaver Creek,	49.39	341	P	P	05 46 46.9	+0.8
	baz=137						
J29N	Klondike Camp	49.40	344	IAMs_20	IAMs_20	06 07 30.7	
	comp=Z,2μm,20.0s						
J29N	Klondike Camp	49.40	344	P	P	05 46 47.2	+1.0
	baz=142						
DAWY	Dawson	49.42	343	IAmb	IAmb	05 46 49.3	
	comp=Z,84nm,1.7s						
DAWY				IAMs_20	IAMs_20	06 08 23.3	
	comp=Z,2μm,18.0s						
DAWY	Dawson	49.42	343	P	P	05 46 47.3	+0.9
	baz=140,SNR=13						
I30M	Mount Dempster	49.55	345	P	P	05 46 48.5	+1.2
	baz=144,SNR=7.2						
H31M	Peel River	49.55	346	IAmb	IAmb	05 47 12.4	
	comp=Z,48nm,1.1s						
H31M	Peel River	49.55	346	P	P	05 46 48.1	+0.8
	baz=147						
KLU	Klutina	49.68	337	IAmb	IAmb	05 46 51.9	
	comp=Z,66nm,1.5s						
KLU	Klutina	49.68	337	P	P	05 46 49.1	+0.7
	baz=131						
GLI	Glacier Island	49.72	336	P	P	05 46 50.1	+1.5
	baz=129						
BOAV	Boa Vista	49.73	104	P	P	05 46 49.7	+0.3
BOAV				IAMs_20	IAMs_20	06 08 58.5	
	comp=Z,2μm,19.0s						
L26K	Log Cabin Wild	49.85	340	IAmb	IAmb	05 46 52.7	
	comp=Z,67nm,1.7s						
L26K				IAMs_20	IAMs_20	06 06 16.7	
	comp=Z,2μm,22.0s						
L26K	Log Cabin Wild	49.85	340	P	P	05 46 50.6	+1.0
	baz=135,SNR=6.3						
HARP	HAARP	50.01	339	P	P	05 46 52.0	+1.1
	baz=132						
SEW	Seward	50.16	335	P	P	05 46 52.8	+0.9
	baz=126						
M24K	Tolsona, Glenn	50.17	338	P	P	05 46 52.5	+0.4
	baz=131						
PWL	Port Wells	50.18	336	P	P	05 46 52.4	+0.3
	baz=128						
KDAK	Kodiak Island	50.23	331	LR	LR	06 04 45.1	
	comp=Z,1μm,21.0s,baz=334,slow=32						
KDAK	Kodiak Island	50.23	331	P	P	05 46 52.5	0.0
	baz=121						
OHAK	Old Harbor	50.27	330	P	P	05 46 53.9	+1.2
	baz=120						
SII	Sitkinak Islan	50.37	329	P	P	05 46 54.9	+1.2
	baz=118						
SCM	Sheep Creek Mo	50.41	337	P	P	05 46 54.9	+0.9
	baz=130						
EGAK	Eagle	50.46	343	IAmb	IAmb	05 46 59.7	
	comp=Z,34nm,1.1s						
EGAK				IAMs_20	IAMs_20	06 09 20.9	
	comp=Z,3μm,18.0s						
EGAK	Eagle	50.46	343	P	P	05 46 55.4	+1.2
	baz=138,SNR=13						
BRSE	Bradley Lake S	50.48	334	P	P	05 46 55.7	+1.2
	baz=124						
G31M	Satah River	50.48	347	IAMs_20	IAMs_20	06 08 43.0	
	comp=Z,3μm,20.0s						
G31M	Satah River	50.48	347	P	P	05 46 55.3	+1.1
	baz=148,SNR=26						
O22K	Cooper Landing	50.49	335	P	P	05 46 55.1	+0.6
	baz=126						
PAX	Paxson	50.51	339	P	P	05 46 55.8	+1.2
	baz=132,SNR=9.5						
M23K	Glacier View	50.53	337	P	P	05 46 56.0	+1.2
	baz=129						
KNK	Knik Glacier	50.57	336	IAmb	IAmb	05 47 05.7	
	comp=Z,75nm,1.6s						
KNK	Knik Glacier	50.57	336	P	P	05 46 56.4	+1.4
	baz=128						
EPYK	Eagle Plains	50.57	346	P	P	05 46 55.5	+0.5
	baz=144,SNR=19						
Q20K	Shuyak Island	50.57	332	P	P	05 46 56.0	+0.9
	baz=122						
I28M	Miner Creek	50.64	344	P	P	05 46 56.1	+0.5
	baz=140						
ETMB	Extrema	50.64	121	P	P	05 46 55.9	-0.4
ETMB				IAmb	IAmb	05 47 00.6	
	comp=Z,89nm,1.5s						
ETMB	Extrema	50.64	121	eP	P	05 46 55.8	-0.4
SCRK	Sand Creek	50.72	341	IAmb	IAmb	05 46 59.4	
	comp=Z,91nm,1.6s						
SCRK				IAMs_20	IAMs_20	06 07 09.9	
	comp=Z,2μm,20.0s						
SCRK	Sand Creek	50.72	341	P	P	05 46 57.0	+0.7
	baz=135,SNR=17						
CHIR	Chirikof Islan	50.74	328	P	P	05 46 58.1	+1.7
	baz=116						
SML	Sawmill	50.76	337	IAmb	IAmb	05 46 59.1	
	comp=Z,90nm,1.5s						
SML	Sawmill	50.76	337	P	P	05 46 57.3	+0.7
	baz=128						
HOM	Homer	50.81	333	P	P	05 46 58.4	+1.5
	baz=123						
F31M	Tsiigehtchic	50.82	348	IAmb	IAmb	05 47 00.1	
	comp=Z,98nm,1.6s						
F31M	Tsiigehtchic	50.82	348	P	P	05 46 57.6	+0.9
	baz=148,SNR=18						
RIDG	Independent Ri	50.83	340	IAmb	IAmb	05 47 06.5	
	comp=Z,67nm,1.1s						
RIDG				IAMs_20	IAMs_20	06 06 46.7	
	comp=Z,2μm,22.0s						
RIDG	Independent Ri	50.83	340	P	P	05 46 58.4	+1.3
	baz=134,SNR=11						
H29M	Whitestone	50.84	345	IAmb	IAmb	05 46 59.3	
	comp=Z,68nm,1.6s						
H29M	Whitestone	50.84	345	P	P	05 46 57.5	+0.5
	baz=142						
RC01	Rabbit Creek A	50.86	336	P	P	05 46 57.8	+0.6
	baz=126						
PMR	Palmer	50.93	336	IAmb	IAmb	05 47 00.5	
	comp=Z,99nm,1.7s						
PMR	Palmer	50.93	336	P	P	05 46 58.8	+1.1
	baz=127						
G30M	tAoh Zraii Nji	50.96	346	P	P	05 46 58.6	+0.7
	baz=145						
J26L	Joseph Creek	50.97	341	IAmb	IAmb	05 47 03.0	
	comp=Z,80nm,1.4s						
J26L				IAMs_20	IAMs_20	06 09 23.5	
	comp=Z,2μm,19.0s						
J26L	Joseph Creek	50.97	341	P	P	05 46 60.0	+1.9
	baz=136						
R18K	Karluk	50.99	330	P	P	05 46 59.4	+1.2
	baz=119						
C36M	Paulatuk	51.02	353	P	P	05 46 59.6	+1.4
	baz=161						
WAT6	Susitna Watana	51.04	338	P	P	05 46 59.6	+0.8
	baz=130,SNR=8.4						
K24K	Donnelly Dome	51.18	340	P	P	05 46 59.6	0.0
	baz=133						
I27K	Kandik River	51.21	343	P	P	05 47 01.1	+1.2
	baz=138						
DHY	Denali Highway	51.23	338	IAMs_20	IAMs_20	06 10 08.4	
	comp=Z,1μm,19.0s						
DHY	Denali Highway	51.23	338	P	P	05 47 01.3	+1.1
	baz=130						
Q19K	Cape Douglas,	51.30	332	P	P	05 47 01.2	+0.6
	baz=121						
G29M	Pine Creek	51.31	346	IAmb	IAmb	05 47 04.0	
	comp=Z,67nm,1.4s						
G29M	Pine Creek	51.31	346	P	P	05 47 01.2	+0.6
	baz=143						
F30M	Barrier River	51.38	347	P	P	05 47 01.7	+0.6
	baz=146						
M22K	Willow	51.41	336	P	P	05 47 02.4	+1.1
	baz=126						
O20K	Slope Mountain	51.46	333	P	P	05 47 03.0	+1.2
	baz=123						
SUA	Susitna One	51.48	336	IAmb	IAmb	05 47 04.8	
	comp=Z,50nm,1.2s						
SUA	Susitna One	51.48	336	P	P	05 47 02.8	+0.8
	baz=126,SNR=6.2						
WAT1	Susitna Watana	51.49	338	P	P	05 47 02.6	+0.6
	baz=129						
P19K	Oil Pt	51.49	333	P	P	05 47 03.0	+1.0
	baz=122						
INK	Inuvik	51.52	348	IAmb	IAmb	05 47 07.1	
	comp=Z,37nm,1.1s						
INK				IAMs_20	IAMs_20	06 08 49.5	
	comp=Z,3μm,22.0s						
INK	Inuvik	51.52	348	LR	LR	06 09 10.2	
	comp=Z,2μm,19.8s,baz=162,slow=36						
INK	Inuvik	51.52	348	P	P	05 47 02.7	+0.7
	baz=149,SNR=27						
J25K	Salcha River,	51.60	341	IAMs_20	IAMs_20	06 07 24.8	
	comp=Z,2μm,22.0s						
J25K	Salcha River,	51.60	341	P	P	05 47 03.3	+0.5
	baz=134,SNR=17						
ILSW	Iliamna Southw	51.63	333	IAmb	IAmb	05 47 05.5	
	comp=Z,62nm,1.4s						
H27K	Steamboat Moun	51.66	344	P	P	05 47 04.5	+1.2
	baz=139						
Q18K	Katmai Hardscr	51.77	331	P	P	05 47 04.9	+0.6
	baz=119						
N20K	Mount Spurr	51.91	335	P	P	05 47 06.2	+1.0
	baz=124						
SPCR	Spurr Chakacha	51.91	335	P	P	05 47 06.1	+0.9
	baz=124						
R17L	Mt. Peulik Vol	51.92	330	P	P	05 47 05.1	-0.2
	baz=117						
MACA	Manacapuru-AM	51.94	110	eP	P	05 47 06.0	0.0
HDA	Harding Lake	51.97	340	IAmb	IAmb	05 47 07.7	
	comp=Z,81nm,1.8s						
HDA				IAMs_20	IAMs_20	06 07 08.7	
	comp=Z,2μm,21.0s						
HDA	Harding Lake	51.97	340	P	P	05 47 06.2	+0.7
	baz=132,SNR=6.8						
FRB	Frobisher Bay	51.98	21	LR	LR	06 09 50.7	
	comp=Z,2μm,18.2s,baz=230,slow=37						
Q17K	Contact Creek	51.99	330	P	P	05 47 06.5	+0.6
	baz=118						
SKT	Skwentna	52.08	336	IAmb	IAmb	05 47 10.5	
	comp=Z,94nm,1.6s						
SKT				IAMs_20	IAMs_20	06 06 34.8	
	comp=Z,1μm,19.0s						
SKT	Skwentna	52.08	336	P	P	05 47 06.9	+0.5
	baz=125,SNR=7.0						
G27K	Doyon Strip	52.13	344	IAmb	IAmb	05 47 09.2	
	comp=Z,42nm,1.4s						
G27K	Doyon Strip	52.13	344	P	P	05 47 07.2	+0.4
	baz=139						
IL31		52.19	340	IAmb	IAmb	05 47 10.9	
	comp=Z,53nm,1.2s						
ILAR	Eielson Array

	comp=Z,2µm,19.0s					
PRP	Porcupine Dome	52.28 341	P	P	05 47 09.0	+1.1
	baz=134,SNR=12					
F28M	Old Crow	52.31 345	IAmb	IAmb	05 47 13.5	
	comp=Z,53nm,1.0s					
F28M	Old Crow	52.31 345	P	P	05 47 08.7	+0.7
	baz=141,SNR=50					
CHGN	Chignik	52.37 327	P	P	05 47 08.5	0.0
	baz=114					
WRH	Wood River Hil	52.38 340	IAms_20	IAms_20	06 10 07.5	
	comp=Z,2µm,19.0s					
CCB	Clear Creek Bu	52.40 340	IAms_20	IAms_20	06 10 10.0	
	comp=Z,2µm,20.0s					
CHNA	Chernabura Isl	52.41 325	P	P	05 47 09.2	+0.3
	baz=112					
O18K	Koktuh Hills	52.45 332	P	P	05 47 09.7	+0.5
	baz=120					
E29M	Blow River	52.48 347	P	P	05 47 10.3	+1.1
	baz=144					
TRF	Thorofare Moun	52.49 338	P	P	05 47 10.5	+0.9
	baz=127,SNR=17					
Q16K	King Salmon	52.54 331	P	P	05 47 10.7	+0.9
	baz=117					
COLA	College	52.56 340	IAms_20	IAms_20	06 10 55.4	
	comp=Z,1µm,18.0s					
COLA	College	52.56 340	P	P	05 47 09.9	+0.1
	baz=131					
COLA	College	52.56 340	⇑P	P	05 47 10.8	+0.9
COLA			pmax	pmax		
	comp=Z,48nm,1.9s					
POKR	Poker Plat Res	52.59 340	IAmb	IAmb	05 47 13.2	
	comp=Z,98nm,1.8s					
POKR			IAms_20	IAms_20	06 10 28.0	
	comp=Z,1µm,19.0s					
POKR	Poker Plat Res	52.59 340	P	P	05 47 10.9	+0.8
	baz=131,SNR=11					
N19K	Bonanza Creek	52.63 334	IAmb	IAmb	05 47 49.3	
	comp=Z,83nm,1.4s					
N19K	Bonanza Creek	52.63 334	P	P	05 47 10.9	+0.3
	baz=121					
M20K	Styx River	52.65 335	IAmb	IAmb	05 47 13.1	
	comp=Z,82nm,1.6s					
M20K	Styx River	52.65 335	P	P	05 47 11.2	+0.4
	baz=123					
SAML	Samuel	52.65 118	P	P	05 47 10.4	-0.9
SAML			IAmb	IAmb	05 47 15.8	
	comp=Z,78nm,1.6s					
SAML	Samuel	52.65 118	P	P	05 47 10.4	-0.9
SAML			pmax	pmax		
	comp=Z,78nm,1.6s					
SAML	Samuel	52.65 118	eP	P	05 47 10.1	-1.2
P17K	Kvichak River	52.69 331	P	P	05 47 11.8	+0.9
	baz=118					
NEA2	Nenana	52.78 339	IAms_20	IAms_20	06 07 19.1	
	comp=Z,2µm,22.0s					
NEA2	Nenana	52.78 339	P	P	05 47 12.3	+0.8
	baz=129,SNR=34					
G26K	Porcupine Rive	52.80 343	P	P	05 47 12.7	+1.1
	baz=137					
PPLA	Purkeypile	52.86 337	P	P	05 47 13.1	+0.8
	baz=125,SNR=16					
H25L	Birch Creek	52.89 342	P	P	05 47 13.6	+1.4
	baz=134,SNR=10					
FYU	Fort Yukon	52.93 343	IAms_20	IAms_20	06 10 49.8	
	comp=Z,2µm,18.0s					
E28M	Babbage River	53.02 346	P	P	05 47 13.9	+0.7
	baz=142,SNR=21					
LPAZ	La Paz	53.08 129	P	P	05 47 15.6	+0.5
LPAZ	La Paz	53.08 129	P	P	05 47 15.7	+0.6
	comp=Z,9.0nm,0.9s,baz=340,slow=8.1,SNR=33					
LPAZ			LR	LR	06 07 18.5	
	comp=Z,879nm,19.4s,baz=308,slow=33					
	comp=Z,9.0nm,0.9s					
LPAZ	La Paz	53.08 129	eP	P	05 47 15.6	+0.5
CAST	Castle Rocks	53.12 337	IAmb	IAmb	05 47 17.4	
	comp=Z,43nm,1.4s					
CAST	Castle Rocks	53.12 337	P	P	05 47 14.5	+0.4
	baz=125,SNR=10					
BPAW	Bear Paw Mtn.	53.13 338	IAmb	IAmb	05 48 30.5	
	comp=Z,48nm,1.5s					
BPAW			IAms_20	IAms_20	06 07 40.5	
	comp=Z,1µm,18.0s					
BPAW	Bear Paw Mtn.	53.13 338	P	P	05 47 14.3	+0.2
	baz=127,SNR=7.2					
N18K	Kilae Creek	53.16 333	P	P	05 47 15.0	+0.6
	baz=120					
M19K	Big River Lodg	53.17 335	P	P	05 47 15.7	+1.3
	baz=122					
E27K	Coleen River	53.17 345	P	P	05 47 15.4	+1.1
	baz=140,SNR=30					
H24K	Noodor Dome	53.21 341	IAms_20	IAms_20	06 10 52.3	
	comp=Z,2µm,18.0s					
H24K	Noodor Dome	53.21 341	P	P	05 47 15.7	+0.9
	baz=131,SNR=18					
I23K	Minto, Yukon-K	53.23 340	IAms_20	IAms_20	06 10 37.5	
	comp=Z,2µm,20.0s					
I23K	Minto, Yukon-K	53.23 340	P	P	05 47 16.0	+1.2
	baz=129,SNR=23					
O17K	Koliganek Bris	53.25 332	P	P	05 47 15.8	+0.8
	baz=118,SNR=5.4					
L20K	Farewell, AK	53.27 336	P	P	05 47 16.1	+0.8
	baz=123					
G25K	Bearman Lake	53.31 342	P	P	05 47 16.3	+1.0
	baz=134					
P16K	Nushagak River	53.32 331	P	P	05 47 15.5	0.0
	baz=116					
D28M	Stokes Point	53.42 347	P	P	05 47 16.8	+0.6
	baz=144					
F26K	Sheenjek River	53.44 344	IAms_20	IAms_20	06 11 05.7	
	comp=Z,3µm,21.0s					
F26K	Sheenjek River	53.44 344	P	P	05 47 17.6	+1.2
	baz=137					
CHUM	Lake Minchumin	53.48 338	P	P	05 47 16.4	-0.2
	baz=125					
L19K	White Mountain	53.50 335	IAmb	IAmb	05 47 19.1	
	comp=Z,83nm,1.5s					
L19K	White Mountain	53.50 335	P	P	05 47 16.7	-0.2
	baz=122					
M18K	Stony River	53.54 334	P	P	05 47 17.3	+0.2
	baz=120,SNR=6.2					
MLY	Manley	53.62 339	IAmb	IAmb	05 47 20.1	
	comp=Z,80nm,1.7s					
MLY			IAms_20	IAms_20	06 10 53.7	
	comp=Z,1µm,21.0s					
MLY	Manley	53.62 339	P	P	05 47 18.5	+0.8
	baz=128,SNR=8.1					
O16K	Kokwok River B	53.62 331	P	P	05 47 17.2	-0.6
	baz=116					
N17K	Nushagak Hills	53.65 333	IAmb	IAmb	05 47 20.5	
	comp=Z,106nm,1.8s					
N17K	Nushagak Hills	53.65 333	P	P	05 47 18.8	+0.9
	baz=118					
A36M	Sachs Harbour	53.65 354	IAmb	IAmb	05 47 27.4	
	comp=Z,41nm,0.9s					
A36M	Sachs Harbour	53.65 354	P	P	05 47 18.0	+0.2
	baz=160,SNR=23					
G24K	Hadweenzic Riv	53.67 342	IAmb	IAmb	05 47 21.6	
	comp=Z,85nm,1.6s					
G24K			IAms_20	IAms_20	06 11 23.4	
	comp=Z,2µm,18.0s					
G24K	Hadweenzic Riv	53.67 342	P	P	05 47 19.2	+1.1
	baz=132					
H23K	Yukon River	53.72 340	IAmb	IAmb	05 47 21.9	
	comp=Z,42nm,1.1s					
H23K			IAms_20	IAms_20	06 08 25.0	
	comp=Z,1µm,20.0s					
H23K	Yukon River	53.72 340	P	P	05 47 19.3	+0.9
	baz=130					
F25K	Christian Rive	53.77 343	IAmb	IAmb	05 47 24.6	
	comp=Z,28nm,1.1s					
F25K	Christian Rive	53.77 343	P	P	05 47 20.2	+1.4
	baz=135,SNR=19					
K20K	Telida	53.83 336	IAmb	IAmb	05 47 21.1	
	comp=Z,87nm,1.6s					
K20K	Telida	53.83 336	P	P	05 47 19.7	+0.4
	baz=123					
D27M	Malcolm River	53.84 346	IAmb	IAmb	05 47 23.4	
	comp=Z,41nm,1.1s					
D27M	Malcolm River	53.84 346	P	P	05 47 20.0	+0.7
	baz=141,SNR=36					
I21K	Tanana	54.12 339	IAmb	IAmb	05 47 25.1	
	comp=Z,42nm,1.1s					
I21K	Tanana	54.12 339	P	P	05 47 21.8	+0.5
	baz=126					
M17K	Holitna River	54.17 333	P	P	05 47 22.4	+0.6
	baz=118					
O15K	Ungalikthiuk R	54.24 330	P	P	05 47 22.2	-0.1
	baz=114					
L18K	Granite Mounta	54.26 334	P	P	05 47 22.8	+0.4
	baz=120					
J20K	Nowinta River	54.31 337	IAms_20	IAms_20	06 12 09.6	
	comp=Z,1µm,18.0s					
J20K	Nowinta River	54.31 337	P	P	05 47 23.0	+0.3
	baz=124					
N16K	Nishlik Lake	54.32 332	P	P	05 47 23.6	+0.7
	baz=116					
F24K	Squaw Lake	54.34 342	IAmb	IAmb	05 47 28.7	
	comp=Z,34nm,1.3s					
F24K			IAms_20	IAms_20	06 13 07.1	
	comp=Z,2µm,18.0s					
F24K	Squaw Lake	54.34 342	P	P	05 47 23.5	+0.5
	baz=132,SNR=13					
TTA	Tatalina	54.35 335	IAmb	IAmb	05 47 30.5	
	comp=Z,45nm,1.4s					
TTA	Tatalina	54.35 335	P	P	05 47 23.2	+0.1
	baz=121,SNR=7.0					
H22K	Ishtalitna Cre	54.36 340	P	P	05 47 23.3	+0.2
	baz=128					
G23K	Bananza Creek	54.44 341	IAmb	IAmb	05 47 43.2	
	comp=Z,48nm,1.5s					
G23K			IAms_20	IAms_20	06 11 31.9	
	comp=Z,1µm,18.0s					
G23K	Bananza Creek	54.44 341	P	P	05 47 24.1	+0.4
	baz=130					
FALS	False Pass	54.50 324	P	P	05 47 23.5	-0.8
	baz=108					
PPT	Papeete	54.52 230	LR	LR	06 04 47.9	
	comp=Z,2µm,18.3s,baz=41,slow=30					
GO01	Chusmiza	54.55 133	IAmb	IAmb	05 47 53.1	
	comp=Z,80nm,1.6s					
M16K	Timber Creek	54.65 333	P	P	05 47 25.9	+0.6
	baz=116					
H21K	Melozitna Rive	54.69 339	IAms_20	IAms_20	06 11 57.5	
	comp=Z,1µm,19.0s					
H21K	Melozitna Rive	54.69 339	P	P	05 47 25.9	+0.4
	baz=126,SNR=41					
J19K	Poorman	54.75 337	P	P	05 47 26.0	+0.1
	baz=122					
C27K	Jago River	54.76 346	IAmb	IAmb	05 47 32.2	
	comp=Z,45nm,1.2s					
C27K	Jago River	54.76 346	P	P	05 47 26.6	+0.7
	baz=138					
I20K	Naaghedeneel	54.77 338	IAms_20	IAms_20	06 12 59.8	
	comp=Z,2µm,18.0s					
I20K	Naaghedeneel	54.77 338	P	P	05 47 27.0	+0.9
	baz=124					
N15K	Kwethluk River	54.78 331	P	P	05 47 26.8	+0.6
	baz=115					
COLD	Coldfoot	54.83 342	P	P	05 47 27.7	+1.3
	baz=130,SNR=26					
L17K	Donlin	54.88 334	P	P	05 47 26.4	-0.5
	baz=118					
E24K	Your Creek	54.88 343	IAmb	IAmb	05 47 30.6	
	comp=Z,100nm,1.9s					
E24K			IAms_20	IAms_20	06 12 45.9	
	comp=Z,2µm,20.0s					
E24K	Your Creek	54.88 343	P	P	05 47 27.4	+0.5
	baz=132					
PB08	IPOC Station P	54.89 133	IAmb	IAmb	05 47 41.0	
	comp=Z,46nm,1.0s					
J18K	Innoko River	54.90 336	IAmb	IAmb	05 47 30.1	
	comp=Z,64nm,1.4s					
J18K			IAms_20	IAms_20	06 08 23.8	
	comp=Z,1µm,19.0s					
J18K	Innoko River	54.90 336	P	P	05 47 27.1	0.0
	baz=120					
O14K	Tigyukauivet M	54.95 330	P	P	05 47 27.4	0.0
	baz=113					
G22K	Bettles	55.03 341	P	P	05 47 28.7	+0.8
	baz=128					
K17K	Iditarod	55.16 335	IAmb	IAmb	05 47 30.4	
	comp=Z,62nm,1.6s					
K17K	Iditarod	55.16 335	P	P	05 47 29.2	+0.3
	baz=118					
L16K	Owhat River	55.18 333	IAmb	IAmb	05 47 31.1	
	comp=Z,71nm,1.6s					
L16K	Owhat River	55.18 333	P	P	05 47 29.1	+0.1
	baz=116,SNR=5.7					
D25K	Kavik River	55.19 345	IAmb	IAmb	05 47 53.6	
	comp=Z,38nm,1.1s					
D25K			IAms_20	IAms_20	06 12 56.4	
	comp=Z,2µm,20.0s					
D25K	Kavik River	55.19 345	P	P	05 47 30.2	+1.1
	baz=135					
E23K	Chandalar	55.19 342	IAms_20	IAms_20	06 11 45.6	
	comp=Z,2µm,19.0s					
E23K	Chandalar	55.19 342	P	P	05 47 30.1	+0.9
	baz=131					
IMAR	Indian Mountai	55.19 339	P	P	05 47 28.7	-0.5
C26K	Camden Bay	55.26 346	P	P	05 47 30.2	+0.7
	baz=137					
M15K	Kasigluk River	55.27 332	P	P	05 47 29.6	-0.2
	baz=114					
PB01	IPOC Station P	55.28 134	IAmb	IAmb	05 47 37.5	
	comp=Z,57nm,1.2s					
H20K	Anotleneega Mo	55.30 338	P	P	05 47 30.2	+0.3
	baz=124					
N14K	Kuskokwak Cree	55.41 331	P	P	05 47 30.6	-0.1
	baz=113					
G21K	Allakaket	55.42 340	IAmb	IAmb	05 48 39.7	
	comp=Z,44nm,1.6s					
G21K			IAms_20	IAms_20	06 12 17.9	
	comp=Z,1µm,18.0s					
G21K	Allakaket	55.42 340	P	P	05 47 31.1	+0.3
	baz=126					
TOLK	Toolik Lake Re	55.56 343	IAmb	IAmb	05 47 35.8	
	comp=Z,32nm,1.0s					
TOLK	Toolik Lake Re	55.56 343	P	P	05 47 32.8	+0.9
	baz=131,SNR=13					
F22K	John River	55.60 341	P	P	05 47 33.2	+1.2
	baz=128,SNR=24					
GCSA	Galena City Sc	55.62 337	P	P	05 47 32.5	+0.3
	baz=121					
D24K	Happy Valley	55.70 344	IAmb	IAmb	05 47 37.6	
	comp=Z,31nm,1.2s					
D24K			IAms_20	IAms_20	06 12 17.1	
	comp=Z,2µm,20.0s					
D24K	Happy Valley	55.70 344	P	P	05 47 33.6	+0.9
	baz=132					
J17K	VABM Dome	55.79 335	P	P	05 47 34.3	+0.9
	baz=118					
F21K	Alatna River	55.83 341	IAmb	IAmb	05 47 55.6	
	comp=Z,89nm,1.6s					
F21K			IAms_20	IAms_20	06 12 35.6	
	comp=Z,1µm,19.0s					
F21K	Alatna River	55.83 341	P	P	05 47 34.6	+0.9
	baz=126,SNR=9.9					
M14K	Bethel	55.86 332	P	P	05 47 34.4	+0.4
	baz=113					
H19K	Roundabout Mou	55.87 338	P	P	05 47 33.8	-0.1
	baz=122					
E22K	Anaktuvuk Pass	55.88 342	IAmb	IAmb	05 47 36.3	
	comp=Z,34nm,1.3s					
E22K			IAms_20	IAms_20	06 10 22.7	
	comp=Z,1µm,20.0s					
E22K	Anaktuvuk Pass	55.88 342	P	P	05 47 34.2	+0.1
	baz=128					
RES	Resolute Bay	55.95 4	P	P	05 47 35.4	+1.0
RES	Resolute Bay	55.95 4	LR	LR	06 11 01.0	
	comp=Z,2µm,20.3s,baz=189,slow=36					
RES	Resolute Bay	55.95 4	P	P	05 47 35.4	+1.0
RES			pmax	pmax		
	comp=Z,19nm,1.2s					
UNV	Unalaska Valle	55.95 323	P	P	05 47 33.9	-0.8
	baz=104					
L15K	Ungalak Mounta	56.03 333	P	P	05 47 35.6	+0.4
	baz=114					
C24K	Franklin Bluff	56.05 344	IAms_20	IAms_20	06 13 46.4	
	comp=Z,2µm,18.0s					
C24K	Franklin Bluff	56.05 344	P	P	05 47 35.6	+0.4
	baz=132					
MDP	Montagnes des	56.07 97	LR	LR	06 14 10.9	
	comp=Z,377nm,19.1s,baz=290,slow=39					
D23K	Nanushuk River	56.08 343	IAms_20	IAms_20	06 12 47.1	
	comp=Z,2µm,21.0s					
D23K	Nanushuk River	56.08 343	P	P	05 47 35.9	+0.4
	baz=130					
K15K	Wolf Creek Mou	56.31 333	P	P	05 47 38.0	+0.8
	baz=115					
J16K	Anvik River	56.35 335	IAmb	IAmb	05 47 58.1	
	comp=Z,96nm,1.8s					
J16K	Anvik River	56.35 335	P	P	05 47 37.2	-0.3
	baz=116					
H18K	Honhosa River	56.37 337	IAmb	IAmb	05 48 10.3	
	comp=Z,90nm,1.8s					
H18K	Honhosa River	56.37 337	P	P	05 47 37.9	+0.4
	baz=120					
M13K	Dall Lake	56.37 331	P	P	05 47 37.9	+0.3
	baz=112					
G19K	Purcell Mounta	56.42 338	IAms_20	IAms_20	06 14 55.8	
	comp=Z,1µm,18.0s					
G19K	Purcell Mounta	56.42 338	P	P	05 47 37.9	-0.1
	baz=122					
L14K	Kuka Creek	56.42 332	P	P	05 47 38.5	+0.5
	baz=113					
F20K	Avaraart Lake	56.45 340	IAms_20	IAms_20	06 12 44.1	
	comp=Z,2µm,19.0s					
F20K	Avaraart Lake	56.45 340	P	P	05 47 38.3	+0.2
	baz=124					
D22K	Ayikyak River	56.59 342	IAmb	IAmb	05 47 42.6	
	comp=Z,97nm,1.9s					
D22K			IAms_20	IAms_20	06 13 28.6	
	comp=Z,2µm,18.0s					
D22K	Ayikyak River	56.59 342	P	P	05 47 40.0	+0.8
	baz=128					
C23K	Itkillik River	56.63 344	IAms_20	IAms_20	06 13 22.5	
	comp=Z,2µm,22.0s					
C23K	Itkillik River	56.63 344	P	P	05 47 39.7	+0.3
	baz=130					
I17K	Unalakleet	56.66 335	P	P	05 47 40.4	+0.8
	baz=116					
E21K	Killik River	56.70 342	IAms_20	IAms_20	06 13 56.6	
	comp=Z,2µm,18.0s					
E21K	Killik River	56.70 342	P	P	05 47 40.3	+0.4
	baz=126					
H17K	Granite Mounta	56.84 337	P	P	05 47 41.8	+0.8
	baz=118,SNR=14					
G18K	Tagagawik	56.84 338	IAmb	IAmb	05 47 43.0	
	comp=Z,62nm,1.9s					
G18K	Tagagawik	56.84 338	P	P	05 47 41.3	+0.4
	baz=120					
F19K	Shaleruckik Mo	57.02 339	IAms_20	IAms_20	06 13 21.0	
	comp=Z,1µm,19.0s					
F19K	Shaleruckik Mo	57.02 339	P	P	05 47 42.9	+0.8
	baz=121					
NIKH	Nikolski High	57.12 321	P	P	05 47 43.4	+0.3
	baz=102					
E19K	Redstone River	57.16 340	IAmb	IAmb	05 47 52.0	
	comp=Z,53nm,1.3s					
E19K			IAms_20	IAms_20	06 13 25.0	
	comp=Z,1µm,18.0s					
E19K	Redstone River	57.16 340	P	P	05 47 43.6	+0.4
	baz=122					
E20K	Nigu River	57.27 341	P	P	05 47 44.3	+0.3
	baz=124					
VILB	Vilhena	57.27 120	P	P	05 47 44.7	-0.1
VILB	Vilhena	57.27 120	eP	P	05 47 44.6	-0.1
MAL2	Monte Alegre,	57.30 105	IAms_20	IAms_20	06 15 25.7	
	comp=Z,1µm,18.0s					
J14K	Nanvaranak Lak	57.35 333	IAmb	IAmb	05 47 47.3	
	comp=Z,75nm,1.4s					
J14K	Nanvaranak Lak	57.35 333	P	P	05 47 43.9	-0.6
	baz=113					
C21K	Knifeblade Rid	57.36 342	P	P	05 47 44.5	-0.1
	baz=126					
G17K	Kiwalik Mounta	57.38 337	P	P	05 47 45.4	+0.7
	baz=118					
K13K	Kusilvak Mount	57.52 332	P	P	05 47 46.2	+0.5
	baz=111					
F18K	Selawik	57.54 338	P	P	05 47 46.5	+0.7
	baz=119					
B21K	Ikpikpuk River	57.59 343	IAmb	IAmb	05 47 51.1	
	comp=Z,36nm,1.1s					
B21K	Ikpikpuk River	57.59 343	P	P	05 47 46.6	+0.4
	baz=126,SNR=13					
H16K	Elim	57.59 336	P	P	05 47 47.4	+1.2
	baz=115					
D20K	Etivluk River	57.66 341	P	P	05 47 47.0	+0.4
	baz=124					
M11K	Mekoryuk	57.68 330	P	P	05 47 47.9	+1.0
	baz=109					
B22K	Teshekpuk Lake	57.70 344	IAmb	IAmb	05 47 48.7	
	comp=Z,77nm,1.6s					
B22K			IAms_20	IAms_20	06 12 50.7	
	comp=Z,2µm,20.0s					
B22K	Teshekpuk Lake	57.70 344	P	P	05 47 47.1	+0.3
	baz=128,SNR=7.5					
G16K	Koyuk River	57.97 336	P	P	05 47 49.9	+1.1
	baz=116					
D19K	Kuna River	58.00 341	IAmb	IAmb	05 47 52.5	
	comp=Z,43nm,1.1s					
D19K			IAms_20	IAms_20	06 10 49.9	
	comp=Z,2µm,21.0s					
D19K	Kuna River	58.00 341	P	P	05 47 49.3	+0.2
	baz=122					
F17K	Baldwin Pennin	58.03 338	IAms_20	IAms_20	06 14 06.9	
	comp=Z,1µm,19.0s					
F17K	Baldwin Pennin	58.03 338	P	P	05 47 50.4	+1.1
	baz=117,SNR=7.1					
E18K	Tukpahlearik C	58.27 339	IAmb	IAmb	05 47 53.0	
	comp=Z,33nm,1.1s					
E18K			IAms_20	IAms_20	06 14 00.2	
	comp=Z,1µm,19.0s					
E18K	Tukpahlearik C	58.27 339	P	P	05 47 51.4	+0.5
	baz=119					
SIV	San Ignacio	58.27 124	LR	LR	06 09 46.4	
	comp=Z,1µm,21.8s,baz=320,slow=33					
P08K	Saint George I	58.31 325	P	P	05 47 50.1	-1.3
	baz=103					
NPGB	Novo Progresso	58.43 111	eP	P	05 47 51.7	-1.2
G15K	Niukluk	58.44 336	P	P	05 47 53.2	+1.1
	baz=114					
A22K	Sinclair Lake	58.51 344	P	P	05 47 53.0	+0.5
	baz=126					
E17K	Hotham Inlet	58.53 338	P	P	05 47 52.9	+0.2
	baz=117,SNR=15					
B20K	Meade River	58.54 342	IAms_20	IAms_20	06 14 36.5	
	comp=Z,2µm,20.0s					
B20K	Meade River	58.54 342	P	P	05 47 53.7	+1.0
	baz=124					
C19K	Lookout Ridge	58.78 341	IAms_20	IAms_20	06 11 27.4	
	comp=Z,1µm,22.0s					
C19K	Lookout Ridge	58.78 341	P	P	05 47 55.2	+0.7
	baz=120					
ANM	Nome	58.80 335	P	P	05 47 55.4	+0.7
	baz=112					
F15K	North Star Dit	58.96 336	P	P	05 47 56.4	+0.6
	baz=114					
C18K	Utukok River	59.05 340	IAmb	IAmb	05 48 16.9	
	comp=Z,31nm,1.1s					
C18K			IAms_20	IAms_20	06 14 22.9	
	comp=Z,2µm,19.0s					
C18K	Utukok River	59.05 340	P	P	05 47 56.2	-0.3
	baz=119					
A21K	Barrow	59.13 344	P	P	05 47 56.4	-0.5
	baz=125					
AC06	Mina Casimiro	59.22 140	IAmb	IAmb	05 48 09.4	
	comp=Z,46nm,1.3s					
D17K	Noatak River	59.24 339	P	P	05 47 58.2	+0.5
	baz=116					
BBSD	Serra de San D	59.32 125	eP	P	05 47 58.2	-0.8
RDOG	Red Dog Mine	59.34 339	IAms_20	IAms_20	06 17 36.0	
	comp=Z,1µm,20.0s					
RDOG	Red Dog Mine	59.34 339	P	P	05 47 58.8	+0.4
	baz=116,SNR=8.1					
PDRB	Porto dos Gac	59.45 117	eP	P	05 47 58.0	-2.0
GO03	Copiapo	59.46 140	IAms_20	IAms_20	06 07 46.3	
	comp=Z,2µm,18.0s					
H03N2	Juan Fernandez	59.47 151	T	T	06 52 32.2	
	baz=329,slow=77,SNR=279					
H03N1	Juan Fernandez	59.48 151	T	T	06 52 33.4	
	baz=329,slow=77,SNR=372					
H03N3	Juan Fernandez	59.49 151	T	T	06 52 32.4	
	baz=329,slow=77,SNR=377					
PTLB	Pontes e Lacer	59.50 122	IAmb	IAmb	05 48 05.8	
	comp=Z,65nm,1.5s					
PTLB	Pontes e Lacer	59.50 122	eP	P	05 48 00.4	+0.2
F14K	Arctic Creek	59.52 336	P	P	05 48 00.1	+0.5
	baz=112					
B18K	Kokolik River	59.59 341	P	P	05 48 00.7	+0.6
	baz=118					
C17K	DeLong Mountai	59.62 340	P	P	05 48 00.6	+0.2
	baz=116					
A19K	Wainwright	59.78 342	P	P	05 48 01.3	0.0
	baz=120					
CLDB	Colider	59.87 116	eP	P	05 48 03.6	+0.7
TNA	Tin City	60.17 336	P	P	05 48 04.6	+0.5
	baz=110					
C16K	Lisburne Hills	60.26 339	IAms_20	IAms_20	06 18 17.8	
	comp=Z,1µm,18.0s					
C16K	Lisburne Hills	60.26 339	P	P	05 48 05.3	+0.6
	baz=114					
GAMB	Gambell	61.17 333	P	P	05 48 12.1	+1.2
	baz=106					

CO01 Juntas del Tor 61.30 142 IAmb IAmb 05 48 49.3
comp=Z,39nm,1.5s
DY2G Dye2 61.50 24 *i* P **P 05 48 13.4 -0.1**
DY2G IAmb IAmb 05 48 22.1
comp=Z,35nm,1.0s
CO03 El Pedregal 61.60 143 IAmb IAmb 05 48 20.3
comp=Z,38nm,1.1s
EUNU Eureka 61.65 4 *e*P **P 05 48 14.2 +0.1**
SALV Santo Antonio 62.53 120 *e*P **P 05 48 21.1 +0.3**
PRPB Paraiapebas 62.98 108 *e*P **P 05 48 24.1 +0.1**
PEL Peldehue 63.35 145 P **P 05 48 27.8 +1.8**
PEL Peldehue 63.35 145 P **P 05 48 27.8 +1.8**
PEL pmax pmax
comp=Z,60nm,1.3s
PANT Pantanal (Braz 63.46 124 *e*P **P 05 48 27.5 +0.5**
MT05 Renca 63.51 145 IAms_20 IAms_20 06 09 29.7
comp=Z,2μm,18.0s
MT08 Bocatoma Ro 63.94 145 IAmb IAmb 05 48 48.2
comp=Z,33nm,1.0s
MT13 San Alfonso 64.02 145 IAms_20 IAms_20 06 10 13.3
comp=Z,2μm,20.0s
BO01 Tunca 64.09 146 P **P 05 48 32.4 +1.5**
LMEL Las Melosas 64.14 145 IAmb IAmb 05 48 48.9
comp=Z,35nm,0.9s
BDQN Bodoquena, MS 64.17 125 *e*P **P 05 48 32.0 +0.4**
MURT Porto Murtinho 64.21 127 *e*P **P 05 48 31.7 -0.1**
SNDB Serra Nova Dou 64.27 114 *e*P **P 05 48 33.0 +0.6**
RAR Rarotonga 64.36 234 LR LR 06 10 11.8
comp=Z,2μm,18.1s,baz=51,slow=30
NEEM North Greenlan 64.46 12 *i* P **P 05 48 33.6 +0.5**
NEEM IAmb IAmb 05 48 41.7
comp=Z,34nm,1.0s
BO02 Sierra Bellavi 64.56 146 IAmb IAmb 05 48 43.7
comp=Z,40nm,1.1s
ICESG Greenland Ices 64.62 22 *i* P **P 05 48 36.0 +1.7**
ICESG IAmb IAmb 05 48 49.2
comp=Z,66nm,1.1s
AQDB Aquidauana 65.00 125 P **P 05 48 37.0 -0.1**
AQDB IAms_20 IAms_20 06 13 46.2
comp=Z,2μm,22.0s
AQDB Aquidauana 65.00 125 *e*P **P 05 48 36.5 -0.6**
ARAG Araguaiana, MT 65.63 118 *e*P **P 05 48 41.3 +0.1**
BI02 San Fabin de 65.75 148 IAmb IAmb 05 48 51.4
comp=Z,24nm,0.9s
SUMG Summit 65.80 18 P **P 05 48 43.4 +1.4**
SUMG IAms_20 IAms_20 06 17 35.9
comp=Z,2μm,20.0s
SUMG Summit 65.80 18 P **P 05 48 43.4 +1.4**
SUMG pmax pmax
comp=Z,56nm,1.2s
SUMG MLR MLR
comp=Z,2μm,20.0s
SUMG Summit 65.80 18 *i* P **P 05 48 43.0 +1.0**
SUMG IAmb IAmb 05 48 57.1
comp=Z,58nm,1.2s
SMTB Santa Maria do 66.12 109 *e*P **P 05 48 45.0 +0.6**
RPRD Ribas do Rio P 66.57 123 *e*P **P 05 48 47.9 +0.6**
AMBA Amambai (Brazi 66.92 126 *e*P **P 05 48 50.0 +0.6**
CPUP Villa Florida 67.17 131 P **P 05 48 51.5 +0.6**
comp=Z,25nm,1.2s,baz=324,slow=7.4,SNR=26
CPUP LR LR 06 16 22.4
comp=Z,709nm,19.9s,baz=326,slow=34
comp=Z,25nm,1.2s
SHEM Shemya Is, Ala 67.38 320 LR LR 06 11 29.7
comp=Z,671nm,21.1s,baz=124,slow=30
LL04 Puerto Octay 68.56 151 IAmb IAmb 05 49 08.9
comp=Z,22nm,0.9s
LL04 IAms_20 IAms_20 06 16 03.8
comp=Z,2μm,18.0s
BDFB Brasilia 68.80 116 P **P 05 49 02.7 +1.2**
BDFB Brasilia 68.80 116 P **P 05 49 01.7 +0.2**
comp=Z,12nm,1.0s,baz=287,slow=6.4,SNR=14
comp=Z,12nm,1.0s
BDFB Brasilia 68.80 116 P **P 05 49 02.7 +1.2**
BDFB pmax pmax
comp=Z,145nm,1.8s
ITRB Iturama 68.84 121 *e*P **P 05 49 02.8 +1.2**
PLCA Paso Flores 69.28 150 IAmb IAmb 05 49 14.0
comp=Z,27nm,1.1s
PLCA Paso Flores 69.28 150 P **P 05 49 04.2 +0.3**
comp=Z,7.2nm,1.1s,baz=306,slow=6.7,SNR=7.7
PLCA LR LR 06 12 55.6
comp=Z,3μm,19.7s,baz=327,slow=30
comp=Z,7.2nm,1.1s
PLCA Paso Flores 69.28 150 *e*P **P 05 49 05.4 +1.4**
ITQB Itaqui 69.69 133 *e*P **P 05 49 07.8 +1.2**
IPMB Ipameri, GO 69.75 118 *e*P **P 05 49 07.9 +0.6**
PSAL Palomas, Salto 69.89 135 *e*P **P 05 49 08.8 +0.9**
SDBA SAO DESIDERIO 70.03 111 *e*P **P 05 49 09.7 +0.6**
PTGB Pitanga 70.14 126 *e*P **P 05 49 10.2 +0.6**
LDASE Londrina, Braz 70.15 125 *e*P **P 05 49 10.2 +0.5**
BILL Biiibino 70.57 337 *i* P **P 05 49 12.1 +0.6**
BILL pmax pmax
comp=Z,15nm,1.5s
LL02 Futaleuf 70.64 152 IAmb IAmb 05 49 22.3
comp=Z,37nm,1.1s
BB19B Bebedouro 71.00 121 *e*P **P 05 49 16.4 +1.4**
NOR Nord 71.35 9 *i* P **P 05 49 17.0 +1.1**
NOR IAmb IAmb 05 49 31.5
comp=Z,19nm,1.1s
DAG Danmarks Havn 71.36 14 *i* P **P 05 49 18.3 +2.2**
DAG IAmb IAmb 05 49 23.2
comp=Z,35nm,1.2s
ITAB Concordia 71.48 129 *e*P **P 05 49 18.6 +1.0**
PMNB Patos De Minas 71.49 118 *e*P **P 05 49 19.0 +1.0**
BORG Borgarnes 71.55 27 LR LR 06 19 26.0
comp=Z,943nm,18.8s,baz=281,slow=35
JANB Januaria 71.70 114 *e*P **P 05 49 20.2 +1.0**
TRQA Tornquist 71.77 143 P **P 05 49 21.3 +2.1**
TRQA IAmb IAmb 05 49 30.4
comp=Z,63nm,1.8s
TRQA Tornquist 71.77 143 P **P 05 49 21.3 +2.1**
TRQA pmax pmax
comp=Z,63nm,1.8s
CPSB Cacapava Do Su 72.34 132 *e*P **P 05 49 23.7 +0.9**
COYC Coyhaique 72.46 154 IAmb IAmb 05 50 02.9
comp=Z,70nm,1.8s
RCLB Rio Claro- Sao 72.48 122 *e*P **P 05 49 25.3 +1.5**
PLTB Pedras Altas 73.02 133 IAmb IAmb 05 49 36.1
comp=Z,20nm,0.9s
PLTB Pedras Altas 73.02 133 *e*P **P 05 49 27.8 +1.0**
SPB Sao Paulo 73.15 123 *e*P **P 05 49 28.9 +1.3**
VAO Valinhos 73.22 122 IAmb IAmb 05 49 42.2
comp=Z,52nm,1.4s
VAO Valinhos 73.22 122 *e*P **P 05 49 29.4 +1.2**
DIAM Diamantina, MG 73.70 116 *e*P **P 05 49 32.3 +1.1**
BSCB Bom Sucesso 74.03 119 *e*P **P 05 49 34.2 +1.2**
RCBR Riachuelo 75.57 102 LR LR 06 23 56.8
comp=Z,219nm,19.9s,baz=302,slow=36
SJMB Sao Joao De Ma 76.00 116 *e*P **P 05 49 45.5 +1.2**
GUA01 Guaratinga, BA 76.27 113 *e*P **P 05 49 47.1 +1.2**
NBCA Caruaru-PE 76.35 104 *e*P **P 05 49 47.4 +0.9**
RIB01 Linhares ES 76.93 116 *e*P **P 05 49 50.5 +0.9**
PETK Petropavlovsk- 77.12 322 P **P 05 49 50.1 -0.1**
comp=Z,7.4nm,0.8s,baz=69,slow=13,SNR=4.3
PETK LR LR 06 18 28.0
comp=Z,148nm,18.9s,baz=86,slow=32
comp=Z,7.4nm,0.8s
SEY Seymchan 77.16 332 LR LR 06 21 45.5
comp=Z,594nm,20.4s,baz=24,slow=34
SEY Seymchan 77.16 332 *ce*P **P 05 49 51.5 +1.4**
SEY pmax pmax
comp=Z,12nm,0.8s
SPITS Spitsbergen Ar 77.91 10 LR LR 06 25 06.4
comp=Z,3μm,19.1s,baz=276,slow=36
PMOZ Porto Moniz, M 80.81 59 *e*LR LR 06 16 23.2
PMOZ A A 06 24 20.9
comp=Z,270nm,20.0s
MSVF Nonsavu 81.01 248 LR LR 06 18 59.0
comp=Z,3μm,18.6s,baz=44,slow=30
TIXI Tiksi 81.43 344 P **P 05 50 13.0 -0.3**
TIXI IAmb IAmb 05 50 21.0
comp=Z,42nm,1.2s
TIXI Tiksi 81.43 344 IAms_20 IAms_20 06 27 10.0
comp=Z,920nm,22.0s
TIXI Tiksi 81.43 344 LR LR 06 28 29.4
comp=Z,684nm,21.4s,baz=36,slow=37
TIXI Tiksi 81.43 344 P **P 05 50 13.0 -0.3**
TIXI pmax pmax
comp=Z,42nm,1.3s
TIXI MLR MLR
comp=Z,900nm,22.0s
RAO Raoul Island 82.53 236 LR LR 06 17 34.1
comp=Z,1μm,21.9s,baz=348,slow=29
EKA Eskdalemuir Ar 82.72 34 P **P 05 50 21.5 +1.1**
comp=Z,2.4nm,0.8s,baz=253,slow=9.4,SNR=2.5
comp=Z,2.4nm,0.8s
PGAV Gavieira, Arco 84.61 48 *e*LR LR 06 18 29.8
PGAV A A 06 27 57.8
comp=Z,794nm,18.0s
ARCES ARCESS Array B 85.63 15 P **P 05 50 35.6 +0.7**
ARCES ARCESS Array B 85.63 15 P **P 05 50 35.8 +0.8**
comp=Z,10nm,1.0s,baz=347,slow=7.5,SNR=6.6
ARCES LR LR 06 29 15.6
comp=Z,431nm,19.9s,baz=319,slow=36
comp=Z,10nm,1.0s
PMTG Montargil 85.68 50 *e*P **P 05 50 36.6 +0.8**
PMTG A A 05 50 50.5
comp=Z,42nm,1.6s
MTE Manteigas 85.68 49 *e*P P 05 50 39.6 +3.7
MTE A A 05 51 15.6
comp=Z,40nm,2.1s
MTE *e*S **S 06 01 13.9 +5.3**
MTE Manteigas 85.68 49 *e*LR LR 06 19 01.3
MTE A A 06 29 37.8
comp=Z,552nm,18.0s
MVO Moncorvo 85.76 48 *e*P **P 05 50 38.1 +1.8**
MVO A A 05 50 52.0
comp=Z,37nm,1.5s
MVO Moncorvo 85.76 48 *e*S **S 06 01 15.9 +6.5**
MVO Moncorvo 85.76 48 *e*LR LR 06 18 55.2
MVO A A 06 28 42.8
comp=Z,847nm,18.0s
KEV Kevo 85.82 14 IAms_20 IAms_20 06 29 24.9
comp=Z,1μm,21.0s
EVO Evora 86.03 51 *e*P P 05 50 41.2 +3.7
EVO A A 05 50 43.0
comp=Z,36nm,1.6s
PMRV Marv??o 86.15 50 *e*P **P 05 50 39.0 +0.8**
PMRV A A 05 51 19.3
comp=Z,49nm,1.6s
PMRV Marv??o 86.15 50 *e*LR LR 06 18 58.6
PMRV A A 06 30 33.3
comp=Z,660nm,18.0s
PBEJ Beja 86.32 51 *e*P **P 05 50 40.7 +1.7**
PBEJ A A 05 50 56.5
comp=Z,29nm,1.7s
PBDV Barranco-do-Ve 86.56 52 *e*P **P 05 50 42.0 +1.8**
NB2 NORSAR Subarra 86.63 25 P **P 05 50 42.8 +2.7**
comp=Z,23nm,1.7s,baz=305,slow=4.8
NB2 NORSAR Subarra 86.63 25 P **P 05 50 42.8 +2.7**
baz=305,slow=4.8
NOA NORSAR Array B 86.63 25 P **P 05 50 41.2 +1.1**
comp=Z,1.2nm,0.9s,baz=303,slow=4.7,SNR=5.0
NOA LR LR 06 28 34.3
comp=Z,684nm,21.2s,baz=295,slow=35
comp=Z,1.2nm,0.9s
PVAQ Vaqueiros 86.65 52 *e*LR LR 06 19 25.1
PVAQ A A 06 27 44.0
comp=Z,493nm,20.0s
KONO Kongsberg 86.74 27 IAms_20 IAms_20 06 25 53.7
comp=Z,844nm,19.0s
PBAR Barrancos 86.87 51 *e*P **P 05 50 42.4 +0.7**
PBAR A A 05 50 56.6
comp=Z,28nm,1.5s
YAK Yakutsk 86.93 336 IAms_20 IAms_20 06 35 05.8
comp=Z,976nm,18.0s
YAK Yakutsk 86.93 336 LR LR 06 29 55.3
comp=Z,444nm,19.3s,baz=55,slow=36
YAK Yakutsk 86.93 336 *e*P **P 05 50 41.8 +0.4**
YAK *e**PP **pwP 05 50 48.6 -0.2**
YAK *e* 05 54 04.8
YAK *e*S **SKSac 06 01 08.3 -0.2**
YAK *e*SS **SS 06 07 00.8 -0.3**
YAK *e*SSS SSS 06 10 37.2
YAK pmax pmax
comp=Z,26nm,1.4s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,146nm,3.5s
YAK pmax pmax
comp=N,91nm,3.0s
YAK pmax pmax
comp=E,67nm,3.2s
YAK smax smax
comp=N,433nm,5.1s
YAK smax smax
comp=E,79nm,2.7s
YAK MLR MLR
comp=Z,629nm,23.0s
YAK MLR MLR
comp=N,567nm,25.0s
YAK MLR MLR
comp=E,316nm,22.0s
BBTS Babate 87.01 76 LR LR 06 25 11.2
comp=E,768nm,21.1s,baz=162,slow=32
HFS Hagfors 88.15 25 LR LR 06 31 46.0
comp=E,982nm,18.9s,baz=298,slow=37
ESDC Sonseca Array 88.50 48 P **P 05 50 50.7 +1.1**
comp=E,1.1nm,0.9s,baz=215,slow=49,SNR=3.7
ESDC LR LR 06 29 53.0
comp=E,679nm,19.9s,baz=295,slow=35
comp=E,1.1nm,0.9s
APA Apatity 89.00 14 ↓*i* P P 05 50 44.2 -7.0
APA *i* 05 54 20.0
APA pmax pmax
comp=Z,9.0nm,1.2s
APA MLR MLR
comp=Z,2μm,21.0s
URZ Urewera 90.16 229 LR LR 06 21 52.8
comp=Z,2μm,21.6s,baz=154,slow=29
PMSA Palmer Station 90.38 163 LR LR 06 21 46.6
comp=Z,289nm,19.1s,baz=313,slow=29
RTZ Ruatahuna 90.40 229 IAms_20 IAms_20 06 27 04.2
comp=Z,1μm,19.0s
MDT Midelt 90.76 55 LR LR 06 31 01.8
comp=Z,225nm,18.4s,baz=310,slow=35
NRIK Noril'sk 90.92 354 P **P 05 51 01.1 +0.9**
NRIK IAmb IAmb 05 51 16.5
comp=Z,20nm,1.3s
NRIK Noril'sk 90.92 354 P **P 05 50 59.8 -0.4**
comp=Z,5.4nm,0.9s,baz=28,slow=4.1,SNR=7.5
NRIK LR LR 06 33 10.2
comp=Z,1μm,20.3s,baz=24,slow=36
comp=Z,5.4nm,0.9s
NRIK Noril'sk 90.92 354 *ce*P **P 05 51 02.5 +2.3**
NRIK pmax pmax
comp=Z,13nm,1.1s
TOZ Tahuroa Road 91.11 230 IAms_20 IAms_20 06 22 14.0
comp=Z,935nm,22.0s
STU Stuttgart 92.53 36 IAms_20 IAms_20 06 31 42.4
comp=Z,767nm,21.0s
DZM Mont Dzumac 92.75 248 LR LR 06 23 13.4
comp=Z,2μm,21.4s,baz=46,slow=29
ZEA Zeya 93.03 331 *e*P P 05 51 13.3 +3.0
ZEA pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 93.11 32 IAms_20 IAms_20 06 34 42.4
comp=Z,916nm,19.0s
CLL Collm 93.11 32 *e*PP PP 05 54 55.0 +1.8
CLL *e*S **S 06 02 17.0 -0.4**
CLL *e*PS **PS 06 03 27.0 -3.3**
CLL *e*PPS PPS 06 03 57.0
CLL *e*SS **SS 06 08 28.0 -3.0**
CLL *e*x x 06 09 32.0
CLL *e*SSSS 06 15 18.0
CLL AMS AMS 06 34 00.0
comp=Z,700nm,19.5s
GRA1 Grafenberg Arr 93.12 34 IAms_20 IAms_20 06 31 31.9
comp=Z,821nm,20.0s
GRFO Grafenberg 93.12 34 IAms_20 IAms_20 06 31 31.8
comp=Z,856nm,21.0s
KLR Kul'dur 93.47 325 LR LR 06 27 14.7
comp=Z,287nm,20.3s,baz=57,slow=32
JMM Marumori 93.73 312 IAms_20 IAms_20 06 26 02.9
comp=Z,778nm,20.0s
BRG Berggiesshubel 93.84 32 S S 06 02 34.0 +10
DAVOX Davos/Dischmat 94.01 37 LR LR 06 31 41.1
comp=Z,2μm,21.5s,baz=300,slow=34
FUORN Ofenpass-Fuorn 94.32 37 IAmb IAmb 05 51 37.3
comp=Z,18nm,1.4s
HNR Honiara 94.58 262 LR LR 06 24 20.9
comp=Z,1μm,21.5s,baz=72,slow=30
GERES GERESS Array B 94.93 34 LR LR 06 32 57.2
comp=Z,814nm,19.6s,baz=306,slow=35
PABE Paberze 95.33 25 IAms_20 IAms_20 06 34 23.8
comp=Z,1μm,20.0s
SUW Suwalki 96.07 26 IAms_20 IAms_20 06 34 37.8
comp=Z,1μm,22.0s
KLMR Klimovskoe 96.10 15 *e*P **P 05 51 21.6 -2.6**
KLMR *e* 05 55 15.5
KLMR pmax pmax
comp=Z,19nm,1.2s
KLMR MLR MLR
comp=Z,987nm,19.0s
VRAC Vranov 96.15 33 LR LR 06 35 11.0
comp=Z,723nm,18.2s,baz=307,slow=36
MJAR Matsushiro Arr 96.17 312 LR LR 06 27 04.3
comp=Z,626nm,20.8s,baz=71,slow=31
MORC Moravsky Berou 96.33 32 IAMs_20 IAMs_20 06 32 53.7
comp=Z,797nm,20.0s
RPZ Rata Peaks 96.48 226 LR LR 06 26 25.0
comp=Z,1μm,21.0s,baz=96,slow=30
JHJ2 Mitsune 96.65 308 IAMs_20 IAMs_20 06 43 40.8
comp=Z,1μm,22.0s
NACGM Naroch 96.88 24 *e*P **P 05 51 26.8 -1.1**
JCJ Chichijima 97.54 302 LR LR 06 25 58.6
comp=Z,517nm,21.5s,baz=135,slow=30
NRCA Norcia 98.14 39 IAMs_20 IAMs_20 06 40 53.3
comp=Z,738nm,19.0s
PSZ Piszkesteto 98.72 32 IAMs_20 IAMs_20 06 37 19.0
comp=Z,896nm,20.0s
HIA Hailar 99.51 330 IAMs_20 IAMs_20 06 42 15.2
comp=Z,505nm,20.0s
KEST Kesra 99.65 47 LR LR 06 37 21.8
comp=Z,453nm,19.4s,baz=299,slow=36
OBN Obninsk 100.16 20 *e*P **Pdif 05 51 43.8 +1.3**
OBN *e* 05 55 49.2
OBN *e*PPP PPP 05 57 55.2
OBN pmax pmax
comp=Z,3.0nm,0.9s
OBN MLR MLR
comp=Z,1μm,20.0s
JMN Monobe 100.65 311 IAMs_20 IAMs_20 06 31 26.3
comp=Z,668nm,20.0s
KIEV Kiev 101.02 26 IAMs_20 IAMs_20 06 39 41.4
comp=Z,927nm,20.0s
PDG Podgorica 101.97 37 IAMs_20 IAMs_20 06 40 07.4
comp=Z,782nm,19.0s
TAM Tamanrasset 103.16 60 IAMs_20 IAMs_20 06 34 37.9
comp=Z,598nm,20.0s
ARTI Arti 103.85 8 P **Pdif 05 52 06.0 +7.1**
ARTI 05 56 20.2
ARTI SS SS 06 11 00.0 -0.8
ARTI MLR MLR
comp=Z,1μm,21.0s
ACRG Accra 105.19 78 IAMs_20 IAMs_20 06 37 18.6
comp=Z,466nm,20.0s
ULN Ulaanbaatar 106.01 336 IAMs_20 IAMs_20 06 47 17.5
comp=Z,604nm,19.0s
SONM Songino Array 106.29 336 PP **PP 05 56 37.1 +3.7**
comp=Z,0.5nm,0.7s,baz=46,slow=8.3,SNR=2.5
SONM PKKPbc **PKKPdf 06 07 48.4 -5.9**
comp=Z,0.4nm,0.5s,baz=270,slow=1.2,SNR=3.8
ALN Alexandroupoli 106.74 34 IAMs_20 IAMs_20 06 41 50.7
comp=Z,749nm,20.0s
BJT Baijiatuau 107.87 325 IAMs_20 IAMs_20 06 48 23.1
comp=Z,570nm,20.0s
BVAR Borovoye Array 108.03 1 PP **PP 05 56 47.0 +1.3**
comp=Z,0.3nm,0.4s,baz=2.3,slow=7.2,SNR=1.8
QSPA South Pole Qui 109.14 180 IAMs_20 IAMs_20 06 33 49.7
comp=Z,628nm,20.0s
HHC Hu-ho-hao-te 109.61 329 *e*Pdif **Pdif 05 52 22.5 -2.6**
HHC PP **PP 05 56 59.8 +1.9**
HHC SS SS 06 12 23.3 +3.0
HHC LR LR
comp=Z,330nm,19.9s
HHC LR LR
comp=Z,350nm,15.3s
HHC LR LR
comp=Z,530nm,20.3s
KURK Kurchatov 110.07 355 *i* PKIKP **PKiKP 05 56 29.4 +1.1**
KURBB Kurchatov Arra 110.17 355 PKiKP **PKiKP 05 56 29.4 +0.8**
comp=Z,0.4nm,0.8s,baz=317,slow=5.2,SNR=4.2
KURBB PP **PP 05 56 59.7 -1.5**
comp=Z,1.5nm,0.9s,baz=358,slow=6.8,SNR=8.4
KURBB PKKP **PKKPdf 06 07 47.2 +0.3**
comp=Z,0.6nm,0.7s,baz=196,slow=4.4,SNR=4.6
CTAO Charters Tower 110.27 255 IAMs_20 IAMs_20 06 33 11.4
comp=Z,850nm,21.0s
HNS HongShan 110.55 324 *e*PKP **PKiKP 05 56 30.3 +0.7**
HNS LR LR
comp=Z,280nm,19.1s
HNS LR LR
comp=Z,440nm,19.1s
HNS LR LR
comp=Z,570nm,20.6s
BTO Baotou 110.55 330 *e*PKP **PKiKP 05 56 26.0 -3.7**
BTO sPKP 05 56 37.8
BTO SKKS 06 04 03.8
BTO SS **SS 06 12 33.0 +0.2**
BTO LR LR
comp=Z,310nm,5.1s
BTO LR LR
comp=Z,680nm,17.9s
ANTO Ankara 110.96 31 IAMs_20 IAMs_20 06 44 31.7
comp=Z,686nm,19.0s
SOC Sochi 110.98 24 *i* PKIKP **PKiKP 05 56 29.2 -1.1**
SOC *e* 05 57 06.8
SOC *e*SS SS 06 12 37.1 -0.9
SOC *e*SSS SSS 06 16 47.5
SOC pmax pmax
comp=Z,11nm,0.3s
SOC MLR MLR
comp=Z,769nm,18.0s
KARP Karpathos 111.14 38 IAMs_20 IAMs_20 06 41 54.4
comp=Z,804nm,22.0s
ISP Isparta 111.36 34 IAMs_20 IAMs_20 06 44 51.9
comp=Z,592nm,20.0s
BRTR Keskin Array B 111.48 31 PKiKP **PKiKP 05 56 33.0 +1.4**
comp=Z,0.5nm,0.6s,baz=343,slow=4.5,SNR=3.7
BRTR Keskin Array B 111.48 31 *c i* PKIKP **PKiKP 05 56 34.7 +3.1**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
KIV Kislovodsk 111.77 22 IAMs_20 IAMs_20 06 41 20.4
comp=Z,692nm,20.0s
KIV Kislovodsk 111.77 22 *i* PKIKP **PKiKP 05 56 30.7 -1.2**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,428nm,21.0s
SNAA Sanae 113.02 161 PP **PP 05 57 23.4 +0.9**
comp=Z,3.2nm,1.2s,baz=304,slow=7.3,SNR=3.3
MAKZ Makanchi 113.59 352 IAMs_20 IAMs_20 06 53 07.3
comp=Z,701nm,19.0s
CSS Mathiatis 115.00 34 IAMs_20 IAMs_20 06 44 07.0
comp=Z,726nm,20.0s
GAZ Gaziantep 115.21 30 IAMs_20 IAMs_20 06 52 17.0
comp=Z,440nm,19.0s
WMQ Urumqi 115.53 347 *e*PKP **PKPdf 05 56 42.3 +3.2**
WMQ LR LR
comp=Z,860nm,21.7s
WMQ LR LR
comp=Z,650nm,24.1s
WMQ LR LR
comp=Z,670nm,17.1s
GNI Garni 115.84 23 IAMs_20 IAMs_20 06 48 38.1
comp=Z,597nm,22.0s
XAN Xi'an 116.18 326 PKP **PKPdf 05 56 40.3 -0.3**
XAN LR LR
comp=Z,490nm,21.1s
XAN LR LR
comp=Z,550nm,23.7s
XAN LR LR
comp=Z,710nm,21.0s
LZH Lanzhou 117.06 331 *e*PKP **PKiKP 05 56 44.8 +2.4**
LZH LR LR
comp=Z,560nm,19.2s
LZH LR LR
comp=Z,580nm,18.2s
LZH LR LR
comp=Z,800nm,19.2s
ENH Enshi 118.72 323 IAMs_20 IAMs_20 06 58 27.6
comp=Z,496nm,20.0s
GHAJ Ghor Haditha 119.00 35 IAMs_20 IAMs_20 06 47 04.1
comp=Z,338nm,20.0s
WUS Wushi 119.45 353 IAMs_20 IAMs_20 06 54 41.4
comp=Z,637nm,20.0s
ELIB Princess Elisa 120.50 164 *d*PKP **PKiKP 05 56 49.7 +1.9**
WRA Warramunga Arr 121.19 258 PKP **PKiKP 05 56 51.8 +1.2**
comp=Z,0.8nm,0.6s,baz=78,slow=2.1,SNR=7.3
CD2 Chengdu 121.32 328 PKP **PKiKP 05 56 52.0 +1.3**
GAR Garm 122.05 1 PKPdf **PKiKP 05 56 53.0 +1.0**
ASAR Alice Springs 122.21 254 PKP **PKiKP 05 56 51.5 -1.0**
comp=Z,1.7nm,1.0s,baz=83,slow=2.2,SNR=6.6
ASAR PKKPbc **PKKPab 06 06 47.6 -0.6**

comp=Z,0.6nm,0.9s,baz=274,slow=2.7,SNR=4.3
SIMJ Simiganj 122.35 2 PKiKP PKiKP 05 56 54.5 +1.8
GYA Guiyang 123.22 322 PKP **PKiKP 05 56 55.5 +0.9**
GYA PP PP 05 58 44.5 +11
GYA AMB AMB
comp=Z,120nm,4.7s
GYA LR LR
comp=Z,340nm,25.7s
PZH PanZhiHua 125.91 326 PKP **PKiKP 05 57 01.5 +1.5**
PZH PP **PP 05 58 55.3 +4.0**
PZH AMB AMB
comp=Z,190nm,7.3s
PZH LR LR
comp=Z,220nm,17.3s
PZH LR LR
comp=Z,340nm,19.4s
PZH LR LR
comp=Z,460nm,17.5s
QIZ Qiongzhong 126.55 313 PKP **PKiKP 05 57 03.8 +2.5**
QIZ PP **PP 05 58 55.8 -0.1**
QIZ SS SS 06 16 04.5 +3.5
QIZ LR LR
comp=Z,330nm,18.3s
QIZ LR LR
comp=Z,400nm,22.8s
QIZ LR LR
comp=Z,440nm,21.2s
LUWI Luwuk 126.72 284 IAMs_20 IAMs_20 06 42 30.0
comp=Z,406nm,20.0s
LSA Lhasa 127.81 338 IAMs_20 IAMs_20 06 54 18.3
comp=Z,472nm,22.0s
SLVN Son La 128.74 320 IAMs_20 IAMs_20 06 52 31.7
comp=Z,445nm,20.0s
WIN Windhoek 129.23 104 IAMs_20 IAMs_20 06 46 19.4
comp=Z,639nm,21.0s
KKM Kota Kinabalu 129.37 295 IAMs_20 IAMs_20 06 49 08.5
comp=Z,404nm,19.0s
MMRI Maumere 129.87 275 IAMs_20 IAMs_20 06 48 21.5
comp=Z,402nm,18.0s
KAPI Kappang 131.00 280 IAMs_20 IAMs_20 06 47 41.9
comp=Z,308nm,21.0s
SHL Shillong 131.28 335 IAMs_20 IAMs_20 07 00 16.7
comp=Z,428nm,21.0s
BKB Balikpapan 132.17 286 IAMs_20 IAMs_20 06 47 31.1
comp=Z,519nm,20.0s
UOSS Minazif 133.60 19 IAMs_20 IAMs_20 06 45 45.2
comp=Z,400nm,19.0s
CHTO Chiang Mai 133.61 323 IAMs_20 IAMs_20 07 04 59.1
comp=Z,348nm,19.0s
CMAR Chiang Mai Arr 133.89 323 PKiKP 05 57 16.8 +0.7
CMAR Chiang Mai Arr 133.89 323 PKP **PKiKP 05 57 16.4 +0.4**
comp=Z,2.2nm,0.4s,baz=351,slow=2.3,SNR=8.4
CMAR Chiang Mai Arr 133.89 323*c i*PKIKP **PKiKP 05 57 17.7 +1.6**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
MBAR Mbarara 135.91 70 IAMs_20 IAMs_20 06 59 33.8
comp=Z,530nm,20.0s
BOSA Boshof 136.87 112 PKP **PKPdf 05 57 18.9 -1.2**
comp=Z,6.8nm,1.1s,baz=222,slow=4.7,SNR=3.6
FURI Furi 137.19 52 IAMs_20 IAMs_20 06 54 09.2
comp=Z,412nm,22.0s
LODK Lodwar 137.86 62 IAMs_20 IAMs_20 06 55 14.5
comp=Z,598nm,22.0s
ATD Arta Tunnel 138.33 45 IAMs_20 IAMs_20 07 01 50.6
comp=Z,326nm,22.0s
UGM Wanagama 140.59 281 PKPdf 05 57 26.4 -0.9
KMBO Kilima Mbogo 141.87 66 PKP **PKiKP 05 57 31.7 -1.0**
comp=Z,0.6nm,0.3s,baz=259,slow=5.2,SNR=4.3
KMBO Kilima Mbogo 141.87 66*c i*PKIKP **PKiKP 05 57 34.5 +1.8**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
MYKOM Kota Tinggi 142.02 300 IAMs_20 IAMs_20 06 58 59.2
comp=Z,377nm,21.0s
KULM Kulim 142.40 308 IAMs_20 IAMs_20 07 14 27.8
comp=Z,385nm,19.0s
IPM Ipoh 142.64 306 IAMs_20 IAMs_20 06 51 53.4
comp=Z,412nm,20.0s
HYB Hyderabad 142.93 349 *e*PKPdf **PKPdf 05 57 30.6 -0.8**
KIBK Kibwezi 143.15 67 IAMs_20 IAMs_20 07 01 26.6
comp=Z,481nm,20.0s
PMBI Palembang 143.73 292 IAMs_20 IAMs_20 07 03 53.9
comp=Z,327nm,21.0s
BKNI Bangkinang 145.16 301 IAMs_20 IAMs_20 07 05 28.2
comp=Z,453nm,21.0s
PSI Prapat 145.32 306 PKIKP **PKiKP 05 57 35.9 -3.8**
RPSI Rantau Prapat 145.38 306 PKiKP 05 57 35.9 -3.7
RPSI IAMs_20 IAMs_20 07 07 39.2
comp=Z,463nm,21.0s
GSI Gunungsitoli 147.31 306 PKiKP 05 57 41.9 -1.7

TRN 27 06:08:17.7, 17°52N×62°08W, h16km, MD3.8, 1C, South-west of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.32**	**61**	*e*P	Pn	06 08 26.6	-1.1
ANWB				*e*S	Sb	06 08 31.2	+1.3
ANBD	**Bethesda, Anti**	**0.55**	**147**⇑	*i*P	Pn	06 08 31.4	+0.5
ANBD				*e*S	Sn	06 08 39.7	-0.1
SKI	**Saint Kitts**	**0.66**	**254**	*e*P	Pn	06 08 33.3	+1.0
SKI				*e*S	Sn	06 08 42.9	+0.6
SKOC	**St. Kitts, UWI**	**0.66**	**251**	*e*P	Pn	06 08 33.7	+1.3
SKOC				*e*S	Sn	06 08 43.4	+1.0
MBFL	**Flemmings, Mon**	**0.77**	**189**	*e*P	Pn	06 08 35.4	+1.5
TBG	**Guadaloupe-3**	**1.71**	**166**	*e*P	Pb	06 08 48.3	-0.4
TBG				*e*S	Sb	06 09 11.2	+1.3
DSLB	**Salisbury**	**2.16**	**163**	*e*P	Pb	06 08 55.7	-0.8
DSLB				*e*S	Sb	06 09 23.9	+0.9
BIM	**Bigot**	**3.13**	**162**	*e*P	Pn	06 09 08.7	+2.2
BIM				*e*S	Sn	06 09 46.4	+2.8
SLBI	**Saint Lucia, B**	**3.63**	**163**	*e*P	Pn	06 09 15.8	+2.6
SLBI				*e*S	Sn	06 09 56.9	+1.1
SLAC	**Saint Lucia, A**	**3.77**	**162**	*e*P	Pn	06 09 18.2	+3.0
SLAC				*e*S	Sn	06 09 59.9	+0.5
AOPR	**Arecibo Observ**	**4.53**	**281**	*e*P	Pn	06 09 29.5	+3.9
AOPR				*e*S	Sn	06 10 18.6	+0.6

TEH 27 06:14:52.1, 34°38N×45°81E, h8km±19km, ML3.2
ISN 27 06:14:52.0±0.7, 34°38N×45°79E, h16km±7km, ML3.3
ISC 27 06:14:52.7±0.8, 34°39N±0°03×45°81E±0°03, h10km, n22, σ1°07/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.22**	**304**	Pg	**Pg**	**06 14 56.5**	**-0.7**
GLG1	**Gilan-e-Gharb**	**0.28**	**162**	Pg	**Pg**	**06 14 58.2**	**-0.3**
IDHR	**Dehrash**	**0.57**	**57**	Pg	**Pg**	**06 15 03.6**	**-0.3**
IGHG	**Ghaleghazi**	**0.63**	**95**	Pg	**Pb**	**06 15 05.3**	**-0.7**
ILBA	**Ilam Banvizeh**	**0.83**	**156**	Pg	**Pg**	**06 15 08.1**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.03**	**96**	Pg	**Pb**	**06 15 12.1**	**-0.6**
ILIN	**Lien**	**1.09**	**61**	Pg	**Pg**	**06 15 13.0**	**-0.7**
IBDR	**Badra**	**1.28**	**175**	*e*Pn	**Pg**	**06 15 17.0**	**-0.2**
IBDR				*e*Sn	**Sn**	**06 15 35.0**	**+1.3**
IBDR				AML	AML	06 15 38.9	
	comp=N,330nm,0.5s						
IBDR				AML	AML	06 15 39.1	
	comp=E,524nm,0.4s						
IKRK	**Kirkuk**	**1.57**	**310**	*e*Pn	**Pb**	**06 15 21.0**	**-0.9**
IKRK				*e*Sn	**Sg**	**06 15 42.5**	**-0.8**
IKRK				AML	AML	06 15 45.6	
	comp=E,888nm,0.5s						
IKRK				AML	AML	06 15 45.8	
	comp=N,434nm,0.2s						
SNQR	**Sonqor, Kerman**	**1.58**	**72**	Pg	**Pg**	**06 15 22.5**	**-0.5**
BHD	**Baghdad**	**1.63**	**227**	*e*Pn	**Pb**	**06 15 22.0**	**-0.7**
BHD				*e*Sn	**Sb**	**06 15 43.0**	**-0.3**
BHD				AML	AML	06 15 51.0	
	comp=E,540nm,0.2s						
IBZA	**Bozab**	**1.70**	**87**	Pg	**Pb**	**06 15 23.2**	**-1.0**
SDS1	**Sardasht. Az.**	**1.78**	**352**	Pg	**Pb**	**06 15 25.7**	**+0.2**
IKFM	**Kafar-mosalman**	**1.90**	**116**	Pn	**Pb**	**06 15 26.8**	**-0.6**
IDOB	**Doab**	**2.06**	**106**	Pn	**Pb**	**06 15 29.1**	**-1.1**
HSAM	**Samen**	**2.32**	**93**	Pn	**Pb**	**06 15 32.7**	**-2.1**
MAHB	**Mahabad**	**2.38**	**358**	Pn	**Pb**	**06 15 33.8**	**-1.8**
RAFI	**Al-Rafai**	**2.67**	**174**	*e*Pn	**Pn**	**06 15 36.0**	**+0.3**
RAFI				*e*Sn	**Sn**	**06 16 09.0**	**+1.0**
HAGD	**Aghdareh**	**2.79**	**80**	Pn	**Pn**	**06 15 39.1**	**+1.6**
IAZR	**Azarshahr**	**3.29**	**2**	Pn	**Pn**	**06 15 46.1**	**+1.6**
IHRS	**Heris**	**4.05**	**14**	Pn	**Pn**	**06 15 56.7**	**+1.8**
IPIR	**Pirpir**	**4.57**	**110**	Pn	**Pn**	**06 16 03.0**	**+0.8**

IDC 27 06:34:46.3±2.8, 8°08S×119°32E, h0km, mb3.3/2, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=254.3km s-min=29.1km az=52.0
DJA 27 06:35:06.8±1.1, 8°S±14°×12°0E±°, h168km±14km, M3.1/5, MLv3.1/5
ISC 27 06:35:03.5±1.4, 7°9S±0°1×119°96E±0°10, h150km, n7, σ0°95/11, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.75**	**169**	P	**Pn**	**06 35 36.8**	**+1.0**
WSI				S	**Sn**	**06 36 01.2**	**+0.6**
WBSI	**Waikabubak, Su**	**1.78**	**198**	P	**Pn**	**06 35 36.4**	**+0.2**
WBSI				S	**Sn**	**06 36 00.1**	**-1.2**
PLAI	**Plampang**	**2.33**	**248**	P	**Pn**	**06 35 44.1**	**+1.5**
PLAI				S	**Sn**	**06 36 12.0**	**-0.7**
BASI	**Baing, Sumba**	**2.34**	**165**	P	**Pn**	**06 35 43.8**	**+1.0**
BASI				S	**Sn**	**06 36 12.6**	**-0.5**
WRA	**Warramunga Arr**	**18.34**	**132**	P	**P**	**06 39 06.4**	**-0.3**
	0.3nm,0.3s,baz=304,slow=12,SNR=14						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**20.57**	**141**	P	**P**	**06 39 30.4**	**-0.4**
	0.3nm,0.3s,baz=316,slow=9.6,SNR=8.2						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**63.96**	**332**	P	**P**	**06 45 20.2**	**-0.6**
	0.3nm,0.5s,baz=125,slow=7.2,SNR=1.9						
	0.3nm,0.5s						

NAO 27 06:36:17.0, 32°74N×47°47E, h33km, mb4.1
GII 27 06:36:23.3±0.5, 34°25N×45°55E, h10km, Mws4.8, confirmed
IDC 27 06:36:32.3±0.6, 34°40N×45°45E, h0km, mb4.4/23, mbtmp4.3/31, ML4.0/9, Error ellipse: s-maj=13.2km s-min=10.3km az=123.0
MOS 27 06:36:32.7±0.9, 34°45N×45°40E, h10km, mb4.8/20, Error ellipse: s-maj=8.9km s-min=4.9km az=101.5
DSN 27 06:36:33.4±0.5, 34°26N×45°64E, h15km, mb5.4/1, Error ellipse: s-maj=14.9km s-min=4.1km az=58.0
ISN 27 06:36:34.5±0.6, 34°37N×45°62E, h18km±4km, ML4.4
TEH 27 06:36:34.3, 34°39N×45°71E, h8km±24km, ML4.3
NEIC 27 06:36:34.1±1.9, 34°38N±0°03×45°49E±0°08, h10km±1km, mb4.6/45, Error ellipse: s-maj=11.3km s-min=5.7km az=82.0
OMAN 27 06:36:42.5±1.3, 33°45N×45°96E, h10km, mb4.5/27, ms3.5/13, Error ellipse: s-maj=12.6km s-min=9.4km az=30.0
ISC 27 06:36:33.3±0.9, 34°30N±0°03×45°62E±0°03, h12km±6km, n414, σ2°24/403, mb4.6/74, MS3.7/3, 25C-8D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**352**	Pg	**Pg**	**06 36 37.6**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.30**	**128**	Pg	**Pg**	**06 36 40.9**	**+1.4**
IDHR	**Dehrash**	**0.74**	**58**	Pg	**Pg**	**06 36 46.9**	**-1.0**
IGHG	**Ghaleghazi**	**0.78**	**88**	Pg	**Pb**	**06 36 48.9**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.18**	**91**	Pg	**Pg**	**06 36 55.6**	**-0.4**
IBDR	**Badra**	**1.22**	**168**	*e*Pg	**Pn**	**06 36 58.0**	**+1.8**
IBDR				*e*Sg	**Sb**	**06 37 15.0**	**+3.0**
IBDR				AML	AML	06 37 22.0	
	comp=E,8μm,0.6s						
IBDR				AML	AML	06 37 22.9	
	comp=N,7μm,0.7s						
ILIN	**Lien**	**1.27**	**61**	Pg	**Pb**	**06 36 56.9**	**-0.4**
BHD	**Baghdad**	**1.46**	**225**	*e*Pn	**Pn**	**06 37 02.0**	**+2.5**
BHD				*e*Sn	**Sn**	**06 37 23.0**	**+4.4**
BHD				AML	AML	06 37 31.3	
	comp=E,6μm,0.6s						
IKRK	**Kirkuk**	**1.52**	**316**	*e*Pn	**Pn**	**06 37 02.0**	**+1.6**
IKRK				*e*Sn	**Sg**	**06 37 22.5**	**+0.2**
IKRK				AML	AML	06 37 25.9	
	comp=N,13μm,0.3s						
IKRK				AML	AML	06 37 26.2	
	comp=E,12μm,0.5s						
SNQR	**Sonqor, Kerman**	**1.75**	**71**	Pg	**Pg**	**06 37 05.7**	**-1.1**
SDS1	**Sardasht. Az.**	**1.84**	**357**	Pg	**Pb**	**06 37 07.1**	**0.0**
IBZA	**Bozab**	**1.86**	**84**	Pg	**Pn**	**06 37 06.5**	**+1.2**
IKFM	**Kafar-mosalman**	**2.01**	**112**	Pn	**Pb**	**06 37 10.5**	**+0.7**
IDOB	**Doab**	**2.18**	**103**	Pn	**Pb**	**06 37 12.3**	**-0.7**
MAHB	**Mahabad**	**2.46**	**2**	Pn	**Pb**	**06 37 15.7**	**-1.9**
HSAM	**Samen**	**2.47**	**91**	Pn	**Pb**	**06 37 16.2**	**-1.7**
RAFI	**Al-Rafai**	**2.61**	**171**	*e*Pn	**Pn**	**06 37 18.5**	**+3.2**
RAFI				*e*Sn	**Sn**	**06 37 51.0**	**+4.1**
RAFI				AML	AML	06 38 08.1	
	comp=N,1μm,0.6s						
RAFI				AML	AML	06 38 14.5	
	comp=E,2μm,0.6s						
HAGD	**Aghdareh**	**2.95**	**79**	Pn	**Pb**	**06 37 23.3**	**-2.7**
CUKT	**Cukurca**	**3.36**	**331**	*e*P	**Pn**	**06 37 26.6**	**+0.7**
IAZR	**Azarshahr**	**3.38**	**5**	Pn	**Pn**	**06 37 28.7**	**+2.5**
QABG	**Abgarm-Qazvin**	**3.54**	**66**	Pn	**Pn**	**06 37 30.9**	**+2.5**
ISRB	**Sarab**	**3.88**	**25**	Pn	**Pn**	**06 37 35.3**	**+2.2**
ITBZ	**Tabriz**	**3.94**	**6**	Pn	**Pn**	**06 37 34.7**	**+0.8**
ISHB	**Shabestar**	**3.97**	**360**	Pn	**Pn**	**06 37 34.9**	**+0.5**
IHRS	**Heris**	**4.17**	**16**	Pn	**Pn**	**06 37 39.2**	**+2.2**
IMRD	**Marand**	**4.40**	**1**	Pn	**Pn**	**06 37 42.3**	**+2.1**
IQOM	**Qom**	**4.53**	**82**	Pn	**Pn**	**06 37 44.3**	**+2.3**
AKDM	**Akdamar-Van**	**4.55**	**333**	*e*P	**Pn**	**06 37 43.6**	**+1.4**
VANB	**Van**	**4.65**	**338**	*e*P	**Pn**	**06 37 44.6**	**+1.1**
IPIR	**Pirpir**	**4.69**	**109**	Pn	**Pn**	**06 37 45.6**	**+1.3**
JHBN	**Jahan bin**	**4.70**	**115**	Pn	**Pn**	**06 37 45.8**	**+1.3**
QAMS	**Qamsar**	**4.83**	**95**	Pn	**Pn**	**06 37 48.5**	**+2.4**
GAS1	**Astara - Iran**	**4.83**	**32**	Pn	**Pn**	**06 37 48.2**	**+2.3**
GRMI	**Germi**	**4.85**	**21**	Pn	**Pn**	**06 37 48.4**	**+2.0**
ZNGN	**Zangian**	**4.90**	**115**	Pn	**Pn**	**06 37 48.1**	**+1.0**
KLST	**Kelardasht - M**	**4.96**	**62**	Pn	**Pn**	**06 37 50.4**	**+2.5**
CLDR	**Caldiran**	**5.02**	**345**	*e*P	**Pn**	**06 37 52.1**	**+3.4**
ERCV	**ERCIS-VAN**	**5.05**	**339**	*e*P	**Pn**	**06 37 51.7**	**+2.6**
IKLH	**Kolahrood**	**5.05**	**100**	Pn	**Pn**	**06 37 51.4**	**+2.2**
IVRN	**Varamin**	**5.08**	**80**	Pn	**Pn**	**06 37 51.2**	**+1.8**
GURO	**Guroymak-BITLI**	**5.13**	**327**	*e*P	**Pn**	**06 37 51.4**	**+1.2**
MAZI	**Mazidag**	**5.25**	**308**	*e*P	**Pn**	**06 37 51.5**	**-0.3**
KRSH	**Karshahi**	**5.41**	**92**	Pn	**Pn**	**06 37 56.0**	**+1.9**
IDMV	**Damavand**	**5.42**	**75**	Pn	**Pn**	**06 37 56.1**	**+1.8**
MLAZ	**Malazgirt-MUS**	**5.42**	**334**	*e*P	**Pn**	**06 37 56.3**	**+2.1**
ISFB	**Sefidab**	**5.48**	**88**	Pn	**Pn**	**06 37 55.7**	**+0.8**
AGRB	**Hanur-Agry**	**5.67**	**339**	*e*P	**Pn**	**06 38 00.7**	**+3.1**
IGAR	**Gharneh**	**5.70**	**109**	Pn	**Pn**	**06 37 59.5**	**+1.5**
DYBB	**Diyarbakir**	**5.74**	**311**	*e*P	**Pn**	**06 37 58.6**	**+0.1**
IZEF	**Zefreh**	**5.77**	**102**	Pn	**Pn**	**06 38 00.4**	**+1.4**
TASB	**TASBURUN-IGDIR**	**5.78**	**349**	*e*P	**Pn**	**06 38 02.9**	**+3.9**
GNI	**Garni**	**5.88**	**353**	*e*P	**Pn**	**06 38 04.7**	**+4.3**
GNI	**Garni**	**5.88**	**353**	Pn	**Pn**	**06 38 00.2**	**-0.2**
GNI	**Garni**	**5.88**	**353**	P	**Pn**	**06 38 01.7**	**+1.3**
GNI	**Garni**	**5.88**	**353**	Pn	**Pn**	**06 38 01.4**	**+1.0**
	comp=E,2.2nm,0.3s,baz=143,slow=20,SNR=5.5						
GNI				Lg	Lg	06 39 35.6	
	baz=207,slow=14						
	comp=E,12nm,0.5s						
VRTB	**Varto-Mus**	**5.89**	**327**	*e*P	**Pn**	**06 38 02.1**	**+1.5**
IFIR	**Firoozkooh**	**6.01**	**75**	Pn	**Pn**	**06 38 04.5**	**+2.2**
BNGB	**Bingl**	**6.14**	**321**	*e*P	**Pn**	**06 38 04.9**	**+0.9**
IRAM	**Ramesheh**	**6.20**	**112**	Pn	**Pn**	**06 38 06.1**	**+1.2**
KARO	**Karliova-Bingo**	**6.20**	**325**	*e*P	**Pn**	**06 38 06.4**	**+1.5**
KOPR	**Koprukoy-ERZUR**	**6.42**	**333**	*e*P	**Pn**	**06 38 10.3**	**+2.3**
SVRC	**Sivrice-ELAZID**	**6.52**	**310**	*e*P	**Pn**	**06 38 09.7**	**+0.4**
YEDI	**Yedisu-Bingol**	**6.54**	**323**	*e*P	**Pn**	**06 38 11.0**	**+1.4**
KARS	**Kars**	**6.63**	**343**		**Pn**	**06 38 12.9**	**+2.2**
KARS	**Kars**	**6.63**	**343**	P	**Pn**	**06 38 13.0**	**+2.2**
SENK	**Senkaya-Erzuru**	**6.77**	**338**	*e*P	**Pn**	**06 38 15.6**	**+2.9**
KAZ2	**Kazeron-Fars-I**	**6.94**	**131**	Pn	**Pn**	**06 38 17.2**	**+2.2**
GAZ	**Gaziantep**	**7.41**	**295**	Pn	**Pn**	**06 38 24.0**	**+2.5**
ASF	**Jabal al Asfar**	**7.61**	**256**	Pn	**Pn**	**06 38 24.1**	**-0.1**
	comp=E,0.8nm,0.3s,baz=18,slow=0.2,SNR=8.1						
	comp=E,3.7nm,0.3s						
KSHT	**Keshet**	**8.29**	**264**	P	Pg	06 39 23.6	+12
KSHT	**Keshet**	**8.29**	**264**	S	**Sg**	**06 40 56.7**	**-2.5**
NATI	**Neve Ativ**	**8.29**	**266**	S	**Sg**	**06 40 56.4**	**-3.1**
NATI	**Neve Ativ**	**8.29**	**266**	P	Pg	06 39 22.7	+11
GEM	**Giv'at Ha'Em**	**8.37**	**265**	S	**Sg**	**06 40 57.3**	**-4.4**
GEM	**Giv'at Ha'Em**	**8.37**	**265**	P	Pg	06 39 23.3	+10
MMA0B	**Mount Meron ar**	**8.62**	**264**	P	Pg	06 39 28.0	+10
MMA0B	**Mount Meron ar**	**8.62**	**264**	S	Sg	06 41 04.0	-5.8
MMAI	**Mount Meron Ar**	**8.62**	**264**	Pn	**Pn**	**06 38 38.4**	**+0.4**
	comp=E,1.4nm,0.3s,baz=80,slow=16,SNR=2.2						
MMAI				Lg	Lg	06 40 59.2	
	comp=E,9.5nm,0.3s,baz=126,slow=27,SNR=4.1						
	comp=E,0.8nm,0.3s						
HMDT	**Nahal Hemdat**	**8.70**	**259**	S	Sg	06 41 05.8	-6.6
HMDT	**Nahal Hemdat**	**8.70**	**259**	P	Pg	06 39 28.0	+8.2
MMLI	**Mount Malkishu**	**8.73**	**261**	P	Pg	06 39 30.0	+10
MMLI	**Mount Malkishu**	**8.73**	**261**	S	Sg	06 41 07.0	-6.6
MAK	**Makhachkala**	**8.77**	**9**	*e*P	Pn	06 38 34.8	-5.1
MAK				*e*S	**Sn**	**06 40 12.2**	**-6.5**
MAK				pmax	pmax		
	comp=Z,232nm,1.1s						
MAK				MLR	MLR		
	comp=Z,296nm,14.0s						
HNTI	**Hanita**	**8.79**	**265**	P	Pg	06 39 29.5	+7.8
HNTI	**Hanita**	**8.79**	**265**	S	Sg	06 41 08.7	-6.7
UJAP	**Al Uja**	**8.84**	**257**	P	Pg	06 39 30.3	+7.9
UJAP	**Al Uja**	**8.84**	**257**	S	Sg	06 41 08.7	-8.1
BLGI	**Bet Lehem HaGe**	**8.85**	**263**	P	Pg	06 39 30.0	+7.3
BLGI	**Bet Lehem HaGe**	**8.85**	**263**	S	Sg	06 41 09.6	-7.7
GHAJ	**Ghor Haditha**	**8.98**	**253**	P	Pn	06 39 32.4	+50
GHAJ	**Ghor Haditha**	**8.98**	**253**	S	Sn	06 41 12.5	+49
SALP	**Salfit**	**9.02**	**259**	P	Pn	06 39 33.3	+50
SALP	**Salfit**	**9.02**	**259**	S	Sn	06 41 14.3	+49
OFRI	**`Ofer**	**9.04**	**262**	P	Pn	06 39 33.3	+49
OFRI	**`Ofer**	**9.04**	**262**	S	Sn	06 41 14.5	+49
SLTI	**Sal'it**	**9.10**	**260**	P	Pn	06 39 33.8	+49
SLTI	**Sal'it**	**9.10**	**260**	S	Sn	06 41 15.4	+49
MSBI	**Mazada**	**9.14**	**254**	P	Pn	06 39 33.5	+49
MSBI	**Mazada**	**9.14**	**254**	S	Sn	06 41 16.6	+49
TPRV	**Parvadeh(Tabas**	**9.31**	**95**	Pn	**Pn**	**06 38 49.4**	**+1.9**
YTIR	**Yattir**	**9.31**	**255**	P	Pn	06 39 37.6	+50
YTIR	**Yattir**	**9.31**	**255**	S	Sn	06 41 21.0	+49
AMAZ	**Amatzia**	**9.41**	**256**	P	Pn	06 39 38.8	+50
AMAZ	**Amatzia**	**9.41**	**256**	S	Sn	06 41 23.9	+49
TAPT	**Tabas- Tapeh t**	**9.53**	**83**	Pn	**Pn**	**06 38 53.1**	**+2.5**
TKDS	**Koohdasht(Taba**	**9.58**	**91**	Pn	**Pn**	**06 38 53.0**	**+1.8**
ZFRI	**Zfri**	**9.58**	**250**	P	Pn	06 39 40.8	+50
ZFRI	**Zfri**	**9.58**	**250**	S	Sn	06 41 28.0	+49
KBZ	**Khabaz**	**9.65**	**348**	Pn	**Pn**	**06 38 56.4**	**+4.5**
	comp=Z,0.2nm,0.3s,baz=172,slow=9.3,SNR=19						
SHA1	**Shidzhatmaz**	**9.70**	**347**	*i* P	**Pn**	**06 38 51.8**	**-1.1**
PRNI	**Paran**	**9.81**	**249**	P	Pn	06 39 43.2	+49
PRNI	**Paran**	**9.81**	**249**	S	Sn	06 41 32.9	+49
KVAR	**Kislovodsk Arr**	**9.90**	**348**	Pn	**Pn**	**06 38 59.0**	**+3.4**
	baz=216,slow=8.2						
	comp=Z,11nm,0.8s						
KIV	**Kislovodsk**	**9.90**	**348**	Pn	**Pn**	**06 38 57.4**	**+1.8**
KIV	**Kislovodsk**	**9.90**	**348**	*e*P	**Pn**	**06 38 54.8**	**-0.8**
KIV				pmax	pmax		
	comp=Z,39nm,1.0s						
KIV	**Kislovodsk**	**9.90**	**348**	P	**Pn**	**06 39 00.0**	**+4.4**
	comp=Z,43nm,1.2s						
HRFI	**Mount Harif**	**9.93**	**248**	P	Pn	06 39 44.3	+48
HRFI	**Mount Harif**	**9.93**	**248**	S	Sn	06 41 36.2	+49
KZIT	**Kziot**	**10.05**	**253**	P	Pn	06 39 47.3	+50
KZIT	**Kziot**	**10.05**	**253**	S	Sn	06 41 39.4	+49
KRMI	**Paran Flat**	**10.13**	**249**	P	Pn	06 39 48.7	+50
KRMI	**Paran Flat**	**10.13**	**249**	S	Sn	06 41 41.4	+49
MBRI	**Mt Berech**	**10.14**	**247**	P	Pn	06 39 47.8	+49
MBRI	**Mt Berech**	**10.14**	**247**	S	Sn	06 41 42.0	+49
EIL	**Elat**	**10.17**	**246**	Pn	**Pn**	**06 38 58.9**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=12,slow=5.8,SNR=2.3						
EIL				Lg	Lg	06 41 56.7	
	comp=Z,1.1nm,0.3s,baz=6.1,slow=19,SNR=2.0						
	comp=Z,1.8nm,0.4s						
EIL	**Elat**	**10.17**	**246**	P	Pn	06 39 48.7	+50
EIL	**Elat**	**10.17**	**246**	S	Sn	06 41 42.6	+49
SOC	**Sochi**	**10.34**	**335**	*e*P	Pn	06 38 56.4	-5.1
SOC				*e*		06 40 50.4	
SOC				MLR	MLR		
	comp=Z,674nm,19.0s						
SMRA	**Abu-Samra**	**10.54**	**153**	P	**Pn**	**06 39 04.0**	**-0.3**
TRNA	**Turayna**	**10.70**	**152**	P	**Pn**	**06 39 05.8**	**-0.7**
RAYN	**Ar Rayn**	**10.74**	**181**	Pn	**Pn**	**06 39 06.6**	**-0.5**
RAYN	**Ar Rayn**	**10.74**	**181**	*i* P	**Pn**	**06 39 07.1**	**0.0**
	SNR=14						
RAYN	**Ar Rayn**	**10.74**	**181**	P	**Pn**	**06 39 06.2**	**-0.9**
RAYN				S	Sn	06 40 59.2	-8.2
RAYN	**Ar Rayn**	**10.74**	**181**	P	**Pn**	**06 39 06.6**	**-0.5**
LABN	**Labinsk**	**10.99**	**341**	*e*P	**Pn**	**06 39 06.3**	**-4.1**
LABN				*e*S	**Sn**	**06 41 07.8**	**-5.5**
LABN				pmax	pmax		
	comp=Z,32nm,0.6s						
BR131	**Keskin Array S**	**11.00**	**303**	*i* P	Pn	06 39 07.2	-3.5
BRTR	**Keskin Array B**	**11.00**	**303**	Pn	**Pn**	**06 39 09.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=126,slow=11,SNR=5.1						
ERBR	**Yeremizino-Bor**	**12.05**	**343**	*e*P	**Pn**	**06 39 20.8**	**-4.1**
ERBR				*e*S	**Sn**	**06 41 34.0**	**-5.3**
ERBR				pmax	pmax		
	comp=Z,11nm,0.5s						
ANN	**Anapa**	**12.23**	**331**	*e*P	**Pn**	**06 39 25.8**	**-1.5**
ANN				*e*S	**Sn**	**06 41 42.4**	**-1.2

WBK Wadi Bani Khal 16.52 131 P Pn 06 40 23.3 -1.7
WBK S Sn 06 43 19.3 -9.0
TPGR Topolog 16.90 314 ⇑P **Pn 06 40 24.9 -4.8**
IDI Anoyia 17.06 279 Pn
IDI Anoyia 17.06 279 Pn **Pn 06 40 33.1 +1.3**
comp=Z,1.2nm,0.3s,baz=61,slow=11,SNR=6.1
VRH Novokhopyorsk 17.13 352 *e*P **Pn 06 40 31.4 -1.0**
VRH pmax pmax
comp=Z,21nm,0.6s
JLN Jalan Bani Buh 17.13 131 P Pn 06 40 30.8 -1.9
JLN P Pn 06 40 30.8 -1.9
JLN S Sn 06 43 33.3 -10
JLN S Sn 06 43 33.3 -10
MHTO MHTO 17.17 137 P **Pn 06 40 30.7 -2.5**
SNR=10
MHTO P **Pn 06 40 30.7 -2.5**
SNR=10
MHTO S Sn 06 43 34.2 -10
MHTO S Sn 06 43 34.2 -10
CFR Carcaliu 17.25 314 ⇑P **Pn 06 40 30.4 -3.6**
RDO Rodhopi 17.28 299 Pn 06 40 36.6 +2.2
VORD Divnogorie 17.28 346 *e*P **Pn 06 40 33.8 -0.5**
VORD pmax pmax
comp=Z,20nm,0.7s
DOK Doka 17.37 152 P **Pn 06 40 32.9 -2.7**
SNR=13
DOK P **Pn 06 40 32.9 -2.7**
SNR=13
DOK S Sn 06 43 36.8 -12
DOK S Sn 06 43 36.8 -12
VSR Storozhevoye 17.54 346 *e*P **Pn 06 40 37.6 0.0**
VSR pmax pmax
comp=Z,30nm,0.8s
WHFO Wadi Hawf 17.87 154 P **Pn 06 40 38.9 -3.0**
SNR=10
WHFO P **Pn 06 40 38.9 -3.0**
SNR=10
WHFO S Sn 06 43 47.9 -13
WHFO S Sn 06 43 47.9 -13
VORR Voronezh 17.97 347 *e*P **Pn 06 40 42.4 -0.5**
VORR pmax pmax
comp=Z,81nm,0.4s
BELG Belogornoye 18.14 4 P **Pn 06 40 43.5 -1.5**
comp=Z,1.8nm,0.3s,baz=185,slow=0.3,SNR=11
BELG S **Sn 06 44 08.7 +1.5**
comp=Z,3.7nm,0.4s,baz=90,slow=20,SNR=2.0
comp=Z,24nm,0.8s
ABTO Aybut 18.23 156 P **Pn 06 40 42.6 -3.7**
ABTO S Sn 06 44 00.5 -9.3
ABKAR Akbulak array 18.32 31 P **Pn 06 40 47.4 +0.2**
ABKAR Akbulak array 18.32 31 P **P 06 40 48.1 +0.9**
ABKAR IAmb IAmb 06 40 51.2
comp=Z,5.0nm,0.8s
RBK Rabkut 18.41 153 P **P 06 40 46.7 -1.8**
RBK P **P 06 40 46.7 -1.8**
RBK S Sn 06 44 02.9 -11
RBK S Sn 06 44 02.9 -11
VRI Vrincioaia 18.45 314 ⇑P **P 06 40 45.4 -3.4**
PLOR Plostina 18.49 314 ⇑P **P 06 40 47.0 -2.3**
AKTO Aktyubinsk 18.50 26 P **Pn 06 40 49.2 -0.2**
comp=Z,1.2nm,0.3s,baz=206,slow=9.8,SNR=24
comp=Z,16nm,0.9s
DMTO DMTO 18.50 151 P **P 06 40 46.6 -3.0**
SNR=14
MLR Muntele Rosu 18.73 312 P **P 06 40 52.2 +0.2**
comp=Z,0.4nm,0.3s,baz=90,slow=9.1,SNR=2.0
comp=Z,1.4nm,0.6s
MLR Muntele Rosu 18.73 312 ⇓P **P 06 40 50.9 -1.1**
MLR Muntele Rosu 18.73 312 P **Pn 06 40 54.9 +2.5**
COVR Voineasa-Covas 18.75 314 ⇑P **P 06 40 50.1 -2.0**
TESR Tescani 18.85 316 ⇓P **P 06 40 51.0 -2.1**
TESR Tescani 18.85 316 P **P 06 40 53.3 +0.1**
comp=Z,18nm,0.8s
ONER Baraj Valea Uz 18.90 315 ⇑P **P 06 40 51.9 -1.8**
SORM Soroca 18.91 322 ⇑P **P 06 40 49.7 -4.0**
SORM Soroca 18.91 322 P **P 06 40 53.1 -0.6**
comp=Z,22nm,0.8s
LPSR Galich'ya Gora 18.91 347 *e*P **P 06 40 52.6 -1.1**
LPSR pmax pmax
comp=Z,177nm,0.9s
TURR Turia 18.97 314 ⇑P **P 06 40 53.2 -1.3**
DOPR Dopca 19.31 313 ⇓P **P 06 40 57.9 -0.3**
ARR Arges 19.48 311 ⇑P **P 06 41 00.7 +0.5**
NDNU Novodnistrovsk 19.70 322 P **P 06 41 01.7 -0.8**
LOT Lotru 20.06 310 ⇓P **P 06 41 07.4 +0.8**
KMPD K-Podol'skiy 20.15 321 P **P 06 41 06.2 -1.2**
comp=Z,7μm,0.9s,comp=Z,62μm
AK07 Malin Array Si 20.18 328 P **P 06 41 06.7 -1.0**
AK09 Malin Array Si 20.20 329 P **P 06 41 06.8 -1.0**
FNA Florina 20.25 296 P **P 06 41 09.4 +0.8**
FNA Florina 20.25 296 P **P 06 41 09.4 +0.8**
FNA pmax pmax
comp=Z,13nm,0.8s
AKASG Malin Array Be 20.29 329 P **P 06 41 08.5 -0.3**
AKASG IAmb IAmb 06 41 09.2
comp=Z,21nm,0.8s
AKASG Malin Array Be 20.29 329 P **P 06 41 08.1 -0.7**
comp=Z,13nm,0.8s,baz=142,slow=9.7,SNR=74
comp=Z,13nm,0.8s
AKASG Malin Array Be 20.29 329 P **P 06 41 08.5 -0.3**
AKASG pmax pmax
comp=Z,21nm,0.9s
AKBB Malin Array Si 20.29 329 P **P 06 41 08.6 -0.2**
AKBB IAmb IAmb 06 41 11.1
comp=Z,26nm,0.8s
AKBB Malin Array Si 20.29 329 P **P 06 41 08.6 -0.2**
AKBB pmax pmax
comp=Z,26nm,0.8s
AKBB Malin Array Si 20.29 329 P **P 06 41 07.8 -1.0**
KIEV Kiev 20.29 329 P **P 06 41 08.6 -0.2**
KIEV IAmb IAmb 06 41 11.1
comp=Z,23nm,0.8s
KIEV Kiev 20.29 329 P **P 06 41 08.1 -0.7**
KIEV Kiev 20.29 329 ⇑P **P 06 41 05.6 -3.2**
KIEV Kiev 20.29 329 P **P 06 41 08.6 -0.2**
KIEV pmax pmax
comp=Z,23nm,0.8s
KIEV Kiev 20.29 329 P **P 06 41 07.9 -0.9**
comp=Z,148nm,0.9s
BUR08 Bucovina Ar. S 20.30 317 P **P 06 41 07.7 -1.5**
GAR Garm 20.34 70 P Pn 06 41 11.1 -0.5
LUBAR Lubar, Ukraine 20.39 325 P **P 06 41 10.1 +0.1**
GZR Gura Zlata 20.67 309 ⇑P **P 06 41 13.9 +0.8**
MI29 MI29, Kamyanyy 20.69 326 P **P 06 41 12.5 -0.7**
comp=Z,256nm,0.9s
HERR Herculane 20.70 308 ⇑P **P 06 41 15.2 +1.9**
BOVS Bovan 20.74 304 ⇑P Pn 06 41 17.0 +0.8
MI30 MI30,Zelenitsa 20.77 328 P **P 06 41 13.0 -1.1**
comp=Z,79nm,0.7s
BTK Batken 20.85 67 P Pn 06 41 18.8 +1.2
BTK Batken 20.85 67 P Pn 06 41 18.8 +1.2
BTK pmax pmax
comp=Z,5.0nm,0.9s
MARR Marisel-Cluj 21.02 313 ⇑P **P 06 41 17.6 +0.7**
MDVR Moldovita 21.13 307 ⇓P **P 06 41 19.4 +1.4**
MI28 Mi28,Pidlybu 21.14 327 P **P 06 41 17.0 -1.0**
comp=Z,898nm,0.8s
KKAR Karatay Array 21.26 58 P **P 06 41 23.1 +3.6**
KKAR Karatay Array 21.26 58 P **P 06 41 21.1 +1.7**
KKAR Karatay Array 21.26 58 P **P 06 41 23.1 +3.6**
KKAR pmax pmax
comp=Z,4.0nm,1.0s
DRGR 21.33 313 ⇑P **P 06 41 21.7 +1.5**
DRGR 21.33 313 ⇑P **P 06 41 21.7 +1.5**
BZS Buzias 21.51 309 ⇑P **P 06 41 25.1 +3.0**
BZS Buzias 21.51 309 ⇑P **P 06 41 25.1 +3.0**
MEZ Mezhgor'ye 21.72 317 P **P 06 41 23.7 -0.7**
OBN Obninsk 21.74 346 P **P 06 41 22.8 -1.7**
comp=Z,23nm,0.4s,baz=159,slow=17,SNR=1.6
comp=Z,23nm,0.4s
OBN Obninsk 21.74 346 ⇑P **P 06 41 23.6 -0.8**
OBN Obninsk 21.74 346 *e*P **P 06 41 22.3 -2.1**
OBN *i* PPP PPP 06 41 51.8
OBN *i* 06 45 19.7
OBN pmax pmax
comp=Z,23nm,0.6s
OBN MLR MLR
comp=Z,152nm,15.0s
OBN Obninsk 21.74 346 P **P 06 41 22.7 -1.7**
comp=Z,43nm,0.6s
SIRR Siria 21.75 310 ⇓P **P 06 41 28.7 +4.1**
KORU Korolevo 21.75 316 P **P 06 41 25.0 +0.4**
MORS Morshin 21.86 319 P **P 06 41 23.4 -2.4**
BRIU Brid 21.91 317 P **P 06 41 27.0 +0.7**

MOS Moscow 22.14 348 *e*P **P 06 41 29.8 +1.1**
MOS pmax pmax
comp=Z,66nm,1.1s
RNPP5 Staryi Chortor 22.16 326 P **P 06 41 27.8 -1.2**
MUKU Mukachevo 22.16 317 P **P 06 41 29.1 +0.1**
SHIU Shidnytsya 22.20 319 P **P 06 41 29.6 +0.1**
RNPP8 Varash 22.24 326 P **P 06 41 28.9 -1.0**
RNPP9 Sopachiv 22.28 326 P **P 06 41 29.3 -0.9**
HOLU Holmets 22.37 316 P **P 06 41 31.9 +0.7**
KOLS Kolonicke sedl 22.64 317 *e*P **P 06 41 35.7 +1.5**
KOLS Kolonicke sedl 22.64 317 *e*P **P 06 41 35.7 +1.5**
KWP Kalwaria Pacla 22.78 319 P **P 06 41 37.4 +1.8**
STHS Stebnicka Huta 23.47 317 *e*P **P 06 41 45.2 +2.5**
STHS *e* 06 41 52.9
STHS Stebnicka Huta 23.47 317 *e*P **P 06 41 45.2 +2.5**
STHS Stebnicka Huta 23.47 317 *e*PN P 06 41 52.9 +10
MORH Mrgy, Hungar 23.66 308 P **P 06 41 44.4 -0.1**
comp=Z,13nm,0.8s
MNK Minsk 23.71 334 *i* P **P 06 41 44.0 -1.1**
comp=E,35nm,0.8s
MNK *i* P **P 06 41 44.0 -1.1**
comp=N,39nm,0.9s
MNK *i* P **P 06 41 44.0 -1.1**
comp=Z,68nm,0.9s,baz=141
MNK *i* PP **PnPn 06 42 11.3 -1.1**
MNK *i* PPP PPP 06 42 18.8
MNK *i* S **S 06 46 00.0 +0.3**
MNK *i* SS **SnSn 06 46 35.1 -2.4**
MNK *i* SSS SSS 06 46 48.6
MNK *i* LQ LQ 06 48 35.2
MNK *i* LR LR 06 49 59.3
MNK *i* LRM MLR 06 50 46.7
comp=E,360nm,21.0s
MNK *i* LRM MLR 06 51 11.9
comp=Z,146nm,17.9s
MNK *i* LRM MLR 06 51 15.8
comp=N,162nm,18.9s
MNK Minsk 23.71 334 *i* P **P 06 41 43.9 -1.1**
MNK *i* PPP PPP 06 42 18.8
MNK *i* S **S 06 46 00.0 +0.3**
MNK *i* SS **SnSn 06 46 35.1 -2.4**
MNK pmax pmax
comp=E,35nm,0.8s
MNK pmax pmax
comp=N,39nm,0.9s
MNK pmax pmax
comp=Z,68nm,0.9s
MNK MLR MLR
comp=E,360nm,21.0s
MNK MLR MLR
comp=Z,146nm,18.0s
MNK MLR MLR
comp=N,162nm,19.0s
ARTI Arti 23.76 18 P **P 06 41 44.5 -1.0**
ARTI IAmb IAmb 06 41 53.4
comp=Z,14nm,1.2s
ARTI Arti 23.76 18 P **P 06 41 44.9 -0.5**
ARTI 06 42 12.2
ARTI S **S 06 46 02.1 +1.7**
ARTI SS **SnSn 06 46 38.0 -0.6**
KIRV Kirov 24.42 5*c*e**P P 06 41 50.6 -0.9**
NACGM Naroch 24.43 333 *e*P **P 06 41 51.4 -0.3**
comp=E,2μm,1.0s
VYHS Vyhne 24.43 314 *e*P **P 06 41 52.8 +1.0**
VYHS Vyhne 24.43 314 *e*P **P 06 41 52.8 +1.0**
OJC Ojcow 24.69 318 P **P 06 41 52.6 -1.5**
OJC IAmb IAmb 06 41 56.4
comp=Z,9.4nm,0.7s
OJC Ojcow 24.69 318 P **P 06 41 52.6 -1.5**
OJC pmax pmax
comp=Z,9.0nm,0.7s
OJC Ojcow 24.69 318 P **P 06 41 54.1 0.0**
comp=Z,16nm,1.5s
MPLH Magyarpolny 24.71 310 P **P 06 41 54.3 0.0**
comp=Z,41nm,0.8s
SUW Suwalki 25.25 328 P **P 06 41 58.2 -0.9**
SUW Suwalki 25.25 328 P **P 06 41 58.2 -0.9**
SUW pmax pmax
comp=Z,148nm,0.9s
JAVC Velka Javorina 25.29 314 *e*P **P 06 42 00.6 +1.0**
MODS Modra-Piesok 25.33 312 *e*P **P 06 42 00.0 +0.1**
MODS Modra-Piesok 25.33 312 *e*P **P 06 42 00.0 +0.1**
MAUC Maruska 25.41 315 *e*P **P 06 42 01.3 +0.6**
BRVK Borovoye 25.66 36 P **P 06 42 03.1 +0.2**
BRVK Borovoye 25.66 36*c*e**P P 06 42 05.1 +2.2**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
RONA Rosalia, Austr 25.69 310 *i* P **P 06 42 03.4 +0.2**
comp=Z,9.8nm,0.9s
BVAR Borovoye Array 25.69 36 P **P 06 42 04.0 +0.9**
comp=Z,3.8nm,0.8s,baz=244,slow=6.3,SNR=11
comp=Z,3.8nm,0.8s
MORC Moravsky Berou 25.76 315 P **P 06 42 02.9 -0.9**
MORC IAmb IAmb 06 42 05.0
comp=Z,10nm,0.8s
MORC Moravsky Berou 25.76 315 *e*P **P 06 42 03.9 0.0**
MORC Moravsky Berou 25.76 315 P **P 06 42 02.9 -0.9**
MORC pmax pmax
comp=Z,10.0nm,0.8s
ARSA Arzberg 26.03 309 *i* P **P 06 42 06.8 +0.5**
comp=Z,5.1nm,0.8s
CONA Conrad Observa 26.04 310 *e*P **P 06 42 06.8 +0.3**
comp=Z,11nm,1.5s
VRAC Vranov 26.12 314 *e*P **P 06 42 07.6 +0.5**
KRUC Moravsky 26.14 313 *e*P **P 06 42 07.3 +0.1**
DPC Dobruska-Polom 26.72 316 *e*P **P 06 42 12.3 -0.2**
DPC Dobruska-Polom 26.72 316 *e*P **P 06 42 12.3 -0.2**
DPC Dobruska-Polom 26.72 316 P **P 06 42 12.1 -0.4**
comp=Z,8.4nm,0.8s
KLMR Klimovskoe 26.86 353 *e*P **P 06 42 10.5 -3.1**
KLMR pmax pmax
comp=Z,16nm,1.1s
KSP Ksiaz 26.95 317 P **P 06 42 14.2 -0.4**
comp=Z,15nm,0.9s
CHVC Chvalec 26.97 316 *e*P **P 06 42 14.4 -0.4**
CHVC Chvalec 26.97 316 *e*P **P 06 42 14.4 -0.4**
MOA Molln 27.03 310 *i* P **P 06 42 15.7 +0.4**
comp=Z,14nm,1.0s
CKRC Cesky Krumlov 27.32 312 *e*P **P 06 42 20.7 +2.7**
ZVC Zvikov 27.61 313 *e*P **P 06 42 20.7 +0.1**
GERES GERESS Array B 27.71 311 P **P 06 42 20.5 -1.0**
comp=Z,0.4nm,0.3s,baz=74,slow=3.5,SNR=2.7
comp=Z,0.4nm,0.3s
ABTA Abfaltersbach 27.86 306 *i* P **P 06 42 23.1 +0.2**
comp=Z,7.9nm,1.2s
KHC Kasperske Hory 27.88 312 *e*P **P 06 42 30.0 +7.0**
KHC Kasperske Hory 27.88 312 *e*P **P 06 42 30.0 +7.0**
WTTA Wattenberg 28.57 307 *i* P **P 06 42 28.4 -0.8**
comp=Z,4.3nm,0.7s
SQTA Sankt Quirin 28.84 307 *i* P **P 06 42 31.0 -0.7**
comp=Z,7.8nm,0.7s
KURBB Kurchatov Arra 28.94 46 P **P 06 42 33.3 +1.0**
comp=Z,2.3nm,0.7s,baz=253,slow=8.9,SNR=9.4
KURBB ScP **ScP 06 49 21.8 -0.5**
comp=Z,1.2nm,0.9s,baz=255,slow=4.1,SNR=6.5
comp=Z,2.3nm,0.7s
MOTA Moosalm 28.94 307 *i* P **P 06 42 31.7 -0.8**
comp=Z,8.6nm,0.8s
KURK Kurchatov 29.02 46 P **P 06 42 35.4 +2.3**
KURK IAmb IAmb 06 42 40.5
comp=Z,9.2nm,1.4s
KURK Kurchatov 29.02 46 P **P 06 42 35.4 +2.3**
KURK pmax pmax
comp=Z,9.0nm,1.5s
DAVA Damuels 29.73 307 *i* P **P 06 42 39.1 -0.5**
comp=Z,6.4nm,0.5s
BSD Bornholm Skovb 29.76 324 *i* P **P 06 42 38.6 -1.0**
BSD IAmb IAmb 06 42 51.7
comp=Z,28nm,1.2s
FINES FINESS Array B 29.91 341 P **P 06 42 39.9 -0.9**
comp=Z,4.8nm,0.5s,baz=146,slow=10,SNR=49
comp=Z,4.8nm,0.5s
FINES FINESS Array B 29.91 341 *i* P **P 06 42 40.2 -0.5**
FINES pmax pmax
comp=Z,4.0nm,0.4s
BLEU Blekinge 29.99 326 *i* P **P 06 42 40.5 -1.0**
MKAR Makanchi Array 30.25 55 P **P 06 42 45.0 +0.9**
comp=Z,0.7nm,0.6s,baz=250,slow=10,SNR=8.1
comp=Z,0.7nm,0.6s
LUNU Lund 30.75 324 *i* P **P 06 42 47.9 -0.4**
DEL Delary 30.98 325 *i* P **P 06 42 49.0 -1.3**
BNI Bardonecchia 31.56 302 P **P 06 42 54.7 -1.0**
BNI Bardonecchia 31.56 302 P **P 06 42 54.7 -1.0**
BNI pmax pmax
comp=Z,25nm,0.9s

FABU Falkenberg 31.80 326 *i* P **P 06 42 56.6 -0.9**
ONAU Onsala 32.38 326 *i* P **P 06 43 01.7 -0.9**
TJOU Tjoern 32.84 327 *i* P **P 06 43 04.6 -2.0**
HFS Hagfors 33.14 331 P **P 06 43 09.0 -0.3**
comp=Z,20nm,0.5s,baz=128,slow=9.6,SNR=54
comp=Z,20nm,0.5s
HFS Hagfors 33.14 331 P **P 06 43 09.0 -0.3**
MUD Monsted U'grnd 33.25 323 *i* P **P 06 43 10.0 -0.2**
MUD IAmb IAmb 06 43 11.7
comp=Z,22nm,0.7s
STRU Stroemstad 33.57 328 *i* P **P 06 43 10.9 -2.1**
WMQ Urumqi 33.71 61 *e*P **P 06 43 16.8 +2.3**
WMQ pmax pmax
comp=Z,13nm,0.7s
ZALV Zalesovo Beam 33.73 42 P **P 06 43 14.5 +0.1**
ZALV Zalesovo Beam 33.73 42 P **P 06 43 14.7 +0.3**
comp=Z,0.9nm,0.3s,baz=270,slow=8.6,SNR=7.4
comp=Z,0.9nm,0.3s
ZALV Zalesovo Beam 33.73 42 *i* P **P 06 43 18.2 +3.8**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
OSL Oslo 34.26 329 *e*P **P 06 43 17.6 -1.3**
NC602 NORSAR Array S 34.36 331 *e*P **P 06 43 20.4 +0.5**
HOMB Homborsund 34.40 326 *i* P **P 06 43 18.4 -1.7**
NC405 NORSAR Array S 34.51 331 P **P 06 43 19.3 -1.8**
NC405 IAmb IAmb 06 43 21.2
comp=Z,8.7nm,0.8s
KONO Kongsberg 34.59 328 *e*P **P 06 43 21.2 -0.6**
KONO Kongsberg 34.59 328*ce*P **P 06 43 21.8 0.0**
KONO pmax pmax
comp=Z,9.0nm,1.0s
NB2 NORSAR Subarra 34.67 331 P **P 06 43 21.0 -1.5**
comp=Z,2.0nm,0.6s,baz=124,slow=8.6
NB2 NORSAR Subarra 34.67 331 P **P 06 43 21.0 -1.5**
baz=124,slow=8.6
NOA NORSAR Array B 34.67 331 P **P 06 43 21.3 -1.3**
comp=Z,3.1nm,0.7s,baz=125,slow=8.7,SNR=14
comp=Z,3.1nm,0.7s
SKAR Skarslia 35.67 329 *e*P **P 06 43 31.9 +0.6**
BLS5 Blasjo 35.88 327 *e*P **P 06 43 33.7 +0.8**
ODD1 Odda 36.02 327 *e*P **P 06 43 34.9 +0.7**
BER Bergen 36.82 328 *e*P **P 06 43 41.2 +0.3**
MOR8 Moi Rana 36.84 339 *e*P **P 06 43 40.5 -0.6**
ASK Askoy 36.92 328 *e*P **P 06 43 42.2 +0.4**
KTK1 Kautokeino 36.96 347 *e*P **P 06 43 41.7 -0.4**
AKN Aaknes 36.98 331 *e*P **P 06 43 43.5 +1.2**
ARA0 ARCESS Array S 37.01 348 *e*P **P 06 43 42.3 -0.2**
ARCES ARCESS Array B 37.01 348 P **P 06 43 42.0 -0.4**
comp=Z,5.8nm,0.5s,baz=172,slow=7.7,SNR=93
comp=Z,5.8nm,0.5s
ARCES ARCESS Array B 37.01 348 P **P 06 43 42.1 -0.4**
ARCES pmax pmax
comp=Z,18nm,1.0s
STOK Stokkvaagen 37.37 339 *e*P **P 06 43 45.2 -0.2**
KONS Konsvik 37.45 339 *e*P **P 06 43 46.3 +0.1**
JETT Jettan, Norway 37.97 346 *e*P **P 06 43 50.5 -0.2**
TRO Tromso 38.33 345 *e*P **P 06 43 53.3 -0.3**
EKA Eskdalemuir Ar 39.46 317 P **P 06 44 02.4 -0.8**
comp=Z,3.7nm,0.5s,baz=104,slow=8.8,SNR=30
comp=Z,3.7nm,0.5s
ESDC Sonseca Array 39.56 293 P **P 06 44 04.5 +0.1**
comp=Z,3.2nm,0.9s,baz=67,slow=8.9,SNR=13
comp=Z,3.2nm,0.9s
MVO Moncorvo 41.67 295 *e*P **P 06 44 21.9 +0.1**
NRIK Noril'sk 42.01 21 P **P 06 44 24.3 +0.1**
NRIK IAmb IAmb 06 44 26.0
comp=Z,10nm,1.3s
NRIK Noril'sk 42.01 21 P **P 06 44 25.0 +0.9**
comp=Z,2.8nm,0.6s,baz=236,slow=4.8,SNR=5.4
comp=Z,2.8nm,0.6s
NRIK Noril'sk 42.01 21 P **P 06 44 25.0 +0.9**
PVRL Vila Real 42.16 296 *e*P **P 06 44 26.2 +0.4**
PBAR Barrancos 42.18 291 *e*P **P 06 44 26.4 +0.4**
PCBR Castelo Branco 42.21 294 *e*P **P 06 44 26.6 +0.4**
PVIS Viseu 42.38 295 *e*P **P 06 44 28.0 +0.4**
PESTR Estremoz 42.47 292 *e*P **P 06 44 28.2 -0.2**
TORD Torodi Ar. Bea 44.96 253 P **P 06 44 49.1 +0.5**
comp=Z,1.5nm,0.8s,baz=46,slow=8.6,SNR=8.8
TORD PcP **PcP 06 46 30.4 +0.6**
comp=Z,0.9nm,0.8s,baz=22,slow=4.2,SNR=3.5
comp=Z,1.5nm,0.8s
SPITS Spitsbergen Ar 45.74 352 P **P 06 44 54.1 +0.1**
comp=Z,5.5nm,0.4s,baz=142,slow=11,SNR=32
comp=Z,5.5nm,0.4s
ULN Ulaanbaatar 47.05 54 *i* P **P 06 45 04.5 -0.4**
ULN pmax pmax
comp=Z,1.0nm,0.5s
PZH PanZhiHua 48.51 83 P **P 06 45 17.8 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
CMAR Chiang Mai Arr 49.77 94 P **P 06 45 28.2 +2.2**
comp=Z,3.6nm,0.3s,baz=299,slow=8.1,SNR=4.5
comp=Z,3.6nm,0.3s
CMAR Chiang Mai Arr 49.77 94 *i* P **P 06 45 29.7 +3.7**
CMAR pmax pmax
comp=Z,3.0nm,0.3s
HHC Hu-ho-hao-te 51.57 62 *e*P **P 06 45 39.8 +0.3**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,120nm,4.9s
XAN Xi'an 51.58 71 P **P 06 45 43.0 +3.4**
XAN pmax pmax
comp=Z,8.0nm,0.9s
XAN LR LR
comp=N,550nm,14.3s
XAN LR LR
comp=E,380nm,15.1s
XAN LR LR
comp=Z,340nm,18.7s
DBIC Dimbokro 53.98 251 P **P 06 45 57.5 0.0**
comp=Z,4.6nm,0.9s,baz=48,slow=7.0,SNR=4.6
comp=Z,4.6nm,0.9s
TIXI Tiksi 55.74 22 P **P 06 46 09.3 -0.1**
TIXI IAmb IAmb 06 46 15.8
comp=Z,3.0nm,0.8s
TIXI Tiksi 55.74 22*ce*P **P 06 46 10.1 +0.7**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
NJ2 Nanjing 60.06 70 *e*P **P 06 46 40.5 +0.1**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,310nm,4.5s
KLR Kul'dur 62.59 47⇑*e*P **P 06 46 59.4 +2.1**
KLR pmax pmax
comp=Z,8.0nm,1.6s
EUNU Eureka 62.87 352 P **P 06 46 59.9 +1.2**
KSRS Korea Array 64.66 61 P **P 06 47 13.8 +2.8**
comp=Z,1.1nm,0.7s,baz=285,slow=8.1,SNR=2.1
comp=Z,1.1nm,0.7s
BOSA Boshof 65.48 200 P **P 06 47 17.6 +1.1**
comp=Z,5.7nm,0.9s,baz=13,slow=7.1,SNR=7.7
comp=Z,5.7nm,0.9s
SEY Seymchan 67.07 28⇑*e*P **P 06 47 25.9 -0.3**
SEY pmax pmax
comp=Z,35nm,2.0s
BILL Bilibino 68.83 20⇓*e*P **P 06 47 38.0 +0.8**
BILL pmax pmax
comp=Z,21nm,1.5s
A36M Sachs Harbour 73.81 357 P **P 06 48 07.2 0.0**
SCHQ Schefferville 74.06 326 P **P 06 48 08.9 -0.1**
SCHQ Schefferville 74.06 326 P **P 06 48 08.0 -1.1**
comp=Z,2.8nm,0.7s,baz=58,slow=9.0,SNR=5.2
comp=Z,2.8nm,0.7s
TOLK Toolik Lake Re 76.74 6 P **P 06 48 24.7 +0.5**
TOLK IAmb IAmb 06 48 29.4
comp=Z,9.3nm,1.2s
E29M Blow River 77.58 1 IAmb IAmb 06 48 30.4
comp=Z,5.6nm,0.8s
E27K Coleen River 77.68 3 P **P 06 48 30.0 +0.6**
E27K IAmb IAmb 06 48 30.7
comp=Z,3.1nm,0.7s
F21K Alatna River 77.75 7 IAmb IAmb 06 48 37.3
comp=Z,6.3nm,1.1s
F31M Tsiigehtchic 78.57 360 IAmb IAmb 06 48 35.2
comp=Z,5.7nm,0.7s
G30M tAoh Zraii Nji 79.02 1 IAmb IAmb 06 48 37.7
comp=Z,5.9nm,0.8s
G27K Doyon Strip 79.05 3 IAmb IAmb 06 48 38.6
comp=Z,3.1nm,0.8s
G31M Satah River 79.09 360 P **P 06 48 37.4 +0.2**
G31M IAmb IAmb 06 48 37.6
comp=Z,5.9nm,0.8s

H21K	Melozitna Rive	79.34	8	IAmb	IAmb	06 48 46.4	
	comp=Z,5.6nm,1.1s						
EPYK	Eagle Plains	79.63	1	IAmb	IAmb	06 48 40.7	
	comp=Z,4.4nm,0.7s						
I28M	Miner Creek	80.48	2	IAmb	IAmb	06 49 28.1	
	comp=Z,7.9nm,1.4s						
COLA	College	80.59	6⇓	*i*P	P	06 48 45.9	+0.6
COLA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ILAR	Eielson Array	80.76	5	P	P	06 48 46.4	+0.1
	comp=Z,0.9nm,0.9s,baz=324,slow=4.3,SNR=10						
	comp=Z,0.9nm,0.9s						
I30M	Mount Dempster	80.79	1	P	P	06 48 46.8	+0.2
I30M				IAmb	IAmb	06 48 50.9	
	comp=Z,8.0nm,1.1s						
YKA	Yellowknife Ar	82.23	351	P	P	06 48 53.6	-0.5
	comp=Z,1.7nm,1.0s,baz=11,slow=5.3,SNR=3.8						
	comp=Z,1.7nm,1.0s						
YKA	Yellowknife Ar	82.23	351	*i*P	P	06 48 55.5	+1.4
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
QSPA	South Pole Qui	124.14	180	PKP	PKPdf	06 55 31.2	+0.2
	comp=Z,1.9nm,1.0s,baz=243,slow=1.5,SNR=4.2						

MDD ***27*** *07:06:48.2±0.9, 36°.66N×9°.56W, h29km±10km, mb_Lg2.9/7, Error ellipse: s-maj=7.1km s-min=3.8km az=83.0*
SFS ***27*** *07:06:48.8, 36°.69N×9°.52W, h27km, ML2.6/12, ML3.0/9, MLv2.4/12*
CNRM ***27*** *07:06:48.9, 36°.60N×9°.34W, h45km, ML3.7*
IGIL ***27*** *07:06:49.3, 36°.67N×9°.52W, h27km, ML1.8*
INMG ***27*** *07:06:49.5±1.5, 36°.67N×9°.53W, h31km±9km, ML2.2, Error ellipse: s-maj=4.7km s-min=4.3km az=71.0*

ISC 27 07:06:47.9±1.8, 36°.70N±0°.06×9°.51W±0°.07, h35km, n58, σ1°19/96, 5C-2D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	0.69	52⇑	*i*P	Pn	07 07 02.2	+1.0
PFVI				*e*S	Sn	07 07 11.8	+1.1
PFVI				A	A	07 07 12.3	
	28nm,0.1s						
PFVI	Vila Bisbo	0.69	52	Pg	Pn	07 07 02.2	+1.0
PFVI				Sg	Sn	07 07 11.8	+1.1
PFVI	Vila Bisbo	0.69	52	P	Pn	07 07 01.8	+0.5
MORF	Marmelete	0.91	48⇑	*i*P	Pn	07 07 05.3	+1.1
MORF				*e*S	Sn	07 07 16.9	+0.8
MORF				A	A	07 07 17.6	
	42nm,0.1s						
MORF	Marmelete	0.91	48	*e*P	Pn	07 07 05.3	+1.1
MORF				*e*S	Sn	07 07 16.9	+0.8
MORF				IAML		07 07 18.8	
	comp=E,56nm,0.2s						
PTEO	Sao Teotonio	1.05	36	*e*P	Pn	07 07 07.2	+1.1
PTEO				*e*S	Sn	07 07 20.6	+1.1
PTEO				A	A	07 07 24.5	
	comp=E,12nm,0.1s						
PBDV	Barranco-do-Ve	1.37	66⇑	*i*P	Pn	07 07 11.7	+1.1
PBDV				*e*S	Sn	07 07 28.0	+0.5
PBDV				A	A	07 07 30.1	
	comp=E,6.1nm,0.1s						
MESJ	Messejana	1.53	42⇓	*i*P	Pn	07 07 13.8	+1.1
MESJ				*e*S	Sn	07 07 31.9	+0.5
MESJ				A	A	07 07 34.0	
	comp=E,8.5nm,0.2s						
MESJ	Messejana	1.53	42	*e*P	Pn	07 07 13.8	+1.1
MESJ				*e*S	Sn	07 07 31.9	+0.5
MESJ				IAML		07 07 32.6	
	comp=N,5.7nm,0.2s						
MESJ				IAML		07 07 34.0	
	comp=E,7.2nm,0.2s						
PVAQ	Vaqueiros	1.59	63⇑	*i*P	Pn	07 07 14.7	+1.1
PVAQ				*e*S	Sn	07 07 33.2	+0.3
PVAQ				A	A	07 07 37.0	
	comp=E,10.0nm,0.1s						
PVAQ	Vaqueiros	1.59	63	Pn	Pn	07 07 14.7	+1.1
PVAQ				Sn	Sn	07 07 33.1	+0.2
PVAQ	Vaqueiros	1.59	63	P	Pn	07 07 14.5	+0.9
PVAQ	Vaqueiros	1.59	63	S	Sn	07 07 34.2	+1.2
EGRO	El Granado	1.82	62	Pn	Pn	07 07 17.6	+1.0
EGRO				Sn	Sn	07 07 38.8	+0.4
EGRO	El Granado	1.82	62	P	Pn	07 07 17.6	+1.0
EGRO				S	Sn	07 07 39.3	+0.9
EGRO				*i* Vmb_Lg		07 07 41.3	
PBEJ	Beja	1.86	44	*e*P	Pn	07 07 18.1	+0.9
PBEJ				*e*S	Sn	07 07 40.1	+0.6
PBEJ				A	A	07 07 41.5	
	comp=E,5.5nm,0.2s						
EVO	Evora	2.18	33⇓	*i*P	Pn	07 07 22.3	+0.7
EVO				*e*S	Sn	07 07 46.7	-0.6
EVO				A	A	07 07 48.6	
	comp=E,17nm,0.1s						
EVO	Evora	2.18	33	Pn	Pn	07 07 22.3	+0.7
EVO				Sn	Sn	07 07 46.7	-0.6
PMAFR	Mafra	2.25	4	*e*P	Pn	07 07 23.5	+0.8
PMAFR				*e*S	Sn	07 07 49.5	+0.2
PMAFR				A	A	07 07 51.5	
	comp=E,41nm,0.2s						
PMAFR	Mafra	2.25	4	Pn	Pn	07 07 23.5	+0.8
PMAFR				Sn	Sn	07 07 50.1	+0.8
PBAR	Barrancos	2.45	52	*e*P	Pn	07 07 26.5	+1.1
PBAR				*e*S	Sn	07 07 54.5	+0.4
PBAR				A	A	07 07 56.8	
	comp=E,4.7nm,0.2s						
PBAR	Barrancos	2.45	52	Pn	Pn	07 07 26.1	+0.7
PBAR				Sn	Sn	07 07 53.9	-0.2
EMIN	Mina Concepcio	2.50	64	Pn	Pn	07 07 26.7	+0.6
EMIN				Sn	Sn	07 07 55.3	0.0
EMIN	Mina Concepcio	2.50	64	P	Pn	07 07 26.6	+0.6
EMIN				S	Sn	07 07 55.0	-0.2
PMTG	Montargil	2.57	23	*e*P	Pn	07 07 27.9	+0.9
PMTG				*e*S	Sn	07 07 56.6	-0.4
PMTG				A	A	07 07 58.1	
	comp=E,12nm,0.3s						
PESTR	Estremoz	2.64	35	*e*P	Pn	07 07 28.5	+0.5
PESTR				*e*S	Sn	07 07 58.5	-0.3
PESTR				A	A	07 07 59.6	
	comp=E,3.3nm,0.2s						
PESTR	Estremoz	2.64	35	Pn	Pn	07 07 28.3	+0.3
PESTR				Sn	Sn	07 07 58.3	-0.5
PESTR	Estremoz	2.64	35	P	Pn	07 07 29.3	+1.3
PESTR	Estremoz	2.64	35	S	Sn	07 07 59.6	+0.8
EBAD	Badajoz	2.85	43	Pn	Pn	07 07 31.1	+0.3
EBAD				Sn	Sn	07 08 03.9	+0.1
EBAD	Badajoz	2.85	43	P	Pn	07 07 31.1	+0.3
EBAD				S	Sn	07 08 03.4	-0.5
EBAD				*i* Vmb_Lg		07 08 05.5	
PSBE	So Bento	2.86	11	*e*P	Pn	07 07 32.0	+0.9
PSBE				*e*S	Sn	07 08 03.6	-0.7
PSBE				A	A	07 08 06.8	
	comp=E,6.9nm,0.3s						
ESPR	Espera	2.93	86	Sn	Sn	07 08 05.4	-0.7
ESPR	Espera	2.93	86	S	Sn	07 08 06.0	0.0
PMRV	Marv??o	3.19	31⇑	*e*P	Pn	07 07 36.2	+0.6
PMRV				*e*S	Sn	07 08 11.4	-1.0
PMRV				A	A	07 08 14.0	
	comp=E,9.4nm,0.2s						
PCAS	Casmilo, Conde	3.44	13	*e*S	Sn	07 08 17.2	-1.2
PCAS				A	A	07 08 19.0	
	comp=E,3.5nm,0.6s						
PCBR	Castelo Branco	3.52	26	*e*S	Sn	07 08 19.9	-0.4
PCBR				A	A	07 08 24.2	
	comp=E,3.1nm,0.3s						
ECAB	El Cabril	3.53	66	Pn	Pn	07 07 41.3	+1.0
ECAB				Sn	Sn	07 08 19.8	-1.0
ECAB	El Cabril	3.53	66	P	Pn	07 07 41.3	+1.0
ECAB				S	Sn	07 08 18.9	-1.9
ECAB				*i* Vmb_Lg		07 08 21.5	
MTE	Manteigas	4.00	22	*e*P	Pn	07 07 47.6	+0.9
MTE				*e*S	Sn	07 08 32.2	-0.2
MTE				A	A	07 08 34.4	
	comp=E,5.0nm,0.4s						
EADA	Adamuz	4.19	68	Pn	Pn	07 07 50.4	+1.1
EADA				Sn	Sn	07 08 36.0	-0.9
EADA	Adamuz	4.19	68	P	Pn	07 07 50.2	+0.9
EADA				S	Sn	07 08 35.7	-1.2
EADA				*i* Vmb_Lg		07 09 40.5	
PVIS	Viseu	4.20	17	*e*S	Sn	07 08 36.4	-0.9
EPLA	Plasencia	4.30	38	*i* Vmb_Lg		07 07 47.7	
EPLA				P	Pn	07 07 51.3	+0.5
EPLA				S	Sn	07 08 38.4	-1.4
SRHM	Skhour des Reh	4.43	162	P	Pn	07 07 54.5	+1.9
MVO	Moncorvo	4.86	23	*e*S	Sn	07 08 51.6	-1.9
MVO				A	A	07 08 54.1	
	comp=E,2.1nm,0.1s						
PAB	San Pablo	4.96	54	P	Pn	07 08 00.7	+0.8
PAB				*i* Vmb_Lg		07 08 03.1	
PAB				S	Sn	07 08 53.6	-2.5
PSIM	Granatula de C	5.02	63	P	Pn	07 08 01.2	+0.4
PSIM				S	Sn	07 08 55.3	-2.3
PCAB	Cabril	5.13	12	*e*S	Sn	07 08 58.0	-2.2
PCAB				A	A	07 09 02.0	
	comp=E,5.4nm,0.5s						
ELOB	Lobios	5.28	12	P	Pn	07 08 05.1	+0.8
ELOB				S	Sn	07 09 00.3	-3.6
ELOB				*i* Vmb_Lg		07 10 14.0	
PGAV	Gavieira, Arco	5.34	10	*e*S	Sn	07 09 02.8	-2.7
PGAV				A	A	07 09 05.2	
	comp=E,3.1nm,0.7s						
MD31	MD31	5.47	133	P	Pn	07 08 06.1	-0.8
MD31	MD31	5.47	133	S	Sn	07 09 05.1	-3.5
PBRG	Braganca	5.53	22	*e*S	Sn	07 09 07.6	-2.4
PBRG				A	A	07 09 10.1	
	comp=E,2.8nm,0.2s						
MDT	Midelt	5.59	132	P	Pn	07 08 08.6	-0.1
MDT	Midelt	5.59	132	S	Sn	07 09 08.6	-3.2
ECAL	Calabor	5.65	21	P	Pn	07 08 10.4	+0.9
ECAL				S	Sn	07 09 11.8	-1.4
TIO	Tiouine	6.06	161	P	Pn	07 08 14.2	-0.9

NNC ***27*** *07:14:25.8±0.4, 50°.00N×78°.93E, h0km, mpv2.6, Error ellipse: s-maj=12.2km s-min=2.2km az=68.0, Suspected Mining explosion.*
IDC ***27*** *07:14:27.9±1.1, 50°.05N×78°.75E, h0km, mbtmp2.5/2, ML1.8/2, Error ellipse: s-maj=12.7km s-min=6.8km az=63.0*

ISC 27 07:14:28.0±2.0, 50°.01N±0°.08×78°.6E±0°.2, h0km, n14, σ0°81/24, 16C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.58	354	⇑P	Pg	07 14 38.3	-0.9
KUR07				⇓S	Sg	07 14 47.4	+0.8
KUR06	Kurchatov Arra	0.60	355	⇑P	Pg	07 14 38.7	-0.8
KUR06				⇑S	Sg	07 14 47.9	+0.7
KUR14	Kurchatov Arra	0.61	359	⇑P	Pg	07 14 38.9	-1.1
KUR14				⇑S	Sg	07 14 47.8	+0.3
KUR15	Kurchatov Arra	0.61	357	⇑P	Pg	07 14 38.8	-0.9
KUR15				⇑S	Sg	07 14 48.1	+0.4
KURBB	Kurchatov Arra	0.62	355	⇑P	Pg	07 14 39.0	-0.8
KURBB				⇑S	Sg	07 14 48.5	+0.6
	66nm,0.7s						
KURBB	Kurchatov Arra	0.62	355	Pg	Pg	07 14 39.0	-0.8
	1.2nm,0.3s,baz=165,slow=17,SNR=49						
KURBB				Lg	Lg	07 14 48.0	
	1.3nm,0.3s,baz=167,slow=32,SNR=19						
KUR16	Kurchatov Arra	0.62	353	⇓P	Pg	07 14 39.1	-0.9
KUR16				⇑S	Sg	07 14 49.1	+1.0
KUR17	Kurchatov Arra	0.63	352	⇑P	Pg	07 14 39.6	-0.5
KUR17				⇑S	Sg	07 14 49.8	+1.5
KUR05	Kurchatov Arra	0.64	356	⇑P	Pg	07 14 39.2	-1.0
KUR05				⇑S	Sg	07 14 48.6	+0.1
KUR04	Kurchatov Arra	0.66	356	⇑P	Pg	07 14 39.8	-0.8
KUR04				⇑S	Sg	07 14 49.2	+0.1
KURK	Kurchatov	0.71	0	⇓P	Pg	07 14 40.5	-1.0
	5.1nm,0.4s						
KURK				⇓S	Sg	07 14 51.0	+0.3
	59nm,0.9s						
MKAR	Makanchi Array	4.04	141	Pn	Pn	07 15 31.3	+0.1
	0.1nm,0.3s,baz=324,slow=11,SNR=11						
MKAR				Sn	Sn	07 16 19.5	+0.3
	0.3nm,0.3s,baz=349,slow=17,SNR=5.7						
MKAR				Lg	Lg	07 16 33.2	
	1.0nm,0.3s,baz=328,slow=26,SNR=12						
	0.2nm,0.4s						
ZALV	Zalesovo Beam	5.50	42	Pn	Pn	07 15 51.5	+0.4
	0.1nm,0.3s,baz=229,slow=11,SNR=1.9						
	0.6nm,0.4s						
I46RU	ZALESOVO INFRA	5.50	42	I	I	07 44 45.0	
	0.1nm,1.1s,baz=222,slow=324,SNR=5.0						

TEH ***27*** *07:15:19.4, 34°.54N×46°.02E, h9km, ML2.5*
ISN ***27*** *07:15:19.1±1.3, 34°.58N×46°.04E, h20km±76km, ML2.5*

ISC 27 07:15:19.5±0.9, 34°.55N±0°.04×46°.02E±0°.04, h10km, n12, σ0°56/15, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	Dehrash	0.34	64	Pg	Pb	07 15 27.3	-0.5
KGS1	Ghasr-e-Shirin	0.36	263	Pg	Pb	07 15 27.5	-0.5
GLG1	Gilan-e-Gharb	0.45	192	Pg	Pb	07 15 28.8	-0.7
IGHG	Ghaleghazi	0.51	116	Pg	Pb	07 15 30.5	-0.1
ILIN	Lien	0.86	64	Pg	Pn	07 15 37.5	-0.5
KCHF	Cheshme Sefid,	0.89	108	Pg	Pn	07 15 37.7	-0.6
ILBA	Ilam Banvizeh	0.94	170	Pg	Pb	07 15 38.0	+0.1
SNQR	Sonqor, Kerman	1.36	77	Pg	Pg	07 15 46.6	+0.9
IBDR	Badra	1.44	183	*e*Pg	Pb	07 15 46.0	-0.4
IBDR				*e*Sg	Sn	07 16 04.0	-0.6
IBDR				AML	AML	07 16 04.7	
	comp=N,76nm,0.4s						
IBDR				AML	AML	07 16 14.2	
	comp=E,88nm,0.8s						
IBZA	Bozab	1.52	93	Pg	Pg	07 15 49.3	+0.5
IKRK	Kirkuk	1.62	302	*e*Pn	Pb	07 15 49.0	-0.5
IKRK				*e*Sn	Sn	07 16 09.5	+0.4
BHD	Baghdad	1.87	227	*e*Pn	Pn	07 15 52.0	+0.5
BHD				*e*Sn	Sb	07 16 17.0	-0.1

SJA ***27*** *07:23:12.2±0.7, 35°.00S×71°.55W, h49km±5km, ML2.2, MW2.7*

ISC 27 07:23:13.8±1.1, 34°.98S±0°.03×71°.54W±0°.04, h33km±3km, n26, σ1°08/47, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	Hualane	0.33	264	*e*P	Pb	07 23 22.1	+0.1
GO05				*i*S	Sb	07 23 28.6	+1.1
GO05				IAML		07 23 30.0	
	comp=E,159nm,0.1s						
GO05	Hualane	0.33	264	*e*P	Pb	07 23 22.2	+0.2
GO05				*e*S	Sb	07 23 29.4	+1.8
GO05				IAML		07 23 29.9	
	comp=Z,87nm,0.1s						
BO03	Pichilemu	0.59	324	*e*P	Pb	07 23 24.6	-1.3
BO03				*e*S	Sb	07 23 33.2	-1.0
BO03				IAML		07 23 36.2	
	comp=N,60nm,0.2s						
BO02	Sierra Bellavi	0.65	74	*e*P	Pn	07 23 26.2	-0.5
BO02				*i*S	Sb	07 23 36.2	+0.4
BO02				IAML		07 23 37.2	
	comp=N,204nm,0.3s						
BO02	Sierra Bellavi	0.65	74	*e*P	Pn	07 23 26.2	-0.5
BO02				*e*S	Sb	07 23 37.1	+1.3
BO02				IAML		07 23 38.4	
	comp=Z,144nm,0.1s						
BO01	Tunca	0.69	33	*e*P	Pn	07 23 26.4	-0.8
BO01				*e*S	Sn	07 23 36.1	-0.7
BO01				IAML		07 23 37.0	
	comp=N,43nm,0.2s						
BO01	Tunca	0.69	33	*e*P	Pn	07 23 26.4	-0.8
BO01				*e*S	Sn	07 23 36.8	0.0
ML02	Panimavida	0.79	173	*e*P	Pn	07 23 27.4	-1.2
ML02				*e*S	Sn	07 23 39.0	-0.3
ML02				IAML		07 23 40.7	
	comp=E,77nm,0.1s						
ML02	Panimavida	0.79	173	*e*P	Pn	07 23 27.9	-0.8
ML02				*e*S	Sn	07 23 39.4	+0.2
ML02				IAML		07 23 47.0	
	comp=Z,40nm,3.1s						
MT01	Popeta	1.13	12	*e*P	Pn	07 23 32.6	-0.7
MT01				*i*S	Sn	07 23 47.1	-0.7
MT01				IAML		07 23 50.2	
	comp=E,72nm,0.2s						
MT01	Popeta	1.13	12	*e*P	Pn	07 23 32.7	-0.6
MT01				*e*S	Sn	07 23 48.5	+0.8
MT01				IAML		07 23 50.1	
	comp=Z,57nm,0.1s						
MT09	Talagante	1.28	21	*e*P	Pn	07 23 34.5	-1.0
MT09				*i*S	Sn	07 23 50.5	-1.0
MT09				IAML		07 23 54.3	
	comp=N,61nm,0.1s						
LMEL	Las Melosas	1.57	45	*e*P	Pn	07 23 39.9	+0.4
LMEL				*e*S	Sn	07 24 00.3	+1.5
LMEL				IAML		07 24 03.9	
	comp=Z,22nm,0.1s						
MT13	San Alfonso	1.60	40	*e*P	Pn	07 23 40.1	+0.1
MT13				*e*S	Sn	07 24 00.8	+1.3
MT13				IAML		07 24 04.3	
	comp=Z,13nm,0.3s						
MT03	Universidad Ad	1.71	30	*e*P	Pn	07 23 40.3	-1.0
MT03				*i*S	Sn	07 24 01.8	-0.1
MT03				IAML		07 24 07.6	
	comp=E,32nm,0.2s						
MT03	Universidad Ad	1.71	30	*e*P	Pn	07 23 41.0	-0.3
MT03				*e*P		07 23 41.7	
MT03				*e*S	Sn	07 24 03.8	+1.8
MT03				IAML		07 24 10.4	
	comp=Z,22nm,0.1s						
MT05	Renca	1.71	23	*e*S	Sn	07 24 03.8	+1.7
MT05				IAML		07 24 09.3	
	comp=Z,24nm,1.6s						
MT02	Curacav	1.74	11	*e*P	Pn	07 23 41.0	-0.8
MT02				*e*S	Sn	07 24 04.3	+1.5
MT02				IAML		07 24 13.2	
	comp=Z,24nm,3.5s						
EDS3	Malargue	1.92	115	*e*P	Pb	07 23 56.2	+8.0
EDS3				*e*S	Sb	07 24 12.0	+0.1
MT04	Ro Olivares	1.95	37	*e*P	Pn	07 23 45.1	+0.4
MT04				*e*S	Sn	07 24 10.3	+2.1
MT04				IAML		07 24 27.2	
	comp=Z,13nm,4.0s						
VA01	Torpederas	1.95	357	*e*P	Pn	07 23 45.3	+0.7
VA01				IAML		07 24 55.9	
	comp=Z,36nm,2.8s						
PEL	Peldehue	1.96	21	*e*P	Pn	07 23 45.9	+1.1
PEL				*e*S	Sb	07 24 11.4	-1.5
PEL				IAML		07 24 14.8	
	comp=Z,28nm,2.7s						
MT08	Bocatoma Ro	1.98	40	*e*P	Pn	07 23 47.6	+2.5
MT08				*e*S	Sb	07 24 13.6	-0.1
MT08				IAML		07 24 14.8	
	comp=Z,12nm,4.2s						
VA03	San Esteban	2.35	21	*e*P	Pn	07 23 50.5	+0.3
VA03				*e*S	Sn	07 24 17.2	-0.8
VA03				IAML		07 24 23.3	
	comp=Z,21nm,3.5s						
ARCO	CERRO ARCO	3.04	46	*e*P	Pb	07 24 06.3	-0.9
ARCO				IAML		07 25 20.3	
	comp=Z,29nm,0.6s						
CO03	El Pedregal	4.19	10	*e*S	Sn	07 25 04.8	+1.6

CATAC ***27*** *07:24:52.9±2.7, 13°.22N×81°.14W, h6km±6km, mb4.8, ML4.2*
RSNC ***27*** *07:24:53.7±0.0, 13°N±1°×8°1W±°, h1km±1km, M3.4, mb4.4, ML3.4*

ISC 27 07:24:53.2±1.3, 13°.14N±0°.04×81°.14W±0°.04, h6km±11km, n26, σ1°22/35, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	Isla de Provid	0.32	318	P	Pg	07 24 59.1	-0.4
PRVC				S	Sg	07 25 03.0	-0.7
PRVC	Isla de Provid	0.32	318	*i*P	Pg	07 24 58.8	-0.7
PRVC				*i*S	Sg	07 25 03.2	-0.5
PRVC				IAML		07 25 03.6	
	comp=Z,16μm,1.0s						
SAIC	Isla e San And	0.81	223	P	Pg	07 25 09.7	+0.8
SAIC				S	Sb	07 25 22.0	+0.9
RNCC	Cayo Roncador,	1.11	67	P	Pg	07 25 15.0	+0.4
RNCC				S	Sn	07 25 31.6	+0.5
SERC	Banco Serrana,	1.37	33	P	Pn	07 25 18.4	-0.5
SERC				S	Sn	07 25 37.1	-0.3
BLUN	Bluefields	2.81	247	P	Pn	07 25 38.6	-0.1
BLUN	Bluefields	2.81	247	*i*P	Pn	07 25 38.7	0.0
BLUN				*i*S	Sn	07 25 46.0	-27
BLUN				IAML		07 26 18.8	
	comp=Z,210nm,1.0s						
ESPN	Las Esperanzas	3.22	253	P	Pn	07 25 43.9	-0.5
ESPN	Las Esperanzas	3.22	253	*i*P	Pb	07 25 51.7	+0.8
TRT2	Tortugero	3.61	225	*i*P	Pn	07 25 49.3	-0.4
TRT2				IAML		07 25 52.7	
	comp=Z,160nm,1.0s						
TRT2				*i*S	Sn	07 26 04.3	-28
COVE	Coope Vega, Sa	3.99	233	*i*P	Pn	07 25 56.0	+0.9
COVE				IAML		07 27 33.8	
	comp=Z,340nm,1.0s						
RAFA	San Farael, Vo	4.10	220	*i*P	Pn	07 25 57.7	+0.9
RAFA				IAML		07 27 08.7	
	comp=Z,270nm,1.0s						
ACON	Acoyapa	4.10	254	P	Pn	07 25 55.6	-1.0
BCIP	Isla Barro Col	4.15	162	P	Pn	07 25 55.4	-1.8
BCIP				S	Sn	07 26 43.9	-2.2
BCIP	Isla Barro Col	4.15	162	*i*P	Pn	07 25 55.6	-1.6
JTS	Las Juntas de	4.68	233	P	Pn	07 26 04.8	+0.2
JTS				S	Sn	07 26 59.2	-0.1
RCPN	Sur Rio San Ju	4.83	275	*i*P	Pn	07 26 06.5	-0.2
RCPN				IAML		07 27 03.1	
	comp=Z,1.3nm,1.0s						
RCVN	Varillal2	4.94	276	*i*P	Pn	07 26 07.5	-0.7
RCVN				IAML		07 27 04.2	
	comp=Z,4μm,1.0s						
LIMN	Finca el Limon	5.09	270	*i*P	Pn	07 26 09.7	-0.5
LIMN				IAmb	IAmb	07 26 38.8	
	comp=Z,86nm,0.8s						
LIMN				IAML		07 27 50.0	
	comp=Z,160nm,1.0s						
AZU	Azuero	5.38	171	P	Pn	07 26 14.5	+0.4
	comp=Z,23nm,1.3s						
AZU				S	Sn	07 27 14.4	-2.1
	comp=Z,23nm,1.3s						
MTDJ	Mount Denham	6.14	34	P	Pn	07 26 25.5	+0.9
	comp=Z,40nm,1.6s						
LCBC	Los crdobas,	6.33	132	P	Pn	07 26 29.5	+2.3
	comp=Z,203nm,1.7s						
LCBC				S	Sn	07 27 42.4	+2.5
	comp=Z,203nm,1.7s						
SJCC	San Jacinto, C	6.67	118	P	Pn	07 26 30.7	-1.3
	comp=Z,13nm,1.6s						
SJCC				S	Sn	07 27 45.5	-3.0
	comp=Z,13nm,1.6s						
GTBY	Guantanamo Bay	8.89	40	P	Pn	07 27 02.8	+0.5
	comp=Z,19nm,0.9s						
URIC	Uribia, Colomb	9.05	98	P	Pn	07 27 00.5	-4.1
	comp=Z,18nm,1.3s						
TEIG	Tepich	9.82	317	P	Pn	07 27 14.5	-0.5

TEH ***27*** *07:30:58.4, 34°.23N×45°.52E, h13km±44km, ML2.5*
ISN ***27*** *07:30:58.2±0.7, 34°.24N×45°.52E, h18km±23km, ML2.5*

ISC 27 07:30:58.6±0.9, 34°.22N±0°.04×45°.51E±0°.04, h10km, n11, σ0°67/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.35	108	Pg	Pb	07 31 06.3	-0.8
ILBA	Ilam Banvizeh	0.83	136	Pg	Pb	07 31 15.5	+0.2

n37,σ1⇧20/38, mb3.9/10, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.01**	**357**	P	**Pn**	**07 38 50.0**	**+0.6**
JEM				S	**Sb**	07 39 02.0	-0.1
JTHR	**Tokachihiroo**	**1.28**	**2**	P	**Pn**	**07 38 54.1**	**+1.0**
JTHR				*e*S	**Sn**	07 39 10.2	-0.6
JNBK	**Urakawa-nobuka**	**1.32**	**344**	P	**Pn**	**07 38 53.8**	**+0.1**
JARK	**Aomororokkasho**	**1.41**	**271**	P	**Pn**	**07 38 54.6**	**-0.3**
JANG	**Nango**	**1.45**	**245**	P	**Pn**	**07 38 55.5**	**+0.1**
JCH	**Churui**	**1.61**	**3**	P	**Pb**	**07 38 58.3**	**-0.4**
JTM	**Tenmabayashi**	**1.66**	**263**	P	**Pb**	**07 38 58.6**	**-0.9**
JOT	**Ohata**	**1.69**	**283**	P	**Pn**	**07 38 58.6**	**-0.1**
JKB	**Kayabe**	**1.87**	**299**	P	**Pb**	**07 39 02.2**	**-1.1**
JBT2	**Biratori 2**	**1.88**	**340**	P	**Pb**	**07 39 03.1**	**-0.3**
JIAM	**Iburiatsuma**	**1.89**	**329**	P	**Pg**	**07 39 04.5**	**-0.2**
JIAM				*e*S	**Sg**	07 39 29.6	+0.4
JOB	**Onbets**	**1.95**	**13**	P	**Pb**	**07 39 03.4**	**-1.0**
JOB				*e*S	**Sn**	07 39 26.5	-0.6
JOM	**Ohasama**	**2.13**	**225**	*i* P	**Pb**	**07 39 06.7**	**-1.0**
JEW	**Eniwo**	**2.26**	**325**	P	**Pb**	**07 39 09.7**	**-0.2**
JAK	**Akkeshi**	**2.27**	**28**	P	**Pn**	**07 39 07.5**	**+0.8**
JAK				S	**Sn**	07 39 32.9	-2.1
JAR	**Ashorobuto**	**2.32**	**10**	P	**Pn**	**07 39 08.3**	**+0.8**
JAR				S	**Sn**	07 39 34.9	-1.5
JMK	**Ichinoseki**	**2.57**	**218**	P	**Pb**	**07 39 13.8**	**-1.4**
ASAJ	**Asahikawa**	**3.14**	**352**	Pn	**Pn**	**07 39 20.3**	**+1.6**
	3.1nm,0.3s,baz=233,slow=9.7,SNR=9.5						
ASAJ				Sn	**Sn**	**07 39 55.5**	**-1.1**
	3.0nm,0.3s,baz=249,slow=13,SNR=3.7						
ASAJ				Lg	Lg	07 40 07.3	
	2.2nm,0.3s,baz=172,slow=33,SNR=4.3						
	6.5nm,0.3s						
MJAR	**Matsushiro Arr**	**5.94**	**223**	Pn	**Pn**	**07 40 00.1**	**+2.9**
	0.1nm,0.3s,baz=29,slow=13,SNR=6.7						
MJAR				LR	LR	07 42 29.0	
	comp=Z,110nm,18.6s,baz=100,slow=41						
USRK	**Ussuriysk Ar.**	**8.88**	**295**	Pn	**Pn**	**07 40 41.3**	**+3.8**
	0.3nm,0.3s,baz=95,slow=15,SNR=2.6						
SONM	**Songino Array**	**26.99**	**297**	P	**P**	**07 44 11.1**	**-0.2**
	0.9nm,0.6s,baz=85,slow=9.1,SNR=4.7						
	0.9nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.27**	**129**	T	T	08 16 09.9	
	baz=324,slow=74						
H11N1	**WAKE ISLAND Hy**	**29.28**	**129**	T	T	08 15 49.4	
	baz=324,slow=74						
H11N3	**WAKE ISLAND Hy**	**29.29**	**129**	T	T	08 15 44.1	
	baz=324,slow=74						
H11S1	**WAKE ISLAND Hy**	**30.12**	**131**	T	T	08 16 35.5	
	baz=325,slow=76,SNR=8.3						
H11S3	**WAKE ISLAND Hy**	**30.12**	**131**	T	T	08 17 07.2	
	baz=325,slow=76,SNR=2.2						
H11S2	**WAKE ISLAND Hy**	**30.14**	**131**	T	T	08 17 00.5	
	baz=325,slow=76,SNR=8.1						
ZALV	**Zalesovo Beam**	**40.40**	**309**	P	**P**	**07 46 06.8**	**-0.6**
	1.7nm,0.6s,baz=86,slow=8.1,SNR=6.3						
ZALV				PcP	**PcP**	**07 48 11.3**	**+1.1**
	0.4nm,0.4s,baz=88,slow=3.5,SNR=2.2						
	1.7nm,0.6s						
MKAR	**Makanchi Array**	**43.32**	**299**	P	**P**	**07 46 30.9**	**-0.5**
	0.9nm,0.5s,baz=84,slow=10,SNR=13						
	0.9nm,0.5s						
CMAR	**Chiang Mai Arr**	**43.95**	**253**	LR	LR	08 04 56.6	
	comp=Z,14nm,19.4s,baz=80,slow=36						
KURBB	**Kurchatov Arra**	**44.77**	**305**	P	**P**	**07 46 42.0**	**-0.9**
	1.2nm,0.5s,baz=78,slow=8.7,SNR=8.0						
	1.2nm,0.5s						
BVAR	**Borovoye Array**	**49.02**	**310**	P	**P**	**07 47 17.2**	**+1.1**
	0.8nm,0.4s,baz=71,slow=8.4,SNR=6.3						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**61.20**	**190**	P	**P**	**07 48 44.8**	**+0.5**
	0.5nm,0.5s,baz=6.3,slow=7.0,SNR=8.6						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**64.92**	**189**	P	**P**	**07 49 10.2**	**+1.1**
	0.6nm,0.9s,baz=12,slow=4.6,SNR=6.3						
	0.6nm,0.9s						
FINES	**FINESS Array B**	**65.97**	**332**	P	**P**	**07 49 14.8**	**-0.6**
	2.4nm,0.8s,baz=59,slow=7.4,SNR=7.3						
	2.4nm,0.8s						
AKASG	**Malin Array Be**	**72.02**	**322**	P	**P**	**07 49 52.7**	**-0.5**
	0.6nm,0.4s,baz=47,slow=5.0,SNR=4.9						
	0.6nm,0.4s						
PDAR	**Pinedale Array**	**73.90**	**47**	P	**P**	**07 50 05.4**	**+0.6**
	0.2nm,0.5s,baz=319,slow=2.6,SNR=2.1						
	0.2nm,0.5s						

*NEIC **27** 07:43:12.0± 1.7, 58°.59N± 0°.04× 142°.71W± 0°.06, h10km± 2km, ML3.7/110, ML3.5(AEIC), Error ellipse: s-maj=7.4km s-min=4.6km az=148.0*

*IDC **27** 07:43:14.7± 3.0, 58°.61N× 142°.62W, h32km± 23km, mb4.0/11, mbtmp4.1/17, ML3.4/6, MS3.5/6, Error ellipse: s-maj=22.3km s-min=14.0km az=33.0*

*AEIC **27** 07:43:15.9± 1.5, 58°.62N± 0°.06× 142°.76W± 0°.09, h3km± 7km, Error ellipse: s-maj=8.8km s-min=7.0km az=189.0*

ISC 27 07:43:13.7± 3.0, 58°.56N± 0°.05× 142°.66W± 0°.04, h30km± 24km, n224, σ1⇧31/222, mb4.1/11, MS3.4/5, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYK	**Cape Yakataga**	**1.53**	**3**		**Pn**	**07 43 38.9**	**-0.1**
CYK					**Sn**	07 43 56.6	-1.2
SUCK	**Suckling Hills**	**1.62**	**340**		**Pn**	**07 43 40.2**	**-0.1**
SUCK					**Sn**	07 43 59.1	-1.1
SNH	**Sunshine Point**	**1.63**	**357**		**Pn**	**07 43 39.9**	**-0.4**
SNH	**Sunshine Point**	**1.63**	**357**		**Sn**	**07 43 58.7**	**-1.6**
SNH	**Sunshine Point**	**1.63**	**357**	IAML		07 44 00.1	
	comp=E,3μm,0.7s						
SNH				IAML		07 44 00.7	
	comp=N,2μm,0.6s						
KAIM	**Kayak Island**	**1.65**	**327**	Pn	**Pn**	**07 43 39.9**	**-0.6**
KAIM	**Kayak Island**	**1.65**	**327**		**Sn**	**07 43 59.4**	**-1.2**
KAIM	**Kayak Island**	**1.65**	**327**	IAML		07 44 03.9	
	comp=E,946nm,0.6s						
KAIM				IAML		07 44 14.9	
	comp=N,1μm,0.7s						
MESA	**MESA**	**1.67**	**12**		**Pn**	**07 43 40.9**	**-0.1**
MESA					**Sn**	07 43 60.0	-1.5
YKU2	**Yakutat**	**1.82**	**57**	Pn	**Pn**	**07 43 43.9**	**+1.1**
SAMH	**Samovar Hills**	**1.85**	**31**		**Pn**	**07 43 43.9**	**+0.5**
SAMH					**Sn**	07 44 04.4	-1.3
BARK	**Barkley Ridge**	**1.85**	**3**		**Pn**	**07 43 43.0**	**-0.5**
BARK					**Sn**	07 44 03.8	-2.1
KHIT	**Khitrov Hills**	**1.92**	**351**		**Pn**	**07 43 43.7**	**-0.6**
KHIT					**Sn**	07 44 05.6	-1.8
BERG	**Berg Lake**	**1.92**	**344**		**Pn**	**07 43 43.7**	**-0.6**
BERG	**Berg Lake**	**1.92**	**344**	IAML		07 44 06.6	
	comp=N,927nm,0.7s						
BAGL	**Bagley Icefiel**	**1.96**	**8**		**Pn**	**07 43 44.7**	**-0.1**
PCA	**Pinnacle**	**1.98**	**38**		**Pn**	**07 43 45.4**	**+0.3**
PCA					**Sn**	07 44 07.7	-1.2
PNL	**Peninsula**	**2.02**	**55**		**Pn**	**07 43 45.9**	**+0.3**
PNL					**Sn**	07 44 08.5	-1.3
BCPM	**Bancas Point**	**2.09**	**47**		**Pn**	**07 43 46.9**	**+0.3**
TGL	**Tana Glacier**	**2.21**	**358**		**Pn**	**07 43 47.8**	**-0.6**
TGL				IAML		07 44 14.3	
	comp=N,401nm,0.5s						
CRQM	**Cirque**	**2.22**	**354**		**Pn**	**07 43 47.9**	**-0.6**
CRQM	**Cirque**	**2.22**	**354**		**Sn**	**07 44 13.3**	**-1.7**
CRQM	**Cirque**	**2.22**	**354**	IAML		07 44 20.5	
	comp=N,455nm,0.7s						
CRQM				IAML		07 44 22.8	
	comp=E,562nm,1.1s						
GRNC	**Granite Creek**	**2.23**	**12**		**Pn**	**07 43 48.6**	**-0.1**
GRNC				IAML		07 44 15.1	
	comp=E,640nm,0.7s						
KIAG	**Kiagna River**	**2.38**	**4**		**Pn**	**07 43 50.3**	**-0.4**
LOGN	**Logan Glacier**	**2.42**	**20**		**Pn**	**07 43 51.4**	**0.0**
LOGN				IAML		07 44 21.0	
	comp=E,569nm,0.7s						
LOGN	**Logan Glacier**	**2.42**	**20**		**Sn**	**07 44 18.4**	**-1.7**
BALM	**Baldy**	**2.49**	**4**		**Pn**	**07 43 51.9**	**-0.3**
CTGM	**Chitina Glacie**	**2.51**	**15**		**Pn**	**07 43 52.6**	**+0.1**
CTGM				IAML		07 44 23.8	
	comp=N,295nm,0.7s						
EYAK	**Cordova Ski Ar**	**2.54**	**323**		**Pn**	**07 43 51.7**	**-1.1**
O28M	**Mount Upton**	**2.55**	**28**		**Pn**	**07 43 53.5**	**+0.3**
O28M					**Sn**	07 44 22.2	-1.1
BMRM	**Bremner River**	**2.61**	**339**		**Pn**	**07 43 52.9**	**-0.9**
PTPK	**Patty Peak**	**2.64**	**2**		**Pn**	**07 43 54.5**	**+0.1**
HIN	**Hinchinbrook I**	**2.69**	**315**		**Pn**	**07 43 54.1**	**-0.8**
HIN	**Hinchinbrook I**	**2.69**	**315**		**Sn**	**07 44 24.8**	**-1.6**
HIN	**Hinchinbrook I**	**2.69**	**315**	IAML		07 44 25.0	
	comp=E,490nm,0.9s						
HIN				IAML		07 44 40.9	
	comp=N,305nm,1.0s						
VRDI	**Verde Repeater**	**2.71**	**352**		**Pn**	**07 43 54.9**	**-0.4**
VRDI				IAML		07 44 25.6	
	comp=E,287nm,0.7s						
O29M	**Mount Kennedy**	**2.72**	**48**		**Pn**	**07 43 56.5**	**+1.1**
P29M	**Windy Craggy**	**2.76**	**65**		**Pn**	**07 43 56.5**	**+0.6**
P23K	**Montague Islan**	**2.83**	**303**		**Pn**	**07 43 55.4**	**-1.4**
MCARA	**McCarthy VSAT**	**2.84**	**356**		**Pn**	**07 43 56.9**	**-0.1**
MCARA	**McCarthy VSAT**	**2.84**	**356**		**Sn**	**07 44 28.6**	**-1.5**
FID	**Port Fidalgo**	**2.93**	**320**	Pn	**Pn**	**07 43 58.5**	**+0.3**
FID				IAML		07 44 36.6	
	comp=E,205nm,0.5s						
GLB	**Gilahina Butte**	**2.95**	**349**	Pn	**Pn**	**07 43 57.8**	**-0.7**
GLB				IAML		07 44 31.3	
	comp=E,211nm,0.7s						
GLB				IAML		07 44 37.0	
	comp=N,195nm,0.6s						
YUK7	**Dusty Glacier**	**3.04**	**47**		**Pn**	**07 44 01.1**	**+1.3**
YUK8	**Steele Glacier**	**3.10**	**27**		**Pn**	**07 44 02.2**	**+1.5**
N25K	**Chitina, Valde**	**3.21**	**343**	Pn	**Pn**	**07 44 01.5**	**-0.5**
N25K				IAML		07 44 38.0	
	comp=E,164nm,0.7s						
N25K				IAML		07 44 40.1	
	comp=N,164nm,0.6s						
YUK6	**Outpost Mounta**	**3.23**	**40**		**Pn**	**07 44 03.9**	**+1.4**
GLI	**Glacier Island**	**3.24**	**318**		**Pn**	**07 44 00.7**	**-1.6**
P30M	**Million Dollar**	**3.31**	**59**		**Pn**	**07 44 04.7**	**+1.2**
YUK2	**White River**	**3.37**	**15**		**Pn**	**07 44 04.7**	**+0.5**
KLU	**Klutina**	**3.37**	**332**		**Pn**	**07 44 03.0**	**-1.2**
KLU				IAML		07 44 42.3	
	comp=E,162nm,0.9s						
PLBC	**Pleasant Camp**	**3.38**	**72**		**Pn**	**07 44 05.4**	**+1.1**
YUK3	**Moose Creek**	**3.41**	**18**		**Pn**	**07 44 06.0**	**+1.1**
S31K	**Pelican**	**3.45**	**97**	Pn	**Pn**	**07 44 05.2**	**0.0**
S31K				IAML		07 44 44.3	
	comp=N,116nm,0.6s						
HYT	**Haines Junctio**	**3.46**	**47**	Pn	**Pn**	**07 44 06.4**	**+0.8**
WASW	**Wrangell South**	**3.47**	**348**		**Pn**	**07 44 05.8**	**+0.1**
WACK	**Wrangell Chich**	**3.54**	**347**		**Pn**	**07 44 06.5**	**-0.3**
YUK5	**Granite Creek**	**3.54**	**41**		**Pn**	**07 44 08.3**	**+1.6**
WAZA	**Wrangell Mount**	**3.61**	**349**		**Pn**	**07 44 08.1**	**+0.4**
M27K	**Edge Creek, AK**	**3.83**	**5**		**Pn**	**07 44 11.4**	**+0.7**
M27K	**Edge Creek, AK**	**3.83**	**5**	IAML		07 44 55.1	
	comp=N,89nm,1.1s						
M27K				IAML		07 44 55.1	
	comp=E,148nm,0.8s						
SKAG	**Skagway**	**3.90**	**73**	Pn	**Pn**	**07 44 12.1**	**+0.7**
SKAG				IAML		07 44 59.1	
	comp=N,100nm,0.7s						
SKAG				IAML		07 45 15.0	
	comp=E,156nm,0.8s						
M24K	**Tolsona, Glenn**	**3.97**	**335**	Pn	**Pn**	**07 44 10.9**	**-1.6**
M24K				IAML		07 45 02.7	
	comp=E,146nm,2.1s						
M24K				IAML		07 45 18.4	
	comp=N,121nm,1.0s						
BVCY	**Beaver Creek**	**3.97**	**12**		**Pn**	**07 44 13.4**	**+0.9**
O30N	**Mendenhall**	**4.00**	**54**		**Pn**	**07 44 13.4**	**+0.4**
O30N				IAML		07 45 21.1	
	comp=N,85nm,0.8s						
SCM	**Sheep Creek Mo**	**4.03**	**327**		**Pn**	**07 44 12.5**	**-0.8**
SCM				IAML		07 44 59.5	
	comp=N,107nm,1.1s						
SCM				IAML		07 45 03.7	
	comp=E,108nm,1.2s						
N30M	**Aishikik Lake**	**4.04**	**41**	Pn	**Pn**	**07 44 14.1**	**+0.7**
N30M				IAML		07 45 16.0	
	comp=N,80nm,1.1s						
HARP	**HAARP**	**4.05**	**343**		**Pn**	**07 44 13.7**	**+0.2**
KNK	**Knik Glacier**	**4.08**	**317**		**Pn**	**07 44 14.8**	**+0.7**
KNK				IAML		07 45 01.9	
	comp=N,125nm,1.1s						
KNK				IAML		07 45 03.1	
	comp=E,110nm,0.6s						
BESE	**Bessie Mountai**	**4.09**	**86**		**Pn**	**07 44 14.5**	**+0.4**
SIT	**Sitka**	**4.20**	**108**	Pn	**Pn**	**07 44 15.7**	**+0.1**
R32K	**Eaglecrest**	**4.29**	**90**		**Pn**	**07 44 18.1**	**+1.2**
SLKM	**Skilak Lake**	**4.32**	**300**		**Pn**	**07 44 15.4**	**-1.8**
SML	**Sawmill**	**4.32**	**321**	Pn	**Pn**	**07 44 16.0**	**-1.2**
SML				IAML		07 45 07.2	
	comp=N,89nm,1.2s						
BRSE	**Bradley Lake S**	**4.33**	**289**		**Pn**	**07 44 16.2**	**-1.1**
JIS	**Juneau Island**	**4.36**	**90**		**Pn**	**07 44 19.2**	**+1.4**
RC01	**Rabbit Creek A**	**4.38**	**308**	Pn	**Pn**	**07 44 15.9**	**-2.2**
RC01				IAML		07 45 08.1	
	comp=E,73nm,0.7s						
RC01				IAML		07 45 09.1	
	comp=N,73nm,0.5s						
BRLK	**Bradley Lake**	**4.40**	**289**		**Pn**	**07 44 18.0**	**-0.4**
BRLK	**Bradley Lake**	**4.40**	**289**	IAML		07 44 52.5	
	comp=N,63nm,3.8s						
BRLK				IAML		07 45 18.2	
	comp=E,61nm,2.3s						
M29M	**Somme Creek**	**4.42**	**26**		**Pn**	**07 44 19.9**	**+1.2**
M29M	**Somme Creek**	**4.42**	**26**	IAML		07 45 07.5	
	comp=E,66nm,0.9s						
M29M				IAML		07 45 08.5	
	comp=N,115nm,0.7s						
S32K	**Killisnoo**	**4.44**	**101**		**Pn**	**07 44 19.4**	**+0.6**
PMR	**Palmer**	**4.45**	**316**	Pn	**Pn**	**07 44 18.0**	**-1.0**
WHY	**Whitehorse**	**4.48**	**59**	Pn	**Pn**	**07 44 20.5**	**+1.0**
GHO	**Glory Hole Cre**	**4.49**	**319**		**Pn**	**07 44 18.6**	**-1.0**
GHO				IAML		07 45 12.0	
	comp=N,85nm,1.3s						
GHO				IAML		07 45 12.6	
	comp=E,113nm,0.8s						
L26K	**Log Cabin Wild**	**4.50**	**356**		**Pn**	**07 44 20.4**	**+0.7**
L26K	**Log Cabin Wild**	**4.50**	**356**	IAML		07 45 11.3	
	comp=N,75nm,0.5s						
L26K				IAML		07 45 12.2	
	comp=E,67nm,0.6s						
N31M	**Braeburn, Yuko**	**4.53**	**47**	Pn	**Pn**	**07 44 20.8**	**+0.6**
N31M				IAML		07 45 28.5	
	comp=N,75nm,1.1s						
CNPM	**China Poot**	**4.54**	**286**	Pn	**Pn**	**07 44 19.7**	**-0.5**
CNPM				IAML		07 45 22.8	
	comp=N,62nm,3.3s						
CNPM				IAML		07 46 42.1	
	comp=E,61nm,3.1s						
L27K	**Beaver Creek,**	**4.54**	**5**		**Pn**	**07 44 20.3**	**+0.1**
BCAR	**Beaver Creek A**	**4.54**	**5**	Pn	**Pn**	**07 44 20.6**	**+0.3**
PAX	**Paxson**	**4.64**	**344**		**Pn**	**07 44 22.5**	**+0.8**
P32M	**Atlin**	**4.73**	**74**	Pn	**Pn**	**07 44 23.0**	**+0.1**
P32M				IAML		07 45 39.5	
	comp=N,50nm,0.9s						
WAT6	**Susitna Watana**	**4.75**	**330**		**Pn**	**07 44 22.5**	**-0.8**
HOM	**Homer**	**4.76**	**287**	Pn	**Pn**	**07 44 23.0**	**-0.3**
M30M	**Minto, Yukon**	**4.96**	**33**		**Pn**	**07 44 26.7**	**+0.7**
M30M	**Minto, Yukon**	**4.96**	**33**	IAML		07 45 54.6	
	comp=E,44nm,1.1s						
SUA	**Susitna One**	**5.00**	**309**	Pn	**Pn**	**07 44 26.9**	**+0.3**
SUA				IAML		07 45 32.5	
	comp=E,55nm,3.8s						
SUA				IAML		07 46 07.7	
	comp=N,63nm,5.0s						
L29M	**L29M**	**5.08**	**24**		**Pn**	**07 44 29.0**	**+1.4**
L29M	**L29M**	**5.08**	**24**	IAML		07 45 25.9	
	comp=E,76nm,0.6s						
DHY	**Denali Highway**	**5.09**	**335**	Pn	**Pn**	**07 44 28.4**	**+0.5**
DHY				IAML		07 45 24.7	
	comp=N,36nm,1.1s						
SYI	**Shuyak Island**	**5.09**	**275**		**Pn**	**07 44 28.1**	**+0.3**
SYI	**Shuyak Island**	**5.09**	**275**	IAML		07 46 16.9	
	comp=E,74nm,2.5s						
WAT1	**Susitna Watana**	**5.17**	**328**		**Pn**	**07 44 28.3**	**-0.6**
WAT7	**Susitna Watana**	**5.26**	**327**		**Pn**	**07 44 29.4**	**-0.7**
P33M	**Teslin, Yukon**	**5.30**	**68**		**Pn**	**07 44 31.1**	**+0.3**
P33M	**Teslin, Yukon**	**5.30**	**68**	IAML		07 46 05.7	
	comp=N,38nm,0.7s						
P33M				IAML		07 46 24.8	
	comp=E,33nm,5.0s						
RIDG	**Independent Ri**	**5.31**	**349**		**Pn**	**07 44 31.6**	**+0.8**
RIDG				IAML		07 45 31.8	
	comp=N,56nm,1.2s						
RIDG				IAML		07 45 32.8	
	comp=E,60nm,0.8s						
KDAK	**Kodiak Island**	**5.31**	**266**		**Pn**	**07 44 30.7**	**-0.1**
KDAK	**Kodiak Island**	**5.31**	**266**	Pn	**Pn**	**07 44 30.5**	**-0.3**
	comp=E,13nm,0.3s,baz=139,slow=19,SNR=83						
KDAK				Sn	**Sn**	**07 45 25.5**	**-5.3**
	comp=E,6.0nm,0.3s,baz=347,slow=18,SNR=8.7						
	comp=E,28nm,0.3s						
Q32M	**Nakina River**	**5.42**	**81**		**Pn**	**07 44 34.0**	**+1.5**
STLK	**Strandline Lak**	**5.46**	**307**		**Pn**	**07 44 32.7**	**-0.3**
SCRK	**Sand Creek**	**5.48**	**354**		**Pn**	**07 44 33.3**	**+0.1**
N32M	**Quiet Lake**	**5.48**	**58**		**Pn**	**07 44 34.2**	**+1.0**
M31M	**Drury Creek, Y**	**5.49**	**45**	Pn	**Pn**	**07 44 34.6**	**+1.2**
P19K	**Oil Pt**	**5.56**	**286**	Pn	**Pn**	**07 44 34.6**	**+0.3**
ILSW	**Iliamna Southw**	**5.56**	**289**	Pn	**Pn**	**07 44 34.0**	**-0.4**
SKT	**Skwentna**	**5.59**	**312**	Pn	**Pn**	**07 44 33.6**	**-1.1**
U33K	**Whale Pass**	**5.72**	**111**		**Pn**	**07 44 36.8**	**+0.4**
RND	**Reindeer**	**5.72**	**331**		**Pn**	**07 44 36.9**	**+0.4**
DAWY	**Dawson**	**5.75**	**15**	Pn	**Pn**	**07 44 37.9**	**+1.0**
OHAK	**Old Harbor**	**5.83**	**261**		**Pn**	**07 44 37.1**	**-0.7**
K29M	**Barlow Dome**	**5.86**	**23**	Pn	**Pn**	**07 44 39.9**	**+1.5**
FARO	**Faro, Yukon**	**5.90**	**47**		**Pn**	**07 44 40.5**	**+1.5**
WRAK	**Wrangell Islan**	**5.96**	**107**	Pn	**Pn**	**07 44 40.5**	**+0.8**
J26L	**Joseph Creek**	**5.98**	**356**		**Pn**	**07 44 40.5**	**+0.4**
MCK	**McKinley**	**6.01**	**332**		**Pn**	**07 44 41.0**	**+0.5**
MAYO	**Mayo, Yukon**	**6.03**	**30**		**Pn**	**07 44 42.6**	**+2.0**
CRAG	**Craig**	**6.06**	**117**	Pn	**Pn**	**07 44 41.1**	**+0.1**
R33M	**Jennings River**	**6.11**	**77**	Pn	**Pn**	**07 44 42.5**	**+0.6**
S34M	**Telegraph Cree**	**6.12**	**91**		**Pn**	**07 44 42.7**	**+0.7**
TRF	**Thorofare Moun**	**6.15**	**326**		**Pn**	**07 44 41.7**	**-0.8**
M20K	**Styx River**	**6.19**	**307**		**Pn**	**07 44 43.0**	**0.0**
J25K	**Salcha River,**	**6.21**	**349**		**Pn**	**07 44 43.4**	**+0.1**
HDA	**Harding Lake**	**6.22**	**343**		**Pn**	**07 44 42.7**	**-0.6**
EGAK	**Eagle**	**6.28**	**6**	Pn	**Pn**	**07 44 44.9**	**+0.8**
J29N	**Klondike Camp**	**6.29**	**18**	Pn	**Pn**	**07 44 45.9**	**+1.6**
N19K	**Bonanza Creek**	**6.40**	**296**	Pn	**Pn**	**07 44 45.2**	**-0.6**
KTH	**Kantishna Hill**	**6.42**	**325**		**Pn**	**07 44 46.1**	**+0.1**
KAHC	**Katmai Hardscr**	**6.46**	**276**		**Pn**	**07 44 46.9**	**+0.2**
WRH	**Wood River Hil**	**6.48**	**339**		**Pn**	**07 44 46.2**	**-0.6**
KAKN	**Katmai Knife C**	**6.52**	**273**		**Pn**	**07 44 47.5**	**0.0**
IL31		**6.55**	**344**		**Pn**	**07 44 46.9**	**-0.9**
ILAR	**Eielson Array**	**6.55**	**344**	Pn	**Pn**	**07 44 47.0**	**-0.8**
	comp=E,1.4nm,0.3s,baz=164,slow=13,SNR=126						
ILAR				Sn	**Sn**	**07 45 55.0**	**-6.4**
	comp=E,0.4nm,0.3s,baz=166,slow=23,SNR=7.5						
ILAR				LR	LR	07 47 38.8	
	comp=E,240nm,19.1s,baz=194,slow=41						
	comp=E,3.9nm,0.5s						
DLBC	**Dease Lake**	**6.62**	**86**	Pn	**Pn**	**07 44 50.5**	**+1.6**
DLBC	**Dease Lake**	**6.62**	**86**	Pn	**Pn**	**07 44 49.9**	**+0.9**
	comp=E,1.1nm,0.3s,baz=246,slow=12,SNR=19						
DLBC				Sn	**Sn**	**07 46 00.8**	**-2.5**
	comp=E,1.6nm,0.3s,baz=270,slow=20,SNR=8.8						
	comp=E,5.3nm,0.5s						
CAST	**Castle Rocks**	**6.69**	**321**	Pn	**Pn**	**07 44 50.5**	**+0.8**
M19K	**Big River Lodg**	**6.74**	**305**	Pn	**Pn**	**07 44 51.4**	**+1.0**
J30M	**Hart River**	**6.75**	**24**	Pn	**Pn**	**07 44 51.3**	**+0.6**
NEA2	**Nenana**	**6.78**	**336**		**Pn**	**07 44 49.5**	**-1.4**
COLA	**College**	**6.80**	**341**		**Pn**	**07 44 51.6**	**+0.5**
BPAW	**Bear Paw Mtn.**	**6.85**	**328**	Pn	**Pn**	**07 44 49.8**	**-2.1**
CNTC	**Contact Creek**	**6.96**	**273**		**Pn**	**07 44 53.5**	**0.0**
I28M	**Miner Creek**	**7.03**	**9**		**Pn**	**07 44 55.1**	**+0.6**
L19K	**White Mountain**	**7.05**	**306**	Pn	**Pn**	**07 44 54.9**	**+0.2**
PRP	**Porcupine Dome**	**7.11**	**350**	Pn	**Pn**	**07 44 54.1**	**-1.6**
Q16K	**King Salmon**	**7.31**	**277**		**Pn**	**07 44 58.4**	**+0.1**
I30M	**Mount Dempster**	**7.31**	**21**	Pn	**Pn**	**07 44 59.7**	**+1.3**
PLK4	**Peulik 4**	**7.32**	**269**	Pn	**Pn**	**07 44 59.5**	**+1.0**
I23K	**Minto, Yukon-K**	**7.33**	**337**		**Pn**	**07 44 58.1**	**-0.4**
K20K	**Telida**	**7.34**	**316**		**Pn**	**07 44 58.5**	**-0.2**
MLY	**Manley**	**7.53**	**333**	Pn	**Pn**	**07 45 01.5**	**+0.2**
N17K	**Nushagak Hills**	**7.64**	**291**	Pn	**Pn**	**07 45 01.8**	**-1.0**
H24K	**Noodor Dome**	**7.70**	**344**		**Pn**	**07 45 03.2**	**-0.4**
DIB	**Dawson Inlet,**	**7.84**	**129**	Pn	**Pn**	**07 45 05.9**	**+0.3**
H02S1	**DAWSON INLET T**	**7.84**	**129**	Pn	**Pn**	**07 45 05.6**	**+0.1**
H02S1				Sn	**Sn**	**07 46 27.9**	**-5.2**
L18K	**Granite M

*NEIC **27** 08:07:07.1±1.2, 34.°64N±0.°02×96.°32W±0.°02, h6km±5km, mb_Lg2.3/24, ML2.6/23, ML3.2/17, Error ellipse: s-maj=2.9km s-min=2.1km az=100.0*

NEIC 27 08:07:08.5±1.5, 34.°650N±0.°004×96.°33W±0.°03, h10km±7km, Error ellipse: s-maj=3.3km s-min=0.4km az=95.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W35A	**Tecumseh**	**0.67**	**318**		Pg	08 07 20.2	-1.4
W35A					Sg	08 07 29.4	-1.0
W35A				IAML		08 07 32.2	
	comp=E,237nm,0.4s						
W35A				IAML		08 07 34.1	
	comp=N,205nm,0.3s						
LOOK	**Love County**	**0.96**	**227**	Pg	Pg	08 07 25.2	-1.9
FNO	**Franklin**	**1.07**	**305**		Pg	08 07 27.7	-1.4
FNO					Sg	08 07 41.8	-1.2
FNO				IAML		08 07 47.7	
	comp=N,142nm,0.3s						
FNO				IAML		08 07 48.7	
	comp=E,128nm,0.1s						
DEOK	**Depew**	**1.20**	**353**		Pb	08 07 29.6	-1.7
DEOK					Sb	08 07 46.1	-0.9
DEOK				IAML		08 07 49.9	
	comp=E,144nm,0.2s						
DEOK				IAML		08 07 52.2	
	comp=N,99nm,0.2s						
X34A	**Smith Ranch, M**	**1.24**	**268**		Pn	08 07 30.5	-1.6
X34A					Sb	08 07 48.2	-0.1
ADOK	**Arcadia Dam**	**1.32**	**320**		Pn	08 07 32.2	-0.8
TUL3	**Leonard**	**1.33**	**19**		Pn	08 07 32.2	-1.1
TUL3					Sb	08 07 50.3	-0.5
TUL3				IAML		08 07 54.4	
	comp=N,77nm,0.4s						
TUL3				IAML		08 07 56.7	
	comp=E,78nm,0.4s						
OK031	**S. Brethren Rd**	**1.37**	**342**		Pn	08 07 32.4	-1.4
OK031					Sb	08 07 51.0	-0.8
OK052	**Battle Ridge R**	**1.40**	**344**		Pn	08 07 32.9	-1.2
OK052					Sb	08 07 52.1	-0.6
OK029	**Liberty Lake**	**1.47**	**321**		Pn	08 07 34.1	-1.1
OK029					Sn	08 07 54.1	-0.4
Z35A	**Perchaven, San**	**1.52**	**211**		Pn	08 07 34.9	-1.0
Z35A					Sn	08 07 55.2	-0.6
QUOK	**Quay**	**1.55**	**348**		Pn	08 07 35.4	-0.9
QUOK					Sb	08 07 56.9	-0.2
Z38A	**Mt. Pleasant**	**1.78**	**141**		Pn	08 07 40.1	+0.7
OK048	**Pawnee Station**	**1.83**	**344**		Pn	08 07 40.1	-0.1
RLO	**Rose Lookout**	**1.85**	**35**		Pn	08 07 40.0	-0.4
OK051	**E0350 and S346**	**1.90**	**347**		Pn	08 07 41.1	+0.1
TREL	**Terrell**	**1.93**	**174**		Pn	08 07 41.0	-0.4
TREL					Sb	08 08 08.0	+0.1
FW06	**Azle**	**1.96**	**212**		Pn	08 07 41.8	-0.2
WTFS	**Witchita Falls**	**1.98**	**244**		Pn	08 07 41.2	-1.0
WMOK	**Wichita Mounta**	**2.02**	**273**	Pn	Pn	08 07 43.0	+0.2
WMOK				IAmb_Lg		08 08 10.4	
	comp=Z,13nm,1.1s						
CSTR	**Hydro, Custer**	**2.18**	**298**		Pn	08 07 43.8	-1.1
T35A	**Sooner Cattle**	**2.27**	**356**	Pn	Pn	08 07 45.8	-0.4
T35A				IAmb_Lg		08 08 23.9	
	comp=Z,8.8nm,0.8s						
CROK	**Carrier**	**2.29**	**324**	IAmb_Lg		08 08 18.6	
	comp=Z,11nm,0.9s						
FW07	**Weatherford**	**2.29**	**212**	IAmb_Lg		08 08 20.6	
	comp=Z,9.5nm,0.8s						
KAN13	**South Haven SW**	**2.54**	**339**		Pn	08 07 48.2	-1.7
KAN13				IAmb_Lg		08 08 29.3	
	comp=Z,13nm,0.7s						
HHAR	**Hobbs**	**2.54**	**49**		Pn	08 07 49.4	-0.4
OK038	**West end E0370**	**2.69**	**313**	IAmb_Lg		08 08 34.0	
	comp=Z,16nm,0.7s						
KAN01	**Argonia South**	**2.76**	**335**	IAmb_Lg		08 08 38.1	
	comp=Z,12nm,1.1s						
DKNS	**Dickens**	**3.94**	**257**	IAmb_Lg		08 09 19.6	
	comp=Z,6.0nm,0.9s						
BRDY	**Brady**	**4.04**	**215**	IAmb_Lg		08 09 22.9	
	comp=Z,8.8nm,0.7s						
POST	**Post**	**4.59**	**251**	IAmb_Lg		08 09 42.5	
	comp=Z,11nm,1.0s						
HNDO	**Hondo**	**5.69**	**207**	IAmb_Lg		08 10 07.6	
	comp=Z,8.3nm,0.9s						
DRIO	**Del Rio**	**6.36**	**216**	IAmb_Lg		08 10 33.1	
	comp=Z,4.9nm,0.9s						

IDC 27 08:18:42.2±2.4, 54.°61N×83.°80E, h0km, mbtmp2.6/2, ML2.0/2, 1C, Error ellipse: s-maj=19.3km s-min=11.4km az=170.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.89**	**137**	I	I	08 24 25.0	
	0.5nm,1.4s,baz=316,slow=330,SNR=2.9						
ZALV	**Zalesovo Beam**	**0.89**	**137**	Pg	Pg	08 18 58.1	-1.2
	1.3nm,0.3s,baz=324,slow=16,SNR=15						
ZALV				Lg	Lg	08 19 12.7	
	5.0nm,0.3s,baz=316,slow=29,SNR=14						
KURBB	**Kurchatov Arra**	**5.12**	**221**	Pn	Pn	08 19 59.8	-0.3
	baz=41,slow=14,SNR=2.1						
KURBB				Lg	Lg	08 21 28.4	
	0.1nm,0.3s,baz=42,slow=30,SNR=4.2						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.88**	**188**	Pn	Pn	08 20 38.8	+0.7
	baz=20,slow=14,SNR=1.4						
	0.3nm,0.5s						
BVA0	**Borovoye Array**	**8.09**	**264**	Pn	Pn	08 20 51.5	+11
	2.2nm,0.2s,baz=132,slow=14,SNR=89						
BVA0				↑Sn	Pg	08 21 14.7	-2.4
	2.7nm,0.3s,baz=131,slow=25,SNR=3.5						

*SJA **27** 08:25:33.8±0.7, 34.°89S×71.°93W, h35km±2km, ML3.5, MW3.7*

*GUC **27** 08:25:39.0±0.6, 34.°75S×71.°75W, h54km±2km, ML3.8*

ISC 27 08:25:38.9±1.3, 34.°79S±0.°03×71.°80W±0.°06, h43km±11km, n51, σ1§65/87, 6C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Hualane**	**0.25**	**206**	↑*e*P	**Pn**	**08 25 48.0**	**+1.0**
GO05				*i* S	**Sn**	**08 25 55.3**	**+2.7**
GO05	**Hualane**	**0.25**	**206**	*e*P	Pn	08 25 35.5	-11
GO05				*e*S	**Sn**	**08 25 45.0**	**-7.6**
BO03	**Pichilemu**	**0.32**	**335**	*e*P	**Pn**	**08 25 48.5**	**+0.9**
BO03				*i* S	**Sn**	**08 25 55.3**	**+1.6**
BO03				IAML		08 25 56.7	
	comp=N,12μm,0.2s						
BO01	**Tunca**	**0.71**	**56**	↑*e*P	**Pn**	**08 25 52.2**	**-0.3**
BO01				*i* S	**Sn**	**08 26 01.9**	**-0.4**
BO01				IAML		08 26 02.8	
	comp=N,9μm,0.2s						
BO01	**Tunca**	**0.71**	**56**	*e*P	**Pn**	**08 25 52.0**	**-0.5**
BO01				*e*S	**Sn**	**08 26 01.2**	**-1.1**
BO01				IAML		08 26 03.2	
	comp=Z,4μm,0.3s						
BO02	**Sierra Bellavi**	**0.83**	**91**	↑*e*P	**Pn**	**08 25 54.0**	**-0.3**
BO02				*i* S	**Sn**	**08 26 05.0**	**-0.5**
BO02				IAML		08 26 06.5	
	comp=N,10μm,0.1s						
BO02	**Sierra Bellavi**	**0.83**	**91**	*e*P	**Pn**	**08 25 53.7**	**-0.6**
BO02				*e*S	**Sn**	**08 26 06.5**	**+1.0**
ML02	**Panimavida**	**1.02**	**162**	*e*P	**Pn**	**08 25 57.6**	**+0.8**
ML02				*i* S	**Sn**	**08 26 11.4**	**+1.4**
ML02				IAML		08 26 13.9	
	comp=E,3μm,0.6s						
ML02	**Panimavida**	**1.02**	**162**	*e*P	**Pn**	**08 25 52.5**	**-4.2**
ML02				IAML		08 26 16.6	
	comp=Z,1μm,0.5s						
MT01	**Popeta**	**1.03**	**26**	↓*e*P	**Pn**	**08 25 56.3**	**-0.6**
MT01				*i* S	**Sn**	**08 26 09.3**	**-0.8**
MT01				IAML		08 26 10.4	
	comp=E,3μm,0.2s						
MT01	**Popeta**	**1.03**	**26**	*e*P	**Pn**	**08 25 56.2**	**-0.6**
MT01				*e*S	**Sn**	**08 26 11.0**	**+0.9**
MT01				IAML		08 26 12.2	
	comp=Z,2μm,0.1s						
MT09	**Talagante**	**1.21**	**34**	*e*P	**Pn**	**08 25 58.9**	**-0.6**
MT09				*i* S	**Sn**	**08 26 14.2**	**-0.5**
BO04	**La Punta**	**1.26**	**51**	*e*P	**Pn**	**08 25 59.5**	**-0.6**
BO04				*i* S	**Sn**	**08 26 15.2**	**-0.8**
BO04				IAML		08 26 16.3	
	comp=E,5μm,0.2s						
MT12	**Pirque**	**1.48**	**45**	↑*e*P	**Pn**	**08 26 02.4**	**-0.6**
MT12				*i* S	**Sn**	**08 26 20.4**	**-0.8**
MT12				IAML		08 26 24.8	
	comp=E,2μm,0.4s						
MT15	**Las Vizcachas**	**1.60**	**42**	*e*P	**Pn**	**08 26 04.2**	**-0.5**
MT15				*i* S	**Sn**	**08 26 23.2**	**-0.9**
MT15				IAML		08 26 27.6	
	comp=E,3μm,0.1s						
LMEL	**Las Melosas**	**1.62**	**55**	*e*P	**Pn**	**08 26 04.6**	**-0.5**
LMEL				*i* S	**Sn**	**08 26 24.6**	**-0.3**
LMEL				IAML		08 26 29.1	
	comp=N,2μm,0.2s						
LMEL	**Las Melosas**	**1.62**	**55**	*e*P	**Pn**	**08 26 05.0**	**-0.1**
LMEL				*e*S	**Sn**	**08 26 26.0**	**+1.2**
MT02	**Curacav**	**1.62**	**20**	*e*P	**Pn**	**08 26 04.1**	**-0.9**
MT02	**Curacav**	**1.62**	**20**	*e*P	**Pn**	**08 26 03.2**	**-1.7**
MT02				*e*S	**Sn**	**08 26 28.0**	**+3.3**
MT02				IAML		08 26 34.8	
	comp=Z,384nm,0.5s						
MT13	**San Alfonso**	**1.63**	**51**	*e*P	**Pn**	**08 26 04.6**	**-0.6**
MT13				*i* S	**Sn**	**08 26 23.9**	**-1.1**
MT13				IAML		08 26 30.0	
	comp=E,2μm,0.1s						
MT13	**San Alfonso**	**1.63**	**51**	*e*P	**Pn**	**08 26 04.4**	**-0.8**
MT13				IAML		08 26 32.7	
	comp=Z,525nm,0.3s						
MT05	**Renca**	**1.65**	**33**	*e*P	**Pn**	**08 26 04.8**	**-0.6**
MT05				*i* S	**Sn**	**08 26 24.9**	**-0.4**
MT05				IAML		08 26 28.8	
	comp=N,2μm,0.3s						
MT05	**Renca**	**1.65**	**33**	*e*P	**Pn**	**08 26 05.1**	**-0.3**
MT05				*e*S	**Sn**	**08 26 27.0**	**+1.6**
MT05				IAML		08 26 29.9	
	comp=Z,604nm,0.3s						
MT03	**Universidad Ad**	**1.68**	**40**	*e*P	**Pn**	**08 26 05.0**	**-0.8**
MT03				*i* S	**Sn**	**08 26 25.4**	**-0.8**
MT03				IAML		08 26 31.7	
	comp=N,3μm,0.5s						
MT03	**Universidad Ad**	**1.68**	**40**	*e*P	**Pn**	**08 26 05.1**	**-0.8**
MT03				*e*S	**Sn**	**08 26 26.8**	**+0.6**
MT03				IAML		08 26 30.2	
	comp=Z,2μm,0.1s						
MT16	**CCHEN**	**1.72**	**38**	↑*e*P	**Pn**	**08 26 05.8**	**-0.6**
MT16				*i* S	**Sn**	**08 26 25.9**	**-1.3**
MT14	**Cerro Cal¡n**	**1.74**	**37**	*e*P	**Pn**	**08 26 06.3**	**-0.4**
MT14				*i* S	**Sn**	**08 26 26.9**	**-0.8**
MT14				IAML		08 26 32.3	
	comp=N,1μm,0.3s						
VA01	**Torpederas**	**1.77**	**4**	*e*P	Pn	08 25 57.1	-10
VA01				IAML		08 26 36.8	
	comp=Z,150nm,0.5s						
MT10	**Hacienda Santa**	**1.84**	**35**	*e*P	**Pn**	**08 26 07.5**	**-0.6**
MT10				*i* S	**Sn**	**08 26 29.2**	**-1.0**
MT10				IAML		08 26 36.2	
	comp=E,1μm,0.6s						
PEL	**Peldehue**	**1.88**	**30**	*e*P	**Pn**	**08 26 08.2**	**-0.4**
PEL				*i* S	**Sn**	**08 26 30.4**	**-0.8**
PEL				IAML		08 26 40.0	
	comp=N,607nm,0.3s						
PEL	**Peldehue**	**1.88**	**30**	*e*P	**Pn**	**08 26 04.5**	**-4.2**
BI02	**San Fabin de**	**1.92**	**167**	*e*P	**Pn**	**08 26 09.8**	**+0.7**
FCH	**Farellones**	**1.92**	**41**	↑*e*P	**Pn**	**08 26 08.7**	**-0.7**
FCH				*i* S	**Sn**	**08 26 31.6**	**-0.9**
FCH				IAML		08 26 39.0	
	comp=N,753nm,0.2s						
MT04	**Ro Olivares**	**1.95**	**45**	*e*P	**Pn**	**08 26 09.1**	**-0.6**
MT04				*i* S	**Sn**	**08 26 32.5**	**-0.5**
MT04				IAML		08 26 38.1	
	comp=E,678nm,0.3s						
MT04	**Ro Olivares**	**1.95**	**45**	*e*P	**Pn**	**08 26 09.4**	**-0.3**
MT04				*e*S	**Sn**	**08 26 35.0**	**+1.9**
MT04				IAML		08 26 38.4	
	comp=Z,402nm,0.2s						
MT08	**Bocatoma Ro**	**1.99**	**48**	*e*P	**Pn**	**08 26 10.2**	**-0.1**
MT08				*i* S	**Sn**	**08 26 33.8**	**-0.4**
MT08	**Bocatoma Ro**	**1.99**	**48**	*e*P	**Pn**	**08 26 11.0**	**+0.7**
MT08				*e*S	**Sn**	**08 26 35.6**	**+1.4**
MT08				IAML		08 26 41.4	
	comp=Z,252nm,0.4s						
EDS3	**Malargue**	**2.19**	**117**	*e*P	**Pn**	**08 26 11.0**	**-1.9**
VA03	**San Esteban**	**2.27**	**28**	*e*P	**Pn**	**08 26 13.5**	**-0.5**
VA03				*i* S	**Sn**	**08 26 39.6**	**-1.2**
VA03				IAML		08 26 49.0	
	comp=N,486nm,0.2s						
VA03	**San Esteban**	**2.27**	**28**	*e*P	**Pn**	**08 26 13.5**	**-0.5**
VA03				*e*S	**Sn**	**08 26 42.7**	**+1.9**
VA03				IAML		08 26 54.0	
	comp=Z,307nm,0.3s						
AAGR	**Agrelo**	**3.00**	**56**	*e*P	**Pn**	**08 26 26.2**	**+2.2**
AAGR				IAML		08 27 31.4	
	comp=Z,46nm,1.3s						
ARCO	**CERRO ARCO**	**3.08**	**52**	*e*P	Pn	08 26 33.8	+8.7
ARCO				IAML		08 27 27.5	
	comp=Z,55nm,1.3s						
ASAL	**Salagasta**	**3.30**	**49**	*e*P	**Pn**	**08 26 30.2**	**+2.0**
RTLS	**Leoncito**	**3.64**	**36**	*e*P	**Pn**	**08 26 34.3**	**+1.3**
RTLS				IAML		08 27 35.6	
	comp=Z,259nm,1.1s						
CO03	**El Pedregal**	**4.05**	**14**	*e*P	**Pn**	**08 26 37.6**	**-0.8**
CO03				*e*S	**Sn**	**08 27 24.1**	**-0.5**
CO03				IAML		08 27 51.3	
	comp=Z,48nm,0.5s						
RTLL	**Cerro Villicun**	**4.43**	**40**	*e*P	**Pn**	**08 26 44.1**	**+0.3**
GO04	**Tololo Observa**	**4.68**	**11**	*e*P	**Pn**	**08 26 45.6**	**-1.6**
GO04				*e*S	**Sn**	**08 27 37.5**	**-2.8**
ACCO	**Cerro Coronel**	**4.78**	**30**	*e*P	**Pn**	**08 26 48.5**	**-0.2**
ACCO				*e*S	**Sn**	**08 27 46.8**	**+3.8**
ACCO				IAML		08 28 09.8	
	comp=Z,14nm,4.5s						
GO06	**Curarrehue**	**4.79**	**177**	*e*P	**Pn**	**08 26 49.8**	**+1.1**
GO06				*e*S	**Sn**	**08 27 47.8**	**+4.8**
LR03	**Panguipulli**	**4.86**	**185**	*e*P	**Pn**	**08 26 49.5**	**+0.2**
LR03				*e*S	**Sn**	**08 27 44.5**	**+0.2**
LR03				IAML		08 28 18.8	
	comp=Z,26nm,0.5s						
CO01	**Juntas del Tor**	**5.01**	**17**	*e*P	**Pn**	**08 26 51.9**	**+0.1**
CO01				*e*S	**Sn**	**08 27 47.8**	**-0.7**
CO01				IAML		08 28 05.1	
	comp=Z,12nm,1.6s						

*NEIC **27** 09:00:41.0±1.5, 22.°0S±0.°1×169.°86E±0.°05, h10km±1km, mb4.9/31, Error ellipse: s-maj=19.3km s-min=6.3km az=164.0*

*NOU **27** 09:00:40.8, 21.°93S×169.°80E, h0km, mb4.9/57, Southeast of Loyalty Islands*

*GCMT **27** 09:00:44.0±0.3, 22.°06S±0.°03×170.°01E±0.°03, h19km±1km, MW4.9/61, Moment Tensor Solution. s30,c35; s61,c77; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.89±.24; $M_{\theta\theta}$-0.23±.19; $M_{\phi\phi}$-1.65±.14; $M_{r\theta}$1.36±.38; $M_{\theta\phi}$1.81±.10; $M_{\phi r}$-1.69±.32; Best double couple: $M_0$3.22900×10^{16} NP1:ϕ_s141.00000°, δ66.00000°, λ85.00000°. NP2: ϕ_s333.00000°, δ24.00000°, λ101.00000°. Principal axes: T 2.7380, Plg68.0000°, Azm41.0000°; N 0.9870, Plg5.0000°, Azm143.0000°; P -3.7200, Plg21.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **27** 09:00:45.0±2.3, 21.°93S×169.°84E, h54km±19km, mb4.1/15, mbtmp4.4/18, ML4.7/3, MS4.0/12 Error ellipse: s-maj=16.1km s-min=14.9km az=12.0*

ISC 27 09:00:42.6±0.4, 21.°98S±0.°06×169.°88E±0.°06, h25km, n185, σ1§36/188, mb4.8/58, MS4.2/9, 9C-2D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.79**	**286**	P	**Pn**	**09 01 11.1**	**-0.9**
PINNC	**Pines Island,**	**2.34**	**254**		**Pn**	**09 01 18.8**	**-0.7**
PINNC				Sn	**Sn**	**09 01 48.1**	**+0.6**
PINNC	**Pines Island,**	**2.34**	**254**	P	**Pn**	**09 01 19.0**	**-0.5**
YATNC	**Mamie plateau,**	**2.78**	**268**	P	**Pn**	**09 01 24.6**	**-0.9**
OUENC	**Ouen Island, N**	**2.85**	**261**	P	**Pn**	**09 01 26.4**	**-0.1**
DZM	**Mont Dzumac**	**3.19**	**268**		**Pn**	**09 01 31.4**	**0.0**
DZM				Sn	**Sn**	**09 02 08.6**	**0.0**
DZM	**Mont Dzumac**	**3.19**	**268**	P	**Pn**	**09 01 31.3**	**0.0**
	82nm,0.3s,baz=123,slow=13,SNR=2435						
DZM				S	**Sn**	**09 02 09.2**	**+0.6**
	278nm,0.5s,baz=131,slow=19,SNR=5.9						
DZM				LR	LR	09 02 11.5	
	comp=Z,749nm,21.4s,baz=148,slow=28						
	264nm,0.4s						
DZM	**Mont Dzumac**	**3.19**	**268**	P	**Pn**	**09 01 31.2**	**-0.1**
ONTNC	**Ouen Toro**	**3.19**	**264**		**Pn**	**09 01 30.9**	**-0.4**
ONTNC				Sn	**Sn**	**09 02 09.6**	**+1.0**
ONTNC	**Ouen Toro**	**3.19**	**264**	P	**Pn**	**09 01 31.4**	**+0.1**
NOUC	**Port Laguerre**	**3.32**	**267**	P	**Pn**	**09 01 33.0**	**0.0**
DVP	**Devils Point**	**4.53**	**339**	P	**Pn**	**09 01 49.6**	**0.0**
KOUNC	**Koumac, New Ca**	**5.41**	**284**	Pn	**Pn**	**09 02 01.6**	**-0.2**
KOUNC	**Koumac, New Ca**	**5.41**	**284**	P	**Pn**	**09 02 02.7**	**+1.0**
VLAKA	**Lakatoro**	**6.29**	**338**	P	**Pn**	**09 02 13.1**	**-0.8**
MSVF	**Nonsavu**	**8.77**	**63**	Pn	**Pn**	**09 02 50.8**	**+2.7**
MSVF	**Nonsavu**	**8.77**	**63**	P	**Pn**	**09 02 50.1**	**+2.0**
	1.1nm,0.3s,baz=204,slow=13,SNR=41						
	185nm,1.1s						
MSVF	**Nonsavu**	**8.77**	**63**	P	**Pn**	**09 02 50.7**	**+2.7**
RAO	**Raoul Island**	**13.17**	**126**	LR	LR	09 07 54.2	
	comp=Z,810nm,18.4s,baz=314,slow=32						
NGOA	**Tingoa Renbel**	**13.99**	**316**	P	**Pn**	**09 04 00.1**	**+0.7**
HNR	**Honiara**	**15.71**	**321**	LR	LR	09 09 55.7	
	comp=Z,383nm,19.4s,baz=136,slow=35						
AUWSH	**Wavell State H**	**16.22**	**247**	P	**Pn**	**09 04 29.6**	**+0.7**
TATA	**Tatamba Isabel**	**16.64**	**323**	P	**Pn**	**09 04 34.9**	**+0.6**
TW1H	**Toowoomba 1 Ha**	**17.18**	**248**	P	**Pn**	**09 04 41.9**	**+0.8**
GD1S	**Gladstone Soft**	**17.34**	**260**	P	**Pn**	**09 04 43.4**	**+0.4**
URZ	**Urewera**	**17.37**	**161**	P	**P**	**09 04 45.7**	**+1.2**
	0.3nm,0.3s,baz=34,slow=3.6,SNR=3.7						
URZ				LR	LR	09 09 53.2	
	comp=Z,205nm,18.1s,baz=72,slow=31						
	7.6nm,0.8s						
EIDS	**Eidsvold**	**17.55**	**255**	P	**Pn**	**09 04 45.5**	**-0.1**
EIDS	**Eidsvold**	**17.55**	**255**	P	**Pn**	**09 04 46.8**	**+1.2**
	comp=Z,38nm,1.3s						
EIDS	**Eidsvold**	**17.55**	**255**	P	**Pn**	**09 04 46.8**	**+1.2**
ARMA	**Armidale**	**18.39**	**239**	P	**P**	**09 04 55.5**	**-0.4**
ARMA	**Armidale**	**18.39**	**239**	P	**Pn**	**09 04 57.3**	**+1.2**
	comp=Z,30nm,1.2s						
ARMA	**Armidale**	**18.39**	**239**	P	**Pn**	**09 04 57.5**	**+1.4**
AUPHS	**Peel High Scho**	**19.24**	**238**	P	**Pn**	**09 05 07.2**	**+0.9**
MGCD	**Mangrove Creek**	**20.01**	**232**	P	Pn	09 05 16.3	+0.9
	comp=Z,52nm,1.3s						
MGCD	**Mangrove Creek**	**20.01**	**232**	P	**P**	**09 05 15.0**	**+1.4**
SYDH	**Sydney Hard Ro**	**20.55**	**231**	P	**P**	**09 05 21.8**	**+2.4**
AULRC	**Lightning Ridg**	**21.06**	**245**	P	**P**	**09 05 27.0**	**+2.0**
AUDCS	**Dubbo College**	**21.46**	**237**	P	**P**	**09 05 31.1**	**+1.9**
RPZ	**Rata Peaks**	**21.69**	**178**	P	**P**	**09 05 32.1**	**+0.5**
	comp=Z,13nm,0.8s,baz=297,slow=6.8,SNR=4.0						
	comp=Z,13nm,0.8s						
TV1H	**Townsville Har**	**21.77**	**273**	P	**P**	**09 05 34.5**	**+1.8**
JCZ	**Jackson Bay**	**22.05**	**182**	P	**P**	**09 05 37.2**	**+1.7**
CTA	**Charters Tower**	**22.13**	**271**	LR	LR	09 14 18.3	
	comp=Z,511nm,19.0s,baz=87,slow=37						
CTAO	**Charters Tower**	**22.13**	**271**	P	**P**	**09 05 35.8**	**-0.8**
CTAO				IAmb	IAmb	09 05 45.5	
	comp=Z,43nm,1.1s						
CTAO	**Charters Tower**	**22.13**	**271**	P	**P**	**09 05 38.0**	**+1.4**
CNB	**Canberra Magne**	**22.32**	**229**	P	**P**	**09 05 39.8**	**+1.3**
	comp=Z,74nm,1.1s						
CNB	**Canberra Magne**	**22.32**	**229**	P	**P**	**09 05 40.5**	**+2.0**
YNG	**Young**	**22.52**	**232**	P	**P**	**09 05 42.2**	**+1.6**
	comp=Z,167nm,1.1s						
YNG	**Young**	**22.52**	**232**	P	**P**	**09 05 42.5**	**+1.9**
CAN	**Canberra**	**22.58**	**229**	P	**P**	**09 05 40.9**	**-0.4**
CAN				IAmb	IAmb	09 05 45.0	
	comp=Z,72nm,1.1s						
CAN	**Canberra**	**22.58**	**229**	P	**P**	**09 05 42.8**	**+1.5**
	comp=Z,67nm,1.2s						
CAN	**Canberra**	**22.58**	**229**	P	**P**	**09 05 43.0**	**+1.7**
MILA	**Mila**	**23.40**	**225**	P	**P**	**09 05 50.6**	**+0.9**
	comp=Z,19nm,1.3s						
AUSMG	**Snowy Mountain**	**23.42**	**227**	P	**P**	**09 05 51.6**	**+1.7**
DCZ	**Deep Cove**	**23.53**	**185**	P	**P**	**09 05 51.8**	**+1.0**
DCZ				IAmb	IAmb	09 05 52.7	
	comp=Z,28nm,1.0s						
CMSA	**Cobar Meteorol**	**23.56**	**241**	P	**P**	**09 05 51.7**	**+0.5**
	comp=Z,92nm,1.4s						
CMSA	**Cobar Meteorol**	**23.56**	**241**	P	**P**	**09 05 52.5**	**+1.3**
QLP	**Quilpie**	**23.80**	**254**	P	**P**	**09 05 54.5**	**+0.8**
	comp=Z,186nm,0.9s						
QLP	**Quilpie**	**23.80**	**254**	P	**P**	**09 05 54.6**	**+0.9**
MTSU	**Mount Surprise**	**24.31**	**274**	P	**P**	**09 05 59.2**	**+0.7**
	comp=Z,21nm,0.9s						
MTSU	**Mount Surprise**	**24.31**	**274**	P	**P**	**09 05 59.6**	**+1.2**
PMG	**Port Moresby**	**25.15**	**296**	P	**P**	**09 06 05.2**	**-0.9**
PMG	**Port Moresby**	**25.15**	**296**	P	**P**	**09 06 06.6**	**+0.5**
PMG	**Port Moresby**	**25.15**	**296**	P	**P**	**09 06 06.5**	**+0.5**
TOO	**Toolangi**	**26.15**	**228**	P	**P**	**09 06 15.6**	**+0.6**
TOO	**Toolangi**	**26.15**	**228**	P	**P**	**09 06 15.4**	**+0.4**
	comp=Z,9.0nm,1.3s						
COEN	**Coen**	**26.60**	**283**	P	**P**	**09 06 20.0**	**+0.8**
COEN				IAmb	IAmb	09 06 34.1	
	comp=Z,43nm,1.4s						
COEN	**Coen**	**26.60**	**283**	P	**P**	**09 06 20.0**	**+0.8**
	comp=Z,22nm,1.4s						
COEN	**Coen**	**26.60**	**283**	P	**P**	**09 06 20.1**	**+0.9**
STKA	**Stephens Creek**	**27.01**	**243**	P	**P**	**09 06 23.5**	**+0.8**
STKA	**Stephens Creek**	**27.01**	**243**	P	**P**	**09 06 23.3**	**+0.6**
	comp=Z,9.8nm,1.0s						
STKA	**Stephens Creek**	**27.01**	**243**	P	**P**	**09 06 22.4**	**-0.4**
	comp=Z,21nm,0.7s,baz=87,slow=10,SNR=42						
STKA				LR	LR	09 16 11.7	
	comp=Z,704nm,21.3s,baz=60,slow=34						
	comp=

KNRA	Kununurra	39.33 272	P		P	09 08 09.0	-1.1
	comp=Z,21nm,0.9s						
FAKI	Fak Fak	41.15 292	P		P	09 08 24.5	-0.8
FAKI	Fak Fak	41.15 292	P		P	09 08 24.8	-0.5
FITZ	Fitzroy Crossi	41.64 267	P		P	09 08 29.2	0.0
KMBL	Kambalda	43.61 247	P		P	09 08 44.0	-1.1
	comp=Z,29nm,1.0s						
KMBL	Kambalda	43.61 247	P		P	09 08 44.8	-0.3
PSA00	Pilbara Seismi	46.29 261	P		P	09 09 05.3	-1.2
PSA00			IAmb		IAmb	09 09 17.9	
	comp=Z,18nm,0.9s						
PSAC1	Pilbara Seismi	46.33 261	P		P	09 09 05.6	-1.3
	comp=Z,20nm,1.4s						
MBWA	Marble Bar	46.47 261	P		P	09 09 06.9	-1.1
MBWA			IAmb		IAmb	09 09 19.5	
	comp=Z,12nm,0.9s						
KLBR	Kellerberrin	47.13 247	P		P	09 09 12.0	-1.1
	comp=Z,41nm,1.1s						
KLBR	Kellerberrin	47.13 247	P		P	09 09 12.6	-0.4
NWAO	Narrogin (SRO)	47.55 245	P		P	09 09 15.1	-1.2
MORW	Morawa	48.75 250	P		P	09 09 24.3	-1.3
MORW			IAmb		IAmb	09 09 39.7	
	comp=Z,20nm,1.2s						
KAPI	Kappang	51.31 282	P		P	09 09 44.9	-0.2
KAPI	Kappang	51.31 282	P		P	09 09 45.9	+0.7
TOLI2	Tolitoli	53.10 289	P		P	09 09 57.8	-0.7
TOLI2			IAmb		IAmb	09 10 09.5	
	comp=Z,25nm,1.1s						
TOLI2	Tolitoli	53.10 289	P		P	09 09 58.1	-0.4
SBUM	Sibu	61.30 286	P		P	09 10 56.4	-0.1
YULB	Yu-li	65.34 311	P		P	09 11 22.7	-0.3
MJAR	Matsushiro Arr	65.45 332	P		P	09 11 21.6	-1.8
	comp=Z,2.0nm,0.8s,baz=169,slow=4.3,SNR=5.0						
	comp=Z,2.0nm,0.8s						
QSPA	South Pole Qui	68.08 180	P		P	09 11 39.5	-0.6
QSPA	South Pole Qui	68.08 180	P		P	09 11 39.0	-1.1
	comp=Z,5.0nm,0.9s,baz=22,slow=3.9,SNR=11						
	comp=Z,5.0nm,0.9s						
KSRS	Korea Array	71.10 326	P		P	09 11 56.2	-2.6
	comp=Z,2.0nm,0.8s,baz=137,slow=6.0,SNR=5.8						
	comp=Z,2.0nm,0.8s						
IPM	Ipoh	72.25 282	P		P	09 12 06.0	-0.3
IPM			IAmb		IAmb	09 12 06.8	
	comp=Z,12nm,0.9s						
NJ2	Nanjing	72.59 316	*e*P		P	09 12 12.3	+4.4
NJ2			pmax		pmax		
	comp=Z,8.0nm,0.5s						
NJ2			pmax		pmax		
	comp=Z,140nm,4.0s						
PSI	Prapat	73.48 280	LR		LR	09 46 32.8	
	comp=Z,137nm,19.9s,baz=130,slow=37						
USRK	Ussuriysk Ar.	74.44 333	P		P	09 12 16.9	-1.6
	comp=Z,3.3nm,0.9s,baz=154,slow=4.6,SNR=3.0						
	comp=Z,3.3nm,0.9s						
PETK	Petropavlovsk-	75.52 352	P		P	09 12 24.2	-0.4
	comp=Z,3.6nm,0.9s,baz=149,slow=3.0,SNR=2.4						
	comp=Z,3.6nm,0.9s						
MAW	Mawson	76.13 202	P		P	09 12 27.4	-0.6
	comp=Z,2.6nm,0.9s,baz=110,slow=3.3,SNR=3.9						
	comp=Z,2.6nm,0.9s						
CN2	Changchun	77.10 329	*e*P		P	09 12 32.5	-1.3
CN2			pmax		pmax		
	comp=Z,10.0nm,0.6s						
LYN	LuoYang	78.32 315	*e*P		P	09 12 46.3	+5.5
LYN			pmax		pmax		
	comp=Z,11nm,0.8s						
CMAR	Chiang Mai Arr	80.18 294	P		P	09 12 50.0	-1.3
	comp=Z,2.0nm,0.3s,baz=132,slow=3.5,SNR=13						
	comp=Z,2.0nm,0.3s						
CHTO	Chiang Mai	80.34 295	P		P	09 12 51.1	-1.1
CHTO			IAmb		IAmb	09 13 05.8	
	comp=Z,11nm,1.0s						
XAN	Xi'an	80.40 313	P		P	09 12 48.0	-4.2
XAN			pmax		pmax		
	comp=Z,12nm,0.8s						
PZH	PanZhiHua	81.69 303	P		P	09 13 02.0	+2.6
PZH			pmax		pmax		
	comp=Z,8.0nm,0.7s						
PZH			pmax		pmax		
	comp=Z,90nm,4.5s						
HHC	Hu-ho-hao-te	82.69 319	*e*P		P	09 13 09.0	+4.8
HHC			pP		pwP	09 13 19.8	+3.3
HHC			sP		sP	09 13 22.3	+8.9
HHC			pmax		pmax		
	comp=Z,9.0nm,0.5s						
HHC			pmax		pmax		
	comp=Z,85nm,5.2s						
ELIB	Princess Elisa	83.56 190	*d*P		P	09 13 06.6	-1.7
	comp=Z,3.4nm,1.0s						
LZH	Lanzhou	85.00 312	*e*P		P	09 13 17.3	+1.0
LZH			pP		pwP	09 13 28.3	-0.3
LZH			pmax		pmax		
	comp=Z,14nm,1.0s						
LZH			LR		LR		
	comp=Z,210nm,19.2s						
TROLL	Troll, Antarti	85.85 184	⇑P		P	09 13 18.0	-2.0
	comp=Z,329nm,0.6s						
TROLL			⇑pP		pP	09 13 28.0	+1.4
	comp=Z,770nm,1.2s						
SNAA	Sanae	86.46 182	P		P	09 13 21.3	-1.6
SNAA			IAmb		IAmb	09 13 37.5	
	comp=Z,12nm,1.1s						
SNAA	Sanae	86.46 182	⇑P		P	09 13 20.4	-2.5
	comp=Z,44nm,0.7s						
SNAA			⇑pP		pP	09 13 29.8	+0.3
	comp=Z,79nm,0.8s						
SNAA	Sanae	86.46 182	P		P	09 13 20.7	-2.2
	comp=Z,2.3nm,0.8s,baz=207,slow=8.8,SNR=7.7						
	comp=Z,2.3nm,0.8s						
VNA3	Neumayer Olymp	87.02 180	⇑P		P	09 13 23.3	-2.3
VNA3			⇑pP		pP	09 13 31.6	-0.6
	comp=Z,7.6nm,0.7s						
VNA2	Neumayer--Watz	87.32 181	⇑P		P	09 13 24.5	-2.5
	comp=Z,9.6nm,0.7s						
VNA2			⇑pP		pP	09 13 34.7	+1.1
	comp=Z,8.0nm,0.6s,baz=139,slow=2.6						
VNA1	Neumayer--Stat	87.61 181	⇑P		P	09 13 24.9	-3.4
	comp=Z,4.4nm,0.9s						
GTA	Gaotai	89.44 313	*e*P		P	09 13 41.5	+3.9
GTA			pP		sP	09 13 47.3	+0.5
GTA			pmax		pmax		
	comp=Z,3.0nm,1.1s						
SONM	Songino Array	89.76 323	P		P	09 13 36.3	-2.6
	comp=Z,2.1nm,0.9s,baz=141,slow=5.8,SNR=8.5						
	comp=Z,2.1nm,0.9s						
NVAR	Mina Array Bea	90.17 48	P		P	09 13 39.2	-2.0
	comp=Z,0.2nm,0.4s,baz=230,slow=7.4,SNR=5.0						
	comp=Z,0.2nm,0.4s						
ILAR	Eielson Array	92.66 17	P		P	09 13 50.5	-1.3
	comp=Z,0.5nm,0.8s,baz=238,slow=4.9,SNR=3.1						
	comp=Z,0.5nm,0.8s						
H03S2	Juan Fernandez	94.19 129	T		T	10 57 43.4	
	baz=242,slow=74,SNR=4.8						
H03S1	Juan Fernandez	94.20 129	T		T	10 57 42.5	
	baz=242,slow=74,SNR=6.9						
H03S3	Juan Fernandez	94.20 129	T		T	10 57 40.6	
	baz=242,slow=74,SNR=6.7						
TXAR	Lajitas Array	97.54 62	LR		LR	09 51 32.3	
	comp=Z,116nm,18.2s,baz=246,slow=31						
WMQ	Urumqi	99.52 313	*e*P		Pdif	09 14 25.8	+2.2
ARCES	ARCESS Array B	127.86 345	PKP		PKPdf	09 19 41.9	-3.5
	comp=Z,2.0nm,0.8s,baz=30,slow=5.6,SNR=1.4						
VYHS	Vyhne	144.90 326	*e*PKP		PKPab	09 20 16.8	+0.2
DPC	Dobruska-Polom	144.90 330	*e*PKP		PKPab	09 20 16.2	-0.4
JAVC	Velka Javorina	145.26 327	*e*PKP		PKPbc	09 20 18.2	+0.3
VRAC	Vranov	145.49 329	*e*PKP		PKPbc	09 20 17.9	-0.6
BRG	Berggiesshubel	145.58 333	*i* PKP		PKPdf	09 20 18.1	-0.5
BRG			Amp			09 20 19.3	
	comp=Z,16nm,0.9s						
BRG	Berggiesshubel	145.58 333	P		PKiKP	09 20 28.1	+5.5
BRG			Amp			09 20 29.2	
	comp=Z,18nm,0.9s						
CLL	Collm	145.64 334	‖ *i* PKPbc		PKPdf	09 20 18.0	-0.6
	comp=Z,22nm,0.9s						
CLL			*i* x		x	09 20 20.9	
	comp=Z,16nm,1.0s						
CLL			*i* x		x	09 20 26.2	
CLL			*i* PKPmax			09 20 28.7	
	comp=Z,16nm,0.8s						
KRUC	Moravsky	145.75 329	*e*PKP		PKPdf	09 20 18.5	-0.4
MODS	Modra-Piesok	145.77 327	*e*PKP		PKPdf	09 20 19.7	+0.7
EKA	Eskdalemuir Ar	146.29 353	PKPbc		PKPdf	09 20 18.9	-0.7
	comp=Z,4.3nm,0.6s,baz=358,slow=3.1,SNR=14						
ZVC	Zvikov	146.52 331	*e*PKP		PKPdf	09 20 21.1	+0.9
RONA	Rosalia, Austr	146.71 327	*i* PKP		PKPdf	09 20 22.3	+1.7
	comp=Z,3.3nm,0.6s						
RONA			*i* PKiKP		PKiKP	09 20 25.4	+0.3
	comp=Z,10.0nm,1.2s						
CONA	Conrad Observa	146.78 327	*i* PKP		PKPdf	09 20 22.7	+1.9
	comp=Z,4.9nm,1.1s						
CONA			*i* PKiKP		PKiKP	09 20 25.7	+0.4
	comp=Z,7.3nm,1.0s						
CKRC	Cesky Krumlov	146.91 330	*e*PKP		PKPdf	09 20 21.8	+0.9
KHC	Kasperske Hory	147.02 331	*e*PKP		PKPdf	09 20 21.5	+0.4
KHC			*ex*		x	09 20 32.5	
GERES	GERESS Array B	147.17 331	PKPbc		PKPdf	09 20 22.8	+1.3
	comp=Z,6.3nm,0.9s,baz=72,slow=3.2,SNR=15						
SOKA	Soboth	148.04 326	*i* PKP		PKPdf	09 20 25.2	+2.3
	comp=Z,10nm,1.2s						
KBA	Koelnbreinsper	148.60 329	*e*PKP		PKPbc	09 20 27.3	-0.4
	comp=Z,11nm,0.8s						
KBA			*i* PKiKP		PKiKP	09 20 29.8	+0.6
	comp=Z,11nm,0.8s						
ABTA	Abfaltersbach	149.24 329	*e*PKP		PKPdf	09 20 27.7	+2.8
	comp=Z,7.9nm,1.1s						
ABTA			*i* PKiKP		PKiKP	09 20 30.9	+0.6
	comp=Z,7.9nm,1.1s						
WTTA	Wattenberg	149.28 330	*i* PKP		PKPbc	09 20 28.6	-0.7
	comp=Z,10.0nm,1.2s						
WTTA			*i* PKiKP		PKiKP	09 20 31.7	+1.2
	comp=Z,13nm,1.4s						
MOTA	Moosalm	149.46 331	*i* PKP		PKPbc	09 20 28.9	-0.8
	comp=Z,17nm,1.3s						
MOTA			*i* PKiKP		PKiKP	09 20 31.9	+1.0
	comp=Z,17nm,1.3s						
RETA	Reutte	149.50 332	*i* PKP		PKPbc	09 20 29.5	-0.2
	comp=Z,11nm,1.6s						
SQTA	Sankt Quirin	149.50 331	*i* PKP		PKPbc	09 20 29.2	-0.6
	comp=Z,3.6nm,0.4s						
FETA	Feichten	149.87 331	*i* PKP		PKPbc	09 20 30.0	-0.8
	comp=Z,12nm,1.1s						
DAVA	Damuels	150.04 332	*e*PKP		PKPdf	09 20 26.3	+0.1
	comp=Z,9.9nm,1.3s						
DAVA			*i* PKP		PKPbc	09 20 30.5	-0.7
	comp=Z,19nm,1.9s						

CATAC ***27*** *09:02:06.4±0.3, 12°.45N×87°.84W, h34km±4km, ML3.7*
SNET ***27*** *09:02:09.6±1.1, 12°.78N×87°.89W, h66km, ML3.6*
ISC 27 09:02:05.6±1.4, **12°.40N**±0°.05×**87°.87W**±0°.03, **h32**km±11km, **n63**, σ0°.80/106, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	0.65	28	*i* P	Pb	09 02 18.9	+0.2
CSGN				*i* S	Sn	09 02 28.8	+0.8
CSGN				IAML		09 02 36.4	
	comp=Z,560nm,1.0s						
POTN	Potosi Cosigui	0.70	31	*i* P	Pb	09 02 19.3	-0.1
POTN				*i* S	Sb	09 02 29.3	+0.5
POTN				IAML		09 02 30.0	
	comp=Z,1μm,1.0s						
EVIJ	El Viejo	0.78	70	*i* P	Pb	09 02 20.8	+0.1
EVIJ				*i* S	Sb	09 02 31.1	+0.1
EVIJ				IAML		09 02 40.3	
	comp=Z,7μm,1.0s						
CRIN	San Cristobal	0.86	69	*i* P	Pb	09 02 22.2	+0.1
CRIN				*i* S	Sb	09 02 35.1	+1.7
CRIN				IAML		09 02 43.1	
	comp=Z,6μm,1.0s						
CNCH	Conchagua	0.88	3	*e*P	Pn	09 02 21.9	+0.1
CNCH				*e*S	Sb	09 02 33.2	-0.6
CNCH	Conchagua	0.88	3	*i* P	Pb	09 02 22.2	-0.2
CNCH				*i* S	Sb	09 02 33.9	0.0
CNCH				IAML		09 02 37.8	
	comp=Z,7μm,1.0s						
LCND	La Caada	0.91	359	*e*P	Pn	09 02 22.1	0.0
LCND				*e*P	Pb	09 02 22.4	-0.5
LCND				*e*S	Sn	09 02 32.8	-1.4
LCND	La Caada	0.91	359	*i* P	Pb	09 02 22.6	-0.3
LCND				*i* S	Sb	09 02 34.5	-0.2
LCND				IAML		09 02 35.7	
	comp=Z,3μm,1.0s						
PKGN	Cerro Pekin	0.92	73	*i* P	Pb	09 02 22.9	-0.1
PKGN				*i* S	Sb	09 02 35.2	+0.3
PKGN				IAML		09 02 37.0	
	comp=Z,10μm,1.0s						
HERN	Volcan Telica	1.04	78	*i* P	Pn	09 02 20.5	-3.5
HERN				*i* S	Sn	09 02 37.0	-0.5
PACN	Al O del Volca	1.06	84	*i* P	Pn	09 02 24.4	+0.2
PACN				*i* S	Sb	09 02 39.0	0.0
PACN				IAML		09 02 42.0	
	comp=Z,3μm,1.0s						
POLN	Al Sur del Vol	1.07	76	*i* S	Sn	09 02 24.1	-14
VSM	San Miguel	1.10	339	*e*P	Pb	09 02 26.2	0.0
BLLM	Bellamira	1.10	341	*e*P	Pn	09 02 25.1	+0.3
LCY	Lacayo	1.10	338	*e*P	Pn	09 02 25.0	+0.1
RANC	El Ranchito	1.11	339	*e*P	Pn	09 02 25.3	+0.3
RANC	El Ranchito	1.11	339	*i* P	Pn	09 02 25.5	+0.5
RANC				*i* S	Sn	09 02 39.4	+0.1
RANC				IAML		09 02 42.0	
	comp=Z,2μm,1.0s						
CNRM	Centro Naciona	1.11	345	*e*P	Pn	09 02 25.1	+0.2
CNRM	Centro Naciona	1.11	345	*i* P	Pn	09 02 25.3	+0.4
CNRM				*i* S	Sb	09 02 39.5	-0.9
CNRM				IAML		09 02 42.5	
	comp=Z,4μm,1.0s						
CNGA	Al SSO del Vol	1.15	85	*i* P	Pn	09 02 25.7	+0.2
CNGA				*i* S	Sn	09 02 40.6	+0.4
CNGA				IAML		09 02 46.8	
	comp=Z,2μm,1.0s						
PACA	Pacayal	1.15	338	*e*P	Pn	09 02 26.3	+0.7
PACA	Pacayal	1.15	338	*i* P	Pn	09 02 26.5	+0.9
PACA				*i* S	Sb	09 02 40.9	-0.9
PACA				IAML		09 02 42.5	
	comp=Z,12μm,1.0s						
ILCN	San Idelfonso	1.16	81	*i* P	Pn	09 02 25.6	0.0
ILCN				*i* S	Sn	09 02 40.3	-0.1
ILCN				IAML		09 02 41.7	
	comp=Z,580nm,1.0s						
MACN	El Madrono	1.17	86	*i* P	Pn	09 02 25.8	0.0
MACN				*i* S	Sn	09 02 40.9	+0.1
MACN				IAML		09 02 48.0	
	comp=Z,1μm,1.0s						
LEVN	Ruinas Leon Vi	1.23	90	*i* P	Pn	09 02 27.0	+0.5
LEVN				*i* S	Sn	09 02 42.6	+0.6
LEVN				IAML		09 02 45.5	
	comp=Z,1μm,1.0s						
TECA	Tecapa	1.25	331	*e*P	Pn	09 02 27.3	+0.2
TECA				*e*S	Sn	09 02 42.9	0.0
MOMN	Momotombo	1.30	89	*i* P	Pn	09 02 27.8	+0.2
MOMN				*i* S	Sn	09 02 43.8	-0.2
MOMN				IAML		09 02 45.8	
	comp=Z,91nm,1.0s						
PQSS	Presa 15 de Se	1.39	331	*e*P	Pn	09 02 29.4	+0.5
PQSS	Presa 15 de Se	1.39	331	*i* P	Pn	09 02 29.3	+0.5
PQSS				*i* S	Sn	09 02 46.6	+0.5
PQSS				IAML		09 02 47.0	
	comp=Z,600nm,1.0s						
CAHU	Cacacuatique	1.41	347	*e*P	Pn	09 02 29.7	+0.5
TECO	Alcaldia de Te	1.44	322	*e*P	Pn	09 02 29.6	+0.1
APYN	Apoyeque	1.50	96	*i* P	Pn	09 02 30.9	+0.6
APYN				*i* S	Sn	09 02 48.9	+0.2
APYN				IAML		09 02 51.7	
	comp=Z,61nm,1.0s						
UESV	Universidad de	1.52	324	*e*P	Pn	09 02 30.9	+0.3
UESV	Universidad de	1.52	324	*i* P	Pn	09 02 31.3	+0.7
UESV				*i* S	Sn	09 02 49.2	-0.1
UESV				IAML		09 02 52.3	
	comp=Z,470nm,1.0s						
BRAN	Las Pilas	1.52	78	*i* P	Pn	09 02 31.1	+0.5
BRAN				*i* S	Sn	09 02 49.4	+0.1
BRAN				IAML		09 02 54.4	
	comp=Z,870nm,1.0s						
APQ2	Apoyeque	1.53	97	*i* P	Pn	09 02 31.3	+0.7
APQ2				*i* S	Sn	09 02 50.3	+0.9
APQ2				IAML		09 02 55.5	
	comp=Z,610nm,1.0s						
SCLA	Alcaldia de Sa	1.54	327	*e*P	Pn	09 02 31.5	+0.6
SCLA				*e*S	Sn	09 02 49.1	-0.7
SCLA	Alcaldia de Sa	1.54	327	*i* P	Pn	09 02 31.8	+0.9
SCLA				*i* S	Sn	09 02 51.1	+1.2
SCLA				IAML		09 02 51.9	
	comp=Z,410nm,1.0s						
COEG	Centro de Oper	1.56	321	*e*P	Pn	09 02 31.4	+0.2
COEG				*e*S	Sn	09 02 49.5	-0.9
COEG	Centro de Oper	1.56	321	*i* P	Pn	09 02 31.4	+0.2
COEG				*i* S	Sn	09 02 50.0	-0.4
COEG				IAML		09 02 53.8	
	comp=Z,480nm,1.0s						
TISN	Laguna Tiscapa	1.59	99	*i* P	Pn	09 02 31.0	-0.5
TISN				IAML		09 02 52.6	
	comp=Z,110nm,1.0s						
LIMN	Finca el Limon	1.61	66	*i* P	Pn	09 02 32.1	+0.2
LIMN				IAML		09 02 52.4	
	comp=Z,270nm,1.0s						
R0529	La Mascota	1.62	99	*i* P	Pn	09 02 31.9	-0.1
R0529				IAML		09 02 54.9	
	comp=Z,1μm,1.0s						
PAVA	Las Pavas	1.67	322	*e*P	Pn	09 02 33.4	+0.7
PAVA				*e*S	Sn	09 02 52.5	-0.7
PAVA	Las Pavas	1.67	322	*i* P	Pn	09 02 34.0	+1.3
PAVA				*i* S	Sn	09 02 53.9	+0.8
PAVA				IAML		09 02 56.6	
	comp=Z,700nm,1.0s						
LFRS	El Faro	1.68	317	*e*P	Pn	09 02 33.2	+0.3
TGUH	Tegucigalpa,Un	1.75	19	*i* P	Pn	09 02 34.2	+0.3
TGUH				*i* S	Sn	09 02 54.5	-0.7
TGUH				IAML		09 02 59.6	
	comp=Z,390nm,1.0s						
LOMA	Loma Larga	1.77	315	*e*P	Pn	09 02 34.6	+0.5
LOMA	Loma Larga	1.77	315	*i* P	Pn	09 02 33.5	-0.6
LOMA				*i* S	Sn	09 02 55.5	-0.2
NANN	Nandasmo	1.77	105	*i* P	Pn	09 02 35.5	+1.4
NANN				*i* S	Sn	09 02 56.4	+0.9
NANN				IAML		09 02 58.9	
	comp=Z,11μm,1.0s						
UEES	Universidad Ev	1.87	315	*e*P	Pn	09 02 35.8	+0.4
UEES	Universidad Ev	1.87	315	*i* P	Pn	09 02 36.5	+1.1
UEES				*i* S	Sn	09 02 58.7	+0.7
UEES				IAML		09 03 07.4	
	comp=Z,250nm,1.0s						
PMON	Piamonte	1.92	313	*e*P	Pn	09 02 36.6	+0.5
PMON				*e*S	Sn	09 02 58.5	-0.7
PMON	Piamonte	1.92	313	*i* P	Pn	09 02 37.1	+1.0
PMON				*i* S	Sn	09 02 59.8	+0.5
PMON				IAML		09 03 06.8	
	comp=Z,620nm,1.0s						
RCFN	Al S de San Ju	1.98	55	*i* P	Pn	09 02 37.5	+0.6
RCFN				IAML		09 02 37.8	
	comp=Z,5μm,1.0s						
RCFN				*i* S	Sn	09 03 00.7	0.0
JAYA	Jayaque - finc	1.98	309	*e*P	Pn	09 02 37.4	+0.4
JAYA				*e*S	Sn	09 02 59.9	-1.0
JAYA	Jayaque - finc	1.98	309	*i* P	Pn	09 02 37.6	+0.6
JAYA				*i* S	Sn	09 03 00.7	-0.1
JAYA				IAML		09 03 01.1	
	comp=Z,1μm,1.0s						
RCVN	Varillal2	2.02	54	*i* P	Pn	09 02 38.0	+0.4
RCVN				*i* S	Sn	09 03 01.8	0.0
RCVN				IAML		09 03 03.6	
	comp=Z,11μm,1.0s						
RCPN	Sur Rio San Ju	2.07	57	*i* P	Pn	09 02 39.0	+0.8
RCPN				*i* S	Sn	09 03 03.4	+0.5
RCPN				IAML		09 03 04.4	
	comp=Z,3.0nm,1.0s						
NUBE	Las Nubes	2.38	309	*e*P	Pn	09 02 43.3	+0.7
NUBE	Las Nubes	2.38	309	*i* P	Pn	09 02 43.2	+0.6
NUBE				*i* S	Sn	09 03 10.9	+0.1
NUBE				IAML		09 03 12.9	
	comp=Z,300nm,1.0s						
MTO3	Montecristo	2.46	324	*i* P	Pn	09 02 44.2	+0.5
MTO3				IAML		09 03 19.8	
	comp=Z,57nm,1.0s						
ACON	Acoyapa	2.67	99	*i* P	Pn	09 02 42.1	-4.3

IDC ***27*** *09:09:21.2±1.9, 45°.83S×33°.93E, h0km, mb3.8/5, mbtmp3.9/7, ML3.8/2, MS3.1/2, Error ellipse: s-maj=100.5km s-min=22.1km az=50.0*
NEIC ***27*** *09:09:22.9±1.4, 45°.9S±0°.1×33°.7E±0°.2, h10km±1km, mb4.6/9, Error ellipse: s-maj=25.0km s-min=14.3km az=137.0*
ISC 27 09:09:22.9±0.8, **45°.8S**±0°.1×**33°.5E**±0°.2, **h10**km, **n20**, σ2°.08/19, **mb4.1/8, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRHM	Grahamstown, E	13.65	334	Pn	Pn	09 12 36.1	-0.4
SUR	Sutherland	16.59	320	Pn	Pn	09 13 17.7	+2.0
SUR				IAmb	IAmb	09 13 25.8	
	comp=Z,57nm,1.4s						
SUR	Sutherland	16.59	320	Pn	Pn	09 13 18.0	+2.3
	comp=Z,0.3nm,0.3s,baz=140,slow=16,SNR=2.3						
SUR				Sn	Sn	09 16 14.4	-5.5
	comp=Z,0.2nm,0.3s,baz=151,slow=19,SNR=1.9						
	comp=Z,8.5nm,0.9s						
BOSA	Boshof	18.34	337		P	09 13 39.2	+1.7
BOSA	Boshof	18.34	337	P	P	09 13 38.8	+1.3
	comp=Z,0.3nm,0.3s,baz=157,slow=12,SNR=1.9						
BOSA				LR	LR	09 19 27.7	
	comp=Z,57nm,19.2s,baz=208,slow=33						
	comp=Z,1.5nm,0.6s						
POGA	Pongola	18.48	355	P	P	09 13 41.3	+2.4
POGA				IAmb	IAmb	09 13 45.0	
	comp=Z,18nm,0.6s						
LBTB	Lobatse	21.69	340	P	P	09 14 15.1	+1.1
LBTB	Lobatse	21.69	340	P	P	09 14 15.0	+1.1
	comp=Z,3.1nm,0.7s,baz=160,slow=8.4,SNR=4.2						
LBTB				LR	LR	09 21 37.4	
	comp=Z,54nm,20.5s,baz=171,slow=34						
	comp=Z,3.1nm,0.7s						
MATP	Matopo	25.64	349	P	P	09 14 53.2	+0.4
	comp=Z,1.2nm,0.8s,baz=165,slow=10,SNR=2.7						
	comp=Z,1.2nm,0.8s						
H10S2	ASCENSION HYDR	55.11	296	T	T	10 18 46.8	
	baz=139,slow=74,SNR=11						
H10S3	ASCENSION HYDR	55.12	296	T	T	10 18 49.5	
	baz=81,slow=74,SNR=12						
TORD	Torodi Ar. Bea	65.30	326	P	P	09 20 07.0	+1.9
	comp=Z,1.2nm,0.8s,baz=158,slow=6.0,SNR=5.5						
	comp=Z,1.2nm,0.8s						
PLTB	Pedras Altas	66.11	248	P	P	09 20 11.1	+0.8
TRQA	Tornquist	67.27	238	P	P	09 20 17.1	-0.4
LL02	Futaleuf	69.37	229	P	P	09 20 29.7	-0.9
LL02				IAmb	IAmb	09 20 48.4	
	comp=Z,6.3nm,1.1s						
MT08	Bocatoma Ro	75.18	237	P	P	09 21 07.2	+1.4
MT08				IAmb	IAmb	09

PATCX	**Punta Patache**	2.74	299	*eP*	**Pn**	09 12 57.9	-0.1
PATCX				*eS*	**Sn**	09 13 32.6	+1.7
PATCX				IAML		09 13 43.0	
	comp=Z,20nm,2.2s						
HMBC	**Humberstone**	2.86	311	*eP*	**Pn**	09 12 58.5	-1.1
HMBC				*eS*	**Sn**	09 13 33.7	-0.1
HMBC				IAML		09 13 35.2	
	comp=Z,17nm,0.2s						
TA01	**Diego Aracena**	2.90	303	*eP*	**Pg**	09 13 09.3	-0.7
TA01				IAML		09 14 04.8	
	comp=Z,17nm,1.4s						
GO01	**Chusmiza**	2.91	329	*eP*	**Pn**	09 13 00.9	+0.3
GO01				*eS*	**Sb**	09 13 39.3	-2.6
GO02	**Mina Guanaco**	3.50	211	*eP*	**Pn**	09 13 08.5	0.0
GO02				*eS*	**Sb**	09 13 58.7	+0.1

TAP 27 09:13:21.0, 24.′14N×121.′61E, h3km, ML1.0, 2C-2D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.02**	**35**	⇓*iP*	Pg	09 13 22.2	+0.5
ETL				S	Sg	09 13 22.8	+0.5
NACB	**Ninganchiao**	**0.04**	**336**	⇑P	Pg	09 13 22.7	+0.8
NACB				S	Sg	09 13 23.3	+0.8
TWD	**Chiawan**	**0.06**	**192**	⇓P	Pg	09 13 23.3	+0.9
TWD				*i S*	Sg	09 13 24.6	+1.4
ETLH	**Xiulin Townshi**	**0.13**	**299**	⇑*iP*	Pg	09 13 24.8	+1.1
ETLH				S	Sg	09 13 27.6	+2.1
HWA	**Hwalien**	**0.16**	**182**	P	Pg	09 13 25.7	+1.5
HWA				S	Sg	09 13 28.9	+2.5
ETM	**Tongmen**	**0.21**	**211**	*i P*	Pg	09 13 26.3	+1.3
LXIB	**Xiulin Townshi**	**0.22**	**236**	P	Pg	09 13 26.3	+1.1
LXIB				S	Sg	09 13 30.3	+2.2
WHF	**Hehuan Shan**	**0.32**	**271**	*i P*	Pb	09 13 28.5	-1.0
WHF				S	Sb	09 13 33.6	-1.6
EWUT	**Wuta**	**0.34**	**27**	P	Pg	09 13 28.6	+1.1
EWUT				*eS*	Sg	09 13 33.3	+1.3
NNSB	**Datong**	**0.35**	**324**	P	Pb	09 13 29.5	-0.5
NNSB				*eS*	Sb	09 13 35.0	-1.0
WARBT	**Fenglin Townsh**	**0.47**	**206**	*eP*	Pg	09 13 30.9	+0.9
WARBT				S	Sb	09 13 39.2	0.0
WUSB	**Renai**	**0.47**	**252**	*i P*	Pb	09 13 31.8	-0.3
WUSB				*i S*	Sb	09 13 39.8	+0.3
ENTT	**Nioudou**	**0.50**	**355**	P	Pb	09 13 32.4	0.0
ENTT				S	Sb	09 13 40.7	+0.6
YHNB	**Yeheng**	**0.57**	**338**	*i P*	Pb	09 13 33.7	0.0
YHNB				S	Sb	09 13 42.5	+0.4
VWDT	**VWDT**	**0.58**	**228**	P	Pb	09 13 33.8	0.0
VWDT				*eS*	Sb	09 13 43.6	+1.2
FUSB	**Fushanzhiwuyua**	**0.61**	**358**	*i P*	Pb	09 13 34.5	0.0
FUSB				*i S*	Sb	09 13 44.3	+0.8

JMA 27 09:13:38.0±0.1, 24.′3N±0.′6×123.′5E±0.′2, h42km±1km, MV2.4/10, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.24**	**81**	*i P*	Pn	09 13 45.6	-0.1
IRIF				*eS*	Sn	09 13 51.1	-0.1
HATJ	**Hateruma jima**	**0.39**	**128**	P	Pn	09 13 47.0	-0.3
HATJ				S	Sn	09 13 54.0	+0.1
YOJ	**Yonaguni jima**	**0.45**	**292**	*i P*	Pn	09 13 48.1	0.0
YOJ				S	Sn	09 13 55.1	-0.1
JKRS	**Kuro-shima**	**0.50**	**97**	P	Pn	09 13 48.9	+0.2
JKRS				S	Sn	09 13 56.5	+0.2
JYNG	**Yonagunijimaku**	**0.50**	**288**	*i P*	Pn	09 13 48.7	-0.1
JYNG				S	Sn	09 13 56.0	-0.5
JIJ	**Ishigaki jima**	**0.62**	**84**	P	Pn	09 13 50.1	-0.2
JIJ				S	Sn	09 13 59.0	-0.2
JISG	**Ishigakijimahi**	**0.82**	**69**	*i P*	Pn	09 13 53.0	0.0
JISG				S	Sn	09 14 04.2	+0.2
JTJ	**Tarama**	**1.18**	**73**	P	Pn	09 13 58.2	+0.3
JTJ				*eS*	Sn	09 14 13.3	+0.6

*NEIC **27** 09:15:24.2±1.6, 21.′43S±0.′09×179.′2W±0.′1, h597km±7km, mb4.3/22, Error ellipse: s-maj=18.6km s-min=12.1km az=63.0*
*IDC **27** 09:15:25.2±1.4, 21.′37S×179.′32W, h609km±13km, mb3.3/8, mbtmp4.3/11, Error ellipse: s-maj=23.8km s-min=15.5km az=86.0*

ISC 27 09:15:23.9±0.5, 21.′48S±0.′09×179.′14W±0.′09, h602km, n64, σ1§09/63, mb4.2/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.57**	**324**	P	**P**	09 16 54.5	+0.7
MSVF	**Nonsavu**	**4.57**	**324**	P	**P**	09 16 54.6	+0.8
	15nm,0.3s,baz=260,slow=23,SNR=110						
MSVF				S	**S**	09 18 07.2	+0.1
	11nm,1.0s,baz=90,slow=20,SNR=1.0						
FUTU	**Fugatoga**	**7.20**	**8**	P	**P**	09 17 14.8	-1.1
NIUE	**Niue**	**8.97**	**76**	P	**P**	09 17 31.6	-1.1
PINNC	**Pines Island,**	**12.49**	**262**	P	**P**	09 18 06.5	-1.0
ONTNC	**Ouen Toro**	**13.40**	**264**	P	**P**	09 18 16.0	-0.7
DZM	**Mont Dzumac**	**13.41**	**265**	P	**P**	09 18 16.4	-0.6
DZM	**Mont Dzumac**	**13.41**	**265**	P	**P**	09 18 15.8	-1.1
	4.3nm,0.6s,baz=75,slow=18,SNR=5.8						
URZ	**Urewera**	**17.03**	**190**	P	**P**	09 18 51.7	+1.3
	4.1nm,0.3s,baz=3.9,slow=2.6,SNR=13						
URZ				S	**S**	09 21 32.4	-6.0
	5.7nm,0.9s,baz=58,slow=15,SNR=5.7						
CTAO	**Charters Tower**	**32.34**	**266**	P	**P**	09 21 05.7	0.0
CTAO				IAmb	IAmb	09 21 28.2	
	comp=Z,9.1nm,1.3s						
STKA	**Stephens Creek**	**36.41**	**245**	PcP	**PcP**	09 23 46.6	0.0
	comp=Z,0.4nm,0.3s,baz=90,slow=1.0,SNR=2.9						
BBOO	**Buckleboo**	**41.16**	**244**	P	**P**	09 22 17.6	+0.2
BBOO				IAmb	IAmb	09 22 44.7	
	comp=Z,19nm,1.2s						
AS31	**Alice Springs**	**43.26**	**258**	P	**P**	09 22 34.3	+0.2
ASAR	**Alice Springs**	**43.26**	**258**	P	**P**	09 22 33.8	-0.3
	comp=Z,4.4nm,0.8s,baz=98,slow=7.8,SNR=60						
ASAR				PcP	**PcP**	09 24 09.6	+0.3
	comp=Z,1.2nm,0.6s,baz=108,slow=4.0,SNR=11						
	comp=Z,4.4nm,0.8s						
WB0	**Warramunga Arr**	**43.40**	**264**	P	**P**	09 22 34.6	-0.5
WB2	**Warramunga Arr**	**43.41**	**263**	P	**P**	09 22 34.5	-0.7
WRA	**Warramunga Arr**	**43.42**	**263**	P	**P**	09 22 34.5	-0.8
	comp=Z,1.9nm,0.6s,baz=97,slow=7.3,SNR=38						
WRA				PcP	**PcP**	09 24 10.3	+0.5
	comp=Z,0.5nm,0.6s,baz=102,slow=3.2,SNR=2.9						
	comp=Z,1.9nm,0.6s						
FORT	**Forrest**	**47.93**	**247**	P	**P**	09 23 09.3	0.0
MTN	**Manton Dam**	**48.12**	**272**	P	**P**	09 23 10.4	-0.5
KNRA	**Kununurra**	**49.54**	**267**	P	**P**	09 23 20.9	-0.4
FITZ	**Fitzroy Crossi**	**51.85**	**263**	P	**P**	09 23 38.3	+0.3
PSA00	**Pilbara Seismi**	**56.41**	**258**	P	**P**	09 24 09.3	-0.7
PSA00				IAmb	IAmb	09 24 48.3	
	comp=Z,23nm,1.4s						
MBWA	**Marble Bar**	**56.60**	**258**	P	**P**	09 24 11.0	-0.3
MBWA				IAmb	IAmb	09 24 42.0	
	comp=Z,20nm,1.3s						
QSPA	**South Pole Qui**	**68.59**	**180**	P	**P**	09 25 29.7	+2.1
QSPA	**South Pole Qui**	**68.59**	**180**	P	**P**	09 25 29.5	+1.9
	comp=Z,4.7nm,0.8s,baz=71,slow=1.3,SNR=12						
	comp=Z,4.7nm,0.8s						
MJAR	**Matsushiro Arr**	**70.37**	**325**	P	**P**	09 25 38.0	-0.5
	comp=Z,1.3nm,0.6s,baz=142,slow=5.7,SNR=2.2						
	comp=Z,1.3nm,0.6s						
PETK	**Petropavlovsk-**	**76.95**	**346**	P	**P**	09 26 14.5	-0.8
	comp=Z,2.9nm,0.9s,baz=132,slow=4.3,SNR=1.5						
	comp=Z,2.9nm,0.9s						
MAW	**Mawson**	**80.28**	**200**	P	**P**	09 26 34.2	+1.3
	comp=Z,0.8nm,0.6s,baz=170,slow=6.1,SNR=1.5						
	comp=Z,0.8nm,0.6s						
SCM	**Sheep Creek Mo**	**86.84**	**15**	P	**P**	09 27 05.9	+0.7
SNAA	**Sanae**	**87.06**	**179**	P	**P**	09 27 06.9	+0.6
SNAA				IAmb	IAmb	09 27 13.7	
	comp=Z,7.3nm,1.5s						
SNAA	**Sanae**	**87.06**	**179**	P	**P**	09 27 06.9	+0.6
	comp=Z,0.5nm,0.4s,baz=185,slow=14,SNR=7.2						
	comp=Z,0.5nm,0.4s						
CAST	**Castle Rocks**	**87.25**	**12**	P	**P**	09 27 07.3	+0.2
CAST				IAmb	IAmb	09 27 44.5	
	comp=Z,8.4nm,1.4s						
N25K	**Chitina, Valde**	**87.31**	**16**	P	**P**	09 27 08.5	+1.0
N25K				IAmb	IAmb	09 27 29.4	
	comp=Z,7.3nm,1.1s						
J20K	**Nowinta River**	**87.57**	**11**	P	**P**	09 27 09.2	+0.7
J20K				IAmb	IAmb	09 27 40.5	
	comp=Z,6.0nm,1.4s						
RND	**Reindeer**	**87.89**	**13**	P	**P**	09 27 11.2	+1.1
CCB	**Clear Creek Bu**	**89.20**	**13**	P	**P**	09 27 16.1	+0.1
CCB				IAmb	IAmb	09 27 36.9	
	comp=Z,3.4nm,1.3s						
IMAR	**Indian Mountai**	**89.30**	**10**	P	**P**	09 27 16.8	+0.3
CMAR	**Chiang Mai Arr**	**89.44**	**290**	P	**P**	09 27 19.3	+1.0
	comp=Z,1.0nm,0.4s,baz=139,slow=3.2,SNR=10						
	comp=Z,1.0nm,0.4s						
IL31		**89.50**	**13**	P	**P**	09 27 17.1	-0.4
IL31				IAmb	IAmb	09 27 35.0	
	comp=Z,6.1nm,1.4s						
J25K	**Salcha River,**	**89.70**	**14**	P	**P**	09 27 19.4	+1.0
J25K				IAmb	IAmb	09 27 56.2	
	comp=Z,8.6nm,1.4s						
E19K	**Redstone River**	**90.16**	**8**	P	**P**	09 27 21.2	+0.8
E19K				IAmb	IAmb	09 27 40.7	
	comp=Z,7.0nm,1.2s						
BMAR	**Burnt Mountain**	**92.28**	**13**	P	**P**	09 27 31.7	+1.5
BVAR	**Borovoye Array**	**119.13**	**320**	PKP	**PKPdf**	09 33 04.5	-0.6
	comp=Z,1.2nm,0.3s,baz=94,slow=1.7,SNR=6.2						
ARTI	**Arti**	**125.50**	**325**	PKPdf	**PKPdf**	09 33 17.4	+0.2
ABKAR	**Akbulak array**	**126.05**	**316**	PKPdf	**PKPdf**	09 33 18.4	-0.1
ARCES	**ARCESS Array B**	**129.68**	**349**	PKP	**PKPdf**	09 33 25.0	+0.1
	comp=Z,3.8nm,0.9s,baz=16,slow=2.0,SNR=9.0						
FINES	**FINESS Array B**	**136.40**	**343**	PKPdf	**PKiKP**	09 33 39.4	-0.1
FINES	**FINESS Array B**	**136.40**	**343**	PKP	**PKPdf**	09 33 38.5	+0.9
	comp=Z,1.6nm,0.7s,baz=33,slow=3.3,SNR=1.8						
HFS	**Hagfors**	**140.32**	**350**	PKhKP	PKPpre	09 33 38.1	
	comp=Z,1.8nm,0.9s,baz=83,slow=3.3,SNR=4.4						
AKASG	**Malin Array Be**	**143.33**	**330**		PKPab	09 33 48.8	-0.2
AKASG	**Malin Array Be**	**143.33**	**330**	PKP	PKPab	09 33 48.3	-0.6
	comp=Z,2.9nm,0.4s,baz=44,slow=4.3,SNR=30						
AKBB	**Malin Array Si**	**143.33**	**330**		PKPab	09 33 48.4	-0.6
KIEV	**Kiev**	**143.34**	**330**		PKPab	09 33 48.4	-0.6
EKA	**Eskdalemuir Ar**	**146.06**	**4**	PKPbc	**PKPbc**	09 33 57.2	0.0
	comp=Z,1.4nm,0.6s,baz=348,slow=3.5,SNR=3.6						
BR131	**Keskin Array S**	**146.68**	**311**		**PKPbc**	09 33 59.2	-0.4
BRTR	**Keskin Array B**	**146.68**	**311**	PKPbc	**PKPbc**	09 33 59.2	-0.4
BRTR	**Keskin Array B**	**146.68**	**311**	PKPbc	**PKPbc**	09 33 59.4	-0.2
	comp=Z,1.7nm,0.6s,baz=132,slow=3.2,SNR=8.8						
ANTO	**Ankara**	**147.22**	**311**	PKPdf	**PKPdf**	09 33 56.6	-1.0
MMAI	**Mount Meron Ar**	**147.35**	**298**	PKPbc	**PKPbc**	09 34 00.7	-0.8
	comp=Z,2.7nm,0.6s,baz=54,slow=7.3,SNR=3.6						
CLL	**Collm**	**148.75**	**345**	PKPbc	**PKPbc**	09 34 04.7	+0.5
UCC	**Uccle**	**150.61**	**355**	PKPdf	**PKPdf**	09 34 01.2	-1.3
GRA1	**Grafenberg Arr**	**150.67**	**346**	PKPdf	**PKPdf**	09 34 02.6	-0.1
GRFO	**Grafenberg**	**150.67**	**346**	PKPdf	**PKPdf**	09 34 02.8	+0.2
GERES	**GERESS Array B**	**150.83**	**342**	PKPbc	**PKPbc**	09 34 09.4	+0.1
	comp=Z,1.2nm,0.8s,baz=12,slow=5.3,SNR=4.4						

*BJI **27** 09:22:13.7, 6.′68S×155.′43E, h11km, mb5.1/75, mB5.4/37, Ms4.8/38, Ms7 4.5/45*
*MOS **27** 09:22:14.3±0.9, 7.′05S×154.′81E, h10km, mb5.4/37, MS4.6/4, Error ellipse: s-maj=8.5km s-min=6.9km az=119.7*
*NEIC **27** 09:22:16.9, 7.′07S×154.′77E, h12km*
*NEIC **27** 09:22:16.9, 7.′07S×154.′67E, h12km, Moment Tensor Solution. Duration: 1§1.0 Moment tensor: Scale 10^{16} Nm; M_{rr}4.32; $M_{\theta\theta}$-2.95; $M_{\phi\phi}$-1.37; $M_{r\theta}$2.35; $M_{\theta\phi}$2.22; $M_{\phi r}$-5.66; Fault plane solution: $M_0$7.54000×10^{16} NP1: ϕ_s149.82000°, δ73.14000°, λ104.94000°. NP2: ϕ_s287.21000°, δ22.38000°, λ49.62000°. Principal axes: T 7.8806, Plg59.0000°, Azm81.0000°; N -0.6878, Plg14.0000°, Azm325.0000°; P -7.1928, Plg27.0000°, Azm228.0000°;*
*NEIC **27** 09:22:16.4±1.3, 7.′08S±0.′05×154.′75E±0.′07, h10km±1km, mb5.5/316, Ms_20 4.9/60, Mww5.2/26 Error ellipse: s-maj=13.1km s-min=5.3km az=53.0*
*GCMT **27** 09:22:19.4±0.1, 7.′25S±0.′01×154.′85E±0.′01, h12km, MW5.2/125, Moment Tensor Solution. s97, c125; s125, c192; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.27±.08; $M_{\theta\theta}$-2.66±.08; $M_{\phi\phi}$-2.61±.08; $M_{r\theta}$3.37±.27; $M_{\theta\phi}$2.27±.07; $M_{\phi r}$-3.96±.26; Best double couple: $M_0$7.27400×10^{16} NP1:ϕ_s138.00000°, δ68.00000°, λ92.00000°. NP2:ϕ_s312.00000°, δ22.00000°, λ84.00000°. Principal axes: T 7.4650, Plg67.0000°, Azm52.0000°; N -0.3820, Plg2.0000°, Azm317.0000°; P -7.0830, Plg23.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **27** 09:22:23.4±1.6, 7.′11S×154.′76E, h72km±13km, mb4.6/22, mbtmp4.9/26, MS4.3/43 Error ellipse: s-maj=13.5km s-min=11.3km az=64.0*
*DJA **27** 09:22:25.0±0.6, 7.′S±4.′×15.′5E±.′, h62km±7km, M4.9/14, mb5.1/14, mB5.3/13, MLv5.2/2, Mw(mB)4.7/13, MwMwp4.8/5, Mwp5.2/5*

ISC 27 09:22:16.1±0.2, 7.′04S±0.′04×154.′81E±0.′04, h10km, n894, σ1§18/791, mb5.4/249, MS4.6/87, 10C-6D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.87**	**317**	Pn	**Pn**	09 23 15.0	-0.7
I40PG	**Keravat**	**3.89**	**314**	I	I	09 45 43.5	
	baz=127,slow=310,SNR=2.7						
TATA	**Tatamba Isabel**	**5.13**	**105**	P	**Pn**	09 23 35.5	+2.5
HNR	**Honiara**	**5.61**	**115**	Pn	**Pn**	09 23 40.3	+0.7
HNR	**Honiara**	**5.61**	**115**	P	**Pn**	09 23 44.2	+4.5
	148nm,0.6s,baz=280,slow=6.1,SNR=8.7						
HNR				S	**Sn**	09 24 52.9	+8.6
	860nm,0.9s,baz=253,slow=17,SNR=1.6						
HNR	**Honiara**	**5.61**	**115**	P	**Pn**	09 23 43.8	+4.1
ALEG	**Aligegeo Malai**	**6.07**	**107**	P	**Pn**	09 23 47.6	+1.6
NGOA	**Tingoa Renbel**	**6.86**	**131**	P	**Pn**	09 23 58.7	+1.9
HURO	**Huro Makira**	**7.79**	**116**	P	**Pn**	09 24 13.5	+3.9
PMG	**Port Moresby**	**7.93**	**252**	Pn	**Pn**	09 24 09.5	-2.1
PMG	**Port Moresby**	**7.93**	**252**	P	**Pn**	09 24 14.6	+3.0
	125nm,0.9s,baz=40,slow=12,SNR=32						
PMG				S	**Sn**	09 25 43.4	+1.9
	112nm,1.0s,baz=130,slow=16,SNR=2.1						
PMG	**Port Moresby**	**7.93**	**252**	P	**Pn**	09 24 14.8	+3.2
PMG	**Port Moresby**	**7.93**	**252**	P	**Pn**	09 24 14.6	+3.0
MANU	**Manus Island**	**8.93**	**303**	Pn	**Pn**	09 24 23.2	-2.0
LUES	**Luesalemba Tem**	**11.54**	**109**	P	**Pn**	09 25 05.1	+4.0
COEN	**Coen**	**13.35**	**238**	Pn	**Pn**	09 25 22.2	-3.5
COEN	**Coen**	**13.35**	**238**	P	**Pn**	09 25 25.0	-0.8
	comp=Z,0.0nmcomp=Z,58nm,1.0s						
COEN	**Coen**	**13.35**	**238**	P	**Pn**	09 25 28.3	+2.5
PATS	**Pohnpei**	**14.22**	**14**	Pn	**Pn**	09 25 38.9	+1.3
PATS	**Pohnpei**	**14.22**	**14**	P	**P**	09 25 42.8	-2.4
	comp=Z,247nm,1.4s						
PATS	**Pohnpei**	**14.22**	**14**	P	**P**	09 25 42.9	-2.2
MMPI	**Merauke**	**14.37**	**263**	P	Pn	09 25 27.4	-12
TV1H	**Townsville Har**	**14.44**	**212**	P	**Pn**	09 25 43.0	+2.4
JAY	**Jayapura**	**14.76**	**287**	P	**Pn**	09 25 47.3	+2.2
	comp=Z,17nm,0.9s,baz=143,slow=19,SNR=2.6						
JAY				LR	LR	09 32 39.1	
	comp=Z,3μm,18.3s,baz=90,slow=42						
MTSU	**Mount Surprise**	**15.04**	**222**	P	**Pn**	09 25 49.1	+0.2
	comp=Z,47nm,1.1s						
MTSU	**Mount Surprise**	**15.04**	**222**	P	**Pn**	09 25 50.0	+1.1
VLAKA	**Lakatoro**	**15.28**	**127**	P	**P**	09 25 55.1	-1.8
CTA	**Charters Tower**	**15.40**	**212**	LR	LR	09 30 55.6	
	comp=Z,2μm,21.0s,baz=42,slow=33						
CTAO	**Charters Tower**	**15.40**	**212**	Pn	**Pn**	09 25 52.7	-1.0
CTAO	**Charters Tower**	**15.40**	**212**	P	**Pn**	09 25 56.3	-2.0
CTAO	**Charters Tower**	**15.40**	**212**	P	**Pn**	09 25 52.7	-1.0
CTAO				pmax	pmax		
	comp=Z,66nm,1.0s						
DVP	**Devils Point**	**16.82**	**130**	P	**P**	09 26 14.3	+0.3
GD1S	**Gladstone Soft**	**17.07**	**191**	P	**P**	09 26 16.6	-0.2
EIDS	**Eidsvold**	**18.57**	**191**	P	**P**	09 26 32.1	-1.2
EIDS	**Eidsvold**	**18.57**	**191**	P	**P**	09 26 32.5	-0.9
	comp=Z,0.0nmcomp=Z,32nm,1.3s						
EIDS	**Eidsvold**	**18.57**	**191**	P	**Pn**	09 26 33.8	+0.2
NOUC	**Port Laguerre**	**18.63**	**145**	P	**Pn**	09 26 35.9	+1.6
DZM	**Mont Dzumac**	**18.69**	**144**	P	**P**	09 26 34.2	-0.5
DZM	**Mont Dzumac**	**18.69**	**144**	P	**Pn**	09 26 35.9	+0.8
	comp=Z,36nm,1.0s,baz=3.3,slow=9.5,SNR=6.9						
DZM				LR	LR	09 32 04.0	
	comp=Z,805nm,20.3s,baz=340,slow=31						
DZM	**Mont Dzumac**	**18.69**	**144**	P	**Pn**	09 26 36.2	+1.1
YATNC	**Mamie plateau,**	**18.94**	**143**	P	**Pn**	09 26 40.1	+2.0
QIS	**Mount Isa**	**19.94**	**226**	P	**P**	09 26 47.5	-1.0
	comp=Z,0.0nmcomp=Z,69nm,1.2s						
QIS	**Mount Isa**	**19.94**	**226**	P	**P**	09 26 48.4	0.0
AUWSH	**Wavell State H**	**20.32**	**185**	P	**P**	09 26 52.7	+0.2
TW1H	**Toowoomba 1 Ha**	**20.57**	**187**	P	Pn	09 26 56.2	-1.3
GC1S	**Gold Coast 1 S**	**21.05**	**183**	P	**P**	09 27 01.3	+1.0
RKPI	**Ransiki, Papua**	**21.29**	**284**	P	**P**	09 27 06.0	+2.9
	comp=Z,212nm,1.3s						
QLP	**Quilpie**	**21.89**	**206**	P	**P**	09 27 08.6	-0.8
	comp=Z,218nm,1.2s						
QLP	**Quilpie**	**21.89**	**206**	P	**P**	09 27 10.1	+0.7
KDU	**Kakadu**	**22.70**	**254**	P	**P**	09 27 17.3	-1.0
	comp=Z,82nm,1.2s						
KDU	**Kakadu**	**22.70**	**254**	P	**P**	09 27 20.1	+1.8
GUMO	**Guam**	**22.75**	**334**	LR	LR	09 36 37.0	
	comp=Z,164nm,18.5s,baz=140,slow=38						
FAKI	**Fak Fak**	**22.84**	**279**	P	**P**	09 27 17.3	-2.4
AULRC	**Lightning Ridg**	**23.19**	**195**	P	**P**	09 27 22.3	-0.8
ARMA	**Armidale**	**23.45**	**187**	P	**P**	09 27 24.5	-1.4
ARMA	**Armidale**	**23.45**	**187**	P	**P**	09 27 24.5	-1.4
	comp=Z,61nm,1.4s						
ARMA	**Armidale**	**23.45**	**187**	P	**P**	09 27 25.8	-0.1
WB0	**Warramunga Arr**	**23.51**	**235**	P	**P**	09 27 25.2	-1.3
WB0				IAmb	IAmb	09 27 40.2	
	comp=Z,226nm,1.6s						
WB2	**Warramunga Arr**	**23.63**	**235**	P	**P**	09 27 26.5	-1.2
WB2				IAmb	IAmb	09 27 41.2	
	comp=Z,202nm,1.5s						
WRA	**Warramunga Arr**	**23.64**	**235**	P	**P**	09 27 26.4	-1.4
	comp=Z,43nm,0.9s,baz=62,slow=9.5,SNR=81						
	comp=Z,43nm,0.9s						
MTN	**Manton Dam**	**24.02**	**254**	P	**P**	09 27 31.6	+0.1
MTN				IAmb	IAmb	09 27 49.7	
	comp=Z,156nm,1.2s						
MTN				IAMs_20	IAMs_20	09 37 55.0	
	comp=Z,3μm,18.0s						
MTN	**Manton Dam**	**24.02**	**254**	P	**P**	09 27 31.4	0.0
	comp=Z,117nm,1.2s						
MTN	**Manton Dam**	**24.02**	**254**	P	**P**	09 27 32.3	+0.9
DRS	**Darwin Rock St**	**24.16**	**255**	P	**P**	09 27 33.9	+1.1
AUPHS	**Peel High Scho**	**24.22**	**188**	P	**P**	09 27 32.5	-0.7
SWI	**Sorong**	**24.27**	**284**	P	**P**	09 27 35.8	+2.0
	comp=Z,86nm,1.1s,comp=Z,1μm						
INKA	**Innaminka**	**24.53**	**211**	P	**P**	09 27 36.4	+0.4
MSVF	**Nonsavu**	**25.03**	**117**	P	**P**	09 27 40.4	-0.3
MSVF				IAmb	IAmb	09 27 53.2	
	comp=Z,119nm,1.1s						
MSVF	**Nonsavu**	**25.03**	**117**	P	**P**	09 27 40.9	+0.2
	comp=Z,31nm,1.0s,baz=272,slow=6.3,SNR=21						
	comp=Z,31nm,1.0s						
MSVF	**Nonsavu**	**25.03**	**117**	P	**P**	09 27 42.2	+1.5
AUDCS	**Dubbo College**	**25.72**	**192**	P	**P**	09 27 46.5	-0.2
CMSA	**Cobar Meteorol**	**25.82**	**198**	P	**P**	09 27 46.2	-1.5
	comp=Z,94nm,1.2s						
CMSA	**Cobar Meteorol**	**25.82**	**198**	P	**P**	09 27 47.1	-0.6
AS01	**Alice Springs**	**25.97**	**228**	P	**P**	09 27 48.3	-0.9
AS31	**Alice Springs**	**26.01**	**228**	P	**P**	09 27 47.7	-1.8
AS31	**Alice Springs**	**26.01**	**228**	P	**P**	09 27 48.5	-1.0
	comp=Z,6.1nm,1.2s						
ASAR	**Alice Springs**	**26.01**	**228**	P	**P**	09 27 47.8	-1.8
ASAR	**Alice Springs**	**26.01**	**228**	P	**P**	09 27 48.2	-1.3
	comp=Z,12nm,0.8s,baz=62,slow=8.7,SNR=84						
	comp=Z,12nm,0.8s						
MGCD	**Mangrove Creek**	**26.27**	**187**	P	**P**	09 27 51.5	-0.2
	comp=Z,80nm,0.9s						
MGCD	**Mangrove Creek**	**26.27**	**187**	P	**P**	09 27 53.5	+1.8
KNRA	**Kununurra**	**26.92**	**249**	P	**P**	09 27 57.4	-0.3
KNRA				IAMs_20	IAMs_20	09 39 21.8	
	comp=Z,1μm,18.0s						
KNRA	**Kununurra**	**26.92**	**249**	P	**P**	09 27 57.8	+0.1
	comp=Z,65nm,0.9s						
OOD	**Oodnadatta**	**27.47**	**219**	P	**P**	09 28 04.0	+1.4
FUTU	**Fugatoga**	**27.54**	**107**	P	**P**	09 28 04.3	+0.9
STKA	**Stephens Creek**	**27.62**	**205**	P	**P**	09 28 02

comp=Z,52nm,1.2s
URZ Urewera 37.06 150 P **P 09 29 27.6 +1.2**
comp=Z,22nm,1.0s,baz=45,slow=3.9,SNR=5.6
URZ LR LR 09 43 08.9
comp=Z,736nm,18.5s,baz=56,slow=34
comp=Z,22nm,1.0s
RTZ Ruatahuna 37.27 151 P **P 09 29 27.9 -0.4**
RTZ IAmb IAmb 09 29 45.5
comp=Z,82nm,1.0s
BKZ Black Stump Fm 37.48 152 P **P 09 29 30.7 +0.7**
BKZ Black Stump Fm 37.48 152 P **P 09 29 31.4 +1.4**
DSZ Denniston Nort 37.71 159 IAMs_20 IAMs_20 09 44 54.3
comp=Z,1μm,19.0s
MYLDM Lahad Datu 38.22 288 P **P 09 29 36.9 +0.4**
MYLDM Lahad Datu 38.22 288 P **P 09 29 38.7 +2.2**
MSWZ Moikau Station 38.76 155 P **P 09 29 40.4 -0.4**
KHZ Kahutara 38.93 158 P **P 09 29 42.8 +0.7**
KMBL Kambalda 39.13 227 P **P 09 29 42.6 -1.4**
comp=Z,51nm,1.2s
KMBL Kambalda 39.13 227 P **P 09 29 43.1 -1.0**
MEEK Meekatharra 39.54 236 P **P 09 29 46.6 -1.0**
comp=Z,36nm,1.2s
MEEK Meekatharra 39.54 236 P **P 09 29 47.1 -0.5**
TGY Tagaytay City 39.64 302 LR LR 09 44 34.6
comp=Z,420nm,21.6s,baz=118,slow=34
JAGI Jajag, Banyuwa 40.30 265 P **P 09 29 55.0 +1.0**
PYZ Puysegur Point 40.31 167 IAMs_20 IAMs_20 09 45 16.3
comp=Z,842nm,18.0s
KLBR Kellerberrin 42.32 230 P **P 09 30 08.8 -1.6**
comp=Z,56nm,0.9s
KLBR Kellerberrin 42.32 230 P **P 09 30 09.8 -0.6**
JOW Kunigami 42.37 324 LR LR 09 48 18.6
comp=Z,271nm,18.1s,baz=133,slow=37
MORW Morawa 42.59 234 P **P 09 30 11.4 -1.2**
MORW IAMs_20 IAMs_20 09 47 33.6
comp=Z,818nm,21.0s
MORW Morawa 42.59 234 P **P 09 30 11.1 -1.5**
comp=Z,30nm,1.0s
MORW Morawa 42.59 234 P **P 09 30 13.3 +0.7**
BLDU Ballidu 42.69 232 P **P 09 30 11.0 -2.5**
comp=Z,34nm,1.9s
BLDU Ballidu 42.69 232 P **P 09 30 14.4 +1.0**
NWAO Narrogin (SRO) 43.33 228 P **P 09 30 17.5 -1.0**
NWAO Narrogin (SRO) 43.33 228 IAMs_20 IAMs_20 09 48 34.2
comp=Z,1μm,19.0s
NWAO Narrogin (SRO) 43.33 228 P **P 09 30 17.5 -1.0**
NWAO pmax pmax
comp=Z,29nm,1.2s
NWAO MLR MLR
comp=Z,1μm,19.0s
SBUM Sibu 43.54 281 P **P 09 30 19.4 -1.1**
MUN Mundaring 43.67 230 P **P 09 30 20.3 -1.0**
comp=Z,28nm,1.2s
RKGY Rocky Gully 44.32 226 P **P 09 30 26.5 -0.1**
comp=Z,73nm,1.0s
RKGY Rocky Gully 44.32 226 P **P 09 30 26.9 +0.4**
YULB Yu-li 44.58 314 P **P 09 30 27.1 -1.6**
YULB IAmb IAmb 09 30 48.2
comp=Z,76nm,0.9s
NACB Ninganchiao 44.86 315 P **P 09 30 29.1 -1.7**
NACB Ninganchiao 44.86 315 P **P 09 30 32.8 +1.9**
TPUB Ta-pu 45.00 313 P **P 09 30 30.4 -1.7**
TPUB Ta-pu 45.00 313 P **P 09 30 34.0 +1.9**
SSLB Suanglung 45.07 314 P **P 09 30 32.3 -0.3**
SSLB IAmb IAmb 09 30 45.5
comp=Z,57nm,0.8s
SSLB Suanglung 45.07 314 P **P 09 30 34.1 +1.5**
KSM Kuching 45.21 279 P **P 09 30 35.6 +1.7**
YHNB Yeheng 45.33 315 P **P 09 30 34.1 -0.6**
YHNB Yeheng 45.33 315 P **P 09 30 37.0 +2.3**
JNU Nakatsue 45.96 332 P **P 09 30 38.4 -1.1**
JNU Nakatsue 45.96 332 P **P 09 30 41.9 +2.4**
RAR Rarotonga 46.06 113 LR LR 09 47 11.8
comp=Z,138nm,18.1s,baz=293,slow=32
MJAR Matsushiro Arr 46.06 341 P **P 09 30 38.7 -1.5**
comp=Z,1.4nm,0.5s,baz=146,slow=5.4,SNR=4.6
comp=Z,1.4nm,0.5s
LEM Lembang 46.83 267 LR LR 09 54 36.9
comp=Z,243nm,18.1s,baz=159,slow=41
QZH Quanzhou 47.48 313 P **P 09 30 52.3 +0.8**
QZH S **S 09 37 49.8 +3.4**
QZH pmax pmax
comp=Z,140nm,0.9s
QZH LR LR
comp=Z,510nm,17.9s
SSE Sheshan 49.73 321 P **P 09 31 08.8 +0.1**
SSE S **S 09 38 19.5 +1.6**
SSE LR LR
comp=Z,160nm,3.6s
SSE LR LR
comp=Z,57nm,3.9s
DLV Lat 49.78 292 P **P 09 31 11.3 +1.7**
KSRS Korea Array 50.89 332 P **P 09 31 17.4 -0.1**
comp=Z,5.4nm,0.9s,baz=147,slow=8.6,SNR=14
KSRS LR LR 09 52 30.3
comp=Z,150nm,18.6s,baz=130,slow=36
comp=Z,5.4nm,0.9s
QIZ Qiongzhong 51.33 301 P **P 09 31 23.8 +2.7**
QIZ S **S 09 38 43.3 +2.7**
QIZ ScS **ScS 09 41 11.8 -0.5**
QIZ LR LR
comp=Z,310nm,11.9s
QIZ LR LR
comp=Z,300nm,16.6s
QIZ LR LR
comp=Z,310nm,16.1s
NJ2 Nanjing 51.83 321 ⇓P **P 09 31 26.3 +1.7**
NJ2 pmax pmax
comp=Z,13nm,1.0s
NJ2 pmax pmax
comp=Z,200nm,3.8s
ASAJ Asahikawa 52.10 349 LR LR 09 52 32.2
comp=Z,346nm,19.8s,baz=191,slow=35
CNSH ChangSha 53.47 313 P **P 09 31 38.5 +1.7**
CNSH S **S 09 39 14.5 +4.8**
CNSH pmax pmax
comp=Z,61nm,1.1s
CNSH LR LR
comp=Z,290nm,14.2s
CNSH LR LR
comp=Z,320nm,15.0s
CNSH LR LR
comp=Z,370nm,17.0s
WHN Wuhan 53.84 316 ⇑P **P 09 31 41.0 +1.5**
WHN pP **sP 09 31 44.3 +3.0**
WHN S **S 09 39 17.8 +3.1**
WHN pmax pmax
comp=Z,250nm,1.4s
WHN LR LR
comp=Z,1μm,15.3s
IPM Ipoh 54.89 280 P **P 09 31 49.4 +1.9**
USRK Ussuriysk Ar. 55.01 340 P **P 09 31 47.8 +0.1**
USRK Ussuriysk Ar. 55.01 340 P **P 09 31 47.6 -0.1**
comp=Z,7.2nm,1.0s,baz=170,slow=7.0,SNR=6.1
comp=Z,7.2nm,1.0s
USRK Ussuriysk Ar. 55.01 340 P **P 09 31 47.8 +0.1**
PPT Papeete 55.16 106 LR LR 09 50 22.4
comp=Z,123nm,20.8s,baz=270,slow=30
MDJ Mudanjiang 56.21 339 P **P 09 31 56.5 +0.1**
MDJ pmax pmax
comp=Z,13nm,1.0s
ENH Enshi 57.13 313 P **P 09 32 04.7 +1.4**
CN2 Changchun 57.15 335 *e*P **P 09 32 03.0 -0.1**
CN2 *e*PP **PP 09 34 12.5 +2.3**
CN2 *e*S **S 09 39 53.3 -5.2**
CN2 pmax pmax
comp=Z,20nm,1.4s
GYA Guiyang 57.34 308 P **P 09 32 07.0 +2.1**
GYA pP pwP 09 32 12.0 -2.0
GYA PcP **PcP 09 33 04.3 +5.3**
GYA PcS **PcS 09 37 02.5 +2.2**
GYA S **S 09 40 06.8 +5.1**
GYA pmax pmax
comp=Z,18nm,0.8s
GYA pmax pmax
comp=Z,240nm,4.4s
GYA LR LR
comp=Z,350nm,17.8s
SLVN Son La 57.35 301 P **P 09 32 03.4 -1.6**
SLVN Son La 57.35 301 P **P 09 32 06.9 +1.9**
LYN LuoYang 57.53 319 P **P 09 32 06.5 +0.5**
LYN S **S 09 40 03.0 -0.8**
LYN pmax pmax
comp=Z,36nm,0.7s
LYN pmax pmax
comp=Z,190nm,4.3s
LYN LR LR
comp=Z,450nm,17.9s
LYN LR LR
comp=Z,420nm,17.1s
LYN LR LR
comp=Z,680nm,16.6s
GSI Gunungsitoli 57.71 276 P **P 09 32 05.5 -2.1**
GSI IAmb IAmb 09 32 28.4
comp=Z,79nm,1.1s
GSI Gunungsitoli 57.71 276 P **P 09 32 09.0 +1.4**
HNS HongShan 57.93 323 ⇑P **P 09 32 09.3 +0.7**
HNS S **S 09 40 08.8 0.0**
HNS pmax pmax
comp=Z,28nm,1.0s
HNS LR LR
comp=Z,260nm,15.9s
HNS LR LR
comp=Z,120nm,15.1s
HNS LR LR
comp=Z,220nm,16.7s
BNX BinXian 57.98 338 ⇓P **P 09 32 08.3 -0.6**
BNX pmax pmax
comp=Z,16nm,1.2s
SRDT SRDT 59.19 291 P **P 09 32 19.9 +2.1**
PHRA Phrae 59.50 296 P **P 09 32 19.8 -0.2**
KLR Kul'dur 59.55 343 LR LR 09 57 31.5
comp=Z,102nm,20.0s,baz=154,slow=35
KLR Kul'dur 59.55 343 ⇓*i*P **P 09 32 19.8 +0.1**
KLR pmax pmax
comp=Z,31nm,1.3s
XAN Xi'an 59.61 316 ⇑P **P 09 32 20.3 -0.2**
XAN PP **PP 09 34 35.8 +3.5**
XAN S **S 09 40 27.5 -3.5**
XAN pmax pmax
comp=Z,42nm,1.1s
XAN pmax pmax
comp=Z,400nm,3.8s
XAN LR LR
comp=Z,440nm,17.0s
XAN LR LR
comp=Z,210nm,16.7s
XAN LR LR
comp=Z,460nm,16.7s
KMI Kunming 59.89 304 ⇑P **P 09 32 25.5 +2.7**
KMI S **S 09 40 36.8 +1.5**
KMI pmax pmax
comp=Z,31nm,1.3s
KMI LR LR
comp=Z,160nm,15.5s
KMI LR LR
comp=Z,270nm,18.6s
KMI LR LR
comp=Z,200nm,22.2s
PET Petropavlovsk 59.92 3 *e*P **P 09 32 22.0 -0.2**
PET *e*S **S 09 40 37.1 +3.0**
PET pmax pmax
comp=Z,100nm,9.9s
PET MLR MLR
comp=Z,500nm,15.0s
PEA0B Petropavlovsk- 59.96 2 P **P 09 32 21.9 -0.6**
PEA0B Petropavlovsk- 59.96 2⇓*e*P **P 09 32 22.1 -0.4**
PETK Petropavlovsk- 59.96 2 P **P 09 32 23.1 +0.6**
PETK Petropavlovsk- 59.96 2 P **P 09 32 22.7 +0.2**
comp=Z,13nm,0.9s,baz=139,slow=7.0,SNR=8.5
PETK LR LR 09 57 04.3
comp=Z,118nm,20.0s,baz=173,slow=35
comp=Z,13nm,0.9s
PETK Petropavlovsk- 59.96 2 P **P 09 32 23.1 +0.6**
CMAR Chiang Mai Arr 60.64 296 P **P 09 32 27.8 0.0**
CMAR Chiang Mai Arr 60.64 296 P **P 09 32 29.0 +1.2**
comp=Z,21nm,0.9s,baz=120,slow=4.8,SNR=55
CMAR LR LR 09 57 08.8
comp=Z,90nm,21.2s,baz=110,slow=34
CMAR PKP2bc 10 01 56.4
comp=Z,1.2nm,0.3s,baz=283,slow=4.1,SNR=9.2
comp=Z,21nm,0.9s
CMAR Chiang Mai Arr 60.64 296 *i*P **P 09 32 29.7 +1.9**
CMAR pmax pmax
comp=Z,22nm,0.9s
CHTO Chiang Mai 60.76 296 P **P 09 32 28.7 +0.1**
CHTO IAmb IAmb 09 32 48.9
comp=Z,38nm,1.0s
CHTO Chiang Mai 60.76 296 P **P 09 32 28.7 +0.1**
CHTO pmax pmax
comp=Z,38nm,1.0s
PZH PanZhiHua 61.29 305 P **P 09 32 34.0 +1.7**
PZH S **S 09 40 54.0 +1.1**
PZH pmax pmax
comp=Z,20nm,1.4s
PZH pmax pmax
comp=Z,260nm,5.2s
PZH LR LR
comp=Z,150nm,23.1s
PZH LR LR
comp=Z,190nm,21.8s
PZH LR LR
comp=Z,270nm,19.8s
XLT XiLinHaoTe 61.60 329 *e*P **P 09 32 34.3 +0.3**
XLT sP pwP 09 32 43.5 +0.2
XLT pmax pmax
comp=Z,25nm,0.9s
XLT pmax pmax
comp=Z,120nm,5.3s
CD2 Chengdu 61.70 311 P **P 09 32 36.0 +1.1**
CD2 S **S 09 40 58.8 +0.9**
CD2 pmax pmax
comp=Z,70nm,0.8s
CD2 pmax pmax
comp=Z,240nm,4.2s
CD2 LR LR
comp=Z,260nm,11.2s
CD2 LR LR
comp=Z,180nm,15.2s
SHEM Shemya Is, Ala 61.76 13 LR LR 09 58 12.3
comp=Z,335nm,18.6s,baz=155,slow=35
HEH HeiHe 61.81 340 *e*P **P 09 32 34.3 -0.8**
HEH pmax pmax
comp=Z,5.0nm,0.8s
HHC Hu-ho-hao-te 62.02 324 ⇓*i*P **P 09 32 38.5 +1.6**
HHC pP sP 09 32 42.8 +4.1
HHC sP pwP 09 32 47.0 +0.8
HHC S **S 09 41 03.8 +2.1**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,130nm,5.8s
HHC LR LR
comp=Z,200nm,13.1s
HHC LR LR
comp=Z,170nm,15.9s
BTO Baotou 62.78 323 *e*P **P 09 32 44.5 +2.5**
BTO pP **pwP 09 32 48.8 -2.5**
BTO sP sP 09 32 52.5 +8.7
BTO pmax pmax
comp=Z,24nm,0.8s
BTO LR LR
comp=Z,460nm,16.3s
BTO LR LR
comp=Z,240nm,8.3s
BTO LR LR
comp=Z,370nm,9.9s
HIA Hailar 63.88 335 P **P 09 32 49.4 +0.4**
HIA Hailar 63.88 335 P **P 09 32 49.8 +0.8**
HIA Hailar 63.88 335 P **P 09 32 49.4 +0.4**
HIA pmax pmax
comp=Z,17nm,0.9s
LZH Lanzhou 64.22 316 *e*P **P 09 32 53.3 +1.6**
LZH sP pwP 09 33 02.3 +1.4
LZH S **S 09 41 30.0 +0.5**
LZH sS sS 09 41 41.5 +9.3
LZH SS **SS 09 45 39.0 -0.2**
LZH pmax pmax
comp=Z,59nm,1.2s
LZH pmax pmax
comp=Z,220nm,3.9s
LZH LR LR
comp=Z,260nm,17.9s
LZH LR LR
comp=Z,200nm,15.1s
LZH LR LR
comp=Z,210nm,14.8s
ZEA Zeya 64.86 342 *e*P **P 09 32 55.6 +0.3**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=Z,200nm,20.0s
MA2 Magadan 66.48 358 LR LR 10 04 50.7
comp=Z,106nm,18.0s,baz=122,slow=38
NIKH Nikolski High 67.25 23 P **P 09 33 11.1 +0.4**
baz=220
GTA Gaotai 68.65 317 P **P 09 33 21.3 +1.4**
GTA pP pwP 09 33 30.8 +1.6
GTA sP PcP 09 33 34.8 -10
GTA S **S 09 42 24.0 +0.9**
GTA pmax pmax
comp=Z,30nm,1.2s
GTA pmax pmax
comp=Z,160nm,6.0s
GTA LR LR
comp=Z,99nm,17.5s
GTA LR LR
comp=Z,130nm,18.9s
GTA LR LR
comp=Z,140nm,17.8s
UNV Unalaska Valle 68.83 23 P **P 09 33 20.8 +0.3**
baz=222
ULN Ulaanbaatar 68.94 328 P **P 09 33 21.0 -0.6**
ULN IAmb IAmb 09 33 39.4
comp=Z,38nm,1.2s
ULN Ulaanbaatar 68.94 328*c i*P **P 09 33 21.9 +0.3**
ULN pmax pmax
comp=Z,16nm,1.3s
SHL Shillong 69.16 301 P **P 09 33 23.6 +0.1**
SHL Shillong 69.16 301 P **P 09 33 23.6 +0.1**
SHL pmax pmax
comp=Z,124nm,1.3s
SONM Songino Array 69.27 327 P **P 09 33 23.3 -0.3**
SONM IAmb IAmb 09 33 41.2
comp=Z,38nm,1.1s
SONM Songino Array 69.27 327 P **P 09 33 24.1 +0.4**
comp=Z,12nm,0.8s,baz=132,slow=6.2,SNR=54
SONM PKP2bc 10 01 34.8
comp=Z,0.3nm,0.5s,baz=354,slow=3.0,SNR=3.6
SONM LR LR 10 05 35.2
comp=Z,288nm,18.3s,baz=150,slow=37
comp=Z,12nm,0.8s
SEY Seymchan 69.79 359 *e*P P 09 33 33.6 +7.3
SEY pmax pmax
comp=Z,16nm,1.1s
SPIA Saint Paul Isl 70.06 19 P **P 09 33 28.2 +0.1**
baz=217
GOMU GeErMu 70.74 312 P **P 09 33 33.5 +0.3**
GOMU pP sP 09 33 37.8 +2.8
GOMU sP pwP 09 33 40.8 -1.6
GOMU S **S 09 42 52.0 +3.7**
GOMU pmax pmax
comp=Z,14nm,0.7s
GOMU LR LR
comp=Z,290nm,14.6s
GOMU LR LR
comp=Z,290nm,14.8s
GOMU LR LR
comp=Z,420nm,14.5s
FALS False Pass 70.81 24 P **P 09 33 32.3 -0.3**
baz=224
LSA Lhasa 71.15 305 P **P 09 33 37.2 +1.3**
LSA IAmb IAmb 09 33 55.9
comp=Z,28nm,0.9s
LSA Lhasa 71.15 305 P **P 09 33 37.2 +1.3**
LSA pmax pmax
comp=Z,28nm,0.9s
YAK Yakutsk 71.56 348 P **P 09 33 37.4 +0.3**
YAK IAmb IAmb 09 33 53.3
comp=Z,69nm,1.4s
YAK Yakutsk 71.56 348 LR LR 10 06 21.1
comp=Z,117nm,18.5s,baz=113,slow=37
YAK Yakutsk 71.56 348 *e*P **P 09 33 36.8 -0.3**
YAK *e* 09 33 56.5
YAK *e* 09 36 15.4
YAK *e*PPP PPP 09 38 05.0
YAK *e*S **S 09 42 52.4 -3.6**
YAK *e* 09 43 35.6
YAK *e*SS **SS 09 47 29.2 -2.2**
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,361nm,4.6s
YAK pmax pmax
comp=N,150nm,3.5s
YAK pmax pmax
comp=E,117nm,2.8s
YAK smax smax
comp=E,331nm,5.1s
YAK smax smax
comp=N,239nm,3.5s
S12K Black Hills 71.96 24 P **P 09 33 39.8 +0.1**
baz=226
ZAK Zakamensk 72.43 328 *e*P **P 09 33 41.7 -1.1**
ZAK pmax pmax
comp=Z,13nm,1.1s
BOD Bodaibo 72.59 338 *e*P **P 09 33 42.3 -1.1**
BOD pmax pmax
comp=Z,19nm,1.0s
CHGN Chignik 73.87 25 P **P 09 33 51.0 0.0**
baz=229
O14K Tigyukauivet M 74.76 22 P **P 09 33 56.2 +0.1**
O14K IAmb IAmb 09 34 06.8
comp=Z,87nm,1.3s
O14K Tigyukauivet M 74.76 22 P **P 09 33 56.0 -0.1**
baz=226
CHIR Chirikof Islan 74.76 26 P **P 09 33 56.0 -0.2**
baz=232
M13K Dall Lake 74.85 20 P **P 09 33 56.5 -0.1**
baz=223
GAMB Gambell 75.00 15 P **P 09 33 58.0 +0.6**
baz=215
N14K Kuskokwak Cree 75.08 21 P **P 09 33 57.9 0.0**
baz=225
O15K Ungalikthiuk R 75.24 22 P **P 09 33 59.2 +0.3**
baz=227
BILL Bilibino 75.34 4*c i*P **P 09 33 59.0 -0.3**
BILL pmax pmax
comp=Z,36nm,0.9s
K13K Kusilvak Mount 75.55 19 P **P 09 34 01.5 +0.9**
K13K Kusilvak Mount 75.55 19 P **P 09 34 01.2 +0.7**
baz=222
M14K Bethel 75.57 20 P **P 09 34 01.6 +0.9**
M14K IAmb IAmb 09 34 12.3
comp=Z,48nm,1.1s
M14K Bethel 75.57 20 P **P 09 34 01.5 +0.8**
baz=225
R17L Mt. Peulik Vol 75.59 25 P **P 09 34 01.0 0.0**
baz=230
PLK4 Peulik 4 75.59 25 P **P 09 34 01.4 +0.3**
L14K Kuka Creek 75.75 20 P **P 09 34 02.4 +0.7**
L14K IAmb IAmb 09 34 13.4
comp=Z,42nm,1.1s
L14K Kuka Creek 75.75 20 P **P 09 34 02.2 +0.4**
baz=224
N15K Kwethluk River 75.82 21 P **P 09 34 03.3 +1.0**
N15K IAmb IAmb 09 34 26.3
comp=Z,28nm,1.0s
N15K Kwethluk River 75.82 21 P **P 09 34 03.0 +0.8**
baz=226
P16K Nushagak River 75.84 23 P **P 09 34 02.9 +0.6**
baz=229
M15K Kasigluk River 75.98 21 P **P 09 34 03.7 +0.6**
baz=226
Q16K King Salmon 76.14 24 P **P 09 34 04.2 +0.2**
baz=230
Q17K Contact Creek 76.19 24 P **P 09 34 04.4 -0.1**
baz=231
L15K Ungalak Mounta 76.39 20 P **P 09 34 05.4 -0.1**
baz=225
J14K Nanvaranak Lak 76.50 18 P **P 09 34 07.1 +1.1**
J14K IAmb IAmb 09 34 17.3
comp=Z,82nm,1.4s
J14K Nanvaranak Lak 76.50 18 P **P 09 34 06.1 +0.1**
baz=223
N16K Nishlik Lake 76.51 22 P **P 09 34 06.1 -0.1**
baz=228
P17K Kvichak River 76.56 23 P **P 09 34 06.1 -0.2**
baz=230
OHAK Old Harbor 76.64 26 P **P 09 34 06.7 -0.2**
OHAK Old Harbor 76.64 26 P **P 09 34 07.3 +0.4**
baz=233

O17K	Koliganek Bris	76.68	23	P	P	09 34 07.2	+0.1
	baz=229						
Q18K	Katmai Hardscr	76.79	24	P	P	09 34 07.2	-0.7
	baz=232						
M16K	Timber Creek	76.82	21	P	P	09 34 08.6	+0.7
M16K				IAmb	IAmb	09 34 18.8	
	comp=Z,68nm,1.2s						
M16K	Timber Creek	76.82	21	P	P	09 34 07.8	0.0
	baz=227						
K15K	Wolf Creek Mou	76.82	19	IAmb	IAmb	09 34 18.9	
	comp=Z,75nm,1.2s						
K15K	Wolf Creek Mou	76.82	19	P	P	09 34 07.6	-0.2
	baz=225						
L16K	Owhat River	77.11	20	P	P	09 34 10.2	+0.8
L16K	Owhat River	77.11	20	P	P	09 34 09.0	-0.5
	baz=227						
N17K	Nushagak Hills	77.14	22	IAmb	IAmb	09 34 34.0	
	comp=Z,69nm,1.6s						
N17K	Nushagak Hills	77.14	22	P	P	09 34 09.5	-0.2
	baz=229						
P18K	Big Mountain,	77.16	24	P	P	09 34 10.0	+0.1
P18K	Big Mountain,	77.16	24	P	P	09 34 09.6	-0.2
	baz=231						
KDAK	Kodiak Island	77.28	26	P	P	09 34 10.9	+0.4
KDAK	Kodiak Island	77.28	26	LR	LR	10 00 12.8	
	comp=Z,263nm,21.9s,baz=68,slow=29						
KDAK	Kodiak Island	77.28	26	P	P	09 34 10.9	+0.4
KDAK				pmax	pmax		
	comp=Z,237nm,2.0s						
ANM	Nome	77.32	16	P	P	09 34 10.4	-0.2
	baz=221						
O18K	Koktuh Hills	77.46	23	P	P	09 34 12.0	+0.5
	baz=231						
Q19K	Cape Douglas,	77.52	25	P	P	09 34 12.1	+0.2
	baz=233						
M17K	Holitna River	77.62	21	IAmb	IAmb	09 34 30.2	
	comp=Z,33nm,1.1s						
M17K	Holitna River	77.62	21	P	P	09 34 12.8	+0.4
	baz=229						
N18K	Kilae Creek	77.72	22	IAmb	IAmb	09 34 24.1	
	comp=Z,56nm,1.1s						
N18K	Kilae Creek	77.72	22	P	P	09 34 12.2	-0.8
	baz=230						
F14K	Arctic Creek	77.76	16	P	P	09 34 13.1	+0.1
	baz=220						
L17K	Donlin	77.80	21	P	P	09 34 14.0	+0.6
	baz=228						
J16K	Anvik River	77.82	19	P	P	09 34 14.1	+0.6
J16K				IAmb	IAmb	09 34 25.6	
	comp=Z,42nm,1.0s						
J16K	Anvik River	77.82	19	P	P	09 34 14.1	+0.6
	baz=226						
Q20K	Shuyak Island	77.85	25	P	P	09 34 14.0	+0.3
	baz=234						
G15K	Niukluk	78.02	17	P	P	09 34 15.0	+0.5
	baz=222						
O19K	Port Alsworth	78.02	23	P	P	09 34 14.3	-0.3
	baz=232						
SVW2	Sparrevohn	78.11	22	IAmb	IAmb	09 34 27.1	
	comp=Z,86nm,1.6s						
SVW2	Sparrevohn	78.11	22	P	P	09 34 16.4	+1.3
P19K	Oil Pt	78.13	24	P	P	09 34 15.6	+0.3
P19K	Oil Pt	78.13	24	P	P	09 34 15.3	+0.1
	baz=233						
K17K	Iditarod	78.19	20	IAmb	IAmb	09 34 26.7	
	comp=Z,81nm,1.3s						
K17K	Iditarod	78.19	20	P	P	09 34 16.4	+0.9
	baz=228,SNR=6.2						
I17K	Unalakleet	78.22	18	IAmb	IAmb	09 34 34.3	
	comp=Z,62nm,1.3s						
I17K	Unalakleet	78.22	18	P	P	09 34 16.5	+0.9
	baz=225						
M18K	Stony River	78.27	22	P	P	09 34 16.8	+0.8
	baz=230						
H16K	Elim	78.28	17	P	P	09 34 16.3	+0.4
	baz=224						
N19K	Bonanza Creek	78.34	23	P	P	09 34 16.8	+0.2
	baz=232						
F15K	North Star Dit	78.39	16	P	P	09 34 17.0	+0.5
	baz=221						
J17K	VABM Dome	78.40	19	P	P	09 34 17.3	+0.7
	baz=227,SNR=5.7						
L18K	Granite Mounta	78.43	21	IAmb	IAmb	09 34 35.3	
	comp=Z,66nm,1.3s						
L18K	Granite Mounta	78.43	21	P	P	09 34 17.4	+0.6
	baz=229						
O20K	Slope Mountain	78.63	24	P	P	09 34 18.1	0.0
	baz=234						
WMQ	Urumqi	78.73	317	*e*P	P	09 34 21.3	+2.3
WMQ				pmax	pmax		
	comp=Z,24nm,0.7s						
HOM	Homer	78.78	25	P	P	09 34 18.9	+0.1
	baz=234						
G16K	Koyuk River	78.80	17	IAmb	IAmb	09 34 36.9	
	comp=Z,38nm,1.1s						
G16K	Koyuk River	78.80	17	P	P	09 34 19.4	+0.6
	baz=224						
M19K	Big River Lodg	79.06	22	IAmb	IAmb	09 34 32.2	
	comp=Z,72nm,1.0s						
M19K	Big River Lodg	79.06	22	P	P	09 34 20.9	+0.5
	baz=232						
L19K	White Mountain	79.06	22	P	P	09 34 20.8	+0.4
L19K				IAmb	IAmb	09 34 37.8	
	comp=Z,56nm,1.1s						
L19K	White Mountain	79.06	22	P	P	09 34 20.5	+0.1
	baz=231						
TTA	Tatalina	79.13	21	IAmb	IAmb	09 34 38.0	
	comp=Z,48nm,1.2s						
TTA	Tatalina	79.13	21	P	P	09 34 20.8	0.0
	baz=230,SNR=5.7						
TTA	Tatalina	79.13	21	P	P	09 34 22.5	+1.7
BRLK	Bradley Lake	79.16	25	IAmb	IAmb	09 34 21.5	
	comp=Z,51nm,1.0s						
H17K	Granite Mounta	79.20	18	IAmb	IAmb	09 34 39.2	
	comp=Z,67nm,1.5s						
H17K	Granite Mounta	79.20	18	P	P	09 34 21.5	+0.5
	baz=226						
BRSE	Bradley Lake S	79.20	25	P	P	09 34 21.2	0.0
	baz=235						
J18K	Innoko River	79.23	20	P	P	09 34 21.6	+0.4
	baz=229						
G17K	Kiwalik Mounta	79.37	17	P	P	09 34 22.4	+0.4
	baz=225						
N20K	Mount Spurr	79.46	23	P	P	09 34 23.3	+0.7
	baz=234						
SPCR	Spurr Chakacha	79.46	23	P	P	09 34 23.2	+0.5
	baz=234						
M20K	Styx River	79.52	22	IAmb	IAmb	09 34 33.5	
	comp=Z,49nm,1.3s						
M20K	Styx River	79.52	22	P	P	09 34 23.2	+0.3
	baz=233						
L20K	Farewell, AK	79.60	22	P	P	09 34 24.5	+1.2
	baz=232						
CAPN	Captain Cook N	79.62	24	P	P	09 34 23.7	+0.3
	baz=235						
H18K	Honhosa River	79.83	18	P	P	09 34 24.7	+0.2
	baz=227						
F17K	Baldwin Pennin	79.87	16	P	P	09 34 25.3	+0.7
	baz=224						
SEW	Seward	79.94	25	P	P	09 34 25.2	+0.1
	baz=236						
J19K	Poorman	79.95	20	P	P	09 34 25.4	+0.3
	baz=230,SNR=7.3						
GCSA	Galena City Sc	80.02	19	P	P	09 34 26.0	+0.6
	baz=229,SNR=8.4						
O22K	Cooper Landing	80.04	24	P	P	09 34 25.8	+0.2
	baz=236						
K20K	Telida	80.08	21	P	P	09 34 27.0	+1.1
K20K				IAmb	IAmb	09 34 36.8	
	comp=Z,65nm,1.4s						
K20K	Telida	80.08	21	P	P	09 34 26.1	+0.2
	baz=232						
C16K	Lisburne Hills	80.17	14	P	P	09 34 27.1	+0.9
	baz=220						
E17K	Hotham Inlet	80.18	16	P	P	09 34 27.0	+0.8
	baz=224						
SKT	Skwentna	80.18	23	P	P	09 34 25.3	-1.2
SKT	Skwentna	80.18	23	P	P	09 34 25.8	-0.7
	baz=234						
SUA	Susitna One	80.19	23	P	P	09 34 25.9	-0.7
	baz=235						
G18K	Tagagawik	80.24	18	P	P	09 34 26.5	-0.2
	baz=227						
D17K	Noatak River	80.30	15	P	P	09 34 27.6	+0.7
	baz=222						
TIXI	Tiksi	80.37	352	P	P	09 34 26.5	-0.7
TIXI	Tiksi	80.37	352	*e*P	P	09 34 28.1	+0.9
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
RC01	Rabbit Creek A	80.38	24	P	P	09 34 27.3	-0.2
RC01				IAmb	IAmb	09 34 28.6	
	comp=Z,47nm,0.9s						
RC01	Rabbit Creek A	80.38	24	P	P	09 34 27.1	-0.4
	baz=236						
F18K	Selawik	80.44	17	P	P	09 34 27.9	+0.2
	baz=226						
PPLA	Purkeypile	80.48	22	P	P	09 34 27.6	-0.6
	baz=234						
J20K	Nowinta River	80.57	20	P	P	09 34 29.1	+0.7
J20K				IAmb	IAmb	09 34 39.5	
	comp=Z,48nm,1.2s						
J20K	Nowinta River	80.57	20	P	P	09 34 28.4	0.0
	baz=232						
M22K	Willow	80.60	23	P	P	09 34 28.5	-0.1
	baz=236						
RDOG	Red Dog Mine	80.60	15	IAmb	IAmb	09 34 39.5	
	comp=Z,38nm,1.1s						
RDOG	Red Dog Mine	80.60	15	P	P	09 34 28.7	+0.2
	baz=223						
H19K	Roundabout Mou	80.67	19	IAmb	IAmb	09 34 46.9	
	comp=Z,81nm,1.1s						
H19K	Roundabout Mou	80.67	19	P	P	09 34 29.2	+0.3
	baz=229						
E18K	Tukpahlearik C	80.75	16	P	P	09 34 30.0	+0.6
	baz=225						
P23K	Montague Islan	80.75	26	P	P	09 34 30.0	+0.5
	baz=238						
PWL	Port Wells	80.82	25	P	P	09 34 29.7	-0.3
	baz=237,SNR=11						
CAST	Castle Rocks	80.83	21	P	P	09 34 28.9	-1.0
CAST				IAmb	IAmb	09 34 46.0	
	comp=Z,31nm,0.8s						
CAST	Castle Rocks	80.83	21	P	P	09 34 28.9	-1.0
	baz=234,SNR=15						
I20K	Naaghedeneel	80.84	20	P	P	09 34 29.9	0.0
	baz=231						
C17K	DeLong Mountai	80.85	14	P	P	09 34 29.7	-0.2
	baz=222						
G19K	Purcell Mounta	80.89	18	IAmb	IAmb	09 34 48.1	
	comp=Z,58nm,1.1s						
G19K	Purcell Mounta	80.89	18	P	P	09 34 30.0	-0.1
	baz=228						
PMR	Palmer	80.90	24	IAmb	IAmb	09 34 30.6	
	comp=Z,39nm,0.9s						
PMR	Palmer	80.90	24	P	P	09 34 30.3	+0.1
	baz=236,SNR=9.6						
PMR	Palmer	80.90	24	P	P	09 34 32.1	+1.9
CHUM	Lake Minchumin	81.02	21	P	P	09 34 30.7	-0.1
	baz=233,SNR=12						
KNK	Knik Glacier	81.07	24	IAmb	IAmb	09 34 48.3	
	comp=Z,62nm,1.1s						
KNK	Knik Glacier	81.07	24	P	P	09 34 31.0	-0.3
	baz=237						
GHO	Glory Hole Cre	81.08	24	IAmb	IAmb	09 34 31.9	
	comp=Z,40nm,0.9s						
F19K	Shaleruckik Mo	81.14	17	IAmb	IAmb	09 34 41.9	
	comp=Z,81nm,1.8s						
F19K	Shaleruckik Mo	81.14	17	P	P	09 34 31.1	-0.3
	baz=228,SNR=6.0						
H20K	Anotleneega Mo	81.15	19	P	P	09 34 31.6	0.0
	baz=231,SNR=13						
KTH	Kantishna Hill	81.33	22	IAmb	IAmb	09 34 47.8	
	comp=Z,50nm,1.1s						
SML	Sawmill	81.34	24	P	P	09 34 32.5	-0.2
SML	Sawmill	81.34	24	P	P	09 34 32.0	-0.6
	baz=237,SNR=9.2						
GLI	Glacier Island	81.35	25	P	P	09 34 32.2	-0.5
	baz=238						
C18K	Utukok River	81.47	15	P	P	09 34 33.5	+0.2
	baz=224						
TRF	Thorofare Moun	81.50	22	P	P	09 34 32.7	-1.0
	baz=235,SNR=9.3						
FID	Port Fidalgo	81.54	25	IAmb	IAmb	09 34 34.3	
	comp=Z,50nm,0.9s						
M23K	Glacier View	81.57	24	P	P	09 34 33.0	-0.8
	baz=238						
BPAW	Bear Paw Mtn.	81.62	21	P	P	09 34 33.4	-0.7
BPAW	Bear Paw Mtn.	81.62	21	P	P	09 34 33.8	-0.3
	baz=234						
E19K	Redstone River	81.72	17	IAmb	IAmb	09 34 45.4	
	comp=Z,62nm,1.1s						
E19K	Redstone River	81.72	17	P	P	09 34 34.6	+0.1
	baz=228,SNR=17						
EYAK	Cordova Ski Ar	81.74	25	P	P	09 34 34.7	0.0
	baz=240						
SCM	Sheep Creek Mo	81.75	24	P	P	09 34 34.8	-0.1
	baz=238,SNR=6.8						
WAT1	Susitna Watana	81.81	23	P	P	09 34 34.3	-0.9
	baz=237						
IMAR	Indian Mountai	81.83	19	P	P	09 34 35.1	0.0
ZSN	Zaisan	81.86	320	*e*P	P	09 34 35.2	-0.5
ZSN	Zaisan	81.86	320	*e*P	P	09 34 35.2	-0.5
F20K	Avaraart Lake	81.89	18	P	P	09 34 35.5	+0.1
	baz=230						
I21K	Tanana	81.92	20	IAmb	IAmb	09 34 53.4	
	comp=Z,36nm,0.9s						
I21K	Tanana	81.92	20	P	P	09 34 36.0	+0.4
	baz=233						
H21K	Melozitna Rive	81.93	19	P	P	09 34 35.8	+0.1
	baz=233						
WAT6	Susitna Watana	81.99	23	P	P	09 34 36.1	-0.1
	baz=238,SNR=7.5						
KAIM	Kayak Island	82.01	26	P	P	09 34 36.4	+0.2
	baz=241						
RND	Reindeer	82.01	22	P	P	09 34 35.3	-1.0
RND				IAmb	IAmb	09 34 52.3	
	comp=Z,39nm,1.0s						
RND	Reindeer	82.01	22	P	P	09 34 35.3	-1.0
RND				pmax	pmax		
	comp=Z,39nm,1.0s						
KLU	Klutina	82.15	25	P	P	09 34 37.1	+0.1
	baz=239,SNR=11						
MCK	McKinley	82.16	22	P	P	09 34 36.0	-1.0
	baz=236,SNR=19						
D19K	Kuna River	82.18	16	P	P	09 34 37.2	+0.3
	baz=227						
C19K	Lookout Ridge	82.21	15	IAmb	IAmb	09 34 55.3	
	comp=Z,95nm,1.6s						
C19K	Lookout Ridge	82.21	15	P	P	09 34 37.4	+0.3
	baz=226						
BWN	Browne	82.21	21	P	P	09 34 36.6	-0.6
BWN				IAmb	IAmb	09 34 49.3	
	comp=Z,58nm,1.0s						
G21K	Allakaket	82.23	19	IAmb	IAmb	09 34 54.2	
	comp=Z,25nm,0.9s						
G21K	Allakaket	82.23	19	P	P	09 34 37.2	-0.1
	baz=232,SNR=6.9						
MLY	Manley	82.25	20	IAmb	IAmb	09 34 47.6	
	comp=Z,43nm,1.4s						
MLY	Manley	82.25	20	P	P	09 34 36.9	-0.6
	baz=235,SNR=8.2						
M24K	Tolsona, Glenn	82.36	24	P	P	09 34 38.0	-0.1
	baz=239,SNR=9.6						
DHY	Denali Highway	82.39	23	IAmb	IAmb	09 34 55.0	
	comp=Z,43nm,1.0s						
DHY	Denali Highway	82.39	23	P	P	09 34 38.0	-0.3
	baz=238,SNR=8.3						
BMRM	Bremner River	82.44	25	P	P	09 34 38.4	-0.2
	baz=241						
H22K	Ishtalitna Cre	82.55	20	P	P	09 34 38.9	0.0
	baz=234						
E20K	Nigu River	82.55	16	P	P	09 34 39.2	+0.2
	baz=229						
NEA2	Nenana	82.59	21	IAmb	IAmb	09 34 55.0	
	comp=Z,40nm,1.1s						
NEA2	Nenana	82.59	21	P	P	09 34 38.0	-1.2
	baz=236,SNR=13						
A19K	Wainwright	82.63	14	P	P	09 34 38.9	-0.3
	baz=224						
F21K	Alatna River	82.68	18	P	P	09 34 39.6	0.0
	baz=232						
D20K	Etivluk River	82.73	16	P	P	09 34 40.2	+0.4
	baz=229						
N25K	Chitina, Valde	82.76	25	P	P	09 34 40.6	+0.4
N25K				IAmb	IAmb	09 34 50.9	
	comp=Z,44nm,1.1s						
N25K	Chitina, Valde	82.76	25	P	P	09 34 40.2	0.0
	baz=241,SNR=6.7						
I23K	Minto, Yukon-K	82.80	21	P	P	09 34 40.0	-0.2
	baz=236						
WRH	Wood River Hil	82.88	22	IAmb	IAmb	09 34 57.0	
	comp=Z,70nm,1.4s						
HARP	HAARP	82.92	24	P	P	09 34 41.1	+0.1
	baz=240						
QSPA	South Pole Qui	82.94	180	P	P	09 34 40.8	-0.4
QSPA				IAmb	IAmb	09 34 43.5	
	comp=Z,32nm,0.9s						
QSPA	South Pole Qui	82.94	180	P	P	09 34 40.6	-0.6
	comp=Z,26nm,0.9s,baz=354,slow=2.5,SNR=49						
	comp=Z,26nm,0.9s						
CRQM	Cirque	82.97	26	P	P	09 34 41.5	0.0
CRQE	Cirque	82.99	26	P	P	09 34 41.2	-0.3
	baz=242,SNR=8.0						
VRDI	Verde Repeater	83.06	25	IAmb	IAmb	09 34 42.8	
	comp=Z,44nm,0.9s						
CCB	Clear Creek Bu	83.08	21	IAmb	IAmb	09 34 57.3	
	comp=Z,22nm,1.0s						
PAX	Paxson	83.08	23	P	P	09 34 41.2	-0.6
	baz=240,SNR=6.2						
G22K	Bettles	83.11	19	P	P	09 34 41.5	-0.3
	baz=234						
H23K	Yukon River	83.12	20	IAmb	IAmb	09 34 52.5	
	comp=Z,66nm,1.4s						
H23K	Yukon River	83.12	20	P	P	09 34 41.9	0.0
	baz=236						
COLA	College	83.19	21	P	P	09 34 41.2	-1.0
COLA	College	83.19	21	P	P	09 34 42.0	-0.2
	baz=237						
COLA	College	83.19	21	P	P	09 34 41.5	-0.7
COLA	College	83.19	21	P	P	09 34 41.2	-1.0
COLA				pmax	pmax		
	comp=Z,50nm,1.0s						
MESA	MESA	83.22	27	P	P	09 34 43.4	+0.6
MESA	MESA	83.22	27	P	P	09 34 42.5	-0.3
	baz=243						
ISLE	Juniper Island	83.25	26	P	P	09 34 42.6	-0.2
F22K	John River	83.25	18	P	P	09 34 42.6	0.0
	baz=233						
HDA	Harding Lake	83.27	22	IAmb	IAmb	09 34 59.3	
	comp=Z,29nm,0.9s						
HDA	Harding Lake	83.27	22	P	P	09 34 41.5	-1.2
	baz=238,SNR=15						
E21K	Killik River	83.30	17	IAmb	IAmb	09 35 00.5	
	comp=Z,40nm,1.1s						
E21K	Killik River	83.30	17	P	P	09 34 42.9	+0.1
	baz=231						
MCARA	McCarthy VSAT	83.31	25	P	P	09 34 43.3	+0.3
MCARA	McCarthy VSAT	83.31	25	P	P	09 34 42.8	-0.1
	baz=242,SNR=11						
MK31	Makanchi Array	83.32	319	P	P	09 34 43.5	+0.1
MK31	Makanchi Array	83.32	319	P	P	09 34 43.5	+0.1
MK31				pmax	pmax		
	comp=Z,21nm,1.1s						
MKAR	Makanchi Array	83.32	319	P	P	09 34 43.1	-0.2
	comp=Z,10nm,0.8s,baz=103,slow=5.4,SNR=53						
MKAR				LR	LR	10 14 14.6	
	comp=Z,114nm,18.2s,baz=50,slow=37						
	comp=Z,10nm,0.8s						
K24K	Donnelly Dome	83.39	23	P	P	09 34 42.9	-0.5
	baz=239						
B20K	Meade River	83.45	15	IAmb	IAmb	09 34 44.7	
	comp=Z,45nm,1.1s						
B20K	Meade River	83.45	15	P	P	09 34 43.2	-0.2
	baz=228						
POKR	Poker Plat Res	83.47	21	P	P	09 34 43.2	-0.5
	baz=238						
G23K	Bananza Creek	83.47	19	IAmb	IAmb	09 35 00.8	
	comp=Z,22nm,1.1s						
G23K	Bananza Creek	83.47	19	P	P	09 34 43.9	+0.2
	baz=235						
IL31		83.48	22	P	P	09 34 42.6	-1.1
IL31				IAmb	IAmb	09 34 59.8	
	comp=Z,46nm,1.2s						
ILAR	Eielson Array	83.48	22	P	P	09 34 42.4	-1.4
	comp=Z,11nm,0.3s,baz=238,slow=5.5,SNR=46						
ILAR				LR	LR	10 10 41.0	
	comp=Z,364nm,18.3s,baz=236,slow=35						
	comp=Z,11nm,0.3s						
C21K	Knifeblade Rid	83.53	16	P	P	09 34 43.9	0.0
	baz=230						
MAKZ	Makanchi	83.53	319	P	P	09 34 44.7	+0.3
MAKZ				IAmb	IAmb	09 35 00.4	
	comp=Z,42nm,1.1s						
MAKZ	Makanchi	83.53	319	P	P	09 34 44.7	+0.3
MAKZ				pmax	pmax		
	comp=Z,42nm,1.2s						
GRNC	Granite Creek	83.56	26	P	P	09 34 44.4	-0.1
GRNC				IAmb	IAmb	09 34 45.6	
	comp=Z,33nm,0.8s						
H24K	Noodor Dome	83.70	20	P	P	09 34 45.0	+0.1
H24K	Noodor Dome	83.70	20	P	P	09 34 44.6	-0.3
	baz=237						
COLD	Coldfoot	83.71	19	P	P	09 34 45.1	+0.2
	baz=235,SNR=8.3						
RIDG	Independent Ri	83.72	23	P	P	09 34 44.3	-0.7
	baz=240,SNR=8.2						
E22K	Anaktuvuk Pass	83.74	18	IAmb	IAmb	09 35 02.9	
	comp=Z,41nm,1.4s						
E22K	Anaktuvuk Pass	83.74	18	P	P	09 34 44.9	-0.2
	baz=233						
M26K	Nabesna, AK	83.80	24	P	P	09 34 46.0	+0.5
M26K				IAmb	IAmb	09 35 04.5	
	comp=Z,56nm,1.5s						
M26K	Nabesna, AK	83.80	24	P	P	09 34 45.6	0.0
	baz=242						
CTG	Chitna Glacier	83.85	26	P	P	09 34 45.9	0.0
	baz=244,SNR=23						
CTGM	Chitina Glacie	83.85	26	P	P	09 34 45.9	0.0
B21K	Ikpikpuk River	83.87	16	P	P	09 34 45.7	+0.1
B21K				IAmb	IAmb	09 34 56.3	
	comp=Z,38nm,1.2s						
B21K	Ikpikpuk River	83.87	16	P	P	09 34 46.1	+0.5
	baz=230						
WUS	Wushi	83.89	313	P	P	09 34 46.9	+0.3
WUS				IAmb	IAmb	09 35 05.8	
	comp=Z,30nm,1.0s						
LOGN	Logan Glacier	83.93	26	P	P	09 34 46.8	+0.4
D22K	Ayikyak River	83.94	17	P	P	09 34 46.4	+0.3
	baz=232						
PINM	Pinnacle	83.95	27	P	P	09 34 46.3	-0.1
	baz=245,SNR=9.3						
J25K	Salcha River,	83.96	22	P	P	09 34 45.7	-0.6
	baz=240						
L26K	Log Cabin Wild	83.96	24	IAmb	IAmb	09 35 03.2	
	comp=Z,33nm,1.1s						
L26K	Log Cabin Wild	83.96	24	P	P	09 34 46.1	-0.2
	baz=242,SNR=14						
ZALV	Zalesovo Beam	84.11	326	P	P	09 34 45.6	-1.6
ZALV	Zalesovo Beam	84.11	326	P	P	09 34 46.1	-1.1
	comp=Z,2.3nm,0.5s,baz=104,slow=6.3,SNR=15						
ZALV				LR	LR	10 13 34.9	
	comp=Z,72nm,19.5s,baz=116,slow=36						
	comp=Z,2.3nm,0.5s						
ZALV	Zalesovo Beam	84.11	326	*i* P	P	09 34 46.2	-1.0
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PNL	Peninsula	84.16	28	P	P	09 34 46.0	-1.4
	baz=246						
SCRK	Sand Creek	84.16	23	P	P	09 34 46.9	-0.5
SCRK				IAmb	IAmb	09 34 57.8	
	comp=Z,54nm,1.4s						
SCRK	Sand Creek	84.16	23	P	P	09 34 47.1	-0.4
	baz=241,SNR=23						
BCPM	Bancas Point	84.17	27	P	P	09 34 47.7	+0.3
SHLS	Shalkode	84.22	315	*e*P	P	09 34 46.0	-2.3
	comp=Z,20nm,1.4s						
SHLS	Shalkode	84.22	315	*e*P	P	09 34 45.9	-2.3
SHLS				pmax	pmax		
	comp=Z,20nm,1.4s						
M27K	Edge Creek, AK	84.25	25	P	P	09 34 48.3	+0.3
	baz=243,SNR=35						
O28M	Mount Upton	84.27	27	P	P	09 34 48.5	+0.2
	baz=245,SNR=23						
MAW	Mawson	84.29	203	P	P	09 34 46.2	-1.6
	comp=Z,11nm,0.9s,baz=74,slow=6.3,SNR=16						
MAW				LR	LR	10 08 03.5	
	comp=Z,87nm,21.5s,baz=87,slow=32						
	comp=Z,11nm,0.9s						
G24K	Hadweenzic Riv	84.31	20	P	P	09 34 48.4	+0.4
G24K				IAmb	IAmb	09 35 05.7	
	comp=Z,36nm,1.4s						
G24K	Hadweenzic Riv	84.31	20	P	P	09 34 48.2	+0.3
	baz=238,SNR=8.0						
PRP	Porcupine Dome	84.36	21	P	P	09 34 48.5	+0.1
	baz=239						
E23K	Chandalar	84.37

comp=Z,16nm,1.3s
D23K Nanushuk River 84.57 17 P P 09 34 50.1 +0.8
baz=234,SNR=31
J26L Joseph Creek 84.58 22 IAmb IAmb 09 35 06.3
comp=Z,24nm,1.0s
J26L Joseph Creek 84.58 22 P P 09 34 49.7 +0.2
baz=241
YUK3 Moose Creek 84.58 26 P P 09 34 49.7 0.0
baz=244,SNR=13
L27K Beaver Creek, 84.59 24 P P 09 34 49.9 +0.4
L27K IAmb IAmb 09 35 00.5
comp=Z,40nm,1.1s
L27K Beaver Creek, 84.59 24 P P 09 34 49.7 +0.2
baz=243
F24K Squaw Lake 84.61 19 P P 09 34 50.0 +0.5
F24K IAmb IAmb 09 35 00.6
comp=Z,28nm,0.9s
F24K Squaw Lake 84.61 19 P P 09 34 50.1 +0.5
baz=237
H25L Birch Creek 84.64 20 P P 09 34 50.0 +0.4
baz=239
B22K Teshekpuk Lake 84.64 15 IAmb IAmb 09 34 59.3
comp=Z,30nm,1.1s
B22K Teshekpuk Lake 84.64 15 P P 09 34 49.3 -0.2
baz=232
A22K Sinclair Lake 84.66 15 P P 09 34 49.6 0.0
baz=230
YUK8 Steele Glacier 84.67 26 P P 09 34 50.9 +0.6
baz=245,SNR=24
BVCY Beaver Creek 84.69 25 P P 09 34 50.7 +0.7
baz=244,SNR=12
TOLK Toolik Lake Re 84.72 18 P P 09 34 50.3 +0.3
TOLK IAmb IAmb 09 35 07.7
comp=Z,29nm,1.1s
TOLK Toolik Lake Re 84.72 18 P P 09 34 50.2 +0.1
baz=235,SNR=11
E24K Your Creek 84.73 18 P P 09 34 50.5 +0.3
baz=236
O29M Mount Kennedy 84.80 27 IAmb IAmb 09 34 52.3
comp=Z,34nm,0.9s
O29M Mount Kennedy 84.80 27 P P 09 34 51.1 +0.4
baz=246,SNR=8.7
PRZ Przheval'sk 84.80 314 IAmb IAmb 09 35 03.4
comp=Z,34nm,0.9s
G25K Bearman Lake 84.80 20 P P 09 34 50.6 +0.2
baz=239
P29M Windy Craggy 84.92 28 P P 09 34 51.5 +0.2
P29M IAmb IAmb 09 35 16.8
comp=Z,37nm,1.2s
P29M Windy Craggy 84.92 28 P P 09 34 51.4 +0.2
baz=247
SATY Saty 84.94 314 eP P 09 34 51.3 -0.6
comp=Z,16nm,1.2s
SATY Saty 84.94 314 eP P 09 34 51.3 -0.6
SATY pmax pmax
comp=Z,16nm,1.2s
FYU Fort Yukon 85.00 20 P P 09 34 51.4 0.0
FYU IAmb IAmb 09 35 08.6
comp=Z,35nm,1.2s
S31K Pelican 85.01 30 P P 09 34 52.1 +0.5
baz=248
TARG Taragay, Kyrgy 85.05 313 P P 09 34 52.8 0.0
TARG Taragay, Kyrgy 85.05 313 P P 09 34 52.8 0.0
TARG pmax pmax
comp=Z,17nm,1.0s
C23K Itkillik River 85.10 16 P P 09 34 52.3 +0.5
baz=234
SIT Sitka 85.14 31 P P 09 34 53.6 +1.3
baz=249
YUK6 Outpost Mounta 85.16 27 P P 09 34 52.9 +0.3
baz=246,SNR=5.4
YUK4 Talbot Arm 85.19 26 P P 09 34 53.6 +0.8
baz=246,SNR=17
D24K Happy Valley 85.23 17 IAmb IAmb 09 35 03.6
comp=Z,42nm,1.2s
D24K Happy Valley 85.23 17 P P 09 34 53.0 +0.4
baz=236
F25K Christian Rive 85.39 19 P P 09 34 53.9 +0.4
F25K IAmb IAmb 09 35 04.5
comp=Z,42nm,1.6s
F25K Christian Rive 85.39 19 P P 09 34 54.1 +0.6
baz=239
TDK Taldyqorghan 85.43 316 eP P 09 34 53.6 -0.6
comp=Z,19nm,1.3s
TDK Taldyqorghan 85.43 316 eP P 09 34 53.5 -0.6
TDK pmax pmax
comp=Z,19nm,1.3s
P30M Million Dollar 85.47 28 P P 09 34 54.4 +0.3
baz=248
HYT Haines Junctio 85.49 27 P P 09 34 54.5 +0.3
baz=247,SNR=29
PLBC Pleasant Camp 85.50 29 P P 09 34 55.1 +1.0
baz=248
C24K Franklin Bluff 85.58 17 P P 09 34 54.5 +0.3
C24K IAmb IAmb 09 35 05.2
comp=Z,52nm,1.1s
C24K Franklin Bluff 85.58 17 P P 09 34 54.5 +0.3
baz=236,SNR=18
KDJ Kajisay 85.59 313 IAmb IAmb 09 34 59.5
comp=Z,23nm,0.9s
EGAK Eagle 85.63 23 IAmb IAmb 09 34 55.9
comp=Z,30nm,0.9s
EGAK Eagle 85.63 23 P P 09 34 54.8 +0.2
baz=244,SNR=16
ARXS Arharly 85.63 315 eP P 09 34 55.0 -0.2
BMAR Burnt Mountain 85.65 20 P P 09 34 55.3 +0.6
S32K Killisnoo 85.66 31 P P 09 34 55.9 +1.0
baz=250
SEM Semipalatinsk 85.67 322 eP P 09 34 55.0 -0.5
SEM Semipalatinsk 85.67 322 eP P 09 34 54.9 -0.5
G26K Porcupine Rive 85.69 20 P P 09 34 55.8 +0.9
baz=241
M29M Somme Creek 85.72 25 P P 09 34 55.5 +0.2
baz=246
I27K Kandik River 85.83 22 P P 09 34 56.1 +0.5
baz=243
KSH Kashi 85.90 310 P P 09 34 58.8 +2.1
KSH sP pwP 09 35 08.8 +2.8
KSH S S 09 45 34.8 +4.2
KSH pmax pmax
comp=Z,22nm,1.2s
N30M Aishikik Lake 85.93 27 P P 09 34 56.6 +0.3
baz=247
F26K Sheenjek River 85.93 20 IAmb IAmb 09 35 14.4
comp=Z,29nm,1.1s
F26K Sheenjek River 85.93 20 P P 09 34 56.9 +0.7
baz=241
MDOK Medeo 85.93 314 eP P 09 34 55.8 -1.0
MDOK Medeo 85.93 314 eP P 09 34 55.8 -1.0
U33K Whale Pass 85.97 32 P P 09 34 57.2 +0.8
baz=251
R32K Eaglecrest 85.97 30 P P 09 34 56.8 +0.4
baz=250
TNSS Tian-Shan 85.97 314 eP P 09 34 56.1 -1.2
TNSS Tian-Shan 85.97 314 eP P 09 34 56.1 -1.2
SKAG Skagway 85.99 29 P P 09 34 57.2 +0.8
SKAG IAmb IAmb 09 34 58.1
comp=Z,34nm,1.2s
SKAG Skagway 85.99 29 P P 09 34 57.3 +0.8
baz=249,SNR=5.9
SKAG Skagway 85.99 29 P P 09 34 57.4 +0.9
DAWY Dawson 86.01 24 IAmb IAmb 09 35 15.5
comp=Z,42nm,1.2s
DAWY Dawson 86.01 24 P P 09 34 56.7 +0.1
baz=245,SNR=16
AAA Alma-Ata 86.04 314 eP P 09 34 56.4 -0.8
AAA Alma-Ata 86.04 314 eP P 09 34 56.4 -0.8
D25K Kavik River 86.06 18 IAmb IAmb 09 35 07.0
comp=Z,31nm,1.2s
D25K Kavik River 86.06 18 P P 09 34 56.3 -0.4
baz=238
O30N Mendenhall 86.11 27 IAmb IAmb 09 34 58.6
comp=Z,40nm,1.1s
O30N Mendenhall 86.11 27 P P 09 34 57.4 +0.2
baz=248,SNR=14
L29M L29M 86.13 25 P P 09 34 57.6 +0.4
baz=246
H27K Steamboat Moun 86.14 21 P P 09 34 57.9 +0.7
baz=243
T33K Petersburg 86.28 32 P P 09 34 57.9 -0.1
baz=251
G27K Doyon Strip 86.36 21 P P 09 34 58.3 0.0
baz=243
I28M Miner Creek 86.39 22 P P 09 34 58.2 -0.3
baz=245,SNR=19
WRAK Wrangell Islan 86.47 32 P P 09 34 59.5 +0.6
WRAK Wrangell Islan 86.47 32 P P 09 34 59.3 +0.3
baz=252
M30M Minto, Yukon 86.48 26 P P 09 34 59.4 +0.4
baz=248,SNR=16
N31M Braeburn, Yuko 86.52 27 P P 09 35 00.1 +0.9
N31M Braeburn, Yuko 86.52 27 P P 09 34 59.4 +0.2
baz=249,SNR=17
V35K Ketchikan 86.53 33 P P 09 34 59.3 +0.1
baz=252
KUU Kurty 86.60 315 eP P 09 34 59.3 -0.7
comp=Z,11nm,1.1s
KUU Kurty 86.60 315 eP P 09 34 59.2 -0.7
KUU pmax pmax
comp=Z,11nm,1.1s
WHY Whitehorse 86.63 28 IAmb IAmb 09 35 10.5
comp=Z,31nm,1.1s
WHY Whitehorse 86.63 28 P P 09 34 59.8 0.0
baz=249,SNR=6.8
J29N Klondike Camp 86.64 24 P P 09 35 00.4 +0.7
baz=246,SNR=22
K29M Barlow Dome 86.67 24 P P 09 35 00.5 +0.5
baz=247,SNR=84
KURK Kurchatov 86.75 322 ceP P 09 34 59.3 -1.2
KURK pmax pmax
comp=Z,12nm,1.5s
KURBB Kurchatov Arra 86.78 322 P P 09 34 59.2 -1.4
comp=Z,2.4nm,0.2s,baz=104,slow=4.2,SNR=9.2
comp=Z,2.4nm,0.2s
C26K Camden Bay 86.80 17 P P 09 35 01.6 +1.3
baz=240
P32M Atlin 86.81 29 P P 09 35 01.0 +0.3
P32M IAmb IAmb 09 35 11.4
comp=Z,35nm,1.1s
P32M Atlin 86.81 29 P P 09 35 00.8 +0.2
baz=250,SNR=6.4
NIL Nilore 86.88 304 P P 09 35 01.7 +0.1
NIL IAmb IAmb 09 35 19.1
comp=Z,27nm,1.1s
NIL Nilore 86.88 304 P P 09 35 01.7 +0.1
NIL pmax pmax
comp=Z,27nm,1.1s
E27K Coleen River 87.01 20 P P 09 35 01.9 +0.5
baz=243
C27K Jago River 87.02 18 IAmb IAmb 09 35 03.0
comp=Z,30nm,0.8s
C27K Jago River 87.02 18 P P 09 35 01.6 +0.2
baz=241
MAYO Mayo, Yukon 87.25 25 P P 09 35 03.4 +0.8
MAYO Mayo, Yukon 87.25 25 P P 09 35 02.8 +0.2
baz=248,SNR=31
H29M Whitestone 87.30 22 IAmb IAmb 09 35 23.3
comp=Z,47nm,1.3s
H29M Whitestone 87.30 22 P P 09 35 03.2 +0.5
baz=246
Q32M Nakina River 87.31 30 IAmb IAmb 09 35 20.8
comp=Z,38nm,1.2s
Q32M Nakina River 87.31 30 P P 09 35 03.3 0.0
baz=252
F28M Old Crow 87.34 20 P P 09 35 03.4 +0.4
F28M IAmb IAmb 09 35 21.0
comp=Z,35nm,0.9s
F28M Old Crow 87.34 20 P P 09 35 03.4 +0.4
baz=245,SNR=32
M31M Drury Creek, Y 87.39 26 P P 09 35 03.1 -0.2
baz=250,SNR=20
J30M Hart River 87.43 24 P P 09 35 04.1 +0.5
baz=248
P33M Teslin, Yukon 87.44 28 IAmb IAmb 09 35 45.1
comp=Z,35nm,1.5s
P33M Teslin, Yukon 87.44 28 P P 09 35 03.5 -0.2
baz=251
S34M Telegraph Cree 87.56 31 P P 09 35 04.7 +0.5
baz=253,SNR=16
U35K Hyder 87.56 33 P P 09 35 03.9 -0.3
baz=254
N32M Quiet Lake 87.62 28 P P 09 35 04.8 +0.3
N32M Quiet Lake 87.62 28 P P 09 35 04.7 +0.1
baz=251
AAK Ala-Archa 87.65 313 P P 09 35 04.6 -0.7
AAK Ala-Archa 87.65 313 ceP P 09 35 05.4 +0.2
AAK pmax pmax
comp=Z,15nm,2.1s
I30M Mount Dempster 87.66 23 P P 09 35 04.9 +0.1
baz=248
BBB Bella Bella 87.66 37 LR LR 10 13 44.9
comp=Z,511nm,18.2s,baz=256,slow=35
D27M Malcolm River 87.70 19 IAmb IAmb 09 35 14.0
comp=Z,30nm,0.8s
D27M Malcolm River 87.70 19 P P 09 35 04.9 +0.2
baz=244
G29M Pine Creek 87.70 21 P P 09 35 04.8 +0.1
baz=246
SGDS Sogindy 87.72 314 eP P 09 35 04.5 -0.9
SGDS Sogindy 87.72 314 eP P 09 35 04.5 -0.9
T35M Bob Quinn 87.74 32 IAmb IAmb 09 35 16.3
comp=Z,36nm,1.2s
T35M Bob Quinn 87.74 32 P P 09 35 05.0 -0.2
baz=254
FARO Faro, Yukon 87.86 26 P P 09 35 05.8 +0.2
FARO Faro, Yukon 87.86 26 P P 09 35 05.6 0.0
baz=251,SNR=15
E28M Babbage River 87.88 20 IAmb IAmb 09 35 23.8
comp=Z,35nm,1.1s
E28M Babbage River 87.88 20 P P 09 35 05.8 +0.2
baz=245
EPYK Eagle Plains 87.97 22 P P 09 35 06.2 +0.1
EPYK Eagle Plains 87.97 22 P P 09 35 06.2 +0.1
baz=248,SNR=49
R33M Jennings River 88.08 30 IAmb IAmb 09 35 18.1
comp=Z,34nm,1.1s
R33M Jennings River 88.08 30 P P 09 35 07.2 +0.3
baz=253
DLBC Dease Lake 88.27 31 LR LR 10 14 23.0
comp=Z,181nm,18.8s,baz=253,slow=35
DLBC Dease Lake 88.27 31 P P 09 35 08.4 +0.7
baz=254,SNR=11
E29M Blow River 88.34 20 IAmb IAmb 09 35 20.1
comp=Z,21nm,1.1s
E29M Blow River 88.34 20 P P 09 35 07.6 -0.1
baz=246
G30M tAoh Zraii Nji 88.38 22 P P 09 35 07.8 -0.2
G30M tAoh Zraii Nji 88.38 22 P P 09 35 07.7 -0.3
baz=248
D28M Stokes Point 88.45 19 P P 09 35 08.2 +0.1
baz=246
H31M Peel River 88.66 23 P P 09 35 09.5 +0.1
baz=250
NRIK Noril'sk 88.72 341 P P 09 35 08.0 -1.4
comp=Z,3.7nm,0.8s,baz=106,slow=6.7,SNR=5.0
NRIK LR LR 10 14 23.0
comp=Z,92nm,20.4s,baz=112,slow=35
comp=Z,3.7nm,0.8s
O02D Mt. Diablo Mer 88.72 49 IAmb IAmb 09 35 21.7
comp=Z,31nm,1.4s
F30M Barrier River 88.78 21 P P 09 35 10.0 +0.2
baz=248
YBH Yreka Blue Hor 89.05 48 LR LR 10 12 23.4
comp=Z,383nm,18.2s,baz=311,slow=34
DRK Karamyk 89.06 310 IAmb IAmb 09 35 13.8
comp=Z,21nm,1.1s
G31M Satah River 89.08 22 P P 09 35 11.3 +0.1
baz=250
WTLY Watson Lake, Y 89.33 29 P P 09 35 13.1 +0.4
WTLY IAmb IAmb 09 35 24.3
comp=Z,31nm,1.1s
WTLY IAMs_20 IAMs_20 10 18 28.9
comp=E,1μm,19.0s
WTLY Watson Lake, Y 89.33 29 P P 09 35 13.3 +0.6
baz=255,SNR=13
F31M Tsiigehtchic 89.45 21 P P 09 35 13.1 +0.2
F31M Tsiigehtchic 89.45 21 P P 09 35 12.9 0.0
baz=250
INK Inuvik 89.82 21 IAmb IAmb 09 35 31.9
comp=Z,47nm,1.4s
INK Inuvik 89.82 21 LR LR 10 15 56.1
comp=Z,218nm,18.1s,baz=232,slow=36
INK Inuvik 89.82 21 P P 09 35 14.4 -0.2
baz=250
DZA Taraz 89.98 313 eP P 09 35 15.4 -0.7
DZA Taraz 89.98 313 eP P 09 35 15.3 -0.7
GAR Garm 90.12 309 P P 09 35 16.7 -0.3
GAR IAmb IAmb 09 35 35.2
comp=Z,36nm,1.4s
CMB Columbia Colle 90.21 52 P P 09 35 17.0 -0.3
CMB Columbia Colle 90.21 52 P P 09 35 17.0 -0.3
CMB pmax pmax
comp=Z,13nm,1.4s
KBL Kabul 90.47 305 P P 09 35 17.8 -1.0
KBL pmax pmax
comp=Z,9.0nm,0.9s
LIRD Liard River Hi 90.49 30 P P 09 35 18.2 +0.2
baz=257,SNR=7.1
BCW Bitter Crk WRg 90.53 55 P P 09 35 19.6 +0.7
KKAR Karatay Array 90.61 313 P P 09 35 18.4 -0.6
KKAR Karatay Array 90.61 313 P P 09 35 18.4 -0.6
TOAD Toad River Com 90.80 31 P P 09 35 19.5 0.0
baz=258,SNR=6.0
IUG Iuzhnay 90.81 312 eP P 09 35 19.1 -1.0
comp=Z,16nm,1.1s
IUG Iuzhnay 90.81 312 eP P 09 35 19.1 -1.0
IUG pmax pmax
comp=Z,16nm,1.1s
PNTR Pine Nut 90.97 51 P P 09 35 21.3 +0.3
PNTR IAmb IAmb 09 35 31.9
comp=Z,27nm,1.4s
WAKR Walker 91.02 51 P P 09 35 20.9 -0.3
WAKR IAmb IAmb 09 35 33.2
comp=Z,44nm,1.8s
SIMJ Simiganj 91.08 309 P P 09 35 19.7 -1.7
BRLS Borolday 91.09 313 eP P 09 35 20.9 -0.3
BRLS Borolday 91.09 313 eP P 09 35 20.9 -0.3
CHM Chimkent 91.16 312 eP P 09 35 20.7 -0.8
CHM Chimkent 91.16 312 eP P 09 35 20.7 -0.8
PAHR Pah Rah Range 91.23 50 IAmb IAmb 09 35 32.7
comp=Z,18nm,1.2s
OMMB Old Mammoth Mi 91.23 52 P P 09 35 20.9 -1.5
YERR Yerington 91.24 51 P P 09 35 20.8 -1.4
YERR IAmb IAmb 09 35 32.9
comp=Z,40nm,1.6s
PASC Pasadena Art C 91.43 56 P P 09 35 22.4 -0.6
PASC IAmb IAmb 09 35 33.6
comp=Z,27nm,1.1s
KOTAN Kotaneelee Air 91.65 30 P P 09 35 23.3 -0.1
baz=259
LHV Little Huntoon 91.71 52 P P 09 35 23.3 -0.8
LHV IAmb IAmb 09 35 36.1
comp=Z,41nm,1.2s
NVAR Mina Array Bea 91.89 52 P P 09 35 25.1 -0.1
comp=Z,9.6nm,1.0s,baz=253,slow=5.9,SNR=46
NVAR LR LR 10 13 02.3
comp=Z,87nm,18.1s,baz=270,slow=33
comp=Z,9.6nm,1.0s
RPN Rapa Nui 92.01 117 LR LR 10 11 53.6
comp=Z,49nm,18.6s,baz=270,slow=32
DSP Deep Springs 92.02 53 IAmb IAmb 09 35 37.4
comp=Z,36nm,1.1s
KVN Kaiserville 92.13 51 IAmb IAmb 09 35 37.7
comp=Z,32nm,1.3s
WVOR Wild Horse Val 92.16 48 P P 09 35 26.0 -0.3
WVOR IAmb IAmb 09 35 36.3
comp=Z,24nm,1.6s
WVOR Wild Horse Val 92.16 48 P P 09 35 26.0 -0.3
WVOR pmax pmax
comp=Z,24nm,1.6s
TJX Tijuana 92.17 58 IAMs_20 IAMs_20 10 13 45.4
comp=Z,564nm,18.0s
BVAR Borovoye Array 92.22 323 P P 09 35 24.4 -1.8
comp=Z,3.1nm,1.0s,baz=100,slow=4.5,SNR=8.9
BVAR LR LR 10 18 21.3
comp=Z,39nm,19.1s,baz=86,slow=36
comp=Z,3.1nm,1.0s
BRVK Borovoye 92.29 323 cP P 09 35 24.6 -1.9
BRVK pmax pmax
comp=Z,5.0nm,1.1s
J08A Circle Bar Ran 92.39 47 P P 09 35 25.8 -1.6
PNT Penticton 92.40 41 P P 09 35 21.3 -5.8
PNT pmax pmax
comp=Z,27nm,1.4s
GRAC Grapevine Rang 92.45 53 P P 09 35 27.6 0.0
GRAC IAmb IAmb 09 35 29.1
comp=Z,19nm,1.1s
WRGLY Wrigley 92.51 27 P P 09 35 27.4 +0.1
WRGLY IAmb IAmb 09 35 28.3
comp=Z,28nm,0.9s
WRGLY Wrigley 92.51 27 P P 09 35 26.8 -0.5
baz=260
MZP Montezuma Peak 92.52 53 IAmb IAmb 09 35 39.6
comp=Z,26nm,1.2s
MZP IAMs_20 IAMs_20 10 21 14.5
comp=Z,338nm,18.0s
TPH Tonopah 92.69 52 P P 09 35 29.1 +0.1
TPH Tonopah 92.69 52 P P 09 35 29.1 +0.1
TPH pmax pmax
comp=Z,138nm,1.2s
PFO Pinyon Flats O 92.79 57 P P 09 35 29.5 +0.1
PFO Pinyon Flats O 92.79 57 LR LR 10 11 18.9
comp=Z,318nm,19.3s,baz=288,slow=32
PFO Pinyon Flats O 92.79 57 P P 09 35 29.5 +0.1
PFO pmax pmax
comp=Z,13nm,1.1s
GWY Greenwater Val 92.91 54 IAmb IAmb 09 35 31.1
comp=Z,16nm,1.2s
BMN Battle Mountai 92.97 50 IAmb IAmb 09 35 31.3
comp=Z,12nm,0.9s
WCT Wildcat Mounta 93.01 53 P P 09 35 30.5 +0.1
WCT IAmb IAmb 09 35 41.7
comp=Z,21nm,1.1s
ESJX Sierra Juarez 93.04 58 P P 09 35 30.1 -0.6
ESJX IAmb IAmb 09 35 42.2
comp=Z,16nm,1.2s
TPNV Topopah Spring 93.33 53 IAmb IAmb 09 35 33.2
comp=Z,21nm,1.1s
C36M Paulatuk 93.41 21 IAmb IAmb 09 35 41.1
comp=Z,27nm,1.0s
C36M Paulatuk 93.41 21 P P 09 35 30.5 -0.7
baz=259
A36M Sachs Harbour 93.54 18 P P 09 35 31.1 -0.7
A36M IAmb IAmb 09 35 32.2
comp=Z,20nm,0.9s
A36M Sachs Harbour 93.54 18 P P 09 35 30.8 -1.0
baz=258
F10A Beach Ranch, E 93.59 44 P P 09 35 31.8 -1.0
CPBX Cerro Prieto 93.62 58 IAMs_20 IAMs_20 10 12 30.0
comp=Z,714nm,18.0s
NEW Newport 93.91 42 LR LR 10 15 46.9
comp=Z,606nm,18.0s,baz=267,slow=34
R11B Troy Canyon, C 94.00 52 IAmb IAmb 09 35 46.4
comp=Z,23nm,1.2s
R11B Troy Canyon, C 94.00 52 P P 09 35 34.9 -0.1
baz=264
SHPR Sheep Range 94.16 54 P P 09 35 36.2 +0.5
V12A Nelson 94.33 55 P P 09 35 36.2 -0.3
V12A IAmb IAmb 09 35 47.3
comp=Z,19nm,1.3s
PRN Pahroc Range 94.33 53 P P 09 35 36.9 +0.4
ELK Elko 94.50 50 IAmb IAmb 09 35 47.8
comp=Z,19nm,1.4s
Q12A Willow Creek R 94.66 51 P P 09 35 36.3 -1.6
Q12A IAMs_20 IAMs_20 10 16 37.0
comp=Z,568nm,21.0s
SPR3 Spring Creek 3 95.04 51 P P 09 35 40.0 0.0
ELIB Princess Elisa 95.12 194 dP P 09 35 39.1 -0.3
comp=Z,3.9nm,1.1s
PSUT Pine Spring 95.37 52 P P 09 35 41.5 +0.2
PSUT IAmb IAmb 09 35 52.8
comp=Z,18nm,1.3s
LCMT Little Creek M 95.73 54 P P 09 35 43.0 +0.1
KNB Kanab 96.07 54 IAmb IAmb 09 35 56.4
comp=Z,21nm,1.2s
HVU Hansel Valley 96.43 49 IAmb IAmb 09 35 55.6
comp=Z,15nm,1.5s
U15A North Rim 96.45 54 P P 09 35 46.8 +0.4
U15A IAmb IAmb 09 35 57.6
comp=Z,11nm,1.2s
YKA Yellowknife Ar 96.46 28 P P 09 35 45.1 -0.3
YKA Yellowknife Ar 96.46 28 P P 09 35 44.8 -0.5
comp=Z,13nm,0.9s,baz=269,slow=4.8,SNR=43
YKA LR LR 10 14 25.5
comp=Z,108nm,19.3s,baz=290,slow=32
comp=Z,13nm,0.9s
YKA Yellowknife Ar 96.46 28 P P 09 35 45.1 -0.3
PKCU Pink Cliffs 96.51 53 P P 09 35 46.5 -0.1
PKCU IAmb IAmb 09 35 58.5
comp=Z,23nm,1.2s
MTPU Mount Pierson 96.65 53 IAmb IAmb 09 35 58.9
comp=Z,17nm,1.2s
MSU Marysvale 96.68 52 P P 09 35 47.1 -0.2
MSU Marysvale 96.68 52 P P 09 35 47.1 -0.2
X16A Lo Mia Camp, P 97.01 56 P P 09 35 48.8 0.0
WUAZ Wupatki 97.14 55 P P 09 35 49.4 0.0
LPIG La Paz 97.27 67 LR LR 10 15 16.2
comp=Z,276nm,18.2s,baz=252,slow=33
TMUT Trail Mountain 97.48 51 IAmb IAmb 09 36 01.8

comp=Z,11nm,1.2s
Q16A Castle Valley 97.49 52 IAmb IAmb 09 36 01.9
comp=Z,18nm,1.4s
TPAW Teton Pass 97.86 47 P **P** **09 35 51.3 -1.2**
TPAW IAmb IAmb 09 35 55.0
comp=Z,13nm,1.7s
H17A Grant Village 98.17 46 IAMs_20 IAMs_20 10 16 49.5
comp=Z,823nm,18.0s
P18A Preston Nutter 98.24 51 P **P** **09 35 54.3 -0.1**
P18A IAmb IAmb 09 36 19.5
comp=Z,24nm,1.9s
RDMU Red Mountain 98.79 50 P **P** **09 35 56.3 -0.5**
RDMU IAmb IAmb 09 35 57.4
comp=Z,9.8nm,1.0s
PD31 Pinedale Array 98.86 48 **P** **09 35 55.9 -1.2**
PDAR Pinedale Array 98.86 48 P **P** **09 35 55.8 -1.2**
comp=Z,2.1nm,0.9s,baz=225,slow=1.9,SNR=13
PDAR LR LR 10 18 31.4
comp=Z,167nm,18.5s,baz=289,slow=34
comp=Z,2.1nm,0.9s
ARTI Arti 99.38 326 LR LR 10 25 26.7
comp=Z,78nm,18.0s,baz=80,slow=38
AKTO Aktyubinsk 99.71 320 LR LR 10 25 11.8
comp=Z,47nm,18.0s,baz=185,slow=38
SNAA Sanae 100.08 187 LR LR 10 21 13.7
comp=Z,220nm,18.7s,baz=189,slow=35
S22A 4UR Ranch, Cre 100.87 53 P **Pdif** **09 36 05.3 -0.9**
baz=270
N23A Red Feather La 101.55 50 P **Pdif** **09 36 08.2 -0.9**
baz=271
ISCO Idaho Springs 101.82 51 IAMs_20 IAMs_20 10 19 18.4
comp=Z,784nm,21.0s
Q24A Divide 102.19 52 P **Pdif** **09 36 11.2 -0.8**
baz=271
T25A Trinidad 102.80 54 P **Pdif** **09 36 13.8 -0.8**
baz=271
TXAR Lajitas Array 103.44 62 Pdiff **Pdif** **09 36 17.1 -0.4**
baz=238,slow=6.9,SNR=1.4
CROK Carrier 107.98 54 IAMs_20 IAMs_20 10 18 08.7
comp=Z,549nm,18.0s
435B Jarrell 108.68 60 P **PKiKP** **09 40 45.0 -1.1**
baz=273
OK051 E0350 and S346 108.90 54 IAMs_20 IAMs_20 10 28 33.1
comp=Z,642nm,19.0s
KIV Kislovodsk 110.74 314 *i* PKIKP **PKiKP** **09 40 47.7 -2.0**
KIV pmax pmax
comp=Z,8.0nm,1.0s
OBN Obninsk 111.68 327 *e*P **Pdif** **09 36 52.1 -1.3**
OBN *e* 09 40 49.5
OBN *e* 09 41 35.3
OBN *e*PPP PPP 09 43 55.8
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,136nm,16.0s
L44A Lake County Fo 114.80 47 P **PKiKP** **09 40 56.7 -0.7**
baz=284
POGA Pongola 115.25 235 IAMs_20 IAMs_20 10 34 04.7
comp=Z,441nm,21.0s
SNET Serv Nac Est T 116.80 78 IAMs_20 IAMs_20 10 34 41.0
comp=Z,137nm,18.0s
NACGM Naroch 116.91 329 *e*PKP **PKPdf** **09 40 59.0 -2.0**
O48B Farmland 117.29 48 P **PKPdf** **09 41 00.6 -1.6**
baz=285
AKASG Malin Array Be 117.47 324 **PKPdf** **09 41 01.4 -0.8**
AKASG Malin Array Be 117.47 324 PKP **PKPdf** **09 41 01.3 -0.9**
comp=Z,1.8nm,0.8s,baz=70,slow=1.8,SNR=9.0
AKASG Malin Array Be 117.47 324 PKIKP **PKPdf** **09 41 01.4 -0.8**
AKBB Malin Array Si 117.47 324 PKPdf **PKPdf** **09 41 01.2 -1.0**
AKBB Malin Array Si 117.47 324 PKIKP **PKPdf** **09 41 01.2 -1.0**
KIEV Kiev 117.48 324 PKPdf **PKPdf** **09 41 01.3 -0.9**
KIEV Kiev 117.48 324 PKIKP **PKPdf** **09 41 01.3 -0.9**
TEIG Tepich 117.63 71 PKPdf **PKPdf** **09 41 01.6 -1.8**
SOE Somerset East 117.64 227 PKPdf **PKPdf** **09 41 00.8 -2.5**
P49A Miami Univ. Ec 117.80 49 P **PKPdf** **09 41 01.7 -1.5**
baz=285
ILGA Ilgaz 117.86 313 PKPdf **PKPdf** **09 41 02.5 -1.1**
BRTR Keskin Array B 118.28 311 PKP **PKPdf** **09 41 03.7 -0.6**
comp=Z,1.4nm,0.9s,baz=140,slow=4.2,SNR=5.3
CRIN San Cristobal 118.91 79 IAMs_20 IAMs_20 10 17 52.8
comp=Z,365nm,21.0s
HFS Hagfors 119.48 339 PKP **PKPdf** **09 41 04.5 -1.3**
comp=Z,2.8nm,0.9s,baz=74,slow=11,SNR=3.1
NB2 NORSAR Subarra119.68 341 PKPdf **PKPdf** **09 41 05.4 -0.8**
comp=Z,9.3nm,1.7s,baz=39,slow=1.8
NOA NORSAR Array B119.68 341 PKP **PKPdf** **09 41 05.4 -0.8**
comp=Z,0.5nm,0.6s,baz=37,slow=1.7,SNR=4.1
NC602 NORSAR Array S 119.79 340 PKPdf **PKPdf** **09 41 06.1 -0.3**
BORA Eskisehir 120.58 312 PKPdf **PKPdf** **09 41 08.4 -0.3**
ACON Acoyapa 120.72 80 IAMs_20 IAMs_20 10 32 26.9
comp=Z,160nm,21.0s
ISP Isparta 121.14 310 IAMs_20 IAMs_20 10 36 37.1
comp=Z,153nm,18.0s
BUR08 Bucovina Ar. S 121.17 322 PKPdf **PKPdf** **09 41 08.2 -1.4**
ELL Elmali 121.92 309 IAMs_20 IAMs_20 10 43 53.6
comp=Z,452nm,19.0s
BORG Borgarnes 122.33 358 *i* PKIKP **PKiKP** **09 41 12.0 +0.7**
ALN Alexandroupoli 123.40 315 IAMs_20 IAMs_20 10 18 30.6
comp=Z,159nm,20.0s
PSZ Piszkesteto 124.16 325 IAMs_20 IAMs_20 10 25 11.7
comp=Z,220nm,22.0s
MORC Moravsky Berou 124.43 328 *e*PKP **PKPdf** **09 41 14.5 -1.2**
L61B Northampton 125.33 42 P **PKPdf** **09 41 16.8 -0.8**
baz=296
KRUC Moravsky 125.45 328 *e*PKP **PKPdf** **09 41 17.0 -0.6**
BRG Berggiesshubel 125.59 331 Amp 09 41 18.9
comp=Z,7.5nm,1.2s
BRG Berggiesshubel 125.59 331 P PKiKP 09 41 30.3 +12
BRG Amp 09 41 34.0
comp=Z,12nm,1.1s
BRG Berggiesshubel 125.59 331 *e*PKIKP **PKPdf** **09 41 17.9 +0.1**
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG pmax pmax
comp=Z,12nm,1.1s
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 125.59 331 *e*PKP **PKPdf** **09 41 18.0 +0.1**
CLL Collm 125.76 331 *e*PKIKP **PKPdf** **09 41 18.0 -0.1**
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 125.76 331 *e*x x 09 41 28.0
CLL Collm 125.76 331 *e*PKPdf **PKPdf** **09 41 18.0 -0.1**
comp=Z,4.0nm,0.7s
FNA Florina 126.68 317 **PKPdf** **09 41 19.7 -0.6**
FNA Florina 126.68 317 PKIKP **PKPdf** **09 41 19.7 -0.6**
KHC Kasperske Hory 126.88 329 PKPdf **PKPdf** **09 41 19.4 -1.0**
KHC Kasperske Hory 126.88 329 PKIKP **PKPdf** **09 41 19.4 -1.0**
GERES GERESS Array B 126.99 329 PKP **PKPdf** **09 41 21.1 +0.4**
comp=Z,2.4nm,0.8s,baz=57,slow=3.6,SNR=9.1
SCTE Santa Cesarea 128.98 317 IAMs_20 IAMs_20 10 26 03.0
comp=Z,629nm,20.0s
PB08 IPOC Station P 129.02 123 **PKPdf** **09 41 24.6 -1.2**
GO01 Chusmiza 129.20 122 **PKPdf** **PKPdf** **09 41 23.0 -3.2**
BFO Black Forest 130.01 331 *i* PKIKP **PKPdf** **09 41 26.0 -0.4**
NMDO Nuevo Mundo 130.01 69 IAMs_20 IAMs_20 10 26 04.5
comp=Z,216nm,20.0s
LPAZ La Paz 131.60 119 PKP **PKPdf** **09 41 30.8 -0.2**
comp=Z,4.6nm,1.0s,baz=296,slow=1.6,SNR=11
LPAZ SKP 09 44 57.4
comp=Z,7.2nm,0.9s,baz=320,slow=2.5,SNR=13
CPUP Villa Florida 134.47 138 PKP **PKPdf** **09 41 34.5 -0.9**
comp=Z,2.4nm,1.0s,baz=270,slow=4.0,SNR=2.6
SDV Santo Domingo 134.97 84 PKPdf **PKPdf** **09 41 35.0 -1.9**
ETMB Extrema 135.84 112 PKPdf **PKPdf** **09 41 35.6 -2.7**
HUMP Col San Antoni 138.91 71 PKPdf **PKPdf** **09 41 42.4 -1.4**
SAML Samuel 138.94 112 PKPdf **PKPdf** **09 41 43.5 -0.5**
SAML Samuel 138.94 112 PKIKP **PKPdf** **09 41 43.5 -0.5**
SMRT St. Maarten 141.51 70 IAMs_20 IAMs_20 10 47 32.0
comp=Z,439nm,19.0s
ESDC Sonseca Array 142.32 333 PKP **PKPdf** **09 41 45.9 -3.7**
comp=Z,1.3nm,0.9s,baz=5.4,slow=2.8,SNR=6.0
MVO Moncorvo 142.36 337 *e*PKP **PKPdf** **09 41 48.5 -1.1**
MVO eLQ LQ 09 41 55.2
MTE Manteigas 143.22 337 *e*PKP PKPbc 09 41 47.9 -0.1
PCBR Castelo Branco 143.68 337 *e*PKP PKPbc 09 41 50.6 +1.4
PCAS Casmilo, Conde 143.88 338 *e*PKP PKPbc 09 41 51.0 +1.2
PMRV Marv??o 143.99 336 *e*PKP **PKPdf** **09 41 52.1 -0.3**
PMRV eLQ LQ 09 42 04.5
BOAV Boa Vista 144.50 96 PKPdf **PKPab** **09 41 51.2 -1.1**
PESTR Estremoz 144.55 336 PKPdf **PKPab** **09 41 51.7 -0.1**
PESTR Estremoz 144.55 336 *e*PKP PKPbc 09 41 52.8 +0.8
PMTG Montargil 144.63 337 *e*PKP **PKPab** **09 41 52.1 +0.1**
PMTG eLQ LQ 09 42 07.6
PBAR Barrancos 144.91 335 *e*PKP **PKPab** **09 41 52.8 -0.3**
PBAR eLQ LQ 09 42 09.0
EVO Evora 145.01 336 *e*PKP **PKPab** **09 41 54.1 +0.7**
EVO eLQ LQ 09 42 03.8
PBEJ Beja 145.38 336 *e*PKP **PKPab** **09 41 55.4 +0.6**
PBEJ eLQ LQ 09 42 10.7
MESJ Messejana 145.69 336 **PKPdf** **09 41 54.0 -1.4**
MESJ Messejana 145.69 336 *e*PKP **PKPbc** **09 41 56.1 +0.5**
MESJ eLQ LQ 09 42 06.5
MESJ Messejana 145.69 336 *e*PKPab **PKPdf** **09 41 55.7 +0.4**
MESJ Messejana 145.69 336 PKP2 **PKPdf** **09 41 54.0 -1.4**
PCVE Castro Verde 145.79 335 *e*PKP **PKPab** **09 41 56.8 +0.5**
PCVE eLQ LQ 09 42 06.9
PVAQ Vaqueiros 145.85 335 **PKPdf** **09 41 54.4 -1.2**
PVAQ Vaqueiros 145.85 335 *e*PKP **PKPab** **09 41 56.8 +0.2**
PVAQ eLQ LQ 09 42 07.8
PBDV Barranco-do-Ve 146.08 335 *e*PKP **PKPab** **09 41 57.8 +0.3**
PTEO Sao Teotonio 146.14 336 *e*PKP **PKPab** **09 41 58.1 +0.5**
PTEO eLQ LQ 09 42 07.9
MORF Marmelete 146.32 336 PKPbc **PKPdf** **09 41 56.7 +0.2**
MORF Marmelete 146.32 336 *e*PKP **PKPab** **09 41 58.5 +0.1**
MORF eLQ LQ 09 42 08.3
MORF Marmelete 146.32 336 *e*PKPab **PKPbc** **09 41 58.3 +0.6**
MORF Marmelete 146.32 336 PKP2 **PKPdf** **09 41 56.7 +0.2**
PFVI Vila Bisbo 146.54 336 *e*PKP **PKPab** **09 41 59.3 +0.1**
TAM Tamanrasset 146.55 301 PKPbc **PKPab** **09 41 59.8 -0.1**
TAM Tamanrasset 146.55 301 PKP2 **PKPab** **09 41 59.8 -0.1**
BDFB Brasilia 148.08 135 **PKPbc** **09 42 02.2 -1.0**
BDFB Brasilia 148.08 135 PKPbc **PKPdf** **09 42 00.5 +0.4**
comp=Z,19nm,1.1s,baz=230,slow=2.2,SNR=13
BDFB Brasilia 148.08 135 PKP2 **PKPbc** **09 42 02.3 -1.0**
MAL2 Monte Alegre, 149.70 106 PKPdf **PKPdf** **09 42 00.7 -2.0**
MAL2 PKPab **PKPab** **09 42 11.8 -0.7**
TORD Torodi Ar. Bea 152.86 285 PKPdf **PKPdf** **09 42 05.0 -2.4**
TORD PKPbc **PKPbc** **09 42 14.2 -0.4**
TORD PKPab **PKPab** **09 42 23.7 -2.0**
TORD Torodi Ar. Bea 152.86 285 PKP **PKPdf** **09 42 06.2 -1.2**
comp=Z,1.9nm,0.9s,baz=12,slow=2.2,SNR=6.6
TORD PKPbc **PKPbc** **09 42 14.0 -0.6**
comp=Z,6.2nm,0.8s,baz=26,slow=3.3,SNR=22
MACI Morro de la Ar 157.36 340 PKPdf **PKPdf** **09 42 10.9 -2.5**
MACI PKPab **PKPab** **09 42 41.7 -2.8**

NNC ***27*** *09:22:46.7±3.1, 51°.85N×75°.44E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=176.1km s-min=20.3km az=26.0, Suspected Mining explosion.*
IDC ***27*** *09:22:47.0±1.2, 51°.56N×75°.37E, h0km, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=21.4km s-min=9.2km az=29.0*
ISC 27 09:22:46.6±1.1, 51°.6N±0°.1×75°.38E±0°.06, h0km, n8, σ1º03/10, 4C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.20**	**114**	⇑Pn	**Pb**	**09 23 26.7**	**-0.5**
	3.3nm,0.5s						
KURBB				⇓Sn	**Sg**	**09 23 57.1**	**-0.2**
	28nm,0.6s						
KURBB	**Kurchatov Arra**	**2.20**	**114**	Pg	**Pn**	**09 23 25.6**	**+1.2**
	0.4nm,0.3s,baz=301,slow=18,SNR=9.4						
KURBB				Lg	Lg	09 23 57.4	
	0.7nm,0.3s,baz=292,slow=42,SNR=3.2						
KURK	**Kurchatov**	**2.21**	**112**	⇑Pn	**Pn**	**09 23 25.4**	**+0.8**
	1.6nm,0.4s						
KURK				⇑Sn	**Sb**	**09 23 54.1**	**-1.3**
	11nm,0.6s						
BVA0	**Borovoye Array**	**3.39**	**297**	⇓Pg	**Pb**	**09 23 46.8**	**-0.7**
	1.1nm,0.7s,baz=116,slow=16,SNR=4.2						
BVA0				⇑Lg	Lg	09 24 31.1	
	6.9nm,0.8s,baz=116,slow=27,SNR=6.7						
BVAR	**Borovoye Array**	**3.39**	**297**	Pn	**Pn**	**09 23 41.2**	**+0.5**
	0.1nm,0.3s,baz=115,slow=10,SNR=4.3						
BVAR				Lg	Lg	09 24 32.6	
	0.3nm,0.3s,baz=117,slow=27,SNR=7.1						
	0.8nm,0.4s						
ZALV	**Zalesovo Beam**	**6.20**	**64**	Pn	**Pn**	**09 24 20.4**	**+1.0**
	0.4nm,0.3s,baz=258,slow=14,SNR=6.7						
ZALV				Lg	Lg	09 26 03.9	
	0.2nm,0.3s,baz=255,slow=28,SNR=1.9						
	1.0nm,0.4s						
I46RU	**ZALESOVO INFRA**	**6.21**	**64**	I	I	09 59 53.9	
	baz=247,slow=308,SNR=2.4						
MKAR	**Makanchi Array**	**6.59**	**134**	Pn	**Pn**	**09 24 25.8**	**+1.2**
	0.1nm,0.3s,baz=316,slow=14,SNR=1.7						
MKAR				Sn	**Sn**	**09 25 40.3**	**-0.1**
	0.1nm,0.3s,baz=313,slow=12,SNR=2.8						
MKAR				Lg	Lg	09 26 13.9	
	0.7nm,0.3s,baz=326,slow=26,SNR=12						
	0.4nm,0.6s						

RSNC 27 09:25:46.9±0.0, 13°.N±3°.×8°.1W±°., h3km±6km, M3.0, mb4.0, ML3.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.28**	**306**	P	Pg	09 25 52.9	+0.6
PRVC				S	Sg	09 25 57.7	+1.7
SAIC	**Isla e San And**	**0.88**	**220**	P	Pg	09 26 04.1	+0.4
SAIC				S	Sb	09 26 17.7	+0.8
RNCC	**Cayo Roncador,**	**1.07**	**70**	P	Pn	09 26 09.5	+0.6
RNCC				S	Sg	09 26 21.6	+0.1
SERC	**Banco Serrana,**	**1.30**	**35**	P	Pg	09 26 09.3	-2.6
SERC				S	Sg	09 26 27.5	-1.3
ESPN	**Las Esperanzas**	**3.25**	**252**	P	Pn	09 26 38.1	-0.8
BCIP	**Isla Barro Col**	**4.21**	**162**	P	Pn	09 26 48.3	-3.8
BCIP				S	Sn	09 27 35.6	-6.3
JTS	**Las Juntas de**	**4.74**	**233**	P	Pn	09 26 59.6	+0.3
SJCC	**San Jacinto, C**	**6.70**	**119**	P	Pn	09 27 24.6	-1.7
SJCC				S	Sn	09 28 37.1	-6.1

IDC ***27*** *09:30:16.8±0.5, 7°.11S×154°.87E, h0km, mb4.4/20, mbtmp4.4/23, ML2.8/2, MS3.7/1, Error ellipse: s-maj=16.5km s-min=13.9km az=86.0*
BJI ***27*** *09:30:17.0, 7°.19S×154°.74E, h6km, mb4.8/37, mB5.1/13, Ms4.8/17, Ms7 4.4/19*
NEIC ***27*** *09:30:18.8±1.5, 7°.12S±0°.09×154°.96E±0°.07, h10km±1km, mb5.2/106, Error ellipse: s-maj=15.7km s-min=11.1km az=211.0*
GCMT ***27*** *09:30:21.8±0.3, 7°.27S±0°.03×154°.91E±0°.03, h20km, MW4.9/85, Moment Tensor Solution. s31,c34; s85,c112; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.52±.21; Mθθ-1.90±.13; Mφφ-1.62±.13; Mrθ0.21±.25; Mθφ1.19±.07; Mφr-0.46±.26; Best double couple: M03.27600×10^16 NP1:φs135.00000°, δ49.00000°, λ94.00000°. NP2: φs309.00000°, δ41.00000°, λ86.00000°. Principal axes: T 3.5620, Plg85.0000°, Azm77.0000°; N -0.5720, Plg3.0000°, Azm312.0000°; P -2.9900, Plg4.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***27*** *09:30:29.1±5.2, 8°.S±17°.×15°.6E±3°.1, h78km±33km, M4.8/9, mB4.8/1, mb4.8/9, Mw(mB)4.1/1*
ISC 27 09:30:22.8±0.3, 7°.22S±0°.06×154°.89E±0°.05, h41km, n399, σ1º01/381, mb5.1/87, MS4.5/7, 2C, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.05**	**318**	Pn	**Pn**	**09 31 18.7**	**-3.6**
I40PG	**Keravat**	**4.08**	**315**	I	I	09 55 42.6	
	baz=123,slow=312,SNR=0.8						
HNR	**Honiara**	**5.47**	**114**	Pn	**Pn**	**09 31 39.3**	**-2.5**
HNR	**Honiara**	**5.47**	**114**	Pn	**Pn**	**09 31 41.9**	**+0.1**
	52nm,0.5s,baz=324,slow=23,SNR=1.9						
HNR				Sn	**Sn**	**09 32 48.0**	**+4.5**
	13nm,0.3s,baz=285,slow=20,SNR=3.6						
PMG	**Port Moresby**	**7.95**	**254**	Pn	**Pn**	**09 32 15.8**	**-0.1**
PMG	**Port Moresby**	**7.95**	**254**	Pn	**Pn**	**09 32 15.0**	**-0.8**
	2.1nm,0.3s,baz=55,slow=5.6,SNR=5.3						
PMG				Sn	**Sn**	**09 33 47.4**	**+2.8**
	2.2nm,0.3s,baz=72,slow=20,SNR=4.5						
	38nm,0.7s						
MANU	**Manus Island**	**9.09**	**304**	Pn	**Pn**	**09 32 29.6**	**-1.9**
COEN	**Coen**	**13.31**	**239**	Pn	**Pn**	**09 33 27.4**	**-1.9**
CTAO	**Charters Tower**	**15.29**	**212**	Pn	**Pn**	**09 33 54.3**	**-1.6**
DZM	**Mont Dzumac**	**18.50**	**144**	P	**P**	**09 34 33.3**	**-2.4**
DZM	**Mont Dzumac**	**18.50**	**144**	P	**Pn**	**09 34 35.9**	**-0.3**
	0.2nm,0.3s,baz=55,slow=6.4,SNR=4.1						
DZM				LR	LR	09 40 25.9	
	comp=Z,235nm,19.3s,baz=129,slow=33						
	13nm,1.0s						
RKPI	**Ransiki, Papua**	**21.41**	**284**	P	P	09 35 25.2	+18
	80nm,1.5s						
ARMA	**Armidale**	**23.28**	**187**	P	**P**	**09 35 27.6**	**+0.5**
WB0	**Warramunga Arr**	**23.47**	**236**	P	**P**	**09 35 28.9**	**0.0**
WB2	**Warramunga Arr**	**23.59**	**236**	P	**P**	**09 35 29.4**	**-0.7**
WRA	**Warramunga Arr**	**23.60**	**236**	P	**P**	**09 35 29.1**	**-1.0**
	16nm,0.9s,baz=61,slow=9.7,SNR=26						
WRA				PcP	**PcP**	**09 39 14.4**	**-0.1**
	1.1nm,0.8s,baz=60,slow=2.2,SNR=4.0						
WRA				ScP	**ScP**	**09 42 54.3**	**+4.7**
	0.4nm,0.9s,baz=72,slow=3.0,SNR=4.7						
	16nm,0.9s						
MTN	**Manton Dam**	**24.04**	**255**	P	**P**	**09 35 33.8**	**-0.4**
MTN				IAmb	IAmb	09 35 47.8	
	comp=Z,104nm,1.2s						
SWI	**Sorong**	**24.39**	**284**	P	P	09 35 51.5	+14
	comp=Z,24nm,0.5s						
MSVF	**Nonsavu**	**24.88**	**117**	P	**P**	**09 35 41.3**	**-0.7**
AS31	**Alice Springs**	**25.94**	**229**	P	**P**	**09 35 50.9**	**-0.7**
ASAR	**Alice Springs**	**25.94**	**229**	P	**P**	**09 35 50.0**	**-1.5**
ASAR	**Alice Springs**	**25.94**	**229**	P	**P**	**09 35 50.9**	**-0.7**
	comp=Z,4.4nm,0.8s,baz=58,slow=9.1,SNR=27						
ASAR				PcP	**PcP**	**09 39 20.7**	**+1.0**
	comp=Z,1.1nm,1.0s,baz=46,slow=3.6,SNR=2.1						
ASAR				ScP	**ScP**	**09 43 00.7**	**+4.5**
	comp=Z,1.1nm,1.0s,baz=63,slow=3.1,SNR=5.4						
	comp=Z,4.4nm,0.8s						
KNRA	**Kununurra**	**26.92**	**250**	P	**P**	**09 36 00.8**	**+0.3**
STKA	**Stephens Creek**	**27.48**	**205**	P	**P**	**09 36 04.8**	**-0.6**
STKA	**Stephens Creek**	**27.48**	**205**	P	**P**	**09 36 06.4**	**+1.1**
	comp=Z,18nm,0.8s,baz=20,slow=11,SNR=24						
	comp=Z,18nm,0.8s						
SOEI	**Soe**	**30.38**	**263**	P	**P**	**09 36 31.1**	**-0.3**
SOEI				IAmb	IAmb	09 37 29.2	
	comp=Z,52nm,1.2s						
FITZ	**Fitzroy Crossi**	**30.46**	**246**	P	**P**	**09 36 31.1**	**-0.9**
BBOO	**Buckleboo**	**30.89**	**212**	P	**P**	**09 36 35.3**	**-0.2**
BBOO				IAmb	IAmb	09 37 12.5	
	comp=Z,52nm,1.6s						
MMRI	**Maumere**	**32.36**	**265**	P	**P**	**09 36 47.5**	**-1.3**
KAPI	**Kappang**	**35.00**	**272**	P	**P**	**09 37 11.4**	**-0.2**
PSA00	**Pilbara Seismi**	**36.70**	**243**	P	**P**	**09 37 25.7**	**-0.4**
URZ	**Urewera**	**36.87**	**150**	P	**P**	**09 37 29.2**	**+1.9**
	comp=Z,8.5nm,0.9s,baz=11,slow=5.2,SNR=2.9						
	comp=Z,8.5nm,0.9s						
RTZ	**Ruatahuna**	**37.08**	**151**	P	**P**	**09 37 29.3**	**0.0**
RTZ				IAmb	IAmb	09 37 44.6	
	comp=Z,47nm,1.2s						
MJAR	**Matsushiro Arr**	**46.26**	**341**	P	**P**	**09 38 43.2**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=176,slow=9.2,SNR=1.3						
	comp=Z,0.5nm,0.4s						
KSRS	**Korea Array**	**51.09**	**332**	P	**P**	**09 39 19.8**	**-1.6**
	comp=Z,1.7nm,0.9s,baz=142,slow=5.8,SNR=3.6						
	comp=Z,1.7nm,0.9s						
NJ2	**Nanjing**	**52.02**	**321**	*e*P	**P**	**09 39 29.3**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,250nm,4.1s						
USRK	**Ussuriysk Ar.**	**55.20**	**340**	P	**P**	**09 39 51.5**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=163,slow=5.4,SNR=2.7						
	comp=Z,1.4nm,0.6s						
TIA	**Tai'an**	**55.88**	**323**	P	P	09 40 10.3	+14
TIA				pmax	pmax		
	comp=Z,15nm,1.1s						
TIA				LR	LR		
	comp=N,240nm,16.7s						
TIA				LR	LR		
	comp=E,210nm,15.1s						
TIA				LR	LR		
	comp=Z,320nm,17.1s						
CN2	**Changchun**	**57.35**	**335**	*e*P	**P**	**09 40 08.3**	**+1.5**
LYN	**LuoYang**	**57.72**	**319**	*e*P	**P**	**09 40 10.0**	**+0.4**
LYN				pP	pP	09 40 13.5	-6.0
LYN				sP	sP	09 40 18.5	-4.9
LYN				S	**S**	**09 48 08.5**	**+2.8**
LYN				pmax	pmax		
	comp=Z,23nm,0.9s						
LYN				LR	LR		
	comp=Z,310nm,15.0s						
LYN				LR	LR		
	comp=Z,400nm,16.7s						
HNS	**HongShan**	**58.12**	**323**	⇑P	**P**	**09 40 13.3**	**+1.0**
PHRA	**Phrae**	**59.65**	**296**	P	**P**	**09 40 21.9**	**-1.4**
XAN	**Xi'an**	**59.79**	**316**	P	**P**	**09 40 23.5**	**-0.6**
XAN				pmax	pmax		
	comp=Z,19nm,1.4s						
XAN				LR	LR		
	comp=Z,280nm,15.3s						
XAN				LR	LR		
	comp=Z,260nm,15.8s						
XAN				LR	LR		
	comp=Z,460nm,16.3s						
KMI	**Kunming**	**60.05**	**304**	⇑P	**P**	**09 40 30.3**	**+4.0**
KMI				pmax	pmax		
	comp=Z,15nm,0.7s						
PETK	**Petropavlovsk-**	**60.14**	**2**	P	**P**	**09 40 25.0**	**-1.0**
	comp=Z,3.2nm,0.9s,baz=190,slow=7.5,SNR=2.2						
	comp=Z,3.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**60.78**	**296**	P	**P**	**09 40 31.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**60.78**	**296**	P	**P**	**09 40 32.5**	**+1.3**
	comp=Z,2.7nm,0.6s,baz=116,slow=4.7,SNR=14						
	comp=Z,2.7nm,0.6s						
CHTO	**Chiang Mai**	**60.90**	**296**	P	**P**	**09 40 32.2**	**+0.2**
CHTO				IAmb	IAmb	09 40 56.8	
	comp=Z,16nm,1.1s						
PZH	**PanZhiHua**	**61.45**	**305**	P	**P**	**09 40 38.5**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,110nm,4.8s						
HHC	**Hu-ho-hao-te**	**62.21**	**324**	*e*P	**P**	**09 40 45.0**	**+4.5**
HHC				sP	sP	09 40 54.0	-0.3
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,130nm,5.1s						
HHC				LR	LR		
	comp=Z,120nm,13.7s						
HHC				LR	LR		
	comp=Z,190nm,16.5s						
BTO	**Baotou**	**62.97**	**323**	*e*P	**P**	**09 40 47.8**	**+2.3**
BTO				pP	**pP**	**09 40 51.8**	**-3.7**
BTO				sP	**sP**	**09 40 54.8**	**-4.6**
BTO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BTO				pmax	pmax		
	comp=Z,110nm,4.0s						
BTO				LR	LR		
	comp=Z,250nm,5.4s						
BTO				LR	LR		
	comp=Z,180nm,6.8s						
BTO				LR	LR		
	comp=Z,260nm,7.2s						
LZH	**Lanzhou**	**64.40**	**316**	*e*P	**P**	**09 40 55.8**	**+0.7**
LZH				pP	pP	09 40 59.5	-5.7
LZH				S	**S**	**09 49 32.0**	**+0.9**
LZH				pmax	pmax		
	comp=Z,20nm,1.4s						
LZH				LR	LR		
	comp=Z,230nm,14.8s						
LZH				LR	LR		
	comp=Z,200nm,16.5s						
LZH				LR	LR		
	comp=Z,190nm,16.5s						
GTA	**Gaotai**	**68.83**	**317**	P	**P**	**09 41 24.0**	**+0.7**
GTA				pP	pP	09 41 33.5	+0.1
GTA				sP	sP	09 41 37.5	+0.2
GTA				S	**S**	**09 50 28.3**	**+3.8**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GTA				LR	LR		
	comp=

baz=225
M13K Dall Lake 75.00 20 P P 09 41 59.9 +0.2
baz=223
GAMB Gambell 75.16 15 P P 09 42 01.1 +0.6
baz=214
O15K Ungalikthiuk R 75.38 22 P P 09 42 02.9 +0.9
baz=227
K13K Kusilvak Mount 75.70 18 P P 09 42 04.3 +0.7
baz=222
R17L Mt. Peulik Vol 75.72 25 P P 09 42 04.4 +0.5
baz=230
L14K Kuka Creek 75.90 20 P P 09 42 05.9 +1.1
baz=224
N15K Kwethluk River 75.97 21 P P 09 42 06.1 +0.8
baz=226
SII Sitkinak Islan 75.98 26 P P 09 42 05.6 +0.1
baz=233
P16K Nushagak River 75.98 23 P P 09 42 05.0 -0.3
baz=228
M15K Kasigluk River 76.12 21 P P 09 42 06.7 +0.6
baz=226
Q16K King Salmon 76.28 24 P P 09 42 06.5 -0.5
baz=230
Q17K Contact Creek 76.32 24 P P 09 42 07.0 -0.4
baz=231
R18K Karluk 76.48 25 P P 09 42 08.5 +0.3
baz=232
L15K Ungalak Mounta 76.54 20 P P 09 42 09.3 +0.9
baz=225
J14K Nanvaranak Lak 76.65 18 P P 09 42 09.8 +0.8
baz=223
N16K Nishlik Lake 76.66 22 P P 09 42 09.4 +0.2
baz=228
OHAK Old Harbor 76.78 26 P P 09 42 10.0 +0.2
baz=233
Q18K Katmai Hardscr 76.92 24 P P 09 42 11.7 +0.8
baz=231
M16K Timber Creek 76.96 21 P P 09 42 11.6 +0.7
baz=227
K15K Wolf Creek Mou 76.97 19 P P 09 42 12.2 +1.3
baz=225
L16K Owhat River 77.25 20 P P 09 42 13.3 +0.9
baz=227
N17K Nushagak Hills 77.28 22 P P 09 42 12.9 +0.2
baz=229
KDAK Kodiak Island 77.42 26 P P 09 42 13.5 +0.1
baz=234
Q19K Cape Douglas, 77.66 25 P P 09 42 14.1 -0.8
baz=233
M17K Holitna River 77.76 21 P P 09 42 14.9 -0.4
baz=229
N18K Kilae Creek 77.86 22 P P 09 42 15.6 -0.4
baz=230
F14K Arctic Creek 77.92 16 P P 09 42 15.6 -0.5
baz=220
L17K Donlin 77.95 21 P P 09 42 15.9 -0.4
baz=228
J16K Anvik River 77.97 19 P P 09 42 16.4 0.0
baz=225
G15K Niukluk 78.18 17 P P 09 42 17.7 +0.1
baz=222
K17K Iditarod 78.34 20 P P 09 42 18.2 -0.3
baz=228
I17K Unalakleet 78.37 18 P P 09 42 19.0 +0.4
baz=225
M18K Stony River 78.41 22 P P 09 42 19.5 +0.6
baz=230
H16K Elim 78.44 17 P P 09 42 19.0 0.0
baz=224
J17K VABM Dome 78.55 19 P P 09 42 19.8 +0.2
baz=227
F15K North Star Dit 78.55 16 P P 09 42 19.8 +0.2
baz=221
L18K Granite Mounta 78.57 21 P P 09 42 19.7 -0.1
L18K Granite Mounta 78.57 21 P P 09 42 20.1 +0.3
baz=229
WMQ Urumqi 78.92 317 *e*P P 09 42 24.3 +2.1
WMQ LR LR
comp=Z,98nm,18.9s
G16K Koyuk River 78.95 17 P P 09 42 21.9 +0.1
baz=223
CNPM China Poot 79.01 25 P P 09 42 21.6 -0.7
M19K Big River Lodg 79.20 22 P P 09 42 23.3 0.0
M19K IAmb IAmb 09 42 40.3
comp=Z,22nm,0.9s
M19K Big River Lodg 79.20 22 P P 09 42 23.6 +0.3
baz=231
L19K White Mountain 79.21 22 P P 09 42 23.1 -0.3
L19K IAmb IAmb 09 42 40.1
comp=Z,21nm,1.2s
L19K White Mountain 79.21 22 P P 09 42 24.1 +0.7
baz=231
TTA Tatalina 79.27 21 P P 09 42 24.4 +0.7
baz=230
BRSE Bradley Lake S 79.34 25 P P 09 42 24.4 +0.3
baz=235
H17K Granite Mounta 79.35 18 P P 09 42 25.3 +1.3
baz=226
J18K Innoko River 79.38 20 P P 09 42 25.1 +0.9
baz=229
G17K Kiwalik Mounta 79.53 17 P P 09 42 26.1 +1.2
baz=225
N20K Mount Spurr 79.60 23 P P 09 42 26.5 +1.0
baz=234
SPCR Spurr Chakacha 79.60 23 P P 09 42 26.8 +1.3
baz=234
M20K Styx River 79.66 22 P P 09 42 26.3 +0.4
baz=233
L20K Farewell, AK 79.75 22 P P 09 42 27.1 +0.8
baz=232
F17K Baldwin Pennin 80.03 16 P P 09 42 28.0 +0.4
baz=224
SEW Seward 80.08 25 P P 09 42 27.4 -0.6
baz=236
J19K Poorman 80.09 20 P P 09 42 28.9 +0.8
baz=230
GCSA Galena City Sc 80.17 19 P P 09 42 28.7 +0.3
baz=229
O22K Cooper Landing 80.18 24 P P 09 42 29.2 +0.6
baz=236
K20K Telida 80.23 21 P P 09 42 29.8 +1.0
baz=232
C16K Lisburne Hills 80.33 14 P P 09 42 29.3 +0.1
baz=220
SUA Susitna One 80.33 23 P P 09 42 29.2 -0.4
baz=235
E17K Hotham Inlet 80.33 16 P P 09 42 29.7 +0.4
baz=224
G18K Tagagawik 80.40 18 P P 09 42 29.6 -0.1
baz=227
D17K Noatak River 80.45 15 P P 09 42 29.3 -0.6
baz=222
RC01 Rabbit Creek A 80.52 24 P P 09 42 30.3 -0.1
baz=236
F18K Selawik 80.59 17 P P 09 42 30.4 -0.3
baz=226
J20K Nowinta River 80.71 20 P P 09 42 31.5 +0.1
baz=231
M22K Willow 80.74 23 P P 09 42 31.5 0.0
baz=235
RDOG Red Dog Mine 80.76 15 P P 09 42 32.1 +0.5
baz=222
H19K Roundabout Mou 80.83 18 IAmb IAmb 09 42 49.0
comp=Z,20nm,1.0s
H19K Roundabout Mou 80.83 18 P P 09 42 32.5 +0.6
baz=229
P23K Montague Islan 80.89 25 P P 09 42 32.7 +0.3
baz=238
E18K Tukpahlearik C 80.91 16 P P 09 42 33.2 +0.8
baz=225
PWL Port Wells 80.96 24 P P 09 42 31.8 -1.0
PWL Port Wells 80.96 24 P P 09 42 32.3 -0.5
baz=237
CAST Castle Rocks 80.97 21 P P 09 42 32.3 -0.5
CAST Castle Rocks 80.97 21 P P 09 42 33.1 +0.3
baz=233
I20K Naaghedeneel 80.99 20 P P 09 42 33.5 +0.7
baz=231
G19K Purcell Mounta 81.04 18 P P 09 42 32.4 -0.7
G19K IAmb IAmb 09 42 49.7
comp=Z,19nm,1.1s
G19K Purcell Mounta 81.04 18 P P 09 42 33.7 +0.6
baz=228
PMR Palmer 81.04 24 P P 09 42 33.7 +0.5
baz=236
Q23K Middleton Isla 81.05 26 P P 09 42 33.6 +0.4
baz=239
CHUM Lake Minchumin 81.17 21 P P 09 42 34.6 +0.8
baz=233
KNK Knik Glacier 81.21 24 P P 09 42 34.8 +0.6
baz=237
F19K Shaleruckik Mo 81.30 17 P P 09 42 35.0 +0.6
baz=228
H20K Anotleneega Mo 81.30 19 P P 09 42 34.6 +0.1
baz=230
GLI Glacier Island 81.48 25 P P 09 42 35.9 +0.3
baz=238
C18K Utukok River 81.63 15 P P 09 42 36.0 -0.3
baz=224
TRF Thorofare Moun 81.65 22 P P 09 42 36.4 -0.2
baz=235
M23K Glacier View 81.71 24 P P 09 42 36.8 0.0
baz=238
BPAW Bear Paw Mtn. 81.77 21 P P 09 42 37.1 0.0
baz=234
E19K Redstone River 81.87 17 IAmb IAmb 09 42 56.4
comp=Z,19nm,0.9s
E19K Redstone River 81.87 17 P P 09 42 37.5 0.0
baz=228
SCM Sheep Creek Mo 81.89 24 P P 09 42 36.9 -0.9
baz=238
WAT1 Susitna Watana 81.95 23 P P 09 42 38.0 -0.1
baz=237
B18K Kokolik River 82.00 14 P P 09 42 38.7 +0.6
baz=223
F20K Avaraart Lake 82.04 17 IAmb IAmb 09 42 55.0
comp=Z,16nm,1.2s
F20K Avaraart Lake 82.04 17 P P 09 42 38.7 +0.4
baz=230
ZSN Zaisan 82.05 320 *e*P P 09 42 40.0 +1.2
I21K Tanana 82.06 20 IAmb IAmb 09 42 54.9
comp=Z,14nm,1.0s
I21K Tanana 82.06 20 P P 09 42 38.4 -0.2
baz=233
H21K Melozitna Rive 82.08 19 P P 09 42 38.8 +0.1
baz=232
WAT6 Susitna Watana 82.13 23 P P 09 42 39.0 -0.1
baz=238
KAIM Kayak Island 82.14 26 P P 09 42 38.9 -0.2
baz=241
KLU Klutina 82.29 25 P P 09 42 40.5 +0.6
KLU Klutina 82.29 25 P P 09 42 39.6 -0.3
baz=239
MCK McKinley 82.31 22 P P 09 42 38.9 -0.9
baz=236
D19K Kuna River 82.33 16 P P 09 42 39.4 -0.5
baz=227
C19K Lookout Ridge 82.37 15 P P 09 42 40.2 +0.1
baz=226
G21K Allakaket 82.38 18 P P 09 42 40.6 +0.4
baz=232
MLY Manley 82.40 20 P P 09 42 39.7 -0.6
MLY IAmb IAmb 09 42 56.8
comp=Z,27nm,1.7s
MLY Manley 82.40 20 P P 09 42 40.3 0.0
baz=234
M24K Tolsona, Glenn 82.50 24 P P 09 42 40.7 -0.2
baz=239
DHY Denali Highway 82.53 23 P P 09 42 41.0 -0.2
baz=238
BMRM Bremner River 82.57 25 P P 09 42 40.1 -1.3
baz=241
H22K Ishtalitna Cre 82.69 20 P P 09 42 41.6 -0.2
baz=234
E20K Nigu River 82.70 16 P P 09 42 41.7 -0.2
baz=229
NEA2 Nenana 82.74 21 P P 09 42 42.5 +0.5
baz=236
QSPA South Pole Qui 82.75 180 P P 09 42 43.4 +1.0
QSPA South Pole Qui 82.75 180 P P 09 42 42.9 +0.5
comp=Z,7.3nm,1.0s,baz=4.4,slow=1.1,SNR=23
comp=Z,7.3nm,1.0s
A19K Wainwright 82.79 14 P P 09 42 42.9 +0.7
baz=224
F21K Alatna River 82.83 18 P P 09 42 41.5 -1.0
baz=232
D20K Etivluk River 82.89 16 P P 09 42 41.7 -1.1
baz=228
N25K Chitina, Valde 82.89 25 P P 09 42 42.3 -0.8
baz=240
I23K Minto, Yukon-K 82.95 21 P P 09 42 43.0 -0.1
baz=236
HARP HAARP 83.06 24 P P 09 42 43.4 -0.4
baz=240
CRQE Cirque 83.12 26 P P 09 42 43.7 -0.6
baz=242
PAX Paxson 83.22 23 P P 09 42 44.9 +0.2
baz=240
G22K Bettles 83.26 19 P P 09 42 45.1 +0.4
baz=234
H23K Yukon River 83.27 20 IAmb IAmb 09 43 00.4
comp=Z,12nm,1.1s
H23K Yukon River 83.27 20 P P 09 42 45.9 +1.1
baz=236
COLA College 83.33 21 P P 09 42 45.1 0.0
baz=237
MESA MESA 83.36 27 P P 09 42 46.4 +0.8
baz=243
F22K John River 83.41 18 P P 09 42 46.4 +0.9
baz=233
HDA Harding Lake 83.41 22 P P 09 42 45.4 -0.1
baz=238
MCARA McCarthy VSAT 83.45 25 P P 09 42 45.9 +0.1
baz=242
E21K Killik River 83.45 17 P P 09 42 45.1 -0.7
E21K IAmb IAmb 09 43 02.0
comp=Z,26nm,1.2s
MK31 Makanchi Array 83.50 319 P P 09 42 46.6 +0.1
MK31 IAmb IAmb 09 43 01.5
comp=Z,17nm,1.1s
MKAR Makanchi Array 83.50 319 P P 09 42 46.0 -0.4
comp=Z,3.4nm,1.0s,baz=107,slow=4.0,SNR=8.5
MKAR PKKP **PKKPdf** 10 00 56.8 -1.5
comp=Z,0.8nm,0.8s,baz=336,slow=3.9,SNR=4.0
comp=Z,3.4nm,1.0s
K24K Donnelly Dome 83.53 23 P P 09 42 46.2 0.0
baz=239
B20K Meade River 83.61 15 P P 09 42 46.1 -0.3
baz=229
POKR Poker Plat Res 83.61 21 P P 09 42 46.7 +0.1
baz=238
G23K Bananza Creek 83.62 19 P P 09 42 46.7 +0.1
baz=235
ILAR Eielson Array 83.62 22 P P 09 42 45.1 -1.5
comp=Z,2.3nm,0.9s,baz=266,slow=4.8,SNR=15
comp=Z,2.3nm,0.9s
C21K Kriebiade Rid 83.68 16 P P 09 42 47.5 +0.6
baz=230
MAKZ Makanchi 83.71 319 P P 09 42 48.0 +0.5
H24K Noodor Dome 83.84 20 P P 09 42 47.4 -0.4
baz=237
RIDG Independent Ri 83.86 23 P P 09 42 47.5 -0.4
baz=240
COLD Coldfoot 83.86 19 P P 09 42 47.8 0.0
baz=235
E22K Anaktuvuk Pass 83.90 18 P P 09 42 48.0 0.0
baz=233
M26K Nabesna, AK 83.94 24 P P 09 42 48.4 +0.1
baz=242
CTG Chitna Glacier 83.98 26 P P 09 42 48.4 -0.3
baz=244
B21K Ikpikpuk River 84.03 16 P P 09 42 48.9 +0.4
baz=230
PINM Pinnacle 84.08 27 P P 09 42 49.0 -0.1
baz=245
L26K Log Cabin Wild 84.09 24 P P 09 42 49.2 +0.1
baz=242
D22K Ayikyak River 84.10 17 IAmb IAmb 09 43 05.8
comp=Z,22nm,1.1s
D22K Ayikyak River 84.10 17 P P 09 42 49.3 +0.4
baz=232
J25K Salcha River, 84.10 22 P P 09 42 48.6 -0.5
J25K Salcha River, 84.10 22 P P 09 42 49.7 +0.5
baz=240
MAW Mawson 84.15 203 P P 09 42 50.1 +0.8
comp=Z,2.5nm,0.7s,baz=120,slow=8.0,SNR=4.5
comp=Z,2.5nm,0.7s
PNL Peninsula 84.29 28 P P 09 42 50.2 0.0
baz=245
SCRK Sand Creek 84.30 23 P P 09 42 50.5 +0.2
SCRK IAmb IAmb 09 43 06.3
comp=Z,15nm,1.2s
SCRK Sand Creek 84.30 23 P P 09 42 50.6 +0.3
baz=241
ZALV Zalesovo Beam 84.31 326 P P 09 42 49.4 -0.9
comp=Z,0.5nm,0.5s,baz=134,slow=6.4,SNR=3.5
comp=Z,0.5nm,0.5s
M27K Edge Creek, AK 84.38 25 P P 09 42 50.0 -0.8
baz=243
SHLS Shalkode 84.40 315 *e*P P 09 42 50.6 -0.6
O28M Mount Upton 84.40 27 P P 09 42 50.6 -0.4
baz=245
G24K Hadweenzic Riv 84.45 20 P P 09 42 51.4 +0.5
baz=237
E23K Chandalar 84.52 18 IAmb IAmb 09 43 07.8
comp=Z,20nm,1.2s
E23K Chandalar 84.52 18 P P 09 42 51.2 0.0
baz=235
UZB Uzynbulak 84.71 315 *e*P P 09 42 53.7 +0.8
YUK3 Moose Creek 84.72 26 P P 09 42 52.0 -0.5
baz=244
J26L Joseph Creek 84.72 22 P P 09 42 51.5 -0.9
J26L Joseph Creek 84.72 22 P P 09 42 52.5 +0.1
baz=241
L27K Beaver Creek, 84.72 24 P P 09 42 52.4 +0.1
L27K IAmb IAmb 09 43 09.1
comp=Z,16nm,1.2s
L27K Beaver Creek, 84.72 24 P P 09 42 52.4 +0.1
baz=243
D23K Nanushuk River 84.73 17 P P 09 42 51.8 -0.3
D23K Nanushuk River 84.73 17 P P 09 42 52.5 +0.3
baz=234,SNR=5.9
BCAR Beaver Creek A 84.74 24 P P 09 42 52.5 +0.1
F24K Squaw Lake 84.76 19 P P 09 42 52.2 -0.3
F24K IAmb IAmb 09 43 09.1
comp=Z,10nm,0.9s
F24K Squaw Lake 84.76 19 P P 09 42 52.1 -0.3
baz=237
H25L Birch Creek 84.79 20 P P 09 42 52.8 +0.3
baz=239
B22K Teshekpuk Lake 84.80 15 P P 09 42 52.8 +0.3
baz=231
YUK8 Steele Glacier 84.81 26 P P 09 42 52.1 -0.9
baz=245
A22K Sinclair Lake 84.82 15 P P 09 42 51.8 -0.7
baz=230
BVCY Beaver Creek 84.83 25 P P 09 42 52.9 +0.1
baz=244
TOLK Toolik Lake Re 84.87 18 P P 09 42 52.1 -0.8
TOLK IAmb IAmb 09 43 09.2
comp=Z,13nm,0.9s
TOLK Toolik Lake Re 84.87 18 P P 09 42 53.0 +0.1
baz=235
E24K Your Creek 84.88 18 P P 09 42 53.2 +0.1
baz=236
O29M Mount Kennedy 84.93 27 P P 09 42 53.6 +0.1
baz=246
G25K Bearman Lake 84.95 20 P P 09 42 53.6 +0.3
baz=239
P29M Windy Craggy 85.05 28 P P 09 42 54.0 0.0
baz=247
SATY Saty 85.12 314 *e*P P 09 42 55.9 +1.1
S31K Pelican 85.13 30 P P 09 42 53.9 -0.4
baz=248
SIT Sitka 85.26 31 P P 09 42 55.9 +0.9
baz=249
C23K Itkillik River 85.26 16 IAmb IAmb 09 43 10.8
comp=Z,22nm,1.2s
C23K Itkillik River 85.26 16 P P 09 42 56.2 +1.4
baz=234
YUK6 Outpost Mounta 85.28 27 P P 09 42 55.6 +0.2
baz=246
YUK4 Talbot Arm 85.32 26 P P 09 42 56.7 +1.1
baz=246,SNR=5.7
D24K Happy Valley 85.38 17 IAmb IAmb 09 43 12.0
comp=Z,21nm,1.1s
D24K Happy Valley 85.38 17 P P 09 42 56.3 +0.9
baz=236
F25K Christian Rive 85.53 19 P P 09 42 56.1 -0.2
F25K Christian Rive 85.53 19 P P 09 42 57.1 +0.8
baz=239
P30M Million Dollar 85.60 28 P P 09 42 58.3 +1.5
baz=248
TDK Taldyqorghan 85.61 316 *e*P P 09 42 58.3 +1.2
comp=Z,7.4nm,0.6s
HYT Haines Junctio 85.62 27 P P 09 42 56.9 -0.1
HYT IAmb IAmb 09 43 13.9
comp=Z,16nm,0.9s
HYT Haines Junctio 85.62 27 P P 09 42 57.9 +0.9
baz=247,SNR=6.1
PLBC Pleasant Camp 85.62 29 P P 09 42 58.4 +1.6
baz=248
C24K Franklin Bluff 85.74 17 P P 09 42 57.0 -0.1
C24K IAmb IAmb 09 43 13.7
comp=Z,15nm,0.9s
C24K Franklin Bluff 85.74 17 P P 09 42 57.9 +0.7
baz=236
EGAK Eagle 85.77 23 P P 09 42 57.5 0.0
EGAK IAmb IAmb 09 43 13.9
comp=Z,18nm,1.1s
EGAK Eagle 85.77 23 P P 09 42 57.8 +0.4
baz=243,SNR=5.2
KDJ Kajisay 85.77 313 P P 09 42 58.2 -0.1
KDJ IAmb IAmb 09 43 13.8
comp=Z,26nm,1.2s
S32K Killisnoo 85.78 31 P P 09 42 58.5 +0.9
baz=250
G26K Porcupine Rive 85.83 20 P P 09 42 58.3 +0.7
baz=241
M29M Somme Creek 85.85 25 P P 09 42 59.3 +1.2
baz=246
CRAG Craig 85.87 33 P P 09 42 58.7 +0.6
baz=251
N30M Aishikik Lake 86.06 27 P P 09 42 59.9 +0.8
baz=247
KSH Kashi 86.08 310 P P 09 43 02.0 +2.3
KSH sP pP 09 43 10.0 -0.1
KSH pmax pmax
comp=Z,9.0nm,1.2s
F26K Sheenjek River 86.08 20 IAmb IAmb 09 43 15.9
comp=Z,17nm,1.2s
F26K Sheenjek River 86.08 20 P P 09 42 60.0 +1.0
baz=240
U33K Whale Pass 86.08 32 P P 09 42 59.1 0.0
baz=251
R32K Eaglecrest 86.09 30 P P 09 43 00.0 +0.9
baz=250
MDOK Medeo 86.11 314 *e*P P 09 43 00.8 +1.0
SKAG Skagway 86.12 29 P P 09 42 59.7 +0.4
SKAG IAmb IAmb 09 45 45.2
comp=Z,38nm,1.6s
SKAG Skagway 86.12 29 P P 09 43 00.2 +0.9
baz=249
DAWY Dawson 86.15 24 P P 09 42 59.3 -0.1
DAWY Dawson 86.15 24 P P 09 43 00.1 +0.7
baz=245,SNR=5.3
TNSS Tian-Shan 86.15 314 *e*P P 09 43 00.8 +0.4
D25K Kavik River 86.21 18 P P 09 42 59.8 +0.2
baz=238
O30N Mendenhall 86.24 27 P P 09 43 01.0 +1.1
baz=248
L29M L29M 86.26 25 IAmb IAmb 09 43 17.1
comp=Z,26nm,1.2s
L29M L29M 86.26 25 P P 09 43 00.6 +0.6
baz=246
H27K Steamboat Moun 86.29 21 P P 09 43 00.5 +0.4
baz=243
T33K Petersburg 86.40 32 P P 09 43 01.4 +0.8
baz=251
G27K Doyon Strip 86.51 21 IAmb IAmb 09 43 17.9
comp=Z,13nm,1.2s
G27K Doyon Strip 86.51 21 P P 09 43 01.4 +0.3
baz=243
I28M Miner Creek 86.53 22 IAmb IAmb 09 43 19.2
comp=Z,21nm,1.6s
I28M Miner Creek 86.53 22 P P 09 43 00.9 -0.4
baz=244,SNR=6.4
WRAK Wrangell Islan 86.59 32 P P 09 43 01.9 +0.3
baz=252
M30M Minto, Yukon 86.62 26 P P 09 43 02.1 +0.4
M30M IAmb IAmb 09 43 19.1
comp=Z,26nm,1.4s
M30M Minto, Yukon 86.62 26 P P 09 43 01.9 +0.2
baz=248
V35K Ketchikan 86.64 33 P P 09 43 02.5 +0.6
baz=252
N31M Braeburn, Yuko 86.65 27 P P 09 43 02.4 +0.5
N31M Braeburn, Yuko 86.65 27 P P 09 43 02.5 +0.6
baz=248
WHY Whitehorse 86.76 28 P P 09 43 03.7 +1.2
baz=249
J29N Klondike Camp 86.77 24 P P 09 43 03.0 +0.5
baz=246,SNR=6.8

K29M	**Barlow Dome**	86.81	24	P		P	09 43 03.5	+0.8
	baz=247,SNR=16							
P32M	**Atlin**	86.93	29	P		P	09 43 04.1	+0.8
	baz=250							
C26K	**Camden Bay**	86.95	17	P		P	09 43 04.0	+0.9
	baz=240							
KURBB	**Kurchatov Arra**	86.97	322	P		P	09 43 03.7	0.0
	comp=Z,1.8nm,0.2s,baz=115,slow=3.1,SNR=1.2							
	comp=Z,1.8nm,0.2s							
E27K	**Coleen River**	87.16	20	P		P	09 43 05.0	+0.8
	baz=243							
C27K	**Jago River**	87.17	18	P		P	09 43 03.6	-0.6
C27K				IAmb		IAmb	09 43 20.9	
	comp=Z,10nm,0.8s							
C27K	**Jago River**	87.17	18	P		P	09 43 03.8	-0.5
	baz=241,SNR=6.2							
MAYO	**Mayo, Yukon**	87.38	25	P		P	09 43 05.7	+0.3
MAYO	**Mayo, Yukon**	87.38	25	P		P	09 43 06.9	+1.5
	baz=248,SNR=6.1							
Q32M	**Nakina River**	87.43	30	P		P	09 43 06.3	+0.3
	baz=252							
H29M	**Whitestone**	87.44	22	P		P	09 43 06.8	+1.2
	baz=246							
F28M	**Old Crow**	87.49	20	P		P	09 43 06.5	+0.7
	baz=244,SNR=6.1							
M31M	**Drury Creek, Y**	87.52	26	IAmb		IAmb	09 43 22.4	
	comp=Z,1nm,1.3s							
M31M	**Drury Creek, Y**	87.52	26	P		P	09 43 06.4	+0.3
	baz=250,SNR=5.5							
P33M	**Teslin, Yukon**	87.57	28	P		P	09 43 06.8	+0.4
	baz=251							
J30M	**Hart River**	87.57	24	P		P	09 43 06.4	0.0
	baz=248							
S34M	**Telegraph Cree**	87.68	31	P		P	09 43 07.5	+0.6
	baz=253							
N32M	**Quiet Lake**	87.75	27	P		P	09 43 05.5	-1.7
N32M				IAmb		IAmb	09 43 24.7	
	comp=Z,14nm,0.9s							
N32M	**Quiet Lake**	87.75	27	P		P	09 43 07.6	+0.4
	baz=251							
I30M	**Mount Dempster**	87.80	23	P		P	09 43 07.7	+0.2
I30M				IAmb		IAmb	09 43 23.9	
	comp=Z,16nm,1.0s							
I30M	**Mount Dempster**	87.80	23	P		P	09 43 07.6	+0.2
	baz=248							
G29M	**Pine Creek**	87.85	21	P		P	09 43 07.3	-0.2
G29M	**Pine Creek**	87.85	21	P		P	09 43 07.8	+0.3
	baz=246							
D27M	**Malcolm River**	87.85	19	P		P	09 43 07.5	-0.1
D27M	**Malcolm River**	87.85	19	P		P	09 43 08.1	+0.5
	baz=243							
T35M	**Bob Quinn**	87.86	32	P		P	09 43 08.3	+0.5
	baz=253							
SGDS	**Sogindy**	87.90	314	*e*P		P	09 43 09.0	+0.6
FARO	**Faro, Yukon**	87.99	26	P		P	09 43 07.8	-0.6
FARO				IAmb		IAmb	09 43 25.2	
	comp=Z,12nm,1.1s							
FARO	**Faro, Yukon**	87.99	26	P		P	09 43 08.9	+0.6
	baz=251							
E28M	**Babbage River**	88.03	20	P		P	09 43 08.9	+0.5
E28M				IAmb		IAmb	09 43 25.4	
	comp=Z,25nm,1.4s							
E28M	**Babbage River**	88.03	20	P		P	09 43 09.4	+1.0
	baz=245							
EPYK	**Eagle Plains**	88.11	22	P		P	09 43 08.8	-0.1
EPYK	**Eagle Plains**	88.11	22	P		P	09 43 09.2	+0.3
	baz=247,SNR=14							
R33M	**Jennings River**	88.20	30	P		P	09 43 10.1	+0.5
	baz=253							
DLBC	**Dease Lake**	88.39	31	P		P	09 43 10.8	+0.5
	baz=254							
E29M	**Blow River**	88.49	20	P		P	09 43 11.1	+0.5
	baz=246							
G30M	**tAoh Zraii Nji**	88.53	22	P		P	09 43 10.7	-0.1
	baz=248							
D28M	**Stokes Point**	88.60	19	P		P	09 43 11.8	+0.8
	baz=245							
H31M	**Peel River**	88.80	23	P		P	09 43 12.3	+0.2
	baz=250,SNR=7.7							
F30M	**Barrier River**	88.92	21	P		P	09 43 13.0	+0.4
	baz=248							
G31M	**Satah River**	89.22	22	P		P	09 43 13.9	-0.1
G31M				IAmb		IAmb	09 43 30.3	
	comp=Z,18nm,1.1s							
G31M	**Satah River**	89.22	22	P		P	09 43 14.9	+1.0
	baz=250							
WTLY	**Watson Lake, Y**	89.46	29	P		P	09 43 15.7	+0.4
	baz=255							
F31M	**Tsiigehtchic**	89.59	21	IAmb		IAmb	09 43 16.4	
	comp=Z,25nm,1.4s							
F31M	**Tsiigehtchic**	89.59	21	P		P	09 43 15.8	+0.1
	baz=250							
INK	**Inuvik**	89.97	21	IAmb		IAmb	09 43 33.2	
	comp=Z,14nm,1.4s							
INK	**Inuvik**	89.97	21	P		P	09 43 18.2	+0.8
	baz=250							
DZA	**Taraz**	90.16	313	*e*P		P	09 43 19.8	+0.8
LIRD	**Liard River Hi**	90.61	30	P		P	09 43 21.6	+0.9
	baz=257							
KKAR	**Karatay Array**	90.79	313	P		P	09 43 21.2	-0.7
KKAR	**Karatay Array**	90.79	313	P		P	09 43 21.8	-0.1
TOAD	**Toad River Com**	90.92	31	P		P	09 43 22.1	0.0
	baz=258							
IUG	**Iuzhnay**	90.99	312	*e*P		P	09 43 24.0	+1.0
	comp=Z,6.6nm,1.2s							
BRLS	**Borolday**	91.27	313	*e*P		P	09 43 25.1	+1.0
YERR	**Yerington**	91.30	51	P		P	09 43 24.8	+0.2
CHM	**Chimkent**	91.33	312	*e*P		P	09 43 25.4	+1.0
ISA	**Isabella, Lake**	91.44	54	P		P	09 43 24.8	-0.3
LHV	**Little Huntoon**	91.77	52	P		P	09 43 26.4	0.0
LHV				IAmb		IAmb	09 43 29.2	
	comp=Z,15nm,1.3s							
KOTAN	**Kotaneelee Air**	91.77	30	P		P	09 43 26.7	+0.7
	baz=259							
NVAR	**Mina Array Bea**	91.94	52	P		P	09 43 27.8	+0.2
NVAR	**Mina Array Bea**	91.94	52	P		P	09 43 28.4	+0.7
	comp=Z,3.3nm,1.1s,baz=250,slow=6.4,SNR=15							
	comp=Z,3.3nm,1.1s							
NV11	**Mina Array Sit**	92.06	52	P		P	09 43 28.0	-0.1
NV11				IAmb		IAmb	09 43 34.8	
	comp=Z,22nm,1.4s							
DSP	**Deep Springs**	92.07	53	P		P	09 43 28.3	+0.4
DSP				IAmb		IAmb	09 43 39.2	
	comp=Z,16nm,1.5s							
KVN	**Kaiserville**	92.18	51	P		P	09 43 28.8	+0.1
KVN				IAmb		IAmb	09 43 29.9	
	comp=Z,12nm,1.4s							
BVAR	**Borovoye Array**	92.41	323	P		P	09 43 30.5	+1.4
	comp=Z,0.3nm,0.4s,baz=76,slow=6.1,SNR=2.0							
	comp=Z,0.3nm,0.4s							
MZP	**Montezuma Peak**	92.57	53	P		P	09 43 30.6	0.0
WRGLY	**Wrigley**	92.64	27	P		P	09 43 30.6	+0.7
	baz=259							
GWY	**Greenwater Val**	92.96	54	IAmb		IAmb	09 43 43.0	
	comp=Z,15nm,1.7s							
WCT	**Wildcat Mounta**	93.06	53	P		P	09 43 32.6	-0.1
C36M	**Paulatuk**	93.55	21	P		P	09 43 33.9	-0.2
	baz=259							
A36M	**Sachs Harbour**	93.69	18	P		P	09 43 35.1	+0.4
	baz=258							
R11B	**Troy Canyon, C**	94.06	52	IAmb		IAmb	09 43 48.9	
	comp=Z,16nm,1.7s							
R11B	**Troy Canyon, C**	94.06	52	P		P	09 43 37.6	+0.3
	baz=264							
PRN	**Pahroc Range**	94.38	53	P		P	09 43 39.2	+0.5
PRN				IAmb		IAmb	09 44 00.0	
	comp=Z,23nm,1.7s							
Q12A	**Willow Creek R**	94.71	51	IAmb		IAmb	09 43 42.0	
	comp=Z,8.7nm,1.0s							
SPR3	**Spring Creek 3**	95.10	51	P		P	09 43 41.8	-0.5
SPR3				IAmb		IAmb	09 43 53.1	
	comp=Z,16nm,1.5s							
YKA	**Yellowknife Ar**	96.59	28	P		P	09 43 47.5	-0.5
YKA	**Yellowknife Ar**	96.59	28	P		P	09 43 47.8	-0.2
	comp=Z,3.8nm,1.0s,baz=268,slow=5.0,SNR=11							
	comp=Z,3.8nm,1.0s							
PDAR	**Pinedale Array**	98.93	48	P		P	09 43 57.8	-1.6
	comp=Z,0.5nm,0.9s,baz=300,slow=1.8,SNR=3.0							
	comp=Z,0.5nm,0.9s							
PETF	**Flores**	116.18	75			PKPdf	09 48 59.7	-2.9
LPAZ	**La Paz**	131.44	119			PKPdf	09 41 39.9	-0.8
LPAZ	**La Paz**	131.44	119	PKP		PKiKP	09 49 33.3	-0.3
	comp=Z,3.0nm,1.1s,baz=250,slow=5.4,SNR=4.7							
CPUP	**Villa Florida**	134.29	138	PKP		PKiKP	09 49 37.7	-0.7
	comp=Z,0.8nm,0.6s,baz=180,slow=3.0,SNR=2.0							
PESTR	**Estremoz**	144.75	336	*e*PKP		PKiKP	09 50 09.9	+10
PMTG	**Montargil**	144.83	337	*e*PKP		PKiKP	09 50 09.7	+10
PBAR	**Barrancos**	145.11	335	*e*PKP		PKiKP	09 50 11.4	+11
EVO	**Evora**	145.21	336	*e*PKP		PKiKP	09 50 08.1	+7.8
PBEJ	**Beja**	145.58	336	*e*PKP		PKiKP	09 50 11.4	+10
MESJ	**Messejana**	145.88	336	*e*PKP		PKiKP	09 50 10.1	+8.3
PVAQ	**Vaqueiros**	146.05	335	*e*PKP		PKiKP	09 50 11.9	+10
MORF	**Marmelete**	146.52	336	*e*PKP		PKiKP	09 50 15.7	+13
BDFB	**Brasilia**	147.90	135	PKPbc		**PKPbc**	**09 50 05.2**	**+0.5**
BDFB	**Brasilia**	147.90	135	PKPbc		**PKPbc**	**09 50 03.4**	**-1.4**
	comp=Z,6.2nm,0.8s,baz=174,slow=10,SNR=6.0							
TORD	**Torodi Ar. Bea**	152.98	285			**PKPbc**	**09 50 16.4**	**-0.5**
TORD	**Torodi Ar. Bea**	152.98	285	PKPbc		**PKPbc**	**09 50 15.7**	**-1.1**
	comp=Z,2.5nm,0.7s,baz=32,slow=3.1,SNR=8.9							
TORD				PKPab		**pPKPbc**	**09 50 26.7**	**-1.1**
	comp=Z,3.1nm,0.7s,baz=38,slow=2.6,SNR=7.5							

*TEH **27** 09:37:18.9,34°.31N×45°.70E,h11km±16km,ML3.5*
*ISN **27** 09:37:19.1±1.1,34°.30N×45°.63E,h15km±7km,ML3.5*
ISC 27 09:37:20.0±0.9,**34°.33N**±0°.03×**45°.71E**±0°.04,**h18**km,**n24,**
σ1§45/28,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**329**	Pg	**Pb**	**09 37 23.2**	**-1.7**
GLG1	**Gilan-e-Gharb**	**0.27**	**143**	Pg	**Pg**	**09 37 25.0**	**-1.2**
IDHR	**Dehrash**	**0.67**	**56**	Pg	**Pb**	**09 37 32.5**	**-0.7**
IGHG	**Ghaleghazi**	**0.71**	**90**	Pg	**Pg**	**09 37 33.7**	**-0.3**
ILBA	**Ilam Banvizeh**	**0.82**	**150**	Pg	**Pb**	**09 37 34.5**	**-1.3**
KCHF	**Cheshme Sefid,**	**1.10**	**93**	Pg	**Pn**	**09 37 40.3**	**-0.4**
ILIN	**Lien**	**1.19**	**60**	Pg	**Pg**	**09 37 42.4**	**-0.6**
IBDR	**Badra**	**1.23**	**172**	*e*Pg	**Pb**	**09 37 42.0**	**-0.8**
IBDR				*e*Sg	**Sb**	**09 37 57.0**	**-1.3**
IBDR				AML	AML	09 38 04.2	
	comp=E,595nm,0.4s						
IBDR				AML	AML	09 38 05.0	
	comp=N,874nm,0.3s						
BHD	**Baghdad**	**1.53**	**227**	*e*Pn	**Pb**	**09 37 47.0**	**-0.9**
BHD				*e*Sn	**Sb**	**09 38 07.0**	**0.0**
BHD				AML	AML	09 38 10.7	
	comp=E,1μm,0.6s						
IKRK	**Kirkuk**	**1.55**	**314**	*e*Pg	**Pb**	**09 37 47.0**	**-1.3**
IKRK				*e*Sg	**Sb**	**09 38 07.5**	**-0.1**
IKRK				AML	AML	09 38 10.9	
	comp=N,2μm,0.5s						
IKRK				AML	AML	09 38 13.0	
	comp=E,1μm,0.1s						
SNQR	**Sonqor, Kerman**	**1.66**	**71**	Pg	**Pg**	**09 37 51.1**	**-1.0**
IBZA	**Bozab**	**1.78**	**85**	Pg	**Pb**	**09 37 51.4**	**-0.9**
SDS1	**Sardasht. Az.**	**1.82**	**354**	Pn	**Pb**	**09 37 52.8**	**-0.2**
IKFM	**Kafar-mosalman**	**1.95**	**114**	Pn	**Pb**	**09 37 54.1**	**-0.9**
IDOB	**Doab**	**2.12**	**104**	Pn	**Pb**	**09 37 56.3**	**-1.7**
HSAM	**Samen**	**2.40**	**92**	Pn	**Pn**	**09 38 00.1**	**+1.5**
MAHB	**Mahabad**	**2.43**	**360**	Pn	**Pb**	**09 38 01.1**	**-2.2**
RAFI	**Al-Rafai**	**2.62**	**173**	*e*Pn	**Pn**	**09 38 03.0**	**+1.5**
RAFI				*e*Sn	**Sn**	**09 38 34.5**	**+1.6**
RAFI				AML	AML	09 38 53.4	
	comp=E,168nm,0.5s						
RAFI				AML	AML	09 38 53.5	
	comp=N,179nm,0.2s						
BDRS	**Dareh Seyedi**	**2.65**	**97**	Pn	**Pn**	**09 38 03.8**	**+1.6**
HAGD	**Aghdareh**	**2.87**	**79**	Pn	**Pn**	**09 38 07.0**	**+1.9**
IAZR	**Azarshahr**	**3.35**	**4**	Pn	**Pn**	**09 38 14.2**	**+2.5**
QAMS	**Qamsar**	**4.76**	**96**	Pn	**Pn**	**09 38 33.2**	**+2.2**
IKLH	**Kolahrood**	**4.99**	**100**	Pn	**Pn**	**09 38 36.5**	**+2.2**
IZEF	**Zefreh**	**5.70**	**103**	Pn	**Pn**	**09 38 45.1**	**+1.0**

PRU 27 09:40:16.1,50°.29N×18°.73E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORC	**Moravsky Berou**	**0.92**	**237**	*e*PG	Pg	09 40 33.2	-0.6
MORC				*e*SG	Sg	09 40 45.3	-0.4
KRLC	**Kraliky**	**1.27**	**261**	*e*PG	Pg	09 40 38.6	-1.8
KRLC				*e*SG	Sg	09 40 56.4	-0.5
DPC	**Dobruska-Polom**	**1.54**	**273**	*e*SG	Sg	09 41 05.3	-0.4

*IDC **27** 09:46:07.1±2.1,6°.78S×127°.27E,h408km±26km,mb3.3/6,*
mbtmp4.0/10,Error ellipse: s-maj=37.1km s-min=10.8km
az=65.0
ISC 27 09:46:06.4±0.8,**6°.73S**±0°.08×**127°.4E**±0°.1,**h400**km,**n10,**
σ1§35/13,mb3.6/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.04**	**227**	P	**Pn**	**09 47 29.9**	**+1.0**
	75nm,0.4s,baz=74,slow=1.6,SNR=12						
BATI				S	**S**	**09 48 33.9**	**-2.1**
	121nm,0.7s,baz=217,slow=2.8,SNR=3.5						
FITZ	**Fitzroy Crossi**	**11.42**	**188**	P	**P**	**09 48 40.4**	**+0.6**
	2.6nm,0.6s,baz=6.3,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**14.77**	**153**	P	**P**	**09 49 17.2**	**+0.8**
	0.6nm,0.3s,baz=332,slow=12,SNR=34						
WRA				S	**S**	**09 51 51.1**	**-2.6**
	1.9nm,0.8s,baz=325,slow=19,SNR=7.9						
ASAR	**Alice Springs**	**17.97**	**160**	P	**P**	**09 49 51.8**	**+1.1**
	1.0nm,0.4s,baz=350,slow=13,SNR=24						
ASAR				S	**S**	**09 52 55.5**	**-0.7**
	0.7nm,0.6s,baz=344,slow=24,SNR=5.6						
STKA	**Stephens Creek**	**28.32**	**154**	P	**P**	**09 51 26.6**	**+1.1**
	1.4nm,0.5s,baz=324,slow=5.4,SNR=7.9						
	1.4nm,0.5s						
MJAR	**Matsushiro Arr**	**44.23**	**13**	P	**P**	**09 53 36.9**	**-1.2**
	1.1nm,0.5s,baz=187,slow=7.2,SNR=4.1						
	1.1nm,0.5s						
SONM	**Songino Array**	**57.40**	**343**	P	**P**	**09 55 15.3**	**+0.3**
	0.7nm,0.7s,baz=167,slow=9.4,SNR=5.2						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**66.60**	**328**	P	**P**	**09 56 15.4**	**+0.1**
	0.6nm,0.4s,baz=118,slow=7.9,SNR=11						
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**70.22**	**335**	P	**P**	**09 56 36.6**	**-0.6**
	1.0nm,0.4s,baz=122,slow=5.8,SNR=6.1						
	1.0nm,0.4s						
KURBB	**Kurchatov Arra**	**70.94**	**330**	P	**P**	**09 56 41.6**	**0.0**
	0.8nm,0.4s,baz=131,slow=5.5,SNR=8.9						
	0.8nm,0.4s						

NEIC 27 09:50:49.1±1.0,**39°.61N**±0°.03×**107°.34W**±0°.02,**h5**km±1km,
ML2.5/55,**Error ellipse: s-maj=5.2km s-min=2.9km**
az=209.0,Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
O20A	**White River Ci**	**0.87**	**307**		Pg	09 51 05.1	-0.7
O20A				Sg	Sg	09 51 17.7	+0.6
ISCO	**Idaho Springs**	**1.34**	**81**		Pn	09 51 14.5	-0.3
ISCO					Sg	09 51 31.2	-1.1
N23A	**Red Feather La**	**1.67**	**39**		Pb	09 51 20.2	-0.3
N23A					Sn	09 51 41.5	+0.3
N23A				IAML		09 51 48.7	
	comp=E,28nm,0.4s						
Q24A	**Divide**	**1.82**	**110**		Pn	09 51 22.0	+0.7
Q24A					Sb	09 51 45.9	-0.2
Q24A				IAML		09 51 47.0	
	comp=N,36nm,0.2s						
S22A	**4UR Ranch, Cre**	**1.90**	**168**		Pn	09 51 23.4	+0.9
RDMU	**Red Mountain**	**1.96**	**300**		Pb	09 51 24.4	-1.0
RDMU				IAML		09 51 54.3	
	comp=E,27nm,0.4s						
P18A	**Preston Nutter**	**2.25**	**271**		Pn	09 51 28.4	+1.2
P18A				IAML		09 52 00.2	
	comp=E,34nm,0.2s						
P18A				IAML		09 52 01.1	
	comp=N,42nm,0.3s						
SDCO	**Great Sand Dun**	**2.35**	**142**		Pn	09 51 29.4	+0.8
SRU	**San Rafael Swe**	**2.52**	**260**		Pn	09 51 32.1	+1.2
SRU				IAML		09 52 08.3	
	comp=N,17nm,0.4s						
SRU				IAML		09 52 08.8	
	comp=E,19nm,0.6s						
MVCO	**Mesa Verde**	**2.56**	**201**		Pb	09 51 35.9	+0.2
MVCO				IAML		09 52 13.5	
	comp=E,15nm,0.8s						
BSUT	**Blindstream Ca**	**2.79**	**290**		Pn	09 51 34.4	-0.2
BSUT				IAML		09 52 46.3	
	comp=N,14nm,5.0s						
TMUT	**Trail Mountain**	**3.01**	**265**		Pn	09 51 38.2	+0.4
TMUT				IAML		09 52 28.4	
	comp=E,18nm,0.5s						
TMUT				IAML		09 52 28.6	
	comp=N,18nm,0.7s						
Q16A	**Castle Valley**	**3.06**	**258**		Pn	09 51 39.1	+0.8
Q16A				IAML		09 52 24.0	
	comp=N,11nm,0.4s						
Q16A				IAML		09 53 00.9	
	comp=E,10.0nm,4.8s						
K22A	**Casper**	**3.10**	**11**	Pn	Pn	09 51 38.0	-0.8
K22A				IAML		09 52 31.2	
	comp=E,14nm,1.4s						
K22A				IAML		09 52 35.0	
	comp=N,19nm,4.2s						
HMU	**Henry Mountain**	**3.14**	**239**		Pn	09 51 37.4	-2.1
JLU	**Jordanelle**	**3.31**	**289**		Pn	09 51 38.6	-3.1
JLU				IAML		09 52 36.7	
	comp=N,14nm,4.5s						
JLU				IAML		09 52 47.6	
	comp=E,9.8nm,4.2s						
T25A	**Trinidad**	**3.37**	**136**	Pn	Pn	09 51 41.5	-1.1
T25A				IAML		09 52 51.5	
	comp=E,9.4nm,4.0s						
T25A				IAML		09 53 19.3	
	comp=N,11nm,4.0s						
TCUT	**Toone Canyon**	**3.46**	**297**	Pn	Pn	09 51 42.6	-1.2
PD31	**Pinedale Array**	**3.57**	**333**	Pn	Pn	09 51 44.1	-1.2
PDAR	**Pinedale Array**	**3.57**	**333**	Pn	Pn	09 51 44.1	-1.2
MSU	**Marysvale**	**3.92**	**255**	Pn	Pn	09 51 48.7	-1.4
MVU	**Marysvale**	**3.95**	**255**		Pn	09 51 49.4	-1.2
MTPU	**Mount Pierson**	**4.10**	**249**		Pn	09 51 51.0	-1.7
MTPU				IAML		09 52 25.1	
	comp=E,9.8nm,4.3s						
AHID	**Auburn Hatcher**	**4.24**	**319**	Pn	Pn	09 51 52.7	-1.9
PKCU	**Pink Cliffs**	**4.46**	**243**	Pn	Pn	09 51 56.4	-1.2

*IDC **27** 10:06:29.2±0.9,10°.25N×126°.20E,h0km,mb3.8/11,*
mbtmp3.8/11,MS2.8/1,Error ellipse: s-maj=63.7km
s-min=17.0km az=66.0
ISC 27 10:06:36.3±0.9,**10°.2N**±0°.2×**126°.1E**±0°.4,**h50**km,**n12,**
σ1§04/13,mb3.9/11,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**27.19**	**3**	LR	LR	10 22 56.9	
	comp=Z,21nm,20.1s,baz=60,slow=36						
CMAR	**Chiang Mai Arr**	**27.57**	**290**	P	**P**	**10 12 19.1**	**+0.2**
	0.8nm,0.3s,baz=99,slow=6.9,SNR=5.2						
	0.8nm,0.3s						
WRA	**Warramunga Arr**	**31.02**	**165**	P	**P**	**10 12 47.2**	**-2.2**
	0.7nm,1.1s,baz=351,slow=9.5,SNR=2.3						
	0.7nm,1.1s						
ASAR	**Alice Springs**	**34.50**	**167**	P	**P**	**10 13 20.2**	**+0.4**
	0.3nm,0.9s,baz=351,slow=7.3,SNR=4.2						
ASAR				PcP	**PcP**	**10 15 54.3**	**+0.2**
	0.3nm,0.7s,baz=3.2,slow=3.2,SNR=2.3						
	0.3nm,0.9s						
SONM	**Songino Array**	**41.05**	**340**	P	**P**	**10 14 15.3**	**+0.3**
	0.3nm,0.5s,baz=161,slow=5.2,SNR=2.3						
	0.3nm,0.5s						
STKA	**Stephens Creek**	**44.37**	**161**	P	**P**	**10 14 43.0**	**+1.1**
	0.9nm,0.4s,baz=349,slow=13,SNR=3.0						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**52.01**	**323**	P	**P**	**10 15 41.0**	**+0.2**
	0.6nm,0.6s,baz=111,slow=7.6,SNR=6.8						
	0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**54.63**	**331**	P	**P**	**10 15 58.4**	**-1.4**
	1.5nm,0.7s,baz=106,slow=9.4,SNR=5.6						
ZALV				PcP	**PcP**	**10 17 02.2**	**0.0**
	0.3nm,0.3s,baz=130,slow=8.5,SNR=1.4						
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**56.06**	**325**	P	**P**	**10 16 09.9**	**-0.3**
	0.7nm,0.5s,baz=128,slow=6.9,SNR=5.9						
	0.7nm,0.5s						
BVAR	**Borovoye Array**	**61.66**	**325**	P	**P**	**10 16 47.5**	**-1.4**
	0.6nm,0.6s,baz=123,slow=7.1,SNR=3.6						
	0.6nm,0.6s						
ARCES	**ARCESS Array B**	**84.22**	**340**	P	**P**	**10 19 02.8**	**+0.6**
	1.2nm,0.6s,baz=57,slow=4.5,SNR=5.2						
	1.2nm,0.6s						
NOA	**NORSAR Array B**	**92.77**	**334**	P	**P**	**10 19 43.4**	**+0.2**
	0.3nm,0.5s,baz=60,slow=4.7,SNR=1.9						
	0.3nm,0.5s						

*HVO **27** 10:10:40.6±1.2,19°.402N±0°.009×155°.281W±0°.006,*
h0km±3km,ML2.8/21,ML2.1/29(NEIC),Error ellipse:
s-maj=1.3km s-min=0.8km az=177.0
NEIC 27 10:10:41.6±1.3,**19°.409N**±0°.005×**155°.277W**±0°.007,
h2km±2km,**Error ellipse: s-maj=1.0km s-min=0.7km**
az=133.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**322**		Pg	10 10 41.4	-0.8
RIM	**Rim**	**0.01**	**169**		Pg	10 10 41.8	-0.4
KKO	**Keanakako'i**	**0.01**	**137**		Pg	10 10 41.5	-0.7
BYL	**Byron's Ledge**	**0.02**	**78**		Pg	10 10 41.7	-0.5
UWB	**Uwekahuna Bluf**	**0.02**	**356**		Pg	10 10 42.3	+0.1
SBLHI	**Steaming Bluff**	**0.02**	**25**		Pg	10 10 41.8	-0.5
UWE	**Uwekahuna**	**0.02**	**309**	Pg	Pg	10 10 41.7	-0.6
UWE				Sg	Sg	10 10 42.3	-0.4
HATHI	**Halema'uma'u T**	**0.02**	**46**	Pg	Pg	10 10 41.9	-0.4
HATHI				Sg	Sg	10 10 42.8	+0.1
WRMHI	**West Rim**	**0.02**	**264**		Pg	10 10 42.2	0.0
SDHHI	**Sand Hill**	**0.03**	**220**		Pg	10 10 42.2	-0.1
RSD	**Rainshed**	**0.05**	**359**	Pg	Pg	10 10 42.7	-0.1
RSD				IAML		10 10 43.2	
	comp=N,1μm,0.4s						
RSD				IAML		10 10 43.6	
	comp=E,922nm,0.3s						
PUH	**Pauahi**	**0.07**	**121**	Pg	Pg	10 10 43.0	0.0
KNHH	**Kane Nui o Ham**	**0.11**	**106**		Pg	10 10 43.8	0.0
HLP	**Hilina Pali**	**0.12**	**195**		Pg	10

az=215.0
ASIES ***27*** *10:29:35.5,23˙37N×118˙62E,h14km,ML5.0,Mw4.1,*
Moment Tensor Solution. Moment tensor: Scale 10^22Nm;
M_{rr}0.32; $M_{\theta\theta}$1.31; $M_{\phi\phi}$-0.63; $M_{r\theta}$0.58; $M_{\theta\phi}$-1.29; $M_{\phi r}$-0.11;
Fault plane solution: $M_0$1.76335×10^22 NP1:φ$_s$70.46000°,
δ82.18000°,λ163.00000°. NP2:φ$_s$162.85000°,δ73.16000°,
λ8.17000°. Principal axes: T Plg17.5190°, Azm25.6290°;
N Plg71.3350°, Azm226.4880°; P Plg6.2390°,
Azm117.6070°;
TAP ***27*** *10:29:35.5,23˙37N×118˙62E,h14km,ML5.0,D*
ISC 27 10:29:35.0±1.1,23˙36N±0˙03×118˙62E±0˙02,h10km±7km,
n228,σ1$20/339,mb4.5/30,MS3.1/3,14C-23D,Taiwan
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCHM	**Qimei**	**0.76**	**101**	⇓*i*P	**Pg**	**10 29 49.9**	**+0.2**
VCHM				*i* S	**Sg**	**10 30 00.0**	**+0.4**
PNG	**Penghu**	**0.89**	**76**	⇓*i*P	**Pg**	**10 29 52.0**	**-0.1**
PNG				*i* S	**Sg**	**10 30 03.6**	**+0.1**
PHUB	**P'eng-hu**	**0.89**	**80**	⇓*i*P	**Pg**	**10 29 52.1**	**0.0**
PHUB				*e*S	**Sg**	**10 30 04.0**	**+0.2**
WDGT	**Dungji**	**0.96**	**96**	⇓*i*P	**Pg**	**10 29 53.5**	**0.0**
WDGT				S	**Sb**	**10 30 06.6**	**0.0**
ZPLA	**Ao Xicun**	**0.98**	**306**	⇓*i*P	**Pb**	**10 29 53.6**	**-0.3**
ZPLA				*i* S	**Sb**	**10 30 06.8**	**-0.2**
KNM	**Kinmen**	**1.06**	**351**	⇑*i*P	**Pg**	**10 29 55.0**	**-0.5**
KNM				*i* S	**Sb**	**10 30 09.6**	**+0.1**
KNMB	**Chin-men Tao**	**1.12**	**349**		**Pb**	**10 29 55.4**	**-1.0**
KNMB	**Chin-men Tao**	**1.12**	**349**	⇑*i*P	**Pb**	**10 29 55.4**	**-1.0**
KNMB				S	**Sg**	**10 30 10.4**	**-0.7**
DSXP	**Dongshan**	**1.15**	**288**	⇓*i*P	**Pb**	**10 29 56.0**	**-0.9**
DSXP				*i* S	**Sg**	**10 30 11.5**	**-0.4**
TSCK	**Chigu Township**	**1.37**	**99**	⇓P	**Pn**	**10 29 59.9**	**-0.2**
TSCK				*i* S	**Sn**	**10 30 18.6**	**+0.3**
SCLT	**Jiali**	**1.46**	**97**	P	**Pn**	**10 30 01.5**	**0.0**
SCLT				S	**Sb**	**10 30 21.2**	**+0.2**
CHN8	**Yiju**	**1.47**	**90**	P	**Pn**	**10 30 01.7**	**+0.2**
CHN8				S	**Sg**	**10 30 22.1**	**-0.1**
WSL	**Shuilin Townsh**	**1.49**	**83**	*e*P	**Pb**	**10 30 02.1**	**-0.6**
WSL				*e*S	**Sb**	**10 30 21.7**	**0.0**
TAI1	**Yung-k'ang**	**1.52**	**102**	*e*P	**Pn**	**10 30 01.6**	**-0.5**
TAI1				*e*S	**Sn**	**10 30 21.5**	**-0.5**
ICHU	**Yijhu**	**1.53**	**90**	*e*P	**Pn**	**10 30 02.4**	**+0.1**
ICHU				*i* S	**Sn**	**10 30 22.3**	**0.0**
SSHA	**Shanhua**	**1.55**	**98**	*e*P	**Pn**	**10 30 02.2**	**-0.5**
SSHA				*e*S	**Sb**	**10 30 23.4**	**-0.2**
QZH	**Quanzhou**	**1.58**	**359**	⇑*i*Pn	**Pn**	**10 30 01.8**	**-1.2**
QZH				Sn	**Sn**	**10 30 23.0**	**-0.5**
QZH				smax	smax		
	comp=N,10μm,0.5s						
QZH				smax	smax		
	comp=E,22μm,0.6s						
WTCT	**Ta-ch'eng**	**1.61**	**71**	*e*P	**Pn**	**10 30 02.4**	**-1.0**
WTCT				*e*S	**Sn**	**10 30 24.0**	**-0.2**
CHN3	**Shinhua**	**1.63**	**100**	*e*P	**Pb**	**10 30 04.4**	**-0.8**
AXDP	**Jialang**	**1.64**	**339**	P	**Pn**	**10 30 03.1**	**-0.8**
AXDP				*e*S	**Sn**	**10 30 23.1**	**-2.1**
WTK	**Tuku**	**1.66**	**78**	*e*P	**Pn**	**10 30 03.9**	**-0.2**
WTK				*e*S	**Sn**	**10 30 24.4**	**-1.1**
CHY	**Chiayi**	**1.67**	**85**	*e*P	**Pn**	**10 30 04.2**	**0.0**
CHY				*e*S	**Sb**	**10 30 27.0**	**+0.2**
WSSB	**Gushan**	**1.68**	**115**	P	**Pn**	**10 30 03.8**	**-0.6**
WSSB				*e*S	**Sn**	**10 30 26.5**	**+0.5**
SNJT	**Kaohsiung City**	**1.69**	**111**	*e*P	**Pn**	**10 30 05.0**	**+0.4**
CHN2	**Minshiung**	**1.71**	**84**	*e*P	**Pn**	**10 30 04.9**	**0.0**
CHN2				*e*S	**Sb**	**10 30 27.5**	**-0.7**
TWK	**Hsinying**	**1.72**	**93**	⇓*i*P	**Pn**	**10 30 05.2**	**+0.1**
TWK				*e*S	**Sn**	**10 30 25.9**	**-1.3**
PTMZ	**Houxiangcun**	**1.73**	**15**	P	**Pn**	**10 30 04.0**	**-1.2**
PTMZ				*e*S	**Sn**	**10 30 25.2**	**-2.2**
SNST	**Tainan City**	**1.73**	**94**	*e*P	**Pn**	**10 30 05.2**	**0.0**
SNST				*e*S	**Sn**	**10 30 27.1**	**-0.4**
TWM1	**Shoushan**	**1.75**	**107**	*e*P	**Pn**	**10 30 06.1**	**+0.7**
TWM1				S	**Sb**	**10 30 29.2**	**0.0**
CHN1	**Nanshi**	**1.77**	**95**	⇑P	**Pn**	**10 30 05.6**	**-0.1**
CHN1				*e*S	**Sn**	**10 30 27.1**	**-1.1**
SCST	**Cishan**	**1.79**	**105**	*e*P	**Pn**	**10 30 06.8**	**+0.8**
SCST				*e*S	**Sn**	**10 30 28.3**	**-0.5**
WDLH	**Douliu**	**1.79**	**79**	*e*P	**Pn**	**10 30 05.6**	**-0.4**
WDLH				*e*S	**Sn**	**10 30 28.9**	**0.0**
CHN4	**Tsaushan**	**1.82**	**90**	⇓*i*P	**Pn**	**10 30 06.3**	**0.0**
CHN4				*e*S	**Sn**	**10 30 29.1**	**-0.4**
WCKO	**Fanlu**	**1.83**	**87**	*e*P	**Pn**	**10 30 06.5**	**0.0**
WCKO				*e*S	**Sn**	**10 30 29.9**	**+0.1**
SGST	**Jiashian**	**1.83**	**98**	⇓*i*P	**Pn**	**10 30 05.7**	**-0.8**
SGST				*e*S	**Sn**	**10 30 29.0**	**-0.8**
WTP	**Ta-pu**	**1.84**	**93**	⇓*i*P	**Pn**	**10 30 06.4**	**-0.3**
WTP				*e*S	**Sn**	**10 30 29.6**	**-0.5**
TPUB	**Ta-pu**	**1.85**	**91**		**Pn**	**10 30 06.7**	**-0.1**
TPUB	**Ta-pu**	**1.85**	**91**	P	**Pn**	**10 30 06.8**	**-0.1**
TPUB	**Ta-pu**	**1.85**	**91**	⇓P	**Pn**	**10 30 06.5**	**-0.3**
TPUB				*e*S	**Sn**	**10 30 28.4**	**-1.9**
TWP	**Hsiaoliuchiu**	**1.90**	**122**	*e*P	**Pn**	**10 30 08.4**	**+0.9**
TWP				*e*S	**Sn**	**10 30 30.6**	**-0.9**
WCH1	**Changhua City**	**1.91**	**68**	*e*P	**Pn**	**10 30 07.8**	**+0.3**
CHN5	**Tsauling**	**1.91**	**82**	⇑P	**Pn**	**10 30 07.3**	**-0.3**
CHN5				S	**Sn**	**10 30 31.7**	**-0.1**
WLCH	**Liuqiu**	**1.91**	**121**	P	**Pn**	**10 30 07.5**	**-0.1**
WLCH				*e*S	**Sn**	**10 30 32.7**	**+0.9**
WCHH	**Zhanghua**	**1.92**	**68**	*e*P	**Pn**	**10 30 07.3**	**-0.4**
WNT	**Mingjian**	**1.96**	**74**	*e*P	**Pn**	**10 30 08.2**	**-0.1**
WNT				*e*S	**Sn**	**10 30 33.4**	**+0.3**
TSMG	**Majia**	**1.98**	**109**	*e*P	**Pn**	**10 30 08.6**	**+0.1**
WJS	**Zhushan**	**1.99**	**76**	*e*P	**Pn**	**10 30 08.5**	**-0.2**
WJS				*e*S	**Sn**	**10 30 34.3**	**+0.6**
STYH	**Taoyuan**	**2.00**	**95**	⇓*e*P	**Pn**	**10 30 08.8**	**0.0**
STYH				*e*S	**Sn**	**10 30 33.4**	**-0.5**
SSPT	**Xinbi**	**2.00**	**115**	*e*P	**Pn**	**10 30 07.1**	**-1.8**
MASBT	**Mashibuluo**	**2.00**	**111**	*e*P	**Pn**	**10 30 08.5**	**-0.4**
MASBT				*e*S	**Sn**	**10 30 32.0**	**-2.0**
ALS	**Alishan**	**2.02**	**85**	P	**Pn**	**10 30 09.3**	**0.0**
ALS				*e*S	**Sn**	**10 30 34.9**	**+0.2**
WHYT	**Xinyi Township**	**2.08**	**80**	P	**Pn**	**10 30 09.8**	**-0.2**
WHYT				*i* S	**Sn**	**10 30 35.9**	**-0.1**
SCZT	**Fangliau**	**2.09**	**118**	⇑*e*P	**Pn**	**10 30 10.0**	**-0.1**
SCZT				*e*S	**Sn**	**10 30 36.4**	**+0.1**
WDJ	**Dajia District**	**2.10**	**62**	*e*P	**Pn**	**10 30 10.2**	**0.0**
WDJ				*e*S	**Sn**	**10 30 35.4**	**-1.0**
TYC	**Yuchr**	**2.12**	**75**	⇑P	**Pn**	**10 30 10.3**	**-0.2**
TYC				S	**Sn**	**10 30 37.3**	**+0.3**
SMLT	**Sun Moon Lake**	**2.16**	**76**	⇑P	**Pn**	**10 30 09.9**	**-1.2**
SMLT				*e*S	**Sn**	**10 30 37.9**	**-0.1**
SSLB	**Suanglung**	**2.19**	**78**		**Pn**	**10 30 11.2**	**-0.3**
SSLB	**Suanglung**	**2.19**	**78**	P	**Pn**	**10 30 11.5**	**0.0**
SSLB	**Suanglung**	**2.19**	**78**	⇑*i*P	**Pn**	**10 30 11.1**	**-0.3**
SSLB				*e*S	**Sn**	**10 30 38.6**	**0.0**
TWQ1	**Liyutan**	**2.21**	**63**	⇓*e*P	**Pn**	**10 30 11.5**	**-0.2**
TWQ1				*e*S	**Sn**	**10 30 37.6**	**-1.4**
ELDTW	**Lidau**	**2.21**	**94**	⇓*i*P	**Pn**	**10 30 12.1**	**+0.2**
ELDTW				S	**Sn**	**10 30 38.8**	**-0.6**
WCS	**Beigang Elemen**	**2.21**	**71**	*e*P	**Pn**	**10 30 11.4**	**-0.4**
EAST	**Anshuo**	**2.28**	**115**	⇓*i*P	**Pn**	**10 30 12.5**	**-0.2**
EAST				*i* S	**Sn**	**10 30 40.7**	**-0.2**
ECL	**Taimali**	**2.28**	**109**	⇓*e*P	**Pn**	**10 30 12.7**	**-0.1**
ECL				*e*S	**Sn**	**10 30 39.9**	**-1.1**
NMLH	**Miaoli**	**2.31**	**59**	*e*P	**Pn**	**10 30 13.2**	**+0.1**
NMLH				*e*S	**Sn**	**10 30 40.4**	**-1.2**
SLIU	**Shizi**	**2.31**	**119**	⇓*e*P	**Pn**	**10 30 13.1**	**-0.1**
SLIU				*e*S	**Sn**	**10 30 40.0**	**-1.7**
WHP	**Taichung City**	**2.32**	**66**	⇑*i*P	**Pn**	**10 30 12.8**	**-0.5**
WHP				*e*S	**Sn**	**10 30 40.3**	**-1.7**
TWG	**Pinlang**	**2.32**	**103**		**Pn**	**10 30 13.7**	**+0.4**
TWG	**Pinlang**	**2.32**	**103**	⇓*i*P	**Pn**	**10 30 13.7**	**+0.4**
TWG				*e*S	**Sn**	**10 30 40.6**	**-1.3**
TAW	**Tawu**	**2.33**	**115**	⇑P	**Pn**	**10 30 13.3**	**0.0**
TAW				*e*S	**Sn**	**10 30 41.2**	**-0.8**
TAWH	**Dawu Township**	**2.33**	**115**	*e*P	**Pn**	**10 30 13.2**	**-0.2**
TAWH				*e*S	**Sn**	**10 30 41.3**	**-0.8**
TWGBT	**Beinan**	**2.33**	**103**	P	**Pn**	**10 30 14.0**	**+0.6**
TWGBT	**Beinan**	**2.33**	**103**	⇓P	**Pn**	**10 30 13.6**	**+0.2**
TWGBT				*e*S	**Sn**	**10 30 40.8**	**-1.3**
VWDT	**VWDT**	**2.35**	**80**	⇑P	**Pn**	**10 30 14.2**	**+0.5**
VWDT				S	**Sn**	**10 30 43.8**	**+1.3**
LONT	**Longtian**	**2.36**	**101**	⇓*e*P	**Pn**	**10 30 14.2**	**+0.4**
LONT				*e*S	**Sn**	**10 30 42.6**	**-0.2**
WUSB	**Renai**	**2.38**	**74**	P	**Pn**	**10 30 14.0**	**-0.2**
WUSB				*e*S	**Sn**	**10 30 42.3**	**-1.2**
HEN	**Hengchun**	**2.38**	**124**	*e*P	**Pn**	**10 30 14.3**	**+0.2**
HEN				*e*S	**Sn**	**10 30 43.7**	**+0.4**
EHD	**Haiduan**	**2.39**	**95**	*e*P	**Pn**	**10 30 14.5**	**+0.2**
EHD				*e*S	**Sn**	**10 30 42.8**	**-0.9**
TTN	**Taitung**	**2.41**	**104**	*e*P	**Pn**	**10 30 14.6**	**+0.1**
ECS	**Chishang**	**2.41**	**96**	*e*P	**Pn**	**10 30 15.6**	**+1.1**
ECS				S	**Sn**	**10 30 45.2**	**+1.1**
OWD	**Renai**	**2.42**	**75**	P	**Pn**	**10 30 15.0**	**+0.2**
OWD				S	**Sn**	**10 30 44.3**	**-0.3**
SMST	**Manzhou Townsh**	**2.45**	**123**	*i* P	**Pn**	**10 30 15.0**	**+0.1**
TWF1	**Yuli**	**2.46**	**90**	P	**Pn**	**10 30 15.8**	**+0.6**
TWF1				*e*S	**Sn**	**10 30 44.9**	**-0.5**
YULB	**Yu-li**	**2.46**	**89**		**Pn**	**10 30 15.8**	**+0.5**
YULB	**Yu-li**	**2.46**	**89**	P	**Pn**	**10 30 16.0**	**+0.8**
YULB	**Yu-li**	**2.46**	**89**	⇓P	**Pn**	**10 30 15.8**	**+0.5**
YULB				*e*S	**Sn**	**10 30 44.6**	**-0.9**
TWK1	**Hengchun**	**2.46**	**124**	*e*P	**Pn**	**10 30 14.9**	**-0.3**
TWK1				*e*S	**Sn**	**10 30 45.3**	**-0.1**
FULB	**Fuli**	**2.47**	**93**	*e*P	**Pn**	**10 30 16.6**	**+1.3**
FULB				*e*S	**Sn**	**10 30 43.8**	**-1.8**
TWKBT	**Hengchun**	**2.47**	**124**	*i* P	**Pn**	**10 30 15.4**	**0.0**
TWKBT				*e*S	**Sn**	**10 30 45.1**	**-0.5**
EYUL	**Yuli**	**2.48**	**90**	*e*P	**Pn**	**10 30 16.1**	**+0.6**
EYUL				*e*S	**Sn**	**10 30 44.7**	**-1.2**
EHY	**Hungye**	**2.49**	**86**	*e*P	**Pn**	**10 30 16.1**	**+0.5**
EHY				*e*S	**Sn**	**10 30 46.2**	**+0.1**
TDCB	**Techi**	**2.49**	**69**	P	**Pn**	**10 30 15.3**	**-0.5**
TDCB				*e*S	**Sn**	**10 30 45.0**	**-1.3**
TWT	**Tachien**	**2.51**	**69**	P	**Pn**	**10 30 15.4**	**-0.6**
TWT				*e*S	**Sn**	**10 30 44.9**	**-1.9**
EHYH	**Wanrong**	**2.51**	**86**	*e*P	**Pn**	**10 30 16.8**	**+1.0**
EHYH				S	**Sn**	**10 30 46.7**	**+0.1**
NSTT	**Nanjuang**	**2.52**	**59**	P	**Pn**	**10 30 15.6**	**-0.5**
NSTT				*e*S	**Sn**	**10 30 46.2**	**-0.7**
LIOB	**Emei**	**2.54**	**59**	*e*P	**Pn**	**10 30 16.1**	**-0.2**
LIOB				*e*S	**Sn**	**10 30 45.8**	**-1.5**
CHKT	**Chengkung**	**2.54**	**95**	*e*P	**Pn**	**10 30 17.6**	**+1.3**
WHF	**Hehuan Shan**	**2.55**	**72**	*e*P	**Pn**	**10 30 17.2**	**+0.4**
WHF				*i* S	**Sn**	**10 30 49.0**	**+0.9**
CHKH	**Chenggong**	**2.56**	**93**	*e*P	**Pn**	**10 30 17.7**	**+1.1**
WARBT	**Fenglin Townsh**	**2.57**	**81**	*e*P	**Pn**	**10 30 17.1**	**+0.4**
WARBT				*e*S	**Sn**	**10 30 46.6**	**-1.3**
HGSD	**Ruisui**	**2.58**	**87**	*e*P	**Pn**	**10 30 18.0**	**+1.1**
HGSD				*e*S	**Sn**	**10 30 49.1**	**+0.8**
HSN	**Hsinchu**	**2.59**	**56**	*e*P	**Pn**	**10 30 17.7**	**+0.8**
HSN				*e*S	**Sn**	**10 30 49.1**	**+0.7**
SBCB	**Hsinchu**	**2.59**	**56**	*e*P	**Pn**	**10 30 17.3**	**+0.3**
EGFH	**Guangfu**	**2.60**	**83**	*e*P	**Pn**	**10 30 18.3**	**+1.2**
EGFH				*e*S	**Sn**	**10 30 47.8**	**-0.9**
ECBN	**Changbin**	**2.61**	**90**	*e*P	**Pn**	**10 30 19.0**	**+1.9**
ECBN				*e*S	**Sn**	**10 30 48.6**	**-0.3**
NFF	**Wufeng Townshi**	**2.61**	**61**	*e*P	**Pn**	**10 30 16.8**	**-0.6**
ESL	**Shilin**	**2.62**	**80**	*e*P	**Pn**	**10 30 18.1**	**+0.7**
ESL				S	**Sn**	**10 30 49.9**	**+0.5**
LXIB	**Xiulin Townshi**	**2.65**	**75**	P	**Pn**	**10 30 17.8**	**-0.1**
LXIB				*e*S	**Sn**	**10 30 48.4**	**-1.7**
ETM	**Tongmen**	**2.71**	**77**	*e*P	**Pn**	**10 30 19.5**	**+1.0**
ETM				*e*S	**Sn**	**10 30 49.9**	**-1.5**
LDUT	**Ludao**	**2.72**	**104**	P	**Pn**	**10 30 19.2**	**+0.5**
LDUT				*e*S	**Sn**	**10 30 51.5**	**-0.1**
KSHI	**Guanxi Townshi**	**2.73**	**58**	P	**Pn**	**10 30 18.8**	**-0.1**
KSHI				*e*S	**Sn**	**10 30 51.0**	**-1.1**
SHUL	**Shoufeng**	**2.74**	**80**	*e*P	**Pn**	**10 30 20.0**	**+1.0**
NNS	**Nan Shan**	**2.74**	**66**	P	**Pn**	**10 30 18.5**	**-0.7**
NNS				*e*S	**Sn**	**10 30 52.4**	**-0.1**
NNSB	**Datong**	**2.75**	**67**	P	**Pn**	**10 30 18.4**	**-0.8**
NNSB				*e*S	**Sn**	**10 30 51.3**	**-1.2**
MHZQ	**Yeshan**	**2.75**	**8**	*e*P	**Pn**	**10 30 19.1**	**-0.1**
ETLH	**Xiulin Townshi**	**2.76**	**72**	*e*P	**Pn**	**10 30 19.3**	**-0.1**
TEYL	**Yanliau Villag**	**2.78**	**79**	*e*P	**Pn**	**10 30 20.3**	**+0.7**
TEYL				*e*S	**Sn**	**10 30 51.9**	**-1.3**
HWA	**Hwalien**	**2.81**	**77**	*e*P	**Pn**	**10 30 20.7**	**+0.7**
HWA				*e*S	**Sn**	**10 30 54.0**	**+0.1**
TWD	**Chiawan**	**2.82**	**75**	*e*P	**Pn**	**10 30 20.8**	**+0.6**
TWD				*e*S	**Sn**	**10 30 53.8**	**-0.4**
NSK	**Sanguang**	**2.83**	**62**	*i* P	**Pn**	**10 30 19.9**	**-0.4**
NSK				*e*S	**Sn**	**10 30 53.1**	**-1.4**
NCUH	**Zhongli**	**2.84**	**55**	*e*P	**Pn**	**10 30 20.4**	**0.0**
NCUH				*e*S	**Sn**	**10 30 54.0**	**-0.7**
YHNB	**Yeheng**	**2.84**	**62**	Pn	**Pn**	**10 30 19.9**	**-0.6**
YHNB	**Yeheng**	**2.84**	**62**	P	**Pn**	**10 30 19.8**	**-0.6**
YHNB	**Yeheng**	**2.84**	**62**	⇑P	**Pn**	**10 30 19.9**	**-0.6**
NACB	**Ninganchiao**	**2.85**	**73**	Pn	**Pn**	**10 30 19.4**	**-1.1**
NACB	**Ninganchiao**	**2.85**	**73**	P	**Pb**	**10 30 23.1**	**-2.8**
NACB	**Ninganchiao**	**2.85**	**73**	*e*P	**Pn**	**10 30 20.3**	**-0.2**
NACB				*e*S	**Sn**	**10 30 54.2**	**-0.7**
ENTT	**Nioudou**	**2.98**	**64**	⇑*i*P	**Pn**	**10 30 22.2**	**-0.2**
ENTT				*e*S	**Sn**	**10 30 56.6**	**-1.7**
NWLT	**Wulai**	**2.99**	**61**	*e*P	**Pn**	**10 30 22.2**	**-0.4**
NWLT				*e*S	**Sn**	**10 30 56.9**	**-1.6**
LAY	**Lan-yu**	**3.01**	**115**	*e*P	**Pn**	**10 30 21.9**	**-0.9**
LAY				*e*S	**Sn**	**10 30 58.0**	**-1.0**
EAHA	**Aohua**	**3.02**	**71**	*e*P	**Pn**	**10 30 24.9**	**+2.1**
MATB	**Ma-tsu**	**3.03**	**23**	*e*P	**Pn**	**10 30 22.6**	**-0.5**
ENA	**Nanau**	**3.05**	**69**	*e*P	**Pn**	**10 30 23.3**	**0.0**
ENA				*e*S	**Sn**	**10 30 58.1**	**-1.8**
FUSB	**Fushanzhiwuyua**	**3.05**	**62**	P	**Pn**	**10 30 22.5**	**-0.9**
FUSB				*e*S	**Sn**	**10 30 57.8**	**-2.2**
EWUT	**Wuta**	**3.09**	**69**	*e*P	**Pn**	**10 30 24.4**	**+0.6**
EWUT				*e*S	**Sn**	**10 30 59.7**	**-1.1**
TWS1	**Kuangyinshan**	**3.09**	**55**	*e*P	**Pn**	**10 30 23.0**	**-0.9**
TWE	**Neicheng**	**3.10**	**63**	P	**Pn**	**10 30 24.1**	**+0.1**
TWE				*e*S	**Sn**	**10 31 00.8**	**-0.4**
NDS	**Dongshan**	**3.10**	**65**	*e*P	**Pn**	**10 30 24.1**	**0.0**
SXFK	**Yanhouchang**	**3.15**	**344**	*e*P	**Pn**	**10 30 24.6**	**-0.2**
ESAO	**Su ao**	**3.19**	**67**	*e*P	**Pn**	**10 30 25.8**	**+0.6**
ESAO				*e*S	**Sn**	**10 31 01.6**	**-1.8**
TWC	**Suao**	**3.21**	**67**	*i* P	**Pn**	**10 30 26.2**	**+0.7**
TWC				*e*S	**Sn**	**10 31 02.8**	**-1.0**
ANP	**Anpu**	**3.21**	**55**	*e*P	**Pn**	**10 30 25.3**	**-0.4**
YM01	**YM01**	**3.23**	**56**	*e*P	**Pn**	**10 30 25.4**	**-0.4**
YM08	**YM08**	**3.27**	**56**	*e*P	**Pn**	**10 30 25.5**	**-0.8**
YM08				*e*S	**Sn**	**10 31 03.0**	**-2.3**
TWY	**Chenhua**	**3.32**	**54**	*e*P	**Pn**	**10 30 27.4**	**+0.3**
LYJJ	**Jianjiangzhen**	**3.34**	**18**	*e*P	**Pn**	**10 30 27.2**	**-0.1**
TIPB	**Shuangxi**	**3.34**	**61**	*e*P	**Pn**	**10 30 26.9**	**-0.4**
NWF	**Wu-fen Shan**	**3.35**	**59**	*e*P	**Pn**	**10 30 27.1**	**-0.4**
WFSB	**Wu-fen Shan**	**3.35**	**59**	*e*P	**Pn**	**10 30 27.4**	**-0.1**
EGS		**3.37**	**63**	*e*P	**Pn**	**10 30 29.1**	**+1.4**
EGS				*e*S	**Sn**	**10 31 05.8**	**-2.0**
SXI1	**Grass Mountain**	**3.44**	**59**	*e*P	**Pn**	**10 30 28.3**	**-0.4**
SXI1				*e*S	**Sn**	**10 31 07.5**	**-2.1**
EOS4	**EOS4**	**3.48**	**77**	*e*P	**Pn**	**10 30 34.4**	**+1.6**
EOS4				*e*S	**Sn**	**10 31 09.6**	**-0.2**
TWB1	**Santiao Chiao**	**3.49**	**61**	P	**Pn**	**10 30 29.2**	**-0.1**
TWB1				*e*S	**Sn**	**10 31 09.2**	**-1.5**
XPSS	**Dashiqiu**	**3.83**	**22**	*e*P	**Pn**	**10 30 34.0**	**0.0**
PCYT	**Pengchaiyu**	**3.87**	**54**	*i* P	**Pn**	**10 30 34.8**	**+0.2**
YOJ	**Yonaguni jima**	**4.17**	**74**	Pn	**Pn**	**10 30 37.2**	**-1.5**
YOJ	**Yonaguni jima**	**4.17**	**74**	*e*P	**Pn**	**10 30 39.3**	**+0.6**
HKPS	**Hong Kong Po S**	**4.27**	**256**	Pn	**Pn**	**10 30 39.0**	**-1.1**
GZH	**Guangzhou**	**4.86**	**268**	Pn	Pn	10 30 43.0	-5.1
GZH				Sn	**Sn**	**10 31 36.5**	**-8.0**
GZH				smax	smax		
	comp=N,2μm,0.7s						
GZH				smax	smax		
	comp=E,2μm,0.8s						
SSE	**Sheshan**	**8.04**	**16**	Pn	**Pn**	**10 31 31.1**	**-0.7**
WHN	**Wuhan**	**8.10**	**333**	P	**Pn**	**10 31 36.8**	**+4.1**
WHN				S	**Sn**	**10 33 12.3**	**+7.9**
WHN				LR	LR		
	comp=N,5μm,5.5s						
WHN				LR	LR		
	comp=E,5μm,5.7s						
WHN				LR	LR		
	comp=Z,2μm,4.2s						
QIZ	**Qiongzhong**	**9.25**	**244**	Pn	**Pn**	**10 31 46.3**	**-2.2**
QIZ	**Qiongzhong**	**9.25**	**244**	P	**Pn**	**10 31 48.3**	**-0.2**
QIZ				S	**Sn**	**10 33 34.8**	**+2.1**
QIZ				smax	smax		
	comp=N,59nm,0.9s						
QIZ				smax	smax		
	comp=E,59nm,0.8s						
QIZ				LR	LR		
	comp=N,740nm,8.5s						
QIZ				LR	LR		
	comp=E,470nm,9.3s						
QIZ				LR	LR		
	comp=Z,350nm,12.5s						
LYN	**LuoYang**	**12.38**	**336**	*e*P	Pn	10 32 36.3	+5.0
LYN				pmax	pmax		
	comp=Z,14nm,0.5s						
LYN				LR	LR		
	comp=N,1μm,11.5s						
LYN				LR	LR		
	comp=E,2μm,11.5s						
LYN				LR	LR		
	comp=Z,370nm,6.4s						
XAN	**Xi'an**	**13.61**	**324**	P	**Pn**	**10 32 48.0**	**-0.2**
XAN				S	**Sn**	**10 35 20.8**	**+1.2**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN				LR	LR		
	comp=N,650nm,7.2s						
XAN				LR	LR		
	comp=E,410nm,6.4s						
XAN				LR	LR		
	comp=Z,440nm,8.3s						
HNS	**HongShan**	**14.39**	**347**	⇓P	**Pn**	**10 32 59.3**	**+0.5**
HNS				PP	**PnPn**	**10 33 13.5**	**+6.6**
HNS				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HNS				LR	LR		
	comp=N,230nm,12.4s						
HNS				LR	LR		
	comp=E,660nm,16.7s						
HNS				LR	LR		
	comp=Z,290nm,11.2s						
JNU	**Nakatsue**	**14.53**	**45**	Pn	**Pn**	**10 33 01.2**	**+0.5**
JNU	**Nakatsue**	**14.53**	**45**	Pn	**P**	**10 33 04.4**	**-3.0**
	0.1nm,0.3s,baz=198,slow=22,SNR=2.1						
JNU				LR	LR	10 38 48.1	
	comp=Z,110nm,20.0s,baz=230,slow=38 13nm,1.1s						
KSAR	**Wonju Array Be**	**16.14**	**27**	Pn	**Pn**	**10 33 22.2**	**+0.3**
KSRS	**Korea Array**	**16.16**	**28**	Pn	**P**	**10 33 24.7**	**-0.8**
	0.2nm,0.3s,baz=209,slow=11,SNR=17						
KSRS				LR	LR	10 39 15.8	
	comp=Z,38nm,18.3s,baz=235,slow=36 6.1nm,0.8s						
JMN	**Monobe**	**16.91**	**49**		**P**	**10 33 33.0**	**-0.8**
BTO	**Baotou**	**18.66**	**339**	*e*P	**Pn**	**10 33 56.0**	**+2.5**
BTO				sP	sP	10 34 05.0	+7.8
BTO				pmax	pmax		
	comp=Z,16nm,0.7s						
BTO				pmax	pmax		
	comp=Z,200nm,4.5s						
BTO				LR	LR		
	comp=N,220nm,5.8s						
BTO				LR	LR		
	comp=E,270nm,8.8s						
BTO				LR	LR		
	comp=Z,250nm,7.4s						
CMAR	**Chiang Mai Arr**	**19.01**	**259**	P	**Pn**	**10 34 02.1**	**+4.3**
	0.5nm,0.3s,baz=66,slow=9.0,SNR=1.6						
CMAR				LR	LR	10 40 30.0	
	comp=Z,62nm,21.2s,baz=100,slow=35						
JGF	**Kuroka**	**20.33**	**49**	P	**P**	**10 34

F31M	**Tsiigehtchic**	**75.15**	**22**	P	**P**	**10 41 16.9**	**-0.2**
F31M				IAmb	IAmb	10 41 20.3	
comp=Z,6.6nm,1.4s							
BCPM	**Bancas Point**	**75.73**	**31**	P	**P**	**10 41 20.9**	**+0.3**
M30M	**Minto, Yukon**	**75.98**	**28**	P	**P**	**10 41 22.0**	**0.0**
M30M				IAmb	IAmb	10 41 23.9	
comp=Z,7.3nm,1.4s							
NOA	**NORSAR Array B**	**77.84**	**332**	LR	LR	11 18 51.8	
comp=Z,39nm,18.8s,baz=250,slow=38							

HEL 27 10:48:33.5±0.3, 61°.93N×25°.03E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu**	**0.25**	**342**	PG	Pg	10 48 37.8	-0.5
KEF				SG	Sg	10 48 40.7	-0.8
KAF	**Kangasniemi**	**0.63**	**73**	PG	Pg	10 48 44.2	-1.3
baz=252							
KAF				MSG		10 48 53.5	
comp=Z,2.1nm,0.2s							
FIA0	**FINESS Array S**	**0.70**	**134**	PG	Pg	10 48 45.4	-1.5
baz=319							
FIA0				MSG		10 48 55.5	
comp=Z,1.1nm,0.2s							
FIA0				SG	Sg	10 48 56.1	+0.2
SUF	**Sumiainen**	**0.95**	**33**	PG	Pg	10 48 50.6	-1.0
SUF				MSG		10 49 02.5	
comp=Z,0.8nm,0.2s							
KPF	**Kankaanpaa**	**1.41**	**267**	PN	Pn	10 48 59.5	-0.8
baz=83							
KPF				SN	Sg	10 49 17.9	-0.7
VAF	**Ylistaro**	**1.56**	**317**	PN	Pn	10 49 02.7	+0.3
VAF				MSG		10 49 20.4	
comp=Z,0.7nm,0.2s							
VAF				SN	Sn	10 49 23.2	-0.2
RAF	**Rauma**	**1.81**	**241**	MSG		10 49 27.4	
comp=Z,1.1nm,0.2s							
RAF				SG	Sb	10 49 31.1	+0.4
VJF	**Virojoki**	**1.86**	**138**	MSG		10 49 28.7	
comp=Z,1.2nm,0.2s							
VJF				SG	Sn	10 49 30.8	+0.2
UMAU	**Umeaa**	**2.79**	**316**	SG	Sb	10 49 58.5	-0.4
RANF	**Ranua**	**4.17**	**10**	PN	Pn	10 49 37.8	-0.5

HEL 27 10:50:03.3±0.2, 67°.83N×20°.22E, h0km, ML1.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.70**	**71**	PG	Pg	10 50 15.3	-1.4
LANU				SG	Sg	10 50 24.8	-1.0
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	10 50 25.7	-0.5
HEF	**Hetta**	**1.41**	**64**	*e*P	Pn	10 50 28.5	-1.8
HEF	**Hetta**	**1.41**	**64**	PG	Pn	10 50 28.7	-1.5
HEF				MSG		10 50 45.8	
comp=Z,2.6nm,0.2s							
HEF				SN	Sn	10 50 49.4	-0.1
ERTU	**Ertsjaerv**	**1.50**	**148**	PG	Pn	10 50 29.9	-1.5
ERTU				SN	Sg	10 50 51.0	-0.2
KLF	**Kolari**	**1.56**	**111**	PG	Pn	10 50 31.4	-0.8
KLF				MSG		10 50 50.0	
comp=Z,2.9nm,0.2s							
KLF				SN	Sg	10 50 53.6	+0.3
KTK1	**Kautokeino**	**1.63**	**42**	PN	Pn	10 50 33.1	-0.1
TRO	**Tromso**	**1.87**	**346**	PG	Pn	10 50 36.8	+0.3
TRO				SG	Sb	10 51 01.6	-0.6
KALU	**Kalix**	**2.34**	**147**	PB	Pn	10 50 43.4	+0.6
baz=325							
KALU				SG	Sb	10 51 15.5	0.0
TOF	**Tornio**	**2.39**	**136**	SG	Sn	10 50 43.8	-30
TOF	**Tornio**	**2.39**	**136**	PN	Pn	10 50 43.8	+0.2
TOF				MSG		10 51 14.0	
comp=Z,1.7nm,0.2s							
TOF				SG	Sb	10 51 17.4	+0.4
RNF	**Rovaniemi**	**2.57**	**116**	PB	Pn	10 50 47.3	+1.3
baz=304							
RNF				SB	Sb	10 51 20.6	-1.5
KMNF	**Kaamanen**	**2.83**	**59**	PB	Pn	10 50 51.7	+2.1
KMNF				SB	Sn	10 51 26.2	+1.8
RAJF	**Raja-Jooseppi**	**3.09**	**74**	PB	Pb	10 50 56.6	-2.5
RAJF				SG	Sb	10 51 36.6	-0.7
KEV	**Kevo**	**3.13**	**49**	SN	Sn	10 51 32.7	+0.9
KEV				MSG		10 51 35.3	
comp=Z,2.6nm,0.2s							
VRF	**Varrio**	**3.57**	**87**	SG	Sb	10 51 53.9	+2.9
OLKF	**Oulanka, Finla**	**3.90**	**109**	PG	Pb	10 51 12.8	0.0
KU6	**Riekki**	**4.21**	**111**	PG	Pb	10 51 18.7	+0.5

*IDC **27** 11:11:43.9±1.1, 34°.23N×45°.64E, h0km, mb3.7/11, mbtmp3.8/18, ML3.7/6, Error ellipse: s-maj=22.6km s-min=14.3km az=166.0*
*NEIC **27** 11:11:45.8±1.1, 34°.13N±0°.05×45°.65E±0°.03, h10km±1km, mb4.4/21, Error ellipse: s-maj=9.2km s-min=4.3km az=183.0*
*ISN **27** 11:11:46.3±0.7, 34°.24N×45°.64E, h15km±5km, ML3.8*
*TEH **27** 11:11:46.4, 34°.22N×45°.63E, h9km±11km, ML3.8*
ISC 27 11:11:46.0±0.5, 34°.24N±0°.03×45°.64E±0°.03, h10km, n87, σ19°34/90, mb4.2/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.26**	**118**	Pg	**Pg**	**11 11 52.2**	**+0.9**
KGS1	**Ghasr-e-Shirin**	**0.27**	**352**	Pg	**Pg**	**11 11 52.4**	**+0.9**
ILBA	**Ilam Banvizeh**	**0.77**	**142**	Pg	**Pg**	**11 12 01.2**	**+0.3**
IDHR	**Dehrash**	**0.78**	**53**	Pg	**Pg**	**11 12 01.5**	**+0.6**
IGHG	**Ghaleghazi**	**0.78**	**83**	Pg	**Pb**	**11 12 02.2**	**+0.4**
IBDR	**Badra**	**1.15**	**168**	*e*Pg	**Pb**	**11 12 08.0**	**+0.1**
IBDR				*e*Sg	**Sg**	**11 12 23.0**	**0.0**
IBDR				AML	AML	11 12 31.0	
comp=N,908nm,0.7s							
IBDR				AML	AML	11 12 31.6	
comp=E,1μm,0.8s							
KCHF	**Cheshme Sefid,**	**1.17**	**88**	Pg	**Pn**	**11 12 09.1**	**+0.6**
ILIN	**Lien**	**1.29**	**58**	Pg	**Pg**	**11 12 11.6**	**+0.8**
BHD	**Baghdad**	**1.42**	**228**	*e*Pn	**Pb**	**11 12 13.0**	**+0.5**
BHD				*e*Sn	**Sg**	**11 12 33.5**	**+1.8**
BHD				AML	AML	11 12 37.9	
comp=E,2μm,0.7s							
IKRK	**Kirkuk**	**1.58**	**318**	*e*Pn	**Pb**	**11 12 15.5**	**+0.3**
IKRK				*e*Sn	**Sg**	**11 12 37.5**	**+0.8**
IKRK				AML	AML	11 12 40.2	
comp=E,3μm,0.5s							
IKRK				AML	AML	11 12 40.3	
comp=N,3μm,0.3s							
SNQR	**Sonqor, Kerman**	**1.76**	**69**	Pg	**Pb**	**11 12 19.3**	**+0.8**
IBZA	**Bozab**	**1.86**	**82**	Pn	**Pn**	**11 12 19.5**	**+1.5**
SDS1	**Sardasht. Az.**	**1.91**	**356**	Pn	**Pb**	**11 12 21.7**	**+0.6**
IKFM	**Kafar-mosalman**	**1.97**	**110**	Pn	**Pb**	**11 12 22.1**	**+0.2**
IDOB	**Doab**	**2.16**	**101**	Pn	**Pb**	**11 12 24.7**	**-0.5**
HSAM	**Samen**	**2.46**	**90**	Pn	**Pn**	**11 12 28.8**	**+2.4**
MAHB	**Mahabad**	**2.53**	**1**	Pn	**Pb**	**11 12 30.3**	**-1.2**
RAFI	**Al-Rafai**	**2.54**	**171**	*e*Pn	**Pn**	**11 12 29.0**	**+1.8**
RAFI				*e*Sn	**Sn**	**11 13 00.0**	**+1.9**
RAFI				AML	AML	11 13 22.2	
comp=N,418nm,0.5s							
RAFI				AML	AML	11 13 26.2	
comp=E,490nm,0.5s							
BDRS	**Dareh Seyedi**	**2.71**	**95**	Pn	**Pn**	**11 12 32.2**	**+2.4**
HAGD	**Aghdareh**	**2.95**	**78**	Pn	**Pn**	**11 12 36.0**	**+2.8**
IAZR	**Azarshahr**	**3.45**	**5**	Pn	**Pn**	**11 12 42.8**	**+2.9**
QABG	**Abgarm-Qazvin**	**3.56**	**64**	Pn	**Pn**	**11 12 43.9**	**+2.5**
GEVA	**Gevas**	**4.57**	**334**	Pn	**Pn**	**11 12 57.1**	**+1.8**
IPIR	**Pirpir**	**4.66**	**108**	Pn	**Pn**	**11 12 58.0**	**+1.3**
JHBN	**Jahan bin**	**4.67**	**114**	Pn	**Pn**	**11 12 58.7**	**+1.9**
QAMS	**Qamsar**	**4.81**	**94**	Pn	**Pn**	**11 13 01.2**	**+2.4**
ZNGN	**Zangian**	**4.86**	**114**	Pn	**Pn**	**11 13 01.1**	**+1.6**
GRMI	**Germi**	**4.91**	**21**	Pn	**Pn**	**11 13 02.9**	**+2.9**
KLST	**Kelardasht - M**	**4.98**	**61**	Pn	**Pn**	**11 13 03.8**	**+2.7**
IKLH	**Kolahrood**	**5.03**	**99**	Pn	**Pn**	**11 13 04.3**	**+2.6**
IVRN	**Varamin**	**5.08**	**80**	Pn	**Pn**	**11 13 04.7**	**+2.4**
GURO	**Guroymak-BITLI**	**5.20**	**327**	Pn	**Pn**	**11 13 05.2**	**+1.3**
KRSH	**Karshahi**	**5.40**	**91**	Pn	**Pn**	**11 13 09.1**	**+2.3**
IDMV	**Damavand**	**5.42**	**74**	Pn	**Pn**	**11 13 09.0**	**+1.8**
ISFB	**Sefidab**	**5.47**	**87**	Pn	**Pn**	**11 13 09.3**	**+1.7**
IZEF	**Zefreh**	**5.75**	**102**	Pn	**Pn**	**11 13 13.9**	**+2.4**
GNI	**Garni**	**5.95**	**353**	Pn	**Pn**	**11 13 14.3**	**+0.1**
comp=E,0.8nm,0.3s,baz=194,slow=19,SNR=1.0							
comp=E,5.4nm,0.4s							
ASF	**Jabal al Asfar**	**7.61**	**257**	Pn	**Pn**	**11 13 36.2**	**-0.8**
comp=E,0.7nm,0.3s,baz=116,slow=0.0,SNR=2.5							
ASF				Lg	Lg	11 15 45.2	
comp=E,1.4nm,0.3s,baz=61,slow=0.0,SNR=7.3							
comp=E,2.3nm,0.4s							
MMAI	**Mount Meron Ar**	**8.62**	**265**	Pn	**Pn**	**11 13 49.8**	**-1.0**
comp=E,1.4nm,0.3s,baz=69,slow=12,SNR=3.7							
MMAI				Lg	Lg	11 16 18.7	
comp=E,2.5nm,0.3s,baz=70,slow=25,SNR=3.8							
comp=E,1.2nm,0.3s							
EIL	**Elat**	**10.15**	**246**	Lg	Lg	11 17 20.4	
comp=E,0.8nm,0.3s,baz=108,slow=16,SNR=4.3							
SHME	**Shamm**	**12.21**	**129**	Pn	**Pn**	**11 14 38.6**	**-1.3**
BANOM	**Banah**	**12.40**	**129**	Pn	**Pn**	**11 14 41.6**	**-1.0**
MSFE	**Esma-Masafi**	**12.71**	**131**	Pn	**Pn**	**11 14 46.2**	**-0.6**
UOSS	**Minazif**	**13.04**	**132**	Pn	**Pn**	**11 14 49.0**	**-2.3**
UOSS	**Minazif**	**13.04**	**132**	Pn	**Pn**	**11 14 49.5**	**-1.8**
HATD	**Hatta, Dubai**	**13.08**	**133**	Pn	**Pn**	**11 14 51.2**	**-0.8**
ASHO	**Ashiyiah**	**13.15**	**134**	Pn	**Pn**	**11 14 50.4**	**-2.4**
ASHO				Sn	Sn	11 17 07.9	-11
WSAR	**Wadi Sarin**	**15.79**	**131**	Pn	**Pn**	**11 15 26.6**	**-1.9**
comp=E,0.6nm,0.3s,baz=358,slow=12,SNR=7.0							
comp=E,4.3nm,0.6s							
IDI	**Anoyia**	**17.08**	**279**	Pn	**Pn**	**11 15 44.2**	**-0.7**
comp=E,12nm,1.0s,baz=351,slow=3.0,SNR=2.0							
BELG	**Belogornoye**	**18.21**	**4**	P	**Pn**	**11 15 57.7**	**-0.9**
comp=E,0.6nm,0.3s,baz=166,slow=6.9,SNR=5.9							
comp=E,5.9nm,0.6s							
ABKAR	**Akbulak array**	**18.37**	**31**	P	**P**	**11 16 01.4**	**+0.7**
AKTO	**Aktyubinsk**	**18.55**	**26**	P	**P**	**11 16 02.3**	**-0.4**
comp=E,0.1nm,0.3s,baz=214,slow=11,SNR=1.9							
comp=E,0.8nm,0.5s							
GAR	**Garm**	**20.35**	**69**	P	**P**	**11 16 21.6**	**-1.1**
AKASG	**Malin Array Be**	**20.35**	**329**	P	**P**	**11 16 22.0**	**-0.4**
comp=E,0.6nm,0.4s,baz=140,slow=7.8,SNR=8.1							
comp=E,0.6nm,0.4s							
AKBB	**Malin Array Si**	**20.35**	**329**	P	**P**	**11 16 22.2**	**-0.2**
KIEV	**Kiev**	**20.35**	**329**	P	**P**	**11 16 22.4**	**+0.1**
BUR08	**Bucovina Ar. S**	**20.36**	**317**	P	**P**	**11 16 23.1**	**+0.5**
KKAR	**Karatay Array**	**21.29**	**58**	P	**P**	**11 16 32.6**	**0.0**
BVAR	**Borovoye Array**	**25.74**	**36**	P	**P**	**11 17 15.7**	**-0.8**
comp=E,1.1nm,0.7s,baz=212,slow=8.2,SNR=3.9							
comp=E,1.1nm,0.7s							
KURBB	**Kurchatov Arra**	**28.98**	**46**	P	**P**	**11 17 45.6**	**+0.1**
comp=E,0.5nm,0.5s,baz=250,slow=9.5,SNR=2.5							
comp=E,0.5nm,0.5s							
FINES	**FINESS Array B**	**29.97**	**341**	P	**P**	**11 17 53.8**	**-0.4**
FINES	**FINESS Array B**	**29.97**	**341**	P	**P**	**11 17 53.7**	**-0.5**
comp=E,1.5nm,0.7s,baz=161,slow=8.1,SNR=1.6							
comp=E,1.5nm,0.7s							
MKAR	**Makanchi Array**	**30.28**	**54**	P	**P**	**11 17 57.0**	**-0.2**
comp=E,0.3nm,0.6s,baz=312,slow=11,SNR=2.1							
comp=E,0.3nm,0.6s							
BNI	**Bardonecchia**	**31.61**	**302**	P	**P**	**11 18 08.4**	**-0.6**
HFS	**Hagfors**	**33.21**	**331**	P	**P**	**11 18 22.4**	**-0.2**
comp=E,1.4nm,0.5s,baz=126,slow=7.5,SNR=7.7							
comp=E,1.4nm,0.5s							
ZALV	**Zalesovo Beam**	**33.77**	**42**	P	**P**	**11 18 27.2**	**-0.4**
comp=E,0.8nm,0.6s,baz=285,slow=8.4,SNR=2.8							
comp=E,0.8nm,0.6s							
KEV	**Kevo**	**37.03**	**349**	P	**P**	**11 18 55.8**	**+0.3**
ARCES	**ARCESS Array B**	**37.08**	**348**	P	**P**	**11 18 55.2**	**-0.7**
comp=E,2.0nm,0.9s,baz=150,slow=9.3,SNR=5.5							
comp=E,2.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**44.95**	**253**	P	**P**	**11 20 00.8**	**-0.6**
comp=E,0.3nm,0.5s,baz=44,slow=6.1,SNR=4.1							
comp=E,0.3nm,0.5s							
SPITS	**Spitsbergen Ar**	**45.81**	**352**	P	**P**	**11 20 07.5**	**0.0**
comp=E,17nm,1.0s,baz=132,slow=8.0,SNR=5.2							
CMAR	**Chiang Mai Arr**	**49.75**	**94**	P	**P**	**11 20 38.0**	**-0.8**
comp=E,0.6nm,0.3s,baz=300,slow=8.6,SNR=5.8							
comp=E,0.6nm,0.3s							
E29M	**Blow River**	**77.65**	**1**	P	**P**	**11 23 43.1**	**+1.0**
E29M				IAmb	IAmb	11 23 44.1	
comp=Z,3.4nm,0.9s							
E27K	**Coleen River**	**77.75**	**3**	P	**P**	**11 23 43.6**	**+0.9**
E27K				IAmb	IAmb	11 23 44.3	
comp=Z,2.3nm,0.7s							
BMAR	**Burnt Mountain**	**78.36**	**4**	P	**P**	**11 23 47.8**	**+1.7**
G19K	**Purcell Mounta**	**78.42**	**9**	P	**P**	**11 23 46.8**	**+0.4**
G19K				IAmb	IAmb	11 24 09.2	
comp=Z,6.1nm,1.3s							
F31M	**Tsiigehtchic**	**78.64**	**360**	P	**P**	**11 23 47.8**	**+0.2**
F31M				IAmb	IAmb	11 23 47.9	
comp=Z,4.4nm,1.2s							
IMAR	**Indian Mountai**	**78.98**	**8**	P	**P**	**11 23 50.4**	**+0.8**
G31M	**Satah River**	**79.16**	**360**	P	**P**	**11 23 50.3**	**-0.2**
G31M				IAmb	IAmb	11 23 51.7	
comp=Z,5.0nm,1.1s							
EPYK	**Eagle Plains**	**79.70**	**1**	P	**P**	**11 23 53.9**	**+0.4**
H29M	**Whitestone**	**79.82**	**2**	P	**P**	**11 23 54.6**	**+0.5**
H29M				IAmb	IAmb	11 24 05.5	
comp=Z,7.0nm,1.4s							
I28M	**Miner Creek**	**80.55**	**2**	P	**P**	**11 23 58.7**	**+0.5**
ILAR	**Eielson Array**	**80.83**	**5**	P	**P**	**11 24 00.1**	**+0.5**
ILAR	**Eielson Array**	**80.83**	**5**	P	**P**	**11 23 59.3**	**-0.3**
comp=Z,0.5nm,0.8s,baz=347,slow=3.7,SNR=4.4							
comp=Z,0.5nm,0.8s							
J25K	**Salcha River,**	**81.10**	**5**	P	**P**	**11 24 01.7**	**+0.6**
J25K				IAmb	IAmb	11 24 24.4	
comp=Z,3.1nm,1.1s							
SCRK	**Sand Creek**	**81.82**	**4**	P	**P**	**11 24 06.0**	**+1.0**
SCRK				IAmb	IAmb	11 24 22.0	
comp=Z,7.3nm,1.4s							
BCAR	**Beaver Creek A**	**82.85**	**3**	P	**P**	**11 24 11.6**	**+1.2**
L27K	**Beaver Creek,**	**82.85**	**3**	P	**P**	**11 24 11.1**	**+0.8**
L27K				IAmb	IAmb	11 24 41.9	
comp=Z,5.0nm,1.4s							

TEH 27 11:23:01.1, 36°.62N×52°.97E, h19km±26km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IALA	**Alasht**	**0.55**	**194**	Pg	Pg	11 23 12.6	+0.3
IALA				Sg	Sg	11 23 20.3	+0.5
IPRN	**Peran**	**0.63**	**234**	Pg	Pg	11 23 13.9	+0.1
IGLO	**Ghaloghah**	**0.70**	**99**	Pg	Pg	11 23 15.0	0.0
IKIA	**Kiasar**	**0.71**	**125**	Pg	Pg	11 23 15.3	+0.2
IFIR	**Firoozkooh**	**0.99**	**190**	Pg	Pn	11 23 20.3	+0.1
MZPU	**Pul - Mazandar**	**1.14**	**261**	Pg	Pg	11 23 23.1	-0.2
ILAS	**Lasjerd**	**1.23**	**180**	Pg	Pb	11 23 24.4	+0.5
IDMV	**Damavand**	**1.29**	**216**	Pg	Pb	11 23 25.4	+0.6
IANJ	**Anjilo**	**1.38**	**146**	Pg	Pb	11 23 26.6	+0.2
KLST	**Kelardasht - M**	**1.54**	**267**	Pg	Pb	11 23 29.6	+0.4
TEHA	**Amirabad Tehra**	**1.55**	**236**	Pg	Pg	11 23 30.3	-0.7
TEH	**Tehran**	**1.56**	**236**	Pg	Pg	11 23 30.3	-0.9
IHSB	**Hasanabad**	**1.81**	**230**	Pn	Pb	11 23 34.7	+1.0
IVRN	**Varamin**	**1.91**	**212**	Pn	Pb	11 23 35.0	-0.4
IMND	**Minoodasht**	**2.05**	**71**	Pn	Pb	11 23 35.7	+1.1
IGZV	**Ghazvin**	**2.23**	**265**	Pn	Pb	11 23 39.4	-1.5
ISFB	**Sefidab**	**2.34**	**195**	Pn	Pb	11 23 41.0	-1.7
IQOM	**Qom**	**2.35**	**222**	Pn	Pb	11 23 41.4	-1.6
JIR1	**Jirandeh**	**2.55**	**273**	Pn	Pn	11 23 43.4	+1.9
MRVT	**Maraveh tapeh**	**2.70**	**66**	Pn	Pn	11 23 44.7	+1.2
KRSH	**Karshahi**	**2.73**	**195**	Pn	Pn	11 23 46.5	+2.4
QAMS	**Qamsar**	**3.15**	**205**	Pn	Pn	11 23 51.9	+2.0
ANAR	**Anarak**	**3.48**	**169**	Pn	Pn	11 23 56.6	+2.4
IKLH	**Kolahrood**	**3.48**	**200**	Pn	Pn	11 23 56.8	+2.3
IZEF	**Zefreh**	**3.75**	**188**	Pn	Pn	11 24 00.6	+2.4
TAPT	**Tabas- Tapeh t**	**3.82**	**116**	Pn	Pn	11 24 01.6	+2.7
ISFR	**Sfrayin**	**4.06**	**82**	Pn	Pn	11 24 04.8	+2.5
TKDS	**Koohdasht(Taba**	**4.53**	**130**	Pn	Pn	11 24 11.2	+2.4
GRMI	**Germi**	**4.58**	**300**	Pn	Pn	11 24 10.8	+1.4
IEMG	**Emamgholi**	**4.62**	**78**	Pn	Pn	11 24 12.3	+2.2
TPRV	**Parvadeh(Tabas**	**4.71**	**138**	Pn	Pn	11 24 13.5	+2.3
IHRS	**Heris**	**5.01**	**292**	Pn	Pn	11 24 17.4	+2.0
AFRZ	**Afriz**	**5.89**	**121**	Pn	Pn	11 24 29.9	+2.4
IMRD	**Marand**	**6.13**	**292**	Pn	Pn	11 24 32.9	+2.1

*JMA **27** 11:25:49.0±0.1, 24°.7N±0°.6×121°.8E±0°.4, h86km±1km, MV3.5/15, TAIWAN REGION*
*TAP **27** 11:25:49.9, 24°.70N×121°.84E, h84km, ML4.0, B*
ISC 27 11:25:49.5±1.2, 24°.74N±0°.03×121°.85E±0°.02, h89km±5km, n128, σ0°72/220, 20C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan**	**0.09**	**286**	P	**Pn**	**11 26 02.9**	**+0.8**
ILA				S	**Sn**	**11 26 12.2**	**+0.8**
TWC	**Suao**	**0.13**	**178**	⇓*i*P	**Pn**	**11 26 02.5**	**+0.4**
TWC				*i* S	**Sn**	**11 26 11.7**	**+0.2**
EGS		**0.13**	**37**	P	**Pn**	**11 26 02.4**	**+0.3**
NDS	**Dongshan**	**0.16**	**228**	P	**Pn**	**11 26 03.0**	**+0.7**
NDS				S	**Sn**	**11 26 12.5**	**+0.9**
TWE	**Neicheng**	**0.16**	**263**	P	**Pn**	**11 26 02.8**	**+0.5**
TWE				S	**Sn**	**11 26 12.4**	**+0.7**
ESAO	**Su ao**	**0.16**	**180**	P	**Pn**	**11 26 02.6**	**+0.4**
ESAO				S	**Sn**	**11 26 11.8**	**+0.1**
TIPB	**Shuangxi**	**0.23**	**356**	⇓*i*P	**Pn**	**11 26 02.8**	**+0.2**
TIPB				*i* S	**Sn**	**11 26 11.8**	**-0.4**
FUSB	**Fushanzhiwuyua**	**0.23**	**275**	⇑*i*P	**Pn**	**11 26 02.8**	**+0.2**
FUSB				*i* S	**Sn**	**11 26 11.8**	**-0.5**
ENTT	**Nioudou**	**0.27**	**249**	⇑*i*P	**Pn**	**11 26 03.1**	**+0.4**
ENTT				*i* S	**Sn**	**11 26 12.6**	**+0.1**
TWB1	**Santiao Chiao**	**0.30**	**26**	P	**Pn**	**11 26 02.9**	**+0.1**
TWB1				S	**Sn**	**11 26 12.1**	**-0.5**
EWUT	**Wuta**	**0.30**	**192**	P	**Pn**	**11 26 03.0**	**+0.1**
EWUT				S	**Sn**	**11 26 12.8**	**+0.1**
NWLT	**Wulai**	**0.31**	**277**	⇑*i*P	**Pn**	**11 26 02.9**	**0.0**
NWLT				S	**Sn**	**11 26 12.0**	**-0.8**
ENA	**Nanau**	**0.33**	**197**	⇑*i*P	**Pn**	**11 26 03.1**	**+0.2**
ENA				S	**Sn**	**11 26 13.3**	**+0.4**
NWF	**Wu-fen Shan**	**0.33**	**350**	⇓*i*P	**Pn**	**11 26 03.4**	**+0.2**
NWF				S	**Sn**	**11 26 12.8**	**-0.4**
WFSB	**Wu-fen Shan**	**0.33**	**350**	⇓*i*P	**Pn**	**11 26 03.4**	**+0.3**
WFSB				S	**Sn**	**11 26 12.9**	**-0.2**
TWA	**Mucha**	**0.34**	**315**	*e*S	**Sn**	**11 26 10.4**	**-2.7**
SXI1	**Grass Mountain**	**0.35**	**4**	P	**Pn**	**11 26 03.2**	**-0.1**
SXI1				*e*S	**Sn**	**11 26 12.5**	**-0.9**
NHY	**Taipei**	**0.39**	**320**	*e*P	**Pn**	**11 26 03.8**	**+0.4**
NHY				*e*S	**Sn**	**11 26 14.0**	**+0.4**
EAHA	**Aohua**	**0.42**	**193**	P	**Pn**	**11 26 03.5**	**-0.1**
EAHA				S	**Sn**	**11 26 13.7**	**-0.2**
TAP	**Taipei**	**0.43**	**314**	P	**Pn**	**11 26 03.6**	**+0.1**
TAP				S	**Sn**	**11 26 14.0**	**-0.1**
YHNB	**Yeheng**	**0.43**	**261**	⇑*i*P	**Pn**	**11 26 03.6**	**-0.1**
YHNB				S	**Sn**	**11 26 13.0**	**-1.3**
NSK	**Sanguang**	**0.45**	**262**	⇑*i*P	**Pn**	**11 26 03.6**	**-0.2**
NSK				*i* S	**Sn**	**11 26 13.5**	**-1.0**
YM01	**YM01**	**0.47**	**328**	⇓P	**Pn**	**11 26 04.3**	**+0.3**
YM01				S	**Sn**	**11 26 14.9**	**+0.1**
EOS2	**EOS2**	**0.48**	**132**	P	**Pn**	**11 26 04.4**	**+0.6**
EOS2				*e*S	**Sn**	**11 26 15.4**	**+1.0**
YM08	**YM08**	**0.50**	**333**	P	**Pn**	**11 26 04.2**	**-0.1**
YM08				S	**Sn**	**11 26 14.6**	**-0.5**
NNSB	**Datong**	**0.52**	**234**	⇑*i*P	**Pn**	**11 26 04.7**	**+0.2**
NNSB				S	**Sn**	**11 26 15.3**	**-0.3**
NNS	**Nan Shan**	**0.52**	**235**	⇑*i*P	**Pn**	**11 26 04.7**	**+0.2**
NNS				S	**Sn**	**11 26 14.7**	**-0.9**
TWS1	**Kuangyinshan**	**0.53**	**313**	⇑*i*P	**Pn**	**11 26 03.9**	**-0.4**
TWS1				*i* S	**Sn**	**11 26 15.2**	**-0.2**
ANP	**Anpu**	**0.53**	**326**	P	**Pn**	**11 26 04.6**	**0.0**
ANP				S	**Sn**	**11 26 15.6**	**0.0**
NTST	**Danshui**	**0.56**	**320**	*e*P	**Pn**	**11 26 05.1**	**+0.5**
NTST				S	**Sn**	**11 26 17.0**	**+1.2**
TWY	**Chenhua**	**0.58**	**337**	P	**Pn**	**11 26 05.3**	**+0.5**
TWY				S	**Sn**	**11 26 16.5**	**+0.4**
NACB	**Ninganchiao**	**0.61**	**202**	P	**Pn**	**11 26 04.3**	**-0.8**
NACB				*e*S	**Sn**	**11 26 15.9**	**-0.7**
KSHI	**Guanxi Townshi**	**0.61**	**274**	P	**Pn**	**11 26 05.3**	**+0.3**
KSHI				S	**Sn**	**11 26 16.3**	**-0.4**
ETL	**Fush Village**	**0.61**	**199**	P	**Pn**	**11 26 04.4**	**-0.7**
ETL				*e*S	**Sn**	**11 26 16.3**	**-0.5**
EOS3	**EOS3**	**0.62**	**136**	⇓*i*P	**Pn**	**11 26 05.7**	**+0.6**
EOS3				*e*S	**Sn**	**11 26 17.5**	**+0.9**
ETLH	**Xiulin Townshi**	**0.63**	**212**	P	**Pn**	**11 26 04.9**	**-0.4**
ETLH				S	**

ECS	**Chishang**	**1.73**	**199**	*e*P	**Pn**	**11 26 17.9**	**-0.3**
ECS				*e*S	**Sn**	**11 26 40.0**	**0.0**
IRIF	**Iriomote-Funau**	**1.76**	**103**	*i* P	**Pn**	**11 26 18.4**	**-0.2**
IRIF				S	**Sn**	**11 26 39.9**	**-0.8**
CHY	**Chiayi**	**1.79**	**227**	*e*P	**Pn**	**11 26 19.2**	**+0.2**
CHY				*e*S	**Sn**	**11 26 41.7**	**+0.3**
CHN4	**Tsaushan**	**1.79**	**220**	*e*P	**Pn**	**11 26 19.9**	**+0.8**
CHN4				*e*S	**Sn**	**11 26 43.0**	**+1.6**
TPUB	**Ta-pu**	**1.81**	**218**	*e*P	**Pn**	**11 26 19.8**	**+0.5**
TPUB				*e*S	**Sn**	**11 26 42.8**	**+0.9**
STYH	**Taoyuan**	**1.84**	**212**	*e*P	**Pn**	**11 26 20.8**	**+1.1**
WSF	**Szhu**	**1.84**	**234**	*e*P	**Pn**	**11 26 19.6**	**0.0**
WSF				*e*S	**Sn**	**11 26 42.7**	**+0.2**
WTP	**Ta-pu**	**1.87**	**217**	*e*P	**Pn**	**11 26 20.4**	**+0.4**
HATJ	**Hateruma jima**	**1.91**	**110**	*e*P	**Pn**	**11 26 20.7**	**+0.2**
HATJ				*e*S	**Sn**	**11 26 44.3**	**-0.2**
TWK	**Hsinying**	**1.92**	**221**	*e*P	**Pn**	**11 26 21.4**	**+0.6**
LONT	**Longtian**	**1.94**	**200**	*e*P	**Pn**	**11 26 19.9**	**-1.1**
LONT				*e*S	**Sn**	**11 26 44.9**	**+0.1**
CHN1	**Nanshi**	**1.96**	**218**	P	**Pn**	**11 26 21.6**	**+0.4**
CHN1				*e*S	**Sn**	**11 26 45.4**	**0.0**
ICHU	**Yijhu**	**1.98**	**227**	*e*P	**Pn**	**11 26 21.9**	**+0.4**
SGST	**Jiashian**	**2.02**	**215**	*e*P	**Pn**	**11 26 21.5**	**-0.4**
SGST				*e*S	**Sn**	**11 26 46.0**	**-0.6**
JKRS	**Kuro-shima**	**2.03**	**104**	P	**Pn**	**11 26 22.4**	**+0.3**
JKRS				S	**Sn**	**11 26 47.0**	**0.0**
TWG	**Pinlang**	**2.04**	**200**	*e*P	**Pn**	**11 26 20.6**	**-1.6**
CHN8	**Yiju**	**2.04**	**227**	*e*P	**Pn**	**11 26 22.6**	**+0.4**
CHN8				*e*S	**Sn**	**11 26 48.0**	**+0.9**
LDUT	**Ludao**	**2.09**	**190**	*e*P	**Pn**	**11 26 21.6**	**-1.3**
JIJ	**Ishigaki jima**	**2.13**	**100**	P	**Pn**	**11 26 23.3**	**0.0**
JIJ				S	**Sn**	**11 26 47.9**	**-1.3**
MATB	**Ma-tsu**	**2.22**	**310**	*e*P	**Pn**	**11 26 24.0**	**-0.6**
SCST	**Cishan**	**2.22**	**214**	*e*P	**Pn**	**11 26 25.6**	**+0.9**
JISG	**Ishigakijimahi**	**2.25**	**93**	P	**Pn**	**11 26 25.1**	**+0.2**
JISG				S	**Sn**	**11 26 51.7**	**-0.4**
ECL	**Taimali**	**2.29**	**201**	*e*P	**Pn**	**11 26 25.0**	**-0.5**
TSMG	**Majia**	**2.31**	**209**	*e*P	**Pn**	**11 26 26.6**	**+0.8**
TWM1	**Shoushan**	**2.31**	**215**	*e*P	**Pn**	**11 26 27.3**	**+1.4**
MASBT	**Mashibuluo**	**2.39**	**208**	*e*P	**Pn**	**11 26 28.0**	**+1.1**
MASBT				*e*S	**Sn**	**11 26 55.9**	**+0.4**
PHUB	**P'eng-hu**	**2.41**	**240**	*e*P	**Pn**	**11 26 26.2**	**-0.9**
PHUB				*e*S	**Sn**	**11 26 53.5**	**-2.4**
PTMZ	**Houxiangcun**	**2.49**	**277**	*e*P	**Pn**	**11 26 27.9**	**-0.3**
EAST	**Anshuo**	**2.52**	**202**	*e*P	**Pn**	**11 26 30.2**	**+1.6**
TAWH	**Dawu Township**	**2.55**	**200**	*e*P	**Pn**	**11 26 28.4**	**-0.5**
JTJ	**Tarama**	**2.60**	**92**	P	**Pn**	**11 26 30.4**	**+0.8**
JTJ				*e*S	**Sn**	**11 27 01.0**	**+0.5**
LYJJ	**Jianjiangzhen**	**2.61**	**314**	*e*P	**Pn**	**11 26 29.4**	**-0.4**
SCZT	**Fangliau**	**2.61**	**206**	*e*P	**Pn**	**11 26 30.4**	**+0.6**
JIRB	**Irabujima**	**3.03**	**88**	*e*P	**Pn**	**11 26 36.1**	**+0.7**
JIRB				*e*S	**Sn**	**11 27 10.6**	**-0.1**
KNMB	**Chin-men Tao**	**3.16**	**266**	*e*P	**Pn**	**11 26 36.9**	**-0.2**
JMJ2	**Miyako jima3**	**3.17**	**89**	*e*P	**Pn**	**11 26 38.3**	**+1.0**
JMJ2				S	**Sn**	**11 27 13.9**	**-0.2**

*AEIC **27** 11:27:12.8±1.2,52.°9N±0.°1×164.°4W±0.°1, h8km±8km, Error ellipse: s-maj=17.2km s-min=8.7km az=162.0*

NEIC 27 11:27:09.2±2.1,53.°03N±0.°07×164.°53W±0.°05, h10km±2km, ML3.4/6, ML3.2(AEIC), Error ellipse: s-maj=13.0km s-min=4.7km az=166.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**1.31**	**328**		Pn	11 27 33.4	0.0
AKSA					Sb	11 27 49.5	-1.1
AHB	**Akutan Harbor**	**1.33**	**325**		Pb	11 27 34.2	0.0
AHB					Sn	11 27 51.7	+0.1
AKBBA	**Akutan Broad B**	**1.36**	**322**		Pb	11 27 34.6	-0.1
AKBBA					Sb	11 27 51.5	-0.5
AKRB	**Akutan Reef Bi**	**1.43**	**321**		Pb	11 27 35.8	-0.2
UNV	**Unalaska Valle**	**1.44**	**305**		Pb	11 27 35.7	-0.3
UNV	**Unalaska Valle**	**1.44**	**305**		Sn	11 27 52.9	-1.2
LVA	**Lava Point**	**1.44**	**322**	Pn	Pn	11 27 35.7	+0.3
LVA				IAML		11 28 00.4	
	comp=N,603nm,0.6s						
LVA				IAML		11 28 01.7	
	comp=E,374nm,0.7s						
AKGG	**Akutan Green G**	**1.46**	**324**		Pb	11 27 36.3	-0.1
WECS	**Westdahl Cape**	**1.51**	**354**		Pn	11 27 36.4	+0.1
WEBT	**Westdahl Beart**	**1.57**	**355**		Pn	11 27 37.4	+0.3
WEBT					Sb	11 27 57.9	-0.3
MGOD	**Makushin Gods**	**1.60**	**299**		Pb	11 27 38.4	-0.4
MSW	**Makushin Switc**	**1.61**	**304**		Pb	11 27 38.5	-0.5
MAPS	**Pakushin South**	**1.64**	**299**		Pb	11 27 38.9	-0.6
SSLS	**Shishaldin Sou**	**1.71**	**10**		Pn	11 27 39.2	0.0
ISLZ	**Isanotski Laza**	**1.76**	**16**		Pn	11 27 39.7	-0.1
ISLZ					Sn	11 28 01.1	-1.2
ISNN	**Isanotski Nort**	**1.86**	**14**		Pn	11 27 41.8	+0.7
FALS	**False Pass**	**1.94**	**19**		Pn	11 27 42.5	+0.3
S12K	**Black Hills**	**3.04**	**27**	Pn	Pn	11 27 57.1	-0.2
S12K				IAML		11 28 53.9	
	comp=E,82nm,1.1s						
CHGN	**Chignik**	**4.83**	**45**	Pn	Pn	11 28 20.9	-0.9
CHGN				IAML		11 29 08.9	
	comp=N,96nm,0.1s						
ACHA	**Angle Creek He**	**7.35**	**41**	Pn	Pn	11 28 55.2	-1.3
O16K	**Kokwok River B**	**7.48**	**26**	Pn	Pn	11 28 56.5	-1.7
ADK	**Adak**	**7.52**	**266**	Pn	Pn	11 28 57.0	-1.7
N15K	**Kwethluk River**	**7.56**	**17**	Pn	Pn	11 28 58.5	-0.8
OHAK	**Old Harbor**	**7.69**	**52**	Pn	Pn	11 28 59.3	-1.7
L14K	**Kuka Creek**	**8.39**	**6**	Pn	Pn	11 29 09.3	-1.3
N17K	**Nushagak Hills**	**8.52**	**25**	Pn	Pn	11 29 11.2	-1.3
L16K	**Owhat River**	**9.12**	**15**	Pn	Pn	11 29 20.1	-0.5
K15K	**Wolf Creek Mou**	**9.42**	**9**	Pn	Pn	11 29 24.0	-0.9
J17K	**VABM Dome**	**10.78**	**13**	Pn	Pn	11 29 43.4	+0.1
TTA	**Tatalina**	**10.89**	**21**	Pn	Pn	11 29 43.5	-1.5
K20K	**Telida**	**11.71**	**24**	Pn	Pn	11 29 56.1	0.0
BPAW	**Bear Paw Mtn.**	**13.11**	**27**	Pn	Pn	11 30 15.2	-0.1
KLU	**Klutina**	**13.12**	**42**	Pn	Pn	11 30 13.6	-1.8
M24K	**Tolsona, Glenn**	**13.35**	**40**	Pn	Pn	11 30 17.6	-1.0
IMAR	**Indian Mountai**	**14.06**	**18**	Pn	Pn	11 30 26.7	-1.5

*SDD **27** 11:30:44.6±1.7, 17.°90N×71.°43W, h31km±15km, MD2.9, ML1.9, MW2.6*
*OSPL **27** 11:30:46.7±0.6, 18.°04N×71.°08W, h26km±2km, ML1.7*

ISC 27 11:30:46.8±1.1, 18.°06N±0.°05×71.°25W±0.°06, h28km±6km, n9, σ1°09/16, 5C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PODR	**Polo**	**0.11**	**342⇑**	*e*Pg	**Pb**	**11 30 52.1**	**-0.1**
PODR			⇑	*e*Sg	**Sb**	**11 30 56.7**	**+0.8**
PODR				IAML		11 30 57.4	
	comp=N,229nm,0.3s						
PODR	**Polo**	**0.11**	**342**	*i* P	**Pb**	**11 30 51.8**	**-0.4**
PODR				*e*S	**Sb**	**11 30 55.8**	**-0.1**
PODR				IAML		11 30 56.3	
	comp=Z,189nm,0.2s						
LOVI	**El Cajuil, Ovi**	**0.29**	**204**	*i* P	**Pn**	**11 30 54.2**	**-0.9**
LOVI				*e*S	**Sb**	**11 30 59.6**	**+0.8**
LOVI				IAML		11 31 00.2	
	comp=Z,57nm,1.2s						
LODU1	**El Espartillar**	**0.36**	**323**	*i* P	**Pn**	**11 30 55.8**	**-0.4**
LODU1				*e*S	**Sn**	**11 31 03.0**	**+0.6**
LODU1				IAML		11 31 04.2	
	comp=Z,70nm,1.3s						
LOBH	**Bahia de las A**	**0.42**	**242**	*i* P	Pn	11 30 57.1	+0.1
LOBH				*e*S	Sn	11 31 05.1	+1.2
LOBH				IAML		11 31 10.8	
	comp=Z,55nm,1.6s						
LONE3	**El Aguacate, B**	**0.58**	**339**	*i* P	**Pb**	**11 30 58.8**	**+0.3**
LONE3				*e*S	**Sb**	**11 31 08.2**	**+1.7**
LONE3				IAML		11 31 09.9	
	comp=Z,17nm,0.6s						
BANI	**BANI**	**0.90**	**69⇑**	*e*Pg	**Pn**	**11 31 04.0**	**+0.2**
BANI				IAML		11 31 16.3	
	comp=N,45nm,1.5s						
BANI			⇑	*e*Sg	**Sn**	**11 31 16.6**	**+0.7**
SDDR	**Presa de Saban**	**0.92**	**357⇑**	*e*Pg	**Pn**	**11 31 02.0**	**-1.8**
SDDR				*e*Sg	**Sn**	**11 31 16.1**	**0.0**
SDDR				IAML		11 31 34.7	
	comp=N,13nm,2.8s						
ABDR	**Alto Bandera**	**0.95**	**38**	*e*Pg	**Pn**	**11 31 02.6**	**-1.9**
ABDR			⇓	*e*Sg	**Sn**	**11 31 18.2**	**+0.9**
ABDR				IAML		11 31 36.1	
	comp=N,19nm,2.1s						

*IDC **27** 11:31:55.1±3.9, 36.°41N×71.°04E, h211km±33km, mb3.3/10, mbtmp3.9/16, Error ellipse: s-maj=27.5km s-min=16.7km az=20.0*
*NEIC **27** 11:31:58.4±1.5, 36.°69N±0.°07×70.°95E±0.°09, h227km±6km, mb4.3/38, Error ellipse: s-maj=11.0km s-min=9.4km az=75.0*

ISC 27 11:31:56.1±0.6, 36.°68N±0.°05×71.°04E±0.°06, h200km, n83, σ1°62/87, mb4.2/31, 2C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.39**	**346**	Pn	**Pn**	**11 32 42.3**	**+3.4**
GAR				Sn	**Sn**	**11 33 14.5**	**+2.1**
SIMJ	**Simiganj**	**2.55**	**322**	Pn	**Pn**	**11 32 43.5**	**+2.8**
KBL	**Kabul**	**2.68**	**218**	Pn	**Pn**	**11 32 44.7**	**+2.4**
DRK	**Karamyk**	**2.86**	**12**	Pn	**Pn**	**11 32 48.1**	**+3.7**
BTK	**Batken**	**3.38**	**357**	Pn	**Pn**	**11 32 54.4**	**+4.1**
NIL	**Nilore**	**3.52**	**148**	Pn	**Pn**	**11 32 55.4**	**+3.3**
KSH	**Kashi**	**4.82**	**52**	P	**Pn**	**11 33 06.5**	**-1.8**
KSH				S	Sn	11 33 57.5	-7.6
KSH				pmax	pmax		
	comp=Z,67nm,0.4s						
ARSB	**Arslanbob**	**4.88**	**17**	Pn	**Pn**	**11 33 11.4**	**+2.3**
JMU	**Jammu**	**5.07**	**140**	*e*S	**Sn**	**11 34 10.1**	**-0.7**
JMU				IAML		11 34 12.6	
	comp=N,314nm,0.4s						
THN	**Thein Dam**	**5.73**	**136**	*e*P	**Pn**	**11 33 22.0**	**+2.1**
THN				*e*S	**Sn**	**11 34 28.6**	**+2.5**
DHRM	**DHARAMSHALA**	**6.20**	**134**	*e*P	**Pn**	**11 33 27.8**	**+1.7**
DHRM				*e*S	**Sn**	**11 34 35.6**	**-1.8**
DHRM				IAML		11 34 39.5	
	comp=N,502nm,0.3s						
DHRM				IAML		11 34 39.9	
	comp=E,384nm,0.5s						
KK31	**Karatay Array**	**6.43**	**357**	⇑Pn	**Pn**	**11 33 30.3**	**+1.4**
	comp=E,1.2nm,0.2s,baz=181,slow=12,SNR=29						
KK31				⇑Sn	**Sn**	**11 34 40.3**	**-2.1**
	comp=E,2.2nm,0.3s,baz=177,slow=22,SNR=7.4						
KKAR	**Karatay Array**	**6.43**	**357**	Pn	**Pn**	**11 33 30.7**	**+1.8**
AAK	**Ala-Archa**	**6.52**	**23**	P	**Pn**	**11 33 32.6**	**+2.4**
	comp=E,5.9nm,0.4s,baz=189,slow=6.2,SNR=12						
AAK				S	**Sn**	**11 34 46.0**	**+1.2**
	comp=E,3.6nm,0.4s,baz=314,slow=21,SNR=1.9						
BHK	**Bhakra**	**6.89**	**138**	*ex*	x	11 34 50.8	
BHK				IAML		11 34 52.5	
	comp=E,109nm,0.8s						
SMLA	**Simla**	**7.52**	**136**	*e*P	**Pn**	**11 33 43.8**	**+0.6**
SMLA				*e*S	**Sn**	**11 35 05.5**	**-2.7**
SMLA				IAML		11 35 07.9	
	comp=E,109nm,0.2s						
SMLA				IAML		11 35 08.5	
	comp=N,94nm,0.4s						
HRA	**Herat**	**7.52**	**255**	Pn	**Pn**	**11 33 45.3**	**+1.9**
HNLY	**HANLEY**	**7.60**	**118**	*e*P	**Pn**	**11 33 45.8**	**+1.0**
WUS	**Wushi**	**7.81**	**52**	Pn	**Pn**	**11 33 48.5**	**+1.5**
KLP	**Kalpa**	**7.88**	**129**	*e*P	**Pn**	**11 33 49.0**	**+0.9**
KLP				*e*S	**Sn**	**11 35 13.5**	**-3.7**
KLP				IAML		11 35 15.6	
	comp=E,45nm,0.2s						
KLP				IAML		11 35 16.5	
	comp=N,50nm,0.5s						
KUDL	**Kundal**	**9.67**	**150**	*e*S	Sn	11 35 51.5	-7.9
KUDL				IAML		11 35 53.7	
	comp=N,6.4nm,0.3s						
KUDL				IAML		11 35 53.8	
	comp=E,17nm,0.3s						
MAKZ	**Makanchi**	**12.99**	**35**	Pn	**Pn**	**11 34 53.5**	**+0.1**
MK31	**Makanchi Array**	**13.13**	**36**	Pn	**Pn**	**11 34 56.1**	**+1.0**
MKAR	**Makanchi Array**	**13.13**	**36**	P	**Pn**	**11 34 56.2**	**+1.1**
	comp=E,0.9nm,0.6s,baz=221,slow=16,SNR=5.4						
WMQ	**Urumqi**	**14.57**	**56**	*e*P	**Pn**	**11 35 14.8**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,110nm,0.9s						
ABKAR	**Akbulak array**	**14.94**	**331**	Pn	**Pn**	**11 35 15.8**	**-1.7**
KURBB	**Kurchatov Arra**	**14.95**	**19**	P	**Pn**	**11 35 18.9**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=205,slow=11,SNR=5.3						
KURBB				S	**S**	**11 37 58.2**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=210,slow=32,SNR=1.9						
BVAR	**Borovoye Array**	**16.35**	**359**	P	**P**	**11 35 35.2**	**+1.5**
	comp=Z,1.4nm,0.4s,baz=157,slow=10,SNR=8.4						
BRVK	**Borovoye**	**16.39**	**358**	P	**P**	**11 35 34.4**	**+0.3**
AKTO	**Aktyubinsk**	**16.64**	**330**	P	**P**	**11 35 37.8**	**+0.9**
	comp=Z,5.7nm,0.5s,baz=136,slow=8.3,SNR=15						
ZAA0	**Zalesovo Array**	**19.74**	**25**	P	**P**	**11 36 10.3**	**-0.2**
ZALV	**Zalesovo Beam**	**19.74**	**25**	P	**P**	**11 36 11.0**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=229,slow=10,SNR=7.5						
ARTI	**Arti**	**21.49**	**341**	P	**P**	**11 36 30.1**	**+1.3**
PZH	**PanZhiHua**	**27.95**	**102**	P	**P**	**11 37 29.3**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,90nm,5.1s						
HHC	**Hu-ho-hao-te**	**31.68**	**70**	*e*P	**P**	**11 38 03.3**	**+2.5**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,4.9s						
NACGM	**Naroch**	**35.11**	**316**	*e*P	**P**	**11 38 29.3**	**-0.8**
	comp=E,1μm,1.0s						
FIA1	**FINESS Array S**	**37.35**	**326**	P	**P**	**11 38 49.0**	**0.0**
FINES	**FINESS Array B**	**37.35**	**326**	P	**P**	**11 38 49.0**	**-0.1**
FINES	**FINESS Array B**	**37.35**	**326**	P	**P**	**11 38 49.2**	**+0.1**
	comp=E,1.1nm,0.3s,baz=123,slow=8.9,SNR=13						
	comp=E,1.1nm,0.3s						
ARCES	**ARCESS Array B**	**40.99**	**338**	P	**P**	**11 39 19.3**	**+0.3**
	comp=E,1.1nm,0.5s,baz=111,slow=6.6,SNR=11						
	comp=E,1.1nm,0.5s						
HFS	**Hagfors**	**42.95**	**322**	P	**P**	**11 39 34.6**	**-0.4**
	comp=E,2.3nm,0.6s,baz=98,slow=8.1,SNR=6.8						
	comp=E,2.3nm,0.6s						
NC303	**NORSAR Array S**	**44.20**	**323**	P	**P**	**11 39 43.7**	**-1.2**
NB201	**NORSAR Array S**	**44.22**	**323**	P	**P**	**11 39 44.5**	**-0.6**
NB2	**NORSAR Subarra**	**44.26**	**323**	P	**P**	**11 39 44.4**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**44.26**	**323**	P	**P**	**11 39 44.8**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=104,slow=7.3,SNR=4.5						
	comp=Z,0.7nm,0.5s						
NBO00	**NORSAR Array S**	**44.47**	**323**	P	**P**	**11 39 45.8**	**-1.3**
NBO00				IAmb	IAmb	11 40 22.9	
	comp=Z,12nm,1.1s						
NC204	**NORSAR Array S**	**44.50**	**323**	P	**P**	**11 39 45.6**	**-1.7**
NC204				IAmb	IAmb	11 39 48.6	
	comp=Z,15nm,1.4s						
KSRS	**Korea Array**	**44.80**	**71**	P	P	11 39 47.3	-2.7
	comp=Z,0.8nm,0.6s,baz=301,slow=6.3,SNR=2.8						
	comp=Z,0.8nm,0.6s						
SPB2	**Spitsbergen Ar**	**47.32**	**347**	P	**P**	**11 40 08.2**	**-1.0**
SMRI	**Semarang**	**57.04**	**131**	P	**P**	**11 41 20.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**65.75**	**269**	P	**P**	**11 42 17.0**	**-2.9**
	comp=Z,0.9nm,0.6s,baz=45,slow=5.9,SNR=7.2						
	comp=Z,0.9nm,0.6s						
C19K	**Lookout Ridge**	**68.15**	**17**	P	**P**	**11 42 34.6**	**+0.4**
B22K	**Teshekpuk Lake**	**68.57**	**15**	P	**P**	**11 42 36.9**	**+0.2**
B22K				IAmb	IAmb	11 42 57.8	
	comp=Z,11nm,1.4s						
B21K	**Ikpikpuk River**	**68.89**	**16**	P	**P**	**11 42 39.1**	**+0.4**
D19K	**Kuna River**	**68.97**	**17**	P	**P**	**11 42 39.3**	**0.0**
D19K				IAmb	IAmb	11 42 48.9	
	comp=Z,11nm,1.4s						
C23K	**Itkillik River**	**69.54**	**14**	P	**P**	**11 42 43.1**	**+0.4**
C23K				IAmb	IAmb	11 43 26.7	
	comp=Z,9.5nm,1.4s						
F17K	**Baldwin Pennin**	**69.70**	**20**	P	**P**	**11 42 43.4**	**-0.2**
D22K	**Ayikyak River**	**69.90**	**15**	P	**P**	**11 42 44.3**	**-0.6**
D22K				IAmb	IAmb	11 42 44.9	
	comp=Z,11nm,1.4s						
E21K	**Killik River**	**69.97**	**16**	P	**P**	**11 42 45.0**	**-0.3**
E21K				IAmb	IAmb	11 43 05.4	
	comp=Z,5.6nm,1.4s						
E22K	**Anaktuvuk Pass**	**70.69**	**16**	P	**P**	**11 42 49.5**	**-0.2**
TOLK	**Toolik Lake Re**	**70.75**	**15**	P	**P**	**11 42 50.2**	**+0.1**
TOLK				IAmb	IAmb	11 43 28.6	
	comp=Z,8.2nm,1.5s						
G19K	**Purcell Mounta**	**71.03**	**19**	P	**P**	**11 42 51.1**	**-0.7**
G19K				IAmb	IAmb	11 43 19.9	
	comp=Z,8.8nm,1.4s						
F21K	**Alatna River**	**71.06**	**17**	P	**P**	**11 42 51.8**	**-0.2**
F21K				IAmb	IAmb	11 43 10.2	
	comp=Z,6.6nm,1.4s						
G21K	**Allakaket**	**71.62**	**17**	P	**P**	**11 42 54.6**	**-0.7**
G21K				IAmb	IAmb	11 43 30.8	
	comp=Z,9.0nm,1.5s						
IMAR	**Indian Mountai**	**72.00**	**18**	P	**P**	**11 42 56.6**	**-0.9**
BMAR	**Burnt Mountain**	**72.76**	**14**	P	**P**	**11 43 00.9**	**-1.2**
H23K	**Yukon River**	**73.11**	**16**	P	**P**	**11 43 04.6**	**+0.4**
H23K				IAmb	IAmb	11 43 45.1	
	comp=Z,6.6nm,1.5s						
C36M	**Paulatuk**	**73.70**	**6**	P	**P**	**11 43 06.9**	**-0.5**
BPAW	**Bear Paw Mtn.**	**74.22**	**18**	P	**P**	**11 43 09.9**	**-0.7**
BPAW				IAmb	IAmb	11 43 40.3	
	comp=Z,7.5nm,1.4s						
F31M	**Tsiigehtchic**	**74.51**	**10**	P	**P**	**11 43 12.1**	**-0.1**
F31M				IAmb	IAmb	11 43 24.7	
	comp=Z,10.0nm,1.5s						
G30M	**tAoh Zraii Nji**	**74.59**	**11**	P	**P**	**11 43 13.1**	**+0.4**
G30M				IAmb	IAmb	11 43 37.6	
	comp=Z,7.8nm,1.4s						
ILAR	**Eielson Array**	**74.60**	**16**	P	**P**	**11 43 12.8**	**+0.1**
ILAR	**Eielson Array**	**74.60**	**16**	P	**P**	**11 43 11.8**	**-1.0**
	comp=Z,0.6nm,1.0s,baz=312,slow=3.2,SNR=4.5						
	comp=Z,0.6nm,1.0s						
G31M	**Satah River**	**74.93**	**10**	P	**P**	**11 43 14.1**	**-0.5**
G31M				IAmb	IAmb	11 43 32.4	
	comp=Z,7.8nm,1.5s						
H29M	**Whitestone**	**74.95**	**12**	P	**P**	**11 43 15.0**	**+0.2**
H29M				IAmb	IAmb	11 43 47.6	
	comp=Z,8.1nm,1.4s						
I28M	**Miner Creek**	**75.39**	**13**	P	**P**	**11 43 17.1**	**-0.3**
J26L	**Joseph Creek**	**75.54**	**15**	P	**P**	**11 43 17.9**	**-0.4**
J26L				IAmb	IAmb	11 43 29.6	
	comp=Z,5.9nm,1.5s						
H31M	**Peel River**	**75.97**	**10**	P	**P**	**11 43 20.2**	**-0.3**
H31M				IAmb	IAmb	11 43 34.8	
	comp=Z,8.3nm,1.5s						
DAWY	**Dawson**	**76.74**	**13**	P	**P**	**11 43 24.7**	**-0.3**
BCAR	**Beaver Creek A**	**77.19**	**15**	P	**P**	**11 43 27.8**	**+0.3**
YKA	**Yellowknife Ar**	**81.07**	**3**	P	**P**	**11 43 47.6**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=317,slow=2.2,SNR=5.7						
	comp=Z,0.2nm,0.5s						
WRA	**Warramunga Arr**	**82.06**	**122**	P	P	11 43 52.0	-2.3
	comp=Z,0.4nm,0.7s,baz=304,slow=3.3,SNR=2.1						
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	**84.33**	**125**	P	**P**	**11 44 03.9**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=307,slow=4.3,SNR=4.6						
	comp=Z,0.6nm,0.7s						

*IDC **27** 11:33:48.2±3.8, 8.°81N×94.°40E, h95km±34km, mb3.3/9, mbtmp3.7/11, MS3.4/15, Error ellipse: s-maj=41.4km s-min=15.7km az=66.0*

ISC 27 11:33:48.6±0.8, 8.°8N±0.°1×94.°4E±0.°2, h100km, n24, σ0°47/14, mb3.6/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**7.51**	**143**	P	**Pn**	**11 35 36.2**	**+0.6**
	5.2nm,0.5s,baz=347,slow=14,SNR=2.4						
PSI				LR	LR	11 38 57.1	
	comp=Z,552nm,19.2s,baz=307,slow=41						
CMAR	**Chiang Mai Arr**	**10.54**	**24**	P	**Pn**	**11 36 16.3**	**-0.4**
	1.0nm,0.4s,baz=214,slow=14,SNR=11						
CMAR				LR	LR	11 40 41.0	
	comp=Z,120nm,18.3s,baz=215,slow=39						
H08S3	**Diego Garcia H**	**27.27**	**234**	T	T	12 06 20.0	
	baz=53,slow=76,SNR=20						
H08S2	**Diego Garcia H**	**27.28**	**234**	T	T	12 06 07.3	
	baz=53,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**27.29**	**234**	T	T	12 06 10.7	
	baz=53,slow=76,SNR=6.1						
BATI	**Baumata**	**34.74**	**122**	LR	LR	11 54 54.4	
	comp=Z,106nm,20.7s,baz=304,slow=36						
WSAR	**Wadi Sarin**	**37.10**	**297**	LR	LR	11 56 57.9	
	comp=Z,48nm,18.5s,baz=144,slow=37						
AAK	**Ala-Archa**	**37.93**	**336**	LR	LR	11 57 59.4	
	comp=Z,107nm,21.2s,baz=152,slow=38						
MKAR	**Makanchi Array**	**39.21**	**347**	P	**P**	**11 41 07.2**	**+0.1**
	0.8nm,0.8s,baz=171,slow=9.4,SNR=4.0						
MKAR				LR	LR	12 00 01.5	
	comp=Z,22nm,18.9s,baz=186,slow=40						
	0.8nm,0.8s						
SONM	**Songino Array**	**40.18**	**13**	P	**P**	**11 41 15.8**	**+0.6**
	0.3nm,0.7s,baz=189,slow=8.2,SNR=2.0						
SONM				L

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCUF	**Volcan Galeras**	**2.77**	**196**	P	Pn	11 41 05.5	-1.1
GCUF				S	Sn	11 41 37.6	-2.6
VILC	**Villavicencio,**	**2.87**	**86**	P	Pn	11 41 08.0	+0.5
VILC				S	Sn	11 41 41.0	-0.9
CHIC	**Chingaza**	**2.91**	**75**	P	Pn	11 41 08.9	+0.6
CHIC				S	Sn	11 41 43.8	+0.4
PTBC	**PUERTO BERRIO,**	**3.36**	**39**	P	Pn	11 41 13.4	-0.4
PTBC				S	Sn	11 41 51.4	-1.9
RUSC	**La Rusia**	**3.99**	**60**	P	Pn	11 41 23.7	+1.0
OTAV	**Otavalo**	**4.10**	**207**	P	Pn	11 41 21.9	-2.2
OTAV				S	Sn	11 42 09.2	-2.4
PAC1	**Pacto, Paraso**	**4.24**	**212**	P	Pn	11 41 22.0	-3.8
PAC1				S	Sn	11 42 07.9	-6.7
PAMC	**Pamplona, Colo**	**5.14**	**48**	P	Pn	11 41 38.8	+0.7
PAMC				S	Sn	11 42 34.4	-2.3
BCIP	**Isla Barro Col**	**6.16**	**328**	P	Pn	11 41 51.3	-0.2
BCIP				S	Sn	11 42 59.2	-1.5

*IDC **27** 11:44:16.8±0.6, 5°.42S×76°.58W, h0km, mb4.0/9, mbtmp4.0/14, ML3.6/5, MS3.4/9, Error ellipse: s-maj=23.1km s-min=13.9km az=67.0*
*VAO **27** 11:44:38.3±0.5, 5°.89S×75°.42W, h95km±4km, mb4.2*
ISC 27 11:44:21.7±0.5, 5°.47S±0°.06×76°.63W±0°.07, h35km, n64, σ1§42/60, **mb4.0**/10, **MS3.2**/4, **3C, Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.41**	**227**	Pn	**Pn**	**11 44 59.9**	**+0.9**
ATAH	15nm,0.3s,baz=43,slow=16,SNR=52			Sn	**Sn**	**11 45 27.9**	**+0.4**
	112nm,0.3s,baz=52,slow=19,SNR=19						
	119nm,0.5s						
CZSB	**Cruzeiro do Su**	**4.50**	**120**	*eP*	**Pn**	**11 45 27.9**	**+0.4**
OTAV	**Otavalo**	**5.95**	**342**	*eP*	Pn	11 46 16.3	+28
NNA	**Nana**	**6.48**	**182**	Pn	**Pn**	**11 45 54.9**	**+0.2**
	2.8nm,0.3s,baz=358,slow=12,SNR=8.4						
NNA				Sn	**Sn**	**11 47 04.4**	**-3.1**
	8.0nm,0.3s,baz=284,slow=23,SNR=7.1						
	15nm,0.4s						
TBTG	**Tabatinga, AM**	**6.82**	**80**	*eP*	**Pn**	**11 46 01.9**	**+2.6**
ROSC	**El Rosal**	**10.50**	**13**	Pn	Pn	11 46 57.3	+7.1
	3.0nm,0.3s,baz=86,slow=19,SNR=2.1						
ROSC				Lg	Lg	11 49 48.6	
	2.2nm,0.3s,baz=194,slow=23,SNR=1.4						
ROSC				LR	LR	11 52 05.9	
	comp=Z,458nm,18.6s,baz=190,slow=45						
ETMB	**Extrema**	**11.19**	**113**	*eP*	**Pn**	**11 46 58.7**	**-0.7**
LPAZ	**La Paz**	**13.61**	**143**	Pn	**Pn**	**11 47 31.9**	**-0.9**
	0.2nm,0.3s,baz=345,slow=15,SNR=4.6						
LPAZ				Sn	**Sn**	**11 50 09.8**	**+6.6**
	0.1nm,0.3s,baz=332,slow=15,SNR=1.5						
LPAZ				Lg	Lg	11 51 31.0	
	0.2nm,0.3s,baz=350,slow=12,SNR=1.7						
LPAZ				LR	LR	11 54 03.9	
	comp=Z,121nm,19.1s,baz=286,slow=43						
	2.0nm,0.8s						
LPAZ	**La Paz**	**13.61**	**143**	*eP*	**Pn**	**11 47 33.4**	**+0.5**
SAML	**Samuel**	**13.78**	**105**	*eP*	**Pn**	**11 47 32.1**	**-2.7**
SDV	**Santo Domingo**	**15.46**	**23**	Pn	**Pn**	**11 47 57.3**	**-0.3**
	0.3nm,0.3s,baz=210,slow=20,SNR=1.4						
SDV				Sn	**Sn**	**11 50 48.4**	**+0.5**
	0.5nm,0.3s,baz=216,slow=19,SNR=1.3						
SDV				Lg	Lg	11 52 26.4	
	baz=280,slow=19						
SDV				LR	LR	11 55 15.2	
	comp=Z,166nm,20.1s,baz=330,slow=43						
	1.8nm,0.6s						
SDV	**Santo Domingo**	**15.46**	**23**	*eP*	P	11 48 11.6	+10
JTS	**Las Juntas de**	**17.71**	**332**	LR	LR	11 54 44.8	
	comp=Z,58nm,18.1s,baz=90,slow=36						
BOAV	**Boa Vista**	**17.89**	**65**	*eP*	**P**	**11 48 30.5**	**+2.1**
SIV	**San Ignacio**	**18.50**	**126**	P	**Pn**	**11 48 35.0**	**-0.5**
	baz=307,slow=11,SNR=8.0						
SIV				Lg	Lg	11 54 05.0	
	baz=338,slow=19,SNR=2.1						
	1.5nm,0.6s						
BBSD	**Serra de San D**	**19.53**	**128**	*eP*	**P**	**11 48 45.1**	**-1.4**
PCRV	**Puerto La Cruz**	**19.61**	**38**	LR	LR	11 57 53.3	
	comp=Z,186nm,18.1s,slow=42						
PDRB	**Porto dos Gac**	**20.60**	**109**	*eP*	**P**	**11 48 56.2**	**-1.8**
ITTB	**Itaituba**	**20.85**	**88**	*eP*	**P**	**11 49 00.1**	**-0.7**
NPGB	**Novo Progresso**	**21.21**	**95**	*eP*	**P**	**11 49 03.7**	**-0.9**
SALV	**Santo Antonio**	**23.01**	**118**	*eP*	**P**	**11 49 21.5**	**-2.3**
PANT	**Pantanal (Braz**	**23.69**	**126**	*eP*	**P**	**11 49 30.8**	**+0.3**
BDQN	**Bodoquena, MS**	**24.39**	**129**	*eP*	**P**	**11 49 37.5**	**+0.6**
MURT	**Porto Murtinho**	**24.46**	**133**	*eP*	**P**	**11 49 37.0**	**-0.6**
AQDB	**Aquidauana**	**25.22**	**128**	*eP*	**P**	**11 49 44.8**	**+0.4**
SJG	**San Juan**	**25.61**	**24**	LR	LR	12 01 50.8	
	comp=Z,62nm,18.2s,baz=198,slow=41						
SNDB	**Serra Nova Dou**	**25.85**	**106**	*eP*	**P**	**11 49 50.3**	**0.0**
MDP	**Montagnes des**	**26.16**	**67**	LR	LR	12 01 06.9	
	comp=Z,89nm,19.9s,baz=277,slow=39						
ARAG	**Araguaiana, MT**	**26.40**	**115**	*eP*	**P**	**11 49 55.1**	**-0.1**
AMBA	**Amambai (Brazi**	**27.16**	**132**	*eP*	**P**	**11 50 01.7**	**-0.2**
CPUP	**Villa Florida**	**27.75**	**140**	P	**P**	**11 50 07.3**	**0.0**
	2.2nm,0.7s,baz=322,slow=11,SNR=5.1						
CPUP				LR	LR	12 03 50.0	
	comp=Z,35nm,21.7s,baz=4.0,slow=42						
	2.2nm,0.7s						
CPUP	**Villa Florida**	**27.75**	**140**	*eP*	**P**	**11 50 08.5**	**+1.2**
PTGB	**Pitanga**	**30.37**	**132**	*eP*	**P**	**11 50 31.2**	**+0.5**
IPMB	**Ipameri, GO**	**30.42**	**117**	*eP*	**P**	**11 50 30.6**	**-0.6**
ITQB	**Itaqui**	**30.60**	**144**	*eP*	**P**	**11 50 33.1**	**+0.6**
SDBA	**SAO DESIDERIO**	**32.07**	**105**	*eP*	**P**	**11 50 44.9**	**-0.8**
JANB	**Januaria**	**33.16**	**109**	*eP*	**P**	**11 50 54.6**	**-0.7**
PLTB	**Pedras Altas**	**33.90**	**143**	*eP*	**P**	**11 51 01.6**	**+0.1**
BSCB	**Bom Sucesso**	**34.53**	**120**	*eP*	**P**	**11 51 06.7**	**-0.5**
DIAM	**Diamantina, MG**	**34.60**	**114**	*eP*	**P**	**11 51 07.9**	**0.0**
GDU01	**Guandu, BA**	**37.40**	**105**	*eP*	**P**	**11 51 31.4**	**-0.3**
CMC01	**Camacan, BA**	**37.74**	**108**	*eP*	**P**	**11 51 34.8**	**+0.2**
RPN	**Rapa Nui**	**37.86**	**232**	LR	LR	12 03 11.3	
	comp=Z,92nm,18.6s,baz=108,slow=30						
RIB01	**Linhares ES**	**37.87**	**115**	*eP*	**P**	**11 51 35.5**	**-0.1**
NBLA	**Lagarto - SE**	**38.81**	**101**	*eP*	**P**	**11 51 41.8**	**-1.8**
TXAR	**Lajitas Array**	**43.27**	**325**	P	**P**	**11 52 20.8**	**+0.6**
	0.7nm,0.7s,baz=146,slow=9.4,SNR=11						
TXAR				PcP	**PcP**	**11 54 09.3**	**+0.3**
	0.3nm,0.7s,baz=149,slow=5.1,SNR=3.4						
	0.7nm,0.7s						
PDAR	**Pinedale Array**	**56.55**	**331**	P	**P**	**11 54 02.1**	**+1.1**
	0.1nm,0.4s,baz=130,slow=8.4,SNR=1.8						
	0.1nm,0.4s						
NVAR	**Mina Array Bea**	**58.30**	**322**	P	**P**	**11 54 13.8**	**+0.3**
	1.0nm,0.8s,baz=155,slow=5.6,SNR=5.0						
	1.0nm,0.8s						
YKA	**Yellowknife Ar**	**73.71**	**343**	P	**P**	**11 55 51.2**	**-0.5**
	0.7nm,0.6s,baz=194,slow=9.0,SNR=6.7						
	0.7nm,0.6s						
VNA2	**Neumayer--Watz**	**78.14**	**162**	⇑P	P	11 56 08.2	-8.8
	comp=Z,5.1nm,0.4s,baz=224,slow=11						
SNAA	**Sanae**	**79.76**	**162**	⇑P	**P**	**11 56 22.2**	**-3.7**
	comp=Z,15nm,0.4s						
SNAA	**Sanae**	**79.76**	**162**	P	**P**	**11 56 26.2**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=292,slow=9.7,SNR=8.7						
	comp=Z,1.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**79.93**	**76**	P	**P**	**11 56 28.1**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=288,slow=5.8,SNR=10						
	comp=Z,1.3nm,0.7s						
TROLL	**Troll, Antarti**	**81.48**	**162**	⇑P	**P**	**11 56 34.8**	**-0.4**
	comp=Z,78nm,0.7s						
QSPA	**South Pole Qui**	**84.62**	**180**	P	**P**	**11 56 52.0**	**+0.4**
	comp=Z,2.7nm,0.7s,baz=156,slow=1.3,SNR=7.6						
	comp=Z,2.7nm,0.7s						
ILAR	**Eielson Array**	**86.64**	**336**	P	**P**	**11 57 00.9**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=123,slow=3.2,SNR=6.9						
	comp=Z,0.9nm,0.9s						
BVAR	**Borovoye Array**	**125.44**	**24**	PKP	**PKiKP**	**12 03 19.9**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=245,slow=3.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**129.37**	**14**	PKP	**PKiKP**	**12 03 27.2**	**0.0**
	comp=Z,2.4nm,0.9s,baz=245,slow=2.7,SNR=9.1						
KURBB	**Kurchatov Arra**	**130.43**	**21**	PKP	**PKiKP**	**12 03 29.6**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=316,slow=2.5,SNR=8.3						
MKAR	**Makanchi Array**	**134.99**	**20**	PKP	**PKPdf**	**12 03 37.6**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=318,slow=3.3,SNR=4.5						
SONM	**Songino Array**	**137.71**	**357**	PKP	**PKPdf**	**12 03 43.3**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=76,slow=0.6,SNR=2.7						
ASAR	**Alice Springs**	**138.45**	**225**	PKP	**PKPdf**	**12 03 43.5**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=110,slow=2.5,SNR=6.2						
WRA	**Warramunga Arr**	**140.44**	**229**	PKP	**PKPdf**	**12 03 47.6**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=127,slow=2.2,SNR=4.6						
KSRS	**Korea Array**	**141.07**	**328**	PKP	**PKPdf**	**12 03 47.8**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=14,slow=1.1,SNR=2.4						

*IDC **27** 11:45:30.5±1.9, 7°.40S×155°.33E, h0km, mb3.7/6, mbtmp3.8/7, ML1.8/1, MS2.9/3, Error ellipse: s-maj=61.1km s-min=24.9km az=127.0*
ISC 27 11:45:36.5±1.6, 7°.4S±0°.3×155°.1E±0°.2, h35km, n10, σ1§04/9, **mb3.7**/6, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.18**	**114**	LR	LR	11 49 00.0	
	comp=Z,128nm,18.0s,baz=143,slow=42						
PMG	**Port Moresby**	**8.14**	**255**	Pn	**Pn**	**11 47 31.9**	**-0.3**
	0.7nm,0.3s,baz=38,slow=5.0,SNR=5.7						
PMG				Sn	**Sn**	**11 49 02.6**	**-0.5**
	0.5nm,0.3s,baz=40,slow=17,SNR=6.1						
PMG				LR	LR	11 49 54.0	
	comp=Z,46nm,19.6s,baz=70,slow=32						
	8.1nm,0.7s						
WRA	**Warramunga Arr**	**23.71**	**236**	P	**P**	**11 50 45.0**	**-0.5**
	2.5nm,0.9s,baz=60,slow=9.5,SNR=16						
	2.5nm,0.9s						
ASAR	**Alice Springs**	**26.02**	**229**	P	**P**	**11 51 07.1**	**+0.5**
	0.6nm,0.7s,baz=58,slow=9.1,SNR=14						
	0.6nm,0.7s						
DAV	**Davao City (W)**	**32.78**	**295**	LR	LR	12 05 02.7	
	comp=Z,34nm,20.3s,baz=310,slow=36						
CMAR	**Chiang Mai Arr**	**61.07**	**296**	P	**P**	**11 55 49.4**	**+2.0**
	0.5nm,0.5s,baz=120,slow=5.2,SNR=4.7						
	0.5nm,0.5s						
SONM	**Songino Array**	**69.73**	**327**	P	**P**	**11 56 42.2**	**-0.9**
	0.6nm,0.7s,baz=128,slow=9.6,SNR=3.8						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**83.68**	**21**	P	**P**	**11 58 00.6**	**-0.7**
	0.4nm,0.9s,baz=242,slow=5.2,SNR=5.9						
	0.4nm,0.9s						
MKAR	**Makanchi Array**	**83.78**	**319**	P	**P**	**11 58 02.2**	**-0.1**
	0.8nm,0.8s,baz=106,slow=6.4,SNR=4.6						
	0.8nm,0.8s						
TORD	**Torodi Ar. Bea**	**153.25**	**285**	PKPbc	**PKiKP**	**12 05 32.5**	**+0.5**
	0.4nm,0.7s,baz=76,slow=1.6,SNR=2.1						

*IDC **27** 12:03:25.7±0.4, 0°.97S×13°.76W, h0km, mb4.9/43, mbtmp4.9/44, ML5.6/1, MS5.0/77, Error ellipse: s-maj=15.7km s-min=10.3km az=129.0*
*MOS **27** 12:03:25.0±1.0, 0°.93S×13°.79W, h10km, mb5.5/74, MS5.2/25, Error ellipse: s-maj=7.9km s-min=4.1km az=60.0*
*NEIC **27** 12:03:27.4±2.1, 0°.94S±0°.07×13°.83W±0°.09, h10km±1km, mb5.4/307, Ms_20 5.2/236, Mwb5.6/40, Mww5.7/42, Error ellipse: s-maj=14.6km s-min=12.5km az=266.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.04; $M_{\theta\theta}$1.23; $M_{\phi\phi}$-1.27; $M_{r\theta}$-0.13; $M_{\theta\phi}$-2.57; $M_{\phi r}$1.09; Fault plane solution: $M_0$3.07000×10^{17} NP1: ϕ_s257.38000°, δ69.17000°, λ-178.57000°. NP2: ϕ_s166.87000°, δ88.67000°, λ-20.84000°. Principal axes: T 3.0094, Plg14.0000°, Azm214.0000°; N 0.1102, Plg69.0000°, Azm343.0000°; P -3.1196, Plg16.0000°, Azm120.0000°;*
*IPGP **27** 12:03:28.0, 1°.03S×13°.66W, h13km, Mw5.7, Fault plane solution: NP1:ϕ_s349.00000°, δ89.00000°, λ19.00000°. NP2:ϕ_s258.00000°, δ71.00000°, λ179.00000°.*
*NEIC **27** 12:03:28, 1°.03S×13°.67W, h10km*
*NEIC **27** 12:03:28, 0°.83S×13°.57W, h22km, Moment Tensor Solution. Duration: 3§7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.62; $M_{\theta\theta}$1.96; $M_{\phi\phi}$-1.34; $M_{r\theta}$-1.86; $M_{\theta\phi}$-3.33; $M_{\phi r}$-0.70; Fault plane solution: $M_0$4.24000×10^{17} NP1: ϕ_s79.00000°, δ83.02000°, λ-151.18000°. NP2: ϕ_s345.17000°, δ61.42000°, λ-7.96000°. Principal axes: T 4.3421, Plg15.0000°, Azm209.0000°; N -0.1943, Plg60.0000°, Azm91.0000°; P -4.1477, Plg25.0000°, Azm306.0000°;*
*NEIC **27** 12:03:28, 1°.03S×13°.67W, h22km*
*BGR **27** 12:03:29.6, 1°.05S×13°.07W, h33km, mb5.2, Ms5.3*
*GCMT **27** 12:03:31.4±0.1, 0°.71S±0°.01×13°.58W±0°.01, h18km, MW5.7/166, Moment Tensor Solution. s145, c269; s166, c359; Duration: 1§7 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.51±.04; $M_{\theta\theta}$2.17±.04; $M_{\phi\phi}$-1.66±.04; $M_{r\theta}$0.46±.10; $M_{\theta\phi}$-3.97±.04; $M_{\phi r}$0.86±.10; Best double couple: $M_0$4.53100×10^{17} NP1:ϕ_s166.00000°, δ81.00000°, λ-11.00000°. NP2:ϕ_s258.00000°, δ80.00000°, λ-170.00000°. Principal axes: T 4.6640, Plg1.0000°, Azm212.0000°; N -0.2610, Plg76.0000°, Azm305.0000°; P -4.3990, Plg14.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 12:03:26.6±0.6, 0°.97S±0°.04×13°.73W±0°.05, h9km±3km, **h10**km:**pP-P, n958,** σ1§62/884, **mb5.4**/301, **MS5.2**/231, **29C-40D, North of Ascension Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.85**	**186**	T	T	12 11 51.5	
	baz=7.1,slow=74,SNR=173						
H10N3	**ASCENSION HYDR**	**6.87**	**186**	T	T	12 11 52.6	
	baz=7.1,slow=74,SNR=214						
H10N1	**ASCENSION HYDR**	**6.87**	**186**	T	T	12 11 50.3	
	baz=7.1,slow=74,SNR=330						
H10S2	**ASCENSION HYDR**	**7.99**	**187**	T	T	12 13 14.9	
	baz=8.0,slow=74,SNR=35						
DBIC	**Dimbokro**	**11.66**	**49**	Pn	**Pn**	**12 06 09.1**	**-4.2**
	31nm,0.3s,baz=226,slow=14,SNR=127						
DBIC				Sn	Sn	12 08 12.8	-11
	18nm,0.3s,baz=158,slow=16,SNR=1.6						
DBIC				LR	LR	12 09 53.7	
	comp=Z,10μm,20.1s,baz=216,slow=33						
ACRG	**Accra**	**15.02**	**64**	Pn	**Pn**	**12 06 54.3**	**-4.8**
MBO	**M'Bour**	**15.60**	**348**	Pn	**Pn**	**12 07 05.3**	**-1.4**
MBO				IAmb	IAmb	12 07 11.8	
	comp=Z,128nm,0.6s						
BBTS	**Babate**	**15.78**	**350**	Pn	**Pn**	**12 07 08.3**	**-0.9**
	comp=Z,21nm,0.3s,baz=145,slow=7.2,SNR=14						
BBTS				Sn	Sn	12 09 50.5	-14
	comp=Z,15nm,0.3s,baz=238,slow=18,SNR=18						
BBTS				LR	LR	12 11 40.7	
	comp=Z,5μm,18.9s,baz=86,slow=31						
	comp=Z,70nm,0.4s						
SHEL	**Horse Pasture**	**16.84**	**153**		**Pn**	**12 07 23.6**	**+0.8**
SHEL	**Horse Pasture**	**16.84**	**153**	P	**Pn**	**12 07 23.6**	**+0.8**
SHEL				pmax	pmax		
	comp=Z,123nm,0.7s						
SACV	**Santiago Islan**	**18.61**	**329**	P	**P**	**12 07 42.1**	**-2.4**
TORD	**Torodi Ar. Bea**	**20.76**	**47**	P	**P**	**12 08 06.1**	**-1.8**
	comp=Z,363nm,0.7s,baz=237,slow=10,SNR=1560						
TORD				S	**S**	**12 11 51.0**	**-8.9**
	comp=Z,28nm,0.7s,baz=230,slow=22,SNR=1.8						
TORD				LR	LR	12 15 28.0	
	comp=Z,8μm,18.5s,baz=224,slow=35						
RCBR	**Riachuelo**	**22.65**	**257**	P	**P**	**12 08 25.1**	**-3.1**
RCBR				IAmb	IAmb	12 08 33.3	
	comp=Z,198nm,1.4s						
RCBR	**Riachuelo**	**22.65**	**257**	LR	LR	12 15 29.4	
	comp=Z,2μm,18.5s,baz=84,slow=32						
RCBR	**Riachuelo**	**22.65**	**257**	P	**P**	**12 08 25.2**	**-3.1**
RCBR				pmax	pmax		
	comp=Z,198nm,1.5s						
RCBR	**Riachuelo**	**22.65**	**257**	*eP*	**P**	**12 08 30.3**	**+2.0**
NBCA	**Caruaru-PE**	**23.34**	**251**	*eP*	**P**	**12 08 37.0**	**+1.5**
NBAN	**Anadia - AL**	**24.03**	**248**	*eP*	**P**	**12 08 42.8**	**+0.6**
NBCL	**Cascavel-CE**	**24.75**	**262**	*eP*	**P**	**12 08 50.8**	**+2.1**
NBLA	**Lagarto - SE**	**25.89**	**246**	*eP*	**P**	**12 08 59.5**	**+0.4**
GDU01	**Guandu, BA**	**28.54**	**242**	*eP*	**P**	**12 09 23.6**	**+0.7**
EOSO	**Osorio**	**28.93**	**357**	P	**P**	**12 09 28.4**	**+2.2**
MACI	**Morro de la Ar**	**29.18**	**355**	P	**P**	**12 09 26.1**	**-2.5**
MACI				IAmb	IAmb	12 10 03.5	
	comp=Z,86nm,1.0s						
CMC01	**Camacan, BA**	**29.20**	**239**	*eP*	**P**	**12 09 30.4**	**+1.7**
GUA01	**Guaratiga, BA**	**30.01**	**237**	*eP*	**P**	**12 09 37.1**	**+1.3**
TAM	**Tamanrasset**	**30.16**	**37**	P	**P**	**12 09 38.1**	**+0.8**
TAM				IAmb	IAmb	12 10 12.3	
	comp=Z,59nm,1.1s						
TAM				IAMs_20	IAMs_20	12 20 41.5	
	comp=Z,5μm,19.0s						
TAM	**Tamanrasset**	**30.16**	**37**	P	**P**	**12 09 38.2**	**+0.8**
TAM				pmax	pmax		
	comp=Z,59nm,1.1s						
TAM				MLR	MLR		
	comp=Z,5μm,19.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIB01	**Linhares ES**	**31.86**	**233**	*eP*	**P**	**12 09 53.0**	**+0.8**
SJMB	**Sao Joao De Ma**	**32.19**	**235**	*eP*	**P**	**12 09 56.2**	**+1.1**
TIO	**Tiouine**	**32.31**	**10**	P	**P**	**12 09 57.3**	**+1.1**
ALF01	**Guarapari-ES**	**32.81**	**232**	*eP*	**P**	**12 10 01.7**	**+1.2**
SDBA	**SAO DESIDERIO**	**32.93**	**248**	*eP*	**P**	**12 10 02.1**	**+0.4**
JANB	**Januaria**	**33.29**	**244**	*eP*	**P**	**12 10 05.2**	**+0.3**
PMOZ	**Porto Moniz, M**	**33.77**	**355**	*eS*	**S**	**12 15 40.1**	**+7.3**
DIAM	**Diamantina, MG**	**34.07**	**238**	*eP*	**P**	**12 10 12.7**	**+1.0**
TMAB	**Tom-Au,PA,Br**	**34.38**	**267**	*eP*	**P**	**12 10 15.7**	**+1.4**
AVE	**Averroes**	**34.60**	**9**	P	**P**	**12 10 15.8**	**-0.1**
AVE				IAmb	IAmb	12 11 26.5	
	comp=Z,57nm,0.8s						
SMTB	**Santa Maria do**	**34.61**	**256**	*eP*	**P**	**12 10 17.8**	**+1.5**
MDT	**Midelt**	**34.69**	**14**	P	**P**	**12 10 18.7**	**+1.8**
	comp=Z,11nm,1.0s,baz=266,slow=4.1,SNR=14						
MDT				LR	LR	12 23 37.2	
	comp=Z,5μm,20.9s,baz=200,slow=35						
	comp=Z,11nm,1.0s						
DUB01	**Friburgo-RJ**	**34.90**	**231**	*eP*	**P**	**12 10 19.8**	**+1.1**
IFR	**Ifrane**	**35.25**	**13**	P	**P**	**12 10 23.7**	**+1.9**
TSUM	**Tsumeb**	**35.63**	**123**	LR	LR	12 22 32.4	
	comp=Z,3μm,19.1s,baz=300,slow=32						
VAS01	**Vassouras-RJ**	**35.84**	**232**	*eP*	**P**	**12 10 27.8**	**+0.9**
BSCB	**Bom Sucesso**	**36.25**	**235**	*eP*	**P**	**12 10 31.2**	**+0.8**
PRPB	**Parauapebas**	**36.37**	**261**	*eP*	**P**	**12 10 33.0**	**+1.5**
PMNB	**Patos De Minas**	**36.53**	**239**	*eP*	**P**	**12 10 33.5**	**+0.5**
MAN01	**Angra dos Reis**	**36.56**	**231**	*eP*	**P**	**12 10 35.3**	**+2.3**
BDFB	**Brasilia**	**36.83**	**245**	P	**P**	**12 10 34.6**	**-0.8**
BDFB				IAmb	IAmb	12 10 37.6	
	comp=Z,67nm,1.2s						
BDFB	**Brasilia**	**36.83**	**245**	P	**P**	**12 10 36.0**	**+0.5**
	comp=Z,30nm,1.0s,baz=60,slow=9.1,SNR=25						
BDFB				LR	LR	12 22 55.5	
	comp=Z,2μm,21.7s,baz=73,slow=32						
	comp=Z,30nm,1.0s						
WIN	**Windhoek**	**36.86**	**128**	P	**P**	**12 10 36.0**	**+0.2**
WIN	**Windhoek**	**36.86**	**128**	P	**P**	**12 10 36.0**	**+0.2**
WIN				pmax	pmax		
	comp=Z,300nm,1.8s						
CEU	**Ceuta**	**37.50**	**11**	P	**P**	**12 10 42.6**	**+1.8**
SLP01	**Ubatuba-SP**	**37.73**	**232**	*eP*	**P**	**12 10 43.8**	**+0.8**
IPMB	**Ipameri, GO**	**37.85**	**241**	*eP*	**P**	**12 10 44.4**	**+0.3**
PARB	**Paraibuna**	**38.10**	**232**	*eP*	**P**	**12 10 47.7**	**+1.5**
ESPR	**Espera**	**38.35**	**10**	P	**P**	**12 10 48.8**	**+0.9**
MORF	**Marmelete**	**38.38**	**7**	P	**P**	**12 10 49.2**	**+1.0**
MORF				IAmb	IAmb	12 12 16.7	
	comp=Z,159nm,1.9s						
MORF	**Marmelete**	**38.38**	**7**	*eP*	**P**	**12 10 50.0**	**+1.8**
MORF	**Marmelete**	**38.38**	**7**	*ePP*	**PP**	**12 12 16.3**	**+0.2**
MORF	**Marmelete**	**38.38**	**7**	*eP*	**P**	**12 10 50.0**	**+1.8**
MORF				*ePP*	**PnPn**	**12 12 17.6**	**-0.2**
MORF				*eS*	**S**	**12 16 46.1**	**+3.0**
MORF				IAMs_20	IAMs_20	12 26 38.3	
	comp=Z,4μm,12.4s						
MORF	**Marmelete**	**38.38**	**7**	*eP*	**P**	**12 10 50.0**	**+1.8**
MORF				*e*		12 12 17.6	
MORF				*eS*	**S**	**12 16 46.1**	**+3.0**
PBDV	**Barranco-do-Ve**	**38.40**	**7**	*eP*	**P**	**12 10 50.3**	**+1.9**
PBDV	**Barranco-do-Ve**	**38.40**	**7**	*ePP*	PP	12 12 19.2	+2.8
PVAQ	**Vaqueiros**	**38.59**	**8**	P	**P**	**12 10 49.6**	**-0.3**
PVAQ	**Vaqueiros**	**38.59**	**8**	*eP*	**P**	**12 10 52.3**	**+2.4**
PVAQ	**Vaqueiros**	**38.59**	**8**	*ePP*	PP	12 12 21.8	+3.4
PVAQ				*eS*	S	12 16 57.2	+11
PVAQ				*eSS*	**SS**	**12 19 42.7**	**+6.4**
PVAQ				*eLR*	LR	12 23 38.8	
PVAQ				A	A	12 25 39.3	
	comp=Z,2μm,20.0s						
PTEO	**Sao Teotonio**	**38.61**	**6**	*eP*	**P**	**12 10 51.8**	**+1.8**
PTEO	**Sao Teotonio**	**38.61**	**6**	*ePP*	PP	12 12 22.6	+4.1
PCVE	**Castro Verde**	**38.77**	**7**	*eP*	**P**	**12 10 53.1**	**

ITTB Itaituba 42.09 265 *eP* **P 12 11 20.8 +1.5**
PTO Porto 42.17 6 *eP* **P 12 11 21.4 +1.9**
PTO Porto 42.17 6 *eP*P **PP 12 12 59.0 +1.7**
MVO Moncorvo 42.38 8 *eP* **P 12 11 23.1 +1.7**
MVO Moncorvo 42.38 8 *eP*P **PP 12 13 00.3 +0.7**
MVO *eS* **S 12 17 50.1 +7.2**
MVO *eS*S **SS 12 20 48.7 -3.3**
MVO *e*LR LR 12 25 55.0
MVO A A 12 27 01.2
comp=Z,2µm,22.0s
KEST Kesra 42.39 28 P **P 12 11 23.0 +1.5**
comp=Z,63nm,1.0s,baz=220,slow=3.7,SNR=21
KEST PP **PP 12 13 01.0 +1.2**
comp=Z,68nm,1.1s,baz=204,slow=6.6,SNR=7.4
KEST LR LR 12 30 10.4
comp=Z,8µm,18.1s,baz=227,slow=38
comp=Z,63nm,1.0s
PVRL Vila Real 42.41 7 *e*PP **PP 12 13 00.6 +0.7**
LDASE Londrina, Braz 42.56 236 *eP* **P 12 11 24.0 +0.9**
PCAB Cabril 42.80 6 *e*PP **PP 12 13 05.6 +1.5**
MAJ01 Sao Joao Batis 42.83 229 *eP* **P 12 11 26.9 +1.7**
CLDB Colider 42.92 255 *eP* **P 12 11 26.9 +0.7**
PGAV Gavieira, Arco 43.03 6 *eP* **P 12 11 27.9 +1.3**
PGAV Gavieira, Arco 43.03 6 *e*PP **PP 12 13 06.8 +0.2**
PGAV *eS* **S 12 17 59.2 +6.8**
PGAV *eS*S **SS 12 21 00.0 -4.7**
PGAV *e*LR LR 12 25 52.2
PGAV A A 12 29 21.7
comp=Z,3µm,18.0s
PBRG Braganca 43.05 8 *eP* **P 12 11 28.4 +1.7**
PBRG Braganca 43.05 8 *e*PP **PP 12 13 07.0 +0.2**
SKOMA Sekoma 43.28 126 *i* P **P 12 11 29.0 0.0**
KDWAN Kaudwane 43.38 124 *i* P **P 12 11 29.6 -0.2**
TER01 Tubaro-SC 43.52 228 *eP* **P 12 11 32.4 +1.6**
RPRD Ribas do Rio P 43.59 241 *eP* **P 12 11 32.2 +0.7**
SOOWA Sowa 43.60 119 *i* P **P 12 11 31.5 -0.1**
LSZ Lusaka 43.74 111 P **P 12 11 33.0 +0.1**
LSZ IAmb IAmb 12 11 33.7
comp=Z,58nm,0.8s
LSZ Lusaka 43.74 111 IAMs_20 IAMs_20 12 27 34.8
comp=Z,3µm,19.0s
LSZ Lusaka 43.74 111 P **P 12 11 33.3 +0.4**
LSZ P **P 12 11 33.3 +0.4**
LSZ Lusaka 43.74 111 P **P 12 11 33.0 +0.1**
LSZ pmax pmax
comp=Z,58nm,0.9s
PTGB Pitanga 43.92 234 *eP* **P 12 11 35.6 +1.5**
SALV Santo Antonio 43.95 248 *eP* **P 12 11 35.4 +1.1**
PDRB Porto dos Gac 43.96 254 *eP* **P 12 11 35.8 +1.3**
LPHEP Lephephe 44.38 123 *i* P **P 12 11 38.0 +0.1**
MBAR Mbarara 44.46 90 P **P 12 11 39.7 +1.0**
MBAR Mbarara 44.46 90 LR LR 12 28 47.3
comp=Z,6µm,18.4s,baz=266,slow=34
MBAR Mbarara 44.46 90 P **P 12 11 40.3 +1.5**
MBAR P **P 12 11 40.3 +1.5**
MBAR Mbarara 44.46 90 *d* i P **P 12 11 40.0 +1.2**
MBAR pmax pmax
comp=Z,182nm,1.4s
BROLN Tlhalogang 44.77 119 *i* P **P 12 11 40.3 -0.7**
LBTB Lobatse 44.86 125 P **P 12 11 41.5 -0.2**
LBTB Lobatse 44.86 125 LR LR 12 27 16.8
comp=Z,2µm,21.7s,baz=300,slow=32
LBTB Lobatse 44.86 125 P **P 12 11 41.5 -0.2**
LBTB pmax pmax
comp=Z,196nm,1.3s
SUR Sutherland 45.10 137 P **P 12 11 43.6 0.0**
SUR Sutherland 45.10 137 LR LR 12 27 54.7
comp=Z,1µm,18.8s,baz=300,slow=33
ITAB Concordia 45.14 231 P **P 12 11 43.7 0.0**
ITAB Concordia 45.14 231 *eP* **P 12 11 45.2 +1.4**
CNLB Canela 45.21 228 *eP* **P 12 11 46.2 +1.8**
AQDB Aquidauana 45.34 242 P **P 12 11 45.5 +0.1**
AQDB IAmb IAmb 12 11 47.5
comp=Z,75nm,1.9s
AQDB Aquidauana 45.34 242 *eP* **P 12 11 46.2 +0.7**
VSL Villasalto 45.50 25 P **P 12 11 46.7 +0.3**
VSL IAmb IAmb 12 11 49.4
comp=Z,65nm,0.9s
MATP Matopo 45.55 118 LR LR 12 28 37.9
comp=Z,975nm,19.3s,baz=280,slow=33
AMBA Amambai (Brazi 45.62 238 *eP* **P 12 11 49.2 +1.6**
PANT Pantanal (Braz 45.68 244 *eP* **P 12 11 49.6 +1.5**
BOSA Boshof 46.26 130 P **P 12 11 52.5 -0.3**
BOSA Boshof 46.26 130 P **P 12 11 52.2 -0.5**
comp=Z,108nm,1.0s,baz=303,slow=7.8,SNR=68
BOSA LR LR 12 29 42.3
comp=Z,2µm,18.1s,baz=287,slow=34
comp=Z,108nm,1.0s
BOSA Boshof 46.26 130 P **P 12 11 52.5 -0.3**
BOSA pmax pmax
comp=Z,116nm,1.0s
BDQN Bodoquena, MS 46.26 242 *eP* **P 12 11 53.5 +0.8**
VAE Valguarnera 46.28 31 LR LR 12 30 21.3
comp=Z,3µm,18.2s,baz=328,slow=35
BOAV Boa Vista 46.90 274 P **P 12 11 58.2 +0.3**
BOAV Boa Vista 46.90 274 *eP* **P 12 11 59.4 +1.5**
MACA Manacapuru-AM 46.97 267 P **P 12 11 55.9 -2.5**
MACA IAmb IAmb 12 12 01.0
comp=Z,51nm,1.0s
MACA Manacapuru-AM 46.97 267 *eP* **P 12 12 00.0 +1.6**
PTLB Pontes e Lacer 47.05 250 P **P 12 11 57.1 -1.8**
PTLB IAmb IAmb 12 12 11.2
comp=Z,61nm,1.7s
PTLB Pontes e Lacer 47.05 250 *eP* **P 12 12 00.4 +1.5**
MURT Porto Murtinho 47.42 241 *eP* **P 12 12 02.6 +0.9**
VILB Vilhena 47.54 253 P **P 12 12 00.3 -2.5**
VILB IAmb IAmb 12 12 10.0
comp=Z,59nm,1.0s
VILB Vilhena 47.54 253 *eP* **P 12 12 05.1 +2.2**
CEL Celeste 47.64 32 P **P 12 12 05.2 +1.9**
CPSB Cacapava Do Su 47.70 228 *eP* **P 12 12 05.3 +1.5**
PLTB Pedras Altas 48.51 227 P **P 12 12 10.2 0.0**
PLTB Pedras Altas 48.51 227 *eP* **P 12 12 11.8 +1.7**
TIP Timpagrande 48.77 32 P **P 12 12 10.8 -1.2**
TIP IAmb IAmb 12 12 13.8
comp=Z,39nm,0.9s
TIP IAMs_20 IAMs_20 12 35 37.4
comp=Z,3µm,18.0s
TIP Timpagrande 48.77 32 ⇓P **P 12 12 13.2 +1.2**
TIP Timpagrande 48.77 32 P **P 12 12 13.2 +1.2**
comp=Z,44nm,1.0s
PAPY Pozo Azul 48.81 238 *eP* **P 12 12 14.4 +2.0**
SSB Saint Sauveur 48.82 17 P **P 12 12 11.3 -1.0**
SSB IAmb IAmb 12 12 14.8
comp=Z,26nm,0.9s
SSB Saint Sauveur 48.82 17 P **P 12 12 11.3 -1.0**
SSB pmax pmax
comp=Z,26nm,0.9s
BBSD Serra de San D 48.84 248 *eP* **P 12 12 14.4 +1.6**
CASP Castiglione de 48.87 24 P **P 12 12 13.0 +0.4**
CPUP Villa Florida 48.91 235 P **P 12 12 14.0 +0.8**
CPUP Villa Florida 48.91 235 P **P 12 12 13.7 +0.5**
comp=Z,27nm,0.9s,baz=76,slow=7.7,SNR=48
CPUP LR LR 12 30 06.8
comp=Z,2µm,21.7s,baz=74,slow=33
comp=Z,27nm,0.9s
CPUP Villa Florida 48.91 235 P **P 12 12 14.0 +0.8**
CPUP pmax pmax
comp=Z,229nm,1.8s
CPUP Villa Florida 48.91 235 *eP* **P 12 12 14.0 +0.8**
SIV San Ignacio 48.99 250 LR LR 12 30 56.4
comp=Z,5µm,21.1s,baz=94,slow=34
LODK Lodwar 49.26 85 P **P 12 12 16.2 0.0**
LODK IAmb IAmb 12 12 18.9
comp=Z,59nm,1.2s
LODK Lodwar 49.26 85 P **P 12 12 17.2 +1.0**
SNR=26
BNI Bardonecchia 49.28 19 P **P 12 12 16.3 +0.4**
BNI IAmb IAmb 12 12 19.1
comp=Z,44nm,1.1s
BNI Bardonecchia 49.28 19 P **P 12 12 16.3 +0.4**
BNI pmax pmax
comp=Z,44nm,1.1s
GRHM Grahamstown, E 49.47 135 P **P 12 12 17.1 -0.4**
INTR Introdacqua 49.54 27 P **P 12 12 19.0 +1.1**
INTR IAmb IAmb 12 12 21.2
comp=Z,111nm,1.6s
INTR IAMs_20 IAMs_20 12 33 06.9
comp=Z,2µm,21.0s
MSSA Maissana 49.63 22 P **P 12 12 19.4 +0.9**
GDSD La Dsirade Is 49.76 292 P **P 12 12 19.6 -0.4**
ITQB Itaqui 49.77 231 P **P 12 12 19.2 -0.5**
ITQB Itaqui 49.77 231 *eP* **P 12 12 21.1 +1.4**
VLC Villacollemand 49.83 23 P **P 12 12 20.4 +0.4**

NRCA Norcia 49.85 26 P **P 12 12 19.7 -0.5**
NRCA IAmb IAmb 12 12 26.9
comp=Z,46nm,1.0s
SAML Samuel 49.85 259 P **P 12 12 20.9 +0.3**
SAML Samuel 49.85 259 P **P 12 12 20.9 +0.3**
SAML pmax pmax
comp=Z,28nm,1.0s
SAML Samuel 49.85 259 *eP* **P 12 12 22.1 +1.4**
FDMO Fiordimonte 50.00 26 P **P 12 12 21.9 +0.7**
FDMO IAmb IAmb 12 12 24.1
comp=Z,71nm,1.0s
ZCCA Zocca 50.22 23 P **P 12 12 22.6 -0.3**
ZCCA IAmb IAmb 12 12 25.0
comp=Z,41nm,0.8s
SENIN Lac Senin/Sane 50.65 19 P **P 12 12 26.0 -0.3**
CLF Chambon-Foret 50.75 14 P **P 12 12 27.2 +0.4**
CLF IAmb IAmb 12 12 47.6
comp=Z,82nm,1.2s
POGA Pongola 50.82 125 P **P 12 12 26.9 -0.9**
KMBO Kilima Mbogo 50.97 91 P **P 12 12 31.2 +1.8**
comp=Z,24nm,0.9s,baz=261,slow=8.4,SNR=58
KMBO LR LR 12 32 41.2
comp=Z,8µm,18.6s,baz=258,slow=34
comp=Z,24nm,0.9s
IDI Anoyia 50.99 41 P **P 12 12 29.6 +0.6**
IDI IAmb IAmb 12 12 33.1
comp=Z,53nm,0.9s
IDI Anoyia 50.99 41 P **P 12 12 30.2 +1.2**
PSAL Palomas, Salto 51.17 230 *eP* **P 12 12 31.3 +1.0**
TEOL Teolo 51.33 23 P **P 12 12 30.5 -0.7**
TUE Stuetta 51.42 20 P **P 12 12 32.0 -0.2**
TUE Stuetta 51.42 20 P **P 12 12 32.4 +0.2**
comp=Z,112nm,1.2s
KIBK Kibwezi 51.77 92 P **P 12 12 36.3 +1.2**
KIBK Kibwezi 51.77 92 P **P 12 12 36.4 +1.2**
SNR=10
PCRV Puerto La Cruz 51.85 284 LR LR 12 32 34.3
comp=Z,1µm,21.3s,slow=34
FUORN Ofenpass-Fuorn 51.87 21 P **P 12 12 35.9 +0.3**
FUORN IAMs_20 IAMs_20 12 34 59.8
comp=Z,2µm,19.0s
DAVOX Davos/Dischmat 51.88 20 LR LR 12 35 27.2
comp=Z,2µm,19.1s,baz=236,slow=37
CTI Castel Tesino 51.90 22 P **P 12 12 36.0 +0.4**
CTI IAmb IAmb 12 12 38.0
comp=Z,72nm,1.4s
CTI Castel Tesino 51.90 22 P **P 12 12 36.0 +0.4**
CTI pmax pmax
comp=Z,72nm,1.4s
CTI MLR MLR
comp=Z,2µm,19.0s
TIR Tirane 51.98 32 IAMs_20 IAMs_20 12 36 29.2
comp=Z,3µm,19.0s
TIR Tirane 51.98 32 P **P 12 12 37.8 +1.6**
comp=Z,96nm,2.0s
HCY Herceg Novi 52.07 30 *eP* **P 12 12 35.7 -1.1**
TREB Trebinje 52.20 30 *eP* **P 12 12 39.0 +1.2**
ECH Echery 52.25 18 P **P 12 12 38.6 +0.5**
ECH IAMs_20 IAMs_20 12 36 18.8
comp=Z,2µm,18.0s
ECH Echery 52.25 18 P **P 12 12 38.6 +0.5**
ECH pmax pmax
comp=Z,15nm,0.9s
ECH MLR MLR
comp=Z,2µm,18.0s
DAVA Damuels 52.31 20 *i* P **P 12 12 38.8 +0.1**
comp=Z,91nm,0.8s,SNR=20
FETA Feichten 52.38 21 *i* P **P 12 12 39.4 +0.1**
comp=Z,40nm,1.1s,SNR=10.0
FNA Florina 52.40 33 P **P 12 12 40.6 +1.2**
FNA IAmb IAmb 12 12 41.6
comp=Z,49nm,0.8s
FNA Florina 52.40 33 P **P 12 12 40.6 +1.2**
FNA pmax pmax
comp=Z,49nm,0.8s
SKDS Skadanscina 52.42 24 *eP* **P 12 12 40.2 +0.8**
BRY Bratogost 52.43 30 *eP* **P 12 12 41.1 +1.4**
PDG Podgorica 52.44 31 IAMs_20 IAMs_20 12 36 16.6
comp=Z,3µm,20.0s
PDG Podgorica 52.44 31 *eP* **P 12 12 40.1 +0.5**
PUK Puka 52.49 31 P **P 12 12 40.6 +0.5**
PUK IAmb IAmb 12 13 29.9
comp=Z,141nm,1.7s
LIT Litokhoron 52.56 35 P **P 12 12 41.3 +0.8**
LIT IAmb IAmb 12 12 45.6
comp=Z,44nm,0.9s
LIT Litokhoron 52.56 35 P **P 12 12 41.3 +0.8**
LIT pmax pmax
comp=Z,44nm,0.9s
LIT MLR MLR
comp=Z,2µm,18.0s
SABO M.te Sabotino 52.60 24 P **P 12 12 40.7 -0.1**
SABO IAmb IAmb 12 12 48.4
comp=Z,78nm,1.0s
SABO IAMs_20 IAMs_20 12 33 38.6
comp=Z,2µm,20.0s
KARP Karpathos 52.65 42 P **P 12 12 41.0 -0.4**
KARP Karpathos 52.65 42 *eP* **P 12 12 42.4 +1.1**
KARP Karpathos 52.65 42 P **P 12 12 42.9 +1.5**
comp=Z,134nm,1.1s
A050A Klekovaca 52.67 27 *eP* **P 12 12 42.8 +1.5**
BFO Black Forest 52.71 18 P **P 12 12 41.7 +0.2**
BFO IAMs_20 IAMs_20 12 34 11.0
comp=Z,3µm,20.0s
BFO Black Forest 52.71 18 P **P 12 12 41.7 +0.2**
BFO pmax pmax
comp=Z,29nm,1.0s
BFO Black Forest 52.71 18 *eP* **P 12 12 42.1 +0.6**
comp=Z,29nm,0.9s,baz=210,slow=7.2
SQTA Sankt Quirin 52.72 21 *i* P **P 12 12 41.9 +0.1**
comp=Z,72nm,1.1s,SNR=15
UBR Ueberruh 52.73 20 *eP* **P 12 12 42.1 +0.4**
comp=Z,78nm,0.8s,baz=210,slow=7.2
CEY Cerknica 52.75 25 *eP* **P 12 12 42.1 +0.3**
MOTA Moosalm 52.79 21 *i* P **P 12 12 42.1 -0.2**
comp=Z,35nm,1.0s
RETA Reutte 52.79 21 *i* P **P 12 12 42.0 -0.2**
comp=Z,28nm,0.9s
ABTA Abfaltersbach 52.81 22 *i* P **P 12 12 43.2 +0.9**
comp=Z,37nm,1.5s,SNR=5.7
BOJS Bojanci 52.91 25 *i* P **P 12 12 44.4 +1.4**
BOJS Bojanci 52.91 25 *eP* **P 12 12 44.3 +1.3**
WTTA Wattenberg 52.92 21 *i* P **P 12 12 43.4 +0.1**
comp=Z,62nm,1.1s,SNR=10
ETMB Extrema 52.92 258 *eP* **P 12 12 44.7 +1.1**
WATA Walderalm 52.95 21 *i* P **P 12 12 43.4 -0.1**
comp=Z,47nm,1.2s,SNR=8.3
PRED Cave del Predi 52.97 23 P **P 12 12 43.7 +0.2**
PRED IAmb IAmb 12 12 52.1
comp=Z,56nm,0.8s
LJU Ljubljana 53.03 24 *i* P **P 12 12 45.3 +1.3**
LJU *i* S **S 12 20 18.1 +4.2**
FURI Furi 53.12 78 IAMs_20 IAMs_20 12 33 01.3
comp=Z,2µm,20.0s
FURI Furi 53.12 78 LR LR 12 33 12.6
comp=Z,2µm,20.8s,baz=262,slow=34
MYKA Terra Mystica 53.15 23 *i* P **P 12 12 46.2 +1.3**
comp=Z,41nm,0.9s,SNR=8.3
BLY Banja Luka 53.17 27 *eP* **P 12 12 45.5 +0.6**
DOU Dourbes 53.25 15 *dP* **P 12 12 45.9 +0.5**
comp=Z,15nm,1.3s
A051A Mrakovica 53.25 27 *eP* **P 12 12 45.7 +0.1**
CRES Cresnjevec Ost 53.25 25 *eP* **P 12 12 45.4 -0.1**
WLF Walferdange 53.26 16 P **P 12 12 45.5 0.0**
WLF IAmb IAmb 12 13 30.3
comp=Z,44nm,1.3s
WLF IAMs_20 IAMs_20 12 33 42.1
comp=Z,3µm,21.0s
WLF Walferdange 53.26 16 P **P 12 12 45.5 0.0**
WLF pmax pmax
comp=Z,44nm,1.3s
WLF Walferdange 53.26 16 *dP* **P 12 12 47.2 +1.7**
RUDO Rudo 53.36 30 *eP* **P 12 12 46.5 +0.1**
STU Stuttgart 53.38 19 P **P 12 12 46.2 -0.2**
STU IAmb IAmb 12 12 47.6
comp=Z,65nm,1.5s
STU IAMs_20 IAMs_20 12 36 12.6
comp=Z,2µm,20.0s
STU Stuttgart 53.38 19 P **P 12 12 46.2 -0.2**
STU pmax pmax
comp=Z,65nm,1.5s
STU MLR MLR
comp=Z,2µm,20.0s
KBA Koelnbreinsper 53.41 23 *i* P **P 12 12 47.7 +0.8**
comp=Z,28nm,0.8s

SJES Sjenica 53.41 30 *eP* **P 12 12 48.3 +1.5**
OBKA Obir 53.42 24 *i* P **P 12 12 47.9 +1.0**
comp=Z,22nm,0.9s
OBKA Obir 53.42 24 *eP* **P 12 12 46.0 -0.9**
LESA Schwarzleotal 53.44 22 *i* P **P 12 12 47.2 +0.2**
comp=Z,36nm,1.1s
RCHB Rochefort 53.46 15 *dP* **P 12 12 47.5 +0.5**
comp=Z,13nm,1.1s
BMRD Maredsous 53.48 15 *dP* **P 12 12 47.7 +0.6**
comp=Z,9.6nm,1.2s
HAPS Han Pijesak,Bl 53.50 29 *eP* **P 12 12 48.9 +1.3**
FUR Furstenfeldbru 53.55 21 *eP* **P 12 12 48.3 +0.6**
comp=Z,70nm,0.9s,baz=210,slow=7.2
BBLS Lazi&#263i 53.56 29 *eP* **P 12 12 46.7 -1.2**
BGES Gesves 53.64 15 *dP* **P 12 12 48.9 +0.7**
comp=Z,16nm,0.9s
BCLA Clavier 53.72 15 *dP* **P 12 12 49.6 +0.7**
comp=Z,14nm,1.0s
RJOB Jochberg 53.74 22 *eP* **P 12 12 49.1 -0.1**
comp=Z,20nm,0.7s,baz=210,slow=7.2
SOKA Soboth 53.75 24 *i* P **P 12 12 50.4 +1.1**
comp=Z,27nm,1.3s,SNR=8.0
PERS Pernice 53.75 24 *i* P **P 12 12 50.2 +1.0**
PERS *eS* **S 12 20 26.7 +2.9**
UCC Uccle 53.84 14 *dP* **P 12 12 50.2 +0.6**
BHOU Houvegnez 53.85 16 *dP* **P 12 12 50.6 +0.8**
comp=Z,9.3nm,1.1s
BIOA Bad Ischl, Aus 54.02 23 *i* P **P 12 12 50.7 -0.5**
comp=Z,17nm,0.7s
MEM Membach 54.08 15 *dP* **P 12 12 53.0 +1.4**
comp=Z,12nm,1.0s
BTNL Ternell 54.09 16 *dP* **P 12 12 53.2 +1.6**
TEKS Tekeris 54.12 29 *eP* **P 12 12 51.5 -0.5**
MOA Molln 54.40 23 *i* P **P 12 12 53.7 -0.2**
comp=Z,25nm,1.2s,SNR=8.9
ARSA Arzberg 54.41 24 *i* P **P 12 12 54.7 +0.6**
comp=Z,23nm,1.1s
TNS Taunus Mts 54.42 17 *eP* **P 12 12 54.7 +0.7**
comp=Z,17nm,0.8s,baz=210,slow=7.2
BOVS Bovan 54.56 31 ⇓P **P 12 12 55.8 +0.7**
HUMP Col San Antoni 54.65 293 P **P 12 12 55.5 -0.7**
HUMP IAmb IAmb 12 13 08.3
comp=Z,40nm,0.8s
AKAS Kas 54.69 43 P **P 12 12 55.9 -0.5**
AKAS IAmb IAmb 12 13 31.7
comp=Z,66nm,1.1s
FRGS Fruska Gora 54.71 29 *eP* **P 12 12 56.3 +0.1**
PDPR Patillas Dam, 54.78 293 P **P 12 12 55.2 -1.9**
GRFO Grafenberg 54.84 20 P **P 12 12 56.5 -0.6**
GRFO IAmb IAmb 12 13 43.9
comp=Z,39nm,1.2s
GRFO IAMs_20 IAMs_20 12 35 27.2
comp=Z,3µm,20.0s
GRFO Grafenberg 54.84 20 P **P 12 12 56.5 -0.6**
GRFO pmax pmax
comp=Z,39nm,1.2s
GRA1 Grafenberg Arr 54.84 20 P **P 12 12 56.9 -0.1**
GRA1 IAmb IAmb 12 13 43.9
comp=Z,42nm,1.2s
GRA1 IAMs_20 IAMs_20 12 35 37.4
comp=Z,3µm,20.0s
GRF Grafenberg Arr 54.84 20 P **P 12 12 56.9 -0.1**
GRF pmax pmax
comp=Z,42nm,1.2s
GRF Grafenberg Arr 54.84 20 *e*L L 12 35 37.9
comp=Z,3µm,20.5s
IGPR InterUniversit 54.84 293 P **P 12 12 55.7 -1.9**
IGPR IAmb IAmb 12 13 04.0
comp=Z,68nm,1.4s
SJG San Juan 54.92 293 P **P 12 12 57.6 -0.5**
SJG IAmb IAmb 12 13 47.6
comp=Z,115nm,1.9s
SJG San Juan 54.92 293 LR LR 12 33 39.9
comp=Z,598nm,18.9s,baz=102,slow=33
SJG San Juan 54.92 293 P **P 12 12 57.7 -0.5**
SJG pmax pmax
comp=Z,115nm,1.9s
WET Wettzell 54.95 21 *eP* **P 12 12 58.4 +0.5**
comp=Z,62nm,1.4s,baz=210,slow=7.2
MORH Mrgy, Hungar 54.95 27 ⇑P **P 12 12 58.6 +0.6**
MORH Mrgy, Hungar 54.95 27 P **P 12 12 59.1 +1.2**
comp=Z,14nm,1.5s
MORH pP **pP 12 13 01.1 +1.5**
comp=Z,14nm,1.5s
BAUV El Baul 54.99 282 P **P 12 12 57.1 -1.7**
GEC2 GERESS Array S 55.00 22 P **P 12 12 57.6 -0.7**
GEC2 IAmb IAmb 12 13 03.1
comp=Z,58nm,0.9s
GEC2 GERESS Array S 55.00 22 *eP* **P 12 12 59.0 +0.7**
comp=Z,78nm,1.4s,baz=210,slow=7.2
GERES GERESS Array B 55.00 22 P **P 12 12 57.6 -0.7**
GERES GERESS Array B 55.00 22 P **P 12 12 58.8 +0.4**
comp=Z,35nm,0.9s,baz=205,slow=5.9,SNR=43
GERES LR LR 12 37 22.5
comp=Z,2µm,19.4s,baz=236,slow=37
comp=Z,35nm,0.9s
RDO Rodhopi 55.00 36 P **P 12 12 58.0 -0.4**
RDO IAmb IAmb 12 13 24.9
comp=Z,32nm,1.1s
RONA Rosalia, Austr 55.09 24 *i* P **P 12 13 00.2 +1.3**
comp=Z,65nm,1.7s,SNR=12
CONA Conrad Observa 55.09 24 *i* P **P 12 12 59.8 +0.8**
comp=Z,35nm,1.1s,SNR=11
KHC Kasperske Hory 55.19 22 P **P 12 12 59.1 -0.5**
KHC Kasperske Hory 55.19 22 *eP* **P 12 13 00.2 +0.5**
KHC *eS* **S 12 20 42.0 -1.1**
KHC AMS AMS 12 36 50.0
comp=Z,3µm,17.7s
KHC Kasperske Hory 55.19 22 *eP* **P 12 13 00.2 +0.5**
KHC *eS* **S 12 20 42.0 -1.1**
KHC MLR MLR
comp=Z,3µm,17.7s
KHC Kasperske Hory 55.19 22 P **P 12 12 59.9 +0.2**
comp=Z,17nm,1.5s
MPLH Magyarpolny 55.20 26 P **P 12 13 01.3 +1.6**
comp=Z,83nm,1.7s
CKRC Cesky Krumlov 55.21 22 *eP* **P 12 13 00.1 +0.3**
CKRC *eS* **S 12 20 43.0 -0.2**
CKRC AMS AMS 12 38 10.0
comp=Z,2µm,17.0s
CKRC Cesky Krumlov 55.21 22 *eP* **P 12 13 00.1 +0.3**
CKRC *eS* **S 12 20 43.0 -0.2**
CKRC MLR MLR
comp=Z,2µm,17.0s
ROTZ Rotzenmuhle 55.24 20 *eP* **P 12 13 00.2 +0.3**
comp=Z,15nm,2.0s,baz=210,slow=7.2
KASTN Kahler Asten 55.28 17 *eP* **P 12 13 01.2 +0.9**
comp=Z,76nm,1.9s,baz=210,slow=7.2
CELP Cerrillos 55.31 293 P **P 12 12 58.9 -2.1**
OBIP Obispado Ponce 55.33 293 P **P 12 12 59.6 -1.5**
OBIP IAmb IAmb 12 13 07.3
comp=Z,47nm,1.2s
MDVR Moldovita 55.37 30 ⇑P **P 12 13 02.6 +1.5**
MANZ Manzenberg 55.39 20 *eP* **P 12 13 01.4 +0.3**
comp=Z,3.8nm,0.8s,baz=210,slow=7.2
UUPR Utuado, UPR, P 55.48 293 P **P 12 13 01.1 -1.1**
UUPR PcP **PcP 12 14 02.3 -0.1**
EIL Elat 55.51 52 LR LR 12 37 54.7
comp=Z,4µm,18.4s,baz=246,slow=37
AOPR Arecibo Observ 55.53 293 P **P 12 12 59.9 -2.8**
AOPR IAmb IAmb 12 13 15.1
comp=Z,30nm,0.8s
AOPR PcP **PcP 12 14 02.5 -0.2**
ZVC Zvikov 55.67 22 *eP* **P 12 13 03.4 +0.3**
ZVC AMS AMS 12 37 00.0
comp=Z,2µm,18.0s
LPAZ La Paz 55.69 251 P **P 12 13 01.5 -3.0**
LPAZ PcP **PcP 12 14 03.7 -0.4**
LPAZ La Paz 55.69 251 P **P 12 13 04.4 -0.2**
comp=Z,10nm,0.8s,baz=92,slow=5.2,SNR=23
LPAZ LR LR 12 35 06.4
comp=Z,3µm,21.3s,baz=87,slow=34
comp=Z,10nm,0.8s
LPAZ La Paz 55.69 251 P **P 12 13 01.5 -3.0**
LPAZ 12 14 03.7
LPAZ pmax pmax
comp=Z,13nm,0.9s
LPAZ La Paz 55.69 251 *eP* **P 12 13 04.2 -0.3**
MLPR Magueyes Islan 55.71 293 P **P 12 13 01.3 -2.6**
MLPR IAmb IAmb 12 13 10.0
comp=Z,70nm,1.2s
NKC Novy Kostel 55.71 20 *eS* **S 12 20 54.0 +4.0**
NKC AMS AMS 12 36 30.0
comp=Z,2µm,15.3s
CRPR Cabo Rojo, PR 55.78 293 P **P 12 13 02.6 -1.8**
CRPR IAmb IAmb 12 13 31.4

comp=Z,64nm,1.1s
MOX Moxa 55.78 19 *e*P **P 12 13 04.4 +0.5**
comp=Z,18nm,0.9s,baz=210,slow=7.2
MOX *e*L L 12 36 25.5
comp=Z,3μm,19.8s
HERR Herculane 55.80 30 ⇓P **P 12 13 06.2 +2.2**
PLN Plauen 55.83 20 *e*P **P 12 13 04.5 +0.3**
comp=Z,68nm,1.8s,baz=210,slow=7.2
TANN Tannenbergstha 55.87 20 *e*P **P 12 13 05.0 +0.5**
comp=Z,32nm,1.2s,baz=210,slow=7.2
BZS Buzias 55.92 29 ⇓P **P 12 13 06.4 +1.5**
BZS Buzias 55.92 29 P **P 12 13 06.3 +1.5**
MODS Modra-Piesok 56.02 24 *e*P **P 12 13 06.8 +1.2**
MODS pmax pmax
comp=Z,69nm,1.1s
MODS Modra-Piesok 56.02 24 *e*P **P 12 13 06.8 +1.2**
GTTG Gottingen 56.04 18 *e*P **P 12 13 07.0 +1.3**
comp=Z,20nm,0.8s,baz=210,slow=7.2
SRE Strehaia 56.05 31 ⇑P **P 12 13 08.1 +2.2**
SRE Strehaia 56.05 31 P **P 12 13 08.1 +2.2**
TBTG Tabatinga, AM 56.20 266 P **P 12 13 07.3 -0.2**
KRUC Moravsky 56.21 23 *e*P **P 12 13 06.9 0.0**
PRU Pruhonice 56.25 22 *e*P **P 12 13 06.8 -0.4**
PRU *e*S **S 12 20 59.4 +2.3**
PRU AMS AMS 12 37 50.0
comp=Z,2μm,16.5s
PRU Pruhonice 56.25 22 *e*P **P 12 13 06.8 -0.4**
PRU *e*S **S 12 20 59.4 +2.3**
PRU MLR MLR
comp=Z,2μm,16.5s
SURR Surduc 56.27 30 ⇑P **P 12 13 08.8 +1.4**
GOPC GO Pecny, Ondr 56.28 22 *e*P **P 12 13 07.3 -0.2**
GOPC *e*S **S 12 20 58.4 +0.8**
GOPC AMS AMS 12 37 50.0
comp=Z,2μm,16.9s
GOPC GO Pecny, Ondr 56.28 22 *e*P **P 12 13 07.3 -0.2**
GOPC *e*S **S 12 20 58.4 +0.8**
GOPC MLR MLR
comp=Z,2μm,16.9s
GZR Gura Zlata 56.34 30 ⇓P **P 12 13 09.6 +1.6**
GZR Gura Zlata 56.34 30 P **P 12 13 09.5 +1.6**
HSKC Hora Svate Kat 56.37 20 *e*P **P 12 13 08.6 +0.5**
HSKC AMS AMS 12 36 00.0
comp=Z,2μm,17.5s
SIRR Siria 56.41 29 ⇑P **P 12 13 09.9 +1.5**
VRAC Vranov 56.49 23 *e*P **P 12 13 09.3 +0.4**
VRAC Vranov 56.49 23 ⇓P **P 12 13 09.6 +0.6**
VRAC Vranov 56.49 23 P **P 12 13 09.5 +0.6**
RICC Richard 56.55 21 *e*P **P 12 13 13.5 +4.2**
RICC AMS AMS 12 38 00.0
comp=Z,2μm,15.9s
JAVC Velka Javorina 56.57 24 *e*P **P 12 13 10.6 +1.0**
CSS Mathiatis 56.65 46 P **P 12 13 08.7 -1.6**
CSS Mathiatis 56.65 46 P **P 12 13 10.9 +0.6**
comp=Z,30nm,0.9s,comp=Z,423nm
GHAJ Ghor Haditha 56.67 51 IAMs_20 IAMs_20 12 40 39.5
comp=Z,2μm,18.0s
PVCC Panska Ves 56.71 21 *e*S **S 12 21 02.2 -0.9**
PVCC AMS AMS 12 38 10.0
comp=Z,2μm,19.0s
ESK Eskdalemuir 56.76 7 P **P 12 13 10.2 -0.5**
ESK Eskdalemuir 56.76 7 P **P 12 13 10.3 -0.5**
ESK pmax pmax
comp=Z,121nm,1.6s
BRG Berggiesshubel 56.77 21 *e*P **P 12 13 11.4 +0.4**
BRG Amp 12 13 17.6
comp=Z,34nm,1.2s
BRG Berggiesshubel 56.77 21 *e*P **P 12 13 11.3 +0.4**
BRG 12 15 15.4
BRG 12 16 40.0
BRG S **S 12 21 04.0 +0.1**
BRG pmax pmax
comp=Z,34nm,1.2s
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG pmax pmax
comp=Z,16nm,1.1s
BRG pmax pmax
comp=Z,15nm,1.2s
VYHS Vyhne 56.77 25 *e*P **P 12 13 11.9 +0.9**
VYHS pmax pmax
comp=Z,31nm,1.0s
VYHS Vyhne 56.77 25 *e*P **P 12 13 11.9 +0.9**
EKB Eskdalemuir 56.78 7 P **P 12 13 10.7 -0.2**
EKA Eskdalemuir Ar 56.79 7 P **P 12 13 11.2 +0.3**
comp=Z,15nm,0.6s,baz=191,slow=8.0,SNR=45
comp=Z,15nm,0.6s
PSZ Piszkesteto 56.80 26 P **P 12 13 10.8 -0.4**
PSZ IAmb IAmb 12 13 16.6
comp=Z,29nm,0.9s
PSZ Piszkesteto 56.80 26 *e*P **P 12 13 11.2 -0.1**
PSZ Piszkesteto 56.80 26 ⇑P **P 12 13 12.0 +0.7**
PSZ Piszkesteto 56.80 26 P **P 12 13 11.9 +0.7**
CLL Collm 56.81 20 P **P 12 13 11.0 -0.1**
CLL IAmb IAmb 12 13 17.1
comp=Z,48nm,1.6s
CLL IAMs_20 IAMs_20 12 36 57.2
comp=Z,2μm,18.0s
CLL Collm 56.81 20 ⇓*i*P **P 12 13 11.8 +0.7**
CLL *i* 12 13 15.9
CLL *e*S **S 12 21 06.0 +1.6**
CLL pmax pmax
comp=Z,52nm,1.8s
CLL MLR MLR
comp=Z,2μm,20.0s
CLL Collm 56.81 20 ⇓*i*P **P 12 13 11.8 +0.7**
comp=Z,52nm,1.8s
CLL *i* x x 12 13 15.9
CLL *e*PP **PP 12 15 13.0 -4.6**
CLL *e*PPP PPP 12 16 36.0
CLL *e*S **S 12 21 06.0 +1.6**
comp=N,2μm,25.5s
CLL *e*S **S 12 21 06.0 +1.6**
comp=E,700nm,24.1s
CLL AMS AMS 12 34 00.0
comp=N,2μm,21.3s
CLL AMS AMS 12 34 00.0
comp=E,2μm,21.6s
CLL AMS AMS 12 36 00.0
comp=Z,2μm,20.0s
LOT Lotru 56.88 31 ⇓P **P 12 13 13.4 +1.5**
MAUC Maruska 57.03 24 *e*P **P 12 13 17.0 +4.2**
FLTG Flechtingen 57.12 18 *e*P **P 12 13 13.9 +0.6**
comp=Z,9.9nm,0.9s,baz=210,slow=7.2
KRLC Kraliky 57.17 23 *e*P **P 12 13 14.6 +0.8**
KRLC *e*S **S 12 21 11.8 +2.4**
KRLC AMS AMS 12 39 00.0
comp=Z,2μm,19.6s
KRLC Kraliky 57.17 23 *e*P **P 12 13 14.6 +0.8**
KRLC *e*S **S 12 21 11.8 +2.4**
KRLC MLR MLR
comp=Z,2μm,19.6s
DPC Dobruska-Polom 57.22 22 *e*P **P 12 13 14.5 +0.4**
DPC *e*S **S 12 21 13.6 +3.7**
DPC AMS AMS 12 35 20.0
comp=Z,2μm,20.2s
DPC Dobruska-Polom 57.22 22 *e*P **P 12 13 14.5 +0.4**
DPC *e*S **S 12 21 13.6 +3.7**
DPC MLR MLR
comp=Z,2μm,20.2s
DPC Dobruska-Polom 57.22 22 P **P 12 13 14.6 +0.4**
comp=Z,19nm,1.2s
SGRR Singureni 57.22 33 ⇓P **P 12 13 15.7 +1.5**
UPC Upice 57.22 22 *e*P **P 12 13 14.6 +0.5**
UPC *e*S **S 12 21 17.1 +7.1**
UPC AMS AMS 12 38 30.0
comp=Z,2μm,16.7s
UPC Upice 57.22 22 *e*P **P 12 13 14.6 +0.5**
UPC *e*S **S 12 21 17.1 +7.1**
UPC MLR MLR
comp=Z,2μm,16.7s
MORC Moravsky Berou 57.24 24 P **P 12 13 13.7 -0.6**
MORC Moravsky Berou 57.24 24 *e*P **P 12 13 14.4 +0.1**
MORC Moravsky Berou 57.24 24 ⇑P **P 12 13 15.7 +1.4**
MORC Moravsky Berou 57.24 24 P **P 12 13 15.6 +1.4**
BORA Eskisehir 57.25 40 P **P 12 13 13.5 -1.1**
ARR Arges 57.27 31 ⇑P **P 12 13 15.7 +1.0**
MMAI Mount Meron Ar 57.28 49 P **P 12 13 16.3 +1.4**
comp=Z,3.6nm,0.6s,baz=234,slow=12,SNR=4.6
MMAI LR LR 12 40 43.9
comp=Z,1μm,18.0s,baz=208,slow=39
comp=Z,3.6nm,0.6s
DRGR 57.29 29 ⇑P **P 12 13 16.0 +1.2**
DRGR 57.29 29 P **P 12 13 15.9 +1.2**

CHVC Chvalec 57.31 22 AMS AMS 12 38 30.0
comp=Z,2μm,17.2s
GO01 Chusmiza 57.33 247 P **P 12 13 14.3 -1.7**
OSTC Ostas 57.34 22 *e*S **S 12 21 14.3 +2.8**
OSTC AMS AMS 12 38 30.0
comp=Z,2μm,21.2s
PB08 IPOC Station P 57.39 247 P **P 12 13 15.4 -0.9**
MARR Marisel-Cluj 57.41 29 ⇑P **P 12 13 16.8 +1.2**
OKC Ostrava-Krasne 57.53 24 *e*S **S 12 21 12.9 -1.0**
OKC AMS AMS 12 38 20.0
comp=Z,1μm,13.9s
SDV Santo Domingo 57.53 281 P **P 12 13 16.0 -1.1**
SDV Santo Domingo 57.53 281 LR LR 12 36 30.8
comp=Z,1μm,20.3s,baz=98,slow=34
SDV Santo Domingo 57.53 281 *e*P **P 12 13 18.4 +1.3**
ATD Arta Tunnel 57.56 76 LR LR 12 37 02.0
comp=Z,56nm,18.8s,baz=260,slow=35
TRQA Tornquist 57.59 224 P **P 12 13 16.8 -0.2**
TRQA IAmb IAmb 12 13 18.6
comp=Z,87nm,1.7s
TRQA IAMs_20 IAMs_20 12 33 01.2
comp=Z,3μm,22.0s
TRQA Tornquist 57.59 224 P **P 12 13 16.8 -0.2**
TRQA pmax pmax
comp=Z,87nm,1.7s
KSP Ksiaz 57.60 22 *e*P **P 12 13 16.9 +0.1**
KSP Ksiaz 57.60 22 P **P 12 13 17.6 +0.8**
comp=Z,18nm,1.6s
CJR Cluj-Napoca 57.67 30 ⇓P **P 12 13 19.0 +1.6**
CJR Cluj-Napoca 57.67 30 P **P 12 13 19.0 +1.6**
GORT1 Trebel 57.71 18 *e*P **P 12 13 18.9 +1.5**
comp=Z,74nm,1.3s,baz=210,slow=7.2
PB09 IPOC Station P 57.83 245 P **P 12 13 17.4 -1.7**
PB01 IPOC Station P 57.89 246 P **P 12 13 17.3 -2.2**
MLR Muntele Rosu 58.04 32 P **P 12 13 18.8 -1.3**
MLR IAmb IAmb 12 13 38.3
comp=Z,50nm,1.0s
MLR Muntele Rosu 58.04 32 LR LR 12 40 10.3
comp=Z,3μm,20.2s,baz=250,slow=38
MLR Muntele Rosu 58.04 32 ⇓P **P 12 13 20.6 +0.5**
MLR Muntele Rosu 58.04 32 P **P 12 13 20.8 +0.7**
MLR Muntele Rosu 58.04 32 P **P 12 13 20.8 +0.7**
comp=Z,52nm,1.2s
MDUB Mudurnu 58.05 39 P **P 12 13 20.0 -0.3**
ASF Jabal al Asfar 58.06 51 P **P 12 13 22.4 +1.9**
comp=Z,22nm,0.9s,baz=225,slow=5.7,SNR=13
ASF LR LR 12 40 05.5
comp=Z,1μm,18.4s,baz=333,slow=38
comp=Z,22nm,0.9s
DOPR Dopca 58.06 31 ⇓P **P 12 13 20.9 +0.8**
HMBC Humberstone 58.09 247 P **P 12 13 19.8 -1.2**
NIE Niedzica 58.10 25 *e*P **P 12 13 21.8 +1.4**
NIE Niedzica 58.10 25 P **P 12 13 21.8 +1.4**
comp=Z,11nm,1.1s
ISR Istrita 58.12 33 ⇓P **P 12 13 21.4 +0.8**
ISR Istrita 58.12 33 P **P 12 13 21.4 +0.8**
ISR Istrita 58.12 33 P **P 12 13 21.6 +1.0**
comp=Z,82nm,1.0s
ICOR Ion Corvin 58.17 34 ⇓P **P 12 13 21.6 +0.7**
NEHR Nehoiu 58.18 32 ⇑P **P 12 13 21.7 +0.7**
BSEG Bad Segeberg 58.24 16 *e*P **P 12 13 21.8 +0.6**
comp=Z,31nm,0.7s,baz=210,slow=7.2
OZUR 58.36 31 ⇑P **P 12 13 23.3 +1.1**
COVR Voineasa-Covas 58.41 32 ⇑P **P 12 13 23.0 +0.4**
TURR Turia 58.45 31 ⇑P **P 12 13 24.5 +1.6**
PATCX Punta Patache 58.45 246 P **P 12 13 20.8 -2.6**
BISRR Bisoca 58.48 32 ⇑P **P 12 13 24.1 +1.0**
OJC Ojcow 58.50 25 *e*P **P 12 13 23.7 +0.7**
OJC Ojcow 58.50 25 P **P 12 13 21.3 -1.8**
OJC IAmb IAmb 12 13 28.0
comp=Z,30nm,1.1s
OJC Ojcow 58.50 25 P **P 12 13 21.3 -1.8**
OJC pmax pmax
comp=Z,30nm,1.1s
OJC Ojcow 58.50 25 P **P 12 13 23.8 +0.7**
comp=Z,22nm,0.8s
HARR Harsova 58.60 34 ⇓P **P 12 13 24.4 +0.6**
HARR Harsova 58.60 34 P **P 12 13 24.4 +0.6**
KOLS Kolonicke sedl 58.62 27 *e*P **P 12 13 25.7 +1.7**
KOLS pmax pmax
comp=Z,22nm,0.6s
KOLS Kolonicke sedl 58.62 27 *e*P **P 12 13 25.7 +1.7**
PLOR Plostina 58.65 32 ⇑P **P 12 13 24.3 0.0**
PLOR Plostina 58.65 32 P **P 12 13 24.2 0.0**
PLOR5 Plostina Array 58.65 32 P **P 12 13 25.5 +1.2**
comp=Z,37nm,0.9s
VRI Vrincioaia 58.70 32 ⇑P **P 12 13 24.8 +0.2**
VRI Vrincioaia 58.70 32 P **P 12 13 24.7 +0.2**
ANTO Ankara 58.75 41 P **P 12 13 25.4 +0.2**
ANTO Ankara 58.75 41 P **P 12 13 26.8 +1.7**
ANTO P **P 12 13 26.8 +1.7**
ANTO Ankara 58.75 41 P **P 12 13 25.4 +0.2**
ANTO pmax pmax
comp=Z,21nm,0.9s
ANTO MLR MLR
comp=Z,1μm,22.0s
PB04 IPOC Station P 58.78 244 P **P 12 13 25.0 -0.8**
PB04 IAmb IAmb 12 13 27.3
comp=Z,51nm,1.0s
ONER Baraj Valea Uz 58.83 31 ⇓P **P 12 13 26.2 +0.7**
GO02 Mina Guanaco 58.96 241 P **P 12 13 26.2 -1.0**
TPGR Topolog 58.98 34 ⇓P **P 12 13 26.9 +0.3**
CFR Carcaliu 59.02 33 ⇓P **P 12 13 26.6 -0.2**
CFR Carcaliu 59.02 33 P **P 12 13 26.5 -0.2**
TESR Tescani 59.08 31 ⇑P **P 12 13 28.0 +0.8**
TESR Tescani 59.08 31 P **P 12 13 27.7 +0.5**
comp=Z,26nm,0.7s,comp=Z,850nm
BURAR Bucovina Array 59.09 30 P **P 12 13 24.9 -2.5**
BURAR Bucovina Array 59.09 30 ⇑P **P 12 13 28.5 +1.1**
BURAR Bucovina Array 59.09 30 P **P 12 13 28.5 +1.1**
BUR08 Bucovina Ar. S 59.10 30 P **P 12 13 25.9 -1.5**
KIRS Kirsehir-Merke 59.12 42 ⇓P **P 12 13 28.9 +1.2**
CZSB Cruzeiro do Su 59.14 262 P **P 12 13 24.9 -3.3**
CZSB IAmb IAmb 12 13 29.7
comp=Z,64nm,1.3s
CZSB Cruzeiro do Su 59.14 262 *e*P **P 12 13 28.6 +0.4**
BR105 Keskin Array S 59.22 41 P **P 12 13 30.0 +1.5**
comp=Z,21nm,1.2s,comp=Z,179nm
BR106 Keskin Array S 59.23 41 P **P 12 13 30.1 +1.6**
comp=Z,21nm,1.0s,comp=Z,157nm
BR131 Keskin Array S 59.23 41 P **P 12 13 27.6 -1.0**
BR131 IAmb IAmb 12 13 33.6
comp=Z,24nm,0.9s
BR131 Keskin Array S 59.23 41 *d*/*i*P **P 12 13 30.0 +1.4**
BRTR Keskin Array B 59.23 41 P **P 12 13 28.4 -0.2**
BRTR Keskin Array B 59.23 41 P **P 12 13 30.1 +1.4**
comp=Z,11nm,0.8s,baz=231,slow=7.3,SNR=44
BRTR LR LR 12 42 00.4
comp=Z,799nm,20.4s,baz=231,slow=39
comp=Z,11nm,0.8s
KWP Kalwaria Pacla 59.32 27 *e*P **P 12 13 29.8 +0.9**
KWP Kalwaria Pacla 59.32 27 P **P 12 13 28.6 -0.2**
KWP IAmb IAmb 12 13 42.9
comp=Z,49nm,1.0s
KWP Kalwaria Pacla 59.32 27 P **P 12 13 28.6 -0.2**
KWP pmax pmax
comp=Z,49nm,1.0s
KWP MLR MLR
comp=Z,3μm,21.0s
KWP Kalwaria Pacla 59.32 27 P **P 12 13 29.7 +0.9**
comp=Z,53nm,1.0s
RGN Rugen 59.66 18 IAMs_20 IAMs_20 12 40 08.6
comp=Z,2μm,19.0s
ZON Zonda 60.06 234 P **P 12 13 34.3 -0.1**
ZON IAmb IAmb 12 13 36.4
comp=Z,24nm,0.8s
ZON Zonda 60.06 234 P **P 12 13 34.3 -0.1**
ZON pmax pmax
comp=Z,24nm,0.8s
GO03 Copiapo 60.17 239 IAmb IAmb 12 13 36.9
comp=Z,44nm,1.1s
MUD Monsted U'grnd 60.18 14 *i*P **P 12 13 33.9 -0.6**
MUD IAmb IAmb 12 13 38.9
comp=Z,60nm,1.1s
AC06 Mina Casimiro 60.20 239 P **P 12 13 34.6 -0.8**
AC06 IAmb IAmb 12 13 36.9
comp=Z,30nm,0.8s
BNN Bunyan 60.28 43 P **P 12 13 36.6 +0.8**
KMPD K-Podol'skiy 60.34 30 P **P 12 13 35.7 -0.1**
comp=Z,10μm,0.8s,comp=Z,82μm
GAZ Gaziantep 60.45 45 P **P 12 13 38.0 +1.1**
GAZ IAmb IAmb 12 13 50.9
comp=Z,51nm,1.2s
CO01 Juntas del Tor 60.73 236 IAmb IAmb 12 13 42.1

comp=Z,44nm,1.1s
ROSC El Rosal 60.80 276 P **P 12 13 37.8 -2.3**
ROSC El Rosal 60.80 276 P **P 12 13 41.1 +1.0**
comp=Z,33nm,0.7s,baz=98,slow=5.4,SNR=12
ROSC LR LR 12 36 52.0
comp=Z,3μm,21.9s,baz=125,slow=33
comp=Z,33nm,0.7s
LCO Las Campanas 60.96 237 P **P 12 13 38.9 -1.9**
LCO IAmb IAmb 12 13 43.4
comp=Z,30nm,0.8s
LCO Las Campanas 60.96 237 P **P 12 13 38.9 -1.9**
LCO pmax pmax
comp=Z,30nm,0.9s
SORM Soroca 61.02 31 ⇓P **P 12 13 39.5 -1.0**
SORM Soroca 61.02 31 P **P 12 13 39.4 -1.0**
SORM Soroca 61.02 31 P **P 12 13 39.4 -1.0**
comp=Z,29nm,0.9s
GO04 Tololo Observa 61.37 236 P **P 12 13 44.0 +0.5**
CO03 El Pedregal 61.48 235 P **P 12 13 44.6 +0.6**
CO03 IAmb IAmb 12 13 45.7
comp=Z,42nm,1.0s
CO05 La Serena 61.66 236 P **P 12 13 44.9 -0.3**
MT08 Bocatoma Ro 61.76 232 P **P 12 13 46.0 -0.1**
MT08 IAmb IAmb 12 13 48.6
comp=Z,37nm,1.0s
LUBAR Lubar, Ukraine 61.88 29 P **P 12 13 45.3 -1.0**
RNPP5 Staryi Chortor 61.89 27 P **P 12 13 46.4 +0.1**
VA03 San Esteban 61.96 233 P **P 12 13 45.2 -2.1**
VA03 IAmb IAmb 12 13 49.3
comp=Z,47nm,1.1s
RNPP9 Sopachiv 62.02 27 P **P 12 13 47.1 0.0**
LMEL Las Melosas 62.03 232 P **P 12 13 46.2 -1.7**
LMEL IAmb IAmb 12 13 49.9
comp=Z,46nm,1.1s
MT03 Universidad Ad 62.16 232 P **P 12 13 47.0 -1.6**
PEL Peldehue 62.19 233 P **P 12 13 49.2 +0.4**
PEL IAmb IAmb 12 13 49.9
comp=Z,43nm,1.0s
PEL IAMs_20 IAMs_20 12 43 51.7
comp=Z,2μm,19.0s
PEL Peldehue 62.19 233 P **P 12 13 49.2 +0.4**
PEL pmax pmax
comp=Z,43nm,1.0s
PEL MLR MLR
comp=Z,2μm,19.0s
OPO Ambohidratompo 62.20 110 LR LR 12 36 03.7
comp=Z,1μm,21.6s,baz=158,slow=32
CO06 Fray Jorge 62.21 236 P **P 12 13 49.2 +0.4**
ABPO Ambohimpanom 62.31 111 P **P 12 13 50.7 +0.8**
ABPO Ambohimpanom 62.31 111 P **P 12 13 50.7 +0.8**
ABPO pmax pmax
comp=Z,13nm,1.1s
MT05 Renca 62.31 232 P **P 12 13 50.1 +0.6**
SIM Simferopol' 62.31 36 *e*P **P 12 13 51.9 +2.6**
SIM *e*S **S 12 22 18.9 +3.1**
SIM pmax pmax
comp=Z,208nm,6.4s
SIM smax smax
comp=N,313nm,11.5s
SIM MLR MLR
comp=Z,299nm,14.9s
VOI Vohitsoka 62.41 114 P **P 12 13 50.3 -0.2**
VOI IAMs_20 IAMs_20 12 36 38.3
comp=Z,2μm,22.0s
VOI Vohitsoka 62.41 114 P **P 12 13 51.5 +1.0**
RAYN Ar Rayn 62.43 63 P **P 12 13 50.8 +0.3**
RAYN IAmb IAmb 12 14 01.9
comp=Z,20nm,1.0s
RAYN Ar Rayn 62.43 63 P **P 12 13 51.1 +0.6**
RAYN Ar Rayn 62.43 63 P **P 12 13 51.7 +1.1**
VA06 Catapilco 62.49 233 P **P 12 13 50.7 0.0**
MI28 Mi28,Pidlybu 62.51 28 P **P 12 13 50.0 -0.5**
comp=Z,339nm,0.7s
MT02 Curacav 62.58 233 P **P 12 13 51.2 -0.2**
MT02 IAmb IAmb 12 13 52.7
comp=Z,41nm,1.0s
SUW Suwalki 62.73 24 *e*P **P 12 13 52.0 +0.2**
SUW Suwalki 62.73 24 *e*P **P 12 13 52.7 +0.9**
BO02 Sierra Bellavi 62.80 231 P **P 12 13 53.2 +0.4**
BO02 IAmb IAmb 12 13 54.4
comp=Z,44nm,1.2s
BO01 Tunca 62.90 231 P **P 12 13 53.8 +0.4**
KIEV Kiev 63.09 29 P **P 12 13 54.2 -0.2**
KIEV IAmb IAmb 12 13 58.3
comp=Z,25nm,1.0s
KIEV Kiev 63.09 29 IAMs_20 IAMs_20 12 41 57.0
comp=Z,2μm,18.0s
KIEV Kiev 63.09 29 ⇓P **P 12 13 54.3 0.0**
KIEV Kiev 63.09 29 P **P 12 13 54.3 0.0**
AKASG Malin Array Be 63.11 29 P **P 12 13 54.4 0.0**
AKASG Malin Array Be 63.11 29 P **P 12 13 53.8 -0.7**
comp=Z,3.0nm,0.6s,baz=225,slow=5.1,SNR=30
AKASG LR LR 12 42 39.0
comp=Z,1μm,19.9s,baz=231,slow=37
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 63.11 29 *i*P **P 12 13 54.5 0.0**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 63.11 29 P **P 12 13 54.3 -0.1**
AKBB IAmb IAmb 12 13 58.3
comp=Z,28nm,1.0s
AKBB Malin Array Si 63.11 29 P **P 12 13 54.3 -0.1**
AKBB pmax pmax
comp=Z,28nm,1.0s
AKBB Malin Array Si 63.11 29 P **P 12 13 54.2 -0.2**
KONO Kongsberg 63.15 13 P **P 12 13 54.9 +0.4**
KONO IAmb IAmb 12 14 02.0
comp=Z,42nm,1.1s
KONO Kongsberg 63.15 13 IAMs_20 IAMs_20 12 40 59.5
comp=Z,1μm,18.0s
KONO Kongsberg 63.15 13 P **P 12 13 54.9 +0.4**
KONO pmax pmax
comp=Z,42nm,1.1s
KONO MLR MLR
comp=Z,1μm,18.0s
FOMA Nahampoana Res 63.19 118 IAMs_20 IAMs_20 12 40 18.9
comp=Z,2μm,18.0s
NNA Nana 63.52 257 LR LR 12 40 59.9
comp=Z,3μm,18.1s,baz=76,slow=36
NMDO Nuevo Mundo 63.60 293 P **P 12 13 58.9 +0.6**
NMDO IAmb IAmb 12 14 16.7
comp=Z,42nm,1.1s
ML02 Panimavida 63.61 230 P **P 12 13 57.6 -0.5**
GO05 Hualane 63.76 231 P **P 12 13 59.0 -0.2**
BI02 San Fabin de 63.80 229 P **P 12 13 59.2 -0.2**
PABE Paberze 64.14 23 P **P 12 14 01.4 +0.3**
PABE IAmb IAmb 12 14 18.2
comp=Z,42nm,1.0s
PABE IAMs_20 IAMs_20 12 43 43.4
comp=Z,2μm,18.0s
PABE Paberze 64.14 23 *e*P **P 12 14 00.1 -1.0**
ANN Anapa 64.24 38 *e*P **P 12 13 59.1 -2.9**
ANN *e**PP **pP 12 14 03.2 -0.5**
ANN *e*S **S 12 22 36.3 -3.5**
ANN pmax pmax
comp=Z,61nm,0.9s
ANN MLR MLR
comp=N,1μm,12.0s
ANN MLR MLR
comp=E,722nm,13.0s
ANN MLR MLR
comp=Z,1μm,16.0s
GURO Guroymak-BITLI 64.49 46 IAmb IAmb 12 14 09.5
comp=Z,19nm,0.9s
HFS Hagfors 64.56 15 P **P 12 14 04.0 +0.2**
comp=Z,23nm,0.8s,baz=190,slow=5.9,SNR=22
HFS LR LR 12 44 18.1
comp=Z,2μm,18.7s,baz=214,slow=38
comp=Z,23nm,0.8s
HFS Hagfors 64.56 15 P **P 12 14 04.0 +0.2**
NC602 NORSAR Array S 64.56 13 IAmb IAmb 12 14 08.5
comp=Z,35nm,1.2s
NBO00 NORSAR Array S 64.65 13 P **P 12 14 04.9 +0.5**
LMN Caledonia Moun 64.72 323 P **P 12 14 03.1 -2.1**
OTAV Otavalo 64.73 271 P **P 12 14 06.5 +0.1**
OTAV IAmb IAmb 12 14 18.0
comp=Z,45nm,1.5s
OTAV Otavalo 64.73 271 IAMs_20 IAMs_20 12 38 54.9
comp=Z,2μm,21.0s
OTAV Otavalo 64.73 271 P **P 12 14 06.5 +0.1**
OTAV pmax pmax
comp=Z,45nm,1.5s
OTAV Otavalo 64.73 271 *e*P **P 12 14 07.6 +1.2**
PLCA Paso Flores 64.74 225 P **P 12 14 04.3 -1.3**
PLCA IAmb IAmb 12 14 06.7

comp=Z,49nm,1.9s
PLCA Paso Flores 64.74 225 P **P 12 14 05.4 -0.1**
comp=Z,4.9nm,0.9s,baz=68,slow=9.6,SNR=5.5
PLCA LR LR 12 37 43.8
comp=Z,1μm,21.9s,baz=70,slow=32
comp=Z,4.9nm,0.9s
PLCA Paso Flores 64.74 225 *e*P **P 12 14 05.6 +0.1**
ATAH Atahualpa 64.75 263 LR LR 12 41 12.6
comp=Z,3μm,19.8s,baz=103,slow=35
NB2 NORSAR Subarra 64.75 13 P **P 12 14 05.5 +0.3**
comp=Z,25nm,1.0s,baz=205,slow=6.9
NB2 NORSAR Subarra 64.75 13 P **P 12 14 05.5 +0.3**
baz=205,slow=6.9
NOA NORSAR Array B 64.75 13 P **P 12 14 05.2 0.0**
comp=Z,8.9nm,0.8s,baz=207,slow=6.7,SNR=14
NOA LR LR 12 42 18.4
comp=Z,744nm,18.6s,baz=210,slow=36
comp=Z,8.9nm,0.8s
NACGM Naroch 64.83 24 *e*P **P 12 14 06.8 +1.1**
NC204 NORSAR Array S 64.86 13 P **P 12 14 06.8 +0.9**
NC204 IAmb IAmb 12 14 11.2
comp=Z,35nm,1.1s
NC303 NORSAR Array S 64.95 13 P **P 12 14 06.9 +0.5**
NC303 IAmb IAmb 12 14 11.6
comp=Z,26nm,1.0s
GO06 Curarrehue 64.97 226 P **P 12 14 07.7 +0.5**
GO06 IAmb IAmb 12 14 08.4
comp=Z,33nm,1.4s
MNK Minsk 65.02 25 *i* P **P 12 14 05.4 -1.5**
comp=E,20nm,0.9s
MNK *i* P **P 12 14 05.4 -1.5**
comp=N,26nm,0.8s
MNK *i* P **P 12 14 05.4 -1.5**
comp=Z,34nm,0.9s,baz=227
MNK *i* PP **PP 12 16 29.5 -0.6**
MNK *i* PPP PPP 12 18 01.4
MNK *i* S **S 12 22 47.8 -1.3**
MNK *i* SS **SS 12 27 00.6 -0.6**
MNK *i* SSS SSS 12 30 05.0
MNK *i* LQ LQ 12 37 58.8
MNK *i* LR LR 12 43 02.6
MNK *i* LRM MLR 12 44 24.8
comp=N,917nm,16.5s
MNK *i* LRM MLR 12 45 08.8
comp=E,1μm,17.5s
MNK *i* LRM MLR 12 45 19.3
comp=Z,1μm,16.8s
MNK Minsk 65.02 25 *i* P **P 12 14 05.4 -1.5**
MNK *i* 12 16 29.4
MNK *i* PPP PPP 12 18 01.4
MNK *i* S **S 12 22 47.8 -1.3**
MNK *i* SS **SS 12 27 00.6 -0.6**
MNK pmax pmax
comp=N,26nm,0.8s
MNK pmax pmax
comp=E,20nm,0.9s
MNK pmax pmax
comp=Z,34nm,0.9s
MNK MLR MLR
comp=N,917nm,17.0s
MNK MLR MLR
comp=E,1μm,17.0s
MNK MLR MLR
comp=Z,1μm,17.0s
SOC Sochi 65.09 40 *e*P **P 12 14 06.6 -1.0**
SOC *e* 12 16 34.8
SOC *e*S **S 12 22 50.0 -0.4**
SOC MLR MLR
comp=Z,648nm,21.0s
COHC Cochancay 65.51 268 P **P 12 14 09.6 -1.3**
MTDJ Mount Denham 65.53 290 P **P 12 14 09.5 -1.6**
LR05 Currie 65.58 226 P **P 12 14 09.9 -1.0**
BORG Borgarnes 65.80 356 LR LR 12 37 43.4
comp=Z,712nm,20.8s,baz=168,slow=31
LL04 Puerto Octay 66.11 225 IAmb IAmb 12 14 19.3
comp=Z,52nm,1.4s
BATG Bathurst New B 66.19 324 P **P 12 14 13.4 -1.3**
LABN Labinsk 66.22 39 *e*P **P 12 14 13.3 -1.6**
LABN *e**PP **pP 12 14 14.7 -1.9**
LABN *e*S **S 12 23 03.1 -1.1**
LABN pmax pmax
comp=Z,36nm,0.4s
NRS Narsarsuaq 66.56 344 *i* P P 12 14 24.4 +7.6
NRS IAmb IAmb 12 14 36.8
comp=Z,37nm,1.1s
LL02 Futaleuf 66.56 223 P **P 12 14 17.6 +0.4**
ERBR Yeremizino-Bor 66.57 38 *e*P **P 12 14 14.7 -2.4**
ERBR *e**PP **pP 12 14 17.9 -0.9**
ERBR *e*S **S 12 23 05.9 -2.5**
ERBR pmax pmax
comp=Z,47nm,1.3s
LL01 San Ignacio de 66.65 224 IAmb IAmb 12 14 19.4
comp=Z,33nm,1.2s
GNI Garni 67.05 45 P **P 12 14 21.1 +0.6**
comp=Z,5.7nm,0.4s,baz=278,slow=14,SNR=2.3
GNI LR LR 12 47 13.5
comp=Z,276nm,18.7s,baz=266,slow=39
comp=Z,5.7nm,0.4s
GNI Garni 67.05 45⇑*e*P **P 12 14 21.2 +0.6**
GNI pmax pmax
comp=Z,33nm,1.2s
SHA1 Shidzhatmaz 67.07 41⇓*e*P **P 12 14 20.9 +0.2**
KIV Kislovodsk 67.18 41 *e*P **P 12 14 21.9 +0.7**
KIV *e*S **S 12 23 17.6 +1.5**
KIV *e*SS **SS 12 27 37.5 +2.0**
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,224nm,17.0s
KVAR Kislovodsk Arr 67.19 41 P P 12 14 31.2 +10
comp=Z,4.0nm,0.5s,baz=336,slow=10.0,SNR=2.4
KBZ Khabaz 67.22 41 P **P 12 14 21.8 +0.5**
comp=Z,21nm,0.9s,baz=255,slow=2.0,SNR=20
KBZ LR LR 12 47 53.7
comp=Z,445nm,19.3s,baz=228,slow=40
comp=Z,21nm,0.9s
KBZ Khabaz 67.22 41*ce*P **P 12 14 21.9 +0.6**
KBZ pmax pmax
comp=Z,27nm,1.0s
VSU Vasula 67.33 22*ce*P **P 12 14 22.1 +0.5**
VSU pmax pmax
comp=Z,48nm,1.0s
VORD Divnogorie 68.45 33 *e*P **P 12 14 28.5 -0.4**
VORD pmax pmax
comp=Z,20nm,1.0s
VSR Storozhevoye 68.52 33 *e*P **P 12 14 27.9 -1.4**
VSR pmax pmax
comp=Z,30nm,1.0s
VORR Voronezh 68.77 32 *e*P **P 12 14 30.3 -0.6**
VORR pmax pmax
comp=Z,20nm,0.8s
GO08 Villa O'Higgin 69.08 218 P **P 12 14 34.0 +1.1**
LPSR Galich'ya Gora 69.11 31 *e*P **P 12 14 32.4 -0.6**
LPSR pmax pmax
comp=Z,48nm,0.9s
MSEY Mahe Island 69.20 95 P **P 12 14 35.0 +0.6**
MSEY Mahe Island 69.20 95 P **P 12 14 35.0 +0.6**
MSEY pmax pmax
comp=Z,41nm,0.8s
FINES FINESS Array B 69.25 19 P **P 12 14 33.5 -0.2**
FINES FINESS Array B 69.25 19 P **P 12 14 33.8 +0.1**
comp=Z,12nm,0.7s,baz=220,slow=4.4,SNR=29
FINES LR LR 12 47 02.1
comp=Z,2μm,18.9s,baz=233,slow=38
comp=Z,12nm,0.7s
FIA1 FINESS Array S 69.25 19 P **P 12 14 33.9 +0.2**
OBN Obninsk 69.32 28 P **P 12 14 35.1 +0.9**
comp=Z,15nm,0.4s,baz=286,slow=15,SNR=1.1
OBN LR LR 12 45 29.1
comp=Z,2μm,21.8s,baz=230,slow=36
comp=Z,15nm,0.4s
OBN Obninsk 69.32 28 *e*P **P 12 14 33.9 -0.3**
OBN *i* 12 14 59.2
OBN *i* 12 17 05.5
OBN *i* PPP PPP 12 18 45.3
OBN *e*S **S 12 23 43.0 +2.2**
OBN pmax pmax
comp=Z,41nm,1.3s
OBN MLR MLR
comp=Z,2μm,20.0s
KEF Keuruu 69.40 18 *e*P **P 12 14 38.3 +3.8**
VAF Ylistaro 69.41 17 *e*P **P 12 14 35.0 +0.4**
PUL Pulkovo 69.57 22⇓*e*P **P 12 14 37.6 +1.9**
PUL pmax pmax
comp=Z,46nm,0.7s
Y60A Bolivia 69.61 307 IAms_20 IAms_20 12 38 38.7
comp=Z,1μm,20.0s
VNA1 Neumayer--Stat 69.66 178⇑P **P 12 14 35.8 -0.2**
comp=Z,15nm,1.1s
060A Indiantown 69.75 299 IAms_20 IAms_20 12 40 20.6
comp=Z,1μm,20.0s
VRH Novokhopyorsk 69.90 33 *e*P **P 12 14 37.3 -0.6**
VRH pmax pmax
comp=Z,27nm,1.1s
T59A Double "B" Far 69.93 310 IAms_20 IAms_20 12 38 14.1
comp=Z,1μm,22.0s
VNA2 Neumayer--Watz 69.96 178⇑P **P 12 14 37.8 -0.1**
comp=Z,16nm,0.9s,baz=354,slow=5.0
061Z Ochoppi 70.00 298 IAms_20 IAms_20 12 37 25.1
comp=Z,2μm,22.0s
MAK Makhachkala 70.02 43 *e*P **P 12 14 35.3 -3.5**
MAK *e* 12 17 08.4
MAK *e*PPP PPP 12 18 52.3
MAK *e*S **S 12 23 46.3 -3.2**
MAK *e*SSS SSS 12 31 29.6
MAK pmax pmax
comp=Z,204nm,1.2s
W59A Clinton 70.11 308 IAms_20 IAms_20 12 45 47.8
comp=Z,1μm,19.0s
MOS Moscow 70.17 28 *e*P **P 12 14 38.4 -1.0**
MOS pmax pmax
comp=Z,62nm,0.9s
MOS MLR MLR
comp=Z,1μm,17.0s
VNA3 Neumayer Olymp 70.21 179⇑P **P 12 14 39.3 -0.2**
comp=Z,10.0nm,0.9s
R58B Mineral 70.47 311 IAms_20 IAms_20 12 38 10.4
comp=Z,1μm,20.0s
SCHQ Schefferville 70.52 331 P **P 12 14 42.6 +1.0**
comp=Z,6.2nm,1.0s,baz=88,slow=5.3,SNR=3.3
SCHQ LR LR 12 41 10.1
comp=Z,478nm,18.8s,baz=116,slow=32
comp=Z,6.2nm,1.0s
X58A Rowland 70.66 307 IAms_20 IAms_20 12 38 12.3
comp=Z,1μm,20.0s
Y58A Scranton 70.75 306 IAms_20 IAms_20 12 40 48.8
comp=Z,2μm,19.0s
V58A Windy Hill, Pi 70.81 308 IAms_20 IAms_20 12 42 07.3
comp=Z,1μm,20.0s
SNAA Sanae 70.93 176 P **P 12 14 44.6 +0.6**
SNAA Sanae 70.93 176⇑P **P 12 14 44.2 +0.2**
comp=Z,90nm,0.9s
SNAA Sanae 70.93 176 P **P 12 14 44.1 +0.2**
comp=Z,4.8nm,1.0s,baz=330,slow=8.3,SNR=6.0
SNAA LR LR 12 38 08.6
comp=Z,813nm,19.4s,baz=5.5,slow=29
comp=Z,4.8nm,1.0s
SNAA Sanae 70.93 176 P **P 12 14 44.6 +0.6**
SNAA pmax pmax
comp=Z,12nm,0.9s
NHSC New Hope 70.97 306 IAms_20 IAms_20 12 38 39.5
comp=Z,2μm,22.0s
P57A Homestead Farm 71.03 312 IAmb IAmb 12 14 58.0
comp=Z,61nm,1.4s
DY2G Dye2 71.16 347 *i* P **P 12 14 45.1 -0.5**
DY2G IAmb IAmb 12 15 09.0
comp=Z,104nm,1.5s
T57A Hurt 71.25 310 IAms_20 IAms_20 12 41 00.8
comp=Z,1μm,20.0s
Y57A Sumter 71.36 306 IAms_20 IAms_20 12 41 46.0
comp=Z,1μm,18.0s
SCO Scoresbysund 71.54 357 *i* P **P 12 14 48.0 +0.5**
SCO IAmb IAmb 12 15 14.9
comp=Z,38nm,1.6s
NVL N'lazarevskaya 71.65 171 *e*P **P 12 14 52.5 +4.3**
NVL *e*S **S 12 24 09.6 +2.0**
NVL pmax pmax
comp=Z,9.0nm,0.6s
TROLL Troll, Antarti 71.68 175⇑P **P 12 14 48.8 +0.3**
comp=Z,267nm,0.7s
JMIC Jan Mayen 71.92 2 LR LR 12 43 22.3
comp=Z,740nm,20.0s,baz=220,slow=33
ASHO Ashiyiah 72.11 64 P **P 12 14 52.6 +0.7**
HATD Hatta, Dubai 72.19 64 P **P 12 14 53.6 +1.2**
BLA Blacksburg 72.20 310 IAms_20 IAms_20 12 42 54.1
comp=Z,2μm,20.0s
UOSS Minazif 72.28 64 P **P 12 14 53.4 +0.5**
UOSS Minazif 72.28 64 P **P 12 14 53.2 +0.3**
ARQ Araqi 72.31 65 P **P 12 14 54.4 +1.3**
SNR=11
MASF Masafi 72.31 63 P **P 12 14 54.4 +1.2**
KMSC Kings Mountain 72.39 307 IAms_20 IAms_20 12 42 49.2
comp=Z,2μm,20.0s
SHME Shamm 72.41 62 P **P 12 14 54.9 +1.3**
SOHO SOHO 72.44 64 P **P 12 14 54.5 +0.6**
V55A Taylorsville 72.47 308 IAms_20 IAms_20 12 38 57.3
comp=Z,2μm,22.0s
BANOM Banah 72.53 63 P **P 12 14 54.7 +0.2**
SFJD Kangerlussuaq 72.62 346 LR LR 12 40 25.2
comp=Z,763nm,20.1s,baz=148,slow=31
SFJD Kangerlussuaq 72.62 346 *i* P **P 12 14 54.3 +0.3**
SFJD IAmb IAmb 12 15 00.7
comp=Z,17nm,0.8s
BSY Bisya 72.83 66 P **P 12 14 56.7 +0.4**
HOQ Hoqain 73.06 65 P **P 12 14 57.7 +0.1**
U54A Nelsons Funny 73.11 309 IAms_20 IAms_20 12 46 15.2
comp=Z,1μm,18.0s
PMSA Palmer Station 73.21 200 LR LR 12 39 19.5
comp=Z,2μm,21.9s,baz=42,slow=29
154A Montrose 73.25 304 IAms_20 IAms_20 12 43 14.1
comp=Z,1μm,19.0s
MHTO MHTO 73.30 68 P **P 12 14 59.4 +0.4**
TIGA Tifton 73.41 303 IAms_20 IAms_20 12 39 56.4
comp=Z,2μm,22.0s
SADO Sadowa 73.47 317 LR LR 12 41 28.0
comp=Z,1μm,20.6s,baz=98,slow=31
VLDQ Val d'Or 73.50 321 P **P 12 15 01.3 +1.7**
VLDQ IAmb IAmb 12 15 12.3
comp=Z,70nm,1.4s
JMDO Jabal Madar 73.61 66 P **P 12 15 00.5 -0.4**
SMDO Samad 73.66 66 P **P 12 15 02.1 +0.9**
SNR=13
V53A Saluda 73.69 308 IAmb IAmb 12 15 13.7
comp=Z,66nm,1.6s
BELG Belogornoye 73.72 34 P **P 12 15 01.8 +1.0**
comp=Z,51nm,0.9s,baz=310,slow=1.8,SNR=14
BELG LR LR 12 49 54.9
comp=Z,868nm,19.4s,baz=251,slow=38
comp=Z,51nm,0.9s
GOGA Godfrey 73.72 305 IAms_20 IAms_20 12 41 53.4
comp=Z,1μm,21.0s
KLMR Klimovskoe 73.85 24 *e*P **P 12 15 00.3 -1.1**
KLMR *e* 12 17 44.8
KLMR S **S 12 24 36.4 +3.4**
KLMR pmax pmax
comp=Z,39nm,1.4s
KLMR MLR MLR
comp=Z,1μm,16.0s
O52A Adamsville 74.03 312 P **P 12 15 02.5 -0.5**
Q52A Bidwell 74.06 311 IAms_20 IAms_20 12 40 21.3
comp=Z,2μm,22.0s
WSAR Wadi Sarin 74.21 66 P **P 12 15 04.8 +0.4**
comp=Z,22nm,0.9s,baz=263,slow=5.7,SNR=12
WSAR LR LR 12 49 27.8
comp=Z,738nm,18.0s,baz=264,slow=37
comp=Z,22nm,0.9s
Y52A Lilburn 74.30 306 IAms_20 IAms_20 12 42 09.8
comp=Z,1μm,20.0s
WBK Wadi Bani Khal 74.44 66 P **P 12 15 06.2 +0.5**
TKL Tuckaleechee C 74.45 307 LR LR 12 43 45.4
comp=Z,1μm,18.4s,baz=113,slow=32
W52A Murphy 74.45 307 IAms_20 IAms_20 12 39 47.7
comp=Z,1μm,22.0s
TZTN Tazewell 74.47 308 IAms_20 IAms_20 12 40 22.2
comp=Z,1μm,21.0s
152A Waverly Hall 74.60 304 IAms_20 IAms_20 12 40 09.7
comp=Z,2μm,22.0s
S51A Beattyville 74.75 309 IAmb IAmb 12 15 19.5
comp=Z,30nm,0.9s
JLN Jalan Bani Buh 74.78 67 P **P 12 15 07.8 +0.2**
Q51A Peebles 74.89 311 IAms_20 IAms_20 12 39 39.3
comp=Z,1μm,20.0s
ACSO Alum Creek Sta 74.91 312 P **P 12 15 06.0 -2.1**
ACSO IAmb IAmb 12 15 20.6
comp=Z,64nm,1.2s
CPCT Cooper Cave 75.00 307 P **P 12 15 09.7 +1.0**
SUMG Summit 75.08 353 P **P 12 15 10.2 +1.3**
SUMG IAmb IAmb 12 15 27.4
comp=Z,60nm,1.7s
SUMG Summit 75.08 353 P **P 12 15 10.2 +1.3**
SUMG pmax pmax
comp=Z,60nm,1.7s
SUMG Summit 75.08 353 *i* P **P 12 15 10.0 +1.1**
SUMG IAmb IAmb 12 15 27.2
comp=Z,42nm,1.4s
X51A Calhoun 75.09 306 IAmb IAmb 12 15 23.3
comp=Z,93nm,1.6s
X51A IAms_20 IAms_20 12 41 04.6
comp=Z,1μm,21.0s
ARCES ARCESS Array B 75.13 13 P **P 12 15 09.5 +0.7**
ARCES IAmb IAmb 12 17 42.0
comp=Z,116nm,1.8s
ARCES ARCESS Array B 75.13 13 P **P 12 15 09.2 +0.5**
comp=Z,4.7nm,0.6s,baz=204,slow=2.7,SNR=17
ARCES LR LR 12 50 22.3
comp=Z,1μm,18.9s,baz=230,slow=38
comp=Z,4.7nm,0.6s
ARCES ARCESS Array B 75.13 13 P **P 12 15 09.5 +0.7**
ARCES pmax pmax
comp=Z,116nm,1.8s
R50A Paris 75.47 310 P **P 12 15 12.2 +0.9**
R50A IAmb IAmb 12 15 24.0
comp=Z,41nm,1.3s
R50A IAms_20 IAms_20 12 41 45.5
comp=Z,1μm,20.0s
T50A Nancy 75.58 309 IAmb IAmb 12 15 24.1
comp=Z,26nm,0.8s
KEV Kevo 75.65 14 IAms_20 IAms_20 12 49 08.0
comp=Z,1μm,20.0s
APA Apatity 75.79 17⇓*i*P P 12 15 19.6 +7.1
APA pmax pmax
comp=Z,11nm,1.2s
O49A Covington 75.91 312 IAmb IAmb 12 15 25.4
comp=Z,32nm,1.0s
N49A Columbus Grove 75.97 313 IAms_20 IAms_20 12 45 11.7
comp=Z,1μm,19.0s
SWET Sewanee 76.08 307 P **P 12 15 13.1 -1.8**
Y49A Blount Mountai 76.21 305 IAms_20 IAms_20 12 44 37.5
comp=Z,1μm,18.0s
U49A Red Boiling Sp 76.22 308 P **P 12 15 13.6 -2.1**
U49A IAms_20 IAms_20 12 44 12.5
comp=Z,1μm,20.0s
LRAL Lakeview Retre 76.55 304 IAms_20 IAms_20 12 45 16.4
comp=Z,1μm,20.0s
P48A Milroy 76.56 311 IAms_20 IAms_20 12 44 15.5
comp=Z,1μm,19.0s
X48A Hartselle 76.84 306 P **P 12 15 17.9 -1.3**
V48A Smith Brothers 76.89 307 P **P 12 15 18.5 -1.0**
V48A IAms_20 IAms_20 12 51 07.5
comp=Z,1μm,18.0s
N47A Urbana 77.07 312 IAmb IAmb 12 15 32.0
comp=Z,53nm,1.1s
KIRV Kirov 77.16 29 P **P 12 15 21.1 +0.7**
comp=Z,17nm,0.8s,baz=275,slow=0.8,SNR=7.0
KIRV LR LR 12 51 19.9
comp=Z,708nm,19.5s,baz=255,slow=37
comp=Z,17nm,0.8s
T47A Sharon Grove 77.36 308 IAms_20 IAms_20 12 44 39.6
comp=Z,1μm,20.0s
Z47A Carrollton 77.46 304 IAmb IAmb 12 15 48.7
comp=Z,36nm,0.9s
Z47A IAms_20 IAms_20 12 42 11.6
comp=Z,1μm,22.0s
BELA Belgrano 2 77.65 184 P **P 12 15 23.3 +0.4**
BELA IAmb IAmb 12 15 29.1
comp=Z,50nm,1.4s
DAG Danmarks Havn 77.70 359 *i* P **P 12 15 21.0 -2.2**
DAG IAmb IAmb 12 15 41.5
comp=Z,21nm,0.9s
PLAL Pickwick Lake 77.77 306 P **P 12 15 24.6 +0.2**
PLAL IAmb IAmb 12 15 35.9
comp=Z,41nm,1.5s
WVT Waverly 77.77 307 P **P 12 15 25.1 +0.8**
WVT Waverly 77.77 307 P **P 12 15 25.2 +0.8**
WVT pmax pmax
comp=Z,18nm,1.0s
P46A Rosedale 77.94 311 P **P 12 15 26.0 +0.7**
P46A IAmb IAmb 12 15 40.9
comp=Z,25nm,0.9s
146A Union 78.19 304 IAms_20 IAms_20 12 42 46.0
comp=Z,1μm,22.0s
OLIL Olney 78.45 310 IAmb IAmb 12 15 40.6
comp=Z,50nm,1.2s
T45A Paducah 78.57 308 IAms_20 IAms_20 12 46 03.8
comp=Z,1μm,19.0s
Y45A Yeager Farm, C 78.78 305 IAmb IAmb 12 15 41.8
comp=Z,50nm,1.1s
SIUC Southern Illin 79.14 309 P **P 12 15 31.8 -0.2**
SIUC IAmb IAmb 12 15 42.9
comp=Z,35nm,1.1s
S44A Carbondale 79.17 309 P **P 12 15 31.9 -0.2**
S44A IAmb IAmb 12 15 43.0
comp=Z,35nm,1.1s
AKTO Aktyubinsk 79.20 38 P **P 12 15 32.6 +0.6**
comp=Z,12nm,0.9s,baz=249,slow=3.4,SNR=26
AKTO LR LR 12 55 02.3
comp=Z,512nm,19.2s,baz=250,slow=39
comp=Z,12nm,0.9s
H43A Windswept, Lux 79.34 316 IAms_20 IAms_20 12 43 51.8
comp=Z,1μm,20.0s
VBMS Vicksburg 79.36 303 IAms_20 IAms_20 12 43 52.8
comp=Z,1μm,21.0s
HDIL Hopedale 79.69 311 IAms_20 IAms_20 12 43 46.3
comp=Z,1μm,22.0s
P43A Skaggs, Pawnee 79.70 310 IAms_20 IAms_20 12 42 39.7
comp=Z,1μm,20.0s
KULLO Kullorsuaq 79.76 349 *i* P **P 12 15 29.8 -4.7**
KULLO IAmb IAmb 12 16 02.7
comp=Z,42nm,1.3s
FVM French Village 80.13 309 P **P 12 15 37.8 +0.5**
FVM French Village 80.13 309 P **P 12 15 37.8 +0.5**
FVM pmax pmax
comp=Z,25nm,1.0s
ABKAR Akbulak array 80.13 40 P **P 12 15 37.5 +0.4**
LCAR Lake Charles 80.42 307 P **P 12 15 39.6 +0.7**
LCAR IAmb IAmb 12 15 50.0
comp=Z,73nm,2.0s
T42A Van Buren 80.51 308 P **P 12 15 39.7 +0.3**
T42A IAms_20 IAms_20 12 50 47.1
comp=Z,1μm,18.0s
SPITS Spitsbergen Ar 80.69 6 P **P 12 15 39.7 +0.2**
comp=Z,2.8nm,0.7s,baz=222,slow=1.9,SNR=0.8
SPITS LR LR 12 51 20.3
comp=Z,599nm,18.5s,baz=173,slow=36
comp=Z,2.8nm,0.7s
CCM Cathedral Cave 80.78 309 P **P 12 15 40.8 0.0**
CCM IAmb IAmb 12 15 51.9
comp=Z,60nm,1.4s
CCM Cathedral Cave 80.78 309 P **P 12 15 40.8 0.0**
CCM pmax pmax
comp=Z,60nm,1.4s
NEEM North Greenlan 80.94 352 *e*P **P 12 15 38.4 -2.9**
NEEM IAmb IAmb 12 15 55.7
comp=Z,38nm,1.1s
ARTI Arti 80.98 32 P **P 12 15 42.1 +0.6**
ARTI Arti 80.98 32 P **P 12 15 41.9 +0.4**
comp=Z,14nm,0.8s,baz=239,slow=4.5,SNR=10
ARTI LR LR 12 54 51.6
comp=Z,1μm,18.4s,baz=266,slow=38
comp=Z,14nm,0.8s
ARTI Arti 80.98 32*d i*P **P 12 15 41.6 +0.1**
ARTI 12 18 43.4
ARTI PPP PPP 12 20 35.8
ARTI S **S 12 25 55.7 +5.1**
ARTI pmax pmax
comp=Z,21nm,0.9s
ARTI MLR MLR
comp=Z,1μm,18.0s
FCAR Ozark Folk Cen 81.17 306 P **P 12 15 42.8 -0.2**
WHAR Wooly Hollow 81.23 306 P **P 12 15 43.5 +0.3**
WHAR IAmb IAmb 12 15 54.4
comp=Z,41nm,1.3s
MGMO Mountain Grove 81.46 308 IAmb IAmb 12 15 56.1
comp=Z,63nm,1.4s
P40A Paris 81.61 310 IAms_20 IAms_20 12 45 18.3
comp=Z,1μm,20.0s
CMIG Matias Romero 81.83 287 LR LR 12 49 16.4
comp=Z,397nm,21.8s,baz=102,slow=34
SVE Sverdlovsk 82.30 32 *e*P **P 12 15 53.0 +4.6**
SVE pmax pmax
comp=Z,20nm,1.0s
S39A Bolivar 82.36 308 P **P 12 15 49.2 0.0**
NOR Nord 82.52 360 *i* P **P 12 15 53.7 +4.5**
EYMN Ely 82.53 318 IAms_20 IAms_20 12 46 06.2
comp=Z,1μm,20.0s
HHAR Hobbs 82.68 307 P **P 12 15 51.2 +0.3**
P38A Dawn 82.76 310 P **P 12 15 51.7 +0.5**
P38A IAmb IAmb 12 16 03.0
comp=Z,32nm,1.1s
P38A IAms_20 IAms_20 12 46 23.7

comp=Z,1μm,20.0s
SPMN Marine on St. 82.99 316 IAMs_20 IAMs_20 12 46 37.5
comp=Z,1μm,20.0s
MAW Mawson 84.01 158 P **P** **12 15 58.6 +1.6**
comp=Z,8.8nm,0.8s,baz=293,slow=8.6,SNR=16
MAW LR LR 12 45 20.7
comp=Z,931nm,21.4s,baz=290,slow=30
comp=Z,8.8nm,0.8s
N35A Tabor 84.51 311 P **P** **12 16 00.7 +0.5**
KBL Kabul 84.59 55 P **P** **12 15 59.5 -1.5**
KBL Kabul 84.59 55 P **P** **12 15 59.5 -1.5**
KBL pmax pmax
comp=Z,17nm,1.2s
DEOK Depew 84.70 306 P **P** **12 15 59.7 -1.6**
DEOK IAmb IAmb 12 16 12.9
comp=Z,43nm,1.5s
T35A Sooner Cattle 84.80 307 IAmb IAmb 12 16 23.5
comp=Z,24nm,1.1s
T35A IAMs_20 IAMs_20 12 49 21.8
comp=Z,1μm,19.0s
QUOK Quay 84.90 306 P **P** **12 16 02.9 +0.7**
QUOK IAmb IAmb 12 16 10.2
comp=Z,20nm,1.0s
SIMJ Simiganj 84.92 51 P **P** **12 16 03.2 +0.7**
SIMJ IAmb IAmb 12 16 13.1
comp=Z,22nm,1.1s
W35A Tecumseh 84.95 305 **P** **12 16 02.6 +0.1**
W35A IAmb IAmb 12 16 24.4
comp=Z,27nm,1.0s
OK052 Battle Ridge R 84.96 306 IAmb IAmb 12 16 10.5
comp=Z,40nm,1.0s
KSU1 Kansas State U 85.08 309 IAMs_20 IAMs_20 12 49 03.0
comp=Z,1μm,20.0s
LOOK Love County 85.10 304 P **P** **12 16 01.4 -2.0**
OK048 Pawnee Station 85.11 306 P **P** **12 16 01.3 -2.0**
OK048 IAmb IAmb 12 16 11.5
comp=Z,39nm,1.1s
OK048 IAMs_20 IAMs_20 12 52 27.9
comp=Z,874nm,18.0s
Z35A Perchaven, San 85.11 303 P **P** **12 16 01.7 -1.7**
Z35A IAmb IAmb 12 16 11.6
comp=Z,36nm,1.0s
Z35A IAMs_20 IAMs_20 12 46 38.2
comp=Z,1μm,22.0s
L34A Svendsen Farm, 85.17 312 P **P** **12 16 02.2 -1.4**
435B Jarrell 85.21 301 IAmb IAmb 12 16 12.4
comp=Z,41nm,1.1s
435B IAMs_20 IAMs_20 12 49 23.9
comp=Z,974nm,21.0s
KVTX Kingsville 85.27 298 IAMs_20 IAMs_20 12 49 51.6
comp=Z,935nm,19.0s
FNO Franklin 85.38 305 IAmb IAmb 12 16 26.7
comp=Z,29nm,1.0s
AGMN Agassiz Nation 85.48 318 P **P** **12 16 04.4 -0.5**
AGMN IAmb IAmb 12 16 16.6
comp=Z,33nm,0.9s
ECSD EROS Data Cent 85.52 314 P **P** **12 16 04.9 -0.3**
ECSD IAmb IAmb 12 16 16.9
comp=Z,29nm,1.1s
ECSD EROS Data Cent 85.52 314 IAMs_20 IAMs_20 12 49 10.4
comp=Z,1μm,19.0s
X34A Smith Ranch, M 85.69 305 IAmb IAmb 12 16 14.5
comp=Z,30nm,1.0s
CHM Chimkent 85.71 48 *e*P **P** **12 16 06.7 +0.5**
comp=Z,16nm,1.1s
CHM Chimkent 85.71 48 *e*P **P** **12 16 06.7 +0.5**
CHM pmax pmax
comp=Z,16nm,1.1s
ULM Lac du Bonnet 85.71 320 P **P** **12 16 07.0 +1.0**
comp=Z,4.1nm,0.9s,baz=83,slow=6.5,SNR=4.3
ULM LR LR 12 48 36.8
comp=Z,683nm,21.6s,baz=102,slow=32
comp=Z,4.1nm,0.9s
KAN01 Argonia South 85.82 307 P **P** **12 16 07.2 +0.4**
KAN01 IAmb IAmb 12 16 14.8
comp=Z,30nm,1.0s
BRLS Boroldoy 85.94 47 *e*P **P** **12 16 07.4 0.0**
BRLS Boroldoy 85.94 47 *e*P **P** **12 16 07.4 0.0**
PLPT Palo Pinto 85.97 303 P **P** **12 16 08.2 +0.6**
PLPT IAmb IAmb 12 16 15.3
comp=Z,36nm,1.2s
GAR Garm 85.97 51 P **P** **12 16 07.3 -0.4**
GAR IAmb IAmb 12 16 31.5
comp=Z,47nm,1.1s
KAN08 Anthony NE Sta 85.99 307 P **P** **12 16 07.1 -0.6**
KAN08 IAmb IAmb 12 16 15.6
comp=Z,22nm,0.9s
IUG Iuzhnay 86.01 48 *e*P **P** **12 16 08.3 +0.5**
comp=Z,24nm,1.2s
IUG Iuzhnay 86.01 48 *e*P **P** **12 16 08.3 +0.5**
IUG pmax pmax
comp=Z,24nm,1.2s
UNM Universidad Na 86.02 289 IAMs_20 IAMs_20 12 48 01.9
comp=Z,931nm,21.0s
WTFS Witchita Falls 86.15 304 IAmb IAmb 12 16 16.7
comp=Z,44nm,1.0s
BTK Batken 86.44 50 IAmb IAmb 12 16 33.4
comp=Z,29nm,1.2s
BTK IAMs_20 IAMs_20 12 58 34.4
comp=Z,1μm,20.0s
KKAR Karatay Array 86.44 47 P **P** **12 16 10.1 +0.2**
KKAR Karatay Array 86.44 47 P **P** **12 16 10.1 +0.2**
BGNE Belgrade 86.45 311 P **P** **12 16 09.9 0.0**
BGNE IAmb IAmb 12 16 21.5
comp=Z,38nm,0.9s
BGNE IAMs_20 IAMs_20 12 51 11.1
comp=Z,1μm,18.0s
BRDY Brady 86.45 301 P **P** **12 16 09.8 -0.4**
WMOK Wichita Mounta 86.48 305 **P** **12 16 09.8 -0.4**
WMOK IAmb IAmb 12 16 18.2
comp=Z,33nm,1.1s
WMOK Wichita Mounta 86.48 305 IAMs_20 IAMs_20 12 48 19.3
comp=Z,1μm,22.0s
WMOK Wichita Mounta 86.48 305 P **P** **12 16 09.8 -0.4**
WMOK pmax pmax
comp=Z,33nm,1.2s
R32A Long Quarter, 86.66 308 P **P** **12 16 10.7 -0.4**
R32A IAmb IAmb 12 16 31.1
comp=Z,26nm,1.0s
R32A IAMs_20 IAMs_20 12 47 46.9
comp=Z,1μm,20.0s
DZA Taraz 87.03 47 *e*P **P** **12 16 13.0 +0.2**
comp=Z,6.4nm,0.5s
DZA Taraz 87.03 47 *e*P **P** **12 16 12.9 +0.2**
DZA pmax pmax
comp=Z,6.0nm,0.5s
HMDM Hanimaadhoo 87.05 83 IAMs_20 IAMs_20 12 52 03.5
comp=Z,1μm,20.0s
ABTX Abilene, Hawle 87.07 303 P **P** **12 16 12.6 -0.6**
ABTX IAmb IAmb 12 16 21.8
comp=Z,30nm,1.1s
ABTX IAMs_20 IAMs_20 12 49 18.2
comp=Z,1μm,20.0s
ELIS Ellis County 87.08 306 P **P** **12 16 12.6 -0.6**
JCT Junction City 87.10 300 P **P** **12 16 11.1 -2.3**
JCT IAmb IAmb 12 16 21.7
comp=Z,27nm,1.1s
JCT Junction City 87.10 300 P **P** **12 16 11.1 -2.3**
JCT pmax pmax
comp=Z,27nm,1.1s
BRVK Borovoye 87.16 37 P **P** **12 16 11.5 -1.6**
BRVK Borovoye 87.16 37 IAMs_20 IAMs_20 12 57 24.2
comp=Z,1μm,22.0s
BRVK Borovoye 87.16 37 P **P** **12 16 14.4 +1.4**
BRVK Borovoye 87.16 37⇑ *i*P **P** **12 16 14.1 +1.0**
BRVK pmax pmax
comp=Z,11nm,1.2s
BVAR Borovoye Array 87.22 37 P **P** **12 16 14.3 +0.9**
comp=Z,5.0nm,0.8s,baz=274,slow=4.9,SNR=15
BVAR PP **PP** **12 19 37.5 +0.2**
comp=Z,1.7nm,0.6s,baz=258,slow=7.2,SNR=3.2
BVAR LR LR 12 59 31.8
comp=Z,936nm,18.2s,baz=261,slow=39
comp=Z,5.0nm,0.8s
SUSD Miller 87.26 314 P **P** **12 16 14.3 +0.5**
CBKS Cedar Bluff 87.49 309 P **P** **12 16 15.1 +0.1**
CBKS Cedar Bluff 87.49 309 P **P** **12 16 15.1 +0.1**
CBKS pmax pmax
comp=Z,60nm,1.1s
APMT Aspermont 87.51 303 P **P** **12 16 16.3 +1.1**
K30B Basset 87.62 313 P **P** **12 16 14.1 -1.5**
SMWD Samnorwood 87.70 305 P **P** **12 16 13.6 -2.6**
SMWD IAmb IAmb 12 16 28.4
comp=Z,41nm,1.3s
DRIO Del Rio 87.76 299 P **P** **12 16 15.1 -1.5**
DRIO IAmb IAmb 12 16 24.7
comp=Z,33nm,1.5s
MDND Maddock 87.94 318 P **P** **12 16 15.9 -1.1**
NIL Nilore 88.02 56 P **P** **12 16 16.4 -1.2**
NIL IAmb IAmb 12 16 27.6
comp=Z,49nm,1.5s
NIL Nilore 88.02 56 P **P** **12 16 16.5 -1.2**
NIL pmax pmax
comp=Z,49nm,1.5s
SN07 Snyder 07 88.14 303 P **P** **12 16 16.1 -2.3**
SN07 IAmb IAmb 12 16 26.9
comp=Z,18nm,1.0s
ARSB Arslanbob 88.16 49 P **P** **12 16 16.4 -1.9**
ARSB Arslanbob 88.16 49 P **P** **12 16 16.4 -1.9**
ARSB pmax pmax
comp=Z,14nm,1.2s
DKNS Dickens 88.20 304 P **P** **12 16 16.4 -2.1**
DKNS IAmb IAmb 12 16 27.2
comp=Z,19nm,1.1s
OZNA Ozona 88.26 301 P **P** **12 16 17.9 -1.1**
OZNA IAmb IAmb 12 16 27.3
comp=Z,20nm,1.1s
RES Resolute Bay 88.59 345 LR LR 12 48 59.6
comp=Z,204nm,19.1s,baz=118,slow=31
E28A Huff 88.61 316 P **P** **12 16 18.3 -1.9**
E28A IAmb IAmb 12 16 32.0
comp=Z,44nm,1.3s
QSPA South Pole Qui 89.10 180 P **P** **12 16 23.2 +1.0**
QSPA South Pole Qui 89.10 180 P **P** **12 16 23.2 +1.0**
comp=Z,23nm,0.9s,baz=223,slow=1.7,SNR=81
QSPA LR LR 12 49 33.1
comp=Z,776nm,20.9s,baz=206,slow=31
comp=Z,23nm,0.9s
AAK Ala-Archa 89.34 48 P **P** **12 16 24.5 +0.6**
AAK IAmb IAmb 12 16 47.2
comp=Z,22nm,1.1s
AAK Ala-Archa 89.34 48 P **P** **12 16 25.1 +1.2**
comp=Z,8.0nm,0.8s,baz=248,slow=3.9,SNR=14
AAK LR LR 13 00 52.4
comp=Z,568nm,19.1s,baz=280,slow=39
comp=Z,8.0nm,0.8s
AAK Ala-Archa 89.34 48 P **P** **12 16 25.5 +1.6**
ODSA Odessa 89.51 302 IAmb IAmb 12 16 33.0
comp=Z,26nm,1.0s
MSTX Muleshoe 89.74 304 P **P** **12 16 26.2 +0.3**
MSTX IAmb IAmb 12 16 34.0
comp=Z,34nm,1.3s
MSTX IAMs_20 IAMs_20 12 50 19.8
comp=Z,1μm,21.0s
KSCO Kaye Shedlock' 89.75 309 P **P** **12 16 26.1 +0.2**
KSCO IAmb IAmb 12 16 39.5
comp=Z,37nm,1.0s
KSCO IAMs_20 IAMs_20 12 51 09.6
comp=Z,1μm,20.0s
FFC Flin Flon 89.77 325 P **P** **12 16 23.4 -2.0**
FFC Flin Flon 89.77 325 P **P** **12 16 23.4 -2.0**
FFC pmax pmax
comp=Z,21nm,1.3s
KSH Kashi 90.38 51 P **P** **12 16 28.3 -0.5**
KSH pP sP 12 16 32.8 +1.7
KSH PP **PP** **12 20 03.5 +0.4**
KSH S **S** **12 27 19.5 -4.5**
KSH sS sS 12 27 29.5 +2.7
KSH SS **SS** **12 33 21.0 -3.1**
KSH pmax pmax
comp=Z,23nm,1.2s
KSH LR LR
comp=Z,790nm,18.2s
KSH LR LR
comp=Z,2μm,18.2s
KSH LR LR
comp=Z,2μm,16.8s
TXAR Lajitas Array 90.42 299 P **P** **12 16 26.9 -2.3**
TXAR Lajitas Array 90.42 299 P **P** **12 16 30.4 +1.2**
comp=Z,1.0nm,0.8s,baz=110,slow=7.4,SNR=13
TXAR LR LR 12 53 10.1
comp=Z,377nm,20.9s,baz=65,slow=33
comp=Z,1.0nm,0.8s
TX31 Lajitas Ar. Si 90.42 299 P **P** **12 16 26.7 -2.4**
RSSD Black Hills 90.89 314 P **P** **12 16 29.5 -1.7**
RSSD Black Hills 90.89 314 IAMs_20 IAMs_20 12 55 00.6
comp=Z,1μm,20.0s
RSSD Black Hills 90.89 314 P **P** **12 16 29.5 -1.7**
RSSD pmax pmax
comp=Z,7.0nm,1.0s
T25A Trinidad 91.13 307 IAmb IAmb 12 16 53.5
comp=Z,25nm,1.4s
TNSS Tian-Shan 91.15 47 *e*P **P** **12 16 32.8 +0.1**
TNSS Tian-Shan 91.15 47 *e*P **P** **12 16 32.7 +0.1**
MDOK Medeo 91.23 47 *e*P **P** **12 16 32.9 +0.2**
MDOK Medeo 91.23 47 *e*P **P** **12 16 32.9 +0.2**
KDJ Kajisay 91.32 48 P **P** **12 16 32.4 -0.8**
KDJ Kajisay 91.32 48 P **P** **12 16 32.4 -0.8**
KDJ pmax pmax
comp=Z,5.0nm,0.8s
VHRN Van Horn 91.57 301 P **P** **12 16 32.3 -2.2**
TARG Taragay, Kyrgy 91.79 48 P **P** **12 16 33.7 -1.9**
TARG IAmb IAmb 12 16 41.4
comp=Z,13nm,0.8s
TARG Taragay, Kyrgy 91.79 48 P **P** **12 16 33.7 -1.9**
TARG pmax pmax
comp=Z,13nm,0.8s
SDCO Great Sand Dun 92.00 308 P **P** **12 16 34.5 -2.0**
ISCO Idaho Springs 92.07 310 P **P** **12 16 34.3 -2.5**
ISCO Idaho Springs 92.07 310 P **P** **12 16 34.3 -2.5**
ISCO pmax pmax
comp=Z,34nm,0.5s
KURBB Kurchatov Arra 92.18 40 P **P** **12 16 37.2 +0.6**
comp=Z,1.2nm,0.6s,baz=275,slow=5.2,SNR=6.8
KURBB LR LR 13 01 17.6
comp=Z,648nm,21.8s,baz=257,slow=38
comp=Z,1.2nm,0.6s
SATY Saty 92.22 47 *e*P **P** **12 16 38.0 +0.7**
SATY Saty 92.22 47 *e*P **P** **12 16 37.9 +0.7**
KURK Kurchatov 92.24 39 P **P** **12 16 35.8 -1.1**
KURK Kurchatov 92.24 39 IAMs_20 IAMs_20 13 01 16.5
comp=Z,966nm,18.0s
KURK Kurchatov 92.24 39⇓ *e*P **P** **12 16 38.1 +1.2**
KURK pmax pmax
comp=Z,8.0nm,1.7s
N23A Red Feather La 92.31 311 P **P** **12 16 36.0 -1.9**
N23A IAmb IAmb 12 16 50.5
comp=Z,17nm,1.1s
HYB Hyderabad 92.47 73 *e*P **P** **12 16 38.7 -0.1**
K22A Casper 92.72 312 IAMs_20 IAMs_20 12 52 17.9
comp=Z,839nm,20.0s
ANMO Albuquerque 92.79 305 P **P** **12 16 38.7 -1.5**
ANMO Albuquerque 92.79 305 IAMs_20 IAMs_20 12 50 49.5
comp=Z,1μm,22.0s
ANMO Albuquerque 92.79 305 LR LR 12 52 09.6
comp=Z,629nm,20.9s,baz=261,slow=32
ANMO Albuquerque 92.79 305⇑ *e*P **P** **12 16 41.0 +0.8**
ANMO pmax pmax
comp=Z,10.0nm,2.8s
WUS Wushi 92.86 49 IAMs_20 IAMs_20 13 03 18.1
comp=Z,877nm,18.0s
EPT El Paso 92.87 302 IAMs_20 IAMs_20 12 53 24.8
comp=Z,832nm,20.0s
SHLS Shalkode 92.99 47 *e*P **P** **12 16 42.4 +1.5**
SHLS Shalkode 92.99 47 *e*P **P** **12 16 42.3 +1.5**
S22A 4UR Ranch, Cre 93.05 308 P **P** **12 16 40.0 -1.4**
S22A IAmb IAmb 12 17 11.3
comp=Z,18nm,1.6s
Y22D IRIS PASSCAL I 93.19 304 IAMs_20 IAMs_20 12 52 30.0
comp=Z,1μm,22.0s
SEM Semipalatinsk 93.29 40 *e*P **P** **12 16 42.6 +0.5**
SEM Semipalatinsk 93.29 40 *e*P **P** **12 16 42.6 +0.5**
121A Cookes Peak, D 93.94 302 P **P** **12 16 43.3 -2.2**
121A IAmb IAmb 12 17 12.2
comp=Z,34nm,1.9s
MVCO Mesa Verde 94.39 307 IAMs_20 IAMs_20 12 53 28.5
comp=Z,858nm,21.0s
RPN Rapa Nui 94.55 243 LR LR 12 55 45.1
comp=Z,850nm,19.2s,baz=92,slow=33
MKAR Makanchi Array 94.83 43 P **P** **12 16 50.0 +0.9**
comp=Z,1.9nm,0.8s,baz=276,slow=4.3,SNR=10
MKAR LR LR 13 05 30.5
comp=Z,386nm,18.3s,baz=268,slow=39
comp=Z,1.9nm,0.8s
MKAR Makanchi Array 94.83 43 P **P** **12 16 50.0 +0.9**
NRIK Noril'sk 94.89 20 P **P** **12 16 48.6 -0.1**
comp=Z,1.0nm,0.4s,baz=217,slow=3.4,SNR=1.4
NRIK LR LR 13 01 26.9
comp=Z,922nm,21.2s,baz=291,slow=37
comp=Z,1.0nm,0.4s
PDAR Pinedale Array 94.94 313 P **P** **12 16 49.9 0.0**
comp=Z,0.2nm,0.4s,baz=86,slow=3.7,SNR=2.8
PDAR LR LR 12 57 00.1
comp=Z,478nm,18.8s,baz=86,slow=34
comp=Z,0.2nm,0.4s
YNE Yellowstone No 95.13 315 P **P** **12 16 51.0 +0.2**
LOHW Long Hollow 95.66 314 IAMs_20 IAMs_20 12 53 56.7
comp=Z,1μm,22.0s
ZALV Zalesovo Beam 95.82 36 P **P** **12 16 53.5 +0.2**
comp=Z,0.4nm,0.5s,baz=243,slow=5.8,SNR=2.2
ZALV LR LR 13 04 42.5
comp=Z,518nm,18.4s,baz=286,slow=38
comp=Z,0.4nm,0.5s
YKA Yellowknife Ar 95.89 333 P **P** **12 16 53.3 -0.2**
YKA Yellowknife Ar 95.89 333 P **P** **12 16 53.6 +0.2**
comp=Z,0.5nm,0.8s,baz=73,slow=4.2,SNR=1.6
YKA LR LR 12 54 45.2
comp=Z,494nm,20.3s,baz=86,slow=32
comp=Z,0.5nm,0.8s
LPIG La Paz 96.41 294 LR LR 12 57 28.0
comp=Z,171nm,21.5s,baz=105,slow=34
TUC Tucson 96.49 302 IAMs_20 IAMs_20 12 56 20.4
comp=Z,864nm,19.0s
ZSN Zaisan 96.53 42 *e*P **P** **12 16 57.0 +0.2**
ZSN Zaisan 96.53 42 *e*P **P** **12 16 57.0 +0.2**
WMQ Urumqi 98.92 46 *e*P Pdif 12 17 09.8 +2.1
WMQ LR LR
comp=Z,850nm,14.7s
WMQ LR LR
comp=Z,1μm,17.5s
WMQ LR LR
comp=Z,530nm,22.9s
ELK Elko 99.36 311 LR LR 12 57 08.7
comp=Z,1μm,20.6s,baz=96,slow=32
NEW Newport 99.63 319 LR LR 12 56 40.6
comp=Z,1μm,22.0s,baz=80,slow=32
R11B Troy Canyon, C 99.90 309 IAMs_20 IAMs_20 13 04 58.4
comp=Z,1μm,21.0s
TNCH TengChong 110.52 64 PKP **PKiKP** **12 21 53.0 -7.6**
TNCH sPKP 12 22 02.0
TNCH PP **PP** **12 22 38.3 +2.1**
TNCH PKS **PKSdf** **12 25 32.0 -5.5**
TNCH SKS **SKSdf** **12 29 07.5 -5.9**
TNCH AMB AMB
comp=Z,150nm,7.9s
TNCH LR LR
comp=N,220nm,16.0s
TNCH LR LR
comp=E,200nm,17.1s
TNCH LR LR
comp=Z,400nm,19.3s
SONM Songino Array 110.52 38 PKiKP **PKiKP** **12 22 00.5 +0.6**
comp=Z,0.7nm,0.7s,baz=273,slow=2.1,SNR=3.8
ULN Ulaanbaatar 110.92 38 IAMs_20 IAMs_20 13 11 42.5
comp=Z,616nm,21.0s
PZH PanZhiHua 113.13 62 PKP **PKiKP** **12 22 05.5 +0.1**
PZH PP **PP** **12 22 57.0 +2.2**
PZH AMB AMB
comp=Z,110nm,6.7s
PZH LR LR
comp=Z,390nm,17.8s
PZH LR LR
comp=Z,240nm,22.6s
PZH LR LR
comp=Z,430nm,21.4s
YAK Yakutsk 113.16 18 IAMs_20 IAMs_20 13 15 10.5
comp=Z,537nm,19.0s
CD2 Chengdu 113.91 57 PKP **PKiKP** **12 22 07.0 +0.3**
KULM Kulim 114.36 85 IAMs_20 IAMs_20 13 05 15.5
comp=Z,611nm,21.0s
BTO Baotou 115.71 45 *e*PKP **PKiKP** **12 22 09.3 -0.6**
BTO PP **PP** **12 23 17.0 +4.6**
BTO AMB AMB
comp=Z,760nm,5.7s
BTO LR LR
comp=Z,1μm,18.0s
BTO LR LR
comp=Z,1μm,15.5s
BTO LR LR
comp=Z,660nm,21.2s
HHC Hu-ho-hao-te 116.69 44 *e*PKP **PKPdf** **12 22 09.0 -2.8**
HHC PP **PP** **12 23 21.3 +2.0**
HHC LR LR
comp=Z,620nm,17.3s
HHC LR LR
comp=Z,660nm,17.6s
HHC LR LR
comp=Z,830nm,17.7s
XAN Xi'an 117.22 52 PKP **PKiKP** **12 22 14.8 +1.8**
XAN AMB AMB
comp=Z,370nm,6.0s
XAN LR LR
comp=Z,580nm,17.9s
XAN LR LR
comp=Z,800nm,18.0s
XAN LR LR
comp=Z,980nm,19.6s
SEY Seymchan 117.32 7⇓ *i*PKIKP **PKiKP** **12 22 15.2 +3.0**
GYA Guiyang 117.45 61 PKP **PKPdf** **12 22 12.0 -1.7**
GYA PP **PP** **12 23 30.8 +5.6**
GYA AMB AMB
comp=Z,130nm,7.6s
GYA LR LR
comp=Z,370nm,18.2s
GYA LR LR
comp=Z,510nm,24.7s
GYA LR LR
comp=Z,510nm,20.5s
ZEA Zeya 118.36 25 *e*P **Pdif** **12 18 42.7 +8.9**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=E,10.0nm,0.7s
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ENH Enshi 118.83 56 IAMs_20 IAMs_20 13 20 14.7
comp=Z,516nm,20.0s
HNS HongShan 120.34 46 *e*PKP **PKiKP** **12 22 19.8 +0.9**
HNS PP **PP** **12 23 49.8 +5.3**
HNS LR LR
comp=Z,400nm,19.1s
HNS LR LR
comp=Z,590nm,18.3s
HNS LR LR
comp=Z,630nm,18.6s
DLV Lat 121.67 77 IAMs_20 IAMs_20 13 10 55.8
comp=Z,667nm,22.0s
QIZ Qiongzhong 121.91 68 IAMs_20 IAMs_20 13 13 30.3
comp=Z,529nm,20.0s
QIZ Qiongzhong 121.91 68 PKP **PKiKP** **12 22 22.5 0.0**
QIZ PP **PP** **12 23 55.0 -1.0**
QIZ SS SS 12 40 35.3 +0.9
QIZ LR LR
comp=Z,350nm,17.3s
QIZ LR LR
comp=Z,530nm,17.4s
QIZ LR LR
comp=Z,500nm,21.2s
WHN Wuhan 122.72 54 PKP **PKiKP** **12 22 28.0 +4.3**
WHN PP **PP** **12 24 06.8 +5.8**
WHN LR LR
comp=Z,2μm,23.7s
NWAO Narrogin (SRO) 122.83 131 IAMs_20 IAMs_20 13 07 06.1
comp=Z,744nm,21.0s
CN2 Changchun 124.02 35 *e*PKP **PKPdf** **12 22 24.5 -1.2**
CN2 *e*SS SS 12 40 57.8 -1.2
CN2 AMB AMB
comp=Z,230nm,3.5s
NJ2 Nanjing 125.69 50 *e*PKP **PKiKP** **12 22 30.0 +0.4**
MDJ Mudanjiang 125.77 32 IAMs_20 IAMs_20 13 19 26.9
comp=Z,739nm,21.0s
SSE Sheshan 127.90 50 PKP **PKiKP** **12 22 34.3 +0.3**
SSE PP **PP** **12 24 40.5 +5.1**
SSE SS SS 12 41 50.5 +1.8
SSE AMB AMB
comp=Z,190nm,9.2s
SSE LR LR
comp=Z,280nm,20.4s
SSE LR LR
comp=Z,300nm,20.5s
KKM Kota Kinabalu 129.81 83 IAMs_20 IAMs_20 13 14 48.7
comp=Z,453nm,20.0s
MYLDM Lahad Datu 132.13 84 IAMs_20 IAMs_20 13 21 29.3
comp=Z,562nm,20.0s
MRSI Marisa 135.67 90 PKP **PKPdf** **12 22 46.9 -1.7**
MJAR Matsushiro Arr 136.10 33 PKP **PKPdf** **12 22 48.6 -0.2**
comp=Z,0.9nm,0.5s,baz=308,slow=2.1,SNR=2.8
INU Inuyama 136.29 35 IAMs_20 IAMs_20 13 26 01.9
comp=Z,660nm,22.0s

LUWI	**Luwuk**	**136.46**	**93**	IAMs_20	IAMs_20	13 16 55.2	
	comp=Z,617nm,22.0s						
STKA	**Stephens Creek**	**139.83**	**147**	PKhKP	PKPpre	12 22 48.0	
	comp=Z,2.2nm,0.7s,baz=304,slow=8.8,SNR=3.7						
ASAR	**Alice Springs**	**140.14**	**130**	PKhKP	PKPpre	12 22 48.4	
	comp=Z,2.5nm,0.6s,baz=226,slow=2.6,SNR=44						
WRA	**Warramunga Arr**	**142.43**	**125**	PKhKP	PKPpre	12 22 55.3	
	comp=Z,4.1nm,0.8s,baz=240,slow=2.8,SNR=17						
CTAO	**Charters Tower**	**151.31**	**138**		**PKPbc**	**12 23 20.9**	**-0.7**
CTAO	**Charters Tower**	**151.31**	**138**	PKIKP	**PKPbc**	**12 23 20.9**	**-0.7**
COEN	**Coen**	**152.73**	**124**	PKPdf	**PKPdf**	**12 23 15.3**	**-2.5**
COEN					**sPKPdf**	**12 23 23.2**	**+3.0**
COEN				PKPab	**PKPab**	**12 23 33.8**	**-1.8**
AFI	**Afiamalu**	**153.70**	**235**	PKPdf	**PKPdf**	**12 23 16.7**	**-2.7**
AFI	**Afiamalu**	**153.70**	**235**	PKIKP	**PKPdf**	**12 23 16.7**	**-2.7**
FUTU	**Fugatoga**	**158.34**	**225**	PKPab	**PKPab**	**12 24 00.7**	**+1.2**
PMG	**Port Moresby**	**158.35**	**119**	PKPdf	**PKPdf**	**12 23 25.2**	**-0.3**
PMG				PKPab	**PKPab**	**12 24 00.3**	**+0.6**
PMG	**Port Moresby**	**158.35**	**119**	PKP2	**PKPab**	**12 24 00.3**	**+0.6**
PMG						13 23 25.2	
HNR	**Honiara**	**167.90**	**149**	PKPdf	**PKPdf**	**12 23 33.3**	**-1.3**
HNR				PKPab	**PKPab**	**12 24 39.0**	**-2.3**
HNR	**Honiara**	**167.90**	**149**	PKP2	**PKPab**	**12 24 39.0**	**-2.3**
HNR						13 23 33.3	

*TEH **27** 12:05:54.8, 34.°22N×45.°60E, h10km±21km, ML3.5*
*ISN **27** 12:05:55.1±0.3, 34.°24N×45.°61E, h18km±3km, ML3.5*
ISC 27 12:05:54.8±1.3,**34.°23N**±0.°03×**45.°61E**±0.°03,**h0**km±13km,
n26,σ0**96**/31,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.28**	**115**	Pg	**Pg**	**12 06 01.0**	**+0.9**
KGS1	**Ghasr-e-Shirin**	**0.28**	**357**	Pg	**Pg**	**12 06 00.8**	**+0.7**
ILBA	**Ilam Banvizeh**	**0.78**	**140**	Pg	**Pg**	**12 06 10.2**	**+0.3**
IDHR	**Dehrash**	**0.80**	**54**	Pg	**Pg**	**12 06 10.1**	**0.0**
IGHG	**Ghaleghazi**	**0.80**	**83**	Pg	**Pg**	**12 06 10.8**	**+0.6**
IBDR	**Badra**	**1.15**	**166**	*e*Pn	**Pn**	**12 06 18.3**	**+0.2**
IBDR				*e*Sn	**Sn**	**12 06 35.0**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.19**	**87**	Pg	**Pg**	**12 06 17.8**	**+0.2**
KCHF				Sg	**Sn**	**12 06 36.1**	**+0.3**
ILIN	**Lien**	**1.31**	**58**	Pg	**Pg**	**12 06 20.4**	**+0.4**
BHD	**Baghdad**	**1.40**	**227**	*e*Pn	**Pg**	**12 06 21.5**	**-0.2**
BHD				*e*Sn	**Sg**	**12 06 41.0**	**+1.2**
BHD				AML	AML	12 06 49.9	
	comp=E,1μm,0.5s						
IKRK	**Kirkuk**	**1.56**	**319**	*e*Pn	**Pb**	**12 06 24.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**12 06 45.0**	**-0.1**
IKRK				AML	AML	12 06 48.9	
	comp=N,777nm,0.4s						
IKRK				AML	AML	12 06 53.1	
	comp=E,570nm,0.5s						
SNQR	**Sonqor, Kerman**	**1.78**	**69**	Pg	**Pg**	**12 06 28.6**	**-0.4**
IBZA	**Bozab**	**1.88**	**82**	Pn	**Pb**	**12 06 29.4**	**-0.8**
SDS1	**Sardasht. Az.**	**1.92**	**357**	Pn	**Pb**	**12 06 29.8**	**-1.0**
IKFM	**Kafar-mosalman**	**1.99**	**110**	Pn	**Pb**	**12 06 30.9**	**-1.0**
IDOB	**Doab**	**2.18**	**101**	Pn	**Pb**	**12 06 33.1**	**-2.2**
HSAM	**Samen**	**2.48**	**90**	Pn	**Pn**	**12 06 37.5**	**+0.8**
MAHB	**Mahabad**	**2.53**	**2**	Pn	**Pb**	**12 06 38.9**	**-2.3**
RAFI	**Al-Rafai**	**2.54**	**170**	*e*Pn	**Pn**	**12 06 37.5**	**+0.3**
RAFI				*e*Sn	**Sn**	**12 07 08.5**	**-0.3**
BDRS	**Dareh Seyedi**	**2.73**	**95**	Pn	**Pn**	**12 06 40.7**	**+0.5**
HAGD	**Aghdareh**	**2.98**	**78**	Pn	**Pn**	**12 06 43.7**	**+0.2**
IAZR	**Azarshahr**	**3.45**	**5**	Pn	**Pn**	**12 06 51.3**	**+1.2**
QABG	**Abgarm-Qazvin**	**3.58**	**65**	Pn	**Pn**	**12 06 53.4**	**+1.6**
QAMS	**Qamsar**	**4.83**	**94**	Pn	**Pn**	**12 07 09.6**	**+0.5**
IKLH	**Kolahrood**	**5.05**	**99**	Pn	**Pn**	**12 07 13.7**	**+1.6**
IVRN	**Varamin**	**5.10**	**80**	Pn	**Pn**	**12 07 13.1**	**+0.5**
KRSH	**Karshahi**	**5.42**	**91**	Pn	**Pn**	**12 07 17.3**	**+0.2**

RSNC 27 12:08:55.4±0.0,**12.°N**×3.°×**77.°2W**±.°,**h35**km±2km,**M2.7,mb4.1,**
ML2.6,Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URIC	**Uribia, Colomb**	**0.20**	**175**	P	Pn	12 09 01.6	-0.6
URIC				S	Sn	12 09 06.8	-0.1
CRJC	**Cerrejon, Guaj**	**1.22**	**224**	P	Pn	12 09 15.3	-0.8
CRJC				S	Sn	12 09 30.8	-0.7
ARGC	**Ariguani, Magd**	**2.99**	**227**	P	Pn	12 09 40.2	-0.2
ARGC				S	Sn	12 10 19.0	+4.0
SDV	**Santo Domingo**	**3.29**	**156**	P	Pn	12 09 44.4	-0.2
SDV				S	Sn	12 10 21.4	-1.2
SJCC	**San Jacinto, C**	**3.69**	**238**	P	Pn	12 09 51.8	+1.7
SJCC				S	Sn	12 10 32.5	0.0
PAMC	**Pamplona, Colo**	**4.58**	**189**	P	Pn	12 10 04.1	+1.4
PAMC				S	Sn	12 10 54.7	-0.3
LCBC	**Los crdobas,**	**5.25**	**235**	P	Pn	12 10 12.0	+0.6
	93nm,1.8s						
LCBC				S	Sn	12 11 11.4	+0.7
	93nm,1.8s						
TAMC	**Tame, Arauca**	**5.43**	**178**	P	Pn	12 10 15.9	+1.9
	10nm,0.7s						
TAMC				S	Sn	12 11 14.6	-0.8
	10nm,0.7s						
RUSC	**La Rusia**	**6.06**	**190**	P	Pn	12 10 23.0	-0.1
	3.3nm,1.7s						
RUSC				S	Sn	12 11 30.6	-0.9
	3.3nm,1.7s						

*ISN **27** 12:19:10.5±0.5, 34.°20N×45.°60E, h13km±4km, ML2.7*
*TEH **27** 12:19:11.1, 34.°20N×45.°61E, h10km±126km, ML2.7*
ISC 27 12:19:11.3±0.9,**34.°22N**±0.°04×**45.°62E**±0.°04,**h10**km,**n10,**
σ0**43**/13,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.26**	**113**	Pg	**Pg**	**12 19 16.8**	**+0.1**
KGS1	**Ghasr-e-Shirin**	**0.29**	**355**	Pg	**Pg**	**12 19 17.6**	**+0.5**
ILBA	**Ilam Banvizeh**	**0.77**	**140**	Pg	**Pg**	**12 19 25.8**	**-0.4**
IGHG	**Ghaleghazi**	**0.80**	**82**	Pg	**Pb**	**12 19 27.1**	**-0.3**
IDHR	**Dehrash**	**0.80**	**53**	Pg	**Pg**	**12 19 26.6**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.18**	**87**	Pg	**Pn**	**12 19 34.2**	**+0.1**
ILIN	**Lien**	**1.31**	**57**	Pg	**Pg**	**12 19 36.7**	**+0.1**
BHD	**Baghdad**	**1.40**	**228**	*e*Pn	**Pb**	**12 19 37.0**	**-0.5**
BHD				*e*Sn	**Sg**	**12 19 56.5**	**+0.2**
IKRK	**Kirkuk**	**1.58**	**319**	*e*Pn	**Pb**	**12 19 40.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**12 20 02.0**	**-0.2**
RAFI	**Al-Rafai**	**2.52**	**170**	*e*Pn	**Pn**	**12 19 53.0**	**+0.7**
RAFI				*e*Sn	**Sn**	**12 20 23.5**	**+0.4**

DNK 27 12:29:40.6±0.6,**57.°68N**×**12.°37E**,**h0**km,**ML1.4**(UPP),
Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAU	**Onsala**	**0.37**	**221**	P	Pg	12 29 47.6	-0.1
ONAU				S	Sg	12 29 52.4	-0.1
TJOU	**Tjoern**	**0.53**	**312**	P	Pg	12 29 50.5	-0.4
FABU	**Falkenberg**	**0.70**	**164**	P	Pg	12 29 53.5	-0.5
VANU	**Vaenersborg**	**0.83**	**349**	P	Pg	12 29 55.8	-0.7
GNOU	**Gnosjoe**	**0.84**	**117**	P	Pg	12 29 55.8	-0.9
FKPU	**Falk**	**0.87**	**56**	P	Pg	12 29 56.6	-0.7
NASU	**Vaermlandsnaes**	**1.33**	**19**	P	Pg	12 30 04.5	-1.5
DEL	**Delary**	**1.46**	**145**	P	Pn	12 30 06.7	-1.5
STRU	**Stroemstad**	**1.50**	**336**	P	Pn	12 30 07.6	-1.1
EKSU	**Eksjoe**	**1.58**	**92**	P	Pn	12 30 09.3	-0.6
FINU	**Finntorp**	**1.73**	**2**	P	Pn	12 30 11.8	-0.2
LNKU	**Linkoeping**	**1.76**	**70**	P	Pn	12 30 12.6	+0.3

*EST **27** 12:30:11.4±0.1, 59.°24N×27.°74E, h0km, ML1.6(HEL),*
Explosion
*LVSN **27** 12:30:22.8±0.4, 59.°66N×26.°98E, h0km±3km, ML1.9*
HEL 27 12:30:10.3±0.5,**59.°22N**×**27.°94E**,**h0**km,**ML1.7,**
Suspected explosion,Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	**0.16**	**348**	*e*P	Pg	12 30 14.2	+0.8
EE04				*e*S	Sg	12 30 16.6	+1.2
EE03	**Tooma soojaam,**	**0.93**	**249**	*e*P	Pg	12 30 26.2	-1.8
EE03				*e*S	Sg	12 30 37.5	-2.6
VSU	**Vasula**	**0.98**	**220**	*e*P	Pg	12 30 28.3	-0.8
ARBE	**Arbavere**	**1.03**	**283**	*e*S	Sg	12 30 39.9	-3.4
ARBE				AML	AML	12 30 41.7	
	comp=N,137nm,0.1s						
ARBE				AML	AML	12 30 55.4	
	comp=E,98nm,0.2s						
ARBE				AML	AML	12 31 22.8	
	comp=Z,42nm,0.6s						
VJF	**Virojoki**	**1.34**	**352**	*e*P	Pg	12 30 34.7	-1.3
VJF				MSG		12 30 50.7	
	comp=Z,6.4nm,0.2s						
VJF				*e*SB	Sg	12 30 52.4	-0.9
EE07	**Piusa Caves, O**	**1.40**	**190**	*e*P	Pn	12 30 36.9	-0.2
EE07				*e*S	Sg	12 30 54.4	-0.9
EE08	**Sarghaua, Vand**	**1.51**	**249**	*e*P	Pn	12 30 36.6	-1.9
EE08				*e*S	Sg	12 30 54.7	-4.0
EE02	**Kiisa, Saku**	**1.67**	**270**	*e*P	Pn	12 30 39.5	-1.3
EE02				*e*SB	Sn	12 31 00.2	-2.6
PVF	**Pernaja**	**1.70**	**323**	*e*PG	Pn	12 30 40.6	-0.5
PVF				*e*S	Sn	12 31 00.7	-2.8
PVF				MSG		12 31 01.1	
	comp=Z,2.5nm,0.2s						
HEL1	**Helsinki**	**1.83**	**303**	*e*PN	Pn	12 30 42.7	-0.2
HEL1				*e*SN	Sn	12 31 05.3	-1.4
HEL1				MSG		12 31 06.9	
	comp=Z,3.9nm,0.1s						
MEF	**Metsahovi**	**2.06**	**301**	*e*P	Pn	12 30 46.8	+0.7
MEF				AML	AML	12 30 47.0	
	comp=E,7.2nm,0.1s						
MEF				AML	AML	12 30 47.0	
	comp=Z,5.9nm,0.1s						
MEF				AML	AML	12 31 13.8	
	comp=N,11nm,0.4s						
MEF	**Metsahovi**	**2.06**	**301**	*e*PG	Pn	12 30 46.6	+0.5
MEF				*e*SG	Sn	12 31 11.6	-0.8
MEF				MSG		12 31 13.4	
	comp=Z,4.3nm,0.1s						
NUR	**Nurmijarvi**	**2.11**	**309**	*e*PG	Pn	12 30 47.6	+0.9
NUR				*e*SB	Sn	12 31 12.7	-0.9
NUR				MSG		12 31 12.8	
	comp=Z,4.3nm,0.2s						
MTSE	**Matsula**	**2.20**	**259**	*e*P	Sn	12 31 15.5	-0.3
MTSE	**Matsula**	**2.20**	**259**	*e*S	Sn	12 31 15.8	-0.1
MTSE	**Matsula**	**2.20**	**259**	*e*PB	Pn	12 30 48.6	+0.6
MTSE				*e*SG	Sn	12 31 15.7	-0.1
EE01	**Perakula, Nova**	**2.22**	**272**	*e*PB	Pn	12 30 48.9	+0.6
EE01				*e*SG	Sn	12 31 16.4	-0.1
RUF	**Ruokolahti**	**2.27**	**12**	*e*PB	Pb	12 30 50.7	-1.4
RUF				MSG		12 31 17.4	
	comp=Z,2.6nm,0.2s						
RUF				*e*SG	Sb	12 31 21.4	+0.6
FIA0	**FINESS Array S**	**2.42**	**338**	*e*P	Pn	12 30 51.2	+0.1
FIA0				*e*PB	Pb	12 30 52.6	-2.1
FIA0				MSG		12 31 21.8	
	comp=Z,3.2nm,0.2s						
FIA0				*e*SG	Sb	12 31 23.6	-1.4
FIA1	**FINESS Array S**	**2.42**	**338**	*e*P	Pn	12 30 51.2	+0.1
FIA1				*e*PB	Pb	12 30 52.6	-2.0
FIA1				MSG		12 31 25.4	
	comp=Z,2.0nm,0.1s						
KAF	**Kangasniemi**	**3.02**	**345**	*e*PB	Pb	12 31 02.6	-2.2
KAF				MSG		12 31 38.9	
	comp=Z,1.8nm,0.2s						
KAF				*e*SG	Sb	12 31 43.1	+1.0
KEF	**Keuruu**	**3.32**	**334**	*e*P	Pn	12 31 01.7	-1.8
SLIT	**Slitere, Latvi**	**3.37**	**244**	*e*P	Pb	12 31 11.3	+0.5
SLIT				AML	AML	12 31 36.4	
	comp=Z,55nm,0.7s						
SLIT				AML	AML	12 31 52.3	
	comp=E,85nm,0.7s						
SLIT				AML	AML	12 32 21.3	
	comp=N,62nm,0.7s						
RAF	**Rauma**	**3.58**	**303**	*e*P	Pn	12 31 07.9	+0.8
RAF				AML	AML	12 31 09.5	
	comp=Z,6.1nm,0.8s						
RAF				AML	AML	12 31 43.1	
	comp=N,3.3nm,0.7s						
RAF				AML	AML	12 32 11.8	
	comp=E,3.9nm,0.7s						
RAF	**Rauma**	**3.58**	**303**	*e*P	Pn	12 31 07.8	+0.7
KPF	**Kankaanpaa**	**3.91**	**315**	*e*P	Pn	12 31 12.4	+0.8
JOF	**Joensuu**	**4.06**	**22**	*e*P	Pn	12 31 15.0	+1.5
JOF	**Joensuu**	**4.06**	**22**	*e*P	Pn	12 31 15.3	+1.7
VAF	**Ylistaro**	**4.61**	**329**	*e*P	Pn	12 31 20.4	-0.7

*AEIC **27** 12:46:12.7±1.1, 53.°22N±0.°04×165.°61W±0.°06, h25km±7km,*
Error ellipse: s-maj=7.3km s-min=3.2km az=215.0
NEIC 27 12:46:12.8±1.2,**53.°3N**±0.°1×**165.°62W**±0.°05,**h25**km±22km,
ML2.5(AEIC),**Error ellipse: s-maj=19.9km s-min=3.1km**
az=169.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.79**	**318**		Pb	12 46 27.8	0.0
UNV	**Unalaska Valle**	**0.79**	**318**		Sb	12 46 38.6	+0.5
ZRO	**Akutan Zero**	**0.86**	**346**		Pb	12 46 29.0	0.0
ZRO					Sn	12 46 42.0	+0.9
AKBBA	**Akutan Broad B**	**0.86**	**348**		Pb	12 46 28.9	-0.1
AKBBA					Sn	12 46 42.2	+1.2
MREP	**Makushin Rep't**	**0.87**	**310**		Pb	12 46 29.0	-0.2
AKSA	**Akutan Strait**	**0.88**	**357**		Pb	12 46 28.8	-0.6
AKSA					Sn	12 46 41.9	+0.5
LVA	**Lava Point**	**0.93**	**345**		Pn	12 46 29.6	-0.7
MTBL	**Makushin Table**	**0.95**	**319**		Pb	12 46 30.7	+0.1
MSW	**Makushin Switc**	**0.95**	**314**		Pn	12 46 30.5	-0.1
MSW					Sn	12 46 44.7	+1.4
MAPS	**Pakushin South**	**0.96**	**305**		Pb	12 46 30.9	+0.2
MAPS					Sn	12 46 44.0	+0.5
WESE	**West Dahl East**	**1.36**	**26**		Pn	12 46 35.9	-0.3
WEBT	**Westdahl Beart**	**1.43**	**21**		Pn	12 46 37.3	+0.2
SSLN	**Shishaldin Nor**	**1.82**	**31**		Pn	12 46 42.9	+0.3
ISNN	**Isanotski Nort**	**1.91**	**34**		Pn	12 46 44.2	+0.4
FALS	**False Pass**	**2.06**	**38**	Pn	Pn	12 46 44.8	-0.9

*NOU **27** 12:53:42.5, 18.°12S×177.°95W, h589km, mb4.6/57, Fiji*
Islands Region
*NEIC **27** 12:53:42.9±2.3, 18.°2S±0.°1×178.°1W±0.°1, h569km±6km,*
mb4.5/133, Error ellipse: s-maj=17.6km s-min=14.5km
az=137.0
*IDC **27** 12:53:45.0±0.9, 18.°17S×178.°24W, h595km±9km, mb3.7/21,*
mbtmp4.6/23, Error ellipse: s-maj=15.2km s-min=9.9km
az=149.0
ISC 27 12:53:43.7±0.4,**18.°24S**±0.°07×**178.°08W**±0.°06,**h590**km,
n359,σ1**01**/352,**mb4.5**/96,**23C-15D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.72**	**277**	P	**P**	**12 55 05.7**	**-0.9**
MSVF	**Nonsavu**	**3.72**	**277**	P	**P**	**12 55 05.5**	**-1.2**
	383nm,0.7s,baz=134,slow=5.5,SNR=730						
MSVF				S	**S**	**12 56 14.9**	**+0.7**
	68nm,1.0s,baz=144,slow=22,SNR=13						
MSVF	**Nonsavu**	**3.72**	**277**	P	**P**	**12 55 05.6**	**-1.1**
FUTU	**Fugatoga**	**3.91**	**359**	P	**P**	**12 55 05.8**	**-2.2**
FUTU	**Fugatoga**	**3.91**	**359**	P	**P**	**12 55 05.4**	**-2.6**
AFI	**Afiamalu**	**7.43**	**55**		**P**	**12 55 34.2**	**-3.3**
AFI	**Afiamalu**	**7.43**	**55**	P	**P**	**12 55 34.2**	**-3.3**
NIUE	**Niue**	**7.77**	**97**		**P**	**12 55 39.5**	**-1.0**
NIUE	**Niue**	**7.77**	**97**	P	**P**	**12 55 39.7**	**-0.8**
FUNA	**Funafuti**	**10.02**	**344**	P	**P**	**12 56 01.2**	**-1.3**
PVC	**Port Vila**	**12.96**	**270**	P	**P**	**12 56 33.0**	**+0.8**
DVP	**Devils Point**	**13.08**	**270**	P	**P**	**12 56 33.4**	**-0.1**
VLAKA	**Lakatoro**	**14.02**	**277**	P	**P**	**12 56 42.2**	**-0.8**
PINNC	**Pines Island,**	**14.25**	**250**	P	**P**	**12 56 44.1**	**-1.0**
DZM	**Mont Dzumac**	**15.02**	**253**	P	**P**	**12 56 51.9**	**-0.7**
DZM				IAmb	IAmb	12 56 57.4	
	comp=Z,38nm,1.5s						
DZM	**Mont Dzumac**	**15.02**	**253**	P	**P**	**12 56 51.5**	**-1.1**
	comp=Z,6.1nm,0.6s,baz=88,slow=19,SNR=9.9						
DZM	**Mont Dzumac**	**15.02**	**253**	P	**P**	**12 56 52.5**	**-0.1**
ONTNC	**Ouen Toro**	**15.06**	**252**	P	**P**	**12 56 52.7**	**-0.1**
KOUNC	**Koumac, New Ca**	**16.80**	**259**	P	**P**	**12 57 08.9**	**0.0**
KOUNC	**Koumac, New Ca**	**16.80**	**259**	P	**P**	**12 57 09.5**	**+0.6**
OUZ	**Omahuta**	**18.46**	**202**	P	**P**	**12 57 25.1**	**+1.3**
KUZ	**Kuaotunu**	**19.23**	**195**	P	**P**	**12 57 30.2**	**-0.5**
WMGZ	**Waiomatatini S**	**19.75**	**188**	P	**P**	**12 57 35.2**	**-0.2**
HAZ	**Te Kaha**	**19.78**	**190**	P	**P**	**12 57 34.8**	**-0.9**
PUZ	**Puketiti**	**20.01**	**188**	P	**P**	**12 57 38.1**	**+0.2**
TGRZ	**Tauranga**	**20.04**	**193**	P	**P**	**12 57 39.6**	**+1.5**
TWGZ	**Tauwhareparae**	**20.16**	**189**	P	**P**	**12 57 39.1**	**-0.1**
TOZ	**Tahuroa Road**	**20.21**	**195**	P	**P**	**12 57 41.2**	**+1.6**
KMRZ	**Kaimai**	**20.22**	**194**	P	**P**	**12 57 41.0**	**+1.2**
URZ	**Urewera**	**20.38**	**191**	P	**P**	**12 57 38.9**	**-2.2**
	comp=Z,20nm,0.5s,baz=110,slow=1.0,SNR=22						
URZ	**Urewera**	**20.38**	**191**	P	**P**	**12 57 39.1**	**-2.1**
URZ	**Urewera**	**20.38**	**191**	P	**P**	**12 57 40.6**	**-0.6**
MWZ	**Matawai**	**20.38**	**190**	P	**P**	**12 57 39.2**	**-2.1**
CNGZ	**Carnagh Statio**	**20.43**	**188**	P	**P**	**12 57 40.9**	**-0.6**
RIGZ	**Rimuhau**	**20.71**	**189**	P	**P**	**12 57 42.1**	**-2.1**
SNGZ	**Shannon Statio**	**20.85**	**190**	P	**P**	**12 57 45.0**	**-0.4**
RAHZ	**Arahi**	**21.02**	**191**	P	**P**	**12 57 45.8**	**-1.2**
WHHZ	**Waihua**	**21.16**	**190**	P	**P**	**12 57 41.3**	**-6.9**
BKZ	**Black Stump Fm**	**21.38**	**192**	P	**P**	**12 57 47.7**	**-2.5**
BKZ	**Black Stump Fm**	**21.38**	**192**	P	**P**	**12 57 49.6**	**-0.6**
DREZ	**Durham Road**	**21.92**	**196**	P	P	12 58 16.1	+21
BFZ	**Birch Farm**	**22.89**	**191**	P	**P**	**12 58 03.2**	**-0.4**
MRZ	**Mangatainoka R**	**23.00**	**192**	P	**P**	**12 58 02.6**	**-2.0**
TATA	**Tatamba Isabel**	**23.62**	**292**	P	**P**	**12 58 09.7**	**-0.7**
MSWZ	**Moikau Station**	**23.79**	**193**	P	**P**	**12 58 10.1**	**-1.5**
SNZO	**South Karori**	**23.81**	**194**	P	**P**	**12 58 11.7**	**0.0**
TCW	**Tory Channel**	**23.81**	**194**	P	**P**	**12 58 11.0**	**-0.7**
QRZ	**Quartz Range**	**23.91**	**198**	P	**P**	**12 58 12.8**	**+0.2**
QRZ	**Quartz Range**	**23.91**	**198**	P	**P**	**12 58 13.0**	**+0.4**
PLWZ	**Palliser**	**23.94**	**192**	P	**P**	**12 58 12.1**	**-0.8**
NNZ	**Nelson**	**24.04**	**196**	P	**P**	**12 58 12.7**	**-1.0**
THZ	**Tophouse**	**24.68**	**196**	P	**P**	**12 58 18.2**	**-1.3**
DSZ	**Denniston Nort**	**24.97**	**198**	P	**P**	**12 58 22.4**	**+0.3**
LTZ	**Lake Taylor**	**25.80**	**196**	P	**P**	**12 58 27.5**	**-1.8**
INZ	**Inchbonnie**	**25.98**	**198**	P	**P**	**12 58 29.9**	**-0.9**
OXZ	**Oxford**	**26.37**	**196**	P	**P**	**12 58 33.0**	**-1.2**
WVZ	**Waitaha Valley**	**26.51**	**199**	P	**P**	**12 58 35.4**	**0.0**
JCZ	**Jackson Bay**	**28.02**	**200**	P	**P**	**12 58 49.3**	**+0.5**
MLZ	**Mavora Lakes**	**29.39**	**200**	P	**P**	**12 59 00.9**	**+0.3**
EIDS	**Eidsvold**	**29.45**	**251**	P	**P**	**12 59 01.3**	**-0.1**
EIDS				IAmb	IAmb	12 59 01.5	
	comp=Z,15nm,0.8s						
EIDS	**Eidsvold**	**29.45**	**251**	P	**P**	**12 59 01.6**	**+0.2**
ARMA	**Armidale**	**30.05**	**240**	P	**P**	**12 59 07.2**	**+0.7**
ARMA				IAmb	IAmb	12 59 07.9	
	comp=Z,13nm,1.1s						
ARMA	**Armidale**	**30.05**	**240**	P	**P**	**12 59 06.5**	**-0.1**
CNB	**Canberra Magne**	**33.48**	**233**	P	**P**	**12 59 36.0**	**+0.5**
CTAO	**Charters Tower**	**33.70**	**261**	P	**P**	**12 59 37.2**	**-0.4**
CTAO	**Charters Tower**	**33.70**	**261**	P	**P**	**12 59 37.2**	**-0.4**
CAN	**Canberra**	**33.75**	**233**	P	**P**	**12 59 38.4**	**+0.6**
CAN				IAmb	IAmb	13 00 21.9	
	comp=Z,24nm,1.4s						
CAN	**Canberra**	**33.75**	**233**	P	**P**	**12 59 37.9**	**+0.1**
PMG	**Port Moresby**	**34.83**	**280**	P	**P**	**12 59 47.5**	**+0.6**
PMG	**Port Moresby**	**34.83**	**280**	P	**P**	**12 59 47.0**	**+0.1**
	comp=Z,54nm,0.9s,baz=67,slow=7.4,SNR=29						
	comp=Z,54nm,0.9s						
CMSA	**Cobar Meteorol**	**35.26**	**241**	P	**P**	**12 59 50.9**	**+0.5**
MTSU	**Mount Surprise**	**35.69**	**264**	P	**P**	**12 59 53.9**	**-0.2**
QLP	**Quilpie**	**35.71**	**250**	P	**P**	**12 59 54.8**	**+0.6**
TOO	**Toolangi**	**37.20**	**231**	P	**P**	**13 00 07.0**	**+0.7**
COEN	**Coen**	**37.42**	**271**	P	**P**	**13 00 08.3**	**0.0**
COEN	**Coen**	**37.42**	**271**	P	**P**	**13 00 08.7**	**+0.4**
MANU	**Manus Island**	**37.51**	**291**	P	**P**	**13 00 09.0**	**-0.1**
STKA	**Stephens Creek**	**38.75**	**242**	P	**P**	**13 00 19.4**	**+0.6**
STKA	**Stephens Creek**	**38.75**	**242**	P	**P**	**13 00 19.4**	**+0.6**
	comp=Z,13nm,0.8s,baz=93,slow=9.7,SNR=18						
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**38.75**	**242**	P	**P**	**13 00 18.8**	**0.0**
INKA	**Innaminka**	**38.91**	**248**	P	**P**	**13 00 20.2**	**0.0**
QIS	**Mount Isa**	**39.90**	**260**	P	**P**	**13 00 27.6**	**-0.7**
HTT	**Hallett**	**41.25**	**240**	P	**P**	**13 00 38.6**	**-0.2**
LCRK	**Leigh Creek**	**41.39**	**244**	P	**P**	**13 00 40.4**	**+0.5**
JAY	**Jayapura**	**43.30**	**286**	P	**P**	**13 00 55.0**	**-0.1**
	comp=Z,46nm,0.7s,baz=97,slow=3.1,SNR=15						
	comp=Z,46nm,0.7s						
OOD	**Oodnadatta**	**43.39**	**249**	P	**P**	**13 00 55.7**	**+0.2**
BBOO	**Buckleboo**	**43.52**	**241**	P	**P**	**13 00 56.8**	**+0.3**
BBOO				IAmb	IAmb

YULB IAmb IAmb 13 04 37.4
comp=Z,31nm,1.2s
YULB Yu-li 72.21 303 P **P** **13 04 09.5 -0.8**
NACB Ninganchiao 72.36 304 P **P** **13 04 10.8 -0.4**
SSLB Suanglung 72.68 303 P **P** **13 04 11.9 -1.2**
SSLB Suanglung 72.68 303 P **P** **13 04 12.3 -0.8**
TPUB Ta-pu 72.70 302 P **P** **13 04 11.9 -1.3**
TPUB Ta-pu 72.70 302 P **P** **13 04 12.4 -0.8**
KSM Kuching 73.04 277 P **P** **13 04 16.1 +0.8**
PEA0B Petropavlovsk- 74.08 345 P **P** **13 04 20.3 0.0**
PETK Petropavlovsk- 74.08 345 P **P** **13 04 20.2 -0.1**
comp=Z,9.2nm,0.6s,baz=110,slow=7.7,SNR=30
comp=Z,9.2nm,0.6s
KSRS Korea Array 75.16 318 P **P** **13 04 27.4 +0.8**
comp=Z,2.4nm,0.7s,baz=127,slow=6.0,SNR=9.6
comp=Z,2.4nm,0.7s
USRK Ussuriysk Ar. 77.07 326 P **P** **13 04 38.8 +1.8**
USRK Ussuriysk Ar. 77.07 326 P **P** **13 04 38.4 +1.4**
comp=Z,2.6nm,0.8s,baz=165,slow=4.7,SNR=3.1
comp=Z,2.6nm,0.8s
YBH Yreka Blue Hor 78.58 39 P **P** **13 04 46.9 +1.6**
YBH Yreka Blue Hor 78.58 39 P **P** **13 04 47.0 +1.6**
comp=Z,4.0nm,1.1s,baz=166,slow=4.2,SNR=2.7
comp=Z,4.0nm,1.1s
MDJ Mudanjiang 78.64 325 P **P** **13 04 46.2 +0.8**
MDJ IAmb IAmb 13 04 47.4
comp=Z,19nm,0.9s
KDAK Kodiak Island 78.65 14 P **P** **13 04 45.8 +0.7**
HUMO Hull Mountain 78.97 38 P **P** **13 04 48.7 +1.4**
PNTR Pine Nut 78.97 43 P **P** **13 04 48.4 +0.8**
DSP Deep Springs 79.09 45 P **P** **13 04 49.6 +1.7**
L04D Klamath Falls 79.12 39 P **P** **13 04 49.9 +1.6**
L04D IAmb IAmb 13 05 04.3
comp=Z,27nm,1.3s
YERR Yerington 79.14 43 P **P** **13 04 50.1 +1.6**
O16K Kokwok River B 79.26 10 P **P** **13 04 47.7 -0.6**
O16K IAmb IAmb 13 05 03.5
comp=Z,19nm,1.2s
NVAR Mina Array Bea 79.45 44 P **P** **13 04 51.2 +1.1**
NVAR Mina Array Bea 79.45 44 P **P** **13 04 51.5 +1.4**
comp=Z,1.8nm,0.7s,baz=224,slow=8.8,SNR=17
comp=Z,1.8nm,0.7s
PAHR Pah Rah Range 79.46 42 P **P** **13 04 51.3 +1.2**
N15K Kwethluk River 79.49 9 P **P** **13 04 50.2 +0.7**
N15K IAmb IAmb 13 05 25.4
comp=Z,49nm,1.4s
GMN Gold Mountain 79.53 45 P **P** **13 04 51.2 +0.6**
P18K Big Mountain, 79.58 12 P **P** **13 04 50.0 -0.1**
P18K IAmb IAmb 13 04 50.6
comp=Z,20nm,1.0s
M14K Bethel 79.79 8 P **P** **13 04 52.1 +1.0**
M14K IAmb IAmb 13 05 12.3
comp=Z,35nm,1.3s
KVN Kaiserville 79.92 43 P **P** **13 04 53.8 +1.2**
O18K Koktuh Hills 80.02 11 P **P** **13 04 52.3 0.0**
O18K IAmb IAmb 13 04 53.3
comp=Z,18nm,0.8s
TPNV Topopah Spring 80.03 46 P **P** **13 04 54.9 +1.7**
P19K Oil Pt 80.22 13 P **P** **13 04 53.8 +0.3**
N17K Nushagak Hills 80.29 10 P **P** **13 04 54.1 +0.3**
N17K IAmb IAmb 13 04 56.1
comp=Z,19nm,1.3s
M16K Timber Creek 80.47 9 P **P** **13 04 55.9 +1.2**
M16K IAmb IAmb 13 04 56.7
comp=Z,26nm,1.1s
O19K Port Alsworth 80.50 12 P **P** **13 04 54.8 0.0**
O19K IAmb IAmb 13 04 55.2
comp=Z,22nm,0.8s
CNPM China Poot 80.53 13 P **P** **13 04 55.6 +0.6**
ILSW Iliamna Southw 80.54 12 P **P** **13 04 55.3 +0.1**
ILSW IAmb IAmb 13 05 11.2
comp=Z,35nm,1.5s
H04A Detroit Lake 80.67 37 P **P** **13 04 57.2 +1.1**
H04A IAmb IAmb 13 05 16.1
comp=Z,34nm,1.5s
L16K Owhat River 81.05 9 P **P** **13 04 58.5 +0.9**
L16K IAmb IAmb 13 04 59.3
comp=Z,15nm,1.1s
M17K Holitna River 81.07 10 P **P** **13 04 59.1 +1.4**
M17K IAmb IAmb 13 04 59.8
comp=Z,15nm,0.8s
PRN Pahroc Range 81.08 46 P **P** **13 05 00.7 +2.1**
K15K Wolf Creek Mou 81.33 8 P **P** **13 05 00.3 +1.2**
WVOR Wild Horse Val 81.46 40 P **P** **13 05 01.7 +1.3**
O22K Cooper Landing 81.73 14 P **P** **13 05 01.5 +0.4**
BELA Belgrano 2 81.79 173 P **P** **13 05 02.3 +0.9**
BELA IAmb IAmb 13 05 03.0
comp=Z,12nm,0.9s
I07A Izee 81.87 38 P **P** **13 05 03.9 +1.4**
L18K Granite Mounta 81.97 10 P **P** **13 05 03.1 +0.8**
L18K IAmb IAmb 13 05 03.6
comp=Z,10nm,0.8s
M19K Big River Lodg 82.07 11 P **P** **13 05 02.3 -0.5**
J08A Circle Bar Ran 82.08 39 P **P** **13 05 04.8 +1.3**
LCMT Little Creek M 82.13 47 P **P** **13 05 05.5 +1.6**
K17K Iditarod 82.19 9 P **P** **13 05 04.2 +0.8**
K17K IAmb IAmb 13 05 09.8
comp=Z,16nm,1.2s
L19K White Mountain 82.25 11 P **P** **13 05 04.5 +0.8**
SUA Susitna One 82.39 13 P **P** **13 05 04.2 -0.4**
SUA IAmb IAmb 13 05 04.7
comp=Z,14nm,0.8s
J16K Anvik River 82.41 8 P **P** **13 05 05.2 +0.7**
J16K IAmb IAmb 13 05 06.1
comp=Z,36nm,1.4s
ELK Elko 82.69 43 P **P** **13 05 06.7 -0.1**
ELK Elko 82.69 43 P **P** **13 05 08.1 +1.3**
comp=Z,2.0nm,0.8s,baz=245,slow=5.2,SNR=7.7
comp=Z,2.0nm,0.8s
GLI Glacier Island 82.69 15 P **P** **13 05 06.0 0.0**
J17K VABM Dome 82.72 8 P **P** **13 05 06.7 +0.6**
TTA Tatalina 82.75 10 P **P** **13 05 06.8 +0.5**
IPM Ipoh 82.78 277 P **P** **13 05 07.1 -0.5**
IPM IAmb IAmb 13 05 08.8
comp=Z,13nm,0.7s
KNK Knik Glacier 82.84 14 P **P** **13 05 06.9 +0.1**
KNK IAmb IAmb 13 05 07.7
comp=Z,26nm,1.2s
PMR Palmer 82.85 13 P **P** **13 05 06.6 -0.1**
PMR IAmb IAmb 13 05 07.1
comp=Z,41nm,1.5s
G08A Pilot Rock 82.88 38 P **P** **13 05 08.6 +1.1**
GHO Glory Hole Cre 83.06 13 P **P** **13 05 07.9 0.0**
GHO IAmb IAmb 13 05 08.4
comp=Z,18nm,0.7s
J18K Innoko River 83.14 9 P **P** **13 05 08.7 +0.5**
J18K IAmb IAmb 13 05 09.3
comp=Z,11nm,0.8s
SML Sawmill 83.22 14 P **P** **13 05 08.6 -0.1**
SML IAmb IAmb 13 05 36.8
comp=Z,19nm,1.2s
WAX Waxell Ridge 83.42 17 P **P** **13 05 10.3 +0.6**
K20K Telida 83.47 11 P **P** **13 05 10.0 +0.1**
K20K IAmb IAmb 13 05 10.6
comp=Z,10nm,0.8s
SCM Sheep Creek Mo 83.47 14 P **P** **13 05 10.0 0.0**
SCM IAmb IAmb 13 05 10.2
comp=Z,16nm,0.6s
KLU Klutina 83.51 15 P **P** **13 05 11.4 +1.2**
TGL Tana Glacier 83.68 17 P **P** **13 05 11.5 +0.4**
TGL IAmb IAmb 13 05 39.7
comp=Z,28nm,1.4s
TABL Table Mountain 83.89 17 P **P** **13 05 13.0 +0.8**
TABL IAmb IAmb 13 05 26.1
comp=Z,19nm,1.1s
CAST Castle Rocks 83.89 11 P **P** **13 05 10.6 -1.3**
CAST IAmb IAmb 13 05 11.3
comp=Z,14nm,0.9s
VRDI Verde Repeater 83.91 16 P **P** **13 05 12.1 -0.2**
VRDI IAmb IAmb 13 05 40.5
comp=Z,23nm,1.4s
GRNC Granite Creek 83.96 17 P **P** **13 05 13.0 +0.4**
GRNC IAmb IAmb 13 05 48.2
comp=Z,23nm,1.4s
HNS HongShan 83.98 312 ⇊P **P** **13 05 13.5 +0.6**
HNS pmax pmax
comp=Z,10.0nm,1.3s
GLB Gilahina Butte 84.00 16 P **P** **13 05 12.7 +0.2**
GLB IAmb IAmb 13 05 13.2
comp=Z,8.6nm,0.7s
RPSI Rantau Prapat 84.19 275 P **P** **13 05 14.2 -0.4**
RPSI IAmb IAmb 13 05 15.1
comp=Z,11nm,0.8s
J20K Nowinta River 84.22 10 P **P** **13 05 13.8 +0.3**
J20K IAmb IAmb 13 05 14.4
comp=Z,5.8nm,0.7s
KTH Kantishna Hill 84.24 12 P **P** **13 05 12.7 -1.0**
KTH IAmb IAmb 13 05 14.0
comp=Z,10nm,0.9s
BJI Beijing 84.24 315 P **P** **13 05 14.8 +0.7**
BJI pmax pmax
comp=Z,5.0nm,1.0s
LYN LuoYang 84.28 309 P **P** **13 05 15.0 +0.5**
LYN pmax pmax
comp=Z,41nm,0.7s
RND Reindeer 84.52 13 IAmb IAmb 13 05 15.6
comp=Z,16nm,0.8s
M26K Nabesna, AK 85.02 16 IAmb IAmb 13 05 18.6
comp=Z,9.7nm,0.9s
GSI Gunungsitoli 85.03 273 P **P** **13 05 17.2 -1.4**
WRH Wood River Hil 85.63 13 IAmb IAmb 13 05 21.2
comp=Z,14nm,1.1s
HDA Harding Lake 85.81 13 IAmb IAmb 13 05 21.0
comp=Z,4.6nm,0.6s
CCB Clear Creek Bu 85.84 13 IAmb IAmb 13 05 21.4
comp=Z,17nm,1.3s
TXAR Lajitas Array 85.91 57 P **P** **13 05 24.4 +1.9**
TXAR Lajitas Array 85.91 57 P **P** **13 05 25.0 +2.4**
comp=Z,1.8nm,0.8s,baz=222,slow=5.9,SNR=21
comp=Z,1.8nm,0.8s
IMAR Indian Mountai 85.96 10 P **P** **13 05 21.8 0.0**
ANMO Albuquerque 86.06 51 P **P** **13 05 24.7 +1.4**
comp=Z,1.1nm,0.9s,baz=169,slow=10,SNR=3.1
comp=Z,1.1nm,0.9s
IL31 86.14 13 IAmb IAmb 13 05 22.9
comp=Z,5.3nm,0.8s
ILAR Eielson Array 86.14 13 P **P** **13 05 22.0 -0.7**
ILAR Eielson Array 86.14 13 P **P** **13 05 21.8 -0.9**
comp=Z,2.1nm,0.4s,baz=221,slow=4.8,SNR=58
comp=Z,2.1nm,0.4s
F19K Shaleruckik Mo 86.17 8 P **P** **13 05 22.6 -0.1**
XLT XiLinHaoTe 86.21 319 *e*P **P** **13 05 24.3 +0.7**
XLT pmax pmax
comp=Z,15nm,1.0s
XLT pmax pmax
comp=Z,140nm,4.3s
POKR Poker Plat Res 86.33 12 P **P** **13 05 22.9 -0.7**
POKR IAmb IAmb 13 05 24.5
comp=Z,6.5nm,0.7s
XAN Xi'an 86.71 307 P **P** **13 05 27.0 +0.8**
XAN pmax pmax
comp=Z,29nm,1.1s
L29M L29M 86.89 17 IAmb IAmb 13 05 28.0
comp=Z,13nm,1.2s
YHL Hebgen Lake 87.33 41 IAmb IAmb 13 05 32.0
comp=Z,6.4nm,0.9s
PD31 Pinedale Array 87.38 43 P **P** **13 05 29.1 -0.2**
PDAR Pinedale Array 87.38 43 P **P** **13 05 30.1 +0.7**
comp=Z,1.4nm,0.7s,baz=218,slow=2.2,SNR=16
comp=Z,1.4nm,0.7s
HHC Hu-ho-hao-te 87.73 314 *e*P P 13 05 36.8 +5.9
HHC PP **PP** **13 09 13.3 +5.2**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,130nm,7.7s
ELIB Princess Elisa 88.86 187 *d*P **P** **13 05 36.3 +0.6**
comp=Z,4.6nm,0.7s
CMAR Chiang Mai Arr 89.29 290 P **P** **13 05 39.0 +0.5**
CMAR Chiang Mai Arr 89.29 290 P **P** **13 05 39.7 +1.2**
comp=Z,4.2nm,0.9s,baz=110,slow=2.8,SNR=25
comp=Z,4.2nm,0.9s
CHTO Chiang Mai 89.41 290 P **P** **13 05 40.1 +1.1**
CHTO IAmb IAmb 13 05 40.8
comp=Z,5.6nm,0.8s
PZH PanZhiHua 89.59 298 P **P** **13 05 41.5 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.4s
EPYK Eagle Plains 89.84 15 IAmb IAmb 13 05 40.8
comp=Z,7.0nm,0.8s
TROLL Troll, Antarti 89.97 180 ⇑P **P** **13 05 41.5 +0.6**
comp=Z,110nm,0.5s
SNAA Sanae 90.26 178 ⇑P **P** **13 05 41.7 -0.4**
comp=Z,21nm,0.5s
SNAA Sanae 90.26 178 P **P** **13 05 42.8 +0.8**
comp=Z,1.7nm,0.9s,baz=200,slow=13,SNR=5.3
comp=Z,1.7nm,0.9s
VNA3 Neumayer Olymp 90.39 176 ⇑P **P** **13 05 43.2 +0.6**
comp=Z,4.3nm,0.5s
G31M Satah River 90.89 16 P **P** **13 05 45.0 +0.3**
C27K Jago River 90.96 11 P **P** **13 05 45.4 +0.3**
LZH Lanzhou 91.34 308 *e*P **P** **13 05 49.3 +1.5**
LZH pP pP 13 07 53.8 -2.1
LZH pmax pmax
comp=Z,15nm,1.1s
INK Inuvik 92.12 15 P **P** **13 05 50.1 -0.2**
INK IAmb IAmb 13 05 50.8
comp=Z,3.6nm,0.8s
SONM Songino Array 94.01 319 P **P** **13 05 59.2 -0.5**
comp=Z,0.6nm,0.5s,baz=137,slow=4.8,SNR=3.8
comp=Z,0.6nm,0.5s
YKA Yellowknife Ar 94.50 25 P **P** **13 06 01.1 -0.3**
comp=Z,0.5nm,0.6s,baz=260,slow=3.5,SNR=3.6
comp=Z,0.5nm,0.6s
MKAR Makanchi Array 109.59 314 PKiKP **PKiKP** **13 11 07.2 -1.0**
comp=Z,0.6nm,0.5s,baz=118,slow=0.9,SNR=8.6
KURBB Kurchatov Arra 112.34 318 PKiKP **PKiKP** **13 11 12.1 -1.1**
comp=Z,0.9nm,0.8s,baz=96,slow=1.7,SNR=8.9
BVAR Borovoye Array 117.30 321 PKP **PKPdf** **13 11 22.2 -0.4**
comp=Z,1.7nm,0.5s,baz=137,slow=0.9,SNR=10
ARCES ARCESS Array B 126.70 350 PKP **PKPdf** **13 11 39.9 -0.3**
comp=Z,2.6nm,0.7s,baz=32,slow=1.6,SNR=5.9
FINES FINESS Array B 133.59 344 PKP **PKPdf** **13 11 52.6 -0.9**
comp=Z,1.9nm,0.7s,baz=28,slow=6.3,SNR=1.9
NOA NORSAR Array B 136.74 353 PKP **PKPdf** **13 11 59.1 -0.4**
comp=Z,0.9nm,0.8s,baz=31,slow=2.0,SNR=2.6
HFS Hagfors 137.31 351 PKhKP PKPpre 13 11 50.9
comp=Z,0.4nm,0.3s,baz=20,slow=4.6,SNR=1.2
AKASG Malin Array Be 141.00 332 PKhKP PKPpre 13 12 01.9
comp=Z,0.8nm,0.5s,baz=42,slow=4.2,SNR=11
AKASG PKiKP **PKiKP** **13 12 09.9 -0.4**
comp=Z,1.3nm,0.5s,baz=44,slow=2.8,SNR=5.5
KIEV Kiev 141.01 332 ⇑P PKPpre 13 12 01.6
EKA Eskdalemuir Ar 142.77 5 PKhKP PKPpre 13 12 04.3
comp=Z,1.7nm,0.7s,baz=293,slow=3.6,SNR=2.7
SORM Soroca 143.24 330 ⇑P PKPab 13 12 09.4 -0.3
GAZ Gaziantep 143.79 309 PKPbc **PKPdf** **13 12 13.0 +0.1**
LODK Lodwar 144.10 250 PKPbc PKPbc 13 12 11.6 -2.2
BNN Bunyan 144.11 312 **PKPab** **13 12 13.9 +0.4**
KWP Kalwaria Pacla 144.50 337 **PKPdf** **13 12 13.7 +0.1**
TLCR 145.02 326 ⇓P **PKPab** **13 12 16.2 -0.5**
OJC Ojcow 145.03 340 **PKPdf** **13 12 14.9 +0.4**
BUR08 Bucovina Ar. S 145.04 332 PKPbc **PKPab** **13 12 16.3 -0.5**
BURAR Bucovina Array 145.06 332 PKPbc **PKPab** **13 12 16.6 -0.3**
BURAR Bucovina Array 145.06 332 ⇓P **PKPab** **13 12 16.8 0.0**
TESR Tescani 145.21 330 ⇓P **PKPbc** **13 12 16.2 +0.1**
STHS Stebnicka Huta 145.22 338 *e*PKP **PKPab** **13 12 18.0 +0.7**
KOLS Kolonicke sedl 145.24 336 *e*PKP **PKPab** **13 12 16.9 -0.5**
BR131 Keskin Array S 145.24 315 **PKPbc** **13 12 16.8 +0.1**
BRTR Keskin Array B 145.24 315 PKPbc **PKPbc** **13 12 16.9 +0.3**
BRTR Keskin Array B 145.24 315 PKPbc **PKPbc** **13 12 16.7 +0.1**
comp=Z,5.0nm,0.7s,baz=130,slow=4.7,SNR=21
KIRS Kirsehir-Merke 145.33 314 ⇑P **PKPbc** **13 12 17.1 +0.3**
TPGR Topolog 145.45 326 ⇑P **PKPab** **13 12 17.7 -0.7**
ONER Baraj Valea Uz 145.46 330 ⇑P **PKPab** **13 12 17.8 -0.5**
VRI Vrincioaia 145.63 329 ⇓P **PKPbc** **13 12 17.7 +0.3**
PLOR Plostina 145.68 329 ⇑P **PKPdf** **13 12 15.5 -0.3**
ANTO Ankara 145.74 315 PKPbc **PKPbc** **13 12 18.4 +0.5**
OSTC Ostas 145.80 344⇑ *e*PKP **PKPab** **13 12 19.0 -0.5**
ARCR ARCALIA 145.84 332 ⇓P **PKPbc** **13 12 18.9 +1.0**
TURR Turia 145.84 330 ⇑P **PKPab** **13 12 17.2 -0.8**
CLL Collm 145.86 348 PKPbc **PKPbc** **13 12 18.2 +0.5**
CLL Collm 145.86 348 ⇓*i* PKPbc **PKPbc** **13 12 18.0 +0.2**
comp=Z,23nm,0.8s
CLL *i* PKiKP **PKiKP** **13 12 23.3 +3.0**
DPC Dobruska-Polom 145.96 343⇑ *e*PKP **PKPbc** **13 12 19.1 +0.9**
MBAR Mbarara 146.04 240 PKPbc **PKPbc** **13 12 19.9 +0.3**
KRLC Kraliky 146.08 343⇑ *e*PKP **PKPbc** **13 12 19.3 +0.8**
MORC Moravsky Berou 146.13 342 PKPbc **PKPbc** **13 12 19.6 +1.0**
MORC Moravsky Berou 146.13 342 *e*PKP **PKPbc** **13 12 19.0 +0.4**
MORC Moravsky Berou 146.13 342 ⇓P **PKPbc** **13 12 18.2 -0.5**
DOPR Dopca 146.20 330 ⇓P **PKPbc** **13 12 20.0 +1.1**
MLR Muntele Rosu 146.28 329 **PKPbc** **13 12 20.3 +1.0**
MLR Muntele Rosu 146.28 329 ⇑P **PKPbc** **13 12 20.0 +0.7**
MAUC Maruska 146.40 341⇑ *e*PKP **PKPbc** **13 12 20.5 +1.1**
MDUB Mudurnu 146.47 318 **PKPbc** **13 12 20.6 +0.6**
MMAI Mount Meron Ar 146.59 303 PKPbc **PKPbc** **13 12 21.1 +0.6**
comp=Z,9.7nm,0.6s,baz=65,slow=4.9,SNR=11
MARR Marisel-Cluj 146.69 333 ⇑P **PKPbc** **13 12 20.9 +0.5**
PRU Pruhonice 146.75 345⇑ *e*PKP **PKPbc** **13 12 20.9 +0.7**
DRGR 146.78 334 ⇓P **PKPbc** **13 12 20.7 +0.2**
VRAC Vranov 146.82 342 *e*PKP **PKPbc** **13 12 21.2 +0.7**
VYHS Vyhne 146.84 339 *e*PKP **PKPbc** **13 12 21.3 +0.7**
JAVC Velka Javorina 146.90 341 *e*PKP **PKiKP** **13 12 22.4 -0.2**
PSZ Piszkesteto 146.96 338 PKPbc **PKPbc** **13 12 21.8 +0.8**
ARR Arges 147.00 330 ⇓P **PKPbc** **13 12 21.9 +0.7**
KRUC Moravsky 147.10 342 *e*PKP **PKPbc** **13 12 21.7 +0.5**
ZVC Zvikov 147.34 345⇑ *e*PKP **PKiKP** **13 12 22.9 -0.6**
ZVC *e*PKPAB **PKPab** **13 12 26.4 +0.6**
MODS Modra-Piesok 147.45 341 *e*PKP **PKiKP** **13 12 23.5 -0.2**
CSS Mathiatis 147.53 307 PKPbc **PKPbc** **13 12 23.2 +0.4**
SIRR Siria 147.63 334 ⇑P **PKPbc** **13 12 23.4 +0.7**
GRA1 Grafenberg Arr 147.75 349 PKPbc **PKiKP** **13 12 23.9 -0.4**
GRFO Grafenberg 147.75 349 PKPbc **PKiKP** **13 12 23.8 -0.5**
KHC Kasperske Hory 147.78 346 **PKPbc** **13 12 23.4 +0.4**
KHC Kasperske Hory 147.78 346⇑ *e*PKP **PKPbc** **13 12 23.6 +0.6**
KHC *e*PKPAB **PKPab** **13 12 28.7 +1.1**
SURR Surduc 147.84 333 ⇓P **PKPbc** **13 12 23.4 +0.2**
CKRC Cesky Krumlov 147.89 345⇑ *e*PKP **PKiKP** **13 12 24.0 -0.6**
GEC2 GERESS Array S 148.01 345 PKPbc **PKPbc** **13 12 23.5 -0.2**
GERES GERESS Array B 148.01 345 PKPbc **PKPbc** **13 12 24.1 +0.4**
GERES GERESS Array B 148.01 345 PKPbc **PKPbc** **13 12 24.2 +0.6**
comp=Z,5.7nm,0.7s,baz=26,slow=3.4,SNR=21
BZS Buzias 148.17 333 ⇓P **PKPbc** **13 12 24.1 0.0**
CONA Conrad Observa 148.28 342 *e*PKP **PKiKP** **13 12 25.2 -0.4**
comp=Z,1.8nm,0.4s
RONA Rosalia, Austr 148.35 341 *e*PKP **PKiKP** **13 12 25.4 -0.3**
comp=Z,5.1nm,0.6s
HERR Herculane 148.40 332 ⇑P **PKPbc** **13 12 24.9 +0.3**
WLF Walferdange 148.47 355 PKPbc **PKiKP** **13 12 25.5 -0.3**
MDVR Moldovita 148.79 332 ⇑P **PKPbc** **13 12 25.3 -0.4**
MOA Molln 148.79 344 *e*PKP **PKPbc** **13 12 25.8 +0.2**
comp=Z,4.9nm,1.0s
BIOA Bad Ischl, Aus 149.10 345 *e*PKP **PKPbc** **13 12 26.5 +0.2**
comp=Z,7.1nm,0.9s
RDO Rodhopi 149.49 323 PKPbc **PKPbc** **13 12 27.4 0.0**
BFO Black Forest 149.54 352 **PKiKP** **13 12 27.9 -0.2**
LESA Schwarzleotal 149.59 346 *e*PKP **PKPbc** **13 12 27.6 0.0**
comp=Z,9.9nm,1.1s
SOKA Soboth 149.65 342 *e*PKP **PKPbc** **13 12 27.7 0.0**
comp=Z,7.2nm,0.9s
BOVS Bovan 149.68 331 ⇓P **PKPbc** **13 12 27.3 -0.5**
WATA Walderalm 149.92 347 *e*PKP **PKPbc** **13 12 27.9 -0.5**
comp=Z,9.1nm,1.0s
WTTA Wattenberg 149.98 347 *e*PKP **PKPbc** **13 12 28.7 +0.1**
comp=Z,14nm,0.6s
MOTA Moosalm 150.01 347 *e*PKP **PKPbc** **13 12 28.4 -0.3**
comp=Z,7.7nm,0.8s
MYKA Terra Mystica 150.08 344 *e*PKP **PKPbc** **13 12 28.6 -0.2**
comp=Z,8.7nm,0.7s
SQTA Sankt Quirin 150.11 347 *e*PKP **PKPbc** **13 12 29.0 +0.1**
comp=Z,8.0nm,0.8s
ABTA Abfaltersbach 150.26 345 *e*PKP **PKPbc** **13 12 28.9 -0.3**
comp=Z,14nm,0.7s
DAVA Damuels 150.31 349 *e*PKP **PKPbc** **13 12 29.5 +0.2**
comp=Z,7.4nm,0.8s
FETA Feichten 150.40 348 *e*PKP **PKiKP** **13 12 29.9 -0.2**
comp=Z,10.0nm,0.8s
FUORN Ofenpass-Fuorn 150.87 348 **PKiKP** **13 12 31.4 +0.3**
TUE Stuetta 151.19 349 **PKiKP** **13 12 32.0 +0.3**
FNA Florina 152.00 327 **PKPbc** **13 12 32.4 -0.8**
ESDC Sonseca Array 158.04 12 PKPab **PKPab** **13 13 10.9 -0.5**
comp=Z,1.6nm,1.1s,baz=343,slow=4.8,SNR=5.7
MESJ Messejana 158.55 22 PKPdf **PKPdf** **13 12 33.0 -1.7**
MESJ PKPab **PKPab** **13 13 12.4 -1.3**
TORD Torodi Ar. Bea 174.93 177 PKP **PKPdf** **13 12 46.8 -0.7**
comp=Z,0.8nm,1.0s,baz=83,slow=2.3,SNR=2.9

AUST 27 12:54:14.2±0.3, 29°S±3°×13°7E±°, h10km, mb4.0/3, ML2.6/9, Error ellipse: s-maj=7.4km s-min=4.3km az=48.4, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRK	**Leigh Creek**	**1.40**	**146**	P	Pb	12 54 40.6	0.0
LCRK	**Leigh Creek**	**1.40**	**146**	S	Sb	12 54 58.9	+0.4
OOD	**Oodnadatta**	**2.06**	**316**	P	Pn	12 54 49.4	+0.5
OOD	**Oodnadatta**	**2.06**	**316**	S	Sn	12 55 15.7	+1.1
YAPP	**Yappala Statio**	**2.72**	**162**	P	Pn	12 55 00.1	+2.2
MULG	**Mulgathing**	**2.99**	**250**	P	Pn	12 55 02.5	+0.7
MULG	**Mulgathing**	**2.99**	**250**	S	Sn	12 55 38.5	+0.8
BBOO	**Buckleboo**	**3.67**	**197**	P	Pn	12 55 11.7	+0.6
BBOO	**Buckleboo**	**3.67**	**197**	S	Sn	12 55 54.4	-0.2
HTT	**Hallett**	**4.36**	**162**	P	Pn	12 55 20.4	-0.2
HTT	**Hallett**	**4.36**	**162**	S	Sn	12 56 11.8	+0.3
STKA	**Stephens Creek**	**4.51**	**126**	P	Pn	12 55 21.8	-0.8
AS31	**Alice Springs**	**6.37**	**331**	P	Pn	12 55 47.5	-0.8
	comp=Z,0.7nm,1.0s,comp=Z,0.0nm						
KELC	**Kelly Hill Cav**	**6.69**	**183**	P	Pn	12 55 53.4	+0.9
	comp=Z,18nm,1.3s,comp=Z,0.0nm						
CMSA	**Cobar Meteorol**	**7.58**	**109**	P	Pn	12 56 03.9	-0.8
FORT	**Forrest**	**8.15**	**257**	P	Pn	12 56 11.6	-1.1
	comp=Z,25nm,2.8s,comp=Z,0.1nm						

TEH ***27*** *13:03:05.8, 34°.30N×45°.67E, h11km±13km, ML3.1*
ISN ***27*** *13:03:05.3±0.6, 34°.31N×45°.65E, h8km±3km, ML3.3*
ISC 27 13:03:06.0±1.2, 34°29N±0°03×45°67E±0°04, h8km±12km, n22, σ1§21/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.22**	**342**	Pg	**Pg**	**13 03 10.5**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.27**	**132**	Pg	**Pb**	**13 03 12.1**	**-1.0**
IDHR	**Dehrash**	**0.72**	**55**	Pg	**Pg**	**13 03 19.8**	**-0.1**
IDHR				Sg	**Sb**	**13 03 30.7**	**-0.3**
IGHG	**Ghaleghazi**	**0.74**	**87**	Pg	**Pb**	**13 03 21.1**	**-0.3**
ILBA	**Ilam Banvizeh**	**0.80**	**146**	Pg	**Pg**	**13 03 21.5**	**0.0**
KCHF	**Cheshme Sefid,**	**1.14**	**91**	Pg	**Pb**	**13 03 27.6**	**-0.4**
KCHF				Sg	**Sn**	**13 03 44.7**	**+0.5**
IBDR	**Badra**	**1.20**	**170**	*e*Pg	**Pg**	**13 03 29.0**	**-0.1**
IBDR				*e*Sg	**Sn**	**13 03 45.5**	**0.0**
ILIN	**Lien**	**1.23**	**59**	Pg	**Pg**	**13 03 29.3**	**-0.5**
BHD	**Baghdad**	**1.48**	**227**	*e*Pn	**Pg**	**13 03 34.0**	**-0.5**
BHD				*e*Sn	**Sg**	**13 03 55.0**	**+1.3**
BHD				AML	AML	13 03 59.7	
comp=E,384nm,0.4s							
IKRK	**Kirkuk**	**1.55**	**316**	*e*Pn	**Pb**	**13 03 34.5**	**-0.5**
IKRK				*e*Sn	**Sg**	**13 03 56.5**	**+0.5**
IKRK				AML	AML	13 03 58.1	
comp=N,434nm,0.5s							
IKRK				AML	AML	13 03 58.3	
comp=E,541nm,0.3s							
SNQR	**Sonqor, Kerman**	**1.71**	**70**	Pg	**Pb**	**13 03 37.6**	**-0.3**
IBZA	**Bozab**	**1.82**	**84**	Pn	**Pb**	**13 03 38.5**	**-1.3**
SDS1	**Sardasht. Az.**	**1.86**	**355**	Pn	**Pb**	**13 03 39.8**	**-0.5**
IKFM	**Kafar-mosalman**	**1.97**	**112**	Pn	**Pb**	**13 03 41.1**	**-0.9**
IDOB	**Doab**	**2.14**	**103**	Pn	**Pb**	**13 03 43.5**	**-1.7**
HSAM	**Samen**	**2.43**	**91**	Pn	**Pn**	**13 03 47.6**	**+1.4**
MAHB	**Mahabad**	**2.47**	**1**	Pn	**Pb**	**13 03 48.1**	**-2.6**
RAFI	**Al-Rafai**	**2.59**	**172**	*e*Pn	**Pn**	**13 03 50.0**	**+1.8**
RAFI				*e*Sn	**Sb**	**13 04 22.0**	**-2.7**
BDRS	**Dareh Seyedi**	**2.69**	**96**	Pn	**Pn**	**13 03 50.8**	**+1.0**
HAGD	**Aghdareh**	**2.91**	**79**	Pn	**Pn**	**13 03 54.3**	**+1.4**
KRSH	**Karshahi**	**5.37**	**92**	Pn	**Pn**	**13 04 28.0**	**+1.4**
ISFB	**Sefidab**	**5.44**	**88**	Pn	**Pn**	**13 04 28.5**	**+1.0**

IDC ***27*** *13:07:11.8±0.9, 35°.94N×119°.90W, h0km, mb3.9/8, mbtmp3.7/15, ML3.5/7, Error ellipse: s-maj=13.0km s-min=9.5km az=73.0*
NEIC ***27*** *13:07:12.5±1.4, 36°.102N±0°.008×120°.12W±0°.01, h7km±4km, Error ellipse: s-maj=1.9km s-min=0.9km az=63.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.97; $M_{\theta\theta}$-0.44; $M_{\phi\phi}$-0.53; $M_{r\theta}$-0.43; $M_{\theta\phi}$0.58; $M_{\phi r}$0.16; Fault plane solution: $M_0$1.11000×10^{15} NP1: ϕ_s149.25000°, δ_s35.30000°, λ_s109.38000°. NP2: ϕ_s305.93000°, δ_s56.97000°, λ_s76.78000°. Principal axes: T 1.0858, Plg74.0000°, Azm179.0000°; N 0.0559, Plg11.0000°, Azm313.0000°; P -1.1417, Plg11.0000°, Azm45.0000°;*
NEIC ***27*** *13:07:12.8, 36°.08N×120°.19W, h10km*
ISC 27 13:07:12.9±1.1, 36°03N±0°02×120°19W±0°02, h13km±7km, n203, σ1§11/190, mb4.1/10, Central California

CTM Castle Mountai 0.15 233 Pb 13 07 17.7 0.0
PHFM Heflinger Ranc 0.23 231 Pb 13 07 19.2 +0.3
GHC Gold Hill 0.24 215 Pb 13 07 19.2 +0.1
PMRM Maxey Ranch 0.24 190 Pb 13 07 19.8 +0.6
PHAM Harlan Ranch 0.26 222 Pb 13 07 20.0 +0.6
PSTM Stockdale Moun 0.28 250 Pb 13 07 19.9 +0.1
PKLM Kerr Lake 0.28 206 Pb 13 07 20.3 +0.5
PVCM Vineyard Canyo 0.30 250 Pb 13 07 20.3 +0.1
THIS South End of C 0.30 187 Pn 13 07 20.9 -2.2
THIS Sn 13 07 27.6 -1.9
PSMM Smith Mountain 0.34 278 Pb 13 07 20.6 -0.2
PSMM Sb 13 07 27.5 +1.4
PWKM Work Ranch 0.34 231 Pb 13 07 21.2 +0.4
PDRM Domengine Ranc 0.34 334 Pg 13 07 20.0 +0.1
TRAM Private Proper 0.35 191 Pn 13 07 21.8 -2.0
TCHL Shandon 0.38 207 Pn 13 07 22.3 -1.8
PPO Portuguese Can 0.38 246 Pb 13 07 22.0 +0.4
PJUM Juniper Ridge 0.39 301 Pg 13 07 20.8 +0.1
PWMM Westland Maint 0.41 357 Pg 13 07 21.7 +0.7
PBPM Bitterwater Pu 0.45 169 Pn 13 07 23.7 -1.5
TRAY Twisselman Ran 0.48 174 Pn 13 07 24.0 -1.5
TSCN Private Proper 0.50 195 Pn 13 07 24.6 -1.2
TCAS Cass Winery, P 0.52 216 Pn 13 07 24.3 -1.7
PMPB Monarch Peak 0.53 291 Pg 13 07 23.6 +0.2
PMPB IAML 13 07 39.1
comp=N,16μm,0.8s
PMPB IAML 13 07 39.9
comp=E,14μm,0.5s
PSAM San Ardo 0.57 270 Pb 13 07 24.6 -0.1
TSCS Shell Creek So 0.60 193 Pn 13 07 25.7 -1.4
RAMR Ramage Ranch 0.68 235 Pn 13 07 27.1 -1.1
VOG Valley Oaks Go 0.71 65 Pg 13 07 26.1 -0.6
SMMC Simmler 0.73 168 Pn 13 07 28.1 -0.8
PHSB Hesperia Broad 0.73 254 Pn 13 07 27.6 -1.4
PTAM Tassajara Cree 0.76 214 Pn 13 07 28.6 -0.8
CARC Carrizo Plain 0.77 159 Pn 13 07 28.7 -0.9
LRV Little Rabbit 0.78 301 Pg 13 07 27.6 -0.4
PCCM Crazy Canyon 0.80 275 Pb 13 07 28.6 +0.1
BMSM Mercy Hot Spri 0.80 322 Pg 13 07 28.2 -0.2
EFD Emergency Oper 0.83 212 Pn 13 07 30.1 -0.2
HULI Fort Hunter Li 0.85 270 Pg 13 07 29.3 -0.1
HULI Fort Hunter Li 0.85 270 IAML 13 07 44.7
comp=E,6μm,0.7s
HULI IAML 13 07 45.9
comp=N,6μm,0.5s
ARDC Alexander Ranc 0.85 229 Pn 13 07 30.1 -0.6
CRGC Crocker Grade 0.87 154 Pn 13 07 30.1 -0.9
BBGB Big Mountain B 0.88 309 Pb 13 07 29.3 -0.8
LSDC Los Osos Digit 0.90 217 Pn 13 07 31.4 +0.1
VES Vestal, Richgr 0.91 101 Pb 13 07 29.9 -0.7
BPIM Pinnacles 0.92 301 Pb 13 07 29.5 -1.2
MRHM Rocky Hill 0.93 73 Pb 13 07 29.4 -1.5
DPD Davis Peak 0.93 212 Pn 13 07 31.4 -0.3
BSGM Shirttail Gulc 0.95 294 Pb 13 07 30.2 -0.9
DCD Diablo Creek 0.97 214 Pn 13 07 31.8 -0.4
BVL Bear Valley 0.98 304 Pb 13 07 30.8 -0.9
FRI Friant 1.04 22 Pb 13 07 30.8 -2.0
BSMM Soledad Missio 1.07 290 Pb 13 07 32.2 -1.1
BJOM Mount Johnson 1.09 304 Pb 13 07 32.3 -1.3
BJCM Johnson Can. 1.10 298 Pb 13 07 32.6 -1.3
BAKC Calstate 1.11 127 Pb 13 07 33.3 -0.7
SCZ Santa Cruz 1.14 301 Pn 13 07 33.0 -1.6
SCZ Santa Cruz 1.14 301 IAML 13 07 53.8
comp=E,2μm,0.6s
SCZ IAML 13 07 59.6
comp=N,2μm,0.6s
HAST Hastings Reser 1.16 289 Pn 13 07 33.3 -1.6
SPG2 Springville 2 1.16 81 Pn 13 07 33.2 -1.7
PKM Mcpherson Peak 1.18 165 Pg 13 07 35.0 -0.5
MAGC SCE Magundon P 1.22 122 Pn 13 07 34.8 -1.0
BSRM Salinas Radio 1.25 301 Pn 13 07 34.6 -1.5
BCW Bitter Crk WRg 1.25 150 Pn 13 07 35.0 -1.3
BCW IAML 13 08 10.9
comp=N,3μm,0.8s
BCW IAML 13 08 12.2
comp=E,2μm,0.7s
SAO San Andreas Ge 1.26 306 Pn 13 07 34.7 -1.5
FRP Fremont Peak 1.28 305 Pn 13 07 34.9 -1.7
BPCNC Pine Canyon 1.29 296 Pn 13 07 35.1 -1.5
BPRM Ponciano Ridge 1.30 287 Pn 13 07 35.3 -1.6
FIGC Figueroa Mtn. 1.30 173 Pn 13 07 36.0 -0.9
PACP Pacheco Peak 1.32 318 Pn 13 07 36.0 -1.1
PACP Pacheco Peak 1.32 318 IAML 13 07 55.5
comp=E,6μm,0.3s
WASM Alta Sierra Ca 1.35 102 Pn 13 07 36.7 -1.0
SCKWR San Luis Creek 1.36 329 Pn 13 07 36.2 -1.3
HFEM San Felipe 1.37 315 Pn 13 07 36.3 -1.4
MYLM Yosemite Lake 1.37 352 Pn 13 07 36.1 -1.6
HTUM Tustin Road 1.42 305 Pn 13 07 37.2 -1.3
ARVC Arvin 1.42 129 Pn 13 07 38.0 -0.5
MMIM Miami Mountain 1.44 14 Pn 13 07 37.7 -1.1
ISA Isabella, Lake 1.44 104 Pg **Pn 13 07 38.0 -0.7**
ISA IAML 13 07 57.9
comp=N,2μm,0.8s
CDC Canada Road 1.45 314 Pn 13 07 37.3 -1.5
HERM Elkhorn Road 1.45 303 Pn 13 07 37.7 -1.2
TEJ El Tejon 1.46 123 Pn 13 07 37.8 -1.1
KCC Kaiser Creek 1.47 28 Pn 13 07 38.4 -0.9
NJQ Nojoqui County 1.49 180 Pb 13 07 39.9 -0.5
HCBM Chamberlain 1.49 308 Pn 13 07 37.7 -1.7
HCOM Corn Cob Canyo 1.50 305 Pn 13 07 38.5 -1.1
HMOM Monterey 1.51 293 Pn 13 07 38.1 -1.6
TJR Tejon Ranch 1.54 130 Pn 13 07 39.1 -1.0
HLPM Lions Peak 1.54 311 Pn 13 07 38.4 -1.7
JELB Ellicott, Sant 1.60 305 Pn 13 07 40.3 -0.6
WORM Onyx Ranch 1.61 101 Pn 13 07 41.1 -0.1
SBC Santa Barbara 1.63 166 Pn 13 07 40.9 -0.3
JLAB Laurel Hill 1.68 313 Pn 13 07 40.3 -1.7
ARN Arnold Ranch 1.71 321 Pn 13 07 41.0 -1.4
CCOB Coe Ranch Numb 1.72 316 Pn 13 07 41.3 -1.2
MTOS Mt Oso, Westle 1.74 328 Pn 13 07 40.9 -1.9
MTOS Mt Oso, Westle 1.74 328 IAML 13 08 10.5
comp=E,2μm,0.5s
MTOS IAML 13 08 17.2
comp=N,2μm,0.8s
CWC Cottonwood Cre 1.75 76 Pn 13 07 43.8 +0.6
MHC Mount Hamilton 1.76 319 Pn 13 07 41.8 -1.5
CMMM Mount Mocho 1.77 324 Pn 13 07 42.2 -1.2
MRDM Red Cones 1.81 30 Pn 13 07 44.1 0.0
MDPB Devils Postpil 1.83 29 Pn 13 07 44.4 0.0
MMPM Mammoth Pass 1.83 30 Pn 13 07 44.6 +0.2
OMMB Old Mammoth Mi 1.85 31 Pn 13 07 44.6 0.0
MINS Minaret Summit 1.86 29 Pn 13 07 44.9 +0.2
MTUM Tungsten Hills 1.86 44 Pn 13 07 45.3 +0.6
MLIM Lincoln Peak 1.86 30 Pn 13 07 45.5 +0.7
JJOM Saint Joseph's 1.86 310 Pn 13 07 43.2 -1.4
BHPR Bishop 1.87 47 Pn 13 07 45.4 +0.6
CMLM Mount Lewis 1.87 321 Pn 13 07 43.2 -1.5
TIN Tinemaha, Big 1.88 56 Pn 13 07 45.7 +0.8
MDYM Dry Creek 1.88 30 Pn 13 07 45.7 +0.6
MLCM Laurel Creek C 1.88 32 Pn 13 07 45.5 +0.4
MMLB Mammoth Lakes 1.90 30 Pn 13 07 45.9 +0.6
MGPM Gravel Pit 1.90 32 Pn 13 07 46.3 +1.0
MCVM Convict Lake 1.90 34 Pn 13 07 45.8 +0.4
MDCM Deadman Creek 1.92 28 Pn 13 07 45.9 +0.4
MCBM Casa Benchmark 1.92 32 Pn 13 07 46.2 +0.7
MEMM East Mammoth H 1.92 31 Pn 13 07 46.2 +0.7
MCSM Casa Diablo Ho 1.92 32 Pn 13 07 46.3 +0.7
CALM Calaveras Res. 1.92 318 Pn 13 07 44.3 -1.0
CSTL Corral Hollow 1.92 327 Pn 13 07 44.3 -1.1
MLAC Mammoth, Mammo 1.93 34 Pn 13 07 46.5 +0.7
MDRNC Doe Ridge 1.94 34 Pn 13 07 46.6 +0.8
WCSM Coso Springs S 1.96 89 Pb 13 07 47.6 -1.0
CCAC Calif City Air 1.97 116 Pn 13 07 46.4 +0.3
CCAC IAML 13 08 28.5
comp=E,2μm,1.2s
CCAC IAML 13 08 41.0
comp=N,2μm,1.4s
MLHM Little Hot Cre 1.98 33 Pn 13 07 47.4 +1.0
BSM San Miguel Isl 1.99 184 Pn 13 07 46.6 +0.4
MFBM Five Bridges 1.99 45 Pn 13 07 47.6 +1.2
CGO Cerro Gordo 2.00 74 Pn 13 07 47.5 +0.8
CMB Columbia Colle 2.01 355 Pn 13 07 45.9 -0.7
CMB IAML 13 08 14.4
comp=N,1μm,0.6s
CMB IAML 13 08 17.7
comp=E,2μm,0.6s
JSJM St Joseph 2.01 311 Pn 13 07 46.4 -0.2
POCCA Poleta Canyon 2.03 48 Pn 13 07 48.2 +1.2
WENL Wente Vineyard 2.03 322 Pn 13 07 46.0 -0.9
JBMM Black Mountain 2.04 310 Pn 13 07 45.9 -1.2

MCDM Chidago Canyon 2.06 42 Pn 13 07 48.8 +1.3
CBZL Buffer Zone 2.07 324 Pn 13 07 46.7 -0.6
CVLM Vallecito 2.08 321 Pn 13 07 46.3 -1.1
SCZ2 Santa Cruz Isl 2.08 167 Pn 13 07 47.3 -0.2
JFP Foothills Park 2.09 310 Pn 13 07 46.2 -1.4
JPSM 2.10 305 Pn 13 07 45.8 -1.9
JSFB Stanford Teles 2.11 311 Pn 13 07 47.4 -0.5
OAT Oat Mountain 2.12 142 Pb 13 07 49.4 -1.8
BENR Benton 2.12 37 Pn 13 07 49.4 +1.0
MRCM Red Rock Canyo 2.13 39 Pn 13 07 49.5 +1.1
CNIC Niles Canyon 2.13 318 Pn 13 07 46.9 -1.3
MGNR McGee Canyon 2.15 33 Pn 13 07 49.9 +1.2
JRSC Jasper Ridge 2.15 310 Pn 13 07 47.0 -1.4
BGH Bear Gulch 2.17 308 Pn 13 07 47.7 -1.0
CMOB Morgan Territo 2.20 324 Pn 13 07 48.8 -0.5
BGC Bolinger Road 2.33 320 Pn 13 07 50.5 -0.5
BDM Black Diamond 2.35 326 Pn 13 07 50.5 -0.7
CCCA Chr Cany lake 2.35 101 Pn 13 07 51.7 +0.5
SAC San Andreas 2.37 312 Pn 13 07 50.2 -1.3
GRAC Grapevine Rang 2.47 66 Pn 13 07 53.9 +1.0
GRAC IAML 13 08 41.0
comp=E,2μm,0.9s
CVPM Vollmer Peak 2.47 319 Pn 13 07 51.8 -1.1
BKS Berkeley--Byer 2.47 319 Pn 13 07 51.8 -1.1
PASC Pasadena Art C 2.47 138 Pn 13 07 52.4 -0.5
VAK Adit at Lawren 2.48 319 Pn 13 07 51.9 -1.1
BRK Berkeley--Havi 2.48 319 Pn 13 07 51.8 -1.2
CPIM Pinole Ridge 2.54 321 Pn 13 07 52.9 -1.0
WAKR Walker 2.54 13 Pn **Pn 13 07 54.6 +0.5**
LHV Little Huntoon 2.60 31 Pn 13 07 56.0 +1.4
LHV IAML 13 08 35.6
comp=N,1μm,0.5s
LHV IAML 13 08 41.3
comp=E,1μm,0.8s
CPMM Point Molate 2.62 318 Pn 13 07 53.3 -1.6
PINL Point Pinole R 2.64 319 Pn 13 07 54.5 -0.7
GMN Gold Mountain 2.67 61 Pn 13 07 56.5 +0.6
GMN IAML 13 08 35.0
comp=N,473nm,0.6s
GMN IAML 13 08 40.3
comp=E,397nm,0.5s
MZP Montezuma Peak 2.80 53 Pn 13 07 57.5 -0.1
NVAR Mina Array Bea 2.83 31 Pn **Pn 13 07 59.4 +1.3**
comp=E,17nm,0.3s,baz=216,slow=15,SNR=112
NVAR Lg Lg 13 08 38.4
comp=E,94nm,0.3s,baz=224,slow=27,SNR=11
comp=E,31nm,0.6s
GSC Goldstone, Bar 2.84 104 Pn 13 07 57.9 -0.2
GSC IAML 13 08 46.6
comp=E,547nm,0.6s
GSC IAML 13 08 54.3
comp=N,347nm,0.8s
GWY Greenwater Val 2.85 86 Pn **Pn 13 07 57.9 -0.4**
GWY IAML 13 08 48.8
comp=E,567nm,0.7s
GWY IAML 13 08 52.4
comp=N,410nm,0.9s
NV11 Mina Array Sit 2.90 33 IAML 13 08 42.7
comp=N,376nm,0.9s
NV11 IAML 13 08 44.0
comp=E,350nm,0.5s
EMB Emerald Bay 2.94 1 Pn 13 08 00.2 +0.6
AFDM Forest Hills D 2.98 348 Pn **Pn 13 07 59.6 -0.4**
AFDM IAML 13 08 48.2
comp=E,500nm,0.4s
AFDM IAML 13 08 50.1
comp=N,541nm,0.7s
MCCM Marconi Confer 3.02 315 Pn 13 07 58.7 -1.7
PNTR Pine Nut 3.09 8 Pn **Pn 13 08 01.9 +0.2**
TPH Tonopah 3.13 48 Pn 13 08 02.3 +0.1
ELS Elsinore Mount 3.28 135 Pn **Pn 13 08 02.8 -1.3**
TPNV Topopah Spring 3.30 73 IAML 13 08 57.7
comp=N,535nm,0.7s
TPNV IAML 13 09 06.7
comp=N,545nm,1.1s
KVN Kaiserville 3.44 28 IAML 13 09 08.5
comp=N,319nm,0.9s
KVN IAML 13 09 11.0
comp=E,226nm,0.7s
ORV Oroville 3.67 344 Pn **Pn 13 08 09.9 +0.5**
ORV IAML 13 09 08.7
comp=N,179nm,0.5s
ORV IAML 13 09 13.8
comp=E,220nm,0.8s
Q09A Carvers 3.68 40 IAML 13 09 29.6
comp=E,520nm,1.0s
PAHR Pah Rah Range 3.73 10 IAML 13 09 10.4
comp=E,344nm,1.2s
PAHR IAML 13 09 10.7
comp=N,445nm,1.2s
PFO Pinyon Flats O 3.90 127 Pn 13 08 12.0 -0.7
PFO Pinyon Flats O 3.90 127 Pn **Pn 13 08 11.9 -0.7**
comp=N,2.1nm,0.3s,baz=310,slow=11,SNR=30
PFO Lg Lg 13 09 10.3
comp=N,3.6nm,0.3s,baz=272,slow=2.6,SNR=4.6
comp=N,7.7nm,0.4s
S11A Rachel 3.91 64 IAML 13 09 22.2
comp=E,450nm,0.9s
V12A Nelson 4.34 92 Pn **Pn 13 08 18.7 0.0**
V12A IAML 13 09 30.0
comp=N,119nm,1.3s
O02D Mt. Diablo Mer 4.62 334 Pn 13 08 20.0 -2.6
O02D IAML 13 10 01.2
comp=E,101nm,1.0s
O02D IAML 13 10 01.9
comp=N,108nm,1.4s
CBX Cerro Bola 4.71 141 IAML 13 09 52.4
comp=E,74nm,1.5s
HATC Hat Creek Radi 4.89 349 Pb 13 08 33.5 -4.9
BMN Battle Mountai 4.98 27 IAML 13 09 47.9
comp=N,67nm,0.7s
BLYC Blythe 5.18 114 IAML 13 10 04.4
comp=N,54nm,2.0s
YBH Yreka Blue Hor 6.03 342 Pn Pn 13 08 48.3 +6.4
comp=N,0.3nm,0.3s,baz=145,slow=9.3,SNR=6.6
YBH Lg Lg 13 10 18.6
comp=N,0.4nm,0.3s,baz=72,slow=21,SNR=2.9
comp=N,2.2nm,0.6s
ELK Elko 6.11 38 Pn **Pn 13 08 44.3 +1.3**
comp=N,1.8nm,0.3s,baz=236,slow=11,SNR=62
ELK Lg Lg 13 10 21.7
comp=N,5.8nm,0.3s,baz=318,slow=9.7,SNR=7.5
comp=N,8.5nm,0.5s
PDAR Pinedale Array 10.62 47 Pn **Pn 13 09 48.2 +3.3**
comp=N,0.1nm,0.3s,baz=225,slow=12,SNR=6.0
PDAR Lg Lg 13 12 42.4
baz=228,slow=25,SNR=1.8
comp=N,0.5nm,0.6s
ANMO Albuquerque 11.25 91 Pn **Pn 13 09 52.5 -1.0**
comp=N,0.1nm,0.3s,baz=294,slow=20,SNR=1.6
ANMO Lg Lg 13 12 59.2
comp=N,0.1nm,0.3s,baz=133,slow=22,SNR=2.6
comp=N,0.3nm,0.4s
TXAR Lajitas Array 15.42 111 Pn **P 13 10 52.2 -2.6**
baz=289,slow=8.6,SNR=8.4
comp=N,0.5nm,0.9s
FFC Flin Flon 22.53 28 P **P 13 12 11.5 -0.8**
FFC IAmb IAmb 13 12 16.4
comp=Z,4.4nm,0.8s
ULM Lac du Bonnet 22.60 43 P **P 13 12 13.3 +0.2**
comp=Z,4.6nm,0.6s,baz=248,slow=12,SNR=2.5
comp=Z,4.6nm,0.6s
YKA Yellowknife Ar 26.72 6 P **P 13 12 54.2 +2.5**
comp=Z,0.6nm,0.8s,baz=188,slow=9.5,SNR=4.8
comp=Z,0.6nm,0.8s
ILAR Eielson Array 32.92 339 P **P 13 13 48.8 +2.1**
comp=Z,0.4nm,0.9s,baz=160,slow=5.6,SNR=2.9
comp=Z,0.4nm,0.9s
HFS Hagfors 76.95 22 P **P 13 19 05.6 +0.8**
comp=Z,2.7nm,0.8s,baz=11,slow=2.9,SNR=2.8
comp=Z,2.7nm,0.8s
SONM Songino Array 86.71 331 P **P 13 19 57.9 +1.2**
comp=Z,0.6nm,0.4s,baz=82,slow=3.2,SNR=3.6
comp=Z,0.6nm,0.4s
ZALV Zalesovo Beam 87.82 346 P **P 13 20 01.6 0.0**
comp=Z,0.4nm,0.3s,baz=11,slow=3.1,SNR=3.6
comp=Z,0.4nm,0.3s
HHC Hu-ho-hao-te 89.95 323 *e*P **P 13 20 10.5 -1.7**
HHC pP pP 13 20 16.5 0.0
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,340nm,6.4s
BVAR Borovoye Array 90.84 354 P **P 13 20 17.2 +1.3**
comp=Z,0.9nm,0.8s,baz=29,slow=3.3,SNR=4.0
comp=Z,0.9nm,0.8s

KURBB Kurchatov Arra 92.16 348 P **P 13 20 21.6 -0.4**
comp=Z,0.1nm,0.3s,baz=10.0,slow=2.9,SNR=2.3
comp=Z,0.1nm,0.3s

UPA 27 13:07:53.9±0.8, 8°.65N×83°.08W, h34km±10km, MD3.4, MW3.3, 2C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLIR3	**Monte Lirio, C**	**0.29**	**60**	*e*P	Pn	13 08 01.7	0.0
BRU2	**Volcan**	**0.41**	**69**	||*i*P	Pb	13 08 03.2	-0.1
BRU2				*e*S	Sn	13 08 12.4	+2.4
BRU2	**Volcan**	**0.41**	**69**	||*i*P	Pb	13 08 03.2	-0.1
BRU2				*i* S	Sn	13 08 10.7	+0.7
PTPM	**Petroterminale**	**0.48**	**156**	*e*P	Pn	13 08 06.7	+2.3
PTPM				*e*S	Sn	13 08 14.6	+2.9
PTPM	**Petroterminale**	**0.48**	**156**	*e*P	Pb	13 08 03.9	-0.4
PTPM				*e*S	Sb	13 08 11.4	0.0
BCO2	**Palmira**	**0.55**	**82**	⇑*i*P	Pn	13 08 05.3	-0.1
BCO2				AMP		13 08 05.5	
	comp=Z,1μm,0.1s						
BCO2				*e*S	Sn	13 08 16.0	+2.5
BCO2	**Palmira**	**0.55**	**82**	⇑*i*P	Pn	13 08 05.3	-0.2
BCO2				*i* S	Sb	13 08 13.3	-0.1
PTAR3	**Potrerillos Ar**	**0.58**	**85**	*e*P	Pn	13 08 05.7	-0.1
PTAR3				*e*S	Sn	13 08 15.9	+1.7
PTAR3	**Potrerillos Ar**	**0.58**	**85**	*i* P	Pn	13 08 05.7	-0.1
PTAR3				*i* S	Sn	13 08 15.0	+0.8
DVD	**David**	**0.65**	**108**	*e*	Pb	13 08 09.7	+2.7
LOCO3	**Loma Colorada,**	**0.69**	**110**	*e*P	Pn	13 08 07.2	-0.1
PEDE3	**Pedregal, Chir**	**0.70**	**112**	*e*P	Pb	13 08 09.4	+1.7
LOMA3	**Las Lomas, Chi**	**0.71**	**107**	*e*P	Pb	13 08 09.4	+1.5
PSOM3	**Paja de Sombre**	**0.75**	**87**	*e*P	Pn	13 08 05.5	-2.6
PSOM3				*e*S	Sn	13 08 18.1	-0.3
CHGR2	**Aguacate**	**0.97**	**72**	*e*P	Pn	13 08 09.8	-1.3
CHGR2				*e*S	Sn	13 08 23.6	-0.1

NEIC ***27*** *13:10:54.5±0.8, 6°.9N±0°.1×72°.6W±0°.1, h171km±11km, mb4.3/5, Error ellipse: s-maj=24.0km s-min=8.1km az=135.0*
RSNC ***27*** *13:10:55.1±0.0, 7°N±1°×7°3W±°, h131km±2km, M3.3, mb3.9, ML3.1*
IDC ***27*** *13:10:55.0±0.9, 6°.97N×72°.60W, h158km±9km, mbtmp4.1/3, Error ellipse: s-maj=56.0km s-min=8.5km az=134.0*
ISC 27 13:10:54.7±0.8, 7°.49N±0°.03×73°.19W±0°.03, h127km±6km, n53, σ1º64/93, mb4.2/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.51**	**107**	P	**Pn**	**13 11 14.9**	**+0.9**
PAMC				S	**Sn**	**13 11 29.7**	**+1.1**
BRJC	**Barrancabermej**	**0.75**	**227**	P	**Pn**	**13 11 15.3**	**+0.1**
BRJC				S	**Sn**	**13 11 30.6**	**0.0**
OCAC	**Ocana**	**0.76**	**350**	P	**Pn**	**13 11 16.4**	**+1.0**
OCAC				S	**Sn**	**13 11 32.7**	**+1.7**
BARC	**Barichara**	**0.89**	**180**	P	**Pn**	**13 11 16.7**	**+0.1**
BARC				S	**Sn**	**13 11 33.1**	**-0.1**
PTBC	**PUERTO BERRIO,**	**1.57**	**233**	P	**Pn**	**13 11 22.8**	**-0.6**
PTBC				S	**Sn**	**13 11 45.0**	**-0.3**
RUSC	**La Rusia**	**1.59**	**176**	Pn	**Pn**	**13 11 22.2**	**-1.9**
RUSC	**La Rusia**	**1.59**	**176**	P	**Pn**	**13 11 23.5**	**-0.6**
RUSC				S	**Sn**	**13 11 46.1**	**-0.4**
ZARC	**Zaragoza, Cauc**	**1.66**	**270**	P	**Pn**	**13 11 24.6**	**+0.2**
ZARC				S	**Sn**	**13 11 47.8**	**+0.8**
TAMC	**Tame, Arauca**	**1.74**	**127**	P	**Pn**	**13 11 25.5**	**+0.1**
TAMC				S	**Sn**	**13 11 48.0**	**-0.8**
SPBC	**San Pablo de B**	**2.02**	**206**	P	**Pn**	**13 11 29.1**	**+0.2**
SPBC				S	**Sn**	**13 11 55.2**	**+0.1**
UREC	**San Jos de Ur**	**2.34**	**277**	P	**Pn**	**13 11 32.1**	**-0.6**
UREC				S	**Sn**	**13 11 59.7**	**-2.2**
NORC	**Norcasia**	**2.54**	**221**	P	**Pn**	**13 11 35.1**	**-0.2**
NORC				S	**Sn**	**13 12 05.3**	**-1.3**
ARGC	**Ariguani, Magd**	**2.58**	**336**	P	**Pn**	**13 11 37.9**	**+2.1**
ARGC				S	**Sn**	**13 12 09.0**	**+1.6**
HELC	**Santa Helena**	**2.66**	**241**	P	**Pn**	**13 11 37.3**	**+0.2**
HELC				S	**Sn**	**13 12 06.0**	**-3.7**
ROSC	**El Rosal**	**2.86**	**203**	Pn	**Pn**	**13 11 39.8**	**0.0**
ROSC	**El Rosal**	**2.86**	**203**	P	**Pn**	**13 11 40.7**	**+0.9**
	42nm,0.3s,baz=118,slow=5.5,SNR=15						
ROSC				S	**Sn**	**13 12 14.1**	**-0.5**
	69nm,0.4s,baz=117,slow=22,SNR=3.0						
ROSC	**El Rosal**	**2.86**	**203**	P	**Pn**	**13 11 40.8**	**+0.9**
ROSC				S	**Sn**	**13 12 14.6**	**+0.1**
SDV	**Santo Domingo**	**2.88**	**61**	Pn	**Pn**	**13 11 40.2**	**+0.3**
SDV	**Santo Domingo**	**2.88**	**61**	P	**Pn**	**13 11 40.3**	**+0.4**
	51nm,0.3s,baz=248,slow=5.4,SNR=142						
SDV				S	**Sn**	**13 12 13.6**	**-1.1**
	79nm,0.3s,baz=211,slow=20,SNR=15						
SDV	**Santo Domingo**	**2.88**	**61**	P	**Pn**	**13 11 40.3**	**+0.4**
SDV				S	**Sn**	**13 12 13.5**	**-1.2**
CHIC	**Chingaza**	**2.89**	**191**	P	**Pn**	**13 11 40.1**	**-0.1**
CHIC				S	**Sn**	**13 12 14.7**	**-0.5**
BOG	**Bogota**	**2.98**	**197**	P	**Pn**	**13 11 41.8**	**+0.5**
BOG				S	**Sn**	**13 12 17.1**	**0.0**
DBBC	**Dabeiba**	**3.03**	**261**	P	**Pn**	**13 11 41.5**	**-0.2**
DBBC				S	**Sn**	**13 12 15.7**	**-2.3**
CVER	**Cruz Verde, Cu**	**3.08**	**197**	P	**Pn**	**13 11 43.7**	**+1.0**
CVER				S	**Sn**	**13 12 19.3**	**-0.3**
SJCC	**San Jacinto, C**	**3.10**	**321**	P	**Pn**	**13 11 42.1**	**-0.5**
SJCC				S	**Sn**	**13 12 19.0**	**-0.5**
GUY2C	**Guyana, Caldas**	**3.12**	**224**	P	**Pn**	**13 11 43.9**	**+0.6**
GUY2C				S	**Sn**	**13 12 20.7**	**0.0**
CBOC	**Ciudad Bolivar**	**3.24**	**240**	P	**Pn**	**13 11 44.6**	**+0.1**
CBOC				S	**Sn**	**13 12 21.7**	**-1.2**
RECRC	**Villamaria, Ca**	**3.31**	**221**	P	**Pn**	**13 11 48.0**	**+2.2**
RECRC				S	**Sn**	**13 12 25.6**	**+0.5**
NIZA	**Niza - Manizal**	**3.31**	**223**	P	**Pn**	**13 11 46.3**	**+0.7**
NIZA				S	**Sn**	**13 12 26.2**	**+1.3**
APAC	**Apartado, Choc**	**3.39**	**277**	P	**Pn**	**13 11 46.2**	**-0.1**
APAC				S	**Sn**	**13 12 23.3**	**-2.9**
VILC	**Villavicencio,**	**3.39**	**189**	P	**Pn**	**13 11 46.7**	**+0.2**
VILC				S	**Sn**	**13 12 26.1**	**-0.4**
LCBC	**Los crdobas,**	**3.43**	**294**	P	**Pn**	**13 11 45.9**	**-0.9**
LCBC				S	**Sn**	**13 12 28.0**	**+0.8**
PTGC	**Puerto Gaitan,**	**3.43**	**162**	P	**Pn**	**13 11 46.8**	**-0.1**
PTGC				S	**Sn**	**13 12 23.6**	**-3.7**
CRJC	**Cerrejon, Guaj**	**3.52**	**5**	P	**Pn**	**13 11 47.2**	**-1.0**
CRJC				S	**Sn**	**13 12 27.5**	**-2.0**
ANIL	**Santa Ana**	**3.70**	**217**	P	**Pn**	**13 11 51.8**	**+1.0**
ANIL				S	**Sn**	**13 12 36.2**	**+2.1**
ORTC	**Ortega, Tolima**	**4.10**	**210**	P	**Pn**	**13 11 54.9**	**-0.9**
ORTC				S	**Sn**	**13 12 42.1**	**-1.2**
PRAC	**Prado**	**4.11**	**204**	P	**Pn**	**13 11 55.5**	**-0.5**
PRAC				S	**Sn**	**13 12 41.8**	**-1.7**
CAPC	**Capurgana**	**4.28**	**286**	P	**Pn**	**13 11 56.0**	**-2.1**
CAPC				S	**Sn**	**13 12 40.8**	**-6.5**
URIC	**Uribia, Colomb**	**4.35**	**16**	P	**Pn**	**13 11 57.9**	**-1.2**
URIC				S	**Sn**	**13 12 47.3**	**-1.7**
URMC	**La Uribe, Meta**	**4.38**	**196**	P	**Pn**	**13 11 59.5**	**0.0**
URMC				S	**Sn**	**13 12 49.1**	**-0.8**
PTAC	**Punta Ardita,**	**4.60**	**266**	P	**Pn**	**13 12 02.0**	**-0.3**
PTAC				S	**Sn**	**13 12 52.2**	**-2.7**
YOTC	**Yotoco, Valle**	**4.69**	**222**	P	**Pn**	**13 12 02.6**	**-1.1**
YOTC				S	**Sn**	**13 12 58.4**	**+1.0**
BAUV	**El Baul**	**5.29**	**74**	Pn	**Pn**	**13 12 09.4**	**-2.3**
BBAC	**Balboa, Cauca**	**6.77**	**217**	P	**Pn**	**13 12 31.1**	**-0.7**
BBAC				S	**Sn**	**13 13 43.4**	**-4.3**
PCRV	**Puerto La Cruz**	**8.86**	**72**	P	**Pn**	**13 12 57.2**	**-2.6**
	4.9nm,0.5s,baz=253,slow=6.2,SNR=2.0						
PCRV				S	**Sn**	**13 14 32.7**	**-5.4**
	5.3nm,0.5s,baz=359,slow=22,SNR=1.6						
AOPR	**Arecibo Observ**	**12.48**	**30**	Pn	**Pn**	**13 13 49.2**	**+1.2**
PATCX	**Punta Patache**	**28.29**	**174**	P	P	13 16 25.1	-11
PECS	**Pecos**	**37.20**	**314**	P	**P**	**13 17 56.4**	**+2.5**
PECS				IAmb	IAmb	13 17 57.2	
	comp=Z,7.1nm,0.5s						
C36M	**Paulatuk**	**69.94**	**343**	P	**P**	**13 21 51.6**	**-0.2**
C36M				IAmb	IAmb	13 21 55.0	
	comp=Z,4.8nm,1.2s						
M27K	**Edge Creek, AK**	**73.58**	**333**	P	**P**	**13 22 13.5**	**-0.4**
M27K	

SDD 27 13:13:43.2±1.1, 18°.23N×71°.63W, h24km±20km, MD2.5, ML2.1, MW2.6
OSPL 27 13:13:45.0±0.7, 17°.96N×71°.21W, h32km±3km, ML1.5
ISC 27 13:13:45.1±1.1, 18°.03N±0°.05×71°.38W±0°.06, h26km±8km, n8, σ1°03/14, 3C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PODR	Polo	0.16	33	P	e	Pg	Pn	13 13 50.8	-1.3
PODR					e	Sg	Sb	13 13 55.1	+0.6
PODR					e	Sg		13 13 55.5	
PODR				IAML				13 13 58.8	
	comp=N,146nm,0.2s								
PODR	Polo	0.16	33	P	i		Pn	13 13 50.4	-1.7
PODR					e	S	Sb	13 13 54.5	0.0
PODR				IAML				13 13 57.3	
	comp=Z,90nm,0.4s								
LOVI	El Cajuil, Ovi	0.23	178	P	i		Pb	13 13 51.0	-0.2
LOVI					e	S	Sb	13 13 55.8	+0.4
LOVI				IAML				13 13 56.1	
	comp=Z,52nm,0.7s								
LOBA2	Hotel Casa Bon	0.27	79	P	e	Pg	Pn	13 13 53.1	-0.3
LOBH	Bahia de las A	0.30	237	P	i		Pn	13 13 53.3	-0.5
LOBH					e	S	Sn	13 13 59.6	+0.2
LOBH				IAML				13 14 02.6	
	comp=Z,44nm,4.1s								
LODU1	El Espartillar	0.34	344	P	i		Pn	13 13 54.0	-0.3
LODU1					e	S	Sn	13 14 01.1	+0.7
LODU1				IAML				13 14 04.1	
	comp=Z,38nm,0.6s								
LONE3	El Aguacate, B	0.58	352	P	i		Pn	13 13 57.6	-0.2
LONE3				IAML				13 14 13.1	
	comp=Z,5.6nm,0.8s								
BANI	BANI	1.03	69	P	e	Pg	Pn	13 14 03.3	-0.7
BANI					e	Sg	Sb	13 14 19.6	+2.0
BANI				IAML				13 15 05.2	
	comp=N,48nm,2.7s								

IDC 27 13:14:26.8±1.5, 37°.56N×20°.17E, h0km, mb3.7/7, mbtmp3.6/9, ML3.5/2, Error ellipse: s-maj=36.3km s-min=22.8km az=127.0
THE 27 13:14:28.9, 37°.46N×20°.33E, h0km±4km, ML3.3/6, Error ellipse: s-maj=5.5km s-min=1.3km az=220.0
ATH 27 13:14:29.2, 37°.47N×20°.31E, h10km±5km, ML3.2/4, Error ellipse: s-maj=5.4km s-min=2.0km az=358.0
ISC 27 13:14:27.8±1.9, 37°.44N±0°.06×20°.26E±0°.06, h8km±11km, n39, σ0°94/50, mb3.8/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRI1	kERI	0.49	63	P		Pg		13 14 37.0	-0.3
KRI1				S		Sg		13 14 43.3	-0.5
	7μm,0.4s								
LTHK	Lithakia	0.53	59	P		Pg		13 14 37.7	-0.3
LTHK				S		Sg		13 14 44.5	-0.5
	6μm,0.5s								
LTHK	Lithakia	0.53	59	P		Pg		13 14 37.7	-0.3
LTHK				S		Sg		13 14 44.4	-0.5
LTHK				AML		AML		13 14 45.5	
	comp=E,13761μm,0.4s								
LTHK				AML		AML		13 14 49.9	
	comp=N,6949μm,0.5s								
PSDA	Pessada-Kefalo	0.72	20	P		Pg		13 14 41.7	0.0
PSDA				S		Sb		13 14 52.4	-0.2
	comp=N,4μm,0.4s								
PSDA	Pessada-Kefalo	0.72	20	P		Pg		13 14 41.9	+0.2
PSDA				S		Sb		13 14 52.5	-0.2
RTZL	Ratzakli, Kefa	0.76	32	P		Pg		13 14 42.0	-0.3
RTZL				S		Sb		13 14 53.3	-0.2
	comp=N,2μm,0.6s								
VLS	Valsamata	0.78	19	P		Pg		13 14 42.5	-0.4
VLS				S		Sg		13 14 53.6	+0.5
	comp=N,3μm,0.6s								
VLS	Valsamata	0.78	19	P		Pg		13 14 42.5	-0.4
VLS				S		Sg		13 14 53.3	+0.2
VLS				AML		AML		13 15 00.4	
	comp=N,4684μm,0.3s								
VLS				AML		AML		13 15 02.4	
	comp=E,6226μm,0.6s								
DMLN	Damoulianata-K	0.81	6	P		Pg		13 14 43.0	-0.3
DMLN				S		Sb		13 14 55.4	+0.4
	comp=E,6μm,0.6s								
DMLN	Damoulianata-K	0.81	6	P		Pg		13 14 43.6	+0.3
SMHA	Samh	0.87	20	P		Pb		13 14 45.9	+0.8
FSK	Fiskardo	1.05	13	P		Pg		13 14 47.6	-0.3
FSK	Fiskardo	1.05	13	P		Pg		13 14 47.8	-0.1
FSK				S		Sg		13 15 02.1	+0.6
FSK				AML		AML		13 15 10.5	
	comp=N,1681μm,0.6s								
FSK				AML		AML		13 15 10.9	
	comp=E,2464μm,0.8s								
RLS	Riolos of Patr	1.14	57	P		Pg		13 14 48.9	-0.7
RLS	Riolos of Patr	1.14	57	P		Pg		13 14 49.1	-0.5
RLS				S		Sg		13 15 03.4	-0.9
RLS				AML		AML		13 15 11.8	
	comp=E,1710μm,0.9s								
RLS				AML		AML		13 15 12.4	
	comp=N,1511μm,0.7s								
AMT	Artemida-Makis	1.15	85	P		Pg		13 14 50.6	+0.7
EVGI	Lefkada island	1.22	15	P		Pg		13 14 50.4	-0.8
DRO	Drossia	1.26	65	P		Pg		13 14 52.0	+0.1
DRO	Drossia	1.26	65	P		Pg		13 14 52.2	+0.3
NYDR	Nydri-Lefkada	1.32	15	P		Pg		13 14 52.3	-0.8
ITM	Ithomi	1.35	100	P		Pg		13 14 53.2	-0.4
TSLK	Tsoukalades, L	1.42	12	P		Pg		13 14 55.3	+0.3
KLV	Kalavryta, Ach	1.61	67	P		Pn		13 14 57.4	+0.8
EFP	Efpalio	1.63	52	P		Pn		13 14 58.4	+1.7
GUR	Goura	1.72	73	P		Pn		13 14 59.6	+1.5
ANX	Ano Chora	1.75	48	P		Pn		13 15 00.2	+1.8
KALE	Kalithea	1.76	57	P		Pn		13 15 00.4	+1.8
MAKR	Makrakomi, Fth	2.15	42	P		Pn		13 15 06.2	+2.2
AXAR	Agios Charalam	2.31	54	P		Pn		13 15 08.4	+2.3
THL	Klokotos Trika	2.53	32	P		Pn		13 15 10.5	+1.4
AKASG	Malin Array Be	14.72	23	Pn		Pn		13 17 55.3	-0.9
	comp=N,0.6nm,0.3s,baz=209,slow=8.6,SNR=1.4								
	comp=N,0.2nm,0.3s								
ESDC	Sonseca Array	19.07	284	P		P		13 18 48.8	-1.8
	baz=74,slow=9.5,SNR=2.2								
	comp=N,1.0nm,1.0s								
HFS	Hagfors	23.10	352	P		P		13 19 32.6	-1.2
	comp=N,3.5nm,0.7s,baz=164,slow=12,SNR=4.8								
	comp=N,3.5nm,0.7s								
FINES	FINESS Array B	24.31	7	P		P		13 19 44.2	-1.1
	comp=N,2.0nm,0.7s,baz=159,slow=11,SNR=5.2								
	comp=N,2.0nm,0.7s								
NOA	NORSAR Array B	24.31	349	P		P		13 19 45.1	-0.4
	comp=N,0.7nm,0.7s,baz=160,slow=9.5,SNR=1.7								
	comp=N,0.7nm,0.7s								
TORD	Torodi Ar. Bea	29.33	219	P		P		13 20 32.1	+1.2
	comp=N,0.5nm,0.6s,baz=29,slow=10,SNR=4.0								
	comp=N,0.5nm,0.6s								
ARCES	ARCESS Array B	32.28	3	P		P		13 20 55.7	-0.9
	comp=N,7.4nm,1.2s,baz=182,slow=8.9,SNR=1.4								
	comp=N,7.4nm,1.2s								
MKAR	Makanchi Array	45.87	58	P		P		13 22 50.4	0.0
	comp=N,0.3nm,0.7s,baz=269,slow=8.8,SNR=1.3								
	comp=N,0.3nm,0.7s								
ZALV	Zalesovo Beam	46.34	48	P		P		13 22 53.5	-0.5
	comp=N,0.4nm,0.3s,baz=268,slow=6.9,SNR=1.9								
	comp=N,0.4nm,0.3s								

IDC 27 13:14:46.7±1.3, 2°.08N×123°.04E, h0km, mb3.6/5, mbtmp3.6/5, MS3.8/1, Error ellipse: s-maj=282.7km s-min=21.5km az=64.0
DJA 27 13:14:50.9±0.5, 0°N±3°×12°0E±°, h10km, M4.1/8, mb4.4/1, MLv3.9/8
ISC 27 13:14:48.8±1.0, 0°.17N±0°.07×119°.52E±0°.09, h10km, n13, σ1°70/14, mb3.8/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCI	Palu	1.12	164	P		Pg		13 15 09.0	-1.3
PCI				S		Sg		13 15 24.3	-0.5
APSI	Ampana	2.38	117	P		Pn		13 15 30.2	+2.3
MRSI	Marisa	2.44	83	P		Pn		13 15 29.8	+1.1
TTSI	Tana Toraja	3.21	175	P		Pn		13 15 41.9	+2.6
LUWI	Luwuk	3.46	110	P		Pn		13 15 44.9	+2.1
SPSI	Sidrap Palu	4.12	177	P		Pn		13 15 53.1	+1.3
KMSI	Cibinong	4.47	85	P		Pb		13 16 07.2	-0.3
WRA	Warramunga Arr	24.70	145	P		P		13 20 08.4	-2.0
	0.8nm,1.0s,baz=335,slow=9.3,SNR=3.3								
	0.8nm,1.0s								
ASAR	Alice Springs	27.51	150	P		P		13 20 37.3	+1.6
	0.3nm,0.6s,baz=344,slow=9.6,SNR=5.5								
ASAR				PcP		PcP		13 23 52.6	-1.5
	0.3nm,0.8s,baz=340,slow=1.9,SNR=2.2								
	0.3nm,0.6s								
MKAR	Makanchi Array	56.69	330	P		P		13 24 33.4	+0.8
	0.4nm,0.4s,baz=112,slow=7.9,SNR=5.0								
	0.4nm,0.4s								
AAK	Ala-Archa	58.43	322	LR		LR		13 53 20.1	
	comp=Z,71nm,19.7s,baz=18,slow=39								
ZALV	Zalesovo Beam	60.77	337	P		P		13 24 59.7	-1.1
	0.8nm,0.6s,baz=138,slow=6.7,SNR=3.9								
	0.8nm,0.6s								
BVAR	Borovoye Array	66.57	330	P		P		13 25 38.6	-0.5
	0.4nm,0.4s,baz=132,slow=8.0,SNR=3.9								
	0.4nm,0.4s								

WEL 27 13:34:16.6, 38°S±6°×17°6E±°, h135km±12km, M2.8/57, mB5.4/1, ML2.2/9, MLv2.8/57, Mw(mB)4.8/1, Error ellipse: s-maj=9.7km s-min=8.7km az=98.1, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WPRZ	Whakapapatarin	0.20	177	P		Pn		13 34 35.9	+0.8
PRRZ	Plateau Road	0.26	133	P		Pn		13 34 35.7	+0.5
ALRZ	Allen Road	0.28	148	P		Pn		13 34 35.7	+0.4
RRRZ	Republican Roa	0.29	94	P		Pn		13 34 35.6	+0.3
KARZ	Kaharoa	0.31	14	P		Pn		13 34 35.4	0.0
TLZ	Tolley Road	0.48	269	P		Pn		13 34 36.9	+0.7
KMRZ	Kaimai	0.50	341	P		Pn		13 34 36.2	-0.1
MUGZ	Murupara	0.51	108	P		Pn		13 34 36.1	-0.1
MRHZ	Matea Rd	0.56	158	P		Pn		13 34 37.1	+0.5
OPRZ	Ohinepanea	0.57	34	P		Pn		13 34 34.9	-1.7
TGRZ	Tauranga	0.60	8	P		Pn		13 34 36.2	-0.6
RATZ	Rangitukua	0.62	208	P		Pn		13 34 37.8	+0.8
RITZ	Rihia Road	0.70	199	P		Pn		13 34 38.8	+1.3
RTZ	Ruatahuna	0.71	115	P		Pn		13 34 37.6	-0.1
URZ	Urewera	0.76	86	P		Pn		13 34 37.0	-0.9
MTHZ	Maungataniwha	0.76	135	P		Pn		13 34 38.3	+0.3
TOZ	Tahuroa Road	0.78	319	P		Pn		13 34 37.9	-0.2
NTVZ	North Tongarir	0.86	205	P		Pn		13 34 40.0	+1.1
TMVZ	Te Maari	0.87	204	P		Pn		13 34 39.7	+0.8
KRVZ	Karewarewa	0.87	207	P		Pn		13 34 39.7	+0.7
ETVZ	East Tongariro	0.89	203	P		Pn		13 34 40.0	+0.9
BKZ	Black Stump Fm	0.89	163	P		Pn		13 34 39.4	+0.4
WTVZ	West Tongariro	0.91	209	P		Pn		13 34 40.0	+0.7
NNVZ	North Ngauruho	0.91	207	P		Pn		13 34 40.3	+0.9
OTVZ	Oturere	0.92	204	P		Pn		13 34 40.4	+1.0
NMHZ	Naumai	0.93	147	P		Pn		13 34 40.5	+1.1
TWVZ	Taurewa	0.94	216	P		Pn		13 34 40.2	+0.7
RAHZ	Arahi	0.94	129	P		Pn		13 34 40.0	+0.5
SNVZ	South Ngauruho	0.95	205	P		Pn		13 34 40.5	+0.8
NGZ	Ngauruhoe	0.96	207	P		Pn		13 34 40.8	+1.1
COVZ	Chateau Observ	1.00	208	P		Pn		13 34 40.8	+0.7
RAGZ	Rawiri	1.01	100	P		Pn		13 34 39.9	-0.2
TUVZ	Tukino	1.02	202	P		Pn		13 34 41.1	+0.8
HIZ	Hauiti	1.04	259	P		Pn		13 34 40.8	+0.6
SNGZ	Shannon Statio	1.04	117	P		Pn		13 34 40.5	+0.2
FWVZ	Far West T-bar	1.04	206	P		Pn		13 34 41.4	+0.8
WHVZ	Whangaehu Hut	1.06	204	P		Pn		13 34 41.4	+0.7
MWZ	Matawai	1.08	91	P		Pn		13 34 39.9	-0.9
WNVZ	Wahianoa	1.09	203	P		Pn		13 34 41.6	+0.6
KWHZ	Kaweka Forest	1.12	169	P		Pn		13 34 41.9	+0.7
MOVZ	Moawhango	1.13	196	P		Pn		13 34 41.5	+0.2
WHHZ	Waihua	1.14	132	P		Pn		13 34 41.7	+0.5
ARHZ	Aropaoanui	1.15	145	P		Pn		13 34 42.1	+0.7
PKVZ	Pokaka	1.16	213	P		Pn		13 34 42.1	+0.6
MTVZ	Mangateitei	1.19	206	P		Pn		13 34 42.4	+0.6
MCHZ	McNeill Hill	1.20	159	P		Pn		13 34 42.9	+1.0
RIGZ	Rimuhau	1.32	107	P		Pn		13 34 42.7	-0.4
KRHZ	Kereru	1.33	173	P		Pn		13 34 43.6	+0.3
TKGZ	Te Karaka	1.34	96	P		Pn		13 34 42.7	-0.6
VRZ	Vera Road	1.35	233	P		Pn		13 34 44.2	+0.8
KNZ	Kokohu	1.38	121	P		Pn		13 34 43.4	-0.3
HAZ	Te Kaha	1.41	67	P		Pn		13 34 41.8	-2.2
MKAZ	Moumakai	1.45	327	P		Pn		13 34 43.2	-1.2
PRGZ	Paritu Road	1.48	114	P		Pn		13 34 44.4	-0.5
CKHZ	Cape Kidnapper	1.52	152	P		Pn		13 34 45.6	+0.4
KAHZ	Kahuranaki	1.58	159	P		Pn		13 34 46.3	+0.3
MHGZ	Mahia Peninsul	1.61	122	P		Pn		13 34 45.9	-0.3
KUZ	Kuaotunu	1.61	348	P		Pn		13 34 44.3	-1.9
CNGZ	Carnagh Statio	1.62	96	P		Pn		13 34 45.9	-0.5
ETAZ	East Tamaki Re	1.67	324	P		Pn		13 34 45.5	-1.5
PUZ	Puketiti	1.68	82	P		Pn		13 34 45.2	-1.8
WAZ	Wanganui	1.70	212	P		Pn		13 34 51.1	+3.9
WIAZ	Waiheke Island	1.73	332	P		Pn		13 34 46.1	-1.5
AWAZ	Awhitu Peninsu	1.73	316	P		Pn		13 34 46.3	-1.4
TSZ	Takapari Road	1.74	185	P		Pn		13 34 47.5	-0.3
WPHZ	Waipukurau	1.76	173	P		Pn		13 34 47.7	-0.2
LREZ	Lake Rotokare	1.78	230	P		Pn		13 34 48.9	+0.8
PXZ	Pawanui	1.80	162	P		Pn		13 34 48.2	-0.2
MBAZ	Motutapu North	1.84	327	P		Pn		13 34 47.2	-1.7
WMGZ	Waiomatatini S	1.85	75	P		Pn		13 34 47.2	-1.9
NEZ	North Egmont	1.87	249	P		Pn		13 34 50.0	+0.7
WTAZ	Waiatarua	1.87	317	P		Pn		13 34 47.9	-1.4
PKE	Pukeiti	1.90	242	P		Pn		13 34 50.3	+0.6
KHEZ	Kahui Hut	1.93	239	P		Pn		13 34 50.8	+0.7
DVHZ	Dannevirke	1.98	180	P		Pn		13 34 49.8	-0.8
PRHZ	Porangahau	1.98	169	P		Pn		13 34 50.1	-0.5
POWZ	Post Office Ro	2.09	188	P		Pn		13 34 51.0	-0.9
ANWZ	Angora Road	2.15	173	P		Pn		13 34 52.1	-0.5
PRWZ	Pori Road	2.24	184	P		Pn		13 34 53.0	-0.7
BFZ	Birch Farm	2.36	178	P		Pn		13 34 54.0	-1.2
MRZ	Mangatainoka R	2.38	191	P		Pn		13 34 54.1	-1.4
TIWZ	Tintock	2.46	185	P		Pn		13 34 55.2	-1.3
CPWZ	Castlepoint	2.59	179	P		Pn		13 34 57.2	-0.9
OGWZ	Otaki Gorge	2.61	197	P		Pn		13 34 56.7	-1.6
HOWZ	Holdsworth Sta	2.62	191	P		Pn		13 34 56.6	-1.9
KIW	Kapiti Island	2.71	200	P		Pn		13 34 57.6	-2.1
TMWZ	Te Maipa	2.79	184	P		Pn		13 34 58.7	-2.0
MTW	Mount Morrison	2.88	199	P		Pn		13 34 59.4	-2.4
DUWZ	D'Urville Isla	3.02	214	P		Pn		13 35 01.3	-2.3
TRWZ	Traveller	3.10	186	P		Pn		13 35 02.2	-2.4
PAWZ	Paruwai Farm	3.11	190	P		Pn		13 35 02.1	-2.7
WEL	Wellington	3.15	199	P		Pn		13 35 02.7	-2.5
MSWZ	Moikau Station	3.17	192	P		Pn		13 35 02.8	-2.8
TCW	Tory Channel	3.23	206	P		Pn		13 35 03.6	-2.7
BHW	Baring Head	3.24	197	P		Pn		13 35 03.6	-2.8
PLWZ	Palliser	3.32	192	P		Pn		13 35 04.6	-2.9
TUWZ	Tuamarina	3.54	208	P		Pn		13 35 07.6	-2.7
NNZ	Nelson	3.60	216	P		Pn		13 35 08.2	-2.9
QRZ	Quartz Range	3.75	227	P		Pn		13 35 09.6	-3.6
BSWZ	Blackbirch Sta	3.81	207	P		Pn		13 35 11.0	-3.0
MRNZ	Matariki Terra	4.04	219	P		Pn		13 35 13.3	-3.6
THZ	Tophouse	4.25	215	P		Pn		13 35 16.3	-3.4
KHZ	Kahutara	4.55	205	P		Pn		13 35 20.3	-3.4
GVZ	Greta Valley S	5.21	206	P		Pn		13 35 28.5	-4.1
LTZ	Lake Taylor	5.35	212	P		Pn		13 35 30.2	-4.1
OXZ	Oxford	5.89	211	P		Pn		13 35 36.4	-5.2
MOZ	McQueen's Vall	6.00	205	P		Pn		13 35 37.2	-5.7
MHCZ	Mount Hutt	6.26	212	P		Pn		13 35 45.9	-0.6

TEH 27 14:04:45.7, 34°.38N×45°.69E, h8km±37km, ML3.1
ISN 27 14:04:45.4±1.1, 34°.40N×45°.70E, h6km±6km, ML3.4
ISC 27 14:04:45.9±1.3, 34°.42N±0°.03×45°.76E±0°.03, h0km±13km, n20, σ1°03/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.17	302	Pg		Pg		14 04 49.4	+0.3
GLG1	Gilan-e-Gharb	0.33	158	Pg		Pg		14 04 52.3	+0.1
IDHR	Dehrash	0.59	61	Pg		Pb		14 04 58.3	-1.0
IDHR				Sg		Sb		14 05 08.2	-0.1
IGHG	Ghaleghazi	0.68	97	Pg		Pb		14 05 00.2	-0.5
IGHG				Sg		Sn		14 05 12.3	-2.1
ILBA	Ilam Banvizeh	0.87	155	Pg		Pg		14 05 02.3	-0.4
KCHF	Cheshme Sefid,	1.07	97	Sg		Sn		14 05 23.4	-0.6
ILIN	Lien	1.11	63	Pg		Pb		14 05 07.9	-0.3
IBDR	Badra	1.31	174	ePg		Pg		14 05 11.0	-0.1
IBDR				eSg		Sg		14 05 28.0	-0.1
IKRK	Kirkuk	1.52	310	ePn		Pb		14 05 14.0	-1.1
IKRK				eSn		Sg		14 05 36.0	+1.1
IKRK				AML		AML		14 05 38.6	
	comp=E,653nm,0.4s								
IKRK				AML		AML		14 05 46.5	
	comp=N,454nm,0.3s								
SNQR	Sonqor, Kerman	1.60	74	Pg		Pg		14 05 16.8	+0.1
BHD	Baghdad	1.62	225	ePn		Pb		14 05 16.0	-0.7
BHD				eSn		Sg		14 05 37.5	-0.5
BHD				AML		AML		14 05 40.8	
	comp=E,714nm,0.3s								
SDS1	Sardasht. Az.	1.74	353	Pg		Pg		14 05 18.9	-0.4
IKFM	Kafar-mosalman	1.95	117	Pn		Pb		14 05 21.8	-0.5
IDOB	Doab	2.10	107	Pn		Pn		14 05 23.3	+0.8
MAHB	Mahabad	2.34	359	Pn		Pb		14 05 27.5	-1.6
HSAM	Samen	2.36	94	Pn		Pn		14 05 27.4	+1.2
BDRS	Dareh Seyedi	2.63	99	Pn		Pn		14 05 31.3	+1.4
RAFI	Al-Rafai	2.70	174	ePn		Pn		14 05 31.5	+0.9
RAFI				eSn		Sn		14 06 04.5	+0.5
HAGD	Aghdareh	2.82	81	Pn		Pn		14 05 34.3	+1.9
IAZR	Azarshahr	3.26	3	Pn		Pn		14 05 40.0	+1.5

JMA 27 14:17:04.5±0.1, 24°N±1°×122°.5E±0°.4, h90km±1km, MV2.2/14, NW OFF ISHIGAKIJIMA IS
TAP 27 14:17:04.3, 24°.54N×122°.53E, h93km, ML3.1, C
ISC 27 14:17:04.8±1.3, 24°.52N±0°.03×122°.54E±0°.02, h88km±6km, n96, σ0°96/191, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS2	EOS2	0.30	250	eP		Pn		14 17 18.5	+0.6
EOS2				eS		Sn		14 17 29.5	+2.0
EOS3	EOS3	0.31	220	eP		Pn		14 17 18.8	+0.9
EOS3				eS		Sn		14 17 29.7	+2.1
JYNG	Yonagunijimaku	0.38	101	P		Pn		14 17 18.6	+0.1
JYNG				eS		Sn		14 17 28.8	+0.1
YOJ	Yonaguni jima	0.44	98	eP		Pn		14 17 19.0	+0.1
YOJ				eS		Sn		14 17 29.2	-0.1
YOJ	Yonaguni jima	0.44	98	P		Pn		14 17 19.0	+0.1
YOJ				S		Sn		14 17 29.5	+0.2
EOS4	EOS4	0.45	207	eP		Pn		14 17 18.8	+0.2
EOS4				eS		Sn		14 17 29.9	+1.2
TWC	Suao	0.63	278	iP		Pn		14 17 20.1	-0.4
TWC				S		Sn		14 17 31.4	-0.7
ESAO	Su ao	0.63	275	P		Pn		14 17 19.9	-0.6
ESAO				S		Sn		14 17 31.8	-0.4
TWB1	Santiao Chiao	0.69	314	P		Pn		14 17 20.3	-0.8
TWB1				eS		Sn		14 17 33.5	+0.3
EWUT	Wuta	0.69	264	iP		Pn		14 17 21.0	-0.1
EWUT				S		Sn		14 17 33.0	-0.2
ENA	Nanau	0.73	263	iP		Pn		14 17 21.5	0.0
ENA				S		Sn		14 17 33.1	-0.8
EAHA	Aohua	0.75	255	iP		Pn		14 17 21.4	-0.2
EAHA				S		Sn		14 17 33.9	-0.4
NDS	Dongshan	0.76	279	iP		Pn		14 17 22.0	+0.3
NDS				S		Sn		14 17 34.2	-0.2
TIPB	Shuangxi	0.79	305	iP		Pn		14 17 21.9	-0.2
TIPB				iS		Sn		14 17 33.9	-1.0
TWE	Neicheng	0.81	284	iP		Pn		14 17 22.2	-0.1
TWE				iS		Sn		14 17 35.2	-0.2
SXI1	Grass Mountain	0.83	314	iP		Pn		14 17 22.5	0.0
SXI1				S		Sn		14 17 35.6	-0.2
NWF	Wu-fen Shan	0.88	309	iP		Pn		14 17 23.0	-0.1
NWF				eS		Sn		14 17 37.0	+0.2
WFSB	Wu-fen Shan	0.88	309	P		Pn		14 17 23.2	+0.2
WFSB				eS		Sn		14 17 37.0	+0.4
ENTT	Nioudou	0.89	278	iP		Pn		14 17 23.6	+0.4
ENTT				S		Sn		14 17 36.7	-0.3
FUSB	Fushanzhiwuyua	0.90	285	iP		Pn		14 17 23.3	0.0
FUSB				S		Sn		14 17 36.0	-1.0
ETL	Fush Village	0.91	247	iP		Pn		14 17 22.8	-0.6
ETL				S		Sn		14 17 37.1	-0.2
NACB	Ninganchiao	0.93	248	iP		Pn		14 17 23.1	-0.4
NACB				iS		Sn		14 17 36.9	-0.6
TWD	Chiawan	0.96	243	iP		Pn		14 17 23.4	-0.6
TWD				iS		Sn		14 17 38.1	-0.2
NWLT	Wulai	0.97	285	iP		Pn		14 17 24.2	0.0
NWLT				iS		Sn		14 17 37.5	-1.1
TWA	Mucha	0.98	298	eP		Pn		14 17 21.0	-3.1
TWA				eS		Sn		14 17 35.3	-3.4
HWA	Hwalien	1.01

CHKH				S	Sn	14 17 53.3	-0.8
FULB	**Fuli**	**1.74**	**221**	*e*P	**Pn**	**14 17 33.3**	**-0.3**
FULB				*i* S	**Sn**	**14 17 55.0**	**-0.5**
WHYT	**Xinyi Township**	**1.74**	**242**	*i* P	**Pn**	**14 17 34.6**	**+0.9**
WHYT				*i* S	**Sn**	**14 17 56.1**	**+0.6**
WJS	**Zhushan**	**1.79**	**247**	*i* P	**Pn**	**14 17 35.5**	**+1.2**
WJS				*i* S	**Sn**	**14 17 58.6**	**+2.0**
WNT	**Mingjian**	**1.81**	**250**	P	**Pn**	**14 17 35.6**	**+1.1**
WNT				*e*S	**Sn**	**14 17 58.3**	**+1.2**
EHD	**Haiduan**	**1.83**	**222**	*e*P	**Pn**	**14 17 34.3**	**-0.5**
EHD				*e*S	**Sn**	**14 17 55.7**	**-1.9**
ALS	**Alishan**	**1.88**	**238**	*i* P	**Pn**	**14 17 36.3**	**+0.7**
ALS				*i* S	**Sn**	**14 17 59.7**	**+0.6**
EDH	**Donghe**	**1.91**	**216**	*e*P	**Pn**	**14 17 34.9**	**-0.9**
EDH				*i* S	**Sn**	**14 17 56.8**	**-2.6**
ELDTW	**Lidau**	**1.92**	**227**	*i* P	**Pn**	**14 17 34.9**	**-1.2**
ELDTW				S	**Sn**	**14 17 57.9**	**-2.0**
CHN5	**Tsauling**	**1.93**	**242**	*i* P	**Pn**	**14 17 37.3**	**+1.1**
CHN5				*i* S	**Sn**	**14 18 02.3**	**+2.3**
JTJ	**Tarama**	**1.98**	**86**	*e*P	**Pn**	**14 17 36.8**	**+0.2**
JTJ				*e*S	**Sn**	**14 18 01.3**	**+0.4**
WDLH	**Douliu**	**2.01**	**246**	*e*P	**Pn**	**14 17 37.0**	**0.0**
WDLH				*e*S	**Sn**	**14 18 02.1**	**+0.5**
WCKO	**Fanlu**	**2.07**	**239**	*i* P	**Pn**	**14 17 39.1**	**+1.1**
WCKO				*i* S	**Sn**	**14 18 04.7**	**+1.6**
STYH	**Taoyuan**	**2.10**	**230**	*i* P	**Pn**	**14 17 38.8**	**+0.5**
STYH				*i* S	**Sn**	**14 18 04.0**	**+0.1**
CHN4	**Tsaushan**	**2.13**	**237**	*i* P	**Pn**	**14 17 39.7**	**+1.0**
CHN4				S	**Sn**	**14 18 06.1**	**+1.6**
TPUB	**Ta-pu**	**2.13**	**235**	*i* P	**Pn**	**14 17 39.4**	**+0.7**
TPUB				*i* S	**Sn**	**14 18 06.0**	**+1.4**
WTK	**Tuku**	**2.13**	**247**	*e*P	**Pn**	**14 17 39.2**	**+0.5**
WTK				*e*S	**Sn**	**14 18 05.6**	**+1.0**
TWG	**Pinlang**	**2.16**	**219**	*i* P	**Pn**	**14 17 38.6**	**-0.5**
TWG				*i* S	**Sn**	**14 18 03.2**	**-2.2**
WTP	**Ta-pu**	**2.17**	**235**	*i* P	**Pn**	**14 17 39.9**	**+0.6**
WTP				*i* S	**Sn**	**14 18 07.9**	**+2.3**
TWK	**Hsinying**	**2.25**	**237**	*i* P	**Pn**	**14 17 41.6**	**+1.3**
TWK				S	**Sn**	**14 18 08.3**	**+0.7**
CHN1	**Nanshi**	**2.27**	**234**	*i* P	**Pn**	**14 17 41.3**	**+0.7**
CHN1				*i* S	**Sn**	**14 18 08.3**	**+0.4**
SNST	**Tainan City**	**2.27**	**236**	P	**Pn**	**14 17 40.9**	**+0.3**
SNST				*i* S	**Sn**	**14 18 09.7**	**+1.8**
SGST	**Jiashian**	**2.29**	**232**	*i* P	**Pn**	**14 17 40.8**	**-0.1**
SGST				*i* S	**Sn**	**14 18 09.4**	**+1.0**
JIRB	**Irabujima**	**2.42**	**82**	*e*P	**Pn**	**14 17 42.6**	**+0.1**
JIRB				*e*S	**Sn**	**14 18 11.1**	**-0.2**
JMJ2	**Miyako jima3**	**2.55**	**85**	*e*P	**Pn**	**14 17 44.8**	**+0.6**
MASBT	**Mashibuluo**	**2.58**	**223**	*i* P	**Pn**	**14 17 45.1**	**+0.4**
MASBT				S	**Sn**	**14 18 16.5**	**+1.2**
TSCK	**Chigu Township**	**2.63**	**239**	P	**Pn**	**14 17 45.5**	**+0.2**
TSCK				*e*S	**Sn**	**14 18 16.9**	**+0.5**
EAST	**Anshuo**	**2.63**	**216**	P	**Pn**	**14 17 45.6**	**+0.2**
EAST				*e*S	**Sn**	**14 18 15.1**	**-1.5**

*IDC **27** 14:18:32.9±2.1, 22°.90S×179°.55W, h524km±20km, mb3.2/4, mbtmp4.0/5, Error ellipse: s-maj=31.0km s-min=24.8km az=40.0*
*NEIC **27** 14:18:32.6±1.1, 22°.9S±0°.1×179°.4W±0°.1, h525km±8km, mb4.5/23, Error ellipse: s-maj=21.4km s-min=12.2km az=136.0*

ISC 27 14:18:32.2±0.7, **22°.9S**±0°.1×**179°.5W**±0°.1, **h526**km, **n44**, σ1§**28**/45, **mb4.4**/15, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.61**	**335**	P	**P**	**14 20 07.1**	**+0.8**
	3.4nm,0.5s,baz=238,slow=21,SNR=19						
NIUE	**Niue**	**9.66**	**69**	P	**P**	**14 20 47.3**	**+0.9**
AFI	**Afiamalu**	**11.49**	**41**	P	**P**	**14 21 03.8**	**-1.8**
MXZ	**Matakaoa Point**	**14.79**	**187**	P	**P**	**14 21 42.0**	**+2.3**
HAZ	**Te Kaha**	**15.04**	**188**	P	**P**	**14 21 42.9**	**+0.5**
AWAZ	**Awhitu Peninsu**	**15.05**	**198**	P	**P**	**14 21 44.9**	**+2.4**
TWGZ	**Tauwhareparae**	**15.43**	**188**	P	**P**	**14 21 46.5**	**0.0**
TOZ	**Tahuroa Road**	**15.45**	**195**	P	**P**	**14 21 46.3**	**-0.3**
TOZ				IAmb	IAmb	14 22 25.5	
	comp=Z,20nm,1.4s						
URZ	**Urewera**	**15.64**	**190**	P	**P**	**14 21 45.4**	**-3.1**
MWZ	**Matawai**	**15.65**	**189**	P	**P**	**14 21 47.1**	**-1.5**
RAGZ	**Rawiri**	**15.82**	**189**	P	**P**	14 21 40.8	-10
BKZ	**Black Stump Fm**	**16.63**	**191**	P	**P**	**14 21 54.7**	**-3.7**
OTVZ	**Oturere**	**16.79**	**193**	P	**P**	**14 21 57.6**	**-2.5**
VRZ	**Vera Road**	**16.96**	**196**	P	**P**	**14 22 02.4**	**+0.9**
MRZ	**Mangatainoka R**	**18.25**	**192**	P	**P**	**14 22 10.2**	**-3.1**
TCW	**Tory Channel**	**19.05**	**195**	P	**P**	**14 22 19.9**	**-0.8**
QRZ	**Quartz Range**	**19.16**	**199**	P	**P**	**14 22 21.3**	**-0.3**
INZ	**Inchbonnie**	**21.22**	**199**	P	**P**	**14 22 38.6**	**-1.7**
INZ				IAmb	IAmb	14 22 58.6	
	comp=Z,25nm,1.3s						
WHZ	**Wether Hill Ro**	**25.17**	**201**	P	**P**	**14 23 15.6**	**+0.1**
WHZ				IAmb	IAmb	14 23 16.9	
	comp=Z,34nm,1.3s						
CAN	**Canberra**	**30.11**	**239**	P	**P**	**14 23 59.4**	**+0.4**
CAN				IAmb	IAmb	14 24 16.9	
	comp=Z,33nm,1.5s						
CTAO	**Charters Tower**	**32.00**	**268**	P	**P**	**14 24 16.0**	**+0.6**
CTAO				IAmb	IAmb	14 24 26.9	
	comp=Z,11nm,1.4s						
TAU	**Tasmania Unive**	**34.02**	**226**	P	**P**	**14 24 32.3**	**+0.2**
STKA	**Stephens Creek**	**35.59**	**247**	P	**P**	**14 24 45.9**	**+0.5**
STKA	**Stephens Creek**	**35.59**	**247**	P	**P**	**14 24 45.6**	**+0.2**
	comp=Z,1.2nm,0.4s,baz=98,slow=11,SNR=4.5						
	comp=Z,1.2nm,0.4s						
BBOO	**Buckleboo**	**40.33**	**246**	P	**P**	**14 25 23.6**	**-0.5**
BBOO				IAmb	IAmb	14 25 42.0	
	comp=Z,26nm,1.4s						
AS31	**Alice Springs**	**42.71**	**259**	P	**P**	**14 25 43.2**	**0.0**
ASAR	**Alice Springs**	**42.72**	**259**	P	**P**	**14 25 43.0**	**-0.2**
ASAR	**Alice Springs**	**42.72**	**259**	P	**P**	**14 25 43.2**	**0.0**
	comp=Z,1.6nm,0.8s,baz=90,slow=8.5,SNR=31						
ASAR				PcP	**PcP**	**14 27 23.0**	**0.0**
	comp=Z,0.4nm,0.6s,baz=112,slow=3.9,SNR=6.4						
ASAR				ScP	**ScP**	**14 30 24.9**	**+1.1**
	comp=Z,0.3nm,1.0s,baz=108,slow=4.0,SNR=1.1						
	comp=Z,1.6nm,0.8s						
WR0	**Warramunga Arr**	**42.80**	**265**	P	**P**	**14 25 43.4**	**-0.5**
WB0	**Warramunga Arr**	**42.98**	**265**	P	**P**	**14 25 44.7**	**-0.6**
WB2	**Warramunga Arr**	**42.98**	**265**	P	**P**	**14 25 44.6**	**-0.7**
WRA	**Warramunga Arr**	**42.99**	**265**	P	**P**	**14 25 44.8**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=105,slow=7.9,SNR=39						
WRA				PcP	**PcP**	**14 27 23.7**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=102,slow=3.3,SNR=3.1						
	comp=Z,1.2nm,0.6s						
FORT	**Forrest**	**47.16**	**249**	P	**P**	**14 26 16.7**	**-0.5**
FORT				IAmb	IAmb	14 26 44.4	
	comp=Z,32nm,1.1s						
MTN	**Manton Dam**	**47.89**	**273**	P	**P**	**14 26 22.2**	**-0.6**
MTN				IAmb	IAmb	14 26 49.8	
	comp=Z,14nm,1.1s						
KNRA	**Kununurra**	**49.21**	**269**	P	**P**	**14 26 32.5**	**-0.1**
KNRA				IAmb	IAmb	14 26 39.2	
	comp=Z,13nm,1.2s						
MIDW	**Midway**	**50.81**	**2**	P	**P**	**14 26 43.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**51.42**	**265**	P	**P**	**14 26 49.2**	**+0.4**
MBWA	**Marble Bar**	**56.06**	**259**	P	**P**	**14 27 21.0**	**-0.6**
MBWA				IAmb	IAmb	14 27 32.2	
	comp=Z,32nm,1.4s						
NWAO	**Narrogin (SRO)**	**56.13**	**245**	P	**P**	**14 27 21.7**	**-0.2**
NWAO				IAmb	IAmb	14 27 46.8	
	comp=Z,26nm,1.5s						
QSPA	**South Pole Qui**	**67.23**	**180**	P	**P**	**14 28 34.4**	**+0.6**
QSPA				IAmb	IAmb	14 28 35.4	
	comp=Z,4.3nm,0.9s						
QSPA	**South Pole Qui**	**67.23**	**180**	P	**P**	**14 28 34.6**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=347,slow=0.9,SNR=26						
	comp=Z,2.6nm,0.7s						
J16K	**Anvik River**	**87.13**	**8**	P	**P**	**14 30 22.5**	**+0.9**
J16K				IAmb	IAmb	14 30 45.0	
	comp=Z,11nm,1.1s						
AKASG	**Malin Array Be**	**144.36**	**328**	PKP	PKPbc	14 37 06.7	-1.3
	comp=Z,0.4nm,0.3s,baz=48,slow=4.3,SNR=5.6						
MMAI	**Mount Meron Ar**	**147.72**	**296**	PKPbc	**PKiKP**	**14 37 19.2**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=84,slow=4.5,SNR=3.9						

*NEIC **27** 14:21:01.6±0.7, 36°.267N±0°.009×97°.67W±0°.01, h7km±8km, ML2.2/57, ML2.7/25, Error ellipse: s-maj=1.6km s-min=1.3km az=88.0*

NEIC 27 14:21:01.7±0.7, **36°.269N**±0°.006×**97°.67W**±0°.01, **h9**km±8km, **Error ellipse: s-maj=1.6km s-min=0.4km az=122.0,**

Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.35**	**313**		Pg	14 21 08.6	+0.1
CROK					Sg	14 21 13.7	+0.5
OK029	**Liberty Lake**	**0.50**	**160**		Pg	14 21 11.4	0.0
OK029					Sg	14 21 18.3	+0.3
GC02	**Grant County #**	**0.60**	**345**		Pg	14 21 13.3	-0.1
GC02					Sg	14 21 21.7	+0.4
OK048	**Pawnee Station**	**0.60**	**76**		Pg	14 21 13.3	-0.1
OK048					Sg	14 21 21.5	+0.2
BLOK	**Blackwell**	**0.61**	**37**	Pg	Pg	14 21 13.2	-0.4
BLOK				IAML		14 21 25.4	
	comp=E,137nm,0.2s						
OK051	**E0350 and S346**	**0.71**	**70**		Pg	14 21 15.4	-0.1
OK051					Sg	14 21 24.0	-0.8
OK051				IAML		14 21 33.7	
	comp=E,108nm,0.2s						
KAN14	**Manchester OK**	**0.73**	**341**		Pg	14 21 15.5	-0.2
KAN14					Sg	14 21 25.5	+0.3
KAN14				IAML		14 21 28.2	
	comp=N,113nm,0.1s						
OK031	**S. Brethren Rd**	**0.74**	**115**		Pg	14 21 15.8	-0.3
OK031					Sg	14 21 26.0	+0.3
OK031				IAML		14 21 28.2	
	comp=N,72nm,0.4s						
OK052	**Battle Ridge R**	**0.75**	**111**		Pg	14 21 16.1	-0.1
OK052					Sg	14 21 26.4	+0.3
OK052				IAML		14 21 28.7	
	comp=N,80nm,0.3s						
KAN13	**South Haven SW**	**0.76**	**12**		Pg	14 21 16.1	-0.2
KAN13					Sg	14 21 26.7	+0.5
KAN13				IAML		14 21 34.7	
	comp=E,105nm,0.3s						
KAN17	**Caldwell West**	**0.78**	**354**		Pg	14 21 16.5	-0.2
KAN17					Sg	14 21 27.2	+0.3
KAN17				IAML		14 21 32.6	
	comp=N,119nm,0.2s						
KAN17				IAML		14 21 33.7	
	comp=E,102nm,0.3s						
QUOK	**Quay**	**0.78**	**97**		Pg	14 21 16.6	-0.2
QUOK					Sb	14 21 28.0	-0.3
QUOK				IAML		14 21 32.2	
	comp=E,74nm,1.9s						
KAN09	**Caldwell North**	**0.87**	**3**		Pg	14 21 18.0	-0.5
KAN09					Sg	14 21 30.2	+0.4
KAN01	**Argonia South**	**0.89**	**355**		Pg	14 21 18.3	-0.4
KAN01					Sg	14 21 30.5	+0.1
KAN01				IAML		14 21 31.9	
	comp=E,68nm,0.1s						
KAN01				IAML		14 21 35.0	
	comp=N,73nm,0.1s						
KAN08	**Anthony NE Sta**	**0.99**	**346**		Pg	14 21 20.4	-0.4
KAN08				IAML		14 21 35.1	
	comp=N,72nm,0.1s						
KAN08				IAML		14 21 35.5	
	comp=E,64nm,0.1s						
FNO	**Franklin**	**1.03**	**168**		Pg	14 21 21.0	-0.6
FNO					Sb	14 21 35.4	0.0
FNO				IAML		14 21 40.5	
	comp=E,75nm,0.3s						
DEOK	**Depew**	**1.04**	**114**		Pg	14 21 21.0	-0.7
DEOK					Sg	14 21 35.4	+0.1
DEOK				IAML		14 21 35.5	
	comp=N,65nm,0.4s						
KAN12	**Harper NE Stat**	**1.06**	**346**		Pg	14 21 21.7	-0.4
KAN12					Sg	14 21 36.0	+0.2
NOKA	**Waynoka**	**1.08**	**290**		Pg	14 21 21.7	-0.8
NOKA					Sg	14 21 36.4	-0.1
NOKA				IAML		14 21 43.3	
	comp=N,63nm,0.3s						
NOKA				IAML		14 21 49.0	
	comp=E,50nm,0.3s						
T35A	**Sooner Cattle**	**1.13**	**55**		Pg	14 21 23.1	-0.4
T35A					Sg	14 21 37.9	-0.3
T35A				IAML		14 21 43.0	
	comp=E,68nm,0.3s						
W35A	**Tecumseh**	**1.29**	**150**		Pn	14 21 25.2	-0.7
W35A					Sg	14 21 43.0	-0.1

*BJI **27** 14:34:15.3, 48°.49N×155°.52E, h32km, mb4.7/63, mB5.0/20, Ms4.6/39, Ms7 4.4/38*
*KRSC **27** 14:34:17.4±2.0, 48°.30N×155°.23E, h79km±32km, Ml5.2*
*MOS **27** 14:34:20.3±0.9, 48°.47N×155°.01E, h52km, mb4.8/18, MS3.9/9, Error ellipse: s-maj=8.1km s-min=3.6km az=74.8*
*NEIC **27** 14:34:20.9±1.3, 48°.4N±0°.1×155°.0E±0°.1, h35km±2km, mb4.9/248, Error ellipse: s-maj=18.7km s-min=11.9km az=149.0*
*SKHL **27** 14:34:22.0±0.3, 48°.50N×155°.10E, h82km±6km, mb5.5/9, mbv5.6/1, ms4.1/1, msha6.3/9*
*IDC **27** 14:34:23.4±2.1, 48°.47N×154°.83E, h63km±18km, mb4.1/30, mbtmp4.5/36, MS4.0/73, Error ellipse: s-maj=13.8km s-min=9.2km az=143.0*

ISC 27 14:34:20.9±0.4, **48°.32N**±0°.04×**155°.09E**±0°.04, **h45**km±2km, **h45**km:**pP-P**, **n651**, σ1§**42**/581, **mb4.8**/176, **MS4.1**/82, **16C-12D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.46**	**15**	*e*P	**Pn**	**14 34 58.0**	**-0.4**
SKR				*e*S	**Sn**	**14 35 24.9**	**-2.3**
SKR	**Severo-Kuril's**	**2.46**	**15**	*i* P	**Pn**	**14 34 58.0**	**-0.4**
SKR				AMB	AMB	14 35 00.2	
	540nm,0.3s						
SKR				*e*S	**Sn**	**14 35 25.2**	**-2.0**
SKR				A	A	14 35 32.4	
	2μm,0.3s						
SKR				A	A	14 35 32.4	
	2μm,0.3s						
SKR				AMS	AMS	14 36 04.0	
	4μm,13.0s						
SKR				AMS	AMS	14 36 04.0	
	5μm,13.0s						
SKR				AMS	AMS	14 36 04.0	
	2μm,13.0s						
SKR	**Severo-Kuril's**	**2.46**	**15**	⇓*i*PN	**Pn**	**14 34 57.6**	**-0.8**
SKR				*e*S	**Sn**	**14 35 24.1**	**-3.1**
SKR				pmax	pmax		
	comp=Z,2μm,0.6s						
SKR				smax	smax		
	comp=E,6μm,0.7s						
SKR				smax	smax		
	comp=N,8μm,0.5s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
SKR				MLR	MLR		
	comp=N,4μm,12.0s						
SKR				MLR	MLR		
	comp=E,5μm,14.0s						
PAU	**Pauzhetka**	**3.34**	**19**	*e*P	**Pn**	**14 35 10.2**	**-0.3**
PAU				*e*S	**Sn**	**14 35 48.7**	**-0.3**
PAU	**Pauzhetka**	**3.34**	**19**	*e*P	**Pn**	**14 35 10.9**	**+0.4**
PAU				AMB	AMB	14 35 18.9	
	comp=E,700nm,0.5s						
PAU				*e*S	**Sn**	**14 35 48.7**	**-0.3**
PAU				A	A	14 35 54.2	
	comp=E,2μm,0.3s						
PAU				A	A	14 35 54.2	
	comp=E,2μm,0.3s						
PAU	**Pauzhetka**	**3.34**	**19**	PN	**Pn**	**14 35 10.2**	**-0.3**
PAU				S	**Sn**	**14 35 48.6**	**-0.3**
KDTR	**Khodutka, Kamc**	**3.99**	**28**	*e*P	**Pn**	**14 35 18.3**	**-1.2**
KDTR				*e*S	**Sn**	**14 36 02.4**	**-2.5**
KDTR	**Khodutka, Kamc**	**3.99**	**28**	*e*P	**Pn**	**14 35 18.8**	**-0.6**
KDTR				*e*S	**Sn**	**14 36 02.5**	**-2.3**
KDTR	**Khodutka, Kamc**	**3.99**	**28**	PN	**Pn**	**14 35 18.2**	**-1.2**
KDTR				S	**Sn**	**14 36 02.3**	**-2.5**
ASAK	**Asacha**	**4.45**	**23**	*e*P	**Pn**	**14 35 25.9**	**0.0**
ASAK	**Asacha**	**4.45**	**23**	PN	**Pn**	**14 35 25.8**	**0.0**
MTVR	**Mutnovka**	**4.61**	**24**	*e*P	**Pn**	**14 35 27.9**	**-0.2**
MTVR				*e*S	**Sn**	**14 36 20.4**	**0.0**
MTVR	**Mutnovka**	**4.61**	**24**	PN	**Pn**	**14 35 27.9**	**-0.2**
MTVR				S	**Sn**	**14 36 20.4**	**0.0**
GRL	**Gorelyy**	**4.64**	**23**	*e*P	**Pn**	**14 35 28.9**	**+0.3**
GRL	**Gorelyy**	**4.64**	**23**	PN	**Pn**	**14 35 28.8**	**+0.3**
RUS	**Russkaya**	**4.66**	**27**	*e*P	**Pn**	**14 35 27.5**	**-1.2**
RUS				*e*S	**Sn**	**14 36 19.1**	**-2.3**
RUS	**Russkaya**	**4.66**	**27**	PN	**Pn**	**14 35 27.4**	**-1.2**
RUS				S	**Sn**	**14 36 19.1**	**-2.3**
APC	**Apacha**	**4.79**	**15**	*e*P	**Pn**	**14 35 32.1**	**+1.6**
APC	**Apacha**	**4.79**	**15**	PN	**Pn**	**14 35 32.0**	**+1.6**
KRMR	**Karymshinskiy**	**4.91**	**22**	*e*P	**Pn**	**14 35 32.4**	**+0.2**
KRMR				*e*S	**Sn**	**14 36 27.1**	**-0.6**
KRMR	**Karymshinskiy**	**4.91**	**22**	*e*P	**Pn**	**14 35 33.0**	**+0.9**
KRMR	**Karymshinskiy**	**4.91**	**22**	PN	**Pn**	**14 35 32.3**	**+0.2**
KRMR				S	**Sn**	**14 36 27.0**	**-0.6**
PEA0B	**Petropavlovsk-**	**5.07**	**18**	Pn	**Pn**	**14 35 34.6**	**+0.3**
PEA0B	**Petropavlovsk-**	**5.07**	**18**	*d i* PN	**Pn**	**14 35 35.3**	**+1.0**
PETK	**Petropavlovsk-**	**5.07**	**18**	Pn	**Pn**	**14 35 34.1**	**-0.2**
PETK	**Petropavlovsk-**	**5.07**	**18**	P	**Pn**	**14 35 34.5**	**+0.1**
	comp=E,123nm,0.6s,baz=187,slow=12,SNR=271						
PETK				S	**Sn**	**14 36 33.4**	**+1.8**
	comp=E,50nm,0.8s,baz=201,slow=23,SNR=1.7						
PETK				LR	LR	14 37 49.1	
	comp=E,2μm,19.1s,baz=191,slow=41						
PET	**Petropavlovsk**	**5.22**	**24**		**Pn**	**14 35 35.7**	**-0.7**
PET	**Petropavlovsk**	**5.22**	**24**	*e*P	**Pn**	**14 35 35.8**	**-0.5**
PET				*e*S	**Sn**	**14 36 34.2**	**-1.1**
PET	**Petropavlovsk**	**5.22**	**24**	*e*P	**Pn**	**14 35 36.1**	**-0.3**
PET				AMB	AMB	14 35 36.4	
	comp=E,100nm,0.8s						
PET				*e*S	**Sn**	**14 36 34.6**	**-0.7**
PET				A	A	14 36 46.1	
	comp=E,420nm,0.6s						
PET				A	A	14 36 46.1	
	comp=E,340nm,0.6s						
PET	**Petropavlovsk**	**5.22**	**24**	*e*PN	**Pn**	**14 35 36.0**	**-0.3**
PET				*e*S	**Sn**	**14 36 34.4**	**-0.9**
PET				pmax	pmax		
	comp=Z,126nm,0.7s						
PET				smax	smax		
	comp=E,431nm,0.7s						
PET				smax	smax		
	comp=N,522nm,0.6s						
PET				MLR	MLR		
	comp=Z,500nm,14.0s						
INSR	**Institute**	**5.25**	**24**	*e*P	**Pn**	**14 35 36.6**	**-0.1**
INSR				*e*S	**Sn**	**14 36 35.7**	**-0.3**
INSR	**Institute**	**5.25**	**24**	PN	**Pn**	**14 35 36.6**	**-0.1**
INSR				S	**Sn**	**14 36 35.6**	**-0.3**
DALK	**Dalny**	**5.26**	**25**	*e*P	**Pn**	**14 35 36.3**	**-0.5**
DALK				*e*S	**Sn**	**14 36 35.5**	**-0.7**
DALK	**Dalny**	**5.26**	**25**	*i* P	**Pn**	**14 35 36.5**	**-0.4**
DALK				*e*S	**Sn**	**14 36 35.6**	**-0.5**
DALK	**Dalny**	**5.26**	**25**	PN	**Pn**	**14 35 36.3**	**-0.5**
DALK				S	**Sn**	**14 36 35.4**	**-0.7**
UGLR	**Uglovaya**	**5.44**	**24**	*e*P	**Pn**	**14 35 39.4**	**0.0**
UGLR	**Uglovaya**	**5.44**	**24**	PN	**Pn**	**14 35 39.4**	**0.0**
KOK	**Koryaka**	**5.46**	**23**	*e*P	**Pn**	**14 35 40.7**	**+0.9**
KOK	**Koryaka**	**5.46**	**23**	PN	**Pn**	**14 35 40.6**	**+0.9**
AVH	**Avacha**	**5.46**	**24**	*e*P	**Pn**	**14 35 40.5**	**+0.7**
AVH	**Avacha**	**5.46**	**24**	PN	**Pn**	**14 35 40.4**	**+0.7**
SMAR	**Somma**	**5.48**	**24**	*e*P	**Pn**	**14 35 40.0**	**-0.1**
SMAR	**Somma**	**5.48**	**24**	PN	**Pn**	**14 35 40.0**	**-0.1**
KRER	**Koryakskii**	**5.50**	**24**	*e*P	**Pn**	**14 35 40.9**	**+0.5**
KRER	**Koryakskii**	**5.50**	**24**	PN	**Pn**	**14 35 40.9**	**+0.5**
SDLR	**Sedlovina**	**5.51**	**24**	*e*P	**Pn**	**14 35 40.5**	**-0.1**
SDLR	**Sedlovina**	**5.51**	**24**	PN	**Pn**	**14 35 40.4**	**-0.1**
KRX	**Arik**	**5.53**	**23**	*e*P	**Pn**	**14 35 41.3**	**+0.7**
KRX	**Arik**	**5.53**	**23**	PN	**Pn**	**14 35 41.3**	**+0.7**
NLC	**Nalytchevo**	**5.56**	**28**	*e*P	**Pn**	**14 35 38.8**	**-2.1**
NLC				*e*S	**Sn**	**14 36 39.3**	**-4.1**
NLC	**Nalytchevo**	**5.56**	**28**	PN	**Pn**	**14 35 38.8**	**-2.1**
GNL	**Ganaly**	**5.67**	**17**	*e*P	**Pn**	**14 35 43.6**	**+0.9**
GNL	**Ganaly**	**5.67**	**17**	PN	**Pn**	**14 35 43.6**	**+0.9**
SPN	**Mys Shipunski**	**5.72**	**31**	*e*P	**Pn**	**14 35 41.5**	**-1.7**
SPN				*e*S	**Sn**	**14 36 44.3**	**-3.1**
SPN	**Mys Shipunski**	**5.72**	**31**	PN	**Pn**	**14 35 41.4**	**-1.7**
KUR	**Kuril'sk**	**5.84**	**241**	*i* P	**Pn**	**14 35 47.7**	**+2.8**
KUR				AMB	AMB	14 35 47.9	
	comp=Z,810nm,0.4s						
KUR				*e*S	**Sn**	**14 36 52.0**	**+1.5**
KUR				A	A	14 36 59.9	
	comp=Z,2μm,0.8s						
KUR				A	A	14 36 59.9	
	comp=Z,1μm,0.8s						
KUR				A	A	14 37 01.5	
	comp=Z,4μm,2.0s						
KUR				A	A	14 37 01.5	
	comp=Z,5μm,2.0s						
KUR	**Kuril'sk**	**5.84**	**241**	*e*PN	**Pn**	**14 35 47.2**	**+2.3**
KUR				*i* S	**Sn**	**14 36 52.9**	**+2.4**
KUR				pmax	pmax		
	comp=Z,596nm,0.7s						
KUR				pmax	pmax		
	comp=N,152nm,0.3s						
KUR				pmax	pmax		
	comp=E,161nm,0.3s						
KUR				smax	smax		
	comp=N,654nm,0.5s						
KUR				smax	smax		
	comp=E,475nm,0.4s						
KUR				smax	smax		
	comp=E,5μm,2.0s						
KUR				smax	smax		
	comp=N,4μm,2.3s						
SHO	**Shikotan**	**7.26**	**235**	*e*P	**Pn**	**14 36 02.7**	**-1.7**
SHO				*e*S	**Sn**	**14 37 20.4**	**-5.1**
SHO	**Shikotan**	**7.26**	**235**	*e*P	**Pn**	**14 36 02.5**	**-1.9**
SHO				AMB	AMB	14 36 03.2	
	comp=N,130nm,0.4s						
SHO				*e*S	**Sn**	**14 37 19.7**	**-5.7**
SHO				A	A	14 37 26.8	
	comp=N,360nm,0.4s						
SHO				A	A	14 37 26.8

comp=N,500nm,3.1s
TYV smax smax
comp=E,800nm,3.1s
TYV smax smax
comp=N,37nm,1.1s
TYV smax smax
comp=E,45nm,1.1s
UGL Uglegorsk 8.65 280 *e*PN Pn 14 36 34.0 +11
UGL pmax pmax
comp=Z,280nm,1.0s
KBTR Krutoberegovo 9.21 28 *e*P **Pn 14 36 29.1 -1.9**
KBTR Krutoberegovo 9.21 28 PN **Pn 14 36 29.0 -1.9**
OKH Okha 9.28 309 *de*PN **Pn 14 36 29.4 -2.6**
OKH MLR MLR
comp=Z,1µm,13.0s
OKH MLR MLR
comp=E,2µm,15.0s
JKA Kamikawa-asahi 9.62 249 Pn **Pn 14 36 38.5 +1.8**
ASAJ Asahikawa 9.62 249 P **Pn 14 36 39.4 +2.7**
comp=E,193nm,0.8s,baz=75,slow=13,SNR=40
ASAJ LR LR 14 40 00.8
comp=E,1µm,19.7s,baz=42,slow=35
ERM Erimo 10.52 238 *ce*PN **Pn 14 36 48.5 -0.4**
MA2 Magadan 11.55 349 P **Pn 14 37 01.6 -1.4**
comp=E,7.4nm,0.6s,baz=162,slow=10,SNR=5.6
MA2 LR LR 14 42 04.6
comp=E,892nm,18.2s,baz=180,slow=40
GRNR Gornyy 12.37 288⇑ *i*PN **Pn 14 37 16.3 +2.1**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=E,660nm,15.0s
GRNR MLR MLR
comp=N,470nm,14.0s
GRNR MLR MLR
comp=Z,780nm,14.0s
SHEM Shemya Is, Ala 12.87 63 P **Pn 14 37 19.6 -1.4**
comp=Z,51nm,0.6s,baz=293,slow=22,SNR=1.9
SHEM LR LR 14 42 53.7
comp=Z,232nm,19.1s,baz=282,slow=39
SEY Seymchan 14.72 355 P **Pn 14 37 44.5 -1.5**
comp=Z,5.5nm,0.9s,baz=32,slow=23,SNR=3.6
SEY Seymchan 14.72 355 *e*P **Pn 14 37 44.9 -1.1**
SEY pmax pmax
comp=Z,27nm,1.5s
KLR Kul'dur 15.40 282 P **P 14 37 58.1 -0.8**
comp=Z,12nm,0.7s,baz=83,slow=12,SNR=17
KLR LR LR 14 44 10.8
comp=Z,679nm,18.4s,baz=82,slow=39
USRK Ussuriysk Ar. 16.48 264 Pn **Pn 14 38 06.8 -2.0**
USRK Ussuriysk Ar. 16.48 264 P **Pn 14 38 09.0 +0.3**
comp=Z,35nm,0.7s,baz=62,slow=12,SNR=43
VLA Vladivostok 16.99 261 *e*P **Pn 14 38 16.1 +1.0**
VLA Vladivostok 16.99 261⇓ *e*P **Pn 14 38 16.1 +1.0**
VLA pmax pmax
comp=Z,78nm,1.6s
MJAR Matsushiro Arr 17.10 233 P **Pn 14 38 13.8 -2.7**
comp=Z,12nm,0.8s,baz=29,slow=13,SNR=28
MJAR LR LR 14 45 25.6
comp=Z,312nm,21.6s,baz=37,slow=39
MJB9 Matsu-Tunnel 17.10 233 P **Pn 14 38 13.5 -3.0**
MAJO Matsushiro 17.10 233 **Pn 14 38 13.5 -3.0**
MAJO Matsushiro 17.10 233 *d i*P **Pn 14 38 13.9 -2.6**
MAJO pmax pmax
comp=Z,15nm,0.7s
MSHR Mys Shultsa 17.71 260⇓ *e*P **Pn 14 38 24.3 +0.3**
MSHR pmax pmax
comp=Z,37nm,0.9s
PSTR Posyet 17.91 261 *d i*P **Pn 14 38 27.0 +0.5**
MDJ Mudanjiang 17.92 268 P **Pn 14 38 26.5 -0.1**
MDJ Mudanjiang 17.92 268 P **Pn 14 38 26.8 +0.2**
MDJ pP pP 14 38 36.0 -1.3
MDJ sS S 14 41 57.3 +7.3
MDJ PcS **PcS 14 46 39.0 +2.3**
MDJ pmax pmax
comp=Z,31nm,1.1s
HEH HeiHe 18.12 287 *e*P **Pn 14 38 29.8 +0.8**
HEH pmax pmax
comp=Z,83nm,1.1s
HEH LR LR
comp=Z,800nm,19.1s
HEH LR LR
comp=Z,940nm,21.6s
HEH LR LR
comp=Z,1µm,19.9s
JGF Kuroka 18.26 232 P **P 14 38 29.3 -1.3**
ZEA Zeya 18.26 298 *e*P **Pn 14 38 33.1 +2.4**
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=E,500nm,14.0s
ZEA MLR MLR
comp=Z,700nm,14.0s
INU Inuyama 18.63 233 P **P 14 38 34.8 +0.2**
YAK Yakutsk 19.79 323 **P 14 38 47.7 +0.6**
YAK IAmb IAmb 14 38 49.9
comp=Z,82nm,0.8s
YAK Yakutsk 19.79 323 P **P 14 38 45.6 -1.4**
comp=Z,78nm,0.8s,baz=332,slow=0.8,SNR=25
YAK LR LR 14 46 13.3
comp=Z,437nm,20.7s,baz=106,slow=36
YAK Yakutsk 19.79 323 *e*P **Pn 14 38 48.2 -0.7**
YAK Yakutsk 19.79 323 *e*P **Pn 14 38 48.1 -0.8**
YAK *e*S **Sn 14 42 29.7 -0.4**
YAK pmax pmax
comp=Z,75nm,0.9s
YAK pmax pmax
comp=N,16nm,1.2s
YAK pmax pmax
comp=E,40nm,1.4s
YAK smax smax
comp=E,109nm,2.5s
YAK smax smax
comp=N,101nm,1.6s
BILL Biiibino 20.57 12 *de*P **P 14 38 53.1 -2.4**
BILL pmax pmax
comp=Z,14nm,1.0s
BILL MLR MLR
comp=Z,288nm,16.0s
CN2 Changchun 20.99 269 *e*P **P 14 38 58.3 -1.9**
CN2 *e*S **S 14 42 44.3 -7.1**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 LR LR
comp=Z,210nm,13.0s
CN2 LR LR
comp=Z,320nm,13.0s
KSRS Korea Array 22.56 251 P **P 14 39 17.1 +0.1**
comp=Z,16nm,0.9s,baz=53,slow=10.0,SNR=23
KSRS LR LR 14 47 32.1
comp=Z,451nm,18.5s,baz=50,slow=35
comp=Z,16nm,0.9s
KS19 Wonju Array Si 22.56 251 P **P 14 39 16.8 -0.4**
KSAR Wonju Array Be 22.59 251 P **P 14 39 16.4 -1.0**
KSAR Wonju Array Be 22.59 251 P **P 14 39 16.4 -1.0**
TJN Taejon 23.57 250 P **P 14 39 28.2 +0.9**
TJN Taejon 23.57 250 P **P 14 39 28.2 +0.9**
TJN pmax pmax
comp=Z,190nm,0.8s
JNU Nakatsue 23.68 239 P **P 14 39 29.9 +1.6**
JNU IAmb IAmb 14 39 54.0
comp=Z,34nm,1.2s
JNU Nakatsue 23.68 239 LR LR 14 49 52.0
comp=Z,169nm,19.4s,baz=48,slow=39
M11K Mekoryuk 25.18 47 P **P 14 39 42.0 +0.2**
baz=259
DL2 Dalian 25.81 261 P **P 14 39 50.3 +2.6**
DL2 *e*S **S 14 44 17.8 +3.9**
DL2 pmax pmax
comp=Z,65nm,1.2s
DL2 LR LR
comp=Z,350nm,21.2s
DL2 LR LR
comp=Z,390nm,22.3s
DL2 LR LR
comp=Z,940nm,23.5s
TNA Tin City 25.98 35 P **P 14 39 49.0 +0.1**
baz=247
K13K Kusilvak Mount 26.23 44 P **P 14 39 51.7 +0.4**
baz=258
TIXI Tiksi 26.36 342 LR LR 14 51 27.7
comp=Z,465nm,18.6s,baz=162,slow=39
TIXI Tiksi 26.36 342⇑ *e*P **P 14 39 50.8 -1.6**
TIXI pmax pmax
comp=Z,6.0nm,0.9s
TIXI MLR MLR
comp=Z,427nm,16.0s
XLT XiLinHaoTe 27.19 275 *e*P **P 14 40 01.0 +0.8**
XLT pmax pmax
comp=Z,14nm,0.8s
XLT pmax pmax
comp=Z,110nm,5.6s
XLT LR LR
comp=Z,450nm,20.0s
XLT LR LR
comp=Z,460nm,18.4s
F15K North Star Dit 27.30 36 P **P 14 40 01.4 +0.5**
baz=250
M14K Bethel 27.30 47 P **P 14 40 01.8 +0.9**
baz=263
G15K Niukluk 27.31 37 P **P 14 40 00.7 -0.2**
baz=252
N14K Kuskokwak Cree 27.34 49 P **P 14 40 01.7 +0.4**
baz=265
O14K Tigyukauivet M 27.50 50 P **P 14 40 02.6 -0.1**
baz=266
L15K Ungalak Mounta 27.66 45 P **P 14 40 03.6 -0.5**
baz=261
K15K Wolf Creek Mou 27.74 44 P **P 14 40 05.2 +0.3**
baz=260
M15K Kasigluk River 27.92 47 P **P 14 40 06.5 +0.1**
baz=264
C16K Lisburne Hills 28.03 30 P **P 14 40 06.8 -0.5**
baz=245
G16K Koyuk River 28.10 37 P **P 14 40 07.6 -0.5**
baz=254
N15K Kwethluk River 28.16 48 P **P 14 40 08.4 -0.3**
baz=266
O15K Ungalikthiuk R 28.24 50 P **P 14 40 08.7 -0.6**
baz=268
J16K Anvik River 28.34 42 P **P 14 40 10.2 +0.1**
baz=259
CHNA Chernabura Isl 28.49 60 P **P 14 40 11.6 0.0**
baz=276
D17K Noatak River 28.59 32 P **P 14 40 11.9 -0.4**
baz=249
L16K Owhat River 28.62 45 P **P 14 40 12.2 -0.4**
baz=263
RDOG Red Dog Mine 28.78 32 P **P 14 40 13.5 -0.6**
baz=248
M16K Timber Creek 28.79 47 P **P 14 40 14.5 +0.3**
baz=265
G17K Kiwalik Mounta 28.82 37 P **P 14 40 14.5 +0.1**
baz=255
E17K Hotham Inlet 28.83 34 P **P 14 40 14.3 -0.2**
baz=251
N16K Nishlik Lake 28.84 48 P **P 14 40 14.5 -0.2**
baz=266
F17K Baldwin Pennin 28.84 35 P **P 14 40 14.2 -0.4**
baz=253
C17K DeLong Mountai 28.85 31 P **P 14 40 14.3 -0.3**
baz=247
H17K Granite Mounta 28.98 38 P **P 14 40 16.1 +0.2**
baz=257
CHGN Chignik 29.03 56 P **P 14 40 16.5 +0.2**
baz=274
J17K VABM Dome 29.04 42 P **P 14 40 15.9 -0.5**
baz=261
O16K Kokwok River B 29.14 50 P **P 14 40 17.6 +0.3**
baz=268
P16K Nushagak River 29.18 51 P **P 14 40 17.8 +0.1**
baz=270
L17K Donlin 29.22 44 P **P 14 40 18.0 0.0**
baz=264
K17K Iditarod 29.29 43 P **P 14 40 18.0 -0.6**
baz=263
E18K Tukpahlearik C 29.39 33 P **P 14 40 19.1 -0.3**
baz=252
F18K Selawik 29.50 35 P **P 14 40 20.0 -0.4**
baz=254
M17K Holitna River 29.56 46 P **P 14 40 20.5 -0.4**
baz=266
C18K Utukok River 29.59 31 P **P 14 40 21.4 +0.1**
baz=249
N17K Nushagak Hills 29.63 48 P **P 14 40 21.9 +0.3**
baz=268
O17K Koliganek Bris 29.65 49 P **P 14 40 21.9 +0.1**
baz=269
B18K Kokolik River 29.65 29 P **P 14 40 21.7 -0.1**
baz=247
H18K Honhosa River 29.67 38 P **P 14 40 22.1 +0.1**
baz=258
G18K Tagagawik 29.72 37 P **P 14 40 22.0 -0.3**
baz=267
Q16K King Salmon 29.88 51 P **P 14 40 23.4 -0.4**
baz=271
JOW Kunigami 29.93 234 LR LR 14 54 23.5
comp=Z,100nm,18.2s,baz=33,slow=40
L18K Granite Mounta 29.98 44 P **P 14 40 23.7 -1.0**
baz=265
H11N2 WAKE ISLAND Hy 30.08 157 T T 15 12 11.8
baz=344,slow=74
H11N1 WAKE ISLAND Hy 30.09 157 T T 15 12 11.6
baz=344
H11N3 WAKE ISLAND Hy 30.10 157 T T 15 12 57.3
baz=344,slow=74
J18K Innoko River 30.10 42 P **P 14 40 25.6 -0.2**
baz=263
GCSA Galena City Sc 30.22 39 P **P 14 40 26.6 -0.1**
baz=261
N18K Kilae Creek 30.27 47 P **P 14 40 27.4 +0.1**
baz=269
F19K Shaleruckik Mo 30.29 35 P **P 14 40 28.0 +0.7**
baz=256
Q17K Contact Creek 30.29 52 P **P 14 40 27.9 +0.3**
baz=273
C19K Lookout Ridge 30.29 30 P **P 14 40 27.5 0.0**
baz=250
M18K Stony River 30.34 46 P **P 14 40 28.1 +0.2**
baz=267
TTA Tatalina 30.36 43 P **P 14 40 27.9 -0.3**
baz=265
G19K Purcell Mounta 30.40 37 P **P 14 40 28.8 +0.4**
G19K Purcell Mounta 30.40 37 P **P 14 40 27.9 -0.5**
baz=258
H19K Roundabout Mou 30.53 38 P **P 14 40 30.2 +0.7**
H19K IAmb IAmb 14 40 31.5
comp=Z,21nm,0.9s
H19K Roundabout Mou 30.53 38 P **P 14 40 29.5 -0.1**
baz=260
P18K Big Mountain, 30.60 50 P **P 14 40 30.0 -0.3**
baz=271
O18K Koktuh Hills 30.60 49 P **P 14 40 30.4 +0.1**
baz=271
D19K Kuna River 30.61 32 P **P 14 40 29.4 -0.9**
baz=253
CHIR Chirikof Islan 30.64 57 P **P 14 40 30.3 -0.2**
baz=277
E19K Redstone River 30.64 34 P **P 14 40 30.3 -0.3**
baz=256
J19K Poorman 30.65 41 P **P 14 40 30.5 -0.1**
baz=263
Q18K Katmai Hardscr 30.74 51 P **P 14 40 31.0 -0.6**
baz=273
N19K Bonanza Creek 30.96 47 P **P 14 40 33.9 +0.4**
baz=270
O19K Port Alsworth 31.05 48 P **P 14 40 34.4 +0.3**
baz=271
R18K Karluk 31.10 54 P **P 14 40 34.8 +0.2**
baz=275
F20K Avaraart Lake 31.12 35 P **P 14 40 34.4 -0.3**
baz=258
H20K Anotleneega Mo 31.17 38 P **P 14 40 35.3 +0.1**
baz=261
D20K Etivluk River 31.20 32 P **P 14 40 35.2 -0.2**
baz=254
H11S1 WAKE ISLAND Hy 31.20 158 T T 15 13 31.9
baz=344,slow=76,SNR=2912
HNS HongShan 31.21 265⇑ P **P 14 40 37.5 +1.7**
HNS pmax pmax
comp=Z,16nm,1.1s
HNS LR LR
comp=Z,300nm,16.7s
HNS LR LR
comp=Z,320nm,15.1s
HNS LR LR
comp=Z,350nm,20.7s
H11S3 WAKE ISLAND Hy 31.21 158 T T 15 13 32.5
baz=344,slow=76,SNR=3850
H11S2 WAKE ISLAND Hy 31.22 158 T T 15 13 33.2
baz=344,slow=76,SNR=2940
E20K Nigu River 31.23 33 P **P 14 40 35.4 -0.4**
baz=256
I20K Naaghedeneel 31.24 40 P **P 14 40 35.8 0.0**
baz=263
K20K Telida 31.27 42 P **P 14 40 36.1 0.0**
baz=266
L20K Farewell, AK 31.30 44 P **P 14 40 35.8 -0.6**
baz=267
J20K Nowinta River 31.31 41 P **P 14 40 36.2 -0.2**
baz=264
SII Sitkinak Islan 31.35 55 P **P 14 40 36.6 -0.2**
baz=277
B20K Meade River 31.40 29 IAmb IAmb 14 40 40.1
comp=Z,16nm,0.8s
B20K Meade River 31.40 29 P **P 14 40 36.2 -0.9**
baz=252
HHC Hu-ho-hao-te 31.53 273 *e*P **P 14 40 40.5 +1.7**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.6s
HHC LR LR
comp=Z,370nm,16.9s
HHC LR LR
comp=Z,310nm,15.9s
HHC LR LR
comp=Z,430nm,17.3s
P19K Oil Pt 31.61 49 P **P 14 40 38.8 -0.3**
baz=273
M20K Styx River 31.63 45 P **P 14 40 39.1 -0.3**
baz=269
ULN Ulaanbaatar 31.67 288 *e*P **P 14 40 39.4 -0.6**
ULN Ulaanbaatar 31.67 288⇑ *e*P **P 14 40 39.4 -0.6**
ULN pmax pmax
comp=Z,3.0nm,0.7s
IMAR Indian Mountai 31.71 37 P **P 14 40 39.9 0.0**
NJ2 Nanjing 31.74 253 *e*P **P 14 40 40.3 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
OHAK Old Harbor 31.76 54 P **P 14 40 40.0 -0.4**
baz=276
G21K Allakaket 31.89 36 P **P 14 40 40.9 -0.5**
baz=261
O20K Slope Mountain 31.90 49 P **P 14 40 41.9 +0.1**
baz=272
C21K Knifeblade Rid 31.95 31 P **P 14 40 41.6 -0.5**
baz=256,SNR=5.6
F21K Alatna River 32.01 35 P **P 14 40 42.0 -0.6**
baz=260
H21K Melozitna Rive 32.05 38 IAmb IAmb 14 40 44.9
comp=Z,15nm,0.9s
H21K Melozitna Rive 32.05 38 P **P 14 40 41.8 -1.1**
baz=263
E21K Killik River 32.07 33 P **P 14 40 42.2 -0.9**
baz=258
N20K Mount Spurr 32.07 47 P **P 14 40 42.4 -0.9**
baz=271
SPCR Spurr Chakacha 32.07 47 P **P 14 40 42.5 -0.8**
baz=271
KDAK Kodiak Island 32.08 53 LR LR 14 56 57.1
comp=Z,112nm,18.0s,baz=107,slow=42
KDAK Kodiak Island 32.08 53 P **P 14 40 41.2 -2.0**
baz=276
CHUM Lake Minchumin 32.09 41 P **P 14 40 41.9 -1.3**
baz=266
SONM Songino Array 32.10 288 P **P 14 40 42.8 -0.9**
comp=Z,2.4nm,1.0s,baz=57,slow=9.2,SNR=6.6
SONM PcP **PcP 14 43 31.6 -0.4**
comp=Z,0.8nm,0.6s,baz=110,slow=2.0,SNR=2.3
SONM LR LR 14 54 52.8
comp=Z,764nm,18.5s,baz=65,slow=38
comp=Z,2.4nm,1.0s
PPLA Purkeypile 32.10 43 P **P 14 40 41.7 -1.9**
baz=269
Q20K Shuyak Island 32.10 51 P **P 14 40 41.6 -1.8**
baz=275
B21K Ikpikpuk River 32.13 30 P **P 14 40 42.2 -1.3**
baz=255,SNR=8.5
CAST Castle Rocks 32.17 42 P **P 14 40 43.6 -0.4**
baz=268
I21K Tanana 32.34 39 P **P 14 40 44.6 -0.8**
baz=265
SKT Skwentna 32.39 45 P **P 14 40 45.4 -0.6**
baz=270
A22K Sinclair Lake 32.41 28 P **P 14 40 45.4 -0.6**
baz=253
F22K John River 32.56 35 P **P 14 40 46.9 -0.5**
baz=261
D22K Ayikyak River 32.63 32 P **P 14 40 47.8 -0.2**
baz=258
H22K Ishtalitna Cre 32.66 38 P **P 14 40 48.4 +0.1**
baz=264
BTO Baotou 32.68 273 *e*P **P 14 40 50.5 +1.7**
BTO pP **pP 14 40 54.5 -6.2**
BTO PP **PnPn 14 41 56.5 -1.2**
BTO S **S 14 46 08.5 +6.6**
BTO pmax pmax
comp=Z,16nm,0.8s
BTO pmax pmax
comp=Z,300nm,3.9s
BTO LR LR
comp=Z,750nm,15.2s
BTO LR LR
comp=Z,480nm,12.2s
BTO LR LR
comp=Z,670nm,18.2s
BPAW Bear Paw Mtn. 32.69 41 IAmb IAmb 14 41 02.6
comp=Z,40nm,1.9s
BPAW Bear Paw Mtn. 32.69 41 P **P 14 40 47.3 -1.2**
baz=267
KTH Kantishna Hill 32.70 42 IAmb IAmb 14 41 01.9
comp=Z,31nm,1.2s
B22K Teshekpuk Lake 32.72 29 IAmb IAmb 14 40 49.9
comp=Z,15nm,0.8s
B22K Teshekpuk Lake 32.72 29 P **P 14 40 48.6 0.0**
baz=255
G22K Bettles 32.73 36 P **P 14 40 48.6 -0.2**
baz=262
SUA Susitna One 32.77 46 P **P 14 40 49.1 -0.3**
baz=272
E22K Anaktuvuk Pass 32.80 34 IAmb IAmb 14 40 51.0
comp=Z,10nm,0.8s
E22K Anaktuvuk Pass 32.80 34 P **P 14 40 49.7 +0.1**
baz=260,SNR=6.3
MLY Manley 32.85 39 P **P 14 40 50.1 +0.1**
baz=266
BRSE Bradley Lake S 32.86 49 P **P 14 40 49.8 -0.4**
baz=274
TRF Thorofare Moun 32.98 42 P **P 14 40 50.9 -0.4**
baz=269
M22K Willow 33.06 45 P **P 14 40 51.7 -0.1**
baz=272
RC01 Rabbit Creek A 33.27 47 P **P 14 40 53.6 -0.1**
baz=273
COLD Coldfoot 33.28 35 P **P 14 40 53.4 -0.3**
baz=263,SNR=10.0
G23K Bananza Creek 33.29 36 P **P 14 40 53.7 -0.1**
baz=264
D23K Nanushuk River 33.35 32 P **P 14 40 54.0 -0.3**
baz=260
H23K Yukon River 33.41 38 IAmb IAmb 14 40 57.2
comp=Z,13nm,1.0s
H23K Yukon River 33.41 38 P **P 14 40 54.4 -0.4**
baz=266
I23K Minto, Yukon-K 33.44 39 IAmb IAmb 14 41 07.6
comp=Z,30nm,1.5s
I23K Minto, Yukon-K 33.44 39 P **P 14 40 54.7 -0.3**
baz=267
SEW Seward 33.48 48 P **P 14 40 55.2 -0.2**
baz=275
C23K Itkillik River 33.54 31 IAmb IAmb 14 40 57.3
comp=Z,14nm,0.9s
C23K Itkillik River 33.54 31 P **P 14 40 55.2 -0.6**
baz=259
PMR Palmer 33.54 46 P **P 14 40 55.2 -0.7**
baz=273
NEA2 Nenana 33.54 40 P **P 14 40 55.6 -0.4**
baz=268,SNR=7.0
MCK McKinley 33.59 42 P **P 14 40 56.0 -0.4**
baz=270
E23K Chandalar 33.60 34 IAmb IAmb 14 40 58.8
comp=Z,14nm,1.0s
E23K Chandalar 33.60 34 P **P 14 40 56.5 -0.1**
baz=263,SNR=7.4
TOLK Toolik Lake Re 33.70 33 P **P 14 40 56.6 -0.7**
baz=262
WAT1 Susitna Watana 33.77 43 P **P 14 40 58.3 +0.3**

baz=272
KNK Knik Glacier 33.87 46 P P 14 40 58.7 -0.2
baz=274
SML Sawmill 33.91 45 P P 14 40 59.3 0.0
baz=273
WRH Wood River Hil 33.96 40 IAmb IAmb 14 41 30.0
comp=Z,37nm,1.7s
PWL Port Wells 33.97 47 P P 14 41 00.7 +0.9
baz=275
E24K Your Creek 34.03 34 IAmb IAmb 14 41 02.5
comp=Z,18nm,1.1s
E24K Your Creek 34.03 34 P P 14 41 00.7 +0.5
baz=264
D24K Happy Valley 34.04 32 P P 14 41 00.5 +0.3
baz=262
COLA College 34.07 40 P P 14 41 01.3 +0.9
COLA IAmb IAmb 14 41 02.5
comp=Z,19nm,0.8s
COLA College 34.07 40 P P 14 41 00.5 0.0
baz=269
COLA College 34.07 40⇑ iP P 14 41 01.1 +0.6
COLA pmax pmax
comp=Z,9.0nm,0.9s
COLA College 34.07 40 P P 14 41 01.4 +0.9
COLA pP pP 14 41 10.6 -1.6
CCB Clear Creek Bu 34.09 40 P P 14 41 01.5 +0.8
H24K Noodor Dome 34.09 38 P P 14 41 00.4 -0.3
baz=268,SNR=5.2
C24K Franklin Bluff 34.17 31 P P 14 41 01.7 +0.4
baz=261
F24K Squaw Lake 34.20 35 P P 14 41 01.9 +0.2
baz=265
M23K Glacier View 34.20 45 P P 14 41 01.4 -0.4
baz=274
POKR Poker Plat Res 34.26 39 P P 14 41 02.8 +0.6
baz=269,SNR=8.0
DHY Denali Highway 34.30 43 IAmb IAmb 14 41 15.0
comp=Z,19nm,1.2s
DHY Denali Highway 34.30 43 P P 14 41 02.6 -0.1
baz=272
G24K Hadweenzic Riv 34.30 37 IAmb IAmb 14 41 05.2
comp=Z,22nm,0.9s
G24K Hadweenzic Riv 34.30 37 P P 14 41 03.2 +0.7
baz=267,SNR=14
LYN LuoYang 34.33 262 eP P 14 41 05.0 +1.9
LYN pmax pmax
comp=Z,17nm,0.8s
LYN LR LR
comp=Z,330nm,12.2s
LYN LR LR
comp=Z,350nm,14.1s
LYN LR LR
comp=Z,410nm,14.3s
SCM Sheep Creek Mo 34.38 45 P P 14 41 03.5 +0.1
baz=274
HDA Harding Lake 34.46 41 P P 14 41 04.2 +0.3
baz=271
ILAR Eielson Array 34.48 40 P P 14 41 04.3 +0.2
comp=Z,3.1nm,0.8s,baz=256,slow=8.2,SNR=26
ILAR PcP PcP 14 43 37.6 -0.6
comp=Z,0.4nm,0.9s,baz=287,slow=4.3,SNR=2.1
ILAR LR LR 14 55 22.1
comp=Z,114nm,21.5s,baz=266,slow=36
comp=Z,3.1nm,0.8s
P23K Montague Islan 34.52 48 P P 14 41 04.1 -0.3
baz=277
GLI Glacier Island 34.58 47 P P 14 41 04.8 -0.2
baz=276
G25K Bearman Lake 34.85 36 P P 14 41 07.9 +0.7
baz=268
M24K Tolsona, Glenn 34.91 45 P P 14 41 08.2 +0.4
baz=275
D25K Kavik River 34.93 32 IAmb IAmb 14 41 19.4
comp=Z,17nm,0.8s
D25K Kavik River 34.93 32 P P 14 41 08.6 +0.6
baz=264
H25L Birch Creek 34.95 37 P P 14 41 08.8 +0.7
baz=269
K24K Donnelly Dome 34.99 42 P P 14 41 09.6 +1.0
baz=272
PRP Porcupine Dome 35.06 39 IAmb IAmb 14 41 11.4
comp=Z,12nm,0.9s
PRP Porcupine Dome 35.06 39 P P 14 41 09.3 +0.1
baz=270,SNR=5.2
F25K Christian Rive 35.06 35 P P 14 41 09.0 -0.2
baz=267
KLU Klutina 35.08 46 P P 14 41 09.2 -0.2
baz=276
J25K Salcha River, 35.14 40 P P 14 41 10.3 +0.4
baz=272
HARP HAARP 35.36 44 P P 14 41 11.6 -0.1
baz=275
RIDG Independent Ri 35.40 42 IAmb IAmb 14 41 23.9
comp=Z,23nm,1.1s
RIDG Independent Ri 35.40 42 P P 14 41 11.9 -0.3
baz=273
BMAR Burnt Mountain 35.47 35 P P 14 41 13.9 +1.3
C26K Camden Bay 35.50 31 P P 14 41 12.8 0.0
baz=265
F26K Sheenjek River 35.64 35 P P 14 41 14.1 0.0
baz=268
GUMO Guam 35.65 197 LR LR 14 52 19.0
comp=Z,143nm,20.5s,baz=14,slow=30
N25K Chitina, Valde 35.70 45 P P 14 41 13.4 -1.4
baz=277
G26K Porcupine Rive 35.77 36 P P 14 41 15.0 -0.1
baz=270
SCRK Sand Creek 35.77 41 P P 14 41 15.7 +0.3
SCRK IAmb IAmb 14 41 27.3
comp=Z,22nm,1.4s
SCRK Sand Creek 35.77 41 P P 14 41 15.2 -0.1
baz=274
BMRM Bremner River 35.77 46 P P 14 41 15.3 0.0
baz=278
C27K Jago River 35.89 32 IAmb IAmb 14 41 23.9
comp=Z,18nm,1.4s
C27K Jago River 35.89 32 P P 14 41 16.0 -0.2
baz=266
J26L Joseph Creek 35.92 40 P P 14 41 16.6 0.0
baz=274
L26K Log Cabin Wild 36.13 43 P P 14 41 17.0 -1.4
baz=276
M26K Nabesna, AK 36.36 44 IAmb IAmb 14 41 33.4
comp=Z,18nm,1.1s
M26K Nabesna, AK 36.36 44 P P 14 41 18.7 -1.6
baz=277
MCARA McCarthy VSAT 36.48 46 P P 14 41 20.2 -1.0
baz=278
CRQE Cirque 36.54 47 P P 14 41 22.0 +0.1
baz=279
G27K Doyon Strip 36.61 36 IAmb IAmb 14 41 26.4
comp=Z,27nm,1.9s
G27K Doyon Strip 36.61 36 P P 14 41 22.3 -0.1
baz=272
E27K Coleen River 36.61 34 IAmb IAmb 14 41 28.8
comp=Z,35nm,1.9s
E27K Coleen River 36.61 34 P P 14 41 23.2 +0.8
baz=270
I27K Kandik River 36.68 38 P P 14 41 22.1 -0.9
baz=274
H27K Steamboat Moun 36.68 37 P P 14 41 22.5 -0.6
baz=273
L27K Beaver Creek, 36.82 43 IAmb IAmb 14 41 37.4
comp=Z,23nm,1.1s
L27K Beaver Creek, 36.82 43 P P 14 41 24.0 -0.2
baz=277,SNR=8.9
BCAR Beaver Creek A 36.84 43 P P 14 41 25.6 +1.3
D27M Malcolm River 36.85 32 P P 14 41 24.6 +0.2
baz=269
M27K Edge Creek, AK 36.88 44 IAmb IAmb 14 41 38.6
comp=Z,18nm,1.1s
M27K Edge Creek, AK 36.88 44 P P 14 41 24.9 +0.1
baz=278
EGAK Eagle 36.94 40 IAmb IAmb 14 41 36.6
comp=Z,19nm,1.1s
EGAK Eagle 36.94 40 P P 14 41 25.5 +0.4
baz=275,SNR=8.7
XAN Xi'an 36.99 265 P P 14 41 27.0 +1.0
XAN pmax pmax
comp=Z,15nm,1.2s
XAN LR LR
comp=Z,480nm,14.9s
XAN LR LR
comp=Z,280nm,15.5s
XAN LR LR
comp=Z,450nm,15.5s
XAN Xi'an 36.99 265 P P 14 41 28.2 +2.3
F28M Old Crow 37.27 35 P P 14 41 27.3 -0.7
baz=272,SNR=8.9
BVCY Beaver Creek 37.34 44 P P 14 41 27.9 -0.7
baz=278
CTG Chitna Glacier 37.35 46 P P 14 41 28.2 -0.6
baz=280
E28M Babbage River 37.37 33 P P 14 41 28.7 0.0
baz=272
I28M Mirr Creek 37.39 39 IAmb IAmb 14 41 31.3
comp=Z,14nm,1.1s
I28M Miner Creek 37.39 39 P P 14 41 29.5 +0.4
baz=275,SNR=5.7
YUK3 Moose Creek 37.63 45 P P 14 41 31.4 +0.1
baz=280
D28M Stokes Point 37.64 32 P P 14 41 31.6 +0.6
baz=271
DAWY Dawson 37.78 41 P P 14 41 32.3 0.0
baz=278
O28M Mount Upton 37.94 46 P P 14 41 34.4 +0.4
baz=281
H29M Whitestone 37.96 37 IAmb IAmb 14 41 36.5
comp=Z,12nm,0.9s
H29M Whitestone 37.96 37 P P 14 41 33.5 -0.3
baz=276
E29M Blow River 37.98 34 IAmb IAmb 14 41 36.8
comp=Z,41nm,1.9s
E29M Blow River 37.98 34 P P 14 41 33.8 -0.1
baz=273
G29M Pine Creek 38.04 36 IAmb IAmb 14 41 37.6
comp=Z,18nm,1.1s
G29M Pine Creek 38.04 36 P P 14 41 34.3 -0.1
baz=275
PINM Pinnacle 38.04 47 P P 14 41 34.5 -0.1
baz=282
YUK8 Steele Glacier 38.04 45 P P 14 41 34.5 -0.3
baz=281
NRIK Noril'sk 38.12 328 LR LR 14 58 47.9
comp=Z,142nm,18.1s,baz=96,slow=39
J29N Klondike Camp 38.23 40 P P 14 41 34.7 -1.5
baz=278
M29M Somme Creek 38.44 43 P P 14 41 37.3 -0.6
baz=280
L29M L29M 38.48 42 P P 14 41 38.2 0.0
baz=280
EPYK Eagle Plains 38.61 37 IAmb IAmb 14 41 41.3
comp=Z,19nm,1.1s
EPYK Eagle Plains 38.61 37 P P 14 41 39.4 +0.2
baz=277,SNR=6.2
K29M Barlow Dome 38.62 41 IAmb IAmb 14 41 43.1
comp=Z,36nm,2.0s
K29M Barlow Dome 38.62 41 P P 14 41 39.0 -0.6
baz=279
G30M tAoh Zraii Nji 38.73 36 IAmb IAmb 14 42 45.6
comp=Z,39nm,1.8s
G30M tAoh Zraii Nji 38.73 36 P P 14 41 40.0 -0.3
baz=277
YUK6 Outpost Mounta 38.78 46 P P 14 41 40.4 -0.5
baz=282
O29M Mount Kennedy 38.81 47 P P 14 41 40.3 -0.9
baz=283
F30M Barrier River 38.83 35 P P 14 41 40.7 -0.4
baz=276
I30M Mount Dempster 38.90 39 P P 14 41 41.9 +0.1
baz=279
J30M Hart River 39.02 40 P P 14 41 42.2 -0.6
baz=280
M30M Minto, Yukon 39.18 43 P P 14 41 44.4 +0.3
baz=282
LZH Lanzhou 39.18 271 eP P 14 41 47.0 +2.4
LZH pP pP 14 41 53.8 -2.9
LZH sP sP 14 41 58.8 -3.1
LZH pmax pmax
comp=Z,22nm,1.1s
LZH LR LR
comp=Z,340nm,16.1s
LZH LR LR
comp=Z,370nm,16.1s
LZH LR LR
comp=Z,480nm,18.2s
HYT Haines Junctio 39.22 46 P P 14 41 45.0 +0.5
baz=283
MAYO Mayo, Yukon 39.38 41 P P 14 41 45.8 +0.1
baz=281
P29M Windy Craggy 39.38 48 P P 14 41 46.4 +0.6
baz=284
G31M Satah River 39.50 36 P P 14 41 47.5 +0.9
baz=278
INK Inuvik 39.60 34 P P 14 41 48.7 +1.3
comp=Z,4.0nm,0.7s,baz=295,slow=7.0,SNR=21
comp=Z,4.0nm,0.7s
INK Inuvik 39.60 34 P P 14 41 47.6 +0.2
baz=277,SNR=7.4
F31M Tsiigehtchic 39.63 35 P P 14 41 48.2 +0.5
baz=278,SNR=5.6
H31M Peel River 39.65 38 P P 14 41 48.5 +0.6
baz=280,SNR=5.2
N31M Braeburn, Yuko 39.88 44 P P 14 41 49.4 -0.5
baz=284
O30N Mendenhall 39.90 46 IAmb IAmb 14 42 03.6
comp=Z,21nm,1.1s
O30N Mendenhall 39.90 46 P P 14 41 49.4 -0.7
baz=284
GTA Gaotai 40.05 278 eP P 14 41 51.8 +0.1
GTA pP pP 14 41 59.8 -4.1
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA LR LR
comp=Z,240nm,17.8s
GTA LR LR
comp=Z,330nm,18.9s
GTA LR LR
comp=Z,560nm,17.1s
PLBC Pleasant Camp 40.10 48 P P 14 41 52.4 +0.6
baz=286
M31M Drury Creek, Y 40.35 43 P P 14 41 53.9 +0.1
baz=284
WHY Whitehorse 40.51 45 P P 14 41 56.6 +1.5
WHY IAmb IAmb 14 42 09.0
comp=Z,24nm,1.4s
WHY Whitehorse 40.51 45 P P 14 41 54.7 -0.5
baz=285
S31K Pelican 40.59 50 P P 14 41 55.7 0.0
baz=287
SKAG Skagway 40.61 47 P P 14 41 56.2 +0.3
baz=286
FARO Faro, Yukon 40.82 43 P P 14 41 57.1 -0.5
baz=285
R32K Eaglecrest 41.36 49 P P 14 42 02.1 -0.1
baz=288
P33M Teslin, Yukon 41.61 46 P P 14 42 05.4 +1.2
P33M Teslin, Yukon 41.61 46 P P 14 42 05.2 +0.9
baz=287
A36M Sachs Harbour 41.84 27 P P 14 42 05.8 0.0
A36M IAmb IAmb 14 42 18.0
comp=Z,15nm,0.8s
A36M Sachs Harbour 41.84 27 P P 14 42 06.2 +0.3
baz=280,SNR=11
Q32M Nakina River 42.26 47 P P 14 42 09.1 -0.6
baz=289
R33M Jennings River 42.76 46 IAmb IAmb 14 42 27.6
comp=Z,19nm,1.1s
R33M Jennings River 42.76 46 P P 14 42 14.1 +0.5
baz=289
C36M Paulatuk 42.78 31 P P 14 42 14.3 +0.8
C36M Paulatuk 42.78 31 P P 14 42 13.4 -0.1
baz=284
ZALV Zalesovo Beam 42.79 305 P P 14 42 12.2 -1.6
comp=Z,1.7nm,0.5s,baz=67,slow=7.5,SNR=9.3
ZALV PcP PcP 14 44 03.7 -0.6
comp=Z,2.6nm,0.8s,baz=57,slow=5.3,SNR=7.2
ZALV LR LR 15 00 35.4
comp=Z,274nm,20.5s,baz=78,slow=37
comp=Z,1.7nm,0.5s
U33K Whale Pass 42.80 52 P P 14 42 14.0 +0.2
baz=291
WRAK Wrangell Islan 43.09 51 P P 14 42 17.0 +0.8
baz=291
S34M Telegraph Cree 43.18 49 P P 14 42 17.4 +0.5
baz=291
GYA Guiyang 43.36 258 P P 14 42 19.0 +0.1
GYA pP pP 14 42 30.0 -1.1
GYA pmax pmax
comp=Z,15nm,0.8s
DLBC Dease Lake 43.54 47 IAmb IAmb 14 43 02.0
comp=Z,57nm,2.0s
DLBC Dease Lake 43.54 47 P P 14 42 21.2 +1.3
comp=Z,3.3nm,0.8s,baz=309,slow=10,SNR=6.9
comp=Z,3.3nm,0.8s
DLBC Dease Lake 43.54 47 P P 14 42 20.0 +0.1
baz=291
WTLY Watson Lake, Y 43.55 45 P P 14 42 19.3 -0.7
baz=290
V35K Ketchikan 43.89 52 P P 14 42 22.8 +0.2
baz=293
WRGLY Wrigley 44.86 39 IAmb IAmb 14 42 33.3
comp=Z,18nm,1.1s
WRGLY Wrigley 44.86 39 P P 14 42 29.6 -0.7
baz=291
LIRD Liard River Hi 45.08 45 P P 14 42 30.9 -1.2
baz=293
WMQ Urumqi 45.61 291 eP P 14 42 38.0 +1.4
WMQ pP pP 14 42 49.8 +0.9
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ LR LR
comp=Z,420nm,15.3s
WMQ LR LR
comp=Z,670nm,17.5s
WMQ LR LR
comp=Z,300nm,17.5s
TOAD Toad River Com 45.71 46 P P 14 42 36.2 -0.9
baz=294,SNR=8.1
KOTAN Kotaneelee Air 45.76 44 P P 14 42 37.4 0.0
baz=293
PZH PanZhiHua 46.56 262 P P 14 42 45.5 +1.2
PZH pmax pmax
comp=Z,9.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.1s
QIZ Qiongzhong 46.69 247 P P 14 42 45.3 0.0
QIZ S S 14 49 33.3 +1.6
QIZ LR LR
comp=Z,250nm,16.9s
QIZ LR LR
comp=Z,310nm,16.5s
QIZ LR LR
comp=Z,300nm,16.7s
BBB Bella Bella 47.11 55 LR LR 15 02 24.6
comp=Z,88nm,19.4s,baz=260,slow=36
MKAR Makanchi Array 47.41 297 P P 14 42 49.7 -0.9
comp=Z,7.0nm,0.7s,baz=70,slow=8.3,SNR=49
MKAR LR LR 15 04 13.0
comp=Z,321nm,19.1s,baz=38,slow=38
comp=Z,7.0nm,0.7s
MAKZ Makanchi 47.59 297 P P 14 42 50.7 -1.3
KURK Kurchatov 47.61 303 P P 14 42 51.1 -1.0
KURK Kurchatov 47.61 303 eP P 14 42 52.5 +0.4
KURK Kurchatov 47.61 303⇑ eP P 14 42 52.5 +0.4
KURK pmax pmax
comp=Z,6.0nm,0.8s
KURK MLR MLR
comp=Z,170nm,15.0s
KURBB Kurchatov Arra 47.71 303 P P 14 42 51.9 -0.9
comp=Z,2.7nm,0.2s,baz=68,slow=8.6,SNR=6.3
KURBB LR LR 15 03 56.0
comp=Z,377nm,19.7s,baz=147,slow=37
comp=Z,2.7nm,0.2s
ALE Alert 48.04 6 P P 14 42 54.8 -0.2
ALE pP pP 14 43 05.1 -2.2
ALE sP sP 14 43 09.8 -2.7
DAV Davao City (W) 48.12 221 LR LR 15 02 46.2
comp=Z,34nm,21.7s,baz=1.5,slow=35
SLVN Son La 48.75 255 P P 14 43 02.0 +0.8
SLVN IAmb IAmb 14 43 06.2
comp=Z,15nm,1.2s
YKA Yellowknife Ar 48.86 38 P P 14 43 00.8 -0.7
comp=Z,5.2nm,0.9s,baz=299,slow=8.1,SNR=11
comp=Z,5.2nm,0.9s
RES Resolute Bay 48.91 19 P P 14 43 02.6 +0.9
RES IAmb IAmb 14 43 04.3
comp=Z,6.6nm,0.8s
RES Resolute Bay 48.91 19 P P 14 43 01.7 0.0
comp=Z,6.0nm,0.8s,baz=313,slow=8.7,SNR=17
RES LR LR 15 06 03.4
comp=Z,145nm,19.8s,baz=356,slow=39
comp=Z,6.0nm,0.8s
TNCH TengChong 49.69 263 ⇑P P 14 43 09.5 +0.9
TNCH PP PP 14 45 00.8 -2.4
TNCH pmax pmax
comp=Z,14nm,1.0s
TNCH pmax pmax
comp=Z,140nm,4.6s
BVAR Borovoye Array 50.90 309 P P 14 43 16.1 -1.1
comp=Z,5.4nm,0.5s,baz=58,slow=7.6,SNR=35
BVAR PcP PcP 14 44 32.8 -0.2
comp=Z,1.9nm,0.7s,baz=60,slow=3.6,SNR=4.2
BVAR LR LR 15 06 43.8
comp=Z,434nm,18.0s,baz=63,slow=38
comp=Z,5.4nm,0.5s
BRVK Borovoye 50.93 309 P P 14 43 16.1 -1.3
BRVK IAmb IAmb 14 43 19.4
comp=Z,6.1nm,0.6s
BRVK Borovoye 50.93 309c iP P 14 43 16.6 -0.8
BRVK pmax pmax
comp=Z,5.0nm,0.6s
BRVK MLR MLR
comp=Z,416nm,19.0s
BRVK Borovoye 50.93 309 P P 14 43 16.5 -0.8
SPITS Spitsbergen Ar 51.30 350 LR LR 15 04 52.3
comp=Z,116nm,19.9s,baz=340,slow=36
JAY Jayapura 52.16 198 LR LR 15 02 59.4
comp=Z,76nm,21.7s,baz=323,slow=33
PHRA Phrae 53.17 256 P P 14 43 34.5 +0.1
SHL Shillong 53.74 269 IAmb IAmb 14 43 43.4
comp=Z,12nm,0.7s
CHTO Chiang Mai 53.78 257 P P 14 43 39.7 +0.8
CHTO IAmb IAmb 14 43 43.8
comp=Z,16nm,0.9s
CHTO Chiang Mai 53.78 257 P P 14 43 39.7 +0.8
CHTO pmax pmax
comp=Z,16nm,1.0s
B08A Colville Reser 53.90 55 IAmb IAmb 14 43 41.5
comp=Z,26nm,1.4s
CMAR Chiang Mai Arr 54.03 257 P P 14 43 41.2 +0.4
CMAR Chiang Mai Arr 54.03 257 P P 14 43 40.2 -0.6
comp=Z,5.9nm,0.8s,baz=31,slow=7.1,SNR=37
CMAR LR LR 15 07 40.5
comp=Z,144nm,19.6s,baz=35,slow=37
comp=Z,5.9nm,0.8s
CMAR Chiang Mai Arr 54.03 257 iP P 14 43 42.0 +1.2
CMAR pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 54.33 296 P P 14 43 42.4 -0.5
AAK Ala-Archa 54.33 296 LR LR 15 08 18.1
comp=Z,271nm,18.8s,baz=44,slow=38
AAK Ala-Archa 54.33 296 eP P 14 43 43.3 +0.4
AAK Ala-Archa 54.33 296⇓ eP P 14 43 43.3 +0.4
AAK pmax pmax
comp=Z,6.0nm,1.1s
AAK MLR MLR
comp=Z,87nm,16.0s
AAK Ala-Archa 54.33 296 P P 14 43 43.5 +0.6
ARTI Arti 54.86 318 LR LR 15 09 23.2
comp=Z,126nm,20.1s,baz=44,slow=38
ARTI Arti 54.86 318d iP P 14 43 44.5 -1.8
ARTI 14 44 46.0
ARTI S S 14 51 23.1 -0.8
ARTI SS SS 14 55 00.5 -6.4
ARTI pmax pmax
comp=Z,11nm,2.3s
NEW Newport 55.16 54 IAmb IAmb 14 43 50.6
comp=Z,22nm,1.6s
KSH Kashi 55.29 292 P P 14 43 54.8 +5.0
KSH pmax pmax
comp=Z,5.0nm,1.2s
E09A Wood Farm, Sta 55.63 57 IAmb IAmb 14 43 54.1
comp=Z,16nm,1.1s
YBH Yreka Blue Hor 55.83 64 LR LR 15 02 55.5
comp=Z,92nm,21.7s,baz=340,slow=31
I07A Izee 56.31 60 IAmb IAmb 14 45 18.7
comp=Z,30nm,1.8s
KKAR Karatay Array 56.41 299 P P 14 43 57.7 +0.1
KKAR Karatay Array 56.41 299 P P 14 43 57.7 +0.1
ARCES ARCESS Array B 56.80 341 P P 14 43 58.7 -1.3
comp=Z,4.8nm,0.9s,baz=36,slow=8.0,SNR=2.3
ARCES LR LR 15 13 43.2
comp=Z,271nm,18.8s,baz=41,slow=42
comp=Z,4.8nm,0.9s
KIRV Kirov 57.32 323 LR LR 15 11 14.4
comp=Z,118nm,19.1s,baz=35,slow=39
J08A Circle Bar Ran 57.34 60 IAmb IAmb 14 45 43.0
comp=Z,25nm,1.7s
HNR Honiara 57.66 174 LR LR 15 05 40.1
comp=Z,119nm,21.7s,baz=2.5,slow=32
MSO Missoula 57.75 54 P P 14 44 08.1 +0.9
MSO IAmb IAmb 14 44 09.6

comp=Z,24nm,1.4s
PMG Port Moresby 57.90 189 LR LR 15 04 25.0
comp=Z,76nm,21.5s,baz=1.0,slow=31
ABKAR Akbulak array 58.44 310 P **P** **14 44 10.9 -0.9**
ABKAR Akbulak array 58.44 310 IAmb IAmb 14 44 13.8
comp=Z,4.2nm,0.8s
AKTO Aktyubinsk 58.67 312 LR LR 15 14 19.0
comp=Z,112nm,18.9s,baz=220,slow=41
FFC Flin Flon 58.67 41 P **P** **14 44 14.6 +1.3**
FFC IAmb IAmb 14 44 15.8
comp=Z,12nm,1.0s
FFC Flin Flon 58.67 41 P **P** **14 44 14.6 +1.3**
FFC pmax pmax
comp=Z,12nm,1.0s
FFC Flin Flon 58.67 41 P **P** **14 44 14.8 +1.5**
FFC pP **pP** **14 44 26.1 +0.4**
FFC PcP **PcP** **14 45 04.1 +1.2**
CMB Columbia Colle 59.52 66 IAmb IAmb 14 44 22.1
comp=Z,12nm,1.4s
HLID Hailey 59.53 58 IAmb IAmb 14 44 22.6
comp=Z,17nm,1.4s
YERR Yerington 59.61 64 IAmb IAmb 14 44 23.1
comp=Z,22nm,1.6s
BMN Battle Mountai 59.90 62 IAmb IAmb 14 44 25.1
comp=Z,13nm,1.3s
SIMJ Simiganj 60.06 296 P **P** **14 44 22.9 -0.5**
SIMJ IAmb IAmb 14 44 25.4
comp=Z,9.8nm,1.0s
KVN Kaiserville 60.26 64 IAmb IAmb 14 44 27.4
comp=Z,12nm,1.3s
NVAR Mina Array Bea 60.53 64 P **P** **14 44 27.9 +1.2**
comp=Z,0.7nm,0.4s,baz=301,slow=6.1,SNR=6.3
comp=Z,0.7nm,0.4s
NIL Nilore 60.67 289 P **P** **14 44 28.0 +0.6**
NIL Nilore 60.67 289 P **P** **14 44 28.0 +0.6**
NIL pmax pmax
comp=Z,17nm,0.9s
ELK Elko 60.85 60 LR LR 15 08 09.7
comp=Z,51nm,21.8s,baz=317,slow=33
YNR Norris Junctio 60.85 54 IAmb IAmb 14 44 33.1
comp=Z,9.5nm,1.0s
YFT Old Faithful 60.94 55 IAmb IAmb 14 44 33.6
comp=Z,16nm,1.2s
YNE Yellowstone No 61.03 54 IAmb IAmb 14 44 32.9
comp=Z,14nm,1.1s
YMP Mirror Lake Pl 61.12 54 IAmb IAmb 14 44 34.0
comp=Z,14nm,1.3s
FLWY Flagg Ranch 61.26 55 IAmb IAmb 14 44 45.6
comp=Z,16nm,1.2s
DSP Deep Springs 61.42 65 IAmb IAmb 14 44 35.5
comp=Z,16nm,1.4s
MOOW Moose Ponds 61.45 55 IAmb IAmb 14 44 36.2
comp=Z,21nm,1.6s
KAPI Kappang 61.46 221 LR LR 15 11 20.5
comp=Z,18nm,21.3s,baz=66,slow=36
TPAW Teton Pass 61.50 56 IAmb IAmb 14 44 36.8
comp=Z,17nm,1.1s
SPUT South Promonto 62.09 58 IAmb IAmb 14 44 40.0
comp=Z,8.6nm,1.1s
R11B Troy Canyon, C 62.21 63 P **P** **14 44 37.5 -0.4**
baz=311,SNR=7.9
BELG Belogornoye 62.24 319 LR LR 15 14 17.3
comp=Z,79nm,18.2s,baz=45,slow=39
BELG Belogornoye 62.24 319⇑ *e*P **P** **14 44 36.7 -1.0**
BELG pmax pmax
comp=Z,2.0nm,1.2s
HWUT Hardware Ranch 62.40 58 IAmb IAmb 14 44 41.4
comp=Z,9.3nm,1.1s
SPR3 Spring Creek 3 62.52 61 IAmb IAmb 14 44 43.4
comp=Z,17nm,1.5s
TPNV Topopah Spring 62.73 64 IAmb IAmb 14 44 44.0
comp=Z,15nm,1.4s
PDAR Pinedale Array 62.75 56 P **P** **14 44 42.3 +0.7**
PDAR Pinedale Array 62.75 56 P **P** **14 44 42.4 +0.9**
comp=Z,6.1nm,0.9s,baz=307,slow=3.0,SNR=36
PDAR LR LR 15 12 53.9
comp=Z,24nm,20.2s,baz=310,slow=37
comp=Z,6.1nm,0.9s
GWY Greenwater Val 62.98 65 IAmb IAmb 14 44 45.5
comp=Z,18nm,1.5s
FRB Frobisher Bay 63.12 20 LR LR 15 13 09.9
comp=Z,130nm,21.8s,baz=301,slow=37
FINES FINESS Array B 63.18 335 P **P** **14 44 43.1 -0.7**
comp=Z,2.5nm,0.6s,baz=35,slow=6.3,SNR=15
FINES LR LR 15 14 31.1
comp=Z,312nm,20.7s,baz=26,slow=38
comp=Z,2.5nm,0.6s
SFJD Kangerlussuaq 63.36 11 LR LR 15 15 50.2
comp=Z,122nm,18.0s,baz=356,slow=39
CCUT Cedar City 64.05 62 IAmb IAmb 14 44 53.0
comp=Z,10nm,1.2s
SZCU Shurtz Canyon 64.18 62 IAmb IAmb 14 44 53.5
comp=Z,20nm,1.6s
Q16A Castle Valley 64.41 60 IAmb IAmb 14 44 55.3
comp=Z,16nm,1.3s
ULM Lac du Bonnet 64.46 42 P **P** **14 44 52.4 0.0**
comp=Z,3.4nm,0.8s,baz=305,slow=11,SNR=4.5
comp=Z,3.4nm,0.8s
LCMT Little Creek M 64.48 62 IAmb IAmb 14 44 55.8
comp=Z,9.9nm,1.1s
SRU San Rafael Swe 64.65 59 IAmb IAmb 14 44 56.5
comp=Z,14nm,0.9s
KNB Kanab 64.73 62 IAmb IAmb 14 44 57.7
comp=Z,13nm,1.1s
OBN Obninsk 64.76 326 LR LR 15 16 52.7
comp=Z,190nm,19.0s,baz=356,slow=40
OBN Obninsk 64.76 326 *e*P **P** **14 44 53.2 -1.0**
OBN *e**PP **pP** **14 45 08.6 +1.6**
OBN *e**SP **sP** **14 45 14.3 +2.2**
OBN *e* 14 45 26.3
OBN *e* 14 47 18.9
OBN *e*PPP PPP 14 48 50.9
OBN pmax pmax
comp=Z,4.0nm,1.0s
RSSD Black Hills 64.79 51 P **P** **14 44 56.0 +1.1**
RSSD Black Hills 64.79 51 P **P** **14 44 56.0 +1.1**
RSSD pmax pmax
comp=Z,22nm,0.7s
RSSD Black Hills 64.79 51 P **P** **14 44 56.0 +1.1**
RSSD pP **pP** **14 45 06.8 -0.6**
PFO Pinyon Flats O 64.83 67 LR LR 15 07 49.6
comp=Z,68nm,21.8s,baz=321,slow=31
U15A North Rim 65.44 62 IAmb IAmb 14 45 02.3
comp=Z,11nm,1.2s
AGMN Agassiz Nation 65.87 44 IAmb IAmb 14 46 57.6
comp=Z,28nm,1.8s
PSI Prapat 65.96 245 LR LR 15 14 41.6
comp=Z,33nm,20.1s,baz=16,slow=37
PSI Prapat 65.96 245 P **P** **14 45 02.7 0.0**
PSI pmax pmax
comp=Z,8.0nm,0.8s
N23A Red Feather La 66.00 55 P **P** **14 45 02.9 0.0**
baz=314
RPSI Rantau Prapat 66.04 245 P **P** **14 45 02.7 -0.4**
RPSI IAmb IAmb 14 45 04.7
comp=Z,7.6nm,0.8s
WUAZ Wupatki 66.61 63 IAmb IAmb 14 45 09.6
comp=Z,9.5nm,1.1s
NB2 NORSAR Subarra 67.16 342 P **P** **14 45 09.1 -0.6**
comp=Z,3.4nm,1.1s,baz=29,slow=6.5
NOA NORSAR Array B 67.16 342 P **P** **14 45 07.8 -1.9**
comp=Z,1.7nm,0.9s,baz=25,slow=6.4,SNR=4.3
NOA LR LR 15 19 59.6
comp=Z,134nm,18.3s,baz=30,slow=41
comp=Z,1.7nm,0.9s
BORG Borgarnes 67.24 358 LR LR 15 15 42.7
comp=Z,41nm,18.2s,baz=342,slow=37
HFS Hagfors 67.44 340 P **P** **14 45 09.6 -1.7**
comp=Z,2.9nm,0.8s,baz=5.0,slow=3.3,SNR=3.2
HFS LR LR 15 20 23.6
comp=Z,193nm,18.3s,baz=63,slow=41
comp=Z,2.9nm,0.8s
S22A 4UR Ranch, Cre 67.69 58 IAmb IAmb 14 45 16.8
comp=Z,17nm,1.2s
S22A 4UR Ranch, Cre 67.69 58 P **P** **14 45 14.0 +0.3**
baz=315,SNR=11
X18A Snowflake 68.13 62 IAmb IAmb 14 45 19.1
comp=Z,13nm,1.4s
MNK Minsk 68.31 330 *i* P **P** **14 45 17.6 +0.6**
comp=E,16nm,0.9s
MNK *i* P **P** **14 45 17.6 +0.6**
MNK *i* P **P** **14 45 17.6 +0.6**
comp=Z,5.0nm,0.9s,baz=35
MNK *i* pP **pP** **14 45 33.0 +3.2**
MNK *i* PP **PP** **14 47 49.6 +2.2**
MNK *i* PPP PPP 14 49 29.4
MNK *i* S **S** **14 54 16.6 +2.3**
MNK *i* sS **sS** **14 54 42.7 +7.0**
MNK *i* SS **SS** **14 58 41.9 +5.0**
MNK *i* SSS SSS 15 01 59.2
MNK *i* LQ LQ 15 10 46.1
MNK *i* LR LR 15 15 50.5
MNK *i* LRM MLR 15 17 59.8
comp=Z,129nm,18.4s
MNK *i* LRM MLR 15 18 14.5
comp=E,124nm,17.8s
MNK *i* LRM MLR 15 18 51.3
comp=N,163nm,21.4s
MNK Minsk 68.31 330 *i* P **P** **14 45 17.5 +0.6**
MNK *i* *PP **pP** **14 45 33.0 +3.2**
MNK *i* 14 47 49.6
MNK *i* PPP PPP 14 49 29.3
MNK *i* S **S** **14 54 16.5 +2.3**
MNK *i* *SS **sS** **14 54 42.6 +7.0**
MNK *i* SS **SS** **14 58 41.9 +5.0**
MNK pmax pmax
comp=Z,5.0nm,0.9s
MNK pmax pmax
comp=E,16nm,0.9s
MNK MLR MLR
comp=Z,129nm,18.0s
MNK MLR MLR
comp=E,124nm,18.0s
MNK MLR MLR
comp=N,163nm,21.0s
NACGM Naroch 68.35 331 *e*P **P** **14 45 17.4 +0.3**
MSVF Nonsavu 68.88 157 P **P** **14 45 22.7 +1.8**
MSVF IAmb IAmb 14 45 24.5
comp=Z,20nm,1.2s
MSVF Nonsavu 68.88 157 LR LR 15 10 49.9
comp=Z,130nm,20.9s,baz=4.9,slow=32
MSVF Nonsavu 68.88 157 P **P** **14 45 22.7 +1.8**
MSVF pmax pmax
comp=Z,20nm,1.3s
MSVF Nonsavu 68.88 157 P **P** **14 45 23.1 +2.1**
MSVF pP **pP** **14 45 33.3 +0.1**
TUC Tucson 69.18 65 P **P** **14 45 24.0 +1.1**
T25A Trinidad 69.48 57 IAmb IAmb 14 45 27.2
comp=Z,24nm,1.4s
T25A Trinidad 69.48 57 P **P** **14 45 24.3 -0.5**
baz=316
ANMO Albuquerque 69.88 60 P **P** **14 45 28.6 +1.3**
ANMO Albuquerque 69.88 60 LR LR 15 13 12.3
comp=Z,29nm,21.8s,baz=123,slow=33
ANMO Albuquerque 69.88 60 P **P** **14 45 28.6 +1.3**
ANMO pmax pmax
comp=Z,6.0nm,1.0s
ANMO Albuquerque 69.88 60 P **P** **14 45 28.8 +1.5**
ANMO pP **pP** **14 45 39.9 +0.2**
ANMO sP **sP** **14 45 45.1 +0.6**
WRAB Tennant Creek 70.44 201 P **P** **14 45 30.3 -0.1**
WRAB Tennant Creek 70.44 201 P **P** **14 45 30.3 -0.1**
WRAB pmax pmax
comp=Z,25nm,1.0s
WRA Warramunga Arr 70.45 201 P **P** **14 45 30.0 -0.4**
WRA Warramunga Arr 70.45 201 P **P** **14 45 31.0 +0.6**
comp=Z,16nm,0.9s,baz=18,slow=6.5,SNR=59
WRA LR LR 15 16 01.3
comp=Z,39nm,20.5s,baz=17,slow=35
comp=Z,16nm,0.9s
KIV Kislovodsk 70.65 315 *e*P **P** **14 45 30.1 -1.6**
KIV pmax pmax
comp=Z,6.0nm,1.1s
KBZ Khabaz 70.72 315 P **P** **14 45 28.9 -3.0**
comp=Z,1.7nm,0.8s,baz=183,slow=21,SNR=2.1
KBZ LR LR 15 20 09.9
comp=Z,201nm,19.3s,baz=37,slow=39
DZM Mont Dzumac 70.81 169 LR LR 15 09 55.7
comp=Z,116nm,20.9s,baz=18,slow=30
121A Cookes Peak, D 70.82 63 IAmb IAmb 14 45 36.0
comp=Z,31nm,1.8s
121A Cookes Peak, D 70.82 63 P **P** **14 45 32.8 -0.2**
baz=316
RTBA Rita Blanca 70.92 57 IAmb IAmb 14 45 34.8
comp=Z,6.2nm,0.7s
AKASG Malin Array Be 70.97 327 P **P** **14 45 32.3 -1.1**
comp=Z,1.2nm,0.5s,baz=33,slow=6.2,SNR=6.6
AKASG LR LR 15 19 09.2
comp=Z,168nm,19.5s,baz=34,slow=38
comp=Z,1.2nm,0.5s
AKBB Malin Array Si 70.97 327⇑ *e*P **P** **14 45 31.9 -1.5**
AKBB pmax pmax
comp=Z,11nm,1.5s
SCHQ Schefferville 71.33 24 P **P** **14 45 36.0 +0.5**
comp=Z,4.3nm,0.5s,baz=299,slow=5.5,SNR=12
SCHQ LR LR 15 19 08.8
comp=Z,63nm,20.8s,baz=319,slow=38
comp=Z,4.3nm,0.5s
ANN Anapa 72.40 319 *e*P **P** **14 45 40.6 -1.4**
ANN *e**PP **pP** **14 45 56.1 +1.1**
ANN *e*S **S** **14 55 01.3 -0.8**
ANN pmax pmax
comp=Z,192nm,1.2s
GNI Garni 72.52 311 LR LR 15 22 41.5
comp=Z,163nm,18.1s,baz=32,slow=40
MSTX Muleshoe 72.69 58 IAmb IAmb 14 45 46.3
comp=Z,17nm,1.0s
DKNS Dickens 73.96 57 IAmb IAmb 14 45 53.7
comp=Z,16nm,1.0s
AS31 Alice Springs 74.13 200 P **P** **14 45 53.4 +1.0**
ASAR Alice Springs 74.14 200 P **P** **14 45 53.6 +1.2**
ASAR Alice Springs 74.14 200 P **P** **14 45 53.8 +1.3**
comp=Z,7.9nm,0.9s,baz=12,slow=5.6,SNR=50
ASAR LR LR 15 16 22.0
comp=Z,28nm,21.9s,baz=30,slow=34
comp=Z,7.9nm,0.9s
ASAR Alice Springs 74.14 200 P **P** **14 45 53.6 +1.2**
KWP Kalwaria Pacla 74.14 330 P **P** **14 45 52.8 +0.5**
KWP Kalwaria Pacla 74.14 330 P **P** **14 45 52.8 +0.5**
KWP pmax pmax
comp=Z,45nm,0.7s
WMOK Wichita Mounta 74.36 55 IAmb IAmb 14 45 55.7
comp=Z,11nm,1.0s
MNHN Monahans 74.62 60 IAmb IAmb 14 45 57.0
comp=Z,10nm,0.9s
APMT Aspermont 74.66 57 IAmb IAmb 14 45 57.4
comp=Z,15nm,0.7s
STHS Stebnicka Huta 74.81 331 *e*P **P** **14 46 00.6 +4.4**
STHS Stebnicka Huta 74.81 331 *e*P **P** **14 46 00.6 +4.4**
ALPN Alpine 74.82 61 IAmb IAmb 14 45 58.8
comp=Z,40nm,1.9s
KOLS Kolonicke sedl 74.89 330 *e*P **P** **14 45 59.1 +2.5**
KOLS Kolonicke sedl 74.89 330 *e*P **P** **14 45 59.1 +2.5**
W35A Tecumseh 75.08 54 IAmb IAmb 14 45 59.8
comp=Z,20nm,1.0s
R40A Maddies Statio 75.09 49 IAmb IAmb 14 45 59.0
comp=Z,10nm,0.9s
EKA Eskdalemuir Ar 75.11 347 P **P** **14 45 57.6 -0.1**
comp=Z,2.7nm,0.6s,baz=20,slow=5.1,SNR=9.9
comp=Z,2.7nm,0.6s
RLO Rose Lookout 75.30 52 IAmb IAmb 14 46 00.7
comp=Z,18nm,1.1s
LPIG La Paz 75.32 70 LR LR 15 11 07.0
comp=Z,72nm,21.4s,baz=266,slow=29
TX31 Lajitas Ar. Si 75.56 62 IAmb IAmb 14 46 03.3
comp=Z,13nm,0.9s
TXAR Lajitas Array 75.56 62 P **P** **14 46 01.6 +0.7**
TXAR Lajitas Array 75.56 62 P **P** **14 46 02.2 +1.2**
comp=Z,8.1nm,0.7s,baz=298,slow=4.2,SNR=67
comp=Z,8.1nm,0.7s
TXAR Lajitas Array 75.56 62 P **P** **14 46 01.6 +0.7**
CLL Collm 75.57 337 *e*P **P** **14 46 01.0 +0.5**
CLL Collm 75.57 337 *e*P **P** **14 46 01.0 +0.5**
KRLC Kraliky 75.62 334 *e*P **P** **14 46 01.3 +0.5**
KRLC Kraliky 75.62 334 *e*P **P** **14 46 01.3 +0.5**
MORC Moravsky Berou 75.66 333 P **P** **14 46 01.2 +0.1**
MORC Moravsky Berou 75.66 333 P **P** **14 46 01.2 +0.1**
MORC pmax pmax
comp=Z,8.0nm,1.2s
SADO Sadowa 75.83 37 LR LR 15 21 01.5
comp=Z,76nm,20.4s,baz=19,slow=37
SAND Sanderson 76.01 61 IAmb IAmb 14 46 05.7
comp=Z,16nm,1.4s
HPIG 76.13 65 IAmb IAmb 14 46 06.4
comp=Z,8.3nm,0.6s
VRAC Vranov 76.36 333 LR LR 15 23 02.8
comp=Z,255nm,18.8s,baz=24,slow=38
MLR Muntele Rosu 76.53 326 LR LR 15 24 26.1
comp=Z,147nm,19.0s,baz=22,slow=39
BRDY Brady 76.81 58 IAmb IAmb 14 46 09.8
comp=Z,10nm,1.2s
O48B Farmland 76.95 43 P **P** **14 46 07.9 -0.6**
baz=324
MODS Modra-Piesok 76.98 333 *e*P **P** **14 46 12.3 +3.7**
MODS Modra-Piesok 76.98 333 *e*P **P** **14 46 12.3 +3.7**
FCAR Ozark Folk Cen 77.02 50 IAmb IAmb 14 46 09.5
comp=Z,10nm,0.6s
WSAR Wadi Sarin 77.11 290 LR LR 15 24 56.7
comp=Z,169nm,19.0s,baz=68,slow=39
DRIO Del Rio 77.28 60 IAmb IAmb 14 46 12.6
comp=Z,17nm,1.0s
MIAR Mount Ida 77.30 52 IAmb IAmb 14 46 12.3
comp=Z,14nm,1.1s
KHC Kasperske Hory 77.39 335 P **P** **14 46 10.9 +0.1**
KHC IAmb IAmb 14 48 37.8
comp=Z,34nm,1.9s
KHC Kasperske Hory 77.39 335 *e*P **P** **14 46 09.7 -1.2**
KHC Kasperske Hory 77.39 335 *e*P **P** **14 46 09.7 -1.2**
WHAR Wooly Hollow 77.39 51 IAmb IAmb 14 46 12.6
comp=Z,17nm,1.1s
GERES GERESS Array B 77.61 335 P **P** **14 46 12.1 -0.1**
comp=Z,1.3nm,0.5s,baz=50,slow=5.3,SNR=5.6
GERES LR LR 15 23 21.2
comp=Z,272nm,20.9s,baz=18,slow=38
comp=Z,1.3nm,0.5s
P49A Miami Univ. Ec 77.73 43 P **P** **14 46 12.1 -0.8**
baz=324
CONA Conrad Observa 77.81 333 *e*P **P** **14 46 13.4 +0.1**
comp=Z,5.4nm,1.2s
BR131 Keskin Array S 78.14 318⇓⇓ *i*P **P** **14 46 15.9 +0.5**
BRTR Keskin Array B 78.14 318 P **P** **14 46 14.9 -0.5**
comp=Z,1.7nm,0.9s,baz=80,slow=4.9,SNR=6.1
comp=Z,1.7nm,0.9s
SOKA Soboth 79.18 333 *e*P **P** **14 46 21.1 +0.2**
comp=Z,7.4nm,1.2s
LESA Schwarzleotal 79.19 335 *e*P **P** **14 46 20.9 0.0**
comp=Z,2.8nm,0.6s
OBKA Obir 79.48 333 *e*P **P** **14 46 22.7 +0.2**
comp=Z,13nm,1.3s
WATA Walderalm 79.58 336 *e*P **P** **14 46 24.1 +1.0**
comp=Z,6.7nm,0.7s
WTTA Wattenberg 79.63 336 *e*P **P** **14 46 24.0 +0.6**
comp=Z,6.6nm,0.6s
MOTA Moosalm 79.70 336 *e*pP **P** **14 46 25.4 +1.6**
comp=Z,7.2nm,1.1s
RAR Rarotonga 80.13 138 LR LR 15 12 58.4
comp=Z,92nm,21.4s,baz=330,slow=29
DAVOX Davos/Dischmat 80.55 337 LR LR 15 28 33.0
comp=Z,180nm,18.2s,baz=80,slow=40
STKA Stephens Creek 80.75 192 P **P** **14 46 30.0 +0.9**
comp=Z,3.6nm,0.8s,baz=353,slow=8.4,SNR=5.5
STKA LR LR 15 22 52.5
comp=Z,36nm,19.9s,baz=23,slow=36
comp=Z,3.6nm,0.8s
STKA Stephens Creek 80.75 192 P **P** **14 46 30.0 +0.9**
TKL Tuckaleechee C 81.31 45 LR LR 15 26 27.7
comp=Z,67nm,18.3s,baz=320,slow=38
MMAI Mount Meron Ar 82.75 313 P **P** **14 46 39.4 -0.8**
comp=Z,2.4nm,0.5s,baz=39,slow=6.7,SNR=7.1
MMAI LR LR 15 27 13.9
comp=Z,82nm,18.5s,baz=321,slow=38
comp=Z,2.4nm,0.5s
RAYN Ar Rayn 84.83 300 P **P** **14 46 50.9 +0.1**
RAYN IAmb IAmb 14 46 51.6
comp=Z,15nm,1.4s
RAYN Ar Rayn 84.83 300 P **P** **14 46 50.9 +0.1**
RAYN pmax pmax
comp=Z,15nm,1.5s
EIL Elat 85.69 311 LR LR 15 28 53.9
comp=Z,129nm,21.4s,baz=45,slow=38
VAE Valguarnera 87.68 330 LR LR 15 33 32.1
comp=Z,127nm,21.2s,baz=12,slow=41
ESDC Sonseca Array 90.43 344 P **P** **14 47 16.7 -0.9**
comp=Z,1.1nm,1.0s,baz=18,slow=4.6,SNR=3.0
ESDC LR LR 15 33 04.8
comp=Z,206nm,18.9s,baz=26,slow=39
comp=Z,1.1nm,1.0s
KEST Kesra 90.91 333 LR LR 15 33 30.2
comp=Z,144nm,18.4s,baz=5.2,slow=39
ATD Arta Tunnel 95.72 294 LR LR 15 36 37.5
comp=Z,8.0nm,18.1s,baz=42,slow=39
MDT Midelt 97.21 343 LR LR 15 38 16.1
comp=Z,44nm,18.6s,baz=17,slow=40
H03N2 Juan Fernandez 137.42 90 T T 17 26 37.7
baz=310,slow=77,SNR=59
H03N1 Juan Fernandez 137.43 90 T T 17 26 42.5
baz=310,slow=77,SNR=65
H03N3 Juan Fernandez 137.43 90 T T 17 26 44.0
baz=310,slow=77,SNR=56
QSPA South Pole Qui 138.06 180 PKhKP PKPpre 14 53 28.1
comp=Z,1.5nm,1.0s,baz=311,slow=1.3,SNR=6.4
QSPA PKP **PKPdf** **14 53 40.5 +1.1**
comp=Z,3.2nm,0.9s,baz=244,slow=1.2,SNR=17
CPUP Villa Florida 146.53 61 PKPbc **PKPdf** **14 53 56.3 +0.7**
comp=Z,3.2nm,0.6s,baz=337,slow=4.7,SNR=7.9
PLCA Paso Flores 147.00 94 PKPbc **PKPab** **14 53 59.2 -0.5**
comp=Z,7.7nm,0.9s,baz=279,slow=3.3,SNR=12
ELIB Princess Elisa 147.79 206 *d*PKPdf **PKPbc** **14 53 59.5 +0.1**
TROLL Troll, Antarti 153.11 198 ⇑PKPdf **PKPbc** **14 54 11.9 -0.3**
comp=Z,252nm,0.6s
SNAA Sanae 154.44 196 ⇑PKPdf **PKPbc** **14 54 14.8 -0.2**
comp=Z,35nm,0.7s
SNAA Sanae 154.44 196 PKPbc **PKPbc** **14 54 14.1 -0.9**
comp=Z,1.5nm,0.6s,baz=194,slow=10.0,SNR=5.7
SNAA PKPab **PKPab** **14 54 29.6 0.0**
comp=Z,6.0nm,1.0s,baz=150,slow=3.0,SNR=6.6
VNA3 Neumayer Olymp 155.92 192 ⇑PKPab **PKPab** **14 54 36.2 +0.4**
comp=Z,7.4nm,0.7s

KRSC ***27*** *14:37:50.6±1.2, 48°.44N×156°.22E, h22km±26km, Ml3.9*
SKHL 27 14:37:53.2±0.4, 48°.40N×155°.80E, h91km±6km, mb4.5/2, msha5.4/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.29**	**5**	*e*P	Pn	14 38 28.6	-0.6
SKR				*e*S	Sn	14 38 55.8	-1.0
SKR	**Severo-Kuril's**	**2.29**	**5**	*e*P	Pn	14 38 28.8	-0.4
SKR				AMB	AMB	14 38 30.0	
	30nm,0.2s						
SKR				*e*S	Sn	14 38 55.7	-1.1
SKR				A	A	14 38 58.9	
	150nm,0.2s						
SKR				A	A	14 38 58.9	
	90nm,0.2s						
SKR				AMS	AMS	14 39 20.9	
	700nm,11.0s						
PAU	**Pauzhetka**	**3.14**	**12**	*e*P	Pn	14 38 40.9	+0.4
PAU				*e*S	Sn	14 39 16.3	-0.7
PAU				A	A	14 39 19.5	
	90nm,0.3s						
PAU				A	A	14 39 19.5	
	80nm,0.3s						
KDTR	**Khodutka, Kamc**	**3.71**	**22**	*e*P	Pn	14 38 48.9	+0.6
KDTR				*e*S	Sn	14 39 31.8	+0.9
KDTR	**Khodutka, Kamc**	**3.71**	**22**	*e*P	Pn	14 38 48.9	+0.6
KDTR				*e*S	Sn	14 39 29.9	-1.0
MTVR	**Mutnovka**	**4.36**	**20**	*e*P	Pn	14 38 58.0	+0.8
RUS	**Russkaya**	**4.39**	**22**	*e*P	Pn	14 38 57.8	+0.3
GRL	**Gorelyy**	**4.40**	**18**	*e*P	Pn	14 38 59.4	+1.7
PET	**Petropavlovsk**	**4.97**	**20**	*e*S	Sn	14 40 00.2	-1.2
DALK	**Dalny**	**5.00**	**21**	*e*P	Pn	14 39 06.7	+1.0

RSNC 27 14:43:10.2±0.0, 13°.N±3°.×8°.1W±°, h20km±5km, M2.6, mb3.9, ML2.5, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.24**	**288**	P	Pb	14 43 15.5	-0.4
PRVC				S	Sb	14 43 19.9	+0.1
SAIC	**Isla e San And**	**0.95**	**217**	P	Pb	14 43 26.7	-1.2
SAIC				S	Sb	14 43 40.2	+0.1
RNCC	**Cayo Roncador,**	**1.05**	**75**	P	Pb	14 43 28.7	-0.9
RNCC				S	Sb	14 43 42.8	-0.1
SERC	**Banco Serrana,**	**1.23**	**37**	P	Pn	14 43 31.3	-1.0
SERC				S	Sn	14 43 50.4	+2.1
SJCC	**San Jacinto, C**	**6.74**	**119**	P	Pn	14 44 42.4	-5.7

IDC ***27*** *15:01:33.0±2.3, 5°.26S×146°.54E, h125km±20km, mb3.5/6, mbtmp3.9/9, Error ellipse: s-maj=25.9km s-min=17.1km az=72.0*
NEIC ***27*** *15:01:35.0±1.2, 5°.30S±0°.09×146°.43E±0°.09, h137km±10km, mb4.3/14, Error ellipse: s-maj=16.2km s-min=8.8km az=222.0*
ISC 27 15:01:33.2±0.9, 5°.26S±0°.08×146°.5E±0°.1, h123km, n25,

σ1§13/27, mb4.2/12, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.18**	**171**	P	**Pn**	**15 02 36.4**	**+1.2**
	3.6nm,0.3s,baz=355,slow=7.4,SNR=7.6						
PMG				S	**Sn**	**15 03 22.8**	**-0.6**
	31nm,0.4s,baz=194,slow=21,SNR=26						
JAY	**Jayapura**	**6.37**	**295**	P	**Pn**	**15 03 05.5**	**+0.8**
	15nm,0.5s,baz=51,slow=6.5,SNR=19						
COEN	**Coen**	**9.24**	**200**	Pn	**Pn**	**15 03 46.0**	**+2.6**
MTN	**Manton Dam**	**16.91**	**242**	P	**P**	**15 05 22.4**	**-0.2**
MTN				IAmb	IAmb	15 05 30.2	
	comp=Z,32nm,1.5s						
WB0	**Warramunga Arr**	**18.61**	**218**	Pn	**Pn**	**15 05 42.2**	**-0.7**
WR0	**Warramunga Arr**	**18.66**	**217**		**P**	**15 05 42.4**	**+0.5**
WB2	**Warramunga Arr**	**18.77**	**218**	P	**P**	**15 05 43.1**	**+0.1**
WRA	**Warramunga Arr**	**18.77**	**218**	P	**P**	**15 05 43.8**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=38,slow=11,SNR=12						
ASAR	**Alice Springs**	**21.95**	**212**	P	**P**	**15 06 17.5**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=46,slow=7.7,SNR=27						
ASAR				S	**S**	**15 10 08.3**	**-3.4**
	comp=Z,0.3nm,0.8s,baz=26,slow=24,SNR=1.3						
	comp=Z,1.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.02**	**236**	P	**P**	**15 06 36.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**24.02**	**236**	P	**P**	**15 06 36.6**	**-0.3**
	comp=Z,4.1nm,0.5s,baz=50,slow=12,SNR=19						
	comp=Z,4.1nm,0.5s						
MKAR	**Makanchi Array**	**76.59**	**321**	P	**P**	**15 13 09.4**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=112,slow=6.6,SNR=2.2						
	comp=Z,0.2nm,0.4s						
G18K	**Tagagawik**	**81.24**	**20**	P	**P**	**15 13 36.7**	**+1.5**
G18K				IAmb	IAmb	15 14 13.7	
	comp=Z,12nm,1.5s						
E19K	**Redstone River**	**82.58**	**19**	P	**P**	**15 13 43.9**	**+1.7**
HIN	**Hinchinbrook I**	**83.45**	**27**	P	**P**	**15 13 47.0**	**+0.1**
MLY	**Manley**	**83.63**	**22**	P	**P**	**15 13 48.4**	**+0.6**
MLY				IAmb	IAmb	15 14 28.1	
	comp=Z,5.5nm,1.4s						
I23K	**Minto, Yukon-K**	**84.21**	**22**	P	**P**	**15 13 51.0**	**+0.4**
I23K				IAmb	IAmb	15 14 05.8	
	comp=Z,4.6nm,1.4s						
H23K	**Yukon River**	**84.44**	**22**	P	**P**	**15 13 51.7**	**0.0**
H23K				IAmb	IAmb	15 14 00.6	
	comp=Z,6.8nm,1.4s						
CCB	**Clear Creek Bu**	**84.60**	**23**	P	**P**	**15 13 52.3**	**-0.2**
CCB				IAmb	IAmb	15 14 11.2	
	comp=Z,4.8nm,1.3s						
QSPA	**South Pole Qui**	**84.70**	**180**	P	**P**	**15 13 52.9**	**-0.4**
QSPA				IAmb	IAmb	15 14 02.5	
	comp=Z,6.3nm,1.4s						
QSPA	**South Pole Qui**	**84.70**	**180**	P	**P**	**15 13 53.1**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=282,slow=4.8,SNR=12						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**85.01**	**23**	P	**P**	**15 13 53.8**	**-0.9**
ILAR	**Eielson Array**	**85.01**	**23**	P	**P**	**15 13 54.2**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=252,slow=4.9,SNR=28						
	comp=Z,1.4nm,0.6s						
J25K	**Salcha River,**	**85.55**	**24**	P	**P**	**15 13 57.4**	**0.0**
J25K				IAmb	IAmb	15 13 58.5	
	comp=Z,2.8nm,0.7s						
BVAR	**Borovoye Array**	**85.86**	**324**	P	**P**	**15 13 58.5**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=104,slow=6.1,SNR=3.1						
	comp=Z,0.3nm,0.4s						

*PRE **27** 15:24:26.9±0.9, 26°.31S×30°.01E, h0km, ML2.1, Explosion*
*IDC **27** 15:24:27.7±8.4, 26°.49S×29°.93E, h0km, mbtmp3.2/1, ML2.0/1, Error ellipse: s-maj=91.4km s-min=57.5km az=152.0*

ISC 27 15:24:26.4±0.9, 26°.34S±0°.04×29°.89E±0°.05, h0km, n8, σ1§37/13, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.37**	**19**	*e*P	**Pg**	**15 24 33.4**	**0.0**
CRLN				*e*S	**Sg**	**15 24 36.8**	**-1.4**
CRLN				IAML		15 24 38.9	
	comp=Z,354nm,0.5s						
NWCL	**Newcastle**	**1.39**	**180**	*e*P	**Pb**	**15 24 54.5**	**+1.1**
NWCL				*e*S	**Sn**	**15 25 13.6**	**+1.2**
NWCL				IAML		15 25 25.2	
	comp=Z,22nm,0.8s						
POGA	**Pongola**	**1.91**	**122**	*e*P	**Pn**	**15 25 00.8**	**+0.5**
POGA				*e*S	**Sn**	**15 25 24.7**	**-0.3**
POGA				IAML		15 25 33.9	
	comp=Z,17nm,0.4s						
LEPH	**Lephalale, Lim**	**3.12**	**322**	*e*P	**Pn**	**15 25 18.2**	**+1.3**
LEPH				*e*S	**Sn**	**15 25 57.0**	**+2.1**
LEPH				IAML		15 26 11.4	
	comp=Z,9.3nm,0.6s						
MOPA	**Mopani**	**3.13**	**26**	*e*P	**Pn**	**15 25 17.1**	**+0.1**
MOPA				*e*S	**Sn**	**15 25 53.4**	**-1.8**
MOPA				IAML		15 26 08.4	
	comp=Z,17nm,0.2s						
BOSA	**Boshof**	**4.70**	**240**	Pn	**Pn**	**15 25 38.9**	**+0.2**
	baz=63,slow=9.0,SNR=1.9						
BOSA				Pg	**Pg**	**15 25 54.8**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=64,slow=15,SNR=8.0						
BOSA				Sn	**Sn**	**15 26 32.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=54,slow=8.0,SNR=1.7						
BOSA				Lg	Lg	15 26 55.9	
	comp=Z,0.4nm,0.3s,baz=333,slow=19,SNR=4.3						
	comp=Z,6.0nm,1.2s						
I47ZA	**BOSHOF INFRASO**	**4.71**	**240**	I	I	15 56 00.0	
	baz=64,slow=325,SNR=1.4						
I35NA	**TSUMEB INFRASO**	**13.39**	**300**	I	I	16 43 20.0	
	baz=126,slow=310,SNR=1.3						

RSNC 27 15:32:01.1±0.0, 13°N±2°×8°1W±°, h0km±2km, M3.1, mb4.4, ML3.1, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.28**	**297**	P	Pb	15 32 07.9	-1.1
PRVC				S	Sb	15 32 12.7	-1.5
SAIC	**Isla e San And**	**0.92**	**220**	P	Pb	15 32 19.4	-0.5
SAIC				S	Sb	15 32 33.9	+1.2
RNCC	**Cayo Roncador,**	**1.04**	**72**	P	Pg	15 32 20.8	-0.3
RNCC				S	Sb	15 32 36.4	+0.1
SERC	**Banco Serrana,**	**1.26**	**35**	P	Pg	15 32 24.5	-0.8
SERC				S	Sb	15 32 42.1	-0.4
BLUN	**Bluefields**	**2.88**	**245**	P	Pn	15 32 48.8	+0.5
BLUN				S	Sn	15 33 22.9	-0.8
ESPN	**Las Esperanzas**	**3.29**	**252**	P	Pn	15 32 53.6	-0.3
ESPN				S	Sn	15 33 32.7	-1.0
BCIP	**Isla Barro Col**	**4.25**	**163**	P	Pn	15 33 03.8	-3.3
BCIP				S	Sn	15 33 52.0	-5.4
JTS	**Las Juntas de**	**4.78**	**232**	P	Pn	15 33 14.4	0.0
SJCC	**San Jacinto, C**	**6.70**	**119**	P	Pn	15 33 37.2	-3.7
	23nm,1.9s						
SJCC				S	Sn	15 34 51.3	-6.7
	23nm,1.9s						
TEIG	**Tepich**	**9.76**	**316**	P	Pn	15 34 19.5	-3.3

*IDC **27** 15:41:17.2±0.5, 21°.51S×171°.36E, h0km, mb4.5/17, mbtmp4.6/20, ML5.3/3, MS5.1/55, Error ellipse: s-maj=18.5km s-min=14.0km az=150.0*
*MOS **27** 15:41:19.1±1.4, 21°.31S×171°.24E, h11km, mb5.2/20, MS5.4/14, Error ellipse: s-maj=10.7km s-min=9.4km az=4.1*
*NEIC **27** 15:41:20, 21°.34S×171°.34E, h10km*
*NOU **27** 15:41:20.7, 21°.29S×171°.42E, h6km, ML5.1/93, Southeast of Loyalty Islands*
*NEIC **27** 15:41:20, 21°.34S×171°.34E, h14km*
*NEIC **27** 15:41:20.2±2.0, 21°.37S±0°.09×171°.33E±0°.06, h10km±1km, mb5.3/71, Ms_20 5.4/297, Mwb5.6/21, Mww5.7/64, Error ellipse: s-maj=15.6km s-min=9.4km az=16.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.74; $M_{\theta\theta}$=3.53; $M_{\phi\phi}$=-2.80; $M_{r\theta}$=0.33; $M_{\theta\phi}$=0.68; $M_{\phi r}$=0.16; Fault plane solution: M_0=3.32000×10^{17} NP1:ϕ_s=38.88000°, δ=83.51000°, λ=-179.27000°. NP2:ϕ_s=308.80000°, δ=89.28000°, λ=-6.49000°. Principal axes: T 3.6298, Plg4.0000°, Azm354.0000°; N -0.7412, Plg83.0000°, Azm122.0000°; P -2.8886, Plg5.0000°, Azm264.0000°;*
*NEIC **27** 15:41:20, 21°.24S×171°.45E, h14km, Moment Tensor Solution. Duration: 3§4 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.37; $M_{\theta\theta}$=3.94; $M_{\phi\phi}$=-3.57; $M_{r\theta}$=0.61; $M_{\theta\phi}$=1.13; $M_{\phi r}$=0.39; Fault plane solution: M_0=3.99000×10^{17} NP1: ϕ_s=126.46000°, δ=89.28000°, λ=-10.58000°. NP2: ϕ_s=216.60000°, δ=79.42000°, λ=-179.26000°. Principal axes: T 4.1770, Plg7.0000°, Azm172.0000°; N -0.3730, Plg79.0000°, Azm303.0000°; P -3.8040, Plg8.0000°, Azm81.0000°;*
*GCMT **27** 15:41:24.2±0.1, 21°.20S±0°.01×171°.48E±0°.01, h18km, MW5.7/162, Moment Tensor Solution. s148, c272; s162, c311; Duration: 1§7 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.26±.04; $M_{\theta\theta}$=4.44±.04; $M_{\phi\phi}$=-4.18±.05; $M_{r\theta}$=0.04±.10; $M_{\theta\phi}$=1.40±.04; $M_{\phi r}$=-0.49±.10; Best double couple: M_0=4.56100×10^{17} NP1:ϕ_s=36.00000°, δ=86.00000°, λ=-174.00000°. NP2:ϕ_s=306.00000°, δ=84.00000°, λ=-4.00000°. Principal axes: T 4.6650, Plg1.0000°, Azm171.0000°; N -0.2050, Plg83.0000°, Azm69.0000°; P -4.4570, Plg7.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 15:41:19.7±0.3, 21°.43S±0°.05×171°.45E±0°.05, h10km, n590, σ1§88/419, mb5.2/119, MS5.3/227, 35C-13D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.19**	**268**	P	**Pn**	**15 42 08.8**	**-1.1**
PINNC	**Pines Island,**	**3.90**	**252**		**Pn**	**15 42 18.2**	**-1.5**
PINNC	**Pines Island,**	**3.90**	**252**	P	**Pn**	**15 42 19.3**	**-0.4**
YATNC	**Mamie plateau,**	**4.29**	**261**	P	**Pn**	**15 42 24.7**	**-0.3**
OUENC	**Ouen Island, N**	**4.39**	**256**	P	**Pn**	**15 42 26.1**	**-0.4**
DZM	**Mont Dzumac**	**4.70**	**261**	Pn	**Pn**	**15 42 28.5**	**-2.3**
DZM	**Mont Dzumac**	**4.70**	**261**	Pn	**Pn**	**15 42 29.9**	**-0.9**
	48nm,0.3s,baz=87,slow=16,SNR=311						
DZM				Sn	**Sn**	**15 43 24.9**	**-0.6**
	baz=280,slow=19						
DZM				LR	LR	15 43 51.7	
	comp=Z,9μm,19.6s,baz=26,slow=34						
	511nm,0.6s						
DZM	**Mont Dzumac**	**4.70**	**261**	P	**Pn**	**15 42 31.0**	**+0.2**
ONTNC	**Ouen Toro**	**4.72**	**258**	Pn	**Pn**	**15 42 29.6**	**-1.5**
ONTNC	**Ouen Toro**	**4.72**	**258**	P	**Pn**	**15 42 30.9**	**-0.1**
DVP	**Devils Point**	**4.80**	**320**	P	**Pn**	**15 42 32.6**	**+0.5**
NOUC	**Port Laguerre**	**4.83**	**261**	P	**Pn**	**15 42 32.3**	**-0.2**
VLAKA	**Lakatoro**	**6.53**	**324**	P	**Pn**	**15 42 56.4**	**+0.6**
KOUNC	**Koumac, New Ca**	**6.75**	**276**	Pn	**Pn**	**15 42 58.2**	**-0.7**
KOUNC	**Koumac, New Ca**	**6.75**	**276**	P	**Pn**	**15 42 58.9**	**0.0**
MSVF	**Nonsavu**	**7.22**	**61**	Pn	**Pn**	**15 43 05.9**	**+0.4**
MSVF	**Nonsavu**	**7.22**	**61**	Pn	**Pn**	**15 43 06.3**	**+0.7**
	11nm,0.3s,baz=246,slow=11,SNR=166						
MSVF				LR	LR	15 45 14.4	
	comp=Z,35μm,18.9s,baz=251,slow=32						
	117nm,0.6s						
MSVF	**Nonsavu**	**7.22**	**61**	P	**Pn**	**15 43 06.2**	**+0.7**
NFK	**Norfolk Island**	**8.22**	**202**	P	**Pn**	**15 43 19.8**	**+0.7**
	comp=Z,0.0nmcomp=Z,545nm,1.3s						
LUES	**Luesalemba Tem**	**11.95**	**333**	P	**Pn**	**15 44 11.0**	**+0.7**
FUTU	**Fugatoga**	**12.19**	**56**	Pn	**Pn**	**15 44 10.7**	**-2.9**
FUTU	**Fugatoga**	**12.19**	**56**	P	**Pn**	**15 44 14.6**	**+1.1**
RAO	**Raoul Island**	**12.37**	**131**	LR	LR	15 48 02.3	
	comp=Z,7μm,19.8s,baz=324,slow=33						
HURO	**Huro Makira**	**14.24**	**318**	P	**Pn**	**15 44 41.8**	**+0.2**
NGOA	**Tingoa Renbel**	**14.67**	**310**	P	**Pn**	**15 44 47.4**	**-0.1**
KUZ	**Kuaotunu**	**15.71**	**167**	P	**P**	**15 45 04.7**	**-0.5**
HNR	**Honiara**	**16.27**	**315**		**Pn**	**15 45 04.5**	**-4.0**
HNR				IAmb	IAmb	15 45 12.5	
	comp=Z,418nm,1.4s						
HNR	**Honiara**	**16.27**	**315**	Pn	**Pn**	**15 45 07.4**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=244,slow=3.1,SNR=5.8						
HNR				LR	LR	15 50 37.0	
	comp=Z,9μm,19.1s,baz=146,slow=34						
	comp=Z,93nm,1.0s						
HNR	**Honiara**	**16.27**	**315**	P	**P**	**15 45 09.8**	**-1.7**
ALEG	**Aligegeo Malai**	**16.31**	**319**	P	**P**	**15 45 10.3**	**-1.7**
TOZ	**Tahuroa Road**	**16.62**	**169**		**Pn**	**15 45 15.3**	**+2.5**
TOZ				IAmb	IAmb	15 45 20.9	
	comp=Z,338nm,1.8s						
TATA	**Tatamba Isabel**	**17.15**	**317**	P	**P**	**15 45 20.3**	**-1.0**
HAZ	**Te Kaha**	**17.17**	**163**	P	**P**	**15 45 23.7**	**+2.3**
HIZ	**Hauiti**	**17.28**	**171**	Pn	**Pn**	**15 45 21.5**	**+0.4**
HIZ				IAmb	IAmb	15 45 28.3	
	comp=Z,448nm,1.5s						
WMGZ	**Waiomatatini S**	**17.41**	**161**	P	**P**	**15 45 27.9**	**+3.9**
URZ	**Urewera**	**17.47**	**165**	P	**Pn**	**15 45 23.9**	**+0.4**
	comp=Z,248nm,1.1s,baz=86,slow=5.9,SNR=32						
URZ				LR	LR	15 51 05.3	
	comp=Z,9μm,18.1s,baz=76,slow=34						
URZ	**Urewera**	**17.47**	**165**	P	**P**	**15 45 28.1**	**+3.4**
PUZ	**Puketiti**	**17.60**	**162**	P	**P**	**15 45 28.7**	**+2.5**
GC1S	**Gold Coast 1 S**	**17.61**	**244**	P	**P**	**15 45 28.9**	**+2.7**
TWGZ	**Tauwhareparae**	**17.62**	**163**	P	**P**	**15 45 29.2**	**+2.8**
NIUE	**Niue**	**17.63**	**86**	Pn	**Pn**	**15 45 22.7**	**-2.9**
NIUE	**Niue**	**17.63**	**86**	P	**Pn**	**15 45 25.4**	**-0.2**
	comp=Z,372nm,2.0s						
NIUE	**Niue**	**17.63**	**86**	P	**Pn**	**15 45 26.1**	**+0.5**
AFI	**Afiamalu**	**17.63**	**68**	Pn	**Pn**	**15 45 21.2**	**-4.6**
AFI	**Afiamalu**	**17.63**	**68**	P	**Pn**	**15 45 25.3**	**-0.5**
AFI	**Afiamalu**	**17.63**	**68**	P	**Pn**	**15 45 21.2**	**-4.6**
AFI				pmax	pmax		
	comp=Z,74nm,1.0s						
MWZ	**Matawai**	**17.65**	**164**	P	**P**	**15 45 30.0**	**+3.3**
RTZ	**Ruatahuna**	**17.78**	**166**		**Pn**	**15 45 28.1**	**+0.7**
RTZ	**Ruatahuna**	**17.78**	**166**	P	**P**	**15 45 31.1**	**+2.8**
AUWSH	**Wavell State H**	**17.78**	**247**	P	**P**	**15 45 30.7**	**+2.5**
TKGZ	**Te Karaka**	**17.83**	**163**	P	**P**	**15 45 31.1**	**+2.4**
CNGZ	**Carnagh Statio**	**17.97**	**163**	P	**P**	**15 45 33.0**	**+2.9**
SNGZ	**Shannon Statio**	**18.02**	**165**	P	**P**	**15 45 33.5**	**+2.6**
RIGZ	**Rimuhau**	**18.06**	**164**	P	**P**	**15 45 34.2**	**+3.0**
RAHZ	**Arahi**	**18.09**	**166**	P	**P**	**15 45 34.6**	**+3.0**
BKZ	**Black Stump Fm**	**18.20**	**167**	P	**P**	**15 45 34.3**	**+1.5**
BKZ				IAmb	IAmb	15 45 38.7	
	comp=Z,670nm,1.8s						
BKZ	**Black Stump Fm**	**18.20**	**167**	P	**P**	**15 45 35.0**	**+2.1**
BKZ	**Black Stump Fm**	**18.20**	**167**	P	**P**	**15 45 36.3**	**+3.5**
TW1H	**Toowoomba 1 Ha**	**18.74**	**247**	P	**Pn**	**15 45 42.1**	**+2.9**
GD1S	**Gladstone Soft**	**18.88**	**259**	P	**Pn**	**15 45 43.5**	**+2.7**
EIDS	**Eidsvold**	**19.10**	**254**	P	**P**	**15 45 41.5**	**-1.3**
EIDS	**Eidsvold**	**19.10**	**254**	P	**Pn**	**15 45 45.3**	**+1.8**
	comp=Z,0.0nmcomp=Z,176nm,1.1s						
EIDS	**Eidsvold**	**19.10**	**254**	P	**Pn**	**15 45 45.2**	**+1.6**
QRZ	**Quartz Range**	**19.36**	**178**	P	**P**	**15 45 40.9**	**-4.6**
MRZ	**Mangatainoka R**	**19.49**	**171**	P	**P**	**15 45 47.2**	**+0.3**
MRZ				IAmb	IAmb	15 45 50.9	
	comp=Z,357nm,1.3s						
BFZ	**Birch Farm**	**19.62**	**169**	P	**P**	**15 45 49.3**	**+0.9**
BFZ				IAmb	IAmb	15 45 52.8	
	comp=Z,179nm,1.1s						
BFZ	**Birch Farm**	**19.62**	**169**	P	**P**	**15 45 49.9**	**+1.5**
NNZ	**Nelson**	**19.80**	**176**	P	**P**	**15 45 50.6**	**+0.3**
TCW	**Tory Channel**	**19.87**	**174**	P	**P**	**15 45 51.9**	**+0.9**
ARMA	**Armidale**	**19.93**	**239**	P	**Pn**	**15 45 55.5**	**+2.0**
	comp=Z,0.0nmcomp=Z,110nm,1.2s						
ARMA	**Armidale**	**19.93**	**239**	P	**Pn**	**15 45 55.5**	**+2.0**
MRNZ	**Matariki Terra**	**19.94**	**177**	P	**P**	**15 45 52.5**	**+0.6**
SNZO	**South Karori**	**20.01**	**173**	P	**P**	**15 45 53.3**	**+0.7**
SNZO	**South Karori**	**20.01**	**173**	P	Pn	15 45 54.8	+0.5
TUWZ	**Tuamarina**	**20.05**	**175**	P	**P**	**15 45 54.0**	**+1.0**
BHW	**Baring Head**	**20.13**	**173**	P	**P**	**15 45 53.9**	**0.0**
BHW				IAmb	IAmb	15 46 07.8	
	comp=Z,194nm,1.4s						
BHW				IAMs_20	IAMs_20	15 52 51.5	
	comp=Z,13μm,20.0s						
MSWZ	**Moikau Station**	**20.19**	**172**	P	**P**	**15 45 54.2**	**-0.3**
DSZ	**Denniston Nort**	**20.26**	**179**	P	**P**	**15 45 56.0**	**+0.7**
DSZ				IAmb	IAmb	15 46 09.6	
	comp=Z,174nm,1.2s						
AUPHS	**Peel High Scho**	**20.77**	**238**	P	**P**	**15 46 01.3**	**+0.3**
NTLH	**Newcastle Hard**	**20.92**	**233**	P	Pn	15 46 06.2	+1.2
KHZ	**Kahutara**	**21.00**	**176**	IAmb	IAmb	15 46 08.0	
	comp=Z,413nm,1.7s						
KHZ				IAMs_20	IAMs_20	15 53 06.2	
	comp=Z,16μm,21.0s						
INZ	**Inchbonnie**	**21.24**	**180**	IAmb	IAmb	15 46 13.4	
	comp=Z,253nm,1.2s						
LTZ	**Lake Taylor**	**21.30**	**178**	P	**P**	**15 46 08.3**	**+1.7**
LTZ				IAmb	IAmb	15 46 14.0	
	comp=Z,160nm,1.0s						
LTZ				IAMs_20	IAMs_20	15 53 12.1	
	comp=Z,11μm,21.0s						
MGCD	**Mangrove Creek**	**21.51**	**233**	P	**P**	**15 46 12.4**	**+3.5**
	comp=Z,74nm,1.1s						
MGCD	**Mangrove Creek**	**21.51**	**233**	P	**P**	**15 46 12.5**	**+3.7**
RIV	**Riverview**	**21.77**	**231**	P	P	15 46 20.2	+8.6
RIV	**Riverview**	**21.77**	**231**	P	**P**	**15 46 15.5**	**+3.9**
OXZ	**Oxford**	**21.84**	**179**	IAmb	IAmb	15 46 20.6	
	comp=Z,156nm,1.2s						
OXZ				IAMs_20	IAMs_20	15 53 26.3	
	comp=Z,9μm,21.0s						
SYDH	**Sydney Hard Ro**	**22.04**	**232**	P	**P**	**15 46 18.0**	**+3.5**
FOZ	**Fox Glacier**	**22.09**	**183**	IAmb	IAmb	15 46 25.0	
	comp=Z,137nm,1.1s						
RPZ	**Rata Peaks**	**22.23**	**181**	LR	LR	15 53 58.1	
	comp=Z,3μm,19.2s,baz=342,slow=34						
WOLH	**Wollongong Har**	**22.26**	**230**	P	**P**	**15 46 19.7**	**+2.8**
AUAYR	**Ayr State High**	**22.59**	**270**	P	**P**	**15 46 22.8**	**+2.2**
AULRC	**Lightning Ridg**	**22.62**	**245**	P	**P**	**15 46 23.4**	**+2.6**
JCZ	**Jackson Bay**	**22.69**	**185**	P	**P**	**15 46 26.1**	**+4.5**
AUDCS	**Dubbo College**	**22.98**	**237**	P	**P**	**15 46 26.5**	**+1.8**
AUUHS	**Ulladulla High**	**23.03**	**228**	P	**P**	**15 46 28.3**	**+3.3**
TV1H	**Townsville Har**	**23.21**	**271**	P	**P**	**15 46 28.4**	**+1.3**
WKZ	**Wanaka**	**23.42**	**184**	P	**P**	**15 46 31.5**	**+2.5**
WKZ				IAmb	IAmb	15 46 55.4	
	comp=Z,153nm,1.4s						
ODZ	**Otahua Downs**	**23.57**	**181**	IAmb	IAmb	15 46 41.6	
	comp=Z,118nm,1.5s						
CTA	**Charters Tower**	**23.59**	**269**	LR	LR	15 55 17.3	
	comp=Z,9μm,19.6s,baz=92,slow=36						
CTAO	**Charters Tower**	**23.59**	**269**	P	**P**	**15 46 30.3**	**-0.6**
CTAO				IAmb	IAmb	15 46 50.3	
	comp=Z,290nm,2.0s						
CTAO	**Charters Tower**	**23.59**	**269**	IAMs_20	IAMs_20	15 55 05.7	
	comp=Z,8μm,19.0s						
CTAO	**Charters Tower**	**23.59**	**269**	P	**P**	**15 46 32.1**	**+1.2**
CTAO	**Charters Tower**	**23.59**	**269**	P	**P**	**15 46 30.3**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,290nm,2.0s						
CTAO				MLR	MLR		
	comp=Z,8μm,19.0s						
CNB	**Canberra Magne**	**23.79**	**230**	P	**P**	**15 46 34.0**	**+1.3**
	comp=Z,0.0nmcomp=Z,130nm,1.5s						
CNB	**Canberra Magne**	**23.79**	**230**	P	**P**	**15 46 33.4**	**+0.7**
YNG	**Young**	**24.01**	**233**	P	**P**	**15 46 35.6**	**+0.8**
	comp=Z,427nm,1.5s						
YNG	**Young**	**24.01**	**233**	P	**P**	**15 46 37.5**	**+2.7**
MLZ	**Mavora Lakes**	**24.03**	**186**	IAmb	IAmb	15 46 45.7	
	comp=Z,76nm,1.3s						
MLZ				IAMs_20	IAMs_20	15 54 36.0	
	comp=Z,9μm,20.0s						
CAN	**Canberra**	**24.05**	**230**	P	**P**	**15 46 35.8**	**+0.6**
CAN				IAmb	IAmb	15 46 46.7	
	comp=Z,89nm,1.0s						
CAN	**Canberra**	**24.05**	**230**	P	**P**	**15 46 37.8**	**+2.6**
	comp=Z,100nm,1.2s						
CAN	**Canberra**	**24.05**	**230**	P	**P**	**15 46 37.9**	**+2.7**
CAN	**Canberra**	**24.05**	**230**	P	**P**	**15 46 35.8**	**+0.6**
CAN				pmax	pmax		
	comp=Z,89nm,1.0s						
CAN				MLR	MLR		
	comp=Z,4μm,18.0s						
DCZ	**Deep Cove**	**24.23**	**187**	IAmb	IAmb	15 46 52.4	
	comp=Z,57nm,1.1s						
WHZ	**Wether Hill Ro**	**24.57**	**186**	IAmb	IAmb	15 46 48.2	
	comp=Z,123nm,1.4s						
WHZ				IAMs_20	IAMs_20	15 54 51.2	
	comp=Z,8μm,20.0s						
MILA	**Mila**	**24.83**	**226**	P	P	15 46 51.6	+9.3
CMSA	**Cobar Meteorol**	**25.10**	**241**	P	**P**	**15 46 45.4**	**+0.6**
	comp=Z,0.0nmcomp=Z,125nm,1.3s						
CMSA	**Cobar Meteorol**	**25.10**	**241**	P	**P**	**15 46 47.2**	**+2.4**
QLP	**Quilpie**	**25.36**	**253**	P	**P**	**15 46 47.5**	**+0.3**
	comp=Z,262nm,0.9s						
QLP	**Quilpie**	**25.36**	**253**	P	**P**	**15 46 49.0**	**+1.8**
MTSU	**Mount Surprise**	**25.73**	**273**	P	**P**	**15 46 50.2**	**-0.4**
	comp=Z,70nm,1.1s						
MTSU	**Mount Surprise**	**25.73**	**273**	P	**P**	**15 46 52.0**	**+1.4**
PMG	**Port Moresby**	**26.24**	**293**	P	**P**	**15 46 53.0**	**-2.2**
PMG				IAmb	IAmb	15 47 20.5	
	comp=Z,44nm,0.9s						
PMG	**Port Moresby**	**26.24**	**293**	LR	LR	15 55 04.5	
	comp=Z,2μm,20.7s,baz=124,slow=32						
PMG	**Port Moresby**	**26.24**	**293**	P	**P**	**15 46 54.7**	**-0.5**
PMG	**Port Moresby**	**26.24**	**293**	P	**P**	**15 46 54.8**	**-0.5**
PMG	**Port Moresby**	**26.24**	**293**	*d*iP	**P**	**15 46 54.1**	**-1.1**
PMG				pmax	pmax		
	comp=Z,35nm,0.9s						
RAR	**Rarotonga**	**26.79**	**95**	LR	LR	15 55 13.6	
	comp=Z,2μm,21.6s,baz=266,slow=31						
TOO	**Toolangi**	**27.61**	**229**	P	**P**	**15 47 07.3**	**-0.1**
TOO	**Toolangi**	**27.61**	**229**	P	P

H11S1 WAKE ISLAND Hy 39.96 353 T T 16 31 11.1
baz=173,slow=76,SNR=18
WAKE Wake Island 40.73 353 IAMs_20 IAMs_20 16 01 22.8
comp=Z,6μm,22.0s
KNRA Kununurra 40.78 271 P **P** **15 48 57.4 -4.1**
KNRA Kununurra 40.78 271 P **P** **15 48 59.7 -1.8**
comp=Z,26nm,1.0s
FITZ Fitzroy Crossi 43.13 266 LR LR 16 07 36.8
comp=Z,8μm,18.4s,baz=102,slow=37
GUMO Guam 43.50 321 IAMs_20 IAMs_20 16 04 58.7
comp=Z,4μm,21.0s
GUMO Guam 43.50 321 LR LR 16 05 19.9
comp=Z,4μm,21.2s,baz=134,slow=33
SWI Sorong 44.19 292 P **P** **15 49 27.7 -1.5**
comp=Z,26nm,1.3s
KMBL Kambalda 45.17 247 P **P** **15 49 35.7 -1.3**
comp=Z,67nm,1.1s
KMBL Kambalda 45.17 247 P **P** **15 49 37.1 +0.2**
BATI Baumata 47.14 276 LR LR 16 09 09.6
comp=Z,4μm,21.2s,baz=142,slow=36
PSA00 Pilbara Seismi 47.83 260 P **P** **15 49 56.4 -1.5**
PSA00 IAmb IAmb 15 50 10.5
comp=Z,26nm,1.1s
PSA00 Pilbara Seismi 47.83 260 P **P** **15 49 56.8 -1.1**
comp=Z,70nm,1.1s
PSA00 Pilbara Seismi 47.83 260 P **P** **15 49 58.2 +0.3**
PSAC1 Pilbara Seismi 47.87 260 P **P** **15 49 56.9 -1.3**
comp=Z,76nm,1.0s
MBWA Marble Bar 48.00 260 P **P** **15 49 58.3 -1.0**
MBWA Marble Bar 48.00 260 P **P** **15 49 58.0 -1.2**
comp=Z,97nm,1.0s
MBWA Marble Bar 48.00 260 P **P** **15 49 59.3 0.0**
SANI Sanana 48.24 287 P **P** **15 50 01.2 0.0**
SANI Sanana 48.24 287 P **P** **15 50 00.3 -0.9**
comp=Z,44nm,1.3s,comp=Z,680nm
MEEK Meekatharra 48.26 253 P **P** **15 49 58.9 -2.4**
MEEK Meekatharra 48.26 253 P **P** **15 50 00.7 -0.6**
KLBR Kellerberrin 48.69 246 P **P** **15 50 02.8 -1.7**
comp=Z,137nm,1.4s
KLBR Kellerberrin 48.69 246 P **P** **15 50 04.2 -0.3**
NWAO Narrogin (SRO) 49.10 244 P **P** **15 50 06.7 -0.9**
NWAO Narrogin (SRO) 49.10 244 P **P** **15 50 09.1 +1.5**
NWAO Narrogin (SRO) 49.10 244 P **P** **15 50 06.7 -0.9**
NWAO pmax pmax
comp=Z,81nm,1.1s
NWAO MLR MLR
comp=Z,5μm,18.0s
RKGY Rocky Gully 49.31 242 P P 15 50 18.9 +10
BLDU Ballidu 49.63 248 P **P** **15 50 09.7 -2.0**
comp=Z,35nm,1.4s
BLDU Ballidu 49.63 248 P **P** **15 50 14.9 +3.2**
MUN Mundaring 50.00 246 P **P** **15 50 17.3 +2.9**
comp=Z,32nm,1.4s
MUN Mundaring 50.00 246 P **P** **15 50 17.5 +3.1**
MORW Morawa 50.31 249 P **P** **15 50 14.4 -2.5**
MORW Morawa 50.31 249 P **P** **15 50 16.9 0.0**
WSI Waingapu 50.45 275 P **P** **15 50 18.0 0.0**
KMSI Cibinong 51.23 289 P **P** **15 50 22.9 -1.0**
WBSI Waikabubak, Su 51.30 275 P **P** **15 50 23.4 -1.1**
comp=Z,60nm,1.1s
LUWI Luwuk 51.56 287 P **P** **15 50 25.7 -0.7**
comp=Z,77nm,1.2s,comp=Z,798nm
BKSI Bulukumba 52.18 280 P **P** **15 50 26.5 -4.5**
BNSI Bone 52.56 281 P **P** **15 50 32.0 -1.8**
comp=Z,31nm,1.8s,comp=Z,541nm
APSI Ampana 52.63 286 P **P** **15 50 33.6 -0.7**
comp=Z,61nm,1.3s
KAPI Kappang 52.64 280 P **P** **15 50 31.4 -3.1**
KAPI IAmb IAmb 15 50 47.4
comp=Z,33nm,1.2s
KAPI Kappang 52.64 280 LR LR 16 13 18.0
comp=Z,794nm,20.2s,baz=122,slow=36
KAPI Kappang 52.64 280 P **P** **15 50 34.5 0.0**
KAPI Kappang 52.64 280 P **P** **15 50 31.4 -3.1**
KAPI pmax pmax
comp=Z,33nm,1.2s
KAPI MLR MLR
comp=Z,500nm,18.0s
MRSI Marisa 52.99 288 P **P** **15 50 34.8 -2.2**
SPSI Sidrap Palu 53.04 282 P **P** **15 50 35.9 -1.5**
DAV Davao City (W) 53.17 297 LR LR 16 12 35.6
comp=Z,800nm,19.2s,baz=100,slow=35
TTSI Tana Toraja 53.37 283 P **P** **15 50 40.6 +0.8**
comp=Z,14nm,0.8s
PCI Palu 54.26 285 P **P** **15 50 47.1 +0.7**
comp=Z,53nm,1.3s,comp=Z,2μm
TOLI2 Tolitoli 54.31 288 P **P** **15 50 44.2 -2.5**
TOLI2 IAmb IAmb 15 50 54.8
comp=Z,23nm,0.8s
TOLI2 Tolitoli 54.31 288 P **P** **15 50 48.0 +1.3**
SRBI Singaraja 55.70 275 P **P** **15 50 57.9 +1.1**
comp=Z,44nm,1.0s
SBA Scott Base 56.52 181 IAMs_20 IAMs_20 16 10 35.0
comp=Z,2μm,22.0s
KMMI Kalianget 57.22 275 P **P** **15 51 07.1 -0.6**
comp=Z,21nm,1.2s
CASY Casey 58.98 204 IAMs_20 IAMs_20 16 11 10.9
comp=Z,2μm,21.0s
TGY Tagaytay City 60.86 301 LR LR 16 15 59.4
comp=Z,414nm,20.4s,baz=120,slow=34
KPJI Karang Pucung 61.80 273 P **P** **15 51 39.6 +0.3**
comp=Z,44nm,0.9s
STKI Sintang 62.24 282 P **P** **15 51 42.7 +0.5**
comp=Z,30nm,1.1s,comp=Z,6μm
SBUM Sibu 62.56 285 **P** **15 51 43.2 -1.2**
SBUM Sibu 62.56 285 P **P** **15 51 44.7 +0.3**
LEM Lembang 63.20 273 LR LR 16 18 34.1
comp=Z,1μm,21.9s,baz=108,slow=35
LEM Lembang 63.20 273 P **P** **15 51 48.8 -0.1**
JOW Kunigami 63.64 317 LR LR 16 18 57.3
comp=Z,875nm,18.6s,baz=139,slow=36
XMIS Christmas Isla 63.81 269 IAMs_20 IAMs_20 16 20 46.0
comp=Z,2μm,19.0s
KSM Kuching 63.88 283 **P** **15 51 52.5 -0.7**
KSM IAmb IAmb 15 52 01.9
comp=Z,31nm,0.9s
KSM Kuching 63.88 283 P **P** **15 51 53.2 +0.1**
TPI Tanjungpandan 64.64 277 P **P** **15 51 57.6 -0.6**
comp=Z,17nm,0.9s
INU Inuyama 65.23 329 P **P** **15 52 02.0 +0.5**
JMN Monobe 65.50 326 IAMs_20 IAMs_20 16 16 35.6
comp=Z,2μm,21.0s
MJAR Matsushiro Arr 65.65 331 P **P** **15 52 03.4 -0.9**
comp=Z,7.4nm,1.1s,baz=159,slow=6.0,SNR=8.2
MJAR LR LR 16 15 39.8
comp=Z,621nm,21.5s,baz=129,slow=31
comp=Z,7.4nm,1.1s
MAJO Matsushiro 65.66 331⇑ *e*P **P** **15 52 03.7 -0.5**
MAJO pmax pmax
comp=Z,21nm,1.3s
PPBI Pangkal Pinang 66.27 277 P **P** **15 52 08.8 +0.1**
NACB Ninganchiao 66.38 310 P **P** **15 52 12.0 +2.9**
KASI Kota Agung 66.56 273 P **P** **15 52 09.4 -1.2**
comp=Z,34nm,0.9s
SSLB Suanglung 66.59 310 P **P** **15 52 12.6 +2.0**
JNU Nakatsue 66.65 324 LR LR 16 18 18.0
comp=Z,524nm,20.5s,baz=128,slow=33
YHNB Yeheng 66.84 311 IAMs_20 IAMs_20 16 20 53.2
comp=Z,1μm,19.0s
LWLI Liwa 67.15 274 P **P** **15 52 11.5 -3.0**
QSPA South Pole Qui 68.64 180 IAMs_20 IAMs_20 16 17 54.7
comp=Z,2μm,21.0s
QSPA South Pole Qui 68.64 180 P **P** **15 52 21.2 -1.8**
comp=Z,24nm,1.0s,baz=25,slow=1.5,SNR=35
QSPA LR LR 16 18 16.6
comp=Z,2μm,21.3s,baz=40,slow=32
comp=Z,24nm,1.0s
KSI Kapahiang 69.00 274 P **P** **15 52 24.2 -1.8**
comp=Z,48nm,0.8s
MYKOM Kota Tinggi 69.90 280 **P** **15 52 30.3 -1.2**
MYKOM IAmb IAmb 15 52 40.6
comp=Z,54nm,1.9s
MYKOM IAMs_20 IAMs_20 16 22 56.6
comp=Z,2μm,22.0s
MYKOM Kota Tinggi 69.90 280 P **P** **15 52 32.1 +0.6**
JKA Kamikawa-asahi 70.38 338 IAMs_20 IAMs_20 16 18 21.5
comp=Z,2μm,20.0s
ASAJ Asahikawa 70.38 338 LR LR 16 17 31.8
comp=Z,2μm,21.9s,baz=166,slow=31
SSE Sheshan 71.08 316 P **P** **15 52 37.0 -1.3**
SSE S **S** **16 01 55.5 +0.6**
SSE pmax pmax
comp=Z,7.0nm,1.2s
SSE pmax pmax
comp=Z,56nm,3.6s
SSE LR LR
comp=Z,290nm,21.6s
SSE LR LR
comp=Z,250nm,21.7s
RPN Rapa Nui 71.33 112 LR LR 16 16 29.9
comp=Z,278nm,21.9s,baz=263,slow=30
COCO West Island 71.47 264 IAMs_20 IAMs_20 16 21 51.1
comp=Z,2μm,21.0s
KSRS Korea Array 71.48 325 P **P** **15 52 40.6 0.0**
comp=Z,2.3nm,0.9s,baz=138,slow=4.9,SNR=5.6
KSRS LR LR 16 20 50.6
comp=Z,621nm,20.6s,baz=130,slow=33
comp=Z,2.3nm,0.9s
KSAR Wonju Array Be 71.49 325 P **P** **15 52 39.9 -0.7**
KSAR Wonju Array Be 71.49 325 P **P** **15 52 39.9 -0.7**
QIZ Qiongzhong 72.46 299 P **P** **15 52 46.0 -0.9**
QIZ S **S** **16 02 13.3 +2.0**
QIZ SS **SS** **16 06 53.5 +3.2**
QIZ LR LR
comp=Z,470nm,21.0s
QIZ LR LR
comp=Z,360nm,20.4s
QIZ LR LR
comp=Z,730nm,24.5s
YSS Yuzh-Sakhalins 72.83 340 *e*P **P** **15 52 48.4 0.0**
YSS *e*S **S** **16 02 10.2 -4.1**
YSS *e*SS **SS** **16 06 51.9 -3.1**
YSS pmax pmax
comp=Z,30nm,1.2s
SISI Saibi 73.11 275 P **P** **15 52 50.2 -0.7**
comp=Z,29nm,1.4s
NJ2 Nanjing 73.22 315 *e*P **P** **15 52 53.3 +2.2**
NJ2 pmax pmax
comp=Z,4.0nm,0.5s
IPM Ipoh 73.56 282 P **P** **15 52 55.0 +1.4**
SHEM Shemya Is, Ala 73.88 2 LR LR 16 18 45.5
comp=Z,2μm,21.4s,baz=128,slow=30
KULM Kulim 74.23 282 P **P** **15 53 00.2 +2.7**
USRK Ussuriysk Ar. 74.63 332 P **P** **15 52 57.7 -1.4**
comp=Z,3.0nm,0.8s,baz=111,slow=7.9,SNR=3.4
USRK LR LR 16 22 59.4
comp=Z,788nm,20.5s,baz=141,slow=34
comp=Z,3.0nm,0.8s
PSI Prapat 74.82 279 LR LR 16 28 10.6
comp=Z,874nm,19.6s,baz=128,slow=38
PSI Prapat 74.82 279 P **P** **15 53 02.4 +1.3**
PET Petropavlovsk 74.97 352 *e*P P 15 53 08.0 +7.2
PET *e*S **S** **16 02 45.9 +7.7**
PET *e* 16 03 19.2
PET pmax pmax
comp=Z,100nm,13.5s
PET MLR MLR
comp=Z,1μm,17.0s
PET MLR MLR
comp=Z,800nm,18.0s
PETK Petropavlovsk- 75.18 351 P **P** **15 53 00.4 -1.6**
comp=Z,10nm,1.1s,baz=125,slow=7.6,SNR=3.0
PETK LR LR 16 19 57.3
comp=Z,3μm,21.4s,baz=145,slow=31
comp=Z,10nm,1.1s
GULI GuiLin 75.31 305 P **P** **15 53 07.5 +4.0**
GSI Gunungsitoli 75.49 277 **P** **15 53 03.5 -1.3**
GSI IAmb IAmb 15 53 12.9
comp=Z,49nm,1.3s
GSI IAMs_20 IAMs_20 16 26 24.0
comp=Z,2μm,22.0s
GSI Gunungsitoli 75.49 277 P **P** **15 53 05.1 +0.3**
GSI Gunungsitoli 75.49 277 P **P** **15 53 04.6 -0.2**
comp=Z,25nm,1.7s
DL2 Dalian 76.01 322 *e*P **P** **15 53 07.3 +0.2**
DL2 S **S** **16 02 52.8 +2.5**
DL2 SS **SS** **16 07 40.3 -3.4**
DL2 pmax pmax
comp=Z,34nm,1.1s
DL2 pmax pmax
comp=Z,370nm,5.4s
DL2 LR LR
comp=Z,950nm,24.4s
DL2 LR LR
comp=Z,1μm,29.3s
DL2 LR LR
comp=Z,2μm,27.2s
TIA Tai'an 76.95 318 P **P** **15 53 12.0 -0.6**
TIA S **S** **16 03 06.8 +5.9**
TIA SS **SS** **16 07 54.3 -3.9**
TIA pmax pmax
comp=Z,24nm,0.7s
TIA pmax pmax
comp=Z,250nm,6.9s
TIA LR LR
comp=Z,1μm,22.1s
TIA LR LR
comp=Z,950nm,20.1s
TIA LR LR
comp=Z,2μm,22.5s
MAW Mawson 77.19 202 P **P** **15 53 13.0 -0.5**
comp=Z,3.2nm,0.9s,baz=69,slow=2.1,SNR=5.3
MAW LR LR 16 25 04.7
comp=Z,520nm,18.1s,baz=104,slow=34
comp=Z,3.2nm,0.9s
CN2 Changchun 77.40 328 *e*P **P** **15 53 14.5 -0.4**
CN2 *es*P pwP 15 53 21.5 +0.2
CN2 *e*S **S** **16 03 02.5 -2.9**
CN2 *e*SS **SS** **16 08 04.3 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,270nm,15.0s
CN2 LR LR
comp=Z,220nm,15.0s
BNX BinXian 77.89 330 ⇓P **P** **15 53 19.3 +1.7**
BNX pmax pmax
comp=Z,7.0nm,0.8s
GRNR Gornyy 78.23 338 *e*P P 15 53 14.2 -5.2
ENH Enshi 78.66 309 P **P** **15 53 21.7 -0.6**
KLR Kul'dur 78.72 335⇓ *e*P **P** **15 53 23.8 +1.7**
KLR pmax pmax
comp=Z,18nm,1.7s
GYA Guiyang 78.76 304 P **P** **15 53 22.8 -0.3**
GYA S **S** **16 03 21.3 +0.2**
GYA SS **SS** **16 08 29.8 +3.7**
GYA LR LR
comp=Z,420nm,17.4s
GYA LR LR
comp=Z,570nm,20.6s
GYA LR LR
comp=Z,690nm,19.3s
LYN LuoYang 78.97 314 *e*P **P** **15 53 24.5 +0.6**
LYN sP PcP 15 53 32.0 -0.4
LYN S **S** **16 03 23.5 +0.7**
LYN pmax pmax
comp=Z,20nm,1.0s
LYN pmax pmax
comp=Z,350nm,4.0s
LYN LR LR
comp=Z,1μm,23.9s
LYN LR LR
comp=Z,890nm,24.3s
LYN LR LR
comp=Z,1μm,20.8s
BSI Banda Aceh 79.20 280 P **P** **15 53 23.7 -1.9**
comp=Z,29nm,1.2s,comp=Z,531nm
HNS HongShan 79.21 317 ⇑P **P** **15 53 25.3 +0.3**
HNS S **S** **16 03 25.5 +0.4**
HNS SS **SS** **16 08 33.3 +1.2**
HNS pmax pmax
comp=Z,16nm,1.5s
HNS LR LR
comp=Z,480nm,21.5s
HNS LR LR
comp=Z,1μm,21.5s
HNS LR LR
comp=Z,2μm,23.0s
BJT Baijiatuau 79.93 320 IAMs_20 IAMs_20 16 24 17.2
comp=Z,1μm,22.0s
BJI Beijing 79.94 320 P **P** **15 53 29.0 0.0**
BJI sP **PcP** **15 53 36.5 0.0**
BJI S **S** **16 03 35.8 +3.1**
BJI SS **SS** **16 08 45.3 +2.3**
BJI pmax pmax
comp=Z,4.0nm,0.8s
BJI pmax pmax
comp=Z,75nm,5.9s
BJI LR LR
comp=Z,640nm,23.5s
BJI LR LR
comp=Z,440nm,23.9s
BJI LR LR
comp=Z,1μm,24.9s
SMAI San Martin Ant 81.10 161 P **P** **15 53 34.2 -0.6**
SMAI IAmb IAmb 15 53 43.4
comp=Z,24nm,0.9s
SMAI IAMs_20 IAMs_20 16 22 48.8
comp=Z,2μm,18.0s
XAN Xi'an 81.11 312 P **P** **15 53 35.5 0.0**
XAN sP PcP 15 53 42.0 +0.2
XAN S **S** **16 03 48.3 +2.9**
XAN SS **SS** **16 08 57.5 -3.4**
XAN pmax pmax
comp=Z,11nm,1.5s
XAN pmax pmax
comp=Z,230nm,4.5s
XAN LR LR
comp=Z,650nm,20.4s
XAN LR LR
comp=Z,910nm,19.1s
XAN LR LR
comp=Z,2μm,21.3s
KMI Kunming 81.18 301 ⇑P **P** **15 53 39.3 +3.0**
KMI S **S** **16 03 50.3 +3.4**
KMI SS **SS** **16 09 04.0 +1.4**
KMI pmax pmax
comp=Z,21nm,1.2s
KMI LR LR
comp=Z,290nm,16.5s
KMI LR LR
comp=Z,540nm,23.6s
KMI LR LR
comp=Z,780nm,18.6s
CMAR Chiang Mai Arr 81.28 294 P **P** **15 53 35.1 -1.6**
CMAR Chiang Mai Arr 81.28 294 P **P** **15 53 37.0 +0.3**
comp=Z,1.3nm,0.8s,baz=121,slow=3.9,SNR=5.9
comp=Z,1.3nm,0.8s
HEH HeiHe 81.29 333 *e*P **P** **15 53 35.3 -0.7**
HEH pmax pmax
comp=Z,6.0nm,1.3s
CHTO Chiang Mai 81.44 294 P **P** **15 53 36.9 -0.6**
CHTO Chiang Mai 81.44 294 P **P** **15 53 36.9 -0.6**
CHTO pmax pmax
comp=Z,30nm,1.8s
XLT XiLinHaoTe 82.43 323 *e*P **P** **15 53 42.3 0.0**
XLT sP pwP 15 53 49.8 +1.2
XLT S **SKSac** **16 04 01.0 -2.4**
XLT SS **SS** **16 09 21.5 +1.3**
XLT pmax pmax
comp=Z,14nm,1.0s
XLT pmax pmax
comp=Z,200nm,4.5s
XLT LR LR
comp=Z,660nm,21.6s
XLT LR LR
comp=Z,840nm,23.8s
MA2 Magadan 82.47 350 LR LR 16 24 14.5
comp=Z,2μm,21.5s,baz=165,slow=31
PZH PanZhiHua 82.63 302 P **P** **15 53 46.0 +2.2**
PZH S **SKSac** **16 04 05.0 -0.5**
PZH pmax pmax
comp=Z,10.0nm,1.7s
PZH pmax pmax
comp=Z,130nm,5.4s
PZH LR LR
comp=Z,290nm,20.8s
PZH LR LR
comp=Z,400nm,22.6s
PZH LR LR
comp=Z,440nm,18.4s
CD2 Chengdu 83.20 307 P **P** **15 53 46.3 -0.3**
CD2 S **SKSac** **16 04 10.3 +1.3**
CD2 SS **SS** **16 09 35.8 +3.6**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 pmax pmax
comp=Z,160nm,7.5s
CD2 LR LR
comp=Z,740nm,22.6s
CD2 LR LR
comp=Z,780nm,24.0s
HHC Hu-ho-hao-te 83.22 319⇑ *i*P **P** **15 53 48.3 +1.8**
HHC pP pwP 15 53 53.0 +0.1
HHC sP PcP 15 53 58.0 +7.0
HHC S **S** **16 04 11.0 +4.0**
HHC sS ScS 16 04 19.5 -1.4
HHC SS **SS** **16 09 32.0 -0.2**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,120nm,4.4s
HHC LR LR
comp=Z,520nm,16.3s
HHC LR LR
comp=Z,580nm,17.1s
HHC LR LR
comp=Z,1μm,17.8s
O14K Tigyukauivet M 83.46 14 IAMs_20 IAMs_20 16 25 59.3
comp=Z,2μm,18.0s
ZEA Zeya 83.99 335 *e*P **P** **15 53 52.0 +2.0**
ZEA *e*S **S** **16 04 18.0 +4.1**
ZEA pmax pmax
comp=Z,10.0nm,1.5s
ZEA smax smax
comp=E,400nm,13.9s
BTO Baotou 84.04 318 *e*P **P** **15 53 52.3 +1.6**
BTO pP **pwP** **15 53 57.3 +0.2**
BTO sP **PcP** **15 53 59.8 +5.2**
BTO PP **PP** **15 57 01.0 -4.0**
BTO S **S** **16 04 18.8 +3.5**
BTO pmax pmax
comp=E,22nm,0.6s
BTO LR LR
comp=E,1μm,20.6s
BTO LR LR
comp=E,1μm,17.7s
BTO LR LR
comp=E,2μm,20.0s
PMSA Palmer Station 84.15 159 LR LR 16 24 42.6
comp=E,830nm,20.3s,baz=240,slow=31
ELIB Princess Elisa 84.35 190 *d*P **P** **15 53 50.1 -1.9**
comp=Z,12nm,1.0s
KDAK Kodiak Island 84.42 18 LR LR 16 26 03.1
comp=Z,1μm,19.1s,baz=59,slow=32
TNCH TengChong 84.53 299 P **P** **15 53 55.0 +1.3**
TNCH sP pwP 15 54 00.8 +0.8
TNCH S **SKSac** **16 04 18.5 +0.3**
TNCH pmax pmax
comp=Z,11nm,1.6s
TNCH pmax pmax
comp=Z,130nm,4.6s
TNCH LR LR
comp=Z,220nm,25.7s
TNCH LR LR
comp=Z,180nm,15.5s
TNCH LR LR
comp=Z,360nm,20.9s
K13K Kusilvak Mount 85.25 11 IAMs_20 IAMs_20 16 26 57.9
comp=Z,2μm,21.0s
SEY Seymchan 85.42 351 LR LR 16 26 12.1
comp=Z,3μm,22.0s,baz=154,slow=32
LZH Lanzhou 85.73 311 *e*P P 15 54 04.8 +5.4
LZH pP pwP 15 54 09.3 +3.6
LZH S **S** **16 04 35.8 +3.5**
LZH pmax pmax
comp=Z,18nm,1.1s
LZH LR LR
comp=Z,670nm,15.8s
LZH LR LR
comp=Z,620nm,19.6s
LZH LR LR
comp=Z,820nm,19.2s
N18K Kilae Creek 85.99 15 IAMs_20 IAMs_20 16 25 54.9
comp=Z,2μm,20.0s
K15K Wolf Creek Mou 86.17 12 IAmb IAmb 15 54 09.2
comp=Z,27nm,1.0s
K15K IAMs_20 IAMs_20 16 27 06.3
comp=Z,2μm,20.0s
J14K Nanvaranak Lak 86.20 11 IAMs_20 IAMs_20 16 25 07.1
comp=Z,2μm,21.0s
SVW2 Sparrevohn 86.43 15 IAMs_20 IAMs_20 16 26 26.8
comp=Z,1μm,19.0s
TROLL Troll, Antarti 86.50 183 ⇑P **P** **15 54 00.3 -2.3**
comp=Z,207nm,0.7s
O02D Mt. Diablo Mer 86.58 44 IAMs_20 IAMs_20 16 24 21.2
comp=Z,1μm,20.0s
SNAA Sanae 87.06 182 P **P** **15 54 03.6 -1.7**

SNAA	**Sanae**	**87.06**	**182**	⇑P	**P**	**15 54 02.9**	**-2.4**
	comp=Z,162nm,0.9s						
SNAA	**Sanae**	**87.06**	**182**	P	**P**	**15 54 02.8**	**-2.6**
	comp=Z,10nm,1.0s,baz=171,slow=4.4,SNR=11						
SNAA				LR	LR	16 30 29.7	
	comp=Z,2μm,20.0s,baz=190,slow=34						
	comp=Z,10nm,1.0s						
SNAA	**Sanae**	**87.06**	**182**	⇑*i*P	**P**	**15 54 04.6**	**-0.7**
SNAA				pmax	pmax		
	comp=Z,13nm,1.0s						
CMB	**Columbia Colle**	**87.09**	**47**	IAMs_20	IAMs_20	16 28 45.9	
	comp=Z,1μm,18.0s						
AFDM	**Forest Hills D**	**87.15**	**46**	IAMs_20	IAMs_20	16 33 42.5	
	comp=Z,1μm,18.0s						
J16K	**Anvik River**	**87.25**	**12**	IAMs_20	IAMs_20	16 25 39.8	
	comp=Z,2μm,22.0s						
VTX	**Valle De La Tr**	**87.26**	**55**	IAMs_20	IAMs_20	16 22 47.1	
	comp=Z,872nm,19.0s						
YBH	**Yreka Blue Hor**	**87.44**	**43**	P	**P**	**15 54 07.4**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=206,slow=11,SNR=1.9						
YBH				LR	LR	16 27 20.2	
	comp=Z,547nm,19.6s,baz=240,slow=32						
	comp=Z,1.9nm,0.7s						
ANM	**Nome**	**87.58**	**10**	IAMs_20	IAMs_20	16 26 07.7	
	comp=Z,2μm,22.0s						
VNA3	**Neumayer Olymp**	**87.58**	**180**	⇑P	**P**	**15 54 06.2**	**-1.5**
	comp=Z,3.1nm,0.9s						
J17K	**VABM Dome**	**87.66**	**13**	IAMs_20	IAMs_20	16 27 19.7	
	comp=Z,2μm,20.0s						
PFO	**Pinyon Flats O**	**87.77**	**53**	LR	LR	16 29 15.4	
	comp=Z,516nm,18.1s,baz=242,slow=33						
SFX	**San Felipe**	**87.81**	**56**	IAMs_20	IAMs_20	16 25 46.9	
	comp=Z,1μm,20.0s						
VNA2	**Neumayer--Watz**	**87.89**	**180**	⇑P	**P**	**15 54 06.5**	**-2.8**
	comp=Z,7.1nm,0.4s,baz=29,slow=4.3						
TTA	**Tatalina**	**87.91**	**14**	IAMs_20	IAMs_20	16 28 37.0	
	comp=Z,2μm,19.0s						
WAKR	**Walker**	**87.97**	**47**	IAMs_20	IAMs_20	16 25 15.2	
	comp=Z,1μm,19.0s						
SUA	**Susitna One**	**88.00**	**17**	IAMs_20	IAMs_20	16 25 33.4	
	comp=Z,1μm,20.0s						
CPBX	**Cerro Prieto**	**88.09**	**54**	IAMs_20	IAMs_20	16 30 37.0	
	comp=Z,819nm,18.0s						
PNTR	**Pine Nut**	**88.14**	**47**	IAMs_20	IAMs_20	16 35 06.9	
	comp=Z,1μm,18.0s						
VNA1	**Neumayer--Stat**	**88.17**	**180**	⇑P	**P**	**15 54 07.2**	**-3.4**
	comp=Z,17nm,1.1s						
SRIG	**Santa Rosalia**	**88.26**	**60**	IAMs_20	IAMs_20	16 29 45.0	
	comp=Z,911nm,19.0s						
LPIG	**La Paz**	**88.51**	**64**	LR	LR	16 24 11.3	
	comp=Z,852nm,20.5s,baz=236,slow=29						
NVAR	**Mina Array Bea**	**88.71**	**48**	P	**P**	**15 54 13.2**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=221,slow=6.6,SNR=2.4						
NVAR				LR	LR	16 26 17.9	
	comp=Z,996nm,20.7s,baz=254,slow=30						
	comp=Z,0.9nm,0.7s						
F15K	**North Star Dit**	**88.75**	**10**	IAMs_20	IAMs_20	16 27 06.5	
	comp=Z,2μm,22.0s						
CIT	**Chita**	**88.83**	**328**	*e*P	**P**	**15 54 13.0**	**-0.9**
CIT				*e*		15 54 21.4	
G16K	**Koyuk River**	**88.84**	**11**	IAMs_20	IAMs_20	16 27 00.9	
	comp=Z,2μm,21.0s						
J19K	**Poorman**	**88.92**	**14**	IAMs_20	IAMs_20	16 28 31.3	
	comp=Z,1μm,20.0s						
KVN	**Kaiserville**	**89.15**	**47**	P	**P**	**15 54 17.2**	**+1.3**
KVN	**Kaiserville**	**89.15**	**47**	P	**P**	**15 54 17.2**	**+1.3**
KVN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
BILL	**Bilibino**	**89.28**	**358**	IAMs_20	IAMs_20	16 29 03.8	
	comp=Z,1μm,22.0s						
BILL	**Bilibino**	**89.28**	**358**	⇑*e*P	**P**	**15 54 15.6**	**+0.1**
BILL				pmax	pmax		
	comp=Z,25nm,1.5s						
H18K	**Honhosa River**	**89.36**	**12**	IAMs_20	IAMs_20	16 30 06.8	
	comp=Z,2μm,20.0s						
J20K	**Nowinta River**	**89.42**	**14**	IAMs_20	IAMs_20	16 29 11.4	
	comp=Z,2μm,19.0s						
YAK	**Yakutsk**	**89.58**	**342**	IAMs_20	IAMs_20	16 34 07.8	
	comp=Z,1μm,19.0s						
YAK	**Yakutsk**	**89.58**	**342**	LR	LR	16 32 16.8	
	comp=Z,890nm,18.8s,baz=124,slow=34						
YAK	**Yakutsk**	**89.58**	**342**	⇓*e*P	**P**	**15 54 17.1**	**+0.1**
YAK				pmax	pmax		
	comp=Z,29nm,1.9s						
KTH	**Kantishna Hill**	**89.67**	**16**	IAMs_20	IAMs_20	16 27 37.6	
	comp=Z,1μm,20.0s						
Q09A	**Carvers**	**89.67**	**48**	IAMs_20	IAMs_20	16 26 10.5	
	comp=Z,2μm,21.0s						
CRQM	**Cirque**	**89.73**	**20**	IAMs_20	IAMs_20	16 23 52.7	
	comp=Z,2μm,21.0s						
ULN	**Ulaanbaatar**	**89.85**	**323**	⇑*e*P	**P**	**15 54 18.7**	**-0.2**
ULN				pmax	pmax		
	comp=Z,20nm,1.7s						
I20K	**Naaghedeneel**	**89.87**	**14**	IAMs_20	IAMs_20	16 28 40.3	
	comp=Z,1μm,19.0s						
F17K	**Baldwin Pennin**	**89.99**	**11**	IAMs_20	IAMs_20	16 27 13.2	
	comp=Z,2μm,20.0s						
HSIG		**90.00**	**59**	IAMs_20	IAMs_20	16 26 23.1	
	comp=Z,996nm,18.0s						
H19K	**Roundabout Mou**	**90.08**	**13**	IAMs_20	IAMs_20	16 26 42.2	
	comp=Z,1μm,21.0s						
RND	**Reindeer**	**90.10**	**17**	IAMs_20	IAMs_20	16 26 46.8	
	comp=Z,2μm,20.0s						
GTA	**Gaotai**	**90.13**	**313**	*e*P	**P**	**15 54 20.3**	**-0.1**
GTA				pP	pwP	15 54 25.0	-1.7
GTA				SKS	**SKSac**	**16 04 54.0**	**+2.3**
GTA				sS	ScS	16 05 19.0	+0.9
GTA				SS	**SS**	**16 11 13.8**	**+0.2**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.6s						
GTA				LR	LR		
	comp=Z,310nm,20.4s						
GTA				LR	LR		
	comp=Z,460nm,20.0s						
GTA				LR	LR		
	comp=Z,720nm,22.1s						
BBB	**Bella Bella**	**90.18**	**32**	LR	LR	16 25 41.6	
	comp=Z,1μm,21.7s,baz=234,slow=30						
SONM	**Songino Array**	**90.21**	**322**	P	**P**	**15 54 19.9**	**-0.6**
SONM	**Songino Array**	**90.21**	**322**	P	**P**	**15 54 20.1**	**-0.5**
	comp=Z,3.3nm,1.1s,baz=143,slow=4.7,SNR=12						
	comp=Z,3.3nm,1.1s						
BMN	**Battle Mountai**	**90.40**	**46**	IAMs_20	IAMs_20	16 29 00.5	
	comp=Z,984nm,18.0s						
BWN	**Browne**	**90.56**	**16**	IAMs_20	IAMs_20	16 29 02.1	
	comp=Z,1μm,20.0s						
I21K	**Tanana**	**90.77**	**15**	IAMs_20	IAMs_20	16 32 01.1	
	comp=Z,2μm,19.0s						
MLY	**Manley**	**90.94**	**15**	IAMs_20	IAMs_20	16 30 09.0	
	comp=Z,2μm,21.0s						
F19K	**Shaleruckik Mo**	**90.97**	**12**	IAMs_20	IAMs_20	16 27 34.1	
	comp=Z,2μm,22.0s						
H21K	**Melozitna Rive**	**90.98**	**14**	IAMs_20	IAMs_20	16 30 53.6	
	comp=Z,2μm,21.0s						
C16K	**Lisburne Hills**	**91.05**	**8**	IAMs_20	IAMs_20	16 28 24.1	
	comp=Z,1μm,21.0s						
WRH	**Wood River Hil**	**91.15**	**16**	IAMs_20	IAMs_20	16 29 48.8	
	comp=Z,2μm,20.0s						
RDOG	**Red Dog Mine**	**91.19**	**9**	IAMs_20	IAMs_20	16 28 21.3	
	comp=Z,2μm,22.0s						
L26K	**Log Cabin Wild**	**91.37**	**19**	IAMs_20	IAMs_20	16 37 34.6	
	comp=Z,1μm,19.0s						
CCB	**Clear Creek Bu**	**91.37**	**16**	IAMs_20	IAMs_20	16 29 04.4	
	comp=Z,2μm,21.0s						
I23K	**Minto, Yukon-K**	**91.38**	**15**	IAMs_20	IAMs_20	16 30 11.5	
	comp=Z,1μm,21.0s						
RIDG	**Independent Ri**	**91.47**	**18**	IAMs_20	IAMs_20	16 39 52.2	
	comp=Z,1μm,20.0s						
COLA	**College**	**91.54**	**16**	⇓*e*P	**P**	**15 54 27.4**	**+1.3**
COLA				pmax	pmax		
	comp=Z,12nm,1.7s						
F20K	**Avaraart Lake**	**91.55**	**12**	IAMs_20	IAMs_20	16 31 44.6	
	comp=Z,2μm,20.0s						
G21K	**Allakaket**	**91.55**	**13**	IAMs_20	IAMs_20	16 29 54.1	
	comp=Z,1μm,20.0s						
ILAR	**Eielson Array**	**91.71**	**17**	P	**P**	**15 54 24.6**	**-2.3**
	comp=Z,0.8nm,0.9s,baz=239,slow=4.2,SNR=5.8						
ILAR				LR	LR	16 29 35.5	
	comp=Z,1μm,20.6s,baz=212,slow=32						
	comp=Z,0.8nm,0.9s						
POKR	**Poker Plat Res**	**91.84**	**16**	IAMs_20	IAMs_20	16 29 49.9	
	comp=Z,2μm,21.0s						
H23K	**Yukon River**	**91.88**	**15**	IAMs_20	IAMs_20	16 30 38.5	
	comp=Z,2μm,20.0s						
ELK	**Elko**	**91.88**	**47**	P	**P**	**15 54 28.8**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=244,slow=12,SNR=4.9						
ELK				LR	LR	16 30 11.3	
	comp=Z,527nm,19.6s,baz=242,slow=32						
	comp=Z,0.5nm,0.4s						
SCRK	**Sand Creek**	**91.90**	**18**	P	**P**	**15 54 29.3**	**+1.3**
J25K	**Salcha River,**	**92.00**	**17**	IAMs_20	IAMs_20	16 27 11.7	
	comp=Z,1μm,21.0s						
C18K	**Utukok River**	**92.00**	**10**	IAMs_20	IAMs_20	16 28 36.4	
	comp=Z,2μm,22.0s						
F21K	**Alatna River**	**92.16**	**13**	IAMs_20	IAMs_20	16 30 35.7	
	comp=Z,1μm,21.0s						
319A	**Douglas**	**92.28**	**57**	IAMs_20	IAMs_20	16 27 34.2	
	comp=Z,1μm,20.0s						
H24K	**Noodor Dome**	**92.30**	**16**	IAMs_20	IAMs_20	16 33 21.6	
	comp=Z,1μm,18.0s						
D19K	**Kuna River**	**92.37**	**11**	IAMs_20	IAMs_20	16 28 19.4	
	comp=Z,2μm,22.0s						
G23K	**Bananza Creek**	**92.49**	**14**	IAMs_20	IAMs_20	16 29 58.9	
	comp=Z,1μm,21.0s						
PRP	**Porcupine Dome**	**92.65**	**17**	IAMs_20	IAMs_20	16 30 11.4	
	comp=Z,2μm,20.0s						
DLBC	**Dease Lake**	**93.04**	**27**	LR	LR	16 27 58.1	
	comp=Z,2μm,21.3s,baz=256,slow=30						
L29M	**L29M**	**93.07**	**21**	IAmb	IAmb	15 54 44.6	
	comp=Z,12nm,1.1s						
E21K	**Killik River**	**93.09**	**12**	IAMs_20	IAMs_20	16 31 24.3	
	comp=Z,2μm,21.0s						
M30M	**Minto, Yukon**	**93.15**	**21**	P	**P**	**15 54 32.3**	**-1.4**
M30M				IAmb	IAmb	15 54 43.5	
	comp=Z,19nm,1.2s						
ZAK	**Zakamensk**	**93.28**	**323**	*e*P	**P**	**15 54 32.3**	**-2.4**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.6s						
EGAK	**Eagle**	**93.32**	**18**	P	**P**	**15 54 32.9**	**-1.5**
EGAK				IAmb	IAmb	15 54 44.8	
	comp=Z,9.4nm,1.0s						
DAWY	**Dawson**	**93.34**	**19**	P	**P**	**15 54 36.6**	**+2.0**
DAWY				IAmb	IAmb	15 54 44.2	
	comp=Z,15nm,1.4s						
H03S2	**Juan Fernandez**	**93.39**	**128**	T	T	17 38 18.2	
	baz=239,slow=74,SNR=5.1						
H03S1	**Juan Fernandez**	**93.40**	**128**	T	T	17 38 19.6	
	baz=239,slow=74,SNR=4.1						
H03S3	**Juan Fernandez**	**93.41**	**128**	T	T	17 38 21.0	
	baz=239,slow=74,SNR=5.3						
HPIG		**93.47**	**63**	IAMs_20	IAMs_20	16 26 41.4	
	comp=Z,941nm,20.0s						
FYU	**Fort Yukon**	**93.54**	**16**	IAMs_20	IAMs_20	16 32 01.8	
	comp=Z,1μm,20.0s						
F24K	**Squaw Lake**	**93.64**	**15**	IAMs_20	IAMs_20	16 41 40.9	
	comp=Z,1μm,18.0s						
E23K	**Chandalar**	**93.68**	**14**	IAMs_20	IAMs_20	16 32 28.0	
	comp=Z,1μm,20.0s						
121A	**Cookes Peak, D**	**93.90**	**57**	IAMs_20	IAMs_20	16 28 05.2	
	comp=Z,944nm,21.0s						
NEW	**Newport**	**94.12**	**39**	LR	LR	16 33 21.5	
	comp=Z,769nm,18.0s,baz=249,slow=33						
CTU	**Camp Tracy**	**94.25**	**48**	IAMs_20	IAMs_20	16 29 59.6	
	comp=Z,1000nm,19.0s						
JLU	**Jordanelle**	**94.42**	**48**	IAMs_20	IAMs_20	16 29 09.1	
	comp=Z,1μm,22.0s						
MOIG	**Morelia**	**94.65**	**71**	IAMs_20	IAMs_20	16 29 05.0	
	comp=Z,1μm,20.0s						
G27K	**Doyon Strip**	**94.67**	**17**	IAMs_20	IAMs_20	16 29 07.3	
	comp=Z,1μm,21.0s						
F26K	**Sheenjek River**	**94.68**	**16**	IAMs_20	IAMs_20	16 32 27.9	
	comp=Z,1μm,20.0s						
I30M	**Mount Dempster**	**95.08**	**20**	IAMs_20	IAMs_20	16 28 41.5	
	comp=Z,1μm,21.0s						
D25K	**Kavik River**	**95.41**	**14**	IAMs_20	IAMs_20	16 33 05.1	
	comp=Z,2μm,20.0s						
PLCA	**Paso Flores**	**95.53**	**138**	LR	LR	16 29 31.5	
	comp=Z,381nm,21.4s,baz=236,slow=30						
E27K	**Coleen River**	**95.69**	**16**	IAmb	IAmb	15 55 09.7	
	comp=Z,33nm,2.0s						
E27K				IAMs_20	IAMs_20	16 32 36.3	
	comp=Z,1μm,19.0s						
F28M	**Old Crow**	**95.73**	**17**	IAMs_20	IAMs_20	16 31 38.4	
	comp=Z,1μm,22.0s						
ANMO	**Albuquerque**	**95.84**	**55**	LR	LR	16 31 46.4	
	comp=Z,512nm,18.3s,baz=54,slow=32						
FXWY	**Fox Creek**	**95.95**	**45**	IAMs_20	IAMs_20	16 32 51.1	
	comp=Z,831nm,18.0s						
TXAR	**Lajitas Array**	**96.00**	**61**	LR	LR	16 31 01.8	
	comp=Z,250nm,19.2s,baz=242,slow=31						
C27K	**Jago River**	**96.25**	**14**	IAMs_20	IAMs_20	16 33 51.9	
	comp=Z,1μm,20.0s						
UNM	**Universidad Na**	**96.31**	**72**	IAMs_20	IAMs_20	16 28 30.0	
	comp=Z,1μm,20.0s						
YMR	**Madison River**	**96.40**	**45**	IAMs_20	IAMs_20	16 38 24.0	
	comp=Z,1μm,18.0s						
PDAR	**Pinedale Array**	**96.59**	**47**	P	**P**	**15 54 50.4**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=241,slow=1.9,SNR=1.6						
PDAR				LR	LR	16 33 42.1	
	comp=Z,272nm,19.2s,baz=244,slow=32						
	comp=Z,0.1nm,0.3s						
D27M	**Malcolm River**	**96.62**	**15**	IAmb	IAmb	15 54 59.1	
	comp=Z,12nm,1.5s						
YMP	**Mirror Lake Pl**	**96.96**	**45**	IAMs_20	IAMs_20	16 33 36.8	
	comp=Z,1μm,20.0s						
YNE	**Yellowstone No**	**97.16**	**44**	IAMs_20	IAMs_20	16 39 49.1	
	comp=Z,1μm,19.0s						
TIXI	**Tiksi**	**97.31**	**348**	IAMs_20	IAMs_20	16 33 06.3	
	comp=Z,2μm,22.0s						
TIXI	**Tiksi**	**97.31**	**348**	LR	LR	16 33 28.0	
	comp=Z,2μm,22.0s,baz=172,slow=32						
INK	**Inuvik**	**97.97**	**18**	LR	LR	16 32 42.2	
	comp=Z,1μm,21.8s,baz=229,slow=32						
KAAM	**Kaadhehdhoo**	**98.05**	**267**	IAMs_20	IAMs_20	16 35 19.8	
	comp=Z,1μm,19.0s						
WRGLY	**Wrigley**	**98.40**	**25**	IAMs_20	IAMs_20	16 29 01.7	
	comp=Z,2μm,22.0s						
833A	**Chaparral WMA,**	**99.17**	**63**	IAMs_20	IAMs_20	16 30 12.1	
	comp=Z,1μm,21.0s						
CMIG	**Matias Romero**	**99.38**	**75**	LR	LR	16 30 22.5	
	comp=Z,793nm,21.1s,baz=230,slow=30						
JCT	**Junction City**	**99.54**	**61**	IAMs_20	IAMs_20	16 29 03.8	
	comp=Z,916nm,22.0s						
HMDM	**Hanimaadhoo**	**100.11**	**273**	IAMs_20	IAMs_20	16 35 02.3	
	comp=Z,911nm,22.0s						
WMQ	**Urumqi**	**100.21**	**313**	*e*P	**Pdif**	**15 55 07.3**	**+1.1**
WMQ				LR	LR		
	comp=Z,480nm,17.7s						
WMQ				LR	LR		
	comp=Z,880nm,24.3s						
WMQ				LR	LR		
	comp=Z,1μm,22.1s						
ABTX	**Abilene, Hawle**	**100.36**	**59**	IAMs_20	IAMs_20	16 33 11.4	
	comp=Z,932nm,21.0s						
735A	**Kenedy**	**100.66**	**63**	IAMs_20	IAMs_20	16 30 36.6	
	comp=Z,942nm,20.0s						
CCIG	**Comitan**	**101.60**	**77**	IAMs_20	IAMs_20	16 30 12.7	
	comp=Z,955nm,21.0s						
WMOK	**Wichita Mounta**	**101.71**	**57**	IAMs_20	IAMs_20	16 37 46.8	
	comp=Z,1μm,19.0s						
FW07	**Weatherford**	**101.87**	**59**	IAMs_20	IAMs_20	16 37 32.4	
	comp=Z,985nm,19.0s						
WHTX	**Lake Whitney,**	**101.92**	**60**	IAMs_20	IAMs_20	16 38 31.8	
	comp=Z,929nm,19.0s						
Z35A	**Perchaven, San**	**102.49**	**59**	IAMs_20	IAMs_20	16 34 17.7	
	comp=Z,921nm,19.0s						
OK031	**S. Brethren Rd**	**103.58**	**57**	IAMs_20	IAMs_20	16 36 03.4	
	comp=Z,1μm,20.0s						
OK051	**E0350 and S346**	**103.74**	**56**	IAMs_20	IAMs_20	16 39 34.6	
	comp=Z,1μm,19.0s						
MKAR	**Makanchi Array**	**104.75**	**315**	Pdiff	**Pdif**	**15 55 25.0**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=100,slow=6.0,SNR=2.0						
UALR	**University of**	**106.81**	**59**	IAMs_20	IAMs_20	16 37 08.0	
	comp=Z,896nm,20.0s						
KURK	**Kurchatov**	**108.03**	**318**	IAMs_20	IAMs_20	16 41 59.9	
	comp=Z,1μm,22.0s						
FOMA	**Nahampoana Res**	**109.03**	**232**	IAMs_20	IAMs_20	16 42 28.9	
	comp=Z,991nm,19.0s						
VOI	**Vohitsoka**	**110.94**	**235**	IAMs_20	IAMs_20	16 41 56.4	
	comp=Z,1μm,22.0s						
GAR	**Garm**	**111.58**	**305**	IAMs_20	IAMs_20	16 53 57.7	
	comp=Z,900nm,21.0s						
SOR	**Soroa**	**111.73**	**73**	IAMs_20	IAMs_20	16 37 19.8	
	comp=Z,922nm,22.0s						
ABPO	**Ambohimpanom**	**112.22**	**238**	IAMs_20	IAMs_20	16 42 44.5	
	comp=Z,1μm,21.0s						
BRVK	**Borovoye**	**113.48**	**320**	IAMs_20	IAMs_20	16 49 10.0	
	comp=Z,680nm,19.0s						
ARTI	**Arti**	**120.32**	**324**	IAMs_20	IAMs_20	16 53 55.6	
	comp=Z,836nm,20.0s						
ARTI	**Arti**	**120.32**	**324**	*i* PKIKP	**PKiKP**	**16 00 16.1**	**+5.1**
ARTI				MLR	MLR		
	comp=Z,931nm,22.0s						
SDDR	**Presa de Saban**	**121.42**	**80**	IAMs_20	IAMs_20	16 41 16.9	
	comp=Z,910nm,22.0s						
APA	**Apatity**	**126.96**	**341**	⇓*i*PKHKP	PKPpre	16 00 08.2	
APA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
APA				MLR	MLR		
	comp=Z,2μm,20.0s						
BELG	**Belogornoye**	**127.22**	**320**	⇑*i*PKIKP	**PKiKP**	**16 00 25.4**	**+0.7**
KIBK	**Kibwezi**	**128.68**	**248**	IAMs_20	IAMs_20	16 52 01.0	
	comp=Z,908nm,20.0s						
LSZ	**Lusaka**	**128.72**	**228**	IAMs_20	IAMs_20	16 52 40.2	
	comp=Z,706nm,20.0s						
MAK	**Makhachkala**	**128.94**	**308**	*i* P	**Pdif**	**15 57 12.8**	**-1.0**
MAK				*i*		16 00 24.9	
MAK				*e*		16 02 30.2	
MAK				*e*PPP	PPP	16 05 15.9	
MAK				*e*		16 07 28.3	
MAK				*e*SS	SS	16 19 48.6	-6.0
MAK				*e*SSS	SSS	16 24 32.7	
MAK				pmax	pmax		
	comp=Z,560nm,1.5s						
MAL2	**Monte Alegre,**	**129.67**	**112**	IAMs_20	IAMs_20	16 48 14.5	
	comp=Z,842nm,20.0s						
RAYN	**Ar Rayn**	**130.25**	**283**	IAMs_20	IAMs_20	16 54 36.6	
	comp=Z,583nm,21.0s						
KIV	**Kislovodsk**	**132.26**	**310**	IAMs_20	IAMs_20	17 07 23.5	
	comp=Z,515nm,19.0s						
KIV	**Kislovodsk**	**132.26**	**310**	*i* PKIKP	**PKiKP**	**16 00 35.1**	**-0.2**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,495nm,23.0s						
OBN	**Obninsk**	**132.45**	**327**	IAMs_20	IAMs_20	17 02 19.2	
	comp=Z,951nm,20.0s						
OBN	**Obninsk**	**132.45**	**327**	*e*PKIKP	**PKPdf**	**16 00 34.2**	**+0.2**
OBN				*e*PPP	PPP	16 05 47.3	
OBN				*e*		16 07 45.6	
OBN				*e*SS	SS	16 20 38.9	+2.5
OBN				*e*SSS	SSS	16 25 32.9	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MBAR	**Mbarara**	**135.83**	**245**	IAMs_20	IAMs_20	16 56 19.6	
	comp=Z,924nm,20.0s						
GAZ	**Gaziantep**	**137.54**	**302**	IAMs_20	IAMs_20	17 03 44.0	
	comp=Z,503nm,21.0s						
NOA	**NORSAR Array B**	**138.07**	**346**	PKP	**PKPdf**	**16 00 44.2**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=32,slow=1.9,SNR=1.6						
HFS	**Hagfors**	**138.25**	**343**	PKP	**PKPdf**	**16 00 43.2**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=228,slow=40,SNR=1.7						
AKASG	**Malin Array Be**	**138.47**	**324**	PKP	**PKPdf**	**16 00 44.7**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=74,slow=1.2,SNR=1.1						
AKBB	**Malin Array Si**	**138.47**	**324**	PKP	**PKiKP**	**16 00 47.6**	**+0.1**
AK13	**Malin Array Si**	**138.61**	**324**	PKP	**PKiKP**	**16 00 47.4**	**-0.4**
GHAJ	**Ghor Haditha**	**139.50**	**293**	IAMs_20	IAMs_20	17 06 36.5	
	comp=Z,479nm,20.0s						
LUBAR	**Lubar, Ukraine**	**139.68**	**324**	PKP	**PKPdf**	**16 00 48.7**	**+1.0**
BRTR	**Keskin Array B**	**139.78**	**307**	PKP	**PKPdf**	**16 00 46.9**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=70,slow=1.7,SNR=2.5						
CSS	**Mathiatis**	**140.98**	**299**	IAMs_20	IAMs_20	17 10 17.3	
	comp=Z,616nm,20.0s						
HARR	**Harsova**	**142.08**	**316**	⇓P	PKPdf	16 00 41.7	-10
HARR	**Harsova**	**142.08**	**316**	⇓PKHKP	PKPpre	16 00 41.7	
ISP	**Isparta**	**142.62**	**305**	IAMs_20	IAMs_20	17 12 02.2	
	comp=Z,667nm,21.0s						
MLR	**Muntele Rosu**	**142.97**	**319**	PKP	**PKPdf**	**16 00 53.8**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=20,slow=15,SNR=1.9						
MLR	**Muntele Rosu**	**142.97**	**319**	⇑P	**PKPdf**	**16 00 53.2**	**-0.8**
MLR	**Muntele Rosu**	**142.97**	**319**	PKP	**PKiKP**	**16 00 55.8**	**-1.3**
ARR	**Arges**	**143.83**	**319**	⇑P	PKPbc	16 00 54.0	+1.0
TNR	**Turnu Rosu**	**143.91**	**320**	⇑P	**PKPdf**	**16 00 54.6**	**-0.8**
TNR	**Turnu Rosu**	**143.91**	**320**	⇑PKIKP	**PKPdf**	**16 00 54.6**	**-0.8**
MARR	**Marisel-Cluj**	**144.04**	**322**	⇑P	PKPbc	16 00 54.3	+0.7
ELND	**Elena**	**144.19**	**315**	⇑P	PKPbc	16 00 54.2	+0.1
DRGR		**144.21**	**322**	⇑P	PKPbc	16 00 54.3	+0.2
DRGR		**144.21**	**322**	⇑PKIKP	PKPbc	16 00 54.3	+0.2
OKC	**Ostrava-Krasne**	**144.66**	**330**	AMS	AMS	17 03 40.0	
	comp=Z,900nm,21.4s						
GZR	**Gura Zlata**	**144.94**	**320**	⇑P	PKPbc	16 00 57.0	+0.5
GZR	**Gura Zlata**	**144.94**	**320**	⇑PKIKP	PKPbc	16 00 57.0	+0.5
MORC	**Moravsky Berou**	**144.99**	**330**	⇑P	**PKPdf**	**16 00

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,15nm,0.8s						
CLL				*i* pPKiKP	**pPKiKP**	**16 01 06.7**	**+1.7**
	comp=Z,36nm,1.0s						
CLL				*e*x	x	16 02 18.0	
CLL				*e*x	x	16 05 24.0	
CLL				*e*PPPP		16 09 42.0	
CLL				*e*PSKS		16 14 48.0	
CLL				*e*x	x	16 18 06.0	
CLL				*e*SS	SS	16 23 12.0	-0.6
CLL				*e*x	x	16 25 30.0	
CLL				*e*SSS	SSS	16 28 30.0	
CLL				*e*SSSS		16 32 36.0	
CLL				AMS	AMS	17 06 00.0	
	comp=Z,1μm,22.0s						
CLL				R2		17 25 00.0	
KARP	**Karpathos**	**145.81**	**302**	IAMs_20	IAMs_20	17 18 09.8	
	comp=Z,471nm,21.0s						
EKA	**Eskdalemuir Ar**	**145.90**	**355**	PKPbc	**PKPdf**	**16 00 58.7**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=356,slow=2.6,SNR=5.8						
MDVR	**Moldovita**	**145.90**	**320**	⇑P	**PKPab**	**16 01 00.2**	**+0.2**
KRUC	**Moravsky**	**146.02**	**330**	*e*PKP	**PKPdf**	**16 00 59.0**	**+0.1**
MODS	**Modra-Piesok**	**146.08**	**329**	*e*PKP2	**PKPab**	**16 01 00.8**	**+0.2**
MODS	**Modra-Piesok**	**146.08**	**329**	*e*PKP	**PKPab**	**16 01 00.8**	**+0.2**
GOPC	**GO Pecny, Ondr**	**146.11**	**333**	AMS	AMS	17 05 20.0	
	comp=Z,800nm,22.5s						
HSKC	**Hora Svate Kat**	**146.14**	**335**	*e*PKP	**PKiKP**	**16 01 04.9**	**+1.5**
HSKC				AMS	AMS	17 01 50.0	
	comp=Z,1μm,26.1s						
PRU	**Pruhonice**	**146.16**	**333**	AMS	AMS	17 00 30.0	
	comp=Z,900nm,20.5s						
TREC	**Trest**	**146.27**	**331**	AMS	AMS	17 04 10.0	
	comp=Z,2μm,23.6s						
APE	**Apeiranthos**	**146.64**	**305**	⇑P	**PKPdf**	**16 00 56.9**	**-3.6**
APE	**Apeiranthos**	**146.64**	**305**	PKHKP	PKPpre	16 00 56.9	
ZVC	**Zvikov**	**146.73**	**333**	*e*PKP	**PKiKP**	**16 01 05.5**	**+0.9**
MORH	**Mrgy, Hungar**	**146.81**	**325**	⇑P	**PKPdf**	**16 01 01.2**	**+0.9**
RONA	**Rosalia, Austr**	**147.03**	**329**	*e*pPKP	pPKPdf	16 01 03.6	+0.3
	comp=Z,5.6nm,0.8s						
CONA	**Conrad Observa**	**147.07**	**329**	*e*PKP	**PKPbc**	**16 01 02.5**	**-0.5**
	comp=Z,7.7nm,1.1s						
CKRC	**Cesky Krumlov**	**147.14**	**332**	*e*PKP	**PKPbc**	**16 01 02.4**	**-0.6**
CKRC				AMS	AMS	17 03 00.0	
	comp=Z,1μm,24.2s						
CKRC	**Cesky Krumlov**	**147.14**	**332**	*e*PKP2	**PKiKP**	**16 01 05.5**	**0.0**
KHC	**Kasperske Hory**	**147.22**	**333**	*e*PKP	**PKPbc**	**16 01 02.8**	**-0.5**
KHC				AMS	AMS	17 00 10.0	
	comp=Z,1μm,23.3s						
KHC	**Kasperske Hory**	**147.22**	**333**	*e*PKP2	**PKPbc**	**16 01 02.8**	**-0.5**
KHC				MLR	MLR		
	comp=Z,1μm,23.3s						
GERES	**GERESS Array B**	**147.39**	**332**		**PKPbc**	**16 01 03.6**	**-0.2**
GERES	**GERESS Array B**	**147.39**	**332**	PKPbc	**PKPdf**	**16 01 01.6**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=90,slow=2.9,SNR=8.4						
GERES	**GERESS Array B**	**147.39**	**332**	PKP2	**PKPbc**	**16 01 03.6**	**-0.2**
IDI	**Anoyia**	**147.66**	**303**	PKPbc	**PKPbc**	**16 01 04.0**	**-1.0**
	comp=Z,22nm,0.9s,baz=10.0,slow=13,SNR=5.5						
ARSA	**Arzberg**	**147.72**	**329**	*e*PKP	**PKPdf**	**16 01 02.1**	**+0.2**
	comp=Z,6.3nm,1.1s						
BIOA	**Bad Ischl, Aus**	**148.28**	**331**	*e*PKP	**PKPdf**	**16 01 04.7**	**+1.9**
	comp=Z,8.2nm,1.4s						
SOKA	**Soboth**	**148.36**	**328**	PKiKP	**PKiKP**	**16 01 07.6**	**-0.5**
	comp=Z,15nm,1.3s						
OBKA	**Obir**	**148.71**	**329**	*e*PKiKP	**PKiKP**	**16 01 08.6**	**-0.2**
	comp=Z,24nm,1.9s						
LESA	**Schwarzleotal**	**148.91**	**332**	PKP	**PKPbc**	**16 01 07.0**	**-0.9**
	comp=Z,5.2nm,0.8s						
MYKA	**Terra Mystica**	**149.06**	**330**	PKiKP	**PKPbc**	**16 01 08.5**	**+0.3**
	comp=Z,7.0nm,0.6s						
WATA	**Walderalm**	**149.46**	**333**	*e*pPKP	**PKiKP**	**16 01 11.9**	**+1.5**
	comp=Z,7.1nm,0.9s						
WTTA	**Wattenberg**	**149.49**	**332**	*e*pPKP	**PKiKP**	**16 01 12.0**	**+1.5**
	comp=Z,14nm,1.4s						
ABTA	**Abfaltersbach**	**149.50**	**331**	*e*pPKP	pPKPdf	16 01 07.5	+0.1
	comp=Z,14nm,1.5s						
MOTA	**Moosalm**	**149.65**	**333**	PKP	**PKPbc**	**16 01 08.6**	**-1.2**
	comp=Z,5.9nm,0.8s						
RETA	**Reutte**	**149.68**	**334**	pPKP	**PKiKP**	**16 01 12.1**	**+1.3**
	comp=Z,4.8nm,0.7s						
SQTA	**Sankt Quirin**	**149.71**	**333**	pPKP	**PKPdf**	**16 01 06.7**	**+1.5**
	comp=Z,5.8nm,0.8s						
FETA	**Feichten**	**150.06**	**333**	PKP	**PKPdf**	**16 01 06.1**	**+0.2**
	comp=Z,7.3nm,1.3s						
DAVA	**Damuels**	**150.20**	**334**	*e*PKiKP	**PKiKP**	**16 01 12.7**	**+0.7**
	comp=Z,20nm,1.5s						
FUORN	**Ofenpass-Fuorn**	**150.58**	**333**		**PKPbc**	**16 01 11.6**	**-0.6**
DAVOX	**Davos/Dischmat**	**150.61**	**334**	PKPbc	**PKPbc**	**16 01 10.9**	**-1.3**
	comp=Z,6.2nm,0.8s,baz=330,slow=3.6,SNR=5.6						
TUE	**Stuetta**	**151.08**	**334**		**PKPbc**	**16 01 12.6**	**-0.7**
ESDC	**Sonseca Array**	**161.39**	**349**	PKPab	**PKPab**	**16 02 03.5**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=1.6,slow=3.8,SNR=2.3						
DBIC	**Dimbokro**	**164.90**	**194**	PKPab	**PKPab**	**16 02 18.8**	**-2.0**
	comp=Z,1.3nm,0.7s,baz=266,slow=5.1,SNR=1.3						
TORD	**Torodi Ar. Bea**	**167.22**	**232**	PKP	**PKPdf**	**16 01 26.0**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=112,slow=3.3,SNR=2.7						
TORD				PKPab	**PKPab**	**16 02 29.2**	**-2.1**
	comp=Z,1.0nm,0.8s,baz=98,slow=3.4,SNR=4.0						

*IDC **27** 15:42:08.4±3.8, 13°.25N×87°.01W, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=176.1km s-min=71.2km az=59.0*
*SNET **27** 15:42:19.6±1.4, 12°.85N×88°.40W, h52km, ML4.2*
*CATAC **27** 15:42:19.3±0.3, 12°.82N×88°.40W, h40km±6km, ML4.3*
ISC 27 15:42:18.7±1.1, 12°.80N±0°.07×88°.42W±0°.04, h64km±10km, n77, σ0°67/98, mb3.3/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.63**	**11**	*i* P	**Pn**	**15 42 32.4**	**-0.1**
RANC	**El Ranchito**	**0.65**	**11**	*i* P	**Pn**	**15 42 32.7**	**0.0**
RANC				IAML		15 42 32.9	
	comp=Z,8μm,1.0s						
PACA	**Pacayal**	**0.67**	**8**	*e*P	**Pn**	**15 42 33.2**	**+0.2**
PACA	**Pacayal**	**0.67**	**8**	*i* P	**Pn**	**15 42 32.9**	**-0.1**
PACA				IAML		15 42 50.3	
	comp=Z,57μm,1.0s						
CNRM	**Centro Naciona**	**0.72**	**20**	*e*S	**Sn**	**15 42 44.7**	**+0.6**
CNRM	**Centro Naciona**	**0.72**	**20**	*i* P	**Pn**	**15 42 33.1**	**-0.3**
CNRM				IAML		15 42 47.4	
	comp=Z,28μm,1.0s						
LCND	**La Caada**	**0.72**	**45**	*e*P	**Pn**	**15 42 33.2**	**-0.2**
LCND				*e*S	**Sn**	**15 42 44.5**	**+0.2**
LCND	**La Caada**	**0.72**	**45**	*i* P	**Pn**	**15 42 33.1**	**-0.4**
LCND				IAML		15 42 46.3	
	comp=Z,8μm,1.0s						
CNCH	**Conchagua**	**0.74**	**50**	*e*P	**Pn**	**15 42 34.0**	**+0.3**
CNCH				*e*S	**Sn**	**15 42 45.9**	**+1.0**
CNCH	**Conchagua**	**0.74**	**50**	*i* P	**Pn**	**15 42 33.3**	**-0.5**
CNCH				IAML		15 42 50.0	
	comp=Z,16μm,1.0s						
TECO	**Alcaldia de Te**	**0.81**	**335**	*i* P	**Pn**	**15 42 34.3**	**-0.3**
TECO				IAML		15 42 50.7	
	comp=Z,5μm,1.0s						
PQSS	**Presa 15 de Se**	**0.83**	**351**	*i* P	**Pn**	**15 42 34.9**	**+0.1**
PQSS				IAML		15 42 49.3	
	comp=Z,6μm,1.0s						
CSGN	**Cosiguina Volc**	**0.86**	**78**	*i* P	**Pn**	**15 42 34.9**	**-0.3**
CSGN				IAML		15 42 52.2	
	comp=Z,2μm,1.0s						
UESV	**Universidad de**	**0.91**	**337**	*i* P	**Pn**	**15 42 35.8**	**+0.1**
UESV				IAML		15 42 57.0	
	comp=Z,5μm,1.0s						
POTN	**Potosi Cosigui**	**0.91**	**77**	*i* P	**Pn**	**15 42 35.8**	**0.0**
POTN				IAML		15 42 54.8	
	comp=Z,2μm,1.0s						
COEG	**Centro de Oper**	**0.93**	**331**	*e*P	**Pn**	**15 42 36.0**	**-0.1**
COEG				*e*S	**Sn**	**15 42 49.0**	**0.0**
COEG	**Centro de Oper**	**0.93**	**331**	*i* P	**Pn**	**15 42 35.8**	**-0.3**
COEG				IAML		15 42 53.5	
	comp=Z,4μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.95**	**342**	*i* P	**Pn**	**15 42 35.3**	**-1.0**
SCLA				IAML		15 42 37.1	
	comp=Z,4μm,1.0s						
LFRS	**El Faro**	**1.03**	**323**	*e*P	**Pn**	**15 42 37.3**	**-0.1**
PAVA	**Las Pavas**	**1.04**	**331**	*e*P	**Pn**	**15 42 37.7**	**+0.2**
PAVA	**Las Pavas**	**1.04**	**331**	*i* P	**Pn**	**15 42 37.6**	**+0.1**
PAVA				IAML		15 42 53.8	
	comp=Z,11μm,1.0s						
PANCS	**Alcalda de**	**1.10**	**318**	*i* P	**Pn**	**15 42 37.8**	**-0.4**
PANCS				IAML		15 42 53.7	
	comp=Z,9μm,1.0s						
LALI	**Alcalda de L**	**1.11**	**308**	*e*P	**Pn**	**15 42 38.2**	**-0.1**
LALI	**Alcalda de L**	**1.11**	**308**	*i* P	**Pn**	**15 42 38.1**	**-0.2**
LALI				IAML		15 42 52.0	
	comp=Z,1μm,1.0s						
LOMA	**Loma Larga**	**1.11**	**319**	*e*P	**Pn**	**15 42 38.5**	**-0.1**
LOMA				*e*S	**Sn**	**15 42 53.6**	**+0.4**
LOMA	**Loma Larga**	**1.11**	**319**	*i* P	**Pn**	**15 42 38.4**	**-0.1**
LOMA				IAML		15 42 57.2	
	comp=Z,6μm,1.0s						
UDBS	**Universidad Do**	**1.16**	**322**	*i* P	**Pn**	**15 42 39.2**	**+0.2**
UDBS				*i* S	**Sn**	**15 42 54.2**	**0.0**
UDBS				IAML		15 42 57.9	
	comp=Z,4μm,1.0s						
IGN	**Direccin Gen**	**1.17**	**321**	*i* S	**Sn**	**15 42 54.5**	**+0.2**
SNET	**Serv Nac Est T**	**1.19**	**318**	*i* S	**Sn**	**15 42 54.5**	**-0.3**
SEMO	**Seminario San**	**1.19**	**319**	*i* P	**Pn**	**15 42 39.4**	**-0.1**
SEMO				*i* S	**Sn**	**15 42 55.0**	**0.0**
SEMO				IAML		15 42 58.5	
	comp=Z,10μm,1.0s						
UEES	**Universidad Ev**	**1.21**	**319**	*i* P	**Pn**	**15 42 40.0**	**+0.3**
UEES				*i* S	**Sn**	**15 42 55.5**	**+0.1**
UEES				IAML		15 42 59.7	
	comp=Z,3μm,1.0s						
BOQS	**Boqueron**	**1.25**	**318**	*e*P	**Pn**	**15 42 40.7**	**+0.3**
PMON	**Piamonte**	**1.26**	**316**	*e*P	**Pn**	**15 42 40.6**	**+0.3**
PMON	**Piamonte**	**1.26**	**316**	*i* P	**Pn**	**15 42 40.4**	**0.0**
PMON				*i* S	**Sn**	**15 42 56.7**	**+0.1**
PMON				IAML		15 43 01.2	
	comp=Z,6μm,1.0s						
EVIJ	**El Viejo**	**1.27**	**96**	*i* P	**Pn**	**15 42 40.4**	**-0.1**
EVIJ				*i* S	**Sn**	**15 42 56.3**	**-0.5**
EVIJ				IAML		15 42 59.4	
	comp=Z,11μm,1.0s						
JAYA	**Jayaque - finc**	**1.31**	**310**	*e*P	**Pn**	**15 42 40.9**	**-0.2**
JAYA	**Jayaque - finc**	**1.31**	**310**	*i* P	**Pn**	**15 42 40.8**	**-0.3**
JAYA				*i* S	**Sn**	**15 42 57.7**	**-0.3**
JAYA				IAML		15 43 01.9	
	comp=Z,13μm,1.0s						
CRIN	**San Cristobal**	**1.34**	**94**	*i* P	**Pn**	**15 42 41.9**	**+0.5**
CRIN				*i* S	**Sn**	**15 42 59.6**	**+1.2**
CRIN				IAML		15 43 06.6	
	comp=Z,16μm,1.0s						
PKGN	**Cerro Pekin**	**1.41**	**95**	*i* P	**Pn**	**15 42 42.4**	**+0.1**
PKGN				*i* S	**Sn**	**15 43 00.2**	**+0.1**
PKGN				IAML		15 43 02.1	
	comp=Z,16μm,1.0s						
CEVE	**Cerro Verde**	**1.56**	**311**	*e*P	**Pn**	**15 42 45.2**	**+0.8**
CEVE	**Cerro Verde**	**1.56**	**311**	*i* P	**Pn**	**15 42 45.2**	**+0.8**
CEVE				IAML		15 43 19.0	
	comp=Z,4μm,1.0s						
HERN	**Volcan Telica**	**1.56**	**97**	*i* P	**Pn**	**15 42 43.4**	**-1.0**
HERN				*i* S	**Sn**	**15 43 02.1**	**-1.6**
HERN				IAML		15 43 06.3	
	comp=Z,7μm,1.0s						
TELN	**Telica**	**1.56**	**97**	*i* P	**Pn**	**15 42 44.7**	**+0.3**
TELN				IAML		15 43 09.4	
	comp=Z,540nm,1.0s						
POLN	**Al Sur del Vol**	**1.57**	**95**	*i* P	**Pn**	**15 42 44.7**	**+0.2**
POLN				*i* S	**Sn**	**15 43 04.2**	**+0.2**
POLN				IAML		15 43 07.1	
	comp=Z,21nm,1.0s						
PACN	**Al O del Volca**	**1.62**	**100**	*i* P	**Pn**	**15 42 45.0**	**0.0**
PACN				*i* S	**Sn**	**15 43 05.6**	**+0.7**
PACN				IAML		15 43 15.0	
	comp=Z,5μm,1.0s						
ILCN	**San Idelfonso**	**1.69**	**97**	*i* P	**Pn**	**15 42 46.0**	**-0.1**
ILCN				*i* S	**Sn**	**15 43 06.0**	**-0.8**
ILCN				IAML		15 43 15.0	
	comp=Z,900nm,1.0s						
CNGA	**Al SSO del Vol**	**1.70**	**100**	*i* P	**Pn**	**15 42 46.3**	**+0.1**
CNGA				*i* S	**Sn**	**15 43 08.3**	**+1.2**
CNGA				IAML		15 43 15.3	
	comp=Z,5μm,1.0s						
NUBE	**Las Nubes**	**1.72**	**310**	*i* P	**Pn**	**15 42 46.8**	**+0.2**
NUBE				*i* S	**Sn**	**15 43 07.9**	**+0.2**
NUBE				IAML		15 43 12.3	
	comp=Z,3μm,1.0s						
MACN	**El Madrono**	**1.73**	**101**	*i* P	**Pn**	**15 42 46.7**	**0.0**
MACN				IAML		15 43 16.6	
	comp=Z,2μm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.80**	**102**	*i* P	**Pn**	**15 42 48.1**	**+0.6**
LEVN				IAML		15 43 18.7	
	comp=Z,3μm,1.0s						
MTO3	**Montecristo**	**1.84**	**330**	*e*P	**Pn**	**15 42 48.5**	**+0.3**
MTO3	**Montecristo**	**1.84**	**330**	*i* P	**Pn**	**15 42 48.5**	**+0.3**
MTO3				IAML		15 43 16.1	
	comp=Z,710nm,1.0s						
MOMN	**Momotombo**	**1.88**	**102**	*i* P	**Pn**	**15 42 48.6**	**0.0**
MOMN				*i* S	**Sn**	**15 43 10.5**	**-0.8**
MOMN				IAML		15 43 16.8	
	comp=Z,120nm,1.0s						
ESQI	**Esquipulas**	**1.97**	**333**	*e*P	**Pn**	**15 42 50.8**	**+0.8**
ESQI	**Esquipulas**	**1.97**	**333**	*i* P	**Pn**	**15 42 50.7**	**+0.8**
ESQI				IAML		15 43 21.5	
	comp=Z,1μm,1.0s						
LIMN	**Finca el Limon**	**2.02**	**82**	*i* P	**Pn**	**15 42 50.6**	**0.0**
LIMN				IAML		15 43 19.6	
	comp=Z,810nm,1.0s						
SAPS	**Ciudad Sandino**	**2.06**	**107**	*i* P	**Pn**	**15 42 51.3**	**+0.2**
SAPS				*i* S	**Sn**	**15 43 15.7**	**-0.1**
SAPS				IAML		15 43 23.7	
	comp=Z,3μm,1.0s						
APYN	**Apoyeque**	**2.10**	**105**	*i* P	**Pn**	**15 42 52.3**	**+0.7**
APYN				IAML		15 43 23.4	
	comp=Z,84nm,1.0s						
APQ2	**Apoyeque**	**2.13**	**106**	*i* P	**Pn**	**15 42 52.4**	**+0.4**
APQ2				*i* S	**Sn**	**15 43 18.7**	**+1.3**
APQ2				IAML		15 43 21.1	
	comp=Z,2μm,1.0s						
TISN	**Laguna Tiscapa**	**2.20**	**107**	*i* P	**Pn**	**15 42 53.2**	**+0.3**
TISN				IAML		15 43 28.1	
	comp=Z,160nm,1.0s						
UNAN	**Cigeo UNAN**	**2.21**	**108**	*i* P	**Pn**	**15 42 53.3**	**+0.3**
UNAN				*i* S	**Sn**	**15 43 18.7**	**-0.6**
UNAN				IAML		15 43 24.1	
	comp=Z,8μm,1.0s						
RCFN	**Al S de San Ju**	**2.27**	**71**	*i* P	**Pn**	**15 42 54.2**	**+0.2**
RCFN				IAML		15 43 02.9	
	comp=Z,3μm,1.0s						
RCVN	**Varillal2**	**2.31**	**70**	*i* P	**Pn**	**15 42 54.7**	**+0.2**
RCVN				IAML		15 43 04.1	
	comp=Z,9μm,1.0s						
RCVN				*i* S	**Sn**	**15 43 22.0**	**+0.1**
MAS3	**Al N del Volca**	**2.32**	**109**	*i* P	**Pn**	**15 42 54.7**	**+0.1**
MAS3				IAML		15 43 31.4	
	comp=Z,2μm,1.0s						
MASN	**Masaya**	**2.36**	**110**	*i* P	**Pn**	**15 42 54.1**	**-1.0**
MASN				*i* S	**Sn**	**15 43 21.4**	**-1.6**
MASN				IAML		15 43 27.6	
	comp=Z,880nm,1.0s						
SABN	**Sabanita**	**2.36**	**110**	*i* P	**Pn**	**15 42 56.5**	**+1.4**
SABN				IAML		15 43 28.9	
	comp=Z,2μm,1.0s						
RCPN	**Sur Rio San Ju**	**2.38**	**72**	*i* P	**Pn**	**15 42 56.1**	**+0.6**
RCPN				IAML		15 43 33.9	
	comp=Z,3.6nm,1.0s						
NANN	**Nandasmo**	**2.40**	**111**	*i* P	**Pn**	**15 42 56.9**	**+1.2**
NANN				IAML		15 43 27.3	
	comp=Z,21μm,1.0s						
CONN	**Concepcion**	**3.00**	**114**	*i* P	**Pn**	**15 43 05.7**	**+1.9**
CONN				IAML		15 43 52.8	
	comp=Z,3μm,1.0s						
TXAR	**Lajitas Array**	**21.71**	**322**	P	**P**	**15 47 07.2**	**+2.5**
	comp=Z,0.7nm,0.5s,baz=140,slow=12,SNR=3.4						
	comp=Z,0.7nm,0.5s						
PDAR	**Pinedale Array**	**35.02**	**332**	P	**P**	**15 49 05.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=123,slow=10,SNR=1.8						
	comp=Z,0.1nm,0.3s						
H03N2	**Juan Fernandez**	**46.86**	**169**	T	T	16 40 58.3	
	baz=348						
H03N1	**Juan Fernandez**	**46.87**	**169**	T	T	16 41 00.8	
	baz=348						
H03N3	**Juan Fernandez**	**46.88**	**169**	T	T	16 41 03.8	
	baz=348						
ILAR	**Eielson Array**	**65.32**	**336**	P	**P**	**15 52 53.0**	**-0.8**
	comp=Z,0.4nm,0.9s,baz=172,slow=5.0,SNR=5.6						
	comp=Z,0.4nm,0.9s						
WRA	**Warramunga Arr**	**138.45**	**254**	PKP	**PKiKP**	**16 01 39.7**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=88,slow=2.4,SNR=5.4						
ASAR	**Alice Springs**	**138.51**	**249**	PKP	**PKiKP**	**16 01 38.2**	**-1.9**
	comp=Z,0.3nm,0.9s,baz=88,slow=2.9,SNR=2.0						

*GII **27** 15:49:36.8±0.3, 33°.49N±0°.02×35°.76E±0°.01, h0km, confirmed*
*GRAL **27** 15:49:38.0±0.3, 33°.47N×35°.69E, h0km±20km, MD2.6*
ISC 27 15:49:38.1±1.2, 33°.48N±0°.02×35°.70E±0°.04, h0km, n20, σ0°74/22, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRWL	**Qaraoun**	**0.07**	**348**	*e*P	**Pg**	**15 49 39.4**	**0.0**
RCY	**Rachaya**	**0.12**	**81**	*e*P	**Pg**	**15 49 40.3**	**0.0**
SHBL	**Chebaa**	**0.14**	**164**	*e*P	**Pg**	**15 49 40.3**	**-0.4**
SHBL				*e*S	**Sg**	**15 49 42.0**	**-0.4**
NATI	**Neve Ativ**	**0.22**	**172**	P	**Pg**	**15 49 41.8**	**-0.5**
NATI	**Neve Ativ**	**0.22**	**172**	S	**Sg**	**15 49 46.6**	**+1.6**
DQRL	**Deir Qamar**	**0.25**	**335**	*e*P	**Pg**	**15 49 42.7**	**-0.2**
DQRL				*e*S	**Sg**	**15 49 46.1**	**-0.1**
GEM	**Giv'at Ha'Em**	**0.27**	**187**	P	**Pg**	**15 49 42.9**	**-0.3**
GEM	**Giv'at Ha'Em**	**0.27**	**187**	S	**Sg**	**15 49 47.9**	**+1.2**
ZAHL	**Zahle**	**0.41**	**22**	*e*P	**Pg**	**15 49 45.5**	**-0.4**
BHL	**Bhannes**	**0.43**	**355**	*e*P	**Pg**	**15 49 46.0**	**-0.3**
KSHT	**Keshet**	**0.50**	**169**	P	**Pg**	**15 49 47.3**	**-0.4**
KSHT	**Keshet**	**0.50**	**169**	S	**Sg**	**15 49 55.7**	**+1.5**
MMA0B	**Mount Meron ar**	**0.53**	**208**	P	**Pg**	**15 49 48.2**	**+0.1**
MMA0B	**Mount Meron ar**	**0.53**	**208**	S	**Sb**	**15 49 57.5**	**-0.9**
HNTI	**Hanita**	**0.59**	**228**	P	**Pg**	**15 49 49.6**	**+0.2**
HNTI	**Hanita**	**0.59**	**228**	S	**Sb**	**15 50 00.3**	**0.0**
OFRI	**`Ofer**	**1.04**	**215**	P	**Pg**	**15 49 57.3**	**-0.8**
OFRI	**`Ofer**	**1.04**	**215**	S	**Sb**	**15 50 13.7**	**+0.4**
HMDT	**Nahal Hemdat**	**1.23**	**187**	P	**Pg**	**15 50 00.4**	**-1.2**
HMDT	**Nahal Hemdat**	**1.23**	**187**	S	**Sg**	**15 50 17.9**	**+0.2**

*IDC **27** 16:19:56.4±7.6, 1°.80N×98°.13E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=361.4km s-min=32.4km az=55.0*
*DJA **27** 16:20:05.4±0.6, 2°.N±2°.×9°.8E±°, h67km±12km, M3.1/7, MLv3.1/7*
ISC 27 16:20:04.1±1.0, 1°.85N±0°.07×98°.30E±0°.08, h50km, n14, σ1°01/9, mb3.5/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**0.91**	**233**	P	**Pn**	**16 20 21.7**	**+1.1**
MNSI	**Mandailing Nat**	**1.65**	**129**	P	**Pn**	**16 20 32.1**	**+1.4**
PBSI	**Pulau Batu**	**1.89**	**181**	P	**Pn**	**16 20 34.3**	**+0.3**
PBSI				S	**Sn**	**16 20 56.5**	**-0.2**
SNSI	**Sinabang, Aceh**	**2.05**	**286**	S	**Sn**	**16 21 00.7**	**+0.1**
BSI	**Banda Aceh**	**4.70**	**320**	P	**Pn**	**16 21 13.6**	**+1.0**
H08S2	**Diego Garcia H**	**27.42**	**250**	T	T	16 52 58.7	
	baz=71						
H08S3	**Diego Garcia H**	**27.43**	**250**	T	T	16 53 11.5	
	baz=71						
H08S1	**Diego Garcia H**	**27.44**	**250**	T	T	16 53 13.9	
	baz=71						
WRA	**Warramunga Arr**	**41.45**	**123**	P	**P**	**16 27 46.1**	**-0.3**
	0.3nm,0.9s,baz=301,slow=8.9,SNR=2.2						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**46.89**	**345**	P	**P**	**16 28 28.5**	**-1.0**
	0.2nm,0.3s,baz=147,slow=7.2,SNR=5.2						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**53.10**	**350**	P	**P**	**16 29 15.6**	**-0.8**
	1.0nm,0.5s,baz=168,slow=9.1,SNR=5.1						
	1.0nm,0.5s						
H04N2	**CROZET ISLANDS**	**62.93**	**214**	T	T	17 37 44.2	
	baz=54						
H04N1	**CROZET ISLANDS**	**62.94**	**214**	T	T	17 37 49.5	
	baz=54						
H04N3	**CROZET ISLANDS**	**62.95**	**214**	T	T	17 37 44.4	
	baz=54						

TRN 27 16:27:01.2, 15°.68N×60°.61W, h16km, MD3.5, North-east of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSLB	**Salisbury**	**0.82**	**253**	*e*P	Pn	16 27 20.3	+2.1
DSLB				*e*S	Sn	16 27 33.0	+3.0
ILAM	**Ilet Lapin Mar**	**0.94**	**196**	*e*P	Pn	16 27 21.1	+1.3
ILAM				*e*S	Sn	16 27 35.9	+3.0
TBG	**Guadaloupe-3**	**1.01**	**280**	*e*P	Pg	16 27 23.1	+2.2
TBG				*e*S	Sn	16 27 37.5	+2.7
BIM	**Bigot**	**1.24**	**201**	*e*P	Pg	16 27 25.3	+0.1
BIM				*e*S	Sg	16 27 43.7	+2.3
SLBI	**Saint Lucia, B**	**1.69**	**192**	*e*P	Pb	16 27 32.8	+0.9
SLBI				*e*S	Sb	16 27 54.3	+1.3
ANBD	**Bethesda, Anti**	**1.75**	**321**	*e*P	Pb	16 27 33.0	-0.1
ANBD				*e*S	Sg	16 27 56.7	-1.1
SLAC	**Saint Lucia, A**	**1.80**	**189**	*e*P	Pb	16 27 33.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKRS	Kuro-shima	1.14	89	eP	Pb	16 54 10.0	-0.5
JKRS				S	Sb	16 54 25.9	+0.9
JIJ	Ishigaki jima	1.27	84	P	Pn	16 54 11.5	+0.3
JIJ				S	Sb	16 54 28.1	-0.5
JISG	Ishigakijimahi	1.46	76	eP	Pn	16 54 14.2	+0.5
JISG				S	Sb	16 54 33.2	-0.8

TAP 27 16:53:58.6, 24°.53N×121°.86E, h26km, ML1.6, 1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	Su ao	0.05	340	i P	Pb	16 54 03.2	+0.1
ESAO				S	Sb	16 54 06.1	+0.1
TWC	Suao	0.08	351	⇓i P	Pb	16 54 03.4	+0.2
TWC				i S	Sb	16 54 06.5	+0.2
EWUT	Wuta	0.11	224	P	Pb	16 54 03.5	+0.1
EWUT				S	Sb	16 54 06.8	+0.2
ENA	Nanau	0.15	228	P	Pb	16 54 04.0	+0.2
ENA				eS	Sb	16 54 07.1	-0.1
NDS	Dongshan	0.17	308	P	Pb	16 54 04.4	+0.4
EAHA	Aohua	0.23	210	eP	Pb	16 54 05.3	+0.7
TWE	Neicheng	0.26	317	P	Pb	16 54 05.6	+0.5
TWE				S	Sb	16 54 10.5	+0.9
ENTT	Nioudou	0.29	293	P	Pb	16 54 06.0	+0.4
ENTT				S	Sb	16 54 10.6	+0.2
FUSB	Fushanzhiwuyua	0.34	313	P	Pb	16 54 06.8	+0.4
FUSB				S	Sb	16 54 12.1	+0.4
NWLT	Wulai	0.41	307	eS	Sb	16 54 13.6	+0.2
NACB	Ninganchiao	0.43	215	eP	Pb	16 54 07.7	0.0
NACB				eS	Sb	16 54 13.7	-0.2
TIPB	Shuangxi	0.44	356	P	Pb	16 54 08.3	+0.4
TIPB				eS	Sb	16 54 14.5	+0.1
YHNB	Yeheng	0.47	288	eP	Pn	16 54 09.1	-0.7
YHNB				eS	Sb	16 54 15.3	+0.3
ETLH	Xiulin Townshi	0.47	228	eP	Pb	16 54 08.3	-0.1
NSK	Sanguang	0.48	288	eP	Pb	16 54 08.9	+0.3
NSK				eS	Sb	16 54 15.8	+0.4
SXI1	Grass Mountain	0.56	1	eP	Pb	16 54 10.5	+0.5
SXI1				eS	Sn	16 54 18.8	-0.9

*NEIC **27** 17:22:43.6±2.9, 19°.42S±0°.04×69°.16W±0°.08, h106km±5km, mb4.5/40, Error ellipse: s-maj=10.6km s-min=5.7km az=82.0*
*IDC **27** 17:22:44.7±0.6, 19°.39S×68°.95W, h119km±4km, mb4.0/13, mbtmp4.4/16, Error ellipse: s-maj=15.9km s-min=10.8km az=94.0*
*GUC **27** 17:22:45.0±0.7, 19°.42S×69°.22W, h110km±4km, ML4.4*
*SJA **27** 17:22:45.0, 19°.46S×69°.33W, h98km, ML4.3*
*VAO **27** 17:22:48.7±0.6, 19°.21S×68°.67W, h137km, mb4.7*

ISC 27 17:22:43.2±0.4, 19°.47S±0°.03×69°.14W±0°.05, h113km±4km, n191, σ1$36/206, mb4.4/22, 8C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	Chusmiza	0.21	195		Pn	17 23 00.5	+0.8
GO01				Sn	Sn	17 23 12.2	+0.3
GO01	Chusmiza	0.21	195	⇓i P	Pn	17 23 00.7	+1.0
GO01				eS	Sn	17 23 13.3	+1.4
GO01				IAML		17 23 14.4	
	comp=E,27μm,0.1s						
GO01	Chusmiza	0.21	195	i P	Pn	17 22 59.9	+0.3
PX03	IPOC Station P	1.04	206	eP	Pn	17 23 05.5	+0.3
HMBC	Humberstone	1.07	221		Pn	17 23 05.5	0.0
HMBC				Sn	Sn	17 23 22.9	+0.6
HMBC	Humberstone	1.07	221	⇑i P	Pn	17 23 06.2	+0.7
HMBC				eS	Sn	17 23 23.0	+0.6
HMBC				IAML		17 23 24.8	
	comp=E,12μm,0.5s						
HMBC	Humberstone	1.07	221	i P	Pn	17 23 05.5	0.0
TA02	Huaiquique	1.23	229		Pn	17 23 07.7	+0.6
TA02				Sn	Sn	17 23 25.1	-0.1
TA02	Huaiquique	1.23	229	⇑i P	Pn	17 23 07.7	+0.6
TA02				eS	Sn	17 23 25.7	+0.5
TA02				IAML		17 23 27.0	
	comp=E,11μm,0.3s						
TA02	Huaiquique	1.23	229	i P	Pn	17 23 07.2	+0.1
TA01	Diego Aracena	1.47	222		Pn	17 23 10.2	+0.4
TA01				Sn	Sn	17 23 29.7	-0.3
TA01	Diego Aracena	1.47	222	⇑i P	Pn	17 23 10.3	+0.5
TA01				eS	Sn	17 23 30.1	0.0
TA01				IAML		17 23 33.9	
	comp=N,4μm,0.3s						
TA01	Diego Aracena	1.47	222	i P	Pn	17 23 09.7	-0.1
AP01	Chacalluta	1.58	314		Pn	17 23 10.8	-0.4
AP01				Sn	Sn	17 23 30.7	-1.7
AP01	Chacalluta	1.58	314	⇑i P	Pn	17 23 10.9	-0.2
AP01				eS	Sn	17 23 31.1	-1.2
AP01	Chacalluta	1.58	314	i P	Pn	17 23 10.3	-0.8
PB01	IPOC Station P	1.60	192		Pn	17 23 12.9	+1.4
PB01				Sn	Sn	17 23 34.6	+1.5
PB01	IPOC Station P	1.60	192	⇑i P	Pn	17 23 13.2	+1.7
PB01				eS	Sn	17 23 34.8	+1.7
PB01				IAML		17 23 36.8	
	comp=N,5μm,0.3s						
PB01	IPOC Station P	1.60	192	i P	Pn	17 23 12.5	+1.0
PATCX	Punta Patache	1.65	215		Pn	17 23 12.4	+0.4
PATCX				Sn	Sn	17 23 34.1	0.0
PB18	Visviri	1.90	350	Pn	Pn	17 23 17.3	+1.8
PB18	Visviri	1.90	350	i P	Pn	17 23 17.8	+2.2
PB18				eS	Sn	17 23 45.8	+5.6
PB09	IPOC Station P	2.32	182		Pn	17 23 22.9	+2.4
PB09				Sn	Sn	17 23 49.1	-0.1
PB09	IPOC Station P	2.32	182	⇓eP	Pn	17 23 23.0	+2.4
PB09				eS	Sn	17 23 51.3	+2.1
PB09				IAML		17 23 58.0	
	comp=E,1μm,0.5s						
PB09	IPOC Station P	2.32	182	i P	Pn	17 23 22.3	+1.7
PB04	IPOC Station P	3.00	198	Pn	Pn	17 23 30.7	+1.2
PB04	IPOC Station P	3.00	198	eP	Pn	17 23 31.2	+1.7
PB04				eS	Sn	17 23 59.1	-6.1
PB04	IPOC Station P	3.00	198	i P	Pn	17 23 31.5	+2.0
LPAZ	La Paz	3.31	17	Pn	Pn	17 23 36.0	+2.0
LPAZ	La Paz	3.31	17	P	Pn	17 23 35.9	+2.0
	comp=E,54nm,0.5s,baz=198,slow=6.3,SNR=175						
LPAZ				S	Sn	17 24 13.2	+0.2
	comp=E,75nm,0.6s,baz=173,slow=12,SNR=3.7						
LPAZ	La Paz	3.31	17	i P	Pn	17 23 36.2	+2.3
LPAZ	La Paz	3.31	17	eP	Pn	17 23 35.9	+2.0
AF01	San Pedro de A	3.58	166		Pn	17 23 33.6	-3.7
PB14	IPOC Station P	5.27	193	Pn	Pn	17 23 59.1	-0.8
PB14	IPOC Station P	5.27	193	i P	Pn	17 24 00.2	+0.2
GO02	Mina Guanaco	5.68	184	Pn	Pn	17 24 05.9	+0.3
AC01	Pan de Azucar	6.78	191	Pn	Pn	17 24 18.5	-1.7
AC06	Mina Casimiro	7.93	188	Pn	Pn	17 24 34.2	-1.6
GO03	Copiapo	8.15	187	Pn	Pn	17 24 36.8	-2.0
BBSD	Serra de San D	8.41	76	eP	Pn	17 24 40.3	-2.0
SIV	San Ignacio	8.43	67	P	Pn	17 24 40.5	-2.1
	comp=E,63nm,0.4s,baz=258,slow=9.8,SNR=324						
AC04	Llanos de Chal	8.88	191	Pn	Pn	17 24 46.0	-2.5
LCO	Las Campanas	9.61	188	Pn	Pn	17 24 54.5	-4.2
ETMB	Extrema	10.00	17	Pn	Pn	17 25 01.2	-2.7
ETMB	Extrema	10.00	17	eP	Pn	17 25 03.3	-0.6
PTLB	Pontes e Lacer	10.35	69	Pn	Pn	17 25 02.8	-5.6
PTLB	Pontes e Lacer	10.35	69	eP	Pn	17 25 05.9	-2.6
COO1	Juntas del Tor	10.50	185	Pn	Pn	17 25 08.9	-1.8
VILB	Vilhena	10.75	54	Pn	Pn	17 25 09.5	-4.5
VILB	Vilhena	10.75	54	eP	Pn	17 25 11.8	-2.3
GO04	Tololo Observa	10.77	188	Pn	Pn	17 25 09.1	-5.2
MURT	Porto Murtinho	11.02	103	eP	Pn	17 25 16.3	-1.2
CO06	Fray Jorge	11.38	191	Pn	Pn	17 25 16.8	-5.6
CO03	El Pedregal	11.41	187	Pn	Pn	17 25 17.2	-5.6
BDQN	Bodoquena, MS	11.69	97	eP	Pn	17 25 24.5	-2.0
PANT	Pantanal (Braz	11.84	90	eP	Pn	17 25 26.9	-1.5
SAML	Samuel	11.94	30		Pn	17 25 22.6	-7.2
SAML	Samuel	11.94	30	eP	Pn	17 25 28.2	-1.6
AQDB	Aquidauana	12.68	97		Pn	17 25 32.7	-6.8
AQDB	Aquidauana	12.68	97	eP	Pn	17 25 38.4	-1.1
CPUP	Villa Florida	12.84	124		Pn	17 25 33.4	-8.2
CPUP	Villa Florida	12.84	124	P	Pn	17 25 41.0	-0.6
	comp=E,4.5nm,0.6s,baz=308,slow=13,SNR=8.6						
CPUP	Villa Florida	12.84	124	eP	Pn	17 25 42.1	+0.5
VA06	Catapilco	13.18	188	Pn	Pn	17 25 44.7	-1.3
SALV	Santo Antonio	13.29	77	eP	Pn	17 25 46.0	-1.6
VA03	San Esteban	13.30	185	Pn	Pn	17 25 47.5	-0.1
AMBA	Amambai (Brazi	13.64	107	eP	Pn	17 25 52.5	+0.5
MT02	Curacav	13.85	187	Pn	Pn	17 25 54.5	-0.1
MT05	Renca	13.94	186	Pn	Pn	17 25 55.4	-0.5
MT08	Bocatoma Ro	13.94	183		Pn	17 25 56.7	+0.6
MT16	CCHEN	13.96	185		Pn	17 25 56.2	+0.1
MT03	Universidad Ad	14.02	185		Pn	17 25 57.0	0.0
MT13	San Alfonso	14.26	184		Pn	17 26 00.7	+0.7
VA05	Santo Domingo	14.30	188	Pn	Pn	17 26 00.8	+0.3
MT09	Talagante	14.35	186		Pn	17 26 02.1	+1.0
LMEL	Las Melosas	14.35	184		Pn	17 26 02.3	+1.0
MT01	Popeta	14.46	187		Pn	17 26 03.3	+0.8
BO04	La Punta	14.52	185	Pn	Pn	17 26 04.7	+1.4
RPRD	Ribas do Rio P	14.55	97	eP	Pn	17 26 04.7	+0.9
BO01	Tunca	14.97	186		Pn	17 26 08.9	+0.1
BO01				IAmb	IAmb	17 26 15.1	
	comp=Z,28nm,0.8s						
BO02	Sierra Bellavi	15.34	185		Pn	17 26 14.3	+0.8
BO02				IAmb	IAmb	17 26 20.3	
	comp=Z,30nm,0.8s						
CLDB	Colider	15.45	58	eP	Pn	17 26 12.0	-3.0
GO05	Hualane	15.68	189	Pn	Pn	17 26 17.6	-0.2
ML02	Panimavida	16.36	187		Pn	17 26 25.4	-0.7
PTGB	Pitanga	16.66	111	eP	Pn	17 26 29.7	-0.3
ARAG	Araguaiana, MT	16.93	80	eP	Pn	17 26 31.5	-1.9
LDASE	Londrina, Braz	17.22	106	eP	Pn	17 26 37.0	+0.1
BI02	San Fabin de	17.23	186	P	P	17 26 35.6	-1.1
ITAB	Concordia	17.41	120	P	P	17 26 39.2	+0.5
ITAB				IAmb	IAmb	17 26 42.0	
	comp=Z,36nm,1.0s						
ITAB	Concordia	17.41	120	eP	Pn	17 26 39.7	+0.6
ITRB	Iturama	17.70	94	eP	Pn	17 26 42.8	+0.1
CPSB	Cacapava Do Su	17.90	130	eP	Pn	17 26 46.2	+1.2
MACA	Manacapuru-AM	18.19	28	P	P	17 26 45.5	-1.8
MACA				IAmb	IAmb	17 26 47.4	
	comp=Z,33nm,0.9s						
MACA	Manacapuru-AM	18.19	28	eP	P	17 26 46.0	-1.3
NPGB	Novo Progresso	18.21	49	eP	P	17 26 45.7	-1.9
PLTB	Pedras Altas	18.58	134	eP	Pn	17 26 52.9	-0.2
FRTB	Fartura	18.63	105	eP	P	17 26 52.5	+0.4
SNDB	Serra Nova Dou	18.71	69	eP	P	17 26 52.9	-0.2
CNLB	Canela	19.30	124	eP	P	17 26 59.7	+0.3
BB19B	Bebedouro	19.40	98	eP	P	17 27 00.2	-0.4
TRQA	Tornquist	19.54	163	P	P	17 27 01.9	0.0
TRQA				IAmb	IAmb	17 27 04.3	
	comp=Z,17nm,0.7s						
COHC	Cochancay	19.58	328	P	Pn	17 27 03.3	-1.6
IPMB	Ipameri, GO	19.88	89	eP	P	17 27 05.2	-0.5
ITTB	Itaituba	19.91	43	eP	P	17 27 04.3	-1.7
MAJ01	Sao Joao Batis	20.07	117	eP	P	17 27 07.0	-0.6
GO06	Curarrehue	20.15	185	P	P	17 27 10.1	+1.6
GO06				IAmb	IAmb	17 27 11.5	
	comp=Z,14nm,0.7s						
RCLB	Rio Claro- Sao	20.39	102	eP	P	17 27 10.6	-0.6
BDFB	Brasilia	20.49	83	P	P	17 27 11.3	-1.2
BDFB	Brasilia	20.49	83	P	P	17 27 11.7	-0.8
	comp=Z,32nm,0.6s,baz=260,slow=9.6,SNR=34						
	comp=Z,32nm,0.6s						
SPB	Sao Paulo	20.60	105	P	P	17 27 11.2	-2.1
SPB				IAmb	IAmb	17 27 13.4	
	comp=Z,22nm,1.2s						
SPB	Sao Paulo	20.60	105	eP	P	17 27 12.8	-0.6
LR05	Currie	20.84	186	P	P	17 27 17.0	+1.2
LR05				IAmb	IAmb	17 27 54.9	
	comp=Z,24nm,0.8s						
VAO	Valinhos	20.96	104	P	P	17 27 15.6	-1.8
VAO	Valinhos	20.96	104	eP	P	17 27 16.3	-1.1
PLCA	Paso Flores	21.23	183	P	P	17 27 21.5	+1.4
PLCA				IAmb	IAmb	17 27 25.2	
	comp=Z,31nm,1.0s						
PLCA	Paso Flores	21.23	183	P	P	17 27 22.1	+2.0
	comp=Z,19nm,0.8s,baz=3.6,slow=11,SNR=39						
	comp=Z,19nm,0.8s						
PMNB	Patos De Minas	21.48	91	eP	P	17 27 21.9	-1.1
PARB	Paraibuna	22.22	104	eP	P	17 27 29.8	-1.0
SLP01	Ubatuba-SP	22.65	104	eP	P	17 27 33.5	-1.7
MAL2	Monte Alegre,	22.69	42	P	P	17 27 32.9	-2.6
BSCB	Bom Sucesso	22.91	98	eP	P	17 27 37.0	-0.6
PRPB	Parauapebas	22.98	57	eP	P	17 27 36.2	-2.0
LL01	San Ignacio de	23.01	186	P	P	17 27 36.2	-2.0
LL01				IAmb	IAmb	17 27 41.1	
	comp=Z,29nm,0.8s						
BOAV	Boa Vista	23.32	22	P	P	17 27 39.6	-1.8
BOAV				IAmb	IAmb	17 27 41.5	
	comp=Z,11nm,0.7s						
BOAV	Boa Vista	23.32	22	eP	P	17 27 40.3	-1.1
SMTB	Santa Maria do	23.37	66	eP	P	17 27 41.8	-0.2
MAN01	Angra dos Reis	23.71	103	eP	P	17 27 44.9	-0.1
LL02	Futaleuf	23.76	185	P	P	17 27 44.2	-1.0
GO07	Milladeo Hill,	23.88	188	P	P	17 27 45.0	-1.2
JANB	Januaria	24.10	83	eP	P	17 27 47.8	-0.8
DIAM	Diamantina, MG	24.12	91	eP	P	17 27 48.8	0.0
VAS01	Vassouras-RJ	24.16	101	eP	P	17 27 50.0	+1.0
SDBA	SAO DESIDERIO	24.32	77	eP	P	17 27 49.9	-0.7
DUB01	Friburgo-RJ	25.15	101	eP	P	17 27 58.8	+0.8
RUSC	La Rusia	25.50	351	P	P	17 28 00.9	-0.8
RUSC				IAmb	IAmb	17 28 04.1	
	comp=Z,9.1nm,0.6s						
COYC	Coyhaique	26.15	185	P	P	17 28 06.6	-0.2
COYC				IAmb	IAmb	17 28 09.1	
	comp=Z,13nm,1.0s						
SJMB	Sao Joao De Ma	26.42	93	eP	P	17 28 09.4	0.0
RIB01	Linhares ES	27.10	95	eP	P	17 28 15.4	-0.2
GUA01	Guaratinga, BA	28.02	89	eP	P	17 28 24.0	+0.2
SDV	Santo Domingo	28.21	357	eP	P	17 28 26.0	+0.3
BAUV	El Baul	28.25	2	P	P	17 28 24.4	-1.4
BAUV				IAmb	IAmb	17 28 43.7	
	comp=Z,10nm,1.1s						
CMC01	Camacan, BA	28.54	86	eP	P	17 28 27.9	-0.5
GDU01	Guandu, BA	28.88	83	eP	P	17 28 31.0	-0.4
NBLA	Lagarto - SE	31.36	79	eP	P	17 28 52.8	-0.5
NBPB	Pedra_Branca-C	31.92	68	eP	P	17 28 58.5	+0.2
NBAN	Anadia - AL	33.21	78	eP	P	17 29 09.2	-0.4
MG02	Cerro Sombrero	33.25	180	P	P	17 29 09.4	0.0
RCBR	Riachuelo	35.06	72	P	P	17 29 23.8	-1.8
RCBR	Riachuelo	35.06	72	eP	P	17 29 25.2	-0.4
PDPR	Patillas Dam,	37.38	5	P	P	17 29 42.4	-2.7
CELP	Cerrillos	37.39	4	P	P	17 29 43.5	-1.8
CELP				IAmb	IAmb	17 30 14.5	
	comp=Z,7.4nm,0.8s						
TXAR	Lajitas Array	58.85	325	P	P	17 32 31.0	+0.7
	comp=Z,0.4nm,0.7s,baz=153,slow=8.1,SNR=1.6						
	comp=Z,0.4nm,0.7s						
Q51A	Peebles	59.69	347	P	P	17 32 38.6	+2.9
VHRN	Van Horn	60.70	325	P	P	17 32 43.1	+0.2
BELA	Belgrano 2	60.78	172	P	P	17 32 44.9	+2.3
VNA3	Neumayer Olymp	62.06	162	⇑P	P	17 32 46.5	-4.9
	comp=Z,7.1nm,0.8s						
SNAA	Sanae	64.26	161	P	P	17 33 07.5	+1.6
SNAA				IAmb	IAmb	17 33 51.2	
	comp=Z,6.6nm,1.2s						
SNAA	Sanae	64.26	161	⇑P	P	17 33 07.4	+1.4
	comp=Z,57nm,0.7s						
SNAA	Sanae	64.26	161	P	P	17 33 07.2	+1.2
	comp=Z,2.5nm,0.7s,baz=241,slow=8.3,SNR=11						
	comp=Z,2.5nm,0.7s						
TROLL	Troll, Antarti	65.98	161	⇑P	P	17 33 19.1	+2.0
	comp=Z,149nm,0.7s						
DBIC	Dimbokro	68.38	74	P	P	17 33 32.4	-0.7
	comp=Z,11nm,0.6s,baz=233,slow=6.9,SNR=13						
	comp=Z,11nm,0.6s						
P18A	Preston Nutter	70.21	327	P	P	17 33 45.3	+1.1
QSPA	South Pole Qui	70.71	180	P	P	17 33 48.8	+2.1
	comp=Z,2.1nm,0.4s,baz=332,slow=1.6,SNR=45						
	comp=Z,2.1nm,0.4s						
BSUT	Blindstream Ca	71.15	328	P	P	17 33 51.2	+1.2
BSUT				IAmb	IAmb	17 33 52.5	
	comp=Z,5.8nm,1.2s						
PDAR	Pinedale Array	72.25	330	P	P	17 33 56.4	0.0
	comp=Z,0.3nm,0.5s,baz=117,slow=8.1,SNR=3.7						
	comp=Z,0.3nm,0.5s						
ULM	Lac du Bonnet	73.32	342	P	P	17 34 02.0	-0.2
	comp=Z,1.8nm,0.5s,baz=118,slow=7.2,SNR=2.7						
	comp=Z,1.8nm,0.5s						
NVAR	Mina Array Bea	73.77	322	P	P	17 34 06.7	+1.3
	comp=Z,0.9nm,0.7s,baz=131,slow=6.1,SNR=1.1						
	comp=Z,0.9nm,0.7s						
FLWY	Flagg Ranch	73.79	330	P	P	17 34 07.2	+1.8
FLWY				IAmb	IAmb	17 34 07.7	
	comp=Z,5.0nm,0.8s						
YHH	Holmes Hill	74.40	331	P	P	17 34 11.0	+2.0
HLID	Hailey	75.22	328	P	P	17 34 15.2	+1.5
PAHR	Pah Rah Range	75.25	322	P	P	17 34 15.2	+1.3
PAHR				IAmb	IAmb	17 34 16.6	
	comp=Z,4.9nm,0.9s						
TORD	Torodi Ar. Bea	76.89	71	P	P	17 34 22.3	-1.1
TORD				IAmb	IAmb	17 34 25.2	
	comp=Z,6.3nm,0.7s						
TORD	Torodi Ar. Bea	76.89	71	P	P	17 34 22.6	-0.9
	comp=Z,5.7nm,0.5s,baz=255,slow=5.1,SNR=33						
TORD				pP	pP	17 34 53.1	-0.3
	comp=Z,2.3nm,0.8s,baz=266,slow=5.8,SNR=2.6						
	comp=Z,5.7nm,0.5s						
PLID	Pearl Lake	77.10	328	P	P	17 34 25.5	+1.2
FCC	Fort Churchill	80.61	347	P	P	17 34 42.8	0.0
ESDC	Sonseca Array	84.54	45	P	P	17 35 04.3	+0.5
	comp=Z,1.3nm,0.8s,baz=258,slow=7.0,SNR=6.7						
ESDC				pP	pP	17 35 35.2	+0.9
	comp=Z,1.4nm,1.0s,baz=244,slow=5.5,SNR=3.2						
	comp=Z,1.3nm,0.8s						
BOSA	Boshof	84.59	118	P	P	17 35 06.3	+1.8
BOSA	Boshof	84.59	118	P	P	17 35 05.2	+0.7
	comp=Z,2.9nm,1.0s,baz=330,slow=21,SNR=1.9						
	comp=Z,2.9nm,1.0s						
YKAB2	New Yellowknif	89.16	341	P	P	17 35 25.8	+0.3
YKA	Yellowknife Ar	89.21	341	P	P	17 35 26.6	+0.9
	comp=Z,3.0nm,0.7s,baz=236,slow=6.0,SNR=18						
YKA				pP	pP	17 35 56.5	0.0
	comp=Z,1.2nm,0.7s,baz=138,slow=5.0,SNR=3.5						
	comp=Z,3.0nm,0.7s						
ASAR	Alice Springs	131.59	209	PKP	PKiKP	17 41 44.1	-0.3
	comp=Z,0.8nm,0.5s,baz=127,slow=1.6,SNR=26						
ASAR				pPKP	pPKPdf	17 42 15.9	+0.5
	comp=Z,0.6nm,0.8s,baz=197,slow=1.3,SNR=3.6						
WRA	Warramunga Arr	134.57	212	PKP	PKiKP	17 41 50.1	-0.4
	comp=Z,1.0nm,0.5s,baz=148,slow=1.6,SNR=19						
ZALV	Zalesovo Beam	140.20	24	PKP	PKiKP	17 41 59.3	-1.6
	comp=Z,0.5nm,0.4s,baz=300,slow=2.9,SNR=4.2						
ZALV				pPKP	pPKPdf	17 42 30.3	-0.1
	comp=Z,0.7nm,0.5s,baz=242,slow=3.2,SNR=3.1						
BATI	Baumata	147.93	204	PKPbc	PKPbc	17 42 16.6	+0.5
	comp=Z,6.1nm,0.5s,baz=312,slow=22,SNR=1.6						
USRK	Ussuriysk Ar.	149.68	329	PKPbc	PKiKP	17 42 20.7	0.0
	comp=Z,4.2nm,0.7s,baz=81,slow=6.2,SNR=5.7						
MAJO	Matsushiro	150.61	311	PKPbc	PKiKP	17 42 22.6	-0.3
MJAR	Matsushiro Arr	150.61	311	PKPbc	PKiKP	17 42 22.8	-0.1
	comp=Z,3.5nm,0.7s,baz=84,slow=1.1,SNR=9.2						
MJAR				pPKPbc	pPKPbc	17 42 54.9	+1.0
	comp=Z,1.2nm,0.6s,baz=72,slow=0.4,SNR=2.6						
MJB9	Matsu-Tunnel	150.62	311	PKPbc	PKiKP	17 42 23.0	+0.1
SONM	Songino Array	151.47	6	PKPbc	PKiKP	17 42 24.8	+0.4
SONM	Songino Array	151.47	6	PKP	PKPdf	17 42 18.2	+0.4
	comp=Z,0.6nm,0.9s,baz=4.8,slow=1.7,SNR=3.3						
SONM				PKPbc	PKiKP	17 42 25.0	+0.5
	comp=Z,2.9nm,0.5s,baz=302,slow=0.9,SNR=23						
SONM				pPKPbc	pPKPbc	17 42 56.2	+0.1
	comp=Z,1.0nm,0.7s,baz=301,slow=2.0,SNR=3.4						
PZH	PanZhiHua	169.07	48	PKP	PKPdf	17 42 37.0	-0.7

*TAP **27** 17:27:58.2, 22°.72N×120°.69E, h34km, ML4.0, B*
*JMA **27** 17:27:58.5±0.1, 23°N±1°×12°1E±°, h42km±2km, MV3.8/14, TAIWAN REGION*
*ASIES **27** 17:27:58.2, 22°.72N×120°.69E, h34km, ML4.0, Mw3.4, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.19; $M_{\theta\theta}$-1.38; $M_{\phi\phi}$ 1.19; $M_{r\theta}$-0.40; $M_{\theta\phi}$0.81; $M_{\phi r}$-0.79; Fault plane solution: $M_0$1.76602×10^{21} NP1: ϕ_s244.09000°, δ75.42000°, λ24.45000°. NP2: ϕ_s147.56000°, δ66.39000°, λ164.06000°. Principal axes: T Plg27.4610°, Azm107.5790°; N Plg61.7710°, Azm273.0540°; P Plg6.0420°, Azm14.4250°;*

ISC 27 17:27:58.9±1.0, 22°.72N±0°.01×120°.69E±0°.02, h34km±1km, n151, σ1$07/237, 18C-23D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSMG	Majia	0.05	253	⇑i P	Pb	17 28 04.1	-0.5
TSMG				S	Sb	17 28 08.4	-0.1
MASBT	Mashibuluo	0.12	208	⇓i P	Pb	17 28 04.4	-0.5
MASBT				S	Sb	17 28 08.7	-0.4
SGLT	Jiouru	0.19	272	⇑i P	Pb	17 28 05.7	+0.3
SGLT				eS	Sb	17 28 11.1	+1.1
SCST	Cishan	0.25	312	eP	Pb	17 28 05.9	-0.2
SCST				eS	Sb	17 28 12.6	+1.6
EC

TWKBT	Hengchun	0.78	172	eP		Pb	17 28 13.2	-1.0
TWKBT				eS		Sb	17 28 24.3	-0.3
ALS	Alishan	0.79	7	⇓iP		Pb	17 28 13.9	-0.6
ALS				i S		Sb	17 28 26.0	+0.8
CHKH	Chenggong	0.80	54	eP		Pb	17 28 14.2	-0.2
CHKH				eS		Sb	17 28 26.6	+1.6
CHY	Chiayi	0.81	342	i P		Pb	17 28 13.9	-0.8
CHY				i S		Sb	17 28 25.5	+0.1
CHN2	Minshiung	0.83	346	eP		Pb	17 28 14.2	-0.8
CHN2				eS		Sb	17 28 26.5	+0.5
TWF1	Yuli	0.84	41	⇓iP		Pb	17 28 14.7	-0.5
TWF1				eS		Sb	17 28 26.4	+0.2
EYUL	Yuli	0.85	43	eP		Pb	17 28 15.2	-0.1
EYUL				eS		Sb	17 28 26.9	+0.4
YULB	Yu-li	0.87	40	P		Pb	17 28 14.9	-0.8
YULB	Yu-li	0.87	40	⇓iP		Pb	17 28 15.1	-0.6
YULB				eS		Sb	17 28 26.9	-0.2
CHN5	Tsauling	0.87	359	⇑iP		Pb	17 28 14.8	-0.9
CHN5				i S		Sb	17 28 27.1	-0.2
WSL	Shuilin Townsh	0.91	332	P		Pn	17 28 14.8	-0.4
WSL				eS		Sb	17 28 27.7	-0.4
ECBN	Changbin	0.92	49	eP		Pb	17 28 15.4	-1.0
WGK	Gukeng	0.97	353	P		Pb	17 28 16.1	-1.1
WGK				eS		Sb	17 28 30.4	+0.5
EHY	Hungye	0.97	36	P		Pb	17 28 16.9	-0.5
EHY				i S		Sb	17 28 30.4	+0.5
WDLH	Douliu	0.98	352	eP		Pb	17 28 16.1	-1.2
WDLH				eS		Sb	17 28 30.2	+0.2
EHYH	Wanrong	0.98	38	eP		Pb	17 28 16.9	-0.5
EHYH				eS		Sb	17 28 29.8	-0.2
WHYT	Xinyi Township	0.98	9	⇑P		Pb	17 28 16.4	-1.2
WHYT				i S		Sb	17 28 30.4	+0.2
WDL	Douliou City	1.00	352	eP		Pb	17 28 16.5	-1.3
WDL				eS		Sb	17 28 31.2	+0.5
WTK	Tuku	1.00	344	eP		Pn	17 28 16.2	-0.3
WTK				i S		Sb	17 28 30.4	-0.4
WSF	Szhu	1.01	335	eP		Pn	17 28 16.0	-0.7
WSF				i S		Sb	17 28 29.8	-1.3
HGSD	Ruisui	1.02	41	eP		Pb	17 28 18.0	-0.2
HGSD				eS		Sb	17 28 32.4	+1.1
LAY	Lan-yu	1.04	130	eP		Pn	17 28 16.2	-0.9
LAY				eS		Sn	17 28 30.4	-0.2
SSLB	Suanglung	1.09	13	P		Pb	17 28 17.9	-1.4
SSLB	Suanglung	1.09	13	⇓P		Pn	17 28 17.8	0.0
SSLB				eS		Sb	17 28 32.3	-1.0
LYUB	Lan-yu	1.09	131	⇓eP		Pn	17 28 15.7	-2.0
LYUB				eS		Sn	17 28 29.2	-2.5
WDGT	Dungji	1.09	300	⇑P		Pn	17 28 16.4	-1.4
WJS	Zhushan	1.10	2	eP		Pn	17 28 17.9	+0.1
WJS				S		Sb	17 28 33.3	-0.1
VWDT	VWDT	1.11	22	eP		Pn	17 28 18.6	-1.0
WNT	Mingjian	1.15	360	eP		Pn	17 28 18.5	-0.1
WNT				S		Sb	17 28 34.1	-0.9
EGFH	Guangfu	1.16	35	eP		Pn	17 28 19.6	-0.9
EGFH				eS		Sb	17 28 35.0	-0.2
SMLT	Sun Moon Lake	1.17	9	⇓P		Pn	17 28 18.3	-0.7
WARBT	Fenglin Townsh	1.18	33	⇓eP		Pn	17 28 19.7	-1.1
WARBT				eS		Sb	17 28 35.9	0.0
TYC	Yuchr	1.19	7	⇓P		Pn	17 28 19.4	-1.6
TYC				i S		Sb	17 28 35.4	-0.7
WTCT	Ta-ch'eng	1.20	342	eP		Pn	17 28 18.8	-0.4
WTCT				i S		Sb	17 28 35.3	-1.1
WRL	Guolierlin Hig	1.21	346	eP		Pn	17 28 19.1	-0.3
WRL				S		Sb	17 28 35.9	-0.8
TEGC	Jichi Village	1.26	38	eP		Pb	17 28 21.9	-0.1
VCHM	Qimei	1.26	293	eP		Pn	17 28 18.6	-1.6
ESL	Shilin	1.28	32	P		Pb	17 28 21.4	-1.2
ESL				i S		Sb	17 28 38.4	-0.4
PHUB	P'eng-hu	1.30	308	eP		Pn	17 28 19.0	-1.6
PHUB				eS		Sn	17 28 34.2	-2.6
OWD	Renai	1.31	20	eP		Pb	17 28 21.6	-1.5
WUSB	Renai	1.32	17	eP		Pn	17 28 21.6	+0.4
WUSB				i S		Sb	17 28 38.8	-1.3
SHUL	Shoufeng	1.33	37	eP		Pb	17 28 22.5	-0.8
PNG	Penghu	1.34	309	eP		Pn	17 28 19.8	-1.4
WCS	Beigang Elemen	1.35	9	i P		Pn	17 28 21.5	+0.2
WCS				i S		Sb	17 28 39.2	-1.4
WCH1	Changhua City	1.35	354	eP		Pn	17 28 21.6	+0.2
WCH1				S		Sb	17 28 39.5	-1.2
WCHH	Zhanghua	1.36	355	i P		Pn	17 28 21.8	+0.3
WCHH				S		Sb	17 28 39.1	-1.8
TEYL	Yanliau Villag	1.41	36	eP		Pb	17 28 23.9	-0.8
ETM	Tongmen	1.44	30	eP		Pb	17 28 23.5	-1.7
LXIB	Xiulin Townshi	1.46	27	eP		Pb	17 28 23.6	-1.9
HWA	Hwalien	1.51	34	eP		Pb	17 28 25.0	-1.3
WHF	Hehuan Shan	1.51	20	eP		Pb	17 28 24.8	-1.9
WHP	Taichung City	1.57	8	eP		Pn	17 28 24.9	+0.4
TDCB	Techi	1.58	16	eP		Pn	17 28 25.1	+0.4
TWD	Chiawan	1.59	31	eP		Pn	17 28 24.9	+0.3
TWT	Tachien	1.59	16	eP		Pn	17 28 25.2	+0.4
FUSS	Fushou	1.60	18	eP		Pn	17 28 25.5	+0.5
WDJ	Dajia District	1.62	358	eP		Pn	17 28 25.7	+0.6
WDJ				i S		Sb	17 28 46.8	-1.6
TWQ1	Liyutan	1.62	3	eP		Pn	17 28 25.9	+0.8
ETLH	Xiulin Townshi	1.65	26	eP		Pn	17 28 26.3	+0.8
ETL	Fush Village	1.67	31	eP		Pn	17 28 26.3	+0.6
NACB	Ninganchiao	1.67	30	P		Pn	17 28 26.1	+0.4
NACB	Ninganchiao	1.67	30	eP		Pn	17 28 25.8	+0.1
NSY	Sanyi	1.69	2	eP		Pn	17 28 26.4	+0.3
NMLH	Miaoli	1.81	3	eP		Pn	17 28 28.4	+0.7
NNSB	Datong	1.81	20	eP		Pn	17 28 28.9	+1.1
NNS	Nan Shan	1.82	20	eP		Pn	17 28 29.1	+1.2
NSTT	Nanjuang	1.92	8	eP		Pn	17 28 29.1	-0.2
LIOB	Emei	1.94	9	eP		Pn	17 28 28.7	+0.3
NFF	Wufeng Townshi	1.94	11	eP		Pn	17 28 29.6	0.0
ENA	Nanau	1.95	29	eP		Pn	17 28 29.9	+0.3
EWUT	Wuta	1.99	30	eP		Pn	17 28 30.9	+0.9
YHNB	Yeheng	2.04	18	P		Pn	17 28 31.9	+1.0
YHNB	Yeheng	2.04	18	eP		Pn	17 28 31.3	+0.4
NSK	Sanguang	2.04	17	eP		Pn	17 28 31.5	+0.6
ENTT	Nioudou	2.07	23	eP		Pn	17 28 32.8	+1.5
KSHI	Guanxi Townshi	2.10	12	eP		Pn	17 28 32.0	+0.4
NDS	Dongshan	2.12	26	eP		Pb	17 28 34.2	-2.6
EOS3	EOS3	2.16	43	eP		Pn	17 28 33.8	+1.5
TWC	Suao	2.16	29	eP		Pn	17 28 33.6	+1.2
NWLT	Wulai	2.18	20	eP		Pn	17 28 34.3	+1.6
TWE	Neicheng	2.18	24	eP		Pn	17 28 33.7	+0.9
FUSB	Fushanzhiwuyua	2.19	22	eP		Pn	17 28 34.2	+1.2
EOS2	EOS2	2.20	40	eP		Pb	17 28 35.5	-2.6
TIPB	Shuangxi	2.47	25	eP		Pn	17 28 38.3	+1.5
SX1	Grass Mountain	2.60	24	eP		Pn	17 28 39.5	+1.0
KNM	Kinmen	2.67	310	eP		Pn	17 28 39.6	+0.1
JYNG	Yonaguni jima	2.69	50	eP		Pn	17 28 41.7	+2.0
JYNG				eS		Sn	17 29 13.2	+2.1
PTMZ	Houxiangcun	2.72	328	eP		Pn	17 28 38.9	-1.3
KNMB	Chin-men Tao	2.74	310	eP		Pn	17 28 39.0	-1.4
YOJ	Yonaguni jima	2.74	50	P		Pn	17 28 42.4	+1.9
YOJ	Yonaguni jima	2.74	50	eP		Pn	17 28 42.2	+1.7
ZPLA	Ao Xicun	2.96	295	eP		Pn	17 28 42.0	-1.5
HATJ	Hateruma jima	3.15	64	eS		Sn	17 29 23.6	+1.0
DSXP	Dongshan	3.16	289	eP		Pn	17 28 44.6	-1.7
IRIF	Iriomote-Funau	3.22	59	eP		Pn	17 28 48.9	+1.9
IRIF				eS		Sn	17 29 25.7	+1.5
AXDP	Jialang	3.31	312	eP		Pn	17 28 46.9	-1.3
JKRS	Kuro-shima	3.40	63	P		Pn	17 28 51.2	+1.7
JKRS				S		Sn	17 29 30.9	+2.2
JIJ	Ishigaki jima	3.56	62	eP		Pn	17 28 53.0	+1.2
JIJ				S		Sn	17 29 34.0	+1.2
JISG	Ishigakijimahi	3.80	60	P		Pn	17 28 55.8	+0.7
JISG				S		Sn	17 29 38.9	+0.3
JTJ	Tarama	4.14	62	P		Pn	17 29 01.7	+2.0
JTJ				eS		Sn	17 29 47.8	+0.8
JMJ	Miyako jima 2	4.70	63	P		Pn	17 29 09.1	+1.7
HKPS	Hong Kong Po S	6.07	267	P		Pn	17 29 25.9	-0.4

*IDC **27** 17:39:05.6±0.7, 7.°04N×154.°87E, h0km, mb4.0/10, mbtmp4.1/12, ML1.9/1, Error ellipse: s-maj=21.0km s-min=18.8km az=134.0*

ISC 27 17:39:11.6±0.7, 7.°1S±0.°1×154.°88E±0.°07, h41km, n14, σ1°05/17, mb4.0/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.55	116	Pn		Pn	17 40 31.6	-0.2
	17nm,0.3s,baz=196,slow=16,SNR=2.2							
HNR				Sn		Sn	17 41 35.1	+0.8
	baz=107,slow=17							
PMG	Port Moresby	7.99	252	Pn		Pn	17 41 04.0	-1.3
	0.9nm,0.3s,baz=81,slow=11,SNR=3.5							
PMG				Sn		Sn	17 42 36.2	+1.9
	0.3nm,0.3s,baz=73,slow=22,SNR=3.2 12nm,0.7s							
WRA	Warramunga Arr	23.69	235	P		P	17 44 17.9	-1.9
	3.4nm,0.7s,baz=60,slow=9.5,SNR=20							
WRA				PcP		PcP	17 48 03.5	-0.1
	0.4nm,0.8s,baz=59,slow=3.1,SNR=4.7 3.4nm,0.7s							
ASAR	Alice Springs	26.05	228	P		P	17 44 40.2	-1.1
	1.6nm,0.6s,baz=58,slow=9.5,SNR=25 1.6nm,0.6s							
STKA	Stephens Creek	27.63	205	P		P	17 44 56.3	+0.8
	5.0nm,0.6s,baz=20,slow=15,SNR=9.5 5.0nm,0.6s							
CMAR	Chiang Mai Arr	60.70	296	P		P	17 49 20.6	+1.2
	0.8nm,0.5s,baz=126,slow=4.2,SNR=6.3 0.8nm,0.5s							
SONM	Songino Array	69.32	327	P		P	17 50 15.9	+0.9
	0.7nm,0.7s,baz=149,slow=4.6,SNR=5.5 0.7nm,0.7s							
QSPA	South Pole Qui	82.92	180	P		P	17 51 32.1	+0.1
	3.2nm,0.8s,baz=346,slow=1.3,SNR=17 3.2nm,0.8s							
MKAR	Makanchi Array	83.37	319	P		P	17 51 35.1	+0.4
	1.2nm,0.8s,baz=104,slow=5.9,SNR=9.7 1.2nm,0.8s							
ILAR	Eielson Array	83.47	22	P		P	17 51 33.9	-0.8
	0.3nm,0.7s,baz=234,slow=6.1,SNR=7.3 0.3nm,0.7s							
ZALV	Zalesovo Beam	84.16	326	P		P	17 51 37.8	-0.6
	0.4nm,0.4s,baz=131,slow=7.9,SNR=2.0 0.4nm,0.4s							
NVAR	Mina Array Bea	91.85	52	P		P	17 52 15.8	-0.2
	0.2nm,0.3s,baz=267,slow=1.8,SNR=3.6 0.2nm,0.3s							
BDFB	Brasilia	148.02	135	PKPbc		PKPbc	17 58 54.6	+0.7
	1.5nm,0.3s,baz=58,slow=7.2,SNR=3.4							
TORD	Torodi Ar. Bea	152.93	285	PKPbc		PKPbc	17 59 05.1	-0.5
	1.5nm,0.7s,baz=33,slow=2.8,SNR=7.2							

*AFAD **27** 17:47:02.1±0.0, 36.°57N×25.°62E, h18km±3km, ML3.0*
*ISK **27** 17:47:02.2, 36.°68N×25.°69E, h5km, ML3.4/28*
*IDC **27** 17:47:03.6±0.9, 36.°51N×25.°79E, h0km, mb3.9/6, mbtmp3.7/13, ML3.4/7, MS3.6/1, Error ellipse: s-maj=18.7km s-min=13.7km az=138.0*
*ATH **27** 17:47:04.9, 36.°64N×25.°63E, h40km±3km, ML3.6/7, Error ellipse: s-maj=3.0km s-min=1.3km az=226.0*
*THE **27** 17:47:05.9, 36.°67N×25.°70E, h7km±1km, ML3.5/7, Error ellipse: s-maj=1.7km s-min=0.6km az=270.0*

ISC 27 17:47:04.3±1.2, 36.°63N±0.°02×25.°68E±0.°02, h10km±9km, n96, σ1°20/126, mb3.8/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMBO	Columbo, Santo	0.28	234	P		Pb	17 47 12.4	+1.0
CMBO				S		Sb	17 47 17.2	+1.1
	11μm,0.4s							
CMBO	Columbo, Santo	0.28	234	P		Pb	17 47 12.5	+1.1
CMBO				S		Sb	17 47 17.6	+1.5
CMBO				AML		AML	17 47 22.0	
	comp=N,32022μm,0.7s							
CMBO				AML		AML	17 47 22.1	
	comp=E,19840μm,0.4s							
THR8	Santorini-Mono	0.28	216	P		Pb	17 47 12.2	+0.8
THR3	Thira Island,	0.32	226	P		Pb	17 47 13.1	+1.0
SNT5	Nea Kammeni, S	0.33	226	P		Pb	17 47 13.3	-1.8
SNT5				S		Sb	17 47 19.4	+1.8
SNT5				AML		AML	17 47 20.4	
	comp=E,35880μm,0.2s							
SNT5				AML		AML	17 47 21.5	
	comp=N,19538μm,0.3s							
SAP3	Santorini-Thir	0.34	234	P		Pn	17 47 13.6	-1.7
SAP3				S		Sb	17 47 19.5	+1.6
THR6	Thira Island,	0.36	220	P		Pn	17 47 14.0	-1.6
THR9	Santorini-Faro	0.38	224	P		Pb	17 47 14.1	+0.9
APE	Apeiranthos	0.45	344	P		Pb	17 47 14.3	-0.1
APE				S		Sb	17 47 20.4	-0.9
	comp=N,10μm,0.2s							
APE	Apeiranthos	0.45	344	P		Pb	17 47 14.3	-0.1
APE				S		Sb	17 47 22.9	+1.7
APE				AML		AML	17 47 25.3	
	comp=E,24521μm,0.2s							
APE				AML		AML	17 47 26.9	
	comp=N,13911μm,0.2s							
TNSA	Tinos	1.00	335	P		Pn	17 47 24.5	+0.1
TNSA				S		Sb	17 47 37.2	+0.3
MHLO	Agia Marina, M	1.03	273	P		Pn	17 47 25.9	+1.0
MHLO				S		Sn	17 47 40.1	+0.7
	comp=N,7μm,0.5s							
KLNA	Kalymnos	1.08	72	P		Pn	17 47 26.3	+0.7
KLNA				S		Sn	17 47 40.2	-0.5
NISR	Nisiros	1.16	91	P		Pn	17 47 27.2	+0.6
NISR				S		Sn	17 47 43.9	+1.3
	comp=N,4μm,0.4s							
NISR	Nisiros	1.16	91	P		Pn	17 47 27.8	+1.1
NISR				S		Sn	17 47 43.8	+1.3
NISR				AML		AML	17 47 47.8	
	comp=E,10267μm,0.2s							
NISR				AML		AML	17 47 49.0	
	comp=N,6628μm,0.4s							
YKAV	Yalikavak-Bodr	1.37	69	Pn		Pn	17 47 29.2	-0.3
BODT	Bodrum	1.37	71	Pn		Pn	17 47 29.3	-0.3
BODT				Sn		Sg	17 47 49.6	+1.1
BODT	Bodrum	1.37	71	P		Pn	17 47 29.1	-0.5
BODT				S		Sg	17 47 48.9	+0.4
SMG	Samos	1.41	40	P		Pn	17 47 29.3	-0.8
SMG				S		Sg	17 47 50.9	+1.1
	comp=N,2μm,0.3s							
SMG	Samos	1.41	40	P		Pn	17 47 29.4	-0.7
SMG				S		Sg	17 47 50.4	+0.6
SMG				AML		AML	17 47 54.5	
	comp=N,2807μm,0.3s							
SMG				AML		AML	17 47 55.9	
	comp=E,4618μm,0.3s							
YAZI	Mula-Dat§a-	1.42	88	P		Pg	17 47 32.0	+0.4
YAZI				S		Sb	17 47 48.2	-1.0
BDRM	Kayabasi	1.48	73	P		Pb	17 47 31.0	-0.8
BDRM				S		Sg	17 47 52.2	+0.4
BDRM				i AML		AML	17 47 56.0	
	comp=E,291nm,0.4s							
IDI	Anoyia	1.49	206	Pn		Pb	17 47 31.8	-0.3
IDI	Anoyia	1.49	206	P		Pb	17 47 31.4	-0.7
IDI				S		Sg	17 47 52.4	+0.2
	comp=E,965nm,0.4s							
IDI	Anoyia	1.49	206	Pn		Pb	17 47 31.6	-0.5
	comp=E,8.7nm,0.3s,baz=38,slow=5.3,SNR=61							
IDI				Sn		Sn	17 47 50.5	-0.3
	comp=E,122nm,0.3s,baz=304,slow=22,SNR=13							
IDI				LR		LR	17 48 14.4	
	comp=E,84nm,18.4s,baz=301,slow=50							
IDI	Anoyia	1.49	206	P		Pb	17 47 31.6	-0.5
IDI				S		Sg	17 47 52.0	-0.2
IDI				AML		AML	17 47 57.0	
	comp=N,1870μm,0.5s							
IDI				AML		AML	17 47 57.2	
	comp=E,2786μm,0.4s							
DDIM	Aydin, Didim	1.49	56	P		Pn	17 47 30.6	-0.5
DDIM				S		Sg	17 47 53.8	+1.5
DDIM				i AML		AML	17 48 05.0	
	comp=E,486nm,0.5s							
DDIM				i AML		AML	17 48 14.0	
	comp=E,343nm,0.6s							
DAT	Datca	1.52	86	P		Pb	17 47 32.2	-0.5
DAT				S		Sg	17 47 53.1	-0.3
DAT				i AML		AML	17 47 59.0	
	comp=E,213nm,0.3s							
DAT				i AML		AML	17 48 02.0	
	comp=E,210nm,0.6s							
DAT	Datca	1.52	86	Pn		Pn	17 47 31.7	0.0
ZKR	Zakros	1.58	164	Pn		Pb	17 47 32.9	-0.6
ZKR	Zakros	1.58	164	P		Pb	17 47 32.9	-0.6
ZKR	Zakros	1.58	164	P		Pb	17 47 33.0	-0.6
ZKR				S		Sg	17 47 54.2	-0.8
ZKR				AML		AML	17 48 00.5	
	comp=E,1621μm,0.6s							
ZKR				AML		AML	17 48 00.5	
	comp=N,899μm,0.4s							
KARP	Karpathos	1.61	132	Pn		Pb	17 47 33.4	-0.8
KARP	Karpathos	1.61	132	P		Pn	17 47 33.1	+0.2
KARP				S		Sb	17 47 54.8	+0.1
	comp=N,1μm,0.4s							
KARP	Karpathos	1.61	132	P		Pn	17 47 33.2	+0.2
GCAM	G?zelcaml?	1.63	49	P		Pn	17 47 33.1	0.0
GCAM				S		Sg	17 47 58.2	+1.4
GCAM	G?zelcaml?	1.63	49	Pn		Pn	17 47 32.7	-0.4
KARY	Karystos	1.71	325	P		Pb	17 47 34.9	-1.0
KARY	Karystos	1.71	325	P		Pb	17 47 35.2	-0.7
GMLD	Gumuldur	1.74	34	Pn		Pn	17 47 33.9	-0.7
CHOS	Chios island	1.77	9	Pn		Pn	17 47 34.8	-0.4
IMMV	Iera Moni Meta	1.81	230	Pn		Pb	17 47 36.2	-1.3
IMMV	Iera Moni Meta	1.81	230	P		Pb	17 47 37.1	-0.4
IMMV	Iera Moni Meta	1.81	230	P		Pb	17 47 37.3	-0.3
VLY	Voula,Athens	1.94	309	P		Pn	17 47 38.0	+0.7
VLY	Voula,Athens	1.94	309	P		Pb	17 47 38.1	-1.6
DION	Dionisos Attik	2.01	316	P		Pb	17 47 39.9	-1.0
DION	Dionisos Attik	2.01	316	P		Pb	17 47 39.6	-1.3
ARG	Arkhangelos	2.01	101	Pn		Pn	17 47 38.8	+0.5
ARG	Arkhangelos	2.01	101	P		Pn	17 47 38.8	+0.5
ATHU	Athens Univers	2.02	312	P		Pn	17 47 39.1	+0.7
ATHU	Athens Univers	2.02	312	P		Pn	17 47 39.5	-1.6
PTL	Penteli	2.02	315	P		Pb	17 47 39.9	-1.3
BLCB	Balcova	2.06	31	Pn		Pn	17 47 38.7	-0.2
BLCB	Balcova	2.06	31	P		Pn	17 47 39.2	+0.3
ATH	Athens Observa	2.06	311	P		Pb	17 47 40.7	-1.2
TURN	Turunc	2.06	85	P		Pg	17 47 42.3	-1.5
TURN				S		Sg	17 48 13.5	+3.0
TURN	Turunc	2.06	85	Pn		Pn	17 47 39.4	+0.4
KNDR	Palaiochora Ch	2.14	230	Pn		Pb	17 47 41.5	-1.7
YER	Yerkesik	2.14	76	Pn		Pn	17 47 40.3	+0.1
VLI	Veliai	2.21	273	P		Pb	17 47 42.5	-1.9
GVD	Gavdhos	2.21	216	Pn		Pn	17 47 42.1	+1.0
FOCM	Foa	2.24	21	Pn		Pn	17 47 41.2	-0.2
IZMR	zmir-demi	2.35	50	P		Pn	17 47 43.7	+0.8
IZMR				S		Sg	17 48 19.3	-0.4
IZMR				i AML		AML	17 48 27.0	
	comp=N,67nm,0.9s							
IZMR				i AML		AML	17 48 32.0	
	comp=N,71nm,0.9s							
KYMI	Kymi, Euboea I	2.36	328	P		Pn	17 47 44.0	+0.9
DALY	Dalyan (Mula)	2.39	85	Pn		Pn	17 47 43.9	+0.4
ESEN	Aydn-Nazilli	2.42	61	P		Pb	17 47 48.2	+0.2
ESEN				S		Sg	17 48 20.1	-2.0
VILL	Villia	2.43	310	P		Pn	17 47 45.5	+1.4
NAZL	Nazilli-Aydin	2.47	57	Pn		Pn	17 47 44.7	+0.1
VIL2	Platees	2.49	310	P		Pn	17 47 45.6	+0.7
SIGR	SIGRI	2.58	3	Pn		Pn	17 47 46.0	-0.1
DKL	Dikili	2.62	21	Pn		Pn	17 47 46.4	-0.3
SABU	Mula-Dalaman	2.65	85	P		Pn	17 47 48.8	+1.7
SABU				S		Sn	17 48 21.5	+2.3
SABU				i AML		AML	17 48 42.0	
	comp=N,55nm,0.9s							
FETY	Fethiye	2.73	89	Pn		Pn	17 47 48.9	+0.6
DNZT	Denizli-Tavas-	2.75	75	P		Pn	17 47 49.3	+0.7
DNZT				S		Sg	17 48 34.2	+1.5
CAME	Cameli-Denizli	2.92	83	Pn		Pn	17 47 51.4	+0.4
GORD	Gordes-Manisa	3.01	40	Pn		Pn	17 47 52.4	+0.3
APMY	Acipayam-Deniz	3.01	73	Pn		Pn	17 47 52.7	+0.5
KULA	Kula-Manisa	3.02	51	Pn		Pn	17 47 52.3	0.0
ITM	Ithomi	3.06	281	Pn		Pn	17 47 53.4	+0.6
GADA	Gvkgeada	3.56	3	Pn		Pn	17 47 59.9	+0.3
BRTR	Keskin Array B	6.98	61	Pn		Pn	17 48 48.8	+2.0
	comp=N,0.3nm,0.3s,baz=236,slow=15,SNR=14 comp=N,0.9nm,0.3s							
MMAI	Mount Meron Ar	8.77	111	Pn		Pn	17 49 09.6	-1.6
	comp=N,1.3nm,0.3s,baz=312,slow=11,SNR=5.8							
MMAI				Sn		Sn	17 50 43.9	-6.3
	comp=N,0.7nm,0.3s,baz=315,slow=18,SNR=1.9 comp=N,0.7nm,0.3s							
MLR	Muntele Rosu	8.85	1	Pn		Pn	17 49 15.9	+3.5
	comp=N,0.2nm,0.3s,baz=179,slow=14,SNR=3.1 comp=N,2.4nm,0.7s							
ASF	Jabal al Asfar	10.28	112	Pn		Pn	17 49 31.2	-0.7
	comp=N,0.2nm,0.3s,baz=70,slow=0.2,SNR=2.0 comp=N,1.1nm,0.4s							
EIL	Elat	10.41	129	Pn		Pn	17 49 32.2	-1.6
	comp=N,0.2nm,0.3s,baz=18,slow=13,SNR=1.5							
EIL				Sn		Sn	17 51 19.7	-11
	comp=N,0.8nm,0.3s,baz=75,slow=7.6,SNR=5.4 comp=N,1.0nm,0.4s							
AKASG	Malin Array Be	14.29	9	Pn		P	17 50 32.8	-1.1
	comp=N,0.2nm,0.3s,baz=204,slow=10,SNR=2.3							
KBZ	Khabaz	14.93	56	Pn		P	17 50 40.1	-0.8
	baz=261,slow=14,SNR=2.2 comp=N,2.4nm,1.0s							
GERES	GERESS Array B	15.02	328	Pn		P	17 50 41.9	-0.3
	comp=N,0.1nm,0.3s,baz=154,slow=12,SNR=1.4 comp=N,0.3nm,0.5s							
ESDC	Sonseca Array	23.46	286	P		P	17 52 14.3	+0.3
	comp=N,0.8nm,0.

CEVE	Cerro Verde	0.94	68	eP	Pn	17 59 01.4	-0.5
CEVE				eS	Sb	17 59 14.6	+0.5
CEVE				IAML		17 59 16.0	
	comp=Z,1μm,0.4s						
SBLS	San Blas	0.94	67	eP	Pn	17 59 01.4	-0.6
RTR	El Retiro	0.94	63	eP	Pn	17 59 01.6	-0.3
SNJE	San Jose	0.97	66	eP	Pn	17 59 01.9	-0.3
FUG	Fuego 3	1.02	342	iP	Pn	17 59 02.8	-0.2
JAYA	Jayaque - finc	1.05	80	IAML		17 59 20.3	
	comp=Z,1μm,0.2s						
NBG	Las Nubes	1.12	8	iP	Pb	17 59 04.9	-0.2
LALI	Alcalda de L	1.16	89	eS	Sn	17 59 19.3	-0.5
PMON	Piamonte	1.19	78	eP	Pn	17 59 04.8	-0.4
PMON				eS	Sn	17 59 21.3	+0.6
LOMA	Loma Larga	1.32	82	eP	Pn	17 59 07.0	0.0
LOMA				eS	Sn	17 59 24.4	+0.6
LOMA				IAML		17 59 25.7	
	comp=Z,443nm,0.3s						
LFRS	El Faro	1.42	84	eP	Pn	17 59 08.4	0.0
RTAL	Retalhuleu	1.55	313	eP	Pn	17 59 09.7	-0.5
COEG	Centro de Oper	1.60	85	eS	Sn	17 59 31.2	+0.6
STG3	Santiaguito 3,	1.60	320	iP	Pn	17 59 11.1	+0.1
SCLA	Alcaldia de Sa	1.75	82	eP	Pn	17 59 12.6	-0.4

SOME 27 18:02:30.9, 41°.67N×83°.77E, h20km
NNC 27 18:02:36.6±3.9, 41°.79N×83°.39E, h0km, mb4.0, mpv3.7,
Error ellipse: s-maj=35.3km s-min=25.4km az=26.0
ISC 27 18:02:32.3±3.0, 41°.7N±0°.1×83°.8E±0°.1, h10km, n18,
σ2°71/22, 12C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	3.49	296	Pg	Pn	18 03 28.3	+1.5
	28nm,0.8s						
SHLS				Lg	Lg	18 04 10.2	
	182nm,0.5s						
SHLS	Shalkode	3.49	296	eP	Pb	18 03 29.9	-4.3
	16nm,0.2s						
SHLS				eS	Sb	18 04 12.4	-4.4
	263nm,0.4s						
UZB	Uzynbulak	3.79	294	Pg	Pb	18 03 35.7	-3.6
	13nm,0.3s						
UZB				Lg	Lg	18 04 23.1	
	108nm,0.6s						
UZB	Uzynbulak	3.79	294	eP	Pb	18 03 39.0	-0.4
	13nm,0.3s						
UZB				eS	Sb	18 04 28.4	+3.0
	108nm,0.6s						
DJR	Jarkent	3.91	313	Pg	Pg	18 03 44.6	-2.6
	9.3nm,0.4s						
DJR				Lg	Lg	18 04 38.3	
	23nm,0.6s						
DJR	Jarkent	3.91	313	eP	Pg	18 03 44.6	-2.6
	9.3nm,0.4s						
DJR				eS	Sg	18 04 38.3	+0.5
	23nm,0.6s						
KNOS	Konyrlen	4.27	310	Pg	Pb	18 03 50.1	+2.5
	22nm,0.7s						
KNOS				Lg	Lg	18 04 48.1	
	15nm,0.6s						
BLB	Baldybastay	4.55	303	Pg	Pb	18 03 52.7	+0.4
	14nm,0.4s						
BLB				Lg	Lg	18 04 52.1	
	55nm,0.3s						
KAPS	Kapalarasan	4.79	319	eP	Pg	18 04 00.8	-3.2
	2.2nm,0.1s						
KAPS				eS	Sg	18 05 05.1	-1.0
	4.8nm,0.0s						
ARXS	Arharly	5.02	302	Pg	Pb	18 04 00.9	+0.7
	2.1nm,0.2s						
ARXS				Lg	Lg	18 05 06.0	
	17nm,0.6s						
ARXS	Arharly	5.02	302	eP	Pb	18 04 00.9	+0.7
	2.1nm,0.2s						
ARXS				eS	Sb	18 05 06.0	+5.3
	17nm,0.6s						
MDOK	Medeo	5.18	288	⇑Pn	Pn	18 03 52.1	+2.2
	4.2nm,0.4s						
MDOK				⇑Sn	Sn	18 04 51.4	+1.6
	10nm,0.6s						
MDOK				⇑Lg	Lg	18 05 15.4	
	57nm,1.0s						
KNDC	Almaty	5.25	289	Pn	Pn	18 03 55.5	+4.7
	7.8nm,0.3s						
KNDC				⇑Sn	Sn	18 04 51.3	-0.1
	39nm,0.8s						
KNDC				⇑Lg	Lg	18 05 16.9	
	113nm,0.8s						
TKM2	Tokmak 2	6.17	284	⇑Pn	Pn	18 04 06.2	+2.5
	4.4nm,0.7s						
TKM2				⇑Sn	Sn	18 05 14.2	-0.2
	5.7nm,0.6s						
TKM2				⇑Lg	Lg	18 05 45.1	
	21nm,0.6s						
CHMS	Chumysh	6.80	284	⇓Pg	Pg	18 04 41.1	-1.4
	0.5nm,0.3s						
CHMS				⇑Lg	Lg	18 06 03.6	
	13nm,0.8s						
KURBB	Kurchatov Arra	9.61	340	⇓Lg	Lg	18 07 41.8	
	18nm,0.8s						
KURK	Kurchatov	9.67	340	⇑Lg	Lg	18 07 40.7	
	15nm,1.5s						
KK31	Karatay Array	9.90	282	⇑Pg	Pn	18 05 36.2	+42
	0.6nm,0.5s						
KK31				⇑Lg	Lg	18 07 47.2	
	9.3nm,0.9s,baz=94,slow=25,SNR=5.7						

ISN 27 18:04:02.7±0.5, 34°.26N×45°.63E, h14km±3km, ML3.0
TEH 27 18:04:03.1, 34°.27N×45°.62E, h8km±59km, ML2.9
ISC 27 18:04:03.6±0.9, 34°.27N±0°.04×45°.63E±0°.04, h18km, n14,
σ0°89/18, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.23	351	Pg	Pg	18 04 08.3	-0.8
GLG1	Gilan-e-Gharb	0.28	125	Pg	Pg	18 04 09.2	-0.6
IDHR	Dehrash	0.75	55	Pg	Pb	18 04 17.3	-1.1
IGHG	Ghaleghazi	0.78	86	Pg	Pg	18 04 19.0	+0.1
ILBA	Ilam Banvizeh	0.81	143	Pg	Pb	18 04 18.4	-0.7
KCHF	Cheshme Sefid,	1.17	90	Pg	Pg	18 04 26.0	-0.2
IBDR	Badra	1.19	168	ePg	Pn	18 04 24.5	-0.8
IBDR				eSg	Sb	18 04 40.0	-0.6
IBDR				AML	AML	18 04 48.1	
	comp=N,265nm,0.3s						
IBDR				AML	AML	18 04 48.3	
	comp=E,245nm,0.6s						
ILIN	Lien	1.27	59	Pg	Pb	18 04 27.6	+0.4
BHD	Baghdad	1.45	227	ePn	Pb	18 04 30.0	0.0
BHD				eSn	Sg	18 04 50.0	-0.3
IKRK	Kirkuk	1.55	317	ePn	Pb	18 04 32.0	+0.3
IKRK				eSn	Sg	18 04 53.0	-0.6
IKRK				AML	AML	18 04 59.1	
	comp=E,286nm,0.4s						
IKRK				AML	AML	18 05 02.9	
	comp=N,270nm,0.8s						
SNQR	Sonqor, Kerman	1.75	70	Pg	Pb	18 04 36.3	+1.0
IKFM	Kafar-mosalman	1.99	111	Pn	Pg	18 04 40.9	-0.9
IDOB	Doab	2.17	102	Pn	Pb	18 04 42.1	-0.3
RAFI	Al-Rafai	2.58	171	ePn	Pn	18 04 46.0	+1.6
RAFI				eSn	Sn	18 05 17.0	+1.8

JMA 27 18:07:08.2±0.2, 44°.6N±0°.8×14°.6E±°, h16km±1km,
MV2.8/30, NEAR KUNASHIRI ISLAND
SKHL 27 18:07:08.3±0.5, 44°.60N×145°.50E, h32km±2km, mb4.6/2
ISC 27 18:07:08.7±2.5, 44°.6N±0°.1×145°.66E±0°.06, h27km±14km,
n11, σ0°96/17, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	0.56	165	iP	Pb	18 07 19.6	-0.4
YUK				AMB	AMB	18 07 20.8	
	440nm,0.2s						
YUK				iS	Sb	18 07 27.5	-0.1
YUK				A	A	18 07 27.7	
	450nm,0.2s						
YUK				A	A	18 07 27.7	
	180nm,0.2s						
JRA	Rausu	0.75	211	P	Pb	18 07 23.1	+0.1
JRA				eS	Sn	18 07 33.6	-0.3
JNSB	Nemuroshibetsu	0.93	211	P	Pb	18 07 26.4	+0.3
JNSB				eS	Sb	18 07 39.8	+1.7
SHO	Shikotan	1.10	130	iP	Pn	18 07 28.4	+0.1
SHO				AMB	AMB	18 07 28.9	
	170nm,0.4s						
SHO				iS	Sn	18 07 43.5	+0.9
SHO				A	A	18 07 43.7	
	860nm,0.3s						
SHO				A	A	18 07 43.7	
	780nm,0.3s						
JNK	Nakash	1.20	215	eP	Pb	18 07 30.4	-0.3
NMR	Nemuro--Hokkai	1.21	178	iP	Pn	18 07 30.0	+0.2
NMR				iS	Sn	18 07 45.8	+0.5
NEM2	Nemuro 2	1.22	177	P	Pn	18 07 29.9	+0.1
NEM2				S	Sb	18 07 46.3	+0.1
JTKR	Abashiri--Toko	1.40	245	eP	Pb	18 07 33.3	-0.7
JKHN	Kushirohamanak	1.54	194	P	Pb	18 07 35.4	-1.0
AKK	Akkeshi	1.67	201	eP	Pb	18 07 37.0	-1.7
JAK	Akkeshi	1.73	204	eP	Pb	18 07 37.9	-1.8

SJA 27 18:07:39.0, 29°.47S×71°.73W, h10km, ML4.0
GUC 27 18:07:42.6±0.6, 29°.56S×71°.44W, h41km±1km, ML3.7
ISC 27 18:07:39.4±1.5, 29°.51S±0°.03×71°.68W±0°.06, h11km±10km,
n52, σ1°85/65, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	La Serena	0.56	137	eP	Pg	18 07 52.6	+2.2
CO05				eS	Sg	18 07 59.5	+1.6
CO05				IAML		18 08 00.2	
	comp=N,7μm,0.3s						
LCO	Las Campanas	0.99	60	iP	Pg	18 07 59.1	+0.5
LCO				eS	Sg	18 08 10.8	-0.7
LCO	Las Campanas	0.99	60	iP	Pg	18 07 58.4	-0.2
GO04	Tololo Observa	1.01	131	eP	Pg	18 07 58.7	-0.3
GO04				eS	Sg	18 08 10.8	-1.4
GO04				IAML		18 08 16.9	
	comp=E,8μm,0.4s						
GO04	Tololo Observa	1.01	131	iP	Pg	18 07 58.0	-1.0
CO06	Fray Jorge	1.16	178	⇑iP	Pg	18 08 02.2	+0.4
CO06				IAML		18 08 20.0	
	comp=N,1μm,0.2s						
AC04	Llanos de Chal	1.40	22	eP	Pn	18 08 06.1	+1.1
AC04				eS	Sg	18 08 24.9	+0.3
AC04				IAML		18 08 28.8	
	comp=N,2μm,0.3s						
AC04	Llanos de Chal	1.40	22	iP	Pn	18 08 05.6	+0.6
CO01	Juntas del Tor	1.46	109	eP	Pn	18 08 05.4	-0.6
CO01				eS	Sg	18 08 19.8	-6.6
CO01				IAML		18 08 23.4	
	comp=N,3μm,0.5s						
CO01	Juntas del Tor	1.46	109	iP	Pn	18 08 04.8	-1.1
CO03	El Pedregal	1.58	147	eP	Pn	18 08 07.3	-0.2
CO03				eS	Sn	18 08 25.1	-2.9
CO03				IAML		18 08 26.3	
	comp=E,2μm,0.3s						
CO03	El Pedregal	1.58	147	iP	Pn	18 08 06.6	-0.9
AROD	Rodeo	2.03	109	iP	Pn	18 08 15.1	+1.2
GO03	Copiapo	2.29	34	eP	Pn	18 08 18.3	+1.0
GO03				eS	Sn	18 08 45.1	-0.4
GO03				IAML		18 08 56.6	
	comp=E,545nm,0.2s						
GO03	Copiapo	2.29	34	iP	Pn	18 08 17.8	+0.5
AC06	Mina Casimiro	2.44	29	eP	Pn	18 08 20.4	+1.1
AC06				IAML		18 09 07.3	
	comp=N,380nm,0.3s						
ACCO	Cerro Coronel	2.51	116	iP	Pn	18 08 22.8	+2.3
CO04	Los Peladeros	2.60	167	eP	Pn	18 08 22.7	+1.1
CO04				eS	Sn	18 08 52.9	-0.5
CO04				IAML		18 09 06.2	
	comp=N,582nm,0.4s						
VA06	Catapilco	3.06	174	eP	Pn	18 08 28.2	+0.5
VA06				eS	Sn	18 09 02.7	-1.7
RTLS	Leoncito	3.07	139	iP	Pn	18 08 31.4	+3.2
VCA	Vinchina	3.14	77	eP	Pn	18 08 32.7	+3.7
VCA	Vinchina	3.14	77	iP	Pn	18 08 32.1	+3.2
RTLL	Cerro Villicun	3.31	124	iP	Pn	18 08 34.4	+3.1
VA03	San Esteban	3.39	164	eP	Pn	18 08 34.0	+1.6
VA03				eS	Sn	18 09 11.8	-0.8
AC01	Pan de Azucar	3.48	16	eP	Pn	18 08 33.4	-0.2
AC01	Pan de Azucar	3.48	16	iP	Pn	18 08 32.9	-0.7
PEL	Peldehue	3.72	167	eP	Pn	18 08 37.9	+1.0
PEL				eS	Sn	18 09 19.3	-1.5
MT02	Curacav	3.77	173	eP	Pn	18 08 37.9	+0.4
MT02	Curacav	3.77	173	iP	Pn	18 08 37.1	-0.3
AVFE	Valle Fertil	3.84	108	iP	Pn	18 08 39.7	+1.2
MT10	Hacienda Santa	3.88	166	eP	Pn	18 08 40.5	+1.3
ASAL	Salagasta	3.93	142	iP	Pn	18 08 43.4	+3.7
MT05	Renca	3.96	168	iP	Pn	18 08 41.5	+1.4
FCH	Farellones	3.99	163	eP	Pn	18 08 42.6	+1.8
FCH				eS	Sn	18 09 29.0	+1.2
MT03	Universidad Ad	4.10	166	eP	Pn	18 08 43.1	+1.0
MT03				eS	Sn	18 09 30.2	+0.2
MT03	Universidad Ad	4.10	166	iP	Pn	18 08 43.8	+1.7
MT04	Ro Olivares	4.10	162	eP	Pn	18 08 44.7	+2.4
MT04				eS	Sn	18 09 30.4	0.0
MT04	Ro Olivares	4.10	162	iP	Pn	18 08 44.5	+2.2
ACLC	CERRO LA CRUZ	4.13	90	iP	Pn	18 08 43.7	+1.2
MT08	Bocatoma Ro	4.17	160	eP	Pn	18 08 46.8	+3.5
MT08				eS	Sn	18 09 34.5	+2.3
MT08	Bocatoma Ro	4.17	160	iP	Pn	18 08 46.5	+3.2
MT09	Talagante	4.30	172	eP	Pn	18 08 45.6	+0.7
MT12	Pirque	4.32	167	eP	Pn	18 08 46.5	+1.3
MT12				eS	Sn	18 09 34.6	-0.9
MT01	Popeta	4.36	175	eP	Pn	18 08 45.9	+0.3
MT01	Popeta	4.36	175	iP	Pn	18 08 45.4	-0.2
LMEL	Las Melosas	4.51	164	eP	Pn	18 08 49.5	+1.7
BO04	La Punta	4.56	169	⇑eP	Pn	18 08 49.1	+0.7
BO04				eS	Sn	18 09 39.5	-1.9
BO01	Tunca	4.90	174	eP	Pn	18 08 53.4	+0.4
BO01	Tunca	4.90	174	iP	Pn	18 08 53.2	+0.2
BO03	Pichilemu	4.98	183	eP	Pn	18 08 53.2	-0.9
CYA	Choya	5.26	80	eP	Pn	18 08 58.5	+0.5
CYA	Choya	5.26	80	iP	Pn	18 08 58.2	+0.1

IDC 27 18:54:36.7±3.9, 5°.70S×150°.65E, h0km, mb2.9/2,
mbtmp3.0/2, Error ellipse: s-maj=148.1km
s-min=51.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.26	227	P	P	18 59 25.0	+0.2
	0.3nm,0.6s,baz=53,slow=11,SNR=2.4						
	0.3nm,0.6s						
ASAR	Alice Springs	24.07	220	P	P	18 59 54.4	+0.4
	0.2nm,0.6s,baz=56,slow=9.7,SNR=7.7						
	0.2nm,0.6s						
TORD	Torodi Ar. Bea	148.52	286	PKPbc	PKPbc	19 14 25.4	-1.2
	0.1nm,0.4s,baz=103,slow=1.7,SNR=1.7						

NEIC 27 19:01:35.8±1.2, 36°.53N±0°.02×98°.96W±0°.03, h5km±1km,
Error ellipse: s-maj=3.8km s-min=2.9km az=281.0
NEIC 27 19:01:35.9±1.2, 36°.53N±0°.02×98°.96W±0°.03, h6km±5km,
mb_Lg2.6/6, ML2.5/6, ML2.8/15, Error ellipse:
s-maj=3.5km s-min=2.2km az=102.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOKA	Waynoka	0.10	10		Pg	19 01 38.4	+0.2
NOKA				IAML		19 01 40.7	
	comp=E,2μm,0.2s						
OK038	West end E0370	0.18	107		Pg	19 01 40.0	+0.5
OK038				IAML		19 01 43.3	
	comp=E,1μm,0.3s						
OK038				IAML		19 01 45.6	
	comp=E,1μm,0.3s						
ELIS	Ellis County	0.60	219		Pg	19 01 47.5	+0.1
ELIS				IAML		19 01 56.0	
	comp=E,180nm,0.3s						
CROK	Carrier	0.78	92		Pg	19 01 50.9	0.0
KAN14	Manchester OK	0.90	62		Pg	19 01 52.9	-0.3
KAN14					Sg	19 02 05.2	+0.3
CSTR	Hydro, Custer	0.91	166		Pb	19 01 53.9	-0.1
GC02	Grant County #	0.94	70	Pg	Pg	19 01 53.5	-0.3
GC02					Sg	19 02 06.3	+0.3
KAN17	Caldwell West	1.08	61	Pg	Pg	19 01 56.3	-0.4
KAN01	Argonia South	1.14	57	Pg	Pg	19 01 57.4	-0.4
KAN09	Caldwell North	1.23	60		Pg	19 01 58.9	-0.6
KAN13	South Haven SW	1.28	67		Pn	19 01 59.7	-0.6
KAN13					Sb	19 02 17.3	+0.3
BLOK	Blackwell	1.42	80		Pn	19 02 01.6	-0.5
OK029	Liberty Lake	1.42	121		Pn	19 02 02.2	0.0
OK048	Pawnee Station	1.62	93		Pn	19 02 05.5	+0.4
OK048					Sg	19 02 28.0	-0.1
SMWD	Samnorwood	1.77	217		Pn	19 02 07.8	+0.8
SMWD					Sb	19 02 31.3	+0.2
FNO	Franklin	1.79	135		Pn	19 02 08.2	+0.8
FNO					Sg	19 02 32.8	-0.6
WMOK	Wichita Mounta	1.79	175		Pn	19 02 08.0	+0.6
OK052	Battle Ridge R	1.82	107		Pn	19 02 07.6	-0.1
OK052					Sg	19 02 34.1	-0.3
QUOK	Quay	1.85	101		Pn	19 02 08.3	+0.2
QUOK					Sg	19 02 34.6	-0.7
R32A	Long Quarter,	1.90	6	Pn	Pn	19 02 09.7	+0.9
R32A					Sb	19 02 35.6	+0.7
T35A	Sooner Cattle	2.00	78	Pn	Pb	19 02 11.6	-1.1
T35A					Sb	19 02 38.2	+0.4
W35A	Tecumseh	2.18	129		Pn	19 02 10.2	-2.4
KSCO	Kaye Shedlock'	3.82	311	IAmb_Lg		19 03 36.6	
	comp=Z,13nm,1.1s						
MSTX	Muleshoe	4.04	232		Pn	19 02 37.3	-1.0
TREL	Terrell	4.47	147	IAmb_Lg		19 03 54.9	
	comp=Z,16nm,0.7s						
121A	Cookes Peak, D	8.30	244	IAmb_Lg		19 06 00.8	
	comp=Z,8.8nm,1.2s						

IDC 27 19:29:48.3±0.9, 22°.11S×170°.56E, h0km, mb4.1/9,
mbtmp4.2/12, ML4.5/3, MS3.9/1, Error ellipse:
s-maj=24.7km s-min=22.3km az=172.0
NEIC 27 19:29:52.5±1.6, 22°.01S±0°.10×170°.35E±0°.05, h10km±1km,
mb4.6/31, Error ellipse: s-maj=16.9km s-min=6.0km
az=198.0
NOU 27 19:29:52.0, 22°.15S×170°.33E, h0km, mb4.8/9, Southeast
of Loyalty Islands
ISC 27 19:29:51.2±0.5, 22°.05S±0°.07×170°.40E±0°.07, h10km, n84,
σ1°23/79, mb4.4/19, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	2.27	284	P	Pn	19 30 29.3	+0.4
YATNC	Mamie plateau,	3.25	269	P	Pn	19 30 42.6	+0.2
OUENC	Ouen Island, N	3.32	263	P	Pn	19 30 44.1	+0.9
ONTNC	Ouen Toro	3.67	265		Pn	19 30 48.4	+0.4
ONTNC	Ouen Toro	3.67	265	P	Pn	19 30 49.1	+1.1
DZM	Mont Dzumac	3.67	269		Pn	19 30 48.9	+0.7
DZM	Mont Dzumac	3.67	269	Pn	Pn	19 30 49.1	+1.0
	19nm,0.3s,baz=92,slow=18,SNR=276						
DZM				Sn	Sn	19 31 33.3	+1.7
	11nm,0.3s,baz=312,slow=23,SNR=8.9						
	82nm,0.4s						
DZM	Mont Dzumac	3.67	269	P	Pn	19 30 49.3	+1.1
NOUC	Port Laguerre	3.80	269	P	Pn	19 30 51.0	+1.1
DVP	Devils Point	4.78	334	P	Pn	19 31 06.0	+2.6
KOUNC	Koumac, New Ca	5.89	284		Pn	19 31 19.0	+0.3
KOUNC	Koumac, New Ca	5.89	284	P	Pn	19 31 21.2	+2.5
MSVF	Nonsavu	8.38	60		Pn	19 31 53.1	+0.2
MSVF	Nonsavu	8.38	60	Pn	Pn	19 31 51.8	-1.2
	0.2nm,0.3s,baz=210,slow=20,SNR=2.6						
	1.4nm,0.5s						
HNR	Honiara	16.07	320	Pn	Pn	19 33 38.7	+1.2
	2.2nm,0.3s,baz=174,slow=9.2,SNR=1.3						
	21nm,0.4s						
RTZ	Ruatahuna	17.45	163	P	Pn	19 33 56.9	+2.0
BKZ	Black Stump Fm	17.84	164		P	19 34 02.0	+1.7
MSWZ	Moikau Station	19.73	169	P	Pn	19 34 24.1	+1.5
PLWZ	Palliser	19.88	169	P	Pn	19 34 26.9	+2.6
LTZ	Lake Taylor	20.73	176	P	P	19 34 33.2	+1.2
LTZ				IAmb	IAmb	19 34 42.8	
	comp=Z,43nm,1.4s						
CTAO	Charters Tower	22.61	271	P	P	19 34 52.4	0.0
CTAO				IAmb	IAmb	19 35 05.7	
	comp=Z,19nm,1.4s						
CAN	Canberra	22.90	230	P	P	19 34 56.8	+1.5
CAN				IAmb	IAmb	19 35 17.4	
	comp=Z,28nm,1.4s						
PMG	Port Moresby	25.61	296	P	P	19 35 20.9	-0.1
COEN	Coen	27.08	283	P	P	19 35 34.0	-0.4
COEN				IAmb	IAmb	19 35 42.0	
	comp=Z,9.4nm,1.1s						
STKA	Stephens Creek	27.40	243	P	P	19 35 36.5	-0.6
STKA	Stephens Creek	27.40	243	P	P	19 35 37.5	+0.5
	comp=Z,2.6nm,1.0s,baz=79,slow=19,SNR=2.3						
	comp=Z,2.6nm,1.0s						
WR0	Warramunga Arr	33.49	267	P	P	19 36 30.9	-0.2
AS31	Alice Springs	33.61	260	P	P	19 36 31.7	-0.4
ASAR	Alice Springs	33.61	260	P	P	19 36 32.4	+0.2
ASAR	Alice Springs	33.61	260	P	P	19 36 31.8	-0.4
	comp=Z,1.3nm,0.7s,baz=95,slow=8.7,SNR=13						
ASAR				PcP	PcP	19 39 10.3	-2.1
	comp=Z,0.6nm,0.8s,baz=80,slow=5.1,SNR=1.6						
	comp=Z,1.3nm,0.7s						
WB0	Warramunga Arr	33.67	267	P	P	19 36 32.8	+0.2
WB0				IAmb	IAmb	19 36 48.7	
	comp=Z,7.3nm,1.2s						
WRA	Warramunga Arr	33.69	267	P	P	19 36 32.2	-0.6
WRA	Warramunga Arr	33.69	267	P	P	19 36 32.1	-0.6
	comp=Z,1.6nm,0.7s,baz=98,slow=8.2,SNR=15						
WRA				PcP	PcP	19 39 10.5	-2.2
	comp=Z,0.7nm,0.8s,baz=108,slow=2.0,SNR=2.1						
	comp=Z,1.6nm,0.7s						
MTN	Manton Dam	38.47	277	P	P	19 37 14.0	+0.2
FAKI	Fak Fak	41.63	292	P	P	19 37 38.8	-1.2
FITZ	Fitzroy Crossi	42.11	267	P	P	19 37 42.9	-1.0
MBWA	Marble Bar	46.94	261	P	P	19 38 23.0	+0.5
NWAO	Narrogin (SRO)	47.96	245	P	P	19 38 29.4	-0.9
DAV	Davao City (W)	52.59	298	LR	LR	20 01 10.3	
	comp=Z,138nm,21.3s,baz=111,slow=36						
TOLI2	Tolitoli	53.58	289	P	P	19 39 12.8	-0.1
TOLI2				IAmb	IAmb	19 39 13.6	
	comp=Z,6.0nm,1.0s						
KKM	Kota Kinabalu	59.95	291	P	P	19 39 57.8	-0.5
MJAR	Matsushiro Arr	65.74	332	P	P	19 40 34.8	-1.4
	comp=Z,1.5nm,0.8s,baz=166,slow=7.0,SNR=2.3						
	comp=Z,1.5nm,0.8s						
MAJO	Matsushiro	65.74	332	P	P	19 40 37.7	+1.4
MJB9	Matsu-Tunnel	65.74	332	P	P	19 40 37.6	+1.3
QSPA	South Pole Qui	68.01	180	P	P	19 40 51.5	+0.9
QSPA				IAmb	IAmb	19 40 53.7	
	comp=Z,5.4nm,1.1s						
QSPA	South Pole Qui	68.01	180	P	P	19 40 48.9	-1.8
	comp=Z,1.9nm,0.8s,baz=19,slow=3.1,SNR=5.6						
	comp=Z,1.9nm,0.8s						
IPM	Ipoh	72.73	282	P	P	19 41 20.6	+0.4
IPM				IAmb	IAmb	19 41 28.2	
	comp=Z,13nm,1.3s						
RPSI	Rantau Prapat	73.92	280	P	P	19 41 25.6	-1.6
RPSI				IAmb	I

H03N1	Juan Fernandez	93.97 128	T	T	21 27 52.5	
	baz=238,slow=74					
PSZ	Piszkesteto	145.02 325		PKPab	19 49 26.8	-1.5
MORC	Moravsky Berou	145.03 329		PKPab	19 49 26.4	-1.7
MORC	Moravsky Berou	145.03 329	ePKP	PKPab	19 49 26.7	-1.4
CHVC	Chvalec	145.16 331	ePKP	PKPbc	19 49 26.8	-1.7
KRLC	Kraliky	145.18 330	ePKP	PKPbc	19 49 27.5	-1.1
KRLC			ex	x	19 49 33.8	
DPC	Dobruska-Polom	145.20 331	ePKP	PKPbc	19 49 27.9	-0.8
DPC			ex	x	19 49 33.8	
UPC	Upice	145.23 331	ePKP	PKPbc	19 49 27.7	-1.0
UPC			ex	x	19 49 34.0	
JAVC	Velka Javorina	145.58 328	ePKP	PKPdf	19 49 29.9	+0.1
VRAC	Vranov	145.80 329	ePKP	PKPdf	19 49 29.5	-0.6
BRG	Berggiesshubel	145.86 333	i PKP	PKPdf	19 49 29.6	-0.5
BRG			Amp		19 49 30.2	
	comp=Z,7.1nm,0.9s					
CLL	Collm	145.91 335		PKPdf	19 49 28.7	-1.5
KRUC	Moravsky	146.06 329	ePKP	PKPdf	19 49 30.1	-0.4
EKA	Eskdalemuir Ar	146.42 353	PKPbc	PKPdf	19 49 30.0	-0.9
	comp=Z,2.9nm,0.8s,baz=358,slow=2.1,SNR=2.7					
ZVC	Zvikov	146.82 331	ePKP	PKPdf	19 49 32.0	+0.2
KHC	Kasperske Hory	147.32 331	ePKP	PKPdf	19 49 33.6	+0.9
KHC			ex	x	19 49 39.7	
GEC2	GERESS Array S	147.47 331	PKPdf	PKPdf	19 49 32.8	-0.2
GERES	GERESS Array B	147.47 331	PKPdf	PKPdf	19 49 32.8	-0.2
GERES	GERESS Array B	147.47 331	PKPbc	PKPdf	19 49 33.4	+0.4
	comp=Z,1.1nm,0.6s,baz=36,slow=5.0,SNR=6.1					
TUE	Stuetta	151.19 332		PKPdf	19 49 42.3	+3.1

*IDC **27** 19:30:38.9±0.8, 22°.00S×170°.53E, h0km, mb4.5/11, mbtmp4.5/15, ML4.9/3, MS4.5/4, Error ellipse: s-maj=22.6km s-min=19.0km az=35.0*
*NEIC **27** 19:30:40.8±1.4, 22°.1S±0°.1×170°.49E±0°.08, h10km±1km, mb4.9/49, Error ellipse: s-maj=18.5km s-min=11.8km az=170.0*
*BJI **27** 19:30:42.6, 22°.08S×170°.82E, h38km, mb4.6/25, mB5.1/6, Ms5.0/6, Ms7 4.7/6*
*GCMT **27** 19:30:43.8±0.2, 22°.24S±0°.02×170°.56E±0°.01, h12km, MW5.2/104, Moment Tensor Solution. s53,c83; s104,c169; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-3.68±.21; $M_{\theta\theta}$-0.61±.14; $M_{\phi\phi}$4.29±.14; $M_{r\theta}$-2.03±.46; $M_{\theta\phi}$3.37±.10; $M_{\phi r}$3.91±.48; Best double couple: $M_0$6.84800×10^16^ NP1:ϕ_s174.00000°, δ69.00000°, λ-127.00000°. NP2:ϕ_s59.00000°, δ42.00000°, λ-33.00000°. Principal axes: T 6.7360, Plg16.0000°, Azm291.0000°; N 0.2200, Plg34.0000°, Azm189.0000°; P -6.9600, Plg51.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 19:30:40.2±0.4, 22°.08S±0°.07×170°.49E±0°.06, h10km, n134, σ1§21/131, mb4.8/36, MS4.8/6, 2D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONTNC	Ouen Toro	3.75	266	Pn	Pn	19 31 38.9	+0.8
DZM	Mont Dzumac	3.75	269	Pn	Pn	19 31 39.6	+1.3
DZM	Mont Dzumac	3.75	269	Pn	Pn	19 31 39.8	+1.4
	88nm,0.3s,baz=133,slow=16,SNR=28						
DZM				Sn	Sn	19 32 23.9	+1.2
	23nm,0.3s,baz=70,slow=18,SNR=4.8						
	172nm,0.3s						
KOUNC	Koumac, New Ca	5.98	284	Pn	Pn	19 32 10.2	+1.3
MSVF	Nonsavu	8.32	60	Pn	Pn	19 32 43.6	+2.5
MSVF	Nonsavu	8.32	60	Pn	Pn	19 32 41.7	+0.7
	0.6nm,0.3s,baz=206,slow=13,SNR=7.1						
MSVF				LR	LR	19 35 17.8	
	comp=Z,4μm,18.0s,baz=242,slow=34						
	23nm,1.1s						
RAO	Raoul Island	12.65	127	LR	LR	19 37 25.4	
	comp=Z,3μm,20.8s,baz=326,slow=32						
FUNA	Funafuti	15.86	33	Pn	Pn	19 34 23.2	-0.5
FUNA				IAmb	IAmb	19 34 30.2	
	comp=Z,204nm,1.4s						
HNR	Honiara	16.14	320	Pn	Pn	19 34 25.8	-1.6
HNR				IAmb	IAmb	19 34 47.4	
	comp=Z,139nm,1.3s						
HNR	Honiara	16.14	320	Pn	Pn	19 34 28.7	+1.3
	comp=Z,4.9nm,0.3s,baz=173,slow=9.9,SNR=1.7						
HNR				LR	LR	19 39 50.6	
	comp=Z,2μm,21.5s,baz=126,slow=34						
	comp=Z,17nm,0.4s						
HIZ	Hauiti	16.81	168	P	P	19 34 38.0	+0.2
HIZ				IAmb	IAmb	19 34 46.6	
	comp=Z,71nm,1.1s						
URZ	Urewera	17.11	162	P	Pn	19 34 40.5	+1.1
	comp=Z,7.0nm,0.8s,baz=352,slow=7.1,SNR=1.9						
RTZ	Ruatahuna	17.40	163		P	19 34 44.8	+0.2
BKZ	Black Stump Fm	17.79	165		P	19 34 49.2	+0.4
NIUE	Niue	18.57	84	P	P	19 34 57.3	-0.2
AFI	Afiamalu	18.70	67	P	P	19 34 57.1	-1.9
ARMA	Armidale	18.83	240	P	P	19 34 58.3	-2.1
ARMA				IAmb	IAmb	19 35 05.2	
	comp=Z,145nm,2.0s						
TUWZ	Tuamarina	19.52	172	P	P	19 35 06.6	-1.0
MSWZ	Moikau Station	19.70	169	P	Pn	19 35 11.0	-0.1
PLWZ	Palliser	19.85	169	P	P	19 35 11.2	-0.1
INZ	Inchbonnie	20.61	178	P	P	19 35 20.6	+1.0
INZ				IAmb	IAmb	19 35 30.2	
	comp=Z,66nm,1.3s						
LTZ	Lake Taylor	20.70	176	P	P	19 35 20.6	0.0
LTZ				IAmb	IAmb	19 35 48.9	
	comp=Z,52nm,1.3s						
RPZ	Rata Peaks	21.59	179	P	P	19 35 28.9	-1.2
RPZ	Rata Peaks	21.59	179	P	P	19 35 31.9	+1.8
	comp=Z,3.8nm,0.3s,baz=50,slow=16,SNR=2.3						
RPZ				LR	LR	19 42 39.4	
	comp=Z,445nm,19.7s,baz=5.5,slow=33						
	comp=Z,3.8nm,0.3s						
CTAO	Charters Tower	22.70	271	P	P	19 35 42.4	+0.1
CTAO				IAmb	IAmb	19 35 53.9	
	comp=Z,54nm,1.4s						
CAN	Canberra	22.95	230	P	P	19 35 46.6	+1.8
CAN				IAmb	IAmb	19 35 54.9	
	comp=Z,82nm,1.6s						
PMG	Port Moresby	25.70	296	P	P	19 36 09.7	-1.1
TOO	Toolangi	26.51	229	P	P	19 36 17.9	-0.1
COEN	Coen	27.17	283	P	P	19 36 23.5	-0.6
COEN				IAmb	IAmb	19 36 37.9	
	comp=Z,38nm,1.6s						
STKA	Stephens Creek	27.47	243	P	P	19 36 26.8	+0.1
STKA	Stephens Creek	27.47	243	P	P	19 36 28.1	+1.4
	comp=Z,4.1nm,1.0s,baz=72,slow=12,SNR=4.5						
	comp=Z,4.1nm,1.0s						
WR0	Warramunga Arr	33.58	267	P	P	19 37 19.5	-1.3
WR0				IAmb	IAmb	19 37 30.2	
	comp=Z,17nm,1.2s						
AS31	Alice Springs	33.69	260	P	P	19 37 21.3	-0.5
ASAR	Alice Springs	33.69	260	P	P	19 37 22.2	+0.4
ASAR	Alice Springs	33.69	260	P	P	19 37 21.9	+0.1
	comp=Z,2.7nm,0.8s,baz=86,slow=9.2,SNR=8.0						
ASAR				PcP	PcP	19 40 00.5	-1.1
	comp=Z,0.7nm,0.8s,baz=104,slow=3.1,SNR=2.8						
	comp=Z,2.7nm,0.8s						
WB0	Warramunga Arr	33.75	267	P	P	19 37 22.2	0.0
WB0				IAmb	IAmb	19 37 31.6	
	comp=Z,43nm,1.7s						
WB2	Warramunga Arr	33.76	267	P	P	19 37 21.7	-0.6
WRA	Warramunga Arr	33.77	267	P	P	19 37 21.7	-0.8
WRA	Warramunga Arr	33.77	267	P	P	19 37 22.4	-0.1
	comp=Z,3.0nm,0.7s,baz=100,slow=8.3,SNR=9.3						
WRA				PcP	PcP	19 39 59.6	-2.3
	comp=Z,0.5nm,0.8s,baz=97,slow=3.3,SNR=2.7						
	comp=Z,3.0nm,0.7s						
MTN	Manton Dam	38.56	277	P	P	19 38 03.7	+0.3
MTN				IAmb	IAmb	19 38 05.1	
	comp=Z,24nm,1.1s						
FAKI	Fak Fak	41.71	292	P	P	19 38 29.3	-0.3
FAKI				IAmb	IAmb	19 38 30.6	
	comp=Z,25nm,1.1s						
FITZ	Fitzroy Crossi	42.20	267	P	P	19 38 32.5	-1.1
FITZ	Fitzroy Crossi	42.20	267	P	P	19 38 34.7	+1.1
	comp=Z,30nm,1.2s,baz=111,slow=6.6,SNR=5.6						
	comp=Z,30nm,1.2s						
PSA00	Pilbara Seismi	46.84	261	P	P	19 39 09.1	-1.6
MBWA	Marble Bar	47.02	261	P	P	19 39 10.9	-1.2
NWAO	Narrogin (SRO)	48.02	245	P	P	19 39 19.3	-0.5
MMRI	Maumere	48.21	278	P	P	19 39 20.7	-0.7
LUWI	Luwuk	50.90	288	P	P	19 39 41.4	-0.6
BNSI	Bone	51.82	282	P	P	19 39 56.1	+7.3

KAPI	Kappang	51.89 281	P	P	19 39 49.0	-0.3
KAPI			IAmb	IAmb	19 40 03.3	
	comp=Z,31nm,1.4s					
KAPI	Kappang	51.89 281	P	P	19 39 50.4	+1.1
	comp=Z,3.0nm,0.2s,baz=95,slow=4.7,SNR=4.6					
	comp=Z,3.0nm,0.2s					
PCI	Palu	53.57 286	P	P	19 40 10.3	+8.5
TOLI2	Tolitoli	53.66 289	P	P	19 40 02.0	-0.5
TOLI2			IAmb	IAmb	19 40 09.5	
	comp=Z,15nm,1.0s					
KMMI	Kalianget	56.40 276	P	P	19 40 30.8	+8.5
KKM	Kota Kinabalu	60.03 291	P	P	19 40 47.6	-0.3
STKI	Sintang	61.50 283	P	P	19 41 06.1	+8.3
SBUM	Sibu	61.87 286	P	P	19 41 01.0	+0.8
SBUM			IAmb	IAmb	19 41 12.2	
	comp=Z,18nm,2.0s					
KSM	Kuching	63.16 284	P	P	19 41 08.4	-0.4
KSM			IAmb	IAmb	19 41 12.0	
	comp=Z,12nm,0.9s					
TPI	Tanjungpandan	63.84 278	P	P	19 41 20.5	+7.1
QSPA	South Pole Qui	67.99 180	P	P	19 41 38.9	-0.5
QSPA	South Pole Qui	67.99 180	P	P	19 41 41.1	+1.7
	comp=Z,9.7nm,0.9s,baz=55,slow=3.8,SNR=8.3					
	comp=Z,9.7nm,0.9s					
SISI	Saibi	72.28 276	P	P	19 42 14.4	+7.9
IPM	Ipoh	72.82 282	P	P	19 42 09.2	-0.5
IPM			IAmb	IAmb	19 42 17.0	
	comp=Z,18nm,1.2s					
NJ2	Nanjing	73.05 316	eP	P	19 42 13.3	+2.7
NJ2			pmax	pmax		
	comp=Z,3.0nm,0.6s					
RPSI	Rantau Prapat	74.01 280	P	P	19 42 14.8	-1.8
RPSI			IAmb	IAmb	19 42 20.5	
	comp=Z,12nm,1.1s					
GSI	Gunungsitoli	74.69 278	P	P	19 42 20.6	0.0
GSI	Gunungsitoli	74.69 278	P	P	19 42 25.6	+4.9
MAW	Mawson	76.26 202	P	P	19 42 29.2	+0.5
	comp=Z,4.8nm,0.8s,baz=95,slow=9.4,SNR=7.3					
	comp=Z,4.8nm,0.8s					
CN2	Changchun	77.48 328	eP	P	19 42 33.5	-2.3
ENH	Enshi	78.37 309	P	P	19 42 39.7	-1.4
GYA	Guiyang	78.39 305	P	P	19 42 43.8	+2.3
GYA			pmax	pmax		
	comp=Z,7.0nm,1.0s					
BSI	Banda Aceh	78.44 281	P	P	19 42 45.3	+3.4
AIS	Amsterdam Isla	79.01 234	P	P	19 42 43.4	-1.3
HNS	HongShan	79.08 318	eP	P	19 42 46.3	+1.5
BELA	Belgrano 2	79.18 175	P	P	19 42 45.2	+0.3
PHRA	Phrae	79.66 295	P	P	19 42 47.9	-0.6
CM31	Chiang Mai Arr	80.73 294	P	P	19 42 54.3	+0.1
CM31			IAmb	IAmb	19 43 03.0	
	comp=Z,9.5nm,1.1s					
CMAR	Chiang Mai Arr	80.73 294	P	P	19 42 53.8	-0.5
CMAR	Chiang Mai Arr	80.73 294	P	P	19 42 55.2	+1.0
	comp=Z,2.7nm,0.7s,baz=136,slow=4.2,SNR=13					
	comp=Z,2.7nm,0.7s					
KMI	Kunming	80.76 302	||P	P	19 42 56.3	+1.8
KMI			pmax	pmax		
	comp=Z,10.0nm,1.5s					
KMI			LR	LR		
	comp=Z,100nm,21.7s					
KMI			LR	LR		
	comp=Z,220nm,15.5s					
KMI			LR	LR		
	comp=Z,220nm,24.2s					
SMAI	San Martin Ant	80.78 161	P	P	19 42 54.6	+1.0
SMAI			IAmb	IAmb	19 42 57.4	
	comp=Z,32nm,1.3s					
XAN	Xi'an	80.88 312	P	P	19 42 55.5	+0.7
XAN			pmax	pmax		
	comp=Z,15nm,1.4s					
CHTO	Chiang Mai	80.89 294	P	P	19 42 55.1	0.0
CHTO			IAmb	IAmb	19 43 03.5	
	comp=Z,14nm,1.2s					
PZH	PanZhiHua	82.22 303	P	P	19 43 03.8	+1.7
PZH			pmax	pmax		
	comp=Z,10.0nm,0.9s					
PZH			pmax	pmax		
	comp=Z,100nm,4.6s					
HHC	Hu-ho-hao-te	83.12 319	eP	P	19 43 07.8	+1.3
HHC			sP	pwP	19 43 22.5	+10
HHC			pmax	pmax		
	comp=Z,10.0nm,0.5s					
HHC			pmax	pmax		
	comp=Z,120nm,5.3s					
HHC			LR	LR		
	comp=Z,200nm,15.4s					
HHC			LR	LR		
	comp=Z,230nm,16.8s					
ELIB	Princess Elisa	83.56 190	dP	P	19 43 07.1	-1.3
	comp=Z,3.1nm,1.2s					
LZH	Lanzhou	85.49 312	eP	P	19 43 20.3	+1.6
LZH			pmax	pmax		
	comp=Z,14nm,1.3s					
LZH			LR	LR		
	comp=Z,280nm,18.2s					
LZH			LR	LR		
	comp=Z,340nm,19.9s					
LZH			LR	LR		
	comp=Z,440nm,18.2s					
SNAA	Sanae	86.39 182	P	P	19 43 20.9	-1.6
SNAA	Sanae	86.39 182	P	P	19 43 22.5	0.0
	comp=Z,1.7nm,0.8s,baz=280,slow=2.7,SNR=4.3					
	comp=Z,1.7nm,0.8s					
ULN	Ulaanbaatar	89.83 323	P	P	19 43 38.5	-0.8
ULN			IAmb	IAmb	19 43 43.2	
	comp=Z,17nm,1.6s					
GTA	Gaotai	89.92 313	eP	P	19 43 41.5	+1.7
GTA			pmax	pmax		
	comp=Z,3.0nm,1.3s					
SONM	Songino Array	90.18 323	P	P	19 43 40.5	-0.4
	comp=Z,2.0nm,0.9s,baz=130,slow=5.2,SNR=9.9					
	comp=Z,2.0nm,0.9s					
WMQ	Urumqi	100.00 313	eP	Pdif	19 44 27.8	+2.1
WMQ			LR	LR		
	comp=Z,600nm,19.3s					
WMQ			LR	LR		
	comp=Z,650nm,20.7s					
WMQ			LR	LR		
	comp=Z,460nm,22.5s					
BRTR	Keskin Array B	139.45 306	PKPdf	PKPdf	19 50 04.3	-3.9
MORC	Moravsky Berou	145.09 329		PKPbc	19 50 16.1	-1.2
MORC	Moravsky Berou	145.09 329	ePKP	PKPbc	19 50 16.8	-0.5
PSZ	Piszkesteto	145.09 325		PKPbc	19 50 16.1	-1.3
OSTC	Ostas	145.16 331	ePKP	PKPab	19 50 18.3	+0.7
OSTC			ex	x	19 50 23.2	
CHVC	Chvalec	145.22 331	ePKP	PKPbc	19 50 17.7	+0.1
DPC	Dobruska-Polom	145.26 331	ePKP	PKPbc	19 50 17.4	-0.4
VYHS	Vyhne	145.29 326	ePKP	PKPbc	19 50 18.1	+0.2
JAVC	Velka Javorina	145.64 328	ePKP	PKPbc	19 50 19.8	+0.7
VRAC	Vranov	145.86 329	ePKP	PKPdf	19 50 18.8	-0.4
BRG	Berggiesshubel	145.92 333	eP	PKPdf	19 50 19.4	+0.3
BRG			Amp		19 50 21.6	
	comp=Z,22nm,1.2s					
CLL	Collm	145.97 335		PKPdf	19 50 17.8	-1.5
CLL	Collm	145.97 335	ePKPbc	PKPdf	19 50 20.0	+0.8
	comp=Z,62nm,1.9s					
CLL			ePKiKP	sPKPab	19 50 26.0	+2.5
CLL			ex	x	19 51 03.0	
CLL			ePP	PP	19 53 41.0	0.0
CLL			AMS	AMS	20 55 00.0	
	comp=Z,200nm,19.1s					
SRO	Srobarova	145.99 326	ePKP	PKPdf	19 50 20.0	+0.6
KRUC	Moravsky	146.13 329	ePKP	PKPdf	19 50 19.6	0.0
MODS	Modra-Piesok	146.16 327	ePKP	PKPab	19 50 22.7	+1.4
EKA	Eskdalemuir Ar	146.45 353	PKPbc	PKPdf	19 50 20.4	+0.5
	comp=Z,6.3nm,1.0s,baz=24,slow=20,SNR=3.5					
ZVC	Zvikov	146.88 331	ePKP	PKPbc	19 50 22.8	+0.1
RONA	Rosalia, Austr	147.10 327	ePKP	PKPbc	19 50 24.2	+0.7
	comp=Z,4.8nm,0.7s					
CONA	Conrad Observa	147.16 328	ePKP	PKPbc	19 50 23.9	+0.2
	comp=Z,13nm,1.4s					
IDI	Anoyia	147.25 301	PKPdf	PKPdf	19 50 20.2	-1.8
CKRC	Cesky Krumlov	147.27 330	ePKP	PKPbc	19 50 23.5	-0.4
KHC	Kasperske Hory	147.38 331		PKPdf	19 50 21.8	0.0
KHC	Kasperske Hory	147.38 331	ePKP	PKPdf	19 50 23.4	+1.6
GEC2	GERESS Array S	147.53 331		PKPdf	19 50 23.4	+1.3
GERES	GERESS Array B	147.53 331	PKPdf	PKPdf	19 50 19.3	-2.8
GERES				pPKPdf	19 50 23.8	-0.6
GERES	GERESS Array B	147.53 331	PKPbc	PKPbc	19 50 24.2	-0.5
	comp=Z,2.6nm,0.7s,baz=46,slow=3.9,SNR=6.9					
ARSA	Arzberg	147.79 327	ePKP	PKPdf	19 50 22.9	+0.5
	comp=Z,3.5nm,0.9s					
GRA1	Grafenberg Arr	147.94 334	PKPdf	PKPdf	19 50 23.1	+0.4
GRFO	Grafenberg	147.94 334	PKPbc	PKPdf	19 50 24.7	+2.1

SOKA	Soboth	148.43 327	ePKP	PKPbc	19 50 26.8	-0.4
	comp=Z,6.2nm,1.1s					
OBKA	Obir	148.78 327	ePKP	PKPbc	19 50 26.9	-1.1
	comp=Z,25nm,2.5s					
LESA	Schwarzleotal	149.04 330	ePKP	PKPbc	19 50 28.2	-0.5
	comp=Z,7.1nm,1.3s					
MYKA	Terra Mystica	149.15 328	ePKP	PKPbc	19 50 28.0	-1.0
	comp=Z,13nm,1.5s					
WATA	Walderalm	149.61 331	ePKP	PKPdf	19 50 25.6	0.0
	comp=Z,11nm,1.2s					
ABTA	Abfaltersbach	149.61 329	ePKiKP	PKPbc	19 50 31.0	+0.9
	comp=Z,7.4nm,1.0s					
WTTA	Wattenberg	149.63 331	ePKP	PKPbc	19 50 30.0	-0.3
	comp=Z,8.9nm,1.1s					
MOTA	Moosalm	149.81 332	ePKP	PKPbc	19 50 30.4	-0.3
	comp=Z,9.1nm,1.2s					
SQTA	Sankt Quirin	149.86 331	ePKP	PKPbc	19 50 30.8	0.0
	comp=Z,8.9nm,1.1s					
FETA	Feichten	150.22 332	epPKP	PKPab	19 50 36.4	-1.3
	comp=Z,16nm,1.7s					
TUE	Stuetta	151.25 332		PKPbc	19 50 32.2	-2.0

*MOS **27** 19:34:43.5±0.9, 15°.64N×49°.78W, h10km, mb5.8/65, MS4.9/35, Error ellipse: s-maj=7.3km s-min=4.4km az=52.0*
*IDC **27** 19:34:43.6±0.3, 15°.65N×49°.73W, h0km, mb5.2/38, mbtmp5.2/41, ML5.3/3, MS4.8/71, Error ellipse: s-maj=12.1km s-min=8.6km az=130.0*
*BGR **27** 19:34:43.9, 14°.57N×49°.40W, h33km, mb5.4, Ms4.8*
*NEIC **27** 19:34:45.6, 15°.57N×49°.85W, h12km.*
*NEIC **27** 19:34:45.5±2.1, 15°.58N±0°.07×49°.84W±0°.07, h10km±1km, mb5.8/870, Ms_20 5.2/609, Mwb5.5/49, Mww5.5/40, Error ellipse: s-maj=12.6km s-min=11.7km az=161.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; M_{rr}-1.08; $M_{\theta\theta}$1.77; $M_{\phi\phi}$-0.69; $M_{r\theta}$-1.30; $M_{\theta\phi}$0.20; $M_{\phi r}$-0.42; Fault plane solution: $M_0$2.07000×10^17^ NP1:ϕ_s71.09000°, δ68.13000°, λ-105.84000°. NP2:ϕ_s288.38000°, δ26.77000°, λ-55.79000°. Principal axes: T 2.3123, Plg22.0000°, Azm173.0000°; N -0.6284, Plg15.0000°, Azm77.0000°; P -1.6840, Plg63.0000°, Azm315.0000°;*
*NEIC **27** 19:34:45.6, 15°.87N×49°.54W, h12km, Moment Tensor Solution. Duration: 2§7 Moment tensor: Scale 10^17^Nm; M_{rr}-1.29; $M_{\theta\theta}$1.77; $M_{\phi\phi}$-0.48; $M_{r\theta}$0.06; $M_{\theta\phi}$0.48; $M_{\phi r}$-1.24; Fault plane solution: $M_0$2.05000×10^17^ NP1:ϕ_s46.83000°, δ59.14000°, λ-133.85000°. NP2:ϕ_s288.73000°, δ51.75000°, λ-40.77000°. Principal axes: T 1.8784, Plg4.0000°, Azm166.0000°; N 0.3372, Plg36.0000°, Azm73.0000°; P -2.2156, Plg53.0000°, Azm262.0000°;*
*IPGP **27** 19:34:46.0, 15°.58N×49°.90W, h6km, Mw5.5, Fault plane solution: NP1:ϕ_s45.00000°, δ72.00000°, λ-136.00000°. NP2:ϕ_s299.00000°, δ49.00000°, λ-24.00000°.*
*NEIC **27** 19:34:46, 15°.60N×49°.88W, h10km*
*GCMT **27** 19:34:47.6±0.1, 15°.62N×49°.78W, h12km, MW5.1/138, Moment Tensor Solution. s114,c206; s138,c273; Duration: 1§3 Moment tensor: Scale 10^17^Nm; M_{rr}-1.51±.02; $M_{\theta\theta}$2.07±.02; $M_{\phi\phi}$-0.56±.02; $M_{r\theta}$-0.62±.05; $M_{\theta\phi}$0.59±.02; $M_{\phi r}$-0.64±.05; Best double couple: $M_0$2.09700×10^17^ NP1:ϕ_s58.00000°, δ60.00000°, λ-116.00000°. NP2:ϕ_s281.00000°, δ39.00000°, λ-54.00000°. Principal axes: T 2.3410, Plg11.0000°, Azm166.0000°; N -0.4880, Plg22.0000°, Azm72.0000°; P -1.8530, Plg65.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 19:34:45.1±0.5, 15°.59N±0°.04×49°.90W±0°.04, h11km±2km, h11km:pP-P, n1559, σ1§32/1098, mb5.8/568, MS5.1/377, 51C-54D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBGH	Gun Hill	9.67	257		Pn	19 37 06.8	+2.5
BBGH				Sn	Sn	19 38 50.9	-2.1
BBGH	Gun Hill	9.67	257	eP	Pn	19 37 05.1	+0.9
BCHC	Barbados, Cave	9.74	257	eP	Pn	19 37 07.5	+2.2
MPOM	Morne Pois Mar	10.65	265	Pn	Pn	19 37 17.3	-0.4
MPOM				Sn	Sn	19 39 10.1	-6.9
GDSD	La Dsirade Is	10.76	275	Pn	Pn	19 37 18.0	-1.3
MDP	Montagnes des	10.77	195	Pn	Pn	19 37 18.4	-0.9
	64nm,0.3s,baz=7.7,slow=16,SNR=314						
MDP				Sn	Sn	19 39 07.1	-13
	65nm,0.3s,baz=253,slow=19,SNR=9.6						
MDP				LR	LR	19 40 54.3	
	comp=Z,5μm,21.6s,baz=16,slow=34						
	150nm,0.3s						
SLAC	Saint Lucia, A	10.77	262	eP	Pn	19 37 19.1	-0.2
SLBI	Saint Lucia, B	10.82	263	eP	Pn	19 37 19.1	-0.9
BIM	Bigot	10.84	266	eP	Pn	19 37 21.3	+0.9
FDF	Fort de France	10.89	267		Pn	19 37 21.1	0.0
FDF	Fort de France	10.89	267	P	Pn	19 37 21.1	0.0
SSV	Crater Summit	11.17	260	eP	Pn	19 37 26.7	+1.8
ABD	La Joyeuse, An	11.18	276		Pn	19 37 24.8	-0.1
TOSP	Speyside	11.19	249	eP	Pn	19 37 27.6	+2.5
SVOC	Richmond Hill,	11.23	259	eP	Pn	19 37 26.8	+1.1
SVB	Belmont	11.23	260	eP	Pn	19 37 26.4	+0.7
SVT	Saint Vincent	11.25	259	eP	Pn	19 37 27.2	+1.3
CBE	Ff, Capester	11.28	274		Pn	19 37 25.6	-0.7
TDBA	Terre de Bas,	11.30	273		Pn	19 37 25.4	-1.2
TBG	Guadaloupe-3	11.31	273	eP	Pn	19 37 28.2	+1.5
TBG	Guadaloupe-3	11.31	273	eS	Sn	19 39 30.3	-3.0
GDHS	Morne Mazeau,	11.43	275		Pn	19 37 26.7	-1.8
ANBD	Bethesda, Anti	11.48	279	eP	Pn	19 37 26.2	-2.9
ANBD	Bethesda, Anti	11.48	279	eS	Sn	19 39 32.1	-5.3
ANWB	Willy Bob	11.58	282	Pn	Pn	19 37 28.8	-1.7
ANWB	Willy Bob	11.58	282	eP	Pn	19 37 29.0	-1.4
ANWB	Willy Bob	11.58	282	eS	Sn	19 39 34.7	-5.0
GCMP	Grenada, Carri	11.60	256	eP	Pn	19 37 29.2	-1.5
GRSS	Sisters	11.83	255	eP	Pn	19 37 34.0	+0.2
GRHS	Sauteurs	11.88	255	eP	Pn	19 37 34.9	+0.4
MBFL	Flemmings, Mon	11.88	277	eP	Pn	19 37 34

PCDR IAmb IAmb 19 38 60.0
comp=Z,785nm,1.2s
TMAB Tom-Au,PA,Br 17.93 174 *eP* **Pn 19 38 53.1 -1.5**
MAL2 Monte Alegre, 18.00 194 Pn **Pn 19 38 53.7 -1.7**
MAL2 IAmb IAmb 19 38 57.3
comp=Z,1µm,1.3s
BAUV El Baul 18.91 252 P **Pn 19 39 06.8 +0.3**
BAUV El Baul 18.91 252 *eP* **P 19 39 05.7 -0.3**
ITTB Itaituba 20.65 197 *eP* **P 19 39 25.8 +0.8**
SDDR Presa de Saban 20.70 282 P **P 19 39 26.6 +1.1**
GRTK Grand Turk 20.96 290 P **P 19 39 27.7 -0.6**
SDV Santo Domingo 21.32 254 P **P 19 39 33.2 +0.8**
SDV Santo Domingo 21.32 254 P **P 19 39 34.1 +1.7**
comp=Z,162nm,0.9s,baz=74,slow=9.7,SNR=78
comp=Z,162nm,0.9s
SDV Santo Domingo 21.32 254 *eP* **P 19 39 35.1 +2.7**
BBSR BB Station 21.45 324 P **P 19 39 34.5 +1.1**
BBSR IAmb IAmb 19 39 40.6
comp=Z,900nm,1.8s
MACA Manacapuru-AM 21.47 211 P **P 19 39 33.9 +0.1**
MACA IAmb IAmb 19 39 49.5
comp=Z,540nm,0.9s
MACA Manacapuru-AM 21.47 211 *eP* **P 19 39 36.4 +2.5**
PAPH Port-au-Prince 21.61 281 P **P 19 39 34.8 -0.5**
PAPH IAmb IAmb 19 39 50.8
comp=Z,267nm,0.9s
PRPB Paraupebas 21.62 180 *eP* **P 19 39 35.5 +0.1**
NBCL Cascavel-CE 22.80 149 *eP* **P 19 39 47.6 -0.4**
NPGB Novo Progresso 23.13 194 *eP* **P 19 39 52.2 +0.8**
NBPB Pedra_Branca-C 23.35 153 *eP* **P 19 39 52.0 -1.7**
NMDO Nuevo Mundo 24.34 285 P **P 19 40 02.4 -0.7**
NMDO IAmb IAmb 19 40 07.6
comp=Z,724nm,1.8s
GTBY Guantanamo Bay 24.38 284 P **P 19 40 03.6 +0.1**
GTBY IAmb IAmb 19 40 09.1
comp=Z,293nm,1.1s
GTBY Guantanamo Bay 24.38 284 ‖ *iP* **P 19 40 06.4 +2.8**
SMTB Santa Maria do 24.40 174 *eP* **P 19 40 03.6 -0.1**
SACV Santiago Islan 25.37 88 P **P 19 40 12.7 +0.1**
SACV IAmb IAmb 19 40 16.4
comp=Z,201nm,1.1s
RCBR Riachuelo 25.40 146 P **P 19 40 11.4 -1.4**
RCBR IAmb IAmb 19 40 25.1
comp=Z,217nm,1.1s
RCBR Riachuelo 25.40 146 LR LR 19 47 35.4
comp=Z,1µm,21.1s,baz=331,slow=30
RCBR Riachuelo 25.40 146 P **P 19 40 11.4 -1.4**
RCBR pmax pmax
comp=Z,217nm,1.1s
RCBR MLR MLR
comp=Z,3µm,20.0s
RCBR Riachuelo 25.40 146 *eP* **P 19 40 12.7 -0.1**
HOJ Hope 25.81 279 *i P* **P 19 40 18.1 +1.6**
STH Stony Hill 25.87 279 ‖ *iP* **P 19 40 21.1 +4.0**
ROSC El Rosal 26.26 249 P **P 19 40 21.9 +0.8**
ROSC IAmb IAmb 19 40 56.5
comp=Z,217nm,1.4s
ROSC El Rosal 26.26 249 P **P 19 40 23.3 +2.2**
comp=Z,34nm,0.8s,baz=59,slow=7.8,SNR=22
ROSC LR LR 19 52 35.2
comp=Z,981nm,18.0s,baz=64,slow=40
comp=Z,34nm,0.8s
MTDJ Mount Denham 26.56 280 P **P 19 40 23.6 +0.2**
MTDJ IAmb IAmb 19 40 28.9
comp=Z,220nm,1.1s
MTDJ Mount Denham 26.56 280 ‖ *iP* **P 19 40 26.6 +3.2**
CLDB Colider 26.93 193 *eP* **P 19 40 28.2 +1.6**
NBCA Caruaru-PE 27.37 149 *eP* **P 19 40 30.4 -0.3**
SNDB Serra Nova Dou 27.42 183 *eP* **P 19 40 31.9 +0.8**
SAML Samuel 27.70 209 P **P 19 40 34.6 +1.0**
SAML IAmb IAmb 19 41 16.4
comp=Z,260nm,2.0s
SAML Samuel 27.70 209 P **P 19 40 34.6 +1.0**
SAML pmax pmax
comp=Z,260nm,2.0s
SAML MLR MLR
comp=Z,3µm,21.0s
SAML Samuel 27.70 209 *eP* **P 19 40 34.8 +1.2**
PDRB Porto dos Gac 27.86 194 *eP* **P 19 40 36.8 +1.8**
TBTG Tabatinga, AM 27.90 227 P **P 19 40 36.3 +0.9**
SDBA SAO DESIDERIO 28.25 170 *eP* **P 19 40 37.6 -1.0**
NBAN Anadia - AL 28.50 151 *eP* **P 19 40 39.0 -1.7**
NBLA Lagarto - SE 29.01 155 *eP* **P 19 40 44.2 -1.0**
ETMB Extrema 29.97 214 P **P 19 40 54.5 +0.8**
ETMB Extrema 29.97 214 *eP* **P 19 40 55.5 +1.7**
VILB Vilhena 30.13 200 P **P 19 40 55.4 +0.2**
VILB IAmb IAmb 19 41 08.3
comp=Z,137nm,0.7s
VILB Vilhena 30.13 200 *eP* **P 19 40 57.7 +2.5**
CAMR Camarioca 30.57 289 P **P 19 40 59.8 +0.8**
CAMR IAmb IAmb 19 41 20.5
comp=Z,454nm,1.6s
CMLA Cha da Macela 30.85 40 P **P 19 41 02.2 +0.8**
CMLA Cha da Macela 30.85 40 P **P 19 41 02.2 +0.8**
CMLA pmax pmax
comp=Z,912nm,1.8s
GDU01 Guandu, BA 30.86 160 *eP* **P 19 41 00.1 -1.5**
JANB Januaria 30.95 169 *eP* **P 19 41 01.5 -0.9**
BDFB Brasilia 31.09 176 P **P 19 41 03.9 +0.2**
BDFB IAmb IAmb 19 41 15.8
comp=Z,168nm,1.1s
BDFB Brasilia 31.09 176 P **P 19 41 04.4 +0.7**
comp=Z,31nm,1.0s,baz=357,slow=12,SNR=22
BDFB LR LR 19 54 06.1
comp=Z,3µm,18.9s,baz=348,slow=37
comp=Z,31nm,1.0s
ARAG Araguaiana, MT 31.15 184 *eP* **P 19 41 05.7 +1.5**
HAL Halifax 31.19 341 IAMs_20 IAMs_20 19 50 15.1
comp=Z,5µm,22.0s
GBN Guysborough 31.29 344 IAMs_20 IAMs_20 19 50 32.9
comp=Z,4µm,20.0s
Y60A Bolivia 31.41 311 P **P 19 41 07.9 +1.6**
Y60A IAmb IAmb 19 41 11.0
comp=Z,124nm,0.9s
M65A Busby, Falmout 31.48 329 IAMs_20 IAMs_20 19 51 29.0
comp=Z,4µm,18.0s
M65A Busby, Falmout 31.48 329 P **P 19 41 08.6 +1.8**
baz=139
SALV Santo Antonio 31.81 191 *eP* **P 19 41 11.3 +1.4**
MBO M'Bour 31.83 88 P **P 19 41 08.4 -1.8**
SOR Soroa 32.02 288 P **P 19 41 10.8 -1.1**
SOR IAmb IAmb 19 41 16.7
comp=Z,133nm,1.5s
SOR Soroa 32.02 288 P **P 19 41 10.8 -1.1**
SOR pmax pmax
comp=Z,133nm,1.5s
OTAV Otavalo 32.05 244 P **P 19 41 11.2 -1.5**
OTAV Otavalo 32.05 244 P **P 19 41 11.2 -1.5**
OTAV pmax pmax
comp=Z,57nm,1.2s
OTAV Otavalo 32.05 244 *eP* **P 19 41 15.4 +2.7**
M63A Gales Ferry 32.07 328 P **P 19 41 10.6 -1.4**
M63A IAmb IAmb 19 41 17.8
comp=Z,122nm,1.3s
W59A Clinton 32.15 313 P **P 19 41 12.8 +0.1**
W59A IAmb IAmb 19 41 16.8
comp=Z,131nm,1.0s
W59A IAMs_20 IAMs_20 19 51 24.6
comp=Z,3µm,19.0s
PTLB Pontes e Lacer 32.16 197 P **P 19 41 13.3 +0.3**
PTLB IAmb IAmb 19 41 25.3
comp=Z,114nm,1.2s
PTLB Pontes e Lacer 32.16 197 *eP* **P 19 41 15.2 +2.2**
BBTS Babate 32.21 87 LR LR 19 51 35.1
comp=Z,1µm,18.3s,baz=146,slow=32
CSU Charleston Sou 32.34 308 P **P 19 41 13.9 -0.5**
CSU IAMs_20 IAMs_20 19 50 51.7
comp=Z,4µm,22.0s
CZSB Cruzeiro do Su 32.36 226 P **P 19 41 15.1 +0.2**
CZSB IAmb IAmb 19 41 27.4
comp=Z,120nm,0.8s
CZSB Cruzeiro do Su 32.36 226 *eP* **P 19 41 16.5 +1.7**
CMC01 Camacan, BA 32.42 161 *eP* **P 19 41 15.8 +0.5**
WES Weston 32.43 330 IAMs_20 IAMs_20 19 51 06.2
comp=Z,4µm,18.0s
Y58A Scranton 32.43 310 P **P 19 41 16.6 +1.3**
Y58A IAmb IAmb 19 41 19.5
comp=Z,220nm,1.2s
NHSC New Hope 32.47 308 IAMs_20 IAMs_20 19 50 54.2
comp=Z,4µm,22.0s
X58A Rowland 32.49 311 P **P 19 41 16.5 +0.7**
X58A IAmb IAmb 19 41 19.8
comp=Z,99nm,0.9s
EMMW East Machias 32.61 336 IAMs_20 IAMs_20 19 50 50.8
comp=Z,4µm,22.0s

LMN Caledonia Moun 32.66 341 IAMs_20 IAMs_20 19 51 31.3
comp=Z,4µm,22.0s
PAL Palisades 32.77 325 IAmb IAmb 19 41 30.5
comp=Z,201nm,1.4s
BRNJ Basking Ridge 32.92 324 IAMs_20 IAMs_20 19 51 20.1
comp=Z,6µm,21.0s
V58A Windy Hill, Pi 32.93 313 P **P 19 41 20.8 +1.1**
Y57A Sumter 33.02 309 IAMs_20 IAMs_20 19 52 24.8
comp=Z,3µm,20.0s
TRNY Table Rock, Ra 33.04 325 P **P 19 41 20.9 +0.4**
TRNY IAmb IAmb 19 41 33.2
comp=Z,224nm,1.7s
TRNY IAMs_20 IAMs_20 19 50 38.4
comp=Z,4µm,20.0s
CBN Corbin Frederi 33.06 318 P **P 19 41 20.5 -0.3**
CBN IAmb IAmb 19 41 33.4
comp=Z,78nm,0.8s
L61B Northampton 33.15 328 P **P 19 41 24.0 +2.5**
baz=137
ODNJ Ogdensburg 33.21 325 IAMs_20 IAMs_20 19 51 40.9
comp=Z,4µm,19.0s
W57A Gilead 33.25 311 IAmb IAmb 19 41 26.4
comp=Z,83nm,0.9s
SIV San Ignacio 33.26 200 P **P 19 41 24.5 +1.8**
comp=Z,17nm,1.0s,baz=29,slow=8.4,SNR=26
SIV LR LR 19 54 32.9
comp=Z,2µm,21.9s,baz=46,slow=36
comp=Z,17nm,1.0s
BIRD Birdtown, Kers 33.35 310 IAmb IAmb 19 41 27.6
comp=Z,146nm,1.1s
BIRD IAMs_20 IAMs_20 19 51 29.6
comp=Z,4µm,20.0s
I63A Otisfield 33.37 332 IAMs_20 IAMs_20 19 51 26.1
comp=Z,4µm,20.0s
IPMB Ipameri, GO 33.40 177 *eP* **P 19 41 24.3 +0.3**
SDMD Soldier's Deli 33.44 320 P **P 19 41 23.4 -0.7**
GUA01 Guaratinga, BA 33.48 162 *eP* **P 19 41 23.8 -0.9**
MVL Millersville 33.51 322 P **P 19 41 23.7 -1.0**
ESPN Las Esperanzas 33.54 269 IAmb IAmb 19 41 30.4
comp=Z,193nm,1.2s
T57A Hurt 33.64 315 P **P 19 41 26.7 +0.8**
T57A IAmb IAmb 19 41 39.2
comp=Z,160nm,1.9s
J61A Chester 33.75 330 IAmb IAmb 19 41 40.3
comp=Z,207nm,1.5s
JSC Jenkinsville 33.78 309 IAMs_20 IAMs_20 19 51 44.0
comp=Z,3µm,21.0s
PKME Peaks-Kenny Pk 33.79 335 IAMs_20 IAMs_20 19 51 38.2
comp=Z,5µm,18.0s
S57A Dark Hollow, R 33.85 316 IAmb IAmb 19 41 31.8
comp=Z,157nm,1.0s
TRY Troy 33.86 328 IAmb IAmb 19 41 40.4
comp=Z,153nm,1.5s
HNH Hanover 33.89 330 IAmb IAmb 19 41 34.5
comp=Z,106nm,1.1s
H62A Milan 34.04 332 IAMs_20 IAMs_20 19 51 55.6
comp=Z,4µm,22.0s
PMNB Patos De Minas 34.08 174 *eP* **P 19 41 29.5 -0.4**
EOSO Osorio 34.10 63 P **P 19 41 29.8 -0.3**
U56A King 34.10 313 IAmb IAmb 19 41 34.2
comp=Z,142nm,1.2s
LBNH Lisbon 34.13 331 IAmb IAmb 19 41 48.0
comp=Z,150nm,1.6s
LBNH IAMs_20 IAMs_20 19 51 50.1
comp=Z,3µm,20.0s
COHC Cochancay 34.13 241 P **P 19 41 30.1 -0.2**
L59A Walton 34.21 326 IAmb IAmb 19 41 43.5
comp=Z,328nm,1.9s
P57A Homestead Farm 34.21 320 IAmb IAmb 19 41 43.9
comp=Z,137nm,1.4s
KMSC Kings Mountain 34.22 311 IAmb IAmb 19 41 35.0
comp=Z,117nm,1.0s
KMSC IAMs_20 IAMs_20 19 52 30.5
comp=Z,4µm,19.0s
PMOZ Porto Moniz, M 34.22 54 P **P 19 41 30.3 -0.8**
PMOZ Porto Moniz, M 34.22 54 *eP* **P 19 41 30.3 -0.8**
PMOZ A A 19 41 35.0
comp=Z,440nm,1.3s
PMOZ Porto Moniz, M 34.22 54 P **P 19 41 30.2 -0.9**
DIAM Diamantina, MG 34.23 169 *eP* **P 19 41 30.8 -0.4**
BBSD Serra de San D 34.24 198 *eP* **P 19 41 32.6 +1.4**
N58A Sunbury 34.26 323 IAMs_20 IAMs_20 19 52 05.5
comp=Z,3µm,20.0s
G62A West of Eustis 34.27 334 IAMs_20 IAMs_20 19 52 03.9
comp=Z,5µm,20.0s
BATG Bathurst New B 34.33 340 IAMs_20 IAMs_20 19 52 23.3
comp=Z,4µm,22.0s
ACCN Adirondack Com 34.33 329 P **P 19 41 31.0 -0.8**
ACCN IAmb IAmb 19 41 44.3
comp=Z,224nm,1.9s
ACCN IAMs_20 IAMs_20 19 51 18.5
comp=Z,3µm,19.0s
PAULI Pauline 34.43 310 IAmb IAmb 19 41 37.0
comp=Z,111nm,1.0s
PAULI IAMs_20 IAMs_20 19 53 27.2
comp=Z,3µm,18.0s
V55A Taylorsville 34.45 312 IAmb IAmb 19 41 37.4
comp=Z,196nm,1.7s
HODGE Hodges 34.51 308 IAMs_20 IAMs_20 19 52 06.3
comp=Z,4µm,21.0s
JTS Las Juntas de 34.53 266 P **P 19 41 33.4 -0.5**
JTS Las Juntas de 34.53 266 LR LR 19 55 44.2
comp=Z,485nm,21.5s,baz=77,slow=36
JTS Las Juntas de 34.53 266 *d iP* **P 19 41 35.7 +1.8**
JTS pmax pmax
comp=Z,48nm,1.4s
JTS MLR MLR
comp=Z,303nm,14.0s
BLA Blacksburg 34.55 314 P **P 19 41 33.4 -0.4**
BLA IAmb IAmb 19 41 38.3
comp=Z,156nm,1.0s
BLA Blacksburg 34.55 314 P **P 19 41 33.4 -0.4**
BLA pmax pmax
comp=Z,156nm,1.0s
BLA MLR MLR
comp=Z,3µm,20.0s
BINY Binghamton 34.73 325 IAmb IAmb 19 41 47.5
comp=Z,194nm,1.6s
BINY IAMs_20 IAMs_20 19 52 16.0
comp=Z,3µm,20.0s
553A Crawfordville 34.81 301 IAmb IAmb 19 41 41.0
comp=Z,184nm,0.9s
553A IAMs_20 IAMs_20 19 57 10.3
comp=Z,3µm,18.0s
M57A Sunshine Farm, 34.81 323 P **P 19 41 36.0 0.0**
M57A IAMs_20 IAMs_20 19 52 43.3
comp=Z,3µm,20.0s
SSPA Standing Stone 34.83 321 P **P 19 41 36.1 0.0**
SSPA IAmb IAmb 19 41 49.0
comp=Z,162nm,1.4s
ITRB Iturama 35.08 181 *eP* **P 19 41 39.8 +1.4**
GOGA Godfrey 35.11 306 IAmb IAmb 19 41 43.1
comp=Z,124nm,1.1s
SJMB Sao Joao De Ma 35.14 166 *eP* **P 19 41 38.9 -0.1**
U54A Nelsons Funny 35.20 312 IAmb IAmb 19 41 44.0
comp=Z,196nm,1.0s
U54A IAMs_20 IAMs_20 19 52 59.6
comp=Z,3µm,18.0s
BG3 Lake Jocassee 35.33 309 IAmb IAmb 19 41 45.4
comp=Z,187nm,1.0s
BG3 IAMs_20 IAMs_20 19 52 42.1
comp=Z,3µm,20.0s
K57A Scipio Center 35.38 325 P **P 19 41 41.6 +0.8**
S54A Dingess, Beckl 35.46 315 IAmb IAmb 19 41 45.9
comp=Z,104nm,1.0s
MCWV Mont Chateau 35.47 318 P **P 19 41 42.8 +1.1**
MCWV IAmb IAmb 19 41 55.0
comp=Z,195nm,1.3s
V53A Saluda 35.53 310 IAmb IAmb 19 41 46.7
comp=Z,115nm,1.0s
V53A IAMs_20 IAMs_20 19 53 21.4
comp=Z,4µm,20.0s
L56A Greenwood 35.57 324 IAMs_20 IAMs_20 19 53 06.4
comp=Z,4µm,20.0s
352A Blakely 35.61 303 IAMs_20 IAMs_20 19 56 10.4
comp=Z,3µm,18.0s
LONY Lake Ozonia 35.68 329 IAMs_20 IAMs_20 19 52 46.2
comp=Z,3µm,20.0s
Y52A Lilburn 35.74 307 IAmb IAmb 19 41 48.7
comp=Z,142nm,1.2s
Q54A Coxs Mills 35.75 317 IAmb IAmb 19 41 57.4
comp=Z,294nm,1.8s
152A Waverly Hall 35.83 305 P **P 19 41 45.9 +1.1**
152A IAmb IAmb 19 41 49.6
comp=Z,170nm,1.2s
MNTQ Montreal, Queb 35.87 331 IAmb IAmb 19 41 57.2
comp=Z,134nm,1.3s

RIB01 Linhares ES 35.92 165 *eP* **P 19 41 45.7 0.0**
RPRD Ribas do Rio P 36.04 186 *eP* **P 19 41 48.6 +2.0**
O54A Avella 36.10 319 IAmb IAmb 19 42 00.1
comp=Z,182nm,1.6s
O54A IAMs_20 IAMs_20 19 53 02.5
comp=Z,3µm,19.0s
W52A Murphy 36.12 309 IAmb IAmb 19 41 51.8
comp=Z,214nm,1.8s
W52A IAMs_20 IAMs_20 19 53 07.0
comp=Z,3µm,21.0s
TGUH Tegucigalpa,Un 36.13 273 P **P 19 41 48.6 +0.8**
ATAH Atahualpa 36.15 233 P **P 19 41 49.8 +1.6**
comp=Z,47nm,0.9s,baz=52,slow=5.3,SNR=45
ATAH LR LR 19 57 10.5
comp=Z,2µm,19.9s,baz=50,slow=37
comp=Z,47nm,0.9s
TKL Tuckaleechee C 36.24 310 IAmb IAmb 19 41 52.5
comp=Z,139nm,1.0s
TKL Tuckaleechee C 36.24 310 LR LR 19 54 35.0
comp=Z,3µm,19.2s,baz=114,slow=33
AQDB Aquidauana 36.29 189 P **P 19 41 49.0 +0.2**
AQDB IAMs_20 IAMs_20 19 56 12.3
comp=Z,3µm,19.0s
AQDB Aquidauana 36.29 189 *eP* **P 19 41 51.0 +2.2**
WBO Williamsburg 36.30 329 IAMs_20 IAMs_20 19 53 36.6
comp=Z,3µm,19.0s
LPAZ La Paz 36.43 210 IAmb IAmb 19 42 07.0
comp=Z,117nm,0.8s
LPAZ La Paz 36.43 210 P **P 19 41 52.3 +1.5**
comp=Z,39nm,0.8s,baz=11,slow=6.4,SNR=61
LPAZ LR LR 19 56 59.0
comp=Z,2µm,21.8s,baz=30,slow=36
comp=Z,39nm,0.8s
LPAZ La Paz 36.43 210 *eP* **P 19 41 52.6 +1.8**
BDQN Bodoquena, MS 36.44 191 *eP* **P 19 41 52.0 +2.0**
TZTN Tazewell 36.45 311 IAmb IAmb 19 41 54.6
comp=Z,210nm,1.1s
TZTN IAMs_20 IAMs_20 19 53 59.7
comp=Z,3µm,19.0s
BB19B Bebedouro 36.45 178 *eP* **P 19 41 51.3 +1.1**
X51A Calhoun 36.62 308 P **P 19 41 53.2 +1.6**
X51A IAmb IAmb 19 41 56.2
comp=Z,263nm,1.4s
ICQ Pointe Anglais 36.68 341 IAMs_20 IAMs_20 19 53 45.8
comp=Z,4µm,20.0s
Q52A Bidwell 36.69 316 IAmb IAmb 19 41 56.0
comp=Z,136nm,1.0s
BSCB Bom Sucesso 36.71 172 *eP* **P 19 41 52.5 +0.1**
CPCT Cooper Cave 36.71 309 IAmb IAmb 19 41 56.6
comp=Z,129nm,1.0s
CPCT IAMs_20 IAMs_20 19 53 24.5
comp=Z,4µm,22.0s
N53A Lisbon 36.74 319 IAmb IAmb 19 42 05.6
comp=Z,188nm,1.3s
TEIG Tepich 36.75 283 P **P 19 41 53.7 +0.9**
TEIG IAmb IAmb 19 41 57.1
comp=Z,136nm,1.1s
ALLY Alegheny Colle 36.80 321 IAmb IAmb 19 42 05.7
comp=Z,196nm,1.4s
TRQ Mont Tremblant 36.84 331 IAMs_20 IAMs_20 19 54 23.8
comp=Z,3µm,19.0s
250A Grady 36.85 303 P **P 19 41 55.0 +1.4**
250A IAmb IAmb 19 41 58.0
comp=Z,430nm,1.7s
S51A Beattyville 36.97 313 IAmb IAmb 19 41 58.7
comp=Z,126nm,0.9s
S51A IAMs_20 IAMs_20 19 54 06.5
comp=Z,3µm,21.0s
O52A Adamsville 37.01 318 IAmb IAmb 19 42 07.7
comp=Z,173nm,1.2s
ALF01 Guarapari-ES 37.09 166 *eP* **P 19 41 55.8 +0.1**
FPAL Fort Paine 37.19 307 P **P 19 41 58.5 +2.1**
SSFO Shawnee State 37.19 315 IAmb IAmb 19 42 00.6
comp=Z,164nm,0.9s
BRAL Brewton 37.26 301 IAmb IAmb 19 42 02.1
comp=Z,236nm,1.0s
BRAL IAMs_20 IAMs_20 19 56 16.0
comp=Z,3µm,18.0s
Q51A Peebles 37.46 315 IAmb IAmb 19 42 02.6
comp=Z,138nm,0.9s
Y49A Blount Mountai 37.57 306 P **P 19 42 01.5 +1.8**
Y49A IAMs_20 IAMs_20 19 54 27.3
comp=Z,3µm,21.0s
T50A Nancy 37.59 311 IAMs_20 IAMs_20 19 54 34.8
comp=Z,3µm,18.0s
SWET Sewanee 37.68 308 IAmb IAmb 19 42 05.2
comp=Z,168nm,1.0s
LRAL Lakeview Retre 37.76 304 IAmb IAmb 19 42 06.0
comp=Z,161nm,1.1s
LRAL IAMs_20 IAMs_20 19 55 13.5
comp=Z,3µm,19.0s
N51A Ashland 37.78 318 IAMs_20 IAMs_20 19 55 18.9
comp=Z,3µm,19.0s
R50A Paris 37.78 313 P **P 19 42 02.4 +1.0**
R50A IAMs_20 IAMs_20 19 54 40.9
comp=Z,3µm,19.0s
RCLB Rio Claro- Sao 37.84 176 *eP* **P 19 42 04.0 +2.0**
U49A Red Boiling Sp 38.07 310 P **P 19 42 04.9 +1.1**
U49A IAMs_20 IAMs_20 19 55 40.5
comp=Z,3µm,18.0s
MTO3 Montecristo 38.10 274 IAmb IAmb 19 42 10.8
comp=Z,137nm,1.0s
SADO Sadowa 38.15 326 LR LR 19 54 33.0
comp=Z,1µm,21.0s,baz=137,slow=31
DUB01 Friburgo-RJ 38.16 169 *eP* **P 19 42 06.2 +1.5**
VAS01 Vassouras-RJ 38.16 170 *eP* **P 19 42 05.6 +0.9**
PB18 Visviri 38.20 211 IAmb IAmb 19 42 18.7
comp=Z,185nm,0.7s
NNA Nana 38.23 226 P **P 19 42 06.9 +1.4**
NNA Nana 38.23 226 P **P 19 42 06.6 +1.1**
comp=Z,7.4nm,0.3s,baz=1.9,slow=4.6,SNR=4.6
NNA LR LR 19 59 07.0
comp=Z,437nm,18.3s,baz=44,slow=38
comp=Z,7.4nm,0.3s
NNA Nana 38.23 226 P **P 19 42 06.9 +1.4**
NNA pmax pmax
comp=Z,70nm,1.1s
CLTN Cedars of Leba 38.31 309 IAMs_20 IAMs_20 19 54 25.0
comp=Z,3µm,21.0s
PETF Flores 38.35 278 IAmb IAmb 19 42 11.6
comp=Z,249nm,1.0s
R49A Shelbyville 38.38 313 IAMs_20 IAMs_20 19 54 59.7
comp=Z,3µm,20.0s
VAO Valinhos 38.46 176 IAMs_20 IAMs_20 19 57 34.9
comp=Z,3µm,22.0s
VAO Valinhos 38.46 176 *eP* **P 19 42 08.9 +1.7**
V48A Smith Brothers 38.55 308 P **P 19 42 09.5 +1.5**
V48A IAMs_20 IAMs_20 19 54 43.3
comp=Z,3µm,20.0s
AMBA Amambai (Brazi 38.60 188 *eP* **P 19 42 10.6 +2.1**
MAN01 Angra dos Reis 38.66 171 *eP* **P 19 42 09.9 +1.0**
Z47A Carrollton 38.67 304 IAmb IAmb 19 42 13.5
comp=Z,208nm,1.0s
O49A Covington 38.69 316 P **P 19 42 10.6 +1.5**
O49A IAmb IAmb 19 42 21.5
comp=Z,390nm,1.7s
FRTB Fartura 38.70 180 *eP* **P 19 42 10.5 +1.3**
LDASE Londrina, Braz 38.76 182 *eP* **P 19 42 10.7 +0.9**
FDPY Filadelfia 38.90 195 *eP* **P 19 42 12.9 +2.0**
PARB Paraibuna 38.91 174 *eP* **P 19 42 12.1 +1.0**
SLP01 Ubatuba-SP 38.95 173 *eP* **P 19 42 12.8 +1.4**
K50A Casco 38.95 321 P **P 19 42 11.6 +0.4**
K50A IAmb IAmb 19 42 23.5
comp=Z,416nm,1.5s
K50A IAMs_20 IAMs_20 19 54 29.9
comp=Z,3µm,22.0s
SPB Sao Paulo 39.02 176 *eP* **P 19 42 13.5 +1.7**
P48A Milroy 39.08 314 IAMs_20 IAMs_20 19 54 47.4
comp=Z,3µm,21.0s
WCI Wyandotte Cave 39.15 312 P **P 19 42 13.8 +0.9**
WCI Wyandotte Cave 39.15 312 IAMs_20 IAMs_20 19 55 34.1
comp=Z,3µm,19.0s
WCI Wyandotte Cave 39.15 312 P **P 19 42 13.8 +0.9**
WCI pmax pmax
comp=Z,83nm,0.8s
WCI MLR MLR
comp=Z,3µm,19.0s
T47A Sharon Grove 39.23 310 IAMs_20 IAMs_20 19 56 08.4
comp=Z,3µm,18.0s
PLAL Pickwick Lake 39.24 307 IAmb IAmb 19 42 18.1
comp=Z,206nm,1.0s
PLAL IAMs_20 IAMs_20 19 55 06.6
comp=Z,3µm,22.0s
O48B Farmland 39.27 316 IAMs_20 IAMs_20 19 55 26.4
comp=Z,3µm,20.0s
O48B Farmland 39.27 316 P **P 19 42 15.7 +1.8**
baz=119

146A Union 39.30 303 IAmb IAmb 19 42 19.2
comp=Z,225nm,0.9s
146A IAMs_20 IAMs_20 19 56 52.2
comp=Z,3μm,19.0s
346A Big Creek Wild 39.31 301 P **P** **19 42 15.0 +0.7**
346A IAmb IAmb 19 42 19.2
comp=Z,205nm,1.0s
346A IAMs_20 IAMs_20 19 57 52.4
comp=Z,4μm,18.0s
AAM Ann Arbor 39.33 319 IAmb IAmb 19 42 27.3
comp=Z,494nm,1.5s
WVT Waverly 39.45 308 P **P** **19 42 16.4 +0.9**
WVT Waverly 39.45 308 IAMs_20 IAMs_20 19 55 00.2
comp=Z,3μm,21.0s
WVT Waverly 39.45 308 P **P** **19 42 16.4 +0.9**
WVT pmax pmax
comp=Z,123nm,1.0s
WVT MLR MLR
comp=Z,3μm,21.0s
VLDQ Val d'Or 39.58 331 IAMs_20 IAMs_20 19 55 52.5
comp=Z,3μm,20.0s
L48A N Adams 39.64 318 IAmb IAmb 19 42 29.5
comp=Z,147nm,0.9s
BLO Bloomington 39.72 313 IAMs_20 IAMs_20 19 55 41.1
comp=Z,3μm,19.0s
I49A Point Hope 39.73 322 IAMs_20 IAMs_20 19 54 50.5
comp=Z,4μm,22.0s
GO01 Chusmiza 39.84 209 P **P** **19 42 19.0 -0.4**
545A Edgard 39.86 298 IAMs_20 IAMs_20 20 01 18.1
comp=Z,2μm,18.0s
USIN University of 40.03 311 IAmb IAmb 19 42 24.2
comp=Z,143nm,0.8s
USIN IAMs_20 IAMs_20 19 56 02.4
comp=Z,3μm,20.0s
Y45A Yeager Farm, C 40.04 304 IAmb IAmb 19 42 24.8
comp=Z,182nm,1.0s
Y45A IAMs_20 IAMs_20 19 56 24.8
comp=Z,3μm,18.0s
PTGB Pitanga 40.12 183 *e*P **P** **19 42 22.4 +1.3**
PAPY Pozo Azul 40.27 192 *e*P **P** **19 42 24.7 +2.4**
UTMT University of 40.31 308 IAMs_20 IAMs_20 19 55 36.9
comp=Z,3μm,21.0s
VBMS Vicksburg 40.38 302 IAmb IAmb 19 42 28.4
comp=Z,303nm,1.2s
VBMS IAMs_20 IAMs_20 19 59 18.8
comp=Z,3μm,18.0s
P46A Rosedale 40.39 314 IAmb IAmb 19 42 27.3
comp=Z,146nm,0.8s
P46A IAMs_20 IAMs_20 19 56 02.9
comp=Z,3μm,20.0s
T45A Paducah 40.39 309 P **P** **19 42 24.6 +1.4**
T45A IAmb IAmb 19 42 27.2
comp=Z,175nm,0.9s
T45A IAMs_20 IAMs_20 19 55 39.9
comp=Z,3μm,21.0s
J47A Sunmer 40.56 320 IAmb IAmb 19 42 37.1
comp=Z,233nm,1.1s
J47A IAMs_20 IAMs_20 19 55 51.3
comp=Z,3μm,22.0s
CCIG Comitan 40.57 277 P **P** **19 42 25.3 +0.1**
CCIG IAmb IAmb 19 42 32.3
comp=Z,247nm,1.3s
GLAT Glass 40.61 308 IAmb IAmb 19 42 28.9
comp=Z,264nm,1.0s
GLAT IAMs_20 IAMs_20 19 55 45.7
comp=Z,3μm,21.0s
SFIN Lafayette 40.65 315 IAMs_20 IAMs_20 19 55 45.7
comp=Z,3μm,20.0s
OLIL Olney 40.65 312 IAmb IAmb 19 42 29.6
comp=Z,172nm,1.1s
OLIL IAMs_20 IAMs_20 19 56 20.8
comp=Z,4μm,20.0s
HICK Hickman 40.66 308 IAMs_20 IAMs_20 19 55 46.0
comp=Z,3μm,21.0s
HMBC Humberstone 40.70 209 IAmb IAmb 19 42 35.9
comp=Z,167nm,1.1s
LNXT Lenox 40.70 308 P **P** **19 42 27.6 +1.8**
LNXT IAMs_20 IAMs_20 19 56 00.3
comp=Z,3μm,22.0s
MET Memphis--Engin 40.73 306 IAMs_20 IAMs_20 19 56 11.9
comp=Z,3μm,20.0s
L46A Eue Claire 40.87 317 IAMs_20 IAMs_20 19 55 51.7
comp=Z,3μm,19.0s
PVMO Portageville 40.97 308 IAMs_20 IAMs_20 19 55 56.3
comp=Z,3μm,22.0s
PEBM Pemiscott Bayo 40.99 308 IAmb IAmb 19 42 31.8
comp=Z,349nm,1.2s
PEBM IAMs_20 IAMs_20 19 56 08.9
comp=Z,3μm,21.0s
GNAR Gosnell 41.06 307 IAmb IAmb 19 42 32.6
comp=Z,308nm,1.3s
SIUC Southern Illin 41.07 310 P **P** **19 42 30.6 +1.8**
SIUC IAmb IAmb 19 42 33.2
comp=Z,214nm,1.1s
SIUC IAMs_20 IAMs_20 19 56 00.9
comp=Z,3μm,21.0s
TA01 Diego Aracena 41.08 210 IAmb IAmb 19 42 40.0
comp=Z,108nm,0.7s
S44A Carbondale 41.09 310 IAmb IAmb 19 42 33.2
comp=Z,192nm,1.0s
S44A IAMs_20 IAMs_20 19 56 00.4
comp=Z,3μm,21.0s
PARMO Parma 41.09 308 IAmb IAmb 19 42 41.7
comp=Z,348nm,1.2s
PARMO IAMs_20 IAMs_20 19 56 46.6
comp=Z,2μm,21.0s
143A Socs Landing, 41.23 302 IAMs_20 IAMs_20 19 59 37.2
comp=Z,3μm,19.0s
CGM3 Cape Girardeau 41.24 309 IAmb IAmb 19 42 34.1
comp=Z,181nm,1.0s
CGM3 IAMs_20 IAMs_20 19 56 16.6
comp=Z,2μm,20.0s
GLMI Grayling 41.29 322 IAMs_20 IAMs_20 19 56 34.2
comp=Z,3μm,21.0s
SCHQ Schefferville 41.30 345 P **P** **19 42 31.1 +0.6**
SCHQ Schefferville 41.30 345 P **P** **19 42 30.2 -0.3**
comp=Z,20nm,1.1s,baz=158,slow=6.7,SNR=7.5
SCHQ LR LR 19 57 37.8
comp=Z,4μm,20.4s,baz=164,slow=33
comp=Z,20nm,1.1s
Q44A Meyer Farm, Va 41.37 312 IAmb IAmb 19 42 35.5
comp=Z,247nm,0.9s
Q44A IAMs_20 IAMs_20 19 56 45.0
comp=Z,3μm,20.0s
HBAR Harrisburg 41.42 306 IAMs_20 IAMs_20 19 57 16.4
comp=Z,3μm,21.0s
PBMO Poplar Bluff 41.64 308 IAMs_20 IAMs_20 19 56 17.2
comp=Z,3μm,21.0s
PB09 IPOC Station P 41.71 208 IAmb IAmb 19 42 45.6
comp=Z,168nm,1.1s
TIO Tiouine 41.77 61 P **P** **19 42 34.6 -0.3**
HQIL Hanson Quary C 41.80 316 IAMs_20 IAMs_20 19 58 54.2
comp=Z,2μm,20.0s
CCAR Cane Creek 41.83 304 IAmb IAmb 19 42 39.7
comp=Z,335nm,1.2s
CCAR IAMs_20 IAMs_20 19 58 33.3
comp=Z,3μm,19.0s
I45A Fountain 41.85 320 IAMs_20 IAMs_20 19 56 30.5
comp=Z,3μm,20.0s
LCAR Lake Charles 41.97 307 IAMs_20 IAMs_20 19 56 39.1
comp=Z,3μm,22.0s
E46A Sault Ste Mari 41.99 324 IAMs_20 IAMs_20 19 57 18.2
comp=Z,2μm,20.0s
L44A Lake County Fo 42.01 317 P **P** **19 42 37.8 +1.3**
L44A IAmb IAmb 19 42 49.2
comp=Z,237nm,1.1s
L44A IAMs_20 IAMs_20 19 56 35.8
comp=Z,2μm,20.0s
L44A Lake County Fo 42.01 317 P **P** **19 42 38.6 +2.1**
baz=118
P43A Skaggs, Pawnee 42.02 313 IAmb IAmb 19 42 40.5
comp=Z,156nm,1.0s
P43A IAMs_20 IAMs_20 19 57 14.2
comp=Z,3μm,19.0s
FVM French Village 42.05 310 IAmb IAmb 19 42 40.8
comp=Z,150nm,0.9s
FVM IAMs_20 IAMs_20 19 56 41.1
comp=Z,3μm,20.0s
H10N3 ASCENSION HYDR 42.09 121 T T 20 27 13.4
baz=304,slow=75,SNR=54
H10N2 ASCENSION HYDR 42.09 121 T T 20 27 13.8
baz=304,slow=75,SNR=55
H10N1 ASCENSION HYDR 42.11 121 T T 20 27 14.9
baz=304,slow=75,SNR=83
SLM Saint Louis 42.15 311 IAMs_20 IAMs_20 19 57 09.6
comp=Z,3μm,20.0s
PFVI Vila Bisbo 42.17 51 *e*P **P** **19 42 41.9 +4.0**
PFVI A A 19 42 48.6
comp=Z,84nm,2.0s
T42A Van Buren 42.23 308 IAMs_20 IAMs_20 19 56 45.4
comp=Z,2μm,21.0s
HDIL Hopedale 42.23 314 IAmb IAmb 19 42 42.0
comp=Z,140nm,0.9s
HDIL IAMs_20 IAMs_20 19 56 34.8
comp=Z,3μm,22.0s
CPUP Villa Florida 42.29 190 P **P** **19 42 39.0 +0.2**
CPUP IAmb IAmb 19 42 49.7
comp=Z,158nm,1.1s
CPUP Villa Florida 42.29 190 P **P** **19 42 39.8 +1.0**
comp=Z,62nm,1.2s,baz=8.7,slow=8.5,SNR=22
CPUP LR LR 19 59 50.9
comp=Z,1μm,21.1s,baz=10,slow=36
comp=Z,62nm,1.2s
MORF Marmelete 42.36 51 *e*P **P** **19 42 40.1 +0.5**
MORF A A 19 42 51.3
comp=Z,67nm,1.9s
MORF Marmelete 42.36 51 *e*P **P** **19 42 40.0 +0.5**
MORF IAmb IAmb 19 42 51.0
comp=Z,120nm,1.9s
MORF Marmelete 42.36 51 *e*P **P** **19 42 40.0 +0.5**
PTEO Sao Teotonio 42.39 51 *e*P **P** **19 42 39.4 -0.2**
PTEO A A 19 42 42.5
comp=Z,86nm,1.2s
Z41A Richland Creek 42.50 302 IAMs_20 IAMs_20 19 58 34.0
comp=Z,3μm,18.0s
UALR University of 42.52 305 IAMs_20 IAMs_20 19 57 20.4
comp=Z,3μm,21.0s
K43A Burlington 42.53 317 IAMs_20 IAMs_20 19 56 52.5
comp=Z,2μm,20.0s
WHAR Wooly Hollow 42.62 305 IAmb IAmb 19 42 45.2
comp=Z,195nm,1.1s
WHAR IAMs_20 IAMs_20 19 57 10.0
comp=Z,3μm,22.0s
ITAB Concordia 42.62 183 P **P** **19 42 42.2 +0.7**
ITAB IAmb IAmb 19 42 54.1
comp=Z,201nm,1.1s
ITAB Concordia 42.62 183 *e*P **P** **19 42 43.3 +1.7**
FCAR Ozark Folk Cen 42.66 306 IAmb IAmb 19 42 45.2
comp=Z,266nm,1.6s
FCAR IAMs_20 IAMs_20 19 57 21.2
comp=Z,2μm,21.0s
CCM Cathedral Cave 42.69 310 P **P** **19 42 42.0 -0.1**
CCM IAmb IAmb 19 42 45.8
comp=Z,225nm,1.4s
CCM Cathedral Cave 42.69 310 IAMs_20 IAMs_20 19 57 00.8
comp=Z,3μm,21.0s
CCM Cathedral Cave 42.69 310 P **P** **19 42 42.0 -0.1**
CCM pmax pmax
comp=Z,225nm,1.4s
CCM MLR MLR
comp=Z,3μm,21.0s
MAJ01 Sao Joao Batis 42.74 179 *e*P **P** **19 42 44.1 +1.6**
X40A Basin Creek Fa 42.83 304 IAMs_20 IAMs_20 19 57 39.7
comp=Z,2μm,19.0s
WLAR White Oak Lake 42.86 303 IAMs_20 IAMs_20 19 59 16.3
comp=Z,3μm,18.0s
MESJ Messejana 42.86 51 *e*P **P** **19 42 43.3 -0.2**
MESJ Messejana 42.86 51 *e*P **P** **19 42 44.2 +0.7**
MESJ IAmb IAmb 19 43 00.4
comp=Z,34nm,1.4s
MESJ Messejana 42.86 51 *e*P **P** **19 42 44.2 +0.7**
PBDV Barranco-do-Ve 42.88 52 *e*P **P** **19 42 43.8 +0.1**
PBDV A A 19 42 57.5
comp=Z,87nm,1.6s
H43A Windswept, Lux 43.02 320 IAMs_20 IAMs_20 19 57 18.5
comp=Z,3μm,20.0s
PVAQ Vaqueiros 43.10 52 *e*P **P** **19 42 45.1 -0.3**
PVAQ A A 19 42 57.4
comp=Z,57nm,1.8s
PVAQ Vaqueiros 43.10 52 P **P** **19 42 44.4 -1.0**
L42A Oliver, Polo 43.10 316 IAmb IAmb 19 42 58.1
comp=Z,201nm,1.0s
L42A IAMs_20 IAMs_20 19 58 15.7
comp=Z,2μm,19.0s
CMIG Matias Romero 43.12 278 LR LR 20 00 18.3
comp=Z,227nm,21.7s,baz=62,slow=36
MGMO Mountain Grove 43.16 308 P **P** **19 42 46.2 +0.2**
MGMO IAMs_20 IAMs_20 19 57 58.3
comp=Z,2μm,20.0s
PBEJ Beja 43.19 51 *e*P **P** **19 42 45.8 -0.4**
PBEJ A A 19 42 53.5
comp=Z,37nm,2.0s
EVO Evora 43.25 50 *e*P **P** **19 42 46.5 -0.2**
EVO A A 19 42 49.3
comp=Z,88nm,1.3s
EVO Evora 43.25 50 P **P** **19 42 45.9 -0.7**
PMTG Montargil 43.28 49 *e*P **P** **19 42 46.5 -0.4**
PMTG A A 19 42 50.1
comp=Z,100nm,1.5s
EGRO El Granado 43.32 51 P **P** **19 42 46.1 -1.1**
MIAR Mount Ida 43.44 304 IAMs_20 IAMs_20 19 57 58.8
comp=Z,2μm,20.0s
PCAS Casmilo, Conde 43.45 48 *e*P **P** **19 42 47.0 -1.2**
PCAS A A 19 43 00.7
comp=Z,84nm,1.6s
I42A Draeger Farm, 43.46 319 IAMs_20 IAMs_20 19 57 31.1
comp=Z,2μm,19.0s
R40A Maddies Statio 43.52 310 IAmb IAmb 19 42 52.1
comp=Z,138nm,0.9s
R40A IAMs_20 IAMs_20 19 57 26.0
comp=Z,3μm,22.0s
COI Coimbra 43.57 47 *e*P **P** **19 42 49.1 -0.1**
COI A A 19 43 01.7
comp=Z,128nm,1.5s
PESTR Estremoz 43.68 50 *e*P **P** **19 42 50.7 +0.6**
PESTR A A 19 43 05.2
comp=Z,30nm,1.6s
PESTR Estremoz 43.68 50 P **P** **19 42 48.3 -1.8**
NATX Nacogdoches 43.72 300 IAMs_20 IAMs_20 20 01 04.1
comp=Z,3μm,19.0s
P40A Paris 43.79 311 IAmb IAmb 19 42 54.3
comp=Z,144nm,0.9s
P40A IAMs_20 IAMs_20 19 58 10.0
comp=Z,3μm,20.0s
PBAR Barrancos 43.85 51 *e*P **P** **19 42 50.2 -1.3**
PBAR A A 19 42 54.3
comp=Z,58nm,1.5s
PBAR Barrancos 43.85 51 P **P** **19 42 50.8 -0.7**
TER01 Tubaro-SC 43.87 179 *e*P **P** **19 42 53.0 +1.4**
JFWS Jewell Farm 43.88 317 P **P** **19 42 51.8 +0.1**
JFWS Jewell Farm 43.88 317 IAMs_20 IAMs_20 19 57 44.4
comp=Z,3μm,22.0s
JFWS Jewell Farm 43.88 317 P **P** **19 42 51.8 +0.1**
JFWS pmax pmax
comp=Z,98nm,1.0s
JFWS MLR MLR
comp=Z,3μm,22.0s
F42A Maple Grove Fa 43.89 321 IAMs_20 IAMs_20 19 58 04.6
comp=Z,3μm,22.0s
EMIN Mina Concepcio 44.00 51 P **P** **19 42 52.2 -0.5**
PMRV Marv??o 44.02 49 *e*P **P** **19 42 50.9 -1.9**
PMRV A A 19 43 04.1
comp=Z,46nm,1.6s
EBAD Badajoz 44.06 50 P **P** **19 42 51.8 -1.4**
IFR Ifrane 44.09 58 P **P** **19 42 52.2 -1.5**
PCBR Castelo Branco 44.10 48 *e*P **P** **19 42 52.7 -0.8**
PCBR A A 19 43 04.4
comp=Z,92nm,1.6s
S39A Bolivar 44.12 308 IAmb IAmb 19 42 56.9
comp=Z,162nm,0.9s
S39A IAMs_20 IAMs_20 19 57 42.8
comp=Z,3μm,21.0s
PVIS Viseu 44.12 47 *e*P **P** **19 42 53.6 -0.1**
L40A Anamosa 44.18 315 IAmb IAmb 19 42 57.2
comp=Z,129nm,0.9s
L40A IAMs_20 IAMs_20 19 57 54.2
comp=Z,2μm,20.0s
HHAR Hobbs 44.18 306 P **P** **19 42 54.4 +0.2**
HHAR IAMs_20 IAMs_20 19 58 07.5
comp=Z,2μm,21.0s
HNVL Huntsville, TX 44.22 298 IAmb IAmb 19 42 59.1
comp=Z,160nm,1.0s
MTE Manteigas 44.25 48 *e*P **P** **19 42 54.1 -0.7**
MTE A A 19 43 08.7
comp=Z,126nm,1.7s
Z38A Mt. Pleasant 44.28 302 IAMs_20 IAMs_20 19 59 53.2
comp=Z,3μm,19.0s
PGAV Gavieira, Arco 44.35 45 *e*P **P** **19 42 55.1 -0.5**
ESPR Espera 44.35 53 P **P** **19 42 54.9 -0.7**
MDT Midelt 44.36 59 LR LR 19 59 08.7
comp=Z,580nm,18.0s,baz=276,slow=33
HKT Hockley 44.41 297 P **P** **19 42 57.4 +1.4**
HKT IAmb IAmb 19 43 00.3
comp=Z,131nm,1.1s
HKT Hockley 44.41 297 *d i*P **P** **19 42 58.3 +2.3**
HKT pmax pmax
comp=Z,136nm,1.1s
PCAB Cabril 44.41 46 *e*P **P** **19 42 56.5 +0.5**
I40A Norwalk 44.55 318 IAmb IAmb 19 43 09.6
comp=Z,205nm,1.3s
I40A IAMs_20 IAMs_20 19 58 05.1
comp=Z,2μm,21.0s
U38A Gravette 44.57 306 IAMs_20 IAMs_20 19 58 09.8
comp=Z,2μm,21.0s
CNLB Canela 44.65 181 *e*P **P** **19 42 60.0 +2.0**
PB14 IPOC Station P 44.70 207 IAmb IAmb 19 43 09.2
comp=Z,177nm,1.1s
GO02 Mina Guanaco 44.82 206 IAmb IAmb 19 43 10.2
comp=Z,151nm,1.1s
MVO Moncorvo 44.90 47 *e*P **P** **19 43 00.1 +0.2**
MVO A A 19 43 18.5
comp=Z,59nm,1.7s
P38A Dawn 44.90 311 IAmb IAmb 19 43 03.3
comp=Z,166nm,0.9s
P38A IAMs_20 IAMs_20 19 58 53.3
comp=Z,4μm,20.0s
G40A Rib Lake 44.92 320 IAmb IAmb 19 43 12.8
comp=Z,188nm,1.2s
G40A IAMs_20 IAMs_20 19 59 08.7
comp=Z,2μm,19.0s
DBIC Dimbokro 45.00 96 P **P** **19 42 58.3 -2.6**
comp=Z,36nm,1.0s,baz=269,slow=10,SNR=18
DBIC LR LR 19 57 52.6
comp=Z,946nm,21.2s,baz=268,slow=31
comp=Z,36nm,1.0s
RLO Rose Lookout 45.00 306 IAmb IAmb 19 43 03.9
comp=Z,93nm,1.0s
N38A Joes South For 45.09 313 P **P** **19 43 01.7 +0.3**
N38A IAmb IAmb 19 43 04.4
comp=Z,120nm,0.9s
N38A IAMs_20 IAMs_20 19 59 32.4
comp=Z,2μm,19.0s
PBRG Braganca 45.34 46 *e*P **P** **19 43 03.1 -0.3**
PBRG A A 19 43 06.9
comp=Z,106nm,1.5s
ITQB Itaqui 45.46 188 IAmb IAmb 19 43 21.8
comp=Z,132nm,1.0s
ITQB IAMs_20 IAMs_20 20 01 53.1
comp=Z,2μm,20.0s
ITQB Itaqui 45.46 188 *e*P **P** **19 43 05.7 +1.4**
TUL3 Leonard 45.54 305 IAMs_20 IAMs_20 19 59 44.3
comp=Z,2μm,21.0s
IVI Ivigtut 45.57 1 P **P** **19 43 05.7 +0.9**
IVI IAmb IAmb 19 43 30.3
comp=Z,130nm,1.5s
435B Jarrell 46.02 298 IAmb IAmb 19 43 12.6
comp=Z,136nm,1.0s
435B Jarrell 46.02 298 P **P** **19 43 11.0 +2.0**
baz=98
WHTX Lake Whitney, 46.10 300 IAMs_20 IAMs_20 20 02 27.2
comp=Z,2μm,18.0s
Z35A Perchaven, San 46.16 301 IAMs_20 IAMs_20 20 01 01.8
comp=Z,2μm,19.0s
LOOK Love County 46.23 302 IAmb IAmb 19 43 43.6
comp=Z,156nm,1.3s
PAB San Pablo 46.28 50 P **P** **19 43 10.0 -0.9**
PAB San Pablo 46.28 50 P **P** **19 43 10.0 -0.9**
PAB pmax pmax
comp=Z,57nm,1.6s
FW06 Azle 46.35 301 IAMs_20 IAMs_20 20 03 14.8
comp=Z,3μm,19.0s
T35A Sooner Cattle 46.35 306 IAmb IAmb 19 43 14.6
comp=Z,210nm,1.5s
T35A IAMs_20 IAMs_20 19 59 24.7
comp=Z,3μm,22.0s
E38A The Farm, Brul 46.38 321 IAMs_20 IAMs_20 19 58 58.4
comp=Z,4μm,22.0s
FW07 Weatherford 46.49 300 IAMs_20 IAMs_20 20 03 08.6
comp=Z,3μm,18.0s
OK051 E0350 and S346 46.50 306 P **P** **19 43 13.3 +0.7**
SPMN Marine on St. 46.54 318 IAmb IAmb 19 43 25.1
comp=Z,167nm,1.3s
SPMN IAMs_20 IAMs_20 19 59 16.7
comp=Z,3μm,20.0s
TLIG Tlapa 46.59 280 P **P** **19 43 14.3 +0.6**
ESDC Sonseca Array 46.60 50 P **P** **19 43 12.4 -1.1**
comp=Z,16nm,1.1s,baz=253,slow=7.1,SNR=29
ESDC PcP **PcP** **19 44 47.3 -0.1**
comp=Z,7.9nm,1.1s,baz=273,slow=4.1,SNR=6.4
ESDC LR LR 19 58 04.4
comp=Z,505nm,19.8s,baz=252,slow=30
comp=Z,16nm,1.1s
FNO Franklin 46.66 304 IAMs_20 IAMs_20 20 00 11.1
comp=Z,3μm,21.0s
FW03 Perrin-Whitt E 46.78 301 IAMs_20 IAMs_20 20 03 23.2
comp=Z,2μm,18.0s
OK029 Liberty Lake 46.82 305 IAMs_20 IAMs_20 20 00 34.4
comp=Z,2μm,20.0s
BLOK Blackwell 46.86 306 P **P** **19 43 16.3 +1.0**
EYMN Ely 46.98 322 P **P** **19 43 16.4 +0.2**
EYMN Ely 46.98 322 IAMs_20 IAMs_20 19 59 49.3
comp=Z,2μm,19.0s
PSAL Palomas, Salto 46.99 189 *e*P **P** **19 43 16.1 -0.2**
KSU1 Kansas State U 47.01 309 IAMs_20 IAMs_20 19 59 34.1
comp=Z,2μm,21.0s
PLTB Pedras Altas 47.22 184 pwP 19 43 23.9 -2.0
PLTB Pedras Altas 47.22 184 *e*P **P** **19 43 19.2 +1.1**
GO03 Copiapo 47.24 205 IAmb IAmb 19 43 28.3
comp=Z,74nm,1.1s
KAN09 Caldwell North 47.26 306 P **P** **19 43 19.2 +0.7**
833A Chaparral WMA, 47.32 294 P **P** **19 43 21.2 +2.1**
baz=95,SNR=26
KAN01 Argonia South 47.37 306 P **P** **19 43 20.6 +1.2**
KAN12 Harper NE Stat 47.59 307 P **P** **19 43 21.5 +0.3**
WMOK Wichita Mounta 47.67 303 IAmb IAmb 19 43 24.8
comp=Z,104nm,1.1s
WMOK Wichita Mounta 47.67 303 IAMs_20 IAMs_20 20 00 56.8
comp=Z,3μm,21.0s
L34A Svendsen Farm, 47.71 313 IAMs_20 IAMs_20 20 01 21.8
comp=Z,2μm,20.0s
ABTX Abilene, Hawle 48.02 300 IAMs_20 IAMs_20 20 04 45.2
comp=Z,2μm,19.0s
AC04 Llanos de Chal 48.12 205 P **P** **19 43 25.2 0.0**
AC04 IAmb IAmb 19 43 35.5
comp=Z,126nm,1.1s
R32A Long Quarter, 48.41 308 IAMs_20 IAMs_20 20 01 32.3
comp=Z,3μm,19.0s
ECSD EROS Data Cent 48.48 315 IAmb IAmb 19 43 38.7
comp=Z,156nm,1.8s
ECSD EROS Data Cent 48.48 315 IAMs_20 IAMs_20 20 00 27.9
comp=Z,2μm,18.0s
NUUK Nuuk 48.55 359 *i*P **P** **19 43 27.6 -0.4**
NUUK IAmb IAmb 19 43 33.2
comp=Z,109nm,1.2s
LCO Las Campanas 48.68 204 P **P** **19 43 29.5 -0.3**
LCO Las Campanas 48.68 204 IAMs_20 IAMs_20 20 03 39.7
comp=Z,2μm,18.0s
LCO Las Campanas 48.68 204 P **P** **19 43 29.5 -0.3**
LCO pmax pmax
comp=Z,55nm,1.1s
LCO MLR MLR
comp=Z,2μm,18.0s
SMWD Samnorwood 48.92 303 IAmb IAmb 19 43 34.6
comp=Z,110nm,1.0s
F33A 5 Mile Ranch, 49.03 318 IAmb IAmb 19 43 45.0
comp=Z,239nm,1.9s
F33A IAMs_20 IAMs_20 20 00 44.6
comp=Z,2μm,21.0s
OZNA Ozona 49.06 298 IAmb IAmb 19 43 36.0
comp=Z,148nm,1.0s
SGCY Sterling City 49.18 299 IAmb IAmb 19 43 36.8
comp=Z,135nm,1.1s
DKNS Dickens 49.24 301 P **P** **19 43 34.5 +0.5**
DKNS IAmb IAmb 19 43 37.2
comp=Z,113nm,1.0s
IGLA Glengowla, Co 49.28 31 P **P** **19 43 33.9 +0.1**
CBKS Cedar Bluff 49.29 308 IAMs_20 IAMs_20 20 02 10.5
comp=Z,2μm,19.0s
POST Post 49.63 300 IAmb IAmb 19 43 40.3
comp=Z,139nm,0.9s
ACRG Accra 49.72 96 P **P** **19 43 36.6 -1.2**
ACRG IAmb IAmb 19 43 39.9
comp=Z,227nm,1.4s
AGMN Agassiz Nation 49.75 321 IAMs_20 IAMs_20 20 01 44.5
comp=Z,3μm,20.0s
FRB Frobisher Bay 49.81 349 LR LR 20 01 52.5
comp=Z,1μm,21.5s,baz=142,slow=33
SAND Sanderson 49.83 296 IAmb IAmb 19 43 41.8
comp=Z,99nm,1.0s
TORD Torodi Ar. Bea 49.95 86 P **P** **19 43 37.0 -2.6**
comp=Z,23nm,0.9s,baz=296,slow=8.3,SNR=58

TORD LR LR 20 01 28.0
comp=Z,806nm,21.1s,baz=273,slow=32
comp=Z,23nm,0.9s
AMTX Amarillo 50.04 303 IAMs_20 IAMs_20 20 02 22.7
comp=Z,3µm,21.0s
IWEX Carrickbyrne, 50.05 33 P **P** **19 43 39.1 -0.6**
K30B Basset 50.21 313 P **P** **19 43 42.1 +0.9**
K30B IAmb IAmb 19 43 44.2
comp=Z,177nm,1.4s
SUSD Miller 50.30 315 IAmb IAmb 19 43 44.3
comp=Z,156nm,0.9s
SUSD IAMs_20 IAMs_20 20 01 34.3
comp=Z,2µm,19.0s
CO06 Fray Jorge 50.53 204 IAmb IAmb 19 43 54.1
comp=Z,152nm,1.2s
ULM Lac du Bonnet 50.60 323 P **P** **19 43 44.0 +0.1**
comp=Z,53nm,0.9s,baz=106,slow=7.5,SNR=59
ULM LR LR 20 01 57.5
comp=Z,2µm,22.0s,baz=110,slow=32
comp=Z,53nm,0.9s
ULM Lac du Bonnet 50.60 323 *d i* P **P** **19 43 44.6 +0.7**
DSB Dublin 50.70 32 P **P** **19 43 45.0 +0.4**
DSB Dublin 50.70 32 P **P** **19 43 44.5 -0.1**
MSTX Muleshoe 50.81 301 IAMs_20 IAMs_20 20 05 43.8
comp=Z,2µm,20.0s
DY2G Dye2 50.90 2 *i* P **P** **19 43 45.1 -1.1**
DY2G IAmb IAmb 19 44 06.8
comp=Z,98nm,1.1s
IDGL Inch Island, C 51.11 30 P **P** **19 43 48.1 +0.4**
ILTH Belurgan, Co L 51.13 31 P **P** **19 43 49.5 +1.7**
TXAR Lajitas Array 51.13 295 P **P** **19 43 50.3 +1.9**
comp=Z,18nm,0.9s,baz=101,slow=6.5,SNR=57
TXAR PcP **PcP** **19 45 04.4 +0.3**
comp=Z,3.3nm,0.8s,baz=115,slow=6.3,SNR=1.0
TXAR LR LR 20 07 60.0
comp=Z,335nm,18.2s,baz=69,slow=39
comp=Z,18nm,0.9s
RTBA Rita Blanca 51.14 304 IAmb IAmb 19 43 51.5
comp=Z,159nm,1.2s
ALPN Alpine 51.17 297 IAmb IAmb 19 43 52.2
comp=Z,100nm,1.0s
CEST Esterri de Car 51.21 48 IAmb IAmb 19 43 53.2
comp=Z,72nm,1.4s
SFJD Kangerlussuaq 51.37 360 P **P** **19 43 50.3 +0.9**
SFJD Kangerlussuaq 51.37 360 LR LR 20 03 11.1
comp=Z,940nm,18.4s,baz=180,slow=33
SFJD Kangerlussuaq 51.37 360 P **P** **19 43 50.3 +0.9**
SFJD pmax pmax
comp=Z,82nm,1.4s
SFJD Kangerlussuaq 51.37 360 *i* P **P** **19 43 48.0 -1.4**
SFJD IAmb IAmb 19 44 28.0
comp=Z,80nm,1.4s
OGNE Ogallala 51.51 310 IAmb IAmb 19 43 57.5
comp=Z,104nm,0.8s
OGNE IAMs_20 IAMs_20 20 03 01.2
comp=Z,2µm,19.0s
KSCO Kaye Shedlock' 51.53 308 IAMs_20 IAMs_20 20 02 25.9
comp=Z,2µm,22.0s
VA03 San Esteban 51.98 202 IAmb IAmb 19 44 05.2
comp=Z,175nm,1.2s
VHRN Van Horn 52.36 297 IAmb IAmb 19 44 02.1
comp=Z,171nm,1.1s
PEL Peldehue 52.37 202 P **P** **19 43 58.0 +0.6**
PEL Peldehue 52.37 202 P **P** **19 43 58.0 +0.6**
PEL pmax pmax
comp=Z,87nm,1.1s
MT16 CCHEN 52.57 202 IAmb IAmb 19 44 10.1
comp=Z,122nm,0.9s
T25A Trinidad 52.58 305 IAmb IAmb 19 44 03.3
comp=Z,173nm,1.4s
T25A Trinidad 52.58 305 P **P** **19 44 01.7 +2.4**
baz=99,SNR=37
MT05 Renca 52.61 202 P **P** **19 43 59.4 +0.2**
MT03 Universidad Ad 52.62 202 IAmb IAmb 19 44 12.1
comp=Z,200nm,1.2s
MT13 San Alfonso 52.77 201 P **P** **19 44 00.7 +0.3**
HPIG 52.82 292 P **P** **19 44 01.5 +0.3**
HPIG IAmb IAmb 19 44 05.3
comp=Z,116nm,1.1s
BORG Borgarnes 52.82 15 LR LR 20 01 00.3
comp=Z,816nm,18.6s,baz=222,slow=30
MT09 Talagante 53.05 202 IAmb IAmb 19 44 12.8
comp=Z,209nm,1.1s
BO04 La Punta 53.10 202 IAmb IAmb 19 44 13.4
comp=Z,113nm,1.1s
BRIGG Briggsdale 53.12 309 P **P** **19 44 03.9 +0.8**
BRIGG IAMs_20 IAMs_20 20 03 26.0
comp=Z,2µm,20.0s
MT01 Popeta 53.22 202 IAmb IAmb 19 44 15.2
comp=Z,86nm,1.1s
EKA Eskdalemuir Ar 53.38 31 P **P** **19 44 03.1 -1.4**
comp=Z,14nm,1.0s,baz=241,slow=7.1,SNR=6.1
EKA PcP **PcP** **19 45 11.4 -0.4**
comp=Z,8.5nm,1.0s,baz=240,slow=5.2,SNR=5.7
comp=Z,14nm,1.0s
Q24A Divide 53.45 307 IAMs_20 IAMs_20 20 04 31.8
comp=Z,2µm,18.0s
Q24A Divide 53.45 307 P **P** **19 44 08.2 +2.4**
baz=100,SNR=26
CLF Chambon-Foret 53.50 41 P **P** **19 44 05.0 -0.5**
CLF IAmb IAmb 19 44 09.2
comp=Z,129nm,1.3s
BO01 Tunca 53.64 202 IAmb IAmb 19 44 17.1
comp=Z,172nm,1.1s
RSSD Black Hills 53.71 314 P **P** **19 44 08.4 +0.9**
RSSD IAmb IAmb 19 44 19.8
comp=Z,151nm,1.9s
RSSD Black Hills 53.71 314 IAMs_20 IAMs_20 20 04 43.4
comp=Z,2µm,18.0s
RSSD Black Hills 53.71 314 P **P** **19 44 08.4 +0.9**
RSSD pmax pmax
comp=Z,151nm,1.9s
RSSD MLR MLR
comp=Z,2µm,18.0s
EPT El Paso 53.72 298 P **P** **19 44 08.8 +1.1**
EPT IAmb IAmb 19 44 11.9
comp=Z,87nm,1.0s
EPT IAMs_20 IAMs_20 20 08 11.1
comp=Z,2µm,18.0s
ICESG Greenland Ices 53.86 5 *i* P **P** **19 44 08.0 -0.3**
ICESG IAmb IAmb 19 44 11.7
comp=Z,62nm,0.9s
BO02 Sierra Bellavi 53.89 201 IAmb IAmb 19 44 19.5
comp=Z,86nm,1.1s
ANMO Albuquerque 53.94 302 P **P** **19 44 10.4 +1.1**
ANMO Albuquerque 53.94 302 IAMs_20 IAMs_20 20 05 49.9
comp=Z,3µm,20.0s
ANMO Albuquerque 53.94 302 LR LR 20 06 00.8
comp=Z,2µm,19.8s,baz=258,slow=35
ANMO Albuquerque 53.94 302 *d i* P **P** **19 44 11.8 +2.5**
ANMO pmax pmax
comp=Z,67nm,1.7s
ANMO MLR MLR
comp=Z,385nm,12.0s
ISCO Idaho Springs 53.95 308 IAMs_20 IAMs_20 20 04 23.9
comp=Z,2µm,21.0s
FCC Fort Churchill 53.98 333 IAmb IAmb 19 44 20.3
comp=Z,179nm,1.2s
Y22D IRIS PASSCAL I 54.24 301 IAMs_20 IAMs_20 20 07 16.8
comp=Z,2µm,19.0s
Y22D IRIS PASSCAL I 54.24 301 P **P** **19 44 14.2 +2.7**
baz=95
N23A Red Feather La 54.39 309 IAmb IAmb 19 44 19.7
comp=Z,98nm,0.9s
N23A IAMs_20 IAMs_20 20 04 54.6
comp=Z,2µm,20.0s
N23A Red Feather La 54.39 309 P **P** **19 44 15.1 +2.5**
baz=101,SNR=52
GO05 Hualane 54.50 202 IAMs_20 IAMs_20 20 08 42.6
comp=Z,2µm,21.0s
TRQA Tornquist 54.55 192 P **P** **19 44 13.1 -0.2**
TRQA IAMs_20 IAMs_20 20 07 32.0
comp=Z,2µm,21.0s
TRQA Tornquist 54.55 192 P **P** **19 44 13.1 -0.2**
TRQA pmax pmax
comp=Z,28nm,1.5s
TRQA MLR MLR
comp=Z,2µm,21.0s
S22A 4UR Ranch, Cre 54.57 305 P **P** **19 44 15.8 +1.8**
S22A IAmb IAmb 19 44 18.5
comp=Z,118nm,1.1s
S22A IAMs_20 IAMs_20 20 05 03.5
comp=Z,2µm,19.0s
S22A 4UR Ranch, Cre 54.57 305 P **P** **19 44 16.8 +2.8**
baz=98,SNR=69
121A Cookes Peak, D 54.85 299 IAmb IAmb 19 44 20.7
comp=Z,164nm,1.1s
121A IAMs_20 IAMs_20 20 08 35.0
comp=Z,2µm,19.0s
121A Cookes Peak, D 54.85 299 P **P** **19 44 19.0 +3.1**
baz=93,SNR=39
UMMG Uummannaq 55.08 359 *i* P **P** **19 44 15.7 -1.0**
UMMG IAmb IAmb 19 44 29.0
comp=Z,51nm,1.0s
K22A Casper 55.15 311 IAmb IAmb 19 44 21.0
comp=Z,274nm,2.0s
K22A IAMs_20 IAMs_20 20 04 35.6
comp=Z,3µm,21.0s
DOU Dourbes 55.62 39 *dP* **P** **19 44 19.5 -1.4**
comp=Z,24nm,1.1s
BNI Bardonecchia 55.62 46 IAmb IAmb 19 44 25.6
comp=Z,120nm,1.6s
UCC Uccle 55.69 39 P **P** **19 44 20.4 -1.1**
UCC Uccle 55.69 39 P **P** **19 44 20.4 -1.1**
UCC pmax pmax
comp=Z,10.0nm,1.0s
UCC Uccle 55.69 39 *dP* **P** **19 44 19.9 -1.6**
comp=Z,40nm,1.0s
BI02 San Fabin de 55.75 201 IAmb IAmb 19 44 33.0
comp=Z,121nm,1.0s
BMRD Maredsous 55.78 39 *dP* **P** **19 44 21.4 -0.7**
comp=Z,18nm,1.0s
MVCO Mesa Verde 55.83 305 IAmb IAmb 19 44 27.3
comp=Z,165nm,1.5s
FFC Flin Flon 55.87 326 P **P** **19 44 22.1 -0.6**
FFC IAmb IAmb 19 44 34.2
comp=Z,84nm,1.2s
FFC Flin Flon 55.87 326 P **P** **19 44 22.1 -0.6**
FFC pmax pmax
comp=Z,85nm,1.3s
O20A White River Ci 56.00 308 IAMs_20 IAMs_20 20 05 13.1
comp=Z,2µm,21.0s
BGES Gesves 56.00 39 *dP* **P** **19 44 23.1 -0.6**
comp=Z,39nm,1.1s
RCHB Rochefort 56.02 40 *dP* **P** **19 44 22.9 -0.9**
comp=Z,20nm,1.1s
319A Douglas 56.07 297 IAmb IAmb 19 44 29.4
comp=Z,127nm,1.2s
319A IAMs_20 IAMs_20 20 09 47.3
comp=Z,1µm,18.0s
BCLA Clavier 56.15 39 *dP* **P** **19 44 23.6 -1.1**
comp=Z,29nm,1.1s
KEST Kesra 56.21 57 P **P** **19 44 25.0 -0.5**
comp=Z,38nm,1.0s,baz=250,slow=3.0,SNR=10
KEST LR LR 20 07 43.0
comp=Z,705nm,18.0s,baz=256,slow=35
comp=Z,38nm,1.0s
BSTI Sart Tilman 56.36 39 *dP* **P** **19 44 25.9 -0.3**
comp=Z,7.7nm,1.0s
WLF Walferdange 56.45 40 *dP* **P** **19 44 26.1 -0.8**
comp=Z,19nm,1.1s
BHOU Houvegnez 56.56 39 *dP* **P** **19 44 27.6 0.0**
comp=Z,31nm,1.1s
VSL Villasalto 56.63 53 P **P** **19 44 29.6 +1.3**
MEM Membach 56.63 39 *dP* **P** **19 44 28.2 +0.1**
comp=Z,20nm,1.0s
BTNL Ternell 56.70 39 *dP* **P** **19 44 28.8 +0.1**
comp=Z,15nm,1.4s
X18A Snowflake 56.78 301 IAmb IAmb 19 44 34.1
comp=Z,111nm,1.1s
X18A IAMs_20 IAMs_20 20 08 02.9
comp=Z,2µm,20.0s
SLBS Sierra La Lagu 56.78 288 P **P** **19 44 30.6 +0.8**
SLBS IAmb IAmb 19 44 34.2
comp=Z,154nm,1.5s
RDMU Red Mountain 57.06 308 IAMs_20 IAMs_20 20 05 59.3
comp=Z,2µm,20.0s
LPIG La Paz 57.09 289 LR LR 20 09 26.8
comp=Z,246nm,20.8s,baz=40,slow=36
SUMG Summit 57.37 4 IAmb IAmb 19 44 43.9
comp=Z,172nm,1.6s
SUMG Summit 57.37 4 *i* P **P** **19 44 33.0 -0.5**
SUMG *i* P **P** **19 44 33.0 -0.5**
SUMG IAmb IAmb 19 44 43.5
comp=Z,216nm,1.7s
PD31 Pinedale Array 57.37 311 IAmb IAmb 19 44 36.8
comp=Z,167nm,1.7s
PDAR Pinedale Array 57.37 311 P **P** **19 44 34.7 +0.8**
comp=Z,8.1nm,0.7s,baz=113,slow=8.2,SNR=65
PDAR LR LR 20 07 04.4
comp=Z,929nm,21.3s,baz=95,slow=34
comp=Z,8.1nm,0.7s
TUC Tucson 57.38 299 P **P** **19 44 34.8 +0.9**
TUC IAmb IAmb 19 44 38.1
comp=Z,111nm,1.0s
TUC Tucson 57.38 299 IAMs_20 IAMs_20 20 10 25.9
comp=Z,2µm,19.0s
TUC Tucson 57.38 299 P **P** **19 44 34.8 +0.9**
TUC pmax pmax
comp=Z,111nm,1.0s
TUC MLR MLR
comp=Z,2µm,19.0s
P18A Preston Nutter 57.46 307 IAMs_20 IAMs_20 20 06 22.9
comp=Z,2µm,21.0s
SCO Scoresbysund 57.48 11 *i* P **P** **19 44 33.6 -0.2**
SCO IAmb IAmb 19 44 44.6
comp=Z,70nm,1.5s
BFO Black Forest 57.49 42 P **P** **19 44 33.3 -1.0**
BFO Black Forest 57.49 42 P **P** **19 44 33.3 -1.0**
BFO pmax pmax
comp=Z,46nm,1.0s
BFO Black Forest 57.49 42 *eP* **P** **19 44 33.1 -1.2**
comp=Z,68nm,1.4s,baz=257,slow=6.9
RLMT Red Lodge 57.57 314 P **P** **19 44 35.5 +0.3**
RLMT IAmb IAmb 19 44 48.0
comp=Z,263nm,1.8s
BUG Bochum--Univer 57.64 39 *eP* **P** **19 44 34.3 -0.9**
comp=Z,100nm,1.6s,baz=257,slow=6.9
HMU Henry Mountain 57.67 305 IAmb IAmb 19 44 41.3
comp=Z,128nm,1.1s
TUE Stuetta 57.75 45 P **P** **19 44 35.9 -0.6**
BSUT Blindstream Ca 57.96 308 IAMs_20 IAMs_20 20 06 29.0
comp=Z,2µm,22.0s
X16A Lo Mia Camp, P 58.00 301 IAmb IAmb 19 44 43.1
comp=Z,129nm,1.2s
X16A IAMs_20 IAMs_20 20 09 01.3
comp=Z,2µm,19.0s
WUAZ Wupatki 58.00 302 IAmb IAmb 19 44 42.9
comp=Z,156nm,1.2s
WUAZ IAMs_20 IAMs_20 20 08 11.3
comp=Z,2µm,19.0s
YNE Yellowstone No IAMs_20 IAMs_20 20 06 13.7
comp=Z,2µm,20.0s
PRMA PARMA 58.10 47 IAmb IAmb 19 44 42.3
comp=Z,138nm,1.0s
Q16A Castle Valley 58.10 306 IAMs_20 IAMs_20 20 08 14.8
comp=Z,1µm,18.0s
YMP Mirror Lake Pl 58.12 313 IAmb IAmb 19 45 00.2
comp=Z,235nm,1.7s
STU Stuttgart 58.15 42 P **P** **19 44 37.7 -1.2**
STU IAmb IAmb 19 44 41.7
comp=Z,68nm,0.9s
STU Stuttgart 58.15 42 P **P** **19 44 37.7 -1.2**
STU pmax pmax
comp=Z,68nm,0.9s
STU Stuttgart 58.15 42 *eP* **P** **19 44 37.4 -1.6**
comp=Z,164nm,1.2s,baz=257,slow=6.9
TMUT Trail Mountain 58.16 307 IAMs_20 IAMs_20 20 07 30.5
comp=Z,1µm,19.0s
DAVOX Davos/Dischmat 58.17 44 LR LR 20 07 55.8
comp=Z,361nm,18.0s,baz=258,slow=34
IBBN Ibbenburen 58.17 38 *eP* **P** **19 44 38.1 -0.9**
comp=Z,83nm,1.4s,baz=257,slow=6.9
CASP Castiglione de 58.18 49 IAmb IAmb 19 44 42.4
comp=Z,101nm,1.3s
LOHW Long Hollow 58.26 312 IAmb IAmb 19 44 43.1
comp=Z,237nm,1.9s
LKWY Lake 58.27 313 IAmb IAmb 19 45 05.2
comp=Z,206nm,1.8s
DAVA Damuels 58.28 44 *eP* **P** **19 44 39.8 -0.3**
comp=Z,46nm,1.1s,SNR=11
SNOW Snow King Moun 58.34 312 P **P** **19 44 41.8 +1.1**
SNOW IAmb IAmb 19 44 46.7
comp=Z,181nm,1.9s
EGMT Eagleton 58.48 317 P **P** **19 44 41.9 +0.5**
EGMT IAMs_20 IAMs_20 20 06 32.5
comp=Z,2µm,20.0s
JLU Jordanelle 58.49 308 IAMs_20 IAMs_20 20 06 47.0
comp=Z,2µm,22.0s
AHID Auburn Hatcher 58.49 311 IAmb IAmb 19 44 44.8
comp=Z,188nm,1.8s
ZCCA Zocca 58.50 47 IAmb IAmb 19 45 01.7
comp=Z,71nm,1.1s
UBR Ueberruh 58.51 43 *eP* **P** **19 44 40.6 -0.9**
comp=Z,66nm,1.3s,baz=257,slow=6.9
TCUT Toone Canyon 58.51 309 P **P** **19 44 43.1 +1.2**
TCUT IAmb IAmb 19 44 45.2
comp=Z,146nm,1.3s
TCUT IAMs_20 IAMs_20 20 06 46.7
comp=Z,1µm,20.0s
YFT Old Faithful 58.55 313 IAmb IAmb 19 44 56.8
comp=Z,218nm,1.9s
FXWY Fox Creek 58.57 312 IAmb IAmb 19 44 45.5
comp=Z,186nm,1.9s
SRIG Santa Rosalia 58.67 293 P **P** **19 44 43.4 +0.5**
SRIG IAmb IAmb 19 44 47.6
comp=Z,111nm,1.0s
YMR Madison River 58.68 313 IAMs_20 IAMs_20 20 08 12.0
comp=Z,2µm,19.0s
HWUT Hardware Ranch 58.69 309 IAmb IAmb 19 44 46.3
comp=Z,75nm,1.1s
HWUT IAMs_20 IAMs_20 20 07 46.3
comp=Z,2µm,20.0s
CTU Camp Tracy 58.72 308 IAmb IAmb 19 44 47.0
comp=Z,191nm,1.7s
CTU IAMs_20 IAMs_20 20 06 54.3
comp=Z,2µm,22.0s
FETA Feichten 58.79 44 *eP* **P** **19 44 43.1 -0.6**
comp=Z,101nm,1.0s,SNR=37
U15A North Rim 58.80 303 IAmb IAmb 19 44 48.8
comp=Z,112nm,1.1s
U15A IAMs_20 IAMs_20 20 07 54.3
comp=Z,2µm,20.0s
MTPU Mount Pierson 58.82 305 IAmb IAmb 19 44 48.7
comp=Z,93nm,1.0s
YHB Horse Butte 58.86 313 IAmb IAmb 19 44 48.1
comp=Z,102nm,1.0s
YHB IAMs_20 IAMs_20 20 07 03.7
comp=Z,2µm,18.0s
YHL Hebgen Lake 58.86 313 IAMs_20 IAMs_20 20 09 50.8
comp=Z,2µm,18.0s
PKCU Pink Cliffs 58.87 305 IAMs_20 IAMs_20 20 07 12.4
comp=Z,2µm,20.0s
RETA Reutte 58.90 44 *eP* **P** **19 44 43.6 -0.8**
comp=Z,64nm,1.3s,SNR=12
TCRU Three Creeks R 59.07 306 IAmb IAmb 19 44 50.4
comp=Z,77nm,1.1s
MOTA Moosalm 59.10 44 *eP* **P** **19 44 44.9 -0.9**
comp=Z,101nm,1.0s
KULLO Kullorsuaq 59.13 358 *i* P **P** **19 44 45.9 +0.6**
KULLO IAmb IAmb 19 44 50.6
comp=Z,30nm,1.0s
UBBA Unterbreizbach 59.13 40 *eP* **P** **19 44 44.7 -0.9**
comp=Z,61nm,1.6s,baz=257,slow=6.9
SQTA Sankt Quirin 59.15 44 *eP* **P** **19 44 45.3 -0.8**
comp=Z,155nm,1.0s,SNR=33
LR05 Currie 59.22 200 P **P** **19 44 46.3 -0.1**
PLCA Paso Flores 59.23 198 IAmb IAmb 19 44 58.2
comp=Z,123nm,1.1s
PLCA Paso Flores 59.23 198 P **P** **19 44 47.4 +0.8**
comp=Z,24nm,0.9s,baz=21,slow=6.8,SNR=36
PLCA LR LR 20 13 20.7
comp=Z,835nm,18.2s,baz=24,slow=39
comp=Z,24nm,0.9s
PLCA Paso Flores 59.23 198 *eP* **P** **19 44 47.3 +0.8**
RETH Rethem/Aller, 59.23 37 *eP* **P** **19 44 45.8 -0.5**
comp=Z,83nm,1.5s,baz=257,slow=6.9
KNB Kanab 59.26 304 IAMs_20 IAMs_20 20 07 25.5
comp=Z,2µm,22.0s
Y14A Wickenburg 59.28 300 IAmb IAmb 19 44 51.5
comp=Z,119nm,1.3s
Y14A IAMs_20 IAMs_20 20 11 06.2
comp=Z,2µm,19.0s
GTTG Gottingen 59.29 39 *eP* **P** **19 44 46.0 -0.8**
comp=Z,37nm,1.2s,baz=257,slow=6.9
BOZ Bozeman (W) 59.29 314 P **P** **19 44 46.6 -0.5**
BOZ IAmb IAmb 19 44 59.5
comp=Z,101nm,1.6s
BOZ IAMs_20 IAMs_20 20 05 58.2
comp=Z,1µm,18.0s
BOZ Bozeman (W) 59.29 314 P **P** **19 44 46.6 -0.5**
BOZ pmax pmax
comp=Z,101nm,1.6s
BOZ MLR MLR
comp=Z,1µm,18.0s
LR04 Corral 59.38 201 IAMs_20 IAMs_20 20 11 55.8
comp=Z,1µm,20.0s
WATA Walderalm 59.42 44 *eP* **P** **19 44 46.9 -1.1**
comp=Z,80nm,1.2s,SNR=16
WTTA Wattenberg 59.45 44 *eP* **P** **19 44 47.1 -1.1**
comp=Z,45nm,1.2s,SNR=12
DUG Dugway, Tooele 59.48 308 IAMs_20 IAMs_20 20 07 29.0
comp=Z,2µm,20.0s
SZCU Shurtz Canyon 59.50 305 IAmb IAmb 19 44 52.8
comp=Z,135nm,1.3s
LCMT Little Creek M 59.59 304 IAMs_20 IAMs_20 20 06 47.4
comp=Z,2µm,22.0s
CLZ Clausthal 59.61 39 *eP* **P** **19 44 48.0 -1.1**
comp=Z,35nm,1.2s,baz=257,slow=6.9
HVU Hansel Valley 59.61 309 IAMs_20 IAMs_20 20 09 34.7
comp=Z,2µm,19.0s
NRDL Niedersach Rie 59.61 38 *eP* **P** **19 44 48.5 -0.4**
comp=Z,90nm,1.5s,baz=257,slow=6.9
GRFO Grafenberg 59.65 41 P **P** **19 44 48.0 -1.3**
GRFO Grafenberg 59.65 41 P **P** **19 44 48.0 -1.3**
GRFO pmax pmax
comp=Z,36nm,1.0s
GRF Grafenberg Arr 59.65 41 *eP* **P** **19 44 48.1 -1.3**
comp=Z,36nm,1.3s,baz=257,slow=6.9
GRF *eL* L 20 07 10.2
comp=Z,504nm,18.8s
CCUT Cedar City 59.72 305 P **P** **19 44 50.7 +0.4**
CCUT IAmb IAmb 19 44 54.7
comp=Z,96nm,1.1s
NRCA Norcia 59.83 49 IAmb IAmb 19 45 15.8
comp=Z,94nm,1.4s
113A Mohawk Valley, 59.90 299 IAmb IAmb 19 44 55.5
comp=Z,123nm,1.5s
DLMT Dillon 59.93 314 IAMs_20 IAMs_20 20 12 29.0
comp=Z,1µm,19.0s
ABTA Abfaltersbach 59.95 45 *eP* **P** **19 44 50.2 -1.4**
comp=Z,73nm,1.1s,SNR=16
LL04 Puerto Octay 59.97 200 P **P** **19 44 51.6 +0.2**
CAMP Campotosto 60.01 50 IAmb IAmb 19 44 56.4
comp=Z,93nm,1.2s
W13A Hualapai Mount 60.04 302 IAmb IAmb 19 44 57.2
comp=Z,64nm,1.2s
W13A IAMs_20 IAMs_20 20 09 08.2
comp=Z,2µm,20.0s
MOX Moxa 60.10 40 *eL* L 20 05 40.0
comp=Z,986nm,20.1s
BSEG Bad Segeberg 60.10 36 *eP* **P** **19 44 51.5 -0.9**
comp=Z,135nm,1.7s,baz=257,slow=6.9
LL03 Petrohue 60.17 199 P **P** **19 44 54.0 +1.2**
LESA Schwarzleotal 60.17 44 *eP* **P** **19 44 51.1 -2.0**
comp=Z,25nm,1.4s
MUD Monsted U'grnd 60.19 33 *i* P **P** **19 44 50.3 -2.6**
MUD IAmb IAmb 19 44 56.2
comp=Z,96nm,1.3s
FLTG Flechtingen 60.24 38 *eP* **P** **19 44 52.2 -1.2**
comp=Z,60nm,1.3s,baz=257,slow=6.9
MANZ Manzenberg 60.27 41 *eP* **P** **19 44 52.8 -0.9**
comp=Z,28nm,2.0s,baz=257,slow=6.9
ROTZ Rotzenmuhle 60.29 41 *eP* **P** **19 44 52.5 -1.2**
comp=Z,11nm,1.5s,baz=257,slow=6.9
NEUB Neuenburg 60.31 40 *eP* **P** **19 44 52.7 -1.2**
comp=Z,62nm,1.5s,baz=257,slow=6.9
INTR Introdacqua 60.32 50 IAmb IAmb 19 45 04.7
comp=Z,129nm,1.7s
PLN Plauen 60.40 40 *eP* **P** **19 44 53.6 -0.9**
comp=Z,83nm,1.9s,baz=257,slow=6.9
GORT1 Trebel 60.44 38 *eP* **P** **19 44 53.7 -0.9**
comp=Z,137nm,1.7s,baz=257,slow=6.9
NKC Novy Kostel 60.53 41 *eP* **P** **19 44 55.6 +0.2**
NKC Novy Kostel 60.53 41 *eP* **P** **19 44 55.6 +0.2**
BLYC Blythe 60.54 300 P **P** **19 44 57.4 +1.6**
BLYC IAmb IAmb 19 45 00.1
comp=Z,136nm,1.4s
BLYC IAMs_20 IAMs_20 20 11 55.6
comp=Z,2µm,19.0s
SPR3 Spring Creek 3 60.56 306 IAmb IAmb 19 45 00.7
comp=Z,131nm,1.2s
KBA Koelnbreinsper 60.56 44 *eP* **P** **19 44 54.6 -1.3**
comp=Z,42nm,1.2s
SABO M.te Sabotino 60.58 46 IAmb IAmb 19 44 59.0
comp=Z,60nm,1.0s
WET Wettzell 60.60 42 *eP* **P** **19 44 54.6 -1.3**
comp=Z,33nm,1.2s,baz=257,slow=6.9
PRED Cave del Predi 60.62 45 IAmb IAmb 19 44 57.7
comp=Z,109nm,1.1s
MYKA Terra Mystica 60.70 45 *eP* **P** **19 44 55.7 -1.0**
comp=Z,46nm,1.0s,SNR=5.2

JMIC Jan Mayen 60.71 14 LR LR 20 04 55.9
comp=Z,524nm,19.4s,baz=214,slow=30
LL05 Los Muermos 60.76 200 P **P** **19 44 57.5 +0.6**
V12A Nelson 60.84 302 IAmb IAmb 19 45 02.2
V12A comp=Z,90nm,1.3s IAMs_20 IAMs_20 20 10 21.8
comp=Z,2µm,21.0s
BIOA Bad Ischl, Aus 60.86 44 *e*P **P** **19 44 56.4 -1.3**
comp=Z,23nm,1.4s,SNR=10
Q12A Willow Creek R 60.95 306 IAmb IAmb 19 45 03.1
comp=Z,128nm,1.1s
DBG Daneborg 61.00 9 *i* P **P** **19 44 57.2 -0.9**
DBG comp=Z,258nm,2.4s IAmb IAmb 19 45 00.3
HLID Hailey 61.00 311 IAmb IAmb 19 45 02.2
comp=Z,142nm,1.8s
PRN Pahroc Range 61.05 304 IAmb IAmb 19 45 04.3
PRN comp=Z,150nm,1.3s IAMs_20 IAMs_20 20 09 06.3
comp=Z,2µm,19.0s
KHC Kasperske Hory 61.05 42 *e*P **P** **19 44 58.2 -0.8**
KHC *e*x x 19 45 07.7
KHC *e*S **S** **19 53 21.2 +3.4**
KHC Kasperske Hory 61.05 42 *e*P **P** **19 44 58.2 -0.8**
KHC *e*S **S** **19 53 21.2 +3.4**
GEC2 GERESS Array S 61.08 43 *e*P **P** **19 44 57.8 -1.5**
comp=Z,52nm,1.4s,baz=257,slow=6.9
GERES GERESS Array B 61.08 43 P **P** **19 44 58.1 -1.2**
comp=Z,26nm,1.1s,baz=260,slow=5.2,SNR=31
GERES LR LR 20 07 56.5
comp=Z,179nm,19.5s,baz=241,slow=33
comp=Z,26nm,1.1s
CLL Collm 61.09 40⇓*i*P **P** **19 44 58.3 -0.9**
CLL *i* 19 45 01.1
CLL *e*S **S** **19 53 20.0 +1.9**
CLL pmax pmax
comp=Z,56nm,1.4s
CLL MLR MLR
comp=Z,900nm,19.9s
CLL Collm 61.09 40 *e*P **P** **19 44 58.2 -0.9**
comp=Z,40nm,1.2s,baz=257,slow=6.9
CLL Collm 61.09 40⇓*i*P **P** **19 44 58.3 -0.9**
comp=Z,56nm,1.4s
CLL *i* x x 19 45 01.1
comp=Z,49nm,1.0s
CLL *i* x x 19 45 15.0
CLL *e*S **S** **19 53 20.0 +1.9**
CLL *e*ScS **ScS** **19 54 56.0 +5.6**
CLL *e*SS **SS** **19 57 18.0 +0.3**
CLL AMS AMS 20 06 00.0
comp=Z,900nm,19.9s
SKAR Skarslia 61.16 29 *e*P **P** **19 45 00.3 +0.8**
SKAR IAmb IAmb 19 45 00.8
comp=Z,122nm,1.6s
CPBX Cerro Prieto 61.20 299 IAMs_20 IAMs_20 20 10 05.2
comp=Z,1µm,20.0s
HSKC Hora Svate Kat 61.22 41 *e*P **P** **19 45 00.7 +0.6**
LL01 San Ignacio de 61.30 199 P **P** **19 45 00.7 +0.2**
LL01 comp=Z,115nm,1.1s IAmb IAmb 19 45 11.3
LL01 IAMs_20 IAMs_20 20 13 09.6
comp=Z,1µm,20.0s
MOA Molln 61.30 44 *e*P **P** **19 44 59.3 -1.4**
comp=Z,19nm,1.3s
OBKA Obir 61.30 45 *e*P **P** **19 44 59.9 -0.9**
comp=Z,25nm,0.8s
ELK Elko 61.37 308 IAmb IAmb 19 45 05.3
comp=Z,90nm,1.1s
ELK IAMs_20 IAMs_20 20 08 38.3
comp=Z,2µm,20.0s
ELK Elko 61.37 308 LR LR 20 09 35.7
comp=Z,1µm,21.9s,baz=93,slow=34
KONO Kongsberg 61.41 30 IAMs_20 IAMs_20 20 04 53.9
comp=Z,2µm,22.0s
KONO Kongsberg 61.41 30*d i*P **P** **19 45 00.7 -0.5**
KONO pmax pmax
comp=Z,60nm,1.7s
KONO MLR MLR
comp=Z,231nm,15.0s
CKRC Cesky Krumlov 61.48 43 *e*P **P** **19 45 01.7 -0.2**
CKRC *e*S **S** **19 53 25.7 +2.5**
CKRC Cesky Krumlov 61.48 43 *e*P **P** **19 45 01.7 -0.2**
CKRC *e*S **S** **19 53 25.7 +2.5**
ZVC Zvikov 61.50 42 *e*P **P** **19 45 01.0 -1.0**
R11B Troy Canyon, C 61.51 305 IAmb IAmb 19 45 06.7
comp=Z,67nm,1.0s
R11B IAMs_20 IAMs_20 20 08 24.1
comp=Z,2µm,20.0s
R11B Troy Canyon, C 61.51 305 P **P** **19 45 05.0 +2.5**
baz=92,SNR=78
LL06 Loncomilla 61.54 200 P **P** **19 45 02.2 +0.1**
BRG Berggiesshubel 61.59 40 *i* P **P** **19 45 02.5 0.0**
BRG Amp 19 45 06.1
comp=Z,26nm,1.1s
BRG Berggiesshubel 61.59 40 S **S** **19 53 26.0 +1.5**
BRG Berggiesshubel 61.59 40 *i* P **P** **19 45 02.5 0.0**
BRG pmax pmax
comp=Z,26nm,1.1s
BRG pmax pmax
comp=Z,36nm,1.2s
BRG Berggiesshubel 61.59 40 *e*P **P** **19 45 01.3 -1.2**
comp=Z,48nm,1.4s,baz=257,slow=6.9
S11A Rachel 61.61 305 IAMs_20 IAMs_20 20 08 51.1
comp=Z,2µm,20.0s
VTX Valle De La Tr 61.63 297 IAMs_20 IAMs_20 20 13 16.5
comp=Z,2µm,19.0s
SOKA Soboth 61.65 45 *e*P **P** **19 45 01.6 -1.5**
comp=Z,36nm,1.2s,SNR=5.1
ESJX Sierra Juarez 61.75 298 IAmb IAmb 19 45 08.9
comp=Z,156nm,1.5s
ESJX IAMs_20 IAMs_20 20 16 03.8
comp=Z,1µm,19.0s
PRU Pruhonice 61.81 41 *e*P **P** **19 45 06.2 +2.1**
PRU AMS AMS 20 08 20.0
comp=Z,700nm,16.5s
PRU Pruhonice 61.81 41 *e*P **P** **19 45 06.2 +2.1**
PRU MLR MLR
comp=Z,700nm,16.5s
LL02 Futaleuf 61.86 198 IAmb IAmb 19 45 09.9
comp=Z,83nm,1.3s
LL02 IAMs_20 IAMs_20 20 13 00.6
comp=Z,2µm,21.0s
NEEM North Greenlan 61.88 360 *i* P **P** **19 45 03.7 -0.7**
NEEM IAmb IAmb 19 45 15.2
comp=Z,501nm,2.3s
PVCC Panska Ves 61.92 41 *e*P **P** **19 45 07.1 +2.3**
PVCC AMS AMS 20 08 20.0
comp=Z,700nm,16.1s
PVCC Panska Ves 61.92 41 *e*P **P** **19 45 07.1 +2.3**
PVCC MLR MLR
comp=Z,700nm,16.1s
GOPC GO Pecny, Ondr 61.96 41 AMS AMS 20 08 40.0
comp=Z,700nm,17.9s
DOMB Dombas 61.98 27 *e*P **P** **19 45 06.3 +1.2**
DOMB IAmb IAmb 19 45 08.2
comp=Z,37nm,1.2s
TPNV Topopah Spring 61.99 304 IAMs_20 IAMs_20 20 10 31.2
comp=Z,1µm,20.0s
ARSA Arzberg 62.06 45 *e*P **P** **19 45 04.2 -1.7**
comp=Z,58nm,1.0s,SNR=19
PFO Pinyon Flats O 62.16 300 P **P** **19 45 08.0 +1.2**
PFO IAmb IAmb 19 45 11.3
comp=Z,149nm,1.6s
PFO Pinyon Flats O 62.16 300 IAMs_20 IAMs_20 20 12 24.3
comp=Z,2µm,18.0s
PFO Pinyon Flats O 62.16 300 LR LR 20 13 05.4
comp=Z,1µm,18.3s,baz=91,slow=37
PFO Pinyon Flats O 62.16 300*d i*P **P** **19 45 09.5 +2.7**
PFO pmax pmax
comp=Z,163nm,1.6s
PFO MLR MLR
comp=Z,2µm,16.0s
PLID Pearl Lake 62.28 313 IAmb IAmb 19 45 10.3
comp=Z,119nm,1.4s
PLID IAMs_20 IAMs_20 20 13 03.3
comp=Z,2µm,20.0s
TIP Timpagrande 62.30 54⇓P **P** **19 45 07.9 +0.2**
TREC Trest 62.31 42 *e*P **P** **19 45 07.2 -0.3**
TREC Trest 62.31 42 *e*P **P** **19 45 07.2 -0.3**
GWY Greenwater Val 62.32 303 IAmb IAmb 19 45 12.4
comp=Z,125nm,1.2s
CBX Cerro Bola 62.35 299 IAmb IAmb 19 45 12.6
comp=Z,117nm,1.2s
CONA Conrad Observa 62.37 44 *e*P **P** **19 45 06.9 -1.1**
comp=Z,46nm,1.1s,SNR=14
NBO00 NORSAR Array S 62.42 29 IAmb IAmb 19 45 09.8
comp=Z,182nm,2.0s
GSC Goldstone, Bar 62.43 302 P **P** **19 45 10.2 +1.7**
GSC IAmb IAmb 19 45 12.9
GSC comp=Z,74nm,1.2s IAMs_20 IAMs_20 20 10 20.6
comp=Z,2µm,20.0s
GSC Goldstone, Bar 62.43 302 P **P** **19 45 10.3 +1.7**
GSC pmax pmax
GSC comp=Z,74nm,1.2s MLR MLR
comp=Z,2µm,20.0s
NC204 NORSAR Array S 62.49 28 IAmb IAmb 19 45 10.2
comp=Z,83nm,1.4s
NB2 NORSAR Subarra 62.62 29 P **P** **19 45 08.8 -0.5**
comp=Z,160nm,2.0s,baz=251,slow=7.4
NB2 NORSAR Subarra 62.62 29 P **P** **19 45 08.8 -0.5**
baz=251,slow=7.4
NOA NORSAR Array B 62.62 29 P **P** **19 45 08.8 -0.5**
comp=Z,15nm,1.1s,baz=250,slow=7.0,SNR=16
NOA LR LR 20 06 13.6
comp=Z,698nm,21.2s,baz=250,slow=30
comp=Z,15nm,1.1s
RONA Rosalia, Austr 62.64 44 *e*P **P** **19 45 08.6 -1.1**
comp=Z,78nm,1.1s,SNR=16
NB201 NORSAR Array S 62.66 29 IAmb IAmb 19 45 14.2
comp=Z,104nm,1.6s
NC602 NORSAR Array S 62.68 29 *e*P **P** **19 45 10.1 +0.4**
NC602 IAmb IAmb 19 45 10.8
comp=Z,546nm,2.8s
NC303 NORSAR Array S 62.75 29 IAmb IAmb 19 45 12.8
comp=Z,153nm,1.8s
UPC Upice 62.83 41 *e*P **P** **19 45 11.4 +0.5**
UPC AMS AMS 20 07 10.0
comp=Z,900nm,19.2s
UPC Upice 62.83 41 *e*P **P** **19 45 11.4 +0.5**
UPC MLR MLR
comp=Z,900nm,19.2s
BMN Battle Mountai 62.86 308 IAmb IAmb 19 45 15.2
comp=Z,83nm,1.1s
CHVC Chvalec 62.87 41 *e*P **P** **19 45 10.5 -0.7**
CHVC AMS AMS 20 07 10.0
comp=Z,800nm,16.0s
CHVC Chvalec 62.87 41 *e*P **P** **19 45 10.5 -0.7**
CHVC MLR MLR
comp=Z,800nm,16.0s
KRUC Moravsky 62.87 43 *e*P **P** **19 45 10.1 -1.1**
NC405 NORSAR Array S 62.88 29 P **P** **19 45 11.3 +0.3**
GRAC Grapevine Rang 62.89 304 IAMs_20 IAMs_20 20 10 26.7
comp=Z,2µm,20.0s
MZP Montezuma Peak 62.91 305 IAmb IAmb 19 45 16.1
comp=Z,59nm,1.1s
ELS Elsinore Mount 62.96 300 IAmb IAmb 19 45 16.3
comp=Z,72nm,1.2s
ELS IAMs_20 IAMs_20 20 13 37.7
comp=Z,1µm,18.0s
OSTC Ostas 62.96 41 *e*P **P** **19 45 11.8 0.0**
OSTC AMS AMS 20 07 10.0
OSTC Ostas 62.96 41 *e*P **P** **19 45 11.8 0.0**
DPC Dobruska-Polom 63.00 41 *e*P **P** **19 45 11.7 -0.4**
DPC AMS AMS 20 09 00.0
comp=Z,800nm,18.3s
DPC Dobruska-Polom 63.00 41 *e*P **P** **19 45 11.7 -0.4**
DPC MLR MLR
comp=Z,800nm,18.3s
VRAC Vranov 63.03 42 LR LR 20 09 43.8
comp=Z,286nm,18.1s,baz=246,slow=33
VRAC Vranov 63.03 42 *e*P **P** **19 45 11.6 -0.7**
VRAC Vranov 63.03 42⇑P **P** **19 45 12.0 -0.3**
VRAC Vranov 63.03 42 P **P** **19 45 12.0 -0.3**
BMO Blue Mountains 63.19 313 IAMs_20 IAMs_20 20 10 51.2
comp=Z,2µm,22.0s
KRLC Kraliky 63.26 41 *e*P **P** **19 45 13.7 -0.1**
KRLC *e*x x 19 45 23.6
KRLC Kraliky 63.26 41 *e*P **P** **19 45 13.7 -0.1**
DAG Danmarks Havn 63.28 8 *i* P **P** **19 45 12.6 -0.8**
DAG IAmb IAmb 19 45 23.9
comp=Z,93nm,1.6s
MODS Modra-Piesok 63.37 43 *e*P **P** **19 45 14.1 -0.5**
MODS pmax pmax
comp=Z,288nm,2.1s
MODS Modra-Piesok 63.37 43 *e*P **P** **19 45 14.0 -0.5**
MODS *e* 19 49 30.8
MODS *e* 20 09 05.4
DSP Deep Springs 63.37 304 IAMs_20 IAMs_20 20 10 10.9
comp=Z,2µm,20.0s
NEW Newport 63.38 316 IAmb IAmb 19 45 17.0
comp=Z,65nm,1.1s
NEW Newport 63.38 316 LR LR 20 10 22.1
comp=Z,1µm,22.0s,baz=93,slow=34
SMOL Smolenice 63.48 43 *e*P **P** **19 45 15.1 -0.2**
SMOL pmax pmax
comp=Z,21nm,1.2s
KVN Kaiserville 63.50 306 P **P** **19 45 16.1 +0.3**
KVN IAMs_20 IAMs_20 20 11 35.0
comp=Z,1µm,19.0s
KVN Kaiserville 63.50 306 P **P** **19 45 16.1 +0.3**
KVN pmax pmax
comp=Z,42nm,1.0s
KVN MLR MLR
comp=Z,1µm,19.0s
NV11 Mina Array Sit 63.53 305 IAmb IAmb 19 45 28.9
comp=Z,102nm,1.5s
HFS Hagfors 63.53 30 P **P** **19 45 14.7 -0.6**
comp=Z,66nm,1.1s,baz=222,slow=2.0,SNR=28
HFS LR LR 20 08 40.1
comp=Z,718nm,18.4s,baz=251,slow=32
comp=Z,66nm,1.1s
PASC Pasadena Art C 63.58 301 IAmb IAmb 19 45 20.0
comp=Z,158nm,1.6s
PASC IAMs_20 IAMs_20 20 13 04.1
comp=Z,2µm,18.0s
NVAR Mina Array Bea 63.65 305 P **P** **19 45 18.5 +1.7**
comp=Z,11nm,0.7s,baz=89,slow=6.4,SNR=59
NVAR LR LR 20 13 09.0
comp=Z,646nm,19.2s,baz=92,slow=36
NVAR PKP2ab 20 14 24.8
comp=Z,1.0nm,0.8s,baz=259,slow=1.5,SNR=6.5
comp=Z,11nm,0.7s
JAVC Velka Javorina 63.68 43 *e*P **P** **19 45 16.7 +0.1**
MORC Moravsky Berou 63.70 42 IAmb IAmb 19 45 20.3
comp=Z,47nm,1.0s
MORC Moravsky Berou 63.70 42 *e*P **P** **19 45 16.4 -0.4**
MORC Moravsky Berou 63.70 42⇑P **P** **19 45 16.9 +0.1**
MORC Moravsky Berou 63.70 42 P **P** **19 45 16.9 +0.1**
ISA Isabella, Lake 63.79 302 IAMs_20 IAMs_20 20 11 56.5
comp=Z,2µm,19.0s
LHV Little Huntoon 63.80 305 IAmb IAmb 19 45 21.9
comp=Z,85nm,1.0s
RYN Ryan 63.82 306 IAMs_20 IAMs_20 20 10 23.6
comp=Z,1µm,18.0s
MAUC Maruska 63.84 42 *e*P **P** **19 45 18.0 +0.3**
E09A Wood Farm, Sta 63.91 314 P **P** **19 45 18.8 +0.7**
E09A IAmb IAmb 19 45 20.6
comp=Z,79nm,1.2s
RES Resolute Bay 63.99 348 LR LR 20 10 45.0
comp=Z,3µm,20.9s,baz=142,slow=34
GKP Gorka Klasztor 64.00 38 *e*P **P** **19 45 19.0 +0.4**
WVOR Wild Horse Val 64.01 310 IAmb IAmb 19 45 22.2
comp=Z,68nm,1.4s
NSS Namsos 64.07 25 *e*P **P** **19 45 19.9 +1.2**
NSS IAmb IAmb 19 45 21.9
comp=Z,27nm,0.9s
MORH Mrgy, Hungar 64.09 46⇑P **P** **19 45 19.0 -0.2**
OKC Ostrava-Krasne 64.10 42 *e*P **P** **19 45 18.9 -0.4**
OKC Ostrava-Krasne 64.10 42 *e*P **P** **19 45 18.9 -0.4**
COYC Coyhaique 64.11 197 P **P** **19 45 19.4 +0.2**
COYC IAmb IAmb 19 45 30.7
comp=Z,57nm,1.0s
C09A Chrisman Ranch 64.11 316 IAmb IAmb 19 45 21.7
comp=Z,174nm,1.9s
C09A IAMs_20 IAMs_20 20 10 01.4
comp=Z,2µm,21.0s
OMMB Old Mammoth Mi 64.19 305 IAMs_20 IAMs_20 20 11 41.4
comp=Z,2µm,20.0s
PDG Podgorica 64.32 50⇑P **P** **19 45 20.9 0.0**
G08A Pilot Rock 64.39 313 IAmb IAmb 19 45 23.8
comp=Z,48nm,1.0s
VYHS Vyhne 64.41 43 *e*P **P** **19 45 20.9 -0.5**
VYHS pmax pmax
comp=Z,43nm,1.2s
VYHS Vyhne 64.41 43 *e*P **P** **19 45 20.9 -0.5**
VYHS *e* 19 49 28.0
VYHS *e* 20 09 01.3
D08A Wollman Farm, 64.48 315 IAmb IAmb 19 45 33.9
comp=Z,172nm,2.0s
D08A IAMs_20 IAMs_20 20 12 37.4
comp=Z,2µm,18.0s
PAHR Pah Rah Range 64.50 307 IAMs_20 IAMs_20 20 10 51.5
comp=Z,2µm,20.0s
WAKR Walker 64.54 305 P **P** **19 45 23.6 +0.9**
PNTR Pine Nut 64.67 306 IAmb IAmb 19 45 28.5
comp=Z,47nm,0.8s
PNTR IAMs_20 IAMs_20 20 12 49.8
comp=Z,1µm,18.0s
YKA Yellowknife Ar 64.68 332 P **P** **19 45 22.2 -0.6**
comp=Z,16nm,0.8s,baz=103,slow=7.4,SNR=56
YKA LR LR 20 11 11.2
comp=Z,2µm,20.4s,baz=95,slow=34
comp=Z,16nm,0.8s
TIR Tirane 64.74 51⇑P **P** **19 45 24.0 +0.4**
TIR Tirane 64.74 51 P **P** **19 45 24.0 +0.4**
HAWA Hanford 64.86 314 IAmb IAmb 19 45 37.4
comp=Z,143nm,1.9s
MPK Martis Peak 65.00 306 IAMs_20 IAMs_20 20 13 47.8
comp=Z,1µm,20.0s
PSZ Piszkesteto 65.07 44 *e*P **P** **19 45 25.8 0.0**
PSZ Piszkesteto 65.07 44⇑P **P** **19 45 25.8 0.0**
PSZ Piszkesteto 65.07 44 P **P** **19 45 25.8 0.0**
STOK Stokkvaagen 65.07 23 *e*P **P** **19 45 26.9 +1.6**
STOK IAmb IAmb 19 45 29.3
comp=Z,93nm,1.3s
OJC Ojcow 65.20 42 *e*P **P** **19 45 26.8 +0.3**
OJC Ojcow 65.20 42 P **P** **19 45 25.4 -1.1**
OJC Ojcow 65.20 42 P **P** **19 45 25.4 -1.1**
OJC pmax pmax
comp=Z,41nm,1.1s
CMB Columbia Colle 65.29 305 IAmb IAmb 19 45 31.4
comp=Z,128nm,1.6s
CMB IAMs_20 IAMs_20 20 12 17.1
comp=Z,2µm,21.0s
MXC Moxie City 65.39 314 IAmb IAmb 19 45 31.0
comp=Z,50nm,1.0s
OHR Ohrid 65.44 52 *i* P **P** **19 45 31.7 +3.4**
NIE Niedzica 65.45 42 *e*P **P** **19 45 29.3 +1.1**
KECS Kecovo 65.51 44 *e*P **P** **19 45 29.2 +0.7**
KECS pmax pmax
comp=Z,57nm,1.4s
KECS Kecovo 65.51 44 *e*P **P** **19 45 29.2 +0.7**
MOR8 Moi Rana 65.57 24 *e*P **P** **19 45 30.4 +1.8**
PMPB Monarch Peak 65.66 303 P **P** **19 45 29.8 -0.1**
LTY Liberty 65.69 315 IAmb IAmb 19 45 32.1
comp=Z,92nm,1.1s
AFDM Forest Hills D 65.73 306 IAmb IAmb 19 45 33.9
comp=Z,64nm,1.0s
AY03 Cochrane 65.79 197 IAmb IAmb 19 45 42.5
comp=Z,96nm,0.9s
FNA Florina 65.88 52 P **P** **19 45 30.1 -1.0**
FNA Florina 65.88 52 P **P** **19 45 30.1 -1.0**
FNA pmax pmax
comp=Z,53nm,1.2s
STHS Stebnicka Huta 66.07 43 *e*P **P** **19 45 32.5 +0.4**
STHS pmax pmax
comp=Z,21nm,1.1s
STHS Stebnicka Huta 66.07 43 *e*P **P** **19 45 32.5 +0.4**
BZS Buzias 66.13 47⇑P **P** **19 45 32.9 +0.3**
BZS Buzias 66.13 47 P **P** **19 45 32.8 +0.3**
BOVS Bovan 66.14 49⇓P **P** **19 45 32.7 0.0**
SAO San Andreas Ge 66.16 304 IAmb IAmb 19 45 37.2
comp=Z,160nm,1.6s
MDVR Moldovita 66.17 48⇑P **P** **19 45 32.9 0.0**
SIRR Siria 66.18 46⇓P **P** **19 45 32.8 -0.1**
FAUS Fauske 66.25 23 *e*P **P** **19 45 33.6 +0.7**
FAUS IAmb IAmb 19 45 36.5
comp=Z,36nm,1.1s
HOOD Mount Hood Mea 66.29 313 P **P** **19 45 34.6 +0.9**
HOOD IAmb IAmb 19 45 37.1
comp=Z,130nm,1.6s
STEI Steigen 66.40 22 *e*P **P** **19 45 35.1 +1.2**
SURR Surduc 66.49 47⇑P **P** **19 45 35.1 +0.2**
H04A Detroit Lake 66.65 312 IAmb IAmb 19 45 38.9
comp=Z,78nm,1.3s
HERR Herculane 66.68 48⇓P **P** **19 45 36.4 +0.4**
KOLS Kolonicke sedl 66.72 43 *e*P **P** **19 45 36.8 +0.5**
KOLS pmax pmax
comp=Z,31nm,1.2s
KOLS Kolonicke sedl 66.72 43 *e*P **P** **19 45 36.8 +0.5**
L04D Klamath Falls 66.72 310 P **P** **19 45 37.4 +0.8**
DJES Djerdap 66.75 48⇓P **P** **19 45 36.9 +0.3**
VAY Valandovo 66.78 51 *i* P **P** **19 45 35.5 -1.3**
I04A Tendick Farm, 66.80 311 IAmb IAmb 19 45 39.8
comp=Z,70nm,1.2s
F04A Amboy 66.84 314 IAmb IAmb 19 45 39.9
comp=Z,66nm,1.4s
GO08 Villa O'Higgin 66.89 196 IAmb IAmb 19 45 44.0
comp=Z,72nm,1.2s
DRGR 66.93 45⇓P **P** **19 45 38.0 +0.2**
DRGR 66.93 45 P **P** **19 45 37.9 +0.2**
GZR Gura Zlata 66.94 47⇓P **P** **19 45 37.6 -0.2**
GZR Gura Zlata 66.94 47 P **P** **19 45 37.6 -0.2**
PEHC Pehcevo 67.02 51 *i* P **P** **19 45 38.8 +0.4**
KWP Kalwaria Pacla 67.03 42 *e*P **P** **19 45 39.0 +0.7**
KWP Kalwaria Pacla 67.03 42 IAmb IAmb 19 45 42.7
comp=Z,72nm,1.2s
KWP Kalwaria Pacla 67.03 42 P **P** **19 45 39.0 +0.7**
comp=Z,57nm,1.4s
KWP pP **sP** **19 45 41.7 +0.4**
comp=Z,57nm,1.4s
DEV Deva 67.04 46⇑P **P** **19 45 38.5 +0.2**
DEV Deva 67.04 46 P **P** **19 45 38.5 +0.2**
PUNG Punghina 67.04 48⇑P **P** **19 45 38.4 0.0**
PBUR Paburge 67.06 35 *e*P **P** **19 45 40.5 +2.2**
MARR Marisel-Cluj 67.20 46⇑P **P** **19 45 39.5 -0.1**
SRE Strehaia 67.24 48⇑P **P** **19 45 39.9 +0.2**
SRE Strehaia 67.24 48 P **P** **19 45 39.8 +0.2**
EFI East Falkland 67.36 185 P **P** **19 45 40.6 +0.6**
EFI East Falkland 67.36 185⇑*e*P **P** **19 45 44.3 +4.3**
EFI pmax pmax
comp=Z,81nm,1.2s
EFI MLR MLR
comp=Z,449nm,6.0s
DBO Dodson Butte 67.41 311 P **P** **19 45 41.8 +0.9**
DBO IAmb IAmb 19 45 47.9
comp=Z,142nm,1.8s
NOR Nord 67.50 5 *i* P **P** **19 45 39.6 -1.1**
NOR IAmb IAmb 19 45 51.0
comp=Z,88nm,1.4s
LOT Lotru 67.64 47⇓P **P** **19 45 42.4 +0.1**
K02D Willamette Mer 67.72 310 IAmb IAmb 19 45 46.0
comp=Z,89nm,1.3s
KSXB Camp Six Broad 67.90 309 P **P** **19 45 44.5 +0.5**
KRMB Red Mountain 67.93 309 IAmb IAmb 19 45 48.0
comp=Z,72nm,1.1s
TNR Turnu Rosu 68.00 47⇑P **P** **19 45 44.4 -0.1**
TNR Turnu Rosu 68.00 47 P **P** **19 45 44.4 -0.1**
ARCR ARCALIA 68.06 45⇑P **P** **19 45 44.6 -0.2**
TRO Tromso 68.16 21 *e*P **P** **19 45 46.1 +1.2**
TRO IAmb IAmb 19 45 47.4
comp=Z,198nm,1.4s
PABE Paberze 68.16 36 IAmb IAmb 19 45 48.6
comp=Z,64nm,1.1s
PABE Paberze 68.16 36 *e*P **P** **19 45 45.3 0.0**
ARR Arges 68.23 47⇓P **P** **19 45 45.7 -0.4**
VAF Ylstaro 68.33 28 *e*P **P** **19 45 46.8 +0.7**
BUR08 Bucovina Ar. S 68.64 45 IAmb IAmb 19 45 53.5
comp=Z,89nm,1.4s
JETT Jettan, Norway 68.65 21 *e*P **P** **19 45 49.4 +1.3**
JETT IAmb IAmb 19 45 53.1
comp=Z,43nm,0.8s
BURAR Bucovina Array 68.65 45⇓P **P** **19 45 48.7 +0.1**
BURAR Bucovina Array 68.65 45 P **P** **19 45 48.7 +0.1**
KOTAN Kotaneelee Air 68.72 329 P **P** **19 45 49.9 +1.2**
baz=96,SNR=42
DOPR Dopca 68.77 46⇑P **P** **19 45 49.1 -0.2**
WRGLY Wrigley 68.80 332 P **P** **19 45 49.2 +0.2**
baz=98,SNR=33
MEF Metsahovi 68.80 31 *e*P **P** **19 45 49.7 +0.5**
IDI Anoyia 68.87 58 LR LR 20 14 17.2
comp=Z,231nm,20.7s,baz=296,slow=34
CBB Campbell River 68.89 318 IAmb IAmb 19 45 52.6
comp=Z,96nm,1.0s
RDO Rodhopi 69.02 52 IAmb IAmb 19 45 54.6
comp=Z,95nm,1.3s
OZUR 69.05 46⇑P **P** **19 45 50.7 -0.4**
MLR Muntele Rosu 69.17 47 LR LR 20 12 27.8
comp=Z,187nm,22.0s,baz=264,slow=33
MLR Muntele Rosu 69.17 47⇑P **P** **19 45 52.1 +0.2**
MLR Muntele Rosu 69.17 47 P **P** **19 45 52.1 +0.2**
MLR Muntele Rosu 69.17 47 P **P** **19 45 52.1 +0.2**
comp=Z,112nm,1.4s,comp=Z,1µm
MLR pP **sP** **19 45 54.9 0.0**
comp=Z,112nm,1.4s,comp=Z,1µm

ELND	Elena	69.20	50	⇑P		P	19 45 52.2 +0.2
TOAD	Toad River Com	69.21	327	P		P	19 45 52.5 +0.7
	baz=94,SNR=47						
TURR	Turia	69.21	46	⇑P		P	19 45 51.6 -0.4
KEF	Keuruu	69.23	29	eP		P	19 45 52.2 +0.4
PRAR	RASCA	69.33	45	⇓P		P	19 45 52.9 +0.1
COVR	Voineasa-Covas	69.34	46	⇓P		P	19 45 52.5 -0.4
ONER	Baraj Valea Uz	69.47	46	⇓P		P	19 45 53.8 +0.2
KMPD	K-Podol'skiy	69.48	44	P		P	19 45 52.5 -1.1
	comp=Z,11µm,1.2s,comp=Z,105µm						
KTK1	Kautokeino	69.52	22	eP		P	19 45 54.8 +1.3
KTK1				IAmb		IAmb	19 45 57.2
	comp=Z,44nm,1.1s						
ARBE	Arbavere	69.53	32	eP		P	19 45 54.2 +0.5
TESR	Tescani	69.64	46	⇑P		P	19 45 54.1 -0.6
PLOR3	Plostina Array	69.65	46	pP		pP	19 45 57.1 +0.1
	comp=Z,35nm,1.2s						
PLOR	Plostina	69.66	46	⇑P		P	19 45 54.4 -0.4
PLOR	Plostina	69.66	46	P		P	19 45 54.4 -0.4
LIRD	Liard River Hi	69.69	328	P		P	19 45 55.7 +1.0
	baz=94						
VRI	Vrincioaia	69.71	46	⇑P		P	19 45 54.7 -0.4
VRI	Vrincioaia	69.71	46	P		P	19 45 54.7 -0.4
VRI	Vrincioaia	69.71	46	P		P	19 45 54.7 -0.4
	comp=Z,56nm,1.3s,comp=Z,938nm						
VRI				pP		pP	19 45 57.7 +0.4
	comp=Z,56nm,1.3s,comp=Z,938nm						
FINES	FINESS Array B	69.73	30	P		P	19 45 54.2 -0.7
	comp=Z,18nm,0.8s,baz=232,slow=2.6,SNR=23						
FINES				LR		LR	20 10 34.1
	comp=Z,1µm,21.8s,baz=268,slow=31						
	comp=Z,18nm,0.8s						
NACGM	Naroch	69.74	37	⇓iP		P	19 45 54.9 -0.2
	comp=Z,66nm,1.0s,baz=268						
VSU	Vasula	69.86	33	⇓iP		P	19 45 54.9 -0.8
VSU				pmax		pmax	
	comp=Z,75nm,1.0s						
VSU				MLR		MLR	
	comp=Z,133nm,5.0s						
ODBI	Odobesti	69.94	47	⇑P		P	19 45 55.9 -0.6
C36M	Paulatuk	69.94	339	P		P	19 45 57.2 +1.1
	baz=99						
HAMF	Hammerfest	69.97	20	eP		P	19 45 57.5 +1.4
SPA0	Spitsbergen Ar	70.04	12	eP		P	19 45 57.8 +1.1
SPITS	Spitsbergen Ar	70.04	12	P		P	19 45 56.4 -0.2
	comp=Z,14nm,0.9s,baz=231,slow=6.9,SNR=2.7						
SPITS				LR		LR	20 10 48.0
	comp=Z,591nm,18.0s,baz=224,slow=31						
	comp=Z,14nm,0.9s						
MI28	Mi28,Pidlybu	70.24	41	P		P	19 45 58.0 -0.2
	comp=Z,420nm,1.0s,comp=Z,12µm						
LUBAR	Lubar, Ukraine	70.31	42	P		P	19 45 57.6 -1.1
MNK	Minsk	70.38	37	iP		P	19 45 58.3 -0.7
	comp=E,9.0nm,1.2s						
MNK				iP		P	19 45 58.3 -0.7
	comp=N,62nm,1.2s						
MNK				iP		P	19 45 58.3 -0.7
	comp=Z,89nm,1.0s,baz=269						
MNK				iPP		PP	19 48 32.7 -1.9
MNK				iPPP		PPP	19 50 14.0
MNK				iS		S	19 55 11.1 -0.3
MNK				iSS		SS	19 59 43.2 +1.5
MNK				iSSS		SSS	20 03 00.5
MNK				iLQ		LQ	20 11 07.0
MNK				iLR		LR	20 13 53.6
MNK				iLRM		MLR	20 15 53.8
	comp=N,610nm,16.4s						
MNK				iLRM		MLR	20 16 00.6
	comp=Z,643nm,15.7s						
MNK				iLRM		MLR	20 17 50.1
	comp=E,241nm,17.3s						
MNK	Minsk	70.38	37	iP		P	19 45 58.2 -0.7
MNK				i			19 48 32.7
MNK				iPPP		PPP	19 50 13.9
MNK				iS		S	19 55 11.1 -0.3
MNK				iSS		SS	19 59 43.2 +1.5
MNK				pmax		pmax	
	comp=E,9.0nm,1.2s						
MNK				pmax		pmax	
	comp=Z,89nm,1.0s						
MNK				pmax		pmax	
	comp=N,62nm,1.2s						
MNK				MLR		MLR	
	comp=E,241nm,17.0s						
ARA0	ARCESS Array S	70.40	21	eP		P	19 45 59.0 0.0
ARA0				IAmb		IAmb	19 46 00.7
	comp=Z,85nm,1.3s						
ARCES	ARCESS Array B	70.40	21	P		P	19 45 59.0 +0.1
	comp=Z,26nm,0.9s,baz=254,slow=6.1,SNR=74						
ARCES				LR		LR	20 09 59.1
	comp=Z,916nm,20.5s,baz=264,slow=30						
	comp=Z,26nm,0.9s						
ICOR	Ion Corvin	70.54	48	⇓P		P	19 45 59.4 -0.8
MI30	MI30,Zelenitsa	70.57	41	P		P	19 45 59.5 -0.8
	comp=Z,82nm,1.1s						
BBB	Bella Bella	70.63	320	LR		LR	20 14 32.1
	comp=Z,1µm,21.4s,baz=88,slow=34						
TLBR	Topalu	70.70	48	⇑P		P	19 46 00.4 -0.7
KARP	Karpathos	70.70	57	eP		P	19 46 00.9 -0.6
KARP	Karpathos	70.70	57	P		P	19 46 00.8 -0.6
	comp=Z,142nm,1.3s						
CFR	Carcaliu	70.73	47	⇑P		P	19 46 00.8 -0.5
CFR	Carcaliu	70.73	47	P		P	19 46 00.8 -0.5
SORM	Soroca	70.75	44	⇑P		P	19 46 00.6 -0.8
SORM	Soroca	70.75	44	P		P	19 46 00.5 -0.8
A36M	Sachs Harbour	70.75	341	IAmb		IAmb	19 46 02.6
	comp=Z,75nm,0.8s						
A36M				IAms_20		IAms_20	20 13 49.1
	comp=Z,2µm,22.0s						
A36M	Sachs Harbour	70.75	341	P		P	19 46 01.2 +0.2
	baz=99,SNR=56						
TPGR	Topolog	70.94	47	⇑P		P	19 46 02.6 -0.1
KEV	Kevo	70.95	21	P		P	19 46 01.9 -0.2
KEV	Kevo	70.95	21	P		P	19 46 02.0 -0.2
KEV				pmax		pmax	
	comp=Z,202nm,1.5s						
MFTR	Murfatlar	70.99	48	⇑P		P	19 46 03.5 +0.6
BAND	Balkesir-Ban	71.01	52	⇑P		P	19 46 03.8 +0.6
WTLY	Watson Lake, Y	71.09	329	P		P	19 46 04.2 +0.9
	baz=92						
MILM	Milestii Mici	71.11	45	⇑P		P	19 46 03.6 -0.1
MILM	Milestii Mici	71.11	45	P		P	19 46 03.5 -0.1
KIEV	Kiev	71.22	41	P		P	19 46 02.3 -1.9
KIEV	Kiev	71.22	41	⇓P		P	19 46 03.5 -0.8
KIEV	Kiev	71.22	41	P		P	19 46 03.4 -0.8
KIEV	Kiev	71.22	41	P		P	19 46 03.6 -0.6
	comp=Z,92nm,1.7s						
AKASG	Malin Array Be	71.23	41	P		P	19 46 03.4 -0.9
	comp=Z,6.3nm,0.6s,baz=274,slow=5.2,SNR=33						
AKASG				LR		LR	20 14 48.0
	comp=Z,440nm,18.2s,baz=262,slow=34						
	comp=Z,6.3nm,0.6s						
AKBB	Malin Array Si	71.23	41	deP		P	19 46 02.9 -1.4
AKBB				pmax		pmax	
	comp=Z,26nm,1.0s						
AKBB				MLR		MLR	
	comp=Z,306nm,13.0s						
AKBB	Malin Array Si	71.23	41	P		P	19 46 03.6 -0.7
MG03	Isla Dawson	71.37	193	P		P	19 46 05.0 +0.2
MG03				IAmb		IAmb	19 46 15.9
	comp=Z,76nm,0.8s						
DLBC	Dease Lake	71.70	327	P		P	19 46 07.9 +0.8
DLBC				IAmb		IAmb	19 46 10.6
	comp=Z,113nm,1.1s						
DLBC	Dease Lake	71.70	327	LR		LR	20 16 46.9
	comp=Z,941nm,18.6s,baz=87,slow=35						
DLBC	Dease Lake	71.70	327	P		P	19 46 08.9 +1.9
	baz=90,SNR=31						
U35K	Hyder	71.71	324	P		P	19 46 08.7 +1.6
	baz=89						
PUL	Pulkovo	71.75	32	⇓eP		P	19 46 08.4 +1.2
PUL				pmax		pmax	
	comp=Z,97nm,0.8s						
PUL				MLR		MLR	
	comp=Z,275nm,16.0s						
VADS	Vadso	71.80	21	eP		P	19 46 08.0 +0.7
VADS				IAmb		IAmb	19 46 11.1
	comp=Z,67nm,1.1s						
T35M	Bob Quinn	71.82	325	IAmb		IAmb	19 46 11.7
	comp=Z,107nm,1.1s						
T35M	Bob Quinn	71.82	325	P		P	19 46 10.1 +2.3
	baz=89,SNR=23						
RUBB	Prince Rupert	71.88	323	IAmb		IAmb	19 46 11.6
	comp=Z,111nm,1.6s						
R33M	Jennings River	72.18	328	IAmb		IAmb	19 46 13.4
	comp=Z,94nm,1.1s						
R33M	Jennings River	72.18	328	P		P	19 46 11.6 +1.6
	baz=90						
JOF	Joensuu	72.25	28	eP		P	19 46 09.6 -0.6
S34M	Telegraph Cree	72.29	326	IAmb		IAmb	19 46 14.1
	comp=Z,83nm,1.1s						
S34M	Telegraph Cree	72.29	326	P		P	19 46 12.1 +1.6
	baz=89,SNR=18						
MMPY	Sheldon Lake,	72.32	331	P		P	19 46 11.7 +1.0
	baz=90,SNR=15						
V35K	Ketchikan	72.63	324	IAmb		IAmb	19 46 15.8
	comp=Z,182nm,1.9s						
V35K	Ketchikan	72.63	324	P		P	19 46 14.1 +1.5
	baz=88						
Q32M	Nakina River	72.86	327	P		P	19 46 15.0 +0.8
Q32M				IAmb		IAmb	19 46 17.6
	comp=Z,86nm,1.0s						
Q32M	Nakina River	72.86	327	P		P	19 46 16.0 +1.9
	baz=88						
WRAK	Wrangell Islan	73.00	325	P		P	19 46 15.9 +1.2
	baz=87						
P33M	Teslin, Yukon	73.10	329	IAmb		IAmb	19 46 18.1
	comp=Z,62nm,0.9s						
P33M	Teslin, Yukon	73.10	329	P		P	19 46 16.7 +1.3
	baz=88,SNR=32						
ISP	Isparta	73.14	55	⇑eP		P	19 46 15.4 -0.7
ISP				pmax		pmax	
	comp=Z,33nm,0.9s						
APA	Apatity	73.16	23	⇓iP		P	19 46 14.6 -0.9
APA				i			19 46 40.0
APA				pmax		pmax	
	comp=Z,33nm,1.0s						
APA				MLR		MLR	
	comp=Z,1µm,22.0s						
N32M	Quiet Lake	73.20	330	IAmb		IAmb	19 46 18.4
	comp=Z,81nm,1.2s						
N32M	Quiet Lake	73.20	330	P		P	19 46 16.6 +0.7
	baz=88						
INK	Inuvik	73.28	337	LR		LR	20 16 56.7
	comp=Z,2µm,19.6s,baz=83,slow=35						
INK	Inuvik	73.28	337	P		P	19 46 16.5 +0.3
	baz=90,SNR=115						
FARO	Faro, Yukon	73.29	331	P		P	19 46 17.4 +0.9
	baz=88,SNR=14						
F31M	Tsiigehtchic	73.36	336	P		P	19 46 15.6 -1.1
F31M	Tsiigehtchic	73.36	336	P		P	19 46 16.8 +0.1
	baz=90,SNR=104						
U33K	Whale Pass	73.44	325	P		P	19 46 18.5 +1.1
	baz=87						
CRAG	Craig	73.48	324	P		P	19 46 18.8 +1.2
	baz=86						
P32M	Atlin	73.58	328	P		P	19 46 19.4 +1.3
	baz=87,SNR=17						
LVZ	Lovozero	73.63	23	P		P	19 46 18.4 +0.1
H31M	Peel River	73.63	335	IAmb		IAmb	19 46 20.4
	comp=Z,108nm,1.1s						
H31M				IAms_20		IAms_20	20 18 00.8
	comp=Z,2µm,19.0s						
H31M	Peel River	73.63	335	P		P	19 46 18.8 +0.4
	baz=88,SNR=47						
M31M	Drury Creek, Y	73.78	331	IAmb		IAmb	19 46 22.2
	comp=Z,169nm,1.8s						
M31M	Drury Creek, Y	73.78	331	P		P	19 46 20.4 +1.1
	baz=87,SNR=20						
R32K	Eaglecrest	74.07	327	P		P	19 46 22.5 +1.5
	baz=86,SNR=7.7						
WHY	Whitehorse	74.10	329	P		P	19 46 20.9 -0.4
WHY	Whitehorse	74.10	329	P		P	19 46 22.1 +0.7
	baz=86,SNR=11						
F30M	Barrier River	74.15	337	P		P	19 46 22.1 +0.8
	baz=88						
S32K	Killisnoo	74.15	326	P		P	19 46 23.5 +2.0
	baz=86,SNR=9.2						
G30M	tAoh Zraii Nji	74.34	336	IAms_20		IAms_20	20 16 29.0
	comp=Z,2µm,22.0s						
G30M	tAoh Zraii Nji	74.34	336	P		P	19 46 22.7 +0.2
	baz=87						
MAYO	Mayo, Yukon	74.39	332	IAmb		IAmb	19 46 40.3
	comp=Z,112nm,0.9s						
MAYO	Mayo, Yukon	74.39	332	P		P	19 46 24.1 +1.2
	baz=86,SNR=6.9						
SKAG	Skagway	74.40	328	IAmb		IAmb	19 46 26.2
	comp=Z,96nm,0.9s						
SKAG	Skagway	74.40	328	P		P	19 46 24.7 +1.8
	baz=86,SNR=26						
N31M	Braeburn, Yuko	74.48	330	IAmb		IAmb	19 46 26.1
	comp=Z,120nm,0.9s						
N31M	Braeburn, Yuko	74.48	330	P		P	19 46 24.6 +1.2
	baz=86,SNR=26						
I30M	Mount Dempster	74.50	334	P		P	19 46 23.0 -0.6
I30M				IAmb		IAmb	19 46 28.0
	comp=Z,66nm,0.8s						
I30M	Mount Dempster	74.50	334	P		P	19 46 23.9 +0.3
	baz=86						
J30M	Hart River	74.53	333	P		P	19 46 24.5 +0.7
	baz=86						
EPYK	Eagle Plains	74.58	335	IAmb		IAmb	19 46 25.7
	comp=Z,81nm,1.1s						
EPYK	Eagle Plains	74.58	335	P		P	19 46 24.2 +0.3
	baz=86,SNR=28						
SIT	Sitka	74.59	326	P		P	19 46 25.2 +1.1
	baz=85						
ANTO	Ankara	74.64	52	P		P	19 46 24.0 -0.9
ANTO				IAmb		IAmb	19 46 28.6
	comp=Z,100nm,1.4s						
ANTO	Ankara	74.64	52	⇓P		P	19 46 25.5 +0.7
ANTO	Ankara	74.64	52	P		P	19 46 25.5 +0.7
O30N	Mendenhall	74.69	329	IAmb		IAmb	19 46 27.6
	comp=Z,96nm,1.0s						
O30N	Mendenhall	74.69	329	P		P	19 46 26.0 +1.4
	baz=86,SNR=41						
TSUM	Tsumeb	74.84	115	LR		LR	20 12 18.0
	comp=Z,2µm,19.9s,baz=286,slow=30						
M30M	Minto, Yukon	74.88	331	P		P	19 46 26.5 +0.8
	baz=85,SNR=41						
E29M	Blow River	74.90	337	P		P	19 46 26.0 +0.4
	baz=86						
PLBC	Pleasant Camp	74.93	328	P		P	19 46 27.9 +1.8
	baz=85,SNR=8.4						
S31K	Pelican	75.00	327	IAmb		IAmb	19 46 29.8
	comp=Z,71nm,1.1s						
S31K	Pelican	75.00	327	P		P	19 46 28.0 +1.6
	baz=85						
G29M	Pine Creek	75.06	336	IAmb		IAmb	19 46 28.6
	comp=Z,136nm,1.2s						
G29M	Pine Creek	75.06	336	P		P	19 46 27.0 +0.4
	baz=86						
K29M	Barlow Dome	75.10	333	IAmb		IAmb	19 46 31.5
	comp=Z,66nm,0.9s						
K29M	Barlow Dome	75.10	333	P		P	19 46 27.9 +0.8
	baz=85,SNR=40						
N30M	Aishikik Lake	75.11	330	P		P	19 46 26.9 -0.2
N30M	Aishikik Lake	75.11	330	P		P	19 46 28.0 +0.9
	baz=85						
D28M	Stokes Point	75.13	338	P		P	19 46 27.9 +1.0
	baz=86						
P30M	Million Dollar	75.17	329	P		P	19 46 29.3 +1.8
	baz=85						
H29M	Whitestone	75.25	335	P		P	19 46 28.3 +0.5
	baz=85						
BR106	Keskin Array S	75.29	52	P		P	19 46 28.3 -0.4
	comp=Z,43nm,1.1s,comp=Z,353nm						
BR131	Keskin Array S	75.31	52	diP		P	19 46 28.0 -0.8
BRTR	Keskin Array B	75.31	52	P		P	19 46 27.5 -1.3
BRTR	Keskin Array B	75.31	52	P		P	19 46 28.6 -0.2
	comp=Z,27nm,1.0s,baz=257,slow=5.5,SNR=55						
BRTR				LR		LR	20 16 44.3
	comp=Z,189nm,21.9s,baz=282,slow=34						
	comp=Z,27nm,1.0s						
J29N	Klondike Camp	75.35	333	IAmb		IAmb	19 46 41.9
	comp=Z,79nm,0.9s						
J29N	Klondike Camp	75.35	333	P		P	19 46 29.6 +1.2
	baz=85,SNR=21						
OBN	Obninsk	75.36	36	P		P	19 46 28.3 -0.2
OBN				IAmb		IAmb	19 46 32.5
	comp=Z,131nm,1.1s						
OBN				IAms_20		IAms_20	20 15 39.1
	comp=Z,1µm,20.0s						
OBN	Obninsk	75.36	36	LR		LR	20 15 51.5
	comp=Z,1µm,19.4s,baz=290,slow=33						
OBN	Obninsk	75.36	36	⇑P		P	19 46 29.1 +0.5
OBN	Obninsk	75.36	36	diP		P	19 46 28.4 -0.2
OBN				i			19 46 36.5
OBN				e			19 46 41.9
OBN				e			19 49 14.5
OBN				ePPP		PPP	19 51 02.3
OBN				eS		S	19 56 07.9 -0.2
OBN				eSS		SS	20 00 58.1 +0.3
OBN				pmax		pmax	
	comp=Z,138nm,1.1s						
HYT	Haines Junctio	75.37	330	IAmb		IAmb	19 46 31.9
	comp=Z,80nm,1.1s						
HYT	Haines Junctio	75.37	330	P		P	19 46 30.4 +1.7
	baz=84,SNR=27						
L29M	L29M	75.44	332	IAmb		IAmb	19 46 34.6
	comp=Z,76nm,0.9s						
L29M	L29M	75.44	332	P		P	19 46 29.8 +0.8
	baz=84						
E28M	Babbage River	75.48	338	IAms_20		IAms_20	20 18 08.6
	comp=Z,1µm,20.0s						
E28M	Babbage River	75.48	338	P		P	19 46 29.3 +0.3
	baz=84						
KIRS	Kirsehir-Merke	75.61	53	⇑P		P	19 46 31.2 +0.8
P29M	Windy Craggy	75.61	328	IAmb		IAmb	19 46 33.0
	comp=Z,66nm,0.9s						
P29M	Windy Craggy	75.61	328	P		P	19 46 31.2 +1.2
	baz=84,SNR=15						
M29M	Somme Creek	75.66	331	P		P	19 46 30.6 +0.2
M29M				IAmb		IAmb	19 46 43.1
	comp=Z,54nm,0.9s						
M29M	Somme Creek	75.66	331	P		P	19 46 31.2 +0.8
	baz=84						
F28M	Old Crow	75.71	337	IAmb		IAmb	19 46 32.4
	comp=Z,79nm,1.1s						
F28M	Old Crow	75.71	337	P		P	19 46 30.7 +0.3
	baz=84,SNR=50						
WIN	Windhoek	75.75	119	IAms_20		IAms_20	20 13 46.5
	comp=Z,1µm,19.0s						
YUK6	Outpost Mounta	75.78	330	P		P	19 46 32.5 +1.3
	baz=84,SNR=21						
YUK4	Talbot Arm	75.87	330	P		P	19 46 32.4 +0.7
	baz=84,SNR=24						
MOS	Moscow	75.89	36	eP		P	19 46 29.6 -2.0
MOS				e			19 46 40.5
MOS				pmax		pmax	
	comp=Z,198nm,1.5s						
MOS				pmax		pmax	
	comp=E,96nm,1.3s						
MOS				pmax		pmax	
	comp=N,75nm,1.2s						
MOS				pmax		pmax	
	comp=Z,300nm,1.6s						
DAWY	Dawson	75.90	333	IAmb		IAmb	19 46 33.8
	comp=Z,111nm,1.2s						
DAWY	Dawson	75.90	333	P		P	19 46 32.2 +0.6
	baz=84,SNR=66						
D27M	Malcolm River	75.93	338	IAmb		IAmb	19 46 44.6
	comp=Z,76nm,1.2s						
D27M				IAms_20		IAms_20	20 19 18.9
	comp=Z,1µm,20.0s						
D27M	Malcolm River	75.93	338	P		P	19 46 32.7 +1.1
	baz=83						
O29M	Mount Kennedy	75.95	329	IAmb		IAmb	19 46 35.3
	comp=Z,102nm,1.1s						
O29M	Mount Kennedy	75.95	329	P		P	19 46 33.4 +1.3
	baz=83						
I28M	Miner Creek	75.97	334	P		P	19 46 31.1 -0.9
I28M	Miner Creek	75.97	334	P		P	19 46 32.3 +0.3
	baz=83						
DIKM	Dikmen	76.25	50	⇑P		P	19 46 33.8 -0.1
KLMR	Klimovskoe	76.25	30	diP		P	19 46 33.1 -0.4
KLMR				S		S	19 56 22.2 +4.4
KLMR				pmax		pmax	
	comp=Z,207nm,1.2s						
E27K	Coleen River	76.29	337	IAmb		IAmb	19 46 35.9
	comp=Z,74nm,1.0s						
E27K	Coleen River	76.29	337	P		P	19 46 34.4 +0.7
	baz=82						
YUK8	Steele Glacier	76.41	330	P		P	19 46 36.0 +1.2
	baz=82						
PNL	Peninsula	76.44	329	P		P	19 46 36.4 +1.7
	baz=82,SNR=6.2						
G27K	Doyon Strip	76.49	336	IAms_20		IAms_20	20 17 45.4
	comp=Z,2µm,21.0s						
G27K	Doyon Strip	76.49	336	P		P	19 46 35.5 +0.6
	baz=82						
BCPM	Bancas Point	76.52	329	IAmb		IAmb	19 46 38.2
	comp=Z,65nm,1.1s						
EGAK	Eagle	76.57	334	P		P	19 46 35.1 -0.2
	baz=82,SNR=27						
I27K	Kandik River	76.65	335	P		P	19 46 35.9 +0.1
	baz=82						
YUK3	Moose Creek	76.67	331	P		P	19 46 36.9 +0.7
	baz=82,SNR=24						
O28M	Mount Upton	76.69	330	P		P	19 46 37.7 +1.3
	baz=82						
BVCY	Beaver Creek	76.77	331	P		P	19 46 37.6 +1.1
	baz=82,SNR=30						
PINM	Pinnacle	76.81	329	P		P	19 46 37.5 +0.6
	baz=82						
C27K	Jago River	76.84	339	IAmb		IAmb	19 46 39.7
	comp=Z,144nm,1.1s						
C27K	Jago River	76.84	339	P		P	19 46 37.9 +1.1
	baz=81						
LOGN	Logan Glacier	77.07	330	IAmb		IAmb	19 46 41.6
	comp=Z,100nm,1.0s						
LPSR	Galich'ya Gora	77.08	39	diP		P	19 46 38.0 -0.4
LPSR				pmax		pmax	
	comp=Z,157nm,1.0s						
BCAR	Beaver Creek A	77.09	332	P		P	19 46 38.8 +0.4
L27K	Beaver Creek,	77.11	332	IAmb		IAmb	19 46 41.0
	comp=Z,80nm,0.8s						
L27K	Beaver Creek,	77.11	332	P		P	19 46 39.5 +1.1
	baz=81,SNR=57						
C26K	Camden Bay	77.20	339	P		P	19 46 40.0 +1.3
	baz=80						
CTGM	Chitina Glacie	77.21	330	IAmb		IAmb	19 46 42.5
	comp=Z,111nm,1.0s						
CTG	Chitna Glacier	77.21	330	P		P	19 46 40.6 +1.4
	baz=81,SNR=21						
M27K	Edge Creek, AK	77.25	331	IAmb		IAmb	19 46 42.1
	comp=Z,84nm,1.0s						
M27K	Edge Creek, AK	77.25	331	P		P	19 46 40.5 +1.1
	baz=81,SNR=34						
G26K	Porcupine Rive	77.30	336	P		P	19 46 40.1 +0.8
	baz=80						
F26K	Sheenjek River	77.31	337	P		P	19 46 40.6 +1.1
	baz=80						
ANN	Anapa	77.32	47	eP		P	19 46 36.6 -3.3
ANN				e*PP		pP	19 46 39.8 -2.3
ANN				e			19 49 28.8
ANN				eS		S	19 56 25.5 -4.5
ANN				pmax		pmax	
	comp=Z,141nm,1.0s						
VORR	Voronezh	77.39	40	eP		P	19 46 39.8 -0.4
VORR				pmax		pmax	
	comp=Z,125nm,1.0s						
VSR	Storozhevoye	77.44	40	eP		P	19 46 39.4 -1.0
VSR				pmax		pmax	
	comp=Z,170nm,1.0s						
GRNC	Granite Creek	77.45	330	IAmb		IAmb	19 46 43.7
	comp=Z,80nm,1.1s						
BMAR	Burnt Mountain	77.53	337	P		P	19 46 40.6 -0.1
VORD	Divnogorie	77.56	40	eP		P	19 46 40.3 -0.8
VORD				pmax		pmax	
	comp=Z,90nm,1.0s						
J26L	Joseph Creek	77.64	334	P		P	19 46 41.8 +0.4
	baz=80						
MESA	MESA	77.64	329	P		P	19 46 41.7 +0.1
	baz=80						
M26K	Nabesna, AK	77.75	332	P		P	19 46 43.1 +1.0
	baz=80						
L26K	Log Cabin Wild	77.80	332	IAmb		IAmb	19 46 44.7
	comp=Z,57nm,0.9s						
L26K	Log Cabin Wild	77.80	332	P		P	19 46 43.2 +0.9
	baz=80,SNR=24						
MMAI	Mount Meron Ar	77.81	59	P		P	19 46 42.8 -0.3
	comp=Z,57nm,1.1s,baz=302,slow=4.8,SNR=15						
	comp=Z,57nm,1.1s

comp=Z,536nm,21.4s,baz=258,slow=35
CRQE Cirque 78.09 330 P P 19 46 45.2 +1.1
baz=80,SNR=5.1
CRQM Cirque 78.12 330 IAmb IAmb 19 46 46.8
comp=Z,78nm,1.1s
BALJ Balqa 78.18 60 IAmb IAmb 19 46 49.4
comp=Z,115nm,1.9s
H25L Birch Creek 78.23 336 P P 19 46 45.8 +1.3
baz=78
G25K Bearman Lake 78.24 336 P P 19 46 46.0 +1.4
baz=78
PRP Porcupine Dome 78.26 335 IAmb IAmb 19 46 47.3
comp=Z,76nm,1.0s
PRP Porcupine Dome 78.26 335 P P 19 46 45.8 +0.8
baz=78,SNR=29
GHAJ Ghor Haditha 78.27 61 IAmb IAmb 19 46 49.8
comp=Z,149nm,1.4s
GLB Gilahina Butte 78.31 331 IAmb IAmb 19 46 47.7
comp=Z,156nm,1.6s
RIDG Independent Ri 78.33 333 P P 19 46 45.2 -0.1
RIDG IAmb IAmb 19 46 50.0
comp=Z,68nm,0.9s
RIDG Independent Ri 78.33 333 P P 19 46 45.7 +0.4
baz=79,SNR=17
J25K Salcha River, 78.38 334 P P 19 46 46.1 +0.6
baz=78
BERG Berg Lake 78.46 330 IAmb IAmb 19 46 51.7
comp=Z,105nm,0.9s
C24K Franklin Bluff 78.53 339 IAMs_20 IAMs_20 20 19 55.5
comp=Z,1μm,21.0s
C24K Franklin Bluff 78.53 339 P P 19 46 47.4 +1.3
baz=76
KOOLE Kule 78.55 118 *i* P **P 19 46 46.8 -0.4**
N25K Chitina, Valde 78.65 331 IAmb IAmb 19 46 49.6
comp=Z,109nm,1.4s
N25K Chitina, Valde 78.65 331 P P 19 46 48.2 +1.1
baz=78,SNR=11
D24K Happy Valley 78.70 339 P P 19 46 47.8 +0.6
D24K IAmb IAmb 19 46 50.0
comp=Z,73nm,1.1s
D24K Happy Valley 78.70 339 P P 19 46 48.5 +1.3
baz=76
K24K Donnelly Dome 78.72 333 P P 19 46 47.7 +0.3
baz=78,SNR=20
HMT Hamilton 78.74 330 IAmb IAmb 19 46 53.0
comp=Z,79nm,0.8s
HARP HAARP 78.74 332 P P 19 46 48.5 +0.9
baz=78,SNR=27
F24K Squaw Lake 78.75 337 P P 19 46 49.0 +1.5
baz=77
PAX Paxson 78.77 332 P P 19 46 48.1 +0.4
baz=78,SNR=30
BMRM Bremner River 78.78 330 P P 19 46 48.7 +0.9
baz=78,SNR=9.2
G24K Hadweenzic Riv 78.78 336 IAmb IAmb 19 46 50.5
comp=Z,67nm,0.9s
G24K Hadweenzic Riv 78.78 336 P P 19 46 48.9 +1.2
baz=77
GRTLG Ghanzi 78.81 116 *i* P **P 19 46 48.2 -0.6**
E24K Your Creek 78.84 338 IAmb IAmb 19 46 51.4
comp=Z,140nm,1.1s
E24K Your Creek 78.84 338 P P 19 46 49.7 +1.7
baz=76
KAIM Kayak Island 78.90 329 P P 19 46 50.4 +2.0
baz=78
RAGM Ragged Mountai 78.93 330 IAmb IAmb 19 47 00.5
comp=Z,122nm,1.0s
IL31 78.98 334 IAmb IAmb 19 46 53.5
comp=Z,93nm,0.8s
ILAR Eielson Array 78.98 334 P P 19 46 49.4 +0.6
comp=Z,81nm,0.8s,baz=80,slow=4.6,SNR=260
comp=Z,81nm,0.8s
VRH Novokhopyorsk 79.02 40*d i* P **P 19 46 48.8 -0.4**
VRH pmax pmax
comp=Z,121nm,1.1s
HDA Harding Lake 79.09 334 P P 19 46 49.7 +0.4
baz=77,SNR=14
TOLK Toolik Lake Re 79.09 338 IAmb IAmb 19 46 52.2
comp=Z,185nm,1.6s
TOLK Toolik Lake Re 79.09 338 P P 19 46 50.6 +1.3
baz=75,SNR=31
POKR Poker Plat Res 79.13 335 IAmb IAmb 19 46 51.9
comp=Z,92nm,1.4s
POKR Poker Plat Res 79.13 335 P P 19 46 50.2 +0.6
baz=77,SNR=13
C23K Itkillik River 79.14 340 IAmb IAmb 19 46 52.8
C23K IAMs_20 IAMs_20 20 20 15.2
comp=Z,1μm,22.0s
C23K Itkillik River 79.14 340 P P 19 46 51.2 +1.7
baz=75
H24K Noodor Dome 79.14 335 IAmb IAmb 19 46 52.4
H24K IAMs_20 IAMs_20 20 19 08.9
comp=Z,930nm,20.0s
H24K Noodor Dome 79.14 335 P P 19 46 50.8 +1.1
baz=76
SOC Sochi 79.16 48 *e*P **P 19 46 49.8 -0.3**
SOC *e* 19 49 45.1
SOC *e*PPP PPP 19 51 34.2
SOC *e*S **S 19 56 51.1 +1.2**
SOC *e*SSS SSS 20 05 21.1
SOC pmax pmax
comp=Z,172nm,0.9s
E23K Chandalar 79.26 338 P P 19 46 51.5 +1.2
baz=75,SNR=50
M24K Tolsona, Glenn 79.27 332 IAmb IAmb 19 47 16.0
comp=Z,118nm,1.4s
M24K Tolsona, Glenn 79.27 332 P P 19 46 51.3 +0.9
baz=77
ERBR Yeremizino-Bor 79.28 45 *e*P **P 19 46 50.4 -0.4**
ERBR *e**PP **sP 19 46 54.6 +0.8**
ERBR *e*S **S 19 56 53.1 +2.0**
ERBR pmax pmax
comp=Z,228nm,1.3s
KLU Klutina 79.29 331 IAmb IAmb 19 47 04.0
comp=Z,88nm,1.2s
KLU Klutina 79.29 331 P P 19 46 51.7 +1.1
baz=77,SNR=8.9
COLA College 79.36 335 P P 19 46 50.9 +0.1
COLA IAmb IAmb 19 46 55.7
comp=Z,104nm,0.8s
COLA College 79.36 335 P P 19 46 51.4 +0.6
baz=76
COLA College 79.36 335 P P 19 46 51.9 +1.1
CCB Clear Creek Bu 79.40 334 IAmb IAmb 19 46 53.0
comp=Z,80nm,1.0s
D23K Nanushuk River 79.40 339 IAmb IAmb 19 46 54.3
comp=Z,100nm,1.3s
D23K Nanushuk River 79.40 339 P P 19 46 53.0 +2.1
baz=74
VSLR Vesyoloye 79.41 48*c i* P **P 19 46 52.4 +0.9**
VSLR pmax pmax
comp=Z,315nm,1.1s
VSLR MLR MLR
comp=Z,450nm,18.0s
EYAK Cordova Ski Ar 79.42 330 P P 19 46 51.6 +0.5
baz=77
WRH Wood River Hil 79.56 334 IAmb IAmb 19 46 56.6
comp=Z,83nm,0.8s
DHY Denali Highway 79.59 333 P P 19 46 52.8 +0.5
baz=76,SNR=13
LABN Labinsk 79.66 47 *e*P **P 19 46 50.5 -2.3**
LABN *e**PP **pP 19 46 54.0 -1.1**
LABN *e*S **S 19 56 52.9 -2.3**
LABN pmax pmax
comp=Z,65nm,1.5s
COLD Coldfoot 79.69 337 P P 19 46 53.8 +1.3
baz=74,SNR=51
KTUT Trabzon 79.70 50 ⇑P **P 19 46 53.1 0.0**
FID Port Fidalgo 79.72 330 P P 19 46 53.2 +0.3
FID IAmb IAmb 19 46 58.0
comp=Z,110nm,0.7s
G23K Bananza Creek 79.76 337 IAmb IAmb 19 46 56.1
comp=Z,99nm,1.1s
G23K Bananza Creek 79.76 337 P P 19 46 54.5 +1.4
baz=75
H23K Yukon River 79.81 336 IAmb IAmb 19 46 56.2
comp=Z,100nm,1.0s
H23K IAMs_20 IAMs_20 20 19 47.5
comp=Z,1μm,21.0s
H23K Yukon River 79.81 336 P P 19 46 54.7 +1.4
baz=75
HIN Hinchinbrook I 79.81 330 IAmb IAmb 19 46 56.1
comp=Z,164nm,1.0s
SCM Sheep Creek Mo 79.86 331 IAmb IAmb 19 46 58.9
comp=Z,74nm,0.9s
SCM Sheep Creek Mo 79.86 331 P P 19 46 54.8 +1.1
baz=76,SNR=12
WAT6 Susitna Watana 79.87 332 P P 19 46 54.2 +0.4
baz=76,SNR=21
I23K Minto, Yukon-K 79.92 335 IAmb IAmb 19 46 58.9
comp=Z,87nm,0.8s
I23K Minto, Yukon-K 79.92 335 P P 19 46 54.4 +0.6
baz=75,SNR=47
B22K Teshekpuk Lake 79.92 340 IAmb IAmb 19 46 59.4
comp=Z,136nm,0.9s
B22K IAMs_20 IAMs_20 20 20 22.1
comp=Z,1μm,22.0s
B22K Teshekpuk Lake 79.92 340 P P 19 46 55.0 +1.3
baz=72
NEA2 Nenana 79.94 334 IAmb IAmb 19 46 58.7
comp=Z,68nm,0.8s
NEA2 Nenana 79.94 334 P P 19 46 54.5 +0.5
baz=75,SNR=47
Q23K Middleton Isla 79.97 329 P P 19 46 54.6 +0.5
baz=76
GLI Glacier Island 79.98 330 P P 19 46 54.1 -0.2
GLI IAmb IAmb 19 46 56.8
comp=Z,78nm,0.9s
GLI Glacier Island 79.98 330 P P 19 46 55.0 +0.7
baz=76
E22K Anaktuvuk Pass 80.03 338 IAmb IAmb 19 46 57.0
comp=Z,121nm,1.2s
E22K Anaktuvuk Pass 80.03 338 P P 19 46 55.4 +1.0
baz=73
M23K Glacier View 80.06 331 P P 19 46 55.4 +0.7
baz=76,SNR=8.6
MCK McKinley 80.11 334 P P 19 46 55.4 +0.5
baz=75,SNR=23
D22K Ayikyak River 80.12 339 IAmb IAmb 19 47 00.6
comp=Z,98nm,0.8s
D22K Ayikyak River 80.12 339 P P 19 46 56.3 +1.5
baz=72
RND Reindeer 80.15 333 IAmb IAmb 19 46 58.7
comp=Z,302nm,1.8s
WAT1 Susitna Watana 80.17 333 P P 19 46 56.3 +0.9
baz=75
A22K Sinclair Lake 80.20 341 P P 19 46 56.5 +1.3
baz=71
KGCAE Kacgae 80.21 117 *i* P **P 19 46 55.8 -0.5**
BWN Browne 80.22 334 IAmb IAmb 19 47 00.1
comp=Z,154nm,0.9s
G22K Bettles 80.27 337 P P 19 46 56.8 +1.1
baz=73
SML Sawmill 80.33 332 P P 19 46 56.8 +0.6
baz=75
F22K John River 80.35 338 P P 19 46 56.7 +0.6
baz=73
P23K Montague Islan 80.35 330 P P 19 46 56.5 +0.3
baz=76
KNK Knik Glacier 80.49 331 P P 19 46 57.6 +0.6
baz=75,SNR=9.7
MLY Manley 80.51 335 P P 19 46 56.6 -0.5
MLY Manley 80.51 335 P P 19 46 57.8 +0.7
baz=74,SNR=47
H22K Ishtalitna Cre 80.52 336 P P 19 46 58.4 +1.4
baz=73
B21K Ikpikpuk River 80.54 340 IAmb IAmb 19 46 60.0
comp=Z,113nm,1.4s
B21K Ikpikpuk River 80.54 340 P P 19 46 58.5 +1.4
baz=71
PWL Port Wells 80.58 331 IAmb IAmb 19 47 08.9
comp=Z,69nm,0.9s
PWL Port Wells 80.58 331 P P 19 46 58.3 +0.8
baz=75,SNR=6.1
A21K Barrow 80.59 342 P P 19 46 58.4 +1.1
baz=69
GHO Glory Hole Cre 80.61 332 IAmb IAmb 19 47 02.8
comp=Z,78nm,0.8s
E21K Killik River 80.70 339 IAMs_20 IAMs_20 20 21 23.0
comp=Z,1μm,19.0s
E21K Killik River 80.70 339 P P 19 46 58.7 +0.7
baz=71
C21K Knifeblade Rid 80.75 339 P P 19 46 59.7 +1.4
baz=71,SNR=28
PMR Palmer 80.76 331 IAmb IAmb 19 47 00.7
comp=Z,92nm,1.2s
PMR Palmer 80.76 331 P P 19 46 59.7 +1.3
baz=74,SNR=9.3
TRF Thorofare Moun 80.76 333 P P 19 46 59.3 +0.7
baz=74,SNR=61
PMSA Palmer Station 80.84 186 LR LR 20 23 53.1
comp=Z,382nm,19.4s,baz=24,slow=36
BPAW Bear Paw Mtn. 80.88 334 P P 19 46 58.9 -0.1
BPAW IAmb IAmb 19 47 03.7
comp=Z,73nm,0.8s
BPAW Bear Paw Mtn. 80.88 334 P P 19 46 59.5 +0.4
baz=73,SNR=45
F21K Alatna River 80.92 337 P P 19 47 00.1 +0.9
baz=72
I21K Tanana 80.97 335 IAmb IAmb 19 47 01.9
comp=Z,291nm,1.9s
I21K Tanana 80.97 335 P P 19 47 00.4 +0.9
baz=73
CKGRV CKGRV 81.05 115 *i* P **P 19 47 00.4 -0.5**
KSANE Kasane 81.05 111 *i* P **P 19 47 03.3 +2.4**
MBAR Mbarara 81.14 93 P **P 19 47 00.0 -1.6**
MBAR IAmb IAmb 19 47 06.0
comp=Z,105nm,1.6s
MBAR Mbarara 81.14 93 LR LR 20 23 14.2
comp=Z,449nm,18.9s,baz=287,slow=36
MBAR Mbarara 81.14 93 P **P 19 47 00.0 -1.6**
MBAR pmax pmax
comp=Z,105nm,1.6s
G21K Allakaket 81.15 337 IAmb IAmb 19 47 06.2
comp=Z,117nm,0.8s
G21K Allakaket 81.15 337 P P 19 47 01.8 +1.4
baz=71
H21K Melozitna Rive 81.15 336 IAmb IAmb 19 47 03.2
comp=Z,89nm,1.1s
H21K IAMs_20 IAMs_20 20 20 38.5
comp=Z,1μm,21.0s
H21K Melozitna Rive 81.15 336 P P 19 47 01.9 +1.4
baz=72
M22K Willow 81.17 332 P P 19 47 01.3 +0.7
baz=74,SNR=13
RC01 Rabbit Creek A 81.17 331 IAmb IAmb 19 47 03.2
comp=Z,79nm,1.1s
RC01 Rabbit Creek A 81.17 331 P P 19 47 01.6 +1.0
baz=74
GOF Gofitskoye 81.18 46*ce*P **P 19 47 01.1 +0.1**
KIV Kislovodsk 81.18 47 P P 19 47 00.0 -1.2
KIV IAmb IAmb 19 47 06.2
comp=Z,122nm,1.1s
KIV Kislovodsk 81.18 47 ⇑P **P 19 47 00.9 -0.2**
KIV Kislovodsk 81.18 47 *e*P **P 19 47 00.0 -1.2**
KIV *e*S **S 19 57 10.2 -1.2**
KIV pmax pmax
comp=Z,88nm,1.1s
KIV pmax pmax
comp=Z,85nm,4.1s
KIV MLR MLR
comp=Z,245nm,19.0s
KVAR Kislovodsk Arr 81.19 47 LR LR 20 22 26.4
comp=Z,124nm,18.2s,baz=0.0,slow=35
SHA1 Shidzhatmaz 81.21 47*d i* P **P 19 47 01.9 +0.4**
B20K Meade River 81.23 341 IAmb IAmb 19 47 03.8
comp=Z,120nm,1.1s
B20K Meade River 81.23 341 P P 19 47 02.0 +1.2
baz=69
SEW Seward 81.31 330 P P 19 47 02.2 +0.8
baz=74
O22K Cooper Landing 81.34 330 P P 19 47 02.4 +0.9
baz=74
KBZ Khabaz 81.38 47 P P 19 47 02.8 +0.7
comp=Z,42nm,1.0s,baz=307,slow=2.0,SNR=21
comp=Z,42nm,1.0s
IMAR Indian Mountai 81.42 336 P P 19 47 02.5 +0.7
CHUM Lake Minchumin 81.50 334 P P 19 47 02.6 +0.3
baz=72,SNR=29
D20K Etivluk River 81.52 339 P P 19 47 03.2 +0.8
baz=69
SUA Susitna One 81.54 332 IAmb IAmb 19 47 05.2
comp=Z,69nm,0.8s
SUA Susitna One 81.54 332 P P 19 47 03.6 +0.9
baz=73,SNR=8.8
E20K Nigu River 81.54 339 P P 19 47 03.5 +1.0
baz=69
CAST Castle Rocks 81.55 334 P P 19 47 03.1 +0.5
baz=72,SNR=14
KIRV Kirov 81.62 31 LR LR 20 18 55.1
comp=Z,674nm,20.5s,baz=286,slow=33
KIRV Kirov 81.62 31*d i* P **P 19 47 02.5 -0.5**
SKT Skwentna 81.74 332 IAmb IAmb 19 47 08.6
comp=Z,86nm,0.8s
SKT Skwentna 81.74 332 P P 19 47 04.3 +0.7
baz=72,SNR=32
PPLA Purkeypile 81.75 333 P P 19 47 04.8 +0.9
baz=72,SNR=16
F20K Avaraart Lake 81.80 338 P P 19 47 05.0 +1.2
baz=70
NCK Nalchik 81.93 47⇑ *e*P **P 19 47 06.0 +0.9**
NCK pmax pmax
comp=Z,95nm,0.9s
NCK MLR MLR
comp=Z,215nm,18.0s
GURO Guroymak-BITLI 81.94 52 IAmb IAmb 19 47 09.7
comp=Z,84nm,1.2s
H20K Anotleneega Mo 82.02 336 P P 19 47 06.2 +1.1
baz=70
BRSE Bradley Lake S 82.04 330 P P 19 47 06.2 +0.9
baz=73
I20K Naaghedeneel 82.10 335 P P 19 47 05.6 +0.2
I20K Naaghedeneel 82.10 335 P P 19 47 06.3 +0.9
baz=70
BRLK Bradley Lake 82.10 330 IAmb IAmb 19 47 10.8
comp=Z,65nm,1.0s
D19K Kuna River 82.11 339 IAmb IAmb 19 47 08.3
comp=Z,98nm,1.1s
D19K Kuna River 82.11 339 P P 19 47 06.8 +1.2
baz=68,SNR=24
J20K Nowinta River 82.17 335 IAMs_20 IAMs_20 20 22 42.9
comp=Z,1μm,20.0s
J20K Nowinta River 82.17 335 P P 19 47 06.5 +0.7
baz=70
E19K Redstone River 82.20 338 IAmb IAmb 19 47 11.6
comp=Z,70nm,0.8s
E19K Redstone River 82.20 338 P P 19 47 07.0 +1.1
baz=68
SKOMA Sekoma 82.29 118 *i* P **P 19 47 06.4 -0.9**
N20K Mount Spurr 82.29 331 P P 19 47 07.3 +0.7
baz=72
SPCR Spurr Chakacha 82.29 331 P P 19 47 07.2 +0.5
baz=72,SNR=20
BELG Belogornoye 82.32 38 LR LR 20 20 09.7
comp=Z,716nm,19.6s,baz=292,slow=33
BELG Belogornoye 82.32 38*d i* P **P 19 47 05.9 -0.9**
BELG pmax pmax
comp=Z,28nm,1.1s
BELG MLR MLR
comp=Z,74nm,16.0s
C19K Lookout Ridge 82.37 340 P P 19 47 07.0 +0.2
C19K IAmb IAmb 19 47 09.9
comp=Z,92nm,1.1s
C19K Lookout Ridge 82.37 340 P P 19 47 07.8 +1.0
baz=66
A19K Wainwright 82.38 341 P P 19 47 08.2 +1.4
baz=65
K20K Telida 82.41 334 IAmb IAmb 19 47 09.1
comp=Z,118nm,1.0s
K20K Telida 82.41 334 P P 19 47 07.7 +0.5
baz=70,SNR=35
M20K Styx River 82.49 332 IAmb IAmb 19 47 09.8
comp=Z,86nm,1.1s
M20K Styx River 82.49 332 P P 19 47 08.1 +0.4
baz=71
HOM Homer 82.50 330 P P 19 47 09.0 +1.3
baz=72
H19K Roundabout Mou 82.62 336 IAMs_20 IAMs_20 20 22 36.7
comp=Z,1μm,21.0s
H19K Roundabout Mou 82.62 336 P P 19 47 08.9 +0.7
baz=69
L20K Farewell, AK 82.62 333 P P 19 47 08.7 +0.4
baz=70
F19K Shaleruckik Mo 82.63 338 IAmb IAmb 19 47 10.5
comp=Z,83nm,1.2s
F19K IAMs_20 IAMs_20 20 22 35.9
comp=Z,950nm,18.0s
F19K Shaleruckik Mo 82.63 338 P P 19 47 08.5 +0.3
baz=68,SNR=25
G19K Purcell Mounta 82.64 337 IAmb IAmb 19 47 10.8
comp=Z,60nm,1.1s
G19K IAMs_20 IAMs_20 20 24 36.1
comp=Z,1μm,20.0s
G19K Purcell Mounta 82.64 337 P P 19 47 09.5 +1.2
baz=68
SUR Sutherland 82.70 126 LR LR 20 15 35.8
comp=Z,774nm,21.6s,baz=295,slow=30
O20K Slope Mountain 82.84 330 P P 19 47 10.8 +1.3
baz=71
J19K Poorman 82.84 335 IAmb IAmb 19 47 11.4
comp=Z,73nm,1.2s
J19K Poorman 82.84 335 P P 19 47 09.8 +0.4
baz=69,SNR=25
B18K Kokolik River 82.97 341 P P 19 47 11.6 +1.7
baz=64
LSZ Lusaka 82.99 108 P P 19 47 10.3 -0.9
LSZ IAmb IAmb 19 47 15.2
comp=Z,149nm,1.6s
LSZ Lusaka 82.99 108 P P 19 47 10.3 -0.9
LSZ pmax pmax
comp=Z,149nm,1.7s
M19K Big River Lodg 83.05 332 P P 19 47 11.5 +1.1
baz=70
GCSA Galena City Sc 83.08 336 P P 19 47 12.0 +1.5
baz=68,SNR=14
C18K Utukok River 83.09 340 IAmb IAmb 19 47 22.2
comp=Z,56nm,1.1s
C18K IAMs_20 IAMs_20 20 22 07.5
comp=Z,1μm,22.0s
C18K Utukok River 83.09 340 P P 19 47 10.8 +0.2
baz=65
L19K White Mountain 83.15 333 IAmb IAmb 19 47 15.8
comp=Z,74nm,1.0s
L19K White Mountain 83.15 333 P P 19 47 11.7 +0.6
baz=70,SNR=24
Q20K Shuyak Island 83.20 329 P P 19 47 12.8 +1.5
baz=71
P19K Oil Pt 83.27 330 P P 19 47 12.6 +0.9
baz=71
G18K Tagagawik 83.32 337 P P 19 47 12.3 +0.4
baz=67
TTA Tatalina 83.39 334 P P 19 47 11.9 -0.4
baz=69
E18K Tukpahlearik C 83.41 339 P P 19 47 12.6 +0.3
E18K Tukpahlearik C 83.41 339 P P 19 47 12.8 +0.6
baz=65
F18K Selawik 83.41 338 P P 19 47 12.9 +0.7
baz=66,SNR=15
N19K Bonanza Creek 83.46 331 IAmb IAmb 19 47 14.8
comp=Z,64nm,0.8s
N19K Bonanza Creek 83.46 331 P P 19 47 13.2 +0.5
baz=70
J18K Innoko River 83.49 334 IAmb IAmb 19 47 15.2
comp=Z,49nm,1.1s
J18K Innoko River 83.49 334 P P 19 47 13.7 +1.0
baz=68
H18K Honhosa River 83.50 336 IAmb IAmb 19 47 15.8
comp=Z,81nm,1.1s
H18K IAMs_20 IAMs_20 20 22 40.7
comp=Z,1μm,19.0s
H18K Honhosa River 83.50 336 P P 19 47 13.7 +0.9
baz=67
KDAK Kodiak Island 83.56 328 P P 19 47 13.8 +0.7
KDAK IAmb IAmb 19 47 16.6
comp=Z,100nm,1.1s
KDAK Kodiak Island 83.56 328 LR LR 20 22 33.3
comp=Z,746nm,21.1s,baz=260,slow=34
KDAK Kodiak Island 83.56 328 P P 19 47 14.9 +1.7
baz=71
KDAK Kodiak Island 83.56 328 P P 19 47 13.8 +0.7
KDAK pmax pmax
comp=Z,101nm,1.1s
GNI Garni 83.58 50 P P 19 47 14.2 +0.3
GNI Garni 83.58 50*d i* P **P 19 47 14.4 +0.5**
GNI pmax pmax
comp=Z,344nm,1.7s
GNI MLR MLR
comp=Z,125nm,20.0s
O19K Port Alsworth 83.60 331 P P 19 47 14.8 +1.5
baz=70
Q19K Cape Douglas, 83.71 330 P P 19 47 14.4 +0.4
baz=70
C17K DeLong Mountai 83.82 340 P P 19 47 15.2 +0.9
baz=63,SNR=8.4
M18K Stony River 83.83 332 P P 19 47 15.1 +0.6
baz=69
LBTB Lobatse 83.88 118 IAmb IAmb 19 47 32.0
comp=Z,75nm,1.1s
LBTB Lobatse 83.88 118 LR LR 20 17 06.1
comp=Z,919nm,20.7s,baz=284,slow=30
RDOG Red Dog Mine 83.92 340 IAmb IAmb 19 47 19.9

comp=Z,78nm,0.9s
RDOG **Red Dog Mine** 83.92 340 P **P** 19 47 15.4 +0.6
baz=63,SNR=17
L18K **Granite Mounta** 83.94 333 IAmb IAmb 19 47 17.6
comp=Z,46nm,0.9s
L18K **Granite Mounta** 83.94 333 P **P** 19 47 15.6 +0.5
baz=68
E17K **Hotham Inlet** 83.98 339 P **P** 19 47 15.6 +0.5
baz=64,SNR=24
F17K **Baldwin Pennin** 84.06 338 IAMs_20 IAMs_20 20 24 05.2
comp=Z,1μm,21.0s
F17K **Baldwin Pennin** 84.06 338 P **P** 19 47 15.7 +0.1
baz=64
BROLN **Tlhalogang** 84.07 114 *i*P **P** 19 47 18.3 +1.7
OHAK **Old Harbor** 84.10 328 P **P** 19 47 16.5 +0.6
baz=70,SNR=8.5
O18K **Koktuh Hills** 84.14 331 P **P** 19 47 17.0 +0.9
baz=69,SNR=20
D17K **Noatak River** 84.14 339 P **P** 19 47 16.2 +0.3
baz=63,SNR=6.5
N18K **Kilae Creek** 84.16 332 P **P** 19 47 15.6 -0.6
N18K IAmb IAmb 19 47 21.1
comp=Z,42nm,0.8s
N18K **Kilae Creek** 84.16 332 P **P** 19 47 16.9 +0.7
baz=69
H17K **Granite Mounta** 84.19 336 IAmb IAmb 19 47 19.3
comp=Z,97nm,1.2s
H17K **Granite Mounta** 84.19 336 P **P** 19 47 17.6 +1.3
baz=66
G17K **Kiwalik Mounta** 84.24 337 P **P** 19 47 17.7 +1.2
baz=65
P18K **Big Mountain,** 84.31 330 IAmb IAmb 19 47 19.0
comp=Z,90nm,1.1s
P18K **Big Mountain,** 84.31 330 P **P** 19 47 17.6 +0.5
baz=69,SNR=5.8
K17K **Iditarod** 84.44 334 P **P** 19 47 17.6 0.0
baz=67
Q18K **Katmai Hardscr** 84.47 330 P **P** 19 47 17.9 -0.1
baz=69,SNR=15
J17K **VABM Dome** 84.49 335 IAmb IAmb 19 47 21.2
comp=Z,70nm,1.1s
J17K **VABM Dome** 84.49 335 P **P** 19 47 19.3 +1.5
baz=66,SNR=14
LODK **Lodwar** 84.53 88 IAMs_20 IAMs_20 20 23 09.3
comp=Z,914nm,19.0s
R18K **Karluk** 84.58 328 P **P** 19 47 19.6 +1.3
baz=70
M17K **Holitna River** 84.58 333 P **P** 19 47 18.7 +0.3
M17K **Holitna River** 84.58 333 P **P** 19 47 19.9 +1.6
baz=67
C16K **Lisburne Hills** 84.62 340 IAmb IAmb 19 47 20.8
comp=Z,77nm,1.3s
C16K **Lisburne Hills** 84.62 340 P **P** 19 47 18.7 +0.4
baz=61
L17K **Donlin** 84.67 333 P **P** 19 47 20.3 +1.5
baz=67,SNR=18
ACHA **Angle Creek He** 84.78 329 IAmb IAmb 19 47 24.9
comp=Z,56nm,1.2s
SII **Sitkinak Islan** 84.79 327 P **P** 19 47 20.8 +1.2
baz=70
N17K **Nushagak Hills** 84.81 332 P **P** 19 47 20.7 +1.2
baz=68
MAK **Makhachkala** 84.83 47 *e*P **P** 19 47 17.0 -2.9
MAK *e* 19 50 31.7
MAK *e*PPP PPP 19 52 25.1
MAK *e* 19 57 37.7
MAK *e*SS SS 20 03 14.1 -5.8
MAK *e*SSS SSS 20 06 46.5
MAK pmax pmax
comp=Z,323nm,1.2s
MAK MLR MLR
comp=Z,499nm,15.0s
BOSA **Boshof** 84.85 121 P **P** 19 47 19.5 -0.9
BOSA **Boshof** 84.85 121 P **P** 19 47 21.4 +1.0
comp=Z,22nm,1.0s,baz=297,slow=4.1,SNR=13
BOSA LR LR 20 16 56.1
comp=Z,399nm,21.8s,baz=300,slow=30
comp=Z,22nm,1.0s
MATP **Matopo** 84.89 113 LR LR 20 20 17.0
comp=Z,304nm,18.2s,baz=254,slow=32
G16K **Koyuk River** 84.93 337 IAmb IAmb 19 47 22.9
comp=Z,52nm,0.9s
G16K IAMs_20 IAMs_20 20 23 31.2
comp=Z,989nm,20.0s
G16K **Koyuk River** 84.93 337 P **P** 19 47 20.9 +0.9
baz=63,SNR=11
I17K **Unalakleet** 84.95 335 IAmb IAmb 19 47 23.2
comp=Z,58nm,1.1s
I17K IAMs_20 IAMs_20 20 25 09.2
comp=Z,1μm,20.0s
I17K **Unalakleet** 84.95 335 P **P** 19 47 21.5 +1.4
baz=65,SNR=9.7
P17K **Kvichak River** 84.96 330 P **P** 19 47 21.3 +1.0
baz=68
Q17K **Contact Creek** 85.04 329 P **P** 19 47 21.9 +1.1
baz=68,SNR=7.6
O17K **Koliganek Bris** 85.05 331 P **P** 19 47 21.5 +0.8
baz=68
J16K **Anvik River** 85.17 335 IAmb IAmb 19 47 24.7
comp=Z,126nm,1.6s
J16K IAMs_20 IAMs_20 20 26 02.7
comp=Z,1μm,20.0s
J16K **Anvik River** 85.17 335 P **P** 19 47 23.1 +1.8
baz=65,SNR=10
H16K **Elim** 85.22 336 P **P** 19 47 22.9 +1.4
baz=63,SNR=7.7
Q16K **King Salmon** 85.26 330 P **P** 19 47 22.7 +0.9
baz=68,SNR=13
L16K **Owhat River** 85.35 333 IAmb IAmb 19 47 25.9
comp=Z,48nm,1.1s
L16K **Owhat River** 85.35 333 P **P** 19 47 24.1 +1.9
baz=66,SNR=10
AKT **Akhty** 85.41 48 *e*P **P** 19 47 21.4 -1.7
AKT *e*S **SKSac** 19 57 43.4 -5.1
AKT pmax pmax
comp=Z,78nm,1.6s
M16K **Timber Creek** 85.41 332 P **P** 19 47 22.9 +0.4
M16K IAmb IAmb 19 47 26.2
comp=Z,99nm,1.1s
M16K **Timber Creek** 85.41 332 P **P** 19 47 24.1 +1.6
baz=66
PLK4 **Peulik 4** 85.51 329 IAmb IAmb 19 47 29.0
comp=Z,76nm,0.8s
R17L **Mt. Peulik Vol** 85.51 329 P **P** 19 47 24.3 +1.2
baz=68,SNR=6.2
N16K **Nishlik Lake** 85.55 332 P **P** 19 47 25.7 +2.4
baz=66
O16K **Kokwok River B** 85.59 331 P **P** 19 47 24.4 +1.0
baz=67
F15K **North Star Dit** 85.63 338 IAmb IAmb 19 47 26.7
comp=Z,88nm,1.2s
F15K IAMs_20 IAMs_20 20 24 52.7
comp=Z,840nm,19.0s
F15K **North Star Dit** 85.63 338 P **P** 19 47 25.2 +1.7
baz=61
G15K **Niukluk** 85.74 337 P **P** 19 47 25.9 +1.9
baz=62
P16K **Nushagak River** 85.77 330 P **P** 19 47 24.9 +0.7
baz=67
CHIR **Chirikof Islan** 85.81 327 P **P** 19 47 26.0 +1.4
baz=68
K15K **Wolf Creek Mou** 85.98 334 IAmb IAmb 19 47 28.9
comp=Z,55nm,1.1s
K15K **Wolf Creek Mou** 85.98 334 P **P** 19 47 26.9 +1.6
baz=64
R16K **Pilot Point** 86.14 329 P **P** 19 47 27.6 +1.4
baz=67
L15K **Ungalak Mounta** 86.23 334 P **P** 19 47 28.8 +2.3
baz=64
N15K **Kwethluk River** 86.27 332 P **P** 19 47 27.6 +0.8
N15K IAmb IAmb 19 47 51.0
comp=Z,53nm,1.1s
N15K **Kwethluk River** 86.27 332 P **P** 19 47 27.9 +1.1
baz=65
FURI **Furi** 86.29 82 IAMs_20 IAMs_20 20 23 37.8
comp=Z,1μm,19.0s
FURI **Furi** 86.29 82 LR LR 20 23 50.7
comp=Z,1μm,20.1s,baz=294,slow=34
M15K **Kasigluk River** 86.32 333 P **P** 19 47 28.4 +1.5
baz=64
F14K **Arctic Creek** 86.35 338 P **P** 19 47 28.7 +1.6
baz=60
O15K **Ungalikthiuk R** 86.57 331 P **P** 19 47 29.8 +1.5
baz=65
J14K **Nanvaranak Lak** 86.61 335 IAmb IAmb 19 47 31.8
comp=Z,131nm,1.3s
J14K **Nanvaranak Lak** 86.61 335 P **P** 19 47 30.1 +1.7
baz=62

M14K **Bethel** 86.85 333 P **P** 19 47 31.3 +1.7
baz=63,SNR=15
TNA **Tin City** 86.88 338 P **P** 19 47 30.5 +0.9
baz=58
L14K **Kuka Creek** 86.90 334 IAmb IAmb 19 47 35.5
comp=Z,53nm,0.8s
L14K **Kuka Creek** 86.90 334 P **P** 19 47 31.2 +1.4
baz=63
ARTI **Arti** 86.92 32 P **P** 19 47 29.3 -0.8
ARTI IAmb IAmb 19 47 34.0
comp=Z,56nm,1.0s
ARTI IAMs_20 IAMs_20 20 20 28.0
comp=Z,799nm,21.0s
ARTI **Arti** 86.92 32 LR LR 20 20 52.7
comp=Z,492nm,21.8s,baz=292,slow=32
ARTI **Arti** 86.92 32 *d*P **P** 19 47 29.7 -0.3
ARTI 19 50 50.1
ARTI S **SKSac** 19 57 55.5 -1.6
ARTI pmax pmax
comp=Z,62nm,1.0s
CHGN **Chignik** 87.07 328 P **P** 19 47 31.7 +1.0
baz=66
N14K **Kuskokwak Cree** 87.10 332 P **P** 19 47 31.4 +0.6
baz=64
O14K **Tigyukauivet M** 87.20 331 P **P** 19 47 33.1 +1.8
baz=64
K13K **Kusilvak Mount** 87.45 335 IAmb IAmb 19 47 35.6
comp=Z,82nm,1.0s
K13K **Kusilvak Mount** 87.45 335 P **P** 19 47 33.4 +0.9
baz=61
KMBO **Kilima Mbogo** 87.56 92 P **P** 19 47 34.8 +0.5
comp=Z,9.7nm,1.2s,baz=296,slow=4.7,SNR=12
KMBO LR LR 20 23 53.5
comp=Z,474nm,21.0s,baz=277,slow=34
comp=Z,9.7nm,1.2s
M13K **Dall Lake** 87.62 333 P **P** 19 47 33.4 +0.1
baz=62
SVE **Sverdlovsk** 87.87 31 *ce*P **P** 19 47 34.3 -0.3
SVE pmax pmax
comp=Z,41nm,1.2s
RAYN **Ar Rayn** 88.70 66 P **P** 19 47 38.6 -0.7
RAYN **Ar Rayn** 88.70 66 P **P** 19 47 40.3 +1.0
M11K **Mekoryuk** 88.87 334 P **P** 19 47 41.4 +2.2
baz=60
AKTO **Aktyubinsk** 89.10 37 LR LR 20 24 22.9
comp=Z,620nm,19.3s,baz=304,slow=34
NRIK **Noril'sk** 90.13 14 P **P** 19 47 45.7 +0.7
comp=Z,24nm,1.0s,baz=329,slow=1.7,SNR=19
comp=Z,24nm,1.0s
VNA1 **Neumayer--Stat** 90.67 167 ⇑P **P** 19 47 50.3 +3.0
comp=Z,23nm,1.1s
ABKAR **Akbulak array** 90.72 38 IAmb IAmb 19 47 52.2
comp=Z,64nm,1.1s
VNA3 **Neumayer Olymp** 90.84 168 ⇑P **P** 19 47 51.4 +3.3
comp=Z,22nm,0.9s
BILL **Bilibino** 92.59 347 *d*P **P** 19 47 56.9 +0.5
BILL pmax pmax
comp=Z,62nm,1.3s
BILL MLR MLR
comp=Z,1μm,19.0s
SNAA **Sanae** 92.62 167 P **P** 19 47 54.5 -1.9
SNAA IAmb IAmb 19 48 00.7
comp=Z,44nm,1.3s
SNAA **Sanae** 92.62 167 ⇑P **P** 19 47 55.9 -0.5
comp=Z,296nm,1.1s
SNAA **Sanae** 92.62 167 P **P** 19 47 56.8 +0.4
comp=Z,16nm,1.1s,baz=327,slow=4.3,SNR=13
SNAA LR LR 20 25 20.9
comp=Z,370nm,20.2s,baz=9.0,slow=33
comp=Z,16nm,1.1s
SNAA **Sanae** 92.62 167 *ce*P **P** 19 47 57.5 +1.1
SNAA pmax pmax
comp=Z,41nm,1.3s
SNAA MLR MLR
comp=Z,382nm,16.0s
TIXI **Tiksi** 92.97 0 P **P** 19 47 56.6 -1.5
TIXI IAmb IAmb 19 48 02.7
comp=Z,31nm,1.1s
TIXI **Tiksi** 92.97 0 P **P** 19 47 57.8 -0.3
comp=Z,24nm,1.0s,baz=40,slow=5.0,SNR=36
comp=Z,24nm,1.0s
TROLL **Troll, Antarti** 94.09 166 ⇑P **P** 19 48 04.2 +1.0
comp=Z,269nm,1.1s
BRVK **Borovoye** 94.56 32 P **P** 19 48 04.9 -1.0
BRVK **Borovoye** 94.56 32 IAMs_20 IAMs_20 20 25 17.1
comp=Z,785nm,20.0s
BRVK **Borovoye** 94.56 32 *d*P **P** 19 48 05.3 -0.5
BRVK pmax pmax
comp=Z,19nm,0.9s
BRVK MLR MLR
comp=Z,285nm,15.0s
BVAR **Borovoye Array** 94.63 32 P **P** 19 48 05.9 -0.3
comp=Z,7.4nm,0.7s,baz=294,slow=2.7,SNR=40
BVAR PKKPbc **PKKPdf** 20 05 02.6 -1.6
comp=Z,0.9nm,0.6s,baz=247,slow=38,SNR=4.3
comp=Z,7.4nm,0.7s
BRLS **Borolday** 99.72 40 *e*PKiKP **PKiKP** 19 52 56.7 -1.4
KURK **Kurchatov** 100.10 30 Pdif **Pdif** 19 48 26.6 -4.2
KURK **Kurchatov** 100.10 30 IAMs_20 IAMs_20 20 31 30.6
comp=Z,586nm,19.0s
KURK **Kurchatov** 100.10 30 ⇑*i*P **Pdif** 19 48 30.8 -0.1
KURK pmax pmax
comp=Z,7.0nm,1.2s
KURK MLR MLR
comp=Z,238nm,17.0s
KURBB **Kurchatov Arra** 100.12 30 P **Pdif** 19 48 30.5 -0.4
comp=Z,3.9nm,1.0s,baz=309,slow=4.9,SNR=16
KURBB PKKPbc **PKKPbc** 20 04 48.9 -1.5
comp=Z,0.7nm,0.9s,baz=120,slow=2.2,SNR=6.0
KURBB LR LR 20 31 35.3
comp=Z,419nm,18.8s,baz=236,slow=34
comp=Z,3.9nm,1.0s
IUG **Iuzhnay** 100.31 41 *e*PKiKP **PKiKP** 19 52 57.8 -1.5
ZALV **Zalesovo Beam** 100.68 25 P **Pdif** 19 48 33.1 -0.3
comp=Z,1.1nm,0.7s,baz=293,slow=4.2,SNR=5.9
SEM **Semipalatinsk** 101.09 30 *e*PKiKP **PKiKP** 19 52 58.9 -1.7
SIMJ **Simiganj** 101.45 44 IAMs_20 IAMs_20 20 34 09.6
comp=Z,547nm,20.0s
SGDS **Sogindy** 102.40 38 *e*PKiKP **PKiKP** 19 53 01.4 -1.6
YAK **Yakutsk** 102.64 0 IAMs_20 IAMs_20 20 40 49.7
comp=Z,603nm,21.0s
AAK **Ala-Archa** 102.80 39 IAMs_20 IAMs_20 20 31 32.5
comp=Z,632nm,22.0s
MDOK **Medeo** 103.99 37 *e*PKiKP **PKiKP** 19 53 04.3 -1.8
MKAR **Makanchi Array** 104.52 32 PKKPbc PKKPbc 20 04 36.0 -1.5
comp=Z,1.5nm,0.9s,baz=114,slow=5.9,SNR=7.5
SATY **Saty** 104.84 37 *e*PKiKP **PKiKP** 19 53 05.7 -1.8
UZB **Uzynbulak** 105.14 36 *e*PKiKP **PKiKP** 19 53 06.3 -1.8
ZSN **Zaisan** 105.33 30 *e*PKiKP **PKiKP** 19 53 06.8 -1.4
ZSN *e*PP **PP** 19 53 13.7 -1.3
SHLS **Shalkode** 105.38 36 *e*PKiKP **PKiKP** 19 53 07.2 -1.3
SHLS *e*PP **PP** 19 53 15.8 +0.2
KSH **Kashi** 105.52 41 Pdif **Pdif** 19 48 56.5 +1.1
KSH LR LR
comp=Z,430nm,21.3s
KSH LR LR
comp=Z,460nm,19.9s
KSH LR LR
comp=Z,540nm,18.2s
QSPA **South Pole Qui** 105.56 180 PKKPab PKKPab 20 04 52.2 +3.5
comp=Z,1.8nm,0.5s,baz=311,slow=3.6,SNR=6.2
WUS **Wushi** 106.47 38 IAMs_20 IAMs_20 20 33 39.8
comp=Z,559nm,21.0s
WMQ **Urumqi** 109.32 31 Pdif **Pdif** 19 49 14.0 +1.9
WMQ LR LR
comp=Z,550nm,17.5s
WMQ LR LR
comp=Z,430nm,18.7s
WMQ LR LR
comp=Z,340nm,19.7s
SONM **Songino Array** 113.40 17 PKiKP **PKiKP** 19 53 22.8 -0.7
comp=Z,0.6nm,0.8s,baz=336,slow=3.2,SNR=4.0
HIA **Hailar** 114.78 7 IAMs_20 IAMs_20 20 39 26.8
comp=Z,570nm,22.0s
GTA **Gaotai** 118.41 26 *e*PKP **PKPdf** 19 53 33.0 -0.4
GTA LR LR
comp=Z,260nm,18.9s
GTA LR LR
comp=Z,320nm,20.7s
GTA LR LR
comp=Z,280nm,18.9s
MDJ **Mudanjiang** 120.08 0 IAMs_20 IAMs_20 20 50 18.2
comp=Z,517nm,20.0s
CN2 **Changchun** 120.75 4 *e*PKP **PKPdf** 19 53 36.5 -1.0
CN2 *e*PP **PP** 19 55 06.8 +2.7
CN2 AMB AMB
comp=Z,220nm,6.5s

BTO **Baotou** 121.06 18 *e*PKP **PKPdf** 19 53 35.5 -2.9
BTO sPKP 19 53 48.0
BTO LR LR
comp=Z,510nm,11.9s
BTO LR LR
comp=Z,210nm,5.7s
BTO LR LR
comp=Z,550nm,11.3s
HHC **Hu-ho-hao-te** 121.27 16 *e*PKP **PKPdf** 19 53 35.3 -3.5
HHC SS SS 20 11 43.5 +2.5
HHC LR LR
comp=Z,380nm,19.8s
HHC LR LR
comp=Z,540nm,22.1s
LSA **Lhasa** 121.36 40 PKP **PKPdf** 19 53 37.5 -2.2
LZH **Lanzhou** 122.92 25 *e*PKP **PKiKP** 19 53 42.5 +0.1
LZH LR LR
comp=Z,370nm,19.6s
LZH LR LR
comp=Z,350nm,20.3s
LZH LR LR
comp=Z,540nm,20.6s
BJI **Beijing** 123.16 13 PKP **PKPdf** 19 53 42.0 -0.3
BJI PP **PP** 19 55 26.0 +5.4
BJI SS SS 20 12 05.8 +1.2
BJI AMB AMB
comp=Z,65nm,16.1s
BJI LR LR
comp=Z,170nm,22.6s
BJI LR LR
comp=Z,100nm,22.6s
BJI LR LR
comp=Z,270nm,21.3s
BJT **Baijiatuau** 123.18 13 IAMs_20 IAMs_20 20 44 09.2
comp=Z,455nm,20.0s
SHL **Shillong** 124.70 43 PKPdf **PKPdf** 19 53 43.9 -2.0
SHL **Shillong** 124.70 43 PKIKP **PKPdf** 19 53 43.9 -2.0
HNS **HongShan** 125.34 15 ⇑PKP **PKPdf** 19 53 46.5 0.0
HNS PP PP 19 55 44.3 +9.0
HNS SS SS 20 12 36.5 +4.3
HNS LR LR
comp=Z,350nm,23.1s
HNS LR LR
comp=Z,340nm,20.7s
HNS LR LR
comp=Z,350nm,17.7s
XAN **Xi'an** 126.68 22 PKP **PKPdf** 19 53 49.0 -0.3
XAN PP **PP** 19 55 50.0 +5.5
XAN SS SS 20 12 57.5 +8.0
XAN AMB AMB
comp=Z,140nm,7.0s
XAN LR LR
comp=Z,400nm,17.0s
XAN LR LR
comp=Z,360nm,17.9s
XAN LR LR
comp=Z,530nm,20.8s
TIA **Tai'an** 127.04 13 PKP **PKPdf** 19 53 49.8 -0.1
TIA LR LR
comp=Z,290nm,19.1s
TIA LR LR
comp=Z,210nm,18.1s
TIA LR LR
comp=Z,220nm,20.6s
INCN **Inchon** 127.11 3 IAMs_20 IAMs_20 20 50 46.2
comp=Z,529nm,22.0s
CD2 **Chengdu** 127.28 29 PKP **PKPdf** 19 53 49.0 -1.5
MAJO **Matsushiro** 127.59 352 IAMs_20 IAMs_20 20 48 50.7
comp=Z,488nm,20.0s
MJAR **Matsushiro Arr** 127.59 352 PKP **PKPdf** 19 53 50.7 -0.2
comp=Z,3.5nm,0.9s,baz=45,slow=3.8,SNR=5.9
INU **Inuyama** 128.92 353 IAMs_20 IAMs_20 20 46 11.9
comp=Z,389nm,22.0s
TNCH **TengChong** 129.23 38 PKP **PKPdf** 19 53 53.5 -1.0
TNCH sPKP 19 54 03.5
TNCH PP **PP** 19 56 08.5 +6.5
TNCH AMB AMB
comp=Z,120nm,4.7s
TNCH LR LR
comp=Z,140nm,17.9s
TNCH LR LR
comp=Z,97nm,15.1s
TNCH LR LR
comp=Z,240nm,19.9s
PZH **PanZhiHua** 129.90 34 PKP **PKPdf** 19 53 54.8 -0.9
PZH AMB AMB
comp=Z,180nm,6.7s
PZH LR LR
comp=Z,200nm,19.6s
PZH LR LR
comp=Z,170nm,18.0s
PZH LR LR
comp=Z,330nm,18.2s
JMN **Monobe** 130.83 356 IAMs_20 IAMs_20 20 46 47.4
comp=Z,560nm,22.0s
NJ2 **Nanjing** 131.42 13 *e*PKP **PKPdf** 19 53 58.0 -0.3
KMI **Kunming** 131.53 34 ⇑PKP **PKPdf** 19 53 58.8 -0.2
KMI SS SS 20 13 54.8 +4.2
KMI LR LR
comp=Z,180nm,25.9s
KMI LR LR
comp=Z,180nm,27.9s
KMI LR LR
comp=Z,230nm,25.3s
GYA **Guiyang** 132.40 29 PKP **PKPdf** 19 54 00.0 -0.4
GYA sPKP 19 54 09.0
GYA AMB AMB
comp=Z,160nm,4.9s
GYA LR LR
comp=Z,370nm,23.2s
URZ **Urewera** 133.00 232 PKP **PKPdf** 19 54 01.1 +0.2
comp=Z,11nm,0.9s,baz=117,slow=2.3,SNR=2.2
BHW **Baring Head** 133.68 227 IAMs_20 IAMs_20 20 40 30.0
comp=Z,386nm,20.0s
CHTO **Chiang Mai** 134.07 43 **PKPdf** 19 54 02.6 -1.0
CHTO **Chiang Mai** 134.07 43 PKIKP **PKPdf** 19 54 02.6 -1.0
MSVF **Nonsavu** 134.11 260 PKPdf **PKiKP** 19 54 06.0 +0.9
MSVF **Nonsavu** 134.11 260 PKP **PKiKP** 19 54 04.8 -0.2
comp=Z,5.4nm,0.8s,baz=111,slow=12,SNR=5.4
MSVF **Nonsavu** 134.11 260 PKIKP **PKiKP** 19 54 06.0 +0.9
CMAR **Chiang Mai Arr** 134.32 43 PKP **PKPdf** 19 54 04.2 +0.1
comp=Z,7.0nm,0.8s,baz=293,slow=3.5,SNR=37
TARA **Tarawa** 134.45 288 IAMs_20 IAMs_20 20 39 01.8
comp=Z,522nm,22.0s
MLZ **Mavora Lakes** 136.44 219 PKPdf **PKiKP** 19 54 09.4 +0.4
QIZ **Qiongzhong** 140.24 31 PKP **PKiKP** 19 54 17.3 -0.2
QIZ PP **PP** 19 57 12.0 +0.7
QIZ SS SS 20 15 36.5 +2.4
QIZ LR LR
comp=Z,350nm,14.3s
QIZ LR LR
comp=Z,380nm,15.0s
QIZ LR LR
comp=Z,380nm,18.6s
KULM **Kulim** 144.21 57 PKPdf **PKPab** 19 54 18.2 -1.7
DZM **Mont Dzumac** 145.06 254 PKPbc **PKPdf** 19 54 24.1 +0.5
comp=Z,18nm,0.9s,baz=119,slow=5.3,SNR=5.0
DLV **Lat** 145.27 39 **PKPbc** 19 54 21.9 -2.0
KOUNC **Koumac, New Ca** 147.17 256 **PKPab** 19 54 30.5 -0.4
MYKOM **Kota Tinggi** 148.83 59 PKPdf **PKPdf** 19 54 27.3 -2.7
MYKOM **pPKPdf** 19 54 32.6 +0.3
TAU **Tasmania Unive** 149.03 205 **PKiKP** 19 54 34.5 -0.3
TAU **Tasmania Unive** 149.03 205 PKP2 **PKiKP** 19 54 34.5 -0.3
PMBI **Palembang** 152.06 66 IAMs_20 IAMs_20 20 56 49.8
comp=Z,381nm,19.0s
KKM **Kota Kinabalu** 154.48 34 IAMs_20 IAMs_20 21 04 58.1
comp=Z,361nm,21.0s
SBUM **Sibu** 154.82 46 PKPdf **PKPdf** 19 54 35.9 -3.2
SBUM **PKPbc** 19 54 45.0 -2.7
SBUM PKPab **PKPab** 19 55 02.6 +0.1
RABL **Rabaul** 155.52 295 IAMs_20 IAMs_20 20 54 39.7
comp=Z,376nm,22.0s
STKA **Stephens Creek** 160.69 211 PKP **PKPdf** 19 54 44.4 -1.4
comp=Z,3.4nm,0.9s,baz=163,slow=19,SNR=3.9
PMG **Port Moresby** 162.25 288 PKP **PKPdf** 19 54 46.7 -1.1
comp=Z,5.1nm,0.8s,baz=360,slow=3.7,SNR=4.9
PMG PKPab **PKPab** 19 55 35.2 +0.3
comp=Z,3.0nm,0.4s,baz=230,slow=21,SNR=3.9
KAPI **Kappang** 165.38 45 PKPab **PKPab** 19 55 49.1 +0.6
KAPI **Kappang** 165.38 45 PKP **PKPdf** 19 54 49.5 -1.2
comp=Z,2.2nm,0.3s,baz=287,slow=1.6,SNR=7.4
KAPI PKPab **PKPab** 19 55 48.0 -0.5
comp=Z,27nm,1.1s,baz=287,slow=11,SNR=7.0
ASAR **Alice Springs** 171.20 203 PKP **PKPdf** 19 54 54.0 -0.5
comp=Z,2.0nm,0.9s,baz=184,slow=1.5,SNR=16
ASAR PKPab **PKPab** 19 56 14.8 +0.9

comp=Z,4.5nm,0.9s,baz=148,slow=3.3,SNR=5.2
ASAR Alice Springs 171.20 203 PKIKP PKPdf 19 54 54.0 -0.5
WRA Warramunga Arr 174.08 222 PKP PKPdf 19 54 54.8 -0.9
comp=Z,6.4nm,1.1s,baz=88,slow=1.9,SNR=21
WRA PKPab **PKPab 19 56 27.2 +0.4**
comp=Z,2.5nm,1.1s,baz=131,slow=4.0,SNR=5.8
WB0 Warramunga Arr 174.17 224 PKPdf 19 54 53.6 -2.1
WB0 **PKPab 19 56 27.0 -0.3**

IDC 27 19:34:59.3±5.8, 20°.55S×169°.33E, h0km, mb3.7/3, mbtmp4.1/5, ML3.4/1, Error ellipse: s-maj=115.2km s-min=48.0km az=114.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.09**	**240**	Pn	Pn	19 35 51.4	+1.9
	5.0nm,0.3s,baz=116,slow=11,SNR=3.6						
DZM				Sn	Sb	19 36 35.5	+2.0
	3.5nm,0.3s,baz=156,slow=21,SNR=2.8						
	14nm,0.3s						
HNR	**Honiara**	**14.28**	**319**	Pn	Pn	19 38 23.2	+0.3
	62nm,0.3s,baz=169,slow=20,SNR=9.6						
WRA	**Warramunga Arr**	**32.80**	**265**	P	P	19 41 34.1	-0.5
	0.5nm,0.4s,baz=98,slow=8.4,SNR=6.5						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**32.91**	**258**	P	P	19 41 34.5	-1.2
	0.6nm,0.7s,baz=80,slow=8.3,SNR=5.4						
	0.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**79.11**	**294**	P	P	19 47 06.9	+0.7
	0.7nm,0.8s,baz=159,slow=4.9,SNR=6.0						
	0.7nm,0.8s						

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*IDC **27** 19:40:17.9±1.6, 9°.25S×125°.10E, h0km, mb3.6/2, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=30.6km s-min=24.0km az=98.0*
*DJA **27** 19:40:23.2±0.6, 9°.5±.5°×12°.5E±°, h10km, M3.9/6, mb4.4/1, MLv3.6/6*
ISC 27 19:40:19.0±1.2, 9°.43S±0°.09×125°.10E±0°.07, h10km, n11, σ1§75/15, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.88**	**249**	P	**Pg**	**19 40 36.5**	**+0.4**
BATI	**Baumata**	**1.61**	**241**	Pn	**Pg**	**19 40 50.0**	**0.0**
	41nm,0.3s,baz=105,slow=3.1,SNR=49						
BATI				Sn	**Sg**	**19 41 11.2**	**+0.2**
	24nm,0.3s,baz=157,slow=14,SNR=6.5						
BATI	**Baumata**	**1.61**	**241**	P	**Pg**	**19 40 50.2**	**+0.2**
MMRI	**Maumere**	**2.94**	**285**	P	**Pn**	**19 41 05.8**	**0.0**
WSI	**Waingapu**	**4.74**	**267**	P	**Pn**	**19 41 29.6**	**-1.1**
WBSI	**Waikabubak, Su**	**5.64**	**267**	P	**Pn**	**19 41 41.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**8.63**	**177**	Pn	**Pn**	**19 42 26.7**	**+2.7**
	0.9nm,0.3s,baz=354,slow=9.6,SNR=18						
FITZ				Sn	**Sn**	**19 44 00.8**	**-0.8**
	1.1nm,0.3s,baz=114,slow=14,SNR=7.0						
	3.2nm,0.4s						
WRA	**Warramunga Arr**	**13.74**	**141**	Pn	**Pn**	**19 43 36.9**	**+2.8**
	0.3nm,0.3s,baz=312,slow=15,SNR=12						
WRA				Sn	**Sn**	**19 46 04.7**	**-2.2**
	0.2nm,0.3s,baz=323,slow=24,SNR=5.3						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**16.47**	**150**	Pn	**Pn**	**19 44 11.4**	**+1.0**
	0.1nm,0.3s,baz=325,slow=11,SNR=5.0						
ASAR				Sn	**Sn**	**19 47 09.8**	**-3.5**
	0.1nm,0.3s,baz=324,slow=25,SNR=2.5						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**67.73**	**330**	P	**P**	**19 51 16.3**	**-0.5**
	0.3nm,0.8s,baz=126,slow=7.3,SNR=2.1						
	0.3nm,0.8s						
ZALV	**Zalesovo Beam**	**71.73**	**336**	P	**P**	**19 51 40.6**	**-0.6**
	0.6nm,0.6s,baz=130,slow=6.4,SNR=1.6						
	0.6nm,0.6s						

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*NOU **27** 19:49:15.4, 22°.91S×171°.15E, h0km, MLv4.6/8, Southeast of Loyalty Islands*
*IDC **27** 19:49:22.8±0.9, 22°.25S×170°.44E, h0km, mb4.2/7, mbtmp4.2/9, ML4.2/2, MS3.7/8, Error ellipse: s-maj=28.8km s-min=22.7km az=170.0*
*NEIC **27** 19:49:23.5±2.2, 22°.21S±0°.07×170°.55E±0°.07, h10km±1km, mb4.9/32, Error ellipse: s-maj=11.8km s-min=11.0km az=357.0*
ISC 27 19:49:23.1±0.4, 22°.23S±0°.09×170°.56E±0°.06, h10km, n78, σ1§31/7, mb4.7/19, MS3.5/5, 1C-1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YATNC	**Mamie plateau,**	**3.41**	**272**	P	**Pn**	**19 50 17.4**	**+1.1**
OUENC	**Ouen Island, N**	**3.45**	**266**	P	**Pn**	**19 50 18.5**	**+1.6**
ONTNC	**Ouen Toro**	**3.81**	**268**		**Pn**	**19 50 22.2**	**+0.4**
ONTNC				Sn	**Sn**	**19 51 05.1**	**-1.5**
ONTNC	**Ouen Toro**	**3.81**	**268**	P	**Pn**	**19 50 23.4**	**+1.6**
DZM	**Mont Dzumac**	**3.82**	**272**		**Pn**	**19 50 22.1**	**0.0**
DZM				Sn	**Sn**	**19 51 06.1**	**-1.0**
DZM	**Mont Dzumac**	**3.82**	**272**	Pn	**Pn**	**19 50 23.0**	**+0.9**
	7.4nm,0.3s,baz=139,slow=12,SNR=38						
DZM				Sn	**Sn**	**19 51 05.7**	**-1.5**
	3.7nm,0.3s,baz=142,slow=22,SNR=4.2						
	37nm,0.4s						
DZM	**Mont Dzumac**	**3.82**	**272**	P	**Pn**	**19 50 23.4**	**+1.3**
NOUC	**Port Laguerre**	**3.95**	**271**	P	**Pn**	**19 50 25.5**	**+1.7**
DVP	**Devils Point**	**5.01**	**333**	P	Pn	19 50 44.4	+6.0
KOUNC	**Koumac, New Ca**	**6.08**	**285**	Pn	**Pn**	**19 50 52.8**	**-0.3**
KOUNC				Sn	**Sn**	**19 52 01.7**	**-1.1**
KOUNC	**Koumac, New Ca**	**6.08**	**285**	P	**Pn**	**19 50 56.8**	**+3.7**
MSVF	**Nonsavu**	**8.34**	**59**	Pn	**Pn**	**19 51 25.1**	**+0.8**
MSVF	**Nonsavu**	**8.34**	**59**	Pn	**Pn**	**19 51 28.1**	**+3.8**
	0.2nm,0.3s,baz=216,slow=12,SNR=5.4						
MSVF				LR	LR	19 54 41.6	
	comp=Z,238nm,18.0s,baz=230,slow=38						
	9.3nm,1.2s						
HNR	**Honiara**	**16.30**	**320**	LR	LR	19 58 21.8	
	comp=Z,365nm,18.3s,baz=153,slow=33						
URZ	**Urewera**	**16.94**	**162**	LR	LR	19 59 09.8	
	comp=Z,117nm,19.2s,baz=68,slow=35						
ARMA	**Armidale**	**18.81**	**240**	P	**Pn**	**19 53 48.1**	**+4.7**
BFZ	**Birch Farm**	**19.01**	**167**	P	**P**	**19 53 43.2**	**-1.8**
BFZ				IAmb	IAmb	19 54 00.7	
	comp=Z,80nm,1.4s						
TUWZ	**Tuamarina**	**19.35**	**172**	P	**P**	**19 53 48.0**	**-0.7**
LTZ	**Lake Taylor**	**20.54**	**176**	P	**P**	**19 54 00.9**	**-0.9**
LTZ				IAmb	IAmb	19 54 23.6	
	comp=Z,103nm,1.9s						
PMG	**Port Moresby**	**25.83**	**296**	P	**P**	**19 54 53.1**	**-1.7**
PMG				IAmb	IAmb	19 54 56.6	
	comp=Z,16nm,1.1s						
PMG	**Port Moresby**	**25.83**	**296**	LR	LR	20 03 21.4	
	comp=Z,151nm,20.1s,baz=114,slow=33						
COEN	**Coen**	**27.27**	**283**	P	**P**	**19 55 07.4**	**-0.5**
STKA	**Stephens Creek**	**27.45**	**243**	LR	LR	20 04 53.6	
	comp=Z,105nm,18.8s,baz=28,slow=34						
RAR	**Rarotonga**	**27.56**	**94**	LR	LR	20 06 07.0	
	comp=Z,81nm,18.1s,baz=290,slow=36						
WR0	**Warramunga Arr**	**33.63**	**267**	P	**P**	**19 56 02.9**	**-1.2**
AS31	**Alice Springs**	**33.73**	**260**	P	**P**	**19 56 04.8**	**-0.2**
ASAR	**Alice Springs**	**33.73**	**260**	P	**P**	**19 56 05.3**	**+0.3**
ASAR	**Alice Springs**	**33.73**	**260**	P	**P**	**19 56 05.7**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=85,slow=9.2,SNR=25						
ASAR				LR	LR	20 09 48.8	
	comp=Z,192nm,18.3s,baz=69,slow=36						
	comp=Z,3.3nm,0.8s						
WRA	**Warramunga Arr**	**33.82**	**267**	P	**P**	**19 56 04.5**	**-1.4**
WRA	**Warramunga Arr**	**33.82**	**267**	P	**P**	**19 56 05.8**	**0.0**
	comp=Z,4.0nm,0.9s,baz=99,slow=8.3,SNR=12						
	comp=Z,4.0nm,0.9s						
PPTF	**Pamatai, Papee**	**37.70**	**90**	P	**P**	**19 56 37.8**	**-1.4**
MTN	**Manton Dam**	**38.64**	**277**	P	**P**	**19 56 47.5**	**+0.5**
MTN				IAmb	IAmb	19 56 47.8	
	comp=Z,20nm,0.9s						
FAKI	**Fak Fak**	**41.83**	**292**	P	**P**	**19 57 12.8**	**-0.7**
FAKI				IAmb	IAmb	19 57 15.9	
	comp=Z,31nm,1.1s						
FITZ	**Fitzroy Crossi**	**42.25**	**267**	P	**P**	**19 57 15.6**	**-1.3**
PSA00	**Pilbara Seismi**	**46.88**	**261**	P	**P**	**19 57 52.8**	**-1.1**
PSA00				IAmb	IAmb	19 57 55.3	
	comp=Z,9.8nm,0.9s						
MBWA	**Marble Bar**	**47.06**	**261**	P	**P**	**19 57 55.4**	**+0.1**
MBWA				IAmb	IAmb	19 57 57.2	
	comp=Z,9.7nm,0.8s						
NWAO	**Narrogin (SRO)**	**48.02**	**245**	P	**P**	**19 58 03.2**	**+0.6**
KAPI	**Kappang**	**51.98**	**281**	P	**P**	**19 58 32.9**	**0.0**
KAPI				IAmb	IAmb	19 58 35.2	
	comp=Z,9.0nm,0.8s						
TOLI2	**Tolitoli**	**53.78**	**289**	P	**P**	**19 58 45.4**	**-0.8**
TOLI2				IAmb	IAmb	19 58 47.1	
	comp=Z,13nm,1.0s						
KSM	**Kuching**	**63.26**	**284**	P	**P**	**19 59 52.7**	**+0.3**
JNU	**Nakatsue**	**66.81**	**324**	P	**P**	**20 00 13.5**	**-1.6**
QSPA	**South Pole Qui**	**67.84**	**180**	P	**P**	**20 00 21.5**	**+0.1**
QSPA				IAmb	IAmb	20 00 26.7	
	comp=Z,5.7nm,1.1s						
QSPA	**South Pole Qui**	**67.84**	**180**	P	**P**	**20 00 22.0**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=342,slow=3.3,SNR=7.3						
	comp=Z,2.9nm,0.8s						
VA02	**Isla de Pascua**	**71.69**	**112**	P	**P**	**20 00 43.7**	**-1.9**
KULM	**Kulim**	**73.59**	**283**	P	**P**	**20 00 55.5**	**-1.6**
KULM				IAmb	IAmb	20 00 58.5	
	comp=Z,19nm,1.2s						
RPSI	**Rantau Prapat**	**74.10**	**280**	P	**P**	**20 00 58.2**	**-1.9**
RPSI				IAmb	IAmb	20 01 01.6	
	comp=Z,17nm,1.4s						
GSI	**Gunungsitoli**	**74.78**	**278**	P	**P**	**20 01 03.8**	**-0.3**
GSI				IAmb	IAmb	20 01 06.2	
	comp=Z,12nm,0.9s						
MAW	**Mawson**	**76.14**	**202**	P	**P**	**20 01 12.6**	**+1.8**
	comp=Z,3.0nm,0.8s,baz=110,slow=10,SNR=4.9						
MAW				LR	LR	20 31 14.9	
	comp=Z,440nm,21.6s,baz=256,slow=33						
	comp=Z,3.0nm,0.8s						
PHRA	**Phrae**	**79.79**	**295**	P	**P**	**20 01 32.6**	**+0.6**
CM31	**Chiang Mai Arr**	**80.85**	**294**	P	**P**	**20 01 37.1**	**-0.7**
CM31				IAmb	IAmb	20 01 40.0	
	comp=Z,13nm,1.4s						
CMAR	**Chiang Mai Arr**	**80.85**	**294**	P	**P**	**20 01 37.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**80.85**	**294**	P	**P**	**20 01 39.1**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=140,slow=4.3,SNR=21						
	comp=Z,1.8nm,0.6s						
CHTO	**Chiang Mai**	**81.02**	**294**	P	**P**	**20 01 38.5**	**-0.1**
ELIB	**Princess Elisa**	**83.42**	**190**	*d*P	**P**	**20 01 50.1**	**-0.4**
	comp=Z,1.9nm,1.2s						
MG03	**Isla Dawson**	**87.87**	**149**	P	**P**	**20 02 12.4**	**-0.4**
MG02	**Cerro Sombrero**	**89.11**	**148**	P	**P**	**20 02 18.7**	**+0.1**
SONM	**Songino Array**	**90.34**	**323**	P	**P**	**20 02 24.2**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=140,slow=6.3,SNR=7.9						
	comp=Z,1.5nm,0.9s						
ILAR	**Eielson Array**	**92.72**	**17**	P	**P**	**20 02 38.0**	**+3.0**
	comp=Z,0.3nm,0.7s,baz=213,slow=4.3,SNR=2.1						
	comp=Z,0.3nm,0.7s						
SAND	**Sanderson**	**98.58**	**61**	P	**P**	**20 03 00.9**	**-1.7**
RDO	**Rodhopi**	**145.08**	**311**		**PKPbc**	**20 08 59.7**	**-0.7**
PSZ	**Piszkesteto**	**145.26**	**325**		**PKPbc**	**20 08 59.5**	**-1.3**
MORC	**Moravsky Berou**	**145.26**	**329**		**PKPbc**	**20 08 59.8**	**-0.9**
MORC	**Moravsky Berou**	**145.26**	**329**	*e*PKP	**PKPbc**	**20 09 00.3**	**-0.4**
KRLC	**Kraliky**	**145.41**	**330**	*e*PKP	**PKPbc**	**20 09 00.8**	**-0.4**
DPC	**Dobruska-Polom**	**145.43**	**331**	*e*PKP	**PKPbc**	**20 09 01.3**	**0.0**
UPC	**Upice**	**145.46**	**331**	*e*PKP	**PKPbc**	**20 09 01.4**	**+0.1**
JAVC	**Velka Javorina**	**145.81**	**328**	*e*PKP	**PKPab**	**20 09 03.3**	**+0.4**
VRAC	**Vranov**	**146.03**	**329**	*e*PKP	**PKPdf**	**20 09 02.8**	**+0.5**
BRG	**Berggiesshubel**	**146.09**	**333**	⇑*i*PKP	**PKPbc**	**20 09 03.1**	**-0.1**
BRG				Amp		20 09 03.7	
	comp=Z,11nm,0.9s						
CLL	**Collm**	**146.14**	**335**	PKPdf	**PKPdf**	**20 09 02.3**	**-0.1**
CLL	**Collm**	**146.14**	**335**	*i* PKPbc	**PKPdf**	**20 09 02.8**	**+0.4**
	comp=Z,12nm,1.2s						
CLL				*i* PKiKP	sPKPab	20 09 08.1	+0.9
CLL				*e*SKPdf	**SKPdf**	**20 12 36.3**	**-0.7**
KRUC	**Moravsky**	**146.29**	**329**	*e*PKP	**PKPbc**	**20 09 03.7**	**-0.2**
ZVC	**Zvikov**	**147.04**	**331**	*e*PKP	**PKPbc**	**20 09 05.8**	**-0.3**
CKRC	**Cesky Krumlov**	**147.44**	**330**	*e*PKP	**PKPab**	**20 09 08.6**	**-0.6**
CKRC				*ex*	x	20 09 13.5	
KHC	**Kasperske Hory**	**147.54**	**331**	*e*PKP	**PKPbc**	**20 09 06.6**	**-0.9**
GERES	**GERESS Array B**	**147.70**	**331**	PKPbc	**PKPdf**	**20 09 06.7**	**+1.4**
GERES	**GERESS Array B**	**147.70**	**331**	PKPbc	**PKPbc**	**20 09 07.3**	**-0.8**
	comp=Z,2.3nm,0.9s,baz=39,slow=0.6,SNR=7.8						
TORD	**Torodi Ar. Bea**	**166.07**	**231**	PKPab	**PKPab**	**20 10 30.2**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=122,slow=4.4,SNR=3.5						

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*IDC **27** 19:54:43.0±1.5, 37°.79N×20°.64E, h0km, mb3.4/6, mbtmp3.4/6, Error ellipse: s-maj=46.1km s-min=27.7km az=126.0*
*ATH **27** 19:54:46.6, 37°.63N×20°.46E, h20km±4km, ML3.4/12, Manual Solution by A.Fokaefs First location: 2018/11/27 19:55:42, This location: 2019/01/28 09:21:18 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 5 km*
*THE **27** 19:54:46.2, 37°.57N×20°.43E, h0km±2km, ML3.5/16, Error ellipse: s-maj=2.9km s-min=0.6km az=227.0*
ISC 27 19:54:45.5±1.4, 37°.57N±0°.04×20°.41E±0°.05, h10km±8km, n45, σ1§31/63, mb3.5/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.33**	**74**	P	**Pg**	**19 54 52.3**	**+0.2**
KRI1				S	**Sg**	**19 54 57.3**	**+0.7**
	19μm,0.5s						
LTHK	**Lithakia**	**0.36**	**67**	P	**Pg**	**19 54 52.9**	**+0.3**
LTHK				S	**Sg**	**19 54 57.9**	**+0.4**
	16μm,0.5s						
LTHK	**Lithakia**	**0.36**	**67**	P	**Pg**	**19 54 52.9**	**+0.3**
LTHK				S	**Sb**	**19 54 58.3**	**-1.4**
PSDA	**Pessada-Kefalo**	**0.56**	**14**	P	**Pb**	**19 54 56.7**	**-0.6**
PSDA				S	**Sb**	**19 55 04.7**	**-0.6**
	5μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.56**	**14**	P	**Pb**	**19 54 56.7**	**-0.6**
PSDA				S	**Sg**	**19 55 03.3**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.58**	**29**	P	**Pb**	**19 54 57.0**	**-0.6**
RTZL				S	**Sb**	**19 55 05.8**	**-0.1**
	3μm,0.3s						
VLS	**Valsamata**	**0.62**	**13**	P	**Pg**	**19 54 57.7**	**+0.2**
VLS				S	**Sb**	**19 55 06.5**	**-0.7**
	5μm,0.3s						
VLS	**Valsamata**	**0.62**	**13**	P	**Pg**	**19 54 57.5**	**0.0**
VLS				S	**Sb**	**19 55 06.2**	**-0.9**
DMLN	**Damoulianata-K**	**0.67**	**357**	P	**Pb**	**19 54 58.9**	**-0.3**
DMLN				S	**Sb**	**19 55 08.8**	**+0.3**
	8μm,0.5s						
DMLN	**Damoulianata-K**	**0.67**	**357**	P	**Pg**	**19 54 58.5**	**+0.1**
VSK1	**VASILIKIADES**	**0.84**	**8**	P	**Pb**	**19 55 02.0**	**-0.2**
VSK1				S	**Sb**	**19 55 14.4**	**+0.8**
	5μm,0.6s						
FSK	**Fiskardo**	**0.90**	**7**	P	**Pg**	**19 55 02.7**	**0.0**
FSK				S	**Sb**	**19 55 16.4**	**+1.4**
	2μm,0.4s						
FSK	**Fiskardo**	**0.90**	**7**	P	**Pg**	**19 55 02.3**	**-0.4**
RLS	**Riolos of Patr**	**0.96**	**59**	P	**Pg**	**19 55 03.9**	**-0.2**
RLS				S	**Sb**	**19 55 17.6**	**+0.6**
	1μm,0.5s						
RLS	**Riolos of Patr**	**0.96**	**59**	P	**Pg**	**19 55 03.9**	**-0.2**
AMT	**Artemida-Makis**	**1.03**	**92**	P	**Pg**	**19 55 05.1**	**-0.2**
EVGI	**Lefkada island**	**1.07**	**10**	P	**Pg**	**19 55 05.8**	**-0.2**
EVGI				S	**Sn**	**19 55 21.6**	**+0.3**
	3μm,0.4s						
EVGI	**Lefkada island**	**1.07**	**10**	P	**Pg**	**19 55 05.8**	**-0.2**
DRO	**Drossia**	**1.10**	**69**	P	**Pg**	**19 55 06.3**	**-0.2**
DRO				S	**Sn**	**19 55 22.6**	**+0.6**
	3μm,0.6s						
DRO	**Drossia**	**1.10**	**69**	P	**Pg**	**19 55 05.6**	**-0.9**
NYDR	**Nydri-Lefkada**	**1.16**	**11**	P	**Pg**	**19 55 07.3**	**-0.5**
NYDR				S	**Sn**	**19 55 24.9**	**+1.3**
	2μm,0.5s						
NYDR	**Nydri-Lefkada**	**1.16**	**11**	P	**Pg**	**19 55 07.2**	**-0.7**
PYL2	**Kinigos**	**1.24**	**122**	P	**Pg**	**19 55 08.7**	**-0.5**
PYL	**PYLOS**	**1.26**	**122**	P	**Pg**	**19 55 08.9**	**-0.7**
TSLK	**Tsoukalades, L**	**1.27**	**9**	P	**Pn**	**19 55 11.3**	**+2.1**
TSLK				S	**Sn**	**19 55 29.0**	**+2.8**
	3μm,0.5s						
ITM	**Ithomi**	**1.27**	**107**	P	**Pg**	**19 55 09.4**	**-0.4**
ITM				S	**Sn**	**19 55 29.0**	**+2.8**
	355nm,0.5s						
ITM	**Ithomi**	**1.27**	**107**	P	**Pg**	**19 55 09.4**	**-0.4**
UPR	**University Cam**	**1.30**	**56**	P	**Pn**	**19 55 11.1**	**+1.5**
UPR				S	**Sn**	**19 55 29.6**	**+2.6**
KLV	**Kalavryta, Ach**	**1.45**	**71**	P	**Pg**	**19 55 12.5**	**-0.9**
KLV	**Kalavryta, Ach**	**1.45**	**71**	P	**Pg**	**19 55 11.3**	**-2.1**
EFP	**Efpalio**	**1.46**	**54**	P	**Pg**	**19 55 12.3**	**-1.1**
EFP				S	**Sn**	**19 55 34.1**	**+3.2**
	938nm,0.5s						
EFP	**Efpalio**	**1.46**	**54**	P	**Pg**	**19 55 12.2**	**-1.2**
ANX	**Ano Chora**	**1.57**	**49**	P	**Pn**	**19 55 14.2**	**+0.8**
ANX				S	**Sn**	**19 55 36.6**	**+2.8**
	2μm,0.6s						
ANX	**Ano Chora**	**1.57**	**49**	P	**Pn**	**19 55 14.2**	**+0.8**
GUR	**Goura**	**1.57**	**76**	P	**Pb**	**19 55 15.1**	**+0.5**
GUR	**Goura**	**1.57**	**76**	P	**Pn**	**19 55 14.4**	**+0.9**
AGG	**Agios Georgios**	**2.09**	**46**	P	**Pb**	**19 55 22.9**	**-0.6**
AXAR	**Agios Charalam**	**2.13**	**55**	P	**Pb**	**19 55 23.6**	**-0.6**
VILL	**Villia**	**2.37**	**75**	P	**Pn**	**19 55 25.6**	**+1.2**
HFS	**Hagfors**	**22.99**	**351**	P	**P**	**19 59 48.3**	**-1.6**
	2.6nm,1.1s,baz=172,slow=12,SNR=1.4						
	2.6nm,1.1s						
FINES	**FINESS Array B**	**24.16**	**7**	P	**P**	**19 59 57.1**	**-4.3**
	1.5nm,0.8s,baz=177,slow=9.7,SNR=1.2						
	1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**29.51**	**219**	P	**P**	**20 00 51.5**	**+1.6**
	0.2nm,0.6s,baz=29,slow=7.2,SNR=1.6						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**42.66**	**53**	P	P	20 02 38.5	-3.5
	0.2nm,0.6s,baz=279,slow=9.1,SNR=1.9						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**45.69**	**58**	P	**P**	**20 03 04.3**	**-2.1**
	0.4nm,0.8s,baz=272,slow=8.9,SNR=3.6						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**46.16**	**48**	P	P	20 03 06.3	-3.6
	0.5nm,0.7s,baz=265,slow=7.2,SNR=1.8						
	0.5nm,0.7s						

IDC 27 20:07:04.4±4.9, 11°.71N×145°.07E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=281.9km s-min=20.8km az=92.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.88**	**354**	Pn	Pn	20 07 35.8	-2.0
	27nm,0.3s,baz=98,slow=1.3,SNR=13						
GUMO				Sn	Sb	20 08 03.4	-0.2
	41nm,0.3s,baz=32,slow=18,SNR=7.3						
WRA	**Warramunga Arr**	**33.18**	**199**	P	P	20 13 42.4	-0.6
	0.2nm,0.7s,baz=19,slow=9.4,SNR=1.9						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**36.82**	**197**	P	P	20 14 13.8	-0.7
	0.2nm,0.8s,baz=17,slow=11,SNR=2.2						
	0.2nm,0.8s						
AKASG	**Malin Array Be**	**96.65**	**325**	P	P	20 20 38.4	+1.8
	0.3nm,0.4s,baz=46,slow=4.2,SNR=7.6						
	0.3nm,0.4s						

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*SJA **27** 20:58:09.1±0.6, 24°.15S×66°.80W, h230km±5km, ML4.0, MW3.8*
*NEIC **27** 20:58:09.6±1.9, 24°.08S±0°.07×67°.1W±0°.1, h265km±17km, mb4.3/3, Error ellipse: s-maj=18.9km s-min=9.7km az=100.0*
*IDC **27** 20:58:16.7±4.2, 23°.55S×66°.53W, h250km±27km, mb2.9/1, mbtmp3.7/5, Error ellipse: s-maj=55.8km s-min=22.2km az=44.0*
ISC 27 20:58:09.2±0.7, 24°.15S±0°.04×66°.91W±0°.05, h230km±8km, n61, σ1§58/92, 3C, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.40**	**114**	*e*P	**Pn**	**20 58 44.4**	**-0.6**
SLA				*e*S	**S**	**20 59 10.9**	**-2.0**
AF01	**San Pedro de A**	**1.67**	**315**	Pn	**Pn**	**20 58 48.7**	**+1.4**
AF01	**San Pedro de A**	**1.67**	**315**	⇑*i*P	**Pn**	**20 58 48.6**	**+1.2**
AF01	**San Pedro de A**	**1.67**	**315**	*e*P	**Pn**	**20 58 48.8**	**+1.4**
AF01				*e*S	**S**	**20 59 22.1**	**+4.9**
FSA	**Cafayete**	**2.12**	**157**	*e*P	**Pn**	**20 58 51.2**	**-0.2**
GO02	**Mina Guanaco**	**2.64**	**247**	Pn	**Pn**	**20 58 58.5**	**+1.6**
GO02				Sn	**S**	**20 59 34.2**	**+0.1**
GO02	**Mina Guanaco**	**2.64**	**247**	⇑*i*P	**Pn**	**20 58 58.4**	**+1.6**
GO02				*e*S	**S**	**20 59 34.1**	**0.0**
GO02				IAML		20 59 36.1	
	comp=E,1μm,0.3s						
GO02	**Mina Guanaco**	**2.64**	**247**	*e*P	**Pn**	**20 58 58.5**	**+1.6**
GO02				*e*S	**S**	**20 59 34.9**	**+0.8**
AHML	**Horco Molle**	**2.98**	**152**	*e*P	**Pn**	**20 59 00.5**	**+0.2**
AHML				*e*S	**S**	**20 59 38.0**	**-2.4**
PB09	**IPOC Station P**	**3.18**	**317**		**Pn**	**20 59 04.1**	**+1.3**
PB09				Sn	**S**	**20 59 44.0**	**-0.7**
PB09	**IPOC Station P**	**3.18**	**317**	*e*P	**Pn**	**20 59 04.1**	**+1.3**
PB09				*e*S	**S**	**20 59 44.3**	**-0.5**
PB09	**IPOC Station P**	**3.18**	**317**	*e*P	**Pn**	**20 59 04.0**	**+1.3**
PB09				*e*S	**S**	**20 59 46.0**	**+1.2**
PB09				IAML		20 59 47.1	
	comp=Z,176nm,0.2s						
PB14	**IPOC Station P**	**3.22**	**261**	Pn	**Pn**	**20 59 04.4**	**+1.0**
PB14				Sn	**S**	**20 59 43.2**	**-2.5**
PB14	**IPOC Station P**	**3.22**	**261**	*e*P	**Pn**	**20 59 04.6**	**+1.3**
PB14				*e*S	**S**	**20 59 46.1**	**+0.4**
PB14				IAML		20 59 47.6	
	comp=Z,218nm,0.2s						
PB04	**IPOC Station

ITAB	**Concordia**	**13.67**	**106**		**P**		**21 01 15.5**	**-0.1**
TRQA	**Tornquist**	**14.48**	**164**		**P**		**21 01 24.3**	**-0.2**
VAO	**Valinhos**	**18.32**	**90**	P	**P**		**21 02 06.5**	**-0.3**
VAO				IAmb	IAmb		21 02 08.7	
comp=Z,19nm,1.1s								
BDFB	**Brasilia**	**19.66**	**68**	P	**P**		**21 02 21.5**	**+0.3**
BDFB				IAmb	IAmb		21 02 25.4	
comp=Z,9.5nm,1.4s								
BDFB	**Brasilia**	**19.66**	**68**	P	**P**		**21 02 21.9**	**+0.6**
comp=Z,2.1nm,0.6s,baz=266,slow=15,SNR=3.2								
PMSA	**Palmer Station**	**40.66**	**178**	P	**P**		**21 05 24.5**	**-2.2**
TORD	**Torodi Ar. Bea**	**76.55**	**69**	P	**P**		**21 09 36.6**	**+2.0**
comp=Z,0.3nm,0.6s,baz=265,slow=5.6,SNR=5.2								
comp=Z,0.3nm,0.6s								
ZALV	**Zalesovo Beam**	**143.49**	**28**	PKP	**PKPdf**		**21 17 17.8**	**+1.8**
comp=Z,1.0nm,0.6s,baz=328,slow=5.1,SNR=5.7								
MKAR	**Makanchi Array**	**146.59**	**40**	PKPbc	**PKiKP**		**21 17 26.5**	**+0.3**
comp=Z,1.3nm,0.6s,baz=303,slow=3.7,SNR=14								

*ISN **27** 20:59:02.2±0.6, 34°.22N×45°.55E, h19km±4km, ML3.1*
*TEH **27** 20:59:02.3, 34°.22N×45°.62E, h11km±20km, ML3.3*
ISC 27 20:59:02.3±1.2, 34°.21N±0°.03×45°.58E±0°.03, h7km±12km, n29, σ1§04/34, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.28**	**109**	Pg	**Pg**	**20 59 08.2**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.30**	**1**	Pg	**Pg**	**20 59 08.2**	**0.0**
ILBA	**Ilam Banvizeh**	**0.78**	**138**	Pg	**Pg**	**20 59 17.4**	**+0.2**
IGHG	**Ghaleghazi**	**0.82**	**81**	Pg	**Pb**	**20 59 18.4**	**-0.7**
IDHR	**Dehrash**	**0.83**	**53**	Pg	**Pg**	**20 59 17.3**	**-0.8**
IBDR	**Badra**	**1.13**	**165**	*e*Pg	**Pb**	**20 59 23.5**	**-0.6**
IBDR				*e*Sg	**Sb**	**20 59 38.5**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.21**	**86**	Pg	**Pg**	**20 59 25.3**	**-0.2**
ILIN	**Lien**	**1.34**	**58**	Pg	**Pg**	**20 59 27.3**	**-0.7**
ILIN				Sg	**Sg**	**20 59 46.9**	**+1.5**
BHD	**Baghdad**	**1.37**	**227**	*e*Pn	**Pn**	**20 59 28.0**	**+0.2**
BHD				*e*Sn	**Sg**	**20 59 47.0**	**+0.7**
IKRK	**Kirkuk**	**1.57**	**320**	*e*Pn	**Pb**	**20 59 31.0**	**-0.7**
IKRK				*e*Sn	**Sb**	**20 59 51.5**	**-0.2**
IKRK				AML	AML	20 59 56.4	
comp=N,376nm,0.5s							
IKRK				AML	AML	21 00 02.4	
comp=E,274nm,0.7s							
SNQR	**Sonqor, Kerman**	**1.81**	**68**	Pg	**Pb**	**20 59 35.6**	**-0.3**
SDS1	**Sardasht. Az.**	**1.94**	**358**	Pn	**Pb**	**20 59 36.7**	**-1.4**
IKFM	**Kafar-mosalman**	**2.00**	**109**	Pn	**Pb**	**20 59 37.7**	**-1.2**
IDOB	**Doab**	**2.19**	**100**	Pn	**Pb**	**20 59 40.2**	**-2.2**
HSAM	**Samen**	**2.50**	**89**	Pn	**Pn**	**20 59 44.5**	**+0.9**
RAFI	**Al-Rafai**	**2.52**	**170**	*e*Pn	**Pn**	**20 59 44.0**	**+0.5**
RAFI				*e*Sn	**Sn**	**21 00 15.5**	**+1.1**
RAFI				AML	AML	21 00 30.8	
comp=N,133nm,0.1s							
RAFI				AML	AML	21 00 40.6	
comp=E,122nm,0.9s							
MAHB	**Mahabad**	**2.56**	**2**	Pn	**Pb**	**20 59 46.0**	**-2.6**
HAGD	**Aghdareh**	**3.00**	**77**	Pn	**Pn**	**20 59 51.4**	**+1.0**
IAZR	**Azarshahr**	**3.48**	**5**	Pn	**Pn**	**20 59 58.7**	**+1.6**
QABG	**Abgarm-Qazvin**	**3.61**	**64**	Pn	**Pn**	**21 00 00.1**	**+1.3**
ISRB	**Sarab**	**3.99**	**24**	Pn	**Pn**	**21 00 05.5**	**+1.5**
IMRD	**Marand**	**4.50**	**1**	Pn	**Pn**	**21 00 11.7**	**+0.7**
IPIR	**Pirpir**	**4.69**	**107**	Pn	**Pn**	**21 00 13.8**	**0.0**
JHBN	**Jahan bin**	**4.69**	**113**	Pn	**Pn**	**21 00 13.6**	**-0.2**
QAMS	**Qamsar**	**4.85**	**94**	Pn	**Pn**	**21 00 16.6**	**+0.7**
ZNGN	**Zangian**	**4.88**	**114**	Pn	**Pn**	**21 00 16.2**	**-0.3**
GRMI	**Germi**	**4.96**	**21**	Pn	**Pn**	**21 00 18.4**	**+1.2**
IKLH	**Kolahrood**	**5.07**	**98**	Pn	**Pn**	**21 00 19.4**	**+0.5**
IRAM	**Ramesheh**	**6.19**	**111**	Pn	**Pn**	**21 00 34.3**	**0.0**

*NEIC **27** 21:14:05.4±1.6, 17°.9S±0°.1×178°.2W±0°.1, h580km±9km, mb4.1/24, Error ellipse: s-maj=22.1km s-min=17.6km az=144.0*
*IDC **27** 21:14:07.2±1.2, 17°.90S×178°.35W, h596km±12km, mb3.4/9, mbtmp4.3/11, Error ellipse: s-maj=24.6km s-min=16.4km az=138.0*
ISC 27 21:14:05.5±0.5, 17°.9S±0°.1×178°.2W±0°.09, h579km, n43, σ1§13/46, mb4.0/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.51**	**272**	P	**P**	**21 15 27.7**	**+1.5**
MSVF	**Nonsavu**	**3.51**	**272**	P	**P**	**21 15 27.9**	**+1.7**
104nm,0.8s,baz=123,slow=5.6,SNR=161							
MSVF				S	**S**	**21 16 36.2**	**+4.3**
4.5nm,0.7s,baz=66,slow=22,SNR=6.3							
FUTU	**Fugatoga**	**3.56**	**2**	P	**P**	**21 15 24.8**	**-1.7**
NIUE	**Niue**	**8.01**	**100**	P	**P**	**21 16 05.1**	**+0.9**
DZM	**Mont Dzumac**	**14.96**	**251**	P	**P**	**21 17 14.5**	**+0.4**
DZM	**Mont Dzumac**	**14.96**	**251**	P	**P**	**21 17 14.3**	**+0.2**
4.7nm,0.7s,baz=79,slow=10,SNR=5.6							
URZ	**Urewera**	**20.70**	**190**	P	**P**	**21 18 05.3**	**-1.0**
3.4nm,0.4s,baz=285,slow=23,SNR=1.4							
3.4nm,0.4s							
MRZ	**Mangatainoka R**	**23.31**	**192**	P	**P**	**21 18 27.5**	**-2.1**
LTZ	**Lake Taylor**	**26.09**	**196**	P	**P**	**21 18 52.5**	**-1.7**
ARMA	**Armidale**	**30.06**	**240**	P	**P**	**21 19 29.4**	**+0.3**
ARMA				IAmb	IAmb	21 19 55.3	
comp=Z,7.3nm,1.1s							
CTAO	**Charters Tower**	**33.58**	**260**	P	**P**	**21 19 58.3**	**-0.7**
CTAO				IAmb	IAmb	21 20 10.6	
comp=Z,5.0nm,1.1s							
COEN	**Coen**	**37.24**	**270**	P	**P**	**21 20 28.5**	**-0.8**
COEN				IAmb	IAmb	21 20 30.5	
comp=Z,5.6nm,0.9s							
TOO	**Toolangi**	**37.28**	**231**	P	**P**	**21 20 30.1**	**+0.7**
TOO				IAmb	IAmb	21 20 30.6	
comp=Z,2.3nm,0.9s							
STKA	**Stephens Creek**	**38.76**	**241**	P	**P**	**21 20 41.9**	**+0.6**
STKA	**Stephens Creek**	**38.76**	**241**	P	**P**	**21 20 42.0**	**+0.6**
comp=Z,3.5nm,0.5s,baz=87,slow=9.9,SNR=13							
comp=Z,3.5nm,0.5s							
BBOO	**Buckleboo**	**43.53**	**241**	P	**P**	**21 21 19.0**	**-0.1**
BBOO				IAmb	IAmb	21 21 46.1	
comp=Z,8.4nm,1.1s							
WR0	**Warramunga Arr**	**44.58**	**259**	P	**P**	**21 21 26.4**	**-0.9**
WRA	**Warramunga Arr**	**44.77**	**259**	P	**P**	**21 21 27.6**	**-1.2**
WRA	**Warramunga Arr**	**44.77**	**259**	P	**P**	**21 21 28.3**	**-0.5**
comp=Z,2.3nm,0.5s,baz=94,slow=7.0,SNR=63							
WRA				PcP	**PcP**	**21 22 58.1**	**-0.2**
comp=Z,0.2nm,0.3s,baz=91,slow=3.7,SNR=1.7							
comp=Z,2.3nm,0.5s							
AS31	**Alice Springs**	**44.92**	**254**	P	**P**	**21 21 29.7**	**-0.3**
AS31				IAmb	IAmb	21 21 30.5	
comp=Z,4.8nm,0.7s							
ASAR	**Alice Springs**	**44.92**	**254**	P	**P**	**21 21 29.6**	**-0.3**
ASAR	**Alice Springs**	**44.92**	**254**	P	**P**	**21 21 29.9**	**-0.1**
comp=Z,18nm,0.6s,baz=88,slow=8.5,SNR=241							
ASAR				PcP	**PcP**	**21 22 58.5**	**-0.3**
comp=Z,0.7nm,0.5s,baz=103,slow=3.7,SNR=4.3							
comp=Z,18nm,0.6s							
MTN	**Manton Dam**	**48.93**	**268**	P	**P**	**21 21 59.3**	**-0.8**
FORT	**Forrest**	**50.13**	**245**	P	**P**	**21 22 07.6**	**-1.2**
PSA00	**Pilbara Seismi**	**58.04**	**255**	P	**P**	**21 23 03.7**	**-0.7**
PSA00				IAmb	IAmb	21 23 08.6	
comp=Z,7.0nm,0.9s							
MBWA	**Marble Bar**	**58.21**	**256**	P	**P**	**21 23 04.5**	**-1.1**
MBWA				IAmb	IAmb	21 23 23.2	
comp=Z,10nm,1.1s							
TOLI2	**Tolitoli**	**62.84**	**281**	P	**P**	**21 23 36.4**	**+0.3**
JAGI	**Jajag, Banyuwa**	**66.17**	**268**	P	**P**	**21 23 55.2**	**-2.0**
QSPA	**South Pole Qui**	**72.17**	**180**	P	**P**	**21 24 33.0**	**+0.8**
comp=Z,2.2nm,0.7s,baz=23,slow=3.1,SNR=7.9							
comp=Z,2.2nm,0.7s							
NVAR	**Mina Array Bea**	**79.32**	**44**	P	**P**	**21 25 13.3**	**+1.1**
comp=Z,0.8nm,0.6s,baz=221,slow=8.8,SNR=7.0							
comp=Z,0.8nm,0.6s							
J05D	**Fort Rock, OR**	**80.22**	**38**	P	**P**	**21 25 17.7**	**+0.9**
J05D				IAmb	IAmb	21 25 18.4	
comp=Z,4.0nm,0.5s							
L16K	**Owhat River**	**80.73**	**9**	P	**P**	**21 25 19.1**	**+0.3**
L16K				IAmb	IAmb	21 25 34.0	
comp=Z,4.9nm,1.1s							
K15K	**Wolf Creek Mou**	**81.01**	**8**	P	**P**	**21 25 20.3**	**+0.1**
L18K	**Granite Mounta**	**81.65**	**10**	P	**P**	**21 25 24.0**	**+0.6**
BELA	**Belgrano 2**	**82.17**	**173**	P	**P**	**21 25 25.7**	**-0.3**
BELA				IAmb	IAmb	21 25 27.3	
comp=Z,3.2nm,0.8s							
J19K	**Poorman**	**83.49**	**10**	P	**P**	**21 25 32.7**	**0.0**
N25K	**Chitina, Valde**	**83.65**	**15**	P	**P**	**21 25 33.1**	**-0.5**
N25K				IAmb	IAmb	21 25 34.3	
comp=Z,5.6nm,0.9s							
J20K	**Nowinta River**	**83.91**	**10**	P	**P**	**21 25 34.5**	**-0.2**

MAW	**Mawson**	**83.92**	**200**	P	**P**		**21 25 35.0**	**+0.1**
comp=Z,0.8nm,0.4s,baz=106,slow=7.4,SNR=2.3								
comp=Z,0.8nm,0.4s								
ILAR	**Eielson Array**	**85.84**	**13**	P	**P**		**21 25 43.2**	**-0.9**
comp=Z,0.4nm,0.4s,baz=223,slow=5.0,SNR=14								
comp=Z,0.4nm,0.4s								
TXAR	**Lajitas Array**	**85.87**	**58**	P	**P**		**21 25 46.6**	**+1.4**
comp=Z,1.3nm,0.8s,baz=224,slow=5.2,SNR=4.3								
comp=Z,1.3nm,0.8s								
BURAR	**Bucovina Array**	**144.66**	**332**	PKPbc	**PKPab**		**21 32 38.3**	**+0.1**
GERES	**GERESS Array B**	**147.63**	**345**	PKPbc	**PKPbc**		**21 32 45.6**	**+0.1**

*ISN **27** 21:25:18.8±0.6, 34°.29N×45°.60E, h15km±4km, ML3.2*
*TEH **27** 21:25:19.0, 34°.27N×45°.61E, h11km±76km, ML2.9*
ISC 27 21:25:19.7±0.9, 34°.29N±0°.04×45°.62E±0°.04, h18km, n12, σ0§91/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.21**	**354**	Pg	**Pg**	**21 25 24.4**	**-0.5**
GLG1	**Gilan-e-Gharb**	**0.30**	**126**	Pg	**Pg**	**21 25 25.4**	**-1.0**
IDHR	**Dehrash**	**0.76**	**57**	Pg	**Pb**	**21 25 33.5**	**-1.0**
IGHG	**Ghaleghazi**	**0.79**	**87**	Pg	**Pg**	**21 25 35.0**	**-0.2**
ILBA	**Ilam Banvizeh**	**0.83**	**143**	Pg	**Pb**	**21 25 34.5**	**-1.2**
KCHF	**Cheshme Sefid,**	**1.18**	**91**	Pg	**Pg**	**21 25 42.2**	**-0.4**
IBDR	**Badra**	**1.21**	**167**	*e*Pg	**Pb**	**21 25 41.5**	**-0.6**
IBDR				*e*Sg	**Sn**	**21 25 57.5**	**-0.2**
IBDR				AML	AML	21 26 04.3	
comp=N,587nm,0.3s							
IBDR				AML	AML	21 26 04.5	
comp=E,480nm,0.6s							
ILIN	**Lien**	**1.27**	**60**	Pg	**Pb**	**21 25 43.4**	**+0.1**
BHD	**Baghdad**	**1.45**	**226**	*e*Pn	**Pb**	**21 25 46.0**	**-0.2**
BHD				*e*Sn	**Sg**	**21 26 06.0**	**-0.6**
IKRK	**Kirkuk**	**1.52**	**317**	*e*Pn	**Pb**	**21 25 47.0**	**-0.4**
IKRK				*e*Sn	**Sg**	**21 26 08.5**	**-0.4**
SNQR	**Sonqor, Kerman**	**1.75**	**71**	Pg	**Pb**	**21 25 51.7**	**+0.2**
RAFI	**Al-Rafai**	**2.60**	**171**	*e*Pn	**Pn**	**21 26 02.0**	**+1.2**
RAFI				*e*Sn	**Sn**	**21 26 34.0**	**+2.1**
RAFI				AML	AML	21 26 49.5	
comp=N,115nm,0.6s							
RAFI				AML	AML	21 26 57.6	
comp=E,165nm,0.9s							

*JMA **27** 21:31:30.5±0.2, 40°.4N±0°.4×142°.8E±0°.8, h25km±2km, MD4.1/39, MV4.3/39, NE OFF IWATE PREF*
JMA Felt I J1 at NE OFF IWATE PREF .
*NIED **27** 21:31:30.5, 40°.35N×142°.81E, h25km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.88; $M_{\theta\theta}$0.18; $M_{\phi\phi}$-1.06; $M_{r\theta}$-0.62; $M_{\theta\phi}$0.24; $M_{\phi r}$0.32; Fault plane solution: $M_0$1.23000×10^{15} NP1: ϕ_s323.00000°, δ63.00000°, λ60.00000°. NP2: ϕ_s195.00000°, δ40.00000°, λ134.00000°.*
*IDC **27** 21:31:34.6±2.1, 40°.36N×142°.93E, h65km±18km, mb3.5/15, mbtmp3.8/19, MS3.5/4 Error ellipse: s-maj=19.7km s-min=12.7km az=102.0*
*NEIC **27** 21:31:34.4±2.0, 40°.38N±0°.06×142°.71E±0°.09, h49km±8km, mb4.4/28, Error ellipse: s-maj=10.2km s-min=7.9km az=125.0*
ISC 27 21:31:33.0±1.4, 40°.34N±0°.04×142°.80E±0°.07, h45km±12km, n93, σ1§29/90, mb4.2/29, 14D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.82**	**241**	⇓*i*P	**Pn**	**21 31 46.3**	**-1.9**
JTH				⇓*e*S	**Sn**	**21 31 57.6**	**-1.7**
JKEN	**Kujiedanarisaw**	**0.85**	**261**	⇓*i*P	**Pn**	**21 31 46.2**	**-2.3**
JANG	**Nango**	**0.98**	**272**	⇓*i*P	**Pn**	**21 31 48.4**	**-2.0**
JANG	**Nango**	**0.98**	**272**	A	A	21 31 48.4	
comp=E,4.0nm,0.5s,comp=N,3.0nm,0.5s							
MIYJ	**Miyakonagasawa**	**1.07**	**225**	⇓P	**Pn**	**21 31 49.7**	**-1.9**
MIYJ				⇓*e*S	**Sn**	**21 32 03.4**	**-2.0**
JKZ	**Kuzumaki**	**1.18**	**253**	⇓*i*P	**Pn**	**21 31 51.8**	**-1.4**
JTM	**Tenmabayashi**	**1.39**	**289**	Pn	**Pn**	**21 31 55.1**	**-0.9**
JTM				Sn	**Sn**	**21 32 12.4**	**-0.8**
JTM	**Tenmabayashi**	**1.39**	**289**	⇓*i*P	**Pn**	**21 31 55.0**	**-0.9**
JTM				⇓*e*S	**Sn**	**21 32 12.0**	**-1.2**
JAHD	**Aomorihigashid**	**1.45**	**310**	A	A	21 31 55.5	
comp=E,9.0nm,0.8s,comp=N,9.0nm,0.4s							
JOM	**Ohasama**	**1.45**	**234**	⇓*i*P	**Pn**	**21 31 56.0**	**-0.7**
JOM	**Ohasama**	**1.45**	**234**	A	A	21 31 56.0	
comp=E,5.0nm,2.1s,comp=N,5.0nm,4.7s							
JSZI	**Iwateshizukuis**	**1.54**	**248**	A	A	21 31 57.2	
comp=E,11nm,1.5s,comp=N,8.0nm,0.9s							
JAH	**Hinai**	**1.67**	**265**	⇓P	**Pn**	**21 31 59.4**	**-0.2**
JAH				⇓*e*S	**Sn**	**21 32 21.4**	**+1.5**
JAH	**Hinai**	**1.67**	**265**	A	A	21 31 59.4	
comp=E,7.0nm,1.1s,comp=N,7.0nm,0.8s							
JOT	**Ohata**	**1.69**	**309**	⇓P	**Pn**	**21 31 59.0**	**-1.0**
JOT				⇓*e*S	**Sn**	**21 32 19.3**	**-1.1**
ERM	**Erimo**	**1.69**	**9**	Pn	**Pn**	**21 31 59.0**	**-1.0**
JEM	**Erimo**	**1.69**	**9**	P	**Pn**	**21 31 58.7**	**-1.3**
JMK	**Ichinoseki**	**1.85**	**222**	P	**Pn**	**21 32 02.9**	**+0.7**
JMK				*e*S	**Sn**	**21 32 26.3**	**+2.0**
JRG	**Rokugo**	**1.92**	**241**	P	**Pn**	**21 32 04.2**	**+1.0**
JRG				*e*S	**Sn**	**21 32 28.2**	**+2.2**
JRG	**Rokugo**	**1.92**	**241**	A	A	21 32 04.2	
comp=E,4.0nm,0.8s,comp=N,4.0nm,1.5s							
JNBK	**Urakawa-nobuka**	**1.94**	**359**	P	**Pn**	**21 32 03.0**	**-0.4**
JSI2	**Shiura 2**	**1.95**	**292**	A	A	21 32 03.1	
comp=E,7.0nm,0.8s,comp=N,5.0nm,0.6s							
JKB	**Kayabe**	**2.04**	**320**	P	**Pn**	**21 32 04.3**	**-0.5**
JKB				S	**Sn**	**21 32 28.5**	**-0.6**
JMM	**Marumori**	**2.92**	**213**	Pn	**Pn**	**21 32 16.6**	**-0.3**
ASAJ	**Asahikawa**	**3.77**	**358**	P	**Pn**	**21 32 28.4**	**-0.3**
comp=N,10nm,0.3s,baz=211,slow=16,SNR=21							
ASAJ				S	**Sn**	**21 33 14.6**	**+2.9**
comp=N,21nm,0.4s,baz=253,slow=31,SNR=1.7							
JKA	**Kamikawa-asahi**	**3.77**	**358**	Pn	**Pn**	**21 32 28.4**	**-0.3**
JSD	**Sado**	**4.21**	**238**	Pn	**Pn**	**21 32 34.9**	**+0.3**
MJB9	**Matsu-Tunnel**	**5.23**	**225**	Pn	**Pn**	**21 32 50.3**	**+1.6**
MAJO	**Matsushiro**	**5.23**	**225**	Pn	**Pn**	**21 32 50.2**	**+1.5**
MJAR	**Matsushiro Arr**	**5.23**	**225**	P	**Pn**	**21 32 50.8**	**+2.1**
comp=N,22nm,0.6s,baz=32,slow=12,SNR=68							
MJAR				LR	LR	21 35 07.4	
comp=N,287nm,20.5s,baz=86,slow=40							
JGF	**Kuroka**	**6.39**	**224**	Pn	**Pn**	**21 33 06.1**	**+1.4**
INU	**Inuyama**	**6.77**	**224**	Pn	**Pn**	**21 33 10.9**	**+1.2**
USRK	**Ussuriysk Ar.**	**8.89**	**299**	Pn	**Pn**	**21 33 40.6**	**+1.8**
USRK	**Ussuriysk Ar.**	**8.89**	**299**	P	**Pn**	**21 33 42.0**	**+3.1**
comp=N,4.3nm,0.8s,baz=106,slow=14,SNR=7.9							
KLR	**Kul'dur**	**11.85**	**322**	P	**Pn**	**21 34 26.9**	**+7.7**
comp=N,2.0nm,0.9s,baz=339,slow=13,SNR=2.7							
KSRS	**Korea Array**	**11.95**	**261**	P	**Pn**	**21 34 24.8**	**+4.2**
comp=N,1.3nm,0.9s,baz=100,slow=40,SNR=2.0							
KSRS				LR	LR	21 38 40.8	
comp=N,129nm,18.7s,baz=140,slow=35							
HNS	**HongShan**	**22.04**	**271**	*e*P	**P**	**21 36 24.0**	**+0.4**
YOJ	**Yonaguni jima**	**22.94**	**232**	P	**P**	**21 36 32.1**	**-1.2**
SONM	**Songino Array**	**27.01**	**298**	P	**P**	**21 37 11.1**	**+0.4**
SONM	**Songino Array**	**27.01**	**298**	P	**P**	**21 37 11.1**	**+0.4**
comp=N,0.6nm,0.4s,baz=96,slow=9.0,SNR=6.3							
comp=N,0.6nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**29.11**	**128**	T	T	22 08 21.4	
baz=319,slow=75,SNR=46							
H11N1	**WAKE ISLAND Hy**	**29.12**	**128**	T	T	22 08 22.2	
baz=319,slow=75,SNR=26							
H11N3	**WAKE ISLAND Hy**	**29.13**	**128**	T	T	22 08 22.8	
baz=319,slow=75,SNR=27							
H11S1	**WAKE ISLAND Hy**	**29.94**	**130**	T	T	22 09 37.3	
baz=322,slow=74							
H11S3	**WAKE ISLAND Hy**	**29.94**	**130**	T	T	22 09 45.8	
baz=322,slow=74							
H11S2	**WAKE ISLAND Hy**	**29.95**	**130**	T	T	22 09 35.6	
baz=322							
ZAA0	**Zalesovo Array**	**40.57**	**310**	P	**P**	**21 39 07.2**	**-0.6**
ZAA0				IAmb	IAmb	21 39 15.1	
comp=Z,2.2nm,0.8s							
ZALV	**Zalesovo Beam**	**40.57**	**310**	P	**P**	**21 39 06.6**	**-1.2**
ZALV	**Zalesovo Beam**	**40.57**	**310**	P	**P**	**21 39 07.6**	**-0.2**
comp=Z,0.9nm,0.5s,baz=97,slow=6.4,SNR=5.0							
ZALV				PcP	**PcP**	**21 41 08.6**	**-0.6**
comp=Z,0.5nm,0.3s,baz=99,slow=2.1,SNR=2.7							
comp=Z,0.9nm,0.5s							
C18K	**Utukok River**	**40.84**	**28**	P	**P**	**21 39 12.8**	**+2.9**
C18K				IAmb	IAmb	21 39 40.3	
comp=Z,12nm,1.2s							
E19K	**Redstone River**	**42.06**	**30**	P	**P**	**21 39 20.7**	**+0.9**
E19K				IAmb	IAmb	21 39 33.3	
comp=Z,6.2nm,1.0s							

PHRA	**Phrae**	**42.48**	**252**	P	**P**		**21 39 23.8**	**-0.1**
IMAR	**Indian Mountai**	**43.27**	**32**	P	**P**		**21 39 31.1**	**+1.5**
MK31	**Makanchi Array**	**43.36**	**299**	P	**P**		**21 39 30.9**	**+0.2**
MKAR	**Makanchi Array**	**43.36**	**299**	P	**P**		**21 39 30.7**	**0.0**
comp=Z,1.1nm,0.7s,baz=87,slow=10,SNR=16								
MKAR				PcP	**PcP**		**21 41 17.9**	**-0.7**
comp=Z,1.0nm,0.4s,baz=94,slow=4.3,SNR=8.7								
comp=Z,1.1nm,0.7s								
G21K	**Aliakaket**	**43.40**	**32**	P	**P**		**21 39 32.1**	**+1.4**
G21K				IAmb	IAmb		21 40 01.8	
comp=Z,4.3nm,1.0s								
CMAR	**Chiang Mai Arr**	**43.45**	**253**	P	**P**		**21 39 30.9**	**-0.7**
comp=Z,0.4nm,0.4s,baz=46,slow=7.8,SNR=1.8								
comp=Z,0.4nm,0.4s								
MAKZ	**Makanchi**	**43.57**	**300**	P	**P**		**21 39 32.9**	**+0.5**
KURK	**Kurchatov**	**44.82**	**306**	P	**P**		**21 39 41.7**	**-0.6**
KURK				IAmb	IAmb		21 39 56.8	
comp=Z,7.6nm,1.1s								
KURBB	**Kurchatov Arra**	**44.89**	**306**	P	**P**		**21 39 43.2**	**+0.3**
comp=Z,7.7nm,0.6s,baz=80,slow=8.7,SNR=14								
KURBB				PcP	**PcP**		**21 41 24.3**	**+0.5**
comp=Z,0.3nm,0.4s,baz=75,slow=4.9,SNR=1.2								
comp=Z,2.7nm,0.6s								
ILAR	**Eielson Array**	**46.13**	**34**	P	**P**		**21 39 52.0**	**-0.5**
comp=Z,0.5nm,0.8s,baz=269,slow=6.4,SNR=4.8								
comp=Z,0.5nm,0.8s								
F25K	**Christian Rive**	**46.51**	**30**	P	**P**		**21 39 56.9**	**+1.5**
F25K				IAmb	IAmb		21 40 18.2	
comp=Z,6.4nm,1.5s								
BMAR	**Burnt Mountain**	**46.92**	**30**	P	**P**		**21 40 00.2**	**+1.6**
SCRK	**Sand Creek**	**47.46**	**35**	P	**P**		**21 40 03.1**	**+0.1**
SCRK				IAmb	IAmb		21 40 15.3	
comp=Z,2.8nm,0.9s								
I28M	**Miner Creek**	**48.98**	**33**	P	**P**		**21 40 15.7**	**+1.0**
I28M				IAmb	IAmb		21 40 45.2	
comp=Z,7.3nm,1.4s								
BVAR	**Borovoye Array**	**49.20**	**310**	P	**P**		**21 40 16.2**	**-0.3**
comp=Z,0.8nm,0.5s,baz=73,slow=10,SNR=4.4								
comp=Z,0.8nm,0.5s								
G30M	**tAoh Zraii Nji**	**50.21**	**30**	P	**P**		**21 40 24.8**	**+0.9**
G30M				IAmb	IAmb		21 40 39.4	
comp=Z,9.4nm,1.4s								
INK	**Inuvik**	**50.96**	**28**	P	**P**		**21 40 30.1**	**+0.6**
INK				IAmb	IAmb		21 40 49.9	
comp=Z,5.2nm,1.2s								
ARSB	**Arslanbob**	**51.48**	**295**	P	**P**		**21 40 34.5**	**+0.5**
KKAR	**Karatay Array**	**52.46**	**298**	P	**P**		**21 40 40.8**	**-0.3**
ARTI	**Arti**	**54.74**	**317**	P	**P**		**21 40 57.7**	**+0.1**
ARTI				IAmb	IAmb		21 41 12.5	
comp=Z,4.5nm,1.0s								
ABKAR	**Akbulak array**	**56.68**	**309**	P	**P**		**21 41 11.8**	**+0.3**
ABKAR				IAmb	IAmb		21 41 12.6	
comp=Z,3.0nm,0.6s								
KNRA	**Kununurra**	**57.24**	**196**	P	**P**		**21 41 16.2**	**+0.4**
KBL	**Kabul**	**57.29**	**290**	P	**P**		**21 41 15.0**	**-1.3**
KBL				IAmb	IAmb		21 41 43.1	
comp=Z,6.2nm,1.1s								
RES	**Resolute Bay**	**59.13**	**15**	P	**P**		**21 41 29.1**	**+0.8**
RES				IAmb	IAmb		21 41 41.3	
comp=Z,3.0nm,1.2s								
**

QSPA	South Pole Qui	67.99	180	P		P		22 38 00.7 +1.0
	comp=Z,3.2nm,0.6s,baz=358,slow=0.7,SNR=14							
	comp=Z,3.2nm,0.6s							
BELA	Belgrano 2	77.72	172	P		P		22 38 55.8 -1.1
BELA				IAmb		IAmb		22 39 28.9
	comp=Z,8.6nm,1.2s							
PETK	Petropavlovsk-	78.34	344	P		P		22 38 59.4 -1.0
	comp=Z,6.1nm,0.9s,baz=149,slow=5.5,SNR=3.1							
	comp=Z,6.1nm,0.9s							
KMRM	Mail Ridge	78.71	38	P		P		22 39 04.4 +1.5
O02D	Mt. Diablo Mer	79.21	39	P		P		22 39 06.2 +0.6
O02D				IAmb		IAmb		22 39 15.0
	comp=Z,27nm,1.5s							
YBH	Yreka Blue Hor	80.28	37	P		P		22 39 12.9 +1.6
YBH				IAmb		IAmb		22 39 14.0
	comp=Z,7.4nm,0.8s							
J01E	Myrtle Point	80.55	36	P		P		22 39 14.3 +1.7
MAW	Mawson	80.76	199	P		P		22 39 14.0 +0.5
	comp=Z,1.9nm,0.5s,baz=95,slow=7.8,SNR=6.9							
	comp=Z,1.9nm,0.5s							
NVAR	Mina Array Bea	80.80	42	P		P		22 39 14.9 +0.5
NVAR	Mina Array Bea	80.80	42	P		P		22 39 15.9 +1.5
	comp=Z,1.5nm,0.6s,baz=222,slow=8.1,SNR=9.5							
	comp=Z,1.5nm,0.6s							
L04D	Klamath Falls	80.82	37	P		P		22 39 15.4 +1.1
L04D				IAmb		IAmb		22 39 25.5
	comp=Z,36nm,1.5s							
USRK	Ussuriysk Ar.	81.42	325	P		P		22 39 16.6 -0.6
	comp=Z,2.5nm,0.8s,baz=135,slow=6.0,SNR=4.4							
	comp=Z,2.5nm,0.8s							
BMN	Battle Mountai	82.68	41	P		P		22 39 25.3 +1.2
H03S2	Juan Fernandez	83.41	124	T		T		00 11 21.2
	baz=246,slow=74,SNR=54							
H03S1	Juan Fernandez	83.43	124	T		T		00 11 26.5
	baz=246,slow=74,SNR=63							
H03S3	Juan Fernandez	83.43	124	T		T		00 11 25.0
	baz=246,slow=74,SNR=63							
U15A	North Rim	83.54	47	P		P		22 39 29.8 +0.9
U15A				IAmb		IAmb		22 39 31.8
	comp=Z,7.7nm,1.0s							
H03N2	Juan Fernandez	83.56	123	T		T		00 11 22.9
	baz=259,slow=72,SNR=27							
H03N3	Juan Fernandez	83.56	123	T		T		00 11 24.3
	baz=259,slow=72,SNR=27							
H03N1	Juan Fernandez	83.57	123	T		T		00 11 28.9
	baz=259,slow=72,SNR=19							
M16K	Timber Creek	83.93	8	P		P		22 39 30.9 +1.1
ELK	Elko	84.08	42	P		P		22 39 31.9 +0.5
ELK				IAmb		IAmb		22 39 33.4
	comp=Z,7.8nm,1.2s							
K15K	Wolf Creek Mou	84.86	7	P		P		22 39 35.1 +0.6
K15K				IAmb		IAmb		22 39 36.7
	comp=Z,13nm,1.0s							
M19K	Big River Lodg	85.44	10	P		P		22 39 37.2 -0.3
M19K				IAmb		IAmb		22 39 41.0
	comp=Z,12nm,1.2s							
SUA	Susitna One	85.67	12	P		P		22 39 39.1 +0.4
SRU	San Rafael Swe	86.17	45	P		P		22 39 41.3 -0.5
SRU				IAmb		IAmb		22 39 43.9
	comp=Z,4.7nm,0.7s							
TXAR	Lajitas Array	86.21	56	P		P		22 39 43.6 +1.4
	comp=Z,1.1nm,0.7s,baz=212,slow=6.9,SNR=7.9							
	comp=Z,1.1nm,0.7s							
SNAA	Sanae	86.36	178	P		P		22 39 42.7 +0.5
	comp=Z,1.0nm,0.8s,baz=275,slow=13,SNR=1.9							
	comp=Z,1.0nm,0.8s							
SCM	Sheep Creek Mo	86.69	13	P		P		22 39 43.7 0.0
DLBC	Dease Lake	88.72	22	P		P		22 39 53.8 +0.3
	comp=Z,1.4nm,0.8s,baz=234,slow=14,SNR=3.0							
	comp=Z,1.4nm,0.8s							
PDAR	Pinedale Array	88.73	42	P		P		22 39 54.5 +0.4
PDAR	Pinedale Array	88.73	42	P		P		22 39 54.2 +0.1
	comp=Z,0.6nm,0.8s,baz=237,slow=5.1,SNR=5.8							
	comp=Z,0.6nm,0.8s							
IMAR	Indian Mountai	89.39	9	P		P		22 39 56.6 +0.3
ILAR	Eielson Array	89.42	12	P		P		22 39 56.6 +0.1
ILAR	Eielson Array	89.42	12	P		P		22 39 56.4 -0.1
	comp=Z,1.0nm,0.9s,baz=226,slow=5.0,SNR=8.7							
	comp=Z,1.0nm,0.9s							
J26L	Joseph Creek	89.86	13	P		P		22 39 60.0 +1.3
J26L				IAmb		IAmb		22 40 00.7
	comp=Z,7.0nm,0.8s							
L29M	L29M	89.95	16	P		P		22 39 59.9 +0.9
L29M				IAmb		IAmb		22 40 01.4
	comp=Z,8.0nm,1.1s							
E19K	Redstone River	90.34	7	P		P		22 40 01.2 +0.4
E19K				IAmb		IAmb		22 40 02.2
	comp=Z,4.4nm,0.7s							
DAWY	Dawson	90.44	15	P		P		22 40 02.0 +0.7
DAWY				IAmb		IAmb		22 40 03.0
	comp=Z,6.2nm,1.0s							
K29M	Barlow Dome	90.72	16	P		P		22 40 03.3 +0.6
K29M				IAmb		IAmb		22 40 05.4
	comp=Z,7.7nm,1.1s							
BMAR	Burnt Mountain	92.22	12	P		P		22 40 10.4 +0.9
CMAR	Chiang Mai Arr	92.56	289	P		P		22 40 12.5 +0.3
KURBB	Kurchatov Arra	116.59	317	PKP		PKPdf		22 45 42.6 -0.9
	comp=Z,0.3nm,0.2s,baz=101,slow=2.3,SNR=3.0							
BVAR	Borovoye Array	121.61	320	PKP		PKPdf		22 45 52.6 -0.5
	comp=Z,0.9nm,0.3s,baz=108,slow=2.3,SNR=11							
ARCES	ARCESS Array B	130.83	350	PKP		PKPdf		22 46 10.7 +0.3
	comp=Z,0.8nm,0.4s,baz=12,slow=1.6,SNR=9.8							
FINES	FINESS Array B	137.85	345	PKP		PKPdf		22 46 22.8 -0.9
	comp=Z,1.5nm,0.7s,baz=39,slow=2.4,SNR=8.2							
HFS	Hagfors	141.40	352	PKhKP		PKPpre		22 46 23.9
	comp=Z,2.9nm,0.8s,baz=45,slow=4.8,SNR=6.0							
LODK	Lodwar	144.52	243	PKPdf		PKPab		22 46 36.0 +0.2
AKASG	Malin Array Be	145.38	332	PKPbc		PKPdf		22 46 36.7 -0.7
	comp=Z,2.3nm,0.4s,baz=42,slow=4.0,SNR=25							
AKBB	Malin Array Si	145.38	332	PKPdf		PKPdf		22 46 36.6 -0.8
RNPP9	Sopachiv	146.22	335	PKP		PKPdf		22 46 39.7 +0.9
RNPP8	Varash	146.29	335	PKP		PKPbc		22 46 40.1 -0.2
EKA	Eskdalemuir Ar	146.35	8	PKPbc		PKPdf		22 46 39.2 +0.2
	comp=Z,1.5nm,0.6s,baz=324,slow=2.8,SNR=4.8							
RNPP5	Staryi Chortor	146.36	335	PKP		PKPdf		22 46 39.9 +0.8
KWP	Kalwaria Pacla	148.86	336	PKPbc		PKPbc		22 46 47.4 +0.1
BRTR	Keskin Array B	149.41	312	PKPbc		PKPbc		22 46 48.7 -0.6
BRTR	Keskin Array B	149.41	312	PKPbc		PKPbc		22 46 48.4 -0.9
	comp=Z,1.4nm,0.6s,baz=69,slow=2.8,SNR=10							
BUR08	Bucovina Ar. S	149.42	332	PKPbc		PKPbc		22 46 49.0 0.0
BURAR	Bucovina Array	149.43	331	PKPbc		PKPbc		22 46 49.2 +0.2
ONER	Baraj Valea Uz	149.83	329	⇑P		PKPbc		22 46 50.4 +0.5
VRI	Vrincioaia	150.00	328	⇓P		PKPbc		22 46 50.0 -0.3
CLL	Collm	150.04	349	*i* PKPbc		PKPbc		22 46 50.5 +0.3
	comp=Z,11nm,1.0s							
CLL				*i* PKPab		PKPab		22 46 56.5 +0.3
MMAI	Mount Meron Ar	150.37	298	PKPbc		PKPbc		22 46 52.1 +0.4
	comp=Z,1.2nm,0.5s,baz=60,slow=2.8,SNR=5.6							
MORC	Moravsky Berou	150.42	342	⇑P		PKPbc		22 46 51.8 +0.6
MLR	Muntele Rosu	150.65	328	⇑P		PKPbc		22 46 52.5 +0.4
MARR	Marisel-Cluj	151.07	333	⇓P		PKPbc		22 46 53.4 +0.5
VYHS	Vyhne	151.17	340	*e*PKP		PKiKP		22 46 53.9 +0.4
MODS	Modra-Piesok	151.76	341	*e*PKP		PKiKP		22 46 55.7 +1.0
KHC	Kasperske Hory	152.00	347	PKPbc		PKPbc		22 46 53.4 -1.5
GZR	Gura Zlata	152.22	331	⇓P		PKPbc		22 46 55.0 -0.5
SURR	Surduc	152.22	332	⇓P		PKPbc		22 46 55.5 +0.1
GERES	GERESS Array B	152.25	346	PKPbc		PKPbc		22 46 55.1 -0.4
GERES	GERESS Array B	152.25	346	PKPbc		PKPbc		22 46 55.5 0.0
	comp=Z,1.0nm,0.6s,baz=39,slow=2.5,SNR=4.9							
HERR	Herculane	152.78	331	⇓P		PKPbc		22 46 56.8 +0.1
MDVR	Moldovita	153.17	332	⇓P		PKPbc		22 46 57.7 +0.1
MORH	Mrgy, Hungar	153.21	337	⇑P		PKPbc		22 46 58.0 +0.4
ESDC	Sonseca Array	161.14	20	PKPab		PKPab		22 47 44.0 -0.1
	comp=Z,1.5nm,1.1s,baz=317,slow=4.0,SNR=4.1							
TORD	Torodi Ar. Bea	170.80	165	PKPab		PKPab		22 48 27.4 +0.4
	comp=Z,0.4nm,0.7s,baz=194,slow=2.8,SNR=2.4							

IDC 27 22:46:51.9±70.0, 22°.21S×172°.71E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1203.0km s-min=130.4km az=82.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	29.25	244	P	P	22 52 55.3	-0.4
	0.8nm,0.4s,baz=80,slow=12,SNR=3.3						
	0.8nm,0.4s						
ASAR	Alice Springs	35.69	260	P	P	22 53 52.2	-0.1
	0.4nm,0.7s,baz=96,slow=9.2,SNR=5.1						
	0.4nm,0.7s						
WRA	Warramunga Arr	35.81	266	P	P	22 53 53.5	+0.2
	0.6nm,0.4s,baz=99,slow=9.0,SNR=16						
	0.6nm,0.4s						

SJA 27 22:53:08.0, 22°.55S×70°.69W, h10km, ML4.4

NEIC 27 22:53:09.8±1.7, 22°.51S±0°.05×70°.59W±0°.07, h27km±6km, mb4.5/10, Mwr4.2/30, Error ellipse: s-maj=9.3km s-min=6.5km az=101.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; M_{rr}=1.98; $M_{\theta\theta}$=0.29; $M_{\phi\phi}$=-2.27; $M_{r\theta}$=0.43; $M_{r\phi}$=0.19; $M_{\theta r}$=1.04; Fault plane solution: M_0=2.43000×10^15 NP1:φ=166.21000°, δ=59.01000°, λ=79.21000°. NP2:φ=6.52000°, δ=32.64000°, λ=107.31000°. Principal axes: T 2.2956, Plg74.0000°, Azm48.0000°; N 0.2447, Plg9.0000°, Azm172.0000°; P -2.5403, Plg13.0000°, Azm264.0000°;
NEIC 27 22:53:09.8, 22°.51S×70°.59W, h26km
GUC 27 22:53:10.9±0.6, 22°.53S×70°.39W, h37km±1km, ML4.2
IDC 27 22:53:16.0±3.8, 22°.49S×70°.16W, h72km±33km, mb3.6/5, mbtmp3.9/7, ML3.9/2, MS3.3/9, Error ellipse: s-maj=31.1km s-min=22.6km az=90.0

ISC 27 22:53:10.1±1.2, 22°.58S±0°.03×70°.43W±0°.07, h27km±8km, n77, σ1°.24/73, mb4.3/8, MS3.3/5, 2C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	IPOC Station P	0.35	46	Pg	Pb	22 53 18.2	0.0
PB04				Sg	Sn	22 53 24.5	-1.4
PB04	IPOC Station P	0.35	46	⇓*i*P	Pb	22 53 19.1	+0.8
PB04				*e*S	Sb	22 53 24.7	+0.9
PB04				IAML		22 53 25.0	
	comp=E,48μm,0.4s						
PB04	IPOC Station P	0.35	46	*i* P	Pb	22 53 18.3	0.0
PB09	IPOC Station P	1.35	55	Pn	Pb	22 53 34.3	-0.4
PB09	IPOC Station P	1.35	55	*i* P	Pb	22 53 34.3	-0.4
PB09				*i* S	Sb	22 53 51.1	-0.5
PB09	IPOC Station P	1.35	55	*i* P	Pn	22 53 33.8	+0.5
PB01	IPOC Station P	1.76	30	Pn	Pn	22 53 40.1	+1.2
PB01	IPOC Station P	1.76	30	*e*P	Pn	22 53 39.9	+1.0
PB01				*e*S	Sb	22 54 02.0	-1.5
PB01	IPOC Station P	1.76	30	*i* P	Pn	22 53 39.6	+0.7
PATCX	Punta Patache	1.77	8		Pn	22 53 39.1	+0.1
TA01	Diego Aracena	2.02	7	Pn	Pn	22 53 42.2	-0.1
TA01	Diego Aracena	2.02	7	⇑*i*P	Pn	22 53 42.3	0.0
TA01				*e*S	Sn	22 54 05.7	-0.9
TA01				IAML		22 54 13.4	
	comp=N,2μm,0.3s						
TA01	Diego Aracena	2.02	7	*i* P	Pn	22 53 41.9	-0.4
PB14	IPOC Station P	2.04	179	Pn	Pn	22 53 43.5	+0.7
PB14	IPOC Station P	2.04	179	⇓*i*P	Pn	22 53 43.6	+0.7
PB14				*e*S	Sn	22 54 08.4	+0.8
PB14	IPOC Station P	2.04	179	*i* P	Pn	22 53 42.9	0.0
AF01	San Pedro de A	2.11	101	Pn	Pb	22 53 48.0	+0.2
AF01	San Pedro de A	2.11	101	*e*P	Pb	22 53 48.3	+0.5
AF01	San Pedro de A	2.11	101	*i* P	Pb	22 53 48.4	+0.5
TA02	Huaiquique	2.31	7	*e*P	Pn	22 53 47.7	+1.3
TA02				*e*S	Sn	22 54 15.5	+1.6
HMBC	Humberstone	2.34	12	Pn	Pn	22 53 46.7	-0.2
GO02	Mina Guanaco	2.68	164	Pn	Pn	22 53 53.7	+2.0
GO02	Mina Guanaco	2.68	164	⇑*i*P	Pn	22 53 54.0	+2.2
GO02				*e*S	Sb	22 54 26.8	-3.4
GO02	Mina Guanaco	2.68	164	*i* P	Pn	22 53 53.8	+2.0
PB08	IPOC Station P	2.70	26	Pn	Pn	22 53 52.8	+0.7
PB08	IPOC Station P	2.70	26	*e*P	Pn	22 53 53.8	+1.7
PB08				*e*S	Sb	22 54 29.4	-1.4
PB08				IAML		22 54 40.8	
	comp=N,717nm,0.3s						
PB08	IPOC Station P	2.70	26	*i* P	Pn	22 53 53.4	+1.3
GO01	Chusmiza	3.12	22	Pn	Pn	22 53 59.0	+1.1
GO01	Chusmiza	3.12	22	*e*P	Pn	22 53 59.3	+1.4
GO01				*e*S	Sn	22 54 37.2	+2.8
GO01	Chusmiza	3.12	22	*i* P	Pn	22 53 59.9	+2.0
AC01	Pan de Azucar	3.56	182	⇓*i*P	Pn	22 54 02.9	-0.6
AC01	Pan de Azucar	3.56	182	*i* P	Pn	22 54 02.3	-1.2
AC06	Mina Casimiro	4.76	179	Pn	Pn	22 54 20.1	0.0
GO03	Copiapo	5.00	178	Pn	Pn	22 54 23.6	+0.3
GO03	Copiapo	5.00	178	*i* P	Pn	22 54 23.9	+0.6
PB18	Visviri	5.04	10	Pn	Pn	22 54 22.8	-1.7
AC04	Llanos de Chal	5.63	186	Pn	Pn	22 54 32.2	+0.2
LCO	Las Campanas	6.41	182	Pn	Pn	22 54 43.0	0.0
LPAZ	La Paz	6.62	19	P	Pn	22 54 49.8	+3.5
	comp=N,1.4nm,0.3s,baz=223,slow=5.6,SNR=18						
LPAZ				S	Sn	22 56 02.4	+1.2
	comp=N,5.0nm,0.5s,baz=208,slow=18,SNR=1.2						
LPAZ				LR	LR	22 57 40.3	
	comp=N,216nm,21.1s,baz=207,slow=41						
	comp=N,4.5nm,0.4s						
CO01	Juntas del Tor	7.37	178	Pn	Pn	22 54 57.9	+1.8
MT02	Curacav	10.66	183	Pn	Pn	22 55 41.1	+0.1
SIV	San Ignacio	11.00	55	P	Pn	22 55 46.4	+0.7
	comp=N,0.1nm,0.3s,baz=253,slow=11,SNR=14						
SIV				S	Sn	22 57 46.4	-1.5
	comp=N,0.8nm,0.6s,baz=170,slow=21,SNR=0.9						
SIV				LR	LR	23 00 49.6	
	comp=N,212nm,18.2s,baz=282,slow=42						
	comp=N,2.4nm,0.4s						
CPUP	Villa Florida	12.50	110	LR	LR	23 00 33.3	
	comp=N,52nm,19.7s,baz=210,slow=36						
H03N1	Juan Fernandez	13.15	213	T	T	23 09 55.0	
	baz=38,slow=72,SNR=569						
H03N2	Juan Fernandez	13.16	213	T	T	23 09 51.2	
	baz=38,slow=72,SNR=512						
H03N3	Juan Fernandez	13.17	213	T	T	23 09 50.1	
	baz=38,slow=72,SNR=368						
ETMB	Extrema	13.32	18	Pn	Pn	22 56 16.0	-1.5
VILB	Vilhena	13.65	47	Pn	Pn	22 56 22.8	+0.8
TRQA	Tornquist	17.05	157		P	22 57 08.3	+0.2
ITAB	Concordia	17.23	109		P	22 57 10.2	0.0
PLCA	Paso Flores	18.10	180	LR	LR	23 04 16.0	
	comp=N,99nm,18.7s,baz=352,slow=36						
MACA	Manacapuru-AM	21.49	27	P	P	22 57 55.7	-1.1
VAO	Valinhos	21.63	96	P	P	22 57 57.2	-1.1
VAO				IAmb	IAmb	22 58 10.6	
	comp=Z,12nm,0.8s						
BDFB	Brasilia	22.26	76	P	P	22 58 04.3	-0.9
	comp=Z,0.9nm,0.4s,baz=47,slow=26,SNR=2.3						
BDFB				LR	LR	23 07 40.7	
	comp=Z,67nm,21.7s,baz=307,slow=39						
	comp=Z,0.9nm,0.4s						
BOAV	Boa Vista	26.64	23	P	P	22 58 45.8	-0.8
BOAV				IAmb	IAmb	22 58 59.7	
	comp=Z,7.5nm,1.1s						
MDP	Montagnes des	32.55	34	LR	LR	23 13 35.9	
	comp=Z,121nm,19.6s,baz=242,slow=38						
PCRV	Puerto La Cruz	33.05	10	LR	LR	23 15 20.1	
	comp=Z,55nm,19.1s,slow=40						
RPN	Rapa Nui	35.50	255	LR	LR	23 10 49.2	
	comp=Z,40nm,18.8s,baz=84,slow=30						
H06E1	SOCORRO T-PHAS	57.06	313	T	T	00 04 33.3	
	SNR=26						
BELA	Belgrano 2	57.88	172	P	P	23 03 00.1	+1.0
BELA				IAmb	IAmb	23 03 01.0	
	comp=Z,6.7nm,1.1s						
TXAR	Lajitas Array	60.73	327	P	P	23 03 20.5	+1.1
	comp=Z,0.3nm,0.5s,baz=130,slow=8.3,SNR=2.7						
	comp=Z,0.3nm,0.5s						
SNAA	Sanae	61.73	161	P	P	23 03 25.7	0.0
SNAA				IAmb	IAmb	23 03 30.9	
	comp=Z,11nm,1.5s						
SNAA	Sanae	61.73	161	P	P	23 03 26.5	+0.9
	comp=Z,2.0nm,1.0s,baz=254,slow=12,SNR=6.8						
	comp=Z,2.0nm,1.0s						
QSPA	South Pole Qui	67.61	180	P	P	23 04 05.4	+1.2
QSPA				IAmb	IAmb	23 04 06.9	
	comp=Z,6.5nm,1.4s						
QSPA	South Pole Qui	67.61	180	P	P	23 04 05.6	+1.4
	comp=Z,0.8nm,0.4s,baz=284,slow=0.6,SNR=7.7						
	comp=Z,0.8nm,0.4s						
DBIC	Dimbokro	70.39	74	P	P	23 04 21.3	-0.8
TORD	Torodi Ar. Bea	79.04	71	P	P	23 05 11.9	-0.3
TORD				IAmb	IAmb	23 05 13.2	
	comp=Z,1.8nm,0.8s						
TORD	Torodi Ar. Bea	79.04	71	P	P	23 05 11.8	-0.5
	comp=Z,1.4nm,0.5s,baz=258,slow=4.9,SNR=25						
	comp=Z,1.4nm,0.5s						
RAR	Rarotonga	81.54	251	LR	LR	23 33 54.2	
	comp=Z,39nm,19.2s,baz=324,slow=30						
H11S2	WAKE ISLAND Hyt	26.61	277	T	T	01 31 35.1	
	baz=105,slow=74,SNR=448						
H11S1	WAKE ISLAND Hyt	26.62	277	T	T	01 31 45.2	
	baz=105,slow=74,SNR=281						
H11S3	WAKE ISLAND Hyt	26.63	277	T	T	01 31 31.9	
	baz=105,slow=74,SNR=254						
H11N3	WAKE ISLAND Hyt	26.72	278	T	T	01 31 41.0	
	baz=104,slow=74,SNR=166						
H11N2	WAKE ISLAND Hyt	26.74	278	T	T	01 31 43.2	
	baz=104,slow=74,SNR=166						
H11N1	WAKE ISLAND Hyt	26.74	278	T	T	01 31 56.6	
	baz=104,slow=74,SNR=90						
ZALV	Zalesovo Beam	143.52	25	PKP	PKPdf	23 12 40.8	-1.1
	comp=Z,0.6nm,0.4s,baz=315,slow=0.9,SNR=4.8						
MKAR	Makanchi Array	147.33	36	PKPbc	PKPdf	23 12 49.7	+0.9
	comp=Z,1.6nm,0.8s,baz=312,slow=2.4,SNR=14						

NNC 27 23:00:46.2±6.7, 36°.77N×70°.92E, h72km±133km, mb3.7, mpv4.1, Error ellipse: s-maj=50.5km s-min=48.0km az=176.0

ISC 27 23:00:46.5±3.0, 36°.8N±0°.2×70°.9E±0°.1, h88km, n12, σ1°.39/15, 3C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.74	21	P	Pn	23 02 09.3	-0.1
	SNR=46						
EKS2	Erkin-Say	6.25	20	P	Pn	23 02 16.4	+0.2
	SNR=12						
KK31	Karatay Array	6.30	357	⇓P	Pn	23 02 17.6	+0.8
	7.4nm,0.2s,baz=181,slow=13						
KK31				⇑S	Sn	23 03 29.0	+1.6
	11nm,0.4s,baz=183,slow=22						
AAK	Ala-Archa	6.45	24	P	Pn	23 02 18.0	-0.9
	SNR=7.2						
KBK	Karagaybulak	6.62	27	P	Pn	23 02 21.0	-0.3
	SNR=5.9						
ULHL	Ulahol	6.82	35	P	Pn	23 02 23.0	-0.9
	SNR=5.3						
CHMS	Chumysh	6.86	24	P	Pn	23 02 23.9	-0.4
	SNR=9.1						
USP	Ospenovka	7.02	22	P	Pn	23 02 26.5	-0.1
	SNR=7.1						
TKM2	Tokmak 2	7.09	29	P	Pn	23 02 26.8	-0.9
	SNR=14						
TKM2	Tokmak 2	7.09	29	⇓P	Pn	23 02 26.8	-0.9
	3.4nm,0.5s						
TKM2				⇑S	Sn	23 03 48.1	+1.3
	2.0nm,0.7s						
AB31	Akbulak array	14.79	331	P	Pn	23 04 10.5	-0.4
	0.5nm,0.4s,baz=140,slow=14,SNR=30						
AB31				S	Sn	23 06 50.5	-3.2
	2.0nm,0.7s,baz=156,slow=24,SNR=3.3						
AKTO	Aktyubinsk	16.49	330	⇑P	P	23 04 35.4	+2.0
	0.8nm,0.5s						

SJA 27 23:08:15.0, 21°.94S×68°.79W, h120km, ML3.5
GUC 27 23:08:15.9±0.7, 21°.83S×68°.65W, h119km±4km, ML3.5

ISC 27 23:08:14.3±1.6, 21°.86S±0°.04×68°.74W±0°.07, h131km±12km, n20, σ0°.62/27, 3C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	IPOC Station P	0.47	278	⇑*i*P	Pn	23 08 33.9	+0.3
PB09				*e*S	Sn	23 08 48.6	+0.5
PB09	IPOC Station P	0.47	278	*i* P	Pn	23 08 33.1	-0.4
PB01	IPOC Station P	1.07	319	⇑*i*P	Pn	23 08 38.2	0.0
PB01				*e*S	Sn	23 08 55.7	-0.6
PB01				IAML		23 08 57.4	
	comp=N,2μm,0.2s						
PB01	IPOC Station P	1.07	319	*i* P	Pn	23 08 37.6	-0.6
AF01	San Pedro de A	1.20	155	*e*P	Pn	23 08 39.6	-0.1
AF01				IAML		23 09 14.8	
	comp=N,576nm,0.4s						
AF01	San Pedro de A	1.20	155	*i* P	Pn	23 08 39.3	-0.3
PB04	IPOC Station P	1.39	250	⇑*i*P	Pn	23 08 42.4	+1.0
PB04				*e*S	Sn	23 09 02.8	+0.7
PB04				IAML		23 09 05.5	
	comp=N,708nm,0.2s						
PB04	IPOC Station P	1.39	250	*i* P	Pn	23 08 41.8	+0.4
PX03	IPOC Station P	1.68	330	*e*S	Sn	23 09 07.3	-0.4
PX03				IAML		23 09 08.0	
	comp=N,1μm,0.2s						
PB08	IPOC Station P	1.76	347	⇓*i*P	Pn	23 08 46.5	+0.6
PB08				*e*S	Sn	23 09 09.7	-0.3
PB08				IAML		23 09 11.2	
	comp=E,346nm,0.3s						
PB08	IPOC Station P	1.76	347	*i* P	Pn	23 08 45.9	0.0
TA01	Diego Aracena	1.86	314	*e*P	Pn	23 08 47.0	+0.2
TA01				*e*S	Sn	23 09 11.3	-0.2
TA01				IAML		23 09 14.0	
	comp=E,539nm,0.2s						
TA01	Diego Aracena	1.86	314	*i* P	Pn	23 08 47.3	+0.6
TA02	Huaiquique	2.05	320	*e*S	Sn	23 09 14.9	-0.6
TA02				IAML		23 09 19.8

0.5nm,0.4s,baz=119,slow=4.0,SNR=3.6
0.5nm,0.4s
MAW Mawson 84.36 203 P **P 23 23 09.4 +0.7**
1.3nm,0.8s,baz=316,slow=20,SNR=1.9
1.3nm,0.8s
KURBB Kurchatov Arra 86.98 322 P **P 23 23 21.2 -0.8**
0.2nm,0.6s,baz=107,slow=5.5,SNR=1.9
0.2nm,0.6s
NVAR Mina Array Bea 91.70 52 P **P 23 23 45.8 +1.0**
0.8nm,0.7s,baz=258,slow=4.2,SNR=4.2
0.8nm,0.7s
YKA Yellowknife Ar 96.36 28 P **P 23 24 04.7 -0.6**
1.5nm,0.9s,baz=269,slow=4.8,SNR=4.2
1.5nm,0.9s
PDAR Pinedale Array 98.68 48 P Pdif 23 24 18.2 +1.5
0.4nm,0.6s,baz=289,slow=2.8,SNR=2.4
0.4nm,0.6s
AKASG Malin Array Be 117.65 324 PKP **PKiKP 23 29 23.1 +0.3**
1.1nm,0.8s,baz=84,slow=2.3,SNR=1.6
BDFB Brasilia 147.86 135 PKPbc **PKiKP 23 30 24.9 0.0**
3.1nm,0.7s,baz=236,slow=6.3,SNR=3.9
TORD Torodi Ar. Bea 153.13 285 PKP **PKPdf 23 30 28.1 0.0**
0.3nm,0.6s,baz=73,slow=2.1,SNR=1.7
TORD PKPbc **PKiKP 23 30 36.0 +0.3**
1.7nm,0.7s,baz=77,slow=2.7,SNR=9.0
TORD PKPab **PKPab 23 30 47.4 +0.2**
1.3nm,0.7s,baz=80,slow=4.5,SNR=5.4

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*GII **27** 23:16:05.9±0.2,36°.707N±0°.002×25°.769E±0°.001,h10km, mB4.7/3,Md4.7/3,Mws4.8,confirmed*
*ISK **27** 23:16:09.5,36°.66N×25°.73E,h8km,ML4.6/28*
*BJI **27** 23:16:09.0,36°.70N×25°.70E,h8km,mb4.7/34,mB4.9/13, Ms4.8/2,Ms7 4.4/3*
*IDC **27** 23:16:09.1±0.4,36°.68N×25°.68E,h0km,mb4.5/29, mbtmp4.4/40,ML3.9/8,MS3.7/55,Error ellipse: s-maj=10.9km s-min=8.3km az=125.0*
*ATH **27** 23:16:10.5,36°.65N×25°.72E,h33km,Mw4.6,Moment Tensor Solution. s10 Moment tensor: Mrr=8.05; Mθθ5.88; Mφφ2.17; Mrθ-1.34; Mθφ4.88; Mφr2.14; Fault plane solution: NP1:φs218.00000°,δ48.00000°, λ-115.00000°. NP2:φs73.00000°,δ47.00000°, λ-65.00000°.*
*PDG **27** 23:16:10.5±0.3,36°.71N×25°.70E,h12km±14km,ML4.8/10 Error ellipse: s-maj=13.0km s-min=15.3km az=0.0*
*MCSM **27** 23:16:11.6±0.4,37°N±5°×2°6E±°,h10km,mB4.5,mb4.7, MLv4.4,Mw(mB)3.7*
*MED_RC **27** 23:16:11.0±0.2,36°.50N×25°.72E,h12km±1km,MW4.6/40, Moment Tensor Solution.Mantle waves: s40,c60; Duration: 1s2 Moment tensor: Scale 10^16Nm; Mrr-0.77±.10; Mθθ0.56±.06; Mφφ0.21±.06; Mrθ-0.48±.15; Mθφ0.82±.05; Mφr-0.05±.14; Best double couple: M0 1.14000×10^16 NP1:φs73.00000°,δ61.00000°, λ-61.00000°. NP2:φs204.00000°,δ40.00000°, λ-132.00000°. Principal axes: T 1.3100, Plg11.0000°, Azm143.0000°; N -0.3300, Plg25.0000°, Azm238.0000°; P -0.9800, Plg62.0000°, Azm31.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*AFAD **27** 23:16:11.9±0.0,36°.76N×25°.88E,h16km±2km,MW4.4*
*THE **27** 23:16:11.7,36°.68N×25°.71E,h8km,ML4.5/13,Error ellipse: s-maj=0.9km s-min=0.3km az=288.0*
*NEIC **27** 23:16:11±2.1,36°.60N±0°.05×25°.75E±0°.06,h10km±1km, mb4.9/135,Error ellipse: s-maj=8.3km s-min=7.6km az=16.0*
*GCMT **27** 23:16:12.0±0.4,36°.39N±0°.03×25°.46E±0°.05,h20km±1km, MW4.8/78,Moment Tensor Solution. s16,c17; s78,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.82±.17; Mθθ1.09±.10; Mφφ0.72±.10; Mrθ-0.12±.20; Mθφ0.94±.06; Mφr0.91±.23; Best double couple: M0 2.04600×10^16 NP1:φs211.00000°,δ56.00000°,λ-114.00000°. NP2: φs69.00000°,δ41.00000°,λ-59.00000°. Principal axes: T 1.9280, Plg8.0000°, Azm317.0000°; N 0.2320, Plg19.0000°, Azm225.0000°; P -2.1640, Plg69.0000°, Azm68.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*HLW **27** 23:16:15.2,36°.34N×25°.89E,h11km±19km,Md4.5,Ml4.5*
*NAO **27** 23:16:15.2,36°.68N×25°.71E,h10km,mb4.8*
ISC 27 23:16:11.2±0.6,36°.64N±0°.02×25°.74E±0°.02,h15km±3km, n598,σt§79/590,mb4.8/109,MS3.8/46,25C-27D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR2	**Thira island,**	**0.32**	**232**	P	**Pb**	**23 16 18.2**	**-0.3**
THR2	**Thira island,**	**0.32**	**232**	P	**Pb**	**23 16 18.2**	**-0.3**
THR8	**Santorini-Mono**	**0.32**	**222**	P	**Pg**	**23 16 17.9**	**+0.1**
THR8	**Santorini-Mono**	**0.32**	**222**	P	**Pg**	**23 16 18.0**	**+0.2**
CMBO	**Columbo, Santo**	**0.32**	**238**	P	**Pb**	**23 16 18.4**	**-0.2**
CMBO				S	**Sb**	**23 16 23.0**	**-0.6**
	132μm,0.4s						
CMBO	**Columbo, Santo**	**0.32**	**238**	P	**Pb**	**23 16 18.3**	**-0.3**
CMBO				S	**Sb**	**23 16 23.0**	**-0.6**
CMBO				AML	AML	23 16 24.0	
CMBO				AML	AML	23 16 25.0	
THR3	**Thira Island,**	**0.36**	**230**	P	**Pb**	**23 16 19.0**	**-0.3**
SNT5	**Nea Kammeni, S**	**0.37**	**229**	P	**Pb**	**23 16 19.1**	**-0.3**
SNT5				S	**Sb**	**23 16 24.4**	**-0.6**
SNT5				AML	AML	23 16 26.3	
SNT5				AML	AML	23 16 26.4	
SAP3	**Santorini-Thir**	**0.38**	**237**	P	**Pb**	**23 16 19.4**	**-0.2**
SAP3				S	**Sb**	**23 16 25.5**	**+0.1**
THR5	**Thira Island,**	**0.39**	**235**	P	**Pg**	**23 16 19.3**	**+0.1**
THR5	**Thira Island,**	**0.39**	**235**	P	**Pg**	**23 16 19.2**	**+0.1**
THR6	**Thira Island,**	**0.40**	**224**	P	**Pg**	**23 16 19.4**	**+0.1**
THR9	**Santorini-Faro**	**0.42**	**227**	P	**Pg**	**23 16 19.9**	**+0.2**
APE	**Apeiranthos**	**0.46**	**338**	Pg	**Pg**	**23 16 18.4**	**-2.0**
APE	**Apeiranthos**	**0.46**	**338**	P	**Pg**	**23 16 20.3**	**-0.1**
APE				S	**Sg**	**23 16 26.1**	**-0.5**
	67μm,0.3s						
APE	**Apeiranthos**	**0.46**	**338**	*e*P	**Pg**	**23 16 19.9**	**-0.5**
APE	**Apeiranthos**	**0.46**	**338**	P	Pg	23 16 14.3	-6.1
APE				S	**Sg**	**23 16 20.8**	**-5.8**
APE	**Apeiranthos**	**0.46**	**338**	P	**Pg**	**23 16 20.3**	**-0.1**
APE				S	**Sg**	**23 16 26.7**	**+0.1**
APE				AML	AML	23 16 30.7	
APE				AML	AML	23 16 31.5	
TNSA	**Tinos**	**1.01**	**333**	P	**Pb**	**23 16 29.8**	**-0.5**
TNSA				S	**Sb**	**23 16 42.5**	**-0.8**
TNSA				AML	AML	23 16 44.9	
TNSA				AML	AML	23 16 45.0	
	comp=E,50229μm,0.3s						
KLNA	**Kalymnos**	**1.04**	**72**	P	**Pb**	**23 16 30.4**	**-0.4**
KLNA				S	**Sb**	**23 16 44.3**	**+0.2**
MHLO	**Agia Marina, M**	**1.08**	**273**	P	**Pg**	**23 16 32.6**	**+0.6**
MHLO				S	**Sn**	**23 16 46.6**	**+0.2**
	comp=E,143μm,0.5s						
MHLO	**Agia Marina, M**	**1.08**	**273**	P	**Pb**	**23 16 30.9**	**-0.6**
MHLO				S	**Sb**	**23 16 44.8**	**-0.7**
MHLO				AML	AML	23 16 48.0	
MHLO				AML	AML	23 16 48.3	
NISR	**Nisiros**	**1.11**	**91**	P	**Pg**	**23 16 33.3**	**+0.6**
NISR				S	**Sn**	**23 16 49.3**	**+2.0**
	comp=E,36μm,0.4s						
NISR	**Nisiros**	**1.11**	**91**	P	**Pb**	**23 16 31.7**	**-0.4**
NISR				S	**Sb**	**23 16 45.8**	**-0.6**
YKAV	**Yalikavak-Bodr**	**1.32**	**68**	Pn	**Pn**	**23 16 35.0**	**-0.1**
BODT	**Bodrum**	**1.32**	**71**	Pn	**Pn**	**23 16 35.0**	**-0.1**
BODT				Sn	**Sg**	**23 16 53.3**	**-0.7**
BODT	**Bodrum**	**1.32**	**71**	P	**Pn**	**23 16 35.1**	**-0.1**
BODT				S	**Sg**	**23 16 55.3**	**+1.3**
SMG	**Samos**	**1.38**	**39**	P	**Pn**	**23 16 35.3**	**-0.6**
SMG				S	**Sg**	**23 16 54.9**	**-0.7**
	comp=E,14μm,0.4s						
SMG	**Samos**	**1.38**	**39**	P	**Pn**	**23 16 35.2**	**-0.7**
SMG				S	**Sn**	**23 16 53.3**	**-0.5**
YAZI	**Mula-Dat§a-**	**1.38**	**88**	P	**Pn**	**23 16 35.7**	**-0.1**
YAZI				S	**Sn**	**23 16 53.3**	**-0.5**
BDRM	**Kayabasi**	**1.43**	**72**	P	**Pn**	**23 16 36.5**	**0.0**
BDRM				S	**Sn**	**23 16 54.1**	**-1.0**
IACM	**Heraklion**	**1.44**	**202**	P	**Pn**	**23 16 36.7**	**-0.1**
IACM				S	**Sb**	**23 16 56.5**	**+0.6**
	comp=E,71μm,0.6s						
IACM	**Heraklion**	**1.44**	**202**	P	**Pn**	**23 16 36.6**	**-0.1**
IACM				S	**Sn**	**23 16 55.4**	**+0.1**
DDIM	**Aydin, Didim**	**1.45**	**55**	P	**Pn**	**23 16 37.0**	**+0.2**
DDIM				S	**Sg**	**23 16 58.9**	**+1.0**
DAT	**Datca**	**1.48**	**86**	P	**Pn**	**23 16 37.4**	**+0.1**
DAT				S	**Sb**	**23 16 57.0**	**-0.1**
DAT	**Datca**	**1.48**	**86**	Pn	**Pn**	**23 16 36.9**	**-0.4**
DAT	**Datca**	**1.48**	**86**	P	**Pn**	**23 16 37.4**	**+0.1**
IDI	**Anoyia**	**1.52**	**207**	Pn	**Pn**	**23 16 37.8**	**-0.1**
IDI				Sn	**Sb**	**23 16 58.4**	**+0.2**
IDI	**Anoyia**	**1.52**	**207**	Pn	**Pn**	**23 16 37.4**	**-0.5**
IDI				Sn	**Sn**	**23 16 56.0**	**-1.4**
IDI	**Anoyia**	**1.52**	**207**	P	**Pn**	**23 16 37.4**	**-0.5**
IDI				S	**Sg**	**23 16 59.2**	**-1.0**
	comp=E,10μm,0.4s						
IDI	**Anoyia**	**1.52**	**207**	S	**Sn**	**23 16 56.4**	**-1.1**
IDI				P	**Pn**	**23 16 37.6**	**-0.3**
IDI	**Anoyia**	**1.52**	**207**	Pg	**Pn**	**23 16 37.6**	**-0.3**
	comp=E,156nm,0.3s,baz=16,slow=7.7,SNR=322						
IDI				Lg	Lg	23 16 57.9	
	comp=E,583nm,0.3s,baz=312,slow=17,SNR=8.3						
IDI				LR	LR	23 17 04.0	
	comp=E,912nm,21.5s,baz=47,slow=36						
IDI	**Anoyia**	**1.52**	**207**	P	**Pn**	**23 16 37.6**	**-0.3**
IDI				S	**Sn**	**23 16 57.2**	**-0.2**
ZKR	**Zakros**	**1.57**	**166**	Pn	**Pn**	**23 16 38.3**	**-0.3**
ZKR	**Zakros**	**1.57**	**166**	P	**Pn**	**23 16 39.0**	**+0.4**
ZKR				S	**Sg**	**23 17 01.6**	**-0.3**
	comp=E,10μm,0.8s						
ZKR	**Zakros**	**1.57**	**166**	P	**Pn**	**23 16 38.9**	**+0.4**
ZKR				S	**Sn**	**23 16 58.6**	**0.0**
ZKR				AML	AML	23 17 03.1	
	comp=E,26991μm,0.6s						
ZKR				AML	AML	23 17 06.6	
	comp=N,10573μm,0.6s						
KARP	**Karpathos**	**1.59**	**133**	Pn	**Pn**	**23 16 39.1**	**+0.3**
KARP	**Karpathos**	**1.59**	**133**	Pn	**Pn**	**23 16 38.8**	**0.0**
KARP	**Karpathos**	**1.59**	**133**	P	**Pn**	**23 16 39.1**	**+0.3**
KARP	**Karpathos**	**1.59**	**133**	*e*P	**Pb**	**23 16 40.2**	**-0.1**
KARP	**Karpathos**	**1.59**	**133**	P	**Pn**	**23 16 39.2**	**+0.4**
KARP	**Karpathos**	**1.59**	**133**	P	**Pn**	**23 16 39.0**	**+0.3**
KARP				S	**Sb**	**23 17 00.5**	**+0.4**
KARP				AML	AML	23 17 07.8	
	comp=E,26697μm,0.9s						
KARP				AML	AML	23 17 09.7	
	comp=N,24877μm,0.5s						
GCAM	**G?zelcaml?**	**1.59**	**48**	P	**Pn**	**23 16 38.8**	**+0.1**
GCAM	**G?zelcaml?**	**1.59**	**48**	Pn	**Pn**	**23 16 38.8**	**+0.1**
PRNS	**Prines Rethymn**	**1.63**	**219**	P	**Pb**	**23 16 40.5**	**-0.4**
PRNS				S	**Sg**	**23 17 03.2**	**-0.4**
GMLD	**Gumuldur**	**1.71**	**33**	Pn	**Pn**	**23 16 40.7**	**+0.3**
KARY	**Karystos**	**1.73**	**323**	P	**Pn**	**23 16 40.9**	**+0.1**
KARY				S	**Sb**	**23 17 04.2**	**-0.1**
	comp=N,12μm,0.7s						
KARY	**Karystos**	**1.73**	**323**	P	**Pn**	**23 16 40.8**	**+0.1**
KARY				S	**Sb**	**23 17 03.7**	**-0.6**
KARY				AML	AML	23 17 12.8	
	comp=N,28618μm,0.8s						
KARY				AML	AML	23 17 13.9	
	comp=E,21684μm,0.9s						
CESE	**eme**	**1.74**	**15**	Pn	**Pn**	**23 16 41.6**	**+0.8**
IMMV	**Iera Moni Meta**	**1.85**	**231**	Pn	**Pn**	**23 16 42.6**	**+0.2**
EAG2	**Marmaro, Chios**	**1.92**	**9**	P	**Pn**	**23 16 43.4**	**+0.1**
EAG2				S	**Sn**	**23 17 08.3**	**+1.2**
VLY	**Voula,Athens**	**1.97**	**308**	P	**Pn**	**23 16 44.2**	**+0.2**
VLY	**Voula,Athens**	**1.97**	**308**	P	**Pn**	**23 16 44.2**	**+0.2**
VLY				S	**Sn**	**23 17 09.2**	**+0.8**
VLY				AML	AML	23 17 18.6	
	comp=N,48205μm,0.6s						
VLY				AML	AML	23 17 19.2	
	comp=E,54719μm,0.7s						
ARG	**Arkhangelos**	**1.97**	**102**	Pn	**Pn**	**23 16 44.5**	**+0.5**
ARG	**Arkhangelos**	**1.97**	**102**	Pn	**Pn**	**23 16 44.6**	**+0.6**
ARG	**Arkhangelos**	**1.97**	**102**	P	**Pn**	**23 16 44.8**	**+0.8**
ARG	**Arkhangelos**	**1.97**	**102**	P	**Pn**	**23 16 44.8**	**+0.8**
MRSB	**Marmaris-Mugla**	**1.97**	**87**	Pn	**Pn**	**23 16 43.9**	**-0.2**
TURN	**Turunc**	**2.02**	**86**	P	**Pn**	**23 16 45.8**	**+1.2**
TURN				S	**Sg**	**23 17 17.9**	**+1.9**
TURN	**Turunc**	**2.02**	**86**	Pn	**Pn**	**23 16 44.9**	**+0.3**
BLCB	**Balcova**	**2.02**	**30**	Pn	**Pn**	**23 16 44.2**	**-0.5**
BLCB	**Balcova**	**2.02**	**30**	P	**Pn**	**23 16 44.1**	**-0.6**
DION	**Dionisos Attik**	**2.03**	**315**	P	**Pn**	**23 16 45.5**	**+0.6**
DION	**Dionisos Attik**	**2.03**	**315**	P	**Pn**	**23 16 45.2**	**+0.3**
DION				S	**Sb**	**23 17 12.0**	**-0.9**
DION				AML	AML	23 17 22.1	
	comp=N,50607μm,1.1s						
DION				AML	AML	23 17 23.4	
	comp=E,41720μm,1.1s						
ATHU	**Athens Univers**	**2.04**	**311**	P	**Pn**	**23 16 45.4**	**+0.3**
ATHU				S	**Sb**	**23 17 12.4**	**-0.8**
	comp=E,7μm,1.0s						
ATHU	**Athens Univers**	**2.04**	**311**	P	**Pn**	**23 16 45.4**	**+0.3**
ATHU				S	**Sb**	**23 17 12.5**	**-0.8**
ATHU				AML	AML	23 17 20.1	
	comp=E,10154μm,0.8s						
ATHU				AML	AML	23 17 22.1	
	comp=N,13866μm,0.6s						
PTL	**Penteli**	**2.05**	**314**	P	**Pn**	**23 16 45.1**	**-0.1**
PTL				S	**Sn**	**23 17 11.3**	**+0.8**
	comp=N,8μm,0.5s						
PTL	**Penteli**	**2.05**	**314**	P	**Pn**	**23 16 45.7**	**+0.6**
PTL				S	**Sb**	**23 17 13.3**	**-0.1**
PTL				AML	AML	23 17 22.1	
	comp=N,16125μm,0.6s						
PTL				AML	AML	23 17 23.7	
	comp=E,16358μm,0.5s						
ATH	**Athens Observa**	**2.09**	**310**	P	**Pn**	**23 16 46.2**	**+0.6**
ATH				S	**Sn**	**23 17 12.5**	**+1.1**
	comp=E,13μm,0.8s						
ATH	**Athens Observa**	**2.09**	**310**	P	**Pn**	**23 16 46.2**	**+0.6**
ATH				S	**Sb**	**23 17 14.0**	**-0.6**
ATH				AML	AML	23 17 21.4	
	comp=N,41003μm,1.0s						
ATH				AML	AML	23 17 21.7	
	comp=E,37724μm,0.6s						
YER	**Yerkesik**	**2.10**	**76**	Pn	**Pn**	**23 16 45.9**	**+0.1**
YER	**Yerkesik**	**2.10**	**76**	P	**Pn**	**23 16 46.7**	**+0.9**
ANKY	**Antikythira Is**	**2.12**	**249**	P	**Pn**	**23 16 46.3**	**+0.2**
MULA	**Mugla, Merkez-**	**2.15**	**73**	P	**Pn**	**23 16 47.7**	**+1.0**
MULA				S	**Sg**	**23 17 19.1**	**-1.4**
KNDR	**Palaiochora Ch**	**2.18**	**230**	Pn	**Pn**	**23 16 48.4**	**+1.5**
FOCM	**Foa**	**2.21**	**20**	Pn	**Pn**	**23 16 48.1**	**+0.8**
GVD	**Gavdhos**	**2.25**	**217**	Pn	**Pn**	**23 16 48.6**	**+0.8**
VLI	**Veliai**	**2.26**	**273**	P	**Pn**	**23 16 48.6**	**+0.6**
IZMR	**zmir-demi**	**2.31**	**49**	P	**Pn**	**23 16 49.2**	**+0.5**
DALY	**Dalyan (Mula)**	**2.34**	**85**	Pn	**Pn**	**23 16 49.4**	**+0.3**
KYMI	**Kymi, Euboea I**	**2.38**	**327**	P	**Pn**	**23 16 50.1**	**+0.5**
KYMI				S	**Sn**	**23 17 20.1**	**+1.7**
	comp=E,4μm,0.9s						
ESEN	**Aydn-Nazilli**	**2.38**	**60**	P	**Pn**	**23 16 50.3**	**+0.7**
NAZL	**Nazilli-Aydin**	**2.42**	**56**	Pn	**Pn**	**23 16 50.7**	**+0.4**
SABU	**Mula-Dalaman**	**2.60**	**85**	P	**Pb**	**23 16 56.1**	**-1.4**
KIRA	**zmir-Kiraz**	**2.62**	**53**	P	**Pn**	**23 16 53.7**	**+0.7**
PRK	**Paraskevi**	**2.63**	**9**	P	**Pn**	**23 16 52.6**	**-0.5**
TAVA	**DENIZLI_Tavas**	**2.67**	**71**	P	**Pn**	**23 16 55.1**	**+1.5**
FETY	**Fethiye**	**2.69**	**89**	Pn	**Pn**	**23 16 54.3**	**+0.4**
GOMA	**Golmarmara-Man**	**2.69**	**39**	Pn	**Pn**	**23 16 54.5**	**+0.6**
DNZT	**Denizli-Tavas-**	**2.70**	**75**	P	**Pn**	**23 16 56.0**	**+1.8**
AKS	**Akhisar**	**2.77**	**36**	Pn	**Pn**	**23 16 56.0**	**+1.0**
DNIZ	**Denizli-Tavas-**	**2.81**	**69**	P	**Pn**	**23 16 57.4**	**+1.7**
IZZE	**Mula-Seydike**	**2.81**	**93**	P	**Pn**	**23 16 57.9**	**+2.3**
CAME	**Cameli-Denizli**	**2.87**	**83**	Pn	**Pn**	**23 16 56.9**	**+0.3**
CAEL	**Denizli, Camel**	**2.91**	**79**	P	**Pb**	**23 17 00.4**	**-2.5**
APMY	**Acipayam-Deniz**	**2.96**	**73**	Pn	**Pn**	**23 16 58.4**	**+0.6**
KULA	**Kula-Manisa**	**2.98**	**50**	Pn	**Pn**	**23 16 58.7**	**+0.8**
KNIK	**Mula-Seydike**	**3.08**	**85**	P	**Pb**	**23 17 02.7**	**-3.1**
ITM	**Ithomi**	**3.10**	**281**	Pn	**Pn**	**23 17 00.6**	**+1.0**
AKAS	**Kas**	**3.14**	**96**	Pn	**Pn**	**23 17 00.7**	**+0.5**
ELL	**Elmali**	**3.35**	**87**	Pn	**Pn**	**23 17 02.7**	**-0.4**
AGG	**Agios Georgios**	**3.60**	**312**	Pn	**Pn**	**23 17 07.3**	**+0.9**
AGG	**Agios Georgios**	**3.60**	**312**	P	**Pn**	**23 17 08.0**	**+1.6**
ANX	**Ano Chora**	**3.60**	**304**	P	**Pn**	**23 17 08.3**	**+1.7**
ISP	**Isparta**	**3.99**	**71**	Pn	**Pn**	**23 17 12.8**	**+0.8**
ALN	**Alexandroupoli**	**4.25**	**3**	Pn	**Pn**	**23 17 14.7**	**-0.7**
LIT	**Litokhoron**	**4.29**	**324**	Pn	**Pn**	**23 17 16.7**	**+0.7**
RDO	**Rodhopi**	**4.50**	**358**	Pn	**Pn**	**23 17 18.0**	**-0.7**
SLUM	**Salum**	**5.16**	**185**	P	**Pn**	**23 17 28.1**	**+0.2**
SLUM				S	**Sn**	**23 18 21.2**	**-5.9**
VAY	**Valandovo**	**5.28**	**333**	*i* Pn	**Pn**	**23 17 32.0**	**+2.5**
FNA	**Florina**	**5.36**	**322**	Pn	**Pn**	**23 17 32.0**	**+1.4**
PEHC	**Pehcevo**	**5.58**	**338**	*i* Pn	**Pn**	**23 17 35.4**	**+1.7**
KEK	**Kerkira**	**5.59**	**305**	Pn	**Pn**	**23 17 35.6**	**+1.8**
MDUB	**Mudurnu**	**5.73**	**47**	Pn	**Pn**	**23 17 35.6**	**-0.2**
OHR	**Ohrid**	**5.90**	**321**	*i* Pn	**Pn**	**23 17 41.5**	**+3.5**
DB3	**El Dabaa**	**6.06**	**157**	P	**Pn**	**23 17 39.9**	**-0.4**
DB3				S	**Sn**	**23 18 43.3**	**-6.0**
BR231	**Keskin MP Arra**	**6.39**	**58**	Pn	**Pn**	**23 17 46.6**	**+1.8**
CSS	**Mathiatis**	**6.39**	**103**	Pn	**Pn**	**23 17 46.0**	**+1.2**
CSS	**Mathiatis**	**6.39**	**103**	P	Pn	23 17 50.3	+5.5
CSS	**Mathiatis**	**6.39**	**103**	P	Pn	23 17 39.6	-5.2
CSS	**Mathiatis**	**6.39**	**103**	S	**Sn**	**23 18 53.6**	**-3.8**
CSS	**Mathiatis**	**6.39**	**103**	P	**Pn**	**23 17 46.2**	**+1.4**
	comp=E,73nm,1.0s,comp=E,637nmcomp=E,0.3nm						
ANTO	**Ankara**	**6.41**	**58**	Pn	**Pn**	**23 17 46.5**	**+1.4**
ANTO	**Ankara**	**6.41**	**58**	P	**Pn**	**23 17 48.1**	**+2.9**
	comp=E,10nm,0.8s,comp=E,0.2nm						
TIR	**Tirane**	**6.56**	**318**	Pn	**Pn**	**23 17 48.1**	**+1.1**
TIR	**Tirane**	**6.56**	**318**	⇓P	**Pn**	**23 17 49.0**	**+2.0**
BR105	**Keskin Array S**	**6.92**	**61**	P	**Pn**	**23 17 54.9**	**+2.7**
	comp=E,21nm,0.8s,comp=E,262nmcomp=E,0.1nm						
BR106	**Keskin Array S**	**6.93**	**61**	P	**Pn**	**23 17 55.0**	**+2.7**
	comp=E,20nm,1.1s,comp=E,196nmcomp=E,0.1nm						
BR104	**Keskin Array S**	**6.93**	**61**	P	**Pn**	**23 17 54.9**	**+2.6**
	comp=E,18nm,1.1s,comp=E,177nmcomp=E,0.1nm						
BR131	**Keskin Array S**	**6.94**	**61**	Pn	**Pn**	**23 17 54.8**	**+2.4**
BRTR	**Keskin Array B**	**6.94**	**61**	Pn	**Pn**	**23 17 53.8**	**+1.4**
BRTR	**Keskin Array B**	**6.94**	**61**	Pn	**Pn**	**23 17 55.0**	**+2.6**
	comp=E,2.2nm,0.3s,baz=243,slow=16,SNR=60						
	comp=E,5.1nm,0.3s						
PUK	**Puka**	**7.04**	**322**	Pn	**Pn**	**23 17 57.1**	**+3.3**
SWA2		**7.38**	**182**	P	**Pn**	**23 17 57.9**	**-0.5**
DRME	**Dracevica, Mon**	**7.51**	**319**	⇓*i*Pn	**Pn**	**23 18 01.8**	**+1.7**
DRME				*i* Sn	**Sn**	**23 19 24.5**	**-0.4**
TIP	**Timpagrande**	**7.54**	**292**	Pn	**Pn**	**23 18 00.6**	**0.0**
TIP	**Timpagrande**	**7.54**	**292**	⇑P	**Pn**	**23 18 02.2**	**+1.6**
TIP	**Timpagrande**	**7.54**	**292**	P	**Pn**	**23 18 02.3**	**+1.7**
	comp=E,162nm,1.0s,comp=E,0.6nm						
ICOR	**Ion Corvin**	**7.63**	**11**	⇑P	**Pn**	**23 18 02.4**	**+0.7**
BOVS	**Bovan**	**7.63**	**337**	⇑P	**Pn**	**23 18 03.3**	**+1.5**
PDG	**Podgorica**	**7.65**	**321**	Pn	**Pn**	**23 18 03.2**	**+1.2**
PDG	**Podgorica**	**7.65**	**321**	*e*Pn	**Pn**	**23 18 03.4**	**+1.4**
PDG	**Podgorica**	**7.65**	**321**	⇑P	**Pn**	**23 18 04.4**	**+2.4**
PDG	**Podgorica**	**7.65**	**321**	⇓*i*Pn	**Pn**	**23 18 03.9**	**+1.9**
PDG				*i* Sn	**Sn**	**23 19 26.8**	**-1.5**
IVA	**Berane**	**7.68**	**326**	⇑*i*Pn	**Pn**	**23 18 04.4**	**+1.9**
IVA				*i* Sn	**Sn**	**23 19 27.9**	**-1.3**
BUM	**Brajici-Budva**	**7.74**	**319**	⇓*i*Pn	**Pn**	**23 18 04.6**	**+1.2**
BUM				*i* Sn	**Sn**	**23 19 29.3**	**-1.5**
KOME	**Kolasin**	**7.83**	**324**	⇓*i*Pn	**Pn**	**23 18 05.3**	**+0.6**
KOME				*i* Sn	**Sn**	**23 19 31.9**	**-1.2**
CEME	**Cevo**	**7.90**	**320**	⇑*i*Pn	**Pn**	**23 18 05.6**	**0.0**
CEME				*i* Sn	**Sn**	**23 19 33.5**	**-1.2**
PUNG	**Punghina**	**7.92**	**345**	⇑P	**Pn**	**23 18 07.8**	**+2.0**
SJES	**Sjenica**	**7.95**	**328**	*e*Pn	**Pn**	**23 18 07.4**	**+1.1**
CEL	**Celeste**	**8.00**	**285**	Pn	**Pn**	**23 18 06.9**	**0.0**
CEL	**Celeste**	**8.00**	**285**	P	**Pn**	**23 18 08.3**	**+1.4**
	comp=E,77nm,1.0s						
NKME	**Niksic**	**8.05**	**322**	⇑*i*Pn	**Pn**	**23 18 07.8**	**+0.3**
NKME				*i* Sn	**Sn**	**23 19 36.9**	**-1.3**
HCY	**Herceg Novi**	**8.06**	**318**	*e*Pn	**Pn**	**23 18 07.2**	**-0.4**
HCY	**Herceg Novi**	**8.06**	**318**	⇑*i*Pn	**Pn**	**23 18 08.0**	**+0.4**
HCY				*i* Sn	**Sn**	**23 19 37.2**	**-1.2**
MATE	**Matera**	**8.12**	**302**	*e*P	**Pn**	**23 18 08.6**	**+0.1**
MATE	**Matera**	**8.12**	**302**	⇑P	**Pn**	**23 18 10.7**	**+2.2**
SRE	**Strehaia**	**8.24**	**347**	⇑P	**Pn**	**23 18 11.7**	**+1.6**
PLE	**Pljevlja**	**8.27**	**326**	⇓*i*Pn	**Pn**	**23 18 12.8**	**+2.2**
PLE				*i* Sn	**Sn**	**23 19 42.3**	**-1.4**
TREB	**Trebinje**	**8.32**	**319**	*e*Pn	**Pn**	**23 18 11.6**	**+0.4**
BRY	**Bratogost**	**8.35**	**321**	*e*Pn	**Pn**	**23 18 12.2**	**+0.4**
BRY	**Bratogost**	**8.35**	**321**	⇑*i*Pn	**Pn**	**23 18 13.4**	**+1.6**
BRY				*i* Sn	**Sn**	**23 19 43.8**	**-2.1**
KOT	**Kottamia**	**8.41**	**141**	P	**Pn**	**23 18 10.1**	**-2.5**
RYAN	**Fayoum**	**8.45**	**152**	P	**Pn**	**23 18 12.7**	**-0.4**
CUC	**Castrocucco**	**8.49**	**296**	Pn	**Pn**	**23 18 14.5**	**+0.9**
RUDO

LISJ **El Lisan** 9.72 121 P Pn 23 18 30.6 +0.2
GHAJ **Ghor Haditha** 9.74 120 Pn Pn 23 18 31.2 +0.5
GHAJ **Ghor Haditha** 9.74 120 P Pn 23 18 31.7 +1.0
GHAJ **Ghor Haditha** 9.74 120 S Sn 23 20 16.0 -3.8
GHAJ **Ghor Haditha** 9.74 120 P Pn 23 18 26.6 -4.1
TESR **Tescani** 9.88 4 ⇓P Pn 23 18 34.2 +1.6
KRMI **Paran Flat** 9.93 128 P Pn 23 18 29.4 -4.1
KRMI **Paran Flat** 9.93 128 S Sn 23 20 20.7 -3.9
ZFRI **Zfri** 9.94 125 P Pn 23 18 34.5 +1.1
ZFRI **Zfri** 9.94 125 P Pn 23 18 29.1 -4.3
ZFRI **Zfri** 9.94 125 S Sn 23 20 20.2 -4.4
PRNI **Paran** 9.96 126 P Pn 23 18 32.8 -0.9
PRNI **Paran** 9.96 126 S Sn 23 20 21.2 -4.0
PRNI **Paran** 9.96 126 P Pn 23 18 29.4 -4.3
SIRR **Siria** 10.09 344 ⇓P Pn 23 18 36.7 +1.2
HRFI **Mount Harif** 10.19 128 P Pn 23 18 35.9 -1.0
HRFI **Mount Harif** 10.19 128 S Sn 23 20 27.2 -3.6
HRFI **Mount Harif** 10.19 128 P Pn 23 18 33.2 -3.7
MARR **Marisel-Cluj** 10.21 350 ⇑P Pn 23 18 39.4 +2.2
ASF **Jabal al Asfar** 10.24 113 Pn Pn 23 18 38.3 +0.7
comp=E,1.5nm,0.3s,baz=5.2,slow=0.0,SNR=13
comp=E,6.2nm,0.5s
ASF **Jabal al Asfar** 10.24 113 P Pn 23 18 40.5 +2.9
GRB **Gharib** 10.25 143 P Pn 23 18 35.6 -2.2
MBRI **Mt Berech** 10.28 129 P Pn 23 18 37.8 -0.4
MBRI **Mt Berech** 10.28 129 P Pn 23 18 33.6 -4.5
MBRI **Mt Berech** 10.28 129 S Sn 23 20 29.7 -3.4
BLY **Banja Luka** 10.37 324 *e*Pn Pn 23 18 40.3 +0.9
EIL **Elat** 10.38 129 Pn Pn 23 18 39.2 -0.4
comp=E,2.3nm,0.3s,baz=322,slow=4.4,SNR=27
EIL Sn Sn 23 20 25.2 -10
comp=E,12nm,0.3s,baz=25,slow=5.0,SNR=13
EIL LR LR 23 24 29.3
comp=E,178nm,21.5s,baz=286,slow=48
comp=E,11nm,0.6s
EIL **Elat** 10.38 129 P Pn 23 18 39.2 -0.4
EIL **Elat** 10.38 129 P Pn 23 18 35.4 -4.2
EIL **Elat** 10.38 129 S Sn 23 20 32.0 -3.7
AQBJ **Aqaba** 10.41 129 P Pn 23 18 39.4 -0.5
A050A **Klekovaca** 10.50 321 *e*Pn Pn 23 18 42.6 +1.4
MILM **Milestii Mici** 10.52 12 ⇑P Pn 23 18 41.5 +0.2
INTR **Introdacqua** 10.62 304 Pn Pn 23 18 44.2 +1.4
A051A **Mrakovica** 10.70 324 *e*Pn Pn 23 18 43.8 -0.1
MORH **Mrgy, Hungar** 10.94 333 ⇑P Pn 23 18 49.5 +2.4
BURAR **Bucovina Array** 10.97 358 Pn Pn 23 18 49.0 +1.4
BURAR **Bucovina Array** 10.97 358 ⇑P Pn 23 18 50.4 +2.8
BUR08 **Bucovina Ar. S** 11.00 358 Pn Pn 23 18 49.6 +1.6
TR1 **Tor 1** 11.06 139 P Pn 23 18 45.8 -3.1
CAMP **Campotosto** 11.18 306 Pn Pn 23 18 52.7 +2.1
HHRG **Al Ghardaqah** 11.51 143 P Pn 23 18 55.5 +0.6
NRCA **Norcia** 11.51 306 Pn Pn 23 18 56.9 +1.9
FDMO **Fiordimonte** 11.63 307 Pn Pn 23 18 56.5 -0.1
CRES **Cresnjevec Ost** 11.99 323 *e*Pn Pn 23 19 00.0 -1.5
PSZ **Piszkesteto** 12.06 341 *e*P Pn 23 19 05.7 +3.1
MPLH **Magyarpolny** 12.15 332 P Pn 23 19 06.8 +3.1
comp=E,94nm,1.0s
SRO **Srobarova** 12.44 336 *e*PN Pn 23 19 13.1 +5.6
CEY **Cerknica** 12.45 320 *e*Pn Pn 23 19 07.6 -0.1
SKDS **Skadanscina** 12.53 319 *e*Pn P 23 19 12.8 -7.7
SKDS *e*Pn Pn 23 19 10.3 +1.4
KOLS **Kolonicke sedl** 12.54 349 *e*PN P 23 19 17.0 -3.6
SOKA **Soboth** 12.82 325 *e*Pn Pn 23 19 13.0 +0.2
comp=E,6.8nm,1.4s
VYHS **Vyhne** 12.88 339 *e*PN Pn 23 19 18.8 +5.1
OBKA **Obir** 12.92 323 *e*Pn Pn 23 19 14.7 +0.4
comp=E,7.0nm,1.0s
OBKA **Obir** 12.92 323 *e*Pn Pn 23 19 17.2 +2.9
ARSA **Arzberg** 13.03 328 *e*Pn Pn 23 19 17.2 +1.5
comp=E,4.2nm,0.7s
SABO **M.te Sabotino** 13.04 319 Pn Pn 23 19 15.8 0.0
RONA **Rosalia, Austr** 13.07 331 *e*Pn Pn 23 19 17.9 +1.6
comp=E,4.2nm,0.8s
STHS **Stebnicka Huta** 13.18 347 *e*PN P 23 19 30.7 +3.0
MODS **Modra-Piesok** 13.27 335 *e*PN P 23 19 32.5 +3.8
KEST **Kesra** 13.28 271 Pn Pn 23 19 17.9 -1.3
comp=E,0.1nm,0.3s,baz=322,slow=4.1,SNR=1.7
comp=E,6.2nm,1.0s
NIE **Niedzica** 13.37 344 *e*P P 23 19 26.7 -3.2
CONA **Conrad Observa** 13.43 330 *e*Pn Pn 23 19 22.3 +1.2
comp=E,7.6nm,1.2s
MYKA **Terra Mystica** 13.45 322 *e*Pn Pn 23 19 22.0 +0.4
comp=E,1.6nm,0.5s
JAVC **Velka Javorina** 13.56 337 *e*PN P 23 19 34.8 +2.8
TEOL **Teolo** 13.72 314 Pn Pn 23 19 23.4 -1.7
KBA **Koelnbreinsper** 13.91 322 *e*Pn Pn 23 19 27.4 -0.4
comp=E,7.9nm,0.7s
MOA **Molln** 14.04 326 *e*Pn Pn 23 19 29.4 -0.1
comp=E,30nm,1.3s
ABTA **Abfaltersbach** 14.11 320 *e*Pn Pn 23 19 30.2 -0.3
comp=E,6.9nm,0.6s
KARS **Kars** 14.12 68 P P 23 19 40.1 +1.7
CTI **Castel Tesino** 14.13 316 Pn Pn 23 19 29.9 -1.0
KRUC **Moravsky** 14.16 334 *e*PN P 23 19 40.5 +1.9
AK05 **Malin Array Si** 14.19 9 P P 23 19 38.7 -0.2
BIOA **Bad Ischl, Aus** 14.21 325 *e*Pn Pn 23 19 33.2 +1.5
comp=E,12nm,1.0s
OJC **Ojcow** 14.23 344 P P 23 19 42.1 +2.7
KIEV **Kiev** 14.27 9 P P 23 19 40.7 +1.0
AKASG **Malin Array Be** 14.27 9 P P 23 19 41.4 +1.6
AKASG **Malin Array Be** 14.27 9 LR LR 23 24 58.3
comp=E,393nm,20.2s,baz=186,slow=37
AKBB **Malin Array Si** 14.27 9 P P 23 19 41.4 +1.6
OKC **Ostrava-Krasne** 14.29 340 *e*PN P 23 19 45.0 +5.0
VRAC **Vranov** 14.30 335 Pn P 23 19 37.4 -2.8
comp=E,0.2nm,0.3s,baz=150,slow=10,SNR=2.6
VRAC LR LR 23 24 55.7
comp=E,264nm,20.1s,baz=162,slow=37
VRAC **Vranov** 14.30 335 *e*PN P 23 19 42.1 +1.9
MORC **Moravsky Berou** 14.41 338 *e*PN P 23 19 44.4 +3.0
LESA **Schwarzleotal** 14.48 322 *e*Pn Pn 23 19 35.4 -0.2
comp=E,10nm,0.6s
TREC **Trest** 14.68 333 *e*P P 23 19 43.1 -1.3
CKRC **Cesky Krumlov** 14.76 329 *e*P P 23 19 44.4 -0.9
KIV **Kislovodsk** 14.83 55 P P 23 19 47.8 +1.6
KVAR **Kislovodsk Arr** 14.84 55 Pn P 23 19 50.2 +3.9
baz=276,slow=22
KBZ **Khabaz** 14.88 56 Pn P 23 19 50.5 +3.8
comp=E,0.4nm,0.3s,baz=258,slow=8.3,SNR=52
WTTA **Wattenberg** 14.90 320 *e*Pn Pn 23 19 43.1 +1.7
comp=E,21nm,1.6s
KRLC **Kraliky** 14.91 337 *e*P P 23 19 49.7 +2.8
WATA **Walderalm** 14.98 320 *e*Pn Pn 23 19 43.6 +1.2
comp=E,18nm,1.2s
GERES **GERESS Array B** 15.04 328 Pn Pn 23 19 45.4 +2.2
GERES **GERESS Array B** 15.04 328 Pn Pn 23 19 43.7 +0.6
comp=E,1.1nm,0.9s,baz=138,slow=14,SNR=2.9
GERES LR LR 23 26 45.4
comp=E,187nm,21.4s,baz=142,slow=42
SQTA **Sankt Quirin** 15.10 319 *e*Pn Pn 23 19 44.4 +0.4
comp=E,6.5nm,0.6s
FETA **Feichten** 15.23 318 *e*Pn Pn 23 19 46.2 +0.5
comp=E,29nm,1.0s
MOTA **Moosalm** 15.23 319 *e*Pn Pn 23 19 47.4 +1.6
comp=E,16nm,1.2s
FUORN **Ofenpass-Fuorn** 15.25 316 Pn Pn 23 19 47.1 +1.1
DPC **Dobruska-Polom** 15.29 337 *e*P P 23 19 53.2 +2.0
ZVC **Zvikov** 15.30 330 *e*P P 23 19 53.7 +2.5
GNI **Garni** 15.30 71 Pn P 23 19 50.4 -1.1
comp=E,0.1nm,0.3s,baz=172,slow=22,SNR=1.1
GNI LR LR 23 26 42.6
comp=E,471nm,18.9s,baz=267,slow=41
comp=E,5.4nm,1.0s
KHC **Kasperske Hory** 15.31 328 *e*P P 23 19 53.2 +1.8
GOPC **GO Pecny, Ondr** 15.45 333 *e*P P 23 19 55.2 +2.2
RETA **Reutte** 15.50 319 *e*Pn Pn 23 19 49.3 +0.1
comp=E,9.9nm,1.3s
OSTC **Ostas** 15.50 337 *e*PN P 23 19 56.5 +3.0
DAVOX **Davos/Dischmat** 15.56 316 Pn Pn 23 19 48.6 -1.4
comp=E,0.1nm,0.3s,baz=75,slow=11,SNR=2.3
DAVOX LR LR 23 27 22.1
comp=E,115nm,19.6s,baz=126,slow=43
comp=E,1.9nm,0.7s
PRU **Pruhonice** 15.61 332 *e*P P 23 19 56.6 +2.0
TUE **Stuetta** 15.69 314 Pn Pn 23 19 53.6 +1.9
KSP **Ksiaz** 15.73 337 *e*P P 23 20 00.9 +4.9
HSKC **Hora Svate Kat** 16.53 331 *e*P P 23 20 07.7 +2.8
BRG **Berggiesshubel** 16.55 333 *e*P P 23 20 06.4 +1.3
BRG Amp 23 20 08.9
comp=Z,14nm,1.1s
BRG **Berggiesshubel** 16.55 333 P P 23 20 11.1 +6.0
BRG Amp 23 20 11.9
comp=Z,19nm,0.9s
BNI **Bardonecchia** 16.66 306 P 23 20 05.5 -1.0
GRA1 **Grafenberg Arr** 16.76 326 P P 23 20 08.1 +0.7

SENIN **Lac Senin/Sane** 16.85 311 P P 23 20 09.9 +1.2
CLL **Collm** 17.25 332 *e*P Pn 23 20 11.0 -0.4
CLL *es*P pP 23 20 16.0 -1.0
CLL *i* x x 23 20 18.1
CLL *i* PP sP 23 20 19.6 +0.6
comp=Z,22nm,1.0s
CLL *es*PP 23 20 25.0
CLL *ex* x 23 20 29.0
CLL *eS* S 23 23 32.0 +0.2
BFO **Black Forest** 17.31 318 P 23 20 13.2 -0.4
SUW **Suwalki** 17.46 355 *e*P P 23 20 15.5 +0.4
SUW **Suwalki** 17.46 355 *e*P P 23 20 15.1 -0.1
MNK **Minsk** 17.92 4 *i* P Pn 23 20 18.2 -1.4
comp=E,32nm,1.1s
MNK *i* P Pn 23 20 18.2 -1.4
MNK *i* P Pn 23 20 18.2 -1.4
comp=Z,18nm,1.0s,baz=186
MNK *i* PP PnPn 23 20 29.4 -1.1
MNK *i* PPP PPP 23 20 37.3
MNK *i* S Sn 23 23 38.7 -0.4
MNK *i* SS SnSn 23 23 54.5 +1.8
MNK *i* SSS SSS 23 24 07.6
MNK *i* LQ LQ 23 25 40.5
MNK *i* LR LR 23 26 33.0
MNK *i* LRM MLR 23 27 54.9
comp=Z,202nm,14.5s
MNK *i* LRM MLR 23 28 06.0
comp=E,227nm,15.6s
MNK *i* LRM MLR 23 28 14.2
comp=N,115nm,13.3s
NACGM **Naroch** 18.28 2 *e*P P 23 20 25.0 +0.9
comp=N,2µm,1.1s
PABE **Paberze** 18.90 357 P Pn 23 20 32.4 +0.8
PABE **Paberze** 18.90 357 *e*P Pn 23 20 31.4 -0.2
WLF **Walferdange** 19.25 319 P Pn 23 20 40.5 +4.6
WLF **Walferdange** 19.25 319 *d*P P 23 20 35.4 +0.5
comp=Z,29nm,1.1s
PBUR **Paburge** 19.56 354 *e*P P 23 20 38.5 +0.4
CEST **Esterri de Car** 19.75 295 P Pn 23 20 42.6 +0.6
CEST IAmb IAmb 23 20 48.8
comp=Z,46nm,1.2s
BTNL **Ternell** 19.81 321 *d*P Pn 23 20 46.4 +3.7
comp=Z,16nm,1.1s
MEM **Membach** 19.89 321 *d*P Pn 23 20 45.6 +2.1
comp=Z,34nm,1.0s
OBN **Obninsk** 19.91 18 P P 23 20 41.8 -0.1
comp=Z,1.2nm,0.3s,baz=174,slow=13,SNR=3.1
OBN LR LR 23 28 48.0
comp=Z,254nm,20.7s,baz=194,slow=38
comp=Z,15nm,0.6s
BSD **Bornholm Skovb** 19.91 342 *i* P Pn 23 20 45.0 +1.3
BSD IAmb IAmb 23 20 57.7
comp=Z,17nm,0.8s
RCHB **Rochefort** 20.03 319 *d*P Pn 23 20 45.4 +0.3
comp=Z,19nm,0.9s
BSTI **Sart Tilman** 20.10 320 *d*P Pn 23 20 46.2 +0.3
comp=Z,3.8nm,1.0s
BCLA **Clavier** 20.14 320 *d*P Pn 23 20 50.6 +4.2
comp=Z,18nm,1.1s
BGES **Gesves** 20.23 319 *d*P Pn 23 20 50.3 +2.7
comp=Z,14nm,1.1s
DOU **Dourbes** 20.33 318 *d*P Pn 23 20 48.4 -0.3
comp=Z,19nm,1.1s
BMRD **Maredsous** 20.35 319 *d*P Pn 23 20 54.6 +5.7
CLF **Chambon-Foret** 20.67 311 P P 23 20 51.5 +1.2
LUNU **Lund** 20.75 340 *i* P P 23 20 51.0 -0.2
BLEU **Blekinge** 20.78 344 *i* P P 23 20 51.1 -0.3
UCC **Uccle** 20.85 319 P P 23 20 52.6 +0.4
UCC **Uccle** 20.85 319 *d*P Pn 23 20 54.2 -0.6
comp=Z,30nm,1.1s
ECHE **Chera** 21.19 286 P P 23 21 02.5 +6.3
DEL **Delary** 21.39 342 *i* P P 23 20 58.9 +0.9
RAYN **Ar Rayn** 21.47 122 P P 23 20 59.8 +0.6
BELG **Belogornoye** 22.03 38 LR LR 23 30 09.8
comp=Z,126nm,18.8s,baz=297,slow=38
FABU **Falkenberg** 22.15 341 *i* P P 23 21 11.5 +5.3
TAM **Tamanrasset** 22.27 237 P P 23 21 09.1 +1.1
ONAU **Onsala** 22.71 340 *i* P P 23 21 11.7 -0.5
UCM **Universidad Co** 22.94 288 P P 23 21 21.3 +6.5
ESBB **Sonseca Array** 23.50 286 P P 23 21 19.7 -0.8
ESBB IAmb IAmb 23 21 37.8
comp=Z,39nm,1.2s
ESDC **Sonseca Array** 23.50 286 P P 23 21 20.0 -0.5
comp=Z,15nm,0.8s,baz=80,slow=9.9,SNR=31
ESDC LR LR 23 30 17.9
comp=Z,125nm,18.5s,baz=76,slow=36
comp=Z,15nm,0.8s
MEF **Metsahovi** 23.61 358 *e*P P 23 21 21.8 +0.6
PAB **San Pablo** 23.81 286 P P 23 21 22.2 -1.2
STRU **Stroemstad** 24.33 342 *i* P P 23 21 26.0 -2.1
HFS **Hagfors** 24.75 346 P P 23 21 31.7 -0.1
comp=Z,8.6nm,0.9s,baz=156,slow=9.3,SNR=5.8
HFS LR LR 23 32 22.0
comp=Z,238nm,18.3s,baz=131,slow=39
comp=Z,8.6nm,0.9s
FINES **FINESS Array B** 24.82 0 P P 23 21 32.2 -0.2
comp=Z,6.8nm,0.7s,baz=164,slow=9.9,SNR=16
FINES PcP PcP 23 25 08.2 -0.1
comp=Z,2.2nm,0.7s,baz=169,slow=2.8,SNR=10
FINES LR LR 23 31 15.8
comp=Z,336nm,19.5s,baz=180,slow=37
comp=Z,6.8nm,0.7s
FIA1 **FINESS Array S** 24.82 0 P P 23 21 32.6 +0.2
FIA1 IAmb IAmb 23 21 39.5
comp=Z,44nm,1.0s
MDT **Midelt** 25.18 270 P P 23 21 36.3 +0.2
comp=Z,12nm,0.8s,baz=96,slow=12,SNR=24
MDT LR LR 23 32 01.5
comp=Z,101nm,21.8s,baz=82,slow=38
comp=Z,12nm,0.8s
IFR **Ifrane** 25.40 272 P P 23 21 40.7 +2.5
PBRG **Braganca** 25.59 292 *e*P P 23 21 41.1 +1.3
NC602 **NORSAR Array S** 25.75 344 P P 23 21 41.7 +0.8
MVO **Moncorvo** 25.81 290 *e*P P 23 21 43.4 +1.7
MVO A A 23 21 48.2
comp=Z,64nm,1.0s
PBAR **Barrancos** 26.01 283 *e*P P 23 21 43.8 +0.3
PBAR A A 23 21 49.1
comp=Z,37nm,1.8s
NB2 **NORSAR Array B** 26.10 344 P P 23 21 43.9 -0.2
comp=Z,42nm,2.5s,baz=153,slow=9.3
NOA **NORSAR Array B** 26.10 344 P P 23 21 44.2 +0.1
comp=Z,4.5nm,1.1s,baz=152,slow=9.3,SNR=4.4
NOA LR LR 23 32 36.1
comp=Z,98nm,19.5s,baz=150,slow=38
comp=Z,4.5nm,1.1s
PMRV **Marv??o** 26.16 286 *e*P P 23 21 45.4 +0.5
PCBR **Castelo Branco** 26.20 287 *e*P P 23 21 48.9 +3.7
MTE **Manteigas** 26.22 288 *e*P P 23 21 46.1 +0.6
PESTR **Estremoz** 26.37 285 P P 23 21 48.6 +1.8
PESTR IAmb IAmb 23 21 53.1
comp=Z,30nm,1.0s
PESTR **Estremoz** 26.37 285 *e*P P 23 21 49.3 +2.5
PESTR A A 23 21 55.8
comp=Z,32nm,1.5s
PVIS **Viseu** 26.48 289 *e*P P 23 21 52.4 +4.6
PVAQ **Vaqueiros** 26.65 282 P P 23 21 48.7 -0.6
PVAQ IAmb IAmb 23 21 54.3
comp=Z,19nm,0.8s
PVAQ **Vaqueiros** 26.65 282 *e*P P 23 21 49.1 -0.2
PVAQ A A 23 21 53.5
comp=Z,49nm,1.2s
PBEJ **Beja** 26.68 283 *e*P P 23 21 50.4 +0.8
PBEJ A A 23 22 01.2
comp=Z,36nm,1.6s
EVO **Evora** 26.73 284 *e*P P 23 21 52.4 +2.4
EVO A A 23 21 54.8
comp=Z,31nm,1.5s
PMTG **Montargil** 26.84 286 *e*P P 23 21 52.5 +1.5
PMTG A A 23 21 54.7
comp=Z,35nm,1.7s
PBDV **Barranco-do-Ve** 26.84 281 *e*P P 23 21 51.9 +0.8
PBDV A A 23 21 55.5
comp=Z,67nm,1.3s
KIRV **Kirov** 26.87 28 LR LR 23 33 36.7
comp=Z,174nm,19.0s,baz=232,slow=39
AKTO **Aktyubinsk** 26.91 49 LR LR 23 34 43.6
comp=Z,104nm,20.9s,baz=84,slow=41
PCAS **Casmilo, Conde** 26.97 288 *e*P P 23 21 58.7 +6.5
MESJ **Messejana** 26.98 283 *e*P P 23 21 53.3 +1.0
MESJ **Messejana** 26.98 283 *e*P P 23 21 53.1 +0.9
MESJ IAmb IAmb 23 21 58.0
comp=Z,13nm,0.6s
EKA **Eskdalemuir Ar** 27.12 323 P P 23 21 53.6 +0.3
comp=Z,4.2nm,0.5s,baz=118,slow=9.4,SNR=23

comp=Z,4.2nm,0.5s
PTEO **Sao Teotonio** 27.42 282 *e*P P 23 22 00.7 +4.5
PTEO A A 23 22 26.4
comp=Z,61nm,1.7s
ABKAR **Akbulak array** 27.78 52 P P 23 21 59.7 +0.4
ARTI **Arti** 29.48 38 P P 23 22 14.1 -0.3
ARTI IAmb IAmb 23 22 16.0
comp=Z,24nm,1.1s
HRA **Herat** 29.69 83 P P 23 22 16.6 -0.1
FURI **Furi** 30.02 154 LR LR 23 36 01.1
comp=Z,201nm,18.4s,baz=356,slow=40
WSAR **Wadi Sarin** 31.31 106 LR LR 23 39 11.3
comp=Z,64nm,19.6s,baz=312,slow=44
TORD **Torodi Ar. Bea** 31.81 229 P P 23 22 34.2 -1.1
TORD **Torodi Ar. Bea** 31.81 229 P P 23 22 35.6 +0.3
comp=Z,12nm,0.6s,baz=32,slow=9.8,SNR=37
TORD LR LR 23 38 03.6
comp=Z,118nm,18.3s,baz=59,slow=41
comp=Z,12nm,0.6s
ARCES **ARCESS Array B** 32.95 360 P P 23 22 44.5 -0.2
comp=Z,9.2nm,0.9s,baz=173,slow=8.7,SNR=19
ARCES LR LR 23 35 43.9
comp=Z,230nm,20.9s,baz=162,slow=36
comp=Z,9.2nm,0.9s
SIMJ **Simiganj** 34.08 73 P P 23 22 55.4 +0.2
SIMJ IAmb IAmb 23 23 01.8
comp=Z,21nm,1.1s
LODK **Lodwar** 34.23 163 P P 23 22 56.5 0.0
KKAR **Karatay Array** 34.63 65 P P 23 22 59.7 0.0
BRVK **Borovoye** 34.93 48 P P 23 23 03.1 +0.9
BVAR **Borovoye Array** 34.99 48 P P 23 23 03.5 +0.8
comp=Z,5.3nm,1.0s,baz=258,slow=7.4,SNR=16
BVAR PP PnPn 23 24 14.0 -5.6
comp=Z,4.3nm,1.0s,baz=258,slow=11,SNR=4.0
BVAR LR LR 23 40 19.1
comp=Z,73nm,20.0s,baz=261,slow=41
comp=Z,5.3nm,1.0s
GAR **Garm** 35.03 72 IAmb IAmb 23 23 10.4
comp=Z,25nm,0.9s
KBL **Kabul** 35.06 80 P P 23 23 03.1 -0.6
DRK **Karamyk** 36.07 71 P P 23 23 12.9 +0.4
ARSB **Arslanbob** 36.66 68 P P 23 23 18.3 +1.0
MBAR **Mbarara** 37.35 172 LR LR 23 41 34.4
comp=Z,78nm,18.8s,baz=352,slow=41
AAK **Ala-Archa** 37.59 65 P P 23 23 26.4 +1.1
AAK **Ala-Archa** 37.59 65 LR LR 23 42 49.2
comp=Z,90nm,20.1s,baz=277,slow=42
FRU1 **Bishkek** 37.67 65 P P 23 23 26.2 +0.4
FRU1 IAmb IAmb 23 23 29.8
comp=Z,36nm,1.2s
NIL **Nilore** 38.66 80 P P 23 23 35.2 +1.1
NIL IAmb IAmb 23 23 41.1
comp=Z,30nm,1.0s
KMBO **Kilima Mbogo** 39.07 162 P P 23 23 38.5 +0.6
comp=Z,0.4nm,0.4s,baz=231,slow=23,SNR=1.5
KMBO PP PP 23 25 08.3 +0.6
comp=Z,0.5nm,0.3s,baz=351,slow=8.3,SNR=3.8
KMBO PcP PcP 23 25 48.5 +0.7
comp=Z,1.2nm,1.0s,baz=285,slow=22,SNR=2.0
KMBO LR LR 23 41 30.7
comp=Z,92nm,18.2s,baz=82,slow=39
comp=Z,0.4nm,0.4s
BORG **Borgarnes** 39.48 330 LR LR 23 40 39.6
comp=Z,104nm,20.6s,baz=109,slow=37
KURBB **Kurchatov Arra** 39.83 52 P P 23 23 44.8 +1.0
comp=Z,21nm,0.8s,baz=277,slow=8.6,SNR=128
KURBB PP PP 23 25 14.7 -0.5
comp=Z,2.1nm,1.0s,baz=271,slow=11,SNR=1.4
KURBB PcP PcP 23 25 49.6 +0.1
comp=Z,1.9nm,0.9s,baz=268,slow=4.1,SNR=3.6
KURBB LR LR 23 44 10.3
comp=Z,75nm,18.8s,baz=173,slow=42
comp=Z,21nm,0.8s
KURK **Kurchatov** 39.89 52 P P 23 23 44.6 +0.4
KURK IAmb IAmb 23 23 46.1
comp=Z,24nm,1.1s
DBIC **Dimbokro** 40.87 231 P P 23 23 53.1 +0.5
comp=Z,12nm,0.7s,baz=35,slow=7.4,SNR=12
comp=Z,12nm,0.7s
WUS **Wushi** 41.31 67 IAmb IAmb 23 23 58.9
comp=Z,27nm,1.2s
SPITS **Spitsbergen Ar** 41.83 357 LR LR 23 41 33.2
comp=Z,178nm,18.1s,baz=140,slow=36
SCO **Scoresbysund** 42.13 338 *i* P P 23 24 00.4 -2.0
SCO IAmb IAmb 23 24 04.4
comp=Z,7.3nm,1.0s
MKAR **Makanchi Array** 42.58 58 P P 23 24 07.5 +1.1
comp=Z,7.4nm,0.3s,baz=268,slow=8.6,SNR=110
MKAR LR LR 23 44 45.4
comp=Z,77nm,19.6s,baz=243,slow=40
comp=Z,7.4nm,0.3s
KBS **Kingsbay** 42.77 356 *i* P P 23 24 08.8 +1.2
BBTS **Babate** 43.49 251 P P 23 24 14.9 +0.9
comp=Z,21nm,0.7s,baz=323,slow=3.3,SNR=3.9
comp=Z,21nm,0.7s
ZAA0 **Zalesovo Array** 43.64 47 P P 23 24 14.8 -0.1
ZAA0 IAmb IAmb 23 24 21.8
comp=Z,11nm,0.8s
ZALV **Zalesovo Beam** 43.64 47 P P 23 24 15.0 +0.1
ZALV **Zalesovo Beam** 43.64 47 P P 23 24 15.4 +0.5
comp=Z,6.3nm,0.5s,baz=269,slow=9.2,SNR=34
ZALV LR LR 23 44 24.8
comp=Z,82nm,19.9s,baz=303,slow=39
comp=Z,6.3nm,0.5s
DAG **Danmarks Havn** 44.71 347 *i* P P 23 24 22.0 -1.1
DAG IAmb IAmb 23 24 25.6
comp=Z,3.3nm,0.9s
NRIK **Noril'sk** 46.34 26 P P 23 24 36.0 -0.1
NRIK IAmb IAmb 23 24 38.6
comp=Z,12nm,1.1s
NRIK **Noril'sk** 46.34 26 P P 23 24 37.8 +1.7
comp=Z,5.6nm,0.8s,baz=255,slow=5.9,SNR=12
comp=Z,5.6nm,0.8s
WMQ **Urumqi** 46.86 61 *e*P P 23 24 42.5 +1.8
WMQ pP sP 23 24 48.5 +1.3
WMQ pmax pmax
comp=Z,21nm,0.9s
ICESG **Greenland Ices** 47.55 334 *i* P P 23 24 45.5 -0.5
ICESG IAmb IAmb 23 24 46.9
comp=Z,17nm,1.1s
SUMG **Summit** 47.77 339 P P 23 24 47.5 -0.2
SUMG **Summit** 47.77 339 *i* P P 23 24 46.0 -1.7
SUMG IAmb IAmb 23 24 54.7
comp=Z,16nm,1.2s
DY2G **Dye2** 49.91 330 *i* P P 23 25 03.6 -0.4
DY2G IAmb IAmb 23 25 05.3
comp=Z,25nm,0.9s
SFJD **Kangerlussuaq** 51.61 331 LR LR 23 47 26.8
comp=Z,65nm,20.6s,baz=100,slow=36
NEEM **North Greenlan** 51.68 344 *i* P P 23 25 15.2 -2.1
NEEM IAmb IAmb 23 25 19.3
comp=Z,8.1nm,0.9s
KULLO **Kullorsuaq** 53.20 341 *i* P P 23 25 26.5 -1.7
KULLO IAmb IAmb 23 25 28.5
comp=Z,11nm,1.0s
TSUM **Tsumeb** 56.08 189 LR LR 23 52 50.8
comp=Z,104nm,18.2s,baz=7.5,slow=39
SHL **Shillong** 56.71 81 P P 23 25 53.8 -0.8
SHL IAmb IAmb 23 25 55.1
comp=Z,13nm,1.2s
GTA **Gaotai** 56.85 63 *e*P P 23 25 56.3 +0.9
GTA sP sP 23 26 02.8 +1.0
GTA pmax pmax
comp=Z,3.0nm,1.3s
SONM **Songino Array** 58.19 51 P P 23 26 04.9 +0.3
SONM **Songino Array** 58.19 51 P P 23 26 05.1 +0.5
comp=Z,11nm,1.3s,baz=284,slow=8.7,SNR=13
comp=Z,11nm,1.3s
ULN **Ulaanbaatar** 58.59 51 P P 23 26 07.5 0.0
TIXI **Tiksi** 59.61 21 P P 23 26 13.4 -0.5
FRB **Frobisher Bay** 59.63 329 LR LR 23 54 19.1
comp=Z,92nm,20.1s,baz=102,slow=38
LZH **Lanzhou** 61.13 65 *e*P P 23 26 26.5 +1.4
LZH pP sP 23 26 32.3 +0.7
LZH pmax pmax
comp=Z,13nm,1.0s
LBTB **Lobatse** 61.33 180 LR LR 23 53 13.7
comp=Z,61nm,18.0s,baz=358,slow=36
TNCH **TengChong** 62.22 78 P P 23 26 33.3 +0.7
TNCH pP pP 23 26 36.5 -0.9
TNCH PP PP 23 28 49.5 +0.1
TNCH S S 23 34 56.5 -1.7
TNCH pmax pmax
comp=Z,18nm,0.4s
TNCH pmax pmax
comp=Z,76nm,4.3s
TNCH LR LR

comp=Z,76nm,4.0s
TNCH LR LR
comp=Z,79nm,5.3s
RES Resolute Bay 62.36 345 LR LR 23 55 19.0
comp=Z,59nm,18.2s,baz=22,slow=38
SCHQ Schefferville 62.37 319 P **P** **23 26 32.8 -0.2**
comp=Z,4.0nm,0.5s,baz=22,slow=6.4,SNR=15
comp=Z,4.0nm,0.5s
PZH PanZhiHua 64.02 75 P **P** **23 26 45.3 +0.8**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
YAK Yakutsk 64.36 31 LR LR 23 57 25.3
comp=Z,58nm,19.5s,baz=282,slow=38
HHC Hu-ho-hao-te 64.43 57 *eP* **P** **23 26 45.5 -1.4**
HHC pP pP 23 26 49.8 -2.0
HHC sP sP 23 26 54.0 +0.4
HHC pmax pmax
comp=Z,8.0nm,0.8s
HHC pmax pmax
comp=Z,150nm,4.9s
BOSA Boshof 64.91 180 P **P** **23 26 50.9 +0.8**
comp=Z,4.9nm,0.8s,baz=353,slow=4.8,SNR=6.5
BOSA LR LR 23 58 04.3
comp=Z,58nm,18.4s,baz=20,slow=39
comp=Z,4.9nm,0.8s
CHTO Chiang Mai 65.75 84 P **P** **23 26 54.7 -1.1**
CHTO IAmb IAmb 23 26 57.0
comp=Z,8.4nm,1.1s
XAN Xi'an 65.77 65 P **P** **23 26 55.5 -0.2**
XAN pmax pmax
comp=Z,7.0nm,1.2s
CM31 Chiang Mai Arr 65.94 84 P **P** **23 26 56.6 -0.4**
CM31 IAmb IAmb 23 27 01.6
comp=Z,6.7nm,0.8s
CMAR Chiang Mai Arr 65.94 84 P **P** **23 26 56.1 -0.8**
CMAR Chiang Mai Arr 65.94 84 P **P** **23 26 57.1 +0.2**
comp=Z,5.4nm,0.9s,baz=300,slow=8.0,SNR=20
CMAR LR LR 00 00 25.2
comp=Z,23nm,20.0s,baz=295,slow=40
comp=Z,5.4nm,0.9s
HNS HongShan 68.22 59 *eP* **P** **23 27 12.8 +1.6**
SLVN Son La 68.36 79 P **P** **23 27 13.5 +1.1**
SUR Sutherland 68.82 184 LR LR 23 59 09.0
comp=Z,108nm,18.1s,baz=354,slow=38
HEH HeiHe 69.44 42 *eP* **P** **23 27 18.5 0.0**
HEH pmax pmax
comp=Z,12nm,0.9s
A36M Sachs Harbour 69.76 351 IAmb IAmb 23 27 20.7
comp=Z,11nm,0.9s
TRQ Mont Tremblant 70.86 314 P **P** **23 27 28.3 +0.9**
RCBR Riachuelo 71.33 248 LR LR 23 58 51.7
comp=Z,24nm,19.1s,baz=133,slow=36
KLR Kul'dur 72.34 41 LR LR 00 04 18.5
comp=Z,54nm,18.6s,baz=314,slow=40
C23K Itkillik River 73.80 359 IAmb IAmb 23 27 45.5
comp=Z,11nm,1.1s
NJ2 Nanjing 73.93 62 *eP* **P** **23 27 46.0 +0.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,93nm,3.8s
MA2 Magadan 73.94 26 LR LR 00 04 01.5
comp=Z,63nm,19.4s,baz=188,slow=39
D25K Kavik River 74.18 357 IAmb IAmb 23 29 18.1
comp=Z,24nm,1.9s
INK Inuvik 74.22 352 LR LR 00 03 41.4
comp=Z,81nm,18.1s,baz=255,slow=38
E28M Babbage River 74.49 354 IAmb IAmb 23 27 49.4
comp=Z,11nm,1.2s
E29M Blow River 74.57 354 IAmb IAmb 23 27 50.3
comp=Z,14nm,1.1s
KULM Kulim 74.75 95 P **P** **23 27 50.7 -0.2**
KULM IAmb IAmb 23 27 56.1
comp=Z,16nm,1.0s
KULM Kulim 74.75 95 P **P** **23 27 51.3 +0.4**
PSI Prapat 74.85 98 P **P** **23 27 51.8 +0.2**
RPSI Rantau Prapat 74.92 98 P **P** **23 27 51.0 -0.8**
RPSI IAmb IAmb 23 27 56.4
comp=Z,8.4nm,0.7s
F31M Tsiigehtchic 75.07 352 IAmb IAmb 23 27 52.0
comp=Z,17nm,1.1s
D19K Kuna River 75.14 1 P **P** **23 27 51.8 -0.5**
D19K IAmb IAmb 23 27 53.3
comp=Z,10nm,0.9s
USRK Ussuriysk Ar. 75.46 46 P **P** **23 27 53.8 -0.8**
comp=Z,4.4nm,0.9s,baz=318,slow=2.6,SNR=4.5
comp=Z,4.4nm,0.9s
E23K Chandalar 75.56 358 IAmb IAmb 23 27 56.3
comp=Z,14nm,1.5s
F26K Sheenjek River 75.70 356 IAmb IAmb 23 27 57.0
comp=Z,8.0nm,1.1s
BMAR Burnt Mountain 75.99 356 P **P** **23 27 57.4 +0.2**
G29M Pine Creek 76.02 353 IAmb IAmb 23 28 04.3
comp=Z,6.3nm,0.8s
YKA Yellowknife Ar 76.18 342 P **P** **23 27 57.8 -0.5**
comp=Z,1.6nm,0.7s,baz=92,slow=1.9,SNR=5.7
YKA LR LR 00 05 23.2
comp=Z,49nm,19.2s,baz=359,slow=39
comp=Z,1.6nm,0.7s
F21K Alatna River 76.45 360 IAmb IAmb 23 28 01.0
comp=Z,11nm,1.0s
F20K Avaraart Lake 76.62 1 IAmb IAmb 23 28 01.6
comp=Z,10nm,1.2s
F19K Shaleruckik Mo 76.81 1 IAmb IAmb 23 28 02.6
comp=Z,12nm,1.1s
G23K Bananza Creek 76.92 358 IAmb IAmb 23 28 08.6
comp=Z,9.9nm,1.3s
KSRS Korea Array 77.01 53 P **P** **23 28 03.4 0.0**
comp=Z,1.0nm,0.5s,baz=307,slow=5.0,SNR=2.5
KSRS LR LR 00 08 04.9
comp=Z,40nm,18.2s,baz=305,slow=40
comp=Z,1.0nm,0.5s
I30M Mount Dempster 77.50 352 IAmb IAmb 23 28 06.2
comp=Z,5.7nm,0.8s
G19K Purcell Mounta 77.52 1 P **P** **23 28 04.9 -0.9**
G19K IAmb IAmb 23 28 06.6
comp=Z,12nm,1.1s
IMAR Indian Mountai 77.70 360 P **P** **23 28 06.9 +0.1**
G18K Tagagawik 77.73 2 IAmb IAmb 23 28 07.5
comp=Z,12nm,1.0s
H23K Yukon River 77.79 358 IAmb IAmb 23 28 11.6
comp=Z,12nm,1.2s
H21K Melozitna Rive 78.02 359 IAmb IAmb 23 28 10.6
comp=Z,11nm,1.2s
J30M Hart River 78.13 352 IAmb IAmb 23 28 10.2
comp=Z,8.4nm,0.9s
I23K Minto, Yukon-K 78.47 358 IAmb IAmb 23 30 26.3
comp=Z,32nm,1.9s
FFC Flin Flon 78.54 332 P **P** **23 28 10.9 -0.8**
FFC IAmb IAmb 23 28 12.4
comp=Z,10nm,1.0s
ILAR Eielson Array 78.75 357 P **P** **23 28 12.3 -0.3**
comp=Z,1.2nm,0.9s,baz=0.9,slow=4.7,SNR=8.6
comp=Z,1.2nm,0.9s
DAWY Dawson 78.94 353 IAmb IAmb 23 28 17.9
comp=Z,5.3nm,0.7s
K29M Barlow Dome 78.97 353 IAmb IAmb 23 29 34.0
comp=Z,34nm,2.0s
WRH Wood River Hil 79.10 357 IAmb IAmb 23 28 14.8
comp=Z,11nm,0.9s
HDA Harding Lake 79.11 357 IAmb IAmb 23 28 14.8
comp=Z,9.2nm,1.0s
ULM Lac du Bonnet 79.34 326 IAmb IAmb 23 28 20.5
comp=Z,32nm,1.8s
ULM Lac du Bonnet 79.34 326 P **P** **23 28 15.1 -1.0**
comp=Z,8.0nm,1.1s,baz=68,slow=6.2,SNR=6.0
comp=Z,8.0nm,1.1s
MMPY Sheldon Lake, 79.36 349 IAmb IAmb 23 28 18.0
comp=Z,10.0nm,1.2s
BPAW Bear Paw Mtn. 79.56 359 IAmb IAmb 23 28 17.5
comp=Z,9.2nm,1.0s
J19K Poorman 79.69 1 P **P** **23 28 17.3 -0.5**
M29M Somme Creek 80.44 353 IAmb IAmb 23 28 23.1
comp=Z,9.5nm,0.8s
DHY Denali Highway 80.47 357 P **P** **23 28 21.8 -0.4**
DHY IAmb IAmb 23 28 27.1
comp=Z,14nm,1.0s
PDPR Patillas Dam, 80.84 286 IAmb IAmb 23 28 26.9
comp=Z,6.8nm,0.8s
N32M Quiet Lake 81.03 350 IAmb IAmb 23 28 26.1
comp=Z,9.5nm,0.9s
ASAJ Asahikawa 81.34 41 LR LR 00 07 33.6
comp=Z,52nm,19.2s,baz=90,slow=38
PETK Petropavlovsk- 81.38 27 LR LR 00 07 03.9
comp=Z,63nm,19.1s,baz=331,slow=38
R33M Jennings River 82.38 348 IAmb IAmb 23 28 37.2
comp=Z,6.2nm,0.8s
TKL Tuckaleechee C 82.76 309 LR LR 00 04 48.8
comp=Z,32nm,20.0s,baz=354,slow=35
JEM Erimo 83.09 42 P P 23 28 41.8 +5.6
U49A Red Boiling Sp 83.43 311 IAmb IAmb 23 28 39.5
comp=Z,11nm,0.8s
MJAR Matsushiro Arr 83.99 48 LR LR 00 10 13.2
comp=Z,43nm,18.3s,baz=351,slow=39
ECSD EROS Data Cent 84.41 322 P **P** **23 28 43.0 0.0**
ECSD IAmb IAmb 23 28 48.4
comp=Z,8.7nm,0.9s
V48A Smith Brothers 84.58 311 IAmb IAmb 23 28 44.9
comp=Z,8.3nm,0.9s
CCM Cathedral Cave 85.60 315 P **P** **23 28 48.6 -0.4**
SBUM Sibu 85.72 90 P **P** **23 28 52.4 +2.4**
PLAL Pickwick Lake 85.84 311 IAmb IAmb 23 28 50.8
comp=Z,14nm,1.0s
LRAL Lakeview Retre 86.49 309 P **P** **23 28 53.0 -0.5**
BDFB Brasilia 86.70 248 P **P** **23 28 54.0 -0.9**
comp=Z,2.9nm,0.6s,baz=60,slow=6.8,SNR=4.2
comp=Z,2.9nm,0.6s
LCAR Lake Charles 86.93 314 IAmb IAmb 23 28 57.0
comp=Z,12nm,1.0s
S39A Bolivar 87.03 316 IAmb IAmb 23 28 57.2
comp=Z,9.0nm,1.2s
RSSD Black Hills 87.61 326 P **P** **23 28 58.3 -0.8**
RSSD IAmb IAmb 23 29 04.7
comp=Z,7.7nm,1.1s
U38A Gravette 88.52 316 P **P** **23 29 02.4 -0.9**
U38A IAmb IAmb 23 29 04.0
comp=Z,6.9nm,1.0s
NEW Newport 89.22 336 IAmb IAmb 23 29 07.5
comp=Z,11nm,1.0s
T35A Sooner Cattle 89.35 317 P **P** **23 29 06.4 -0.7**
T35A IAmb IAmb 23 29 08.2
comp=Z,9.5nm,1.0s
MSO Missoula 89.37 334 IAmb IAmb 23 29 08.6
comp=Z,15nm,1.4s
YNE Yellowstone No 89.42 330 IAmb IAmb 23 32 22.5
comp=Z,4.2nm,0.8s
QUOK Quay 90.00 317 P **P** **23 29 10.5 +0.3**
PDAR Pinedale Array 91.08 329 P **P** **23 29 14.7 -0.8**
comp=Z,0.8nm,0.9s,baz=34,slow=4.7,SNR=4.7
PDAR LR LR 00 11 09.3
comp=Z,65nm,18.6s,baz=346,slow=36
comp=Z,0.8nm,0.9s
HWUT Hardware Ranch 92.88 329 P **P** **23 29 23.0 -0.7**
HWUT IAmb IAmb 23 29 24.1
comp=Z,4.6nm,1.0s
ANMO Albuquerque 96.02 322 LR LR 00 12 51.7
comp=Z,51nm,18.5s,baz=136,slow=36
YBH Yreka Blue Hor 96.83 337 LR LR 00 16 44.1
comp=Z,130nm,18.4s,baz=348,slow=38
SIV San Ignacio 96.88 255 LR LR 00 15 17.9
comp=Z,38nm,18.6s,baz=90,slow=37
NVAR Mina Array Bea 98.25 332 P **P** **23 29 48.1 -0.2**
comp=Z,0.6nm,0.7s,baz=31,slow=4.2,SNR=4.0
NVAR LR LR 00 20 20.7
comp=Z,129nm,20.0s,baz=314,slow=39
comp=Z,0.6nm,0.7s
TXAR Lajitas Array 98.99 317 P **P** **23 29 50.6 -1.0**
comp=Z,0.6nm,0.9s,baz=43,slow=7.5,SNR=3.8
comp=Z,0.6nm,0.9s
JTS Las Juntas de 100.03 291 LR LR 00 11 19.8
comp=Z,34nm,18.5s,baz=350,slow=33
WRA Warramunga Arr 116.28 96 PKP **PKPdf** **23 34 53.8 -0.5**
comp=Z,0.6nm,0.7s,baz=306,slow=1.8,SNR=3.6
ASAR Alice Springs 117.84 100 PKP **PKPdf** **23 34 57.0 -0.3**
comp=Z,0.5nm,0.4s,baz=297,slow=1.5,SNR=5.3
QSPA South Pole Qui 126.50 180 PKP **PKPdf** **23 35 12.1 -0.5**
comp=Z,3.1nm,0.9s,baz=206,slow=4.8,SNR=3.4
MSVF Nonsavu 149.16 60 PKPbc **PKPbc** **23 35 59.6 +0.1**
MSVF Nonsavu 149.16 60 PKPbc **PKiKP** **23 36 00.5 -0.3**
comp=Z,9.6nm,0.8s,baz=88,slow=21,SNR=11

*AFAD **27** 23:24:23.0±0.0, 36°.68N×25°.26E, h6km±2km, MW4.1*
*IDC **27** 23:24:26.5±0.7, 36°.65N×25°.76E, h0km, mb4.0/9, mbtmp3.9/15, ML3.5/6, Error ellipse: s-maj=16.4km s-min=10.6km az=125.0*
*ISK **27** 23:24:27.7, 36°.68N×25°.75E, h17km, ML3.8/14*
*ATH **27** 23:24:27.0, 36°.67N×25°.70E, h37km±3km, ML3.8/14, Error ellipse: s-maj=3.5km s-min=1.2km az=232.0*
*THE **27** 23:24:28.4, 36°.65N×25°.74E, h10km, ML3.7/9, Error ellipse: s-maj=1.0km s-min=0.4km az=291.0*
*NEIC **27** 23:24:28.3±2.3, 36°.57N±0°.05×25°.72E±0°.05, h10km±1km, mb4.4/17, Error ellipse: s-maj=8.9km s-min=5.7km az=157.0*
ISC 27 23:24:28.4±1.0, 36°.64N±0°.03×25°.75E±0°.02, h13km±7km, n144, σ1§29/163, mb4.2/16, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR2	**Thira island,**	**0.32**	**232**	P	**Pb**	**23 24 35.0**	**-1.0**
THR8	**Santorini-Mono**	**0.32**	**223**	P	**Pg**	**23 24 34.7**	**-0.3**
CMBO	**Columbo, Santo**	**0.33**	**238**	P	**Pb**	**23 24 35.0**	**-1.1**
CMBO				S	**Sg**	**23 24 39.4**	**-0.2**
CMBO	**Columbo, Santo**	**0.33**	**238**	P	**Pb**	**23 24 35.1**	**-1.1**
CMBO				S	**Sb**	**23 24 40.4**	**-0.9**
CMBO				AML	AML	23 24 40.8	
CMBO				AML	AML	23 24 44.7	
THR3	**Thira Island,**	**0.37**	**230**	P	**Pb**	**23 24 35.8**	**-1.0**
THR3	**Thira Island,**	**0.37**	**230**	P	**Pg**	**23 24 35.7**	**-0.1**
SNT5	**Nea Kammeni, S**	**0.37**	**230**	P	**Pb**	**23 24 35.9**	**-1.0**
SNT5				S	**Sb**	**23 24 42.1**	**-0.5**
SNT5				AML	AML	23 24 42.6	
SNT5				AML	AML	23 24 45.3	
SAP3	**Santorini-Thir**	**0.39**	**238**	P	**Pb**	**23 24 36.2**	**-1.0**
THR5	**Thira Island,**	**0.40**	**235**	P	**Pb**	**23 24 36.4**	**-0.9**
THR6	**Thira Island,**	**0.40**	**225**	P	**Pg**	**23 24 36.4**	**-0.1**
APE	**Apeiranthos**	**0.46**	**337**	Pg	**Pb**	**23 24 36.9**	**-1.6**
APE	**Apeiranthos**	**0.46**	**337**	P	**Pb**	**23 24 36.9**	**-1.6**
APE				S	**Sb**	**23 24 44.6**	**-0.6**
APE	**Apeiranthos**	**0.46**	**337**	P	**Pb**	**23 24 36.9**	**-1.6**
APE				S	**Sb**	**23 24 43.1**	**-2.1**
APE				AML	AML	23 24 48.2	
APE				AML	AML	23 24 48.9	
KLNA	**Kalymnos**	**1.03**	**72**	P	**Pg**	**23 24 47.3**	**-1.0**
KLNA				AML	AML	23 25 05.3	
KLNA				AML	AML	23 25 05.8	
MHLO	**Agia Marina, M**	**1.09**	**273**	P	**Pn**	**23 24 48.7**	**-0.7**
MHLO				S	**Sn**	**23 25 03.2**	**-1.1**
NISR	**Nisiros**	**1.11**	**91**	P	**Pg**	**23 24 49.3**	**-0.5**
NISR	**Nisiros**	**1.11**	**91**	P	**Pb**	**23 24 48.2**	**-1.3**
NISR				S	**Sb**	**23 25 03.8**	**0.0**
NISR				AML	AML	23 25 09.6	
NISR				AML	AML	23 25 10.9	
YKAV	**Yalikavak-Bodr**	**1.32**	**68**	Pn	**Pn**	**23 24 51.8**	**-0.7**
BODT	**Bodrum**	**1.32**	**71**	Pn	**Pn**	**23 24 51.8**	**-0.8**
BODT	**Bodrum**	**1.32**	**71**	P	**Pn**	**23 24 51.6**	**-1.0**
BODT				S	**Sn**	**23 25 09.8**	**-0.2**
YAZI	**Mula-Dat§a-**	**1.37**	**88**	P	**Pn**	**23 24 53.2**	**0.0**
YAZI				S	**Sb**	**23 25 11.2**	**-0.1**
BDRM	**Kayabasi**	**1.42**	**72**	P	**Pn**	**23 24 53.1**	**-0.9**
BDRM				S	**Sg**	**23 25 14.8**	**+0.5**
DDIM	**Aydin, Didim**	**1.44**	**55**	P	**Pn**	**23 24 53.7**	**-0.6**
DDIM				S	**Sg**	**23 25 16.7**	**+1.8**
DAT	**Datca**	**1.47**	**86**	P	**Pn**	**23 24 54.0**	**-0.7**
DAT				S	**Sn**	**23 25 13.6**	**-0.4**
DAT	**Datca**	**1.47**	**86**	Pn	**Pn**	**23 24 54.1**	**-0.7**
DAT	**Datca**	**1.47**	**86**	P	**Pn**	**23 24 53.7**	**-1.1**
IDI	**Anoyia**	**1.52**	**208**	Pn	**Pn**	**23 24 55.3**	**-0.1**
IDI	**Anoyia**	**1.52**	**208**	P	**Pn**	**23 24 54.0**	**-1.4**
IDI	**Anoyia**	**1.52**	**208**	P	**Pn**	**23 24 54.0**	**-1.4**
IDI				S	**Sn**	**23 25 15.2**	**+0.1**
IDI	**Anoyia**	**1.52**	**208**	Pg	**Pn**	**23 24 54.4**	**-1.0**
IDI				Lg	Lg	23 25 16.4	
ZKR	**Zakros**	**1.57**	**166**	Pn	**Pn**	**23 24 55.9**	**-0.1**
ZKR	**Zakros**	**1.57**	**166**	P	**Pn**	**23 24 55.7**	**-0.3**
ZKR				S	**Sn**	**23 25 16.0**	**-0.3**
ZKR	**Zakros**	**1.57**	**166**	P	**Pn**	**23 24 55.5**	**-0.6**
ZKR				AML	AML	23 25 19.7	
ZKR				AML	AML	23 25 20.2	
KARP	**Karpathos**	**1.58**	**133**	Pn	**Pn**	**23 24 55.9**	**-0.3**
KARP	**Karpathos**	**1.58**	**133**	Pn	**Pn**	**23 24 55.6**	**-0.6**
KARP	**Karpathos**	**1.58**	**133**	P	**Pn**	**23 24 55.8**	**-0.4**
KARP	**Karpathos**	**1.58**	**133**	P	**Pn**	**23 24 55.7**	**-0.6**
KARP				AML	AML	23 25 23.9	
KARP				AML	AML	23 25 24.1	
GCAM	**G?zelcaml?**	**1.59**	**48**	P	**Pn**	**23 24 55.4**	**-0.8**
GCAM				S	**Sg**	**23 25 20.4**	**+0.9**
GCAM	**G?zelcaml?**	**1.59**	**48**	Pn	**Pn**	**23 24 55.5**	**-0.7**
GMLD	**Gumuldur**	**1.71**	**33**	Pn	**Pn**	**23 24 56.8**	**-1.1**
KARY	**Karystos**	**1.74**	**323**	P	**Pn**	**23 24 57.4**	**-0.9**
KARY	**Karystos**	**1.74**	**323**	P	**Pn**	**23 24 57.4**	**-0.9**
KARY				AML	AML	23 25 25.3	
KARY				AML	AML	23 25 30.5	
IMMV	**Iera Moni Meta**	**1.86**	**231**	Pn	**Pn**	**23 24 59.9**	**-0.1**
YDRA	**Hydra**	**1.96**	**292**	P	**Pn**	**23 25 00.3**	**-1.1**
YDRA				AML	AML	23 25 36.5	
YDRA				AML	AML	23 25 41.2	
ARG	**Arkhangelos**	**1.96**	**102**	Pn	**Pn**	**23 25 01.4**	**0.0**
ARG	**Arkhangelos**	**1.96**	**102**	P	**Pn**	**23 25 01.3**	**-0.1**
ARG				AML	AML	23 25 39.9	
ARG				AML	AML	23 25 43.7	
TURN	**Turunc**	**2.01**	**86**	P	**Pg**	**23 25 06.0**	**-0.9**
TURN				S	**Sg**	**23 25 32.8**	**-0.2**
TURN	**Turunc**	**2.01**	**86**	Pn	**Pn**	**23 25 01.9**	**-0.1**
BLCB	**Balcova**	**2.02**	**30**	Pn	**Pn**	**23 25 01.5**	**-0.7**
BLCB	**Balcova**	**2.02**	**30**	P	**Pn**	**23 25 01.0**	**-1.2**
DION	**Dionisos Attik**	**2.04**	**315**	P	**Pn**	**23 25 02.0**	**-0.5**
DION	**Dionisos Attik**	**2.04**	**315**	P	**Pn**	**23 25 02.0**	**-0.5**
DION				AML	AML	23 25 38.8	
DION				AML	AML	23 25 39.9	
ATHU	**Athens Univers**	**2.05**	**311**	P	**Pn**	**23 25 01.9**	**-0.7**
ATHU	**Athens Univers**	**2.05**	**311**	P	**Pn**	**23 25 02.0**	**-0.7**
ATHU				AML	AML	23 25 34.9	
ATHU				AML	AML	23 25 39.9	
PTL	**Penteli**	**2.06**	**314**	P	**Pn**	**23 25 02.2**	**-0.6**
PTL				S	**Sn**	**23 25 27.2**	**-1.1**
PTL	**Penteli**	**2.06**	**314**	P	**Pn**	**23 25 02.2**	**-0.6**
PTL				AML	AML	23 25 36.2	
PTL				AML	AML	23 25 37.4	
YER	**Yerkesik**	**2.09**	**76**	Pn	**Pn**	**23 25 02.9**	**-0.3**
ATH	**Athens Observa**	**2.10**	**310**	P	**Pn**	**23 25 03.1**	**-0.1**
ATH	**Athens Observa**	**2.10**	**310**	P	**Pn**	**23 25 03.0**	**-0.3**
ATH				AML	AML	23 25 36.4	
ATH				AML	AML	23 25 40.7	
MULA	**Mugla, Merkez-**	**2.15**	**73**	P	**Pn**	**23 25 04.4**	**+0.4**
MULA				S	**Sb**	**23 25 35.1**	**+1.3**
FOCM	**Foa**	**2.21**	**20**	Pn	**Pn**	**23 25 04.2**	**-0.6**
IZMR	**zmir-demi**	**2.30**	**49**	P	**Pn**	**23 25 05.7**	**-0.4**
IZMR				S	**Sg**	**23 25 40.2**	**-2.2**
ESEN	**Aydn-Nazilli**	**2.37**	**60**	P	**Pn**	**23 25 06.9**	**-0.2**
ESEN				S	**Sg**	**23 25 42.7**	**-1.9**
SIGR	**SIGRI**	**2.56**	**2**	Pn	**Pn**	**23 25 08.8**	**-0.9**
SABU	**Mula-Dalaman**	**2.59**	**85**	P	**Pb**	**23 25 12.8**	**-2.0**
TAVA	**DENIZLI_Tavas**	**2.66**	**71**	P	**Pn**	**23 25 11.9**	**+0.8**
DNZT	**Denizli-Tavas-**	**2.70**	**75**	P	**Pb**	**23 25 14.5**	**-2.1**
DNZT				S	**Sg**	**23 25 57.1**	**+2.0**
DNIZ	**Denizli-Tavas-**	**2.80**	**69**	P	**Pn**	**23 25 13.8**	**+0.7**
IZZE	**Mula-Seydike**	**2.81**	**93**	P	**Pn**	**23 25 14.5**	**+1.5**
CAEL	**Denizli, Camel**	**2.90**	**79**	P	**Pn**	**23 25 16.8**	**+2.4**
ITM	**Ithomi**	**3.11**	**281**	Pn	**Pn**	**23 25 18.0**	**+0.8**
ELL	**Elmali**	**3.34**	**87**	Pn	**Pn**	**23 25 22.5**	**+2.0**
AGG	**Agios Georgios**	**3.60**	**312**	Pn	**Pn**	**23 25 24.8**	**+0.8**
ALN	**Alexandroupoli**	**4.25**	**3**	Pn	**Pn**	**23 25 31.8**	**-1.1**
LIT	**Litokhoron**	**4.30**	**324**	Pn	**Pn**	**23 25 33.4**	**-0.2**
RDO	**Rodhopi**	**4.50**	**358**	Pn	**Pn**	**23 25 35.1**	**-1.1**
FNA	**Florina**	**5.37**	**322**	Pn	**Pn**	**23 25 49.3**	**+1.0**
CSS	**Mathiatis**	**6.38**	**103**	Pn	**Pn**	**23 26 00.7**	**-1.5**
SCTE	**Santa Cesarea**	**6.67**	**303**	Pn	**Pn**	**23 26 06.8**	**+0.7**
BRTR	**Keskin Array B**	**6.93**	**61**	Pn	**Pn**	**23 26 09.9**	**+0.1**
BRTR	**Keskin Array B**	**6.93**	**61**	Pn	**Pn**	**23 26 11.8**	**+2.0**
PUK	**Puka**	**7.05**	**322**	Pn	**Pn**	**23 26 13.2**	**+1.8**
TIP	**Timpagrande**	**7.55**	**292**	Pn	**Pn**	**23 26 18.8**	**+0.6**
PDG	**Podgorica**	**7.65**	**321**	Pn	**Pn**	**23 26 20.7**	**+1.2**
CEL	**Celeste**	**8.01**	**285**	Pn	**Pn**	**23 26 25.3**	**+0.8**
MMAI	**Mount Meron Ar**	**8.72**	**112**	Pn	**Pn**	**23 26 33.6**	**-0.7**
MMAI				Sn	**Sn**	**23 28 06.0**	**-6.6**
MLR	**Muntele Rosu**	**8.84**	**1**	Pn	**Pn**	**23 26 35.9**	**-0.1**
RAFF	**Raffo Rosso**	**9.14**	**277**	Pn	**Pn**	**23 26 38.9**	**-1.1**
AMAZ	**Amatzia**	**9.15**	**121**	P	**Pn**	**23 26 40.1**	**-0.1**
QRNJ	**Al-Qirein**	**9.18**	**115**	P	**Pn**	**23 26 41.6**	**+1.1**
KZIT	**Kziot**	**9.19**	**126**	P	**Pn**	**23 26 39.9**	**-0.8**
BALJ	**Balqa**	**9.35**	**116**	Pn	**Pn**	**23 26 43.8**	**+0.9**
YTIR	**Yattir**	**9.39**	**121**	P	**Pn**	**23 26 42.1**	**-1.4**
MSBI	**Mazada**	**9.58**	**121**	P	**Pn**	**23 26 45.5**	**-0.6**
LISJ	**El Lisan**	**9.71**	**121**	P	**Pn**	**23 26 47.6**	**-0.2**
GHAJ	**Ghor Haditha**	**9.73**	**120**	Pn	**Pn**	**23 26 48.9**	**+0.8**
GHAJ	**Ghor Haditha**	**9.73**	**120**	P	**Pn**	**23 26 51.6**	**+3.5**
HRFI	**Mount Harif**	**10.18**	**128**	P	**Pn**	**23 26 54.6**	**+0.3**
ASF	**Jabal al Asfar**	**10.23**	**113**	Pn	**Pn**	**23 26 54.8**	**-0.2**
MBRI	**Mt Berech**	**10.27**	**129**	P	**Pn**	**23 26 54.5**	**-1.1**
EIL	**Elat**	**10.38**	**129**	Pn	**Pn**	**23 26 56.0**	**-1.1**
EIL				Sn	Sn	23 28 43.7	-9.5
NRCA	**Norcia**	**11.52**	**306**	Pn	**Pn**	**23 27 14.0**	**+1.3**
FDMO	**Fiordimonte**	**11.63**	**307**	Pn	**Pn**	**23 27 16.1**	**+1.9**
VYHS	**Vyhne**	**12.88**	**339**	*e*PN	Pn	23 27 37.0	+5.8
KARS	**Kars**	**14.12**	**68**	P	**P**	**23 27 57.8**	**+2.0**
VRAC	**Vranov**	**14.31**	**335**	Pn	**P**	**23 27 58.9**	**+1.1**
KIV	**Kislovodsk**	**14.83**	**55**	P	**P**	**23 28 05.2**	**+1.5**
KVAR	**Kislovodsk Arr**	**14.83**	**55**	Pn	**P**	**23 28 08.0**	**+4.2**
KBZ	**Khabaz**	**14.88**	**56**	Pn	**P**	**23 28 07.5**	**+3.4**
GERES	**GERESS Array B**	**15.04**	**328**	P	**P**	**23 28 08.2**	**+2.2**
GERES	**GERESS Array B**	**15.04**	**328**	Pn	**Pn**	**23 28 02.2**	**+1.4**
FUORN	**Ofenpass-Fuorn**	**15.25**	**316**	P	**P**	**23 28 08.9**	**+0.3**
KHC	**Kasperske Hory**	**15.31**	**328**	*e*P	**P**	**23 28 14.2**	**+5.2**
DAVOX	**Davos/Dischmat**	**15.56**	**316**	Pn	**Pn**	**23 28 08.3**	**+0.7**
BRG	**Berggiesshubel**	**16.55**	**333**	x	x	23 28 10.0	
BRG	**Berggiesshubel**	**16.55**	**333**	x	x	23 28 12.0	
SENIN	**Lac Senin/Sane**	**16.86**	**311**	Pn	**Pn**	**23 28 24.4**	**+0.2**
SENIN				IAmb	IAmb	23 28 34.8	
PABE	**Paberze**	**18.91**	**357**	P	**Pn**	**23 28 50.7**	**+1.5**
PABE				IAmb	IAmb	23 29 02.3	
CLF	**Chambon-Foret**	**20.67**	**311**	P	Pn	23 29 09.2	-1.0
ESBB	**Sonseca Array**	**23.51**	**286**	P	**P**	**23 29 38.4**	**+0.2**
ESBB				IAmb	IAmb	23 29 42.1	
ESDC	**Sonseca Array**	**23.51**	**286**	P	**P**	**23 29 36.9**	**-1.2**
FINES	**FINESS Array B**	**24.82**	**0**	P	**P**	**23 29 51.0**	**+1.0**

FINES				PcP	**PcP**	**23 33 24.1**	**-1.8**
	comp=Z,2.7nm,0.9s,baz=165,slow=3.4,SNR=3.4						
	comp=Z,3.8nm,0.9s						
EKA	**Eskdalemuir Ar**	**27.13**	**323**	P	**P**	**23 30 11.9**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=115,slow=9.3,SNR=4.6						
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**31.82**	**229**	P	**P**	**23 30 52.9**	**0.0**
	comp=Z,1.1nm,0.4s,baz=33,slow=9.7,SNR=13						
	comp=Z,1.1nm,0.4s						
ARCES	**ARCESS Array B**	**32.95**	**360**	P	**P**	**23 31 02.2**	**-0.2**
	comp=Z,2.5nm,0.9s,baz=192,slow=7.9,SNR=4.0						
	comp=Z,2.5nm,0.9s						
SIMJ	**Simiganj**	**34.08**	**73**	P	**P**	**23 31 12.2**	**-0.5**
SIMJ				IAmb	IAmb	23 31 19.2	
	comp=Z,2.2nm,0.8s						
BVAR	**Borovoye Array**	**34.99**	**48**	P	**P**	**23 31 20.9**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=258,slow=8.7,SNR=3.1						
	comp=Z,0.6nm,0.8s						
GAR	**Garm**	**35.02**	**72**	P	**P**	**23 31 21.5**	**+0.7**
GAR				IAmb	IAmb	23 31 54.6	
	comp=Z,6.5nm,1.2s						
ARSB	**Arslanbob**	**36.65**	**68**	P	**P**	**23 31 35.4**	**+0.5**
AAK	**Ala-Archa**	**37.59**	**65**	P	**P**	**23 31 43.0**	**+0.2**
AAK				IAmb	IAmb	23 31 46.1	
	comp=Z,6.6nm,1.4s						
KURBB	**Kurchatov Arra**	**39.83**	**52**	P	**P**	**23 32 01.4**	**+0.1**
	comp=Z,4.7nm,0.7s,baz=273,slow=8.0,SNR=14						
	comp=Z,4.7nm,0.7s						
MAKZ	**Makanchi**	**42.35**	**58**	P	**P**	**23 32 22.1**	**-0.1**
MK31	**Makanchi Array**	**42.57**	**58**	P	**P**	**23 32 24.0**	**+0.1**
MKAR	**Makanchi Array**	**42.57**	**58**	P	**P**	**23 32 24.0**	**+0.1**
	comp=Z,4.2nm,0.7s,baz=273,slow=8.1,SNR=40						
	comp=Z,4.2nm,0.7s						
ZALV	**Zalesovo Beam**	**43.64**	**47**	P	**P**	**23 32 32.0**	**-0.4**
ZALV	**Zalesovo Beam**	**43.64**	**47**	P	**P**	**23 32 31.8**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=272,slow=7.5,SNR=8.7						
	comp=Z,1.4nm,0.5s						
SFJD	**Kangerlussuaq**	**51.62**	**331**	P	**P**	**23 33 34.8**	**+0.6**
D19K	**Kuna River**	**75.14**	**1**	P	**P**	**23 36 09.2**	**-0.7**
E19K	**Redstone River**	**76.19**	**1**	P	**P**	**23 36 14.8**	**-1.1**
E19K				IAmb	IAmb	23 36 20.1	
	comp=Z,4.7nm,1.1s						
IMAR	**Indian Mountai**	**77.70**	**360**	P	**P**	**23 36 23.1**	**-1.3**
H21K	**Melozitna Rive**	**78.02**	**359**	P	**P**	**23 36 25.7**	**-0.6**
BCAR	**Beaver Creek A**	**80.13**	**354**	P	**P**	**23 36 37.1**	**-0.7**
M29M	**Somme Creek**	**80.44**	**353**	P	**P**	**23 36 39.3**	**-0.3**
M29M				IAmb	IAmb	23 37 16.2	
	comp=Z,7.5nm,1.4s						
R33M	**Jennings River**	**82.38**	**348**	P	**P**	**23 36 50.1**	**+0.1**
R33M				IAmb	IAmb	23 37 13.1	
	comp=Z,5.2nm,1.3s						

*IDC **27** 23:38:53.0±7.2, 17°.52S×178°.39W, h588km±17km, mb3.5/3, mbtmp4.3/4, Error ellipse: s-maj=114.6km s-min=101.7km az=79.0*
*NEIC **27** 23:38:54.5±1.2, 17°.8S±0°.2×178°.6W±0°.2, h575km±10km, mb4.2/27, Error ellipse: s-maj=30.8km s-min=7.2km az=137.0*
ISC 27 23:38:54.0±0.8, 17°.9S±0°.2×178°.5W±0°.1, h579km, n36, σ0=95/37, mb4.2/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.27**	**272**	P	**P**	**23 40 13.5**	**+0.3**
	14nm,0.8s,baz=121,slow=12,SNR=19						
MSVF				S	**S**	**23 41 20.0**	**+2.3**
	0.5nm,0.4s,baz=355,slow=22,SNR=1.6						
AFI	**Afiamalu**	**7.58**	**60**	P	**P**	**23 40 47.9**	**-0.9**
DZM	**Mont Dzumac**	**14.74**	**251**	P	**P**	**23 41 59.6**	**-0.9**
LTZ	**Lake Taylor**	**26.04**	**196**	P	**P**	**23 43 43.3**	**+0.9**
LTZ				IAmb	IAmb	23 44 01.6	
	comp=Z,9.0nm,1.0s						
ODZ	**Otahua Downs**	**28.58**	**196**	P	**P**	**23 44 04.3**	**-0.1**
MLZ	**Mavora Lakes**	**29.61**	**199**	P	**P**	**23 44 14.0**	**+0.7**
ARMA	**Armidale**	**29.87**	**240**	P	**P**	**23 44 16.7**	**+0.7**
CTAO	**Charters Tower**	**33.35**	**260**	P	**P**	**23 44 45.0**	**-0.5**
CTAO				IAmb	IAmb	23 44 45.8	
	comp=Z,5.8nm,1.1s						
CAN	**Canberra**	**33.65**	**232**	P	**P**	**23 44 49.4**	**+1.5**
COEN	**Coen**	**37.00**	**270**	P	**P**	**23 45 15.6**	**-0.3**
COEN				IAmb	IAmb	23 45 32.1	
	comp=Z,5.3nm,1.1s						
TOO	**Toolangi**	**37.12**	**231**	P	**P**	**23 45 16.9**	**+0.4**
TOO				IAmb	IAmb	23 45 18.2	
	comp=Z,2.5nm,0.8s						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**23 45 28.3**	**0.0**
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**23 45 29.0**	**+0.7**
	comp=Z,3.7nm,0.4s,baz=91,slow=9.0,SNR=11						
	comp=Z,3.7nm,0.4s						
BBOO	**Buckleboo**	**43.34**	**241**	P	**P**	**23 46 06.0**	**-0.2**
BBOO				IAmb	IAmb	23 46 07.4	
	comp=Z,7.3nm,0.8s						
WR0	**Warramunga Arr**	**44.35**	**260**	P	**P**	**23 46 12.9**	**-1.2**
WB0	**Warramunga Arr**	**44.51**	**260**	P	**P**	**23 46 14.4**	**-0.9**
WB2	**Warramunga Arr**	**44.53**	**260**	P	**P**	**23 46 14.2**	**-1.3**
WB2				IAmb	IAmb	23 46 15.3	
	comp=Z,3.6nm,0.8s						
WRA	**Warramunga Arr**	**44.54**	**260**	P	**P**	**23 46 14.1**	**-1.5**
WRA	**Warramunga Arr**	**44.54**	**260**	P	**P**	**23 46 15.0**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=96,slow=7.9,SNR=24						
	comp=Z,0.9nm,0.5s						
AS31	**Alice Springs**	**44.70**	**254**	P	**P**	**23 46 16.1**	**-0.7**
AS31				IAmb	IAmb	23 46 17.2	
	comp=Z,4.0nm,0.7s						
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**23 46 16.4**	**-0.4**
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**23 46 16.6**	**-0.2**
	comp=Z,14nm,0.6s,baz=89,slow=8.2,SNR=210						
	comp=Z,14nm,0.6s						
FORT	**Forrest**	**49.93**	**245**	P	**P**	**23 46 55.3**	**-0.5**
FORT				IAmb	IAmb	23 46 56.2	
	comp=Z,10nm,0.8s						
KNRA	**Kununurra**	**50.39**	**264**	P	**P**	**23 46 58.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**52.94**	**261**	P	**P**	**23 47 17.2**	**-0.4**
MBWA	**Marble Bar**	**57.99**	**256**	P	**P**	**23 47 51.8**	**-0.8**
MBWA				IAmb	IAmb	23 48 05.7	
	comp=Z,32nm,1.4s						
O18K	**Koktuh Hills**	**79.73**	**12**	P	**P**	**23 50 03.2**	**+1.1**
L18K	**Granite Mounta**	**81.67**	**10**	P	**P**	**23 50 13.6**	**+1.5**
L18K				IAmb	IAmb	23 50 33.7	
	comp=Z,10nm,1.4s						
J18K	**Innoko River**	**82.83**	**10**	P	**P**	**23 50 19.1**	**+1.2**
J18K				IAmb	IAmb	23 50 46.7	
	comp=Z,3.3nm,1.0s						
SCM	**Sheep Creek Mo**	**83.21**	**14**	P	**P**	**23 50 19.7**	**-0.3**
J19K	**Poorman**	**83.50**	**10**	P	**P**	**23 50 22.6**	**+1.4**
J19K				IAmb	IAmb	23 50 24.8	
	comp=Z,9.4nm,1.4s						
CAST	**Castle Rocks**	**83.61**	**12**	P	**P**	**23 50 22.4**	**+0.6**
N25K	**Chitina, Valde**	**83.69**	**16**	P	**P**	**23 50 22.8**	**+0.4**
N25K				IAmb	IAmb	23 50 39.5	
	comp=Z,7.5nm,1.1s						
GLB	**Gilahina Butte**	**83.75**	**16**	P	**P**	**23 50 23.4**	**+0.7**
GLB				IAmb	IAmb	23 50 29.5	
	comp=Z,7.8nm,1.2s						
GEVA	**Gevas**	**138.48**	**308**	PKPdf	**PKPdf**	**23 57 15.6**	**+0.6**
KHC	**Kasperske Hory**	**147.31**	**345**	PKPdf	**PKPdf**	**23 57 29.8**	**-0.1**

*JMA **27** 23:39:03.6±0.1, 24°.N±2°.×122°.9E±0°.4, h45km±2km, MV2.3/12, NW OFF ISHIGAKIJIMA IS*
*TAP **27** 23:39:03.4, 24°.08N×122°.92E, h31km, ML2.6, D*
ISC 27 23:39:03.2±1.1, 24°.05N±0°.05×122°.92E±0°.02, h31km±10km, n29, σ0=77/46, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jimaku**	**0.40**	**3**	P	**Pb**	**23 39 12.1**	**-0.1**
JYNG				S	**Sb**	**23 39 18.0**	**-0.4**
YOJ	**Yonaguni jima**	**0.42**	**11**	P	**Pb**	**23 39 12.4**	**-0.1**
YOJ				S	**Sn**	**23 39 18.9**	**-1.0**
YOJ	**Yonaguni jima**	**0.42**	**11**	P	**Pb**	**23 39 12.4**	**-0.1**
YOJ				S	**Sn**	**23 39 18.9**	**-1.0**
EOS4	**EOS4**	**0.56**	**278**	P	**Pb**	**23 39 14.6**	**+0.2**
EOS4				*e*S	**Sn**	**23 39 23.3**	**+0.6**
EOS3	**EOS3**	**0.60**	**293**	*e*P	**Pn**	**23 39 15.7**	**+0.2**
EOS2	**EOS2**	**0.73**	**301**	*e*P	**Pb**	**23 39 18.1**	**+0.7**
IRIF	**Iriomote-Funau**	**0.79**	**69**	P	**Pn**	**23 39 17.9**	**-0.3**
IRIF				S	**Sn**	**23 39 28.9**	**-0.1**
HATJ	**Hateruma jima**	**0.81**	**89**	*e*P	**Pb**	**23 39 19.1**	**+0.3**
HATJ				*e*S	**Sn**	**23 39 30.8**	**+1.5**
JKRS	**Kuro-shima**	**1.01**	**79**	*e*P	**Pn**	**23 39 21.6**	**+0.3**
JKRS				*e*S	**Sb**	**23 39 35.5**	**+0.4**
EWUT	**Wuta**	**1.12**	**291**	*e*P	**Pb**	**23 39 23.8**	**-0.2**
EWUT				*e*S	**Sb**	**23 39 39.2**	**+1.0**
TWC	**Suao**	**1.13**	**300**	*e*P	**Pn**	**23 39 23.3**	**+0.4**
ENA	**Nanau**	**1.14**	**290**	*e*P	**Pb**	**23 39 24.0**	**-0.4**
JIJ	**Ishigaki jima**	**1.16**	**74**	P	**Pn**	**23 39 23.5**	**+0.2**
JIJ				S	**Sb**	**23 39 38.9**	**-0.4**
NACB	**Ninganchiao**	**1.22**	**276**	*e*P	**Pn**	**23 39 24.3**	**+0.2**
TIPB	**Shuangxi**	**1.36**	**313**	*e*P	**Pn**	**23 39 26.4**	**+0.3**
ENTT	**Nioudou**	**1.37**	**296**	*e*P	**Pb**	**23 39 28.5**	**+0.3**
JISG	**Ishigakijimahi**	**1.38**	**67**	P	**Pn**	**23 39 26.5**	**+0.3**
JISG				S	**Sb**	**23 39 44.6**	**-0.9**
LXIB	**Xiulin Townsh**	**1.38**	**269**	*e*P	**Pn**	**23 39 26.4**	**-0.1**
LXIB				*e*S	**Sn**	**23 39 43.3**	**-0.5**
FUSB	**Fushanzhiwuyua**	**1.41**	**301**	*e*P	**Pb**	**23 39 29.6**	**+0.6**
SXI1	**Grass Mountain**	**1.41**	**318**	*e*P	**Pn**	**23 39 27.5**	**+0.6**
WARBT	**Fenglin Townsh**	**1.44**	**257**	*e*P	**Pn**	**23 39 26.4**	**-0.9**
WARBT				*e*S	**Sn**	**23 39 43.9**	**-1.2**
NNSB	**Datong**	**1.46**	**285**	*e*P	**Pb**	**23 39 28.8**	**-1.0**
YHNB	**Yeheng**	**1.54**	**294**	*e*P	**Pb**	**23 39 30.4**	**-0.8**
YULB	**Yu-li**	**1.63**	**247**	*e*P	**Pn**	**23 39 29.5**	**-0.2**
YULB				S	**Sn**	**23 39 49.1**	**-0.6**
TWF1	**Yuli**	**1.64**	**245**	*e*P	**Pn**	**23 39 29.9**	**-0.1**
TWF1				*e*S	**Sn**	**23 39 50.2**	**+0.2**
WUSB	**Renai**	**1.65**	**268**	*e*P	**Pn**	**23 39 30.7**	**+0.5**
WUSB				*e*S	**Sn**	**23 39 50.9**	**+0.5**
VWDT	**VWDT**	**1.66**	**260**	*e*P	**Pn**	**23 39 30.4**	**+0.3**
VWDT				*e*S	**Sn**	**23 39 50.5**	**+0.2**
EDH	**Donghe**	**1.83**	**235**	*e*S	**Sn**	**23 39 51.9**	**-2.7**
TPUB	**Ta-pu**	**2.23**	**251**	*e*P	**Pn**	**23 39 39.3**	**+1.2**
TPUB				*e*S	**Sn**	**23 40 06.0**	**+1.4**

*AFAD **27** 23:46:00.2±0.0, 36°.65N×25°.45E, h6km±4km, MW4.1*
*IDC **27** 23:46:01.4±0.6, 36°.57N×25°.77E, h0km, mb4.1/17, mbtmp4.0/27, ML3.7/9, MS3.2/6, Error ellipse: s-maj=13.0km s-min=9.1km az=128.0*
*ATH **27** 23:46:02.3, 36°.67N×25°.71E, h36km±2km, ML4.0/16, Error ellipse: s-maj=3.1km s-min=1.0km az=224.0*
*MED_RC **27** 23:46:02.0±0.4, 36°.68N×25°.71E, h10km, MW4.2/14, Moment Tensor Solution. Mantle waves: s14, c14; Duration: 1ꝏ Moment tensor: Scale 10^{15}Nm; M_{rr}=1.49±.26; $M_{\theta\theta}$=1.32±.15; $M_{\phi\phi}$=0.17±.30; $M_{r\theta}$=0.49±.46; $M_{\theta\phi}$=0.59±.26; $M_{\phi r}$=2.12±.45; Best double couple: M_0=2.59000×10^{15} NP1:ϕ_s=209.00000°, δ=74.00000°, λ=-111.00000°. NP2:ϕ_s=84.00000°, δ=26.00000°, λ=-38.00000°. Principal axes: T 2.2500, Plg=26.0000°, Azm=315.0000°; N 0.6900, Plg=20.0000°, Azm=215.0000°; P -2.9400, Plg=56.0000°, Azm=92.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*ISK **27** 23:46:02.1, 36°.62N×25°.74E, h12km, ML3.9/13*
*THE **27** 23:46:03.7, 36°.68N×25°.71E, h7km, ML4.0/13, Error ellipse: s-maj=0.9km s-min=0.4km az=284.0*
*NEIC **27** 23:46:03.3±1.9, 36°.53N±0°.06×25°.71E±0°.02, h10km±1km, mb4.3/18, Error ellipse: s-maj=9.7km s-min=3.1km az=175.0*
*MCSM **27** 23:46:04.7±0.4, 36°N±5°×2°6E±°, h10km, mb4.2, MLv4.4*
*HLW **27** 23:46:05.1, 36°.55N×25°.94E, h11km±23km, Md4.1, Ml4.1*
ISC 27 23:46:03.2±1.0, 36°.62N±0°.02×25°.75E±0°.02, h13km±6km, n219, σ1=59/254, mb4.3/31, MS3.4/5, 5C-4D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR2	**Thira island,**	**0.31**	**237**	P	**Pb**	**23 46 10.4**	**-0.2**
CMBO	**Columbo, Santo**	**0.32**	**243**	P	**Pb**	**23 46 10.2**	**-0.5**
CMBO				S	**Sb**	**23 46 15.3**	**-0.5**
	33μm,0.5s						
CMBO	**Columbo, Santo**	**0.32**	**243**	P	**Pb**	**23 46 10.3**	**-0.4**
CMBO				S	**Sb**	**23 46 15.8**	**0.0**
CMBO				AML	AML	23 46 16.1	
	comp=E,80460μm,0.5s						
CMBO				AML	AML	23 46 16.1	
	comp=N,87259μm,0.4s						
THR3	**Thira Island,**	**0.35**	**234**	P	**Pb**	**23 46 11.1**	**-0.2**
THR3	**Thira Island,**	**0.35**	**234**	P	**Pb**	**23 46 11.1**	**-0.2**
SNT5	**Nea Kammeni, S**	**0.36**	**234**	P	**Pb**	**23 46 11.2**	**-0.3**
SNT5				S	**Sb**	**23 46 17.4**	**+0.4**
SNT5				AML	AML	23 46 17.9	
	comp=N,63646μm,0.3s						
SNT5				AML	AML	23 46 20.4	
	comp=E,94947μm,0.3s						
SAP3	**Santorini-Thir**	**0.38**	**241**	P	**Pb**	**23 46 11.4**	**-0.3**
SAP3				S	**Sb**	**23 46 17.7**	**+0.3**
SAP3				AML	AML	23 46 21.9	
	comp=N,84324μm,0.4s						
SAP3				AML	AML	23 46 24.7	
	comp=E,85641μm,0.6s						
THR5	**Thira Island,**	**0.38**	**239**	P	**Pb**	**23 46 11.7**	**-0.2**
THR6	**Thira Island,**	**0.39**	**228**	P	**Pb**	**23 46 11.7**	**-0.2**
THR6	**Thira Island,**	**0.39**	**228**	P	**Pb**	**23 46 11.7**	**-0.2**
APE	**Apeiranthos**	**0.49**	**338**	Pg	**Pg**	**23 46 12.0**	**-0.7**
APE				Sg	**Sb**	**23 46 19.2**	**-1.6**
APE	**Apeiranthos**	**0.49**	**338**	P	**Pg**	**23 46 12.1**	**-0.7**
APE				S	**Sg**	**23 46 18.2**	**-1.1**
	comp=E,18μm,0.3s						
APE	**Apeiranthos**	**0.49**	**338**	P	**Pb**	**23 46 12.2**	**-1.5**
APE				S	**Sg**	**23 46 18.3**	**-1.0**
APE				AML	AML	23 46 23.5	
	comp=E,42247μm,0.2s						
APE				AML	AML	23 46 23.7	
	comp=N,30529μm,0.4s						
KLNA	**Kalymnos**	**1.04**	**70**	P	**Pg**	**23 46 22.2**	**-0.9**
KLNA				AML	AML	23 46 40.9	
	comp=N,9920μm,0.4s						
KLNA				AML	AML	23 46 43.8	
	comp=E,9158μm,0.2s						
MHLO	**Agia Marina, M**	**1.09**	**274**	P	**Pn**	**23 46 24.6**	**+0.4**
MHLO				S	**Sn**	**23 46 38.3**	**-0.9**
	comp=E,19μm,0.3s						
MHLO	**Agia Marina, M**	**1.09**	**274**	P	**Pn**	**23 46 23.4**	**-0.8**
MHLO				S	**Sn**	**23 46 37.6**	**-1.6**
MHLO				AML	AML	23 46 40.6	
	comp=E,47522μm,0.4s						
MHLO				AML	AML	23 46 42.2	
	comp=N,34885μm,0.4s						
NISR	**Nisiros**	**1.11**	**90**	P	**Pn**	**23 46 25.4**	**+1.0**
NISR				S	**Sn**	**23 46 41.2**	**+1.7**
	comp=N,10μm,0.6s						
NISR	**Nisiros**	**1.11**	**90**	P	**Pb**	**23 46 23.4**	**-0.7**
NISR				S	**Sg**	**23 46 39.0**	**+0.1**
NISR				AML	AML	23 46 45.3	
	comp=N,14726μm,0.3s						
NISR				AML	AML	23 46 46.1	
	comp=E,25484μm,0.4s						
YKAV	**Yalikavak-Bodr**	**1.32**	**67**	Pn	**Pn**	**23 46 27.1**	**-0.3**
BODT	**Bodrum**	**1.33**	**70**	Pn	**Pn**	**23 46 27.0**	**-0.5**
BODT	**Bodrum**	**1.33**	**70**	P	**Pn**	**23 46 26.8**	**-0.7**
BODT				S	**Sg**	**23 46 46.2**	**+0.3**
YAZI	**Mula-Dat§a-**	**1.37**	**87**	P	**Pn**	**23 46 27.7**	**-0.3**
YAZI				S	**Sg**	**23 46 50.5**	**+3.2**
SMG	**Samos**	**1.39**	**38**	P	**Pn**	**23 46 27.2**	**-1.2**
SMG				S	**Sn**	**23 46 46.6**	**-0.1**
	comp=E,4μm,0.4s						
SMG	**Samos**	**1.39**	**38**	P	**Pn**	**23 46 26.4**	**-1.9**
BDRM	**Kayabasi**	**1.43**	**71**	P	**Pn**	**23 46 28.3**	**-0.6**
BDRM				S	**Sg**	**23 46 49.3**	**+0.1**
DDIM	**Aydin, Didim**	**1.46**	**54**	P	**Pn**	**23 46 28.9**	**-0.3**
DDIM				S	**Sg**	**23 46 51.7**	**+1.6**
DAT	**Datca**	**1.47**	**85**	P	**Pn**	**23 46 29.4**	**-0.1**
DAT				S	**Sg**	**23 46 51.5**	**+1.0**
DAT	**Datca**	**1.47**	**85**	Pn	**Pn**	**23 46 29.2**	**-0.3**
DAT				Sn	**Sn**	**23 46 48.8**	**+0.1**
DAT	**Datca**	**1.47**	**85**	P	**Pn**	**23 46 28.8**	**-0.7**
IDI	**Anoyia**	**1.50**	**208**	Pn	**Pb**	**23 46 29.7**	**-1.2**
IDI	**Anoyia**	**1.50**	**208**		**Pn**	**23 46 28.9**	**-1.0**
IDI	**Anoyia**	**1.50**	**208**	P	**Pb**	**23 46 29.7**	**-1.2**
IDI				S	**Sg**	**23 46 51.2**	**-0.2**
	comp=E,2μm,0.5s						
IDI	**Anoyia**	**1.50**	**208**	Pg	**Pn**	**23 46 29.5**	**-0.4**
	comp=E,25nm,0.3s,baz=65,slow=5.1,SNR=72						
IDI				Lg	Lg	23 46 49.0	
	comp=E,102nm,0.3s,baz=305,slow=17,SNR=8.5						
IDI	**Anoyia**	**1.50**	**208**	P	**Pn**	**23 46 29.5**	**-0.4**
ZKR	**Zakros**	**1.54**	**166**	Pn	**Pn**	**23 46 29.9**	**-0.6**
ZKR	**Zakros**	**1.54**	**166**	P	**Pb**	**23 46 31.0**	**-0.7**
ZKR				S	**Sg**	**23 46 52.7**	**-0.2**
	comp=E,2μm,0.6s						
ZKR	**Zakros**	**1.54**	**166**	P	**Pb**	**23 46 30.9**	**-0.8**
ZKR				AML	AML	23 46 55.0	
	comp=E,5591μm,0.6s						
ZKR				AML	AML	23 46 59.1	
	comp=N,2436μm,0.7s						
KARP	**Karpathos**	**1.56**	**133**	Pn	**Pn**	**23 46 30.5**	**-0.2**
KARP	**Karpathos**	**1.56**	**133**	Pn	**Pn**	**23 46 30.9**	**+0.2**
KARP	**Karpathos**	**1.56**	**133**	P	**Pn**	**23 46 31.1**	**+0.4**
KARP				S	**Sb**	**23 46 52.5**	**+0.8**
	comp=N,5μm,0.8s						
KARP	**Karpathos**	**1.56**	**133**	P	**Pb**	**23 46 31.4**	**-0.6**
KARP	**Karpathos**	**1.56**	**133**	P	**Pn**	**23 46 31.2**	**+0.4**
KARP				AML	AML	23 46 59.4	
	comp=N,10736μm,0.7s						
KARP				AML	AML	23 47 00.5	
	comp=E,8795μm,0.9s						
KARP	**Karpathos**	**1.56**	**133**	P	**Pb**	**23 46 31.2**	**-0.8**
GCAM	**G?zelcaml?**	**1.60**	**47**	P	**Pn**	**23 46 30.7**	**-0.6**
GCAM				S	**Sg**	**23 46 54.7**	**-0.1**
GCAM	**G?zelcaml?**	**1.60**	**47**	Pn	**Pn**	**23 46 30.7**	**-0.6**
GMLD	**Gumuldur**	**1.73**	**32**	Pn	**Pn**	**23 46 32.4**	**-0.6**
ZEYE	**Izmir, Urla-Ze**	**1.73**	**20**	P	**Pn**	**23 46 31.2**	**-1.7**
TMBK	**Timbaki Herakl**	**1.74**	**208**	P	**Pb**	**23 46 34.5**	**-0.4**
KARY	**Karystos**	**1.76**	**324**	P	**Pn**	**23 46 32.7**	**-0.7**
KARY	**Karystos**	**1.76**	**324**	P	**Pn**	**23 46 32.7**	**-0.7**
KARY				AML	AML	23 47 00.8	
	comp=N,4285μm,0.3s						
KARY				AML	AML	23 47 05.7	
	comp=E,4752μm,0.7s						
IMMV	**Iera Moni Meta**	**1.84**	**232**	Pn	**Pn**	**23 46 34.1**	**-0.4**
IMMV	**Iera Moni Meta**	**1.84**	**232**	P	**Pb**	**23 46 34.9**	**-1.8**
IMMV				S	**Sb**	**23 46 59.5**	**-0.2**
	comp=E,3μm,0.9s						
ARG	**Arkhangelos**	**1.96**	**101**	Pn	**Pn**	**23 46 36.2**	**+0.1**
ARG	**Arkhangelos**	**1.96**	**101**	P	**Pn**	**23 46 36.6**	**+0.5**
ARG	**Arkhangelos**	**1.96**	**101**	P	**Pn**	**23 46 36.5**	**+0.5**
ARG				AML	AML	23 47 11.3	
	comp=N,2771μm,0.7s						
ARG				AML	AML	23 47 16.3	
	comp=E,3889μm,0.7s						
MRSB	**Marmaris-Mugla**	**1.97**	**86**	Pn	**Pn**	**23 46 36.2**	**-0.1**
VLY	**Voula,Athens**	**1.99**	**309**	P	**Pn**	**23 46 36.1**	**-0.5**
VLY				S	**Sn**	**23 47 00.8**	**-0.7**
	comp=E,4μm,0.5s						
VLY	**Voula,Athens**	**1.99**	**309**	P	**Pn**	**23 46 36.1**	**-0.5**
VLY				AML	AML	23 47 10.6	
	comp=N,6024μm,0.5s						
VLY				AML	AML	23 47 11.1	
	comp=E,9372μm,0.5s						
TURN	**Turunc**	**2.01**	**85**	P	**Pg**	**23 46 40.5**	**-1.2**
TURN				S	**Sg**	**23 47 08.7**	**+1.0**
TURN	**Turunc**	**2.01**	**85**	Pn	**Pn**	**23 46 36.9**	**+0.1**
BLCB	**Balcova**	**2.04**	**30**	Pn	**Pn**	**23 46 37.1**	**-0.2**
BLCB	**Balcova**	**2.04**	**30**	P	**Pn**	**23 46 36.0**	**-1.3**
DION	**Dionisos Attik**	**2.06**	**316**	P	**Pn**	**23 46 37.4**	**-0.1**
DION	**Dionisos Attik**	**2.06**	**316**	P	**Pn**	**23 46 37.2**	**-0.3**
DION				AML	AML	23 47 11.9	
	comp=E,5268μm,0.6s						
DION				AML	AML	23 47 14.1	
	comp=N,9476μm,1.0s						
ATHU	**Athens Univers**	**2.07**	**311**	P	**Pn**	**23 46 37.4**	**-0.3**
ATHU	**Athens Univers**	**2.07**	**311**	P	**Pn**	**23 46 37.4**	**-0.3**
ATHU				AML	AML	23 47 09.3	
	comp=E,1826μm,0.4s						
ATHU				AML	AML	23 47 13.5	
	comp=N,2214μm,0.6s						
PTL	**Penteli**	**2.08**	**314**	P	**Pn**	**23 46 37.7**	**-0.1**
PTL				S	**Sn**	**23 47 02.4**	**-1.2**
	comp=N,2μm,0.9s						
PTL	**Penteli**	**2.08**	**314**	P	**Pn**	**23 46 37.3**	**-0.5**
PTL				AML	AML	23 47 12.8	
	comp=E,2661μm,0.7s						
PTL				AML	AML	23 47 16.0	
	comp=N,3639μm,1.2s						
YER	**Yerkesik**	**2.09**	**75**	Pn	**Pn**	**23 46 38.3**	**+0.2**
YER	**Yerkesik**	**2.09**	**75**	P	**Pn**	**23 46 38.4**	**+0.3**
ATH	**Athens Observa**	**2.12**	**310**	P	**Pn**	**23 46 38.2**	**-0.1**
ATH				S	**Sn**	**23 47 04.0**	**-0.5**
	comp=N,2μm,0.6s						
ATH	**Athens Observa**	**2.12**	**310**	P	**Pn**	**23 46 38.1**	**-0.1**
ATH				AML	AML	23 47 11.6	
	comp=N,6382μm,0.4s						
ATH				AML	AML	23 47 15.2	
	comp=E,4948μm,0.6s						
MULA	**Mugla, Merkez-**	**2.15**	**72**	P	**Pn**	**23 46 39.5**	**+0.6**
MULA				S	**Sg**	**23 47 13.6**	**+1.2**
IZMR	**zmir-demi**	**2.32**	**48**	P	**Pn**	**23 46 41.0**	**-0.1**
ESEN	**Aydn-Nazilli**	**2.38**	**60**	P	**Pn**	**23 46 42.1**	**+0.1**
KYMI	**Kymi, Eubo

PLOR3 Plostina Array 9.25 4 P **Pn 23 48 20.1 +3.7**
comp=E,11nm,2.2s
VRI Vrincioaia 9.27 4 ⇓P **Pn 23 48 18.8 +2.2**
VRI Vrincioaia 9.27 4 P **Pn 23 48 19.7 +3.1**
comp=E,10nm,1.8s
YTIR Yattir 9.37 121 P **Pn 23 48 17.4 -0.7**
MSBI Mazada 9.57 121 P **Pn 23 48 20.8 +0.2**
HFRF Wahat Farafira 9.69 166 P **Pn 23 48 20.9 -1.4**
LISJ El Lisan 9.70 121 P **Pn 23 48 22.9 +0.5**
GHAJ Ghor Haditha 9.72 120 Pn **Pn 23 48 21.6 -1.1**
GHAJ Ghor Haditha 9.72 120 P **Pn 23 48 24.3 +1.6**
PRNI Paran 9.93 126 P **Pn 23 48 27.7 +2.0**
HRFI Mount Harif 10.16 128 P **Pn 23 48 27.4 -1.5**
ASF Jabal al Asfar 10.22 112 Pn **Pn 23 48 27.1 -2.6**
comp=E,0.3nm,0.3s,baz=225,slow=0.1,SNR=2.4
comp=E,1.4nm,0.4s
MBRI Mt Berech 10.25 129 P **Pn 23 48 30.3 +0.2**
EIL Elat 10.36 129 Pn **Pn 23 48 30.2 -1.4**
comp=E,0.7nm,0.3s,baz=265,slow=2.5,SNR=7.6
EIL Sn **Sn 23 50 19.1 -8.4**
comp=E,1.2nm,0.3s,baz=111,slow=17,SNR=3.4
comp=E,2.6nm,0.4s
EIL Elat 10.36 129 P **Pn 23 48 34.1 +2.6**
INTR Introdacqua 10.64 304 Pn **Pn 23 48 36.0 +0.6**
BURAR Bucovina Array 11.00 358 Pn **Pn 23 48 41.7 +1.4**
TR1 Tor 1 11.03 139 P **Pn 23 48 39.6 -1.2**
HDK1 Dakhla 11.47 163 P **Pn 23 48 47.4 +0.6**
NRCA Norcia 11.54 306 Pn **Pn 23 48 48.5 +0.8**
VYHS Vyhne 12.91 339 *e*PN Pn 23 49 14.0 +7.6
SABO M.te Sabotino 13.06 319 Pn **Pn 23 49 08.4 0.0**
LUBAR Lubar, Ukraine 13.38 6 P **Pn 23 49 16.4 +3.7**
KARS Kars 14.12 68 P **P 23 49 33.2 +2.5**
ABTA Abfaltersbach 14.14 320 *e*Pn **Pn 23 49 22.2 -0.9**
comp=E,2.4nm,0.8s
KRUC Moravsky 14.19 334 *e*PN **P 23 49 32.8 +1.5**
AKASG Malin Array Be 14.30 9 Pn **Pn 23 49 26.8 +1.5**
comp=E,0.2nm,0.3s,baz=18,slow=38,SNR=2.1
comp=E,0.3nm,0.5s
VRAC Vranov 14.33 335 Pn **Pn 23 49 26.2 +0.4**
comp=E,0.2nm,0.3s,baz=283,slow=14,SNR=3.6
VRAC Sn **Sn 23 51 58.9 -5.6**
comp=E,0.1nm,0.3s,baz=27,slow=23,SNR=2.1
VRAC LR LR 23 55 01.2
comp=E,74nm,20.0s,baz=150,slow=38
comp=E,1.7nm,0.6s
VRAC Vranov 14.33 335 *e*PN **P 23 49 32.9 0.0**
LESA Schwarzleotal 14.51 322 *e*Pn **Pn 23 49 29.0 +0.8**
comp=E,1.2nm,0.5s
KIV Kislovodsk 14.84 55 P **P 23 49 42.2 +3.5**
KVAR Kislovodsk Arr 14.85 55 Pn **P 23 49 36.4 -2.4**
baz=183,slow=20
comp=E,1.7nm,0.9s
KBZ Khabaz 14.89 56 Pn **P 23 49 42.8 +3.7**
comp=E,0.2nm,0.3s,baz=262,slow=9.6,SNR=21
WTTA Wattenberg 14.93 320 *e*Pn **P 23 49 37.2 -2.4**
comp=E,1.2nm,0.5s
WATA Walderalm 15.01 320 *e*Pn **P 23 49 37.6 -2.9**
comp=E,1.8nm,0.6s
GEC2 GERESS Array S 15.07 328 P **P 23 49 43.5 +2.4**
GERES GERESS Array B 15.07 328 Pn **P 23 49 42.9 +1.8**
comp=E,0.2nm,0.3s,baz=144,slow=12,SNR=12
SQTA Sankt Quirin 15.12 319 *e*Pn **Pn 23 49 36.7 +0.1**
comp=E,3.2nm,0.6s
FETA Feichten 15.26 318 *e*Pn **P 23 49 40.2 -3.1**
comp=E,3.0nm,1.0s
MOTA Moosalm 15.26 319 *e*Pn **Pn 23 49 39.5 +1.1**
comp=E,3.1nm,1.0s
FUORN Ofenpass-Fuorn 15.28 316 Pn **Pn 23 49 37.2 -1.5**
KHC Kasperske Hory 15.34 328 *e*P **P 23 49 45.5 +1.4**
DAVOX Davos/Dischmat 15.58 316 Pn **Pn 23 49 43.0 +0.3**
comp=E,0.1nm,0.3s,baz=126,slow=19,SNR=1.7
comp=E,1.3nm,0.9s
BRG Berggiesshubel 16.58 333 *e*P **P 23 50 02.8 +5.1**
BRG Amp 23 50 03.8
comp=Z,7.2nm,1.2s
SENIN Lac Senin/Sane 16.88 311 Pn **P 23 50 00.3 -1.1**
PABE Paberze 18.93 357 P **Pn 23 50 26.0 +1.7**
PABE IAmb IAmb 23 50 34.9
comp=Z,12nm,1.0s
BELG Belogornoye 22.05 37 P **P 23 50 58.0 +0.5**
comp=Z,14nm,0.8s,baz=89,slow=8.6,SNR=2.3
comp=Z,14nm,0.8s
ESBB Sonseca Array 23.52 287 P **P 23 51 13.4 +0.3**
ESBB IAmb IAmb 23 51 17.5
comp=Z,16nm,1.1s
ESDC Sonseca Array 23.52 287 P **P 23 51 12.7 -0.4**
comp=Z,2.6nm,0.8s,baz=77,slow=9.9,SNR=13
comp=Z,2.6nm,0.8s
HFS Hagfors 24.78 346 LR LR 00 03 29.3
comp=Z,32nm,20.9s,baz=256,slow=42
FINES FINESS Array B 24.85 0 P **P 23 51 25.4 +0.3**
comp=Z,1.4nm,0.6s,baz=193,slow=7.8,SNR=6.8
FINES PcP **PcP 23 54 59.6 -1.1**
comp=Z,5.6nm,1.2s,baz=188,slow=1.2,SNR=5.8
comp=Z,1.4nm,0.6s
NOA NORSAR Array B 26.13 344 P **P 23 51 37.5 +0.7**
comp=Z,0.5nm,0.8s,baz=152,slow=9.1,SNR=1.7
NOA LR LR 00 02 09.2
comp=Z,15nm,19.1s,baz=245,slow=37
comp=Z,0.5nm,0.8s
AKTO Aktyubinsk 26.92 49 P **P 23 51 44.5 +0.6**
comp=Z,2.4nm,0.7s,baz=261,slow=6.3,SNR=7.0
comp=Z,2.4nm,0.7s
EKA Eskdalemuir Ar 27.15 323 P **P 23 51 48.0 +2.0**
comp=Z,3.0nm,0.6s,baz=120,slow=9.4,SNR=12
comp=Z,3.0nm,0.6s
FURI Furi 29.99 154 LR LR 00 06 25.6
comp=Z,98nm,18.2s,baz=31,slow=41
TORD Torodi Ar. Bea 31.80 229 P **P 23 52 27.1 -0.6**
comp=Z,1.8nm,0.4s,baz=32,slow=9.2,SNR=24
comp=Z,1.8nm,0.4s
ARCES ARCESS Array B 32.98 360 P **P 23 52 36.7 -0.7**
comp=Z,3.3nm,0.9s,baz=172,slow=8.9,SNR=5.9
comp=Z,3.3nm,0.9s
SIMJ Simiganj 34.08 73 P **P 23 52 48.7 +1.1**
SIMJ IAmb IAmb 23 52 49.3
comp=Z,4.2nm,0.9s
KKAR Karatay Array 34.64 65 P **P 23 52 52.5 +0.3**
BVAR Borovoye Array 35.00 48 P **P 23 52 56.0 +0.8**
comp=Z,1.6nm,1.0s,baz=262,slow=8.2,SNR=6.0
BVAR LR LR 00 08 57.4
comp=Z,60nm,18.1s,baz=259,slow=39
comp=Z,1.6nm,1.0s
GAR Garm 35.03 72 P **P 23 52 56.9 +1.2**
GAR IAmb IAmb 23 53 02.1
comp=Z,5.8nm,0.7s
ARSB Arslanbob 36.66 68 P **P 23 53 10.9 +1.1**
AAK Ala-Archa 37.60 65 P **P 23 53 17.9 +0.2**
AAK IAmb IAmb 23 53 25.7
comp=Z,3.0nm,0.9s
FRU1 Bishkek 37.67 65 P **P 23 53 19.1 +0.9**
FRU1 IAmb IAmb 23 53 20.8
comp=Z,12nm,1.2s
NIL Nilore 38.65 80 P **P 23 53 27.2 +0.7**
NIL IAmb IAmb 23 53 32.8
comp=Z,7.6nm,1.1s
NRN Naryn 38.89 67 P **P 23 53 29.4 +0.6**
KSH Kashi 39.23 70 P **P 23 53 30.8 -0.6**
KSH pmax pmax
comp=Z,2.0nm,0.9s
KURBB Kurchatov Arra 39.84 52 P **P 23 53 36.6 +0.4**
comp=Z,6.9nm,0.6s,baz=277,slow=8.7,SNR=50
KURBB PP **PP 23 55 08.1 +0.5**
comp=Z,0.6nm,0.6s,baz=269,slow=10,SNR=1.6
comp=Z,6.9nm,0.6s
KURK Kurchatov 39.90 52 P **P 23 53 36.6 0.0**
KURK IAmb IAmb 23 53 37.8
comp=Z,6.7nm,0.9s
DBIC Dimbokro 40.86 231 P **P 23 53 44.6 -0.3**
comp=Z,2.0nm,0.6s,baz=1.6,slow=5.9,SNR=4.3
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 42.58 58 P **P 23 53 59.3 +0.5**
comp=Z,5.9nm,0.6s,baz=280,slow=6.8,SNR=66
comp=Z,5.9nm,0.6s
ZAA0 Zalesovo Array 43.66 47 P **P 23 54 07.6 +0.3**
ZAA0 IAmb IAmb 23 54 08.0
comp=Z,2.7nm,0.7s
ZALV Zalesovo Beam 43.66 47 P **P 23 54 07.5 +0.1**
comp=Z,2.4nm,0.5s,baz=268,slow=8.9,SNR=14
comp=Z,2.4nm,0.5s
WMQ Urumqi 46.87 61 *e*P P 23 54 38.5 +5.4
WMQ pmax pmax
comp=Z,13nm,0.7s
SONM Songino Array 58.20 51 P **P 23 55 57.3 +0.2**
comp=Z,0.3nm,0.4s,baz=280,slow=7.5,SNR=3.8
comp=Z,0.3nm,0.4s
TIXI Tiksi 59.64 21 LR LR 00 25 03.1
comp=Z,41nm,18.6s,baz=15,slow=39
LZH Lanzhou 61.13 65 *e*P **P 23 56 18.5 +0.9**
LZH pP sP 23 56 24.5 +1.6
LZH pmax pmax
comp=Z,10.0nm,0.9s
SCHQ Schefferville 62.40 319 P **P 23 56 25.0 -0.5**
SCHQ Schefferville 62.40 319 P **P 23 56 25.4 -0.1**
comp=Z,2.2nm,0.7s,baz=68,slow=9.9,SNR=5.4
comp=Z,2.2nm,0.7s
PZH PanZhiHua 64.01 75 P **P 23 56 38.8 +1.9**
PZH pmax pmax
comp=Z,9.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,5.1s
HHC Hu-ho-hao-te 64.44 57 *e*P **P 23 56 42.5 +3.1**
HHC sP sP 23 56 50.0 +5.3
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,170nm,5.1s
BOSA Boshof 64.89 180 P **P 23 56 42.3 0.0**
comp=Z,3.8nm,1.1s,baz=266,slow=18,SNR=1.9
comp=Z,3.8nm,1.1s
CMAR Chiang Mai Arr 65.94 84 P **P 23 56 49.2 -0.1**
comp=Z,0.6nm,0.3s,baz=312,slow=8.0,SNR=7.3
comp=Z,0.6nm,0.3s
E19K Redstone River 76.22 1 P **P 23 57 50.0 -0.9**
IMAR Indian Mountai 77.73 360 P **P 23 57 58.1 -1.2**
G18K Tagagawik 77.76 2 P **P 23 57 58.0 -1.6**
H21K Melozitna Rive 78.05 359 P **P 23 58 01.2 0.0**
H21K IAmb IAmb 23 58 01.6
comp=Z,4.0nm,1.1s

*IDC **27** 23:46:27.9±3.0, 5°.32S×151°.26E, h105km±21km, mb4.0/6, mbtmp4.4/7, Error ellipse: s-maj=43.1km s-min=21.8km az=120.0*
*NEIC **27** 23:46:28.5±0.8, 5°.27S±0°.07×151°.22E±0°.06, h106km±6km, mb4.4/13, Error ellipse: s-maj=11.3km s-min=6.4km az=221.0*
ISC 27 23:46:27.3±0.7, 5°.2S±0°.1×151°.2E±0°.1, h100km, n43, σ1.8 23/47, mb4.3/14, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.39**	**44**	Pn	**Pn**	**23 46 54.1**	**+1.8**
PMG	**Port Moresby**	**5.79**	**223**	Pn	**Pn**	**23 47 51.4**	**+0.6**
PMG	**Port Moresby**	**5.79**	**223**	P	**Pn**	**23 47 51.8**	**+1.0**
PMG				S	**Sn**	**23 48 55.0**	**-0.9**
PMG	**Port Moresby**	**5.79**	**223**	P	**Pn**	**23 47 53.3**	**+2.5**
PMG	**Port Moresby**	**5.79**	**223**	P	**Pn**	**23 47 53.2**	**+2.5**
COEN	**Coen**	**11.76**	**222**	Pn	**Pn**	**23 49 12.1**	**+0.2**
COEN	**Coen**	**11.76**	**222**	P	**Pn**	**23 49 12.7**	**+0.8**
QIS	**Mount Isa**	**18.97**	**215**	P	**P**	**23 50 41.9**	**+0.9**
KDU	**Kakadu**	**19.92**	**247**	P	**P**	**23 50 52.0**	**+0.7**
MTN	**Manton Dam**	**21.20**	**248**	P	**P**	**23 51 05.6**	**+0.5**
MTN				IAmb	IAmb	23 51 42.4	
MTN	**Manton Dam**	**21.20**	**248**	P	**P**	**23 51 07.0**	**+1.9**
WB0	**Warramunga Arr**	**21.85**	**227**	P	**P**	**23 51 11.5**	**-0.4**
WB0				IAmb	IAmb	23 51 32.0	
WR0	**Warramunga Arr**	**21.86**	**226**	P	**P**	**23 51 11.5**	**-0.6**
WR0				IAmb	IAmb	23 51 14.5	
WB2	**Warramunga Arr**	**21.99**	**227**	P	**P**	**23 51 12.3**	**-1.1**
WB2				IAmb	IAmb	23 51 15.7	
WRA	**Warramunga Arr**	**22.00**	**227**	P	**P**	**23 51 12.0**	**-1.5**
WRA	**Warramunga Arr**	**22.00**	**227**	P	**P**	**23 51 13.2**	**-0.3**
WRA				PcP	**PcP**	**23 55 08.6**	**+0.1**
WRA				ScP	**ScP**	**23 58 35.6**	**-1.3**
KNRA	**Kununurra**	**24.36**	**243**	P	**P**	**23 51 36.4**	**+0.1**
KNRA				IAmb	IAmb	23 51 45.2	
AS01	**Alice Springs**	**24.76**	**220**	P	**P**	**23 51 39.5**	**-0.4**
AS31	**Alice Springs**	**24.79**	**221**	P	**P**	**23 51 39.9**	**-0.3**
ASAR	**Alice Springs**	**24.80**	**221**	P	**P**	**23 51 40.0**	**-0.2**
ASAR	**Alice Springs**	**24.80**	**221**	P	**P**	**23 51 40.4**	**+0.2**
ASAR				ScP	**ScP**	**23 58 42.5**	**-1.8**
OOD	**Oodnadatta**	**26.88**	**212**	P	**P**	**23 51 59.3**	**+0.4**
LCRK	**Leigh Creek**	**27.94**	**204**	P	**P**	**23 52 08.5**	**+0.2**
STKA	**Stephens Creek**	**28.03**	**198**	P	**P**	**23 52 08.2**	**-0.9**
STKA	**Stephens Creek**	**28.03**	**198**	P	**P**	**23 52 07.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**28.06**	**241**	P	**P**	**23 52 09.3**	**-0.3**
WRKA	**Warakurna**	**29.53**	**226**	P	**P**	**23 52 22.2**	**-0.4**
MULG	**Mulgathing**	**29.73**	**211**	P	**P**	**23 52 23.1**	**-1.1**
BBOO	**Buckleboo**	**30.89**	**205**	P	**P**	**23 52 34.3**	**-0.2**
ARPS	**Mount Arapiles**	**32.58**	**194**	P	**P**	**23 52 50.0**	**+0.8**
FORT	**Forrest**	**33.48**	**218**	P	**P**	**23 52 56.3**	**-0.9**
MBWA	**Marble Bar**	**34.39**	**240**	P	**P**	**23 53 04.5**	**-0.7**
TUWZ	**Tuamarina**	**41.42**	**154**	P	**P**	**23 54 04.7**	**+0.7**
TGL	**Tana Glacier**	**83.06**	**27**	P	**P**	**23 58 41.8**	**+0.1**
TGL				IAmb	IAmb	23 59 23.3	
ILAR	**Eielson Array**	**83.13**	**22**	P	**P**	**23 58 41.0**	**-0.8**
QSPA	**South Pole Qui**	**84.77**	**180**	P	**P**	**23 58 50.5**	**+0.1**
QSPA				IAmb	IAmb	23 58 51.0	
QSPA	**South Pole Qui**	**84.77**	**180**	P	**P**	**23 58 49.8**	**-0.6**
BVAR	**Borovoye Array**	**88.59**	**323**	P	**P**	**23 59 10.1**	**+1.1**
CMLA	**Cha da Macela**	**147.44**	**355**	PKPdf	**PKPdf**	**00 05 54.1**	**-3.5**
TORD	**Torodi Ar. Bea**	**148.89**	**287**	PKPbc	**PKPdf**	**00 06 03.7**	**+3.2**
TORD	**Torodi Ar. Bea**	**148.89**	**287**	PKPbc	**PKPbc**	**00 06 04.2**	**-0.3**
BDFB	**Brasilia**	**151.89**	**138**	PKPbc	**PKPbc**	**00 06 11.9**	**0.0**
MACI	**Morro de la Ar**	**154.26**	**334**	PKPab	**PKPab**	**00 06 29.3**	**-1.6**

*IDC **27** 23:50:06.9±0.8, 34°.02N×45°.54E, h0km, mb3.9/17, mbtmp3.9/26, ML3.3/8, MS3.2/7, Error ellipse: s-maj=16.0km s-min=13.0km az=176.0*
*AFAD **27** 23:50:10.6±0.0, 34°.30N×45°.28E, h7km±3km, MW4.1*
*TEH **27** 23:50:10.8, 34°.32N×45°.67E, h11km±17km, ML4.1*
*ISN **27** 23:50:10.8±0.6, 34°.32N×45°.71E, h15km±6km, ML4.0*
*NEIC **27** 23:50:10.0±1.1, 34°.22N±0°.04×45°.66E±0°.07, h10km±1km, mb4.4/37, Error ellipse: s-maj=10.7km s-min=5.9km az=74.0*
*OMAN **27** 23:50:20.8±0.1, 33°.37N×46°.06E, h10km, mb4.3/27, Error ellipse: s-maj=1.3km s-min=1.0km az=36.0*
ISC 27 23:50:09.2±0.4, 34°.23N±0°.03×45°.66E±0°.03, h10km, n204, σ2.8 78/227, mb4.3/34, MS3.2/5, 5C-3D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.24**	**119**	Pg	**Pg**	**23 50 17.4**	**+3.3**
KGS1	**Ghasr-e-Shirin**	**0.28**	**348**	Pg	**Pg**	**23 50 15.8**	**+0.8**
ILBA	**Ilam Bavnizeh**	**0.76**	**143**	Pg	**Pn**	**23 50 26.7**	**+0.7**
IGHG	**Ghaleghazi**	**0.76**	**82**	Pg	**Pb**	**23 50 26.1**	**+1.4**
IDHR	**Dehrash**	**0.76**	**52**	Pg	**Pg**	**23 50 24.5**	**+0.5**
IBDR	**Badra**	**1.14**	**168**	*e*Pn	**Pn**	**23 50 35.0**	**+3.8**
IBDR				*e*Sn	**Sn**	**23 50 52.5**	**+5.7**
IBDR				AML	AML	23 50 56.3	
IBDR	comp=E,2μm,0.9s			AML	AML	23 50 57.7	
IBDR	comp=N,3μm,0.8s						
KCHF	**Cheshme Sefid,**	**1.15**	**87**	Pg	**Pn**	**23 50 32.4**	**+0.9**
ILIN	**Lien**	**1.28**	**57**	Pg	**Pb**	**23 50 34.4**	**+0.9**
BHD	**Baghdad**	**1.43**	**228**	*e*Pn	**Pg**	**23 50 39.0**	**+2.3**
BHD				*e*Sn	**Sg**	**23 51 00.0**	**+4.7**
BHD				AML	AML	23 51 06.9	
BHD	comp=E,4μm,0.5s						
IKRK	**Kirkuk**	**1.59**	**318**	*e*Pn	**Pb**	**23 50 40.0**	**+1.2**
IKRK				*e*Sn	**Sg**	**23 51 01.0**	**+0.5**
SNQR	**Sonqor, Kerman**	**1.74**	**68**	Pg	**Pb**	**23 50 42.7**	**+1.2**
SDS1	**Sardasht. Az.**	**1.92**	**356**	Pn	**Pb**	**23 50 45.0**	**+0.5**
IKFM	**Kafar-mosalman**	**1.95**	**110**	Pn	**Pb**	**23 50 46.1**	**+1.3**
IDOB	**Doab**	**2.14**	**101**	Pn	**Pb**	**23 50 48.6**	**+0.4**
HSAM	**Samen**	**2.44**	**90**	Pn	**Pb**	**23 50 52.6**	**-0.8**
RAFI	**Al-Rafai**	**2.53**	**171**	*e*Pn	**Pb**	**23 50 54.5**	**-0.2**
RAFI				*e*Sn	**Sb**	**23 51 26.5**	**+0.7**
MAHB	**Mahabad**	**2.53**	**1**	Pn	**Pn**	**23 50 52.7**	**+2.1**
HAGD	**Aghdareh**	**2.94**	**77**	Pn	**Pn**	**23 50 59.6**	**+3.4**
IHSH	**Hashtrud**	**3.34**	**23**	Pn	**Pn**	**23 51 04.2**	**+2.5**
CUKT	**Cukurca**	**3.44**	**332**	P	**Pn**	**23 51 04.7**	**+1.6**
IAZR	**Azarshahr**	**3.45**	**4**	Pn	**Pn**	**23 51 05.8**	**+2.5**
YOVA	**Hakkari_Yksek**	**3.53**	**342**	P	**Pn**	**23 51 06.9**	**+2.6**
YOVA				S	**Sb**	**23 51 53.2**	**-1.7**
QABG	**Abgarm-Qazvin**	**3.54**	**64**	Pn	**Pn**	**23 51 07.8**	**+3.3**
HAKT	**HAKKARI**	**3.68**	**335**	P	**Pn**	**23 51 08.2**	**+1.8**
AHWZ	**Ahwaz**	**3.83**	**138**	Pn	**Pn**	**23 51 11.1**	**+2.9**
ISRB	**Sarab**	**3.94**	**24**	Pn	**Pn**	**23 51 12.5**	**+2.5**
ITBZ	**Tabriz**	**4.02**	**6**	Pn	**Pn**	**23 51 12.2**	**+1.2**
ISHB	**Shabestar**	**4.05**	**360**	Pn	**Pn**	**23 51 12.3**	**+0.9**
JIR1	**Jirandeh**	**4.19**	**53**	Pn	**Pn**	**23 51 16.3**	**+2.9**
SIRN	**Sırnak**	**4.19**	**322**	P	**Pn**	**23 51 14.6**	**+1.3**
IMRD	**Marand**	**4.48**	**0**	Pn	**Pn**	**23 51 19.5**	**+2.2**
PERV	**Siirt/Pervari-**	**4.49**	**327**	P	**Pn**	**23 51 19.0**	**+1.6**
IQOM	**Qom**	**4.51**	**81**	Pn	**Pn**	**23 51 20.1**	**+2.3**
OZAP	**Van, Ozalp-Mer**	**4.62**	**344**	P	**Pn**	**23 51 21.1**	**+1.7**
IPIR	**Pirpir**	**4.64**	**108**	Pn	**Pn**	**23 51 22.2**	**+2.6**
JHBN	**Jahan bin**	**4.64**	**114**	Pn	**Pn**	**23 51 23.5**	**+3.8**
MIDY	**Mardin/Midyat-**	**4.69**	**314**	P	**Pn**	**23 51 21.6**	**+1.4**
MIDY				S	**Sn**	**23 52 15.0**	**+0.3**
QAMS	**Qamsar**	**4.79**	**94**	Pn	**Pn**	**23 51 25.3**	**+3.5**
SRTM	**Siirt_Merkez**	**4.82**	**322**	P	**Pn**	**23 51 23.6**	**+1.7**
ZNGN	**Zangian**	**4.84**	**114**	Pn	**Pn**	**23 51 25.0**	**+2.6**
GAS1	**Astara - Iran**	**4.88**	**31**	Pn	**Pn**	**23 51 25.6**	**+3.0**
GRMI	**Germi**	**4.91**	**21**	Pn	**Pn**	**23 51 25.8**	**+2.5**
IKLH	**Kolahrood**	**5.01**	**99**	Pn	**Pn**	**23 51 28.5**	**+3.8**
IVRN	**Varamin**	**5.06**	**80**	Pn	**Pn**	**23 51 28.2**	**+3.0**
GURO	**Guroymak-BITLI**	**5.21**	**327**	Pn	**Pn**	**23 51 28.1**	**+0.7**
IBRJ	**Brojen**	**5.24**	**115**	Pn	**Pn**	**23 51 30.0**	**+2.1**
ABEH	**Behbahan**	**5.31**	**132**	Pn	**Pn**	**23 51 31.9**	**+3.3**
KRSH	**Karshahi**	**5.38**	**91**	Pn	**Pn**	**23 51 32.7**	**+3.0**
IDMV	**Damavand**	**5.41**	**74**	Pn	**Pn**	**23 51 32.3**	**+2.1**
ISFB	**Sefidab**	**5.45**	**87**	Pn	**Pn**	**23 51 33.4**	**+2.8**
IZEF	**Zefreh**	**5.72**	**102**	Pn	**Pn**	**23 51 37.4**	**+2.8**
GNI	**Garni**	**5.96**	**353**	Pn	**Pn**	**23 51 38.8**	**+1.2**
GNI	**Garni**	**5.96**	**353**	Pn	**Pn**	**23 51 41.8**	**+4.2**
GNI	**Garni**	**5.96**	**353**	Pn	**Pn**	**23 51 42.1**	**+4.5**
	comp=E,0.2nm,0.3s,baz=69,slow=17,SNR=3.6						
GNI				Lg	Lg	23 53 24.3	
	comp=E,0.2nm,0.3s,baz=233,slow=11,SNR=1.5						
	comp=E,13nm,0.9s						
HANI	**Diyarbakir_Han**	**5.96**	**316**	P	**Pn**	**23 51 38.7**	**+1.2**
IFIR	**Firoozkooh**	**6.00**	**74**	Pn	**Pn**	**23 51 41.6**	**+3.3**
SANL	**SANLIURFA_Merk**	**6.17**	**300**	P	**Pn**	**23 51 42.4**	**+2.0**
SANL				S	**Sn**	**23 52 44.8**	**-6.2**
SURC	**SANLIURFA_SURC**	**6.32**	**297**	P	**Pn**	**23 51 44.6**	**+2.1**
SURC				S	**Sn**	**23 52 52.1**	**-2.7**
ANAR	**Anarak**	**6.80**	**97**	Pn	**Pn**	**23 51 51.6**	**+2.4**
AKCD	**Akcadag**	**7.45**	**305**	P	**Pn**	**23 52 01.4**	**+3.3**
GAZ	**Gaziantep**	**7.47**	**296**	Pn	**Pn**	**23 51 58.9**	**+0.6**
ASF	**Jabal al Asfar**	**7.62**	**257**	Pn	**Pn**	**23 51 57.7**	**-2.8**
	comp=E,0.1nm,0.3s,baz=324,slow=0.0,SNR=1.2						
	comp=E,1.1nm,0.5s						
KAMA	**Osmaniye**	**7.89**	**295**	P	**Pn**	**23 52 03.4**	**-0.6**
HSUJ	**Al Zarqa**	**8.21**	**258**	P	**Pg**	**23 52 52.7**	**+6.2**
SHMJ	**Saham**	**8.40**	**262**	P	**Pg**	**23 52 54.8**	**+4.8**
MMAI	**Mount Meron Ar**	**8.64**	**265**	Pn	**Pn**	**23 52 11.3**	**-3.1**
	comp=E,0.5nm,0.3s,baz=78,slow=13,SNR=1.3						
MMAI				Lg	Lg	23 54 38.5	
	comp=E,1.0nm,0.3s,baz=82,slow=33,SNR=1.9						
	comp=E,0.4nm,0.4s						
QRNJ	**Al-Qirein**	**8.65**	**260**	P	**Pg**	**23 52 57.1**	**+2.3**
HMDT	**Nahal Hemdat**	**8.71**	**260**	P	**Pg**	**23 53 00.0**	**+4.0**
UJAP	**Al Uja**	**8.85**	**258**	P	**Pg**	**23 53 00.9**	**+2.3**
GHAJ	**Ghor Haditha**	**8.98**	**254**	Pn	**Pn**	**23 52 19.8**	**+0.8**
KBZ	**Khabaz**	**9.73**	**348**	Pn	Pn	23 52 34.9	+5.7
	comp=E,0.1nm,0.3s,baz=171,slow=9.6,SNR=4.5						
KBZ				LR	LR	23 56 48.8	
	comp=E,93nm,19.0s,baz=175,slow=41						
	comp=E,5.5nm,1.0s						
KVAR	**Kislovodsk Arr**	**9.98**	**348**	Pn	**Pn**	**23 52 34.5**	**+1.7**
	baz=108,slow=9.6						
KIV	**Kislovodsk**	**9.98**	**348**	Pn	**Pn**	**23 52 37.2**	**+4.5**
EIL	**Elat**	**10.17**	**246**	LR	LR	23 57 23.2	
	comp=E,146nm,18.9s,baz=34,slow=44						
TRNA	**Turayna**	**10.62**	**151**	P	**Pn**	**23 52 43.0**	**+1.5**
TRNA				S	**Sn**	**23 54 33.6**	**-7.0**
RAYN	**Ar Rayn**	**10.67**	**181**	Pn	**Pn**	**23 52 41.3**	**-0.9**
RAYN	**Ar Rayn**	**10.67**	**181**	*i* Pn	**Pn**	**23 52 41.6**	**-0.6**
SNR=9.3							
RAYN	**Ar Rayn**	**10.67**	**181**	P	**Pn**	**23 52 42.3**	**+0.1**
RAYN				S	**Sn**	**23 54 36.3**	**-5.5**
BRTR	**Keskin Array B**	**11.06**	**303**	Pn	**Pn**	**23 52 49.6**	**+1.9**
	comp=E,0.1nm,0.3s,baz=116,slow=14,SNR=1.9						
	comp=E,0.2nm,0.2s						
SLWR	**Sila**	**11.41**	**151**	P	**Pn**	**23 52 53.2**	**+1.0**
SLWR				S	**Sn**	**23 54 54.5**	**-5.3**
SHME	**Shamm**	**12.19**	**129**	Pn	**Pn**	**23 53 04.0**	**+1.1**
SHME	**Shamm**	**12.19**	**129**	P	**Pn**	**23 53 04.2**	**+1.3**
SHME				S	**Sn**	**23 55 12.9**	**-6.0**
BANOM	**Banah**	**12.38**	**129**	*i* Pn	**Pn**	**23 53 05.8**	**+0.2**
SNR=22							
BANOM	**Banah**	**12.38**	**129**	P	**Pn**	**23 53 06.0**	**+0.4**
BANOM				S	**Sn**	**23 55 17.3**	**-6.3**
AJN	**Ajban**	**12.60**	**137**	Pn	**Pn**	**23 53 10.0**	**+1.5**
AJN	**Ajban**	**12.60**	**137**	P	**Pn**	**23 53 10.3**	**+1.8**
AJN				S	**Sn**	**23 55 24.3**	**-4.6**
NAZ	**Nazwa, Dubai**	**12.66**	**134**	*i* Pn	**Pn**	**23 53 10.4**	**+1.0**
SNR=6.9							
NAZ	**Nazwa, Dubai**	**12.66**	**134**	P	**Pn**	**23 53 10.8**	**+1.3**
NAZ				S	**Sn**	**23 55 25.1**	**-5.4**
MASF	**Masafi**	**12.68**	**131**	P	**Pn**	**23 53 10.8**	**+1.1**
MASF				S	**Sn**	**23 55 23.6**	**-7.5**
MSFE	**Esma-Masafi**	**12.69**	**131**	*i* Pn	**Pn**	**23 53 10.4**	**+0.5**
SNR=12							
ASUD	**Al Ashush, Dub**	**12.74**	**136**	*i* Pn	**Pn**	**23 53 11.4**	**+0.9**
SNR=21							
ASUD	**Al Ashush, Dub**	**12.74**	**136**	P	**Pn**	**23 53 12.1**	**+1.6**
SNR=21							
ASUD				S	**Sn**	**23 55 25.8**	**-6.6**
FAQ	**Al Faqa, Dubai**	**12.80**	**135**	Pn	**Pn**	**23 53 12.3**	**+0.9**
FAQ	**Al Faqa, Dubai**	**12.80**	**135**	P	**Pn**	**23 53 12.6**	**+1.2**
FAQ				S	**Sn**	**23 55 28.1**	**-5.9**
MDH	**Madha**	**12.82**	**131**	Pn	**Pn**	**23 53 11.6**	**0.0**
MDH	**Madha**	**12.

WSAR Sn **Sn** **23 56 39.2 -7.3**
comp=E,0.8nm,0.3s,baz=154,slow=20,SNR=8.7
comp=E,8.2nm,0.6s
JMDO Jabal Madar 16.10 134 P **Pn** **23 53 55.3 -0.4**
JMDO S Sn 23 56 44.1 -10
WBK Wadi Bani Khal 16.45 131 P **Pn** **23 54 00.3 +0.2**
WBK S **Sn** **23 56 52.9 -10**
JLN Jalan Bani Buh 17.06 131 P **Pn** **23 54 05.9 -2.0**
MHTO MHTO 17.10 137 P **Pn** **23 54 06.5 -1.8**
SNR=5.6
MHTO S Sn 23 57 06.8 -12
IDI Anoyia 17.10 279 P **Pn** **23 54 05.7 -2.7**
comp=E,13nm,0.9s,baz=51,slow=11,SNR=2.5
HARR Harsova 17.18 313 ⇑P **Pn** **23 54 04.4 -4.9**
DOK Doka 17.29 152 P **Pn** **23 54 08.8 -1.9**
SNR=7.9
DOK S Sn 23 57 12.4 -11
WHFO Wadi Hawf 17.79 154 P **Pn** **23 54 16.4 -0.7**
SNR=10
WHFO S Sn 23 57 21.8 -14
ABTO Aybut 18.14 156 P **Pn** **23 54 19.5 -2.0**
ABTO S Sn 23 57 30.4 -14
BELG Belogornoye 18.21 4 P **Pn** **23 54 20.6 -1.4**
comp=E,16nm,0.9s,baz=224,slow=8.8,SNR=3.6
RBK Rabkut 18.33 153 P **Pn** **23 54 22.1 -1.6**
RBK S Sn 23 57 37.5 -11
ABKAR Akbulak array 18.36 31 **P** **23 54 25.0 +1.1**
ABKAR Akbulak array 18.36 31 P **P** **23 54 25.0 +1.1**
ABKAR IAmb IAmb 23 54 32.5
comp=E,6.1nm,0.8s
DMTO DMTO 18.43 151 P **P** **23 54 24.2 -0.5**
DMTO S Sn 23 57 40.0 -11
AKTO Aktyubinsk 18.55 25 P **Pn** **23 54 26.9 +0.8**
comp=Z,0.2nm,0.3s,baz=222,slow=9.2,SNR=8.8
comp=Z,5.1nm,0.8s
MLR Muntele Rosu 18.80 313 P **P** **23 54 29.0 +0.1**
comp=Z,0.1nm,0.3s,baz=153,slow=22,SNR=0.8
comp=Z,0.8nm,0.8s
SIMJ Simiganj 19.28 70 P **Pn** **23 54 36.3 +1.0**
KBL Kabul 19.30 82 P **Pn** **23 54 36.9 +1.3**
LOT Lotru 20.14 310 ⇓P **P** **23 54 45.0 +1.5**
KMPD K-Podol'skiy 20.23 321 P **P** **23 54 44.7 +0.4**
GAR Garm 20.34 69 P **P** **23 54 47.5 +1.7**
GAR IAmb IAmb 23 54 55.9
comp=Z,15nm,0.9s
BURAR Bucovina Array 20.35 317 ⇑P **P** **23 54 47.5 +1.7**
AKASG Malin Array Be 20.37 329 P **P** **23 54 45.8 0.0**
comp=Z,1.9nm,0.7s,baz=140,slow=9.9,SNR=9.6
comp=Z,1.9nm,0.7s
AKBB Malin Array Si 20.37 329 P **P** **23 54 45.9 +0.1**
AKBB pP Pn 23 54 48.2 +0.3
KIEV Kiev 20.37 329 ⇓P **P** **23 54 45.5 -0.3**
BUR08 Bucovina Ar. S 20.38 317 P **P** **23 54 46.2 +0.2**
LUBAR Lubar, Ukraine 20.47 325 P **P** **23 54 47.3 +0.4**
LUBAR pP Pn 23 54 49.5 +0.4
GZR Gura Zlata 20.74 309 ⇑P **P** **23 54 52.5 +0.1**
BTK Batken 20.85 66 P **P** **23 54 52.6 +1.4**
MARR Marisel-Cluj 21.10 313 ⇑P **P** **23 54 55.9 +2.0**
KKAR Karatay Array 21.27 58 P **P** **23 54 58.6 +2.9**
DRGR 21.40 313 ⇓P **P** **23 54 58.4 +1.3**
DRK Karamyk 21.53 68 P **P** **23 55 01.3 +2.5**
DRK IAmb IAmb 23 55 11.3
comp=Z,13nm,1.0s
SIRR Siria 21.82 311 ⇑P **P** **23 55 04.1 +2.6**
RNPP5 Staryi Chortor 22.24 326 P **P** **23 55 05.8 -0.1**
RNPP5 pP **pP** **23 55 08.2 -0.7**
RNPP8 Varash 22.32 326 P **P** **23 55 07.8 +0.9**
RNPP9 Sopachiv 22.36 326 P **P** **23 55 06.9 -0.3**
RNPP9 pP **pP** **23 55 10.3 +0.1**
NIL Nilore 22.88 84 P **P** **23 55 13.0 +0.1**
NIL IAmb IAmb 23 55 36.9
comp=Z,8.5nm,1.0s
ARTI Arti 23.82 18 P **P** **23 55 23.0 +0.9**
ARTI IAmb IAmb 23 55 30.3
comp=Z,17nm,1.0s
AAK Ala-Archa 24.01 61 LR LR 00 07 40.7
comp=Z,25nm,20.6s,baz=274,slow=44
KIRV Kirov 24.49 5 LR LR 00 05 33.3
comp=Z,63nm,18.1s,baz=221,slow=38
KSH Kashi 24.75 69 P **P** **23 55 30.8 -0.3**
KSH pmax pmax
comp=Z,4.0nm,0.9s
NRN Naryn 24.93 64 P **P** **23 55 33.1 +0.2**
NRN IAmb IAmb 23 55 42.1
comp=Z,4.0nm,0.7s
SUW Suwalki 25.33 328 P **P** **23 55 35.5 -0.4**
MODS Modra-Piesok 25.40 312 *e*P **P** **23 55 41.5 +4.8**
BRVK Borovoye 25.70 35 P **P** **23 55 40.3 +0.9**
BVAR Borovoye Array 25.74 36 P **P** **23 55 40.8 +1.1**
comp=Z,3.6nm,1.1s,baz=244,slow=8.4,SNR=6.1
comp=Z,3.6nm,1.1s
WUS Wushi 27.33 65 P **P** **23 55 55.6 +1.2**
WUS IAmb IAmb 23 55 57.4
comp=Z,8.1nm,1.2s
KURBB Kurchatov Arra 28.97 46 P **P** **23 56 10.3 +1.6**
comp=Z,1.7nm,0.7s,baz=252,slow=8.8,SNR=8.1
comp=Z,1.7nm,0.7s
FINES FINESS Array B 29.99 341 P **P** **23 56 18.1 +0.5**
comp=Z,2.6nm,1.0s,baz=147,slow=8.8,SNR=2.2
comp=Z,2.6nm,1.0s
MKAR Makanchi Array 30.27 54 P **P** **23 56 21.3 +1.0**
comp=Z,1.1nm,0.7s,baz=258,slow=8.7,SNR=5.2
comp=Z,1.1nm,0.7s
BNI Bardonecchia 31.62 302 P **P** **23 56 32.9 +0.5**
HFS Hagfors 33.22 331 P **P** **23 56 46.5 +0.4**
comp=Z,3.3nm,0.8s,baz=140,slow=8.1,SNR=6.1
comp=Z,3.3nm,0.8s
ZALV Zalesovo Beam 33.76 42 P **P** **23 56 50.8 0.0**
ZALV Zalesovo Beam 33.76 42 P **P** **23 56 51.4 +0.6**
comp=Z,1.6nm,0.8s,baz=270,slow=9.8,SNR=5.3
comp=Z,1.6nm,0.8s
NOA NORSAR Array B 34.75 331 P **P** **23 56 59.8 +0.4**
comp=Z,0.7nm,0.7s,baz=126,slow=8.7,SNR=2.1
comp=Z,0.7nm,0.7s
ARCES ARCESS Array B 37.09 348 P **P** **23 57 19.6 +0.3**
comp=Z,7.0nm,1.1s,baz=167,slow=8.8,SNR=7.5
comp=Z,7.0nm,1.1s
EKA Eskdalemuir Ar 39.53 318 P **P** **23 57 40.0 0.0**
comp=Z,0.9nm,0.6s,baz=107,slow=8.6,SNR=1.3
comp=Z,0.9nm,0.6s
ESDC Sonseca Array 39.62 293 P **P** **23 57 40.3 -0.8**
comp=Z,0.4nm,0.8s,baz=67,slow=10,SNR=1.7
comp=Z,0.4nm,0.8s
MDT Midelt 41.58 283 LR LR 00 19 03.9
comp=Z,67nm,18.5s,baz=262,slow=42
NRIK Noril'sk 42.07 21 P **P** **23 58 01.4 +0.6**
comp=Z,2.5nm,0.9s,baz=163,slow=10,SNR=3.9
comp=Z,2.5nm,0.9s
TORD Torodi Ar. Bea 44.97 253 P **P** **23 58 22.7 -2.1**
comp=Z,0.3nm,0.6s,baz=65,slow=8.2,SNR=1.5
comp=Z,0.3nm,0.6s
SPITS Spitsbergen Ar 45.82 352 P **P** **23 58 31.6 +0.8**
comp=Z,23nm,1.0s,baz=136,slow=11,SNR=7.6
CHTO Chiang Mai 49.56 94 P **P** **23 59 01.0 +0.4**
CHTO IAmb IAmb 23 59 11.7
comp=Z,7.6nm,1.4s
CMAR Chiang Mai Arr 49.73 94 P **P** **23 59 01.7 -0.2**
CMAR Chiang Mai Arr 49.73 94 P **P** **23 59 02.1 +0.2**
comp=Z,1.3nm,0.3s,baz=298,slow=8.0,SNR=10
CMAR LR LR 00 24 41.6
comp=Z,24nm,19.2s,baz=90,slow=42
comp=Z,1.3nm,0.3s
XAN Xi'an 51.57 71 P **P** **23 59 16.0 +0.3**
XAN pmax pmax
comp=Z,15nm,0.9s
DBIC Dimbokro 53.99 251 LR LR 00 25 24.4
comp=Z,42nm,18.3s,baz=356,slow=39
LBTB Lobatse 61.92 201 P **P** **00 00 29.7 +0.5**
KSRS Korea Array 64.67 61 P **P** **00 00 47.5 +0.2**
comp=Z,1.4nm,0.7s,baz=283,slow=6.5,SNR=4.9
comp=Z,1.4nm,0.7s
BOSA Boshof 65.42 200 P **P** **00 00 50.0 -2.2**
BOSA Boshof 65.42 200 P **P** **00 00 49.8 -2.4**
comp=Z,2.2nm,0.9s,baz=179,slow=11,SNR=1.4
comp=Z,2.2nm,0.9s
A36M Sachs Harbour 73.88 357 P **P** **00 01 44.2 +0.4**
C18K Utukok River 75.50 10 P **P** **00 01 53.8 +0.4**
C27K Jago River 76.22 3 P **P** **00 01 57.8 +0.4**
C27K IAmb IAmb 00 02 05.9
comp=Z,8.1nm,1.4s
D23K Nanushuk River 76.40 6 P **P** **00 01 59.2 +0.8**
D23K IAmb IAmb 00 02 06.7
comp=Z,6.0nm,1.1s
TOLK Toolik Lake Re 76.81 6 P **P** **00 02 01.4 +0.6**
TOLK IAmb IAmb 00 02 31.8
comp=Z,8.9nm,1.5s

E19K Redstone River 77.16 9 P **P** **00 02 03.0 +0.3**
E28M Babbage River 77.40 2 P **P** **00 02 04.4 +0.3**
E28M IAmb IAmb 00 02 06.1
comp=Z,2.2nm,0.9s
E29M Blow River 77.66 1 P **P** **00 02 06.0 +0.5**
E29M IAmb IAmb 00 02 13.7
comp=Z,4.7nm,1.0s
E27K Coleen River 77.75 3 P **P** **00 02 06.9 +0.9**
E27K IAmb IAmb 00 02 07.7
comp=Z,3.2nm,0.8s
BMAR Burnt Mountain 78.36 4 P **P** **00 02 11.2 +1.8**
F31M Tsiigehtchic 78.64 360 P **P** **00 02 10.8 -0.1**
F31M IAmb IAmb 00 02 12.3
comp=Z,3.2nm,0.6s
G27K Doyon Strip 79.13 3 P **P** **00 02 14.9 +1.2**
H29M Whitestone 79.83 2 P **P** **00 02 18.1 +0.7**
H29M IAmb IAmb 00 02 55.0
comp=Z,3.6nm,1.2s
ILAR Eielson Array 80.84 5 P **P** **00 02 23.3 +0.4**
comp=Z,0.7nm,0.9s,baz=344,slow=4.9,SNR=6.3
comp=Z,0.7nm,0.9s
I30M Mount Dempster 80.86 1 P **P** **00 02 23.6 +0.4**
SCRK Sand Creek 81.83 4 P **P** **00 02 29.4 +1.1**
SCRK IAmb IAmb 00 02 37.5
comp=Z,4.0nm,1.2s
BCAR Beaver Creek A 82.86 3 P **P** **00 02 34.8 +1.1**
SML Sawmill 83.63 7 P **P** **00 02 38.4 +0.7**

JMA 28 00:13:04.2±0.2, 38°.6N±1°.0×14°.4E±°, h40km, MV3.5/27,
FAR E OFF NORTH HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.20**	**283**	P	Pn	00 13 39.6	+1.5
OFUJ				S	Sn	00 14 05.3	+1.2
JKMT	**Kesennumamotoy**	**2.31**	**276**	P	Pn	00 13 41.4	+1.7
JKMT				S	Sn	00 14 08.6	+1.7
JMK	**Ichinoseki**	**2.52**	**279**	P	Pn	00 13 44.7	+2.1
JMK				S	Sn	00 14 13.8	+1.7
JOM	**Ohasama**	**2.58**	**291**	*i* P	Pn	00 13 45.3	+1.9
JOM				S	Sn	00 14 15.9	+2.2
JOTO	**OTAMA OYAMA**	**3.38**	**253**	P	Pn	00 13 56.2	+1.7
JOTO				S	Sn	00 14 35.6	+2.2
JNBK	**Urakawa-nobuka**	**3.89**	**341**	S	Sn	00 14 45.5	-0.3
JCH	**Churui**	**4.09**	**349**	*e*S	Sn	00 14 47.0	-3.7
NEM2	**Nemuro 2**	**4.86**	**11**	P	Pn	00 14 11.2	-3.5
NEM2				S	Sn	00 15 02.7	-7.0
JRY	**Ryogami san**	**5.09**	**241**	S	Sn	00 15 15.7	+0.1
JTKR	**Abashiri--Toko**	**5.38**	**356**	P	Pn	00 14 21.1	-0.8
JTKR				S	Sn	00 15 18.1	-4.4

*TEH **28** 00:32:42.4, 34°.39N×45°.78E, h7km±66km, ML2.6*
*ISN **28** 00:32:42.0±0.4, 34°.38N×45°.76E, h16km±4km, ML2.6*
ISC 28 00:32:42.6±1.1, 34°.39N±0°.04×45°.76E±0°.04, h11km±11km,
n12, σ0°.76/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.18**	**310**	Pg	**Pg**	**00 32 46.9**	**+0.3**
GLG1	**Gilan-e-Ghazb**	**0.30**	**155**	Pg	**Pg**	**00 32 48.7**	**-0.1**
IDHR	**Dehrash**	**0.60**	**59**	Pg	**Pg**	**00 32 54.1**	**-0.4**
IGHG	**Ghaleghazi**	**0.68**	**95**	Pg	**Pb**	**00 32 56.1**	**-0.5**
ILBA	**Ilam Banvizeh**	**0.85**	**154**	Pg	**Pg**	**00 32 58.4**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.07**	**96**	Pg	**Pb**	**00 33 02.8**	**-0.5**
ILIN	**Lien**	**1.13**	**62**	Pg	**Pb**	**00 33 03.6**	**-0.7**
IBDR	**Badra**	**1.29**	**173**	*e*Pn	**Pg**	**00 33 07.0**	**-0.3**
IBDR				*e*Sn	**Sg**	**00 33 25.5**	**+1.5**
IKRK	**Kirkuk**	**1.54**	**311**	*e*Pn	**Pb**	**00 33 11.0**	**-0.2**
IKRK				*e*Sn	**Sg**	**00 33 32.0**	**-0.1**
BHD	**Baghdad**	**1.60**	**226**	*e*Pn	**Pb**	**00 33 11.3**	**-0.9**
BHD				*e*Sn	**Sg**	**00 33 33.0**	**-1.1**
IKFM	**Kafar-mosalman**	**1.94**	**116**	Pn	**Pb**	**00 33 17.8**	**-0.2**
RAFI	**Al-Rafai**	**2.68**	**173**	*e*Pn	**Pn**	**00 33 26.5**	**+0.8**
RAFI				*e*Sn	**Sn**	**00 33 58.5**	**+0.4**

*AEIC **28** 00:36:50.7±1.7, 52°.58N±0°.09×166°.56W±0°.10,*
h70km±10km, Error ellipse: s-maj=15.8km s-min=2.2km
az=148.0
NEIC 28 00:36:49.8±0.7, 52°.53N±0°.04×166°.48W±0°.04,
h21km±12km, ML2.7(AEIC), Error ellipse: s-maj=6.2km
s-min=1.3km az=151.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**1.24**	**316**		Pn	00 37 11.5	-0.3
OKFG					Sb	00 37 28.9	+1.1
MGOD	**Makushin Gods**	**1.29**	**349**		Pb	00 37 13.0	-0.3
MGOD					Sb	00 37 29.9	+0.5
MAPS	**Pakushin South**	**1.31**	**348**		Pb	00 37 13.3	-0.4
MAPS					Sb	00 37 30.2	+0.3
OKSP	**Okmok Steeple**	**1.31**	**304**		Pn	00 37 12.7	-0.2
UNV	**Unalaska Valle**	**1.31**	**359**		Pn	00 37 12.9	0.0
UNV				Sn	Sn	00 37 29.3	-0.4
OKER	**Okmok East Rim**	**1.33**	**315**		Pn	00 37 13.5	+0.3
OKCE	**Okmok Cone E**	**1.36**	**312**		Pn	00 37 13.9	+0.3
OKCE					Sb	00 37 31.3	-0.2
OKNC	**Okmok New Cone**	**1.36**	**314**		Pn	00 37 14.0	+0.4
OKNC					Sn	00 37 31.2	+0.2
MSW	**Makushin Switc**	**1.40**	**353**		Pn	00 37 14.4	+0.4
MTBL	**Makushin Table**	**1.45**	**355**		Pn	00 37 14.5	-0.3
MTBL					Sb	00 37 33.8	-0.1
NIKH	**Nikolski High**	**1.51**	**288**		Sn	00 37 34.6	-0.1
NIKH	**Nikolski High**	**1.51**	**288**	Pn	Pn	00 37 14.4	-1.2
AKMO	**Akutan Morgan**	**1.59**	**10**		Pn	00 37 16.4	-0.2
ZRO	**Akutan Zero**	**1.59**	**11**		Pn	00 37 16.6	-0.1
ZRO					Sb	00 37 37.7	-0.4
AKBBA	**Akutan Broad B**	**1.60**	**12**		Sn	00 37 37.2	+0.3
AKRB	**Akutan Reef Bi**	**1.62**	**9**		Pn	00 37 16.9	-0.2
AHB	**Akutan Harbor**	**1.63**	**14**		Pn	00 37 17.5	+0.2
LVA	**Lava Point**	**1.65**	**9**	Pn	Pn	00 37 17.3	-0.3
LVA				Sn	Sn	00 37 37.9	-0.2
AKSA	**Akutan Strait**	**1.67**	**16**		Pn	00 37 17.2	-0.6
CLCO	**Concord Point,**	**1.99**	**279**		Pn	00 37 22.3	0.0
CLCO					Sn	00 37 46.2	-0.3

*IDC **28** 00:37:06.3±2.5, 37°.31N×20°.41E, h0km, mb3.7/6,*
mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=70.8km
s-min=25.5km az=113.0
*NAO **28** 00:37:07.9, 37°.70N×23°.10E, h10km, mb3.5*
*THE **28** 00:37:07.2, 37°.17N×20°.47E, h10km±1km, ML3.3/7, Error*
ellipse: s-maj=2.6km s-min=1.1km az=247.0
ISC 28 00:37:06.4±1.8, 37°.22N±0°.06×20°.45E±0°.06, h4km±12km,
n19, σ0°.56/27, mb3.7/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.53**	**34**	P	**Pb**	**00 37 18.2**	**-0.1**
KRI1				S	**Sb**	**00 37 26.8**	**+0.5**
10μm,0.3s							
LTHK	**Lithakia**	**0.58**	**32**	P	**Pb**	**00 37 19.0**	**-0.1**
LTHK				S	**Sb**	**00 37 27.8**	**+0.1**
9μm,0.4s							
RTZL	**Ratzakli, Kefa**	**0.89**	**17**	P	**Pb**	**00 37 24.6**	**+0.1**
RTZL				S	**Sn**	**00 37 38.5**	**-0.6**
VLS	**Valsamata**	**0.96**	**7**	P	**Pb**	**00 37 25.7**	**0.0**
VLS				S	**Sn**	**00 37 40.1**	**-0.8**
1μm,0.6s							
PYL	**PYLOS**	**1.08**	**107**	P	**Pg**	**00 37 26.6**	**-0.6**
PYL				S	**Sg**	**00 37 42.0**	**+0.7**
690nm,0.5s							
RLS	**Riolos of Patr**	**1.17**	**44**	P	**Pg**	**00 37 28.8**	**+0.1**
RLS				S	**Sn**	**00 37 46.3**	**+0.5**
605nm,0.7s							
ITM	**Ithomi**	**1.18**	**91**	P	**Pg**	**00 37 28.7**	**-0.4**
ITM				S	**Sg**	**00 37 44.2**	**-0.2**
738nm,0.5s							
DRO	**Drossia**	**1.24**	**54**	P	**Pg**	**00 37 30.2**	**0.0**
DRO				S	**Sn**	**00 37 48.7**	**+0.9**
2μm,0.5s							
NYDR	**Nydri-Lefkada**	**1.50**	**8**	P	**Pg**	**00 37 35.4**	**+0.1**
KLV	**Kalavryta, Ach**	**1.58**	**58**	P	**Pb**	**00 37 36.0**	**-0.3**
GUR	**Goura**	**1.67**	**64**	P	**Pn**	**00 37 36.7**	**+0.2**
AKASG	**Malin Array Be**	**14.87**	**22**	Pn	**Pn**	**00 40 37.3**	**0.0**
0.3nm,0.3s,baz=211,slow=9.8,SNR=2.4							
0.2nm,0.4s							
HFS	**Hagfors**	**23.34**	**351**	P	**P**	**00 42 14.9**	**-0.5**
1.6nm,0.5s,baz=155,slow=11,SNR=6.3							
1.6nm,0.5s							
EKA	**Eskdalemuir Ar**	**24.18**	**326**	P	**P**	**00 42 23.8**	**+0.2**
1.1nm,0.7s,baz=123,slow=8.6,SNR=1.7							
1.1nm,0.7s							
FINES	**FINESS Array B**	**24.50**	**7**	P	**P**	**00 42 26.2**	**-0.3**
5.4nm,1.1s,baz=187,slow=11,SNR=2.2							
5.4nm,1.1s							
NB2	**NORSAR Subarra**	**24.55**	**349**	P	**P**	**00 42 26.4**	**-0.6**
comp=Z,0.7nm,0.6s,baz=157,slow=10							
NOA	**NORSAR Array B**	**24.55**	**349**	P	**P**	**00 42 26.3**	**-0.6**
comp=Z,0.8nm,0.8s,baz=157,slow=9.1,SNR=2.1							
comp=Z,0.8nm,0.8s							
TORD	**Torodi Ar. Bea**	**29.25**	**220**	P	**P**	**00 43 10.7**	**+1.1**
comp=Z,0.4nm,0.7s,baz=22,slow=10,SNR=2.4							
comp=Z,0.4nm,0.7s							
ARCES	**ARCESS Array B**	**32.49**	**3**	P	**P**	**00 43 36.6**	**-1.1**
comp=Z,3.0nm,1.0s,baz=188,slow=12,SNR=1.5							
comp=Z,3.0nm,1.0s							

*THE **28** 00:44:15.5, 37°.62N×20°.39E, h0km±10km, ML2.6/6, Error*
ellipse: s-maj=12.5km s-min=1.0km az=226.0
*ATH **28** 00:44:17.3, 37°.69N×20°.49E, h17km±5km, ML2.5/6,*
Manual Solution by A.Andreou First location: 2018/11/28
00:45:31, This location: 2019/01/29 16:39:23 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 6 km;
Longitude uncertainty: 5 km
ISC 28 00:44:16.5±2.1, 37°.66N±0°.08×20°.45E±0°.08, h12km±9km,
n21, σ0°.58/32, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.29**	**90**	P	**Pg**	**00 44 22.4**	**-0.1**
KRI1				S	**Sg**	**00 44 27.3**	**+0.7**
3μm,0.4s							
LTHK	**Lithakia**	**0.31**	**81**	P	**Pg**	**00 44 22.8**	**-0.1**
LTHK				S	**Sg**	**00 44 27.5**	**+0.4**
4μm,0.2s							
LTHK	**Lithakia**	**0.31**	**81**	P	**Pg**	**00 44 22.9**	**+0.1**
LTHK				S	**Sb**	**00 44 27.8**	**-1.2**
RTZL	**Ratzakli, Kefa**	**0.49**	**32**	P	**Pb**	**00 44 26.2**	**-0.7**
RTZL				S	**Sb**	**00 44 34.5**	**+0.5**
VLS	**Valsamata**	**0.53**	**13**	P	**Pg**	**00 44 26.3**	**-0.5**
VLS				S	**Sb**	**00 44 35.0**	**-0.2**
498nm,0.2s							
VLS	**Valsamata**	**0.53**	**13**	P	**Pb**	**00 44 27.0**	**-0.6**
VLS				S	**Sb**	**00 44 35.3**	**+0.1**
DMLN	**Damoulianata-K**	**0.58**	**354**	P	**Pb**	**00 44 28.3**	**-0.2**
DMLN				S	**Sb**	**00 44 36.1**	**-0.6**
SMHA	**Samh**	**0.61**	**15**	P	**Pb**	**00 44 29.2**	**+0.2**
SMHA				S	**Sb**	**00 44 37.5**	**0.0**
FSK	**Fiskardo**	**0.80**	**7**	P	**Pb**	**00 44 32.4**	**+0.1**
RLS	**Riolos of Patr**	**0.90**	**64**	P	**Pg**	**00 44 33.5**	**-0.3**
RLS				S	**Sn**	**00 44 47.3**	**-0.5**
170nm,0.5s							
RLS	**Riolos of Patr**	**0.90**	**64**	P	**Pg**	**00 44 33.4**	**-0.5**
EVGI	**Lefkada island**	**0.97**	**10**	P	**Pb**	**00 44 34.8**	**-0.4**
EVGI				S	**Sn**	**00 44 50.8**	**+1.2**
372nm,0.2s							
EVGI	**Lefkada island**	**0.97**	**10**	P	**Pg**	**00 44 35.0**	**-0.2**
DRO	**Drossia**	**1.04**	**74**	P	**Pb**	**00 44 36.1**	**-0.3**
DRO				S	**Sn**	**00 44 53.0**	**+1.6**
302nm,0.3s							
DRO	**Drossia**	**1.04**	**74**	P	**Pg**	**00 44 36.4**	**-0.2**
ITM	**Ithomi**	**1.27**	**112**	P	**Pn**	**00 44 40.2**	**+0.1**
PVO	**Paravola**	**1.28**	**42**	P	**Pg**	**00 44 40.9**	**-0.1**
EFP	**Efpalio**	**1.38**	**56**	P	**Pb**	**00 44 42.1**	**-0.2**
KLV	**Kalavryta, Ach**	**1.40**	**74**	P	**Pn**	**00 44 42.0**	**+0.1**
ANX	**Ano Chora**	**1.49**	**51**	P	**Pb**	**00 44 43.7**	**-0.4**
GUR	**Goura**	**1.53**	**79**	P	**Pn**	**00 44 43.3**	**-0.3**

IDC 28 00:47:04.9±2.0, 1°.04N×124°.37E, h0km, mb3.4/3,
mbtmp3.4/3, Error ellipse: s-maj=198.0km
s-min=28.3km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.03**	**155**	P	P	00 52 11.7	-0.1
0.5nm,0.5s,baz=333,slow=11,SNR=3.9							
0.5nm,0.5s							
ASAR	**Alice Springs**	**26.25**	**160**	P	P	00 52 42.2	+0.2
0.3nm,0.3s,baz=353,slow=8.0,SNR=6.8							
0.3nm,0.3s							
MKAR	**Makanchi Array**	**58.47**	**327**	P	P	00 57 02.6	-0.2
0.2nm,0.6s,baz=134,slow=7.7,SNR=2.8							
0.2nm,0.6s							

*IDC **28** 00:53:40.3±1.5, 34°.31N×26°.55E, h0km, mb3.7/7,*
mbtmp3.6/9, ML3.7/2, Error ellipse: s-maj=29.9km
s-min=16.1km az=14.0
*ATH **28** 00:53:47.0, 34°.54N×26°.40E, h11km±5km, ML2.3/2,*
Manual Solution by A.Andreou First location: 2018/11/28
00:55:23, This location: 2020/07/03 14:59:25 ML
Amplitudes are expressed in micrometers, All distances
are expressed in degrees Latitude uncertainty: 4 km;
Longitude uncertainty: 2 km
ISC 28 00:53:44.9±0.9, 34°.41N±0°.08×26°.52E±0°.05, h33km, n18,
σ1°.73/22, mb3.7/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.75**	**341**	P	**Pn**	**00 53 58.6**	**-0.6**
ZKR				S	**Sb**	**00 54 06.4**	**-3.0**
KARP	**Karpathos**	**1.25**	**25**	P	**Pb**	**00 54 09.6**	**+1.6**
IDI	**Anoyia**	**1.60**	**304**	Pg	**Pn**	**00 54 12.5**	**+1.6**
1.9nm,0.3s,baz=128,slow=13,SNR=14							
IDI				Sn	**Sb**	**00 54 33.4**	**-0.3**
3.8nm,0.3s,baz=147,slow=15,SNR=6.6							
IDI	**Anoyia**	**1.60**	**304**	P	**Pb**	**00 54 12.9**	**-1.0**
GVD	**Gavdhos**	**2.05**	**283**	P	**Pn**	**00 54 19.7**	**+2.7**
GVD				S	**Sb**	**00 54 44.6**	**-1.9**
ARG	**Arkhangelos**	**2.23**	**36**	P	**Pb**	**00 54 23.5**	**-1.1**
IMMV	**Iera Moni Meta**	**2.33**	**297**	P	**Pn**	**00 54 23.9**	**+2.9**
APE	**Apeiranthos**	**2.77**	**343**	P	**Pn**	**00 54 29.4**	**+2.3**
VLI	**Veliai**	**3.72**	**309**	P	**Pn**	**00 54 42.2**	**+2.2**
MMAI	**Mount Meron Ar**	**7.54**	**98**	Pn	**Pn**	**00 55 31.0**	**-1.5**
0.5nm,0.3s,baz=295,slow=14,SNR=4.3							
MMAI				Sn	**Sn**	**00 56 56.6**	**-0.2**
0.8nm,0.3s,baz=273,slow=24,SNR=1.3							
0.8nm,0.4s							
GERES	**GERESS Array B**	**17.28**	**330**	P	**P**	**00 57 45.0**	**+0.1**
0.2nm,0.3s,baz=156,slow=18,SNR=4.2							
0.8nm,0.7s							
FINES	**FINESS Array B**	**27.05**	**360**	P	**P**	**00 59 23.2**	**-0.8**
1.6nm,0.8s,baz=167,slow=9.5,SNR=4.2							
1.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**30.89**	**233**	P	**P**	**00 59 58.0**	**-0.5**
0.1nm,0.3s,baz=35,slow=9.2,SNR=1.9							
0.1nm,0.3s							
ARCES	**ARCESS Array B**	**35.18**	**359**	P	**P**	**01 00 34.6**	**-0.8**
3.2nm,0.9s,baz=184,slow=8.1,SNR=4.0							
3.2nm,0.9s							
BVAR	**Borovoye Array**	**36.07**	**45**	P	**P**	**01 00 45.0**	**+1.8**
0.3nm,0.6s,baz=254,slow=10,SNR=1.6							
0.3nm,0.6s							
KURBB	**Kurchatov Arra**	**40.73**	**50**	P	**P**	**01 01 23.8**	**+1.4**
0.4nm,0.2s,baz=275,slow=9.0,SNR=1.3							
0.4nm,0.2s							
MKAR	**Makanchi Array**	**43.26**	**56**	P	**P**	**01 01 43.6**	**+0.4**
0.3nm,0.7s,baz=271,slow=9.7,SNR=2.7

JOW	Kunigami	14.44	294	P	Pn	01 06 14.7	+0.4
	12nm,0.2s,baz=118,slow=13,SNR=1.6						
JMN	Monobe	14.51	328	P	Pn	01 06 15.6	+0.5
JGF	Kuroka	14.76	341	P	P	01 06 17.2	+0.3
MJAR	Matsushiro Arr	15.42	345	P	P	01 06 24.1	-0.1
	1.4nm,0.4s,baz=159,slow=5.7,SNR=2.6						
MAJO	Matsushiro	15.43	345	P	P	01 06 25.0	+0.8
MJB9	Matsu-Tunnel	15.43	345	P	P	01 06 24.4	+0.2
KSRS	Korea Array	20.48	324	P	P	01 07 19.0	+0.8
	1.0nm,0.4s,baz=134,slow=8.7,SNR=2.9						
	1.0nm,0.4s						
SONM	Songino Array	39.30	321	P	P	01 10 04.4	+1.4
	0.4nm,0.7s,baz=138,slow=8.2,SNR=2.5						
	0.4nm,0.7s						
WB0	Warramunga Arr	42.03	192	P	P	01 10 24.2	-1.2
WB0				IAmb	IAmb	01 10 36.1	
	comp=Z,6.1nm,1.1s						
WR0	Warramunga Arr	42.19	192	P	P	01 10 25.2	-1.5
WB2	Warramunga Arr	42.21	192	P	P	01 10 25.9	-1.0
WRA	Warramunga Arr	42.22	192	P	P	01 10 25.8	-1.1
WRA	Warramunga Arr	42.22	192	P	P	01 10 26.3	-0.6
	comp=Z,0.4nm,0.3s,baz=9.0,slow=7.9,SNR=23						
	comp=Z,0.4nm,0.3s						
ASAR	Alice Springs	45.92	192	P	P	01 10 55.2	-0.8
	comp=Z,0.3nm,0.6s,baz=11,slow=12,SNR=4.7						
	comp=Z,0.3nm,0.6s						
ZALV	Zalesovo Beam	54.17	322	P	P	01 11 57.2	-0.1
	comp=Z,0.5nm,0.4s,baz=121,slow=7.1,SNR=4.8						
ZALV				PcP	PcP	01 12 56.3	-1.3
	comp=Z,1.2nm,0.4s,baz=109,slow=4.1,SNR=7.3						
	comp=Z,0.5nm,0.4s						
MK31	Makanchi Array	54.64	313	P	P	01 12 01.2	+0.3
MKAR	Makanchi Array	54.64	313	P	P	01 12 00.8	0.0
	comp=Z,0.4nm,0.6s,baz=90,slow=8.0,SNR=5.6						
MKAR				PcP	PcP	01 12 59.1	-0.5
	comp=Z,0.5nm,0.6s,baz=85,slow=3.6,SNR=5.6						
	comp=Z,0.4nm,0.6s						
MAKZ	Makanchi	54.86	313	P	P	01 12 02.4	0.0
KURBB	Kurchatov Arra	57.48	317	P	P	01 12 20.4	-0.2
	comp=Z,1.6nm,0.5s,baz=93,slow=7.7,SNR=13						
	comp=Z,1.6nm,0.5s						
H18K	Honhosa River	57.49	25	P	P	01 12 20.8	+0.3
D22K	Ayikyak River	60.76	22	P	P	01 12 44.0	+1.2
D22K				IAmb	IAmb	01 12 58.3	
	comp=Z,11nm,1.4s						
C23K	Itkillik River	61.73	21	P	P	01 12 50.0	+0.9
C23K				IAmb	IAmb	01 12 51.5	
	comp=Z,5.6nm,0.9s						
ILAR	Eielson Array	62.12	27	P	P	01 12 51.0	-0.9
	comp=Z,0.8nm,0.7s,baz=254,slow=4.9,SNR=8.9						
	comp=Z,0.8nm,0.7s						
BVAR	Borovoye Array	62.63	320	P	P	01 12 55.5	+0.1
	comp=Z,3.8nm,0.3s,baz=98,slow=7.8,SNR=33						
	comp=Z,3.8nm,0.3s						
KKAR	Karatay Array	62.99	308	P	P	01 12 57.9	-0.1
SCRK	Sand Creek	63.28	28	P	P	01 12 59.9	+0.3
SCRK				IAmb	IAmb	01 13 04.6	
	comp=Z,2.7nm,1.0s						
BMAR	Burnt Mountain	63.43	24	P	P	01 13 01.9	+1.5
F26K	Sheenjek River	63.63	24	P	P	01 13 03.5	+1.8
F26K				IAmb	IAmb	01 13 04.1	
	comp=Z,9.5nm,1.5s						
BCAR	Beaver Creek A	64.20	29	P	P	01 13 05.9	+0.4
D27M	Malcolm River	64.96	22	P	P	01 13 11.6	+1.3
D27M				IAmb	IAmb	01 13 13.0	
	comp=Z,1.9nm,1.0s						
E28M	Babbage River	65.43	23	P	P	01 13 14.7	+1.5
E28M				IAmb	IAmb	01 13 19.7	
	comp=Z,1.7nm,0.9s						
H29M	Whitestone	65.78	26	P	P	01 13 16.8	+1.2
H29M				IAmb	IAmb	01 13 35.6	
	comp=Z,5.7nm,1.4s						
H31M	Peel River	67.44	26	P	P	01 13 26.4	+0.5
ABKAR	Akbulak array	69.50	316	P	P	01 13 38.7	-0.2
ABKAR				IAmb	IAmb	01 13 39.5	
	comp=Z,2.6nm,0.6s						
YKA	Yellowknife Ar	76.54	28	P	P	01 14 19.6	-0.1
	comp=Z,1.2nm,0.7s,baz=288,slow=6.4,SNR=7.7						
	comp=Z,1.2nm,0.7s						
ARCES	ARCESS Array B	78.92	341	P	P	01 14 33.0	+0.3
	comp=Z,3.6nm,0.8s,baz=46,slow=3.9,SNR=11						
	comp=Z,3.6nm,0.8s						
KBZ	Khabaz	82.32	314	P	P	01 14 51.6	+0.6
	comp=Z,2.0nm,0.8s,baz=161,slow=15,SNR=2.2						
	comp=Z,2.0nm,0.8s						
FIA1	FINESS Array S	83.17	334	P	P	01 14 53.9	-1.1
FINES	FINESS Array B	83.17	334	P	P	01 14 53.9	-1.1
	comp=Z,2.3nm,0.6s,baz=61,slow=5.2,SNR=19						
	comp=Z,2.3nm,0.6s						
NVAR	Mina Array Bea	83.25	51	P	P	01 14 56.4	+0.1
	comp=Z,0.6nm,0.5s,baz=288,slow=5.3,SNR=4.9						
	comp=Z,0.6nm,0.5s						
HFS	Hagfors	88.72	337	P	P	01 15 20.4	-1.7
	comp=Z,1.4nm,0.7s,baz=64,slow=6.6,SNR=1.7						
	comp=Z,1.4nm,0.7s						
TORD	Torodi Ar. Bea	128.68	309	PKP	PKPdf	01 21 34.7	-0.3
	comp=Z,0.1nm,0.4s,baz=148,slow=2.2,SNR=1.7						
PLCA	Paso Flores	145.81	132	PKPbc	PKPdf	01 22 07.1	+1.4
PLCA	Paso Flores	145.81	132	PKPbc	PKPdf	01 22 06.9	+1.1
	comp=Z,1.0nm,0.5s,baz=243,slow=5.1,SNR=3.7						
BO02	Sierra Bellavi	147.59	121	PKPbc	PKPbc	01 22 12.1	+0.1
GO04	Tololo Observa	148.47	113	PKPbc	PKPbc	01 22 13.7	-0.9
LPAZ	La Paz	150.05	85	PKPbc	PKPbc	01 22 19.9	+0.5
LPAZ	La Paz	150.05	85	PKPbc	PKPbc	01 22 19.3	0.0
	comp=Z,1.5nm,0.5s,baz=333,slow=4.5,SNR=6.5						

*SOME **28** 01:10:25.9, 40°.25N×77°.60E, h0km*
*NNC **28** 01:10:26.1±1.6, 40°.20N×77°.58E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=10.4km s-min=8.2km az=176.0
*KRNET **28** 01:10:27.8±0.1, 40°.31N×77°.54E, h20km, mb2.7*
ISC 28 01:10:30.3±1.8, **40°.35N**±0°.08×**77°.55E**±0°.04, **h10**km, **n41,**
σ1§44/67, 14C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.39	8	⇑eP	Pn	01 10 55.0	-1.1
TARG				⇑eS	Sg	01 11 14.7	-0.3
NRN	Naryn	1.60	313	⇓eP	Pn	01 10 58.4	-0.5
NRN				⇓eS	Sb	01 11 20.7	+0.2
KDJ	Kajisay	1.80	351	⇓eP	Pn	01 11 01.9	+0.3
KDJ				⇓eS	Sb	01 11 26.9	+0.8
ULHL	Ulahol	2.13	333	⇓eP	Pn	01 11 07.3	+1.1
ULHL				⇓eS	Sb	01 11 36.1	+0.3
PRZ	Przheval'sk	2.22	16	⇑eP	Pb	01 11 08.8	-1.9
PRZ				⇑eS	Sb	01 11 38.7	+0.4
ANVS	Anan'yevo	2.43	2	⇑eP	Pn	01 11 11.5	+1.2
ANVS				⇑eS	Sb	01 11 43.4	-0.9
BOOM	Boomskoye usch	2.46	331	⇓eP	Pn	01 11 11.6	+1.0
BOOM				⇓eS	Sb	01 11 44.0	-1.0
TNSS	Tian-Shan	2.72	351	Pg	Pb	01 11 19.8	+0.5
	20nm,0.4s						
TNSS				Lg	Lg	01 11 58.6	
	7.3nm,0.5s						
TNSS	Tian-Shan	2.72	351	eP	Pb	01 11 19.8	+0.5
	20nm,0.4s						
TNSS				eS	Sg	01 11 58.6	+0.9
	6.3nm,0.5s						
SATY	Saty	2.78	13	Pg	Pb	01 11 19.7	-0.4
	6.9nm,0.5s						
SATY				Lg	Lg	01 11 58.4	
	16nm,0.6s						
SATY	Saty	2.78	13	eP	Pb	01 11 19.7	-0.4
	6.9nm,0.5s						
SATY				eS	Sg	01 11 58.4	-1.1
	15nm,0.5s						
MDOK	Medeo	2.83	352	Pg	Pb	01 11 18.1	-3.0
	2.0nm,0.4s						
MDOK				Pg	Pg	01 11 21.0	-3.6
	5.2nm,0.5s						
MDOK				Lg	Lg	01 12 01.4	
	16nm,0.7s						
MDOK				Lg	Lg	01 12 01.7	
	20nm,0.6s						
MDOK	Medeo	2.83	352	eP	Pb	01 11 21.7	+0.6
	5.2nm,0.5s						
MDOK				eS	Sg	01 12 01.9	+0.6
	20nm,0.6s						
ARLS	Aral	2.87	303	⇑eP	Pn	01 11 17.3	+1.0
ARLS				⇑eS	Sn	01 11 53.2	+2.3
ZHN	Zhinishke	2.89	13	Pg	Pb	01 11 22.5	+0.5
ZHN				Lg	Lg	01 12 03.1	
ZHN	Zhinishke	2.89	13	eP	Pb	01 11 22.3	+0.3
	5.5nm,0.5s						
ZHN				eS	Sg	01 12 03.0	-0.1
	22nm,0.3s						
SALK	Salom-Alik	2.89	282	⇓eP	Pn	01 11 17.3	+0.7
SALK				⇓eS	Sn	01 11 53.2	+1.7
KOTS	Kotyrbulak	2.90	354	eP	Pb	01 11 23.3	+1.1
	14nm,0.3s						
KOTS				eS	Sg	01 12 04.6	+1.2
	46nm,0.5s						
MTBS	Maitube	2.90	343	Pg	Pb	01 11 22.3	+0.2
	3.2nm,0.3s						
MTBS				Lg	Lg	01 12 03.1	
	12nm,0.5s						
MTBS	Maitube	2.90	343	eP	Pb	01 11 22.3	+0.2
	3.2nm,0.3s						
MTBS				eS	Sg	01 12 03.1	-0.3
	12nm,0.5s						
KST	Kastek	2.94	337	Pg	Pb	01 11 24.0	+1.1
	3.8nm,0.3s						
KST				Lg	Lg	01 12 05.8	
	9.0nm,0.6s						
KST	Kastek	2.94	337	eP	Pb	01 11 23.9	+1.1
	3.5nm,0.3s						
KST				eS	Sg	01 12 05.8	+1.1
	9.0nm,0.6s						
TKM2	Tokmak 2	2.95	331	⇑Pg	Pb	01 11 20.3	-2.9
	3.8nm,0.5s						
TKM2				⇓Lg	Lg	01 12 05.6	
	6.9nm,0.6s						
TKM2	Tokmak 2	2.95	331	⇓eP	Pn	01 11 18.7	+1.2
TKM2				⇓eS	Sn	01 11 55.8	+2.7
UZB	Uzynbulak	3.00	21	Pg	Pb	01 11 23.6	-0.3
	4.1nm,0.2s						
UZB				Lg	Lg	01 12 05.1	
	7.9nm,0.7s						
UZB	Uzynbulak	3.00	21	eP	Pb	01 11 23.6	-0.3
	4.1nm,0.2s						
UZB				eS	Sg	01 12 05.0	-1.6
	7.9nm,0.7s						
KBK	Karagaybulak	3.02	320	⇑eP	Pn	01 11 19.4	+1.0
KBK				⇑eS	Sn	01 11 57.1	+2.4
SHLS	Shalkode	3.14	26	Pg	Pg	01 11 29.3	-1.3
	4.8nm,0.4s						
SHLS				Lg	Lg	01 12 14.8	
	14nm,0.4s						
SHLS	Shalkode	3.14	26	eP	Pg	01 11 29.2	-1.3
	4.8nm,0.4s						
SHLS				eS	Sg	01 12 14.8	+3.5
	14nm,0.4s						
DGS	Degeres	3.18	336	Pg	Pb	01 11 27.5	+0.5
	2.5nm,0.5s						
DGS				Lg	Lg	01 12 12.1	
	12nm,0.6s						
DGS	Degeres	3.18	336	eP	Pb	01 11 27.6	+0.6
	2.5nm,0.5s						
DGS				eS	Sg	01 12 12.1	-0.3
	12nm,0.6s						
PDGK	Podgornoye	3.31	25	⇑Pg	Pb	01 11 28.0	-1.1
	4.0nm,0.5s						
PDGK				⇓Lg	Lg	01 12 14.6	
	11nm,0.7s						
CHMS	Chumysh	3.38	322	⇑Pg	Pb	01 11 30.9	+0.6
	1.8nm,0.4s						
CHMS				⇑Lg	Lg	01 12 17.7	
	11nm,0.8s						
KTBS	Karatobe	3.42	349	Pg	Pb	01 11 31.5	+0.5
	2.8nm,0.5s						
KTBS				Lg	Lg	01 12 18.7	
	6.6nm,0.4s						
KTBS	Karatobe	3.42	349	eP	Pb	01 11 31.5	+0.5
	2.8nm,0.5s						
KTBS				eS	Sg	01 12 18.7	-1.4
	12nm,0.4s						
BLB	Baldybastay	3.80	10	Pg	Pb	01 11 38.5	+0.9
	4.7nm,0.2s						
BLB				Lg	Lg	01 12 31.1	
	8.1nm,0.5s						
ARXS	Arharly	3.86	3	Pg	Pb	01 11 39.3	+0.7
	2.1nm,0.4s						
ARXS				Lg	Lg	01 12 32.7	
	12nm,0.5s						
ARXS	Arharly	3.86	3	eP	Pb	01 11 39.7	+1.1
	2.1nm,0.4s						
ARXS				eS	Sg	01 12 32.7	-1.6
	11nm,0.5s						
MRKS	Merke	4.03	308	eP	Pb	01 11 41.6	+0.1
	0.3nm,0.2s						
MRKS				eS	Sg	01 12 35.9	-3.9
	4.2nm,0.5s						
KNOS	Konyrlen	4.18	16	Pg	Pb	01 11 45.9	+1.9
	1.5nm,0.3s						
KNOS				Lg	Lg	01 12 43.6	
	3.4nm,0.4s						
DJR	Jarkent	4.31	22	eP	Pb	01 11 47.5	+1.4
	0.8nm,0.5s						
DJR				eS	Sg	01 12 46.2	-2.4
	3.6nm,0.5s						

*UPA **28** 01:41:53.6±2.1, 5°.65N×78°.38W, h15km±27km, ML3.9*
*RSNC **28** 01:41:54.6±0.0, 6°N±2°×7°8W±°, h32km±7km, M2.5, mb3.3,*
ML2.4
ISC 28 01:41:50.8±1.5, **5°.70N**±0°.03×**78°.30W**±0°.03, **h1**km±11km,
n44, σ1§78/77, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	Bahia Solano	1.03	60	P	Pg	01 42 11.0	+0.4
SOLC				S	Sg	01 42 22.6	-1.4
PIZC	Pizarro, Choco	1.19	128	P	Pg	01 42 13.5	-0.1
PIZC				S	Sg	01 42 27.8	-1.3
PTAC	Punta Ardita,	1.52	19	P	Pn	01 42 18.2	-0.9
PTAC				S	Sn	01 42 34.5	-5.0
MALC	Bahia Malaga	1.93	150	P	Pn	01 42 25.1	+0.3
MALC				S	Sn	01 42 48.3	-1.5
CBOC	Ciudad Bolivar	2.29	86	P	Pn	01 42 29.0	-0.8
CBOC				S	Sn	01 42 53.8	-4.9
DBBC	Dabeiba	2.46	58	P	Pn	01 42 33.2	+1.1
PEDA3	Pedasi	2.49	317	eP	Pn	01 42 32.4	-0.1
PEDA3				eS	Sn	01 43 02.4	-1.2
ACHO3	Achotines, Los	2.52	313	eP	Pn	01 42 33.0	+0.2
ACHO3				eS	Sn	01 43 03.5	-0.8
YOTC	Yotoco, Valle	2.59	131	P	Pn	01 42 33.5	-0.5
YOTC				S	Sn	01 43 02.4	-3.8
PCRI3	Pocri, Los San	2.65	317	eP	Pn	01 42 35.0	+0.3
PCRI3				eS	Sn	01 43 07.5	0.0
APAC	Apartado, Choc	2.77	38	P	Pn	01 42 38.7	+2.3
APAC				S	Sn	01 43 10.6	+0.1
HELC	Santa Helena	2.80	80	P	Pn	01 42 38.0	+0.9
HELC				S	Sn	01 43 09.3	-2.4
UPD2	Meteti	2.84	6	eP	Pn	01 42 39.4	+2.1
UPD2				eS	Sn	01 43 12.5	+0.3
AZU	Azuero	2.85	317	P	Pn	01 42 37.3	-0.2
AZU				S	Sn	01 43 11.1	-1.4
AZU	Azuero	2.85	317	eP	Pn	01 42 37.7	+0.2
AZU				AMP		01 42 38.3	
	comp=Z,439nm,0.1s						
AZU				eS	Sn	01 43 11.1	-1.4
GUY2C	Guyana, Caldas	2.96	99	P	Pn	01 42 41.2	+1.8
CACAO	El Cacao, Vera	3.02	303	P	Pn	01 42 39.6	-0.2
CACAO				S	Sn	01 43 13.2	-3.4
CACAO	El Cacao, Vera	3.02	303	eP	Pn	01 42 39.8	+0.1
CACAO				eS	Sn	01 43 14.1	-2.5
CAPC	Capurgana	3.06	18	P	Pn	01 42 41.4	+1.0
CAPC				S	Sn	01 43 15.4	-2.3
CHIT3	Chitre	3.07	317	eP	Pn	01 42 41.4	+1.0
CHIT3				eS	Sn	01 43 16.6	-1.2
ANIL	Santa Ana	3.13	112	P	Pn	01 42 43.4	+1.9
MARI3	Mariato, Verag	3.30	306	eP	Pn	01 42 43.4	-0.1
CRIS3	El Cristo, Coc	3.42	318	eP	Pn	01 42 46.9	+1.6
CRIS3				eS	Sn	01 43 27.9	+1.3
UREC	San Jos de Ur	3.42	53	P	Pn	01 42 47.4	+2.1
UREC				S	Sn	01 43 25.6	-1.0
UREC	San Jos de Ur	3.42	53	eP	Pn	01 42 47.2	+1.9
UREC				eS	Sn	01 43 26.2	-0.4
UPA	Univ. de Panam	3.48	340	eP	Pn	01 42 48.2	+2.1
UPA				eS	Sn	01 43 28.7	+0.8
ORTC	Ortega, Tolima	3.53	120	P	Pn	01 42 48.6	+1.8
POPC	Popayan, Colom	3.53	153	P	Pn	01 42 47.6	+0.6
POPC				S	Sn	01 43 28.0	-1.6
CHPO	Chepo, Panama	3.54	347	eP	Pn	01 42 47.4	+0.5
CHPO				eS	Sn	01 43 28.2	-1.2
GMAL	Guarumal, Vera	3.56	305	eP	Pn	01 42 49.6	+2.5
GMAL				eS	Sn	01 43 29.3	-0.6
ZANG	Zanguenga, Cho	3.59	334	eP	Pn	01 42 48.4	+0.9
ZANG				eS	Sn	01 43 31.5	+0.9
CALO3	Calobre, Verag	3.62	316	eP	Pn	01 42 46.0	-2.1
CALO3				eS	Sn	01 43 33.0	+1.5
LCBC	Los crdobas,	3.68	31	P	Pn	01 42 52.3	+3.5
BCIP	Isla Barro Col	3.76	336	P	Pn	01 42 50.1	+0.1
BCIP				S	Sn	01 43 34.8	-0.2
BCIP	Isla Barro Col	3.76	336	eP	Pn	01 42 50.1	+0.1
BCIP				eS	Sn	01 43 35.9	+0.9
FRIJ	El Hiral	3.77	338	eP	Pn	01 42 50.2	+0.1
FRIJ				eS	Sn	01 43 35.1	0.0
BBAC	Balboa, Cauca	3.80	164	P	Pn	01 42 52.7	+2.0
PTBC	PUERTO BERRIO,	3.92	78	P	Pn	01 42 55.0	+2.9
PRAC	Prado	3.94	120	P	Pn	01 42 54.7	+2.3
PRAC				S	Sn	01 43 40.2	+0.9
GCUF	Volcan Galeras	4.55	168	P	Pn	01 43 05.0	+3.8
GCUF				S	Sn	01 43 54.1	-0.9
URMC	La Uribe, Meta	4.61	122	P	Pn	01 43 04.2	+2.5
URMC				S	Sn	01 43 56.6	+0.6
SJCC	San Jacinto, C	5.19	36	P	Pn	01 43 12.2	+2.5
PAC1	Pacto, Paraso	5.42	185	P	Pn	01 43 13.9	+1.0
OTAV	Otavalo	5.43	182	P	Pn	01 43 14.6	+1.3

*ISN **28** 02:18:59.0±0.5, 34°.22N×45°.59E, h8km±3km, ML2.6*
*TEH **28** 02:18:59.6, 34°.19N×45°.60E, h10km±148km, ML2.6*
ISC 28 02:19:00.8±0.9, **34°.20N**±0°.04×**45°.63E**±0°.06, **h10**km, **n10,**
σ0§91/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.25	111	Pg	Pg	02 19 05.5	-0.4
KGS1	Ghasr-e-Shirin	0.30	353	Pg	Pg	02 19 06.4	-0.5
ILBA	Ilam Banvizeh	0.75	140	Pg	Pg	02 19 14.3	-1.0
IGHG	Ghaleghazi	0.79	80	Pg	Pg	02 19 16.0	0.0
IDHR	Dehrash	0.80	51	Pg	Pg	02 19 15.5	-0.7
IBDR	Badra	1.12	167	ePg	Pb	02 19 21.0	-1.2
IBDR				eSg	Sb	02 19 36.8	0.0
ILIN	Lien	1.31	57	Pg	Pb	02 19 25.5	-0.1
BHD	Baghdad	1.40	229	ePn	Pn	02 19 26.5	+0.2
BHD				eSn	Sn	02 19 46.0	+1.2
IKRK	Kirkuk	1.60	319	ePn	Pn	02 19 29.0	-0.1
IKRK				eSn	Sn	02 19 50.7	+0.9
RAFI	Al-Rafai	2.51	171	ePn	Pn	02 19 42.0	+0.5
RAFI				eSn	Sn	02 20 14.0	+1.9

*IDC **28** 02:21:47.5±1.1, 36°.29N×28°.89E, h0km, mb3.6/4,*
mbtmp3.6/9, ML3.4/4, MS2.6/1, Error ellipse: s-maj=19.3km
s-min=16.7km az=151.0
*ISK **28** 02:21:48.3, 36°.46N×28°.74E, h5km, ML3.5/18*
*ATH **28** 02:21:49.6, 36°.47N×28°.75E, h7km±2km, ML3.2/4, Manual*
Solution by A.Andreou First location: 2018/11/28 02:23:19,
This location: 2020/07/03 15:17:29 ML Amplitudes are
expressed in micrometers, All distances are expressed in
degrees Latitude uncertainty: 2 km; Longitude uncertainty:
1 km
*AFAD **28** 02:21:49.1±0.0, 36°.44N×28°.72E, h7km±2km, MW3.4*
*THE **28** 02:21:49.4, 36°.46N×28°.71E, h0km±13km, ML3.2/1, Error*
ellipse: s-maj=32.3km s-min=1.7km az=111.0
ISC 28 02:21:49.7±0.9, **36°.46N**±0°.02×**28°.74E**±0°.01, **h16**km±7km,
n57, σ1§43/93, mb3.4/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.33	57	P	Pb	02 21 56.5	-0.7
FETY				S	Sb	02 22 02.0	-0.4
FETY	Fethiye	0.33	57	Pg	Pg	02 21 55.7	-0.9
FETY				Sg	Sb	02 22 01.4	-1.0
DALY	Dalyan (Mula)	0.37	349	Pg	Pg	02 21 56.6	-0.7
DALY				Sg	Sb	02 22 02.7	-0.7
IZZE	Mula-Seydike	0.39	93	P	Pg	02 21 56.8	-0.9
IZZE				S	Sb	02 22 03.2	-1.0
SABU	Mula-Dalaman	0.41	27	P	Pb	02 21 57.7	-1.0
SABU				S	Sb	02 22 04.1	-0.6
MRSB	Marmaris-Mugla	0.51	301	Pg	Pg	02 21 59.9	+0.1
MRSB				Sg	Sb	02 22 07.5	0.0
TURN	Turunc	0.51	309	P	Pg	02 21 59.1	-0.7
TURN				S	Sb	02 22 07.1	-0.4
TURN	Turunc	0.51	309	Pg	Pg	02 21 59.1	-0.7
TURN				Sg	Sb	02 22 07.4	-0.1
ARG	Arkhangelos	0.55	244	Pg	Pg	02 21 59.8	-0.8
ARG				Sg	Sb	02 22 09.5	+0.8
ARG	Arkhangelos	0.55	244	P	Pg	02 21 59.8	-0.8
ARG	Arkhangelos	0.55	244	P	Pg	02 22 00.5	-0.1
ARG				S	Sg	02 22 08.3	+0.4
CAME	Cameli-Denizli	0.66	43	Pg	Pb	02 22 02.5	-0.6
AKAS	Kas	0.73	107	P	Pg	02 22 03.6	-0.4
AKAS				S	Sb	02 22 14.9	+0.8
AKAS	Kas	0.73	107	Pg	Pb	02 22 03.9	-0.3
KSL	Kastellorizon	0.75	114	P	Pb	02 22 04.0	-0.3
KSL				S	Sb	02 22 14.0	-0.3
YER	Yerkesik	0.77	332	Pg	Pb	02 22 04.4	-0.4
YER	Yerkesik	0.77	332	P	Pg	02 22 04.0	-0.8
YER				S	Sn	02 22 16.2	-1.2
KNIK	Mula-Seydike	0.78	60	P	Pb	02 22 04.5	-0.4
KNIK				S	Sb	02 22 15.7	+0.4
CAEL	Denizli, Camel	0.81	35	P	Pb	02 22 05.0	-0.6
CAEL				S	Sn	02 22 17.3	-1.3
DNZT	Denizli-Tavas-	0.85	15	P	Pb	02 22 05.9	-0.4
DNZT				S	Sb	02 22 17.7	+0.1
MULA	Mugla, Merkez-	0.87	337	P	Pb	02 22 06.7	+0.2
MULA				S	Sb	02 22 18.2	+0.3
DAT	Datca	0.97	287	P	Pg	02 22 08.5	-0.1
DAT				S	Sg	02 22 21.5	+0.1
DAT	Datca	0.97	287	Pg	Pb	02 22 07.8	-0.5
DAT	Datca	0.97	287	P	Pb	02 22 07.9	-0.4
DAT				S	Sn	02 22 22.8	+0.3
ELL	Elmali	0.98	72	Pg	Pg	02 22 08.3	-0.5
TAVA	DENIZLI_Tavas	1.02	8	P	Pg	02 22 08.9	-0.6
TAVA				S	Sn	02 22 23.8	+0.2
YAZI	Mula-Dat§a-	1.06	283	P	Pb	02 22 09.5	-0.2
YAZI				S	Sb	02 22 23.8	+0.5
APMY	Acipayam-Deniz	1.11	24

0.8nm,0.3s,baz=328,slow=9.5,SNR=9.9
EIL Sn **Sn 02 25 22.8 -6.0**
1.6nm,0.3s,baz=17,slow=11,SNR=8.6
1.7nm,0.3s
MLR Muntele Rosu 9.27 348 Pn **Pn 02 24 06.4 +3.6**
0.1nm,0.3s,baz=287,slow=13,SNR=3.1
4.1nm,1.0s
FINES FINESS Array B 25.07 357 P **P 02 27 14.6 +1.5**
3.0nm,0.7s,baz=155,slow=11,SNR=14
3.0nm,0.7s
TORD Torodi Ar. Bea 33.57 233 P **P 02 28 28.8 -0.4**
0.2nm,0.5s,baz=36,slow=9.7,SNR=5.4
0.2nm,0.5s
KURBB Kurchatov Arra 38.04 52 P **P 02 29 06.9 -0.2**
0.6nm,0.8s,baz=274,slow=8.5,SNR=5.5
0.6nm,0.8s
MKAR Makanchi Array 40.63 58 P **P 02 29 28.6 -0.3**
0.4nm,0.7s,baz=277,slow=7.3,SNR=3.9
0.4nm,0.7s

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*BJI **28** 02:23:21.4,41°.25N×143°.33E,h14km,mb5.4/95,mB5.4/69, Ms5.6/99,Ms7 5.5/99*
*IDC **28** 02:23:22.8±0.4,41°.41N×143°.13E,h0km,mb5.4/34, mbtmp5.3/41,ML4.4/6,MS5.2/82,Error ellipse: s-maj=10.5km s-min=9.7km az=65.0*
*MOS **28** 02:23:22.4±0.9,41°.34N×143°.24E,h9km,mb6.0/128, MS5.6/62,Error ellipse: s-maj=4.8km s-min=3.3km az=106.2*
*NEIC **28** 02:23:24.5,41°.15N×143°.39E,h12km,Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 1017Nm; Mrr1.05; Mθθ-1.34; Mφφ0.29; Mrθ0.69; Mθφ0.00; Mφr0.08; Fault plane solution: M0 1.38000×1017 NP1:φs85.67000°, δ60.15000°,λ85.00000°. NP2:φs275.65000°,δ30.23000°, λ98.64000°. Principal axes: T 1.2384, Plg74.0000°, Azm342.0000°; N 0.2869, Plg4.0000°, Azm88.0000°; P -1.5253, Plg15.0000°, Azm179.0000°;*
*IPGP **28** 02:23:24.0,41°.35N×143°.27E,h11km,Mw5.5,Fault plane solution: NP1:φs247.00000°,δ56.00000°,λ75.00000°. NP2:φs92.00000°,δ37.00000°,λ111.00000°.*
*NEIC **28** 02:23:24.5,41°.35N×143°.26E,h10km*
*NEIC **28** 02:23:24.5,41°.35N×143°.26E,h12km*
*JMA **28** 02:23:24.5±0.3,41°.3N±0°.6×143°.2E±0°.8,h11km±3km, MD5.7/40,MW5.5/40,E OFF AOMORI PREF*
JMA Felt III J1 at E OFF AOMORI PREF .
*NIED **28** 02:23:24.5,41°.34N×143°.22E,h11km,MW5.5,Moment Tensor Solution. s3 Moment tensor: Scale 1017Nm; Mrr1.49; Mθθ-2.03; Mφφ0.54; Mrθ-0.20; Mθφ-0.35; Mφr0.42; Fault plane solution: M0 1.88000×1017 NP1: φs283.00000°,δ51.00000°,λ119.00000°. NP2: φs61.00000°,δ47.00000°,λ59.00000°.*
*NEIC **28** 02:23:24.9±1.1,41°.36N±0°.01×143°.18E±0°.07,h9km±1km, mb5.9/758,Ms_20 5.3/423,Mwb5.5/69,Mww5.4/31 Error ellipse: s-maj=9.6km s-min=2.6km az=76.0,Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr1.65; Mθθ-1.67; Mφφ0.02; Mrθ-0.71; Mθφ-0.04; Mφr-0.93; Fault plane solution: M0 2.04000×1017 NP1: φs245.13000°,δ61.44000°,λ66.26000°. NP2: φs107.75000°,δ36.48000°,λ126.49000°. Principal axes: T 2.1813, Plg65.0000°, Azm113.0000°; N -0.3322, Plg21.0000°, Azm257.0000°; P -1.8491, Plg13.0000°, Azm352.0000°;*
*GCMT **28** 02:23:25.9±0.1,41°.47N×143°.18E,h12km,MW5.5/144, Moment Tensor Solution. s137,c257; s144,c299; Duration: 1s4 Moment tensor: Scale 1017Nm; Mrr1.53±.02; Mθθ-2.12±.02; Mφφ0.59±.02; Mrθ-0.35±.05; Mθφ-0.31±.02; Mφr-1.00±.05; Best double couple: M0 2.19100×1017 NP1:φs236.00000°,δ60.00000°, λ53.00000°. NP2:φs112.00000°,δ46.00000°,λ135.00000°. Principal axes: T 2.1670, Plg58.0000°, Azm93.0000°; N 0.0500, Plg31.0000°, Azm256.0000°; P -2.2150, Plg8.0000°, Azm351.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **28** 02:23:29.6,41°.58N×143°.72E,h33km,mb5.5,Ms5.6*
ISC 28 02:23:26.1±0.3,41°.38N±0°.02×143°.29E±0°.02,h22km±2km, h22km:pP-P,n2231,σ1936/2241,mb5.8/572,MS5.3/351, 74C-72D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.65**	**351**	Pg	**Pb**	**02 23 37.5**	**-1.2**
ERM				Sg	**Sb**	**02 23 46.0**	**-1.3**
ERM	**Erimo**	**0.65**	**351**	P	**Pb**	**02 23 38.2**	**-0.5**
ERM	**Erimo**	**0.65**	**351**	P	**Pb**	**02 23 37.5**	**-1.2**
ERM						02 23 46.0	
JEM	**Erimo**	**0.65**	**351**	P	**Pn**	**02 23 40.7**	**+0.8**
JEM	**Erimo**	**0.65**	**351**	⇓P	**Pb**	**02 23 37.6**	**-1.2**
JEM				⇓eS	**Sb**	**02 23 46.6**	**-0.7**
JEM	**Erimo**	**0.65**	**351**	A	A	02 23 37.6	
	comp=E,456nm,1.2s,comp=N,446nm,4.6s						
JTHR	**Tokachihiroo**	**0.92**	**0**	⇓P	**Pb**	**02 23 42.3**	**-1.0**
JTHR				⇓eS	**Sn**	**02 23 55.7**	**-0.4**
JTHR	**Tokachihiroo**	**0.92**	**0**	A	A	02 23 42.3	
	comp=E,838nm,1.0s,comp=N,905nm,1.3s						
JNBK	**Urakawa-nobuka**	**0.99**	**336**	⇓P	**Pb**	**02 23 43.6**	**-0.9**
JNBK				⇓eS	**Sb**	**02 23 57.6**	**+0.4**
JNBK	**Urakawa-nobuka**	**0.99**	**336**	A	A	02 23 43.6	
	comp=E,709nm,2.3s,comp=N,608nm,1.3s						
JSHD	**Hidakashinhida**	**1.20**	**329**	P	**Pn**	**02 23 47.1**	**-0.5**
JSHD	**Hidakashinhida**	**1.20**	**329**	A	A	02 23 47.1	
	comp=E,892nm,1.6s,comp=N,698nm,1.8s						
JCH	**Churui**	**1.24**	**2**	⇓P	**Pn**	**02 23 48.0**	**-0.1**
JCH				⇓eS	**Sb**	**02 24 06.4**	**+2.1**
JCH	**Churui**	**1.24**	**2**	A	A	02 23 48.0	
	comp=E,439nm,5.0s,comp=N,601nm,4.8s						
JARK	**Aomorirokkasho**	**1.50**	**256**	P	**Pn**	**02 23 50.4**	**-1.2**
JARK				eS	**Sn**	**02 24 10.1**	**-0.4**
JARK	**Aomorirokkasho**	**1.50**	**256**	A	A	02 23 50.4	
	comp=E,109nm,1.4s,comp=N,109nm,3.0s						
JBT2	**Biratori 2**	**1.56**	**334**	⇓P	**Pn**	**02 23 52.9**	**+0.3**
JBT2				⇓eS	**Sn**	**02 24 12.9**	**+0.8**
JBT2	**Biratori 2**	**1.56**	**334**	A	A	02 23 52.9	
	comp=E,385nm,1.8s,comp=N,288nm,2.1s						
JOB	**Onbets**	**1.58**	**15**	P	**Pn**	**02 23 53.2**	**+0.5**
JOB	**Onbets**	**1.58**	**15**	A	A	02 23 53.2	
	comp=E,531nm,1.5s,comp=N,445nm,4.1s						
JIAM	**Iburiatsuma**	**1.61**	**321**	P	**Pb**	**02 23 55.4**	**+0.2**
JIAM	**Iburiatsuma**	**1.61**	**321**	A	A	02 23 55.4	
	comp=E,640nm,3.6s,comp=N,875nm,1.3s						
JKEN	**Kujiedanarisaw**	**1.68**	**226**	A	A	02 23 53.2	
	comp=E,115nm,1.9s,comp=N,115nm,1.7s						
JANG	**Nango**	**1.68**	**234**	P	**Pn**	**02 23 52.9**	**-1.2**
JANG	**Nango**	**1.68**	**234**	A	A	02 23 52.9	
	comp=E,86nm,5.4s,comp=N,65nm,6.9s						
JOT	**Ohata**	**1.69**	**271**	P	**Pn**	**02 23 53.7**	**-0.5**
JOT	**Ohata**	**1.69**	**271**	A	A	02 23 53.7	
	comp=E,86nm,2.6s,comp=N,154nm,1.6s						
JKB	**Kayabe**	**1.77**	**288**	P	**Pn**	**02 23 55.2**	**-0.2**
JKB				S	**Sb**	**02 24 18.9**	**-0.7**
JKB	**Kayabe**	**1.77**	**288**	A	A	02 23 55.2	
	comp=E,116nm,2.0s,comp=N,109nm,4.5s						
JTM	**Tenmabayashi**	**1.78**	**251**	Pn	**Pn**	**02 23 55.1**	**-0.4**
JTM	**Tenmabayashi**	**1.78**	**251**	P	**Pb**	**02 23 57.1**	**-0.9**
JTM	**Tenmabayashi**	**1.78**	**251**	P	**Pn**	**02 23 55.1**	**-0.4**
JTM				eS	**Sn**	**02 24 18.7**	**+1.2**
JTM	**Tenmabayashi**	**1.78**	**251**	A	A	02 23 55.1	
	comp=E,298nm,1.1s,comp=N,170nm,1.4s						
JTH	**Tanohata**	**1.80**	**218**	A	A	02 23 55.1	
	comp=E,69nm,4.6s,comp=N,64nm,4.5s						
JFR	**Furan**	**1.86**	**344**	⇓P	**Pn**	**02 23 56.8**	**+0.1**
JFR	**Furan**	**1.86**	**344**	A	A	02 23 56.8	
	comp=E,163nm,1.5s,comp=N,109nm,5.4s						
JAK	**Akkeshi**	**1.93**	**32**	P	**Pn**	**02 23 56.9**	**-0.6**
JAK				eS	**Sn**	**02 24 21.9**	**+0.9**
JAK	**Akkeshi**	**1.93**	**32**	A	A	02 23 56.9	
	comp=E,439nm,4.4s,comp=N,332nm,4.3s						
JAR	**Ashorobuto**	**1.95**	**10**	P	**Pn**	**02 23 57.7**	**-0.2**
JAR	**Ashorobuto**	**1.95**	**10**	A	A	02 23 57.7	
	comp=E,190nm,1.7s,comp=N,235nm,3.3s						
JEW	**Eniwo**	**2.00**	**317**	⇓P	**Pn**	**02 23 59.7**	**+1.1**
JEW				⇓eS	**Sb**	**02 24 25.6**	**-0.7**
JEW	**Eniwo**	**2.00**	**317**	A	A	02 23 59.7	
	comp=E,336nm,6.5s,comp=N,376nm,3.3s						
JNB	**Noboribetsu**	**2.00**	**304**	⇓P	**Pn**	**02 23 58.6**	**+0.1**
JNB				⇓S	**Sn**	**02 24 24.7**	**+1.7**
JNB	**Noboribetsu**	**2.00**	**304**	A	A	02 23 58.6	
	comp=E,166nm,1.8s,comp=N,161nm,1.2s						
JKZ	**Kuzumaki**	**2.04**	**228**	A	A	02 23 58.6	
	comp=E,85nm,2.2s,comp=N,93nm,3.2s						
MIYJ	**Miyakonagasawa**	**2.12**	**212**	A	A	02 23 59.8	
	comp=E,60nm,2.0s,comp=N,63nm,4.5s						
JSR	**Shiriuchi**	**2.17**	**275**	A	A	02 24 00.7	
	comp=E,85nm,3.7s,comp=N,116nm,3.9s						
JSI2	**Shiura 2**	**2.20**	**263**	A	A	02 24 01.0	
	comp=E,163nm,0.9s,comp=N,82nm,3.2s						
JKHN	**Kushirohamanak**	**2.20**	**39**	A	A	02 24 02.7	
	comp=E,385nm,3.8s,comp=N,282nm,3.3s						
JAB	**Ashibetsu**	**2.27**	**340**	A	A	02 24 03.2	
	comp=E,207nm,2.1s,comp=N,402nm,2.8s						
JYM2	**Yakumo 2**	**2.31**	**290**	A	A	02 24 03.0	
	comp=E,85nm,2.3s,comp=N,88nm,3.6s						
JHHS	**Hirosakihyakuz**	**2.33**	**253**	A	A	02 24 02.9	
	comp=E,231nm,4.3s,comp=N,260nm,4.4s						
JAH	**Hinai**	**2.34**	**240**	A	A	02 24 02.9	
	comp=E,113nm,2.7s,comp=N,93nm,2.9s						
JISS	**Ishikarishitsu**	**2.35**	**324**	A	A	02 24 04.1	
	comp=E,403nm,5.9s,comp=N,425nm,2.8s						
JSZI	**Iwateshizukuis**	**2.42**	**228**	A	A	02 24 04.0	
	comp=E,246nm,2.4s,comp=N,222nm,2.3s						
JOM	**Ohasama**	**2.44**	**219**	A	A	02 24 04.4	
	comp=E,72nm,3.0s,comp=N,76nm,4.9s						
JNK	**Nakash**	**2.45**	**25**	A	A	02 24 06.3	
	comp=E,103nm,4.6s,comp=N,95nm,3.3s						
JOMM	**Oshimamatsumae**	**2.47**	**275**	A	A	02 24 05.1	
	comp=E,43nm,2.3s,comp=N,52nm,5.4s						
JKK2	**Kamakawa 2**	**2.53**	**351**	A	A	02 24 07.1	
	comp=E,79nm,5.0s,comp=N,105nm,5.3s						
JIW	**Iwasaki**	**2.61**	**254**	A	A	02 24 06.9	
	comp=E,98nm,2.8s,comp=N,66nm,1.4s						
OFUJ	**Ofunato**	**2.61**	**209**	A	A	02 24 06.9	
	comp=E,48nm,3.1s,comp=N,45nm,2.0s						
JNTW	**Noshirotokiwa**	**2.62**	**246**	A	A	02 24 07.0	
	comp=E,275nm,4.9s,comp=N,334nm,3.2s						
JMP	**Maruseppu**	**2.63**	**1**	A	A	02 24 08.6	
	comp=E,100nm,3.1s,comp=N,85nm,3.3s						
JHR	**Hokuryu**	**2.63**	**334**	A	A	02 24 08.3	
	comp=E,375nm,2.3s,comp=N,366nm,4.4s						
JTKR	**Abashiri--Toko**	**2.63**	**10**	A	A	02 24 08.8	
	comp=E,82nm,5.1s,comp=N,60nm,5.1s						
NMR	**Nemuro--Hokkai**	**2.69**	**41**	⇑P	**Pn**	**02 24 06.8**	**-1.2**
NMR				*i* S	**Sn**	**02 24 37.7**	**-2.1**
NEM2	**Nemuro 2**	**2.69**	**42**	A	A	02 24 09.8	
	comp=E,69nm,4.0s,comp=N,73nm,3.1s						
JNSB	**Nemuroshibetsu**	**2.71**	**27**	A	A	02 24 10.0	
	comp=E,234nm,4.0s,comp=N,179nm,3.9s						
JSH	**Shimam**	**2.73**	**299**	A	A	02 24 09.2	
	comp=E,60nm,4.1s,comp=N,56nm,3.6s						
JHST	**Hiyamasetana**	**2.75**	**293**	A	A	02 24 09.4	
	comp=E,108nm,2.4s,comp=N,135nm,2.8s						
ASAJ	**Asahikawa**	**2.79**	**350**	Pn	**Pn**	**02 24 09.6**	**+0.2**
	comp=N,174nm,0.3s,baz=210,slow=15,SNR=163						
ASAJ				Sn	**Sn**	**02 24 44.1**	**+1.8**
	comp=N,343nm,0.3s,baz=306,slow=28,SNR=5.6						
ASAJ				LR	LR	02 25 37.1	
	comp=N,39μm,20.0s,baz=214,slow=49 comp=N,2μm,0.5s						
ASAJ	**Asahikawa**	**2.79**	**350**	A	A	02 24 10.7	
	comp=E,101nm,2.5s,comp=N,61nm,2.2s						
JKA	**Kamikawa-asahi**	**2.79**	**350**	Pn	**Pn**	**02 24 10.8**	**+1.5**
JRG	**Rokugo**	**2.83**	**227**	A	A	02 24 10.0	
	comp=E,87nm,2.7s,comp=N,101nm,5.0s						
JSK	**Shakotan**	**2.87**	**314**	A	A	02 24 11.4	
	comp=E,118nm,1.8s,comp=N,79nm,2.1s						
JMK	**Ichinoseki**	**2.90**	**214**	A	A	02 24 10.9	
	comp=E,54nm,3.4s,comp=N,42nm,2.3s						
JRA	**Rausu**	**2.90**	**27**	A	A	02 24 12.7	
	comp=E,75nm,4.1s,comp=N,85nm,5.0s						
JKMT	**Kesennumamotoy**	**2.92**	**209**	A	A	02 24 11.3	
	comp=E,38nm,4.2s,comp=N,38nm,9.7s						
JOSM	**Okushiri--Mats**	**2.94**	**285**	A	A	02 24 12.0	
	comp=E,46nm,2.1s,comp=N,45nm,2.5s						
JYW	**Yuwa**	**2.98**	**233**	A	A	02 24 12.2	
	comp=E,140nm,2.5s,comp=N,207nm,2.6s						
RUSJ	**Misakicho**	**3.08**	**27**	*e*P	**Pn**	**02 24 14.1**	**+0.7**
RUSJ				*i* S	**Sn**	**02 24 51.8**	**+2.2**
JSS	**Shosan**	**3.20**	**341**	A	A	02 24 16.5	
	comp=E,195nm,4.9s,comp=N,198nm,3.8s						
YUK	**Yuzh-Kuril'sk**	**3.26**	**35**	*d i* P	**Pn**	**02 24 15.8**	**-0.1**
YUK				*i* S	**Sn**	**02 24 53.4**	**-0.6**
YUK				pmax	pmax		
	comp=Z,4μm,0.4s						
YUK				pmax	pmax		
	comp=N,3μm,0.3s						
YUK				pmax	pmax		
	comp=E,1μm,0.2s						
YUK				smax	smax		
	comp=N,39μm,1.2s						
YUK				smax	smax		
	comp=E,50μm,1.3s						
YUK				smax	smax		
	comp=N,21μm,0.5s						
YUK				smax	smax		
	comp=E,29μm,0.5s						
JIO	**Ouri**	**3.28**	**208**	A	A	02 24 16.4	
	comp=E,42nm,5.1s,comp=N,34nm,6.6s						
JOFO	**Osakifurukawao**	**3.32**	**214**	A	A	02 24 17.0	
	comp=E,315nm,3.5s,comp=N,308nm,2.0s						
JYK	**Kaneyama**	**3.33**	**223**	A	A	02 24 17.1	
	comp=E,46nm,2.2s,comp=N,66nm,5.6s						
JYG	**Yagishiri**	**3.34**	**336**	A	A	02 24 18.5	
	comp=E,102nm,4.9s,comp=N,93nm,7.1s						
JIKH	**Ishinomakikobu**	**3.37**	**205**	A	A	02 24 17.8	
	comp=E,45nm,4.1s,comp=N,35nm,2.3s						
JYYZ	**Yamagatayuza**	**3.49**	**229**	A	A	02 24 19.4	
	comp=E,135nm,7.1s,comp=N,171nm,6.8s						
JOG3	**Oga3**	**3.52**	**247**	A	A	02 24 12.8	
	comp=E,86nm,2.8s,comp=N,93nm,2.5s						
JTB	**Tobi-shima**	**3.59**	**234**	A	A	02 24 20.8	
	comp=E,75nm,5.1s,comp=N,68nm,4.5s						
SHO	**Shikotan**	**3.61**	**45**	*e*P	**Pn**	**02 24 19.4**	**-1.3**
SHO				*i* S	**Sn**	**02 24 59.6**	**-3.0**
SHO				pmax	pmax		
	comp=Z,1μm,0.3s						
SHO				pmax	pmax		
	comp=N,1μm,0.5s						
SHO				pmax	pmax		
	comp=E,2μm,0.5s						
SHO				smax	smax		
	comp=N,6μm,0.5s						
SHO				smax	smax		
	comp=E,4μm,0.3s						
JSE	**Soyaes**	**3.62**	**352**	A	A	02 24 22.6	
	comp=E,46nm,3.4s,comp=N,39nm,5.2s						
JOU	**Okura**	**3.62**	**215**	A	A	02 24 21.3	
	comp=E,54nm,5.3s,comp=N,61nm,4.6s						
JYA	**Atsumi**	**3.91**	**226**	A	A	02 24 25.3	
	comp=E,44nm,1.8s,comp=N,67nm,1.5s						
JMM	**Marumori**	**4.00**	**210**	Pn	**Pn**	**02 24 25.8**	**-0.3**
JMM	**Marumori**	**4.00**	**210**	P	**Pn**	**02 24 26.1**	**+0.1**
JMM	**Marumori**	**4.00**	**210**	A	A	02 24 26.7	
	comp=E,41nm,3.1s,comp=N,34nm,4.8s						
JYS	**Shirataka**	**4.01**	**219**	A	A	02 24 26.8	
	comp=E,61nm,1.4s,comp=N,69nm,2.3s						
JRR	**Rishiri**	**4.03**	**340**	A	A	02 24 28.2	
	comp=E,284nm,3.6s,comp=N,351nm,4.6s						
JWK2	**Keihoku**	**4.07**	**346**	A	A	02 24 28.9	
	comp=E,130nm,4.5s,comp=N,78nm,3.0s						
JMST	**Minamisoumatoc**	**4.09**	**208**	A	A	02 24 28.0	
	comp=E,32nm,2.8s,comp=N,24nm,3.8s						
JYAR	**Yonezawaarcadi**	**4.23**	**216**	A	A	02 24 29.8	
	comp=E,67nm,1.2s,comp=N,72nm,1.3s						
JAW	**Awa shima**	**4.26**	**228**	A	A	02 24 30.3	
	comp=E,32nm,3.7s,comp=N,36nm,3.1s						
JRBN	**Rebuntou**	**4.36**	**339**	A	A	02 24 32.8	
	comp=E,26nm,5.1s,comp=N,29nm,4.7s						
JFK	**Kawauchi**	**4.42**	**206**	A	A	02 24 32.6	
	comp=E,23nm,5.9s,comp=N,20nm,6.8s						
JOTO	**OTAMA OYAMA**	**4.45**	**212**	A	A	02 24 32.9	
	comp=E,36nm,1.6s,comp=N,49nm,1.4s						
ONAJ	**Iwakimizuishiy**	**4.69**	**205**	A	A	02 24 36.3	
	comp=E,25nm,2.8s,comp=N,22nm,3.7s						
JNS	**Sasagawa**	**4.70**	**222**	A	A	02 24 36.4	
	comp=E,22nm,3.1s,comp=N,25nm,3.7s						
JFFD	**Fukushimafurud**	**4.78**	**207**	A	A	02 24 37.6	
	comp=E,24nm,4.7s,comp=N,19nm,4.0s						
JFY	**Yanai**	**4.84**	**216**	A	A	02 24 38.5	
	comp=E,28nm,3.1s,comp=N,26nm,3.0s						
KUR	**Kuril'sk**	**5.10**	**39**	*c i* P	**Pn**	**02 24 42.2**	**+1.1**
KUR				*i* S	**Sn**	**02 25 39.9**	**+0.6**
KUR				pmax	pmax		
	comp=Z,5μm,0.9s						
KUR				pmax	pmax		
	comp=N,695nm,0.8s						
KUR				pmax	pmax		
	comp=E,1μm,0.8s						
KUR				smax	smax		
	comp=E,3μm,0.5s						
KUR				smax	smax		
	comp=N,1μm,0.6s						
KUR				smax	smax		
	comp=E,29μm,3.4s						
KUR				smax	smax		
	comp=N,24μm,3.8s						
JSD	**Sado**	**5.12**	**231**	Pn	**Pn**	**02 24 41.8**	**+0.5**
JSD	**Sado**	**5.12**	**231**	P	**Pn**	**02 24 43.4**	**+2.0**
JSD	**Sado**	**5.12**	**231**	A	A	02 24 42.3	
	comp=E,16nm,10.0s,comp=N,11nm,5.3s						
JSB	**Shiboa**	**5.12**	**212**	A	A	02 24 42.4	
	comp=E,61nm,3.4s,comp=N,52nm,3.0s						
JHO	**Hitachi**	**5.21**	**205**	A	A	02 24 43.7	
	comp=E,18nm,3.7s,comp=N,14nm,4.4s						
JIZZ	**Izumozaki**	**5.22**	**224**	A	A	02 24 43.8	
	comp=E,10nm,4.6s,comp=N,74nm,4.1s						
JUON	**Uonuma**	**5.30**	**220**	A	A	02 24 44.9	
	comp=E,13nm,4.3s,comp=N,15nm,5.7s						
JHYU	**Hitachinakayam**	**5.45**	**204**	A	A	02 24 47.1	
	comp=E,20nm,8.1s,comp=N,21nm,4.2s						
JKT	**Katashina**	**5.57**	**216**	A	A	02 24 48.7	
	comp=E,33nm,5.6s,comp=N,20nm,9.5s						
YSS	**Yuzh-Sakhalins**	**5.59**	**356**	Pn	**Pn**	**02 24 49.1**	**+1.2**
YSS	**Yuzh-Sakhalins**	**5.59**	**356**	P	**Pn**	**02 24 50.0**	**+2.1**
YSS	**Yuzh-Sakhalins**	**5.59**	**356**	*de*P	**Pn**	**02 24 51.0**	**+3.1**
YSS				*e*S	**Sn**	**02 25 55.1**	**+3.7**
YSS				pmax	pmax		
	comp=Z,5μm,4.5s						
YSS				pmax	pmax		
	comp=N,5μm,3.0s						
YSS				pmax	pmax		
	comp=Z,770nm,0.9s						
YSS				smax	smax		
	comp=N,740nm,1.2s						
YSS				smax	smax		
	comp=E,490nm,1.1s						
YSS				smax	smax		
	comp=N,9μm,8.7s						
YSS				smax	smax		
	comp=E,9μm,8.6s						
YSS				MLR	MLR		
	comp=Z,26μm,14.0s						
YSS				MLR	MLR		
	comp=N,14μm,13.0s						
YSS				MLR	MLR		
	comp=E,23μm,13.0s						
JYT	**Yasato**	**5.68**	**206**	A	A	02 24 50.3	
	comp=E,21nm,5.9s,comp=N,17nm,3.9s						
JAG	**Ashikaga**	**5.78**	**212**	A	A	02 24 51.6	
	comp=E,23nm,5.4s,comp=N,26nm,5.7s						
JIHU	**Itakohorinouch**	**5.82**	**203**	A	A	02 24 52.3	
	comp=E,103nm,5.8s,comp=N,121nm,4.4s						
JJN	**Nakama**	**5.83**	**225**	A	A	02 24 52.4	
	comp=E,30nm,3.3s,comp=N,25nm,4.2s						
JGK	**Kuni**	**6.02**	**219**	A	A	02 24 55.0	
	comp=E,32nm,3.5s,comp=N,34nm,3.1s						
TEY	**Ternei**	**6.10**	**309**	⇑ *e*P	**Pn**	**02 24 54.6**	**-0.3**
TEY						02 26 08.8	
TEY				pmax	pmax		
	comp=Z,50nm,1.1s						
TEY				pmax	pmax		
	comp=N,30nm,1.1s						
TEY				pmax	pmax		
	comp=E,50nm,1.1s						
MJB9	**Matsu-Tunnel**	**6.24**	**221**	Pn	**Pn**	**02 24 57.7**	**+0.8**
MAJO	**Matsushiro**	**6.24**	**221**	Pn	**Pn**	**02 24 57.6**	**+0.7**
MAJO	**Matsushiro**	**6.24**	**221**	P	**Pn**	**02 24 58.7**	**+1.8**
MAJO	**Matsushiro**	**6.24**	**221**	*c i* P	**Pn**	**02 24 58.0**	**+1.1**
MJAR	**Matsushiro Arr**	**6.24**	**221**	Pn	**Pn**	**02 24 57.5**	**+0.6**
	comp=E,2.0nm,0.3s,baz=29,slow=12,SNR=180						
MJAR				Sn	**Sn**	**02 26 10.6**	**+3.0**
	baz=48,slow=15 comp=E,197nm,0.7s						
TOK	**Tokyo**	**6.32**	**207**	A	A	02 24 59.2	
	comp=E,86nm,5.0s,comp=N,88nm,5.1s						
JRY	**Ryogami san**	**6.36**	**214**	A	A	02 24 59.7	
	comp=E,17nm,6.1s,comp=N,23nm,4.9s						
JNG	**Nsakai**	**6.40**	**221**	A	A	02 25 00.3	
	comp=E,11nm,3.7s,comp=N,12nm,3.8s						
JCN	**Nagara**	**6.42**	**203**	A	A	02 25 00.7	
	comp=E,119nm,5.3s,comp=N,79nm,3.3s						
JSGW	**Sagamiharawaka**	**6.59**	**210**	A	A	02 25 03.1	
	comp=E,16nm,3.4s,comp=N,17nm,3.5s						
JTT	**Ttatey**	**6.65**	**226**	A	A	02 25 03.8	
	comp=E,15nm,7.5s,comp=N,16nm,4.2s						
JKUC	**kamogawauchiur**	**6.67**	**202**	A	A	02 25 04.1	
	comp=E,44nm,5.4s,comp=N,54nm,3.7s						
JJH	**Hakui**	**6.73**	**231**	A	A	02 25 04.9	
	comp=E,8.0nm,3.9s,comp=N,10.0nm,4.5s						
JYO	**Yokosk**	**6.77**	**206**	A	A	02 25 05.5	
	comp=E,52nm,3.9s,comp=N,39nm,5.7s						
JNT	**Takato**	**6.81**	**218**	A	A	02 25 06.1	
	comp=E,13nm,4.5s,comp=N,14nm,10.7s						
TATJ	**Tateyama 2**	**6.88**	**204**	A	A	02 25 07.0	
	comp=E,71nm,3.8s,comp=N,54nm,3.4s						
JOD2	**Odawara 2**	**6.94**	**210**	A	A	02 25 07.9	
	comp=E,30nm,5.0s,comp=N,24nm,3.9s						
JYN	**Shimob**	**6.95**	**214**	A	A	02 25 08.0	
	comp=E,18nm,3.9s,comp=N,18nm,8.6s						
JFNN	**Fujinakano**	**7.16**	**212**	A	A	02 25 10.9	
	comp=E,40nm,5.9s,comp=N,40nm,3.6s						
JHTM	**Izuhatsuma**	**7.24**	**209**	A	A	02 25 12.1	
	comp=E,29nm,2.3s,comp=N,42nm,4.5s						
JIM2	**Oshima 3**	**7.31**	**206**	A	A	02 25 13.1	
	comp=E,27nm,3.0s,comp=N,21nm,5.7s						
JNY	**Yasuok**	**7.37**	**217**	A	A	02 25 13.8	
	comp=E,18nm,3.9s,comp=N,25nm,4.8s						
JGF	**Kuroka**	**7.41**	**221**	Pn	**Pn**	**02 25 13.7**	**+0.8**
JGF	**Kuroka**	**7.41**	**221**	P	**Pn**	**02 25 15.1**	**+2.2**
JGF	**Kuroka**	**7.41**

MSHR	**Mys Shultsa**	**9.12 282**	⇓*e*P	**Pn**	**02 25 39.3**	**+3.0**
PSTR	**Posyet**	**9.38 282**	*de*P	**Pn**	**02 25 43.0**	**+3.1**
TYV	**Tymovskoe**	**9.50 358**	*e*P	**Pn**	**02 25 45.3**	**+3.8**
TYV			*e*S	**Sn**	**02 27 29.3**	**+1.8**
TYV			pmax	pmax		
	comp=Z,4μm,3.7s					
TYV			pmax	pmax		
	comp=Z,402nm,0.9s					
TYV			smax	smax		
	comp=N,2μm,4.5s					
TYV			smax	smax		
	comp=E,4μm,4.5s					
TYV			smax	smax		
	comp=N,95nm,1.5s					
TYV			smax	smax		
	comp=E,90nm,1.5s					
TYV			MLR	MLR		
	comp=N,24μm,16.0s					
TYV			MLR	MLR		
	comp=Z,25μm,17.0s					
GRNR	**Gornyy**	**10.53 335**	⇑*i*P	**Pn**	**02 25 57.8**	**+2.2**
GRNR			*e*S	**Sn**	**02 27 57.6**	**+4.8**
GRNR			pmax	pmax		
	comp=E,20nm,1.2s					
GRNR			pmax	pmax		
	comp=N,30nm,1.1s					
GRNR			pmax	pmax		
	comp=Z,30nm,1.1s					
GRNR			smax	smax		
	comp=E,10.0nm,0.7s					
GRNR			MLR	MLR		
	comp=E,13μm,18.0s					
MDJ	**Mudanjiang**	**10.54 292**	Pn	**Pn**	**02 25 55.7**	**-0.2**
MDJ	**Mudanjiang**	**10.54 292**	P	**Pn**	**02 26 00.0**	**+4.2**
MDJ			PP	**PnPn**	**02 26 07.8**	**+4.4**
MDJ			S	Sn	02 28 02.3	+9.1
MDJ			pmax	pmax		
	comp=E,110nm,1.0s					
MDJ			pmax	pmax		
	comp=E,2μm,3.5s					
MDJ			LR	LR		
	comp=E,16μm,15.5s					
MDJ			LR	LR		
	comp=E,14μm,17.9s					
MDJ			LR	LR		
	comp=E,26μm,16.8s					
JMN	**Monobe**	**10.68 227**	Pn	**Pn**	**02 25 56.4**	**-1.3**
JMN	**Monobe**	**10.68 227**	P	**Pn**	**02 26 00.0**	**+2.3**
KLR	**Kul'dur**	**11.29 318**	Pn	**Pn**	**02 26 05.5**	**-0.5**
	comp=E,1.1nm,0.3s,baz=125,slow=14,SNR=96					
KLR			LR	LR	02 30 57.5	
	comp=E,23μm,20.4s,baz=134,slow=41					
	comp=E,36nm,1.0s					
KLR	**Kul'dur**	**11.29 318**	*ce*P	**Pn**	**02 26 08.4**	**+2.4**
NKL	**Nikolayevsk**	**11.91 352**	*e*P	**Pn**	**02 26 16.8**	**+2.4**
NKL			pmax	pmax		
	comp=N,1μm,1.5s					
NKL			pmax	pmax		
	comp=E,3μm,1.5s					
NKL			pmax	pmax		
	comp=Z,4μm,1.5s					
NKL			MLR	MLR		
	comp=E,19μm,13.0s					
NKL			MLR	MLR		
	comp=N,35μm,15.0s					
NKL			MLR	MLR		
	comp=Z,48μm,16.0s					
OKH	**Okha**	**12.18 359**	*de*P	**Pn**	**02 26 14.9**	**-3.2**
OKH			pmax	pmax		
	comp=Z,500nm,15.1s					
OKH			MLR	MLR		
	comp=E,13μm,15.0s					
OKH			MLR	MLR		
	comp=Z,11μm,14.0s					
OKH			MLR	MLR		
	comp=N,12μm,14.0s					
BNX	**BinXian**	**12.32 296**	⇑P	**Pn**	**02 26 20.0**	**-0.1**
BNX			S	**Sn**	**02 28 40.5**	**+3.9**
BNX			pmax	pmax		
	comp=N,35nm,1.0s					
BNX			pmax	pmax		
	comp=N,2μm,4.4s					
BNX			LR	LR		
	comp=N,17μm,12.6s					
BNX			LR	LR		
	comp=N,11μm,12.4s					
BNX			LR	LR		
	comp=N,13μm,12.9s					
KSRS	**Korea Array**	**12.51 257**	Pn	**Pn**	**02 26 22.9**	**+0.2**
	comp=N,1.3nm,0.3s,baz=70,slow=13,SNR=48					
KSRS			Sn	**Sn**	**02 28 46.1**	**+4.8**
	comp=N,1.6nm,0.3s,baz=68,slow=24,SNR=8.0					
KSRS			LR	LR	02 30 58.0	
	comp=N,14μm,19.2s,baz=60,slow=37					
	comp=N,30nm,0.9s					
KS19	**Wonju Array Si**	**12.54 257**	Pn	**Pn**	**02 26 24.4**	**+1.3**
KSAR	**Wonju Array Be**	**12.54 257**		**Pn**	**02 26 23.9**	**+0.8**
KSAR	**Wonju Array Be**	**12.54 257**	P	**Pn**	**02 26 24.0**	**+0.8**
JNU	**Nakatsue**	**12.86 234**	Pn	**Pn**	**02 26 26.9**	**-0.7**
JNU	**Nakatsue**	**12.86 234**	Pn	**Pn**	**02 26 27.1**	**-0.5**
	comp=N,1.4nm,0.3s,baz=59,slow=10,SNR=14					
JNU			LR	LR	02 31 40.5	
	comp=N,20μm,18.7s,baz=36,slow=39					
	comp=N,43nm,0.9s					
JNU	**Nakatsue**	**12.86 234**	P	**Pn**	**02 26 28.8**	**+1.2**
SKR	**Severo-Kuril's**	**12.87 39**	*e*P	**Pn**	**02 26 28.9**	**+1.4**
SKR			pmax	pmax		
	comp=Z,2μm,4.2s					
SKR			MLR	MLR		
	comp=Z,22μm,14.0s					
SKR			MLR	MLR		
	comp=N,8μm,15.0s					
SKR			MLR	MLR		
	comp=E,18μm,15.0s					
JTU	**Tsushima**	**12.91 242**	P	**Pn**	**02 26 29.5**	**+1.3**
CN2	**Changchun**	**13.37 286**	⇑P	**Pn**	**02 26 35.5**	**+1.1**
CN2			*es*P	P	02 26 42.0	-1.8
CN2			*e*S	**Sn**	**02 29 04.0**	**+1.7**
CN2			pmax	pmax		
	comp=E,700nm,5.0s					
CN2			LR	LR		
	comp=E,6μm,13.0s					
CN2			LR	LR		
	comp=E,10μm,13.0s					
CN2			LR	LR		
	comp=E,10μm,16.0s					
TJN	**Taejon**	**13.37 253**	Pn	**Pn**	**02 26 36.0**	**+1.5**
TJN	**Taejon**	**13.37 253**	P	**Pn**	**02 26 35.5**	**+1.0**
TJN	**Taejon**	**13.37 253**	*c i*P	**Pn**	**02 26 36.4**	**+1.9**
INCN	**Inchon**	**13.45 259**	Pn	**Pn**	**02 26 36.8**	**+1.2**
INCN	**Inchon**	**13.45 259**	P	**Pn**	**02 26 37.0**	**+1.4**
INCN	**Inchon**	**13.45 259**	P	**Pn**	**02 26 36.8**	**+1.2**
HEH	**HeiHe**	**14.17 314**	*e*P	**Pn**	**02 26 45.3**	**0.0**
HEH			pP	P	02 26 47.5	-5.1
HEH			S	**Sn**	**02 29 29.5**	**+7.8**
HEH			pmax	pmax		
	comp=E,140nm,1.1s					
HEH			pmax	pmax		
	comp=E,2μm,3.8s					
HEH			LR	LR		
	comp=E,22μm,16.4s					
HEH			LR	LR		
	comp=E,28μm,15.0s					
HEH			LR	LR		
	comp=E,47μm,15.5s					
JCJ	**Chichijima**	**14.27 184**	Pn	**Pn**	**02 26 43.2**	**-3.6**
JCJ	**Chichijima**	**14.27 184**	Pn	Pn	02 26 38.7	-8.2
JCJ			Sn	Sn	02 29 07.2	-17
JCJ	**Chichijima**	**14.27 184**	P	**Pn**	**02 26 48.0**	**+1.1**
SNY	**Shenyang**	**14.76 278**	⇓P	**Pn**	**02 26 54.0**	**+0.6**
SNY			S	**Sn**	**02 29 38.3**	**+2.2**
SNY			pmax	pmax		
	comp=E,29nm,1.0s					
SNY			pmax	pmax		
	comp=E,550nm,3.5s					
SNY			LR	LR		
	comp=E,6μm,11.5s					
SNY			LR	LR		
	comp=E,8μm,13.8s					
SNY			LR	LR		
	comp=E,12μm,13.5s					
PEA0B	**Petropavlovsk-**	**15.24 35**	Pn	**Pn**	**02 26 56.7**	**-3.1**
PEA0B	**Petropavlovsk-**	**15.24 35**	P	**Pn**	**02 26 56.7**	**-3.1**
PEA0B			pmax	pmax		
	comp=Z,125nm,0.9s					
PETK	**Petropavlovsk-**	**15.24 35**	Pn	**Pn**	**02 26 55.6**	**-4.2**
PETK	**Petropavlovsk-**	**15.24 35**	Pn	**Pn**	**02 26 55.9**	**-3.9**
	comp=Z,2.4nm,0.3s,baz=206,slow=9.9,SNR=36					
PETK			LR	LR	02 32 35.2	
	comp=Z,10μm,20.2s,baz=220,slow=36					
PETK	**Petropavlovsk-**	**15.24 35**	P	**Pn**	**02 26 55.6**	**-4.2**
PET	**Petropavlovsk**	**15.60 37**	Pn	**Pn**	**02 27 01.1**	**-3.4**
PET	**Petropavlovsk**	**15.60 37**	P	**Pn**	**02 27 04.2**	**-0.3**
PET	**Petropavlovsk**	**15.60 37**	*e*P	**P**	**02 27 08.7**	**+0.2**
PET			*e*S	**Sn**	**02 29 56.2**	**-0.3**
PET			pmax	pmax		
	comp=Z,198nm,1.5s					
PET			pmax	pmax		
	comp=Z,2μm,12.9s					
PET			pmax	pmax		
	comp=Z,3μm,9.3s					
PET			MLR	MLR		
	comp=Z,12μm,14.0s					
PET			MLR	MLR		
	comp=Z,13μm,15.0s					
ZEA	**Zeya**	**16.39 324**	*e*P	**Pn**	**02 27 13.6**	**-0.9**
ZEA			pmax	pmax		
	comp=E,90nm,1.1s					
ZEA			pmax	pmax		
	comp=N,120nm,1.0s					
ZEA			pmax	pmax		
	comp=Z,200nm,0.9s					
ZEA			pmax	pmax		
	comp=N,400nm,2.0s					
ZEA			pmax	pmax		
	comp=Z,500nm,2.2s					
ZEA			MLR	MLR		
	comp=E,6μm,14.0s					
ZEA			MLR	MLR		
	comp=N,17μm,16.0s					
ZEA			MLR	MLR		
	comp=Z,15μm,16.0s					
DL2	**Dalian**	**16.74 269**	⇑P	**Pn**	**02 27 19.0**	**-0.1**
DL2			S	**Sn**	**02 30 26.3**	**+1.9**
DL2			pmax	pmax		
	comp=Z,480nm,1.2s					
DL2			pmax	pmax		
	comp=Z,4μm,5.4s					
DL2			LR	LR		
	comp=Z,7μm,12.4s					
DL2			LR	LR		
	comp=Z,8μm,12.4s					
DL2			LR	LR		
	comp=Z,9μm,13.1s					
HIA	**Hailar**	**18.29 303**	Pn	**Pn**	**02 27 36.2**	**-2.1**
HIA	**Hailar**	**18.29 303**	P	**Pn**	**02 27 36.2**	**-2.1**
HIA			pmax	pmax		
	comp=Z,90nm,0.9s					
JMZ	**Minamidaito 2**	**18.46 217**	P	**P**	**02 27 39.9**	**-0.4**
JMZ			IAmb	IAmb	02 27 49.7	
	comp=Z,960nm,1.4s					
JMZ	**Minamidaito 2**	**18.46 217**	P	**Pn**	**02 27 41.2**	**+0.8**
MA2	**Magadan**	**18.81 12**	P	**P**	**02 27 41.5**	**-2.4**
MA2	**Magadan**	**18.81 12**	P	**P**	**02 27 42.3**	**-1.6**
	comp=Z,58nm,0.9s,baz=191,slow=13,SNR=10					
MA2			LR	LR	02 34 43.0	
	comp=Z,6μm,21.4s,baz=191,slow=36					
MA2	**Magadan**	**18.81 12**	P	**P**	**02 27 43.9**	**0.0**
MA2	**Magadan**	**18.81 12**	⇓*e*P	**P**	**02 27 43.2**	**-0.7**
MA2			pmax	pmax		
	comp=Z,196nm,1.7s					
MA2			MLR	MLR		
	comp=Z,5μm,13.0s					
JOW	**Kunigami**	**19.07 225**	P	**P**	**02 27 45.5**	**-1.5**
JOW	**Kunigami**	**19.07 225**	P	**P**	**02 27 46.0**	**-1.0**
	comp=Z,2.8nm,0.3s,baz=24,slow=10,SNR=24					
JOW			LR	LR	02 36 29.7	
	comp=Z,9μm,18.0s,baz=50,slow=41					
	comp=Z,211nm,0.9s					
JOW	**Kunigami**	**19.07 225**	P	**P**	**02 27 46.6**	**-0.3**
XLT	**XiLinHaoTe**	**20.14 286**	⇑*i*P	**P**	**02 27 56.0**	**-2.7**
XLT			pP	Pn	02 28 00.0	-0.7
XLT			sP	pP	02 28 03.8	-0.6
XLT			pmax	pmax		
	comp=Z,84nm,0.8s					
XLT			LR	LR		
	comp=Z,7μm,14.5s					
XLT			LR	LR		
	comp=Z,11μm,15.7s					
SSE	**Sheshan**	**20.52 247**	P	**P**	**02 28 01.0**	**-1.7**
SSE			S	**S**	**02 31 53.0**	**+1.7**
SSE			pmax	pmax		
	comp=Z,84nm,1.0s					
SSE			pmax	pmax		
	comp=Z,370nm,3.5s					
SSE			LR	LR		
	comp=Z,4μm,14.4s					
SSE			LR	LR		
	comp=Z,3μm,14.1s					
BJI	**Beijing**	**20.57 275**	P	**P**	**02 28 01.0**	**-2.3**
BJI			pP	Pn	02 28 04.0	-1.6
BJI			PP	**PnPn**	**02 28 23.0**	**+2.0**
BJI			S	**S**	**02 31 45.5**	**-6.8**
BJI			pmax	pmax		
	comp=Z,46nm,1.8s					
BJI			pmax	pmax		
	comp=Z,300nm,3.7s					
BJI			LR	LR		
	comp=Z,2μm,14.3s					
BJI			LR	LR		
	comp=Z,8μm,13.0s					
BJI			LR	LR		
	comp=Z,10μm,13.2s					
BJT	**Baijiatuau**	**20.58 275**	P	**P**	**02 28 01.1**	**-2.3**
BJT	**Baijiatuau**	**20.58 275**	P	**P**	**02 28 01.1**	**-2.3**
BJT			pmax	pmax		
	comp=Z,361nm,1.4s					
BJT			MLR	MLR		
	comp=Z,8μm,19.0s					
TIA	**Tai'an**	**21.00 264**	P	**P**	**02 28 05.3**	**-2.7**
TIA			PP	**PnPn**	**02 28 34.5**	**+7.6**
TIA			S	**S**	**02 31 54.0**	**-6.8**
TIA			sS	**pS**	**02 32 11.0**	**-1.4**
TIA			SS	**SnSn**	**02 32 25.5**	**+3.4**
TIA			pmax	pmax		
	comp=Z,120nm,0.7s					
TIA			pmax	pmax		
	comp=Z,660nm,3.5s					
TIA			LR	LR		
	comp=Z,5μm,13.7s					
TIA			LR	LR		
	comp=Z,8μm,13.4s					
TIA			LR	LR		
	comp=Z,8μm,12.0s					
NJ2	**Nanjing**	**21.63 252**	⇑*i*P	**P**	**02 28 12.8**	**-1.9**
NJ2			pP	**pP**	**02 28 20.5**	**+0.1**
NJ2			sP	**sP**	**02 28 24.5**	**+1.6**
NJ2			S	**S**	**02 32 17.5**	**+4.3**
NJ2			pmax	pmax		
	comp=Z,160nm,0.8s					
NJ2			pmax	pmax		
	comp=Z,520nm,4.3s					
NJ2			LR	LR		
	comp=Z,10μm,16.6s					
NJ2			LR	LR		
	comp=Z,10μm,15.2s					
NJ2			LR	LR		
	comp=Z,13μm,15.3s					
YAK	**Yakutsk**	**22.25 343**	P	**P**	**02 28 16.9**	**-4.2**
YAK			IAmb	IAmb	02 28 29.0	
	comp=Z,419nm,0.9s					
YAK	**Yakutsk**	**22.25 343**	LR	LR	02 37 47.6	
	comp=Z,7μm,18.2s,baz=151,slow=39					
YAK	**Yakutsk**	**22.25 343**	*e*P	**P**	**02 28 17.7**	**-3.4**
YAK			*e**PP	**pP**	**02 28 26.0**	**-1.1**
YAK			*e*S	**S**	**02 32 17.3**	**-7.3**
YAK			pmax	pmax		
	comp=Z,263nm,1.4s					
YAK			pmax	pmax		
	comp=N,159nm,1.6s					
YAK			pmax	pmax		
	comp=E,37nm,1.5s					
YAK			smax	smax		
	comp=N,964nm,2.1s					
YAK			smax	smax		
	comp=E,722nm,2.0s					
YAK			MLR	MLR		
	comp=Z,8μm,21.0s					
YAK			MLR	MLR		
	comp=N,5μm,15.0s					
YAK			MLR	MLR		
	comp=E,3μm,15.0s					
SEY	**Seymchan**	**22.25 11**	LR	LR	02 36 54.4	
	comp=E,6μm,21.7s,baz=189,slow=36					
SEY	**Seymchan**	**22.25 11**	*ce*P	**P**	**02 28 19.2**	**-2.0**
SEY			pmax	pmax		
	comp=Z,283nm,1.3s					
JMJ	**Miyako jima 2**	**22.29 228**	P	**P**	**02 28 21.3**	**-0.6**
HNS	**HongShan**	**22.40 269**	⇑P	**P**	**02 28 19.5**	**-3.5**
HNS			S	**S**	**02 32 22.8**	**-5.0**
HNS			pmax	pmax		
	comp=Z,80nm,1.0s					
HNS			pmax	pmax		
	comp=Z,380nm,4.4s					
HNS			LR	LR		
	comp=Z,7μm,13.7s					
HNS			LR	LR		
	comp=Z,8μm,13.2s					
HNS			LR	LR		
	comp=Z,11μm,13.3s					
CIT	**Chita**	**22.85 308**	*e*P	**P**	**02 28 25.2**	**-2.5**
CIT			*e*		02 28 59.4	
CIT			*e*S	**S**	**02 32 31.2**	**-4.6**
CIT			*e*		02 33 14.0	
CIT			pmax	pmax		
	comp=Z,645nm,2.8s					
HHC	**Hu-ho-hao-te**	**23.84 279**	⇓*i*P	**P**	**02 28 35.0**	**-2.7**
HHC			sP	pP	02 28 41.8	-2.0
HHC			PP	**PnPn**	**02 29 05.0**	**-0.9**
HHC			S	**S**	**02 32 48.0**	**-4.5**
HHC			sS	pS	02 32 57.8	-1.4
HHC			SS	**SnSn**	**02 33 43.0**	**+11**
HHC			pmax	pmax		
	comp=Z,32nm,1.6s					
HHC			pmax	pmax		
	comp=Z,280nm,6.7s					
HHC			LR	LR		
	comp=Z,5μm,12.2s					
HHC			LR	LR		
	comp=Z,4μm,15.6s					
HHC			LR	LR		
	comp=Z,8μm,17.2s					
YOJ	**Yonaguni jima**	**23.87 231**	IAMs_20	IAMs_20	02 38 52.6	
	comp=Z,8μm,18.0s					
TIY	**Taiyuan**	**24.01 271**	*e*P	**P**	**02 28 37.0**	**-2.3**
TIY			S	**S**	**02 32 57.3**	**+2.2**
TIY			pmax	pmax		
	comp=Z,58nm,0.7s					
TIY			pmax	pmax		
	comp=Z,640nm,5.1s					
TIY			LR	LR		
	comp=Z,3μm,13.1s					
TIY			LR	LR		
	comp=Z,5μm,12.2s					
TIY			LR	LR		
	comp=Z,5μm,12.4s					
YHNB	**Yeheng**	**24.70 234**	P	**P**	**02 28 43.0**	**-2.6**
YHNB			IAmb	IAmb	02 28 56.4	
	comp=Z,174nm,0.9s					
YHNB			IAMs_20	IAMs_20	02 38 43.6	
	comp=Z,13μm,20.0s					
YHNB	**Yeheng**	**24.70 234**	P	**P**	**02 28 46.3**	**+0.7**
BOD	**Bodaibo**	**24.83 321**	*e*P	**P**	**02 28 43.9**	**-2.6**
BOD			pmax	pmax		
	comp=Z,188nm,1.5s					
NACB	**Ninganchiao**	**24.93 233**	P	**P**	**02 28 44.6**	**-3.0**
NACB			IAMs_20	IAMs_20	02 39 13.8	
	comp=Z,11μm,20.0s					
NACB	**Ninganchiao**	**24.93 233**	P	**P**	**02 28 47.9**	**+0.2**
BTO	**Baotou**	**25.04 279**	*e*P	**P**	**02 28 47.5**	**-1.2**
BTO			pP	**pP**	**02 28 51.8**	**-3.0**
BTO			sP	**pwP**	**02 28 55.0**	**-2.1**
BTO			S	**S**	**02 33 11.0**	**-0.7**
BTO			SS	**SnSn**	**02 34 04.5**	**+3.4**
BTO			pmax	pmax		
	comp=Z,120nm,1.4s					
BTO			pmax	pmax		
	comp=Z,790nm,4.4s					
BTO			LR	LR		
	comp=Z,10μm,11.0s					
BTO			LR	LR		
	comp=Z,12μm,16.9s					
BTO			LR	LR		
	comp=Z,15μm,16.1s					
LYN	**LuoYang**	**25.15 264**	⇑P	**P**	**02 28 46.5**	**-3.1**
LYN			PP	**PnPn**	**02 29 25.0**	**+1.3**
LYN			S	**S**	**02 33 09.0**	**-4.3**
LYN			sS	pS	02 33 15.5	-4.8
LYN			pmax	pmax		
	comp=Z,190nm,0.8s					
LYN			pmax	pmax		
	comp=Z,1μm,6.9s					
LYN			LR	LR		
	comp=Z,6μm,15.5s					
LYN			LR	LR		
	comp=Z,10μm,13.4s					
LYN			LR	LR		
	comp=Z,15μm,13.1s					
SSLB	**Suanglung**	**25.61 234**	P	**P**	**02 28 51.4**	**-2.4**
SSLB	**Suanglung**	**25.61 234**	P	**P**	**02 28 54.9**	**+1.1**
WHN	**Wuhan**	**25.69 254**	⇓P	**P**	**02 28 53.5**	**-1.0**
WHN			pP	**pP**	**02 28 59.8**	**-0.8**
WHN			S	**S**	**02 33 22.3**	**+0.5**
WHN			pmax	pmax		
	comp=Z,430nm,0.8s					
WHN			pmax	pmax		
	comp=Z,2μm,4.2s					
WHN			LR	LR		
	comp=Z,17μm,15.1s					
WHN			LR	LR		
	comp=Z,36μm,14.9s					
WHN			LR	LR		
	comp=Z,38μm,16.5s					
YULB	**Yu-li**	**25.70 233**	P	**P**	**02 28 52.6**	**-2.0**
YULB	**Yu-li**	**25.70 233**	P	**P**	**02 28 54.6**	**0.0**
TPUB	**Ta-pu**	**26.17 233**	P	**P**	**02 28 56.9**	**-2.0**
TPUB	**Ta-pu**	**26.17 233**	P	**P**	**02 28 59.9**	**+1.0**
QZH	**Quanzhou**	**26.25 239**	⇑*i*P	**P**	**02 28 59.5**	**-0.1**
QZH			S	**S**	**02 33 29.0**	**-1.8**
QZH			pmax	pmax		
	comp=Z,110nm,1.0s					
QZH			pmax	pmax		
	comp=Z,850nm,4.2s					
QZH			LR	LR		
	comp=Z,9μm,18.9s					
QZH			LR	LR		
	comp=Z,6μm,19.6s					
QZH			LR	LR		
	comp=Z,11μm,14.8s					
TWGBT	**Beinan**	**26.26 232**	P	**P**	**02 29 00.8**	**+1.0**
TWG	**Pinlang**	**26.27 232**	P	**P**	**02 28 58.6**	**-1.2**
TWG			IAmb	IAmb	02 29 14.7	
	comp=Z,277nm,1.3s					
ULN	**Ulaanbaatar**	**26.42 297**	P	**P**	**02 29 00.1**	**-1.1**
ULN			IAmb	IAmb	02 29 11.3	
	comp=Z,208nm,1.2s					
ULN	**Ulaanbaatar**	**26.42 297**	IAMs_20	IAMs_20	02 39 51.1	
	comp=Z,8μm,19.0s					
ULN	**Ulaanbaatar**	**26.42 297**	P	**P**	**02 29 00.8**	**-0.4**
ULN			P	**P**	**02 29 00.8**	**-0.4**
ULN			S	**S**	**02 33 33.3**	**-0.2**
ULN			S	**S**	**02 33 33.3**	**-0.2**
ULN	**Ulaanbaatar**	**26.42 297**	*c i*P	**P**	**02 29 00.4**	**-0.8**
ULN			pmax	pmax		
	comp=Z,150nm,1.7s					
ULN			MLR	MLR		
	comp=Z,11μm,12.0s					
KNMB	**Chin-men Tao**	**26.72 239**	P	**P**	**02 29 04.4**	**+0.6**
KNMB			IAmb	IAmb	02 29 24.1	
	comp=Z,216nm,0.9s					
SONM	**Songino Array**	**26.86 296**	P	**P**	**02 29 04.3**	**-0.8**
SONM	**Songino Array**	**26.86 296**	P	**P**	**02 29 05.1**	**-0.1**
	comp=Z,49nm,0.7s,baz=79,slow=7.6,SNR=74					
SONM			LR	LR	02 40 36.0	
	comp=Z,8μm,18.2s,baz=95,slow=39					
	comp=Z,49nm,0.7s					
GUMO	**Guam**	**27.72 177**	LR	LR	02 40 49.4	
	comp=Z,2μm,19.1s,baz=358,slow=38					
XAN	**Xi'an**	**28.03 266**	⇓P	**P**	**02 29 13.5**	**-2.1**
XAN			sP	pP	02 29 22.3	+0.6
XAN			PP	**PnPn**	**02 30 03.5**	**+0.5**
XAN			S	**S**	**02 33 56.5**	**-2.3**
XAN			sS	pS	02 34 05.5	-0.4
XAN			SS	**SnSn**	**02 35 21.5**	**+7.4**
XAN			ScS	**ScS**	**02 39 56.5**	**-5.5**
XAN			pmax	pmax		
	comp=Z,63nm,1.0s					

XAN				pmax	pmax		
	comp=Z,630nm,4.5s						
XAN				LR	LR		
	comp=Z,9μm,13.2s						
XAN				LR	LR		
	comp=Z,8μm,14.3s						
XAN				LR	LR		
	comp=Z,12μm,13.9s						
CNSH	**ChangSha**	**28.04**	**252**	P	**P**	**02 29 15.0**	**-0.7**
CNSH				S	**S**	**02 33 57.5**	**-1.5**
CNSH				pmax	pmax		
	comp=Z,78nm,1.0s						
CNSH				LR	LR		
	comp=Z,9μm,18.0s						
CNSH				LR	LR		
	comp=Z,8μm,17.5s						
CNSH				LR	LR		
	comp=Z,8μm,13.3s						
IRK	**Irkutsk**	**28.50**	**306**	*e*P	**P**	**02 29 19.2**	**-0.4**
IRK				*e*S	**S**	**02 34 09.6**	**+3.7**
IRK				pmax	pmax		
	comp=Z,335nm,2.1s						
ZAK	**Zakamensk**	**28.97**	**302**	*e*P	P	02 29 31.7	+7.8
ZAK				pmax	pmax		
	comp=Z,88nm,1.4s						
ADK	**Adak**	**29.08**	**55**	P	**P**	**02 29 23.7**	**-1.0**
ADK				IAmb	IAmb	02 29 25.9	
	comp=Z,157nm,1.1s						
ADK	**Adak**	**29.08**	**55**	P	**P**	**02 29 25.2**	**+0.5**
ADK	**Adak**	**29.08**	**55**	P	**P**	**02 29 23.7**	**-1.0**
ADK				pmax	pmax		
	comp=Z,157nm,1.1s						
ENH	**Enshi**	**29.39**	**259**	P	**P**	**02 29 26.0**	**-1.7**
ENH				IAMs_20	IAMs_20	02 42 10.5	
	comp=Z,7μm,18.0s						
BILL	**Bilibino**	**29.45**	**17**	IAMs_20	IAMs_20	02 42 33.7	
	comp=Z,8μm,20.0s						
BILL	**Bilibino**	**29.45**	**17***c*	*i*P	**P**	**02 29 28.3**	**+0.4**
BILL				pmax	pmax		
	comp=Z,100nm,1.3s						
BILL				MLR	MLR		
	comp=Z,7μm,19.0s						
H11N2	**WAKE ISLAND Hy**	**29.47**	**130**	T	T	03 00 34.3	
	baz=323,slow=75						
H11N1	**WAKE ISLAND Hy**	**29.48**	**130**	T	T	03 00 37.2	
	baz=323,slow=75						
H11N3	**WAKE ISLAND Hy**	**29.49**	**130**	T	T	03 00 37.6	
	baz=323,slow=75						
H11S1	**WAKE ISLAND Hy**	**30.33**	**132**	T	T	03 01 44.3	
	baz=325,slow=76						
H11S3	**WAKE ISLAND Hy**	**30.33**	**132**	T	T	03 01 44.4	
	baz=325,slow=76						
H11S2	**WAKE ISLAND Hy**	**30.35**	**132**	T	T	03 01 39.4	
	baz=325,slow=76						
MOY	**Mondy**	**30.47**	**304**	*e*P	**P**	**02 29 37.7**	**+0.5**
MOY				pmax	pmax		
	comp=Z,241nm,2.1s						
ATKA	**Atka Island**	**30.64**	**55**	P	**P**	**02 29 37.9**	**-0.6**
ATKA				IAmb	IAmb	02 29 39.5	
	comp=Z,292nm,1.2s						
ATKA	**Atka Island**	**30.64**	**55**	P	**P**	**02 29 38.7**	**+0.2**
GZH	**Guangzhou**	**30.99**	**243**	P	**P**	**02 29 37.3**	**-4.6**
GZH				S	**S**	**02 34 39.5**	**-5.9**
GZH				pmax	pmax		
	comp=Z,81nm,1.0s						
GZH				LR	LR		
	comp=Z,11μm,13.3s						
GZH				LR	LR		
	comp=Z,3μm,13.7s						
GZH				LR	LR		
	comp=Z,12μm,13.3s						
HKPS	**Hong Kong Po S**	**31.02**	**241**	P	**P**	**02 29 42.0**	**-0.2**
HKPS				IAmb	IAmb	02 29 55.7	
	comp=Z,150nm,1.1s						
HKPS				IAMs_20	IAMs_20	02 43 30.9	
	comp=Z,5μm,19.0s						
HKPS	**Hong Kong Po S**	**31.02**	**241**	P	**P**	**02 29 43.9**	**+1.8**
LZH	**Lanzhou**	**31.03**	**273**	P	**P**	**02 29 39.8**	**-2.5**
LZH				sP	pwP	02 29 49.8	-1.0
LZH				S	**S**	**02 34 46.0**	**-0.2**
LZH				pmax	pmax		
	comp=Z,94nm,1.3s						
LZH				pmax	pmax		
	comp=Z,580nm,7.5s						
LZH				LR	LR		
	comp=Z,9μm,13.7s						
LZH				LR	LR		
	comp=Z,9μm,13.1s						
LZH				LR	LR		
	comp=Z,12μm,13.1s						
TIXI	**Tiksi**	**31.19**	**351**	P	**P**	**02 29 40.2**	**-2.9**
TIXI	**Tiksi**	**31.19**	**351**	IAMs_20	IAMs_20	02 43 30.5	
	comp=Z,5μm,19.0s						
TIXI	**Tiksi**	**31.19**	**351**	LR	LR	02 43 41.3	
	comp=Z,5μm,18.7s,baz=116,slow=39						
TIXI	**Tiksi**	**31.19**	**351**⇑	*e*P	**P**	**02 29 40.6**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,36nm,1.3s						
TIXI				MLR	MLR		
	comp=Z,5μm,14.0s						
GULI	**GuiLin**	**31.61**	**250**	P	**P**	**02 29 47.8**	**+0.5**
GULI				pP	**sP**	**02 29 56.3**	**+0.2**
GULI				S	**S**	**02 34 51.3**	**-3.8**
GULI				pmax	pmax		
	comp=Z,100nm,1.2s						
GULI				LR	LR		
	comp=Z,5μm,14.1s						
GULI				LR	LR		
	comp=Z,6μm,15.2s						
GULI				LR	LR		
	comp=Z,8μm,12.7s						
GTA	**Gaotai**	**32.92**	**281**	P	**P**	**02 29 58.5**	**-0.3**
GTA				pP	sP	02 30 08.3	+0.8
GTA				sP	pwP	02 30 11.5	+4.2
GTA				PcP	**PcP**	**02 32 44.0**	**+1.1**
GTA				S	**S**	**02 35 14.8**	**-0.7**
GTA				PcS	**PcS**	**02 36 29.0**	**+0.7**
GTA				pmax	pmax		
	comp=Z,35nm,1.4s						
GTA				pmax	pmax		
	comp=Z,320nm,7.1s						
GTA				LR	LR		
	comp=Z,4μm,18.5s						
GTA				LR	LR		
	comp=Z,6μm,18.5s						
GTA				LR	LR		
	comp=Z,8μm,18.5s						
CD2	**Chengdu**	**33.34**	**265**	P	**P**	**02 30 01.3**	**-1.2**
CD2				S	**S**	**02 35 18.8**	**-3.2**
CD2				pmax	pmax		
	comp=Z,110nm,0.7s						
CD2				pmax	pmax		
	comp=Z,350nm,4.7s						
CD2				LR	LR		
	comp=Z,7μm,11.8s						
CD2				LR	LR		
	comp=Z,5μm,14.3s						
CD2				LR	LR		
	comp=Z,6μm,13.7s						
SPIA	**Saint Paul Isl**	**33.42**	**46**	P	**P**	**02 30 03.2**	**+0.3**
	baz=262						
GYA	**Guiyang**	**33.57**	**255**	⇓P	**P**	**02 30 04.3**	**-0.3**
GYA				sP	sP	02 30 13.0	-0.3
GYA				S	**S**	**02 35 20.8**	**-5.0**
GYA				pmax	pmax		
	comp=Z,130nm,1.0s						
GYA				LR	LR		
	comp=Z,6μm,16.4s						
GYA				LR	LR		
	comp=Z,9μm,16.0s						
GYA				LR	LR		
	comp=Z,14μm,16.3s						
P08K	**Saint George I**	**33.73**	**47**	P	**P**	**02 30 05.8**	**+0.3**
	baz=264						
NIKH	**Nikolski High**	**33.92**	**53**	P	**P**	**02 30 07.0**	**-0.3**
	baz=270						
GAMB	**Gambell**	**34.27**	**34**	P	**P**	**02 30 10.5**	**+0.3**
	baz=251						
MIDW	**Midway**	**34.58**	**100**	P	**P**	**02 30 12.8**	**-0.4**
UNV	**Unalaska Valle**	**35.33**	**52**	P	**P**	**02 30 19.7**	**+0.3**
	baz=270						
KRAR	**Krasnoyarsk**	**35.50**	**312**⇑	*i*P	**P**	**02 30 21.7**	**+0.9**
M11K	**Mekoryuk**	**35.98**	**41**	P	**P**	**02 30 25.0**	**+0.1**
	baz=261						
QIZ	**Qiongzhong**	**36.15**	**242**	P	**P**	**02 30 27.8**	**+1.0**
QIZ				PP	**PP**	**02 31 49.0**	**-0.2**
QIZ				S	**S**	**02 36 07.0**	**+1.6**
QIZ				pmax	pmax		
	comp=Z,38nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,790nm,12.0s						
QIZ				LR	LR		
	comp=Z,4μm,13.9s						
QIZ				LR	LR		
	comp=Z,3μm,13.4s						
QIZ				LR	LR		
	comp=Z,6μm,13.7s						
TNA	**Tin City**	**36.38**	**32**	P	**P**	**02 30 28.2**	**0.0**
	baz=253						
PATS	**Pohnpei**	**36.90**	**155**	IAMs_20	IAMs_20	02 45 33.9	
	comp=Z,5μm,20.0s						
PATS	**Pohnpei**	**36.90**	**155**	P	**P**	**02 30 34.4**	**+1.2**
K13K	**Kusilvak Mount**	**36.96**	**38**	P	**P**	**02 30 33.6**	**+0.4**
K13K				IAmb	IAmb	02 30 36.2	
	comp=Z,339nm,1.8s						
K13K	**Kusilvak Mount**	**36.96**	**38**	P	**P**	**02 30 34.6**	**+1.3**
	baz=261,SNR=11						
F14K	**Arctic Creek**	**36.99**	**32**	P	**P**	**02 30 34.6**	**+1.1**
	baz=254						
FALS	**False Pass**	**37.12**	**50**	P	**P**	**02 30 34.6**	**-0.1**
	baz=271						
PZH	**PanZhiHua**	**37.16**	**260**	P	**P**	**02 30 35.0**	**-0.5**
PZH				sP	**pP**	**02 30 41.3**	**-0.4**
PZH				PP	**PnPn**	**02 32 02.0**	**+1.3**
PZH				S	**S**	**02 36 17.3**	**-3.7**
PZH				sS	**pS**	**02 36 28.5**	**+0.4**
PZH				pmax	pmax		
	comp=Z,200nm,1.3s						
PZH				pmax	pmax		
	comp=Z,710nm,5.3s						
PZH				LR	LR		
	comp=Z,4μm,20.1s						
PZH				LR	LR		
	comp=Z,4μm,13.9s						
PZH				LR	LR		
	comp=Z,5μm,13.3s						
ANM	**Nome**	**37.16**	**34**	P	**P**	**02 30 35.5**	**+0.6**
ANM				IAmb	IAmb	02 30 38.0	
	comp=Z,361nm,1.8s						
ANM	**Nome**	**37.16**	**34**	P	**P**	**02 30 36.3**	**+1.4**
	baz=257						
ANM	**Nome**	**37.16**	**34**	P	**P**	**02 30 35.6**	**+0.6**
ANM				pmax	pmax		
	comp=Z,361nm,1.8s						
ANM				MLR	MLR		
	comp=Z,3μm,20.0s						
KMI	**Kunming**	**37.21**	**257**	⇑P	**P**	**02 30 36.0**	**-0.1**
KMI				sP	pP	02 30 42.0	-0.3
KMI				PP	**PnPn**	**02 32 04.0**	**+2.5**
KMI				S	**S**	**02 36 19.3**	**-2.7**
KMI				pmax	pmax		
	comp=Z,66nm,1.7s						
KMI				pmax	pmax		
	comp=Z,850nm,4.2s						
KMI				LR	LR		
	comp=Z,7μm,14.9s						
KMI				LR	LR		
	comp=Z,4μm,16.0s						
KMI				LR	LR		
	comp=Z,6μm,16.3s						
M13K	**Dall Lake**	**37.38**	**41**	P	**P**	**02 30 35.5**	**-1.4**
M13K				IAmb	IAmb	02 31 00.7	
	comp=Z,176nm,1.0s						
M13K	**Dall Lake**	**37.38**	**41**	P	**P**	**02 30 38.8**	**+2.0**
	baz=264,SNR=6.8						
J14K	**Nanvaranak Lak**	**37.60**	**37**	P	**P**	**02 30 38.9**	**+0.3**
J14K				IAmb	IAmb	02 30 41.6	
	comp=Z,244nm,1.6s						
J14K	**Nanvaranak Lak**	**37.60**	**37**	P	**P**	**02 30 40.0**	**+1.3**
	baz=261,SNR=10.0						
DAV	**Davao City (W)**	**37.62**	**210**	IAMs_20	IAMs_20	02 46 09.4	
	comp=Z,4μm,19.0s						
DAV	**Davao City (W)**	**37.62**	**210**	LR	LR	02 47 51.4	
	comp=Z,3μm,18.1s,baz=38,slow=39						
F15K	**North Star Dit**	**37.73**	**32**	P	**P**	**02 30 40.1**	**+0.4**
F15K				IAMs_20	IAMs_20	02 46 54.0	
	comp=Z,4μm,20.0s						
F15K	**North Star Dit**	**37.73**	**32**	P	**P**	**02 30 40.9**	**+1.2**
	baz=256,SNR=6.6						
GOMU	**GeErMu**	**37.74**	**278**	P	**P**	**02 30 40.5**	**-0.2**
GOMU				pP	pP	02 30 44.0	-2.9
GOMU				sP	sP	02 30 48.5	-0.9
GOMU				S	**S**	**02 36 32.0**	**+1.8**
GOMU				pmax	pmax		
	comp=Z,80nm,0.6s						
GOMU				LR	LR		
	comp=Z,9μm,13.6s						
GOMU				LR	LR		
	comp=Z,7μm,13.7s						
GOMU				LR	LR		
	comp=Z,12μm,14.0s						
L14K	**Kuka Creek**	**37.81**	**40**	P	**P**	**02 30 41.9**	**+1.5**
L14K				IAMs_20	IAMs_20	02 48 31.5	
	comp=Z,4μm,18.0s						
L14K	**Kuka Creek**	**37.81**	**40**	P	**P**	**02 30 42.4**	**+1.9**
	baz=264,SNR=12						
G15K	**Niukluk**	**37.81**	**33**	P	**P**	**02 30 41.7**	**+1.3**
	baz=258						
S12K	**Black Hills**	**37.88**	**49**	P	**P**	**02 30 42.2**	**+1.1**
	baz=271						
M14K	**Bethel**	**38.10**	**41**	P	**P**	**02 30 43.1**	**+0.2**
M14K	**Bethel**	**38.10**	**41**	P	**P**	**02 30 44.7**	**+1.8**
	baz=265,SNR=15						
N14K	**Kuskokwak Cree**	**38.17**	**42**	P	**P**	**02 30 45.0**	**+1.5**
	baz=266,SNR=8.6						
C16K	**Lisburne Hills**	**38.18**	**28**	P	**P**	**02 30 43.4**	**-0.1**
C16K				IAMs_20	IAMs_20	02 47 46.8	
	comp=Z,6μm,19.0s						
C16K	**Lisburne Hills**	**38.18**	**28**	P	**P**	**02 30 44.5**	**+1.1**
	baz=252,SNR=21						
O14K	**Tigyukauivet M**	**38.35**	**43**	P	**P**	**02 30 44.0**	**-1.0**
O14K				IAmb	IAmb	02 30 48.0	
	comp=Z,251nm,1.5s						
O14K	**Tigyukauivet M**	**38.35**	**43**	P	**P**	**02 30 46.6**	**+1.6**
	baz=268,SNR=5.5						
L15K	**Ungalak Mounta**	**38.42**	**39**	P	**P**	**02 30 46.9**	**+1.3**
	baz=264						
K15K	**Wolf Creek Mou**	**38.46**	**38**	P	**P**	**02 30 47.4**	**+1.4**
K15K				IAMs_20	IAMs_20	02 48 56.5	
	comp=Z,4μm,18.0s						
K15K	**Wolf Creek Mou**	**38.46**	**38**	P	**P**	**02 30 47.8**	**+1.8**
	baz=263						
H16K	**Elim**	**38.50**	**34**	P	**P**	**02 30 47.6**	**+1.4**
	baz=260,SNR=24						
G16K	**Koyuk River**	**38.59**	**33**	P	**P**	**02 30 46.7**	**-0.3**
G16K	**Koyuk River**	**38.59**	**33**	P	**P**	**02 30 47.9**	**+0.9**
	baz=259,SNR=10						
SLVN	**Son La**	**38.70**	**251**	P	**P**	**02 30 47.9**	**-0.5**
SLVN				IAMs_20	IAMs_20	02 46 47.3	
	comp=Z,4μm,21.0s						
SLVN	**Son La**	**38.70**	**251**	P	**P**	**02 30 48.9**	**+0.4**
M15K	**Kasigluk River**	**38.72**	**41**	P	**P**	**02 30 49.4**	**+1.3**
	baz=266,SNR=18						
D17K	**Noatak River**	**38.83**	**29**	P	**P**	**02 30 49.4**	**+0.4**
	baz=255,SNR=22						
N15K	**Kwethluk River**	**38.98**	**42**	P	**P**	**02 30 51.5**	**+1.1**
N15K	**Kwethluk River**	**38.98**	**42**	P	**P**	**02 30 52.1**	**+1.8**
	baz=267,SNR=19						
RDOG	**Red Dog Mine**	**38.99**	**29**	P	**P**	**02 30 49.7**	**-0.6**
RDOG	**Red Dog Mine**	**38.99**	**29**	P	**P**	**02 30 50.4**	**+0.1**
	baz=255,SNR=10						
C17K	**DeLong Mountai**	**39.01**	**28**	P	**P**	**02 30 51.9**	**+1.4**
	baz=254,SNR=11						
J16K	**Anvik River**	**39.01**	**37**	P	**P**	**02 30 52.1**	**+1.6**
J16K	**Anvik River**	**39.01**	**37**	P	**P**	**02 30 52.3**	**+1.8**
	baz=263,SNR=7.9						
I17K	**Unalakleet**	**39.04**	**36**	P	**P**	**02 30 51.5**	**+0.7**
I17K	**Unalakleet**	**39.04**	**36**	P	**P**	**02 30 52.3**	**+1.5**
	baz=262,SNR=23						
O15K	**Ungalikthiuk R**	**39.09**	**43**	P	**P**	**02 30 52.2**	**+1.0**
	baz=269,SNR=11						
E17K	**Hotham Inlet**	**39.16**	**30**	P	**P**	**02 30 52.3**	**+0.6**
	baz=257,SNR=31						
F17K	**Baldwin Pennin**	**39.24**	**32**	P	**P**	**02 30 52.0**	**-0.4**
F17K				IAMs_20	IAMs_20	02 47 59.0	
	comp=Z,3μm,19.0s						
F17K	**Baldwin Pennin**	**39.24**	**32**	P	**P**	**02 30 53.3**	**+0.9**
	baz=259,SNR=20						
G17K	**Kiwalik Mounta**	**39.31**	**33**	P	**P**	**02 30 54.5**	**+1.5**
	baz=260,SNR=34						
CHNA	**Chernabura Isl**	**39.33**	**50**	P	**P**	**02 30 52.7**	**-0.6**
	baz=274,SNR=13						
CHNA	**Chernabura Isl**	**39.33**	**50**	P	**P**	**02 30 52.2**	**-1.1**
CNBA	**Chernabura Isl**	**39.33**	**50**	P	**P**	**02 30 52.7**	**-0.7**
CNBA				IAmb	IAmb	02 30 55.0	
	comp=Z,190nm,0.9s						
CNBA				IAMs_20	IAMs_20	02 48 58.4	
	comp=Z,4μm,20.0s						
L16K	**Owhat River**	**39.38**	**39**	P	**P**	**02 30 54.0**	**+0.4**
L16K	**Owhat River**	**39.38**	**39**	P	**P**	**02 30 55.0**	**+1.4**
	baz=266,SNR=18						
H17K	**Granite Mounta**	**39.53**	**34**	P	**P**	**02 30 55.5**	**+0.6**
H17K				IAMs_20	IAMs_20	02 48 28.6	
	comp=Z,3μm,19.0s						
H17K	**Granite Mounta**	**39.53**	**34**	P	**P**	**02 30 56.5**	**+1.6**
	baz=262,SNR=24						
M16K	**Timber Creek**	**39.58**	**40**	P	**P**	**02 30 56.0**	**+0.6**
M16K				IAMs_20	IAMs_20	02 49 37.1	
	comp=Z,4μm,18.0s						
M16K	**Timber Creek**	**39.58**	**40**	P	**P**	**02 30 56.7**	**+1.4**
	baz=267,SNR=17						
N16K	**Nishlik Lake**	**39.65**	**41**	P	**P**	**02 30 57.9**	**+1.9**
	baz=268,SNR=23						
E18K	**Tukpahlearik C**	**39.69**	**30**	P	**P**	**02 30 56.7**	**+0.6**
E18K				IAMs_20	IAMs_20	02 48 57.9	
	comp=Z,4μm,18.0s						
E18K	**Tukpahlearik C**	**39.69**	**30**	P	**P**	**02 30 57.0**	**+0.8**
	baz=258,SNR=20						
J17K	**VABM Dome**	**39.70**	**37**	P	**P**	**02 30 56.1**	**-0.2**
J17K	**VABM Dome**	**39.70**	**37**	P	**P**	**02 30 58.1**	**+1.8**
	baz=264,SNR=47						
B18K	**Kokolik River**	**39.73**	**27**	P	**P**	**02 30 56.4**	**-0.1**
	baz=255						
C18K	**Utukok River**	**39.75**	**28**	P	**P**	**02 30 56.0**	**-0.7**
C18K	**Utukok River**	**39.75**	**28**	P	**P**	**02 30 56.6**	**-0.2**
	baz=256,SNR=34						
CHGN	**Chignik**	**39.90**	**48**	P	**P**	**02 30 57.5**	**-0.5**
	baz=274						
F18K	**Selawik**	**39.90**	**32**	P	**P**	**02 30 59.0**	**+1.1**
	baz=260,SNR=28						
L17K	**Donlin**	**39.96**	**39**	P	**P**	**02 31 00.6**	**+2.1**
	baz=267,SNR=17						
O16K	**Kokwok River B**	**39.98**	**43**	P	**P**	**02 30 59.1**	**+0.5**
O16K	**Kokwok River B**	**39.98**	**43**	P	**P**	**02 31 00.2**	**+1.6**
	baz=270,SNR=12						
K17K	**Iditarod**	**40.00**	**38**	P	**P**	**02 30 58.9**	**+0.1**
K17K				IAMs_20	IAMs_20	02 50 02.2	
	comp=Z,3μm,19.0s						
K17K	**Iditarod**	**40.00**	**38**	P	**P**	**02 31 00.6**	**+1.8**
	baz=266,SNR=28						
NRIK	**Noril'sk**	**40.00**	**333**	P	**P**	**02 30 57.3**	**-1.4**
NRIK	**Noril'sk**	**40.00**	**333**	P	**P**	**02 30 57.9**	**-0.9**
	comp=Z,15nm,0.5s,baz=102,slow=9.2,SNR=36						
NRIK				S	**S**	**02 36 58.3**	**-4.4**
	comp=Z,10nm,1.0s,baz=90,slow=20,SNR=3.2						
NRIK				LR	LR	02 48 59.6	
	comp=Z,11μm,19.5s,baz=102,slow=38						
	comp=Z,15nm,0.5s						
P16K	**Nushagak River**	**40.03**	**43**	P	**P**	**02 31 01.1**	**+2.0**
	baz=271,SNR=7.0						
G18K	**Tagagawik**	**40.19**	**33**	P	**P**	**02 31 00.6**	**+0.2**
G18K				IAMs_20	IAMs_20	02 47 49.9	
	comp=Z,3μm,21.0s						
G18K	**Tagagawik**	**40.19**	**33**	P	**P**	**02 31 01.3**	**+1.0**
	baz=262,SNR=48						
A19K	**Wainwright**	**40.20**	**26**	P	**P**	**02 31 02.1**	**+1.8**
	baz=254						
ZAA0	**Zalesovo Array**	**40.20**	**309**	P	**P**	**02 30 59.8**	**-0.8**
ZAA0				IAmb	IAmb	02 31 13.0	
	comp=Z,206nm,1.1s						
ZALV	**Zalesovo Beam**	**40.20**	**309**	P	**P**	**02 30 60.0**	**-0.6**
ZALV	**Zalesovo Beam**	**40.20**	**309**	P	**P**	**02 31 00.2**	**-0.4**
	comp=Z,33nm,0.5s,baz=90,slow=7.4,SNR=75						
ZALV				PcP	**PcP**	**02 33 04.7**	**+0.4**
	comp=Z,58nm,0.9s,baz=112,slow=3.5,SNR=6.2						
ZALV				ScP	**ScP**	**02 36 52.3**	**+0.3**
	comp=Z,5.6nm,0.9s,baz=96,slow=4.3,SNR=3.8						
ZALV				LR	LR	02 48 52.1	
	comp=Z,6μm,18.9s,baz=78,slow=38						
	comp=Z,33nm,0.5s						
H18K	**Honhosa River**	**40.21**	**34**	P	**P**	**02 31 00.9**	**+0.4**
H18K				IAmb	IAmb	02 31 03.4	
	comp=Z,536nm,1.9s						
H18K	**Honhosa River**	**40.21**	**34**	P	**P**	**02 31 01.7**	**+1.2**
	baz=263						
R16K	**Pilot Point**	**40.29**	**46**	P	**P**	**02 31 01.1**	**-0.2**
	baz=273						
M17K	**Holitna River**	**40.33**	**40**	P	**P**	**02 31 01.4**	**-0.2**
M17K				IAmb	IAmb	02 31 26.3	
	comp=Z,194nm,1.0s						
M17K	**Holitna River**	**40.33**	**40**	P	**P**	**02 31 03.4**	**+1.8**
	baz=268,SNR=16						
WMQ	**Urumqi**	**40.35**	**293**	⇑P	**P**	**02 31 02.3**	**+0.3**
WMQ				sP	sP	02 31 12.0	+1.3
WMQ				S	**S**	**02 37 07.0**	**-1.6**
WMQ				pmax	pmax		
	comp=Z,50nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,680nm,4.9s						
WMQ				LR	LR		
	comp=Z,5μm,15.5s						
WMQ				LR	LR		
	comp=Z,11μm,14.5s						
WMQ				LR	LR		
	comp=Z,7μm,19.9s						
TNCH	**TengChong**	**40.38**	**260**	⇑P	**P**	**02 31 03.0**	**+0.4**
TNCH				pP	pP	02 31 06.5	-2.4
TNCH				sP	pwP	02 31 07.5	-3.6
TNCH				S	**S**	**02 37 10.8**	**+1.1**
TNCH				sS	pS	02 37 15.3	-1.7
TNCH				pmax	pmax		
	comp=Z,220nm,0.8s						
TNCH				LR	LR		
	comp=Z,3μm,16.4s						
TNCH				LR	LR		
	comp=Z,2μm,15.6s						
TNCH				LR	LR		
	comp=Z,3μm,18.0s						
C19K	**Lookout Ridge**	**40.43**	**28**	P	**P**	**02 31 01.4**	**-1.0**
C19K	**Lookout Ridge**	**40.43**	**28**	P	**P**	**02 31 02.7**	**+0.4**
	baz=257,SNR=28						
N17K	**Nushagak Hills**	**40.44**	**41**	P	**P**	**02 31 03.2**	**+0.7**
N17K	**Nushagak Hills**	**40.44**	**41**	P	**P**	**02 31 04.3**	**+1.9**
	baz=270,SNR=12						
O17K	**Koliganek Bris**	**40.48**	**42**	P	**P**	**02 31 04.3**	**+1.5**
	baz=270,SNR=18						
F19K	**Shaleruckik Mo**	**40.68**	**31**	P	**P**	**02 31 04.5**	**+0.2**
F19K	**Shaleruckik Mo**	**40.68**	**31**	P	**P**	**02 31 04.8**	**+0.5**
	baz=262,SNR=31						
L18K	**Granite Mounta**	**40.72**	**38**	P	**P**	**02 31 05.9**	**+1.2**
L18K	**Granite Mounta**	**40.72**	**38**	P	**P**	**02 31 06.7**	**+1.9**
	baz=268						
Q16K	**King Salmon**	**40.73**	**44**	P	**P**	**02 31 06.4**	**+1.5**
	baz=272						
J18K	**Innoko River**	**40.77**	**37**	P	**P**	**02 31 06.2**	**+1.0**
J18K	**Innoko River**	**40.77**	**37**	P	**P**	**02 31 06.5**	**+1.3**
	baz=266,SNR=37						
GCSA	**Galena City Sc**	**40.79**	**35**	P	**P**	**02 31 05.9**	**+0.6**
	baz=265,SNR=15						
D19K	**Kuna River**	**40.83**	**29**	P	**P**	**02 31 05.0**	**-0.6**
D19K				IAmb	IAmb	02 31 17.8	
	comp=Z,177nm,1.1s						
D19K				IAMs_20	IAMs_20	02 47 49.2	
	comp=Z,4μm,21.0s						
D19K	**Kuna River**	**40.83**	**29**	P	**P**	**02 31 05.8**	**+0.2**
	baz=259						
P17K	**Kvichak River**	**40.83**	**43**	P	**P**	**02 31 07.1**	**+1.4**
	baz=272,SNR=11						
G19K	**Purcell Mounta**	**40.86**	**32**	P	**P**	**02 31 05.7**	**-0.1**
G19K	**Purcell Mounta**	**40.86**	**32**	P	**P**	**02 31 06.3**	**+0.5**
	baz=263						
R17L	**Mt. Peulik Vol**	**40.94**	**46**	P	**P**	**02 31 06.9**	**+0.2**
	baz=274						
E19K	**Redstone River**	**40.98**	**30**	P	**P**	**02 31 07.5**	**+0.7**
	baz=261						
H19K	**Roundabout Mou**	**41.05**	**33**	P	**P**	**02 31 08.7**	**+1.3**
	baz=264,SNR=92						
TTA	**Tatalina**	**41.06**	**37**	P	**P**	**02 31 08.1**	**+0.5**
TTA	**Tatalina**	**41.06**	**37**	P	**P**	**02 31 09.0**

N18K IAMs_20 IAMs_20 02 50 44.7
comp=Z,3µm,18.0s
N18K Kilae Creek 41.08 41 P **P 02 31 09.8 +2.0**
baz=270,SNR=17
M18K Stony River 41.11 40 P **P 02 31 09.7 +1.8**
baz=270
Q17K Contact Creek 41.16 45 P **P 02 31 09.0 +0.5**
baz=273,SNR=12
SVW2 Sparrevohn 41.23 40 P **P 02 31 09.6 +0.6**
SVW2 Sparrevohn 41.23 40 P **P 02 31 10.0 +1.0**
J19K Poorman 41.28 36 P **P 02 31 10.6 +1.2**
baz=267,SNR=45
ZSN Zaisan 41.32 299 *e*P **P 02 31 09.8 -0.1**
comp=Z,188nm,1.4s
ZSN *e*S **S 02 37 22.8 -0.1**
ZSN Zaisan 41.32 299 *e*P **P 02 31 09.8 -0.1**
ZSN *e*S **S 02 37 22.8 -0.1**
ZSN pmax pmax
comp=Z,189nm,1.4s
D20K Ettiluk River 41.41 29 P **P 02 31 10.7 +0.4**
baz=261
O18K Koktuh Hills 41.44 42 P **P 02 31 12.0 +1.3**
baz=272,SNR=7.9
P18K Big Mountain, 41.44 43 P **P 02 31 11.9 +1.1**
P18K Big Mountain, 41.44 43 P **P 02 31 11.6 +0.8**
baz=272,SNR=9.4
B20K Meade River 41.45 27 IAMs_20 IAMs_20 02 50 15.4
comp=Z,4µm,18.0s
B20K Meade River 41.45 27 P **P 02 31 10.7 0.0**
baz=259,SNR=20
ACHA Angle Creek He 41.45 45 P **P 02 31 10.6 -0.3**
E20K Nigu River 41.49 29 P **P 02 31 11.5 +0.4**
baz=262
CHIR Chirikof Islan 41.50 48 P **P 02 31 12.2 +1.0**
CHIR Chirikof Islan 41.50 48 P **P 02 31 11.9 +0.7**
baz=276,SNR=5.5
CHIR Chirikof Islan 41.50 48 P **P 02 31 12.1 +0.9**
F20K Avaraart Lake 41.51 31 P **P 02 31 11.8 +0.7**
baz=263,SNR=17
L19K White Mountain 41.58 39 P **P 02 31 13.2 +1.4**
baz=270,SNR=13
Q18K Katmai Hardscr 41.59 44 P **P 02 31 12.8 +0.7**
baz=274,SNR=12
H20K Anotleneega Mo 41.70 34 P **P 02 31 14.1 +1.3**
baz=266,SNR=60
N19K Bonanza Creek 41.77 41 P **P 02 31 14.7 +1.2**
baz=272,SNR=9.4
M19K Big River Lodg 41.79 39 P **P 02 31 15.2 +1.6**
baz=270,SNR=12
I20K Naaghedeneel 41.82 35 P **P 02 31 15.4 +1.6**
baz=267
O19K Port Alsworth 41.87 42 P **P 02 31 15.7 +1.5**
O19K Port Alsworth 41.87 42 P **P 02 31 15.7 +1.5**
baz=272,SNR=7.2
A21K Barrow 41.90 25 P **P 02 31 16.2 +1.9**
baz=258
J20K Nowinta River 41.94 36 P **P 02 31 16.4 +1.7**
baz=268,SNR=80
K20K Telida 41.95 37 P **P 02 31 16.5 +1.6**
baz=269,SNR=23
R18K Karluk 41.97 45 P **P 02 31 14.7 -0.3**
baz=275
L20K Farewell, AK 42.03 38 P **P 02 31 17.1 +1.5**
baz=270
C21K Knifeblade Rid 42.13 28 P **P 02 31 16.9 +0.7**
baz=262,SNR=32
IMAR Indian Mountai 42.20 33 P **P 02 31 17.6 +0.8**
SII Sitkinak Islan 42.22 47 P **P 02 31 17.7 +0.5**
SII IAmb IAmb 02 31 18.8
comp=Z,324nm,1.2s
SII Sitkinak Islan 42.22 47 P **P 02 31 17.3 +0.1**
baz=276
SII Sitkinak Islan 42.22 47 P **P 02 31 18.2 +1.1**
B21K Ikpikpuk River 42.26 27 P **P 02 31 17.7 +0.5**
B21K Ikpikpuk River 42.26 27 P **P 02 31 17.7 +0.5**
baz=262,SNR=40
DLV Lat 42.26 236 P **P 02 31 19.5 +1.4**
Q19K Cape Douglas, 42.28 43 P **P 02 31 18.4 +0.7**
Q19K IAmb IAmb 02 31 19.2
comp=Z,380nm,1.5s
Q19K Cape Douglas, 42.28 43 P **P 02 31 17.8 +0.2**
baz=274
MYLDM Lahad Datu 42.31 218 P **P 02 31 19.3 +1.0**
MYLDM IAmb IAmb 02 31 37.0
comp=Z,307nm,1.3s
MYLDM Lahad Datu 42.31 218 P **P 02 31 19.8 +1.6**
E21K Killik River 42.33 29 P **P 02 31 18.3 +0.3**
E21K Killik River 42.33 29 P **P 02 31 18.2 +0.3**
baz=264
G21K Allakaket 42.33 32 P **P 02 31 19.2 +1.3**
G21K IAmb IAmb 02 31 29.0
comp=Z,526nm,1.9s
G21K Allakaket 42.33 32 P **P 02 31 19.1 +1.2**
baz=266
A22K Sinclair Lake 42.36 25 P **P 02 31 18.2 +0.2**
baz=260,SNR=28
M20K Styx River 42.39 39 P **P 02 31 19.8 +1.2**
M20K Styx River 42.39 39 P **P 02 31 20.2 +1.6**
baz=272,SNR=14
F21K Alatna River 42.39 31 P **P 02 31 19.1 +0.6**
F21K Alatna River 42.39 31 P **P 02 31 19.1 +0.6**
baz=265,SNR=51
P19K Oil Pt 42.44 42 P **P 02 31 20.2 +1.3**
baz=274
ILSW Iliamna Southw 42.47 42 P **P 02 31 19.7 +0.4**
H21K Melozitna Rive 42.57 33 P **P 02 31 20.5 +0.7**
H21K IAMs_20 IAMs_20 02 49 47.9
comp=Z,3µm,21.0s
H21K Melozitna Rive 42.57 33 P **P 02 31 21.2 +1.3**
baz=268,SNR=77
OHAK Old Harbor 42.63 46 P **P 02 31 20.6 +0.3**
OHAK IAmb IAmb 02 31 32.1
comp=Z,203nm,1.2s
OHAK Old Harbor 42.63 46 P **P 02 31 20.7 +0.3**
baz=276,SNR=7.9
OHAK Old Harbor 42.63 46 P **P 02 31 21.0 +0.6**
KKM Kota Kinabalu 42.67 222 IAMs_20 IAMs_20 02 50 16.0
comp=Z,4µm,20.0s
O20K Slope Mountain 42.72 42 P **P 02 31 21.9 +0.6**
baz=274
CHUM Lake Minchumin 42.74 36 P **P 02 31 23.3 +2.1**
baz=270,SNR=37
B22K Teshekpuk Lake 42.77 26 P **P 02 31 21.4 0.0**
B22K IAmb IAmb 02 31 32.7
comp=Z,270nm,1.6s
B22K IAMs_20 IAMs_20 02 50 58.0
comp=Z,3µm,19.0s
B22K Teshekpuk Lake 42.77 26 P **P 02 31 21.4 0.0**
baz=262,SNR=22
PPLA Purkeypile 42.81 37 P **P 02 31 23.8 +1.8**
baz=271,SNR=33
CAST Castle Rocks 42.85 37 P **P 02 31 23.6 +1.4**
CAST IAMs_20 IAMs_20 02 52 03.3
comp=Z,3µm,19.0s
CAST Castle Rocks 42.85 37 P **P 02 31 24.0 +1.8**
baz=271,SNR=52
D22K Ayikyak River 42.85 29 P **P 02 31 22.7 +0.6**
D22K Ayikyak River 42.85 29 P **P 02 31 22.8 +0.6**
baz=264,SNR=41
N20K Mount Spurr 42.86 40 P **P 02 31 24.1 +1.8**
baz=273,SNR=34
I21K Tanana 42.90 34 P **P 02 31 23.7 +1.2**
I21K Tanana 42.90 34 P **P 02 31 24.2 +1.7**
baz=269
TNTI Ternate 42.91 204 P **P 02 31 22.4 -0.7**
TNTI IAmb IAmb 02 31 49.4
comp=Z,360nm,1.8s
TNTI Ternate 42.91 204 P **P 02 31 23.9 +0.8**
TNTI Ternate 42.91 204 P **P 02 31 23.0 -0.1**
F22K John River 42.92 31 P **P 02 31 23.7 +1.0**
baz=266
KDAK Kodiak Island 42.95 45 P **P 02 31 23.8 +0.8**
KDAK IAmb IAmb 02 31 25.3
comp=Z,388nm,1.2s
KDAK Kodiak Island 42.95 45 LR LR 02 52 20.5
comp=Z,2µm,18.2s,baz=97,slow=40
KDAK Kodiak Island 42.95 45 P **P 02 31 23.4 +0.4**
baz=276
KDAK Kodiak Island 42.95 45 P **P 02 31 23.8 +0.8**
KDAK pmax pmax
comp=Z,388nm,1.2s
Q20K Shuyak Island 42.96 44 P **P 02 31 23.7 +0.6**
baz=276,SNR=5.3
SYI Shuyak Island 42.96 44 P **P 02 31 24.1 +1.0**
SYI IAmb IAmb 02 31 32.0
comp=Z,189nm,1.1s
E22K Anaktuvuk Pass 43.10 30 P **P 02 31 25.2 +1.0**
E22K Anaktuvuk Pass 43.10 30 P **P 02 31 25.0 +0.8**
baz=266
SKT Skwentna 43.14 39 P **P 02 31 25.5 +0.9**
SKT IAMs_20 IAMs_20 02 50 05.2
comp=Z,3µm,21.0s
SKT Skwentna 43.14 39 P **P 02 31 25.5 +0.9**
baz=273,SNR=11
G22K Bettles 43.15 32 P **P 02 31 25.2 +0.7**
baz=268,SNR=56
PHRA Phrae 43.16 251 P **P 02 31 25.6 +0.4**
H22K Ishtalitna Cre 43.16 33 P **P 02 31 26.3 +1.6**
baz=269,SNR=62
MK31 Makanchi Array 43.19 299 P **P 02 31 24.9 -0.2**
MK31 Makanchi Array 43.19 299 P **P 02 31 24.9 -0.2**
MK31 pmax pmax
comp=Z,112nm,1.1s
MKAR Makanchi Array 43.19 299 P **P 02 31 24.8 -0.4**
comp=Z,36nm,0.8s,baz=82,slow=9.4,SNR=95
MKAR S **S 02 37 49.0 -1.5**
comp=Z,5.0nm,1.0s,baz=86,slow=22,SNR=4.5
comp=Z,36nm,0.8s
HOM Homer 43.25 42 P **P 02 31 25.9 +0.5**
baz=275
BPAW Bear Paw Mtn. 43.32 36 P **P 02 31 27.3 +1.3**
BPAW Bear Paw Mtn. 43.32 36 P **P 02 31 27.5 +1.5**
baz=271,SNR=30
KTH Kantishna Hill 43.37 36 P **P 02 31 27.7 +1.3**
KTH IAmb IAmb 02 31 37.8
comp=Z,168nm,1.0s
MAKZ Makanchi 43.39 299 P **P 02 31 26.9 +0.1**
MAKZ Makanchi 43.39 299 P **P 02 31 26.9 +0.1**
MAKZ pmax pmax
comp=Z,157nm,1.1s
MAKZ MLR MLR
comp=Z,2µm,19.0s
CAPN Captain Cook N 43.40 41 P **P 02 31 27.5 +0.9**
baz=274
LSA Lhasa 43.41 272 P **P 02 31 27.8 +0.1**
LSA IAMs_20 IAMs_20 02 50 29.2
comp=Z,4µm,19.0s
LSA Lhasa 43.41 272 P **P 02 31 28.3 +0.6**
LSA S **S 02 37 46.8 -8.2**
LSA LR LR
comp=Z,4µm,18.6s
LSA LR LR
comp=Z,2µm,15.7s
LSA Lhasa 43.41 272 P **P 02 31 27.8 +0.1**
LSA pmax pmax
comp=Z,76nm,1.0s
LSA MLR MLR
comp=Z,4µm,19.0s
MLY Manley 43.42 34 P **P 02 31 28.3 +1.5**
MLY Manley 43.42 34 P **P 02 31 28.5 +1.6**
baz=270,SNR=87
SWI Sorong 43.44 198 P **P 02 31 27.7 +0.3**
comp=Z,154nm,1.0s,comp=Z,3µm
CNPM China Poot 43.47 42 P **P 02 31 28.1 +0.9**
RKPI Ransiki, Papua 43.48 193 P **P 02 31 27.7 0.0**
comp=Z,89nm,0.7s
SUA Susitna One 43.55 40 P **P 02 31 28.8 +0.8**
SUA Susitna One 43.55 40 P **P 02 31 28.4 +0.5**
baz=274,SNR=11
D23K Nanushuk River 43.58 29 P **P 02 31 29.2 +1.3**
D23K Nanushuk River 43.58 29 P **P 02 31 28.9 +0.9**
baz=266
BRLK Bradley Lake 43.62 42 P **P 02 31 29.4 +0.9**
BRLK IAMs_20 IAMs_20 02 52 29.7
comp=Z,3µm,20.0s
TRF Thorofare Moun 43.65 37 P **P 02 31 29.9 +1.0**
baz=272,SNR=15
C23K Itkillik River 43.67 27 P **P 02 31 29.4 +0.8**
C23K IAmb IAmb 02 31 38.6
comp=Z,162nm,1.1s
C23K Itkillik River 43.67 27 P **P 02 31 29.1 +0.5**
baz=265,SNR=54
COLD Coldfoot 43.67 31 P **P 02 31 29.7 +1.0**
baz=268,SNR=16
BRSE Bradley Lake S 43.70 42 P **P 02 31 29.8 +0.8**
baz=276,SNR=8.1
G23K Bananza Creek 43.73 32 P **P 02 31 29.9 +0.6**
G23K Bananza Creek 43.73 32 P **P 02 31 30.2 +0.9**
baz=269,SNR=39
JAY Jayapura 43.75 184 P **P 02 31 30.5 +0.6**
M22K Willow 43.83 39 P **P 02 31 31.1 +1.1**
M22K IAmb IAmb 02 32 47.4
comp=Z,210nm,1.5s
M22K Willow 43.83 39 P **P 02 31 31.0 +1.0**
baz=274
GENI Genyem 43.85 185 P **P 02 31 32.2 +1.5**
GENI Genyem 43.85 185 P **P 02 31 31.3 +0.6**
comp=Z,100nm,0.8s,comp=Z,12µm
CHTO Chiang Mai 43.87 253 P **P 02 31 29.8 -1.1**
CHTO IAMs_20 IAMs_20 02 50 18.3
comp=Z,4µm,21.0s
CHTO Chiang Mai 43.87 253 P **P 02 31 29.8 -1.1**
CHTO pmax pmax
comp=Z,89nm,1.0s
CHTO MLR MLR
comp=Z,4µm,21.0s
H23K Yukon River 43.92 33 P **P 02 31 32.5 +1.8**
H23K IAmb IAmb 02 31 34.8
comp=Z,152nm,0.9s
H23K IAMs_20 IAMs_20 02 50 05.8
comp=Z,3µm,21.0s
H23K Yukon River 43.92 33 P **P 02 31 32.6 +1.8**
baz=270
E23K Chandalar 43.92 30 P **P 02 31 31.6 +0.7**
E23K IAmb IAmb 02 31 41.5
comp=Z,424nm,1.9s
E23K IAMs_20 IAMs_20 02 50 09.8
comp=Z,5µm,20.0s
E23K Chandalar 43.92 30 P **P 02 31 31.9 +1.0**
baz=268,SNR=48
TOLK Toolik Lake Re 43.96 29 P **P 02 31 31.3 +0.2**
TOLK IAmb IAmb 02 31 40.5
comp=Z,221nm,1.6s
TOLK Toolik Lake Re 43.96 29 P **P 02 31 31.8 +0.7**
baz=268,SNR=16
BWN Browne 43.99 36 P **P 02 31 33.7 +2.3**
I23K Minto, Yukon-K 44.00 34 P **P 02 31 32.7 +1.3**
I23K IAmb IAmb 02 31 35.2
comp=Z,175nm,1.1s
I23K IAMs_20 IAMs_20 02 50 44.9
comp=Z,3µm,20.0s
I23K Minto, Yukon-K 44.00 34 P **P 02 31 33.0 +1.6**
baz=271,SNR=62
RC01 Rabbit Creek A 44.06 40 P **P 02 31 32.8 +0.8**
RC01 IAmb IAmb 02 31 33.8
comp=Z,224nm,1.3s
RC01 Rabbit Creek A 44.06 40 P **P 02 31 32.5 +0.5**
baz=275,SNR=16
CM31 Chiang Mai Arr 44.11 252 P **P 02 31 32.2 -0.7**
CMAR Chiang Mai Arr 44.11 252 P **P 02 31 32.2 -0.7**
CMAR Chiang Mai Arr 44.11 252 P **P 02 31 33.1 +0.3**
comp=Z,15nm,0.9s,baz=39,slow=7.9,SNR=31
CMAR ScP **ScP 02 37 09.5 +1.3**
comp=Z,1.2nm,0.3s,baz=18,slow=3.2,SNR=1.6
CMAR S **S 02 37 58.8 -5.6**
comp=Z,1.7nm,0.3s,baz=56,slow=11,SNR=1.9
CMAR LR LR 02 50 45.6
comp=Z,3µm,20.1s,baz=70,slow=37
comp=Z,15nm,0.9s
O22K Cooper Landing 44.13 41 P **P 02 31 33.2 +0.8**
O22K IAMs_20 IAMs_20 02 52 49.3
comp=Z,4µm,18.0s
O22K Cooper Landing 44.13 41 P **P 02 31 33.0 +0.5**
baz=276,SNR=6.0
NEA2 Nenana 44.15 35 P **P 02 31 33.9 +1.3**
NEA2 IAmb IAmb 02 31 57.5
comp=Z,152nm,0.9s
NEA2 Nenana 44.15 35 P **P 02 31 34.0 +1.4**
baz=272,SNR=57
LBMI Labuha 44.20 203 P **P 02 31 33.7 +0.1**
comp=Z,106nm,0.8s
KMSI Cibinong 44.21 208 P **P 02 31 33.3 -0.3**
MCK McKinley 44.24 36 P **P 02 31 34.4 +1.0**
baz=273,SNR=30
D24K Happy Valley 44.25 28 P **P 02 31 33.9 +0.5**
D24K IAmb IAmb 02 31 37.6
comp=Z,114nm,0.8s
D24K Happy Valley 44.25 28 P **P 02 31 33.9 +0.5**
baz=268
RND Reindeer 44.30 37 P **P 02 31 34.4 +0.5**
RND IAmb IAmb 02 31 36.6
comp=Z,181nm,1.2s
RND IAMs_20 IAMs_20 02 52 57.6
comp=Z,3µm,19.0s
RND Reindeer 44.30 37 P **P 02 31 34.4 +0.5**
RND pmax pmax
comp=Z,181nm,1.2s
RND MLR MLR
comp=Z,3µm,19.0s
SEW Seward 44.30 41 P **P 02 31 34.2 +0.3**
baz=276,SNR=6.1
PMR Palmer 44.31 39 P **P 02 31 35.0 +1.1**
PMR Palmer 44.31 39 P **P 02 31 34.4 +0.5**
baz=275,SNR=13
PMR Palmer 44.31 39 P **P 02 31 34.7 +0.8**
PMR Palmer 44.31 39 P **P 02 31 35.0 +1.1**
PMR pmax pmax
comp=Z,109nm,1.2s
PMR MLR MLR
comp=Z,2µm,19.0s
C24K Franklin Bluff 44.32 28 P **P 02 31 34.7 +0.8**
C24K IAmb IAmb 02 31 58.1
comp=Z,156nm,0.8s
C24K IAMs_20 IAMs_20 02 52 30.3
comp=Z,4µm,19.0s
C24K Franklin Bluff 44.32 28 P **P 02 31 34.3 +0.4**
baz=267
E24K Your Creek 44.34 30 P **P 02 31 35.6 +1.4**
E24K IAMs_20 IAMs_20 02 50 24.0
comp=Z,5µm,20.0s
E24K Your Creek 44.34 30 P **P 02 31 35.3 +1.1**
baz=269,SNR=61
GHO Glory Hole Cre 44.39 39 P **P 02 31 35.7 +1.0**
GHO IAmb IAmb 02 31 37.6
comp=Z,213nm,1.2s
WAT1 Susitna Watana 44.48 37 P **P 02 31 35.8 +0.4**
baz=274
KURK Kurchatov 44.52 305 P **P 02 31 35.4 -0.4**
KURK IAmb IAmb 02 31 51.8
comp=Z,211nm,0.9s
KURK Kurchatov 44.52 305 P **P 02 31 35.3 -0.4**
KURK P **P 02 31 35.3 -0.4**
KURK S **S 02 38 07.8 -2.0**
KURK S **S 02 38 07.8 -2.0**
KURK Kurchatov 44.52 305 P **P 02 31 36.0 +0.2**
KURK 02 33 18.8
KURK S **S 02 38 08.7 -1.0**
F24K Squaw Lake 44.57 31 P **P 02 31 37.1 +1.1**
F24K Squaw Lake 44.57 31 P **P 02 31 36.9 +0.9**
baz=270
WRH Wood River Hil 44.57 35 P **P 02 31 37.1 +1.1**
WRH IAmb IAmb 02 32 02.2
comp=Z,187nm,1.4s
KURBB Kurchatov Arra 44.60 305 P **P 02 31 36.0 -0.4**
comp=Z,74nm,0.8s,baz=77,slow=8.7,SNR=137
KURBB PcP **PcP 02 33 18.8 -0.2**
comp=Z,34nm,0.9s,baz=88,slow=3.7,SNR=4.4
KURBB S **S 02 38 08.7 -2.2**
comp=Z,7.7nm,1.2s,baz=73,slow=15,SNR=5.9
KURBB LR LR 02 51 18.8
comp=Z,3µm,19.0s,baz=42,slow=38
comp=Z,74nm,0.8s
H24K Noodor Dome 44.60 33 P **P 02 31 37.9 +1.6**
H24K IAmb IAmb 02 32 00.3
comp=Z,157nm,0.9s
H24K IAMs_20 IAMs_20 02 50 15.6
comp=Z,3µm,22.0s
H24K Noodor Dome 44.60 33 P **P 02 31 38.2 +1.9**
baz=272,SNR=94
KNK Knik Glacier 44.65 39 P **P 02 31 37.2 +0.6**
KNK IAmb IAmb 02 31 39.0
comp=Z,231nm,1.3s
KNK IAMs_20 IAMs_20 02 51 28.0
comp=Z,3µm,20.0s
KNK Knik Glacier 44.65 39 P **P 02 31 37.4 +0.8**
baz=276,SNR=19
COLA College 44.66 35 P **P 02 31 37.9 +1.3**
COLA IAmb IAmb 02 32 00.4
comp=Z,296nm,1.1s
COLA College 44.66 35 P **P 02 31 38.0 +1.3**
baz=273
COLA College 44.66 35 P **P 02 31 37.7 +1.1**
COLA College 44.66 35 P **P 02 31 37.9 +1.3**
COLA pmax pmax
comp=Z,296nm,1.1s
COLA MLR MLR
comp=Z,2µm,21.0s
SML Sawmill 44.67 39 P **P 02 31 37.8 +0.9**
SML IAmb IAmb 02 32 05.2
comp=Z,261nm,1.0s
SML IAMs_20 IAMs_20 02 51 14.5
comp=Z,2µm,19.0s
SML Sawmill 44.67 39 P **P 02 31 37.7 +0.9**
baz=276,SNR=24
CCB Clear Creek Bu 44.69 35 P **P 02 31 38.0 +1.1**
G24K Hadweenzic Riv 44.74 32 P **P 02 31 38.9 +1.6**
G24K IAmb IAmb 02 31 42.4
comp=Z,106nm,1.0s
G24K IAMs_20 IAMs_20 02 52 24.6
comp=Z,3µm,18.0s
G24K Hadweenzic Riv 44.74 32 P **P 02 31 39.0 +1.6**
baz=272,SNR=70
PWL Port Wells 44.77 40 P **P 02 31 38.5 +0.9**
PWL IAmb IAmb 02 31 53.8
comp=Z,118nm,1.0s
PWL IAMs_20 IAMs_20 02 53 53.2
comp=Z,3µm,20.0s
PWL Port Wells 44.77 40 P **P 02 31 38.0 +0.4**
baz=277,SNR=10
POKR Poker Plat Res 44.82 34 P **P 02 31 39.1 +1.1**
POKR IAmb IAmb 02 31 41.9
comp=Z,271nm,1.1s
POKR Poker Plat Res 44.82 34 IAMs_20 IAMs_20 02 51 09.4
comp=Z,3µm,21.0s
POKR Poker Plat Res 44.82 34 P **P 02 31 39.8 +1.8**
baz=273,SNR=46
WAT6 Susitna Watana 44.87 38 P **P 02 31 39.0 +0.4**
baz=275,SNR=24
TOLI2 Tolitoli 44.94 213 P **P 02 31 38.9 -0.5**
TOLI2 Tolitoli 44.94 213 P **P 02 31 39.4 -0.1**
M23K Glacier View 44.95 39 P **P 02 31 39.5 +0.4**
baz=276,SNR=12
DHY Denali Highway 44.99 37 P **P 02 31 40.3 +0.8**
DHY IAmb IAmb 02 31 41.6
comp=Z,276nm,1.6s
DHY IAMs_20 IAMs_20 02 53 10.0
comp=Z,3µm,19.0s
DHY Denali Highway 44.99 37 P **P 02 31 40.3 +0.8**
baz=275,SNR=36
SHL Shillong 45.04 266 P **P 02 31 39.5 -0.9**
SHL IAmb IAmb 02 32 04.8
comp=Z,119nm,1.1s
SHL Shillong 45.04 266 P **P 02 31 40.1 -0.3**
SNR=34
SHL Shillong 45.04 266 P **P 02 31 39.5 -0.9**
SHL pmax pmax
comp=Z,119nm,1.1s
HDA Harding Lake 45.07 35 P **P 02 31 40.3 +0.3**
HDA Harding Lake 45.07 35 P **P 02 31 40.4 +0.4**
baz=274,SNR=57
IL31 45.07 35 P **P 02 31 40.4 +0.4**
IL31 IAmb IAmb 02 32 03.2
comp=Z,210nm,1.1s
ILAR Eielson Array 45.07 35 P **P 02 31 40.0 0.0**
ILAR Eielson Array 45.07 35 P **P 02 31 40.6 +0.7**
comp=Z,86nm,0.9s,baz=265,slow=5.2,SNR=153
ILAR LR LR 02 51 40.6
comp=Z,2µm,21.3s,baz=264,slow=38
comp=Z,86nm,0.9s
D25K Kavik River 45.13 28 P **P 02 31 40.9 +0.4**
D25K Kavik River 45.13 28 P **P 02 31 40.9 +0.4**
baz=270,SNR=61
SCM Sheep Creek Mo 45.14 39 P **P 02 31 41.5 +0.8**
SCM IAmb IAmb 02 32 00.5
comp=Z,137nm,1.0s
SCM Sheep Creek Mo 45.14 39 P **P 02 31 41.4 +0.8**
baz=276,SNR=12
SCM Sheep Creek Mo 45.14 39 P **P 02 31 41.5 +0.8**
SCM pmax pmax
comp=Z,137nm,1.0s
SCM MLR MLR
comp=Z,2µm,19.0s
FAKI Fak Fak 45.22 196 P **P 02 31 41.4 -0.2**
FAKI IAmb IAmb 02 31 43.4
comp=Z,251nm,1.1s
FAKI IAMs_20 IAMs_20 02 53 31.9
comp=Z,3µm,19.0s
FAKI Fak Fak 45.22 196 P **P 02 31 42.1 +0.5**

FAKI	**Fak Fak**	**45.22**	**196**	P	**P**		**02 31 41.8**	**+0.2**
	comp=Z,255nm,1.3s,comp=Z,3µm					comp=Z,2µm		
G25K	**Bearman Lake**	**45.28**	**32**	P	**P**		**02 31 43.4**	**+1.8**
	baz=273,SNR=27							
P23K	**Montague Islan**	**45.34**	**41**	P	**P**		**02 31 43.2**	**+1.1**
	baz=278							
GLI	**Glacier Island**	**45.37**	**40**	P	**P**		**02 31 43.0**	**+0.6**
GLI				IAmb	IAmb		02 31 44.3	
	comp=Z,399nm,1.7s							
GLI	**Glacier Island**	**45.37**	**40**	P	**P**		**02 31 43.0**	**+0.6**
	baz=278							
H25L	**Birch Creek**	**45.42**	**32**	P	**P**		**02 31 44.9**	**+2.2**
	baz=273,SNR=51							
F25K	**Christian Rive**	**45.43**	**31**	P	**P**		**02 31 43.6**	**+0.8**
F25K	**Christian Rive**	**45.43**	**31**	P	**P**		**02 31 44.4**	**+1.6**
	baz=272,SNR=22							
PRP	**Porcupine Dome**	**45.59**	**34**	P	**P**		**02 31 45.3**	**+1.0**
PRP				IAmb	IAmb		02 32 08.1	
	comp=Z,159nm,0.9s							
PRP	**Porcupine Dome**	**45.59**	**34**	P	**P**		**02 31 45.9**	**+1.6**
	baz=274,SNR=142							
K24K	**Donnelly Dome**	**45.64**	**36**	P	**P**		**02 31 45.2**	**+0.7**
	baz=276,SNR=38							
C26K	**Camden Bay**	**45.64**	**27**	P	**P**		**02 31 45.5**	**+1.2**
	baz=271,SNR=28							
FYU	**Fort Yukon**	**45.64**	**32**	P	**P**		**02 31 46.6**	**+2.2**
FYU				IAMs_20	IAMs_20		02 53 10.1	
	comp=Z,3µm,18.0s							
M24K	**Tolsona, Glenn**	**45.65**	**38**	P	**P**		**02 31 45.6**	**+1.0**
M24K				IAmb	IAmb		02 32 05.6	
	comp=Z,128nm,0.9s							
M24K	**Tolsona, Glenn**	**45.65**	**38**	P	**P**		**02 31 46.5**	**+1.9**
	baz=277,SNR=14							
FID	**Port Fidalgo**	**45.68**	**40**	P	**P**		**02 31 45.8**	**+0.9**
FID				IAmb	IAmb		02 32 17.4	
	comp=Z,90nm,0.9s							
J25K	**Salcha River,**	**45.74**	**35**	P	**P**		**02 31 45.0**	**-0.4**
J25K				IAMs_20	IAMs_20		02 51 59.7	
	comp=Z,3µm,20.0s							
J25K	**Salcha River,**	**45.74**	**35**	P	**P**		**02 31 44.9**	**-0.4**
	baz=275,SNR=20							
BMAR	**Burnt Mountain**	**45.84**	**31**	P	**P**		**02 31 47.4**	**+1.3**
KLU	**Klutina**	**45.85**	**39**	P	**P**		**02 31 47.6**	**+1.3**
KLU				IAmb	IAmb		02 32 15.6	
	comp=Z,123nm,1.0s							
KLU	**Klutina**	**45.85**	**39**	P	**P**		**02 31 47.6**	**+1.3**
	baz=278,SNR=35							
PAX	**Paxson**	**45.87**	**37**	P	**P**		**02 31 47.1**	**+0.6**
	baz=277,SNR=14							
Q23K	**Middleton Isla**	**45.95**	**42**	P	**P**		**02 31 47.8**	**+0.9**
	baz=280							
F26K	**Sheenjek River**	**46.00**	**30**	P	**P**		**02 31 48.9**	**+1.6**
F26K				IAmb	IAmb		02 32 10.6	
	comp=Z,87nm,0.9s							
F26K				IAMs_20	IAMs_20		02 51 38.4	
	comp=Z,3µm,19.0s							
F26K	**Sheenjek River**	**46.00**	**30**	P	**P**		**02 31 49.1**	**+1.8**
	baz=274,SNR=57							
SANI	**Sanana**	**46.00**	**204**	P	**P**		**02 31 47.1**	**-0.7**
SANI	**Sanana**	**46.00**	**204**	P	**P**		**02 31 47.3**	**-0.5**
	comp=Z,243nm,1.1s,comp=Z,3µm							
RIDG	**Independent Ri**	**46.05**	**36**	P	**P**		**02 31 48.3**	**+0.4**
	baz=277,SNR=8.8							
C27K	**Jago River**	**46.06**	**28**	P	**P**		**02 31 48.8**	**+1.1**
C27K				IAmb	IAmb		02 32 09.7	
	comp=Z,99nm,0.8s							
C27K	**Jago River**	**46.06**	**28**	P	**P**		**02 31 48.5**	**+0.8**
	baz=272							
RABL	**Rabaul**	**46.07**	**168**	P	**P**		**02 31 48.9**	**+0.5**
EYAK	**Cordova Ski Ar**	**46.07**	**40**	P	**P**		**02 31 49.4**	**+1.5**
	baz=279,SNR=7.2							
EYAK	**Cordova Ski Ar**	**46.07**	**40**	P	**P**		**02 31 49.2**	**+1.3**
HARP	**HAARP**	**46.08**	**38**	P	**P**		**02 31 49.9**	**+1.9**
	baz=278,SNR=24							
LUWI	**Luwuk**	**46.15**	**209**	P	**P**		**02 31 47.0**	**-1.9**
LUWI				IAmb	IAmb		02 32 16.5	
	comp=Z,156nm,0.9s							
LUWI	**Luwuk**	**46.15**	**209**	P	**P**		**02 31 47.6**	**-1.4**
LUWI	**Luwuk**	**46.15**	**209**	P	**P**		**02 31 47.1**	**-1.9**
	comp=Z,196nm,1.1s							
PDGK	**Podgornoye**	**46.16**	**295**	P	**P**		**02 31 48.1**	**-0.9**
G26K	**Porcupine Rive**	**46.19**	**31**	P	**P**		**02 31 50.8**	**+2.1**
	baz=275,SNR=133							
SHLS	**Shalkode**	**46.24**	**295**	*e*P	**P**		**02 31 46.9**	**-2.8**
	comp=Z,105nm,1.6s							
SHLS	**Shalkode**	**46.24**	**295**	*e*P	**P**		**02 31 46.8**	**-2.8**
SHLS				pmax	pmax			
	comp=Z,105nm,1.6s							
TDK	**Taldyqorghan**	**46.31**	**297**	*e*P	**P**		**02 31 49.9**	**-0.3**
	comp=Z,3µm,13.1s							
TDK				*e*S	**S**		**02 38 35.5**	**-0.5**
TDK				LR	LR		02 53 22.9	
	comp=Z,3µm,14.7s							
TDK	**Taldyqorghan**	**46.31**	**297**	*e*P	**P**		**02 31 49.8**	**-0.3**
TDK				*e*S	**S**		**02 38 35.4**	**-0.5**
TDK				MLR	MLR			
	comp=Z,3µm,15.0s							
MSAI	**Masohi**	**46.40**	**200**	P	**P**		**02 31 52.1**	**+1.2**
	comp=Z,235nm,1.5s							
SCRK	**Sand Creek**	**46.41**	**36**	P	**P**		**02 31 51.1**	**+0.5**
SCRK				IAMs_20	IAMs_20		02 52 23.3	
	comp=Z,3µm,20.0s							
SCRK	**Sand Creek**	**46.41**	**36**	P	**P**		**02 31 51.2**	**+0.5**
	baz=277,SNR=78							
APSI	**Ampana**	**46.45**	**211**	P	**P**		**02 31 51.1**	**-0.2**
	comp=Z,375nm,1.2s,comp=Z,4µm							
N25K	**Chitina, Valde**	**46.46**	**39**	P	**P**		**02 31 52.0**	**+1.0**
N25K	**Chitina, Valde**	**46.46**	**39**	P	**P**		**02 31 52.3**	**+1.2**
	baz=279,SNR=9.3							
TABU	**Tabubil**	**46.46**	**183**	P	**P**		**02 31 52.7**	**+1.2**
J26L	**Joseph Creek**	**46.52**	**35**	P	**P**		**02 31 51.6**	**+0.1**
	baz=277,SNR=18							
UZB	**Uzynbulak**	**46.54**	**295**	*e*P	**P**		**02 31 51.4**	**-0.7**
UZB				*e*S	**S**		**02 38 38.4**	**-1.1**
UZB	**Uzynbulak**	**46.54**	**295**	*e*P	**P**		**02 31 51.3**	**-0.7**
UZB				*e*S	**S**		**02 38 38.3**	**-1.1**
BMRM	**Bremner River**	**46.56**	**40**	P	**P**		**02 31 53.4**	**+1.6**
	baz=280,SNR=15							
RAGM	**Ragged Mountai**	**46.62**	**41**	P	**P**		**02 31 53.7**	**+1.4**
MENT	**Mentasta**	**46.66**	**37**	P	**P**		**02 31 54.0**	**+1.4**
MENT				IAmb	IAmb		02 32 15.8	
	comp=Z,102nm,1.0s							
MENT	**Mentasta**	**46.66**	**37**	P	**P**		**02 31 54.1**	**+1.5**
SRDT	**SRDT**	**46.74**	**248**	P	**P**		**02 31 55.0**	**+1.3**
NLAI	**Namlea**	**46.79**	**202**	P	**P**		**02 31 54.4**	**+0.4**
	comp=Z,68nm,1.1s,comp=Z,2µm							
L26K	**Log Cabin Wild**	**46.82**	**37**	P	**P**		**02 31 55.6**	**+1.8**
L26K				IAMs_20	IAMs_20		02 52 09.3	
	comp=Z,2µm,19.0s							
L26K	**Log Cabin Wild**	**46.82**	**37**	P	**P**		**02 31 55.6**	**+1.8**
	baz=279,SNR=52							
KAIM	**Kayak Island**	**46.83**	**41**	P	**P**		**02 31 55.5**	**+1.7**
	baz=281							
GLB	**Gilahina Butte**	**46.86**	**39**	P	**P**		**02 31 55.3**	**+1.2**
GLB				IAmb	IAmb		02 32 09.0	
	comp=Z,328nm,1.8s							
AAI	**Ambon**	**46.92**	**201**	P	**P**		**02 31 55.5**	**+0.5**
	comp=Z,161nm,1.4s,comp=Z,2µm							
E27K	**Coleen River**	**46.92**	**30**	P	**P**		**02 31 55.6**	**+1.1**
E27K				IAmb	IAmb		02 32 04.9	
	comp=Z,150nm,1.8s							
E27K				IAMs_20	IAMs_20		02 53 17.9	
	comp=Z,3µm,19.0s							
E27K	**Coleen River**	**46.92**	**30**	P	**P**		**02 31 56.0**	**+1.4**
	baz=275,SNR=28							
ZHN	**Zhinishke**	**46.93**	**295**	*e*P	**P**		**02 31 54.6**	**-0.5**
ZHN	**Zhinishke**	**46.93**	**295**	*e*P	**P**		**02 31 54.6**	**-0.5**
ARXS	**Arharly**	**46.97**	**297**	*i* P	**P**		**02 31 54.5**	**-0.9**
SATY	**Saty**	**46.99**	**295**	*e*P	**P**		**02 31 55.2**	**-0.4**
SATY				*e*S	**S**		**02 38 45.1**	**-0.7**
SATY	**Saty**	**46.99**	**295**	*e*P	**P**		**02 31 55.1**	**-0.5**
SATY				*e*S	**S**		**02 38 45.1**	**-0.7**
G27K	**Doyon Strip**	**47.04**	**32**	P	**P**		**02 31 57.0**	**+1.6**
G27K	**Doyon Strip**	**47.04**	**32**	P	**P**		**02 31 57.4**	**+1.9**
	baz=277,SNR=60							
D27M	**Malcolm River**	**47.05**	**28**	P	**P**		**02 31 56.7**	**+1.1**
D27M				IAmb	IAmb		02 32 05.4	
	comp=Z,232nm,1.9s							
D27M				IAMs_20	IAMs_20		02 54 09.4	
	comp=Z,4µm,19.0s							
D27M	**Malcolm River**	**47.05**	**28**	P	**P**		**02 31 56.6**	**+1.0**
	baz=275,SNR=30							
VRDI	**Verde Repeater**	**47.06**	**39**	P	**P**		**02 31 57.2**	**+1.3**
VRDI				IAmb	IAmb		02 32 16.2	
	comp=Z,99nm,1.0s							
M26K	**Nabesna, AK**	**47.08**	**38**	P	**P**		**02 31 57.3**	**+1.4**
M26K				IAmb	IAmb		02 32 13.6	
	comp=Z,180nm,1.1s							
M26K				IAMs_20	IAMs_20		02 53 30.1	
	comp=Z,2µm,19.0s							
M26K	**Nabesna, AK**	**47.08**	**38**	P	**P**		**02 31 57.9**	**+2.0**
	baz=280,SNR=97							
BERG	**Berg Lake**	**47.09**	**40**	P	**P**		**02 31 57.9**	**+1.9**
WUS	**Wushi**	**47.13**	**292**	P	**P**		**02 31 56.7**	**0.0**
WUS				IAmb	IAmb		02 32 06.9	
	comp=Z,109nm,0.8s							
WUS	**Wushi**	**47.13**	**292**	IAMs_20	IAMs_20		02 52 44.0	
	comp=Z,5µm,20.0s							
H27K	**Steamboat Moun**	**47.16**	**32**	P	**P**		**02 31 58.6**	**+2.2**
	baz=277,SNR=144							
PCI	**Palu**	**47.16**	**213**	P	**P**		**02 31 56.1**	**-0.8**
	comp=Z,298nm,1.1s,comp=Z,5µm							
I27K	**Kandik River**	**47.20**	**33**	P	**P**		**02 31 58.0**	**+1.1**
	baz=278,SNR=54							
PRZ	**Przheval'sk**	**47.21**	**294**	P	**P**		**02 31 57.7**	**+0.4**
PRZ				IAmb	IAmb		02 32 23.0	
	comp=Z,74nm,0.8s							
PRZ	**Przheval'sk**	**47.21**	**294**	P	**P**		**02 31 57.7**	**+0.4**
PRZ				pmax	pmax			
	comp=Z,74nm,0.8s							
MCARA	**McCarthy VSAT**	**47.24**	**39**	P	**P**		**02 31 59.2**	**+2.1**
MCARA	**McCarthy VSAT**	**47.24**	**39**	P	**P**		**02 31 59.1**	**+2.0**
	baz=280,SNR=22							
BNDI	**Bandanaira**	**47.29**	**198**	P	**P**		**02 31 58.5**	**+0.6**
	comp=Z,391nm,1.4s							
CRQM	**Cirque**	**47.30**	**40**	P	**P**		**02 31 59.7**	**+1.9**
CRQM				IAMs_20	IAMs_20		02 53 12.7	
	comp=Z,3µm,20.0s							
CRQE	**Cirque**	**47.32**	**40**	P	**P**		**02 31 59.6**	**+1.7**
	baz=281,SNR=38							
BGLC	**Bering Glacier**	**47.35**	**41**	P	**P**		**02 32 00.3**	**+2.4**
	baz=281							
TGL	**Tana Glacier**	**47.45**	**40**	P	**P**		**02 32 00.4**	**+1.6**
TGL				IAMs_20	IAMs_20		02 53 18.1	
	comp=Z,3µm,19.0s							
L27K	**Beaver Creek,**	**47.50**	**37**	P	**P**		**02 32 00.5**	**+1.4**
L27K				IAmb	IAmb		02 32 02.3	
	comp=Z,192nm,1.2s							
L27K	**Beaver Creek,**	**47.50**	**37**	P	**P**		**02 32 01.0**	**+1.9**
	baz=280,SNR=92							
EGAK	**Eagle**	**47.51**	**34**	P	**P**		**02 31 59.7**	**+0.6**
EGAK				IAmb	IAmb		02 32 24.2	
	comp=Z,124nm,1.1s							
EGAK				IAMs_20	IAMs_20		02 52 31.6	
	comp=Z,3µm,22.0s							
EGAK	**Eagle**	**47.51**	**34**	P	**P**		**02 31 59.9**	**+0.7**
	baz=279,SNR=50							
BCAR	**Beaver Creek A**	**47.52**	**37**	P	**P**		**02 32 00.9**	**+1.6**
SNH	**Sunshine Point**	**47.56**	**41**	P	**P**		**02 32 01.5**	**+1.9**
M27K	**Edge Creek, AK**	**47.60**	**38**	P	**P**		**02 32 01.8**	**+1.7**
M27K				IAmb	IAmb		02 32 12.7	
	comp=Z,110nm,0.9s							
M27K				IAMs_20	IAMs_20		02 54 04.0	
	comp=Z,3µm,20.0s							
M27K	**Edge Creek, AK**	**47.60**	**38**	P	**P**		**02 32 01.9**	**+1.9**
	baz=280,SNR=46							
F28M	**Old Crow**	**47.63**	**30**	P	**P**		**02 32 01.9**	**+1.9**
F28M				IAmb	IAmb		02 32 04.0	
	comp=Z,94nm,0.9s							
F28M	**Old Crow**	**47.63**	**30**	P	**P**		**02 32 01.9**	**+1.9**
	baz=277,SNR=95							
E28M	**Babbage River**	**47.63**	**29**	P	**P**		**02 32 01.6**	**+1.5**
E28M	**Babbage River**	**47.63**	**29**	P	**P**		**02 32 01.3**	**+1.2**
	baz=277,SNR=47							
CHKK	**Chushkaly**	**47.67**	**296**	*e*P	**P**		**02 32 00.2**	**-0.5**
CHKK	**Chushkaly**	**47.67**	**296**	*e*P	**P**		**02 32 00.1**	**-0.5**
SBUM	**Sibu**	**47.78**	**224**	P	**P**		**02 32 01.8**	**+0.1**
SBUM	**Sibu**	**47.78**	**224**	P	**P**		**02 32 02.5**	**+0.7**
D28M	**Stokes Point**	**47.84**	**28**	P	**P**		**02 32 02.5**	**+1.0**
	baz=277							
MDOK	**Medeo**	**47.88**	**295**	*e*P	**P**		**02 32 02.1**	**-0.5**
MDOK				*e*S	**S**		**02 38 57.8**	**-0.8**
MDOK				LR	LR		02 54 26.7	
	comp=Z,3µm,13.4s							
MDOK	**Medeo**	**47.88**	**295**	*e*P	**P**		**02 32 02.0**	**-0.5**
MDOK				*e*S	**S**		**02 38 57.7**	**-0.8**
MDOK				MLR	MLR			
	comp=Z,3µm,13.0s							
TARG	**Taragay, Kyrgy**	**47.90**	**293**	P	**P**		**02 32 03.0**	**0.0**
TARG				IAmb	IAmb		02 32 22.4	
	comp=Z,67nm,0.9s							
TARG	**Taragay, Kyrgy**	**47.90**	**293**	P	**P**		**02 32 03.0**	**0.0**
TARG				pmax	pmax			
	comp=Z,67nm,0.9s							
I28M	**Miner Creek**	**47.92**	**33**	P	**P**		**02 32 04.0**	**+1.5**
I28M				IAmb	IAmb		02 32 28.5	
	comp=Z,155nm,1.0s							
I28M				IAMs_20	IAMs_20		02 54 19.5	
	comp=Z,3µm,19.0s							
I28M	**Miner Creek**	**47.92**	**33**	P	**P**		**02 32 04.1**	**+1.7**
	baz=279,SNR=94							
GRNC	**Granite Creek**	**47.97**	**40**	P	**P**		**02 32 04.4**	**+1.4**
GRNC				IAmb	IAmb		02 32 05.7	
	comp=Z,181nm,1.1s							
GRNC				IAMs_20	IAMs_20		02 53 33.4	
	comp=Z,2µm,19.0s							
TNSS	**Tian-Shan**	**47.99**	**295**	*e*P	**P**		**02 32 03.0**	**-0.7**
TNSS	**Tian-Shan**	**47.99**	**295**	*e*P	**P**		**02 32 03.0**	**-0.7**
BVCY	**Beaver Creek**	**48.05**	**37**	P	**P**		**02 32 05.0**	**+1.6**
	baz=281,SNR=46							
CTG	**Chitina Glacier**	**48.12**	**39**	P	**P**		**02 32 05.5**	**+1.4**
	baz=282,SNR=20							
CTGM	**Chitina Glacie**	**48.12**	**39**	P	**P**		**02 32 05.4**	**+1.2**
KDJ	**Kajisay**	**48.18**	**294**	P	**P**		**02 32 04.4**	**-0.5**
KDJ	**Kajisay**	**48.18**	**294**	P	**P**		**02 32 04.4**	**-0.5**
KDJ				pmax	pmax			
	comp=Z,43nm,0.8s							
E29M	**Blow River**	**48.26**	**29**	P	**P**		**02 32 06.5**	**+1.6**
E29M				IAmb	IAmb		02 32 32.4	
	comp=Z,116nm,1.1s							
E29M				IAMs_20	IAMs_20		02 54 29.2	
	comp=Z,4µm,19.0s							
E29M	**Blow River**	**48.26**	**29**	P	**P**		**02 32 06.7**	**+1.8**
	baz=278,SNR=90							
LOGN	**Logan Glacier**	**48.31**	**39**	P	**P**		**02 32 06.8**	**+1.2**
LOGN				IAmb	IAmb		02 32 27.6	
	comp=Z,64nm,0.8s							
YUK3	**Moose Creek**	**48.37**	**38**	P	**P**		**02 32 07.4**	**+1.3**
	baz=282,SNR=36							
DAWY	**Dawson**	**48.39**	**35**	P	**P**		**02 32 06.9**	**+0.9**
DAWY				IAMs_20	IAMs_20		02 53 31.8	
	comp=Z,2µm,20.0s							
DAWY	**Dawson**	**48.39**	**35**	P	**P**		**02 32 07.1**	**+1.0**
	baz=281,SNR=16							
H29M	**Whitestone**	**48.42**	**32**	P	**P**		**02 32 07.9**	**+1.7**
H29M				IAmb	IAmb		02 32 18.8	
	comp=Z,148nm,1.0s							
H29M				IAMs_20	IAMs_20		02 54 48.9	
	comp=Z,3µm,18.0s							
H29M	**Whitestone**	**48.42**	**32**	P	**P**		**02 32 08.2**	**+1.9**
	baz=280,SNR=98							
G29M	**Pine Creek**	**48.45**	**31**	P	**P**		**02 32 08.7**	**+2.3**
G29M	**Pine Creek**	**48.45**	**31**	P	**P**		**02 32 08.7**	**+2.3**
	baz=280,SNR=151							
O28M	**Mount Upton**	**48.71**	**39**	P	**P**		**02 32 10.2**	**+1.3**
	baz=283,SNR=12							
BKB	**Balikpapan**	**48.73**	**216**	P	**P**		**02 32 09.6**	**+0.5**
BKB	**Balikpapan**	**48.73**	**216**	P	**P**		**02 32 09.1**	**0.0**
	comp=Z,312nm,1.4s							
ULHL	**Ulahol**	**48.78**	**295**	P	**P**		**02 32 09.5**	**0.0**
	SNR=11							
YUK8	**Steele Glacier**	**48.80**	**39**	P	**P**		**02 32 10.6**	**+1.1**
	baz=283,SNR=8.7							
J29N	**Klondike Camp**	**48.82**	**34**	P	**P**		**02 32 10.9**	**+1.5**
J29N	**Klondike Camp**	**48.82**	**34**	P	**P**		**02 32 10.8**	**+1.5**
	baz=282,SNR=9.9							
BVA0	**Borovoye Array**	**48.82**	**310**	*i* P	**P**		**02 32 09.5**	**+0.1**
BVAR	**Borovoye Array**	**48.82**	**310**	P	**P**		**02 32 09.4**	**0.0**
	comp=Z,15nm,0.5s,baz=75,slow=8.3,SNR=61							
BVAR				PcP	**PcP**		**02 33 33.4**	**-0.5**
	comp=Z,28nm,0.8s,baz=100,slow=7.5,SNR=3.8							
BVAR				S	**S**		**02 39 11.8**	**+0.5**
	comp=Z,26nm,1.1s,baz=72,slow=15,SNR=5.1							
BVAR				LR	LR		02 54 19.3	
	comp=Z,6µm,19.1s,baz=72,slow=38							
	comp=Z,15nm,0.5s							
PINM	**Pinnacle**	**48.84**	**40**	P	**P**		**02 32 10.8**	**+1.3**
	baz=284,SNR=5.8							
BRVK	**Borovoye**	**48.87**	**310**	P	**P**		**02 32 09.4**	**-0.4**
BRVK				IAmb	IAmb		02 32 22.4	
	comp=Z,104nm,0.9s							
BRVK	**Borovoye**	**48.87**	**310**	P	**P**		**02 32 09.9**	**+0.1**
BRVK				P	**P**		**02 32 09.9**	**+0.1**
BRVK				S	**S**		**02 39 11.1**	**-0.8**
BRVK				S	**S**		**02 39 11.1**	**-0.8**
BRVK	**Borovoye**	**48.87**	**310**	P	**P**		**02 32 09.4**	**-0.4**
BRVK				pmax	pmax			
	comp=Z,104nm,1.0s							
KDI	**Kendari**	**48.90**	**208**	P	**P**		**02 32 10.8**	**+0.4**
	comp=Z,136nm,1.3s,comp=Z,2µm							
TKM2	**Tokmak 2**	**48.96**	**296**	P	**P**		**02 32 11.2**	**+0.4**
	SNR=143							
TKM2	**Tokmak 2**	**48.96**	**296**	*i* P	**P**		**02 32 10.7**	**-0.2**
TKM2				pmax	pmax			
	comp=Z,310nm,1.5s							
EPYK	**Eagle Plains**	**49.05**	**32**	P	**P**		**02 32 12.4**	**+1.3**
EPYK				IAMs_20	IAMs_20		02 55 34.3	
	comp=Z,3µm,19.0s							
EPYK	**Eagle Plains**	**49.05**	**32**	P	**P**		**02 32 12.9**	**+1.8**
	baz=281,SNR=157							
TTSI	**Tana Toraja**	**49.11**	**212**	P	**P**		**02 32 11.3**	**-0.7**
G30M	**tAoh Zraii Nji**	**49.13**	**31**	P	**P**		**02 32 12.9**	**+1.2**
G30M	**tAoh Zraii Nji**	**49.13**	**31**	P	**P**		**02 32 13.1**	**+1.5**
	baz=281,SNR=212							
L29M	**L29M**	**49.14**	**36**	P	**P**		**02 32 14.0**	**+2.3**
L29M				IAMs_20	IAMs_20		02 53 38.7	
	comp=Z,2µm,20.0s							
L29M	**L29M**	**49.14**	**36**	P	**P**		**02 32 14.1**	**+2.3**
	baz=283							
M29M	**Somme Creek**	**49.14**	**37**	P	**P**		**02 32 13.6**	**+1.8**
M29M	**Somme Creek**	**49.14**	**37**	P	**P**		**02 32 13.9**	**+2.0**
	baz=283,SNR=29							
BCPM	**Bancas Point**	**49.17**	**40**	P	**P**		**02 32 13.6**	**+1.5**
BCPM				IAmb	IAmb		02 32 14.8	
	comp=Z,163nm,1.5s							
F30M	**Barrier River**	**49.18**	**30**	P	**P**		**02 32 14.1**	**+2.2**
	baz=281,SNR=198							
K29M	**Barlow Dome**	**49.24**	**35**	P	**P**		**02 32 14.3**	**+1.7**
K29M				IAmb	IAmb		02 32 15.8	
	comp=Z,146nm,1.1s							
K29M	**Barlow Dome**	**49.24**	**35**	P	**P**		**02 32 14.5**	**+1.9**
	baz=283,SNR=86							
NRN	**Naryn**	**49.26**	**294**	P	**P**		**02 32 13.3**	**-0.1**
NRN	**Naryn**	**49.26**	**294**	P	**P**		**02 32 13.3**	**-0.1**
NRN				pmax	pmax			
	comp=Z,83nm,1.2s							
YUK4	**Talbot Arm**	**49.31**	**38**	P	**P**		**02 32 15.0**	**+1.7**
	baz=284,SNR=26							
PNL	**Peninsula**	**49.36**	**41**	P	**P**		**02 32 14.8**	**+1.3**
	baz=285							
PNL	**Peninsula**	**49.36**	**41**	P	**P**		**02 32 15.2**	**+1.7**
MTKI	**Muara Teweh, K**	**49.37**	**219**	P	**P**		**02 32 14.2**	**+0.2**
	comp=Z,275nm,1.1s							
I30M	**Mount Dempster**	**49.43**	**33**	P	**P**		**02 32 15.8**	**+1.8**
I30M				IAMs_20	IAMs_20		02 53 50.2	
	comp=Z,3µm,21.0s							
I30M	**Mount Dempster**	**49.43**	**33**	P	**P**		**02 32 15.7**	**+1.7**
	baz=282,SNR=150							
CHMS	**Chumysh**	**49.50**	**296**	P	**P**		**02 32 15.1**	**+0.3**
	SNR=9.1							
KBK	**Karagaybulak**	**49.50**	**296**	P	**P**		**02 32 15.2**	**+0.2**
	SNR=63							
YUK6	**Outpost Mounta**	**49.54**	**39**	P	**P**		**02 32 17.0**	**+1.9**
	baz=284,SNR=15							
USP	**Ospenovka**	**49.56**	**297**	P	**P**		**02 32 15.2**	**-0.1**
	SNR=31							
J30M	**Hart River**	**49.59**	**34**	P	**P**		**02 32 17.2**	**+1.9**
J30M				IAMs_20	IAMs_20		02 53 24.5	
	comp=Z,3µm,21.0s							
J30M	**Hart River**	**49.59**	**34**	P	**P**		**02 32 17.0**	**+1.7**
	baz=283,SNR=49							
O29M	**Mount Kennedy**	**49.60**	**40**	P	**P**		**02 32 17.1**	**+1.6**
O29M				IAMs_20	IAMs_20		02 53 34.2	
	comp=Z,2µm,19.0s							
O29M	**Mount Kennedy**	**49.60**	**40**	P	**P**		**02 32 17.4**	**+1.9**
	baz=285,SNR=20							
KSM	**Kuching**	**49.62**	**226**	P	**P**		**02 32 16.2**	**+0.3**
KSM				IAmb	IAmb		02 32 18.2	
	comp=Z,115nm,1.3s							
KSM	**Kuching**	**49.62**	**226**	P	**P**		**02 32 17.1**	**+1.2**
AAK	**Ala-Archa**	**49.81**	**296**	P	**P**		**02 32 16.9**	**-0.4**
AAK	**Ala-Archa**	**49.81**	**296**	*i* P	**P**		**02 32 17.4**	**0.0**
	SNR=9.9							
AAK	**Ala-Archa**	**49.81**	**296**	LR	LR		02 53 42.4	
	comp=Z,2µm,19.7s,baz=68,slow=37							
AAK	**Ala-Archa**	**49.81**	**296**	P	**P**		**02 32 17.1**	**-0.3**
AAK				P	**P**		**02 32 17.1**	**-0.3**
AAK				P	**P**		**02 32 17.1**	**-0.3**
AAK				S	**S**		**02 39 26.5**	**+0.7**
AAK				S	**S**

PMG pmax pmax
comp=Z,50nm,1.0s
O30N Mendenhall 50.66 39 P **P 02 32 25.2 +1.8**
O30N Mendenhall 50.66 39 P **P 02 32 25.4 +2.1**
baz=286,SNR=28
PLBC Pleasant Camp 50.91 40 P **P 02 32 27.2 +2.1**
baz=287,SNR=26
KAPI Kappang 50.94 211 P **P 02 32 25.7 -0.1**
KAPI IAmb IAmb 02 32 42.6
comp=Z,302nm,1.4s
KAPI Kappang 50.94 211 LR LR 02 54 14.5
comp=Z,730nm,21.0s,baz=24,slow=36
KAPI Kappang 50.94 211 P **P 02 32 26.1 +0.2**
KAPI P **P 02 32 26.1 +0.2**
KAPI S **S 02 39 42.9 +1.5**
KAPI S **S 02 39 42.9 +1.5**
KAPI Kappang 50.94 211 P **P 02 32 26.2 +0.4**
KAPI Kappang 50.94 211 P **P 02 32 25.7 -0.1**
KAPI pmax pmax
comp=Z,302nm,1.4s
M31M Drury Creek, Y 51.04 37 P **P 02 32 27.6 +1.4**
M31M IAMs_20 IAMs_20 02 54 47.9
comp=Z,3μm,21.0s
M31M Drury Creek, Y 51.04 37 P **P 02 32 28.1 +1.9**
baz=286,SNR=40
WHY Whitehorse 51.26 39 P **P 02 32 29.2 +1.3**
WHY IAmb IAmb 02 32 31.3
comp=Z,244nm,1.5s
WHY Whitehorse 51.26 39 P **P 02 32 30.1 +2.1**
baz=287,SNR=43
ARSB Arslanbob 51.38 295 P **P 02 32 29.3 +0.1**
ARSB Arslanbob 51.38 295 P **P 02 32 29.3 +0.1**
ARSB pmax pmax
comp=Z,47nm,0.9s
SKAG Skagway 51.41 40 P **P 02 32 30.7 +1.8**
SKAG IAmb IAmb 02 32 32.5
comp=Z,127nm,1.2s
SKAG Skagway 51.41 40 P **P 02 32 31.2 +2.3**
baz=288,SNR=26
SKAG Skagway 51.41 40 P **P 02 32 31.0 +2.1**
S31K Pelican 51.43 42 P **P 02 32 30.6 +1.6**
S31K IAMs_20 IAMs_20 02 56 04.3
comp=Z,2μm,20.0s
S31K Pelican 51.43 42 P **P 02 32 31.2 +2.1**
baz=288
FARO Faro, Yukon 51.50 36 P **P 02 32 31.2 +1.6**
FARO IAmb IAmb 02 32 41.1
comp=Z,148nm,1.4s
FARO IAMs_20 IAMs_20 02 57 12.0
comp=Z,3μm,19.0s
FARO Faro, Yukon 51.50 36 P **P 02 32 31.3 +1.7**
baz=287,SNR=52
R31K City Hall, Gus 51.53 42 P **P 02 32 31.7 +1.9**
baz=288,SNR=5.1
A36M Sachs Harbour 51.70 23 P **P 02 32 31.2 +0.4**
A36M Sachs Harbour 51.70 23 P **P 02 32 32.1 +1.3**
baz=287,SNR=48
TATA Tatamba Isabel 51.79 159 P **P 02 32 33.2 +1.0**
DZA Taraz 51.84 297 *e*P **P 02 32 32.2 -0.3**
DZA Taraz 51.84 297 *e*P **P 02 32 32.2 -0.3**
N32M Quiet Lake 51.95 38 P **P 02 32 34.0 +1.0**
N32M Quiet Lake 51.95 38 P **P 02 32 34.6 +1.6**
baz=288,SNR=24
P32M Atlin 52.15 40 P **P 02 32 36.1 +1.6**
P32M IAMs_20 IAMs_20 02 56 29.3
comp=Z,3μm,18.0s
P32M Atlin 52.15 40 P **P 02 32 36.6 +2.0**
baz=289,SNR=25
SIT Sitka 52.19 43 P **P 02 32 36.6 +1.9**
SIT IAmb IAmb 02 32 38.4
comp=Z,209nm,1.3s
SIT Sitka 52.19 43 P **P 02 32 37.0 +2.2**
baz=290,SNR=6.3
SIT Sitka 52.19 43 P **P 02 32 36.1 +1.4**
SIT Sitka 52.19 43 P **P 02 32 36.6 +1.9**
SIT pmax pmax
comp=Z,209nm,1.3s
R32K Eaglecrest 52.19 42 P **P 02 32 36.2 +1.4**
R32K Eaglecrest 52.19 42 P **P 02 32 37.0 +2.2**
baz=289,SNR=21
JIS Juneau Island 52.25 41 P **P 02 32 36.9 +1.7**
KULM Kulim 52.30 238 P **P 02 32 36.5 +0.4**
KULM IAmb IAmb 02 32 55.2
comp=Z,118nm,1.0s
KULM Kulim 52.30 238 P **P 02 32 37.0 +0.9**
KK31 Karatay Array 52.30 298 *i* P **P 02 32 35.0 -0.9**
KKAR Karatay Array 52.30 298 P **P 02 32 34.9 -1.0**
KKAR Karatay Array 52.30 298 P **P 02 32 34.9 -1.0**
KKAR pmax pmax
comp=Z,28nm,0.9s
MMPY Sheldon Lake, 52.30 36 P **P 02 32 37.2 +1.5**
MMPY IAmb IAmb 02 32 39.2
comp=Z,170nm,1.5s
MMPY Sheldon Lake, 52.30 36 P **P 02 32 37.8 +2.1**
baz=289,SNR=35
P33M Teslin, Yukon 52.37 39 P **P 02 32 37.8 +1.5**
P33M IAmb IAmb 02 32 39.6
comp=Z,241nm,1.2s
P33M Teslin, Yukon 52.37 39 P **P 02 32 38.3 +2.1**
baz=289,SNR=103
ALEG Aligegeo Malai 52.39 158 P **P 02 32 37.8 +1.1**
S32K Killisnoo 52.43 42 P **P 02 32 37.7 +1.2**
S32K Killisnoo 52.43 42 P **P 02 32 38.7 +2.2**
baz=290,SNR=11
IPM Ipoh 52.67 237 P **P 02 32 38.7 -0.2**
IPM Ipoh 52.67 237 P **P 02 32 39.1 +0.2**
BRLS Boroldoy 52.78 298 *e*P **P 02 32 40.6 +1.1**
BRLS Boroldoy 52.78 298 *e*P **P 02 32 40.5 +1.1**
HNR Honiara 52.83 159 LR LR 02 52 12.9
comp=Z,1μm,21.9s,baz=332,slow=33
KIP Kipapa 52.88 93 P **P 02 32 40.6 +0.2**
KIP Kipapa 52.88 93 P **P 02 32 42.1 +1.7**
KIP Kipapa 52.88 93 P **P 02 32 42.2 +1.8**
KIP Kipapa 52.88 93 P **P 02 32 40.6 +0.2**
KIP pmax pmax
comp=Z,342nm,1.3s
C36M Paulatuk 52.89 26 P **P 02 32 40.6 +0.8**
C36M Paulatuk 52.89 26 P **P 02 32 40.8 +1.0**
baz=290,SNR=80
SVE Sverdlovsk 52.92 317 *de*P **P 02 32 40.6 +0.4**
SVE *e*S **S 02 40 09.4 +1.6**
SVE pmax pmax
comp=Z,263nm,1.0s
SVE MLR MLR
comp=E,12μm,15.0s
SVE MLR MLR
comp=Z,18μm,15.0s
DRK Karamyk 52.99 293 P **P 02 32 40.7 -0.7**
DRK Karamyk 52.99 293 P **P 02 32 40.7 -0.7**
DRK pmax pmax
comp=Z,50nm,1.0s
IUG luzhnay 53.03 297 *e*P **P 02 32 41.0 -0.3**
comp=Z,149nm,1.6s
IUG luzhnay 53.03 297 *e*P **P 02 32 41.0 -0.3**
IUG pmax pmax
comp=Z,149nm,1.6s
Q32M Nakina River 53.06 40 P **P 02 32 43.1 +1.6**
Q32M Nakina River 53.06 40 P **P 02 32 43.7 +2.2**
baz=290
CHM Chimkent 53.24 297 *e*P **P 02 32 42.6 -0.3**
comp=Z,1μm,14.5s
CHM LR LR 02 57 13.8
CHM Chimkent 53.24 297 *e*P **P 02 32 42.5 -0.3**
MMRI Maumere 53.40 206 P **P 02 32 43.0 -1.1**
MMRI Maumere 53.40 206 P **P 02 32 44.0 -0.1**
BTK Batken 53.41 294 P **P 02 32 43.7 -0.5**
BTK IAmb IAmb 02 32 55.0
comp=Z,171nm,1.5s
BTK Batken 53.41 294 P **P 02 32 43.7 -0.5**
BTK pmax pmax
comp=Z,171nm,1.5s
BTDF Bukit Timah Da 53.42 232 P **P 02 32 45.3 +0.9**
T33K Petersburg 53.49 43 P **P 02 32 46.4 +2.0**
baz=292
R33M Jennings River 53.53 39 P **P 02 32 46.5 +1.6**
R33M IAmb IAmb 02 32 48.6
comp=Z,146nm,1.4s
R33M Jennings River 53.53 39 P **P 02 32 47.2 +2.4**
baz=291,SNR=40
U33K Whale Pass 53.66 44 P **P 02 32 47.6 +2.0**
U33K IAmb IAmb 02 32 49.3
comp=Z,156nm,1.1s
U33K Whale Pass 53.66 44 P **P 02 32 48.2 +2.6**
baz=292,SNR=14
SOEI Soe 53.81 203 P **P 02 32 47.0 -0.3**
SOEI Soe 53.81 203 P **P 02 32 47.0 -0.3**
CRAG Craig 53.90 44 P **P 02 32 47.5 +0.1**
CRAG IAmb IAmb 02 32 50.9
comp=Z,172nm,1.3s
CRAG Craig 53.90 44 P **P 02 32 49.9 +2.5**
baz=292,SNR=8.1
CRAG Craig 53.90 44 P **P 02 32 49.0 +1.6**
WRAK Wrangell Islan 53.95 43 P **P 02 32 49.4 +1.6**
WRAK IAmb IAmb 02 32 51.3
comp=Z,107nm,1.2s
WRAK Wrangell Islan 53.95 43 P **P 02 32 50.1 +2.4**
baz=292,SNR=9.1
S34M Telegraph Cree 54.00 41 P **P 02 32 49.9 +1.8**
S34M IAmb IAmb 02 32 51.8
comp=Z,88nm,1.1s
S34M Telegraph Cree 54.00 41 P **P 02 32 50.6 +2.5**
baz=292,SNR=19
ARTI Arti 54.24 317 P **P 02 32 49.6 -0.2**
ARTI Arti 54.24 317 LR LR 02 59 02.1
comp=Z,10μm,19.0s,baz=68,slow=40
ARTI Arti 54.24 317 *c i*P **P 02 32 49.5 -0.4**
ARTI 02 33 49.7
ARTI 02 34 51.5
ARTI PPP PPP 02 36 01.2
ARTI S **S 02 40 26.1 +0.4**
ARTI 02 42 35.9
ARTI pmax pmax
comp=Z,78nm,0.9s
ARTI MLR MLR
comp=Z,17μm,16.0s
GAR Garm 54.24 293 P **P 02 32 49.5 -0.8**
GAR IAmb IAmb 02 33 26.9
comp=Z,191nm,1.3s
WTLY Watson Lake, Y 54.29 38 P **P 02 32 52.1 +1.9**
WTLY Watson Lake, Y 54.29 38 P **P 02 32 52.1 +1.9**
baz=292,SNR=38
DLBC Dease Lake 54.34 40 P **P 02 32 53.1 +2.4**
DLBC IAmb IAmb 02 32 54.5
comp=Z,104nm,1.2s
DLBC Dease Lake 54.34 40 LR LR 02 58 19.1
comp=Z,1μm,20.2s,baz=311,slow=38
DLBC Dease Lake 54.34 40 P **P 02 32 53.2 +2.5**
baz=292,SNR=34
BATI Baumata 54.42 204 LR LR 02 54 33.9
comp=Z,879nm,21.8s,baz=8.5,slow=34
HLK Haleakala 54.60 93 P **P 02 32 54.0 +0.7**
KDU Kakadu 54.71 193 P **P 02 32 53.5 -0.2**
comp=Z,0.0nmcomp=Z,95nm,0.9s
KDU Kakadu 54.71 193 P **P 02 32 53.2 -0.5**
NIL Nilore 54.73 286 P **P 02 32 53.8 0.0**
NIL IAmb IAmb 02 33 10.3
comp=Z,132nm,0.9s
NIL Nilore 54.73 286 P **P 02 32 53.8 0.0**
NIL pmax pmax
comp=Z,132nm,1.0s
DRS Darwin Rock St 54.75 195 P **P 02 32 53.8 -0.1**
V35K Ketchikan 54.75 44 P **P 02 32 55.5 +1.9**
V35K Ketchikan 54.75 44 P **P 02 32 55.4 +1.9**
baz=293,SNR=6.9
LHMI Lhok Sumawe 54.76 242 P **P 02 32 55.2 +1.0**
T35M Bob Quinn 54.80 42 P **P 02 32 56.6 +2.6**
T35M IAmb IAmb 02 32 58.2
comp=Z,192nm,1.1s
T35M Bob Quinn 54.80 42 P **P 02 32 56.9 +3.0**
baz=293,SNR=61
NGOA Tingoa Renbel 54.89 160 P **P 02 32 56.2 +1.2**
COEN Coen 55.05 180 P **P 02 32 56.2 +0.1**
COEN IAmb IAmb 02 32 58.3
comp=Z,229nm,1.5s
COEN Coen 55.05 180 P **P 02 32 56.9 +0.7**
comp=Z,0.0nmcomp=Z,116nm,1.6s
COEN Coen 55.05 180 P **P 02 32 56.7 +0.6**
MTN Manton Dam 55.10 195 P **P 02 32 56.7 +0.2**
MTN IAmb IAmb 02 32 57.7
comp=Z,153nm,1.1s
MTN Manton Dam 55.10 195 P **P 02 32 56.4 -0.1**
comp=Z,129nm,1.0s
MTN Manton Dam 55.10 195 P **P 02 32 56.6 +0.1**
DIB Dawson Inlet, 55.14 47 P **P 02 32 57.9 +1.5**
DIB IAmb IAmb 02 32 59.0
comp=Z,120nm,1.1s
PLAI Plampang 55.19 211 P **P 02 32 55.6 -1.6**
PSI Prapat 55.30 238 LR LR 03 00 23.8
comp=Z,937nm,18.1s,baz=32,slow=40
PSI Prapat 55.30 238 P **P 02 32 58.2 0.0**
PSI Prapat 55.30 238 P **P 02 32 57.8 -0.4**
PSI pmax pmax
comp=Z,53nm,1.0s
PSI MLR MLR
comp=Z,1μm,19.0s
SIMJ Simiganj 55.30 294 P **P 02 32 58.1 +0.1**
SIMJ IAmb IAmb 02 33 13.7
comp=Z,126nm,0.9s
U35K Hyder 55.34 43 P **P 02 32 59.8 +2.0**
U35K Hyder 55.34 43 P **P 02 32 59.9 +2.1**
baz=294,SNR=9.0
RPSI Rantau Prapat 55.38 238 P **P 02 32 57.8 -0.8**
WRGLY Wrigley 55.41 33 P **P 02 32 59.9 +1.7**
WRGLY IAmb IAmb 02 33 01.4
comp=Z,199nm,1.3s
WRGLY IAMs_20 IAMs_20 02 59 52.2
comp=Z,2μm,19.0s
WRGLY Wrigley 55.41 33 P **P 02 33 00.1 +1.9**
baz=294,SNR=42
EUNU Eureka 55.68 9 P **P 02 33 00.8 +0.7**
POHA Pohakuloa 55.74 93 P **P 02 33 02.0 +0.5**
POHA Pohakuloa 55.74 93 P **P 02 33 02.9 +1.4**
LIRD Liard River Hi 55.82 38 P **P 02 33 03.3 +2.0**
baz=295,SNR=49
MWH Mokuaweoweo 55.85 94 P **P 02 33 03.1 +0.5**
RUBB Prince Rupert 55.88 45 P **P 02 33 02.6 +0.9**
BKNI Bangkinang 55.89 234 P **P 02 33 03.3 +1.0**
BKNI Bangkinang 55.89 234 P **P 02 33 03.7 +1.4**
KHU Kahuku 55.98 94 P **P 02 33 02.8 -0.4**
KHU Kahuku 55.98 94 P **P 02 33 02.8 -0.4**
KHU pmax pmax
comp=Z,322nm,1.2s
MLH Mauna Loa 56.00 93 P **P 02 33 04.5 +1.1**
RSD Rainshed 56.10 93 P **P 02 33 05.2 +1.2**
PUH Pauahi 56.20 93 P **P 02 33 06.0 +1.3**
PUH IAmb IAmb 02 33 08.0
comp=Z,231nm,1.2s
KNHH Kane Nui o Ham 56.24 93 P **P 02 33 05.6 +0.7**
GRNB Grenville Isla 56.24 45 P **P 02 33 05.9 +1.5**
GRNB IAmb IAmb 02 33 06.8
comp=Z,90nm,1.0s
STCH Steam Cracks 56.27 93 P **P 02 33 06.5 +1.4**
STCH IAmb IAmb 02 33 07.7
comp=Z,201nm,1.1s
AB31 Akbulak array 56.32 309 *i* P **P 02 33 05.0 0.0**
ABKAR Akbulak array 56.32 309 P **P 02 33 04.5 -0.5**
ABKAR IAmb IAmb 02 33 27.1
comp=Z,86nm,0.9s
JAGI Jajag, Banyuwa 56.36 215 P **P 02 33 04.7 -0.9**
KOTAN Kotaneelee Air 56.45 37 P **P 02 33 07.4 +1.6**
baz=296,SNR=19
TOAD Toad River Com 56.46 39 P **P 02 33 07.9 +2.0**
baz=296,SNR=62
SPA0 Spitsbergen Ar 56.56 349 *e*P **P 02 33 09.0 +2.7**
SPB2 Spitsbergen Ar 56.56 349 P **P 02 33 07.4 +1.1**
SPB2 IAmb IAmb 02 33 21.0
comp=Z,120nm,1.1s
SPITS Spitsbergen Ar 56.56 349 P **P 02 33 06.4 +0.1**
comp=Z,30nm,0.9s,baz=59,slow=12,SNR=9.3
SPITS LR LR 02 59 51.6
comp=Z,3μm,18.9s,baz=8.0,slow=39
comp=Z,30nm,0.9s
KBS Kingsbay 56.64 350 P **P 02 33 07.1 +0.3**
KBS IAmb IAmb 02 33 20.1
comp=Z,236nm,1.2s
KBS Kingsbay 56.64 350 *e*P **P 02 33 04.8 -2.0**
KBS Kingsbay 56.64 350 P **P 02 33 07.1 +0.3**
KBS pmax pmax
comp=Z,236nm,1.2s
KBS Kingsbay 56.64 350 *i* P **P 02 33 07.5 +0.7**
NOR Nord 56.81 357 *i* P **P 02 33 07.3 -0.7**
NOR IAmb IAmb 02 33 17.9
comp=Z,154nm,1.3s
SMRI Semarang 56.82 220 P **P 02 33 08.6 -0.3**
SMRI IAmb IAmb 02 33 10.6
comp=Z,200nm,1.0s
SMRI Semarang 56.82 220 P **P 02 33 09.3 +0.4**
AKTO Aktyubinsk 56.91 310 LR LR 02 59 26.3
comp=Z,7μm,18.3s,baz=66,slow=38
AKTO Aktyubinsk 56.91 310 P **P 02 33 08.2 -1.0**
KBL Kabul 57.30 289 P **P 02 33 11.0 -1.4**
KBL IAmb IAmb 02 33 21.7
comp=Z,86nm,0.9s
KBL Kabul 57.30 289 P **P 02 33 11.2 -1.2**
SNR=51
KBL P **P 02 33 11.2 -1.2**
SNR=51
KBL S **S 02 41 10.1 +2.6**
KBL S **S 02 41 10.1 +2.6**
KBL Kabul 57.30 289 P **P 02 33 11.0 -1.4**
KBL pmax pmax
comp=Z,86nm,0.9s
GSI Gunungsitoli 57.30 238 P **P 02 33 10.0 -2.4**
GSI Gunungsitoli 57.30 238 P **P 02 33 12.5 +0.1**
UGM Wanagama 57.53 219 P **P 02 33 13.6 -0.4**
UGM Wanagama 57.53 219 P **P 02 33 13.3 -0.6**
KIRV Kirov 57.70 322 LR LR 03 00 50.2
comp=Z,9μm,18.0s,baz=49,slow=39
KIRV Kirov 57.70 322 *c i*P **P 02 33 14.5 -0.1**
BBB Bella Bella 57.98 47 LR LR 03 00 17.9
comp=Z,458nm,18.5s,baz=290,slow=38
RES Resolute Bay 58.03 15 P **P 02 33 17.2 +0.5**
RES IAmb IAmb 02 33 19.5
comp=Z,137nm,0.8s
RES IAMs_20 IAMs_20 03 02 51.3
comp=Z,2μm,20.0s
RES Resolute Bay 58.03 15 LR LR 03 02 35.0
comp=Z,1μm,18.1s,baz=309,slow=40
RES Resolute Bay 58.03 15 P **P 02 33 17.2 +0.5**
RES pmax pmax
comp=Z,137nm,0.8s
RES MLR MLR
comp=Z,2μm,20.0s
LEM Lembang 58.04 223 LR LR 02 58 51.0
comp=Z,1μm,20.7s,baz=28,slow=37
KNRA Kununurra 58.34 196 P **P 02 33 19.7 +0.2**
KNRA IAmb IAmb 02 33 20.9
comp=Z,208nm,1.1s
KNRA Kununurra 58.34 196 P **P 02 33 19.7 +0.2**
comp=Z,163nm,1.1s
MNAI Manna 58.51 229 P **P 02 33 20.9 +0.1**
MNAI Manna 58.51 229 P **P 02 33 21.4 +0.6**
BBJI Bungbulang 58.56 223 P **P 02 33 19.5 -1.7**
HOLB Holberg 58.69 48 P **P 02 33 22.6 +0.9**
LVZ Lovozero 58.77 335 ||*e*P **P 02 33 20.9 -1.1**
LVZ pmax pmax
comp=Z,88nm,1.0s
VADS Vadso 59.05 339 *e*P **P 02 33 24.7 +0.9**
MTSU Mount Surprise 59.21 179 P **P 02 33 26.3 +0.8**
comp=Z,23nm,1.2s
MTSU Mount Surprise 59.21 179 P **P 02 33 26.5 +0.9**
YKA Yellowknife Ar 59.34 32 P **P 02 33 26.4 +0.5**
YKA Yellowknife Ar 59.34 32 P **P 02 33 26.7 +0.7**
comp=Z,41nm,1.0s,baz=302,slow=7.3,SNR=72
YKA PcP **PcP 02 34 14.3 +0.5**
comp=Z,10.0nm,0.9s,baz=304,slow=4.8,SNR=3.6
YKA LR LR 03 02 33.4
comp=Z,1μm,18.6s,baz=304,slow=40
comp=Z,41nm,1.0s
APA Apatity 59.35 335 ||*i*P **P 02 33 24.0 -1.9**
APA pmax pmax
comp=Z,56nm,1.0s
APA MLR MLR
comp=Z,4μm,18.0s
HYB Hyderabad 59.83 267 *e*P **P 02 33 29.5 -0.6**
HYB IVmB_BB 02 33 29.9
comp=Z,555nm,2.3s
TV1H Townsville Har 60.41 176 P **P 02 33 34.0 +0.3**
ARA0 ARCESS Array S 60.46 339 *e*P **P 02 33 35.2 +1.6**
ARCES ARCESS Array B 60.46 339 P **P 02 33 32.6 -1.0**
ARCES IAmb IAmb 02 33 45.2
comp=Z,107nm,1.1s
ARCES ARCESS Array B 60.46 339 P **P 02 33 33.4 -0.1**
comp=Z,13nm,0.9s,baz=54,slow=8.1,SNR=12
ARCES LR LR 03 05 01.1
comp=Z,4μm,18.2s,baz=56,slow=41
comp=Z,13nm,0.9s
CBB Campbell River 60.53 48 P **P 02 33 34.9 +0.5**
CBB IAmb IAmb 02 33 45.0
comp=Z,157nm,1.7s
TULEG Thule 60.61 8 P **P 02 33 34.4 -0.1**
TULEG IAmb IAmb 02 33 36.3
comp=Z,123nm,1.0s
TULEG IAMs_20 IAMs_20 03 03 53.1
comp=Z,3μm,19.0s
KLMR Klimovskoe 60.89 327 *c i*P **P 02 33 36.0 -0.6**
KLMR *e* 02 34 17.2
KLMR S **S 02 41 52.2 -0.6**
KLMR pmax pmax
comp=Z,372nm,1.9s
KLMR MLR MLR
comp=Z,6μm,17.0s
NEEM North Greenlan 61.12 4 *i* P **P 02 33 38.0 -0.3**
NEEM IAmb IAmb 02 33 48.8
comp=Z,224nm,0.9s
CTA Charters Tower 61.21 177 LR LR 02 58 07.0
comp=Z,492nm,21.2s,baz=359,slow=34
CTAO Charters Tower 61.21 177 P **P 02 33 39.3 +0.2**
CTAO IAmb IAmb 02 33 40.7
comp=Z,150nm,1.6s
CTAO Charters Tower 61.21 177 P **P 02 33 39.4 +0.2**
CTAO Charters Tower 61.21 177 P **P 02 33 39.3 +0.2**
CTAO pmax pmax
comp=Z,150nm,1.7s
CTAO MLR MLR
comp=Z,800nm,20.0s
WB0 Warramunga Arr 61.39 190 P **P 02 33 40.4 0.0**
FITZ Fitzroy Crossi 61.39 199 P **P 02 33 41.0 +0.5**
FITZ Fitzroy Crossi 61.39 199 P **P 02 33 40.6 +0.2**
VLAKA Lakatoro 61.40 153 P **P 02 33 41.0 +0.5**
KTK1 Kautokeino 61.41 339 *e*P **P 02 33 40.3 +0.2**
WRAB Tennant Creek 61.56 190 P **P 02 33 41.0 -0.5**
WRAB Tennant Creek 61.56 190 P **P 02 33 41.0 -0.5**
WRAB pmax pmax
comp=Z,200nm,1.2s
WR0 Warramunga Arr 61.56 189 P **P 02 33 41.5 0.0**
WB2 Warramunga Arr 61.57 190 P **P 02 33 41.3 -0.3**
WB2 Warramunga Arr 61.57 190 P **P 02 33 41.0 -0.6**
WRA Warramunga Arr 61.57 190 P **P 02 33 40.9 -0.8**
WRA Warramunga Arr 61.57 190 P **P 02 33 40.8 -0.8**
comp=Z,175nm,1.1s,baz=7.2,slow=7.2,SNR=140
WRA S **S 02 41 59.4 -2.9**
comp=Z,2.4nm,1.0s,baz=0.8,slow=11,SNR=7.7
WRA LR LR 03 01 23.1
comp=Z,958nm,19.0s,baz=357,slow=37
WRA PKPPKP P'P'df 03 02 55.0 +8.3
comp=Z,1.6nm,1.0s,baz=210,slow=2.1,SNR=4.9
comp=Z,175nm,1.1s
WRA Warramunga Arr 61.57 190 P **P 02 33 40.9 -0.8**
WRA pmax pmax
comp=Z,33nm,1.3s
DAG Danmarks Havn 61.58 355 *i* P **P 02 33 40.0 -1.0**
DAG IAmb IAmb 02 33 52.6
comp=Z,106nm,0.9s
BELG Belogornoye 61.65 316 P **P 02 33 42.0 +0.1**
comp=Z,83nm,0.9s,baz=97,slow=1.1,SNR=17
BELG LR LR 03 03 22.3
comp=Z,11μm,18.4s,baz=56,slow=39
comp=Z,83nm,0.9s
BELG Belogornoye 61.65 316 *c i*P **P 02 33 42.2 +0.3**
BELG pmax pmax
comp=Z,51nm,1.0s
BELG MLR MLR
comp=Z,3μm,16.0s
QIS Mount Isa 61.71 184 P **P 02 33 42.2 -0.4**
comp=Z,0.0nmcomp=Z,107nm,1.4s
QIS Mount Isa 61.71 184 P **P 02 33 42.2 -0.4**
CLRS Cowichan Lake 61.85 48 P **P 02 33 43.8 +0.5**
CLRS IAmb IAmb 02 33 45.1
comp=Z,70nm,1.1s
TRO Tromso 62.09 341 *e*P **P 02 33 44.9 +0.3**
PGC Sidney 62.32 48 P **P 02 33 47.4 +0.9**
PGC IAmb IAmb 02 33 48.8
comp=Z,105nm,1.3s
B04A Port Angeles 62.61 49 P **P 02 33 49.6 +1.2**
B04A IAmb IAmb 02 33 51.2
comp=Z,102nm,1.1s
NLWA Neilton Lookou 62.75 50 P **P 02 33 50.9 +1.4**
JOF Joensuu 62.84 332 *e*P **P 02 33 49.8 +0.1**
WISH Wishkah 62.96 50 P **P 02 33 52.0 +1.3**
GNW Green Mountain 63.26 49 P **P 02 33 54.7 +2.0**
GNW IAmb IAmb 02 33 55.9
comp=Z,136nm,1.6s
KULLO Kullorsuaq 63.52 6 *i* P **P 02 33 53.1 -0.9**
KULLO IAmb IAmb 02 34 06.1

comp=Z,181nm,1.1s
F03A Seaside 63.72 51 P **P 02 33 57.4 +1.6**
D05A Enumclaw 63.94 49 P **P 02 33 59.0 +1.7**
DBG Daneborg 64.07 355 *i* P **P 02 33 56.7 -1.0**
DBG IAmb IAmb 02 34 06.0
comp=Z,82nm,1.2s
LON Longmire 64.28 50 P **P 02 34 00.6 +1.0**
LON Longmire 64.28 50 P **P 02 34 00.6 +1.0**
LON pmax pmax
comp=Z,34nm,1.0s
F04A Amboy 64.39 51 P **P 02 34 01.5 +1.3**
COR Corvallis 64.61 52 P **P 02 34 03.5 +1.8**
COR Corvallis 64.61 52 P **P 02 34 03.5 +1.8**
COR pmax pmax
comp=Z,315nm,1.3s
LTY Liberty 64.65 49 P **P 02 34 03.3 +1.3**
LTY IAmb IAmb 02 34 04.4
comp=Z,138nm,1.3s
MOS Moscow 64.65 323 *e*P **P 02 33 59.3 -2.4**
MOS *e* 02 34 33.5
MOS *e* 02 36 22.3
MOS *e*S **S 02 42 37.9 -2.2**
MOS pmax pmax
comp=Z,700nm,1.6s
MOS pmax pmax
comp=Z,479nm,1.5s
MOS pmax pmax
comp=N,179nm,1.3s
MOS pmax pmax
comp=E,163nm,1.2s
MOS smax smax
comp=N,700nm,3.6s
MOS smax smax
comp=E,700nm,3.6s
MOS MLR MLR
comp=N,3μm,15.0s
MOS MLR MLR
comp=E,4μm,15.0s
MOS MLR MLR
comp=Z,6μm,15.0s
FAUS Fauske 64.66 340 *e*P **P 02 34 02.0 +0.5**
B08A Colville Reser 64.77 47 P **P 02 34 03.8 +1.0**
BUCK Buck Mountain 65.02 52 P **P 02 34 06.6 +2.1**
HOOD Mount Hood Mea 65.17 51 P **P 02 34 06.4 +0.9**
PUL Pulkovo 65.20 329⇓ *e*P **P 02 34 06.5 +1.3**
PUL pmax pmax
comp=Z,176nm,1.0s
PUL MLR MLR
comp=Z,4μm,15.0s
H04A Detroit Lake 65.22 52 P **P 02 34 06.7 +1.0**
MXC Moxie City 65.25 49 P **P 02 34 07.0 +1.2**
AS01 Alice Springs 65.29 189 P **P 02 34 06.3 +0.1**
AS31 Alice Springs 65.29 189 P **P 02 34 06.4 +0.2**
AS31 Alice Springs 65.29 189 P **P 02 34 06.4 +0.2**
comp=Z,29nm,0.9s
ASAR Alice Springs 65.29 189 P **P 02 34 06.6 +0.4**
ASAR Alice Springs 65.29 189 P **P 02 34 06.0 -0.2**
comp=Z,56nm,0.9s,baz=9.2,slow=5.5,SNR=323
ASAR PKPPKP **P'P'df 03 02 44.7 +3.9**
comp=Z,2.3nm,1.0s,baz=169,slow=3.5,SNR=9.0
ASAR LR LR 03 03 39.0
comp=Z,810nm,19.5s,baz=28,slow=37
comp=Z,56nm,0.9s
ASAR Alice Springs 65.29 189 P **P 02 34 06.6 +0.4**
UPNV Upernavik 65.34 6 *i* P **P 02 34 04.6 -1.4**
UPNV IAmb IAmb 02 34 18.7
comp=Z,119nm,1.0s
VRH Novokhopyorsk 65.36 317 *e*P **P 02 34 05.2 -1.2**
VRH *e*S **S 02 42 49.0 0.0**
VRH pmax pmax
comp=Z,80nm,1.2s
G05A Wamic 65.41 51 P **P 02 34 08.0 +1.1**
G05A IAmb IAmb 02 34 31.6
comp=Z,96nm,1.0s
K02D Willamette Mer 65.45 54 P **P 02 34 08.5 +1.2**
K02D IAmb IAmb 02 34 10.3
comp=Z,120nm,1.2s
DBO Dodson Butte 65.47 53 P **P 02 34 09.1 +1.7**
DBO IAmb IAmb 02 34 10.7
comp=Z,84nm,1.3s
E07A Sunnyside 65.50 49 P **P 02 34 08.6 +1.1**
OBN Obninsk 65.51 323 P **P 02 34 06.4 -0.9**
OBN Obninsk 65.51 323 P **P 02 34 06.8 -0.5**
comp=Z,35nm,0.8s,baz=60,slow=3.1,SNR=16
OBN LR LR 03 05 25.0
comp=Z,5μm,19.7s,baz=47,slow=39
comp=Z,35nm,0.8s
OBN Obninsk 65.51 323 ⇓P **P 02 34 07.4 +0.1**
OBN Obninsk 65.51 323*c* *i*P **P 02 34 06.8 -0.5**
OBN *i* 02 36 40.8
OBN *i* S S 02 42 41.5 -9.2
OBN pmax pmax
comp=Z,97nm,1.3s
OBN MLR MLR
comp=Z,8μm,16.0s
OBN Obninsk 65.51 323 P **P 02 34 06.9 -0.4**
comp=Z,261nm,1.4s,comp=Z,3μm
KEF Keuruu 65.58 333 *e*P **P 02 34 06.8 -0.9**
I04A Tendick Farm, 65.59 52 P **P 02 34 09.4 +1.3**
FIA1 FINESS Array S 65.66 332 P **P 02 34 08.1 -0.1**
FINES FINESS Array B 65.66 332 P **P 02 34 07.9 -0.3**
comp=Z,28nm,0.7s,baz=47,slow=8.4,SNR=70
FINES LR LR 03 05 48.0
comp=Z,8μm,18.5s,baz=48,slow=39
comp=Z,28nm,0.7s
C09A Chrisman Ranch 65.67 47 P **P 02 34 09.7 +1.1**
VAF Ylistaro 65.70 335 *e*P **P 02 34 08.8 +0.4**
D08A Wollman Farm, 65.74 48 P **P 02 34 10.1 +1.1**
D08A IAmb IAmb 02 34 11.4
comp=Z,136nm,1.2s
HAWA Hanford 65.78 49 P **P 02 34 10.5 +1.3**
HAWA IAmb IAmb 02 34 12.0
comp=Z,171nm,1.4s
MOR8 Moi Rana 65.80 340 *e*P **P 02 34 08.1 -1.0**
KSXB Camp Six Broad 65.81 55 P **P 02 34 11.1 +1.5**
KSXB IAmb IAmb 02 34 12.3
comp=Z,102nm,1.1s
G06A Carlson Farm, 65.81 50 P **P 02 34 11.0 +1.5**
G06A IAmb IAmb 02 34 11.8
comp=Z,85nm,1.2s
L02F Cave Junction 65.83 55 P **P 02 34 10.9 +1.2**
L02F IAmb IAmb 02 34 12.2
comp=Z,67nm,1.1s
F07A Phinny Hill Vi 65.84 49 P **P 02 34 11.3 +1.7**
F07A IAmb IAmb 02 34 12.5
comp=Z,130nm,1.0s
FUTU Fugatoga 65.89 139 IAMs_20 IAMs_20 02 57 58.4
comp=Z,2μm,20.0s
FUTU Fugatoga 65.89 139 P **P 02 34 11.7 +1.5**
I05D Terrebonne, OR 65.91 51 P **P 02 34 11.7 +1.4**
I05D IAmb IAmb 02 34 12.4
comp=Z,58nm,0.9s
LPSR Galich'ya Gora 65.92 320 *e*P **P 02 34 09.1 -0.9**
LPSR *e*S **S 02 42 56.7 +0.9**
LPSR pmax pmax
comp=Z,88nm,1.1s
LPSR MLR MLR
comp=Z,6μm,15.0s
HUMO Hull Mountain 65.93 54 P **P 02 34 12.0 +1.6**
HUMO IAmb IAmb 02 34 13.7
comp=Z,76nm,1.4s
MBWA Marble Bar 65.95 204 P **P 02 34 09.5 -0.9**
MBWA Marble Bar 65.95 204 P **P 02 34 10.4 0.0**
MBWA P **P 02 34 10.4 0.0**
MBWA Marble Bar 65.95 204 P **P 02 34 10.3 -0.1**
KRMB Red Mountain 65.97 55 P **P 02 34 12.4 +1.7**
KRMB IAmb IAmb 02 34 14.0
comp=Z,169nm,1.5s
E08A Dider Farm, El 65.99 49 P **P 02 34 12.1 +1.5**
E08A IAmb IAmb 02 34 13.2
comp=Z,164nm,1.3s
NEW Newport 66.03 46 P **P 02 34 12.2 +1.3**
NEW IAmb IAmb 02 34 13.3
comp=Z,150nm,1.1s
NEW Newport 66.03 46 LR LR 03 01 04.9
comp=Z,1μm,21.6s,baz=315,slow=34
NEW Newport 66.03 46 P **P 02 34 12.2 +1.3**
NEW pmax pmax
comp=Z,150nm,1.2s
J04A Umpqua Nationa 66.08 53 P **P 02 34 13.2 +1.7**
JMIC Jan Mayen 66.12 350 LR LR 03 04 59.4
comp=Z,568nm,18.1s,baz=36,slow=38
JCC Jacoby Creek, 66.29 56 P **P 02 34 14.3 +1.7**
JCC IAmb IAmb 02 34 15.5
comp=Z,120nm,1.1s
PSA00 Pilbara Seismi 66.30 204 P **P 02 34 12.8 +0.1**
PSA00 IAmb IAmb 02 34 13.8
comp=Z,70nm,1.1s
PSA00 Pilbara Seismi 66.30 204 P **P 02 34 12.5 -0.2**
SUMG Summit 66.34 1 P **P 02 34 14.1 +1.2**
SUMG IAmb IAmb 02 34 26.0
comp=Z,106nm,0.8s
SUMG Summit 66.34 1 P **P 02 34 14.1 +1.2**
SUMG pmax pmax
comp=Z,105nm,0.8s
SUMG Summit 66.34 1 *i* P **P 02 34 12.7 -0.2**
SUMG IAmb IAmb 02 34 26.2
comp=Z,126nm,0.9s
VORR Voronezh 66.35 319 *e*P **P 02 34 13.0 +0.2**
VORR *e*S **S 02 43 01.2 +0.2**
VORR pmax pmax
comp=Z,70nm,1.2s
VORR smax smax
comp=E,69nm,1.3s
KHMM Horse Mountain 66.45 56 P **P 02 34 15.7 +1.9**
PINE Pine Mountain 66.46 52 P **P 02 34 15.3 +1.3**
KMPM Mount Pierce 66.47 56 P **P 02 34 16.1 +2.2**
KMPM IAmb IAmb 02 34 17.3
comp=Z,108nm,1.0s
E09A Wood Farm, Sta 66.49 48 P **P 02 34 15.1 +1.3**
L04D Klamath Falls 66.55 54 P **P 02 34 15.6 +1.2**
J05D Fort Rock, OR 66.58 52 P **P 02 34 15.8 +1.2**
J05D IAmb IAmb 02 34 17.8
comp=Z,176nm,1.3s
YBH Yreka Blue Hor 66.58 54 P **P 02 34 16.1 +1.5**
YBH IAmb IAmb 02 34 17.9
comp=Z,137nm,1.3s
YBH Yreka Blue Hor 66.58 54 LR LR 02 58 34.3
comp=Z,516nm,21.6s,baz=318,slow=32
YBH Yreka Blue Hor 66.58 54 P **P 02 34 16.1 +1.5**
YBH pmax pmax
comp=Z,137nm,1.3s
VSR Storozhevoye 66.64 318 *e*P **P 02 34 12.8 -1.9**
VSR *e* 02 34 13.7
VSR MLR MLR
comp=Z,6μm,13.0s
K04D Chiloquin, OR 66.65 53 P **P 02 34 16.5 +1.5**
NOUC Port Laguerre 66.67 157 P **P 02 34 16.5 +1.5**
DZM Mont Dzumac 66.68 157 P **P 02 34 16.0 +0.8**
DZM IAmb IAmb 02 34 18.5
comp=Z,138nm,1.6s
DZM IAMs_20 IAMs_20 03 02 19.8
comp=Z,2μm,20.0s
DZM Mont Dzumac 66.68 157 *e*P **P 02 34 15.7 +0.5**
comp=Z,148nm,1.5s
DZM *e*S **S 02 43 07.0 +1.3**
comp=Z,845nm,26.2s
DZM *e*SS **SS 02 47 25.4 +1.3**
comp=Z,469nm,26.6s
DZM *e*LQ LQ 02 51 18.6
comp=Z,3μm,27.9s
DZM *e*LR LR 02 54 19.6
comp=Z,3μm,21.9s
DZM Mont Dzumac 66.68 157 LR LR 02 59 09.1
comp=Z,2μm,21.4s,baz=356,slow=32
DZM Mont Dzumac 66.68 157 P **P 02 34 16.7 +1.5**
VORD Divnogorie 66.73 318 *e*P **P 02 34 13.8 -1.4**
VORD *e* 02 34 14.5
VORD MLR MLR
comp=Z,3μm,13.0s
G08A Pilot Rock 66.75 50 P **P 02 34 16.8 +1.1**
NUUG Nuugaatsiaq 66.78 6 *i* P **P 02 34 14.4 -0.8**
NUUG IAmb IAmb 02 34 29.8
comp=Z,85nm,1.1s
YATNC Mamie plateau, 66.80 156 P **P 02 34 16.4 +0.5**
KMRM Mail Ridge 66.83 56 P **P 02 34 17.5 +1.3**
KMRM IAmb IAmb 02 34 19.5
comp=Z,78nm,1.1s
MAK Makhachkala 66.95 307 *e*P **P 02 34 13.2 -3.6**
MAK *e* 02 36 44.1
MAK *e*S **S 02 43 04.7 -3.9**
MAK *e*SS **SS 02 47 30.0 +3.4**
MAK pmax pmax
comp=Z,293nm,1.4s
MSVF Nonsavu 67.05 144 P **P 02 34 18.6 +0.9**
MSVF Nonsavu 67.05 144 LR LR 02 57 21.0
comp=Z,2μm,21.9s,baz=327,slow=30
MSVF Nonsavu 67.05 144 P **P 02 34 19.2 +1.5**
MSVF Nonsavu 67.05 144 P **P 02 34 18.6 +0.9**
MSVF pmax pmax
comp=Z,64nm,1.3s
ARBE Arbavere 67.07 330 *e*P **P 02 34 17.9 +0.7**
MEF Metsahovi 67.11 332 *e*P **P 02 34 17.9 +0.5**
OUENC Ouen Island, N 67.13 156 P **P 02 34 19.8 +1.9**
I07A Izee 67.14 51 P **P 02 34 19.2 +1.1**
F10A Beach Ranch, E 67.33 48 P **P 02 34 20.7 +1.4**
F10A IAmb IAmb 02 34 22.0
comp=Z,222nm,2.0s
O02D Mt. Diablo Mer 67.44 56 P **P 02 34 21.7 +1.7**
O02D IAmb IAmb 02 34 23.4
comp=Z,169nm,1.4s
RAF Rauma 67.45 333 *e*P **P 02 34 19.1 -0.5**
VSU Vasula 67.46 329*c* *i*P **P 02 34 19.7 0.0**
VSU pmax pmax
comp=Z,93nm,1.3s
WRKA Warakurna 67.52 195 P **P 02 34 20.5 0.0**
QLP Quilpie 67.62 179 P **P 02 34 21.1 +0.1**
AKT Akhty 67.68 306 *e*P **P 02 34 20.6 -1.0**
AKT *e* 02 34 46.0
AKT *e* 02 36 48.3
AKT *e*PPP PPP 02 38 26.6
AKT *e*S **S 02 43 17.3 -0.5**
AKT pmax pmax
comp=Z,186nm,1.0s
AKT MLR MLR
comp=Z,5μm,16.0s
UMMG Uummannaq 67.70 5 *e*P **P 02 34 19.1 -2.0**
UMMG IAmb IAmb 02 34 30.1
comp=Z,223nm,1.4s
NSS Namsos 67.74 339 *e*P **P 02 34 21.4 +0.1**
HATC Hat Creek Radi 67.88 55 P **P 02 34 24.4 +1.5**
SCO Scoresbysund 67.94 355 P **P 02 34 23.5 +1.0**
SCO IAmb IAmb 02 34 33.4
comp=Z,89nm,1.3s
SCO Scoresbysund 67.94 355 P **P 02 34 23.5 +1.0**
SCO pmax pmax
comp=Z,89nm,1.3s
SCO Scoresbysund 67.94 355 *i* P **P 02 34 22.5 -0.1**
SCO IAmb IAmb 02 34 32.0
comp=Z,402nm,2.1s
BMO Blue Mountains 67.95 49 P **P 02 34 24.3 +1.1**
BMO IAmb IAmb 02 34 25.9
comp=Z,149nm,1.6s
BMO Blue Mountains 67.95 49 P **P 02 34 24.3 +1.1**
BMO pmax pmax
comp=Z,149nm,1.6s
NGCH Negor - Chabah 68.07 285 P **P 02 34 25.2 +1.1**
J08A Circle Bar Ran 68.17 51 P **P 02 34 26.2 +1.5**
J08A IAmb IAmb 02 34 27.6
comp=Z,126nm,1.2s
GOF Gofitskoye 68.31 311*c* *i*P **P 02 34 26.0 +0.7**
GOF *e*S **S 02 43 25.4 +0.6**
COCO West Island 68.36 230 P **P 02 34 26.3 +0.4**
COCO West Island 68.36 230 P **P 02 34 27.0 +1.1**
COCO P **P 02 34 27.0 +1.1**
COCO West Island 68.36 230 P **P 02 34 27.5 +1.6**
COCO West Island 68.36 230 P **P 02 34 26.3 +0.4**
COCO pmax pmax
comp=Z,602nm,1.6s
MTSE Matsula 68.38 331 *e*P **P 02 34 25.6 +0.1**
PLID Pearl Lake 68.55 48 P **P 02 34 27.7 +0.6**
PLID IAmb IAmb 02 34 29.4
comp=Z,117nm,1.2s
ORV Oroville 68.60 56 P **P 02 34 28.1 +0.8**
ORV IAmb IAmb 02 34 29.3
comp=Z,129nm,1.4s
ORV Oroville 68.60 56 P **P 02 34 28.1 +0.8**
ORV pmax pmax
comp=Z,129nm,1.5s
MSO Missoula 68.62 46 P **P 02 34 28.0 +0.6**
MSO IAmb IAmb 02 34 29.6
comp=Z,138nm,1.3s
WVOR Wild Horse Val 68.63 52 P **P 02 34 28.7 +1.2**
WVOR IAmb IAmb 02 34 30.3
comp=Z,115nm,1.2s
WVOR Wild Horse Val 68.63 52 P **P 02 34 28.7 +1.2**
WVOR pmax pmax
comp=Z,115nm,1.3s
INKA Innaminka 68.81 182 P **P 02 34 29.1 +0.7**
NCK Nalchik 68.94 310⇑ *i*P **P 02 34 29.8 +0.5**
NCK pmax pmax
comp=Z,152nm,1.2s
OVMT Ovando 68.98 45 P **P 02 34 30.1 +0.4**
BPMT Black Pine Rid 69.13 46 P **P 02 34 31.6 +0.8**
KVAR Kislovodsk Arr 69.17 311 LR LR 03 09 05.3
comp=Z,2μm,18.3s,baz=275,slow=40
KIV Kislovodsk 69.18 311 P **P 02 34 31.8 +0.9**
KIV Kislovodsk 69.18 311 *i* P **P 02 34 32.0 +1.1**
SNR=24
KIV Kislovodsk 69.18 311 P **P 02 34 32.7 +1.8**
KIV P **P 02 34 32.7 +1.8**
KIV S **S 02 43 38.5 +3.1**
KIV S **S 02 43 38.5 +3.1**
KIV Kislovodsk 69.18 311 ⇓P **P 02 34 32.4 +1.5**
KIV Kislovodsk 69.18 311 *e*P **P 02 34 31.5 +0.6**
KIV *e* 02 37 04.3
KIV *e*S **S 02 43 35.3 -0.1**
KIV *e*SS **SS 02 47 58.9 -2.2**
KIV pmax pmax
comp=Z,130nm,3.3s
KIV pmax pmax
comp=Z,292nm,1.1s
KIV Kislovodsk 69.18 311 P **P 02 34 32.4 +1.5**
comp=Z,325nm,1.1s,comp=Z,3μm
OOD Oodnadatta 69.18 187 P **P 02 34 31.2 +0.5**
KBZ Khabaz 69.20 310 P **P 02 34 31.3 +0.5**
comp=Z,90nm,1.1s,baz=62,slow=5.7,SNR=64
KBZ LR LR 03 09 22.9
comp=Z,3μm,18.1s,baz=37,slow=40
comp=Z,90nm,1.1s
ILULI Ilulissat 69.22 5 P **P 02 34 30.9 +0.4**
ILULI IAmb IAmb 02 34 39.7
comp=Z,136nm,1.1s
ILULI Ilulissat 69.22 5 P **P 02 34 30.9 +0.4**
ILULI pmax pmax
comp=Z,136nm,1.1s
ILULI MLR MLR
comp=Z,3μm,19.0s
ILULI Ilulissat 69.22 5 *i* P **P 02 34 29.9 -0.7**
ILULI IAmb IAmb 02 34 39.4
comp=Z,114nm,1.0s
FFC Flin Flon 69.28 34 P **P 02 34 32.0 +0.8**
FFC IAmb IAmb 02 34 33.1
comp=Z,137nm,1.1s
FFC Flin Flon 69.28 34 P **P 02 34 32.0 +0.8**
FFC pmax pmax
comp=Z,137nm,1.1s
AFDM Forest Hills D 69.29 56 P **P 02 34 32.5 +0.9**
AFDM IAmb IAmb 02 34 34.1
comp=Z,99nm,1.3s
SHA1 Shidzhatmaz 69.33 310*c* *i*P **P 02 34 32.7 +0.7**
ERBR Yeremizino-Bor 69.33 313 *e*P **P 02 34 32.6 +0.9**
ERBR *e**PP **sP 02 34 40.2 -0.7**
ERBR *e*S **S 02 43 39.7 +2.7**
ERBR *e*SS **SS 02 48 03.4 +0.2**
ERBR pmax pmax
comp=Z,181nm,1.1s
ERBR MLR MLR
comp=Z,8μm,15.0s
LYMT Lyon Mountain 69.42 45 P **P 02 34 33.1 +0.6**
FCC Fort Churchill 69.48 28 P **P 02 34 32.9 +0.6**
FCC IAmb IAmb 02 34 34.0
comp=Z,158nm,1.2s
FCC IAMs_20 IAMs_20 03 08 05.1
comp=Z,2μm,19.0s
FCC Fort Churchill 69.48 28 P **P 02 34 32.9 +0.6**
FCC pmax pmax
comp=Z,158nm,1.2s
FCC MLR MLR
comp=Z,2μm,19.0s
MFID Camas Ranch 69.67 50 P **P 02 34 34.9 +0.9**
MFID IAmb IAmb 02 34 36.8
comp=Z,199nm,1.8s
MNK Minsk 69.72 326 *i* P **P 02 34 34.4 +0.4**
comp=E,64nm,1.1s
MNK *i* P **P 02 34 34.4 +0.4**
comp=N,45nm,1.2s
MNK *i* P **P 02 34 34.4 +0.4**
comp=Z,105nm,1.0s,baz=46
MNK *i* pP **sP 02 34 44.6 +1.5**
MNK *i* PP **PP 02 37 08.8 +1.1**
MNK *i* PPP PPP 02 38 50.6
MNK *i* S **S 02 43 43.3 +2.0**
MNK *i* SS **SS 02 48 12.0 +3.2**
MNK *i* SSS SSS 02 51 30.2
MNK *i* LQ LQ 03 00 16.1
MNK *i* LR LR 03 05 58.4
MNK *i* LRM MLR 03 08 02.7
comp=N,3μm,20.4s
MNK *i* LRM MLR 03 08 09.4
comp=Z,7μm,19.5s
MNK *i* LRM MLR 03 08 12.3
comp=E,5μm,19.2s
MNK Minsk 69.72 326 *i* P **P 02 34 34.3 +0.4**
MNK *i* 02 34 56.5
MNK *i* 02 37 08.7
MNK *i* PPP PPP 02 38 50.6
MNK *i* S **S 02 43 43.2 +2.0**
MNK *i* 02 44 33.4
MNK *i* SS **SS 02 48 11.9 +3.2**
MNK pmax pmax
comp=Z,105nm,1.0s
MNK pmax pmax
comp=E,64nm,1.1s
MNK pmax pmax
comp=N,45nm,1.2s
MNK MLR MLR
comp=N,3μm,20.0s
MNK MLR MLR
comp=Z,7μm,19.0s
MNK MLR MLR
comp=E,5μm,19.0s
ICESG Greenland Ices 69.83 1 *i* P **P 02 34 34.0 -0.8**
ICESG IAmb IAmb 02 34 43.7
comp=Z,323nm,1.2s
LABN Labinsk 69.86 312 *e*P **P 02 34 35.9 +0.9**
LABN *e**PP **sP 02 34 42.5 -1.7**
LABN *e*S **S 02 43 44.0 +0.7**
LABN pmax pmax
comp=Z,177nm,1.1s
LABN MLR MLR
comp=Z,6μm,16.0s
NACGM Naroch 69.91 327 *e*P **P 02 34 35.0 0.0**
comp=E,2μm,1.3s
PLTM Poltava 69.96 319 P **P 02 34 36.6 +1.2**
EGMT Eagleton 70.08 43 P **P 02 34 37.0 +0.6**
EGMT IAmb IAmb 02 34 38.5
comp=Z,152nm,1.1s
JASK Jask - Hormozg 70.13 287 P **P 02 34 38.6 +1.7**
SNR=8.4
JASK S **S 02 43 49.6 +2.6**
CMB Columbia Colle 70.21 57 P **P 02 34 38.5 +1.2**
CMB IAmb IAmb 02 34 40.0
comp=Z,126nm,1.3s
CMB Columbia Colle 70.21 57 P **P 02 34 38.5 +1.2**
CMB pmax pmax
comp=Z,126nm,1.3s
DLMT Dillon 70.27 47 P **P 02 34 38.6 +0.9**
VSVD Vaisvydziai 70.29 329 *e*P **P 02 34 37.6 +0.2**
GNI Garni 70.30 306 P **P 02 34 38.6 +0.6**
GNI Garni 70.30 306 IAMs_20 IAMs_20 03 07 33.0
comp=Z,2μm,19.0s
GNI Garni 70.30 306 P **P 02 34 39.2 +1.3**
comp=Z,92nm,1.2s,baz=191,slow=4.0,SNR=24
GNI LR LR 03 07 44.6
comp=Z,2μm,19.8s,baz=44,slow=38
comp=Z,92nm,1.2s
GNI Garni 70.30 306 P **P 02 34 39.3 +1.3**
GNI P **P 02 34 39.3 +1.3**
GNI S **S 02 43 50.4 +1.6**
GNI S **S 02 43 50.4 +1.6**
GNI Garni 70.30 306*c* *i*P **P 02 34 39.3 +1.3**
GNI pmax pmax
comp=Z,136nm,1.0s
GNI MLR MLR
comp=Z,2μm,15.0s
SAO San Andreas Ge 70.31 58 P **P 02 34 39.0 +1.1**
SAO San Andreas Ge 70.31 58 P **P 02 34 39.0 +1.1**
SAO pmax pmax
comp=Z,45nm,1.2s
HLID Hailey 70.39 49 P **P 02 34 39.5 +1.0**
DOMB Dombas 70.53 339 *e*P **P 02 34 38.8 0.0**
NC405 NORSAR Array S 70.54 337 P **P 02 34 38.6 -0.2**
NC405 IAmb IAmb 02 34 52.0

comp=Z,159nm,1.3s
NC303 NORSAR Array S 70.55 338 P P 02 34 39.0 +0.1
NC303 IAmb IAmb 02 34 57.1
comp=Z,82nm,1.1s
PABE Paberze 70.62 328 P **P 02 34 39.6 +0.2**
PABE Paberze 70.62 328 *e*P **P 02 34 40.2 +0.9**
BOZ Bozeman (W) 70.64 46 P **P 02 34 41.0 +1.1**
BOZ Bozeman (W) 70.64 46 P **P 02 34 41.1 +1.1**
BOZ pmax pmax
comp=Z,227nm,1.4s
SOEG Soedalen 70.67 358 *i* P **P 02 34 39.1 -0.4**
SOEG IAmb IAmb 02 34 47.9
comp=Z,223nm,1.5s
BBGB Big Mountain B 70.68 58 P **P 02 34 41.1 +0.9**
BBGB IAmb IAmb 02 34 43.1
comp=Z,126nm,1.1s
NC204 NORSAR Array S 70.68 338 P **P 02 34 40.0 +0.3**
NC204 IAmb IAmb 02 34 49.0
comp=Z,120nm,1.1s
NB201 NORSAR Array S 70.71 337 P **P 02 34 39.8 -0.2**
NB201 IAmb IAmb 02 34 49.1
comp=Z,123nm,1.1s
HFS Hagfors 70.73 336 P **P 02 34 39.8 -0.2**
comp=Z,23nm,0.8s,baz=44,slow=7.0,SNR=36
HFS LR LR 03 08 45.7
comp=Z,3μm,19.4s,baz=48,slow=38
comp=Z,23nm,0.8s
NB2 NORSAR Subarra 70.74 338 P **P 02 34 40.0 -0.1**
comp=Z,133nm,1.4s,baz=35,slow=6.5
NB2 NORSAR Subarra 70.74 338 P **P 02 34 40.0 -0.1**
baz=35,slow=6.5
NOA NORSAR Array B 70.74 338 P **P 02 34 39.9 -0.3**
comp=Z,38nm,1.1s,baz=36,slow=6.1,SNR=49
NOA LR LR 03 09 47.8
comp=Z,3μm,18.7s,baz=45,slow=39
comp=Z,38nm,1.1s
NBO00 NORSAR Array S 70.88 338 P **P 02 34 41.3 +0.3**
NBO00 IAmb IAmb 02 34 50.0
comp=Z,123nm,1.2s
NC602 NORSAR Array S 70.89 337 P **P 02 34 41.4 +0.4**
NC602 IAmb IAmb 02 34 50.6
comp=Z,135nm,1.8s
NC602 NORSAR Array S 70.89 337 *e*P **P 02 34 40.5 -0.5**
VSLR Vesyoloye 70.99 311 *ce*P **P 02 34 42.6 +0.7**
VSLR pmax pmax
comp=Z,182nm,1.1s
NAO01 NORSAR Array S 71.00 338 P **P 02 34 41.7 0.0**
NAO01 IAmb IAmb 02 35 03.0
comp=Z,127nm,1.4s
KARS Kars 71.00 308 P **P 02 34 43.5 +1.3**
KARS Kars 71.00 308 P **P 02 34 43.5 +1.3**
PBUR Paburge 71.03 330 *e*P **P 02 34 42.6 +0.7**
PMPB Monarch Peak 71.05 58 P **P 02 34 43.4 +0.9**
PMPB IAmb IAmb 02 35 07.0
comp=Z,110nm,1.6s
SOC Sochi 71.09 312 *e*P **P 02 34 41.1 -1.4**
SOC *e* 02 37 19.6
SOC *e*PPP PPP 02 39 04.1
SOC *e*S **S 02 43 55.6 -2.0**
SOC *e*SS **SS 02 48 26.1 -4.2**
SOC pmax pmax
comp=Z,121nm,1.2s
SOC MLR MLR
comp=Z,5μm,17.0s
WSAR Wadi Sarin 71.17 285 LR LR 03 10 08.2
comp=Z,580nm,19.1s,baz=74,slow=40
BANOM Banah 71.22 288 *i* P **P 02 34 44.2 +0.5**
SNR=9.0
BANOM Banah 71.22 288 P **P 02 34 44.1 +0.5**
BANOM P **P 02 34 44.1 +0.5**
BANOM S **S 02 43 59.6 -0.1**
BANOM S **S 02 43 59.6 -0.1**
SHME Shamm 71.26 288 *i* P **P 02 34 44.1 +0.4**
SNR=13
SHME Shamm 71.26 288 P **P 02 34 44.2 +0.4**
SNR=10
SHME P **P 02 34 44.2 +0.4**
SNR=10
JLN Jalan Bani Buh 71.26 283 P **P 02 34 44.5 +0.7**
SNR=14
NVAR Mina Array Bea 71.27 55 P **P 02 34 44.7 +0.8**
NVAR Mina Array Bea 71.27 55 P **P 02 34 45.4 +1.5**
comp=Z,66nm,0.9s,baz=289,slow=6.0,SNR=270
NVAR LR LR 03 03 23.8
comp=Z,600nm,19.8s,baz=302,slow=34
comp=Z,66nm,0.9s
WBK Wadi Bani Khal 71.31 284 P **P 02 34 44.4 +0.3**
SNR=12
WBK P **P 02 34 44.4 +0.3**
SNR=12
BCA Borcka 71.35 309 ⇑P **P 02 34 44.6 +0.5**
NV11 Mina Array Sit 71.36 55 P **P 02 34 45.5 +1.1**
NV11 IAmb IAmb 02 34 47.2
comp=Z,118nm,1.2s
BIDO Bidbid 71.36 285 P **P 02 34 45.3 +0.9**
SNR=12
BIDO P **P 02 34 45.3 +0.9**
SNR=12
YHL Hebgen Lake 71.36 46 P **P 02 34 45.7 +1.2**
YHL IAmb IAmb 02 34 47.2
comp=Z,104nm,1.1s
YHB Horse Butte 71.42 46 P **P 02 34 46.1 +1.3**
YHB IAmb IAmb 02 34 47.5
comp=Z,114nm,1.0s
MEEK Meekatharra 71.43 203 P **P 02 34 44.3 -0.3**
SFJD Kangerlussuaq 71.43 6 P **P 02 34 44.4 +0.3**
SFJD IAmb IAmb 02 34 45.7
comp=Z,94nm,1.1s
SFJD Kangerlussuaq 71.43 6 LR LR 03 08 45.9
comp=Z,2μm,19.6s,baz=344,slow=38
SFJD Kangerlussuaq 71.43 6 P **P 02 34 44.4 +0.3**
SFJD pmax pmax
comp=Z,94nm,1.1s
SFJD Kangerlussuaq 71.43 6 *i* P **P 02 34 43.5 -0.6**
SFJD IAmb IAmb 02 34 45.4
comp=Z,91nm,1.1s
ANN Anapa 71.58 314 *e*P **P 02 34 42.7 -2.7**
ANN *e* 02 37 20.4
ANN *e*S **S 02 44 00.4 -2.7**
ANN pmax pmax
comp=Z,190nm,1.9s
ANN MLR MLR
comp=Z,4μm,15.0s
YHH Holmes Hill 71.59 46 P **P 02 34 47.3 +1.4**
YMR Madison River 71.60 46 P **P 02 34 47.0 +1.1**
YMR IAmb IAmb 02 34 48.7
comp=Z,128nm,1.2s
YMR IAMs_20 IAMs_20 03 10 11.3
comp=Z,1μm,19.0s
MDH Madha 71.60 288 P **P 02 34 45.4 -0.5**
MDH P **P 02 34 45.4 -0.5**
MDH S **S 02 44 03.2 -0.9**
MDH S **S 02 44 03.2 -0.9**
LCRK Leigh Creek 71.62 185 P **P 02 34 46.7 +1.1**
MASF Masafi 71.66 288 P **P 02 34 46.6 +0.3**
SNR=7.4
MASF P **P 02 34 46.6 +0.3**
SNR=7.4
MASF S **S 02 44 03.8 -1.0**
MASF S **S 02 44 03.8 -1.0**
MSFE Esma-Masafi 71.67 288 *i* P **P 02 34 46.7 +0.4**
SNR=13
ELK Elko 71.67 52 P **P 02 34 46.9 +0.5**
ELK Elko 71.67 52 P **P 02 34 46.9 +0.5**
ELK pmax pmax
comp=Z,49nm,1.1s
SMDO Samad 71.70 285 P **P 02 34 47.2 +0.6**
SNR=15
SMDO P **P 02 34 47.2 +0.6**
SNR=15
YNM Yellowstone No 71.70 46 P **P 02 34 48.4 +1.9**
YNM IAmb IAmb 02 34 49.8
comp=Z,96nm,1.2s
YNR Norris Junctio 71.73 46 P **P 02 34 48.4 +1.8**
YNR IAmb IAmb 02 34 50.0
comp=Z,122nm,1.3s
YNR IAMs_20 IAMs_20 03 08 36.6
comp=Z,2μm,20.0s
AKASG Malin Array Be 71.76 322 P **P 02 34 46.1 -0.3**
AKASG IAmb IAmb 02 34 57.1
comp=Z,117nm,1.1s
AKASG Malin Array Be 71.76 322 P **P 02 34 46.0 -0.3**
comp=Z,37nm,0.9s,baz=43,slow=6.2,SNR=102
AKASG S **S 02 44 03.0 -2.1**
comp=Z,0.1nm,0.2s,baz=46,slow=9.6,SNR=5.2
AKASG LR LR 03 09 19.0
comp=Z,7μm,18.2s,baz=30,slow=38
comp=Z,37nm,0.9s
AKASG Malin Array Be 71.76 322 P **P 02 34 46.1 -0.3**
AKASG pmax pmax
comp=Z,117nm,1.1s
AKBB Malin Array Si 71.76 322 P **P 02 34 46.5 +0.1**
AKBB IAmb IAmb 02 34 57.1
comp=Z,137nm,1.0s
AKBB Malin Array Si 71.76 322 P **P 02 34 46.5 +0.1**
AKBB pmax pmax
comp=Z,137nm,1.0s
AKBB Malin Array Si 71.76 322 P **P 02 34 46.1 -0.3**
KIEV Kiev 71.77 322 P **P 02 34 45.8 -0.7**
KIEV IAmb IAmb 02 34 57.1
comp=Z,123nm,1.0s
KIEV Kiev 71.77 322 *i* P **P 02 34 46.1 -0.3**
SNR=38
KIEV Kiev 71.77 322 ⇓P **P 02 34 46.6 +0.1**
KIEV Kiev 71.77 322 P **P 02 34 46.5 +0.1**
KIEV Kiev 71.77 322 P **P 02 34 45.9 -0.5**
comp=Z,502nm,1.0s,comp=Z,5μm
MULG Mulgathing 71.81 188 P **P 02 34 47.7 +1.0**
YFT Old Faithful 71.81 46 P **P 02 34 49.7 +2.6**
YFT IAmb IAmb 02 34 52.6
comp=Z,111nm,1.2s
ARMA Armidale 71.85 172 P **P 02 34 47.8 +0.7**
ARMA IAmb IAmb 02 34 52.1
comp=Z,106nm,1.6s
ARMA Armidale 71.85 172 P **P 02 34 48.3 +1.2**
SKAR Skarslia 71.86 339 *e*P **P 02 34 47.6 +0.7**
UOSS Minazif 71.89 287 P **P 02 34 47.8 +0.2**
UOSS Minazif 71.89 287 *i* P **P 02 34 47.5 -0.1**
SNR=10.0
UOSS Minazif 71.89 287 P **P 02 34 48.0 +0.4**
UOSS P **P 02 34 48.0 +0.4**
UOSS S **S 02 44 06.1 -1.3**
UOSS S **S 02 44 06.1 -1.3**
YNE Yellowstone No 71.90 46 P **P 02 34 48.9 +1.3**
YNE IAMs_20 IAMs_20 03 09 40.2
comp=Z,2μm,19.0s
HOQ Hoqain 71.92 286 P **P 02 34 48.3 +0.4**
SNR=13
HOQ P **P 02 34 48.3 +0.4**
SNR=13
UMQ Umm Al-Quwin 71.92 288 P **P 02 34 48.5 +0.7**
UMQ P **P 02 34 48.5 +0.7**
LKWY Lake 71.97 46 P **P 02 34 49.6 +1.5**
LKWY IAmb IAmb 02 34 52.3
comp=Z,89nm,1.1s
LKWY IAMs_20 IAMs_20 03 08 52.2
comp=Z,2μm,22.0s
LKWY Lake 71.97 46 P **P 02 34 49.6 +1.5**
LKWY pmax pmax
comp=Z,89nm,1.1s
LKWY MLR MLR
comp=Z,2μm,22.0s
H17A Grant Village 71.99 46 P **P 02 34 50.8 +2.5**
H17A IAmb IAmb 02 34 52.5
comp=Z,189nm,1.1s
H17A IAMs_20 IAMs_20 03 07 47.6
comp=Z,2μm,20.0s
YMP Mirror Lake PI 71.99 46 P **P 02 34 49.9 +1.6**
YMP IAmb IAmb 02 34 51.4
comp=Z,90nm,1.2s
YMP IAMs_20 IAMs_20 03 09 42.7
comp=Z,2μm,19.0s
HATD Hatta, Dubai 72.01 287 *i* P **P 02 34 48.7 +0.3**
SNR=22
HATD Hatta, Dubai 72.01 287 P **P 02 34 48.7 +0.3**
SNR=17
HATD P **P 02 34 48.7 +0.3**
SNR=17
HATD S **S 02 44 08.8 0.0**
HATD S **S 02 44 08.8 0.0**
SUW Suwalki 72.02 328 *e*P **P 02 34 47.1 -0.8**
SUW Suwalki 72.02 328 P **P 02 34 48.1 +0.3**
SUW IAmb IAmb 02 35 02.5
comp=Z,148nm,1.1s
SUW Suwalki 72.02 328 *e*P **P 02 34 48.1 +0.3**
SUW Suwalki 72.02 328 P **P 02 34 48.1 +0.3**
SUW pmax pmax
comp=Z,148nm,1.1s
SUW MLR MLR
comp=Z,4μm,19.0s
JMDO Jabal Madar 72.08 284 P **P 02 34 49.3 +0.5**
SNR=13
FLWY Flagg Ranch 72.12 47 P **P 02 34 51.2 +2.2**
SOHO SOHO 72.14 287 *i* P **P 02 34 49.2 0.0**
SNR=17
SOHO *i* P **P 02 34 50.0 +0.8**
SNR=9.1
SOHO SOHO 72.14 287 P **P 02 34 49.4 +0.3**
SOHO P **P 02 34 49.4 +0.3**
ASHO Ashiyiah 72.15 287 *i* P **P 02 34 50.0 +0.7**
SNR=22
ASHO Ashiyiah 72.15 287 P **P 02 34 49.7 +0.5**
SNR=19
ASHO P **P 02 34 49.7 +0.5**
SNR=19
ASHO S **S 02 44 10.9 +0.4**
ASHO S **S 02 44 10.9 +0.4**
FRB Frobisher Bay 72.22 14 LR LR 03 11 54.2
comp=Z,2μm,18.5s,baz=336,slow=40
RLMT Red Lodge 72.22 45 P **P 02 34 50.9 +1.4**
RLMT IAmb IAmb 02 34 52.4
comp=Z,186nm,1.6s
DY2G Dye2 72.23 4 *i* P **P 02 34 49.0 -0.3**
DY2G IAmb IAmb 02 35 05.8
comp=Z,666nm,1.7s
FXWY Fox Creek 72.23 47 P **P 02 34 51.4 +1.7**
FXWY IAmb IAmb 02 34 52.9
comp=Z,128nm,1.2s
NAZ Nazwa, Dubai 72.25 288 *i* P **P 02 34 49.5 -0.3**
SNR=14
NAZ Nazwa, Dubai 72.25 288 P **P 02 34 50.1 +0.4**
SNR=8.9
NAZ P **P 02 34 50.1 +0.4**
SNR=8.9
NAZ S **S 02 44 10.7 -0.8**
NAZ S **S 02 44 10.7 -0.8**
MI28 Mi28,Pidlybu 72.31 323 P **P 02 34 49.7 0.0**
comp=Z,823nm,1.4s
MOOW Moose Ponds 72.32 47 P **P 02 34 51.7 +1.5**
MOOW IAmb IAmb 02 34 53.4
comp=Z,148nm,1.3s
TPAW Teton Pass 72.37 47 P **P 02 34 51.9 +1.3**
TPAW IAmb IAmb 02 34 53.9
comp=Z,176nm,1.4s
FAQ Al Faqa, Dubai 72.45 288 *i* P **P 02 34 50.7 -0.3**
SNR=16
FAQ Al Faqa, Dubai 72.45 288 P **P 02 34 51.2 +0.2**
SNR=8.6
FAQ P **P 02 34 51.2 +0.2**
SNR=8.6
HVU Hansel Valley 72.45 50 P **P 02 34 52.1 +1.3**
HVU IAmb IAmb 02 34 53.8
comp=Z,93nm,1.3s
HVU Hansel Valley 72.45 50 P **P 02 34 52.2 +1.3**
HVU pmax pmax
comp=Z,93nm,1.3s
LOHW Long Hollow 72.48 47 P **P 02 34 52.5 +1.3**
SNOW Snow King Moun 72.50 47 P **P 02 34 52.8 +1.5**
BSY Bisya 72.51 285 P **P 02 34 51.7 +0.3**
SNR=23
BSY P **P 02 34 51.7 +0.3**
SNR=23
DGMT Dagmar 72.56 40 P **P 02 34 51.9 +0.6**
DGMT IAmb IAmb 02 34 53.2
comp=Z,196nm,1.2s
DGMT Dagmar 72.56 40 IAMs_20 IAMs_20 03 11 14.4
comp=Z,2μm,18.0s
CMSA Cobar Meteorol 72.58 178 P **P 02 34 52.2 +0.9**
ARQ Araqi 72.64 286 P **P 02 34 52.6 +0.5**
SNR=18
ARQ P **P 02 34 52.6 +0.5**
SNR=18
ASUD Al Ashush, Dub 72.71 288 *i* P **P 02 34 52.6 +0.1**
SNR=13
ASUD Al Ashush, Dub 72.71 288 P **P 02 34 53.2 +0.7**
SNR=7.5
ASUD P **P 02 34 53.2 +0.7**
SNR=7.5
ASUD S **S 02 44 16.7 -0.1**
ASUD S **S 02 44 16.7 -0.1**
BCW Bitter Crk WRg 72.73 59 P **P 02 34 53.7 +1.1**
BCW IAmb IAmb 02 34 55.7
comp=Z,199nm,1.3s
GRAC Grapevine Rang 72.74 56 P **P 02 34 54.3 +1.8**
GRAC IAmb IAmb 02 34 55.6
comp=Z,205nm,1.2s
ALNE Al Ain 72.75 287 *i* P **P 02 34 52.8 0.0**
SNR=17
ALNE Al Ain 72.75 287 P **P 02 34 53.1 +0.3**
SNR=16
ALNE P **P 02 34 53.1 +0.3**
SNR=16
ALNE S **S 02 44 16.9 -0.4**
ALNE S **S 02 44 16.9 -0.4**
RNPP9 Sopachiv 72.75 324 P **P 02 34 52.5 +0.2**
AHID Auburn Hatcher 72.76 48 P **P 02 34 54.0 +1.2**
LAO LASA Array 72.76 42 P **P 02 34 53.6 +1.1**
LAO IAmb IAmb 02 34 55.1
comp=Z,170nm,1.2s
LAO IAMs_20 IAMs_20 03 10 24.9
comp=Z,1μm,18.0s
RNPP8 Varash 72.83 324 P **P 02 34 52.8 +0.1**
BGU Big Grassy Mou 72.85 50 P **P 02 34 54.8 +1.5**
ISA Isabella, Lake 72.88 57 P **P 02 34 53.6 +0.1**
ISA Isabella, Lake 72.88 57 P **P 02 34 53.6 +0.1**
ISA pmax pmax
comp=Z,54nm,1.2s
STKA Stephens Creek 72.91 182 P **P 02 34 54.1 +0.8**
STKA Stephens Creek 72.91 182 P **P 02 34 53.5 +0.3**
comp=Z,10nm,0.8s,baz=345,slow=7.6,SNR=18
STKA LR LR 03 11 56.0
comp=Z,566nm,19.1s,baz=12,slow=40
comp=Z,10nm,0.8s
STKA Stephens Creek 72.91 182 P **P 02 34 53.9 +0.6**
STKA Stephens Creek 72.91 182 P **P 02 34 54.1 +0.8**
GURO Guroymak-BITLI 72.93 306 P **P 02 34 54.8 +1.0**
GURO IAmb IAmb 02 34 56.4
comp=Z,103nm,0.9s
GURO IAMs_20 IAMs_20 03 10 10.8
comp=Z,1μm,18.0s
SPUT South Promonto 72.94 50 P **P 02 34 55.1 +1.3**
SPUT IAmb IAmb 02 34 56.8
comp=Z,142nm,1.4s
R11B Troy Canyon, C 72.98 54 P **P 02 34 55.0 +0.8**
R11B IAmb IAmb 02 34 56.9
comp=Z,110nm,1.1s
R11B Troy Canyon, C 72.98 54 P **P 02 34 55.5 +1.3**
baz=310,SNR=133
AJN Ajban 72.99 288 P **P 02 34 53.8 -0.4**
AJN Ajban 72.99 288 P **P 02 34 54.5 +0.3**
SNR=5.2
AJN P **P 02 34 54.5 +0.3**
SNR=5.2
AJN S **S 02 44 18.2 -1.8**
AJN S **S 02 44 18.2 -1.8**
MHTO MHTO 73.03 283 P **P 02 34 55.1 +0.6**
SNR=36
MHTO P **P 02 34 55.1 +0.6**
SNR=36
MHTO S **S 02 44 21.1 +0.6**
MHTO S **S 02 44 21.1 +0.6**
BLEU Blekinge 73.05 332 *i* P **P 02 34 52.5 -1.5**
TJOU Tjoern 73.06 335 *i* P **P 02 34 52.9 -1.0**
FORT Forrest 73.16 194 P **P 02 34 55.0 +0.2**
FORT Forrest 73.16 194 P **P 02 34 55.4 +0.6**
HWUT Hardware Ranch 73.25 49 P **P 02 34 57.1 +1.4**
HWUT IAmb IAmb 02 34 58.6
comp=Z,169nm,1.3s
SIM Simferopol' 73.25 316 *e*P **P 02 34 56.2 +0.8**
SIM S **SKiKP 02 44 25.0 -0.5**
SIM SS **SS 02 49 09.0 +5.7**
SIM pmax pmax
comp=Z,140nm,1.6s
SIM smax smax
comp=E,170nm,8.3s
SIM MLR MLR
comp=Z,5μm,18.0s
ISOG Isortoq, Green 73.40 1 *i* P **P 02 34 54.4 -1.4**
ISOG IAmb IAmb 02 35 05.4
comp=Z,333nm,1.7s
ONAU Onsala 73.48 335 *i* P **P 02 34 55.2 -1.3**
CCAC Calif City Air 73.49 58 P **P 02 34 58.0 +1.0**
CCAC IAmb IAmb 02 34 59.5
comp=Z,100nm,1.0s
BORG Borgarnes 73.53 353 LR LR 03 07 59.3
comp=Z,322nm,19.8s,baz=0.6,slow=36
FABU Falkenberg 73.54 334 *i* P **P 02 34 55.5 -1.3**
DEL Delary 73.59 333 *i* P **P 02 34 56.0 -1.1**
DEL IAmb IAmb 02 35 11.2
comp=Z,24nm,1.0s
PD31 Pinedale Array 73.62 47 P **P 02 34 58.2 +0.3**
PDAR Pinedale Array 73.62 47 P **P 02 34 58.3 +0.3**
PDAR Pinedale Array 73.62 47 P **P 02 34 58.6 +0.7**
comp=Z,38nm,0.9s,baz=269,slow=2.2,SNR=245
comp=Z,38nm,0.9s
TCUT Toone Canyon 73.66 49 P **P 02 34 59.3 +1.1**
TCUT IAmb IAmb 02 35 01.0
comp=Z,265nm,1.5s
CTU Camp Tracy 73.74 50 P **P 02 34 59.7 +1.1**
PSUT Pine Spring 73.91 53 P **P 02 35 00.3 +0.6**
PSUT IAmb IAmb 02 35 02.3
comp=Z,104nm,1.2s
SORM Soroca 73.96 321 ⇑P **P 02 34 59.1 -0.3**
SORM Soroca 73.96 321 P **P 02 34 59.1 -0.3**
SORM Soroca 73.96 321 P **P 02 34 59.1 -0.3**
comp=Z,97nm,1.1s,comp=Z,1μm
JLU Jordanelle 73.97 50 P **P 02 35 00.9 +0.8**
JLU IAmb IAmb 02 35 02.9
comp=Z,124nm,1.3s
PASC Pasadena Art C 74.00 59 P **P 02 35 00.3 +0.3**
NUUK Nuuk 74.12 7 *i* P **P 02 34 56.9 -3.1**
NUUK IAmb IAmb 02 35 09.7
comp=Z,327nm,1.3s
BBOO Buckleboo 74.12 186 P **P 02 35 01.1 +0.6**
BBOO IAmb IAmb 02 35 02.5
comp=Z,108nm,1.1s
BBOO Buckleboo 74.12 186 P **P 02 35 01.0 +0.6**
SNART Snartemo 74.13 338 *i* P **P 02 35 00.3 +0.1**
GSC Goldstone, Bar 74.16 57 P **P 02 35 01.9 +0.9**
GSC Goldstone, Bar 74.16 57 P **P 02 35 01.9 +0.9**
GSC pmax pmax
comp=Z,94nm,1.4s
WHYH Whyalla 74.23 185 P **P 02 35 02.0 +1.0**
BSD Bornholm Skovb 74.30 332 *e*P **P 02 35 01.6 +0.3**
BSD Bornholm Skovb 74.30 332 *i* P **P 02 35 00.0 -1.3**
BSD IAmb IAmb 02 35 15.9
comp=Z,128nm,1.1s
LUNU Lund 74.40 333 *i* P **P 02 35 01.0 -0.9**
BSUT Blindstream Ca 74.41 50 P **P 02 35 03.9 +1.2**
MORW Morawa 74.49 205 P **P 02 35 02.8 +0.1**
MORW IAmb IAmb 02 35 04.1
comp=Z,79nm,1.0s
MORW Morawa 74.49 205 P **P 02 35 02.7 +0.1**
HTT Hallett 74.55 184 P **P 02 35 04.0 +1.1**
MILM Milestii Mici 74.59 320 ⇓P **P 02 35 03.2 0.0**
MILM Milestii Mici 74.59 320 P **P 02 35 03.2 0.0**
TCRU Three Creeks R 74.69 52 P **P 02 35 05.7 +1.4**
COP Copenhagen 74.70 334 *i* P **P 02 35 00.9 -2.7**
COP IAmb IAmb 02 35 18.2
comp=Z,177nm,0.9s
ELS Elsinore Mount 74.82 59 P **P 02 35 05.5 +0.7**
ELS IAmb IAmb 02 35 07.2
comp=Z,141nm,1.5s
CCUT Cedar City 74.84 53 P **P 02 35 06.4 +1.3**
CCUT IAmb IAmb 02 35 08.1
comp=Z,128nm,1.3s
DIKM Dikmen 74.85 312 ⇓P **P 02 35 06.3 +1.5**
GHWR Ruwais 74.87 289 P **P 02 35 04.5 -0.7**
GHWR S **S 02 44 37.7 -3.5**
GKP Gorka Klasztor 74.90 330 *e*P **P 02 35 05.0 +0.1**
GKP Gorka Klasztor 74.90 330 *e*P **P 02 35 05.1 +0.3**
MSU Marysvale 74.92 52 P **P 02 35 06.9 +1.3**
MSU Marysvale 74.92 52 P **P 02 35 06.9 +1.3**
KAAM Kaadhehdhoo 74.97 257 P **P 02 35 05.8 0.0**
KAAM IAmb IAmb 02 35 07.8
comp=Z,137nm,1.0s
KAAM Kaadhehdhoo 74.97 257 P **P 02 35 06.5 +0.7**
TMUT Trail Mountain 74.97 51 P **P 02 35 07.0 +1.1**
SZCU Shurtz Canyon 74.97 53 P **P 02 35 05.2 -0.7**
SZCU IAmb IAmb 02 35 06.1
comp=Z,129nm,1.2s
KMBL Kambalda 75.03 199 P **P 02 35 05.9 +0.2**
MZR Muzera 75.04 287 *i* P **P 02 35 05.8 -0.4**
SNR=6.8
MZR Muzera 75.04 287 P **P 02 35 06.2 0.0**
SNR=11

MZR P **P** **02 35 06.2 0.0**
SNR=11
MZR S **S** **02 44 41.0 -2.1**
MZR S **S** **02 44 41.0 -2.1**
SHMA Al-Shehemyia 75.04 291 P **P** **02 35 06.2 +0.1**
RDMU Red Mountain 75.07 49 P **P** **02 35 07.4 +1.0**
ULM Lac du Bonnet 75.09 35 P **P** **02 35 05.5 -0.5**
ULM Lac du Bonnet 75.09 35 P **P** **02 35 05.8 -0.2**
comp=Z,21nm,0.8s,baz=312,slow=6.5,SNR=25
comp=Z,21nm,0.8s
MUD Monsted U'grnd 75.12 336 *i* P **P** **02 35 05.0 -1.0**
MUD IAmb IAmb 02 35 16.0
comp=Z,54nm,1.0s
MDND Maddock 75.18 38 P **P** **02 35 07.5 +0.9**
MDND IAMs_20 IAMs_20 03 09 28.7
comp=Z,2μm,21.0s
LCMT Little Creek M 75.26 54 P **P** **02 35 08.7 +1.3**
LCMT IAmb IAmb 02 35 10.5
comp=Z,110nm,1.1s
P18A Preston Nutter 75.31 50 P **P** **02 35 08.5 +0.6**
P18A IAmb IAmb 02 35 10.8
comp=Z,151nm,1.3s
P18A IAMs_20 IAMs_20 03 13 12.7
comp=Z,1μm,19.0s
BZK Bozkurt 75.33 313 P **P** **02 35 08.3 +0.7**
BZK Bozkurt 75.33 313 P **P** **02 35 09.3 +1.8**
K22A Casper 75.35 46 P **P** **02 35 08.2 +0.3**
K22A IAmb IAmb 02 35 10.0
comp=Z,163nm,1.2s
KWP Kalwaria Pacla 75.44 325 *eP* **P** **02 35 08.4 +0.3**
KWP Kalwaria Pacla 75.44 325 P **P** **02 35 08.8 +0.7**
KWP Kalwaria Pacla 75.44 325 P **P** **02 35 08.8 +0.7**
KWP pmax pmax
comp=Z,393nm,1.5s
KWP MLR MLR
comp=Z,8μm,18.0s
KWP Kalwaria Pacla 75.44 325 P **P** **02 35 08.8 +0.7**
YNG Young 75.45 176 P **P** **02 35 09.5 +1.4**
PFO Pinyon Flats O 75.46 58 P **P** **02 35 08.8 +0.2**
PFO Pinyon Flats O 75.46 58 LR LR 03 02 36.5
comp=Z,900nm,20.5s,baz=308,slow=31
PFO Pinyon Flats O 75.46 58 P **P** **02 35 08.8 +0.2**
PFO pmax pmax
comp=Z,70nm,1.2s
SRU San Rafael Swe 75.49 51 P **P** **02 35 10.0 +1.2**
SRU IAmb IAmb 02 35 11.3
comp=Z,119nm,1.1s
SRU San Rafael Swe 75.49 51 P **P** **02 35 10.0 +1.2**
SRU pmax pmax
comp=Z,119nm,1.1s
KNB Kanab 75.51 53 P **P** **02 35 10.6 +1.7**
KNB IAmb IAmb 02 35 12.2
comp=Z,150nm,1.2s
KNB Kanab 75.51 53 P **P** **02 35 10.6 +1.7**
KNB pmax pmax
comp=Z,150nm,1.2s
PKCU Pink Cliffs 75.54 53 P **P** **02 35 11.0 +1.8**
PKCU IAmb IAmb 02 35 12.8
comp=Z,163nm,1.5s
TRNA Turayna 75.57 290 P **P** **02 35 08.9 -0.2**
E28A Huff 75.58 40 P **P** **02 35 09.7 +0.8**
E28A IAmb IAmb 02 35 10.8
comp=Z,296nm,1.6s
E28A IAMs_20 IAMs_20 03 10 23.3
comp=Z,2μm,19.0s
RSSD Black Hills 75.65 43 P **P** **02 35 09.9 +0.3**
RSSD IAmb IAmb 02 35 11.5
comp=Z,88nm,1.1s
RSSD Black Hills 75.65 43 P **P** **02 35 09.9 +0.3**
RSSD pmax pmax
comp=Z,89nm,1.1s
SLWR Sila 75.65 289 P **P** **02 35 09.6 -0.1**
SLWR P **P** **02 35 09.6 -0.1**
SLWR S **S** **02 44 44.9 -4.8**
SLWR S **S** **02 44 44.9 -4.8**
BLDU Ballidu 75.73 203 P **P** **02 35 10.1 +0.4**
BUR08 Bucovina Ar. S 75.79 322 P **P** **02 35 10.9 +0.7**
BUR08 IAmb IAmb 02 35 21.1
comp=Z,314nm,1.9s
BURAR Bucovina Array 75.80 322 P **P** **02 35 10.4 +0.1**
BURAR Bucovina Array 75.80 322 ⇓P **P** **02 35 11.1 +0.8**
BURAR Bucovina Array 75.80 322 P **P** **02 35 11.1 +0.8**
SMRA Abu-Samra 75.84 290 P **P** **02 35 10.3 -0.4**
SMRA S **S** **02 44 48.9 -2.9**
TESR Tescani 75.93 320 ⇓P **P** **02 35 11.0 +0.1**
TKX Tecate 76.03 59 P **P** **02 35 12.8 +1.0**
O20A White River Ci 76.11 49 P **P** **02 35 12.7 +0.4**
O20A IAmb IAmb 02 35 14.6
comp=Z,108nm,1.2s
W13A Hualapai Mount 76.12 55 P **P** **02 35 13.2 +0.8**
HMU Henry Mountain 76.14 52 P **P** **02 35 13.8 +1.1**
KOLS Kolonicke sedl 76.16 324 *eP* **P** **02 35 12.5 +0.3**
KOLS pmax pmax
comp=Z,22nm,1.0s
KOLS Kolonicke sedl 76.16 324 *eP* **P** **02 35 12.5 +0.3**
CFR Carcaliu 76.16 319 ⇑P **P** **02 35 12.2 0.0**
CFR Carcaliu 76.16 319 P **P** **02 35 12.2 0.0**
CBX Cerro Bola 76.16 59 P **P** **02 35 13.6 +0.9**
CBX IAmb IAmb 02 35 15.2
comp=Z,179nm,1.8s
ONER Baraj Valea Uz 76.18 320 ⇓P **P** **02 35 13.5 +1.1**
U15A North Rim 76.22 54 P **P** **02 35 14.9 +1.7**
U15A IAmb IAmb 02 35 16.3
comp=Z,166nm,1.2s
OJC Ojcow 76.24 327 *eP* **P** **02 35 12.7 +0.1**
OJC Ojcow 76.24 327 P **P** **02 35 12.4 -0.2**
OJC IAmb IAmb 02 35 24.3
comp=Z,110nm,1.0s
OJC Ojcow 76.24 327 P **P** **02 35 12.4 -0.2**
OJC pmax pmax
comp=Z,110nm,1.0s
OJC Ojcow 76.24 327 P **P** **02 35 13.1 +0.5**
STHS Stebnicka Huta 76.24 325 *eP* **P** **02 35 13.0 +0.4**
STHS pmax pmax
comp=Z,24nm,1.1s
STHS Stebnicka Huta 76.24 325 *eP* **P** **02 35 13.0 +0.4**
TPGR Topolog 76.25 318 ⇓P **P** **02 35 13.7 +0.9**
KLBR Kellerberrin 76.34 202 P **P** **02 35 13.7 +0.5**
VRI Vrincioaia 76.36 320 ⇓P **P** **02 35 15.1 +1.7**
VRI Vrincioaia 76.36 320 P **P** **02 35 15.1 +1.7**
BNN Bunyan 76.39 310 P **P** **02 35 14.7 +0.8**
BNN IAmb IAmb 02 35 29.9
comp=Z,169nm,1.0s
PLOR Plostina 76.40 320 ⇓P **P** **02 35 14.7 +1.0**
PLOR Plostina 76.40 320 P **P** **02 35 14.6 +1.0**
YUH Yuha Desert 76.42 58 P **P** **02 35 14.9 +0.9**
YUH IAmb IAmb 02 35 16.4
comp=Z,126nm,1.6s
CAN Canberra 76.50 175 P **P** **02 35 15.3 +1.2**
CAN IAmb IAmb 02 35 16.9
comp=Z,136nm,1.5s
CAN Canberra 76.50 175 P **P** **02 35 15.0 +0.9**
CAN Canberra 76.50 175 P **P** **02 35 15.3 +1.2**
CAN pmax pmax
comp=Z,136nm,1.5s
AGMN Agassiz Nation 76.56 36 P **P** **02 35 14.3 -0.1**
AGMN IAmb IAmb 02 35 15.6
comp=Z,111nm,1.4s
TURR Turia 76.56 320 ⇓P **P** **02 35 16.2 +1.6**
ARCR ARCALIA 76.59 322 ⇓P **P** **02 35 16.4 +1.8**
BLYC Blythe 76.60 57 P **P** **02 35 16.0 +1.1**
BLYC IAmb IAmb 02 35 17.7
comp=Z,139nm,1.3s
COVR Voineasa-Covas 76.62 320 ⇓P **P** **02 35 16.8 +1.8**
NIE Niedzica 76.64 326 *eP* **P** **02 35 15.7 +0.8**
NIE Niedzica 76.64 326 P **P** **02 35 15.9 +1.0**
OZUR 76.64 321 ⇓P **P** **02 35 16.6 +1.6**
GAZ Gaziantep 76.72 308 P **P** **02 35 16.5 +0.8**
GAZ IAmb IAmb 02 35 32.2
comp=Z,136nm,1.3s
GAZ IAMs_20 IAMs_20 03 13 59.1
comp=Z,2μm,18.0s
RUE Ruedersdorf 76.81 331 *eP* **P** **02 35 16.0 +0.2**
ESJX Sierra Juarez 76.83 59 P **P** **02 35 17.4 +0.9**
ESJX IAmb IAmb 02 35 19.2
comp=Z,144nm,1.4s
BSEG Bad Segeberg 76.84 334 *eP* **P** **02 35 16.5 +0.6**
comp=Z,82nm,1.1s,baz=34,slow=5.4
N23A Red Feather La 76.87 47 P **P** **02 35 17.9 +1.2**
N23A IAmb IAmb 02 35 19.6
comp=Z,149nm,1.1s
N23A Red Feather La 76.87 47 P **P** **02 35 18.2 +1.5**
baz=314,SNR=50
DOPR Dopca 76.92 321 ⇓P **P** **02 35 18.3 +1.7**

MLR Muntele Rosu 77.00 320 P **P** **02 35 17.7 +0.5**
MLR Muntele Rosu 77.00 320 LR LR 03 12 29.8
comp=Z,4μm,18.5s,baz=47,slow=38
MLR Muntele Rosu 77.00 320 ⇓P **P** **02 35 18.0 +0.7**
MLR Muntele Rosu 77.00 320 P **P** **02 35 17.9 +0.7**
MLR Muntele Rosu 77.00 320 P **P** **02 35 18.5 +1.3**
BR131 Keskin Array S 77.06 312 P **P** **02 35 17.8 +0.2**
BR131 Keskin Array S 77.06 312 *c i* P **P** **02 35 17.8 +0.2**
BRTR Keskin Array B 77.06 312 P **P** **02 35 17.3 -0.3**
BRTR Keskin Array B 77.06 312 P **P** **02 35 17.7 +0.1**
comp=Z,7.7nm,0.8s,baz=84,slow=3.4,SNR=38
BRTR PP **PP** **02 38 11.1 +0.4**
comp=Z,5.6nm,0.9s,baz=36,slow=5.4,SNR=4.4
BRTR LR LR 03 14 25.7
comp=Z,2μm,18.6s,baz=22,slow=40
comp=Z,7.7nm,0.8s
BR106 Keskin Array S 77.06 312 P **P** **02 35 19.0 +1.4**
MUN Mundaring 77.15 203 P **P** **02 35 18.6 +0.8**
KSP Ksiaz 77.17 329 *eP* **P** **02 35 17.9 0.0**
KSP Ksiaz 77.17 329 P **P** **02 35 18.3 +0.5**
MESR Meseseni 77.19 323 ⇑P **P** **02 35 19.8 +1.8**
CBBR Cluj-Babes-Bol 77.19 322 ⇑P **P** **02 35 19.5 +1.4**
OKC Ostrava-Krasne 77.21 327 *eP* **P** **02 35 18.8 +0.7**
OKC *e*PCP **sP** **02 35 27.6 +0.2**
OKC AMS AMS 03 12 30.0
comp=Z,5μm,16.2s
OKC Ostrava-Krasne 77.21 327 *eP* **P** **02 35 18.8 +0.7**
OKC *e**PP **sP** **02 35 27.6 +0.2**
OKC MLR MLR
comp=Z,5μm,16.2s
CJR Cluj-Napoca 77.21 322 ⇓P **P** **02 35 19.9 +1.7**
CJR Cluj-Napoca 77.21 322 P **P** **02 35 19.9 +1.7**
MTKN Mount Kenneth 77.24 204 P **P** **02 35 20.3 +2.1**
KECS Kecovo 77.27 325 *eP* **P** **02 35 17.6 -0.9**
KECS Kecovo 77.27 325 *eP* **P** **02 35 17.6 -0.9**
GORT1 Trebel 77.28 333 *eP* **P** **02 35 19.1 +0.8**
comp=Z,123nm,1.3s,baz=34,slow=5.4
DMTO DMTO 77.30 282 P **P** **02 35 18.9 -0.2**
DMTO P **P** **02 35 18.9 -0.2**
KIRS Kirsehir-Merke 77.31 311 ⇓P **P** **02 35 19.8 +0.9**
DOK Doka 77.33 284 P **P** **02 35 18.7 -0.5**
SNR=14
DOK P **P** **02 35 18.7 -0.5**
SNR=14
DOK S **S** **02 45 05.5 -2.8**
DOK S **S** **02 45 05.5 -2.8**
VTX Valle De La Tr 77.33 59 P **P** **02 35 20.2 +1.0**
IVI Ivigtut 77.35 6 P **P** **02 35 18.8 +0.2**
IVI IAmb IAmb 02 35 28.1
comp=Z,136nm,1.3s
WUAZ Wupatki 77.38 54 P **P** **02 35 20.8 +1.3**
WUAZ IAmb IAmb 02 35 22.6
comp=Z,130nm,1.1s
OSTC Ostas 77.42 329 *eP* **P** **02 35 20.2 +0.9**
OSTC AMS AMS 03 13 30.0
comp=Z,5μm,14.4s
OSTC Ostas 77.42 329 *eP* **P** **02 35 20.2 +0.9**
OSTC MLR MLR
comp=Z,5μm,14.4s
Y14A Wickenburg 77.43 56 P **P** **02 35 20.3 +0.6**
Y14A IAmb IAmb 02 35 22.4
comp=Z,116nm,1.2s
ANTO Ankara 77.43 312 P **P** **02 35 19.6 0.0**
ANTO Ankara 77.43 312 IAMs_20 IAMs_20 03 16 14.6
comp=Z,1μm,18.0s
ANTO Ankara 77.43 312 P **P** **02 35 20.7 +1.0**
ANTO P **P** **02 35 20.7 +1.0**
ANTO Ankara 77.43 312 ⇓P **P** **02 35 20.6 +1.0**
ANTO Ankara 77.43 312 P **P** **02 35 20.6 +1.0**
ANTO Ankara 77.43 312 P **P** **02 35 20.3 +0.7**
BR231 Keskin MP Arra 77.46 312 P **P** **02 35 20.3 +0.5**
BR231 IAmb IAmb 02 35 21.9
comp=Z,133nm,1.8s
CHVC Chvalec 77.46 329 *eP* **P** **02 35 20.4 +0.9**
CHVC *e*PCP **sP** **02 35 29.1 +0.3**
CHVC AMS AMS 03 13 30.0
comp=Z,4μm,14.4s
CHVC Chvalec 77.46 329 *eP* **P** **02 35 20.4 +0.9**
CHVC *e**PP **sP** **02 35 29.1 +0.3**
CHVC MLR MLR
comp=Z,4μm,14.4s
MARR Marisel-Cluj 77.46 322 ⇓P **P** **02 35 20.7 +1.0**
MORC Moravsky Berou 77.51 327 P **P** **02 35 20.4 +0.6**
MORC IAmb IAmb 02 35 30.1
comp=Z,87nm,1.1s
MORC Moravsky Berou 77.51 327 *eP* **P** **02 35 20.0 +0.2**
MORC Moravsky Berou 77.51 327 ⇑P **P** **02 35 20.7 +0.9**
MORC Moravsky Berou 77.51 327 P **P** **02 35 20.7 +0.9**
UPC Upice 77.54 329 *eP* **P** **02 35 20.8 +0.8**
UPC *e*PCP **PcP** **02 35 29.5 -0.7**
UPC AMS AMS 03 13 30.0
comp=Z,5μm,14.9s
UPC Upice 77.54 329 *eP* **P** **02 35 20.8 +0.8**
UPC *e**PP **PcP** **02 35 29.5 -0.7**
UPC MLR MLR
comp=Z,5μm,14.9s
DPC Dobruska-Polom 77.55 328 *eP* **P** **02 35 21.1 +1.1**
DPC *e*PCP **PcP** **02 35 29.8 -0.5**
DPC AMS AMS 03 13 30.0
comp=Z,6μm,15.2s
DPC Dobruska-Polom 77.55 328 *eP* **P** **02 35 21.1 +1.1**
DPC *e**PP **PcP** **02 35 29.8 -0.5**
DPC MLR MLR
comp=Z,6μm,15.2s
DPC Dobruska-Polom 77.55 328 P **P** **02 35 20.9 +0.9**
DRGR 77.56 323 ⇑P **P** **02 35 20.9 +0.7**
DRGR 77.56 323 P **P** **02 35 20.9 +0.7**
KRLC Kraliky 77.58 328 *eP* **P** **02 35 21.2 +1.0**
KRLC *e*PCP **PcP** **02 35 29.8 -0.6**
KRLC AMS AMS 03 13 20.0
comp=Z,5μm,16.1s
KRLC Kraliky 77.58 328 *eP* **P** **02 35 21.2 +1.0**
KRLC *e**PP **PcP** **02 35 29.8 -0.6**
KRLC MLR MLR
comp=Z,5μm,16.1s
TNR Turnu Rosu 77.69 321 ⇓P **P** **02 35 22.6 +1.7**
TNR Turnu Rosu 77.69 321 P **P** **02 35 22.5 +1.7**
113A Mohawk Valley, 77.72 57 P **P** **02 35 22.3 +1.0**
113A IAmb IAmb 02 35 23.7
comp=Z,95nm,1.3s
ARR Arges 77.72 321 ⇓P **P** **02 35 22.3 +1.1**
NWAO Narrogin (SRO) 77.74 202 P **P** **02 35 21.5 +0.5**
NWAO IAmb IAmb 02 35 22.8
comp=Z,87nm,0.9s
NWAO Narrogin (SRO) 77.74 202 P **P** **02 35 21.7 +0.7**
NWAO P **P** **02 35 21.7 +0.7**
NWAO Narrogin (SRO) 77.74 202 P **P** **02 35 21.7 +0.7**
NWAO Narrogin (SRO) 77.74 202 P **P** **02 35 21.5 +0.5**
NWAO pmax pmax
comp=Z,87nm,1.0s
ARPS Mount Arapiles 77.78 181 P **P** **02 35 22.0 +0.8**
FLTG Flechtingen 77.84 332 *eP* **P** **02 35 21.4 -0.1**
comp=Z,76nm,1.0s,baz=34,slow=5.4
MDUB Mudurnu 77.89 314 P **P** **02 35 22.8 +0.6**
MVCO Mesa Verde 77.95 51 P **P** **02 35 23.8 +1.0**
MVCO IAmb IAmb 02 35 25.4
comp=Z,145nm,1.4s
PSZ Piszkesteto 77.96 325 P **P** **02 35 22.9 +0.5**
PSZ IAmb IAmb 02 35 33.6
comp=Z,279nm,1.9s
PSZ Piszkesteto 77.96 325 *eP* **P** **02 35 23.9 +1.5**
PSZ Piszkesteto 77.96 325 ⇓P **P** **02 35 23.8 +1.3**
PSZ Piszkesteto 77.96 325 P **P** **02 35 23.7 +1.3**
SUSD Miller 77.97 40 P **P** **02 35 22.6 +0.1**
SUSD IAMs_20 IAMs_20 03 14 11.5
comp=Z,2μm,19.0s
VYHS Vyhne 77.97 326 *eP* **P** **02 35 22.7 +0.3**
VYHS pmax pmax
comp=Z,43nm,1.3s
VYHS Vyhne 77.97 326 *eP* **P** **02 35 22.7 +0.3**
VYHS *eP*P **PP** **02 38 20.1 +2.3**
BRIGG Briggsdale 77.97 46 **P** **02 35 24.0 +1.3**
BRIGG IAmb IAmb 02 35 25.4
comp=Z,163nm,1.1s
RBK Rabkut 77.98 283 P **P** **02 35 22.4 -0.5**
SNR=7.4
RBK P **P** **02 35 22.4 -0.5**
SNR=7.4
WHFO Wadi Hawf 78.03 283 P **P** **02 35 22.5 -0.7**
SNR=9.5
WHFO P **P** **02 35 22.5 -0.7**
SNR=9.5
CLL Collm 78.05 331 P **P** **02 35 23.1 +0.4**

CLL IAmb IAmb 02 35 32.0
comp=Z,80nm,1.1s
CLL Collm 78.05 331 ⇑ *i* P **P** **02 35 22.8 +0.1**
CLL *e*S **S** **02 45 14.0 -1.1**
CLL pmax pmax
comp=Z,84nm,1.2s
CLL MLR MLR
comp=Z,5μm,18.9s
CLL Collm 78.05 331 *eP* **P** **02 35 22.6 -0.1**
comp=Z,67nm,1.0s,baz=34,slow=5.4
CLL Collm 78.05 331 ⇑ *i* P **P** **02 35 22.8 +0.1**
comp=Z,84nm,1.2s
CLL *i* x x 02 35 30.5
CLL *e*PP **PP** **02 38 14.0 -4.3**
CLL *e*(sPP) 02 38 25.0
CLL *e*PPP PPP 02 40 12.0
CLL *e*S **S** **02 45 14.0 -1.1**
CLL *e*x x 02 45 47.0
CLL *e*(SS) 02 50 48.0
CLL *e*(SSS) 02 54 18.0
CLL AMS AMS 03 08 00.0
comp=N,3μm,19.0s
CLL AMS AMS 03 08 00.0
comp=E,5μm,19.5s
CLL AMS AMS 03 13 00.0
comp=Z,5μm,18.9s
CLL Collm 78.05 331 P **P** **02 35 22.6 -0.1**
BRG Berggiesshubel 78.05 330 *i* P **P** **02 35 23.2 +0.4**
BRG Amp 02 35 24.4
comp=Z,28nm,1.1s
BRG Berggiesshubel 78.05 330 P P 02 35 32.1 +9.4
BRG Amp 02 35 33.4
comp=Z,21nm,0.9s
BRG Berggiesshubel 78.05 330 *i* P **P** **02 35 23.1 +0.4**
BRG 02 35 32.1
BRG 02 38 18.0
BRG S **S** **02 45 18.0 +2.9**
BRG pmax pmax
comp=Z,28nm,1.1s
BRG pmax pmax
comp=Z,14nm,1.0s
BRG Berggiesshubel 78.05 330 *eP* **P** **02 35 22.9 +0.1**
comp=Z,39nm,1.3s,baz=34,slow=5.4
X16A Lo Mia Camp, P 78.07 55 P **P** **02 35 25.0 +1.6**
X16A IAmb IAmb 02 35 26.6
comp=Z,96nm,1.1s
LOT Lotru 78.07 321 ⇓P **P** **02 35 23.5 +0.3**
PVCC Panska Ves 78.08 329 *eP* **P** **02 35 23.8 +0.8**
PVCC *e*PCP **PcP** **02 35 32.5 0.0**
PVCC AMS AMS 03 14 10.0
comp=Z,5μm,13.6s
PVCC Panska Ves 78.08 329 *eP* **P** **02 35 23.8 +0.8**
PVCC *e**PP **PcP** **02 35 32.5 0.0**
PVCC MLR MLR
comp=Z,5μm,13.6s
NRDL Niedersach Rie 78.10 333 *eP* **P** **02 35 23.2 +0.3**
comp=Z,39nm,1.1s,baz=34,slow=5.4
RETH Rethem/Aller, 78.15 333 *eP* **P** **02 35 23.6 +0.4**
comp=Z,128nm,1.4s,baz=34,slow=5.4
SFX San Felipe 78.17 59 P **P** **02 35 24.7 +1.0**
SFX IAmb IAmb 02 35 26.2
comp=Z,103nm,1.3s
JAVC Velka Javorina 78.17 327 *eP* **P** **02 35 24.9 +1.4**
F33A 5 Mile Ranch, 78.20 38 P **P** **02 35 24.0 +0.3**
F33A IAmb IAmb 02 35 25.3
comp=Z,157nm,1.2s
RICC Richard 78.25 330 *eP* **P** **02 35 24.8 +0.9**
RICC *e*PCP **PcP** **02 35 33.3 0.0**
VRAC Vranov 78.26 328 LR LR 03 13 52.7
comp=Z,4μm,18.2s,baz=30,slow=39
VRAC Vranov 78.26 328 *eP* **P** **02 35 24.6 +0.6**
VRAC Vranov 78.26 328 ⇑P **P** **02 35 25.1 +1.1**
VRAC Vranov 78.26 328 P **P** **02 35 25.1 +1.1**
SIRR Siria 78.44 323 ⇓P **P** **02 35 26.0 +1.0**
HSKC Hora Svate Kat 78.45 330 *eP* **P** **02 35 25.8 +0.8**
HSKC *e*PCP **PcP** **02 35 34.3 +0.1**
HSKC AMS AMS 03 13 20.0
comp=Z,4μm,16.4s
GOPC GO Pecny, Ondr 78.49 329 *eP* **P** **02 35 26.3 +1.0**
GOPC *e*PCP **PcP** **02 35 34.8 +0.4**
GOPC AMS AMS 03 14 10.0
comp=Z,4μm,13.1s
GOPC GO Pecny, Ondr 78.49 329 *eP* **P** **02 35 26.3 +1.0**
GOPC *e**PP **PcP** **02 35 34.8 +0.4**
GOPC MLR MLR
comp=Z,4μm,13.1s
PRU Pruhonice 78.53 329 *eP* **P** **02 35 26.2 +0.8**
PRU *e*PCP **PcP** **02 35 34.8 +0.3**
PRU AMS AMS 03 14 10.0
comp=Z,4μm,15.1s
PRU Pruhonice 78.53 329 *eP* **P** **02 35 26.2 +0.8**
PRU *e**PP **PcP** **02 35 34.8 +0.3**
PRU MLR MLR
comp=Z,4μm,15.1s
KRUC Moravsky 78.53 328 *eP* **P** **02 35 25.7 +0.2**
S22A 4UR Ranch, Cre 78.55 50 P **P** **02 35 27.3 +1.2**
S22A IAmb IAmb 02 35 29.3
comp=Z,126nm,1.4s
S22A 4UR Ranch, Cre 78.55 50 P **P** **02 35 27.8 +1.6**
baz=314,SNR=55
BRAT Ballarat 78.55 179 P **P** **02 35 27.1 +1.7**
CLZ Clausthal 78.55 332 *eP* **P** **02 35 26.1 +0.6**
comp=Z,147nm,1.4s,baz=34,slow=5.4
NEUB Neuenburg 78.57 331 *eP* **P** **02 35 25.6 0.0**
comp=Z,82nm,1.0s,baz=34,slow=5.4
GZR Gura Zlata 78.58 322 ⇑P **P** **02 35 26.2 +0.3**
GZR Gura Zlata 78.58 322 P **P** **02 35 26.2 +0.3**
TOO Toolangi 78.60 178 P **P** **02 35 26.7 +1.0**
TOO Toolangi 78.60 178 P **P** **02 35 26.7 +1.0**
TOO pmax pmax
comp=Z,16nm,1.0s
SURR Surduc 78.61 322 ⇑P **P** **02 35 26.7 +0.7**
Q24A Divide 78.65 48 P **P** **02 35 27.3 +0.6**
Q24A Divide 78.65 48 P **P** **02 35 27.8 +1.0**
baz=315,SNR=30
TREC Trest 78.71 328 *eP* **P** **02 35 26.4 -0.1**
TREC *e*PCP **sP** **02 35 35.0 -0.8**
TREC AMS AMS 03 14 10.0
comp=Z,5μm,15.7s
TREC Trest 78.71 328 *eP* **P** **02 35 26.4 -0.1**
TREC *e**PP **sP** **02 35 35.0 -0.8**
TREC MLR MLR
comp=Z,5μm,15.7s
EYMN Ely 78.71 34 P **P** **02 35 26.5 0.0**
EYMN IAmb IAmb 02 35 27.8
comp=Z,116nm,1.1s
MODS Modra-Piesok 78.71 327 *eP* **P** **02 35 27.5 +0.9**
MODS pmax pmax
comp=Z,94nm,1.3s
MODS Modra-Piesok 78.71 327 *eP* **P** **02 35 27.4 +0.9**
MODS *e*PP **PP** **02 38 24.1 +0.1**
SRO Srobarova 78.72 326 *eP* **P** **02 35 27.7 +1.2**
SRO pmax pmax
comp=Z,41nm,1.0s
SRO Srobarova 78.72 326 *eP* **P** **02 35 27.7 +1.2**
ABTO Aybut 78.74 283 P **P** **02 35 26.5 -0.7**
SNR=14
RAO Raoul Island 78.90 146 LR LR 03 06 18.1
comp=Z,2μm,19.9s,baz=326,slow=33
X18A Snowflake 78.91 54 P **P** **02 35 29.6 +1.5**
X18A IAmb IAmb 02 35 31.0
comp=Z,172nm,1.7s
ELND Elena 78.91 318 ⇑P **P** **02 35 28.1 +0.4**
K30B Basset 78.94 42 P **P** **02 35 28.4 +0.6**
OGNE Ogallala 78.94 45 P **P** **02 35 29.1 +1.1**
GTTG Gottingen 78.94 332 *eP* **P** **02 35 28.0 +0.4**
comp=Z,61nm,1.1s,baz=34,slow=5.4
BZS Buzias 78.95 323 ⇓P **P** **02 35 28.4 +0.6**
BZS Buzias 78.95 323 P **P** **02 35 28.4 +0.6**
TANN Tannenbergstha 78.97 330 *eP* **P** **02 35 28.2 +0.2**
comp=Z,25nm,1.3s,baz=34,slow=5.4
PLN Plauen 79.03 331 *eP* **P** **02 35 28.4 +0.3**
comp=Z,33nm,1.2s,baz=34,slow=5.4
IBBN Ibbenburen 79.05 334 *eP* **P** **02 35 28.4 +0.2**
comp=Z,77nm,1.0s,baz=34,slow=5.4
MOX Moxa 79.09 331 *eP* **P** **02 35 28.7 +0.2**
comp=Z,56nm,1.3s,baz=34,slow=5.4
MOX *e*L L 03 13 22.2
comp=Z,3μm,19.4s
ZVC Zvikov 79.11 329 *eP* **P** **02 35 29.3 +0.7**
ZVC *e*PCP **sP** **02 35 38.0 +0.1**
ZVC AMS AMS 03 14 30.0
comp=Z,5μm,15.8s
NKC Novy Kostel 79.12 330 *eP* **P** **02 35 29.1 +0.4**

NKC *e*PCP **sP** **02 35 37.9 -0.1**
NKC AMS AMS 03 14 30.0
comp=Z,4μm,16.4s
NKC Novy Kostel 79.12 330 *e*P **P** **02 35 29.1 +0.4**
NKC *e**PP **sP** **02 35 37.9 -0.1**
NKC MLR MLR
comp=Z,4μm,16.4s
HERR Herculane 79.13 322 ⇑P **P** **02 35 28.9 0.0**
EDRB Edirne 79.26 317 P **P** **02 35 29.0 -0.6**
SDCO Great Sand Dun 79.31 49 P **P** **02 35 31.0 +0.7**
RKGY Rocky Gully 79.39 202 P **P** **02 35 31.3 +1.2**
MANZ Manzenberg 79.45 330 *e*P **P** **02 35 30.9 +0.3**
comp=Z,6.2nm,1.0s,baz=34,slow=5.4
EKA Eskdalemuir Ar 79.51 341 P **P** **02 35 30.5 -0.2**
comp=Z,18nm,0.9s,baz=23,slow=5.2,SNR=12
comp=Z,18nm,0.9s
UBBA Unterbreizbach 79.53 332 *e*P **P** **02 35 30.7 0.0**
comp=Z,94nm,1.8s,baz=34,slow=5.4
MDVR Moldovita 79.54 322 ⇑P **P** **02 35 31.2 +0.1**
MPLH Magyarpolny 79.55 326 P **P** **02 35 31.7 +0.6**
CKRC Cesky Krumlov 79.56 329 *e*P **P** **02 35 31.7 +0.6**
CKRC *e*PCP **sP** **02 35 40.4 0.0**
CKRC AMS AMS 03 14 40.0
comp=Z,5μm,14.6s
CKRC Cesky Krumlov 79.56 329 *e*P **P** **02 35 31.7 +0.6**
CKRC *e**PP **sP** **02 35 40.4 0.0**
CKRC MLR MLR
comp=Z,5μm,14.6s
KHC Kasperske Hory 79.59 329 P **P** **02 35 32.0 +0.7**
KHC Kasperske Hory 79.59 329 *e*P **P** **02 35 32.0 +0.7**
KHC *e*PCP **sP** **02 35 40.9 +0.3**
KHC AMS AMS 03 14 50.0
comp=Z,4μm,14.6s
KHC Kasperske Hory 79.59 329 *e*P **P** **02 35 32.0 +0.7**
KHC *e**PP **sP** **02 35 40.9 +0.3**
KHC MLR MLR
comp=Z,4μm,14.6s
KHC Kasperske Hory 79.59 329 P **P** **02 35 31.9 +0.6**
ROTZ Rotzenmuhle 79.59 330 *e*P **P** **02 35 31.9 +0.6**
comp=Z,11nm,1.1s,baz=34,slow=5.4
ECSD EROS Data Cent 79.63 40 P **P** **02 35 32.1 +0.6**
ECSD IAmb IAmb 02 35 33.1
comp=Z,146nm,1.1s
BAND Balkesir-Ban 79.63 315 ⇑P **P** **02 35 32.5 +0.8**
CONA Conrad Observa 79.65 327 *e*pP **P** **02 35 32.6 +0.8**
comp=Z,10.0nm,0.9s,SNR=12
RONA Rosalia, Austr 79.65 327 *e*pP **P** **02 35 32.8 +1.1**
comp=Z,13nm,0.8s,SNR=14
E38A The Farm, Brul 79.73 35 P **P** **02 35 32.6 +0.5**
E38A IAmb IAmb 02 35 33.2
comp=Z,191nm,1.3s
KASTN Kahler Asten 79.76 333 *e*P **P** **02 35 32.3 +0.2**
comp=Z,35nm,1.1s,baz=34,slow=5.4
GEC2 GERESS Array S 79.77 329 P **P** **02 35 32.5 0.0**
GEC2 GERESS Array S 79.77 329 *e*P **P** **02 35 32.5 +0.2**
comp=Z,27nm,1.1s,baz=34,slow=5.4
GERES GERESS Array B 79.77 329 P **P** **02 35 32.4 0.0**
GERES GERESS Array B 79.77 329 P **P** **02 35 32.6 +0.2**
comp=Z,9.3nm,0.8s,baz=29,slow=6.1,SNR=30
GERES LR LR 03 14 30.0
comp=Z,2μm,18.3s,baz=36,slow=38
comp=Z,9.3nm,0.8s
MORH Mrgy, Hungar 79.82 325 ⇓P **P** **02 35 32.9 +0.4**
MORH Mrgy, Hungar 79.82 325 P **P** **02 35 32.5 0.0**
WET Wettzell 79.85 329 *e*P **P** **02 35 33.3 +0.6**
comp=Z,54nm,1.1s,baz=34,slow=5.4
TUC Tucson 79.90 56 P **P** **02 35 33.1 -0.2**
TUC Tucson 79.90 56 IAms_20 IAms_20 03 05 12.9
comp=Z,1μm,19.0s
TUC Tucson 79.90 56 P **P** **02 35 33.1 -0.2**
TUC pmax pmax
comp=Z,85nm,1.3s
BUG Bochum--Univer 79.94 334 *e*P **P** **02 35 33.1 0.0**
comp=Z,86nm,1.2s,baz=34,slow=5.4
KSCO Kaye Shedlock' 80.00 46 P **P** **02 35 34.6 +0.7**
KSCO IAmb IAmb 02 35 36.0
comp=Z,302nm,1.4s
KSCO IAMs_20 IAMs_20 03 14 31.1
comp=Z,1μm,20.0s
GRA1 Grafenberg Arr 80.02 331 P **P** **02 35 33.9 +0.3**
GRA1 IAmb IAmb 02 35 55.7
comp=Z,147nm,1.1s
GRF Grafenberg Arr 80.02 331 P **P** **02 35 33.9 +0.3**
GRF pmax pmax
comp=Z,147nm,1.1s
GRF MLR MLR
comp=Z,3μm,20.0s
GRF Grafenberg Arr 80.02 331 *e*P **P** **02 35 34.3 +0.7**
comp=Z,83nm,1.0s,baz=34,slow=5.4
GRF *e*L L 03 13 51.6
comp=Z,3μm,20.1s
GRFO Grafenberg 80.02 331 P **P** **02 35 34.4 +0.8**
GRFO IAmb IAmb 02 35 55.6
comp=Z,162nm,1.2s
GRFO Grafenberg 80.02 331 P **P** **02 35 34.4 +0.8**
GRFO pmax pmax
comp=Z,161nm,1.2s
GRFO MLR MLR
comp=Z,3μm,20.0s
FRGS Fruska Gora 80.12 323 ⇑*i*P **P** **02 35 33.2 -1.0**
ISP Isparta 80.13 312 IAms_20 IAms_20 03 16 18.7
comp=Z,2μm,19.0s
ISP Isparta 80.13 312 *e*P **P** **02 35 35.0 +0.5**
SPMN Marine on St. 80.26 37 P **P** **02 35 34.9 -0.1**
ARSA Arzberg 80.33 327 *e*P **P** **02 35 35.7 +0.4**
comp=Z,3.4nm,0.5s,SNR=6.2
RAYN Ar Rayn 80.34 293 P **P** **02 35 36.0 +0.1**
RAYN IAmb IAmb 02 35 37.2
comp=Z,207nm,1.4s
RAYN Ar Rayn 80.34 293 *i*P **P** **02 35 35.9 +0.1**
SNR=69
RAYN Ar Rayn 80.34 293 P **P** **02 35 35.9 +0.1**
RAYN Ar Rayn 80.34 293 P **P** **02 35 36.2 +0.4**
T25A Trinidad 80.35 49 P **P** **02 35 36.7 +0.8**
T25A IAmb IAmb 02 35 38.3
comp=Z,156nm,1.2s
T25A Trinidad 80.35 49 P **P** **02 35 37.0 +1.1**
baz=315,SNR=66
MOA Molln 80.36 328 *i*P **P** **02 35 35.8 +0.4**
comp=Z,2.4nm,0.6s
ENEZ Enez 80.38 317 P **P** **02 35 35.1 -0.5**
RDO Rodhopi 80.39 317 P **P** **02 35 36.4 +0.7**
RDO IAmb IAmb 02 35 47.6
comp=Z,124nm,1.3s
RDO Rodhopi 80.39 317 P **P** **02 35 36.2 +0.5**
BOVS Bovan 80.41 321 ⇓P **P** **02 35 35.7 -0.1**
CSS Mathiatis 80.52 308 P **P** **02 35 36.9 +0.3**
CSS IAMs_20 IAMs_20 03 18 26.6
comp=Z,2μm,18.0s
CSS Mathiatis 80.52 308 P **P** **02 35 38.1 +1.5**
BGNE Belgrade 80.60 42 P **P** **02 35 36.9 0.0**
MMAI Mount Meron Ar 80.63 306 P **P** **02 35 38.1 +0.9**
comp=Z,63nm,0.9s,baz=39,slow=8.5,SNR=46
MMAI LR LR 03 14 57.8
comp=Z,2μm,19.6s,baz=344,slow=38
comp=Z,63nm,0.9s
ANMO Albuquerque 80.71 51 P **P** **02 35 39.0 +1.2**
ANMO Albuquerque 80.71 51 LR LR 03 07 55.9
comp=Z,734nm,21.7s,baz=138,slow=33
ANMO Albuquerque 80.71 51 *c i*P **P** **02 35 39.0 +1.2**
ANMO pmax pmax
comp=Z,50nm,1.7s
TEKS Tekeris 80.72 323 *e*P **P** **02 35 35.2 -2.2**
BIOA Bad Ischl, Aus 80.73 328 *e*P **P** **02 35 38.0 +0.5**
comp=Z,14nm,0.9s,SNR=11
IDGL Inch Island, C 80.74 343 P **P** **02 35 38.0 +0.7**
SCHQ Schefferville 80.77 17 P **P** **02 35 38.4 +0.9**
SCHQ Schefferville 80.77 17 P **P** **02 35 37.8 +0.3**
comp=Z,42nm,1.0s,baz=342,slow=6.5,SNR=20
SCHQ LR LR 03 16 39.6
comp=Z,1μm,18.2s,baz=346,slow=40
comp=Z,42nm,1.0s
DUN6 Lazy B Ranch 80.78 55 P **P** **02 35 39.6 +1.5**
I37A Lemond, Waseca 80.92 38 P **P** **02 35 39.3 +0.8**
PERS Pernice 80.98 327 *i*P **P** **02 35 39.3 +0.4**
SOKA Soboth 80.99 327 *e*P **P** **02 35 39.2 +0.3**
comp=Z,60nm,1.0s,SNR=18
BEBN Eben Emael 81.02 334 *d*P **P** **02 35 39.0 +0.2**
comp=Z,67nm,1.0s
Y22D IRIS PASSCAL I 81.04 52 P **P** **02 35 40.6 +1.0**
Y22D IAmb IAmb 02 36 07.0
comp=Z,172nm,1.6s
Y22D IRIS PASSCAL I 81.04 52 P **P** **02 35 41.4 +1.9**
baz=314
BTNL Ternell 81.05 334 *d*P **P** **02 35 39.3 +0.2**
comp=Z,25nm,1.1s
L34A Svendsen Farm, 81.07 41 P **P** **02 35 39.4 0.0**
L34A IAmb IAmb 02 35 40.6
comp=Z,102nm,0.9s
L34A IAMs_20 IAMs_20 03 15 36.3
comp=Z,2μm,20.0s
MEM Membach 81.07 334 *d*P **P** **02 35 39.1 -0.1**
comp=Z,29nm,1.0s
NVR Nevrokopi 81.08 318 P **P** **02 35 40.0 +0.5**
BALJ Balqa 81.12 305 P **P** **02 35 40.4 +0.6**
BALJ IAMs_20 IAMs_20 03 15 55.5
comp=Z,990nm,18.0s
ELL Elmali 81.23 312 P **P** **02 35 40.8 +0.3**
ELL Elmali 81.23 312 P **P** **02 35 40.8 +0.3**
ELL pmax pmax
comp=Z,285nm,1.3s
BSTI Sart Tilman 81.24 334 *d*P **P** **02 35 40.5 +0.4**
comp=Z,10nm,1.4s
PEHC Pehcevo 81.24 319 *i*P **P** **02 35 41.1 +0.8**
FUR Furstenfeldbru 81.26 330 *e*P **P** **02 35 40.8 +0.5**
comp=Z,77nm,1.0s,baz=34,slow=5.4
BHOU Houvegnez 81.29 334 *d*P **P** **02 35 40.7 +0.3**
comp=Z,22nm,1.1s
BBLS Lazi&#263i 81.30 323 ⇑*i*P **P** **02 35 41.3 +0.7**
OBKA Obir 81.32 327 *i*P **P** **02 35 40.7 0.0**
comp=Z,20nm,0.8s
OBKA Obir 81.32 327 ⇑*i*P **P** **02 35 40.6 -0.1**
LESA Schwarzleotal 81.33 329 *i*pP **P** **02 35 41.3 +0.5**
comp=Z,56nm,1.1s
HAPS Han Pijesak,Bl 81.34 323 ⇑*i*P **P** **02 35 41.3 +0.4**
KBA Koelnbreinsper 81.35 328 *e*P **P** **02 35 41.3 +0.3**
comp=Z,38nm,1.0s,SNR=9.2
G40A Rib Lake 81.37 35 P **P** **02 35 41.4 +0.5**
UCC Uccle 81.44 335 P **P** **02 35 41.5 +0.4**
UCC Uccle 81.44 335 P **P** **02 35 41.5 +0.4**
UCC Uccle 81.44 335 *d*P **P** **02 35 41.1 0.0**
comp=Z,19nm,1.4s
BCLA Clavier 81.46 334 *d*P **P** **02 35 41.0 -0.2**
comp=Z,27nm,1.2s
319A Douglas 81.47 56 P **P** **02 35 43.0 +1.2**
319A IAmb IAmb 02 35 44.5
comp=Z,121nm,1.1s
CRES Cresnjevec Ost 81.49 326 ⇑*i*P **P** **02 35 41.2 -0.3**
SJES Sjenica 81.51 322 ⇑*i*P **P** **02 35 42.3 +0.5**
RUDO Rudo 81.51 322 *e*P **P** **02 35 39.6 -2.1**
A051A Mrakovica 81.52 325 ⇑*i*P **P** **02 35 41.1 -0.7**
STU Stuttgart 81.53 331 P **P** **02 35 42.0 +0.4**
STU Stuttgart 81.53 331 *e*P **P** **02 35 42.1 +0.4**
STU Stuttgart 81.53 331 P **P** **02 35 42.0 +0.4**
STU pmax pmax
comp=Z,55nm,1.0s
STU MLR MLR
comp=Z,3μm,20.0s
BGES Gesves 81.56 334 *d*P **P** **02 35 41.8 0.0**
comp=Z,29nm,1.0s
121A Cookes Peak, D 81.59 54 P **P** **02 35 44.2 +1.7**
121A IAmb IAmb 02 35 45.6
comp=Z,109nm,1.1s
121A Cookes Peak, D 81.59 54 P **P** **02 35 44.3 +1.8**
baz=314,SNR=40
RAR Rarotonga 81.59 128 LR LR 03 03 51.7
comp=Z,925nm,21.9s,baz=313,slow=30
MYKA Terra Mystica 81.59 328 *i*P **P** **02 35 41.8 -0.3**
comp=Z,36nm,1.2s,SNR=7.3
BLY Banja Luka 81.61 324 *e*P **P** **02 35 40.8 -1.3**
CBKS Cedar Bluff 81.70 45 P **P** **02 35 43.0 +0.2**
CBKS IAmb IAmb 02 35 44.0
comp=Z,183nm,1.1s
CBKS Cedar Bluff 81.70 45 P **P** **02 35 43.0 +0.2**
CBKS pmax pmax
comp=Z,183nm,1.2s
GHAJ Ghor Haditha 81.70 305 P **P** **02 35 43.8 +0.9**
GHAJ IAmb IAmb 02 35 59.4
comp=Z,67nm,0.9s
RCHB Rochefort 81.72 334 *d*P **P** **02 35 42.3 -0.3**
comp=Z,30nm,1.4s
BMRD Maredsous 81.74 335 *d*P **P** **02 35 42.7 0.0**
comp=Z,45nm,1.1s
VAY Valandovo 81.75 319 *i*P **P** **02 35 43.4 +0.5**
RTBA Rita Blanca 81.79 48 P **P** **02 35 44.4 +0.9**
RTBA IAmb IAmb 02 35 45.5
comp=Z,186nm,1.3s
WATA Walderalm 81.83 329 *i*P **P** **02 35 43.7 +0.3**
comp=Z,43nm,1.0s,SNR=13
WLF Walferdange 81.83 333 P **P** **02 35 44.1 +0.9**
WLF Walferdange 81.83 333 P **P** **02 35 44.1 +0.9**
WLF pmax pmax
comp=Z,71nm,1.2s
WLF MLR MLR
comp=Z,4μm,20.0s
WLF Walferdange 81.83 333 *d*P **P** **02 35 43.8 +0.6**
BOJS Bojanci 81.83 326 *i*P **P** **02 35 43.4 +0.1**
BOJS Bojanci 81.83 326 ⇑*i*P **P** **02 35 42.5 -0.8**
WTTA Wattenberg 81.87 329 *i*pP **P** **02 35 44.1 +0.4**
comp=Z,38nm,0.9s,SNR=8.2
ABTA Abfaltersbach 81.95 328 *i*P **P** **02 35 43.5 -0.5**
comp=Z,20nm,1.2s
DOU Dourbes 81.97 335 *d*P **P** **02 35 43.9 0.0**
comp=Z,18nm,1.3s
CEY Cerknica 81.99 327 *i*P **P** **02 35 43.9 -0.4**
CEY Cerknica 81.99 327 ⇑*i*P **P** **02 35 43.8 -0.4**
MOTA Moosalm 82.00 329 *e*P **P** **02 35 44.7 +0.3**
comp=Z,81nm,0.9s
RETA Reutte 82.02 330 *e*P **P** **02 35 44.7 +0.4**
comp=Z,62nm,1.0s,SNR=18
HSIG 82.02 58 P **P** **02 35 45.8 +1.1**
PLG Polygyros 82.02 318 P **P** **02 35 44.0 -0.5**
SQTA Sankt Quirin 82.07 329 *i*P **P** **02 35 44.9 +0.2**
comp=Z,52nm,1.0s,SNR=12
A050A Klekovaca 82.10 325 *e*P **P** **02 35 44.4 -0.5**
UBR Ueberruh 82.10 330 *e*P **P** **02 35 44.9 +0.1**
comp=Z,36nm,1.4s,baz=34,slow=5.4
DSB Dublin 82.19 342 P **P** **02 35 45.9 +0.9**
BFO Black Forest 82.21 332 P **P** **02 35 45.5 +0.3**
BFO IAmb IAmb 02 35 55.8
comp=Z,143nm,1.6s
BFO Black Forest 82.21 332 P **P** **02 35 45.6 +0.3**
BFO pmax pmax
comp=Z,143nm,1.6s
BFO MLR MLR
comp=Z,3μm,18.0s
BFO Black Forest 82.21 332 *e*P **P** **02 35 45.3 0.0**
comp=Z,110nm,1.5s,baz=34,slow=5.4
N35A Tabor 82.27 41 P **P** **02 35 46.1 +0.5**
I40A Norwalk 82.28 36 P **P** **02 35 45.6 -0.1**
I40A IAmb IAmb 02 35 46.9
comp=Z,96nm,1.2s
SKDS Skadanscina 82.32 327 *e*P **P** **02 35 44.1 -1.8**
FETA Feichten 82.42 329 *e*P **P** **02 35 46.9 +0.3**
comp=Z,36nm,0.9s,SNR=12
PDG Podgorica 82.48 322 ⇑*i*P **P** **02 35 46.8 0.0**
PDG Podgorica 82.48 322 ⇑P **P** **02 35 47.2 +0.5**
DAVA Damuels 82.52 330 *i*P **P** **02 35 47.3 +0.2**
comp=Z,42nm,0.9s,SNR=12
R32A Long Quarter, 82.53 44 P **P** **02 35 46.9 -0.3**
R32A IAmb IAmb 02 35 48.3
comp=Z,83nm,1.2s
R32A IAMs_20 IAMs_20 03 17 37.8
comp=Z,1μm,21.0s
ARG Arkhangelos 82.61 312 P **P** **02 35 47.3 -0.3**
TREB Trebinje 82.68 322 *e*P **P** **02 35 45.7 -2.1**
AOS Alonnisos 82.71 317 P **P** **02 35 48.1 +0.1**
LIT Litokhoron 82.71 318 P **P** **02 35 48.3 +0.2**
LIT Litokhoron 82.71 318 P **P** **02 35 48.3 +0.2**
LIT pmax pmax
comp=Z,39nm,1.0s
ECH Echery 82.72 332 P **P** **02 35 48.0 0.0**
ECH Echery 82.72 332 P **P** **02 35 48.0 0.0**
ECH pmax pmax
comp=Z,53nm,1.2s
ECH MLR MLR
comp=Z,2μm,20.0s
FNA Florina 82.74 319 P **P** **02 35 48.5 +0.3**
FNA Florina 82.74 319 P **P** **02 35 47.5 -0.7**
FNA Florina 82.74 319 P **P** **02 35 48.5 +0.3**
FNA pmax pmax
comp=Z,80nm,1.5s
FNA MLR MLR
comp=Z,3μm,18.0s
OHR Ohrid 82.77 320 *i*P **P** **02 35 45.4 -3.0**
STON Ston 82.85 323 *e*P P 02 35 40.6 -8.1
CTI Castel Tesino 82.86 328 P **P** **02 35 48.0 -0.8**
CTI Castel Tesino 82.86 328 P **P** **02 35 48.0 -0.8**
CTI pmax pmax
comp=Z,39nm,0.9s
CTI MLR MLR
comp=Z,4μm,18.0s
EPT El Paso 82.90 54 P **P** **02 35 50.4 +1.1**
EPT IAmb IAmb 02 35 51.7
comp=Z,143nm,1.5s
E46A Sault Ste Mari 82.90 31 P **P** **02 35 49.0 +0.1**
E46A IAmb IAmb 02 35 50.0
comp=Z,172nm,1.4s
FUORN Ofenpass-Fuorn 82.93 329 P **P** **02 35 49.9 +0.6**
FUORN IAmb IAmb 02 36 07.9
comp=Z,66nm,0.9s
DAVOX Davos/Dischmat 82.94 330 P **P** **02 35 49.4 +0.1**
comp=Z,18nm,0.9s,baz=67,slow=2.1,SNR=23
DAVOX LR LR 03 16 35.6
comp=Z,4μm,18.4s,baz=26,slow=38
comp=Z,18nm,0.9s
I42A Draeger Farm, 83.02 35 P **P** **02 35 50.2 +0.6**
I42A IAmb IAmb 02 35 50.9
comp=Z,88nm,1.1s
H43A Windswept, Lux 83.05 34 P **P** **02 35 50.2 +0.6**
H43A IAmb IAmb 02 35 51.2
comp=Z,146nm,1.1s
IWEX Carrickbyrne, 83.08 342 P **P** **02 35 50.2 +0.5**
KSU1 Kansas State U 83.11 43 P **P** **02 35 49.8 -0.3**
KSU1 IAmb IAmb 02 35 51.2
comp=Z,65nm,0.9s
KSU1 IAMs_20 IAMs_20 03 15 03.1
comp=Z,2μm,22.0s
NEST Nestorio 83.18 319 P **P** **02 35 49.5 -1.1**
EIL Elat 83.21 304 LR LR 03 17 32.1
comp=Z,1μm,18.1s,baz=44,slow=39
JFWS Jewell Farm 83.21 37 P **P** **02 35 50.8 +0.2**
JFWS Jewell Farm 83.21 37 IAMs_20 IAMs_20 03 13 00.7
comp=Z,2μm,20.0s
JFWS Jewell Farm 83.21 37 P **P** **02 35 50.8 +0.2**
JFWS pmax pmax
comp=Z,49nm,1.0s
JFWS MLR MLR
comp=Z,2μm,20.0s
TUE Stuetta 83.40 330 P **P** **02 35 52.1 +0.4**
TUE Stuetta 83.40 330 P **P** **02 35 52.1 +0.4**
TEOL Teolo 83.42 328 P **P** **02 35 51.9 +0.3**
TEOL IAmb IAmb 02 36 08.3
comp=Z,61nm,0.8s
L40A Anamosa 83.44 38 P **P** **02 35 51.9 +0.1**
L40A IAmb IAmb 02 35 52.9
comp=Z,123nm,1.1s
AMTX Amarillo 83.50 49 P **P** **02 35 53.0 +0.6**
AMTX IAmb IAmb 02 35 54.2
comp=Z,55nm,0.9s
MOO Moorlands 83.51 177 P **P** **02 35 53.5 +1.8**
MSTX Muleshoe 83.54 50 P **P** **02 35 53.1 +0.5**
MSTX IAmb IAmb 02 35 54.7
comp=Z,122nm,1.2s
MSTX IAMs_20 IAMs_20 03 17 50.0
comp=Z,1μm,20.0s
LSK Leskovik 83.61 320 P **P** **02 35 53.5 +0.7**
NOKA Waynoka 83.74 46 P **P** **02 35 54.4 +0.9**
KAN12 Harper NE Stat 83.74 45 P **P** **02 35 54.0 +0.6**
KAN08 Anthony NE Sta 83.81 45 P **P** **02 35 54.2 +0.5**
VLDQ Val d'Or 83.88 26 P **P** **02 35 53.1 -0.7**
ELIS Ellis County 83.89 46 P **P** **02 35 55.6 +1.4**
OK038 West end E0370 83.95 46 P **P** **02 35 55.5 +1.0**
OK038 IAMs_20 IAMs_20 03 17 58.6
comp=Z,927nm,20.0s
KAN01 Argonia South 83.98 45 P **P** **02 35 55.4 +0.8**
TAU Tasmania Unive 83.98 177 P **P** **02 35 54.5 +0.4**
TAU Tasmania Unive 83.98 177 P **P** **02 35 56.0 +1.9**
TAU Tasmania Unive 83.98 177 P **P** **02 35 54.5 +0.4**
TAU pmax pmax
comp=Z,208nm,1.4s
KAN14 Manchester OK 84.02 45 P **P** **02 35 55.4 +0.6**
TOZ Tahuroa Road 84.05 155 P **P** **02 35 56.0 +1.4**
TOZ IAmb IAmb 02 35 58.1
comp=Z,84nm,1.2s
TOZ IAMs_20 IAMs_20 03 08 55.2
comp=Z,1μm,20.0s
KAN17 Caldwell West 84.06 45 P **P** **02 35 55.6 +0.6**
KAN09 Caldwell North 84.06 45 P **P** **02 35 55.6 +0.5**
SMWD Samnorwood 84.15 48 P **P** **02 35 56.5 +0.9**
GC02 Grant County # 84.15 45 P **P** **02 35 56.0 +0.6**
L42A Oliver, Polo 84.20 37 P **P** **02 35 55.8 +0.2**
L42A IAmb IAmb 02 35 56.4
comp=Z,62nm,1.0s
K43A Burlington 84.23 36 P **P** **02 35 56.1 +0.3**
KAN13 South Haven SW 84.23 45 P **P** **02 35 56.5 +0.6**
P38A Dawn 84.25 41 P **P** **02 35 56.1 +0.2**
SENIN Lac Senin/Sane 84.25 331 P **P** **02 35 56.5 +0.4**
CROK Carrier 84.34 45 P **P** **02 35 57.3 +0.8**
PRMA PARMA 84.45 328 P **P** **02 35 58.1 +1.2**
PRMA IAmb IAmb 02 36 08.9
comp=Z,137nm,1.1s
VHRN Van Horn 84.51 53 P **P** **02 35 58.6 +1.0**
CLF Chambon-Foret 84.53 335 P **P** **02 35 57.9 +0.7**
CLF IAmb IAmb 02 36 07.3
comp=Z,61nm,1.1s
ZCCA Zocca 84.53 328 P **P** **02 35 58.2 +0.9**
BLOK Blackwell 84.56 45 P **P** **02 35 58.3 +0.8**
HIZ Hauiti 84.57 156 P **P** **02 35 58.1 +1.0**
HIZ IAMs_20 IAMs_20 03 09 31.8
comp=Z,1μm,20.0s
CSTR Hydro, Custer 84.60 46 P **P** **02 35 58.7 +0.8**
N41A Harden Midland 84.68 38 P **P** **02 35 58.7 +0.6**
N41A IAMs_20 IAMs_20 03 15 47.7
comp=Z,2μm,21.0s
FDMO Fiordimonte 84.75 326 P **P** **02 35 59.0 +0.6**
FDMO IAmb IAmb 02 36 16.6
comp=Z,87nm,1.0s
PECS Pecos 84.77 52 P **P** **02 35 59.8 +1.0**
T35A Sooner Cattle 84.81 44 P **P** **02 35 59.9 +1.0**
DKNS Dickens 84.82 49 P **P** **02 35 59.9 +0.9**
L44A Lake County Fo 84.84 36 P **P** **02 35 59.9 +1.0**
L44A IAmb IAmb 02 36 00.2
comp=Z,108nm,0.9s
L44A Lake County Fo 84.84 36 P **P** **02 35 59.1 +0.3**
baz=324
NRCA Norcia 84.90 326 P **P** **02 35 59.9 +0.6**
NRCA IAmb IAmb 02 36 11.0
comp=Z,115nm,1.0s
POST Post 84.93 50 P **P** **02 36 00.6 +1.0**
OK051 E0350 and S346 84.95 45 P **P** **02 36 00.3 +0.7**
OK051 IAmb IAmb 02 36 01.5
comp=Z,140nm,1.1s
OK048 Pawnee Station 84.96 45 P **P** **02 36 00.3 +0.7**
ODSA Odessa 85.00 51 P **P** **02 36 01.2 +1.2**
P40A Paris 85.04 40 P **P** **02 36 00.8 +0.9**
P40A IAMs_20 IAMs_20 03 13 18.4
comp=Z,1μm,21.0s
IDI Anoyia 85.08 314 P **P** **02 36 00.2 0.0**
IDI IAmb IAmb 02 36 19.9
comp=Z,86nm,1.1s
IDI Anoyia 85.08 314 LR LR 03 18 37.2
comp=Z,1μm,18.7s,baz=16,slow=39
OK029 Liberty Lake 85.15 45 P **P** **02 36 01.7 +1.1**
HQIL Hanson Quary C 85.17 36 IAMs_20 IAMs_20 03 14 02.0
comp=Z,1μm,19.0s
ITM Ithomi 85.22 317 P **P** **02 36 00.6 -0.3**
WMOK Wichita Mounta 85.23 47 P **P** **02 36 01.8 +0.8**
WMOK IAmb IAmb 02 36 03.0
comp=Z,102nm,1.1s
WMOK Wichita Mounta 85.23 47 P **P** **02 36 01.8 +0.8**
WMOK pmax pmax
comp=Z,102nm,1.2s
INTR Introdacqua 85.23 325 P **P** **02 36 01.4 +0.4**
INTR IAmb IAmb 02 36 03.1
comp=Z,83nm,1.3s
SN07 Snyder 07 85.26 49 P **P** **02 36 01.7 +0.5**
QUOK Quay 85.27 45 P **P** **02 36 01.9 +0.7**
J47A Sunmer 85.28 33 P **P** **02 36 02.0 +0.9**
PPT Papeete 85.33 118 LR LR 03 07 49.7
comp=Z,2μm,20.4s,baz=313,slow=31
RTZ Ruatahuna 85.34 154 P **P** **02 36 01.5 +0.3**
RTZ IAmb IAmb 02 36 02.2
comp=Z,132nm,1.1s
PPT2 Papeete2 85.34 118 *e*PKIKP **P** **02 36 00.3 -1.4**
comp=Z,149nm,24.5s
PPT2 Papeete2 85.34 118 *e*PP **PP** **02 39 18.0 -2.1**
comp=Z,80nm,23.8s
PPT2 *e*S **S** **02 46 30.4 -0.9**
comp=Z,260nm,24.0s
PPT2 *e*SS **SS** **02 52 09.2 +2.4**
comp=Z,171nm,26.0s
PPT2 *e*LQ LQ 02 59 09.6
comp=Z,2μm,26.2s

PPT2 *e*LR LR 03 02 59.8
comp=Z,2µm,21.5s
PPT2 *e*LR LR 03 02 59.8
comp=Z,3µm,21.2s
OK052 Battle Ridge R 85.35 45 P **P 02 36 02.4 +0.8**
OK031 S. Brethren Rd 85.36 45 P **P 02 36 02.4 +0.7**
OK031 IAMs_20 IAMs_20 03 16 47.9
comp=Z,2µm,21.0s
M44A Midewin, Midew 85.42 36 P **P 02 36 02.6 +0.8**
SN05 Snyder 5 85.42 49 P **P 02 36 02.8 +0.8**
SN05 IAmb IAmb 02 36 04.0
comp=Z,99nm,1.1s
IMMV Iera Moni Meta 85.44 314 P **P 02 36 02.3 +0.3**
MNHN Monahans 85.44 52 P **P 02 36 03.0 +0.8**
MNHN IAmb IAmb 02 36 04.5
comp=Z,113nm,1.3s
OKCSW OKLAHOMA CITY 85.46 46 P **P 02 36 03.1 +1.0**
HDIL Hopedale 85.52 37 P **P 02 36 02.7 +0.4**
HDIL IAmb IAmb 02 36 03.8
comp=Z,130nm,0.9s
APMT Aspermont 85.52 49 P **P 02 36 03.3 +0.8**
FNO Franklin 85.59 46 P **P 02 36 03.5 +0.7**
BNI Bardonecchia 85.59 331 P **P 02 36 03.3 +0.5**
BNI Bardonecchia 85.59 331 P **P 02 36 03.3 +0.5**
BNI pmax pmax
comp=Z,56nm,1.1s
BNI MLR MLR
comp=Z,3µm,21.0s
ALPN Alpine 85.62 53 P **P 02 36 04.1 +1.0**
ALPN IAmb IAmb 02 36 05.4
comp=Z,112nm,1.3s
BKZ Black Stump Fm 85.68 155 IAMs_20 IAMs_20 03 09 06.3
comp=Z,1µm,22.0s
LPIG La Paz 85.80 62 LR LR 03 06 45.3
comp=Z,348nm,21.8s,baz=316,slow=30
TAOE Nuku Hiva Isla 85.86 105 *e*PKIKP **P 02 36 02.4 -2.0**
comp=Z,121nm,24.1s
TAOE Nuku Hiva Isla 85.86 105 *e*PP PP 02 39 10.0 -14
comp=Z,67nm,22.6s
TAOE *e*S **S 02 46 36.9 +0.2**
comp=Z,205nm,24.6s
TAOE *e*SS **SS 02 52 11.3 -3.1**
comp=Z,68nm,24.8s
TAOE Nuku Hiva Isla 85.86 105 *e*LR LR 03 03 12.0
comp=Z,3µm,21.8s
QRZ Quartz Range 86.01 158 IAMs_20 IAMs_20 03 08 56.0
comp=Z,1µm,21.0s
WTFS Witchita Falls 86.12 47 P **P 02 36 05.2 -0.2**
WTFS IAmb IAmb 02 36 07.2
comp=Z,134nm,1.1s
SADO Sadowa 86.19 29 LR LR 03 18 08.3
comp=Z,967nm,18.4s,baz=328,slow=38
ABTX Abilene, Hawle 86.31 49 IAMs_20 IAMs_20 03 18 37.3
comp=Z,870nm,20.0s
SLBS Sierra La Lagu 86.33 62 P **P 02 36 06.7 0.0**
SLBS IAmb IAmb 02 36 09.7
comp=Z,122nm,1.3s
TXAR Lajitas Array 86.35 54 P **P 02 36 08.0 +1.2**
comp=Z,51nm,0.9s,baz=292,slow=3.6,SNR=376
comp=Z,51nm,0.9s
TXAR Lajitas Array 86.35 54 P **P 02 36 08.0 +1.2**
CCM Cathedral Cave 86.59 40 P **P 02 36 07.2 -0.4**
CCM Cathedral Cave 86.59 40 P **P 02 36 07.2 -0.4**
CCM pmax pmax
comp=Z,179nm,1.2s
NNZ Nelson 86.62 158 IAMs_20 IAMs_20 03 08 43.0
comp=Z,1µm,20.0s
DSZ Denniston Nort 86.67 159 IAMs_20 IAMs_20 03 11 36.4
comp=Z,949nm,20.0s
MGMO Mountain Grove 86.79 41 IAMs_20 IAMs_20 03 18 54.8
comp=Z,2µm,18.0s
PLPT Palo Pinto 86.92 48 P **P 02 36 09.0 -0.4**
PLPT IAmb IAmb 02 36 11.4
comp=Z,132nm,1.4s
Q44A Meyer Farm, Va 86.97 38 IAMs_20 IAMs_20 03 17 19.9
comp=Z,2µm,20.0s
THZ Tophouse 86.99 158 IAMs_20 IAMs_20 03 12 00.8
comp=Z,1µm,20.0s
FVM French Village 87.04 40 IAMs_20 IAMs_20 03 17 19.3
comp=Z,2µm,22.0s
Z35A Perchaven, San 87.12 47 IAMs_20 IAMs_20 03 12 22.5
comp=Z,1µm,19.0s
BHW Baring Head 87.23 157 IAMs_20 IAMs_20 03 09 58.2
comp=Z,1µm,21.0s
INZ Inchbonnie 87.49 160 IAMs_20 IAMs_20 03 13 17.1
comp=Z,878nm,20.0s
O48B Farmland 87.60 35 P **P 02 36 12.6 +0.1**
baz=326,SNR=13
FW13 Cleburne 87.75 48 P **P 02 36 12.7 -0.7**
LTZ Lake Taylor 87.76 159 IAMs_20 IAMs_20 03 12 32.3
comp=Z,1µm,20.0s
KHZ Kahutara 87.77 158 IAMs_20 IAMs_20 03 09 49.5
comp=Z,1µm,21.0s
JCT Junction City 87.80 50 IAMs_20 IAMs_20 03 19 47.9
comp=Z,880nm,20.0s
S44A Carbondale 87.83 39 IAMs_20 IAMs_20 03 20 50.1
comp=Z,1µm,18.0s
SIUC Southern Illin 87.83 39 IAMs_20 IAMs_20 03 14 20.1
comp=Z,2µm,21.0s
FCAR Ozark Folk Cen 87.85 42 IAMs_20 IAMs_20 03 18 11.0
comp=Z,1µm,21.0s
BLO Bloomington 87.89 36 IAMs_20 IAMs_20 03 16 28.6
comp=Z,2µm,20.0s
WHTX Lake Whitney, 88.01 48 IAMs_20 IAMs_20 03 18 03.2
comp=Z,1µm,20.0s
JCZ Jackson Bay 88.10 162 P **P 02 36 16.1 +1.6**
M52A Chesterland 88.10 32 P **P 02 36 15.1 +0.2**
DRIO Del Rio 88.10 52 P **P 02 36 15.1 0.0**
DRIO IAmb IAmb 02 36 17.1
comp=Z,100nm,1.2s
GVZ Greta Valley S 88.14 159 IAMs_20 IAMs_20 03 13 05.3
comp=Z,1µm,18.0s
P48A Milroy 88.14 36 P **P 02 36 15.3 +0.2**
ERPA Erie 88.15 31 P **P 02 36 15.6 +0.5**
MIAR Mount Ida 88.16 44 IAMs_20 IAMs_20 03 18 42.7
comp=Z,1µm,20.0s
LCAR Lake Charles 88.20 41 P **P 02 36 15.6 +0.2**
LCAR IAmb IAmb 02 36 17.2
comp=Z,148nm,1.6s
LCAR IAMs_20 IAMs_20 03 16 45.0
comp=Z,2µm,19.0s
OXZ Oxford 88.21 159 P **P 02 36 15.7 +0.7**
OXZ IAmb IAmb 02 36 16.9
comp=Z,88nm,1.1s
OXZ IAMs_20 IAMs_20 03 12 36.0
comp=Z,1µm,20.0s
TREL Terrell 88.21 47 P **P 02 36 16.2 +0.7**
TREL IAmb IAmb 02 36 17.3
comp=Z,66nm,1.1s
N51A Ashland 88.22 33 P **P 02 36 16.0 +0.5**
WHAR Wooly Hollow 88.24 42 P **P 02 36 16.1 +0.4**
RPZ Rata Peaks 88.31 160 IAMs_20 IAMs_20 03 12 10.9
comp=Z,1µm,20.0s
USIN University of 88.36 38 P **P 02 36 16.6 +0.4**
USIN IAmb IAmb 02 36 18.0
comp=Z,129nm,1.3s
MMNY Mt. Morris Dam 88.40 29 P **P 02 36 16.8 +0.5**
Z38A Mt. Pleasant 88.40 45 P **P 02 36 16.8 +0.4**
PARMO Parma 88.41 40 P **P 02 36 16.6 +0.2**
ALLY Alegheny Colle 88.49 31 P **P 02 36 17.4 +0.7**
ACSO Alum Creek Sta 88.55 34 P **P 02 36 17.5 +0.5**
X40A Basin Creek Fa 88.59 43 P **P 02 36 17.4 +0.1**
X40A IAmb IAmb 02 36 18.4
comp=Z,135nm,1.3s
NCB Newcomb 88.59 26 P **P 02 36 17.5 +0.3**
NCB IAmb IAmb 02 36 18.7
comp=Z,129nm,1.4s
UALR University of 88.61 43 P **P 02 36 17.7 +0.2**
UALR IAmb IAmb 02 36 19.4
comp=Z,125nm,1.6s
T45A Paducah 88.66 39 IAMs_20 IAMs_20 03 15 42.1
comp=Z,1µm,20.0s
VAE Valguarnera 88.67 322 LR LR 03 21 10.9
comp=Z,3µm,18.2s,baz=65,slow=39
LBZ Lake Benmore 88.73 161 P **P 02 36 18.2 +0.8**
LBZ IAmb IAmb 02 36 20.2
comp=Z,127nm,1.4s
VT1 Waterbury 88.75 25 P **P 02 36 18.7 +0.8**
VT1 IAmb IAmb 02 36 19.8
comp=Z,88nm,1.3s
HICK Hickman 88.76 40 P **P 02 36 18.5 +0.4**
WCI Wyandotte Cave 88.77 37 P **P 02 36 18.3 +0.2**
WCI IAmb IAmb 02 36 19.9
comp=Z,85nm,1.1s
WCI Wyandotte Cave 88.77 37 P **P 02 36 18.3 +0.2**
WCI pmax pmax
comp=Z,85nm,1.1s
PEBM Pemiscott Bayo 88.80 40 P **P 02 36 18.9 +0.7**
HNDO Hondo 88.81 51 P **P 02 36 19.0 +0.5**
HNDO IAmb IAmb 02 36 20.5
comp=Z,78nm,1.6s
GNAR Gosnell 88.84 41 P **P 02 36 19.3 +0.9**
435B Jarrell 88.85 49 P **P 02 36 19.0 +0.5**
435B IAmb IAmb 02 36 20.5
comp=Z,67nm,1.2s
435B IAMs_20 IAMs_20 03 22 53.4
comp=Z,1µm,18.0s
435B Jarrell 88.85 49 P **P 02 36 19.1 +0.5**
baz=319
HBAR Harrisburg 88.85 41 P **P 02 36 19.8 +1.3**
K57A Scipio Center 88.90 28 P **P 02 36 19.2 +0.6**
K57A IAmb IAmb 02 36 20.1
comp=Z,108nm,1.3s
237A Washetta, Mont 88.92 47 P **P 02 36 19.4 +0.5**
237A IAmb IAmb 02 36 21.0
comp=Z,74nm,1.2s
N53A Lisbon 88.93 32 P **P 02 36 19.5 +0.7**
J59A Piesco 88.95 27 P **P 02 36 19.1 +0.2**
J59A IAmb IAmb 02 36 20.2
comp=Z,77nm,1.2s
GLAT Glass 88.95 40 P **P 02 36 19.6 +0.6**
LNXT Lenox 88.99 40 P **P 02 36 20.3 +1.2**
H62A Milan 89.03 24 P **P 02 36 20.1 +0.9**
H62A IAmb IAmb 02 36 21.2
comp=Z,98nm,1.0s
L56A Greenwood 89.04 29 P **P 02 36 19.6 +0.3**
L56A IAmb IAmb 02 36 20.4
comp=Z,99nm,1.2s
WLAR White Oak Lake 89.06 44 P **P 02 36 20.0 +0.5**
UTMT University of 89.10 40 P **P 02 36 20.6 +0.9**
O52A Adamsville 89.12 33 P **P 02 36 20.3 +0.6**
HALT Halls 89.22 40 IAMs_20 IAMs_20 03 18 49.8
comp=Z,1µm,19.0s
R49A Shelbyville 89.22 36 P **P 02 36 21.1 +0.9**
ACCN Adirondack Com 89.30 26 P **P 02 36 21.4 +0.9**
ACCN IAmb IAmb 02 36 22.2
comp=Z,80nm,1.2s
Q51A Peebles 89.40 34 P **P 02 36 21.7 +0.6**
Q51A IAMs_20 IAMs_20 03 16 52.4
comp=Z,1µm,20.0s
T47A Sharon Grove 89.41 38 P **P 02 36 21.9 +0.8**
T47A IAmb IAmb 02 36 23.0
comp=Z,141nm,1.2s
ODZ Otahua Downs 89.46 161 P **P 02 36 22.3 +1.5**
ODZ IAmb IAmb 02 36 24.4
comp=Z,118nm,1.4s
TBI Tubuai 89.54 122 *e*P **P 02 36 18.7 -3.0**
comp=Z,591nm,27.5s
TBI Tubuai 89.54 122 *e*PP **PP 02 39 49.7 -4.0**
comp=Z,390nm,30.2s
TBI *e*S **S 02 47 10.6 -0.7**
comp=Z,2µm,27.5s
TBI Tubuai 89.54 122 *e*LQ LQ 03 00 48.5
comp=Z,5µm,29.8s
TBI *e*LR LR 03 04 53.9
comp=Z,2µm,22.5s
TBI *e*LR LR 03 04 57.5
comp=Z,5µm,22.2s
BINY Binghamton 89.55 28 P **P 02 36 22.1 +0.4**
BINY IAmb IAmb 02 36 23.5
comp=Z,103nm,1.2s
MET Memphis--Engin 89.55 41 IAMs_20 IAMs_20 03 18 08.9
comp=Z,1µm,20.0s
Z41A Richland Creek 89.56 44 P **P 02 36 22.1 +0.2**
Z41A IAmb IAmb 02 36 23.2
comp=Z,115nm,1.2s
CCAR Cane Creek 89.58 43 P **P 02 36 22.7 +0.8**
R50A Paris 89.60 36 P **P 02 36 22.8 +0.8**
R50A IAmb IAmb 02 36 23.8
comp=Z,86nm,1.2s
833A Chaparral WMA, 89.64 52 P **P 02 36 23.5 +1.2**
baz=318,SNR=7.2
O54A Avella 89.65 32 P **P 02 36 22.9 +0.7**
O54A IAmb IAmb 02 36 24.2
comp=Z,111nm,1.0s
CEST Esterri de Car 89.66 333 P **P 02 36 23.3 +1.0**
CEST IAmb IAmb 02 36 39.2
comp=Z,54nm,1.2s
CEST IAMs_20 IAMs_20 03 23 15.2
comp=Z,2µm,18.0s
I63A Otisfield 89.67 24 P **P 02 36 23.4 +1.1**
I63A IAmb IAmb 02 36 24.8
comp=Z,135nm,1.1s
J61A Chester 89.69 25 P **P 02 36 23.1 +0.8**
NATX Nacogdoches 89.73 46 P **P 02 36 23.3 +0.6**
NATX IAmb IAmb 02 36 25.3
comp=Z,59nm,1.1s
NATX IAMs_20 IAMs_20 03 22 01.5
comp=Z,1µm,18.0s
SSFO Shawnee State 89.74 35 P **P 02 36 23.1 +0.5**
WVT Waverly 89.76 39 P **P 02 36 22.9 +0.1**
WVT IAmb IAmb 02 36 24.6
comp=Z,64nm,1.1s
WVT Waverly 89.76 39 P **P 02 36 22.9 +0.1**
WVT pmax pmax
comp=Z,64nm,1.2s
P53A Whipple 89.83 33 P **P 02 36 23.2 +0.2**
P53A IAmb IAmb 02 36 24.8
comp=Z,97nm,1.1s
TRY Troy 89.88 26 P **P 02 36 24.1 +1.0**
TRY IAmb IAmb 02 36 25.1
comp=Z,106nm,1.3s
L59A Walton 89.89 27 P **P 02 36 23.8 +0.5**
MLDN Muldoon 89.89 49 P **P 02 36 24.4 +0.9**
M57A Sunshine Farm, 89.90 29 P **P 02 36 24.1 +0.8**
Q52A Bidwell 89.91 34 P **P 02 36 23.5 +0.1**
Q52A IAmb IAmb 02 36 24.9
comp=Z,121nm,1.4s
HNVL Huntsville, TX 90.05 47 P **P 02 36 25.0 +0.8**
735A Kenedy 90.17 50 P **P 02 36 25.8 +1.0**
735A IAMs_20 IAMs_20 03 12 21.5
comp=Z,1µm,21.0s
ATD Arta Tunnel 90.17 285 P **P 02 36 25.5 +0.5**
ATD IAmb IAmb 02 36 36.8
comp=Z,78nm,1.0s
ATD IAMs_20 IAMs_20 03 23 03.2
comp=Z,864nm,18.0s
ATD Arta Tunnel 90.17 285 LR LR 03 23 39.1
comp=Z,36nm,18.0s,baz=36,slow=40
SSPA Standing Stone 90.22 30 P **P 02 36 25.5 +0.6**
MCWV Mont Chateau 90.31 32 P **P 02 36 25.1 -0.2**
MCWV IAmb IAmb 02 36 27.6
comp=Z,126nm,1.2s
U49A Red Boiling Sp 90.41 37 P **P 02 36 25.4 -0.4**
U49A IAmb IAmb 02 36 27.6
comp=Z,105nm,1.2s
U49A IAMs_20 IAMs_20 03 19 44.2
comp=Z,1µm,19.0s
K62A Royalston 90.41 25 P **P 02 36 26.3 +0.7**
K62A IAmb IAmb 02 36 27.9
comp=Z,74nm,1.1s
T50A Nancy 90.42 37 P **P 02 36 26.1 +0.3**
T50A IAmb IAmb 02 36 27.5
comp=Z,90nm,1.1s
T50A IAMs_20 IAMs_20 03 17 33.4
comp=Z,2µm,21.0s
S51A Beattyville 90.45 35 P **P 02 36 26.3 +0.3**
L61B Northampton 90.46 26 P **P 02 36 26.0 +0.1**
baz=334
HKT Hockley 90.46 48 P **P 02 36 26.3 +0.2**
HKT IAmb IAmb 02 36 28.5
comp=Z,97nm,1.7s
HKT IAMs_20 IAMs_20 03 19 58.8
comp=Z,982nm,19.0s
HKT Hockley 90.46 48 P **P 02 36 26.3 +0.2**
HKT pmax pmax
comp=Z,97nm,1.7s
HKT MLR MLR
comp=Z,1µm,19.0s
N58A Sunbury 90.48 29 P **P 02 36 26.0 0.0**
Q54A Coxs Mills 90.48 33 P **P 02 36 26.4 +0.3**
V48A Smith Brothers 90.56 39 IAMs_20 IAMs_20 03 16 51.2
comp=Z,2µm,22.0s
PLAL Pickwick Lake 90.57 40 P **P 02 36 26.6 0.0**
143A Socs Landing, 90.72 43 IAMs_20 IAMs_20 03 20 05.7
comp=Z,2µm,22.0s
HBVL Hebbronville 91.00 52 P **P 02 36 30.3 +1.6**
Q56A Snyder Ridge, 91.10 32 IAMs_20 IAMs_20 03 18 04.7
comp=Z,1µm,20.0s
UCCT U. Connecticut 91.19 26 P **P 02 36 30.5 +1.2**
UCCT IAmb IAmb 02 36 53.5
comp=Z,80nm,1.2s
PAL Palisades 91.33 27 P **P 02 36 30.1 +0.1**
PAL IAmb IAmb 02 36 31.8
comp=Z,119nm,1.3s
PAL Palisades 91.33 27 P **P 02 36 30.1 +0.1**
PAL pmax pmax
comp=Z,119nm,1.3s
TZTN Tazewell 91.39 36 P **P 02 36 30.8 +0.4**
TZTN IAmb IAmb 02 36 32.2
comp=Z,85nm,1.2s
SWET Sewanee 91.40 38 P **P 02 36 30.4 -0.1**
SWET IAmb IAmb 02 36 31.8
comp=Z,52nm,1.1s
SWET IAMs_20 IAMs_20 03 17 59.6
comp=Z,1µm,20.0s
X48A Hartselle 91.50 40 P **P 02 36 30.6 -0.3**
X48A IAMs_20 IAMs_20 03 19 53.3
comp=Z,1µm,21.0s
VBMS Vicksburg 91.56 43 P **P 02 36 32.4 +1.2**
VBMS IAMs_20 IAMs_20 03 22 21.5
comp=Z,1µm,20.0s
ZAIG Zacatecas 91.76 57 P **P 02 36 33.6 +1.0**
ZAIG IAmb IAmb 02 36 35.4
comp=Z,55nm,1.3s
CPCT Cooper Cave 91.86 37 P **P 02 36 32.6 0.0**
CPCT IAmb IAmb 02 36 34.2
comp=Z,57nm,1.2s
146A Union 91.97 42 P **P 02 36 34.3 +1.2**
Z47A Carrollton 92.01 41 P **P 02 36 33.5 +0.2**
Z47A IAmb IAmb 02 36 34.9
comp=Z,66nm,1.2s
Z47A IAMs_20 IAMs_20 03 19 43.0
comp=Z,1µm,22.0s
TKL Tuckaleechee C 92.02 37 P **P 02 36 33.3 0.0**
TKL IAmb IAmb 02 36 35.0
comp=Z,60nm,1.1s
TKL Tuckaleechee C 92.02 37 LR LR 03 18 12.6
comp=Z,1µm,22.0s,baz=337,slow=36
TKL Tuckaleechee C 92.02 37 P **P 02 36 33.3 0.0**
TKL pmax pmax
comp=Z,61nm,1.1s
FPAL Fort Paine 92.11 38 P **P 02 36 32.6 -1.1**
U54A Nelsons Funny 92.16 35 P **P 02 36 34.1 +0.1**
U54A IAmb IAmb 02 36 35.5
comp=Z,59nm,1.3s
U54A IAMs_20 IAMs_20 03 22 25.9
comp=Z,1µm,19.0s
BLA Blacksburg 92.17 34 P **P 02 36 34.4 +0.4**
BLA IAmb IAmb 02 36 35.7
comp=Z,44nm,1.1s
BLA IAMs_20 IAMs_20 03 21 41.5
comp=Z,1µm,18.0s
BLA Blacksburg 92.17 34 P **P 02 36 34.4 +0.4**
BLA pmax pmax
comp=Z,45nm,1.1s
BLA MLR MLR
comp=Z,1µm,18.0s
Y49A Blount Mountai 92.28 39 P **P 02 36 33.9 -0.7**
S57A Dark Hollow, R 92.29 32 P **P 02 36 35.2 +0.7**
S57A IAMs_20 IAMs_20 03 26 02.8
comp=Z,1µm,18.0s
KEST Kesra 92.41 324 P **P 02 36 34.7 -0.5**
comp=Z,13nm,0.9s,baz=334,slow=5.8,SNR=5.4
KEST LR LR 03 23 15.5
comp=Z,4µm,18.9s,baz=22,slow=39
comp=Z,13nm,0.9s
V53A Saluda 92.44 36 P **P 02 36 35.0 -0.3**
R58B Mineral 92.54 31 IAMs_20 IAMs_20 03 19 08.4
comp=Z,2µm,22.0s
LRAL Lakeview Retre 92.67 40 P **P 02 36 35.5 -0.8**
LRAL IAMs_20 IAMs_20 03 23 49.3
comp=Z,1µm,19.0s
T57A Hurt 92.83 33 P **P 02 36 37.3 +0.3**
PBRG Braganca 92.87 338 *e*P **P 02 36 37.6 +0.4**
PBRG A A 02 37 25.2
comp=Z,62nm,1.7s
BG3 Lake Jocassee 92.96 36 P **P 02 36 37.6 0.0**
BG3 IAmb IAmb 02 36 39.6
comp=Z,75nm,1.3s
V55A Taylorsville 92.98 35 P **P 02 36 38.6 +0.8**
PGAV Gavieira, Arco 93.14 339 *e*P **P 02 36 38.9 +0.4**
PGAV A A 02 36 51.2
comp=Z,122nm,1.9s
PGAV Gavieira, Arco 93.14 339 *e*LR LR 03 16 43.1
PGAV A A 03 24 06.8
comp=Z,1µm,18.0s
Y52A Lilburn 93.38 38 P **P 02 36 40.0 +0.4**
Y52A IAMs_20 IAMs_20 03 21 27.1
comp=Z,1µm,20.0s
KMSC Kings Mountain 93.53 35 P **P 02 36 39.8 -0.5**
KMSC IAMs_20 IAMs_20 03 25 02.9
comp=Z,1µm,20.0s
MVO Moncorvo 93.55 338 *e*P **P 02 36 40.5 +0.2**
MVO Moncorvo 93.55 338 *e*LQ LQ 03 11 59.4
MVO *e*LR LR 03 18 58.2
MVO A A 03 24 16.2
comp=Z,2µm,18.0s
PAULI Pauline 93.59 36 P **P 02 36 40.7 +0.2**
PAULI IAMs_20 IAMs_20 03 20 57.5
comp=Z,1µm,20.0s
PVRL Vila Real 93.64 339 *e*P **P 02 36 40.8 +0.1**
PVRL A A 02 36 53.6
comp=Z,88nm,1.6s
250A Grady 93.89 40 IAMs_20 IAMs_20 03 24 37.6
comp=Z,1µm,20.0s
HODGE Hodges 93.89 36 IAMs_20 IAMs_20 03 18 47.5
comp=Z,2µm,22.0s
V58A Windy Hill, Pi 93.92 33 IAMs_20 IAMs_20 03 27 29.9
comp=Z,1µm,18.0s
ESDC Sonseca Array 94.00 335 P **P 02 36 41.9 -0.6**
ESDC Sonseca Array 94.00 335 P **P 02 36 42.5 0.0**
comp=Z,8.5nm,1.0s,baz=17,slow=3.9,SNR=31
ESDC PP **PP 02 40 26.8 -0.7**
comp=Z,3.8nm,0.9s,baz=29,slow=6.5,SNR=2.9
ESDC LR LR 03 24 16.2
comp=Z,3µm,18.7s,baz=25,slow=39
comp=Z,8.5nm,1.0s
GOGA Godfrey 94.03 38 IAMs_20 IAMs_20 03 21 56.3
comp=Z,1µm,19.0s
152A Waverly Hall 94.07 39 IAMs_20 IAMs_20 03 21 41.2
comp=Z,1µm,19.0s
PAB San Pablo 94.24 335 P **P 02 36 43.2 -0.3**
PAB San Pablo 94.24 335 P **P 02 36 43.2 -0.3**
PAB pmax pmax
comp=Z,29nm,1.2s
MTE Manteigas 94.40 338 *e*P **P 02 36 44.4 +0.1**
MTE A A 02 36 54.9
comp=Z,60nm,1.9s
MTE Manteigas 94.40 338 *e*LQ LQ 03 12 01.8
MTE *e*LR LR 03 16 14.3
MTE A A 03 28 12.6
comp=Z,2µm,16.0s
W59A Clinton 94.74 33 IAMs_20 IAMs_20 03 21 39.5
comp=Z,1µm,19.0s
COI Coimbra 94.82 339 *e*P **P 02 36 47.2 +1.1**
154A Montrose 94.87 38 IAMs_20 IAMs_20 03 22 40.3
comp=Z,1µm,18.0s
Y57A Sumter 94.90 35 IAMs_20 IAMs_20 03 25 53.0
comp=Z,1µm,19.0s
FURI Furi 94.96 286 IAMs_20 IAMs_20 03 25 05.1
comp=Z,1µm,20.0s
FURI Furi 94.96 286 LR LR 03 25 25.4
comp=Z,1µm,19.0s,baz=34,slow=39
PMRV Marv??o 95.26 338 *e*LQ LQ 03 12 18.7
PMRV *e*LR LR 03 18 02.4
PMRV A A 03 26 22.9
comp=Z,2µm,20.0s
TIGA Tifton 95.62 39 IAMs_20 IAMs_20 03 20 32.3
comp=Z,1µm,21.0s
PMTG Montargil 95.83 338 *e*P **P 02 36 50.8 +0.1**
PMTG A A 02 37 01.1
comp=Z,39nm,1.7s
Y60A Bolivia 95.83 34 IAMs_20 IAMs_20 03 22 12.6
comp=Z,1µm,20.0s
PESTR Estremoz 95.84 338 *e*P **P 02 36 50.5 -0.3**
PESTR A A 02 37 13.4
comp=Z,31nm,1.6s
EVO Evora 96.27 338 *e*P **P 02 36 54.8 +2.1**
EVO A A 02 37 31.7
comp=Z,35nm,1.7s
UNM Universidad Na 96.42 57 IAMs_20 IAMs_20 03 13 57.7
comp=Z,988nm,21.0s
PBEJ Beja 96.70 337 *e*P **P 02 36 55.2 +0.5**
PBEJ A A 02 37 07.6
comp=Z,35nm,1.9s
MESJ Messejana 96.97 338 *e*P **P 02 36 56.0 +0.1**

PVAQ Vaqueiros 97.23 337 *eP* Pdif 02 36 58.3 +1.1
PVAQ Vaqueiros 97.23 337 *e*LR LR 03 16 12.4
PVAQ A A 03 26 33.5
comp=Z,4μm,18.0s
656A Willston 97.84 39 IAMs_20 IAMs_20 03 21 28.3
comp=Z,1μm,22.0s
DWPF Disney Wildern 99.42 39 IAMs_20 IAMs_20 03 22 59.1
comp=Z,1μm,21.0s
061Z Ochoppi 101.56 40 IAMs_20 IAMs_20 03 24 18.0
comp=Z,1μm,21.0s
TEIG Tepich 102.30 49 IAMs_20 IAMs_20 03 30 48.7
comp=Z,780nm,19.0s
KMBO Kilima Mbogo 102.75 280 P **Pdif 02 37 22.3 -0.1**
comp=Z,5.4nm,1.0s,baz=32,slow=7.7,SNR=15
KIBK Kibwezi 102.97 278 IAMs_20 IAMs_20 03 30 15.1
comp=Z,646nm,20.0s
SOR Soroa 103.07 43 IAMs_20 IAMs_20 03 31 03.3
comp=Z,944nm,20.0s
PETF Flores 103.98 52 IAMs_20 IAMs_20 03 20 33.1
comp=Z,636nm,19.0s
PMOZ Porto Moniz, M 104.01 343 *e*LR LR 03 21 52.8
PMOZ A A 03 28 42.0
comp=Z,865nm,18.0s
TAM Tamanrasset 105.11 320 IAMs_20 IAMs_20 03 32 52.1
comp=Z,1μm,19.0s
ABPO Ambohimpanom 106.77 259 IAMs_20 IAMs_20 03 23 54.2
comp=Z,886nm,21.0s
SNET Serv Nac Est T 106.87 54 IAMs_20 IAMs_20 03 20 02.9
comp=Z,882nm,20.0s
TGUH Tegucigalpa,Un 107.76 52 IAMs_20 IAMs_20 03 31 19.2
comp=Z,759nm,21.0s
GTBY Guantanamo Bay 109.38 38 IAMs_20 IAMs_20 03 36 24.0
comp=Z,886nm,19.0s
MTDJ Mount Denham 109.67 41 IAMs_20 IAMs_20 03 29 44.9
comp=Z,1μm,22.0s
GRTK Grand Turk 109.76 34 IAMs_20 IAMs_20 03 36 30.7
comp=Z,606nm,19.0s
SDDR Presa de Saban 111.93 35 IAMs_20 IAMs_20 03 35 27.4
comp=Z,1μm,20.0s
UUPR Utuado, UPR, P 114.47 31 IAMs_20 IAMs_20 03 37 06.5
comp=Z,679nm,20.0s
CELP Cerrillos 114.69 31 IAMs_20 IAMs_20 03 37 47.3
comp=Z,771nm,20.0s
SJG San Juan 114.83 31 IAMs_20 IAMs_20 03 32 25.8
comp=Z,611nm,20.0s
TORD Torodi Ar. Bea 115.19 318 PKP **PKiKP 02 42 04.8 -1.3**
comp=Z,2.9nm,0.9s,baz=16,slow=2.2,SNR=10
TORD PP **PP 02 43 02.8 -2.7**
comp=Z,11nm,1.1s,baz=20,slow=7.7,SNR=8.6
TORD PKKPbc **PKKPbc 02 52 40.0 +0.4**
comp=Z,0.6nm,0.7s,baz=202,slow=2.7,SNR=4.0
SMRT St. Maarten 116.02 28 IAMs_20 IAMs_20 03 36 13.3
comp=Z,914nm,19.0s
LSZ Lusaka 118.72 275 PKPdf **PKPdf 02 42 12.5 -0.4**
LSZ Lusaka 118.72 275 IAMs_20 IAMs_20 03 39 22.4
comp=Z,858nm,18.0s
LSZ Lusaka 118.72 275 PKIKP **PKPdf 02 42 12.5 -0.4**
HATO Hato, Curacao 118.97 37 IAMs_20 IAMs_20 03 40 14.0
comp=Z,732nm,20.0s
SDV Santo Domingo 121.07 40 PKPdf **PKPdf 02 42 17.0 -0.7**
SDV IAMs_20 IAMs_20 03 40 20.9
comp=Z,700nm,20.0s
SDV Santo Domingo 121.07 40 *eP* **PKiKP 02 42 19.1 +1.4**
ACRG Accra 122.53 315 IAMs_20 IAMs_20 03 41 29.2
comp=Z,916nm,20.0s
ROSC El Rosal 122.61 46 PKP **PKPdf 02 42 20.8 -0.1**
comp=Z,19nm,0.8s,baz=74,slow=2.6,SNR=12
BROLN Tlhalogang 122.91 270 *iP* **PKiKP 02 42 21.1 +0.1**
POGA Pongola 123.17 261 IAMs_20 IAMs_20 03 33 09.7
comp=Z,903nm,19.0s
OTAV Otavalo 123.97 53 PKPdf **PKPdf 02 42 22.6 -1.0**
OTAV Otavalo 123.97 53 PKIKP **PKPdf 02 42 22.6 -1.0**
OTAV Otavalo 123.97 53 *eP* **PKiKP 02 42 24.9 +1.1**
DBIC Dimbokro 123.99 321 PKP **PKPdf 02 42 21.6 -1.5**
comp=Z,11nm,1.0s,baz=340,slow=1.4,SNR=5.8
MAW Mawson 124.07 207 PKP **PKPdf 02 42 21.7 +0.2**
comp=Z,4.4nm,0.8s,baz=82,slow=4.2,SNR=6.8
LPHEP Lephephe 125.33 269 *iP* **PKiKP 02 42 26.1 +0.3**
CKGRV CKGRV 125.76 272 *iP* **PKiKP 02 42 27.4 +0.7**
KDWAN Kaudwane 126.24 269 *iP* **PKiKP 02 42 28.0 +0.4**
GRTLG Ghanzi 127.66 274 *iP* **PKiKP 02 42 31.5 +1.0**
BOSA Boshof 128.66 264 PKP **PKPdf 02 42 31.9 +0.3**
comp=Z,6.7nm,1.1s,baz=61,slow=4.9,SNR=3.0
BOSA Boshof 128.66 264 PKIKP **PKPdf 02 42 32.0 +0.3**
QSPA South Pole Qui 131.11 180 PKPpre 02 42 24.4
QSPA **PKPdf 02 42 35.0 0.0**
QSPA South Pole Qui 131.11 180 IAMs_20 IAMs_20 03 35 13.5
comp=Z,614nm,22.0s
QSPA South Pole Qui 131.11 180 PKP **PKPdf 02 42 34.5 -0.5**
comp=Z,14nm,0.9s,baz=303,slow=1.4,SNR=21
BOAV Boa Vista 131.34 33 PKPdf **PKPdf 02 42 36.5 -0.6**
BOAV Boa Vista 131.34 33 *eP* **PKPdf 02 42 37.6 +0.5**
TBTG Tabatinga, AM 132.52 48 **PKPdf 02 42 38.5 -0.8**
TBTG Tabatinga, AM 132.52 48 *eP* **PKiKP 02 42 41.0 +0.6**
CZSB Cruzeiro do Su 133.74 54 PKPdf **PKPdf 02 42 42.0 +0.5**
NNA Nana 134.34 62 PKPdf **PKPdf 02 42 42.0 -0.7**
NNA Nana 134.34 62 PKIKP **PKPdf 02 42 42.0 -0.7**
ELIB Princess Elisa 137.97 204 *d*PKP **PKPdf 02 42 47.3 -0.5**
ETMB Extrema 139.21 48 PKPdf **PKPdf 02 42 51.3 -0.3**
NVL N'lazarevskaya 141.85 204 *e*PKHKP PKPpre 02 42 49.4
NVL pmax pmax
comp=Z,21nm,0.9s
NPGB Novo Progresso 142.00 31 *eP* **PKPdf 02 42 57.5 +0.7**
LPAZ La Paz 143.16 57 PKP **PKPdf 02 42 59.0 -0.4**
comp=Z,18nm,1.1s,baz=329,slow=4.9,SNR=11
LPAZ La Paz 143.16 57 *eP* **PKPdf 02 42 59.5 0.0**
TROLL Troll, Antarti 143.81 199 ⇑PKPdf PKPab 02 42 55.0 -0.4
comp=Z,2μm,0.9s
TROLL ⇑PP **PP 02 46 10.7 -1.4**
comp=Z,204nm,0.8s
RCBR Riachuelo 144.60 359 PKPdf **PKPab 02 42 59.8 -0.1**
RCBR Riachuelo 144.60 359 IAMs_20 IAMs_20 03 45 28.2
comp=Z,822nm,22.0s
RCBR Riachuelo 144.60 359 PKIKP **PKPab 02 42 59.8 -0.1**
RCBR MLR MLR
comp=Z,800nm,22.0s
TA02 Huaiquique 144.74 64 **PKPdf 02 43 01.3 0.0**
HMBC Humberstone 144.91 63 **PKPab 02 43 00.3 -0.6**
VILB Vilhena 145.04 43 *eP* **PKPdf 02 43 01.9 -0.2**
CLDB Colider 145.29 34 *eP* **PKPdf 02 43 03.1 +0.6**
SNAA Sanae 145.32 198 ⇑PKPdf **PKPbc 02 43 00.4 -0.4**
comp=Z,2μm,1.1s
SNAA ⇑PP **PP 02 46 18.6 -2.4**
comp=Z,204nm,1.2s
SNAA Sanae 145.32 198 PKPbc **PKPbc 02 43 00.3 -0.4**
comp=Z,96nm,1.0s,baz=141,slow=2.4,SNR=93
PDRB Porto dos Gac 145.54 36 *eP* **PKPab 02 43 03.9 +0.6**
H03N2 Juan Fernandez 145.81 91 T T 05 26 10.8
baz=301,slow=77,SNR=62
H03N3 Juan Fernandez 145.82 91 T T 05 26 06.3
baz=301,slow=77,SNR=90
H03N1 Juan Fernandez 145.83 91 T T 05 26 09.4
baz=301,slow=77,SNR=67
SMTB Santa Maria do 146.22 20 *eP* **PKPab 02 43 05.9 +0.1**
VNA2 Neumayer--Watz 146.89 197 ⇑PKPdf **PKPdf 02 43 02.4 -1.1**
comp=Z,65nm,0.8s,baz=34,slow=1.7
NBCA Caruaru-PE 146.98 359 *eP* **PKPbc 02 43 07.5 +0.1**
VNA3 Neumayer Olymp 147.13 196 ⇑PKPdf **PKPdf 02 43 03.0 -0.9**
comp=Z,44nm,0.8s
VNA3 ⇑PP **PP 02 46 31.4 -0.2**
comp=Z,16nm,1.1s
VNA1 Neumayer--Stat 147.29 197 ⇑PKPdf **PKPdf 02 43 05.0 +0.9**
comp=Z,86nm,1.0s
PTLB Pontes e Lacer 147.69 43 *eP* **PKPdf 02 43 07.5 +1.1**
SNDB Serra Nova Dou 148.04 28 *eP* **PKPdf 02 43 08.7 +1.6**
AC01 Pan de Azucar 148.23 72 **PKPbc 02 43 08.9 -1.5**
BBSD Serra de San D 148.33 48 *eP* **PKPdf 02 43 09.1 +1.6**
GO02 Mina Guanaco 148.34 70 **PKPdf 02 43 09.3 +1.6**
NBAN Anadia - AL 148.42 359 *eP* **PKPbc 02 43 10.3 -1.0**
NBLA Lagarto - SE 149.72 2 *eP* **PKPdf 02 43 11.1 +1.2**
SALV Santo Antonio 149.78 38 *eP* **PKPdf 02 43 11.1 +1.2**
SDBA SAO DESIDERIO 150.26 16 *eP* **PKPdf 02 43 11.5 +0.7**
ARAG Araguaiana, MT 151.28 31 *eP* **PKPdf 02 43 13.1 +0.9**
GDU01 Guandu, BA 152.33 6 *eP* **PKPdf 02 43 15.5 +1.7**
BDFB Brasilia 152.55 24 PKPbc **PKPbc 02 43 20.5 -0.7**
comp=Z,42nm,1.0s,baz=320,slow=0.8,SNR=31
FDPY Filadelfia 152.72 53 *eP* **PKPdf 02 43 16.7 +2.5**
JANB Januaria 152.96 16 *eP* **PKPdf 02 43 15.9 +1.1**
BDQN Bodoquena, MS 153.09 45 *eP* **PKPdf 02 43 15.5 +0.7**
AQDB Aquidauana 153.66 43 *eP* **PKPdf 02 43 16.7 +1.1**
GO09 Cerro Castillo 153.72 124 **PKPbc 02 43 22.4 -0.1**
CMC01 Camacan, BA 153.96 6 *eP* **PKPdf 02 43 17.1 +1.0**
COYC Coyhaique 154.12 111 **PKiKP 02 43 24.1 +0.5**
PLCA Paso Flores 154.56 100 PKPdf **PKPdf 02 43 16.7 +0.3**
PLCA Paso Flores 154.56 100 PKPbc **PKiKP 02 43 25.2 +0.3**
comp=Z,17nm,1.0s,baz=272,slow=3.2,SNR=15
PLCA Paso Flores 154.56 100 PKIKP **PKPdf 02 43 16.7 +0.3**
IPMB Ipameri, GO 154.68 26 *eP* **PKPdf 02 43 17.5 +0.3**
PMNB Patos De Minas 155.76 23 *eP* **PKPdf 02 43 19.5 +0.8**
AMBA Amambai (Brazi 156.05 45 *eP* **PKPdf 02 43 19.5 +0.6**
CPUP Villa Florida 157.31 55 PKPdf **PKPdf 02 43 20.3 0.0**
CPUP PKPab **PKPab 02 43 49.8 -1.7**
CPUP Villa Florida 157.31 55 PKP **PKPdf 02 43 20.4 0.0**
comp=Z,9.6nm,1.1s,baz=352,slow=2.7,SNR=7.3
CPUP PKPab **PKPab 02 43 51.5 -0.1**
comp=Z,24nm,1.2s,baz=342,slow=4.8,SNR=9.1
TRQA Tornquist 160.30 89 PKPab **PKPab 02 44 03.5 -0.9**
TRQA Tornquist 160.30 89 PKP2 **PKPab 02 44 03.5 -0.9**
ITAB Concordia 161.03 47 PKPab **PKPab 02 44 07.7 0.0**
PLTB Pedras Altas 163.41 60 **PKPdf 02 43 26.1 -0.8**
PLTB PKPab **PKPab 02 44 18.3 +0.3**

VAO 28 02:23:30.6±1.2, 16°67'S×65°84'W, h0km, mb4.3, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETMB	**Extrema**	**6.82**	**357**	*eP*	Pn	02 25 11.9	-0.1
ETMB				*eS*	Sn	02 26 31.1	+0.6
MACA	**Manacapuru-AM**	**14.35**	**21**	*eP*	Pn	02 26 55.1	0.0
MACA				*eS*	Sn	02 29 36.2	+1.1
SNDB	**Serra Nova Dou**	**14.84**	**74**	*eP*	Pn	02 27 00.8	-1.1

*NEIC **28** 02:36:53.7±1.8, 35°55N±0°02×96°09W±0°02, h18km±7km, Error ellipse: s-maj=3.7km s-min=1.5km az=144.0*
NEIC 28 02:36:52.9±1.6, 35°52N±0°02×96°08W±0°02, h5km±1km, ML2.4/39, ML2.8/25, Error ellipse: s-maj=3.9km s-min=2.9km az=157.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUL3	**Leonard**	**0.46**	**30**	Pg	Pb	02 37 02.7	-0.8
TUL3				Sg	Sg	02 37 08.8	+1.1
DEOK	**Depew**	**0.47**	**314**		Pg	02 37 02.8	+0.8
DEOK				Sg	Sg	02 37 09.0	+0.8
W35A	**Tecumseh**	**0.75**	**241**	Pg	Pb	02 37 08.1	-0.3
W35A				Sg	Sb	02 37 18.4	-0.5
W35A				IAML		02 37 18.7	
comp=N,140nm,0.3s							
OK031	**S. Brethren Rd**	**0.76**	**305**	Pg	Pg	02 37 06.7	-0.8
OK031				Sg	Sg	02 37 17.8	+0.4
OK031				IAML		02 37 18.5	
comp=N,160nm,0.3s							
OK031				IAML		02 37 20.2	
comp=N,203nm,0.2s							
OK052	**Battle Ridge R**	**0.76**	**309**	Pg	Pg	02 37 06.9	-0.6
OK052				Sg	Sg	02 37 17.9	+0.5
OK052				IAML		02 37 20.1	
comp=N,133nm,0.1s							
OK052				IAML		02 37 20.3	
comp=N,191nm,0.2s							
QUOK	**Quay**	**0.83**	**322**	Pg	Pg	02 37 08.5	-0.3
QUOK				IAML		02 37 20.4	
comp=E,138nm,0.3s							
RLO	**Rose Lookout**	**1.07**	**53**	Pg	Pb	02 37 13.8	-0.2
RLO				IAML		02 37 33.3	
comp=E,105nm,0.2s							
FNO	**Franklin**	**1.11**	**257**	Pg	Pg	02 37 13.7	-0.5
FNO				Sg	Sg	02 37 28.8	+0.2
OK048	**Pawnee Station**	**1.14**	**322**		Pg	02 37 13.7	-1.1
OK048				IAML		02 37 30.7	
comp=E,72nm,0.2s							
OK029	**Liberty Lake**	**1.16**	**284**		Pg	02 37 13.6	-1.5
OK029				IAML		02 37 31.9	
comp=E,66nm,0.2s							
OK029				IAML		02 37 32.1	
comp=E,84nm,0.2s							
OK051	**E0350 and S346**	**1.16**	**328**		Pg	02 37 13.6	-1.6
OK051				IAML		02 37 32.9	
comp=E,124nm,0.2s							
OK051				IAML		02 37 35.8	
comp=E,86nm,0.2s							
BCOK	**Bluff Creek, N**	**1.26**	**277**		Pg	02 37 16.4	-0.7
BCOK					Sb	02 37 33.8	+0.2
T35A	**Sooner Cattle**	**1.44**	**346**		Pn	02 37 18.5	-1.2
BLOK	**Blackwell**	**1.55**	**324**		Pn	02 37 18.9	-2.2
U38A	**Gravette**	**1.65**	**56**		Pn	02 37 22.7	+0.1
X34A	**Smith Ranch, M**	**1.71**	**238**		Pn	02 37 22.1	-1.2
S39A	**Bolivar**	**3.10**	**45**	Pn	Pn	02 37 40.8	-1.7
FCAR	**Ozark Folk Cen**	**3.24**	**82**	Pn	Pn	02 37 45.6	+1.2
MGMO	**Mountain Grove**	**3.48**	**61**	Pn	Pn	02 37 46.7	-1.0
LCAR	**Lake Charles**	**4.04**	**81**	Pn	Pn	02 37 55.3	0.0
R40A	**Maddies Statio**	**4.12**	**47**	Pn	Pn	02 37 56.5	0.0

*AEIC **28** 02:40:22.8±1.1, 69°60N±0°02×144°92W±0°04, h13km±5km, ML3.4, ML3.5/110(NEIC), Error ellipse: s-maj=3.2km s-min=1.9km az=160.0*
*NEIC **28** 02:40:23.7±1.2, 69°56N±0°02×144°95W±0°04, h10km±2km, Error ellipse: s-maj=3.8km s-min=3.0km az=327.0*
ISC 28 02:40:23.6±1.0, 69°60N±0°05×144°97W±0°03, h12km±11km, n191, σ1°39/196, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
C26K	**Camden Bay**	**0.32**	**4**		**Pg**	**02 40 30.8**	**+0.8**
C26K					**Sg**	**02 40 35.4**	**+1.1**
C27K	**Jago River**	**0.44**	**86**	Pg	**Pg**	**02 40 31.9**	**-0.4**
C27K				Sg	**Sg**	**02 40 37.3**	**-0.9**
C27K				IAML		02 40 39.7	
comp=E,3μm,0.3s							
C27K				IAML		02 40 40.1	
comp=N,3μm,0.6s							
D25K	**Kavik River**	**0.57**	**241**	Pg	**Pb**	**02 40 33.8**	**-1.8**
D25K				Sg	**Sg**	**02 40 41.7**	**-0.6**
D25K	**Kavik River**	**0.57**	**241**	P	**Pb**	**02 40 34.1**	**-1.4**
baz=61							
D25K				S	**Sg**	**02 40 42.7**	**+0.4**
baz=61							
C24K	**Franklin Bluff**	**1.31**	**277**		**Pn**	**02 40 48.5**	**+0.8**
D24K	**Happy Valley**	**1.44**	**253**	Pn	**Pn**	**02 40 50.1**	**+0.6**
D27M	**Malcolm River**	**1.46**	**102**		**Pn**	**02 40 50.0**	**+0.1**
D27M				IAML		02 41 17.2	
comp=N,583nm,0.9s							
D27M	**Malcolm River**	**1.46**	**102**	P	**Pn**	**02 40 50.2**	**+0.4**
baz=286							
D27M				S	**Sb**	**02 41 10.3**	**+1.1**
baz=286							
E27K	**Coleen River**	**1.88**	**138**	Pn	**Pn**	**02 40 55.7**	**+0.2**
E27K	**Coleen River**	**1.88**	**138**	P	**Pn**	**02 40 56.7**	**+1.2**
baz=321							
E27K				S	**Sb**	**02 41 21.0**	**-0.2**
baz=321							
TOLK	**Toolik Lake Re**	**1.91**	**242**		**Pn**	**02 40 57.1**	**+1.1**
TOLK	**Toolik Lake Re**	**1.91**	**242**	Pn	**Pn**	**02 40 55.8**	**-0.2**
TOLK				IAML		02 41 29.9	
comp=N,280nm,0.8s							
TOLK				IAML		02 41 33.3	
comp=E,286nm,0.7s							
TOLK	**Toolik Lake Re**	**1.91**	**242**	P	**Pn**	**02 40 57.0**	**+1.0**
baz=58							
F26K	**Sheenjek River**	**1.94**	**171**	Pn	**Pn**	**02 40 56.8**	**+0.4**
F26K				IAML		02 41 29.0	
comp=N,407nm,0.6s							
C23K	**Itkillik River**	**1.98**	**279**	Pn	**Pn**	**02 40 57.5**	**+0.6**
E24K	**Your Creek**	**2.00**	**221**	Pn	**Pn**	**02 40 57.9**	**+0.7**
E24K	**Your Creek**	**2.00**	**221**	P	**Pn**	**02 40 58.8**	**+1.6**
baz=38							
E24K				S	**Sb**	**02 41 26.7**	**+2.0**
baz=38							
F25K	**Christian Rive**	**2.04**	**187**	Pn	**Pn**	**02 40 58.9**	**+1.1**
F25K	**Christian Rive**	**2.04**	**187**	P	**Pn**	**02 40 59.2**	**+1.5**
baz=7.2							
F25K				S	**Sb**	**02 41 26.2**	**+0.5**
baz=7.2							
D23K	**Nanushuk River**	**2.13**	**255**	Pn	**Pn**	**02 40 59.1**	**+0.1**
D23K				IAML		02 41 46.3	
comp=E,322nm,0.7s							
D23K				IAML		02 41 48.3	
comp=N,252nm,0.9s							
BMAR	**Burnt Mountain**	**2.19**	**176**	Pn	**Pn**	**02 41 01.2**	**+1.3**
E28M	**Babbage River**	**2.19**	**115**	Pn	**Pn**	**02 40 59.9**	**0.0**
D28M	**Stokes Point**	**2.22**	**94**		**Pn**	**02 41 02.0**	**+1.9**
E23K	**Chandalar**	**2.29**	**230**	Pn	**Pn**	**02 41 01.8**	**+0.5**
E23K				IAML		02 41 43.9	
comp=N,222nm,0.6s							
E23K	**Chandalar**	**2.29**	**230**	P	**Pn**	**02 41 02.5**	**+1.2**
baz=46							
F24K	**Squaw Lake**	**2.35**	**208**	Pn	**Pn**	**02 41 02.2**	**+0.1**
F24K				IAML		02 41 42.4	
comp=N,233nm,0.3s							
F24K				IAML		02 41 42.4	
comp=E,223nm,0.3s							
F28M	**Old Crow**	**2.74**	**135**	Pn	**Pn**	**02 41 07.4**	**+0.1**
F28M				IAML		02 41 56.3	
comp=N,152nm,0.7s							
F28M	**Old Crow**	**2.74**	**135**	P	**Pn**	**02 41 08.1**	**+0.8**
baz=320							
E29M	**Blow River**	**2.83**	**112**	Pn	**Pn**	**02 41 09.5**	**+1.0**
E29M				IAML		02 41 54.9	
comp=E,161nm,0.7s							
E29M				IAML		02 41 57.6	
comp=N,166nm,0.7s							
D22K	**Ayikyak River**	**2.84**	**259**	Pn	**Pn**	**02 41 09.4**	**+0.6**
D22K				IAML		02 42 00.2	
comp=E,200nm,0.7s							
D22K				IAML		02 42 06.2	
comp=N,178nm,0.9s							
G25K	**Bearman Lake**	**2.88**	**189**		**Pn**	**02 41 10.5**	**+1.2**
B22K	**Teshekpuk Lake**	**3.00**	**288**	Pn	**Pn**	**02 41 12.6**	**+1.8**
FYU	**Fort Yukon**	**3.05**	**182**	Pn	**Pn**	**02 41 13.3**	**+1.7**
FYU				IAML		02 42 09.3	
comp=E,174nm,0.7s							
G24K	**Hadweenzic Riv**	**3.06**	**199**	Pn	**Pn**	**02 41 12.7**	**+0.9**
G24K	**Hadweenzic Riv**	**3.06**	**199**	P	**Pn**	**02 41 12.9**	**+1.1**
baz=17							
G27K	**Doyon Strip**	**3.07**	**155**	Pn	**Pn**	**02 41 12.3**	**+0.4**
COLD	**Coldfoot**	**3.07**	**221**	P	**Pn**	**02 41 13.3**	**+1.4**
baz=37							
H25L	**Birch Creek**	**3.37**	**186**		**Pn**	**02 41 17.0**	**+1.0**
H25L	**Birch Creek**	**3.37**	**186**	P	**Pn**	**02 41 17.2**	**+1.3**
baz=5.4							
B21K	**Ikpikpuk River**	**3.38**	**275**	Pn	**Pn**	**02 41 16.7**	**+0.7**
B21K				IAML		02 42 31.8	
comp=E,140nm,1.1s							
F22K	**John River**	**3.38**	**235**		**Pn**	**02 41 17.7**	**+1.5**
E21K	**Killik River**	**3.44**	**254**	Pn	**Pn**	**02 41 17.6**	**+0.6**
E21K				IAML		02 42 23.4	
comp=N,98nm,1.0s							
E21K				IAML		02 42 25.2	
comp=E,92nm,1.0s							
G23K	**Bananza Creek**	**3.46**	**215**	Pn	**Pn**	**02 41 18.3**	**+1.0**
G23K				IAML		02 42 20.1	
comp=N,98nm,1.1s							
G23K				IAML		02 42 26.4	
comp=E,85nm,1.0s							
C21K	**Knifeblade Rid**	**3.50**	**267**		**Pn**	**02 41 19.6**	**+1.8**
C21K	**Knifeblade Rid**	**3.50**	**267**	P	**Pn**	**02 41 19.6**	**+1.8**
baz=78							
G22K	**Bettles**	**3.63**	**225**		**Pn**	**02 41 21.1**	**+1.6**
G22K	**Bettles**	**3.63**	**225**	P	**Pn**	**02 41 21.1**	**+1.6**
baz=39							
H27K	**Steamboat Moun**	**3.63**	**157**		**Pn**	**02 41 20.6**	**+1.0**
A22K	**Sinclair Lake**	**3.67**	**297**		**Pn**	**02 41 21.3**	**+1.3**
A22K	**Sinclair Lake**	**3.67**	**297**	P	**Pn**	**02 41 21.2**	**+1.3**
baz=108							
G29M	**Pine Creek**	**3.74**	**133**	Pn	**Pn**	**02 41 21.2**	**+0.1**
G29M				IAML		02 42 37.0	
comp=E,113nm,0.5s							
G29M				IAML		02 42 38.4	
comp=N,91nm,1.0s							
F30M	**Barrier River**	**3.91**	**116**		**Pn**	**02 41 25.2**	**+1.7**
H24K	**Noodor Dome**	**3.94**	**198**	Pn	**Pn**	**02 41 24.3**	**+0.4**
H24K				IAML		02 42 28.4	
comp=E,90nm,0.9s							
H24K				IAML		02 42 34.5	
comp=N,80nm,0.8s							
F21K	**Alatna River**	**3.95**	**237**	Pn	**Pn**	**02 41 25.3**	**+1.3**
F21K				IAML		02 42 34.1	
comp=N,55nm,0.8s							
F21K				IAML		02 42 34.3	
comp=E,54nm,0.6s							
PRP	**Porcupine Dome**	**4.11**	**183**	Pn	**Pn**	**02 41 27.2**	**+0.9**
PRP				IAML		02 42 18.3	
comp=E,74nm,0.4s							
PRP				IAML		02 42 19.5	
comp=N,63nm,0.3s							
PRP	**Porcupine Dome**	**4.11**	**183**	P	**Pn**	**02 41 28.0**	**+1.8**
baz=3.0							
H23K	**Yukon River**	**4.17**	**207**		**Pn**	**02 41 27.8**	**+0.8**
H23K	**Yukon River**	**4.17**	**207**	IAML		02 42 42.6	
comp=E,65nm,0.8s							
H23K				IAML		02 42 43.4	
comp=N,58nm,0.7s							
G30M	**tAoh Zraii Nji**	**4.18**	**125**	P	**Pn**	**02 41 28.8**	**+1.6**
baz=313							
H29M	**Whitestone**	**4.21**	**141**	Pn	**Pn**	**02 41 28.7**	**+1.1**
H29M				IAML		02 42 45.6	
comp=N,48nm,0.7s							
H29M				IAML		02 42 48.0	
comp=E,54nm,0.9s							
I27K	**Kandik River**	**4.22**	**161**		**Pn**	**02 41 29.3**	**+1.6**
B20K	**Meade River**	**4.25**	**281**	Pn	**Pn**	**02 41 28.9**	**+1.0**
B20K	**Meade River**	**4.25**	**281**	P	**Pn**	**02 41 29.7**	**+1.7**
baz=90							
D20K	**Etivluk River**	**4.25**	**263**		**Pn**	**02 41 30.3**	**+2.2**
E20K	**Nigu River**	**4.27**	**257**		**Pn**	**02 41 30.4**	**+2.1**
INK	**Inuvik**	**4.33**	**102**	Pn	**Pn**	**02 41 30.0**	**+0.9**
INK	**Inuvik**	**4.33**	**102**	P	**Pn**	**02 41 30.1**	**+1.0**
baz=293							
H22K	**Ishtalitna Cre**	**4.45**	**216**		**Pn**	**02 41 31.9**	**+1.1**
H22K	**Ishtalitna Cre**	**4.45**	**216**	P	**Pn**	**02 41 32.6**	**+1.8**
baz=30							
G21K	**Allakaket**	**4.46**	**230**		**Pn**	**02 41 31.7**	**+0.8**
G21K	**Allakaket**	**4.46**	**230**	IAML		02 42 58.2	
comp=E,46nm,0.7s							
G21K				IAML		02 43 07.6	
comp=N,37nm,0.7s							
EPYK	**Eagle Plains**	**4.49**	**132**	Pn	**Pn**	**02 41 33.3**	**+1.9**
EPYK	**Eagle Plains**	**4.49**	**132**	P	**Pn**	**02 41 33.8**	**+2.3**
baz=320							
I28M	**Miner Creek**	**4.60**	**153**	Pn	**Pn**	**02 41 34.3**	**+1.3**
I28M				IAML		02 42 58.5	
comp=E,51nm,1.3s							
I28M				IAML		02 43 04.0	
comp=N,38nm,0.8s							
I28M	**Miner Creek**	**4.60**	**153**	P	**Pn**	**02 41 34.5**	**+1.6**
baz=338							
POKR	**Poker Plat Res**	**4.61**	**193**	Pn	**Pn**	**02 41 33.6**	**+0.6**
POKR				IAML		02 42 47.1	
comp=E,44nm,0.8s							
POKR				IAML		02 43 05.8	
comp=N,32nm,1.1s							
POKR	**Poker Plat Res**	**4.61**	**193**	P	**Pn**	**02 41 34.4**	**+1.4**
baz=11							
F31M	**Tsiigehtchic**	**4.66**	**112**	Pn	**Pn**	**02 41 33.9**	**+0.2**
F31M				IAML		02 42 57.3	
comp=E,44nm,1.4s							
F31M	**Tsiigehtchic**	**4.66**	**112**	P	**Pn**	**02 41 35.3**	**+1.6**
baz=303							
F20K	**Avaraart Lake**	**4.74**	**242**	Pn	**Pn**	**02 41 36.3**	**+1.5**
I23K	**Minto, Yukon-K**	**4.79**	**203**	Pn	**Pn**	**02 41 36.6**	**+1.2**
I23K				IAML		02 43 01.6	
comp=E,35nm,1.2s							
I23K				IAML		02 43 08.5	
comp=N,44nm,1.4s							
I23K	**Minto, Yukon-K**	**4.79**	**203**	P	**

	comp=E,28nm,0.5s					
CCB			IAML		02 42 44.6	
	comp=N,23nm,0.6s					
MLY	**Manley**	**5.11 209**	Pn	**Pn**	**02 41 40.4**	**+0.5**
MLY	**Manley**	**5.11 209**	P	**Pn**	**02 41 40.8**	**+1.0**
	baz=24					
J26L	**Joseph Creek**	**5.16 173**	Pn	**Pn**	**02 41 41.2**	**+0.6**
J26L			IAML		02 43 07.7	
	comp=E,37nm,0.9s					
C19K	**Lookout Ridge**	**5.20 271**	Pn	**Pn**	**02 41 42.0**	**+0.9**
C19K			IAML		02 42 41.9	
	comp=E,29nm,0.6s					
C19K			IAML		02 42 44.0	
	comp=N,33nm,1.4s					
C19K	**Lookout Ridge**	**5.20 271**	P	**Pn**	**02 41 42.9**	**+1.8**
	baz=78					
HDA	**Harding Lake**	**5.28 189**	Pn	**Pn**	**02 41 43.4**	**+1.2**
HDA			IAML		02 43 27.8	
	comp=N,31nm,1.2s					
HDA	**Harding Lake**	**5.28 189**	P	**Pn**	**02 41 43.8**	**+1.7**
	baz=7.8					
NEA2	**Nenana**	**5.28 200**	Pn	**Pn**	**02 41 42.8**	**+0.5**
NEA2			IAML		02 42 46.5	
	comp=N,22nm,0.3s					
NEA2	**Nenana**	**5.28 200**	P	**Pn**	**02 41 43.5**	**+1.3**
	baz=16					
WRH	**Wood River Hil**	**5.30 195**	Pn	**Pn**	**02 41 43.8**	**+1.3**
WRH			IAML		02 43 09.7	
	comp=E,28nm,1.4s					
WRH			IAML		02 43 12.7	
	comp=N,25nm,1.3s					
I30M	**Mount Dempster**	**5.50 139**	Pn	**Pn**	**02 41 45.9**	**+0.5**
F19K	**Shaleruckik Mo**	**5.51 246**	Pn	**Pn**	**02 41 46.4**	**+1.0**
F19K	**Shaleruckik Mo**	**5.51 246**	P	**Pn**	**02 41 46.9**	**+1.5**
	baz=54					
H31M	**Peel River**	**5.55 128**	Pn	**Pn**	**02 41 47.6**	**+1.6**
H31M	**Peel River**	**5.55 128**	P	**Pn**	**02 41 47.4**	**+1.4**
	baz=318					
A19K	**Wainwright**	**5.58 284**		**Pn**	**02 41 47.9**	**+1.6**
H20K	**Anotleneega Mo**	**5.60 227**		**Pn**	**02 41 47.3**	**+0.7**
H20K	**Anotleneega Mo**	**5.60 227**	P	**Pn**	**02 41 48.0**	**+1.3**
	baz=38					
SCRK	**Sand Creek**	**5.67 176**	Pn	**Pn**	**02 41 49.1**	**+1.5**
SCRK	**Sand Creek**	**5.67 176**	P	**Pn**	**02 41 51.0**	**+3.4**
	baz=357					
BWN	**Browne**	**5.73 200**	Pn	**Pn**	**02 41 48.0**	**-0.4**
G19K	**Purcell Mounta**	**5.74 239**	Pn	**Pn**	**02 41 48.4**	**-0.1**
J29N	**Klondike Camp**	**5.81 150**	Pn	**Pn**	**02 41 51.1**	**+1.6**
K24K	**Donnelly Dome**	**5.83 184**		**Pn**	**02 41 51.2**	**+1.3**
K24K	**Donnelly Dome**	**5.83 184**	P	**Pn**	**02 41 51.8**	**+1.9**
	baz=3.0					
RIDG	**Independent Ri**	**5.89 179**	Pn	**Pn**	**02 41 51.4**	**+0.7**
DAWY	**Dawson**	**5.98 156**	Pn	**Pn**	**02 41 53.2**	**+1.3**
DAWY	**Dawson**	**5.98 156**	P	**Pn**	**02 41 53.4**	**+1.6**
	baz=341					
DOT	**Dot Lake**	**5.99 176**		**Pn**	**02 41 54.3**	**+2.3**
H19K	**Roundabout Mou**	**6.00 233**	Pn	**Pn**	**02 41 52.8**	**+0.7**
BPAW	**Bear Paw Mtn.**	**6.01 206**	Pn	**Pn**	**02 41 53.1**	**+0.8**
J30M	**Hart River**	**6.07 142**	Pn	**Pn**	**02 41 54.0**	**+0.9**
E18K	**Tukpahlearik C**	**6.14 257**	Pn	**Pn**	**02 41 55.3**	**+1.3**
G18K	**Tagagawik**	**6.38 241**	Pn	**Pn**	**02 41 58.1**	**+0.7**
RND	**Reindeer**	**6.41 196**	Pn	**Pn**	**02 41 59.4**	**+1.5**
KTH	**Kantishna Hill**	**6.52 204**	Pn	**Pn**	**02 42 00.3**	**+1.0**
J20K	**Nowinta River**	**6.53 218**		**Pn**	**02 42 00.5**	**+1.2**
C17K	**DeLong Mountai**	**6.62 269**		**Pn**	**02 42 00.5**	**-0.1**
DHY	**Denali Highway**	**6.63 190**	Pn	**Pn**	**02 42 02.6**	**+1.8**
L26K	**Log Cabin Wild**	**6.64 174**	Pn	**Pn**	**02 42 02.0**	**+1.1**
PAX	**Paxson**	**6.67 182**		**Pn**	**02 42 03.2**	**+1.9**
RDOG	**Red Dog Mine**	**6.67 265**	Pn	**Pn**	**02 42 00.7**	**-0.6**
BCAR	**Beaver Creek A**	**6.69 167**	Pn	**Pn**	**02 42 02.7**	**+1.1**
L27K	**Beaver Creek,**	**6.69 168**	Pn	**Pn**	**02 42 03.2**	**+1.6**
MENT	**Mentasta**	**6.71 175**	Pn	**Pn**	**02 42 03.0**	**+1.1**
H18K	**Honhosa River**	**6.82 236**		**Pn**	**02 42 04.4**	**+1.1**
CAST	**Castle Rocks**	**6.83 208**	Pn	**Pn**	**02 42 03.7**	**+0.3**
F17K	**Baldwin Pennin**	**6.87 250**	Pn	**Pn**	**02 42 04.7**	**+0.6**
D17K	**Noatak River**	**6.87 262**		**Pn**	**02 42 04.3**	**+0.3**
A36M	**Sachs Harbour**	**6.92 61**	Pn	**Pn**	**02 42 03.9**	**-0.6**
WAT7	**Susitna Watana**	**6.98 195**		**Pn**	**02 42 07.6**	**+2.0**
J19K	**Poorman**	**7.02 222**		**Pn**	**02 42 07.2**	**+1.1**
MAYO	**Mayo, Yukon**	**7.02 145**	Pn	**Pn**	**02 42 07.7**	**+1.5**
L29M	**L29M**	**7.07 154**	Pn	**Pn**	**02 42 09.1**	**+2.3**
WAT6	**Susitna Watana**	**7.14 190**		**Pn**	**02 42 10.0**	**+2.1**
G17K	**Kiwalik Mounta**	**7.26 243**		**Pn**	**02 42 10.6**	**+1.1**
PPLA	**Purkeypile**	**7.33 207**		**Pn**	**02 42 11.8**	**+1.3**
C36M	**Paulatuk**	**7.34 82**	Pn	**Pn**	**02 42 10.0**	**-0.4**
H17K	**Granite Mounta**	**7.43 238**	Pn	**Pn**	**02 42 13.0**	**+1.3**
C16K	**Lisburne Hills**	**7.45 269**	Pn	**Pn**	**02 42 10.9**	**-1.0**
M29M	**Somme Creek**	**7.66 157**		**Pn**	**02 42 16.5**	**+1.6**
M30M	**Minto, Yukon**	**7.79 151**	Pn	**Pn**	**02 42 17.7**	**+1.0**
SCM	**Sheep Creek Mo**	**7.86 188**	Pn	**Pn**	**02 42 19.9**	**+2.2**
G16K	**Koyuk River**	**7.87 246**	Pn	**Pn**	**02 42 17.6**	**-0.2**
SML	**Sawmill**	**7.95 192**	Pn	**Pn**	**02 42 18.7**	**-0.2**
L20K	**Farewell, AK**	**8.01 211**		**Pn**	**02 42 20.9**	**+1.2**
GHO	**Glory Hole Cre**	**8.03 194**	Pn	**Pn**	**02 42 20.9**	**+0.9**
TTA	**Tatalina**	**8.03 219**	Pn	**Pn**	**02 42 20.3**	**+0.3**
YUK2	**White River**	**8.03 166**		**Pn**	**02 42 22.4**	**+2.4**
SKT	**Skwentna**	**8.11 202**	Pn	**Pn**	**02 42 22.6**	**+1.6**
KLU	**Klutina**	**8.16 183**	Pn	**Pn**	**02 42 24.7**	**+3.0**
MCARA	**McCarthy VSAT**	**8.29 173**	Pn	**Pn**	**02 42 27.4**	**+3.8**
KNK	**Knik Glacier**	**8.35 192**	Pn	**Pn**	**02 42 28.7**	**+4.3**
J17K	**VABM Dome**	**8.38 229**	Pn	**Pn**	**02 42 25.0**	**+0.3**
F15K	**North Star Dit**	**8.43 252**	Pn	**Pn**	**02 42 24.2**	**-1.1**
I17K	**Unalakleet**	**8.44 235**	Pn	**Pn**	**02 42 26.7**	**+1.2**
M20K	**Styx River**	**8.44 207**	Pn	**Pn**	**02 42 26.5**	**+0.8**
L19K	**White Mountain**	**8.46 213**	Pn	**Pn**	**02 42 26.7**	**+0.8**
SUA	**Susitna One**	**8.51 199**	Pn	**Pn**	**02 42 29.0**	**+2.4**
M31M	**Drury Creek, Y**	**8.58 145**	Pn	**Pn**	**02 42 28.4**	**+0.9**
M19K	**Big River Lodg**	**8.63 211**	Pn	**Pn**	**02 42 28.9**	**+0.7**
G15K	**Niukluk**	**8.68 247**		**Pn**	**02 42 28.6**	**-0.1**
K17K	**Iditarod**	**8.75 224**	Pn	**Pn**	**02 42 30.4**	**+0.7**
FARO	**Faro, Yukon**	**8.78 142**	Pn	**Pn**	**02 42 28.6**	**-1.6**
N30M	**Aishikik Lake**	**8.80 154**	Pn	**Pn**	**02 42 32.4**	**+1.9**
CTGM	**Chitina Glacie**	**8.81 168**	Pn	**Pn**	**02 42 33.2**	**+2.5**
L18K	**Granite Mounta**	**8.81 218**	Pn	**Pn**	**02 42 30.2**	**-0.4**
J16K	**Anvik River**	**8.88 232**	Pn	**Pn**	**02 42 31.8**	**+0.2**
MMPY	**Sheldon Lake,**	**8.92 135**	Pn	**Pn**	**02 42 33.2**	**+1.0**
TGL	**Tana Glacier**	**8.93 173**	Pn	**Pn**	**02 42 36.4**	**+4.0**
HYT	**Haines Junctio**	**9.35 157**	Pn	**Pn**	**02 42 40.7**	**+2.6**
ANM	**Nome**	**9.39 247**	Pn	**Pn**	**02 42 40.2**	**+1.7**
O30N	**Mendenhall**	**9.61 153**	Pn	**Pn**	**02 42 43.3**	**+1.7**
L16K	**Owhat River**	**9.90 224**	Pn	**Pn**	**02 42 45.6**	**+0.1**
WHY	**Whitehorse**	**9.91 150**	Pn	**Pn**	**02 42 48.2**	**+2.3**
WRGLY	**Wrigley**	**10.67 116**	Pn	**Pn**	**02 42 55.4**	**-0.6**
P33M	**Teslin, Yukon**	**10.72 146**	Pn	**Pn**	**02 42 56.8**	**0.0**

RSNC 28 03:00:06.0±0.0, 7°N±1°×7°3W±°, h146km±2km, M2.2, mb3.5, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**194**	P	Pn	03 00 25.5	-0.7
BARC				S	Sn	03 00 40.8	-0.7
BRJC	**Barrancabermej**	**0.63**	**285**	P	Pn	03 00 27.1	-0.5
BRJC				S	Sn	03 00 44.1	+0.1
PAMC	**Pamplona, Colo**	**0.68**	**39**	P	Pn	03 00 28.3	-0.2
PAMC				S	Sn	03 00 45.2	-0.4
RUSC	**La Rusia**	**0.91**	**177**	P	Pn	03 00 29.4	-0.9
RUSC				S	Sn	03 00 48.0	-0.7
PTBC	**PUERTO BERRIO,**	**1.34**	**259**	P	Pn	03 00 32.3	-1.4
PTBC				S	Sn	03 00 53.3	-1.5
TAMC	**Tame, Arauca**	**1.38**	**106**	P	Pn	03 00 33.8	-0.3
TAMC				S	Sn	03 00 54.9	-0.6
OCAC	**Ocana**	**1.43**	**352**	P	Pn	03 00 33.9	-0.8
OCAC				S	Sn	03 00 56.4	-0.3
SPBC	**San Pablo de B**	**1.48**	**219**	P	Pn	03 00 34.6	-0.6
SPBC				S	Sn	03 00 56.8	-0.7
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	P	Pn	03 00 38.2	-0.9
ZARC				S	Sn	03 01 03.8	-0.7
NORC	**Norcasia**	**2.13**	**234**	P	Pn	03 00 41.9	-0.6
NORC				S	Sn	03 01 09.8	-0.7
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	03 00 43.8	-0.5
CHIC				S	Sn	03 01 13.0	-0.7
ROSC	**El Rosal**	**2.29**	**211**	P	Pn	03 00 45.8	+1.1
ROSC				S	Sn	03 01 15.1	+0.6
CVER	**Cruz Verde, Cu**	**2.46**	**202**	P	Pn	03 00 47.2	+0.3
HELC	**Santa Helena**	**2.46**	**256**	P	Pn	03 00 47.8	+1.0
HELC				S	Sn	03 01 18.7	+0.5
UREC	**San Jos de Ur**	**2.56**	**292**	P	Pn	03 00 45.9	-1.8
UREC				S	Sn	03 01 16.5	-3.3
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	03 00 51.0	+0.8
GUY2C				S	Sn	03 01 26.0	+1.8
VILC	**Villavicencio,**	**2.74**	**192**	P	Pn	03 00 49.5	-0.6
PTGC	**Puerto Gaitan,**	**2.78**	**159**	P	Pn	03 00 48.8	-1.6
PTGC				S	Sn	03 01 22.1	-2.6
CBOC	**Ciudad Bolivar**	**3.02**	**252**	P	Pn	03 00 54.1	+0.5
CBOC				S	Sn	03 01 29.8	-0.5
PRAC	**Prado**	**3.54**	**210**	P	Pn	03 00 59.5	-0.7
PRAC				S	Sn	03 01 41.6	-0.6
ORTC	**Ortega, Tolima**	**3.57**	**216**	P	Pn	03 01 00.4	-0.2
ORTC				S	Sn	03 01 43.4	+0.4
SJCC	**San Jacinto, C**	**3.68**	**327**	P	Pn	03 00 59.6	-2.4
SJCC				S	Sn	03 01 42.7	-2.8
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	03 01 02.8	-0.2
URMC				S	Sn	03 01 47.0	-0.3
LCBC	**Los crdobas,**	**3.80**	**303**	P	Pn	03 00 59.9	-3.6
LCBC				S	Sn	03 01 49.3	+1.1
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	03 01 17.6	-1.6
URIC				S	Sn	03 02 13.7	-2.6

TRN 28 03:18:44.5, 17°.40N×61°.35W, h20km, MD3.5, South-east of Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.50**	**303**	*e*P	Pn	03 18 56.6	+0.1
ANWB				*e*S	Sn	03 19 04.7	+0.2
ANBD	**Bethesda, Anti**	**0.53**	**229**	*e*P	Pn	03 18 57.6	+0.7
ANBD				*e*S	Sn	03 19 05.9	+0.8
MBFL	**Flemmings, Mon**	**1.05**	**232**	*e*P	Pn	03 19 06.1	+2.0
MBFL				*e*S	Sn	03 19 20.9	+2.8
SKI	**Saint Kitts**	**1.33**	**267**	*e*P	Pb	03 19 10.2	+1.5
SKI				*e*S	Sb	03 19 28.1	+2.8
TBG	**Guadaloupe-3**	**1.56**	**190**	*e*P	Pb	03 19 12.6	-0.1
TBG				*e*S	Sb	03 19 33.6	+1.5
DSLB	**Salisbury**	**1.95**	**182**	*e*P	Pb	03 19 18.5	-0.8
DSLB				*e*S	Sb	03 19 43.6	+0.4

*CATAC **28** 03:24:32.1±0.3, 13°.17N×81°.21W, h5km±2km, ML3.9*
*RSNC **28** 03:24:32.7±0.0, 13°N±1°×8°1W±°, h2km±1km, M3.3, mb4.2, ML3.3*
ISC 28 03:24:32.4±1.0, 13°.18N±0°.04×81°.18W±0°.04, h13km±9km, n25, σ1§53/40, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.27**	**318**	P	**Pg**	**03 24 37.9**	**-0.1**
PRVC				S	**Sg**	**03 24 41.8**	**+0.1**
PRVC	**Isla de Provid**	**0.27**	**318**	*i* P	**Pg**	**03 24 37.9**	**-0.1**
PRVC				*i* S	**Sg**	**03 24 41.8**	**+0.1**
PRVC				IAML		03 24 44.5	
	comp=Z,24μm,1.0s						
SAIC	**Isla e San And**	**0.82**	**219**	P	**Pg**	**03 24 48.2**	**0.0**
SAIC				S	**Sb**	**03 25 00.2**	**+0.7**
SAIC	**Isla e San And**	**0.82**	**219**	*i* P	**Pg**	**03 24 48.3**	**0.0**
SAIC				*i* S	**Sg**	**03 24 58.2**	**-0.8**
SAIC				IAML		03 25 09.7	
	comp=Z,2μm,1.0s						
RNCC	**Cayo Roncador,**	**1.13**	**69**	P	**Pb**	**03 24 53.7**	**-0.1**
RNCC				S	**Sn**	**03 25 10.1**	**+0.7**
RNCC	**Cayo Roncador,**	**1.13**	**69**	*i* P	**Pb**	**03 24 53.8**	**-0.1**
RNCC				*i* S	**Sn**	**03 25 09.7**	**+0.3**
RNCC				IAML		03 25 19.5	
	comp=Z,5μm,1.0s						
SERC	**Banco Serrana,**	**1.36**	**36**	P	**Pn**	**03 24 56.7**	**-0.4**
SERC				S	**Sg**	**03 25 16.2**	**-0.1**
SERC	**Banco Serrana,**	**1.36**	**36**	*i* P	**Pn**	**03 24 57.3**	**+0.2**
SERC				IAML		03 25 00.7	
	comp=Z,2μm,1.0s						
SERC				*i* S	**Sg**	**03 25 16.2**	**-0.1**
BILN	**Bilwi Airport**	**2.30**	**292**	*i* P	**Pn**	**03 25 09.5**	**-0.6**
BILN				IAML		03 25 52.5	
	comp=Z,380nm,1.0s						
BLUN	**Bluefields**	**2.79**	**246**	P	**Pn**	**03 25 17.3**	**+0.5**
BLUN	**Bluefields**	**2.79**	**246**	*i* P	**Pn**	**03 25 18.0**	**+1.2**
BLUN				IAML		03 26 12.0	
	comp=Z,110nm,1.0s						
ESPN	**Las Esperanzas**	**3.19**	**253**	P	**Pn**	**03 25 22.4**	**0.0**
ESPN	**Las Esperanzas**	**3.19**	**253**	*i* P	**Pn**	**03 25 23.2**	**+0.8**
ESPN				IAML		03 26 34.7	
	comp=Z,340nm,1.0s						
TRT2	**Tortugero**	**3.61**	**224**	*i* P	**Pn**	**03 25 28.1**	**0.0**
TRT2				IAML		03 27 00.8	
	comp=Z,95nm,1.0s						
ACON	**Acoyapa**	**4.08**	**253**	P	**Pn**	**03 25 35.5**	**+1.0**
ACON	**Acoyapa**	**4.08**	**253**	*i* P	**Pn**	**03 25 34.8**	**+0.3**
ACON				IAML		03 27 02.7	
	comp=Z,200nm,1.0s						
BCIP	**Isla Barro Col**	**4.20**	**162**	P	**Pn**	**03 25 33.7**	**-2.5**
BCIP				S	**Sn**	**03 26 23.4**	**-1.8**
JTS	**Las Juntas de**	**4.67**	**233**	P	**Pn**	**03 25 43.5**	**+0.7**
JTS				P	**Pn**	**03 25 43.7**	**+0.9**
JTS				S	**Sn**	**03 26 37.3**	**+0.3**
RCPN	**Sur Rio San Ju**	**4.79**	**275**	*i* P	**Pn**	**03 25 44.4**	**-0.1**
RCPN				IAML		03 25 45.5	
	comp=Z,0.6nm,1.0s						
RCVN	**Varillal2**	**4.89**	**275**	*i* P	**Pn**	**03 25 45.9**	**0.0**
RCVN				IAML		03 26 44.2	
	comp=Z,2μm,1.0s						
GMAL	**Guarumal, Vera**	**5.38**	**181**	P	**Pn**	**03 25 53.8**	**+1.3**
	comp=Z,23nm,1.2s						
GMAL				S	**Sn**	**03 26 52.9**	**-1.4**
	comp=Z,23nm,1.2s						
AZU	**Azuero**	**5.42**	**170**	P	**Pn**	**03 25 56.2**	**+3.1**
	comp=Z,22nm,2.0s						
AZU				S	**Sn**	**03 26 54.0**	**-1.4**
	comp=Z,22nm,2.0s						
MTDJ	**Mount Denham**	**6.13**	**35**	P	**Pn**	**03 26 03.9**	**+1.1**
	comp=Z,35nm,0.9s						
LCBC	**Los crdobas,**	**6.38**	**132**	P	**Pn**	**03 26 09.5**	**+3.2**
	comp=Z,118nm,1.2s						
LCBC				S	**Sn**	**03 27 23.9**	**+4.8**
	comp=Z,118nm,1.2s						
SJCC	**San Jacinto, C**	**6.72**	**118**	P	**Pn**	**03 26 08.7**	**-2.3**
SJCC				S	**Sn**	**03 27 24.2**	**-3.4**

*IDC **28** 03:30:50.0±1.2, 36°.50N×25°.79E, h0km, mb3.7/4, mbtmp3.6/6, ML3.2/2, Error ellipse: s-maj=37.9km s-min=19.9km az=164.0*
*THE **28** 03:30:51.7, 36°.67N×25°.76E, h2km±1km, ML3.2/10, Error ellipse: s-maj=1.7km s-min=0.7km az=263.0*
*ATH **28** 03:30:51.0, 36°.67N×25°.71E, h33km±4km, ML3.4/10, Error ellipse: s-maj=4.3km s-min=1.2km az=236.0*
*AFAD **28** 03:30:52.7±0.0, 36°.66N×25°.77E, h4km±3km, ML2.9*
ISC 28 03:30:52.4±1.0, 36°.66N±0°.02×25°.75E±0°.02, h12km±7km, n51, σ1§07/72, mb3.7/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR2	**Thira island,**	**0.33**	**230**	P	**Pg**	**03 30 58.8**	**-0.2**
THR2	**Thira island,**	**0.33**	**230**	P	**Pg**	**03 30 58.8**	**-0.2**
THR8	**Santorini-Mono**	**0.33**	**221**	P	**Pg**	**03 30 58.6**	**-0.4**
THR8	**Santorini-Mono**	**0.33**	**221**	P	**Pg**	**03 30 58.6**	**-0.4**
CMBO	**Columbo, Santo**	**0.33**	**236**	P	**Pg**	**03 30 58.8**	**-0.2**
CMBO				S	**Sg**	**03 31 03.6**	**+0.1**
	8μm,0.5s						
CMBO	**Columbo, Santo**	**0.33**	**236**	P	**Pg**	**03 30 58.9**	**-0.2**
CMBO				S	**Sg**	**03 31 03.7**	**+0.2**
CMBO				AML	AML	03 31 04.9	
	comp=E,17286μm,0.4s						
CMBO				AML	AML	03 31 08.3	
	comp=N,20637μm,0.5s						
THR3	**Thira Island,**	**0.37**	**228**	P	**Pg**	**03 30 59.5**	**-0.3**
THR3	**Thira Island,**	**0.37**	**228**	P	**Pg**	**03 30 59.5**	**-0.3**
SNT5	**Nea Kammeni, S**	**0.38**	**228**	P	**Pg**	**03 30 59.6**	**-0.4**
SNT5				S	**Sg**	**03 31 04.9**	**-0.1**
SNT5				AML	AML	03 31 06.6	
	comp=N,17198μm,0.2s						
SNT5				AML	AML	03 31 09.3	
	comp=E,27718μm,0.2s						
SAP3	**Santorini-Thir**	**0.39**	**236**	P	**Pg**	**03 30 59.9**	**-0.3**
SAP3				S	**Sg**	**03 31 06.0**	**+0.6**
THR5	**Thira Island,**	**0.40**	**233**	P	**Pg**	**03 31 00.1**	**-0.2**
THR5	**Thira Island,**	**0.40**	**233**	P	**Pg**	**03 31 00.2**	**-0.2**
THR6	**Thira Island,**	**0.41**	**223**	P	**Pg**	**03 31 00.4**	**-0.1**
THR6	**Thira Island,**	**0.41**	**223**	P	**Pg**	**03 31 00.4**	**-0.1**
APE	**Apeiranthos**	**0.45**	**337**	P	**Pg**	**03 31 00.7**	**-0.5**
APE				S	**Sg**	**03 31 06.2**	**-0.9**
	comp=E,4μm,0.4s						
APE	**Apeiranthos**	**0.45**	**337**	P	**Pg**	**03 31 00.6**	**-0.5**
APE				S	**Sg**	**03 31 06.3**	**-0.8**
APE				AML	AML	03 31 11.6	
	comp=N,5901μm,0.3s						
APE				AML	AML	03 31 11.8	
	comp=E,9352μm,0.2s						
KLNA	**Kalymnos**	**1.03**	**73**	P	**Pg**	**03 31 11.3**	**-1.0**
KLNA				AML	AML	03 31 29.5	
	comp=N,3453μm,0.3s						
KLNA				AML	AML	03 31 29.5	
	comp=E,2721μm,0.2s						
MHLO	**Agia Marina, M**	**1.08**	**272**	P	**Pg**	**03 31 12.9**	**-0.3**
MHLO				S	**Sb**	**03 31 27.9**	**+0.8**
	comp=E,5μm,0.3s						
NISR	**Nisiros**	**1.11**	**92**	P	**Pg**	**03 31 12.2**	**-1.6**
NISR				AML	AML	03 31 34.4	
	comp=E,9169μm,0.2s						
NISR				AML	AML	03 31 35.2	
	comp=N,4318μm,0.5s						
SMG	**Samos**	**1.36**	**39**	P	**Pn**	**03 31 15.7**	**-1.6**
SMG				S	**Sn**	**03 31 35.8**	**+0.4**
	comp=N,868nm,0.3s						
SMG	**Samos**	**1.36**	**39**	P	**Pn**	**03 31 15.2**	**-2.1**
YAZI	**Mula-Dat§a-**	**1.37**	**89**	P	**Pb**	**03 31 20.0**	**+1.9**
YAZI				S	**Sn**	**03 31 37.6**	**+2.0**
BDRM	**Kayabasi**	**1.42**	**73**	P	**Pn**	**03 31 17.9**	**-0.3**
BDRM				S	**Sn**	**03 31 38.8**	**+2.0**
BDRM				*i* AML	AML	03 31 43.0	
	comp=N,182nm,0.4s						
DAT	**Datca**	**1.48**	**87**	P	**Pg**	**03 31 20.4**	**-0.4**
DAT				S	**Sn**	**03 31 41.2**	**+3.0**
DAT				*i* AML	AML	03 31 44.0	
	comp=N,129nm,0.4s						
DAT				*i* AML	AML	03 31 54.0	
	comp=N,158nm,0.7s						
IDI	**Anoyia**	**1.53**	**207**	P	**Pn**	**03 31 18.3**	**-1.4**
IDI				S	**Sn**	**03 31 41.0**	**+1.4**
	comp=N,612nm,0.4s						
GCAM	**G?zelcaml?**	**1.58**	**48**	P	**Pg**	**03 31 21.6**	**-1.1**
GCAM				S	**Sg**	**03 31 45.1**	**+1.9**
ZKR	**Zakros**	**1.59**	**166**	P	**Pn**	**03 31 19.6**	**-0.8**
ZKR				S	**Sn**	**03 31 40.3**	**-0.6**
	comp=N,490nm,0.4s						
ZKR	**Zakros**	**1.59**	**166**	P	**Pn**	**03 31 19.5**	**-0.9**
KARP	**Karpathos**	**1.59**	**134**	P	**Pn**	**03 31 20.1**	**-0.4**
KARP	**Karpathos**	**1.59**	**134**	P	**Pn**	**03 31 19.2**	**-1.3**
KARP				AML	AML	03 31 47.9	
	comp=E,1624μm,0.3s						
KARP				AML	AML	03 31 48.2	
	comp=N,2666μm,0.5s						
KARY	**Karystos**	**1.72**	**323**	P	**Pn**	**03 31 21.5**	**-0.8**
KARY				S	**Sn**	**03 31 45.4**	**+1.2**
	comp=N,475nm,0.5s						
KARY	**Karystos**	**1.72**	**323**	P	**Pn**	**03 31 21.4**	**-0.8**
KARY				AML	AML	03 31 54.2	
	comp=N,843μm,0.5s						
KARY				AML	AML	03 31 54.2	
	comp=E,1045μm,0.5s						
VLY	**Voula,Athens**	**1.96**	**308**	P	**Pn**	**03 31 24.9**	**-0.6**
VLY				S	**Sn**	**03 31 50.0**	**-0.1**
	comp=E,862nm,0.5s						
VLY	**Voula,Athens**	**1.96**	**308**	P	**Pn**	**03 31 24.8**	**-0.8**
ARG	**Arkhangelos**	**1.97**	**102**	P	**Pn**	**03 31 25.4**	**-0.2**
ARG				S	**Sn**	**03 31 48.9**	**-1.4**
	comp=E,348nm,0.5s						
ARG	**Arkhangelos**	**1.97**	**102**	P	**Pn**	**03 31 25.4**	**-0.2**
TURN	**Turunc**	**2.01**	**86**	P	**Pn**	**03 31 26.8**	**+0.6**
TURN				S	**Sg**	**03 31 57.3**	**+0.2**
DION	**Dionisos Attik**	**2.02**	**315**	P	**Pn**	**03 31 25.7**	**-0.7**
DION	**Dionisos Attik**	**2.02**	**315**	P	**Pn**	**03 31 25.6**	**-0.7**
DION				AML	AML	03 32 01.5	
	comp=E,981μm,0.3s						
DION				AML	AML	03 32 03.4	
	comp=N,1253μm,0.7s						
ATHU	**Athens Univers**	**2.04**	**310**	P	**Pn**	**03 31 25.8**	**-0.8**
ATHU				S	**Sn**	**03 31 52.5**	**+0.5**
	comp=N,185nm,0.5s						
ATHU	**Athens Univers**	**2.04**	**310**	P	**Pn**	**03 31 25.7**	**-0.9**
ATHU				AML	AML	03 31 57.7	
	comp=E,355μm,0.4s						
ATHU				AML	AML	03 32 02.5	
	comp=N,319μm,0.6s						
ATH	**Athens Observa**	**2.08**	**310**	P	**Pn**	**03 31 26.9**	**-0.3**
ATH	**Athens Observa**	**2.08**	**310**	P	**Pn**	**03 31 26.9**	**-0.3**
ATH				AML	AML	03 32 01.7	
	comp=N,1305μm,0.8s						
ATH				AML	AML	03 32 03.5

KORR	**Kora**	**1.64 270**	*e*Pg	**Pn**	**03 43 40.7**	**+1.2**
KORR			*e*Sg	**Sn**	**03 44 02.0**	**+1.9**
STDR	**Stavd-Durt**	**1.66 280**	*e*Pg	**Pn**	**03 43 41.5**	**+1.7**
STDR			*e*Sg	**Sn**	**03 44 03.2**	**+2.6**
LSNR	**Lesken**	**1.82 277**	*e*Pg	**Pn**	**03 43 42.7**	**+0.8**
LSNR			*i* Sg	**Sn**	**03 44 05.1**	**+0.7**
DRN	**Derbent**	**1.84 125**	*e*Pg	**Pn**	**03 43 41.4**	**-0.7**
DRN			*e*Sg	**Sn**	**03 44 02.5**	**-2.1**
AKT	**Akhty**	**1.93 146**	*e*Pg	**Pn**	**03 43 44.5**	**+1.1**
AKT			*e*Sg	**Sn**	**03 44 09.1**	**+2.1**
DIGR	**Digorskoe uzhe**	**2.01 265**	*e*Pg	**Pn**	**03 43 44.4**	**-0.1**
DIGR			*e*Sg	**Sn**	**03 44 08.1**	**-0.9**
KSMR	**Kasumkent**	**2.01 137**	*e*Pg	**Pn**	**03 43 46.1**	**+1.6**
KSMR			*e*Sg	**Sn**	**03 44 12.0**	**+3.1**
NCK	**Nalchik**	**2.02 282**	*e*Pg	**Pn**	**03 43 45.0**	**+0.5**
NCK			*e*Sg	**Sn**	**03 44 09.5**	**+0.5**
KBTC	**Kuba-Taba**	**2.23 290**	*e*Pg	**Pn**	**03 43 48.4**	**+1.1**
KBTC			*e*Sg	**Sn**	**03 44 14.5**	**+0.5**
PYA1	**Pyatigorsk**	**2.52 294**	*i* Pn	**Pn**	**03 43 52.2**	**+1.0**
PYA1			*e*Sn	**Sn**	**03 44 20.5**	**-0.6**
KBZ	**Khabaz**	**2.56 285**	*e*Pn	**Pn**	**03 43 51.9**	**+0.2**
KBZ			*e*Sn	**Sn**	**03 44 21.0**	**-0.9**
BEYR	**Belyy Ugol+**	**2.70 291**	*e*Pn	**Pn**	**03 43 54.2**	**+0.6**
BEYR			*e*Sn	**Sn**	**03 44 24.4**	**-0.9**
AKTO	**Aktyubinsk**	**10.87 43**	⇑Pn	**Pn**	**03 45 44.3**	**-0.6**
	0.7nm,0.6s					
AKTO			⇓Sn	**Sn**	**03 47 39.2**	**-5.4**
	2.3nm,1.1s					
AB31	**Akbulak array**	**11.28 52**	⇑Pn	**Pn**	**03 45 50.0**	**-0.4**
	0.1nm,0.3s,baz=232,slow=12,SNR=9.3					
AB31			⇑Sn	**Sn**	**03 47 48.5**	**-5.9**
	0.4nm,0.5s,baz=235,slow=24,SNR=7.7					
MNK	**Minsk**	**16.60 320**	*i* P	**P**	**03 47 03.1**	**+2.2**
	comp=E,7.0nm,0.6s					
MNK			*i* P	**P**	**03 47 03.1**	**+2.2**
	comp=N,14nm,0.9s					
MNK			*i* P	**P**	**03 47 03.1**	**+2.2**
	comp=Z,5.0nm,0.7s,baz=126					
MNK			*i* pP	**pP**	**03 47 16.1**	**-0.6**
MNK			*i* S	**S**	**03 50 10.0**	**-0.1**
MNK			*i* LQ	LQ	03 52 03.4	
MNK			*i* LR	LR	03 52 55.2	
MNK			*i* LRM	MLR	03 53 25.2	
	comp=Z,164nm,15.9s					
MNK			*i* LRM	MLR	03 54 12.7	
	comp=N,194nm,17.0s					
MNK			*i* LRM	MLR	03 54 32.1	
	comp=E,157nm,17.5s					

*IDC **28** 03:59:24.2±7.0, 19°.30S×179°.84W, h498km±35km, mb2.7/3, mbtmp3.5/4, Error ellipse: s-maj=214.0km s-min=28.7km az=146.0*

ISC 28 03:59:22.8±2.5, 19°.6S±0°.2×179°.7W±0°.4, h500km, n6, σ1§22/6, mb3.2/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.83**	**310**	P	**P**	**04 00 32.2**	**-0.7**
	3.6nm,0.3s,baz=127,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**43.18**	**261**	P	**P**	**04 06 40.5**	**+1.2**
	0.3nm,0.3s,baz=92,slow=8.2,SNR=12						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**43.22**	**256**	P	**P**	**04 06 39.2**	**-0.3**
	0.6nm,0.7s,baz=94,slow=7.8,SNR=6.9						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**87.76**	**13**	P	**P**	**04 11 18.5**	**+0.9**
	0.4nm,1.0s,baz=210,slow=5.2,SNR=2.2						
	0.4nm,1.0s						
ARCES	**ARCESS Array B**	**127.72**	**349**	PKP	**PKiKP**	**04 17 31.0**	**0.0**
	5.3nm,1.0s,baz=38,slow=1.6,SNR=6.7						
AKASG	**Malin Array Be**	**141.44**	**330**	PKP	**PKPdf**	**04 17 55.0**	**-1.3**
	0.7nm,0.5s,baz=44,slow=4.0,SNR=6.2						

*AEIC **28** 04:03:56.1±0.7, 53°.2N±0°.2×167°.9W±0°.2, h74km±8km, Error ellipse: s-maj=34.6km s-min=2.7km az=149.0*

NEIC 28 04:03:56.6±1.2, 53°.2N±0°.3×167°.9W±0°.3, h77km±14km, ML2.5(AEIC), Error ellipse: s-maj=51.6km s-min=3.3km az=148.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.21**	**356**		Pn	04 04 07.6	-0.5
OKFG					Sn	04 04 16.5	0.0
OKSP	**Okmok Steeple**	**0.25**	**282**		Pn	04 04 08.0	-0.3
OKSP					Sn	04 04 17.5	+0.6
OKCE	**Okmok Cone E**	**0.28**	**324**		Pn	04 04 08.1	-0.4
OKCE					Sn	04 04 18.6	+1.5
OKNC	**Okmok New Cone**	**0.29**	**331**		Pn	04 04 08.1	-0.4
NIKH	**Nikolski High**	**0.63**	**249**		Pn	04 04 11.3	+0.1
NIKH	**Nikolski High**	**0.63**	**249**		Sn	04 04 22.5	+0.5
MAPS	**Pakushin South**	**0.83**	**42**		Pn	04 04 12.3	-1.1
MAPS					Sn	04 04 25.4	-0.5
MGOD	**Makushin Gods**	**0.85**	**45**		Pn	04 04 13.0	-0.7
MGOD					Sn	04 04 25.9	-0.5
MSW	**Makushin Switc**	**0.97**	**42**		Pn	04 04 14.2	-0.9
MSW					Sn	04 04 29.2	+0.3
UNV	**Unalaska Valle**	**1.05**	**51**		Pn	04 04 15.6	-0.4
UNV	**Unalaska Valle**	**1.05**	**51**		Sn	04 04 31.2	+0.7
MTBL	**Makushin Table**	**1.05**	**43**		Pn	04 04 16.2	+0.1
CLCO	**Concord Point,**	**1.19**	**250**		Pn	04 04 18.2	+0.5
AKRB	**Akutan Reef Bi**	**1.43**	**49**		Pn	04 04 20.8	0.0
AKRB					Sn	04 04 41.4	+2.3
AKMO	**Akutan Morgan**	**1.43**	**51**		Pn	04 04 20.9	0.0
AKMO					Sn	04 04 40.6	+1.5
ZRO	**Akutan Zero**	**1.45**	**51**		Pn	04 04 21.0	0.0
ZRO					Sn	04 04 40.3	+0.8
LVA	**Lava Point**	**1.46**	**48**		Pn	04 04 21.4	+0.1
AKBBA	**Akutan Broad B**	**1.47**	**51**		Pn	04 04 21.4	0.0
AKGG	**Akutan Green G**	**1.51**	**48**		Pn	04 04 21.6	-0.3
AHB	**Akutan Harbor**	**1.54**	**53**		Pn	04 04 22.1	-0.1
AKSA	**Akutan Strait**	**1.60**	**53**		Pn	04 04 22.7	-0.4

*IDC **28** 04:19:37.1±1.1, 37°.50N×21°.02E, h0km, mb3.7/9, mbtmp3.6/12, ML1.3/2, MS3.1/1, Error ellipse: s-maj=21.7km s-min=19.4km az=48.0*
*THE **28** 04:19:39.8, 37°.34N×20°.89E, h14km±2km, ML3.6/5, Error ellipse: s-maj=2.7km s-min=0.9km az=229.0*
*ATH **28** 04:19:39.6, 37°.33N×20°.89E, h16km±1km, ML3.6/15, Error ellipse: s-maj=1.4km s-min=0.7km az=229.0*

ISC 28 04:19:39.5±1.1, 37°.36N±0°.03×20°.91E±0°.03, h17km±7km, n48, σ0§97/71, mb3.6/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.31**	**347**	P	**Pb**	**04 19 46.9**	**+0.3**
KRI1				S	**Sb**	**04 19 51.9**	**+0.5**
	24μm,0.5s						
LTHK	**Lithakia**	**0.35**	**351**	P	**Pg**	**04 19 47.3**	**+0.4**
LTHK				S	**Sg**	**04 19 52.6**	**+0.7**
LTHK				AML	AML	04 19 53.2	
	comp=E,34262μm,0.3s						
LTHK				AML	AML	04 19 53.4	
	comp=N,40344μm,0.3s						
AMT	**Artemida-Makis**	**0.66**	**75**	P	**Pg**	**04 19 52.5**	**0.0**
AMT				S	**Sb**	**04 20 02.5**	**+0.9**
AMT				AML	AML	04 20 06.5	
	comp=E,32104μm,0.3s						
AMT				AML	AML	04 20 07.3	
	comp=N,27177μm,0.4s						
PYL	**PYLOS**	**0.81**	**125**	P	**Pg**	**04 19 55.0**	**-0.3**
PYL				S	**Sn**	**04 20 08.0**	**+0.1**
	comp=N,5μm,0.3s						
PYL	**PYLOS**	**0.81**	**125**	P	**Pg**	**04 19 55.1**	**-0.3**
PYL				S	**Sg**	**04 20 06.2**	**+0.1**
PYL				AML	AML	04 20 09.5	
	comp=N,6153μm,0.4s						
PYL				AML	AML	04 20 09.7	
	comp=E,12294μm,0.4s						
RLS	**Riolos of Patr**	**0.82**	**32**	P	**Pg**	**04 19 55.2**	**-0.4**
RLS	**Riolos of Patr**	**0.82**	**32**	P	**Pg**	**04 19 55.1**	**-0.5**
RLS				S	**Sb**	**04 20 07.5**	**+1.3**
RLS				AML	AML	04 20 11.6	
	comp=N,6031μm,0.4s						
RLS				AML	AML	04 20 13.6	
	comp=E,5569μm,0.7s						
ITM	**Ithomi**	**0.83**	**102**	P	**Pg**	**04 19 55.3**	**-0.4**
ITM				S	**Sn**	**04 20 08.7**	**+0.3**
	comp=E,4μm,0.5s						
ITM	**Ithomi**	**0.83**	**102**	P	**Pg**	**04 19 55.5**	**-0.3**
ITM				S	**Sb**	**04 20 07.4**	**+0.9**
ITM				AML	AML	04 20 10.5	
	comp=N,7177μm,0.4s						
ITM				AML	AML	04 20 11.1	
	comp=E,7458μm,0.6s						
VLS	**Valsamata**	**0.85**	**343**	P	**Pg**	**04 19 55.6**	**-0.6**
VLS	**Valsamata**	**0.85**	**343**	P	**Pg**	**04 19 55.6**	**-0.6**
VLS				S	**Sb**	**04 20 08.2**	**+1.1**
VLS				AML	AML	04 20 13.1	
	comp=N,3865μm,0.2s						
VLS				AML	AML	04 20 15.1	
	comp=E,4643μm,0.3s						
DRO	**Drossia**	**0.87**	**47**	P	**Pb**	**04 19 55.8**	**-0.4**
DRO	**Drossia**	**0.87**	**47**	P	**Pb**	**04 19 55.8**	**-0.4**
DRO				S	**Sg**	**04 20 07.8**	**-0.1**
DRO				AML	AML	04 20 13.3	
	comp=N,13124μm,0.3s						
DRO				AML	AML	04 20 15.8	
	comp=E,9629μm,0.3s						
SMHA	**Samh**	**0.91**	**347**	P	**Pb**	**04 19 56.8**	**-0.1**
SMHA				S	**Sg**	**04 20 10.0**	**+0.7**
SMHA				AML	AML	04 20 11.0	
	comp=E,20418μm,0.3s						
SMHA				AML	AML	04 20 12.7	
	comp=N,21995μm,0.3s						
LXR1	**Lixouri, Cepha**	**0.92**	**336**	P	**Pb**	**04 19 57.3**	**+0.3**
LXR1				S	**Sn**	**04 20 11.4**	**+1.0**
	comp=N,13μm,0.4s						
DMLN	**Damoulianata-K**	**0.97**	**334**	P	**Pb**	**04 19 58.1**	**+0.2**
DMLN				S	**Sb**	**04 20 10.6**	**0.0**
FSK	**Fiskardo**	**1.13**	**346**	P	**Pb**	**04 20 00.4**	**-0.2**
FSK	**Fiskardo**	**1.13**	**346**	P	**Pb**	**04 20 00.6**	**-0.1**
FSK				S	**Sg**	**04 20 16.5**	**+0.3**
FSK				AML	AML	04 20 26.7	
	comp=N,3678μm,1.1s						
FSK				AML	AML	04 20 27.8	
	comp=E,3032μm,0.6s						
KLV	**Kalavryta, Ach**	**1.20**	**55**	P	**Pn**	**04 20 01.1**	**-0.5**
KLV				S	**Sg**	**04 20 19.0**	**+0.6**
	comp=E,660nm,0.5s						
KLV	**Kalavryta, Ach**	**1.20**	**55**	P	**Pn**	**04 20 01.3**	**-0.3**
KLV				S	**Sn**	**04 20 18.8**	**+1.3**
KLV				AML	AML	04 20 28.2	
	comp=E,1477μm,0.6s						
KLV				AML	AML	04 20 32.6	
	comp=N,970μm,0.4s						
EVGI	**Lefkada island**	**1.27**	**351**	P	**Pn**	**04 20 02.9**	**+0.3**
EVGI	**Lefkada island**	**1.27**	**351**	P	**Pn**	**04 20 03.1**	**+0.5**
EVGI				S	**Sb**	**04 20 19.8**	**+0.6**
GUR	**Goura**	**1.27**	**63**	P	**Pn**	**04 20 02.6**	**-0.1**
GUR	**Goura**	**1.27**	**63**	P	**Pn**	**04 20 02.5**	**-0.1**
GUR				S	**Sn**	**04 20 21.1**	**+1.6**
GUR				AML	AML	04 20 30.1	
	comp=E,3592μm,0.4s						
GUR				AML	AML	04 20 30.5	
	comp=N,3962μm,0.5s						
EFP	**Efpalio**	**1.32**	**36**	P	**Pn**	**04 20 03.9**	**+0.7**
EFP				S	**Sb**	**04 20 22.5**	**+1.9**
EFP				AML	AML	04 20 30.1	
	comp=N,2335μm,0.8s						
EFP				AML	AML	04 20 30.7	
	comp=E,1698μm,0.6s						
KALE	**Kalithea**	**1.42**	**43**	P	**Pn**	**04 20 05.5**	**+0.9**
KALE				S	**Sn**	**04 20 23.7**	**+0.8**
KALE				AML	AML	04 20 30.7	
	comp=N,4549μm,0.6s						
KALE				AML	AML	04 20 31.1	
	comp=E,2673μm,0.4s						
ANX	**Ano Chora**	**1.47**	**33**	P	**Pb**	**04 20 06.7**	**+0.3**
ANX				S	**Sb**	**04 20 26.4**	**+1.6**
ANX				AML	AML	04 20 36.3	
	comp=E,2445μm,0.4s						
ANX				AML	AML	04 20 36.9	
	comp=N,4103μm,0.6s						
TSLK	**Tsoukalades, L**	**1.48**	**352**	P	**Pb**	**04 20 07.2**	**+0.7**
TSLK				S	**Sb**	**04 20 26.1**	**+1.2**
TSLK				AML	AML	04 20 34.1	
	comp=N,4125μm,0.7s						
TSLK				AML	AML	04 20 36.9	
	comp=E,1892μm,0.4s						
VLI	**Veliai**	**1.75**	**111**	P	**Pb**	**04 20 11.6**	**+0.5**
LTK	**Loutraki**	**1.76**	**67**	P	**Pn**	**04 20 11.1**	**+1.8**
AXAR	**Agios Charalam**	**1.97**	**44**	P	**Pb**	**04 20 14.8**	**-0.2**
VIL2	**Platees**	**2.05**	**65**	P	**Pb**	**04 20 16.3**	**-0.1**
KEK	**Kerkira**	**2.50**	**340**	P	**Pb**	**04 20 23.5**	**-0.6**
OHR	**Ohrid**	**3.75**	**359**	*i* Pn	**Pn**	**04 20 39.4**	**+2.7**
IDI	**Anoyia**	**3.82**	**122**	Pn	**Pn**	**04 20 38.1**	**+0.4**
	comp=E,0.6nm,0.3s,baz=294,slow=16,SNR=1.9						
IDI				Sn	**Sn**	**04 21 24.4**	**+2.2**
	comp=E,5.6nm,0.3s,baz=304,slow=15,SNR=13						
	comp=E,4.4nm,0.5s						
VAE	**Valguarnera**	**5.17**	**273**	Pn	**Pn**	**04 20 58.4**	**+2.2**
	comp=E,0.9nm,0.3s,baz=152,slow=10,SNR=8.0						
VAE				Sn	**Sn**	**04 21 54.8**	**-0.8**
	comp=E,2.3nm,0.3s,baz=148,slow=9.5,SNR=2.6						
	comp=E,25nm,1.1s						
SOKA	**Soboth**	**10.28**	**337**	*e*Pn	**Pn**	**04 22 06.5**	**+0.2**
	comp=E,1.2nm,0.3s						
GERES	**GERESS Array B**	**12.62**	**338**	Pn	**Pn**	**04 22 37.7**	**-0.6**
	comp=E,0.3nm,0.3s,baz=159,slow=16,SNR=2.2						
KBZ	**Khabaz**	**17.86**	**62**	LR	LR	04 31 51.1	
	comp=E,64nm,19.0s,baz=16,slow=41						
HFS	**Hagfors**	**23.25**	**351**	P	**P**	**04 24 42.9**	**-2.9**
	comp=E,3.1nm,1.0s,baz=173,slow=12,SNR=7.0						
	comp=E,3.1nm,1.0s						
EKA	**Eskdalemuir Ar**	**24.27**	**325**	P	**P**	**04 24 55.9**	**+0.2**
	comp=E,1.0nm,0.4s,baz=124,slow=8.5,SNR=5.2						
	comp=E,1.0nm,0.4s						
FINES	**FINESS Array B**	**24.32**	**6**	P	**P**	**04 24 55.5**	**-0.5**
	comp=E,1.6nm,0.9s,baz=165,slow=11,SNR=6.2						
	comp=E,1.6nm,0.9s						
NOA	**NORSAR Array B**	**24.48**	**349**	P	**P**	**04 24 56.9**	**-0.6**
	comp=E,0.6nm,0.7s,baz=159,slow=9.8,SNR=3.4						
	comp=E,0.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.60**	**220**	P	**P**	**04 25 44.9**	**+1.1**
	comp=E,0.3nm,0.5s,baz=32,slow=9.9,SNR=6.8						
	comp=E,0.3nm,0.5s						
ARCES	**ARCESS Array B**	**32.33**	**3**	P	**P**	**04 26 06.8**	**-0.6**
	comp=E,8.5nm,1.1s,baz=191,slow=8.9,SNR=2.2						
	comp=E,8.5nm,1.1s						
KURBB	**Kurchatov Arra**	**42.47**	**53**	P	**P**	**04 27 32.2**	**-1.3**
	comp=E,0.2nm,0.3s,baz=281,slow=9.0,SNR=2.2						
	comp=E,0.2nm,0.3s						
MKAR	**Makanchi Array**	**45.47**	**58**	P	**P**	**04 27 56.4**	**-1.3**
	comp=E,0.3nm,0.5s,baz=280,slow=7.0,SNR=1.8						
	comp=E,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.01**	**48**	P	**P**	**04 28 00.5**	**-1.3**
	comp=E,0.4nm,0.3s,baz=275,slow=7.1,SNR=2.2						
	comp=E,0.4nm,0.3s						

*ISK **28** 04:22:08.8, 36°.45N×28°.71E, h6km, ML2.3/11*

AFAD 28 04:22:07.3±0.0, 36°.42N×28°.59E, h7km±4km, ML1.9, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.40**	**8**	Pg	Pb	04 22 16.2	-0.5
DALY				Sg	Sb	04 22 22.2	-0.8
ARG	**Arkhangelos**	**0.42**	**241**	Pg	Pn	04 22 19.3	-0.5
ARG				Sg	Sb	04 22 27.6	+3.9
TURN	**Turunc**	**0.45**	**322**	P	Pn	04 22 19.4	-0.7
TURN				S	Sb	04 22 25.6	+1.2
TURN				*i* AML	AML	04 22 27.0	
	comp=N,82nm,0.3s						
TURN	**Turunc**	**0.45**	**322**	Pg	Pb	04 22 18.6	+1.1
TURN				Sg	Sb	04 22 26.4	+2.0
FETY	**Fethiye**	**0.45**	**62**	P	Pg	04 22 16.1	0.0
FETY				S	Sb	04 22 23.8	-0.9
FETY	**Fethiye**	**0.45**	**62**	Pg	Pg	04 22 16.0	-0.1
FETY				Sg	Sg	04 22 21.8	-0.3
SABU	**Mula-Dalaman**	**0.51**	**37**	P	Pg	04 22 17.7	+0.6
SABU				S	Sg	04 22 24.3	+0.6
SABU				*i* AML	AML	04 22 31.0	
	comp=E,82nm,0.6s						
SABU				*i* AML	AML	04 22 32.0	
	comp=N,71nm,0.6s						
IZZE	**Mula-Seydike**	**0.52**	**88**	P	Pg	04 22 16.8	-0.5
IZZE				S	Sg	04 22 23.0	-1.0
YER	**Yerkesik**	**0.75**	**341**	Pg	Pb	04 22 23.5	+0.7
AKAS	**Kas**	**0.84**	**103**	P	Pn	04 22 25.2	-0.6
AKAS				S	Sb	04 22 35.7	-0.2
AKAS				*i* AML	AML	04 22 54.0	
	comp=E,63nm,0.8s						
AKAS	**Kas**	**0.84**	**103**	Pg	Pg	04 22 23.9	+0.4
MULA	**Mugla, Merkez-**	**0.86**	**346**	P	Pn	04 22 27.1	+1.2
MULA				S	Sb	04 22 37.3	+0.8
MULA				*i* AML	AML	04 22 38.0	
	comp=N,30nm,0.9s						
MULA				*i* AML	AML	04 22 42.0	
	comp=E,60nm,0.8s						
DAT	**Datca**	**0.87**	**291**	P	Pn	04 22 28.0	+1.9
DAT				S	Sn	04 22 42.1	+3.1
DAT				*i* AML	AML	04 22 49.0	
	comp=N,68nm,0.7s						
DAT				*i* AML	AML	04 22 49.0	
	comp=E,60nm,0.6s						
DAT	**Datca**	**0.87**	**291**	Pg	Pn	04 22 27.4	+1.4
KNIK	**Mula-Seydike**	**0.90**	**62**	P	Pg	04 22 24.9	+0.3
KNIK				S	Sb	04 22 37.3	-0.3
KNIK				*i* AML	AML	04 22 39.0	
	comp=N,36nm,0.7s						
KNIK				*i* AML	AML	04 22 46.0	
	comp=E,32nm,0.9s						
YAZI	**Mula-Dat§a-**	**0.95**	**286**	P	Pn	04 22 28.7	+1.6
YAZI				S	Sn	04 22 43.2	+2.4
YAZI				*i* AML	AML	04 22 52.0	
	comp=N,21nm,0.5s						
YAZI				*i* AML	AML	04 23 02.0	
	comp=E,40nm,1.6s						
ELL	**Elmali**	**1.11**	**73**	Pg	Pb	04 22 28.9	-0.1
BDRM	**Kayabasi**	**1.12**	**305**	P	Pn	04 22 31.9	+2.5
BDRM				S	Sn	04 22 47.5	+2.4
APMY	**Acipayam-Deniz**	**1.20**	**28**	Pn	Pn	04 22 30.8	+0.3
KORT	**Korkueli**	**1.53**	**67**	Pn	Pb	04 22 36.1	0.0
NAZL	**Nazilli-Aydin**	**1.56**	**351**	Pn	Pg	04 22 37.5	+0.3

*IDC **28** 04:28:58.8±0.8, 28°.47N×105°.85E, h0km, mb3.9/9, mbtmp3.9/9, Error ellipse: s-maj=62.5km s-min=16.7km az=60.0*

ISC 28 04:29:04.0±1.1, 28°.5N±0°.2×106°.0E±0°.3, h35km, n11, σ0§95/11, mb4.0/10, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**19.29**	**1**	P	**P**	**04 33 24.5**	**-1.4**
	0.2nm,0.4s,baz=185,slow=11,SNR=1.4						
MKAR	**Makanchi Array**	**25.99**	**321**	P	**P**	**04 34 33.4**	**0.0**
	1.7nm,1.0s,baz=120,slow=10,SNR=4.1						
	1.7nm,1.0s						
KURBB	**Kurchatov Arra**	**30.27**	**324**	P	**P**	**04 35 12.9**	**+1.4**
	0.3nm,0.3s,baz=131,slow=9.3,SNR=0.9						
	0.3nm,0.3s						
NRIK	**Noril'sk**	**42.23**	**350**	P	**P**	**04 36 54.2**	**+0.9**
	2.8nm,0.6s,baz=150,slow=8.3,SNR=1.9						
	2.8nm,0.6s						
WRA	**Warramunga Arr**	**55.44**	**147**	P	**P**	**04 38 35.2**	**-0.1**
	0.8nm,0.5s,baz=336,slow=8.4,SNR=16						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**58.46**	**150**	P	**P**	**04 38 56.8**	**+0.2**
	1.2nm,0.6s,baz=330,slow=6.8,SNR=16						
	1.2nm,0.6s						
BRTR	**Keskin Array B**	**59.43**	**301**	P	**P**	**04 39 02.6**	**-0.9**
	0.4nm,0.6s,baz=82,slow=7.0,SNR=2.5						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**60.27**	**336**	P	**P**	**04 39 09.4**	**+0.9**
	20nm,1.3s,baz=89,slow=7.7,SNR=2.3						
FINES	**FINESS Array B**	**60.60**	**327**	P	**P**	**04 39 10.4**	**-0.5**
	1.1nm,0.7s,baz=83,slow=7.0,SNR=1.5						
	1.1nm,0.7s						
HFS	**Hagfors**	**66.81**	**327**	P	**P**	**04 39 51.1**	**-0.7**
	0.8nm,0.6s,baz=76,slow=6.1,SNR=5.3						
	0.8nm,0.6s						
NOA	**NORSAR Array B**	**67.69**	**328**	P	**P**	**04 39 57.0**	**-0.4**
	1.4nm,1.0s,baz=87,slow=4.4,SNR=2.1						
	1.4nm,1.0s						

*AFAD **28** 04:32:44.8±0.0, 35°.67N×26°.76E, h12km±2km, ML2.2*

ATH 28 04:32:41.4, 35°.48N×26°.47E, h15km±3km, ML2.8/8, Error ellipse: s-maj=4.2km s-min=0.8km az=150.0, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.42**	**210**	P	Pg	04 32 49.8	0.0
ZKR				S	Sg	04 32 55.5	0.0
ZKR				AML	AML	04 32 56.3	
	comp=N,2318μm,0.3s						
ZKR				AML	AML	04 32 56.6	
	comp=E,2480μm,0.2s						
KARP	**Karpathos**	**0.57**	**83**	P	Pg	04 32 52.2	-0.4
KARP				S	Sg	04 33 00.1	-0.2
KARP				AML	AML	04 33 00.5	
	comp=E,2061μm,0.2s						
KARP				AML	AML	04 33 01.8	
	comp=N,1804μm,0.1s						
IACM	**Heraklion**	**1.15**	**262**	P	Pn	04 33 02.7	-0.2
IACM				S	Sb	04 33 17.8	+0.1
THR8	**Santorini-Mono**	**1.23**	**319**	P	Pn	04 33 03.2	-0.7
THR6	**Thira Island,**	**1.23**	**316**	P	Pn	04 33 04.1	0.0
SNT5	**Nea Kammeni, S**	**1.27**	**317**	P	Pb	04 33 04.8	-0.2
SNT5				S	Sb	04 33 20.5	-0.6
SNT5				AML	AML	04 33 28.0	
	comp=N,519μm,0.2s						
SNT5				AML	AML	04 33 30.8	
	comp=E,832μm,0.2s						
THR3	**Thira Island,**	**1.27**	**317**	P	Pn	04 33 04.4	-0.1
THR2	**Thira island,**	**1.28**	**319**	P	Pb	04 33 05.0	-0.2
IDI	**Anoyia**	**1.30**	**262**	P	Pn	04 33 04.8	-0.2
IDI				S	Sb	04 33 21.8	-0.3
IDI				AML	AML	04 33 25.9	
	comp=N,381μm,0.3s						
IDI				AML	AML	04 33 29.3	
	comp=E,289μm,0.2s						
TMBK	**Timbaki Herakl**	**1.45**	**254**	P	Pb	04 33 08.0	-0.1
TMBK				S	Sn	04 33 25.8	+0.1
ARG	**Arkhangelos**	**1.54**	**61**	P	Pb	04 33 09.2	-0.3
ARG				S	Sb	04 33 28.4	-0.4
ARG				AML	AML	04 33 30.1	
	comp=N,308μm,0.4s						
ARG				AML	AML	04 33 31.6	
	comp=E,416μm,0.6s						
TURN	**Turunc**	**1.94**	**47**	P	Pb	04 33 15.3	-1.0
TURN				S	Sn	04 33 37.9	+0.2

```
NOR                                    IAML                    04 34 49.6
      comp=Z,2.8nm,0.3s
KBS   Kingsbay          3.74 124  P        Pn   04 34 40.7 +2.2
KBS                               S        Sn   04 35 19.5 -3.0
KBS   Kingsbay          3.74 124  eP       Pn   04 34 40.7 +2.2
KBS                               eS       Sn   04 35 19.8 -2.7
KBS                                    IAML                    04 35 27.9
      comp=Z,3.7nm,0.9s
KBS   Kingsbay          3.74 124  eP       Pn   04 34 40.6 +2.1
KBS                               eS       Sn   04 35 19.6 -3.0
KBS   Kingsbay          3.74 124  i P      Pn   04 34 40.4 +1.9
KBS                               i S      Sn   04 35 19.6 -2.9
BRBB  Barentsburg B     4.68 126  P        Pn   04 34 54.8 +3.4
BRBB                              S        Sn   04 35 44.4 -1.2
BRBB  Barentsburg B     4.68 126  eP       Pn   04 34 54.8 +3.4
BRBB                              eS       Sn   04 35 44.0 -1.6
BRBA  Barentsburg A     4.71 126  eP       Pn   04 34 54.5 +2.7
BRBA                                   IAML                    04 35 42.2
      comp=Z,8.5nm,0.7s
BRBA                              eS       Sn   04 35 45.2 -1.2
SPA0  Spitsbergen Ar    4.88 121  eP       Pn   04 34 56.8 +2.6
SPA0                              eS       Sn   04 35 48.8 -1.9
SPA0                                   IAML                    04 35 58.6
      comp=Z,4.5nm,0.9s
SPA0  Spitsbergen Ar    4.88 121  eP       Pn   04 34 56.6 +2.4
SPA0                              eS       Sn   04 35 47.9 -2.8
DAG   Danmarks Havn     5.40 217  i P      Pn   04 35 04.3 +3.0
DAG                               i S      Sn   04 36 00.3 -3.0
DAG                                    IAML                    04 36 10.4
      comp=Z,1.6nm,0.2s
DAG   Danmarks Havn     5.40 217  i P      Pn   04 35 04.3 +3.0
DAG                               i S      Sn   04 36 00.3 -3.0
DAG                                    IAML                    04 36 10.4
      comp=Z,1.6nm,0.2s
ZFI2  Zemlya Franca-    7.82  68  eP       Pn   04 35 36.1 +1.6
ZFI2                              eS       Sn   04 36 56.7 -6.2
      comp=Z,24nm,3.4s
OMEGA Omega             7.85  69  eP       Pn   04 35 36.3 +1.6
OMEGA                             eS       Sn   04 36 56.7 -6.7
      comp=Z,40nm,2.2s
DBG   Daneborg          7.86 213  i P      Pn   04 35 36.9 +1.9
DBG                               eS       Sn   04 36 59.4 -4.4
DBG                                    IAML                    04 37 03.1
      comp=Z,0.9nm,0.2s
DBG   Daneborg          7.86 213  i P      Pn   04 35 36.9 +1.9
DBG                               eS       Sn   04 36 59.4 -4.4
DBG                                    IAML                    04 37 03.1
      comp=Z,0.9nm,0.2s
```

*IDC **28** 04:38:02.5±1.5, 5°.70S×146°.60E, h95km±13km, mb3.8/8, mbtmp4.1/11, MS2.2/1, Error ellipse: s-maj=20.9km s-min=10.5km az=95.0*
*NEIC **28** 04:38:05.4±1.4, 5°.82S±0°.07×146°.3E±0°.1, h93km±6km, mb4.5/24, Error ellipse: s-maj=15.8km s-min=9.7km az=89.0*

ISC 28 04:38:04.4±0.5, 5°.73S±0°.05×146°.36E±0°.08, h100km, n52, σ1§42/57, mb4.5/22, Eastern New Guinea region

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                  Op       ISC          h m s     ISC
PMG   Port Moresby      3.74 168  P        Pn           04 38 60.0 -0.1
      93nm,0.3s,baz=5.2,slow=11,SNR=27
PMG                               S        Sn           04 39 40.9 -2.3
      83nm,0.4s,baz=342,slow=19,SNR=9.7
PMG                               LR       LR           04 40 57.6
      comp=Z,34nm,21.0s,baz=76,slow=47
MANU  Manus Island      3.79  15  P        Pn           04 39 04.3 +3.4
JAY   Jayapura          6.49 299  P        Pn           04 39 38.2 +0.8
      10.0nm,0.4s,baz=105,slow=20,SNR=11
COEN  Coen              8.76 201  Pn       Pn           04 40 08.7 +0.3
CTAO  Charters Tower   14.27 180            P            04 41 25.4 -0.8
FAKI  Fak Fak          14.35 281  Pn       Pn           04 41 24.4 +1.5
WB0   Warramunga Arr   18.18 219  P        P            04 42 08.1 -1.3
WR0   Warramunga Arr   18.23 218  P        P            04 42 08.9 -1.1
WB2   Warramunga Arr   18.33 219  P        P            04 42 10.3 -0.8
WRA   Warramunga Arr   18.34 219  P        P            04 42 09.5 -1.7
WRA   Warramunga Arr   18.34 219  P        P            04 42 10.1 -1.1
      1.8nm,0.4s,baz=37,slow=13,SNR=38
WRA                               S        Sn           04 45 40.8 +3.4
      0.5nm,0.7s,baz=37,slow=18,SNR=2.0
WRA                               PcP      PcP          04 46 38.5 -0.4
      1.3nm,0.6s,baz=29,slow=1.9,SNR=9.4
WRA                               ScP      ScP          04 50 04.8 -0.6
      0.5nm,0.7s,baz=39,slow=2.4,SNR=3.0
KNRA  Kununurra        19.90 239  P        P            04 42 27.7 -0.5
KNRA                              IAmb     IAmb         04 42 44.0
      comp=Z,22nm,1.4s
AS31  Alice Springs    21.49 213  P        P            04 42 45.1 -0.2
AS31                              IAmb     IAmb         04 42 48.3
      comp=Z,5.0nm,0.4s
ASAR  Alice Springs    21.49 213  P        P            04 42 45.0 -0.3
ASAR  Alice Springs    21.49 213  P        P            04 42 44.8 -0.5
      comp=Z,6.4nm,0.6s,baz=52,slow=8.7,SNR=45
ASAR                              S        S            04 46 39.3 +1.2
      comp=Z,0.7nm,0.7s,baz=29,slow=21,SNR=3.3
ASAR                              ScP      ScP          04 50 12.3 -0.5
      comp=Z,0.3nm,0.7s,baz=46,slow=4.0,SNR=2.2
      comp=Z,6.4nm,0.6s
FITZ  Fitzroy Crossi   23.68 237  P        P            04 43 06.7 -0.5
LUWI  Luwuk            24.00 280  P        P            04 43 10.9 +0.8
ARMA  Armidale         25.05 169  P        P            04 43 20.8 +1.1
ARMA                              IAmb     IAmb         04 44 02.2
      comp=Z,32nm,1.4s
STKA  Stephens Creek   26.39 189  P        P            04 43 31.3 -0.3
STKA  Stephens Creek   26.39 189  P        P            04 43 30.8 -0.9
      comp=Z,5.3nm,0.8s,baz=11,slow=12,SNR=7.8
      comp=Z,5.3nm,0.8s
TOLI2 Tolitoli         26.43 284  P        P            04 43 31.8 -0.4
TOLI2                             IAmb     IAmb         04 43 33.1
      comp=Z,7.3nm,0.5s
BBOO  Buckleboo        28.61 198  P        P            04 43 50.6 -0.7
BBOO                              IAmb     IAmb         04 44 12.0
      comp=Z,26nm,1.4s
CAN   Canberra         29.55 176  P        P            04 44 00.7 +1.0
FORT  Forrest          30.28 212  P        P            04 44 06.0 -0.2
FORT                              IAmb     IAmb         04 44 36.5
      comp=Z,13nm,1.1s
TOO   Toolangi         31.70 181  P        P            04 44 18.8 +0.1
SBUM  Sibu             35.05 282  P        P            04 44 47.7 -0.4
SBUM                              IAmb     IAmb         04 44 49.6
      comp=Z,2.4nm,0.8s
MORW  Morawa           36.88 227  P        P            04 45 03.0 -0.5
MORW                              IAmb     IAmb         04 45 05.3
      comp=Z,19nm,1.2s
TAU   Tasmania Unive   37.04 179  P        P            04 45 06.5 +1.9
SSLB  Suanglung        38.41 321  P        P            04 45 16.7 +0.2
SSLB                              IAmb     IAmb         04 45 55.5
      comp=Z,19nm,1.1s
TATO  Taipei           38.95 323  P        P            04 45 20.3 -0.6
XMIS  Christmas Isla   40.56 261  P        P            04 45 34.5 +0.1
LTZ   Lake Taylor      43.44 152  P        P            04 46 00.4 +2.9
LTZ                               IAmb     IAmb         04 46 36.1
      comp=Z,18nm,1.2s
KSRS  Korea Array      46.28 340  P        P            04 46 19.4 -0.6
      comp=Z,1.5nm,0.7s,baz=157,slow=9.0,SNR=5.4
      comp=Z,1.5nm,0.7s
KULM  Kulim            46.94 283  P        P            04 46 25.5 -0.1
KULM                              IAmb     IAmb         04 46 26.2
      comp=Z,8.4nm,0.8s
PHRA  Phrae            51.46 299  P        P            04 47 01.4 +1.4
CMAR  Chiang Mai Arr   52.56 298  P        P            04 47 08.3 +0.1
      comp=Z,1.5nm,0.3s,baz=119,slow=5.4,SNR=8.1
      comp=Z,1.5nm,0.3s
CHTO  Chiang Mai       52.70 299  P        P            04 47 09.7 +0.5
CHTO                              IAmb     IAmb         04 47 11.1
      comp=Z,2.8nm,0.8s
PZH   PanZhiHua        53.80 309  P        P            04 47 21.3 +4.1
PZH                               pmax     pmax
      comp=Z,10.0nm,0.7s
PZH                               pmax     pmax
      comp=Z,100nm,4.8s
HHC   Hu-ho-hao-te     56.27 329  eP       P            04 47 40.3 +5.5
HHC                               pmax     pmax
      comp=Z,9.0nm,0.9s
HHC                               pmax     pmax
      comp=Z,94nm,5.6s
LZH   Lanzhou          57.59 320  eP       P            04 47 41.0 -3.3
LZH                               sP       pP           04 47 49.5 -19
LZH                               pmax     pmax
      comp=Z,12nm,1.1s
PETK  Petropavlovsk-
MKAR  Makanchi Array   76.89 321  P        P            04 49 44.8 -0.9
      comp=Z,0.4nm,0.4s,baz=104,slow=6.5,SNR=7.9
      comp=Z,0.4nm,0.4s
ZALV  Zalesovo Beam    78.45 328  P        P            04 49 52.2 -2.0
      comp=Z,0.6nm,0.4s,baz=110,slow=6.0,SNR=3.8
      comp=Z,0.6nm,0.4s
ILAR  Eielson Array    85.48  23  P        P            04 50 29.0 -1.8
      comp=Z,0.6nm,0.7s,baz=251,slow=5.0,SNR=9.2
      comp=Z,0.6nm,0.7s
BVAR  Borovoye Array   86.18 324  P        P            04 50 32.7 -1.8
      comp=Z,0.8nm,0.7s,baz=102,slow=5.6,SNR=3.0
      comp=Z,0.8nm,0.7s
PLCA  Paso Flores     122.69 147  PKPdf    PKiKP        04 56 49.3 +0.1
ACSO  Alum Creek Sta  124.06  45  PKPdf    PKiKP        04 56 52.4 +0.6
GO05  Hualane         125.76 141  PKPdf    PKiKP        04 56 55.2 -0.2
WBO   Williamsburg    126.69  36  PKPdf    PKiKP        04 56 58.1 +1.2
GO04  Tololo Observa  129.58 137  PKPdf    PKPdf        04 57 01.9 -0.8
TORD  Torodi Ar. Bea  144.41 285  PKP      PKPab        04 57 28.3 -0.2
      comp=Z,2.3nm,0.6s,baz=67,slow=2.6,SNR=25
DBIC  Dimbokro        151.38 273  PKPbc    PKPbc        04 57 46.9 -0.8
      comp=Z,2.3nm,0.7s,baz=110,slow=2.3,SNR=4.2
```

IDC 28 05:04:12.7±9.6, 21°.10S×148°.42E, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=80.0km s-min=76.9km az=17.0, Queensland

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                  Op       ISC          h m s     ISC
WRA   Warramunga Arr   13.25 272  Pn       Pn           05 07 23.5 +1.3
      0.1nm,0.3s,baz=97,slow=13,SNR=2.6
WRA                               Lg       Lg           05 11 10.0
      0.1nm,0.3s,baz=94,slow=29,SNR=4.1
      0.3nm,0.4s
I07AU WARRAMUNGA INF  13.26 273  I        I            06 31 55.0
      0.2nm,1.9s,baz=102,slow=313,SNR=7.9
ASAR  Alice Springs    13.67 257  Pn       Pn           05 07 27.3 -0.7
      0.1nm,0.3s,baz=87,slow=13,SNR=2.0
ASAR                              Sn       Sn           05 10 03.8 +2.9
      0.1nm,0.3s,baz=96,slow=26,SNR=2.8
ASAR                              Lg       Lg           05 11 18.7
      baz=82,slow=29,SNR=5.6
      0.2nm,0.3s
I04AU SHANNON INFRAS  31.24 238  I        I            08 22 13.3
      baz=76,slow=322,SNR=2.7
```

DJA 28 05:10:04.4±1.5, 0°N±4°×97°7E±°, h29km±15km, M3.7/10, mb3.9/1, MLv3.6/10, Off west coast of northern Sumatera

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                  Op       ISC          h m s     ISC
GSI   Gunungsitoli      1.25  29  P        Pn           05 10 26.1 +0.2
GSI                               S        Sb           05 10 42.9 -0.2
PBSI  Pulau Batu        1.32 101  P        Pn           05 10 27.4 +0.5
PBSI                              S        Sn           05 10 43.4 -0.2
SNSI  Sinabang, Aceh    2.29 343  P        Pn           05 10 39.4 -0.8
SNSI                              S        Sn           05 11 04.3 -3.2
SISI  Saibi             2.60 126  P        Pn           05 10 44.7 +0.2
SISI                              S        Sn           05 11 13.5 -1.6
MNSI  Mandailing Nat    2.67  77  P        Pn           05 10 46.0 +0.6
PDSI  Padang            3.65 108  P        Pn           05 10 59.9 +0.9
PPSI  Pulau Pagai       4.22 134  P        Pn           05 11 06.6 -0.3
BSI   Banda Aceh        5.52 342  P        Pn           05 11 21.2 -3.6
```

*CNRM **28** 05:12:20.7, 37°.12N×8°.52W, h24km, ML1.4*
*MDD **28** 05:12:21.6±0.4, 37°.31N×8°.55W, h11km, mb_Lg2.6/10, Error ellipse: s-maj=3.1km s-min=2.7km az=32.0*
*SFS **28** 05:12:21.3, 37°.37N×8°.63W, h12km, ML2.3/9, ML2.6/7, MLv2.1/9*
*INMG **28** 05:12:21.8±1.4, 37°.30N×8°.58W, h11km±2km, ML2.0, Error ellipse: s-maj=2.1km s-min=1.8km az=108.0*
*IGIL **28** 05:12:22.0, 37°.31N×8°.58W, h11km, ML2.2*

ISC 28 05:12:20.3±0.8, 37°.29N±0°.02×8°.52W±0°.03, h18km±6km, n54, σ1§22/103, 2C-1D, Portugal

```
Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                  Op       ISC          h m s     ISC
MORF  Marmelete         0.11 278  ⇑iPg     Pg           05 12 23.9 -0.1
MORF                              eSg      Sg           05 12 25.8 -0.7
MORF                              A        A            05 12 26.1
      1μm,0.1s
MORF  Marmelete         0.11 278  eP       Pg           05 12 23.9 -0.1
MORF                              eS       Sg           05 12 25.7 -0.9
MORF                              IAML                  05 12 26.1
      comp=N,2μm,0.2s
PFVI  Vila Bisbo        0.29 238  ⇑iPg     Pg           05 12 26.9 +0.3
PFVI                              eSg      Sg           05 12 30.6 -0.4
PFVI                              A        A            05 12 32.1
      comp=N,58nm,0.1s
PFVI  Vila Bisbo        0.29 238  Pg       Pg           05 12 27.0 +0.3
PFVI                              Sg       Sg           05 12 30.5 -0.4
PFVI  Vila Bisbo        0.29 238  P        Pg           05 12 27.0 +0.3
PFVI  Vila Bisbo        0.29 238  S        Sg           05 12 31.1 +0.2
PTEO  Sao Teotonio      0.30 328  ⇓iPg     Pg           05 12 27.0 +0.2
PTEO                              eSg      Sg           05 12 30.6 -0.7
PTEO                              A        A            05 12 31.3
      comp=N,57nm,0.1s
PBDV  Barranco-do-Ve    0.47  95  ePg      Pn           05 12 31.5 -0.7
PBDV                              eSg      Sn           05 12 38.9 -1.3
PBDV                              A        A            05 12 40.0
      comp=N,30nm,0.3s
MESJ  Messejana         0.60  23  ePg      Pb           05 12 32.9 +0.6
MESJ                              eSg      Sb           05 12 41.1 +0.7
MESJ                              A        A            05 12 43.7
      comp=N,37nm,0.1s
MESJ  Messejana         0.60  23  eP       Pb           05 12 32.9 +0.6
MESJ                              eS       Sb           05 12 40.9 +0.4
MESJ                              IAML                  05 12 44.1
      comp=N,59nm,0.1s
PVAQ  Vaqueiros         0.65  80  ePg      Pn           05 12 34.4 -0.2
PVAQ                              eSg      Sn           05 12 43.6 -0.9
PVAQ                              A        A            05 12 47.3
      comp=N,36nm,0.1s
PVAQ  Vaqueiros         0.65  80  Pg       Pn           05 12 34.5 -0.2
PVAQ                              Sg       Sb           05 12 43.2 +1.3
PVAQ  Vaqueiros         0.65  80  P        Pn           05 12 34.5 -0.2
PVAQ  Vaqueiros         0.65  80  S        Sn           05 12 44.0 -0.5
EGRO  El Granado        0.86  73  Pg       Pn           05 12 38.0 +0.4
EGRO                              Sg       Sn           05 12 50.8 +1.1
EGRO  El Granado        0.86  73  Pg       Pn           05 12 38.2 +0.7
EGRO                              Sg       Sn           05 12 50.5 +0.8
EGRO                              i Vmb_Lg              05 12 52.5
PBEJ  Beja              0.90  35  eP       Pn           05 12 39.2 +1.1
PBEJ                              eS       Sn           05 12 50.4 -0.3
PBEJ                              A        A            05 12 52.4
      comp=N,23nm,0.2s
EVO   Evora             1.30  18  eP       Pn           05 12 44.1 +0.4
EVO                               eS       Sn           05 13 01.4 +0.7
EVO                               A        A            05 13 03.9
      comp=N,37nm,0.1s
EVO   Evora             1.30  18  Sg       Sb           05 12 59.9 -0.8
EVO                               Pg       Pn           05 12 44.0 +0.4
PBAR  Barrancos         1.47  53  eS       Sg           05 13 07.8  0.0
PBAR                              A        A            05 13 11.3
      comp=N,7.8nm,0.2s
EMIN  Mina Concepcio    1.54  71  Pg       Pg           05 12 51.2 +1.2
EMIN                              Sn       Sg           05 13 10.0 -0.2
EMIN  Mina Concepcio    1.54  71  Pg       Pg           05 12 50.6 +0.6
EMIN                              Sg       Sg           05 13 09.8 -0.3
PESTR Estremoz          1.74  25  ePn      Pn           05 12 49.9 +0.3
PESTR                             eSn      Sn           05 13 10.9 -0.5
PESTR                             eSg      Sg           05 13 15.5 -0.8
PESTR                             A        A            05 13 17.4
      comp=N,5.4nm,0.2s
PESTR Estremoz          1.74  25  Pn       Pn           05 12 49.9 +0.3
PESTR                             Sn       Sn           05 13 10.5 -0.9
PESTR                             Sg       Sg           05 13 15.1 -1.2
PESTR Estremoz          1.74  25  P        Pb           05 12 51.5 -0.2
PESTR Estremoz          1.74  25  S        Sg           05 13 15.4 -1.0
PMAFR Mafra             1.77 340  ePn      Pn           05 12 50.7 +0.6
PMAFR                             eSn      Sn           05 13 11.3 -0.8
PMAFR                             eSg      Sb           05 13 15.9 +1.8
PMAFR                             A        A            05 13 24.1
      comp=N,24nm,0.8s
PMTG  Montargil         1.79   7  ePn      Pn           05 12 50.6 +0.2
PMTG                              eSn      Sn           05 13 11.1 -1.6
PMTG                              eSg      Sg           05 13 16.8 -1.2
PMTG                              A        A            05 13 17.8
      comp=N,15nm,0.1s
EBAD  Badajoz           1.89  39  Pn       Pn           05 12 51.7 +0.1
EBAD                              Sg       Sb           05 13 19.1 +1.6
EBAD  Badajoz           1.89  39  Pg       Pb           05 12 54.5 +0.3
EBAD                              Sn       Sn           05 13 16.1 +1.1
EBAD                              Sg       Sg           05 13 19.2 -1.9
EBAD                              i Vmb_Lg              05 13 24.1
ESPR  Espera            2.17 100  Pn       Pn           05 12 56.6 +1.1
ESPR                              Sg       Sg           05 13 30.6 +0.4
ESPR                              i Vmb_Lg              05 13 36.7
PSBE  So Bento          2.23 355  ePn      Pn           05 12 57.2 +0.8
PSBE                              eSg      Sg           05 13 30.3 -1.8
PSBE                              A        A            05 13 34.3
      comp=N,6.0nm,0.2s
PMRV  Marv??o           2.31  22  ePn      Pn           05 12 57.9 +0.4
PMRV                              eSn      Sn           05 13 24.2 -1.4
PMRV                              eSg      Sb           05 13 32.0 +2.2
PMRV                              A        A            05 13 36.0
      comp=N,6.5nm,0.6s
ECAB  El Cabril         2.58  71  Pn       Pn           05 13 01.6 +0.3
ECAB                              Sn       Sn           05 13 33.1 +0.8
ECAB                              Sg       Sg           05 13 41.0 -2.3
ECAB                              i Vmb_Lg              05 13 52.7
PCBR  Castelo Branco    2.67  17  ePn      Pn           05 13 03.0 +0.5
PCBR                              eSn      Sn           05 13 34.6 +0.1
PCBR                              eSg      Sb           05 13 42.8 +2.6
PCBR                              A        A            05 13 47.3
      comp=N,7.1nm,0.3s
PCAS  Casmilo, Conde    2.76   0  ePn      Pn           05 13 04.3 +0.6
PCAS                              eSn      Sn           05 13 36.7 +0.1
PCAS                              eSg      Sg           05 13 47.7 -1.3
PCAS                              A        A            05 13 51.8
      comp=N,6.0nm,0.5s
MTE   Manteigas         3.20  13  ePn      Pn           05 13 10.1 +0.3
MTE                               eSn      Sn           05 13 46.6 -0.9
MTE                               eSg      Sg           05 14 00.9 -2.1
MTE                               A        A            05 14 06.0
      comp=N,7.3nm,0.7s
EADA  Adamuz            3.25  73  Pn       Pn           05 13 12.6 +2.2
EADA                              Sn       Sn           05 13 49.7 +1.0
EADA  Adamuz            3.25  73  Sn       Sn           05 13 49.3 +0.7
EADA                              Sg       Sg           05 14 01.7 -2.9
EADA                              i Vmb_Lg              05 14 06.8
EPLA  Plasencia         3.37  34  Pn       Pn           05 13 12.4 +0.3
EPLA                              Sn       Sn           05 13 50.6 -1.0
EPLA                              Sg       Sg           05 14 06.0 -2.4
EPLA                              i Vmb_Lg              05 14 11.0
PVIS  Viseu             3.46   8  ePn      Pn           05 13 13.7 +0.4
PVIS                              eSn      Sn           05 13 51.6 -2.2
EXCAB Granada           3.93  90  Sg       Sg           05 14 25.7 -0.9
ELGU  Los Guajares,     3.94  95  Sg       Sg           05 14 26.6 -0.1
ELGU                              i Vmb_Lg              05 14 35.8
PAB   San Pablo         3.98  54  Pn       Pn           05 13 20.9 +0.4
PAB                               Sn       Sn           05 14 05.0 -1.7
PAB                               Sg       Sg           05 14 25.0 -2.9
PAB                               i Vmb_Lg              05 14 33.9
PVRL  Vila Real         4.03   9  eSn      Sn           05 14 07.6 -0.4
MVO   Moncorvo          4.04  16  ePn      Pn           05 13 22.0 +0.7
MVO                               eSn      Sn           05 14 06.4 -1.8
PSIM  Granatula de C    4.06  66  Sn       Sn           05 14 08.7  0.0
ELOB  Lobios            4.59   4  Pn       Pn           05 13 28.9  0.0
PGAV  Gavieira, Arco    4.67   2  ePn      Pn           05 13 30.4 +0.3
GUD   Guadarrama        4.77  44  Sn       Sn           05 14 25.0 -1.4
GUD                               i Vmb_Lg              05 14 49.5
GUD                               Sg       Sg           05 14 50.9 -2.6
MD31  MD31              5.38 144  P        Pn           05 13 38.3 -1.5
MD31  MD31              5.38 144  S        Sn           05 14 37.9 -3.5
MDT   Midelt            5.50 143  P        Pn           05 13 40.2 -1.2
MDT   Midelt            5.50 143  S        Sn           05 14 41.0 -3.2
```

*NEIC **28** 05:20:45.5±0.3, 36°.282N±0°.009×97°.511W±0°.007, h7km±4km, ML2.1/65, ML2.5/37, Error ellipse: s-maj=1.5km s-min=0.5km az=151.0*

NEIC 28 05:20:45.5±0.2, 36°.286N±0°.010×97°.51W±0°.01, h6km±2km, Error ellipse: s-maj=1.5km s-min=1.2km az=175.0, Oklahoma

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Code  Station Name      Δ°   AZ°  Phase ID                Time      Res
                                  Op       ISC          h m s     ISC
CROK  Carrier           0.44 300  Pg       Pg           05 20 54.4 +0.4
CROK                              Sg       Sg           05 21 00.6 +0.8
CROK                              IAML                  05 21 02.9
      comp=E,154nm,0.3s
OK048 Pawnee Station    0.47  74  Pg       Pg           05 20 55.0 +0.4
OK048                             Sg       Sg           05 21 01.8 +0.9
OK029 Liberty Lake      0.49 175  Pg       Pg           05 20 55.1 +0.2
BLOK  Blackwell         0.53  26  Pg       Pg           05 20 56.1 +0.3
BLOK                              Sg       Sg           05 21 03.6 +0.9
BLOK                              IAML                  05 21 03.8
      comp=E,165nm,0.3s
OK051 E0350 and S346    0.58  68  Pg       Pg           05 20 57.0 +0.2
OK051                             IAML                  05 21 09.6
      comp=E,104nm,0.1s
OK051                             IAML                  05 21 11.3
      comp=E,89nm,0.1s
GC02  Grant County #    0.63 334  Pg       Pg           05 20 57.9 +0.2
GC02                              Sg       Sg           05 21 06.7 +0.8
BCOK  Bluff Creek, N    0.63 187  Pg       Pg           05 20 57.8 +0.1
BCOK                              Sg       Sg           05 21 06.4 +0.5
OK031 S. Brethren Rd    0.64 121  Pg       Pg           05 20 57.9 +0.2
OK031                             Sg       Sg           05 21 06.6 +0.6
OK031                             IAML                  05 21 06.8
      comp=E,107nm,0.2s
OK031                             IAML                  05 21 06.8
      comp=E,104nm,0.2s
ADOK  Arcadia Dam       0.64 170  Pg       Pg           05 20 57.9  0.0
OK052 Battle Ridge R    0.64 117            Pg           05 20 58.0 +0.2
OK052                             Sg       Sg           05 21 06.7 +0.5
OK052                             IAML                  05 21 06.9
      comp=E,78nm,0.3s
OK052                             IAML                  05 21 06.9
      comp=E,120nm,0.9s
QUOK  Quay              0.66 100  Pg       Pg           05 20 58.3 +0.2
QUOK                              Sg       Sg           05 21 07.3 +0.6
KAN13 South Haven SW    0.73   2  Pg       Pg           05 20 59.2 -0.3
KAN13                             IAML                  05 21 15.0
      comp=E,88nm,0.2s
KAN13                             IAML                  05 21 18.5
      comp=N,70nm,0.2s
KAN14 Manchester OK     0.76 332  Pg       Pg           05 21 00.2  0.0
KAN14                             Sg       Sg           05 21 10.7 +0.6
KAN14                             IAML                  05 21 11.6
      comp=N,76nm,0.1s
KAN17 Caldwell West     0.78 345  Pg       Pg           05 21 00.7 +0.1
KAN17                             Sg       Sg           05 21 11.5 +0.7
KAN17                             IAML                  05 21 19.4
      comp=N,64nm,0.3s
KAN09 Caldwell North    0.85 354  Pg       Pg           05 21 01.9  0.0
KAN09                             Sb       Sb           05 21 13.8 -0.7
KAN09                             IAML                  05 21 18.4
      comp=N,86nm,0.2s
OKCSW OKLAHOMA CITY     0.88 176  Pg       Pg           05 21 02.3 -0.1
OKCSW                             IAML                  05 21 15.0
      comp=E,83nm,0.2s
OKCSW                             IAML                  05 21 20.9
      comp=N,68nm,0.2s
KAN01 Argonia South     0.89 347  Pg       Pg           05 21 02.4 -0.2
KAN01                             IAML                  05 21 20.8
      comp=N,49nm,0.1s
KAN01                             IAML                  05 21 21.5
      comp=E,47nm,0.1s
DEOK  Depew             0.93 118  Pg       Pg           05 21 03.1 -0.2
DEOK                              Sg       Sg           05 21 15.8 +0.3
DEOK                              IAML                  05 21 15.9
      comp=N,65nm,0.3s
DEOK                              IAML                  05 21 16.1
      comp=E,55nm,0.1s
KAN08 Anthony NE Sta    1.01 339  Pg       Pg           05 21 04.6 -0.3
KAN08                             Sb       Sb           05 21 18.6 -0.5
KAN08                             IAML                  05 21 18.8
      comp=E,43nm,1.0s
OK038 West end E0370    1.01 281  Pg       Pg           05 21 04.5 -0.4
T35A  Sooner Cattle     1.02  52  Pg       Pg           05 21 05.1  0.0
T35A                              Sg       Sg           05 21 18.4  0.0
T35A                              IAML                  05 21 19.3
      comp=N,39nm,0.2s
FNO   Franklin          1.03 175  Pg       Pg           05 21 04.8 -0.5
FNO                               IAML                  05 21 10.0
      comp=N,49nm,3.8s
FNO                               Sb       Sb           05 21 19.5  0.0
FNO                               IAML                  05 21 22.8
      comp=E,39nm,0.2s
NOKA  Waynoka           1.20 287  Pg       Pg           05 21 07.8 -0.7
NOKA                              Sg       Sg           05 21 23.9 -0.2
NOKA                              IAML                  05 21 27.0
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comp=E,49nm,0.3s
W35A **Tecumseh** 1.24 155 Pg 05 21 08.3 -1.1
W35A Sg 05 21 25.2 -0.2
W35A IAML 05 21 26.4
comp=N,33nm,0.2s
TUL3 **Leonard** 1.44 105 Pn 05 21 11.6 -0.6
TUL3 Sb 05 21 31.2 -0.1
X34A **Smith Ranch, M** 1.70 189 Pb 05 21 17.1 -0.1
WMOK **Wichita Mounta** 1.86 214 Pn 05 21 17.9 -0.1
WMOK **Wichita Mounta** 1.86 214 Pn 05 21 18.3 +0.3
RLO **Rose Lookout** 2.01 93 Pn 05 21 19.7 -0.4

*IDC **28** 05:34:19.2±1.3, 28°.40N×52°.07E, h0km, mb3.9/11, mbtmp3.9/13, ML3.6/2, MS3.0/1, Error ellipse: s-maj=29.3km s-min=21.3km az=23.0*
*TEH **28** 05:34:22.1, 28°.43N×52°.01E, h24km±17km, ML3.4*
*OMAN **28** 05:34:25.2±0.1, 28°.40N×52°.12E, h118km±4km, mb3.8/6, ml3.5/7, Error ellipse: s-maj=2.7km s-min=1.1km az=13.0*
ISC 28 05:34:21.8±0.6, 28°.42N±0°.05×52°.05E±0°.04, h15km, n55, σ1§23/65, mb3.8/11, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.69**	**266**	Pg	**Pg**	**05 34 35.4**	**0.0**
AHBU	**AHRAM**	**0.80**	**304**	Pg	**Pg**	**05 34 36.6**	**-0.7**
QIR1	**Qir**	**0.88**	**86**	Pg	**Pg**	**05 34 39.2**	**+0.3**
KAZ2	**Kazeron-Fars-I**	**1.24**	**344**	Pg	**Pn**	**05 34 45.4**	**+0.7**
SHI	**Shiraz**	**1.29**	**18**	Pg	**Pn**	**05 34 45.7**	**+0.3**
JHRM	**Jahrom**	**1.35**	**86**	Pg	**Pn**	**05 34 47.8**	**+1.6**
LMD1	**Lamerd**	**1.46**	**137**	Pg	**Pn**	**05 34 49.3**	**+1.7**
KLNJ	**Kolanjah**	**2.61**	**351**	Pn	**Pn**	**05 35 04.4**	**+0.6**
IRAM	**Ramesheh**	**3.40**	**5**	Pn	**Pn**	**05 35 15.3**	**+0.8**
IBRJ	**Brojen**	**3.55**	**349**	Pn	**Pn**	**05 35 17.0**	**+0.4**
SMRA	**Abu-Samra**	**3.81**	**197**	P	**Pn**	**05 35 24.2**	**+4.2**
JHBN	**Jahan bin**	**3.99**	**343**	Pn	**Pn**	**05 35 22.9**	**+0.2**
SHME	**Shamm**	**4.34**	**122**	P	**Pn**	**05 35 28.0**	**+0.7**
TVBK	**TV Kerman**	**4.41**	**68**	Pn	**Pn**	**05 35 29.5**	**+1.0**
IZEF	**Zefreh**	**4.47**	**3**	Pn	**Pn**	**05 35 30.4**	**+1.1**
BANOM	**Banah**	**4.53**	**122**	P	**Pn**	**05 35 30.7**	**+0.8**
BANOM				S	**Sn**	**05 36 22.2**	**-0.1**
MASF	**Masafi**	**4.76**	**129**	P	**Pn**	**05 35 34.1**	**+1.0**
ASUD	**Al Ashush, Dub** SNR=15	**4.79**	**141**	P	**Pn**	**05 35 35.4**	**+2.0**
IKLH	**Kolahrood**	**4.90**	**355**	Pn	**Pn**	**05 35 36.5**	**+1.2**
MDH	**Madha**	**4.91**	**128**	P	**Pn**	**05 35 36.2**	**+1.2**
MDH				S	**Sn**	**05 36 31.5**	**-0.1**
CHMN	**Cheshme madani**	**5.02**	**72**	Pn	**Pn**	**05 35 38.5**	**+1.6**
UOSS	**Minazif**	**5.08**	**132**	P	**Pn**	**05 35 38.5**	**+1.1**
HATD	**Hatta, Dubai**	**5.12**	**133**	P	**Pn**	**05 35 39.4**	**+1.5**
HATD				S	**Sn**	**05 36 37.3**	**+0.6**
ASHO	**Ashiyiah** SNR=11	**5.17**	**135**	P	**Pn**	**05 35 39.4**	**+0.7**
ASHO				S	**Sn**	**05 36 37.4**	**-0.8**
QAMS	**Qamsar**	**5.33**	**354**	Pn	**Pn**	**05 35 42.2**	**+1.0**
KBAM	**BAM**	**5.67**	**81**	Pn	**Pn**	**05 35 47.3**	**+1.6**
SOHO	**SOHO**	**5.87**	**136**	P	**Pn**	**05 35 48.8**	**+0.6**
SOHO				S	**Sn**	**05 36 56.4**	**+1.2**
ISFB	**Sefidab**	**5.92**	**2**	Pn	**Pn**	**05 35 49.2**	**+0.2**
ARQ	**Araqi** SNR=10	**6.47**	**140**	P	**Pn**	**05 35 57.0**	**+0.5**
HSAM	**Samen**	**6.49**	**334**	Pn	**Pn**	**05 35 57.7**	**+0.7**
HOQ	**Hoqain**	**6.75**	**134**	P	**Pn**	**05 36 02.0**	**+1.5**
HOQ				S	**Sn**	**05 37 16.2**	**-0.9**
TKDS	**Koohdasht(Taba**	**6.77**	**39**	Pn	**Pn**	**05 36 01.8**	**+1.1**
TNSJ	**Nastanj**	**6.77**	**34**	Pn	**Pn**	**05 36 02.2**	**+1.4**
HAGD	**Aghdareh**	**6.85**	**340**	Pn	**Pn**	**05 36 02.9**	**+1.0**
BSY	**Bisya** SNR=6.9	**7.32**	**139**	P	**Pn**	**05 36 08.6**	**+0.4**
BSY				S	**Sn**	**05 37 31.1**	**+0.1**
SMDO	**Samad**	**7.60**	**133**	P	**Pn**	**05 36 13.0**	**+0.9**
SMDO				S	**Sn**	**05 37 37.0**	**-1.1**
RAYN	**Ar Rayn**	**7.64**	**232**	P	**Pn**	**05 36 14.5**	**+1.8**
RAYN				S	**Sn**	**05 37 38.9**	**-0.2**
ILIN	**Lien**	**7.80**	**328**	Pn	**Pn**	**05 36 15.2**	**+0.3**
WSAR	**Wadi Sarin** 1.3nm,0.3s,baz=312,slow=13,SNR=10	**7.86**	**130**	Pn	**Pn**	**05 36 14.3**	**-1.3**
WSAR				Sn	**Sn**	**05 37 40.6**	**-3.7**
	0.5nm,0.3s,baz=297,slow=4.5,SNR=2.3 4.1nm,0.4s						
JLN	**Jalan Bani Buh**	**9.13**	**131**	P	**Pn**	**05 36 33.5**	**+0.5**
MHTO	**MHTO**	**9.15**	**143**	P	**Pn**	**05 36 33.5**	**+0.2**
MHTO				S	**Sn**	**05 38 12.7**	**-3.3**
KBZ	**Khabaz** comp=Z,51nm,21.3s,baz=331,slow=39	**16.96**	**337**	LR	LR	05 45 13.8	
BRTR	**Keskin Array B** 0.1nm,0.3s,baz=124,slow=12,SNR=4.9 1.3nm,0.9s	**18.93**	**311**	P	**P**	**05 38 43.0**	**+0.8**
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=136,slow=8.4,SNR=2.5 0.3nm,0.4s	**28.16**	**328**	P	**P**	**05 40 13.2**	**-0.2**
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=234,slow=9.6,SNR=1.3 0.3nm,0.3s	**29.87**	**35**	P	**P**	**05 40 29.3**	**+0.7**
MKAR	**Makanchi Array** 0.6nm,0.8s,baz=245,slow=8.1,SNR=2.6 0.6nm,0.8s	**29.91**	**44**	P	**P**	**05 40 28.8**	**-0.3**
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=238,slow=9.9,SNR=3.9 0.8nm,0.3s	**34.95**	**34**	P	**P**	**05 41 12.0**	**-1.0**
FINES	**FINESS Array B** 1.0nm,0.4s,baz=144,slow=10,SNR=8.8 1.0nm,0.4s	**37.28**	**340**	P	**P**	**05 41 32.6**	**-0.2**
HFS	**Hagfors** 2.2nm,0.4s,baz=125,slow=7.6,SNR=14 2.2nm,0.4s	**40.92**	**332**	P	**P**	**05 42 03.2**	**-0.2**
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.5s,baz=119,slow=8.6	**42.45**	**332**	P	**P**	**05 42 15.8**	**0.0**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.6s,baz=120,slow=8.2,SNR=4.0 comp=Z,0.8nm,0.6s	**42.45**	**332**	P	**P**	**05 42 15.1**	**-0.8**
ARCES	**ARCESS Array B** comp=Z,2.0nm,0.8s,baz=127,slow=6.0,SNR=1.3 comp=Z,2.0nm,0.8s	**43.92**	**347**	P	**P**	**05 42 27.1**	**-0.5**
EKA	**Eskdalemuir Ar** comp=Z,4.0nm,1.0s,baz=99,slow=8.7,SNR=1.6 comp=Z,4.0nm,1.0s	**47.49**	**320**	P	**P**	**05 42 55.9**	**-0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.5s,baz=63,slow=8.6,SNR=5.0 comp=Z,0.6nm,0.5s	**49.12**	**263**	P	**P**	**05 43 08.9**	**-0.2**
ASAR	**Alice Springs** comp=Z,0.3nm,0.9s,baz=307,slow=4.6,SNR=2.1 comp=Z,0.3nm,0.9s	**94.28**	**114**	P	**P**	**05 47 40.7**	**-0.2**

*CNRM **28** 05:34:23.8, 36°.33N×7°.29W, h4km, ML2.3*
*MDD **28** 05:34:27.5±0.7, 36°.67N×7°.18W, h18km±3km, mb_Lg2.4/7, Error ellipse: s-maj=5.9km s-min=2.9km az=18.0*
*INMG **28** 05:34:28.6±1.5, 36°.66N×7°.29W, h21km±4km, ML1.6, Error ellipse: s-maj=4.5km s-min=3.3km az=51.0*
*SFS **28** 05:34:28.6, 36°.69N×7°.19W, h25km, ML2.0/12, ML2.6/10, MLv1.7/12*
*IGIL **28** 05:34:29.1, 36°.65N×7°.29W, h24km, ML1.5*
ISC 28 05:34:26.0±1.1, 36°.59N±0°.03×7°.21W±0°.03, h30km±12km, n49, σ1§37/81, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.87**	**319**	*e*P	**Pn**	**05 34 43.0**	**+0.8**
PBDV				*e*S	**Sb**	**05 34 53.5**	**-0.4**
PBDV				A	A	05 34 55.0	
	6.2nm,0.2s						
PVAQ	**Vaqueiros**	**0.91**	**334**	*e*P	**Pn**	**05 34 43.6**	**+0.9**
PVAQ				*e*S	**Sb**	**05 34 54.5**	**-0.5**
PVAQ				A	A	05 34 55.2	
	22nm,0.2s						
PVAQ	**Vaqueiros**	**0.91**	**334**	Pg	**Pn**	**05 34 43.6**	**+0.9**
PVAQ				Sg	**Sb**	**05 34 54.4**	**-0.5**
PVAQ	**Vaqueiros**	**0.91**	**334**	P	**Pn**	**05 34 43.3**	**+0.6**
EGRO	**El Granado**	**0.97**	**347**	Pg	**Pn**	**05 34 44.6**	**+1.0**
EGRO				Sg	**Sb**	**05 34 56.0**	**-0.6**
EGRO	**El Granado**	**0.97**	**347**	Pg	**Pn**	**05 34 44.5**	**+1.0**
EGRO				Sg	**Sb**	**05 34 56.3**	**-0.4**
EGRO				*i* Vmb_Lg		05 34 58.3	
ESPR	**Espera**	**1.12**	**75**	Pn	**Pb**	**05 34 47.3**	**+0.5**
ESPR				Sn	**Sn**	**05 35 01.5**	**+1.3**
ESPR	**Espera**	**1.12**	**75**	Pg	**Pb**	**05 34 47.3**	**+0.5**
ESPR				Sg	**Sb**	**05 34 59.7**	**-1.4**
ESPR				Sn	**Sn**	**05 35 01.7**	**+1.6**
EMIN	**Mina Concepcio**	**1.25**	**20**	Pn	**Pb**	**05 34 48.3**	**-0.7**
EMIN				Sn	**Sn**	**05 35 02.6**	**-0.7**
EMIN	**Mina Concepcio**	**1.25**	**20**	Pg	**Pb**	**05 34 49.2**	**+0.2**
EMIN				Sn	**Sn**	**05 35 02.9**	**-0.3**
EMIN				*i* Vmb_Lg		05 35 06.8	
MORF	**Marmelete**	**1.36**	**302**	*e*S	**Sn**	**05 35 05.7**	**-0.2**
MORF				A	A	05 35 14.4	
	6.3nm,0.3s						
PFVI	**Vila Bisbo**	**1.40**	**293**	*e*P	**Pn**	**05 34 50.1**	**+0.6**
PFVI				*e*S	**Sn**	**05 35 06.8**	**-0.2**
PFVI				A	A	05 35 24.6	
	7.2nm,0.5s						
PFVI	**Vila Bisbo**	**1.40**	**293**	Pn	**Pb**	**05 34 51.5**	**0.0**
PFVI	**Vila Bisbo**	**1.40**	**293**	P	**Pb**	**05 34 51.9**	**+0.4**
PFVI	**Vila Bisbo**	**1.40**	**293**	S	**Sb**	**05 35 11.6**	**+2.5**
MESJ	**Messejana**	**1.48**	**328**	⇑*i*P	**Pb**	**05 34 51.7**	**-1.2**
MESJ				*e*S	**Sn**	**05 35 08.1**	**-0.9**
MESJ				A	A	05 35 09.9	
	4.0nm,0.4s						
MESJ	**Messejana**	**1.48**	**328**	*e*P	**Pb**	**05 34 51.7**	**-1.2**
MESJ				*e*S	**Sn**	**05 35 08.1**	**-0.9**
MESJ				IAML		05 35 09.0	
	comp=N,5.2nm,0.1s						
EXMOR	**Moron de la Fr**	**1.51**	**69**	Sg	**Sb**	**05 35 11.6**	**-0.5**
PBAR	**Barrancos**	**1.59**	**5**	*e*P	**Pb**	**05 34 53.3**	**-1.4**
PBAR				*e*S	**Sn**	**05 35 11.5**	**-0.1**
PBAR				A	A	05 35 21.1	
	comp=N,3.7nm,0.3s						
PBAR	**Barrancos**	**1.59**	**5**	Pn	**Pb**	**05 34 53.2**	**-1.4**
PBAR				Sn	**Sn**	**05 35 10.5**	**-1.1**
EVO	**Evora**	**2.04**	**342**	*e*P	**Pn**	**05 34 59.5**	**+1.2**
EVO				*e*S	**Sn**	**05 35 21.6**	**-1.2**
EVO				A	A	05 35 23.7	
	comp=N,4.6nm,0.4s						
EVO	**Evora**	**2.04**	**342**	Sn	**Sn**	**05 35 21.5**	**-1.2**
EVO				Pn	**Pn**	**05 34 59.4**	**+1.2**
ECAB	**El Cabril**	**2.06**	**43**	Pn	**Pn**	**05 34 59.1**	**+0.6**
ECAB				Sn	**Sn**	**05 35 21.8**	**-1.5**
ECAB	**El Cabril**	**2.06**	**43**	Pn	**Pn**	**05 34 59.9**	**+1.4**
ECAB				Sn	**Sn**	**05 35 21.9**	**-1.5**
ECAB				*i* Vmb_Lg		05 35 34.7	
EBAD	**Badajoz**	**2.17**	**4**	Pn	**Pn**	**05 35 00.5**	**+0.5**
EBAD				Sn	**Sn**	**05 35 24.8**	**-1.1**
EBAD	**Badajoz**	**2.17**	**4**	Pn	**Pn**	**05 35 00.8**	**+0.8**
EBAD				Sn	**Sn**	**05 35 24.8**	**-1.1**
EBAD				*i* Vmb_Lg		05 35 37.0	
PESTR	**Estremoz**	**2.29**	**353**	*e*P	**Pn**	**05 35 02.7**	**+0.9**
PESTR				*e*S	**Sn**	**05 35 28.6**	**-0.4**
PESTR				A	A	05 35 42.6	
	comp=N,1.5nm,0.3s						
PESTR	**Estremoz**	**2.29**	**353**	Pn	**Pn**	**05 35 01.9**	**+0.2**
PESTR				Sn	**Sn**	**05 35 28.1**	**-0.8**
PESTR	**Estremoz**	**2.29**	**353**	S	**Sb**	**05 35 38.9**	**+4.3**
PMTG	**Montargil**	**2.60**	**342**	*e*P	**Pn**	**05 35 07.1**	**+1.1**
PMTG				*e*S	**Sn**	**05 35 36.4**	**-0.2**
PMTG				A	A	05 35 56.4	
	comp=N,3.2nm,0.7s						
EADA	**Adamuz**	**2.62**	**52**	Pn	**Pn**	**05 35 07.9**	**+1.6**
EADA				Sn	**Sn**	**05 35 35.2**	**-1.9**
EADA	**Adamuz**	**2.62**	**52**	Pn	**Pn**	**05 35 07.9**	**+1.6**
EADA				Sn	**Sn**	**05 35 35.3**	**-1.9**
EADA				*i* Vmb_Lg		05 35 47.7	
PMRV	**Marv??o**	**2.84**	**357**	*e*P	**Pn**	**05 35 10.2**	**+1.0**
PMRV				*e*S	**Sn**	**05 35 40.8**	**-1.6**
ELGU	**Los Guajares,**	**2.90**	**83**	Sn	**Sn**	**05 35 46.6**	**+2.7**
ZHG	**ZHG**	**3.17**	**171**	P	**Pn**	**05 35 13.0**	**-0.9**
ZHG	**ZHG**	**3.17**	**171**	S	**Sn**	**05 35 51.3**	**+0.5**
PSBE	**So Bento**	**3.18**	**337**	*e*P	**Pn**	**05 35 15.8**	**+1.9**
PSBE				*e*S	**Sn**	**05 35 50.0**	**-0.8**
PCBR	**Castelo Branco**	**3.25**	**356**	*e*P	**Pn**	**05 35 16.1**	**+1.2**
PCBR				*e*S	**Sn**	**05 35 51.8**	**-0.8**
IFR	**Ifrane**	**3.51**	**150**	Pn	**Pn**	**05 35 20.9**	**+2.3**
PSIM	**Granatula de C**	**3.53**	**50**	Pn	**Pn**	**05 35 20.1**	**+1.3**
EPLA	**Plasencia**	**3.58**	**14**	Pn	**Pn**	**05 35 21.6**	**+2.1**
EPLA				Sn	**Sn**	**05 35 59.6**	**-1.1**
EPLA				*i* Vmb_Lg		05 36 25.1	
PCAS	**Casmilo, Conde**	**3.60**	**344**	*e*S	**Sn**	**05 36 00.4**	**-0.9**
PAB	**San Pablo**	**3.72**	**37**	Pn	**Pn**	**05 35 22.8**	**+1.4**
PAB				Sn	**Sn**	**05 36 00.7**	**-3.5**
PAB				*i* Vmb_Lg		05 36 24.2	
MTE	**Manteigas**	**3.81**	**356**	*e*S	**Sn**	**05 36 05.6**	**-0.9**
MD31	**MD31**	**4.23**	**151**	P	**Pn**	**05 35 27.1**	**-1.3**
MD31	**MD31**	**4.23**	**151**	S	**Sn**	**05 36 15.7**	**-1.1**
MDT	**Midelt**	**4.33**	**150**	P	**Pn**	**05 35 28.4**	**-1.6**
MDT	**Midelt**	**4.33**	**150**	S	**Sn**	**05 36 18.4**	**-1.1**
MVO	**Moncorvo**	**4.57**	**2**	*e*P	**Pn**	**05 35 35.0**	**+1.9**
MVO				*e*S	**Sn**	**05 36 22.6**	**-2.6**

*NEIC **28** 05:48:54.5±1.1, 53°.18N±0°.08×164°.55W±0°.06, h10km±2km, ML3.6/6, ML3.5(AEIC), Error ellipse: s-maj=13.7km s-min=5.2km az=167.0*
*AEIC **28** 05:48:55.2±1.5, 53°.11N±0°.04×164°.50W±0°.04, h29km±7km, Error ellipse: s-maj=5.7km s-min=3.1km az=191.0*
*IDC **28** 05:48:56.3±5.2, 53°.53N×164°.21W, h0km, mb3.9/3, mbtmp3.8/5, ML3.1/2, Error ellipse: s-maj=86.5km s-min=34.3km az=97.0*
ISC 28 05:48:57.1±3.3, 53°.27N±0°.09×164°.52W±0°.04, h22km±26km, n38, σ1§74/43, mb3.6/3, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKSA	**Akutan Strait**	**1.11**	**322**		**Pn**	**05 49 16.3**	**-1.0**
AKSA					**Sn**	**05 49 32.5**	**+0.5**
AHB	**Akutan Harbor**	**1.15**	**318**		**Pn**	**05 49 16.9**	**-0.9**
AHB					**Sn**	**05 49 34.4**	**+1.6**
AKBBA	**Akutan Broad B**	**1.18**	**315**		**Pn**	**05 49 17.5**	**-0.8**
AKBBA					**Sn**	**05 49 34.9**	**+1.2**
ZRO	**Akutan Zero**	**1.20**	**314**		**Pn**	**05 49 17.6**	**-0.9**
ZRO					**Sn**	**05 49 34.7**	**+0.7**
WESE	**West Dahl East**	**1.21**	**358**		**Pn**	**05 49 18.1**	**-0.6**
AKMO	**Akutan Morgan**	**1.21**	**314**		**Pn**	**05 49 17.8**	**-0.8**
AKMO					**Sn**	**05 49 35.5**	**+1.1**
AKV	**Akutan Volcano**	**1.21**	**316**		**Pn**	**05 49 18.0**	**-0.8**
AKRB	**Akutan Reef Bi**	**1.26**	**314**		**Pn**	**05 49 18.7**	**-0.7**
AKRB					**Sn**	**05 49 37.0**	**+1.3**
LVA	**Lava Point**	**1.27**	**315**		**Pn**	**05 49 18.8**	**-0.7**
LVA				IAML		05 49 42.6	
	comp=E,859nm,0.7s						
LVA				IAML		05 49 43.5	
	comp=N,1μm,0.6s						
WECS	**Westdahl Cape**	**1.27**	**353**		**Pn**	**05 49 19.1**	**-0.5**
UNV	**Unalaska Valle**	**1.32**	**297**		**Sn**	**05 49 36.4**	**-0.6**
WEBT	**Westdahl Beart**	**1.33**	**354**		**Pn**	**05 49 20.2**	**-0.1**
MREP	**Makushin Rep't**	**1.43**	**293**		**Pn**	**05 49 20.5**	**-1.3**
MREP					**Sn**	**05 49 39.7**	**-0.3**
MSW	**Makushin Switc**	**1.50**	**297**		**Sn**	**05 49 41.5**	**+0.1**
ISLZ	**Isanotski Laza**	**1.54**	**18**		**Pn**	**05 49 22.6**	**-0.6**
ISNN	**Isanotski Nort**	**1.63**	**15**		**Pn**	**05 49 24.5**	**+0.1**
ISNN					**Sb**	**05 49 47.9**	**+1.4**
FALS	**False Pass**	**1.72**	**22**		**Pn**	**05 49 25.5**	**-0.1**
OKTU	**Okmok Mt. Tuli**	**2.11**	**275**		**Pn**	**05 49 30.0**	**-1.1**
PS4A	**Pavlof South-4**	**2.60**	**36**		**Pn**	**05 49 38.4**	**+0.6**
NIKH	**Nikolski High**	**2.63**	**265**		**Pn**	**05 49 36.6**	**-1.6**
NIKH					**Sn**	**05 50 07.2**	**-2.1**
PVV	**Pavlof Volcano**	**2.65**	**36**		**Pn**	**05 49 39.5**	**+1.1**
PVV					**Sn**	**05 50 10.8**	**+1.0**
PS1A	**Pavlof South-1**	**2.70**	**36**		**Pn**	**05 49 40.0**	**+0.8**
CNBA	**Chernabura Isl**	**3.30**	**60**	Pn	**Pn**	**05 49 46.9**	**-0.4**
CNBA				IAML		05 50 26.2	
	comp=N,72nm,3.8s						
CHGN	**Chignik**	**4.66**	**47**	Pn	**Pn**	**05 50 03.1**	**-2.9**
CHGN				IAML		05 51 01.8	
	comp=N,88nm,0.1s						
O16K	**Kokwok River B**	**7.27**	**27**	Pn	**Pn**	**05 50 40.7**	**-1.2**
KDAK	**Kodiak Island**	**8.14**	**51**	Pn	**Pn**	**05 50 52.1**	**-1.7**
	comp=N,0.6nm,0.3s,baz=265,slow=3.9,SNR=10						
KDAK				Sn	**Sn**	**05 52 17.4**	**-7.6**
	comp=N,0.1nm,0.3s,baz=248,slow=19,SNR=1.5 comp=N,16nm,1.0s						
ILAR	**Eielson Array** baz=222,slow=10,SNR=1.0 comp=N,0.3nm,0.9s	**14.60**	**31**	Pn	**Pn**	**05 52 18.4**	**-3.7**
SCRK	**Sand Creek**	**15.06**	**37**	Pn	**Pn**	**05 52 28.1**	**-0.3**
DAWY	**Dawson**	**16.83**	**40**	Pn	**Pn**	**05 52 51.2**	**+0.2**
BBB	**Bella Bella**	**21.93**	**78**	P	**P**	**05 53 49.0**	**+0.4**
	comp=N,39nm,1.0s,baz=270,slow=1.0,SNR=3.9 comp=N,39nm,1.0s						
NVAR	**Mina Array Bea**	**34.78**	**96**	P	**P**	**05 55 48.0**	**+1.9**
	comp=N,0.6nm,0.7s,baz=297,slow=8.7,SNR=5.2 comp=N,0.6nm,0.7s						
H11N2	**WAKE ISLAND Hy** baz=27,slow=76	**40.08**	**224**	T	T	06 39 53.5	
H11N3	**WAKE ISLAND Hy**	**40.08**	**224**	T	T	06 39 55.6	
	baz=27,slow=76						
H11N1	**WAKE ISLAND Hy** baz=27	**40.09**	**224**	T	T	06 39 57.5	
H11S1	**WAKE ISLAND Hy** baz=25,slow=76,SNR=5.9	**41.25**	**224**	T	T	06 41 12.0	
H11S2	**WAKE ISLAND Hy** baz=25,slow=76,SNR=4.5	**41.26**	**224**	T	T	06 41 08.7	
H11S3	**WAKE ISLAND Hy** baz=25,slow=76,SNR=3.9	**41.27**	**224**	T	T	06 41 13.8	
TXAR	**Lajitas Array** comp=N,0.3nm,0.5s,baz=309,slow=5.7,SNR=11 comp=N,0.3nm,0.5s	**49.83**	**94**	P	**P**	**05 57 48.7**	**+0.3**

*IDC **28** 06:07:37.8±1.9, 41°.11N×143°.35E, h0km, mb3.7/7, mbtmp3.6/10, ML2.8/3, MS3.1/3, Error ellipse: s-maj=48.0km s-min=21.3km az=81.0*
*JMA **28** 06:07:42.8±0.1, 41°.1N±0°.7×143°.1E±0°.9, h59km, MV3.6/34, E OFF AOMORI PREF*
ISC 28 06:07:41.6±0.9, 41°.04N±0°.05×143°.29E±0°.06, h31km, n34, σ2§25/30, mb3.8/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.98**	**354**	P	**Pb**	**06 08 00.3**	**+0.3**
JEM				*e*S	**Sb**	**06 08 13.2**	**+0.7**
JTHR	**Tokachihiroo**	**1.25**	**0**	*e*P	**Pb**	**06 08 04.3**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.30**	**342**	*i* P	**Pb**	**06 08 04.9**	**-0.5**
JARK	**Aomorirokkasho**	**1.45**	**269**	P	**Pb**	**06 08 05.8**	**-2.2**
JANG	**Nango**	**1.50**	**244**	P	**Pb**	**06 08 06.5**	**-2.3**
JCH	**Churui**	**1.57**	**2**	P	**Pb**	**06 08 07.0**	**-3.0**
JTM	**Tenmabayashi**	**1.70**	**262**	P	**Pb**	**06 08 09.7**	**-2.5**
JTM				*e*S	**Sb**	**06 08 30.3**	**-2.9**
JOT	**Ohata**	**1.72**	**282**	P	**Pb**	**06 08 09.5**	**-3.0**
JBT2	**Biratori 2**	**1.87**	**339**	P	**Pb**	**06 08 13.2**	**-1.8**
JKB	**Kayabe**	**1.89**	**297**	P	**Pb**	**06 08 12.1**	**-3.4**
JOB	**Onbets**	**1.90**	**12**	P	**Pb**	**06 08 13.6**	**-2.0**
JOB				*e*S	**Sb**	**06 08 36.2**	**-2.8**
JOM	**Ohasama**	**2.19**	**225**	*e*P	**Pb**	**06 08 17.9**	**-2.6**
JAK	**Akkeshi**	**2.22**	**28**	*e*P	**Pb**	**06 08 17.8**	**-3.2**
JAK				*e*S	**Sb**	**06 08 43.7**	**-4.3**
JEW	**Eniwo**	**2.26**	**323**	*e*P	**Pb**	**06 08 19.6**	**-2.1**
JAR	**Ashorobuto**	**2.28**	**9**	P	**Pb**	**06 08 18.3**	**-3.7**
ASAJ	**Asahikawa** 2.3nm,0.3s,baz=210,slow=17,SNR=2.1	**3.11**	**351**	Pn	**Pn**	**06 08 29.5**	**+1.0**
ASAJ				Sn	**Sn**	**06 09 06.1**	**+1.5**
	3.7nm,0.3s,baz=199,slow=18,SNR=4.5 5.7nm,0.3s						
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=25,slow=14,SNR=2.6 0.8nm,0.4s	**5.99**	**223**	Pn	**Pn**	**06 09 10.4**	**+2.2**
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=104,slow=17,SNR=3.0 2.0nm,0.7s	**8.91**	**294**	Pn	**Pn**	**06 09 48.4**	**+0.4**
KLR	**Kul'dur** comp=Z,48nm,18.5s,baz=100,slow=39	**11.54**	**319**	LR	LR	06 15 11.7	
KSRS	**Korea Array** comp=Z,25nm,18.3s,baz=90,slow=36	**12.44**	**258**	LR	LR	06 15 13.6	
SONM	**Songino Array** 0.4nm,0.6s,baz=88,slow=9.6,SNR=1.8 0.4nm,0.6s	**27.01**	**297**	P	**P**	**06 13 21.8**	**+1.1**
H11N2	**WAKE ISLAND Hy** baz=322,slow=75,SNR=20	**29.26**	**129**	T	T	06 44 37.1	
H11N1	**WAKE ISLAND Hy** baz=322,slow=75,SNR=9.0	**29.27**	**130**	T	T	06 44 46.2	
H11N3	**WAKE ISLAND Hy** baz=322,slow=75,SNR=12	**29.28**	**129**	T	T	06 44 36.5	
H11S1	**WAKE ISLAND Hy** baz=324	**30.11**	**131**	T	T	06 46 23.5	
H11S3	**WAKE ISLAND Hy** baz=324,slow=74	**30.11**	**131**	T	T	06 46 04.7	
H11S2	**WAKE ISLAND Hy** baz=324,slow=74	**30.13**	**131**	T	T	06 45 45.5	
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=85,slow=7.8,SNR=2.5 0.6nm,0.4s	**40.41**	**309**	P	**P**	**06 15 17.2**	**+0.6**
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=83,slow=14,SNR=7.7 0.5nm,0.5s	**43.34**	**299**	P	**P**	**06 15 41.0**	**+0.3**
KURBB	**Kurchatov Arra** 0.5nm,0.4s,baz=78,slow=8.8,SNR=5.0 0.5nm,0.4s	**44.79**	**305**	P	**P**	**06 15 51.9**	**-0.3**
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=78,slow=9.2,SNR=2.4 0.4nm,0.3s	**49.03**	**310**	P	**P**	**06 16 26.5**	**+1.2**
DLBC	**Dease Lake** comp=Z,87nm,18.2s,baz=62,slow=38	**54.60**	**40**	LR	LR	06 42 36.5	
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=6.5,slow=6.9,SNR=7.6 0.4nm,0.5s	**61.24**	**190**	P	**P**	**06 17 55.0**	**+1.4**
FINES	**FINESS Array B** 1.3nm,0.7s,baz=37,slow=7.1,SNR=3.8 1.3nm,0.7s	**65.95**	**332**	P	**P**	**06 18 24.8**	**+0.5**

**IDC 28 06:09:26.

8.5nm,0.1s
KOTS Kotyrbulak 0.99 277 P **Pb 06 20 56.2 -0.5**
2.8nm,0.2s
KOTS S **Sb 06 21 10.0 +0.1**
19nm,0.3s
KOTS Kotyrbulak 0.99 277 *eP* **Pb 06 20 56.2 -0.5**
2.8nm,0.2s
KOTS *eS* **Sb 06 21 10.0 +0.1**
19nm,0.3s
MDOK Medeo 1.03 272 Pg **Pb 06 20 56.4 -1.1**
0.7nm,0.2s
MDOK Lg Lg 06 21 10.2
6.5nm,0.6s
MDOK Medeo 1.03 272 *eP* **Pb 06 20 56.4 -1.1**
0.7nm,0.2s
MDOK *eS* **Sb 06 21 10.2 -0.9**
6.5nm,0.6s
TNSS Tian-Shan 1.11 266 P **Pb 06 20 58.5 -0.5**
1.5nm,0.3s
TNSS S **Sb 06 21 13.6 0.0**
4.3nm,0.3s
TNSS Tian-Shan 1.11 266 *eP* **Pb 06 20 58.5 -0.5**
1.5nm,0.3s
TNSS *eS* **Sb 06 21 13.6 0.0**
4.3nm,0.3s
ARXS Arharly 1.18 337 P **Pn 06 20 59.3 -0.9**
7.7nm,0.2s
ARXS S **Sb 06 21 15.4 +0.1**
15nm,0.3s
ARXS Arharly 1.18 337 *eP* **Pn 06 20 59.3 -0.9**
7.7nm,0.2s
ARXS *eS* **Sb 06 21 15.4 +0.1**
15nm,0.3s
KNOS Konyrlen 1.34 23 P **Pn 06 21 01.8 -0.7**
3.5nm,0.1s
KNOS S **Sn 06 21 19.5 -1.0**
11nm,0.2s
KDJ Kajisay 1.37 224⇑*eP* **Pn 06 21 02.5 -0.4**
KDJ ⇑*eS* **Sn 06 21 19.9 -1.3**
KTBS Karatobe 1.42 295 P **Pn 06 21 03.7 +0.4**
2.5nm,0.2s
KTBS S **Sb 06 21 22.9 +0.6**
6.9nm,0.3s
KTBS Karatobe 1.42 295 *eP* **Pn 06 21 03.8 +0.4**
2.5nm,0.2s
KTBS *eS* **Sb 06 21 22.9 +0.6**
6.9nm,0.3s
TARG Taragay, Kyrgy 1.48 199⇑*eP* **Pn 06 21 03.5 -1.1**
TARG ⇑*eS* **Sn 06 21 21.3 -2.9**
MTBS Maitube 1.48 271 P **Pb 06 21 05.7 +0.6**
3.0nm,0.2s
MTBS S **Sb 06 21 25.7 +1.6**
8.3nm,0.2s
MTBS Maitube 1.48 271 *eP* **Pb 06 21 05.7 +0.6**
3.0nm,0.2s
MTBS *eS* **Sb 06 21 25.7 +1.6**
8.3nm,0.2s
DJR Jarkent 1.55 38 P **Pb 06 21 06.0 -0.2**
4.0nm,0.2s
DJR S **Sg 06 21 26.8 -0.3**
22nm,0.3s
DJR Jarkent 1.55 38 *eP* **Pb 06 21 06.0 -0.2**
4.0nm,0.2s
DJR *eS* **Sg 06 21 26.8 -0.3**
22nm,0.3s
KUU Kurty 1.72 297 P **Pb 06 21 08.8 -0.4**
5.8nm,0.1s
KUU S **Sb 06 21 31.4 +0.6**
9.2nm,0.1s
KST Kastek 1.83 268 P **Pb 06 21 11.5 +0.5**
1.1nm,0.2s
KST S **Sb 06 21 36.3 +2.2**
2.8nm,0.3s
KST Kastek 1.83 268 *eP* **Pb 06 21 11.5 +0.5**
1.1nm,0.2s
KST *eS* **Sb 06 21 36.2 +2.2**
2.8nm,0.3s
ULHL Ulahol 1.85 242⇓*eP* **Pn 06 21 10.3 +0.8**
ULHL ⇓*eS* **Sn 06 21 32.9 -0.3**
BOOM Boomskoye usch 1.96 252⇑*eP* **Pn 06 21 11.8 +0.9**
BOOM ⇑*eS* **Sn 06 21 35.9 +0.2**
DGS Degeres 1.96 274 Pg **Pb 06 21 13.3 -0.1**
2.9nm,0.4s
DGS Lg Lg 06 21 39.5
9.6nm,0.5s
DGS Degeres 1.96 274 *eP* **Pb 06 21 13.3 -0.1**
2.9nm,0.4s
DGS *eS* **Sb 06 21 39.3 +1.3**
9.6nm,0.5s
TKM2 Tokmak 2 2.10 265⇓Pn **Pb 06 21 14.9 -0.9**
0.5nm,0.4s
TKM2 ⇓Sn **Sb 06 21 44.4 +2.3**
3.6nm,0.6s
TKM2 Tokmak 2 2.10 265⇑*eP* **Pn 06 21 14.5 +1.5**
TKM2 ⇑*eS* **Sn 06 21 40.2 +0.8**

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*IDC **28** 06:25:45.9±0.7, 41°.26N×143°.43E, h0km, mb3.9/12, mbtmp3.8/16, ML3.3/4, MS3.3/7, Error ellipse: s-maj=18.3km s-min=16.7km az=99.0*
*JMA **28** 06:25:48.6±0.4, 41°.N±1°×14°.3E±°, h14km±4km, MV3.9/29, E OFF AOMORI PREF*
*NIED **28** 06:25:48.6, 41°.36N×143°.24E, h14km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.93; $M_{\theta\theta}$-1.20; $M_{\phi\phi}$0.28; $M_{r\theta}$-0.21; $M_{\theta\phi}$-0.23; $M_{\phi r}$-0.20; Fault plane solution: $M_0$1.13000×10^{15} NP1: ϕ_s249.00000°, δ53.00000°, λ73.00000°. NP2:ϕ_s96.00000°, δ40.00000°, λ111.00000°.*
ISC 28 06:25:50.6±0.8, 41°.38N±0°.05×143°.31E±0°.08, h31km, n36, σ1§11/28, mb3.9/12, MS3.6/3, 5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.64**	**350**	⇓P	**Pb**	**06 26 01.0**	**-2.4**
JTHR	**Tokachihiroo**	**0.91**	**360**	⇓P	**Pn**	**06 26 05.8**	**-1.5**
JNBK	**Urakawa-nobuka**	**0.99**	**335**	⇓P	**Pn**	**06 26 07.1**	**-1.3**
JNBK				⇓*eS*	**Sn**	**06 26 21.0**	**-0.3**
JSHD	**Hidakashinhida**	**1.20**	**329**	P	**Pn**	**06 26 10.9**	**-0.4**
JCH	**Churui**	**1.23**	**2**	⇓*i*P	**Pn**	**06 26 11.5**	**-0.2**
JBT2	**Biratori 2**	**1.56**	**334**	P	**Pn**	**06 26 16.4**	**+0.1**
JOB	**Onbets**	**1.57**	**14**	P	**Pn**	**06 26 16.1**	**-0.2**
JANG	**Nango**	**1.69**	**234**	P	**Pn**	**06 26 16.7**	**-1.3**
JOT	**Ohata**	**1.70**	**271**	P	**Pn**	**06 26 17.7**	**-0.4**
JKB	**Kayabe**	**1.78**	**287**	P	**Pn**	**06 26 18.6**	**-0.6**
ASAJ	**Asahikawa**	**2.78**	**349**	Pn	**Pn**	**06 26 35.1**	**+2.0**
	8.3nm,0.3s,baz=178,slow=12,SNR=25						
ASAJ				Sn	**Sb**	**06 27 11.3**	**-2.0**
	4.9nm,0.3s,baz=180,slow=20,SNR=2.0						
MJAR	**Matsushiro Arr**	**6.25**	**221**	Pn	**Pn**	**06 27 20.3**	**-0.4**
	51nm,0.6s						
	0.1nm,0.3s,baz=30,slow=14,SNR=8.9						
MJAR				LR	LR	06 29 58.3	
	comp=Z,59nm,19.5s,baz=60,slow=40						
	2.7nm,0.6s						
USRK	**Ussuriysk Ar.**	**8.79**	**292**	LR	LR	06 31 21.6	
	comp=Z,136nm,18.9s,baz=49,slow=38						
KLR	**Kul'dur**	**11.29**	**318**	Pn	**Pn**	**06 28 31.9**	**+2.2**
	0.1nm,0.3s,baz=155,slow=19,SNR=1.8						
KLR				LR	LR	06 33 20.7	
	comp=Z,120nm,22.0s,baz=56,slow=40						
	0.9nm,0.7s						
KSRS	**Korea Array**	**12.52**	**257**	Pn	**Pn**	**06 28 47.2**	**+0.6**
	0.3nm,0.3s,baz=66,slow=12,SNR=1.8						
KSRS				LR	LR	06 33 21.1	
	comp=Z,72nm,18.9s,baz=80,slow=36						
	0.7nm,0.4s						
SONM	**Songino Array**	**26.87**	**296**	P	**P**	**06 31 29.0**	**+0.5**
	0.6nm,0.4s,baz=81,slow=7.7,SNR=4.9						
	0.6nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**29.46**	**130**	T	T	07 02 58.9	
	baz=323,slow=75,SNR=201						
H11N1	**WAKE ISLAND Hy**	**29.48**	**130**	T	T	07 03 03.7	
	baz=323,slow=75,SNR=219						
H11N3	**WAKE ISLAND Hy**	**29.48**	**130**	T	T	07 03 00.4	
	baz=323,slow=75,SNR=183						
H11S1	**WAKE ISLAND Hy**	**30.32**	**132**	T	T	07 04 02.3	
	baz=325,slow=76,SNR=228						
H11S3	**WAKE ISLAND Hy**	**30.33**	**132**	T	T	07 04 08.2	
	baz=325,slow=76,SNR=154						
H11S2	**WAKE ISLAND Hy**	**30.34**	**132**	T	T	07 03 59.3	
	baz=325,slow=76,SNR=151						
ZALV	**Zalesovo Beam**	**40.21**	**309**	P	**P**	**06 33 25.0**	**+1.1**
	0.6nm,0.4s,baz=93,slow=10.0,SNR=2.1						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**43.19**	**299**	P	**P**	**06 33 49.6**	**+1.1**
	0.9nm,0.8s,baz=77,slow=13,SNR=3.4						
	0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**44.12**	**252**	LR	LR	06 52 56.7	
	comp=Z,23nm,18.9s,baz=50,slow=37						
KURBB	**Kurchatov Arra**	**44.61**	**305**	P	**P**	**06 34 00.1**	**+0.4**
	1.5nm,0.7s,baz=77,slow=9.0,SNR=4.9						
	1.5nm,0.7s						
ILAR	**Eielson Array**	**45.06**	**35**	P	**P**	**06 34 03.0**	**-0.2**
	1.3nm,0.8s,baz=267,slow=7.0,SNR=12						
	1.3nm,0.8s						
BVAR	**Borovoye Array**	**48.83**	**310**	P	**P**	**06 34 33.5**	**+0.8**
	0.4nm,0.3s,baz=74,slow=5.8,SNR=1.8						
	0.4nm,0.3s						
ARTI	**Arti**	**54.24**	**317**	LR	LR	07 02 13.7	
	comp=Z,51nm,20.6s,baz=26,slow=40						
WRA	**Warramunga Arr**	**61.57**	**190**	P	**P**	**06 36 04.0**	**-0.9**
	0.8nm,0.5s,baz=6.0,slow=6.8,SNR=8.6						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**65.30**	**189**	P	**P**	**06 36 29.1**	**-0.5**
	0.8nm,0.8s,baz=10,slow=7.8,SNR=7.8						
	0.8nm,0.8s						
FINES	**FINESS Array B**	**65.66**	**332**	P	**P**	**06 36 31.6**	**+0.2**
	1.2nm,0.6s,baz=52,slow=9.0,SNR=4.6						
	1.2nm,0.6s						
NVAR	**Mina Array Bea**	**71.25**	**55**	P	**P**	**06 37 07.7**	**+0.6**
	0.6nm,0.7s,baz=294,slow=6.8,SNR=5.8						
	0.6nm,0.7s						
PDAR	**Pinedale Array**	**73.61**	**47**	P	**P**	**06 37 21.1**	**+0.1**
	0.9nm,0.6s,baz=300,slow=2.0,SNR=9.8						
	0.9nm,0.6s						
TXAR	**Lajitas Array**	**86.33**	**54**	P	**P**	**06 38 30.2**	**+0.3**
	0.7nm,0.7s,baz=289,slow=2.8,SNR=12						
	0.7nm,0.7s						
ESDC	**Sonseca Array**	**94.00**	**335**	LR	LR	07 26 35.4	
	comp=Z,78nm,19.3s,baz=260,slow=39						

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*IDC **28** 06:28:14.6±0.8, 30°.16N×87°.55E, h0km, mb3.9/14, mbtmp3.9/15, ML3.1/1, MS3.2/5, Error ellipse: s-maj=25.6km s-min=17.4km az=52.0*
*NEIC **28** 06:28:18.6±2.6, 30°.49N±0°.09×87°.84E±0°.08, h10km±1km, mb4.1/9, Error ellipse: s-maj=14.5km s-min=12.0km az=166.0*
ISC 28 06:28:17.5±0.6, 30°.26N±0°.10×87°.56E±0°.07, h10km, n40, σ1§63/37, mb4.0/18, MS3.1/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.17**	**99**	Pn	**Pn**	**06 29 05.8**	**-2.1**
LSA	**Lhasa**	**3.17**	**99**	P	**Pn**	**06 29 11.0**	**+3.2**
LSA				S	**Sb**	**06 29 54.3**	**+1.3**
LSA				LR	LR		
	comp=N,500nm,3.9s						
SHL	**Shillong**	**6.04**	**140**	Pn	**Pn**	**06 29 46.6**	**-0.5**
NIL	**Nilore**	**12.61**	**289**		**Pn**	**06 31 18.8**	**+1.8**
WUS	**Wushi**	**12.84**	**330**	Pn	**Pn**	**06 31 19.7**	**-0.5**
KSH	**Kashi**	**13.24**	**317**	P	Pn	06 31 32.8	+7.1
KSH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TARG	**Taragay, Kyrgy**	**13.89**	**328**		**Pn**	**06 31 36.9**	**+2.1**
CMAR	**Chiang Mai Arr**	**15.66**	**136**	Pn	**Pn**	**06 31 59.8**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=318,slow=13,SNR=13						
CMAR				LR	LR	06 38 39.0	
	comp=Z,23nm,19.6s,baz=330,slow=40						
AAK	**Ala-Archa**	**16.20**	**323**	Pn	**Pn**	**06 32 07.2**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=166,slow=4.2,SNR=2.4						
KBL	**Kabul**	**16.21**	**290**	Pn	**Pn**	**06 32 09.2**	**+3.6**
KBL				IAmb	IAmb	06 32 13.7	
	comp=Z,15nm,1.1s						
BTK	**Batken**	**16.80**	**310**	P	**Pn**	**06 32 15.0**	**+2.1**
MKAR	**Makanchi Array**	**17.01**	**348**	P	**Pn**	**06 32 15.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=163,slow=12,SNR=5.8						
	comp=Z,1.5nm,0.9s						
SIMJ	**Simiganj**	**17.42**	**304**	P	**Pn**	**06 32 23.2**	**+2.5**
KKAR	**Karatay Array**	**18.70**	**318**		**P**	**06 32 37.3**	**+1.3**
KKAR	**Karatay Array**	**18.70**	**318**	P	**P**	**06 32 37.0**	**+1.1**
KURBB	**Kurchatov Arra**	**21.44**	**344**	P	**P**	**06 33 05.0**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=160,slow=10,SNR=9.1						
	comp=Z,1.1nm,0.4s						
LYN	**LuoYang**	**21.45**	**72**	*eP*	**P**	**06 33 08.0**	**+2.1**
LYN				pmax	pmax		
	comp=Z,26nm,0.7s						
KURK	**Kurchatov**	**21.51**	**344**	P	**P**	**06 33 05.2**	**-1.2**
KURK				IAmb	IAmb	06 33 13.9	
	comp=Z,8.1nm,0.9s						
SONM	**Songino Array**	**22.75**	**34**	P	**P**	**06 33 19.6**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=226,slow=9.9,SNR=5.5						
	comp=Z,1.9nm,0.9s						
ZAA0	**Zalesovo Array**	**23.76**	**356**	P	**P**	**06 33 29.0**	**-0.9**
ZAA0				IAmb	IAmb	06 33 33.0	
	comp=Z,5.2nm,0.9s						
ZALV	**Zalesovo Beam**	**23.76**	**356**	P	**P**	**06 33 28.9**	**-1.0**
ZALV	**Zalesovo Beam**	**23.76**	**356**	P	**P**	**06 33 29.7**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=159,slow=9.1,SNR=11						
	comp=Z,2.4nm,0.7s						
BVAR	**Borovoye Array**	**25.98**	**336**	P	**P**	**06 33 49.7**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=140,slow=9.4,SNR=7.6						
	comp=Z,2.0nm,0.7s						
WSAR	**Wadi Sarin**	**26.71**	**262**	LR	LR	06 47 00.5	
	comp=Z,38nm,18.6s,baz=50,slow=42						
ABKAR	**Akbulak array**	**28.23**	**320**	P	**P**	**06 34 09.7**	**-0.8**
ABKAR				IAmb	IAmb	06 34 14.3	
	comp=Z,1.8nm,0.7s						
KSRS	**Korea Array**	**34.08**	**67**	LR	LR	06 49 50.6	
	comp=Z,23nm,19.6s,baz=10.0,slow=38						
KLR	**Kul'dur**	**38.25**	**48**	P	**P**	**06 35 36.7**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=281,slow=10,SNR=3.9						
	comp=Z,2.0nm,0.7s						
BRTR	**Keskin Array B**	**44.59**	**297**	P	**P**	**06 36 30.1**	**0.0**
	comp=Z,0.8nm,0.7s,baz=92,slow=8.9,SNR=3.1						
	comp=Z,0.8nm,0.7s						
AKASG	**Malin Array Be**	**47.48**	**313**	P	**P**	**06 36 51.1**	**-1.4**
	comp=Z,0.2nm,0.2s,baz=80,slow=7.3,SNR=5.2						
	comp=Z,0.2nm,0.2s						
FINES	**FINESS Array B**	**50.34**	**327**	P	**P**	**06 37 13.7**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=91,slow=7.0,SNR=2.5						
	comp=Z,1.7nm,0.6s						
ARCES	**ARCESS Array B**	**52.27**	**337**	P	**P**	**06 37 28.0**	**-0.7**
	comp=Z,4.4nm,0.8s,baz=108,slow=7.7,SNR=1.8						
	comp=Z,4.4nm,0.8s						
HFS	**Hagfors**	**56.33**	**325**	P	**P**	**06 37 57.0**	**-1.4**
	comp=Z,2.6nm,0.6s,baz=96,slow=12,SNR=5.4						
	comp=Z,2.6nm,0.6s						
NB2	**NORSAR Subarra**	**57.49**	**326**	P	**P**	**06 38 08.4**	**+1.8**
	comp=Z,0.8nm,0.6s,baz=85,slow=7.4						
NOA	**NORSAR Array B**	**57.49**	**326**	P	**P**	**06 38 05.2**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=86,slow=7.2,SNR=4.8						
NOA				LR	LR	07 04 51.7	
	comp=Z,26nm,21.4s,baz=250,slow=38						
	comp=Z,1.4nm,0.7s						
DAVOX	**Davos/Dischmat**	**60.59**	**310**	LR	LR	07 08 20.0	
	comp=Z,114nm,20.2s,baz=271,slow=40						
WRA	**Warramunga Arr**	**67.21**	**132**	P	**P**	**06 39 10.4**	**-1.7**
	comp=Z,0.8nm,0.9s,baz=325,slow=6.4,SNR=4.7						
	comp=Z,0.8nm,0.9s						
ASAR	**Alice Springs**	**69.67**	**135**	P	**P**	**06 39 25.9**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=324,slow=6.1,SNR=6.3						
	comp=Z,0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**79.97**	**279**	P	**P**	**06 40 26.3**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=46,slow=4.7,SNR=8.5						
	comp=Z,1.2nm,0.7s						
TXAR	**Lajitas Array**	**119.78**	**11**	PKP	**PKPdf**	**06 47 07.3**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=342,slow=0.3,SNR=4.3						
CPUP	**Villa Florida**	**148.91**	**268**	PKPbc	**PKPdf**	**06 48 04.2**	**+2.2**
	comp=Z,2.0nm,0.7s,baz=73,slow=3.7,SNR=5.5						

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*CATAC **28** 06:35:25.6±0.7, 13°.20N×81°.23W, h12km±2km, ML3.6*
*RSNC **28** 06:35:28.2±0.0, 13°N±5°×81°1W±°, h10km±10km, M2.8, ML2.8*
ISC 28 06:35:26.4±1.0, 13°.19N±0°.04×81°.24W±0°.04, h18km±7km, n14, σ1§46/22, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.23**	**327**	P	**Pg**	**06 35 31.6**	**-0.2**
PRVC				S	**Sg**	**06 35 34.9**	**-0.4**
PRVC	**Isla de Provid**	**0.23**	**327**	*i* P	**Pg**	**06 35 31.5**	**-0.2**
PRVC				*i* S	**Sg**	**06 35 35.2**	**-0.1**
PRVC				IAML		06 35 40.9	
	comp=Z,8μm,1.0s						
SAIC	**Isla e San And**	**0.80**	**216**	P	**Pg**	**06 35 41.0**	**-1.0**
SAIC				S	**Sb**	**06 35 53.2**	**+0.9**
SAIC	**Isla e San And**	**0.80**	**216**	*i* P	**Pg**	**06 35 41.2**	**-0.8**
SAIC				*i* S	**Sb**	**06 35 53.2**	**+0.9**
SAIC				IAML		06 36 01.3	
	comp=Z,650nm,1.0s						
RNCC	**Cayo Roncador,**	**1.18**	**71**	P	**Pn**	**06 35 48.3**	**+0.2**
RNCC				S	**Sg**	**06 36 08.0**	**+3.3**
SERC	**Banco Serrana,**	**1.38**	**38**	P	**Pg**	**06 35 53.6**	**+0.5**
SERC				S	**Sn**	**06 36 04.3**	**-4.5**
BILN	**Bilwi Airport**	**2.25**	**293**	*i* P	**Pn**	**06 36 02.9**	**+0.1**
BILN				*i* S	**Sn**	**06 36 30.2**	**0.0**
BILN				IAML		06 37 02.0	
	comp=Z,310nm,1.0s						
BLUN	**Bluefields**	**2.74**	**245**	*i* P	**Pn**	**06 36 09.6**	**0.0**
BLUN				IAML		06 36 23.4	
	comp=Z,85nm,1.0s						
ESPN	**Las Esperanzas**	**3.15**	**252**	*i* P	**Pn**	**06 36 15.5**	**+0.3**
ESPN				*i* S	**Sn**	**06 36 53.7**	**+1.3**
ESPN				IAML		06 37 24.1	
	comp=Z,220nm,1.0s						
TRT2	**Tortugero**	**3.58**	**223**	*i* P	**Pn**	**06 36 21.5**	**+0.3**
TRT2				IAML		06 36 46.6	
	comp=Z,74nm,1.0s						
BCIP	**Isla Barro Col**	**4.22**	**161**	*i* P	**Pn**	**06 36 29.3**	**-0.7**
BCIP				IAML		06 38 46.2	
	comp=Z,65nm,1.0s						
MORN	**Al O del Volca**	**4.61**	**250**	*i* P	**Pb**	**06 36 46.5**	**-0.4**
RCPN	**Sur Rio San Ju**	**4.74**	**275**	*i* P	**Pn**	**06 36 38.1**	**+0.9**
RCPN				IAML		06 37 33.9	
	comp=Z,0.7nm,1.0s						
RCVN	**Varillal2**	**4.84**	**275**	*i* P	**Pn**	**06 36 39.2**	**+0.6**
RCVN				IAML		06 36 44.1	
	comp=Z,2μm,1.0s						

KRSC 28 06:55:13.0±1.3, 55°.30N×164°.02E, h46km±26km, MI3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.12**	**94**	*eP*	Pn	06 55 33.2	+0.9
BKI				*eS*	Sn	06 55 47.4	+0.9
KBTR	**Krutoberegovo**	**1.14**	**324**	*eP*	Pn	06 55 32.1	-0.4
KBG	**Krutoberegovo**	**1.21**	**323**	*eP*	Pn	06 55 33.9	+0.4
KBG				*eS*	Sn	06 55 48.6	-0.1
SMKR	**Semkarok**	**1.93**	**313**	*eP*	Pn	06 55 45.0	+1.7
SMKR				*eS*	Sn	06 56 08.1	+1.7
ZLN	**Zelenaya**	**1.96**	**293**	*eP*	Pn	06 55 47.0	+3.2
BZGR	**Bezymyannyi-Gr**	**1.99**	**290**	*eP*	Pn	06 55 47.5	+3.3
CIRR	**Tsirk**	**2.02**	**295**	*eP*	Pn	06 55 48.3	+3.6
BZP	**Bezymyannyi-Pe**	**2.07**	**289**	*eP*	Pn	06 55 48.4	+3.0
BZMR	**Bezymyannaya**	**2.10**	**289**	*eP*	Pn	06 55 48.9	+3.1
SRKR	**Sorokina**	**2.10**	**312**	*eS*	Sn	06 56 16.2	+5.5
KRSR	**Krestovskiy**	**2.16**	**297**	*eP*	Pn	06 55 48.9	+2.3
KIRR	**Kirishev**	**2.19**	**289**	*eP*	Pn	06 55 50.3	+3.3
KMNR	**Kamenistaya**	**2.20**	**284**	*eP*	Pn	06 55 50.9	+3.8
TUMR	**Tumrok**	**2.21**	**271**	*eP*	Pn	06 55 50.8	+3.5
KOZ	**Kozyrevsk**	**2.47**	**290**	*eP*	Pn	06 55 54.6	+3.9
ESO	**Esso**	**3.08**	**284**	*eP*	Pn	06 56 01.6	+2.5
SPN	**Mys Shipunski**	**3.22**	**228**	*eS*	Sn	06 56 39.3	+1.3
NLC	**Nalytchevo**	**3.47**	**234**	*eS*	Sn	06 56 46.8	+2.6
SDLR	**Sedlovina**	**3.62**	**238**	*eP*	Pn	06 56 10.4	+3.7
SMAR	**Somma**	**3.67**	**238**	*eP*	Pn	06 56 11.1	+3.7
KRX	**Arik**	**3.69**	**241**	*eP*	Pn	06 56 11.8	+4.1
UGLR	**Uglovaya**	**3.69**	**238**	*eP*	Pn	06 56 11.5	+3.9
AVH	**Avacha**	**3.70**	**239**	*eP*	Pn	06 56 12.0	+4.2
KOK	**Koryaka**	**3.74**	**240**	*eP*	Pn	06 56 12.3	+4.1
PET	**Petropavlovsk**	**3.89**	**236**	*eS*	Sn	06 56 57.2	+2.7
KRMR	**Karymshinskiy**	**4.26**	**237**	*eS*	Sn	06 57 07.9	+4.3
MTVR	**Mutnovka**	**4.46**	**233**	*eP*	Pn	06 56 21.6	+3.5
GRL	**Gorelyy**	**4.46**	**234**	*eP*	Pn	06 56 22.2	+4.1
ASAK	**Asacha**	**4.65**	**234**	*eP*	Pn	06 56 25.6	+4.9
KDTR	**Khodutka, Kamc**	**4.97**	**228**	*eP*	Pn	06 56 28.1	+3.1

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*ISN **28** 07:07:05.8±0.8, 34°.36N×45°.68E, h8km±4km, ML3.2*
*TEH **28** 07:07:06.3, 34°.33N×45°.67E, h20km, ML3.2*
ISC 28 07:07:06.7±1.2, 34°.36N±0°.03×45°.67E±0°.04, h16km±14km, n20, σ1§43/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.16**	**336**	Pg	**Pb**	**07 07 11.7**	**+0.3**
GLG1	**Gilan-e-Gharb**	**0.32**	**141**	Pg	**Pb**	**07 07 13.7**	**-0.3**
IDHR	**Dehrash**	**0.68**	**60**	Pg	**Pn**	**07 07 21.1**	**-0.8**
IGHG	**Ghaleghazi**	**0.74**	**92**	Pg	**Pn**	**07 07 22.3**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.86**	**148**	Pg	**Pb**	**07 07 23.1**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.14**	**94**	Pg	**Pg**	**07 07 29.2**	**+0.5**
ILIN	**Lien**	**1.20**	**62**	Pg	**Pg**	**07 07 30.8**	**+0.8**
IBDR	**Badra**	**1.26**	**170**	*e*Pg	**Pg**	**07 07 30.5**	**-0.6**
IBDR				*e*Sg	**Sg**	**07 07 47.5**	**0.0**
IBDR				AML	AML	07 07 59.2	
	comp=N,323nm,0.5s						
IBDR				AML	AML	07 08 04.7	
	comp=E,272nm,0.3s						
IKRK	**Kirkuk**	**1.51**	**314**	*e*Pn	**Pg**	**07 07 35.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**07 07 56.5**	**+1.2**
IKRK				AML	AML	07 08 00.3	
	comp=E,680nm,0.6s						
IKRK				AML	AML	07 08 00.9	
	comp=N,372nm,0.3s						
SNQR	**Sonqor, Kerman**	**1.69**	**72**	Pg	**Pg**	**07 07 39.3**	**+0.1**
SDS1	**Sardasht. Az.**	**1.79**	**355**	Pn	**Pg**	**07 07 40.1**	**-1.1**
IBZA	**Bozab**	**1.81**	**86**	Pn	**Pb**	**07 07 39.6**	**-0.1**
IKFM	**Kafar-mosalman**	**1.99**	**114**	Pn	**Pb**	**07 07 42.6**	**+0.1**
IDOB	**Doab**	**2.16**	**105**	Pn	**Pb**	**07 07 44.8**	**-0.7**
HSAM	**Samen**	**2.43**	**93**	Pn	**Pb**	**07 07 48.2**	**-2.0**
RAFI	**Al-Rafai**	**2.66**	**172**	*e*Pn	**Pn**	**07 07 50.5**	**+1.7**
RAFI				*e*Sn	**Sb**	**07 08 24.0**	**-2.2**
RAFI				AML	AML	07 08 27.5	
	comp=E,164nm,0.5s						
RAFI				AML	AML	07 08 46.6	
	comp=N,264nm,0.6s						
BDRS	**Dareh Seyedi**	**2.69**	**98**	Pn	**Pb**	**07 07 52.1**	**-2.6**
HAGD	**Aghdareh**	**2.90**	**80**	Pn	**Pn**	**07 07 54.2**	**+1.8**
IKLH	**Kolahrood**	**5.03**	**100**	Pn	**Pn**	**07 08 24.5**	**+2.9**
IRAM	**Ramesheh**	**6.18**	**112**	Pn	**Pn**	**07 08 39.3**	**+1.8**

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*NEIC **28** 07:34:10.2±1.6, 19°.35N±0°.08×145°.7E±0°.1, h97

baz=275,slow=75,SNR=25
H11S2 WAKE ISLAND Hy 19.88 89 T T 07 59 23.4
baz=275,slow=75,SNR=16
H11N1 WAKE ISLAND Hy 19.96 85 T T 07 59 28.0
baz=273,slow=74,SNR=4.8
H11N2 WAKE ISLAND Hy 19.97 85 T T 07 59 33.3
baz=273,slow=74,SNR=6.4
H11N3 WAKE ISLAND Hy 19.98 85 T T 07 59 33.9
baz=273,slow=74,SNR=3.3
MANU Manus Island 21.31 175 P **P** **07 38 48.2 -1.6**
JTM Tenmabayashi 21.74 350 P **P** **07 38 53.4 -0.7**
DAV Davao City (W) 23.05 241 LR LR 07 46 49.5
comp=Z,12nm,21.1s,baz=132,slow=33
SSLB Suanglung 23.44 285 P **P** **07 39 11.7 +1.2**
SSLB IAmb IAmb 07 39 13.4
comp=Z,25nm,0.7s
KSRS Korea Array 23.81 323 P **P** **07 39 12.9 -0.9**
comp=Z,21nm,0.7s,baz=149,slow=9.0,SNR=71
comp=Z,21nm,0.7s
KSAR Wonju Array Be 23.83 323 P **P** **07 39 13.2 -0.7**
KS19 Wonju Array Si 23.88 323 P **P** **07 39 13.8 -0.6**
KS19 IAmb IAmb 07 39 15.3
comp=Z,25nm,0.7s
JKA Kamikawa-asahi 24.84 355 P **P** **07 39 23.9 +0.9**
JKA IAmb IAmb 07 39 29.6
comp=Z,44nm,1.2s
ASAJ Asahikawa 24.84 355 P **P** **07 39 23.5 +0.5**
comp=Z,13nm,0.8s,baz=198,slow=6.4,SNR=4.6
ASAJ LR LR 07 47 51.4
comp=Z,32nm,22.0s,baz=133,slow=33
comp=Z,13nm,0.8s
NJ2 Nanjing 27.23 303 *e*P **P** **07 39 45.5 +0.8**
NJ2 pmax pmax
comp=Z,11nm,0.5s
USRK Ussuriysk Ar. 27.32 338 P **P** **07 39 45.4 +0.1**
comp=Z,5.0nm,0.7s,baz=134,slow=8.3,SNR=5.5
comp=Z,5.0nm,0.7s
KLR Kul'dur 31.86 343 P **P** **07 40 25.1 -0.3**
comp=Z,13nm,0.6s,baz=160,slow=7.2,SNR=24
KLR PcP **PcP** **07 43 13.2 +0.7**
comp=Z,1.7nm,0.6s,baz=68,slow=3.2,SNR=3.1
comp=Z,13nm,0.6s
HNS HongShan 32.47 310 ⇓P **P** **07 40 31.0 +0.1**
HNS pmax pmax
comp=Z,7.0nm,0.6s
COEN Coen 33.18 185 P **P** **07 40 36.8 -0.4**
HEH HeiHe 34.12 339 *e*P **P** **07 40 44.5 -0.4**
HEH pmax pmax
comp=Z,15nm,0.7s
XLT XiLinHaoTe 34.84 321 *e*P **P** **07 40 50.5 -0.9**
XLT pP pP 07 41 04.8 -18
XLT sP pwP 07 41 18.5 -6.4
XLT pmax pmax
comp=Z,6.0nm,0.8s
PETK Petropavlovsk- 34.96 13 P **P** **07 40 52.5 +0.3**
comp=Z,7.8nm,0.9s,baz=224,slow=4.0,SNR=2.2
PETK LR LR 07 53 51.4
comp=Z,9.1nm,21.5s,baz=138,slow=34
comp=Z,7.8nm,0.9s
MTN Manton Dam 35.06 205 P **P** **07 40 53.6 +0.1**
HHC Hu-ho-hao-te 36.17 314 *e*P **P** **07 41 05.3 +2.5**
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,110nm,3.6s
SBUM Sibu 36.80 247 P **P** **07 41 09.9 +1.6**
SBUM IAmb IAmb 07 41 11.1
comp=Z,5.3nm,0.7s
KNRA Kununurra 38.59 207 P **P** **07 41 24.1 +0.9**
KNRA IAmb IAmb 07 41 24.6
comp=Z,8.9nm,0.7s
WB0 Warramunga Arr 40.42 197 P **P** **07 41 38.5 +0.1**
WR0 Warramunga Arr 40.57 196 P **P** **07 41 39.6 0.0**
WR0 IAmb IAmb 07 41 41.1
comp=Z,15nm,0.9s
WRAB Tennant Creek 40.59 197 P **P** **07 41 40.2 +0.4**
WB2 Warramunga Arr 40.60 197 P **P** **07 41 39.9 0.0**
WRA Warramunga Arr 40.60 197 P **P** **07 41 39.2 -0.7**
WRA Warramunga Arr 40.60 197 P **P** **07 41 39.8 -0.1**
comp=Z,9.7nm,0.6s,baz=15,slow=8.8,SNR=60
comp=Z,9.7nm,0.6s
PZH PanZhiHua 40.97 288 P **P** **07 41 44.0 +0.9**
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.7s
ULN Ulaanbaatar 42.28 321 P **P** **07 41 53.0 -0.5**
SONM Songino Array 42.66 321 P **P** **07 41 56.4 -0.1**
SONM Songino Array 42.66 321 P **P** **07 41 56.2 -0.3**
comp=Z,3.9nm,0.7s,baz=141,slow=9.5,SNR=29
SONM PcP **PcP** **07 43 46.0 +0.3**
comp=Z,0.7nm,0.5s,baz=123,slow=3.7,SNR=2.7
comp=Z,3.9nm,0.7s
YAK Yakutsk 44.09 349 LR LR 08 07 23.8
comp=Z,13nm,18.5s,baz=108,slow=45
CMAR Chiang Mai Arr 44.16 277 P **P** **07 42 08.0 -0.7**
comp=Z,4.5nm,0.3s,baz=64,slow=7.8,SNR=7.2
CMAR LR LR 08 01 06.2
comp=Z,6.5nm,19.1s,baz=45,slow=37
comp=Z,4.5nm,0.3s
AS31 Alice Springs 44.27 196 P **P** **07 42 10.0 +0.5**
ASAR Alice Springs 44.27 196 P **P** **07 42 09.9 +0.4**
ASAR Alice Springs 44.27 196 P **P** **07 42 09.4 -0.1**
comp=Z,1.2nm,0.4s,baz=14,slow=7.3,SNR=31
ASAR LR LR 08 00 51.9
comp=Z,21nm,18.7s,baz=80,slow=36
comp=Z,1.2nm,0.4s
DZM Mont Dzumac 45.88 153 *e*LR LR 07 55 23.6
comp=Z,79nm,24.3s
DZM Mont Dzumac 45.88 153 LR LR 07 58 43.2
comp=Z,44nm,20.0s,baz=42,slow=32
KULM Kulim 46.03 258 P **P** **07 42 26.0 +2.3**
MBWA Marble Bar 47.62 214 P **P** **07 42 36.7 +1.0**
MBWA IAmb IAmb 07 42 55.4
comp=Z,17nm,1.2s
GSI Gunungsitoli 50.40 255 P **P** **07 42 58.4 +1.2**
STKA Stephens Creek 51.08 185 P **P** **07 43 03.1 +1.3**
comp=Z,1.5nm,0.8s,baz=25,slow=18,SNR=3.6
comp=Z,1.5nm,0.8s
BBOO Buckleboo 52.67 190 P **P** **07 43 11.5 -2.1**
BBOO IAmb IAmb 07 43 33.9
comp=Z,11nm,1.2s
TIXI Tiksi 53.24 353 P **P** **07 43 17.0 -0.2**
TIXI IAmb IAmb 07 43 18.0
comp=Z,7.1nm,0.8s
J16K Anvik River 56.88 26 IAmb IAmb 07 43 46.1
comp=Z,8.6nm,0.8s
ZAA0 Zalesovo Array 57.52 322 IAmb IAmb 07 43 48.5
comp=Z,8.1nm,0.7s
ZALV Zalesovo Beam 57.52 322 P **P** **07 43 48.0 -0.1**
ZALV Zalesovo Beam 57.52 322 P **P** **07 43 47.8 -0.4**
comp=Z,8.6nm,0.7s,baz=107,slow=7.8,SNR=25
comp=Z,8.6nm,0.7s
K17K Iditarod 57.61 27 P **P** **07 43 50.2 +1.5**
H17K Granite Mounta 57.85 24 P **P** **07 43 51.4 +1.1**
H17K IAmb IAmb 07 43 52.7
comp=Z,9.7nm,1.0s
MK31 Makanchi Array 58.03 314 P **P** **07 43 52.0 0.0**
MKAR Makanchi Array 58.03 314 P **P** **07 43 52.1 +0.1**
comp=Z,4.1nm,0.7s,baz=92,slow=8.9,SNR=32
MKAR PcP **sP** **07 44 41.6 +0.2**
comp=Z,1.0nm,0.4s,baz=68,slow=4.1,SNR=9.6
comp=Z,4.1nm,0.7s
MAKZ Makanchi 58.25 314 P **P** **07 43 53.5 +0.1**
MAKZ IAmb IAmb 07 43 54.5
comp=Z,6.6nm,0.8s
KDAK Kodiak Island 58.81 33 LR LR 08 08 24.5
comp=Z,32nm,19.6s,baz=14,slow=35
J19K Poorman 59.20 26 P **P** **07 44 00.6 +0.9**
J19K IAmb IAmb 07 44 02.0
comp=Z,8.8nm,0.9s
G19K Purcell Mounta 59.41 23 IAmb IAmb 07 44 03.2
comp=Z,6.5nm,0.8s
J20K Nowinta River 59.87 26 IAmb IAmb 07 44 06.6
comp=Z,7.9nm,0.8s
CAST Castle Rocks 60.52 27 P **P** **07 44 10.0 +1.3**
SUA Susitna One 60.60 30 P **P** **07 44 09.6 +0.2**
KURK Kurchatov 60.81 318 P **P** **07 44 10.8 0.0**
KURBB Kurchatov Arra 60.86 318 P **P** **07 44 10.9 -0.2**
comp=Z,15nm,0.6s,baz=94,slow=7.6,SNR=121
comp=Z,15nm,0.6s
NRIK Noril'sk 61.02 340 P **P** **07 44 11.6 -0.3**
NRIK Noril'sk 61.02 340 P **P** **07 44 12.0 +0.1**
comp=Z,11nm,0.5s,baz=108,slow=9.6,SNR=31
comp=Z,11nm,0.5s
MLY Manley 61.53 26 P **P** **07 44 16.7 +1.1**
MLY IAmb IAmb 07 44 17.7
comp=Z,8.1nm,1.1s
D22K Ayikyak River 61.99 21 IAmb IAmb 07 44 24.3
comp=Z,8.1nm,0.9s
E22K Anaktuvuk Pass 62.05 22 IAmb IAmb 07 44 21.0
comp=Z,5.7nm,0.8s
NEA2 Nenana 62.11 26 IAmb IAmb 07 44 22.3
comp=Z,6.7nm,0.8s
KSH Kashi 62.51 305 P **P** **07 44 25.0 +2.3**
D23K Nanushuk River 62.70 21 IAmb IAmb 07 44 26.2
comp=Z,20nm,1.5s
E23K Chandalar 62.81 22 IAmb IAmb 07 44 27.7
comp=Z,6.2nm,0.7s
TOLK Toolik Lake Re 62.99 22 IAmb IAmb 07 44 27.3
comp=Z,5.7nm,0.6s
C23K Itkillik River 63.00 20 IAmb IAmb 07 44 28.4
comp=Z,15nm,1.2s
IL31 63.06 26 IAmb IAmb 07 44 26.2
comp=Z,6.1nm,0.9s
ILAR Eielson Array 63.06 26 P **P** **07 44 25.2 -0.5**
comp=Z,3.8nm,0.8s,baz=255,slow=5.1,SNR=35
comp=Z,3.8nm,0.8s
AAK Ala-Archa 63.48 309 P **P** **07 44 28.8 -0.2**
FYU Fort Yukon 64.10 25 IAmb IAmb 07 44 34.5
comp=Z,9.3nm,0.8s
SCRK Sand Creek 64.16 27 P **P** **07 44 33.3 +0.3**
J26L Joseph Creek 64.42 27 IAmb IAmb 07 44 36.2
comp=Z,8.5nm,0.8s
F26K Sheenjek River 64.74 23 IAmb IAmb 07 44 40.3
comp=Z,5.6nm,0.8s
E27K Coleen River 65.77 23 IAmb IAmb 07 45 16.5
comp=Z,10nm,1.4s
BVAR Borovoye Array 65.99 320 P **P** **07 44 44.9 -0.1**
comp=Z,16nm,0.7s,baz=93,slow=7.8,SNR=71
comp=Z,16nm,0.7s
BRVK Borovoye 66.06 320 P **P** **07 44 45.4 +0.1**
BRVK IAmb IAmb 07 44 46.2
comp=Z,10nm,0.8s
I28M Miner Creek 66.07 26 IAmb IAmb 07 44 50.3
comp=Z,8.3nm,1.1s
DAWY Dawson 66.18 28 IAmb IAmb 07 44 48.2
comp=Z,11nm,1.5s
KKAR Karatay Array 66.37 309 P **P** **07 44 47.6 0.0**
KKAR Karatay Array 66.37 309 IAmb IAmb 07 44 48.3
comp=Z,4.4nm,0.7s
E28M Babbage River 66.58 23 IAmb IAmb 07 44 51.3
comp=Z,8.4nm,1.2s
L29M L29M 66.67 29 IAmb IAmb 07 44 52.0
comp=Z,8.4nm,0.8s
G29M Pine Creek 66.98 25 IAmb IAmb 07 45 05.5
comp=Z,12nm,1.4s
EPYK Eagle Plains 67.46 25 IAmb IAmb 07 44 55.7
comp=Z,4.9nm,0.5s
SIMJ Simiganj 67.99 305 P **P** **07 44 57.5 -0.5**
H31M Peel River 68.41 26 IAmb IAmb 07 45 03.5
comp=Z,20nm,1.4s
A36M Sachs Harbour 71.47 19 IAmb IAmb 07 45 20.4
comp=Z,7.2nm,0.7s
C36M Paulatuk 72.15 22 IAmb IAmb 07 45 24.0
comp=Z,9.2nm,0.6s
ARTI Arti 72.66 324 LR LR 08 19 53.4
comp=Z,25nm,18.7s,baz=18,slow=38
ABKAR Abkulak array 72.88 317 P **P** **07 45 27.0 -0.3**
ABKAR Abkulak array 72.88 317 IAmb IAmb 07 45 27.6
comp=Z,10nm,0.6s
WRGLY Wrigley 73.30 28 IAmb IAmb 07 45 32.5
comp=Z,11nm,0.9s
PPT2 Papeete2 73.39 116 *e*LR LR 08 07 54.5
comp=Z,51nm,24.8s
YKA Yellowknife Ar 77.42 28 P **P** **07 45 53.3 +0.3**
comp=Z,7.7nm,0.7s,baz=292,slow=5.8,SNR=31
comp=Z,7.7nm,0.7s
SPITS Spitsbergen Ar 78.54 351 P **P** **07 45 59.8 +0.8**
comp=Z,27nm,1.2s,baz=46,slow=8.3,SNR=1.9
comp=Z,27nm,1.2s
RES Resolute Bay 78.80 14 IAmb IAmb 07 46 02.2
comp=Z,8.6nm,0.7s
J05D Fort Rock, OR 79.15 48 IAmb IAmb 07 46 05.6
comp=Z,8.3nm,0.7s
PINE Pine Mountain 79.21 47 IAmb IAmb 07 46 06.6
comp=Z,14nm,0.8s
E09A Wood Farm, Sta 80.31 44 IAmb IAmb 07 46 11.7
comp=Z,12nm,0.9s
NEW Newport 80.43 42 IAmb IAmb 07 46 12.6
comp=Z,11nm,1.2s
J08A Circle Bar Ran 81.05 47 IAmb IAmb 07 46 15.9
comp=Z,10nm,1.1s
CMB Columbia Colle 81.30 53 IAmb IAmb 07 46 17.1
comp=Z,6.7nm,0.8s
BMO Blue Mountains 81.38 46 IAmb IAmb 07 46 17.4
comp=Z,9.6nm,1.2s
PNTR Pine Nut 81.56 52 IAmb IAmb 07 46 19.0
comp=Z,13nm,0.8s
ARCES ARCESS Array B 81.89 342 P **P** **07 46 17.4 +0.3**
comp=Z,5.7nm,0.6s,baz=68,slow=8.3,SNR=38
comp=Z,5.7nm,0.6s
LHV Little Huntoon 82.64 52 IAmb IAmb 07 46 24.7
comp=Z,13nm,1.0s
KVN Kaiserville 82.68 51 IAmb IAmb 07 46 24.5
comp=Z,9.3nm,0.9s
NVAR Mina Array Bea 82.73 52 P **P** **07 46 23.8 +1.4**
NVAR Mina Array Bea 82.73 52 P **P** **07 46 24.1 +1.8**
comp=Z,12nm,0.7s,baz=264,slow=6.1,SNR=93
comp=Z,12nm,0.7s
NV11 Mina Array Sit 82.84 52 IAmb IAmb 07 46 25.4
comp=Z,9.1nm,0.8s
MFID Camas Ranch 82.86 47 IAmb IAmb 07 46 25.4
comp=Z,9.2nm,0.9s
DSP Deep Springs 83.32 53 IAmb IAmb 07 46 28.1
comp=Z,12nm,1.3s
GMN Gold Mountain 83.88 53 IAmb IAmb 07 46 30.6
comp=Z,8.0nm,0.6s
ELK Elko 84.19 49 IAmb IAmb 07 46 32.3
comp=Z,10nm,0.9s
WCT Wildcat Mounta 84.53 53 IAmb IAmb 07 46 33.7
comp=Z,9.5nm,0.7s
GWY Greenwater Val 84.70 54 IAmb IAmb 07 46 34.5
comp=Z,4.9nm,0.7s
S11A Rachel 84.89 52 IAmb IAmb 07 46 36.3
comp=Z,8.8nm,0.9s
Q12A Willow Creek R 85.08 50 IAmb IAmb 07 46 41.3
comp=Z,6.1nm,0.9s
SPR3 Spring Creek 3 85.46 50 IAmb IAmb 07 46 39.1
comp=Z,7.3nm,1.1s
PRN Pahroc Range 85.50 52 IAmb IAmb 07 46 38.9
comp=Z,8.3nm,1.0s
KBZ Khabaz 85.70 315 P **P** **07 46 36.6 -0.3**
comp=Z,1.8nm,0.7s,baz=90,slow=7.1,SNR=4.2
comp=Z,1.8nm,0.7s
PSUT Pine Spring 85.97 51 IAmb IAmb 07 46 41.0
comp=Z,9.9nm,1.0s
FXWY Fox Creek 86.03 45 IAmb IAmb 07 46 41.7
comp=Z,6.1nm,0.9s
H17A Grant Village 86.04 44 IAmb IAmb 07 46 43.8
comp=Z,8.0nm,0.9s
TPAW Teton Pass 86.14 45 IAmb IAmb 07 46 41.8
comp=Z,4.1nm,0.7s
MOOW Moose Ponds 86.18 45 IAmb IAmb 07 46 42.3
comp=Z,7.0nm,0.8s
V12A Nelson 86.25 54 IAmb IAmb 07 46 42.5
comp=Z,8.4nm,0.8s
FINES FINESS Array B 86.31 335 P **P** **07 46 38.3 -1.2**
comp=Z,4.2nm,0.5s,baz=72,slow=5.2,SNR=32
comp=Z,4.2nm,0.5s
AHID Auburn Hatcher 86.32 46 IAmb IAmb 07 46 42.6
comp=Z,8.7nm,0.8s
FFC Flin Flon 86.54 33 P **P** **07 46 41.9 +1.1**
RLMT Red Lodge 86.60 43 IAmb IAmb 07 46 44.7
comp=Z,6.9nm,0.7s
CTU Camp Tracy 86.67 48 IAmb IAmb 07 46 44.2
comp=Z,7.8nm,0.8s
CCUT Cedar City 86.70 51 IAmb IAmb 07 46 45.0
comp=Z,5.2nm,0.9s
SZCU Shurtz Canyon 86.88 51 IAmb IAmb 07 46 45.2
comp=Z,5.3nm,0.8s
LCMT Little Creek M 86.98 52 IAmb IAmb 07 46 46.4
comp=Z,5.5nm,1.0s
W13A Hualapai Mount 87.21 54 IAmb IAmb 07 46 47.2
comp=Z,5.8nm,0.8s
PDAR Pinedale Array 87.36 45 P **P** **07 46 46.2 +0.9**
comp=Z,1.2nm,0.5s,baz=159,slow=1.3,SNR=27
comp=Z,1.2nm,0.5s
TMUT Trail Mountain 87.60 49 IAmb IAmb 07 46 49.1
comp=Z,5.7nm,0.8s
Q16A Castle Valley 87.77 49 IAmb IAmb 07 46 50.1
comp=Z,7.9nm,0.8s
U15A North Rim 87.91 52 IAmb IAmb 07 46 50.9
comp=Z,8.8nm,1.0s
P18A Preston Nutter 88.15 49 IAmb IAmb 07 46 51.5
comp=Z,5.2nm,0.8s
SRU San Rafael Swe 88.16 49 IAmb IAmb 07 46 51.3
comp=Z,9.1nm,0.8s
RDMU Red Mountain 88.25 47 IAmb IAmb 07 46 51.9
comp=Z,7.7nm,0.9s
X16A Lo Mia Camp, P 89.33 54 IAmb IAmb 07 46 57.8
comp=Z,7.1nm,1.4s
O20A White River Ci 89.35 47 IAmb IAmb 07 46 56.8
comp=Z,5.1nm,0.9s
MNK Minsk 89.41 329 *i* P **P** **07 46 54.0 -0.3**
comp=E,13nm,0.7s
MNK *i* P **P** **07 46 54.0 -0.3**
comp=N,17nm,1.0s
MNK *i* P **P** **07 46 54.0 -0.3**
comp=Z,10.0nm,0.6s,baz=57
MNK *i* pP pP 07 47 20.4 -11
MNK *i* PP **PP** **07 50 26.3 -0.6**
MNK *i* PPP PPP 07 52 23.3
MNK *i* S **SKSac** **07 57 14.3 +3.6**
MNK *i* sS pS 07 58 02.0 -16
MNK *i* SS **SS** **08 03 34.8 +5.3**
MNK *i* SSS SSS 08 07 08.0
MNK *i* LQ LQ 08 20 48.2
MNK *i* LR LR 08 26 28.8
MNK *i* LRM MLR 08 27 14.3
comp=E,100nm,18.1s
MNK *i* LRM MLR 08 27 29.8
comp=Z,67nm,16.1s
MNK *i* LRM MLR 08 28 11.5
comp=N,132nm,17.4s
RSSD Black Hills 90.40 43 P **P** **07 47 00.4 +0.9**
RSSD IAmb IAmb 07 47 01.9
comp=Z,8.3nm,1.4s
TUC Tucson 90.66 55 P **P** **07 47 02.2 +1.4**
TUC IAmb IAmb 07 47 04.0
comp=Z,4.4nm,1.1s
AKASG Malin Array Be 90.79 325 P **P** **07 46 59.1 -1.8**
comp=Z,0.2nm,0.3s,baz=53,slow=4.5,SNR=2.2
comp=Z,0.2nm,0.3s
S22A 4UR Ranch, Cre 91.36 49 IAmb IAmb 07 47 06.8
comp=Z,5.2nm,1.0s
HFS Hagfors 91.80 338 P **P** **07 47 03.8 -1.5**
comp=Z,1.2nm,0.6s,baz=85,slow=4.9,SNR=1.7
comp=Z,1.2nm,0.6s
NOA NORSAR Array B 91.98 340 P **P** **07 47 05.2 -1.1**
comp=Z,0.3nm,0.4s,baz=53,slow=6.5,SNR=1.7
NOA LR LR 08 30 45.3
comp=Z,9.1nm,18.8s,baz=280,slow=37
comp=Z,0.3nm,0.4s
ULM Lac du Bonnet 92.06 34 P **P** **07 47 06.8 0.0**
comp=Z,2.9nm,0.9s,baz=284,slow=4.4,SNR=5.1
comp=Z,2.9nm,0.9s
ANMO Albuquerque 92.85 52 P **P** **07 47 11.7 +0.6**
ANMO IAmb IAmb 07 47 13.9
comp=Z,4.5nm,1.1s
TXAR Lajitas Array 97.46 56 P **P** **07 47 32.5 +0.5**
comp=Z,0.2nm,0.6s,baz=289,slow=2.8,SNR=2.3
comp=Z,0.2nm,0.6s
TORD Torodi Ar. Bea 132.06 310 PKP **PKPdf** **07 53 11.3 -0.2**
comp=Z,0.3nm,0.4s,baz=19,slow=1.7,SNR=4.6
LPAZ La Paz 147.66 90 PKPbc **PKPdf** **07 53 41.5 +1.2**
comp=Z,2.6nm,0.6s,baz=348,slow=2.2,SNR=10

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*HVO **28** 07:37:37.0±0.5, 19°.30N±0°.01×155°.21W±0°.01, h8km±2km, ML2.9/45, ML2.9/40(NEIC), Error ellipse: s-maj=2.0km s-min=1.3km az=152.0*

NEIC 28 07:37:36.8±0.4, 19°.28N±0°.03×155°.21W±0°.01, h10km±1km, Error ellipse: s-maj=4.9km s-min=2.2km az=344.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.09**	**280**		Pg	07 37 39.8	+0.5
HLP					Sg	07 37 42.1	+1.0
HLP	**Hilina Pali**	**0.09**	**280**	IAML		07 37 42.4	
HLP	comp=N,30μm,0.2s			IAML		07 37 42.4	
HLP	comp=E,31μm,0.2s			IAML		07 37 42.4	
PUH	**Pauahi**	**0.09**	**359**	Pg	Pg	07 37 39.3	-0.1
PUH				IAML		07 37 41.3	
	comp=E,6μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.11**	**23**		Pg	07 37 39.5	-0.1
KKO	**Keanakako'i**	**0.13**	**337**		Pg	07 37 39.9	0.0
KKO					Sg	07 37 42.4	+0.3
RIM	**Rim**	**0.13**	**334**		Pg	07 37 39.9	0.0
RIM					Sg	07 37 42.5	+0.4
SDHHI	**Sand Hill**	**0.13**	**325**		Pg	07 37 39.9	0.0
SDHHI					Sg	07 37 42.3	0.0
STCH	**Steam Cracks**	**0.13**	**39**		Pg	07 37 39.9	-0.1
STCH					Sg	07 37 42.3	0.0
STCH	**Steam Cracks**	**0.13**	**39**	IAML		07 37 42.6	
STCH	comp=E,2μm,0.5s			IAML		07 37 42.7	
	comp=N,2μm,0.2s						
BYL	**Byron's Ledge**	**0.14**	**342**		Pg	07 37 40.0	-0.1
BYL					Sg	07 37 42.3	0.0
BYL	**Byron's Ledge**	**0.14**	**342**	IAML		07 37 42.6	
BYL	comp=N,5μm,0.6s			IAML		07 37 44.0	
	comp=E,3μm,0.5s						
HATHI	**Halema'uma'u T**	**0.15**	**343**		Pg	07 37 40.1	-0.1
HATHI					Sg	07 37 42.6	0.0
HATHI	**Halema'uma'u T**	**0.15**	**343**	IAML		07 37 43.0	
HATHI	comp=N,3μm,0.2s			IAML		07 37 43.1	
	comp=E,4μm,0.5s						
JCUZ	**Jacuzzi**	**0.15**	**46**		Pg	07 37 40.4	+0.2
JCUZ					Sg	07 37 42.8	+0.2
NPOC	**North of Pu'u**	**0.15**	**41**		Pg	07 37 40.2	0.0
NPOC					Sg	07 37 43.0	+0.4
WRMHI	**West Rim**	**0.15**	**327**		Pg	07 37 40.2	-0.1
WRMHI					Sg	07 37 43.0	+0.3
OBL	**Observatory Le**	**0.15**	**334**		Pg	07 37 40.3	0.0
SBLHI	**Steaming Bluff**	**0.15**	**341**		Pg	07 37 40.2	-0.1
SBLHI					Sg	07 37 42.8	0.0
UWB	**Uwekahuna Bluf**	**0.15**	**337**		Pg	07 37 40.2	-0.1
UWB					Sg	07 37 42.8	0.0
UWE	**Uwekahuna**	**0.16**	**332**		Pg	07 37 40.4	0.0
UWE					Sg	07 37 43.3	+0.4
UWE	**Uwekahuna**	**0.16**	**332**	IAML		07 37 43.7	
UWE	comp=E,4μm,0.6s			IAML		07 37 45.4	
	comp=N,2μm,0.5s						
HTC	**Hot Caves**	**0.18**	**256**		Pg	07 37 41.5	+0.9
RSD	**Rainshed**	**0.19**	**342**		Pg	07 37 40.7	-0.2
RSD					Sg	07 37 43.8	0.0
RSD	**Rainshed**	**0.19**	**342**	IAML		07 37 44.0	
RSD	comp=E,656nm,0.8s			IAML		07 37 44.3	
	comp=N,1μm,0.8s						
JOKA	**Jonika Flow**	**0.25**	**52**		Pg	07 37 41.7	-0.2
JOKA					Sg	07 37 46.6	+1.3
JOKA	**Jonika Flow**	**0.25**	**52**	IAML		07 37 49.4	
JOKA	comp=N,1μm,0.2s			IAML		07 37 49.8	
	comp=E,948nm,0.3s						
MLH	**Mauna Loa**	**0.27**	**323**		Pg	07 37 42.3	0.0
MLH	**Mauna Loa**	**0.27**	**323**	IAML		07 37 48.5	
MLH	comp=E,1μm,0.3s			IAML		07 37 48.5	
	comp=N,2μm,0.3s						
KHU	**Kahuku**	**0.38**	**265**		Pg	07 37 44.5	+0.1
KHU					Sg	07 37 50.4	+0.9
KHU	**Kahuku**	**0.38**	**265**	IAML		07 37 50.8	
KHU	comp=E,1μm,0.6s			IAML		07 37 57.3	
	comp=N,1μm,0.5s						
HMH	**Humu'ula Sheep**	**0.41**	**322**		Pg	07 37 44.7	-0.3
HMH					Sg	07 37 51.3	+0.9
HMH	**Humu'ula Sheep**	**0.41**	**322**	IAML		07 37 52.4	
HMH	comp=N,4μm,0.2s			IAML		07 37 52.7	
	comp=E,3μm,0.3s						
MWH	**Mokuaweoweo**	**0.41**	**299**		Pg	07 37 45.0	-0.1
MWH					Sg	07 37 50.5	-0.2
MWH	**Mokuaweoweo**	**0.41**	**299**	IAML		07 37 53.9	
MWH	comp=N,2μm,0.3s			IAML		07 37 53.9	
	comp=E,3μm,0.7s						
ALEP	**Alea Permanent**	**0.48**	**303**		Pg	07 37 45.8	-0.5
ALEP					Sg	07 37 53.1	+0.4
POHA	**Pohakuloa**	**0.56**	**328**		Pg	07 37 47.0	-0.8
POHA					Sg	07 37 54.6	-0.6
POHA	**Pohakuloa**	**0.56**	**328**	IAML		07 37 55.8	
	comp=E,2μm,0.5s						

POHA IAML 07 37 56.2
comp=E,1μm,0.4s
CPH Captain Cook 0.70 287 Pg 07 37 49.3 -1.0
HPAH Hawaii Prepara 0.87 329 Pg 07 37 51.2 -2.5
MHA Mahukona 1.11 324 Pg Pb 07 37 54.7 -3.4

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*NNC **28** 07:51:37.5±11.0, 53.66N×90.97E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=95.4km s-min=78.9km az=7.0, Suspected Mining explosion.*
*IDC **28** 07:51:42.0±4.6, 53.53N×90.58E, h0km, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=47.9km s-min=26.0km az=51.0*
ISC 28 07:51:37.2±4.3, 53.8N±0.2×91.0E±0.2, h0km, n8, σ1§66/8, 5C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.68**	**275**	⇓Pg	**Pb**	**07 52 40.9**	**-2.1**
	1.7nm,0.6s						
ZAA0				⇑Lg	Lg	07 53 33.6	
	8.8nm,0.8s						
ZALV	**Zalesovo Beam**	**3.68**	**275**	Pn	**Pn**	**07 52 36.9**	**+1.7**
	2.6nm,0.6s,baz=94,slow=13,SNR=3.7						
ZALV				Lg	Lg	07 53 31.1	
	4.8nm,0.3s,baz=96,slow=26,SNR=11						
KURK	**Kurchatov**	**8.22**	**253**	⇑Pn	**Pn**	**07 53 38.5**	**+0.9**
	1.0nm,0.5s						
KURK				⇓Sn	**Sn**	**07 55 12.7**	**+1.7**
	4.8nm,0.7s						
KURK				⇓Lg	Lg	07 55 55.7	
	32nm,1.0s						
KURBB	**Kurchatov Arra**	**8.31**	**252**	⇑Pn	**Pn**	**07 53 40.4**	**+1.6**
	3.7nm,0.5s,baz=64,slow=15						
KURBB				⇑Sn	**Sn**	**07 55 12.7**	**-0.6**
	12nm,0.6s						
KURBB				⇑Lg	Lg	07 56 01.3	
	50nm,1.0s,baz=72,slow=31						
KURBB	**Kurchatov Arra**	**8.31**	**252**	Pn	**Pn**	**07 53 39.0**	**+0.2**
	0.3nm,0.3s,baz=67,slow=15,SNR=14						
	2.2nm,0.5s						
MKAR	**Makanchi Array**	**8.97**	**222**	Pn	**Pn**	**07 53 48.4**	**+0.4**
	0.3nm,0.3s,baz=36,slow=13,SNR=14						
MKAR				Lg	Lg	07 56 14.3	
	0.1nm,0.3s,baz=40,slow=30,SNR=6.8						
	1.0nm,0.5s						
SONM	**Songino Array**	**11.40**	**115**	Lg	Lg	07 57 34.9	
	0.4nm,0.3s,baz=301,slow=24,SNR=11						
I34MN	**SONGINO INFRAS**	**11.43**	**116**	I	I	08 55 10.0	
	baz=310,slow=324,SNR=2.1						

IDC 28 07:57:49.6±1.8, 7.11S×154.88E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=62.1km s-min=28.3km az=120.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.66**	**235**	P	P	08 03 02.6	-0.4
	1.8nm,0.8s,baz=62,slow=9.8,SNR=6.4						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**26.01**	**228**	P	P	08 03 23.7	-0.9
	0.5nm,0.7s,baz=57,slow=8.9,SNR=6.4						
	0.5nm,0.7s						
STKA	**Stephens Creek**	**27.59**	**205**	P	P	08 03 39.8	+1.1
	1.0nm,0.6s,baz=37,slow=16,SNR=3.6						
	1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**60.73**	**296**	P	P	08 08 04.2	+0.6
	3.0nm,0.3s,baz=89,slow=5.5,SNR=2.0						
	3.0nm,0.3s						
ILAR	**Eielson Array**	**83.52**	**22**	P	P	08 10 18.9	-0.3
	0.2nm,0.5s,baz=238,slow=5.2,SNR=4.6						
	0.2nm,0.5s						

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*IDC **28** 07:58:50.8±1.1, 41.36N×143.30E, h0km, mb3.6/8, mbtmp3.5/10, ML3.0/2, MS2.5/1, Error ellipse: s-maj=31.7km s-min=21.2km az=91.0*
*JMA **28** 07:58:55.7±0.2, 41.4N±0.8×143.3E±0.7, h20km±2km, MV3.3/27, E OFF AOMORI PREF*
ISC 28 07:58:55.2±0.9, 41.38N±0.06×143.22E±0.08, h30km, n26, σ1§13/21, mb3.7/8, 5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.63**	**356**	⇓P	**Pb**	**07 59 07.0**	**-0.8**
JEM				⇓*e*S	**Sb**	**07 59 15.4**	**-1.0**
JTHR	**Tokachihiroo**	**0.91**	**4**	⇓P	**Pn**	**07 59 11.7**	**-0.2**
JNBK	**Urakawa-nobuka**	**0.96**	**339**	⇓P	**Pn**	**07 59 13.0**	**+0.3**
JSHD	**Hidakashinhida**	**1.17**	**331**	P	**Pb**	**07 59 16.9**	**+0.1**
JCH	**Churui**	**1.23**	**5**	⇓*i*P	**Pn**	**07 59 17.5**	**+1.1**
JARK	**Aomorirokkasho**	**1.45**	**256**	*e*S	**Sb**	**07 59 39.8**	**+0.2**
JBT2	**Biratori 2**	**1.53**	**336**	P	**Pn**	**07 59 22.0**	**+1.5**
JOB	**Onbets**	**1.59**	**16**	P	**Pn**	**07 59 22.3**	**+1.1**
JKB	**Kayabe**	**1.72**	**288**	*e*P	**Pb**	**07 59 25.5**	**-0.6**
ASAJ	**Asahikawa**	**2.77**	**351**	Pn	**Pn**	**07 59 38.4**	**+0.8**
	4.6nm,0.3s,baz=212,slow=11,SNR=23						
ASAJ				Sn	**Sb**	**08 00 15.4**	**-2.0**
	2.9nm,0.3s,baz=163,slow=28,SNR=1.6						
	13nm,0.3s						
MJAR	**Matsushiro Arr**	**6.21**	**221**	Pn	**Pn**	**08 00 24.1**	**-0.8**
	baz=351,slow=14,SNR=2.7						
	0.8nm,0.5s						
KSRS	**Korea Array**	**12.46**	**257**	LR	LR	08 06 26.2	
	comp=Z,19nm,18.9s,baz=40,slow=36						
H11N2	**WAKE ISLAND Hy**	**29.51**	**130**	T	T	08 36 06.8	
	baz=323,slow=75,SNR=29						
H11N1	**WAKE ISLAND Hy**	**29.52**	**130**	T	T	08 36 13.7	
	baz=323,slow=75,SNR=26						
H11N3	**WAKE ISLAND Hy**	**29.53**	**130**	T	T	08 36 10.1	
	baz=323,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**30.37**	**132**	T	T	08 37 07.1	
	baz=325,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**30.38**	**132**	T	T	08 37 15.0	
	baz=325,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**30.39**	**132**	T	T	08 37 16.1	
	baz=325,slow=76,SNR=16						
ZALV	**Zalesovo Beam**	**40.16**	**309**	P	**P**	**08 06 28.4**	**+0.2**
	0.6nm,0.3s,baz=107,slow=5.0,SNR=0.9						
	0.6nm,0.3s						
KURBB	**Kurchatov Arra**	**44.55**	**305**	P	**P**	**08 07 06.3**	**+2.2**
	0.8nm,0.5s,baz=77,slow=8.7,SNR=3.7						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**45.10**	**35**	P	**P**	**08 07 07.0**	**-1.2**
	0.2nm,0.8s,baz=254,slow=6.5,SNR=1.5						
	0.2nm,0.8s						
BVAR	**Borovoye Array**	**48.78**	**310**	P	**P**	**08 07 35.6**	**-1.4**
	0.3nm,0.3s,baz=82,slow=9.5,SNR=2.6						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**61.57**	**190**	P	**P**	**08 09 09.5**	**-0.1**
	0.2nm,0.5s,baz=7.6,slow=6.7,SNR=2.1						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**65.29**	**189**	P	**P**	**08 09 34.6**	**+0.4**
	0.2nm,0.7s,baz=8.8,slow=6.7,SNR=2.0						
	0.2nm,0.7s						
FINES	**FINESS Array B**	**65.63**	**332**	P	**P**	**08 09 36.0**	**0.0**
	1.5nm,0.8s,baz=51,slow=9.1,SNR=1.5						
	1.5nm,0.8s						
TXAR	**Lajitas Array**	**86.38**	**54**	P	**P**	**08 11 36.2**	**+1.4**
	0.4nm,0.9s,baz=287,slow=4.2,SNR=3.5						
	0.4nm,0.9s						

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*IDC **28** 08:34:55.7±1.6, 6.45S×103.94E, h0km, mb4.0/11, mbtmp4.0/12, ML3.6/1, MS3.2/4, Error ellipse: s-maj=49.7km s-min=16.5km az=43.0*
*DJA **28** 08:35:00.3±1.5, 7.5S±3.3×10.4E±.°, h26km±14km, M4.3/13, mb4.4/6, mB6.1/1, MLv4.3/13, Mw(mB)5.7/1*
ISC 28 08:35:01.4±1.0, 6.62S±0.09×103.88E±0.09, h48km, n42, σ1§33/31, mb4.0/11, MS3.9/3, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.25**	**30**	P	**Pn**	**08 35 21.2**	**-1.3**
KASI				S	**Sn**	**08 35 37.3**	**-0.9**
LWLI	**Liwa**	**1.60**	**7**	P	**Pn**	**08 35 27.2**	**-0.2**
LWLI				S	**Sn**	**08 35 47.3**	**+0.4**
BLSI	**Bandar Lampung**	**1.84**	**48**	P	**Pn**	**08 35 30.9**	**+0.3**
MNAI	**Manna**	**2.42**	**338**	P	**Pn**	**08 35 36.3**	**-2.2**
MNAI				S	**Sn**	**08 36 07.1**	**+0.1**
DBJI	**Dramaga**	**2.86**	**89**	P	**Pn**	**08 35 44.7**	**+0.2**
CNJI	**Cibinong**	**3.30**	**102**	P	**Pn**	**08 35 49.8**	**-0.8**
CNJI				S	**Sn**	**08 36 23.8**	**-4.8**
LEM	**Lembang**	**3.72**	**93**	Pn	Pn	08 35 52.0	-4.6
	4.6nm,0.3s,baz=288,slow=19,SNR=1.8						
LEM				Sn	**Sn**	**08 36 39.4**	**+0.1**
	3.8nm,0.3s,baz=326,slow=22,SNR=2.3						
	13nm,0.4s						
CMJI	**Cimerak**	**4.68**	**105**	P	**Pn**	**08 36 09.3**	**-0.3**
KPJI	**Karang Pucung**	**5.07**	**98**	P	**Pn**	**08 36 17.7**	**+2.8**
TPI	**Tanjungpandan**	**5.37**	**45**	P	**Pn**	**08 36 19.2**	**+0.1**
	12nm,0.5s						
PPSI	**Pulau Pagai**	**5.43**	**315**	P	**Pn**	**08 36 18.6**	**-1.3**
	48nm,0.8s,0.3nm						
UGM	**Wanagama**	**6.72**	**101**	P	**Pn**	**08 36 39.0**	**+1.4**
	59nm,1.1s,0.4nm						
PCJI	**Pacitan**	**7.41**	**103**	P	**Pn**	**08 36 47.5**	**+0.5**
	29nm,0.5s,0.2nm						
BKNI	**Bangkinang**	**7.46**	**338**	P	**Pn**	**08 36 47.2**	**-0.4**
PWJI	**Pagerwojo**	**7.99**	**101**	P	**Pn**	**08 36 55.1**	**+0.2**
KAPI	**Kappang**	**15.87**	**85**	LR	LR	08 44 34.9	
	comp=Z,32nm,19.0s,baz=351,slow=37						
CMAR	**Chiang Mai Arr**	**25.39**	**349**	P	**P**	**08 40 23.6**	**-0.8**
	1.8nm,0.3s,baz=187,slow=8.5,SNR=5.0						
CMAR				LR	LR	08 52 32.3	
	comp=Z,8.2nm,19.4s,baz=210,slow=42						
	1.8nm,0.3s						
H01W3	**Cape Leeuwin H**	**29.68**	**163**	T	T	09 12 07.1	
	baz=340,slow=76,SNR=8.6						
H01W2	**Cape Leeuwin H**	**29.69**	**163**	T	T	09 12 07.2	
	baz=340,slow=76,SNR=6.8						
H01W1	**Cape Leeuwin H**	**29.69**	**163**	T	T	09 12 04.1	
	baz=340,slow=76,SNR=9.5						
H08S2	**Diego Garcia H**	**31.15**	**266**	T	T	09 14 00.2	
	baz=90,slow=75,SNR=15						
H08S3	**Diego Garcia H**	**31.16**	**266**	T	T	09 14 04.1	
	baz=90,slow=75,SNR=16						
H08S1	**Diego Carcia H**	**31.17**	**266**	T	T	09 13 55.3	
	baz=90,slow=75,SNR=5.9						
WRA	**Warramunga Arr**	**32.40**	**117**	P	**P**	**08 41 27.6**	**+0.7**
	0.3nm,0.6s,baz=290,slow=9.7,SNR=4.8						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**33.46**	**124**	P	**P**	**08 41 37.0**	**+0.8**
	0.8nm,0.9s,baz=293,slow=7.9,SNR=6.7						
	0.8nm,0.9s						
PMG	**Port Moresby**	**42.93**	**97**	P	**P**	**08 42 57.0**	**+1.0**
	6.3nm,0.7s,baz=292,slow=19,SNR=1.4						
	6.3nm,0.7s						
KSRS	**Korea Array**	**49.26**	**25**	P	**P**	**08 43 44.7**	**-0.6**
	1.4nm,0.8s,baz=215,slow=10,SNR=5.6						
	1.4nm,0.8s						
SONM	**Songino Array**	**54.26**	**2**	P	**P**	**08 44 22.8**	**+0.2**
	1.8nm,0.8s,baz=180,slow=9.6,SNR=11						
	1.8nm,0.8s						
MKAR	**Makanchi Array**	**56.53**	**342**	P	**P**	**08 44 38.9**	**0.0**
	0.8nm,0.5s,baz=155,slow=8.9,SNR=14						
	0.8nm,0.5s						
USRK	**Ussurisyk Ar.**	**56.59**	**24**	P	**P**	**08 44 38.7**	**-0.5**
	2.9nm,0.6s,baz=208,slow=4.7,SNR=6.3						
	2.9nm,0.6s						
H04N2	**CROZET ISLANDS**	**59.56**	**219**	T	T	09 49 34.9	
	baz=64,slow=75,SNR=155						
H04N1	**CROZET ISLANDS**	**59.57**	**219**	T	T	09 49 35.2	
	baz=64,slow=75,SNR=141						
H04N3	**CROZET ISLANDS**	**59.57**	**219**	T	T	09 49 33.9	
	baz=64,slow=75,SNR=146						
H04S1	**CROZET ISLANDS**	**59.77**	**219**	T	T	09 49 46.9	
	baz=63,slow=76,SNR=4.9						
H04S3	**CROZET ISLANDS**	**59.79**	**219**	T	T	09 49 46.7	
	baz=63,slow=76,SNR=15						
H04S2	**CROZET ISLANDS**	**59.79**	**219**	T	T	09 49 47.8	
	baz=63,slow=76,SNR=9.6						
KURBB	**Kurchatov Arra**	**61.08**	**342**	P	**P**	**08 45 10.9**	**+0.6**
	0.5nm,0.5s,baz=158,slow=6.3,SNR=3.5						
	0.5nm,0.5s						
ZALV	**Zasovo Beam**	**62.44**	**347**	P	**P**	**08 45 19.1**	**-0.3**
	1.2nm,0.3s,baz=150,slow=5.3,SNR=5.3						
	1.2nm,0.3s						
BVAR	**Borovoye Array**	**65.84**	**339**	P	**P**	**08 45 41.1**	**-0.6**
	1.3nm,0.4s,baz=141,slow=11,SNR=8.2						
	1.3nm,0.4s						
KMBO	**Kilima Mbogo**	**66.65**	**272**	LR	LR	09 09 51.8	
	comp=Z,93nm,18.3s,baz=90,slow=31						
BOSA	**Bosnof**	**76.89**	**242**	LR	LR	09 17 24.5	
	comp=Z,55nm,19.4s,baz=24,slow=33						
TXAR	**Lajitas Array**	**145.58**	**46**	PKPbc	**PKPab**	**08 54 36.9**	**+1.1**
	0.7nm,0.8s,baz=275,slow=1.6,SNR=8.5						

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*SOME **28** 08:55:20.9, 44.10N×82.45E, h10km*
*NNC **28** 08:55:22.0±2.1, 44.08N×82.39E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=13.8km s-min=11.3km az=92.0*
ISC 28 08:55:19.9±3.4, 44.06N±0.08×82.6E±0.2, h10km, n13, σ0§73/19, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**2.04**	**279**	Pg	**Pb**	**08 55 56.9**	**-0.2**
	8.7nm,0.2s						
DJR				Lg	Lg	08 56 23.3	
	32nm,0.3s						
DJR	**Jarkent**	**2.04**	**279**	*e*P	**Pb**	**08 55 56.9**	**-0.2**
	8.7nm,0.2s						
DJR				*e*S	**Sb**	**08 56 22.6**	**+0.1**
	32nm,0.3s						
SHLS	**Shalkode**	**2.45**	**250**	Pg	**Pn**	**08 56 00.2**	**+0.1**
	3.1nm,0.2s						
SHLS				Lg	Lg	08 56 28.4	
	27nm,0.3s						
SHLS	**Shalkode**	**2.45**	**250**	*e*P	**Pn**	**08 56 00.2**	**+0.1**
	3.1nm,0.2s						
SHLS				*e*S	**Sn**	**08 56 28.4**	**-1.8**
	27nm,0.3s						
KNOS	**Konyrlen**	**2.48**	**278**	Pg	**Pb**	**08 56 04.6**	**0.0**
	5.9nm,0.2s						
KNOS				Lg	Lg	08 56 36.1	
	16nm,0.4s						
KAPS	**Kapalarasan**	**2.62**	**299**	Pg	**Pb**	**08 56 07.0**	**+0.1**
	3.8nm,0.2s						
KAPS				Lg	Lg	08 56 40.4	
	30nm,0.2s						
KAPS	**Kapalarasan**	**2.62**	**299**	*e*P	**Pb**	**08 56 07.0**	**+0.1**
	3.8nm,0.2s						
KAPS				*e*S	**Sb**	**08 56 40.4**	**+1.1**
	30nm,0.2s						
UZB	**Uzynbulak**	**2.75**	**252**	Pg	**Pb**	**08 56 09.2**	**-0.1**
	3.8nm,0.3s						
UZB				Lg	Lg	08 56 43.9	
	6.0nm,0.2s						
UZB	**Uzynbulak**	**2.75**	**252**	*e*P	**Pb**	**08 56 09.2**	**-0.1**
	3.8nm,0.3s						
UZB				*e*S	**Sb**	**08 56 43.9**	**+0.7**
	6.0nm,0.2s						
BLB	**Baldybastay**	**2.97**	**272**	Pg	**Pb**	**08 56 12.6**	**-0.4**
	3.7nm,0.1s						
BLB				Lg	Lg	08 56 50.0	
	31nm,0.2s						
SATY	**Saty**	**3.21**	**253**	Pg	**Pb**	**08 56 17.3**	**+0.3**
	0.8nm,0.2s						
SATY				Lg	Lg	08 56 57.9	
	7.7nm,0.2s						
SATY	**Saty**	**3.21**	**253**	*e*P	**Pb**	**08 56 17.3**	**+0.3**
	0.8nm,0.2s						
SATY				*e*S	**Sb**	**08 56 57.9**	**+1.7**
	7.7nm,0.2s						
ARXS	**Arharly**	**3.44**	**274**	*e*P	**Pb**	**08 56 20.4**	**-0.6**
	0.5nm,0.2s						
ARXS				*e*S	**Sb**	**08 57 03.1**	**+0.3**
	8.3nm,0.4s						

IDC 28 08:59:48.0±3.5, 52.45N×35.59E, h0km, mbtmp3.5/2, ML2.7/3, Error ellipse: s-maj=36.8km s-min=14.9km az=116.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.34**	**249**	Pn	Pn	09 00 52.7	-2.4
	0.3nm,0.3s,baz=61,slow=15,SNR=1.1						
AKASG				Sn	Sn	09 01 44.1	-2.3
	1.3nm,0.3s,baz=57,slow=26,SNR=1.7						
AKASG				Lg	Lg	09 02 06.2	
	2.6nm,0.3s,baz=64,slow=29,SNR=2.8						
I43RU	**DUBNA INFRASON**	**4.38**	**12**	I	I	09 27 20.0	
	0.1nm,0.7s,baz=187,slow=341,SNR=2.8						
FINES	**FINESS Array B**	**10.39**	**334**	Pn	Pn	09 02 15.1	-3.0
	0.1nm,0.3s,baz=146,slow=14,SNR=1.4						
FINES				Sn	Sn	09 04 04.2	-11
	0.1nm,0.3s,baz=154,slow=23,SNR=2.5						
	0.5nm,0.6s						
ARCES	**ARCESS Array B**	**17.78**	**348**	P	Pn	09 03 55.3	-1.2
	0.1nm,0.3s,baz=172,slow=14,SNR=1.8						
	2.4nm,0.8s						

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*IDC **28** 09:01:35.3±2.2, 1.54S×134.03E, h0km, mb3.6/3, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=95.8km s-min=22.8km az=81.0*
*DJA **28** 09:01:39.9±0.4, 2.5±5.5×13.4E±.°, h10km, M3.7/6, mb3.7/1, MLv3.8/6*
ISC 28 09:01:38.1±0.9, 1.49S±0.08×133.69E±0.04, h10km, n9, σ1§64/12, mb3.9/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.49**	**92**	P	**Pb**	**09 01 49.2**	**+0.4**
RKPI				S	**Sb**	**09 01 55.1**	**-0.9**
FAKI	**Fak Fak**	**2.02**	**225**	P	**Pb**	**09 02 14.7**	**-0.2**
FAKI				S	**Sb**	**09 02 40.5**	**+0.3**
KMPI	**Kaimana, Papua**	**2.15**	**180**	P	**Pn**	**09 02 16.0**	**+1.9**
SWI	**Sorong**	**2.51**	**284**	P	**Pb**	**09 02 21.9**	**-1.4**
SWI				S	**Sn**	**09 02 52.5**	**+2.9**
FITZ	**Fitzroy Crossi**	**18.30**	**205**	P	**Pn**	**09 05 50.5**	**-1.8**
	0.1nm,0.3s,baz=25,slow=13,SNR=1.7						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**18.35**	**178**	P	**Pn**	**09 05 50.9**	**-2.0**
	0.2nm,0.3s,baz=359,slow=12,SNR=10						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**22.04**	**179**	P	**P**	**09 06 31.8**	**-1.4**
	0.5nm,0.4s,baz=5.7,slow=13,SNR=10						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**65.81**	**324**	P	**P**	**09 12 24.3**	**+0.6**
	0.7nm,0.6s,baz=111,slow=7.5,SNR=7.0						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**69.89**	**326**	P	**P**	**09 12 49.1**	**-0.1**
	0.3nm,0.3s,baz=116,slow=6.0,SNR=4.9						
	0.3nm,0.3s						

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*IDC **28** 09:03:55.4±1.6, 25.77N×142.65E, h0km, mb4.1/10, mbtmp4.1/10, MS2.5/1, Error ellipse: s-maj=90.6km s-min=14.3km az=82.0*
ISC 28 09:04:00.5±1.7, 25.8N±0.1×142.7E±0.6, h36km, n15, σ1§45/12, mb4.2/10, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.39**	**341**	Pn	**Pn**	**09 04 20.2**	**-3.1**
	baz=225,slow=0.0						
JCJ				Sn	**Sn**	**09 04 42.4**	**+1.9**
	baz=180,slow=0.0						
KSRS	**Korea Array**	**17.12**	**316**	LR	LR	09 14 14.9	
	comp=Z,16nm,19.2s,baz=200,slow=36						
H11N2	**WAKE ISLAND Hy**	**23.10**	**100**	T	T	09 32 49.5	
	baz=290,slow=75						
H11N1	**WAKE ISLAND Hy**	**23.10**	**100**	T	T	09 32 45.4	
	baz=290						
H11N3	**WAKE ISLAND Hy**	**23.11**	**100**	T	T	09 32 50.9	
	baz=290,slow=75						
WRA	**Warramunga Arr**	**46.17**	**191**	P	**P**	**09 12 21.9**	**+0.2**
	1.3nm,0.4s,baz=11,slow=8.7,SNR=26						
	1.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**46.66**	**203**	P	**P**	**09 12 25.5**	**-0.1**
	2.7nm,0.7s,baz=14,slow=8.3,SNR=2.8						
	2.7nm,0.7s						
ASAR	**Alice Springs**	**49.88**	**191**	P	**P**	**09 12 50.5**	**0.0**
	0.4nm,0.6s,baz=3.0,slow=5.4,SNR=12						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**54.29**	**315**	P	**P**	**09 13 22.8**	**-0.2**
	0.4nm,0.3s,baz=89,slow=7.8,SNR=4.8						
	0.4nm,0.3s						
STKA	**Stephens Creek**	**57.34**	**181**	P	**P**	**09 13 44.3**	**-0.6**
	0.9nm,0.5s,baz=358,slow=5.8,SNR=3.7						
	0.9nm,0.5s						
BVAR	**Borovoye Array**	**59.32**	**318**	P	**P**	**09 13 59.4**	**+0.8**
	0.6nm,0.4s,baz=81,slow=6.4,SNR=4.5						
	0.6nm,0.4s						
ARCES	**ARCESS Array B**	**74.93**	**341**	P	**P**	**09 15 39.0**	**+1.7**
	9.5nm,1.2s,baz=64,slow=8.5,SNR=1.4						
	9.5nm,1.2s						
FINES	**FINESS Array B**	**79.33**	**334**	P	**P**	**09 16 03.3**	**+1.2**
	1.3nm,0.5s,baz=59,slow=5.3,SNR=14						
	1.3nm,0.5s						
HFS	**Hagfors**	**84.81**	**337**	P	**P**	**09 16 31.3**	**+0.3**
	1.3nm,0.5s,baz=64,slow=6.6,SNR=5.5						
	1.3nm,0.5s						
NOA	**NORSAR Array B**	**85.00**	**339**	P	**P**	**09 16 32.4**	**+0.5**
	0.7nm,0.5s,baz=45,slow=5.0,SNR=3.0						
	0.7nm,0.5s						

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*KRNET **28** 09:11:02.7±0.1, 41.83N×79.34E, h13km, mb2.6*
*SOME **28** 09:11:03.1, 41.92N×79.37E, h5km*
*NNC **28** 09:11:04.1±1.1, 41.94N×79.40E, h0km, mb3.4, mpv3.2, Error ellipse: s-maj=7.7km s-min=4.2km az=146.0*
ISC 28 09:11:02.6±1.7, 41.86N±0.06×79.37E±0.05, h10km, n44, σ1§48/76, 17C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.95**	**311**	⇑*i*P	**Pb**	**09 11 21.3**	**-0.1**
PRZ				⇑*i*S	**Sn**	**09 11 34.9**	**-1.2**
TARG	**Taragay, Kyrgy**	**1.18**	**264**	⇑*i*P	**Pg**	**09 11 24.7**	**-0.6**
TARG				⇑*i*S	**Sb**	**09 11 41.1**	**+0.2**
SHLS	**Shalkode**	**1.30**	**3**	P	**Pg**	**09 11 28.2**	**+0.7**
SHLS				S	**Sn**	**09 11 46.5**	**+2.0**
SHLS	**Shalkode**	**1.30**	**3**	*e*P	**Pg**	**09 11 28.2**	**+0.7**
SHLS				*e*S	**Sn**	**09 11 46.5**	**+2.0**
UZB	**Uzynbulak**	**1.31**	**349**	P	**Pg**	**09 11 27.5**	**-0.3**
	6.2nm,0.4s						
UZB				S	**Sn**	**09 11 44.9**	**0.0**
	28nm,0.5s						
UZB	**Uzynbulak**	**1.31**	**349**	*e*P	**Pg**	**09 11 27.5**	**-0.3**
	3.7nm,0.2s						
UZB				*e*S	**Sn**	**09 11 44.9**	**0.0**
	24nm,0.5s						
SATY	**Saty**	**1.40**	**329**	P	**Pg**	**09 11 29.3**	**-0.1**
	4.8nm,0.3s						
SATY				S	**Sg**	**09 11 47.9**	**+0.3**
	32nm,0.1s						
SATY	**Saty**	**1.40**	**329**	*e*P	**Pg**	**09 11 29.3**	**-0.1**
	3.5nm,0.1s						
SATY				*e*S	**Sg**	**09 11 47.9**	**+0.3**
	32nm,0.1s						
PDGK	**Podgornoye**	**1.47**	**3**	⇑P	**Pb**	**09 11 29.7**	**-0.4**
	1.8nm,0.4s						
PDGK				⇓S	**Sg**	**09 11 48.9**	**-1.0**

14nm,0.3s
KOTS *e*S **Sg** **09 12 11.1 -1.0**
22nm,0.3s
BLB Baldybastay 2.33 344 Pg **Pg** **09 11 45.9 -1.4**
BLB 22nm,0.2s Lg Lg 09 12 16.4
94nm,0.5s
ULHL Ulahol 2.36 280⇑*i*P **Pb** **09 11 44.7 -0.7**
ULHL ⇑*i*S **Sb** **09 12 15.3 +0.6**
DJR Jarkent 2.49 7 Pg **Pb** **09 11 47.8 +0.3**
DJR 2.1nm,0.2s Lg Lg 09 12 19.8
52nm,0.4s
DJR Jarkent 2.49 7 *e*P **Pb** **09 11 47.8 +0.3**
DJR 2.1nm,0.2s *e*S **Sg** **09 12 19.8 -2.8**
52nm,0.4s
KNOS Konyrlen 2.50 357 Pg **Pg** **09 11 48.7 -1.9**
KNOS 2.0nm,0.1s Lg Lg 09 12 21.1
43nm,0.2s
MTBS Maitube 2.52 301 Pg **Pg** **09 11 50.5 -0.4**
MTBS 2.1nm,0.3s Lg Lg 09 12 24.3
14nm,0.3s
MTBS Maitube 2.52 301 *e*P **Pg** **09 11 49.4 -1.6**
MTBS 3.0nm,0.2s *e*S **Sg** **09 12 22.7 -0.9**
14nm,0.3s
NRN Naryn 2.56 262⇑*e*P **Pb** **09 11 47.5 -1.4**
NRN ⇑*e*S **Sb** **09 12 20.4 -0.2**
ARXS Arharly 2.61 335 Pg **Pb** **09 11 50.0 +0.4**
ARXS 2.0nm,0.3s Lg Lg 09 12 23.8
23nm,0.3s
ARXS Arharly 2.61 335 *e*P **Pb** **09 11 50.0 +0.4**
ARXS 2.0nm,0.3s *e*S **Sg** **09 12 23.8 -2.7**
23nm,0.3s
BOOM Boomskoye usch 2.63 285⇑*e*P **Pb** **09 11 48.6 -1.3**
BOOM ⇑*e*S **Sb** **09 12 21.9 -0.4**
CHKK Chushkaly 2.65 319 Pg **Pg** **09 11 51.6 -1.9**
CHKK 6.4nm,0.2s Lg Lg 09 12 26.5
17nm,0.4s
CHKK Chushkaly 2.65 319 *e*P **Pg** **09 11 51.6 -1.9**
CHKK 6.4nm,0.2s *e*S **Sg** **09 12 26.5 -1.4**
17nm,0.4s
KTBS Karatobe 2.71 314 Pg **Pb** **09 11 52.3 +1.0**
KTBS 4.7nm,0.2s Lg Lg 09 12 27.5
5.2nm,0.4s
KTBS Karatobe 2.71 314 *e*P **Pb** **09 11 52.3 +1.0**
KTBS 4.7nm,0.2s *e*S **Sg** **09 12 27.5 -2.2**
5.2nm,0.4s
KST Kastek 2.79 296 Pg **Pg** **09 11 54.1 -1.9**
KST 4.6nm,0.6s Lg Lg 09 12 30.7
11nm,0.6s
KST Kastek 2.79 296 *e*P **Pg** **09 11 54.1 -1.9**
KST 4.6nm,0.6s *e*S **Sg** **09 12 30.7 -1.4**
11nm,0.6s
TKM2 Tokmak 2 2.99 292⇓Pg **Pb** **09 11 55.0 -1.1**
TKM2 1.2nm,0.4s ⇓Lg Lg 09 12 35.4
6.3nm,0.7s
TKM2 Tokmak 2 2.99 292⇓*i*P **Pb** **09 11 53.5 -2.6**
TKM2 ⇓*i*S **Sb** **09 12 30.5 -2.3**
DGS Degeres 3.00 299 Pg **Pb** **09 11 57.3 +1.1**
DGS 4.8nm,0.4s Lg Lg 09 12 36.1
8.0nm,0.6s
DGS Degeres 3.00 299 *e*P **Pb** **09 11 57.3 +1.1**
DGS 4.8nm,0.4s *e*S **Sg** **09 12 36.1 -2.8**
8.0nm,0.6s
KAPS Kapalarasan 3.42 360 Pg **Pg** **09 12 05.1 -3.1**
KAPS 1.3nm,0.1s Lg Lg 09 12 49.4
15nm,0.2s
KAPS Kapalarasan 3.42 360 *e*P **Pg** **09 12 05.1 -3.1**
KAPS 1.3nm,0.1s *e*S **Sg** **09 12 49.4 -3.2**
15nm,0.2s
USP Ospenovka 3.86 293⇑*i*P **Pn** **09 12 05.5 +3.3**
USP ⇑*i*S **Sn** **09 12 51.3 +3.7**

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*NDI **28** 09:12:30.1±4.1,24°.33N×95°.12E,h10km,ML3.8,MW3.6*
*IDC **28** 09:12:34.7±8.3,23°.92N×94°.47E,h132km±113km,mb3.7/3,*
mbtmp4.0/4,Error ellipse: s-maj=180.2km s-min=63.6km
az=74.0
ISC 28 09:12:34.1±1.3,**24°.27N**±0°.07×**94°.80E**±0°.10,**h115**km±10km,
n13,σ1°**02**/20,**mb4.1**/3,**1C,Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.96 306**		*e*Pg	**Pn**	**09 12 55.6**	**+0.2**
IMP				*i* x	x	09 12 58.6	
IMP				*e*S	**Sn**	**09 13 10.7**	**-0.7**
KOHI	**KOHIMA**	**1.57 336**		*e*Pg	**Pn**	**09 13 00.3**	**-1.9**
KOHI	comp=E,1μm,0.6s			IAML		09 13 23.4	
KOHI				*i* Sg	**Sn**	**09 13 24.4**	**+0.7**
KOHI	comp=E,995nm,0.5s			IAML		09 13 26.2	
AZL	**Aizawl**	**2.01 255**		*e*P	**Pn**	**09 13 06.8**	**-0.7**
AZL				*e*S	**Sn**	**09 13 34.7**	**+1.7**
AZL	comp=E,285nm,0.6s			IAML		09 13 40.9	
MOKO	**MOKOCHONG**	**2.06 353**		*e*Pg	**Pn**	**09 13 08.4**	**+0.2**
MOKO	comp=E,899nm,0.7s			IAML		09 13 34.1	
MOKO				*i* Sg	**Sn**	**09 13 35.5**	**+1.2**
SHL	**Shillong**	**2.95 297**		*e*P	**Pn**	**09 13 19.2**	**-0.6**
SHL	comp=N,898nm,0.1s			IAML		09 13 53.9	
SHL	comp=E,831nm,0.1s			IAML		09 13 54.2	
TEZP	**TEZPUR**	**2.96 323**		*e*P	**Pn**	**09 13 18.6**	**-1.0**
TEZP	comp=E,772nm,0.3s			IAML		09 13 52.1	
TEZP				*e*S	**Sn**	**09 13 56.4**	**+1.7**
ITAN	**ITANAGAR**	**3.02 341**		*e*P	**Pn**	**09 13 20.5**	**0.0**
ITAN				*e*S	**Sn**	**09 13 56.1**	**-0.2**
ZIRO	**ZIRO**	**3.35 345**		*e*P	**Pn**	**09 13 24.4**	**-0.7**
ZIRO				*e*S	**Sn**	**09 14 04.3**	**-0.1**
GTK	**Tadong**	**6.36 300**⇑		*e*S	**Sn**	**09 15 16.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**6.95 146**		P	**Pn**	**09 14 12.7**	**-0.7**
	comp=E,1.3nm,0.2s,baz=316,slow=12,SNR=7.5						
MKAR	**Makanchi Array**	**24.61 339**		P	**P**	**09 17 44.5**	**+0.9**
	comp=E,1.6nm,0.5s,baz=147,slow=9.6,SNR=16						
	comp=E,1.6nm,0.5s						
ARCES	**ARCESS Array B**	**60.26 338**		P	**P**	**09 22 30.1**	**+0.2**
	comp=E,2.6nm,0.9s,baz=105,slow=5.7,SNR=1.4						
	comp=E,2.6nm,0.9s						
HFS	**Hagfors**	**64.88 327**		P	**P**	**09 23 00.4**	**-0.4**
	comp=E,1.8nm,0.8s,baz=101,slow=7.7,SNR=1.9						
	comp=E,1.8nm,0.8s						

IDC 28 09:13:19.7±1.8,**54°.70N**×**83°.71E,h0km,mbtmp2.7**/3,
ML2.2/3,**Error ellipse: s-maj=17.4km s-min=10.8km**
az=12.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.99 139**		I	I	09 18 50.0	
	0.1nm,0.9s,baz=319,slow=331,SNR=6.6						
ZALV	**Zalesovo Beam**	**0.99 139**		Pg	Pg	09 13 37.9	-0.8
	1.9nm,0.3s,baz=323,slow=18,SNR=19						
ZALV				Lg	Lg	09 13 52.8	
	5.1nm,0.3s,baz=317,slow=29,SNR=26						
KURBB	**Kurchatov Arra**	**5.16 220**		Pn	Pn	09 14 39.2	+1.2
	baz=38,slow=13,SNR=1.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.96 187**		Pn	Pn	09 15 17.0	+0.4
	0.1nm,0.3s,baz=8.0,slow=11,SNR=1.5						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**8.05 263**		Pn	Pn	09 15 16.1	-1.7
	baz=77,slow=16,SNR=3.2						
	0.6nm,0.5s						

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*JMA **28** 09:17:31.2±0.1,41°.1N±0°.6×143°.2E±0°.8,h23km,MV3.3/38,*
E OFF AOMORI PREF
*IDC **28** 09:17:42.8±9.1,41°.18N×140°.85E,h0km,mb3.6/5,*
mbtmp3.5/6,ML2.1/1,Error ellipse: s-maj=197.8km
s-min=40.5km az=86.0
ISC 28 09:17:28.0±1.7,**41°.06N**±0°.05×**143°.44E**±0°.06,**h8**km±10km,
n29,σ1°**33**/34,**mb3.7**/5,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.98 348**		P	**Pn**	**09 17 48.7**	**+0.6**
JEM				S	**Sn**	**09 18 01.6**	**-0.6**
JTHR	**Tokachihiroo**	**1.24 355**		P	**Pg**	**09 17 52.8**	**+1.0**
JTHR				S	**Sg**	**09 18 08.7**	**+0.8**
JNBK	**Urakawa-nobuka**	**1.33 337**		P	**Pg**	**09 17 53.6**	**+0.1**
JNBK				S	**Sg**	**09 18 10.9**	**+0.2**
JCH	**Churui**	**1.56 358**		P	**Pb**	**09 17 56.9**	**-0.3**
JCH				S	**Sb**	**09 18 16.4**	**-0.6**
JANG	**Nango**	**1.61 246**		P	**Pn**	**09 17 56.9**	**0.0**
JTM	**Tenmabayashi**	**1.82 262**		P	**Pn**	**09 18 00.0**	**+0.4**
JTM				*e*S	**Sn**	**09 18 20.9**	**-1.9**
JOT	**Ohata**	**1.83 281**		P	**Pn**	**09 18 00.1**	**+0.2**
JOB	**Onbets**	**1.87 9**		P	**Pb**	**09 18 01.8**	**-0.7**
JOB				S	**Sb**	**09 18 24.2**	**-1.7**
JBT2	**Biratori 2**	**1.90 335**		P	**Pb**	**09 18 02.5**	**-0.5**
JIAM	**Iburiatsuma**	**1.93 325**		P	**Pg**	**09 18 04.9**	**-0.2**
JIAM				S	**Sg**	**09 18 30.7**	**+0.5**
JKB	**Kayabe**	**1.99 295**		P	**Pn**	**09 18 02.6**	**+0.6**
JAK	**Akkeshi**	**2.15 25**		P	**Pb**	**09 18 05.8**	**-1.4**
JAK				S	**Sb**	**09 18 31.6**	**-2.6**
JAR	**Ashorobuto**	**2.25 6**		P	**Pb**	**09 18 06.6**	**-2.4**
JAR				S	**Sn**	**09 18 32.8**	**-0.8**
JOM	**Ohasama**	**2.28 227**		P	**Pb**	**09 18 07.5**	**-1.9**
JNB	**Noboribetsu**	**2.29 309**		P	**Pn**	**09 18 06.3**	**+0.3**
JNB				S	**Sn**	**09 18 33.7**	**-0.7**
JAH	**Hinai**	**2.30 249**		P	**Pb**	**09 18 08.0**	**-1.9**
JAH				S	**Sn**	**09 18 35.1**	**+0.2**
JEW	**Eniwo**	**2.32 321**		P	**Pb**	**09 18 08.7**	**-1.4**
JEW				S	**Sb**	**09 18 38.9**	**-0.1**
MJAR	**Matsushiro Arr**	**6.08 224**		Pn	**Pn**	**09 19 00.4**	**+2.0**
	0.1nm,0.3s,baz=27,slow=12,SNR=2.4						
	0.8nm,0.4s						
SONM	**Songino Array**	**27.11 297**		P	**P**	**09 23 12.0**	**+0.6**
	0.4nm,0.4s,baz=80,slow=10,SNR=2.4						
	0.4nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**29.18 130**		T	T	09 54 21.3	
	baz=318						
H11N1	**WAKE ISLAND Hy**	**29.19 130**		T	T	09 54 44.2	
	baz=318						
H11N3	**WAKE ISLAND Hy**	**29.20 130**		T	T	09 54 24.5	
	baz=318						
H11S1	**WAKE ISLAND Hy**	**30.03 132**		T	T	09 55 37.7	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**30.04 132**		T	T	09 55 32.6	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**30.05 132**		T	T	09 55 27.1	
	baz=316						
ZALV	**Zalesovo Beam**	**40.49 309**		P	**P**	**09 25 09.1**	**+2.0**
	1.0nm,0.6s,baz=87,slow=7.6,SNR=4.5						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**43.44 299**		P	**P**	**09 25 30.9**	**-0.5**
	0.2nm,0.4s,baz=75,slow=7.0,SNR=2.7						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**44.88 305**		P	**P**	**09 25 45.7**	**+2.9**
	0.4nm,0.4s,baz=77,slow=8.9,SNR=2.2						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**49.11 310**		P	P	09 26 20.6	+4.7
	0.6nm,0.4s,baz=84,slow=10.0,SNR=3.1						
	0.6nm,0.4s						

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*DJA **28** 09:17:24.7±2.9,5°.S±18°.×14°.9E±1°.6,h96km±14km,*
M5.5/12,mB5.5/4,mb5.0/12,MLv5.9/1,Mw(mB)5.0/4
*BJI **28** 09:17:32.2,5°.81S×149°.52E,h147km,mb4.8/35,mB5.2/11*
*NEIC **28** 09:17:35.7±1.1,5°.77S±0°.04×149°.08E±0°.09,h134km±7km,*
mb4.9/32,Error ellipse: s-maj=12.9km s-min=4.9km
az=109.0
*IDC **28** 09:17:36.1±0.8,5°.74S×148°.91E,h150km±6km,mb4.0/16,*
mbtmp4.5/18,MS3.2/5,Error ellipse: s-maj=17.0km
s-min=7.6km az=105.0
ISC 28 09:17:34.6±0.6,**5°.80S**±0°.05×**149°.09E**±0°.07,**h130**km±4km,
h131km:pP-P,n107,σ1°**43**/117,**mb4.8**/43,**1C-2D,New**
Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.46 63**			**Pn**	**09 18 27.9**	**+0.7**
PMG	**Port Moresby**	**4.07 208**		P	**Pn**	**09 18 36.6**	**+1.3**
	698nm,0.6s,baz=359,slow=6.3,SNR=68						
PMG				S	**Sn**	**09 19 25.3**	**+3.0**
	3μm,0.7s,baz=299,slow=19,SNR=5.3						
PMG	**Port Moresby**	**4.07 208**		P	**Pn**	**09 18 38.1**	**+2.8**
PMG	**Port Moresby**	**4.07 208**		P	**Pn**	**09 18 38.0**	**+2.8**
MANU	**Manus Island**	**4.10 335**			**Pn**	**09 18 36.4**	**+0.6**
COEN	**Coen**	**9.98 215**		Pn	**Pn**	**09 19 55.4**	**+0.6**
MTSU	**Mount Surprise**	**13.12 200**		P	**P**	**09 20 39.6**	**-1.8**
CTAO	**Charters Tower**	**14.47 191**		Pn	**Pn**	**09 20 54.1**	**+0.7**
QIS	**Mount Isa**	**17.32 211**		P	**Pn**	**09 21 30.2**	**+1.6**
KDU	**Kakadu**	**17.76 246**		P	**P**	**09 21 32.4**	**-0.5**
MTN	**Manton Dam**	**19.04 247**		P	**P**	**09 21 46.1**	**-0.8**
MTN	**Manton Dam**	**19.04 247**		P	**P**	**09 21 46.7**	**-0.1**
DRS	**Darwin Rock St**	**19.12 249**		P	**P**	**09 21 47.0**	**-0.7**
WB0	**Warramunga Arr**	**19.93 224**		P	**P**	**09 21 56.5**	**+0.1**
WR0	**Warramunga Arr**	**19.95 224**		P	**P**	**09 21 57.1**	**+0.3**
WR0	comp=Z,72nm,0.9s			IAmb	IAmb	09 21 58.3	
WRAB	**Tennant Creek**	**20.07 224**		P	**P**	**09 21 58.4**	**+0.4**
WB2	**Warramunga Arr**	**20.07 224**		P	**P**	**09 21 58.6**	**+0.6**
WRA	**Warramunga Arr**	**20.08 224**		P	**P**	**09 21 58.5**	**+0.4**
WRA	**Warramunga Arr**	**20.08 224**		P	**P**	**09 21 58.4**	**+0.4**
	comp=Z,80nm,0.8s,baz=49,slow=10,SNR=111						
WRA				S	**S**	**09 25 32.9**	**-3.9**
	comp=Z,8.9nm,1.1s,baz=47,slow=21,SNR=18						
VLAKA	**Lakatoro**	**20.69 121**		P	Pn	09 22 08.5	+0.2
QLP	**Quilpie**	**21.18 192**		P	**P**	**09 22 12.7**	**+2.9**
KNRA	**Kununurra**	**22.23 242**		P	**P**	**09 22 19.6**	**-1.3**
KNRA	comp=Z,55nm,0.9s			IAmb	IAmb	09 22 22.4	
AS01	**Alice Springs**	**22.98 218**		P	**P**	**09 22 29.0**	**+0.8**
AS31	**Alice Springs**	**23.00 218**		P	**P**	**09 22 29.0**	**+0.6**
ASAR	**Alice Springs**	**23.01 218**		P	**P**	**09 22 29.1**	**+0.7**
ASAR	**Alice Springs**	**23.01 218**		P	**P**	**09 22 29.0**	**+0.6**
	comp=Z,39nm,0.7s,baz=51,slow=8.9,SNR=361						
ASAR				S	**S**	**09 26 27.8**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=28,slow=18,SNR=0.9						
	comp=Z,39nm,0.7s						
INKA	**Innaminka**	**23.22 199**		P	**P**	**09 22 31.5**	**+1.2**
DZM	**Mont Dzumac**	**23.31 136**		P	**P**	**09 22 32.4**	**+1.0**
DZM	comp=Z,33nm,1.2s			IAmb	IAmb	09 22 34.3	
DZM	**Mont Dzumac**	**23.31 136**		P	**P**	**09 22 32.4**	**+1.0**
	comp=Z,18nm,0.9s,baz=6.7,slow=10,SNR=5.7						
DZM				LR	LR	09 29 02.5	
	comp=Z,54nm,21.1s,baz=42,slow=29						
	comp=Z,18nm,0.9s						
DZM	**Mont Dzumac**	**23.31 136**		P	**P**	**09 22 33.5**	**+2.1**
AULRC	**Lightning Ridg**	**23.53 182**		P	**P**	**09 22 35.1**	**+2.0**
ARMA	**Armidale**	**24.61 175**		P	**P**	**09 22 43.9**	**+0.9**
ARMA	comp=Z,18nm,1.2s			IAmb	IAmb	09 22 47.9	
OOD	**Oodnadatta**	**25.31 209**		P	**P**	**09 22 50.3**	**+1.0**
CMSA	**Cobar Meteorol**	**25.81 187**		P	**P**	**09 22 55.5**	**+1.8**
FITZ	**Fitzroy Crossi**	**25.95 240**		P	**P**	**09 22 54.6**	**-0.6**
LCRK	**Leigh Creek**	**26.57 201**		P	**P**	**09 23 01.9**	**+1.3**
STKA	**Stephens Creek**	**26.88 194**		P	**P**	**09 23 03.3**	**-0.1**
STKA	**Stephens Creek**	**26.88 194**		P	**P**	**09 23 03.5**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=357,slow=11,SNR=8.6						
	comp=Z,2.6nm,0.6s						
WRKA	**Warakurna**	**27.63 224**		P	**P**	**09 23 10.4**	**+0.2**
MULG	**Mulgathing**	**28.17 208**		P	**P**	**09 23 15.4**	**+0.5**
CAN	**Canberra**	**29.38 180**		P	**P**	**09 23 25.3**	**-0.4**
CAN	comp=Z,40nm,1.4s			IAmb	IAmb	09 23 52.9	
BBOO	**Buckleboo**	**29.50 203**		P	**P**	**09 23 26.6**	**0.0**
BBOO	comp=Z,24nm,1.5s			IAmb	IAmb	09 23 35.1	
ARPS	**Mount Arapiles**	**31.54 191**		P	**P**	**09 23 46.3**	**+1.8**
FORT	**Forrest**	**31.75 216**		P	**P**	**09 23 47.0**	**+0.5**
FORT	**Forrest**	**31.75 216**		P	**P**	**09 23 47.2**	**+0.7**
TOO	**Toolangi**	**31.80 185**		P	**P**	**09 23 48.1**	**+1.3**
BRAT	**Ballarat**	**31.96 188**		P	**P**	**09 23 50.3**	**+2.1**
MBWA	**Marble Bar**	**32.28 239**		P	**P**	**09 23 50.7**	**-0.6**
MBWA				IAmb	IAmb	09 23 51.2	
MBWA	**Marble Bar**	**32.28 239**		P	**P**	**09 23 50.4**	**-0.9**
MBWA				pP	**pP**	**09 24 16.7**	**-1.9**
MBWA				sP	**sP**	**09 24 31.0**	**-2.2**
PSA00	**Pilbara Seismi**	**32.35 238**		P	**P**	**09 23 51.3**	**-0.7**
PSA00	comp=Z,28nm,0.9s			IAmb	IAmb	09 23 51.9	
PSA00	**Pilbara Seismi**	**32.35 238**		P	**P**	**09 23 51.7**	**-0.2**
DNP	**Denpasar**	**33.72 263**		P	P	09 23 56.1	-7.8
MEEK	**Meekatharra**	**35.68 231**		P	**P**	**09 24 20.8**	**+0.1**
KMBL	**Kambalda**	**36.01 222**		P	**P**	**09 24 23.9**	**+0.5**
GIRL	**Giralia**	**37.56 240**		P	**P**	**09 24 36.7**	**+0.1**
MORW	**Morawa**	**38.87 230**		P	**P**	**09 24 47.0**	**-0.5**
MORW				IAmb	IAmb	09 24 47.9	
	comp=Z,24nm,1.1s						
KLBR	**Kellerberrin**	**38.96 225**		P	**P**	**09 24 48.1**	**-0.2**
NACB	**Ninganchiao**	**40.07 319**		P	**P**	**09 24 57.4**	**-0.1**
NACB	comp=Z,24nm,1.0s			IAmb	IAmb	09 24 58.1	
TPUB	**Ta-pu**	**40.11 317**		P	**P**	**09 24 57.0**	**-0.9**
TPUB	comp=Z,47nm,1.2s			IAmb	IAmb	09 24 58.5	
SSLB	**Suanglung**	**40.22 318**		P	**P**	**09 24 58.2**	**-0.6**
SSLB	comp=Z,14nm,1.2s			IAmb	IAmb	09 24 58.5	
JMN	**Monobe**	**41.86 341**		P	**P**	**09 25 12.4**	**+0.3**
JMN	comp=Z,66nm,1.5s			IAmb	IAmb	09 25 29.9	
JNU	**Nakatsue**	**42.39 337**		P	**P**	**09 25 16.2**	**-0.1**
JNU	comp=Z,37nm,1.0s			IAmb	IAmb	09 25 17.1	
JNU	**Nakatsue**	**42.39 337**		LR	LR	09 41 17.5	
	comp=Z,27nm,19.1s,baz=132,slow=34						
MJAR	**Matsushiro Arr**	**43.33 347**		P	**P**	**09 25 22.8**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=168,slow=7.5,SNR=3.2						
MJAR				pP	**pwP**	**09 25 55.5**	**+0.4**
	comp=Z,3.3nm,0.9s,baz=166,slow=6.2,SNR=4.0						
MJAR				LR	LR	09 41 06.8	
	comp=Z,31nm,18.3s,baz=175,slow=33						
	comp=Z,2.0nm,0.8s						
KSRS	**Korea Array**	**47.34 337**		P	**P**	**09 25 55.5**	**+0.1**
	comp=Z,7.5nm,0.8s,baz=155,slow=8.4,SNR=24						
KSRS				pP	**pwP**	**09 26 27.6**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=159,slow=8.1,SNR=2.8						
	comp=Z,7.5nm,0.8s						
KSAR	**Wonju Array Be**	**47.34 337**		P	**P**	**09 25 55.1**	**-0.4**
NJ2	**Nanjing**	**47.39 324**		*e*P	**P**	**09 25 57.5**	**+1.6**
NJ2	comp=Z,8.0nm,0.5s			pmax	pmax		
KS19	**Wonju Array Si**	**47.40 337**		P	**P**	**09 25 55.9**	**-0.1**
KS19	comp=Z,30nm,1.2s			IAmb	IAmb	09 25 56.2	
TIA	**Tai'an**	**51.41 327**		P	**P**	**09 26 25.0**	**-1.4**
TIA	comp=Z,18nm,0.9s			pmax	pmax		
RAR	**Rarotonga**	**51.79 112**		LR	LR	09 47 31.1	
	comp=Z,19nm,18.8s,baz=216,slow=34						
USRK	**Ussuriysk Ar.**	**52.10 344**		P	**P**	**09 26 31.3**	**0.0**
	comp=Z,7.2nm,0.8s,baz=198,slow=9.2,SNR=8.6						
	comp=Z,7.2nm,0.8s						
LYN	**LuoYang**	**52.95 322**		P	**P**	**09 26 37.0**	**-0.8**
LYN	comp=Z,16nm,0.9s			pmax	pmax		
HNS	**HongShan**	**53.61 326**⇑		P	**P**	**09 26 42.0**	**-0.5**
HNS	comp=Z,21nm,1.2s			pmax	pmax		
BJI	**Beijing**	**54.76 329**		P	**P**	**09 26 50.0**	**-0.8**
BJI	comp=Z,4.0nm,1.1s			pmax	pmax		
BNX	**BinXian**	**54.84 342**⇓		P	**P**	**09 26 50.3**	**-1.0**
BNX	comp=Z,15nm,1.2s			pmax	pmax		
XAN	**Xi'an**	**54.87 319**		P	**P**	**09 26 51.5**	**-0.3**
XAN	comp=Z,12nm,1.3s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**54.99 297**		P	**P**	**09 26 51.1**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=122,slow=6.3,SNR=4.5						
	comp=Z,0.7nm,0.3s						
PZH	**PanZhiHua**	**55.97 307**		P	**P**	**09 27 02.3**	**+2.3**
PZH	comp=Z,10.0nm,0.8s			pmax	pmax		
PZH	comp=Z,100nm,5.1s			pmax	pmax		
CD2	**Chengdu**	**56.64 313**		*e*P	**P**	**09 27 05.0**	**+0.5**
XLT	**XiLinHaoTe**	**57.73 332**		*e*P	**P**	**09 27 12.5**	**+0.5**
XLT	comp=Z,15nm,0.9s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**57.77 327**		*e*P	**P**	**09 27 14.8**	**+2.4**
HHC	comp=Z,10.0nm,1.4s			pmax	pmax		
HHC	comp=Z,140nm,4.1s			pmax	pmax		
BTO	**Baotou**	**58.46 326**		*e*P	**P**	**09 27 20.5**	**+3.4**
BTO				pP	**pP**	**09 27 48.5**	**+0.8**
BTO				S	**S**	**09 35 16.0**	**+5.6**
BTO				SS	**SS**	**09 39 05.8**	**+0.7**
BTO	comp=Z,19nm,0.5s			pmax	pmax		
BTO	comp=Z,440nm,5.2s			pmax	pmax		
BTO	comp=Z,630nm,5.2s			LR	LR		
BTO	comp=Z,650nm,5.5s			LR	LR		
BTO	comp=Z,280nm,5.2s			LR	LR		
PEA0B	**Petropavlovsk-**	**59.13 6**		P	**P**	**09 27 22.0**	**+0.5**
PETK	**Petropavlovsk-**	**59.13 6**		P	**P**	**09 27 21.5**	**+0.1**
PETK	**Petropavlovsk-**	**59.13 6**		P	**P**	**09 27 21.3**	**-0.1**
	comp=Z,14nm,0.9s,baz=163,slow=8.6,SNR=8.5						
	comp=Z,14nm,0.9s						
LZH	**Lanzhou**	**59.43 318**		*e*P	**P**	**09 27 24.5**	**+0.5**
LZH				pP	pP	09 27 57.0	+2.4
LZH	comp=Z,18nm,1.1s			pmax	pmax		
HIA	**Hailar**	**60.51 338**		P	**P**	**09 27 30.9**	**0.0**
HIA	comp=Z,16nm,0.9s			IAmb	IAmb	09 27 31.4	
HIA	**Hailar**	**60.51 338**		P	**P**	**09 27 30.7**	**-0.3**
DRV	**Dumont d'Urvil**	**61.09 184**		P	**P**	**09 27 35.1**	**+0.5**
DRV				pP	**pP**	**09 28 04.8**	**+0.3**
DRV				PcP	**PcP**	**09 28 16.7**	**+0.4**
SONM	**Songino Array**	**65.25 330**		P	**P**	**09 28 01.6**	**-0.9**
	comp=Z,2.5nm,0.9s,baz=147,slow=8.8,SNR=10						
SONM				pP	**pwP**	**09 28 35.6**	**0.0**
	comp=Z,2.1nm,0.9s,baz=140,slow=5.4,SNR=4.9						
SONM				LR	LR	09 56 23.1	
	comp=Z,15nm,21.2s,baz=306,slow=36						
	comp=Z,2.5nm,0.9s						
WMQ	**Urumqi**	**74.00 319**		*e*P	**P**	**09 28 59.3**	**+3.1**
WMQ	comp=Z,19nm,0.7s			pmax	pmax		
MKAR	**Makanchi Array**	**78.67 320**		P	**P**	**09 29 20.1**	**-2.4**
	comp=Z,0.7nm,0.5s,baz=102,slow=8.0,SNR=8.8						
	comp=Z,0.7nm,0.5s						
ZALV	**Zalesovo Beam**	**79.95 327**		P	**P**	**09 29 26.1**	**-3.1**
	comp=Z,1.6nm,0.6s,baz=109,slow=6.3,SNR=5.9						
	comp=Z,1.6nm,0.6s						
KURBB	**Kurchatov Arra**	**82.32 323**		P	**P**	**09 29 38.9**	**-2.9**
	comp=Z,1.0nm,0.8s,baz=113,slow=3.8,SNR=9.1						
	comp=Z,1.0nm,0.8s						
MAW	**Mawson**	**83.23 203**		P	**P**	**09 29 45.3**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=102,slow=10,SNR=8.7						
	comp=Z,2.0nm,0.7s						
QSPA	**South Pole Qui**	**84.17 180**		P	**P**	**09 29 50.3**	**-0.9**
QSPA	comp=Z,8.2nm,0.8s			IAmb	IAmb	09 29 52.

comp=Z,1.9nm,0.5s,baz=243,slow=4.8,SNR=3.3
BDFB PKPab **PKPab 09 37 27.7 -0.9**
comp=Z,4.1nm,0.6s,baz=286,slow=2.2,SNR=6.0

*IDC **28** 09:19:14.2±1.1,7.°07S×154.°89E,h0km,mb4.2/10, mbtmp4.2/10,MS3.4/6,Error ellipse: s-maj=37.7km s-min=22.3km az=109.0*

ISC 28 09:19:20.4±0.9,7.°1S±0.°2×154.°8E±0.°2,h41km,n15, σ1§17/11,mb4.0/10,MS3.5/4,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.56**	**115**	LR	LR	09 22 41.1	
	comp=Z,309nm,19.1s,baz=282,slow=38						
PMG	**Port Moresby**	**7.92**	**253**	LR	LR	09 24 28.3	
	comp=Z,101nm,20.4s,baz=1.5,slow=39						
WRA	**Warramunga Arr**	**23.61**	**235**	P	**P**	**09 24 27.1**	**-0.8**
	9.8nm,0.9s,baz=62,slow=9.2,SNR=5.8						
WRA				LR	LR	09 33 01.0	
	comp=Z,89nm,20.2s,baz=53,slow=35						
	9.8nm,0.9s						
ASAR	**Alice Springs**	**25.97**	**228**	P	**P**	**09 24 49.0**	**-0.4**
	3.4nm,0.7s,baz=60,slow=10,SNR=3.5						
	3.4nm,0.7s						
STKA	**Stephens Creek**	**27.55**	**205**	P	**P**	**09 25 05.0**	**+1.4**
	14nm,0.8s,baz=14,slow=11,SNR=9.2						
STKA				LR	LR	09 35 32.2	
	comp=Z,183nm,18.6s,baz=26,slow=35						
	14nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.45**	**246**	LR	LR	09 37 26.0	
	comp=Z,91nm,21.6s,baz=64,slow=36						
CMAR	**Chiang Mai Arr**	**60.69**	**296**	P	**P**	**09 29 29.4**	**+1.3**
	1.6nm,0.5s,baz=115,slow=5.1,SNR=6.8						
	1.6nm,0.5s						
SONM	**Songino Array**	**69.35**	**327**	P	**P**	**09 30 24.7**	**+0.7**
	0.8nm,0.4s,baz=116,slow=6.6,SNR=3.3						
	0.8nm,0.4s						
QSPA	**South Pole Qui**	**82.86**	**180**	P	**P**	**09 31 39.9**	**-0.7**
	3.1nm,0.8s,baz=27,slow=2.2,SNR=3.6						
	3.1nm,0.8s						
MKAR	**Makanchi Array**	**83.39**	**319**	P	**P**	**09 31 42.2**	**-1.3**
	0.4nm,0.7s,baz=107,slow=4.9,SNR=1.6						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**83.55**	**22**	P	**P**	**09 31 43.0**	**-0.9**
	1.0nm,0.9s,baz=248,slow=5.4,SNR=2.4						
	1.0nm,0.9s						
ZALV	**Zalesovo Beam**	**84.19**	**326**	P	**P**	**09 31 46.5**	**-0.9**
	0.6nm,0.5s,baz=104,slow=5.2,SNR=1.5						
	0.6nm,0.5s						
NVAR	**Mina Array Bea**	**91.92**	**52**	P	**P**	**09 32 26.5**	**+1.3**
	0.5nm,0.8s,baz=282,slow=2.9,SNR=3.1						
	0.5nm,0.8s						
RPN	**Rapa Nui**	**91.95**	**117**	LR	LR	10 06 36.3	
	comp=Z,20nm,19.1s,baz=116,slow=31						
TORD	**Torodi Ar. Bea**	**152.90**	**285**	PKPbc	**PKPbc**	**09 39 13.4**	**-0.9**
	1.1nm,0.7s,baz=49,slow=2.7,SNR=2.6						

IDC 28 09:34:39.7±323.0,58.°46N×55.°02E,h0km,Error ellipse: s-maj=150.1km s-min=131.6km az=80.0,Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**8.26**	**166**	I	I	10 24 20.0	
	baz=348,slow=343,SNR=0.8						
I46RU	**ZALESOVO INFRA**	**17.10**	**92**	I	I	11 12 40.0	
	baz=300,slow=306,SNR=1.0						
I18DK	**QAANAAQ INFRAS**	**40.05**	**344**	I	I	13 37 50.0	
	baz=39,slow=340,SNR=1.4						
I53US	**FAIRBANKS INFR**	**55.77**	**12**	I	I	15 21 00.0	
	baz=351,slow=325,SNR=1.1						

*KRSC **28** 09:42:24.7±0.6,54.°65N×160.°66E,h113km±12km,Ml4.1*
*IDC **28** 09:42:25.8±2.3,54.°94N×160.°01E,h113km±24km, mb3.5/11,mbtmp3.8/14,Error ellipse: s-maj=22.5km s-min=15.3km az=166.0*
*NEIC **28** 09:42:25.5±1.2,54.°9N±0.°1×160.°3E±0.°2,h97km±10km, mb4.2/25,Error ellipse: s-maj=16.4km s-min=13.0km az=164.0*
*MOS **28** 09:42:25.2±0.6,54.°68N×160.°59E,h115km,mb3.7/1,Error ellipse: s-maj=17.1km s-min=5.0km az=75.6*

ISC 28 09:42:25.7±0.6,54.°70N±0.°03×160.°46E±0.°04,h120km±6km, n117,σ1§25/133,mb4.1/22,1C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.61**	**343**	*eP*	**Pn**	**09 42 44.5**	**0.0**
TUMR				*eS*	**Sn**	**09 42 58.6**	**-0.1**
TUMR	**Tumrok**	**0.61**	**343**	PN	**Pn**	**09 42 44.5**	**0.0**
TUMR				S	**Sn**	**09 42 58.5**	**-0.1**
KII	**Karymskiy**	**0.89**	**222**	*eP*	**Pn**	**09 42 46.7**	**-0.1**
KII				*eS*	**Sn**	**09 43 03.6**	**+0.9**
KII	**Karymskiy**	**0.89**	**222**	PN	**Pn**	**09 42 46.6**	**-0.1**
KII				S	**Sn**	**09 43 03.5**	**+0.9**
KMNR	**Kamenistaya**	**1.06**	**353**	*eP*	**Pn**	**09 42 48.6**	**+0.2**
KMNR	**Kamenistaya**	**1.06**	**353**	PN	**Pn**	**09 42 48.6**	**+0.2**
BZP	**Bezymyannyi-Pe**	**1.22**	**2**	*eP*	**Pn**	**09 42 50.2**	**+0.2**
BZMR	**Bezymyannaya**	**1.24**	**1**	*eP*	**Pn**	**09 42 50.8**	**+0.4**
BZMR	**Bezymyannaya**	**1.24**	**1**	PN	**Pn**	**09 42 50.7**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**1.25**	**6**	*eP*	**Pn**	**09 42 50.3**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**1.25**	**6**	PN	**Pn**	**09 42 50.3**	**-0.1**
KPT	**Kopyto**	**1.28**	**354**	*eP*	**Pn**	**09 42 51.0**	**+0.4**
KPT	**Kopyto**	**1.28**	**354**	PN	**Pn**	**09 42 51.0**	**+0.4**
ZLN	**Zelenaya**	**1.33**	**8**	*eP*	**Pn**	**09 42 52.1**	**+0.8**
ZLN	**Zelenaya**	**1.33**	**8**	PN	**Pn**	**09 42 52.1**	**+0.8**
KOZ	**Kozyrevsk**	**1.40**	**346**	*eP*	**Pn**	**09 42 52.2**	**+0.2**
KOZ	**Kozyrevsk**	**1.40**	**346**	PN	**Pn**	**09 42 52.1**	**+0.2**
CIRR	**Tsirk**	**1.43**	**6**	*eP*	**Pn**	**09 42 53.1**	**+0.6**
CIRR	**Tsirk**	**1.43**	**6**	PN	**Pn**	**09 42 53.0**	**+0.6**
KRSR	**Krestovskiy**	**1.52**	**2**	*eP*	**Pn**	**09 42 53.4**	**0.0**
KRSR	**Krestovskiy**	**1.52**	**2**	PN	**Pn**	**09 42 53.4**	**0.0**
ESO	**Esso**	**1.59**	**321**	*eP*	**Pn**	**09 42 54.2**	**+0.1**
ESO				*eS*	**Sn**	**09 43 16.4**	**+0.6**
ESO	**Esso**	**1.59**	**321**	PN	**Pn**	**09 42 54.2**	**+0.1**
ESO				S	**Sn**	**09 43 16.4**	**+0.6**
SPN	**Mys Shipunski**	**1.63**	**189**	*eP*	**Pn**	**09 42 53.6**	**-1.0**
SPN				*eS*	**Sn**	**09 43 14.4**	**-2.2**
SPN	**Mys Shipunski**	**1.63**	**189**	PN	**Pn**	**09 42 53.6**	**-1.0**
SPN				S	**Sn**	**09 43 14.3**	**-2.2**
NLC	**Nalytchevo**	**1.67**	**204**	*eP*	**Pn**	**09 42 55.3**	**+0.2**
NLC				*eS*	**Sn**	**09 43 17.3**	**-0.1**
NLC	**Nalytchevo**	**1.67**	**204**	PN	**Pn**	**09 42 55.2**	**+0.2**
NLC				S	**Sn**	**09 43 17.3**	**-0.1**
SDLR	**Sedlovina**	**1.70**	**214**	*eP*	**Pn**	**09 42 56.4**	**+0.7**
SDLR	**Sedlovina**	**1.70**	**214**	PN	**Pn**	**09 42 56.3**	**+0.7**
KRX	**Arik**	**1.72**	**219**	*eP*	**Pn**	**09 42 56.6**	**+0.7**
KRX	**Arik**	**1.72**	**219**	PN	**Pn**	**09 42 56.5**	**+0.7**
SMAR	**Somma**	**1.74**	**215**	*eP*	**Pn**	**09 42 56.7**	**+0.5**
SMAR	**Somma**	**1.74**	**215**	PN	**Pn**	**09 42 56.7**	**+0.5**
AVH	**Avacha**	**1.76**	**216**	*eP*	**Pn**	**09 42 57.3**	**+0.9**
AVH	**Avacha**	**1.76**	**216**	PN	**Pn**	**09 42 57.2**	**+0.9**
KOK	**Koryaka**	**1.78**	**218**	*eP*	**Pn**	**09 42 57.6**	**+1.1**
KOK	**Koryaka**	**1.78**	**218**	PN	**Pn**	**09 42 57.6**	**+1.1**
UGLR	**Uglovaya**	**1.78**	**214**	*eP*	**Pn**	**09 42 57.4**	**+0.8**
UGLR	**Uglovaya**	**1.78**	**214**	PN	**Pn**	**09 42 57.3**	**+0.8**
DALK	**Dalny**	**1.96**	**212**	*eP*	**Pn**	**09 42 58.8**	**+0.3**
DALK				*eS*	**Sn**	**09 43 23.4**	**-0.2**
DALK	**Dalny**	**1.96**	**212**	PN	**Pn**	**09 42 58.8**	**+0.3**
DALK				S	**Sn**	**09 43 23.4**	**-0.2**
SMKR	**Semkarok**	**1.97**	**16**	*eP*	**Pn**	**09 42 59.4**	**+0.5**
SMKR				*eS*	**Sn**	**09 43 25.1**	**+0.9**
SMKR	**Semkarok**	**1.97**	**16**	PN	**Pn**	**09 42 59.3**	**+0.5**
SMKR				S	**Sn**	**09 43 25.0**	**+0.9**
PET	**Petropavlovsk**	**1.99**	**213**		**Pn**	**09 42 59.4**	**+0.4**
PET	**Petropavlovsk**	**1.99**	**213**	*eP*	**Pn**	**09 42 59.5**	**+0.4**
PET				*eS*	**Sn**	**09 43 25.4**	**+0.9**
PET	**Petropavlovsk**	**1.99**	**213**	⇑*i*PN	**Pn**	**09 42 59.9**	**+0.9**
PET				*eS*	**Sn**	**09 43 25.0**	**+0.6**
PET				pmax	pmax		
	comp=Z,176nm,0.4s						
PET				smax	smax		
	comp=E,419nm,0.9s						
PET				smax	smax		
	comp=N,455nm,0.8s						
SRKR	**Sorokina**	**2.00**	**11**	*eS*	**Sn**	**09 43 26.0**	**+1.3**
KBTR	**Krutoberegovo**	**2.02**	**41**	*eP*	**Pn**	**09 42 59.8**	**+0.5**
KBTR	**Krutoberegovo**	**2.02**	**41**	PN	**Pn**	**09 42 59.8**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.28**	**227**		**Pn**	**09 43 03.2**	**+0.5**
PEA0B	**Petropavlovsk-**	**2.28**	**227**	PN	**Pn**	**09 43 03.2**	**+0.5**
PETK	**Petropavlovsk-**	**2.28**	**227**	Pn	**Pn**	**09 43 02.5**	**-0.2**
PETK	**Petropavlovsk-**	**2.28**	**227**	P	**Pn**	**09 43 02.2**	**-0.5**
	comp=N,25nm,0.6s,baz=62,slow=16,SNR=154						
PETK	**Petropavlovsk-**	**2.28**	**227**	PN	**Pn**	**09 43 02.5**	**-0.2**
KRMR	**Karymshinskiy**	**2.33**	**217**	*eP*	**Pn**	**09 43 03.8**	**+0.5**
KRMR				*eS*	**Sn**	**09 43 33.0**	**+0.9**
KRMR	**Karymshinskiy**	**2.33**	**217**	PN	**Pn**	**09 43 03.8**	**+0.5**
KRMR				S	**Sn**	**09 43 32.9**	**+0.9**
RUS	**Russkaya**	**2.55**	**208**	*eP*	**Pn**	**09 43 05.9**	**-0.2**
RUS	**Russkaya**	**2.55**	**208**	PN	**Pn**	**09 43 05.9**	**-0.2**
GRL	**Gorelyy**	**2.58**	**214**	*eP*	**Pn**	**09 43 07.6**	**+0.9**
GRL	**Gorelyy**	**2.58**	**214**	PN	**Pn**	**09 43 07.5**	**+0.9**
MTVR	**Mutnovka**	**2.60**	**212**	*eP*	**Pn**	**09 43 07.6**	**+0.7**
MTVR	**Mutnovka**	**2.60**	**212**	PN	**Pn**	**09 43 07.6**	**+0.7**
ASAK	**Asacha**	**2.78**	**214**	*eP*	**Pn**	**09 43 10.1**	**+0.9**
ASAK	**Asacha**	**2.78**	**214**	PN	**Pn**	**09 43 10.1**	**+0.9**
BKI	**Bering**	**3.22**	**79**	*eP*	**Pn**	**09 43 14.4**	**-0.3**
BKI				*eS*	**Sn**	**09 43 49.2**	**-3.5**
BKI	**Bering**	**3.22**	**79**	PN	**Pn**	**09 43 14.4**	**-0.3**
BKI				S	**Sn**	**09 43 49.1**	**-3.5**
MA2	**Magadan**	**7.19**	**317**	Pn	**Pn**	**09 44 04.0**	**-4.0**
MA2	**Magadan**	**7.19**	**317**	P	**Pn**	**09 44 08.1**	**+0.1**
	comp=N,34nm,0.6s,baz=129,slow=10,SNR=16						
MA2	**Magadan**	**7.19**	**317**	PN	**Pn**	**09 44 04.0**	**-4.0**
ATKA	**Atka Island**	**15.28**	**89**	Pn	**Pn**	**09 45 54.3**	**-0.4**
ASAJ	**Asahikawa**	**15.68**	**235**	P	**P**	**09 46 00.9**	**-0.5**
	comp=N,3.0nm,0.5s,baz=66,slow=18,SNR=0.8						
YAK	**Yakutsk**	**17.59**	**307**	P	**Pn**	**09 46 21.9**	**-1.1**
KLR	**Kul'dur**	**18.44**	**265**	P	**P**	**09 46 31.3**	**-0.4**
	comp=N,1.3nm,0.6s,baz=58,slow=11,SNR=4.6						
K13K	**Kusilvak Mount**	**19.50**	**54**	P	**Pn**	**09 46 44.9**	**-0.6**
K13K				IAmb	IAmb	09 46 50.3	
	comp=Z,18nm,1.2s						
K15K	**Wolf Creek Mou**	**20.99**	**53**	P	Pn	09 47 00.9	-2.0
K15K				IAmb	IAmb	09 47 11.3	
	comp=Z,15nm,1.1s						
N15K	**Kwethluk River**	**21.67**	**59**	P	**P**	**09 47 08.5**	**+2.0**
N15K				IAmb	IAmb	09 47 10.8	
	comp=Z,15nm,1.0s						
TIXI	**Tiksi**	**21.72**	**333**	P	**P**	**09 47 06.6**	**-0.2**
TIXI	**Tiksi**	**21.72**	**333**	P	**P**	**09 47 06.6**	**-0.2**
J17K	**VABM Dome**	**22.19**	**51**	P	**P**	**09 47 12.8**	**+1.0**
J17K				IAmb	IAmb	09 47 33.4	
	comp=Z,17nm,1.4s						
C18K	**Utukok River**	**22.41**	**37**	P	**P**	**09 47 14.1**	**0.0**
K17K	**Iditarod**	**22.51**	**53**	P	**P**	**09 47 15.9**	**+0.8**
K17K				IAmb	IAmb	09 47 18.5	
	comp=Z,8.2nm,1.1s						
G18K	**Tagagawik**	**22.68**	**44**	P	**P**	**09 47 17.6**	**+0.9**
H18K	**Honhosa River**	**22.68**	**46**	P	**P**	**09 47 17.9**	**+1.1**
M17K	**Holitna River**	**22.92**	**56**	P	**P**	**09 47 21.2**	**+2.2**
M17K				IAmb	IAmb	09 47 22.6	
	comp=Z,18nm,1.1s						
C19K	**Lookout Ridge**	**23.11**	**36**	P	**P**	**09 47 21.7**	**+0.9**
C19K				IAmb	IAmb	09 47 27.9	
	comp=Z,13nm,1.4s						
L18K	**Granite Mounta**	**23.25**	**54**	P	**P**	**09 47 24.3**	**+2.1**
L18K				IAmb	IAmb	09 47 27.2	
	comp=Z,14nm,1.5s						
G19K	**Purcell Mounta**	**23.35**	**44**	P	**P**	**09 47 23.7**	**+0.7**
G19K				IAmb	IAmb	09 47 39.8	
	comp=Z,11nm,1.5s						
B20K	**Meade River**	**24.20**	**34**	P	**P**	**09 47 31.2**	**+0.6**
B20K				IAmb	IAmb	09 47 31.7	
	comp=Z,24nm,1.4s						
IMAR	**Indian Mountai**	**24.68**	**45**	P	**P**	**09 47 35.6**	**+0.6**
D22K	**Ayikyak River**	**25.47**	**38**	P	**P**	**09 47 43.0**	**+0.7**
D22K				IAmb	IAmb	09 47 59.0	
	comp=Z,13nm,1.4s						
ILAR	**Eielson Array**	**27.55**	**47**	P	**P**	**09 48 00.3**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=257,slow=7.2,SNR=17						
	comp=Z,0.7nm,0.5s						
J25K	**Salcha River,**	**28.21**	**48**	P	**P**	**09 48 06.9**	**+0.1**
J25K				IAmb	IAmb	09 48 14.8	
	comp=Z,4.7nm,1.3s						
K27K	**Chicken**	**29.71**	**49**	P	**P**	**09 48 21.0**	**+1.1**
K27K				IAmb	IAmb	09 48 48.3	
	comp=Z,5.4nm,1.4s						
DAWY	**Dawson**	**30.86**	**48**	P	**P**	**09 48 31.2**	**+1.0**
SKAG	**Skagway**	**33.99**	**55**	P	**P**	**09 48 58.8**	**+1.4**
NRIK	**Noril'sk**	**34.73**	**323**	P	**P**	**09 49 02.4**	**-1.4**
	comp=Z,2.9nm,0.4s,baz=151,slow=10,SNR=6.5						
	comp=Z,2.9nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**35.25**	**169**	T	T	10 26 32.3	
	baz=355,slow=76,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**35.27**	**169**	T	T	10 26 44.8	
	baz=355,slow=76,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**35.27**	**169**	T	T	10 26 49.0	
	baz=355,slow=76,SNR=5.3						
YKA	**Yellowknife Ar**	**41.84**	**44**	P	**P**	**09 50 04.2**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=342,slow=4.3,SNR=4.5						
	comp=Z,0.9nm,0.7s						
MK31	**Makanchi Array**	**47.67**	**295**	P	**P**	**09 50 49.3**	**-0.4**
MK31	**Makanchi Array**	**47.67**	**295**	P	**P**	**09 50 49.3**	**-0.4**
MKAR	**Makanchi Array**	**47.67**	**295**	P	**P**	**09 50 47.0**	**-2.7**
	comp=Z,0.3nm,0.5s,baz=62,slow=8.6,SNR=3.1						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**47.67**	**295**	P	**P**	**09 50 47.0**	**-2.7**
BVAR	**Borovoye Array**	**49.57**	**307**	P	**P**	**09 51 01.1**	**-3.0**
	comp=Z,0.6nm,0.4s,baz=65,slow=8.4,SNR=3.6						
	comp=Z,0.6nm,0.4s						
J05D	**Fort Rock, OR**	**50.04**	**69**	P	**P**	**09 51 11.0**	**+3.0**
L04D	**Klamath Falls**	**50.18**	**71**	P	**P**	**09 51 11.6**	**+2.6**
PLID	**Pearl Lake**	**51.61**	**64**	P	**P**	**09 51 21.9**	**+2.0**
NVAR	**Mina Array Bea**	**55.00**	**71**	P	**P**	**09 51 47.8**	**+3.1**
NVAR	**Mina Array Bea**	**55.00**	**71**	P	**P**	**09 51 47.3**	**+2.6**
	comp=Z,1.2nm,0.6s,baz=299,slow=7.6,SNR=10.0						
	comp=Z,1.2nm,0.6s						
PDAR	**Pinedale Array**	**56.56**	**62**	P	**P**	**09 51 57.9**	**+2.1**
	comp=Z,0.7nm,0.6s,baz=347,slow=2.9,SNR=8.0						
	comp=Z,0.7nm,0.6s						
FINES	**FINESS Array B**	**58.73**	**336**	P	**P**	**09 52 09.0**	**-1.3**
FINES	**FINESS Array B**	**58.73**	**336**	P	**P**	**09 52 08.8**	**-1.6**
	comp=Z,1.8nm,0.8s,baz=28,slow=8.6,SNR=4.6						
	comp=Z,1.8nm,0.8s						
FINES	**FINESS Array B**	**58.73**	**336**	P	**P**	**09 52 09.0**	**-1.3**
TXAR	**Lajitas Array**	**69.81**	**68**	P	**P**	**09 53 25.1**	**+1.8**
	comp=Z,1.7nm,0.5s,baz=293,slow=5.1,SNR=52						
	comp=Z,1.7nm,0.5s						
WRA	**Warramunga Arr**	**77.63**	**205**	P	**P**	**09 54 09.2**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=16,slow=6.1,SNR=2.3						
	comp=Z,0.3nm,0.7s						
ASAR	**Alice Springs**	**81.31**	**204**	P	**P**	**09 54 29.9**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=18,slow=4.7,SNR=1.6						
	comp=Z,0.2nm,0.5s						

RSNC 28 09:42:28.0±0.0,6.°N±1.°×7.°8W±.°,h40km±9km,M2.6,mb4.3, ML2.5,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.92**	**60**	P	Pn	09 42 44.5	0.0
SOLC				S	Sn	09 42 56.0	-0.6
PIZC	**Pizarro, Choco**	**1.16**	**133**	P	Pn	09 42 47.0	-0.7
PIZC				S	Sn	09 43 00.6	-1.8
PTAC	**Punta Ardita,**	**1.44**	**16**	P	Pn	09 42 51.7	+0.1
PTAC				S	Sn	09 43 08.0	-1.2
MALC	**Bahia Malaga**	**1.94**	**153**	P	Pn	09 42 58.6	+0.1
MALC				S	Sn	09 43 21.1	-0.6
CBOC	**Ciudad Bolivar**	**2.19**	**87**	P	Pn	09 43 02.4	+0.3
CBOC				S	Sn	09 43 25.1	-3.0
DBBC	**Dabeiba**	**2.35**	**58**	P	Pn	09 43 06.3	+2.1
DBBC				S	Sn	09 43 35.7	+3.8
YOTC	**Yotoco, Valle**	**2.56**	**133**	P	Pn	09 43 07.0	-0.2
YOTC				S	Sn	09 43 35.7	-1.5
APAC	**Apartado, Choc**	**2.67**	**37**	P	Pn	09 43 12.2	+3.6
APAC				S	Sn	09 43 42.7	+3.0
AZU	**Azuero**	**2.88**	**315**	P	Pn	09 43 10.7	-0.7
AZU				S	Sn	09 43 43.5	-1.3
GUY2C	**Guyana, Caldas**	**2.88**	**101**	P	Pn	09 43 13.5	+1.6
GUY2C				S	Sn	09 43 46.0	+0.4
JAMC	**Jamundi, Valle**	**2.96**	**149**	P	Pn	09 43 12.3	-0.4
JAMC				S	Sn	09 43 41.0	-6.1
CACAO	**El Cacao, Vera**	**3.07**	**301**	P	Pn	09 43 12.8	-1.2
CACAO				S	Sn	09 43 46.9	-2.6
ORTC	**Ortega, Tolima**	**3.48**	**122**	P	Pn	09 43 21.7	+2.0
POPC	**Popayan, Colom**	**3.55**	**154**	P	Pn	09 43 21.0	+0.2
POPC				S	Sn	09 43 59.4	-2.2
GMAL	**Guarumal, Vera**	**3.60**	**304**	P	Pn	09 43 21.6	+0.2
GMAL				S	Sn	09 44 02.2	-0.5
BCIP	**Isla Barro Col**	**3.75**	**335**	P	Pn	09 43 23.3	-0.1
BCIP				S	Sn	09 44 08.0	+1.7
BBAC	**Balboa, Cauca**	**3.84**	**165**	P	Pn	09 43 23.7	-1.1
PRAC	**Prado**	**3.89**	**121**	P	Pn	09 43 27.4	+2.1
PRAC				S	Sn	09 44 12.2	+2.4
URMC	**La Uribe, Meta**	**4.56**	**123**	P	Pn	09 43 36.8	+2.2
URMC				S	Sn	09 44 27.6	+1.1
GCUF	**Volcan Galeras**	**4.59**	**169**	P	Pn	09 43 35.3	0.0
FLOC	**Florencia**	**4.87**	**148**	P	Pn	09 43 40.4	+1.5
SJCC	**San Jacinto, C**	**5.09**	**36**	P	Pn	09 43 45.3	+3.4
RUSC	**La Rusia**	**5.10**	**88**	P	Pn	09 43 46.6	+4.2
CUSE	**Cuicocha Este**	**5.42**	**182**	P	Pn	09 43 46.0	-0.8

*NEIC **28** 09:51:59.3±2.0,41.°4S±0.°1×88.°8W±0.°2,h10km±2km, mb4.4/24,Error ellipse: s-maj=25.3km s-min=22.4km az=302.0*
*IDC **28** 09:52:02.1±4.3,40.°88S×88.°46W,h0km,mb3.9/4, mbtmp3.9/5,ML3.8/1,MS3.8/15,Error ellipse: s-maj=119.1km s-min=41.8km az=10.0*

ISC 28 09:52:01.1±1.3,41.°3S±0.°1×88.°5W±0.°1,h10km,n71, σ1§42/51,mb4.2/10,MS3.9/14,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**10.57**	**49**	T	T	10 05 32.8	
	baz=221,slow=73,SNR=353						
H03S1	**Juan Fernandez**	**10.58**	**49**	T	T	10 05 34.0	
	baz=221,slow=73,SNR=252						
H03S3	**Juan Fernandez**	**10.59**	**49**	T	T	10 05 40.8	
	baz=221,slow=73,SNR=212						
H03N3	**Juan Fernandez**	**10.85**	**47**	T	T	10 05 50.9	
	baz=222,slow=26,SNR=329						
H03N2	**Juan Fernandez**	**10.86**	**47**	T	T	10 05 50.9	
	baz=222,slow=26,SNR=430						
H03N1	**Juan Fernandez**	**10.87**	**47**	T	T	10 05 50.9	
	baz=222,slow=26,SNR=320						
LL01	**San Ignacio de**	**12.02**	**101**	Pn	**Pn**	**09 54 53.2**	**+0.7**
LL04	**Puerto Octay**	**12.11**	**94**	Pn	**Pn**	**09 54 54.7**	**+1.0**
LL02	**Futaleuf**	**12.46**	**104**	Pn	**Pn**	**09 55 01.1**	**+2.6**
COYC	**Coyhaique**	**12.66**	**115**		**Pn**	**09 55 03.3**	**+2.1**
AY03	**Cochrane**	**12.85**	**123**		**Pn**	**09 55 04.2**	**+0.4**
GO08	**Villa O'Higgin**	**13.37**	**128**		**Pn**	**09 55 11.7**	**+0.8**
PLCA	**Paso Flores**	**13.54**	**94**	Pn	**Pn**	**09 55 15.9**	**+2.7**
PLCA	**Paso Flores**	**13.54**	**94**	Pn	**Pn**	**09 55 15.4**	**+2.2**
	0.1nm,0.3s,baz=257,slow=16,SNR=5.0						
PLCA				LR	LR	09 59 04.9	
	comp=Z,188nm,18.9s,baz=263,slow=31						
	2.7nm,0.9s						
PLCA	**Paso Flores**	**13.54**	**94**	*eP*	**P**	**09 55 19.7**	**-2.7**
GO09	**Cerro Castillo**	**14.96**	**138**	Pn	**Pn**	**09 55 33.0**	**+0.5**
BO04	**La Punta**	**15.87**	**69**		**Pn**	**09 55 42.1**	**-2.5**
BO04				IAmb	IAmb	09 55 49.6	
	comp=Z,28nm,1.1s						
MT13	**San Alfonso**	**16.23**	**68**	Pn	**P**	**09 55 50.0**	**-2.3**
MT13				IAmb	IAmb	09 56 02.8	
	comp=Z,43nm,1.4s						
LMEL	**Las Melosas**	**16.23**	**69**		**P**	**09 55 51.7**	**-0.8**
LMEL				IAmb	IAmb	09 55 54.4	
	comp=Z,35nm,1.0s						
MT08	**Bocatoma Ro**	**16.58**	**68**	Pn	**P**	**09 55 54.7**	**-1.7**
MG02	**Cerro Sombrero**	**17.40**	**138**	P	**Pn**	**09 56 02.5**	**-1.4**
CO03	**El Pedregal**	**17.69**	**60**	P	**P**	**09 56 08.3**	**-0.3**
GO04	**Tololo Observa**	**18.06**	**58**	P	**P**	**09 56 12.7**	**-0.2**
GO04				IAmb	IAmb	09 56 16.1	
	comp=Z,39nm,1.1s						
ZON	**Zonda**	**18.59**	**65**	P	**Pn**	**09 56 19.9**	**+1.2**
CO01	**Juntas del Tor**	**18.64**	**59**	P	**Pn**	**09 56 19.6**	**+0.1**
LCO	**Las Campanas**	**18.92**	**55**	P	**Pn**	**09 56 23.0**	**+0.1**
LCO				IAmb	IAmb	09 56 25.9	
	comp=Z,17nm,1.0s						
TRQA	**Tornquist**	**20.60**	**90**	P	Pn	09 56 41.2	-1.4
TRQA				IAmb	IAmb	09 56 42.9	
	comp=Z,23nm,1.1s		

Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.49; $M_{\theta\theta}$-2.13; $M_{\phi\phi}$0.64; $M_{r\theta}$-0.76; $M_{\theta\phi}$-0.63; $M_{\phi r}$-0.93; Fault plane solution: $M_0$2.30000×10^{15} NP1: ϕ_s233.00000°,δ64.00000°,λ60.00000°. NP2: ϕ_s106.00000°,δ39.00000°,λ136.00000°.

ISC 28 10:03:35.1±0.6, 41°.37N±0°.05×143°.31E±0°.08, h31km, n87, σ1§25/73, mb4.3/30, 6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.66**	**350**	Pg	**Pb**	**10 03 45.4**	**-2.7**
JEM	**Erimo**	**0.66**	**350**	⇓P	**Pb**	**10 03 45.4**	**-2.8**
JTHR	**Tokachihiroo**	**0.92**	**359**	⇓P	**Pn**	**10 03 50.1**	**-1.8**
JTHR				⇓*e*S	**Sn**	**10 04 01.6**	**-2.5**
JTHR	**Tokachihiroo**	**0.92**	**359**	A	A	10 03 50.1	
	comp=E,17nm,0.8s,comp=N,21nm,1.3s						
JNBK	**Urakawa-nobuka**	**1.00**	**336**	⇓P	**Pn**	**10 03 51.2**	**-1.8**
JNBK	**Urakawa-nobuka**	**1.00**	**336**	A	A	10 03 51.2	
	comp=E,11nm,0.8s,comp=N,18nm,1.3s						
JSHD	**Hidakashinhida**	**1.22**	**329**	*e*P	**Pn**	**10 03 54.7**	**-1.2**
JSHD	**Hidakashinhida**	**1.22**	**329**	A	A	10 03 54.7	
	comp=E,16nm,1.4s,comp=N,14nm,1.8s						
JCH	**Churui**	**1.24**	**2**	⇓P	**Pn**	**10 03 55.8**	**-0.6**
JCH				⇓*e*S	**Sn**	**10 04 11.8**	**-0.2**
JCH	**Churui**	**1.24**	**2**	A	A	10 03 55.8	
	comp=E,8.0nm,3.5s,comp=N,7.0nm,2.7s						
JBT2	**Biratori 2**	**1.57**	**334**	P	**Pn**	**10 04 00.2**	**-0.7**
JBT2	**Biratori 2**	**1.57**	**334**	A	A	10 04 00.2	
	comp=E,5.0nm,2.1s,comp=N,5.0nm,3.8s						
JOB	**Onbets**	**1.58**	**14**	P	**Pn**	**10 04 00.7**	**-0.3**
JOB	**Onbets**	**1.58**	**14**	A	A	10 04 00.7	
	comp=E,11nm,1.5s,comp=N,9.0nm,2.5s						
JIAM	**Iburiatsuma**	**1.63**	**321**	P	**Pn**	**10 04 02.4**	**+0.8**
JIAM	**Iburiatsuma**	**1.63**	**321**	A	A	10 04 02.4	
	comp=E,14nm,1.2s,comp=N,13nm,1.1s						
JTM	**Tenmabayashi**	**1.79**	**252**	Pn	**Pn**	**10 04 02.4**	**-1.5**
JAR	**Ashorobuto**	**1.96**	**10**	A	A	10 04 06.3	
	comp=E,4.0nm,1.8s,comp=N,5.0nm,1.1s						
JKA	**Kamikawa-asahi**	**2.79**	**349**	Pn	**Pn**	**10 04 19.4**	**+1.8**
ASAJ	**Asahikawa**	**2.79**	**349**	Pn	**Pn**	**10 04 18.9**	**+1.2**
	comp=N,17nm,0.3s,baz=210,slow=10,SNR=83						
ASAJ				Sn	**Sn**	**10 04 53.8**	**+3.5**
	comp=N,11nm,0.3s,baz=133,slow=21,SNR=4.7						
ASAJ				LR	LR	10 05 42.1	
	comp=N,407nm,18.8s,baz=273,slow=46 comp=N,150nm,0.8s						
JMM	**Marumori**	**4.00**	**210**	Pn	**Pn**	**10 04 32.9**	**-1.4**
JSD	**Sado**	**5.12**	**231**		**Pn**	**10 04 50.6**	**+1.0**
MJB9	**Matsu-Tunnel**	**6.25**	**221**		**Pn**	**10 05 06.3**	**+1.1**
MAJO	**Matsushiro**	**6.25**	**221**	Pn	**Pn**	**10 05 06.4**	**+1.3**
MJAR	**Matsushiro Arr**	**6.25**	**221**	Pn	**Pn**	**10 05 04.0**	**-1.1**
	comp=N,0.2nm,0.3s,baz=28,slow=13,SNR=24 comp=N,5.2nm,0.6s						
JGF	**Kuroka**	**7.41**	**221**	Pn	**Pn**	**10 05 22.8**	**+1.6**
INU	**Inuyama**	**7.78**	**221**	Pn	**Pn**	**10 05 26.6**	**+0.4**
USA0B	**Ussuriysk Arra**	**8.79**	**293**	Pn	**Pn**	**10 05 39.6**	**-0.4**
USRK	**Ussuriysk Ar.**	**8.79**	**293**	Pn	**Pn**	**10 05 40.5**	**+0.5**
USRK	**Ussuriysk Ar.**	**8.79**	**293**	Pn	**Pn**	**10 05 40.4**	**+0.4**
	comp=N,0.2nm,0.3s,baz=170,slow=9.5,SNR=3.5						
USRK				LR	LR	10 09 05.5	
	comp=N,309nm,18.6s,baz=82,slow=38 comp=N,3.1nm,0.8s						
JMN	**Monobe**	**10.68**	**227**	Pn	**Pn**	**10 06 05.6**	**-0.4**
KLR	**Kul'dur**	**11.31**	**318**	Pn	**Pn**	**10 06 15.2**	**+0.8**
	comp=N,0.1nm,0.3s,baz=129,slow=15,SNR=5.7						
KLR				LR	LR	10 10 50.3	
	comp=N,104nm,19.3s,baz=124,slow=39 comp=N,6.6nm,1.1s						
KSRS	**Korea Array**	**12.53**	**257**	Pn	**Pn**	**10 06 30.9**	**-0.2**
	comp=N,0.1nm,0.3s,baz=75,slow=14,SNR=2.8						
KSRS				LR	LR	10 11 03.3	
	comp=N,152nm,18.7s,baz=80,slow=36 comp=N,1.0nm,0.6s						
JNU	**Nakatsue**	**12.87**	**234**	LR	LR	10 11 37.5	
	comp=N,193nm,20.9s,baz=33,slow=38						
PETK	**Petropavlovsk-**	**15.24**	**35**	Pn	**Pn**	**10 07 07.2**	**-0.7**
	comp=N,0.2nm,0.3s,baz=174,slow=7.4,SNR=1.2 comp=N,6.4nm,1.1s						
MA2	**Magadan**	**18.81**	**12**	LR	LR	10 14 48.4	
	comp=N,82nm,18.3s,baz=144,slow=36						
YAK	**Yakutsk**	**22.26**	**343**	P	**P**	**10 08 29.5**	**+0.4**
YAK				IAmb	IAmb	10 08 37.3	
	comp=Z,17nm,0.7s						
SONM	**Songino Array**	**26.88**	**296**	P	**P**	**10 09 13.9**	**+0.8**
SONM	**Songino Array**	**26.88**	**296**	P	**P**	**10 09 12.6**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=78,slow=8.3,SNR=8.8 comp=Z,1.8nm,0.6s						
GUMO	**Guam**	**27.71**	**177**	LR	LR	10 20 56.5	
	comp=Z,26nm,18.9s,baz=15,slow=38						
ENH	**Enshi**	**29.41**	**259**	P	**P**	**10 09 35.9**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**29.45**	**130**	T	T	10 40 48.1	
	baz=323,slow=75,SNR=104						
H11N1	**WAKE ISLAND Hy**	**29.46**	**130**	T	T	10 40 41.5	
	baz=323,slow=75,SNR=88						
H11N3	**WAKE ISLAND Hy**	**29.47**	**130**	T	T	10 40 48.1	
	baz=323,slow=75,SNR=65						
H11S1	**WAKE ISLAND Hy**	**30.31**	**132**	T	T	10 41 47.9	
	baz=325,slow=76,SNR=69						
H11S3	**WAKE ISLAND Hy**	**30.32**	**132**	T	T	10 41 48.4	
	baz=325,slow=76,SNR=65						
H11S2	**WAKE ISLAND Hy**	**30.33**	**132**	T	T	10 41 48.9	
	baz=325,slow=76,SNR=78						
C18K	**Utukok River**	**39.75**	**28**	P	**P**	**10 11 04.4**	**-0.2**
C18K				IAmb	IAmb	10 11 20.8	
	comp=Z,5.5nm,0.9s						
NRIK	**Noril'sk**	**40.02**	**333**	P	**P**	**10 11 07.5**	**+0.9**
	comp=Z,1.9nm,0.3s,baz=92,slow=15,SNR=2.4 comp=Z,1.9nm,0.3s						
G18K	**Tagagawik**	**40.18**	**33**	P	**P**	**10 11 09.3**	**+1.2**
G18K				IAmb	IAmb	10 11 17.5	
	comp=Z,6.7nm,1.1s						
H18K	**Honhosa River**	**40.20**	**34**	P	**P**	**10 11 09.6**	**+1.3**
H18K				IAmb	IAmb	10 11 17.5	
	comp=Z,8.2nm,1.1s						
ZAA0	**Zalesovo Array**	**40.22**	**309**	P	**P**	**10 11 09.5**	**+1.0**
ZAA0				IAmb	IAmb	10 11 20.2	
	comp=Z,5.4nm,0.8s						
ZALV	**Zalesovo Beam**	**40.22**	**309**	P	**P**	**10 11 09.8**	**+1.3**
ZALV	**Zalesovo Beam**	**40.22**	**309**	P	**P**	**10 11 08.6**	**+0.1**
	comp=Z,4.9nm,0.6s,baz=90,slow=8.4,SNR=13 comp=Z,4.9nm,0.6s						
L18K	**Granite Mounta**	**40.71**	**38**	P	**P**	**10 11 14.0**	**+1.5**
D19K	**Kuna River**	**40.82**	**29**	P	**P**	**10 11 14.1**	**+0.7**
D19K				IAmb	IAmb	10 11 32.6	
	comp=Z,5.4nm,1.1s						
IMAR	**Indian Mountai**	**42.19**	**33**	P	**P**	**10 11 25.4**	**+0.9**
MK31	**Makanchi Array**	**43.20**	**299**	P	**P**	**10 11 33.6**	**+0.5**
MKAR	**Makanchi Array**	**43.20**	**299**	P	**P**	**10 11 32.2**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=82,slow=9.6,SNR=6.2 comp=Z,0.7nm,0.5s						
C23K	**Itkillik River**	**43.66**	**27**	P	**P**	**10 11 37.1**	**+0.7**
C23K				IAmb	IAmb	10 11 57.3	
	comp=Z,5.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**44.12**	**252**	P	**P**	**10 11 39.0**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=58,slow=14,SNR=1.4 comp=Z,0.5nm,0.3s						
KURK	**Kurchatov**	**44.54**	**305**	P	**P**	**10 11 44.6**	**+1.0**
KURBB	**Kurchatov Arra**	**44.62**	**305**	P	**P**	**10 11 43.2**	**-1.1**
	comp=Z,3.3nm,0.5s,baz=78,slow=8.5,SNR=4.1 comp=Z,3.3nm,0.5s						
G24K	**Hadweenzic Riv**	**44.74**	**32**	P	**P**	**10 11 46.6**	**+1.5**
G24K				IAmb	IAmb	10 11 55.4	
	comp=Z,4.7nm,1.1s						
ILAR	**Eielson Array**	**45.07**	**35**	P	**P**	**10 11 47.2**	**-0.5**
	comp=Z,1.6nm,1.0s,baz=267,slow=6.2,SNR=9.8 comp=Z,1.6nm,1.0s						
BCAR	**Beaver Creek A**	**47.51**	**37**	P	**P**	**10 12 08.5**	**+1.5**
I28M	**Miner Creek**	**47.91**	**33**	P	**P**	**10 12 11.5**	**+1.3**
DAWY	**Dawson**	**48.38**	**35**	P	**P**	**10 12 15.3**	**+1.5**
BVAR	**Borovoye Array**	**48.84**	**310**	P	**P**	**10 12 16.6**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=72,slow=9.8,SNR=4.5 comp=Z,0.8nm,0.4s						
AAK	**Ala-Archa**	**49.83**	**296**	P	**P**	**10 12 24.7**	**-0.6**
HYT	**Haines Junctio**	**49.97**	**39**	P	**P**	**10 12 27.8**	**+1.8**
F31M	**Tsiigehtchic**	**49.98**	**30**	P	**P**	**10 12 27.0**	**+1.3**
F31M				IAmb	IAmb	10 12 27.4	
	comp=Z,7.3nm,1.1s						
C36M	**Paulatuk**	**52.89**	**26**	P	**P**	**10 12 48.1**	**+0.7**
C36M				IAmb	IAmb	10 12 58.1	
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**61.56**	**190**	P	**P**	**10 13 47.8**	**-1.5**
	comp=Z,1.9nm,0.5s,baz=7.3,slow=6.9,SNR=35 comp=Z,1.9nm,0.5s						
ASAR	**Alice Springs**	**65.29**	**189**	P	**P**	**10 14 13.4**	**-0.5**
	comp=Z,2.2nm,0.9s,baz=7.0,slow=6.4,SNR=24 comp=Z,2.2nm,0.9s						
FINES	**FINESS Array B**	**65.67**	**332**	P	**P**	**10 14 15.1**	**-0.9**
	comp=Z,2.1nm,0.6s,baz=43,slow=6.5,SNR=9.4 comp=Z,2.1nm,0.6s						
KBZ	**Khabaz**	**69.21**	**310**	P	**P**	**10 14 39.2**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=48,slow=12,SNR=1.6 comp=Z,1.8nm,0.9s						
HFS	**Hagfors**	**70.74**	**336**	P	**P**	**10 14 47.3**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=20,slow=9.5,SNR=4.2 comp=Z,1.4nm,0.6s						
NB2	**NORSAR Subarra**	**70.75**	**338**	P	**P**	**10 14 46.0**	**-1.9**
	comp=Z,7.2nm,1.4s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**70.75**	**338**	P	**P**	**10 14 47.3**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=36,slow=6.2,SNR=2.6 comp=Z,1.2nm,0.8s						
NVAR	**Mina Array Bea**	**71.25**	**55**	P	**P**	**10 14 52.1**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=290,slow=6.0,SNR=13 comp=Z,1.4nm,0.7s						
AKASG	**Malin Array Be**	**71.77**	**322**	P	**P**	**10 14 53.1**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=47,slow=6.2,SNR=4.4 comp=Z,0.7nm,0.6s						
PDAR	**Pinedale Array**	**73.61**	**47**	P	**P**	**10 15 05.6**	**0.0**
	comp=Z,1.3nm,0.7s,baz=258,slow=1.4,SNR=13 comp=Z,1.3nm,0.7s						
EKA	**Eskdalemuir Ar**	**79.52**	**341**	P	**P**	**10 15 40.3**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=49,slow=6.2,SNR=3.1 comp=Z,0.3nm,0.3s						
GERES	**GERESS Array B**	**79.79**	**329**	P	**P**	**10 15 41.6**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=23,slow=1.3,SNR=4.4 comp=Z,0.7nm,0.4s						
TXAR	**Lajitas Array**	**86.34**	**54**	P	**P**	**10 16 15.1**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=297,slow=3.6,SNR=21 comp=Z,1.7nm,0.8s						
SNAA	**Sanae**	**145.32**	**198**	PKPbc	**PKPbc**	**10 23 07.7**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=214,slow=3.7,SNR=6.5						

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*BJI **28** 10:17:05.0,27°.31N×96°.92E, h9km, mb5.4/79, mB5.6/54, ML5.6/7, Ms5.6/91, Ms7 5.4/85*

*NDI **28** 10:17:05.0,27°.59N×96°.96E, h10km, mb5.6, ML5.2, mb5.7(NEIC)*

*NEIC **28** 10:17:07.0±1.7,27°.20N±0°.07×96°.92E±0°.07, h11km±1km, mb5.7/366, Ms_20 5.3/241, Mwb5.3/27, Mww5.4/29, Error ellipse: s-maj=11.7km s-min=9.9km az=31.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}6.03; $M_{\theta\theta}$-10.39; $M_{\phi\phi}$4.36; $M_{r\theta}$2.70; $M_{\theta\phi}$1.67; $M_{\phi r}$2.21; Fault plane solution: $M_0$9.83000×10^{16} NP1: ϕ_s308.18000°,δ47.28000°,λ139.95000°. NP2: ϕ_s67.87000°,δ61.79000°,λ50.35000°. Principal axes: T 8.1065, Plg54.0000°, Azm287.0000°; N 2.8295, Plg34.0000°, Azm89.0000°; P -10.9360, Plg8.0000°, Azm185.0000°;*

*GCMT **28** 10:17:07.0±0.1,27°.09N±0°.01×96°.90E±0°.01, h22km, MW5.4/137, Moment Tensor Solution. s107,c157; s137,c260; Duration: 1§2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.04±.02; $M_{\theta\theta}$-1.33±.02; $M_{\phi\phi}$0.29±.02; $M_{r\theta}$0.40±.03; $M_{\theta\phi}$0.75±.01; $M_{\phi r}$0.38±.03; Best double couple: $M_0$1.50900×10^{17} NP1:ϕ_s84.00000°,δ58.00000°, λ51.00000°. NP2:ϕ_s320.00000°,δ49.00000°,λ135.00000°. Principal axes: T 1.3740, Plg57.0000°, Azm298.0000°; N 0.2750, Plg32.0000°, Azm107.0000°; P -1.6440, Plg5.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **28** 10:17:07.7,27°.22N×96°.95E, h15km*

*NEIC **28** 10:17:07.7,27°.22N×96°.95E, h26km*

*NEIC **28** 10:17:07.7,27°.32N×96°.50E, h26km, Moment Tensor Solution. Duration: 2§6 Moment tensor: Scale 10^{17}Nm; M_{rr}1.20; $M_{\theta\theta}$-1.26; $M_{\phi\phi}$0.06; $M_{r\theta}$-0.02; $M_{\theta\phi}$0.55; $M_{\phi r}$0.40; Fault plane solution: $M_0$1.40000×10^{17} NP1: ϕ_s307.63000°,δ51.31000°,λ114.56000°. NP2: ϕ_s91.46000°,δ44.77000°,λ62.57000°. Principal axes: T 1.3408, Plg71.0000°, Azm281.0000°; N 0.1277, Plg19.0000°, Azm112.0000°; P -1.4685, Plg3.0000°, Azm21.0000°;*

*MOS **28** 10:17:08.7±0.8,27°.16N×96°.98E, h41km, mb5.8/85, MS5.1/43 Error ellipse: s-maj=5.4km s-min=3.1km az=124.4*

*IDC **28** 10:17:10.0±1.2,27°.16N×96°.99E, h37km±9km, mb5.1/39, mbtmp5.3/41, ML4.9/2, MS4.9/78, Error ellipse: s-maj=11.2km s-min=7.4km az=50.0*

ISC 28 10:17:09.4±0.4, 27°.19N±0°.02×96°.91E±0°.02, h33km±1km, h33km:pP-P, n1670, σ1§40/1598, mb5.6/444, MS5.2/237, 94C-26D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**0.95**	**279**	*e*P	**Pb**	**10 17 27.4**	**-0.1**
LKP				*e*S	**Sb**	**10 17 41.6**	**+1.8**
LKP				IAML		10 17 48.4	
	comp=E,156μm,0.5s						
LKP				IAML		10 17 48.7	
	comp=N,96μm,0.9s						
MOKO	**MOKOCHONG**	**2.30**	**249**	*e*P	**Pb**	**10 17 48.6**	**-1.8**
MOKO				*e*S	**Sn**	**10 18 12.8**	**+0.3**
MOKO				*e*S	**Sb**	**10 18 20.9**	**+2.3**
JORH	**JORHAT**	**2.41**	**260**	*e*P	**Pn**	**10 17 48.8**	**+2.3**
JORH				*e*S	**Sb**	**10 18 19.3**	**-2.1**
JORH				IAML		10 19 26.6	
	comp=E,40μm,3.5s						
TNCH	**TengChong**	**2.59**	**146**	Pn	**Pn**	**10 17 50.8**	**+1.6**
TNCH				Pg	**Pb**	**10 17 56.8**	**+1.5**
TNCH				Sg	**Sb**	**10 18 30.0**	**+3.1**
TNCH				smax	smax		
	comp=E,31μm,1.5s						
TNCH				smax	smax		
	comp=E,27μm,1.8s						
ZIRO	**ZIRO**	**2.74**	**278**	⇑*i*P	**Pn**	**10 17 53.0**	**+1.7**
ZIRO				IAML		10 18 31.4	
	comp=E,37μm,0.4s						
ZIRO				IAML		10 18 51.9	
	comp=E,77μm,0.6s						
ZIRO				IAML		10 18 55.8	
	comp=N,59μm,0.5s						
ZIRO				IAML		10 18 58.7	
	comp=N,79μm,0.8s						
ITAN	**ITANAGAR**	**2.84**	**270**	*e*P	**Pn**	**10 17 54.7**	**+2.3**
KOHI	**KOHIMA**	**2.90**	**240**	*e*P	**Pn**	**10 17 56.4**	**+3.0**
KOHI				IAML		10 18 12.2	
	comp=E,7μm,0.5s						
KOHI				*e*S	**Sn**	**10 18 30.7**	**+3.5**
IMP	**Imphal**	**3.55**	**229**	*e*P	**Pn**	**10 18 05.3**	**+3.0**
IMP				*e*S	**Sb**	**10 18 49.0**	**-5.2**
IMP				*e*S	**Sn**	**10 18 51.8**	**+8.6**
IMP				IAML		10 18 57.2	
	comp=E,3μm,0.9s						
TEZP	**TEZPUR**	**3.71**	**262**	*e*P	**Pn**	**10 18 05.9**	**+1.5**
TEZP				*ex*	x	10 19 06.1	
TEZP				IAML		10 19 09.8	
	comp=N,4μm,0.9s						
TEZP				IAML		10 19 43.8	
	comp=E,2μm,0.6s						
PZH	**PanZhiHua**	**4.38**	**98**	Pg	**Pb**	**10 18 25.8**	**+0.2**
PZH				Sn	**Sn**	**10 19 08.3**	**+4.7**
PZH				Sg	Sb	10 19 30.8	+13
PZH				smax	smax		
	comp=E,3μm,1.5s						
PZH				smax	smax		
	comp=E,2μm,1.7s						
PZH				LR	LR		
	comp=E,69μm,11.4s						
PZH				LR	LR		
	comp=E,25μm,14.1s						
PZH				LR	LR		
	comp=E,49μm,12.4s						
SHL	**Shillong**	**4.79**	**251**	Pn	**Pn**	**10 18 20.2**	**+0.8**
SHL	**Shillong**	**4.79**	**251**	P	**Pn**	**10 18 20.5**	**+1.2**
	SNR=548						
SHL	**Shillong**	**4.79**	**251**	⇑*i*P	**Pn**	**10 18 20.2**	**+0.8**
SHL				*e*S	**Sn**	**10 19 08.9**	**-4.9**
SHL				*e*S	**Sn**	**10 19 16.0**	**+2.2**
SHL	**Shillong**	**4.79**	**251**	P	**Pn**	**10 18 20.2**	**+0.8**
AZL	**Aizawl**	**5.13**	**229**	*e*P	**Pn**	**10 18 25.2**	**+1.2**
AZL				*e*S	**Sn**	**10 19 25.5**	**+3.3**
AZL				IAML		10 19 57.3	
	comp=E,1μm,0.9s						
KMI	**Kunming**	**5.63**	**110**	⇑Pn	**Pn**	**10 18 34.0**	**+3.0**
KMI				Sn	**Sn**	**10 19 40.5**	**+5.8**
KMI				smax	smax		
	comp=E,2μm,1.3s						
KMI				smax	smax		
	comp=E,1μm,1.9s						
KMI				LR	LR		
	comp=E,20μm,6.7s						
KMI				LR	LR		
	comp=E,41μm,8.7s						
KMI				LR	LR		
	comp=E,38μm,12.5s						
LSA	**Lhasa**	**5.65**	**298**	Pn	**Pn**	**10 18 33.4**	**+1.9**
LSA	**Lhasa**	**5.65**	**298**	P	**Pn**	**10 18 33.6**	**+2.1**
LSA	**Lhasa**	**5.65**	**298**	Pn	**Pn**	**10 18 33.8**	**+2.3**
LSA				Sn	**Sn**	**10 19 39.3**	**+3.8**
LSA				LR	LR		
	comp=E,17μm,5.2s						
LSA				LR	LR		
	comp=E,3μm,3.8s						
LSA	**Lhasa**	**5.65**	**298**	P	**Pn**	**10 18 33.4**	**+1.9**
BRDH	**Bariadhala**	**6.55**	**228**	Pn	**Pn**	**10 18 46.0**	**+2.5**
	comp=E,14nm,0.3s,baz=64,slow=11,SNR=13						
BRDH				Sn	**Sn**	**10 19 58.9**	**+1.7**
	comp=E,50nm,0.3s,baz=84,slow=18,SNR=8.2 comp=E,167nm,0.4s						
CD2	**Chengdu**	**7.05**	**57**	P	**Pn**	**10 18 53.0**	**+2.6**
CD2				S	**Sn**	**10 20 13.8**	**+4.4**
CD2				pmax	pmax		
	comp=Z,80nm,0.7s						
CD2				pmax	pmax		
	comp=Z,650nm,4.0s						
CD2				LR	LR		
	comp=E,39μm,11.7s						
CD2				LR	LR		
	comp=Z,35μm,9.8s						
GTK	**Tadong**	**7.39**	**273**	*e*P	**Pn**	**10 18 54.7**	**-0.4**
GTK				IAML		10 21 17.3	
	comp=N,3μm,1.1s						
GTK				IAML		10 22 00.2	
	comp=Z,934nm,1.7s						
CHTO	**Chiang Mai**	**8.54**	**167**	Pn	**Pn**	**10 19 12.9**	**+2.1**
CHTO	**Chiang Mai**	**8.54**	**167**	P	**Pn**	**10 19 12.9**	**+2.1**
SLVN	**Son La**	**8.64**	**131**	Pn	**Pn**	**10 19 15.3**	**+3.0**
SLVN	**Son La**	**8.64**	**131**	P	**Pn**	**10 19 15.4**	**+3.1**
GYA	**Guiyang**	**8.75**	**93**	⇓P	**Pn**	**10 19 15.5**	**+1.8**
GYA				S	**Sn**	**10 20 53.5**	**+2.2**
GYA				pmax	pmax		
	comp=Z,200nm,0.9s						
GYA				pmax	pmax		
	comp=Z,770nm,3.1s						
GYA				LR	LR		
	comp=Z,16μm,6.4s						
GYA				LR	LR		
	comp=Z,16μm,10.5s						
GYA				LR	LR		
	comp=Z,22μm,9.8s						
CM31	**Chiang Mai Arr**	**8.89**	**167**		**Pn**	**10 19 17.8**	**+2.2**
CMAR	**Chiang Mai Arr**	**8.89**	**167**		**Pn**	**10 19 17.9**	**+2.3**
CMAR	**Chiang Mai Arr**	**8.89**	**167**	Pn	**Pn**	**10 19 17.1**	**+1.6**
	comp=Z,5.2nm,0.3s,baz=340,slow=13,SNR=141 comp=Z,63nm,0.9s						
CMAR	**Chiang Mai Arr**	**8.89**	**167**	P	**Pn**	**10 19 17.9**	**+2.3**
GOMU	**GeErMu**	**9.16**	**349**	P	**Pn**	**10 19 19.8**	**+0.2**
GOMU				pP		10 19 23.5	
GOMU				sP		10 19 27.0	
GOMU				S	**Sn**	**10 21 06.5**	**+4.8**
GOMU				pmax	pmax		
	comp=Z,520nm,0.7s						
GOMU				LR	LR		
	comp=Z,43μm,10.4s						
GOMU				LR	LR		
	comp=Z,9μm,10.3s						
GOMU				LR	LR		
	comp=Z,55μm,10.2s						
PHRA	**Phrae**	**9.17**	**160**	Pn	**Pn**	**10 19 21.9**	**+2.4**
BOK	**Bokaro**	**10.51**	**254**	⇑*i*P	**Pn**	**10 19 36.9**	**-0.9**
BOK				*e*S	Sn	10 21 24.9	-10
BOK				IAML		10 21 36.8	
	comp=Z,757nm,1.0s						
BOK				IAML		10 23 05.6	
	comp=E,387nm,1.9s						
LZH	**Lanzhou**	**10.66**	**32**	⇑*i*P	**Pn**	**10 19 40.5**	**+0.6**
LZH				PP	**PnPn**	**10 19 49.5**	**+1.7**
LZH				S	**Sn**	**10 21 34.3**	**-3.9**
LZH				SS	**SnSn**	**10 21 50.5**	**+0.2**
LZH				pmax	pmax		
	comp=E,270nm,1.0s						
LZH				pmax	pmax		
	comp=E,2μm,3.6s						
LZH				LR	LR		
	comp=E,30μm,10.7s						
LZH				LR	LR		
	comp=E,19μm,7.1s						
LZH				LR	LR		
	comp=E,30μm,13.1s						
ENH	**Enshi**	**11.46**	**71**	Pn	**Pn**	**10 19 50.1**	**-0.7**
ENH	**Enshi**	**11.46**	**71**	P	**Pn**	**10 19 51.1**	**+0.3**
VLK	**Valmikinagar**	**11.60**	**274**	⇑*i*P	**Pn**	**10 19 50.4**	**-2.3**
GULI	**GuiLin**	**12.23**	**96**	P	**Pn**	**10 20 01.0**	**-0.3**
GULI				S	**Sn**	**10 22 15.3**	**-1.2**
GULI				pmax	pmax		
	comp=E,150nm,1.3s						
GULI				LR	LR		
	comp=E,23μm,13.5s						
GULI				LR	LR		
	comp=E,5μm,15.1s						
GULI				LR	LR		
	comp=E,13μm,13.0s						
XAN	**Xi'an**	**12.39**	**54**	P	**Pn**	**10 20 02.8**	**-0.8**
XAN				sP	P	10 20 09.5	-5.6
XAN				S	**Sn**	**10 22 20.8**	**+0.3**
XAN				pmax	pmax		
	comp=E,63nm,1.3s						
XAN				pmax	pmax		
	comp=E,820nm,4.1s						
XAN				LR	LR		
	comp=E,34μm,11.8s						
XAN				LR	LR		
	comp=E,14μm,10.3s						
XAN				LR	LR		
	comp=E,17μm,12.4s						
GTA	**Gaotai**	**12.43**	**11**	*e*P	**Pn**	**10 20 04.0**	**-0.1**
GTA				pP	P	10 20 13.0	-2.6
GTA				S	**Sn**	**10 22 20.5**	**-1.0**
GTA				SS	**SnSn**	**10 22 34.3**	**+0.3**
GTA				ScS	**ScS**	**10 32 50.5**	**+0.4**
GTA				LR

LYN			sP	P	10 20 44.3	-2.4
LYN			S	**Sn**	**10 23 26.5**	**-3.3**
LYN			SS	**S**	**10 23 46.5**	**+0.8**
LYN			pmax	pmax		
	comp=E,46nm,0.7s					
LYN			pmax	pmax		
	comp=E,2μm,3.6s					
LYN			LR	LR		
	comp=E,14μm,12.2s					
LYN			LR	LR		
	comp=E,25μm,10.6s					
LYN			LR	LR		
	comp=E,37μm,11.2s					
GZH	**Guangzhou**	**15.44 102**	P	**P**	**10 20 47.5**	**-1.4**
GZH			S	**S**	**10 23 43.0**	**-6.9**
GZH			pmax	pmax		
	comp=E,130nm,1.4s					
GZH			LR	LR		
	comp=E,44μm,11.5s					
GZH			LR	LR		
	comp=E,13μm,11.0s					
WHN	**Wuhan**	**15.64 74**	⇑P	**Pn**	**10 20 45.5**	**-1.9**
WHN			sP	**P**	**10 20 52.3**	**+1.1**
WHN			S	**Sn**	**10 23 33.8**	**-5.9**
WHN			SS	**S**	**10 23 53.5**	**-0.6**
WHN			pmax	pmax		
	comp=E,1μm,1.4s					
WHN			LR	LR		
	comp=E,21μm,10.4s					
WHN			LR	LR		
	comp=E,64μm,10.5s					
WHN			LR	LR		
	comp=E,81μm,11.9s					
PBA	**Port Blair**	**15.94 195**		**Pn**	**10 20 49.9**	**-1.4**
PBA	**Port Blair**	**15.94 195**	P	**P**	**10 20 56.8**	**+2.3**
PBA	**Port Blair**	**15.94 195**	*e*P	**Pn**	**10 20 52.4**	**+1.1**
JHNI	**Jhansi**	**16.56 268**	*ex*	**Pn**	**10 20 53.2**	**-5.9**
JHNI			*i* pP	**P**	**10 21 00.6**	**-0.8**
TIY	**Taiyuan**	**16.77 47**	*e*P	**Pn**	**10 21 02.5**	**+0.7**
TIY			pP	**P**	**10 21 04.3**	**+0.6**
TIY			PP	**PnPn**	**10 21 11.0**	**-0.5**
TIY			S	**Sn**	**10 24 06.5**	**-0.6**
TIY			pmax	pmax		
	comp=E,110nm,0.7s					
TIY			pmax	pmax		
	comp=E,810nm,5.4s					
TIY			LR	LR		
	comp=E,4μm,9.2s					
TIY			LR	LR		
	comp=E,5μm,12.9s					
TIY			LR	LR		
	comp=E,4μm,10.3s					
DDI	**Dehra Dun**	**16.82 285**	*e*P	**Pn**	**10 20 59.3**	**-3.2**
DDI			*ex*	x	10 23 59.9	
KLP	**Kalpa**	**16.83 289**	*e*P	**Pn**	**10 20 58.8**	**-4.0**
BTO	**Baotou**	**17.23 36**	*e*P	**Pn**	**10 21 06.5**	**-1.0**
BTO			pP	**P**	**10 21 10.3**	**+1.5**
BTO			sP	**pP**	**10 21 13.5**	**-4.5**
BTO			PP	**sP**	**10 21 21.8**	**-0.6**
BTO			S	**Sn**	**10 24 17.0**	**-1.2**
BTO			pmax	pmax		
	comp=E,69nm,0.6s					
BTO			LR	LR		
	comp=E,25μm,8.5s					
BTO			LR	LR		
	comp=E,13μm,11.6s					
BTO			LR	LR		
	comp=E,25μm,8.6s					
BISR	**Bishrakh**	**17.27 279**	*ex*	**P**	**10 21 10.5**	**+1.3**
NGP	**Nagpur**	**17.36 254**	*e*P	**Pn**	**10 21 06.3**	**-2.9**
NDI	**New Delhi**	**17.46 279**	*e*P	**Pn**	**10 21 07.2**	**-3.3**
SONA	**Sohna**	**17.59 278**	*e*P	**Pn**	**10 21 08.6**	**-3.4**
SMLA	**Simla**	**17.68 288**	*e*P	**Pn**	**10 21 08.9**	**-4.2**
GUNA	**GUNA**	**17.79 266**	*e*P	**Pn**	**10 21 11.3**	**-3.2**
GUNA			IAmb	IAmb	10 21 15.0	
	comp=Z,309nm,1.0s					
BHPL	**Bhopal**	**18.06 262**	⇑*i*P	**Pn**	**10 21 14.3**	**-3.6**
BHPL			*ex*	x	10 24 26.6	
KUDL	**Kundal**	**18.11 278**	*e*P	**Pn**	**10 21 14.5**	**-3.9**
HNS	**HongShan**	**18.14 51**	⇑P	**Pn**	**10 21 18.3**	**-0.4**
HNS			PP	**sP**	**10 21 32.3**	**-0.1**
HNS			S	**Sn**	**10 24 40.5**	**+0.3**
HNS			SS	**SnSn**	**10 25 01.0**	**+7.0**
HNS			ScS	**ScS**	**10 33 05.0**	**+0.2**
HNS			pmax	pmax		
	comp=Z,90nm,1.6s					
HNS			pmax	pmax		
	comp=Z,1μm,3.9s					
HNS			LR	LR		
	comp=Z,7μm,16.5s					
HNS			LR	LR		
	comp=Z,7μm,11.4s					
WMQ	**Urumqi**	**18.19 338**	*e*P	**P**	**10 21 20.5**	**+1.1**
WMQ			S	**Sn**	**10 24 37.3**	**-4.1**
WMQ			pmax	pmax		
	comp=Z,330nm,1.3s					
WMQ			pmax	pmax		
	comp=Z,670nm,3.7s					
WMQ			LR	LR		
	comp=Z,5μm,11.1s					
WMQ			LR	LR		
	comp=Z,5μm,13.5s					
WMQ			LR	LR		
	comp=Z,3μm,17.1s					
HHC	**Hu-ho-hao-te**	**18.22 38**	⇑*i*P	**Pn**	**10 21 18.5**	**-1.3**
HHC			pP	pP	10 21 28.5	-0.6
HHC			PP	**sP**	**10 21 34.0**	**+0.6**
HHC			S	**Sn**	**10 24 36.3**	**-6.0**
HHC			sS	S	10 24 51.0	+4.3
HHC			SS	**SnSn**	**10 25 01.0**	**+4.8**
HHC			pmax	pmax		
	comp=Z,150nm,1.2s					
HHC			pmax	pmax		
	comp=Z,2μm,6.1s					
HHC			LR	LR		
	comp=Z,8μm,12.8s					
HHC			LR	LR		
	comp=Z,13μm,15.3s					
HHC			LR	LR		
	comp=Z,4μm,8.0s					
BHK	**Bhakra**	**18.36 288**	*ex*	**P**	**10 21 17.3**	**-4.0**
BHK			IAmb	IAmb	10 21 24.5	
	comp=Z,251nm,0.8s					
BHK			*i* x	x	10 21 30.8	
BHK			*ex*	x	10 24 56.0	
NRDN	**NARMADA NAGAR**	**18.44 260**	*ex*	**Pn**	**10 21 28.7**	**+6.2**
DHRM	**DHARAMSHALA**	**18.59 291**	*e*P	**P**	**10 21 20.3**	**-3.7**
DHRM			IAmb	IAmb	10 21 24.7	
	comp=Z,410nm,1.1s					
DHRM			*ex*	x	10 24 57.6	
DLV	**Lat**	**18.66 142**	P	**P**	**10 21 24.6**	**-0.3**
DLV	**Lat**	**18.66 142**	P	**Pn**	**10 21 27.1**	**+1.7**
THN	**Thein Dam**	**19.11 291**	*e*P	**P**	**10 21 25.4**	**-4.0**
THN			IAmb	IAmb	10 21 27.6	
	comp=Z,153nm,1.0s					
AKL	**Akola**	**19.28 255**	*e*P	**P**	**10 21 31.4**	**-0.1**
AKL			IAmb	IAmb	10 21 36.9	
	comp=Z,439nm,1.1s					
TIA	**Tai'an**	**19.39 57**	P	**P**	**10 21 33.0**	**+0.5**
TIA			S	**S**	**10 25 07.0**	**-3.0**
TIA			pmax	pmax		
	comp=Z,140nm,1.2s					
TIA			pmax	pmax		
	comp=Z,1μm,3.8s					
TIA			LR	LR		
	comp=Z,7μm,11.0s					
TIA			LR	LR		
	comp=Z,12μm,10.0s					
TIA			LR	LR		
	comp=Z,20μm,11.0s					
KNMB	**Chin-men Tao**	**19.53 93**	P	**P**	**10 21 34.5**	**+0.4**
HYB	**Hyderabad**	**19.54 244**	*e*P	**P**	**10 21 34.9**	**+0.5**
HYB			IVmB_BB		10 21 44.9	
	comp=Z,3μm,5.7s					
HYB			*e*S	**Sn**	**10 25 17.1**	**+2.7**
HYB			IVMs_BB	IVMs_BB	10 27 59.4	
	comp=Z,2μm,4.6s					
QZH	**Quanzhou**	**19.61 92**	⇑*i*P	**P**	**10 21 35.3**	**+0.3**
QZH			S	**Sn**	**10 25 16.5**	**+0.7**
QZH			pmax	pmax		
	comp=Z,170nm,1.0s					
QZH			pmax	pmax		
	comp=Z,750nm,4.2s					
QZH			LR	LR		
	comp=Z,17μm,8.7s					
QZH			LR	LR		
	comp=Z,6μm,7.4s					
QZH			LR	LR		
	comp=Z,13μm,14.7s					
NJ2	**Nanjing**	**19.68 70**	⇑*i*P	**P**	**10 21 36.3**	**+0.6**
NJ2			S	**Sn**	**10 25 16.8**	**-0.6**
NJ2			pmax	pmax		
	comp=Z,75nm,0.6s					
NJ2			pmax	pmax		
	comp=Z,1μm,3.7s					
NJ2			LR	LR		
	comp=Z,18μm,10.6s					
NJ2			LR	LR		
	comp=Z,6μm,9.1s					
NJ2			LR	LR		
	comp=Z,9μm,10.7s					
JMU	**Jammu**	**19.84 291**	*e*P	**P**	**10 21 38.1**	**+0.7**
AJM	**Ajmer**	**19.88 273**	*e*P	**P**	**10 21 37.9**	**-0.1**
AJM			IAmb	IAmb	10 21 40.2	
	comp=Z,1μm,0.6s					
AJM			*ex*	x	10 25 06.6	
SRNI	**Srinagar**	**20.17 295**	*e*P	**P**	**10 21 41.3**	**+0.3**
WUS	**Wushi**	**20.18 318**	P	**P**	**10 21 42.0**	**+0.7**
WUS	**Wushi**	**20.18 318**	IAMs_20	IAMs_20	10 30 47.4	
	comp=Z,7μm,18.0s					
BJT	**Baijiatuau**	**20.47 46**		**P**	**10 21 45.0**	**+0.8**
BJT	**Baijiatuau**	**20.47 46**	P	Pn	10 21 45.7	-0.9
BJT	**Baijiatuau**	**20.47 46**	P	**P**	**10 21 45.0**	**+0.8**
BJT			pmax	pmax		
	comp=Z,174nm,1.1s					
BJI	**Beijing**	**20.49 46**	P	**P**	**10 21 45.0**	**+0.6**
BJI			sP	**pP**	**10 21 50.5**	**-3.3**
BJI			S	**S**	**10 25 29.5**	**-2.4**
BJI			pmax	pmax		
	comp=Z,30nm,1.3s					
BJI			pmax	pmax		
	comp=Z,320nm,5.4s					
BJI			LR	LR		
	comp=Z,3μm,8.0s					
BJI			LR	LR		
	comp=Z,2μm,11.1s					
BJI			LR	LR		
	comp=Z,3μm,10.1s					
BKNR	**BIKANER**	**20.95 278**	*e*P	**P**	**10 21 49.8**	**+0.1**
BKNR			IAmb	IAmb	10 21 51.0	
	comp=Z,779nm,0.8s					
MDRS	**Chennai**	**20.99 231**	*e*P	Pn	10 21 51.6	-1.1
MDRS			*ex*	x	10 25 40.2	
SHLS	**Shalkode**	**21.31 323**	*e*P	**P**	**10 21 52.3**	**-1.3**
	comp=Z,196nm,1.2s					
SHLS	**Shalkode**	**21.31 323**	*e*P	**P**	**10 21 52.2**	**-1.3**
SHLS			pmax	pmax		
	comp=Z,196nm,1.2s					
KSH	**Kashi**	**21.32 311**	P	**P**	**10 21 56.0**	**+2.4**
KSH			S	**S**	**10 25 50.0**	**+1.3**
KSH			pmax	pmax		
	comp=Z,550nm,1.4s					
KSH			LR	LR		
	comp=Z,9μm,16.5s					
KSH			LR	LR		
	comp=Z,6μm,14.1s					
KSH			LR	LR		
	comp=Z,12μm,15.8s					
TARG	**Taragay, Kyrgy**	**21.34 318**	P	**P**	**10 21 56.0**	**+1.8**
TARG			IAMs_20	IAMs_20	10 31 25.2	
	comp=Z,7μm,20.0s					
TARG	**Taragay, Kyrgy**	**21.34 318**	P	**P**	**10 21 56.0**	**+1.8**
TARG			pmax	pmax		
	comp=Z,2μm,1.6s					
TARG			MLR	MLR		
	comp=Z,7μm,20.0s					
NIL	**Nilore**	**21.37 293**	P	**P**	**10 21 54.2**	**+0.1**
NIL	**Nilore**	**21.37 293**	P	**P**	**10 21 54.4**	**+0.4**
NIL	**Nilore**	**21.37 293**	P	**P**	**10 21 54.2**	**+0.1**
NIL			pmax	pmax		
	comp=Z,939nm,1.2s					
PDGK	**Podgornoye**	**21.42 323**	P	**P**	**10 21 54.5**	**-0.1**
PRZ	**Przheval'sk**	**21.46 320**	P	**P**	**10 21 57.5**	**+2.4**
PRZ	**Przheval'sk**	**21.46 320**	P	**P**	**10 21 57.5**	**+2.4**
PRZ			pmax	pmax		
	comp=Z,610nm,1.0s					
UZB	**Uzynbulak**	**21.55 322**	*e*P	**P**	**10 21 57.1**	**+1.1**
	comp=Z,151nm,0.8s					
UZB			*e*S	**S**	**10 25 54.0**	**+0.8**
UZB	**Uzynbulak**	**21.55 322**	*e*P	**P**	**10 21 57.1**	**+1.1**
UZB			*e*S	**S**	**10 25 54.0**	**+0.8**
UZB			pmax	pmax		
	comp=Z,151nm,0.8s					
SSE	**Sheshan**	**21.55 74**	P	**P**	**10 21 54.0**	**-2.0**
SSE			S	**S**	**10 25 53.0**	**-0.2**
SSE			pmax	pmax		
	comp=Z,170nm,1.6s					
SSE			pmax	pmax		
	comp=Z,1μm,3.5s					
SSE			LR	LR		
	comp=Z,2μm,11.7s					
SSE			LR	LR		
	comp=Z,3μm,12.4s					
BSI	**Banda Aceh**	**21.62 184**	P	**P**	**10 21 55.8**	**-1.1**
	comp=Z,110nm,1.2s,comp=Z,2μmcomp=Z,4μm					
TPUB	**Ta-pu**	**21.80 95**	P	**P**	**10 21 58.0**	**-0.8**
TPUB			IAmb	IAmb	10 22 07.8	
	comp=Z,357nm,1.2s					
TPUB	**Ta-pu**	**21.80 95**	P	**P**	**10 21 59.8**	**+1.1**
SATY	**Saty**	**21.83 321**	*e*P	**P**	**10 22 00.1**	**+1.0**
	comp=Z,96nm,0.8s					
SATY			*e*S	**S**	**10 25 59.5**	**+0.9**
SATY	**Saty**	**21.83 321**	*e*P	**P**	**10 22 00.0**	**+1.0**
SATY			*e*S	**S**	**10 25 59.5**	**+0.9**
SATY			pmax	pmax		
	comp=Z,96nm,0.8s					
LHMI	**Lhok Sumawe**	**21.84 180**	P	**P**	**10 22 00.3**	**+1.2**
LHMI	**Lhok Sumawe**	**21.84 180**	P	**P**	**10 22 02.1**	**+3.0**
	comp=Z,327nm,1.1s,comp=Z,6μmcomp=Z,5μm					
ZHN	**Zhinishke**	**21.88 322**	*e*P	**P**	**10 22 00.8**	**+1.2**
	comp=Z,91nm,0.7s					
ZHN	**Zhinishke**	**21.88 322**	*e*P	**P**	**10 22 00.7**	**+1.2**
ZHN			pmax	pmax		
	comp=Z,91nm,0.7s					
SONM	**Songino Array**	**21.91 17**	P	**P**	**10 21 59.7**	**-0.1**
SONM	**Songino Array**	**21.91 17**	P	**P**	**10 21 59.8**	**-0.1**
	comp=Z,60nm,0.8s,baz=202,slow=12,SNR=132					
SONM			PcP	**PcP**	**10 25 57.0**	**-1.2**
	comp=Z,3.1nm,0.7s,baz=184,slow=2.4,SNR=1.9					
SONM			ScP	**ScP**	**10 29 33.3**	**+0.3**
	comp=Z,2.9nm,1.0s,baz=216,slow=4.8,SNR=3.6					
SONM			LR	LR	10 31 21.3	
	comp=Z,7μm,19.9s,baz=205,slow=39					
	comp=Z,60nm,0.8s					
KDJ	**Kajisay**	**21.96 318**	P	**P**	**10 22 02.3**	**+1.8**
KDJ			IAmb	IAmb	10 22 03.6	
	comp=Z,380nm,1.0s					
KDJ	**Kajisay**	**21.96 318**	P	**P**	**10 22 02.3**	**+1.8**
KDJ			pmax	pmax		
	comp=Z,380nm,1.0s					
SSLB	**Suanglung**	**21.96 94**	IAmb	IAmb	10 22 13.2	
	comp=Z,282nm,1.3s					
KULM	**Kulim**	**22.07 170**	P	**P**	**10 22 02.5**	**+0.9**
KULM	**Kulim**	**22.07 170**	P	**P**	**10 22 02.7**	**+1.1**
ULN	**Ulaanbaatar**	**22.12 18**	P	**P**	**10 22 01.7**	**-0.4**
ULN	**Ulaanbaatar**	**22.12 18**	P	**P**	**10 22 02.1**	**0.0**
ULN			P	**P**	**10 22 02.1**	**0.0**
ULN	**Ulaanbaatar**	**22.12 18**	P	**P**	**10 22 01.7**	**-0.4**
ULN			pmax	pmax		
	comp=Z,81nm,0.9s					
ULN			MLR	MLR		
	comp=Z,2μm,18.0s					
YHNB	**Yeheng**	**22.14 91**	P	**P**	**10 22 01.2**	**-1.3**
YHNB	**Yeheng**	**22.14 91**	P	**P**	**10 22 03.2**	**+0.7**
TATO	**Taipei**	**22.18 90**	IAmb	IAmb	10 22 16.0	
	comp=Z,478nm,1.6s					
TATO	**Taipei**	**22.18 90**	IAMs_20	IAMs_20	10 31 16.9	
	comp=Z,9μm,18.0s					
TATO	**Taipei**	**22.18 90**	P	**P**	**10 22 02.6**	**-0.2**
NRN	**Naryn**	**22.29 315**	IAmb	IAmb	10 22 15.5	
	comp=Z,485nm,1.4s					
TWG	**Pinlang**	**22.32 96**	IAmb	IAmb	10 22 13.1	
	comp=Z,248nm,0.9s					
TWGBT	**Beinan**	**22.33 96**	P	**P**	**10 22 06.0**	**+1.6**
ZSN	**Zaisan**	**22.33 338**	*e*P	**P**	**10 22 05.4**	**+1.2**
	comp=Z,238nm,1.2s					
ZSN			*e*S	**S**	**10 26 08.8**	**+1.1**
ZSN	**Zaisan**	**22.33 338**	*e*P	**P**	**10 22 05.4**	**+1.2**
ZSN			*e*S	**S**	**10 26 08.8**	**+1.1**
ZSN			pmax	pmax		
	comp=Z,238nm,1.2s					
NACB	**Ninganchiao**	**22.44 92**	P	**P**	**10 22 07.4**	**+1.8**
ULHL	**Ulahol**	**22.59 317**	P	**P**	**10 22 09.9**	**+2.5**
	SNR=19					
TNSS	**Tian-Shan**	**22.64 319**	*e*P	**P**	**10 22 08.9**	**+0.8**
TNSS	**Tian-Shan**	**22.64 319**	*e*P	**P**	**10 22 08.8**	**+0.8**
MDOK	**Medeo**	**22.66 320**	*e*P	**P**	**10 22 09.2**	**+1.1**
MDOK			*e*S	**S**	**10 26 14.8**	**+0.7**
MDOK			LR	LR	10 32 00.6	
	comp=Z,3μm,14.9s					
MDOK	**Medeo**	**22.66 320**	*e*P	**P**	**10 22 09.1**	**+1.1**
MDOK			*e*S	**S**	**10 26 14.7**	**+0.7**
MDOK			MLR	MLR		
	comp=Z,3μm,15.0s					
MK31	**Makanchi Array**	**22.72 333**	P	**P**	**10 22 08.5**	**+0.1**
MK31			IAmb	IAmb	10 22 11.7	
	comp=Z,235nm,0.9s					
MK31	**Makanchi Array**	**22.72 333**	P	**P**	**10 22 08.5**	**+0.1**
MK31			pmax	pmax		
	comp=Z,235nm,1.0s					
MKAR	**Makanchi Array**	**22.72 333**	P	**P**	**10 22 08.5**	**+0.1**
	comp=Z,187nm,0.9s,baz=142,slow=13,SNR=612					
MKAR			PcP	**PcP**	**10 25 59.7**	**0.0**
	comp=Z,13nm,0.9s,baz=141,slow=2.6,SNR=3.4					
MKAR			ScP	**ScP**	**10 29 35.4**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=104,slow=4.0,SNR=4.8					
MKAR			LR	LR	10 31 54.2	
	comp=Z,4μm,19.2s,baz=140,slow=39					
	comp=Z,187nm,0.9s					
XLT	**XiLinHaoTe**	**22.75 38**	⇑*i*P	**P**	**10 22 08.8**	**0.0**
XLT			pP	pP	10 22 13.5	-4.7
XLT			sP	sP	10 22 14.8	-7.7
XLT			PP	**PnPn**	**10 22 36.0**	**+2.7**
XLT			S	**S**	**10 26 18.8**	**+3.4**
XLT			sS	pS	10 26 25.0	-0.7
XLT			pmax	pmax		
	comp=Z,210nm,1.3s					
XLT			LR	LR		
	comp=Z,7μm,9.8s					
XLT			LR	LR		
	comp=Z,11μm,16.6s					
AAA	**Alma-Ata**	**22.77 320**	*e*P	**P**	**10 22 10.2**	**+1.1**
	comp=Z,219nm,1.3s					
AAA			LR	LR	10 32 03.2	
AAA	**Alma-Ata**	**22.77 320**	*e*P	**P**	**10 22 10.1**	**+1.1**
AAA			pmax	pmax		
	comp=Z,219nm,1.3s					
MLSI	**Meulaboh, Aceh**	**22.80 181**	P	**P**	**10 22 08.3**	**-1.1**
	comp=Z,382nm,1.0s,comp=Z,5μmcomp=Z,3μm					
MAKZ	**Makanchi**	**22.86 333**	P	**P**	**10 22 09.9**	**+0.1**
MAKZ			IAmb	IAmb	10 22 16.0	
	comp=Z,243nm,0.9s					
MAKZ	**Makanchi**	**22.86 333**	P	**P**	**10 22 09.9**	**+0.1**
MAKZ			pmax	pmax		
	comp=Z,243nm,0.9s					
MAKZ			MLR	MLR		
	comp=Z,4μm,18.0s					
POO	**Poona**	**22.90 253**	*e*P	**P**	**10 22 10.8**	**+0.3**
POO			*e*S	Sn	10 26 28.1	-6.8
ARXS	**Arharly**	**22.90 323**	*e*P	**P**	**10 22 11.0**	**+0.6**
IPM	**Ipoh**	**22.92 169**	P	**P**	**10 22 10.3**	**-0.4**
IPM			ScP	**ScP**	**10 29 36.9**	**+0.9**
IPM	**Ipoh**	**22.92 169**	P	**P**	**10 22 10.8**	**+0.1**
CHKK	**Chushkaly**	**23.13 321**	*e*P	**P**	**10 22 13.4**	**+0.7**
CHKK	**Chushkaly**	**23.13 321**	*e*P	**P**	**10 22 13.3**	**+0.7**
TDK	**Taldyqorghan**	**23.13 325**	*e*P	**P**	**10 22 13.4**	**+0.7**
	comp=Z,153nm,0.9s					
TDK			LR	LR	10 32 14.0	
	comp=Z,3μm,15.6s					
TDK	**Taldyqorghan**	**23.13 325**	*e*P	**P**	**10 22 13.4**	**+0.7**
TDK			pmax	pmax		
	comp=Z,153nm,0.9s					
TDK			MLR	MLR		
	comp=Z,3μm,16.0s					
JASL	**Jaisalmer**	**23.15 275**	*e*P	**P**	**10 22 12.6**	**-0.4**
JASL			IAmb	IAmb	10 22 14.5	
	comp=Z,154nm,0.9s					
KAD	**Karad**	**23.18 250**	*e*P	**P**	**10 22 12.6**	**-0.8**
KAD			*e*S	**S**	**10 26 26.2**	**+3.1**
TKM2	**Tokmak 2**	**23.37 318**	P	**P**	**10 22 16.5**	**+1.2**
	SNR=93					
TKM2	**Tokmak 2**	**23.37 318**	*i* P	**P**	**10 22 14.4**	**-0.9**
TKM2			pmax	pmax		
	comp=Z,189nm,0.9s					
SALM	**Salem**	**23.40 232**	*e*P	**P**	**10 22 16.4**	**+0.9**
SALM			*ex*	x	10 26 36.0	
KUU	**Kurty**	**23.52 320**	*e*P	**P**	**10 22 17.3**	**+0.8**
KUU			LR	LR	10 32 24.7	
	comp=Z,2μm,10.3s					
KUU	**Kurty**	**23.52 320**	*e*P	**P**	**10 22 17.2**	**+0.8**
KUU			MLR	MLR		
	comp=Z,2μm,10.0s					
KCSI	**Kotacane, Aceh**	**23.55 178**	P	**P**	**10 22 17.2**	**+0.3**
	comp=Z,108nm,1.1s					
TSI	**Tuntungan**	**23.61 176**	P	**P**	**10 22 18.3**	**+0.8**
KBK	**Karagaybulak**	**23.61 316**	P	**P**	**10 22 19.6**	**+2.0**
	SNR=115					
YOJ	**Yonaguni jima**	**23.64 91**	P	**P**	**10 22 16.5**	**-1.3**
YOJ			IAmb	IAmb	10 22 34.9	
	comp=Z,305nm,1.3s					
YOJ	**Yonaguni jima**	**23.64 91**	P	**P**	**10 22 16.5**	**-1.3**
YOJ			pmax	pmax		
	comp=Z,305nm,1.3s					
YOJ			MLR	MLR		
	comp=Z,2μm,21.0s					
ZAK	**Zakamensk**	**23.67 10**	*e*P	**P**	**10 22 18.3**	**+0.3**
ZAK			*e*		10 33 24.1	
ZAK			pmax	pmax		
	comp=Z,162nm,1.3s					
DL2	**Dalian**	**23.71 54**	P	**P**	**10 22 18.8**	**+0.4**
DL2			S	**S**	**10 26 34.8**	**+3.5**
DL2			pmax	pmax		
	comp=Z,520nm,0.9s					
DL2			pmax	pmax		
	comp=Z,1μm,5.7s					
DL2			LR	LR		
	comp=Z,10μm,16.1s					
DL2			LR	LR		
	comp=Z,10μm,16.8s					
DL2			LR	LR		
	comp=Z,9μm,13.1s					
SZP	**Santa**	**23.76 109**	P	**P**	**10 22 20.6**	**+1.6**
AAK	**Ala-Archa**	**23.88 316**	P	**P**	**10 22 21.7**	**+1.6**
AAK			IAmb	IAmb	10 22 23.9	
	comp=Z,512nm,1.6s					
AAK	**Ala-Archa**	**23.88 316**	*i* P	**P**	**10 22 22.1**	**+2.0**
	SNR=128					
AAK	**Ala-Archa**	**23.88 316**	P	**P**	**10 22 22.5**	**+2.4**
AAK			P	**P**	**10 22 22.5**	**+2.4**
AAK	**Ala-Archa**	**23.88 316**	P	**P**	**10 22 21.7**	**+1.6**
AAK			pmax	pmax		
	comp=Z,512nm,1.6s					
FRU1	**Bishkek**	**23.89 316**	P	**P**	**10 22 21.8**	**+1.7**
FRU1			IAmb	IAmb	10 22 23.7	
	comp=Z,542nm,1.7s					
FRU1	**Bishkek**	**23.89 316**	P	**P**	**10 22 21.8**	**+1.7**
FRU1			pmax	pmax		
	comp=Z,542nm,1.7s					
CHMS	**Chumysh**	**23.92 317**	P	**P**	**10 22 21.6**	**+1.3**
	SNR=25					
AML	**Almayashu**	**24.12 314**	P	**P**	**10 22 24.0**	**+1.4**
	SNR=27					
ARSB	**Arslanbob**	**24.18 312**	P	**P**	**10 22 23.6**	**+0.7**
ARSB	**Arslanbob**	**24.18 312**	P	**P**	**10 22 23.7**	**+0.7**
ARSB			pmax	pmax		
	comp=Z,34nm,0.8s					
DRK	**Karamyk**	**24.21 307**	P	**P**	**10 22 24.1**	**+0.8**
DRK	**Karamyk**	**24.21 307**	P	**P**	**10 22 24.1**	**+0.8**
DRK			pmax	pmax		
	comp=Z,1μm,1.6s					
USP	**Ospenovka**	**24.23 317**	P	**P**	**10 22 24.7**	**+1.6**
	SNR=78					
PSI	**Prapat**	**24.32 175**	ScP	**ScP**	**10 29 39.1**	**-0.8**
	comp=Z,20nm,1.0s,baz=12,slow=5.5,SNR=7.2					
PSI	**Prapat**	**24.32 175**	P	**P**	**10 22 24.4**	**+0.1**
EKS2	**Erkin-Say**	**24.34 315**	P	**P**	**10 22 26.5**	**+2.1**
	SNR=142					
GOA	**Goa**	**24.40 246**	*e*P	**P**	**10 22 25.1**	**+0.3**
RPSI	**Rantau Prapat**	**24.43 175**	P	**P**	**10 22 24.2**	**-1.0**
RPSI			IAmb	IAmb	10 22 43.0	
	comp=Z,223nm,1.7s					
RPSI	**Rantau Prapat**	**24.43 175**		**ScP**	**10 29 39.1**	**-0.9**
MOY	**Mondy**	**24.64 6**	*e*P	**P**	**10 22 28.7**	**+1.8**
MOY			pmax	pmax		
	comp=Z,282nm,2.6s					

SNSI Sinabang, Aceh 24.64 181 P **P** **10 22 25.9 -1.2**
comp=Z,288nm,1.0s,comp=Z,4μm
KOD Kodaikanal 24.90 231 *e*P **P** **10 22 30.6 +0.8**
KOD IAmb IAmb 10 22 33.4
comp=Z,74nm,0.7s
KOD *ex* x 10 26 52.9
KBL Kabul 24.96 294 P **P** **10 22 31.2 +1.0**
KBL Kabul 24.96 294 P **P** **10 22 31.7 +1.6**
SNR=322
KBL P **P** **10 22 31.7 +1.6**
SNR=322
KBL Kabul 24.96 294 P **P** **10 22 31.2 +1.0**
KBL pmax pmax
comp=Z,743nm,0.6s
GAR Garm 25.11 305 P **P** **10 22 31.6 +0.3**
BTK Batken 25.13 307 P **P** **10 22 32.9 +1.5**
BTK Batken 25.13 307 P **P** **10 22 32.9 +1.5**
BTK pmax pmax
comp=Z,361nm,0.9s
SBSI Sibolga 25.56 175 P **P** **10 22 35.1 -0.3**
comp=Z,91nm,1.1s,comp=Z,3μm
IRK Irkutsk 25.63 10 *e*P **P** **10 22 37.3 +1.5**
IRK pmax pmax
comp=Z,592nm,2.6s
GSI Gunungsitoli 25.74 178 P **P** **10 22 36.3 -0.7**
GSI Gunungsitoli 25.74 178 P **P** **10 22 37.0 -0.1**
GSI Gunungsitoli 25.74 178 P **P** **10 22 35.9 -1.2**
comp=Z,82nm,0.8s,comp=Z,3μmcomp=Z,3μm
TGY Tagaytay City 25.92 115 LR LR 10 33 28.4
comp=Z,2μm,18.2s,baz=293,slow=38
SIMJ Simiganj 25.96 303 P **P** **10 22 38.9 -0.2**
SIMJ IAmb IAmb 10 23 16.2
comp=Z,266nm,1.1s
DZA Taraz 26.01 314 *e*P **P** **10 22 40.2 +0.9**
comp=Z,110nm,1.9s
DZA Taraz 26.01 314 *e*P **P** **10 22 40.2 +0.9**
DZA pmax pmax
comp=Z,111nm,1.9s
MYKOM Kota Tinggi 26.12 164 P **P** **10 22 39.6 -0.8**
MYKOM Kota Tinggi 26.12 164 P **P** **10 22 41.1 +0.7**
SUJ Sinuiju 26.21 54 P **P** **10 22 40.5 -0.6**
SUJ S **S** **10 27 11.6 +0.4**
SUJ AmB
comp=Z,863nm,1.9s
SUJ AMS AMS
comp=Z,7μm,10.8s
SNY Shenyang 26.25 49 ⇑P **P** **10 22 41.5 0.0**
SNY S **S** **10 27 16.5 +4.8**
SNY pmax pmax
comp=Z,130nm,1.1s
SNY pmax pmax
comp=Z,670nm,3.5s
SNY LR LR
comp=Z,4μm,12.4s
SNY LR LR
comp=Z,2μm,12.1s
SNY LR LR
comp=Z,4μm,12.7s
MNSI Mandailing Nat 26.37 174 P **P** **10 22 40.9 -1.8**
TRD Trivandrum 26.49 229 *e*P **P** **10 22 47.0 +3.1**
BTDF Bukit Timah Da 26.51 164 P **P** **10 22 45.6 +1.6**
IUG Iuzhnay 26.53 311 *e*P **P** **10 22 44.9 +0.7**
comp=Z,106nm,1.4s
IUG Iuzhnay 26.53 311 *e*P **P** **10 22 44.8 +0.7**
IUG pmax pmax
comp=Z,106nm,1.4s
KK31 Karatay Array 26.64 313 *i*P **P** **10 22 44.7 -0.3**
KKAR Karatay Array 26.64 313 P **P** **10 22 45.8 +0.8**
KKAR Karatay Array 26.64 313 P **P** **10 22 45.8 +0.8**
PYAG Pyongyang 26.79 56 P **P** **10 22 45.7 -0.7**
PYAG S **S** **10 27 20.0 -0.3**
PYAG AmB
comp=Z,452nm,3.4s
CHM Chimkent 26.89 311 *e*P **P** **10 22 48.3 +1.0**
CHM LR LR 10 34 29.3
CHM Chimkent 26.89 311 *e*P **P** **10 22 48.2 +1.0**
BKNI Bangkinang 27.00 171 P **P** **10 22 48.5 +1.0**
BKNI IAmb IAmb 10 23 29.0
comp=Z,151nm,1.1s
BKNI IAMs_20 IAMs_20 10 34 53.9
comp=Z,9μm,19.0s
BKNI Bangkinang 27.00 171 P **P** **10 22 48.1 -0.3**
INCN Inchon 27.04 60 P **P** **10 22 47.9 -0.7**
INCN Inchon 27.04 60 IAMs_20 IAMs_20 10 34 28.4
comp=Z,7μm,19.0s
INCN Inchon 27.04 60 P **P** **10 22 47.9 -0.7**
INCN pmax pmax
comp=Z,77nm,1.4s
INCN MLR MLR
comp=Z,6μm,19.0s
BRLS Borolday 27.05 313 *e*P **P** **10 22 49.4 +0.6**
BRLS Borolday 27.05 313 *e*P **P** **10 22 49.3 +0.6**
PBSI Pulau Batu 27.12 177 P **P** **10 22 49.5 0.0**
comp=Z,104nm,1.5s,comp=Z,1μm
TPRI Tanjung Pinang 27.12 163 P **P** **10 22 49.2 -0.3**
comp=Z,72nm,0.7s
KURBB Kurchatov Arra 27.28 334 P **P** **10 22 51.4 +0.8**
comp=Z,261nm,0.8s,baz=146,slow=11,SNR=149
KURBB PcP **PcP** **10 26 09.5 -0.2**
comp=Z,21nm,0.7s,baz=146,slow=1.9,SNR=6.0
KURBB LR LR 10 34 51.2
comp=Z,5μm,18.2s,baz=142,slow=39
KURBB P3KPbc 10 55 20.6
comp=Z,1.0nm,0.9s,baz=324,slow=4.6,SNR=4.5
comp=Z,261nm,0.8s
KURBB Kurchatov Arra 27.28 334 P **P** **10 22 50.8 +0.2**
KURK Kurchatov 27.32 334 P **P** **10 22 51.8 +0.9**
KURK Kurchatov 27.32 334 P **P** **10 22 52.5 +1.5**
KURK P **P** **10 22 52.5 +1.5**
KURK Kurchatov 27.32 334 P **P** **10 22 51.4 +0.5**
KURK 10 26 09.5
TJN Taejon 27.37 63 P **P** **10 22 50.8 -0.8**
TJN IAmb IAmb 10 22 51.1
comp=Z,148nm,0.7s
TJN IAMs_20 IAMs_20 10 33 03.6
comp=Z,5μm,22.0s
TJN Taejon 27.37 63 P **P** **10 22 50.4 -1.2**
TJN Taejon 27.37 63 P **P** **10 22 50.8 -0.8**
TJN pmax pmax
comp=Z,148nm,0.7s
TJN MLR MLR
comp=Z,5μm,22.0s
PPI Padang Panjang 27.69 172 P **P** **10 22 52.6 -2.0**
CIT Chita 27.79 22 *e*P P 10 23 02.8 +7.6
CIT *e* 10 23 15.2
CIT *e* 10 23 59.4
CIT *e* 10 26 16.2
CIT pmax pmax
comp=Z,154nm,3.0s
JOW Kunigami 27.92 83 P **P** **10 22 55.9 -0.8**
JOW IAmb IAmb 10 22 56.7
comp=Z,107nm,0.5s
JOW IAMs_20 IAMs_20 10 34 32.4
comp=Z,4μm,19.0s
JOW Kunigami 27.92 83 LR LR 10 34 42.1
comp=Z,4μm,19.1s,baz=275,slow=38
JOW Kunigami 27.92 83 P **P** **10 22 55.8 -0.8**
KKM Kota Kinabalu 27.92 135 P **P** **10 22 57.2 +0.4**
KKM IAmb IAmb 10 23 04.9
comp=Z,311nm,1.5s
KKM Kota Kinabalu 27.92 135 P **P** **10 22 57.6 +0.8**
KS19 Wonju Array Si 28.00 61 P **P** **10 22 56.0 -1.2**
KSAR Wonju Array Be 28.00 61 P **P** **10 22 55.5 -1.6**
KSAR ScP **ScP** **10 29 50.3 +0.1**
KSAR Wonju Array Be 28.00 61 P **P** **10 22 55.6 -1.6**
KSRS Korea Array 28.03 61 P **P** **10 22 55.8 -1.7**
comp=Z,8.2nm,0.6s,baz=252,slow=8.2,SNR=37
KSRS PcP **PcP** **10 26 11.4 -0.3**
comp=Z,4.2nm,0.8s,baz=264,slow=2.6,SNR=4.1
KSRS ScP **ScP** **10 29 49.5 -0.7**
comp=Z,4.0nm,0.8s,baz=246,slow=3.1,SNR=12
KSRS LR LR 10 35 19.3
comp=Z,6μm,18.5s,baz=255,slow=39
comp=Z,8.2nm,0.6s
PDSI Padang 28.14 172 P **P** **10 22 55.4 -3.3**
comp=Z,38nm,0.8s,comp=Z,4μm
ZAA0 Zalesovo Array 28.18 345 P **P** **10 22 59.4 +0.7**
ZALV Zalesovo Beam 28.18 345 P **P** **10 22 59.3 +0.6**
comp=Z,24nm,0.6s,baz=160,slow=9.5,SNR=119
ZALV PcP **PcP** **10 26 10.8 -1.0**
comp=Z,4.5nm,0.5s,baz=183,slow=3.9,SNR=2.0
ZALV ScP **ScP** **10 29 49.9 -0.5**
comp=Z,2.3nm,0.8s,baz=194,slow=4.0,SNR=2.9
ZALV LR LR 10 35 48.1
comp=Z,692nm,19.4s,baz=168,slow=40
comp=Z,24nm,0.6s
HIA Hailar 28.22 33 P **P** **10 22 59.6 +0.5**
HIA ScP **ScP** **10 29 52.9 +2.2**
HIA Hailar 28.22 33 IAMs_20 IAMs_20 10 35 20.8
comp=Z,11μm,21.0s
HIA Hailar 28.22 33 P **P** **10 22 59.8 +0.7**
HIA Hailar 28.22 33 P **P** **10 22 59.6 +0.5**
HIA pmax pmax
comp=Z,72nm,1.1s
HIA MLR MLR
comp=Z,11μm,21.0s
CN2 Changchun 28.35 47 ⇑P **P** **10 23 00.3 0.0**
CN2 *es*P pP 10 23 07.0 -3.5
CN2 *e*S **S** **10 27 44.5 -0.3**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,900nm,5.0s
CN2 LR LR
comp=Z,2μm,11.0s
CN2 LR LR
comp=Z,2μm,11.0s
CN2 LR LR
comp=Z,2μm,12.0s
SISI Saibi 28.43 175 P **P** **10 22 59.6 -1.6**
comp=Z,114nm,1.4s,comp=Z,2μm
KSM Kuching 28.62 151 P **P** **10 23 02.4 -0.5**
KSM Kuching 28.62 151 P **P** **10 23 03.9 +1.0**
SBUM Sibu 28.64 147 P **P** **10 23 03.9 +0.8**
SBUM Sibu 28.64 147 P **P** **10 23 04.5 +1.4**
JNU Nakatsue 29.88 70 P **P** **10 23 13.5 -0.6**
JNU IAMs_20 IAMs_20 10 36 40.1
comp=Z,7μm,18.0s
JNU Nakatsue 29.88 70 LR LR 10 36 17.9
comp=Z,5μm,20.2s,baz=268,slow=38
JNU Nakatsue 29.88 70 P **P** **10 23 14.4 +0.3**
PPSI Pulau Pagai 29.93 174 P **P** **10 23 14.1 -0.4**
comp=Z,182nm,1.1s,comp=Z,2μm
MYLDM Lahad Datu 30.04 133 P **P** **10 23 14.3 -1.2**
MYLDM IAmb IAmb 10 23 24.0
comp=Z,186nm,1.5s
MYLDM Lahad Datu 30.04 133 P **P** **10 23 16.3 +0.8**
STKI Sintang 30.39 150 P **P** **10 23 19.8 +1.2**
comp=Z,32nm,1.1s
BNX BinXian 30.47 45 ⇑P **P** **10 23 19.5 +0.5**
BNX S **S** **10 28 16.0 -2.0**
BNX pmax pmax
comp=Z,330nm,0.9s
BNX pmax pmax
comp=Z,920nm,3.6s
BNX LR LR
comp=Z,2μm,14.2s
BNX LR LR
comp=Z,4μm,12.3s
BNX LR LR
comp=Z,5μm,13.9s
PPBI Pangkal Pinang 30.50 162 P **P** **10 23 20.4 +0.8**
comp=Z,64nm,0.9s
HRA Herat 30.52 292 P **P** **10 23 20.2 +0.3**
HRA IAmb IAmb 10 23 21.5
comp=Z,110nm,0.8s
MDJ Mudanjiang 31.40 48 P **P** **10 23 26.2 -1.1**
MDJ IAmb IAmb 10 23 34.3
comp=Z,112nm,1.3s
MDJ Mudanjiang 31.40 48 P **P** **10 23 26.8 -0.5**
MDJ PP **PnPn** **10 24 29.0 -1.5**
MDJ S **S** **10 28 28.5 -4.2**
MDJ ScS **ScS** **10 33 57.5 -1.0**
MDJ pmax pmax
comp=Z,68nm,1.1s
MDJ LR LR
comp=Z,2μm,9.6s
MDJ LR LR
comp=Z,3μm,13.7s
MDJ LR LR
comp=Z,4μm,12.0s
MDJ Mudanjiang 31.40 48 P **P** **10 23 27.7 +0.4**
TPI Tanjungpandan 31.52 159 P **P** **10 23 29.0 +0.4**
comp=Z,75nm,1.1s,comp=Z,1μm
MSHR Mys Shultsa 31.77 52 *i*P **P** **10 23 31.1 +0.6**
MSHR pmax pmax
comp=Z,28nm,1.1s
MNAI Manna 31.90 169 IAMs_20 IAMs_20 10 37 54.8
comp=Z,4μm,18.0s
NGCH Negor - Chabah 32.06 275 P **P** **10 23 34.3 +1.0**
JMN Monobe 32.41 69 IAMs_20 IAMs_20 10 38 18.0
comp=Z,4μm,19.0s
VLA Vladivostok 32.44 51 *i*P **P** **10 23 37.0 +0.6**
VLA pmax pmax
comp=Z,173nm,0.9s
BVA0 Borovoye Array 32.47 330 *i*P **P** **10 23 36.7 +0.1**
BVAR Borovoye Array 32.47 330 P **P** **10 23 37.8 +1.2**
comp=Z,54nm,0.8s,baz=131,slow=10,SNR=191
BVAR PcP **PcP** **10 26 23.5 +0.4**
comp=Z,38nm,0.6s,baz=152,slow=3.2,SNR=24
BVAR LR LR 10 37 35.0
comp=Z,2μm,19.2s,baz=126,slow=38
comp=Z,54nm,0.8s
BRVK Borovoye 32.54 330 P **P** **10 23 38.3 +1.1**
BRVK IAmb IAmb 10 23 39.6
comp=Z,93nm,0.9s
BRVK Borovoye 32.54 330 P **P** **10 23 38.7 +1.5**
BRVK Borovoye 32.54 330 *ce*P **P** **10 23 38.3 +1.1**
BRVK pmax pmax
comp=Z,82nm,0.9s
HEH HeiHe 32.74 37 *e*P **P** **10 23 39.5 +0.5**
HEH PcP **PcP** **10 26 22.5 -1.3**
HEH S **S** **10 28 53.5 +0.1**
HEH pmax pmax
comp=Z,160nm,1.1s
HEH pmax pmax
comp=Z,970nm,3.8s
HEH LR LR
comp=Z,4μm,11.2s
HEH LR LR
comp=Z,6μm,10.6s
HEH LR LR
comp=Z,8μm,16.4s
USA0B Ussuriysk Arra 32.86 50 P **P** **10 23 40.0 -0.1**
USA0B Ussuriysk Arra 32.86 50 P **P** **10 23 40.0 -0.1**
USA0B pmax pmax
comp=Z,302nm,1.7s
USRK Ussuriysk Ar. 32.86 50 P **P** **10 23 40.3 +0.2**
USRK Ussuriysk Ar. 32.86 50 P **P** **10 23 40.0 0.0**
comp=Z,44nm,0.8s,baz=252,slow=8.1,SNR=109
USRK PcP **PcP** **10 26 23.0 -1.3**
comp=Z,2.0nm,0.7s,baz=271,slow=0.5,SNR=1.7
USRK ScP **ScP** **10 30 05.4 -0.6**
comp=Z,1.1nm,0.6s,baz=237,slow=5.2,SNR=4.8
USRK LR LR 10 38 51.8
comp=Z,2μm,18.1s,baz=245,slow=40
comp=Z,44nm,0.8s
MTKI Muara Teweh, K 32.89 145 P **P** **10 23 41.6 +1.0**
KASI Kota Agung 33.34 166 P **P** **10 23 43.5 -1.0**
comp=Z,41nm,1.0s
DAV Davao City (W) 33.77 121 P **P** **10 23 48.3 -0.1**
comp=Z,218nm,0.4s,baz=273,slow=9.7,SNR=2.6
DAV LR LR 10 39 21.1
comp=Z,1μm,18.5s,baz=315,slow=40
BKB Balikpapan 34.21 143 IAMs_20 IAMs_20 10 38 38.3
comp=Z,3μm,19.0s
JLN Jalan Bani Buh 34.35 270 P **P** **10 23 54.1 +0.7**
SNR=16
JLN P **P** **10 23 54.1 +0.7**
SNR=16
TOLI2 Tolitoli 34.60 135 P **P** **10 23 55.1 -0.4**
TOLI2 IAmb IAmb 10 24 02.6
comp=Z,107nm,1.6s
TOLI2 Tolitoli 34.60 135 P **P** **10 23 55.7 +0.2**
WBK Wadi Bani Khal 34.62 271 P **P** **10 23 56.9 +1.1**
WBK P **P** **10 23 56.9 +1.1**
KLR Kul'dur 34.67 41 LR LR 10 38 24.7
comp=Z,750nm,18.7s,baz=240,slow=37
KLR Kul'dur 34.67 41 *ce*P **P** **10 23 55.8 0.0**
KLR pmax pmax
comp=Z,50nm,1.7s
KLR MLR MLR
comp=Z,2μm,14.0s
ZEA Zeya 34.69 32 *e*P **P** **10 23 57.3 +1.4**
ZEA *e* 10 29 28.4
ZEA pmax pmax
comp=Z,20nm,1.1s
ZEA MLR MLR
comp=E,5μm,13.0s
ZEA MLR MLR
comp=N,7μm,12.0s
ZEA MLR MLR
comp=Z,8μm,12.0s
JASK Jask - Hormozg 34.86 277 P **P** **10 23 59.6 +1.9**
DBJI Dramaga 34.87 163 P **P** **10 23 56.4 -1.4**
BIDO Bidbid 35.14 273 P **P** **10 24 01.0 +0.9**
SNR=6.4
BIDO P **P** **10 24 01.0 +0.9**
SNR=6.4
SMDO Samad 35.33 272 P **P** **10 24 03.1 +1.2**
SNR=16
SMDO P **P** **10 24 03.1 +1.2**
SNR=16
JGF Kuroka 35.34 66 P **P** **10 24 00.7 -1.1**
JGF Kuroka 35.34 66 P **P** **10 24 01.2 -0.6**
LEM Lembang 35.37 161 P **P** **10 24 02.3 0.0**
comp=Z,12nm,0.3s,baz=354,slow=18,SNR=4.9
LEM LR LR 10 40 13.5
comp=Z,4μm,18.7s,baz=322,slow=39
comp=Z,12nm,0.3s
JMDO Jabal Madar 35.46 271 P **P** **10 24 03.8 +0.9**
SNR=9.0
JMDO P **P** **10 24 03.8 +0.9**
SNR=9.0
MRSI Marisa 35.83 134 P **P** **10 24 06.1 +0.1**
HOQ Hoqain 35.85 273 P **P** **10 24 07.1 +0.8**
SNR=6.2
HOQ P **P** **10 24 07.1 +0.8**
SNR=6.2
AB31 Akbulak array 35.94 318 *i*P **P** **10 24 08.0 +1.3**
ABKAR Akbulak array 35.94 318 P **P** **10 24 08.5 +1.9**
MHTO MHTO 35.98 269 P **P** **10 24 08.1 +0.7**
SNR=20
MHTO P **P** **10 24 08.1 +0.7**
SNR=20
JSG Sagara 35.99 68 IAMs_20 IAMs_20 10 38 40.9
comp=Z,5μm,18.0s
MJB9 Matsu-Tunnel 36.06 65 P **P** **10 24 07.2 -0.8**
MAJO Matsushiro 36.07 65 P **P** **10 24 07.2 -0.8**
MAJO Matsushiro 36.07 65 P **P** **10 24 07.5 -0.5**
MAJO Matsushiro 36.07 65 P **P** **10 24 07.2 -0.8**
MAJO pmax pmax
comp=Z,52nm,1.0s
MAJO MLR MLR
comp=Z,2μm,19.0s
UWJI Ujung Watu 36.07 156 P **P** **10 24 07.2 -0.9**
comp=Z,125nm,1.2s,comp=Z,2μm
MJAR Matsushiro Arr 36.07 65 P **P** **10 24 07.4 -0.6**
comp=Z,34nm,0.8s,baz=272,slow=9.3,SNR=67
MJAR PcP **PcP** **10 26 33.3 -0.4**
comp=Z,8.3nm,1.0s,baz=274,slow=5.2,SNR=4.2
MJAR ScP **ScP** **10 30 17.5 -0.2**
comp=Z,5.2nm,0.8s,baz=258,slow=3.2,SNR=9.0
MJAR LR LR 10 38 51.3
comp=Z,2μm,20.1s,baz=267,slow=36
comp=Z,34nm,0.8s
BSY Bisya 36.16 272 P **P** **10 24 10.0 +1.1**
SNR=18
BSY P **P** **10 24 10.0 +1.1**
SNR=18
JSD Sado 36.21 62 P **P** **10 24 08.1 -1.0**
BANOM Banah 36.23 277 P **P** **10 24 11.0 +1.5**
KPJI Karang Pucung 36.24 160 P **P** **10 24 10.4 +0.9**
comp=Z,110nm,1.2s,comp=Z,1μm
TEY Ternei 36.25 50 ⇑*e*P **P** **10 24 09.5 +0.1**
TEY pmax pmax
comp=N,10.0nm,1.5s
TEY pmax pmax
comp=Z,30nm,1.6s
TEY pmax pmax
comp=E,20nm,1.3s
SHME Shamm 36.35 278 *i*P **P** **10 24 11.7 +1.3**
SNR=5.8
SHME Shamm 36.35 278 P **P** **10 24 11.8 +1.3**
SHME P **P** **10 24 11.8 +1.3**
MDH Madha 36.36 276 P **P** **10 24 10.2 -0.4**
MDH Madha 36.36 276 P **P** **10 24 10.5 -0.1**
MDH P **P** **10 24 10.5 -0.1**
SOHO SOHO 36.41 274 P **P** **10 24 13.2 +2.2**
SOHO P **P** **10 24 13.2 +2.2**
MASF Masafi 36.47 277 P **P** **10 24 13.8 +2.2**
SNR=7.4
MASF P **P** **10 24 13.8 +2.2**
SNR=7.4
MSFE Esma-Masafi 36.47 277 *i*P **P** **10 24 13.0 +1.4**
SNR=8.1
SMRI Semarang 36.47 157 P **P** **10 24 12.0 +0.5**
SMRI Semarang 36.47 157 P **P** **10 24 09.7 -1.8**
comp=E,176nm,1.1s
UOSS Minazif 36.52 276 P **P** **10 24 10.9 -1.1**
UOSS Minazif 36.52 276 *i*P **P** **10 24 11.9 0.0**
SNR=7.4
UOSS Minazif 36.52 276 P **P** **10 24 12.0 0.0**
UOSS P **P** **10 24 12.0 0.0**
HATD Hatta, Dubai 36.61 276 *i*P **P** **10 24 13.0 +0.2**
SNR=19
HATD Hatta, Dubai 36.61 276 P **P** **10 24 15.0 +2.3**
SNR=12
HATD P **P** **10 24 15.0 +2.3**
SNR=12
ARQ Araqi 36.61 273 P **P** **10 24 14.1 +1.3**
SNR=14
ASHO Ashiyiah 36.71 275 *i*P **P** **10 24 15.2 +1.6**
SNR=46
ASHO Ashiyiah 36.71 275 P **P** **10 24 15.4 +1.8**
SNR=27
ASHO P **P** **10 24 15.4 +1.8**
SNR=27
APSI Ampana 36.71 136 P **P** **10 24 14.0 +0.4**
comp=E,129nm,1.1s,comp=E,1μm
TBJI Tambak Boyo 36.77 155 P **P** **10 24 13.4 -0.7**
comp=E,100nm,0.9s,comp=E,3μm
NAZ Nazwa, Dubai 36.99 276 *i*P **P** **10 24 17.0 +1.1**
SNR=5.6
NAZ Nazwa, Dubai 36.99 276 P **P** **10 24 17.3 +1.3**
NAZ P **P** **10 24 17.3 +1.3**
KMSI Cibinong 37.10 131 P **P** **10 24 16.5 -0.4**
comp=E,167nm,1.1s,comp=E,4μm
FAQ Al Faqa, Dubai 37.10 276 P **P** **10 24 17.7 +0.8**
FAQ Al Faqa, Dubai 37.10 276 P **P** **10 24 17.9 +1.0**
FAQ P **P** **10 24 17.9 +1.0**
ALNE Al Ain 37.12 275 *i*P **P** **10 24 18.3 +1.1**
SNR=16
ALNE Al Ain 37.12 275 P **P** **10 24 18.5 +1.4**
SNR=12
ALNE P **P** **10 24 18.5 +1.4**
SNR=12
NGJI Ngawi 37.13 156 P **P** **10 24 16.6 -0.5**
comp=E,41nm,0.7s
TTSI Tana Toraja 37.31 140 P **P** **10 24 19.4 +0.7**
comp=E,72nm,0.9s
ASUD Al Ashush, Dub 37.37 276 *i*P **P** **10 24 20.2 +1.1**
SNR=9.7
ASUD Al Ashush, Dub 37.37 276 P **P** **10 24 20.8 +1.7**
ASUD P **P** **10 24 20.8 +1.7**
LUWI Luwuk 37.52 134 P **P** **10 24 20.1 -0.3**
LUWI IAmb IAmb 10 24 43.5
comp=Z,118nm,0.8s
LUWI Luwuk 37.52 134 P **P** **10 24 20.8 +0.4**
LUWI Luwuk 37.52 134 P **P** **10 24 19.6 -0.8**
comp=Z,143nm,0.9s,comp=Z,2μm
AKTO Aktyubinsk 37.55 319 LR LR 10 41 50.0
comp=Z,2μm,21.0s,baz=126,slow=39
AKTO Aktyubinsk 37.55 319 P **P** **10 24 21.2 +0.8**
AJN Ajban 37.68 276 P **P** **10 24 23.0 +1.2**
AJN P **P** **10 24 23.0 +1.2**
PCJI Pacitan 37.79 157 P **P** **10 24 23.0 +0.3**
comp=Z,41nm,1.3s
KMMI Kalianget 37.83 152 P **P** **10 24 23.2 +0.1**
comp=Z,117nm,1.2s,comp=Z,2μm
PWJI Pagerwojo 37.86 155 P **P** **10 24 21.1 -2.2**
UMZA Um Al Zommool 37.98 273 P **P** **10 24 25.2 +0.8**
UMZA P **P** **10 24 25.2 +0.8**
SPSI Sidrap Palu 38.04 141 P **P** **10 24 24.7 -0.1**
comp=Z,53nm,1.6s,comp=Z,1μm
GRNR Gornyy 38.05 41 ⇑*i*P **P** **10 24 25.1 +0.4**
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR MLR MLR
comp=N,970nm,12.0s
GRNR MLR MLR
comp=E,2μm,12.0s
GRNR MLR MLR
comp=Z,2μm,13.0s
JMM Marumori 38.20 63 P **P** **10 24 24.6 -1.4**
JMM IAmb IAmb 10 24 27.4
comp=Z,260nm,1.4s

JMM IAMs_20 IAMs_20 10 39 48.2
comp=Z,2μm,20.0s
JMM Marumori 38.20 63 P **P 10 24 24.7 -1.4**
BLJI Banyuglugur 38.31 153 P **P 10 24 25.3 -1.8**
comp=Z,59nm,0.9s
JTM Tenmabayashi 38.65 58 IAMs_20 IAMs_20 10 40 57.1
comp=Z,3μm,18.0s
GMJI Gumukmas 38.72 153 P **P 10 24 30.4 -0.2**
comp=Z,37nm,1.2s,comp=Z,1μm
KAPI Kappang 38.89 142 P **P 10 24 32.2 +0.2**
KAPI Kappang 38.89 142 LR LR 10 44 12.2
comp=Z,1μm,18.7s,baz=315,slow=42
KAPI Kappang 38.89 142 P **P 10 24 34.0 +2.0**
KAPI Kappang 38.89 142 P **P 10 24 32.2 +0.2**
KAPI pmax pmax
comp=Z,31nm,1.3s
JAGI Jajag, Banyuwa 39.19 152 P **P 10 24 34.1 -0.4**
JAGI Jajag, Banyuwa 39.19 152 P **P 10 24 34.8 +0.3**
JAGI Jajag, Banyuwa 39.19 152 P **P 10 24 32.7 -1.8**
SVE Sverdlovsk 39.24 329*d iP* **P 10 24 36.4 +1.9**
SVE *eS* **S 10 30 38.8 +6.1**
SVE pmax pmax
comp=Z,360nm,0.9s
SRBI Singaraja 39.30 151 P **P 10 24 34.4 -1.0**
comp=Z,99nm,1.6s,comp=Z,1μm
TNTI Ternate 39.30 127 P **P 10 24 34.9 -0.5**
TNTI IAmb IAmb 10 24 41.6
comp=Z,206nm,1.8s
TNTI Ternate 39.30 127 P **P 10 24 35.3 -0.2**
TNTI Ternate 39.30 127 P **P 10 24 34.2 -1.3**
comp=Z,52nm,1.7s,comp=Z,1μm
BKSI Bulukumba 39.35 142 P **P 10 24 35.0 -0.9**
MZR Muzera 39.40 274 *i* P **P 10 24 36.6 +0.3**
SNR=6.8
MZR Muzera 39.40 274 P **P 10 24 37.0 +0.6**
SNR=8.0
MZR P **P 10 24 37.0 +0.6**
SNR=8.0
JRN Qarnain Island 39.49 277 P **P 10 24 37.5 +0.6**
JRN P **P 10 24 37.5 +0.6**
KDI Kendari 39.69 137 P **P 10 24 37.8 -0.9**
GHWR Ruwais 39.70 275 P **P 10 24 39.3 +0.6**
DMTO DMTO 39.75 265 P **P 10 24 39.9 +0.7**
DMTO P **P 10 24 39.9 +0.7**
ARTI Arti 40.07 327 P **P 10 24 42.4 +1.0**
ARTI IAmb IAmb 10 24 43.6
comp=Z,206nm,1.0s
ARTI Arti 40.07 327 ScP **ScP 10 30 30.1 -2.2**
comp=Z,2.8nm,0.4s,baz=128,slow=13,SNR=2.6
ARTI LR LR 10 43 29.0
comp=Z,3μm,18.0s,baz=119,slow=39
ARTI Arti 40.07 327*c iP* **P 10 24 42.6 +1.2**
ARTI 10 26 46.2
ARTI S **S 10 30 47.2 +2.1**
ARTI pmax pmax
comp=Z,235nm,1.1s
ARTI MLR MLR
comp=Z,2μm,16.0s
JCJ Chichijima 40.12 79 LR LR 10 40 47.4
comp=Z,2μm,21.0s,baz=135,slow=35
DOK Doka 40.16 267 P **P 10 24 43.1 +0.4**
SNR=8.8
ASAJ Asahikawa 40.23 53 LR LR 10 41 53.5
comp=Z,1μm,18.4s,baz=258,slow=37
ASAJ Asahikawa 40.23 53 P **P 10 24 43.1 +0.2**
ASAJ pmax pmax
comp=Z,220nm,0.9s
BSSI Bau Bau, Buton 40.23 142 P **P 10 24 42.8 -0.4**
comp=Z,31nm,1.2s
JKA Kamikawa-asahi 40.23 53 P **P 10 24 43.1 +0.1**
JKA IAmb IAmb 10 24 44.7
comp=Z,220nm,0.9s
ERM Erimo 40.35 56 P **P 10 24 43.4 -0.6**
ERM IAmb IAmb 10 24 47.9
comp=Z,334nm,1.3s
ERM Erimo 40.35 56 P **P 10 24 45.3 +1.4**
ERM Erimo 40.35 56*ceP* **P 10 24 44.4 +0.5**
ERM pmax pmax
comp=Z,300nm,1.3s
SANI Sanana 40.38 131 P **P 10 24 42.8 -1.6**
SANI Sanana 40.38 131 P **P 10 24 41.4 -3.0**
comp=Z,18nm,0.7s
RBK Rabkut 40.49 265 P **P 10 24 46.3 +0.9**
SNR=13
RBK P **P 10 24 46.3 +0.9**
SNR=13
RBK P **P 10 24 46.3 +0.9**
SNR=13
SLWR Sila 40.72 276 P **P 10 24 47.5 +0.3**
WHFO Wadi Hawf 40.72 266 P **P 10 24 47.5 +0.2**
SNR=14
WHFO P **P 10 24 47.5 +0.2**
SNR=14
YSS Yuzh-Sakhalins 40.88 49 P **P 10 24 48.3 +0.2**
YSS IAmb IAmb 10 24 55.6
comp=Z,205nm,1.4s
YSS Yuzh-Sakhalins 40.88 49 P **P 10 24 48.9 +0.7**
YSS Yuzh-Sakhalins 40.88 49 *eP* **P 10 24 48.4 +0.2**
YSS *eS* **S 10 30 53.0 -4.4**
YSS pmax pmax
comp=Z,70nm,1.3s
YSS pmax pmax
comp=Z,1μm,3.7s
YSS smax smax
comp=N,2μm,4.8s
YSS smax smax
comp=E,1μm,4.4s
YSS MLR MLR
comp=N,2μm,15.0s
YSS MLR MLR
comp=E,1μm,16.0s
UGL Uglegorsk 40.94 45 *eP* **P 10 24 50.0 +1.3**
UGL *eS* **S 10 31 01.2 +3.0**
UGL pmax pmax
comp=Z,250nm,1.0s
UGL MLR MLR
comp=E,5μm,13.0s
UGL MLR MLR
comp=Z,6μm,15.0s
SHMA Al-Shehemyia 40.95 279 P **P 10 24 49.8 +0.7**
TRNA Turayna 40.98 277 P **P 10 24 49.9 +0.5**
YAK Yakutsk 41.07 23 P **P 10 24 49.4 -0.2**
YAK Yakutsk 41.07 23 IAMs_20 IAMs_20 10 42 47.3
comp=Z,3μm,20.0s
YAK Yakutsk 41.07 23 LR LR 10 43 06.7
comp=Z,2μm,22.0s,baz=223,slow=38
YAK Yakutsk 41.07 23 *eP* **P 10 24 50.0 +0.4**
YAK *e*PP* **sP 10 25 03.7 -0.3**
YAK *e* 10 26 25.3
YAK *e* 10 26 47.3
YAK *eS* **S 10 30 58.3 -1.6**
YAK *eSS* **SS 10 34 03.2 +0.5**
YAK *e* 10 34 49.0
YAK pmax pmax
comp=Z,28nm,0.9s
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=E,18nm,1.2s
YAK pmax pmax
comp=Z,191nm,3.5s
YAK pmax pmax
comp=N,360nm,4.6s
YAK pmax pmax
comp=E,752nm,6.3s
YAK smax smax
comp=N,502nm,3.1s
YAK smax smax
comp=E,661nm,3.3s
YAK MLR MLR
comp=Z,3μm,12.0s
YAK MLR MLR
comp=N,2μm,12.0s
YAK MLR MLR
comp=E,2μm,12.0s
PLAI Plampang 41.12 148 P **P 10 24 51.0 +0.5**
PLAI Plampang 41.12 148 P **P 10 24 50.1 -0.4**
comp=E,53nm,0.9s
SMRA Abu-Samra 41.33 277 P **P 10 24 52.8 +0.7**
SNR=5.8
ABTO Aybut 41.35 266 P **P 10 24 52.6 +0.1**
SNR=14
ABTO P **P 10 24 52.6 +0.1**
SNR=14
TYV Tymovskoe 41.80 43 *eP* **P 10 24 57.7 +2.0**
TYV pmax pmax
comp=Z,3μm,6.3s
TYV pmax pmax
comp=Z,103nm,1.6s
NLAI Namlea 42.00 131 P **P 10 24 57.6 -0.1**
comp=Z,72nm,0.6s,comp=Z,928nm
AKT Akhty 42.49 303*c iP* **P 10 25 02.8 +1.2**
AKT *e* 10 26 39.7
AKT *e* 10 26 52.6
AKT *e*PPP PPP 10 27 12.2
AKT pmax pmax
comp=Z,192nm,1.2s
NRIK Noril'sk 42.54 355 P **P 10 25 02.2 +0.7**
NRIK Noril'sk 42.54 355 P **P 10 25 02.2 +0.7**
comp=Z,61nm,0.8s,baz=155,slow=6.2,SNR=83
NRIK PcP **PcP 10 26 53.5 0.0**
comp=Z,19nm,0.8s,baz=191,slow=4.7,SNR=3.8
NRIK ScP **ScP 10 30 40.8 -1.1**
comp=Z,5.3nm,0.9s,baz=111,slow=14,SNR=3.5
NRIK LR LR 10 43 16.2
comp=Z,949nm,18.4s,baz=176,slow=37
comp=Z,61nm,0.8s
WBSI Waikabubak, Su 42.61 146 P **P 10 24 59.2 -3.5**
comp=Z,98nm,0.9s
MAK Makhachkala 42.77 305 *eP* **P 10 25 03.3 -0.4**
MAK *e* 10 26 41.1
MAK *eS* **S 10 31 29.3 +3.9**
MAK *eSS* **SS 10 34 37.7 +1.0**
MAK pmax pmax
comp=Z,70nm,0.6s
MAK MLR MLR
comp=Z,3μm,15.0s
AAI Ambon 43.06 131 P **P 10 25 04.9 -1.5**
comp=Z,69nm,0.7s,comp=Z,2μm
SWI Sorong 43.24 125 P **P 10 25 06.6 -1.2**
comp=Z,59nm,0.9s
MMRI Maumere 43.26 142 P **P 10 25 07.0 -0.9**
MMRI IAmb IAmb 10 25 17.6
comp=Z,76nm,0.8s
MMRI Maumere 43.26 142 P **P 10 25 07.8 -0.1**
MMRI Maumere 43.26 142 P **P 10 25 06.1 -1.8**
comp=Z,122nm,0.9s
BELG Belogornoye 44.34 318 LR LR 10 46 04.3
comp=Z,2μm,21.8s,baz=108,slow=39
BELG Belogornoye 44.34 318*c iP* **P 10 25 16.9 +0.7**
BELG pmax pmax
comp=Z,70nm,1.0s
GNI Garni 44.71 301 P **P 10 25 19.9 +0.2**
GNI Garni 44.71 301 P **P 10 25 21.9 +2.3**
GNI Garni 44.71 301 LR LR 10 46 53.2
comp=Z,978nm,18.3s,baz=95,slow=40
GNI Garni 44.71 301 P **P 10 25 22.1 +2.5**
GNI P **P 10 25 22.1 +2.5**
GNI Garni 44.71 301*ceP* **P 10 25 21.7 +2.1**
GNI pmax pmax
comp=Z,134nm,1.2s
GNI Garni 44.71 301 P **P 10 25 21.2 +1.6**
comp=Z,166nm,1.1s,comp=Z,3μm
SOEI Soe 45.31 140 P **P 10 25 23.2 -1.3**
SOEI Soe 45.31 140 P **P 10 25 23.7 -0.8**
SOEI Soe 45.31 140 P **P 10 25 23.5 -1.0**
BATI Baumata 45.34 141 LR LR 10 47 17.8
comp=Z,864nm,19.0s,baz=308,slow=40
BATI Baumata 45.34 141 P **P 10 25 22.4 -2.2**
comp=Z,125nm,0.8s,comp=Z,1μm
FAKI Fak Fak 45.36 126 P **P 10 25 23.8 -1.0**
FAKI IAmb IAmb 10 25 24.9
comp=Z,47nm,0.7s
FAKI Fak Fak 45.36 126 P **P 10 25 23.7 -1.1**
FAKI Fak Fak 45.36 126 P **P 10 25 22.4 -2.4**
comp=Z,82nm,1.1s,comp=Z,889nm
KIRV Kirov 45.38 327 LR LR 10 46 44.3
comp=Z,2μm,18.4s,baz=111,slow=39
KIRV Kirov 45.38 327*ceP* **P 10 25 25.7 +1.3**
NCK Nalchik 45.65 305 *i* P **P 10 25 27.5 +0.6**
NCK pmax pmax
comp=Z,65nm,0.8s
RKPI Ransiki, Papua 45.84 122 P **P 10 25 28.0 -0.6**
comp=Z,78nm,1.6s,comp=Z,4μm
GOF Gofitskoye 46.14 307*c iP* **P 10 25 32.0 +1.4**
KBZ Khabaz 46.17 306 P **P 10 25 31.5 +0.7**
comp=Z,18nm,0.9s,baz=117,slow=4.3,SNR=26
KBZ LR LR 10 49 31.1
comp=Z,1μm,18.5s,baz=94,slow=42
comp=Z,18nm,0.9s
KIV Kislovodsk 46.33 306 P **P 10 25 33.3 +1.0**
KIV Kislovodsk 46.33 306 *i* P **P 10 25 33.6 +1.3**
SNR=14
KIV Kislovodsk 46.33 306 P **P 10 25 34.4 +2.1**
KIV Kislovodsk 46.33 306 ⇑P **P 10 25 33.6 +1.3**
KIV Kislovodsk 46.33 306 *eP* **P 10 25 33.2 +0.9**
KIV *e* 10 27 20.1
KIV *eS* **S 10 32 17.7 +0.3**
KIV *eSSS* SSS 10 36 41.0
KIV pmax pmax
comp=Z,142nm,1.1s
KIV pmax pmax
comp=Z,85nm,4.3s
KIV MLR MLR
comp=Z,479nm,16.0s
KIV Kislovodsk 46.33 306 P **P 10 25 32.7 +0.4**
comp=Z,135nm,1.6s,comp=Z,2μm
RAYN Ar Rayn 46.34 277 P **P 10 25 32.6 +0.1**
RAYN IAmb IAmb 10 25 43.5
comp=Z,198nm,1.8s
RAYN Ar Rayn 46.34 277 *i* P **P 10 25 32.9 +0.4**
SNR=27
RAYN Ar Rayn 46.34 277 P **P 10 25 32.8 +0.2**
RAYN Ar Rayn 46.34 277 P **P 10 25 32.9 +0.4**
SHA1 Shidzhatmaz 46.34 306 *i* P **P 10 25 32.9 +0.3**
GUMO Guam 46.68 97 P **P 10 25 35.1 -0.1**
GUMO Guam 46.68 97 LR LR 10 45 48.3
comp=Z,704nm,19.1s,baz=313,slow=37
GUMO Guam 46.68 97 P **P 10 25 35.2 -0.1**
GUMO pmax pmax
comp=Z,389nm,1.4s
BCA Borcka 47.07 302 ⇓P **P 10 25 39.7 +1.7**
VRH Novokhopyorsk 47.68 316 *eP* **P 10 25 42.9 +0.3**
VRH pmax pmax
comp=Z,236nm,0.6s
LABN Labinsk 47.77 307 *eP* **P 10 25 45.1 +1.7**
LABN *e*PP* **sP 10 25 57.7 -0.2**
LABN *eS* **S 10 32 38.0 +0.3**
LABN pmax pmax
comp=Z,138nm,0.9s
LABN MLR MLR
comp=Z,2μm,19.0s
TIXI Tiksi 47.90 13 P **P 10 25 43.2 -0.8**
TIXI IAmb IAmb 10 26 01.0
comp=Z,97nm,1.8s
TIXI Tiksi 47.90 13 IAMs_20 IAMs_20 10 48 20.5
comp=Z,2μm,19.0s
TIXI Tiksi 47.90 13 LR LR 10 48 34.3
comp=Z,1μm,21.5s,baz=226,slow=39
TIXI Tiksi 47.90 13 P **P 10 25 43.4 -0.6**
ERBR Yeremizino-Bor 47.98 308 *eP* **P 10 25 45.5 +0.5**
ERBR *e*PP* **sP 10 25 58.1 -1.5**
ERBR *e* 10 27 36.8
ERBR *eS* **S 10 32 43.9 +3.3**
ERBR pmax pmax
comp=Z,353nm,2.0s
ERBR MLR MLR
comp=Z,2μm,14.0s
VSLR Vesyoloye 48.24 305 *i* P **P 10 25 47.7 +0.6**
SOC Sochi 48.47 305 *eP* **P 10 25 46.0 -2.8**
SOC *e*PP* **pP 10 25 59.2 +0.1**
SOC *e* 10 27 39.3
SOC *eS* **S 10 32 43.4 -4.3**
SOC *eSS* **SS 10 36 10.0 -7.5**
SOC *eSSS* SSS 10 37 33.5
SOC pmax pmax
comp=Z,124nm,0.8s
SOC MLR MLR
comp=Z,803nm,16.0s
MA2 Magadan 48.81 33 LR LR 10 48 24.6
comp=Z,1μm,20.8s,baz=251,slow=38
MA2 Magadan 48.81 33*ceP* **P 10 25 50.1 -1.1**
MA2 pmax pmax
comp=Z,75nm,1.0s
VORD Divnogorie 49.17 315 *eP* **P 10 25 51.8 -2.3**
VORD pmax pmax
comp=Z,90nm,1.0s
VSR Storozhevoye 49.28 315 *eP* **P 10 25 51.6 -3.3**
VSR pmax pmax
comp=Z,80nm,0.9s
VORR Voronezh 49.31 316 *eP* **P 10 25 55.7 +0.6**
VORR pmax pmax
comp=Z,347nm,0.9s
LPSR Galich'ya Gora 49.59 317 *eP* **P 10 25 57.7 +0.5**
LPSR pmax pmax
comp=Z,349nm,0.7s
ANN Anapa 50.11 307 *eP* **P 10 26 00.6 -0.7**
ANN *e*PP* **pP 10 26 12.5 +0.8**
ANN *eS* **S 10 33 10.9 +0.3**
ANN *eSS* **SS 10 36 40.3 -3.5**
ANN *eSSS* SSS 10 38 17.2
ANN pmax pmax
comp=Z,212nm,1.5s
SEY Seymchan 50.58 29 LR LR 10 49 26.6
comp=Z,7μm,19.1s,baz=244,slow=38
SEY Seymchan 50.58 29 *eP* **P 10 26 04.4 -0.1**
SEY pmax pmax
comp=Z,36nm,1.7s
GAZ Gaziantep 50.77 297 P **P 10 26 07.1 +0.6**
GAZ IAmb IAmb 10 26 08.4
comp=Z,60nm,0.9s
MOS Moscow 50.79 321 *eP* **P 10 26 04.7 -1.6**
MOS *e* 10 27 21.6
MOS *e* 10 28 02.5
MOS *eS* **S 10 33 21.1 +1.4**
MOS *e* 10 33 31.0
MOS pmax pmax
comp=Z,1μm,1.7s
MOS pmax pmax
comp=Z,591nm,1.3s
MOS pmax pmax
comp=E,200nm,1.1s
MOS pmax pmax
comp=N,77nm,1.0s
MOS MLR MLR
comp=Z,3μm,20.0s
KLMR Klimovskoe 50.85 328*c iP* **P 10 26 07.6 +0.9**
KLMR pmax pmax
comp=Z,375nm,1.1s
KLMR MLR MLR
comp=Z,2μm,15.0s
KHAM Kharkiv 51.03 314 P **P 10 26 09.2 +0.9**
GENI Genyem 51.13 118 P **P 10 26 09.8 +0.4**
OBN Obninsk 51.30 320 P **P 10 26 10.6 +0.5**
OBN Obninsk 51.30 320 LR LR 10 49 56.8
comp=Z,2μm,20.5s,baz=91,slow=38
OBN Obninsk 51.30 320*c iP* **P 10 26 10.3 +0.2**
OBN *i* 10 26 17.9
OBN *i* 10 26 26.0
OBN *i* S **S 10 33 19.3 -7.4**
OBN pmax pmax
comp=Z,211nm,1.3s
OBN MLR MLR
comp=Z,2μm,20.0s
OBN Obninsk 51.30 320 P **P 10 26 10.5 +0.5**
comp=Z,222nm,1.4s,comp=Z,3μm
PEA0B Petropavlovsk- 51.34 42 *i* P **P 10 26 11.0 +0.5**
PETK Petropavlovsk- 51.34 42 P **P 10 26 10.4 -0.1**
comp=Z,31nm,1.0s,baz=288,slow=2.9,SNR=8.7
PETK LR LR 10 48 25.0
comp=Z,772nm,18.0s,baz=253,slow=36
comp=Z,31nm,1.0s
JAY Jayapura 51.50 118 P **P 10 26 11.9 -0.3**
comp=Z,18nm,0.8s,baz=210,slow=9.9,SNR=3.7
JAY LR LR 10 46 44.9
comp=Z,653nm,22.0s,baz=338,slow=34
comp=Z,18nm,0.8s
BNN Bunyan 51.65 299 P **P 10 26 14.7 +1.5**
BNN IAMs_20 IAMs_20 10 50 23.2
comp=Z,2μm,22.0s
ASF Jabal al Asfar 51.80 291 LR LR 10 51 46.9
comp=Z,2μm,19.3s,baz=333,slow=40
DIKM Dikmen 51.84 303 ⇑P **P 10 26 14.4 +0.1**
PET Petropavlovsk 51.91 43 P **P 10 26 15.6 +0.9**
PET Petropavlovsk 51.91 43 *eP* **P 10 26 15.1 +0.4**
PET *e* 10 27 26.6
PET *e* 10 28 20.9
PET *eS* **S 10 33 37.1 +1.9**
PET pmax pmax
comp=Z,200nm,15.6s
PET pmax pmax
comp=Z,58nm,1.7s
PET MLR MLR
comp=Z,2μm,16.0s
PET MLR MLR
comp=Z,3μm,16.0s
HWQ Hawqa 52.20 294 *eP* **P 10 26 18.7 +1.3**
SIM Simferopol' 52.47 307 *eP* **P 10 26 19.4 +0.4**
SIM S **S 10 33 48.4 +5.3**
SIM pmax pmax
comp=Z,25μm,0.9s
SIM smax smax
comp=E,150nm,10.5s
BHL Bhannes 52.51 293 *eP* **P 10 26 21.1 +1.5**
KDU Kakadu 52.56 134 P **P 10 26 18.7 -1.2**
KNRA Kununurra 52.65 140 P **P 10 26 17.0 -3.5**
BZK Bozkurt 52.74 303 ⇑P **P 10 26 21.4 +0.3**
BZK Bozkurt 52.74 303 P **P 10 26 21.4 +0.3**
comp=E,279nm,1.0s,comp=E,3μm
MMAI Mount Meron Ar 52.88 292 P **P 10 26 23.5 +1.2**
comp=E,98nm,1.1s,baz=96,slow=12,SNR=51
MMAI PcP **PcP 10 27 31.7 +0.5**
comp=E,6.7nm,0.6s,baz=75,slow=6.1,SNR=1.8
MMAI ScP **ScP 10 31 24.8 -1.4**
comp=E,1.5nm,0.4s,baz=166,slow=18,SNR=1.9
comp=E,98nm,1.1s
MBWA Marble Bar 52.90 153 P **P 10 26 22.0 -0.4**
MBWA IAmb IAmb 10 26 23.3
comp=Z,90nm,1.3s
MBWA Marble Bar 52.90 153 P **P 10 26 22.2 -0.1**
ATD Arta Tunnel 52.94 264 P **P 10 26 23.4 +0.5**
ATD IAmb IAmb 10 26 25.2
comp=Z,127nm,1.2s
FITZ Fitzroy Crossi 52.95 145 P **P 10 26 22.5 -0.2**
FITZ Fitzroy Crossi 52.95 145 P **P 10 26 22.1 -0.6**
comp=Z,21nm,0.6s,baz=334,slow=6.8,SNR=60
FITZ LR LR 10 53 10.2
comp=Z,512nm,19.2s,baz=314,slow=41
comp=Z,21nm,0.6s
KIRS Kirsehir-Merke 53.11 300 ⇑P **P 10 26 24.8 +0.9**
BR131 Keskin Array S 53.25 301 P **P 10 26 25.1 +0.1**
BR131 Keskin Array S 53.25 301 *i* P **P 10 26 25.4 +0.4**
BRTR Keskin Array B 53.25 301 P **P 10 26 25.0 -0.1**
BRTR Keskin Array B 53.25 301 P **P 10 26 25.4 +0.4**
comp=Z,19nm,0.6s,baz=119,slow=8.3,SNR=144
BRTR ScP **ScP 10 31 25.0 -2.8**
comp=Z,0.7nm,0.7s,baz=122,slow=2.4,SNR=1.9
comp=Z,19nm,0.6s
BR104 Keskin Array S 53.25 301 P **P 10 26 25.0 0.0**
comp=Z,47nm,0.8s,comp=Z,450nm
BR106 Keskin Array S 53.26 301 P **P 10 26 24.9 -0.3**
comp=Z,36nm,0.7s,comp=Z,267nm
BR105 Keskin Array S 53.27 301 P **P 10 26 24.7 -0.5**
comp=Z,40nm,0.8s,comp=Z,416nm
PSA00 Pilbara Seismi 53.31 153 P **P 10 26 25.1 -0.4**
PSA00 IAmb IAmb 10 26 35.3
comp=Z,133nm,1.8s
PSA00 Pilbara Seismi 53.31 153 P **P 10 26 25.3 -0.1**
ANTO Ankara 53.88 301 P **P 10 26 29.8 +0.2**
ANTO Ankara 53.88 301 P **P 10 26 30.7 +1.1**
ANTO P **P 10 26 30.7 +1.1**
ANTO Ankara 53.88 301 ⇑P **P 10 26 30.3 +0.7**
ANTO Ankara 53.88 301 P **P 10 26 30.3 +0.7**
ANTO Ankara 53.88 301 P **P 10 26 30.2 +0.6**
comp=Z,97nm,1.3s,comp=Z,986nm
BR231 Keskin MP Arra 53.90 301 IAmb IAmb 10 26 31.8
comp=Z,66nm,0.7s
CSS Mathiatis 54.21 295 IAmb IAmb 10 26 40.4
comp=Z,97nm,1.3s
CSS Mathiatis 54.21 295 P **P 10 26 31.2 -0.8**
comp=Z,76nm,1.4s,comp=Z,1μm
NE56 Odesa 54.62 310 P **P 10 26 33.9 -0.8**
LVZ Lovozero 54.72 336 P **P 10 26 35.6 +0.4**
LVZ Lovozero 54.72 336*ceP* **P 10 26 35.7 +0.5**
LVZ pmax pmax
comp=Z,62nm,1.1s
MDUB Mudurnu 55.01 302 IAMs_20 IAMs_20 10 53 40.2
comp=Z,2μm,19.0s
JOF Joensuu 55.07 329 *eP* **P 10 26 38.2 +0.5**
APA Apatity 55.10 335 ⇓*iP* **P 10 26 37.0 -0.8**
APA pmax pmax
comp=Z,19nm,1.0s
APA MLR MLR
comp=Z,2μm,18.0s
PUL Pulkovo 55.17 326*ceP* **P 10 26 40.0 +1.5**
PUL pmax pmax

comp=Z,166nm,1.2s
SAHE Sakarya_HENDEK 55.22 302 ⇓P **P 10 26 39.5 +0.3**
PURM Purcari 55.34 309 ⇓P **P 10 26 40.3 +0.4**
PURM Purcari 55.34 309 P **P 10 26 40.1 +0.2**
comp=Z,325nm,1.0s,comp=Z,11μm
BAL3X Bal3x, Balta 55.42 311 P **P 10 26 40.7 +0.2**
AK09 Malin Array Si 55.50 314 P **P 10 26 41.0 0.0**
AK08 Malin Array Si 55.52 314 P **P 10 26 41.0 -0.2**
AK10 Malin Array Si 55.52 314 P **P 10 26 40.8 -0.4**
AKASG Malin Array Be 55.54 314 P **P 10 26 41.5 +0.2**
AKASG Malin Array Be 55.54 314 P **P 10 26 41.4 +0.1**
comp=Z,39nm,0.5s,baz=79,slow=6.5,SNR=336
AKASG LR LR 10 53 48.0
comp=Z,2μm,20.5s,baz=86,slow=40
comp=Z,39nm,0.5s
AKASG Malin Array Be 55.54 314 P **P 10 26 41.5 +0.2**
AKASG pmax pmax
comp=Z,99nm,0.7s
AKBB Malin Array Si 55.54 314 P **P 10 26 41.6 +0.3**
AKBB Malin Array Si 55.54 314 P **P 10 26 41.6 +0.3**
AKBB pmax pmax
comp=Z,129nm,1.0s
AKBB Malin Array Si 55.54 314 P **P 10 26 41.0 -0.3**
KIEV Kiev 55.55 314 P **P 10 26 41.2 -0.1**
KIEV IAmb IAmb 10 26 42.4
comp=Z,108nm,0.9s
KIEV Kiev 55.55 314 IAMs_20 IAMs_20 10 53 36.9
comp=Z,2μm,21.0s
KIEV Kiev 55.55 314 P **P 10 26 41.3 -0.1**
KIEV Kiev 55.55 314 ⇑P **P 10 26 41.4 0.0**
KIEV Kiev 55.55 314 P **P 10 26 41.3 -0.1**
KIEV Kiev 55.55 314 P **P 10 26 40.9 -0.5**
comp=Z,641nm,1.0s,comp=Z,7μm
BORA Eskisehir 55.66 301 P **P 10 26 42.6 +0.1**
BORA IAmb IAmb 10 26 43.1
comp=Z,71nm,0.6s
ISP Isparta 55.94 299 P **P 10 26 44.2 -0.3**
ISP IAmb IAmb 10 27 00.2
comp=Z,47nm,0.8s
ISP Isparta 55.94 299 *ce*P **P 10 26 44.7 +0.2**
ISP pmax pmax
comp=Z,112nm,1.7s
MILM Milestii Mici 56.03 310 ⇑P **P 10 26 44.9 -0.1**
MILM Milestii Mici 56.03 310 P **P 10 26 44.8 -0.1**
SORM Soroca 56.25 311 ⇑P **P 10 26 46.4 -0.1**
SORM Soroca 56.25 311 P **P 10 26 46.3 -0.1**
SORM Soroca 56.25 311 P **P 10 26 45.9 -0.5**
comp=Z,83nm,1.3s,comp=Z,2μm
MNK Minsk 56.28 319 *i* P **P 10 26 47.3 +0.7**
comp=E,35nm,1.1s
MNK *i* P **P 10 26 47.3 +0.7**
comp=N,127nm,1.1s
MNK *i* P **P 10 26 47.3 +0.7**
comp=Z,177nm,1.0s,baz=90
MNK *i* pP **sP 10 27 01.1 -0.2**
MNK *i* PP **PP 10 28 53.7 +1.8**
MNK *i* PPP PPP 10 30 09.7
MNK *i* S **S 10 34 36.5 +2.3**
MNK *i* sS **sS 10 34 58.4 +6.8**
MNK *i* SS **SS 10 38 23.6 +2.8**
MNK *i* SSS SSS 10 40 43.5
MNK *i* LQ LQ 10 47 52.8
MNK *i* LR LR 10 51 19.4
MNK *i* LRM MLR 10 52 51.2
comp=E,1μm,16.5s
MNK *i* LRM MLR 10 52 57.1
comp=N,2μm,21.7s
MNK *i* LRM MLR 10 53 02.9
comp=Z,2μm,20.5s
MNK Minsk 56.28 319 *i* P **P 10 26 47.2 +0.7**
MNK *i* *PP **sP 10 27 01.0 -0.2**
MNK *i* 10 27 44.8
MNK *i* 10 28 53.6
MNK *i* PPP PPP 10 30 09.6
MNK *i* S **S 10 34 36.4 +2.3**
MNK *i* *SS **sS 10 34 58.3 +6.8**
MNK *i* 10 36 31.9
MNK *i* SS **SS 10 38 23.5 +2.8**
MNK pmax pmax
comp=Z,177nm,1.0s
MNK pmax pmax
comp=N,127nm,1.1s
MNK pmax pmax
comp=E,35nm,1.1s
MNK MLR MLR
comp=E,1μm,17.0s
MNK MLR MLR
comp=N,2μm,22.0s
MNK MLR MLR
comp=Z,2μm,20.0s
TPGR Topolog 56.51 307 ⇓P **P 10 26 48.9 +0.5**
MI28 Mi28,Pidlybu 56.51 315 P **P 10 26 48.2 -0.1**
comp=Z,2μm,1.2s,comp=Z,20μm
LUBAR Lubar, Ukraine 56.52 314 P **P 10 26 47.4 -0.9**
MANU Manus Island 56.59 113 P **P 10 26 48.8 -0.5**
ELL Elmali 56.61 298 IAMs_20 IAMs_20 10 54 01.7
comp=Z,3μm,20.0s
CFR Carcaliu 56.67 308 ⇓P **P 10 26 49.8 +0.3**
CFR Carcaliu 56.67 308 P **P 10 26 49.7 +0.3**
NDNU Novodnistrovsk 56.87 312 P **P 10 26 50.3 -0.5**
VSU Vasula 56.95 324 *ce*P **P 10 26 52.1 +0.9**
VSU pmax pmax
comp=Z,323nm,1.7s
ICOR Ion Corvin 57.04 307 ⇑P **P 10 26 53.3 +1.2**
GHRR 57.08 309 P **P 10 26 52.3 -0.1**
VADS Vadso 57.08 338 *e*P **P 10 26 51.2 -0.7**
PANC Panciu 57.28 309 ⇑P **P 10 26 54.9 +1.1**
ARBE Arbavere 57.35 325 *e*P **P 10 26 54.8 +0.7**
ODBI Odobesti 57.36 309 P **P 10 26 55.7 +1.3**
comp=Z,111nm,1.0s,comp=Z,5μm
BILL Bilibino 57.37 25 *ce*P **P 10 26 53.9 -0.2**
BILL pmax pmax
comp=Z,49nm,1.1s
BILL MLR MLR
comp=Z,3μm,15.0s
FIA1 FINESS Array S 57.38 327 P **P 10 26 55.4 +1.2**
FINES FINESS Array B 57.38 327 P **P 10 26 55.4 +1.2**
FINES FINESS Array B 57.38 327 P **P 10 26 55.2 +1.0**
comp=Z,38nm,0.6s,baz=90,slow=8.0,SNR=139
FINES LR LR 10 53 49.0
comp=Z,1μm,18.1s,baz=90,slow=38
comp=Z,38nm,0.6s
FINES FINESS Array B 57.38 327 P **P 10 26 55.4 +1.2**
HORU Horodok 57.43 313 P **P 10 26 54.4 -0.4**
MEEK Meekatharra 57.45 157 P **P 10 26 55.4 +0.3**
KMPD K-Podol'skiy 57.47 312 P **P 10 26 53.5 -1.6**
comp=Z,21μm,1.2s,comp=Z,237μm
TESR Tescani 57.55 310 ⇓P **P 10 26 56.0 +0.2**
TESR Tescani 57.55 310 P **P 10 26 55.4 -0.4**
comp=Z,63nm,1.0s,comp=Z,1μm
SPBR Spulber 57.57 309 ⇑P **P 10 26 57.3 +1.3**
VRI Vrincioaia 57.58 309 ⇑P **P 10 26 57.2 +1.2**
VRI Vrincioaia 57.58 309 P **P 10 26 57.1 +1.2**
VRI Vrincioaia 57.58 309 P **P 10 26 56.2 +0.3**
comp=Z,162nm,1.2s,comp=Z,2μm
RNPP9 Sopachiv 57.60 315 P **P 10 26 56.0 0.0**
RNPP5 Staryi Chortor 57.62 315 P **P 10 26 56.3 +0.2**
PLOR5 Plostina Array 57.62 309 P **P 10 26 58.2 +1.9**
comp=Z,399nm,1.1s,comp=Z,4μm
RNPP8 Varash 57.63 315 P **P 10 26 56.7 +0.5**
PLOR Plostina 57.63 309 ⇑P **P 10 26 57.9 +1.5**
PLOR Plostina 57.63 309 P **P 10 26 57.8 +1.5**
PLOR3 Plostina Array 57.63 309 P **P 10 26 57.3 +0.9**
comp=Z,284nm,1.1s,comp=Z,3μm
ONER Baraj Valea Uz 57.75 309 ⇑P **P 10 26 58.5 +1.3**
ISR Istrita 57.80 308 ⇑P **P 10 26 59.2 +1.7**
ISR Istrita 57.80 308 P **P 10 26 59.2 +1.7**
ISR Istrita 57.80 308 P **P 10 26 58.8 +1.2**
comp=Z,214nm,1.1s,comp=Z,3μm
KEV Kevo 57.82 337 P **P 10 26 57.8 +0.6**
KEV IAmb IAmb 10 26 58.8
comp=Z,69nm,1.1s
KEV Kevo 57.82 337 P **P 10 26 57.8 +0.6**
KEV pmax pmax
comp=Z,69nm,1.1s
COVR Voineasa-Covas 57.94 309 ⇓P **P 10 26 59.5 +1.0**
KEF Keuruu 57.98 328 *e*P **P 10 26 59.1 +0.7**
TURR Turia 58.05 309 ⇑P **P 10 27 00.6 +1.4**
MEF Metsahovi 58.17 326 *e*P **P 10 27 00.4 +0.6**
MLR Muntele Rosu 58.17 308 IAMs_20 IAMs_20 10 56 46.8
comp=Z,1μm,19.0s
MLR Muntele Rosu 58.17 308 P **P 10 27 01.4 +1.2**
comp=Z,124nm,1.0s,baz=51,slow=2.7,SNR=62
MLR LR LR 10 57 18.2
comp=Z,1μm,19.1s,baz=62,slow=41
comp=Z,124nm,1.0s
MLR Muntele Rosu 58.17 308 ⇑P **P 10 27 01.6 +1.4**
MLR Muntele Rosu 58.17 308 P **P 10 27 01.6 +1.4**
MLR Muntele Rosu 58.17 308 P **P 10 27 00.7 +0.5**
comp=Z,194nm,1.3s,comp=Z,2μm
OZUR 58.20 309 ⇑P **P 10 27 01.1 +0.8**
ARA0 ARCESS Array S 58.31 337 *e*P **P 10 27 01.7 +1.1**
ARCES ARCESS Array B 58.31 337 P **P 10 27 01.5 +0.8**
comp=Z,14nm,0.7s,baz=83,slow=9.0,SNR=36
ARCES LR LR 10 54 55.8
comp=Z,2μm,18.1s,baz=98,slow=39
comp=Z,14nm,0.7s
BURAR Bucovina Array 58.40 311 ⇑P **P 10 27 02.0 +0.2**
BURAR Bucovina Array 58.40 311 P **P 10 27 01.9 +0.2**
KSV Kosov 58.42 312 P **P 10 27 00.9 -0.9**
SZH Strazhitsa 58.47 306 P **P 10 27 02.5 +0.3**
MTSE Matsula 58.47 324 *e*P **P 10 27 02.2 +0.3**
VSVD Vaisvydziai 58.50 321 *e*P **P 10 27 03.4 +1.3**
PABE Paberze 58.50 320 IAMs_20 IAMs_20 10 54 02.0
comp=Z,2μm,20.0s
PABE Paberze 58.50 320 *e*P **P 10 27 03.1 +0.9**
ELND Elena 58.59 306 ⇑P **P 10 27 03.6 +0.5**
STNU Starunia 58.74 312 P **P 10 27 03.7 -0.3**
ALN Alexandroupoli 58.81 303 P **P 10 27 05.2 +0.5**
ALN Alexandroupoli 58.81 303 P **P 10 27 05.2 +0.5**
ALN pmax pmax
comp=Z,166nm,1.5s
MORW Morawa 58.87 160 P **P 10 27 04.3 -0.7**
MORW IAmb IAmb 10 27 06.5
comp=Z,140nm,1.4s
MORW Morawa 58.87 160 P **P 10 27 05.6 +0.6**
LVV L'vov 58.93 314 P **P 10 27 05.1 -0.2**
VAF Yilstaro 59.01 329 *e*P **P 10 27 06.0 +0.4**
KARP Karpathos 59.03 297 P **P 10 27 06.5 +0.2**
KARP Karpathos 59.03 297 *e*P **P 10 27 06.4 +0.2**
KARP Karpathos 59.03 297 P **P 10 27 05.7 -0.6**
comp=Z,400nm,0.9s,comp=Z,4μm
ARCR ARCALIA 59.05 311 ⇑P **P 10 27 07.6 +1.4**
SUW Suwalki 59.05 319 *e*P **P 10 27 06.6 +0.5**
SUW Suwalki 59.05 319 IAMs_20 IAMs_20 10 54 32.7
comp=Z,2μm,22.0s
SUW Suwalki 59.05 319 *e*P **P 10 27 06.7 +0.7**
HAMF Hammerfest 59.06 338 *e*P **P 10 27 07.2 +1.4**
KTK1 Kautokeino 59.06 336 *e*P **P 10 27 06.8 +1.0**
MORS Morshin 59.09 313 P **P 10 27 04.8 -1.6**
ARR Arges 59.10 309 ⇓P **P 10 27 07.1 +0.5**
WB0 Warramunga Arr 59.14 138 P **P 10 27 07.0 -0.1**
KDZ Kurdzhali 59.21 304 P **P 10 27 07.6 +0.2**
WRAB Tennant Creek 59.25 138 P **P 10 27 08.1 +0.3**
WRAB Tennant Creek 59.25 138 P **P 10 27 08.1 +0.3**
WRAB pmax pmax
comp=Z,121nm,0.9s
WRAB MLR MLR
comp=Z,600nm,20.0s
WRA Warramunga Arr 59.25 138 P **P 10 27 07.5 -0.3**
comp=Z,63nm,0.9s,baz=326,slow=7.4,SNR=158
WRA S **S 10 35 13.6 -0.3**
comp=Z,2.0nm,0.9s,baz=319,slow=13,SNR=7.2
WRA PKPPKP **P'P'df 10 56 38.0 +1.9**
comp=Z,3.2nm,1.1s,baz=112,slow=2.2,SNR=4.8
WRA LR LR 10 56 59.2
comp=Z,337nm,18.4s,baz=306,slow=40
comp=Z,63nm,0.9s
TNR Turnu Rosu 59.31 309 ⇑P **P 10 27 08.9 +0.8**
TNR Turnu Rosu 59.31 309 P **P 10 27 08.8 +0.8**
WR0 Warramunga Arr 59.38 138 IAmb IAmb 10 27 18.7
comp=Z,82nm,0.8s
MEZ Mezhgor'ye 59.42 312 P **P 10 27 09.0 +0.3**
SHIU Shidnytsya 59.43 313 P **P 10 27 08.9 +0.1**
RAF Rauma 59.46 327 *e*P **P 10 27 09.7 +1.0**
BMR Baia Mare 59.55 311 ⇑P **P 10 27 10.7 +1.0**
BMR Baia Mare 59.55 311 P **P 10 27 10.6 +1.0**
CJR Cluj-Napoca 59.61 310 ⇓P **P 10 27 11.2 +1.1**
CJR Cluj-Napoca 59.61 310 P **P 10 27 11.2 +1.1**
PBUR Paburge 59.62 321 *e*P **P 10 27 11.1 +1.1**
RZN Rozhen 59.64 304 P **P 10 27 10.7 +0.1**
LOT Lotru 59.69 309 ⇓P **P 10 27 11.2 +0.4**
KORU Korolevo 59.72 312 P **P 10 27 11.1 +0.3**
BRIU Brid 59.77 312 P **P 10 27 11.3 +0.2**
KWP Kalwaria Pacla 59.80 314 *e*P **P 10 27 12.2 +0.9**
KWP Kalwaria Pacla 59.80 314 P **P 10 27 11.4 +0.1**
comp=Z,279nm,1.1s,comp=Z,3μm
PGB Panagyurishte 59.90 305 P **P 10 27 12.8 +0.6**
MARR Marisel-Cluj 59.95 310 ⇑P **P 10 27 13.6 +1.1**
MUKU Mukachevo 59.97 312 P **P 10 27 12.8 +0.3**
BERU Beregovo 60.03 312 P **P 10 27 13.1 +0.2**
MPEP Malo Peshtene 60.06 306 P **P 10 27 14.0 +0.8**
JETT Jettan, Norway 60.09 337 *e*P **P 10 27 14.1 +1.0**
WRKA Warakurna 60.10 147 P **P 10 27 14.0 +0.4**
HOLU Holmets 60.16 312 P **P 10 27 14.1 +0.3**
KOLS Kolonicke sedl 60.18 313 *e*P **P 10 27 14.5 +0.6**
KOLS pmax pmax
comp=Z,19nm,0.8s
KOLS Kolonicke sedl 60.18 313 *e*P **P 10 27 14.5 +0.6**
DRGR 60.20 310 ⇑P **P 10 27 14.9 +0.7**
DRGR 60.20 310 P **P 10 27 14.9 +0.7**
GZR Gura Zlata 60.39 309 ⇑P **P 10 27 15.8 +0.3**
PLNA Plana 60.45 305 P **P 10 27 16.5 +0.4**
BLDU Balldu 60.51 160 P **P 10 27 16.2 -0.1**
VTS Vitosha 60.56 306 P **P 10 27 17.0 +0.1**
TRO Tromso 60.62 337 *e*P **P 10 27 16.8 +0.3**
HERR Herculane 60.73 308 ⇓P **P 10 27 17.9 +0.1**
COEN Coen 60.73 126 P **P 10 27 17.3 -0.8**
COEN IAmb IAmb 10 27 19.1
comp=Z,97nm,1.9s
COEN Coen 60.73 126 P **P 10 27 16.4 -1.7**
STHS Stebnicka Huta 60.77 314 *e*P **P 10 27 17.8 -0.2**
STHS pmax pmax
comp=Z,18nm,0.9s
STHS Stebnicka Huta 60.77 314 *e*P **P 10 27 17.8 -0.2**
SURR Surduc 60.78 309 ⇑P **P 10 27 19.1 +1.0**
PMG Port Moresby 60.78 120 P **P 10 27 18.8 +0.4**
PMG Port Moresby 60.78 120 P **P 10 27 18.4 0.0**
comp=Z,66nm,0.7s,baz=16,slow=3.7,SNR=29
PMG LR LR 10 54 07.2
comp=Z,150nm,20.3s,baz=274,slow=36
comp=Z,66nm,0.7s
PMG Port Moresby 60.78 120 P **P 10 27 18.5 +0.1**
PMG Port Moresby 60.78 120 P **P 10 27 18.4 0.0**
PMG Port Moresby 60.78 120 P **P 10 27 18.8 +0.4**
PMG pmax pmax
comp=Z,94nm,1.0s
KKB Krupnik 60.79 305 P **P 10 27 18.0 -0.3**
IDI Anoyia 60.90 297 IAmb IAmb 10 27 26.5
comp=Z,88nm,1.0s
IDI Anoyia 60.90 297 LR LR 10 58 07.1
comp=Z,326nm,18.9s,baz=92,slow=40
PEHC Pehcevo 60.97 305 *i* P **P 10 27 19.5 -0.1**
SIRR Siria 61.01 310 ⇑P **P 10 27 20.6 +1.0**
BZS Buzias 61.15 309 ⇑P **P 10 27 21.0 +0.4**
BZS Buzias 61.15 309 P **P 10 27 21.0 +0.4**
MDVR Moldovita 61.24 308 ⇑P **P 10 27 22.1 +0.8**
SHEM Shemya Is, Ala 61.26 43 LR LR 10 55 35.8
comp=Z,334nm,21.4s,baz=280,slow=38
VAY Valandovo 61.31 304 *i* P **P 10 27 21.6 -0.2**
NIE Niedzica 61.38 314 *e*P **P 10 27 23.4 +1.2**
NIE Niedzica 61.38 314 P **P 10 27 22.7 +0.5**
comp=Z,45nm,1.7s,comp=Z,844nm
KECS Kecovo 61.42 313 *e*P **P 10 27 23.3 +0.9**
KECS pmax pmax
comp=Z,17nm,1.1s
KECS Kecovo 61.42 313 *e*P **P 10 27 23.3 +0.9**
BOVS Bovan 61.46 307 ⇑P **P 10 27 22.6 -0.1**
PATS Pohnpei 61.51 97 P **P 10 27 23.8 +0.3**
PATS Pohnpei 61.51 97 P **P 10 27 24.6 +1.2**
OJC Ojcow 61.58 315 *e*P **P 10 27 24.0 +0.6**
OJC Ojcow 61.58 315 IAmb IAmb 10 27 26.3
comp=Z,48nm,0.9s
OJC Ojcow 61.58 315 P **P 10 27 23.4 0.0**
comp=Z,78nm,1.6s,comp=Z,1μm
LIT Litokhoron 61.63 303 P **P 10 27 23.6 -0.4**
LIT Litokhoron 61.63 303 P **P 10 27 23.6 -0.4**
LIT pmax pmax
comp=Z,163nm,1.4s
MUN Mundaring 61.65 161 P **P 10 27 24.1 +0.2**
SPA0 Spitsbergen Ar 61.65 347 *e*P **P 10 27 24.3 +0.9**
SPITS Spitsbergen Ar 61.65 347 P **P 10 27 24.1 +0.7**
comp=Z,20nm,0.7s,baz=98,slow=10,SNR=8.8
SPITS LR LR 10 58 43.4
comp=Z,1μm,19.0s,baz=58,slow=40
comp=Z,20nm,0.7s
KLBR Kellerberrin 61.74 160 P **P 10 27 24.4 -0.2**
PSZ Piszkesteto 61.90 312 IAmb IAmb 10 27 27.7
comp=Z,115nm,1.7s
PSZ Piszkesteto 61.90 312 *e*P **P 10 27 25.7 0.0**
PSZ Piszkesteto 61.90 312 ⇑P **P 10 27 26.5 +0.7**
PSZ Piszkesteto 61.90 312 P **P 10 27 26.4 +0.7**
AS31 Alice Springs 61.91 141 P **P 10 27 26.0 +0.1**
ASAR Alice Springs 61.91 141 P **P 10 27 25.9 -0.1**
comp=Z,43nm,0.8s,baz=325,slow=6.5,SNR=401
ASAR S **S 10 35 48.5 +0.7**
comp=Z,1.1nm,1.0s,baz=330,slow=13,SNR=4.5
ASAR PKPPKP **P'P'df 10 56 35.0 +3.4**
comp=Z,1.9nm,0.9s,baz=139,slow=3.0,SNR=7.7
ASAR PKP2bc 10 56 42.0
comp=Z,2.7nm,0.8s,baz=131,slow=2.5,SNR=13
ASAR LR LR 10 58 43.1
comp=Z,494nm,18.9s,baz=312,slow=40
comp=Z,43nm,0.8s
AS01 Alice Springs 61.93 141 P **P 10 27 26.2 +0.1**
FAUS Fauske 62.01 334 *e*P **P 10 27 25.9 -0.1**
FNA Florina 62.31 304 IAmb IAmb 10 27 28.2
comp=Z,54nm,1.1s
MOR8 Moi Rana 62.44 333 *e*P **P 10 27 28.8 -0.1**
FRGS Fruska Gora 62.49 309 ⇑*i*P **P 10 27 28.6 -1.0**
VYHS Vyhne 62.49 313 *e*P **P 10 27 30.3 +0.7**
VYHS pmax pmax
comp=Z,55nm,1.3s
VYHS Vyhne 62.49 313 *e*P **P 10 27 30.3 +0.7**
LOF Lofoten 62.62 335 *e*P **P 10 27 30.0 0.0**
GKP Gorka Klasztor 62.66 318 *e*P **P 10 27 31.1 +0.6**
GKP Gorka Klasztor 62.66 318 *e*P **P 10 27 30.9 +0.4**
OHR Ohrid 62.66 304 *i* P P 10 27 17.4 -14
OKC Ostrava-Krasne 62.69 314 AMS AMS 10 56 40.0
comp=Z,1μm,20.2s
SJES Sjenica 62.77 307 *e*P **P 10 27 32.2 +0.5**
TEKS Tekeris 62.81 308 *e*P **P 10 27 29.5 -2.3**
NWAO Narrogin (SRO) 62.83 161 P **P 10 27 31.5 -0.4**
NWAO Narrogin (SRO) 62.83 161 IAMs_20 IAMs_20 10 53 06.3
comp=Z,1μm,22.0s
NWAO Narrogin (SRO) 62.83 161 LR LR 10 59 02.8
comp=Z,632nm,18.1s,baz=239,slow=40
NWAO Narrogin (SRO) 62.83 161 P **P 10 27 31.5 -0.4**
NWAO Narrogin (SRO) 62.83 161 P **P 10 27 31.5 -0.4**
NWAO pmax pmax
comp=Z,226nm,1.8s
KMBL Kambalda 62.92 156 P **P 10 27 32.4 -0.1**
KONS Konsvik 62.94 333 *e*P **P 10 27 33.1 +0.9**
QIS Mount Isa 62.95 134 P **P 10 27 32.5 -0.4**
BBLS Lazi&#263i 63.05 308 ⇑*i*P **P 10 27 33.9 +0.5**
MORH Mrgy, Hungar 63.07 310 ⇓P **P 10 27 33.9 +0.4**
MORH Mrgy, Hungar 63.07 310 P **P 10 27 32.9 -0.5**
comp=Z,47nm,1.6s,comp=Z,866nm
MORC Moravsky Berou 63.09 314 IAmb IAmb 10 27 35.9
comp=Z,80nm,1.2s
MORC Moravsky Berou 63.09 314 *e*P **P 10 27 34.5 +0.9**
MORC Moravsky Berou 63.09 314 ⇑P **P 10 27 34.9 +1.3**
MORC Moravsky Berou 63.09 314 P **P 10 27 34.9 +1.3**
PUK Puka 63.11 306 IAmb IAmb 10 27 34.1
comp=Z,60nm,0.8s
RUDO Rudo 63.12 307 ⇑*i*P **P 10 27 33.9 0.0**
JAVC Velka Javorina 63.18 313 *e*P **P 10 27 36.1 +1.9**
LODK Lodwar 63.22 259 P **P 10 27 35.0 +0.1**
LODK IAmb IAmb 10 27 36.6
comp=Z,117nm,1.7s
LODK Lodwar 63.22 259 P **P 10 27 35.3 +0.3**
SNR=24
TIR Tirane 63.29 305 ⇑P **P 10 27 34.5 -0.5**
TIR Tirane 63.29 305 P **P 10 27 34.5 -0.5**
HAPS Han Pijesak,BI 63.32 308 ⇑*i*P **P 10 27 35.4 +0.1**
PDG Podgorica 63.48 306 IAmb IAmb 10 27 44.4
comp=Z,91nm,1.2s
PDG Podgorica 63.48 306 ⇑*i*P **P 10 27 35.7 -0.5**
PDG Podgorica 63.48 306 ⇑P **P 10 27 36.1 -0.1**
HFS Hagfors 63.50 326 P **P 10 27 36.9 +0.8**
comp=Z,105nm,0.9s,baz=86,slow=7.6,SNR=85
HFS LR LR 10 57 33.5
comp=Z,1μm,18.6s,baz=80,slow=38
comp=Z,105nm,0.9s
KRLC Kraliky 63.51 315 *e*P **P 10 27 37.6 +1.2**
KRLC AMS AMS 10 58 10.0
comp=Z,1μm,20.6s
KRLC Kraliky 63.51 315 *e*P **P 10 27 37.6 +1.2**
KRLC MLR MLR
comp=Z,1μm,20.6s
MODS Modra-Piesok 63.54 313 *e*P **P 10 27 36.9 +0.4**
MODS pmax pmax
comp=Z,100nm,1.3s
MODS Modra-Piesok 63.54 313 *e*P **P 10 27 36.9 +0.4**
MPLH Magyarpolny 63.61 312 P **P 10 27 36.8 -0.2**
comp=Z,152nm,1.8s
NSS Namsos 63.66 331 *e*P **P 10 27 37.9 +0.9**
KSP Ksiaz 63.67 316 *e*P **P 10 27 38.6 +1.2**
KSP Ksiaz 63.67 316 P **P 10 27 37.5 +0.2**
comp=Z,87nm,1.5s,comp=Z,1μm
BSD Bornholm Skovb 63.69 321 *i* P **P 10 27 37.0 -0.3**
BSD IAmb IAmb 10 27 37.8
comp=Z,39nm,0.9s
DPC Dobruska-Polom 63.75 315 *e*P **P 10 27 39.4 +1.5**
DPC AMS AMS 10 56 30.0
comp=Z,1μm,23.0s
DPC Dobruska-Polom 63.75 315 *e*P **P 10 27 39.4 +1.5**
DPC MLR MLR
comp=Z,1μm,23.0s
DPC Dobruska-Polom 63.75 315 P **P 10 27 38.9 +1.0**
comp=Z,63nm,1.5s,comp=Z,1μm
OSTC Ostas 63.77 315 *e*P **P 10 27 39.4 +1.3**
OSTC AMS AMS 10 56 30.0
comp=Z,1μm,17.4s
OSTC Ostas 63.77 315 *e*P **P 10 27 39.4 +1.3**
OSTC MLR MLR
comp=Z,1μm,17.4s
KIBK Kibwezi 63.78 252 IAmb IAmb 10 27 40.2
comp=Z,96nm,1.6s
KIBK Kibwezi 63.78 252 P **P 10 27 38.9 +0.2**
SNR=24
VRAC Vranov 63.79 314 LR LR 10 59 04.9
comp=Z,1μm,21.5s,baz=82,slow=39
VRAC Vranov 63.79 314 *e*P **P 10 27 39.4 +1.2**
VRAC Vranov 63.79 314 ⇑P **P 10 27 39.4 +1.2**
VRAC Vranov 63.79 314 P **P 10 27 39.4 +1.2**
KMBO Kilima Mbogo 63.83 254 P **P 10 27 39.6 +0.4**
comp=Z,47nm,0.8s,baz=52,slow=10.0,SNR=90
KMBO LR LR 10 56 15.6
comp=Z,447nm,20.4s,baz=92,slow=37
comp=Z,47nm,0.8s
CHVC Chvalec 63.87 315 *e*P **P 10 27 40.2 +1.5**
CHVC AMS AMS 10 56 40.0
comp=Z,1μm,16.4s
CHVC Chvalec 63.87 315 *e*P **P 10 27 40.2 +1.5**
CHVC MLR MLR
comp=Z,1μm,16.4s
BRY Bratogost 63.88 307 ⇑*i*P **P 10 27 38.4 -0.7**
UPC Upice 63.91 315 *e*P **P 10 27 40.4 +1.4**
UPC AMS AMS 10 56 30.0
comp=Z,1μm,17.3s
UPC Upice 63.91 315 *e*P **P 10 27 40.4 +1.4**
UPC MLR MLR
comp=Z,1μm,17.3s
KRUC Moravsky 63.97 314 *e*P **P 10 27 40.4 +1.1**
HCY Herceg Novi 64.02 306 *e*P **P 10 27 38.8 -1.0**
DEL Delary 64.02 322 *i* P **P 10 27 40.0 +0.5**
TREB Trebinje 64.06 307 *e*P **P 10 27 39.9 -0.2**
RONA Rosalia, Austr 64.32 312 *e*P **P 10 27 42.1 +0.4**
comp=Z,42nm,1.2s,SNR=13
MTSU Mount Surprise 64.36 129 P **P 10 27 42.8 +0.5**
BLY Banja Luka 64.40 309 ⇑*i*P **P 10 27 40.7 -1.5**
LUNU Lund 64.41 321 *i* P **P 10 27 42.1 -0.1**
NC602 NORSAR Array S 64.46 327 *e*P **P 10 27 43.0 +0.7**
STON Ston 64.49 307 ⇑*i*P **P 10 27 41.8 -1.0**
TREC Trest 64.50 314 AMS AMS 10 57 50.0
comp=Z,2μm,19.0s
A051A Mrakovica 64.53 309 ⇑*i*P **P 10 27 44.1 +0.9**
FABU Falkenberg 64.55 323 *i* P **P 10 27 42.8 -0.1**
CONA Conrad Observa 64.56 313 *e*P **P 10 27 44.1 +0.7**
comp=Z,74nm,1.1s,SNR=30
NB2 NORSAR Subarra 64.56 327 P **P 10 27 43.2 +0.1**
comp=Z,143nm,1.0s,baz=79,slow=6.5
NB2 NORSAR Subarra 64.56 327 P **P 10 27 43.2 +0.1**
baz=79,slow=6.5
NOA NORSAR Array B 64.56 327 P **P 10 27 43.5 +0.4**
comp=Z,61nm,0.8s,baz=81,slow=6.5,SNR=154
NOA PP **PP 10 30 00.8 -4.1**
comp=Z,4.0nm,0.8s,baz=76,slow=8.2,SNR=4.0
NOA LR LR 10 57 33.9
comp=Z,601nm,18.5s,baz=75,slow=38
comp=Z,61nm,0.8s

TBLU Trondheim 64.60 330 *eP* **P 10 27 43.5 +0.3**
KOGS Kog 64.64 311 *i* P **P 10 27 44.1 +0.4**
NAO01 NORSAR Array S 64.75 327 IAmb IAmb 10 27 45.7
comp=Z,74nm,0.9s
GOPC GO Pecny, Ondr 64.81 315 *eP* **P 10 27 46.3 +1.5**
GOPC AMS AMS 10 57 10.0
comp=Z,2µm,19.7s
GOPC GO Pecny, Ondr 64.81 315 *eP* **P 10 27 46.3 +1.5**
GOPC MLR MLR
comp=Z,2µm,19.7s
PVCC Panska Ves 64.81 316 *eP* **P 10 27 46.6 +1.8**
PVCC AMS AMS 10 56 30.0
comp=Z,1µm,23.1s
PVCC Panska Ves 64.81 316 *eP* **P 10 27 46.6 +1.8**
PVCC MLR MLR
comp=Z,1µm,23.1s
RUE Ruedersdorf 64.86 318 *eP* **P 10 27 46.0 +0.9**
FORT Forrest 64.87 151 P **P 10 27 45.2 -0.1**
FORT Forrest 64.87 151 P **P 10 27 45.4 +0.1**
ONAU Onsala 64.90 323 *i* P **P 10 27 45.1 -0.1**
A050A Klekovaca 64.91 309 ⇑*i* P **P 10 27 45.5 -0.2**
TJOU Tjoern 64.92 324 *i* P **P 10 27 45.1 -0.3**
ARSA Arzberg 64.94 312 *i* P **P 10 27 46.2 +0.4**
comp=Z,33nm,1.2s,SNR=7.7
PRU Pruhonice 64.94 315 *eP* **P 10 27 46.9 +1.2**
PRU AMS AMS 10 57 20.0
comp=Z,2µm,21.0s
PRU Pruhonice 64.94 315 *eP* **P 10 27 46.9 +1.2**
PRU MLR MLR
comp=Z,2µm,21.0s
AUALB St Joseph's Co 64.96 161 P **P 10 27 46.8 +1.0**
OSL Oslo 65.01 326 *eP* **P 10 27 47.1 +1.2**
RICC Richard 65.10 316 AMS AMS 11 00 50.0
comp=Z,2µm,20.8s
BRG Berggiesshubel 65.12 316 *i* P **P 10 27 47.8 +1.0**
BRG Amp 10 27 49.1
comp=Z,55nm,1.0s
BRG Berggiesshubel 65.12 316 P P 10 27 54.3 +7.5
BRG Amp 10 27 57.0
comp=Z,33nm,1.0s
BRG Berggiesshubel 65.12 316 *i* P **P 10 27 47.8 +1.0**
BRG 10 28 16.4
BRG 10 30 09.2
BRG pmax pmax
comp=Z,55nm,1.0s
BRG pmax pmax
comp=Z,11nm,1.0s
BRG MLR MLR
comp=E,1µm,16.7s
BRG MLR MLR
comp=Z,2µm,12.8s
BRG MLR MLR
comp=N,1µm,23.7s
BRG Berggiesshubel 65.12 316 *eP* **P 10 27 47.8 +1.0**
comp=N,54nm,1.0s,baz=76,slow=6.3
ZVC Zvikov 65.29 315 *eP* **P 10 27 49.5 +1.5**
ZVC AMS AMS 10 58 50.0
comp=N,2µm,24.9s
CRES Cresnjevec Ost 65.32 310 ⇑*i* P **P 10 27 48.7 +0.4**
PERS Pernice 65.35 311 *i* P **P 10 27 49.0 +0.4**
CKRC Cesky Krumlov 65.36 314 *eP* **P 10 27 49.9 +1.4**
CKRC AMS AMS 10 59 20.0
comp=N,2µm,22.7s
CKRC Cesky Krumlov 65.36 314 *eP* **P 10 27 49.9 +1.4**
CKRC MLR MLR
comp=Z,2µm,22.7s
DOMB Dombas 65.38 329 *eP* **P 10 27 49.2 +0.9**
SOKA Soboth 65.40 311 *i* P **P 10 27 49.2 +0.3**
comp=Z,50nm,1.5s,SNR=12
HSKC Hora Svate Kat 65.50 316 *eP* **P 10 27 50.6 +1.3**
HSKC AMS AMS 11 01 20.0
comp=Z,2µm,18.1s
BOJS Bojanci 65.54 310 *eP* **P 10 27 49.7 0.0**
CLL Collm 65.60 317 IAmb IAmb 10 27 51.8
comp=Z,80nm,1.4s
CLL Collm 65.60 317 ⇑*i P* **P 10 27 50.6 +0.7**
CLL *eS* **S 10 36 36.0 +3.0**
CLL pmax pmax
comp=Z,105nm,1.6s
CLL MLR MLR
comp=Z,1µm,19.5s
CLL Collm 65.60 317 *eP* **P 10 27 50.6 +0.7**
comp=Z,88nm,1.4s,baz=76,slow=6.3
CLL Collm 65.60 317 ⇑*i P* **P 10 27 50.6 +0.7**
comp=Z,105nm,1.6s
CLL *i* PP **PP 10 30 14.7 +0.6**
CLL *eS* **S 10 36 36.0 +3.0**
CLL *ePS* **PnS 10 36 57.0 +1.9**
CLL *eSSS* SSS 10 43 59.0
CLL *eSSSS* 10 44 48.0
CLL AMS AMS 10 59 00.0
comp=Z,1µm,19.5s
CLL Collm 65.60 317 P **P 10 27 49.8 -0.1**
comp=Z,47nm,1.5s
MOA Molln 65.62 313 *eP* **P 10 27 50.7 +0.5**
comp=Z,37nm,0.9s,SNR=11
KONO Kongsberg 65.62 326 P **P 10 27 50.4 +0.5**
KONO Kongsberg 65.62 326 *eP* **P 10 27 50.9 +1.0**
KONO Kongsberg 65.62 326 *ceP* **P 10 27 50.9 +1.0**
KONO pmax pmax
comp=Z,115nm,1.3s
GEC2 GERESS Array S 65.74 314 *eP* **P 10 27 52.1 +1.1**
comp=Z,167nm,1.5s,baz=76,slow=6.3
GERES GERESS Array B 65.74 314 P **P 10 27 52.1 +1.1**
GERES GERESS Array B 65.74 314 P **P 10 27 52.0 +1.0**
comp=Z,16nm,0.7s,baz=70,slow=5.0,SNR=59
GERES LR LR 11 00 14.3
comp=Z,1µm,21.1s,baz=76,slow=39
comp=Z,16nm,0.7s
KHC Kasperske Hory 65.75 314 IAmb IAmb 10 27 53.4
comp=Z,112nm,1.7s
KHC Kasperske Hory 65.75 314 *eP* **P 10 27 52.1 +1.1**
KHC AMS AMS 10 54 00.0
KHC Kasperske Hory 65.75 314 *ceP* **P 10 27 52.3 +1.3**
KHC pmax pmax
comp=Z,137nm,1.7s
KHC Kasperske Hory 65.75 314 P **P 10 27 50.8 -0.2**
comp=Z,36nm,1.6s
OBKA Obir 65.76 311 *i* P **P 10 27 51.4 +0.1**
comp=Z,26nm,1.0s
OBKA Obir 65.76 311 *eP* **P 10 27 49.9 -1.3**
OVD Ostervraa, Den 65.82 324 *i* P **P 10 27 51.9 +0.7**
OVD IAmb IAmb 10 27 53.2
comp=Z,232nm,1.0s
MOL Molde 65.96 330 *eP* **P 10 27 53.4 +1.4**
SKAR Skarslia 66.03 327 *eP* **P 10 27 54.1 +1.5**
CEY Cerknica 66.04 311 ⇑*i P* **P 10 27 53.5 +0.6**
BIOA Bad Ischl, Aus 66.07 313 *eP* **P 10 27 53.5 +0.5**
comp=Z,12nm,0.6s,SNR=7.7
TANN Tannenbergstha 66.14 316 *eP* **P 10 27 54.5 +1.0**
comp=Z,109nm,1.5s,baz=76,slow=6.3
TIP Timpagrande 66.14 303 ⇓*P* **P 10 27 53.5 -0.3**
OOD Oodnadatta 66.15 143 P **P 10 27 53.3 -0.4**
NKC Novy Kostel 66.19 316 *eP* **P 10 27 55.6 +1.8**
NKC AMS AMS 11 01 40.0
comp=Z,2µm,18.3s
NKC Novy Kostel 66.19 316 *eP* **P 10 27 55.6 +1.8**
NKC MLR MLR
comp=Z,2µm,18.3s
WET Wettzell 66.19 314 *eP* **P 10 27 55.0 +1.2**
comp=Z,54nm,1.1s,baz=76,slow=6.3
GORT1 Trebel 66.21 319 *eP* **P 10 27 55.2 +1.5**
comp=Z,231nm,1.3s,baz=76,slow=6.3
OPO Ambohidratompo 66.27 232 LR LR 10 55 24.4
comp=Z,400nm,19.4s,baz=198,slow=35
AKN Aaknes 66.30 329 *eP* **P 10 27 55.6 +1.4**
PLN Plauen 66.31 316 *eP* **P 10 27 55.6 +1.0**
comp=Z,107nm,1.5s,baz=76,slow=6.3
MYKA Terra Mystica 66.34 312 *i* P **P 10 27 54.4 -0.5**
comp=Z,14nm,1.0s
NEUB Neuenburg 66.37 317 *eP* **P 10 27 55.7 +0.9**
comp=Z,154nm,1.4s,baz=76,slow=6.3
SKDS Skadanscina 66.37 310 *eP* **P 10 27 54.8 -0.2**
CADS Cadrg 66.38 311 *i* P **P 10 27 54.8 -0.3**
GOET G??ttrup 66.41 323 *i* P **P 10 27 53.4 -1.6**
GOET IAmb IAmb 10 27 57.5
comp=Z,393nm,1.2s
FLTG Flechtingen 66.41 318 *eP* **P 10 27 55.8 +0.7**
comp=Z,126nm,1.3s,baz=76,slow=6.3
KBA Koelnbreinsper 66.42 312 *eP* **P 10 27 55.4 -0.1**
comp=Z,12nm,0.7s
ROTZ Rotzenmuhle 66.46 315 *eP* **P 10 27 57.1 +1.5**
comp=Z,52nm,1.4s,baz=76,slow=6.3
MANZ Manzenberg 66.47 315 *eP* **P 10 27 57.0 +1.4**
comp=Z,32nm,1.5s,baz=76,slow=6.3

HOMB Hombersund 66.49 325 *i* P **P 10 27 55.2 -0.2**
ABPO Ambohimpanom 66.54 232 P **P 10 27 55.7 -0.9**
ABPO Ambohimpanom 66.54 232 P **P 10 27 55.7 -0.9**
ABPO pmax pmax
comp=Z,27nm,1.1s
BSEG Bad Segeberg 66.56 320 *eP* **P 10 27 57.7 +1.7**
comp=Z,125nm,1.0s,baz=76,slow=6.3
MUD Monsted U'grnd 66.57 323 *i* P **P 10 27 56.0 0.0**
MUD IAmb IAmb 10 27 58.5
comp=Z,137nm,1.4s
GAMB Gambell 66.58 29 P **P 10 27 56.3 +0.4**
baz=284
NOR Nord 66.60 352 *i* P **P 10 27 54.5 -1.4**
NOR IAmb IAmb 10 27 56.9
comp=Z,65nm,1.2s
MOX Moxa 66.61 316 *eP* **P 10 27 57.4 +1.0**
comp=Z,50nm,1.2s,baz=76,slow=6.3
MOX *eL* L 10 59 33.1
comp=Z,1µm,21.4s
RJOB Jochberg 66.61 313 *eP* **P 10 27 57.3 +0.8**
comp=Z,82nm,1.2s,baz=76,slow=6.3
CUC Castrocucco 66.61 304 IAmb IAmb 10 28 05.5
comp=Z,63nm,1.0s
LESA Schwarzleotal 66.77 313 *i* P **P 10 27 57.8 +0.2**
comp=Z,24nm,0.8s
CTAO Charters Tower 67.03 129 P **P 10 27 59.5 0.0**
CTAO Charters Tower 67.03 129 P **P 10 27 59.4 0.0**
CTAO Charters Tower 67.03 129 P **P 10 27 59.5 0.0**
CTAO pmax pmax
comp=Z,99nm,1.2s
CTAO MLR MLR
comp=Z,400nm,21.0s
NRDL Niedersach Rie 67.04 318 *eP* **P 10 28 00.8 +1.8**
comp=Z,200nm,1.2s,baz=76,slow=6.3
CLZ Clausthal 67.06 318 *eP* **P 10 28 00.7 +1.4**
comp=Z,153nm,1.1s,baz=76,slow=6.3
ABTA Abfaltersbach 67.06 312 *eP* **P 10 27 58.9 -0.6**
comp=Z,14nm,0.8s,SNR=5.1
GRF Grafenberg Arr 67.10 315 *eP* **P 10 28 01.1 +1.5**
comp=Z,152nm,1.4s,baz=76,slow=6.3
GRF *eL* L 11 00 24.1
comp=Z,2µm,20.4s
GRFO Grafenberg 67.10 315 P **P 10 28 00.8 +1.2**
GRFO IAmb IAmb 10 28 09.3
comp=Z,92nm,1.1s
GRFO Grafenberg 67.10 315 P **P 10 28 00.8 +1.2**
GRFO pmax pmax
comp=Z,92nm,1.1s
SNART Snartemo 67.13 325 *eP* **P 10 28 00.8 +1.3**
SNART Snartemo 67.13 325 *i* P **P 10 27 57.8 -1.8**
BLS5 Blasjo 67.23 326 *eP* **P 10 28 01.6 +1.4**
MULG Mulgathing 67.29 146 P **P 10 28 00.3 -0.6**
RETH Rethem/Aller, 67.42 319 *eP* **P 10 28 02.9 +1.4**
comp=Z,116nm,1.6s,baz=76,slow=6.3
INTR Introdacqua 67.42 307 IAmb IAmb 10 28 09.1
comp=Z,105nm,1.3s
WTTA Wattenberg 67.49 313 *i* P **P 10 28 02.2 -0.1**
comp=Z,48nm,1.1s,SNR=11
WATA Walderalm 67.51 313 *eP* **P 10 28 02.1 -0.3**
comp=Z,38nm,1.4s,SNR=8.7
BER Bergen 67.52 327 *eP* **P 10 28 03.2 +1.2**
UBBA Unterbreizbach 67.55 317 *eP* **P 10 28 03.3 +1.0**
comp=Z,114nm,1.7s,baz=76,slow=6.3
TNA Tin City 67.67 27 P **P 10 28 03.6 +0.7**
baz=286
SQTA Sankt Quirin 67.78 313 *eP* **P 10 28 03.9 -0.2**
comp=Z,38nm,1.0s,SNR=12
MOTA Moosalm 67.82 313 *i* P **P 10 28 04.1 -0.3**
comp=Z,56nm,1.1s
C16K Lisburne Hills 67.85 23 IAms_20 IAms_20 11 00 21.0
comp=Z,3µm,20.0s
C16K Lisburne Hills 67.85 23 P **P 10 28 04.7 +0.8**
baz=288
RETA Reutte 68.00 313 *eP* **P 10 28 05.6 +0.2**
comp=Z,49nm,1.1s,SNR=11
TEOL Teolo 68.01 311 IAmb IAmb 10 28 06.9
comp=Z,68nm,0.9s
FETA Feichten 68.16 313 *i* P **P 10 28 06.5 0.0**
comp=Z,47nm,1.1s,SNR=15
F14K Arctic Creek 68.33 26 P **P 10 28 07.9 +0.9**
baz=288
UBR Ueberruh 68.37 313 *eP* **P 10 28 08.1 +0.4**
comp=Z,44nm,1.1s,baz=76,slow=6.3
KASTN Kahler Asten 68.41 317 *eP* **P 10 28 08.9 +1.1**
comp=Z,102nm,1.6s,baz=76,slow=6.3
VAE Valguarnera 68.41 302 LR LR 11 00 56.1
comp=Z,231nm,20.5s,baz=9.5,slow=38
C17K DeLong Mountai 68.55 23 P **P 10 28 09.2 +0.9**
baz=290
FUORN Ofenpass-Fuorn 68.58 312 IAmb IAmb 10 28 16.8
comp=Z,101nm,1.6s
DAVA Damuels 68.63 313 *eP* **P 10 28 09.5 0.0**
comp=Z,63nm,1.2s,SNR=11
STU Stuttgart 68.63 315 *eP* **P 10 28 09.9 +0.6**
A19K Wainwright 68.65 21 P **P 10 28 09.2 +0.3**
baz=291
TNS Taunus Mts 68.67 316 *eP* **P 10 28 10.4 +0.9**
comp=Z,68nm,1.2s,baz=76,slow=6.3
B18K Kokolik River 68.71 22 P **P 10 28 09.8 +0.5**
baz=290
RDOG Red Dog Mine 68.78 23 IAmb IAmb 10 28 27.8
comp=Z,53nm,1.3s
RDOG Red Dog Mine 68.78 23 P **P 10 28 10.1 +0.3**
baz=290
DAVOX Davos/Dischmat 68.78 313 LR LR 11 02 01.3
comp=Z,1µm,21.1s,baz=66,slow=39
VOI Vohitsoka 68.78 230 P **P 10 28 09.2 -1.4**
VOI IAmb IAmb 10 28 19.3
comp=Z,46nm,0.9s
D17K Noatak River 68.84 24 P **P 10 28 10.9 +0.7**
baz=290,SNR=16
F15K North Star Dit 68.92 26 P **P 10 28 11.5 +0.8**
baz=289
INKA Innaminka 68.96 139 P **P 10 28 12.1 +0.7**
ANM Nome 69.01 27 P **P 10 28 11.8 +0.5**
baz=289
BUG Bochum--Univer 69.02 318 *eP* **P 10 28 12.7 +1.2**
comp=Z,148nm,1.4s,baz=76,slow=6.3
SPIA Saint Paul Isl 69.08 36 P **P 10 28 12.5 +0.7**
baz=288
C18K Utukok River 69.17 23 IAmb IAmb 10 28 31.4
comp=Z,97nm,1.4s
C18K Utukok River 69.17 23 P **P 10 28 12.9 +0.6**
baz=291,SNR=9.1
MBAR Mbarara 69.20 258 P **P 10 28 13.3 -0.2**
MBAR IAmb IAmb 10 28 29.0
comp=Z,48nm,1.1s
MBAR Mbarara 69.20 258 LR LR 10 59 38.1
comp=Z,460nm,19.7s,baz=64,slow=37
MBAR Mbarara 69.20 258 P **P 10 28 13.7 +0.2**
MBAR P **P 10 28 13.7 +0.2**
MBAR Mbarara 69.20 258 *ceP* **P 10 28 13.6 +0.2**
MBAR pmax pmax
comp=Z,73nm,1.7s
TUE Stuetta 69.23 312 IAmb IAmb 10 28 21.8
comp=Z,69nm,1.2s
TUE Stuetta 69.23 312 P **P 10 28 12.6 -0.6**
comp=Z,214nm,1.7s
DAG Danmarks Havn 69.28 347 *i* P **P 10 28 11.6 -1.2**
DAG IAmb IAmb 10 28 13.6
comp=Z,50nm,1.1s
BFO Black Forest 69.31 315 P **P 10 28 13.4 0.0**
BFO IAmb IAmb 10 28 15.4
comp=Z,73nm,1.3s
BFO Black Forest 69.31 315 P **P 10 28 13.5 0.0**
BFO pmax pmax
comp=Z,73nm,1.3s
BFO Black Forest 69.31 315 *eP* **P 10 28 14.1 +0.6**
comp=Z,80nm,1.3s,baz=76,slow=6.3
JMIC Jan Mayen 69.40 340 LR LR 11 01 37.6
comp=Z,293nm,20.4s,baz=66,slow=38
G15K Niukluk 69.40 27 P **P 10 28 14.3 +0.5**
baz=290
E17K Hotham Inlet 69.51 24 P **P 10 28 15.5 +1.1**
baz=291,SNR=23
C19K Lookout Ridge 69.54 22 IAms_20 IAms_20 11 04 16.0
comp=Z,1µm,19.0s
C19K Lookout Ridge 69.54 22 P **P 10 28 15.8 +1.2**
baz=292
A21K Barrow 69.58 19 P **P 10 28 15.1 +0.5**
baz=294
LCRK Leigh Creek 69.59 143 P **P 10 28 15.2 -0.1**
P08K Saint George I 69.62 36 P **P 10 28 15.9 +0.7**
baz=288
MSSA Maissana 69.78 310 IAmb IAmb 10 28 17.8
comp=Z,131nm,1.5s
E18K Tukpahlearik C 69.83 24 IAmb IAmb 10 28 25.2
comp=Z,50nm,0.8s
E18K Tukpahlearik C 69.83 24 P **P 10 28 17.2 +0.9**
baz=292
G16K Koyuk River 69.93 26 IAmb IAmb 10 28 35.2
comp=Z,96nm,1.6s
G16K Koyuk River 69.93 26 P **P 10 28 17.7 +0.8**
baz=291
F17K Baldwin Pennin 69.96 25 IAmb IAmb 10 28 26.2
comp=Z,60nm,0.8s
F17K IAMs_20 IAMs_20 11 03 10.8
comp=Z,2µm,18.0s
F17K Baldwin Pennin 69.96 25 P **P 10 28 18.1 +1.1**
baz=292
B20K Meade River 69.96 21 P **P 10 28 18.0 +1.0**
baz=294
BTNL Ternell 69.97 317 *dP* **P 10 28 18.3 +0.8**
comp=Z,24nm,1.1s
MEM Membach 70.04 317 *dP* **P 10 28 18.7 +0.8**
comp=Z,27nm,1.2s
M11K Mekoryuk 70.04 32 P **P 10 28 18.3 +0.6**
baz=290
BHOU Houvegnez 70.12 317 *dP* **P 10 28 19.3 +0.9**
comp=Z,21nm,1.2s
A22K Sinclair Lake 70.20 19 P **P 10 28 19.4 +0.9**
baz=296
K13K Kusilvak Mount 70.21 30 IAMs_20 IAMs_20 11 01 47.6
comp=Z,3µm,18.0s
K13K Kusilvak Mount 70.21 30 P **P 10 28 19.1 +0.4**
baz=291
QLP Quilpie 70.22 136 P **P 10 28 20.1 +0.8**
H16K Elim 70.25 27 P **P 10 28 19.2 +0.3**
baz=292
WLF Walferdange 70.25 316 *eP* **P 10 28 21.0 +1.8**
comp=Z,298nm,1.3s,baz=76,slow=6.3
WLF Walferdange 70.25 316 *dP* **P 10 28 20.8 +1.6**
comp=Z,92nm,1.2s
D19K Kuna River 70.27 22 IAmb IAmb 10 28 26.0
comp=Z,72nm,1.1s
D19K IAMs_20 IAMs_20 11 02 53.1
comp=Z,1µm,20.0s
D19K Kuna River 70.27 22 P **P 10 28 19.9 +0.9**
baz=294,SNR=17
BSTI Sart Tilman 70.31 317 *dP* **P 10 28 19.8 +0.2**
BBOO Buckleboo 70.33 146 IAmb IAmb 10 28 20.2
comp=Z,63nm,0.8s
BBOO Buckleboo 70.33 146 P **P 10 28 19.1 -0.7**
TATA Tatamba Isabel 70.39 111 P **P 10 28 21.0 +0.5**
J14K Nanvaranak Lak 70.40 29 P **P 10 28 20.4 +0.6**
baz=291
F18K Selawik 70.49 24 P **P 10 28 21.3 +1.0**
baz=293,SNR=15
BCLA Clavier 70.53 317 *dP* **P 10 28 21.3 +0.5**
comp=Z,25nm,1.3s
G17K Kiwalik Mounta 70.55 26 P **P 10 28 21.6 +0.9**
baz=293
SENIN Lac Senin/Sane 70.60 313 P **P 10 28 21.8 0.0**
RCHB Rochefort 70.66 317 *dP* **P 10 28 22.5 +0.8**
BGES Gesves 70.67 317 *dP* **P 10 28 22.8 +1.0**
comp=Z,26nm,1.2s
D20K Etivluk River 70.68 22 P **P 10 28 22.3 +0.8**
baz=295,SNR=30
FOMA Nahampoana Res 70.75 227 P **P 10 28 21.5 -1.0**
FOMA IAmb IAmb 10 28 31.2
comp=Z,34nm,0.9s
BMRD Maredsous 70.89 317 *dP* **P 10 28 24.0 +0.9**
comp=Z,22nm,1.2s
DBG Daneborg 70.93 345 *i* P **P 10 28 22.4 -0.5**
DBG IAmb IAmb 10 28 24.2
comp=Z,134nm,1.7s
B21K Ikpikpuk River 70.93 21 P **P 10 28 23.9 +0.9**
baz=297
B22K Teshekpuk Lake 70.97 20 IAmb IAmb 10 28 24.6
comp=Z,47nm,0.8s
B22K IAMs_20 IAMs_20 11 04 05.2
comp=Z,2µm,18.0s
B22K Teshekpuk Lake 70.97 20 P **P 10 28 24.0 +0.9**
baz=298
E19K Redstone River 71.01 23 IAmb IAmb 10 28 32.2
comp=Z,42nm,0.8s
E19K Redstone River 71.01 23 P **P 10 28 24.2 +0.7**
baz=295
E20K Nigu River 71.02 22 P **P 10 28 24.4 +0.7**
baz=296
H17K Granite Mounta 71.06 26 IAmb IAmb 10 28 26.2
comp=Z,90nm,1.4s
H17K Granite Mounta 71.06 26 P **P 10 28 24.7 +0.9**
baz=294
DOU Dourbes 71.06 317 *dP* **P 10 28 24.9 +0.7**
HNR Honiara 71.07 112 LR LR 10 57 23.3
comp=Z,455nm,20.2s,baz=306,slow=34
F19K Shaleruckik Mo 71.08 24 IAMs_20 IAMs_20 11 03 06.4
comp=Z,1µm,18.0s
F19K Shaleruckik Mo 71.08 24 P **P 10 28 24.4 +0.5**
baz=295
C21K Knifeblade Rid 71.08 21 P **P 10 28 25.0 +1.0**
baz=297
G18K Tagagawik 71.15 25 IAMs_20 IAMs_20 11 02 51.3
comp=Z,1µm,20.0s
G18K Tagagawik 71.15 25 P **P 10 28 24.6 +0.2**
baz=294,SNR=11
I17K Unalakleet 71.16 27 IAmb IAmb 10 28 42.8
comp=Z,91nm,1.4s
I17K Unalakleet 71.16 27 P **P 10 28 25.6 +1.1**
baz=293,SNR=9.1
NIKH Nikolski High 71.21 40 P **P 10 28 25.8 +0.8**
baz=290
WHYH Whyalla 71.28 145 P **P 10 28 25.5 0.0**
L14K Kuka Creek 71.30 30 IAmb IAmb 10 28 36.1
comp=Z,47nm,0.9s
L14K IAMs_20 IAMs_20 11 01 58.5
comp=Z,2µm,21.0s
L14K Kuka Creek 71.30 30 P **P 10 28 26.3 +1.0**
baz=292
ALEG Aligegeo Malai 71.33 111 P **P 10 28 26.0 -0.2**
M13K Dall Lake 71.35 31 P **P 10 28 26.5 +0.8**
baz=292
J16K Anvik River 71.44 28 P **P 10 28 27.1 +0.9**
baz=294
K15K Wolf Creek Mou 71.44 29 IAmb IAmb 10 28 44.6
comp=Z,49nm,1.1s
K15K Wolf Creek Mou 71.44 29 P **P 10 28 27.2 +1.0**
baz=293
BNI Bardonecchia 71.45 312 IAmb IAmb 10 28 36.1
comp=Z,71nm,1.2s
H18K Honhosa River 71.57 26 IAMs_20 IAMs_20 11 02 39.7
comp=Z,3µm,20.0s
H18K Honhosa River 71.57 26 P **P 10 28 27.4 +0.5**
baz=295
G19K Purcell Mounta 71.62 24 IAmb IAmb 10 28 41.5
comp=Z,96nm,1.6s
G19K IAMs_20 IAMs_20 11 04 04.8
comp=Z,1µm,18.0s
G19K Purcell Mounta 71.62 24 P **P 10 28 27.9 +0.7**
baz=296,SNR=12
E21K Killik River 71.67 22 IAMs_20 IAMs_20 11 04 34.0
comp=Z,1µm,19.0s
E21K Killik River 71.67 22 P **P 10 28 28.2 +0.6**
baz=298
L15K Ungalak Mounta 71.70 29 P **P 10 28 26.9 -0.9**
baz=293
F20K Avaraart Lake 71.71 23 IAMs_20 IAMs_20 11 02 56.1
comp=Z,2µm,19.0s
F20K Avaraart Lake 71.71 23 P **P 10 28 28.3 +0.6**
baz=296
M14K Bethel 71.86 30 IAmb IAmb 10 28 30.7
comp=Z,118nm,1.4s
M14K Bethel 71.86 30 P **P 10 28 29.5 +0.9**
baz=293,SNR=6.9
D22K Ayikyak River 71.88 21 IAmb IAmb 10 28 31.2
comp=Z,104nm,1.4s
D22K IAMs_20 IAMs_20 11 03 48.5
comp=Z,2µm,19.0s
D22K Ayikyak River 71.88 21 P **P 10 28 29.9 +1.1**
baz=299,SNR=18
J17K VABM Dome 72.02 27 IAmb IAmb 10 28 47.8
comp=Z,176nm,1.9s
J17K VABM Dome 72.02 27 P **P 10 28 30.4 +0.7**
baz=295,SNR=8.8
C23K Itkillik River 72.05 20 IAmb IAmb 10 28 31.4
comp=Z,65nm,0.8s
C23K Itkillik River 72.05 20 P **P 10 28 30.9 +1.1**
baz=300
H19K Roundabout Mou 72.13 25 IAMs_20 IAMs_20 11 03 01.2
comp=Z,1µm,20.0s
H19K Roundabout Mou 72.13 25 P **P 10 28 31.4 +1.2**
baz=296,SNR=25
HTT Hallett 72.29 144 P **P 10 28 31.4 -0.3**
N14K Kuskokwak Cree 72.31 31 P **P 10 28 32.1 +0.7**

baz=294
GCSA Galena City Sc 72.31 26 P P 10 28 32.2 +0.8
baz=296,SNR=19
NGOA Tingoa Renbel 72.32 113 P P 10 28 32.7 +0.5
F21K Alatna River 72.41 23 IAmb IAmb 10 28 33.9
comp=Z,49nm,1.1s
F21K Alatna River 72.41 23 P P 10 28 32.7 +0.7
baz=298
M15K Kasigluk River 72.45 30 P P 10 28 32.6 +0.3
baz=294
WACR West Acre 72.45 321 *e*P **P 10 28 33.5 +1.1**
D23K Nanushuk River 72.47 20 IAmb IAmb 10 28 34.7
comp=Z,116nm,1.4s
D23K IAms_20 IAms_20 11 04 13.1
comp=Z,2µm,18.0s
D23K Nanushuk River 72.47 20 P P 10 28 33.4 +1.1
baz=300,SNR=33
E22K Anaktuvuk Pass 72.53 21 IAms_20 IAms_20 11 04 44.5
comp=Z,2µm,20.0s
E22K Anaktuvuk Pass 72.53 21 P P 10 28 33.5 +0.8
baz=300,SNR=18
STKA Stephens Creek 72.55 141 P P 10 28 33.0 -0.2
STKA Stephens Creek 72.55 141 P P 10 28 32.8 -0.4
comp=Z,34nm,0.6s,baz=325,slow=6.4,SNR=79
comp=Z,34nm,0.6s
STKA Stephens Creek 72.55 141 P P 10 28 33.0 -0.2
STKA pmax pmax
comp=Z,29nm,1.4s
L16K Owhat River 72.56 29 IAmb IAmb 10 28 51.0
comp=Z,58nm,1.4s
L16K IAms_20 IAms_20 11 03 29.8
comp=Z,2µm,19.0s
L16K Owhat River 72.56 29 P P 10 28 33.9 +0.9
baz=295,SNR=7.0
K17K Iditarod 72.63 28 P P 10 28 34.4 +1.0
baz=296
MCD Coleburn Disti 72.65 326 *e*P **P 10 28 34.6 +1.1**
C24K Franklin Bluff 72.68 19 P P 10 28 34.3 +0.8
baz=302
LMK Market Rasen 72.71 322 *e*P **P 10 28 35.3 +1.3**
LMK IAmb IAmb 10 28 35.7
comp=Z,240nm,0.8s
F22K John River 72.72 22 P P 10 28 34.8 +1.0
baz=299,SNR=21
H20K Anotleneega Mo 72.73 25 P P 10 28 34.6 +0.7
baz=298
G21K Allakaket 72.74 23 IAmb IAmb 10 28 54.4
comp=Z,58nm,1.1s
G21K Allakaket 72.74 23 P P 10 28 34.2 +0.3
baz=298,SNR=24
O14K Tigyukauivet M 72.78 32 P P 10 28 35.1 +0.9
baz=294
SSB Saint Sauveur 72.79 312 IAmb IAmb 10 28 41.4
comp=Z,57nm,1.3s
KEST Kesra 72.84 302 P P 10 28 35.8 +0.6
comp=Z,52nm,1.1s,baz=166,slow=0.9,SNR=12
KEST LR LR 11 06 24.7
comp=Z,393nm,18.6s,baz=31,slow=40
comp=Z,52nm,1.1s
L17K Donlin 72.89 28 P P 10 28 36.0 +1.1
baz=296
IMAR Indian Mountai 72.91 24 P P 10 28 35.4 +0.5
N15K Kwethluk River 72.94 31 IAmb IAmb 10 28 43.7
comp=Z,48nm,0.8s
N15K Kwethluk River 72.94 31 P P 10 28 36.2 +1.0
baz=295,SNR=6.2
D24K Happy Valley 72.95 20 IAmb IAmb 10 28 44.2
comp=Z,41nm,0.8s
D24K IAms_20 IAms_20 11 06 15.1
comp=Z,2µm,22.0s
D24K Happy Valley 72.95 20 P P 10 28 35.9 +0.8
baz=302,SNR=24
J18K Innoko River 72.95 27 IAmb IAmb 10 28 47.1
comp=Z,40nm,0.9s
J18K Innoko River 72.95 27 P P 10 28 35.9 +0.6
baz=297,SNR=17
TOLK Toolik Lake Re 72.98 21 IAms_20 IAms_20 11 04 36.6
comp=Z,1µm,20.0s
TOLK Toolik Lake Re 72.98 21 P P 10 28 36.1 +0.7
baz=301,SNR=26
EDMD Edmundbyers 73.07 323 *e*P **P 10 28 37.0 +0.9**
EDMD IAmb IAmb 10 28 37.8
comp=Z,108nm,0.9s
M16K Timber Creek 73.08 30 IAmb IAmb 10 28 38.4
comp=Z,111nm,1.4s
M16K Timber Creek 73.08 30 P P 10 28 37.1 +1.1
baz=296
J19K Poorman 73.14 26 IAmb IAmb 10 28 38.7
comp=Z,94nm,1.4s
J19K Poorman 73.14 26 P P 10 28 37.3 +0.9
baz=297
I20K Naaghedeneel 73.21 25 IAmb IAmb 10 29 01.7
comp=Z,49nm,1.0s
I20K IAms_20 IAms_20 11 03 53.7
comp=Z,2µm,18.0s
I20K Naaghedeneel 73.21 25 P P 10 28 37.9 +1.2
baz=298
HPK Haverah Park 73.23 322 *e*P **P 10 28 37.7 +0.7**
G22K Bettles 73.23 23 P P 10 28 37.3 +0.5
baz=300
E23K Chandalar 73.28 21 IAms_20 IAms_20 11 05 19.3
comp=Z,2µm,18.0s
E23K Chandalar 73.28 21 P P 10 28 38.1 +1.0
baz=302
N16K Nishlik Lake 73.40 30 P P 10 28 38.8 +0.8
baz=296
H21K Melozitna Rive 73.41 24 P P 10 28 39.0 +1.1
baz=299,SNR=29
TTA Tatalina 73.48 27 IAmb IAmb 10 28 40.5
comp=Z,85nm,1.6s
TTA Tatalina 73.48 27 P P 10 28 39.2 +0.7
baz=297,SNR=10
TTA Tatalina 73.48 27 P P 10 28 39.1 +0.7
O15K Ungalikthiuk R 73.48 32 P P 10 28 39.1 +0.6
baz=295
FALS False Pass 73.49 36 P P 10 28 39.2 +0.7
baz=294
EKA Eskdalemuir Ar 73.50 324 P P 10 28 39.3 +0.7
comp=Z,53nm,0.9s,baz=73,slow=5.9,SNR=32
EKA PP **PP 10 31 15.7 -6.5**
comp=Z,8.0nm,0.9s,baz=68,slow=9.4,SNR=3.4
comp=Z,53nm,0.9s
LBWR Ladybower, Pea 73.50 322 *e*P **P 10 28 39.9 +1.2**
LBWR IAmb IAmb 10 28 40.6
comp=Z,130nm,1.0s
COLD Coldfoot 73.52 22 P P 10 28 39.3 +0.8
baz=301,SNR=13
L18K Granite Mounta 73.52 28 IAmb IAmb 10 28 41.0
comp=Z,60nm,1.4s
L18K Granite Mounta 73.52 28 P P 10 28 39.4 +0.8
baz=297
SCO Scoresbysund 73.53 342 *i* P **P 10 28 38.4 0.0**
SCO IAmb IAmb 10 28 40.2
comp=Z,63nm,1.4s
ESK Eskdalemuir 73.53 324 P P 10 28 39.6 +0.8
ESK Eskdalemuir 73.53 324 *e*P **P 10 28 39.8 +1.0**
ESK IAmb IAmb 10 28 40.6
comp=Z,151nm,1.2s
ESK Eskdalemuir 73.53 324 P P 10 28 39.6 +0.8
ESK pmax pmax
comp=Z,147nm,1.2s
M17K Holitna River 73.58 29 P P 10 28 39.8 +0.9
baz=297,SNR=9.7
D25K Kavik River 73.59 19 IAms_20 IAms_20 11 02 50.9
comp=Z,983nm,19.0s
D25K Kavik River 73.59 19 P P 10 28 39.9 +0.9
baz=304,SNR=27
E24K Your Creek 73.63 21 IAms_20 IAms_20 11 04 43.6
comp=Z,1µm,18.0s
E24K Your Creek 73.63 21 P P 10 28 40.2 +1.0
baz=302
J20K Nowinta River 73.63 26 P P 10 28 40.3 +1.1
baz=299
C26K Camden Bay 73.67 18 P P 10 28 40.8 +1.5
baz=305,SNR=20
KESW Keswick, Cumbr 73.77 323 *e*P **P 10 28 41.3 +1.1**
KESW IAmb IAmb 10 28 41.8
comp=Z,115nm,0.9s
H22K Ishtalitna Cre 73.80 23 P P 10 28 41.3 +1.1
baz=300,SNR=24
AUMBR Murray Bridge 73.80 145 P P 10 28 40.3 -0.2
NEEM North Greenlan 73.84 353 *i* P **P 10 28 39.9 -0.7**
NEEM IAmb IAmb 10 28 42.3
comp=Z,219nm,1.2s
G23K Bananza Creek 73.85 22 IAms_20 IAms_20 11 04 46.4
comp=Z,2µm,18.0s
G23K Bananza Creek 73.85 22 P P 10 28 41.1 +0.6
baz=301,SNR=14

I21K Tanana 73.94 24 P P 10 28 42.1 +1.0
baz=300
K20K Telida 74.05 26 P P 10 28 42.9 +1.2
baz=299
N17K Nushagak Hills 74.08 30 IAmb IAmb 10 28 44.5
comp=Z,84nm,1.4s
N17K IAms_20 IAms_20 11 04 10.9
comp=Z,2µm,19.0s
N17K Nushagak Hills 74.08 30 P P 10 28 43.1 +1.2
baz=297
O16K Kokwok River B 74.10 31 IAmb IAmb 10 28 44.2
comp=Z,72nm,1.1s
O16K IAms_20 IAms_20 11 04 12.4
comp=Z,2µm,18.0s
O16K Kokwok River B 74.10 31 P P 10 28 42.8 +0.8
baz=297
F24K Squaw Lake 74.12 21 IAms_20 IAms_20 11 05 00.0
comp=Z,2µm,19.0s
F24K Squaw Lake 74.12 21 P P 10 28 43.0 +0.9
baz=303,SNR=14
NEWG New Galloway 74.15 324 *e*P **P 10 28 43.5 +1.1**
NEWG IAmb IAmb 10 28 44.0
comp=Z,113nm,1.2s
C27K Jago River 74.18 18 IAms_20 IAms_20 11 06 04.5
comp=Z,1µm,20.0s
C27K Jago River 74.18 18 P P 10 28 43.6 +1.2
baz=306,SNR=30
M18K Stony River 74.22 28 P P 10 28 43.9 +1.2
baz=298
L19K White Mountain 74.30 28 IAmb IAmb 10 28 45.7
comp=Z,71nm,1.1s
L19K White Mountain 74.30 28 P P 10 28 44.4 +1.1
baz=298,SNR=15
P16K Nushagak River 74.40 31 P P 10 28 44.4 +0.7
baz=297
O17K Koliganek Bris 74.47 30 P P 10 28 44.7 +0.5
baz=297,SNR=6.2
MLY Manley 74.47 24 IAmb IAmb 10 28 54.5
comp=Z,50nm,0.9s
MLY Manley 74.47 24 P P 10 28 44.9 +0.7
baz=301,SNR=30
CHUM Lake Minchumin 74.47 25 P P 10 28 45.1 +1.0
baz=300,SNR=9.9
H23K Yukon River 74.48 23 IAms_20 IAms_20 11 05 49.3
comp=Z,1µm,19.0s
H23K Yukon River 74.48 23 P P 10 28 45.2 +1.0
baz=302
SVW2 Sparrevohn 74.51 29 IAmb IAmb 10 28 47.0
comp=Z,65nm,1.2s
SVW2 IAms_20 IAms_20 11 04 23.7
comp=Z,2µm,21.0s
SVW2 Sparrevohn 74.51 29 P P 10 28 46.2 +1.8
FOEL Foel Wylfa 74.52 322 *e*P **P 10 28 45.6 +1.0**
FOEL IAmb IAmb 10 28 46.8
comp=Z,69nm,0.9s
L20K Farewell, AK 74.56 27 P P 10 28 45.8 +1.1
baz=299,SNR=6.5
AULRC Lightning Ridg 74.57 135 P P 10 28 45.6 +0.5
N18K Kilae Creek 74.58 29 IAmb IAmb 10 28 47.1
comp=Z,66nm,1.1s
N18K Kilae Creek 74.58 29 P P 10 28 45.9 +1.0
baz=298
M19K Big River Lodg 74.63 28 P P 10 28 46.2 +1.1
baz=299
CMSA Cobar Meteorol 74.66 138 P P 10 28 46.5 +0.9
G24K Hadweenzic Riv 74.71 22 IAms_20 IAms_20 11 05 00.2
comp=Z,2µm,20.0s
G24K Hadweenzic Riv 74.71 22 P P 10 28 46.4 +0.9
baz=304
MCH1 Michaelchurch 74.78 321 *e*P **P 10 28 47.0 +0.9**
MCH1 IAmb IAmb 10 28 48.0
comp=Z,143nm,1.3s
F25K Christian Rive 74.79 21 IAms_20 IAms_20 11 05 37.8
comp=Z,2µm,18.0s
F25K Christian Rive 74.79 21 P P 10 28 47.5 +1.5
baz=305,SNR=28
CAST Castle Rocks 74.80 26 IAmb IAmb 10 28 48.4
comp=Z,122nm,1.4s
CAST Castle Rocks 74.80 26 P P 10 28 47.0 +1.0
baz=300,SNR=29
BPAW Bear Paw Mtn. 74.87 25 P P 10 28 47.2 +0.7
baz=301,SNR=17
I23K Minto, Yukon-K 74.91 24 P P 10 28 47.6 +1.0
baz=302,SNR=6.8
WLF1 Llynfaes 75.01 322 *e*P **P 10 28 48.8 +1.4**
WLF1 IAmb IAmb 10 28 49.1
comp=Z,210nm,0.8s
PPLA Purkeypile 75.03 26 P P 10 28 48.1 +0.5
baz=301,SNR=15
P17K Kvichak River 75.03 31 P P 10 28 48.3 +0.9
baz=298
H24K Noodor Dome 75.05 23 IAms_20 IAms_20 11 05 19.4
comp=Z,1µm,20.0s
H24K Noodor Dome 75.05 23 P P 10 28 48.2 +0.7
baz=304
N19K Bonanza Creek 75.12 29 IAms_20 IAms_20 11 04 36.7
comp=Z,2µm,18.0s
N19K Bonanza Creek 75.12 29 P P 10 28 49.3 +1.2
baz=299
G25K Bearman Lake 75.12 21 P P 10 28 49.3 +1.5
baz=305,SNR=13
M20K Styx River 75.16 27 P P 10 28 49.4 +1.2
baz=300
Q16K King Salmon 75.18 31 P P 10 28 48.4 +0.2
baz=298,SNR=5.3
D27M Malcolm River 75.18 18 IAms_20 IAms_20 11 08 03.1
comp=Z,1µm,18.0s
D27M Malcolm River 75.18 18 P P 10 28 49.3 +1.1
baz=309,SNR=19
F26K Sheenjek River 75.20 20 P P 10 28 49.6 +1.3
baz=306,SNR=19
BMAR Burnt Mountain 75.22 21 P P 10 28 49.8 +1.3
O18K Koktuh Hills 75.27 30 IAmb IAmb 10 28 51.0
comp=Z,86nm,1.2s
O18K Koktuh Hills 75.27 30 P P 10 28 49.7 +0.9
baz=299,SNR=5.7
NEA2 Nenana 75.31 24 IAmb IAmb 10 28 50.8
comp=Z,99nm,1.4s
NEA2 Nenana 75.31 24 P P 10 28 49.3 +0.3
baz=303,SNR=18
BWN Browne 75.40 25 IAms_20 IAms_20 11 05 15.1
comp=Z,2µm,18.0s
CHGN Chignik 75.44 34 P P 10 28 49.7 -0.1
baz=297
TRF Thorofare Moun 75.47 25 P P 10 28 50.2 +0.1
baz=302
P18K Big Mountain, 75.48 30 IAmb IAmb 10 28 51.7
comp=Z,90nm,1.3s
P18K IAms_20 IAms_20 11 05 05.1
comp=Z,2µm,18.0s
P18K Big Mountain, 75.48 30 P P 10 28 50.4 +0.3
baz=299
O19K Port Alsworth 75.49 29 IAmb IAmb 10 28 52.1
comp=Z,168nm,1.7s
O19K Port Alsworth 75.49 29 P P 10 28 50.5 +0.4
baz=299
H25L Birch Creek 75.50 22 P P 10 28 50.6 +0.6
baz=305
CHNA Chernabura Isl 75.50 36 P P 10 28 49.7 -0.5
baz=297
CHNA Chernabura Isl 75.50 36 P P 10 28 50.1 -0.1
CNBA Chernabura Isl 75.51 36 IAmb IAmb 10 28 50.8
comp=Z,124nm,1.3s
FYU Fort Yukon 75.52 21 IAmb IAmb 10 28 52.7
comp=Z,60nm,1.0s
FYU IAms_20 IAms_20 11 05 38.6
comp=Z,1µm,19.0s
COLA College 75.59 23 P P 10 28 50.4 -0.2
COLA IAmb IAmb 10 28 59.3
comp=Z,38nm,0.8s
COLA College 75.59 23 P P 10 28 50.9 +0.4
baz=304
COLA College 75.59 23 P P 10 28 51.0 +0.4
COLA College 75.59 23 P P 10 28 50.4 -0.2
COLA pmax pmax
comp=Z,38nm,0.8s
POKR Poker Plat Res 75.61 23 IAmb IAmb 10 28 52.0
comp=Z,36nm,0.8s
POKR Poker Plat Res 75.61 23 P P 10 28 51.5 +0.8
baz=304,SNR=20
E27K Coleen River 75.67 19 IAms_20 IAms_20 11 06 37.8
comp=Z,1µm,22.0s
E27K Coleen River 75.67 19 P P 10 28 52.1 +1.1
baz=308,SNR=19
D28M Stokes Point 75.74 18 P P 10 28 52.6 +1.3
baz=311
G26K Porcupine Rive 75.76 21 P P 10 28 53.0 +1.5
baz=307

SKT Skwentna 75.76 27 IAmb IAmb 10 28 52.9
comp=Z,78nm,1.1s
SKT IAms_20 IAms_20 11 05 19.2
comp=Z,2µm,18.0s
SKT Skwentna 75.76 27 P P 10 28 51.3 -0.3
baz=301,SNR=21
R17L Mt. Peulik Vol 75.81 32 P P 10 28 51.4 -0.6
baz=298
MCK McKinley 75.83 25 P P 10 28 51.9 -0.1
baz=303,SNR=5.9
N20K Mount Spurr 75.89 28 P P 10 28 52.5 +0.1
baz=301,SNR=6.7
SPCR Spurr Chakacha 75.89 28 P P 10 28 52.4 0.0
baz=301,SNR=5.5
TW1H Toowoomba 1 Ha 75.89 131 P P 10 28 54.2 +1.4
Q18K Katmai Hardscr 75.95 31 P P 10 28 52.5 -0.4
baz=299
SUMG Summit 75.97 347 IAmb IAmb 10 28 54.8
comp=Z,89nm,1.2s
SUMG Summit 75.97 347 *i* P **P 10 28 51.6 -1.5**
SUMG IAmb IAmb 10 28 55.0
comp=Z,100nm,1.3s
E28M Babbage River 75.99 18 IAms_20 IAms_20 11 06 47.0
comp=Z,1µm,21.0s
E28M Babbage River 75.99 18 P P 10 28 53.6 +0.8
baz=310,SNR=38
ILAR Eielson Array 76.00 23 P P 10 28 51.9 -1.0
ILAR Eielson Array 76.00 23 P P 10 28 52.1 -0.8
comp=Z,9.2nm,1.0s,baz=290,slow=4.6,SNR=49
ILAR LR LR 11 06 26.0
comp=Z,984nm,18.3s,baz=294,slow=39
comp=Z,9.2nm,1.0s
CEST Esterri de Car 76.01 311 IAmb IAmb 10 28 55.3
comp=Z,83nm,1.6s
ACHA Angle Creek He 76.02 31 IAms_20 IAms_20 11 05 17.1
comp=Z,1µm,18.0s
PRP Porcupine Dome 76.04 22 P P 10 28 53.9 +0.6
baz=306,SNR=20
RND Reindeer 76.04 25 IAmb IAmb 10 29 10.2
comp=Z,100nm,1.4s
ILSW Iliamna Southw 76.11 29 IAms_20 IAms_20 11 03 20.6
comp=Z,946nm,20.0s
HDA Harding Lake 76.18 24 P P 10 28 53.0 -1.0
baz=305
P19K Oil Pt 76.24 29 P P 10 28 54.0 -0.4
baz=300
O20K Slope Mountain 76.29 29 P P 10 28 54.2 -0.5
baz=301
SUA Susitna One 76.35 27 IAmb IAmb 10 29 03.4
comp=Z,67nm,0.8s
SUA IAms_20 IAms_20 11 05 49.8
comp=Z,2µm,19.0s
SUA Susitna One 76.35 27 P P 10 28 54.8 -0.3
baz=302,SNR=8.6
ARPS Mount Arapiles 76.38 144 P P 10 28 55.0 -0.3
Q19K Cape Douglas, 76.42 30 P P 10 28 54.0 -1.4
baz=300
M22K Willow 76.45 27 IAms_20 IAms_20 11 05 49.3
comp=Z,1µm,19.0s
M22K Willow 76.45 27 P P 10 28 54.7 -0.7
baz=302,SNR=13
WAT1 Susitna Watana 76.47 25 P P 10 28 55.1 -0.6
baz=304
G27K Doyon Strip 76.51 20 IAms_20 IAms_20 11 06 30.8
comp=Z,1µm,21.0s
G27K Doyon Strip 76.51 20 P P 10 28 56.6 +0.8
baz=309
AUWSH Wavell State H 76.51 131 P P 10 28 56.5 +0.2
F28M Old Crow 76.53 19 P P 10 28 57.0 +1.0
baz=310,SNR=28
E29M Blow River 76.59 18 IAms_20 IAms_20 11 07 36.9
comp=Z,1µm,20.0s
E29M Blow River 76.59 18 P P 10 28 57.0 +0.9
baz=312,SNR=38
J25K Salcha River, 76.62 23 P P 10 28 55.7 -0.8
baz=306,SNR=10
IWEX Carrickbyrne, 76.71 322 *e*P **P 10 28 59.0 +1.8**
IWEX IAmb IAmb 10 28 59.7
comp=Z,284nm,1.3s
BORG Borgarnes 76.72 337 LR LR 11 05 28.5
comp=Z,692nm,18.2s,baz=62,slow=38
R18K Karluk 76.74 32 P P 10 28 56.5 -0.7
baz=300
DHY Denali Highway 76.78 25 IAms_20 IAms_20 11 05 58.1
comp=Z,2µm,18.0s
DHY Denali Highway 76.78 25 P P 10 28 57.5 0.0
baz=304
A36M Sachs Harbour 76.91 12 IAmb IAmb 10 29 11.2
comp=Z,53nm,0.8s
A36M Sachs Harbour 76.91 12 P P 10 28 58.7 +0.8
baz=322,SNR=30
H27K Steamboat Moun 76.91 21 P P 10 28 59.6 +1.4
baz=309
AUDCS Dubbo College 76.91 137 P P 10 28 59.0 +0.5
GHO Glory Hole Cre 76.92 26 IAmb IAmb 10 29 11.9
comp=Z,62nm,1.1s
WAT6 Susitna Watana 76.92 25 P P 10 28 58.3 -0.1
baz=304,SNR=8.5
HOM Homer 76.93 29 P P 10 28 58.5 +0.3
baz=302
PMR Palmer 76.93 27 IAmb IAmb 10 29 10.7
comp=Z,69nm,1.0s
PMR IAms_20 IAms_20 11 05 49.1
comp=Z,2µm,18.0s
PMR Palmer 76.93 27 P P 10 28 58.1 -0.1
baz=303,SNR=17
PMR Palmer 76.93 27 P P 10 28 58.5 +0.3
K24K Donnelly Dome 76.95 24 P P 10 28 57.9 -0.5
baz=306,SNR=15
RC01 Rabbit Creek A 76.96 27 IAmb IAmb 10 29 10.9
comp=Z,112nm,1.2s
RC01 IAms_20 IAms_20 11 06 27.0
comp=Z,2µm,19.0s
RC01 Rabbit Creek A 76.96 27 P P 10 28 58.3 -0.1
baz=303,SNR=7.5
CHIR Chirikof Islan 77.04 34 P P 10 28 59.4 +0.5
baz=299
KULLO Kullorsuaq 77.09 353 *i* P **P 10 28 57.9 -1.0**
KULLO IAmb IAmb 10 29 05.9
comp=Z,153nm,1.3s
SML Sawmill 77.13 26 P P 10 28 59.9 +0.4
baz=304,SNR=15
Q20K Shuyak Island 77.15 30 P P 10 28 59.8 +0.4
baz=301
BRLK Bradley Lake 77.20 29 IAmb IAmb 10 29 00.4
comp=Z,118nm,1.2s
BRSE Bradley Lake S 77.27 29 P P 10 28 59.4 -0.8
baz=302
I27K Kandik River 77.28 21 P P 10 29 01.6 +1.4
baz=309,SNR=26
KNK Knik Glacier 77.30 27 IAmb IAmb 10 29 09.0
comp=Z,53nm,0.8s
KNK Knik Glacier 77.30 27 P P 10 29 00.4 0.0
baz=304,SNR=7.9
O22K Cooper Landing 77.30 28 P P 10 28 59.5 -0.8
baz=303
J26L Joseph Creek 77.31 23 P P 10 29 00.4 -0.1
baz=307
RIDG Independent Ri 77.32 24 P P 10 29 00.2 -0.3
baz=306,SNR=6.3
SII Sitkinak Islan 77.37 32 P P 10 29 00.7 -0.1
baz=300
M23K Glacier View 77.38 26 P P 10 29 00.8 +0.1
baz=304,SNR=7.6
OHAK Old Harbor 77.46 32 IAmb IAmb 10 29 01.9
comp=Z,41nm,0.8s
OHAK Old Harbor 77.46 32 P P 10 29 01.2 0.0
baz=301
OHAK Old Harbor 77.46 32 P P 10 29 01.4 +0.2
SCRK Sand Creek 77.48 23 IAmb IAmb 10 29 02.9
comp=Z,87nm,1.5s
SCRK Sand Creek 77.48 23 P P 10 29 01.6 +0.2
baz=307,SNR=19
KDAK Kodiak Island 77.49 31 P P 10 29 01.8 +0.4
KDAK IAmb IAmb 10 29 02.6
comp=Z,137nm,1.4s
KDAK Kodiak Island 77.49 31 P P 10 29 01.5 +0.1
baz=301
KDAK Kodiak Island 77.49 31 P P 10 29 01.8 +0.4
KDAK pmax pmax
comp=Z,137nm,1.4s
SCM Sheep Creek Mo 77.51 26 P P 10 29 01.8 +0.3
baz=305
G29M Pine Creek 77.54 19 IAmb IAmb 10 29 03.9
comp=Z,175nm,1.9s
G29M IAms_20 IAms_20 11 08 31.1
comp=Z,2µm,18.0s
G29M Pine Creek 77.54 19 P P 10 29 02.5 +0.9

baz=312,SNR=16
AUPHS **Peel High Scho** 77.54 135 P **P** **10 29 02.4 +0.3**
PAX **Paxson** 77.55 24 P **P** **10 29 01.8 0.0**
baz=306,SNR=6.5
ARMA **Armidale** 77.56 134 IAmb IAmb 10 29 09.8
comp=Z,103nm,1.2s
ARMA **Armidale** 77.56 134 P **P** **10 29 03.8 +1.5**
SEW **Seward** 77.62 28 P **P** **10 29 01.8 -0.3**
baz=303
PWL **Port Wells** 77.66 27 IAmb IAmb 10 29 03.8
comp=Z,87nm,0.9s
PWL **Port Wells** 77.66 27 P **P** **10 29 02.4 0.0**
baz=304,SNR=8.4
F30M **Barrier River** 77.70 18 P **P** **10 29 03.3 +0.8**
baz=314
M24K **Tolsona, Glenn** 77.80 25 IAmb IAmb 10 29 13.8
comp=Z,77nm,0.9s
M24K **Tolsona, Glenn** 77.80 25 P **P** **10 29 03.8 +0.7**
baz=306,SNR=6.0
INK **Inuvik** 77.82 17 IAMs_20 IAMs_20 11 08 32.4
comp=Z,1µm,20.0s
INK **Inuvik** 77.82 17 LR LR 11 08 55.6
comp=Z,1µm,20.0s,baz=252,slow=40
INK **Inuvik** 77.82 17 P **P** **10 29 03.7 +0.7**
baz=315,SNR=24
H29M **Whitestone** 77.90 20 IAmb IAmb 10 29 11.5
comp=Z,62nm,1.3s
H29M **Whitestone** 77.90 20 P **P** **10 29 04.2 +0.6**
baz=312,SNR=12
I28M **Miner Creek** 77.92 21 P **P** **10 29 04.3 +0.5**
baz=310
EGAK **Eagle** 77.95 22 P **P** **10 29 04.3 +0.4**
baz=309,SNR=12
HARP **HAARP** 78.01 25 P **P** **10 29 04.8 +0.5**
baz=306
G30M **tAoh Zraii Nji** 78.02 19 IAmb IAmb 10 29 14.0
comp=Z,82nm,1.1s
G30M **tAoh Zraii Nji** 78.02 19 P **P** **10 29 04.5 +0.2**
baz=313
BRAT **Ballarat** 78.06 144 P **P** **10 29 05.1 +0.4**
RES **Resolute Bay** 78.09 3 LR LR 11 04 52.8
comp=Z,620nm,21.0s,baz=8.0,slow=37
K27K **Chicken** 78.12 23 P **P** **10 29 05.7 +0.9**
baz=309
GLI **Glacier Island** 78.15 27 P **P** **10 29 05.0 0.0**
baz=305
MENT **Mentasta** 78.21 24 P **P** **10 29 06.4 +1.0**
YNG **Young** 78.22 139 P **P** **10 29 05.5 -0.2**
KLU **Klutina** 78.25 26 IAmb IAmb 10 29 14.4
comp=Z,75nm,0.9s
KLU **Klutina** 78.25 26 P **P** **10 29 06.3 +0.5**
baz=306,SNR=20
EPYK **Eagle Plains** 78.29 19 IAMs_20 IAMs_20 11 08 00.8
comp=Z,2µm,18.0s
EPYK **Eagle Plains** 78.29 19 P **P** **10 29 05.9 +0.1**
baz=313,SNR=12
L26K **Log Cabin Wild** 78.29 24 IAMs_20 IAMs_20 11 07 28.0
comp=Z,2µm,19.0s
L26K **Log Cabin Wild** 78.29 24 P **P** **10 29 06.5 +0.7**
baz=308
F31M **Tsiigehtchic** 78.38 18 P **P** **10 29 06.7 +0.5**
baz=315,SNR=25
FID **Port Fidalgo** 78.47 27 IAmb IAmb 10 29 15.1
comp=Z,55nm,0.8s
P23K **Montague Islan** 78.53 28 P **P** **10 29 07.7 +0.5**
baz=305
UPNV **Upernavik** 78.61 352 *i* P **P** **10 29 06.6 -0.8**
UPNV IAmb IAmb 10 29 08.0
comp=Z,37nm,1.0s
N25K **Chitina, Valde** 78.69 25 IAmb IAmb 10 29 10.5
comp=Z,41nm,0.9s
N25K IAMs_20 IAMs_20 11 07 05.7
comp=Z,2µm,19.0s
N25K **Chitina, Valde** 78.69 25 P **P** **10 29 08.8 +0.6**
baz=307,SNR=11
M26K **Nabesna, AK** 78.81 24 IAMs_20 IAMs_20 11 07 22.7
comp=Z,2µm,18.0s
M26K **Nabesna, AK** 78.81 24 P **P** **10 29 09.7 +0.9**
baz=308
L27K **Beaver Creek,** 78.81 23 P **P** **10 29 09.6 +0.9**
baz=309
BCAR **Beaver Creek A** 78.83 23 P **P** **10 29 10.1 +1.3**
LSZ **Lusaka** 78.87 246 P **P** **10 29 09.8 0.0**
LSZ IAmb IAmb 10 29 10.9
comp=Z,139nm,1.4s
LSZ **Lusaka** 78.87 246 IAMs_20 IAMs_20 11 05 57.6
comp=Z,850nm,20.0s
LSZ **Lusaka** 78.87 246 P **P** **10 29 09.9 0.0**
LSZ P **P** **10 29 09.9 0.0**
LSZ **Lusaka** 78.87 246 P **P** **10 29 09.8 0.0**
LSZ pmax pmax
comp=Z,139nm,1.4s
LSZ MLR MLR
comp=Z,800nm,20.0s
EYAK **Cordova Ski Ar** 78.88 27 P **P** **10 29 09.9 +0.9**
baz=306
EYAK **Cordova Ski Ar** 78.88 27 P **P** **10 29 11.0 +2.0**
ICESG **Greenland Ices** 78.93 345 *i* P **P** **10 29 08.4 -1.3**
ICESG IAmb IAmb 10 29 11.5
comp=Z,80nm,1.0s
DAWY **Dawson** 79.00 22 P **P** **10 29 10.0 +0.2**
DAWY **Dawson** 79.00 22 P **P** **10 29 10.2 +0.4**
baz=311,SNR=14
BMRM **Bremner River** 79.08 26 P **P** **10 29 10.9 +0.6**
baz=307,SNR=20
J29N **Klondike Camp** 79.13 21 P **P** **10 29 11.5 +1.0**
baz=312,SNR=8.8
I30M **Mount Dempster** 79.18 20 P **P** **10 29 11.2 +0.3**
baz=313
M27K **Edge Creek, AK** 79.24 24 IAMs_20 IAMs_20 11 07 46.4
comp=Z,2µm,20.0s
M27K **Edge Creek, AK** 79.24 24 P **P** **10 29 12.6 +1.4**
baz=309
C36M **Paulatuk** 79.26 14 IAmb IAmb 10 29 21.9
comp=Z,51nm,0.9s
C36M **Paulatuk** 79.26 14 P **P** **10 29 11.0 0.0**
baz=324,SNR=30
CAN **Canberra** 79.28 139 IAmb IAmb 10 29 23.1
comp=Z,152nm,1.4s
CAN **Canberra** 79.28 139 P **P** **10 29 12.4 +0.8**
Q23K **Middleton Isla** 79.30 28 P **P** **10 29 11.4 0.0**
baz=306
NUUG **Nuugaatsiaq** 79.35 351 *i* P **P** **10 29 10.3 -1.1**
NUUG IAmb IAmb 10 29 17.6
comp=Z,43nm,1.4s
VRDI **Verde Repeater** 79.36 25 IAMs_20 IAMs_20 11 07 27.3
comp=Z,2µm,19.0s
H31M **Peel River** 79.38 19 IAmb IAmb 10 29 20.6
comp=Z,52nm,0.9s
H31M **Peel River** 79.38 19 P **P** **10 29 12.4 +0.6**
baz=315
MCARA **McCarthy VSAT** 79.43 25 IAmb IAmb 10 29 29.6
comp=Z,52nm,1.0s
MCARA **McCarthy VSAT** 79.43 25 P **P** **10 29 13.2 +1.2**
baz=308,SNR=8.2
CNB **Canberra Magne** 79.49 139 P **P** **10 29 13.3 +0.5**
BVCY **Beaver Creek** 79.57 24 P **P** **10 29 14.0 +1.1**
baz=310,SNR=13
J30M **Hart River** 79.64 21 P **P** **10 29 14.1 +0.7**
baz=314
CART **Cartagena** 79.71 307 IAmb IAmb 10 29 20.6
comp=Z,64nm,1.2s
K29M **Barlow Dome** 79.76 21 IAmb IAmb 10 29 16.2
comp=Z,121nm,1.8s
K29M **Barlow Dome** 79.76 21 P **P** **10 29 14.9 +0.9**
baz=313
CRQM **Cirque** 79.78 26 IAMs_20 IAMs_20 11 07 58.8
comp=Z,2µm,18.0s
KAIM **Kayak Island** 79.78 27 P **P** **10 29 15.8 +1.8**
baz=308
CRQE **Cirque** 79.80 26 P **P** **10 29 14.8 +0.6**
baz=308
AUSMG **Snowy Mountain** 79.83 140 P **P** **10 29 14.9 +0.3**
TGL **Tana Glacier** 79.89 26 IAmb IAmb 10 29 23.9
comp=Z,62nm,1.0s
TGL IAMs_20 IAMs_20 11 08 19.5
comp=Z,2µm,20.0s
UMMG **Uummannaq** 79.96 350 *i* P **P** **10 29 12.6 -2.2**
UMMG IAmb IAmb 10 29 15.2
comp=Z,37nm,1.1s
L29M **L29M** 80.06 22 IAmb IAmb 10 29 18.1
comp=Z,95nm,1.4s
L29M **L29M** 80.06 22 P **P** **10 29 16.8 +1.3**
baz=312
YUK3 **Moose Creek** 80.13 24 P **P** **10 29 17.4 +1.3**
baz=310,SNR=11
GRNC **Granite Creek** 80.32 25 IAMs_20 IAMs_20 11 07 49.7
comp=Z,2µm,19.0s
CTG **Chitna Glacier** 80.33 25 P **P** **10 29 18.4 +1.3**
baz=310,SNR=8.9
CTGM **Chitina Glacie** 80.33 25 IAmb IAmb 10 29 19.8
comp=Z,76nm,1.2s
M29M **Somme Creek** 80.39 23 P **P** **10 29 18.8 +1.4**
baz=312
MAYO **Mayo, Yukon** 80.46 21 P **P** **10 29 18.3 +0.6**
baz=314
LOGN **Logan Glacier** 80.54 25 IAMs_20 IAMs_20 11 08 07.6
comp=Z,2µm,20.0s
KOUNC **Koumac, New Ca** 80.65 119 P **P** **10 29 18.1 -1.2**
KOUNC **Koumac, New Ca** 80.65 119 P **P** **10 29 19.8 +0.5**
YUK8 **Steele Glacier** 80.70 24 P **P** **10 29 20.5 +1.2**
baz=311,SNR=8.7
TABL **Table Mountain** 80.74 25 IAMs_20 IAMs_20 11 08 50.3
comp=Z,2µm,19.0s
VLAKA **Lakatoro** 80.78 113 P **P** **10 29 20.2 +0.2**
ESDC **Sonseca Array** 80.83 310 P **P** **10 29 20.0 -0.1**
ESDC **Sonseca Array** 80.83 310 P **P** **10 29 20.5 +0.4**
comp=Z,15nm,1.1s,baz=47,slow=5.6,SNR=38
ESDC PP **PP** **10 32 26.2 +2.0**
comp=Z,5.4nm,1.2s,baz=56,slow=19,SNR=3.7
ESDC LR LR 11 09 53.5
comp=Z,464nm,19.0s,baz=50,slow=39
comp=Z,15nm,1.1s
M30M **Minto, Yukon** 80.87 22 P **P** **10 29 21.0 +1.1**
baz=313,SNR=11
O28M **Mount Upton** 80.88 25 P **P** **10 29 21.5 +1.3**
baz=311,SNR=5.3
YUK4 **Talbot Arm** 81.06 24 P **P** **10 29 22.0 +0.8**
baz=312,SNR=6.6
TAM **Tamanrasset** 81.07 291 IAmb IAmb 10 29 25.2
comp=Z,85nm,1.6s
TAM IAMs_20 IAMs_20 11 11 01.5
comp=Z,614nm,18.0s
ILULI **Ilulissat** 81.09 349 IAmb IAmb 10 29 28.0
comp=Z,102nm,1.5s
ILULI **Ilulissat** 81.09 349 *i* P **P** **10 29 20.3 -0.6**
ILULI IAmb IAmb 10 29 21.8
comp=Z,134nm,1.7s
PAB **San Pablo** 81.15 310 P **P** **10 29 22.3 +0.4**
PAB **San Pablo** 81.15 310 P **P** **10 29 22.3 +0.4**
PAB pmax pmax
comp=Z,74nm,1.7s
PINM **Pinnacle** 81.30 25 P **P** **10 29 23.2 +0.9**
baz=311
YUK6 **Outpost Mounta** 81.44 24 P **P** **10 29 24.4 +1.3**
baz=312,SNR=9.8
N30M **Aishikik Lake** 81.54 23 IAmb IAmb 10 29 26.2
comp=Z,54nm,1.1s
N30M **Aishikik Lake** 81.54 23 P **P** **10 29 24.9 +1.5**
baz=313,SNR=20
PBRG **Braganca** 81.68 313 *eP* **P** **10 29 25.0 +0.4**
PBRG A A 10 29 39.5
comp=Z,54nm,1.8s
O29M **Mount Kennedy** 81.79 24 P **P** **10 29 26.1 +1.2**
baz=312,SNR=6.3
HYT **Haines Junctio** 81.83 24 IAmb IAmb 10 29 27.6
comp=Z,68nm,1.3s
HYT **Haines Junctio** 81.83 24 P **P** **10 29 26.3 +1.2**
baz=313,SNR=11
PNL **Peninsula** 81.91 25 P **P** **10 29 26.5 +1.1**
baz=312
PNL **Peninsula** 81.91 25 P **P** **10 29 27.2 +1.8**
M31M **Drury Creek, Y** 81.93 22 IAmb IAmb 10 29 27.7
comp=Z,88nm,1.6s
M31M **Drury Creek, Y** 81.93 22 P **P** **10 29 26.5 +1.0**
baz=315,SNR=15
N31M **Braeburn, Yuko** 81.97 23 IAmb IAmb 10 29 34.9
comp=Z,80nm,0.9s
N31M **Braeburn, Yuko** 81.97 23 P **P** **10 29 27.1 +1.3**
baz=314,SNR=31
MVO **Moncorvo** 82.18 312 *eP* **P** **10 29 28.3 +1.0**
MVO A A 10 29 41.4
comp=Z,74nm,1.5s
FARO **Faro, Yukon** 82.25 21 P **P** **10 29 27.9 +0.7**
baz=316,SNR=11
O30N **Mendenhall** 82.37 23 IAmb IAmb 10 29 30.5
comp=Z,95nm,1.1s
O30N **Mendenhall** 82.37 23 P **P** **10 29 29.3 +1.5**
baz=314,SNR=31
P30M **Million Dollar** 82.51 24 P **P** **10 29 29.8 +1.2**
baz=314
DY2G **Dye2** 82.53 346 *i* P **P** **10 29 27.0 -1.7**
DY2G IAmb IAmb 10 29 30.7
comp=Z,54nm,0.9s
P29M **Windy Craggy** 82.56 25 IAMs_20 IAMs_20 11 09 43.2
comp=Z,2µm,19.0s
P29M **Windy Craggy** 82.56 25 P **P** **10 29 30.0 +1.2**
baz=313
PCAB **Cabril** 82.56 313 *eP* **P** **10 29 30.4 +1.2**
PGAV **Gavieira, Arco** 82.60 313 *eP* **P** **10 29 30.8 +1.3**
PGAV A A 10 29 47.8
comp=Z,108nm,1.5s
CORO **Coronation Par** 82.61 144 P **P** **10 29 29.8 +0.7**
KSANE **Kasane** 82.66 246 *i* P **P** **10 29 30.2 +0.1**
BROLN **TIhalogang** 82.67 242 *i* P **P** **10 29 29.2 -0.9**
WHY **Whitehorse** 82.87 23 IAmb IAmb 10 29 32.7
comp=Z,99nm,1.6s
WHY **Whitehorse** 82.87 23 P **P** **10 29 31.2 +0.7**
baz=315,SNR=14
MTE **Manteigas** 82.90 312 IAmb IAmb 10 29 40.6
comp=Z,38nm,0.9s
MTE **Manteigas** 82.90 312 *eP* **P** **10 29 32.2 +1.2**
MTE A A 10 29 36.3
comp=Z,76nm,2.2s
MTE **Manteigas** 82.90 312 *eP* **P** **10 29 32.9 +1.9**
SFJD **Kangerlussuaq** 82.96 348 P **P** **10 29 31.0 +0.3**
SFJD IAmb IAmb 10 29 31.8
comp=Z,70nm,1.1s
SFJD **Kangerlussuaq** 82.96 348 LR LR 11 09 29.7
comp=Z,1µm,19.1s,baz=21,slow=38
SFJD **Kangerlussuaq** 82.96 348 P **P** **10 29 31.0 +0.3**
SFJD pmax pmax
comp=Z,70nm,1.1s
SFJD **Kangerlussuaq** 82.96 348 *i* P **P** **10 29 29.3 -1.4**
SFJD IAmb IAmb 10 29 31.5
comp=Z,69nm,1.1s
PVIS **Viseu** 82.97 312 *eP* **P** **10 29 32.6 +1.2**
NOUC **Port Laguerre** 83.07 119 P **P** **10 29 32.6 +0.6**
N32M **Quiet Lake** 83.13 22 P **P** **10 29 32.7 +1.0**
baz=317
PCBR **Castelo Branco** 83.13 311 *eP* **P** **10 29 33.0 +0.9**
PCBR A A 10 29 46.3
comp=Z,62nm,1.6s
DZM **Mont Dzumac** 83.16 119 IAmb IAmb 10 29 39.7
comp=Z,40nm,1.1s
DZM **Mont Dzumac** 83.16 119 *e*LR LR 10 55 33.4
comp=Z,363nm,22.9s
DZM **Mont Dzumac** 83.16 119 P **P** **10 29 32.8 +0.2**
PLBC **Pleasant Camp** 83.19 24 P **P** **10 29 32.9 +0.9**
baz=314,SNR=7.2
PMRV **Marv??o** 83.28 311 *eP* **P** **10 29 33.4 +0.5**
PMRV A A 10 29 37.0
comp=Z,54nm,1.4s
MOO **Moorlands** 83.35 145 P **P** **10 29 33.7 +0.7**
YATNC **Mamie plateau,** 83.50 119 P **P** **10 29 35.4 +1.2**
SKAG **Skagway** 83.56 24 P **P** **10 29 35.7 +1.8**
baz=315,SNR=30
SKAG **Skagway** 83.56 24 P **P** **10 29 34.9 +1.0**
PBAR **Barrancos** 83.65 310 *eP* **P** **10 29 35.4 +0.5**
PBAR A A 10 29 39.9
comp=Z,65nm,1.7s
OUENC **Ouen Island, N** 83.66 119 P **P** **10 29 36.1 +1.1**
TAU **Tasmania Unive** 83.76 145 P **P** **10 29 35.4 +0.4**
P33M **Teslin, Yukon** 83.90 23 IAmb IAmb 10 29 38.1
comp=Z,75nm,1.4s
P33M **Teslin, Yukon** 83.90 23 P **P** **10 29 36.8 +1.0**
baz=317,SNR=18
PMTG **Montargil** 84.01 311 *eP* **P** **10 29 37.2 +0.5**
PMTG A A 10 29 51.3
comp=Z,76nm,1.7s
P32M **Atlin** 84.04 23 P **P** **10 29 38.0 +1.5**
baz=316,SNR=16
EVO **Evora** 84.14 310 *eP* **P** **10 29 38.3 +1.0**
EVO A A 10 29 42.5
comp=Z,69nm,1.8s
R31K **City Hall, Gus** 84.15 25 P **P** **10 29 38.2 +1.3**
baz=315
PSBE **So Bento** 84.17 312 *eP* **P** **10 29 38.9 +1.4**
PSBE A A 10 30 00.2
comp=Z,147nm,1.9s
S31K **Pelican** 84.28 25 P **P** **10 29 39.2 +1.6**
baz=314
PBEJ **Beja** 84.29 310 *eP* **P** **10 29 39.1 +1.0**
PBEJ A A 10 29 51.5
comp=Z,50nm,1.8s
WRGLY **Wrigley** 84.39 17 IAmb IAmb 10 29 52.0
comp=Z,46nm,1.3s
WRGLY **Wrigley** 84.39 17 P **P** **10 29 38.9 +0.9**
baz=325,SNR=6.3
PVAQ **Vaqueiros** 84.50 309 IAmb IAmb 10 29 41.4
comp=Z,85nm,1.6s
PVAQ **Vaqueiros** 84.50 309 *eP* **P** **10 29 40.2 +1.0**
PVAQ A A 10 29 41.5
comp=Z,58nm,1.3s
MDT **Midelt** 84.53 304 LR LR 11 12 41.1
comp=Z,156nm,20.0s,baz=59,slow=39
PCVE **Castro Verde** 84.61 310 *eP* **P** **10 29 40.8 +1.1**
PCVE A A 10 30 11.9
comp=Z,38nm,1.9s
MESJ **Messejana** 84.63 310 IAmb IAmb 10 29 45.1
comp=Z,139nm,2.0s
MESJ **Messejana** 84.63 310 *eP* **P** **10 29 40.8 +1.0**
MESJ A A 10 29 45.0
comp=Z,71nm,1.8s
MESJ **Messejana** 84.63 310 *eP* **P** **10 29 40.5 +0.7**
MESJ IAmb IAmb 10 29 41.3
comp=Z,25nm,1.0s
MESJ **Messejana** 84.63 310 *eP* **P** **10 29 40.5 +0.7**
R32K **Eaglecrest** 84.70 25 IAmb IAmb 10 29 42.7
comp=Z,100nm,1.6s
R32K **Eaglecrest** 84.70 25 P **P** **10 29 41.5 +1.7**
baz=316,SNR=11
PBDV **Barranco-do-Ve** 84.73 309 *eP* **P** **10 29 41.6 +1.2**
PBDV A A 10 29 55.0
comp=Z,91nm,1.7s
JIS **Juneau Island** 84.75 24 P **P** **10 29 41.6 +1.6**
Q32M **Nakina River** 85.01 23 IAmb IAmb 10 29 43.7
comp=Z,42nm,1.2s
Q32M **Nakina River** 85.01 23 P **P** **10 29 43.1 +1.5**
baz=318,SNR=11
LPHEP **Lephephe** 85.03 241 *i* P **P** **10 29 41.9 -0.2**
R33M **Jennings River** 85.14 22 IAmb IAmb 10 29 45.0
comp=Z,89nm,1.2s
R33M **Jennings River** 85.14 22 P **P** **10 29 43.6 +1.5**
baz=318
MORF **Marmelete** 85.20 310 *eP* **P** **10 29 44.4 +1.7**
MORF A A 10 29 53.9
comp=Z,84nm,1.9s
MORF **Marmelete** 85.20 310 *eP* **P** **10 29 43.4 +0.6**
MORF IAmb IAmb 10 29 44.9
comp=Z,87nm,1.5s
MORF **Marmelete** 85.20 310 *eP* **P** **10 29 43.4 +0.6**
S32K **Killisnoo** 85.26 25 IAmb IAmb 10 29 45.2
comp=Z,110nm,1.7s
S32K **Killisnoo** 85.26 25 P **P** **10 29 44.0 +1.5**
baz=316,SNR=5.1
SIT **Sitka** 85.27 26 IAmb IAmb 10 29 51.3
comp=Z,85nm,1.2s
SIT **Sitka** 85.27 26 P **P** **10 29 44.0 +1.4**
baz=315
WTLY **Watson Lake, Y** 85.31 21 IAmb IAmb 10 29 44.8
comp=Z,59nm,1.3s
WTLY **Watson Lake, Y** 85.31 21 P **P** **10 29 43.7 +0.8**
baz=320,SNR=24
PFVI **Vila Bisbo** 85.40 309 *eP* **P** **10 29 44.9 +1.2**
PFVI A A 10 29 51.2
comp=Z,100nm,1.4s
CKGRV **CKGRV** 85.64 243 *i* P **P** **10 29 45.1 0.0**
NUUK **Nuuk** 85.67 347 *i* P **P** **10 29 41.8 -2.6**
NUUK IAmb IAmb 10 29 55.3
comp=Z,42nm,1.1s
KDWAN **Kaudwane** 85.97 241 *i* P **P** **10 29 46.5 -0.3**
LBTB **Lobatse** 86.11 239 P **P** **10 29 46.5 -0.9**
LBTB IAmb IAmb 10 29 48.2
comp=Z,63nm,0.8s
LBTB **Lobatse** 86.11 239 P **P** **10 29 46.5 -0.9**
LBTB pmax pmax
comp=Z,63nm,0.8s
DLBC **Dease Lake** 86.18 23 P **P** **10 29 47.8 +0.6**
DLBC IAmb IAmb 10 29 50.4
comp=Z,115nm,1.6s
DLBC **Dease Lake** 86.18 23 LR LR 11 13 21.2
comp=Z,2µm,19.5s,baz=298,slow=39
DLBC **Dease Lake** 86.18 23 P **P** **10 29 49.0 +1.7**
baz=319,SNR=21
S34M **Telegraph Cree** 86.19 23 IAmb IAmb 10 29 50.3
comp=Z,59nm,1.1s
S34M **Telegraph Cree** 86.19 23 P **P** **10 29 48.9 +1.7**
baz=318,SNR=26
T33K **Petersburg** 86.34 25 P **P** **10 29 49.3 +1.3**
baz=317
LIRD **Liard River Hi** 86.71 20 P **P** **10 29 50.9 +1.1**
baz=323,SNR=9.2
KOTAN **Kotaneelee Air** 86.75 19 P **P** **10 29 51.0 +1.1**
baz=324,SNR=5.5
QNGWA **Qangwa** 86.79 246 *i* P **P** **10 29 51.2 +0.3**
U33K **Whale Pass** 86.79 25 IAmb IAmb 10 29 52.9
comp=Z,86nm,1.6s
U33K **Whale Pass** 86.79 25 P **P** **10 29 51.5 +1.3**
baz=317
NRS **Narsarsuaq** 86.81 343 *i* P **P** **10 29 47.0 -3.2**
WRAK **Wrangell Islan** 86.86 25 IAmb IAmb 10 29 58.8
comp=Z,67nm,1.1s
WRAK **Wrangell Islan** 86.86 25 P **P** **10 29 51.7 +1.2**
baz=318,SNR=12
SKOMA **Sekoma** 87.13 241 *i* P **P** **10 29 52.0 -0.5**
YKA **Yellowknife Ar** 87.14 14 P **P** **10 29 51.6 -0.1**
comp=Z,5.2nm,1.0s,baz=328,slow=4.8,SNR=18
YKA LR LR 11 11 29.4
comp=Z,697nm,21.6s,baz=299,slow=37
comp=Z,5.2nm,1.0s
T35M **Bob Quinn** 87.21 24 IAmb IAmb 10 29 55.5
comp=Z,89nm,1.4s
T35M **Bob Quinn** 87.21 24 P **P** **10 29 54.1 +1.8**
baz=319,SNR=12
CRAG **Craig** 87.26 26 P **P** **10 29 53.8 +1.3**
baz=317
TOAD **Toad River Com** 87.43 20 P **P** **10 29 54.0 +0.7**
baz=323,SNR=14
KGCAE **Kacgae** 87.63 243 *i* P **P** **10 29 55.0 +0.1**
GRTLG **Ghanzi** 87.67 245 *i* P **P** **10 29 55.5 +0.4**
V35K **Ketchikan** 87.95 25 IAmb IAmb 10 30 02.9
comp=Z,46nm,1.4s
V35K **Ketchikan** 87.95 25 P **P** **10 29 56.2 +0.5**
baz=318
U35K **Hyder** 88.10 24 P **P** **10 29 57.4 +0.9**
baz=319
BOSA **Boshof** 88.28 237 P **P** **10 29 56.9 -0.9**
comp=Z,7.4nm,0.8s,baz=80,slow=1.7,SNR=11
comp=Z,7.4nm,0.8s
TORD **Torodi Ar. Bea** 88.63 284 P **P** **10 30 00.0 +0.3**
TORD **Torodi Ar. Bea** 88.63 284 P **P** **10 30 00.0 +0.3**
comp=Z,27nm,0.9s,baz=42,slow=4.4,SNR=126
TORD PP **PP** **10 33 25.5 -2.9**
comp=Z,6.3nm,0.8s,baz=43,slow=7.8,SNR=6.7
TORD PKKP **PKKPdf** **10 47 34.3 0.0**
comp=Z,0.2nm,0.4s,baz=306,slow=1.6,SNR=1.5
TORD PKKPbc **PKKPbc** **10 47 39.9 +0.3**
comp=Z,1.7nm,1.1s,baz=291,slow=2.7,SNR=5.2
TORD LR LR 11 15 10.8
comp=Z,449nm,19.3s,baz=61,slow=39
comp=Z,27nm,0.9s
FRB **Frobisher Bay** 88.65 354 LR LR 11 12 06.8
comp=Z,541nm,19.8s,baz=1.0,slow=37
DIB **Dawson Inlet,** 89.19 27 IAmb IAmb 10 30 03.7
comp=Z,93nm,1.3s
TSUM **Tsumeb** 89.58 248 LR LR 11 11 33.9
comp=Z,263nm,19.1s,baz=349,slow=36
MSVF **Nonsavu** 90.39 110 P **P** **10 30 07.6 -0.3**
MSVF IAmb IAmb 10 30 18.1
comp=Z,34nm,1.2s
MSVF **Nonsavu** 90.39 110 LR LR 11 05 54.9
comp=Z,334nm,21.1s,baz=9.9,slow=32
MSVF **Nonsavu** 90.39 110 P **P** **10 30 09.0 +1.0**
MSVF **Nonsavu** 90.39 110 P **P** **10 30 07.6 -0.3**
MSVF pmax pmax
comp=Z,34nm,1.3s
BBB **Bella Bella** 91.69 26 LR LR 11 14 27.8
comp=Z,585nm,18.4s,baz=310,slow=38
SUR **Sutherland** 93.50 235 LR LR 11 09 43.1
comp=Z,492nm,22.0s,baz=68,slow=34
FCC **Fort Churchill** 93.89 6 IAmb IAmb 10 31 06.0
comp=Z,34nm,1.6s
FFC **Flin Flon** 96.82 11 P **P** **10 30 35.9 -0.9**
FFC **Flin Flon** 96.82 11 P **P** **10 30 35.9 -0.9**
FFC pmax pmax
comp=Z,13nm,1.2s
SCHQ **Schefferville** 97.13 351 P **P** **10 30 37.9 -0.3**
comp=Z,6.0nm,0.8s,baz=351,slow=2.7,SNR=6.7
SCHQ LR LR 11 18 48.6

comp=Z,541nm,19.8s,baz=23,slow=38
comp=Z,6.0nm,0.8s
DBIC Dimbokro 97.35 281 P **P 10 30 39.5 -0.4**
comp=Z,11nm,0.8s,baz=40,slow=4.8,SNR=13
DBIC PP **PP 10 34 31.9 -5.0**
comp=Z,4.7nm,0.7s,baz=63,slow=9.2,SNR=3.5
DBIC LR LR 11 20 06.2
comp=Z,673nm,18.5s,baz=44,slow=39
comp=Z,11nm,0.8s
RPZ Rata Peaks 97.85 135 LR LR 11 20 06.8
comp=Z,187nm,18.3s,baz=294,slow=39
MAW Mawson 97.87 193 P **P 10 30 40.5 -0.5**
comp=Z,2.5nm,1.2s,baz=326,slow=12,SNR=2.5
MAW PKKPbc **PKKPbc 10 47 15.3 -2.6**
comp=Z,1.8nm,0.5s,baz=256,slow=2.2,SNR=5.1
MAW LR LR 11 11 05.5
comp=Z,287nm,20.3s,baz=26,slow=33
comp=Z,2.5nm,1.2s
MQZ McQueen's Vall 98.85 135 IAMs_20 IAMs_20 11 09 23.9
comp=Z,580nm,21.0s
NEW Newport 98.93 22 LR LR 11 20 29.6
comp=Z,1μm,18.2s,baz=329,slow=38
MXC Moxie City 99.23 25 IAmb IAmb 10 30 50.2
comp=Z,30nm,1.6s
FLWY Flagg Ranch 104.70 20 IAMs_20 IAMs_20 11 24 58.4
comp=Z,614nm,20.0s
PDAR Pinedale Array 106.25 20 PKiKP **PKiKP 10 35 29.9 -1.0**
comp=Z,0.9nm,0.6s,baz=97,slow=1.0,SNR=8.4
RSSD Black Hills 106.49 16 IAMs_20 IAMs_20 11 24 53.5
comp=Z,1μm,18.0s
NVAR Mina Array Bea 106.88 28 PKiKP **PKiKP 10 35 32.4 +0.2**
comp=Z,1.4nm,0.6s,baz=322,slow=1.9,SNR=12
Q12A Willow Creek R 107.75 25 IAMs_20 IAMs_20 11 30 14.3
comp=Z,741nm,21.0s
R11B Troy Canyon, C 108.06 26 P **PKiKP 10 35 34.0 -0.3**
baz=330
WCT Wildcat Mounta 108.97 28 IAMs_20 IAMs_20 11 26 30.7
comp=Z,905nm,21.0s
GWY Greenwater Val 109.47 28 IAMs_20 IAMs_20 11 31 12.9
comp=Z,808nm,18.0s
ISCO Idaho Springs 110.13 18 IAMs_20 IAMs_20 11 27 28.0
comp=Z,1μm,21.0s
Q24A Divide 111.04 18 P **PKiKP 10 35 39.6 -0.4**
baz=339
S22A 4UR Ranch, Cre 111.68 20 P **PKiKP 10 35 40.9 -0.3**
baz=337
T25A Trinidad 112.95 18 P **PKiKP 10 35 43.6 0.0**
baz=340
X16A Lo Mia Camp, P 113.10 25 IAMs_20 IAMs_20 11 26 51.0
comp=Z,534nm,20.0s
Q51A Peebles 114.13 0 IAMs_20 IAMs_20 11 21 02.4
comp=Z,1μm,22.0s
OLIL Olney 114.26 4 IAMs_20 IAMs_20 11 30 25.7
comp=Z,936nm,18.0s
Y22D IRIS PASSCAL I 115.02 22 P **PKPdf 10 35 47.7 +0.1**
baz=337
OK048 Pawnee Station 115.41 12 IAMs_20 IAMs_20 11 31 54.2
comp=Z,1μm,20.0s
CGM3 Cape Girardeau 115.56 6 IAMs_20 IAMs_20 11 33 16.2
comp=Z,1μm,21.0s
121A Cookes Peak, D 116.13 23 P **PKPdf 10 35 49.8 0.0**
baz=336
TROLL Troll, Antarti 116.94 200 ⇑PKiKP **PKPdf 10 35 49.0 -0.9**
comp=Z,127nm,0.5s
QSPA South Pole Qui 116.98 180 PKPdf **PKPdf 10 35 48.6 -1.4**
QSPA South Pole Qui 116.98 180 PKP **PKPdf 10 35 48.1 -2.0**
comp=Z,3.7nm,0.7s,baz=269,slow=1.2,SNR=15
QSPA PKKPbc **PKKPab 10 46 16.0 -1.5**
comp=Z,2.2nm,0.6s,baz=246,slow=0.7,SNR=12
PPT2 Papeete2 118.39 96 eLR LR 11 11 59.7
comp=Z,296nm,25.5s
PPT2 eLR LR 11 12 00.9
comp=Z,455nm,25.0s
SNAA Sanae 118.61 201 ⇑PKiKP **PKiKP 10 35 53.6 +0.5**
comp=Z,52nm,0.6s
SNAA Sanae 118.61 201 PKP **PKiKP 10 35 53.4 +0.2**
comp=Z,0.9nm,0.6s,baz=0.0,slow=8.1,SNR=5.3
SNAA PKKPbc **PKKPab 10 46 09.3 -1.1**
comp=Z,1.2nm,0.6s,baz=248,slow=14,SNR=6.1
Z47A Carrollton 119.76 5 IAMs_20 IAMs_20 11 36 19.3
comp=Z,830nm,21.0s
VNA1 Neumayer--Stat 120.41 202 ⇑PKiKP **PKPdf 10 35 51.1 -5.3**
comp=Z,5.8nm,0.7s
TXAR Lajitas Array 120.44 21 **PKiKP 10 35 58.2 0.0**
TXAR Lajitas Array 120.44 21 PKP **PKPdf 10 35 57.8 -0.3**
comp=Z,5.7nm,0.7s,baz=136,slow=0.5,SNR=71
TXAR PKKPbc **PKKPbc 10 46 02.5 -1.7**
comp=Z,0.8nm,1.0s,baz=134,slow=5.4,SNR=4.5
TXAR Lajitas Array 120.44 21 PKIKP **PKiKP 10 35 58.2 0.0**
TBI Tubuai 120.48 102 eLR LR 11 12 55.3
comp=Z,927nm,33.5s
TBI eLR LR 11 12 56.8
comp=Z,1μm,24.8s
435B Jarrell 120.72 15 P **PKPdf 10 35 58.0 -0.4**
baz=345
VNA3 Neumayer Olymp 120.81 201 ⇑PKiKP **PKPdf 10 35 54.1 -3.2**
comp=Z,4.5nm,0.5s
HKT Hockley 121.89 13 **PKiKP 10 36 01.0 +0.3**
HKT Hockley 121.89 13 PKIKP **PKiKP 10 36 01.0 +0.3**
833A Chaparral WMA, 122.63 17 P **PKPdf 10 36 02.1 0.0**
baz=343
TAOE Nuku Hiva Isla 123.25 83 eLR LR 11 14 13.1
comp=Z,530nm,25.3s
SMRT St. Maarten 131.02 334 IAMs_20 IAMs_20 11 26 28.2
comp=Z,355nm,21.0s
NMDO Nuevo Mundo 131.89 350 IAMs_20 IAMs_20 11 46 23.0
comp=Z,621nm,18.0s
SJG San Juan 132.06 338 IAMs_20 IAMs_20 11 35 01.6
comp=Z,400nm,21.0s
PDPR Patillas Dam, 132.11 338 **PKPdf 10 36 20.8 +0.4**
CELP Cerrillos 132.24 339 PKPdf **PKPdf 10 36 20.5 -0.2**
OBIP Obispado Ponce 132.28 339 PKPdf **PKPdf 10 36 21.2 +0.4**
NBAN Anadia - AL 132.60 282 eP **PKiKP 10 36 23.0 +0.4**
SDDR Presa de Saban 132.70 345 IAMs_20 IAMs_20 11 34 24.8
comp=Z,600nm,22.0s
NBLA Lagarto - SE 134.53 282 eP **PKPdf 10 36 24.8 -0.2**
MTDJ Mount Denham 134.54 353 IAMs_20 IAMs_20 11 47 04.0
comp=Z,522nm,19.0s
ESQI Esquipulas 138.06 9 IAMs_20 IAMs_20 11 36 13.7
comp=Z,356nm,21.0s
TGUH Tegucigalpa,Un 138.80 6 IAMs_20 IAMs_20 11 40 08.3
comp=Z,378nm,20.0s
CRIN San Cristobal 140.17 6 IAMs_20 IAMs_20 11 36 51.5
comp=Z,645nm,19.0s
SDBA SAO DESIDERIO 141.35 285 eP **PKPdf 10 36 38.5 +0.9**
SMTB Santa Maria do 141.83 292 eP **PKPdf 10 36 39.8 +1.3**
CAM01 Campos-RJ 142.04 269 eP **PKiKP 10 36 40.1 -1.4**
PRPB Parauapebas 142.09 297 eP **PKPdf 10 36 38.6 -0.4**
SDV Santo Domingo 142.16 340 PKPpre 10 36 34.9
SDV IAMs_20 IAMs_20 11 41 42.5
comp=Z,500nm,21.0s
SDV Santo Domingo 142.16 340 eP **PKPdf 10 36 39.4 +0.1**
DIAM Diamantina, MG 142.71 275 eP **PKPdf 10 36 40.9 +0.9**
BOAV Boa Vista 143.41 320 PKPbc 10 36 39.7 +1.2
BOAV Boa Vista 143.41 320 eP **PKPdf 10 36 42.6 +1.3**
MAN01 Angra dos Reis 144.38 268 eP PKPbc 10 36 42.0 +0.7
BSCB Bom Sucesso 144.58 272 eP **PKPab 10 36 41.8 0.0**
PMNB Patos De Minas 145.24 276 eP **PKPab 10 36 44.3 0.0**
ITTB Itaituba 145.41 306 eP **PKPab 10 36 45.3 +0.4**
BDFB Brasilia 145.49 282 PKPbc **PKPdf 10 36 44.7 -0.2**
comp=Z,66nm,0.9s,baz=104,slow=2.4,SNR=60
PARB Paraibuna 145.98 268 eP **PKPbc 10 36 45.9 -0.4**
SNDB Serra Nova Dou 146.56 291 eP **PKPdf 10 36 47.2 +0.5**
IPMB Ipameri, GO 146.61 279 eP **PKPbc 10 36 48.0 -0.3**
NPGB Novo Progresso 146.92 302 eP **PKPbc 10 36 48.4 -0.9**
ROSC El Rosal 147.05 344 PKPbc **PKPbc 10 36 50.7 +0.6**
comp=Z,337nm,0.6s,baz=81,slow=1.6,SNR=108
VAO Valinhos 147.09 269 eP **PKPdf 10 36 48.0 +0.6**
RCLB Rio Claro- Sao 147.44 270 eP **PKPdf 10 36 48.6 +0.6**
SPB Sao Paulo 147.65 268 eP **PKPbc 10 36 50.6 -0.4**
MACA Manacapuru-AM 147.90 314 eP **PKPdf 10 36 49.4 +0.4**
ARAG Araguaiana, MT 148.81 285 eP **PKPdf 10 36 50.2 -0.1**
EFI East Falkland 149.11 211 **PKPbc 10 36 53.3 -0.6**
EFI East Falkland 149.11 211 PKP2 **PKPbc 10 36 53.3 -0.6**
ITRB Iturama 149.12 277 eP **PKPdf 10 36 52.3 +1.5**
FRTB Fartura 149.49 270 eP **PKPdf 10 36 52.7 +1.4**
CLDB Colider 149.62 297 eP **PKPdf 10 36 52.3 +0.5**
PDRB Porto dos Gac 150.79 297 eP **PKPdf 10 36 54.8 +1.2**
LDASE Londrina, Braz 150.88 270 eP **PKPdf 10 36 54.8 +1.3**
MG03 Isla Dawson 151.78 196 **PKPbc 10 36 59.7 -0.5**
SALV Santo Antonio 152.21 288 eP **PKPdf 10 36 56.5 +0.8**
RPRD Ribas do Rio P 152.34 278 eP **PKPdf 10 36 56.0 +0.3**
OTAV Otavalo 152.37 350 PKPdf **PKPdf 10 36 57.8 +1.2**
OTAV Otavalo 152.37 350 PKIKP **PKPdf 10 36 57.8 +1.2**
OTAV Otavalo 152.37 350 eP **PKPdf 10 36 56.5 -0.2**
ITAB Concordia 152.50 263 eP **PKPdf 10 36 56.5 +0.7**
CPSB Cacapava Do Su 153.85 256 eP **PKPdf 10 36 59.0 +1.3**
SAML Samuel 153.85 310 PKPdf **PKPdf 10 36 58.2 +0.1**
SAML Samuel 153.85 310 PKIKP **PKPdf 10 36 58.2 +0.1**
SAML Samuel 153.85 310 eP **PKPdf 10 36 59.0 +0.8**
TBTG Tabatinga, AM 153.89 329 eP **PKPdf 10 36 59.0 +0.7**
PLTB Pedras Altas 153.97 253 **PKPbc 10 37 05.6 -0.3**
PLTB Pedras Altas 153.97 253 eP **PKPdf 10 36 59.4 +1.6**
AQDB Aquidauana 154.10 279 eP **PKPdf 10 36 59.8 +1.5**
AMBA Amambai (Brazi 154.22 273 eP **PKPdf 10 36 59.8 +1.4**
VILB Vilhena 154.32 299 eP **PKPdf 10 36 58.5 -0.2**
PANT Pantanal (Braz 154.35 283 eP **PKPdf 10 37 01.0 +2.4**
PTLB Pontes e Lacer 154.86 293 eP **PKPdf 10 36 59.4 -0.1**
BDQN Bodoquena, MS 155.01 280 eP **PKPdf 10 36 59.5 -0.1**
ETMB Extrema 156.50 314 eP **PKPdf 10 37 01.3 -0.4**
ITQB Itaqui 156.60 258 PKPab **PKPab 10 37 31.4 +0.8**
ITQB Itaqui 156.60 258 eP **PKPdf 10 37 02.0 +0.6**
BBSD Serra de San D 156.96 291 eP **PKPdf 10 37 02.2 -0.1**
CPUP Villa Florida 156.99 266 PKPdf **PKPdf 10 37 01.9 -0.1**
CPUP Villa Florida 156.99 266 PKP **PKPdf 10 37 01.4 -0.6**
comp=Z,6.7nm,1.1s,baz=154,slow=1.8,SNR=6.9
CPUP PKPab **PKPab 10 37 31.4 -1.0**
comp=Z,13nm,1.1s,baz=80,slow=4.0,SNR=5.4
CPUP Villa Florida 156.99 266 eP **PKPdf 10 37 02.3 +0.3**
PSAL Palomas, Salto 157.42 254 eP **PKPdf 10 37 03.9 +1.6**
CZSB Cruzeiro do Su 158.28 331 eP **PKPdf 10 37 04.0 0.0**
TRQA Tornquist 159.22 233 PKPdf **PKPdf 10 37 04.4 0.0**
TRQA Tornquist 159.22 233 PKIKP **PKPdf 10 37 04.4 0.0**
ATAH Atahualpa 159.56 347 PKP **PKPdf 10 37 06.2 +0.2**
comp=Z,2.2nm,0.6s,baz=348,slow=5.6,SNR=4.3
ATAH PKPab **PKPab 10 37 44.3 +0.3**
comp=Z,12nm,0.7s,baz=331,slow=5.4,SNR=6.1
LPAZ La Paz 162.39 305 PKPdf **PKPdf 10 37 06.7 -2.5**
LPAZ La Paz 162.39 305 PKP **PKPdf 10 37 06.5 -2.7**
comp=Z,1.5nm,0.3s,baz=360,slow=3.1,SNR=12
LPAZ PKPab **PKPab 10 37 55.8 -0.9**
comp=Z,5.9nm,0.9s,baz=47,slow=5.4,SNR=6.0
LPAZ La Paz 162.39 305 eP **PKPdf 10 37 08.4 -0.8**
PLCA Paso Flores 162.97 214 PKP **PKPdf 10 37 08.2 -0.2**
comp=Z,6.0nm,1.1s,baz=348,slow=0.5,SNR=6.2
PLCA PKPab **PKPab 10 37 56.0 -2.0**
comp=Z,4.6nm,0.7s,baz=132,slow=4.0,SNR=12
PLCA Paso Flores 162.97 214 eP **PKPdf 10 37 08.5 +0.1**
GO01 Chusmiza 165.22 297 **PKPab 10 38 09.1 +0.1**

TAP 28 10:21:46.0, 24°22N×121°71E, h9km, ML1.7, 2D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**16**	*eP*	Pg	10 21 48.7	+0.4
ETL	**Fush Village**	**0.10**	**232**	*i P*	Pg	10 21 48.8	+0.2
ETL				S	Sg	10 21 50.5	+0.2
EAHA	**Aohua**	**0.11**	**12**	P	Pg	10 21 49.0	+0.3
EAHA				S	Sg	10 21 50.9	+0.5
NACB	**Ninganchiao**	**0.12**	**245**	⇓*i P*	Pg	10 21 49.0	+0.2
NACB				*i S*	Sg	10 21 50.9	+0.2
TWD	**Chiawan**	**0.18**	**217**	*i P*	Pg	10 21 50.0	+0.2
ENA	**Nanau**	**0.20**	**7**	⇓*i P*	Pg	10 21 50.7	+0.4
ENA				*i S*	Sg	10 21 53.7	+0.6
ETLH	**Xiulin Townshi**	**0.21**	**265**	P	Pg	10 21 51.2	+0.8
ETLH				S	Sg	10 21 53.9	+0.5
EWUT	**Wuta**	**0.23**	**15**	P	Pg	10 21 51.1	+0.5
EWUT				S	Sg	10 21 54.5	+0.7
ETM	**Tongmen**	**0.33**	**218**	*eP*	Pg	10 21 52.5	0.0
ETM				*eS*	Sg	10 21 57.1	+0.3
LXIB	**Xiulin Townshi**	**0.34**	**234**	*eP*	Pg	10 21 52.7	-0.1
LXIB				*eS*	Sg	10 21 57.6	+0.3
NNSB	**Datong**	**0.36**	**304**	P	Pg	10 21 53.7	+0.4
NNSB				S	Sg	10 21 58.7	+0.6
ENTT	**Nioudou**	**0.44**	**342**	P	Pb	10 21 55.3	-0.6
ENTT				S	Sg	10 22 00.7	+0.4
ESL	**Shilin**	**0.48**	**212**	P	Pg	10 21 55.5	0.0
YHNB	**Yeheng**	**0.54**	**325**	P	Pb	10 21 57.6	-0.2
YHNB				S	Sb	10 22 04.7	-1.0
NSK	**Sanguang**	**0.56**	**324**	*eP*	Pg	10 21 57.1	+0.3
NSK				*eS*	Sb	10 22 05.8	-0.4
WUSB	**Renai**	**0.59**	**247**	*eP*	Pb	10 21 58.4	-0.3
TATO	**Taipei**	**0.78**	**345**	P	Pn	10 22 04.0	+0.8
TATO	**Taipei**	**0.78**	**345**	P	Pn	10 22 04.0	+0.8
SSLB	**Suanglung**	**0.82**	**238**	P	Pg	10 22 01.7	-0.1
SSLB	**Suanglung**	**0.82**	**238**	P	Pg	10 22 01.2	-0.6
YULB	**Yu-li**	**0.91**	**205**	P	Pn	10 22 05.4	+0.3
STYH	**Taoyuan**	**1.36**	**220**	*eP*	Pg	10 22 12.2	+0.1
STYH				S	Sg	10 22 29.6	-0.1

IDC 28 10:23:41.7±5.5, 29°76N×96°27E, h0km, mb3.8/3, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=103.4km s-min=62.4km az=142.0, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**19.67**	**21**	P	P	10 28 12.3	+0.1
	0.3nm,0.3s,baz=203,slow=9.4,SNR=1.3						
	2.3nm,0.9s						
MKAR	**Makanchi Array**	**20.19**	**331**	P	P	10 28 18.2	+0.4
	2.6nm,0.7s,baz=141,slow=9.3,SNR=2.6						
	2.6nm,0.7s						
KURBB	**Kurchatov Arra**	**24.74**	**332**	P	P	10 29 04.3	-0.4
	4.0nm,0.8s,baz=146,slow=10,SNR=4.5						
	4.0nm,0.8s						
ESDC	**Sonseca Array**	**78.77**	**309**	P	P	10 35 46.6	+0.2
	0.4nm,0.6s,baz=50,slow=4.0,SNR=2.3						
	0.4nm,0.6s						

*IDC **28** 10:28:12.7±2.0, 0°31N×126°18E, h0km, mb3.3/3, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=119.7km s-min=27.9km az=68.0*
*DJA **28** 10:28:23.1±1.1, 0°S±2°×12°5E±°, h31km±17km, M4.3/25, mb4.4/8, mB5.1/1, MLv4.2/25, Mw(mB)4.5/1*
ISC 28 10:28:21.8±1.0, 0°17S±0°07×125°18E±0°05, h35km, n23, σ2°47/25, mb3.3/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.41**	**302**	P	**Pn**	**10 28 44.9**	**0.0**
SANI	**Sanana**	**2.03**	**156**	P	**Pn**	**10 28 53.4**	**-0.2**
LBMI	**Labuha**	**2.37**	**101**	P	**Pn**	**10 29 00.8**	**+2.6**
LBMI				S	**Sn**	**10 29 29.1**	**+3.0**
TNTI	**Ternate**	**2.38**	**67**	P	**Pn**	**10 29 01.8**	**+3.5**
LUWI	**Luwuk**	**2.56**	**250**	P	**Pn**	**10 29 04.2**	**+3.5**
LUWI				S	**Sn**	**10 29 35.6**	**+5.0**
MRSI	**Marisa**	**3.30**	**281**	P	**Pn**	**10 29 10.8**	**-0.2**
NLAI	**Namlea**	**3.60**	**148**	P	**Pn**	**10 29 16.1**	**+1.0**
APSI	**Ampana**	**3.60**	**258**	P	**Pn**	**10 29 15.1**	**0.0**
KDI	**Kendari**	**4.55**	**214**	P	**Pn**	**10 29 27.2**	**-0.9**
AAI	**Ambon**	**4.61**	**139**	P	**Pn**	**10 29 30.9**	**+1.8**
MSAI	**Masohi**	**4.90**	**130**	P	**Pn**	**10 29 35.8**	**+2.8**
TTSI	**Tana Toraja**	**6.07**	**242**	P	**Pn**	**10 29 49.0**	**0.0**
SWI	**Sorong**	**6.12**	**96**	P	**Pn**	**10 29 52.3**	**+2.5**
	17nm,0.7s,0.1nm						
BNDI	**Bandanaira**	**6.40**	**133**	P	**Pn**	**10 29 55.7**	**+2.1**
	196nm,0.9s						
SPSI	**Sidrap Palu**	**6.59**	**235**	P	**Pn**	**10 29 56.9**	**+0.7**
	45nm,0.5s,0.2nm						
BKSI	**Bulukumba**	**7.19**	**225**	P	**Pn**	**10 30 04.4**	**0.0**
	21nm,0.5s,0.1nm						
BSSI	**Bau Bau, Buton**	**7.55**	**218**	P	**Pn**	**10 30 10.8**	**+1.3**
	16nm,0.9s,0.1nm						
FAKI	**Fak Fak**	**7.58**	**111**	P	**Pn**	**10 30 11.5**	**+1.7**
SGKI	**Sangatta, Kali**	**7.58**	**267**	P	**Pn**	**10 30 11.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**17.82**	**179**	P	**P**	**10 32 29.4**	**+1.8**
	0.1nm,0.3s,baz=16,slow=7.4,SNR=1.3						
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**21.60**	**156**	P	**P**	**10 33 06.4**	**-2.4**
	0.5nm,0.4s,baz=337,slow=11,SNR=6.6						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**24.84**	**161**	P	**P**	**10 33 36.4**	**-4.7**
	0.6nm,0.7s,baz=331,slow=6.6,SNR=2.5						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**59.92**	**327**	P	**P**	**10 38 21.8**	**-2.6**
	0.2nm,0.4s,baz=116,slow=8.6,SNR=2.1						
	0.2nm,0.4s						

NOU 28 10:31:50.4, 22°46S×170°19E, h0km, MLv3.5/7, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.23**	**296**	P	Pn	10 32 28.1	-0.5
YATNC	**Mamie plateau,**	**3.08**	**277**	P	Pn	10 32 38.9	-1.5
OUENC	**Ouen Island, N**	**3.10**	**270**	P	Pn	10 32 40.4	-0.2
ONTNC	**Ouen Toro**	**3.46**	**272**	P	Pn	10 32 46.2	+0.6
DZM	**Mont Dzumac**	**3.49**	**276**	P	Pn	10 32 46.0	-0.1
NOUC	**Port Laguerre**	**3.62**	**275**	P	Pn	10 32 47.5	-0.2
KOUNC	**Koumac, New Ca**	**5.82**	**288**	P	Pn	10 33 18.9	+0.9

*IDC **28** 10:43:48.0±2.6, 13°10N×81°11W, h0km, mb3.4/3, mbtmp3.4/4, ML2.7/2, MS2.6/1, Error ellipse: s-maj=55.9km s-min=30.8km az=99.0*
*RSNC **28** 10:43:48.9±0.0, 13°N±2°×8°1W±°, h2km±3km, M3.3, mb4.1, ML3.2*
ISC 28 10:43:47.9±1.5, 13°15N±0°04×81°07W±0°04, h7km±10km, n20, σ1°72/33, mb3.2/3, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.37**	**309**	P	**Pg**	**10 43 54.7**	**-0.3**
PRVC				S	**Sg**	**10 43 58.3**	**-1.5**
SAIC	**Isla e San And**	**0.87**	**226**	P	**Pb**	**10 44 05.8**	**+0.5**
SAIC				S	**Sn**	**10 44 19.1**	**-0.4**
RNCC	**Cayo Roncador,**	**1.04**	**66**	P	**Pn**	**10 44 09.0**	**0.0**
RNCC				S	**Sn**	**10 44 25.1**	**+1.3**
SERC	**Banco Serrana,**	**1.32**	**31**	P	**Pn**	**10 44 11.2**	**-1.6**
SERC				S	**Sb**	**10 44 30.3**	**0.0**
BLUN	**Bluefields**	**2.87**	**247**	P	**Pn**	**10 44 34.9**	**+0.8**
BLUN				S	**Sn**	**10 45 08.5**	**-0.5**
ESPN	**Las Esperanzas**	**3.29**	**254**	P	**Pn**	**10 44 40.6**	**+0.7**
ESPN				S	**Sn**	**10 45 19.0**	**-0.3**
BCIP	**Isla Barro Col**	**4.14**	**163**	P	**Pn**	**10 44 51.0**	**-0.5**
BCIP				S	**Sn**	**10 45 38.0**	**-2.2**
ACON	**Acoyapa**	**4.17**	**254**	P	**Pn**	**10 44 56.0**	**+4.0**
JTS	**Las Juntas de**	**4.74**	**234**	Pn	**Pn**	**10 45 00.9**	**+1.0**
	1.8nm,0.3s,baz=53,slow=17,SNR=7.4						
JTS				Sn	**Sn**	**10 45 54.4**	**-0.8**
	2.4nm,0.3s,baz=64,slow=7.0,SNR=6.7						
JTS				LR	LR	10 47 00.8	
	comp=Z,70nm,21.4s,baz=54,slow=41						
	3.6nm,0.3s						
JTS	**Las Juntas de**	**4.74**	**234**	P	**Pn**	**10 45 01.0**	**+1.1**
JTS				S	**Sn**	**10 45 55.6**	**+0.4**
AZU	**Azuero**	**5.38**	**172**	P	**Pn**	**10 45 07.2**	**-1.4**
	26nm,1.2s						
AZU				S	**Sn**	**10 46 10.9**	**+0.1**
	26nm,1.2s						
CAPC	**Capurgana**	**5.78**	**140**	P	**Pn**	**10 45 15.0**	**+0.8**
	51nm,1.3s						
CAPC				S	**Sn**	**10 46 20.9**	**+0.1**
	51nm,1.3s						
MTDJ	**Mount Denham**	**6.09**	**34**	P	**Pn**	**10 45 21.1**	**+2.6**
	26nm,1.8s						
SJCC	**San Jacinto, C**	**6.62**	**119**	P	**Pn**	**10 45 27.1**	**+1.4**
SJCC				S	**Sn**	**10 46 39.7**	**-1.7**
TEIG	**Tepich**	**9.86**	**317**	Pn	**Pn**	**10 46 09.6**	**-0.5**
	baz=146,slow=24,SNR=16						
TEIG				Sn	**Sn**	**10 47 55.7**	**-5.5**
	baz=166,slow=24,SNR=2.0						
TXAR	**Lajitas Array**	**26.43**	**311**	P	**P**	**10 49 26.9**	**+1.3**
	0.7nm,0.8s,baz=126,slow=9.0,SNR=8.2						
	0.7nm,0.8s						
PDAR	**Pinedale Array**	**38.43**	**326**	P	**P**	**10 51 11.2**	**+0.6**
	0.3nm,0.7s,baz=121,slow=11,SNR=4.1						
	0.3nm,0.7s						
NVAR	**Mina Array Bea**	**41.49**	**314**	P	**P**	**10 51 38.5**	**+2.5**
	0.3nm,0.6s,baz=139,slow=8.4,SNR=2.1						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**145.29**	**247**	PKPbc	**PKPdf**	**11 03 27.5**	**+0.1**
	0.2nm,0.6s,baz=106,slow=3.8,SNR=4.4						
WRA	**Warramunga Arr**	**145.44**	**254**	PKPbc	**PKPbc**	**11 03 27.0**	**-0.6**
	0.3nm,0.8s,baz=90,slow=3.0,SNR=1.7						

RSNC 28 10:52:53.2±0.0, 13°N±1°×8°1W±°, h0km±2km, M3.0, mb4.0, ML3.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.19**	**347**	P	Pg	10 52 58.2	+1.3
PRVC				S	Sg	10 53 02.0	+2.7
SAIC	**Isla e San And**	**0.75**	**211**	P	Pb	10 53 08.7	-0.5
SAIC				S	Sb	10 53 20.7	+0.7
RNCC	**Cayo Roncador,**	**1.25**	**72**	P	Pg	10 53 15.7	-1.6
RNCC				S	Sg	10 53 33.9	+0.3
SERC	**Banco Serrana,**	**1.43**	**40**	P	Pn	10 53 19.0	-1.4
SERC				S	Sb	10 53 39.5	-0.1
ESPN	**Las Esperanzas**	**3.07**	**252**	P	Pn	10 53 42.7	-0.3
BCIP	**Isla Barro Col**	**4.25**	**160**	P	Pn	10 53 55.7	-3.6
BCIP				S	Sn	10 54 43.1	-6.6
JTS	**Las Juntas de**	**4.58**	**231**	P	Pn	10 54 04.2	+0.4
AZU	**Azuero**	**5.46**	**169**	P	Pn	10 54 12.4	-3.5
	30nm,1.3s						
AZU				S	Sn	10 55 16.0	-3.5
	30nm,1.3s						
SJCC	**San Jacinto, C**	**6.85**	**118**	P	Pn	10 54 30.7	-4.4
SJCC				S	Sn	10 55 47.3	-6.5

*IDC **28** 10:58:30.2±1.0, 56°32N×149°04W, h0km, mb3.7/10, mbtmp3.7/15, ML3.7/5, MS4.1/2, Error ellipse: s-maj=22.5km s-min=15.2km az=21.0*
*NEIC **28** 10:58:32.4±1.6, 56°32N±0°08×149°0W±0°1, h33km±8km, mb4.2/3, ML4.2/70, ML4.0(AEIC), Error ellipse: s-maj=12.3km s-min=7.7km az=164.0*
*AEIC **28** 10:58:35.2±1.5, 56°37N±0°08×149°04W±0°10, h20km±7km, Error ellipse: s-maj=12.0km s-min=7.2km az=158.0*
ISC 28 10:58:34.3±0.7, 56°49N±0°08×148°97W±0°05, h35km, n282, σ1°04/279, mb3.9/13, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.36**	**305**		**Pn**	**10 59 09.1**	**-1.3**
KDAK	**Kodiak Island**	**2.36**	**305**	Pn	**Pn**	**10 59 09.5**	**-1.0**
	18nm,0.3s,baz=199,slow=4.3,SNR=295						
KDAK				Sn	**Sn**	**10 59 36.4**	**-1.7**
	22nm,0.3s,baz=138,slow=16,SNR=14						
	38nm,0.3s						
OHAK	**Old Harbor**	**2.48**	**289**		**Pn**	**10 59 10.2**	**-2.0**
OHAK				Sn	**Sn**	**10 59 38.7**	**-2.5**
OHAK	**Old Harbor**	**2.48**	**289**	P	**Pn**	**10 59 10.1**	**-2.0**
SYI	**Shuyak Island**	**2.82**	**321**		**Pn**	**10 59 16.2**	**-0.5**
SII	**Sitkinak Islan**	**2.89**	**274**		**Pn**	**10 59 16.2**	**-1.6**
SII	**Sitkinak Islan**	**2.89**	**274**	P	**Pn**	**10 59 16.8**	**-1.0**
R18K	**Karluk**	**3.19**	**292**		**Pn**	**10 59 21.2**	**-0.6**
R18K					**

SLKM	Skilak Lake	4.09	351			Pn	10 59 33.6 -0.6
O20K	Slope Mountain	4.09	333			Pn	10 59 33.9 -0.4
ILS	Iliamna Low So	4.10	330			Pn	10 59 34.2 -0.3
HIN	Hinchinbrook I	4.13	17			Pn	10 59 34.5 -0.3
HIN					IAML		11 00 24.2
	comp=N,457nm,1.0s						
HIN					IAML		11 00 26.1
	comp=E,385nm,0.8s						
IVE	Iliamna Volcan	4.13	331			Pn	10 59 34.5 -0.4
ILSW	Iliamna Southw	4.14	330			Pn	10 59 34.7 -0.4
ILSW					IAML		11 00 27.8
	comp=N,373nm,0.4s						
ILSW					IAML		11 00 30.8
	comp=E,328nm,0.9s						
CNTC	Contact Creek	4.14	298			Pn	10 59 35.1 0.0
PLK3	Peulik 3	4.16	290			Pn	10 59 34.7 -0.5
PLK4	Peulik 4	4.19	289			Pn	10 59 34.9 -0.9
PLK4					IAML		11 00 30.3
	comp=E,298nm,0.9s						
PLK4					IAML		11 00 32.4
	comp=N,190nm,0.5s						
KAIM	Kayak Island	4.21	33			Pn	10 59 35.6 -0.3
PLK2	Peulik 2	4.21	291			Pn	10 59 35.3 -0.6
PLK1	Peulik 1	4.36	291			Pn	10 59 36.9 -1.1
PWL	Port Wells	4.40	4	Pn		Pn	10 59 38.1 -0.4
PWL					IAML		11 00 27.5
	comp=E,347nm,0.5s						
PWL					IAML		11 00 32.2
	comp=N,334nm,0.5s						
EYAK	Cordova Ski Ar	4.41	21			Pn	10 59 38.5 -0.1
EYAK	Cordova Ski Ar	4.41	21	P		Pn	10 59 38.3 -0.3
RED	Redoubt Volcan	4.42	335			Pn	10 59 37.8 -1.1
P18K	Big Mountain,	4.43	314			Pn	10 59 37.9 -1.0
CAPN	Captain Cook N	4.44	346	Pn		Pn	10 59 40.1 +1.0
PLBL	Peulik Blue Cr	4.45	289			Pn	10 59 38.5 -0.7
FID	Port Fidalgo	4.47	16			Pn	10 59 38.8 -0.6
FID					IAML		11 00 31.0
	comp=E,252nm,0.6s						
FID					IAML		11 00 38.8
	comp=N,178nm,0.8s						
RDT	Redoubt	4.48	338			Pn	10 59 38.5 -1.1
RDWB	Redoubt West	4.50	335			Pn	10 59 39.1 -0.8
GLI	Glacier Island	4.51	12			Pn	10 59 39.9 -0.2
GLI					IAML		11 00 34.6
	comp=E,233nm,0.7s						
GLI					IAML		11 00 37.6
	comp=N,211nm,0.7s						
RDJH	Redoubt Jeurge	4.58	336			Pn	10 59 40.8 -0.3
RC01	Rabbit Creek A	4.63	355	Pn		Pn	10 59 41.5 -0.3
RC01					IAML		11 00 39.6
	comp=N,292nm,0.7s						
O19K	Port Alsworth	4.67	325			Pn	10 59 41.6 -0.5
GOAT	Goat Mountain	4.67	27			Pn	10 59 42.6 +0.4
Q16K	King Salmon	4.68	301			Pn	10 59 42.2 -0.2
O18K	Koktuh Hills	4.72	318			Pn	10 59 42.4 -0.6
O18K					IAML		11 00 53.0
	comp=N,147nm,0.8s						
BERG	Berg Lake	4.79	33			Pn	10 59 43.5 -0.4
R16K	Pilot Point	4.83	287	Pn		Pn	10 59 43.6 -0.7
R16K					IAML		11 00 59.0
	comp=E,189nm,1.1s						
R16K					IAML		11 02 16.1
	comp=N,256nm,1.1s						
P17K	Kvichak River	4.83	307			Pn	10 59 43.8 -0.5
GRIN	Grindle Hills	4.83	36			Pn	10 59 44.6 +0.2
SNH	Sunshine Point	4.91	39			Pn	10 59 45.2 -0.4
SNH					IAML		11 00 56.4
	comp=N,182nm,0.9s						
SNH					IAML		11 00 56.8
	comp=E,212nm,1.2s						
DIV	Divide	4.94	18			Pn	10 59 46.2 +0.2
KNK	Knik Glacier	4.95	3			Pn	10 59 45.9 -0.2
KNK					IAML		11 00 45.3
	comp=N,143nm,0.6s						
KNK					IAML		11 00 49.7
	comp=E,169nm,0.6s						
KHIT	Khitrov Hills	4.97	35			Pn	10 59 46.3 -0.2
SPCR	Spurr Chakacha	5.02	342			Pn	10 59 46.8 -0.3
SPCR	Spurr Chakacha	5.02	342			Pn	10 59 46.9 -0.2
BMRM	Bremner River	5.04	25			Pn	10 59 47.5 +0.2
SPCP	Crater Peak Br	5.07	342			Pn	10 59 47.6 -0.2
SPCG	Spurr Capps Gl	5.07	343			Pn	10 59 48.1 +0.2
SUA	Susitna One	5.08	350			Pn	10 59 47.3 -0.6
SUA					IAML		11 00 46.8
	comp=N,104nm,0.7s						
SUA					IAML		11 00 51.8
	comp=E,117nm,0.6s						
WAX	Waxell Ridge	5.11	36			Pn	10 59 48.1 -0.2
WAX					IAML		11 00 59.8
	comp=E,238nm,0.5s						
PMR	Palmer	5.12	359	Pn		Pn	10 59 48.3 -0.1
PMR					IAML		11 00 46.0
	comp=N,123nm,0.9s						
PMR					IAML		11 00 46.0
	comp=E,153nm,0.8s						
PMR	Palmer	5.12	359	P		Pn	10 59 48.4 0.0
BARK	Barkley Ridge	5.20	38			Pn	10 59 49.3 -0.2
N19K	Bonanza Creek	5.21	329			Pn	10 59 48.9 -0.7
N19K					IAML		11 00 53.8
	comp=E,87nm,0.8s						
STLK	Strandline Lak	5.24	345			Pn	10 59 50.0 -0.1
CHGN	Chignik	5.25	272	Pn		Pn	10 59 49.4 -0.8
CHGN					IAML		11 00 52.9
	comp=N,101nm,0.6s						
CRQM	Cirque	5.25	33			Pn	10 59 50.1 -0.3
KLU	Klutina	5.26	16			Pn	10 59 50.5 +0.1
GHO	Glory Hole Cre	5.30	0			Pn	10 59 51.4 +0.4
SML	Sawmill	5.35	3			Pn	10 59 52.0 +0.5
TGL	Tana Glacier	5.35	34			Pn	10 59 51.5 -0.2
M23K	Glacier View	5.36	6			Pn	10 59 52.3 +0.6
ISLE	Juniper Island	5.39	37			Pn	10 59 51.8 -0.4
BAGL	Bagley Icefiel	5.40	39			Pn	10 59 52.2 0.0
O17K	Koliganek Bris	5.42	311			Pn	10 59 52.0 -0.4
SCM	Sheep Creek Mo	5.43	8	Pn		Pn	10 59 53.7 +1.0
P16K	Nushagak River	5.46	302			Pn	10 59 52.6 -0.4
N18K	Kilae Creek	5.55	322			Pn	10 59 53.4 -0.9
VRDI	Verde Repeater	5.55	29	Pn		Pn	10 59 54.4 -0.1
N25K	Chitina, Valde	5.61	22			Pn	10 59 55.4 +0.2
KIAG	Kiagna River	5.63	35			Pn	10 59 55.5 0.0
GLB	Gilahina Butte	5.64	26	Pn		Pn	10 59 55.6 0.0
SAMH	Samovar Hills	5.65	46			Pn	10 59 56.4 +0.6
SKT	Skwentna	5.66	348			Pn	10 59 55.9 0.0
GRNC	Granite Creek	5.69	39			Pn	10 59 56.2 -0.1
TABL	Table Mountain	5.71	43			Pn	10 59 56.6 0.0
BALM	Baldy	5.72	34			Pn	10 59 56.2 -0.4
O16K	Kokwok River B	5.76	307			Pn	10 59 57.0 -0.2
SVW2	Sparrevohn	5.76	326	Pn		Pn	10 59 56.9 -0.3
SVW2	Sparrevohn	5.76	326	P		Pn	10 59 56.9 -0.3
MCARA	McCarthy VSAT	5.79	30			Pn	10 59 57.9 +0.2
PTPK	Patty Peak	5.80	33			Pn	10 59 57.8 -0.1
M24K	Tolsona, Glenn	5.82	13			Pn	10 59 59.1 +1.1
M20K	Styx River	5.82	340			Pn	10 59 57.5 -0.6
PCA	Pinnacle	5.85	48			Pn	10 59 58.1 -0.3
N17K	Nushagak Hills	5.91	317			Pn	10 59 58.6 -0.7
CTGM	Chitina Glacie	6.00	38	Pn		Pn	11 00 00.2 -0.3
PNL	Peninsula	6.00	54			Pn	11 00 00.3 -0.1
PNL	Peninsula	6.00	54	P		Pn	11 00 00.4 -0.1
WACK	Wrangell Chich	6.01	21			Pn	11 00 01.7 +0.9
LOGN	Logan Glacier	6.01	40			Pn	11 00 00.4 -0.4
BCPM	Bancas Point	6.03	51			Pn	11 00 00.8 -0.1
M19K	Big River Lodg	6.10	335			Pn	11 00 00.9 -1.0
M18K	Stony River	6.14	328			Pn	11 00 01.4 -1.0
WAT6	Susitna Watana	6.14	5			Pn	11 00 03.3 +0.7
CHNA	Chernabura Isl	6.24	259	P		Pn	11 00 01.2 -2.5
CNBA	Chernabura Isl	6.24	259			Pn	11 00 01.4 -2.3
HARP	HAARP	6.24	17			Pn	11 00 05.5 +1.7
O28M	Mount Upton	6.28	43			Pn	11 00 04.7 +0.1
WAT7	Susitna Watana	6.37	1			Pn	11 00 06.7 +1.1
O15K	Ungalikthiuk R	6.39	299			Pn	11 00 06.1 +0.2
L19K	White Mountain	6.45	335	Pn		Pn	11 00 05.9 -0.9
L20K	Farewell, AK	6.51	339			Pn	11 00 06.5 -0.9
N16K	Nishlik Lake	6.51	312			Pn	11 00 07.1 -0.4
M17K	Holitna River	6.59	322			Pn	11 00 08.2 -0.3
PPLA	Purkeypile	6.63	347			Pn	11 00 09.8 +0.5
DHY	Denali Highway	6.66	6	Pn		Pn	11 00 10.7 +1.0
M26K	Nabesna, AK	6.67	25			Pn	11 00 09.8 +0.2
O29M	Mount Kennedy	6.67	51			Pn	11 00 10.2 +0.5
PAX	Paxson	6.74	14			Pn	11 00 12.1 +1.4
P29M	Windy Craggy	6.74	57			Pn	11 00 09.9 -0.8
YUK2	White River	6.76	35			Pn	11 00 12.6 +1.7
YUK8	Steele Glacier	6.77	41			Pn	11 00 12.7 +1.4
YUK3	Moose Creek	6.87	36			Pn	11 00 13.6 +1.0
M16K	Timber Creek	6.90	315			Pn	11 00 12.7 -0.1
M27K	Edge Creek, AK	6.91	29			Pn	11 00 13.7 +0.7
N15K	Kwethluk River	6.92	307			Pn	11 00 13.8 +0.7
RND	Reindeer	6.94	0	Pn		Pn	11 00 14.2 +0.8
L18K	Granite Mounta	6.97	329	Pn		Pn	11 00 13.0 -0.7
YUK7	Dusty Glacier	6.97	50			Pn	11 00 14.5 +0.5
MENT	Mentasta	6.99	20			Pn	11 00 15.0 +0.9
TRF	Thorofare Moun	7.02	355			Pn	11 00 15.3 +0.8
S31K	Pelican	7.07	73			Pn	11 00 12.1 -3.1
YUK6	Outpost Mounta	7.10	47			Pn	11 00 16.6 +0.9
O14K	Tigyukauivet M	7.12	298	Pn		Pn	11 00 15.5 -0.3
CAST	Castle Rocks	7.13	349	Pn		Pn	11 00 16.7 +0.8
L26K	Log Cabin Wild	7.14	21	Pn		Pn	11 00 18.2 +2.1
KTH	Kantishna Hill	7.16	353			Pn	11 00 17.2 +0.9
BVCY	Beaver Creek	7.24	31			Pn	11 00 18.2 +0.8
PS1A	Pavlof South-1	7.25	267			Pn	11 00 16.3 -1.4
MCK	McKinley	7.27	0			Pn	11 00 19.8 +1.9
P30M	Million Dollar	7.30	55			Pn	11 00 19.0 +0.6
PLBC	Pleasant Camp	7.33	61			Pn	11 00 19.2 +0.4
PS4A	Pavlof South-4	7.33	266			Pn	11 00 17.6 -1.1
K20K	Telida	7.35	342			Pn	11 00 18.3 -0.7
S12K	Black Hills	7.37	269			Pn	11 00 18.2 -1.1
TTA	Tatalina	7.38	334	Pn		Pn	11 00 18.1 -1.3
TTA	Tatalina	7.38	334	P		Pn	11 00 18.7 -0.7
HYT	Haines Junctio	7.39	49	Pn		Pn	11 00 19.8 +0.1
PN7A	Pavlof North-7	7.39	267			Pn	11 00 18.5 -1.1
R31K	City Hall, Gus	7.39	69			Pn	11 00 19.4 -0.1
L17K	Donlin	7.40	324			Pn	11 00 19.4 -0.2
YUK5	Granite Creek	7.41	46			Pn	11 00 21.4 +1.4
M15K	Kasigluk River	7.43	309			Pn	11 00 19.9 -0.2
K24K	Donnelly Dome	7.51	11			Pn	11 00 23.5 +2.3
L27K	Beaver Creek,	7.51	26			Pn	11 00 21.7 +0.5
SIT	Sitka	7.52	80	P		Pn	11 00 19.0 -2.3
L16K	Owhat River	7.52	318	Pn		Pn	11 00 21.3 0.0
BCAR	Beaver Creek A	7.52	26	Pn		Pn	11 00 21.5 0.0
N14K	Kuskokwak Cree	7.55	302			Pn	11 00 21.7 +0.1
RIDG	Independent Ri	7.56	14			Pn	11 00 23.7 +1.8
BPAW	Bear Paw Mtn.	7.70	353	Pn		Pn	11 00 23.7 -0.2
K17K	Iditarod	7.83	327			Pn	11 00 24.8 -0.7
SKAG	Skagway	7.84	62	Pn		Pn	11 00 25.8 +0.2
SKAG	Skagway	7.84	62	P		Pn	11 00 25.6 -0.1
BESE	Bessie Mountai	7.88	69			Pn	11 00 25.4 -0.9
N30M	Aishikik Lake	7.90	46			Pn	11 00 26.9 +0.3
SCRK	Sand Creek	7.91	16			Pn	11 00 27.9 +1.2
S32K	Killisnoo	7.93	77	Pn		Pn	11 00 24.3 -2.6
O30N	Mendenhall	7.97	52			Pn	11 00 27.6 +0.1
J18K	Innoko River	8.00	334			Pn	11 00 27.7 -0.1
HDA	Harding Lake	8.01	6			Pn	11 00 28.8 +0.8
M29M	Somme Creek	8.01	37			Pn	11 00 28.9 +0.7
R32K	Eaglecrest	8.01	71			Pn	11 00 27.2 -0.9
WRH	Wood River Hil	8.02	3			Pn	11 00 28.6 +0.5
JIS	Juneau Island	8.08	71			Pn	11 00 28.4 -0.6
JIS	Juneau Island	8.08	71	P		Pn	11 00 27.8 -1.2
J20K	Nowinta River	8.13	344			Pn	11 00 29.5 -0.1
NEA2	Nenana	8.13	360			Pn	11 00 30.3 +0.6
CCB	Clear Creek Bu	8.21	4	Pn		Pn	11 00 32.1 +1.4
J19K	Poorman	8.22	339	Pn		Pn	11 00 30.0 -0.9
L15K	Ungalak Mounta	8.28	314			Pn	11 00 31.6 -0.1
FALS	False Pass	8.33	265	P		Pn	11 00 29.7 -2.7
J25K	Salcha River,	8.34	11			Pn	11 00 33.2 +0.5
IL31		8.38	6			Pn	11 00 33.5 +0.6
ILAR	Eielson Array	8.38	6	Pn		Pn	11 00 33.5 +0.5
	comp=N,1.0nm,0.3s,baz=188,slow=14,SNR=37						
ILAR				Sn		Sn	11 02 04.2 -2.0
	comp=N,1.1nm,0.3s,baz=185,slow=16,SNR=4.5						
	comp=N,1.4nm,0.3s						
COLA	College	8.43	3			Pn	11 00 34.6 +0.9
COLA	College	8.43	3	P		Pn	11 00 34.6 +0.9
N31M	Braeburn, Yuko	8.45	48			Pn	11 00 34.5 +0.4
WHY	Whitehorse	8.46	55	Pn		Pn	11 00 34.7 +0.3
J26L	Joseph Creek	8.47	16			Pn	11 00 34.8 +0.4
ISLZ	Isanotski Laza	8.53	264			Pn	11 00 33.4 -1.9
J17K	VABM Dome	8.58	328	Pn		Pn	11 00 34.8 -1.0
L29M	L29M	8.59	35	Pn		Pn	11 00 36.6 +0.6
L14K	Kuka Creek	8.60	310			Pn	11 00 36.5 +0.5
MLY	Manley	8.62	355			Pn	11 00 36.6 +0.2
K15K	Wolf Creek Mou	8.65	317			Pn	11 00 37.0 +0.2
P32M	Atlin	8.67	63			Pn	11 00 36.8 -0.3
M30M	Minto, Yukon	8.68	40	Pn		Pn	11 00 37.8 +0.6
POKR	Poker Plat Res	8.69	4			Pn	11 00 37.6 +0.3
I23K	Minto, Yukon-K	8.69	359			Pn	11 00 37.6 +0.3
CRAG	Craig	8.95	90	P		Pn	11 00 38.3 -2.5
DAWY	Dawson	8.96	28	Pn		Pn	11 00 41.5 +0.5
J16K	Anvik River	8.97	324			Pn	11 00 40.6 -0.5
GCSA	Galena City Sc	9.14	338			Pn	11 00 43.4 -0.1
EGAK	Eagle	9.15	21	Pn		Pn	11 00 45.0 +1.4
P33M	Teslin, Yukon	9.27	60	Pn		Pn	11 00 44.9 -0.5
Q32M	Nakina River	9.27	68			Pn	11 00 45.6 +0.1
K29M	Barlow Dome	9.31	33			Pn	11 00 46.6 +0.6
M31M	Drury Creek, Y	9.38	46	Pn		Pn	11 00 47.9 +1.0
H21K	Melozitna Rive	9.38	350	Pn		Pn	11 00 46.1 -0.7
I17K	Unalakleet	9.43	327	Pn		Pn	11 00 47.2 -0.2
N32M	Quiet Lake	9.46	54			Pn	11 00 48.3 +0.3
H19K	Roundabout Mou	9.76	341			Pn	11 00 52.6 +0.6
S34M	Telegraph Cree	9.78	74			Pn	11 00 51.3 -1.1
IMAR	Indian Mountai	9.80	348			Pn	11 00 51.9 -0.6
H18K	Honhosa River	9.81	336	Pn		Pn	11 00 51.8 -0.9
FARO	Faro, Yukon	9.82	48			Pn	11 00 53.8 +1.0
I28M	Miner Creek	9.99	22	Pn		Pn	11 00 57.0 +1.8
R33M	Jennings River	10.00	66			Pn	11 00 54.2 -1.2
H17K	Granite Mounta	10.01	332	Pn		Pn	11 00 55.0 -0.5
J30M	Hart River	10.21	32	Pn		Pn	11 00 59.5 +1.3
FYU	Fort Yukon	10.27	8	Pn		Pn	11 00 59.3 +0.4
G23K	Bananza Creek	10.27	358	Pn		Pn	11 00 59.6 +0.6
G24K	Hadweenzic Riv	10.28	3			Pn	11 01 00.3 +1.3
G21K	Allakaket	10.29	350	Pn		Pn	11 00 59.1 -0.1
UNV	Unalaska Valle	10.37	263	P		Pn	11 00 58.9 -1.5
DLBC	Dease Lake	10.39	71			Pn	11 00 60.0 -0.6
DLBC	Dease Lake	10.39	71	Pn		Pn	11 01 00.4 -0.3
	comp=N,0.7nm,0.3s,baz=242,slow=9.3,SNR=26						
DLBC				Sn		Sn	11 02 51.5 -4.1
	comp=N,0.5nm,0.3s,baz=238,slow=14,SNR=1.7						
	comp=N,1.7nm,0.3s						
G19K	Purcell Mounta	10.43	342	Pn		Pn	11 01 01.4 +0.2
G18K	Tagagawik	10.52	338	Pn		Pn	11 01 02.1 -0.2
F21K	Alatna River	10.98	351			Pn	11 01 08.0 -0.7
H29M	Whitestone	10.99	23	Pn		Pn	11 01 09.7 +0.9
F20K	Avaraart Lake	11.06	346			Pn	11 01 08.5 -1.2
F24K	Squaw Lake	11.08	2			Pn	11 01 10.3 +0.2
BMAR	Burnt Mountain	11.17	9	Pn		Pn	11 01 11.8 +0.5
F17K	Baldwin Pennin	11.55	335	Pn		Pn	11 01 17.4 +0.9
E24K	Your Creek	11.63	1	Pn		Pn	11 01 19.9 +2.2
TOLK	Toolik Lake Re	12.20	359	Pn		Pn	11 01 28.3 +3.0
E21K	Killik River	12.21	351			Pn	11 01 26.6 +1.1
D23K	Nanushuk River	12.55	357	Pn		Pn	11 01 30.5 +0.5
C18K	Utukok River	13.40	340	Pn		Pn	11 01 41.4 -0.3
C23K	Itkillik River	13.42	358	Pn		Pn	11 01 43.6 +1.7
INK	Inuvik	13.79	25	Pn		Pn	11 01 49.3 +2.4
INK	Inuvik	13.79	25	Pn		Pn	11 01 49.1 +2.2
	comp=N,0.2nm,0.3s,baz=212,slow=14,SNR=15						
	comp=N,6.4nm,1.0s						
B22K	Teshekpuk Lake	14.04	354			Pn	11 01 50.8 +0.5
C36M	Paulatuk	16.98	31	P		Pn	11 02 28.1 -0.5
C36M				IAmb		IAmb	11 02 33.3
	comp=Z,30nm,1.4s						
YKA	Yellowknife Ar	18.28	57	P		P	11 02 42.3 -2.4
YKA	Yellowknife Ar	18.28	57	P		Pn	11 02 45.3 +0.6
	comp=Z,0.1nm,0.3s,baz=267,slow=19,SNR=4.0						
	comp=Z,1.0nm,0.7s						
A36M	Sachs Harbour	18.42	23	P		P	11 02 45.4 -0.7
A36M				IAmb		IAmb	11 03 03.9
	comp=Z,19nm,1.0s						
SHEM	Shemya Is, Ala	21.54	276	P		P	11 03 20.2 0.0
	comp=Z,99nm,1.1s,baz=122,slow=15,SNR=2.0						
NVAR	Mina Array Bea	27.16	119	P		P	11 04 14.1 -0.3
	comp=Z,0.5nm,0.8s,baz=294,slow=4.7,SNR=2.7						
	comp=Z,0.5nm,0.8s						
PDAR	Pinedale Array	28.54	102	P		P	11 04 27.6 +1.0
	comp=Z,0.1nm,0.5s,baz=354,slow=4.3,SNR=3.6						
	comp=Z,0.1nm,0.5s						
PETK	Petropavlovsk-	30.28	286	P		P	11 04 42.7 +1.0
	comp=Z,6.8nm,1.0s,baz=57,slow=12,SNR=2.4						
	comp=Z,6.8nm,1.0s						
MA2	Magadan	31.10	301	LR		LR	11 17 47.7
	comp=Z,184nm,19.1s,baz=0.0,slow=37						
SPMN	Marine on St.	36.20	84	P		P	11 05 27.8 -5.5
TXAR	Lajitas Array	41.74	111	P		P	11 06 22.4 +2.5
	comp=Z,0.4nm,1.1s,baz=320,slow=8.2,SNR=2.3						
	comp=Z,0.4nm,1.1s						
H11N2	WAKE ISLAND Hy	49.14	240	T		T	12 00 12.5
	baz=30,slow=76,SNR=9.0						
H11N3	WAKE ISLAND Hy	49.14	240	T		T	12 00 14.2
	baz=30,slow=76,SNR=11						
H11N1	WAKE ISLAND Hy	49.15	240	T		T	12 00 17.1
	baz=30,slow=76,SNR=7.4						
H11S1	WAKE ISLAND Hy	50.28	240	T		T	12 01 43.1
	baz=30,slow=76,SNR=7.9						
H11S2	WAKE ISLAND Hy	50.29	240	T		T	12 01 42.6
	baz=30,slow=76,SNR=7.8						
H11S3	WAKE ISLAND Hy	50.30	240	T		T	12 01 47.7
	baz=30,slow=76,SNR=7.4						
SONM	Songino Array	58.64	310	P		P	11 08 29.9 +2.2
	comp=Z,1.2nm,0.8s,baz=64,slow=3.9,SNR=5.3						
	comp=Z,1.2nm,0.8s						
ZALV	Zalesovo Beam	61.48	327	P		P	11 08 48.7 +1.8
	comp=Z,0.5nm,0.5s,baz=3.8,slow=4.3,SNR=1.7						
	comp=Z,0.5nm,0.5s						
HHC	Hu-ho-hao-te	61.78	302	eP		P	11 08 48.3 -0.9
HHC				pmax		pmax	
	comp=Z,14nm,0.6s						
HHC				pmax		pmax	
	comp=Z,170nm,4.6s						
FINES	FINESS Array B	62.34	3	P		P	11 08 55.4 +2.9
	comp=Z,3.5nm,1.0s,baz=353,slow=8.4,SNR=2.4						
	comp=Z,3.5nm,1.0s						
BVAR	Borovoye Array	66.17	335	P		P	11 09 19.9 +2.2
	comp=Z,0.4nm,0.5s,baz=321,slow=3.7,SNR=2.0						
	comp=Z,0.4nm,0.5s						
KURBB	Kurchatov Arra	66.25	329	P		P	11 09 19.8 +1.5
	comp=Z,0.3nm,0.5s,baz=26,slow=5.3,SNR=2.3						
	comp=Z,0.3nm,0.5s						
MKAR	Makanchi Array	68.53	325	P		P	11 09 33.9 +1.1
	comp=Z,0.3nm,0.6s,baz=19,slow=4.9,SNR=2.4						
	comp=Z,0.3nm,0.6s						
ROSC	El Rosal	77.52	100	LR		LR	11 50 21.4
	comp=Z,188nm,18.2s,baz=40,slow=40						
PZH	PanZhiHua	78.16	300	P		P	11 10 28.5 -1.5
PZH				pmax		pmax	
	comp=Z,10.0nm,1.0s						
PZH				pmax		pmax	
	comp=Z,130nm,5.1s						

IDC 28 11:06:17.4±3.6, 5°62S×129°03E, h316km±34km, mb3.2/1, mbtmp3.8/4, Error ellipse: s-maj=51.9km s-min=13.3km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	Baumata	7.00	229	P		Pn	11 07 58.8	-0.4
	63nm,0.4s,baz=0.4,slow=14,SNR=7.8							
BATI				S		S	11 09 14.6	-6.9
	11nm,0.3s,baz=143,slow=9.9,SNR=1.4							
FITZ	Fitzroy Crossi	12.84	195	P		Pn	11 09 09.0	-0.8
	1.8nm,0.4s,baz=16,slow=10,SNR=14							
FITZ				S		S	11 11 31.4	-0.4
	2.4nm,0.9s,baz=279,slow=18,SNR=1.8							
WRA	Warramunga Arr	15.15	161	P		P	11 09 35.5	+0.1
	0.7nm,0.3s,baz=341,slow=12,SNR=28							
WRA				S		S	11 12 15.8	-3.9
	0.8nm,0.5s,baz=338,slow=22,SNR=5.2							
ASAR	Alice Springs	18.55	166	P		P	11 10 13.1	+0.9
	0.7nm,0.4s,baz=347,slow=11,SNR=20							
ASAR				S		S	11 13 27.6	+0.6
	1.4nm,0.9s,baz=350,slow=20,SNR=8.3							
MKAR	Makanchi Array	66.55	327	P		P	11 16 34.1	0.0
	0.6nm,0.5s,baz=111,slow=8.0,SNR=10							
	0.6nm,0.5s							

IDC 28 11:10:04.5±8.2, 16°00S×72°31W, h132km±55km, mb3.6/3, mbtmp4.0/4, Error ellipse: s-maj=82.2km s-min=31.4km az=127.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.03	95	P		Pn	11 11 04.6	-0.7
	18nm,0.4s,baz=307,slow=9.4,SNR=47							
LPAZ				S		Sn	11 11 53.1	+0.8
	14nm,0.6s,baz=190,slow=

JFY **Yanaizu** 1.47 311 ⇓P Pn 11 15 18.9 -1.0
JFY **Yanaizu** 1.47 311 A A 11 15 18.9
comp=E,6.0nm,0.6s,comp=N,6.0nm,0.8s
JKUC **kamogawauchiur** 1.48 210 A A 11 15 18.9
comp=E,11nm,3.2s,comp=N,13nm,2.3s
JKT **Katashina** 1.52 283 ⇓P Pn 11 15 19.6 -1.1
JKT ⇓S Sn 11 15 37.6 -1.8
JKT **Katashina** 1.52 283 A A 11 15 19.6
comp=E,17nm,0.5s,comp=N,22nm,0.5s
JYAR **Yonezawaarcadi** 1.65 333 A A 11 15 21.5
comp=E,22nm,0.9s,comp=N,18nm,1.2s
JYO **Yokosk** 1.69 224 A A 11 15 21.7
comp=E,15nm,1.2s,comp=N,10.0nm,3.9s
TATJ **Tateyama 2** 1.72 215 A A 11 15 22.3
comp=E,15nm,2.2s,comp=N,16nm,2.6s
JUON **Uonuma** 1.81 296 A A 11 15 23.3
comp=E,5.0nm,1.4s,comp=N,4.0nm,0.9s
JOU **Okura** 1.95 350 A A 11 15 26.1
comp=E,10.0nm,1.0s,comp=N,12nm,1.6s
JYS **Shirataka** 1.96 335 A A 11 15 26.0
comp=E,13nm,0.8s,comp=N,11nm,1.2s
JGK **Kuni** 1.99 274 A A 11 15 25.7
comp=E,9.0nm,0.5s,comp=N,6.0nm,1.5s
JOD2 **Odawara 2** 2.02 235 A A 11 15 26.3
comp=E,5.0nm,1.5s,comp=N,5.0nm,3.2s
JOFO **Osakifurukawao** 2.16 356 A A 11 15 29.2
comp=E,22nm,2.1s,comp=N,22nm,2.0s
JIM2 **Oshima 3** 2.20 219 A A 11 15 29.0
comp=E,7.0nm,1.4s,comp=N,7.0nm,1.2s
MJAR **Matsushiro Arr** 2.33 273 P Pn 11 15 31.6 -0.1
comp=N,244nm,0.6s,baz=92,slow=9.4,SNR=1101
MJAR S Sn 11 16 00.7 +1.5
comp=N,213nm,0.6s,baz=269,slow=26,SNR=2.5
MJAR LR LR 11 16 42.1
comp=N,784nm,20.8s,baz=93,slow=47
MAJO **Matsushiro** 2.33 273 Pn Pn 11 15 31.6 -0.1
MAJO **Matsushiro** 2.33 273 P Pn 11 15 31.8 +0.1
MAJO **Matsushiro** 2.33 273 *i* P Pn 11 15 31.6 -0.1
MJB9 **Matsu-Tunnel** 2.34 273 Pn Pn 11 15 31.4 -0.3
JYA **Atsumi** 2.41 333 A A 11 15 32.4
comp=E,12nm,0.7s,comp=N,16nm,1.0s
JNG **Nsakai** 2.42 270 A A 11 15 31.9
comp=E,2.0nm,1.0s,comp=N,3.0nm,1.2s
JJN **Nakama** 2.45 286 A A 11 15 32.4
comp=E,7.0nm,1.1s,comp=N,6.0nm,2.9s
JNT **Takato** 2.46 258 A A 11 15 32.6
comp=E,4.0nm,2.8s,comp=N,4.0nm,1.4s
SHZ3 **Shizuoka 3** 2.72 241 A A 11 15 36.3
comp=E,5.0nm,0.6s,comp=N,6.0nm,0.6s
JSD **Sado** 2.77 306 Pn Pn 11 15 36.9 -0.7
JSD **Sado** 2.77 306 P Pn 11 15 36.9 -0.7
JNY **Yasuok** 2.84 249 A A 11 15 38.0
comp=E,4.0nm,1.8s,comp=N,9.0nm,1.6s
JSG **Sagara** 2.96 234 Pn Pn 11 15 41.8 +1.5
JSG **Sagara** 2.96 234 P Pn 11 15 42.4 +2.1
JGF **Kuroka** 3.15 256 Pn Pn 11 15 44.1 +1.2
JGF **Kuroka** 3.15 256 P Pn 11 15 43.9 +1.0
JGF **Kuroka** 3.15 256 A A 11 15 42.3
comp=E,4.0nm,2.2s,comp=N,2.0nm,2.3s
JHJ2 **Mitsune** 3.49 198 Pn Pn 11 15 48.5 +0.9
JHJ2 **Mitsune** 3.49 198 P Pn 11 15 48.7 +1.1
JKEN **Kujiedanarisaw** 3.79 7 A A 11 15 52.4
comp=E,9.0nm,0.9s,comp=N,8.0nm,0.9s
JTM **Tenmabayashi** 4.34 360 Pn Pn 11 15 60.0 +0.8
JTM **Tenmabayashi** 4.34 360 P Pn 11 15 59.8 +0.6
ERM **Erimo** 5.79 15 Pn Pn 11 16 19.0 0.0
ERM **Erimo** 5.79 15 P Pn 11 16 19.1 0.0
ERM **Erimo** 5.79 15 P Pn 11 16 19.0 0.0
JMN **Monobe** 6.51 248 Pn Pn 11 16 30.1 +1.0
JMN **Monobe** 6.51 248 P Pn 11 16 30.3 +1.2
ASAJ **Asahikawa** 7.75 8 P Pn 11 16 44.5 -1.4
comp=N,9.5nm,0.3s,baz=232,slow=11,SNR=29
ASAJ S Sn 11 18 09.9 -2.4
comp=N,25nm,0.9s,baz=241,slow=33,SNR=1.4
ASAJ LR LR 11 20 06.0
comp=N,203nm,20.6s,baz=167,slow=39
JKA **Kamikawa-asahi** 7.75 8 Pn Pn 11 16 44.4 -1.5
NMR **Nemuro--Hokkai** 7.78 26 ⇓*i* P Pn 11 16 43.2 -3.1
RUSJ **Misakicho** 8.28 21 *e* P Pn 11 16 52.5 -0.7
RUSJ *i* S Sn 11 18 23.0 -2.3
YUK **Yuzh-Kuril'sk** 8.41 24 P Pn 11 16 52.5 -2.5
YUK *e* S Sn 11 18 23.1 -5.4
YUK pmax pmax
comp=N,122nm,0.2s
YUK pmax pmax
comp=E,15nm,0.2s
YUK pmax pmax
comp=Z,45nm,0.2s
SHO **Shikotan** 8.61 29 *e* P Pn 11 16 54.2 -3.6
SHO pmax pmax
comp=Z,13nm,0.5s
SHO pmax pmax
comp=N,18nm,0.6s
SHO pmax pmax
comp=E,27nm,0.6s
JNU **Nakatsue** 9.04 251 Pn Pn 11 17 04.2 +0.5
JNU **Nakatsue** 9.04 251 P Pn 11 17 05.8 +2.2
comp=E,24nm,0.9s,baz=73,slow=4.3,SNR=8.7
JNU LR LR 11 20 45.5
comp=E,271nm,19.2s,baz=48,slow=39
JNU **Nakatsue** 9.04 251 P Pn 11 17 05.9 +2.2
TEY **Ternei** 9.23 340 ⇑ *e* P Pn 11 17 11.3 +5.0
TEY pmax pmax
comp=Z,80nm,0.7s
TEY pmax pmax
comp=N,80nm,0.7s
TEY pmax pmax
comp=E,40nm,0.7s
JCJ **Chichijima** 9.37 174 P Pn 11 17 08.4 +0.2
PSTR **Posyet** 10.08 311 *i* P Pn 11 17 19.4 +1.6
USA0B **Ussuriysk Arra** 10.40 321 *i* P Pn 11 17 23.2 +0.9
USRK **Ussuriysk Ar.** 10.40 321 P Pn 11 17 25.0 +2.7
comp=E,61nm,1.0s,baz=136,slow=12,SNR=37
USRK LR LR 11 21 12.8
comp=E,356nm,18.7s,baz=165,slow=36
YSS **Yuzh-Sakhalins** 10.57 6 *e* P Pn 11 17 26.2 +1.6
YSS pmax pmax
comp=Z,30nm,0.7s
KSRS **Korea Array** 10.60 279 P Pn 11 17 28.1 +3.2
comp=Z,12nm,0.6s,baz=96,slow=14,SNR=25
KSRS LR LR 11 21 23.8
comp=Z,277nm,18.9s,baz=90,slow=37
KS19 **Wonju Array Si** 10.64 280 Pn 11 17 23.5 -2.1
MDJ **Mudanjiang** 11.96 317 Pn Pn 11 17 42.2 -1.4
MDJ **Mudanjiang** 11.96 317 P Pn 11 17 47.5 +3.9
MDJ pmax pmax
comp=Z,28nm,1.1s
BNX **BinXian** 13.87 316 ⇓P Pn 11 18 12.5 +2.9
BNX pmax pmax
comp=Z,9.0nm,2.1s
KLR **Kul'dur** 14.49 335 P P 11 18 21.8 -1.8
comp=Z,8.8nm,0.7s,baz=137,slow=14,SNR=21
JOW **Kunigami** 14.52 232 LR LR 11 23 56.1
comp=Z,120nm,18.7s,baz=290,slow=37
DL2 **Dalian** 15.61 285 P P 11 18 35.0 -1.3
DL2 S Sn 11 21 30.0 +5.4
DL2 pmax pmax
comp=Z,47nm,1.3s
DL2 pmax pmax
comp=Z,530nm,6.5s
DL2 LR LR
comp=Z,570nm,16.3s
DL2 LR LR
comp=Z,610nm,18.8s
DL2 LR LR
comp=Z,460nm,17.5s
HEH **HeiHe** 16.98 329 *e* P P 11 18 51.5 +0.2
NJ2 **Nanjing** 18.90 263 *e* P P 11 19 12.3 -0.2
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
TIA **Tai'an** 19.31 276 P P 11 19 15.0 -2.1
TIA pmax pmax
comp=Z,13nm,0.7s
ZEA **Zeya** 19.80 335 *e* P P 11 19 20.0 -2.3
ZEA pmax pmax
comp=Z,10.0nm,0.7s
BJI **Beijing** 19.89 288 P P 11 19 20.8 -2.5
BJI pmax pmax
comp=Z,6.0nm,0.6s
BJT **Baijiatuau** 19.89 288 P P 11 19 22.0 -1.4
BJT **Baijiatuau** 19.89 288 P P 11 19 22.0 -1.4
BJT pmax pmax
comp=Z,10.0nm,0.5s
PETK **Petropavlovsk-** 20.32 30 P P 11 19 28.2 +0.2
PETK **Petropavlovsk-** 20.32 30 P Pn 11 19 30.6 +0.4
comp=Z,4.5nm,0.9s,baz=222,slow=6.0,SNR=4.3
comp=Z,4.5nm,0.9s
XLT **XiLinHaoTe** 20.47 299 *e* P P 11 19 29.5 -0.2
XLT pmax pmax
comp=Z,32nm,0.8s
HNS **HongShan** 21.10 281 ⇑P P 11 19 33.8 -2.7
HNS pmax pmax
comp=Z,17nm,0.7s
YULB **Yu-li** 21.48 238 P P 11 19 38.5 -2.2
TPUB **Ta-pu** 22.00 239 P P 11 19 43.0 -3.3
TPUB IAmb IAmb 11 19 51.9
comp=Z,24nm,1.0s
WHN **Wuhan** 23.03 263 ⇓P P 11 19 55.8 -1.3
LYN **LuoYang** 23.36 274 P P 11 19 57.0 -3.2
LYN pmax pmax
comp=Z,17nm,0.7s
HHC **Hu-ho-hao-te** 23.43 290 *e* P P 11 19 59.5 -1.5
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,170nm,4.7s
MA2 **Magadan** 23.98 12 P P 11 20 05.2 -0.7
MA2 IAmb IAmb 11 20 11.4
comp=Z,39nm,1.0s
MA2 **Magadan** 23.98 12 LR LR 11 29 12.8
comp=Z,130nm,19.1s,baz=316,slow=36
MA2 **Magadan** 23.98 12 P P 11 20 05.2 -0.7
MA2 pmax pmax
comp=Z,39nm,1.0s
BTO **Baotou** 24.60 289 *e* P P 11 20 13.0 +1.2
BTO pP pP 11 20 25.3 +1.6
BTO sP sP 11 20 30.5 +1.5
BTO PP PnPn 11 20 43.0 -1.7
BTO S S 11 24 32.0 +2.1
BTO SS SnSn 11 25 23.3 +5.2
BTO pmax pmax
comp=Z,25nm,0.5s
BTO pmax pmax
comp=Z,410nm,5.2s
BTO LR LR
comp=Z,470nm,5.0s
BTO LR LR
comp=Z,460nm,5.6s
BTO LR LR
comp=Z,270nm,5.2s
XAN **Xi'an** 26.33 274 P P 11 20 27.5 0.0
XAN pmax pmax
comp=Z,11nm,0.5s
YAK **Yakutsk** 26.59 348 LR LR 11 31 12.5
comp=Z,175nm,18.5s,baz=158,slow=37
YAK **Yakutsk** 26.59 348 *ce* P P 11 20 28.2 -1.3
YAK pmax pmax
comp=Z,30nm,1.3s
ENH **Enshi** 27.04 266 P P 11 20 32.3 -1.6
ENH IAmb IAmb 11 20 34.2
comp=Z,30nm,1.0s
ULN **Ulaanbaatar** 27.48 305 P P 11 20 36.7 -1.2
ULN IAmb IAmb 11 20 41.8
comp=Z,12nm,0.8s
ULN **Ulaanbaatar** 27.48 305 *ce* P P 11 20 38.9 +1.0
ULN pmax pmax
comp=Z,16nm,1.0s
SONM **Songino Array** 27.91 305 P P 11 20 41.1 -0.6
SONM IAmb IAmb 11 20 45.3
comp=Z,15nm,0.7s
SONM **Songino Array** 27.91 305 P P 11 20 41.0 -0.6
comp=Z,14nm,0.7s,baz=109,slow=9.0,SNR=40
SONM LR LR 11 32 47.3
comp=Z,96nm,18.7s,baz=42,slow=38
comp=Z,14nm,0.7s
H11N2 **WAKE ISLAND Hy** 28.07 119 T T 11 50 08.0
baz=312,slow=75,SNR=225
H11N1 **WAKE ISLAND Hy** 28.08 119 T T 11 50 08.0
baz=312,slow=75,SNR=192
H11N3 **WAKE ISLAND Hy** 28.09 119 T T 11 50 09.7
baz=312,slow=75,SNR=162
H11S1 **WAKE ISLAND Hy** 28.76 122 T T 11 51 00.6
baz=314
H11S3 **WAKE ISLAND Hy** 28.76 122 T T 11 50 56.0
baz=314,slow=74
H11S2 **WAKE ISLAND Hy** 28.77 122 T T 11 50 55.9
baz=314,slow=74
LZH **Lanzhou** 29.92 281 *e* P P 11 20 54.5 -5.2
LZH pmax pmax
comp=Z,12nm,1.0s
GYA **Guiyang** 30.88 261 P P 11 21 06.3 -1.9
GYA pmax pmax
comp=Z,15nm,1.0s
GTA **Gaotai** 32.50 288 *e* P P 11 21 22.0 -0.3
GTA PcP PcP 11 24 09.0 +0.6
GTA pmax pmax
comp=Z,3.0nm,0.9s
BILL **Bilibino** 34.66 16 *i* P P 11 21 43.5 +2.9
BILL pmax pmax
comp=Z,3.0nm,1.0s
PZH **PanZhiHua** 34.80 265 P P 11 21 43.5 +1.1
PZH pmax pmax
comp=Z,9.0nm,0.7s
PZH pmax pmax
comp=Z,110nm,4.7s
TIXI **Tiksi** 35.84 353 P P 11 21 50.3 -0.4
TIXI **Tiksi** 35.84 353 *ce* P P 11 21 51.1 +0.4
TIXI pmax pmax
comp=Z,4.0nm,0.8s
DLV **Lat** 38.16 239 P P 11 22 11.5 +0.3
DLV IAmb IAmb 11 22 14.8
comp=Z,12nm,0.9s
JAY **Jayapura** 38.76 181 LR LR 11 36 07.6
comp=Z,58nm,19.0s,baz=45,slow=33
FAKI **Fak Fak** 40.02 194 P P 11 22 26.6 +0.1
FAKI IAmb IAmb 11 22 42.7
comp=Z,11nm,0.8s
PHRA **Phrae** 40.08 255 P P 11 22 27.1 +0.1
CMAR **Chiang Mai Arr** 41.11 256 P P 11 22 34.9 -0.6
comp=Z,0.7nm,0.3s,baz=44,slow=8.2,SNR=8.8
CMAR PcP PcP 11 24 35.0 +0.5
comp=Z,0.6nm,0.3s,baz=23,slow=2.9,SNR=4.3
comp=Z,0.7nm,0.3s
ZAA0 **Zalesovo Array** 42.13 313 P P 11 22 43.4 -0.1
ZAA0 IAmb IAmb 11 22 44.1
comp=Z,8.4nm,0.8s
ZALV **Zalesovo Beam** 42.13 313 P P 11 22 43.3 -0.2
ZALV **Zalesovo Beam** 42.13 313 P P 11 22 43.1 -0.3
comp=Z,8.5nm,0.6s,baz=89,slow=6.5,SNR=32
ZALV PcP PcP 11 24 36.3 -1.0
comp=Z,1.2nm,0.6s,baz=142,slow=1.4,SNR=2.4
ZALV LR LR 11 41 18.9
comp=Z,89nm,18.6s,baz=10.0,slow=38
comp=Z,8.5nm,0.6s
MKAR **Makanchi Array** 44.22 303 P P 11 23 00.1 -0.4
comp=Z,3.6nm,0.7s,baz=87,slow=8.9,SNR=22
MKAR LR LR 11 42 06.8
comp=Z,90nm,18.0s,baz=339,slow=37
comp=Z,3.6nm,0.7s
L16K **Owhat River** 44.32 36 P P 11 23 02.6 +1.6
KAPI **Kappang** 45.83 210 P P 11 23 13.6 +0.1
KAPI IAmb IAmb 11 23 15.5
comp=Z,9.7nm,0.7s
KAPI **Kappang** 45.83 210 P P 11 23 13.6 +0.1
KAPI pmax pmax
comp=Z,10.0nm,0.7s
KURK **Kurchatov** 46.10 309 P P 11 23 14.6 -0.7
KURK **Kurchatov** 46.10 309 P P 11 23 15.1 -0.2
KURBB **Kurchatov Arra** 46.17 308 P P 11 23 15.1 -0.8
comp=Z,12nm,0.5s,baz=84,slow=7.7,SNR=151
comp=Z,12nm,0.5s
ACHA **Angle Creek He** 46.23 41 P P 11 23 16.9 +0.6
Q19K **Cape Douglas,** 47.10 40 P P 11 23 23.9 +0.9
IMAR **Indian Mountai** 47.29 30 P P 11 23 25.6 +1.3
B21K **Ikpikpuk River** 47.43 25 P P 11 23 27.7 +2.3
B21K IAmb IAmb 11 23 43.8
comp=Z,7.8nm,0.9s
KDAK **Kodiak Island** 47.70 42 P P 11 23 28.7 +1.0
KDAK **Kodiak Island** 47.70 42 P P 11 23 28.7 +1.0
KDAK pmax pmax
comp=Z,3.0nm,0.7s
E22K **Anaktuvuk Pass** 48.24 28 P P 11 23 33.5 +1.7
E22K IAmb IAmb 11 23 47.6
comp=Z,4.9nm,0.8s
KULM **Kulim** 48.30 240 P P 11 23 33.1 +0.2
KULM IAmb IAmb 11 23 46.6
comp=Z,8.9nm,1.0s
IPM **Ipoh** 48.62 239 P P 11 23 34.6 -0.8
KDJ **Kajisay** 48.78 297 P P 11 23 36.2 -0.3
KDJ IAmb IAmb 11 23 42.0
comp=Z,4.7nm,0.7s
KDJ **Kajisay** 48.78 297 P P 11 23 36.2 -0.3
KDJ pmax pmax
comp=Z,5.0nm,0.7s
NEA2 **Nenana** 49.19 32 IAmb IAmb 11 23 41.8
comp=Z,11nm,1.2s
PMR **Palmer** 49.25 36 P P 11 23 40.5 +1.0
PMR IAmb IAmb 11 23 49.9
comp=Z,6.5nm,1.0s
PMR **Palmer** 49.25 36 P P 11 23 40.5 +1.0
PMR pmax pmax
comp=Z,7.0nm,1.0s
NRN **Naryn** 49.82 297 IAmb IAmb 11 23 50.2
comp=Z,4.8nm,0.6s
HDA **Harding Lake** 50.11 33 IAmb IAmb 11 23 47.6
comp=Z,5.2nm,0.8s
IL31 **50.13 32** IAmb IAmb 11 23 47.8
comp=Z,6.8nm,0.8s
ILAR **Eielson Array** 50.13 32 P P 11 23 47.0 +0.9
comp=Z,4.3nm,0.8s,baz=267,slow=5.7,SNR=46
comp=Z,4.3nm,0.8s
KSH **Kashi** 50.42 294 P P 11 23 52.8 +3.9
KSH pmax pmax
comp=Z,8.0nm,0.7s
AAK **Ala-Archa** 50.55 299 P P 11 23 49.5 -0.5
AAK IAmb IAmb 11 23 55.7
comp=Z,6.4nm,0.6s
AAK **Ala-Archa** 50.55 299 LR LR 11 46 07.1
comp=Z,163nm,19.3s,baz=36,slow=37
AAK **Ala-Archa** 50.55 299 *ce* P P 11 23 50.0 +0.1
AAK pmax pmax
comp=Z,6.0nm,0.8s
PRP **Porcupine Dome** 50.67 31 P P 11 23 51.5 +1.1
BVAR **Borovoye Array** 50.78 313 P P 11 23 50.8 -0.5
comp=Z,3.0nm,0.5s,baz=75,slow=6.9,SNR=11
comp=Z,3.0nm,0.5s
BRVK **Borovoye** 50.84 313 P P 11 23 50.6 -1.1
BRVK IAmb IAmb 11 23 52.6
comp=Z,5.7nm,0.7s
BRVK **Borovoye** 50.84 313 *ce* P P 11 23 50.8 -0.9
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BMAR **Burnt Mountain** 50.97 29 P P 11 23 54.5 +1.9
F26K **Sheenjek River** 51.13 28 IAmb IAmb 11 23 57.3
comp=Z,5.4nm,0.9s
RPSI **Rantau Prapat** 51.35 239 IAmb IAmb 11 23 55.7
comp=Z,11nm,0.8s
SCRK **Sand Creek** 51.44 33 P P 11 23 57.3 +1.0
SCRK IAmb IAmb 11 23 57.9
comp=Z,6.0nm,0.9s
L26K **Log Cabin Wild** 51.82 34 IAmb IAmb 11 24 01.8
comp=Z,5.5nm,0.8s
I28M **Miner Creek** 53.00 31 IAmb IAmb 11 24 10.5
comp=Z,5.9nm,0.7s
KKAR **Karatay Array** 53.20 300 P P 11 24 08.6 -0.9
KKAR **Karatay Array** 53.20 300 IAmb IAmb 11 24 10.5
comp=Z,3.7nm,0.9s
KKAR **Karatay Array** 53.20 300 P P 11 24 08.6 -0.9
GSI **Gunungsitoli** 53.28 239 P P 11 24 09.6 -0.7
E29M **Blow River** 53.41 27 IAmb IAmb 11 24 13.8
comp=Z,6.5nm,1.1s
G30M **tAoh Zrail Nji** 54.25 29 IAmb IAmb 11 24 21.4
comp=Z,7.6nm,1.0s
INK **Inuvik** 55.02 27 IAmb IAmb 11 24 24.3
comp=Z,5.8nm,0.8s
SIMJ **Simiganj** 55.80 296 P P 11 24 28.1 -0.4
WB0 **Warramunga Arr** 56.27 188 P P 11 24 30.8 -1.0
WRAB **Tennant Creek** 56.43 188 P P 11 24 32.1 -0.8
WRAB IAmb IAmb 11 24 33.0
comp=Z,9.4nm,0.8s
WRAB **Tennant Creek** 56.43 188 *i* P P 11 24 32.7 -0.3
WRAB pmax pmax
comp=Z,7.0nm,0.9s
WR0 **Warramunga Arr** 56.44 187 P P 11 24 31.8 -1.2
WR0 IAmb IAmb 11 24 33.0
comp=Z,8.6nm,0.8s
WB2 **Warramunga Arr** 56.44 188 P P 11 24 31.9 -1.1
WRA **Warramunga Arr** 56.44 188 P P 11 24 32.1 -1.0
WRA **Warramunga Arr** 56.44 188 P P 11 24 32.1 -1.0
comp=Z,8.3nm,0.7s,baz=4.9,slow=7.4,SNR=95
WRA PcP PcP 11 25 29.7 +0.1
comp=Z,1.9nm,0.6s,baz=3.5,slow=3.9,SNR=4.7
comp=Z,8.3nm,0.7s
ARTI **Arti** 56.74 319 P P 11 24 33.9 -1.0
ARTI **Arti** 56.74 319 *c i* P P 11 24 34.1 -0.7
ARTI S S 11 32 23.7 -0.5
ARTI pmax pmax
comp=Z,16nm,0.8s
A36M **Sachs Harbour** 56.90 22 P P 11 24 36.4 +0.7
A36M IAmb IAmb 11 24 38.1
comp=Z,7.5nm,0.8s
KBL **Kabul** 57.39 291 P P 11 24 38.7 -1.3
KBL IAmb IAmb 11 24 40.5
comp=Z,3.5nm,0.8s
KBL **Kabul** 57.39 291 P P 11 24 38.7 -1.3
KBL pmax pmax
comp=Z,4.0nm,0.8s
C36M **Paulatuk** 58.07 25 IAmb IAmb 11 24 45.7
comp=Z,7.3nm,0.8s
ABKAR **Akbulak array** 58.13 310 P P 11 24 43.7 -0.9
U35K **Hyder** 60.15 40 P P 11 24 59.9 +1.4
AS31 **Alice Springs** 60.17 188 P P 11 24 59.2 +0.1
ASAR **Alice Springs** 60.17 188 P P 11 24 58.5 -0.5
ASAR **Alice Springs** 60.17 188 P P 11 24 58.6 -0.4
comp=Z,3.8nm,0.7s,baz=15,slow=6.8,SNR=55
comp=Z,3.8nm,0.7s
KIRV **Kirov** 60.57 323 *ce* P P 11 25 00.8 -0.5
RES **Resolute Bay** 63.23 14 P P 11 25 19.4 +0.4
RES IAmb IAmb 11 25 20.5
comp=Z,8.0nm,1.1s
RES **Resolute Bay** 63.23 14 P P 11 25 19.4 +0.4
RES pmax pmax
comp=Z,8.0nm,1.2s
YKA **Yellowknife Ar** 64.44 30 P P 11 25 27.4 +0.3
comp=Z,1.7nm,0.8s,baz=298,slow=7.3,SNR=5.1
comp=Z,1.7nm,0.8s
ARCES **ARCESS Array B** 64.46 339 P P 11 25 26.9 -0.3
comp=Z,4.2nm,1.0s,baz=77,slow=5.4,SNR=4.0
ARCES LR LR 11 56 51.0
comp=Z,58nm,18.9s,baz=71,slow=39
comp=Z,4.2nm,1.0s
STKA **Stephens Creek** 67.97 180 P P 11 25 49.6 -0.3
comp=Z,5.4nm,0.8s,baz=338,slow=9.7,SNR=10
STKA LR LR 11 54 51.7
comp=Z,34nm,21.2s,baz=23,slow=35
comp=Z,5.4nm,0.8s
FORT **Forrest** 67.98 192 P P 11 25 50.2 +0.1
OBN **Obninsk** 68.42 323 *i* P P 11 25 50.0 -2.6
OBN *i* 11 26 17.5
OBN pmax pmax
comp=Z,5.0nm,0.9s
FINES **FINESS Array B** 69.22 332 P P 11 25 57.1 -0.4
comp=Z,3.3nm,0.8s,baz=86,slow=8.0,SNR=5.8
comp=Z,3.3nm,0.8s
AKT **Akhty** 69.23 307 *e* P P 11 25 56.1 -2.0
AKT *e* 11 26 19.5
AKT *e* 11 28 30.7
AKT pmax pmax
comp=Z,13nm,0.8s
KBZ **Khabaz** 71.09 311 P P 11 26 09.1 -0.2
comp=Z,3.8nm,0.9s,baz=69,slow=1.5,SNR=6.7
comp=Z,3.8nm,0.9s
KBZ **Khabaz** 71.09 311 *ce* P P 11 26 09.2 -0.1
KIV **Kislovodsk** 71.10 311 *e* P P 11 26 10.0 +0.5
KIV pmax pmax
comp=Z,11nm,1.1s
SHA1 **Shidzhatmaz** 71.24 311 *i* P P 11 26 09.6 -0.9
GNI **Garni** 71.86 307 LR LR 12 00 02.7
comp=Z,49nm,18.7s,baz=52,slow=38
HFS **Hagfors** 74.52 336 P P 11 26 28.4 -1.0
comp=Z,2.6nm,0.9s,baz=38,slow=7.3,SNR=2.3
HFS LR LR 12 01 16.2
comp=Z,95nm,18.9s,baz=68,slow=37
comp=Z,2.6nm,0.9s
AKASG **Malin Array Be** 74.61 322 P P 11 26 29.4 -0.6
comp=Z,2.0nm,0.6s,baz=47,slow=6.1,SNR=16
AKASG LR LR 12 01 09.3
comp=Z,88nm,18.9s,baz=52,slow=37
comp=Z,2.0nm,0.6s
AKBB **Malin Array Si** 74.61 322 *i* P P 11 26 29.6 -0.4
AKBB pmax pmax
comp=Z,4.0nm,0.9s
NB2 **NORSAR Subarra** 74.63 337 P P 11 26 29.6 -0.5
comp=Z,1.3nm,0.7s,baz=40,slow=6.2
NOA **NORSAR Array B** 74.63 337 P P 11 26 30.0 -0.1
comp=Z,1.9nm,0.7s,baz=39,slow=5.8,SNR=6.1
NOA LR LR 12 02 24.6
comp=Z,82nm,19.6s,baz=35,slow=38
comp=Z,1.9nm,0.7s

NOA	**NORSAR Array B**	**74.63**	**337**	P	**P**	**11 26 30.0**	**-0.1**
FCC	**Fort Churchill**	**74.64**	**26**	P	**P**	**11 26 30.7**	**+0.6**
FCC	**Fort Churchill**	**74.64**	**26**	P	**P**	**11 26 30.7**	**+0.6**
FCC				pmax	pmax		
	comp=Z,2.0nm,1.1s						
DLMT	**Dillon**	**74.94**	**44**	IAmb	IAmb	11 26 34.3	
	comp=Z,6.4nm,0.7s						
NVAR	**Mina Array Bea**	**75.54**	**53**	P	**P**	**11 26 37.2**	**+1.2**
	comp=Z,2.2nm,0.7s,baz=293,slow=5.5,SNR=22						
	comp=Z,2.2nm,0.7s						
PD31	**Pinedale Array**	**78.26**	**45**	P	**P**	**11 26 51.6**	**+0.4**
PDAR	**Pinedale Array**	**78.26**	**45**	P	**P**	**11 26 51.9**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=260,slow=2.0,SNR=21						
	comp=Z,1.4nm,0.6s						
BRTR	**Keskin Array B**	**79.05**	**311**	P	**P**	**11 26 55.9**	**+0.3**
	comp=Z,2.8nm,1.1s,baz=31,slow=2.9,SNR=5.7						
	comp=Z,2.8nm,1.1s						
RDMU	**Red Mountain**	**79.64**	**47**	IAmb	IAmb	11 27 00.9	
	comp=Z,7.7nm,0.8s						
SRU	**San Rafael Swe**	**79.99**	**49**	P	**P**	**11 27 01.8**	**+1.1**
SRU				IAmb	IAmb	11 27 02.6	
	comp=Z,6.8nm,0.8s						
SRU	**San Rafael Swe**	**79.99**	**49**	P	**P**	**11 27 01.8**	**+1.1**
SRU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RAYN	**Ar Rayn**	**80.65**	**292**	P	**P**	**11 27 04.1**	**-0.1**
RAYN				IAmb	IAmb	11 27 04.3	
	comp=Z,4.9nm,0.8s						
RAYN	**Ar Rayn**	**80.65**	**292**	P	**P**	**11 27 04.1**	**-0.1**
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CLL	**Collm**	**81.48**	**330**	*i* P	**P**	**11 27 07.7**	**-0.4**
CLL	**Collm**	**81.48**	**330**	*i* P	Pn	11 27 07.7	+2.1
MMAI	**Mount Meron Ar**	**82.10**	**305**	LR	LR	12 07 17.3	
	comp=Z,53nm,18.1s,baz=320,slow=38						
KHC	**Kasperske Hory**	**82.91**	**328**	*ce*P	**P**	**11 27 16.4**	**+0.7**
KHC				pmax	pmax		
	comp=Z,27nm,2.5s						
ANMO	**Albuquerque**	**85.16**	**50**	P	**P**	**11 27 28.4**	**+0.8**
ANMO				IAmb	IAmb	11 27 44.0	
	comp=Z,5.1nm,1.1s						
ANMO	**Albuquerque**	**85.16**	**50**	P	**P**	**11 27 28.4**	**+0.8**
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TX31	**Lajitas Ar. Si**	**90.68**	**52**	IAmb	IAmb	11 27 55.9	
	comp=Z,3.1nm,0.9s						
TXAR	**Lajitas Array**	**90.68**	**52**	P	**P**	**11 27 55.1**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=294,slow=3.5,SNR=18						
	comp=Z,1.6nm,0.8s						
ESDC	**Sonseca Array**	**97.70**	**334**	LR	LR	12 15 41.8	
	comp=Z,64nm,18.1s,baz=314,slow=37						
LPAZ	**La Paz**	**147.21**	**60**	PKPbc	**PKPbc**	**11 34 35.2**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=333,slow=1.9,SNR=5.5						
H03N2	**Juan Fernandez**	**147.21**	**97**	T	T	14 19 43.9	
	baz=291,slow=76,SNR=29						
H03N3	**Juan Fernandez**	**147.22**	**97**	T	T	14 19 45.0	
	baz=291,slow=76,SNR=29						
H03N1	**Juan Fernandez**	**147.22**	**97**	T	T	14 19 45.1	
	baz=291,slow=76,SNR=28						

VIE 28 11:25:50.6±0.7, 46°.34N×12°.75E, h8km±27km, ml1.2/2, 3C-1D, Error ellipse: s-maj=6.2km s-min=2.2km az=42.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLUD	**Cludinico**	**0.15**	**36**	⇑*e*Pg	Pg	11 25 53.6	-0.2
MPRI	**Monte Prat**	**0.19**	**120**	⇑*e*Pg	Pg	11 25 54.3	-0.2
MPRI				*e*Sg	Sg	11 25 57.3	+0.2
FUSE	**Fusea**	**0.19**	**65**	*e*Pg	Pg	11 25 54.5	+0.1
FUSE				*e*Sg	Sg	11 25 57.2	+0.2
CSMI	**Casera Mimoias**	**0.19**	**338**	⇓*e*Pg	Pg	11 25 54.4	-0.1
CSMI				*e*Sg	Sg	11 25 57.6	+0.4
MLNI	**Malnisio**	**0.21**	**208**	⇑*e*Pg	Pg	11 25 54.7	-0.2
MLNI				*e*Sg	Sg	11 25 58.3	+0.6
CIMO	**Cimolais**	**0.22**	**263**	*e*Pg	Pg	11 25 54.7	-0.3
CIMO				*e*Sg	Sg	11 25 57.7	-0.3
BOO	**Bordano**	**0.24**	**94**	*e*Pg	Pg	11 25 55.0	-0.4
BOO				*e*Sg	Sg	11 25 58.8	+0.2
ZOU	**Zoufplan**	**0.27**	**34**	*e*Pg	Pg	11 25 56.0	0.0
ZOU				*e*Sg	Sg	11 26 00.1	+0.5
CSO	**Casso**	**0.30**	**258**	*e*Pg	Pg	11 25 56.5	-0.1
CSO				*e*Sg	Sg	11 26 01.0	+0.3
APGO	**Alpago**	**0.33**	**236**	*e*Pg	Pg	11 25 56.9	-0.1
PLRO	**Paularo**	**0.35**	**52**	*e*Pg	Pg	11 25 57.4	0.0
BAD	**Bernadia**	**0.35**	**106**	*e*Pg	Pg	11 25 57.4	-0.2
BAD				*e*Sg	Sg	11 26 03.2	+1.0
ABTA	**Abfaltersbach**	**0.44**	**338**	*e*Pg	Pg	11 25 59.5	+0.3
	0.2nm,0.1s						
ABTA				*e*Sg	Sg	11 26 05.8	+0.7
	1.0nm,0.1s						
KBA	**Koelnbreinsper**	**0.85**	**28**	*e*Pg	Pb	11 26 07.8	+0.2
	0.1nm,0.1s						
KBA				Sg	Sg	11 26 18.3	+0.4
	0.2nm,0.1s						

VIE 28 11:35:24.0±0.4, 50°.00N×19°.19E, h0km, mb2.8/2, ml2.7/3, Error ellipse: s-maj=6.8km s-min=2.0km az=160.0, Suspected Mining induced.
IPEC 28 11:35:24.2±0.2, 50°.17N×19°.13E, h1km, ML3.0/4, Error ellipse: s-maj=2.5km s-min=1.0km az=167.0
PRU 28 11:35:25.3, 50°.12N×19°.12E, h0km
IDC 28 11:35:26.8±1.0, 50°.23N×18°.87E, h0km, mbtmp3.3/5, ML3.0/5, Error ellipse: s-maj=25.3km s-min=9.0km az=148.0
ISC 28 11:35:24.4±0.7, 50°.07N±0°.03×19°.13E±0°.02, h0km, n47, σ0§89/76, 7C-6D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.46**	**71**	*e*Pg	**Pg**	**11 35 32.6**	**-0.6**
OJC				*e*Sg	**Sg**	**11 35 38.6**	**-0.5**
RAC	**Raciborz**	**0.60**	**271**	*e*PG	**Pb**	**11 35 37.4**	**-0.4**
RAC				*e*SG	**Sb**	**11 35 46.5**	**-0.4**
OKC	**Ostrava-Krasne**	**0.68**	**250**	*e*PG	**Pb**	**11 35 38.8**	**-0.3**
OKC				*e*SG	**Sb**	**11 35 49.1**	**+0.1**
	comp=Z,116nm,0.5s						
NIE	**Niedzica**	**1.00**	**130**	*e*Pg	**Pg**	**11 35 44.0**	**+0.4**
NIE				*e*Sg	**Sb**	**11 35 58.4**	**-0.1**
MORC	**Moravsky Berou**	**1.07**	**255**	*e*Pg	**Pb**	**11 35 45.4**	**-0.3**
	baz=68						
MORC				*e*Sg	**Sg**	**11 35 58.8**	**+0.1**
	269nm,0.8s,baz=68						
MORC	**Moravsky Berou**	**1.07**	**255**	⇑P	**Pb**	**11 35 45.5**	**-0.3**
MORC				⇑S	**Sn**	**11 36 01.4**	**-0.9**
KRLC	**Kraliky**	**1.51**	**271**	*e*PG	**Pn**	**11 35 51.7**	**-1.1**
KRLC				*e*SG	**Sn**	**11 36 13.2**	**0.0**
	comp=Z,125nm,0.5s						
STHS	**Stebnicka Huta**	**1.52**	**115**	*e*PG	**Pn**	**11 35 52.8**	**-0.1**
STHS				*e*SG	**Sg**	**11 36 12.6**	**-0.7**
STHS				*e*LG	Lg	11 36 24.0	
JAVC	**Velka Javorina**	**1.54**	**219**	*e*Pn	**Pb**	**11 35 53.7**	**-0.2**
	baz=36						
VYHS	**Vyhne**	**1.59**	**187**	*e*PG	**Pn**	**11 35 53.8**	**-0.1**
VYHS				*e*SG	**Sg**	**11 36 15.6**	**+0.1**
VRAC	**Vranov**	**1.81**	**246**	Pn	**Pb**	**11 35 58.1**	**-0.4**
	7.5nm,0.3s,baz=57,slow=13,SNR=16						
VRAC				Lg	Lg	11 36 21.7	
	9.5nm,0.3s,baz=328,slow=23,SNR=4.1						
VRAC	**Vranov**	**1.81**	**246**	*e*Pn	**Pn**	**11 35 56.9**	**0.0**
	baz=62						
VRAC				*e*Sg	**Sg**	**11 36 22.3**	**-0.4**
	84nm,0.7s,baz=62						
VRAC	**Vranov**	**1.81**	**246**	⇓P	**Pb**	**11 35 57.8**	**-0.7**
VRAC				⇓S	**Sb**	**11 36 22.1**	**+0.3**
KECS	**Kecovo**	**1.82**	**150**	*e*PN	**Pn**	**11 35 56.8**	**-0.2**
KECS				*e*SN	**Sn**	**11 36 20.1**	**-0.7**
KECS				*e*LG	Lg	11 36 28.7	
DPC	**Dobruska-Polom**	**1.82**	**280**	*e*PG	**Pb**	**11 35 58.5**	**-0.2**
DPC				*e*SG	**Sb**	**11 36 21.7**	**-0.4**
	comp=Z,79nm,0.5s						
OSTC	**Ostas**	**1.93**	**286**	*e*PG	**Pb**	**11 36 00.0**	**-0.5**
OSTC				*e*SG	**Sg**	**11 36 26.5**	**+0.1**
	comp=Z,63nm,0.6s						
KSP	**Ksiaz**	**1.97**	**294**	*e*Pn	**Pn**	**11 35 58.5**	**-0.6**
KSP				*e*Pg	**Pb**	**11 36 01.2**	**0.0**
KSP				*e*Sg	**Sg**	**11 36 27.1**	**-0.5**
CHVC	**Chvalec**	**2.04**	**286**	*e*PG	**Pb**	**11 36 01.9**	**-0.4**
CHVC				*e*SG	**Sb**	**11 36 28.9**	**+0.7**
	comp=Z,53nm,0.5s						
UPC	**Upice**	**2.04**	**284**	*e*PG	**Pg**	**11 36 03.2**	**-0.4**
UPC				*e*SG	**Sg**	**11 36 30.3**	**+0.2**
	comp=Z,87nm,0.9s						
KRUC	**Moravsky**	**2.05**	**241**	*e*Pn	**Pn**	**11 36 00.4**	**+0.3**
	baz=57						
KRUC				*e*Sg	**Sg**	**11 36 29.8**	**-0.3**
	101nm,0.9s,baz=57						
KRUC	**Moravsky**	**2.05**	**241**	*e*PN	**Pn**	**11 36 00.5**	**+0.3**
KRUC				*e*SG	**Sg**	**11 36 29.9**	**-0.2**
MODS	**Modra-Piesok**	**2.09**	**216**	*e*PG	**Pb**	**11 36 02.6**	**-0.6**
MODS				*e*SG	**Sg**	**11 36 33.2**	**+1.7**
PSZ	**Piszkesteto**	**2.21**	**167**	⇑P	**Pn**	**11 36 03.0**	**+0.5**
PSZ				⇑S	**Sn**	**11 36 30.6**	**0.0**
KOLS	**Kolonicke sedl**	**2.35**	**118**	*e*SG	**Sg**	**11 36 38.3**	**-1.5**
KOLS				*e*LG	Lg	11 36 50.6	
TREC	**Trest**	**2.49**	**253**	*e*PG	**Pn**	**11 36 07.9**	**+1.7**
TREC				*e*SG	**Sb**	**11 36 42.3**	**+1.1**
	comp=Z,54nm,0.8s						
PRU	**Pruhonice**	**2.96**	**270**	*e*PG	**Pb**	**11 36 17.3**	**-0.7**
PRU				*e*SG	**Sg**	**11 36 58.3**	**-1.1**
	comp=Z,28nm,0.5s						
RONA	**Rosalia, Austr**	**3.02**	**219**	Pn	**Pn**	**11 36 13.1**	**-0.5**
	1.9nm,0.2s						
CONA	**Conrad Observa**	**3.04**	**226**	*e*Pn	**Pn**	**11 36 13.4**	**-0.4**
	0.9nm,0.4s						
ZVC	**Zvikov**	**3.26**	**261**	*e*PG	**Pb**	**11 36 24.6**	**+1.4**
ZVC				*e*SG	**Sg**	**11 37 07.4**	**-1.8**
	32nm,0.9s						
CKRC	**Cesky Krumlov**	**3.38**	**250**	*e*PG	**Pg**	**11 36 27.5**	**-1.8**
CKRC				*e*SG	**Sg**	**11 37 12.2**	**-0.9**
	comp=Z,36nm,0.8s						
BRG	**Berggiesshubel**	**3.41**	**286**	Pg	**Pb**	**11 36 27.4**	**+1.7**
BRG				Sg	**Sg**	**11 37 12.2**	**-1.7**
BRG				Amp		11 37 19.5	
	comp=Z,27nm,0.5s						
KHC	**Kasperske Hory**	**3.73**	**258**	*e*PN	**Pn**	**11 36 23.1**	**-0.2**
KHC				*e*PG	**Pb**	**11 36 31.5**	**+0.3**
KHC				*e*SG	**Sg**	**11 37 22.3**	**-1.9**
	comp=Z,29nm,0.8s						
GERES	**GERESS Array B**	**3.75**	**253**	Pn	**Pn**	**11 36 23.5**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=63,slow=14,SNR=5.3						
GERES				Lg	Lg	11 37 22.9	
	comp=Z,3.0nm,0.3s,baz=63,slow=24,SNR=7.6						
	comp=Z,0.6nm,0.3s						
MORH	**Mrgy, Hungar**	**3.87**	**185**	⇓P	**Pn**	**11 36 25.6**	**+0.4**
MOA	**Molln**	**3.90**	**237**	*e*Pn	**Pn**	**11 36 25.4**	**-0.2**
	comp=Z,2.5nm,0.4s						
DRGR		**4.06**	**143**	⇓P	**Pn**	**11 36 28.9**	**+1.1**
CLL	**Collm**	**4.09**	**290**	*e*Pg	**Pg**	**11 36 46.0**	**+3.3**
CLL				*e*Sg	**Sg**	**11 37 35.0**	**-0.6**
	comp=Z,23nm,0.6s						
NKC	**Novy Kostel**	**4.30**	**275**	*e*SG	**Sg**	**11 37 41.5**	**-1.0**
	comp=Z,20nm,0.5s						
MARR	**Marisel-Cluj**	**4.32**	**140**	⇑P	**Pn**	**11 36 32.8**	**+1.4**
BURAR	**Bucovina Array**	**4.71**	**119**	⇓P	**Pn**	**11 36 37.3**	**+0.4**
BZS	**Buzias**	**4.76**	**158**	⇑P	**Pn**	**11 36 38.4**	**+1.0**
SURR	**Surduc**	**4.77**	**154**	⇑P	**Pn**	**11 36 37.9**	**+0.5**
GZR	**Gura Zlata**	**5.29**	**151**	⇓P	**Pn**	**11 36 45.7**	**+1.0**
AKASG	**Malin Array Be**	**6.49**	**81**	Pn	**Pn**	**11 37 02.1**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=270,slow=13,SNR=1.6						
AKASG				Lg	Lg	11 38 55.4	
	comp=Z,1.8nm,0.3s,baz=275,slow=24,SNR=6.6						
	comp=Z,0.2nm,0.3s						
DAVOX	**Davos/Dischmat**	**6.98**	**245**	Pn	**Pn**	**11 37 09.0**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=110,slow=12,SNR=5.6						
DAVOX				Lg	Lg	11 39 08.7	
	comp=Z,0.2nm,0.3s,baz=61,slow=23,SNR=2.5						
	comp=Z,1.4nm,0.4s						
FINES	**FINESS Array B**	**12.04**	**16**	Pn	Pn	11 38 12.3	-4.8
	comp=Z,0.3nm,0.3s,baz=193,slow=10.0,SNR=6.3						
	comp=Z,0.8nm,0.3s						
ARCES	**ARCESS Array B**	**19.77**	**7**	P	**Pn**	**11 39 57.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=187,slow=13,SNR=3.8						
	comp=Z,2.3nm,0.8s						

TEH 28 11:36:46.7, 30°.78N×56°.87E, h8km±27km, ML3.7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZRDN	**Zarand Kerman**	**0.34**	**303**	Pg	Pg	11 36 53.7	+0.1
KRM1	**Kerman Provinc**	**0.44**	**129**	Pg	Pb	11 36 56.3	-0.5
KRM1				Sg	Sb	11 37 02.9	-0.8
KHGB	**Koh Gabri**	**0.53**	**220**	Pg	Pg	11 36 57.3	+0.3
KHGB				Sg	Sg	11 37 04.6	+0.6
TVBK	**TV Kerman**	**0.80**	**187**	Pg	Pb	11 37 02.8	-0.2
CHMN	**Cheshme madani**	**1.08**	**148**	Pg	Pg	11 37 07.4	-0.2
NGRK	**Negar Kerman**	**1.14**	**186**	Pg	Pn	11 37 09.1	-0.2
NGRK				Sg	Sn	11 37 25.1	-0.2
IMEH	**Mehriz**	**2.03**	**288**	Pn	Pb	11 37 23.3	-0.6
KBAM	**BAM**	**2.14**	**140**	Pn	Pb	11 37 25.5	-0.2
TPRV	**Parvadeh(Tabas**	**2.24**	**356**	Pn	Pn	11 37 25.8	+1.5
BSRN	**Basiran**	**2.26**	**58**	Pn	Pn	11 37 25.9	+1.4
IKOO	**Kooshah**	**2.45**	**47**	Pn	Pn	11 37 28.5	+1.4
ITEG	**Tejag**	**2.64**	**37**	Pn	Pn	11 37 31.6	+1.8
NHDN	**Nehbandan**	**2.79**	**77**	Pn	Pn	11 37 33.3	+1.5
TKDS	**Koohdasht(Taba**	**2.83**	**4**	Pn	Pn	11 37 34.1	+1.8
TNSJ	**Nastanj**	**3.18**	**356**	Pn	Pn	11 37 38.8	+1.7
AFRZ	**Afriz**	**3.20**	**34**	Pn	Pn	11 37 39.8	+2.4
IDAH	**Dahanechah**	**3.21**	**52**	Pn	Pn	11 37 39.1	+1.4
IMON	**Monand**	**3.38**	**44**	Pn	Pn	11 37 42.9	+2.9
ANAR	**Anarak**	**3.59**	**313**	Pn	Pn	11 37 45.3	+2.6
ZHDN	**Zahedan**	**3.68**	**111**	Pn	Pn	11 37 46.3	+2.3
IRAM	**Ramesheh**	**3.98**	**286**	Pn	Pn	11 37 50.8	+2.6
TAPT	**Tabas- Tapeh t**	**4.10**	**3**	Pn	Pn	11 37 51.4	+1.7
IZEF	**Zefreh**	**4.40**	**300**	Pn	Pn	11 37 56.7	+2.7
KRSH	**Karshahi**	**5.11**	**310**	Pn	Pn	11 38 06.7	+3.0
ISFB	**Sefidab**	**5.29**	**314**	Pn	Pn	11 38 08.7	+2.7
SBZV	**Sabzevar**	**5.62**	**6**	Pn	Pn	11 38 13.3	+2.5

NEIC 28 11:47:32.1±1.1, 17°.3S±0°.1×178°.5W±0°.1, h560km±16km, mb4.1/18, Error ellipse: s-maj=26.0km s-min=12.7km az=218.0
IDC 28 11:47:33.3±4.7, 17°.40S×178°.69W, h563km±20km, mb3.5/4, mbtmp4.4/5, Error ellipse: s-maj=106.4km s-min=80.0km az=145.0
ISC 28 11:47:31.3±0.9, 17°.4S±0°.2×178°.6W±0°.1, h547km, n28, σ0§97/29, mb4.0/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUTU	**Fugatoga**	**3.06**	**8**	P	**P**	**11 48 48.5**	**+1.9**
MSVF	**Nonsavu**	**3.25**	**263**	P	**P**	**11 48 50.0**	**+2.1**
MSVF	**Nonsavu**	**3.25**	**263**	P	**P**	**11 48 50.3**	**+2.5**
	28nm,0.7s,baz=112,slow=11,SNR=36						
AFI	**Afiamalu**	**7.38**	**63**	P	**P**	**11 49 22.2**	**-0.8**
DZM	**Mont Dzumac**	**14.88**	**249**	P	**P**	**11 50 38.9**	**-0.8**
ARMA	**Armidale**	**30.09**	**239**	P	**P**	**11 52 57.5**	**+0.6**
WHZ	**Wether Hill Ro**	**30.59**	**199**	P	**P**	**11 53 00.7**	**-0.1**
CTAO	**Charters Tower**	**33.40**	**260**	P	**P**	**11 53 24.8**	**-0.3**
CTAO				IAmb	IAmb	11 53 25.3	
	comp=Z,4.4nm,0.8s						
COEN	**Coen**	**36.96**	**270**		**P**	**11 53 54.8**	**0.0**
COEN				IAmb	IAmb	11 53 55.4	
	comp=Z,3.5nm,0.6s						
TOO	**Toolangi**	**37.41**	**230**	P	**P**	**11 53 58.4**	**+0.2**
STKA	**Stephens Creek**	**38.77**	**241**	P	**P**	**11 54 09.6**	**+0.3**
STKA	**Stephens Creek**	**38.77**	**241**	P	**P**	**11 54 09.4**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=75,slow=7.8,SNR=5.7						
	comp=Z,2.3nm,0.5s						
BBOO	**Buckleboo**	**43.55**	**240**	P	**P**	**11 54 46.9**	**-0.3**
BBOO				IAmb	IAmb	11 54 54.5	
	comp=Z,10nm,1.1s						
WR0	**Warramunga Arr**	**44.40**	**259**	P	**P**	**11 54 53.1**	**-0.8**
WR0				IAmb	IAmb	11 54 58.4	
	comp=Z,1.8nm,0.8s						
WB0	**Warramunga Arr**	**44.56**	**259**	P	**P**	**11 54 54.0**	**-1.2**
WB0				IAmb	IAmb	11 55 11.4	
	comp=Z,4.9nm,1.1s						
WB2	**Warramunga Arr**	**44.58**	**259**	P	**P**	**11 54 54.2**	**-1.2**
WB2				IAmb	IAmb	11 54 55.3	
	comp=Z,3.0nm,0.6s						
WRAB	**Tennant Creek**	**44.58**	**259**	P	**P**	**11 54 54.3**	**-1.0**
WRAB				IAmb	IAmb	11 54 54.7	
	comp=Z,3.2nm,0.8s						
WRA	**Warramunga Arr**	**44.59**	**259**	P	**P**	**11 54 54.5**	**-0.9**
WRA	**Warramunga Arr**	**44.59**	**259**	P	**P**	**11 54 54.6**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=96,slow=6.9,SNR=69						
	comp=Z,1.9nm,0.5s						
AS31	**Alice Springs**	**44.80**	**254**	P	**P**	**11 54 56.7**	**-0.4**
AS31				IAmb	IAmb	11 54 57.1	
	comp=Z,5.3nm,0.6s						
ASAR	**Alice Springs**	**44.80**	**254**	P	**P**	**11 54 56.6**	**-0.4**
	comp=Z,16nm,0.5s,baz=88,slow=8.0,SNR=325						
ASAR				PcP	**PcP**	**11 56 26.9**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=95,slow=3.1,SNR=1.6						
	comp=Z,16nm,0.5s						
FORT	**Forrest**	**50.11**	**244**	P	**P**	**11 55 35.9**	**-0.8**
KNRA	**Kununurra**	**50.40**	**264**	P	**P**	**11 55 38.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**52.98**	**260**	P	**P**	**11 55 57.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**52.98**	**260**	P	**P**	**11 55 57.6**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=70,slow=8.9,SNR=6.6						
	comp=Z,3.1nm,0.9s						
MBWA	**Marble Bar**	**58.07**	**256**	P	**P**	**11 56 32.3**	**-0.6**
MBWA				IAmb	IAmb	11 56 44.8	
	comp=Z,17nm,1.1s						
PLAI	**Plampang**	**62.36**	**269**	P	**P**	**11 57 00.9**	**-0.4**
BELA	**Belgrano 2**	**82.73**	**173**	P	**P**	**11 58 58.1**	**+0.7**
BELA				IAmb	IAmb	11 59 10.1	
	comp=Z,4.9nm,1.0s						

DJA 28 11:54:52.3±0.5, 7°.5S×13°.0E±°, h177km±14km, M4.2/11, mb4.0/6, mB4.8/1, MLv4.3/11, Mw(mB)4.0/1
IDC 28 11:54:54.1±8.0, 7°.06S×129°.82E, h160km±84km, mb3.4/1, mbtmp4.0/5, MS3.6/1, Error ellipse: s-maj=73.2km s-min=25.9km az=38.0
ISC 28 11:54:52.9±0.8, 6°.84S±0°.07×129°.87E±0°.08, h150km, n20, σ1§69/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.82**	**129**	P	**Pn**	**11 55 26.6**	**+0.6**
BNDI	**Bandanaira**	**2.30**	**1**	P	**Pn**	**11 55 32.3**	**+0.7**
FAKI	**Fak Fak**	**4.56**	**32**	P	**Pn**	**11 55 58.1**	**-2.4**
KMPI	**Kaimana, Papua**	**4.96**	**51**	P	**Pn**	**11 56 04.2**	**-1.5**
DRS	**Darwin Rock St**	**5.65**	**170**	P	**Pn**	**11 56 14.6**	**-0.4**
SWI	**Sorong**	**6.09**	**13**	P	**Pn**	**11 56 19.7**	**-1.2**
	11nm,0.8s,0.2nm						
SOEI	**Soe**	**6.25**	**242**	P	**Pn**	**11 56 23.5**	**+0.4**
	26nm,0.8s,0.3nm						
RKPI	**Ransiki, Papua**	**6.82**	**39**	P	**Pn**	**11 56 30.8**	**+0.3**
	22nm,0.9s						
BATI	**Baumata**	**6.99**	**241**	P	**Pn**	**11 56 33.2**	**+0.4**
	28nm,0.4s,baz=72,slow=16,SNR=5.1						
BATI				S	**Sn**	**11 57 49.8**	**-1.5**
	18nm,0.5s,baz=98,slow=9.7,SNR=1.9						
BATI	**Baumata**	**6.99**	**241**	P	**Pn**	**11 56 33.4**	**+0.6**
FITZ	**Fitzroy Crossi**	**11.93**	**200**	P	**Pn**	**11 57 35.8**	**-2.4**
	1.6nm,0.3s,baz=28,slow=11,SNR=21						
FITZ				S	Sn	11 59 35.8	-14
	2.4nm,0.3s,baz=82,slow=10,SNR=1.9						
WRA	**Warramunga Arr**	**13.73**	**162**	P	**Pn**	**11 57 58.0**	**-3.5**
	1.1nm,0.3s,baz=338,slow=13,SNR=25						
WRA				S	Sn	12 00 19.7	-14
	0.6nm,0.4s,baz=335,slow=22,SNR=2.8						
COEN	**Coen**	**14.88**	**119**	P	**P**	**11 58 18.5**	**+0.7**
QIS	**Mount Isa**	**16.59**	**146**	P	**Pn**	**11 58 40.1**	**+3.2**
ASAR	**Alice Springs**	**17.18**	**167**	P	**P**	**11 58 43.0**	**-0.3**
	0.7nm,0.4s,baz=341,slow=9.1,SNR=24						
ASAR				S	S	12 01 43.2	-12
	0.7nm,0.7s,baz=350,slow=27,SNR=3.5						
AS01	**Alice Springs**	**17.19**	**167**	P	**Pn**	**11 58 46.0**	**+1.9**
	4.4nm,0.5s						
WRKA	**Warakurna**	**18.16**	**185**	P	**P**	**11 58 54.2**	**+0.2**
OOD	**Oodnadatta**	**21.56**	**166**	P	**P**	**11 59 31.8**	**+1.2**
ASAJ	**Asahikawa**	**52.01**	**12**	LR	LR	12 24 26.7	
	comp=Z,61nm,21.2s,baz=179,slow=34						
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**12 05 37.0**	**+1.1**
	0.4nm,0.3s,baz=119,slow=7.8,SNR=10						
	0.4nm,0.3s						

AFAD 28 12:09:16.6±0.0, 40°.54N×40°.93E, h7km±2km, ML1.7
ISK 28 12:09:16.1, 40°.52N×40°.90E, h14km, ML2.5/5
ISC 28 12:09:15.9±1.1, 40°.53N±0°.03×40°.91E±0°.03, h10km±9km, n17, σ0§34/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRIK	**Erzurum-spir**	**0.19**	**175**	P	**Pg**	**12 09 20.2**	**+0.1**
KRIK				S	**Sg**	**12 09 22.8**	**-0.1**
IZDR	**Rize**	**0.37**	**314**	P	**Pb**	**12 09 24.4**	**-0.1**
IZDR				S	**Sb**	**12 09 29.9**	**-0.5**
IZDR				*i* AML	AML	12 09 30.0	
	comp=E,68

2.3nm,1.0s,baz=221,slow=11,SNR=2.9
PLCA LR LR 12 34 53.7
comp=Z,37nm,18.6s,baz=64,slow=32
2.3nm,1.0s
H03S2 Juan Fernandez 48.82 91 T T 13 10 40.0
baz=220,slow=74
H03S1 Juan Fernandez 48.83 91 T T 13 10 45.5
baz=220,slow=74
H03S3 Juan Fernandez 48.84 91 T T 13 10 46.3
baz=220,slow=74
VNA2 Neumayer--Watz 49.04 162 ⇑P **P 12 18 10.1 -0.5**
baz=43,slow=4.3
SNAA Sanae 49.10 165 ⇑P **P 12 18 13.8 +2.7**
SNAA Sanae 49.10 165 P **P 12 18 13.1 +2.0**
1.4nm,0.5s,baz=194,slow=12,SNR=8.8
SNAA LR LR 12 39 11.7
comp=Z,54nm,18.0s,baz=188,slow=36
1.4nm,0.5s
H03N3 Juan Fernandez 49.11 90 T T 13 10 54.5
baz=224,slow=72
H03N2 Juan Fernandez 49.12 90 T T 13 10 54.5
baz=224,slow=72
H03N1 Juan Fernandez 49.12 90 T T 13 10 55.8
baz=224,slow=72
TROLL Troll, Antarti 49.52 167 ⇑P **P 12 18 15.6 +1.2**
comp=Z,68nm,0.6s
DZM Mont Dzumac 50.09 292 *e*LR LR 12 32 52.0
comp=Z,82nm,25.8s
MAW Mawson 54.56 192 LR LR 12 39 03.9
comp=Z,80nm,21.5s,baz=211,slow=32
STKA Stephens Creek 55.84 263 P **P 12 19 01.6 +0.1**
comp=Z,4.6nm,0.9s,baz=116,slow=7.2,SNR=6.9
comp=Z,4.6nm,0.9s
ASAR Alice Springs 66.48 262 P **P 12 20 14.6 +0.8**
comp=Z,3.4nm,0.8s,baz=139,slow=6.4,SNR=38
comp=Z,3.4nm,0.8s
H01W1 Cape Leeuwin H 67.77 240 T T 13 35 42.8
baz=143,slow=76
H01W2 Cape Leeuwin H 67.78 240 T T 13 35 32.3
baz=143,slow=76
H01W3 Cape Leeuwin H 67.79 240 T T 13 35 44.0
baz=143,slow=76
LPAZ La Paz 68.58 87 P **P 12 20 28.1 +0.3**
comp=Z,1.3nm,0.6s,baz=176,slow=6.7,SNR=3.5
comp=Z,1.3nm,0.6s
WRA Warramunga Arr 69.22 265 P **P 12 20 31.5 +0.4**
comp=Z,2.1nm,0.8s,baz=146,slow=5.7,SNR=13
comp=Z,2.1nm,0.8s
SUR Sutherland 90.39 167 LR LR 12 57 29.3
comp=Z,25nm,18.8s,baz=205,slow=32
TXAR Lajitas Array 92.06 34 P **P 12 22 32.5 -0.5**
comp=Z,0.3nm,0.8s,baz=209,slow=5.2,SNR=2.8
comp=Z,0.3nm,0.8s
LBTB Lobatse 98.20 170 LR LR 13 02 32.7
comp=Z,32nm,19.9s,baz=207,slow=32
H10N3 ASCENSION HYDR 103.47 128 T T 14 20 12.2
baz=207
H10N1 ASCENSION HYDR 103.48 128 T T 14 20 00.9
baz=207,slow=74
H10N2 ASCENSION HYDR 103.49 128 T T 14 20 10.4
baz=207,slow=74
ILAR Eielson Array 121.07 358 PKP **PKPdf 12 28 13.4 -1.9**
comp=Z,1.0nm,0.9s,baz=225,slow=2.1,SNR=8.0
ESDC Sonseca Array 148.78 106 PKPbc **PKiKP 12 29 11.4 -1.1**
comp=Z,1.4nm,0.8s,baz=248,slow=1.8,SNR=7.5
MKAR Makanchi Array 150.42 270 PKPbc **PKPbc 12 29 13.8 -1.0**
comp=Z,4.2nm,0.9s,baz=114,slow=3.0,SNR=26
MKAR PKPab **PKPab 12 29 21.6 +0.1**
comp=Z,1.2nm,0.7s,baz=121,slow=4.7,SNR=5.5
ZALV Zalesovo Beam 152.72 285 PKPbc **PKiKP 12 29 19.5 -0.5**
comp=Z,0.4nm,0.3s,baz=96,slow=4.3,SNR=1.8
ZALV PKPab **PKPab 12 29 29.2 -1.6**
comp=Z,2.5nm,0.7s,baz=127,slow=4.1,SNR=6.9
KURBB Kurchatov Arra 154.60 274 PKPbc **PKiKP 12 29 23.5 -0.5**
comp=Z,0.7nm,0.7s,baz=120,slow=2.1,SNR=4.7
KURBB PKPab **PKPab 12 29 37.9 -0.9**
comp=Z,0.6nm,0.6s,baz=113,slow=3.8,SNR=4.2
BVAR Borovoye Array 160.19 274 PKPab **PKPab 12 30 03.0 +0.1**
comp=Z,1.8nm,0.7s,baz=108,slow=4.8,SNR=7.3

*OSPL **28** 12:14:40.9±1.2, 19°.11N×66°.46W, h14km±8km, ML2.8*
*SDD **28** 12:14:41.8±1.0, 19°.13N×66°.42W, h34km±156km, MD3.3, ML2.9, MW3.3*
*NEIC **28** 12:14:41.3±1.0, 19°.08N±0°.07×66°.41W±0°.04, h35km±2km, ML2.9/28, Md3.3/14(RSPR), Error ellipse: s-maj=12.1km s-min=6.0km az=194.0*
*RSPR **28** 12:14:42.3±0.8, 19°.09N±0°.10×66°.38W±0°.02, h34km±9km, Error ellipse: s-maj=14.2km s-min=3.2km az=185.0*
ISC 28 12:14:38.0±1.5, 19°.17N±0°.06×66°.40W±0°.05, h20km±6km, n26, σ0°66/44, 7C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.70**	**190**		**Pn**	**12 14 53.5**	**+0.7**
EMPR					**Sn**	**12 15 02.5**	**-0.5**
EMPR				IAML		12 15 09.3	
	comp=N,489nm,0.8s						
EMPR				IAML		12 15 15.6	
	comp=E,624nm,0.6s						
AOPR	**Arecibo Observ**	**0.89**	**202**		**Pn**	**12 14 55.8**	**+0.4**
AOPR					**Sb**	**12 15 06.7**	**+0.5**
AOPR	**Arecibo Observ**	**0.89**	**202**	⇑*e*Pg	**Pn**	**12 14 56.3**	**+0.9**
AOPR				*e*Sg	**Sn**	**12 15 06.8**	**-0.9**
AOPR				IAML		12 15 09.7	
	comp=N,1μm,0.3s						
GCPR	**Guaynabo City**	**0.91**	**161**		**Pn**	**12 14 55.9**	**+0.2**
GCPR					**Sb**	**12 15 06.7**	**-0.2**
GCPR				IAML		12 15 07.2	
	comp=N,568nm,0.2s						
GCPR				IAML		12 15 07.3	
	comp=E,476nm,0.2s						
UUPR	**Utuado, UPR, P**	**0.96**	**198**		**Pn**	**12 14 56.8**	**+0.3**
UUPR					**Sn**	**12 15 09.2**	**-0.4**
AGPR	**Aguadilla, PR**	**0.97**	**224**		**Pn**	**12 14 56.7**	**+0.2**
AGPR					**Sb**	**12 15 07.9**	**-0.7**
AGPR				IAML		12 15 15.2	
	comp=N,232nm,0.6s						
AGPR				IAML		12 15 21.7	
	comp=E,231nm,0.6s						
AGPR	**Aguadilla, PR**	**0.97**	**224**	⇑*e*Pg	**Pn**	**12 14 57.1**	**+0.6**
AGPR				⇑*e*Sg	**Sb**	**12 15 08.4**	**-0.1**
AGPR				IAML		12 15 15.0	
	comp=N,227nm,0.3s						
AGPR	**Aguadilla, PR**	**0.97**	**224**	*i* P	**Pn**	**12 14 56.9**	**+0.4**
AGPR				*e*S	**Sb**	**12 15 07.9**	**-0.7**
AGPR				IAML		12 15 13.7	
	comp=Z,142nm,0.3s						
SJG	**San Juan**	**1.08**	**167**		**Pb**	**12 14 58.5**	**+0.4**
SJG				IAML		12 15 12.7	
	comp=Z,242nm,0.4s						
SJG				IAML		12 15 16.9	
	comp=Z,313nm,0.4s						
SJG	**San Juan**	**1.08**	**167**	*e*Pg	**Pb**	**12 14 58.5**	**+0.4**
SJG				⇑*e*Sg	**Sb**	**12 15 11.3**	**-0.5**
CELP	**Cerrillos**	**1.11**	**189**		**Pb**	**12 14 58.9**	**+0.4**
CELP					**Sn**	**12 15 12.6**	**-0.4**
CELP				IAML		12 15 15.2	
	comp=N,241nm,0.3s						
CELP	**Cerrillos**	**1.11**	**189**	⇑*e*Pg	**Pb**	**12 14 59.4**	**+0.9**
CELP				*e*Sg	**Sn**	**12 15 12.6**	**-0.4**
CELP				IAML		12 15 19.5	
	comp=N,236nm,0.3s						
OBIP	**Obispado Ponce**	**1.14**	**190**		**Pb**	**12 14 59.5**	**+0.4**
OBIP					**Sb**	**12 15 13.1**	**-0.3**
OBIP				IAML		12 15 20.8	
	comp=N,185nm,0.6s						
HUMP	**Col San Antoni**	**1.15**	**153**		**Pb**	**12 14 59.6**	**+0.4**
HUMP					**Sb**	**12 15 12.7**	**-1.1**
HUMP				IAML		12 15 15.0	
	comp=N,551nm,0.2s						
PRSN	**Puerto Rico Se**	**1.18**	**217**		**Pb**	**12 15 00.4**	**+0.7**
PRSN	**Puerto Rico Se**	**1.18**	**217**	⇑*e*Pg	**Pb**	**12 15 00.5**	**+0.7**
PRSN				*e*Sg	**Sn**	**12 15 14.7**	**-0.2**
PRSN				IAML		12 15 19.9	
	comp=N,682nm,0.2s						
LSP	**Las Mesas**	**1.19**	**213**		**Pb**	**12 15 00.6**	**+0.7**
LSP					**Sb**	**12 15 14.6**	**-0.2**
PDPR	**Patillas Dam,**	**1.21**	**162**		**Pb**	**12 15 00.3**	**+0.1**
IGPR	**InterUniversit**	**1.23**	**167**		**Pb**	**12 15 01.2**	**+0.6**
IGPR				IAML		12 15 19.7	
	comp=N,453nm,0.3s						
IGPR				IAML		12 15 24.5	
	comp=E,439nm,0.3s						
IDE	**Isla Desecheo**	**1.28**	**233**		**Pb**	**12 15 01.8**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.34**	**210**		**Pb**	**12 15 02.8**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.34**	**210**	⇑*e*Pg	**Pb**	**12 15 02.9**	**+0.5**
CRPR				*e*Sg	**Sn**	**12 15 17.2**	**-1.6**
CRPR				IAML		12 15 26.2	
	comp=N,135nm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.34**	**210**	*i* P	**Pb**	**12 15 02.7**	**+0.3**
CRPR				*e*S	**Sn**	**12 15 18.0**	**-0.8**
CRPR				IAML		12 15 24.8	
	comp=Z,189nm,0.6s						
MLPR	**Magueyes Islan**	**1.34**	**207**		**Pb**	**12 15 02.8**	**+0.2**
MLPR				IAML		12 15 23.9	
	comp=E,159nm,0.7s						
PCDR	**Punta Cana, DR**	**1.98**	**251**	*i* P	**Pn**	**12 15 10.6**	**+0.1**
PCDR				IAML		12 15 41.7	
	comp=Z,52nm,0.3s						
GRTK	**Grand Turk**	**5.01**	**298**	*i* P	**Pn**	**12 15 53.1**	**+1.0**
GRTK				*e*S	**Sn**	**12 16 47.7**	**-1.7**
GRTK				IAML		12 16 50.2	
	comp=Z,19nm,3.8s						

*ATH **28** 12:19:30.9, 37°.72N×20°.58E, h16km±2km, ML3.9/13, Manual Solution by A.Agalos First location: 2018/11/28 12:20:11, This location: 2019/01/24 14:21:31 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
*THE **28** 12:19:30.2, 37°.67N×20°.53E, h8km, ML3.7/15, Error ellipse: s-maj=0.9km s-min=0.4km az=41.0*
*IDC **28** 12:19:35.8±7.4, 38°.50N×21°.00E, h0km, mb3.8/8, mbtmp3.8/9, ML3.4/1, MS3.1/7, Error ellipse: s-maj=138.5km s-min=21.6km az=38.0*
*TIR **28** 12:19:44.2, 38°.55N×21°.04E, h18km±1km, Md3.8, Ml3.8*
ISC 28 12:19:29.3±1.2, 37°.66N±0°.04×20°.48E±0°.04, h14km±6km, n73, σ1°34/92, mb3.9/8, MS3.3/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.27**	**90**	P	**Pg**	**12 19 35.0**	**-0.9**
KRI1				S	**Sg**	**12 19 38.4**	**-0.5**
	27μm,0.5s						
LTHK	**Lithakia**	**0.29**	**80**	P	**Pg**	**12 19 35.2**	**-0.2**
LTHK				S	**Sg**	**12 19 38.7**	**-0.8**
	37μm,0.4s						
LTHK	**Lithakia**	**0.29**	**80**	P	**Pg**	**12 19 35.3**	**-0.2**
LTHK				S	**Sg**	**12 19 38.9**	**-0.6**
PSDA	**Pessada-Kefalo**	**0.46**	**10**	P	**Pb**	**12 19 39.0**	**-0.2**
PSDA				S	**Sg**	**12 19 45.6**	**+0.9**
	21μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.46**	**10**	P	**Pb**	**12 19 39.2**	**0.0**
PSDA				S	**Sg**	**12 19 44.6**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.47**	**29**	P	**Pg**	**12 19 39.0**	**+0.2**
RTZL				S	**Sg**	**12 19 45.6**	**+0.4**
VLS	**Valsamata**	**0.52**	**10**	P	**Pg**	**12 19 39.9**	**+0.2**
VLS				S	**Sg**	**12 19 47.5**	**+0.8**
	12μm,0.3s						
VLS	**Valsamata**	**0.52**	**10**	P	**Pg**	**12 19 39.9**	**+0.2**
VLS				S	**Sg**	**12 19 47.0**	**+0.4**
LXR1	**Lixouri, Cepha**	**0.54**	**357**	P	**Pb**	**12 19 40.7**	**+0.2**
DMLN	**Damoulianata-K**	**0.58**	**352**	P	**Pb**	**12 19 41.3**	**0.0**
DMLN	**Damoulianata-K**	**0.58**	**352**	P	**Pb**	**12 19 41.7**	**+0.4**
DMLN				S	**Sg**	**12 19 49.6**	**+1.0**
SMHA	**Samh**	**0.60**	**13**	P	**Pg**	**12 19 41.1**	**-0.1**
SMHA				S	**Sg**	**12 19 49.1**	**-0.1**
VSK1	**VASILIKIADES**	**0.75**	**5**	P	**Pb**	**12 19 43.8**	**-0.3**
VSK1				S	**Sb**	**12 19 54.7**	**+0.5**
	14μm,0.5s						
FSK	**Fiskardo**	**0.80**	**5**	P	**Pb**	**12 19 44.5**	**-0.5**
FSK				S	**Sb**	**12 19 56.9**	**+1.3**
	10μm,0.9s						
FSK	**Fiskardo**	**0.80**	**5**	P	**Pb**	**12 19 44.9**	**-0.1**
FSK				S	**Sb**	**12 19 55.5**	**-0.1**
RLS	**Riolos of Patr**	**0.88**	**63**	P	**Pb**	**12 19 45.6**	**-0.7**
RLS				S	**Sb**	**12 19 58.0**	**+0.2**
	6μm,0.6s						
RLS	**Riolos of Patr**	**0.88**	**63**	P	**Pb**	**12 19 45.9**	**-0.4**
RLS				S	**Sb**	**12 19 56.5**	**-1.4**
AXS	**Araxos**	**0.89**	**53**	P	**Pb**	**12 19 46.2**	**-0.3**
ZARO	**Zacharo**	**0.95**	**100**	P	**Pn**	**12 19 47.8**	**-0.4**
AST1	**Astakos**	**1.00**	**29**	P	**Pn**	**12 19 48.1**	**-0.8**
AST1				S	**Sb**	**12 20 03.0**	**+1.5**
	5μm,0.9s						
DRO	**Drossia**	**1.02**	**73**	P	**Pn**	**12 19 48.4**	**-0.8**
DRO				S	**Sb**	**12 20 02.8**	**+0.9**
	4μm,0.4s						
DRO	**Drossia**	**1.02**	**73**	P	**Pg**	**12 19 48.6**	**-0.4**
TSLK	**Tsoukalades, L**	**1.17**	**7**	P	**Pb**	**12 19 51.4**	**+0.1**
TSLK	**Tsoukalades, L**	**1.17**	**7**	P	**Pg**	**12 19 51.7**	**-0.2**
ITM	**Ithomi**	**1.25**	**112**	P	**Pg**	**12 19 52.2**	**-1.2**
ITM				S	**Sg**	**12 20 10.4**	**+0.7**
	2μm,0.7s						
ITM	**Ithomi**	**1.25**	**112**	P	**Pg**	**12 19 52.6**	**-0.8**
PVO	**Paravola**	**1.26**	**41**	P	**Pb**	**12 19 53.0**	**+0.1**
PYL	**PYLOS**	**1.27**	**127**	P	**Pg**	**12 19 52.7**	**-1.0**
PYL				S	**Sg**	**12 20 10.9**	**+0.7**
	2μm,0.8s						
PYL	**PYLOS**	**1.27**	**127**	P	**Pg**	**12 19 53.2**	**-0.5**
PYL				S	**Sg**	**12 20 09.9**	**-0.3**
EFP	**Efpalio**	**1.36**	**55**	P	**Pb**	**12 19 54.1**	**-0.5**
EFP				S	**Sb**	**12 20 12.9**	**+1.1**
	2μm,0.8s						
EFP	**Efpalio**	**1.36**	**55**	P	**Pb**	**12 19 54.4**	**-0.2**
KLV	**Kalavryta, Ach**	**1.38**	**73**	P	**Pb**	**12 19 54.3**	**-0.6**
KLV	**Kalavryta, Ach**	**1.38**	**73**	P	**Pb**	**12 19 54.7**	**-0.2**
ANX	**Ano Chora**	**1.47**	**50**	P	**Pb**	**12 19 56.2**	**-0.3**
ANX				S	**Sn**	**12 20 14.9**	**+0.4**
	4μm,0.6s						
ANX	**Ano Chora**	**1.47**	**50**	P	**Pb**	**12 19 55.9**	**-0.6**
KALE	**Kalithea**	**1.50**	**60**	P	**Pb**	**12 19 56.5**	**-0.5**
KALE				S	**Sn**	**12 20 15.9**	**+0.7**
	2μm,0.6s						
KALE	**Kalithea**	**1.50**	**60**	P	**Pb**	**12 19 56.4**	**-0.6**
GUR	**Goura**	**1.50**	**79**	P	**Pb**	**12 19 56.5**	**-0.5**
GUR				S	**Sb**	**12 20 16.6**	**+0.7**
	2μm,0.5s						
GUR	**Goura**	**1.50**	**79**	P	**Pb**	**12 19 56.4**	**-0.5**
EVR	**Evrytania**	**1.63**	**39**	P	**Pn**	**12 19 57.9**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.87**	**43**	P	**Pn**	**12 20 01.1**	**+0.2**
KEK	**Kerkira**	**2.12**	**346**	P	**Pb**	**12 20 05.4**	**-2.0**
LSK	**Leskovik**	**2.49**	**2**	P	**Pb**	**12 20 12.8**	**-1.0**
LSK				AMP			
	comp=E,5.4nm,0.7s,baz=349						
SCTE	**Santa Cesarea**	**2.87**	**328**	AMP			
	comp=E,3.3nm,0.8s,baz=309						
VLO	**Vlora**	**2.91**	**345**	P	**Pg**	**12 20 23.9**	**-1.2**
KYMI	**Kymi, Euboea I**	**3.02**	**70**	P	**Pn**	**12 20 18.0**	**+1.4**
FNA	**Florina**	**3.19**	**12**	P	**Pb**	**12 20 24.4**	**-1.5**
FNA				AMP			
	comp=N,0.6nm,0.9s,baz=6.0						
PAIG	**Paliouri**	**3.37**	**47**	P	**Pn**	**12 20 22.5**	**+1.0**
OHR	**Ohrid**	**3.45**	**4**	*i* Pn	**Pb**	**12 20 27.2**	**-3.1**
THE	**Thessaloniki**	**3.54**	**32**	P	**Pb**	**12 20 29.0**	**-2.7**
THE				S	**Sn**	**12 21 02.4**	**-3.0**
HORT	**Hortiatis**	**3.57**	**34**	P	**Pn**	**12 20 25.9**	**+1.6**
TIR	**Tirane**	**3.71**	**353**	P	**Pb**	**12 20 34.5**	**-0.1**
TIR				AMP			
	comp=E,0.6nm,0.7s,baz=343						
VAY	**Valandovo**	**4.00**	**23**	*i* Pn	**Pg**	**12 20 43.6**	**-2.3**
MLR	**Muntele Rosu**	**8.83**	**26**	LR	LR	12 24 26.9	
	comp=E,28nm,20.1s,baz=10,slow=37						
SOKA	**Soboth**	**9.87**	**338**	*e*Pn	**Pn**	**12 21 51.2**	**+0.4**
	comp=E,0.9nm,0.3s						
OBKA	**Obir**	**9.88**	**335**	*e*Sn	**Sn**	**12 23 37.9**	**-3.6**
	comp=E,38nm,0.9s						
ABTA	**Abfaltersbach**	**10.83**	**330**	*e*Sn	**Sn**	**12 24 03.0**	**-1.8**
	comp=E,11nm,0.6s						
LESA	**Schwarzleotal**	**11.32**	**332**	*e*Pn	Pn	12 22 14.7	+4.1
	comp=E,3.4nm,0.5s						
LESA				*e*Sn	**Sn**	**12 24 14.5**	**-2.4**
	comp=E,9.2nm,0.6s						
WTTA	**Wattenberg**	**11.60**	**329**	*e*Sn	**Sn**	**12 24 21.7**	**-2.1**
	comp=E,15nm,0.6s						
GERES	**GERESS Array B**	**12.21**	**338**	Pn	**Pn**	**12 22 23.0**	**+0.1**
	comp=E,0.1nm,0.3s,baz=173,slow=20,SNR=1.8						
GERES				Sn	**Sn**	**12 24 32.4**	**-6.4**
	comp=E,0.3nm,0.3s,baz=154,slow=25,SNR=4.0						
	comp=E,0.3nm,0.3s						
AKASG	**Malin Array Be**	**14.45**	**23**	LR	LR	12 27 45.4	
	comp=E,30nm,21.9s,baz=220,slow=36						
HFS	**Hagfors**	**22.91**	**351**	P	**P**	**12 24 33.6**	**+1.2**
	comp=E,7.0nm,0.9s,baz=166,slow=13,SNR=5.1						
	comp=E,7.0nm,0.9s						
FINES	**FINESS Array B**	**24.06**	**7**	P	**P**	**12 24 44.0**	**+0.2**
	comp=E,5.3nm,1.0s,baz=165,slow=7.9,SNR=4.0						
FINES				LR	LR	12 35 14.6	
	comp=E,97nm,19.1s,baz=149,slow=40						
	comp=E,5.3nm,1.0s						
NOA	**NORSAR Array B**	**24.12**	**349**	P	**P**	**12 24 46.5**	**+2.2**
	comp=E,1.4nm,0.9s,baz=161,slow=9.1,SNR=1.8						
	comp=E,1.4nm,0.9s						
KIRV	**Kirov**	**28.11**	**33**	LR	LR	12 37 04.8	
	comp=E,42nm,18.3s,baz=251,slow=39						
AKTO	**Aktyubinsk**	**29.52**	**52**	LR	LR	12 39 12.1	
	comp=E,30nm,20.1s,baz=350,slow=41						
ARCES	**ARCESS Array B**	**32.05**	**3**	P	**P**	**12 25 55.8**	**+0.7**
	comp=E,3.7nm,0.9s,baz=196,slow=9.4,SNR=1.7						
	comp=E,3.7nm,0.9s						
BVAR	**Borovoye Array**	**37.48**	**49**	P	**P**	**12 26 42.0**	**-0.2**
	comp=E,0.2nm,0.3s,baz=257,slow=9.1,SNR=1.7						
	comp=E,0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**42.56**	**53**	P	**P**	**12 27 27.3**	**+2.9**
	comp=E,0.5nm,0.6s,baz=280,slow=8.8,SNR=3.0						
	comp=E,0.5nm,0.6s						
MKAR	**Makanchi Array**	**45.60**	**58**	P	**P**	**12 27 50.8**	**+1.9**
	comp=E,0.6nm,0.6s,baz=277,slow=7.8,SNR=7.7						
	comp=E,0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**46.06**	**48**	P	**P**	**12 27 54.4**	**+2.0**
	comp=E,1.5nm,0.6s,baz=280,slow=8.6,SNR=6.5						
	comp=E,1.5nm,0.6s						
TIXI	**Tiksi**	**60.15**	**20**	LR	LR	12 56 12.8	
	comp=E,35nm,18.7s,baz=20,slow=37						
BOSA	**Boshof**	**66.08**	**175**	LR	LR	13 02 46.1	
	comp=E,60nm,18.4s,baz=205,slow=39						

*LVSN **28** 12:20:51.2±4.7, 59°.67N×28°.41E, h0km±999km, ML2.3*
*EST **28** 12:20:54.3±0.0, 59°.28N×27°.63E, h0km, ML1.6(HEL), Explosion*
HEL 28 12:20:54.0±0.1, 59°.27N×27°.65E, h0km, ML1.7, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	**0.16**	**47**	*e*P	Pg	12 20 57.0	0.0
EE04				*e*S	Sg	12 20 59.3	+0.3
EE03	**Tooma soojaam,**	**0.81**	**242**	*e*P	Pg	12 21 08.8	-0.8
EE03				*e*S	Sg	12 21 19.6	-0.5
ARBE	**Arbavere**	**0.87**	**282**	*e*S	Sg	12 21 20.6	-1.4
VSU	**Vasula**	**0.94**	**211**	*e*P	Pg	12 21 11.3	-0.6
VJF	**Virojoki**	**1.28**	**358**	*e*P	Pg	12 21 16.8	-1.7
VJF				MSG		12 21 32.6	
	comp=Z,5.9nm,0.2s						
VJF				*e*SB	Sg	12 21 33.7	-1.3
EE08	**Sarghaua, Vand**	**1.39**	**245**	*e*P	Pn	12 21 19.2	-1.4
EE08				*e*S	Sg	12 21 36.9	-1.8
EE07	**Piusa Caves, O**	**1.43**	**184**	*e*P	Pn	12 21 20.7	-0.5
EE07				*e*PN	Pb	12 21 21.7	+0.1
EE07				*e*S	Sg	12 21 38.2	-1.8
EE02	**Kiisa, Saku**	**1.52**	**268**	*e*P	Pn	12 21 21.4	-1.0
EE02				*e*S	Sg	12 21 40.2	-2.6
PVF	**Pernaja**	**1.57**	**326**	*e*PG	Pn	12 21 22.2	-0.9
PVF				MSG		12 21 40.9	
	comp=Z,4.4nm,0.2s						
PVF				*e*S	Sn	12 21 41.6	-2.4
HEL1	**Helsinki**	**1.67**	**304**	*e*PN	Pn	12 21 24.4	-0.1
HEL1				*e*SG	Sn	12 21 45.3	-1.3
HEL1				MSG		12 21 46.6	
	comp=Z,2.8nm,0.1s						
MEF	**Metsahovi**	**1.90**	**301**	*e*P	Pn	12 21 28.2	+0.5
MEF				AML	AML	12 21 28.6	
	comp=E,12nm,0.1s						
MEF				*e*S	Sn	12 21 51.9	-0.4
MEF				AML	AML	12 21 53.6	
	comp=N,20nm,0.4s						
MEF				AML	AML	12 21 54.1	
	comp=Z,9.2nm,0.4s						
MEF	**Metsahovi**	**1.90**	**301**	*e*PG	Pn	12 21 28.3	+0.7
MEF				*e*SG	Sn	12 21 52.2	-0.1
MEF				MSG		12 21 54.3	
	comp=Z,1.9nm,0.1s						
NUR	**Nurmijarvi**	**1.96**	**311**	*e*PG	Pn	12 21 29.1	+0.7
NUR				*e*SN	Sn	12 21 53.6	-0.1
NUR				MSG		12 21 55.2	
	comp=Z,3.0nm,0.1s						
MTSE	**Matsula**	**2.06**	**256**	*e*P	Pb	12 21 31.2	-1.0
MTSE	**Matsula**	**2.06**	**256**	*e*PG	Pn	12 21 31.0	+1.1
MTSE				*e*SG	Sn	12 21 57.3	+1.1
EE01	**Perakula, Nova**	**2.07**	**270**	*e*PB	Pn	12 21 30.7	+0.7
EE01				*e*SG	Sb	12 21 57.6	-1.1
RUF	**Ruokolahti**	**2.26**	**16**	*e*P	Pn	12 21 32.4	-0.1
RUF				*e*PB	Pb	12 21 33.5	-2.1
RUF				MSG		12 22 00.9	
	comp=Z,3.1nm,0.2s						
RUF				*e*SB	Sb	12 22 02.6	-1.5
FIA0	**FINESS Array S**	**2.32**	**341**	*e*P	Pn	12 21 33.5	+0.1
FIA0				*e*PB	Pb	12 21 34.5	-2.2
FIA0				MSG		12 22 02.7	
	comp=Z,3.3nm,0.2s						
FIA0				*e*SG	Sb	12 22 05.5	-0.4
FIA1	**FINESS Array S**	**2.32**	**341**	*e*P	Pn	12 21 33.2	-0.2
FIA1				*e*PB	Pb	12 21 34.5	-2.1
FIA1				*e*SG	Sb	12 22 05.0	-0.8
EE06	**Soera, Palade,**	**2.50**	**265**	*e*SB	Sn	12 22 08.6	+1.7
KAF	**Kangasniemi**	**2.93**	**348**	MSG		12 22 20.3	
	comp=Z,1.9nm,0.2s						
KAF				*e*SG	Sb	12 22 24.2	+0.8
SLIT	**Slitere, Latvi**	**3.26**	**242**	*e*S	Sb	12 22 33.4	+0.6
SLIT				AML	AML	12 22 41.8	
	comp=Z,31nm,0.9s						
SLIT				AML	AML	12 22 43.4	
	comp=N,55nm,0.7s						
SLIT				AML	AML	12 22 43.8	
	comp=E,53nm,0.9s						
SLIT	**Slitere, Latvi**	**3.26**	**242**	*e*SG	Sb	12 22 33.6	+0.7
KPF	**Kankaanpaa**	**3.77**	**315**	*e*P	Pn	12 21 54.5	+1.2
JOF	**Joensuu**	**4.07**	**24**	*e*P	Pn	12 21 57.6	+0.2

*NIED **28** 12:22:04.1, 41°.37N×143°.23E, h20km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}4.01; $M_{\theta\theta}$-4.02; $M_{\phi\phi}$0.01; $M_{r\theta}$-1.88; $M_{\theta\phi}$0.63; $M_{\phi r}$-0.26; Fault plane solution: $M_0$4.48000×10^{14} NP1: ϕ_s272.00000°, δ57.00000°, λ82.00000°. NP2: ϕ_s106.00000°, δ33.00000°, λ102

SONM	**Songino Array**	26.83	296	P		**P**	12 27 43.9	+0.6
	0.5nm,0.5s,baz=91,slow=8.8,SNR=2.9							
	0.5nm,0.5s							
H11N2	**WAKE ISLAND Hy**	29.50	130	T		T	12 59 18.8	
	baz=323,slow=76,SNR=172							
H11N1	**WAKE ISLAND Hy**	29.51	130	T		T	12 59 19.7	
	baz=323,slow=76,SNR=146							
H11N3	**WAKE ISLAND Hy**	29.52	130	T		T	12 59 24.6	
	baz=323,slow=76,SNR=116							
H11S1	**WAKE ISLAND Hy**	30.36	132	T		T	13 00 14.8	
	baz=325,slow=76,SNR=113							
H11S3	**WAKE ISLAND Hy**	30.36	132	T		T	13 00 20.3	
	baz=325,slow=76,SNR=91							
H11S2	**WAKE ISLAND Hy**	30.38	132	T		T	13 00 24.8	
	baz=325,slow=76,SNR=74							
KURBB	**Kurchatov Arra**	44.57	305	P		**P**	12 30 14.6	0.0
	0.4nm,0.5s,baz=76,slow=8.7,SNR=2.7							
	0.4nm,0.5s							
ILAR	**Eielson Array**	45.09	35	P		**P**	12 30 18.7	+0.1
	0.5nm,0.7s,baz=275,slow=9.6,SNR=4.6							
	0.5nm,0.7s							
INK	**Inuvik**	49.89	29	P		**P**	12 30 55.2	-0.6
	0.6nm,0.3s,baz=270,slow=9.1,SNR=4.0							
	0.6nm,0.3s							
WRA	**Warramunga Arr**	61.56	190	P		**P**	12 32 19.3	-0.8
	0.5nm,0.5s,baz=6.8,slow=6.9,SNR=14							
	0.5nm,0.5s							
ASAR	**Alice Springs**	65.29	189	P		**P**	12 32 44.5	-0.2
	0.7nm,0.8s,baz=11,slow=7.8,SNR=7.9							
	0.7nm,0.8s							
FINES	**FINESS Array B**	65.64	332	P		**P**	12 32 45.4	-1.2
	1.9nm,1.0s,baz=41,slow=9.3,SNR=1.3							
	1.9nm,1.0s							
HFS	**Hagfors**	70.72	336	P		**P**	12 33 18.0	-0.5
	3.0nm,1.0s,baz=40,slow=9.4,SNR=1.3							
	3.0nm,1.0s							
NVAR	**Mina Array Bea**	71.29	55	P		**P**	12 33 23.0	+0.4
	0.3nm,0.6s,baz=296,slow=6.9,SNR=3.1							
	0.3nm,0.6s							
PDAR	**Pinedale Array**	73.64	47	P		**P**	12 33 36.5	-0.1
	0.3nm,0.5s,baz=55,slow=1.2,SNR=4.1							
	0.3nm,0.5s							
TXAR	**Lajitas Array**	86.37	54	P		**P**	12 34 45.4	0.0
	0.3nm,0.7s,baz=315,slow=3.2,SNR=5.4							
	0.3nm,0.7s							

*GII **28** 12:24:00.7±0.4, 27°.66N±0°.04×34°.64E±0°.01, h1km, mB4.2, Md4.0/4, confirmed*
*SGS **28** 12:24:10.8, 28°.21N×34°.61E, h11km, Ml3.3*
ISC 28 12:24:10.3±1.7, 28°.15N±0°.06×34°.61E±0°.09, h15km, n48, σ1§70/48, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSHS		0.22	47	P	Pg	12 24 14.8	-0.5
RSHS		0.22	47	S	Sg	12 24 17.9	-0.9
TAYS	Tayyib Ism	0.46	29	P	Pg	12 24 18.8	-0.8
TAYS	Tayyib Ism	0.46	29	S	Sg	12 24 24.7	-1.1
BDAS	Al Bad'	0.51	57	P	Pg	12 24 20.3	-0.2
KRABS	KRABS	0.57	94	P	Pb	12 24 21.7	-0.3
KRABS	KRABS	0.57	94	S	Sb	12 24 29.4	-0.4
AYUS	`Aynunah	0.58	86	S	Sb	12 24 29.9	-0.3
AYUS	`Aynunah	0.58	86	P	Pb	12 24 21.8	-0.3
MWLHS	Almuwaylih	0.89	116	P	Pb	12 24 26.7	-0.8
JLOS		0.97	53	P	Pb	12 24 27.8	-1.1
JMOS	Jabal al Moall	1.11	23	P	Pb	12 24 29.7	-1.4
WTBKS	WTBKS	1.15	93	P	Pb	12 24 31.1	-0.8
EIL	Elat	1.55	11	S	Sg	12 25 00.7	+0.5
EIL	Elat	1.55	11	P	Pn	12 24 35.8	-1.5
AQBJ	Aqaba	1.62	14	P	Pn	12 24 37.3	-1.1
MBRI	Mt Berech	1.66	9	P	Pn	12 24 38.1	-0.9
MBRI	Mt Berech	1.66	9	P	Pn	12 24 37.3	-1.7
MBRI	Mt Berech	1.66	9	S	Sg	12 25 05.2	+1.3
TBKS	Tabuk	1.70	87	P	Pn	12 24 39.4	-0.1
HRFI	Mount Harif	1.92	11	P	Pn	12 24 41.4	-1.1
HRFI	Mount Harif	1.92	11	S	Sg	12 25 11.5	-0.5
HRFI	Mount Harif	1.92	11	P	Pn	12 24 40.8	-1.7
KRMI	Paran Flat	1.97	3	P	Pn	12 24 42.5	-0.6
KRMI	Paran Flat	1.97	3	S	Sb	12 25 12.0	+1.8
KRMI	Paran Flat	1.97	3	P	Pn	12 24 41.9	-1.2
PRNI	Paran	2.22	9	P	Pn	12 24 46.3	-0.4
PRNI	Paran	2.22	9	S	Sb	12 25 19.7	+2.1
PRNI	Paran	2.22	9	P	Pn	12 24 45.8	-0.9
BIDS	Bi' al Bayda'	2.44	121	P	Pn	12 24 49.6	-0.1
ZFRI	Zfri	2.45	11	P	Pn	12 24 48.6	-1.1
ZFRI	Zfri	2.45	11	S	Sb	12 25 24.9	+0.8
EWJHS	Al Wajh	2.69	137	P	Pn	12 24 52.1	-1.0
KZIT	Kziot	2.76	356	P	Pn	12 24 53.0	-0.9
KZIT	Kziot	2.76	356	S	Sb	12 25 32.8	-0.1
MSBI	Mazada	3.22	11	P	Pn	12 24 58.9	-1.4
MSBI	Mazada	3.22	11	S	Sb	12 25 44.0	-2.2
YTIR	Yattir	3.23	8	P	Pn	12 24 59.7	-1.0
YTIR	Yattir	3.23	8	S	Sb	12 25 44.9	-1.8
AMAZ	Amatzia	3.38	4	P	Pn	12 25 01.8	-0.8
AMAZ	Amatzia	3.38	4	S	Sb	12 25 48.1	-2.9
DSI	Dead Sea	3.48	11	P	Pn	12 25 03.2	-0.7
DSI	Dead Sea	3.48	11	P	Pn	12 25 02.8	-1.1
DSI	Dead Sea	3.48	11	S	Sb	12 25 51.0	-2.6
SLTI	Sal'it	4.10	5	P	Pn	12 25 11.5	-0.9
SLTI	Sal'it	4.10	5	S	Sn	12 26 06.2	+6.1
HMDT	Nahal Hemdat	4.17	11	P	Pn	12 25 12.1	-1.3
HMDT	Nahal Hemdat	4.17	11	S	Sn	12 26 07.1	+5.2

*IDC **28** 12:24:53.8±1.2, 46°.34N×53°.19E, h0km, mb3.9/1, mbtmp3.6/8, ML3.5/8, MS3.5/1, Error ellipse: s-maj=28.5km s-min=8.6km az=151.0*
*NNC **28** 12:25:13.9±3.8, 47°.34N×54°.60E, h0km, mb3.2, mpv2.4, Error ellipse: s-maj=38.6km s-min=31.6km az=132.0*
ISC 28 12:24:52.3±1.1, 46°.3N±0°.1×53°.26E±0°.07, h10km, n15, σ3§31/20, 5C-2D, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKTO	**Aktyubinsk**	5.23	36	⇓Pn	Pn	12 26 15.0	+4.6
	0.3nm,0.3s						
AKTO				⇑Lg	Lg	12 27 16.9	
	3.4nm,0.6s						
AKTO	**Aktyubinsk**	5.23	36	Pn	Pn	12 26 14.1	+3.7
	0.5nm,0.3s,baz=192,slow=9.2,SNR=9.4						
AKTO				Sn	Sn	12 27 11.8	+1.1
	2.9nm,0.3s,baz=186,slow=14,SNR=11						
	1.3nm,0.2s						
AB31	**Akbulak array**	5.40	54	Pn	Pn	12 26 17.0	+4.2
	0.3nm,0.3s,baz=250,slow=12,SNR=38						
AB31				⇑Lg	Lg	12 27 20.5	
	2.0nm,0.3s,baz=245,slow=22,SNR=3.7						
BELG	**Belogornoye**	7.14	331	Pn	Pn	12 26 38.5	+1.9
	0.4nm,0.3s,baz=80,slow=12,SNR=1.5						
BELG				Sn	Sn	12 27 57.8	+0.1
	2.0nm,0.3s,baz=0.6,slow=23,SNR=6.8						
	6.3nm,0.6s						
KBZ	**Khabaz**	7.78	255	Pn	Pn	12 26 47.0	+1.6
	1.7nm,0.3s,baz=63,slow=8.8,SNR=75						
KBZ				Sn	Sn	12 28 10.5	-3.0
	1.7nm,0.3s,baz=127,slow=18,SNR=6.3						
KVAR	**Kislovodsk Arr**	7.83	257	Pn	Pn	12 26 47.6	+1.4
	baz=140,slow=16						
KVAR				Sn	Sn	12 28 12.1	-2.8
	baz=53,slow=7.5						
	2.8nm,0.4s						
ARTI	**Arti**	10.61	16	Pn	Pn	12 27 17.8	-6.5
	0.4nm,0.3s,baz=156,slow=10.0,SNR=2.2						
ARTI				Sn	Sn	12 29 19.7	-3.3
	0.4nm,0.3s,baz=180,slow=20,SNR=2.1						
BRVK	**Borovoye**	12.93	52	⇓Pn	Pn	12 27 58.0	+2.1
	0.6nm,0.4s						
BRVK				⇑Sn	Sn	12 30 12.4	-7.2
	2.0nm,1.0s						
BVA0	**Borovoye Array**	12.97	52	⇑Pn	Pn	12 27 58.8	+2.3
	0.4nm,0.4s,baz=230,slow=15,SNR=5.5						
BVA0				⇑Sn	Sn	12 30 12.4	-8.4
	3.6nm,1.1s,baz=248,slow=37,SNR=4.6						
BVAR	**Borovoye Array**	12.97	52	Pn	Pn	12 27 57.7	+1.2
	0.1nm,0.3s,baz=231,slow=13,SNR=4.7						
BVAR				Sn	Sn	12 30 15.6	-5.2
	0.1nm,0.3s,baz=235,slow=28,SNR=6.1						
	0.6nm,0.4s						
AKASG	**Malin Array Be**	16.51	294	Pn	Pn	12 28 41.6	-2.1
	1.4nm,0.3s,baz=84,slow=10.0,SNR=3.0						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	17.28	66	Pn	Pn	12 28 53.0	-0.5
	0.1nm,0.3s,baz=267,slow=12,SNR=10						
	0.9nm,0.6s						
MKAR	**Makanchi Array**	19.93	78	P	Pn	12 29 26.3	+0.5
	0.2nm,0.3s,baz=267,slow=10,SNR=5.3						
	0.4nm,0.4s						
FINES	**FINESS Array B**	21.84	324	P	P	12 29 46.0	+1.5
	2.1nm,0.4s,baz=137,slow=12,SNR=21						
	2.1nm,0.4s						
KLR	**Kul'dur**	50.60	56	LR	LR	12 56 44.1	
	comp=Z,47nm,19.0s,baz=66,slow=38						

*ISN **28** 12:58:35.3±0.5, 34°.17N×45°.56E, h16km±3km, ML3.2*
*TEH **28** 12:58:35.7, 34°.17N×45°.61E, h12km±26km, ML3.0*
ISC 28 12:58:35.0±1.3, 34°.16N±0°.04×45°.55E±0°.04, h5km±13km, n22, σ0§83/27, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	0.30	98	Pg	Pg	12 58 41.5	+0.5
KGS1	**Ghasr-e-Shirin**	0.35	5	Pg	Pg	12 58 42.2	+0.3
ILBA	**Ilam Banvizeh**	0.76	134	Pg	Pg	12 58 49.8	+0.2
IGHG	**Ghaleghazi**	0.86	78	Pg	Pg	12 58 51.6	0.0
IDHR	**Dehrash**	0.88	52	Pg	Pg	12 58 51.5	-0.4
IBDR	**Badra**	1.09	163	*e*Pg	Pb	12 58 56.0	-0.3
IBDR				*e*Sg	Sb	12 59 10.5	-0.3
IBDR				AML	AML	12 59 18.1	
	comp=E,383nm,0.6s						
IBDR				AML	AML	12 59 18.3	
	comp=N,415nm,0.7s						
KCHF	**Cheshme Sefid,**	1.24	84	Pg	Pg	12 58 58.7	-0.2
KCHF				Sg	Sg	12 59 15.3	+0.3
BHD	**Baghdad**	1.32	228	*e*Pg	Pn	12 58 59.5	-0.5
BHD				*e*Sg	Sn	12 59 17.5	-0.4
BHD				AML	AML	12 59 35.2	
	comp=E,341nm,0.4s						
ILIN	**Lien**	1.39	56	Pg	Pg	12 59 01.5	-0.3
IKRK	**Kirkuk**	1.59	322	*e*Pn	Pb	12 59 04.5	-0.4
IKRK				*e*Sn	Sg	12 59 26.5	+0.3
IKRK				AML	AML	12 59 29.9	
	comp=E,752nm,0.2s						
IKRK				AML	AML	12 59 30.2	
	comp=N,512nm,0.4s						
SNQR	**Sonqor, Kerman**	1.85	67	Pg	Pb	12 59 09.3	-0.3
IBZA	**Bozab**	1.94	80	Pn	Pb	12 59 09.4	-1.6
SDS1	**Sardasht. Az.**	1.99	358	Pn	Pb	12 59 11.3	-0.5
IKFM	**Kafar-mosalman**	2.01	108	Pn	Pb	12 59 11.0	-1.0
IDOB	**Doab**	2.21	99	Pn	Pb	12 59 13.5	-2.1
RAFI	**Al-Rafai**	2.47	169	*e*Pn	Pn	12 59 17.0	+1.1
RAFI				*e*Sn	Sn	12 59 47.5	+1.1
HSAM	**Samen**	2.53	88	Pn	Pn	12 59 17.8	+0.8
BDRS	**Dareh Seyedi**	2.77	93	Pn	Pn	12 59 21.3	+1.0
HAGD	**Aghdareh**	3.04	76	Pn	Pn	12 59 25.0	+1.1
JHBN	**Jahan bin**	4.70	113	Pn	Pn	12 59 47.2	+0.4
KRSH	**Karshahi**	5.47	90	Pn	Pn	12 59 57.8	+0.5
IRAM	**Ramesheh**	6.20	110	Pn	Pn	13 00 08.0	+0.6

THE 28 12:59:39.3, 37°.36N×20°.62E, h10km±1km, ML2.9/5, Error ellipse: s-maj=1.7km s-min=0.4km az=274.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	0.34	27	P	Pg	12 59 46.1	0.0
KRI1				S	Sg	12 59 51.1	+0.5
	4μm,0.4s						
LTHK	**Lithakia**	0.39	26	P	Pg	12 59 46.7	-0.3
LTHK				S	Sg	12 59 52.5	+0.4
	4μm,0.2s						
RTZL	**Ratzakli, Kefa**	0.72	10	P	Pg	12 59 52.8	-0.5
RTZL				S	Sb	13 00 03.5	-0.5
	810nm,0.2s						
PYL	**PYLOS**	1.01	117	P	Pg	12 59 58.2	-0.5
DRO	**Drossia**	1.05	55	P	Pg	12 59 59.0	-0.4
DRO				S	Sn	13 00 14.4	-0.4
	695nm,0.4s						
ITM	**Ithomi**	1.06	99	P	Pg	12 59 59.3	-0.3
ITM				S	Sb	13 00 14.3	+0.7
	298nm,0.5s						

*NOU **28** 13:00:11.9, 47°.90S×165°.44E, h0km, mb4.7/22, Off W. Coast of S. Island, N.Z.*
*IDC **28** 13:00:12.6±0.8, 47°.72S×165°.55E, h0km, mb4.3/8, mbtmp4.3/9, ML4.0/1, MS4.2/33, Error ellipse: s-maj=26.6km s-min=19.0km az=64.0*
*NEIC **28** 13:00:14.2±1.2, 47°.81S±0°.03×165°.6E±0°.2, h10km±1km, mb4.3/15, Error ellipse: s-maj=21.5km s-min=4.7km az=268.0*
*WEL **28** 13:00:14.9, 47°.82S×165°.52E, h2km, ML5.3, Mw4.9, Moment Tensor Solution. s6 Moment tensor: Scale 10^16 Nm; Mrr0.20; Mθθ0.60; Mφφ-0.80; Mrθ1.53; Mrφ1.21; Mθφ-2.54; Fault plane solution: M0 3.09000×10^16 NP1: φs339.00000°, δ8.00000°, λ101.00000°. NP2: φs148.00000°, δ82.00000°, λ88.00000°. Principal axes: T -3.7384, Plg53.0000°, Azm56.0000°; N 1.2996, Plg2.0000°, Azm148.0000°; P 2.4388, Plg37.0000°, Azm239.0000°; Stations used: PYZ WHZ EAZ WKZ ODZ LBZ REVERSE FAULTING*
*GCMT **28** 13:00:20.1±0.3, 47°.68S±0°.02×165°.10E±0°.03, h12km, MW4.9/79, Moment Tensor Solution. s22,c26; s79,c109; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.45±.11; Mθθ1.62±.10; Mφφ-1.16±.10; Mrθ0.47±.28; Mrφ2.20±.08; Mθφ-0.68±.34; Best double couple: M0 2.75600×10^16 NP1: φs284.00000°, δ77.00000°, λ-16.00000°. NP2: φs18.00000°, δ75.00000°, λ-166.00000°. Principal axes: T 2.8350, Plg2.0000°, Azm331.0000°; N -0.1490, Plg70.0000°, Azm66.0000°; P -2.6770, Plg20.0000°, Azm241.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 13:00:14.6±0.5, 47°.82S±0°.06×165°.46E±0°.05, h13km, n182, σ1§63/158, mb4.3/16, MS4.2/33, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	1.86	27	Pn	Pn	13 00 44.5	-1.6
PYZ	**Puysegur Point**	1.86	27	P	Pn	13 00 44.6	-1.5
PYZ				S	Sn	13 01 07.3	-2.1
PYZ	**Puysegur Point**	1.86	27	P	Pn	13 00 45.7	-0.4
APZ	**The Paps**	1.99	61	P	Pn	13 00 47.0	-0.9
APZ				S	Sn	13 01 11.8	-0.9
WHZ	**Wether Hill Ro**	2.58	42	Pn	Pn	13 00 55.0	-1.0
WHZ	**Wether Hill Ro**	2.58	42	P	Pn	13 00 55.2	-0.8
WHZ				S	Sn	13 01 27.0	-0.2
DCZ	**Deep Cove**	2.63	27	Pn	Pn	13 00 55.7	-1.1
SYZ	**Scrubby Hill**	2.82	64	P	Pn	13 00 59.3	0.0
SYZ				S	Sn	13 01 34.5	+1.4
SYZ	**Scrubby Hill**	2.82	64	P	Pn	13 00 58.5	-0.8
MLZ	**Mavora Lakes**	3.06	38	Pn	Pn	13 01 02.1	-0.7
MLZ	**Mavora Lakes**	3.06	38	P	Pn	13 01 02.8	+0.1
MLZ				S	Sn	13 01 40.5	+1.2
TUZ	**Tuapeka**	3.42	58	P	Pn	13 01 07.5	-0.1
TUZ				S	Sn	13 01 48.8	+0.9
MSZ	**Milford Sound**	3.58	29	P	Pn	13 01 10.5	+0.7
EAZ	**Earnscleugh**	3.71	47	P	Pn	13 01 11.0	-0.6
EAZ				S	Sn	13 01 55.0	-0.2
WKZ	**Wanaka**	3.88	41	P	Pn	13 01 14.8	+0.9
WKZ				S	Sn	13 02 00.6	+1.2
HHSZ	**Highcliff Hill**	4.02	63	P	Pn	13 01 16.8	+0.9
JCZ	**Jackson Bay**	4.41	33	P	Pn	13 01 22.0	+0.7
JCZ	**Jackson Bay**	4.41	33	P	Pn	13 01 20.9	-0.4
ODZ	**Otahua Downs**	4.54	54	Pn	Pn	13 01 21.3	-1.6
ODZ	**Otahua Downs**	4.54	54	P	Pn	13 01 21.2	-1.7
ODZ	**Otahua Downs**	4.54	54	P	Pn	13 01 20.8	-2.1
LBZ	**Lake Benmore**	4.75	45	P	Pn	13 01 24.1	-1.9
TMZ	**Timaru**	5.17	50	P	Pn	13 01 29.0	-2.6
FOZ	**Fox Glacier**	5.26	37	P	Pn	13 01 32.6	-0.3
ARCZ	**Arundel**	5.56	48	P	Pn	13 01 35.0	-2.1
GCSZ	**Gaunt Creek Bo**	5.66	39	P	Pn	13 01 39.9	+1.6
RPZ	**Rata Peaks**	5.67	46	Pn	Pn	13 01 36.1	-2.4
	4.5nm,0.3s,baz=136,slow=1.4,SNR=12						
RPZ				Sn	Sn	13 02 40.7	-2.8
	30nm,0.3s,baz=73,slow=14,SNR=4.5						
	12nm,0.3s						
RPZ	**Rata Peaks**	5.67	46	P	Pn	13 01 35.7	-2.8
RPZ	**Rata Peaks**	5.67	46	P	Pn	13 01 37.7	-0.9
WACZ	**Wakanui South**	5.91	51	P	Pn	13 01 39.9	-1.8
WVZ	**Waitaha Valley**	6.03	40	P	Pn	13 01 45.3	+1.9
MHCZ	**Mount Hutt**	6.06	47	P	Pn	13 01 46.9	+3.0
OXZ	**Oxford**	6.44	48	P	Pn	13 01 47.6	-1.5
MQZ	**McQueen's Vall**	6.50	53		Pn	13 01 47.7	-2.1
MQZ	**McQueen's Vall**	6.50	53	P	Pn	13 01 47.5	-2.4
INZ	**Inchbonnie**	6.62	42	P	Pn	13 01 52.1	+0.6
OKCZ	**Okains Bay**	6.71	55	P	Pn	13 01 53.4	+0.6
AMCZ	**Amberley**	6.86	50	P	Pn	13 01 55.7	+0.8
LTZ	**Lake Taylor**	6.96	46	Pn	Pn	13 01 53.9	-2.4
LTZ	**Lake Taylor**	6.96	46	P	Pn	13 01 53.9	-2.4
GVZ	**Greta Valley S**	7.21	50	P	Pn	13 02 00.6	+1.0
DSZ	**Denniston Nort**	7.57	39		Pn	13 02 04.2	-0.4
DSZ	**Denniston Nort**	7.57	39	P	Pn	13 02 04.0	-0.6
MCQ	**Macquarie Isla**	7.83	209	P	Pn	13 02 06.0	-2.1
KHZ	**Kahutara**	7.86	50	P	Pn	13 02 07.6	-1.0
THZ	**Tophouse**	8.04	44	P	Pn	13 02 12.4	+1.2
MRNZ	**Matariki Terra**	8.26	42	P	Pn	13 02 14.0	-0.1
BSWZ	**Blackbirch Sta**	8.55	48	P	Pn	13 02 22.1	+4.1
QRZ	**Quartz Range**	8.63	38	Pn	Pn	13 02 18.5	-0.6
QRZ	**Quartz Range**	8.63	38	P	Pn	13 02 19.0	-0.2
QRZ	**Quartz Range**	8.63	38	P	Pn	13 02 19.0	-0.2
TKNZ	**Takaka Hill**	8.65	41	P	Pn	13 02 22.5	+3.1
NNZ	**Nelson**	8.69	43	P	Pn	13 02 21.5	+1.5
TUWZ	**Tuamarina**	8.80	47	P	Pn	13 02 24.1	+2.8
TCW	**Tory Channel**	9.13	47	P	Pn	13 02 30.2	+4.3
SNZO	**South Karori**	9.27	49	P	Pn	13 02 29.0	+1.2
DUWZ	**D'Urville Isla**	9.27	44	P	Pn	13 02 29.5	+1.5
MSWZ	**Moikau Station**	9.47	51	P	Pn	13 02 33.4	+2.7
PAWZ	**Paruwai Farm**	9.59	51	P	Pn	13 02 35.8	+3.5
KIW	**Kapiti Island**	9.70	48	P	Pn	13 02 35.9	+2.0
MTW	**Mount Morrison**	9.79	51	P	Pn	13 02 38.1	+3.1
OGWZ	**Otaki Gorge**	9.87	48	P	Pn	13 02 37.9	+1.8
HOWZ	**Holdsworth Sta**	9.98	50	P	Pn	13 02 39.8	+2.1
MRZ	**Mangatainoka R**	10.19	49	Pn	Pn	13 02 40.0	-0.5
MRZ	**Mangatainoka R**	10.19	49	P	Pn	13 02 41.2	+0.7
NBEZ	**Newall Road No**	10.50	39	P	Pn	13 02 46.6	+1.8
BFZ	**Birch Farm**	10.52	51	P	Pn	13 02 47.4	+2.4
BFZ	**Birch Farm**	10.52	51	P	Pn	13 02 45.7	+0.7
KHEZ	**Kahui Hut**	10.54	39	P	Pn	13 02 46.6	+1.2
KHEZ	**Kahui Hut**	10.54	39	P	Pn	13 02 45.9	+0.6
PREZ	**Palmer Road**	10.56	40	P	Pn	13 02 47.0	+1.4
LREZ	**Lake Rotokare**	10.57	41	P	Pn	13 02 47.4	+1.7
NEZ	**North Egmont**	10.59	39	P	Pn	13 02 48.3	+2.2
PKE	**Pukeiti**	10.61	39	P	Pn	13 02 47.7	+1.4
VRZ	**Vera Road**	11.00	41	P	Pn	13 02 52.5	+0.9
PKVZ	**Pokaka**	11.14	44	P	Pn	13 02 56.8	+3.3
WNVZ	**Wahianoa**	11.22	45	P	Pn	13 02 55.9	+1.1
FWVZ	**Far West T-bar**	11.26	44	P	Pn	13 02 57.3	+2.0
NGZ	**Ngauruhoe**	11.35	44	P	Pn	13 03 00.3	+3.9
SNVZ	**South Ngauruho**	11.36	44	P	Pn	13 03 00.1	+3.5
OTVZ	**Oturere**	11.39	44	P	Pn	13 02 57.9	+0.9
ETVZ	**East Tongariro**	11.43	44	P	Pn	13 02 59.1	+1.5
KAHZ	**Kahuranaki**	11.50	50	P	Pn	13 03 04.3	+5.8
HIZ	**Hauiti**	11.55	40		Pn	13 02 58.1	-1.0
HIZ	**Hauiti**	11.55	40	P	Pn	13 02 58.5	-0.6
HIZ	**Hauiti**	11.55	40	P	Pn	13 02 59.4	+0.3
RATZ	**Rangitukua**	11.67	44	P	Pn	13 03 02.7	+1.8
BKZ	**Black Stump Fm**	11.78	47	P	Pn	13 03 05.2	+2.8
BKZ	**Black Stump Fm**	11.78	47	P	Pn	13 03 01.2	-1.1
TLZ	**Tolley Road**	12.00	41	P	Pn	13 03 05.5	+0.2
MUGZ	**Murupara**	12.46	46	P	Pn	13 03 13.8	+2.3
AWAZ	**Awhitu Peninsu**	12.70	36	P	Pn	13 03 17.5	+2.7
WTAZ	**Waiatarua**	12.79	35	P	Pn	13 03 18.6	+2.5
URZ	**Urewera**	12.79	46	P	Pn	13 03 15.7	-0.3
URZ	**Urewera**	12.79	46	P	Pn	13 03 15.7	-0.3
MKAZ	**Moumakai**	12.87	37	P	Pn	13 03 17.7	+0.5
MWZ	**Matawai**	12.94	47	P	Pn	13 03 18.9	+0.8
MBAZ	**Motutapu North**	13.06	36	P	Pn	13 03 22.4	+2.7
WIAZ	**Waiheke Island**	13.13	36	P	Pn	13 03 21.5	+0.9
CTZ	**Chatham Island**	13.16	79	P	Pn	13 03 24.0	+3.0
CTZ	**Chatham Island**	13.16	79	P	Pn	13 03 20.7	-0.3
TWGZ	**Tauwhareparae**	13.28	48	P	Pn	13 03 23.7	+0.8
KUZ	**Kuaotunu**	13.41	38	P	Pn	13 03 24.1	-0.4
HAZ	**Te Kaha**	13.51	46	P	Pn	13 03 27.3	+1.4
WCZ	**Waipu Caves**	13.58	32	P	Pn	13 03 27.6	+0.8
TAU	**Tasmania Unive**	13.66	284	P	Pn	13 03 25.4	-2.4
WMGZ	**Waiomatatini S**	13.78	48	P	Pn	13 03 30.4	+0.9
MOO	**Moorlands**	13.96	286	P	Pn	13 03 31.0	-1.0
OUZ	**Omahuta**	13.98	29	P	Pn	13 03 32.9	+0.7
OUZ	**Omahuta**	13.98	29	P	Pn

comp=Z,626nm,18.1s,baz=148,slow=35
PPT2 Papeete2 47.41 66 *e*S **S 13 15 40.8 -1.9**
comp=Z,134nm,27.5s
PPT2 *e*SS **SS 13 19 09.2 -1.2**
comp=Z,157nm,23.8s
PPT2 *e*LR LR 13 22 12.1
comp=Z,487nm,23.5s
PPT2 *e*LR LR 13 22 13.7
comp=Z,507nm,29.8s
PPT Papeete 47.43 66 LR LR 13 28 24.3
comp=Z,228nm,18.1s,baz=232,slow=36
JAY Jayapura 49.94 327 LR LR 13 28 53.2
comp=Z,367nm,20.1s,baz=164,slow=34
MAW Mawson 51.23 209 P **P 13 09 17.8 +0.5**
comp=Z,2.8nm,1.0s,baz=129,slow=13,SNR=2.9
MAW LR LR 13 29 54.6
comp=Z,214nm,18.8s,baz=110,slow=35
comp=Z,2.8nm,1.0s
BATI Baumata 51.34 303 LR LR 13 30 18.8
comp=Z,427nm,21.1s,baz=172,slow=35
SOEI Soe 51.37 304 P **P 13 09 19.0 -0.1**
KAPI Kappang 57.79 303 LR LR 13 35 26.1
comp=Z,449nm,18.4s,baz=151,slow=37
TAOE Nuku Hiva Isla 59.95 68 *e*LR LR 13 27 53.3
comp=Z,490nm,24.7s
SNAA Sanae 60.52 184 P **P 13 10 23.8 -0.1**
SNAA Sanae 60.52 184 P **P 13 10 24.4 +0.5**
comp=Z,9.3nm,1.2s,baz=241,slow=6.2,SNR=4.1
SNAA LR LR 13 33 55.5
comp=Z,160nm,19.2s,baz=190,slow=33
comp=Z,9.3nm,1.2s
PMSA Palmer Station 61.31 158 LR LR 13 31 58.1
comp=Z,226nm,21.7s,baz=234,slow=31
DAV Davao City (W) 64.98 315 LR LR 13 40 38.3
comp=Z,114nm,18.4s,baz=291,slow=37
RPN Rapa Nui 67.34 106 LR LR 13 36 11.2
comp=Z,51nm,18.1s,baz=276,slow=32
H04S2 CROZET ISLANDS 69.36 222 T T 14 27 42.8
baz=139,slow=75,SNR=9.0
H04S1 CROZET ISLANDS 69.36 222 T T 14 27 41.1
baz=139,slow=75,SNR=12
H04S3 CROZET ISLANDS 69.38 222 T T 14 27 39.0
baz=139,slow=75,SNR=15
PSI Prapat 76.57 290 LR LR 13 45 56.9
comp=Z,108nm,20.4s,baz=140,slow=36
PLCA Paso Flores 78.82 140 P **P 13 12 17.7 +0.5**
comp=Z,2.6nm,1.1s,baz=217,slow=7.1,SNR=3.1
PLCA LR LR 13 38 09.4
comp=Z,113nm,20.4s,baz=199,slow=29
comp=Z,2.6nm,1.1s
JOW Kunigami 81.49 327 LR LR 13 46 14.0
comp=Z,166nm,21.3s,baz=300,slow=34
JNU Nakatsue 86.34 331 LR LR 13 52 55.7
comp=Z,58nm,18.1s,baz=162,slow=37
H08S2 Diego Garcia H 86.38 263 T T 14 47 44.7
baz=138,slow=76,SNR=44
H08S1 Diego Carcia H 86.39 263 T T 14 47 49.7
baz=138,slow=76,SNR=51
H08S3 Diego Garcia H 86.40 263 T T 14 47 50.0
baz=138,slow=76,SNR=54
MJAR Matsushiro Arr 87.45 338 LR LR 13 47 16.4
comp=Z,43nm,21.0s,baz=160,slow=32
CMAR Chiang Mai Arr 88.72 299 P **P 13 13 09.2 +1.4**
comp=Z,0.5nm,0.4s,baz=149,slow=4.2,SNR=2.1
CMAR LR LR 13 55 39.6
comp=Z,44nm,18.2s,baz=170,slow=38
comp=Z,0.5nm,0.4s
KSRS Korea Array 91.27 331 LR LR 13 50 03.8
comp=Z,80nm,21.9s,baz=160,slow=33
ASAJ Asahikawa 93.74 344 LR LR 13 50 37.4
comp=Z,190nm,21.0s,baz=164,slow=32
SUR Sutherland 94.09 209 LR LR 13 51 10.3
comp=Z,97nm,19.5s,baz=156,slow=32
BOSA Boshof 95.93 214 LR LR 13 55 24.3
comp=Z,65nm,19.1s,baz=176,slow=34
CPUP Villa Florida 96.77 142 LR LR 13 50 16.8
comp=Z,88nm,20.7s,baz=200,slow=31
NNA Nana 98.86 119 LR LR 13 50 06.5
comp=Z,92nm,19.0s,baz=185,slow=30
LBTB Lobatse 99.02 216 LR LR 13 50 36.7
comp=Z,66nm,21.9s,baz=163,slow=30
HHC Hu-ho-hao-te 100.38 321 *e*P **Pdif 13 14 03.0 +2.3**
KURBB Kurchatov Arra 123.13 311 PKP **PKPdf 13 19 09.3 -0.6**
comp=Z,0.4nm,0.5s,baz=113,slow=2.1,SNR=2.7
TORD Torodi Ar. Bea 142.87 207 PKP **PKPdf 13 19 48.7 +0.7**
comp=Z,0.7nm,0.8s,baz=119,slow=1.6,SNR=3.9
BRTR Keskin Array B 144.77 275 PKP **PKPdf 13 19 51.2 +0.4**
comp=Z,3.2nm,1.0s,baz=172,slow=3.7,SNR=7.1
ARCES ARCESS Array B 150.81 332 PKPbc **PKiKP 13 20 06.5 +0.5**
comp=Z,6.7nm,0.8s,baz=52,slow=7.9,SNR=4.9
AKASG Malin Array Be 151.60 292 PKPbc **PKPbc 13 20 07.5 -0.1**
comp=Z,3.1nm,0.7s,baz=85,slow=2.1,SNR=8.2
FINES FINESS Array B 153.34 316 PKPbc **PKPbc 13 20 11.1 -0.1**
comp=Z,1.8nm,0.7s,baz=222,slow=1.9,SNR=2.1

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*TEH **28** 13:02:32.3, 34°.19N×45°.59E, h13km±25km, ML2.5*
*ISN **28** 13:02:32.5±1.1, 34°.19N×45°.56E, h18km±37km, ML2.5*
ISC 28 13:02:32.5±1.0, 34°.19N±0°.03×45°.58E±0°.03, h13km±11km, n14, σ0°72/19, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.28**	**105**	Pg	**Pg**	**13 02 38.0**	**-0.4**
GLG1				Sg	**Sg**	**13 02 43.1**	**+0.7**
KGS1	**Ghasr-e-Shirin**	**0.32**	**2**	Pg	**Pg**	**13 02 39.1**	**+0.1**
ILBA	**Ilam Banvizeh**	**0.77**	**137**	Pg	**Pg**	**13 02 46.6**	**-0.8**
IGHG	**Ghaleghazi**	**0.83**	**80**	Pg	**Pg**	**13 02 48.5**	**-0.1**
IDHR	**Dehrash**	**0.84**	**52**	Pg	**Pg**	**13 02 48.0**	**-0.8**
IDHR				Sg	**Sb**	**13 03 00.2**	**-0.2**
IBDR	**Badra**	**1.11**	**165**	*e*Pg	**Pg**	**13 02 54.0**	**+0.1**
IBDR				*e*Sg	**Sb**	**13 03 08.0**	**0.0**
KCHF	**Cheshme Sefid,**	**1.21**	**86**	Pg	**Pg**	**13 02 55.8**	**-0.1**
BHD	**Baghdad**	**1.35**	**228**	*e*Pn	**Pg**	**13 02 58.0**	**-0.5**
BHD				*e*Sn	**Sg**	**13 03 17.0**	**+0.9**
ILIN	**Lien**	**1.35**	**57**	Pg	**Pg**	**13 02 58.3**	**-0.2**
IKRK	**Kirkuk**	**1.58**	**320**	*e*Pn	**Pb**	**13 03 01.0**	**-0.6**
IKRK				*e*Sn	**Sg**	**13 03 23.0**	**-0.4**
SNQR	**Sonqor, Kerman**	**1.82**	**68**	Pn	**Pb**	**13 03 05.9**	**+0.1**
IBZA	**Bozab**	**1.91**	**81**	Pn	**Pb**	**13 03 06.2**	**-1.1**
IKFM	**Kafar-mosalman**	**2.00**	**109**	Pn	**Pb**	**13 03 07.5**	**-1.2**
BDRS	**Dareh Seyedi**	**2.75**	**94**	Pn	**Pn**	**13 03 17.8**	**+1.2**

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*IDC **28** 13:37:45.4±1.9, 56°.17N×161°.47E, h0km, mb3.6/5, mbtmp3.5/6, ML2.0/1, MS3.0/1, Error ellipse: s-maj=149.7km s-min=20.4km az=136.0*
*KRSC **28** 13:37:45.2±1.0, 55°.73N×162°.61E, h24km±21km, Ml4.1*
ISC 28 13:37:48.7±0.8, 55°.88N±0°.04×162°.47E±0°.06, h28km, n42, σ1°41/45, mb3.5/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.38**	**30**	*i* P	**Pb**	**13 37 56.2**	**-1.0**
KBTR				*e*S	**Sn**	**13 38 03.4**	**-1.5**
KBG	**Krutoberegovo**	**0.40**	**19**	*e*P	**Pb**	**13 37 56.4**	**-1.1**
KBG				*e*S	**Sn**	**13 38 04.5**	**-0.7**
SMKR	**Semkarok**	**0.90**	**322**	*e*P	**Pn**	**13 38 04.6**	**-1.0**
SMKR				*e*S	**Sn**	**13 38 20.3**	**+2.6**
ZLN	**Zelenaya**	**0.95**	**279**	*e*P	**Pn**	**13 38 04.4**	**-1.9**
CIRR	**Tsirk**	**1.00**	**284**	*e*P	**Pn**	**13 38 05.3**	**-1.7**
BZGR	**Bezymyannyi-Gr**	**1.00**	**274**	*e*P	**Pn**	**13 38 05.8**	**-1.2**
SRKR	**Sorokina**	**1.06**	**317**	*e*S	**Sb**	**13 38 23.5**	**+1.4**
BZP	**Bezymyannyi-Pe**	**1.09**	**273**	*e*P	**Pn**	**13 38 06.2**	**-2.0**
KLY	**Klyuchi**	**1.11**	**294**	*e*P	**Pn**	**13 38 05.6**	**-2.8**
KRSR	**Krestovskiy**	**1.12**	**288**	*e*P	**Pn**	**13 38 06.8**	**-1.8**
KIRR	**Kirishev**	**1.20**	**274**	*e*P	**Pn**	**13 38 09.2**	**-0.6**
KMNR	**Kamenistaya**	**1.27**	**265**	*e*P	**Pn**	**13 38 09.4**	**-1.3**
KPT	**Kopyto**	**1.27**	**275**	*e*P	**Pn**	**13 38 10.7**	**0.0**
TUMR	**Tumrok**	**1.45**	**247**	*e*P	**Pn**	**13 38 12.1**	**-1.1**
TUMR				*e*S	**Sn**	**13 38 31.9**	**+0.6**
KOZ	**Kozyrevsk**	**1.47**	**278**	*e*P	**Pn**	**13 38 13.2**	**-0.2**
SRDR	**Sredinnyy**	**1.61**	**287**	*e*S	**Sb**	**13 38 37.0**	**-0.6**
SPN	**Mys Shipunski**	**3.13**	**208**	*e*P	**Pn**	**13 38 35.6**	**-0.6**
SPN				*e*S	**Sn**	**13 39 11.5**	**-1.0**
NLC	**Nalytchevo**	**3.27**	**215**	*e*P	**Pn**	**13 38 36.8**	**-1.2**
NLC				*e*S	**Sn**	**13 39 13.8**	**-2.1**
SDLR	**Sedlovina**	**3.34**	**220**	*e*P	**Pn**	**13 38 38.2**	**-1.0**
KRX	**Arik**	**3.36**	**223**	*e*P	**Pn**	**13 38 39.2**	**-0.3**
SMAR	**Somma**	**3.38**	**221**	*e*P	**Pn**	**13 38 38.6**	**-1.2**
AVH	**Avacha**	**3.40**	**221**	*e*P	**Pn**	**13 38 39.4**	**-0.6**
UGLR	**Uglovaya**	**3.42**	**220**	*e*P	**Pn**	**13 38 38.8**	**-1.4**
KOK	**Koryaka**	**3.42**	**222**	*e*P	**Pn**	**13 38 39.6**	**-0.6**
DALK	**Dalny**	**3.58**	**219**	*e*P	**Pn**	**13 38 41.0**	**-1.4**
PET	**Petropavlovsk**	**3.63**	**220**	*e*P	**Pn**	**13 38 42.2**	**-0.7**
PETK	**Petropavlovsk-**	**3.93**	**227**	Pn	**Pn**	**13 38 43.8**	**-3.4**
	0.6nm,0.3s,baz=56,slow=16,SNR=2.6						
PETK				Sn	**Sn**	**13 39 31.7**	**-0.6**
	0.9nm,0.3s,baz=93,slow=15,SNR=1.1						
PETK				LR	LR	13 40 22.6	
	comp=Z,193nm,18.7s,baz=47,slow=42						
	5.2nm,1.0s						
KRMR	**Karymshinskiy**	**3.97**	**222**	*e*P	**Pn**	**13 38 48.2**	**+0.5**
GRL	**Gorelyy**	**4.22**	**220**	*e*P	**Pn**	**13 38 51.6**	**+0.4**
MTVR	**Mutnovka**	**4.23**	**218**	*e*P	**Pn**	**13 38 51.3**	**-0.2**
APC	**Apacha**	**4.29**	**229**	*e*P	**Pn**	**13 38 53.5**	**+1.5**
ASAK	**Asacha**	**4.42**	**219**	*e*P	**Pn**	**13 38 53.1**	**-0.8**
KDTR	**Khodutka, Kamc**	**4.84**	**214**	*e*P	**Pn**	**13 39 00.1**	**+0.5**
MJAR	**Matsushiro Arr**	**25.38**	**231**	P	**P**	**13 43 12.4**	**-1.0**
	2.0nm,0.8s,baz=31,slow=8.4,SNR=4.3						
	2.0nm,0.8s						
ILAR	**Eielson Array**	**25.90**	**49**	P	**P**	**13 43 20.3**	**+2.4**
	0.7nm,0.8s,baz=260,slow=8.8,SNR=6.2						
	0.7nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**36.24**	**173**	T	T	14 23 12.0	
	baz=356,slow=76,SNR=869						
H11N3	**WAKE ISLAND Hy**	**36.26**	**173**	T	T	14 23 13.0	
	baz=356,slow=76,SNR=763						
H11N1	**WAKE ISLAND Hy**	**36.26**	**173**	T	T	14 23 12.4	
	baz=356,slow=76,SNR=473						
TXAR	**Lajitas Array**	**68.31**	**70**	P	P	13 48 52.1	+4.8
	0.3nm,0.5s,baz=324,slow=9.0,SNR=2.6						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**79.20**	**207**	P	**P**	**13 49 51.7**	**+0.9**
	0.5nm,1.0s,baz=18,slow=5.6,SNR=2.4						
	0.5nm,1.0s						
ASAR	**Alice Springs**	**82.87**	**206**	P	**P**	**13 50 12.6**	**+2.2**
	0.3nm,0.8s,baz=18,slow=5.1,SNR=2.4						
	0.3nm,0.8s						
QSPA	**South Pole Qui**	**145.63**	**180**	PKPbc	**PKPdf**	**13 57 22.7**	**0.0**
	0.7nm,0.9s,baz=188,slow=1.3,SNR=1.5						

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*IDC **28** 13:43:06.1±1.5, 23°.14N×118°.23E, h0km, mb3.6/3, mbtmp3.7/4, ML3.5/1, MS3.9/4, Error ellipse: s-maj=67.4km s-min=27.3km az=69.0*
ISC 28 13:43:07.5±0.8, 23°.40N±0°.06×118°.60E±0°.07, h10km, n15, σ1°30/15, mb3.7/3, MS4.0/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**1.53**	**360**	Pn	**Pn**	**13 43 34.0**	**-0.9**
QZH				Pg	**Pb**	**13 43 35.8**	**-0.2**
QZH				Sn	**Sn**	**13 43 53.3**	**-1.6**
QZH				Sg	**Sb**	**13 43 56.5**	**+1.0**
QZH				smax	smax		
	comp=N,1μm,0.3s						
QZH				smax	smax		
	comp=E,4μm,0.5s						
QZH				LR	LR		
	comp=Z,1μm,9.1s						
TPUB	**Ta-pu**	**1.87**	**93**	P	**Pn**	**13 43 38.9**	**-0.6**
SSLB	**Suanglung**	**2.19**	**79**	P	**Pn**	**13 43 43.3**	**-0.7**
YHNB	**Yeheng**	**2.83**	**63**	P	**Pn**	**13 43 52.4**	**-0.5**
NACB	**Ninganchiao**	**2.85**	**74**	P	**Pn**	**13 43 54.0**	**+1.0**
TATO	**Taipei**	**3.07**	**59**	P	**Pn**	**13 43 57.9**	**+1.9**
QIZ	**Qiongzhong**	**9.26**	**244**	P	**Pn**	**13 45 21.0**	**-0.1**
QIZ				S	**Sn**	**13 47 07.3**	**+2.0**
QIZ				smax	smax		
	comp=N,27nm,2.8s						
QIZ				smax	smax		
	comp=E,25nm,2.9s						
QIZ				LR	LR		
	comp=N,690nm,8.9s						
QIZ				LR	LR		
	comp=E,430nm,7.5s						
QIZ				LR	LR		
	comp=Z,260nm,11.2s						
KSRS	**Korea Array**	**16.13**	**28**	Pn	**P**	**13 46 59.4**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=209,slow=13,SNR=8.4						
	comp=Z,3.6nm,1.0s						
MKAR	**Makanchi Array**	**37.29**	**318**	P	**P**	**13 50 19.2**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=108,slow=9.0,SNR=3.0						
	comp=Z,0.3nm,0.6s						
WRA	**Warramunga Arr**	**45.74**	**159**	P	**P**	**13 51 27.6**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=343,slow=8.7,SNR=4.4						
	comp=Z,0.6nm,0.6s						
ASAR	**Alice Springs**	**49.09**	**161**	P	**P**	**13 51 54.7**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=337,slow=6.9,SNR=9.7						
	comp=Z,1.0nm,0.7s						
ARTI	**Arti**	**54.41**	**324**	LR	LR	14 18 47.1	
	comp=Z,50nm,18.8s,baz=89,slow=39						
BELG	**Belogornoye**	**60.29**	**318**	LR	LR	14 21 00.4	
	comp=Z,75nm,20.5s,baz=76,slow=38						
FINES	**FINESS Array B**	**70.92**	**329**	LR	LR	14 28 14.4	
	comp=Z,129nm,18.3s,baz=47,slow=38						
HFS	**Hagfors**	**77.08**	**330**	LR	LR	14 29 14.8	
	comp=Z,131nm,20.4s,baz=51,slow=36						

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*CATAC **28** 13:52:13.5±0.0, 12°.07N×89°.24W, h24km±8km, ML3.7*
*SNET **28** 13:52:13.4±1.3, 12°.16N×89°.16W, h15km±7km, ML3.6*
ISC 28 13:52:12.4±2.9, 12°.1N±0°.1×89°.22W±0°.09, h20km±15km, n35, σ0°67/48, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.57**	**6**	*e*P	**Pn**	**13 52 38.7**	**-0.6**
LFRS				*e*S	**Sn**	**13 52 59.5**	**+0.4**
LOMA	**Loma Larga**	**1.58**	**2**	*e*P	**Pn**	**13 52 39.4**	**-0.1**
LOMA	**Loma Larga**	**1.58**	**2**	*i* P	**Pn**	**13 52 38.8**	**-0.7**
LOMA				IAML		13 53 01.5	
	comp=Z,490nm,1.0s						
JAYA	**Jayaque - finc**	**1.61**	**352**	*e*P	**Pn**	**13 52 39.8**	**-0.1**
JAYA				*e*S	**Sn**	**13 52 59.5**	**-0.6**
JAYA				IAML		13 53 00.6	
	comp=Z,836nm,0.1s						
JAYA	**Jayaque - finc**	**1.61**	**352**	*i* P	**Pn**	**13 52 39.7**	**-0.1**
JAYA				*i* S	**Sn**	**13 52 58.2**	**-1.9**
JAYA				IAML		13 53 00.5	
	comp=Z,2μm,1.0s						
LCY	**Lacayo**	**1.64**	**33**	*e*P	**Pn**	**13 52 39.3**	**-0.8**
RANC	**El Ranchito**	**1.65**	**33**	*i* P	**Pn**	**13 52 40.0**	**-0.4**
RANC				IAML		13 53 10.3	
	comp=Z,390nm,1.0s						
PMON	**Piamonte**	**1.65**	**357**	*i* P	**Pn**	**13 52 40.2**	**-0.2**
PMON				IAML		13 53 10.4	
	comp=Z,860nm,1.0s						
PACA	**Pacayal**	**1.66**	**32**	*e*P	**Pn**	**13 52 40.2**	**-0.3**
PACA	**Pacayal**	**1.66**	**32**	*i* P	**Pn**	**13 52 40.2**	**-0.3**
PACA				IAML		13 53 07.8	
	comp=Z,3μm,1.0s						
BOQS	**Boqueron**	**1.68**	**358**	*e*P	**Pn**	**13 52 41.1**	**+0.3**
PAVA	**Las Pavas**	**1.68**	**9**	*e*P	**Pn**	**13 52 40.4**	**-0.4**
PAVA				*e*S	**Sn**	**13 53 02.3**	**+0.6**
BLLM	**Bellamira**	**1.68**	**35**	*e*P	**Pn**	**13 52 40.2**	**-0.6**
PIC2	**El Picacho**	**1.68**	**359**	*e*P	**Pn**	**13 52 41.6**	**+0.7**
LFU	**La Fuente**	**1.69**	**4**	*e*P	**Pn**	**13 52 41.2**	**+0.3**
PQSS	**Presa 15 de Se**	**1.69**	**22**	*i* P	**Pn**	**13 52 40.8**	**0.0**
PQSS				IAML		13 53 05.6	
	comp=Z,610nm,1.0s						
LCND	**La Caada**	**1.80**	**46**	*e*P	**Pn**	**13 52 41.9**	**-0.5**
LCND	**La Caada**	**1.80**	**46**	*i* P	**Pn**	**13 52 42.1**	**-0.3**
LCND				IAML		13 53 10.7	
	comp=Z,660nm,1.0s						
CEVE	**Cerro Verde**	**1.81**	**347**	*e*P	**Pn**	**13 52 42.8**	**+0.1**
CEVE				*e*S	**Sb**	**13 53 07.3**	**0.0**
CEVE				IAML		13 53 09.6	
	comp=Z,707nm,0.3s						
CNCH	**Conchagua**	**1.82**	**48**	*e*P	**Pn**	**13 52 42.8**	**+0.1**
CNCH	**Conchagua**	**1.82**	**48**	*i* P	**Pn**	**13 52 43.0**	**+0.3**
CNCH				IAML		13 53 18.5	
	comp=Z,1μm,1.0s						
CSGN	**Cosiguina Volc**	**1.86**	**60**	*i* P	**Pn**	**13 52 42.9**	**-0.4**
CSGN				*i* S	**Sn**	**13 53 06.2**	**-0.1**
CSGN				IAML		13 53 19.7	
	comp=Z,120nm,1.0s						
NUBE	**Las Nubes**	**1.92**	**344**	*e*P	**Pn**	**13 52 44.2**	**0.0**
NUBE				*e*S	**Sn**	**13 53 06.6**	**-1.2**
NUBE	**Las Nubes**	**1.92**	**344**	*i* P	**Pn**	**13 52 44.1**	**0.0**
NUBE				*i* S	**Sn**	**13 53 06.4**	**-1.4**
NUBE				IAML		13 53 09.7	
	comp=Z,1μm,1.0s						
CAHU	**Cacacuatique**	**1.97**	**30**	*e*P	**Pn**	**13 52 45.3**	**+0.4**
LOAL	**Lomas de Alarc**	**2.01**	**344**	*e*S	**Sn**	**13 53 10.9**	**+1.0**
CRIN	**San Cristobal**	**2.22**	**73**	*i* P	**Pn**	**13 52 47.0**	**-1.1**
CRIN				IAML		13 53 23.0	
	comp=Z,820nm,1.0s						
PKGN	**Cerro Pekin**	**2.28**	**74**	*i* P	**Pn**	**13 52 48.9**	**0.0**
PKGN				*i* S	**Sn**	**13 53 16.1**	**-0.3**
PKGN				IAML		13 53 21.9	
	comp=Z,710nm,1.0s						
MTO3	**Montecristo**	**2.34**	**357**	*e*P	**Pn**	**13 52 50.5**	**+0.6**
MTO3				*e*S	**Sn**	**13 53 19.0**	**+0.8**
MTO3	**Montecristo**	**2.34**	**357**	*i* P	**Pn**	**13 52 50.5**	**+0.6**
MTO3				*i* S	**Sn**	**13 53 18.0**	**-0.2**
MTO3				IAML		13 53 21.2	
	comp=Z,210nm,1.0s						
ESQI	**Esquipulas**	**2.50**	**357**	*e*P	**Pn**	**13 52 53.3**	**+1.2**
ESQI				*e*S	**Sn**	**13 53 22.6**	**+0.7**
MACN	**El Madrono**	**2.52**	**80**	*i* P	**Pn**	**13 52 52.6**	**+0.3**
MACN				IAML		13 53 31.4	
	comp=Z,130nm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.75**	**43**	*i* P	**Pn**	**13 52 55.7**	**+0.1**
TGUH				*i* S	**Sn**	**13 53 28.3**	**0.0**
TGUH				IAML		13 53 38.5	
	comp=Z,200nm,1.0s						
LIMN	**Finca el Limon**	**2.96**	**70**	*i* P	**Pn**	**13 52 58.8**	**+0.4**
LIMN				IAML		13 53 37.6	
	comp=Z,92nm,1.0s						
RCPN	**Sur Rio San Ju**	**3.38**	**64**	*i* P	**Pn**	**13 53 05.6**	**+1.4**
RCPN				IAML		13 53 08.6	
	comp=Z,0.6nm,1.0s						

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*IDC **28** 13:59:08.4±24.0, 37°.88N×20°.77E, h0km, mb3.6/4, mbtmp3.6/4, MS3.5/1, Error ellipse: s-maj=458.2km s-min=49.3km az=38.0*
*ATH **28** 13:59:08.1, 37°.65N×20°.33E, h11km±1km, ML3.3/19, Error ellipse: s-maj=2.1km s-min=1.0km az=38.0*
*THE **28** 13:59:10.0, 37°.74N×20°.43E, h2km±1km, ML3.4/8, Error ellipse: s-maj=1.3km s-min=0.3km az=49.0*
ISC 28 13:59:08.8±1.3, 37°.70N±0°.04×20°.41E±0°.05, h16km±7km, n49, σ0°77/69, mb3.6/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.32**	**96**	P	**Pg**	**13 59 15.8**	**+0.2**
KRI1				S	**Sb**	**13 59 20.9**	**-0.3**
	17μm,0.5s						
LTHK	**Lithakia**	**0.34**	**88**	P	**Pg**	**13 59 16.0**	**+0.2**
LTHK				S	**Sb**	**13 59 21.3**	**-0.3**
	18μm,0.3s						
LTHK	**Lithakia**	**0.34**	**88**	P	**Pg**	**13 59 16.0**	**+0.2**
LTHK				S	**Sb**	**13 59 21.5**	**-0.1**
LTHK				AML	AML	13 59 21.9	
	comp=E,45694μm,0.5s						
LTHK				AML	AML	13 59 21.9	
	comp=N,23814μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.44**	**18**	P	**Pb**	**13 59 17.9**	**-0.3**
PSDA				S	**Sg**	**13 59 23.2**	**-0.4**
	comp=N,5μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.44**	**18**	P	**Pb**	**13 59 17.9**	**-0.3**
PSDA				S	**Sb**	**13 59 24.9**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.47**	**37**	P	**Pb**	**13 59 18.5**	**-0.3**
RTZL				S	**Sb**	**13 59 24.5**	**-1.1**
VLS	**Valsamata**	**0.50**	**16**	P	**Pg**	**13 59 18.8**	**0.0**
VLS				S	**Sg**	**13 59 25.2**	**-0.3**
	comp=N,4μm,0.3s						
VLS	**Valsamata**	**0.50**	**16**	P	**Pb**	**13 59 19.0**	**-0.3**
VLS				S	**Sb**	**13 59 26.7**	**+0.3**
VLS				AML	AML	13 59 29.6	
	comp=E,7130μm,0.2s						
VLS				AML	AML	13 59 32.4	
	comp=N,7549μm,0.4s						
DMLN	**Damoulianata-K**	**0.54**	**357**	P	**Pg**	**13 59 19.8**	**+0.2**
DMLN				S	**Sg**	**13 59 26.9**	**0.0**
	comp=N,5μm,0.4s						
DMLN	**Damoulianata-K**	**0.54**	**357**	P	**Pg**	**13 59 19.9**	**+0.2**
DMLN				S	**Sb**	**13 59 27.3**	**-0.2**
SMHA	**Samh**	**0.58**	**18**	P	**Pg**	**13 59 19.6**	**-0.8**
SMHA				S	**Sb**	**13 59 28.5**	**-0.2**
VSK1	**VASILIKIADES**	**0.72**	**9**	P	**Pg**	**13 59 22.8**	**-0.1**
VSK1				S	**Sb**	**13 59 32.8**	**+0.1**
	comp=N,3μm,0.4s						
FSK	**Fiskardo**	**0.77**	**9**	P	**Pg**	**13 59 23.4**	**-0.5**
FSK				S	**Sn**	**13 59 34.9**	**-1.4**
	comp=N,2μm,0.7s						
FSK	**Fiskardo**	**0.77**	**9**	P	**Pg**	**13 59 23.6**	**-0.2**
FSK				S	**Sn**	**13 59 35.5**	**-0.8**
FSK				AML	AML	13 59 44.3	
	comp=N,3539μm,0.7s						
FSK				AML	AML	13 59 46.2	
	comp=E,3804μm,0.7s						
RLS	**Riolos of Patr**	**0.91**	**66**	P	**Pg**	**13 59 26.5**	**0.0**
RLS	**Riolos of Patr**	**0.91**	**66**	P	**Pg**	**13 59 26.4**	**0.0**
RLS				S	**Sn**	**13 59 40.3**	**+0.6**
RLS				AML	AML	13 59 45.1	
	comp=E,2386μm,0.5s						
RLS				AML	AML	13 59 45.2	
	comp=N,2992μm,0.9s						
AMT	**Artemida-Makis**	**1.04**	**99**	P	**Pb**	**13 59 28.5**	**0.0**
AMT				S	**Sg**	**13 59 42.4**	**-0.2**
AMT				AML	AML	13 59 50.9	
	comp=E,8256μm,0.4s						
AMT				AML	AML	13 59 52.5	
	comp=N,8748μm,0.6s						
DRO	**Drossia**	**1.06**	**76**	P	**Pg**	**13 59 29.4**	**+0.1**
DRO				S	**Sn**	**13 59 44.7**	**+1.2**
	comp=N,2μm,0.5s						
DRO	**Drossia**	**1.06**	**76**	P	**Pn**	**13 59 29.1**	**0.0**
DRO				S	**Sn**	**13 59 45.3**	**+1.8**
DRO				AML	AML	13 59 53.7	
	comp=E,5472μm,0.5s						
DRO				AML	AML	13 59 57.1	
	comp=N,4042μm,0.4s						
UPR	**University Cam**	**1.23**	**61**	P	**Pg**	**13 59 32.1**	**-0.5**
ITM	**Ithomi**	**1.31**	**113**	P	**Pn**	**13 59 33.1**	**+0.6**
ITM				S	**Sg**	**13 59 50.7**	**-0.5**
ITM				AML	AML	13 59 58.8	
	comp=N,1391μm,0.4s						
ITM				AML	AML	14 00 04.4	
	comp=E,1138μm,0.5s						
PYL	**PYLOS**	**1.33**	**127**	P	**Pn**	**13 59 32.8**	**+0.1**
PYL				S

AXAR				AML	AML	14 00 36.5	
	comp=N,1994μm,1.0s						
KEK	**Kerkira**	**2.07**	**347**	P	**Pn**	**13 59 44.4**	**+1.5**
KEK	**Kerkira**	**2.07**	**347**	P	**Pn**	**13 59 44.5**	**+1.5**
KEK				AML	AML	14 00 28.9	
	comp=E,798μm,0.6s						
KEK				AML	AML	14 00 36.0	
	comp=N,648μm,0.7s						
VLI	**Veliai**	**2.24**	**115**	P	**Pb**	**13 59 48.0**	**-0.9**
VLI	**Veliai**	**2.24**	**115**	P	**Pb**	**13 59 47.6**	**-1.3**
THL	**Klokotos Trika**	**2.25**	**33**	P	**Pb**	**13 59 48.6**	**-0.4**
THL				AML	AML	14 00 32.1	
	comp=N,294μm,0.6s						
THL				AML	AML	14 00 39.2	
	comp=E,328μm,1.3s						
VILL	**Villia**	**2.34**	**78**	P	**Pb**	**13 59 48.8**	**-1.8**
XOR	**Xorichti**	**2.74**	**52**	P	**Pn**	**13 59 54.2**	**+2.0**
PTL	**Penteli**	**2.75**	**82**	P	**Pn**	**13 59 53.9**	**+1.5**
PLG	**Polygyros**	**3.57**	**41**	P	**Pn**	**14 00 05.0**	**+1.5**
HFS	**Hagfors**	**22.86**	**351**	P	**P**	**14 04 11.4**	**+0.1**
	comp=E,0.8nm,0.7s,baz=161,slow=9.2,SNR=1.0						
	comp=E,0.8nm,0.7s						
FINES	**FINESS Array B**	**24.04**	**7**	P	**P**	**14 04 23.0**	**+0.2**
	comp=E,2.9nm,1.0s,baz=177,slow=11,SNR=1.6						
	comp=E,2.9nm,1.0s						
AKTO	**Aktyubinsk**	**29.54**	**52**	LR	LR	14 20 03.8	
	comp=E,86nm,18.0s,baz=346,slow=43						
MKAR	**Makanchi Array**	**45.63**	**58**	P	**P**	**14 07 27.6**	**-0.8**
	comp=E,0.3nm,0.5s,baz=274,slow=7.8,SNR=2.9						
	comp=E,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**46.08**	**48**	P	**P**	**14 07 31.1**	**-0.6**
	comp=E,0.8nm,0.4s,baz=280,slow=7.5,SNR=4.6						
	comp=E,0.8nm,0.4s						

*KOLA **28** 14:00:03.2, 78°.22N×8°.23E, h0km, ML2.1, Error ellipse: s-maj=15.6km s-min=10.7km az=80.0, Greenland sea, Knipovich ridge, middle*
*BER **28** 14:00:05.5±1.9, 78°.24N×7°.93E, h10km, mb(Pn)3.1, Confirmed Earthquake*
ISC 28 14:00:02.5±2.1, 78°.22N±0°.08×7°.65E±0°.06, h14km±15km, n11, σ0s86/19, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.11**	**48**	P	**Pb**	**14 00 23.5**	**+0.1**
KBS				S	**Sb**	**14 00 36.6**	**-1.2**
KBS	**Kingsbay**	**1.11**	**48**	*e*P	**Pg**	**14 00 23.8**	**-0.1**
KBS				*e*S	**Sb**	**14 00 36.6**	**-1.2**
KBS				IAML		14 00 39.0	
	comp=Z,57nm,0.3s						
BRBB	**Barentsburg B**	**1.36**	**92**	P	**Pn**	**14 00 27.7**	**+0.7**
BRBB				S	**Sb**	**14 00 44.5**	**-0.4**
BRBB	**Barentsburg B**	**1.36**	**92**	*e*P	**Pb**	**14 00 27.9**	**+0.3**
BRBB				*e*S	**Sb**	**14 00 43.9**	**-0.9**
BRBA	**Barentsburg A**	**1.37**	**93**	*e*P	**Pb**	**14 00 27.9**	**+0.2**
BRBA				*e*S	**Sb**	**14 00 44.4**	**-0.6**
BRBA				IAML		14 00 49.0	
	comp=Z,25nm,0.2s						
SPA0	**Spitsbergen Ar**	**1.79**	**87**	*e*P	**Pb**	**14 00 35.0**	**0.0**
SPA0				*e*S	**Sn**	**14 00 56.8**	**+1.3**
SPA0				IAML		14 00 58.8	
	comp=Z,19nm,0.2s						
SPITS	**Spitsbergen Ar**	**1.79**	**87**	P	**Pb**	**14 00 34.7**	**-0.3**
SPITS				S	**Sn**	**14 00 56.5**	**+1.0**
HSPB	**Hornsund (broa**	**2.09**	**122**	P	**Pn**	**14 00 37.5**	**+0.5**
HSPB				S	**Sn**	**14 01 01.7**	**-1.1**
HSPB	**Hornsund (broa**	**2.09**	**122**	*e*P	**Pn**	**14 00 37.9**	**+0.9**
HSPB				*e*S	**Sn**	**14 01 01.6**	**-1.1**
HSPB				IAML		14 01 05.0	
	comp=Z,9.4nm,0.3s						
DAG	**Danmarks Havn**	**5.86**	**269**	*i* P	**Pn**	**14 01 29.0**	**+0.3**
DAG				*i* S	Sn	14 02 26.4	-9.0
DBG	**Daneborg**	**7.62**	**253**	*i* P	Pn	14 01 59.6	+6.7
DBG				*i* S	Sn	14 03 09.4	-9.5

PRE 28 14:01:25.2±0.9, 25°.71S×29°.12E, h0km, ML2.3, Explosion, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLN	**Carolina, Mapu**	**0.86**	**109**	*e*P	Pg	14 01 33.5	-8.2
CRLN				*e*S	Sg	14 01 43.6	-9.2
CRLN				IAML		14 01 51.7	
	comp=Z,117nm,0.7s						
DULL	**Dullstroom, Mp**	**1.01**	**70**	*e*P	Pg	14 01 39.9	-4.7
DULL				*e*S	Sg	14 01 55.6	-2.1
DULL				IAML		14 02 02.0	
	comp=Z,40nm,1.1s						
HRAO	**HartRAO**	**1.31**	**262**	*e*P	Pg	14 01 49.8	-0.5
HRAO				*e*S	Sb	14 02 08.0	-0.2
HRAO				IAML		14 02 08.0	
	comp=Z,53nm,0.7s						
PILG	**Pilgrimsrest,**	**1.63**	**62**	*e*P	Pn	14 01 51.9	-3.5
PILG				*e*S	Sn	14 02 16.0	-1.3
PILG				IAML		14 02 18.4	
	comp=Z,48nm,0.6s						
PILG	**Pilgrimsrest,**	**1.63**	**62**	*e*P	Pn	14 01 55.7	+0.3
PILG				*e*S	Sg	14 02 18.2	+0.5
PILG				IAML		14 02 18.4	
	comp=Z,46nm,0.6s						
PRYS	**Parys**	**1.99**	**232**	*e*P	Pn	14 01 55.2	-5.1
PRYS				*e*S	Sn	14 02 19.0	-7.0
PRYS				IAML		14 02 26.6	
	comp=Z,58nm,0.2s						
PRYS	**Parys**	**1.99**	**232**	*e*P	Pn	14 02 00.7	+0.4
PRYS				*e*S	Sn	14 02 26.9	+0.8
PRYS				IAML		14 02 27.0	
	comp=Z,61nm,0.2s						
LEPH	**Lephalale, Lim**	**2.20**	**327**	*e*P	Pn	14 02 04.1	+1.0
LEPH				*e*S	Sn	14 02 32.0	+0.8
LEPH				IAML		14 02 42.0	
	comp=Z,26nm,0.8s						
SNKL	**Senekal, Frees**	**2.82**	**205**	*e*P	Pn	14 02 12.8	+1.0
SNKL				*e*S	Sn	14 02 46.4	-0.3
SNKL				IAML		14 02 49.9	
	comp=Z,24nm,0.2s						
LBTB	**Lobatse**	**3.27**	**282**	*e*P	Pn	14 02 18.4	+0.6
LBTB				*e*S	Sn	14 02 58.4	+1.0
LBTB				IAML		14 03 21.1	
	comp=Z,10nm,0.3s						
MUSN	**Musina, Limpop**	**3.48**	**11**	*e*P	Pn	14 02 19.6	-1.1
MUSN				*e*S	Sn	14 03 03.7	+1.2
MUSN				IAML		14 03 29.2	
	comp=Z,5.1nm,0.7s						
PMBG	**Pietermaritzbu**	**3.98**	**162**	*e*P	Pn	14 02 28.2	+0.6
PMBG				*e*S	Sn	14 03 14.7	-0.3
PMBG				IAML		14 03 15.2	
	comp=Z,14nm,0.7s						
BOSA	**Boshof**	**4.50**	**229**	*e*P	Pn	14 02 28.9	-5.9
BOSA				*e*S	Sn	14 03 19.0	-8.8
BOSA				IAML		14 03 39.2	
	comp=Z,11nm,0.5s						
BOSA	**Boshof**	**4.50**	**229**	*e*P	Pn	14 02 36.2	+1.4
BOSA				*e*S	Sn	14 03 27.0	-0.8
BOSA				IAML		14 03 39.2	
	comp=Z,11nm,0.5s						
KSTD	**Kokstad**	**4.89**	**178**	*e*P	Pn	14 02 41.5	+1.3
KSTD				*e*S	Sn	14 03 36.6	-0.9
KSTD				IAML		14 04 03.8	
	comp=Z,4.1nm,0.9s						

*IDC **28** 14:04:22.9±3.8, 25°.98N×125°.77E, h111km±23km, mb3.7/12, mbtmp4.0/15, Error ellipse: s-maj=54.2km s-min=20.3km az=6.0*
*JMA **28** 14:04:23.9±0.3, 26°.N±2°.×12°.6E±°, h111km±4km, MV3.8/23, NW OFF MIYAKOJIMA ISLAND*
*NEIC **28** 14:04:25.2±1.2, 26°.1N±0°.2×125°.6E±0°.1, h115km±14km, mb4.4/30, Error ellipse: s-maj=30.6km s-min=10.1km az=155.0*
ISC 28 14:04:24.0±0.7, 25°.96N±0°.09×125°.75E±0°.06, h120km±8km, n86, σ1s13/99, mb4.3/28, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.00**	**68**	P	**Pn**	**14 04 46.0**	**0.0**
JKE				S	**Sn**	**14 05 01.4**	**-1.3**
JIKM	**Ikemajima**	**1.12**	**204**	P	**Pn**	**14 04 47.9**	**+0.6**
JIKM				S	**Sn**	**14 05 05.2**	**+0.4**
JMJ	**Miyako jima 2**	**1.21**	**200**	P	**Pn**	**14 04 49.6**	**+1.4**
JOGS	**Gusukube**	**1.23**	**195**	P	**Pn**	**14 04 49.4**	**+1.0**
JIRB	**Irabujima**	**1.24**	**205**	P	**Pn**	**14 04 48.9**	**+0.4**
JIRB				S	**Sn**	**14 05 06.4**	**-0.6**
JMJ2	**Miyako jima3**	**1.27**	**197**	P	**Pn**	**14 04 49.6**	**+0.8**
JMJ2				*e*S	**Sn**	**14 05 08.1**	**+0.5**
JAGN	**Aguni-jima**	**1.48**	**65**	*i* P	**Pn**	**14 04 51.3**	**+0.2**
JAGN				S	**Sn**	**14 05 10.9**	**-1.0**
JTJ	**Tarama**	**1.62**	**216**	P	**Pn**	**14 04 53.1**	**+0.3**
JTJ				S	**Sn**	**14 05 13.9**	**-0.7**
JJT3	**Tamagusuku3**	**1.84**	**84**	P	**Pn**	**14 04 56.4**	**+0.9**
JJT3				*e*S	**Sn**	**14 05 19.6**	**+0.2**
JISG	**Ishigakijimahi**	**1.89**	**224**	*i* P	**Pn**	**14 04 56.2**	**+0.2**
JISG				S	**Sn**	**14 05 19.1**	**-1.3**
JNTH	**Nagotoyohara**	**2.12**	**74**	*i* P	**Pn**	**14 04 59.1**	**+0.2**
JIJ	**Ishigaki jima**	**2.15**	**223**	*i* P	**Pn**	**14 04 59.1**	**-0.2**
JIJ				S	**Sn**	**14 05 24.2**	**-2.2**
JIH	**Iheya**	**2.26**	**61**	*i* P	**Pn**	**14 05 00.8**	**+0.2**
JKRS	**Kuro-shima**	**2.33**	**223**	P	**Pn**	**14 05 01.5**	**0.0**
JKRS				S	**Sn**	**14 05 29.4**	**-1.0**
JOW	**Kunigami**	**2.43**	**68**	Pn	**Pn**	**14 05 02.8**	**0.0**
JOW	**Kunigami**	**2.43**	**68**	P	**Pn**	**14 05 02.7**	**-0.2**
	118nm,0.3s,baz=108,slow=26,SNR=163						
JOW				S	**Sn**	**14 05 30.6**	**-2.0**
	151nm,0.2s,baz=121,slow=26,SNR=20						
JOW	**Kunigami**	**2.43**	**68**	P	**Pn**	**14 05 02.7**	**-0.2**
JOW	**Kunigami**	**2.43**	**68**	P	**Pn**	**14 05 02.6**	**-0.2**
JOW				S	**Sn**	**14 05 30.4**	**-2.3**
IRIF	**Iriomote-Funau**	**2.44**	**229**	*i* P	**Pn**	**14 05 02.9**	**-0.1**
IRIF				S	**Sn**	**14 05 31.7**	**-1.2**
JYRO	**Yoronjima**	**2.65**	**66**	P	**Pn**	**14 05 05.3**	**-0.3**
JOKE	**Okinoerabujima**	**2.89**	**60**	*i* P	**Pn**	**14 05 08.2**	**-0.6**
YOJ	**Yonaguni jima**	**2.89**	**240**	Pn	**Pn**	**14 05 09.4**	**+0.5**
YOJ	**Yonaguni jima**	**2.89**	**240**	P	**Pn**	**14 05 09.5**	**+0.6**
JYNG	**Yonaguni jima**	**2.95**	**240**	S	**Sn**	**14 05 44.0**	**-0.7**
JTK	**Tokunoshima**	**3.39**	**57**	*i* P	**Pn**	**14 05 14.8**	**-0.7**
TATO	**Taipei**	**3.97**	**257**	P	**Pn**	**14 05 25.4**	**+2.2**
YHNB	**Yeheng**	**4.16**	**253**		**Pn**	**14 05 27.5**	**+1.7**
YHNB	**Yeheng**	**4.16**	**253**	P	**Pn**	**14 05 28.0**	**+2.3**
NACB	**Ninganchiao**	**4.16**	**246**		**Pn**	**14 05 24.8**	**-0.9**
NACB	**Ninganchiao**	**4.16**	**246**	P	**Pn**	**14 05 25.5**	**-0.2**
YULB	**Yu-li**	**4.79**	**239**		**Pn**	**14 05 32.7**	**-1.4**
YULB	**Yu-li**	**4.79**	**239**	P	**Pn**	**14 05 32.9**	**-1.2**
SSLB	**Suanglung**	**4.86**	**245**		**Pn**	**14 05 34.8**	**-0.4**
SSLB	**Suanglung**	**4.86**	**245**	P	**Pn**	**14 05 34.9**	**-0.2**
JMZ	**Minamidaito 2**	**4.93**	**90**	P	Pn	14 05 27.2	-8.8
TPUB	**Ta-pu**	**5.36**	**241**		**Pn**	**14 05 41.9**	**+0.1**
TPUB	**Ta-pu**	**5.36**	**241**	P	**Pn**	**14 05 41.4**	**-0.4**
KNMB	**Chin-men Tao**	**6.83**	**259**	Pn	**Pn**	**14 06 01.1**	**-0.5**
JNU	**Nakatsue**	**8.42**	**31**	P	**Pn**	**14 06 23.6**	**+0.4**
	5.4nm,0.8s,baz=211,slow=12,SNR=8.2						
JNU	**Nakatsue**	**8.42**	**31**	P	**Pn**	**14 06 24.0**	**+0.9**
KSRS	**Korea Array**	**11.61**	**9**	P	**Pn**	**14 07 06.2**	**+0.3**
	0.8nm,0.6s,baz=192,slow=12,SNR=4.8						
SONM	**Songino Array**	**26.62**	**330**	P	**P**	**14 09 51.1**	**-0.2**
	1.6nm,0.4s,baz=137,slow=10,SNR=7.9						
	1.6nm,0.4s						
PETK	**Petropavlovsk-**	**36.11**	**33**	P	**P**	**14 11 13.0**	**-1.3**
	3.3nm,0.8s,baz=228,slow=2.7,SNR=1.6						
	3.3nm,0.8s						
MK31	**Makanchi Array**	**40.07**	**313**	P	**P**	**14 11 47.2**	**-0.3**
MKAR	**Makanchi Array**	**40.07**	**313**	P	**P**	**14 11 47.0**	**-0.6**
	0.7nm,0.4s,baz=99,slow=9.5,SNR=12						
	0.7nm,0.4s						
ZAA0	**Zalesovo Array**	**41.13**	**324**	P	**P**	**14 11 56.3**	**+0.2**
ZALV	**Zalesovo Beam**	**41.13**	**324**	P	**P**	**14 11 54.6**	**-1.5**
ZALV	**Zalesovo Beam**	**41.13**	**324**	P	**P**	**14 11 55.4**	**-0.8**
	0.8nm,0.3s,baz=114,slow=10.0,SNR=4.8						
	0.8nm,0.3s						
KURBB	**Kurchatov Arra**	**43.52**	**317**	P	**P**	**14 12 14.6**	**-0.9**
	0.6nm,0.4s,baz=110,slow=10,SNR=1.3						
	0.6nm,0.4s						
BVAR	**Borovoye Array**	**49.00**	**319**	P	**P**	**14 12 57.4**	**-0.9**
	0.3nm,0.3s,baz=108,slow=9.0,SNR=3.3						
BVAR				PcP	**PcP**	**14 14 20.9**	**+0.4**
	0.7nm,0.4s,baz=111,slow=3.0,SNR=6.0						
	0.3nm,0.3s						
BRVK	**Borovoye**	**49.07**	**319**	P	**P**	**14 12 58.1**	**-0.7**
ABKAR	**Akbulak array**	**55.21**	**313**	P	**P**	**14 13 44.3**	**-0.1**
M14K	**Bethel**	**59.09**	**33**	P	**P**	**14 14 12.9**	**+1.5**
N15K	**Kwethluk River**	**60.01**	**34**	P	**P**	**14 14 19.4**	**+1.6**
J17K	**VABM Dome**	**60.50**	**30**	P	**P**	**14 14 22.4**	**+1.3**
J17K				IAmb	IAmb	14 14 23.4	
	comp=Z,6.4nm,1.1s						
K17K	**Iditarod**	**60.85**	**31**	P	**P**	**14 14 24.5**	**+1.1**
D19K	**Kuna River**	**61.04**	**24**	P	**P**	**14 14 25.9**	**+1.2**
D19K				IAmb	IAmb	14 14 36.8	
	comp=Z,7.4nm,1.4s						
E19K	**Redstone River**	**61.34**	**25**	P	**P**	**14 14 27.7**	**+1.1**
E19K				IAmb	IAmb	14 14 34.2	
	comp=Z,4.6nm,1.1s						
L18K	**Granite Mounta**	**61.61**	**31**	P	**P**	**14 14 30.6**	**+2.0**
TTA	**Tatalina**	**61.90**	**31**	P	**P**	**14 14 31.7**	**+1.1**
TTA				IAmb	IAmb	14 14 41.4	
	comp=Z,6.3nm,1.5s						
J19K	**Poorman**	**62.03**	**29**	P	**P**	**14 14 32.7**	**+1.3**
J19K				IAmb	IAmb	14 14 35.2	
	comp=Z,10nm,1.4s						
J20K	**Nowinta River**	**62.67**	**29**	P	**P**	**14 14 37.2**	**+1.6**
J20K				IAmb	IAmb	14 14 38.2	
	comp=Z,6.8nm,1.4s						
K20K	**Telida**	**62.76**	**30**	P	**P**	**14 14 38.3**	**+2.1**
K20K				IAmb	IAmb	14 14 41.4	
	comp=Z,8.3nm,1.4s						
D22K	**Ayikyak River**	**63.03**	**24**	P	**P**	**14 14 39.5**	**+1.6**
E22K	**Anaktuvuk Pass**	**63.38**	**25**	P	**P**	**14 14 41.5**	**+1.1**
E22K				IAmb	IAmb	14 14 44.9	
	comp=Z,5.0nm,1.2s						
BPAW	**Bear Paw Mtn.**	**64.06**	**29**	P	**P**	**14 14 46.3**	**+1.5**
BPAW				IAmb	IAmb	14 14 49.4	
	comp=Z,5.3nm,1.4s						
F24K	**Squaw Lake**	**64.92**	**25**	P	**P**	**14 14 52.0**	**+1.6**
RND	**Reindeer**	**65.09**	**30**	P	**P**	**14 14 52.2**	**+0.6**
G24K	**Hadweenzic Riv**	**65.19**	**26**	P	**P**	**14 14 54.1**	**+1.9**
G24K				IAmb	IAmb	14 15 00.5	
	comp=Z,6.7nm,1.5s						
CCB	**Clear Creek Bu**	**65.36**	**28**	P	**P**	**14 14 53.9**	**+0.7**
IL31		**65.73**	**28**	P	**P**	**14 14 56.7**	**+1.2**
IL31				IAmb	IAmb	14 15 24.2	
	comp=Z,7.0nm,1.5s						
ILAR	**Eielson Array**	**65.73**	**28**	P	**P**	**14 14 55.4**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=258,slow=4.9,SNR=8.7						
	comp=Z,0.3nm,0.5s						
BMAR	**Burnt Mountain**	**66.20**	**25**	P	**P**	**14 15 01.3**	**+2.7**
D27M	**Malcolm River**	**67.15**	**23**	P	**P**	**14 15 06.3**	**+1.7**
D27M				IAmb	IAmb	14 15 07.3	
	comp=Z,2.3nm,0.5s						
E28M	**Babbage River**	**67.80**	**23**	P	**P**	**14 15 10.6**	**+1.9**
E28M				IAmb	IAmb	14 15 11.6	
	comp=Z,4.1nm,0.8s						
BCAR	**Beaver Creek A**	**68.29**	**29**	P	**P**	**14 15 13.3**	**+1.4**
SPITS	**Spitsbergen Ar**	**68.63**	**348**	P	**P**	**14 15 13.4**	**-0.3**
	comp=Z,16nm,1.1s,baz=46,slow=8.3,SNR=1.7						
	comp=Z,16nm,1.1s						
EPYK	**Eagle Plains**	**69.46**	**25**	P	**P**	**14 15 20.1**	**+1.0**
EPYK				IAmb	IAmb	14 15 21.3	
	comp=Z,4.8nm,0.9s						
L29M	**L29M**	**69.88**	**29**	P	**P**	**14 15 23.9**	**+2.2**
L29M				IAmb	IAmb	14 15 33.6	
	comp=Z,7.5nm,1.4s						
J30M	**Hart River**	**70.18**	**27**	P	**P**	**14 15 25.4**	**+1.8**
J30M				IAmb	IAmb	14 15 29.3	
	comp=Z,7.6nm,1.5s						
A36M	**Sachs Harbour**	**71.18**	**18**	P	**P**	**14 15 29.7**	**+0.4**
FINES	**FINESS Array B**	**71.99**	**330**	P	**P**	**14 15 33.8**	**-0.6**
FINES	**FINESS Array B**	**71.99**	**330**	P	**P**	**14 15 34.4**	**0.0**
	comp=Z,0.7nm,0.5s,baz=32,slow=5.4,SNR=1.5						
	comp=Z,0.7nm,0.5s						
HFS	**Hagfors**	**78.01**	**332**	P	**P**	**14 16 08.5**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=86,slow=6.4,SNR=1.4						
	comp=Z,1.3nm,0.7s						
NOA	**NORSAR Array B**	**78.56**	**333**	P	**P**	**14 16 11.7**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=59,slow=5.2,SNR=3.6						
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**79.70**	**24**	P	**P**	**14 16 18.8**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=321,slow=6.5,SNR=7.0						
	comp=Z,0.5nm,0.7s						

*ISN **28** 14:10:52.9±0.6, 34°.41N×45°.77E, h16km±6km, ML3.4*
*TEH **28** 14:10:53.2, 34°.44N×45°.76E, h10km±19km, ML3.1*
ISC 28 14:10:53.5±1.1, 34°.43N±0°.03×45°.77E±0°.03, h10km±10km, n20, σ1s08/27, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.17**	**297**	Pg	**Pg**	**14 10 57.1**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.33**	**160**	Pg	**Pb**	**14 11 00.5**	**-1.1**
IDHR	**Dehrash**	**0.58**	**62**	Pg	**Pg**	**14 11 04.6**	**-0.1**
IDHR				Sg	**Sb**	**14 11 13.6**	**-0.5**
IGHG	**Ghaleghazi**	**0.67**	**98**	Pg	**Pb**	**14 11 06.8**	**-0.5**
IGHG				Sg	**Sn**	**14 11 17.9**	**-1.9**
ILBA	**Ilam Banvizeh**	**0.88**	**156**	Pg	**Pg**	**14 11 10.0**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.06**	**98**	Pg	**Pb**	**14 11 13.6**	**-0.5**
ILIN	**Lien**	**1.10**	**63**	Pg	**Pb**	**14 11 14.3**	**-0.4**
ILIN				Sg	**Sn**	**14 11 30.4**	**-0.1**
IBDR	**Badra**	**1.32**	**174**	*e*Pn	**Pb**	**14 11 18.0**	**-0.4**
IBDR				*e*Sn	**Sg**	**14 11 37.0**	**+1.0**
IBDR				AML	AML	14 11 41.8	
	comp=N,694nm,0.8s						
IBDR				AML	AML	14 11 42.0	
	comp=E,723nm,0.5s						
IKRK	**Kirkuk**	**1.52**	**310**	*e*Pn	**Pb**	**14 11 21.5**	**-0.3**
IKRK				*e*Sn	**Sg**	**14 11 42.5**	**-0.1**
IKRK				AML	AML	14 11 44.9	
	comp=N,682nm,0.4s						
IKRK				AML	AML	14 11 45.3	
	comp=E,792nm,0.5s						
SNQR	**Sonqor, Kerman**	**1.59**	**74**	Pg	**Pg**	**14 11 23.2**	**-0.8**
BHD	**Baghdad**	**1.64**	**225**	*e*Pn	**Pb**	**14 11 22.5**	**-1.2**
BHD				*e*Sn	**Sb**	**14 11 44.3**	**-0.1**
BHD				AML	AML	14 11 49.1	
	comp=E,575nm,0.6s						
SDS1	**Sardasht. Az.**	**1.73**	**352**	Pg	**Pb**	**14 11 25.0**	**-0.6**
IKFM	**Kafar-mosalman**	**1.95**	**117**	Pn	**Pb**	**14 11 28.2**	**-0.8**
MAHB	**Mahabad**	**2.33**	**359**	Pn	**Pb**	**14 11 33.9**	**-1.8**
HSAM	**Samen**	**2.35**	**94**	Pn	**Pn**	**14 11 33.5**	**+1.1**
BDRS	**Dareh Seyedi**	**2.62**	**100**	Pn	**Pn**	**14 11 37.4**	**+1.3**
RAFI	**Al-Rafai**	**2.71**	**174**	*e*Pn	**Pn**	**14 11 38.0**	**+0.9**
RAFI				*e*Sn	**Sn**	**14 12 10.0**	**0.0**
HAGD	**Aghdareh**	**2.81**	**81**	Pn	**Pn**	**14 11 40.6**	**+2.0**
IHRS	**Heris**	**4.01**	**14**	Pn	**Pn**	**14 11 57.0**	**+1.8**
IKLH	**Kolahrood**	**4.96**	**101**	Pn	**Pn**	**14 12 09.8**	**+1.5**

*IDC **28** 14:21:30.2±1.8, 30°.66N×137°.67E, h474km±23km, mb2.9/9, mbtmp3.8/13, Error ellipse: s-maj=25.1km s-min=13.3km az=79.0*
*JMA **28** 14:21:32.8±0.5, 31°.N±4°.×13°.8E±°, h485km, MV3.4/27, SHIKOKU BASIN*
ISC 28 14:21:31.5±1.0, 30°.9N±0°.1×137°.9E±0°.1, h500km, n21, σ2s20/21, mb3.2/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.73**	**36**	P	**P**	**14 22 40.6**	**0.0**
JTNC	**Tanabenakahech**	**3.51**	**327**	*e*P	**P**	**14 22 44.9**	**-1.2**
JKN2	**Miekihoku**	**3.61**	**338**	P	**P**	**14 22 46.0**	**-0.7**
JIE	**Ise**	**3.63**	**344**	*e*P	**P**	**14 22 46.5**	**-0.4**
BSO3	**Boso 3**	**4.46**	**29**	*e*S	**S**	**14 23 56.0**	**-4.2**
JRY	**Ryogami san**	**5.17**	**9**	P	**P**	**14 22 59.1**	**-0.8**
MJAR	**Matsushiro Arr**	**5.63**	**2**	P	**P**	**14 23 03.1**	**-1.1**
	2.9nm,0.6s,baz=182,slow=10.0,SNR=9.2						
JYT	**Yasato**	**5.64**	**19**	*e*S	**S**	**14 24 14.3**	**-5.8**
JMK	**Ichinoseki**	**8.48**	**18**	*e*P	**P**	**14 23 33.5**	**+0.9**
KSRS	**Korea Array**	**10.55**	**311**	P	**P**	**14 23 54.4**	**-0.2**
	0.5nm,0.4s,baz=125,slow=11,SNR=4.1						
ASAJ	**Asahikawa**	**13.70**	**14**	P	**P**	**14 24 30.2**	**+2.4**
	13nm,1.0s,baz=211,slow=11,SNR=7.1						
USRK	**Ussuriysk Ar.**	**14.08**	**342**	P	**P**	**14 24 33.0**	**+1.2**
	4.5nm,0.6s,baz=147,slow=11,SNR=17						
CMAR	**Chiang Mai Arr**	**37.34**	**260**	P	**P**	**14 27 59.9**	**-1.1**
	0.3nm,0.4s,baz=51,slow=6.6,SNR=4.5						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**45.20**	**307**	P	**P**	**14 29 03.2**	**+0.1**
	0.3nm,0.3s,baz=89,slow=8.1,SNR=6.8						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**47.73**	**312**	P	**P**	**14 29 22.8**	**+0.7**
	0.7nm,0.3s,baz=98,slow=6.8,SNR=1.5						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**50.67**	**184**	P	**P**	**14 29 42.9**	**-1.4**
	0.6nm,0.6s,baz=16,slow=6.9,SNR=15						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**52.73**	**315**	P	**P**	**14 29 58.7**	**-0.1**
	0.2nm,0.3s,baz=134,slow=4.3,SNR=2.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**54.39**	**185**	P	**P**	**14 30 09.8**	**-1.2**
	0.2nm,0.5s,baz=6.5,slow=8.1,SNR=12						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**56.23**	**30**	P	**P**	**14 30 27.2**	**+3.9**

$M_{\theta\theta}$0.06; $M_{\phi\phi}$-1.98; $M_{r\theta}$0.65; $M_{\theta\phi}$-1.93; $M_{\phi r}$1.04; Fault plane solution: M_o3.01000×10^{16} NP1:ϕ_s32.38000°, δ57.91000°,λ91.73000°. NP2:ϕ_s209.13000°,δ32.13000°, λ87.25000°. Principal axes: T 2.2081, Plg77.0000°, Azm308.0000°; N 1.2148, Plg1.0000°, Azm211.0000°; P -3.4230, Plg13.0000°, Azm121.0000°;

*NEIC **28** 14:44:25.1,35.81N×68.81E,h24km,Moment Tensor Solution. Duration:1s4 Moment tensor: Scale 10^{16}Nm; M_{rr}2.46; $M_{\theta\theta}$-0.31; $M_{\phi\phi}$-2.15; $M_{r\theta}$1.09; $M_{\theta\phi}$-1.34; $M_{\phi r}$0.52; Fault plane solution: M_o2.94000×10^{16} NP1:ϕ_s43.23000°, δ57.11000°,λ108.67000°. NP2:ϕ_s191.35000°,δ37.30000°, λ63.67000°. Principal axes: T 2.8438, Plg71.0000°, Azm358.0000°; N 0.1899, Plg16.0000°, Azm213.0000°; P -3.0337, Plg10.0000°, Azm120.0000°;*

*NEIC **28** 14:44:25.1,35.81N×68.68E,h20km*

*NNC **28** 14:44:27.5±2.4,36.06N×68.43E,h50km±24km,mb5.5, mpv5.6,Error ellipse: s-maj=20.4km s-min=16.3km az=27.0*

ISC 28 14:44:25.4±0.4,35.85N±0.03×68.66E±0.03,h24km±2km, h24km:pP-P,n1009,σ1.51/1074,mb5.2/232,MS4.2/94, 43C-34D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.34**	**166**		**Pb**	**14 44 49.5**	**-0.6**
KBL	**Kabul**	**1.34**	**166**	P	**Pb**	**14 44 49.8**	**-0.2**
	SNR=2293						
KBL				S	**Sb**	**14 45 07.6**	**+0.6**
KBL	**Kabul**	**1.34**	**166**	PG	**Pb**	**14 44 49.5**	**-0.6**
SIMJ	**Simiganj**	**2.81**	**6**		**Pn**	**14 45 10.4**	**+1.4**
GAR	**Garm**	**3.41**	**22**		**Pn**	**14 45 19.0**	**+1.9**
NIL	**Nilore**	**4.37**	**119**		**Pn**	**14 45 30.6**	**+0.4**
NIL	**Nilore**	**4.37**	**119**	PN	**Pn**	**14 45 30.7**	**+0.4**
DRK	**Karamyk**	**4.40**	**34**		**Pn**	**14 45 32.2**	**+1.3**
DRK	**Karamyk**	**4.40**	**34**	PN	**Pn**	**14 45 32.2**	**+1.3**
BTK	**Batken**	**4.53**	**21**		**Pn**	**14 45 33.9**	**+1.3**
BTK	**Batken**	**4.53**	**21**	PN	**Pn**	**14 45 33.9**	**+1.3**
SRNI	**Srinagar**	**5.37**	**107**	*e*S	**Sn**	**14 46 48.3**	**+3.2**
SRNI				IAML		14 46 53.3	
	comp=N,7μm,0.7s						
SRNI				IAML		14 47 20.2	
	comp=E,12μm,0.6s						
HRA	**Herat**	**5.46**	**256**	Pn	**Pn**	**14 45 46.3**	**+0.9**
JMU	**Jammu**	**6.04**	**119**	*e*P	**Pn**	**14 45 56.0**	**+2.9**
JMU				*e*S	**Sn**	**14 47 03.1**	**+1.6**
JMU				*e*S	**Sn**	**14 47 06.2**	**+4.7**
JMU				IAML		14 47 07.7	
	comp=E,3μm,0.5s						
JMU				IAML		14 47 21.5	
	comp=E,2μm,0.4s						
IUG	**Iuzhnay**	**6.38**	**9**	*e*Pn	**Pn**	**14 45 59.2**	**+1.3**
IUG				*e*Sn	**Sn**	**14 47 09.7**	**-0.3**
IUG	**Iuzhnay**	**6.38**	**9**	*e*PN	**Pn**	**14 45 59.2**	**+1.3**
IUG				*e*		14 47 09.7	
ARSB	**Arslanbob**	**6.43**	**30**		**Pn**	**14 45 59.1**	**+0.5**
ARSB	**Arslanbob**	**6.43**	**30**	PN	**Pn**	**14 45 59.1**	**+0.5**
CHM	**Chimkent**	**6.50**	**6**	*e*Pn	**Pn**	**14 46 00.9**	**+1.4**
CHM				*e*Sn	**Sn**	**14 47 12.6**	**-0.3**
CHM	**Chimkent**	**6.50**	**6**	*e*PN	**Pn**	**14 46 00.8**	**+1.3**
KSH	**Kashi**	**6.86**	**56**	P	**Pn**	**14 46 01.8**	**-2.7**
KSH				S	**Sn**	**14 47 16.0**	**-5.8**
KSH				pmax	pmax		
	comp=Z,510nm,1.0s						
KSH				LR	LR		
	comp=N,7μm,6.2s						
KSH				LR	LR		
	comp=E,5μm,5.8s						
KSH				LR	LR		
	comp=Z,6μm,9.7s						
BRLS	**Borolday**	**7.23**	**7**	*e*Pn	**Pn**	**14 46 06.4**	**-3.1**
BRLS	**Borolday**	**7.23**	**7**	*e*PN	**Pn**	**14 46 06.4**	**-3.1**
DHRM	**DHARAMSHALA**	**7.29**	**117**	*e*P	**Pn**	**14 46 13.0**	**+2.4**
DHRM				*e*S	**Sn**	**14 47 33.6**	**+1.0**
DHRM				IAML		14 47 42.3	
	comp=N,4μm,0.6s						
DHRM				IAML		14 47 43.8	
	comp=E,4μm,0.5s						
DZA	**Taraz**	**7.33**	**16**	*e*Pn	**Pn**	**14 46 12.1**	**+1.2**
DZA				*e*Sn	**Sn**	**14 47 32.5**	**-0.8**
DZA	**Taraz**	**7.33**	**16**	*e*P	**Pn**	**14 46 12.1**	**+1.2**
DZA				*e*		14 47 32.4	
KK31	**Karatay Array**	**7.38**	**11**	Pn	**Pn**	**14 46 12.4**	**+0.8**
	comp=E,147nm,0.5s,baz=204,slow=17,SNR=3237						
KK31				⇓Sn	**Sn**	**14 47 31.8**	**-2.8**
	comp=E,483nm,0.7s,baz=196,slow=24,SNR=4.3						
KK31	**Karatay Array**	**7.38**	**11**	*i* P	**Pn**	**14 46 12.4**	**+0.8**
KK31						14 47 31.8	
KKAR	**Karatay Array**	**7.38**	**11**		**Pn**	**14 46 12.5**	**+0.9**
KKAR	**Karatay Array**	**7.38**	**11**	P	**Pn**	**14 46 12.5**	**+0.9**
AML	**Almayashu**	**7.39**	**30**	P	**Pn**	**14 46 13.1**	**+0.9**
	SNR=575						
BHK	**Bhakra**	**7.83**	**122**	*ex*	**Pn**	**14 46 20.3**	**+2.4**
BHK				*ex*	x	14 47 50.2	
BHK				*ex*	x	14 48 05.8	
BHK				IAML		14 48 27.7	
	comp=E,2μm,0.8s						
EKS2	**Erkin-Say**	**7.87**	**29**	P	**Pn**	**14 46 19.6**	**+1.1**
	SNR=140						
NRN	**Naryn**	**8.00**	**44**		**Pn**	**14 46 19.7**	**-0.7**
NRN	**Naryn**	**8.00**	**44**	P	**Pn**	**14 46 19.7**	**-0.7**
AAK	**Ala-Archa**	**8.15**	**32**	*i* P	**Pn**	**14 46 23.4**	**+1.1**
	SNR=699						
AAK	**Ala-Archa**	**8.15**	**32**	Pn	**Pn**	**14 46 23.4**	**+1.1**
	comp=E,43nm,0.3s,baz=210,slow=7.1,SNR=638						
AAK				Sn	**Sn**	**14 47 54.5**	**+0.9**
	comp=E,24nm,0.3s,baz=325,slow=24,SNR=6.5						
AAK				Lg	Lg	14 48 42.1	
	comp=E,10nm,0.3s,baz=115,slow=7.9,SNR=1.5						
AAK				LR	LR	14 50 07.0	
	comp=E,3μm,18.7s,baz=234,slow=42						
	comp=E,266nm,0.6s						
AAK	**Ala-Archa**	**8.15**	**32**	P	**Pn**	**14 46 23.5**	**+1.3**
AAK				P	**Pn**	**14 46 23.5**	**+1.3**
AAK				S	**Sn**	**14 47 53.8**	**+0.2**
AAK				S	**Sn**	**14 47 53.8**	**+0.2**
FRU1	**Bishkek**	**8.35**	**32**		**Pn**	**14 46 26.1**	**+1.2**
FRU1	**Bishkek**	**8.35**	**32**	P	**Pn**	**14 46 26.1**	**+1.2**
KBK	**Karagaybulak**	**8.36**	**34**	P	**Pn**	**14 46 26.4**	**+1.2**
	SNR=191						
SMLA	**Simla**	**8.52**	**121**	*e*P	**Pn**	**14 46 30.3**	**+3.0**
SMLA				*e*S	**Sn**	**14 48 02.1**	**-0.5**
SMLA				IAML		14 48 07.5	
	comp=E,2μm,0.8s						
SMLA				IAML		14 48 09.3	
	comp=E,1μm,0.6s						
CHMS	**Chumysh**	**8.55**	**32**	P	**Pn**	**14 46 28.4**	**+0.7**
	SNR=248						
CHMS	**Chumysh**	**8.55**	**32**	⇓Pn	**Pn**	**14 46 27.7**	**+0.1**
	comp=E,253nm,0.6s						
CHMS				⇑Sn	**Sn**	**14 48 03.5**	**+0.2**
	comp=E,494nm,0.7s						
USP	**Ospenovka**	**8.67**	**30**	P	**Pn**	**14 46 29.7**	**+0.4**
	SNR=50						
ULHL	**Ulahol**	**8.69**	**40**	P	**Pn**	**14 46 30.1**	**+0.4**
	SNR=202						
BKNR	**BIKANER**	**8.74**	**152**	*e*P	**Pn**	**14 46 29.3**	**-1.0**
BKNR				*e*S	**Sn**	**14 48 00.1**	**-7.9**
BKNR				IAML		14 48 09.0	
	comp=E,683nm,0.7s						
TKM2	**Tokmak 2**	**8.87**	**35**	P	**Pn**	**14 46 32.8**	**+0.6**
	SNR=293						
TKM2	**Tokmak 2**	**8.87**	**35**	⇓Pn	**Pn**	**14 46 32.1**	**-0.1**
	comp=E,87nm,0.6s						
TKM2				⇓Sn	**Sn**	**14 48 10.8**	**-0.6**
	comp=E,257nm,0.8s						
TKM2	**Tokmak 2**	**8.87**	**35**	*i* P	**Pn**	**14 46 32.0**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,127nm,0.5s						
KLP	**Kalpa**	**9.07**	**116**	*ex*	**Pn**	**14 46 36.8**	**+1.7**
KLP				*e*S	**Sn**	**14 48 15.0**	**-1.7**
KLP				*ex*	x	14 48 15.1	
KLP				IAML		14 48 21.4	
	comp=E,606nm,0.4s						
KLP				IAML		14 48 22.3	
	comp=N,872nm,0.7s						
JASL	**Jaisalmer**	**9.10**	**167**	*e*P	**Pn**	**14 46 34.8**	**-0.5**
JASL				*e*S	**Sn**	**14 48 10.0**	**-7.0**
JASL				*e*S		14 48 19.5	
KDJ	**Kajisay**	**9.12**	**44**		**Pn**	**14 46 35.3**	**-0.4**
KDJ	**Kajisay**	**9.12**	**44**	P	**Pn**	**14 46 35.3**	**-0.4**
TARG	**Taragay, Kyrgy**	**9.24**	**48**		**Pn**	**14 46 37.0**	**-0.4**
TARG	**Taragay, Kyrgy**	**9.24**	**48**	P	**Pn**	**14 46 37.0**	**-0.4**
KASK	**Kaskelen**	**9.59**	**38**	⇑P	**Pn**	**14 46 42.9**	**+0.9**
	comp=N,169nm,0.7s						
DDI	**Dehra Dun**	**9.62**	**122**	*e*P	**Pn**	**14 46 45.2**	**+2.9**
DDI				*e*S	**Sn**	**14 48 28.7**	**-0.9**
DDI				*e*S		14 48 32.0	
DDI				IAML		14 48 38.1	
	comp=N,703nm,0.4s						
DDI				IAML		14 48 52.7	
	comp=E,895nm,0.9s						
TNSS	**Tian-Shan**	**9.62**	**39**	*e*Pn	**Pn**	**14 46 42.8**	**+0.2**
TNSS	**Tian-Shan**	**9.62**	**39**	*e*P	**Pn**	**14 46 42.8**	**+0.2**
AAA	**Alma-Ata**	**9.72**	**38**	*e*Pn	**Pn**	**14 46 44.4**	**+0.6**
AAA	**Alma-Ata**	**9.72**	**38**	*e*P	**Pn**	**14 46 44.4**	**+0.6**
KNDC	**Almaty**	**9.76**	**39**	⇑P	**Pn**	**14 46 45.2**	**+1.0**
	comp=E,205nm,0.6s						
MDOK	**Medeo**	**9.76**	**39**	⇑P	**Pn**	**14 46 44.5**	**+0.1**
	comp=E,101nm,0.6s						
MDOK	**Medeo**	**9.76**	**39**	*e*Pn	**Pn**	**14 46 44.8**	**+0.4**
MDOK				*e*Pg		14 47 20.7	
MDOK	**Medeo**	**9.76**	**39**	*e*P	**Pn**	**14 46 44.7**	**+0.4**
WUS	**Wushi**	**9.84**	**54**		**Pn**	**14 46 45.5**	**+0.1**
PRZ	**Przheval'sk**	**10.05**	**46**		**Pn**	**14 46 48.3**	**0.0**
PRZ	**Przheval'sk**	**10.05**	**46**	P	**Pn**	**14 46 48.3**	**0.0**
KUDL	**Kundal**	**10.16**	**137**	*e*P	**Pn**	**14 46 50.6**	**+1.0**
KUDL				*e*S	**Sn**	**14 48 37.5**	**-5.3**
KUDL				IAML		14 48 49.9	
	comp=E,334nm,0.8s						
KUDL				IAML		14 49 07.7	
	comp=E,201nm,1.6s						
NDI	**New Delhi**	**10.17**	**132**	*e*P	**Pn**	**14 46 51.2**	**+1.3**
NDI				*e*S	**Sn**	**14 48 39.0**	**-4.2**
NDI				IAML		14 48 46.8	
	comp=E,492nm,0.4s						
NDI				IAML		14 49 01.1	
	comp=E,461nm,1.6s						
CHKK	**Chushkaly**	**10.23**	**36**	*e*Pn	**Pn**	**14 46 50.6**	**-0.1**
CHKK	**Chushkaly**	**10.23**	**36**	*e*P	**Pn**	**14 46 50.6**	**-0.1**
BISR	**Bishrakh**	**10.39**	**132**	*e*P	**Pn**	**14 46 56.1**	**+3.3**
SONA	**Sohna**	**10.41**	**134**	*e*P	**Pn**	**14 46 54.2**	**+1.0**
SONA				*e*S	**Sn**	**14 48 43.0**	**-6.1**
SATY	**Saty**	**10.41**	**43**	*e*Pn	**Pn**	**14 46 52.5**	**-0.9**
SATY	**Saty**	**10.41**	**43**	*e*P	**Pn**	**14 46 52.4**	**-0.9**
ZHN	**Zhinishke**	**10.50**	**43**	*e*Pn	**Pn**	**14 46 53.8**	**-0.7**
ZHN				*e*Pg		14 47 34.0	
ZHN	**Zhinishke**	**10.50**	**43**	*e*P	**Pn**	**14 46 53.7**	**-0.7**
AJM	**Ajmer**	**10.65**	**150**	*e*P	**Pn**	**14 46 57.5**	**+1.0**
AJM				IAML		14 49 02.0	
	comp=E,105nm,0.6s						
AJM				*ex*	x	14 49 08.7	
AJM				IAML		14 49 19.0	
	comp=E,126nm,0.6s						
UZB	**Uzynbulak**	**10.82**	**45**	*e*Pn	**Pn**	**14 46 57.9**	**-0.9**
UZB				*e*Pg		14 47 39.8	
UZB	**Uzynbulak**	**10.82**	**45**	*e*P	**Pn**	**14 46 57.8**	**-1.0**
ARXS	**Arharly**	**10.91**	**37**	*i* P	**Pn**	**14 46 58.7**	**-1.3**
SHLS	**Shalkode**	**11.08**	**46**	*e*Pn	**Pn**	**14 47 05.0**	**+2.6**
SHLS				*e*Pg		14 47 49.1	
SHLS	**Shalkode**	**11.08**	**46**	*e*P	**Pn**	**14 47 04.9**	**+2.6**
PDGK	**Podgornoye**	**11.20**	**45**	⇑P	**Pn**	**14 47 02.4**	**-1.6**
	comp=E,52nm,0.6s						
PDGK	**Podgornoye**	**11.20**	**45**	P	**Pn**	**14 47 02.4**	**-1.6**
PTH	**Pithoragarh**	**11.58**	**120**	*e*P	**Pn**	**14 47 09.4**	**0.0**
PTH				*e*S	**Sn**	**14 49 12.6**	**-5.4**
PTH				IAML		14 49 20.6	
	comp=E,184nm,0.4s						
PTH				*ex*	x	14 49 29.5	
PTH				IAML		14 49 33.7	
	comp=E,178nm,0.6s						
LGTI	**Lohaghat**	**11.66**	**120**	*e*P	**Pn**	**14 47 09.9**	**-0.4**
LGTI				IAML		14 49 16.7	
	comp=E,181nm,0.6s						
LGTI				*ex*	x	14 49 29.3	
LGTI				IAML		14 49 31.3	
	comp=E,324nm,1.2s						
TDK	**Taldyqorghan**	**11.77**	**36**	*e*Pn	**Pn**	**14 47 10.6**	**-1.1**
TDK	**Taldyqorghan**	**11.77**	**36**	*e*P	**Pn**	**14 47 10.6**	**-1.1**
FRKB	**FARRUKHABAD**	**12.54**	**129**	*e*S	**Sn**	**14 49 37.1**	**-4.1**
FRKB				*e*S		14 49 37.2	
JHNI	**Jhansi**	**13.39**	**138**	*ex*	**Pn**	**14 47 33.3**	**-0.6**
JHNI				*ex*	x	14 49 56.0	
GUNA	**GUNA**	**13.44**	**144**	*ex*	**Pn**	**14 47 32.5**	**-2.1**
GUNA				*ex*	x	14 49 50.2	
GUNA				*ex*	x	14 49 55.5	
GUNA				IAML		14 50 00.6	
	comp=E,132nm,1.2s						
BANOM	**Banah**	**14.50**	**230**	*i* P	**Pn**	**14 47 51.8**	**+2.7**
	SNR=9.3						
BANOM	**Banah**	**14.50**	**230**	P	**P**	**14 47 53.0**	**-2.6**
SHME	**Shamm**	**14.51**	**231**	*i* P	**Pn**	**14 47 51.6**	**+2.4**
	SNR=14						
SHME	**Shamm**	**14.51**	**231**	P	**P**	**14 47 52.5**	**-3.1**
	SNR=12						
BHPL	**Bhopal**	**14.69**	**146**	*e*P	**Pn**	**14 47 52.0**	**+0.3**
BHPL				*ex*	x	14 50 28.4	
BHPL				IAML		14 51 05.4	
	comp=E,127nm,1.2s						
BHPL				IAML		14 51 09.1	
	comp=N,59nm,1.0s						
MAKZ	**Makanchi**	**14.80**	**38**		**Pn**	**14 47 50.1**	**-3.0**
MAKZ	**Makanchi**	**14.80**	**38**	P	**Pn**	**14 47 50.2**	**-3.0**
AB31	**Akbulak array**	**14.84**	**337**	P	**Pn**	**14 47 50.5**	**-3.1**
	comp=N,18nm,0.4s,baz=154,slow=11,SNR=1611						
AB31				⇓S	**Sn**	**14 50 31.3**	**-5.8**
	comp=N,92nm,0.6s,baz=150,slow=23,SNR=8.7						
AB31	**Akbulak array**	**14.84**	**337**	*e*P	**Pn**	**14 47 50.5**	**-3.1**
MDH	**Madha**	**14.95**	**229**	P	**P**	**14 47 58.6**	**-2.0**
MDH				P	**P**	**14 47 58.6**	**-2.0**
MDH				P	**P**	**14 47 58.6**	**-2.0**
MK31	**Makanchi Array**	**14.95**	**39**		**Pn**	**14 47 52.6**	**-2.5**
MK31	**Makanchi Array**	**14.95**	**39**	P	**Pn**	**14 47 52.6**	**-2.5**
MKAR	**Makanchi Array**	**14.95**	**39**	Pn	**Pn**	**14 47 52.5**	**-2.7**
	comp=N,1.3nm,0.3s,baz=227,slow=12,SNR=73						
MKAR				Sn	**Sn**	**14 50 36.2**	**-3.7**
	comp=N,0.6nm,0.3s,baz=250,slow=22,SNR=0.9						
MKAR				Lg	Lg	14 52 15.8	
	comp=N,0.4nm,0.3s,baz=263,slow=21,SNR=1.6						
MKAR				LR	LR	14 54 12.0	
	comp=N,1μm,18.4s,baz=228,slow=40						
	comp=N,39nm,1.0s						
MASF	**Masafi**	**14.98**	**229**	P	**P**	**14 47 59.6**	**-1.4**
	SNR=8.3						
MSFE	**Esma-Masafi**	**14.99**	**229**	*i* P	**P**	**14 47 58.5**	**-2.5**
	SNR=11						
NRDN	**NARMADA NAGAR**	**15.03**	**148**	*e*P	**Pn**	**14 47 56.2**	**-0.1**
NRDN				*ex*	x	14 50 37.9	
UOSS	**Minazif**	**15.27**	**228**	Pn	**Pn**	**14 47 59.1**	**-0.3**
UOSS	**Minazif**	**15.27**	**228**	P	**P**	**14 48 02.3**	**-1.8**
UOSS	**Minazif**	**15.27**	**228**	P	**P**	**14 48 03.0**	**-1.1**
UOSS				P	**P**	**14 48 03.0**	**-1.1**
WSAR	**Wadi Sarin**	**15.29**	**217**	Pn	**Pn**	**14 47 59.9**	**+0.2**
	comp=N,13nm,1.0s,baz=83,slow=8.0,SNR=4.8						
HATD	**Hatta, Dubai**	**15.40**	**228**	*i* P	**P**	**14 48 05.7**	**+0.1**
	SNR=9.6						
HATD	**Hatta, Dubai**	**15.40**	**228**	P	**P**	**14 48 07.1**	**+1.5**
ALBI	**Allahabad**	**15.43**	**129**	*ex*	x	14 50 43.9	
ALBI				*e*S	**Sn**	**14 50 57.9**	**+6.2**
ASHO	**Ashiyiah**	**15.55**	**228**	*i* P	**Pn**	**14 48 05.2**	**+2.0**
	SNR=38						
ASHO	**Ashiyiah**	**15.55**	**228**	P	**P**	**14 48 06.2**	**-1.1**
	SNR=37						
NAZ	**Nazwa, Dubai**	**15.57**	**230**	P	**P**	**14 48 05.9**	**-1.5**
NAZ	**Nazwa, Dubai**	**15.57**	**230**	P	**P**	**14 48 07.3**	**-0.1**
	SNR=13						
NAZ				P	**P**	**14 48 07.3**	**-0.1**
	SNR=13						
WBK	**Wadi Bani Khal**	**15.66**	**215**	P	**P**	**14 48 08.1**	**-0.4**
HOQ	**Hoqain**	**15.69**	**222**	P	**P**	**14 48 10.1**	**+1.3**
HOQ				P	**P**	**14 48 10.1**	**+1.3**
SOHO	**SOHO**	**15.69**	**225**	P	**P**	**14 48 08.0**	**-0.8**
SOHO	**SOHO**	**15.69**	**225**	P	**P**	**14 48 09.8**	**+1.0**
SMDO	**Samad**	**15.73**	**219**	P	**P**	**14 48 08.1**	**-1.2**
SMDO				P	**P**	**14 48 08.1**	**-1.2**
FAQ	**Al Faqa, Dubai**	**15.79**	**229**	P	**P**	**14 48 08.7**	**-1.1**
	SNR=7.5						
FAQ				P	**P**	**14 48 08.7**	**-1.1**
	SNR=7.5						
JLN	**Jalan Bani Buh**	**15.86**	**213**	P	**Pn**	**14 48 07.8**	**+0.8**
	SNR=7.0						
ASUD	**Al Ashush, Dub**	**16.04**	**229**	P	**P**	**14 48 11.4**	**-1.2**
ASUD	**Al Ashush, Dub**	**16.04**	**229**	P	**P**	**14 48 12.7**	**+0.1**
ASUD				P	**P**	**14 48 12.7**	**+0.1**
ALNE	**Al Ain**	**16.21**	**227**	*i* P	**P**	**14 48 15.0**	**+0.5**
	SNR=14						
ALNE	**Al Ain**	**16.21**	**227**	P	**P**	**14 48 14.7**	**+0.1**
	SNR=29						
JMDO	**Jabal Madar**	**16.28**	**217**	P	**P**	**14 48 17.0**	**+1.6**
	SNR=14						
JMDO				P	**P**	**14 48 17.0**	**+1.6**
	SNR=14						
AJN	**Ajban**	**16.30**	**230**	P	**P**	**14 48 17.0**	**+1.5**
ARQ	**Araqi**	**16.32**	**223**	P	**P**	**14 48 15.6**	**-0.2**
	SNR=12						
KURBB	**Kurchatov Arra**	**16.40**	**23**	⇓P	**Pn**	**14 48 09.4**	**-4.4**
	comp=N,195nm,0.8s						
KURBB	**Kurchatov Arra**	**16.40**	**23**	Pn	**Pn**	**14 48 09.6**	**-4.2**
	comp=N,1.0nm,0.3s,baz=213,slow=12,SNR=208						
KURBB				Sn	**Sn**	**14 51 05.0**	**-10**
	baz=59,slow=34						
KURBB				Lg	Lg	14 53 04.8	
	baz=235,slow=20						
	comp=N,34nm,0.8s						
KURBB	**Kurchatov Arra**	**16.40**	**23**	P	**Pn**	**14 48 09.4**	**-4.4**
BSY	**Bisya**	**16.43**	**220**	P	**P**	**14 48 16.7**	**-0.3**
	SNR=16						
BSY				P	**P**	**14 48 16.7**	**-0.3**
	SNR=16						
AKTO	**Aktyubinsk**	**16.49**	**335**	⇓P	**Pn**	**14 48 12.7**	**-2.3**
	comp=N,24nm,0.6s						
AKTO				⇓S	**Sn**	**14 51 09.4**	**-7.8**
	comp=N,110nm,1.1s						
AKTO	**Aktyubinsk**	**16.49**	**335**	Pn	**Pn**	**14 48 13.8**	**-1.2**
	comp=N,5.5nm,0.3s,baz=135,slow=14,SNR=97						
AKTO				Sn	**Sn**	**14 51 12.3**	**-4.9**
	comp=N,3.6nm,0.3s,baz=234,slow=24,SNR=2.2						
AKTO				Lg	Lg	14 53 08.9	
	comp=N,0.4nm,0.3s,baz=225,slow=12,SNR=1.7						
	comp=N,46nm,0.7s						
KURK	**Kurchatov**	**16.51**	**23**	⇓P	**Pn**	**14 48 10.8**	**-4.4**
	comp=N,161nm,1.1s						
KURK	**Kurchatov**	**16.51**	**23**	Pn	**Pn**	**14 48 11.3**	**-3.8**
KURK				IAmb	IAmb	14 48 18.4	
	comp=Z,123nm,0.9s						
KURK	**Kurchatov**	**16.51**	**23**	P	**Pn**	**14 48 09.6**	**-5.6**
WMQ	**Urumqi**	**16.62**	**56**	*e*P	**Pn**	**14 48 15.0**	**-1.8**
WMQ				PP	**sP**	**14 48 32.3**	**+3.0**
WMQ				pmax	pmax		
	comp=Z,46nm,0.9s						
WMQ				LR	LR		
	comp=Z,1μm,7.9s						
WMQ				LR	LR		
	comp=Z,1μm,6.9s						
WMQ				LR	LR		
	comp=Z,430nm,18.1s						
AKL	**Akola**	**16.78**	**152**	*e*P	**Pn**	**14 48 18.9**	**+0.1**
BVA0	**Borovoye Array**	**17.21**	**4**	⇓P	**Pn**	**14 48 21.5**	**-2.5**
	comp=Z,91nm,0.7s,baz=180,slow=15,SNR=765						
BVA0	**Borovoye Array**	**17.21**	**4**	*i* P	**Pn**	**14 48 21.0**	**-3.1**
BVAR	**Borovoye Array**	**17.21**	**4**	P	**Pn**	**14 48 21.6**	**-2.5**
	comp=Z,55nm,0.6s,baz=165,slow=11,SNR=142						
BVAR				S	**Sn**	**14 51 30.5**	**-4.2**
	comp=Z,33nm,0.7s,baz=200,slow=17,SNR=4.1						
BVAR				LR	LR	14 55 18.2	
	comp=Z,649nm,20.6s,baz=186,slow=38						
BRVK	**Borovoye**	**17.24**	**3**	⇑P	**Pn**	**14 48 21.6**	**-2.8**
	comp=Z,133nm,0.7s						
BRVK	**Borovoye**	**17.24**	**3**	Pn	**Pn**	**14 48 21.8**	**-2.6**
BRVK				IAmb	IAmb	14 48 26.9	
	comp=Z,473nm,1.4s						
BRVK	**Borovoye**	**17.24**	**3**	P	**Pn**	**14 48 22.0**	**-2.4**
BRVK				P	**Pn**	**14 48 22.0**	**-2.4**
BRVK	**Borovoye**	**17.24**	**3**	*i* P	**P**	**14 48 25.7**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,182nm,1.1s						
BRVK				MLR	MLR		
	comp=Z,2μm,11.0s						
NGP	**Nagpur**	**17.24**	**145**	*e*P	**Pn**	**14 48 23.6**	**-1.0**
NGP				*ex*	x	14 51 21.1	
AKT	**Akhty**	**17.27**	**295**	*e*P	**P**	**14 48 27.1**	**+0.8**
AKT				*e*S	**Sn**	**14 51 37.8**	**+1.4**
AKT				pmax	pmax		
	comp=Z,19nm,0.9s						
AKT				smax	smax		
	comp=E,28nm,0.5s						
AKT				smax	smax		
	comp=N,30nm,0.7s						
AKT				MLR	MLR		
	comp=Z,694nm,13.0s						
MHTO	**MHTO**	**17.52**	**215**	P	**P**	**14 48 30.5**	**+1.4**
	SNR=11						
UMZA	**Um Al Zommool**	**17.58**	**226**	P	**P**	**14 48 30.4**	**+0.7**
MAK	**Makhachkala**	**17.80**	**300**	*e*P	**Pn**	**14 48 31.0**	**-0.3**
MAK				*e*S	**Sn**	**14 51 49.6**	**+0.7**
MAK				pmax	pmax		
	comp=Z,70nm,0.6s						
MAK				MLR	MLR		
	comp=Z,3μm,12.0s						
POO	**Poona**	**17.86**	**164**	*e*P	**Pn**	**14 48 29.8**	**-2.5**
POO				IAmb	IAmb	14 48 41.5	
	comp=Z,46nm,0.9s						
MZR	**Muzera**	**18.38**	**230**	*i* P	**Pn**	**14 48 39.8**	**+1.2**
	SNR=8.9						
MZR	**Muzera**	**18.38**	**230**	P	**Pn**	**14 48 39.5**	**+0.9**
	SNR=9.1						
TRNA

KIV pmax pmax
comp=Z,55nm,1.1s
KIV MLR MLR
comp=Z,354nm,14.0s
KIV Kislovodsk 21.44 300 P **P 14 49 11.9 0.0**
comp=Z,68nm,0.9s,comp=Z,658nm
GOF Gofitskoye 21.48 303 *ce*P **P 14 49 13.8 +1.7**
SVE Sverdlovsk 21.67 348 *de*P **P 14 49 13.9 -0.1**
SVE *e*S **S 14 53 09.1 -3.5**
SVE pmax pmax
comp=Z,124nm,1.2s
SVE MLR MLR
comp=Z,3μm,13.0s
ARTI Arti 21.69 344 P **P 14 49 13.4 -0.9**
ARTI IAmb IAmb 14 49 18.9
comp=Z,75nm,0.7s
ARTI Arti 21.69 344 P **P 14 49 14.2 0.0**
comp=Z,59nm,0.6s,baz=160,slow=5.7,SNR=97
ARTI S **S 14 53 10.6 -2.5**
comp=Z,28nm,0.7s,baz=335,slow=22,SNR=7.6
comp=Z,59nm,0.6s
ARTI Arti 21.69 344 *d i*P **P 14 49 14.4 +0.1**
ARTI 14 49 33.8
ARTI S **S 14 53 11.2 -1.9**
ARTI pmax pmax
comp=Z,100nm,0.9s
ARTI MLR MLR
comp=Z,1μm,12.0s
DMTO DMTO 21.78 218 P **P 14 49 17.2 +1.7**
DMTO P **P 14 49 17.2 +1.7**
WHFO Wadi Hawf 22.21 220 P **P 14 49 21.1 +1.0**
BELG Belogornoye 22.26 325 P **P 14 49 20.4 -0.1**
comp=Z,93nm,0.8s,baz=316,slow=2.1,SNR=27
BELG S **S 14 53 20.9 -3.1**
comp=Z,30nm,0.7s,baz=236,slow=13,SNR=2.7
BELG LR LR 14 59 52.2
comp=Z,516nm,18.8s,baz=109,slow=42
comp=Z,93nm,0.8s
RBK Rabkut 22.33 219 P **P 14 49 22.7 +1.2**
SNR=14
SHL Shillong 22.39 111 P **P 14 49 22.2 -0.1**
SHL Shillong 22.39 111 P **P 14 49 22.4 +0.1**
SNR=101
SHL Shillong 22.39 111 *ex* **P 14 49 22.5 +0.2**
SHL IAmb IAmb 14 49 26.7
comp=Z,114nm,0.8s
SHL *ex* x 14 53 23.4
SHL Shillong 22.39 111 P **P 14 49 22.2 -0.1**
SHL pmax pmax
comp=Z,260nm,0.8s
ABTO Aybut 22.93 221 P **P 14 49 28.3 +0.5**
SNR=35
ZIRO ZIRO 22.94 104 *e*P **P 14 49 27.8 -0.2**
LABN Labinsk 22.97 301 *e*P **P 14 49 27.1 -0.9**
LABN *e**PP **pP 14 49 32.6 -2.8**
LABN *e*S **S 14 53 38.1 +1.3**
LABN pmax pmax
comp=Z,201nm,2.9s
ERBR Yeremizino-Bor 23.39 304 *e*P **P 14 49 34.4 +2.1**
ERBR *e**PP **pP 14 49 37.4 -2.0**
ERBR *e*PPP PPP 14 50 06.5
ERBR *e*S **S 14 53 48.3 +4.5**
ERBR *e*SSS SSS 14 54 36.2
ERBR pmax pmax
comp=Z,40nm,0.9s
ERBR MLR MLR
comp=Z,1μm,17.0s
SOC Sochi 23.48 298 *e*P **P 14 49 31.6 -1.5**
SOC *e*PPP PPP 14 50 10.2
SOC *e*S **S 14 53 45.1 -0.2**
SOC *e*SSS SSS 14 54 36.3
SOC MLR MLR
comp=Z,387nm,15.0s
RAYN Ar Rayn 23.51 245 P **P 14 49 32.7 -0.9**
RAYN Ar Rayn 23.51 245 *i* P **P 14 49 33.6 -0.1**
SNR=19
RAYN Ar Rayn 23.51 245 P **P 14 49 33.5 -0.1**
KOHI KOHIMA 24.02 108 *e*P **P 14 49 39.1 +0.5**
AZL Aizawl 24.02 114 *e*P **P 14 49 39.3 +0.7**
IMP Imphal 24.36 110 *e*P **P 14 49 42.8 +1.1**
VRH Novokhopyorsk 24.65 317 *e*P **P 14 49 44.5 +0.6**
VRH pmax pmax
comp=Z,44nm,1.1s
VRH MLR MLR
comp=Z,847nm,12.0s
GTA Gaotai 24.86 72 P **P 14 49 47.0 +0.8**
GTA pP pP 14 49 52.5 -1.2
GTA pmax pmax
comp=Z,43nm,0.7s
GTA pmax pmax
comp=Z,230nm,4.4s
GTA LR LR
comp=Z,510nm,13.8s
GTA LR LR
comp=Z,980nm,15.6s
GTA LR LR
comp=Z,840nm,13.5s
GAZ Gaziantep 25.26 282 P **P 14 49 51.8 +2.1**
GAZ IAmb IAmb 14 49 57.3
comp=Z,71nm,1.1s
ANN Anapa 25.30 300 *e*P **P 14 49 49.3 -0.6**
ANN *e**PP **pP 14 49 55.9 -1.5**
ANN *e*PPP PPP 14 50 33.8
ANN *e*S **S 14 54 17.5 +3.1**
ANN pmax pmax
comp=Z,115nm,1.4s
ANN MLR MLR
comp=Z,754nm,15.0s
SALM Salem 25.60 158 *e*P **P 14 49 49.3 -3.4**
VORD Divnogorie 25.92 315 *e*P **P 14 49 55.0 -0.4**
VORD pmax pmax
comp=Z,30nm,1.2s
KIRV Kirov 26.04 337 P **P 14 49 57.2 +0.7**
comp=Z,37nm,0.7s,baz=137,slow=10.0,SNR=13
KIRV LR LR 15 01 20.7
comp=Z,345nm,19.9s,baz=161,slow=39
comp=Z,37nm,0.7s
KIRV Kirov 26.04 337 *ce*P **P 14 49 57.8 +1.3**
VSR Storozhevoye 26.09 315 *e*P **P 14 49 55.5 -1.5**
VSR pmax pmax
comp=Z,30nm,1.0s
BNN Bunyan 26.18 286 P **P 14 50 00.4 +2.3**
BNN IAmb IAmb 14 50 24.9
comp=Z,127nm,1.2s
VORR Voronezh 26.26 316 *e*P **P 14 49 59.7 +1.1**
VORR pmax pmax
comp=Z,86nm,1.2s
ASF Jabal al Asfar 26.52 271 P **P 14 50 03.2 +2.0**
comp=Z,27nm,0.8s,baz=214,slow=0.2,SNR=7.2
comp=Z,27nm,0.8s
LPSR Galich'ya Gora 26.83 318 *e*P **P 14 50 04.6 +1.0**
LPSR pmax pmax
comp=Z,96nm,0.9s
LPSR MLR MLR
comp=Z,1μm,14.0s
MMAI Mount Meron Ar 27.50 274 P **P 14 50 11.6 +1.6**
comp=Z,2.0nm,0.5s,baz=85,slow=13,SNR=6.2
MMAI PcP **PcP 14 53 28.6 +0.7**
comp=Z,0.4nm,0.3s,baz=87,slow=7.4,SNR=2.7
MMAI LR LR 15 02 53.9
comp=Z,292nm,19.0s,baz=14,slow=40
comp=Z,2.0nm,0.5s
SIM Simferopol' 27.66 300 *e*P P 14 50 19.3 +8.1
SIM pmax pmax
comp=Z,31μm,1.0s
TNCH TengChong 27.81 105 *e*P **P 14 50 13.3 +0.3**
TNCH pP pP 14 50 16.8 -3.7
TNCH sP sP 14 50 19.3 -4.4
TNCH S **S 14 54 53.3 -1.5**
TNCH pmax pmax
comp=Z,29nm,0.6s
TNCH pmax pmax
comp=Z,120nm,3.2s
TNCH LR LR
comp=Z,320nm,13.3s
TNCH LR LR
comp=Z,360nm,13.8s
TNCH LR LR
comp=Z,700nm,12.2s
BR104 Keskin Array S 27.84 289 P **P 14 50 15.0 +2.0**
comp=Z,29nm,1.1s,comp=Z,239nm
BR131 Keskin Array S 27.84 289 P **P 14 50 14.5 +1.5**
BR131 IAmb IAmb 14 50 16.5
comp=Z,52nm,1.2s
BR131 Keskin Array S 27.84 289 *i* P **P 14 50 14.9 +1.9**
BRTR Keskin Array B 27.84 289 P **P 14 50 14.9 +1.9**
comp=Z,18nm,1.0s,baz=98,slow=7.6,SNR=49
comp=Z,18nm,1.0s
BR106 Keskin Array S 27.85 289 P **P 14 50 15.3 +2.1**
comp=Z,22nm,1.0s,comp=Z,182nm
BR105 Keskin Array S 27.85 289 P **P 14 50 15.2 +2.0**
comp=Z,27nm,1.0s,comp=Z,260nm
GHAJ Ghor Haditha 27.86 270 P **P 14 50 14.7 +1.5**
GHAJ IAmb IAmb 14 50 35.3
comp=Z,65nm,1.2s
MOY Mondy 27.91 45 *e*P **P 14 50 14.8 +1.3**
MOY pmax pmax
comp=Z,78nm,2.2s
LZH Lanzhou 28.39 79 *e*P **P 14 50 18.8 +0.8**
LZH sP sP 14 50 27.5 -1.2
LZH pmax pmax
comp=Z,31nm,1.2s
LZH LR LR
comp=Z,730nm,14.4s
LZH LR LR
comp=Z,710nm,11.7s
LZH LR LR
comp=Z,760nm,13.4s
ZAK Zakamensk 28.84 49 *e*P **P 14 50 22.5 +0.7**
ZAK pmax pmax
comp=Z,29nm,1.1s
EIL Elat 28.91 267 P **P 14 50 23.1 +0.5**
comp=Z,11nm,1.1s,baz=91,slow=4.1,SNR=11
EIL LR LR 15 03 34.3
comp=Z,334nm,19.8s,baz=78,slow=40
comp=Z,11nm,1.1s
MOS Moscow 29.00 323 *e*P **P 14 50 22.1 -0.9**
MOS pmax pmax
comp=Z,69nm,0.8s
MOS MLR MLR
comp=Z,700nm,16.0s
OBN Obninsk 29.23 321 P **P 14 50 25.8 +0.8**
OBN IAmb IAmb 14 50 27.3
comp=Z,75nm,1.0s
OBN Obninsk 29.23 321 P **P 14 50 26.3 +1.3**
comp=Z,35nm,0.4s,baz=134,slow=2.9,SNR=11
OBN LR LR 15 04 59.1
comp=Z,626nm,18.9s,baz=170,slow=42
comp=Z,35nm,0.4s
OBN Obninsk 29.23 321 *c i*P **P 14 50 26.1 +1.1**
OBN *i* 14 50 30.5
OBN *i* 14 51 16.1
OBN pmax pmax
comp=Z,72nm,1.1s
OBN MLR MLR
comp=Z,854nm,17.0s
OBN Obninsk 29.23 321 P **P 14 50 26.2 +1.2**
comp=Z,86nm,1.0s
PZH PanZhiHua 29.68 99 P **P 14 50 30.5 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,90nm,4.8s
IRK Irkutsk 30.01 46 *e*P **P 14 50 32.2 +0.2**
IRK pmax pmax
comp=Z,93nm,1.2s
SONM Songino Array 30.26 55 P **P 14 50 35.3 +0.8**
comp=Z,13nm,0.8s,baz=264,slow=9.6,SNR=71
SONM LR LR 15 03 58.6
comp=Z,538nm,21.6s,baz=268,slow=39
comp=Z,13nm,0.8s
ULN Ulaanbaatar 30.70 55 P **P 14 50 38.2 -0.2**
ULN IAmb IAmb 14 50 41.3
comp=Z,25nm,0.9s
ULN Ulaanbaatar 30.70 55 P **P 14 50 39.7 +1.3**
KMI Kunming 31.11 101 ⇑P **P 14 50 42.5 +0.2**
KMI S **S 14 55 46.3 -0.4**
KMI pmax pmax
comp=Z,14nm,0.7s
KMI pmax pmax
comp=Z,150nm,5.3s
KMI LR LR
comp=Z,310nm,11.8s
KMI LR LR
comp=Z,250nm,15.5s
KMI LR LR
comp=Z,420nm,14.2s
KLMR Klimovskoe 31.15 333 *e*P **P 14 50 39.8 -2.2**
KLMR pmax pmax
comp=Z,72nm,1.6s
KLMR MLR MLR
comp=Z,884nm,13.0s
CHTO Chiang Mai 31.63 114 P **P 14 50 46.7 +0.1**
CHTO Chiang Mai 31.63 114 P **P 14 50 46.7 +0.1**
CHTO pmax pmax
comp=Z,14nm,0.9s
TPGR Topolog 31.68 299 ⇓P **P 14 50 48.6 +1.7**
AK09 Malin Array Si 31.84 310 P **P 14 50 49.2 +1.1**
CM31 Chiang Mai Arr 31.85 115 P **P 14 50 48.6 0.0**
CM31 IAmb IAmb 14 51 04.0
comp=Z,30nm,1.1s
CMAR Chiang Mai Arr 31.85 115 P **P 14 50 48.3 -0.3**
comp=Z,22nm,1.1s,baz=300,slow=8.4,SNR=64
CMAR PcP **PcP 14 53 39.3 +0.2**
comp=Z,1.0nm,0.3s,baz=322,slow=3.9,SNR=2.9
CMAR LR LR 15 07 28.8
comp=Z,244nm,19.7s,baz=305,slow=44
comp=Z,22nm,1.1s
AKASG Malin Array Be 31.89 310 P **P 14 50 49.6 +1.0**
comp=Z,11nm,0.6s,baz=92,slow=7.2,SNR=87
AKASG LR LR 15 06 13.3
comp=Z,425nm,20.1s,baz=157,slow=41
comp=Z,11nm,0.6s
AKBB Malin Array Si 31.89 310 P **P 14 50 48.6 -0.1**
AKBB IAmb IAmb 14 50 50.8
comp=Z,58nm,1.1s
AKBB Malin Array Si 31.89 310 *ce*P **P 14 50 48.7 +0.1**
AKBB pmax pmax
comp=Z,36nm,1.0s
AKBB Malin Array Si 31.89 310 P **P 14 50 49.3 +0.7**
CFR Carcaliu 31.90 300 ⇓P **P 14 50 50.6 +1.9**
CFR Carcaliu 31.90 300 P **P 14 50 50.6 +1.9**
KIEV Kiev 31.90 310 P **P 14 50 48.8 +0.1**
KIEV IAmb IAmb 14 50 50.8
comp=Z,52nm,1.1s
KIEV Kiev 31.90 310 *i* P **P 14 50 49.1 +0.4**
SNR=16
KIEV Kiev 31.90 310 ⇓P **P 14 50 49.7 +0.9**
KIEV Kiev 31.90 310 P **P 14 50 49.6 +0.9**
KIEV Kiev 31.90 310 P **P 14 50 49.4 +0.7**
comp=Z,170nm,1.0s
MI30 MI30,Zelenitsa 32.55 310 P **P 14 50 55.1 +0.7**
comp=Z,74nm,1.1s
BTO Baotou 32.62 69 *e*P **P 14 50 55.3 +0.1**
BTO pP **pP 14 51 00.3 -2.5**
BTO sP **sP 14 51 04.0 -2.0**
BTO PP **PnPn 14 52 01.0 -2.2**
BTO S **S 14 56 11.0 +1.3**
BTO SS **SnSn 14 58 08.3 +3.4**
BTO pmax pmax
comp=Z,63nm,1.1s
BTO pmax pmax
comp=Z,280nm,4.9s
BTO LR LR
comp=Z,2μm,13.6s
BTO LR LR
comp=Z,1μm,6.2s
BTO LR LR
comp=Z,1μm,12.2s
LUBAR Lubar, Ukraine 32.67 308 P **P 14 50 55.6 +0.2**
MI29 MI29, Kamyanyy 32.70 309 P **P 14 50 56.0 +0.3**
comp=Z,173nm,1.1s
NDNU Novodnistrovsk 32.72 306 P **P 14 50 57.2 +1.3**
PHRA Phrae 32.78 113 P **P 14 50 56.6 -0.2**
XAN Xi'an 32.89 81 ⇑P **P 14 50 57.3 -0.4**
XAN pP pP 14 51 02.0 -3.2
XAN S **S 14 56 14.5 +0.5**
XAN pmax pmax
comp=Z,67nm,0.8s
XAN pmax pmax
comp=Z,260nm,4.8s
XAN LR LR
comp=Z,950nm,12.9s
XAN LR LR
comp=Z,770nm,12.7s
XAN LR LR
comp=Z,1μm,12.9s
MI28 Mi28,Pidlybu 32.91 310 P **P 14 50 58.3 +0.8**
comp=Z,310nm,1.3s
VRI Vrincioaia 32.92 301 ⇓P **P 14 51 01.0 +3.3**
VRI Vrincioaia 32.92 301 P **P 14 51 01.0 +3.3**
VRI Vrincioaia 32.92 301 P **P 14 50 59.8 +2.1**
comp=Z,20nm,1.2s
PLOR5 Plostina Array 32.96 301 P **P 14 51 01.9 +3.8**
comp=Z,53nm,1.1s
PLOR Plostina 32.97 301 ⇓P **P 14 51 00.8 +2.6**
PLOR Plostina 32.97 301 P **P 14 51 01.1 +2.9**
PLOR3 Plostina Array 32.98 301 P **P 14 51 00.3 +2.0**
comp=Z,51nm,1.0s
COVR Voineasa-Covas 33.28 301 ⇑P **P 14 51 04.0 +3.1**
KMPD K-Podol'skiy 33.32 306 P **P 14 51 01.8 +0.7**
comp=Z,6μm,1.1s,comp=Z,81μm
TURR Turia 33.42 301 ⇓P **P 14 51 05.1 +3.0**
EZN Ezine 33.44 290 P **P 14 51 03.2 +0.9**
comp=Z,60nm,1.4s
MLR Muntele Rosu 33.45 300 P **P 14 51 04.5 +2.0**
MLR Muntele Rosu 33.45 300 P **P 14 51 04.7 +2.2**
comp=Z,48nm,0.9s,baz=112,slow=2.1,SNR=33
MLR LR LR 15 07 48.4
comp=Z,638nm,18.8s,baz=31,slow=42
comp=Z,48nm,0.9s
MLR Muntele Rosu 33.45 300 ⇓P **P 14 51 05.8 +3.2**
MLR Muntele Rosu 33.45 300 P **P 14 51 06.0 +3.5**
MLR Muntele Rosu 33.45 300 P **P 14 51 05.1 +2.6**
comp=Z,80nm,1.2s
ATD Arta Tunnel 33.64 230 LR LR 15 07 08.4
comp=Z,12nm,18.7s,baz=36,slow=41
MNK Minsk 33.65 317 *i* P **P 14 51 03.9 0.0**
comp=E,26nm,1.1s
MNK *i* P **P 14 51 03.9 0.0**
comp=N,58nm,1.0s
MNK *i* P **P 14 51 03.9 0.0**
comp=Z,57nm,0.9s,baz=107
MNK *i* PP **PnPn 14 52 16.4 +0.5**
MNK *i* PPP PPP 14 52 27.4
MNK *i* S **S 14 56 27.3 +2.1**
MNK *i* SS **SnSn 14 58 33.5 +4.2**
MNK *i* SSS SSS 14 58 49.1
MNK *i* LQ LQ 15 03 50.5
MNK *i* LR LR 15 06 18.8
MNK *i* LRM MLR 15 06 59.5
comp=E,261nm,13.7s
MNK *i* LRM MLR 15 07 09.1
comp=N,626nm,16.1s
MNK *i* LRM MLR 15 07 13.0
comp=Z,515nm,13.0s
MNK Minsk 33.65 317 *i* P **P 14 51 03.9 0.0**
MNK *i* 14 52 16.3
MNK *i* 14 53 42.8
MNK *i* S **S 14 56 27.2 +2.1**
MNK *i* SS **SnSn 14 58 33.5 +4.2**
MNK *i* 15 01 27.9
MNK pmax pmax
comp=Z,57nm,0.9s
MNK pmax pmax
comp=N,58nm,1.0s
MNK pmax pmax
comp=E,26nm,1.1s
MNK MLR MLR
comp=E,261nm,14.0s
MNK MLR MLR
comp=N,626nm,16.0s
MNK MLR MLR
comp=Z,515nm,13.0s
GYA Guiyang 33.67 95 ⇓P **P 14 51 05.0 +0.4**
GYA PP **PP 14 52 19.5 -1.4**
GYA PcP **PcP 14 53 43.5 -0.7**
GYA S **S 14 56 25.0 -1.3**
GYA SS **SnSn 14 58 34.3 +3.5**
GYA pmax pmax
comp=Z,39nm,0.9s
GYA LR LR
comp=Z,410nm,17.4s
HHC Hu-ho-hao-te 33.76 68 *e*P **P 14 51 08.5 +3.3**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.3s
HHC LR LR
comp=Z,420nm,12.3s
HHC LR LR
comp=Z,730nm,12.7s
HHC LR LR
comp=Z,1μm,15.9s
DOPR Dopca 33.86 301 ⇓P **P 14 51 07.9 +2.0**
SLVN Son La 33.96 106 P **P 14 51 07.7 +0.7**
SLVN Son La 33.96 106 P **P 14 51 08.7 +1.7**
BURAR Bucovina Array 34.06 304 ⇓P **P 14 51 09.8 +2.0**
BURAR Bucovina Array 34.06 304 P **P 14 51 09.7 +2.0**
RNPP5 Staryi Chortor 34.07 310 P **P 14 51 08.8 +1.2**
BUR08 Bucovina Ar. S 34.07 304 P **P 14 51 09.2 +1.4**
RNPP9 Sopachiv 34.10 311 P **P 14 51 08.8 +0.9**
RNPP8 Varash 34.11 311 P **P 14 51 09.1 +1.2**
NACGM Naroch 34.37 317 ⇑*i*P **P 14 51 11.4 +1.2**
comp=Z,99nm,0.9s,baz=106
PUL Pulkovo 34.38 326 *ce*P **P 14 51 12.0 +1.9**
PUL pmax pmax
comp=Z,87nm,0.8s
ARR Arges 34.38 300 ⇑P **P 14 51 13.2 +2.7**
ENH Enshi 34.48 87 P **P 14 51 11.2 -0.4**
ENH IAmb IAmb 14 51 12.9
comp=Z,47nm,1.2s
APE Apeiranthos 34.49 285 *e*P **P 14 51 13.6 +2.1**
ARCR ARCALIA 34.62 303 ⇓P **P 14 51 13.3 +0.8**
SRDT SRDT 34.68 120 P **P 14 51 14.6 +1.3**
TIY Taiyuan 34.87 74 *e*P **P 14 51 15.5 +0.6**
TIY pP **pP 14 51 20.3 -2.2**
TIY pmax pmax
comp=Z,27nm,0.9s
TIY LR LR
comp=Z,460nm,12.6s
TIY LR LR
comp=Z,330nm,7.7s
TIY LR LR
comp=Z,240nm,12.6s
LOT Lotru 34.98 300 ⇓P **P 14 51 17.9 +2.1**
MORS Morshin 35.06 306 P **P 14 51 15.9 -0.3**
NRIK Noril'sk 35.12 12 P **P 14 51 17.2 +0.7**
NRIK IAmb IAmb 14 51 25.5
comp=Z,40nm,1.1s
NRIK Noril'sk 35.12 12 P **P 14 51 17.6 +1.0**
comp=Z,15nm,0.7s,baz=202,slow=5.9,SNR=28
NRIK LR LR 15 07 33.8
comp=Z,388nm,18.2s,baz=193,slow=40
comp=Z,15nm,0.7s
BMR Baia Mare 35.23 304 ⇑P **P 14 51 20.6 +2.9**
BMR Baia Mare 35.23 304 P **P 14 51 20.5 +2.9**
SHIU Shidnytsya 35.42 306 P **P 14 51 21.1 +1.7**
MARR Marisel-Cluj 35.45 302 ⇓P **P 14 51 22.2 +2.5**
CIT Chita 35.50 49 *e*P **P 14 51 20.8 +0.7**
CIT *e* 14 52 34.4
CIT pmax pmax
comp=Z,180nm,1.4s
JOF Joensuu 35.51 331 *e*P **P 14 51 21.4 +1.5**
VSU Vasula 35.53 323 *ce*P **P 14 51 21.4 +1.2**
VSU pmax pmax
comp=Z,142nm,1.7s
DEV Deva 35.59 301 ⇑P **P 14 51 23.5 +2.7**
DEV Deva 35.59 301 P **P 14 51 23.5 +2.7**
LYN LuoYang 35.60 79 ⇑P **P 14 51 22.3 +1.3**
LYN pmax pmax
comp=Z,100nm,1.1s
LYN LR LR
comp=Z,510nm,12.0s
LYN LR LR
comp=Z,780nm,14.8s
LYN LR LR
comp=Z,1μm,13.1s
GZR Gura Zlata 35.69 300 ⇑P **P 14 51 23.5 +1.7**
DRGR 35.73 302 ⇑P **P 14 51 25.0 +2.9**
DRGR 35.73 302 P **P 14 51 25.0 +2.9**
MUKU Mukachevo 35.81 305 P **P 14 51 25.0 +2.4**
BERU Beregovo 35.82 305 P **P 14 51 25.0 +2.2**
KWP Kalwaria Pacla 35.88 307 *e*P **P 14 51 25.7 +2.4**
KWP Kalwaria Pacla 35.88 307 P **P 14 51 24.9 +1.7**
KWP Kalwaria Pacla 35.88 307 P **P 14 51 25.0 +1.7**
KWP pmax pmax
comp=Z,263nm,0.9s
KWP Kalwaria Pacla 35.88 307 P **P 14 51 24.9 +1.7**
comp=Z,47nm,1.1s
HOLU Holmets 36.01 305 P **P 14 51 26.6 +2.2**
PABE Paberze 36.09 317 P **P 14 51 26.1 +1.1**
PABE Paberze 36.09 317 *e*P **P 14 51 26.5 +1.6**
KOLS Kolonicke sedl 36.11 306 *e*P **P 14 51 27.8 +2.5**
KOLS pmax pmax
comp=Z,11nm,1.0s

KOLS **Kolonicke sedl** 36.11 306 *e*P P 14 51 27.8 +2.5
SURR **Surduc** 36.14 300 ⇓P P 14 51 28.5 +3.0
SUW **Suwalki** 36.20 315 *e*P P 14 51 27.6 +1.7
SUW **Suwalki** 36.20 315 *e*P P 14 51 27.0 +1.0
SIRR **Siria** 36.45 301 ⇑P P 14 51 30.5 +2.2
MDVR **Moldovita** 36.46 299 ⇑P P 14 51 30.8 +2.5
BZS **Buzias** 36.50 300 ⇑P P 14 51 31.1 +2.5
BZS **Buzias** 36.50 300 P P 14 51 31.1 +2.5
BOVS **Bovan** 36.53 297 ⇑P P 14 51 30.7 +1.8
HNS **HongShan** 36.71 74 ⇑P P 14 51 30.8 +0.3
HNS sP **sP** 14 51 42.3 +1.1
HNS *e*S **S** 14 57 12.8 +0.3
HNS pmax pmax
comp=Z,15nm,1.2s
HNS LR LR
comp=Z,400nm,11.2s
HNS LR LR
comp=Z,550nm,11.6s
HNS LR LR
comp=Z,560nm,14.9s
STHS **Stebnicka Huta** 36.81 307 *e*P P 14 51 32.4 +1.1
STHS pmax pmax
comp=Z,3.0nm,0.8s
STHS **Stebnicka Huta** 36.81 307 *e*P P 14 51 32.4 +1.1
XLT **XiLinHaoTe** 36.84 63 *e*P P 14 51 32.0 +0.3
XLT sP sP 14 51 42.5 0.0
XLT pmax pmax
comp=Z,20nm,1.0s
FIA1 **FINESS Array S** 36.98 327 P P 14 51 33.3 +0.8
FINES **FINESS Array B** 36.98 327 P P 14 51 33.9 +1.3
comp=Z,25nm,0.6s,baz=116,slow=10,SNR=89
comp=Z,25nm,0.6s
BOD **Bodaibo** 37.05 39 *e*P P 14 51 32.5 -0.6
BOD pmax pmax
comp=Z,80nm,1.3s
MTSE **Matsula** 37.06 322 *e*P P 14 51 34.0 +0.8
FNA **Florina** 37.07 292 P P 14 51 34.9 +1.3
FNA **Florina** 37.07 292 P P 14 51 34.9 +1.3
FNA pmax pmax
comp=Z,25nm,1.2s
MEF **Metsahovi** 37.28 325 *e*P P 14 51 35.6 +0.6
PBUR **Paburge** 37.33 318 *e*P P 14 51 36.8 +1.3
LVZ **Lovozero** 37.38 340 P P 14 51 36.4 +0.5
LVZ **Lovozero** 37.38 340 *ce*P P 14 51 37.4 +1.5
LVZ pmax pmax
comp=Z,104nm,1.7s
LVZ **Lovozero** 37.38 340 P P 14 51 36.7 +0.8
comp=Z,78nm,1.4s
NIE **Niedzica** 37.43 307 *e*P P 14 51 39.3 +2.8
NIE **Niedzica** 37.43 307 P P 14 51 38.6 +2.1
comp=Z,12nm,1.1s
APA **Apatity** 37.53 339 ⇑*i*P P 14 51 36.7 -0.4
APA *i* 14 53 13.5
APA pmax pmax
comp=Z,29nm,1.1s
APA MLR MLR
comp=Z,1μm,14.0s
PSZ **Piszkesteto** 37.66 304 *e*P P 14 51 41.3 +2.7
OJC **Ojcow** 37.80 308 *e*P P 14 51 39.3 -0.2
OJC **Ojcow** 37.80 308 P P 14 51 40.2 +0.6
OJC **Ojcow** 37.80 308 P P 14 51 40.2 +0.6
OJC pmax pmax
comp=Z,13nm,0.9s
OJC **Ojcow** 37.80 308 P P 14 51 40.7 +1.1
comp=Z,20nm,1.1s
KEF **Keuruu** 37.80 328 *e*P P 14 51 40.6 +1.1
CNSH **ChangSha** 38.05 89 P P 14 51 42.0 0.0
CNSH pmax pmax
comp=Z,38nm,1.0s
CNSH LR LR
comp=Z,510nm,18.2s
CNSH LR LR
comp=Z,520nm,15.5s
CNSH LR LR
comp=Z,380nm,11.9s
FURI **Furi** 38.29 233 LR LR 15 09 55.9
comp=Z,332nm,19.4s,baz=40,slow=40
WHN **Wuhan** 38.33 85 P P 14 51 44.8 +0.5
WHN sP **pP** 14 51 49.8 -2.1
WHN PcP **PcP** 14 54 01.5 +3.7
WHN pmax pmax
comp=Z,120nm,1.0s
WHN LR LR
comp=Z,2μm,12.4s
VYHS **Vyhne** 38.37 305 *e*P P 14 51 46.8 +2.3
VYHS **Vyhne** 38.37 305 *e*P P 14 51 46.8 +2.3
MORH **Mrgy, Hungar** 38.55 301 ⇓P P 14 51 47.7 +1.8
MORH **Mrgy, Hungar** 38.55 301 P P 14 51 47.4 +1.5
comp=Z,12nm,1.1s
TIA **Tai'an** 38.87 75 P P 14 51 49.0 +0.2
TIA pmax pmax
comp=Z,37nm,1.0s
TIA pmax pmax
comp=Z,82nm,5.5s
TIA LR LR
comp=Z,740nm,16.1s
TIA LR LR
comp=Z,240nm,12.4s
TIA LR LR
comp=Z,130nm,12.7s
VAF **Ylistaro** 39.08 329 *e*P P 14 51 51.4 +1.2
JAVC **Velka Javorina** 39.14 306 *e*P P 14 51 53.3 +2.3
HIA **Hailar** 39.20 54 P P 14 51 52.7 +1.2
HIA **Hailar** 39.20 54 P P 14 51 52.7 +1.2
HIA pmax pmax
comp=Z,21nm,1.1s
MORC **Moravsky Berou** 39.23 307 P P 14 51 53.4 +1.6
MORC **Moravsky Berou** 39.23 307 *e*P P 14 51 53.5 +1.8
MORC **Moravsky Berou** 39.23 307 ⇓P P 14 51 53.5 +1.8
MORC **Moravsky Berou** 39.23 307 P P 14 51 53.5 +1.8
MODS **Modra-Piesok** 39.41 305 *e*P P 14 51 55.3 +2.1
MODS **Modra-Piesok** 39.41 305 *e*P P 14 51 55.3 +2.1
GKP **Gorka Klasztor** 39.60 313 *e*P P 14 51 56.1 +1.4
KRLC **Kraliky** 39.73 308 *e*P P 14 51 58.0 +2.1
KRLC **Kraliky** 39.73 308 *e*P P 14 51 58.0 +2.1
VRAC **Vranov** 39.85 306 P P 14 51 58.5 +1.7
comp=Z,9.5nm,0.8s,baz=84,slow=7.9,SNR=7.9
VRAC LR LR 15 12 42.2
comp=Z,139nm,18.2s,baz=26,slow=42
comp=Z,9.5nm,0.8s
VRAC **Vranov** 39.85 306 *e*P P 14 51 58.9 +2.1
QIZ **Qiongzhong** 39.88 104 P P 14 51 58.0 +0.6
QIZ S **S** 14 58 00.3 -0.6
QIZ LR LR
comp=Z,280nm,18.9s
QIZ LR LR
comp=Z,340nm,15.5s
QIZ LR LR
comp=Z,280nm,11.6s
KRUC **Moravsky** 39.98 306 *e*P P 14 51 59.6 +1.7
DPC **Dobruska-Polom** 40.03 308 *e*P P 14 52 00.9 +2.6
DPC **Dobruska-Polom** 40.03 308 *e*P P 14 52 00.9 +2.6
DPC **Dobruska-Polom** 40.03 308 P P 14 52 00.3 +2.0
comp=Z,13nm,0.9s
RONA **Rosalia, Austr** 40.09 304 *i*P P 14 51 59.1 +0.3
comp=Z,1.4nm,0.5s
UPC **Upice** 40.23 308 *e*P P 14 52 00.8 +0.9
UPC **Upice** 40.23 308 *e*P P 14 52 00.8 +0.9
VADS **Vadso** 40.27 340 *e*P P 14 52 01.4 +1.4
CONA **Conrad Observa** 40.37 304 *e*P P 14 52 02.0 +0.7
comp=Z,4.9nm,0.7s
CONA *e*P P 14 52 03.7 +2.4
SNR=4.9
BLEU **Blekinge** 40.75 317 *i*P P 14 52 03.9 -0.2
SOKA **Soboth** 41.01 302 *i*P P 14 52 08.8 +2.3
comp=Z,8.8nm,0.6s,SNR=4.4
ARA0 **ARCESS Array S** 41.04 339 *e*P P 14 52 07.6 +1.2
ARCES **ARCESS Array B** 41.04 339 P P 14 52 07.3 +1.0
comp=Z,35nm,0.8s,baz=127,slow=9.6,SNR=40
ARCES LR LR 15 09 53.4
comp=Z,358nm,21.2s,baz=118,slow=37
comp=Z,35nm,0.8s
CKRC **Cesky Krumlov** 41.36 306 *e*P P 14 52 12.0 +2.7
CUC **Castrocucco** 41.39 292 P P 14 52 10.2 +0.5
CUC IAmb IAmb 14 52 20.9
comp=Z,36nm,0.9s
ZVC **Zvikov** 41.42 307 *e*P P 14 52 12.0 +2.3
NJ2 **Nanjing** 41.44 80 ⇑P P 14 52 10.3 +0.1
NJ2 pP **pP** 14 52 15.3 -2.6
NJ2 pmax pmax
comp=Z,54nm,0.8s
MOA **Molln** 41.45 304 *e*P P 14 52 12.0 +2.0
comp=Z,1.8nm,0.4s
KTK1 **Kautokeino** 41.46 337 *e*P P 14 52 10.5 +0.7

BRG **Berggiesshubel** 41.55 309 ⇑*i*P P 14 52 12.8 +2.0
BRG Amp 14 52 13.4
comp=Z,10nm,0.7s
BRG **Berggiesshubel** 41.55 309 P P 14 52 17.8 +7.1
BRG Amp 14 52 19.9
comp=Z,7.0nm,0.8s
BRG **Berggiesshubel** 41.55 309 ⇑*i*P P 14 52 12.8 +2.0
BRG 14 52 17.8
BRG pmax pmax
comp=Z,10.0nm,0.7s
BRG pmax pmax
comp=Z,7.0nm,0.8s
BRG MLR MLR
comp=Z,1μm,8.4s
BRG MLR MLR
comp=N,470nm,6.0s
BRG MLR MLR
comp=E,638nm,10.6s
GERES **GERESS Array B** 41.76 306 P P 14 52 13.7 +1.0
comp=E,3.4nm,0.7s,baz=84,slow=6.8,SNR=10
GERES PcP **PcP** 14 54 11.0 +2.3
comp=E,5.7nm,0.8s,baz=90,slow=4.0,SNR=7.1
GERES LR LR 15 12 56.3
comp=E,238nm,18.5s,baz=106,slow=41
comp=E,3.4nm,0.7s
KHC **Kasperske Hory** 41.83 306 *e*P P 14 52 14.0 +0.8
KHC **Kasperske Hory** 41.83 306 *ce*P P 14 52 15.6 +2.4
KHC pmax pmax
comp=Z,20nm,2.5s
DEL **Delary** 41.84 317 *i*P P 14 52 14.0 +0.9
MYKA **Terra Mystica** 41.97 302 *i*P P 14 52 16.3 +1.9
comp=Z,1.7nm,0.4s
SNSI **Sinabang, Aceh** 41.99 136 P P 14 52 22.0 +7.2
LUNU **Lund** 42.00 316 *i*P P 14 52 15.0 +0.6
KBA **Koelnbreinsper** 42.13 303 *i*P P 14 52 17.4 +1.6
comp=Z,5.7nm,0.7s
CLL **Collm** 42.13 309 P P 14 52 16.7 +1.1
CLL **Collm** 42.13 309 *i*P P 14 52 16.7 +1.1
CLL *i* *PP **pP** 14 52 22.8 -0.5
CLL pmax pmax
comp=Z,55nm,2.1s
CLL **Collm** 42.13 309 *i*P P 14 52 16.7 +1.1
comp=Z,55nm,2.1s
CLL *i*pP **pP** 14 52 22.8 -0.5
comp=Z,12nm,1.0s
CLL *e*(SS) 15 01 46.0
CLL AMS AMS 15 13 00.0
comp=N,200nm,20.3s
CLL AMS AMS 15 13 00.0
comp=E,300nm,18.8s
HAMF **Hammerfest** 42.15 339 *e*P P 14 52 17.0 +1.6
KULM **Kulim** 42.31 128 P P 14 52 17.0 -0.4
KULM IAmb IAmb 14 52 24.7
comp=Z,54nm,1.4s
KULM **Kulim** 42.31 128 P P 14 52 18.6 +1.2
HFS **Hagfors** 42.42 323 P P 14 52 18.9 +1.2
comp=Z,54nm,0.6s,baz=81,slow=9.2,SNR=98
HFS LR LR 15 12 59.5
comp=Z,505nm,19.0s,baz=90,slow=40
comp=Z,54nm,0.6s
FABU **Falkenberg** 42.52 318 *i*P P 14 52 18.9 +0.3
LESA **Schwarzleotal** 42.55 304 *e*P P 14 52 20.6 +1.5
comp=Z,1.0nm,0.2s
BORU **Boraas** 42.56 319 *i*P P 14 52 19.2 +0.3
JETT **Jettan, Norway** 42.61 337 *e*P P 14 52 20.4 +1.1
ABTA **Abfaltersbach** 42.73 303 *e*P P 14 52 21.7 +1.1
comp=Z,2.1nm,0.5s
ONAU **Onsala** 42.99 318 *i*P P 14 52 23.0 +0.6
TRO **Tromso** 43.11 337 *e*P P 14 52 24.3 +1.1
IPM **Ipoh** 43.17 129 P P 14 52 23.7 -0.7
IPM IAmb IAmb 14 52 33.6
comp=Z,35nm,0.8s
IPM **Ipoh** 43.17 129 P P 14 52 24.5 +0.1
PSI **Prapat** 43.18 133 LR LR 15 12 07.8
comp=Z,160nm,18.6s,baz=300,slow=39
PSI **Prapat** 43.18 133 P P 14 52 23.6 -1.0
PSI pmax pmax
comp=Z,28nm,0.9s
TJOU **Tjoern** 43.20 319 *i*P P 14 52 24.5 +0.3
RPSI **Rantau Prapat** 43.27 133 P P 14 52 23.6 -1.5
RPSI IAmb IAmb 14 52 32.6
comp=Z,28nm,0.9s
WTTA **Wattenberg** 43.27 304 *e*P P 14 52 26.2 +1.1
comp=Z,4.3nm,0.5s
WATA **Waldraim** 43.30 304 *e*P P 14 52 26.2 +0.8
comp=Z,1.9nm,0.3s
MOR8 **Moi Rana** 43.47 331 *e*P P 14 52 26.5 +0.3
FAUS **Fauske** 43.52 333 *e*P P 14 52 27.5 +1.0
STRU **Stroemstad** 43.54 321 *i*P P 14 52 26.9 +0.1
NC405 **NORSAR Array S** 43.54 324 P P 14 52 27.3 +0.5
NC405 IAmb IAmb 14 52 28.6
comp=Z,67nm,0.9s
NC602 **NORSAR Array S** 43.57 323 *e*P P 14 52 27.4 +0.4
CN2 **Changchun** 43.58 61 *e*P P 14 52 28.3 +0.9
CN2 pmax pmax
comp=Z,10.0nm,0.6s
GSI **Gunungsitoli** 43.60 136 P P 14 52 26.4 -1.4
GSI IAmb IAmb 14 52 54.0
comp=Z,30nm,0.7s
GSI **Gunungsitoli** 43.60 136 P P 14 52 28.9 +1.1
GSI **Gunungsitoli** 43.60 136 P P 14 52 26.3 -1.6
MOTA **Moosalm** 43.62 304 *e*P P 14 52 28.6 +0.7
comp=Z,4.7nm,0.5s
STEI **Steigen** 43.71 334 *e*P P 14 52 29.0 +0.9
NB2 **NORSAR Subarra** 43.77 324 P P 14 52 28.9 +0.2
comp=Z,46nm,0.8s,baz=99,slow=8.6
NB2 **NORSAR Subarra** 43.77 324 P P 14 52 28.9 +0.2
baz=99,slow=8.6
NOA **NORSAR Array B** 43.77 324 P P 14 52 29.1 +0.4
comp=Z,52nm,0.9s,baz=99,slow=8.1,SNR=93
NOA LR LR 15 13 33.2
comp=Z,216nm,19.2s,baz=105,slow=40
comp=Z,52nm,0.9s
OSL **Oslo** 43.87 322 *e*P P 14 52 30.8 +1.4
ZEA **Zeya** 43.90 47 *e*P P 14 52 31.3 +1.5
ZEA *e* 14 52 36.5
ZEA pmax pmax
comp=E,30nm,0.6s
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,60nm,0.8s
FETA **Feichten** 43.91 303 *i*P P 14 52 31.2 +1.0
comp=Z,2.9nm,0.6s,SNR=6.0
NSS **Namsos** 44.05 329 *e*P P 14 52 31.3 +0.4
STOK **Stokkvaagen** 44.06 331 *e*P P 14 52 31.9 +0.9
KONS **Konsvik** 44.07 332 *e*P P 14 52 31.9 +0.9
HEH **HeiHe** 44.14 52 *e*P P 14 52 32.3 +0.5
HEH pmax pmax
comp=Z,150nm,0.9s
KONO **Kongsberg** 44.40 322 *e*P P 14 52 34.7 +1.0
KONO **Kongsberg** 44.40 322 *ce*P P 14 52 35.3 +1.5
KONO pmax pmax
comp=Z,44nm,1.3s
GOET **G??ttrup** 44.43 318 *i*P P 14 52 35.0 +1.0
GOET IAmb IAmb 14 52 41.6
comp=Z,84nm,0.8s
DAVA **Damuels** 44.46 304 *i*P P 14 52 35.7 +1.1
comp=Z,8.9nm,0.6s,SNR=5.1
DAVOX **Davos/Dischmat** 44.52 303 P P 14 52 36.0 +0.8
comp=Z,5.9nm,0.7s,baz=42,slow=16,SNR=6.1
DAVOX LR LR 15 13 48.1
comp=Z,103nm,21.9s,baz=80,slow=40
comp=Z,5.9nm,0.7s
DAVOX **Davos/Dischmat** 44.52 303 P P 14 52 36.0 +0.8
TBLU **Trondheim** 44.55 327 *e*P P 14 52 35.7 +0.8
BNX **BinXian** 44.65 58 ⇓P P 14 52 36.3 +0.4
BNX pmax pmax
comp=Z,18nm,1.0s
HOMB **Homborsund** 44.87 319 *i*P P 14 52 36.7 -0.7
DOMB **Dombas** 44.92 325 *e*P P 14 52 39.5 +1.5
SKAR **Skarslia** 45.14 323 *e*P P 14 52 41.1 +1.4
MNSI **Mandailing Nat** 45.18 134 P P 14 52 41.2 +0.8
SNART **Snartemo** 45.56 320 *i*P P 14 52 42.0 -0.9
YAK **Yakutsk** 45.59 35 P P 14 52 42.7 -0.4
YAK **Yakutsk** 45.59 35 LR LR 15 12 02.4
comp=Z,174nm,18.7s,baz=272,slow=36
YAK **Yakutsk** 45.59 35 *c*P *i*P P 14 52 42.4 -0.7
YAK *e*PP **sP** 14 52 54.1 +0.2
YAK *e* 14 54 19.8
YAK *e* 14 54 29.9
YAK *e*PPP PPP 14 55 10.4
YAK *e*S **S** 14 59 22.9 -0.9
YAK *e*SS **sS** 14 59 42.4 +5.7
YAK *e* 15 02 34.8

YAK *e*SSS SSS 15 03 39.7
YAK pmax pmax
comp=Z,118nm,0.9s
YAK pmax pmax
comp=N,15nm,1.4s
YAK pmax pmax
comp=E,31nm,1.3s
YAK pmax pmax
comp=Z,533nm,3.8s
YAK pmax pmax
comp=N,869nm,4.6s
YAK pmax pmax
comp=E,460nm,4.6s
YAK smax smax
comp=N,644nm,3.3s
YAK smax smax
comp=E,356nm,4.2s
ODD1 **Odda** 45.92 322 *e*P P 14 52 47.9 +2.0
BLS5 **Blasjo** 45.99 321 *e*P P 14 52 48.0 +1.6
SENIN **Lac Senin/Sane** 46.35 303 P P 14 52 50.5 +0.9
MDJ **Mudanjiang** 46.37 60 P P 14 52 49.5 0.0
MDJ pmax pmax
comp=E,9.0nm,1.0s
BKNI **Bangkinang** 46.42 132 P P 14 52 53.7 +3.5
BKNI **Bangkinang** 46.42 132 P P 14 52 57.9 +7.7
SSLB **Suanglung** 46.45 90 P P 14 52 50.8 +0.3
SSLB **Suanglung** 46.45 90 P P 14 52 52.0 +1.5
BTNL **Ternell** 46.52 309 *d*P P 14 52 52.7 +2.0
comp=Z,11nm,1.0s
BER **Bergen** 46.59 322 *e*P P 14 52 52.3 +1.3
MEM **Membach** 46.59 309 *d*P P 14 52 52.5 +1.3
comp=Z,17nm,1.1s
WLF **Walferdange** 46.61 308 *d*P P 14 52 54.1 +2.6
SISI **Saibi** 46.62 136 P P 14 52 51.6 -0.2
comp=Z,32nm,0.9s
PPI **Padang Panjang** 46.66 134 P P 14 52 50.6 -1.5
comp=Z,55nm,0.8s
KS19 **Wonju Array Si** 46.82 70 P P 14 52 53.0 -0.3
KS19 IAmb IAmb 14 53 00.4
comp=Z,14nm,0.8s
KSRS **Korea Array** 46.88 70 P P 14 52 52.9 -0.7
comp=Z,7.8nm,0.6s,baz=274,slow=6.7,SNR=38
KSRS PcP **PcP** 14 54 25.7 -0.5
comp=Z,5.1nm,0.8s,baz=288,slow=3.5,SNR=4.3
KSRS LR LR 15 15 01.2
comp=Z,346nm,18.7s,baz=280,slow=39
comp=Z,7.8nm,0.6s
TWG **Pinlang** 46.99 91 P P 14 52 54.8 +0.1
TWGBT **Beinan** 47.00 91 P P 14 52 57.0 +2.2
KMBO **Kilima Mbogo** 47.01 225 P P 14 52 55.0 -0.2
comp=Z,1.5nm,0.3s,baz=36,slow=9.8,SNR=10
KMBO LR LR 15 12 37.8
comp=Z,126nm,20.4s,baz=91,slow=36
comp=Z,1.5nm,0.3s
KMBO **Kilima Mbogo** 47.01 225 *i*P P 14 52 57.0 +1.8
KMBO pmax pmax
comp=Z,2.0nm,0.3s
BNI **Bardonecchia** 47.01 301 P P 14 52 55.5 +0.7
BNI IAmb IAmb 14 53 02.8
comp=Z,30nm,1.2s
BNI **Bardonecchia** 47.01 301 P P 14 52 55.5 +0.7
BNI pmax pmax
comp=Z,30nm,1.2s
MYKOM **Kota Tinggi** 47.02 128 P P 14 52 55.0 +0.1
MYKOM IAmb IAmb 14 53 04.9
comp=Z,33nm,0.8s
MYKOM **Kota Tinggi** 47.02 128 P P 14 52 56.0 +1.0
KLR **Kul'dur** 47.05 53 LR LR 15 14 18.8
comp=Z,352nm,19.1s,baz=278,slow=38
KLR **Kul'dur** 47.05 53 *ce*P P 14 52 55.1 +0.3
KLR pmax pmax
comp=Z,45nm,1.3s
TIXI **Tiksi** 47.08 22 P P 14 52 54.9 +0.2
TIXI **Tiksi** 47.08 22 LR LR 15 13 44.0
comp=Z,226nm,19.7s,baz=210,slow=37
TIXI **Tiksi** 47.08 22 P P 14 52 54.9 +0.2
TIXI pmax pmax
comp=Z,40nm,0.9s
HSPB **Hornsund (broa** 47.29 346 *e*P P 14 52 58.2 +1.9
BTDF **Bukit Timah Da** 47.30 129 P P 14 52 58.6 +1.4
KEST **Kesra** 47.44 288 P P 14 52 59.8 +1.6
comp=Z,21nm,1.0s,baz=27,slow=1.7,SNR=6.5
comp=Z,21nm,1.0s
KIBK **Kibwezi** 47.55 224 P P 14 52 58.2 -1.0
KIBK IAmb IAmb 14 53 00.9
comp=Z,22nm,1.0s
DOU **Dourbes** 47.55 308 *d*P P 14 53 00.5 +1.8
SPA0 **Spitsbergen Ar** 47.70 347 *e*P P 14 53 01.4 +1.8
SPITS **Spitsbergen Ar** 47.70 347 P P 14 53 00.9 +1.4
comp=Z,37nm,0.8s,baz=85,slow=10,SNR=10
SPITS LR LR 15 15 43.6
comp=Z,154nm,18.7s,baz=84,slow=39
comp=Z,37nm,0.8s
USA0B **Ussuriysk Arra** 48.13 60 P P 14 53 02.6 -0.7
USA0B IAmb IAmb 14 53 06.0
comp=Z,17nm,0.9s
USA0B **Ussuriysk Arra** 48.13 60 P P 14 53 02.6 -0.7
USA0B pmax pmax
comp=Z,17nm,1.0s
USRK **Ussuriysk Ar.** 48.13 60 P P 14 53 02.7 -0.6
comp=Z,10.0nm,0.7s,baz=273,slow=6.4,SNR=21
USRK LR LR 15 13 06.0
comp=Z,116nm,18.7s,baz=300,slow=36
comp=Z,10.0nm,0.7s
KBS **Kingsbay** 48.83 348 P P 14 53 09.6 +1.4
KBS **Kingsbay** 48.83 348 *ce*P P 14 53 10.1 +1.9
KBS pmax pmax
comp=Z,140nm,1.3s
KBS **Kingsbay** 48.83 348 *i*P P 14 53 08.7 +0.5
KSI **Kapahiang** 50.52 134 P P 14 53 20.1 -1.8
JNU **Nakatsue** 50.59 74 P P 14 53 22.4 +0.1
MBAR **Mbarara** 50.60 233 P P 14 53 22.1 -0.5
MBAR **Mbarara** 50.60 233 LR LR 15 16 59.9
comp=Z,200nm,18.0s,baz=41,slow=39
MBAR **Mbarara** 50.60 233 *i*P P 14 53 23.6 +0.9
MBAR pmax pmax
comp=Z,13nm,0.9s
JOW **Kunigami** 51.02 83 LR LR 15 17 00.3
comp=Z,251nm,19.1s,baz=288,slow=38
EKA **Eskdalemuir Ar** 51.44 316 P P 14 53 28.8 +0.5
comp=Z,23nm,0.9s,baz=91,slow=8.3,SNR=9.0
EKA PcP **PcP** 14 54 42.0 -0.4
comp=Z,1.8nm,0.5s,baz=147,slow=7.8,SNR=1.3
comp=Z,23nm,0.9s
PPBI **Pangkal Pinang** 51.51 129 P P 14 53 28.3 -1.0
KSM **Kuching** 51.56 122 P P 14 53 32.3 +2.7
SBUM **Sibu** 52.20 119 P P 14 53 35.6 +1.2
JMIC **Jan Mayen** 52.41 336 LR LR 15 16 53.1
comp=Z,117nm,19.8s,baz=304,slow=37
TPI **Tanjungpandan** 52.93 128 P P 14 53 37.9 -1.9
comp=Z,35nm,1.1s
STKI **Sintang** 53.38 122 P P 14 53 41.9 -1.2
comp=Z,37nm,0.8s
NOR **Nord** 54.09 350 *i*P P 14 53 47.1 -0.4
NOR IAmb IAmb 14 53 49.5
comp=Z,16nm,1.2s
YSS **Yuzh-Sakhalins** 54.74 54 P P 14 53 52.3 -0.4
YSS **Yuzh-Sakhalins** 54.74 54 P P 14 53 52.4 -0.3
YSS **Yuzh-Sakhalins** 54.74 54 *ce*P P 14 53 52.6 -0.1
YSS pmax pmax
comp=Z,94nm,0.9s
DAG **Danmarks Havn** 54.82 344 *i*P P 14 53 52.0 -0.8
DAG IAmb IAmb 14 53 55.4
comp=Z,61nm,1.1s
MAJO **Matsushiro** 54.95 67 P P 14 53 53.7 -0.7
MAJO IAmb IAmb 14 53 54.2
comp=Z,57nm,1.7s
MAJO **Matsushiro** 54.95 67 P P 14 53 53.9 -0.5
MAJO **Matsushiro** 54.95 67 P P 14 53 53.7 -0.7
MAJO pmax pmax
comp=Z,57nm,1.7s
MJAR **Matsushiro Arr** 54.95 67 P P 14 53 53.5 -1.0
comp=Z,13nm,1.1s,baz=292,slow=9.2,SNR=17
MJAR LR LR 15 19 34.5
comp=Z,157nm,20.4s,baz=299,slow=38
comp=Z,13nm,1.1s
MYLDM **Lahad Datu** 54.96 112 P P 14 53 56.8 +2.1
ASAJ **Asahikawa** 55.50 57 LR LR 15 19 30.1
comp=Z,270nm,19.8s,baz=170,slow=38
DBG **Daneborg** 55.57 341 *i*P P 14 53 59.9 +1.6
DBG IAmb IAmb 14 54 00.9
comp=Z,19nm,1.1s
TAM **Tamanrasset** 55.71 275 P P 14 54 00.9 +0.6
TAM IAmb IAmb 14 54 02.2
comp=Z,13nm,0.9s
TAM **Tamanrasset** 55.71 275 P P 14 54 00.9 +0.6

TAM pmax pmax
comp=Z,13nm,0.9s
SEY Seymchan 56.00 33 *ce*P **P 14 54 02.8 +1.2**
SEY pmax pmax
comp=Z,37nm,1.3s
LEM Lembang 56.05 131 LR LR 15 22 19.6
comp=Z,75nm,19.0s,baz=356,slow=41
ESDC Sonseca Array 56.08 297 P **P 14 54 03.1 +0.5**
comp=Z,7.2nm,1.1s,baz=61,slow=7.3,SNR=18
ESDC PcP **PcP 14 55 00.0 -0.5**
comp=Z,3.9nm,0.9s,baz=59,slow=5.7,SNR=4.0
comp=Z,7.2nm,1.1s
JMM Marumori 56.38 65 P **P 14 54 04.1 -0.5**
UWJI Ujung Watu 57.82 128 P **P 14 54 11.8 -3.3**
BORG Borgarnes 58.21 330 LR LR 15 20 03.9
comp=Z,130nm,21.1s,baz=107,slow=37
ABPO Ambohimpanom 58.23 204 P **P 14 54 17.9 0.0**
ABPO IAmb IAmb 14 54 19.5
comp=Z,16nm,0.8s
ABPO Ambohimpanom 58.23 204 P **P 14 54 17.9 0.0**
ABPO pmax pmax
comp=Z,16nm,0.9s
PCAB Cabril 58.23 301 *e*P **P 14 54 19.8 +2.1**
PCAB A A 14 54 40.6
comp=Z,84nm,1.7s
PGAV Gavieira, Arco 58.30 301 *e*P **P 14 54 20.3 +2.0**
PGAV A A 14 54 38.8
comp=Z,74nm,2.0s
MTE Manteigas 58.37 299 *e*P **P 14 54 19.4 +0.6**
MTE A A 14 54 37.0
comp=Z,60nm,2.4s
PVIS Viseu 58.50 300 *e*P **P 14 54 21.5 +1.8**
PBAR Barrancos 58.87 297 *e*P **P 14 54 23.4 +1.2**
PBAR A A 14 54 24.8
comp=Z,32nm,1.3s
PESTR Estremoz 58.99 298 *e*P **P 14 54 24.2 +1.1**
PESTR A A 14 54 29.2
comp=Z,41nm,1.8s
DAV Davao City (W) 59.24 105 LR LR 15 22 30.9
comp=Z,126nm,19.4s,baz=352,slow=39
EVO Evora 59.43 298 *e*P **P 14 54 27.6 +1.6**
EVO A A 14 54 29.2
comp=Z,36nm,1.8s
PVAQ Vaqueiros 59.66 296 *e*P **P 14 54 28.6 +0.9**
PCI Palu 59.99 116 P **P 14 54 30.5 +0.3**
comp=Z,41nm,1.1s
BILL Bilibino 60.01 25 *ce*P **P 14 54 30.2 +0.6**
BILL pmax pmax
comp=Z,22nm,1.7s
BILL MLR MLR
comp=Z,795nm,16.0s
MRSI Marisa 60.62 113 P **P 14 54 33.1 -1.4**
SOEG Soedalen 60.79 335 *i* P **P 14 54 35.7 +0.8**
SOEG IAmb IAmb 14 54 38.8
comp=Z,22nm,1.1s
SUMG Summit 61.05 341 P **P 14 54 38.1 +1.1**
SUMG Summit 61.05 341 P **P 14 54 38.2 +1.1**
SUMG pmax pmax
comp=Z,57nm,1.1s
SUMG Summit 61.05 341 *i* P **P 14 54 37.0 -0.1**
SUMG IAmb IAmb 14 54 40.2
comp=Z,46nm,1.0s
VOI Vohitsoka 61.06 203 P **P 14 54 37.1 -0.2**
NEEM North Greenlan 61.26 347 *i* P **P 14 54 38.2 -0.1**
NEEM IAmb IAmb 14 54 40.2
comp=Z,40nm,0.8s
APSI Ampana 61.33 114 P **P 14 54 38.9 -0.4**
comp=Z,58nm,1.3s,comp=Z,852nm
PETK Petropavlovsk- 61.74 43 P **P 14 54 40.4 -1.2**
comp=Z,6.3nm,1.0s,baz=242,slow=1.0,SNR=5.1
PETK LR LR 15 21 08.0
comp=Z,123nm,19.5s,baz=296,slow=36
comp=Z,6.3nm,1.0s
KMSI Cibinong 62.09 111 P **P 14 54 42.9 -1.6**
KAPI Kappang 62.76 119 P **P 14 54 47.0 -1.8**
comp=Z,5.4nm,0.4s,baz=326,slow=2.1,SNR=5.4
KAPI LR LR 15 27 53.6
comp=Z,63nm,18.2s,baz=298,slow=42
comp=Z,5.4nm,0.4s
KAPI Kappang 62.76 119 P **P 14 54 48.8 -0.1**
ICESG Greenland Ices 63.09 338 *i* P **P 14 54 50.7 0.0**
ICESG IAmb IAmb 14 54 53.7
comp=Z,29nm,0.9s
LSZ Lusaka 63.66 224 P **P 14 54 54.4 -0.5**
LSZ IAmb IAmb 14 54 55.9
comp=Z,25nm,0.8s
LSZ Lusaka 63.66 224 P **P 14 54 54.4 -0.5**
LSZ pmax pmax
comp=Z,25nm,0.8s
TORD Torodi Ar. Bea 63.80 268 P **P 14 54 55.4 -0.5**
comp=Z,36nm,0.7s,baz=37,slow=6.7,SNR=215
TORD LR LR 15 27 10.2
comp=Z,136nm,18.2s,baz=60,slow=40
comp=Z,36nm,0.7s
KDI Kendari 64.09 116 P **P 14 54 57.0 -0.7**
comp=Z,22nm,0.9s
KULLO Kullorsuaq 64.25 346 *i* P **P 14 54 57.0 -0.9**
KULLO IAmb IAmb 14 54 59.5
comp=Z,47nm,1.0s
TNTI Ternate 64.55 109 P **P 14 55 03.1 +2.4**
TNTI Ternate 64.55 109 P **P 14 54 59.7 -1.0**
comp=Z,50nm,1.3s,comp=Z,901nm
ISOG Isortoq, Green 64.68 334 *i* P **P 14 54 59.8 -1.0**
ISOG IAmb IAmb 14 55 01.5
comp=Z,44nm,0.8s
UPNV Upernavik 65.25 344 *i* P **P 14 55 04.2 -0.2**
UPNV IAmb IAmb 14 55 06.2
comp=Z,33nm,1.0s
SANI Sanana 65.32 112 P **P 14 55 05.0 -0.7**
SANI Sanana 65.32 112 P **P 14 55 03.9 -1.8**
comp=Z,38nm,0.8s,comp=Z,717nm
NUUG Nuugaatsiaq 65.41 343 *i* P **P 14 55 04.0 -1.4**
NUUG IAmb IAmb 14 55 07.7
comp=Z,11nm,0.8s
UMMG Ummannaq 65.70 342 *i* P **P 14 55 07.4 0.0**
UMMG IAmb IAmb 14 55 09.0
comp=Z,25nm,0.8s
WBSI Waikabubak, Su 65.79 123 P **P 14 55 07.4 -1.4**
comp=Z,50nm,1.1s
ILULI Ilulissat 66.38 340 *i* P **P 14 55 11.9 +0.1**
ILULI IAmb IAmb 14 55 13.6
comp=Z,74nm,1.0s
DY2G Dye2 66.63 337 *i* P **P 14 55 14.0 +0.3**
DY2G IAmb IAmb 14 55 16.0
comp=Z,93nm,1.0s
NLAI Namlea 66.93 112 P **P 14 55 14.1 -2.0**
comp=Z,32nm,0.8s,comp=Z,738nm
SFJD Kangerlussuaq 67.67 338 P **P 14 55 20.4 +0.5**
SFJD Kangerlussuaq 67.67 338 LR LR 15 24 04.6
comp=Z,151nm,18.4s,baz=40,slow=35
SFJD Kangerlussuaq 67.67 338 P **P 14 55 20.4 +0.5**
SFJD Kangerlussuaq 67.67 338 *i* P **P 14 55 19.9 -0.1**
SFJD IAmb IAmb 14 55 21.5
comp=Z,36nm,0.9s
A19K Wainwright 68.33 16 P **P 14 55 23.7 -0.4**
baz=316
A21K Barrow 68.42 14 P **P 14 55 24.2 -0.4**
baz=322
SWI Sorong 68.59 108 P **P 14 55 25.0 -1.5**
comp=Z,48nm,1.0s,comp=Z,709nm
C16K Lisburne Hills 68.69 19 P **P 14 55 25.6 -0.8**
baz=315
B18K Kokolik River 68.78 17 P **P 14 55 27.2 +0.3**
baz=318
BROLN Tlhalogang 68.84 221 *i* P **P 14 55 27.7 -0.3**
A22K Sinclair Lake 69.00 14 P **P 14 55 28.0 -0.2**
baz=323
SLIND Selinda 69.01 226 *i* P **P 14 55 30.5 +1.3**
C17K DeLong Mountai 69.10 18 P **P 14 55 28.8 -0.2**
baz=317
BATI Baumata 69.14 120 P **P 14 55 28.9 -1.1**
comp=Z,22nm,0.5s,baz=264,slow=6.3,SNR=7.3
BATI LR LR 15 32 00.2
comp=Z,65nm,19.4s,baz=301,slow=41
comp=Z,22nm,0.5s
BATI Baumata 69.14 120 P **P 14 55 28.6 -1.4**
comp=Z,51nm,0.9s
RES Resolute Bay 69.20 355 P **P 14 55 29.3 -0.1**
RES Resolute Bay 69.20 355 LR LR 15 28 18.3
comp=Z,184nm,19.9s,baz=14,slow=38
RES Resolute Bay 69.20 355 P **P 14 55 29.3 -0.1**
RES pmax pmax
comp=Z,12nm,1.2s
SOEI Soe 69.26 120 P **P 14 55 29.6 -1.2**
SOEI Soe 69.26 120 P **P 14 55 29.0 -1.8**
comp=Z,89nm,0.9s,comp=Z,1μm

B20K Meade River 69.34 15 P **P 14 55 30.1 -0.2**
baz=322
C18K Utukok River 69.47 17 P **P 14 55 30.9 -0.3**
C18K IAmb IAmb 14 55 32.3
comp=Z,18nm,1.1s
C18K Utukok River 69.47 17 P **P 14 55 31.0 -0.3**
baz=318
RDOG Red Dog Mine 69.48 18 P **P 14 55 31.1 -0.2**
baz=317
C19K Lookout Ridge 69.50 17 P **P 14 55 31.6 +0.1**
C19K Lookout Ridge 69.50 17 P **P 14 55 31.4 0.0**
baz=320
NRS Narsarsuaq 69.56 332 P **P 14 55 32.1 +0.2**
NRS Narsarsuaq 69.56 332 P **P 14 55 32.1 +0.2**
NRS pmax pmax
comp=Z,85nm,1.1s
NRS Narsarsuaq 69.56 332 *i* P **P 14 55 32.0 +0.2**
NRS IAmb IAmb 14 55 34.1
comp=Z,67nm,1.1s
D17K Noatak River 69.70 19 P **P 14 55 32.2 -0.4**
baz=317,SNR=6.8
B22K Teshekpuk Lake 69.84 14 P **P 14 55 33.7 +0.3**
baz=325
NUUK Nuuk 69.86 336 *i* P **P 14 55 33.5 -0.1**
NUUK IAmb IAmb 14 55 35.8
comp=Z,34nm,1.0s
TNA Tin City 69.87 22 P **P 14 55 33.3 -0.4**
baz=314
GAMB Gambell 69.88 24 P **P 14 55 34.0 +0.2**
baz=311
B21K Ikpikpuk River 70.19 15 P **P 14 55 36.0 +0.5**
B21K IAmb IAmb 14 55 37.0
comp=Z,25nm,1.1s
B21K Ikpikpuk River 70.19 15 P **P 14 55 35.3 -0.2**
baz=324
D19K Kuna River 70.31 17 P **P 14 55 36.6 +0.2**
baz=321
F14K Arctic Creek 70.41 21 P **P 14 55 37.1 +0.1**
baz=315
E17K Hotham Inlet 70.48 19 P **P 14 55 37.1 -0.4**
baz=318
D20K Etivluk River 70.48 16 P **P 14 55 37.4 -0.1**
baz=322
C21K Knifeblade Rid 70.53 15 P **P 14 55 37.8 +0.1**
baz=324
E18K Tukpahlearik C 70.54 18 P **P 14 55 37.5 -0.3**
E18K IAmb IAmb 14 55 54.4
comp=Z,20nm,1.0s
E18K Tukpahlearik C 70.54 18 P **P 14 55 37.5 -0.3**
baz=319
FAKI Fak Fak 70.65 109 P **P 14 55 38.3 -0.9**
FAKI IAmb IAmb 14 55 44.7
comp=Z,25nm,0.8s
FAKI Fak Fak 70.65 109 P **P 14 55 41.6 +2.3**
FAKI Fak Fak 70.65 109 P **P 14 55 37.8 -1.5**
comp=Z,38nm,1.0s,comp=Z,480nm
SHEM Shemya Is, Ala 70.65 38 LR LR 15 29 06.4
comp=Z,118nm,19.2s,baz=128,slow=38
F15K North Star Dit 70.73 21 P **P 14 55 39.0 +0.1**
baz=316
C23K Itkillik River 70.80 13 P **P 14 55 39.4 0.0**
baz=327
E20K Nigu River 70.94 16 P **P 14 55 40.1 -0.2**
baz=323,SNR=8.5
CKGRV CKGRV 71.05 224 *i* P **P 14 55 42.0 +0.4**
GUMO Guam 71.07 87 LR LR 15 29 05.5
comp=Z,47nm,18.5s,baz=48,slow=38
F17K Baldwin Pennin 71.12 19 P **P 14 55 41.5 +0.3**
baz=319
D22K Ayikyak River 71.19 15 P **P 14 55 41.8 +0.1**
baz=326
C24K Franklin Bluff 71.25 13 P **P 14 55 42.5 +0.4**
baz=329
E21K Killik River 71.28 15 P **P 14 55 42.0 -0.3**
E21K IAmb IAmb 14 55 43.1
comp=Z,18nm,1.0s
E21K Killik River 71.28 15 P **P 14 55 41.7 -0.6**
baz=324
E19K Redstone River 71.34 17 P **P 14 55 42.1 -0.6**
E19K Redstone River 71.34 17 P **P 14 55 42.5 -0.1**
baz=322
ANM Nome 71.34 22 P **P 14 55 42.5 -0.3**
baz=316
F18K Selawik 71.41 18 P **P 14 55 42.8 -0.3**
baz=320
G15K Niukluk 71.42 21 P **P 14 55 43.3 +0.1**
baz=317
D23K Nanushuk River 71.52 14 P **P 14 55 44.0 +0.2**
baz=327
G16K Koyuk River 71.61 20 P **P 14 55 44.1 -0.2**
baz=318
F19K Shaleruckik Mo 71.70 18 P **P 14 55 44.1 -0.7**
baz=322
D24K Happy Valley 71.72 13 P **P 14 55 45.4 +0.4**
D24K IAmb IAmb 14 56 21.0
comp=Z,13nm,1.1s
D24K Happy Valley 71.72 13 P **P 14 55 44.4 -0.5**
baz=329,SNR=5.5
C26K Camden Bay 71.73 12 P **P 14 55 44.3 -0.6**
baz=332
POGA Pongola 71.88 214 P **P 14 55 46.6 +0.2**
E22K Anaktuvuk Pass 71.99 15 P **P 14 55 46.1 -0.6**
baz=326,SNR=9.9
G17K Kiwalik Mounta 71.99 19 P **P 14 55 46.1 -0.5**
baz=320
A36M Sachs Harbour 72.01 5 P **P 14 55 46.5 -0.1**
A36M Sachs Harbour 72.01 5 P **P 14 55 47.0 +0.4**
baz=348,SNR=66
D25K Kavik River 72.01 12 P **P 14 55 47.1 +0.4**
D25K IAmb IAmb 14 55 48.5
comp=Z,20nm,1.0s
D25K Kavik River 72.01 12 P **P 14 55 47.0 +0.2**
baz=331,SNR=18
TOLK Toolik Lake Re 72.01 14 P **P 14 55 47.1 +0.4**
TOLK IAmb IAmb 14 55 48.1
comp=Z,21nm,0.8s
TOLK Toolik Lake Re 72.01 14 P **P 14 55 46.5 -0.3**
baz=328,SNR=21
F20K Avaraart Lake 72.02 17 P **P 14 55 46.8 +0.1**
baz=323
KDWAN Kaudwane 72.13 222 *i* P **P 14 55 48.5 +0.4**
C27K Jago River 72.19 11 P **P 14 55 47.9 +0.2**
C27K IAmb IAmb 14 55 49.8
comp=Z,16nm,0.8s
C27K Jago River 72.19 11 P **P 14 55 48.3 +0.6**
baz=333,SNR=19
H16K Elim 72.21 21 P **P 14 55 47.5 -0.4**
baz=318
G18K Tagagawik 72.22 18 P **P 14 55 48.2 +0.3**
baz=321
F21K Alatna River 72.39 16 P **P 14 55 48.5 -0.5**
baz=325
G19K Purcell Mounta 72.42 18 P **P 14 55 48.7 -0.4**
baz=322
F22K John River 72.44 15 P **P 14 55 48.9 -0.3**
baz=326
E23K Chandalar 72.50 14 P **P 14 55 49.8 0.0**
E23K Chandalar 72.50 14 P **P 14 55 49.5 -0.2**
baz=328
H17K Granite Mounta 72.63 20 P **P 14 55 50.0 -0.4**
baz=320
E24K Your Creek 72.71 14 P **P 14 55 51.1 +0.2**
E24K Your Creek 72.71 14 P **P 14 55 50.8 -0.1**
baz=329
DBIC Dimbokro 72.77 266 P **P 14 55 51.7 -0.3**
comp=Z,33nm,0.8s,baz=43,slow=7.2,SNR=34
DBIC LR LR 15 31 15.6
comp=Z,154nm,20.1s,baz=34,slow=39
comp=Z,33nm,0.8s
H18K Honhosa River 72.87 19 P **P 14 55 51.4 -0.5**
baz=322
LBTB Lobatse 72.94 220 P **P 14 55 52.7 -0.2**
LBTB Lobatse 72.94 220 LR LR 15 28 11.6
comp=Z,111nm,19.2s,baz=20,slow=36
LBTB Lobatse 72.94 220 P **P 14 55 52.7 -0.2**
LBTB pmax pmax
comp=Z,44nm,0.7s
D27M Malcolm River 72.96 11 P **P 14 55 52.9 +0.5**
D27M Malcolm River 72.96 11 P **P 14 55 52.9 +0.5**
baz=335,SNR=13
G21K Allakaket 72.97 16 P **P 14 55 51.5 -0.9**
baz=325
TSUM Tsumeb 73.04 230 LR LR 15 30 34.9
comp=Z,113nm,18.6s,baz=340,slow=38
H19K Roundabout Mou 73.07 18 P **P 14 55 52.6 -0.4**
baz=323
G22K Bettles 73.07 15 P **P 14 55 52.5 -0.5**
baz=327,SNR=10
KGCAE Kacgae 73.08 224 *i* P **P 14 55 54.5 +0.8**
COLD Coldfoot 73.09 15 P **P 14 55 53.0 -0.1**
baz=328,SNR=13
D28M Stokes Point 73.20 10 P **P 14 55 54.6 +0.9**
baz=337
I17K Unalakleet 73.22 21 P **P 14 55 54.2 +0.3**
baz=320
J14K Nanvaranak Lak 73.23 22 P **P 14 55 54.2 +0.2**
baz=318
F24K Squaw Lake 73.31 14 P **P 14 55 54.8 +0.4**
F24K Squaw Lake 73.31 14 P **P 14 55 54.6 +0.1**
baz=330
IMAR Indian Mountai 73.35 17 P **P 14 55 54.3 -0.4**
H20K Anotleneega Mo 73.48 17 P **P 14 55 55.1 -0.4**
baz=324
K13K Kusilvak Mount 73.49 23 P **P 14 55 55.2 -0.3**
baz=317
G23K Bananza Creek 73.57 15 P **P 14 55 56.1 +0.1**
G23K Bananza Creek 73.57 15 P **P 14 55 55.8 -0.3**
baz=328
GCSA Galena City Sc 73.58 19 P **P 14 55 55.8 -0.2**
baz=323
F25K Christian Rive 73.66 13 P **P 14 55 56.8 +0.2**
baz=332,SNR=15
J16K Anvik River 73.71 21 P **P 14 55 57.0 +0.2**
baz=320
E28M Babbage River 73.76 10 P **P 14 55 57.3 +0.3**
E28M Babbage River 73.76 10 P **P 14 55 57.1 +0.1**
baz=336
E27K Coleen River 73.83 11 P **P 14 55 58.1 +0.6**
baz=335,SNR=11
H21K Melozitna Rive 73.84 17 P **P 14 55 57.4 -0.2**
H21K Melozitna Rive 73.84 17 P **P 14 55 57.4 -0.2**
baz=326,SNR=5.9
F26K Sheenjek River 73.84 12 P **P 14 55 57.8 +0.3**
baz=333
H22K Ishtalitna Cre 73.97 16 P **P 14 55 58.2 -0.1**
baz=327
BMAR Burnt Mountain 74.00 13 P **P 14 55 59.4 +0.9**
J17K VABM Dome 74.06 20 P **P 14 55 58.9 0.0**
baz=321
G24K Hadweenzic Riv 74.10 14 P **P 14 55 59.5 +0.4**
G24K Hadweenzic Riv 74.10 14 P **P 14 55 59.0 -0.1**
baz=330
M11K Mekoryuk 74.11 25 P **P 14 55 59.0 -0.1**
baz=316
I20K Naaghedeneel 74.15 18 P **P 14 55 59.4 0.0**
baz=325
E29M Blow River 74.19 10 P **P 14 56 00.2 +0.6**
baz=338
K15K Wolf Creek Mou 74.19 22 P **P 14 56 00.2 +0.5**
baz=320
G25K Bearman Lake 74.31 14 P **P 14 56 00.7 +0.5**
baz=331
H23K Yukon River 74.43 15 P **P 14 56 01.5 +0.5**
baz=329
I21K Tanana 74.43 17 P **P 14 56 01.3 +0.3**
baz=327
J19K Poorman 74.52 19 P **P 14 56 01.7 +0.2**
baz=324
L14K Kuka Creek 74.56 23 P **P 14 56 02.0 +0.3**
baz=319
G26K Porcupine Rive 74.57 13 P **P 14 56 02.1 +0.3**
baz=333
F28M Old Crow 74.62 11 P **P 14 56 02.6 +0.5**
F28M Old Crow 74.62 11 P **P 14 56 02.3 +0.2**
baz=336,SNR=11
J18K Innoko River 74.65 19 P **P 14 56 02.3 0.0**
baz=323
L15K Ungalak Mounta 74.68 22 P **P 14 56 02.5 0.0**
baz=320
C36M Paulatuk 74.69 5 P **P 14 56 02.1 -0.3**
C36M IAmb IAmb 14 56 03.0
comp=Z,36nm,0.8s
C36M Paulatuk 74.69 5 P **P 14 56 02.1 -0.3**
baz=349,SNR=32
J20K Nowinta River 74.74 18 P **P 14 56 03.0 +0.1**
baz=325
H24K Noodor Dome 74.77 15 P **P 14 56 03.5 +0.4**
H24K Noodor Dome 74.77 15 P **P 14 56 03.2 +0.2**
baz=330
H25L Birch Creek 74.80 14 P **P 14 56 03.8 +0.7**
baz=332
K17K Iditarod 74.81 20 P **P 14 56 03.5 +0.2**
K17K IAmb IAmb 14 56 05.3
comp=Z,42nm,1.2s
K17K Iditarod 74.81 20 P **P 14 56 03.6 +0.4**
baz=322
PSAC1 Pilbara Seismi 74.83 131 P **P 14 56 04.2 +0.3**
comp=Z,30nm,1.4s
INK Inuvik 74.83 8 LR LR 15 32 30.3
comp=Z,104nm,20.4s,baz=270,slow=39
INK Inuvik 74.83 8 P **P 14 56 03.7 +0.5**
baz=342,SNR=20
MLY Manley 74.84 16 P **P 14 56 03.7 +0.3**
baz=328
SPIA Saint Paul Isl 74.90 29 P **P 14 56 04.2 +0.4**
baz=314
M13K Dall Lake 75.04 24 P **P 14 56 04.8 +0.3**
baz=318
I23K Minto, Yukon-K 75.05 16 P **P 14 56 04.9 +0.4**
baz=329,SNR=7.9
G27K Doyon Strip 75.07 12 P **P 14 56 05.4 +0.6**
G27K Doyon Strip 75.07 12 P **P 14 56 05.2 +0.5**
baz=335
FRB Frobisher Bay 75.10 342 LR LR 15 32 35.9
comp=Z,140nm,18.7s,baz=89,slow=38
F30M Barrier River 75.21 9 P **P 14 56 05.9 +0.4**
baz=340
M14K Bethel 75.24 23 P **P 14 56 06.5 +0.8**
baz=320,SNR=6.4
L16K Owhat River 75.26 22 P **P 14 56 06.2 +0.4**
baz=321,SNR=6.5
L17K Donlin 75.27 21 P **P 14 56 06.4 +0.4**
baz=322
TTA Tatalina 75.28 19 P **P 14 56 06.3 +0.2**
baz=324
K20K Telida 75.44 18 P **P 14 56 07.1 +0.2**
baz=325
CHUM Lake Minchumin 75.44 17 P **P 14 56 07.1 +0.3**
baz=327,SNR=6.4
POKR Poker Plat Res 75.49 15 P **P 14 56 07.4 +0.3**
baz=330,SNR=6.7
PRP Porcupine Dome 75.52 14 P **P 14 56 07.6 +0.1**
baz=332
G29M Pine Creek 75.55 11 P **P 14 56 07.7 +0.3**
baz=338
BPAW Bear Paw Mtn. 75.57 17 P **P 14 56 07.9 +0.2**
baz=328
NEA2 Nenana 75.59 16 P **P 14 56 07.5 -0.2**
baz=329,SNR=8.3
COLA College 75.61 15 P **P 14 56 07.7 0.0**
baz=330
COLA College 75.61 15 P **P 14 56 08.2 +0.4**
COLA College 75.61 15 *i* P **P 14 56 07.8 0.0**
COLA pmax pmax
comp=Z,18nm,1.0s
H27K Steamboat Moun 75.62 12 P **P 14 56 08.1 +0.2**
baz=335
F31M Tsiigehtchic 75.63 9 P **P 14 56 07.9 +0.1**
baz=341,SNR=27
L18K Granite Mounta 75.66 20 P **P 14 56 08.0 -0.1**
baz=323
M15K Kasigluk River 75.68 23 P **P 14 56 08.5 +0.2**
baz=320
G30M tAoh Zraii Nji 75.74 10 P **P 14 56 08.7 +0.1**
G30M IAmb IAmb 14 56 09.7
comp=Z,25nm,1.1s
G30M tAoh Zraii Nji 75.74 10 P **P 14 56 08.7 +0.1**
baz=339
CAST Castle Rocks 75.89 18 P **P 14 56 09.5 0.0**
CAST IAmb IAmb 14 56 11.2
comp=Z,35nm,1.1s
CAST Castle Rocks 75.89 18 P **P 14 56 09.2 -0.2**
baz=327,SNR=13
ILAR Eielson Array 75.90 15 P **P 14 56 08.5 -1.0**
comp=Z,4.9nm,0.9s,baz=318,slow=4.4,SNR=28
ILAR LR LR 15 34 37.6
comp=Z,152nm,18.8s,baz=330,slow=40
comp=Z,4.9nm,0.9s
M16K Timber Creek 75.96 22 P **P 14 56 09.9 0.0**
baz=322
N14K Kuskokwak Cree 75.96 24 P **P 14 56 10.1 +0.3**
baz=320
BOSA Boshof 76.05 218 P **P 14 56 10.4 -0.5**
BOSA IAmb IAmb 14 56 11.4
comp=Z,33nm,0.8s

BOSA	Boshof	76.05	218	P	P	14 56 10.7	-0.1
	comp=Z,29nm,0.8s,baz=30,slow=5.7,SNR=31						
BOSA				LR	LR	15 30 38.5	
	comp=Z,58nm,19.9s,baz=32,slow=36						
	comp=Z,29nm,0.8s						
FITZ	Fitzroy Crossi	76.05	125	P	P	14 56 10.2	-0.8
	comp=Z,13nm,0.9s,baz=356,slow=5.5,SNR=12						
	comp=Z,13nm,0.9s						
G31M	Satah River	76.06	9	P	P	14 56 10.3	0.0
	baz=341						
M17K	Holitna River	76.11	21	P	P	14 56 10.9	+0.2
	baz=323						
H29M	Whitestone	76.14	11	P	P	14 56 10.9	+0.1
H29M				IAmb	IAmb	14 56 12.3	
	comp=Z,22nm,0.8s						
H29M	Whitestone	76.14	11	P	P	14 56 11.3	+0.5
	baz=338						
I26K	Coal Creek Min	76.16	13	P	P	14 56 11.1	+0.1
I26K	Coal Creek Min	76.16	13	P	P	14 56 11.4	+0.4
	baz=334						
I27K	Kandik River	76.17	12	P	P	14 56 11.1	0.0
	baz=335						
L19K	White Mountain	76.20	19	P	P	14 56 11.3	-0.1
L19K				IAmb	IAmb	14 56 12.7	
	comp=Z,24nm,1.4s						
L19K	White Mountain	76.20	19	P	P	14 56 11.2	-0.1
	baz=325						
HDA	Harding Lake	76.21	15	P	P	14 56 11.3	0.0
	baz=331						
L20K	Farewell, AK	76.21	19	P	P	14 56 11.3	0.0
	baz=326						
EPYK	Eagle Plains	76.25	10	P	P	14 56 11.2	-0.3
	baz=339,SNR=6.9						
N15K	Kwethluk River	76.28	23	P	P	14 56 11.6	-0.1
	baz=321						
TRF	Thorofare Moun	76.29	17	P	P	14 56 11.9	-0.1
	baz=328						
PPLA	Purkeypile	76.30	18	P	P	14 56 11.5	-0.4
	baz=327						
J25K	Salcha River,	76.36	14	P	P	14 56 12.0	-0.2
	baz=332,SNR=5.8						
MCK	McKinley	76.36	16	P	P	14 56 12.5	+0.3
	baz=329						
N16K	Nishlik Lake	76.45	22	P	P	14 56 12.8	+0.1
	baz=322						
M18K	Stony River	76.50	20	P	P	14 56 13.0	+0.1
	baz=324						
KNRA	Kununurra	76.50	121	P	P	14 56 13.9	+0.4
	comp=Z,68nm,0.9s						
M19K	Big River Lodg	76.55	19	P	P	14 56 13.1	-0.2
	baz=325						
I28M	Miner Creek	76.60	12	P	P	14 56 13.5	-0.1
	baz=336						
O14K	Tigyukauivet M	76.61	24	P	P	14 56 13.5	-0.1
	baz=320						
J26L	Joseph Creek	76.81	14	P	P	14 56 14.5	-0.3
J26L	Joseph Creek	76.81	14	P	P	14 56 14.8	0.0
	baz=334						
N17K	Nushagak Hills	76.88	21	P	P	14 56 15.6	+0.5
	baz=323						
M20K	Styx River	76.91	19	P	P	14 56 14.9	-0.5
	baz=326						
K24K	Donnelly Dome	76.99	15	P	P	14 56 15.2	-0.6
	baz=332,SNR=5.7						
EGAK	Eagle	77.01	13	P	P	14 56 15.7	-0.1
	baz=336						
JAY	Jayapura	77.01	103	LR	LR	15 31 02.8	
	comp=Z,47nm,21.2s,baz=228,slow=36						
H31M	Peel River	77.11	10	P	P	14 56 16.0	-0.3
H31M				IAmb	IAmb	14 56 17.2	
	comp=Z,16nm,0.8s						
H31M	Peel River	77.11	10	P	P	14 56 16.2	-0.2
	baz=341						
N18K	Kilae Creek	77.14	21	P	P	14 56 16.5	0.0
	baz=324						
O15K	Ungalikthiuk R	77.14	23	P	P	14 56 16.3	-0.3
	baz=321						
SCRK	Sand Creek	77.20	14	P	P	14 56 16.8	-0.3
	baz=333,SNR=6.7						
WAT1	Susitna Watana	77.23	17	P	P	14 56 16.7	-0.4
	baz=330						
SKT	Skwentna	77.24	18	P	P	14 56 16.4	-0.8
	baz=328,SNR=9.3						
RIDG	Independent Ri	77.24	15	P	P	14 56 16.7	-0.5
	baz=333						
DHY	Denali Highway	77.28	16	P	P	14 56 16.9	-0.6
	baz=331						
O16K	Kokwok River B	77.36	22	P	P	14 56 18.1	+0.4
	baz=323						
I30M	Mount Dempster	77.37	11	P	P	14 56 18.0	0.0
	baz=339,SNR=16						
N19K	Bonanza Creek	77.42	20	P	P	14 56 18.4	+0.1
	baz=325						
O17K	Koliganek Bris	77.52	22	P	P	14 56 18.7	0.0
	baz=323						
K27K	Chicken	77.52	13	P	P	14 56 18.5	-0.2
K27K	Chicken	77.52	13	P	P	14 56 18.9	+0.2
	baz=335						
WAT6	Susitna Watana	77.63	16	P	P	14 56 19.4	-0.2
	baz=330						
N20K	Mount Spurr	77.72	19	P	P	14 56 20.0	+0.1
	baz=327						
SPCR	Spurr Chakacha	77.72	19	P	P	14 56 20.0	+0.1
	baz=327						
M22K	Willow	77.78	18	P	P	14 56 20.2	+0.1
	baz=329						
PAX	Paxson	77.79	15	P	P	14 56 20.2	-0.1
	baz=332,SNR=6.3						
J29N	Klondike Camp	77.81	12	P	P	14 56 20.7	+0.4
	baz=338						
P16K	Nushagak River	77.84	23	P	P	14 56 20.6	+0.2
	baz=323						
SUA	Susitna One	77.87	18	P	P	14 56 20.7	-0.1
	baz=328						
DAWY	Dawson	77.97	12	P	P	14 56 21.2	-0.1
	baz=337,SNR=10						
O19K	Port Alsworth	77.98	20	P	P	14 56 21.1	-0.1
	baz=326						
J30M	Hart River	77.99	11	P	P	14 56 21.6	+0.2
J30M	Hart River	77.99	11	P	P	14 56 21.3	-0.1
	baz=340						
MEEK	Meekatharra	78.00	136	P	P	14 56 21.0	-0.8
O18K	Koktuh Hills	78.01	21	P	P	14 56 21.6	+0.1
	baz=325						
PMR	Palmer	78.17	17	P	P	14 56 22.6	+0.4
	baz=329						
SML	Sawmill	78.17	17	P	P	14 56 21.9	-0.5
SML				IAmb	IAmb	14 56 23.6	
	comp=Z,53nm,1.2s						
SML	Sawmill	78.17	17	P	P	14 56 22.2	-0.1
	baz=330,SNR=5.8						
P17K	Kvichak River	78.18	22	P	P	14 56 22.8	+0.5
	baz=324						
L26K	Log Cabin Wild	78.18	14	P	P	14 56 22.8	+0.4
	baz=334						
M23K	Glacier View	78.33	17	P	P	14 56 23.4	+0.2
	baz=330						
CAPN	Captain Cook N	78.36	19	P	P	14 56 23.2	-0.1
	baz=328						
HARP	HAARP	78.37	15	P	P	14 56 23.8	+0.4
	baz=332,SNR=6.1						
P18K	Big Mountain,	78.38	21	P	P	14 56 24.2	+0.6
	baz=325						
SCM	Sheep Creek Mo	78.38	17	P	P	14 56 23.8	+0.2
	baz=331						
M24K	Tolsona, Glenn	78.40	16	P	P	14 56 24.1	+0.5
	baz=332,SNR=5.1						
L27K	Beaver Creek,	78.45	14	P	P	14 56 24.5	+0.6
	baz=335,SNR=5.3						
RC01	Rabbit Creek A	78.45	18	P	P	14 56 23.9	+0.1
	baz=329						
BCAR	Beaver Creek A	78.45	14	P	P	14 56 23.9	0.0
KNK	Knik Glacier	78.48	17	P	P	14 56 24.3	+0.3
KNK				IAmb	IAmb	14 56 26.1	
	comp=Z,35nm,1.2s						
KNK	Knik Glacier	78.48	17	P	P	14 56 23.9	-0.2
	baz=330						
K29M	Barlow Dome	78.49	12	P	P	14 56 24.5	+0.3
	baz=338						
Q16K	King Salmon	78.53	22	P	P	14 56 24.7	+0.4
	baz=324						
O20K	Slope Mountain	78.55	20	P	P	14 56 24.4	-0.1
	baz=327						
P19K	Oil Pt	78.74	20	P	P	14 56 25.6	+0.1
	baz=326						
UNV	Unalaska Valle	78.77	30	P	P	14 56 25.8	+0.1
	baz=317						
M26K	Nabesna, AK	78.82	14	P	P	14 56 26.1	+0.2
	baz=334						
O22K	Cooper Landing	78.98	18	P	P	14 56 27.2	+0.5
	baz=329						
PWL	Port Wells	79.00	17	P	P	14 56 27.3	+0.5
	baz=330						
KLU	Klutina	79.00	16	P	P	14 56 27.3	+0.3
	baz=332						
Q18K	Katmai Hardscr	79.06	22	P	P	14 56 27.6	+0.2
	baz=325						
L29M	L29M	79.07	12	P	P	14 56 27.7	+0.4
	baz=338,SNR=5.6						
M27K	Edge Creek, AK	79.08	14	P	P	14 56 27.9	+0.4
M27K				IAmb	IAmb	14 56 30.3	
	comp=Z,30nm,1.1s						
M27K	Edge Creek, AK	79.08	14	P	P	14 56 27.8	+0.3
	baz=335,SNR=12						
TABU	Tabubil	79.09	105	P	P	14 56 28.7	+0.5
Q17K	Contact Creek	79.11	22	P	P	14 56 27.2	-0.5
	baz=325						
R16K	Pilot Point	79.14	23	P	P	14 56 27.7	0.0
	baz=323						
N25K	Chitina, Valde	79.20	15	P	P	14 56 27.9	-0.2
	baz=333						
FALS	False Pass	79.22	28	P	P	14 56 28.4	+0.2
	baz=319						
BVCY	Beaver Creek	79.22	14	P	P	14 56 27.9	-0.3
	baz=336						
Q19K	Cape Douglas,	79.23	21	P	P	14 56 27.9	-0.3
	baz=326						
GLI	Glacier Island	79.28	17	P	P	14 56 28.1	-0.3
	baz=331						
BRSE	Bradley Lake S	79.34	19	P	P	14 56 28.6	-0.2
	baz=328						
SEW	Seward	79.37	18	P	P	14 56 28.5	-0.3
	baz=329						
M29M	Somme Creek	79.63	12	P	P	14 56 30.1	-0.3
	baz=338						
MCARA	McCarthy VSAT	79.73	15	P	P	14 56 30.8	-0.1
	baz=334						
BMRM	Bremner River	79.77	16	P	P	14 56 31.1	-0.1
	baz=333						
M30M	Minto, Yukon	79.79	12	P	P	14 56 31.2	0.0
	baz=339						
Q20K	Shuyak Island	79.85	20	P	P	14 56 31.7	+0.2
	baz=327						
CHGN	Chignik	79.88	24	P	P	14 56 31.9	+0.2
	baz=323						
EYAK	Cordova Ski Ar	79.88	16	P	P	14 56 31.8	+0.1
	baz=332						
YUK3	Moose Creek	79.89	14	P	P	14 56 31.8	-0.2
	baz=336						
P23K	Montague Islan	79.97	17	P	P	14 56 32.5	+0.3
	baz=331						
R18K	Karluk	80.12	22	P	P	14 56 33.1	+0.1
	baz=326						
CRQE	Cirque	80.29	15	P	P	14 56 34.0	-0.1
	baz=334						
CTG	Chitna Glacier	80.46	14	P	P	14 56 35.0	0.0
	baz=336						
KDAK	Kodiak Island	80.49	21	LR	LR	15 35 47.7	
	comp=Z,138nm,18.2s,baz=180,slow=38						
KDAK	Kodiak Island	80.49	21	P	P	14 56 35.0	0.0
	baz=327						
M31M	Drury Creek, Y	80.53	11	P	P	14 56 35.1	-0.1
	baz=341,SNR=7.9						
YUK4	Talbot Arm	80.62	13	P	P	14 56 35.5	-0.4
	baz=338						
CHNA	Chernabura Isl	80.64	26	P	P	14 56 35.7	-0.1
	baz=322						
Q23K	Middleton Isla	80.73	17	P	P	14 56 36.4	+0.2
	baz=332						
KAIM	Kayak Island	80.74	16	P	P	14 56 36.4	+0.1
	baz=333						
OHAK	Old Harbor	80.76	22	P	P	14 56 36.5	+0.1
	baz=327						
WRGLY	Wrigley	80.78	6	P	P	14 56 36.8	+0.4
	baz=350						
N30M	Aishikik Lake	80.79	12	P	P	14 56 36.8	+0.1
	baz=339						
O28M	Mount Upton	80.86	14	P	P	14 56 37.1	-0.2
	baz=337						
N31M	Braeburn, Yuko	80.98	12	P	P	14 56 37.5	-0.2
	baz=340						
SII	Sitkinak Islan	81.04	22	P	P	14 56 38.2	+0.2
	baz=326						
YUK6	Outpost Mounta	81.05	13	P	P	14 56 38.2	0.0
	baz=338						
MESA	MESA	81.05	15	P	P	14 56 38.2	-0.1
	baz=335						
CHIR	Chirikof Islan	81.19	23	P	P	14 56 38.7	-0.1
	baz=325						
HYT	Haines Junctio	81.31	13	P	P	14 56 39.6	+0.1
	baz=339,SNR=5.9						
SUR	Sutherland	81.34	219	LR	LR	15 34 18.0	
	comp=Z,48nm,19.3s,baz=0.5,slow=37						
PINM	Pinnacle	81.47	14	P	P	14 56 40.4	0.0
	baz=337						
O29M	Mount Kennedy	81.61	13	P	P	14 56 41.0	-0.1
	baz=338						
O30N	Mendenhall	81.61	12	P	P	14 56 40.9	-0.1
	baz=340,SNR=5.7						
N32M	Quiet Lake	81.72	10	P	P	14 56 41.7	+0.1
	baz=342						
WHY	Whitehorse	81.91	11	P	P	14 56 42.7	0.0
	baz=341						
SCHQ	Schefferville	81.93	336	P	P	14 56 43.1	+0.4
	comp=Z,27nm,0.8s,baz=32,slow=5.6,SNR=18						
SCHQ				LR	LR	15 33 48.4	
	comp=Z,81nm,18.2s,baz=12,slow=36						
	comp=Z,27nm,0.8s						
YKA	Yellowknife Ar	81.96	2	P	P	14 56 42.5	-0.2
	comp=Z,12nm,1.0s,baz=350,slow=5.3,SNR=33						
YKA				LR	LR	15 36 17.5	
	comp=Z,161nm,19.8s,baz=326,slow=38						
	comp=Z,12nm,1.0s						
PNL	Peninsula	82.03	14	P	P	14 56 43.4	+0.1
	baz=337						
P30M	Million Dollar	82.07	13	P	P	14 56 43.6	+0.1
	baz=339						
P29M	Windy Craggy	82.39	13	P	P	14 56 45.4	+0.3
	baz=339						
P33M	Teslin, Yukon	82.66	11	P	P	14 56 46.5	0.0
	baz=343,SNR=10						
WRKA	Warakurna	82.70	128	P	P	14 56 46.9	-0.2
	comp=Z,28nm,1.6s						
WRKA	Warakurna	82.70	128	P	P	14 56 48.1	+1.0
PLBC	Pleasant Camp	82.80	13	P	P	14 56 47.5	+0.3
	baz=340,SNR=6.3						
SKAG	Skagway	82.97	12	P	P	14 56 48.4	+0.3
	baz=341,SNR=5.3						
SKAG	Skagway	82.97	12	P	P	14 56 48.2	+0.1
P32M	Atlin	83.12	11	P	P	14 56 49.2	+0.3
	baz=342						
WRA	Warramunga Arr	83.28	120	P	P	14 56 49.0	-1.2
	comp=Z,10nm,0.8s,baz=322,slow=4.8,SNR=75						
WRA				PKKPbc	PKKPbc	15 15 10.6	+0.8
	comp=Z,0.7nm,0.7s,baz=132,slow=2.0,SNR=5.5						
	comp=Z,10nm,0.8s						
WRAB	Tennant Creek	83.28	120	P	P	14 56 49.1	-1.1
WRAB				IAmb	IAmb	14 56 50.5	
	comp=Z,20nm,1.0s						
WRAB	Tennant Creek	83.28	120	*i* P	P	14 56 51.6	+1.4
WRAB				pmax	pmax		
	comp=Z,16nm,0.9s						
R33M	Jennings River	83.72	10	P	P	14 56 52.3	+0.2
	baz=344,SNR=5.2						
KOTAN	Kotaneelee Air	83.79	6	P	P	14 56 52.8	+0.5
	baz=350						
Q32M	Nakina River	83.94	11	P	P	14 56 53.7	+0.3
	baz=343						
S31K	Pelican	84.23	13	P	P	14 56 54.9	+0.3
	baz=340						
R32K	Eaglecrest	84.24	12	P	P	14 56 55.1	+0.5
	baz=341						
LIRD	Liard River Hi	84.30	8	P	P	14 56 55.2	+0.3
	baz=348						
FCC	Fort Churchill	84.64	351	P	P	14 56 56.7	+0.1
FCC				IAmb	IAmb	14 57 02.4	
	comp=Z,26nm,0.9s						
FCC	Fort Churchill	84.64	351	P	P	14 56 56.7	+0.1
FCC				pmax	pmax		
	comp=Z,26nm,1.0s						
DLBC	Dease Lake	84.77	10	P	P	14 56 57.7	+0.3
DLBC				IAmb	IAmb	14 57 03.2	
	comp=Z,28nm,1.4s						
DLBC	Dease Lake	84.77	10	LR	LR	15 41 41.4	
	comp=Z,102nm,18.1s,baz=291,slow=40						
DLBC	Dease Lake	84.77	10	P	P	14 56 57.7	+0.3
	baz=345						
TOAD	Toad River Com	84.94	7	P	P	14 56 58.4	+0.2
	baz=349,SNR=10						
S32K	Killisnoo	84.99	12	P	P	14 56 59.0	+0.6
	baz=341						
S34M	Telegraph Cree	85.12	10	P	P	14 56 59.3	+0.3
	baz=344,SNR=9.5						
SIT	Sitka	85.25	13	P	P	14 56 59.9	+0.3
	baz=341						
AS31	Alice Springs	85.46	123	P	P	14 57 00.5	-0.7
	comp=Z,5.6nm,1.0s						
ASAR	Alice Springs	85.46	123	P	P	14 57 00.3	-0.9
	comp=Z,12nm,0.8s,baz=312,slow=4.8,SNR=118						
ASAR				PKKPbc	PKKPbc	15 15 04.8	-0.1
	comp=Z,0.4nm,0.7s,baz=98,slow=2.7,SNR=4.6						
ASAR				LR	LR	15 41 57.0	
	comp=Z,42nm,18.4s,baz=354,slow=40						
	comp=Z,12nm,0.8s						
AS01	Alice Springs	85.49	123	P	P	14 57 02.3	+0.9
COEN	Coen	85.94	110	P	P	14 57 02.8	-0.9
	comp=Z,12nm,0.8s						
COEN	Coen	85.94	110	P	P	14 57 06.6	+2.9
T35M	Bob Quinn	86.15	10	P	P	14 57 04.8	+0.6
	baz=345						
PMG	Port Moresby	86.26	104	P	P	14 57 05.1	-0.3
	comp=Z,16nm,0.9s,baz=29,slow=6.8,SNR=4.1						
	comp=Z,16nm,0.9s						
PMG	Port Moresby	86.26	104	P	P	14 57 07.7	+2.3
PMG	Port Moresby	86.26	104	P	P	14 57 08.0	+2.6
PMG	Port Moresby	86.26	104	*i* P	P	14 57 06.6	+1.2
PMG				pmax	pmax		
	comp=Z,14nm,0.9s						
WRAK	Wrangell Islan	86.37	12	P	P	14 57 05.2	-0.1
	baz=343						
FORT	Forrest	86.62	132	P	P	14 57 06.8	+0.1
FORT	Forrest	86.62	132	P	P	14 57 07.0	+0.3
	comp=Z,53nm,1.1s						
FORT	Forrest	86.62	132	P	P	14 57 07.0	+0.3
QIS	Mount Isa	87.42	118	P	P	14 57 09.6	-1.3
	comp=Z,11nm,1.0s						
QIS	Mount Isa	87.42	118	P	P	14 57 11.0	+0.1
V35K	Ketchikan	87.53	11	P	P	14 57 11.0	+0.1
	baz=344						
OOD	Oodnadatta	89.40	125	P	P	14 57 19.8	-0.3
FFC	Flin Flon	89.43	355	P	P	14 57 20.0	+0.1
FFC				IAmb	IAmb	14 57 21.0	
	comp=Z,25nm,1.2s						
FFC	Flin Flon	89.43	355	P	P	14 57 20.0	+0.1
FFC				pmax	pmax		
	comp=Z,25nm,1.2s						
MULG	Mulgathing	90.00	128	P	P	14 57 23.2	+0.4
BBB	Bella Bella	91.11	10	LR	LR	15 41 29.2	
	comp=Z,72nm,19.9s,baz=294,slow=38						
CTAO	Charters Tower	92.01	113	P	P	14 57 31.3	-1.1
CTAO	Charters Tower	92.01	113	P	P	14 57 31.3	-1.1
CTAO				pmax	pmax		
	comp=Z,29nm,1.5s						
LCRK	Leigh Creek	92.81	126	P	P	14 57 36.4	+0.6
ULM	Lac du Bonnet	93.19	350	P	P	14 57 37.1	-0.4
	comp=Z,6.8nm,0.7s,baz=11,slow=6.0,SNR=6.9						
ULM				LR	LR	15 44 56.6	
	comp=Z,93nm,18.9s,baz=1.0,slow=39						
	comp=Z,6.8nm,0.7s						
ULM	Lac du Bonnet	93.19	350	*i* P	P	14 57 37.5	+0.1
SADO	Sadowa	94.61	338	LR	LR	15 40 25.7	
	comp=Z,90nm,19.3s,baz=44,slow=36						
STKA	Stephens Creek	95.95	125	P	P	14 57 48.8	-1.5
	comp=Z,1.2nm,0.5s,baz=345,slow=5.6,SNR=5.7						
STKA				LR	LR	15 48 14.2	
	comp=Z,40nm,18.0s,baz=25,slow=40						
	comp=Z,1.2nm,0.5s						
NEW	Newport	96.10	4	P	P	14 57 50.0	-0.9
	comp=Z,4.0nm,0.8s,baz=37,slow=2.0,SNR=4.9						
NEW				LR	LR	15 45 46.5	
	comp=Z,180nm,19.4s,baz=358,slow=38						
	comp=Z,4.0nm,0.8s						
NEW	Newport	96.10	4	P	P	14 57 50.0	-0.9
PDAR	Pinedale Array	101.74	359	P	Pdif	14 58 16.3	-0.2
	comp=Z,0.7nm,0.9s,baz=11,slow=3.6,SNR=2.5						
NVAR	Mina Array Bea	105.81	6	PKiKP	PKiKP	15 02 47.0	-0.2
	comp=Z,0.6nm,0.6s,baz=268,slow=3.9,SNR=4.0						
121A	Cookes Peak, D	111.89	357	P	PKiKP	15 02 59.1	+0.3
	baz=3.1						
TROLL	Troll, Antarti	116.88	199	⇑PKiKP	PKPdf	15 03 06.0	-0.9
	comp=Z,280nm,1.4s						
SNAA	Sanae	118.14	200	⇑PKiKP	PKPdf	15 03 08.7	-0.6
	comp=Z,39nm,0.9s						
BOAV	Boa Vista	119.25	297	*e*P	PKiKP	15 03 13.8	+0.7
VNA3	Neumayer Olymp	119.91	201	⇑PKiKP	PKPdf	15 03 11.8	-0.8
	comp=Z,6.8nm,0.7s						
QSPA	South Pole Qui	125.65	180	PKP	PKPdf	15 03 23.7	-0.1
	comp=Z,12nm,0.9s,baz=282,slow=1.5,SNR=40						
ROSC	El Rosal	126.69	312	PKP	PKPdf	15 03 27.7	-0.2
	comp=Z,177nm,0.8s,baz=47,slow=18,SNR=4.2						
SALV	Santo Antonio	126.86	277	*e*P	PKiKP	15 03 28.2	+0.2
BBSD	Serra de San D	131.51	279	*e*P	PKiKP	15 03 38.0	+0.6
ETMB	Extrema	131.58	291	*e*P	PKPdf	15 03 36.6	0.0
CPUP	Villa Florida	133.29	266	PKP	PKiKP	15 03 40.7	0.0
	comp=Z,3.0nm,0.9s,baz=24,slow=3.2,SNR=3.7						
CZSB	Cruzeiro do Su	134.98	299	*e*P	PKiKP	15 03 45.1	+0.6
LPAZ	La Paz	136.99	285	PKP	PKPdf	15 03 47.9	+0.5
	comp=Z,4.3nm,0.8s,baz=38,slow=5.8,SNR=4.9						
PPT2	Papeete2	141.61	72	*e*LR	LR	15 49 59.2	
	comp=Z,120nm,27.5s						
PPT2				*e*LR	LR	15 49 59.8	
	comp=Z,68nm,23.2s						
TAOE	Nuku Hiva Isla	142.43	51	*e*LR	LR	15 50 23.7	
	comp=Z,82nm,23.6s						
TBI	Tubuai	144.81	80	*e*LR	LR	15 51 26.7	
	comp=Z,569nm,36.2s						
PLCA	Paso Flores	147.83	249	PKPbc	PKPbc	15 04 08.7	+0.5
	comp=Z,20nm,0.9s,baz=98,slow=4.2,SNR=34						
PLCA	Paso Flores	147.83	249	*e*P	PKPbc	15 04 07.6	-0.6

ZUR 28 14:54:01.5, 46°89N×8°59E, h11km±8km, MLh1.2/6, 1C,
Error ellipse: s-maj=10000.0km s-min=3121.3km
az=294.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MUO	Muotathal	0.08	21	Pg	Pg	14 54 04.4	+0.2
BNALP	Bannalp	0.12	261	⇑Pg	Pg	14 54 04.8	+0.2
SENGL	Engelberg, Klo	0.14	242	Pg	Pg	14 54 05.1	+0.2
NALPS	Val Nalps	0.31	160	Pg	Pg	14 54 08.1	+0.3
PANIX	Pigniu (Panix)	0.36	100	Pg	Pg	14 54 08.9	+0.2

VIE 28 14:54:53.3±0.2, 47°24N×10°83E, h0km, mb1.6/1, ml1.2/6,
Error ellipse: s-maj=1.3km s-min=1.2km az=159.0,
Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MOTA	Moosalm	0.22	60	*i* Pg	Pg	14 54 57.4	-0.1
	2.7nm,0.1s						
MOTA				*i* Sg	Sg	14 55 01.2	+0.9
	8.7nm,0.1s						
FETA	Feichten	0.23	197	*i* Pg	Pg	14 54 57.8	+0.2
	1.3nm,0.1s						
FETA				*i* Sg	Sg	14 55 01.2	+0.6
	1.8nm,0.1s						
RETA	Reutte	0.25	350	*i* Pg	Pg	14 54 57.9	-0.2
	3.7nm,0.1s						
RETA				*i* Sg	Sg	14 55 01.5	0.0
	3.2nm,0.1s						
SQTA	Sankt Quirin	0.26	94	*i* Pg	Pg	14 54 58.2	-0.1
	12nm,0.1s						
SQTA				*e*Sg	Sg	14 55 02.8	+1.1
	9.0nm,0.1s						
WTTA	Wattenberg	0.55	87	*e*Pg	Pg	14 55 03.8	-0.1
	1.4nm,0.1s						

IDC ***28*** *15:00:04.5±0.5, 9°

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.45**	**175**	*eP*	**Pg**	**15 00 17.1**	**+1.1**
	2μm,0.3s,baz=10,slow=20,SNR=3099						
SDV				Lg	Lg	15 00 23.0	
	3μm,0.3s,baz=36,slow=16,SNR=17						
SDV				LR	LR	15 00 36.7	
	comp=Z,11μm,19.2s,baz=268,slow=58						
SDV	**Santo Domingo**	**0.45**	**175**	*eP*	**Pg**	**15 00 16.9**	**+1.0**
SOCV	**Socops**	**1.07**	**190**	⇓*iP*	**Pg**	**15 00 27.7**	**+0.2**
SOCV				*eS*	**Sg**	**15 00 41.1**	**-0.3**
TEPV	**Terepaima**	**1.58**	**67**	*eP*	**Pg**	**15 00 38.7**	**+1.3**
TEPV				*eS*	**Sg**	**15 00 59.3**	**+1.4**
MCQV	**Machiques**	**1.97**	**291**	*eP*	**Pn**	**15 00 41.5**	**+1.5**
MCQV				*eS*	**Sn**	**15 01 05.6**	**+1.2**
CAPV	**Capacho**	**2.19**	**228**	⇑*iP*	**Pn**	**15 00 45.1**	**+1.9**
CAPV				*eS*	**Sn**	**15 01 10.5**	**+0.3**
MAPV	**Macapo**	**2.24**	**77**	⇑*eP*	**Pb**	**15 00 47.3**	**+0.2**
MAPV				*eS*	**Sb**	**15 01 14.3**	**-0.4**
JACV	**Jacura**	**2.51**	**46**	*eP*	**Pb**	**15 00 50.5**	**-1.3**
JACV				*eS*	**Sb**	**15 01 20.6**	**-2.0**
BAUV	**El Baul**	**2.62**	**98**		**Pn**	**15 00 50.9**	**+1.9**
BAUV				Sn	**Sn**	**15 01 21.4**	**+0.7**
BAUV	**El Baul**	**2.62**	**98**	⇑*eP*	**Pn**	**15 00 51.4**	**+2.4**
BAUV				*eS*	**Sn**	**15 01 22.8**	**+2.2**
TURV	**Turiamo**	**3.00**	**68**	*eP*	**Pn**	**15 00 57.1**	**+3.0**
TURV				*eS*	**Sn**	**15 01 32.0**	**+2.2**
BENV	**Beln**	**3.09**	**78**	*eP*	**Pb**	**15 00 59.3**	**-2.5**
HATO	**Hato, Curacao**	**3.29**	**31**	Pn	**Pn**	**15 00 58.4**	**+0.4**
TACV	**Tcata**	**3.68**	**77**	*eP*	**Pn**	**15 01 06.3**	**+2.8**
TACV				*eS*	**Sn**	**15 01 48.6**	**+1.9**
FUNV	**FUNVISIS**	**3.96**	**73**	⇑*eP*	**Pn**	**15 01 11.1**	**+3.6**
FUNV				*eS*	**Sn**	**15 01 54.9**	**+1.1**
MERV	**Las Mercedes**	**4.32**	**91**	⇑*iP*	**Pn**	**15 01 15.1**	**+2.9**
MERV				*eS*	**Sn**	**15 02 02.6**	**+0.2**
CACV	**CAICARA DEL OR**	**4.45**	**113**	⇓*eP*	**Pb**	**15 01 22.7**	**-2.2**
CACV				*eS*	**Sb**	**15 02 18.0**	**-0.5**
ROSC	**El Rosal**	**5.75**	**219**	Pn	**Pn**	**15 01 34.3**	**+1.9**
ROSC	**El Rosal**	**5.75**	**219**	Pn	**Pn**	**15 01 33.5**	**+1.1**
	39nm,0.3s,baz=94,slow=15,SNR=31						
ROSC				Sn	**Sn**	**15 02 43.4**	**+4.9**
	38nm,0.3s,baz=126,slow=20,SNR=4.4						
ROSC				LR	LR	15 04 11.2	
	comp=Z,233nm,20.0s,baz=313,slow=42						
	157nm,0.7s						
PCRV	**Puerto La Cruz**	**6.00**	**82**	*eP*	**Pn**	**15 01 38.8**	**+3.3**
PCRV	**Puerto La Cruz**	**6.00**	**82**	Pn	**Pn**	**15 01 37.1**	**+1.6**
	6.6nm,0.3s,baz=264,slow=2.6,SNR=36						
PCRV				Sn	**Sn**	**15 02 44.9**	**+0.7**
	22nm,0.3s,baz=298,slow=3.3,SNR=10						
PCRV				LR	LR	15 04 33.4	
	comp=Z,453nm,19.4s,slow=45						
MLPR	**Magueyes Islan**	**9.27**	**22**	Pn	**Pn**	**15 02 19.8**	**-0.5**
CRPR	**Cabo Rojo, PR**	**9.28**	**21**	Pn	**Pn**	**15 02 20.5**	**0.0**
OBIP	**Obispado Ponce**	**9.51**	**24**	Pn	**Pn**	**15 02 22.8**	**-0.7**
CELP	**Cerrillos**	**9.55**	**24**	Pn	**Pn**	**15 02 23.5**	**-0.6**
SDDR	**Presa de Saban**	**9.60**	**356**	Pn	**Pn**	**15 02 27.6**	**+2.7**
IGPR	**InterUniversit**	**9.65**	**27**	Pn	**Pn**	**15 02 25.7**	**+0.2**
AOPR	**Arecibo Observ**	**9.72**	**23**	Pn	**Pn**	**15 02 26.6**	**+0.1**
PDPR	**Patillas Dam,**	**9.73**	**27**	Pn	**Pn**	**15 02 26.5**	**-0.1**
SJG	**San Juan**	**9.76**	**26**	Pn	**Pn**	**15 02 25.8**	**-1.2**
SJG	**San Juan**	**9.76**	**26**	Pn	**Pn**	**15 02 26.0**	**-1.0**
	15nm,0.3s,baz=201,slow=13,SNR=36						
SJG				Sn	Sn	15 04 06.7	-10
	4.8nm,0.3s,baz=22,slow=13,SNR=4.2						
SJG				LR	LR	15 06 34.9	
	comp=Z,56nm,21.6s,baz=256,slow=41						
	60nm,0.4s						
LUEV	**Luepa**	**9.77**	**110**	⇓*iP*	**Pn**	**15 02 27.4**	**+0.1**
LUEV				*eS*	Sn	15 04 09.3	-7.6
HUMP	**Col San Antoni**	**9.92**	**28**	Pn	**Pn**	**15 02 28.7**	**-0.5**
EMPR	**Esperanza - Ma**	**9.93**	**23**	Pn	**Pn**	**15 02 29.8**	**+0.5**
GCPR	**Guaynabo City**	**9.96**	**26**	Pn	**Pn**	**15 02 29.4**	**-0.4**
TDBA	**Terre de Bas,**	**10.93**	**53**	Pn	**Pn**	**15 02 44.7**	**+1.6**
MTDJ	**Mount Denham**	**11.06**	**324**	Pn	**Pn**	**15 02 44.4**	**-0.5**
GTBY	**Guantanamo Bay**	**11.37**	**338**	Pn	**Pn**	**15 02 49.0**	**0.0**
OTAV	**Otavalo**	**11.91**	**221**	Pn	**Pn**	**15 02 58.0**	**+1.2**
OTAV	**Otavalo**	**11.91**	**221**	*eP*	**Pn**	**15 02 59.1**	**+2.2**
BOAV	**Boa Vista**	**12.22**	**124**	Pn	**Pn**	**15 03 00.3**	**-0.4**
BOAV	**Boa Vista**	**12.22**	**124**	*eP*	**Pn**	**15 03 01.7**	**+1.0**
TBTG	**Tabatinga, AM**	**13.46**	**177**	Pn	**Pn**	**15 03 16.8**	**-0.9**
TBTG	**Tabatinga, AM**	**13.46**	**177**	*eP*	**Pn**	**15 03 18.8**	**+1.2**
JTS	**Las Juntas de**	**14.11**	**275**	LR	LR	15 09 13.1	
	comp=Z,52nm,19.9s,baz=66,slow=39						
COHC	**Cochancay**	**14.52**	**217**		**P**	**15 03 38.2**	**-0.5**
CZSB	**Cruzeiro do Su**	**17.08**	**187**	Pn	**Pn**	**15 04 04.5**	**-1.0**
CZSB				IAmb	IAmb	15 04 10.7	
	comp=Z,49nm,0.8s						
CZSB	**Cruzeiro do Su**	**17.08**	**187**	*eP*	**Pn**	**15 04 06.8**	**+1.3**
ATAH	**Atahualpa**	**18.09**	**205**	P	**Pn**	**15 04 17.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=7.4,slow=6.3,SNR=10						
ATAH				LR	LR	15 12 57.7	
	comp=Z,204nm,20.7s,baz=37,slow=42						
	comp=Z,15nm,0.8s						
MDP	**Montagnes des**	**18.37**	**102**	P	**Pn**	**15 04 21.4**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=311,slow=21,SNR=1.3						
MDP				LR	LR	15 12 00.7	
	comp=Z,46nm,19.1s,baz=250,slow=39						
	comp=Z,16nm,1.0s						
ETMB	**Extrema**	**19.54**	**167**	P	**P**	**15 04 35.5**	**+1.1**
ETMB	**Extrema**	**19.54**	**167**	*eP*	**Pn**	**15 04 36.7**	**+1.1**
SAML	**Samuel**	**19.64**	**157**	P	**P**	**15 04 35.7**	**+0.3**
SAML	**Samuel**	**19.64**	**157**	*eP*	**P**	**15 04 37.1**	**+1.7**
TEIG	**Tepich**	**20.15**	**304**	P	**P**	**15 04 41.9**	**+0.9**
TEIG				IAmb	IAmb	15 05 05.4	
	comp=Z,54nm,1.3s						
ITTB	**Itaituba**	**20.18**	**132**	*eP*	**P**	**15 04 43.2**	**+1.9**
NPGB	**Novo Progresso**	**22.31**	**136**	*eP*	**P**	**15 05 06.2**	**+1.9**
VILB	**Vilhena**	**24.47**	**155**	P	**P**	**15 05 24.3**	**-1.5**
VILB	**Vilhena**	**24.47**	**155**	*eP*	**P**	**15 05 27.6**	**+1.8**
PDRB	**Porto dos Gac**	**25.01**	**146**	*eP*	**P**	**15 05 31.7**	**+1.0**
LPAZ	**La Paz**	**25.59**	**174**	P	**P**	**15 05 36.9**	**+0.4**
LPAZ	**La Paz**	**25.59**	**174**	P	**P**	**15 05 36.1**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=304,slow=0.9,SNR=5.4						
LPAZ				LR	LR	15 16 25.3	
	comp=Z,286nm,19.4s,baz=4.0,slow=38						
	comp=Z,2.1nm,0.6s						
PRPB	**Parauapebas**	**25.87**	**126**	*eP*	**P**	**15 05 40.6**	**+2.0**
BBSD	**Serra de San D**	**28.17**	**159**	*eP*	**P**	**15 05 59.9**	**+0.7**
SNDB	**Serra Nova Dou**	**28.62**	**137**	*eP*	**P**	**15 06 04.6**	**+1.3**
TKL	**Tuckaleechee C**	**28.79**	**337**	LR	LR	15 18 10.1	
	comp=Z,66nm,20.1s,baz=179,slow=38						
GO01	**Chusmiza**	**28.86**	**177**	P	**P**	**15 06 03.8**	**-2.0**
WHAR	**Wooly Hollow**	**32.51**	**326**	P	**P**	**15 06 38.1**	**+0.7**
WHAR				IAmb	IAmb	15 07 03.0	
	comp=Z,12nm,1.2s						
FCAR	**Ozark Folk Cen**	**32.86**	**327**	P	**P**	**15 06 42.2**	**+1.7**
AQDB	**Aquidauana**	**33.09**	**154**	*eP*	**P**	**15 06 43.6**	**+1.1**
T42A	**Van Buren**	**33.19**	**329**	P	**P**	**15 06 44.3**	**+0.9**
BDFB	**Brasilia**	**33.46**	**138**	LR	LR	15 21 15.8	
	comp=Z,55nm,20.2s,baz=153,slow=38						
SDBA	**SAO DESIDERIO**	**33.50**	**130**	*eP*	**P**	**15 06 47.7**	**+1.3**
FVM	**French Village**	**33.62**	**331**	P	**P**	**15 06 48.2**	**+1.2**
FVM				IAmb	IAmb	15 06 56.9	
	comp=Z,9.8nm,1.0s						
CCM	**Cathedral Cave**	**34.07**	**330**	P	**P**	**15 06 51.5**	**+0.5**
R40A	**Maddies Statio**	**34.76**	**329**	P	**P**	**15 06 57.5**	**+0.6**
R40A				IAmb	IAmb	15 07 09.9	
	comp=Z,11nm,1.5s						
ABTX	**Abilene, Hawle**	**35.40**	**315**	P	**P**	**15 07 01.9**	**-0.7**
ABTX				IAmb	IAmb	15 07 11.8	
	comp=Z,7.6nm,0.7s						
P40A	**Paris**	**35.61**	**331**	P	**P**	**15 07 04.4**	**+0.1**
P40A				IAmb	IAmb	15 07 14.8	
	comp=Z,4.7nm,0.7s						
TXAR	**Lajitas Array**	**36.74**	**307**	P	**P**	**15 07 14.0**	**-0.2**
TXAR	**Lajitas Array**	**36.74**	**307**	P	**P**	**15 07 15.1**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=126,slow=8.3,SNR=5.4						
TXAR				PcP	**PcP**	**15 09 36.4**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=112,slow=5.8,SNR=2.3						
	comp=Z,0.7nm,0.4s						
LDASE	**Londrina, Braz**	**37.74**	**150**	*eP*	**P**	**15 07 22.7**	**+0.1**
CPUP	**Villa Florida**	**37.75**	**160**	LR	LR	15 24 21.6	
	comp=Z,95nm,18.3s,baz=350,slow=38						
RCBR	**Riachuelo**	**37.78**	**112**	LR	LR	15 22 30.0	
	comp=Z,30nm,18.9s,baz=281,slow=36						
AC05	**El Transito**	**37.96**	**179**	P	**P**	**15 07 23.4**	**-1.0**
AC05				IAmb	IAmb	15 07 52.0	
	comp=Z,10nm,1.0s						
VHRN	**Van Horn**	**38.41**	**309**	P	**P**	**15 07 28.2**	**-0.1**
PTGB	**Pitanga**	**38.41**	**152**	*eP*	**P**	**15 07 28.1**	**-0.2**
GDU01	**Guandu, BA**	**38.44**	**126**	*eP*	**P**	**15 07 28.9**	**+0.3**
CMC01	**Camacan, BA**	**39.43**	**128**	*eP*	**P**	**15 07 38.2**	**+1.3**
VAO	**Valinhos**	**39.65**	**145**	*eP*	**P**	**15 07 39.3**	**+0.6**
GUA01	**Guaratinga, BA**	**39.95**	**130**	*eP*	**P**	**15 07 42.1**	**+0.9**
VA03	**San Esteban**	**41.87**	**180**	P	**P**	**15 07 56.4**	**-0.5**
VA03				IAmb	IAmb	15 08 04.0	
	comp=Z,19nm,1.2s						
SDCO	**Great Sand Dun**	**42.23**	**318**	P	**P**	**15 08 01.0**	**+0.9**
EYMN	**Ely**	**42.31**	**339**	P	**P**	**15 08 00.2**	**0.0**
EYMN				IAmb	IAmb	15 08 11.7	
	comp=Z,6.6nm,0.7s						
S22A	**4UR Ranch, Cre**	**43.12**	**317**	P	**P**	**15 08 08.9**	**+1.6**
AGMN	**Agassiz Nation**	**44.24**	**336**	P	**P**	**15 08 15.9**	**0.0**
AGMN				IAmb	IAmb	15 08 23.9	
	comp=Z,15nm,1.1s						
SCHQ	**Schefferville**	**45.47**	**3**	P	**P**	**15 08 26.5**	**+0.9**
SCHQ	**Schefferville**	**45.47**	**3**	P	**P**	**15 08 25.1**	**-0.4**
	comp=Z,5.1nm,1.0s,baz=344,slow=9.3,SNR=2.1						
	comp=Z,5.1nm,1.0s						
ULM	**Lac du Bonnet**	**45.82**	**338**	P	**P**	**15 08 27.9**	**-0.5**
ULM				IAmb	IAmb	15 08 35.2	
	comp=Z,8.1nm,0.8s						
ULM	**Lac du Bonnet**	**45.82**	**338**	P	**P**	**15 08 27.9**	**-0.5**
	comp=Z,4.1nm,0.6s,baz=144,slow=6.0,SNR=4.4						
	comp=Z,4.1nm,0.6s						
BSUT	**Blindstream Ca**	**47.17**	**318**	P	**P**	**15 08 39.5**	**-0.2**
BSUT				IAmb	IAmb	15 08 49.6	
	comp=Z,5.8nm,1.1s						
PD31	**Pinedale Array**	**47.56**	**321**	P	**P**	**15 08 42.9**	**+0.4**
PD31				IAmb	IAmb	15 08 51.2	
	comp=Z,5.1nm,1.1s						
PDAR	**Pinedale Array**	**47.56**	**321**	P	**P**	**15 08 41.8**	**-0.7**
PDAR	**Pinedale Array**	**47.56**	**321**	P	**P**	**15 08 43.0**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=126,slow=11,SNR=13						
PDAR				PcP	**PcP**	**15 10 12.0**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=136,slow=7.0,SNR=1.3						
	comp=Z,1.4nm,0.6s						
DGMT	**Dagmar**	**48.10**	**330**	P	**P**	**15 08 45.9**	**-0.4**
LOHW	**Long Hollow**	**48.66**	**322**	P	**P**	**15 08 52.1**	**+1.1**
GO06	**Curarrehue**	**48.68**	**181**	P	**P**	**15 08 49.7**	**-1.2**
GO06				IAmb	IAmb	15 08 51.4	
	comp=Z,3.7nm,0.8s						
RLMT	**Red Lodge**	**48.70**	**324**	P	**P**	**15 08 50.6**	**-0.6**
RLMT				IAmb	IAmb	15 09 18.0	
	comp=Z,5.0nm,1.1s						
BGU	**Big Grassy Mou**	**48.87**	**317**	P	**P**	**15 08 52.7**	**+0.2**
LR05	**Currie**	**49.34**	**181**	P	**P**	**15 08 53.9**	**-1.9**
YHL	**Hebgen Lake**	**49.68**	**323**	P	**P**	**15 09 00.7**	**+1.8**
YHL				IAmb	IAmb	15 09 09.4	
	comp=Z,10nm,1.2s						
PLCA	**Paso Flores**	**49.82**	**180**	P	**P**	**15 08 58.7**	**-0.9**
	comp=Z,9.3nm,0.7s,baz=356,slow=9.7,SNR=23						
	comp=Z,9.3nm,0.7s						
PLCA	**Paso Flores**	**49.82**	**180**	*eP*	**P**	**15 08 58.9**	**-0.7**
LL04	**Puerto Octay**	**50.02**	**182**	P	**P**	**15 08 59.1**	**-1.9**
ELK	**Elko**	**50.28**	**316**	P	**P**	**15 09 03.9**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=123,slow=8.3,SNR=3.7						
	comp=Z,0.5nm,0.6s						
NVAR	**Mina Array Bea**	**51.53**	**312**	P	**P**	**15 09 12.6**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=108,slow=7.4,SNR=2.7						
NVAR				PcP	**PcP**	**15 10 27.3**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=129,slow=4.0,SNR=4.3						
	comp=Z,0.5nm,0.6s						
FCC	**Fort Churchill**	**52.44**	**345**	P	**P**	**15 09 17.9**	**-1.0**
NEW	**Newport**	**54.95**	**324**	P	**P**	**15 09 37.3**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=117,slow=22,SNR=1.9						
	comp=Z,1.0nm,0.4s						
PINE	**Pine Mountain**	**55.39**	**317**	P	**P**	**15 09 42.5**	**+1.4**
PINE				IAmb	IAmb	15 09 50.1	
	comp=Z,14nm,1.3s						
J05D	**Fort Rock, OR**	**55.39**	**317**	P	**P**	**15 09 41.9**	**+0.9**
J05D				IAmb	IAmb	15 10 25.0	
	comp=Z,5.2nm,1.1s						
C09A	**Chrisman Ranch**	**55.41**	**323**	P	**P**	**15 09 41.3**	**+0.4**
C09A				IAmb	IAmb	15 09 48.7	
	comp=Z,5.4nm,0.7s						
H04A	**Detroit Lake**	**56.56**	**318**	P	**P**	**15 09 50.1**	**+0.9**
GO08	**Villa O'Higgin**	**57.58**	**181**	P	**P**	**15 09 56.9**	**+0.7**
GO08				IAmb	IAmb	15 09 57.3	
	comp=Z,5.6nm,0.8s						
EFI	**East Falkland**	**61.74**	**171**	P	**P**	**15 10 23.8**	**-1.0**
YKA	**Yellowknife Ar**	**61.78**	**339**	P	**P**	**15 10 24.3**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=92,slow=6.4,SNR=2.3						
	comp=Z,0.5nm,0.6s						
ESDC	**Sonseca Array**	**66.19**	**51**	P	**P**	**15 10 53.7**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=258,slow=6.6,SNR=4.4						
	comp=Z,0.4nm,0.4s						
O30N	**Mendenhall**	**70.00**	**332**	P	**P**	**15 11 18.8**	**+0.7**
A36M	**Sachs Harbour**	**70.66**	**344**	P	**P**	**15 11 21.7**	**0.0**
A36M				IAmb	IAmb	15 11 42.5	
	comp=Z,5.4nm,0.8s						
M30M	**Minto, Yukon**	**70.86**	**333**	P	**P**	**15 11 23.5**	**+0.2**
M30M				IAmb	IAmb	15 11 25.2	
	comp=Z,4.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**70.87**	**79**	P	**P**	**15 11 23.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**70.87**	**79**	P	**P**	**15 11 23.7**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=289,slow=6.5,SNR=12						
	comp=Z,1.3nm,0.4s						
H31M	**Peel River**	**70.89**	**337**	P	**P**	**15 11 23.7**	**+0.3**
G31M	**Satah River**	**71.27**	**338**	P	**P**	**15 11 25.8**	**+0.2**
G31M				IAmb	IAmb	15 11 44.5	
	comp=Z,3.5nm,0.8s						
H29M	**Whitestone**	**72.59**	**337**	P	**P**	**15 11 33.0**	**-0.5**
H29M				IAmb	IAmb	15 12 16.9	
	comp=Z,5.8nm,1.4s						
E29M	**Blow River**	**73.06**	**339**	P	**P**	**15 11 36.1**	**-0.2**
E29M				IAmb	IAmb	15 11 44.8	
	comp=Z,4.3nm,0.9s						
BCAR	**Beaver Creek A**	**73.20**	**333**	P	**P**	**15 11 37.6**	**+0.3**
E28M	**Babbage River**	**73.70**	**339**	P	**P**	**15 11 39.6**	**-0.5**
BMAR	**Burnt Mountain**	**75.27**	**337**	P	**P**	**15 11 50.1**	**+0.8**
ILAR	**Eielson Array**	**75.73**	**335**	P	**P**	**15 11 51.3**	**-0.6**
	comp=Z,0.3nm,0.9s,baz=94,slow=2.9,SNR=2.0						
	comp=Z,0.3nm,0.9s						
D25K	**Kavik River**	**76.27**	**339**	P	**P**	**15 11 55.0**	**0.0**
D25K				IAmb	IAmb	15 11 56.1	
	comp=Z,7.7nm,1.3s						
F24K	**Squaw Lake**	**76.54**	**337**	P	**P**	**15 11 57.2**	**+0.7**
F24K				IAmb	IAmb	15 12 06.0	
	comp=Z,7.6nm,1.4s						
SUA	**Susitna One**	**77.11**	**331**	P	**P**	**15 12 00.4**	**+0.5**
C24K	**Franklin Bluff**	**77.14**	**340**	P	**P**	**15 11 59.2**	**-0.6**
C23K	**Itkillik River**	**77.82**	**340**	P	**P**	**15 12 03.0**	**-0.6**
C23K				IAmb	IAmb	15 12 13.4	
	comp=Z,9.9nm,1.4s						
M20K	**Styx River**	**78.27**	**331**	P	**P**	**15 12 06.6**	**+0.3**
J20K	**Nowinta River**	**78.81**	**334**	P	**P**	**15 12 09.1**	**-0.1**
J20K				IAmb	IAmb	15 12 09.9	
	comp=Z,7.1nm,1.1s						
B21K	**Ikpikpuk River**	**79.19**	**339**	P	**P**	**15 12 11.1**	**-0.1**
N18K	**Kilae Creek**	**79.58**	**330**	P	**P**	**15 12 13.6**	**+0.1**
C18K	**Utukok River**	**81.56**	**338**	P	**P**	**15 12 24.1**	**+0.1**
FINES	**FINESS Array B**	**85.08**	**29**	P	**P**	**15 12 41.9**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=266,slow=5.3,SNR=1.7						
	comp=Z,1.4nm,0.7s						
VNA3	**Neumayer Olymp**	**89.87**	**164**	⇑P	**P**	**15 13 04.4**	**-0.7**
	comp=Z,4.7nm,0.9s						
SNAA	**Sanae**	**92.01**	**163**	⇑P	**P**	**15 13 13.6**	**-1.4**
	comp=Z,43nm,0.8s						
SNAA	**Sanae**	**92.01**	**163**	P	**P**	**15 13 13.5**	**-1.6**
	comp=Z,2.8nm,1.0s,baz=277,slow=8.1,SNR=2.9						
	comp=Z,2.8nm,1.0s						
TROLL	**Troll, Antarti**	**93.70**	**163**	⇑P	**P**	**15 13 21.4**	**-1.6**
	comp=Z,114nm,0.8s						
MMAI	**Mount Meron Ar**	**98.17**	**55**	LR	LR	15 54 53.2	
	comp=Z,19nm,20.8s,baz=237,slow=34						
LSA	**Lhasa**	**137.42**	**24**	PKPpre	PKPpre	15 19 24.5	
STKA	**Stephens Creek**	**142.63**	**228**	PKP	**PKPdf**	**15 19 39.0**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=349,slow=4.0,SNR=3.9						
PZH	**PanZhiHua**	**143.62**	**12**	PKP	PKPbc	15 19 41.0	+1.3
SSLB	**Suanglung**	**145.17**	**341**		**PKPbc**	**15 19 43.2**	**-1.4**
BBOO	**Buckleboo**	**146.02**	**223**	PKPdf	**PKPdf**	**15 19 45.8**	**-0.5**
COEN	**Coen**	**146.56**	**259**	PKPbc	**PKPdf**	**15 19 48.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**150.54**	**20**	PKP	**PKPdf**	**15 19 51.4**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=354,slow=5.6,SNR=4.1						
CMAR				PKPbc	**sPKPdf**	**15 19 58.5**	**-2.0**
	comp=Z,1.2nm,0.5s,baz=319,slow=2.8,SNR=10.0						
CMAR				PKPab	**PKPab**	**15 20 05.3**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=319,slow=2.6,SNR=4.6						
AS31	**Alice Springs**	**152.53**	**236**	PKPbc	**PKPbc**	**15 20 02.6**	**-1.3**
ASAR	**Alice Springs**	**152.53**	**236**	PKP	**PKPdf**	**15 19 56.0**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=114,slow=1.2,SNR=16						
ASAR				PKPbc	**sPKPdf**	**15 20 02.8**	**-0.6**
	comp=Z,14nm,0.6s,baz=115,slow=2.8,SNR=119						
WRAB	**Tennant Creek**	**153.64**	**244**	PKPbc	**PKPbc**	**15 20 05.7**	**-0.7**
WRA	**Warramunga Arr**	**153.65**	**244**	PKP	**PKPdf**	**15 19 58.3**	**-0.4**
	comp=Z,1.8nm,0.9s,baz=91,slow=1.3,SNR=10						
WRA				PKPbc	**sPKPdf**	**15 20 05.4**	**+0.4**
	comp=Z,8.8nm,0.4s,baz=106,slow=2.7,SNR=95						

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*NEIC **28** 15:05:04.7±1.0, 19°.24N±0°.02×155°.41W±0°.02, h40km±2km, Error ellipse: s-maj=3.3km s-min=2.4km az=150.0*

HVO 28 15:05:06.6±0.8, 19°.25N±0°.05×155°.39W±0°.04, h32km±7km, ML2.7/37, ML2.8/46(NEIC), Error ellipse: s-maj=7.3km s-min=5.3km az=142.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.01**	**219**		**Pb**	**15 05 11.7**	**-0.2**
HLP	**Hilina Pali**	**0.09**	**57**	Pg	**Pb**	**15 05 11.8**	**-0.4**
HLP				Sg	Sb	15 05 15.8	-0.3
HLP				IAML		15 05 16.1	
	comp=E,2μm,0.9s						
HLP				IAML		15 05 16.1	
	comp=N,2μm,0.5s						
SDHHI	**Sand Hill**	**0.17**	**33**		**Pb**	**15 05 12.2**	**-0.7**
SDHHI					Sn	15 05 16.3	-0.9
WRMHI	**West Rim**	**0.18**	**28**		**Pb**	**15 05 12.2**	**-0.8**
WRMHI					Sb	15 05 16.7	-0.7
RIM	**Rim**	**0.19**	**36**		**Pb**	**15 05 12.3**	**-0.7**
RIM					Sb	15 05 16.5	-1.0
KKO	**Keanakako'i**	**0.19**	**38**		**Pb**	**15 05 12.4**	**-0.7**
KKO					Sb	15 05 16.6	-1.0
UWE	**Uwekahuna**	**0.20**	**28**	Pg	**Pb**	**15 05 12.1**	**-1.1**
UWE				Sg	Sb	15 05 16.6	-1.1
UWE				IAML		15 05 20.1	
	comp=N,1μm,0.2s						
UWE				IAML		15 05 21.8	
	comp=E,1μm,0.2s						
OBL	**Observatory Le**	**0.20**	**31**		**Pb**	**15 05 12.4**	**-0.8**
OBL					Sb	15 05 16.6	-1.1
BYL	**Byron's Ledge**	**0.21**	**37**	Pg	**Pb**	**15 05 12.2**	**-1.0**
BYL				Sg	Sb	15 05 16.5	-1.3
BYL				IAML		15 05 17.0	
	comp=N,977nm,0.4s						
BYL				IAML		15 05 19.5	
	comp=E,826nm,0.9s						
UWB	**Uwekahuna Bluf**	**0.21**	**31**		**Pb**	**15 05 12.3**	**-1.0**
UWB					Sb	15 05 16.4	-1.4
PUH	**Pauahi**	**0.21**	**52**	Pg	**Pb**	**15 05 12.3**	**-1.0**
PUH				Sg	Sb	15 05 16.7	-1.2
PUH				IAML		15 05 17.0	
	comp=E,1μm,0.3s						
PUH				IAML		15 05 20.3	
	comp=N,766nm,0.9s						
KHU	**Kahuku**	**0.21**	**270**	Pg	**Pb**	**15 05 12.3**	**-1.1**
KHU				Sg	Sb	15 05 16.8	-1.2
SBLHI	**Steaming Bluff**	**0.21**	**33**		**Pb**	**15 05 12.4**	**-1.0**
SBLHI					Sb	15 05 16.9	-1.1
HATHI	**Halema'uma'u T**	**0.22**	**35**	Pg	**Pb**	**

889nm,0.2s,baz=78,slow=9.9,SNR=16
RAO S **Sn** **15 24 30.5 +0.8**
1μm,0.3s,baz=99,slow=23,SNR=6.5
MSVF Nonsavu 11.11 342 P **Pn** **15 26 12.7 +1.7**
16nm,0.7s,baz=159,slow=10,SNR=26
ASAR Alice Springs 42.88 265 P **P** **15 31 16.7 +0.5**
0.2nm,0.7s,baz=105,slow=7.6,SNR=9.4
ASAR ScP **ScP** **15 36 36.4 +1.1**
0.3nm,0.9s,baz=120,slow=3.3,SNR=1.8
0.2nm,0.7s
WRA Warramunga Arr 43.68 270 P **P** **15 31 22.6 0.0**
0.3nm,0.3s,baz=109,slow=7.9,SNR=9.8
0.3nm,0.3s
QSPA South Pole Qui 61.69 180 P **P** **15 33 32.5 -1.5**
0.8nm,1.0s,baz=233,slow=1.2,SNR=1.5
0.8nm,1.0s
MJAR Matsushiro Arr 76.40 325 P **P** **15 35 03.8 -0.8**
1.3nm,0.6s,baz=145,slow=5.6,SNR=3.3
1.3nm,0.6s
PETK Petropavlovsk- 83.80 346 P **P** **15 35 42.4 -1.3**
8.2nm,1.0s,baz=126,slow=7.5,SNR=4.2
8.2nm,1.0s
NVAR Mina Array Bea 87.04 43 P **P** **15 35 59.4 -0.9**
0.4nm,0.6s,baz=215,slow=7.7,SNR=2.5
0.4nm,0.6s
FINES FINESS Array B 143.15 341 PKP PKPab 15 42 42.8 +0.1
2.4nm,0.8s,baz=37,slow=0.7,SNR=5.4
NOA NORSAR Array B 146.73 351 PKPbc **PKPdf** **15 42 52.9 0.0**
0.7nm,0.8s,baz=65,slow=1.2,SNR=4.9
HFS Hagfors 147.22 349 PKPbc **PKPdf** **15 42 54.7 +1.0**
2.4nm,0.6s,baz=59,slow=5.7,SNR=8.6
AKASG Malin Array Be 149.48 324 PKPbc **PKPbc** **15 43 01.6 -0.8**
1.4nm,0.4s,baz=47,slow=3.2,SNR=15
MMAI Mount Meron Ar 150.63 287 PKPbc **PKiKP** **15 43 06.4 0.0**
1.5nm,0.5s,baz=76,slow=6.1,SNR=4.9
BRTR Keskin Array B 151.28 302 PKPbc **PKPbc** **15 43 06.5 -0.7**
0.4nm,0.7s,baz=159,slow=2.9,SNR=3.6

*CATAC **28** 15:30:25.9±0.5, 14°.06N×91°.74W, h25km±4km, MB4.1, mb3.4, ML4.4*
*GCG **28** 15:30:26.0±3.0, 14°.03N×91°.79W, h23km, MD4.1*
*SNET **28** 15:30:27.0±1.2, 14°.16N×91°.42W, h2km±7km, ML4.2*
*IDC **28** 15:30:30.5±2.6, 14°.39N×91°.76W, h83km±23km, mb3.5/3, mbtmp3.9/6, MS3.4/1, Error ellipse: s-maj=29.1km s-min=24.2km az=37.0*
ISC 28 15:30:24.1±1.7, 14°.02N±0°.06×91°.83W±0°.06, h30km±11km, n54, σ1°59/78, mb4.2/4, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.38**	**43**	*e*P	**Pn**	**15 30 36.6**	**+2.9**
RTAL	**Retalhuleu**	**0.52**	**15**	*e*P	**Pn**	**15 30 36.6**	**+1.1**
RTAL				*e*S	**Sn**	**15 30 44.8**	**+1.4**
RTAL	**Retalhuleu**	**0.52**	**15**	*i* P	**Pn**	**15 30 36.5**	**+0.9**
RTAL				*i* S	**Sn**	**15 30 45.8**	**+2.4**
RTAL				IAML		15 30 49.5	
	comp=Z,12μm,1.0s						
STG3	**Santiaguito 3,**	**0.73**	**20**	*e*P	**Pn**	**15 30 39.5**	**+0.9**
SMCA	**Catarina**	**0.86**	**344**	*i* P	**Pn**	**15 30 41.3**	**+1.0**
SMCA				*i* S	**Sb**	**15 30 52.0**	**+0.1**
SMCA				IAML		15 30 53.6	
	comp=Z,5μm,1.0s						
SOKI	**Kika Raxquin**	**0.90**	**28**	*i* P	**Pn**	**15 30 41.4**	**+0.3**
SOKI				*i* S	**Sn**	**15 30 53.8**	**+0.5**
SOKI				IAML		15 30 58.8	
	comp=Z,10μm,1.0s						
QUEO	**Labor Ovalle**	**0.90**	**20**	*i* P	**Pn**	**15 30 41.7**	**+0.6**
QUEO				*i* S	**Sn**	**15 30 54.0**	**+0.8**
QUEO				IAML		15 31 03.8	
	comp=Z,13μm,1.0s						
ESSG	**Sabana Grande**	**1.04**	**70**	*i* P	**Pb**	**15 30 42.5**	**-1.1**
ESSG				*i* S	**Sn**	**15 30 55.3**	**-1.0**
ESSG				IAML		15 30 56.6	
	comp=Z,11μm,1.0s						
FUG	**Fuego 3**	**1.05**	**66**	*e*P	**Pn**	**15 30 43.6**	**+0.6**
CHTG	**Tecpan**	**1.10**	**48**	*i* P	**Pn**	**15 30 44.4**	**+0.5**
CHTG				*i* S	**Sn**	**15 30 59.5**	**+1.3**
CHTG				IAML		15 31 00.2	
	comp=Z,15μm,1.0s						
PCG	**Pacaya**	**1.25**	**73**	*e*P	**Pb**	**15 30 46.9**	**-0.3**
HUEH	**Huehuetenango**	**1.33**	**14**	*e*P	**Pb**	**15 30 49.0**	**+0.4**
HUEH				*e*S	**Sb**	**15 31 06.2**	**+0.8**
HUEH				IAML		15 31 11.6	
	comp=Z,3μm,0.4s						
HUEH	**Huehuetenango**	**1.33**	**14**	*i* P	**Pb**	**15 30 47.9**	**-0.7**
HUEH				*i* S	**Sb**	**15 31 06.2**	**+0.8**
HUEH				IAML		15 31 12.9	
	comp=Z,8μm,1.0s						
GUMI	**Mixco**	**1.33**	**63**	*i* P	**Pb**	**15 30 47.7**	**-0.9**
GUMI				*i* S	**Sb**	**15 31 04.1**	**-1.3**
GUMI				IAML		15 31 06.9	
	comp=Z,17μm,1.0s						
QUIS	**Sacapulas**	**1.45**	**30**	*i* P	**Pb**	**15 30 50.5**	**-0.2**
QUIS				*i* S	**Sb**	**15 31 08.9**	**+0.1**
QUIS				IAML		15 31 10.9	
	comp=Z,6μm,1.0s						
NBG	**Las Nubes**	**1.55**	**68**	*e*P	**Pb**	**15 30 52.1**	**-0.3**
LOAL	**Lomas de Alarc**	**1.99**	**90**	*i* P	**Pn**	**15 30 56.2**	**+0.3**
LOAL				*i* S	**Sn**	**15 31 19.7**	**-0.2**
LOAL				IAML		15 31 23.9	
	comp=Z,4μm,1.0s						
NUBE	**Las Nubes**	**2.00**	**93**	*e*P	**Pn**	**15 30 56.0**	**0.0**
NUBE				*e*S	**Sn**	**15 31 18.6**	**-1.5**
NUBE	**Las Nubes**	**2.00**	**93**	*i* P	**Pn**	**15 30 56.0**	**0.0**
NUBE				*i* S	**Sn**	**15 31 18.4**	**-1.7**
NUBE				IAML		15 31 22.0	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**2.15**	**95**	*e*P	**Pn**	**15 30 58.5**	**+0.2**
CEVE				*e*S	**Sn**	**15 31 24.2**	**+0.1**
CEVE				IAML		15 31 31.6	
	comp=Z,4μm,0.6s						
CEVE	**Cerro Verde**	**2.15**	**95**	*i* P	**Pn**	**15 30 59.2**	**+0.9**
CEVE				*i* S	**Sn**	**15 31 22.7**	**-1.4**
CEVE				IAML		15 31 33.1	
	comp=Z,3μm,1.0s						
MRL	**Marmol**	**2.33**	**63**	*e*P	**Pn**	**15 31 02.3**	**+1.6**
JAYA	**Jayaque - finc**	**2.34**	**99**	*e*P	**Pn**	**15 31 00.5**	**-0.3**
JAYA				*e*S	**Sn**	**15 31 27.3**	**-1.5**
JAYA				IAML		15 31 29.6	
	comp=Z,2μm,0.2s						
JAYA	**Jayaque - finc**	**2.34**	**99**	*i* P	**Pn**	**15 31 00.8**	**0.0**
JAYA				*i* S	**Sn**	**15 31 26.6**	**-2.1**
JAYA				IAML		15 31 27.8	
	comp=Z,6μm,1.0s						
MTO3	**Montecristo**	**2.43**	**81**	*e*P	**Pn**	**15 31 01.8**	**-0.1**
MTO3	**Montecristo**	**2.43**	**81**	*i* P	**Pn**	**15 31 01.9**	**-0.1**
MTO3				*i* S	**Sn**	**15 31 30.8**	**-0.1**
MTO3				IAML		15 31 35.3	
	comp=Z,550nm,1.0s						
PMON	**Piamonte**	**2.47**	**97**	*e*P	**Pn**	**15 31 03.4**	**+0.9**
PMON	**Piamonte**	**2.47**	**97**	*i* P	**Pn**	**15 31 03.5**	**+1.1**
PMON				*i* S	**Sn**	**15 31 30.8**	**-0.8**
PMON				IAML		15 31 37.4	
	comp=Z,2μm,1.0s						
ESQI	**Esquipulas**	**2.48**	**77**	*e*P	**Pn**	**15 31 03.3**	**+0.8**
ESQI	**Esquipulas**	**2.48**	**77**	*i* P	**Pn**	**15 31 02.4**	**-0.2**
ESQI				IAML		15 31 40.5	
	comp=Z,910nm,1.0s						
BOQS	**Boqueron**	**2.50**	**96**	*e*S	**Sn**	**15 31 32.2**	**-0.3**
LALI	**Alcalda de L**	**2.50**	**102**	*e*P	**Pn**	**15 31 03.1**	**+0.3**
LFRS	**El Faro**	**2.72**	**98**	*e*P	**Pn**	**15 31 06.6**	**+0.6**
PAVA	**Las Pavas**	**2.83**	**96**	*e*P	**Pn**	**15 31 08.4**	**+1.0**
PAVA	**Las Pavas**	**2.83**	**96**	*i* P	**Pn**	**15 31 08.1**	**+0.6**
PAVA				IAML		15 31 48.9	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**2.90**	**98**	*e*P	**Pn**	**15 31 09.6**	**+1.3**
COEG				*e*S	**Sn**	**15 31 41.8**	**-0.4**
COEG				IAML		15 31 58.0	
	comp=Z,640nm,0.5s						
COEG	**Centro de Oper**	**2.90**	**98**	*i* P	**Pn**	**15 31 09.7**	**+1.3**
COEG				*i* S	**Sn**	**15 31 42.8**	**+0.6**
COEG				IAML		15 31 47.9	
	comp=Z,610nm,1.0s						
LCND	**La Caada**	**3.90**	**100**	*i* P	**Pn**	**15 31 23.7**	**+1.6**
LCND				IAML		15 32 24.4	
	comp=Z,270nm,1.0s						
CNCH	**Conchagua**	**3.96**	**100**	*e*P	**Pn**	**15 31 23.8**	**+0.8**
CNCH	**Conchagua**	**3.96**	**100**	*i* P	**Pn**	**15 31 23.5**	**+0.5**
CNCH				IAML		15 32 15.8	
	comp=Z,580nm,1.0s						
CMIG	**Matias Romero**	**4.24**	**316**	P	**Pn**	**15 31 28.2**	**+1.5**
	comp=Z,19nm,0.3s,baz=140,slow=10,SNR=24						
CMIG				S	**Sn**	**15 32 13.7**	**-1.5**
	comp=Z,30nm,0.3s,baz=180,slow=15,SNR=2.4						
CRIN	**San Cristobal**	**4.84**	**105**	*i* P	**Pn**	**15 31 37.9**	**+2.9**
CRIN				*i* S	**Sn**	**15 32 37.0**	**+6.9**
CRIN				IAML		15 32 48.9	
	comp=Z,710nm,1.0s						
PKGN	**Cerro Pekin**	**4.92**	**105**	*i* P	**Pn**	**15 31 37.9**	**+1.9**
PKGN				IAML		15 32 50.1	
	comp=Z,630nm,1.0s						
MACN	**El Madrono**	**5.26**	**107**	*i* P	**Pn**	**15 31 43.0**	**+2.2**
MACN				IVmB_BB		15 31 50.8	
	comp=Z,650nm,1.0s						
MACN				IAML		15 31 51.9	
	comp=Z,58nm,1.0s						
MOMN	**Momotombo**	**5.40**	**107**	*i* P	**Pn**	**15 31 44.5**	**+1.8**
MOMN				IVmB_BB		15 31 50.4	
	comp=Z,66nm,1.0s						
MOMN				IAmb	IAmb	15 31 50.8	
	comp=Z,5.3nm,1.2s						
MOMN				*i* S	**Sn**	**15 32 49.1**	**+5.1**
MOMN				IAML		15 33 02.9	
	comp=Z,8.2nm,1.0s						
TEIG	**Tepich**	**7.04**	**28**	P	**Pn**	**15 32 05.9**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=218,slow=24,SNR=20						
TEIG				S	**Sn**	**15 33 21.7**	**-2.7**
	baz=174,slow=24,SNR=1.0						
JTS	**Las Juntas de**	**7.68**	**118**	P	Pn	15 32 22.3	+8.2
	comp=Z,11nm,0.8s,baz=290,slow=4.7,SNR=11						
JTS				S	Sn	15 33 54.6	+14
	comp=Z,12nm,0.8s,baz=151,slow=22,SNR=2.7						
TXAR	**Lajitas Array**	**18.77**	**326**	P	**P**	**15 34 41.0**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=153,slow=11,SNR=13						
PDAR	**Pinedale Array**	**32.47**	**335**	P	**P**	**15 36 50.3**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=140,slow=9.6,SNR=2.2						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**33.76**	**321**	P	**P**	**15 37 04.3**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=133,slow=8.7,SNR=17						
	comp=Z,2.4nm,0.7s						
SCHQ	**Schefferville**	**45.15**	**20**	LR	LR	15 57 49.1	
	comp=Z,47nm,19.3s,baz=338,slow=37						
ILAR	**Eielson Array**	**62.88**	**337**	P	**P**	**15 40 45.1**	**-2.1**
	comp=Z,1.6nm,0.9s,baz=121,slow=5.3,SNR=13						
	comp=Z,1.6nm,0.9s						
NB2	**NORSAR Subarra**	**84.05**	**28**	PKP	**P**	**15 42 54.1**	**+2.3**
	comp=Z,0.8nm,0.5s,baz=9.6,slow=2.9						
CMAR	**Chiang Mai Arr**	**146.02**	**341**	PKPbc	**PKPdf**	**15 49 58.8**	**-2.4**
	comp=Z,4.1nm,0.8s,baz=332,slow=3.8,SNR=26						

*CATAC **28** 15:53:14.7±0.5, 12°.82N×90°.65W, h5km±6km, ML3.9*
*SNET **28** 15:53:15.0±1.0, 12°.88N×90°.65W, h13km±9km, ML3.8*
*GCG **28** 15:53:22.5±3.9, 13°.87N×90°.00W, h127km, MD3.8*
ISC 28 15:53:14.6±2.1, 12°.85N±0°.07×90°.65W±0°.05, h13km±11km, n41, σ0°66/58, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.34**	**39**	*e*P	**Pn**	**15 53 38.6**	**-0.5**
NUBE	**Las Nubes**	**1.34**	**39**	*i* P	**Pn**	**15 53 38.8**	**-0.3**
NUBE				*i* S	**Sg**	**15 53 57.5**	**-0.4**
NUBE				IAML		15 54 00.8	
	comp=Z,880nm,1.0s						
CEVE	**Cerro Verde**	**1.39**	**46**	*e*P	**Pn**	**15 53 39.8**	**0.0**
CEVE				*e*S	**Sg**	**15 53 59.2**	**-0.2**
CEVE				IAML		15 54 02.0	
	comp=Z,3μm,0.3s						
CEVE	**Cerro Verde**	**1.39**	**46**	*i* P	**Pn**	**15 53 39.5**	**-0.4**
CEVE				*i* S	**Sn**	**15 53 58.7**	**+0.5**
CEVE				IAML		15 54 01.8	
	comp=Z,3μm,1.0s						
JAYA	**Jayaque - finc**	**1.41**	**56**	*e*P	**Pn**	**15 53 40.0**	**-0.1**
JAYA	**Jayaque - finc**	**1.41**	**56**	*i* P	**Pn**	**15 53 39.5**	**-0.6**
JAYA				*i* S	**Sb**	**15 53 59.4**	**+0.6**
JAYA				IAML		15 54 05.5	
	comp=Z,3μm,1.0s						
LOAL	**Lomas de Alarc**	**1.42**	**36**	*i* P	**Pn**	**15 53 40.0**	**-0.1**
LOAL				*i* S	**Sg**	**15 53 59.5**	**-0.8**
LOAL				IAML		15 54 11.2	
	comp=Z,2μm,1.0s						
LALI	**Alcalda de L**	**1.44**	**64**	*e*P	**Pn**	**15 53 39.8**	**-0.5**
UNIC	**Universidad Ca**	**1.55**	**43**	*i* P	**Pn**	**15 53 42.1**	**+0.2**
UNIC				*i* S	**Sn**	**15 54 00.6**	**-1.3**
UNIC				IAML		15 54 05.1	
	comp=Z,410nm,1.0s						
PMON	**Piamonte**	**1.55**	**56**	*e*P	**Pn**	**15 53 42.2**	**+0.2**
PMON	**Piamonte**	**1.55**	**56**	*i* P	**Pn**	**15 53 41.9**	**-0.1**
PMON				*i* S	**Sg**	**15 54 05.4**	**+0.8**
PMON				IAML		15 54 13.0	
	comp=Z,2μm,1.0s						
BOQS	**Boqueron**	**1.59**	**56**	*e*P	**Pn**	**15 53 43.1**	**+0.4**
FUG	**Fuego 3**	**1.60**	**353**	*e*P	**Pg**	**15 53 45.3**	**0.0**
PANCS	**Alcalda de**	**1.61**	**62**	*i* P	**Pn**	**15 53 42.7**	**-0.1**
PANCS				IAML		15 55 06.3	
	comp=Z,2μm,1.0s						
UEES	**Universidad Ev**	**1.62**	**58**	*i* P	**Pn**	**15 53 43.7**	**+0.8**
UEES				*i* S	**Sb**	**15 54 04.5**	**-0.2**
UEES				IAML		15 54 13.1	
	comp=Z,710nm,1.0s						
PIC2	**El Picacho**	**1.62**	**57**	*e*P	**Pn**	**15 53 43.1**	**+0.2**
LOMA	**Loma Larga**	**1.64**	**61**	*e*P	**Pn**	**15 53 43.1**	**0.0**
LOMA	**Loma Larga**	**1.64**	**61**	*i* P	**Pn**	**15 53 43.3**	**+0.1**
LOMA				IAML		15 54 11.6	
	comp=Z,650nm,1.0s						
LFRS	**El Faro**	**1.72**	**63**	*e*P	**Pn**	**15 53 44.2**	**-0.1**
NBG	**Las Nubes**	**1.75**	**10**	*e*P	**Pb**	**15 53 46.9**	**+0.3**
PAVA	**Las Pavas**	**1.87**	**63**	*e*P	**Pn**	**15 53 47.4**	**+1.0**
PAVA	**Las Pavas**	**1.87**	**63**	*i* P	**Pn**	**15 53 47.2**	**+0.8**
PAVA				IAML		15 54 19.9	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**1.88**	**66**	*e*P	**Pn**	**15 53 46.6**	**+0.2**
COEG				IAML		15 54 16.9	
	comp=Z,527nm,0.3s						
COEG	**Centro de Oper**	**1.88**	**66**	*i* P	**Pn**	**15 53 46.3**	**-0.2**
COEG				*i* S	**Sg**	**15 54 15.7**	**+0.6**
COEG				IAML		15 54 16.8	
	comp=Z,500nm,1.0s						
TECO	**Alcaldia de Te**	**1.94**	**69**	*i* P	**Pn**	**15 53 46.9**	**-0.3**
TECO				IAML		15 54 32.3	
	comp=Z,390nm,1.0s						
MTO3	**Montecristo**	**1.98**	**39**	*e*P	**Pn**	**15 53 48.8**	**+0.8**
MTO3				*e*S	**Sb**	**15 54 14.8**	**-0.5**
MTO3	**Montecristo**	**1.98**	**39**	*i* P	**Pn**	**15 53 48.1**	**+0.1**
MTO3				*i* S	**Sb**	**15 54 15.0**	**-0.3**
MTO3				IAML		15 54 33.5	
	comp=Z,500nm,1.0s						
STG3	**Santiaguito 3,**	**2.05**	**334**	*e*P	**Pb**	**15 53 51.6**	**-0.2**
SOKI	**Kika Raxquin**	**2.09**	**339**	*i* P	**Pn**	**15 53 50.0**	**+0.3**
SOKI				*i* S	**Sb**	**15 54 17.9**	**-0.7**
SOKI				IAML		15 54 32.7	
	comp=Z,570nm,1.0s						
ESQI	**Esquipulas**	**2.12**	**37**	*e*P	**Pn**	**15 53 49.3**	**-0.5**
PACA	**Pacayal**	**2.34**	**75**	*e*P	**Pn**	**15 53 53.8**	**+0.9**
PACA	**Pacayal**	**2.34**	**75**	*i* P	**Pn**	**15 53 54.1**	**+1.2**
PACA				*i* S	**Sb**	**15 54 25.9**	**+0.2**
PACA				IAML		15 54 32.8	
	comp=Z,3μm,1.0s						
MRL	**Marmol**	**2.40**	**23**	*e*P	**Pn**	**15 53 55.8**	**+2.0**
LCND	**La Caada**	**2.72**	**80**	*e*P	**Pn**	**15 53 58.2**	**+0.2**
LCND				*e*S	**Sn**	**15 54 32.0**	**+1.2**
LCND	**La Caada**	**2.72**	**80**	*i* P	**Pn**	**15 53 58.6**	**+0.6**
LCND				IAML		15 54 43.9	
	comp=Z,270nm,1.0s						
CNCH	**Conchagua**	**2.77**	**81**	*e*P	**Pn**	**15 53 58.8**	**0.0**
CNCH	**Conchagua**	**2.77**	**81**	*i* P	**Pn**	**15 53 59.1**	**+0.3**
CNCH				*i* S	**Sb**	**15 54 36.6**	**-1.4**
CNCH				IAML		15 54 48.8	
	comp=Z,520nm,1.0s						
CSGN	**Cosiguina Volc**	**3.01**	**87**	*i* P	**Pn**	**15 54 02.1**	**0.0**
CSGN				IAML		15 54 03.0	
	comp=Z,50nm,1.0s						
CSGN				*i* S	**Sb**	**15 54 43.5**	**-1.4**
CHIHN	**Chmisales**	**3.20**	**44**	*i* P	**Pn**	**15 54 05.7**	**+1.0**
CRIN	**San Cristobal**	**3.51**	**92**	*i* P	**Pn**	**15 54 09.5**	**+0.6**
CRIN				*i* S	**Sn**	**15 54 50.1**	**-0.3**
CRIN				IAML		15 55 08.9	
	comp=Z,360nm,1.0s						
LIMN	**Finca el Limon**	**4.18**	**87**	*i* P	**Pn**	**15 54 18.2**	**+0.1**
LIMN				IAML		15 54 18.4	
	comp=Z,66nm,1.0s						

RSNC 28 16:02:56.9±0.0, 13°N±1°×8°1W±°, h0km±2km, M3.1, mb4.2, ML3.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.25**	**298**	P	Pg	16 03 03.1	+1.5
PRVC				S	Sg	16 03 07.5	+2.7
SAIC	**Isla e San And**	**0.91**	**218**	P	Pb	16 03 15.4	-0.2
SAIC				S	Sb	16 03 28.7	+0.5
RNCC	**Cayo Roncador,**	**1.07**	**73**	P	Pg	16 03 16.9	-0.5
RNCC				S	Sb	16 03 32.6	-0.2
SERC	**Banco Serrana,**	**1.27**	**36**	P	Pg	16 03 20.1	-1.1
SERC				S	Sb	16 03 38.6	0.0
BCIP	**Isla Barro Col**	**4.26**	**162**	P	Pn	16 03 59.1	-4.0
BCIP				S	Sn	16 04 46.9	-6.7
JTS	**Las Juntas de**	**4.76**	**232**	P	Pn	16 04 10.7	+0.7
JTS				S	Sn	16 05 05.4	-0.5
GMAL	**Guarumal, Vera**	**5.46**	**181**	P	Pn	16 04 19.0	-0.6
GMAL				S	Sn	16 05 18.7	-4.6
AZU	**Azuero**	**5.50**	**171**	P	Pn	16 04 19.6	-0.5
AZU	9.4nm,1.2s						
				S	Sn	16 05 19.3	-4.9
	9.4nm,1.2s						
CAPC	**Capurgana**	**5.91**	**141**	P	Pn	16 04 25.7	-0.1
	24nm,1.4s						
CAPC				S	Sn	16 05 28.6	-5.7
	24nm,1.4s						
TGUH	**Tegucigalpa,Un**	**6.01**	**278**	P	Pn	16 04 28.4	+1.1
	26nm,0.5s						
SJCC	**San Jacinto, C**	**6.73**	**119**	P	Pn	16 04 39.9	+2.8
SJCC				S	Sn	16 05 47.3	-7.3
CRJC	**Cerrejon, Guaj**	**8.38**	**105**	P	Pn	16 04 57.9	-1.9
CRJC				S	Sn	16 06 27.1	-8.1

*IDC **28** 16:08:33.3±1.0, 5°.67N×125°.28E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=40.8km s-min=12.4km az=89.0*
*DJA **28** 16:08:37.9±0.5, 6°N±4°×12°6E±°, h10km, M4.4/8, mB4.9/5, mb4.5/8, MLv4.3/7, Mw(mB)4.2/5*
ISC 28 16:08:33.0±1.3, 6°.4N±0°.1×126°.8E±0°.2, h10km, n13, σ0°81/12, mb3.7/5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.40**	**300**	Pg	**Pg**	**16 09 00.6**	**+0.6**
	127nm,0.3s,baz=206,slow=1.6,SNR=9.5						
DAV				LR	LR	16 09 16.9	
	comp=Z,42nm,19.6s,baz=144,slow=31						
DAV				Lg	Lg	16 09 18.5	
	191nm,0.3s,baz=270,slow=23,SNR=16						
TNTI	**Ternate**	**5.58**	**174**	P	Pn	16 09 59.9	+3.7
	35nm,0.5s,0.2nm						
KMSI	**Cibinong**	**6.40**	**206**	P	**Pn**	**16 10 07.4**	**0.0**
	58nm,0.7s,0.3nm						
MRSI	**Marisa**	**7.60**	**220**	P	**Pn**	**16 10 23.4**	**-0.4**
LUWI	**Luwuk**	**8.38**	**209**	P	**Pn**	**16 10 34.9**	**+0.2**
	33nm,1.3s						
SANI	**Sanana**	**8.40**	**186**	P	**Pn**	**16 10 34.0**	**-0.8**
NLAI	**Namlea**	**9.54**	**178**	P	**Pn**	**16 10 51.6**	**+1.0**
	18nm,0.6s						
KDI	**Kendari**	**11.07**	**202**	P	**Pn**	**16 11 11.7**	**+0.2**
WRA	**Warramunga Arr**	**27.17**	**164**	P	**P**	**16 14 17.2**	**+0.4**
	0.6nm,0.4s,baz=344,slow=10,SNR=22						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**30.64**	**167**	P	**P**	**16 14 46.6**	**-1.2**
	0.4nm,0.3s,baz=339,slow=7.3,SNR=18						
	0.4nm,0.3s						
STKA	**Stephens Creek**	**40.56**	**160**	P	**P**	**16 16 13.5**	**+0.8**
	1.7nm,0.7s,baz=344,slow=11,SNR=4.8						
	1.7nm,0.7s						
MKAR	**Makanchi Array**	**55.46**	**324**	P	**P**	**16 18 06.8**	**-1.2**
	0.2nm,0.4s,baz=109,slow=5.9,SNR=4.4						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**59.58**	**327**	P	**P**	**16 18 37.1**	**+0.2**
	0.3nm,0.7s,baz=126,slow=5.2,SNR=2.3						
	0.3nm,0.7s						

*DJA **28** 17:08:46.4±0.2, 1°N±2°×10°0E±°, h185km±4km, M4.9/22, mB5.5/5, mb4.7/10, MLv5.0/22, Mw(mB)5.0/5*
*NEIC **28** 17:08:47.9±1.9, 1°.58N±0°.06×99°.52E±0°.05, h175km±7km, mb4.6/35, Error ellipse: s-maj=11.6km s-min=2.5km az=221.0*
*IDC **28** 17:08:47.1±0.5, 1°.61N×99°.60E, h170km±3km, mb4.1/28, mbtmp4.5/30, MS2.7/1, Error ellipse: s-maj=14.7km s-min=7.3km az=51.0*
ISC 28 17:08:47.3±0.5, 1°.58N±0°.04×99°.51E±0°.04, h172km±4km, h172km:pP-P, n152, σ1°51/167, mb4.5/55, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.79**	**175**	P	**Pn**	**17 09 13.5**	**+0.8**
MNSI				S	**Sn**	**17 09 32.9**	**+0.6**
RPSI	**Rantau Prapat**	**1.25**	**332**		**Pn**	**17 09 17.1**	**+0.9**
RPSI	**Rantau Prapat**	**1.25**	**332**		**Pn**	**17 09 16.8**	**+0.5**
RPSI					**Sn**	**17 09 38.5**	**-0.1**
PSI	**Prapat**	**1.34**	**334**	P	**Pn**	**17 09 16.8**	**-0.5**
	265nm,0.3s,baz=167,slow=18,SNR=244						
PSI				S	**Sn**	**17 09 38.5**	**-1.9**
	323nm,0.5s,baz=150,slow=18,SNR=42						
PSI	**Prapat**	**1.34**	**334**	P	**Pn**	**17 09 17.3**	**+0.1**
GSI	**Gunungsitoli**	**1.95**	**262**		**Pn**	**17 09 24.4**	**+1.2**
GSI	**Gunungsitoli**	**1.95**	**262**	P	**Pn**	**17 09 24.6**	**+1.4**
GSI	**Gunungsitoli**	**1.95**	**262**	P	**Pn**	**17 09 24.5**	**+1.2**
BKNI	**Bangkinang**	**1.98**	**129**		**Pn**	**17 09 24.1**	**+0.6**
BKNI	**Bangkinang**	**1.98**	**129**	P	**Pn**	**17 09 24.4**	**+0.9**
BKNI	**Bangkinang**	**1.98**	**129**	P	**Pn**	**17 09 23.6**	**+0.1**
BKNI				S	**Sn**	**17 09 50.5**	**-1.1**
PBSI	**Pulau Batu**

KAPI Kappang 21.26 108 P P 17 13 20.6 +0.3
KAPI IAmb IAmb 17 13 25.8
comp=Z,14nm,0.9s
KAPI Kappang 21.26 108 P P 17 13 20.3 0.0
comp=Z,6.7nm,0.5s,baz=75,slow=16,SNR=6.4
comp=Z,6.7nm,0.5s
TOLI2 Tolitoli 21.28 91 P P 17 13 19.9 -0.6
TOLI2 IAmb IAmb 17 13 22.0
comp=Z,29nm,0.8s
TOLI2 Tolitoli 21.28 91 P P 17 13 21.3 +0.8
AZL Aizawl 22.99 344 *eP* **P 17 13 38.1 +0.9**
AZL IAmb IAmb 17 13 40.7
comp=Z,6.6nm,0.5s
LUWI Luwuk 23.41 96 P P 17 13 40.4 -0.7
LUWI Luwuk 23.41 96 P P 17 13 42.9 +1.8
IMP Imphal 23.73 347 *eP* **P 17 13 43.9 0.0**
IMP IAmb IAmb 17 13 45.0
comp=Z,5.3nm,0.8s
KOHI KOHIMA 24.55 348 *eP* **P 17 13 50.4 -1.1**
KOHI IAmb IAmb 17 14 09.2
comp=Z,20nm,1.4s
KOHI *ex* x 17 17 35.0
PZH PanZhiHua 24.87 5 P P 17 13 56.3 +2.0
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.7s
SHL Shillong 24.95 344 P P 17 13 53.4 -1.7
SHL IAmb IAmb 17 13 59.0
comp=Z,14nm,0.5s
BOK Bokaro 25.72 330 *eP* **P 17 14 04.2 +2.3**
LKP Lekhapani 25.84 353 *ex* x 17 14 49.6
LKP IAmb IAmb 17 14 58.5
comp=Z,97nm,0.3s
ZIRO ZIRO 26.36 349 *ex* P 17 14 00.7 -7.1
ZIRO *ex* x 17 17 30.8
BATI Baumata 26.75 116 P P 17 14 10.3 -1.0
comp=Z,12nm,0.5s,baz=272,slow=4.1,SNR=1.8
comp=Z,12nm,0.5s
FITZ Fitzroy Crossi 32.32 128 P P 17 14 58.9 -1.5
comp=Z,4.3nm,0.6s,baz=322,slow=7.9,SNR=9.3
comp=Z,4.3nm,0.6s
FAKI Fak Fak 33.04 98 P P 17 15 07.9 +1.2
MTN Manton Dam 34.51 115 P P 17 15 20.0 +0.6
LZH Lanzhou 34.57 6 *eP* P 17 15 14.3 -5.5
LZH sP sP 17 16 12.0 -3.8
LZH pmax pmax
comp=Z,7.0nm,1.0s
NJ2 Nanjing 35.37 29 *eP* **P 17 15 27.8 +1.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
KDU Kakadu 35.66 114 P P 17 15 30.7 +1.4
SMLA Simla 36.20 327 *eP* **P 17 15 34.5 +0.9**
SMLA IAmb IAmb 17 15 35.8
comp=Z,5.6nm,1.0s
DHRM DHARAMSHALA 37.53 327 *eP* **P 17 15 45.5 +0.4**
DHRM IAmb IAmb 17 15 46.8
comp=Z,5.0nm,0.6s
DHRM *i* pP **pP 17 16 22.6 +0.4**
WRKA Warakurna 38.45 135 P P 17 15 53.7 +1.0
WB0 Warramunga Arr 40.27 124 P P 17 16 07.0 -0.9
WRA Warramunga Arr 40.31 124 P P 17 16 07.8 -0.4
WRA Warramunga Arr 40.31 124 P P 17 16 07.4 -0.7
comp=Z,19nm,0.6s,baz=302,slow=9.1,SNR=110
WRA PcP **PcP 17 18 08.2 -0.2**
comp=Z,2.1nm,0.6s,baz=317,slow=2.6,SNR=9.1
WRA ScP **ScP 17 21 39.1 -2.6**
comp=Z,0.5nm,0.9s,baz=304,slow=3.9,SNR=4.9
comp=Z,19nm,0.6s
WRAB Tennant Creek 40.31 124 P P 17 16 07.4 -0.8
HHC Hu-ho-hao-te 40.58 14 *eP* **P 17 16 12.3 +2.1**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,83nm,4.0s
JAY Jayapura 41.39 96 P P 17 16 17.3 +0.2
comp=Z,7.9nm,0.8s,baz=113,slow=7.7,SNR=4.0
comp=Z,7.9nm,0.8s
ASAR Alice Springs 41.81 129 P P 17 16 20.9 +0.5
ASAR Alice Springs 41.81 129 P P 17 16 19.4 -1.0
comp=Z,1.8nm,0.4s,baz=300,slow=7.3,SNR=38
ASAR PcP **PcP 17 18 13.2 -0.1**
comp=Z,1.6nm,0.7s,baz=304,slow=2.6,SNR=10.0
ASAR ScP **ScP 17 21 45.1 -2.5**
comp=Z,0.6nm,0.8s,baz=292,slow=3.8,SNR=5.0
comp=Z,1.8nm,0.4s
AS01 Alice Springs 41.85 129 P P 17 16 21.4 +0.7
FORT Forrest 42.12 142 P P 17 16 24.2 +1.5
WMQ Urumqi 43.35 348 *eP* **P 17 16 34.3 +1.8**
WMQ pP pP 17 17 08.3 -2.0
WMQ pmax pmax
comp=Z,22nm,0.6s
KSH Kashi 43.42 333 P P 17 16 33.0 -0.2
KSH pmax pmax
comp=Z,8.0nm,0.6s
WUS Wushi 43.49 338 P P 17 16 34.2 +0.4
WUS IAmb IAmb 17 16 35.4
comp=Z,13nm,0.5s
KSRS Korea Array 44.25 33 P P 17 16 38.9 -0.9
comp=Z,2.4nm,0.7s,baz=225,slow=9.2,SNR=10
KSRS LR LR 17 38 00.1
comp=Z,9.2nm,18.5s,baz=170,slow=40
comp=Z,2.4nm,0.7s
PRZ Przheval'sk 44.90 338 IAmb IAmb 17 16 47.9
comp=Z,11nm,0.5s
NRN Naryn 44.98 335 IAmb IAmb 17 16 47.6
comp=Z,8.2nm,0.6s
QIS Mount Isa 45.01 121 P P 17 16 46.9 +0.8
KDJ Kajisay 45.08 336 IAmb IAmb 17 16 49.1
comp=Z,8.5nm,0.7s
OOD Oodnadatta 45.41 133 P P 17 16 48.7 -0.3
MULG Mulgathing 45.70 137 P P 17 16 52.7 +1.4
GAR Garm 45.80 328 IAmb IAmb 17 16 55.0
comp=Z,9.0nm,0.5s
COEN Coen 45.94 111 P P 17 16 54.1 +0.7
SIMJ Simiganj 46.26 327 P P 17 16 54.6 -1.1
SIMJ IAmb IAmb 17 16 58.3
comp=Z,7.9nm,0.5s
BTK Batken 46.32 329 P P 17 16 57.5 +1.4
BTK IAmb IAmb 17 16 58.2
comp=Z,7.6nm,0.5s
SONM Songino Array 46.46 6 P P 17 16 57.8 +0.7
comp=Z,6.3nm,0.4s,baz=193,slow=9.2,SNR=64
SONM PcP **PcP 17 18 28.6 -0.2**
comp=Z,3.0nm,0.5s,baz=186,slow=3.6,SNR=12
SONM ScP **ScP 17 22 04.0 -2.1**
comp=Z,1.5nm,1.0s,baz=192,slow=4.6,SNR=5.6
comp=Z,6.3nm,0.4s
ULN Ulaanbaatar 46.56 7 P P 17 16 58.0 0.0
AAK Ala-Archa 46.61 335 P P 17 16 59.8 +1.4
MKAR Makanchi Array 47.47 344 P P 17 17 05.4 +0.6
comp=Z,12nm,0.4s,baz=155,slow=9.0,SNR=252
MKAR PcP **PcP 17 18 32.9 +0.6**
comp=Z,1.2nm,0.6s,baz=194,slow=3.5,SNR=2.1
comp=Z,12nm,0.4s
MTSU Mount Surprise 48.25 116 P P 17 17 11.8 +0.5
BBOO Buckleboo 48.59 138 P P 17 17 14.7 +1.1
LCRK Leigh Creek 48.72 134 P P 17 17 14.5 -0.1
KKAR Karatay Array 48.77 332 P P 17 17 14.9 +0.1
KKAR Karatay Array 48.77 332 IAmb IAmb 17 17 17.5
comp=Z,1.9nm,0.5s
INKA Innaminka 49.19 129 P P 17 17 20.3 +2.1
HTT Hallett 50.89 137 P P 17 17 31.5 +0.4
USRK Ussuriysk Ar. 51.28 30 P P 17 17 33.5 -0.1
comp=Z,3.2nm,0.7s,baz=253,slow=3.9,SNR=9.9
comp=Z,3.2nm,0.7s
QLP Quilpie 51.41 126 P P 17 17 37.7 +2.7
STKA Stephens Creek 51.92 134 P P 17 17 37.5 -1.1
comp=Z,1.7nm,0.6s,baz=336,slow=3.4,SNR=5.3
comp=Z,1.7nm,0.6s
KURBB Kurchatov Arra 52.00 343 P P 17 17 39.4 +0.6
comp=Z,2.4nm,0.4s,baz=156,slow=7.3,SNR=54
KURBB PcP **PcP 17 18 49.2 +0.4**
comp=Z,1.8nm,0.7s,baz=154,slow=3.4,SNR=11
comp=Z,2.4nm,0.4s
KURK Kurchatov 52.05 343 P P 17 17 39.2 -0.1
ZAA0 Zalesovo Array 53.58 349 IAmb IAmb 17 17 51.6
comp=Z,24nm,1.2s
ZALV Zalesovo Beam 53.58 349 P P 17 17 50.4 0.0
ZALV Zalesovo Beam 53.58 349 P P 17 17 50.6 +0.2
comp=Z,14nm,0.4s,baz=165,slow=6.9,SNR=90
ZALV pP **pP 17 18 29.6 -0.1**
comp=Z,3.6nm,0.5s,baz=164,slow=5.8,SNR=2.1
comp=Z,14nm,0.4s
CMSA Cobar Meteorol 54.79 131 P P 17 18 00.5 +0.9
BVAR Borovoye Array 56.68 339 P P 17 18 12.3 -0.4
comp=Z,4.9nm,0.5s,baz=139,slow=9.4,SNR=39
BVAR pP **pP 17 18 51.3 -1.2**
comp=Z,1.2nm,0.5s,baz=142,slow=7.3,SNR=3.0
comp=Z,4.9nm,0.5s
BRVK Borovoye 56.74 339 P P 17 18 12.5 -0.6
BRVK IAmb IAmb 17 18 13.5
comp=Z,3.3nm,0.6s
ABKAR Akbulak array 58.29 331 P P 17 18 23.4 -0.6
ABKAR Akbulak array 58.29 331 IAmb IAmb 17 19 04.9
comp=Z,4.9nm,0.8s
KMBO Kilima Mbogo 62.30 268 P P 17 18 54.9 +2.7
comp=Z,1.0nm,0.4s,baz=194,slow=8.3,SNR=1.8
comp=Z,1.0nm,0.4s
KBZ Khabaz 65.31 318 P P 17 19 11.3 +0.4
comp=Z,5.7nm,0.8s,baz=118,slow=6.4,SNR=11
comp=Z,5.7nm,0.8s
MMAI Mount Meron Ar 67.56 305 P P 17 19 27.0 +1.4
comp=Z,2.2nm,0.5s,baz=106,slow=8.8,SNR=7.6
comp=Z,2.2nm,0.5s
NRIK Noril'sk 68.12 355 P P 17 19 26.9 -1.3
NRIK IAmb IAmb 17 19 28.8
comp=Z,4.8nm,0.6s
NRIK Noril'sk 68.12 355 P P 17 19 27.9 -0.3
comp=Z,3.8nm,0.4s,baz=145,slow=5.9,SNR=12
comp=Z,3.8nm,0.4s
BR131 Keskin Array S 70.57 312 P P 17 19 43.2 -0.9
BR131 IAmb IAmb 17 19 44.5
comp=Z,4.6nm,0.7s
BRTR Keskin Array B 70.57 312 P P 17 19 43.4 -0.7
comp=Z,2.4nm,0.6s,baz=133,slow=7.0,SNR=15
BRTR pP **pP 17 20 26.1 +0.5**
comp=Z,0.8nm,0.6s,baz=117,slow=4.9,SNR=3.1
comp=Z,2.4nm,0.6s
TIXI Tiksi 72.42 9 P P 17 19 52.9 -1.5
TIXI IAmb IAmb 17 19 53.9
comp=Z,8.2nm,0.6s
AKASG Malin Array Be 76.37 322 P P 17 20 16.6 -1.0
comp=Z,0.9nm,0.4s,baz=87,slow=5.3,SNR=14
comp=Z,0.9nm,0.4s
BOSA Boshof 76.97 240 P P 17 20 22.8 +1.3
comp=Z,2.9nm,0.7s,baz=95,slow=4.6,SNR=5.7
comp=Z,2.9nm,0.7s
MNK Minsk 78.11 326 *i* P **P 17 20 26.6 -0.5**
comp=E,7.0nm,0.7s
MNK *i* P **P 17 20 26.6 -0.5**
comp=N,6.0nm,0.7s
MNK *i* P **P 17 20 26.6 -0.5**
comp=Z,11nm,0.7s,baz=104
MNK *i* PP **PP 17 23 22.3 -3.6**
MNK *i* PPP PPP 17 25 09.9
MNK *i* S **SKSac 17 30 20.7 -4.3**
MNK *i* SS **SS 17 35 22.5 +10**
MNK *i* SSS SSS 17 38 46.9
MNK *i* LR LR 17 53 57.3
MNK *i* LRM MLR 17 55 22.4
comp=Z,94nm,16.0s
MNK *i* LRM MLR 17 55 45.4
comp=E,167nm,19.3s
MNK *i* LRM MLR 17 55 54.0
comp=N,155nm,18.7s
BURAR Bucovina Array 78.27 318 ⇑P **P 17 20 29.5 +1.2**
BURAR ⇑S **PcP 17 20 32.9 -4.2**
BUR08 Bucovina Ar. S 78.28 318 P P 17 20 29.1 +0.6
BUR08 IAmb IAmb 17 20 30.7
comp=Z,16nm,1.5s
NACGM Naroch 78.82 326 *eP* **P 17 20 30.2 -0.8**
FINES FINESS Array B 80.73 332 P P 17 20 41.1 0.0
comp=Z,3.5nm,0.4s,baz=105,slow=5.8,SNR=39
FINES pP **pP 17 21 22.8 -1.0**
comp=Z,4.6nm,1.0s,baz=94,slow=7.2,SNR=2.0
comp=Z,3.5nm,0.4s
ARCES ARCESS Array B 82.96 340 P P 17 20 52.9 +0.2
comp=Z,2.7nm,0.4s,baz=94,slow=5.2,SNR=33
comp=Z,2.7nm,0.4s
GERES GERESS Array B 86.05 319 P P 17 21 09.2 +0.4
comp=Z,1.1nm,0.6s,baz=90,slow=6.7,SNR=6.5
comp=Z,1.1nm,0.6s
HFS Hagfors 86.54 330 P P 17 21 11.3 +0.6
comp=Z,5.7nm,0.4s,baz=108,slow=4.8,SNR=59
comp=Z,5.7nm,0.4s
SPITS Spitsbergen Ar 87.05 348 P P 17 21 12.2 -0.8
comp=Z,10.0nm,0.8s,baz=174,slow=1.4,SNR=5.3
comp=Z,10.0nm,0.8s
NOA NORSAR Array B 87.80 331 P P 17 21 16.6 -0.2
comp=Z,0.6nm,0.6s,baz=37,slow=4.5,SNR=2.3
comp=Z,0.6nm,0.6s
QSPA South Pole Qui 91.52 180 P P 17 21 35.3 +1.2
comp=Z,0.5nm,0.7s,baz=239,slow=0.6,SNR=6.4
comp=Z,0.5nm,0.7s
IMAR Indian Mountai 95.33 23 P P 17 21 50.1 -1.4
SCHQ Schefferville 122.66 351 PKP **PKPdf 17 27 22.0 -0.6**
comp=Z,3.1nm,1.0s,baz=33,slow=4.0,SNR=4.0
NVAR Mina Array Bea 127.11 37 PKP **PKiKP 17 27 32.6 +0.3**
comp=Z,0.8nm,0.8s,baz=246,slow=0.9,SNR=3.5
PDAR Pinedale Array 128.67 27 PKP **PKPdf 17 27 34.6 -0.2**
comp=Z,0.1nm,0.4s,baz=66,slow=1.1,SNR=2.6
CPUP Villa Florida 146.81 220 PKPbc **PKPbc 17 28 09.5 -0.5**
comp=Z,1.4nm,0.5s,baz=118,slow=4.9,SNR=4.4
CPUP pPKPbc **pPKPdf 17 28 53.6 +0.4**
comp=Z,0.9nm,0.5s,baz=209,slow=7.1,SNR=2.2

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*ISN **28** 17:35:15.2±1.0, 34°.32N×45°.69E, h10km±8km, ML2.7*
*TEH **28** 17:35:16.0, 34°.32N×45°.68E, h10km±74km, ML2.7*
ISC 28 17:35:16.5±1.1, 34°.34N±0°.03×45.70E±0°.04, h8km±10km, n12, σ0ˢ.58/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.19**	**331**	Pg	**Pg**	**17 35 20.3**	**-0.2**
KGS1				Sg	**Sg**	**17 35 24.1**	**+0.9**
GLG1	**Gilan-e-Gharb**	**0.28**	**142**	Pg	**Pg**	**17 35 22.3**	**+0.1**
IDHR	**Dehrash**	**0.67**	**57**	Pg	**Pg**	**17 35 29.2**	**-0.3**
IGHG	**Ghaleghazi**	**0.72**	**90**	Pg	**Pb**	**17 35 31.2**	**-0.2**
ILBA	**Ilam Banvizeh**	**0.83**	**149**	Pg	**Pg**	**17 35 31.7**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.11**	**93**	Sg	**Sn**	**17 35 54.3**	**+0.2**
ILIN	**Lien**	**1.19**	**61**	Pg	**Pn**	**17 35 39.6**	**-0.1**
IBDR	**Badra**	**1.24**	**171**	*e*Pn	**Pg**	**17 35 40.0**	**-0.3**
IBDR				*e*Sn	**Sn**	**17 35 58.0**	**+1.0**
IBDR				AML	AML	17 36 02.2	
	comp=E,183nm,0.5s						
IBDR				AML	AML	17 36 03.1	
	comp=N,119nm,0.8s						
BHD	**Baghdad**	**1.53**	**226**	*e*Pn	**Pn**	**17 35 44.0**	**-0.1**
BHD				*e*Sn	**Sg**	**17 36 05.0**	**-0.8**
IKRK	**Kirkuk**	**1.54**	**314**	*e*Pn	**Pn**	**17 35 44.0**	**-0.3**
IKRK				*e*Sn	**Sg**	**17 36 06.5**	**+0.4**
IKRK				AML	AML	17 36 07.9	
	comp=N,144nm,0.7s						
IKRK				AML	AML	17 36 08.0	
	comp=E,108nm,0.3s						
SNQR	**Sonqor, Kerman**	**1.67**	**71**	Pg	**Pg**	**17 35 48.2**	**-0.4**
RAFI	**Al-Rafai**	**2.63**	**172**	*e*Pn	**Pn**	**17 36 00.0**	**+0.8**
RAFI				*e*Sn	**Sn**	**17 36 31.5**	**+0.2**

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*DJA **28** 17:39:05.9±0.6, 8°.S±2°.×10°.6E±°, h29km±6km, M4.0/15, mb4.2/4, MLv3.9/15*
*IDC **28** 17:39:12.3±5.0, 7°.31S×106°.53E, h95km±38km, mb3.3/6, mbtmp3.6/6, MS2.6/1, Error ellipse: s-maj=72.4km s-min=18.1km az=53.0*
ISC 28 17:39:07.3±1.8, 7°.7S±0°.1×106°.41E±0°.08, h50km±16km, n29, σ1ˢ.59/27, mb3.4/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.67**	**12**	P	**Pn**	**17 39 20.2**	**-0.5**
SKJI				S	**Sn**	**17 39 30.5**	**+0.1**
CNJI	**Cibinong**	**0.80**	**64**	P	**Pn**	**17 39 21.9**	**-0.4**
CNJI				S	**Sn**	**17 39 32.2**	**-1.0**
LEM	**Lembang**	**1.46**	**55**	P	**Pn**	**17 39 34.0**	**+2.6**
LEM	687nm,0.4s,baz=329,slow=5.8,SNR=170			S	**Sn**	**17 39 51.6**	**+2.1**
	176nm,0.5s,baz=298,slow=19,SNR=7.2						
LEM	**Lembang**	**1.46**	**55**	P	**Pn**	**17 39 32.7**	**+1.3**
LEM				S	**Sn**	**17 39 50.8**	**+1.3**
CMJI	**Cimerak**	**2.02**	**93**	P	**Pn**	**17 39 38.6**	**-0.3**
CMJI				S	**Sn**	**17 40 00.4**	**-2.6**
KPJI	**Karang Pucung**	**2.52**	**83**	P	**Pn**	**17 39 47.0**	**+1.2**
KPJI				S	**Sn**	**17 40 15.9**	**+0.6**
KASI	**Kota Agung**	**2.85**	**318**	P	**Pn**	**17 39 52.3**	**+2.0**
KASI				S	**Sn**	**17 40 25.9**	**+2.4**
UGM	**Wanagama**	**4.08**	**94**	P	**Pn**	**17 40 07.2**	**0.0**
UWJI	**Ujung Watu**	**4.67**	**75**	P	**Pn**	**17 40 15.3**	**0.0**
PCJI	**Pacitan**	**4.75**	**97**	P	**Pn**	**17 40 17.0**	**+0.6**
TPI	**Tanjungpandan**	**5.03**	**14**	P	**Pn**	**17 40 21.2**	**+0.9**
	12nm,0.5s,0.1nm						
GMJI	**Gumukmas**	**6.99**	**95**	P	**Pn**	**17 40 46.8**	**-0.3**
	20nm,1.3s,0.1nm						
JAGI	**Jajag, Banyuwa**	**7.71**	**96**	P	**Pn**	**17 40 57.0**	**0.0**
	25nm,1.6s						
PPSI	**Pulau Pagai**	**8.02**	**307**	P	**Pn**	**17 41 00.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**26.98**	**344**	P	**P**	**17 44 42.5**	**-2.0**
	0.3nm,0.3s,baz=185,slow=8.1,SNR=2.8						
CMAR				LR	LR	17 56 10.3	
	comp=Z,12nm,18.1s,baz=320,slow=38						
	0.3nm,0.3s						
H01W3	**Cape Leeuwin H**	**28.00**	**166**	T	T	18 14 34.5	
	baz=342,slow=77,SNR=11						
H01W1	**Cape Leeuwin H**	**28.02**	**166**	T	T	18 14 38.0	
	baz=342,slow=77,SNR=11						
H01W2	**Cape Leeuwin H**	**28.02**	**166**	T	T	18 14 39.1	
	baz=342,slow=77,SNR=20						
WRA	**Warramunga Arr**	**29.68**	**117**	P	**P**	**17 45 10.3**	**+1.7**
	1.1nm,1.3s,baz=292,slow=11,SNR=1.5						
	1.1nm,1.3s						
ASAR	**Alice Springs**	**30.79**	**124**	P	**P**	**17 45 19.6**	**+1.1**
	0.3nm,0.7s,baz=297,slow=8.0,SNR=6.3						
	0.3nm,0.7s						
H08S2	**Diego Garcia H**	**33.61**	**268**	T	T	18 21 15.6	
	baz=92,slow=75,SNR=65						
H08S3	**Diego Garcia H**	**33.62**	**268**	T	T	18 21 11.4	
	baz=92,slow=75,SNR=60						
H08S1	**Diego Garcia H**	**33.63**	**268**	T	T	18 21 09.1	
	baz=92,slow=75,SNR=51						
STKA	**Stephens Creek**	**40.64**	**131**	P	**P**	**17 46 44.5**	**+1.9**
	0.7nm,0.5s,baz=328,slow=13,SNR=2.3						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**58.32**	**341**	P	**P**	**17 48 54.0**	**-3.0**
	0.1nm,0.4s,baz=161,slow=7.3,SNR=5.0						
	0.1nm,0.4s						
H04N2	**CROZET ISLANDS**	**60.38**	**221**	T	T	18 55 06.0	
	baz=67,slow=75,SNR=43						
H04N1	**CROZET ISLANDS**	**60.39**	**221**	T	T	18 55 04.6	
	baz=67,slow=75,SNR=43						
H04N3	**CROZET ISLANDS**	**60.40**	**221**	T	T	18 55 03.7	
	baz=67,slow=75,SNR=48						
BVAR	**Borovoye Array**	**67.75**	**337**	P	**P**	**17 49 58.9**	**-0.6**
	1.1nm,0.4s,baz=138,slow=8.2,SNR=8.5						
	1.1nm,0.4s						

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*ISN **28** 17:40:47.2±0.6, 34°.31N×45°.67E, h14km±27km, ML2.5*
*TEH **28** 17:40:47.6, 34°.31N×45°.65E, h10km±112km, ML2.5*
ISC 28 17:40:47.8±1.0, 34°.32N±0°.04×45°.67E±0°.05, h18km, n9, σ0ˢ.36/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**341**	Pg	**Pb**	**17 40 52.0**	**-0.6**
GLG1	**Gilan-e-Gharb**	**0.29**	**135**	Pg	**Pg**	**17 40 53.7**	**-0.4**
IDHR	**Dehrash**	**0.71**	**57**	Pg	**Pb**	**17 41 01.6**	**0.0**
IGHG	**Ghaleghazi**	**0.75**	**89**	Pg	**Pg**	**17 41 02.9**	**+0.4**
IBDR	**Badra**	**1.23**	**170**	*e*Pg	**Pn**	**17 41 10.0**	**0.0**
IBDR				*e*Sg	**Sb**	**17 41 26.0**	**+0.2**
ILIN	**Lien**	**1.23**	**60**	Pg	**Pg**	**17 41 11.8**	**+0.3**
BHD	**Baghdad**	**1.50**	**226**	*e*Pn	**Pb**	**17 41 15.0**	**0.0**
BHD				*e*Sn	**Sg**	**17 41 36.0**	**-0.1**
IKRK	**Kirkuk**	**1.53**	**315**	*e*Pn	**Pb**	**17 41 16.0**	**+0.3**
IKRK				*e*Sn	**Sg**	**17 41 37.5**	**+0.2**
SNQR	**Sonqor, Kerman**	**1.71**	**71**	Pg	**Pg**	**17 41 20.2**	**-0.5**

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*BJI **28** 17:54:21.7, 27°.20N×142°.81E, h10km, mb4.5/52, mB5.0/15, Ms4.3/16, Ms7 4.1/18*
*IDC **28** 17:54:24.3±0.6, 27°.34N×142°.46E, h0km, mb4.3/20, mbtmp4.3/23, ML3.6/3, MS3.8/42, Error ellipse: s-maj=17.8km s-min=9.2km az=117.0*
*JMA **28** 17:54:26.7±0.1, 27°.4N±0°.8×141°.4E±0°.4, h14km±3km, MD4.6/22, MV4.8/22, NEAR CHICHIJIMA ISLAND*
*NEIC **28** 17:54:31.2±2.3, 27°.50N±0°.06×142°.4E±0°.1, h35km±2km, mb4.7/73, Error ellipse: s-maj=19.7km s-min=8.8km az=108.0*
ISC 28 17:54:29.7±0.5, 27°.53N±0°.04×142°.40E±0°.08, h30km, n162, σ1ˢ.38/129, mb4.6/64, MS4.0/44, 4C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.47**	**204**	P	**Pn**	**17 54 41.1**	**+0.7**
CBIJ				*e*S	**Sn**	**17 54 51.5**	**+3.7**
CBIJ	**Chichi jima**	**0.47**	**204**	A	A	17 54 41.1	
	comp=E,50nm,1.2s,comp=N,56nm,0.7s						
JCJ	**Chichijima**	**0.47**	**204**		**Pn**	**17 54 40.3**	**-0.2**
JCJ	**Chichijima**	**0.47**	**204**	Pn	**Pb**	**17 54 35.7**	**-4.1**
JCJ				Sn	**Sb**	**17 54 45.2**	**-1.4**
JHH2	**Haha-jima-NKT2**	**0.92**	**193**	P	**Pn**	**17 54 46.1**	**-0.5**
JHH2				S	**Sb**	**17 54 59.9**	**+0.9**
JHH2	**Haha-jima-NKT2**	**0.92**	**193**	A	A	17 54 46.1	
	comp=E,25nm,1.8s,comp=N,19nm,4.0s						
JAOM	**Aogashimamukai**	**5.42**	**336**	*e*P	**Pn**	**17 55 46.4**	**-2.2**
JHJ2	**Mitsune**	**5.99**	**339**	Pn	**Pn**	**17 55 53.6**	**-2.7**
JHJ2	**Mitsune**	**5.99**	**339**	*e*P	**Pn**	**17 55 54.8**	**-1.5**
BSO1	**Boso 1**	**7.20**	**351**	*e*P	**Pn**	**17 56 11.6**	**-0.8**
BSO1				*e*S	**Sn**	**17 57 32.2**	**-0.7**
BSO3	**Boso 3**	**7.42**	**348**	*e*P	**Pn**	**17 56 15.7**	**-0.1**
JOD2	**Odawara 2**	**8.21**	**341**	*e*P	**Pn**	**17 56 26.2**	**-0.6**
JOD2				*e*S	**Sn**	**17 57 57.4**	**-1.1**
JGF	**Kuroka**	**9.12**	**333**	Pn	**Pn**	**17 56 38.0**	**-1.3**
JAG	**Ashikaga**	**9.21**	**345**	*e*P	**Pn**	**17 56 39.8**	**-0.7**
JAG				*e*S	**Sn**	**17 58 20.9**	**-2.3**
MJAR	**Matsushiro Arr**	**9.66**	**339**	Pn	**Pn**	**17 56 46.7**	**0.0**
	comp=N,0.3nm,0.3s,baz=165,slow=12,SNR=16						
MJAR				Sn	**Sn**	**17 58 34.4**	**+0.2**
	comp=N,0.1nm,0.3s,baz=261,slow=33,SNR=3.0						
MJAR				LR	LR	18 00 12.2	
	comp=N,304nm,20.5s,baz=158,slow=35						
	comp=N,2.3nm,0.5s						
MAJO	**Matsushiro**	**9.66**	**339**		**Pn**	**17 56 45.9**	**-0.9**
MJB9	**Matsu-Tunnel**	**9.66**	**339**		**Pn**	**17 56 46.5**	**-0.3**
JMM	**Marumori**	**10.39**	**353**	Pn	**Pn**	**17 56 54.8**	**-1.9**
JNU	**Nakatsue**	**11.40**	**302**	LR	LR	18 01 27.8	
	comp=N,547nm,18.8s,baz=114,slow=37						
JOW	**Kunigami**	**12.59**	**270**	LR	LR	18 02 05.8	
	comp=N,555nm,18.5s,baz=111,slow=36						
GUMO	**Guam**	**14.06**	**170**	LR	LR	18 02 24.9	
	comp=N,229nm,19.0s,baz=2.0,slow=35						
KSRS	**Korea Array**	**15.70**	**313**	Pn	**P**	**17 58 13.4**	**+0.9**
	comp=N,0.3nm,0.3s,baz=121,slow=12,SNR=16						
KSRS				LR	LR	18 04 12.1	
	comp=N,401nm,18.4s,baz=130,slow=37						
KSAR	**Wonju Array Be**	**15.72**	**313**	Pn	**Pn**	**17 58 06.3**	**-2.6**
ASAJ	**Asahikawa**	**16.55**	**1**	Pn	**Pn**	**17 58 19.6**	**+0.1**
	comp=N,0.3nm,0.3s,baz=297,slow=11,SNR=1.6						
ASAJ				LR	LR	18 06 16.7	
	comp=N,150nm,20.4s,baz=184,slow=43						
	comp=N,8.0nm,0.8s						
USA0B	**Ussuriysk Arra**	**18.62**	**336**	P	**P**	**17 58 44.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**18.62**	**336**	P	**P**	**17 58 43.5**	**-1.2**
USRK	**Ussuriysk Ar.**	**18.62**	**336**	P	**Pn**	**17 58 46.0**	**+0.8**
	comp=N,0.5nm,0.3s,baz=163,slow=15,SNR=10						
USRK				LR	LR	18 06 22.0	
	comp=N,257nm,18.1s,baz=145,slow=38						
	comp=N,6.0nm,0.7s						
YHNB	**Yeheng**	**19.09**	**266**	P	**P**	**17 58 49.6**	**-0.6**
YHNB				IAmb	IAmb	17 59 08.2	
	comp=Z,28nm,1.0s						
YULB	**Yu-li**	**19.49**	**262**	P	**P**	**17 58 54.9**	**+0.5**
YULB				IAmb	IAmb	17 59 08.6	
	comp=Z,25nm,0.9s						
SSLB	**Suanglung**	**19.68**	**264**	P	**Pn**	**17 58 58.2**	**+0.1**
SSLB				IAmb	IAmb	17 59 01.4	
	comp=Z,26nm,0.6s						
MDJ	**Mudanjiang**	**19.90**	**332**	P	**P**	**17 58 57.9**	**-0.9**
MDJ	**Mudanjiang**	**19.90**	**332**	P	**Pn**	**17 59 00.8**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,17nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,440nm,8.2s						
NJ2	**Nanjing**	**20.91**	**288**	*e*P	Pn	17 59 11.8	-0.6
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s					

comp=Z,230nm,11.7s
TIA LR LR
KLR Kul'dur 23.17 342 LR LR 18 09 04.5
comp=Z,360nm,15.8s
H11N2 WAKE ISLAND Hy 23.72 104 T T 18 24 25.7
baz=297
H11N1 WAKE ISLAND Hy 23.72 104 T T 18 24 21.6
baz=297
H11N3 WAKE ISLAND Hy 23.74 104 T T 18 24 09.6
baz=297
H11S3 WAKE ISLAND Hy 24.06 107 T T 18 24 51.8
baz=293
H11S1 WAKE ISLAND Hy 24.07 107 T T 18 24 43.4
baz=293
H11S2 WAKE ISLAND Hy 24.08 107 T T 18 24 46.6
baz=293
HNS HongShan 25.27 300 ⇑P **P** **17 59 54.3 +0.9**
HNS pmax pmax
comp=Z,6.0nm,0.9s
HNS LR LR
comp=Z,340nm,16.7s
HNS LR LR
comp=Z,360nm,19.1s
HNS LR LR
comp=Z,320nm,18.1s
HEH HeiHe 25.41 337 *e*P **P** **17 59 56.3 +1.8**
HEH pmax pmax
comp=Z,8.0nm,1.0s
DAV Davao City (W) 25.86 221 LR LR 18 08 14.2
comp=Z,168nm,21.5s,baz=25,slow=32
HIA Hailar 27.84 327 P **P** **18 00 15.7 -0.8**
HIA IAmb IAmb 18 00 20.1
comp=Z,11nm,0.7s
HHC Hu-ho-hao-te 28.59 306 *e*P **P** **18 00 27.5 +4.1**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,110nm,5.2s
HHC LR LR
comp=Z,300nm,11.6s
HHC LR LR
comp=Z,400nm,11.8s
HHC LR LR
comp=Z,270nm,16.3s
XAN Xi'an 29.39 291 P **P** **18 00 30.5 0.0**
XAN pP pP 18 00 38.3 -0.9
XAN pmax pmax
comp=Z,18nm,0.8s
XAN pmax pmax
comp=Z,170nm,4.3s
XAN LR LR
comp=Z,290nm,16.3s
XAN LR LR
comp=Z,560nm,14.3s
XAN LR LR
comp=Z,680nm,15.5s
QIZ Qiongzhong 31.01 261 P **P** **18 00 42.8 -2.0**
QIZ S **S** **18 05 48.8 +0.9**
QIZ LR LR
comp=Z,220nm,18.0s
QIZ LR LR
comp=Z,240nm,20.6s
QIZ LR LR
comp=Z,190nm,18.8s
TOLI2 Tolitoli 33.46 222 P **P** **18 01 07.3 +1.0**
TOLI2 IAmb IAmb 18 01 19.5
comp=Z,13nm,1.0s
LZH Lanzhou 33.68 294 *e*P **P** **18 01 09.5 +1.2**
LZH sP sP 18 01 22.5 +2.0
LZH pmax pmax
comp=Z,11nm,1.1s
LZH LR LR
comp=Z,210nm,12.4s
LZH LR LR
comp=Z,340nm,14.8s
LZH LR LR
comp=Z,450nm,18.2s
ULN Ulaanbaatar 34.14 316 P **P** **18 01 11.6 -0.5**
ULN IAmb IAmb 18 01 16.3
comp=Z,4.2nm,0.6s
SONM Songino Array 34.53 316 **P** **18 01 15.1 -0.5**
SONM Songino Array 34.53 316 P **P** **18 01 16.0 +0.5**
comp=Z,1.3nm,0.5s,baz=124,slow=5.3,SNR=12
SONM LR LR 18 15 50.2
comp=Z,120nm,18.1s,baz=87,slow=37
comp=Z,1.3nm,0.5s
SLVN Son La 35.48 269 P **P** **18 01 24.8 +0.9**
SLVN IAmb IAmb 18 01 26.4
comp=Z,5.9nm,0.8s
YAK Yakutsk 35.52 350 P **P** **18 01 23.3 -0.3**
YAK Yakutsk 35.52 350 LR LR 18 16 07.3
comp=Z,160nm,18.4s,baz=168,slow=36
KMI Kunming 35.52 275 ⇑⇑P **P** **18 01 28.0 +3.6**
KMI pmax pmax
comp=Z,14nm,0.5s
KMI LR LR
comp=Z,190nm,17.2s
KMI LR LR
comp=Z,140nm,11.4s
KMI LR LR
comp=Z,130nm,17.1s
PZH PanZhiHua 36.12 278 P **P** **18 01 30.3 +0.9**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,110nm,5.2s
GTA Gaotai 37.13 300 *e*P **P** **18 01 38.8 +0.9**
GTA pP pP 18 01 46.5 -0.1
GTA pmax pmax
comp=Z,4.0nm,0.9s
SBUM Sibu 38.14 234 P **P** **18 01 45.9 -0.6**
KAPI Kappang 39.06 218 LR LR 18 16 41.4
comp=Z,47nm,20.8s,baz=42,slow=34
TNCH TengChong 39.27 277 ⇑⇑P **P** **18 01 57.3 +1.1**
TNCH pP pP 18 02 01.0 -4.0
TNCH S **S** **18 07 59.0 +3.7**
TNCH pmax pmax
comp=Z,14nm,1.0s
TNCH pmax pmax
comp=Z,79nm,3.9s
TNCH LR LR
comp=Z,160nm,15.6s
TNCH LR LR
comp=Z,200nm,14.6s
TNCH LR LR
comp=Z,350nm,17.5s
PHRA Phrae 39.68 266 P **P** **18 02 00.4 +1.0**
HNR Honiara 40.49 153 LR LR 18 16 47.7
comp=Z,95nm,19.9s,baz=4.0,slow=33
CHTO Chiang Mai 40.71 267 P **P** **18 02 08.1 +0.2**
CM31 Chiang Mai Arr 40.84 267 P **P** **18 02 09.9 +1.0**
CMAR Chiang Mai Arr 40.84 267 P **P** **18 02 09.9 +1.0**
CMAR Chiang Mai Arr 40.84 267 P **P** **18 02 09.7 +0.7**
comp=Z,1.6nm,0.8s,baz=74,slow=4.8,SNR=18
CMAR LR LR 18 18 20.5
comp=Z,76nm,21.5s,baz=70,slow=35
comp=Z,1.6nm,0.8s
BATI Baumata 41.68 208 LR LR 18 17 42.6
comp=Z,72nm,18.9s,baz=36,slow=34
TIXI Tiksi 44.80 354 P **P** **18 02 41.1 +0.8**
SHL Shillong 44.98 280 P **P** **18 02 43.3 +0.6**
SHL IAmb IAmb 18 02 54.3
comp=Z,17nm,1.2s
WMQ Urumqi 46.48 305 *e*P **P** **18 02 54.5 +0.3**
WMQ LR LR
comp=Z,150nm,22.3s
WB0 Warramunga Arr 47.66 190 P **P** **18 03 01.8 -1.6**
WR0 Warramunga Arr 47.82 190 P **P** **18 03 03.7 -1.0**
WRAB Tennant Creek 47.82 190 P **P** **18 03 03.1 -1.6**
WB2 Warramunga Arr 47.83 190 P **P** **18 03 02.8 -2.0**
WRA Warramunga Arr 47.84 190 P **P** **18 03 02.8 -2.0**
WRA Warramunga Arr 47.84 190 P **P** **18 03 03.0 -1.8**
comp=Z,5.4nm,0.6s,baz=11,slow=8.5,SNR=38
WRA LR LR 18 22 14.6
comp=Z,83nm,19.0s,baz=40,slow=35
comp=Z,5.4nm,0.6s
FITZ Fitzroy Crossi 48.18 202 LR LR 18 23 03.5
comp=Z,25nm,18.9s,baz=14,slow=36
PSI Prapat 48.24 247 LR LR 18 21 27.0
comp=Z,37nm,21.6s,baz=46,slow=34
ZAA0 Zalesovo Array 49.28 319 IAmb IAmb 18 03 17.8
comp=Z,7.5nm,0.9s
ZALV Zalesovo Beam 49.28 319 P **P** **18 03 15.9 +0.3**
ZALV Zalesovo Beam 49.28 319 P **P** **18 03 15.8 +0.1**
comp=Z,4.8nm,0.7s,baz=97,slow=7.6,SNR=21
ZALV PcP **PcP** **18 04 37.6 -0.5**
comp=Z,1.2nm,0.7s,baz=86,slow=4.5,SNR=2.3
ZALV LR LR 18 25 00.5
comp=Z,192nm,18.5s,baz=86,slow=37
comp=Z,4.8nm,0.7s
MKAR Makanchi Array 50.34 309 P **P** **18 03 24.1 +0.2**
comp=Z,2.0nm,0.7s,baz=93,slow=9.3,SNR=28
MKAR PcP **PcP** **18 04 42.4 +0.1**
comp=Z,1.3nm,0.8s,baz=71,slow=6.2,SNR=5.2
MKAR LR LR 18 25 33.2
comp=Z,163nm,18.7s,baz=62,slow=37
comp=Z,2.0nm,0.7s
AS31 Alice Springs 51.55 190 P **P** **18 03 33.7 +0.5**
ASAR Alice Springs 51.56 190 P **P** **18 03 30.7 -2.4**
comp=Z,0.9nm,0.7s,baz=10.0,slow=7.6,SNR=19
ASAR PcP **PcP** **18 04 45.6 -1.3**
comp=Z,0.4nm,0.7s,baz=2.3,slow=4.6,SNR=1.3
ASAR LR LR 18 24 41.0
comp=Z,92nm,19.5s,baz=20,slow=35
comp=Z,0.9nm,0.7s
NRIK Noril'sk 52.31 338 P **P** **18 03 37.8 -0.4**
comp=Z,2.7nm,0.5s,baz=90,slow=9.1,SNR=10.0
comp=Z,2.7nm,0.5s
KURK Kurchatov 52.82 314 P **P** **18 03 41.8 -0.5**
KURK IAmb IAmb 18 03 46.1
comp=Z,13nm,1.2s
KURBB Kurchatov Arra 52.87 314 P **P** **18 03 42.9 +0.3**
comp=Z,5.0nm,0.6s,baz=91,slow=7.9,SNR=40
KURBB LR LR 18 26 43.9
comp=Z,128nm,18.7s,baz=166,slow=37
comp=Z,5.0nm,0.6s
J20K Nowinta River 54.04 29 P **P** **18 03 51.7 +0.7**
J20K IAmb IAmb 18 03 57.0
comp=Z,5.6nm,0.9s
DZM Mont Dzumac 54.52 152 *e*LR LR 18 19 49.1
comp=Z,110nm,22.7s
CAST Castle Rocks 54.82 30 P **P** **18 03 56.7 0.0**
CAST IAmb IAmb 18 04 07.1
comp=Z,7.5nm,1.1s
KSH Kashi 55.52 301 P P 18 04 07.3 +5.0
KSH pmax pmax
comp=Z,3.0nm,1.0s
MLY Manley 55.64 28 P **P** **18 04 02.3 -0.4**
AAK Ala-Archa 56.16 305 LR LR 18 30 08.8
comp=Z,103nm,18.1s,baz=48,slow=38
G23K Bananza Creek 56.18 26 P **P** **18 04 08.4 +1.9**
G23K IAmb IAmb 18 04 12.4
comp=Z,7.1nm,0.9s
NEA2 Nenana 56.29 29 P **P** **18 04 07.7 +0.4**
NEA2 IAmb IAmb 18 04 12.1
comp=Z,8.1nm,1.0s
D23K Nanushuk River 56.33 24 IAmb IAmb 18 04 22.6
comp=Z,12nm,1.1s
C23K Itkillik River 56.52 22 IAmb IAmb 18 04 21.5
comp=Z,14nm,1.2s
D24K Happy Valley 57.02 23 IAmb IAmb 18 04 27.7
comp=Z,17nm,1.4s
C24K Franklin Bluff 57.15 23 IAmb IAmb 18 04 29.0
comp=Z,11nm,0.9s
IL31 57.24 29 P **P** **18 04 13.8 -0.2**
IL31 IAmb IAmb 18 04 17.7
comp=Z,5.9nm,1.0s
ILAR Eielson Array 57.24 29 P **P** **18 04 15.2 +1.3**
ILAR Eielson Array 57.24 29 P **P** **18 04 12.8 -1.2**
comp=Z,3.4nm,0.9s,baz=270,slow=6.9,SNR=10
comp=Z,3.4nm,0.9s
BVAR Borovoye Array 57.85 317 P **P** **18 04 19.8 +1.3**
comp=Z,7.9nm,0.5s,baz=84,slow=6.5,SNR=70
BVAR LR LR 18 30 19.9
comp=Z,147nm,18.0s,baz=32,slow=37
comp=Z,7.9nm,0.5s
BRVK Borovoye 57.91 317 P **P** **18 04 19.4 +0.5**
J26L Joseph Creek 58.65 29 IAmb IAmb 18 04 35.2
comp=Z,6.1nm,0.7s
NIL Nilore 58.85 294 P **P** **18 04 27.0 +1.2**
C27K Jago River 58.87 23 IAmb IAmb 18 04 43.5
comp=Z,7.5nm,0.9s
KKAR Karatay Array 58.98 306 P **P** **18 04 26.9 +0.4**
KKAR Karatay Array 58.98 306 IAmb IAmb 18 04 28.5
comp=Z,4.5nm,1.1s
D27M Malcolm River 59.82 24 IAmb IAmb 18 04 47.1
comp=Z,12nm,1.3s
GAR Garm 59.93 301 P **P** **18 04 34.1 +0.8**
E28M Babbage River 60.32 24 P **P** **18 04 36.8 +1.4**
E28M IAmb IAmb 18 04 50.5
comp=Z,9.6nm,1.1s
E29M Blow River 60.93 25 P **P** **18 04 41.6 +2.1**
E29M IAmb IAmb 18 04 53.9
comp=Z,8.9nm,1.3s
M29M Somme Creek 61.00 31 P **P** **18 04 40.3 +0.1**
M29M IAmb IAmb 18 04 51.1
comp=Z,5.3nm,1.1s
SIMJ Simiganj 61.00 301 P **P** **18 04 41.0 +0.3**
SIMJ IAmb IAmb 18 04 43.2
comp=Z,7.6nm,0.8s
L29M L29M 61.10 31 P **P** **18 04 40.2 -0.6**
L29M IAmb IAmb 18 04 46.6
comp=Z,7.1nm,1.0s
K29M Barlow Dome 61.32 30 P **P** **18 04 42.8 +0.5**
K29M IAmb IAmb 18 04 47.8
comp=Z,6.5nm,1.1s
EPYK Eagle Plains 61.48 27 P **P** **18 04 43.7 +0.5**
KBL Kabul 62.00 296 P **P** **18 04 47.6 +0.1**
KBL IAmb IAmb 18 04 57.9
comp=Z,8.2nm,1.2s
G31M Satah River 62.40 26 P **P** **18 04 49.8 +0.4**
G31M IAmb IAmb 18 04 54.5
comp=Z,6.2nm,0.8s
ARTI Arti 64.30 322 P **P** **18 05 02.9 +0.7**
ARTI Arti 64.30 322 LR LR 18 34 37.1
comp=Z,89nm,19.3s,baz=344,slow=37
ABKAR Akbulak array 64.93 314 P **P** **18 05 07.0 +0.6**
AKTO Aktyubinsk 65.85 316 LR LR 18 35 04.7
comp=Z,141nm,18.5s,baz=19,slow=37
KIRV Kirov 68.44 326 LR LR 18 38 16.3
comp=Z,190nm,18.2s,baz=343,slow=38
YKA Yellowknife Ar 71.67 28 P **P** **18 05 49.9 +1.6**
comp=Z,2.1nm,0.9s,baz=290,slow=5.6,SNR=6.1
comp=Z,2.1nm,0.9s
ARCES ARCESS Array B 73.19 341 P **P** **18 05 58.0 +0.7**
comp=Z,7.0nm,0.9s,baz=65,slow=8.5,SNR=4.2
ARCES LR LR 18 43 08.5
comp=Z,124nm,18.6s,baz=246,slow=40
comp=Z,7.0nm,0.9s
RAR Rarotonga 73.99 125 LR LR 18 31 58.3
comp=Z,40nm,19.0s,baz=240,slow=30
WSAR Wadi Sarin 74.39 288 LR LR 18 43 26.5
comp=Z,35nm,18.2s,baz=164,slow=40
FINES FINESS Array B 77.64 334 P **P** **18 06 23.1 +0.2**
comp=Z,2.4nm,0.6s,baz=82,slow=4.0,SNR=13
FINES LR LR 18 41 57.4
comp=Z,77nm,18.1s,baz=244,slow=37
comp=Z,2.4nm,0.6s
KBZ Khabaz 77.85 313 P **P** **18 06 25.8 +1.3**
comp=Z,8.2nm,0.9s,baz=101,slow=3.0,SNR=13
KBZ LR LR 18 42 30.5
comp=Z,59nm,20.2s,baz=20,slow=37
comp=Z,8.2nm,0.9s
GNI Garni 78.19 309 LR LR 18 44 45.9
comp=Z,66nm,18.1s,baz=340,slow=39
PPT Papeete 79.69 116 LR LR 18 34 34.6
comp=Z,50nm,20.6s,baz=234,slow=30
PPT2 Papeete2 79.70 116 *e*LR LR 18 31 22.9
comp=Z,93nm,22.8s
NVAR Mina Array Bea 80.10 52 P **P** **18 06 36.3 -1.0**
comp=Z,0.6nm,0.6s,baz=293,slow=7.7,SNR=3.8
NVAR LR LR 18 39 47.4
comp=Z,44nm,19.5s,baz=248,slow=34
comp=Z,0.6nm,0.6s
GURO Guroymak-BITLI 80.79 309 IAmb IAmb 18 06 43.4
comp=Z,5.4nm,1.1s
ELK Elko 81.11 49 P **P** **18 06 44.6 +2.0**
ELK Elko 81.11 49 LR LR 18 39 20.3
comp=Z,75nm,21.2s,baz=288,slow=33
NACGM Naroch 81.16 328 *e*P **P** **18 06 41.5 -0.7**
FFC Flin Flon 81.27 32 P **P** **18 06 43.4 +0.5**
FFC IAmb IAmb 18 06 47.3
comp=Z,14nm,1.4s
R11B Troy Canyon, C 82.03 51 P **P** **18 06 46.5 -0.9**
R11B IAmb IAmb 18 06 51.4
comp=Z,7.2nm,1.5s
GWY Greenwater Val 82.30 53 IAmb IAmb 18 06 58.1
comp=Z,5.1nm,1.1s
AK03 Malin Array Si 82.36 324 P **P** **18 06 49.4 +0.7**
AKASG Malin Array Be 82.38 324 P **P** **18 06 48.8 0.0**
comp=Z,1.1nm,0.5s,baz=53,slow=5.1,SNR=11
AKASG LR LR 18 46 42.4
comp=Z,190nm,18.0s,baz=1.5,slow=38
comp=Z,1.1nm,0.5s
AKBB Malin Array Si 82.38 324 P **P** **18 06 48.9 +0.1**
KIEV Kiev 82.39 324 P **P** **18 06 49.7 +0.9**
TBI Tubuai 82.95 121 *e*LR LR 18 32 50.9
comp=Z,451nm,28.2s
HFS Hagfors 83.10 337 P **P** **18 06 51.6 -0.7**
comp=Z,5.5nm,1.0s,baz=92,slow=4.3,SNR=9.5
comp=Z,5.5nm,1.0s
NB2 NORSAR Subarra 83.28 338 P **P** **18 06 50.1 -3.2**
comp=Z,11nm,1.2s,baz=45,slow=5.6
NOA NORSAR Array B 83.28 338 P **P** **18 06 51.8 -1.5**
comp=Z,1.2nm,0.8s,baz=95,slow=6.7,SNR=2.3
NOA LR LR 18 49 42.6
comp=Z,72nm,18.1s,baz=230,slow=40
comp=Z,1.2nm,0.8s
LUBAR Lubar, Ukraine 83.60 324 P **P** **18 06 55.0 -0.1**
RNPP9 Sopachiv 83.67 326 P **P** **18 06 56.4 +1.0**
PFO Pinyon Flats O 83.68 55 LR LR 18 42 20.4
comp=Z,92nm,19.5s,baz=227,slow=34
PDAR Pinedale Array 83.77 45 P **P** **18 06 55.4 -1.1**
comp=Z,0.2nm,0.4s,baz=222,slow=1.2,SNR=2.3
PDAR LR LR 18 39 19.0
comp=Z,52nm,21.9s,baz=308,slow=32
comp=Z,0.2nm,0.4s
BNN Bunyan 84.85 311 P **P** **18 07 03.0 +1.1**
RAYN Ar Rayn 85.14 294 P **P** **18 07 03.4 -0.2**
BRTR Keskin Array B 85.84 313 P **P** **18 07 06.8 -0.1**
comp=Z,1.1nm,0.7s,baz=108,slow=4.3,SNR=5.7
BRTR LR LR 18 48 51.7
comp=Z,68nm,19.1s,baz=346,slow=38
comp=Z,1.1nm,0.7s
MLR Muntele Rosu 87.22 321 LR LR 18 50 55.2
comp=Z,92nm,19.2s,baz=251,slow=39
LPAZ La Paz 149.63 75 PKPbc **PKiKP** **18 14 19.1 +0.2**
comp=Z,1.8nm,0.8s,baz=302,slow=4.7,SNR=5.9

*KMA **28** 18:05:22.0±0.3, 34°.96N×124°.49E, h8km±1km, Error ellipse: s-maj=2.6km s-min=1.9km az=30.0*
*KEA **28** 18:05:25.4, 35°.22N×124°.25E, h18km, ML3.2/3*
ISC 28 18:05:18.2±2.0, 35°.01N±0°.04×124°.30E±0°.08, h2km±11km, n28, σ0s84/60, Yellow Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGDB	**Hongdo**	**0.80**	**112**	P	**Pb**	**18 05 35.2**	**+0.3**
HGDB	SNR=255			P	**Pb**	**18 05 35.2**	**+0.3**
HGDB	SNR=255			S	**Sg**	**18 05 43.3**	**-0.7**
HGDB				S	**Sg**	**18 05 43.3**	**-0.7**
HUK2	**Heuksan-myeon**	**1.00**	**108**	P	**Pb**	**18 05 38.8**	**+0.5**
HUK2				P	**Pb**	**18 05 38.8**	**+0.5**
HUK2				S	**Sg**	**18 05 49.6**	**-0.8**
HUK2				S	**Sg**	**18 05 49.6**	**-0.8**
HUK2				S	**Sg**	**18 05 49.7**	**-0.8**
HUK2				S	**Sg**	**18 05 49.7**	**-0.8**
GGDB	**Gageodo**	**1.18**	**144**	P	**Pn**	**18 05 42.0**	**+0.4**
GGDB				P	**Pn**	**18 05 42.0**	**+0.4**
BGDB	**Bigeumdo**	**1.38**	**99**	P	Pg	18 05 54.4	+10
BGDB	SNR=159			P	Pg	18 05 54.4	+10
BGDB	**Bigeumdo**	**1.38**	**99**	P	**Pg**	**18 05 45.6**	**+1.0**
BGDB	SNR=34			P	**Pg**	**18 05 45.6**	**+1.0**
BGDB				S	**Sb**	**18 06 01.2**	**-1.5**
BGDB				S	**Sb**	**18 06 01.2**	**-1.5**
ANMD	**Anmado**	**1.46**	**76**	P	**Pg**	**18 05 46.6**	**+0.5**
ANMD	SNR=415			P	**Pg**	**18 05 46.6**	**+0.5**
ANMD				S	**Sn**	**18 06 05.4**	**+0.2**
ANMD				S	**Sn**	**18 06 05.4**	**+0.2**
JODB	**Jodo**	**1.60**	**115**	P	**Pb**	**18 05 48.3**	**-0.1**
JODB				P	**Pb**	**18 05 48.3**	**-0.1**
JODB	SNR=50			P	**Pb**	**18 05 48.4**	**-0.1**
JODB	SNR=50			P	**Pb**	**18 05 48.4**	**-0.1**
JODB				S	**Sn**	**18 06 08.0**	**-0.7**
JODB				S	**Sn**	**18 06 08.0**	**-0.7**
KSMAN	**Muan gun**	**1.63**	**87**	P	**Pb**	**18 05 49.0**	**0.0**
HAWA0	**Hwawon**	**1.71**	**101**	P	**Pn**	**18 05 49.6**	**+0.7**
KSMOP	**Mokpo**	**1.72**	**96**	P	**Pn**	**18 05 49.9**	**+0.7**
KSMOP	SNR=79			P	**Pn**	**18 05 49.9**	**+0.7**
KSJDO	**Jindo**	**1.75**	**107**	P	**Pn**	**18 05 50.0**	**+0.5**
KSJDO	SNR=24			P	**Pn**	**18 05 50.0**	**+0.5**
KSJDO				S	**Sn**	**18 06 12.5**	**+0.1**
KSJDO				S	**Sn**	**18 06 12.5**	**+0.1**
ECDB	**Euchungdo**	**1.76**	**51**	P	**Pb**	**18 05 51.8**	**+0.5**
ECDB	SNR=35			P	**Pb**	**18 05 51.8**	**+0.5**
OYDB	**Oeyeondo**	**1.89**	**49**	P	**Pb**	**18 05 53.4**	**0.0**
OYDB	SNR=105			P	**Pb**	**18 05 53.4**	**0.0**
HMPA	**Hampyeong**	**1.91**	**85**	P	**Pn**	**18 05 52.7**	**+1.0**
MNYD	**Munyeodo**	**1.91**	**65**	P	**Pb**	**18 05 53.3**	**-0.5**
MNYD	SNR=107			P	**Pb**	**18 05 53.3**	**-0.5**
GOCB	**Gochang-gun**	**1.92**	**79**	P	**Pn**	**18 05 52.8**	**+1.0**
GOCB	SNR=183			P	**Pn**	**18 05 52.8**	**+1.0**
SMWA	**Shimwon**	**1.92**	**74**	P	**Pn**	**18 05 53.0**	**+1.1**
HANB	**Haenam**	**1.93**	**103**	P	**Pn**	**18 05 52.7**	**+0.8**
HANB	SNR=88			P	**Pn**	**18 05 52.7**	**+0.8**
CJD	**Chujado**	**1.96**	**122**	P	**Pn**	**18 05 53.3**	**+0.9**
CJD	SNR=108			P	**Pn**	**18 05 53.3**	**+0.9**
SMKB	**Mukjeong-gil**	**1.97**	**69**	P	**Pn**	**18 05 53.9**	**+1.3**
SMKB	SNR=58			P	**Pn**	**18 05 53.9**	**+1.3**
YOA0	**Yeongam**	**2.02**	**96**	P	**Pn**	**18 05 54.0**	**+0.7**
YOA0				P	**Pn**	**18 05 54.0**	**+0.7**
WAN2	**Wando-Q330s**	**2.07**	**107**	P	**Pn**	**18 05 54.9**	**+0.9**
WAN2				P	**Pn**	**18 05 54.9**	**+0.9**
NACA	**Naecho**	**2.09**	**63**	P	**Pn**	**18 05 55.9**	**+1.6**
KSPUA	**Buan**	**2.10**	**70**	P	**Pn**	**18 05 55.7**	**+1.3**
KSGWJ	**Gwangju-acc**	**2.13**	**85**	P	**Pn**	**18 05 55.6**	**+0.8**
PYAG	**Pyongyang**	**4.20**	**16**	Sg	**Sg**	**18 07 32.3**	**-0.8**
PYAG	comp=N,46nm,0.3s			AML	AML		
PYAG	comp=E,58nm,0.3s			AML	AML		
PYAG	comp=Z,40nm,0.1s			AML	AML		
PYS	**Pyongsong**	**4.41**	**16**	Sg	**Sg**	**18 07 39.1**	**-0.8**
PYS	comp=N,59nm,0.2s			AML	AML		
PYS	comp=E,129nm,0.5s			AML	AML		
PYS	comp=Z,56nm,0.2s			AML	AML		
SUJ	**Sinuiju**	**5.08**	**2**	Sg	**Sg**	**18 07 59.3**	**-2.2**
SUJ	comp=N,23nm,0.2s			AML	AML		
SUJ	comp=E,74nm,0.4s			AML	AML		
SUJ	comp=Z,23nm,0.4s			AML	AML		

*ASIES **28** 18:16:34.4, 24°.88N×122°.72E, h16km, ML3.5, Mw3.6, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}0.08; $M_{\theta\theta}$0.68; $M_{\phi\phi}$-1.45; $M_{r\theta}$-2.85; $M_{\theta\phi}$-1.05; $M_{\phi r}$-0.69; Fault plane solution: $M_0$3.31501×10^{21} NP1:*

ϕ_E250.12000°, δ87.73000°, λ117.21000°. NP2: ϕ_E344.53000°, δ27.30000°, λ4.95000°. Principal axes: T Plg41.0210°, Azm185.5070°; N Plg27.1900°, Azm68.9630°; P Plg36.8960°, Azm316.2800°;
TAP ***28*** *18:16:34.4, 24.88N×122.72E, h16km±1km, ML3.5, D*
JMA ***28*** *18:16:35.3±0.3, 25.1N×122.8E±, h29km, MV2.8/11, NW OFF ISHIGAKIJIMA IS*
IDC ***28*** *18:17:01.6±20.0, 25.21N×122.82E, h243km±241km, mb2.9/5, mbtmp3.5/6, ML3.2/1, MS2.7/1, Error ellipse: s-maj=182.3km s-min=17.8km az=60.0*
ISC 28 18:16:32.9±1.3, 24.92N±0.04×122.82E±0.03, h4km±10km, n63, σ1.9 18/66, mb3.5/5, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.48**	**166**	*eP*	**Pn**	**18 16 44.3**	**-2.2**
JYNG				*eS*	**Sg**	**18 16 49.9**	**+1.6**
YOJ	**Yonaguni jima**	**0.48**	**159**	*eP*	**Pb**	**18 16 44.1**	**+0.1**
YOJ				*eS*	**Sb**	**18 16 50.5**	**-0.9**
YOJ	**Yonaguni jima**	**0.48**	**159**	↑*iP*	**Pn**	**18 16 44.3**	**-2.3**
YOJ				*i S*	**Sb**	**18 16 51.0**	**-0.4**
EOS2	**EOS2**	**0.73**	**227**	*i P*	**Pg**	**18 16 47.6**	**+0.8**
EOS2				S	**Sg**	**18 16 56.7**	**+0.4**
TWB1	**Santiac Chiao**	**0.76**	**277**	*i P*	**Pg**	**18 16 47.8**	**+0.3**
TWB1				*i S*	**Sg**	**18 16 56.5**	**-0.8**
EOS3	**EOS3**	**0.77**	**216**	P	**Pg**	**18 16 47.9**	**+0.1**
EOS3				S	**Sg**	**18 16 59.1**	**+1.3**
EGS		**0.81**	**265**	P	**Pb**	**18 16 49.2**	**-0.3**
SXI1	**Grass Mountain**	**0.87**	**282**	P	**Pg**	**18 16 49.8**	**+0.1**
TIPB	**Shuangxi**	**0.90**	**274**	*eP*	**Pg**	**18 16 50.4**	**+0.2**
EOS4	**EOS4**	**0.91**	**210**	P	**Pb**	**18 16 50.2**	**-0.9**
TWC	**Suao**	**0.93**	**251**	P	**Pg**	**18 16 50.0**	**-0.9**
ESAO	**Su ao**	**0.95**	**249**	*eP*	**Pb**	**18 16 50.5**	**-1.4**
NWF	**Wu-fen Shan**	**0.95**	**280**	*eP*	**Pn**	**18 16 52.6**	**-0.6**
WFSB	**Wu-fen Shan**	**0.95**	**280**	*eP*	**Pg**	**18 16 51.0**	**-0.2**
PCYT	**Pengchaiyu**	**0.98**	**317**	P	**Pn**	**18 16 52.7**	**-0.8**
IRIF	**Iriomote-Funau**	**1.01**	**125**	P	**Pn**	**18 16 53.2**	**-0.7**
NDS	**Dongshan**	**1.04**	**255**	*eP*	**Pb**	**18 16 51.9**	**-1.6**
EWUT	**Wuta**	**1.05**	**244**	*eP*	**Pb**	**18 16 52.3**	**-1.5**
TWE	**Neicheng**	**1.06**	**260**	P	**Pb**	**18 16 52.3**	**-1.5**
ENA	**Nanau**	**1.09**	**244**	P	**Pn**	**18 16 52.9**	**-2.1**
TWA	**Mucha**	**1.12**	**274**	*eP*	**Pn**	**18 16 53.5**	**-1.9**
FUSB	**Fushanzhiwuyua**	**1.13**	**262**	*eP*	**Pn**	**18 16 54.7**	**-0.8**
EAHA	**Aohua**	**1.14**	**240**	*eP*	**Pn**	**18 16 54.4**	**-1.3**
YM08	**YM08**	**1.15**	**284**	*eP*	**Pn**	**18 16 54.1**	**-1.7**
YM01	**YM01**	**1.16**	**282**	*eP*	**Pn**	**18 16 54.6**	**-1.3**
TWY	**Chenhua**	**1.16**	**288**	*eP*	**Pn**	**18 16 53.9**	**-2.1**
ENTT	**Nioudou**	**1.17**	**257**	*eP*	**Pn**	**18 16 55.3**	**-0.8**
NWLT	**Wulai**	**1.20**	**264**	*eP*	**Pn**	**18 16 55.2**	**-1.4**
HATJ	**Hateruma jima**	**1.24**	**133**	*eP*	**Pg**	**18 16 56.8**	**+0.1**
JKRS	**Kuro-shima**	**1.28**	**122**	*eP*	**Pg**	**18 16 57.7**	**+0.3**
ETL	**Fush Village**	**1.32**	**236**	*eP*	**Pn**	**18 16 56.8**	**-1.4**
JIJ	**Ishigaki jima**	**1.32**	**114**	P	**Pg**	**18 16 57.9**	**-0.4**
YHNB	**Yeheng**	**1.33**	**260**	*eP*	**Pn**	**18 16 57.3**	**-1.1**
NACB	**Ninganchiao**	**1.34**	**237**	*eP*	**Pn**	**18 16 57.0**	**-1.4**
NSK	**Sanguang**	**1.35**	**260**	*eP*	**Pn**	**18 16 58.0**	**-0.6**
TWD	**Chiawan**	**1.39**	**234**	*eP*	**Pn**	**18 16 58.8**	**-0.2**
NNSB	**Datong**	**1.39**	**250**	*eP*	**Pn**	**18 16 58.3**	**-0.9**
JISG	**Ishigakijimahi**	**1.40**	**103**	*eP*	**Pg**	**18 16 59.5**	**-0.1**
NNS	**Nan Shan**	**1.40**	**251**	*eP*	**Pn**	**18 16 59.1**	**-0.3**
ETLH	**Xiulin Townshi**	**1.41**	**240**	*eP*	**Pn**	**18 16 58.6**	**-0.8**
ETM	**Tongmen**	**1.53**	**232**	*eP*	**Pb**	**18 17 01.6**	**-0.3**
LXIB	**Xiulin Townshi**	**1.56**	**235**	*eP*	**Pn**	**18 17 01.7**	**+0.1**
NFF	**Wufeng Townshi**	**1.57**	**260**	*eP*	**Pn**	**18 17 01.6**	**-0.1**
FUSS	**Fushou**	**1.58**	**245**	*eP*	**Pb**	**18 17 02.9**	**+0.1**
WHF	**Hehuan Shan**	**1.61**	**242**	*eP*	**Pn**	**18 17 02.4**	**-0.1**
TWT	**Tachien**	**1.63**	**247**	*eP*	**Pg**	**18 17 04.6**	**+0.3**
TDCB	**Techi**	**1.65**	**247**	*eP*	**Pn**	**18 17 02.0**	**-0.8**
ESL	**Shilin**	**1.67**	**229**	*eP*	**Pn**	**18 17 01.4**	**-1.6**
TEGC	**Jichi Village**	**1.67**	**224**	*eS*	**Sn**	**18 17 23.4**	**-1.5**
JTJ	**Tarama**	**1.73**	**99**	*eP*	**Pg**	**18 17 05.2**	**-0.9**
WUSB	**Renai**	**1.80**	**240**	*eP*	**Pn**	**18 17 05.3**	**+0.4**
WHP	**Taichung City**	**1.82**	**250**	*eP*	**Pb**	**18 17 07.4**	**+0.5**
VWDT	**VWDT**	**1.92**	**233**	*eP*	**Pn**	**18 17 08.7**	**+0.3**
SMLT	**Sun Moon Lake**	**2.03**	**240**	*eP*	**Pb**	**18 17 09.0**	**-1.4**
EYUL	**Yuli**	**2.08**	**222**	*eP*	**Pn**	**18 17 08.5**	**0.0**
EYUL				S	**Sn**	**18 17 33.5**	**-1.4**
WHYT	**Xinyi Township**	**2.17**	**236**	*eP*	**Pn**	**18 17 10.6**	**+0.8**
WJS	**Zhushan**	**2.19**	**241**	*eP*	**Pb**	**18 17 12.0**	**-1.2**
KSRS	**Korea Array**	**13.24**	**18**	P	P	18 19 56.7	+5.0
	0.1nm,0.3s,baz=203,slow=12,SNR=4.6						
KSRS				LR	LR	18 24 59.7	
	comp=Z,31nm,18.0s,baz=305,slow=37						
	1.1nm,0.7s						
SONM	**Songino Array**	**26.31**	**335**	P	**P**	**18 22 13.6**	**+3.8**
	0.5nm,0.7s,baz=149,slow=6.1,SNR=3.4						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**38.87**	**315**	P	P	18 24 01.9	+2.5
	0.2nm,0.4s,baz=44,slow=8.3,SNR=7.5						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**40.46**	**326**	P	**P**	**18 24 13.6**	**+1.2**
	0.5nm,0.5s,baz=151,slow=9.2,SNR=2.0						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**45.98**	**165**	P	P	18 25 02.8	+5.4
	1.1nm,0.8s,baz=346,slow=8.8,SNR=5.8						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**49.48**	**167**	P	P	18 25 29.9	+5.4
	0.5nm,0.7s,baz=355,slow=6.8,SNR=3.0						
	0.5nm,0.7s						

BER ***28*** *18:18:42.5±2.1, 82.50N×5.79W, h10km, mb(Pn)3.6, Confirmed Earthquake*
DNK ***28*** *18:18:43.5±2.1, 82.37N×7.39W, h0km±10km, ML1.6*
ISC 28 18:18:38.5±1.9, 82.4N±0.1×6.32W±0.05, h10km, n12, σ2.8 81/22, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.66**	**246**	*eP*	**Pg**	**18 19 10.9**	**+0.7**
NOR				*eS*	**Sg**	**18 19 31.6**	**-0.3**
NOR	**Nord**	**1.66**	**246**	*i P*	**Pg**	**18 19 11.0**	**+0.7**
NOR				*i S*	**Sb**	**18 19 29.9**	**-0.2**
NOR				IAML		18 19 32.1	
	comp=Z,12nm,0.3s						
KBS	**Kingsbay**	**4.57**	**130**	*eP*	**Pn**	**18 19 49.3**	**+1.8**
KBS				*eS*	**Sn**	**18 20 37.5**	**-3.0**
KBS				IAML		18 20 40.1	
	comp=Z,5.1nm,0.7s						
BRBB	**Barentsburg B**	**5.52**	**131**	*eP*	**Pn**	**18 20 02.5**	**+2.0**
BRBA	**Barentsburg A**	**5.55**	**131**	*eP*	**Pn**	**18 20 04.1**	**+3.2**
SPA0	**Spitsbergen Ar**	**5.67**	**126**	*eP*	**Pn**	**18 20 04.0**	**+1.4**
SPA0				*eS*	**Sn**	**18 21 05.1**	**-2.5**
SPA0				IAML		18 21 14.1	
	comp=Z,4.5nm,0.9s						
DAG	**Danmarks Havn**	**6.08**	**208**	*eP*	**Pn**	**18 20 10.5**	**+2.4**
DAG				*eS*	**Sn**	**18 21 17.2**	**-0.4**
DAG	**Danmarks Havn**	**6.08**	**208**	*i P*	**Pn**	**18 20 11.0**	**+2.8**
DAG				*i S*	**Sn**	**18 21 18.9**	**+1.3**
DAG				IAML		18 21 23.5	
	comp=Z,1.5nm,0.2s						
HSPB	**Hornsund (broa**	**6.63**	**133**	*e*	**Pn**	**18 20 18.4**	**+2.7**
HSPB				*eP*	**Pn**	**18 20 18.7**	**+3.0**
DBG	**Daneborg**	**8.58**	**206**	*eP*	**Pb**	**18 20 44.7**	**+2.3**
DBG				*eS*	**Sn**	**18 22 14.9**	**-4.1**
DBG	**Daneborg**	**8.58**	**206**	*i P*	**Pn**	**18 20 45.0**	**+2.5**
DBG				*i S*	**Sn**	**18 22 14.0**	**-5.0**
DBG				IAML		18 22 22.4	
	comp=Z,1.0nm,0.2s						
NEEM	**North Greenlan**	**8.97**	**261**	*i P*	**Pn**	**18 20 49.6**	**+1.6**
NEEM				*i S*	**Sn**	**18 22 24.0**	**-5.1**
NEEM				IAML		18 22 26.5	
	comp=Z,1.9nm,0.2s						

IDC ***28*** *18:32:36.1±1.3, 33.63S×71.95W, h0km, mb3.9/3, mbtmp3.9/5, ML3.9/2, MS3.8/7, Error ellipse: s-maj=60.3km s-min=26.5km az=82.0*
NEIC ***28*** *18:32:36.6±1.3, 33.68S±0.04×72.25W±0.06, h10km±1km, mb4.5/11, Error ellipse: s-maj=8.4km s-min=6.5km az=115.0*
SJA ***28*** *18:32:38.0±0.7, 33.74S×72.06W, h22km±2km, ML4.3, MW4.4*
VAO ***28*** *18:32:38.6±0.7, 33.65S×72.04W, h10km, mb4.2*
GUC ***28*** *18:32:40.2±0.7, 33.71S×72.04W, h31km±3km, ML4.3*
ISC 28 18:32:35.4±1.3, 33.62S±0.02×72.22W±0.04, h1km±8km, n146, σ1.9 48/185, mb4.4/9, MS3.8/5, 2C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA05	**Santo Domingo**	**0.51**	**94**		**Pb**	**18 32 48.1**	**+1.0**
VA05	**Santo Domingo**	**0.51**	**94**	*i* P	**Pb**	**18 32 48.4**	**+1.3**
VA05				*eS*	**Sb**	**18 32 54.5**	**-0.5**
VA05				IAML		18 32 55.3	
	comp=N,60μm,0.3s						
VA01	**Torpederas**	**0.77**	**39**		**Pn**	**18 32 54.1**	**+0.8**
VA01	**Torpederas**	**0.77**	**39**	*eP*	**Pn**	**18 32 54.2**	**+0.8**
VA01				*eS*	**Sn**	**18 33 04.7**	**-0.9**
VA01	**Torpederas**	**0.77**	**39**	*eP*	**Pn**	**18 32 53.5**	**+0.2**
VA01				*eS*	**Sn**	**18 33 05.4**	**-0.1**
VA01				IAML		18 33 06.3	
	comp=Z,6μm,1.3s						
MT01	**Popeta**	**0.84**	**107**		**Pb**	**18 32 53.1**	**+0.3**
MT01	**Popeta**	**0.84**	**107**	*eP*	**Pb**	**18 32 53.2**	**+0.3**
MT01				*eS*	**Sg**	**18 33 02.9**	**+0.5**
MT01				IAML		18 33 03.8	
	comp=N,45μm,0.4s						
MT01	**Popeta**	**0.84**	**107**	*eP*	**Pb**	**18 32 53.0**	**+0.1**
MT01				*eS*	**Sg**	**18 33 02.0**	**-0.5**
MT01				IAML		18 33 03.6	
	comp=Z,16μm,0.8s						
BO03	**Pichilemu**	**0.90**	**166**	*eP*	**Pb**	**18 32 54.5**	**+0.8**
BO03				*eS*	**Sg**	**18 33 05.8**	**+1.6**
MT02	**Curacav**	**0.97**	**68**		**Pn**	**18 32 56.1**	**-0.2**
MT02	**Curacav**	**0.97**	**68**	*eP*	**Pn**	**18 32 56.2**	**0.0**
MT02				*eS*	**Sb**	**18 33 08.2**	**-0.3**
MT02				IAML		18 33 10.2	
	comp=E,15μm,0.4s						
MT02	**Curacav**	**0.97**	**68**	*eP*	**Pb**	**18 32 55.5**	**+0.4**
MT02				*eS*	**Sn**	**18 33 09.6**	**-1.1**
MT02				IAML		18 33 09.7	
	comp=Z,12μm,0.5s						
MT09	**Talagante**	**1.04**	**99**		**Pb**	**18 32 56.4**	**+0.1**
MT09	**Talagante**	**1.04**	**99**	↓↓*iP*	**Pb**	**18 32 56.3**	**+0.1**
MT09				*eS*	**Sg**	**18 33 08.9**	**+0.2**
MT09				IAML		18 33 09.8	
	comp=N,29μm,0.2s						
BO01	**Tunca**	**1.21**	**129**		**Pg**	**18 32 58.7**	**-0.1**
BO01	**Tunca**	**1.21**	**129**	↓↓*eP*	**Pg**	**18 32 58.6**	**-0.1**
BO01				*eS*	**Sg**	**18 33 13.0**	**-1.4**
BO01	**Tunca**	**1.21**	**129**	*eP*	**Pg**	**18 32 58.0**	**-0.7**
BO01				*eS*	**Sg**	**18 33 11.1**	**-3.4**
MT05	**Renca**	**1.26**	**80**		**Pn**	**18 33 00.5**	**+0.3**
MT05	**Renca**	**1.26**	**80**	*eP*	**Pn**	**18 33 00.5**	**+0.3**
MT05				*eS*	**Sb**	**18 33 16.0**	**-0.8**
MT05				IAML		18 33 21.7	
	comp=E,10μm,0.4s						
MT05	**Renca**	**1.26**	**80**	*eP*	**Pg**	**18 32 59.9**	**+0.4**
MT05				*eS*	**Sn**	**18 33 19.5**	**+1.7**
MT05				IAML		18 33 31.7	
	comp=Z,4μm,0.7s						
VA06	**Catapilco**	**1.31**	**36**		**Pn**	**18 33 01.9**	**+1.0**
VA06	**Catapilco**	**1.31**	**36**	*i P*	**Pn**	**18 33 02.0**	**+1.1**
VA06				*eS*	**Sn**	**18 33 19.1**	**0.0**
PEL	**Peldehue**	**1.37**	**70**		**Pb**	**18 33 02.8**	**+1.0**
PEL	**Peldehue**	**1.37**	**70**	*i P*	**Pb**	**18 33 02.9**	**+1.0**
PEL				*eS*	**Sb**	**18 33 19.6**	**-0.4**
PEL				IAML		18 33 25.1	
	comp=E,10μm,0.4s						
PEL	**Peldehue**	**1.37**	**70**	*eP*	**Pb**	**18 33 03.0**	**+1.1**
PEL				*eS*	**Sn**	**18 33 20.5**	**-0.1**
BO04	**La Punta**	**1.39**	**106**		**Pn**	**18 33 01.9**	**-0.2**
BO04	**La Punta**	**1.39**	**106**	*i P*	**Pn**	**18 33 01.8**	**-0.2**
BO04				*eS*	**Sg**	**18 33 18.2**	**-1.9**
BO04				IAML		18 33 25.1	
	comp=N,6μm,0.3s						
MT12	**Pirque**	**1.40**	**95**	*eP*	**Pn**	**18 33 02.3**	**+0.2**
MT12				*eS*	**Sg**	**18 33 18.7**	**-1.6**
MT12				IAML		18 33 28.2	
	comp=N,11μm,0.2s						
GO05	**Hualane**	**1.40**	**170**		**Pn**	**18 33 02.4**	**+0.2**
GO05	**Hualane**	**1.40**	**170**	↓↓*eP*	**Pn**	**18 33 02.3**	**+0.2**
GO05				*eS*	**Sg**	**18 33 19.1**	**-1.4**
GO05	**Hualane**	**1.40**	**170**	*eP*	**Pn**	**18 33 02.2**	**0.0**
GO05				*eS*	**Sg**	**18 33 20.3**	**-0.2**
MT14	**Cerro Cal¡n**	**1.43**	**81**	*eP*	**Pb**	**18 33 03.1**	**+0.3**
MT14				*eS*	**Sg**	**18 33 20.2**	**-1.0**
MT14				IAML		18 33 29.7	
	comp=E,13μm,0.5s						
MT15	**Las Vizcachas**	**1.43**	**89**	*eP*	**Pn**	**18 33 02.9**	**+0.3**
MT15				*eS*	**Sg**	**18 33 19.8**	**-1.6**
MT15				IAML		18 33 23.9	
	comp=E,12μm,0.3s						
MT16	**CCHEN**	**1.43**	**83**		**Pg**	**18 33 03.0**	**+0.2**
MT16	**CCHEN**	**1.43**	**83**	*eP*	**Pn**	**18 33 02.9**	**+0.3**
MT16				*eS*	**Sg**	**18 33 20.2**	**-1.2**
MT16				IAML		18 33 27.5	
	comp=N,5μm,0.5s						
MT03	**Universidad Ad**	**1.43**	**85**		**Pn**	**18 33 03.0**	**+0.3**
MT03	**Universidad Ad**	**1.43**	**85**	*eP*	**Pg**	**18 33 03.1**	**+0.3**
MT03				*eS*	**Sg**	**18 33 20.2**	**-1.3**
MT03				IAML		18 33 28.9	
	comp=E,12μm,0.5s						
MT03	**Universidad Ad**	**1.43**	**85**	*eP*	Pn	18 32 58.0	-4.6
MT03				*eP*	**Pg**	**18 33 03.2**	**+0.3**
MT03				*eS*	**Sb**	**18 33 21.5**	**-0.3**
MT03				IAML		18 33 26.2	
	comp=Z,7μm,0.3s						
MT10	**Hacienda Santa**	**1.45**	**76**	↓↓*eP*	**Pb**	**18 33 03.8**	**+0.5**
MT10				*eS*	**Sb**	**18 33 21.8**	**-0.5**
MT13	**San Alfonso**	**1.62**	**95**		**Pn**	**18 33 05.6**	**+0.4**
MT13	**San Alfonso**	**1.62**	**95**	↓↓*eP*	**Pn**	**18 33 05.6**	**+0.4**
MT13				*eS*	**Sn**	**18 33 24.8**	**-1.9**
MT13				IAML		18 33 26.9	
	comp=E,10μm,0.5s						
MT13	**San Alfonso**	**1.62**	**95**	*eP*	**Pn**	**18 33 05.7**	**+0.4**
MT13				*eS*	**Sn**	**18 33 25.4**	**-1.4**
MT13				IAML		18 33 26.6	
	comp=Z,4μm,0.9s						
FCH	**Farellones**	**1.64**	**80**	*eP*	**Pb**	**18 33 06.9**	**+0.3**
FCH				*eS*	**Sn**	**18 33 27.0**	**-0.6**
FCH				IAML		18 33 32.8	
	comp=N,8μm,0.2s						
VA03	**San Esteban**	**1.64**	**59**		**Pb**	**18 33 06.5**	**0.0**
VA03	**San Esteban**	**1.64**	**59**	*eP*	**Pg**	**18 33 07.1**	**+0.2**
VA03				*eS*	**Sg**	**18 33 28.1**	**-0.1**
VA03	**San Esteban**	**1.64**	**59**	*eP*	**Pb**	**18 33 06.7**	**+0.1**
VA03				IAML		18 33 34.7	
	comp=Z,11μm,0.7s						
BO02	**Sierra Bellavi**	**1.67**	**135**		**Pn**	**18 33 05.8**	**0.0**
BO02	**Sierra Bellavi**	**1.67**	**135**	*eP*	**Pn**	**18 33 06.0**	**+0.1**
BO02				*eS*	**Sn**	**18 33 26.6**	**-1.3**
BO02				IAML		18 33 31.5	
	comp=N,8μm,0.5s						
BO02	**Sierra Bellavi**	**1.67**	**135**	*eP*	**Pn**	**18 33 05.3**	**-0.5**
BO02				*eS*	**Sn**	**18 33 28.4**	**+0.4**
BO02				IAML		18 33 31.3	
	comp=Z,4μm,0.2s						
LMEL	**Las Melosas**	**1.69**	**98**	*eP*	**Pn**	**18 33 06.8**	**+0.5**
LMEL				*eS*	**Sn**	**18 33 27.4**	**-1.3**
LMEL				IAML		18 33 31.6	
	comp=N,6μm,0.2s						
LMEL	**Las Melosas**	**1.69**	**98**	*eP*	**Pn**	**18 33 06.3**	**0.0**
LMEL				*eS*	**Sn**	**18 33 28.6**	**-0.1**
MT04	**Ro Olivares**	**1.75**	**83**	↑↑*iP*	**Pb**	**18 33 08.2**	**-0.4**
MT04				*eS*	**Sn**	**18 33 29.4**	**-0.8**
MT04				IAML		18 33 36.0	
	comp=N,6μm,0.3s						
MT04	**Ro Olivares**	**1.75**	**83**	*eP*	**Pb**	**18 33 08.2**	**-0.4**
MT04				*eS*	**Sb**	**18 33 30.6**	**-0.5**
MT04				IAML		18 33 35.5	
	comp=Z,4μm,0.6s						
MT08	**Bocatoma Ro**	**1.85**	**85**		**Pn**	**18 33 09.5**	**+1.0**
MT08	**Bocatoma Ro**	**1.85**	**85**	↑↑*iP*	**Pb**	**18 33 09.7**	**-0.5**
MT08				*eS*	**Sn**	**18 33 32.2**	**-0.5**
MT08				IAML		18 33 40.4	
	comp=N,3μm,0.5s						
MT08	**Bocatoma Ro**	**1.85**	**85**	*eP*	**Pn**	**18 33 09.2**	**+0.8**
MT08				*eS*	**Sg**	**18 33 35.4**	**+0.5**
MT08				IAML		18 33 38.7	
	comp=Z,2μm,0.4s						
CO04	**Los Peladeros**	**1.89**	**34**	*eP*	**Pn**	**18 33 10.2**	**+1.1**
ML02	**Panimavida**	**2.23**	**163**	*eP*	**Pn**	**18 33 15.1**	**+1.5**
ML02				*eS*	**Sn**	**18 33 43.6**	**+1.8**
ML02				IAML		18 33 50.8	
	comp=N,3μm,0.5s						
ML02	**Panimavida**	**2.23**	**163**	*eP*	**Pn**	**18 33 13.7**	**+0.1**
ML02				IAML		18 33 55.6	
	comp=Z,2μm,1.4s						
ARCO	**CERRO ARCO**	**2.86**	**75**	*eP*	**Pn**	**18 33 21.9**	**-0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO				*eS*	**Sg**	**18 34 08.9**	**+1.5**
ARCO				IAML		18 34 09.9	
	comp=Z,1μm,0.7s						
AAGR	**Agrelo**	**2.89**	**80**	*eP*	**Pn**	**18 33 21.2**	**-1.5**
AAGR				IAML		18 34 12.4	
	comp=Z,689nm,0.5s						
CO06	**Fray Jorge**	**2.98**	**10**	*eP*	**Pn**	**18 33 24.9**	**+1.0**
CO06				*eS*	**Sg**	**18 34 11.9**	**+0.7**
ASAL	**Salagasta**	**3.02**	**71**	*eP*	**Pn**	**18 33 23.6**	**-0.9**
ASAL				*eS*	**Sb**	**18 34 09.6**	**+2.1**
ASAL				IAML		18 34 21.7	
	comp=Z,461nm,0.8s						
RTLS	**Leoncito**	**3.06**	**54**	*eP*	**Pn**	**18 33 23.7**	**-1.5**
RTLS				IAML		18 34 16.7	
	comp=Z,3μm,0.6s						
CO03	**El Pedregal**	**3.06**	**25**		**Pn**	**18 33 26.8**	**+1.7**
CO03	**El Pedregal**	**3.06**	**25**	*eP*	**Pn**	**18 33 27.6**	**+2.5**
CO03				IAML		18 34 26.6	
	comp=E,1μm,0.7s						
CO03	**El Pedregal**	**3.06**	**25**	*eP*	**Pn**	**18 33 21.5**	**-3.6**
CO03				*eP*	**Pn**	**18 33 26.8**	**+1.7**
CO03				*eS*	**Sb**	**18 34 06.5**	**-2.3**
CO03				IAML		18 34 19.6	
	comp=Z,877nm,0.9s						
AVIZ	**Vizcacheras**	**3.10**	**88**	*eP*	**Pn**	**18 33 26.9**	**+1.4**
BI02	**San Fabin de**	**3.13**	**166**	Pn	**Pn**	**18 33 25.0**	**-0.9**
BI02	**San Fabin de**	**3.13**	**166**	*eP*	**Pn**	**18 33 27.4**	**+1.5**
BI02				IAML		18 34 16.3	
	comp=N,415nm,0.8s						
EDS3	**Malargue**	**3.16**	**133**	*eP*	**Pn**	**18 33 27.4**	**+0.9**
BI05	**Punta Hualpn**	**3.22**	**194**		**Pn**	**18 33 26.6**	**-0.5**
RTCV	**Cerro Valdivia**	**3.56**	**61**	*eP*	**Pb**	**18 33 40.4**	**+1.1**
ZON	**Zonda**	**3.64**	**56**		**Pn**	**18 33 32.9**	**-0.1**
ZON	**Zonda**	**3.64**	**56**	*eS*	**Sb**	**18 34 27.9**	**+2.8**
ZON				IAML		18 34 40.7	
	comp=Z,599nm,1.7s						
GO04	**Tololo Observa**	**3.65**	**20**		**Pn**	**18 33 34.8**	**+1.6**
GO04	**Tololo Observa**	**3.65**	**20**	*eP*	**Pn**	**18 33 34.9**	**+1.6**
GO04	**Tololo Observa**	**3.65**	**20**	*eP*	**Pn**	**18 33 29.9**	**-3.4**
GO04				*eS*	**Sb**	**18 34 22.4**	**-3.3**
DOCA	**Reserva Natura**	**3.76**	**46**	*eP*	**Pn**	**18 33 38.3**	**+3.3**
DOCA				*eS*	**Sn**	**18 34 12.0**	**-8.1**
RTLL	**Cerro Villicun**	**3.91**	**55**	*eP*	**Pn**	**18 33 40.2**	**+3.6**
RTLL				*eS*	**Sn**	**18 34 27.0**	**+3.8**
ACCO	**Cerro Coronel**	**4.04**	**42**	*eP*	**Pn**	**18 33 42.6**	**+3.9**
ACCO				*eS*	**Sn**	**18 34 29.7**	**+2.8**
CO01	**Juntas del Tor**	**4.06**	**27**		**Pn**	**18 33 41.5**	**+2.5**
CO01	**Juntas del Tor**	**4.06**	**27**	*eP*	**Pn**	**18 33 41.9**	**+2.9**
CO01	**Juntas del Tor**	**4.06**	**27**	*eP*	**Pn**	**18 33 36.4**	**-2.5**
CO01				*eP*	Pb	18 33 41.8	-6.1
CO01				*eS*	**Sb**	**18 34 36.4**	**-1.2**
CO01				IAML		18 34 51.8	
	comp=Z,475nm,0.7s						
AROD	**Rodeo**	**4.16**	**35**	*eP*	**Pn**	**18 33 44.8**	**+4.4**
AROD				*eS*	**Sb**	**18 34 41.9**	**+1.2**
LCO	**Las Campanas**	**4.78**	**16**		**Pn**	**18 33 49.9**	**+1.1**
LCO	**Las Campanas**	**4.78**	**16**	*i P*	**Pn**	**18 33 50.0**	**+1.2**
AVFE	**Valle Fertil**	**5.01**	**55**	*eP*	**Pn**	**18 33 54.7**	**+2.9**
AC04	**Llanos de Chal**	**5.49**	**11**		**Pn**	**18 33 57.7**	**-0.6**
H03S1	**Juan Fernandez**	**5.58**	**266**	T	T	18 39 57.6	
	baz=87,slow=75,SNR=1226						
H03S3	**Juan Fernandez**	**5.58**	**266**	T	T	18 40 26.6	
	baz=87,slow=75,SNR=762						
H03N1	**Juan Fernandez**	**5.59**	**270**	T	T	18 40 03.4	
	baz=98,slow=74,SNR=39						
H03S2	**Juan Fernandez**	**5.59**	**266**	T	T	18 40 03.8	
	baz=87,slow=75,SNR=899						
H03N3	**Juan Fernandez**	**5.60**	**270**	T	T	18 40 06.9	
	baz=98,slow=74,SNR=45						
H03N2	**Juan Fernandez**	**5.61**	**270**	T	T	18 40 04.3	
	baz=98,slow=74,SNR=82						
GO06	**Curarrehue**	**5.98**	**174**	Pn	**Pn**	**18 34 05.2**	**+0.1**

*ISN **28** 18:47:44.5±1.0, 34°.19N×45°.61E, h14km±33km, ML2.7*
*TEH **28** 18:47:44.8, 34°.19N×45°.60E, h12km±16km, ML2.7*
ISC 28 18:47:45.7±0.9, **34°.19N**±0°.04×**45°.60E**±0°.04, **h10**km, **n13**, σ0°**94**/**17**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.27**	**106**	Pg	**Pg**	**18 47 50.6**	**-0.5**
GLG1				Sg	**Sg**	**18 47 55.0**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**0.32**	**358**	Pg	**Pg**	**18 47 51.7**	**-0.4**
ILBA	**Ilam Banvizeh**	**0.75**	**138**	Pg	**Pg**	**18 47 59.5**	**-0.7**
IDHR	**Dehrash**	**0.83**	**52**	Pg	**Pg**	**18 48 00.4**	**-1.2**
IBDR	**Badra**	**1.11**	**166**	*e*Pg	**Pb**	**18 48 06.5**	**-0.4**
IBDR				*e*Sg	**Sb**	**18 48 21.0**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.20**	**85**	Pg	**Pb**	**18 48 07.6**	**-0.9**
ILIN	**Lien**	**1.34**	**57**	Pg	**Pn**	**18 48 10.7**	**0.0**
BHD	**Baghdad**	**1.37**	**228**	*e*Pn	**Pn**	**18 48 10.5**	**-0.3**
BHD				*e*Sn	**Sn**	**18 48 30.5**	**+1.5**
IKRK	**Kirkuk**	**1.59**	**320**	*e*Pn	**Pn**	**18 48 14.0**	**0.0**
IKRK				*e*Sn	**Sn**	**18 48 36.0**	**+1.4**
SNQR	**Sonqor, Kerman**	**1.80**	**68**	Pg	**Pn**	**18 48 18.5**	**+1.4**
IKFM	**Kafar-mosalman**	**1.98**	**109**	Pn	**Pn**	**18 48 20.3**	**+1.1**
HSAM	**Samen**	**2.49**	**89**	Pn	**Pn**	**18 48 27.3**	**+0.8**
BDRS	**Dareh Seyedi**	**2.73**	**94**	Pn	**Pn**	**18 48 30.6**	**+0.7**

*IDC **28** 18:52:14.5±1.0, 10°.65N×126°.24E, h0km, mb3.6/10, mbtmp3.6/10, Error ellipse: s-maj=47.5km s-min=20.0km az=66.0*
ISC 28 18:52:21.4±1.0, **10°.6N**±0°.2×**126°.1E**±0°.3, **h51**km, **n10**, σ1°**26**/**10**, **mb3.6**/**10**, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**27.42**	**290**	P	**P**	**18 58 03.4**	**+0.7**
	0.4nm,0.4s,baz=101,slow=6.6,SNR=5.8 0.4nm,0.4s						
WRA	**Warramunga Arr**	**31.43**	**165**	P	**P**	**18 58 39.5**	**+1.5**
	0.5nm,0.9s,baz=347,slow=9.3,SNR=2.4 0.5nm,0.9s						
ASAR	**Alice Springs**	**34.91**	**167**	P	**P**	**18 59 06.4**	**-2.1**
	0.1nm,0.3s,baz=347,slow=7.1,SNR=5.4 0.1nm,0.3s						
SONM	**Songino Array**	**40.65**	**340**	P	**P**	**18 59 55.1**	**-1.6**
	0.2nm,0.3s,baz=161,slow=9.2,SNR=1.9 0.2nm,0.3s						
MKAR	**Makanchi Array**	**51.67**	**323**	P	**P**	**19 01 23.9**	**+0.6**
	0.8nm,0.7s,baz=116,slow=7.5,SNR=7.8 0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**54.26**	**331**	P	**P**	**19 01 41.9**	**-0.2**
	0.5nm,0.4s,baz=98,slow=6.0,SNR=2.4 0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**55.71**	**325**	P	**P**	**19 01 53.1**	**+0.4**
	0.7nm,0.6s,baz=126,slow=7.0,SNR=6.9 0.7nm,0.6s						
BVAR	**Borovoye Array**	**61.30**	**325**	P	**P**	**19 02 32.3**	**+0.6**
	0.4nm,0.6s,baz=141,slow=9.3,SNR=2.9 0.4nm,0.6s						
ILAR	**Eielson Array**	**79.18**	**26**	P	**P**	**19 04 21.5**	**+0.8**
	0.2nm,0.6s,baz=260,slow=5.4,SNR=1.4 0.2nm,0.6s						
FINES	**FINESS Array B**	**85.52**	**332**	P	**P**	**19 04 53.9**	**+0.1**
	3.6nm,1.0s,baz=108,slow=4.5,SNR=2.2 3.6nm,1.0s						

*IDC **28** 19:20:25.7±1.1, 6°.22S×147°.49E, h0km, mb3.8/12, mbtmp3.8/13, ML4.2/1, MS3.4/14, Error ellipse: s-maj=37.4km s-min=13.3km az=105.0*
*NEIC **28** 19:20:30.8±1.4, 6°.01S±0°.08×147°.88E±0°.10, h70km±14km, mb4.3/14, Error ellipse: s-maj=14.3km s-min=11.2km az=108.0*
ISC 28 19:20:32.1±0.7, **6°.13S**±0°.06×**147°.84E**±0°.10, **h60**km, **n56**, σ2°**53**/**48**, **mb3.7**/**16**, **MS3.3**/**11**, **Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.32**	**192**		**Pn**	**19 21 21.5**	**-0.2**
PMG	**Port Moresby**	**3.32**	**192**	Pn	**Pn**	**19 21 21.8**	**+0.1**
	21nm,0.3s,baz=41,slow=5.8,SNR=63						
PMG				Sn	**Sn**	**19 22 00.7**	**+0.8**
	44nm,0.3s,baz=18,slow=20,SNR=7.3						
PMG	**Port Moresby**	**3.32**	**192**	P	**Pn**	**19 21 22.1**	**+0.4**
MANU	**Manus Island**	**4.09**	**353**	Pn	**Pn**	**19 21 28.6**	**-3.6**
RABL	**Rabaul**	**4.72**	**66**	Pn	**Pn**	**19 21 38.0**	**-2.9**
JAY	**Jayapura**	**7.97**	**296**	Pn	**Pn**	**19 22 26.1**	**+0.7**
	0.6nm,0.3s,baz=120,slow=20,SNR=5.8						
JAY				LR	LR	19 25 49.0	
	comp=Z,324nm,19.6s,baz=119,slow=42						
COEN	**Coen**	**9.03**	**210**		**Pn**	**19 22 37.8**	**-2.2**
COEN				Sn	Sn	19 24 11.0	-9.2
MTSU	**Mount Surprise**	**12.41**	**196**	P	**Pn**	**19 23 27.0**	**+0.8**
CTAO	**Charters Tower**	**13.96**	**186**		**Pn**	**19 23 46.8**	**-0.3**
QIS	**Mount Isa**	**16.41**	**208**	P	**P**	**19 24 19.5**	**-1.1**
MTN	**Manton Dam**	**17.77**	**247**	P	**P**	**19 24 33.0**	**-2.6**
MTN				IAmb	IAmb	19 25 06.3	
	comp=Z,35nm,1.3s						
WB0	**Warramunga Arr**	**18.83**	**223**	P	**P**	**19 24 45.9**	**-1.3**
WB0				IAmb	IAmb	19 24 59.0	
	comp=Z,23nm,1.4s						
WRAB	**Tennant Creek**	**18.97**	**222**	Pn	**Pn**	**19 24 49.5**	**-0.6**
WRAB				IAmb	IAmb	19 25 05.5	
	comp=Z,6.5nm,0.7s						
WB2	**Warramunga Arr**	**18.98**	**222**	P	**P**	**19 24 46.1**	**-2.7**
WB2				IAmb	IAmb	19 24 52.5	
	comp=Z,5.3nm,0.8s						
WRA	**Warramunga Arr**	**18.99**	**222**	P	**P**	**19 24 46.4**	**-2.6**
WRA	**Warramunga Arr**	**18.99**	**222**	P	**P**	**19 24 47.4**	**-1.6**
	comp=Z,0.9nm,0.3s,baz=45,slow=12,SNR=23						
WRA				S	S	19 28 06.7	-15
	comp=Z,0.5nm,0.6s,baz=39,slow=23,SNR=2.0						
WRA				ScP	**ScP**	**19 32 51.2**	**+7.8**
	comp=Z,0.3nm,1.0s,baz=51,slow=3.0,SNR=3.1						
WRA				LR	LR	19 32 54.8	
	comp=Z,70nm,20.6s,baz=29,slow=40 comp=Z,2.1nm,0.5s						
GUMO	**Guam**	**19.81**	**351**	LR	LR	19 32 42.9	
	comp=Z,102nm,18.1s,baz=122,slow=37						
QLP	**Quilpie**	**20.63**	**189**	P	Pn	19 25 09.7	+0.2
KNRA	**Kununurra**	**20.98**	**242**	P	**P**	**19 25 08.2**	**-2.4**
KNRA				IAmb	IAmb	19 25 12.6	
	comp=Z,68nm,1.4s						
AS01	**Alice Springs**	**21.96**	**216**	P	**P**	**19 25 21.1**	**0.0**
AS31	**Alice Springs**	**21.99**	**216**	P	**P**	**19 25 20.3**	**-1.1**
ASAR	**Alice Springs**	**21.99**	**216**	P	**P**	**19 25 20.2**	**-1.3**
ASAR	**Alice Springs**	**21.99**	**216**	P	**P**	**19 25 20.6**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=51,slow=8.2,SNR=43						
ASAR				S	**S**	**19 29 20.0**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=32,slow=21,SNR=5.6						
ASAR				ScP	**ScP**	**19 32 58.6**	**+8.0**
	comp=Z,0.8nm,0.8s,baz=48,slow=2.8,SNR=6.0						
ASAR				LR	LR	19 34 28.9	
	comp=Z,107nm,21.8s,baz=40,slow=39 comp=Z,1.2nm,0.5s						
SANI	**Sanana**	**22.16**	**280**	P	**P**	**19 25 26.0**	**+2.6**
INKA	**Innaminka**	**22.52**	**197**	P	**P**	**19 25 29.1**	**+2.0**
OOD	**Oodnadatta**	**24.44**	**207**	P	**P**	**19 25 46.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**24.71**	**239**	P	**P**	**19 25 46.4**	**-1.6**
FITZ	**Fitzroy Crossi**	**24.71**	**239**	LR	LR	19 35 50.7	
	comp=Z,92nm,20.2s,baz=62,slow=38						
FITZ	**Fitzroy Crossi**	**24.71**	**239**	P	**P**	**19 25 47.8**	**-0.1**
MMRI	**Maumere**	**25.51**	**263**	P	**P**	**19 25 52.9**	**-2.4**
MMRI				IAmb	IAmb	19 26 04.9	
	comp=Z,43nm,1.2s						
LUWI	**Luwuk**	**25.52**	**280**	P	**P**	**19 25 52.7**	**-2.7**
LUWI	**Luwuk**	**25.52**	**280**	P	**P**	**19 25 57.5**	**+2.2**
	comp=Z,62nm,1.0s						
DAV	**Davao City (W)**	**25.79**	**300**	LR	LR	19 35 46.4	
	comp=Z,36nm,21.5s,baz=286,slow=36						
LCRK	**Leigh Creek**	**25.82**	**199**	P	**P**	**19 26 00.0**	**+2.1**
STKA	**Stephens Creek**	**26.27**	**192**	P	**P**	**19 25 57.7**	**-4.2**
STKA	**Stephens Creek**	**26.27**	**192**	P	**P**	**19 26 00.7**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=13,slow=8.6,SNR=2.2						
STKA				LR	LR	19 36 58.0	
	comp=Z,82nm,19.3s,baz=26,slow=38 comp=Z,1.0nm,0.6s						
TOLI2	**Tolitoli**	**27.95**	**284**	P	**P**	**19 26 12.3**	**-5.0**
TOLI2				IAmb	IAmb	19 26 32.0	
	comp=Z,4.0nm,0.8s						
KAPI	**Kappang**	**27.97**	**271**	LR	LR	19 39 24.4	
	comp=Z,31nm,20.6s,baz=80,slow=41						
BBOO	**Buckleboo**	**28.72**	**201**	P	**P**	**19 26 23.3**	**-0.6**
BBOO				IAmb	IAmb	19 26 30.2	
	comp=Z,17nm,1.3s						
FORT	**Forrest**	**30.76**	**215**	P	**P**	**19 26 39.9**	**-2.0**
JOW	**Kunigami**	**37.85**	**331**	LR	LR	19 42 32.8	
	comp=Z,62nm,18.9s,baz=308,slow=35						
LEM	**Lembang**	**39.96**	**267**	LR	LR	19 47 32.7	
	comp=Z,130nm,19.5s,baz=1.0,slow=41						
URZ	**Urewera**	**41.56**	**145**	LR	LR	19 43 30.0	
	comp=Z,69nm,21.6s,baz=80,slow=33						
JNU	**Nakatsue**	**42.23**	**339**	LR	LR	19 42 46.1	
	comp=Z,53nm,18.7s,baz=102,slow=32						
MJAR	**Matsushiro Arr**	**43.40**	**349**	P	P	19 28 30.9	+2.0
	comp=Z,3.9nm,1.1s,baz=156,slow=9.3,SNR=4.1 comp=Z,3.9nm,1.1s						
KSRS	**Korea Array**	**47.18**	**338**	P	**P**	**19 28 59.1**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=170,slow=11,SNR=2.3						
KSRS				LR	LR	19 46 19.5	
	comp=Z,24nm,21.3s,baz=335,slow=33 comp=Z,0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**54.05**	**298**	P	**P**	**19 29 51.8**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=120,slow=6.3,SNR=1.4 comp=Z,0.2nm,0.3s						
PETK	**Petropavlovsk-**	**59.60**	**7**	LR	LR	19 51 57.1	
	comp=Z,29nm,20.1s,baz=205,slow=32						
SONM	**Songino Array**	**64.93**	**331**	P	**P**	**19 31 06.7**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=134,slow=8.5,SNR=3.7 comp=Z,0.7nm,0.8s						
MKAR	**Makanchi Array**	**78.13**	**320**	P	**P**	**19 32 25.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=100,slow=7.0,SNR=6.8 comp=Z,0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**79.57**	**328**	P	**P**	**19 32 32.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=104,slow=6.1,SNR=2.5 comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**81.84**	**323**	P	**P**	**19 32 46.0**	**+1.2**
	comp=Z,0.2nm,0.2s,baz=111,slow=5.2,SNR=1.3 comp=Z,0.2nm,0.2s						
QSPA	**South Pole Qui**	**83.84**	**180**	P	**P**	**19 32 56.9**	**+1.8**
	comp=Z,3.1nm,0.7s,baz=327,slow=1.4,SNR=9.5 comp=Z,3.1nm,0.7s						
ILAR	**Eielson Array**	**85.28**	**23**	P	P	19 33 05.3	+3.2
	comp=Z,0.5nm,0.9s,baz=260,slow=5.4,SNR=2.9 comp=Z,0.5nm,0.9s						
BVAR	**Borovoye Array**	**87.37**	**324**	P	**P**	**19 33 12.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=93,slow=2.9,SNR=2.8 comp=Z,0.3nm,0.3s						
TORD	**Torodi Ar. Bea**	**145.93**	**284**	PKPbc	**PKiKP**	**19 40 07.3**	**-2.2**
	comp=Z,4.1nm,0.8s,baz=66,slow=4.5,SNR=26						

*SJA **28** 19:20:51.0, 24°.06S×70°.83W, h39km, ML3.5*
*GUC **28** 19:20:52.3±0.8, 24°.07S×70°.50W, h69km±8km, ML3.6*
ISC 28 19:20:51.7±1.5, **24°.03S**±0°.04×**70°.7W**±0°.1, **h36**km, **n16**, σ0°**88**/**17**, **1C-4D**, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.67**	**153**	↓*i*P	Pn	19 21 06.7	+1.7
PB14				*e*S	**Sn**	**19 21 16.1**	**+1.7**
PB14	**IPOC Station P**	**0.67**	**153**	*i* P	Pn	19 21 06.0	+1.0
GO02	**Mina Guanaco**	**1.54**	**137**	↑*i*P	Pn	19 21 17.2	+0.4
GO02				*e*S	**Sn**	**19 21 34.4**	**-1.3**
GO02				IAML		19 21 35.4	
	comp=N,2μm,0.2s						
GO02	**Mina Guanaco**	**1.54**	**137**	*i* P	**Pn**	**19 21 16.6**	**-0.3**
PB04	**IPOC Station P**	**1.77**	**18**	↓*i*P	**Pn**	**19 21 20.9**	**+1.0**
PB04				*e*S	**Sn**	**19 21 41.2**	**-0.1**
PB04				IAML		19 21 43.0	
	comp=E,849nm,0.3s						
PB04	**IPOC Station P**	**1.77**	**18**	*i* P	**Pn**	**19 21 20.4**	**+0.4**
AC01	**Pan de Azucar**	**2.11**	**177**	*e*P	**Pn**	**19 21 25.3**	**+0.8**
AC01				*e*S	**Sn**	**19 21 49.6**	**+0.1**
AC01	**Pan de Azucar**	**2.11**	**177**	*i* P	**Pn**	**19 21 24.8**	**+0.3**
PB09	**IPOC Station P**	**2.62**	**32**	↓*i*P	Pn	19 21 32.6	+1.1
PB09	**IPOC Station P**	**2.62**	**32**	*i* P	**Pn**	**19 21 32.0**	**+0.4**
PB01	**IPOC Station P**	**3.19**	**22**	*i* P	**Pn**	**19 21 40.0**	**+0.6**
PB01				*e*S	**Sn**	**19 22 15.1**	**-1.2**
PB01				IAML		19 22 15.5	
	comp=E,101nm,0.2s						
PB01	**IPOC Station P**	**3.19**	**22**	*i* P	**Pn**	**19 21 39.3**	**-0.1**
PATCX	**Punta Patache**	**3.24**	**10**	↓*e*P	**Pn**	**19 21 40.3**	**+0.2**
PATCX	**Punta Patache**	**3.24**	**10**	*i* P	**Pn**	**19 21 40.1**	**0.0**
GO03	**Copiapo**	**3.58**	**173**	*i* P	**Pn**	**19 21 45.2**	**+0.5**
AC04	**Llanos de Chal**	**4.17**	**184**	*i* P	**Pn**	**19 21 51.4**	**-1.4**

*IDC **28** 19:28:46.9±2.3, 19°.85S×177°.45W, h575km±20km, mb2.9/4, mbtmp3.9/6, Error ellipse: s-maj=65.3km s-min=23.6km az=151.0*
ISC 28 19:28:44.0±2.3, **20°.2S**±0°.3×**177°.2W**±0°.3, **h550**km, **n6**, σ2°**01**/**8**, **mb3.5**/**4**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.15**	**298**	P	**P**	**19 30 16.2**	**+0.8**
	6.1nm,0.4s,baz=114,slow=19,SNR=8.4						
DZM	**Mont Dzumac**	**15.38**	**260**	P	**P**	**19 31 59.0**	**+1.4**
	2.6nm,0.6s,baz=133,slow=23,SNR=1.6						
STKA	**Stephens Creek**	**38.59**	**244**	P	**P**	**19 35 21.5**	**+1.2**
	2.2nm,0.7s,baz=56,slow=7.6,SNR=5.4 2.2nm,0.7s						
ASAR	**Alice Springs**	**45.32**	**256**	P	**P**	**19 36 13.3**	**-0.1**
	1.6nm,0.6s,baz=89,slow=8.6,SNR=45						
ASAR				S	**S**	**19 42 10.7**	**-3.8**
	1.1nm,0.8s,baz=94,slow=15,SNR=9.0 1.6nm,0.6s						
WRA	**Warramunga Arr**	**45.39**	**262**	P	**P**	**19 36 13.1**	**-0.9**
	0.3nm,0.3s,baz=97,slow=6.9,SNR=11						
WRA				S	**S**	**19 42 15.7**	**+0.2**
	0.8nm,1.0s,baz=97,slow=15,SNR=1.6 0.3nm,0.3s						
ILAR	**Eielson Array**	**87.90**	**12**	P	**P**	**19 40 34.0**	**-0.8**
	0.2nm,0.4s,baz=217,slow=6.2,SNR=4.7 0.2nm,0.4s						

*IDC **28** 20:02:00.2±1.2, 8°.77S×158°.25E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=31.0km s-min=22.1km az=15.0*
ISC 28 20:02:04.4±0.9, **8°.8S**±0°.2×**158°.3E**±0°.1, **h29**km, **n7**, σ0°**59**/**8**, **mb3.7**/**6**, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.73**	**111**	Pn	**Pn**	**20 02 32.2**	**-0.4**
	14nm,0.3s,baz=180,slow=11,SNR=2.7						
HNR				LR	LR	20 02 53.3	
	comp=Z,48nm,21.0s,baz=317,slow=30						
HNR				Sn	**Sb**	**20 02 57.2**	**+0.3**
	53nm,0.3s,baz=265,slow=22,SNR=6.3						
WRA	**Warramunga Arr**	**25.68**	**242**	P	**P**	**20 07 31.6**	**-0.6**
	1.8nm,0.8s,baz=68,slow=9.9,SNR=9.1 1.8nm,0.8s						
ASAR	**Alice Springs**	**27.63**	**235**	P	**P**	**20 07 49.5**	**-0.2**
	0.3nm,0.7s,baz=65,slow=9.3,SNR=2.3 0.3nm,0.7s						
STKA	**Stephens Creek**	**27.71**	**212**	P	**P**	**20 07 51.1**	**+0.8**
	0.9nm,0.7s,baz=147,slow=13,SNR=1.3 0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**64.52**	**295**	P	**P**	**20 12 38.7**	**-0.5**
	0.3nm,0.3s,baz=94,slow=6.8,SNR=2.2 0.3nm,0.3s						
SONM	**Songino Array**	**72.64**	**326**	P	**P**	**20 13 30.1**	**+0.6**
	0.4nm,0.7s,baz=134,slow=6.7,SNR=3.1 0.4nm,0.7s						
MKAR	**Makanchi Array**	**86.93**	**318**	P	**P**	**20 14 46.9**	**+0.1**
	0.4nm,0.6s,baz=98,slow=6.3,SNR=4.8 0.4nm,0.6s						

*IDC **28** 20:05:11.2±1.3, 56°.75S×139°.22W, h0km, mb4.1/5, mbtmp4.1/5, MS3.9/12, Error ellipse: s-maj=43.3km s-min=28.8km az=13.0*
ISC 28 20:05:12.8±1.3, **56°.9S**±0°.3×**139°.2W**±0°.2, **h10**km, **n31**, σ1°**91**/**9**, **mb4.3**/**8**, **MS3.9**/**12**, **3C**, **Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**33.30**	**180**	P	**P**	**20 11 51.1**	**+0.8**
	0.7nm,0.3s,baz=242,slow=5.1,SNR=1.4						
QSPA				LR	LR	20 23 47.4	
	comp=Z,251nm,18.4s,baz=70,slow=33 0.7nm,0.3s						
URZ	**Urewera**	**34.13**	**284**	LR	LR	20 22 49.7	
	comp=Z,122nm,18.2s,baz=144,slow=31						
PMSA	**Palmer Station**	**35.36**	**134**	LR	LR	20 22 54.0	
	comp=Z,198nm,18.2s,baz=262,slow=30						
RAR	**Rarotonga**	**38.71**	**328**	LR	LR	20 24 07.0	
	comp=Z,165nm,18.8s,baz=137,slow=29						
PPT	**Papeete**	**40.00**	**344**	LR	LR	20 24 25.0	
	comp=Z,173nm,18.7s,baz=206,slow=29						
H03S2	**Juan Fernandez**	**46.36**	**87**	T	T	21 03 08.4	
	baz=220,slow=74,SNR=19						
H03S1	**Juan Fernandez**	**46.37**	**87**	T	T	21 03 08.8	
	baz=220,slow=74,SNR=19						
H03S3	**Juan Fernandez**	**46.38**	**87**	T	T	21 03 08.2	
	baz=220,slow=74,SNR=16						
H03N3	**Juan Fernandez**	**46.65**	**86**	T	T	21 03 30.4	
	baz=223,slow=72,SNR=22						
H03N2	**Juan Fernandez**	**46.66**	**86**	T	T	21 03 26.9	
	baz=223,slow=72,SNR=23						
H03N1	**Juan Fernandez**	**46.67**	**86**	T	T	21 03 29.3	
	baz=223,slow=72,SNR=23						
VNA2	**Neumayer--Watz**	**48.02**	**161**	⇑P	**P**	**20 13 52.0**	**+0.6**
	comp=Z,7.3nm,0.7s,baz=215,slow=8.7						
VNA1	**Neumayer--Stat**	**48.09**	**160**	⇑P	**P**	**20 13 52.3**	**+0.5**
	comp=Z,12nm,1.0s						
SNAA	**Sanae**	**48.16**	**163**	⇑P	**P**	**20 13 48.1**	**-4.5**
	comp=Z,81nm,1.2s						
SNAA	**Sanae**	**48.16**	**163**	P	**P**	**20 13 53.4**	**+0.8**
	comp=Z,2.8nm,0.9s,baz=223,slow=10,SNR=6.5						
SNAA				LR	LR	20 32 29.8	
	comp=Z,87nm,19.2s,baz=191,slow=34 comp=Z,2.8nm,0.9s						
MAW	**Mawson**	**54.78**	**190**	LR	LR	20 35 43.9	
	comp=Z,80nm,18.8s,baz=167,slow=33						
LPAZ	**La Paz**	**66.15**	**83**	P	**P**	**20 16 01.1**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=299,slow=1.7,SNR=4.1 comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**68.87**	**259**	P	**P**	**20 16 17.4**	**-0.1**
	comp=Z,2.5nm,1.1s,baz=144,slow=6.8,SNR=6.8 comp=Z,2.5nm,1.1s						
H01W1	**Cape Leeuwin H**	**69.74**	**237**	T	T	21 33 32.7	
	baz=144,slow=75,SNR=14						
H01W2	**Cape Leeuwin H**	**69.75**	**237**	T	T	21 33 34.4	
	baz=144,slow=75,SNR=13						
H01W3	**Cape Leeuwin H**	**69.76**	**237**	T	T	21 33 33.8	
	baz=144,slow=75,SNR=9.3						
WRA	**Warramunga Arr**	**71.65**	**262**	P	**P**	**20 16 34.5**	**0.0**
	comp=Z,1.3nm,1.0s,baz=140,slow=4.6,SNR=4.3 comp=Z,1.3nm,1.0s						
JTS	**Las Juntas de**	**80.34**	**54**	LR	LR	20 44 13.4	
	comp=Z,75nm,21.1s,baz=28,slow=29						
BATI	**Baumata**	**85.44**	**258**	P	**P**	**20 17 50.7**	**+0.1**
	comp=Z,35nm,0.9s,baz=266,slow=7.1,SNR=4.4						
SUR	**Sutherland**	**89.50**	**163**	LR	LR	20 55 04.2	
	comp=Z,73nm,18.8s,baz=240,slow=33						
PCRV	**Puerto La Cruz**	**90.14**	**72**	LR	LR	20 53 39.2	
	comp=Z,118nm,18.8s,slow=32						
BOSA	**Boshof**	**93.85**	**166**	LR	LR	20 58 48.9	
	comp=Z,64nm,18.7s,baz=212,slow=34						
LBTB	**Lobatse**	**97.44**	**166**	LR	LR	21 00 42.9	
	comp=Z,59nm,18.5s,baz=255,slow=34						
H10N3	**ASCENSION HYDR**	**101.32**	**124**	T	T	22 12 48.7	
	baz=205,slow=75,SNR=2.6						
H10N1	**ASCENSION HYDR**	**101.32**	**124**	T	T	22 12 50.4	
	baz=205,slow=75,SNR=2.7						
H10N2	**ASCENSION HYDR**	**101.34**	**124**	T	T	22 12 50.5	
	baz=205,slow=75,SNR=2.9						

*IDC **28** 20:15:33.9±0.8, 0°.96N×125°.27E, h0km, mb4.0/9, mbtmp4.0/11, ML3.7/2, MS2.6/3, Error ellipse: s-maj=34.7km s-min=14.6km az=85.0*
*DJA **28** 20:15:41.1±0.6, 1°.N±3°×12°.5E±°, h20km±7km, M4.4/18, mb4.5/7, mB5.1/3, MLv4.4/18, Mw(mB)4.5/3*
*NEIC **28** 20:15:41.2±2.3, 0°.91N±0°.09×125°.37E±0°.04, h51km±9km, mb4.6/26, Error ellipse: s-maj=13.7km s-min=6.4km az=182.0*
ISC 28 20:15:42.7±0.5, **0°.81N**±0°.05×**125°.38E**±0°.05, **h79**km, **n66**, σ1°**68**/**68**, **mb4.4**/**22**, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.42**	**260**	P	**Pn**	**20 16 05.4**	**-1.5**
KMSI				S	**Sn**	**20 16 24.0**	**-1.2**
TNTI	**Ternate**	**1.99**	**91**		**Pn**	**20 16 13.0**	**-1.5**
TNTI	**Ternate**	**1.99**	**91**	P	**Pn**	**20 16 13.5**	**-1.0**
TNTI				S	**Sn**	**20 16 38.6**	**-0.1**
LBMI	**Labuha**	**2.57**	**124**	P	**Pn**	**20 16 21.4**	**-0.8**
SANI	**Sanana**	**2.91**	**168**	P	**Pn**	**20 16 24.1**	**-2.7**
LUWI	**Luwuk**	**3.19**	**235**	Pn	**Pn**	**20 16 30.9**	**+0.2**
LUWI	**Luwuk**	**3.19**	**235**	P	**Pn**	**20 16 32.0**	**+1.3**
MRSI	**Marisa**	**3.45**	**265**	P	**Pn**	**20 16 34.1**	**-0.1**
APSI	**Ampana**	**4.10**	**245**	P	**Pn**	**20 16 44.6**	**+1.5**
NLAI	**Namlea**	**4.38**	**157**	P	**Pn**	**20 16 46.2**	**-0.6**
TOLI2	**Tolitoli**	**4.60**	**274**	Pn	**Pn**	**20 16 48.1**	**-1.8**
KDI	**Kendari**	**5.48**	**210**	P	**Pn**	**20 17 01.0**	**-0.9**
PCI	**Palu**	**5.80**	**253**	P	**Pn**	**20 17 07.5**	**+1.3**
	52nm,0.8s,882nm0.3nm						
SWI	**Sorong**	**6.11**	**106**	P	**Pn**	**20 17 10.4**	**-0.1**
DAV	**Davao City (W)**	**6.22**	**2**	LR	LR	20 19 19.5	
	comp=Z,62nm,19.1s,baz=250,slow=37						
TTSI	**Tana Toraja**	**6.75**	**235**	P	**Pn**	**20 17 19.6**	**+0.4**
SPSI	**

KURK IAmb IAmb 20 26 21.7
comp=Z,6.1nm,1.4s
KKAR Karatay Array 64.47 318 P **P 20 26 12.5 +1.4**
TIXI Tiksi 70.76 1 P **P 20 26 50.0 -0.1**
TIXI IAmb IAmb 20 27 30.9
comp=Z,5.2nm,1.4s
NRIK Noril'sk 72.94 347 P **P 20 27 03.7 +0.5**
comp=Z,2.7nm,0.6s,baz=118,slow=6.1,SNR=4.4
comp=Z,2.7nm,0.6s
ABKAR Akbulak array 73.56 322 P **P 20 27 06.3 -1.0**
F17K Baldwin Pennin 82.65 23 P **P 20 27 58.2 +1.1**
F17K IAmb IAmb 20 28 39.7
comp=Z,15nm,1.4s
J17K VABM Dome 82.82 26 P **P 20 28 01.0 +2.9**
J17K IAmb IAmb 20 28 01.8
comp=Z,5.4nm,1.0s
E18K Tukpahlearik C 83.15 22 P **P 20 28 02.7 +2.9**
E18K IAmb IAmb 20 28 28.6
comp=Z,13nm,1.4s
H18K Honhosa River 83.51 24 P **P 20 28 03.9 +2.2**
H18K IAmb IAmb 20 28 07.7
comp=Z,12nm,1.4s
L18K Granite Mounta 83.67 27 P **P 20 28 04.3 +1.8**
L18K IAmb IAmb 20 28 09.7
comp=Z,15nm,1.5s
G19K Purcell Mounta 84.23 24 P **P 20 28 05.6 +0.3**
G19K IAmb IAmb 20 28 15.8
comp=Z,7.6nm,1.3s
ILAR Eielson Array 88.30 25 P **P 20 28 27.3 +1.9**
comp=Z,0.2nm,0.7s,baz=268,slow=4.8,SNR=1.6
comp=Z,0.2nm,0.7s
BMAR Burnt Mountain 89.27 23 P **P 20 28 31.5 +1.6**
C27K Jago River 89.56 20 P **P 20 28 33.0 +1.8**
C27K IAmb IAmb 20 28 55.1
comp=Z,5.0nm,1.4s
BCAR Beaver Creek A 90.58 27 **P 20 28 36.3 +0.2**

*IDC **28** 20:30:56.9±3.7,5˚.19N×127˚.23E,h82km±29km,mb4.0/10, mbtmp4.3/12,M53, Error ellipse: s-maj=79.2km s-min=10.4km az=69.0*
*DJA **28** 20:30:56.1±0.4,5˚N±3˚×12˚7E±˚,h80km±14km,M4.4/12, mb4.4/11,mB4.9/5,MLv4.5/12,Mw(mB)4.2/5*
*NEIC **28** 20:30:57.0±2.0,5˚.06N±0˚.08×126˚.8E±0˚.1,h79km±9km, mb4.5/20,Error ellipse: s-maj=22.1km s-min=9.5km az=70.0*
ISC 28 20:30:56.3±0.6,5˚.02N±0˚.06×127˚.0E±0˚.1,h76km,n61, σ1§50/60,mb4.5/24,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.45**	**326**	Pn	**Pn**	**20 31 34.2**	**+0.1**
DAV	**Davao City (W)**	**2.45**	**326**	P	**Pn**	**20 31 35.9**	**+1.7**
230nm,0.4s,baz=238,slow=7.3,SNR=3.8							
DAV				S	**Sn**	**20 32 05.6**	**+2.5**
369nm,0.5s,baz=76,slow=23,SNR=6.6							
TNTI	**Ternate**	**4.24**	**174**	Pn	**Pn**	**20 31 58.8**	**+0.3**
TNTI	**Ternate**	**4.24**	**174**	P	**Pn**	**20 32 00.0**	**+1.5**
TNTI				S	**Sn**	**20 32 47.8**	**+1.0**
KMSI	**Cibinong**	**5.32**	**214**	P	**Pn**	**20 32 15.0**	**+1.8**
MRSI	**Marisa**	**6.74**	**228**	P	**Pn**	**20 32 35.2**	**+2.6**
59nm,0.6s,0.2nm							
SANI	**Sanana**	**7.09**	**188**	P	**Pn**	**20 32 35.4**	**-2.0**
47nm,0.9s,809nm0.2nm							
SWI	**Sorong**	**7.26**	**143**	P	**Pn**	**20 32 38.2**	**-1.5**
8.6nm,0.4s,0.1nm							
TOLI2	**Tolitoli**	**7.28**	**238**		**Pn**	**20 32 38.3**	**-1.7**
LUWI	**Luwuk**	**7.33**	**215**	Pn	**Pn**	**20 32 41.6**	**+0.9**
APSI	**Ampana**	**7.92**	**222**	P	**Pn**	**20 32 52.8**	**+4.0**
49nm,0.9s							
NLAI	**Namlea**	**8.21**	**179**	P	**Pn**	**20 32 51.3**	**-1.4**
MYLDM	**Lahad Datu**	**8.42**	**271**	Pn	**Pn**	**20 32 54.5**	**-1.1**
FAKI	**Fak Fak**	**9.50**	**146**	Pn	**Pn**	**20 33 12.3**	**+1.9**
KDI	**Kendari**	**9.91**	**206**	P	**Pn**	**20 33 13.8**	**-2.2**
15nm,0.7s							
TTSI	**Tana Toraja**	**10.72**	**222**	P	**Pn**	**20 33 28.7**	**+1.7**
SPSI	**Sidrap Palu**	**11.45**	**219**	P	**Pn**	**20 33 37.1**	**+0.2**
KAPI	**Kappang**	**12.29**	**216**	LR	LR	20 39 17.1	
comp=Z,30nm,19.7s,baz=44,slow=40							
SAUI	**Saumlaki**	**13.63**	**161**	Pn	**Pn**	**20 34 05.5**	**-0.8**
BATI	**Baumata**	**15.47**	**192**	P	**P**	**20 34 32.6**	**-0.5**
8.6nm,0.6s,baz=94,slow=18,SNR=1.6							
BATI				LR	LR	20 41 20.0	
comp=Z,62nm,18.0s,baz=186,slow=40							
MTN	**Manton Dam**	**18.23**	**167**	P	**P**	**20 35 02.5**	**-1.1**
TPUB	**Ta-pu**	**19.17**	**342**	P	**P**	**20 35 11.9**	**-1.9**
TPUB				IAmb	IAmb	20 35 47.8	
comp=Z,56nm,1.2s							
KNRA	**Kununurra**	**20.64**	**175**	P	**P**	**20 35 30.6**	**+0.7**
KNRA				IAmb	IAmb	20 35 34.3	
comp=Z,42nm,1.4s							
FITZ	**Fitzroy Crossi**	**23.01**	**183**	P	**P**	**20 35 57.1**	**+2.2**
FITZ	**Fitzroy Crossi**	**23.01**	**183**	P	**P**	**20 35 57.4**	**+2.4**
comp=Z,2.7nm,0.4s,baz=17,slow=8.9,SNR=9.7							
FITZ				LR	LR	20 47 09.5	
comp=Z,80nm,18.4s,baz=142,slow=42							
comp=Z,2.7nm,0.4s							
WB0	**Warramunga Arr**	**25.70**	**164**	P	**P**	**20 36 18.8**	**-0.8**
WB0				IAmb	IAmb	20 36 22.0	
comp=Z,28nm,1.2s							
WRAB	**Tennant Creek**	**25.84**	**164**	P	**P**	**20 36 20.8**	**0.0**
WRAB				IAmb	IAmb	20 36 25.4	
comp=Z,13nm,1.1s							
WRA	**Warramunga Arr**	**25.85**	**164**	P	**P**	**20 36 20.4**	**-0.5**
WRA	**Warramunga Arr**	**25.85**	**164**	P	**P**	**20 36 22.1**	**+1.2**
comp=Z,4.2nm,0.8s,baz=343,slow=10,SNR=29							
comp=Z,4.2nm,0.8s							
WB2	**Warramunga Arr**	**25.85**	**164**	P	**P**	**20 36 21.5**	**+0.6**
WB2				IAmb	IAmb	20 36 25.4	
comp=Z,18nm,1.4s							
NJ2	**Nanjing**	**27.94**	**345**	*eP*	**P**	**20 36 39.8**	**+0.3**
NJ2				pmax	pmax		
comp=Z,6.0nm,0.5s							
JNU	**Nakatsue**	**28.20**	**7**	LR	LR	20 46 52.9	
comp=Z,26nm,21.9s,baz=353,slow=34							
ASAR	**Alice Springs**	**29.31**	**167**	P	**P**	**20 36 53.2**	**+1.4**
ASAR	**Alice Springs**	**29.31**	**167**	P	**P**	**20 36 52.5**	**+0.7**
comp=Z,0.9nm,0.6s,baz=358,slow=8.7,SNR=16							
comp=Z,0.9nm,0.6s							
PZH	**PanZhiHua**	**32.19**	**314**	P	**P**	**20 37 19.8**	**+2.4**
PZH				pmax	pmax		
comp=Z,6.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,100nm,4.7s							
TIA	**Tai'an**	**32.33**	**345**	P	**P**	**20 37 22.3**	**+4.0**
TIA				pmax	pmax		
comp=Z,5.0nm,1.4s							
XAN	**Xi'an**	**33.38**	**332**	P	**P**	**20 37 26.5**	**-1.0**
XAN				pmax	pmax		
comp=Z,14nm,0.9s							
HNS	**HongShan**	**34.12**	**342**	⇑P	**P**	**20 37 34.0**	**+0.2**
HNS				pmax	pmax		
comp=Z,9.0nm,0.9s							
LZH	**Lanzhou**	**37.52**	**329**	*eP*	**P**	**20 38 04.0**	**+0.8**
LZH				pP	pP	20 38 13.8	-6.9
LZH				pmax	pmax		
comp=Z,19nm,1.1s							
HHC	**Hu-ho-hao-te**	**38.25**	**341**	*eP*	**P**	**20 38 09.0**	**-0.2**
HHC				pmax	pmax		
comp=Z,9.0nm,0.5s							
HHC				pmax	pmax		
comp=Z,120nm,5.0s							
BBOO	**Buckleboo**	**38.60**	**168**	P	**P**	**20 38 12.1**	**0.0**
BBOO				IAmb	IAmb	20 38 26.7	
comp=Z,11nm,1.3s							
STKA	**Stephens Creek**	**39.26**	**160**	P	**P**	**20 38 17.6**	**0.0**
STKA	**Stephens Creek**	**39.26**	**160**	P	**P**	**20 38 17.6**	**0.0**
comp=Z,6.0nm,0.8s,baz=348,slow=7.9,SNR=14							
comp=Z,6.0nm,0.8s							
SHL	**Shillong**	**39.30**	**305**	P	**P**	**20 38 15.7**	**-2.7**
ULN	**Ulaanbaatar**	**45.97**	**341**	P	**P**	**20 39 09.5**	**-2.5**
ULN				IAmb	IAmb	20 39 12.4	
comp=Z,2.9nm,0.7s							
SONM	**Songino Array**	**46.16**	**341**	P	**P**	**20 39 11.9**	**-1.5**
SONM				IAmb	IAmb	20 39 16.0	
comp=Z,6.3nm,1.4s							
SONM	**Songino Array**	**46.16**	**341**	P	**P**	**20 39 13.1**	**-0.4**
comp=Z,1.2nm,0.8s,baz=157,slow=7.1,SNR=9.0							
comp=Z,1.2nm,0.8s							
MKAR	**Makanchi Array**	**56.63**	**325**	P	**P**	**20 40 31.7**	**+0.1**
comp=Z,1.6nm,0.4s,baz=118,slow=7.8,SNR=43							
comp=Z,1.6nm,0.4s							
KDJ	**Kajisay**	**57.54**	**318**	P	**P**	**20 40 38.5**	**+0.2**
ZALV	**Zalesovo Beam**	**59.55**	**333**	P	**P**	**20 40 50.8**	**-0.9**
ZALV	**Zalesovo Beam**	**59.55**	**333**	P	**P**	**20 40 51.0**	**-0.8**
comp=Z,1.3nm,0.4s,baz=111,slow=8.1,SNR=9.0							
comp=Z,1.3nm,0.4s							
KURK Kurchatov 60.78 327 P **P 20 40 60.0 -0.3**							
KURBB Kurchatov Arra 60.78 327 P **P 20 41 00.2 0.0**							
comp=Z,1.9nm,0.6s,baz=125,slow=6.1,SNR=18							
comp=Z,1.9nm,0.6s							
GAR Garm 61.22 312 P **P 20 41 02.4 -1.2**							
GAR IAmb IAmb 20 41 05.3							
comp=Z,6.0nm,1.1s							
KKAR Karatay Array 62.45 316 P **P 20 41 11.7 +0.1**							
BVAR Borovoye Array 66.37 327 P **P 20 41 37.2 +0.2**							
comp=Z,2.8nm,0.7s,baz=127,slow=8.0,SNR=23							
comp=Z,2.8nm,0.7s							
BRVK Borovoye 66.44 327 P **P 20 41 37.1 -0.4**							
BRVK IAmb IAmb 20 41 38.1							
comp=Z,3.9nm,0.7s							
ABKAR Akbulak array 71.30 320 P **P 20 42 07.0 -0.7**							
OPO Ambohidratompo 81.92 251 LR LR 21 16 42.9							
comp=Z,24nm,19.7s,baz=336,slow=33							
KLU Klutina 84.25 29 P **P 20 43 20.0 +0.5**							
ARCES ARCESS Array B 89.32 340 P **P 20 43 44.0 +0.1**							
comp=Z,7.1nm,1.0s,baz=60,slow=4.9,SNR=4.8							
comp=Z,7.1nm,1.0s							

*IDC **28** 20:39:38.4±6.8,38˚.53N×143˚.03E,h55km±29km,mb3.5/5, mbtmp3.8/9,ML3.2/4,MS3.0/3,Error ellipse: s-maj=81.6km s-min=15.2km az=121.0*
*NIED **28** 20:39:41.3,38˚.72N×142˚.25E,h38km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; M_{rr}4.91; $M_{\theta\theta}$2.15; $M_{\phi\phi}$-7.06; $M_{r\theta}$3.65; $M_{\theta\phi}$-1.42; $M_{r\phi}$3.60; Fault plane solution: $M_0$8.19000×10^14^ NP1:ϕ_s34.00000°, δ68.00000°,λ118.00000°. NP2:ϕ_s160.00000°,δ35.00000°, λ41.00000°.*
*JMA **28** 20:39:41.3±0.1,38˚.7N±0˚.3×142˚.3E±0˚.7,h38km±1km, MV3.9/40,E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
ISC 28 20:39:39.0±3.0,38˚.72N±0˚.05×142˚.40E±0˚.09,h15km±16km, n27,σ1§79/27,mb3.7/5,14D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.67**	**302**	⇓P	**Pb**	**20 39 53.1**	**+0.7**
OFUJ				⇓S	**Sg**	**20 40 01.3**	**+0.2**
JKMT	**Kesennumamotoy**	**0.73**	**277**	⇓P	**Pb**	**20 39 53.5**	**+0.1**
JKMT				⇓S	**Sb**	**20 40 01.9**	**-1.3**
JIKH	**Ishinomakikobu**	**0.84**	**241**	⇓P	**Pb**	**20 39 55.2**	**-0.1**
JIKH				⇓S	**Sb**	**20 40 04.9**	**-1.5**
JIO	**Ouri**	**0.87**	**252**	⇓P	**Pb**	**20 39 55.4**	**-0.4**
JIO				⇓*e*S	**Sb**	**20 40 05.1**	**-2.1**
JMK	**Ichinoseki**	**0.95**	**284**	⇓P	**Pb**	**20 39 56.9**	**-0.3**
JMK				⇓S	**Sb**	**20 40 08.0**	**-1.6**
JOM	**Ohasama**	**1.14**	**311**	⇓P	**Pn**	**20 40 00.1**	**-0.3**
JOM				⇓S	**Sb**	**20 40 13.7**	**-1.4**
JTH	**Tanohata**	**1.28**	**341**	*e*P	**Pn**	**20 40 02.4**	**0.0**
JOU	**Okura**	**1.41**	**256**	⇓P	**Pn**	**20 40 03.3**	**-0.8**
JMM	**Marumori**	**1.53**	**236**	⇓P	**Pn**	**20 40 04.8**	**-1.0**
JRG	**Rokugo**	**1.53**	**297**	P	**Pn**	**20 40 05.5**	**-0.3**
JYK	**Kaneyama**	**1.61**	**278**	P	**Pn**	**20 40 06.3**	**-0.5**
MJAR	**Matsushiro Arr**	**3.98**	**238**	P	**Pn**	**20 40 40.8**	**+1.4**
0.6nm,0.3s,baz=58,slow=14,SNR=29							
MJAR				S	**Sn**	**20 41 30.6**	**+4.8**
4.0nm,0.6s,baz=75,slow=26,SNR=1.3							
MJAR				LR	LR	20 42 22.2	
comp=Z,145nm,18.5s,baz=50,slow=38							
3.4nm,0.5s							
ASAJ	**Asahikawa**	**5.39**	**1**	P	**Pn**	**20 40 59.3**	**+0.5**
0.7nm,0.3s,baz=313,slow=29,SNR=2.1							
ASAJ				S	**Sn**	**20 42 02.1**	**+1.6**
5.2nm,0.5s,baz=126,slow=27,SNR=1.7							
6.4nm,0.6s							
USRK	**Ussuriysk Ar.**	**9.54**	**308**	P	Pn	20 42 00.6	+5.0
0.6nm,0.3s,baz=118,slow=14,SNR=7.6							
3.5nm,0.5s							
KSRS	**Korea Array**	**11.48**	**268**	P	**Pn**	**20 42 26.8**	**+4.5**
0.2nm,0.3s,baz=82,slow=14,SNR=2.5							
KSRS				LR	LR	20 46 22.4	
comp=Z,58nm,18.4s,baz=330,slow=34							
1.0nm,0.6s							
KLR	**Kul'dur**	**12.99**	**327**	LR	LR	20 47 27.2	
comp=Z,63nm,19.7s,baz=204,slow=35							
SONM	**Songino Array**	**27.54**	**301**	P	**P**	**20 45 23.9**	**-1.2**
0.3nm,0.4s,baz=96,slow=9.4,SNR=3.0							
0.3nm,0.4s							
H11N2	**WAKE ISLAND Hy 28.40**	**125**		T	T	21 15 56.1	
baz=317,slow=75,SNR=103							
H11N1	**WAKE ISLAND Hy 28.41**	**125**		T	T	21 16 01.3	
baz=317,slow=75,SNR=86							
H11N3	**WAKE ISLAND Hy 28.42**	**125**		T	T	21 16 03.1	
baz=317,slow=75,SNR=99							
H11S1	**WAKE ISLAND Hy 29.18**	**127**		T	T	21 16 50.0	
baz=318,slow=76,SNR=28							
H11S3	**WAKE ISLAND Hy 29.18**	**127**		T	T	21 16 57.2	
baz=318,slow=76,SNR=28							
H11S2	**WAKE ISLAND Hy 29.20**	**127**		T	T	21 17 03.2	
baz=318,slow=76,SNR=39							
ZALV	**Zalesovo Beam**	**41.38**	**311**	P	**P**	**20 47 23.0**	**-1.2**
0.7nm,0.4s,baz=90,slow=10.0,SNR=4.7							
0.7nm,0.4s							
MKAR	**Makanchi Array**	**43.91**	**301**	P	**P**	**20 47 43.5**	**-1.4**
0.4nm,0.5s,baz=78,slow=8.1,SNR=7.9							
0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**45.60**	**307**	P	**P**	**20 47 56.6**	**-1.6**
3.0nm,0.6s,baz=81,slow=8.2,SNR=9.8							
3.0nm,0.6s							
BVAR	**Borovoye Array**	**50.03**	**311**	P	**P**	**20 48 30.8**	**-1.9**
0.6nm,0.5s,baz=72,slow=7.7,SNR=5.5							
0.6nm,0.5s							

*NEIC **28** 20:43:04.3±1.6,4˚.37S±0˚.09×153˚.00E±0˚.06,h10km±1km, mb5.1/23,Error ellipse: s-maj=15.6km s-min=8.7km az=20.0*
*BJI **28** 20:43:05.7,3˚.99S×153˚.04E,h19km,mb4.5/23,mB5.4/7, Ms4.6/5,Ms7 4.3/5*
*IDC **28** 20:43:08.3±1.9,4˚.41S×153˚.06E,h50km±17km,mb3.9/19, mbtmp4.3/22,ML3.7/3,MS3.8/40,Error ellipse: s-maj=16.5km s-min=11.2km az=107.0*
*DJA **28** 20:43:10.5±2.6,4˚S±11˚×15˚3E±1˚9,h58km±14km, M5.0/13,mB5.2/7,mb4.9/13,MLv5.4/1,Mw(mB)4.6/7*
*GCMT **28** 20:43:12.3±0.3,4˚.35S±0˚.02×152˚.92E±0˚.02,h48km±2km, MW4.9/72,Moment Tensor Solution. s18,c19; s72,c95; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}1.67±.24; $M_{\theta\theta}$1.00±.15; $M_{\phi\phi}$-2.67±.14; $M_{r\theta}$-1.24±.11; $M_{\theta\phi}$-0.56±.12; $M_{r\phi}$-0.47±.12; Best double couple: $M_0$2.73700×10^16^ NP1:ϕ_s219.00000°,δ63.00000°,λ131.00000°. NP2: ϕ_s337.00000°,δ48.00000°,λ38.00000°. Principal axes: T 2.6200, Plg53.0000°, Azm179.0000°; N 0.2350, Plg36.0000°, Azm18.0000°; P -2.8550, Plg9.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 28 20:43:09.5±0.4,4˚.34S±0˚.05×153˚.01E±0˚.05,h55km,n143, σ1§54/120,mb4.7/47,MS3.9/38,2D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.86**	**280**	Pn	**Pn**	**20 43 23.1**	**-2.4**
RABL				Sn	**Sn**	**20 43 34.2**	**-3.1**
BULU	**Kimbe**	**2.94**	**246**	P	**Pn**	**20 43 56.6**	**+2.8**
MANU	**Manus Island**	**6.08**	**292**	Pn	**Pn**	**20 44 37.5**	**+0.6**
PMG	**Port Moresby**	**7.69**	**229**	Pn	**Pn**	**20 44 58.7**	**-0.3**
PMG	**Port Moresby**	**7.69**	**229**	P	**Pn**	**20 44 59.2**	**+0.2**
18nm,0.3s,baz=32,slow=10,SNR=35							
PMG				S	**Sn**	**20 46 23.4**	**-1.3**
128nm,0.6s,baz=232,slow=22,SNR=9.4							
PMG				LR	LR	20 48 12.3	
comp=Z,394nm,20.4s,baz=38,slow=40							
86nm,0.5s							
PMG	**Port Moresby**	**7.69**	**229**	P	**Pn**	**20 45 00.7**	**+1.8**
PMG	**Port Moresby**	**7.69**	**229**	P	**Pn**	**20 45 00.8**	**+1.8**
PMG	**Port Moresby**	**7.69**	**229**	P	**Pn**	**20 44 59.4**	**+0.5**
PMG	**Port Moresby**	**7.69**	**229**	P	**Pn**	**20 44 59.1**	**+0.2**
TATA	**Tatamba Isabel**	**7.86**	**121**	P	**Pn**	**20 45 03.6**	**+2.3**
TATA	**Tatamba Isabel**	**7.86**	**121**	P	**Pn**	**20 45 03.3**	**+2.0**
HNR	**Honiara**	**8.54**	**127**	Pn	**Pn**	**20 45 07.1**	**-3.5**
HNR	**Honiara**	**8.54**	**127**	P	**Pn**	**20 45 07.8**	**-2.8**
6.1nm,0.3s,baz=155,slow=4.4,SNR=1.5							
HNR				S	**Sn**	**20 46 49.3**	**+3.6**
106nm,0.6s,baz=325,slow=20,SNR=1.0							
HNR				LR	LR	20 48 47.1	
comp=Z,1μm,20.8s,baz=298,slow=40							
39nm,0.4s							
ALEG Aligegeo Malai 8.80 120 P **Pn 20 45 16.5 +2.3**							
ALEG Aligegeo Malai 8.80 120 P **Pn 20 45 16.2 +2.0**							
NGOA Tingoa Renbel 10.01 136 P **Pn 20 45 32.2 +1.5**							
PATS Pohnpei 12.30 26 Pn **Pn 20 45 59.8 -2.2**							
JAY Jayapura 12.42 278 P **Pn 20 46 03.0 -0.6**							
0.3nm,0.3s,baz=57,slow=21,SNR=2.1							
10nm,1.0s							
JAY Jayapura 12.42 278 P **Pn 20 46 03.8 +0.1**							
42nm,1.2s,731nm							
GENI Genyem 12.94 277 P **Pn 20 46 12.5 +1.8**							
GENI Genyem 12.94 277 P **Pn 20 46 08.4 -2.3**							
84nm,1.3s							
COEN Coen 13.62 225 Pn Pn 20 46 16.5 -3.6							
COEN Coen 13.62 225 P **Pn 20 46 20.9 +0.8**							
COEN Coen 13.62 225 P **Pn 20 46 20.7 +0.6**							
TV1H Townsville Har 16.03 202 P **Pn 20 46 52.7 +1.3**							
MTSU Mount Surprise 16.14 211 P **Pn 20 46 55.1 +2.2**							
CTA Charters Tower 16.98 202 LR LR 20 53 16.6							
comp=Z,288nm,20.2s,baz=32,slow=36							
CTAO Charters Tower 16.98 202 **Pn 20 47 00.3 -3.2**							
CTAO Charters Tower 16.98 202 P **Pn 20 47 04.8 +1.3**							
RKPI Ransiki, Papua 19.02 278 P **P 20 47 27.5 +0.4**							
81nm,1.0s							
QIS Mount Isa 20.74 218 P **P 20 47 45.4 -0.4**							
QIS Mount Isa 20.74 218 P **P 20 47 45.9 +0.1**							
FAKI Fak Fak 20.77 273 **P 20 47 44.6 -1.6**							
FAKI IAmb IAmb 20 47 50.9							
comp=Z,199nm,1.7s							
FAKI Fak Fak 20.77 273 P Pn 20 47 49.5 +0.5							
FAKI Fak Fak 20.77 273 P **P 20 47 46.0 -0.1**							
comp=Z,58nm,1.6s,comp=Z,1μm							
NOUC Port Laguerre 21.86 145 P **P 20 47 59.3 +1.6**							
NOUC Port Laguerre 21.86 145 P **P 20 47 58.4 +0.7**							
DZM Mont Dzumac 21.92 145 P **P 20 47 57.8 -0.7**							
DZM IAmb IAmb 20 48 00.2							
comp=Z,72nm,1.3s							
DZM Mont Dzumac 21.92 145 *eP* **P 20 47 57.8 -0.7**							
comp=Z,123nm,1.2s							
DZM *e*S **S 20 51 54.8 -2.9**							
comp=Z,196nm,23.9s							
DZM *e*LR LR 20 53 12.0							
DZM Mont Dzumac 21.92 145 P **P 20 47 59.0 +0.5**							
KDU Kakadu 21.92 246 P **P 20 47 57.3 -1.2**							
SWI Sorong 22.00 278 P **P 20 47 59.2 -0.1**							
comp=Z,72nm,1.0s							
YATNC Mamie plateau, 22.17 144 P **P 20 48 03.6 +2.5**							
TW1H Toowoomba 1 Ha 23.10 182 P **P 20 48 11.5 +0.6**							
DRS Darwin Rock St 23.29 248 P **P 20 48 14.2 +1.4**							
comp=Z,35nm,0.8s							
QLP Quilpie 23.66 200 P **P 20 48 17.3 +1.2**							
WB0 Warramunga Arr 23.76 228 P **P 20 48 15.9 -1.3**							
WB0 IAmb IAmb 20 48 18.0							
comp=Z,50nm,0.7s							
WR0 Warramunga Arr 23.77 228 P **P 20 48 16.1 -1.1**							
WR0 IAmb IAmb 20 48 17.7							
comp=Z,40nm,0.8s							
WRAB Tennant Creek 23.89 228 P **P 20 48 17.0 -1.3**							
WRAB IAmb IAmb 20 48 19.2							
comp=Z,52nm,0.7s							
WB2 Warramunga Arr 23.90 228 P **P 20 48 16.9 -1.5**							
WRA Warramunga Arr 23.91 228 P **P 20 48 16.9 -1.5**							
WRA Warramunga Arr 23.91 228 P **P 20 48 17.5 -1.0**							
comp=Z,39nm,0.5s,baz=54,slow=9.8,SNR=129							
WRA S **S 20 52 31.5 +0.3**							
comp=Z,14nm,1.0s,baz=48,slow=17,SNR=8.4							
WRA LR LR 20 59 28.4							
comp=Z,198nm,18.1s,baz=22,slow=41							
TNTI Ternate 26.12 281 P **P 20 48 36.9 -1.7**							
TNTI IAmb IAmb 20 48 54.9							
comp=Z,15nm,0.8s							
TNTI Ternate 26.12 281 P **P 20 48 39.5 +0.8**							
KNRA Kununurra 26.37 243 P **P 20 48 39.4 -1.4**							
AS31 Alice Springs 26.63 222 P **P 20 48 42.5 -0.7**							
ASAR Alice Springs 26.63 222 P **P 20 48 41.7 -1.5**							
ASAR Alice Springs 26.63 222 P **P 20 48 42.1 -1.1**							
comp=Z,9.7nm,0.9s,baz=55,slow=9.2,SNR=72							
ASAR S **S 20 53 11.7 -2.8**							
comp=Z,0.9nm,0.8s,baz=46,slow=16,SNR=3.8							
ASAR LR LR 20 59 02.5							
comp=Z,100nm,21.4s,baz=54,slow=36							
comp=Z,9.7nm,0.9s							
SANI Sanana 27.07 274 P **P 20 48 47.4 +0.1**							
comp=Z,25nm,1.3s							
MSVF Nonsavu 27.89 120 P **P 20 48 53.3 -1.3**							
comp=Z,3.1nm,0.7s,baz=182,slow=21,SNR=2.5							
comp=Z,3.1nm,0.7s							
CMSA Cobar Meteorol 27.92 193 P **P 20 48 54.6 0.0**							
OOD Oodnadatta 28.58 213 P **P 20 48 59.8 -0.7**							
STKA Stephens Creek 29.42 200 P **P 20 49 06.4 -1.5**							
STKA Stephens Creek 29.42 200 P **P 20 49 06.9 -1.0**							
comp=Z,3.0nm,0.6s,baz=33,slow=14,SNR=10.0							
STKA LR LR 21 00 36.5							
comp=Z,237nm,21.9s,baz=19,slow=36							
comp=Z,3.0nm,0.6s							
LCRK Leigh Creek 29.49 207 P **P 20 49 08.2 -0.4**							
FITZ Fitzroy Crossi 30.07 241 LR LR 21 01 38.8							
comp=Z,134nm,18.2s,baz=57,slow=37							
KAPI Kappang 33.15 267 LR LR 21 05 30.6							
comp=Z,118nm,21.3s,baz=93,slow=40							
TGY Tagaytay City 36.71 300 LR LR 21 02 52.9							
comp=Z,294nm,21.7s,baz=106,slow=32							
TAU Tasmania Unive 38.74 187 P **P 20 50 29.4 +1.0**							
TA

HNS	HongShan	54.71	323	⇓P		P	20 52 34.5 +1.2
HNS				pmax	pmax		
comp=Z,10.0nm,1.5s							
BNX	BinXian	54.82	338	⇓P		P	20 52 33.0 -1.0
BNX				pmax	pmax		
comp=Z,10.0nm,0.9s							
KLR	Kul'dur	56.46	343	P		P	20 52 45.9 +0.2
comp=Z,5.2nm,1.0s,baz=150,slow=2.6,SNR=7.7							
KLR				LR	LR		21 14 47.6
comp=Z,54nm,21.9s,baz=181,slow=34							
comp=Z,5.2nm,1.0s							
PETK	Petropavlovsk-	57.37	3	LR	LR		21 12 49.9
comp=Z,67nm,21.4s,baz=184,slow=31							
PPT2	Papeete2	57.67	108	eLR	LR		21 09 44.4
comp=Z,98nm,31.2s							
PPT2				eLR	LR		21 09 48.5
comp=Z,161nm,27.2s							
CMAR	Chiang Mai Arr	57.87	295	P		P	20 52 57.2 +1.0
comp=Z,0.7nm,0.6s,baz=103,slow=6.0,SNR=4.5							
CMAR				LR	LR		21 16 35.9
comp=Z,59nm,21.1s,baz=115,slow=35							
comp=Z,0.7nm,0.6s							
PZH	PanZhiHua	58.28	305	P		P	20 53 01.5 +2.4
PZH				pmax	pmax		
comp=Z,6.0nm,0.7s							
PZH				pmax	pmax		
comp=Z,110nm,5.1s							
TBI	Tubuai	58.56	115	eLR	LR		21 10 11.7
comp=Z,1μm,26.0s							
CD2	Chengdu	58.60	310	eP	P		20 52 59.5 -1.7
HEH	HeiHe	58.69	341	eP	P		20 53 01.3 0.0
HEH				pmax	pmax		
comp=Z,7.0nm,0.9s							
HHC	Hu-ho-hao-te	58.80	324	eP	P		20 53 03.5 +1.1
HHC				pmax	pmax		
comp=Z,13nm,0.6s							
HHC				pmax	pmax		
comp=Z,280nm,5.2s							
BTO	Baotou	59.56	323	eP	P		20 53 13.5 +5.8
BTO				pP	pP		20 53 22.5 -0.5
BTO				PP	PP		20 55 22.0 +2.2
BTO				pmax	pmax		
comp=Z,6.0nm,0.7s							
BTO				LR	LR		
comp=Z,560nm,6.3s							
BTO				LR	LR		
comp=Z,370nm,4.9s							
BTO				LR	LR		
comp=Z,280nm,5.1s							
SHEM	Shemya Is, Ala	59.59	15	LR	LR		21 13 30.5
comp=Z,186nm,21.8s,baz=252,slow=31							
LZH	Lanzhou	61.05	316	eP	P		20 53 19.3 +1.3
LZH				sP	pP		20 53 26.0 -7.5
LZH				pmax	pmax		
comp=Z,9.0nm,1.0s							
MA2	Magadan	63.74	359	LR	LR		21 20 35.9
comp=Z,57nm,19.4s,baz=152,slow=35							
GTA	Gaotai	65.46	317	eP	P		20 53 48.0 +0.8
GTA				sP	pP		20 54 00.0 -2.7
GTA				pmax	pmax		
comp=Z,3.0nm,1.5s							
SONM	Songino Array	66.05	328	P	P		20 53 51.2 +0.5
comp=Z,0.7nm,0.8s,baz=120,slow=5.3,SNR=3.8							
SONM				LR	LR		21 22 53.0
comp=Z,72nm,18.6s,baz=108,slow=36							
comp=Z,0.7nm,0.8s							
YAK	Yakutsk	68.56	348	LR	LR		21 21 55.1
comp=Z,59nm,21.8s,baz=119,slow=34							
WMQ	Urumqi	75.55	317	eP	P		20 54 52.0 +3.5
WMQ				pmax	pmax		
comp=Z,18nm,1.3s							
KDAK	Kodiak Island	75.67	27	LR	LR		21 21 12.5
comp=Z,110nm,20.5s,baz=84,slow=30							
TIXI	Tiksi	77.47	352	LR	LR		21 25 39.0
comp=Z,36nm,21.8s,baz=190,slow=33							
MKAR	Makanchi Array	80.12	319	P	P		20 55 12.9 -0.8
comp=Z,0.3nm,0.5s,baz=117,slow=6.6,SNR=6.2							
MKAR				LR	LR		21 31 50.9
comp=Z,92nm,19.9s,baz=306,slow=36							
comp=Z,0.3nm,0.5s							
ZALV	Zalesovo Beam	80.89	326	P	P		20 55 18.0 +0.4
comp=Z,0.5nm,0.5s,baz=115,slow=6.3,SNR=1.9							
comp=Z,0.5nm,0.5s							
ILAR	Eielson Array	81.65	22	P	P		20 55 21.0 -0.5
comp=Z,1.0nm,0.6s,baz=242,slow=5.8,SNR=6.2							
ILAR				LR	LR		21 26 21.9
comp=Z,56nm,19.6s,baz=176,slow=32							
comp=Z,1.0nm,0.6s							
KSH	Kashi	82.80	311	P	P		20 55 30.3 +2.1
KSH				pmax	pmax		
comp=Z,3.0nm,1.9s							
KURBB	Kurchatov Arra	83.57	322	P	P		20 55 32.1 +0.4
comp=Z,0.5nm,0.2s,baz=108,slow=5.8,SNR=1.4							
comp=Z,0.5nm,0.2s							
H02S1	DAWSON INLET T	84.25	36	T	T		22 28 31.7
SNR=8.4							
AAK	Ala-Archa	84.50	313	P	P		20 55 37.4 +0.4
AAK				IAmb	IAmb		20 56 07.4
comp=Z,9.3nm,1.6s							
AAK	Ala-Archa	84.50	313	P	P		20 55 37.4 +0.4
comp=Z,0.7nm,0.5s,baz=162,slow=12,SNR=4.3							
AAK				LR	LR		21 33 04.1
comp=Z,56nm,21.6s,baz=356,slow=35							
comp=Z,0.7nm,0.5s							
ARSB	Arslanbob	85.38	312	P	P		20 55 41.6 +0.2
NRIK	Noril'sk	85.60	341	P	P		20 55 41.7 +0.1
comp=Z,0.8nm,0.3s,baz=179,slow=16,SNR=1.1							
comp=Z,0.8nm,0.3s							
QSPA	South Pole Qui	85.62	180	P	P		20 55 41.3 -0.8
comp=Z,12nm,0.9s,baz=355,slow=1.9,SNR=21							
QSPA				LR	LR		21 32 59.4
comp=Z,34nm,19.0s,baz=326,slow=35							
comp=Z,12nm,0.9s							
MAW	Mawson	86.08	203	P	P		20 55 43.3 -0.7
comp=Z,3.6nm,0.7s,baz=93,slow=5.2,SNR=12							
MAW				LR	LR		21 30 43.8
comp=Z,61nm,21.3s,baz=66,slow=33							
comp=Z,3.6nm,0.7s							
BBB	Bella Bella	86.60	37	LR	LR		21 30 57.2
comp=Z,59nm,19.0s,baz=284,slow=33							
DLBC	Dease Lake	86.88	31	LR	LR		21 30 38.3
comp=Z,134nm,18.3s,baz=274,slow=33							
YBH	Yreka Blue Hor	88.59	48	LR	LR		21 29 33.2
comp=Z,55nm,19.0s,baz=310,slow=31							
BVAR	Borovoye Array	89.00	323	P	P		20 55 57.5 -0.8
comp=Z,1.6nm,0.8s,baz=104,slow=6.3,SNR=6.7							
comp=Z,1.6nm,0.8s							
NVAR	Mina Array Bea	91.63	52	LR	LR		21 30 40.3
comp=Z,91nm,19.6s,baz=260,slow=31							
PFO	Pinyon Flats O	92.87	57	LR	LR		21 31 51.8
comp=Z,117nm,18.6s,baz=214,slow=32							
NEW	Newport	93.11	42	LR	LR		21 34 00.1
comp=Z,68nm,18.4s,baz=335,slow=33							
RPN	Rapa Nui	94.84	118	LR	LR		21 32 33.7
comp=Z,39nm,21.4s,baz=73,slow=31							
YKA	Yellowknife Ar	94.92	28	LR	LR		21 34 52.6
comp=Z,70nm,19.6s,baz=345,slow=33							
LPIG	La Paz	97.85	66	LR	LR		21 38 34.6
comp=Z,62nm,18.0s,baz=308,slow=34							
PDAR	Pinedale Array	98.38	48	LR	LR		21 36 51.4
comp=Z,40nm,18.3s,baz=248,slow=33							
NACGM	Naroch	113.68	329	ePdif	Pdif		20 57 50.7 +1.2
AKASG	Malin Array Be	114.24	325	PKP	PKPdf		21 01 42.4 -0.6
comp=Z,0.3nm,0.5s,baz=63,slow=1.9,SNR=1.3							
R50A	Paris	118.03	49		PKPdf		21 01 48.6 -2.0
GERES	GERESS Array B	123.77	329	PKP	PKPdf		21 02 01.3 -0.2
comp=Z,0.6nm,0.5s,baz=54,slow=1.7,SNR=3.3							
LPAZ	La Paz	134.45	118	PKP	PKPdf		21 02 21.5 -1.8
comp=Z,1.0nm,0.6s,baz=142,slow=2.5,SNR=4.4							
CPUP	Villa Florida	137.66	138	PKP	PKPdf		21 02 26.3 -2.0
comp=Z,1.0nm,0.7s,baz=14,slow=8.0,SNR=2.1							
SPB	Sao Paulo	145.82	145		PKPdf		21 02 41.8 -1.1
VAO	Valinhos	146.55	145		PKPdf		21 02 44.0 -0.4
TORD	Torodi Ar. Bea	150.36	289		PKPbc		21 02 55.0 -0.9
TORD	Torodi Ar. Bea	150.36	289	PKPbc	PKPbc		21 02 54.8 -1.0
comp=Z,1.5nm,0.4s,baz=69,slow=2.3,SNR=21							
BDFB	Brasilia	151.24	134		PKPbc		21 02 56.9 -1.1
BDFB	Brasilia	151.24	134	PKPbc	PKPbc		21 02 57.5 -0.6
comp=Z,9.9nm,0.7s,baz=211,slow=1.4,SNR=15							

IDC 28 20:51:35.0±2.8, 21°.95S×178°.90W, h635km±64km, mb2.9/4, mbtmp4.0/5, Error ellipse: s-maj=113.5km s-min=44.1km az=18.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.08	325	P	P	20 53 10.8	-0.2
4.3nm,0.3s,baz=226,slow=7.1,SNR=14							
STKA	Stephens Creek	36.41	246	P	P	20 57 48.2	-0.2
1.1nm,0.4s,baz=96,slow=10.0,SNR=3.8							
1.1nm,0.4s							
ASAR	Alice Springs	43.39	258	P	P	20 58 44.1	+0.2
1.5nm,0.7s,baz=100,slow=7.5,SNR=15							
1.5nm,0.7s							
WRA	Warramunga Arr	43.59	264	P	P	20 58 45.5	0.0
0.4nm,0.3s,baz=96,slow=8.2,SNR=39							
0.4nm,0.3s							
MAW	Mawson	79.92	200	P	P	21 02 39.2	+0.1
0.9nm,0.5s,baz=185,slow=15,SNR=6.3							
0.9nm,0.5s							

*JMA **28** 21:04:03.4±0.4, 42°.N±2°.×14°.5E±°, h38km±2km, MV3.5/25, SE OFF TOKACHI*
*IDC **28** 21:04:04.8±3.8, 41°.84N×144°.06E, h0km, mb3.7/8, mbtmp3.7/9, ML2.3/1, Error ellipse: s-maj=78.4km s-min=40.4km az=121.0*
ISC 28 21:04:05.7±1.5, 41°.74N±0°.10×144°.5E±0°.1, h25km, n22, σ1§81/19, mb3.5/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	1.06	285	P	Pb	21 04 26.0	+0.7
JTHR	Tokachihiroo	1.07	301	i P	Pb	21 04 25.1	-0.3
JCH	Churui	1.23	315	P	Pb	21 04 27.3	-1.0
JAK	Akkeshi	1.26	6	P	Pn	21 04 26.0	-1.7
JAK				eS	Sn	21 04 43.3	-0.5
JOB	Onbets	1.27	336	P	Pb	21 04 27.4	-1.5
JKHN	Kushirohamanak	1.42	19	P	Pn	21 04 28.0	-1.8
JKHN				S	Sn	21 04 46.3	-1.4
JNBK	Urakawa-nobuka	1.43	293	P	Pb	21 04 31.3	-0.3
MJAR	Matsushiro Arr	7.15	225	Pn	Pn	21 05 47.7	-0.9
0.1nm,0.3s,baz=96,slow=34,SNR=2.1							
MJAR				Sn	Sn	21 07 04.7	-4.3
0.1nm,0.3s,baz=242,slow=37,SNR=1.5							
1.5nm,0.8s							
SONM	Songino Array	27.54	296	P	P	21 09 51.6	+1.3
0.7nm,0.8s,baz=80,slow=8.0,SNR=3.9							
0.7nm,0.8s							
H11N2	WAKE ISLAND Hy	29.01	132	T	T	21 40 33.8	
baz=325,slow=76,SNR=9.2							
H11N1	WAKE ISLAND Hy	29.02	132	T	T	21 40 36.9	
baz=325,slow=76,SNR=9.0							
H11N3	WAKE ISLAND Hy	29.03	132	T	T	21 40 32.5	
baz=325,slow=76,SNR=6.8							
H11S1	WAKE ISLAND Hy	29.90	134	T	T	21 41 41.9	
baz=327,slow=76,SNR=7.0							
H11S3	WAKE ISLAND Hy	29.90	134	T	T	21 41 55.0	
baz=327,slow=76,SNR=5.3							
H11S2	WAKE ISLAND Hy	29.91	134	T	T	21 41 41.6	
baz=327,slow=76,SNR=5.9							
ZALV	Zalesovo Beam	40.70	308	P	P	21 11 43.5	-0.4
0.4nm,0.5s,baz=73,slow=5.0,SNR=2.7							
0.4nm,0.5s							
MKAR	Makanchi Array	43.83	299	P	P	21 12 08.7	-0.8
0.3nm,0.5s,baz=80,slow=8.3,SNR=4.7							
0.3nm,0.5s							
KURBB	Kurchatov Arra	45.16	305	P	P	21 12 19.7	-0.2
0.5nm,0.5s,baz=74,slow=8.9,SNR=5.8							
0.5nm,0.5s							
BVAR	Borovoye Array	49.30	310	P	P	21 12 52.5	+0.3
0.5nm,0.4s,baz=70,slow=8.4,SNR=5.0							
0.5nm,0.4s							
FINES	FINESS Array B	65.77	332	P	P	21 14 47.8	-0.3
3.5nm,0.9s,baz=59,slow=9.2,SNR=7.2							
3.5nm,0.9s							
HFS	Hagfors	70.77	336	P	P	21 15 22.5	+3.1
2.6nm,0.9s,baz=27,slow=6.8,SNR=4.7							
2.6nm,0.9s							
AKASG	Malin Array Be	72.03	323	P	P	21 15 30.0	+2.9
0.1nm,0.3s,baz=45,slow=6.9,SNR=1.8							
0.1nm,0.3s							

RSNC 28 21:11:44.8±0.0, 7°N±1°.×7°3W±°, h147km±2km, M2.9, mb3.5, ML2.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.21	186	P	Pn	21 12 04.5	-0.6
BARC				S	Sn	21 12 20.0	-0.5
BRJC	Barrancabermej	0.60	287	P	Pn	21 12 06.1	-0.3
BRJC				S	Sn	21 12 22.9	+0.1
PAMC	Pamplona, Colo	0.70	40	P	Pn	21 12 07.4	-0.2
PAMC				S	Sn	21 12 24.2	-0.7
RUSC	La Rusia	0.91	175	P	Pn	21 12 08.4	-0.7
RUSC				S	Sn	21 12 27.4	-0.2
PTBC	PUERTO BERRIO,	1.31	259	P	Pn	21 12 11.0	-1.2
PTBC				S	Sn	21 12 32.3	-0.9
TAMC	Tame, Arauca	1.41	105	P	Pn	21 12 13.0	-0.2
TAMC				S	Sn	21 12 34.8	-0.1
OCAC	Ocana	1.44	354	P	Pn	21 12 13.0	-0.7
OCAC				S	Sn	21 12 34.9	-0.9
SPBC	San Pablo de B	1.46	219	P	Pn	21 12 13.4	-0.4
SPBC				S	Sn	21 12 35.7	-0.3
ZARC	Zaragoza, Cauc	1.82	292	P	Pn	21 12 17.1	-0.6
ZARC				S	Sn	21 12 42.2	-0.7
NORC	Norcasia	2.10	234	P	Pn	21 12 20.3	-0.7
NORC				S	Sn	21 12 48.2	-0.5
CHIC	Chingaza	2.23	195	P	Pn	21 12 22.7	-0.2
CHIC				S	Sn	21 12 51.7	-0.5
ROSC	El Rosal	2.26	211	P	Pn	21 12 24.1	+0.8
ROSC				S	Sn	21 12 54.0	+1.1
HELC	Santa Helena	2.43	256	P	Pn	21 12 25.6	+0.3
HELC				S	Sn	21 12 56.0	-0.4
CVER	Cruz Verde, Cu	2.44	202	P	Pn	21 12 26.0	+0.5
CVER				S	Sn	21 12 56.5	-0.3
UREC	San Jos de Ur	2.54	292	P	Pn	21 12 25.2	-1.1
UREC				S	Sn	21 12 55.3	-2.9
GUY2C	Guyana, Caldas	2.69	235	P	Pn	21 12 30.0	+1.3
GUY2C				S	Sn	21 13 01.7	-0.7
VILC	Villavicencio,	2.72	191	P	Pn	21 12 28.3	-0.4
VILC				S	Sn	21 13 00.9	-1.7
PTGC	Puerto Gaitan,	2.78	158	P	Pn	21 12 27.8	-1.5
PTGC				S	Sn	21 13 01.2	-2.5
DBBC	Dabeiba	3.04	274	P	Pn	21 12 31.9	-0.7
ARGC	Ariguani, Magd	3.22	341	P	Pn	21 12 34.8	-0.1
ARGC				S	Sn	21 13 14.4	+0.6
PRAC	Prado	3.52	209	P	Pn	21 12 38.1	-0.6
PRAC				S	Sn	21 13 21.2	+0.6
ORTC	Ortega, Tolima	3.54	216	P	Pn	21 12 39.2	+0.1
ORTC				S	Sn	21 13 21.4	+0.2
APAC	Apartado, Choc	3.56	288	P	Pn	21 12 38.2	-1.1
APAC				S	Sn	21 13 21.5	-0.1
SJCC	San Jacinto, C	3.67	327	P	Pn	21 12 38.8	-1.9
SJCC				S	Sn	21 13 21.8	-2.3
URMC	La Uribe, Meta	3.73	199	P	Pn	21 12 41.7	+0.1
URMC				S	Sn	21 13 26.1	+0.4
YOTC	Yotoco, Valle	4.23	229	P	Pn	21 12 49.2	+1.1
YOTC				S	Sn	21 13 36.6	-0.8
URIC	Uribia, Colomb	5.00	13	P	Pn	21 12 55.4	-2.9
URIC				S	Sn	21 13 52.6	-3.0

IDC 28 22:06:02.5±5.0, 5°.55S×129°.74E, h160km±44km, mb3.2/1, mbtmp3.9/4, Error ellipse: s-maj=88.0km s-min=16.5km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	13.10	197	P	Pn	22 09 04.2	+1.5
4.0nm,0.9s,baz=26,slow=11,SNR=2.2							
FITZ				S	Sn	22 11 20.9	-7.1
3.9nm,0.8s,baz=141,slow=23,SNR=2.9							
WRA	Warramunga Arr	14.99	163	P	Pn	22 09 25.3	-1.2
0.7nm,0.3s,baz=342,slow=13,SNR=17							
WRA				S	Sn	22 12 05.4	-8.0
0.4nm,0.4s,baz=345,slow=23,SNR=3.1							
ASAR	Alice Springs	18.46	168	P	P	22 10 05.8	-0.3
2.2nm,0.5s,baz=345,slow=10.0,SNR=41							
ASAR				S	S	22 13 29.3	+0.8
0.3nm,0.7s,baz=353,slow=21,SNR=2.5							
MKAR	Makanchi Array	66.88	327	P	P	22 16 37.4	0.0
0.3nm,0.5s,baz=120,slow=7.2,SNR=6.7							
0.3nm,0.5s							

*ISN **28** 22:05:58.7±15.0, 34°.48N×46°.43E, h25km±66km, ML3.0*
*TEH **28** 22:06:03.5, 34°.22N×45°.64E, h11km±17km, ML2.9*
ISC 28 22:06:04.6±1.0, 34°.21N±0°.04×45°.65E±0°.05, h10km, n20, σ0§94/23, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	Gilan-e-Gharb	0.23	113	Pg	Pg	22 06 09.0	-0.4
KGS1	Ghasr-e-Shirin	0.30	350	Pg	Pg	22 06 09.3	-1.4
ILBA	Ilam Banvizeh	0.74	141	Pg	Pg	22 06 18.5	-0.3
IGHG	Ghaleghazi	0.77	80	Pg	Pg	22 06 19.3	-0.1
IDHR	Dehrash	0.78	51	Pg	Pg	22 06 18.3	-1.4
IBDR	Badra	1.12	168	ePg	Pb	22 06 25.0	-1.0
IBDR				eSg	Sg	22 06 39.5	-1.0
IBDR				AML	AML	22 06 47.0	
comp=N,120nm,0.4s							
IBDR				AML	AML	22 06 47.4	
comp=E,265nm,0.6s							
KCHF	Cheshme Sefid,	1.15	86	Pg	Pg	22 06 25.9	-0.8
ILIN	Lien	1.29	56	Pg	Pn	22 06 28.8	-0.1
BHD	Baghdad	1.41	229	ePn	Pn	22 06 30.5	+0.2
BHD				eSn	Sn	22 06 50.5	+1.5
BHD				eSN5		22 07 14.0	
IKRK	Kirkuk	1.61	318	ePn	Pn	22 06 33.0	-0.1
IKRK				eSn	Sn	22 06 55.0	+1.1
IKRK				AML	AML	22 06 57.5	
comp=N,334nm,0.4s							
IKRK				AML	AML	22 06 57.8	
comp=E,170nm,0.9s							
SNQR	Songor, Kerman	1.75	68	Pg	Pn	22 06 36.5	+1.1
SDS1	Sardasht. Az.	1.94	356	Pn	Pn	22 06 38.9	+1.1
IKFM	Kafar-mosalman	1.95	110	Pn	Pn	22 06 38.8	+1.2
IDOB	Doab	2.14	101	Pn	Pn	22 06 41.3	+0.8
HSAM	Samen	2.44	89	Pn	Pn	22 06 45.3	+0.5
RAFI	Al-Rafai	2.50	171	ePn	Pn	22 06 46.0	+0.7
RAFI				eSn	Sn	22 07 17.0	+1.1
MAHB	Mahabad	2.56	1	Pn	Pn	22 06 47.4	+1.2
BDRS	Dareh Seyedi	2.69	94	Pn	Pn	22 06 48.9	+0.7
ISRB	Sarab	3.96	24	Pn	Pn	22 07 06.7	+1.1
ISHB	Shabestar	4.07	360	Pn	Pn	22 07 07.5	+0.3

*NEIC **28** 22:12:13.9±1.2, 36°.49N±0°.01×98°.73W±0°.02, h7km±3km, ML2.3/26, ML2.7/31, Error ellipse: s-maj=2.5km s-min=1.9km az=119.0*
NEIC 28 22:12:13.8±1.2, 36°.480N±0°.006×98°.71W±0°.02, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.2km az=295.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	West end E0370	0.02	266		Pg	22 12 15.7	+0.8
OK038				Sg	Sg	22 12 17.0	+1.4
OK038				IAML		22 12 17.1	
4μm,0.2s							
NOKA	Waynoka	0.23	311		Pg	22 12 18.8	+0.4
NOKA				Sg	Sg	22 12 22.3	+0.7
CROK	Carrier	0.59	87		Pg	22 12 25.5	+0.4
CROK				Sg	Sg	22 12 33.7	+0.9
CROK				IAML		22 12 43.9	
comp=N,124nm,0.2s							
ELIS	Ellis County	0.70	234	Pg	Pg	22 12 28.0	+0.6
ELIS				Sg	Sg	22 12 36.9	+0.4
ELIS				IAML		22 12 37.9	
comp=E,115nm,0.3s							
ELIS				IAML		22 12 44.1	
comp=N,122nm,0.3s							
KAN14	Manchester OK	0.77	51		Pg	22 12 28.7	+0.1
KAN14				Sg	Sg	22 12 38.7	+0.1
KAN14				IAML		22 12 39.4	
comp=E,139nm,0.1s							
KAN14				IAML		22 12 43.2	
comp=N,139nm,0.1s							
GC02	Grant County #	0.78	61	Pg	Pg	22 12 28.9	+0.1
GC02				Sg	Sg	22 12 39.5	+0.5
KAN10	Anthony SW Sta	0.81	37		Pg	22 12 29.6	+0.1
KAN10					Sg	22 12 40.5	+0.5
CSTR	Hydro, Custer	0.83	179		Pg	22 12 30.0	+0.2
CSTR					Sg	22 12 41.2	+0.5
KAN08	Anthony NE Sta	0.95	38	Pg	Pg	22 12 31.8	-0.3
KAN08				Sg	Sg	22 12 45.1	+0.5
KAN08				IAML		22 12 50.1	
comp=N,84nm,0.1s							
KAN08				IAML		22 12 50.7	
comp=E,95nm,0.1s							
KAN12	Harper NE Stat	1.00	35	Pg	Pg	22 12 32.7	-0.3
KAN12					Sg	22 12 46.1	+0.2
KAN12				IAML		22 12 49.0	
comp=N,101nm,0.4s							
KAN09	Caldwell North	1.10	53		Pg	22 12 34.5	-0.3
KAN13	South Haven SW	1.13	61		Pg	22 12 34.7	-0.8
KAN13				IAML		22 12 50.9	
comp=E,124nm,0.3s							
KAN13				IAML		22 12 55.6	
comp=N,136nm,0.3s							
BLOK	Blackwell	1.24	76		Pg	22 12 36.9	-0.6
OK048	Pawnee Station	1.43	92		Pn	22 12 39.8	-0.7
OK051	E0350 and S346	1.51	88		Pn	22 12 41.6	0.0
OK051					Sn	22 13 01.5	-0.2
OK031	S. Brethren Rd	1.60	109		Pn	22 12 42.7	-0.2
OK052	Battle Ridge R	1.62	107		Pn	22 12 43.5	+0.4
OK052					Sb	22 13 05.4	+0.4
FNO	Franklin	1.62	138		Pn	22 12 43.4	+0.3
FNO					Sb	22 13 05.4	+0.4
QUOK	Quay	1.65	100		Pb	22 12 44.1	-0.6
WMOK	Wichita Mounta	1.74	182		Pn	22 12 44.6	-0.1
WMOK					Sb	22 13 07.9	-0.5
T35A	Sooner Cattle	1.82	76		Pn	22 12 46.6	+0.7
SMWD	Samnorwood	1.85	223		Pn	22 12 46.5	+0.2
DEOK	Depew	1.90	109	Pn	Pn	22 12 46.3	-0.7
R32A	Long Quarter,	1.94	0	Pn	Pn	22 12 47.7	+0.2
W35A	Tecumseh	2.00	131	Pn	Pn	22 12 48.1	-0.2
X34A	Smith Ranch, M	2.01	159		Pn	22 12 49.3	+0.9

*IDC **28** 23:03:14.5±3.3, 6°.70S×129°.82E, h145km±30km, mb3.8/11, mbtmp4.3/15, Error ellipse: s-maj=27.4km s-min=13.2km az=69.0*
*DJA **28** 23:03:16.5±0.5, 7°.S±3°.×13°.0E±°, h209km±8km, M4.4/13, mb4.4/7, mB5.0/3, MLv4.5/13, Mw(mB)4.3/3*
*NEIC **28** 23:03:17.6±1.8, 6°.66S±0°.08×129°.72E±0°.09, h168km±7km, mb4.3/25, Error ellipse: s-maj=13.2km s-min=10.7km az=110.0*
ISC 28 23:03:19.0±0.5, 6°.85S±0°.05×129°.82E±0°.06, h200km, n67, σ1§94/67, mb4.2/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.85	128		Pn	23 03 53.8	-2.2
SAUI	Saumlaki	1.85	128	P	Pn

ASAR Alice Springs 17.17 167 Pn 23 07 09.3 +1.8
ASAR Alice Springs 17.17 167 P **Pn 23 07 08.4 +0.9**
comp=Z,10.0nm,0.6s,baz=346,slow=10,SNR=68
ASAR S **S 23 10 18.0 +3.5**
comp=Z,2.6nm,0.8s,baz=320,slow=15,SNR=7.9
PSA00 Pilbara Seismi 17.53 212 Pn 23 07 11.2 -0.5
PSA00 IAmb IAmb 23 07 49.5
comp=Z,24nm,1.2s
BBOO Buckleboo 26.47 168 P **P 23 08 41.9 +4.1**
BBOO IAmb IAmb 23 08 58.4
comp=Z,14nm,1.4s
STKA Stephens Creek 27.22 158 P **P 23 08 46.8 +2.4**
comp=Z,1.7nm,0.6s,baz=326,slow=14,SNR=3.0
comp=Z,1.7nm,0.6s
CMAR Chiang Mai Arr 39.50 310 P **P 23 10 29.5 -1.1**
comp=Z,0.7nm,0.5s,baz=143,slow=7.0,SNR=6.3
comp=Z,0.7nm,0.5s
MJAR Matsushiro Arr 43.88 10 P **P 23 11 04.8 -1.0**
comp=Z,1.1nm,0.6s,baz=183,slow=11,SNR=4.3
comp=Z,1.1nm,0.6s
USRK Ussuriysk Ar. 50.85 2 P **P 23 11 59.1 -0.2**
USRK Ussuriysk Ar. 50.85 2 P **P 23 11 59.5 +0.2**
comp=Z,2.1nm,0.6s,baz=189,slow=7.9,SNR=7.1
comp=Z,2.1nm,0.6s
GTA Gaotai 53.76 331 *eP* **P 23 12 21.5 +0.5**
GTA pmax pmax
comp=Z,3.0nm,1.0s
ULN Ulaanbaatar 58.07 342 P **P 23 12 52.0 +0.5**
ULN IAmb IAmb 23 12 53.2
comp=Z,4.9nm,0.7s
SONM Songino Array 58.25 342 P **P 23 12 53.2 +0.6**
SONM Songino Array 58.25 342 P **P 23 12 53.4 +0.7**
comp=Z,1.1nm,0.4s,baz=159,slow=6.0,SNR=7.7
comp=Z,1.1nm,0.4s
MK31 Makanchi Array 68.01 327 P **P 23 13 57.8 +1.0**
MKAR Makanchi Array 68.01 327 P **P 23 13 57.7 +0.9**
comp=Z,8.0nm,0.4s,baz=116,slow=8.2,SNR=183
comp=Z,8.0nm,0.4s
MAKZ Makanchi 68.19 327 P **P 23 13 58.7 +0.9**
AAK Ala-Archa 70.32 320 P **P 23 14 12.6 +1.4**
AAK IAmb IAmb 23 14 13.5
comp=Z,2.2nm,0.5s
ARSB Arslanbob 70.66 318 P **P 23 14 14.6 +1.2**
ZAA0 Zalesovo Array 71.37 334 P **P 23 14 16.8 -0.3**
ZAA0 IAmb IAmb 23 14 17.8
comp=Z,3.9nm,0.8s
ZALV Zalesovo Beam 71.37 334 P **P 23 14 17.3 +0.3**
ZALV Zalesovo Beam 71.37 334 P **P 23 14 17.1 +0.1**
comp=Z,3.4nm,0.6s,baz=130,slow=6.5,SNR=15
comp=Z,3.4nm,0.6s
GAR Garm 71.44 315 P **P 23 14 18.9 +0.9**
GAR IAmb IAmb 23 14 19.6
comp=Z,6.3nm,0.8s
SIMJ Simiganj 72.22 314 P **P 23 14 23.0 +0.4**
SIMJ IAmb IAmb 23 14 24.6
comp=Z,3.5nm,0.8s
KURBB Kurchatov Arra 72.29 329 P **P 23 14 23.3 +0.7**
comp=Z,5.0nm,0.5s,baz=129,slow=5.0,SNR=49
comp=Z,5.0nm,0.5s
KURK Kurchatov 72.30 329 P **P 23 14 22.9 +0.2**
KURK IAmb IAmb 23 14 23.8
comp=Z,5.4nm,0.5s
KKAR Karatay Array 73.11 319 P **P 23 14 27.7 0.0**
KKAR Karatay Array 73.11 319 P **P 23 14 28.1 +0.4**
KKAR IAmb IAmb 23 14 29.2
comp=Z,3.2nm,1.3s
BVAR Borovoye Array 77.84 328 P **P 23 14 55.1 +0.8**
comp=Z,2.3nm,0.7s,baz=120,slow=8.7,SNR=10
comp=Z,2.3nm,0.7s
TIXI Tiksi 78.34 360 P **P 23 14 57.0 +0.4**
TIXI IAmb IAmb 23 14 57.6
comp=Z,2.5nm,0.6s
VOI Vohitsoka 81.03 249 P **P 23 15 13.7 +1.3**
VOI IAmb IAmb 23 15 41.4
comp=Z,14nm,1.3s
ABKAR Akbulak array 82.28 322 P **P 23 15 18.2 +0.1**
ABKAR Akbulak array 82.28 322 P **P 23 15 18.3 +0.2**
ABKAR IAmb IAmb 23 15 18.9
comp=Z,1.0nm,0.6s
QSPA South Pole Qui 83.12 180 P **P 23 15 22.1 -0.3**
QSPA South Pole Qui 83.12 180 P **P 23 15 24.1 +1.8**
comp=Z,0.8nm,0.7s,baz=94,slow=20,SNR=19
comp=Z,0.8nm,0.7s
ARTI Arti 85.57 328 P **P 23 15 34.8 +0.2**
ARTI IAmb IAmb 23 15 35.6
comp=Z,3.4nm,0.8s
K15K Wolf Creek Mou 86.32 26 P **P 23 15 40.1 +2.0**
M16K Timber Creek 87.01 27 P **P 23 15 43.3 +1.8**
RAYN Ar Rayn 87.53 294 P **P 23 15 46.1 +1.2**
RAYN IAmb IAmb 23 15 46.8
comp=Z,3.4nm,0.6s
H17K Granite Mounta 87.96 24 P **P 23 15 47.4 +1.5**
ILAR Eielson Array 93.29 25 P **P 23 16 09.9 -0.8**
comp=Z,0.3nm,0.7s,baz=280,slow=5.0,SNR=2.8
comp=Z,0.3nm,0.7s
BCAR Beaver Creek A 95.33 27 P **P 23 16 21.1 +1.0**
CPUP Villa Florida 146.29 168 PKPbc **PKiKP 23 22 39.0 -0.8**
comp=Z,2.0nm,0.8s,baz=48,slow=7.1,SNR=3.8
LPAZ La Paz 150.94 142 PKPbc **PKiKP 23 22 52.7 +2.3**
comp=Z,1.3nm,0.4s,baz=59,slow=2.2,SNR=5.6

*IGIL **28** 23:12:15.9, 37°.33N×9°.21W, h28km, ML1.5*
*MDD **28** 23:12:15.2±0.9, 37°.44N×9°.16W, h18km±3km, mb_Lg2.5/7, Error ellipse: s-maj=6.8km s-min=4.0km az=63.0*
*SFS **28** 23:12:16.2, 37°.32N×9°.14W, h33km, ML2.1/8, ML2.7/6, MLv1.8/8*
*INMG **28** 23:12:16.4±1.6, 37°.32N×9°.17W, h27km±3km, ML1.7, Error ellipse: s-maj=5.6km s-min=2.5km az=70.0*
*CNRM **28** 23:12:19.4, 36°.93N×8°.63W, h5km, ML1.3*
ISC 28 23:12:13.9±1.5, 37°.28N±0°.04×9°.21W±0°.06, h47km±8km,
n47,σ1°27/80, 1C-1D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.34**	**116**	‖*eP*	**Pn**	**23 12 23.7**	**+0.6**
PFVI				*eS*	**Sn**	**23 12 29.2**	**-0.5**
PFVI				A	A	23 12 29.4	
48nm,0.2s							
PFVI	**Vila Bisbo**	**0.34**	**116**	Pg	**Pn**	**23 12 23.7**	**+0.6**
PFVI				Sg	**Sn**	**23 12 29.2**	**-0.5**
PFVI	**Vila Bisbo**	**0.34**	**116**	P	**Pn**	**23 12 23.8**	**+0.6**
PFVI	**Vila Bisbo**	**0.34**	**116**	S	**Sn**	**23 12 28.5**	**-1.2**
MORF	**Marmelete**	**0.45**	**87**	*eP*	**Pn**	**23 12 25.0**	**+0.6**
MORF				*eS*	**Sn**	**23 12 31.2**	**-0.6**
MORF				A	A	23 12 31.8	
60nm,0.2s							
MORF	**Marmelete**	**0.45**	**87**	*eP*	**Pn**	**23 12 25.0**	**+0.6**
MORF				*eS*	**Sn**	**23 12 30.9**	**-0.8**
MORF				IAML		23 12 31.6	
comp=N,100nm,0.1s							
PTEO	**Sao Teotonio**	**0.47**	**56**⇑	‖*eP*	**Pn**	**23 12 25.0**	**+0.5**
PTEO				*eS*	**Sn**	**23 12 31.5**	**-0.6**
PTEO				A	A	23 12 32.4	
comp=N,26nm,0.3s							
MESJ	**Messejana**	**0.96**	**55**	*eP*	**Pn**	**23 12 31.7**	**+0.7**
MESJ				*eS*	**Sn**	**23 12 44.3**	**+0.7**
MESJ				A	A	23 12 50.3	
comp=N,3.3nm,0.1s							
MESJ	**Messejana**	**0.96**	**55**	*eP*	**Pn**	**23 12 31.7**	**+0.7**
MESJ				*eS*	**Sn**	**23 12 43.4**	**-0.2**
MESJ				IAML		23 12 45.4	
comp=N,2.7nm,0.1s							
PBDV	**Barranco-do-Ve**	**1.02**	**92**	*eP*	**Pn**	**23 12 33.9**	**+2.1**
PBDV				*eS*	**Sn**	**23 12 46.0**	**+0.9**
PBDV				A	A	23 12 48.7	
comp=N,7.7nm,0.2s							
PVAQ	**Vaqueiros**	**1.20**	**84**	*eP*	**Pn**	**23 12 35.6**	**+1.4**
PVAQ				*eS*	**Sn**	**23 12 49.6**	**+0.3**
PVAQ				A	A	23 12 53.5	
comp=N,10nm,0.1s							
PVAQ	**Vaqueiros**	**1.20**	**84**	Pg	**Pn**	**23 12 35.5**	**+1.4**
PVAQ				Sg	**Sn**	**23 12 49.5**	**+0.3**
PVAQ	**Vaqueiros**	**1.20**	**84**	P	**Pn**	**23 12 35.7**	**+1.5**
PVAQ	**Vaqueiros**	**1.20**	**84**	S	**Sn**	**23 12 48.4**	**-0.9**
PBEJ	**Beja**	**1.30**	**55**	*eP*	**Pn**	**23 12 36.1**	**+0.5**
PBEJ				*eS*	**Sn**	**23 12 54.1**	**+2.3**
PBEJ				A	A	23 13 05.0	
comp=N,2.6nm,0.3s							
EGRO	**El Granado**	**1.40**	**79**	Pn	**Pn**	**23 12 37.9**	**+1.0**
EGRO				Sn	**Sn**	**23 12 53.5**	**-0.7**
EGRO	**El Granado**	**1.40**	**79**	Pg	**Pn**	**23 12 38.2**	**+1.2**
EGRO				Sg	**Sn**	**23 12 55.3**	**+1.1**
EGRO				*i* Vmb_Lg		23 12 58.9	
EVO	**Evora**	**1.56**	**37**	*eP*	**Pn**	**23 12 39.7**	**+0.5**
EVO				*eS*	**Sn**	**23 12 58.0**	**-0.3**
EVO				A	A	23 13 05.8	
comp=N,5.0nm,0.1s							
EVO	**Evora**	**1.56**	**37**	Pn	**Pn**	**23 12 39.7**	**+0.5**
EVO				Sn	**Sn**	**23 12 57.6**	**-0.8**
PMAFR	**Mafra**	**1.67**	**358**	*eP*	**Pn**	**23 12 42.1**	**+1.4**
PMAFR				*eS*	**Sn**	**23 13 00.5**	**-0.4**
PMAFR				A	A	23 13 01.8	
comp=N,21nm,0.2s							
PBAR	**Barrancos**	**1.94**	**62**	*eP*	**Pn**	**23 12 45.3**	**+1.0**
PBAR				*eS*	**Sn**	**23 13 06.6**	**-0.9**
PBAR				A	A	23 13 12.4	
comp=N,1.2nm,0.2s							
PBAR	**Barrancos**	**1.94**	**62**	Pn	**Pn**	**23 12 45.1**	**+0.7**
PBAR				Sn	**Sn**	**23 13 06.5**	**-1.0**
PMTG	**Montargil**	**1.94**	**23**	*eP*	**Pn**	**23 12 45.0**	**+0.6**
PMTG				*eS*	**Sn**	**23 13 06.7**	**-0.9**
PMTG				A	A	23 13 08.2	
comp=N,2.7nm,0.1s							
PESTR	**Estremoz**	**2.03**	**38**	*eP*	**Pn**	**23 12 45.9**	**+0.2**
PESTR				*eS*	**Sn**	**23 13 09.6**	**-0.3**
PESTR	**Estremoz**	**2.03**	**38**	P	Pn	23 12 55.7	+10
PESTR	**Estremoz**	**2.03**	**38**	S	Sn	23 13 22.7	+13
EMIN	**Mina Concepcio**	**2.07**	**76**	Pn	**Pn**	**23 12 45.1**	**-1.1**
EMIN				*i* Vmb_Lg		23 13 06.1	
EMIN				Sn	**Sn**	**23 13 10.4**	**-0.5**
PSBE	**So Bento**	**2.25**	**8**	*eP*	**Pn**	**23 12 50.3**	**+1.6**
PSBE				*eS*	**Sn**	**23 13 15.3**	**+0.1**
EBAD	**Badajoz**	**2.27**	**49**	Pn	**Pn**	**23 12 49.1**	**+0.2**
EBAD				Sn	**Sn**	**23 13 16.1**	**+0.3**
EBAD	**Badajoz**	**2.27**	**49**	Pn	**Pn**	**23 12 49.1**	**+0.2**
EBAD				Sn	**Sn**	**23 13 15.3**	**-0.5**
EBAD				*i* Vmb_Lg		23 13 27.8	
PMRV	**Marv??o**	**2.57**	**33**	*eP*	**Pn**	**23 12 53.6**	**+0.5**
PMRV				*eS*	**Sn**	**23 13 21.6**	**-1.6**
PMRV				A	A	23 13 23.9	
comp=N,2.3nm,0.2s							
ESPR	**Espera**	**2.71**	**98**	Pn	**Pn**	**23 12 56.5**	**+1.5**
ESPR				*i* Vmb_Lg		23 12 58.8	
ESPR				Sn	**Sn**	**23 13 27.8**	**+1.2**
PCAS	**Casmilo, Conde**	**2.82**	**11**	*eP*	**Pn**	**23 12 58.1**	**+1.6**
PCAS				*eS*	**Sn**	**23 13 28.5**	**-0.7**
PCBR	**Castelo Branco**	**2.89**	**27**	*eP*	**Pn**	**23 12 58.2**	**+0.8**
PCBR				*eS*	**Sn**	**23 13 29.7**	**-1.2**
PCBR				A	A	23 13 32.1	
comp=N,2.2nm,0.6s							
ECAB	**El Cabril**	**3.11**	**74**	Pn	**Pn**	**23 13 01.6**	**+1.1**
ECAB				Sn	**Sn**	**23 13 33.7**	**-2.7**
ECAB	**El Cabril**	**3.11**	**74**	Pn	**Pn**	**23 13 01.6**	**+1.1**
ECAB				Sn	**Sn**	**23 13 34.7**	**-1.7**
ECAB				*i* Vmb_Lg		23 14 44.5	
MTE	**Manteigas**	**3.37**	**22**	*eP*	Pn	23 12 58.8	-5.3
MTE				*eS*	**Sn**	**23 13 41.9**	**-1.0**
PVIS	**Viseu**	**3.58**	**16**	*eS*	**Sn**	**23 13 46.2**	**-1.7**
EADA	**Adamuz**	**3.78**	**75**	Pn	**Pn**	**23 13 10.5**	**+0.9**
EADA				Sn	**Sn**	**23 13 51.1**	**-1.8**
EADA	**Adamuz**	**3.78**	**75**	Pn	**Pn**	**23 13 10.6**	**+0.9**
EADA				Sn	**Sn**	**23 13 50.6**	**-2.2**
EADA				*i* Vmb_Lg		23 15 44.3	
MVO	**Moncorvo**	**4.23**	**23**	*eP*	**Pn**	**23 13 17.3**	**+1.4**
MVO				*eS*	**Sn**	**23 14 02.4**	**-1.6**
POLO	**Lamas de Olo**	**4.23**	**15**	*eP*	**Pn**	**23 13 17.1**	**+1.2**
POLO				*eS*	**Sn**	**23 14 00.5**	**-3.5**
PAB	**San Pablo**	**4.44**	**58**	Pn	**Pn**	**23 13 19.0**	**+0.3**
PAB				*i* Vmb_Lg		23 13 24.2	
PAB				Sn	**Sn**	**23 14 07.2**	**-1.9**
MD31	**MD31**	**5.72**	**139**	P	**Pn**	**23 13 37.9**	**+1.5**
MD31	**MD31**	**5.72**	**139**	S	**Sn**	**23 14 37.9**	**-2.9**
MDT	**Midelt**	**5.84**	**138**	P	**Pn**	**23 13 39.4**	**+1.4**
MDT	**Midelt**	**5.84**	**138**	S	**Sn**	**23 14 40.7**	**-3.1**

*NEIC **28** 23:21:56.6±1.6, 5°.08S±0°.08×151°.4E±0°.1, h160km±7km, mb4.5/13, Error ellipse: s-maj=15.3km s-min=10.7km az=112.0*
*IDC **28** 23:21:57.0±3.6, 5°.02S×151°.35E, h163km±31km, mb3.7/11, mbtmp4.2/12, MS3.1/1, Error ellipse: s-maj=27.4km s-min=17.7km az=83.0*
ISC 28 23:21:55.3±0.6, 5°.01S±0°.09×151°.4E±0°.1, h150km,**n38,**
σ1°31/39, mb4.1/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.14**	**44**	Pn	Pn	23 22 23.1	+1.8
RABL				Sn	**Sn**	**23 22 43.5**	**+2.4**
MANU	**Manus Island**	**4.96**	**306**	Pn	Pn	23 23 11.1	+2.8
PMG	**Port Moresby**	**6.04**	**223**		**Pn**	**23 23 25.6**	**+3.0**
PMG	**Port Moresby**	**6.04**	**223**	P	**Pn**	**23 23 24.9**	**+2.3**
36nm,0.5s,baz=25,slow=9.3,SNR=11							
PMG				S	**Sn**	**23 24 32.4**	**+1.5**
126nm,0.7s,baz=335,slow=22,SNR=12							
COEN	**Coen**	**12.01**	**222**	Pn	**Pn**	**23 24 43.3**	**+1.5**
WR0	**Warramunga Arr**	**22.12**	**226**	P	**P**	**23 26 38.5**	**-0.3**
WR0				IAmb	IAmb	23 26 58.0	
comp=Z,7.3nm,1.1s							
WRA	**Warramunga Arr**	**22.25**	**227**	P	**P**	**23 26 39.3**	**-0.8**
WRA	**Warramunga Arr**	**22.25**	**227**	P	**P**	**23 26 40.1**	**0.0**
comp=Z,5.3nm,0.5s,baz=52,slow=9.7,SNR=52							
WRA				PcP	**PcP**	**23 30 30.4**	**-0.5**
comp=Z,0.6nm,0.6s,baz=51,slow=2.2,SNR=3.4							
comp=Z,5.3nm,0.5s							
DZM	**Mont Dzumac**	**22.38**	**141**	P	**P**	**23 26 41.3**	**-0.1**
DZM				IAmb	IAmb	23 26 55.2	
comp=Z,30nm,1.3s							
KNRA	**Kununurra**	**24.60**	**243**	P	**P**	**23 27 02.8**	**+1.0**
ASAR	**Alice Springs**	**25.05**	**221**	P	**P**	**23 27 05.0**	**-0.9**
ASAR	**Alice Springs**	**25.05**	**221**	P	**P**	**23 27 06.5**	**+0.6**
comp=Z,3.1nm,0.7s,baz=56,slow=8.8,SNR=26							
comp=Z,3.1nm,0.7s							
BATI	**Baumata**	**27.93**	**258**	LR	LR	23 42 09.6	
comp=Z,33nm,18.6s,baz=195,slow=44							
FITZ	**Fitzroy Crossi**	**28.31**	**241**	P	**P**	**23 27 33.6**	**-1.4**
BBOO	**Buckleboo**	**31.14**	**205**	P	**P**	**23 27 59.2**	**-0.6**
BBOO				IAmb	IAmb	23 28 26.7	
comp=Z,17nm,1.4s							
MORW	**Morawa**	**41.11**	**230**	P	**P**	**23 29 23.2**	**-1.5**
NWAO	**Narrogin (SRO)**	**42.23**	**225**	P	**P**	**23 29 33.8**	**+0.1**
NWAO				IAmb	IAmb	23 29 52.0	
comp=Z,22nm,1.3s							
GSI	**Gunungsitoli**	**54.10**	**275**	P	**P**	**23 31 04.0**	**-1.2**
CMAR	**Chiang Mai Arr**	**56.68**	**296**	P	**P**	**23 31 23.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**56.68**	**296**	P	**P**	**23 31 24.4**	**+0.8**
comp=Z,0.9nm,0.3s,baz=135,slow=4.5,SNR=5.6							
comp=Z,0.9nm,0.3s							
SONM	**Songino Array**	**65.75**	**329**	P	**P**	**23 32 25.7**	**+1.6**
comp=Z,1.6nm,0.7s,baz=147,slow=4.5,SNR=12							
comp=Z,1.6nm,0.7s							
MK31	**Makanchi Array**	**79.55**	**319**	P	**P**	**23 33 46.0**	**+0.4**
MKAR	**Makanchi Array**	**79.55**	**319**	P	**P**	**23 33 44.3**	**-1.3**
comp=Z,1.1nm,0.9s,baz=119,slow=7.3,SNR=6.1							
comp=Z,1.1nm,0.9s							
ZALV	**Zalesovo Beam**	**80.54**	**327**	P	**P**	**23 33 50.1**	**-0.6**
comp=Z,1.0nm,0.7s,baz=123,slow=7.3,SNR=5.0							
comp=Z,1.0nm,0.7s							
IMAR	**Indian Mountai**	**81.06**	**20**	P	**P**	**23 33 53.4**	**+0.2**
C19K	**Lookout Ridge**	**81.18**	**16**	P	**P**	**23 33 55.1**	**+1.2**
C19K				IAmb	IAmb	23 33 56.3	
comp=Z,12nm,1.3s							
D19K	**Kuna River**	**81.20**	**17**	P	**P**	**23 33 54.4**	**+0.4**
D19K				IAmb	IAmb	23 33 56.2	
comp=Z,17nm,1.5s							
ILAR	**Eielson Array**	**82.89**	**22**	P	**P**	**23 34 02.2**	**-0.6**
comp=Z,1.3nm,0.7s,baz=247,slow=5.2,SNR=16							
comp=Z,1.3nm,0.7s							
KURBB	**Kurchatov Arra**	**83.08**	**322**	P	**P**	**23 34 04.0**	**-0.1**
comp=Z,1.1nm,0.8s,baz=92,slow=4.5,SNR=6.0							
comp=Z,1.1nm,0.8s							
BMAR	**Burnt Mountain**	**84.94**	**20**	P	**P**	**23 34 14.6**	**+1.4**
QSPA	**South Pole Qui**	**84.95**	**180**	P	**P**	**23 34 13.4**	**-0.1**
QSPA	**South Pole Qui**	**84.95**	**180**	P	**P**	**23 34 13.5**	**+0.1**
comp=Z,1.0nm,0.6s,baz=312,slow=1.0,SNR=10.0							
comp=Z,1.1nm,0.6s							
BVAR	**Borovoye Array**	**88.55**	**323**	P	**P**	**23 34 31.0**	**0.0**
comp=Z,0.9nm,0.6s,baz=107,slow=5.7,SNR=7.9							
comp=Z,0.9nm,0.6s							
NVAR	**Mina Array Bea**	**93.33**	**52**	P	**P**	**23 34 55.1**	**+1.3**
comp=Z,1.0nm,0.7s,baz=266,slow=6.5,SNR=6.0							
comp=Z,1.0nm,0.7s							
ABKAR	**Akbulak array**	**94.69**	**319**	P	**P**	**23 34 57.4**	**-2.0**
SIV	**San Ignacio**	**141.71**	**124**	PKP	**PKiKP**	**23 41 09.7**	**-3.3**
comp=Z,1.0nm,0.8s,baz=255,slow=2.6,SNR=3.8							
TORD	**Torodi Ar. Bea**	**149.01**	**287**	PKPbc	**PKiKP**	**23 41 26.5**	**-1.4**
comp=Z,3.0nm,0.7s,baz=52,slow=3.6,SNR=18							
BDFB	**Brasilia**	**151.91**	**137**	PKPbc	**PKiKP**	**23 41 34.0**	**-0.1**
comp=Z,0.8nm,0.3s,baz=191,slow=5.7,SNR=3.7							
BDFB				PKPab	**PKPab**	**23 41 43.4**	**+0.1**
comp=Z,2.0nm,0.5s,baz=234,slow=7.1,SNR=4.1							

*CATAC **28** 23:49:01.8±0.5, 11°.26N×85°.73W, h162km±3km, ML3.5*
*UPA **28** 23:49:02.2±2.0, 8°.80N×86°.54W, h10km±999km, MW4.6*
*SNET **28** 23:49:03.4±0.6, 11°.21N×86°.13W, h0km±222km, ML3.4*
ISC 28 23:49:01.3±1.4, 11°.27N±0°.07×85°.74W±0°.07, h169km±9km,
n36,σ0°98/56, 1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARN	**Rivas**	**0.23**	**112**	*i* P	**Pn**	**23 49 23.9**	**-0.1**
CARN				IAML		23 49 24.2	
comp=Z,1μm,1.0s							
JAPN	**AI SSO del Vol**	**0.26**	**13**	*i* P	**Pn**	**23 49 24.6**	**+0.5**
JAPN				IAML		23 49 24.9	
comp=Z,920nm,1.0s							
MORN	**AI O del Volca**	**0.29**	**18**	*i* P	**Pn**	**23 49 24.2**	**0.0**
MORN				IAML		23 49 24.7	
comp=Z,88nm,1.0s							
CONN	**Concepcion**	**0.31**	**21**	*i* P	**Pn**	**23 49 24.0**	**-0.2**
CONN				IAML		23 49 24.3	
comp=Z,6μm,1.0s							
NANN	**Nandasmo**	**0.76**	**330**	*i* P	**Pn**	**23 49 27.7**	**+1.4**
NANN				IAML		23 49 28.2	
comp=Z,10μm,1.0s							
NANN				*i* S	**Sn**	**23 49 47.8**	**+2.2**
SABN	**Sabanita**	**0.80**	**329**	*i* P	**Pn**	**23 49 26.4**	**-0.1**
SABN				IAML		23 49 53.6	
comp=Z,2μm,1.0s							
ACON	**Acoyapa**	**0.88**	**39**	*i* P	**Pn**	**23 49 26.6**	**-0.5**
ACON				IAML		23 49 26.6	
comp=Z,440nm,1.0s							
ACON				*i* S	**Sn**	**23 49 45.8**	**-1.2**
MOMN	**Momotombo**	**1.37**	**325**	*i* P	**Pn**	**23 49 30.9**	**-0.3**
MOMN				IAML		23 49 31.6	
comp=Z,21nm,1.0s							
MOMN				*i* S	**Sn**	**23 49 54.2**	**-0.2**
SOCE	**Pocosol**	**1.41**	**129**	*i* P	**Pn**	**23 49 32.0**	**+0.4**
SOCE				*i* S	**Sn**	**23 49 55.1**	**+0.2**
SOCE				IAML		23 49 58.6	
comp=Z,770nm,1.0s							
INDI	**Punta indio, G**	**1.42**	**171**	*i* P	**Pn**	**23 49 31.6**	**0.0**
INDI				*i* S	**Sn**	**23 49 53.7**	**-1.3**
INDI				IAML		23 49 56.0	
comp=Z,16μm,1.0s							
MACN	**El Madrono**	**1.50**	**322**	*i* P	**Pn**	**23 49 32.4**	**0.0**
MACN				IAML		23 49 32.7	
comp=Z,910nm,1.0s							
MACN				*i* S	**Sn**	**23 49 56.8**	**+0.3**
CNGA	**AI SSO del Vol**	**1.54**	**322**	*i* P	**Pn**	**23 49 32.6**	**-0.2**
CNGA				*i* S	**Sn**	**23 49 58.1**	**+0.9**
CNGA				IAML		23 50 05.5	
comp=Z,840nm,1.0s							
PKGN	**Cerro Pekin**	**1.84**	**319**	*i* P	**Pn**	**23 49 35.9**	**0.0**
PKGN				*i* S	**Sn**	**23 50 03.0**	**+0.3**
PKGN				IAML		23 50 07.6	
comp=Z,2μm,1.0s							
LIMN	**Finca el Limon**	**1.88**	**341**	*i* P	**Pn**	**23 49 35.9**	**-0.5**
LIMN				IAML		23 49 36.3	
comp=Z,100nm,1.0s							
CRIN	**San Cristobal**	**1.91**	**318**	*i* P	**Pn**	**23 49 36.8**	**0.0**
CRIN				*i* S	**Sn**	**23 50 04.7**	**+0.5**
CRIN				IAML		23 50 11.3	
comp=Z,2μm,1.0s							
TRT2	**Tortugero**	**2.09**	**110**	*i* P	**Pn**	**23 49 40.3**	**+1.6**
TRT2				*i* S	**Sn**	**23 50 06.1**	**-1.5**
TRT2				IAML		23 50 09.6	
comp=Z,110nm,1.0s							
POTN	**Potosi Cosigui**	**2.44**	**315**	*i* P	**Pn**	**23 49 42.8**	**+0.2**
POTN				*i* S	**Sn**	**23 50 14.3**	**-0.4**
POTN				IAML		23 50 29.5	
comp=Z,160nm,1.0s							
CSGN	**Cosiguina Volc**	**2.46**	**314**	*i* P	**Pn**	**23 49 43.1**	**+0.1**
CSGN				*i* S	**Sn**	**23 50 14.8**	**-0.5**
CSGN				IAML		23 50 18.2	
comp=Z,210nm,1.0s							
CNCH	**Conchagua**	**2.86**	**314**	*eP*	**Pn**	**23 49 47.9**	**+0.1**
CNCH				*eS*	**Sn**	**23 50 22.2**	**-1.8**
CNCH	**Conchagua**	**2.86**	**314**	*i* P	**Pn**	**23 49 47.5**	**-0.3**
CNCH				*i* S	**Sn**	**23 50 24.8**	**+0.8**
CNCH				IAML		23 50 32.2	
comp=Z,310nm,1.0s							
LCND	**La Caada**	**2.92**	**314**	*eS*	**Sn**	**23 50 23.4**	**-1.7**
LCND				IAML		23 50 29.7	
comp=Z,120nm,0.2s							
OCHAL	**Ojochal**	**2.99**	**136**	*i* P	**Pn**	**23 49 50.4**	**+1.1**
OCHAL				*i* S	**Sn**	**23 50 26.3**	**-0.4**
OCHAL				IAML		23 50 30.2	
comp=Z,280nm,1.0s							
LCY	**Lacayo**	**3.29**	**311**	*eP*	**Pn**	**23 49 53.1**	**-0.1**
RANC	**El Ranchito**	**3.29**	**311**	*eP*	**Pn**	**23 49 53.6**	**+0.4**
RANC				IAML		23 50 39.8	
comp=Z,118nm,0.3s							
PACA	**Pacayal**	**3.34**	**311**	*eP*	**Pn**	**23 49 53.7**	**-0.1**
PACA				*eS*	**Sn**	**23 50 33.5**	**-1.2**
PACA	**Pacayal**	**3.34**	**311**	*i* P	**Pn**	**23 49 53.7**	**-0.1**
PACA				*i* S	**Sn**	**23 50 35.2**	**+0.5**
PACA				IAML		23 50 42.8	
comp=Z,1μm,1.0s							
TECA	**Tecapa**	**3.49**	**310**	*eP*	**Pn**	**23 49 56.2**	**+0.5**
TECA				*eS*	**Sn**	**23 50 37.6**	**-0.6**
MLIR3	**Monte Lirio, C**	**3.78**	**130**	*eP*	**Pn**	**23 49 59.3**	**-0.2**
BRU2	**Volcan**	**3.88**	**129**‖	*eP*	**Pn**	**23 50 01.7**	**+0.9**
BRU2				*eS*	**Sn**	**23 50 45.1**	**-2.0**
LFRS	**El Faro**	**4.00**	**306**	*eP*	**Pn**	**23 50 03.1**	**+0.9**
BCO2	**Palmira**	**4.05**	**128**	*eP*	**Pn**

RSNC 28 23:51:12.9±0.0, 7°N±1°×7°3W±°, h141km±2km, M2.9, mb3.5, ML2.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**199**	P	Pn	23 51 32.2	-0.3
BARC				S	Sn	23 51 46.8	-0.5
BRJC	**Barrancabermej**	**0.65**	**285**	P	Pn	23 51 34.0	-0.1
BRJC				S	Sn	23 51 51.1	+0.9
PAMC	**Pamplona, Colo**	**0.67**	**37**	P	Pn	23 51 35.0	+0.2
PAMC				S	Sn	23 51 51.6	+0.1
RUSC	**La Rusia**	**0.90**	**178**	P	Pn	23 51 36.1	-0.5
RUSC				S	Sn	23 51 53.8	-0.7
TAMC	**Tame, Arauca**	**1.36**	**105**	P	Pn	23 51 40.5	+0.2
TAMC				S	Sn	23 51 59.8	-1.5
PTBC	**PUERTO BERRIO,**	**1.36**	**259**	P	Pn	23 51 39.1	-1.2
PTBC				S	Sn	23 51 59.7	-1.6
OCAC	**Ocana**	**1.45**	**352**	P	Pn	23 51 40.5	-0.9
OCAC				S	Sn	23 52 02.2	-0.9
SPBC	**San Pablo de B**	**1.49**	**220**	P	Pn	23 51 41.3	-0.5
SPBC				S	Sn	23 52 03.0	-0.8
ZARC	**Zaragoza, Cauc**	**1.87**	**292**	P	Pn	23 51 45.6	-0.3
ZARC				S	Sn	23 52 10.3	-0.9
NORC	**Norcasia**	**2.14**	**235**	P	Pn	23 51 48.6	-0.6
NORC				S	Sn	23 52 16.4	-0.7
CHIC	**Chingaza**	**2.24**	**196**	P	Pn	23 51 50.4	-0.5
CHIC				S	Sn	23 52 19.3	-0.7
ROSC	**El Rosal**	**2.29**	**212**	P	Pn	23 51 52.1	+0.7
ROSC				S	Sn	23 52 21.3	+0.4
CVER	**Cruz Verde, Cu**	**2.46**	**203**	P	Pn	23 51 53.7	+0.1
CVER				S	Sn	23 52 25.3	+0.5
HELC	**Santa Helena**	**2.48**	**256**	P	Pn	23 51 54.3	+0.6
HELC				S	Sn	23 52 23.6	-1.4
UREC	**San Jos de Ur**	**2.58**	**292**	P	Pn	23 51 57.7	+3.0
UREC				S	Sn	23 52 24.0	-2.8
VILC	**Villavicencio,**	**2.73**	**192**	P	Pn	23 51 56.0	-0.7
VILC				S	Sn	23 52 30.2	-0.2
GUY2C	**Guyana, Caldas**	**2.73**	**235**	P	Pn	23 51 57.7	+0.7
GUY2C				S	Sn	23 52 30.2	-0.7
PTGC	**Puerto Gaitan,**	**2.76**	**159**	P	Pn	23 51 55.4	-1.5
PTGC				S	Sn	23 52 27.8	-3.1
RECRC	**Villamaria, Ca**	**2.88**	**231**	P	Pn	23 52 00.6	+1.6
RECRC				S	Sn	23 52 33.1	-1.3
NIZA	**Niza - Manizal**	**2.92**	**234**	P	Pn	23 51 58.5	-0.7
NIZA				S	Sn	23 52 34.6	-0.2
CBOC	**Ciudad Bolivar**	**3.03**	**252**	P	Pn	23 52 00.4	-0.1
CBOC				S	Sn	23 52 36.8	-0.4
DBBC	**Dabeiba**	**3.08**	**274**	P	Pn	23 51 59.9	-1.2
DBBC				S	Sn	23 52 35.8	-2.5
SDV	**Santo Domingo**	**3.21**	**50**	P	Pn	23 52 01.5	-1.3
SDV				S	Sn	23 52 40.0	-1.4
ANIL	**Santa Ana**	**3.24**	**225**	P	Pn	23 52 03.6	+0.3
ANIL				S	Sn	23 52 41.5	-0.6
ARGC	**Ariguani, Magd**	**3.24**	**340**	P	Pn	23 52 03.9	+0.9
ARGC				S	Sn	23 52 41.0	-0.8
PRAC	**Prado**	**3.54**	**210**	P	Pn	23 52 06.6	-0.4
PRAC				S	Sn	23 52 48.4	-0.5
PRAC	**Prado**	**3.54**	**210**	S	Pn	23 52 06.7	-0.3
ORTC	**Ortega, Tolima**	**3.57**	**217**	P	Pn	23 52 07.3	-0.1
ORTC				S	Sn	23 52 49.3	-0.3
APAC	**Apartado, Choc**	**3.61**	**288**	P	Pn	23 52 07.2	-0.6
APAC				S	Sn	23 52 48.4	-2.0
PLMC	**San Jos del P**	**3.67**	**239**	P	Pn	23 52 08.3	-0.5
PLMC				S	Sn	23 52 50.6	-1.4
SJCC	**San Jacinto, C**	**3.70**	**326**	P	Pn	23 52 06.9	-2.1
SJCC				S	Sn	23 52 48.8	-3.7
URMC	**La Uribe, Meta**	**3.75**	**200**	P	Pn	23 52 09.1	-0.7
URMC				S	Sn	23 52 53.2	-0.6
LCBC	**Los crdobas,**	**3.82**	**303**	P	Pn	23 52 08.8	-1.8
LCBC				S	Sn	23 52 51.5	-3.8
CRJC	**Cerrejon, Guaj**	**4.20**	**3**	P	Pn	23 52 13.6	-2.1
CRJC				S	Sn	23 52 59.3	-5.1
GUVC	**San Jose del G**	**4.25**	**173**	P	Pn	23 52 16.3	0.0
GUVC				S	Sn	23 53 04.6	-1.1
YOTC	**Yotoco, Valle**	**4.27**	**229**	P	Pn	23 52 17.2	+0.6
YOTC				S	Sn	23 53 05.6	-0.5
CAPC	**Capurgana**	**4.58**	**294**	P	Pn	23 52 19.9	-0.7
CAPC				S	Sn	23 53 04.6	-8.7
MACC	**Macarena, Meta**	**4.68**	**189**	P	Pn	23 52 19.3	-2.7
MACC				S	Sn	23 53 11.3	-4.5
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	23 52 22.4	-3.7
URIC				S	Sn	23 53 16.9	-6.3
JAMC	**Jamundi, Valle**	**5.03**	**225**	P	Pn	23 52 28.1	+1.3
	4.7nm,0.7s						
JAMC				S	Sn	23 53 22.8	-1.5
	4.7nm,0.7s						
POPC	**Popayan, Colom**	**5.53**	**220**	P	Pn	23 52 34.8	+1.4
	3.2nm,0.7s						
POPC				S	Sn	23 53 34.9	-1.4
	3.2nm,0.7s						
FLOC	**Florencia**	**5.77**	**206**	P	Pn	23 52 35.9	-0.6
	20nm,0.9s						
FLOC				S	Sn	23 53 41.6	-0.2
	20nm,0.9s						

NEIC ***29*** *00:22:57.0±0.8, 41°.29N±0°.04×143°.18E±0°.10, h10km±1km, mb4.3/11, Error ellipse: s-maj=12.3km s-min=5.8km az=96.0*

JMA ***29*** *00:22:57.3±0.3, 41°.3N±0°.6×143°.2E±0°.8, h12km±3km, MV3.6/35, E OFF AOMORI PREF*

NIED ***29*** *00:22:57.3, 41°.31N×143°.19E, h12km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=4.57; $M_{\theta\theta}$=-4.32; $M_{\phi\phi}$=-0.25; $M_{r\theta}$=-0.63; $M_{\theta\phi}$=-3.09; $M_{\phi r}$=-0.55; Fault plane solution: M_0=5.34000×10^{14} NP1: ϕ_s=239.00000°, δ=49.00000°, λ=86.00000°. NP2: ϕ_s=65.00000°, δ=41.00000°, λ=95.00000°.*

IDC ***29*** *00:23:03.6±2.1, 41°.32N×143°.30E, h68km±18km, mb3.5/13, mbtmp3.8/17, MS3.8/2 Error ellipse: s-maj=20.0km s-min=12.8km az=106.0*

ISC 29 00:22:56.8±1.5, 41°.30N±0°.04×143°.23E±0°.06, h12km±9km, n60, σ1§01/60, mb4.0/20, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.72**	**356**		**Pg**	**00 23 10.8**	**0.0**
ERM					**Sg**	**00 23 20.4**	**+0.1**
JEM	**Erimo**	**0.72**	**356**	⇓P	**Pg**	**00 23 10.7**	**-0.1**
JEM				⇓S	**Sg**	**00 23 20.4**	**+0.1**
JTHR	**Tokachihiroo**	**1.00**	**3**	P	**Pg**	**00 23 15.5**	**-0.5**
JTHR				S	**Sg**	**00 23 28.8**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.05**	**340**	⇓P	**Pb**	**00 23 16.4**	**-0.5**
JNBK				⇓*e*S	**Sb**	**00 23 30.4**	**-0.1**
JSHD	**Hidakashinhida**	**1.25**	**333**	*e*P	**Pb**	**00 23 20.5**	**+0.1**
JSHD				*e*S	**Sn**	**00 23 39.6**	**+2.7**
JCH	**Churui**	**1.32**	**4**	P	**Pn**	**00 23 21.2**	**+0.1**
JCH				S	**Sb**	**00 23 38.6**	**+0.1**
JARK	**Aomorirokkasho**	**1.44**	**259**	P	**Pn**	**00 23 22.8**	**+0.1**
JANG	**Nango**	**1.59**	**235**	P	**Pn**	**00 23 25.3**	**+0.5**
JBT2	**Biratori 2**	**1.62**	**337**	P	**Pb**	**00 23 26.2**	**-0.4**
JBT2				S	**Sg**	**00 23 50.4**	**+1.5**
JOT	**Ohata**	**1.65**	**274**	P	**Pb**	**00 23 26.4**	**-0.6**
JOT				*e*S	**Sb**	**00 23 47.2**	**-0.6**
JOB	**Onbets**	**1.67**	**15**	P	**Pn**	**00 23 26.0**	**+0.1**
JTM	**Tenmabayashi**	**1.71**	**253**		**Pn**	**00 23 27.4**	**+0.9**
JTM				Sn	**Sn**	**00 23 47.4**	**-0.9**
JTM	**Tenmabayashi**	**1.71**	**253**	P	**Pb**	**00 23 27.9**	**-0.3**
JKB	**Kayabe**	**1.75**	**290**	P	**Pb**	**00 23 28.2**	**-0.6**
JKA	**Kamikawa-asahi**	**2.86**	**351**		**Pn**	**00 23 43.7**	**+1.5**
ASAJ	**Asahikawa**	**2.86**	**351**	P	**Pn**	**00 23 44.9**	**+2.7**
	23nm,0.5s,baz=223,slow=8.5,SNR=13						
ASAJ				S	**Sb**	**00 24 21.0**	**-1.7**
	101nm,0.8s,baz=151,slow=33,SNR=7.6						
JMM	**Marumori**	**3.91**	**210**	Pn	**Pn**	**00 23 58.2**	**+1.5**
JSD	**Sado**	**5.03**	**231**	Pn	**Pn**	**00 24 11.5**	**-0.6**
MJAR	**Matsushiro Arr**	**6.15**	**221**	P	**Pn**	**00 24 31.9**	**+4.4**
	2.9nm,0.6s,baz=28,slow=14,SNR=7.1						
MAJO	**Matsushiro**	**6.15**	**221**	Pn	**Pn**	**00 24 28.6**	**+1.1**
JGF	**Kuroka**	**7.32**	**221**	Pn	**Pn**	**00 24 43.4**	**-0.2**
USRK	**Ussuriysk Ar.**	**8.77**	**293**	P	Pn	00 25 08.5	+5.1
	1.5nm,0.6s,baz=84,slow=14,SNR=2.8						
KSRS	**Korea Array**	**12.45**	**257**	P	P	00 26 00.2	-5.5
	1.0nm,0.7s,baz=55,slow=10,SNR=1.4						
SONM	**Songino Array**	**26.86**	**297**	P	**P**	**00 28 36.8**	**-0.5**
SONM	**Songino Array**	**26.86**	**297**	P	**P**	**00 28 38.5**	**+1.1**
	0.6nm,0.5s,baz=76,slow=9.1,SNR=4.3						
	0.6nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.45**	**130**	T	T	01 00 20.6	
	baz=323,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hy**	**29.46**	**130**	T	T	01 00 19.2	
	baz=323,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**29.47**	**130**	T	T	01 00 22.2	
	baz=323,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy**	**30.31**	**132**	T	T	01 01 19.7	
	baz=325,slow=76,SNR=54						
H11S3	**WAKE ISLAND Hy**	**30.31**	**132**	T	T	01 01 24.7	
	baz=325,slow=76,SNR=48						
H11S2	**WAKE ISLAND Hy**	**30.33**	**132**	T	T	01 01 12.6	
	baz=325,slow=76,SNR=46						
ZAA0	**Zalesovo Array**	**40.22**	**309**	P	**P**	**00 30 32.9**	**0.0**
ZAA0				IAmb	IAmb	00 30 42.4	
	comp=Z,1.7nm,0.7s						
ZALV	**Zalesovo Beam**	**40.22**	**309**	P	**P**	**00 30 32.9**	**-0.1**
ZALV	**Zalesovo Beam**	**40.22**	**309**	P	**P**	**00 30 33.4**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=92,slow=7.4,SNR=6.4						
	comp=Z,0.9nm,0.4s						
G18K	**Tagagawik**	**40.28**	**33**	P	**P**	**00 30 34.1**	**+0.7**
G18K				IAmb	IAmb	00 30 36.4	
	comp=Z,13nm,1.4s						
H19K	**Roundabout Mou**	**41.14**	**33**	P	**P**	**00 30 41.4**	**+0.9**
H19K				IAmb	IAmb	00 30 42.3	
	comp=Z,14nm,1.5s						
IMAR	**Indian Mountai**	**42.29**	**33**	P	**P**	**00 30 50.2**	**+0.4**
MKAR	**Makanchi Array**	**43.18**	**299**	P	**P**	**00 30 57.7**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=85,slow=9.0,SNR=2.0						
	comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**45.17**	**35**	P	**P**	**00 31 12.2**	**-0.8**
	comp=Z,1.5nm,1.0s,baz=274,slow=8.4,SNR=11						
	comp=Z,1.5nm,1.0s						
BVAR	**Borovoye Array**	**48.84**	**310**	P	**P**	**00 31 42.1**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=64,slow=9.0,SNR=2.3						
	comp=Z,0.7nm,0.4s						
G30M	**tAoh Zraii Nji**	**49.22**	**31**	P	**P**	**00 31 45.2**	**+0.5**
G30M				IAmb	IAmb	00 31 55.2	
	comp=Z,3.8nm,1.1s						
INK	**Inuvik**	**49.97**	**29**	P	**P**	**00 31 50.4**	**+0.2**
INK				IAmb	IAmb	00 31 53.5	
	comp=Z,4.6nm,1.2s						
G31M	**Satah River**	**49.99**	**31**	P	**P**	**00 31 50.4**	**0.0**
G31M				IAmb	IAmb	00 31 51.9	
	comp=Z,3.6nm,0.8s						
EUNU	**Eureka**	**55.77**	**9**	P	**P**	**00 32 32.9**	**-0.1**
ABKAR	**Akbulak array**	**56.33**	**309**	P	**P**	**00 32 36.7**	**-0.7**
ABKAR	**Akbulak array**	**56.33**	**309**	P	**P**	**00 32 37.3**	**-0.1**
ABKAR				IAmb	IAmb	00 32 58.5	
	comp=Z,3.7nm,1.4s						
RES	**Resolute Bay**	**58.12**	**15**	LR	LR	01 02 10.8	
	comp=Z,48nm,18.1s,baz=27,slow=40						
WR0	**Warramunga Arr**	**61.47**	**189**	P	**P**	**00 33 13.1**	**-0.2**
WRA	**Warramunga Arr**	**61.48**	**190**	P	**P**	**00 33 12.9**	**-0.4**
WRA	**Warramunga Arr**	**61.48**	**190**	P	**P**	**00 33 13.2**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=6.2,slow=6.8,SNR=12						
	comp=Z,0.6nm,0.5s						
ASAR	**Alice Springs**	**65.21**	**189**	P	**P**	**00 33 38.6**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=6.3,slow=6.8,SNR=5.0						
	comp=Z,0.7nm,0.8s						
FINES	**FINESS Array B**	**65.71**	**332**	P	**P**	**00 33 40.2**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=44,slow=6.2,SNR=5.1						
	comp=Z,1.4nm,0.6s						
KVAR	**Kislovodsk Arr**	**69.19**	**311**	LR	LR	01 06 15.3	
	comp=Z,102nm,18.6s,baz=79,slow=37						
HFS	**Hagfors**	**70.78**	**336**	P	**P**	**00 34 12.2**	**-0.5**
	comp=Z,4.0nm,0.9s,baz=41,slow=4.6,SNR=4.0						
	comp=Z,4.0nm,0.9s						
NVAR	**Mina Array Bea**	**71.35**	**55**	P	**P**	**00 34 15.4**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=278,slow=10.0,SNR=4.6						
	comp=Z,0.6nm,0.6s						
AKASG	**Malin Array Be**	**71.79**	**322**	P	**P**	**00 34 18.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=44,slow=6.1,SNR=1.8						
	comp=Z,0.1nm,0.3s						
PDAR	**Pinedale Array**	**73.70**	**47**	P	**P**	**00 34 30.8**	**0.0**
PDAR	**Pinedale Array**	**73.70**	**47**	P	**P**	**00 34 31.0**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=78,slow=0.9,SNR=5.6						
	comp=Z,0.5nm,0.6s						
TXAR	**Lajitas Array**	**86.43**	**54**	P	**P**	**00 35 39.6**	**+0.1**
TXAR	**Lajitas Array**	**86.43**	**54**	P	**P**	**00 35 39.5**	**0.0**
	comp=Z,0.6nm,0.8s,baz=299,slow=4.1,SNR=7.5						
	comp=Z,0.6nm,0.8s						

MOS ***29*** *00:22:59.7±1.2, 37°.63N×20°.45E, h8km, mb4.7/19, Error ellipse: s-maj=7.1km s-min=4.2km az=70.9*

ATH ***29*** *00:22:59.9, 37°.63N×20°.27E, h10km±3km, ML4.2/7, Error ellipse: s-maj=3.8km s-min=1.3km az=48.0*

THE ***29*** *00:22:59.2, 37°.60N×20°.21E, h0km±2km, ML4.1/10, Error ellipse: s-maj=2.6km s-min=0.8km az=254.0*

IDC ***29*** *00:23:00.1±0.7, 37°.63N×20°.59E, h0km, mb4.0/17, mbtmp3.9/32, ML3.4/11, MS3.8/44, Error ellipse: s-maj=13.4km s-min=11.7km az=167.0*

MED_RC ***29*** *00:23:01.0±0.3, 37°.45N×20°.39E, h14km±1km, MW4.6/23, Moment Tensor Solution. Mantle waves: s23, c31; Duration: 1§0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.72±.08; $M_{\theta\theta}$=-0.09±.04; $M_{\phi\phi}$=-0.63±.05; $M_{r\theta}$=0.35±.07; $M_{\theta\phi}$=0.36±.02; $M_{\phi r}$=-0.21±.06; Best double couple: M_0=0.87000×10^{16} NP1: ϕ_s=138.00000°, δ=59.00000°, λ=73.00000°. NP2: ϕ_s=350.00000°, δ=35.00000°, λ=117.00000°. Principal axes: T 0.8600, Plg70.0000°, Azm9.0000°; N 0.0300, Plg15.0000°, Azm147.0000°; P -0.8900, Plg13.0000°, Azm241.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

BEO ***29*** *00:23:01.8±0.6, 37°.71N×20°.45E, h0km, ML4.0/15*

NEIC ***29*** *00:23:02±1.7, 37°.68N±0°.06×20°.39E±0°.04, h10km±1km, mb4.5/28, Error ellipse: s-maj=10.5km s-min=4.2km az=200.0*

MCSM ***29*** *00:23:04.2±2.3, 38°N±5°×2°0E±°, h16km±21km, mb4.5, MLv4.6*

NAO ***29*** *00:23:05.1, 37°.57N×20°.34E, h10km, mb4.9*

ISC 29 00:23:02.9±0.8, 37°.74N±0°.03×20°.38E±0°.03, h19km±3km, n354, σ1§78/340, mb4.4/45, MS3.8/37, 28C-10D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.35**	**103**	P	**Pg**	**00 23 08.4**	**-2.0**
KRI1				S	**Sg**	**00 23 15.5**	**-0.1**
	152μm,0.5s						
LTHK	**Lithakia**	**0.36**	**95**	P	**Pg**	**00 23 08.5**	**-2.1**
LTHK				S	**Sg**	**00 23 15.9**	**+0.1**
LTHK	**Lithakia**	**0.36**	**95**	P	**Pg**	**00 23 08.5**	**-2.1**
LTHK				S	**Sg**	**00 23 15.3**	**-0.5**
LTHK				AML	AML	00 23 16.6	
LTHK				AML	AML	00 23 23.8	
PSDA	**Pessada-Kefalo**	**0.41**	**23**	P	**Pg**	**00 23 10.3**	**-1.0**
PSDA				S	**Sn**	**00 23 19.7**	**-1.1**
	26μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.41**	**23**	P	**Pg**	**00 23 10.4**	**-1.0**
PSDA				S	**Sb**	**00 23 18.2**	**+0.8**
RTZL	**Ratzakli, Kefa**	**0.46**	**42**	P	**Pg**	**00 23 11.1**	**-1.1**
RTZL				S	**Sn**	**00 23 21.2**	**-0.8**
LXR1	**Lixouri, Cepha**	**0.46**	**5**	P	**Pg**	**00 23 11.8**	**-0.6**
VLS	**Valsamata**	**0.47**	**20**	P	**Pg**	**00 23 11.3**	**-1.2**
VLS				S	**Sn**	**00 23 21.8**	**-0.5**
	12μm,0.4s						
VLS	**Valsamata**	**0.47**	**20**	P	**Pg**	**00 23 11.1**	**-1.4**
VLS				S	**Sb**	**00 23 19.9**	**+0.8**
VLS				AML	AML	00 23 22.7	
	comp=N,26957μm,0.3s						
VLS				AML	AML	00 23 24.8	
	comp=E,23955μm,0.3s						
DMLN	**Damoulianata-K**	**0.50**	**359**	P	**Pg**	**00 23 12.3**	**-0.7**
DMLN	**Damoulianata-K**	**0.50**	**359**	P	**Pg**	**00 23 12.2**	**-0.9**
SMHA	**Samh**	**0.55**	**22**	P	**Pb**	**00 23 12.0**	**-1.9**
VSK1	**VASILIKIADES**	**0.68**	**12**	P	**Pb**	**00 23 15.4**	**-0.8**
VSK1				S	**Sn**	**00 23 27.3**	**-0.4**
	comp=E,13μm,0.9s						
FSK	**Fiskardo**	**0.73**	**11**	P	**Pb**	**00 23 16.0**	**-1.1**
FSK				S	**Sn**	**00 23 29.7**	**+0.9**
	comp=E,8μm,0.6s						
FSK	**Fiskardo**	**0.73**	**11**	P	**Pb**	**00 23 15.9**	**-1.1**
FSK				S	**Sn**	**00 23 28.4**	**-0.4**
RLS	**Riolos of Patr**	**0.91**	**69**	P	**Pb**	**00 23 19.6**	**-0.5**
RLS				S	**Sn**	**00 23 35.3**	**+2.0**
	comp=E,9μm,0.6s						
AST1	**Astakos**	**0.97**	**35**	P	**Pb**	**00 23 20.8**	**-0.4**
NYDR	**Nydri-Lefkada**	**1.00**	**14**	P	**Pb**	**00 23 20.8**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.00**	**14**	P	**Pb**	**00 23 20.6**	**-1.0**
LKD2	**Lefkada island**	**1.07**	**12**	P	**Pb**	**00 23 22.1**	**-0.7**
LKD2	**Lefkada island**	**1.07**	**12**	P	**Pb**	**00 23 21.9**	**-0.9**
LKD2				AML	AML	00 23 48.6	
	comp=N,15928μm,0.7s						
LKD2				AML	AML	00 23 52.3	
	comp=E,10276μm,0.4s						
DRO	**Drossia**	**1.07**	**78**	P	**Pb**	**00 23 22.2**	**-0.6**
DRO				S	**Sg**	**00 23 41.8**	**+4.0**
	comp=E,15μm,0.8s						
DRO	**Drossia**	**1.07**	**78**	P	**Pb**	**00 23 21.8**	**-1.0**
AMT	**Artemida-Makis**	**1.07**	**101**	P	**Pb**	**00 23 21.0**	**-1.9**
AMT				AML	AML	00 23 45.2	
	comp=N,67322μm,0.4s						
AMT				AML	AML	00 23 47.2	
	comp=E,82128μm,0.9s						
TSLK	**Tsoukalades, L**	**1.10**	**11**	P	**Pn**	**00 23 23.3**	**0.0**
TSLK	**Tsoukalades, L**	**1.10**	**11**	P	**Pn**	**00 23 22.6**	**-0.7**
TSLK				AML	AML	00 23 49.9	
	comp=E,15816μm,1.0s						
TSLK				AML	AML	00 23 51.2	
	comp=N,15452μm,0.8s						
UPR	**University Cam**	**1.23**	**63**	P	**Pn**	**00 23 25.4**	**+0.3**
ITM	**Ithomi**	**1.35**	**114**	*e*P	**Pb**	**00 23 28.5**	**+0.9**
ITM	**Ithomi**	**1.35**	**114**	Pn	**Pn**	**00 23 26.4**	**-0.3**
ITM				Sn	**Sn**	**00 23 44.0**	**-0.1**
ITM	**Ithomi**	**1.35**	**114**	P	**Pn**	**00 23 26.1**	**-0.6**
ITM				S	**Sg**	**00 23 47.0**	**+0.4**
	comp=N,8μm,1.0s						
ITM	**Ithomi**	**1.35**	**114**	P	**Pn**	**00 23 25.8**	**-0.9**
ITM				AML	AML	00 23 59.9	
	comp=E,12791μm,0.9s						
ITM				AML	AML	00 24 04.5	
	comp=N,13302μm,0.7s						
PYL	**PYLOS**	**1.37**	**127**	P	**Pn**	**00 23 25.7**	**-1.3**
PYL				S	**Sb**	**00 23 46.1**	**+1.0**
	comp=N,7μm,0.8s						
PYL	**PYLOS**	**1.37**	**127**	P	**Pn**	**00 23 25.5**	**-1.5**
PYL				AML	AML	00 23 49.6	
	comp=E,17598μm,0.9s						
PYL				AML	AML	00 23 57.9	
	comp=N,11122μm,0.9s						
EFP	**Efpalio**	**1.38**	**60**	P	**Pn**	**00 23 27.6**	**+0.5**
EFP				S	**Sg**	**00 23 50.5**	**+2.8**
	comp=N,5μm,0.9s						
KLV	**Kalavryta, Ach**	**1.43**	**77**	P	**Pn**	**00 23 27.9**	**0.0**
KLV	**Kalavryta, Ach**	**1.43**	**77**	P	**Pn**	**00 23 27.7**	**-0.1**
ANX	**Ano Chora**	**1.48**	**54**	P	**Pn**	**00 23 29.3**	**+0.7**
ANX	**Ano Chora**	**1.48**	**54**	P	**Pn**	**00 23 29.2**	**+0.7**
KALE	**Kalithea**	**1.53**	**64**	P	**Pn**	**00 23 30.0**	**+0.7**
GUR	**Goura**	**1.56**	**82**	P	**Pn**	**00 23 30.1**	**+0.4**
KEK	**Kerkira**	**2.02**	**347**	*e*P	**Pn**	**00 23 37.4**	**+1.4**
KEK	**Kerkira**	**2.02**	**347**		**Pn**	**00 23 36.9**	**+1.0**
LIT	**Litokhoron**	**2.87**	**34**		**Pn**	**00 23 49.0**	**+1.3**
LIT	**Litokhoron**	**2.87**	**34**	P	**Pn**	**00 23 49.0**	**+1.3**
FNA	**Florina**	**3.14**	**14**	*e*P	**Pn**	**00 23 52.8**	**+1.5**
FNA	**Florina**	**3.14**	**14**	Pn	**Pn**	**00 23 51.9**	**+0.6**
FNA	**Florina**	**3.14**	**14**	*e*Pn	**Pn**	**00 23 53.2**	**+1.9**
FNA				*e*Sn	**Sn**	**00 24 30.3**	**+2.1**
FNA	**Florina**	**3.14**	**14**	P	**Pn**	**00 23 51.9**	**+0.6**
TIP	**Timpagrande**	**3.19**	**298**		**Pn**	**00 23 53.1**	**+1.1**
TIP	**Timpagrande**	**3.19**	**298**	⇑P	**Pn**	**00 23 53.3**	**+1.2**
TIP	**Timpagrande**	**3.19**	**298**	P	**Pn**	**00 23 52.3**	**+0.3**
PAIG	**Paliouri**	**3.38**	**49**	*e*P	**Pn**	**00 23 57.4**	**+2.9**
OHR	**Ohrid**	**3.38**	**5**	*e*Pn	**Pn**	**00 23 57.0**	**+2.3**
OHR				*e*Sn	**Sn**	**00 24 37.1**	**+2.8**
OHR	**Ohrid**	**3.38**	**5**	*i* Pn	**Pb**	**00 23 59.0**	**-3.2**
HORT	**Hortiatis**	**3.55**	**36**	*e*P	**Pn**	**00 23 59.7**	**+2.7**
TIR	**Tirane**	**3.62**	**354**		**Pn**	**00 24 00.2**	**+2.2**
TIR	**Tirane**	**3.62**	**354**	*e*Pn	**Pn**	**00 24 00.6**	**+2.6**
TIR				*e*Sn	**Sn**	**00 24 43.2**	**+3.0**
TIR	**Tirane**	**3.62**	**354**	⇑P	**Pn**	**00 23 59.6**	**+1.6**
TIR	**Tirane**	**3.62**	**354**	P	**Pn**	**00 24 00.2**	**+2.2**
TIR	**Tirane**	**3.62**	**354**	P	**Pn**	**00 24 00.2**	**+2.2**
IMMV	**Iera Moni Meta**	**3.68**	**127**	*e*P	**Pn**	**00 24 02.6**	**+3.8**
OUR	**Ouranopolis**	**3.82**	**46**	*e*P	**Pn**	**00 24 04.1**	**+3.5**
VAY	**Valandovo**	**3.96**	**25**	*e*Pn	**Pn**	**00 24 04.7**	**+2.2**
VAY				*e*Sn	**Sn**	**00 24 49.1**	**+0.8**
VAY	**Valandovo**	**3.96**	**25**	*i* Pn	**Pn**	**00 24 05.5**	**+3.0**
MATE	**Matera**	**4.08**	**317**	*e*P	**Pn**	**00 24 06.1**	**+2.0**
MATE	**Matera**	**4.08**	**317**	⇓P	Pg	00 24 32.4	+11
APE	**Apeiranthos**	**4.15**	**98**	*e

FRGS Fruska Gora 7.42 357 *e*Pn Pn 00 24 45.0 -5.2
NRCA Norcia 7.53 315 Pn **Pn 00 24 54.5 +2.8**
PRD Provadia 7.62 42 P Pn 00 24 44.4 -8.3
HUMR Humele 7.62 26 ⇑P **Pn 00 24 55.9 +3.2**
BANR Banloc 7.66 4 ⇑P Pb 00 25 07.1 -7.9
ELL Elmali 7.66 95 Pn **Pn 00 24 55.7 +2.1**
ELL Elmali 7.66 95 P **Pn 00 24 55.7 +2.1**
FDMO Fiordimonte 7.68 316 Pn **Pn 00 24 55.2 +1.5**
A051A Mrakovica 7.72 341 *e*Pn **Pn 00 24 52.7 -1.6**
BZS Buzias 7.92 6 ⇓P **Pn 00 24 58.5 +1.5**
BZS Buzias 7.92 6 ⇓P **Pn 00 24 58.5 +1.5**
ISP Isparta 8.03 86 *i* P **Pn 00 24 58.4 -0.2**
LOT Lotru 8.11 17 ⇓P **Pn 00 25 02.7 +3.1**
SURR Surduc 8.11 9 ⇑P **Pn 00 25 01.7 +2.1**
ARR Arges 8.26 21 ⇑P **Pn 00 25 04.2 +2.6**
DEV Deva 8.35 12 ⇓P **Pb 00 25 25.4 -1.4**
MORH Mrgy, Hungar 8.57 352 ⇑P Pn 00 25 18.1 +12
MORH Mrgy, Hungar 8.57 352 P **Pn 00 25 08.7 +2.9**
comp=N,7.3nm,2.0s
SIRR Siria 8.57 6 ⇑P **Pn 00 25 02.0 -3.9**
BOJS Bojanci 8.65 335 *e*Pn **Pn 00 25 06.4 -0.6**
MLR Muntele Rosu 8.79 26 **Pn 00 25 12.1 +3.1**
MLR Muntele Rosu 8.79 26 Pn **Pn 00 25 10.8 +1.8**
comp=N,28nm,1.2s,baz=288,slow=2.1,SNR=20
MLR Muntele Rosu 8.79 26 ⇓P **Pn 00 25 11.8 +2.8**
MLR Muntele Rosu 8.79 26 P **Pn 00 25 12.1 +3.1**
MLR Muntele Rosu 8.79 26 P **Pn 00 25 12.7 +3.7**
comp=N,37nm,1.1s
NEHR Nehoiu 8.86 28 ⇓P **Pn 00 25 14.7 +4.8**
CRES Cresnjevec Ost 8.88 337 *e*Pn **Pn 00 25 08.8 -1.3**
DOPR Dopca 9.03 23 ⇓P **Pn 00 25 16.6 +4.4**
KEST Kesra 9.08 261 Pn **Pn 00 25 14.2 +1.1**
comp=N,0.2nm,0.3s,baz=108,slow=19,SNR=2.9
KEST Sn **Sn 00 26 52.5 -2.3**
comp=N,0.2nm,0.3s,baz=82,slow=22,SNR=2.1
KEST LR LR 00 28 48.8
comp=N,319nm,21.8s,baz=71,slow=38
comp=N,6.4nm,0.9s
SKDS Skadanscina 9.14 331 *e*Pn **Pn 00 25 17.3 +3.6**
CEY Cerknica 9.14 333 *e*Pn **Pn 00 25 14.6 +0.8**
COVR Voineasa-Covas 9.19 26 ⇑P **Pn 00 25 17.2 +2.9**
DRGR 9.21 10 ⇑P **Pn 00 25 17.7 +3.1**
DRGR 9.21 10 ⇑P **Pn 00 25 17.7 +3.1**
OZUR 9.27 24 ⇑P **Pn 00 25 17.9 +2.5**
TURR Turia 9.31 25 ⇑P Pn 00 25 21.5 +5.5
PLOR Plostina 9.36 28 ⇑P Pn 00 25 21.5 +4.8
PLOR Plostina 9.36 28 ⇑P Pn 00 25 21.5 +4.8
PLOR5 Plostina Array 9.36 28 P **Pn 00 25 19.3 +2.6**
comp=N,36nm,1.5s
PLOR3 Plostina Array 9.36 28 P **Pn 00 25 20.5 +3.8**
comp=N,38nm,1.1s
VRI Vrincioaia 9.40 28 ⇑P **Pn 00 25 21.6 +4.4**
VRI Vrincioaia 9.40 28 ⇑P **Pn 00 25 21.6 +4.4**
VRI Vrincioaia 9.40 28 P **Pn 00 25 20.8 +3.6**
comp=N,48nm,1.3s
ODBI Odobesti 9.44 30 ⇑P **Pn 00 25 19.4 +1.7**
SABO M.te Sabotino 9.66 331 Pn **Pn 00 25 20.6 -0.3**
ONER Baraj Valea Uz 9.68 26 ⇑P **Pn 00 25 21.4 +0.3**
SOKA Soboth 9.77 338 *e*Pn **Pn 00 25 21.8 -0.6**
comp=N,7.5nm,0.6s
OBKA Obir 9.77 336 *e*Pn **Pn 00 25 26.2 +3.7**
comp=N,1.5nm,0.2s
OBKA *e*Sn **Sn 00 27 10.5 -1.1**
comp=N,22nm,1.0s
OBKA Obir 9.77 336 *e*Pn **Pn 00 25 23.0 +0.6**
VLDR Vladesti 9.93 33 ⇑P **Pn 00 25 22.1 -2.3**
TEOL Teolo 10.02 322 Pn **Pn 00 25 27.6 +1.8**
ARSA Arzberg 10.16 341 *e*Pn Pn 00 25 32.8 +5.2
comp=N,4.8nm,0.7s
RONA Rosalia, Austr 10.40 345 Pn Pn 00 25 40.1 +9.2
comp=N,2.1nm,0.6s
BURAR Bucovina Array 10.49 18 Pn **Pn 00 25 32.9 +0.7**
BURAR Bucovina Array 10.49 18 ⇑P Pn 00 25 39.9 +7.7
BURAR Bucovina Array 10.49 18 ⇑P Pn 00 25 39.9 +7.7
BUR08 Bucovina Ar. S 10.51 18 Pn **Pn 00 25 34.3 +1.8**
CTI Castel Tesino 10.54 325 Pn **Pn 00 25 33.9 +0.9**
CTI Castel Tesino 10.54 325 P **Pn 00 25 33.9 +0.9**
BRTR Keskin Array B 10.54 75 Pn **Pn 00 25 31.9 -1.2**
BRTR Keskin Array B 10.54 75 Pn **Pn 00 25 31.7 -1.3**
baz=257,slow=13,SNR=1.5
BRTR LR LR 00 30 32.2
comp=N,1μm,19.0s,baz=273,slow=43
comp=N,0.6nm,0.8s
BRTR Keskin Array B 10.54 75 P **Pn 00 25 31.9 -1.2**
CONA Conrad Observa 10.71 343 Pn Pn 00 25 45.4 +10
comp=N,0.4nm,0.3s
ABTA Abfaltersbach 10.72 330 *e*Pn Pn 00 25 41.9 +6.5
comp=N,2.8nm,0.6s
ABTA *e*Sn **Sn 00 27 34.3 -0.5**
comp=N,12nm,0.7s
CSS Mathiatis 10.80 101 Pn **Pn 00 25 35.7 -0.8**
MOA Molln 11.05 338 *e*Pn **Pn 00 25 41.1 +1.3**
comp=N,4.5nm,0.4s
BIOA Bad Ischl, Aus 11.11 336 *e*Pn **Pn 00 25 43.3 +2.6**
comp=N,0.9nm,0.3s
LESA Schwarzleotal 11.21 332 *e*Pn Pn 00 25 51.0 +8.9
comp=N,5.5nm,0.5s
LESA *e*Sn **Sn 00 27 47.1 +0.2**
comp=N,4.6nm,0.5s
KOLS Kolonicke sedl 11.27 6 *e*P **Pn 00 25 42.6 -0.3**
WTTA Wattenberg 11.49 329 *e*Sn **Sn 00 27 56.0 +2.1**
comp=N,11nm,0.8s
WATA Walderalm 11.57 329 *e*Pn Pn 00 25 52.2 +5.1
comp=N,3.3nm,0.5s
FUORN Ofenpass-Fuorn 11.61 323 Pn **Pn 00 25 49.2 +1.5**
SQTA Sankt Quirin 11.64 327 *e*Sn **Sn 00 27 59.5 +2.1**
comp=N,5.5nm,0.7s
FETA Feichten 11.69 326 Pn Pn 00 25 56.7 +8.0
comp=N,0.7nm,0.4s
VRAC Vranov 11.88 348 Pn **Pn 00 25 55.3 +4.1**
comp=N,0.7nm,0.4s,baz=169,slow=10,SNR=1.1
DAVOX Davos/Dischmat 11.91 323 Pn **Pn 00 25 55.0 +3.2**
comp=N,0.1nm,0.3s,baz=226,slow=14,SNR=2.2
DAVOX Sn **Sn 00 28 04.8 +0.6**
comp=N,0.2nm,0.3s,baz=286,slow=22,SNR=1.8
DAVOX LR LR 00 32 29.3
comp=N,84nm,21.6s,baz=106,slow=47
comp=N,0.7nm,0.4s
DAVOX Davos/Dischmat 11.91 323 P **Pn 00 25 55.0 +3.2**
TUE Stuetta 11.96 320 Pn **Pn 00 25 54.0 +1.5**
GERES GERESS Array B 12.11 339 Pn **Pn 00 25 57.9 +3.5**
comp=N,0.2nm,0.3s,baz=146,slow=11,SNR=3.7
GERES LR LR 00 30 43.6
comp=N,111nm,20.8s,baz=250,slow=38
comp=N,0.7nm,0.4s
DAVA Damuels 12.28 324 *e*PN Pn 00 26 06.7 -2.3
comp=N,0.8nm,0.4s
KHC Kasperske Hory 12.41 339 *e*PN Pn 00 26 03.3 +4.9
KHC *e*SN **Sn 00 28 13.1 -2.9**
KHC Kasperske Hory 12.41 339 *e*P Pn 00 26 03.3 +4.9
KHC *e* 00 28 13.1
SENIN Lac Senin/Sane 12.98 316 Pn **Pn 00 26 07.1 +0.8**
MMAI Mount Meron Ar 13.13 107 Pn **Pn 00 26 05.0 -3.4**
comp=N,0.5nm,0.3s,baz=299,slow=12,SNR=6.8
MMAI LR LR 00 33 10.3
comp=N,118nm,18.8s,baz=258,slow=47
comp=N,0.3nm,0.3s
LUBAR Lubar, Ukraine 13.28 21 P **Pn 00 26 12.4 +2.2**
AMAZ Amatzia 13.47 113 P **Pn 00 26 14.0 +1.1**
QRNJ Al-Qirein 13.56 109 P **Pn 00 26 15.7 +1.6**
HMDT Nahal Hemdat 13.56 109 P **Pn 00 26 16.7 +2.5**
MSBI Mazada 13.90 113 P **Pn 00 26 19.7 +0.9**
BRG Berggiesshubel 13.91 343 *e*P P 00 26 39.9 +13
BRG Amp 00 26 42.9
comp=Z,4.6nm,1.0s
GHAJ Ghor Haditha 14.06 113 Pn **Pn 00 26 21.3 +0.3**
GHAJ Ghor Haditha 14.06 113 P **Pn 00 26 22.2 +1.2**
PRNI Paran 14.18 117 P **Pn 00 26 24.5 +1.9**
RNPP9 Sopachiv 14.21 14 P **P 00 26 28.1 -2.2**
ECH Echery 14.24 322 Pn **Pn 00 26 23.8 +0.4**
ECH Echery 14.24 322 P **Pn 00 26 23.8 +0.4**
AKASG Malin Array Be 14.41 23 Pn **Pn 00 26 26.2 +0.5**
AKASG Malin Array Be 14.41 23 Pn **Pn 00 26 25.1 -0.5**
comp=Z,0.2nm,0.3s,baz=216,slow=12,SNR=6.4
AKASG LR LR 00 33 19.2
comp=Z,550nm,18.1s,baz=199,slow=43
comp=Z,0.5nm,0.5s
AKASG Malin Array Be 14.41 23 P **Pn 00 26 26.2 +0.5**
AKBB Malin Array Si 14.41 23 Pn **Pn 00 26 26.1 +0.5**
AKBB Malin Array Si 14.41 23 P **Pn 00 26 26.1 +0.5**
AKBB Malin Array Si 14.41 23 P **Pn 00 26 26.2 +0.5**
CLL Collm 14.54 341 *e*(sPP) 00 26 45.0
CLL *ex* x 00 26 53.0
CLL *ex* x 00 26 59.0

EIL Elat 14.54 119 Pn **Pn 00 26 26.1 -1.5**
comp=Z,0.4nm,0.3s,baz=284,slow=9.1,SNR=4.7
EIL LR LR 00 34 21.0
comp=Z,142nm,18.4s,baz=258,slow=48
comp=Z,3.0nm,0.6s
EIL Elat 14.54 119 P **Pn 00 26 27.3 -0.3**
AQBJ Aqaba 14.57 119 P **Pn 00 26 29.0 +0.9**
ASF Jabal al Asfar 14.63 107 Pn **Pn 00 26 27.3 -1.6**
comp=Z,0.1nm,0.3s,baz=48,slow=0.5,SNR=1.6
comp=Z,1.9nm,0.7s
GURO Guroymak-BITLI 17.05 81 **Pn 00 27 00.8 +0.5**
NACGM Naroch 17.71 12 *e*P **P 00 27 10.3 +1.3**
comp=Z,20nm,0.9s,baz=197
SHA1 Shidzhatmaz 17.89 63 *i* P **Pn 00 27 11.1 +0.3**
PABE Paberze 17.94 7 P **Pn 00 27 10.9 0.0**
PABE IAmb IAmb 00 27 26.8
comp=Z,77nm,1.1s
KIV Kislovodsk 17.95 63 *e*P **Pn 00 27 11.3 -0.1**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,55nm,14.0s
KVAR Kislovodsk Arr 17.96 63 P **Pn 00 27 10.8 -0.7**
baz=268,slow=18
comp=Z,3.9nm,1.2s
KBZ Khabaz 18.06 64 P **Pn 00 27 12.0 -0.6**
comp=Z,0.1nm,0.3s,baz=266,slow=14,SNR=1.6
KBZ LR LR 00 36 11.5
comp=Z,212nm,19.8s,baz=264,slow=44
comp=Z,1.5nm,0.9s
KBZ Khabaz 18.06 64 *i* P **Pn 00 27 12.5 -0.1**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
VORD Divnogorie 18.84 39 *e*P **P 00 27 20.8 -0.6**
VORD pmax pmax
comp=Z,9.0nm,0.6s
VSR Storozhevoye 18.93 39 *e*P **P 00 27 22.5 +0.1**
VSR pmax pmax
comp=Z,10.0nm,0.6s
ESDC Sonseca Array 19.09 283 P **Pn 00 27 27.1 +1.9**
baz=71,slow=12,SNR=5.5
comp=Z,2.0nm,1.1s
VORR Voronezh 19.23 38 *e*P **Pn 00 27 29.0 +2.2**
VORR pmax pmax
comp=Z,17nm,0.4s
TAM Tamanrasset 19.62 225 P **P 00 27 29.3 -1.1**
TAM Tamanrasset 19.62 225 P **P 00 27 29.3 -1.1**
TAM pmax pmax
comp=Z,4.0nm,1.0s
LPSR Galich'ya Gora 19.70 35 *e*P **P 00 27 31.0 +0.1**
LPSR pmax pmax
comp=Z,28nm,0.9s
VRH Novokhopyorsk 20.23 41 *e*P **P 00 27 35.8 -0.8**
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 20.56 27 P Pn 00 27 41.6 -0.8
OBN IAmb IAmb 00 27 57.9
comp=Z,22nm,0.9s
OBN Obninsk 20.56 27 P **P 00 27 40.8 +0.6**
comp=Z,8.1nm,0.4s,baz=247,slow=14,SNR=4.0
comp=Z,8.1nm,0.4s
OBN Obninsk 20.56 27⇑ *e*P **P 00 27 40.5 +0.3**
OBN pmax pmax
comp=Z,43nm,2.5s
OBN MLR MLR
comp=Z,216nm,15.0s
MDT Midelt 20.96 264 P Pn 00 27 46.3 -1.1
comp=Z,1.5nm,0.7s,baz=102,slow=11,SNR=7.3
comp=Z,1.5nm,0.7s
VSU Vasula 21.15 9 *c e*P **P 00 27 46.8 +0.3**
VSU pmax pmax
comp=Z,58nm,1.3s
MAK Makhachkala 21.27 67 *e*P **P 00 27 44.6 -3.4**
MAK *e* 00 28 05.4
MAK *e*S **S 00 31 39.7 -3.8**
MAK pmax pmax
comp=Z,355nm,1.5s
MAK MLR MLR
comp=Z,284nm,16.0s
AKT Akhty 21.36 71 *e*P **P 00 27 48.4 -0.7**
AKT *e*PPP PPP 00 28 16.5
AKT *e*S **S 00 31 48.4 +2.9**
AKT pmax pmax
comp=Z,44nm,1.5s
AKT MLR MLR
comp=Z,146nm,6.0s
MOS Moscow 21.43 27 *e*P **P 00 27 51.0 +1.5**
MOS *e* 00 28 13.2
MOS *e* 00 31 56.6
MOS pmax pmax
comp=Z,27nm,0.8s
HFS Hagfors 22.82 351 P **P 00 28 05.1 +0.8**
comp=Z,4.2nm,0.7s,baz=158,slow=12,SNR=8.3
HFS LR LR 00 37 53.9
comp=Z,191nm,19.1s,baz=207,slow=39
comp=Z,4.2nm,0.7s
PUL Pulkovo 22.95 13 *i* P **P 00 28 07.2 +1.5**
PUL pmax pmax
comp=Z,42nm,0.9s
NC602 NORSAR Array S 23.69 349 P **P 00 28 13.5 +0.4**
EKA Eskdalemuir Ar 23.72 325 P **P 00 28 15.0 +1.5**
comp=Z,3.1nm,0.8s,baz=118,slow=14,SNR=3.5
comp=Z,3.1nm,0.8s
BELG Belogornoye 23.99 44 LR LR 00 39 38.8
comp=Z,205nm,18.7s,baz=256,slow=42
BELG Belogornoye 23.99 44 *i* P **P 00 28 17.2 +1.1**
BELG pmax pmax
comp=Z,6.0nm,1.1s
FINES FINESS Array B 23.99 7 P **P 00 28 16.6 +0.6**
comp=Z,5.7nm,0.7s,baz=174,slow=9.8,SNR=17
FINES LR LR 00 38 54.2
comp=Z,217nm,21.6s,baz=216,slow=40
comp=Z,5.7nm,0.7s
FIA1 FINESS Array S 24.00 7 P **P 00 28 16.1 +0.1**
NB2 NORSAR Subarra 24.03 349 P **P 00 28 17.6 +1.2**
comp=Z,45nm,2.0s,baz=162,slow=9.3
NOA NORSAR Array B 24.03 349 P **P 00 28 17.1 +0.7**
comp=Z,2.3nm,1.0s,baz=162,slow=9.8,SNR=3.6
comp=Z,2.3nm,1.0s
RAYN Ar Rayn 25.74 116 P **P 00 28 32.9 +0.6**
RAYN IAmb IAmb 00 28 45.4
comp=Z,6.6nm,1.0s
RAYN Ar Rayn 25.74 116 P **P 00 28 32.9 +0.6**
RAYN pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 26.09 21 *e*P **P 00 28 33.9 -1.1**
KLMR pmax pmax
comp=Z,29nm,1.7s
KIRV Kirov 28.08 33 LR LR 00 40 04.6
comp=Z,200nm,19.5s,baz=248,slow=36
KIRV Kirov 28.08 33 *i* P **P 00 28 51.9 -1.0**
AKTO Aktyubinsk 29.53 52 LR LR 00 44 21.2
comp=Z,144nm,18.1s,baz=270,slow=44
TORD Torodi Ar. Bea 29.62 219 P **P 00 29 06.8 -0.3**
TORD Torodi Ar. Bea 29.62 219 P **P 00 29 07.2 +0.2**
comp=Z,2.1nm,0.7s,baz=27,slow=9.8,SNR=16
TORD LR LR 00 41 58.8
comp=Z,137nm,19.9s,baz=340,slow=38
comp=Z,2.1nm,0.7s
ABKAR Akbulak array 30.58 55 P **P 00 29 15.2 -0.1**
ARTI Arti 31.35 41 P **P 00 29 20.8 -1.2**
ARTI IAmb IAmb 00 29 27.1
comp=Z,4.4nm,0.6s
ARTI Arti 31.35 41 LR LR 00 43 46.2
comp=Z,189nm,18.1s,baz=262,slow=40
ARTI Arti 31.35 41 *d i* P P 00 29 16.8 -5.2
ARTI S **S 00 34 23.3 -4.7**
ARTI pmax pmax
comp=Z,15nm,2.2s
ARCES ARCESS Array B 31.98 3 P **P 00 29 27.8 +0.5**
comp=Z,7.1nm,1.1s,baz=184,slow=11,SNR=4.9
ARCES LR LR 00 43 34.8
comp=Z,190nm,18.6s,baz=186,slow=38
comp=Z,7.1nm,1.1s
SVE Sverdlovsk 32.67 41 *e*P **P 00 29 35.7 +2.1**
UOSS Minazif 32.95 102 P **P 00 29 35.8 -0.5**
UOSS IAmb IAmb 00 29 41.3
comp=Z,9.7nm,1.2s
BRVK Borovoye 37.42 49 *c e*P **P 00 30 14.4 -0.1**
BRVK pmax pmax
comp=Z,4.0nm,1.3s
BVAR Borovoye Array 37.48 50 P **P 00 30 14.9 -0.1**
comp=Z,0.9nm,0.6s,baz=258,slow=7.5,SNR=5.0
BVAR LR LR 00 48 33.7
comp=Z,83nm,19.7s,baz=280,slow=41
comp=Z,0.9nm,0.6s
SIMJ Simiganj 37.87 73 P **P 00 30 18.5 -0.2**

KKAR Karatay Array 38.07 66 P **P 00 30 20.2 0.0**
KKAR Karatay Array 38.07 66 P **P 00 30 20.4 +0.1**
KKAR IAmb IAmb 00 30 38.0
comp=Z,1.4nm,0.7s
KKAR Karatay Array 38.07 66 P **P 00 30 20.2 0.0**
KKAR 00 30 20.4
KKAR pmax pmax
comp=Z,1.0nm,0.7s
DBIC Dimbokro 38.50 223 P **P 00 30 24.3 +0.4**
comp=Z,3.7nm,0.9s,baz=8.2,slow=7.9,SNR=3.2
DBIC LR LR 00 46 18.8
comp=Z,115nm,21.8s,baz=40,slow=36
comp=Z,3.7nm,0.9s
GAR Garm 38.77 72 P **P 00 30 26.9 +0.6**
GAR IAmb IAmb 00 30 34.8
comp=Z,11nm,1.2s
BBTS Babate 39.94 245 LR LR 00 49 38.8
comp=Z,247nm,18.4s,baz=304,slow=40
AAK Ala-Archa 41.04 66 P **P 00 30 46.0 +0.9**
AAK Ala-Archa 41.04 66 LR LR 00 51 14.7
comp=Z,129nm,19.9s,baz=307,slow=41
AAK Ala-Archa 41.04 66 P **P 00 30 46.0 +0.9**
AAK pmax pmax
comp=Z,4.0nm,1.3s
KURBB Kurchatov Arra 42.58 53 P **P 00 30 56.2 -1.1**
comp=Z,0.8nm,0.5s,baz=279,slow=8.8,SNR=8.3
KURBB LR LR 00 51 27.8
comp=Z,99nm,19.8s,baz=170,slow=40
comp=Z,0.8nm,0.5s
KURK Kurchatov 42.63 53 P **P 00 30 56.5 -1.2**
KURK IAmb IAmb 00 31 08.5
comp=Z,7.7nm,1.3s
KURK Kurchatov 42.63 53 *c e*P **P 00 30 57.7 0.0**
KURK pmax pmax
comp=Z,6.0nm,1.3s
MK31 Makanchi Array 45.62 58 P **P 00 31 21.3 -0.6**
MK31 IAmb IAmb 00 31 44.0
comp=Z,6.0nm,1.4s
MK31 Makanchi Array 45.62 58 P **P 00 31 21.3 -0.6**
MK31 pmax pmax
comp=Z,6.0nm,1.4s
MKAR Makanchi Array 45.62 58 P **P 00 31 20.4 -1.5**
comp=Z,0.8nm,0.5s,baz=268,slow=7.5,SNR=14
MKAR LR LR 00 52 46.2
comp=Z,86nm,21.6s,baz=343,slow=39
comp=Z,0.8nm,0.5s
ZAA0 Zalesovo Array 46.06 48 P **P 00 31 24.4 -0.8**
ZAA0 IAmb IAmb 00 31 30.5
comp=Z,16nm,1.4s
ZALV Zalesovo Beam 46.06 48 P **P 00 31 24.2 -1.0**
ZALV Zalesovo Beam 46.06 48 P **P 00 31 24.0 -1.2**
comp=Z,3.3nm,0.5s,baz=274,slow=8.3,SNR=20
ZALV LR LR 00 53 48.7
comp=Z,93nm,19.1s,baz=294,slow=40
comp=Z,3.3nm,0.5s
ZALV Zalesovo Beam 46.06 48 *i* P **P 00 31 25.1 -0.1**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
NRIK Noril'sk 47.23 26 *i* P **P 00 31 36.7 +2.5**
NRIK pmax pmax
comp=Z,4.0nm,1.1s
MSEY Mahe Island 53.33 134 P **P 00 32 20.9 0.0**
MSEY Mahe Island 53.33 134 P **P 00 32 21.0 0.0**
MSEY pmax pmax
comp=Z,21nm,0.7s
TIXI Tiksi 60.10 20 LR LR 01 02 57.7
comp=Z,249nm,18.4s,baz=1.0,slow=40
SHL Shillong 60.74 79 P **P 00 33 13.3 -0.3**
SHL Shillong 60.74 79 P **P 00 33 13.3 -0.3**
SHL pmax pmax
comp=Z,20nm,1.3s
SONM Songino Array 60.82 50 P **P 00 33 13.1 -0.7**
comp=Z,0.6nm,0.7s,baz=276,slow=7.2,SNR=4.8
SONM LR LR 01 04 05.7
comp=Z,86nm,18.1s,baz=310,slow=41
comp=Z,0.6nm,0.7s
LBTB Lobatse 62.61 175 LR LR 01 01 38.6
comp=Z,74nm,19.9s,baz=356,slow=37
YAK Yakutsk 65.54 29 LR LR 01 04 59.7
comp=Z,63nm,18.1s,baz=290,slow=38
YAK Yakutsk 65.54 29 *i* P **P 00 33 45.5 +0.8**
YAK pmax pmax
comp=Z,8.0nm,0.8s
BOSA Boshof 66.16 175 LR LR 01 03 58.2
comp=Z,118nm,19.6s,baz=4.5,slow=37
HHC Hu-ho-hao-te 67.37 55 *e*P **P 00 33 57.5 +0.6**
HHC pmax pmax
comp=Z,5.0nm,0.8s
HHC pmax pmax
comp=Z,150nm,5.6s
PZH PanZhiHua 67.84 73 P **P 00 34 01.5 +1.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.4s
RCBR Riachuelo 67.89 243 LR LR 01 02 50.6
comp=Z,32nm,20.4s,baz=69,slow=35
SUR Sutherland 69.76 180 LR LR 01 06 57.0
comp=Z,80nm,18.0s,baz=356,slow=38
CMAR Chiang Mai Arr 70.06 82 P **P 00 34 13.3 -0.6**
CMAR Chiang Mai Arr 70.06 82 P **P 00 34 13.8 0.0**
comp=Z,2.0nm,0.4s,baz=295,slow=7.8,SNR=5.1
CMAR LR LR 01 10 59.0
comp=Z,27nm,19.3s,baz=300,slow=41
comp=Z,2.0nm,0.4s
CMAR Chiang Mai Arr 70.06 82 *c e*P **P 00 34 15.6 +1.7**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
HEH HeiHe 71.44 40 *e*P **P 00 34 22.0 +0.3**
BILL Bilibino 71.47 13 *i* P **P 00 34 22.6 +1.0**
BILL pmax pmax
comp=Z,4.0nm,1.2s
E29M Blow River 72.94 352 P **P 00 34 31.4 +1.0**
E29M IAmb IAmb 00 34 44.0
comp=Z,12nm,1.4s
MDP Montagnes des 73.48 264 LR LR 01 06 39.5
comp=Z,62nm,18.4s,baz=44,slow=36
TIA Tai'an 73.55 57 P **P 00 34 34.0 -0.6**
TIA pmax pmax
comp=Z,11nm,2.0s
YKA Yellowknife Ar 73.76 340 P **P 00 34 36.6 +1.2**
comp=Z,0.4nm,0.8s,baz=30,slow=6.4,SNR=2.8
comp=Z,0.4nm,0.8s
G31M Satah River 73.88 350 P **P 00 34 36.6 +0.7**
G31M IAmb IAmb 00 34 44.2
comp=Z,6.5nm,1.2s
F28M Old Crow 73.91 352 P **P 00 34 36.6 +0.5**
F28M IAmb IAmb 00 34 51.2
comp=Z,4.7nm,1.2s
KLR Kul'dur 74.28 39 LR LR 01 09 24.4
comp=Z,112nm,18.5s,baz=358,slow=38
KLR Kul'dur 74.28 39 *i* P **P 00 34 38.3 -0.3**
KLR pmax pmax
comp=Z,1.0nm,1.0s
MA2 Magadan 74.74 24 LR LR 01 11 56.4
comp=Z,84nm,18.3s,baz=300,slow=39
SJG San Juan 76.47 282 LR LR 01 03 45.9
comp=Z,27nm,21.2s,baz=54,slow=32
NJ2 Nanjing 77.13 59 *e*P **P 00 34 55.3 +0.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
ILAR Eielson Array 77.33 354 P **P 00 34 58.2 +2.4**
comp=Z,0.2nm,0.7s,baz=19,slow=6.4,SNR=2.3
comp=Z,0.2nm,0.7s
USRK Ussuriysk Ar. 77.67 43 LR LR 01 12 16.9
comp=Z,40nm,19.4s,baz=348,slow=38
KSRS Korea Array 79.69 50 LR LR 01 15 38.4
comp=Z,59nm,19.2s,baz=330,slow=40
ASAJ Asahikawa 83.20 38 LR LR 01 17 38.1
comp=Z,88nm,18.7s,baz=6.5,slow=39
BDFB Brasilia 83.23 244 LR LR 01 14 10.0
comp=Z,65nm,18.0s,baz=111,slow=37
JNU Nakatsue 84.34 52 LR LR 01 16 53.2
comp=Z,40nm,18.6s,baz=336,slow=38
SHEM Shemya Is, Ala 87.05 16 LR LR 01 19 49.5
comp=Z,70nm,19.4s,baz=250,slow=39
ANMO Albuquerque 92.46 319 LR LR 01 20 55.9
comp=Z,52nm,18.5s,baz=208,slow=38
LPAZ La Paz 98.64 256 LR LR 01 23 00.4
comp=Z,37nm,18.5s,baz=44,slow=36
WRA Warramunga Arr 120.63 92 PKP **PKPdf 00 41 54.0 +0.3**
comp=Z,0.3nm,0.6s,baz=324,slow=1.6,SNR=2.5
WRA Warramunga Arr 120.63 92 PKIKP **PKPdf 00 41 54.0 +0.3**

*IDC **29** 00:27:14.7±0.6, 12°.90S×45°.43E, h0km, mb3.9/15,*

mbtmp4.0/18, ML4.0/3, MS3.5/9, Error ellipse: s-maj=19.6km s-min=15.6km az=93.0
*NEIC **29** 00:27:16.4±1.7, 12°.84S±0°.07×45°.4E±0°.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=17.0km s-min=12.2km az=81.0*
ISC 29 00:27:15.7±0.4, **12°.90S**±0°.06×**45°.49E**±0°.08, **h10**km, **n50,**
σ1§**34**/**49**, **mb4.4**/20, **MS3.6**/**6**, **Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.87**	**164**	Pn	**Pn**	**00 28 44.3**	**+1.3**
	9.2nm,0.3s,baz=336,slow=12,SNR=806						
OPO				Sn	**Sn**	**00 29 45.8**	**-4.7**
	9.5nm,0.3s,baz=101,slow=21,SNR=14						
OPO				LR	LR	00 30 38.2	
	comp=Z,161nm,21.5s,baz=172,slow=35						
ABPO	**Ambohimpanom**	**6.31**	**165**		**Pn**	**00 28 50.3**	**+1.2**
ABPO				Sn	**Sn**	**00 29 57.7**	**-3.6**
VOI	**Vohitsoka**	**9.04**	**172**	Pn	**Pn**	**00 29 27.2**	**+0.6**
FOMA	**Nahampoana Res**	**12.09**	**174**	Pn	**Pn**	**00 30 08.1**	**-0.1**
RER	**Riviere de l'E**	**12.79**	**131**	Pn	**Pn**	**00 30 17.1**	**-0.7**
MSEY	**Mahe Island**	**12.81**	**51**	Pn	**Pn**	**00 30 16.8**	**-1.4**
KIBK	**Kibwezi**	**12.82**	**324**	Pn	**Pn**	**00 30 15.2**	**-3.1**
KMBO	**Kilima Mbogo**	**14.26**	**324**	Pn	**Pn**	**00 30 35.8**	**-2.4**
	0.3nm,0.3s,baz=142,slow=10,SNR=7.3						
KMBO				LR	LR	00 35 11.8	
	comp=Z,124nm,19.8s,baz=104,slow=34						
	1.3nm,0.4s						
LSZ	**Lusaka**	**16.94**	**260**		**Pn**	**00 31 11.1**	**-2.1**
LSZ				IAmb	IAmb	00 31 17.7	
	comp=Z,14nm,0.9s						
MATP	**Matopo**	**17.90**	**243**	Pn	**Pn**	**00 31 25.2**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=67,slow=9.0,SNR=15						
	comp=Z,1.6nm,0.7s						
MBAR	**Mbarara**	**19.05**	**309**	P	**P**	**00 31 37.9**	**-0.7**
MBAR	**Mbarara**	**19.05**	**309**	P	**Pn**	**00 31 39.6**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=107,slow=16,SNR=3.7						
MBAR				LR	LR	00 38 52.8	
	comp=Z,163nm,18.4s,baz=164,slow=37						
	comp=Z,2.6nm,0.2s						
LODK	**Lodwar**	**19.08**	**328**	P	**P**	**00 31 38.3**	**-0.5**
POGA	**Pongola**	**19.31**	**220**	P	**P**	**00 31 40.8**	**-0.3**
POGA				IAmb	IAmb	00 31 49.1	
	comp=Z,39nm,1.2s						
LBTB	**Lobatse**	**22.30**	**234**	P	**P**	**00 32 12.7**	**-0.9**
LBTB				IAmb	IAmb	00 32 17.3	
	comp=Z,22nm,1.1s						
LBTB	**Lobatse**	**22.30**	**234**	P	**P**	**00 32 12.9**	**-0.8**
	comp=Z,13nm,0.8s,baz=62,slow=9.2,SNR=10.0						
	comp=Z,13nm,0.8s						
FURI	**Furi**	**22.69**	**342**	LR	LR	00 41 45.5	
	comp=Z,126nm,18.0s,baz=164,slow=38						
BOSA	**Boshof**	**24.48**	**227**	P	**P**	**00 32 34.5**	**-0.8**
BOSA				IAmb	IAmb	00 32 40.4	
	comp=Z,9.9nm,0.8s						
BOSA	**Boshof**	**24.48**	**227**	P	**P**	**00 32 34.6**	**-0.7**
	comp=Z,8.1nm,0.8s,baz=58,slow=8.9,SNR=15						
	comp=Z,8.1nm,0.8s						
SOE	**Somerset East**	**26.85**	**219**	P	**P**	**00 32 57.1**	**+0.4**
SUR	**Sutherland**	**29.78**	**225**	P	**P**	**00 33 23.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**50.54**	**299**	P	**P**	**00 36 14.8**	**0.0**
	comp=Z,0.4nm,0.8s,baz=128,slow=6.0,SNR=2.7						
TORD				LR	LR	00 57 00.9	
	comp=Z,131nm,19.3s,baz=16,slow=35						
	comp=Z,0.4nm,0.8s						
GNI	**Garni**	**52.78**	**359**	LR	LR	00 58 03.3	
	comp=Z,50nm,20.2s,baz=282,slow=35						
BRTR	**Keskin Array B**	**53.51**	**349**	P	**P**	**00 36 35.6**	**-1.0**
BRTR	**Keskin Array B**	**53.51**	**349**	P	**P**	**00 36 37.0**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=170,slow=8.8,SNR=1.6						
	comp=Z,0.4nm,0.6s						
DBIC	**Dimbokro**	**53.66**	**288**	P	**P**	**00 36 38.1**	**0.0**
DBIC				IAmb	IAmb	00 36 51.0	
	comp=Z,9.5nm,1.4s						
SIMJ	**Simiganj**	**55.81**	**22**	P	**P**	**00 36 53.7**	**+0.3**
SIMJ				IAmb	IAmb	00 37 05.0	
	comp=Z,2.6nm,0.9s						
MAW	**Mawson**	**55.84**	**172**	P	**P**	**00 36 54.5**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=324,slow=11,SNR=2.3						
MAW				LR	LR	00 55 36.6	
	comp=Z,44nm,20.1s,baz=14,slow=30						
	comp=Z,0.9nm,0.6s						
GAR	**Garm**	**56.60**	**23**	P	**P**	**00 36 57.9**	**-1.1**
GAR				IAmb	IAmb	00 37 15.5	
	comp=Z,6.2nm,1.2s						
KKAR	**Karatay Array**	**60.26**	**21**	P	**P**	**00 37 24.3**	**-0.1**
KKAR	**Karatay Array**	**60.26**	**21**	P	**P**	**00 37 24.8**	**+0.4**
KKAR				IAmb	IAmb	00 37 34.5	
	comp=Z,1.9nm,1.2s						
ABKAR	**Akbulak array**	**63.19**	**11**	P	**P**	**00 37 44.0**	**+0.1**
ABKAR				IAmb	IAmb	00 37 52.8	
	comp=Z,5.4nm,1.2s						
ABKAR	**Akbulak array**	**63.19**	**11**	P	**P**	**00 37 44.0**	**+0.1**
SNAA	**Sanae**	**65.44**	**195**	P	**P**	**00 37 59.6**	**+1.0**
SNAA				IAmb	IAmb	00 38 00.8	
	comp=Z,6.4nm,1.4s						
GERES	**GERESS Array B**	**67.61**	**338**	P	**P**	**00 38 13.9**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=150,slow=6.8,SNR=1.7						
	comp=Z,0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.96**	**26**	P	**P**	**00 38 15.2**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=220,slow=6.6,SNR=2.3						
	comp=Z,0.5nm,0.9s						
BVAR	**Borovoye Array**	**69.06**	**16**	P	**P**	**00 38 23.0**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=215,slow=6.8,SNR=2.0						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**69.54**	**22**	P	**P**	**00 38 24.9**	**+0.4**
	comp=Z,1.2nm,0.3s,baz=219,slow=7.2,SNR=3.0						
	comp=Z,1.2nm,0.3s						
ESDC	**Sonseca Array**	**69.62**	**321**	P	**P**	**00 38 26.5**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=141,slow=5.9,SNR=2.0						
	comp=Z,0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**74.52**	**23**	P	**P**	**00 38 53.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=228,slow=6.0,SNR=1.9						
	comp=Z,0.2nm,0.3s						
FINES	**FINESS Array B**	**75.68**	**351**	P	**P**	**00 39 00.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**76.87**	**106**	LR	LR	01 07 40.7	
	comp=Z,33nm,20.5s,baz=259,slow=32						
QSPA	**South Pole Qui**	**77.19**	**180**	P	**P**	**00 39 10.8**	**+1.0**
QSPA	**South Pole Qui**	**77.19**	**180**	P	**P**	**00 39 10.8**	**+1.0**
	comp=Z,8.3nm,0.9s,baz=266,slow=2.6,SNR=12						
	comp=Z,8.3nm,0.9s						
SONM	**Songino Array**	**81.06**	**37**	P	**P**	**00 39 33.1**	**+1.9**
	comp=Z,0.3nm,0.4s,baz=251,slow=4.4,SNR=1.4						
	comp=Z,0.3nm,0.4s						
ASAR	**Alice Springs**	**83.50**	**113**	P	**P**	**00 39 45.2**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=262,slow=4.8,SNR=18						
ASAR				LR	LR	01 11 19.4	
	comp=Z,57nm,19.5s,baz=274,slow=32						
	comp=Z,2.4nm,0.7s						
WRA	**Warramunga Arr**	**84.63**	**109**	P	**P**	**00 39 50.8**	**+0.5**
	comp=Z,4.1nm,1.0s,baz=261,slow=3.9,SNR=17						
	comp=Z,4.1nm,1.0s						
WB2	**Warramunga Arr**	**84.64**	**109**	P	**P**	**00 39 50.8**	**+0.4**
PDAR	**Pinedale Array**	**143.24**	**329**	PKP	**PKPdf**	**00 46 51.6**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=103,slow=1.9,SNR=3.6						
TXAR	**Lajitas Array**	**147.05**	**305**	PKPbc	**PKPbc**	**00 46 59.4**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=101,slow=4.1,SNR=4.7						

WEL 29 00:37:15.2±0.8, **31°S**±6°×**17°9E**±1°2, **h33**km, **M4.6/6,**
mB4.9/3, **ML5.0**/13, **MLv4.6**/6, **Mw(mB)4.2**/3, **Error ellipse: s-maj=17.0km s-min=3.9km az=117.0, confirmed, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.10**	**53**	P	Pn	00 38 01.5	-0.2
GLKZ				S	Sn	00 38 37.8	+0.2
WMGZ	**Waiomatatini S**	**6.67**	**186**	P	Pn	00 38 54.5	+3.7
WMGZ				S	Sn	00 40 08.1	+2.4
HAZ	**Te Kaha**	**6.69**	**190**	P	Pn	00 38 51.8	+0.8
HAZ				S	Sn	00 40 09.1	+3.1
PKGZ	**Pakihiroa**	**6.75**	**188**	P	Pn	00 38 55.4	+3.4
PKGZ				S	Sn	00 40 11.4	+3.6
PUZ	**Puketiti**	**6.94**	**187**	P	Pn	00 38 56.8	+2.3
PUZ				S	Sn	00 40 12.3	0.0
TWGZ	**Tauwhareparae**	**7.07**	**188**	S	Sn	00 40 17.6	+2.0
MWZ	**Matawai**	**7.29**	**191**	P	Pn	00 38 58.4	-1.0
MWZ				S	Sn	00 40 21.8	+0.9
URZ	**Urewera**	**7.29**	**193**	P	Pn	00 39 03.0	+3.7
URZ				S	Sn	00 40 24.2	+3.3
TKGZ	**Te Karaka**	**7.35**	**189**	S	Sn	00 40 24.4	+2.1
CNGZ	**Carnagh Statio**	**7.35**	**186**	P	Pn	00 38 57.2	-3.0
CNGZ				S	Sn	00 40 23.9	+1.5
RTZ	**Ruatahuna**	**7.66**	**193**	P	Pn	00 39 00.9	-3.6
RTZ				S	Sn	00 40 31.7	+1.5
NMHZ	**Naumai**	**8.16**	**194**	P	Pn	00 39 14.0	+2.6
NMHZ				S	Sn	00 40 45.2	+2.8
BKZ	**Black Stump Fm**	**8.29**	**195**	P	Pn	00 39 12.9	-0.2
BKZ				S	Sn	00 40 45.5	-0.1
ETVZ	**East Tongariro**	**8.46**	**199**	P	Pn	00 39 18.5	+2.9
ETVZ				S	Sn	00 40 55.3	+5.4
OTVZ	**Oturere**	**8.50**	**199**	P	Pn	00 39 17.1	+1.0
OTVZ				S	Sn	00 40 54.9	+3.9
SNVZ	**South Ngauruho**	**8.53**	**199**	P	Pn	00 39 18.5	+2.0
SNVZ				S	Sn	00 40 56.5	+4.9
KWHZ	**Kaweka Forest**	**8.56**	**195**	P	Pn	00 39 16.8	0.0
KWHZ				S	Sn	00 40 53.0	+0.9
KRHZ	**Kereru**	**8.78**	**195**	P	Pn	00 39 19.6	-0.2
KRHZ				S	Sn	00 40 55.7	-1.8
KAHZ	**Kahuranaki**	**8.82**	**192**	P	Pn	00 39 20.5	+0.1
KAHZ				S	Sn	00 40 57.4	-1.2
TSZ	**Takapari Road**	**9.27**	**196**	P	Pn	00 39 25.1	-1.3
TSZ				S	Sn	00 41 04.4	-5.2
BFZ	**Birch Farm**	**9.80**	**194**	P	Pn	00 39 26.8	-6.9
BFZ				S	Sn	00 41 15.0	-7.6
MRZ	**Mangatainoka R**	**9.93**	**196**	P	Pn	00 39 32.3	-3.2
MRZ				S	Sn	00 41 18.7	-7.0

*AFAD **29** 00:38:27.0±0.0, 33°.75N×25°.80E, h15km, ML3.1*
*IDC **29** 00:38:30.9±1.4, 34°.25N×26°.10E, h0km, mb3.5/5, mbtmp3.4/7, ML3.7/2, Error ellipse: s-maj=41.0km s-min=22.0km az=159.0*
*ISK **29** 00:38:33.0, 34°.25N×26°.11E, h9km, ML2.6/12*
ISC 29 00:38:32.2±1.1, **34°.21N**±0°.07×**26°.19E**±0°.06, **h10**km, **n30,**
σ2§**00**/**35**, **mb3.5/5, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.91**	**1**	Pg	**Pg**	**00 38 50.1**	**+0.4**
ZKR				Sg	**Sg**	**00 39 02.5**	**+0.9**
IDI	**Anoyia**	**1.52**	**316**	Pn	**Pn**	**00 39 00.3**	**+0.7**
KARP	**Karpathos**	**1.56**	**30**	Pn	**Pn**	**00 39 01.7**	**+1.7**
GVD	**Gavdhos**	**1.85**	**291**	Pn	**Pn**	**00 39 04.4**	**+0.4**
IMMV	**Iera Moni Meta**	**2.21**	**305**	Pn	**Pn**	**00 39 09.6**	**+0.7**
ARG	**Arkhangelos**	**2.56**	**38**	Pn	**Pn**	**00 39 16.0**	**+2.3**
DAT	**Datca**	**2.76**	**24**	Pn	**Pn**	**00 39 18.5**	**+1.9**
APE	**Apeiranthos**	**2.91**	**350**	Pn	**Pn**	**00 39 19.9**	**+1.3**
TURN	**Turunc**	**3.06**	**33**	P	**Pn**	**00 39 23.1**	**+2.4**
TURN				S	**Sn**	**00 39 55.5**	**-1.9**
TURN	**Turunc**	**3.06**	**33**	Pn	**Pn**	**00 39 23.2**	**+2.5**
DALY	**Dalyan (Mula)**	**3.29**	**37**	Pn	**Pn**	**00 39 26.3**	**+2.5**
IZZE	**Mula-Seydike**	**3.33**	**47**	P	**Pn**	**00 39 25.9**	**+1.5**
IZZE				S	**Sn**	**00 40 03.7**	**-0.4**
AKAS	**Kas**	**3.45**	**53**	P	**Pn**	**00 39 28.6**	**+2.4**
AKAS				S	**Sn**	**00 40 05.4**	**-1.7**
AKAS	**Kas**	**3.45**	**53**	Pn	**Pn**	**00 39 29.2**	**+3.1**
SABU	**Mula-Dalaman**	**3.46**	**40**	P	**Pn**	**00 39 28.2**	**+2.1**
SABU				*i* AML	AML	00 40 30.0	
	comp=E,23nm,2.3s						
SABU				*i* AML	AML	00 40 37.0	
	comp=N,27nm,1.6s						
CAME	**Cameli-Denizli**	**3.73**	**42**	Pn	**Pn**	**00 39 32.3**	**+2.3**
KNIK	**Mula-Seydike**	**3.81**	**45**	P	**Pn**	**00 39 34.1**	**+2.9**
KNIK				*i* AML	AML	00 40 32.0	
	comp=N,28nm,2.5s						
KNIK				*i* AML	AML	00 41 29.0	
	comp=E,32nm,2.4s						
DNZT	**Denizli-Tavas-**	**3.84**	**36**	P	**Pn**	**00 39 32.4**	**+1.0**
DNZT				*i* AML	AML	00 40 58.0	
	comp=N,23nm,2.5s						
CAEL	**Denizli, Camel**	**3.87**	**40**	P	**Pn**	**00 39 34.5**	**+2.6**
TAVA	**DENIZLI_Tavas**	**3.93**	**33**	P	**Pn**	**00 39 34.9**	**+2.2**
TAVA				S	**Sn**	**00 40 15.8**	**-3.2**
TAVA				*i* AML	AML	00 40 54.0	
	comp=E,23nm,3.1s						
ESEN	**Aydn-Nazilli**	**3.99**	**25**	P	**Pn**	**00 39 35.1**	**+1.7**
ESEN				*i* AML	AML	00 41 30.0	
	comp=N,19nm,3.2s						
AKUM	**Antalya-Kumluc**	**4.00**	**57**	P	**Pn**	**00 39 34.1**	**+0.6**
KORT	**Korkueli**	**4.39**	**49**	P	Pn	00 39 44.0	+5.0
KORT				S	**Sn**	**00 40 26.0**	**-4.3**
MMAI	**Mount Meron Ar**	**7.78**	**96**	Pn	**Pn**	**00 40 24.7**	**-0.8**
	0.6nm,0.3s,baz=287,slow=10,SNR=1.8						
	1.3nm,0.7s						
AKASG	**Malin Array Be**	**16.64**	**7**	Pn	**Pn**	**00 42 23.6**	**-1.7**
	0.4nm,0.3s,baz=192,slow=8.5,SNR=3.6						
	0.1nm,0.3s						
ESDC	**Sonseca Array**	**24.65**	**292**	P	**P**	**00 43 52.1**	**-1.0**
	0.4nm,0.6s,baz=99,slow=7.8,SNR=5.2						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**30.56**	**233**	P	**P**	**00 44 46.2**	**+0.1**
	0.4nm,0.8s,baz=37,slow=8.2,SNR=2.7						
	0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**41.07**	**50**	P	**P**	**00 46 16.5**	**+0.7**
	0.5nm,0.4s,baz=278,slow=8.6,SNR=6.7						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**43.60**	**56**	P	**P**	**00 46 37.4**	**+0.9**
	0.5nm,0.6s,baz=281,slow=6.6,SNR=6.6						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**45.06**	**45**	P	**P**	**00 46 48.1**	**+0.1**
	0.6nm,0.5s,baz=264,slow=8.0,SNR=4.5						
	0.6nm,0.5s						

NEIC 29 00:47:10.7±1.2, **38°.77N**±0°.02×**97°.52W**±0°.03, **h5**km±1km,
mb_Lg2.2/11, **Error ellipse: s-maj=4.3km s-min=3.1km az=304.0, Kansas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSU1	**Kansas State U**	**0.79**	**64**	Pg	Pb	00 47 26.6	-0.2
KSU1				Sg	Sb	00 47 37.3	-0.5
R32A	**Long Quarter,**	**0.99**	**250**	Pg	Pg	00 47 29.5	-0.3
R32A				Sg	Sb	00 47 43.8	0.0
KS20	**Mayfield South**	**1.53**	**181**	Pg	Pb	00 47 39.2	-0.4
KS20				Sg	Sg	00 47 59.8	-0.2
KAN01	**Argonia South**	**1.62**	**187**		Pn	00 47 40.4	+0.5
KAN01					Sb	00 48 01.7	-0.1
KAN09	**Caldwell North**	**1.63**	**183**		Pb	00 47 41.2	0.0
KAN09					Sg	00 48 02.7	-0.3
KAN17	**Caldwell West**	**1.73**	**187**		Pn	00 47 41.7	+0.3
CBKS	**Cedar Bluff**	**1.73**	**272**		Pn	00 47 42.2	+0.7
CBKS				IAmb_Lg		00 48 05.2	
KAN13	**South Haven SW**	**1.75**	**179**	Pn	Pb	00 47 43.1	-0.2
KAN14	**Manchester OK**	**1.84**	**191**	Pn	Pn	00 47 43.6	+0.7
KAN14				IAmb_Lg		00 48 09.2	
	comp=Z,6.2nm,0.8s						
GC02	**Grant County #**	**1.93**	**188**	Pn	Pn	00 47 45.2	+1.1
T35A	**Sooner Cattle**	**2.01**	**156**	Pn	Pb	00 47 46.6	-1.1
BLOK	**Blackwell**	**2.02**	**173**	Pn	Pb	00 47 46.8	-1.0
N35A	**Tabor**	**2.54**	**34**	IAmb_Lg		00 48 34.0	
	comp=Z,12nm,0.8s						
QUOK	**Quay**	**2.67**	**166**	Pn	Pn	00 47 55.4	+1.1
BGNE	**Belgrade**	**2.68**	**350**	Pn	Pn	00 47 55.5	+1.0
OK031	**S. Brethren Rd**	**2.86**	**169**	Pn	Pn	00 47 57.0	+0.1
OK029	**Liberty Lake**	**2.96**	**179**	Pn	Pn	00 47 59.5	+1.1
ELIS	**Ellis County**	**3.09**	**210**	Pn	Pn	00 48 01.6	+1.4
TUL3	**Leonard**	**3.17**	**154**	Pn	Pn	00 48 01.4	+0.3
P38A	**Dawn**	**3.21**	**73**	Pn	Pn	00 48 03.0	+1.2
RLO	**Rose Lookout**	**3.27**	**142**	Pn	Pn	00 48 03.9	+1.4
RLO				IAmb_Lg		00 48 56.2	
	comp=Z,13nm,0.9s						
OKCSW	**OKLAHOMA CITY**	**3.35**	**179**	IAmb_Lg		00 48 54.9	
	comp=Z,14nm,0.7s						
U38A	**Gravette**	**3.40**	**132**	Pn	Pn	00 48 05.2	+0.8
U38A				IAmb_Lg		00 48 57.0	
	comp=Z,4.5nm,1.1s						
S39A	**Bolivar**	**3.48**	**107**	Pn	Pn	00 48 05.7	+0.3
HHAR	**Hobbs**	**3.77**	**130**	Pn	Pn	00 48 10.0	+0.5
R40A	**Maddies Statio**	**4.14**	**95**	Pn	Pn	00 48 17.4	+2.8
WMOK	**Wichita Mounta**	**4.14**	**195**	Pn	Pn	00 48 15.9	+1.3
P40A	**Paris**	**4.32**	**78**	Pn	Pn	00 48 18.6	+1.6
ECSD	**EROS Data Cent**	**5.01**	**8**	Pn	Pn	00 48 27.3	+0.8
FCAR	**Ozark Folk Cen**	**5.17**	**122**	Pn	Pn	00 48 29.9	+1.2
MIAR	**Mount Ida**	**5.27**	**142**	Pn	Pn	00 48 31.6	+1.5
WHAR	**Wooly Hollow**	**5.43**	**128**	Pn	Pn	00 48 33.1	+0.7
X40A	**Basin Creek Fa**	**5.69**	**137**	Pn	Pn	00 48 36.5	+0.7
LCAR	**Lake Charles**	**5.74**	**116**	IAmb_Lg		00 50 16.3	
	comp=Z,4.9nm,1.1s						

*BGSI **29** 01:07:01.5±1.1, 27°.86S×16°.54E, h20km±80km, ML4.1*
*PRE **29** 01:07:04.2±1.4, 27°.71S×17°.17E, h5km, ML3.9*
ISC 29 01:07:04.9±1.3, **27°.67S**±0°.05×**17°.33E**±0°.08, **h10**km, **n44,**
σ2§**05**/**75**, **1D, Namibia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOMG	**Komaggas**	**2.13**	**176**	⇓*iP*	**Pn**	**01 07 40.0**	**-0.4**
KOMG				*eS*	**Sn**	**01 08 08.1**	**+1.0**
KOMG				IAML		01 08 13.6	
	comp=Z,2μm,0.4s						
AUGR	**Augrabies**	**2.81**	**110**	*eP*	**Pn**	**01 07 53.3**	**+3.3**
AUGR				*eS*	**Sb**	**01 08 28.3**	**-1.5**
AUGR				IAML		01 08 42.8	
	comp=Z,1μm,0.4s						
KEIM	**Keimoes**	**3.38**	**109**	*eP*	**Pn**	**01 08 01.2**	**+3.5**
KEIM				*eS*	**Sn**	**01 08 41.7**	**+3.9**
KEIM				IAML		01 09 01.0	
	comp=Z,885nm,0.5s						
ALKP	**Alkanpan, Nort**	**4.88**	**119**	*eP*	**Pn**	**01 08 20.8**	**+2.4**
ALKP				*eS*	**Sn**	**01 09 16.4**	**+1.4**
WIN	**Windhoek**	**5.08**	**358**	*eP*	**Pn**	**01 08 23.0**	**+1.7**
WIN				*eS*	**Sn**	**01 09 21.2**	**+1.1**
WIN				IAML		01 09 47.5	
	comp=Z,103nm,0.5s						
KOOLE	**Kule**	**5.33**	**30**	*i* P	**Pn**	**01 08 24.8**	**+0.1**
KOOLE				*i* S	**Sn**	**01 09 28.0**	**+1.8**
KOOLE				IAML		01 10 05.8	
	comp=E,879nm,0.5s						
FRAZ	**Fraserburg**	**5.53**	**141**	*eP*	**Pn**	**01 08 29.4**	**+1.9**
FRAZ				*eS*	**Sn**	**01 09 31.5**	**+0.3**
FRAZ				IAML		01 10 12.4	
	comp=Z,228nm,0.5s						
SUR	**Sutherland**	**5.58**	**148**	*eP*	**Pn**	**01 08 29.8**	**+1.6**
SUR				*eS*	**Sn**	**01 09 32.6**	**+0.1**
PRTV	**Porterville,We**	**5.59**	**165**	*eP*	**Pn**	**01 08 28.0**	**-0.2**
PRTV				*eS*	**Sn**	**01 09 31.3**	**-1.3**
PRTV				IAML		01 10 05.2	
	comp=Z,506nm,0.6s						
CER	**Ceres**	**5.92**	**164**	*eP*	**Pn**	**01 08 33.0**	**+0.3**
CER				*eS*	**Sn**	**01 09 38.7**	**-2.0**
MERW	**Merweville**	**6.17**	**145**	*eP*	**Pn**	**01 08 38.4**	**+2.2**
MERW				*eS*	**Sn**	**01 09 46.4**	**-0.5**
MERW				IAML		01 10 24.2	
	comp=Z,359nm,0.6s						
GRAN	**Grantham**	**6.24**	**139**	*eP*	**Pn**	**01 08 39.1**	**+1.9**
GRAN				*eS*	**Sn**	**01 09 48.8**	**+0.2**
GRAN				IAML		01 10 29.9	
	comp=Z,467nm,0.5s						
MATJ	**Matjiesfontein**	**6.25**	**154**	*eP*	**Pn**	**01 08 38.1**	**+0.9**
MATJ				*eS*	**Sn**	**01 09 47.5**	**-1.2**
MATJ				IAML		01 10 33.5	
	comp=Z,371nm,0.5s						
BRAK	**Brakfontein**	**6.34**	**132**	*eP*	**Pn**	**01 08 39.9**	**+1.4**
BRAK				*eS*	**Sn**	**01 09 51.1**	**0.0**
BRAK				IAML		01 10 33.7	
	comp=Z,295nm,0.9s						
KGCAE	**Kacgae**	**6.52**	**44**	*i* P	**Pn**	**01 08 42.1**	**+1.2**
KGCAE				*i* S	**Sn**	**01 09 57.4**	**+2.0**
KGCAE				IAML		01 10 39.8	
	comp=E,283nm,0.8s						
SKOMA	**Sekoma**	**6.72**	**64**	*i* P	**Pn**	**01 08 45.6**	**+2.0**
BFON	**Badsfontein, M**	**6.89**	**128**	*eP*	**Pn**	**01 08 48.0**	**+1.9**
BFON				*eS*	**Sn**	**01 10 04.7**	**-0.1**
BFON				IAML		01 10 52.3	
	comp=Z,214nm,0.4s						
BOSA	**Boshof**	**7.06**	**100**	*eP*	**Pn**	**01 08 51.3**	**+2.8**
BOSA				*eS*	**Sn**	**01 10 09.5**	**+0.6**
BOSA				IAML		01 10 55.0	
	comp=Z,58nm,0.9s						
SWZ	**Schweizer**	**7.13**	**88**	*eP*	**Pn**	**01 08 52.2**	**+2.8**
SWZ				*eS*	**Sn**	**01 10 11.3**	**+0.7**
SWZ				IAML		01 10 12.4	
	comp=Z,89nm,0.4s						
GRTLG	**Ghanzi**	**7.21**	**30**	*i* P	**Pn**	**01 08 50.1**	**-0.4**
GRTLG				*i* S	**Sn**	**01 10 09.7**	**-2.7**
GRTLG				IAML		01 11 01.2	
	comp=N,162nm,0.5s						
ELIM	**Elim**	**7.21**	**164**	*eP*	**Pn**	**01 08 49.6**	**-0.8**
ELIM				*eS*	**Sn**	**01 10 09.3**	**-3.1**
ELIM				IAML		01 10 53.8	
	comp=Z,69nm,0.5s						
ROOI	**Rooidraai Farm**	**7.23**	**133**	*eP*	**Pn**	**01 08 52.5**	**+1.9**
ROOI				*eS*	**Sn**	**01 10 12.0**	**-0.8**
ROOI				IAML		01 10 55.2	
	comp=Z,172nm,0.4s						
HVD	**Gariep Dam**	**7.72**	**114**	*eP*	**Pn**	**01

BHD	**Baghdad**	**1.46**	**226**	*e*Pn	**Pb**	**01 53 38.0**	**-0.7**
BHD				*e*Sn	**Sg**	**01 53 58.0**	**-0.6**
IKRK	**Kirkuk**	**1.54**	**317**	*e*Pn	**Pb**	**01 53 40.0**	**-0.2**
IKRK				*e*Sn	**Sg**	**01 54 00.5**	**-0.7**
IKRK				AML	AML	01 54 05.1	
	comp=E,359nm,0.5s						
IKRK				AML	AML	01 54 05.4	
	comp=N,280nm,0.5s						
SNQR	**Sonqor, Kerman**	**1.74**	**70**	Pg	**Pg**	**01 53 44.3**	**-0.9**
RAFI	**Al-Rafai**	**2.59**	**171**	*e*Pn	**Pn**	**01 53 54.0**	**+0.6**
RAFI				*e*Sn	**Sn**	**01 54 26.0**	**+1.2**

*IDC **29** 02:03:48.5±1.0,58.°62S×25.°15W,h0km,mb4.2/6, mbtmp4.2/7,ML4.2/1,MS3.2/3,Error ellipse: s-maj=33.1km s-min=27.0km az=40.0*
*NEIC **29** 02:03:54.0±0.8,58.°65S±0.°09×25.°1W±0.°2,h35km±2km, mb4.6/13,Error ellipse: s-maj=22.2km s-min=7.3km az=132.0*
ISC 29 02:03:53.4±0.6,58.°73S±0.°09×25.°1W±0.°1,h35km,n35, σ1§50/29,mb4.4/11,5C-3D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.88**	**156**	⇑P	**Pn**	**02 07 08.5**	**+1.2**
	comp=Z,21nm,0.8s						
VNA1				⇓S	Sn	02 09 33.0	-6.9
	comp=Z,3.4nm,0.8s						
VNA3	**Neumayer Olymp**	**14.08**	**159**	⇑P	**Pn**	**02 07 10.4**	**+0.4**
	comp=Z,4.1nm,0.4s						
VNA3				⇓S	Sn	02 09 33.9	-11
	comp=Z,3.1nm,0.8s						
VNA2	**Neumayer--Watz**	**14.28**	**156**	⇑P	**Pn**	**02 07 13.9**	**+1.1**
	comp=Z,3.1nm,0.2s,baz=323,slow=14						
SNAA	**Sanae**	**15.83**	**154**		**Pn**	**02 07 34.8**	**+1.4**
SNAA	**Sanae**	**15.83**	**154**	⇑P	**Pn**	**02 07 34.6**	**+1.2**
	comp=Z,75nm,0.3s						
SNAA				⇓S	Sn	02 10 19.1	-8.3
	comp=Z,32nm,1.0s						
SNAA	**Sanae**	**15.83**	**154**	Pn	**Pn**	**02 07 34.3**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=316,slow=15,SNR=58						
SNAA				Sn	**Sn**	**02 10 21.1**	**-6.3**
	comp=Z,0.1nm,0.3s,baz=21,slow=20,SNR=1.8						
SNAA				LR	LR	02 11 31.1	
	comp=Z,53nm,20.0s,baz=3.0,slow=29						
	comp=Z,2.9nm,0.4s						
TROLL	**Troll, Antarti**	**17.35**	**151**	⇑P	**P**	**02 07 55.3**	**+1.7**
	comp=Z,113nm,0.3s						
TROLL				S	Sn	02 10 53.4	-11
	comp=Z,36nm,0.6s						
BELA	**Belgrano 2**	**19.50**	**186**		**P**	**02 08 18.8**	**+1.8**
MG02	**Cerro Sombrero**	**25.14**	**264**	P	**P**	**02 09 13.6**	**-1.2**
PLTB	**Pedras Altas**	**33.12**	**312**	P	**P**	**02 10 25.6**	**-0.4**
PLCA	**Paso Flores**	**33.62**	**282**	P	**P**	**02 10 30.8**	**+0.5**
PLCA	**Paso Flores**	**33.62**	**282**	P	**P**	**02 10 29.9**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=118,slow=5.0,SNR=4.7						
PLCA				LR	LR	02 23 09.7	
	comp=Z,48nm,18.4s,baz=92,slow=35						
	comp=Z,1.5nm,0.8s						
BO02	**Sierra Bellavi**	**38.31**	**288**	P	**P**	**02 11 10.6**	**+0.1**
BO02				IAmb	IAmb	02 11 39.3	
	comp=Z,12nm,1.1s						
GO05	**Hualane**	**38.71**	**287**	P	**P**	**02 11 14.6**	**+0.8**
GO05				IAmb	IAmb	02 11 16.7	
	comp=Z,12nm,0.9s						
MT09	**Talagante**	**39.23**	**289**	P	**P**	**02 11 18.6**	**+0.4**
MT09				IAmb	IAmb	02 11 24.4	
	comp=Z,21nm,1.4s						
AC05	**El Transito**	**42.94**	**294**	P	**P**	**02 11 48.8**	**+0.1**
AC05				IAmb	IAmb	02 11 52.6	
	comp=Z,17nm,1.4s						
H04S2	**CROZET ISLANDS**	**45.49**	**110**	T	T	03 01 40.8	
	baz=225,slow=75,SNR=8.7						
H04S3	**CROZET ISLANDS**	**45.50**	**110**	T	T	03 01 45.9	
	baz=225,slow=75,SNR=7.1						
H04S1	**CROZET ISLANDS**	**45.51**	**110**	T	T	03 01 45.7	
	baz=225,slow=75,SNR=7.9						
BDFB	**Brasília**	**46.25**	**329**	P	**P**	**02 12 14.4**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=175,slow=10,SNR=5.5						
	comp=Z,2.7nm,0.8s						
LBTB	**Lobatse**	**48.82**	**69**	LR	LR	02 29 23.6	
	comp=Z,44nm,19.9s,baz=322,slow=32						
POGA	**Pongola**	**49.93**	**77**	P	**P**	**02 12 43.5**	**0.0**
H10N1	**ASCENSION HYDR**	**51.42**	**14**	T	T	03 08 19.8	
	baz=186						
H10N3	**ASCENSION HYDR**	**51.42**	**14**	T	T	03 08 16.4	
	baz=186,slow=74						
H10N2	**ASCENSION HYDR**	**51.44**	**14**	T	T	03 08 24.8	
	baz=186,slow=74						
LPAZ	**La Paz**	**52.84**	**305**	P	**P**	**02 13 05.8**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=89,slow=6.1,SNR=4.6						
	comp=Z,0.6nm,0.4s						
SAML	**Samuel**	**57.48**	**314**	P	**P**	**02 13 37.9**	**-0.9**
SAML				IAmb	IAmb	02 13 38.6	
	comp=Z,2.8nm,0.8s						
DBIC	**Dimbokro**	**67.19**	**22**	P	**P**	**02 14 43.3**	**-0.3**
DBIC				IAmb	IAmb	02 14 44.2	
	comp=Z,4.2nm,0.8s						
DBIC	**Dimbokro**	**67.19**	**22**	P	**P**	**02 14 43.5**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=174,slow=9.4,SNR=5.2						
	comp=Z,2.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**74.89**	**27**	P	**P**	**02 15 30.3**	**+0.1**
TORD				IAmb	IAmb	02 15 31.3	
	comp=Z,2.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**74.89**	**27**	P	**P**	**02 15 30.4**	**+0.1**
	comp=Z,2.5nm,0.5s,baz=204,slow=5.9,SNR=30						
	comp=Z,2.5nm,0.5s						
ASAR	**Alice Springs**	**96.09**	**161**	P	**P**	**02 17 18.1**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=175,slow=3.7,SNR=6.2						
	comp=Z,0.8nm,0.8s						
YKA	**Yellowknife Ar**	**138.89**	**315**	PKP	**PKPdf**	**02 23 14.3**	**0.0**
	comp=Z,0.9nm,0.9s,baz=123,slow=2.3,SNR=3.5						
SONM	**Songino Array**	**149.70**	**89**	PKPbc	**PKPbc**	**02 23 38.6**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=240,slow=2.3,SNR=6.3						
ILAR	**Eielson Array**	**152.69**	**307**	PKPbc	**PKiKP**	**02 23 45.2**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=148,slow=3.7,SNR=13						

*IDC **29** 02:17:14.0±1.1,6.°16S×152.°48E,h0km,mb3.9/9, mbtmp4.0/10,ML2.5/1,MS2.8/2,Error ellipse: s-maj=40.7km s-min=19.2km az=113.0*
*NEIC **29** 02:17:17.6±0.9,6.°10S±0.°09×152.°4E±0.°2,h10km±1km, mb4.6/25,Error ellipse: s-maj=30.3km s-min=12.3km az=110.0*
ISC 29 02:17:16.5±0.7,6.°15S±0.°09×152.°4E±0.°1,h10km,n41, σ0§96/41,mb4.5/22,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.96**	**353**	Pn	**Pn**	**02 17 50.1**	**+0.2**
PMG	**Port Moresby**	**6.13**	**238**		**Pn**	**02 18 47.9**	**+0.7**
PMG	**Port Moresby**	**6.13**	**238**	Pn	**Pn**	**02 18 47.4**	**+0.3**
	7.1nm,0.3s,baz=48,slow=3.4,SNR=8.6						
PMG				Sn	**Sn**	**02 19 57.4**	**0.0**
	4.4nm,0.3s,baz=74,slow=20,SNR=3.6						
PMG				LR	LR	02 21 19.3	
	comp=Z,78nm,20.3s,baz=198,slow=40						
	17nm,0.4s						
COEN	**Coen**	**11.95**	**229**	Pn	**Pn**	**02 20 06.7**	**-0.4**
WB2	**Warramunga Arr**	**22.14**	**231**	P	**P**	**02 22 12.8**	**+0.3**
WB2	**Warramunga Arr**	**22.27**	**230**	P	**P**	**02 22 13.1**	**-0.9**
WRA	**Warramunga Arr**	**22.28**	**230**	P	**P**	**02 22 14.0**	**-0.1**
WRA	**Warramunga Arr**	**22.28**	**230**	P	**P**	**02 22 13.6**	**-0.5**
	1.6nm,0.7s,baz=56,slow=11,SNR=14						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**24.91**	**224**	P	**P**	**02 22 39.2**	**-0.7**
	2.6nm,0.8s,baz=60,slow=8.7,SNR=21						
	2.6nm,0.8s						
STKA	**Stephens Creek**	**27.52**	**200**	P	**P**	**02 23 03.5**	**+0.1**
	1.0nm,0.6s,baz=10,slow=14,SNR=2.3						
	1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.69**	**243**	P	**P**	**02 23 13.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**28.69**	**243**	LR	LR	02 34 55.5	
	comp=Z,22nm,18.1s,baz=38,slow=37						
LBZ	**Lake Benmore**	**41.14**	**161**	P	**P**	**02 25 00.9**	**0.0**
LBZ				IAmb	IAmb	02 25 18.5	
	comp=Z,21nm,1.3s						
SONM	**Songino Array**	**67.26**	**328**	P	**P**	**02 28 12.1**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=144,slow=2.7,SNR=2.0						
	comp=Z,0.5nm,0.8s						
M16K	**Timber Creek**	**76.87**	**22**	P	**P**	**02 29 09.6**	**+1.1**
J17K	**VABM Dome**	**78.37**	**20**	P	**P**	**02 29 18.0**	**+1.1**
J17K				IAmb	IAmb	02 29 19.9	
	comp=Z,6.2nm,1.1s						

CNPM	**China Poot**	**79.09**	**26**	P	**P**	**02 29 21.9**	**+0.9**
F17K	**Baldwin Pennin**	**79.72**	**17**	P	**P**	**02 29 25.3**	**+1.2**
G18K	**Tagagawik**	**80.14**	**18**	P	**P**	**02 29 27.7**	**+1.2**
PAF	**Port-aux-Franc**	**80.29**	**221**	P	**P**	**02 29 30.2**	**+2.5**
J20K	**Nowinta River**	**80.58**	**21**	P	**P**	**02 29 30.5**	**+1.6**
J20K				IAmb	IAmb	02 29 46.0	
	comp=Z,9.0nm,1.5s						
H19K	**Roundabout Mou**	**80.61**	**19**	P	**P**	**02 29 29.9**	**+0.9**
H19K				IAmb	IAmb	02 29 31.5	
	comp=Z,6.5nm,1.2s						
CAST	**Castle Rocks**	**80.89**	**22**	P	**P**	**02 29 31.4**	**+0.8**
F19K	**Shaleruckik Mo**	**81.02**	**18**	P	**P**	**02 29 31.9**	**+0.8**
F19K				IAmb	IAmb	02 29 44.2	
	comp=Z,6.2nm,1.4s						
MKAR	**Makanchi Array**	**81.09**	**319**	P	**P**	**02 29 31.1**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=100,slow=5.3,SNR=4.3						
	comp=Z,0.6nm,0.8s						
SML	**Sawmill**	**81.50**	**24**	P	**P**	**02 29 34.5**	**+0.5**
E19K	**Redstone River**	**81.58**	**17**	P	**P**	**02 29 35.5**	**+1.3**
E19K				IAmb	IAmb	02 29 38.5	
	comp=Z,10nm,1.4s						
C19K	**Lookout Ridge**	**81.99**	**16**	P	**P**	**02 29 37.5**	**+1.2**
D19K	**Kuna River**	**81.99**	**16**	P	**P**	**02 29 37.2**	**+0.8**
D19K				IAmb	IAmb	02 29 38.5	
	comp=Z,6.5nm,1.1s						
ZALV	**Zalesovo Beam**	**82.06**	**327**	P	**P**	**02 29 35.8**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=126,slow=4.2,SNR=5.9						
	comp=Z,1.5nm,0.8s						
MLY	**Manley**	**82.27**	**21**	P	**P**	**02 29 38.4**	**+0.5**
MLY				IAmb	IAmb	02 29 45.8	
	comp=Z,2.9nm,1.1s						
E21K	**Killik River**	**83.16**	**17**	P	**P**	**02 29 43.1**	**+0.7**
E21K				IAmb	IAmb	02 29 44.4	
	comp=Z,1.9nm,0.7s						
ILAR	**Eielson Array**	**83.55**	**22**	P	**P**	**02 29 44.0**	**-0.5**
ILAR	**Eielson Array**	**83.55**	**22**	P	**P**	**02 29 43.8**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=258,slow=5.4,SNR=6.2						
	comp=Z,0.6nm,0.9s						
E22K	**Anaktuvuk Pass**	**83.64**	**18**	P	**P**	**02 29 45.9**	**+1.0**
E22K				IAmb	IAmb	02 30 10.3	
	comp=Z,4.6nm,1.2s						
H24K	**Noodor Dome**	**83.72**	**21**	P	**P**	**02 29 46.1**	**+0.7**
H24K				IAmb	IAmb	02 30 26.7	
	comp=Z,5.5nm,1.5s						
D22K	**Ayikyak River**	**83.80**	**17**	P	**P**	**02 29 46.7**	**+1.0**
D22K				IAmb	IAmb	02 30 02.5	
	comp=Z,7.4nm,1.2s						
QSPA	**South Pole Qui**	**83.82**	**180**	P	**P**	**02 29 44.8**	**-1.3**
	comp=Z,1.1nm,0.2s,baz=343,slow=5.2,SNR=4.7						
	comp=Z,1.1nm,0.2s						
J25K	**Salcha River,**	**84.04**	**23**	P	**P**	**02 29 46.1**	**-1.0**
J25K				IAmb	IAmb	02 30 13.6	
	comp=Z,8.1nm,1.5s						
KURBB	**Kurchatov Arra**	**84.62**	**322**	P	**P**	**02 29 49.5**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=117,slow=4.1,SNR=6.6						
	comp=Z,0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.33**	**286**	PKPbc	**PKPbc**	**02 37 08.2**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=63,slow=3.3,SNR=12						

*IDC **29** 02:33:50.0±0.8,13.°52S×111.°87W,h0km,mb4.1/14, mbtmp4.1/14,MS4.4/49,Error ellipse: s-maj=30.6km s-min=17.6km az=58.0*
*NEIC **29** 02:33:54.0±1.6,13.°6S±0.°1×111.°4W±0.°2,h10km±1km, mb5.0/189,Error ellipse: s-maj=26.0km s-min=19.3km az=258.0*
*GCMT **29** 02:33:56.0±0.2,13.°45S±0.°01×111.°81W±0.°01,h15km, MW5.1/135,Moment Tensor Solution. s80,c104; s135,c213; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-0.78±.11; $M_{\theta\theta}$2.89±.11; $M_{\phi\phi}$-2.10±.12; $M_{r\theta}$0.11±.32; $M_{\theta\phi}$5.08±.10; $M_{\phi r}$0.52±.35; Best double couple: $M_0$5.68500×10^16^ NP1:ϕ_s193.00000°,δ89.00000°, λ-174.00000°. NP2:ϕ_s103.00000°,δ84.00000°, λ-1.00000°. Principal axes: T 6.0740, Plg3.0000°, Azm328.0000°; N -0.7700, Plg84.0000°, Azm205.0000°; P -5.2960, Plg5.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 29 02:33:52.6±0.5,13.°57S±0.°08×111.°57W±0.°09,h10km, n250,σ1§31/162,mb4.9/99,MS4.5/49,3C-1D,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**13.65**	**172**	LR	LR	02 41 05.3	
	comp=Z,3μm,18.2s,baz=346,slow=32						
TAOE	**Nuku Hiva Isla**	**28.41**	**276**	eLR	LR	02 46 34.9	
	284nm,22.6s						
ATAH	**Atahualpa**	**33.23**	**82**	LR	LR	02 51 03.3	
	comp=Z,928nm,18.2s,baz=256,slow=31						
TLIG	**Tlapa**	**33.49**	**23**	P	**P**	**02 40 32.0**	**-0.5**
NNA	**Nana**	**33.89**	**91**	LR	LR	02 50 57.0	
	comp=Z,409nm,18.9s,baz=258,slow=30						
CCIG	**Comitan**	**35.34**	**34**	P	**P**	**02 40 50.3**	**+1.7**
CCIG				IAmb	IAmb	02 40 58.6	
	comp=Z,35nm,1.1s						
MTO3	**Montecristo**	**35.44**	**39**	P	**P**	**02 40 49.3**	**-0.2**
MTO3				IAmb	IAmb	02 40 57.8	
	comp=Z,34nm,1.0s						
JTS	**Las Juntas de**	**35.49**	**49**	LR	LR	02 51 36.4	
	comp=Z,864nm,21.2s,baz=228,slow=30						
OTAV	**Otavalo**	**35.56**	**70**	*e*P	**P**	**02 40 49.7**	**-1.3**
H03N2	**Juan Fernandez**	**35.65**	**129**	T	T	03 18 44.0	
	baz=300,slow=76,SNR=237						
H03N3	**Juan Fernandez**	**35.67**	**129**	T	T	03 18 54.5	
	baz=300,slow=76,SNR=284						
H03N1	**Juan Fernandez**	**35.67**	**129**	T	T	03 18 45.3	
	baz=300,slow=76,SNR=335						
BRU2	**Volcan**	**36.27**	**54**	P	**P**	**02 40 55.9**	**-0.8**
PPT	**Papeete**	**36.78**	**259**	LR	LR	02 51 38.1	
	comp=Z,436nm,19.3s,baz=53,slow=29						
PPT2	**Papeete2**	**36.78**	**259**	eLR	LR	02 50 44.3	
	comp=Z,1μm,27.5s						
PPT2				eLR	LR	02 50 51.3	
	comp=Z,770nm,30.5s						
TBI	**Tubuai**	**37.13**	**249**	*e*S	**S**	**02 46 51.8**	**+1.5**
	comp=Z,359nm,26.8s						
TBI				eLR	LR	02 51 02.2	
	comp=Z,6μm,27.0s						
TBI				eLR	LR	02 51 04.6	
	comp=Z,1μm,26.8s						
LPIG	**La Paz**	**37.46**	**2**	LR	LR	02 52 28.3	
	comp=Z,1μm,21.1s,baz=186,slow=30						
CZSB	**Cruzeiro do Su**	**38.60**	**85**	*e*P	**P**	**02 41 17.4**	**+1.2**
TEIG	**Tepich**	**40.66**	**35**	P	**P**	**02 41 34.4**	**+1.2**
HPIG		**40.67**	**8**	P	**P**	**02 41 34.7**	**+1.3**
PB09	**IPOC Station P**	**41.05**	**108**	P	**P**	**02 41 37.2**	**+0.4**
PB09				IAmb	IAmb	02 41 47.4	
	comp=Z,28nm,1.2s						
ROSC	**El Rosal**	**41.26**	**66**	P	**P**	**02 41 40.7**	**+2.0**
	comp=Z,3.6nm,0.3s,baz=252,slow=20,SNR=1.8						
ROSC				LR	LR	02 55 10.2	
	comp=Z,195nm,21.8s,baz=232,slow=31						
	comp=Z,3.6nm,0.3s						
LPAZ	**La Paz**	**42.01**	**99**	P	**P**	**02 41 43.4**	**-1.9**
LPAZ				IAmb	IAmb	02 41 54.4	
	comp=Z,21nm,1.1s						
LPAZ	**La Paz**	**42.01**	**99**	P	**P**	**02 41 46.5**	**+1.3**
	comp=Z,9.7nm,1.1s,baz=276,slow=5.6,SNR=12						
LPAZ				LR	LR	02 55 54.7	
	comp=Z,201nm,19.7s,baz=258,slow=31						
	comp=Z,9.7nm,1.1s						
LPAZ	**La Paz**	**42.01**	**99**	*e*P	**P**	**02 41 45.5**	**+0.3**
TBTG	**Tabatinga, AM**	**42.14**	**81**	*e*P	**P**	**02 41 45.5**	**-0.1**
HBVL	**Hebbronville**	**42.29**	**17**		**P**	**02 41 47.3**	**+0.8**
HBVL				IAmb	IAmb	02 41 55.0	
	comp=Z,65nm,1.4s						
HSIG		**42.34**	**1**	P	**P**	**02 41 49.7**	**+2.8**
833A	**Chaparral WMA,**	**43.28**	**16**	P	**P**	**02 41 55.1**	**+0.5**
TX31	**Lajitas Ar. Si**	**43.33**	**10**	P	**P**	**02 41 57.8**	**+2.7**
TXAR	**Lajitas Array**	**43.33**	**10**	P	**P**	**02 41 56.0**	**+0.9**
TXAR	**Lajitas Array**	**43.33**	**10**	P	**P**	**02 41 54.6**	**-0.4**
	comp=Z,1.4nm,1.1s,baz=195,slow=7.6,SNR=7.0						
TXAR				LR	LR	02 56 36.6	
	comp=Z,283nm,19.6s,baz=197,slow=32						
	comp=Z,1.4nm,1.1s						
SAND	**Sanderson**	**44.22**	**12**	P	**P**	**02 42 02.9**	**+0.7**
SAND				IAmb	IAmb	02 42 08.8	
	comp=Z,21nm,1.1s						
LL01	**San Ignacio de**	**44.34**	**138**	P	**P**	**02 42 03.0**	**0.0**
ALPN	**Alpine**	**44.35**	**10**	P	**P**	**02 42 03.5**	**+0.2**
ALPN				IAmb	IAmb	02 42 09.7	
	comp=Z,14nm,1.1s						

ETMB	**Extrema**	**44.53**	**90**	P	**P**	**02 42 03.8**	**-1.1**
ETMB				IAmb	IAmb	02 42 11.7	
	comp=Z,13nm,1.0s						
ETMB	**Extrema**	**44.53**	**90**	*e*P	**P**	**02 42 04.3**	**-0.5**
VHRN	**Van Horn**	**44.55**	**8**	P	**P**	**02 42 05.5**	**+0.6**
VHRN				IAmb	IAmb	02 42 11.7	
	comp=Z,14nm,1.0s						
319A	**Douglas**	**44.74**	**3**	P	**P**	**02 42 09.0**	**+2.7**
319A				IAmb	IAmb	02 42 24.9	
	comp=Z,15nm,1.1s						
PLCA	**Paso Flores**	**44.84**	**135**	P	**P**	**02 42 08.0**	**+0.8**
PLCA	**Paso Flores**	**44.84**	**135**	P	**P**	**02 42 08.4**	**+1.2**
	comp=Z,2.5nm,0.9s,baz=279,slow=7.4,SNR=4.6						
PLCA				LR	LR	02 56 21.6	
	comp=Z,1μm,18.8s,baz=278,slow=30						
	comp=Z,2.5nm,0.9s						
PLCA	**Paso Flores**	**44.84**	**135**	*e*P	**P**	**02 42 07.9**	**+0.7**
JCT	**Junction City**	**45.23**	**14**	P	**P**	**02 42 10.3**	**0.0**
JCT				IAmb	IAmb	02 42 16.7	
	comp=Z,23nm,0.9s						
OZNA	**Ozona**	**45.36**	**13**	P	**P**	**02 42 11.9**	**+0.7**
OZNA				IAmb	IAmb	02 42 18.0	
	comp=Z,25nm,1.1s						
MNHN	**Monahans**	**45.45**	**11**	P	**P**	**02 42 12.4**	**+0.5**
MNHN				IAmb	IAmb	02 42 18.1	
	comp=Z,15nm,0.8s						
DUN6	**Lazy B Ranch**	**45.92**	**3**	P	**P**	**02 42 16.9**	**+1.1**
121A	**Cookes Peak, D**	**45.98**	**4**	P	**P**	**02 42 16.9**	**+0.6**
121A				IAmb	IAmb	02 42 22.9	
	comp=Z,18nm,1.1s						
435B	**Jarrell**	**46.10**	**17**	P	**P**	**02 42 18.1**	**+1.0**
BRDY	**Brady**	**46.20**	**15**	P	**P**	**02 42 18.1**	**+0.3**
ODSA	**Odessa**	**46.24**	**11**		**P**	**02 42 18.5**	**+0.3**
SGCY	**Sterling City**	**46.32**	**12**		**P**	**02 42 18.8**	**0.0**
SDV	**Santo Domingo**	**46.36**	**63**	P	**P**	**02 42 19.6**	**0.0**
SDV	**Santo Domingo**	**46.36**	**63**	LR	LR	03 00 19.6	
	comp=Z,280nm,18.3s,baz=254,slow=34						
SDV	**Santo Domingo**	**46.36**	**63**	*e*P	**P**	**02 42 20.1**	**+0.5**
RAR	**Rarotonga**	**46.48**	**254**	LR	LR	02 56 34.5	
	comp=Z,523nm,19.4s,baz=80,slow=30						
PFO	**Pinyon Flats O**	**47.15**	**354**	LR	LR	02 57 10.3	
	comp=Z,602nm,20.4s,baz=175,slow=30						
Y14A	**Wickenburg**	**47.26**	**358**	P	**P**	**02 42 26.6**	**+0.4**
ABTX	**Abilene, Hawle**	**47.33**	**14**	P	**P**	**02 42 28.0**	**+1.4**
ABTX				IAmb	IAmb	02 42 32.4	
	comp=Z,13nm,0.9s						
POST	**Post**	**47.36**	**12**	P	**P**	**02 42 28.8**	**+1.8**
POST				IAmb	IAmb	02 42 33.9	
	comp=Z,14nm,0.9s						
SN07	**Snyder 07**	**47.50**	**12**	P	**P**	**02 42 28.0**	**0.0**
SAML	**Samuel**	**47.62**	**90**	P	**P**	**02 42 28.7**	**-0.7**
SAML	**Samuel**	**47.62**	**90**	*e*P	**P**	**02 42 28.6**	**-0.7**
X16A	**Lo Mia Camp, P**	**47.72**	**0**	P	**P**	**02 42 30.7**	**+0.8**
PLPT	**Palo Pinto**	**47.83**	**15**	P	**P**	**02 42 31.4**	**+0.9**
X18A	**Snowflake**	**47.85**	**2**	P	**P**	**02 42 31.7**	**+0.7**
X18A				IAmb	IAmb	02 42 37.6	
	comp=Z,13nm,1.1s						
APMT	**Aspermont**	**47.89**	**13**	P	**P**	**02 42 31.7**	**+0.7**
MSTX	**Muleshoe**	**48.01**	**10**	P	**P**	**02 42 32.0**	**0.0**
DKNS	**Dickens**	**48.05**	**12**	P	**P**	**02 42 32.0**	**-0.3**
W13A	**Hualapai Mount**	**48.45**	**357**	P	**P**	**02 42 35.5**	**-0.1**
W13A				IAmb	IAmb	02 42 48.2	
	comp=Z,24nm,1.7s						
ANMO	**Albuquerque**	**48.49**	**6**	LR	LR	02 59 33.7	
	comp=Z,638nm,18.2s,baz=356,slow=32						
BAUV	**El Baul**	**48.66**	**65**	P	**P**	**02 42 35.6**	**-1.6**
SIV	**San Ignacio**	**48.80**	**99**	LR	LR	03 00 05.3	
	comp=Z,235nm,20.1s,baz=286,slow=32						
GSC	**Goldstone, Bar**	**48.85**	**354**	P	**P**	**02 42 38.7**	**+0.2**
GSC				IAmb	IAmb	02 42 45.5	
	comp=Z,17nm,1.5s						
V12A	**Nelson**	**49.12**	**356**	P	**P**	**02 42 41.1**	**+0.5**
V12A				IAmb	IAmb	02 42 47.6	
	comp=Z,20nm,1.7s						
BBSD	**Serra de San D**	**49.16**	**101**	*e*P	**P**	**02 42 41.1**	**-0.1**
SMWD	**Samnorwood**	**49.58**	**12**	P	**P**	**02 42 43.7**	**-0.4**
SMWD				IAmb	IAmb	02 42 50.1	
	comp=Z,17nm,1.1s						
GWY	**Greenwater Val**	**49.72**	**355**	P	**P**	**02 42 46.1**	**+0.9**
GWY				IAmb	IAmb	02 42 51.9	
	comp=Z,29nm,1.8s						
U15A	**North Rim**	**49.73**	**359**	P	**P**	**02 42 45.1**	**-0.3**
U15A				IAmb	IAmb	02 42 58.3	
	comp=Z,23nm,1.8s						
SHPR	**Sheep Range**	**49.92**	**356**	P	**P**	**02 42 48.0**	**+1.3**
SHPR				IAmb	IAmb	02 42 54.0	
	comp=Z,20nm,1.6s						
VILB	**Vilhena**	**49.93**	**96**	P	**P**	**02 42 46.3**	**-0.8**
VILB	**Vilhena**	**49.93**	**96**	*e*P	**P**	**02 42 47.5**	**+0.4**
WCT	**Wildcat Mounta**	**50.31**	**355**	P	**P**	**02 42 49.5**	**-0.2**
KNB	**Kanab**	**50.33**	**359**	P	**P**	**02 42 50.2**	**+0.4**
KNB				IAmb	IAmb

LCAR IAmb IAmb 02 43 21.9
comp=Z,56nm,1.9s
BOAV Boa Vista 53.05 76 *eP* **P 02 43 10.4 0.0**
R32A Long Quarter, 53.10 13 P **P 02 43 10.2 -0.1**
R32A IAmb IAmb 02 43 16.2
comp=Z,17nm,1.0s
PLAL Pickwick Lake 53.18 24 P **P 02 43 10.0 -1.0**
PLAL **pP 02 43 11.3 -1.9**
PLAL IAmb IAmb 02 43 17.5
comp=Z,28nm,1.3s
PDRB Porto dos Gac 53.47 94 *eP* **P 02 43 12.5 -1.1**
PAHR Pah Rah Range 53.49 353 IAmb IAmb 02 43 20.2
comp=Z,20nm,1.8s
O20A White River Ci 53.52 3 IAmb IAmb 02 44 01.3
comp=Z,50nm,2.0s
MGMO Mountain Grove 53.62 19 IAmb IAmb 02 43 19.8
comp=Z,13nm,1.1s
AQDB Aquidauana 53.66 106 IAmb IAmb 02 43 22.8
comp=Z,14nm,1.2s
AQDB Aquidauana 53.66 106 *eP* **P 02 43 14.5 -0.3**
FPAL Fort Paine 53.83 27 IAmb IAmb 02 43 21.8
comp=Z,13nm,1.1s
GOGA Godfrey 53.86 29 IAmb IAmb 02 43 22.6
comp=Z,20nm,1.1s
MLPR Magueyes Islan 53.96 56 P **P 02 43 16.3 -0.7**
SALV Santo Antonio 53.96 100 *eP* **P 02 43 17.3 +0.2**
CTU Camp Tracy 53.98 360 P **P 02 43 17.8 +0.8**
ELK Elko 54.14 357 LR LR 03 02 06.6
comp=Z,612nm,18.2s,baz=183,slow=31
BGU Big Grassy Mou 54.23 359 IAmb IAmb 02 43 36.4
comp=Z,22nm,1.9s
AMBA Amambai (Brazi 54.26 109 *eP* **P 02 43 19.6 +0.3**
SWET Sewanee 54.27 26 IAmb IAmb 02 43 25.4
comp=Z,25nm,1.1s
V48A Smith Brothers 54.35 25 IAmb IAmb 02 43 25.2
comp=Z,24nm,1.3s
OBIP Obispado Ponce 54.35 56 P **P 02 43 19.5 -0.3**
OBIP IAmb IAmb 02 43 25.8
comp=Z,25nm,1.1s
TCUT Toone Canyon 54.41 0 IAmb IAmb 02 43 36.6
comp=Z,20nm,1.5s
SPUT South Promonto 54.60 359 P **P 02 43 24.8 +3.3**
SJG San Juan 54.75 56 P **P 02 43 24.3 +1.5**
SJG IAmb IAmb 02 43 28.7
comp=Z,24nm,1.1s
SJG San Juan 54.75 56 LR LR 03 02 25.9
comp=Z,138nm,21.3s,baz=230,slow=31
CCM Cathedral Cave 54.78 20 P **P 02 43 23.6 +1.0**
CCM IAmb IAmb 02 43 41.9
comp=Z,22nm,1.6s
HUMP Col San Antoni 55.01 56 IAmb IAmb 02 43 31.6
comp=Z,15nm,1.0s
W52A Murphy 55.04 28 IAmb IAmb 02 43 31.6
comp=Z,24nm,1.1s
RPRD Ribas do Rio P 55.53 106 *eP* **P 02 43 29.1 +0.6**
TKL Tuckaleechee C 55.58 27 LR LR 03 05 22.8
comp=Z,133nm,18.6s,baz=198,slow=34
NPGB Novo Progresso 55.59 89 *eP* **P 02 43 27.4 -1.5**
ITTB Itaituba 55.80 86 *eP* **P 02 43 29.3 -1.2**
V53A Saluda 56.03 28 IAmb IAmb 02 43 38.4
comp=Z,23nm,1.1s
PDAR Pinedale Array 56.09 2 P **P 02 43 29.4 -2.9**
comp=Z,0.4nm,0.7s,baz=180,slow=3.2,SNR=3.8
PDAR LR LR 03 03 52.5
comp=Z,294nm,18.6s,baz=178,slow=32
comp=Z,0.4nm,0.7s
K22A Casper 56.13 4 IAmb IAmb 02 43 43.2
comp=Z,24nm,1.3s
T50A Nancy 56.27 26 IAmb IAmb 02 43 38.8
comp=Z,19nm,1.2s
MFID Camas Ranch 56.84 356 IAmb IAmb 02 43 43.1
comp=Z,12nm,1.1s
V55A Taylorsville 56.92 29 IAmb IAmb 02 43 44.1
comp=Z,21nm,1.0s
PTGB Pitanga 56.93 111 *eP* **P 02 43 37.6 -0.9**
J08A Circle Bar Ran 57.00 354 IAmb IAmb 02 43 45.0
comp=Z,12nm,0.9s
FLWY Flagg Ranch 57.38 1 IAmb IAmb 02 44 00.7
comp=Z,34nm,1.6s
R50A Paris 57.55 25 IAmb IAmb 02 43 48.1
comp=Z,29nm,1.2s
ARAG Araguaiana, MT 57.70 100 *eP* **P 02 43 44.1 +0.1**
LDASE Londrina, Braz 57.82 109 *eP* **P 02 43 44.5 -0.2**
RSSD Black Hills 57.82 6 P **P 02 43 45.5 +1.0**
YHL Hebgen Lake 58.14 0 IAmb IAmb 02 43 52.7
comp=Z,12nm,1.3s
SNDB Serra Nova Dou 58.68 96 *eP* **P 02 43 50.1 -0.8**
G08A Pilot Rock 58.96 354 P **P 02 43 55.2 +2.9**
G08A IAmb IAmb 02 43 58.5
comp=Z,14nm,1.3s
LYMT Lyon Mountain 60.26 359 P **P 02 44 02.0 +0.6**
OVMT Ovando 60.37 359 P **P 02 44 04.4 +2.4**
PMSA Palmer Station 60.53 159 LR LR 03 03 16.4
comp=Z,514nm,20.7s,baz=279,slow=29
N51A Ashland 60.58 25 P **P 02 44 04.3 +0.9**
L48A N Adams 60.63 23 P **P 02 44 06.1 +2.4**
BDFB Brasilia 61.34 101 P **P 02 44 09.2 -0.1**
BDFB IAmb IAmb 02 44 09.7
comp=Z,19nm,1.4s
BDFB Brasilia 61.34 101 P **P 02 44 08.7 -0.5**
comp=Z,5.3nm,1.0s,baz=264,slow=2.5,SNR=5.8
BDFB LR LR 03 08 37.3
comp=Z,110nm,18.2s,baz=220,slow=34
comp=Z,5.3nm,1.0s
MDP Montagnes des 61.36 76 LR LR 03 07 27.2
comp=Z,239nm,18.4s,baz=264,slow=33
VAO Valinhos 61.65 109 P **P 02 44 09.8 -1.4**
G40A Rib Lake 61.68 17 IAmb IAmb 02 44 16.9
comp=Z,11nm,1.2s
DGMT Dagmar 62.11 6 IAmb IAmb 02 44 18.9
comp=Z,13nm,1.0s
PMNB Patos De Minas 62.51 104 *eP* **P 02 44 17.1 0.0**
SMTB Santa Maria do 62.80 93 *eP* **P 02 44 18.9 0.0**
L56A Greenwood 63.66 28 P **P 02 44 26.3 +2.2**
BSCB Bom Sucesso 63.83 107 *eP* **P 02 44 26.0 +0.2**
ULM Lac du Bonnet 65.02 11 LR LR 03 10 07.0
comp=Z,242nm,18.5s,baz=202,slow=34
SADO Sadowa 65.10 25 LR LR 03 13 16.9
comp=Z,138nm,18.0s,baz=274,slow=36
J59A Piesco 66.10 29 P **P 02 44 40.3 +0.4**
ACCN Adirondack Com 66.43 29 P **P 02 44 42.7 +0.7**
BBB Bella Bella 67.03 349 LR LR 03 10 02.2
comp=Z,186nm,18.2s,baz=181,slow=32
URZ Urewera 67.11 234 LR LR 03 08 26.4
comp=Z,304nm,18.9s,baz=184,slow=31
MSVF Nonsavu 67.55 256 LR LR 03 07 05.4
comp=Z,303nm,20.6s,baz=144,slow=30
DLBC Dease Lake 73.33 350 LR LR 03 12 08.6
comp=Z,327nm,18.7s,baz=112,slow=31
BELA Belgrano 2 74.08 168 P **P 02 45 29.4 +0.9**
RCBR Riachuelo 74.75 92 LR LR 03 16 53.6
comp=Z,90nm,20.0s,baz=252,slow=34
YKA Yellowknife Ar 75.85 359 P **P 02 45 38.1 -0.6**
comp=Z,0.8nm,0.9s,baz=180,slow=6.1,SNR=4.0
YKA LR LR 03 15 50.4
comp=Z,600nm,18.5s,baz=260,slow=33
comp=Z,0.8nm,0.9s
QSPA South Pole Qui 76.54 180 P **P 02 45 43.6 +0.7**
comp=Z,3.0nm,0.9s,baz=126,slow=1.5,SNR=4.5
QSPA LR LR 03 14 35.1
comp=Z,182nm,18.7s,baz=109,slow=32
comp=Z,3.0nm,0.9s
DZM Mont Dzumac 77.71 250 *e*LR LR 03 09 49.0
comp=Z,305nm,24.6s
DZM Mont Dzumac 77.71 250 LR LR 03 11 38.7
comp=Z,145nm,22.0s,baz=157,slow=29
SCHQ Schefferville 77.91 25 P **P 02 45 50.3 -0.3**
SCHQ Schefferville 77.91 25 P **P 02 45 50.6 +0.1**
comp=Z,6.0nm,1.0s,baz=227,slow=5.5,SNR=3.9
SCHQ LR LR 03 20 14.1
comp=Z,169nm,18.0s,baz=256,slow=36
comp=Z,6.0nm,1.0s
KDAK Kodiak Island 78.68 339 LR LR 03 12 05.7
comp=Z,412nm,21.0s,baz=337,slow=29
L29M L29M 79.17 348 P **P 02 45 59.0 +1.6**
L29M IAmb IAmb 02 46 03.0
comp=Z,12nm,1.1s
VNA3 Neumayer Olymp 81.04 161 ⇑P **P 02 46 11.3 +3.8**
comp=Z,8.1nm,0.9s
RIDG Independent Ri 81.20 346 IAmb IAmb 02 46 14.1
comp=Z,19nm,1.2s
I28M Miner Creek 81.62 348 IAmb IAmb 02 46 19.7
comp=Z,32nm,2.0s
EPYK Eagle Plains 81.86 350 IAmb IAmb 02 46 16.8
comp=Z,15nm,1.1s
RND Reindeer 81.95 344 IAmb IAmb 02 46 17.5
comp=Z,17nm,1.2s
F31M Tsiigehtchic 82.39 352 IAmb IAmb 02 46 25.9
comp=Z,30nm,1.6s
ILAR Eielson Array 82.56 346 P **P 02 46 13.5 -1.9**
comp=Z,0.4nm,0.8s,baz=193,slow=4.5,SNR=4.3
ILAR LR LR 03 16 00.3
comp=Z,156nm,19.9s,baz=88,slow=31
comp=Z,0.4nm,0.8s
PRP Porcupine Dome 82.86 346 IAmb IAmb 02 46 28.1
comp=Z,17nm,1.5s
SNAA Sanae 82.97 162 P **P 02 46 17.4 -0.2**
SNAA IAmb IAmb 02 46 30.9
comp=Z,13nm,1.4s
SNAA Sanae 82.97 162 ⇑P **P 02 46 18.1 +0.4**
comp=Z,59nm,1.1s
SNAA Sanae 82.97 162 LR LR 03 16 15.2
comp=Z,307nm,21.6s,baz=208,slow=31
BPAW Bear Paw Mtn. 83.08 344 IAmb IAmb 02 46 29.0
comp=Z,15nm,1.1s
INK Inuvik 83.17 352 IAmb IAmb 02 46 23.4
comp=Z,6.8nm,1.1s
INK Inuvik 83.17 352 P **P 02 46 15.9 -2.5**
comp=Z,1.2nm,1.0s,baz=169,slow=5.2,SNR=2.9
INK LR LR 03 18 36.4
comp=Z,297nm,18.9s,baz=216,slow=32
comp=Z,1.2nm,1.0s
MLY Manley 83.74 344 IAmb IAmb 02 46 26.5
comp=Z,7.0nm,1.0s
FRB Frobisher Bay 83.84 18 LR LR 03 21 07.0
comp=Z,284nm,19.1s,baz=204,slow=34
BMAR Burnt Mountain 84.27 348 P **P 02 46 25.2 +1.0**
TROLL Troll, Antarti 84.37 163 ⇑P **P 02 46 23.7 -1.2**
comp=Z,258nm,1.2s
HNR Honiara 86.36 261 LR LR 03 17 40.3
comp=Z,79nm,19.6s,baz=106,slow=31
H11S2 WAKE ISLAND Hy 86.59 290 T T 04 22 02.5
baz=106,slow=74,SNR=187
H11S1 WAKE ISLAND Hy 86.60 290 T T 04 21 56.7
baz=106,slow=74,SNR=118
F20K Avaraart Lake 86.61 344 IAmb IAmb 02 46 53.3
comp=Z,13nm,1.4s
H11S3 WAKE ISLAND Hy 86.61 290 T T 04 22 02.5
baz=106,slow=74,SNR=123
H11N3 WAKE ISLAND Hy 86.73 291 T T 04 22 13.5
baz=107,slow=75,SNR=16
H11N1 WAKE ISLAND Hy 86.75 291 T T 04 22 14.6
baz=107,slow=75,SNR=7.9
H11N2 WAKE ISLAND Hy 86.75 291 T T 04 22 14.9
baz=107,slow=75,SNR=23
RES Resolute Bay 88.69 4 P **P 02 46 46.5 +0.9**
comp=Z,1.6nm,0.9s,baz=177,slow=13,SNR=3.9
RES LR LR 03 23 26.4
comp=Z,332nm,19.7s,baz=214,slow=34
comp=Z,1.6nm,0.9s
SFJD Kangerlussuaq 91.65 20 LR LR 03 26 24.1
comp=Z,401nm,19.2s,baz=228,slow=34
CTA Charters Tower 96.50 248 LR LR 03 22 40.7
comp=Z,60nm,20.9s,baz=104,slow=30
STKA Stephens Creek 96.72 235 LR LR 03 22 45.8
comp=Z,178nm,21.9s,baz=37,slow=30
BBTS Babate 98.12 77 LR LR 03 25 53.4
comp=Z,120nm,19.0s,baz=142,slow=32
PMG Port Moresby 98.61 258 LR LR 03 25 53.0
comp=Z,63nm,18.1s,baz=139,slow=32
MAW Mawson 98.95 178 LR LR 03 27 46.7
comp=Z,246nm,20.7s,baz=190,slow=33
NJ2 Nanjing 130.48 301 *e*PKP **PKPdf 02 53 05.0 +0.9**
HHC Hu-ho-hao-te 133.65 314 *e*PKP **PKPdf 02 53 05.0 -5.0**
BTO Baotou 134.82 315 *e*PKP **PKPdf 02 53 06.5 -5.7**
BTO PP **PP 02 55 46.5 +0.6**
BTO SS SS 03 13 41.3 +2.3
BTO LR LR
comp=Z,440nm,5.1s
BVAR Borovoye Array 140.61 358 PKP **PKPdf 02 53 20.9 -1.5**
comp=Z,1.0nm,0.7s,baz=1,9,slow=4.3,SNR=2.4
KURBB Kurchatov Arra 142.14 350 PKP **PKPdf 02 53 23.5 -1.7**
comp=Z,1.6nm,1.0s,baz=15,slow=3.4,SNR=4.6
AKTO Aktyubinsk 142.26 11 PKP **PKPdf 02 53 25.2 -0.2**
comp=Z,1.0nm,0.6s,baz=334,slow=2.1,SNR=2.7
ABKAR Akbulak array 143.73 9 PKPdf **PKPdf 02 53 27.5 -0.5**
MKAR Makanchi Array 144.89 343 PKP **PKPab 02 53 26.3 -2.9**
comp=Z,1.1nm,0.9s,baz=35,slow=4.4,SNR=5.3
WMQ Urumqi 145.62 335 *e*PKPbc **PKPdf 02 53 30.3 -1.3**
WMQ LR LR
comp=Z,230nm,21.5s
KMI Kunming 145.74 295 ⇓PKPbc **PKPdf 02 53 30.0 -2.5**
KMBO Kilima Mbogo 145.82 113 PKPbc **PKPbc 02 53 33.6 +0.1**
comp=Z,2.6nm,0.7s,baz=244,slow=10.0,SNR=3.2
LODK Lodwar 145.83 104 **PKPdf 02 53 31.5 -1.3**
GURO Guroymak-BITLI 145.86 38 PKPdf **PKPdf 02 53 31.5 -0.7**
PZH PanZhiHua 146.27 298 PKPbc **PKPbc 02 53 34.5 +0.1**
GOMU GeErMu 147.32 318 PKPbc **PKPdf 02 53 36.0 +0.9**
CMAR Chiang Mai Arr 150.29 283 PKPdf **PKPdf 02 53 41.5 +1.6**
CMAR Chiang Mai Arr 150.29 283 PKPbc **PKPdf 02 53 42.0 +2.1**
comp=Z,1.7nm,0.2s,baz=29,slow=1.2,SNR=15
AAK Ala-Archa 150.56 351 PKPbc **PKPbc 02 53 44.5 -0.7**
comp=Z,0.8nm,0.4s,baz=41,slow=21,SNR=1.5
NRN Naryn 151.46 348 PKPdf **PKPdf 02 53 41.6 +0.1**

*GII **29** 02:35:36.7±0.3, 33°.596N±0°.003×35°.043E±0°.001, h5km, Mws2.0, confirmed*
*JSO **29** 02:35:37, 33°.54N×34°.97E, h2km, ML2.1/29*
*GRAL **29** 02:35:37.0±0.2, 33°.68N×35°.00E, h24km±11km, MD2.7*
ISC 29 02:35:36.7±1.1, 33°.63N±0°.04×35°.01E±0°.05, h12km, n43, σ0§62/47, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	**Deir Qamar**	**0.48**	**81**	*e*P	**Pg**	**02 35 46.1**	**0.0**
DQRL				*e*S	**Sg**	**02 35 52.8**	**+0.3**
QRWL	**Qaraoun**	**0.57**	**98**	*e*P	**Pg**	**02 35 47.8**	**-0.1**
QRWL				*e*S	**Sg**	**02 35 55.8**	**+0.3**
BHL	**Bhannes**	**0.61**	**63**	*e*P	**Pg**	**02 35 47.8**	**-0.7**
SHBL	**Chebaa**	**0.68**	**114**	*e*P	**Pg**	**02 35 49.7**	**-0.2**
SHBL				*e*S	**Sg**	**02 35 59.1**	**+0.3**
MMC1	**Mount Meron ar**	**0.68**	**151**	P	**Pg**	**02 35 50.0**	**0.0**
MMC7	**Mount Meron ar**	**0.69**	**152**	P	**Pg**	**02 35 50.1**	**+0.1**
GEM	**Giv'at Ha'Em**	**0.69**	**127**	P	**Pg**	**02 35 50.0**	**-0.1**
GEM	**Giv'at Ha'Em**	**0.69**	**127**	S	**Sg**	**02 35 59.6**	**+0.5**
GEM	**Giv'at Ha'Em**	**0.69**	**127**	P	**Pg**	**02 35 50.1**	**-0.1**
MMA0B	**Mount Meron ar**	**0.70**	**151**	P	**Pg**	**02 35 50.3**	**+0.1**
MMA0B	**Mount Meron ar**	**0.70**	**151**	S	**Sg**	**02 36 00.1**	**+0.7**
MMB1	**Mount Meron ar**	**0.70**	**151**	P	**Pg**	**02 35 50.2**	**-0.1**
RCY	**Rachaya**	**0.71**	**101**	*e*P	**Pg**	**02 35 50.0**	**-0.4**
NATI	**Neve Ativ**	**0.71**	**121**	P	**Pg**	**02 35 50.4**	**-0.1**
NATI				S	**Sg**	**02 36 00.1**	**+0.2**
NATI	**Neve Ativ**	**0.71**	**121**	S	**Sg**	**02 35 59.9**	**0.0**
NATI	**Neve Ativ**	**0.71**	**121**	P	**Pg**	**02 35 50.3**	**-0.1**
ZAHL	**Zahle**	**0.77**	**72**	*e*P	**Pg**	**02 35 50.6**	**-1.0**
KSHT	**Keshet**	**0.93**	**133**	S	**Sg**	**02 36 07.1**	**+0.2**
KSHT	**Keshet**	**0.93**	**133**	P	**Pg**	**02 35 54.2**	**-0.5**
OFRI	**`Ofer**	**1.00**	**181**	P	**Pg**	**02 35 55.5**	**-0.6**
OFRI	**`Ofer**	**1.00**	**181**	S	**Sb**	**02 36 09.4**	**+0.1**
OFRI	**`Ofer**	**1.00**	**181**	P	**Pg**	**02 35 55.4**	**-0.7**
SHMJ	**Saham**	**1.10**	**144**	P	**Pb**	**02 35 56.8**	**-0.9**
MMLI	**Mount Malkishu**	**1.24**	**163**	P	**Pn**	**02 35 58.9**	**-1.0**
MMLI	**Mount Malkishu**	**1.24**	**163**	P	**Pn**	**02 35 58.8**	**-1.0**
QRNJ	**Al-Qirein**	**1.38**	**159**	P	**Pn**	**02 36 01.2**	**-0.5**
SLTI	**Sal'it**	**1.39**	**179**	P	**Pn**	**02 36 01.4**	**-0.4**
HMDT	**Nahal Hemdat**	**1.44**	**162**	P	**Pn**	**02 36 02.4**	**-0.2**
HMDT	**Nahal Hemdat**	**1.44**	**162**	S	**Sb**	**02 36 21.9**	**+0.2**
HMDT	**Nahal Hemdat**	**1.44**	**162**	P	**Pn**	**02 36 02.4**	**-0.2**
BALJ	**Balqa**	**1.63**	**161**	P	**Pn**	**02 36 05.6**	**+0.4**
HSUJ	**Al Zarqa**	**1.82**	**146**	P	**Pn**	**02 36 09.1**	**+1.2**
CSS	**Mathiatis**	**1.92**	**314**	P	**Pb**	**02 36 11.9**	**+0.2**
DSI	**Dead Sea**	**2.08**	**171**	P	**Pn**	**02 36 11.9**	**+0.5**
AMAZ	**Amatzia**	**2.09**	**182**	P	**Pn**	**02 36 11.9**	**+0.3**
ASF	**Jabal al Asfar**	**2.15**	**132**	P	**Pn**	**02 36 14.2**	**+1.7**
YTIR	**Yattir**	**2.26**	**178**	P	**Pn**	**02 36 14.5**	**+0.5**
MDBI	**Mazsada**	**2.33**	**173**	P	**Pn**	**02 36 15.1**	**+0.3**
MSBI	**Mazada**	**2.33**	**173**	P	**Pn**	**02 36 15.5**	**+0.7**
GHAJ	**Ghor Haditha**	**2.37**	**168**	P	**Pn**	**02 36 16.1**	**+0.8**
LISJ	**El Lisan**	**2.42**	**170**	P	**Pn**	**02 36 16.8**	**+0.8**
SWQJ	**Swaqa**	**2.54**	**159**	P	**Pn**	**02 36 16.5**	**-1.3**
KZIT	**Kziot**	**2.76**	**191**	P	**Pn**	**02 36 21.4**	**+0.6**

*NEIC **29** 02:36:53.0±1.9, 30°.20S±0°.04×177°.31W±0°.09, h10km±2km, mb4.6/14, Error ellipse: s-maj=14.8km s-min=4.3km az=111.0*
*IDC **29** 02:37:02.6±1.7, 29°.92S×177°.85W, h74km±16km, mb4.0/4, mbtmp4.3/4, MS3.9/4, Error ellipse: s-maj=35.6km s-min=29.2km az=1.0*

ISC 29 02:36:57.2±0.8, 30°.22S±0°.07×177°.5W±0°.1, h35km, n39, σ1§46/30, mb4.5/12, MS4.5/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.03**	**340**	Pn	**Pn**	**02 37 15.6**	**+0.5**
RAO	**Raoul Island**	**1.03**	**340**	Sn	**Sn**	**02 37 29.6**	**+1.3**
RAO	**Raoul Island**	**1.03**	**340**	P	**Pn**	**02 37 17.6**	**+2.5**
541nm,0.3s,baz=84,slow=18,SNR=9.3							
RAO				S	**Sn**	**02 37 30.1**	**+1.8**
3μm,0.2s,baz=158,slow=19,SNR=12							
RTZ	**Ruatahuna**	**9.53**	**207**	Pn	**Pn**	**02 39 11.9**	**0.0**
BFZ	**Birch Farm**	**11.61**	**204**	Pn	**Pn**	**02 39 38.9**	**-1.5**
MSWZ	**Moikau Station**	**12.62**	**206**	Pn	**Pn**	**02 39 53.3**	**-0.9**
DZM	**Mont Dzumac**	**16.52**	**296**	LR	LR	02 45 40.0	
comp=Z,97nm,19.1s,baz=18,slow=32							
CTAO	**Charters Tower**	**34.19**	**279**	P	**P**	**02 43 40.0**	**+0.5**
CTAO				IAmb	IAmb	02 43 41.5	
comp=Z,5.4nm,0.7s							
STKA	**Stephens Creek**	**34.93**	**257**	P	**P**	**02 43 45.9**	**+0.1**
STKA	**Stephens Creek**	**34.93**	**257**	P	**P**	**02 43 46.5**	**+0.7**
comp=Z,4.3nm,0.7s,baz=95,slow=9.9,SNR=13							
comp=Z,4.3nm,0.7s							
BBOO	**Buckleboo**	**39.43**	**254**	P	**P**	**02 44 22.8**	**-1.1**
BBOO				IAmb	IAmb	02 44 30.0	
comp=Z,9.1nm,1.4s							
COEN	**Coen**	**39.63**	**285**	P	**P**	**02 44 26.7**	**+0.9**
AS31	**Alice Springs**	**43.54**	**267**	P	**P**	**02 44 57.9**	**+0.1**
PATS	**Pohnpei**	**43.54**	**324**	P	**P**	**02 44 55.0**	**-2.7**
ASAR	**Alice Springs**	**43.54**	**267**	P	**P**	**02 44 56.4**	**-1.4**
comp=Z,0.9nm,0.3s,baz=107,slow=7.4,SNR=20							
comp=Z,0.9nm,0.3s							
WB2	**Warramunga Arr**	**44.51**	**272**	P	**P**	**02 45 04.7**	**-0.8**
WB2				IAmb	IAmb	02 45 22.7	
comp=Z,16nm,1.4s							
WRAB	**Tennant Creek**	**44.51**	**272**	P	**P**	**02 45 05.2**	**-0.4**
WRAB				IAmb	IAmb	02 45 18.8	
comp=Z,9.0nm,1.1s							
WRA	**Warramunga Arr**	**44.52**	**272**	P	**P**	**02 45 04.2**	**-1.5**
comp=Z,1.9nm,0.3s,baz=111,slow=8.0,SNR=43							
comp=Z,1.9nm,0.3s							
WB0	**Warramunga Arr**	**44.54**	**272**	P	**P**	**02 45 05.1**	**-0.7**
WB0				IAmb	IAmb	02 45 07.6	
comp=Z,17nm,1.3s							
FORT	**Forrest**	**46.50**	**255**	P	**P**	**02 45 20.1**	**-1.1**
KNRA	**Kununurra**	**51.12**	**274**	P	**P**	**02 45 56.0**	**-0.8**
KNRA				IAmb	IAmb	02 46 17.3	
comp=Z,15nm,1.3s							
FITZ	**Fitzroy Crossi**	**52.78**	**270**	LR	LR	03 06 08.5	
comp=Z,24nm,18.2s,baz=171,slow=33							
KEKH	**Kekaha**	**54.65**	**20**	P	**P**	**02 46 19.7**	**-2.9**
QSPA	**South Pole Qui**	**59.89**	**180**	P	**P**	**02 47 02.8**	**+3.5**
comp=Z,0.8nm,0.3s,baz=27,slow=2.3,SNR=1.0							
comp=Z,0.8nm,0.3s							
BELA	**Belgrano 2**	**69.91**	**172**	P	**P**	**02 48 04.6**	**+0.4**
BELA				IAmb	IAmb	02 48 07.3	
comp=Z,12nm,1.5s							
SNAA	**Sanae**	**78.32**	**178**	P	**P**	**02 48 53.6**	**+0.2**
SNAA				IAmb	IAmb	02 49 12.6	
comp=Z,3.8nm,1.1s							
H03S2	**Juan Fernandez**	**80.21**	**123**	T	T	04 17 42.6	
baz=242,slow=74,SNR=14							
H03S1	**Juan Fernandez**	**80.22**	**123**	T	T	04 17 39.5	
baz=242,slow=74,SNR=14							
H03S3	**Juan Fernandez**	**80.23**	**123**	T	T	04 17 48.5	
baz=242,slow=74,SNR=13							
PETK	**Petropavlovsk-**	**85.75**	**345**	LR	LR	03 22 43.1	
comp=Z,228nm,21.7s,baz=73,slow=32							
MA2	**Magadan**	**93.23**	**344**	LR	LR	03 28 28.6	
comp=Z,280nm,20.3s,baz=96,slow=33							
KURBB	**Kurchatov Arra**	**121.27**	**314**	PKP	**PKPdf**	**02 55 46.0**	**-0.1**
comp=Z,0.2nm,0.4s,baz=118,slow=1.9,SNR=2.4							
H10N3	**ASCENSION HYDR**	**138.79**	**154**	T	T	05 32 11.5	
baz=204,slow=74							
H10N1	**ASCENSION HYDR**	**138.79**	**154**	T	T	05 32 06.2	
baz=204							
H10N2	**ASCENSION HYDR**	**138.81**	**154**	T	T	05 32 10.8	
baz=204,slow=74							
FINES	**FINESS Array B**	**145.12**	**340**	PKP	**PKPbc**	**02 56 30.5**	**+0.7**
comp=Z,3.1nm,0.5s,baz=59,slow=4.0,SNR=22							
AKASG	**Malin Array Be**	**151.41**	**323**	PKPbc	**PKPbc**	**02 56 45.3**	**-1.6**
comp=Z,0.7nm,0.5s,baz=53,slow=2.2,SNR=4.5							
MMAI	**Mount Meron Ar**	**151.90**	**284**	PKPbc	**PKPbc**	**02 56 49.2**	**+0.5**
comp=Z,1.7nm,0.6s,baz=98,slow=4.4,SNR=1.6							
TORD	**Torodi Ar. Bea**	**162.99**	**177**	PKPab	**PKPab**	**02 57 47.3**	**+1.4**
comp=Z,0.2nm,0.6s,baz=184,slow=2.1,SNR=3.9							

*ISK **29** 02:40:37.3, 36°.78N×27°.20E, h7km, ML2.4/20*
*ATH **29** 02:40:37.6, 36°.78N×27°.26E, h11km±4km, ML2.7/7, Manual Solution by N.Liadopoulou First location: 2018/11/29 03:41:19, This location: 2019/01/25 18:24:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*
*AFAD **29** 02:40:38.3±0.0, 36°.80N×27°.24E, h6km±2km, ML2.3*
ISC 29 02:40:38.1±0.9, 36°.78N±0°.02×27°.24E±0°.02, h14km±7km, n46, σ0§67/66, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAZI	**Mula-Dat§a-**	**0.20**	**120**	P	**Pg**	**02 40 43.3**	**+0.7**
YAZI				S	**Sg**	**02 40 46.0**	**+0.4**
YAZI				*i* AML	AML	02 40 47.0	
comp=E,467nm,0.4s							
KLNA	**Kalymnos**	**0.28**	**310**	P	**Pg**	**02 40 43.4**	**-0.5**
KLNA				S	**Sg**	**02 40 47.5**	**-0.3**
DAT	**Datca**	**0.28**	**101**	P	**Pb**	**02 40 44.4**	**-0.5**
DAT				S	**Sb**	**02 40 48.5**	**-1.1**
DAT				*i* AML	AML	02 40 49.0	
comp=N,373nm,0.2s							
DAT	**Datca**	**0.28**	**101**	Pg	**Pg**	**02 40 43.9**	**-0.1**
DAT				Sg	**Sb**	**02 40 48.9**	**-0.7**
BODT	**Bodrum**	**0.29**	**12**	Pg	**Pg**	**02 40 43.4**	**-0.7**
BODT				Sg	**Sg**	**02 40 48.2**	**0.0**
BDRM	**Kayabasi**	**0.33**	**30**	P	**Pg**	**02 40 44.8**	**0.0**
BDRM				S	**Sg**	**02 40 49.0**	**-0.4**
BDRM				*i* AML	AML	02 40 50.0	
comp=E,435nm,0.3s							
DATC	**Datca-Mugla**	**0.34**	**93**	Pg	**Pb**	**02 40 45.2**	**-0.8**
YKAV	**Yalikavak-Bodr**	**0.34**	**6**	Pg	**Pg**	**02 40 44.7**	**-0.4**
YKAV				Sg	**Sg**	**02 40 49.7**	**-0.2**
DIDI	**Didim-Aydin**	**0.59**	**0**	Pg	**Pg**	**02 40 49.4**	**-0.3**
DDIM	**Aydin, Didim**	**0.68**	**0**	P	**Pb**	**02 40 51.2**	**-0.5**
DDIM				S	**Sb**	**02 41 00.4**	**-0.5**
DDIM				*i* AML	AML	02 41 04.0	
comp=E,243nm,0.2s							
ASTA	**Astypalaia**	**0.75**	**252**	P	**Pb**	**02 40 52.6**	**-0.3**
ASTA				S	**Sb**	**02 41 03.2**	**+0.2**
MRSB	**Marmaris-Mugla**	**0.77**	**95**	Pg	**Pg**	**02 40 52.7**	**-0.4**
TURN	**Turunc**	**0.81**	**90**	P	**Pb**	**02 40 53.5**	**-0.4**
TURN				S	**Sn**	**02 41 06.7**	**-0.3**
TURN				*i* AML	AML	02 41 07.0	
comp=N,188nm,0.4s							
TURN				*i* AML	AML	02 41 10.0	
comp=E,105nm,0.6s							
TURN	**Turunc**	**0.81**	**90**	Pg	**Pg**	**02 40 53.4**	**-0.4**
YER	**Yerkesik**	**0.91**	**67**	Pg	**Pn**	**02 40 56.3**	**-0.3**
ARG	**Arkhangelos**	**0.91**	**128**	Pg	**Pb**	**02 40 55.7**	**0.0**
ARG	**Arkhangelos**	**0.91**	**128**	P	**Pb**	**02 40 55.5**	**-0.1**
ARG				S	**Sg**	**02 41 07.3**	**-0.4**
GCAM	**G?zelcaml?**	**0.92**	**

IZMR	**zmir-demi**	**1.47**	**23**	P	**Pb**	**02 41 05.3**	**+0.1**
IZMR				S	**Sg**	**02 41 25.4**	**0.0**
IZMR				*i* AML	AML	02 41 30.0	
	comp=E,41nm,0.6s						
IZMR				*i* AML	AML	02 41 31.0	
	comp=N,43nm,0.6s						
FETY	**Fethiye**	**1.49**	**95**	Pn	**Pg**	**02 41 05.9**	**-0.8**
TAVA	**DENİZLİ_Tavas**	**1.50**	**62**	P	**Pn**	**02 41 05.3**	**+0.5**
DNZT	**Denizli-Tavas-**	**1.51**	**70**	P	**Pg**	**02 41 06.8**	**-0.4**
DNZT				S	**Sg**	**02 41 29.2**	**+2.3**
IZZE	**Mula-Seydike**	**1.64**	**102**	P	**Pg**	**02 41 09.2**	**-0.3**
IZZE				S	**Sg**	**02 41 29.9**	**-0.8**
CAME	**Cameli-Denizli**	**1.66**	**84**	Pn	**Pn**	**02 41 07.8**	**+0.8**
KIRA	**zmir-Kiraz**	**1.69**	**33**	P	**Pg**	**02 41 11.2**	**+0.7**
KIRA				*i* AML	AML	02 41 38.0	
	comp=E,27nm,0.4s						
CAEL	**Denizli, Camel**	**1.70**	**78**	P	**Pg**	**02 41 09.9**	**-0.9**
CAEL				*i* AML	AML	02 41 58.0	
	comp=N,34nm,0.9s						
APMY	**Acipayam-Deniz**	**1.79**	**67**	Pn	**Pn**	**02 41 09.7**	**+1.0**
ZKR	**Zakros**	**1.86**	**207**	P	**Pn**	**02 41 10.8**	**+1.2**
KNIK	**Mula-Seydike**	**1.88**	**87**	P	**Pb**	**02 41 12.2**	**0.0**
AKAS	**Kas**	**1.98**	**105**	Pn	**Pb**	**02 41 13.1**	**-1.0**
KSL	**Kastellorizon**	**1.99**	**108**	P	**Pn**	**02 41 11.1**	**-0.3**
KULA	**Kula-Manisa**	**2.07**	**33**	Pn	**Pn**	**02 41 13.7**	**+1.2**
ELL	**Elmali**	**2.15**	**90**	Pn	**Pn**	**02 41 15.2**	**+1.6**
ELL	**Elmali**	**2.15**	**90**	P	**Pn**	**02 41 13.4**	**-0.2**
IDI	**Anoyia**	**2.42**	**233**	P	**Pn**	**02 41 17.1**	**-0.1**
KORT	**Korkueli**	**2.50**	**84**	Pn	**Pn**	**02 41 20.1**	**+1.5**

TEH ***29*** *03:26:56.8, 34.°35N±.°65E, h8km±158km, ML2.5*
ISN ***29*** *03:26:56.1±0.4, 34.°36N±.°62E, h6km±2km, ML2.5*
ISC 29 03:26:57.4±1.1**, 34.°36N**±0.°03×**45.°66E**±0.°04**, h6**km±11km**, n11**, σ0.°76/18**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.16**	**339**	Pg	**Pg**	**03 27 00.2**	**-0.4**
KGS1				Sg	**Sg**	**03 27 03.5**	**+0.7**
GLG1	**Gilan-e-Gharb**	**0.32**	**139**	Pg	**Pg**	**03 27 03.6**	**-0.1**
IDHR	**Dehrash**	**0.69**	**60**	Pg	**Pg**	**03 27 09.9**	**-0.9**
IDHR				Sg	**Sb**	**03 27 20.8**	**-1.1**
IGHG	**Ghaleghazi**	**0.75**	**92**	Pg	**Pg**	**03 27 12.0**	**+0.1**
IGHG				Sg	**Sb**	**03 27 23.9**	**+0.2**
ILBA	**Ilam Banvizeh**	**0.86**	**148**	Pg	**Pg**	**03 27 13.5**	**-0.4**
ILIN	**Lien**	**1.21**	**62**	Pg	**Pg**	**03 27 20.6**	**-0.1**
IBDR	**Badra**	**1.26**	**170**	*e*Pg	**Pg**	**03 27 20.5**	**-1.1**
IBDR				*e*Sg	**Sn**	**03 27 38.0**	**-0.8**
IBDR				AML	AML	03 27 43.8	
	comp=N,45nm,0.6s						
IBDR				AML	AML	03 27 50.4	
	comp=E,58nm,0.4s						
IKRK	**Kirkuk**	**1.50**	**314**	*e*Pn	**Pn**	**03 27 25.0**	**+0.1**
IKRK				*e*Sn	**Sg**	**03 27 46.5**	**+0.8**
IKRK				AML	AML	03 27 48.2	
	comp=E,197nm,0.4s						
IKRK				AML	AML	03 27 49.0	
	comp=N,91nm,0.5s						
BHD	**Baghdad**	**1.52**	**225**	*e*Pn	**Pn**	**03 27 25.0**	**-0.1**
BHD				*e*Sn	**Sg**	**03 27 46.5**	**+0.3**
SNQR	**Sonqor, Kerman**	**1.70**	**72**	Pg	**Pb**	**03 27 29.1**	**-0.2**
RAFI	**Al-Rafai**	**2.65**	**172**	*e*Pn	**Pn**	**03 27 41.5**	**+0.8**
RAFI				*e*Sn	**Sn**	**03 28 14.5**	**+1.3**

NEIC ***29*** *03:29:51.6±2.9, 34.°64N±.°02×96.°34W±0.°03, h6km±5km, mb_Lg2.1/10, ML2.4/23, ML2.7/20, Error ellipse: s-maj=3.9km s-min=2.2km az=114.0*
NEIC 29 03:29:50.9±1.7**, 34.°62N**±0.°02×**96.°28W**±0.°03**, h5**km±11km**, Error ellipse: s-maj=3.5km s-min=2.9km az=102.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
W35A	**Tecumseh**	**0.72**	**318**		Pg	03 30 04.4	-0.4
W35A					Sg	03 30 13.8	-0.5
W35A				IAML		03 30 14.0	
	comp=E,110nm,0.4s						
FNO	**Franklin**	**1.12**	**305**		Pg	03 30 11.9	-0.5
FNO					Sg	03 30 26.2	-0.7
FNO				IAML		03 30 32.4	
	comp=E,83nm,0.2s						
FNO				IAML		03 30 32.0	
	comp=N,94nm,0.3s						
DEOK	**Depew**	**1.23**	**352**		Pg	03 30 13.9	-0.7
DEOK					Sg	03 30 30.2	-0.4
DEOK				IAML		03 30 34.0	
	comp=E,79nm,0.2s						
DEOK				IAML		03 30 35.2	
	comp=N,63nm,0.2s						
X34A	**Smith Ranch, M**	**1.28**	**270**		Pg	03 30 15.1	-0.4
TUL3	**Leonard**	**1.35**	**17**		Pn	03 30 16.4	0.0
TUL3					Sn	03 30 35.3	+0.6
TUL3				IAML		03 30 38.0	
	comp=E,66nm,0.3s						
TUL3				IAML		03 30 38.2	
	comp=N,52nm,0.4s						
OK031	**S. Brethren Rd**	**1.41**	**341**		Pn	03 30 16.6	-0.6
OK031					Sb	03 30 35.2	-0.8
OK052	**Battle Ridge R**	**1.44**	**343**		Pn	03 30 17.1	-0.5
OK052					Sb	03 30 36.1	-0.7
Z35A	**Perchaven, San**	**1.52**	**213**		Pb	03 30 19.3	-0.2
Z35A					Sg	03 30 39.5	-0.1
OK029	**Liberty Lake**	**1.52**	**321**		Pn	03 30 18.7	-0.1
QUOK	**Quay**	**1.59**	**347**		Pn	03 30 19.6	0.0
QUOK					Sb	03 30 41.0	-0.1
Z38A	**Mt. Pleasant**	**1.73**	**141**		Pn	03 30 22.3	+0.8
RLO	**Rose Lookout**	**1.85**	**33**		Pn	03 30 23.6	+0.2
OK048	**Pawnee Station**	**1.88**	**343**		Pn	03 30 24.5	+0.9
OK048					Sb	03 30 49.4	0.0
OK051	**E0350 and S346**	**1.94**	**347**		Pb	03 30 25.6	-1.1
OK051					Sb	03 30 51.1	-0.1
WTFS	**Witchita Falls**	**2.00**	**245**		Pb	03 30 26.8	-1.0
WTFS					Sb	03 30 53.7	+0.7
WMOK	**Wichita Mounta**	**2.07**	**274**	Pn	Pn	03 30 26.6	+0.4
WMOK	**Wichita Mounta**	**2.07**	**274**		Pn	03 30 26.8	+0.6
FW03	**Perrin-Whitt E**	**2.17**	**224**	Pn	Pn	03 30 28.0	+0.4
CSTR	**Hydro, Custer**	**2.23**	**298**	Pn	Pn	03 30 28.0	-0.5
MIAR	**Mount Ida**	**2.23**	**91**		Pn	03 30 29.3	+0.8
MIAR				IAmb_Lg		03 31 09.0	
	comp=Z,7.9nm,1.1s						
FW07	**Weatherford**	**2.29**	**214**	IAmb_Lg		03 31 06.0	
	comp=Z,10nm,0.9s						
T35A	**Sooner Cattle**	**2.30**	**355**		Pb	03 30 31.4	-1.5
T35A					Sb	03 31 02.5	+0.9
U38A	**Gravette**	**2.38**	**40**		Pn	03 30 31.0	+0.4
PLPT	**Palo Pinto**	**2.48**	**224**	IAmb_Lg		03 31 10.4	
	comp=Z,6.1nm,0.7s						
KAN14	**Manchester OK**	**2.71**	**330**		Pn	03 30 34.0	-1.0
KAN14				IAmb_Lg		03 31 15.0	
	comp=Z,6.9nm,1.0s						
BRDY	**Brady**	**4.03**	**215**	IAmb_Lg		03 32 03.3	
	comp=Z,6.0nm,1.0s						
S44A	**Carbondale**	**6.46**	**60**	IAmb_Lg		03 33 32.4	
	comp=Z,2.7nm,0.7s						

JMA ***29*** *03:33:24.6±0.3, 44.°N±1.°×14.°7E±.°, h105km, MV3.6/24, E OFF HOKKAIDO*
SKHL ***29*** *03:33:24.7±0.7, 44.°20N×147.°20E, h110km±3km, mb5.0/3, msha5.5/3*
ISC 29 03:33:23.7±2.4**, 44.°2N**±0.°1×**147.°3E**±0.°1**, h111**km±15km**, n15**, σ0.°79/26**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.45**	**230**	*i* P	**Pn**	**03 33 41.0**	**+0.7**
SHO				AMB	AMB	03 33 41.3	
	580nm,0.2s						
SHO				*i* S	**Sn**	**03 33 53.1**	**+0.3**
SHO				A	A	03 33 54.0	
	2μm,0.4s						
SHO				A	A	03 33 54.0	
	3μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.05**	**264**	*i* P	**Pn**	**03 33 45.5**	**+0.1**
YUK				AMB	AMB	03 33 45.8	
	1μm,0.3s						
YUK				*i* S	**Sn**	**03 34 01.0**	**-0.9**
YUK				A	A	03 34 01.8	
	730nm,0.3s						
YUK				A	A	03 34 01.8	
	800nm,0.3s						
KUR	**Kuril'sk**	**1.15**	**20**	*e*P	**Pn**	**03 33 46.8**	**+0.3**
KUR				AMB	AMB	03 33 47.0	
	80nm,0.2s						
KUR				*i* S	**Sn**	**03 34 02.9**	**-0.8**
KUR				A	A	03 34 03.3	
	350nm,0.4s						
KUR				A	A	03 34 03.3	
	360nm,0.4s						
NEM2	**Nemuro 2**	**1.38**	**235**	P	**Pn**	**03 33 49.4**	**+0.3**
NEM2				*e*S	**Sn**	**03 34 07.8**	**-0.6**
NMR	**Nemuro--Hokkai**	**1.39**	**236**	*i* P	**Pn**	**03 33 49.5**	**+0.3**
NMR				*i* S	**Sn**	**03 34 07.8**	**-0.8**
JRA	**Rausu**	**1.59**	**263**	*e*P	**Pn**	**03 33 52.5**	**+0.9**
JNSB	**Nemuroshibetsu**	**1.71**	**258**	P	**Pn**	**03 33 53.6**	**+0.6**
JNSB				*e*S	**Sn**	**03 34 15.5**	**+0.1**
JKHN	**Kushirohamanak**	**1.89**	**236**	P	**Pn**	**03 33 55.9**	**+0.5**
JNK	**Nakash**	**1.96**	**254**	P	**Pn**	**03 33 56.6**	**+0.4**
JNK				*e*S	**Sn**	**03 34 20.6**	**-0.3**
AKK	**Akkeshi**	**2.12**	**238**	*e*P	**Pn**	**03 33 58.7**	**+0.4**
JAK	**Akkeshi**	**2.23**	**239**	P	**Pn**	**03 33 59.8**	**+0.2**
JAK				*e*S	**Sn**	**03 34 26.1**	**-0.9**
JTKR	**Abashiri--Toko**	**2.46**	**267**	*e*P	**Pn**	**03 34 02.7**	**+0.1**
JAR	**Ashorobuto**	**2.71**	**253**	P	**Pn**	**03 34 06.9**	**+1.1**
JAR				S	**Sn**	**03 34 39.1**	**+0.9**
JOB	**Onbets**	**2.82**	**245**	P	**Pn**	**03 34 08.2**	**+0.9**
JOB				*e*S	**Sn**	**03 34 40.2**	**-0.6**
JCH	**Churui**	**3.26**	**243**	P	**Pn**	**03 34 13.6**	**+0.4**
JCH				*e*S	**Sn**	**03 34 49.2**	**-2.1**

NDI ***29*** *03:57:34.2±2.2, 23.°20N×94.°40E, h70km, ML4.1, MW4.0, mb4.5(NEIC)*
IDC ***29*** *03:57:36.5±1.7, 23.°41N×94.°24E, h85km±16km, mb3.9/19, mbtmp4.2/21, Error ellipse: s-maj=16.5km s-min=10.1km az=39.0*
NEIC ***29*** *03:57:37.2±1.4, 23.°52N±0.°04×94.°27E±0.°07, h84km±5km, mb4.5/76, Error ellipse: s-maj=9.5km s-min=6.2km az=99.0*
ISC 29 03:57:37.9±0.4**, 23.°42N**±0.°04×**94.°20E**±0.°05**, h100**km**, n147**, σ1.°35/165**, mb4.4/64**, 10C-2D**, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZL	**Aizawl**	**1.42**	**283**	*e*P	**Pn**	**03 58 01.6**	**-1.8**
AZL				*e*S	**Sn**	**03 58 21.2**	**-1.4**
AZL				IAML		03 58 22.4	
	2μm,0.5s						
AZL				IAML		03 58 25.1	
	comp=E,2μm,0.9s						
IMP	**Imphal**	**1.43**	**351**	*e*Pg	**Pn**	**03 58 02.2**	**-1.2**
IMP				IAML		03 58 22.7	
	comp=E,829nm,0.1s						
IMP				*i* Sg	**Sn**	**03 58 24.1**	**+1.5**
KOHI	**KOHIMA**	**2.30**	**358**	*e*P	**Pn**	**03 58 13.4**	**-1.1**
KOHI				*e*S	**Sn**	**03 58 41.8**	**-0.7**
KOHI				IAML		03 58 41.9	
	comp=E,932nm,0.7s						
KOHI				IAML		03 58 47.2	
	comp=E,1μm,0.5s						
BRDH	**Bariadhala**	**2.47**	**253**	P	**Pn**	**03 58 15.4**	**-1.2**
BRDH				S	**Sn**	**03 58 45.2**	**-1.1**
	comp=E,116nm,0.3s,baz=64,slow=14,SNR=6.1						
	comp=E,357nm,0.3s,baz=36,slow=12,SNR=7.5						
MOKO	**MOKOCHONG**	**2.91**	**6**	*e*P	**Pn**	**03 58 21.4**	**-1.2**
SHL	**Shillong**	**3.01**	**316**	Pn	**Pn**	**03 58 22.6**	**-1.3**
SHL	**Shillong**	**3.01**	**316**	*e*P	**Pn**	**03 58 22.6**	**-1.3**
SHL				IAML		03 58 56.0	
	comp=N,701nm,0.1s						
SHL				IAML		03 58 56.4	
	comp=E,715nm,0.2s						
SHL				*e*S	**Sn**	**03 58 56.5**	**-2.8**
TEZP	**TEZPUR**	**3.43**	**339**	*e*P	**Pn**	**03 58 27.3**	**-2.1**
TEZP				IAML		03 59 06.8	
	comp=E,806nm,0.1s						
TEZP				*e*S	**Sn**	**03 59 09.2**	**0.0**
TEZP				IAML		03 59 13.3	
	comp=E,723nm,0.1s						
ITAN	**ITANAGAR**	**3.74**	**353**	*e*P	**Pn**	**03 58 31.5**	**-2.1**
ITAN				*e*S	**Sn**	**03 59 14.4**	**-2.2**
ZIRO	**ZIRO**	**4.11**	**356**	*e*P	**Pn**	**03 58 36.6**	**-2.1**
CHTO	**Chiang Mai**	**6.37**	**135**		**Pn**	**03 59 08.2**	**-1.1**
GTK	**Tadong**	**6.38**	**309**	*e*P	**Pn**	**03 59 09.4**	**-0.1**
GTK				*e*S	**Sn**	**04 00 17.9**	**-3.1**
CM31	**Chiang Mai Arr**	**6.63**	**137**	Pn	**Pn**	**03 59 09.7**	**-3.2**
CMAR	**Chiang Mai Arr**	**6.63**	**137**	Pn	**Pn**	**03 59 12.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**6.63**	**137**	P	**Pn**	**03 59 11.2**	**-1.7**
	comp=E,3.6nm,0.3s,baz=315,slow=13,SNR=6.2						
CMAR				S	**Sn**	**04 00 25.4**	**-1.6**
	comp=E,3.0nm,0.3s,baz=319,slow=29,SNR=2.3						
LSA	**Lhasa**	**6.83**	**337**		**Pn**	**03 59 15.1**	**-0.9**
LSA					**Sn**	**04 00 29.1**	**-3.3**
PHRA	**Phrae**	**7.46**	**130**	Pn	**Pn**	**03 59 23.0**	**-1.1**
PZH	**PanZhiHua**	**7.50**	**64**	P	**Pn**	**03 59 26.8**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,140nm,5.9s						
BOK	**Bokaro**	**7.63**	**274**	*e*P	**Pn**	**03 59 26.1**	**-0.3**
BOK				*e*S	**Sn**	**04 00 46.1**	**-5.3**
BOK				IAML		04 00 47.4	
	comp=E,459nm,0.7s						
BOK				IAML		04 00 50.0	
	comp=E,552nm,0.5s						
PBA	**Port Blair**	**11.78**	**187**	Pn	**Pn**	**04 00 22.0**	**-0.7**
LZH	**Lanzhou**	**15.14**	**31**	*e*P	**Pn**	**04 01 04.3**	**-2.2**
LZH				pP	P	04 01 12.8	+3.5
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
GTA	**Gaotai**	**16.64**	**15**	*e*P	P	04 01 39.5	+14
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
WMQ	**Urumqi**	**21.05**	**347**	*e*P	**P**	**04 02 17.3**	**+3.5**
WMQ				pP	pP	04 02 30.5	-2.8
WMQ				sP	sP	04 02 43.0	-3.0
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
BTO	**Baotou**	**21.71**	**34**	*e*P	**P**	**04 02 20.8**	**-0.1**
BTO				pP	**pP**	**04 02 35.3**	**-5.0**
BTO				sP	**sP**	**04 02 47.0**	**-5.9**
BTO				PP		04 02 52.0	
BTO				S	**S**	**04 06 16.5**	**+1.1**
BTO				SS	**SnSn**	**04 06 50.8**	**+1.7**
BTO				pmax	pmax		
	comp=Z,24nm,0.7s						
BTO				LR	LR		
	comp=N,490nm,5.1s						
BTO				LR	LR		
	comp=E,430nm,6.4s						
BTO				LR	LR		
	comp=Z,150nm,4.5s						
WUS	**Wushi**	**21.73**	**328**	P	**P**	**04 02 21.2**	**0.0**
WUS				IAmb	IAmb	04 02 25.1	
	comp=Z,11nm,0.8s						
KSH	**Kashi**	**22.28**	**320**	P	**P**	**04 02 28.8**	**+1.8**
KSH				pmax	pmax		
	comp=Z,11nm,1.2s						
HHC	**Hu-ho-hao-te**	**22.70**	**36**	*e*P	**P**	**04 02 26.5**	**-4.8**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,210nm,4.7s						
TARG	**Taragay, Kyrgy**	**22.83**	**327**	P	**P**	**04 02 33.5**	**+0.5**
NJ2	**Nanjing**	**23.42**	**63**	*e*P	**P**	**04 02 37.0**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KDJ	**Kajisay**	**23.44**	**327**	P	**P**	**04 02 39.1**	**+0.6**
DRK	**Karamyk**	**24.83**	**315**	P	**P**	**04 02 52.0**	**+0.8**
DRK				IAmb	IAmb	04 02 53.7	
	comp=Z,14nm,0.8s						
ARSB	**Arslanbob**	**25.19**	**320**	P	**P**	**04 02 54.2**	**-0.1**
AAK	**Ala-Archa**	**25.20**	**324**	P	**P**	**04 02 56.1**	**+1.8**
MKAR	**Makanchi Array**	**25.22**	**341**	P	**P**	**04 02 55.3**	**+1.0**
	comp=Z,12nm,0.7s,baz=147,slow=10.0,SNR=91						
MKAR				PcP	**PcP**	**04 06 25.0**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=145,slow=2.9,SNR=2.3						
	comp=Z,12nm,0.7s						
MAKZ	**Makanchi**	**25.33**	**340**	P	**P**	**04 02 55.8**	**+0.5**
GAR	**Garm**	**25.56**	**313**	P	**P**	**04 02 58.8**	**+1.2**
GAR				IAmb	IAmb	04 02 59.5	
	comp=Z,35nm,1.0s						
BTK	**Batken**	**25.78**	**316**	P	**P**	**04 03 01.1**	**+1.5**
BTK				IAmb	IAmb	04 03 02.4	
	comp=Z,11nm,0.9s						
SONM	**Songino Array**	**26.24**	**19**	P	**P**	**04 03 03.7**	**0.0**
	comp=Z,0.5nm,0.4s,baz=189,slow=10,SNR=4.9						
	comp=Z,0.5nm,0.4s						
SIMJ	**Simiganj**	**26.28**	**311**	P	**P**	**04 03 04.2**	**0.0**
KKAR	**Karatay Array**	**27.73**	**321**	P	**P**	**04 03 17.3**	**+0.4**
KURBB	**Kurchatov Arra**	**29.77**	**340**	P	**P**	**04 03 35.8**	**+0.9**
	comp=Z,2.6nm,0.5s,baz=153,slow=8.2,SNR=15						
KURBB				PcP	**PcP**	**04 06 36.8**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=170,slow=1.9,SNR=6.7						
	comp=Z,2.6nm,0.5s						
KURK	**Kurchatov**	**29.82**	**340**	P	**P**	**04 03 35.5**	**+0.1**
KURK				IAmb	IAmb	04 03 36.9	
	comp=Z,5.3nm,0.7s						
ZALV	**Zalesovo Beam**	**31.30**	**349**	P	**P**	**04 03 48.5**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=177,slow=8.9,SNR=6.4						
	comp=Z,1.5nm,0.6s						
HIA	**Hailar**	**32.70**	**32**	P	**P**	**04 04 00.1**	**-0.7**
HIA				IAmb	IAmb	04 04 00.6	
	comp=Z,11nm,1.2s						
CN2	**Changchun**	**32.73**	**44**	*e*P	**P**	**04 04 01.5**	**+0.4**
CN2				PcP	**PcP**	**04 06 46.5**	**+2.2**
BVAR	**Borovoye Array**	**34.66**	**335**	P	**P**	**04 04 18.1**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=143,slow=9.9,SNR=7.7						
BVAR				PcP	**PcP**	**04 06 50.3**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=108,slow=0.5,SNR=3.5						
	comp=Z,2.1nm,0.5s						
BRVK	**Borovoye**	**34.72**	**335**	P	**P**	**04 04 19.0**	**+0.9**
ABKAR	**Akbulak array**	**37.25**	**322**	P	**P**	**04 04 40.3**	**+0.5**
ABKAR				IAmb	IAmb	04 04 41.9	
	comp=Z,8.1nm,0.9s						
ABKAR	**Akbulak array**	**37.25**	**322**	P	**P**	**04 04 41.0**	**+1.2**
RAYN	**Ar Rayn**	**44.49**	**280**	P	**P**	**04 05 40.4**	**+0.7**
RAYN				IAmb	IAmb	04 05 42.7	
	comp=Z,3.3nm,0.7s						
PSA00	**Pilbara Seismi**	**51.22**	**149**	P	**P**	**04 06 31.9**	**+0.5**
KNRA	**Kununurra**	**51.49**	**136**	P	**P**	**04 06 33.3**	**-0.2**
TIXI	**Tiksi**	**52.11**	**13**	P	**P**	**04 06 36.7**	**-0.7**
BRTR	**Keskin Array B**	**53.15**	**303**	P	**P**	**04 06 47.1**	**+1.3**
BRTR	**Keskin Array B**	**53.15**	**303**	P	**P**	**04 06 46.4**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=77,slow=6.4,SNR=3.5						
	comp=Z,1.1nm,0.8s						
CSS	**Mathiatis**	**53.65**	**297**	P	**P**	**04 06 51.0**	**+1.6**
ELL	**Elmali**	**56.26**	**300**	P	**P**	**04 07 09.1**	**+0.8**
MORW	**Morawa**	**56.26**	**157**	P	**P**	**04 07 08.7**	**+0.7**
AKASG	**Malin Array Be**	**56.49**	**316**	P	**P**	**04 07 10.2**	**+0.8**
AKASG	**Malin Array Be**	**56.49**	**316**	P	**P**	**04 07 09.2**	**-0.3**
	comp=Z,1.9nm,0.5s,baz=85,slow=6.3,SNR=21						
	comp=Z,1.9nm,0.5s						
AKBB	**Malin Array Si**	**56.49**	**316**	P	**P**	**04 07 09.4**	**-0.1**
AKBB				IAmb	IAmb	04 07 10.0	
	comp=Z,8.5nm,0.9s						
KIEV	**Kiev**	**56.50**	**316**	P	**P**	**04 07 09.2**	**-0.4**
KIEV				IAmb	IAmb	04 07 10.0	
	comp=Z,8.2nm,0.9s						
KIEV	**Kiev**	**56.50**	**316**	⇑P	**P**	**04 07 09.3**	**-0.3**
VRI	**Vrincioaia**	**58.09**	**311**	⇑P	**P**	**04 07 22.4**	**+1.6**
WB0	**Warramunga Arr**	**58.13**	**134**	P	**P**	**04 07 21.3**	**-0.1**
WB0				IAmb	IAmb	04 07 24.4	
	comp=Z,4.0nm,0.9s						
PLOR	**Plostina**	**58.14**	**310**	⇑P	**P**	**04 07 22.6**	**+1.4**
WRA	**Warramunga Arr**	**58.22**	**134**	P	**P**	**04 07 21.7**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=323,slow=7.5,SNR=41						
	comp=Z,1.3nm,0.5s						
WB2	**Warramunga Arr**	**58.23**	**134**	P	**P**	**04 07 22.0**	**-0.1**
WB2				IAmb	IAmb	04 07 29.5	
	comp=Z,9.8nm,1.4s						
WR0	**Warramunga Arr**	**58.36**	**134**	P	**P**	**04 07 23.0**	**0.0**
WR0				IAmb	IAmb	04 07 27.7	
	comp=Z,7.2nm,1.3s						
COVR	**Voineasa-Covas**	**58.45**	**310**	⇑P	**P**	**04 07 24.5**	**+1.1**
TURR	**Turia**	**58.58**	**311**	⇑P	**P**	**04 07 25.7**	**+1.4**
MLR	**Muntele Rosu**	**58.65**	**310**	P	**P**	**04 07 26.3**	**+1.4**
MLR	**Muntele Rosu**	**58.65**	**310**	⇑P	**P**	**04 07 27.0**	**+2.1**
ALN	**Alexandroupoli**	**58.88**	**305**	P	**P**	**04 07 27.6**	**+1.2**
DOPR	**Dopca**	**59.02**	**311**	⇑P	**P**	**04 07 27.1**	**-0.2**
BURAR	**Bucovina Array**	**59.08**	**313**	⇓P	**P**	**04 07 27.6**	**-0.2**
BUR08	**Bucovina Ar. S**	**59.09**	**313**	P	**P**	**04 07 28.5**	**+0.6**
BUR08				IAmb	IAmb	04 07 34.6	
	comp=Z,8.6nm,1.5s						
FINES	**FINESS Array B**	**59.27**	**329**	P	**P**	**04 07 28.6**	**-0.1**
FINES	**FINESS Array B**	**59.27**	**329**	P	**P**	**04 07 28.9**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=104,slow=8.7,SNR=6.8						
	comp=Z,1.9nm,0.6s						
NWAO	**Narrogin (SRO)**	**60.19**	**158**	P	**P**	**04 07 35.4**	**0.0**
MARR	**Marisel-Cluj**	**60.55**	**312**	⇑P	**P**	**04 07 38.9**	**+0.9**
ASAR	**Alice Springs**	**60.64**	**138**	P	**P**	**04 07 39.0**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=320,slow=6.9,SNR=17						
	comp=Z,1.6nm,0.4s						
KWP	**Kalwaria Pacla**	**60.67**	**315**	P	**P**	**04 07 39.6**	**+1.1**
DRGR		**60.82**	**312**	⇑P	**P**	**04 07 40.4**	**+0.7**
ARCES	**ARCESS Array B**	**60.84**	**338**	P	**P**	**04 07 39.1**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=99,slow=7.5,SNR=5.3						
	comp=Z,3.4nm,0.8s						
SURR	**Surduc**	**61.31**	**311**	⇓P	**P**	**04 07 43.2**	**+0.3**
BZS	**Buzias**	**61.68**	**310**	⇑P	**P**	**04 07 46.1**	**+0.8**
PDG	**Podgorica**	**63.75**	**307**	P	**P**	**04 07 59.8**	**+0.6**
HFS	**Hagfors**	**65.30**	**327**	P	**P**	**04 08 09.3**	**+0.3**
	comp=Z,3.3nm,0.5s,baz=97,slow=

A36M				IAmb	IAmb	04 09 42.9	
	comp=Z,7.9nm,0.8s						
ESDC	**Sonseca Array**	**81.34**	**309**	P	**P**	**04 09 43.9**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=42,slow=3.4,SNR=3.4						
	comp=Z,0.7nm,0.8s						
INK	**Inuvik**	**82.12**	**16**		**P**	**04 09 47.5**	**+0.4**
INK				IAmb	IAmb	04 09 48.5	
	comp=Z,8.1nm,1.2s						
G30M	**tAoh Zraii Nji**	**82.35**	**18**	P	**P**	**04 09 48.6**	**+0.2**
G30M				IAmb	IAmb	04 09 49.0	
	comp=Z,4.7nm,0.6s						
G31M	**Satah River**	**82.93**	**17**	P	**P**	**04 09 51.2**	**-0.1**
G31M				IAmb	IAmb	04 09 53.2	
	comp=Z,6.6nm,1.4s						
L27K	**Beaver Creek,**	**83.22**	**22**	P	**P**	**04 09 54.0**	**+1.0**
BCAR	**Beaver Creek A**	**83.23**	**22**	P	**P**	**04 09 54.3**	**+1.2**
C36M	**Paulatuk**	**83.48**	**13**		**P**	**04 09 54.0**	**0.0**
C36M				IAmb	IAmb	04 09 54.4	
	comp=Z,6.0nm,0.8s						
I30M	**Mount Dempster**	**83.54**	**19**	P	**P**	**04 09 54.6**	**-0.1**
I30M				IAmb	IAmb	04 09 55.3	
	comp=Z,2.5nm,0.7s						
H31M	**Peel River**	**83.72**	**18**	P	**P**	**04 09 55.6**	**+0.1**
H31M				IAmb	IAmb	04 09 56.2	
	comp=Z,4.5nm,0.7s						
K29M	**Barlow Dome**	**84.15**	**20**	P	**P**	**04 09 57.8**	**0.0**
K29M				IAmb	IAmb	04 10 09.5	
	comp=Z,4.6nm,1.5s						
BOSA	**Boshof**	**84.15**	**236**	P	**P**	**04 09 59.5**	**+1.1**
BOSA	**Boshof**	**84.15**	**236**	P	**P**	**04 09 59.2**	**+0.9**
	comp=Z,4.1nm,0.9s,baz=80,slow=5.7,SNR=3.9						
	comp=Z,4.1nm,0.9s						
TGL	**Tana Glacier**	**84.33**	**24**	P	**P**	**04 09 59.0**	**+0.2**
CTGM	**Chitina Glacie**	**84.76**	**24**	P	**P**	**04 10 01.0**	**+0.1**
CTGM				IAmb	IAmb	04 10 11.5	
	comp=Z,11nm,1.4s						
LOGN	**Logan Glacier**	**84.97**	**24**	P	**P**	**04 10 02.5**	**+0.4**
M30M	**Minto, Yukon**	**85.27**	**21**	P	**P**	**04 10 04.4**	**+1.0**
O30N	**Mendenhall**	**86.78**	**22**	P	**P**	**04 10 11.8**	**+0.9**
O30N				IAmb	IAmb	04 10 12.4	
	comp=Z,3.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**87.12**	**283**	P	**P**	**04 10 14.3**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=55,slow=3.5,SNR=7.9						
	comp=Z,1.3nm,0.8s						
SKAG	**Skagway**	**87.98**	**23**	P	**P**	**04 10 17.0**	**+0.5**
SKAG				IAmb	IAmb	04 10 25.4	
	comp=Z,6.4nm,1.3s						
P33M	**Teslin, Yukon**	**88.30**	**21**	P	**P**	**04 10 18.2**	**+0.1**
R33M	**Jennings River**	**89.53**	**21**	P	**P**	**04 10 24.7**	**+0.6**
R33M				IAmb	IAmb	04 10 26.2	
	comp=Z,2.9nm,0.9s						
T35M	**Bob Quinn**	**91.62**	**23**	P	**P**	**04 10 34.3**	**+0.6**
PMOZ	**Porto Moniz, M**	**93.96**	**308**	P	**P**	**04 10 45.7**	**+0.7**
TXAR	**Lajitas Array**	**124.81**	**19**	PKP	**PKiKP**	**04 16 27.0**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=188,slow=0.9,SNR=8.1						
CPUP	**Villa Florida**	**154.03**	**258**	PKPbc	**PKiKP**	**04 17 26.1**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=121,slow=5.7,SNR=4.6						

*ISN **29** 04:18:03.5±0.6, 34°.38N×45°.72E, h14km±5km, ML3.5*
*TEH **29** 04:18:03.5, 34°.37N×45°.69E, h8km±28km, ML3.3*
*AFAD **29** 04:18:06.6±0.0, 34°.44N×45°.49E, h10km±4km, MW3.9*

ISC 29 04:18:04.4±1.1, 34°.39N±0°.03×45°.68E±0°.03, h10km±9km, n38, σ1§19/49, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.14**	**326**	Pg	**Pg**	**04 18 07.4**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.34**	**146**	Pg	**Pg**	**04 18 10.3**	**-0.9**
IDHR	**Dehrash**	**0.66**	**62**	Pg	**Pg**	**04 18 16.1**	**-1.2**
IGHG	**Ghaleghazi**	**0.74**	**95**	Pg	**Pg**	**04 18 18.0**	**-0.7**
IGHG				Sg	**Sg**	**04 18 29.4**	**+1.1**
ILBA	**Ilam Banvizeh**	**0.88**	**150**	Pg	**Pg**	**04 18 19.8**	**-1.7**
KCHF	**Cheshme Sefid,**	**1.13**	**96**	Pg	**Pb**	**04 18 24.7**	**-1.5**
ILIN	**Lien**	**1.18**	**63**	Pg	**Pb**	**04 18 25.7**	**-1.4**
IBDR	**Badra**	**1.30**	**171**	*e*Pn	**Pn**	**04 18 29.0**	**+0.3**
IBDR				*e*Sn	**Sb**	**04 18 47.0**	**+1.3**
IBDR				AML	AML	04 18 50.6	
	comp=E,690nm,0.5s						
IBDR				AML	AML	04 18 52.4	
	comp=N,525nm,0.6s						
IKRK	**Kirkuk**	**1.49**	**313**	*e*Pn	**Pn**	**04 18 32.0**	**+0.7**
IKRK				*e*Sn	**Sg**	**04 18 53.5**	**+1.1**
IKRK				AML	AML	04 18 57.0	
	comp=E,1μm,0.5s						
IKRK				AML	AML	04 19 04.3	
	comp=N,801nm,0.5s						
BHD	**Baghdad**	**1.56**	**224**	*e*Pn	**Pn**	**04 18 33.0**	**+0.8**
BHD				*e*Sn	**Sn**	**04 18 54.0**	**+1.5**
SNQR	**Sonqor, Kerman**	**1.67**	**73**	Pg	**Pb**	**04 18 35.3**	**-0.2**
SDS1	**Sardasht. Az.**	**1.76**	**355**	Pg	**Pb**	**04 18 36.7**	**-0.2**
IBZA	**Bozab**	**1.80**	**87**	Pg	**Pn**	**04 18 36.7**	**+0.8**
IKFM	**Kafar-mosalman**	**2.00**	**115**	Pn	**Pn**	**04 18 39.9**	**+1.6**
IDOB	**Doab**	**2.16**	**106**	Pn	**Pn**	**04 18 41.6**	**+0.9**
MAHB	**Mahabad**	**2.37**	**0**	Pn	**Pb**	**04 18 45.6**	**-1.7**
HSAM	**Samen**	**2.42**	**93**	Pn	**Pn**	**04 18 45.5**	**+1.1**
RAFI	**Al-Rafai**	**2.69**	**172**	*e*Pn	**Pn**	**04 18 48.0**	**+0.2**
RAFI				*e*Sn	**Sn**	**04 19 20.8**	**+0.4**
HAGD	**Aghdareh**	**2.88**	**81**	Pn	**Pn**	**04 18 52.5**	**+1.7**
IAZR	**Azarshahr**	**3.29**	**4**	Pn	**Pn**	**04 18 57.9**	**+1.6**
CUKT	**Cukurca**	**3.31**	**330**	P	**Pn**	**04 18 56.8**	**+0.4**
CUKT				S	**Sn**	**04 19 35.5**	**-0.5**
YOVA	**Hakkari_Yksek**	**3.38**	**341**	P	**Pn**	**04 18 58.5**	**+1.0**
YOVA				S	**Sn**	**04 19 36.4**	**-1.5**
HAKT	**HAKKARI**	**3.54**	**334**	P	**Pn**	**04 18 59.4**	**-0.3**
HAKT				S	**Sn**	**04 19 41.1**	**-0.7**
ISRB	**Sarab**	**3.78**	**25**	Pn	**Pn**	**04 19 04.6**	**+1.5**
IHRS	**Heris**	**4.07**	**15**	Pn	**Pn**	**04 19 08.6**	**+1.6**
PERV	**Siirt/Pervari-**	**4.36**	**325**	P	**Pn**	**04 19 11.5**	**+0.6**
PERV				S	**Sn**	**04 19 58.9**	**-2.9**
GEVA	**Gevas**	**4.45**	**332**	P	**Pn**	**04 19 13.4**	**+1.3**
MIDY	**Mardin/Midyat-**	**4.59**	**312**	P	**Pn**	**04 19 14.8**	**+0.7**
MIDY				S	**Sn**	**04 20 07.7**	**+0.1**
IPIR	**Pirpir**	**4.67**	**110**	Pn	**Pn**	**04 19 16.2**	**+0.8**
JHBN	**Jahan bin**	**4.70**	**116**	Pn	**Pn**	**04 19 16.4**	**+0.7**
SRTM	**Siirt_Merkez**	**4.70**	**321**	P	**Pn**	**04 19 15.6**	**0.0**
SRTM				S	**Sn**	**04 20 10.1**	**-0.2**
GRMI	**Germi**	**4.75**	**21**	Pn	**Pn**	**04 19 18.0**	**+1.7**
QAMS	**Qamsar**	**4.79**	**96**	Pn	**Pn**	**04 19 18.0**	**+1.1**
ZNGN	**Zangian**	**4.89**	**116**	Pn	**Pn**	**04 19 19.6**	**+1.2**
IKLH	**Kolahrood**	**5.02**	**101**	Pn	**Pn**	**04 19 21.4**	**+1.3**
KRSH	**Karshahi**	**5.37**	**93**	Pn	**Pn**	**04 19 25.7**	**+1.0**
KLNJ	**Kolanjah**	**6.02**	**122**	Pn	**Pn**	**04 19 35.3**	**+1.4**
IRAM	**Ramesheh**	**6.18**	**113**	Pn	**Pn**	**04 19 37.2**	**+1.1**

*NIED **29** 04:29:39.1, 41°.92N×142°.33E, h70km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 104Nm;*
M_{rr}5.65; $M_{\theta\theta}$-1.77; $M_{\phi\phi}$-3.88; $M_{r\theta}$1.34; $M_{\phi\theta}$-2.12; $M_{\phi r}$3.89;
Fault plane solution: $M_0$6.80000×10^14 NP1:ϕ_s24.00000°, δ64.00000°, λ84.00000°. NP2:ϕ_s218.00000°, δ27.00000°, λ102.00000°.
*JMA **29** 04:29:39.1±0.2, 41°.9N±0°.9×142°.3E±0°.9, h70km±3km, MV3.6/37, S OFF URAKAWA*
JMA Felt I J1 at S OFF URAKAWA .
*NEIC **29** 04:29:40.7±1.7, 41°.98N±0°.07×142°.47E±0°.08, h77km±3km, mb4.3/30, Error ellipse: s-maj=11.2km s-min=6.3km az=140.0*
*IDC **29** 04:29:44.6±1.7, 42°.24N×142°.20E, h94km±11km, mb3.6/13, mbtmp3.9/17, MS3.5/2, Error ellipse: s-maj=19.6km s-min=12.7km az=128.0*

ISC 29 04:29:40.1±0.7, 41°.95N±0°.04×142°.35E±0°.03, h71km±6km, n84, σ1§36/90, mb4.2/28, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.45**	**42**	P	**Pn**	**04 29 51.2**	**-1.3**
JNBK				*e*S	**Sn**	**04 30 00.7**	**-0.8**
JSHD	**Hidakashinhida**	**0.47**	**11**	P	**Pn**	**04 29 52.2**	**-0.5**
JSHD				*e*S	**Sn**	**04 30 01.6**	**-0.3**
ERM	**Erimo**	**0.61**	**83**	Pn	**Pn**	**04 29 53.5**	**-0.5**
ERM				Sn	**Sn**	**04 30 03.9**	**-0.4**
JEM	**Erimo**	**0.61**	**83**	P	**Pn**	**04 29 53.6**	**-0.4**
JEM				*e*S	**Sn**	**04 30 04.0**	**-0.2**
JIAM	**Iburiatsuma**	**0.74**	**335**	P	**Pn**	**04 29 55.7**	**+0.2**
JIAM				*e*S	**Sn**	**04 30 07.7**	**+0.7**
JBT2	**Biratori 2**	**0.83**	**1**	P	**Pn**	**04 29 55.8**	**-0.8**
JBT2				*e*S	**Sn**	**04 30 08.7**	**0.0**
JKB	**Kayabe**	**0.98**	**267**	P	**Pn**	**04 29 57.1**	**-1.2**
JKB				*e*S	**Sn**	**04 30 10.2**	**-1.7**
JCH	**Churui**	**1.00**	**48**	P	**Pn**	**04 29 58.4**	**-0.2**
JCH				*e*S	**Sn**	**04 30 13.0**	**+0.6**
JNB	**Noboribetsu**	**1.10**	**299**	∥P	**Pn**	**04 29 58.5**	**-1.4**
JNB				∥*e*S	**Sn**	**04 30 12.8**	**-1.9**
JEW	**Eniwo**	**1.11**	**324**	∥P	**Pn**	**04 29 59.7**	**-0.3**
JEW				∥*e*S	**Sn**	**04 30 14.3**	**-0.5**
JOT	**Ohata**	**1.13**	**240**	P	**Pn**	**04 29 59.1**	**-1.1**
JOT				*e*S	**Sn**	**04 30 13.2**	**-2.0**
JFR	**Furan**	**1.23**	**8**	P	**Pn**	**04 30 01.0**	**-0.5**
JFR				*e*S	**Sn**	**04 30 17.0**	**-0.6**
JYM2	**Yakumo 2**	**1.48**	**277**	*e*P	**Pn**	**04 30 03.7**	**-1.1**
JSR	**Shiriuchi**	**1.50**	**254**	*e*P	**Pn**	**04 30 04.2**	**-0.9**
JSR				*e*S	**Sn**	**04 30 22.9**	**-1.1**
JTM	**Tenmabayashi**	**1.51**	**220**	Pn	**Pn**	**04 30 04.6**	**-0.5**
JTM	**Tenmabayashi**	**1.51**	**220**	*e*P	**Pn**	**04 30 04.7**	**-0.5**
JANG	**Nango**	**1.69**	**202**	*e*P	**Pn**	**04 30 07.2**	**-0.4**
JAR	**Ashorobuto**	**1.71**	**37**	*e*P	**Pn**	**04 30 08.0**	**+0.2**
JHR	**Hokuryu**	**1.85**	**346**	*e*P	**Pn**	**04 30 10.0**	**+0.3**
ASAJ	**Asahikawa**	**2.17**	**5**	P	**Pn**	**04 30 15.3**	**+1.2**
	35nm,0.3s,baz=221,slow=13,SNR=25						
ASAJ				S	**Sn**	**04 30 39.8**	**-0.2**
	151nm,0.9s,baz=312,slow=31,SNR=10						
JKA	**Kamikawa-asahi**	**2.17**	**5**		**Pn**	**04 30 14.3**	**+0.3**
JMM	**Marumori**	**4.25**	**197**	Pn	**Pn**	**04 30 44.7**	**+2.4**
MJAR	**Matsushiro Arr**	**6.28**	**212**	P	Pn	04 31 17.3	+7.2
	2.6nm,0.6s,baz=21,slow=12,SNR=6.4						
USA00	**Ussuriysk Arra**	**7.91**	**290**	Pn	**Pn**	**04 31 34.0**	**+1.7**
USRK	**Ussuriysk Ar.**	**7.91**	**290**	Pn	**Pn**	**04 31 34.7**	**+2.4**
USRK	**Ussuriysk Ar.**	**7.91**	**290**	P	**Pn**	**04 31 33.2**	**+1.0**
	5.5nm,0.8s,baz=85,slow=13,SNR=7.2						
KLR	**Kul'dur**	**10.39**	**318**	P	**Pn**	**04 32 07.9**	**+1.8**
	3.1nm,0.8s,baz=123,slow=15,SNR=8.5						
KSRS	**Korea Array**	**11.98**	**253**	P	**Pn**	**04 32 32.1**	**+4.3**
	1.5nm,0.6s,baz=62,slow=13,SNR=5.2						
KSRS				LR	LR	04 36 38.1	
	comp=Z,31nm,18.4s,baz=85,slow=34						
SONM	**Songino Array**	**25.98**	**295**	P	**P**	**04 35 05.4**	**-0.7**
SONM	**Songino Array**	**25.98**	**295**	P	**P**	**04 35 06.5**	**+0.5**
	0.9nm,0.5s,baz=81,slow=9.3,SNR=5.7						
	0.9nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**30.38**	**129**	T	T	05 08 18.6	
	baz=314,slow=75						
H11N1	**WAKE ISLAND Hy**	**30.39**	**129**	T	T	05 08 16.6	
	baz=314,slow=75						
H11N3	**WAKE ISLAND Hy**	**30.40**	**129**	T	T	05 08 24.3	
	baz=314,slow=75						
H11S1	**WAKE ISLAND Hy**	**31.24**	**131**	T	T	05 09 27.7	
	baz=323						
H11S3	**WAKE ISLAND Hy**	**31.24**	**131**	T	T	05 09 32.4	
	baz=323						
H11S2	**WAKE ISLAND Hy**	**31.25**	**131**	T	T	05 09 30.8	
	baz=323						
P08K	**Saint George I**	**33.86**	**48**	P	**P**	**04 36 13.5**	**-2.0**
ZALV	**Zalesovo Beam**	**39.30**	**308**	P	**P**	**04 37 02.4**	**+0.6**
ZALV	**Zalesovo Beam**	**39.30**	**308**	P	**P**	**04 37 01.5**	**-0.2**
	1.0nm,0.5s,baz=88,slow=7.6,SNR=5.7						
	1.0nm,0.5s						
CHGN	**Chignik**	**40.04**	**48**	P	**P**	**04 37 05.1**	**-2.8**
F19K	**Shaleruckik Mo**	**40.56**	**32**	P	**P**	**04 37 08.7**	**-3.3**
F19K				IAmb	IAmb	04 37 26.7	
	comp=Z,6.2nm,1.4s						
D19K	**Kuna River**	**40.67**	**29**	P	**P**	**04 37 10.1**	**-2.9**
K20K	**Telida**	**41.92**	**37**	P	**P**	**04 37 19.9**	**-3.4**
K20K				IAmb	IAmb	04 37 28.6	
	comp=Z,6.9nm,1.4s						
MK31	**Makanchi Array**	**42.29**	**298**	P	**P**	**04 37 26.8**	**+0.2**
MKAR	**Makanchi Array**	**42.29**	**298**	P	**P**	**04 37 26.6**	**0.0**
	comp=Z,1.2nm,0.7s,baz=77,slow=9.6,SNR=8.8						
	comp=Z,1.2nm,0.7s						
E22K	**Anaktuvuk Pass**	**42.96**	**30**	P	**P**	**04 37 31.5**	**-0.2**
E22K				IAmb	IAmb	04 37 53.6	
	comp=Z,4.6nm,1.2s						
KURK	**Kurchatov**	**43.62**	**304**	P	**P**	**04 37 37.3**	**+0.2**
KURK				IAmb	IAmb	04 37 38.0	
	comp=Z,3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**43.69**	**304**	P	**P**	**04 37 38.0**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=78,slow=8.6,SNR=16						
	comp=Z,3.3nm,0.7s						
ILAR	**Eielson Array**	**45.01**	**35**	P	**P**	**04 37 48.5**	**+0.4**
	comp=Z,0.6nm,1.0s,baz=277,slow=7.6,SNR=5.5						
	comp=Z,0.6nm,1.0s						
HDA	**Harding Lake**	**45.01**	**35**	P	**P**	**04 37 46.5**	**-1.5**
SCRK	**Sand Creek**	**46.35**	**36**	P	**P**	**04 37 58.7**	**-0.1**
K27K	**Chicken**	**47.17**	**36**	P	**P**	**04 38 03.9**	**-1.1**
BCAR	**Beaver Creek A**	**47.48**	**37**	P	**P**	**04 38 09.1**	**+1.6**
I28M	**Miner Creek**	**47.83**	**33**	P	**P**	**04 38 11.9**	**+1.7**
I28M				IAmb	IAmb	04 38 15.5	
	comp=Z,3.8nm,1.2s						
BVAR	**Borovoye Array**	**47.91**	**309**	P	**P**	**04 38 11.6**	**+0.6**
	comp=Z,2.3nm,0.4s,baz=77,slow=9.3,SNR=13						
	comp=Z,2.3nm,0.4s						
I30M	**Mount Dempster**	**49.34**	**33**	P	**P**	**04 38 23.0**	**+1.1**
I30M				IAmb	IAmb	04 38 24.3	
	comp=Z,1.9nm,0.7s						
INK	**Inuvik**	**49.71**	**29**	P	**P**	**04 38 24.8**	**+0.3**
INK				IAmb	IAmb	04 38 43.2	
	comp=Z,3.2nm,1.4s						
G31M	**Satah River**	**49.76**	**31**	P	**P**	**04 38 23.0**	**-1.8**
G31M				IAmb	IAmb	04 38 45.5	
	comp=Z,3.6nm,1.4s						
F31M	**Tsiigehtchic**	**49.84**	**30**	P	**P**	**04 38 26.1**	**+0.7**
F31M				IAmb	IAmb	04 39 02.5	
	comp=Z,7.7nm,1.4s						
H31M	**Peel River**	**50.01**	**32**	P	**P**	**04 38 27.9**	**+1.0**
H31M				IAmb	IAmb	04 38 58.8	
	comp=Z,5.9nm,1.2s						
KKAR	**Karatay Array**	**51.41**	**297**	P	**P**	**04 38 37.6**	**-0.1**
KKAR				IAmb	IAmb	04 38 38.2	
	comp=Z,1.4nm,0.6s						
KKAR	**Karatay Array**	**51.41**	**297**	P	**P**	**04 38 37.5**	**-0.1**
KEKH	**Kekaha**	**52.02**	**94**	P	**P**	**04 38 39.2**	**-3.2**
ARTI	**Arti**	**53.34**	**316**	P	**P**	**04 38 51.4**	**-0.3**
ARTI				IAmb	IAmb	04 38 52.4	
	comp=Z,3.3nm,0.7s						
R33M	**Jennings River**	**53.54**	**39**	P	**P**	**04 38 53.0**	**-0.3**
R33M				IAmb	IAmb	04 38 59.6	
	comp=Z,3.3nm,1.1s						
ABKAR	**Akbulak array**	**55.41**	**308**	P	**P**	**04 39 07.3**	**+0.5**
ABKAR				IAmb	IAmb	04 39 08.4	
	comp=Z,2.2nm,0.5s						
ABKAR	**Akbulak array**	**55.41**	**308**	P	**P**	**04 39 07.3**	**+0.5**
RES	**Resolute Bay**	**57.67**	**15**	P	**P**	**04 39 21.9**	**-0.6**
WB0	**Warramunga Arr**	**61.84**	**189**	P	**P**	**04 39 50.4**	**-1.3**
WB0				IAmb	IAmb	04 40 32.5	
	comp=Z,4.5nm,1.2s						
WB2	**Warramunga Arr**	**62.02**	**189**	P	**P**	**04 39 52.9**	**0.0**
WRA	**Warramunga Arr**	**62.02**	**189**	P	**P**	**04 39 57.0**	**+4.1**
	comp=Z,0.3nm,0.7s,baz=7.4,slow=6.9,SNR=2.1						
	comp=Z,0.3nm,0.7s						
FIA1	**FINESS Array S**	**64.82**	**332**	P	**P**	**04 40 10.8**	**-0.1**
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**04 40 10.8**	**-0.1**
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**04 40 10.9**	**0.0**
	comp=Z,1.8nm,0.5s,baz=57,slow=6.6,SNR=32						
	comp=Z,1.8nm,0.5s						
BPMT	**Black Pine Rid**	**69.24**	**46**	P	**P**	**04 40 38.5**	**-1.1**
FCC	**Fort Churchill**	**69.30**	**28**	P	**P**	**04 40 39.2**	**-0.1**
NC204	**NORSAR Array S**	**69.88**	**337**	P	**P**	**04 40 42.9**	**-0.1**
HFS	**Hagfors**	**69.92**	**335**	P	**P**	**04 40 43.2**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=40,slow=5.8,SNR=10						
	comp=Z,1.0nm,0.3s						
NB2	**NORSAR Subarra**	**69.94**	**337**	P	**P**	**04 40 43.3**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**69.94**	**337**	P	**P**	**04 40 43.1**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=31,slow=5.1,SNR=3.8						
	comp=Z,0.7nm,0.6s						
AKASG	**Malin Array Be**	**70.87**	**322**	P	**P**	**04 40 49.1**	**0.0**
	comp=Z,0.7nm,0.4s,baz=45,slow=5.9,SNR=7.9						
	comp=Z,0.7nm,0.4s						
PDAR	**Pinedale Array**	**73.74**	**47**	P	**P**	**04 41 08.1**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=262,slow=4.2,SNR=4.3						
	comp=Z,0.4nm,0.6s						
MLR	**Muntele Rosu**	**76.11**	**320**	LR	LR	05 16 56.1	
	comp=Z,227nm,20.4s,baz=300,slow=37						
TXAR	**Lajitas Array**	**86.57**	**53**	P	**P**	**04 42 17.5**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=312,slow=4.3,SNR=4.2						
	comp=Z,0.2nm,0.6s						

RSNC 29 04:42:37.7±0.0, 13°N±2°×8°1W±°, h15km±4km, M2.9, mb3.9, ML2.9, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.24**	**291**	P	Pg	04 42 42.2	-0.8
PRVC				S	Sg	04 42 47.1	+0.4
SAIC	**Isla e San And**	**0.94**	**217**	P	Pb	04 42 53.4	-2.3
SAIC				S	Sb	04 43 07.9	-0.1
RNCC	**Cayo Roncador,**	**1.05**	**74**	P	Pb	04 42 55.4	-2.2
RNCC				S	Sb	04 43 10.6	-0.5
SERC	**Banco Serrana,**	**1.24**	**37**	P	Pn	04 42 59.3	-1.2
SERC				S	Sb	04 43 16.0	-0.6
BCIP	**Isla Barro Col**	**4.29**	**163**	P	Pn	04 43 37.6	-4.9
BCIP				S	Sn	04 44 25.8	-6.5
JTS	**Las Juntas de**	**4.78**	**232**	P	Pn	04 43 50.4	+1.1
GMAL	**Guarumal, Vera**	**5.49**	**181**	P	Pn	04 43 57.4	-1.7
	15nm,0.9s						
GMAL				S	Sn	04 44 56.8	-5.2
	15nm,0.9s						
SJCC	**San Jacinto, C**	**6.74**	**119**	P	Pn	04 44 11.7	-4.5
SJCC				S	Sn	04 45 25.2	-7.5

*CATAC **29** 04:49:28.8±0.3, 13°.19N×81°.26W, h10km±2km, MB4.8, mb5.0, ML4.7*
*IDC **29** 04:49:28.4±0.8, 13°.10N×81°.22W, h0km, mb3.7/9, mbtmp3.8/13, ML2.6/3, MS3.6/23, Error ellipse: s-maj=22.3km s-min=15.9km az=44.0*
*UPA **29** 04:49:29.0±2.0, 13°.31N×81°.16W, h44km±45km, MW4.8*
*NEIC **29** 04:49:29.3±1.8, 12°.99N±0°.05×81°.28W±0°.06, h10km±1km, mb4.6/42, Error ellipse: s-maj=10.6km s-min=8.3km az=130.0*
*RSNC **29** 04:49:29.2±0.0, 13°N±1°×8°1W±°, h4km±1km, M4.3, mb4.6, mB5.5, ML3.9, Mw(mB)4.9*

ISC 29 04:49:29.1±1.1, 13°.15N±0°.03×81°.19W±0°.03, h10km±7km, n171, σ1§99/219, mb4.7/26, MS3.6/19, 1D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.28**	**322**	P	**Pg**	**04 49 33.8**	**-1.1**
PRVC				S	**Sg**	**04 49 37.5**	**-1.2**
PRVC	**Isla de Provid**	**0.28**	**322**	*i* P	**Pg**	**04 49 33.7**	**-1.1**
PRVC				*i* S	**Sg**	**04 49 37.8**	**-0.9**
PRVC				IAML		04 49 42.7	
	comp=Z,120μm,1.0s						
SAIC	**Isla e San And**	**0.80**	**220**	P	**Pg**	**04 49 44.5**	**-0.1**
SAIC				S	**Sb**	**04 49 56.3**	**+0.4**
SAIC	**Isla e San And**	**0.80**	**220**	*i* P	**Pg**	**04 49 44.4**	**-0.1**
SAIC				*i* S	**Sg**	**04 49 55.8**	**+0.9**
SAIC				IAML		04 50 00.0	
	comp=Z,22μm,1.0s						
RNCC	**Cayo Roncador,**	**1.15**	**68**	P	**Pn**	**04 49 50.4**	**-0.8**
RNCC				S	**Sb**	**04 50 07.3**	**+1.3**
RNCC	**Cayo Roncador,**	**1.15**	**68**	*i* P	**Pn**	**04 49 50.7**	**-0.5**
RNCC				*i* S	**Sn**	**04 50 07.7**	**+0.7**
RNCC				IAML		04 50 21.5	
	comp=Z,12μm,1.0s						
SERC	**Banco Serrana,**	**1.38**	**35**	P	**Pn**	**04 49 53.3**	**-1.2**
SERC				S	**Sn**	**04 50 11.1**	**-1.7**
SERC	**Banco Serrana,**	**1.38**	**35**	*i* P	**Pn**	**04 49 53.7**	**-0.8**
SERC				IAML		04 49 59.3	
	comp=Z,4μm,1.0s						
SERC				*i* S	**Sn**	**04 50 12.5**	**-0.3**
BLUN	**Bluefields**	**2.77**	**246**	P	**Pn**	**04 50 13.1**	**-0.6**
BLUN				S	**Sn**	**04 50 46.1**	**-1.1**
BLUN	**Bluefields**	**2.77**	**246**	*i* P	**Pn**	**04 50 13.0**	**-0.6**
BLUN				*i* S	**Sn**	**04 50 46.2**	**-1.0**
BLUN				IAML		04 50 52.9	
	comp=Z,860nm,1.0s						
ESPN	**Las Esperanzas**	**3.18**	**253**		**Pn**	**04 50 17.7**	**-1.6**
ESPN	**Las Esperanzas**	**3.18**	**253**	P	**Pn**	**04 50 18.3**	**-1.0**
ESPN				S	**Sn**	**04 50 55.3**	**-2.1**
ESPN	**Las Esperanzas**	**3.18**	**253**	*i* P	**Pn**	**04 50 19.1**	**-0.2**
ESPN				*i* S	**Sn**	**04 50 56.8**	**-0.6**
ESPN				IAML		04 51 29.6	
	comp=Z,2μm,1.0s						
TRT2	**Tortugero**	**3.59**	**224**	*i* P	**Pn**	**04 50 24.3**	**-0.5**
TRT2				*i* S	**Sn**	**04 51 06.6**	**

ILCN	**San Idelfonso**	**5.41 265**	*i* P		**Pn**	**04 50 49.0 -0.9**
ILCN			IAML			04 51 10.7
	comp=Z,140nm,1.0s					
ILCN			IVmB_BB			04 51 10.7
	comp=Z,1μm,1.0s					
ILCN			IAmb	IAmb		04 51 10.8
	comp=Z,120nm,0.7s					
ILCN			*i* S		**Sn**	**04 51 50.8 -1.5**
UPD2	**Meteti**	**5.53 145**	*e*P		**Pn**	**04 50 54.0 +2.3**
UPD2			*e*S		**Sn**	**04 51 52.5 -2.8**
PCRI3	**Pocri, Los San**	**5.56 169**	*e*S		**Sn**	**04 51 54.9 -1.0**
CRIN	**San Cristobal**	**5.74 266**	Pn		**Pn**	**04 50 51.5 -2.9**
CRIN	**San Cristobal**	**5.74 266**	P		**Pn**	**04 50 54.4 -0.1**
CACAO	**El Cacao, Vera**	**5.78 177**	P		**Pn**	**04 50 56.2 +1.2**
	comp=Z,124nm,0.6s,comp=Z,1μm					
CACAO			S		**Sn**	**04 52 02.4 +1.0**
	comp=Z,124nm,0.6s,comp=Z,1μm					
CAPC	**Capurgana**	**5.86 140**	P		**Pn**	**04 50 57.5 +1.4**
	comp=Z,26nm,0.8s					
CAPC			S		**Sn**	**04 51 59.9 -3.5**
	comp=Z,26nm,0.8s					
TGUH	**Tegucigalpa,Un**	**5.99 279**			**Pn**	**04 50 56.9 -1.0**
TGUH	**Tegucigalpa,Un**	**5.99 279**	P		**Pn**	**04 50 57.7 -0.3**
	comp=Z,247nm,0.7s,comp=Z,2μm					
MTDJ	**Mount Denham**	**6.15 34**			**Pn**	**04 51 00.7 +0.5**
MTDJ	**Mount Denham**	**6.15 34**	*i* P		**Pn**	**04 51 00.3 +0.1**
MTDJ	**Mount Denham**	**6.15 34**	P		**Pn**	**04 51 00.4 +0.2**
	comp=Z,55nm,0.8s					
MTDJ			S		**Sn**	**04 52 12.6 +1.9**
	comp=Z,55nm,0.8s					
LCBC	**Los crdobas,**	**6.37 132**	P		**Pn**	**04 51 04.9 +1.8**
	comp=Z,74nm,1.2s,comp=Z,8μm					
LCBC			S		**Sn**	**04 52 16.1 +0.1**
	comp=Z,74nm,1.2s,comp=Z,8μm					
HOJ	**Hope**	**6.45 41**	*i* P		**Pn**	**04 51 04.1 -0.1**
STH	**Stony Hill**	**6.46 40**	⇓*i*P		**Pn**	**04 51 05.0 +0.6**
SJCC	**San Jacinto, C**	**6.72 118**	P		**Pn**	**04 51 06.3 -1.6**
	comp=Z,48nm,0.8s					
SJCC			S		**Sn**	**04 52 20.0 -4.6**
	comp=Z,48nm,0.8s					
PTAC	**Punta Ardita,**	**6.83 151**	P		Pn	04 51 15.7 +6.3
PTAC			S		**Sn**	**04 52 24.4 -2.9**
APAC	**Apartado, Choc**	**6.91 139**	P		**Pn**	**04 51 12.2 +1.7**
	comp=Z,23nm,0.7s					
APAC			S		**Sn**	**04 52 27.8 -1.5**
	comp=Z,23nm,0.7s					
ARGC	**Ariguani, Magd**	**7.55 115**	P		**Pn**	**04 51 18.8 -0.5**
	comp=Z,40nm,0.7s					
ARGC			S		**Sn**	**04 52 46.1 +1.1**
	comp=Z,40nm,0.7s					
UREC	**San Jos de Ur**	**7.73 133**	P		**Pn**	**04 51 21.2 -0.6**
	comp=Z,17nm,0.6s					
UREC			S		**Sn**	**04 52 43.1 -6.3**
	comp=Z,17nm,0.6s					
UREC	**San Jos de Ur**	**7.73 133**	*e*P		**Pn**	**04 51 21.2 -0.6**
UREC			*e*S		**Sn**	**04 52 43.0 -6.5**
MTO3	**Montecristo**	**8.04 280**			**Pn**	**04 51 25.1 -1.1**
ESQI	**Esquipulas**	**8.04 281**			**Pn**	**04 51 25.7 -0.5**
ZARC	**Zaragoza, Cauc**	**8.39 131**	P		**Pn**	**04 51 30.0 -0.9**
	comp=Z,23nm,0.7s					
ZARC			S		**Sn**	**04 53 00.2 -5.5**
	comp=Z,23nm,0.7s					
CRJC	**Cerrejon, Guaj**	**8.39 104**	P		**Pn**	**04 51 31.3 +0.3**
	comp=Z,24nm,0.9s					
CRJC			S		**Sn**	**04 53 00.5 -5.5**
	comp=Z,24nm,0.9s					
CBOC	**Ciudad Bolivar**	**8.86 144**	P		**Pn**	**04 51 39.5 +2.0**
	comp=Z,10nm,0.7s					
CBOC			S		**Sn**	**04 53 17.3 -0.2**
	comp=Z,10nm,0.7s					
HELC	**Santa Helena**	**8.88 141**	P		**Pn**	**04 51 38.6 +0.6**
	comp=Z,5.5nm,0.9s					
HELC			S		**Sn**	**04 53 12.4 -6.0**
	comp=Z,5.5nm,0.9s					
GTBY	**Guantanamo Bay**	**8.90 40**	P		**Pn**	**04 51 39.7 +1.8**
	comp=Z,38nm,1.4s					
URIC	**Uribia, Colomb**	**9.10 98**	P		**Pn**	**04 51 37.5 -3.1**
	comp=Z,9.4nm,0.9s					
URIC			S		**Sn**	**04 53 17.4 -5.7**
	comp=Z,9.4nm,0.9s					
OCAC	**Ocana**	**9.14 121**	P		**Pn**	**04 51 42.7 +1.4**
	comp=Z,23nm,0.6s					
OCAC			S		**Sn**	**04 53 22.4 -2.1**
	comp=Z,23nm,0.6s					
PETF	**Flores**	**9.18 295**			**Pn**	**04 51 40.8 -1.0**
PTBC	**PUERTO BERRIO,**	**9.33 134**	P		**Pn**	**04 51 44.0 +0.2**
	comp=Z,7.1nm,0.8s					
PTBC			S		**Sn**	**04 53 23.1 -5.9**
	comp=Z,7.1nm,0.8s					
NMDO	**Nuevo Mundo**	**9.46 38**			**Pn**	**04 51 49.6 +4.0**
BRJC	**Barrancabermej**	**9.56 129**	P		**Pn**	**04 51 47.4 +0.5**
	comp=Z,18nm,0.7s					
BRJC			S		**Sn**	**04 53 31.4 -3.1**
	comp=Z,18nm,0.7s					
TEIG	**Tepich**	**9.78 317**	Pn		**Pn**	**04 51 49.4 -0.5**
TEIG	**Tepich**	**9.78 317**	Pn		**Pn**	**04 51 49.8 -0.1**
	baz=326,slow=24,SNR=38					
TEIG			Sn		**Sn**	**04 53 34.8 -5.0**
	baz=221,slow=24,SNR=6.5					
TEIG	**Tepich**	**9.78 317**	P		**Pn**	**04 51 49.3 -0.6**
	comp=Z,65nm,0.5s					
TEIG			S		**Sn**	**04 53 34.8 -5.0**
	comp=Z,65nm,0.5s					
PAPH	**Port-au-Prince**	**10.08 57**	Pn		**Pn**	**04 51 58.1 +4.1**
ROSC	**El Rosal**	**10.68 140**	Pn		**Pn**	**04 52 02.4 -0.3**
	comp=Z,1.3nm,0.3s,baz=53,slow=20,SNR=1.9					
ROSC			Sn		**Sn**	**04 54 00.8 -1.8**
	comp=Z,0.7nm,0.3s,baz=17,slow=23,SNR=2.1					
	comp=Z,3.3nm,0.4s					
RUSC	**La Rusia**	**10.76 131**	P		**Pn**	**04 52 06.3 +2.4**
RUSC			S		**Sn**	**04 54 00.8 -3.9**
SDDR	**Presa de Saban**	**11.14 57**	Pn		**Pn**	**04 52 12.4 +3.8**
SDV	**Santo Domingo**	**11.19 111**	Pn		**Pn**	**04 52 10.0 +0.5**
SDV	**Santo Domingo**	**11.19 111**	Pn		**Pn**	**04 52 09.5 0.0**
	comp=Z,1.0nm,0.3s,baz=293,slow=5.7,SNR=8.7					
SDV			Sn		**Sn**	**04 54 08.6 -6.3**
	comp=Z,3.6nm,0.3s,baz=334,slow=20,SNR=11					
SDV			LR	LR		04 57 30.2
	comp=Z,211nm,18.8s,baz=265,slow=43					
	comp=Z,14nm,0.7s					
OTAV	**Otavalo**	**13.11 168**			**Pn**	**04 52 36.0 0.0**
PCDR	**Punta Cana, DR**	**13.42 65**	Pn		**Pn**	**04 52 38.1 -1.7**
BAUV	**El Baul**	**13.56 107**	Pn		**Pn**	**04 52 40.1 -1.6**
CMIG	**Matias Romero**	**13.79 288**	LR		LR	04 58 29.6
	comp=Z,312nm,20.6s,baz=116,slow=39					
OBIP	**Obispado Ponce**	**14.86 69**	Pn		**Pn**	**04 53 00.9 +1.5**
OBIP			IAmb	IAmb		04 53 13.2
	comp=Z,21nm,1.0s					
IGPR	**InterUniversit**	**15.29 70**	Pn		**Pn**	**04 53 05.4 +0.2**
IGPR			IAmb	IAmb		04 53 17.8
	comp=Z,28nm,0.9s					
SJG	**San Juan**	**15.30 69**	Pn		**Pn**	**04 53 05.9 +0.6**
SJG			IAmb	IAmb		04 53 17.9
	comp=Z,25nm,0.9s					
SJG	**San Juan**	**15.30 69**	Pn		**Pn**	**04 53 08.0 +2.8**
	comp=Z,2.0nm,0.3s,baz=253,slow=12,SNR=1.5					
SJG			LR	LR		04 58 59.4
	comp=Z,79nm,18.3s,baz=240,slow=37					
PDPR	**Patillas Dam,**	**15.39 70**	Pn		**Pn**	**04 53 06.5 0.0**
HUMP	**Col San Antoni**	**15.58 69**	Pn		**Pn**	**04 53 11.5 +2.6**
ATAH	**Atahualpa**	**20.34 172**	LR		LR	05 01 22.1
	comp=Z,92nm,19.4s,baz=356,slow=35					
Z47A	**Carrollton**	**20.92 344**	P		**P**	**04 54 12.9 +1.0**
Z47A			IAmb	IAmb		04 54 20.0
	comp=Z,26nm,1.1s					
FPAL	**Fort Paine**	**21.67 350**	P		**P**	**04 54 18.2 -1.9**
Y45A	**Yeager Farm, C**	**21.98 341**	P		**P**	**04 54 24.5 +1.1**
Y45A			IAmb	IAmb		04 54 52.0
	comp=Z,33nm,1.2s					
TKL	**Tuckaleechee C**	**22.53 354**	P		**P**	**04 54 29.8 +0.6**
	comp=Z,5.6nm,1.1s,baz=176,slow=14,SNR=2.6					
TKL			LR	LR		05 03 00.0
	comp=Z,134nm,19.8s,baz=183,slow=36					
	comp=Z,5.6nm,1.1s					
T47A	**Sharon Grove**	**24.32 348**	P		**P**	**04 54 48.2 +1.2**
LCAR	**Lake Charles**	**24.52 340**	P		**P**	**04 54 49.2 +0.3**
PBMO	**Poplar Bluff**	**24.95 342**	P		**P**	**04 54 53.4 +0.7**
T42A	**Van Buren**	**25.38 341**	P		**P**	**04 54 58.2 +1.6**
Q52A	**Bidwell**	**25.73 358**	P		**P**	**04 55 01.9 +2.2**
Q52A			IAmb	IAmb		04 55 03.0
	comp=Z,16nm,1.0s					
MACA	**Manacapuru-AM**	**26.02 127**	P		**P**	**04 55 02.9 +0.3**
MACA			IAmb	IAmb		04 55 12.2
	comp=Z,12nm,0.7s					
TXAR	**Lajitas Array**	**26.35 311**	P		**P**	**04 55 04.3 -1.3**
TXAR	**Lajitas Array**	**26.35 311**	P		**P**	**04 55 06.9 +1.3**
	comp=Z,0.9nm,0.9s,baz=132,slow=9.3,SNR=6.3					
TXAR			LR	LR		05 08 25.9
	comp=Z,62nm,18.2s,baz=60,slow=43					
	comp=Z,0.9nm,0.9s					
SSPA	**Standing Stone**	**27.53 5**	P		**P**	**04 55 15.1 -1.0**
MDP	**Montagnes des**	**29.27 103**	LR		LR	05 09 24.5
	comp=Z,61nm,18.2s,baz=294,slow=41					
LPIG	**La Paz**	**29.61 296**	LR		LR	05 08 09.5
	comp=Z,154nm,20.5s,baz=106,slow=38					
ANMO	**Albuquerque**	**31.51 318**	LR		LR	05 13 29.8
	comp=Z,60nm,18.1s,baz=285,slow=46					
SADO	**Sadowa**	**31.56 3**	LR		LR	05 08 53.3
	comp=Z,155nm,18.6s,baz=74,slow=37					
LPAZ	**La Paz**	**31.97 156**	LR		LR	05 11 27.6
	comp=Z,95nm,18.1s,baz=322,slow=41					
K30B	**Basset**	**33.46 335**	P		**P**	**04 56 09.1 +0.6**
SIV	**San Ignacio**	**35.13 145**	LR		LR	05 12 35.5
	comp=Z,96nm,18.6s,baz=347,slow=40					
PFO	**Pinon Flats O**	**37.98 308**	LR		LR	05 14 44.5
	comp=Z,115nm,18.8s,baz=136,slow=40					
PDAR	**Pinedale Array**	**38.36 326**	P		**P**	**04 56 51.5 +0.8**
PDAR	**Pinedale Array**	**38.36 326**	P		**P**	**04 56 51.7 +1.0**
	comp=Z,0.6nm,0.7s,baz=134,slow=8.5,SNR=5.3					
	comp=Z,0.6nm,0.7s					
RLMT	**Red Lodge**	**39.81 329**	P		**P**	**04 57 02.4 -0.4**
ELK	**Elko**	**40.52 319**	LR		LR	05 16 42.5
	comp=Z,70nm,18.1s,baz=148,slow=40					
NVAR	**Mina Array Bea**	**41.41 314**	P		**P**	**04 57 16.4 +0.3**
	comp=Z,0.4nm,0.7s,baz=146,slow=6.6,SNR=3.2					
NVAR			LR	LR		05 18 09.8
	comp=Z,135nm,18.8s,baz=116,slow=42					
	comp=Z,0.4nm,0.7s					
SCHQ	**Schefferville**	**43.08 12**	P		**P**	**04 57 30.6 +1.3**
SCHQ			IAmb	IAmb		04 58 10.3
	comp=Z,20nm,1.4s					
BDFB	**Brasilia**	**43.53 130**	P		**P**	**04 57 33.7 +0.2**
	comp=Z,2.1nm,0.7s,baz=268,slow=8.9,SNR=5.2					
BDFB			LR	LR		05 16 08.1
	comp=Z,59nm,19.5s,baz=131,slow=37					
	comp=Z,2.1nm,0.7s					
CPUP	**Villa Florida**	**45.59 149**	LR		LR	05 19 52.0
	comp=Z,72nm,19.2s,baz=343,slow=40					
YBH	**Yreka Blue Hor**	**45.91 316**	LR		LR	05 20 22.9
	comp=Z,107nm,18.7s,baz=137,slow=40					
RPN	**Rapa Nui**	**48.47 214**	LR		LR	05 14 19.5
	comp=Z,64nm,18.3s,baz=36,slow=31					
RCBR	**Riachuelo**	**48.77 110**	P		**P**	**04 58 13.2 -1.6**
RCBR	**Riachuelo**	**48.77 110**	LR		LR	05 18 59.8
	comp=Z,31nm,21.7s,baz=285,slow=36					
NLWA	**Neilton Lookou**	**49.28 323**	P		**P**	**04 58 17.7 -0.5**
FRB	**Frobisher Bay**	**51.30 7**	LR		LR	05 20 54.8
	comp=Z,107nm,18.2s,baz=344,slow=37					
PLCA	**Paso Flores**	**54.51 170**	P		**P**	**04 58 56.9 -0.4**
	comp=Z,0.4nm,0.5s,baz=333,slow=4.5,SNR=1.4					
	comp=Z,0.4nm,0.5s					
A36M	**Sachs Harbour**	**64.36 346**	P		**P**	**05 00 04.3 -0.5**
A36M			IAmb	IAmb		05 00 05.5
	comp=Z,5.1nm,0.8s					
BCAR	**Beaver Creek A**	**65.23 334**	P		**P**	**05 00 12.2 +1.5**
G29M	**Pine Creek**	**65.30 339**	P		**P**	**05 00 11.9 +0.8**
F28M	**Old Crow**	**66.25 339**	P		**P**	**05 00 18.3 +1.1**
F28M			IAmb	IAmb		05 00 33.7
	comp=Z,6.7nm,1.4s					
J26L	**Joseph Creek**	**66.47 335**	P		**P**	**05 00 19.5 +0.8**
E28M	**Babbage River**	**66.56 340**	P		**P**	**05 00 19.7 +0.6**
E28M			IAmb	IAmb		05 00 29.1
	comp=Z,3.1nm,0.9s					
J25K	**Salcha River,**	**67.24 335**	P		**P**	**05 00 24.9 +1.3**
D27M	**Malcolm River**	**67.29 340**	P		**P**	**05 00 23.8 0.0**
D27M			IAmb	IAmb		05 00 38.3
	comp=Z,6.5nm,1.2s					
ILAR	**Eielson Array**	**67.91 335**	P		**P**	**05 00 27.5 -0.3**
ILAR	**Eielson Array**	**67.91 335**	P		**P**	**05 00 28.4 +0.7**
	comp=Z,0.7nm,0.9s,baz=105,slow=4.8,SNR=5.4					
	comp=Z,0.7nm,0.9s					
GHO	**Glory Hole Cre**	**68.02 332**	P		**P**	**05 00 29.8 +1.2**
C27K	**Jago River**	**68.34 340**	P		**P**	**05 00 31.7 +1.3**
RND	**Reindeer**	**68.38 333**	P		**P**	**05 00 31.8 +1.0**
RND			IAmb	IAmb		05 00 41.1
	comp=Z,4.5nm,0.8s					
I23K	**Minto, Yukon-K**	**69.03 335**	P		**P**	**05 00 35.9 +1.2**
I23K			IAmb	IAmb		05 00 46.5
	comp=Z,5.7nm,1.1s					
MLY	**Manley**	**69.56 335**	P		**P**	**05 00 39.1 +1.0**
MLY			IAmb	IAmb		05 01 12.7
	comp=Z,4.7nm,1.3s					
M20K	**Styx River**	**69.99 331**	P		**P**	**05 00 40.9 0.0**
M20K			IAmb	IAmb		05 01 19.9
	comp=Z,9.7nm,1.4s					
IMAR	**Indian Mountai**	**70.99 336**	P		**P**	**05 00 47.3 +0.5**
G21K	**Allakaket**	**70.99 336**	P		**P**	**05 00 47.9 +1.1**
G21K			IAmb	IAmb		05 01 07.5
	comp=Z,7.7nm,1.4s					
F21K	**Alatna River**	**71.12 337**	P		**P**	**05 00 47.5 -0.1**
F21K			IAmb	IAmb		05 01 10.9
	comp=Z,7.8nm,1.4s					
ESDC	**Sonseca Array**	**71.94 52**	P		**P**	**05 00 55.0 +1.9**
	comp=Z,1.1nm,1.0s,baz=299,slow=8.0,SNR=2.8					
	comp=Z,1.1nm,1.0s					
H19K	**Roundabout Mou**	**72.02 335**	P		**P**	**05 00 53.1 +0.1**
H19K			IAmb	IAmb		05 01 05.8
	comp=Z,8.5nm,1.4s					
H18K	**Honhosa River**	**72.77 334**	P		**P**	**05 00 56.5 -1.0**
H18K			IAmb	IAmb		05 01 35.5
	comp=Z,10nm,1.4s					
J17K	**VABM Dome**	**72.91 333**	P		**P**	**05 00 59.5 +1.2**
BFO	**Black Forest**	**79.99 43**	P		**P**	**05 01 40.2 +1.4**
BFO			IAmb	IAmb		05 02 19.3
	comp=Z,11nm,1.4s					
TORD	**Torodi Ar, Bea**	**80.29 79**	P		**P**	**05 01 42.4 +1.4**
	comp=Z,0.2nm,0.8s,baz=291,slow=7.0,SNR=1.8					
	comp=Z,0.2nm,0.8s					
NRCA	**Norcia**	**84.30 47**	P		**P**	**05 02 00.4 -1.2**
FINES	**FINESS Array B**	**86.60 27**	P		**P**	**05 02 13.1 +0.5**
PETK	**Petropavlovsk-**	**97.07 329**	LR		LR	05 48 33.2
	comp=Z,31nm,21.8s,baz=25,slow=36					
PZH	**PanZhiHua**	**140.48 356**	PKP		**PKPdf**	**05 08 58.8 -0.9**
ASAR	**Alice Springs**	**145.19 247**	PKPbc		**PKPab**	**05 09 08.2 +0.6**
	comp=Z,1.4nm,0.7s,baz=107,slow=3.8,SNR=3.5					
WRA	**Warramunga Arr**	**145.33 254**	PKPbc		**PKPdf**	**05 09 09.0 +0.8**
	comp=Z,2.1nm,0.6s,baz=92,slow=3.6,SNR=16					

*JMA **29** 04:55:28.7±0.1, 43.0°N±0.5°×144.8°E±0.5°, h59km±1km, MV2.7/32, OFF NEMURO PENINSULA*
*SKHL **29** 04:55:29.0±0.7, 42.90°N×145.00°E, h56km±2km, mb4.4/3*
ISC 29 04:55:27.9±1.7, 42.98N±0.08°×144.87E±0.05°, h64km±9km, n12, σ0.54/24, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKK	**Akkeshi**	**0.04**	**336**	*i* P	**Pn**	**04 55 37.5**	**+0.2**
AKK				AMB	AMB	04 55 37.6	
	530nm,0.2s						
AKK				*i* S	**Sn**	**04 55 43.7**	**-0.4**
AKK				A	A	04 55 43.8	
	2μm,0.2s						
AKK				A	A	04 55 43.8	
	1μm,0.2s						
JAK	**Akkeshi**	**0.12**	**278**	P	**Pn**	**04 55 37.6**	**+0.2**
JAK				S	**Sn**	**04 55 44.2**	**-0.2**
JKHN	**Kushirohamanak**	**0.24**	**65**	*i* P	**Pn**	**04 55 38.6**	**+0.6**
JKHN				*e*S	**Sn**	**04 55 45.9**	**+0.5**
JNK	**Nakash**	**0.61**	**350**	P	**Pn**	**04 55 41.3**	**-0.1**
JNK				S	**Sn**	**04 55 50.2**	**-1.2**
NMR	**Nemuro--Hokkai**	**0.74**	**58**	*i* P	**Pn**	**04 55 43.0**	**+0.1**
NMR				*i* S	**Sn**	**04 55 53.2**	**-0.7**
NEM2	**Nemuro 2**	**0.75**	**59**	P	**Pn**	**04 55 43.0**	**0.0**
NEM2				S	**Sn**	**04 55 53.2**	**-0.8**
JOB	**Onbets**	**0.76**	**265**	P	**Pn**	**04 55 43.4**	**+0.4**
JOB				*e*S	**Sn**	**04 55 54.1**	**-0.1**
JAR	**Ashorobuto**	**0.86**	**292**	P	**Pn**	**04 55 44.7**	**+0.3**
JAR				S	**Sn**	**04 55 56.3**	**-0.2**
JRA	**Rausu**	**0.98**	**11**	P	**Pn**	**04 55 46.3**	**+0.5**
JRA				S	**Sn**	**04 55 59.2**	**+0.2**
JCH	**Churui**	**1.16**	**252**	P	**Pn**	**04 55 48.4**	**+0.2**
JCH				S	**Sn**	**04 56 02.8**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.28**	**34**	*e*P	**Pn**	**04 55 50.1**	**+0.4**
YUK				AMB	AMB	04 55 51.5	
	140nm,0.3s						
YUK				*e*S	**Sn**	**04 56 06.7**	**+0.6**
YUK				A	A	04 56 06.9	
	250nm,0.3s						
YUK				A	A	04 56 06.9	
	150nm,0.3s						
SHO	**Shikotan**	**1.69**	**57**	*e*P	**Pn**	**04 55 55.5**	**+0.4**
SHO				AMB	AMB	04 55 56.1	
	20nm,0.2s						
SHO				*e*S	**Sn**	**04 56 14.8**	**-1.0**
SHO				A	A	04 56 17.1	
	110nm,0.3s						
SHO				A	A	04 56 17.1	
	60nm,0.3s						

*NNC **29** 05:00:54.6±1.8, 40.23°N×77.77°E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=12.4km s-min=10.1km az=29.0*
*KRNET **29** 05:00:54.1±0.1, 40.25°N×77.60°E, h19km, mb2.6*
*SOME **29** 05:00:54.2, 40.33°N×77.88°E, h0km*
ISC 29 05:00:50.7±2.8, 40.1N±0.1°×77.60E±0.04°, h10km±16km, n34, σ1.08/55, 16C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.60**	**5**	⇑*e*P	**Pg**	**05 01 22.0**	**+0.5**
TARG				⇑*e*S	**Sg**	**05 01 42.3**	**0.0**
NRN	**Naryn**	**1.78**	**317**	⇑*e*P	**Pg**	**05 01 25.9**	**+1.1**
NRN				⇑*e*S	**Sg**	**05 01 49.0**	**+1.1**
KDJ	**Kajisay**	**2.02**	**351**	⇑*e*P	**Pg**	**05 01 29.2**	**-0.2**
KDJ				⇑*e*S	**Sg**	**05 01 55.0**	**-0.6**
PRZ	**Przheval'sk**	**2.42**	**14**	⇑*e*P	**Pb**	**05 01 35.4**	**+0.9**
PRZ				⇑*e*S	**Sb**	**05 02 05.7**	**+1.2**
ANVS	**Anan'yevo**	**2.65**	**1**	⇓*e*P	**Pb**	**05 01 38.4**	**+0.1**
ANVS				⇓*e*S	**Sb**	**05 02 10.9**	**0.0**
BOOM	**Boomskoye usch**	**2.67**	**333**	⇑*e*P	**Pb**	**05 01 38.7**	**+0.1**
BOOM				⇑*e*S	**Sb**	**05 02 11.2**	**-0.2**
TNSS	**Tian-Shan**	**2.94**	**351**	Pg	**Pg**	**05 01 47.6**	**+0.5**
	20nm,0.5s						
TNSS				Lg	Lg	05 02 26.1	
	6.7nm,0.3s						
TNSS	**Tian-Shan**	**2.94**	**351**	*e*P	**Pg**	**05 01 47.6**	**+0.5**
	20nm,0.4s						
TNSS				*e*S	**Sg**	**05 02 26.1**	**+0.8**
	6.7nm,0.4s						
SATY	**Saty**	**2.98**	**11**	Lg	Lg	05 02 27.0	
	13nm,0.6s						
SATY	**Saty**	**2.98**	**11**	*e*P	**Pg**	**05 01 48.1**	**+0.2**
	7.9nm,1.0s						
SATY				*e*S	**Sg**	**05 02 26.9**	**+0.4**
	19nm,0.6s						
ARLS	**Aral**	**3.02**	**306**	⇑*e*P	**Pb**	**05 01 44.3**	**-0.4**
ARLS				⇑*e*S	**Sb**	**05 02 20.8**	**-0.9**
MDOK	**Medeo**	**3.06**	**352**	Pn	**Pg**	**05 01 49.7**	**+0.5**
	6.1nm,0.6s						
MDOK				Sn	**Sg**	**05 02 27.2**	**-1.6**
	12nm,0.6s						
MDOK	**Medeo**	**3.06**	**352**	*e*P	**Pg**	**05 01 49.1**	**-0.1**
	5.6nm,0.5s						
MDOK				*e*S	**Sg**	**05 02 28.4**	**-0.5**
	14nm,0.8s						
KOTS	**Kotyrbulak**	**3.12**	**353**	Lg	Lg	05 02 32.1	
	34nm,0.5s						
KOTS	**Kotyrbulak**	**3.12**	**353**	*e*P	**Pg**	**05 01 51.4**	**+0.9**
	15nm,0.3s						
KOTS				*e*S	**Sg**	**05 02 32.1**	**+1.2**
	34nm,0.8s						
MTBS	**Maitube**	**3.12**	**344**	*e*P	**Pg**	**05 01 50.7**	**+0.2**
	2.4nm,0.2s						
MTBS				*e*S	**Sg**	**05 02 31.1**	**+0.1**
	9.2nm,0.5s						
KST	**Kastek**	**3.16**	**338**	Pg	**Pg**	**05 01 51.8**	**+0.6**
	1.2nm,0.2s						
KST				Lg	Lg	05 02 33.1	
	8.1nm,0.7s						
KST	**Kastek**	**3.16**	**338**	*e*P	**Pg**	**05 01 51.8**	**+0.6**
	3.5nm,0.3s						
KST				*e*S	**Sg**	**05 02 33.1**	**+1.0**
	8.1nm,0.3s						
TKM2	**Tokmak 2**	**3.17**	**332**	⇑Pn	**Pb**	**05 01 48.9**	**+1.8**
	3.4nm,0.5s						
TKM2				⇑Sn	**Sg**	**05 02 31.6**	**-0.8**
	6.7nm,0.6s						
TKM2	**Tokmak 2**	**3.17**	**332**	⇓*e*P	**Pb**	**05 01 45.5**	**-1.6**
TKM2				⇓*e*S	**Sb**	**05 02 23.1**	**-2.7**
UZB	**Uzynbulak**	**3.19**	**19**	Pg	**Pb**	**05 01 49.3**	**+1.7**
	2.1nm,0.4s						
UZB	**Uzynbulak**	**3.19**	**19**	*e*P	**Pb**	**05 01 49.2**	**+1.7**
	2.1nm,0.2s						
UZB				*e*S	**Sb**	**05 02 28.6**	**+2.1**
	5.4nm,0.4s						
SHLS	**Shalkode**	**3.33**	**24**	Pg	**Pg**	**05 01 54.1**	**-0.3**
	6.1nm,0.5s						
SHLS				Lg	Lg	05 02 36.9	
	12nm,0.5s						
SHLS	**Shalkode**	**3.33**	**24**	*e*P	**Pg**	**05 01 54.1**	**-0.3**
	4.6nm,0.3s						
SHLS				*e*S	**Sg**	**05 02 36.9**	**-0.7**
	13nm,0.6s						
DGS	**Degeres**	**3.40**	**337**	Pg	**Pg**	**05 01 55.8**	**0.0**
	3.6nm,0.4s						
DGS				Lg	Lg	05 02 39.7	
	12nm,0.5s						
DGS	**Degeres**	**3.40**	**337**	*e*P	**Pg**	**05 01 55.7**	**0.0**
	3.6nm,0.3s						
DGS				*e*S	**Sg**	**05 02 39.7**	**0.0**
	12nm,0.6s						
PDGK	**Podgornoye**	**3.49**	**23**	⇑Pn	**Pg**	**05 01 56.

ISC 29 05:31:54.8±0.5,6°80N±0°03×73°07W±0°03,h158km±5km, n254,σ1°58/220,mb4.6/114,3D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**208**	P	**Pn**	**05 32 16.4**	**0.0**
BARC				S	**Sn**	**05 32 31.9**	**-0.9**
PAMC	**Pamplona, Colo**	**0.65**	**35**	P	**Pn**	**05 32 19.2**	**+0.8**
PAMC				S	**Sn**	**05 32 36.2**	**-0.2**
BRJC	**Barrancabermej**	**0.69**	**285**	P	**Pn**	**05 32 18.1**	**+0.1**
BRJC				S	**Sn**	**05 32 34.8**	**-0.9**
RUSC	**La Rusia**	**0.90**	**181**	P	**Pn**	**05 32 20.3**	**+0.2**
RUSC				S	**Sn**	**05 32 38.9**	**-0.5**
TAMC	**Tame, Arauca**	**1.32**	**106**	P	**Pn**	**05 32 24.7**	**+1.5**
TAMC				S	**Sn**	**05 32 45.4**	**+0.4**
PTBC	**PUERTO BERRIO,**	**1.40**	**259**	P	**Pn**	**05 32 22.9**	**-1.0**
PTBC				S	**Sn**	**05 32 44.1**	**-2.1**
OCAC	**Ocana**	**1.45**	**350**	P	**Pn**	**05 32 24.4**	**-0.2**
OCAC				S	**Sn**	**05 32 46.4**	**-1.2**
SPBC	**San Pablo de B**	**1.51**	**221**	P	**Pn**	**05 32 25.3**	**+0.1**
SPBC				S	**Sn**	**05 32 47.5**	**-1.0**
ZARC	**Zaragoza, Cauc**	**1.90**	**291**	P	**Pn**	**05 32 29.1**	**-0.1**
ZARC				S	**Sn**	**05 32 53.8**	**-2.0**
NORC	**Norcasia**	**2.17**	**236**	P	**Pn**	**05 32 32.1**	**-0.3**
NORC				S	**Sn**	**05 32 59.4**	**-1.9**
CHIC	**Chingaza**	**2.25**	**197**	P	**Pn**	**05 32 34.2**	**+0.4**
CHIC				S	**Sn**	**05 33 03.5**	**-0.3**
ROSC	**El Rosal**	**2.31**	**213**		**Pn**	**05 32 36.1**	**+1.8**
ROSC				Sn	**Sn**	**05 33 06.9**	**+2.0**
ROSC	**El Rosal**	**2.31**	**213**	P	**Pn**	**05 32 36.2**	**+1.8**
	971nm,0.3s,baz=51,slow=6.4,SNR=727						
ROSC				S	**Sn**	**05 33 03.9**	**-1.1**
	5μm,0.4s,baz=66,slow=18,SNR=10						
ROSC	**El Rosal**	**2.31**	**213**	P	**Pn**	**05 32 36.3**	**+1.9**
ROSC				S	**Sn**	**05 33 05.5**	**+0.6**
BOG	**Bogota**	**2.38**	**205**	P	**Pn**	**05 32 36.0**	**+0.8**
BOG				S	**Sn**	**05 33 01.7**	**-4.6**
CVER	**Cruz Verde, Cu**	**2.47**	**204**	P	**Pn**	**05 32 37.6**	**+1.2**
CVER				S	**Sn**	**05 33 08.7**	**+0.1**
HELC	**Santa Helena**	**2.51**	**256**	P	**Pn**	**05 32 36.9**	**+0.1**
HELC				S	**Sn**	**05 33 06.8**	**-2.4**
MEDEC	**Medelln, Ant**	**2.55**	**258**	P	**Pn**	**05 32 39.5**	**+2.4**
MEDEC				S	**Sn**	**05 33 08.6**	**-1.2**
UREC	**San Jos de Ur**	**2.62**	**291**	P	**Pn**	**05 32 36.3**	**-1.4**
UREC				S	**Sn**	**05 33 07.1**	**-3.8**
VILC	**Villavicencio,**	**2.74**	**193**	P	**Pn**	**05 32 39.7**	**+0.3**
VILC				S	**Sn**	**05 33 14.0**	**+0.1**
GUY2C	**Guyana, Caldas**	**2.77**	**236**	P	**Pn**	**05 32 41.1**	**+1.1**
GUY2C				S	**Sn**	**05 33 15.2**	**+0.3**
RECRC	**Villamaria, Ca**	**2.91**	**231**	P	**Pn**	**05 32 43.7**	**+1.8**
RECRC				S	**Sn**	**05 33 19.9**	**+1.6**
NIZA	**Niza - Manizal**	**2.95**	**234**	P	**Pn**	**05 32 43.4**	**+1.3**
NIZA				S	**Sn**	**05 33 18.4**	**-0.2**
CMAN1	**Manizales, Cal**	**2.98**	**235**	P	**Pn**	**05 32 45.2**	**+2.7**
CMAN1				S	**Sn**	**05 33 20.1**	**+0.7**
CBOC	**Ciudad Bolivar**	**3.06**	**253**	P	**Pn**	**05 32 43.8**	**+0.4**
CBOC				S	**Sn**	**05 33 20.2**	**-0.9**
DBBC	**Dabeiba**	**3.12**	**274**	P	**Pn**	**05 32 44.1**	**0.0**
DBBC				S	**Sn**	**05 33 19.8**	**-2.4**
SDV	**Santo Domingo**	**3.19**	**49**	P	**Pn**	**05 32 45.9**	**+0.9**
	728nm,0.3s,baz=233,slow=11,SNR=462						
SDV				S	**Sn**	**05 33 25.0**	**+1.1**
	633nm,0.4s,baz=279,slow=24,SNR=13						
SDV	**Santo Domingo**	**3.19**	**49**	P	**Pn**	**05 32 45.7**	**+0.7**
SDV				S	**Sn**	**05 33 22.8**	**-1.1**
SDV	**Santo Domingo**	**3.19**	**49**	*eP*	**Pn**	**05 32 45.9**	**+0.9**
SDV				*eS*	**Sn**	**05 33 24.6**	**+0.7**
ARGC	**Ariguani, Magd**	**3.25**	**339**	P	**Pn**	**05 32 46.2**	**+0.5**
ARGC				S	**Sn**	**05 33 25.5**	**+0.3**
ANIL	**Santa Ana**	**3.26**	**225**	P	**Pn**	**05 32 47.8**	**+1.7**
ANIL				S	**Sn**	**05 33 26.5**	**+0.7**
PRAC	**Prado**	**3.56**	**211**	P	**Pn**	**05 32 50.1**	**+0.5**
PRAC				S	**Sn**	**05 33 31.7**	**-0.5**
ORTC	**Ortega, Tolima**	**3.59**	**217**	P	**Pn**	**05 32 50.3**	**+0.2**
ORTC				S	**Sn**	**05 33 33.6**	**+0.5**
APAC	**Apartado, Choc**	**3.65**	**288**	P	**Pn**	**05 32 50.1**	**-0.6**
APAC				S	**Sn**	**05 33 31.3**	**-2.8**
SJCC	**San Jacinto, C**	**3.72**	**326**	P	**Pn**	**05 32 49.9**	**-1.8**
SJCC				S	**Sn**	**05 33 31.4**	**-4.5**
URMC	**La Uribe, Meta**	**3.76**	**200**	P	**Pn**	**05 32 53.2**	**+0.9**
URMC				S	**Sn**	**05 33 37.0**	**0.0**
LCBC	**Los crdobas,**	**3.85**	**302**	P	**Pn**	**05 32 53.2**	**-0.1**
LCBC				S	**Sn**	**05 33 36.8**	**-2.1**
CRJC	**Cerrejon, Guaj**	**4.20**	**3**	P	**Pn**	**05 32 56.8**	**-1.1**
CRJC				S	**Sn**	**05 33 43.0**	**-4.2**
GUVC	**San Jose del G**	**4.25**	**174**	P	**Pn**	**05 32 58.1**	**-0.5**
GUVC				S	**Sn**	**05 33 47.5**	**-0.8**
YOTC	**Yotoco, Valle**	**4.29**	**230**	P	**Pn**	**05 32 58.4**	**-0.8**
YOTC				S	**Sn**	**05 33 48.2**	**-1.2**
SOLC	**Bahia Solano**	**4.34**	**263**	P	**Pn**	**05 33 00.0**	**+0.3**
SOLC				S	**Sn**	**05 33 45.6**	**-4.8**
CAPC	**Capurgana**	**4.62**	**294**	P	**Pn**	**05 33 02.0**	**-1.3**
CAPC				S	Sn	05 33 47.0	-10
PIZC	**Pizarro, Choco**	**4.64**	**247**	P	**Pn**	**05 33 04.2**	**+0.6**
PIZC				S	**Sn**	**05 33 55.9**	**-1.3**
BAUV	**El Baul**	**5.42**	**67**	Pn	**Pn**	**05 33 12.3**	**-1.6**
BAUV	**El Baul**	**5.42**	**67**	*eP*	**Pn**	**05 33 12.0**	**-2.0**
HATO	**Hato, Curacao**	**6.71**	**37**	Pn	**Pn**	**05 33 30.2**	**-0.8**
BCIP	**Isla Barro Col**	**7.10**	**290**	Pn	**Pn**	**05 33 35.3**	**-0.9**
OTAV	**Otavalo**	**8.44**	**220**	Pn	**Pn**	**05 33 53.8**	**-0.8**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**05 34 00.8**	**-0.7**
	28nm,0.5s,baz=322,slow=1.3,SNR=24						
PCRV				S	**Sn**	**05 35 39.3**	**-2.3**
	15nm,0.5s,baz=59,slow=21,SNR=1.3						
PCRV	**Puerto La Cruz**	**8.99**	**68**	*eP*	**Pn**	**05 34 00.8**	**-0.7**
BRU2	**Volcan**	**9.73**	**282**	Pn	**Pn**	**05 34 12.8**	**+1.4**
COHC	**Cochancay**	**11.08**	**214**	Pn	**Pn**	**05 34 30.0**	**+1.1**
TBTG	**Tabatinga, AM**	**11.36**	**164**		**Pn**	**05 34 29.9**	**-2.7**
TBTG	**Tabatinga, AM**	**11.36**	**164**	*eP*	**Pn**	**05 34 32.4**	**-0.2**
HDC	**Heredia**	**11.38**	**287**	Pn	**Pn**	**05 34 33.2**	**+0.3**
PAPH	**Port-au-Prince**	**11.68**	**4**	Pn	**Pn**	**05 34 37.7**	**+1.0**
PAPH	**Port-au-Prince**	**11.68**	**4**	*i P*	**Pn**	**05 34 39.7**	**+3.0**
HOJ	**Hope**	**11.70**	**342**	*i P*	**Pn**	**05 34 40.1**	**+3.1**
STH	**Stony Hill**	**11.79**	**342**	*i P*	**Pn**	**05 34 40.8**	**+2.6**
SOCE	**Pocosol**	**11.96**	**288**	Pn	**Pn**	**05 34 42.5**	**+2.1**
TRN	**Trinidad (W)**	**12.15**	**71**	*e*	**P**	**05 34 50.1**	**+1.2**
MTDJ	**Mount Denham**	**12.16**	**339**	Pn	**Pn**	**05 34 44.5**	**+1.5**
MTDJ	**Mount Denham**	**12.16**	**339**	*i P*	**Pn**	**05 34 46.0**	**+2.9**
MTDJ				*i* S	Sn	05 36 45.8	-12
MTDJ	**Mount Denham**	**12.16**	**339**	*i P*	**Pn**	**05 34 44.9**	**+1.8**
MTDJ				*eP*	**P**	**05 34 45.7**	**-3.4**
MTDJ				IAmb	IAmb	05 34 47.1	
	comp=Z,180nm,0.6s						
SDDR	**Presa de Saban**	**12.23**	**8**	Pn	**Pn**	**05 34 44.8**	**+0.8**
SDDR	**Presa de Saban**	**12.23**	**8**	*i P*	**Pn**	**05 34 44.7**	**+0.7**
JTS	**Las Juntas de**	**12.25**	**287**	P	**P**	**05 34 48.8**	**-1.2**
	comp=Z,20nm,0.5s,baz=93,slow=3.6,SNR=17						
ESPN	**Las Esperanzas**	**12.30**	**297**		**Pn**	**05 34 44.2**	**-0.6**
GRFF	**Grenada Fort F**	**12.34**	**64**	*e*	**Pn**	**05 34 42.7**	**-2.6**
GRGR	**Grenville**	**12.45**	**64**	*e*	**Pn**	**05 34 48.7**	**+2.0**
GRW	**Mount Saint Ca**	**12.45**	**64**	*e*	Pn	05 34 37.6	-9.2
PCDR	**Punta Cana, DR**	**12.51**	**21**	Pn	**Pn**	**05 34 45.3**	**-2.1**
PRSN	**Puerto Rico Se**	**12.73**	**26**		**Pn**	**05 34 49.1**	**-1.3**
OBIP	**Obispado Ponce**	**12.83**	**29**	Pn	**Pn**	**05 34 49.8**	**-1.9**
CELP	**Cerrillos**	**12.87**	**29**	Pn	**Pn**	**05 34 50.4**	**-1.8**
IGPR	**InterUniversit**	**13.01**	**31**		**Pn**	**05 34 53.1**	**-0.8**
SJG	**San Juan**	**13.11**	**30**	P	**Pn**	**05 34 53.4**	**-1.9**
	comp=Z,17nm,0.4s,baz=203,slow=13,SNR=24						
SJG				S	Sn	05 37 09.5	-11
	comp=Z,12nm,0.8s,baz=17,slow=21,SNR=4.4						
GTBY	**Guantanamo Bay**	**13.20**	**352**	*i P*	**Pn**	**05 34 59.0**	**+2.7**
GTBY				*eP*	**P**	**05 34 59.3**	**-1.2**
GTBY				IAmb	IAmb	05 35 10.7	
	comp=Z,43nm,0.8s						
BOAV	**Boa Vista**	**13.25**	**109**		**Pn**	**05 34 55.8**	**-1.2**
BOAV	**Boa Vista**	**13.25**	**109**	*eP*	**Pn**	**05 34 57.0**	**-0.1**
MASC	**Masc**	**13.34**	**355**	*i P*	**Pn**	**05 35 00.0**	**+1.9**
MASC				IAmb	IAmb	05 35 06.0	
	comp=Z,47nm,0.9s						
RCC	**Rio Carpintero**	**13.36**	**349**	*i P*	**Pn**	**05 34 59.9**	**+1.5**
RCC				IVmB_BB		05 35 03.1	
	comp=Z,2μm,1.0s						
RCC				IAmb	IAmb	05 35 03.2	
	comp=Z,76nm,0.7s						
MARVS	**Santiago de Cu**	**13.41**	**348**	*i P*	**Pn**	**05 35 02.0**	**+3.1**
MARVS				IAmb	IAmb	05 35 03.8	
	comp=Z,34nm,0.9s						
MARVS				IVmB_BB		05 35 58.1	
	comp=Z,4μm,1.0s						
QMBU	**Quimbuelo**	**13.43**	**353**	*i P*	**Pn**	**05 35 00.3**	**+1.1**
QMBU				*eP*	**P**	**05 35 02.0**	**-1.1**
QMBU				IAmb	IAmb	05 35 12.7	
	comp=Z,28nm,1.0s						
LMGC	**Las Mercedes**	**13.73**	**344**	*eP*	**Pn**	**05 35 06.1**	**+3.1**
LMGC				IAmb	IAmb	05 35 09.0	
	comp=Z,30nm,0.9s						
NMDO	**Nuevo Mundo**	**13.80**	**352**	*i P*	**P**	**05 35 07.5**	**+0.3**
NMDO				IAmb	IAmb	05 35 11.9	
	comp=Z,28nm,0.7s						
MOAC	**Moa**	**13.90**	**353**	*i P*	**P**	**05 35 09.4**	**+1.1**
MOAC				IAmb	IAmb	05 35 13.5	
	comp=Z,32nm,0.9s						
FDF	**Fort de France**	**14.11**	**55**	Pn	**Pn**	**05 35 07.1**	**-0.9**
HLGC	**Holguin**	**14.30**	**349**	*i P*	**P**	**05 35 16.7**	**+3.9**
CBCY	**The Bluff, Cay**	**14.41**	**334**	*i P*	**P**	**05 35 14.7**	**+0.8**
CZSB	**Cruzeiro do Su**	**14.44**	**179**		**P**	**05 35 12.3**	**-2.0**
CZSB	**Cruzeiro do Su**	**14.44**	**179**	*eP*	**P**	**05 35 12.2**	**-2.2**
LTUP	**Las Tunas**	**14.58**	**345**	*i P*	**P**	**05 35 18.0**	**+2.1**
BBGH	**Gun Hill**	**14.72**	**64**		**Pn**	**05 35 15.3**	**-0.3**
FSCY	**Frank Sound, G**	**14.73**	**328**	IAmb	IAmb	05 35 25.2	
	comp=Z,430nm,1.6s						
ATAH	**Atahualpa**	**14.82**	**201**	P	**P**	**05 35 18.8**	**-0.3**
	comp=Z,11nm,0.8s,baz=350,slow=12,SNR=7.5						
TGUH	**Tegucigalpa,Un**	**15.71**	**298**		**Pn**	**05 35 28.5**	**+0.6**
TGUH				IAmb	IAmb	05 35 31.3	
	comp=Z,36nm,1.1s						
MACA	**Manacapuru-AM**	**15.84**	**128**		**Pn**	**05 35 26.8**	**-2.5**
MACA				IAmb	IAmb	05 35 47.2	
	comp=Z,24nm,1.0s						
MACA	**Manacapuru-AM**	**15.84**	**128**	*eP*	**P**	**05 35 29.6**	**-0.2**
MACA				*eS*	**S**	**05 38 21.2**	**-4.9**
MTO3	**Montecristo**	**17.69**	**297**	P	**P**	**05 35 51.5**	**+1.0**
MTO3				IAmb	IAmb	05 35 55.3	
	comp=Z,16nm,0.8s						
ESQI	**Esquipulas**	**17.74**	**297**	P	**Pn**	**05 35 52.8**	**+0.5**
ETMB	**Extrema**	**17.86**	**157**	P	**Pn**	**05 35 52.4**	**-1.3**
ETMB				IAmb	IAmb	05 35 56.8	
	comp=Z,14nm,0.8s						
ETMB	**Extrema**	**17.86**	**157**	*eP*	**Pn**	**05 35 52.4**	**-1.3**
ETMB				*eS*	**Sn**	**05 39 09.3**	**-5.2**
SAML	**Samuel**	**18.49**	**148**	P	**Pn**	**05 35 59.2**	**-1.8**
SAML				IAmb	IAmb	05 36 28.2	
	comp=Z,15nm,0.8s						
SAML	**Samuel**	**18.49**	**148**	*eP*	**Pn**	**05 35 59.6**	**-1.5**
SAML				*eS*	**S**	**05 39 21.0**	**-0.9**
PETF	**Flores**	**19.25**	**303**	IAmb	IAmb	05 36 13.5	
	comp=Z,16nm,0.7s						
TEIG	**Tepich**	**19.89**	**314**	P	**P**	**05 36 14.9**	**+0.8**
TEIG	**Tepich**	**19.89**	**314**	P	**P**	**05 36 16.7**	**+2.6**
	baz=0.0,slow=20,SNR=2.1						
NPGB	**Novo Progresso**	**22.39**	**128**	*eP*	**P**	**05 36 41.0**	**+0.5**
NPGB				*ep*P	**pP**	**05 37 10.9**	**+1.8**
VILB	**Vilhena**	**23.42**	**147**	P	**P**	**05 36 48.7**	**-1.3**
VILB				IAmb	IAmb	05 36 52.5	
	comp=Z,20nm,0.7s						
LPAZ	**La Paz**	**23.45**	**168**	P	**P**	**05 36 50.2**	**-0.6**
LPAZ	**La Paz**	**23.45**	**168**	P	**P**	**05 36 50.5**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=345,slow=11,SNR=11						
	comp=Z,2.8nm,0.7s						
656A	**Willston**	**24.16**	**339**	P	**P**	**05 36 57.6**	**+1.2**
PDRB	**Porto dos Gac**	**24.47**	**138**	*eP*	**P**	**05 36 59.7**	**+0.3**
GO01	**Chusmiza**	**26.58**	**172**	P	**P**	**05 37 18.6**	**-0.3**
352A	**Blakely**	**26.94**	**337**	P	**P**	**05 37 23.5**	**+2.0**
352A				IAmb	IAmb	05 37 24.6	
	comp=Z,18nm,0.9s						
250A	**Grady**	**27.91**	**336**	P	**P**	**05 37 32.6**	**+2.4**
250A				IAmb	IAmb	05 37 33.2	
	comp=Z,12nm,0.7s						
152A	**Waverly Hall**	**27.93**	**339**	P	**P**	**05 37 32.0**	**+1.7**
152A				IAmb	IAmb	05 37 33.3	
	comp=Z,14nm,0.8s						
HODGE	**Hodges**	**28.59**	**344**	P	**P**	**05 37 38.3**	**+2.2**
HODGE				IAmb	IAmb	05 37 39.0	
	comp=Z,9.3nm,0.7s						
346A	**Big Creek Wild**	**28.87**	**330**	P	**P**	**05 37 41.1**	**+2.5**
LRAL	**Lakeview Retre**	**29.14**	**335**	P	**P**	**05 37 42.5**	**+1.5**
LRAL				IAmb	IAmb	05 37 43.9	
	comp=Z,7.1nm,0.8s						
Y49A	**Blount Mountai**	**29.62**	**337**	IAmb	IAmb	05 37 48.1	
	comp=Z,14nm,0.7s						
W52A	**Murphy**	**29.88**	**342**	IAmb	IAmb	05 37 50.7	
	comp=Z,17nm,0.8s						
FPAL	**Fort Paine**	**29.93**	**339**	P	**P**	**05 37 50.0**	**+1.9**
FPAL				IAmb	IAmb	05 37 50.8	
	comp=Z,10.0nm,1.1s						
X48A	**Hartselle**	**30.39**	**337**	IAmb	IAmb	05 37 54.8	
	comp=Z,15nm,0.7s						
CPCT	**Cooper Cave**	**30.39**	**341**	IAmb	IAmb	05 37 55.1	
	comp=Z,9.9nm,0.9s						
TZTN	**Tazewell**	**31.12**	**344**	P	**P**	**05 38 00.3**	**+1.9**
TZTN				IAmb	IAmb	05 38 18.8	
	comp=Z,14nm,1.1s						
PLAL	**Pickwick Lake**	**31.27**	**336**	P	**P**	**05 38 00.6**	**+0.8**
CLTN	**Cedars of Leba**	**31.58**	**339**	IAmb	IAmb	05 38 05.5	
	comp=Z,17nm,1.2s						
HBVL	**Hebbronville**	**31.59**	**313**	P	**P**	**05 38 03.5**	**+0.9**
WVT	**Waverly**	**32.17**	**337**	P	**P**	**05 38 08.8**	**+1.1**
R50A	**Paris**	**32.96**	**344**	IAmb	IAmb	05 38 17.7	
	comp=Z,17nm,0.8s						
X40A	**Basin Creek Fa**	**33.04**	**329**	IAmb	IAmb	05 38 16.4	
	comp=Z,11nm,0.9s						
WHAR	**Wooly Hollow**	**33.41**	**331**	IAmb	IAmb	05 38 20.2	
	comp=Z,12nm,0.7s						
HNDO	**Hondo**	**33.47**	**316**	P	**P**	**05 38 19.1**	**0.0**
WCI	**Wyandotte Cave**	**33.50**	**341**	P	**P**	**05 38 20.0**	**+0.7**
WCI				IAmb	IAmb	05 38 21.7	
	comp=Z,14nm,0.7s						
LCAR	**Lake Charles**	**33.51**	**333**	P	**P**	**05 38 19.8**	**+0.5**
LCAR				IAmb	IAmb	05 38 21.4	
	comp=Z,10nm,0.8s						
FCAR	**Ozark Folk Cen**	**33.81**	**332**	IAmb	IAmb	05 38 23.4	
	comp=Z,14nm,0.8s						
T42A	**Van Buren**	**34.28**	**334**	IAmb	IAmb	05 38 27.8	
	comp=Z,15nm,0.7s						
DRIO	**Del Rio**	**34.35**	**314**	P	**P**	**05 38 26.4**	**-0.3**
DRIO				IAmb	IAmb	05 38 27.6	
	comp=Z,16nm,1.4s						
BRDY	**Brady**	**34.37**	**318**	P	**P**	**05 38 26.8**	**0.0**
BRDY				IAmb	IAmb	05 38 28.2	
	comp=Z,20nm,1.3s						
BLO	**Bloomington**	**34.44**	**341**	P	**P**	**05 38 27.6**	**+0.4**
MGMO	**Mountain Grove**	**34.91**	**333**	IAmb	IAmb	05 38 33.2	
	comp=Z,9.6nm,0.8s						
PLPT	**Palo Pinto**	**34.93**	**321**	IAmb	IAmb	05 38 33.5	
	comp=Z,14nm,0.9s						
HHAR	**Hobbs**	**35.01**	**330**	IAmb	IAmb	05 38 33.4	
	comp=Z,9.1nm,0.8s						
CCM	**Cathedral Cave**	**35.21**	**335**	P	**P**	**05 38 34.7**	**+0.8**
U38A	**Gravette**	**35.35**	**330**	IAmb	IAmb	05 38 36.0	
	comp=Z,10nm,1.0s						
RLO	**Rose Lookout**	**35.47**	**329**	IAmb	IAmb	05 38 37.2	
	comp=Z,14nm,0.7s						
WTFS	**Witchita Falls**	**35.67**	**322**	IAmb	IAmb	05 38 39.5	
	comp=Z,15nm,0.8s						
TUL3	**Leonard**	**35.68**	**327**	IAmb	IAmb	05 38 39.0	
	comp=Z,12nm,0.8s						
S39A	**Bolivar**	**35.83**	**332**	IAmb	IAmb	05 38 41.3	
	comp=Z,9.3nm,0.7s						
R40A	**Maddies Statio**	**35.85**	**334**	IAmb	IAmb	05 38 40.8	
	comp=Z,28nm,1.3s						
APMT	**Aspermont**	**36.41**	**320**	IAmb	IAmb	05 38 46.8	
	comp=Z,6.7nm,0.8s						
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**05 38 46.4**	**+1.1**
	comp=Z,4.5nm,0.7s,baz=128,slow=9.2,SNR=45						
TXAR				PcP	**PcP**	**05 41 07.7**	**+2.0**
	comp=Z,1.1nm,0.8s,baz=140,slow=5.8,SNR=4.8						
	comp=Z,4.5nm,0.7s						
TX31	**Lajitas Ar. Si**	**36.51**	**312**	IAmb	IAmb	05 38 47.0	
	comp=Z,5.2nm,0.7s						
WMOK	**Wichita Mounta**	**36.52**	**323**	IAmb	IAmb	05 38 46.0	
	comp=Z,7.5nm,0.8s						
OK048	**Pawnee Station**	**36.68**	**327**	IAmb	IAmb	05 38 47.8	
	comp=Z,19nm,0.9s						
T35A	**Sooner Cattle**	**36.82**	**328**	IAmb	IAmb	05 38 48.6	
	comp=Z,16nm,1.0s						
HPIG		**36.88**	**307**	P	**P**	**05 38 48.5**	**0.0**
MNHN	**Monahans**	**36.96**	**315**	P	**P**	**05 38 49.5**	**+0.4**
MNHN				IAmb	IAmb	05 38 50.2	
	comp=Z,6.9nm,0.9s						
DKNS	**Dickens**	**37.14**	**320**	IAmb	IAmb	05 38 52.2	
	comp=Z,6.3nm,0.7s						
N41A	**Harden Midland**	**37.32**	**337**	IAmb	IAmb	05 38 53.0	
	comp=Z,18nm,0.9s						
KAN17	**Caldwell West**	**37.58**	**327**	IAmb	IAmb	05 38 55.1	
	comp=Z,11nm,0.8s						
KAN01	**Argonia South**	**37.66**	**327**	IAmb	IAmb	05 38 55.9	
	comp=Z,12nm,0.8s						
KAN08	**Anthony NE Sta**	**37.83**	**327**	IAmb	IAmb	05 38 58.0	
	comp=Z,27nm,1.5s						
VHRN	**Van Horn**	**38.25**	**313**	P	**P**	**05 39 00.4**	**+0.5**
VHRN				IAmb	IAmb	05 39 01.7	
	comp=Z,10nm,1.1s						
AMTX	**Amarillo**	**38.40**	**321**	IAmb	IAmb	05 39 03.4	
	comp=Z,17nm,0.8s						
MSTX	**Muleshoe**	**38.53**	**319**	IAmb	IAmb	05 39 04.2	
	comp=Z,17nm,1.0s						
N35A	**Tabor**	**39.45**	**333**	IAmb	IAmb	05 39 10.7	
	comp=Z,23nm,1.1s						
I42A	**Draeger Farm,**	**39.47**	**342**	IAmb	IAmb	05 39 10.8	
	comp=Z,13nm,0.8s						
RTBA	**Rita Blanca**	**40.06**	**322**	IAmb	IAmb	05 39 16.6	
	comp=Z,11nm,1.1s						
G40A	**Rib Lake**	**41.11**	**342**	IAmb	IAmb	05 39 26.3	
	comp=Z,18nm,1.3s						
121A	**Cookes Peak, D**	**41.19**	**313**	IAmb	IAmb	05 39 27.3	
	comp=Z,12nm,1.1s						
T25A	**Trinidad**	**41.54**	**321**	IAmb	IAmb	05 39 32.8	
	comp=Z,14nm,1.3s						
ANMO	**Albuquerque**	**41.56**	**317**	P	**P**	**05 39 27.8**	**+0.5**
319A	**Douglas**	**41.73**	**311**	IAmb	IAmb	05 39 31.4	
	comp=Z,9.9nm,0.9s						
DUN6	**Lazy B Ranch**	**42.16**	**312**	IAmb	IAmb	05 39 34.9	
	comp=Z,14nm,0.7s						
ECSD	**EROS Data Cent**	**42.19**	**334**	P	**P**	**05 39 31.7**	**-0.3**
ECSD				IAmb	IAmb	05 39 33.4	
	comp=Z,6.6nm,0.7s						
SDCO	**Great Sand Dun**	**42.59**	**321**	P	**P**	**05 39 36.7**	**+0.9**
TUC	**Tucson**	**43.30**	**311**	P	**P**	**05 39 41.6**	**+0.4**
F33A	**5 Mile Ranch,**	**43.77**	**337**	IAmb	IAmb	05 39 45.3	
	comp=Z,20nm,1.2s						
ISCO	**Idaho Springs**	**43.95**	**323**	IAmb	IAmb	05 39 49.2	
	comp=Z,10nm,1.0s						
MVCO	**Mesa Verde**	**44.20**	**318**	IAmb	IAmb	05 39 50.8	
	comp=Z,18nm,1.4s						
N23A	**Red Feather La**	**44.85**	**324**	IAmb	IAmb	05 39 57.3	
	comp=Z,12nm,1.1s						
WUAZ	**Wupatki**	**45.27**	**315**	P	**P**	**05 39 57.4**	**+0.5**
WUAZ				IAmb	IAmb	05 40 00.1	
	comp=Z,20nm,0.9s						
AGMN	**Agassiz Nation**	**45.66**	**339**	IAmb	IAmb	05 40 00.8	
	comp=Z,11nm,0.7s						
Y14A	**Wickenburg**	**45.70**	**312**	IAmb	IAmb	05 40 02.4	
	comp=Z,7.7nm,0.7s						
U15A	**North Rim**	**46.37**	**315**	IAmb	IAmb	05 40 08.5	
	comp=Z,11nm,1.0s						
KNB	**Kanab**	**47.03**	**316**	IAmb	IAmb	05 40 13.5	
	comp=Z,14nm,0.9s						
LCMT	**Little Creek M**	**47.32**	**315**	IAmb	IAmb	05 40 16.1	
	comp=Z,11nm,0.9s						
ULM	**Lac du Bonnet**	**47.32**	**340**	IAmb	IAmb	05 40 13.3	
	comp=Z,24nm,1.1s						
ULM	**Lac du Bonnet**	**47.32**	**340**	P	**P**	**05 40 12.6**	**+0.1**
	comp=Z,13nm,0.5s,baz=152,slow=8.1,SNR=11						
	comp=Z,13nm,0.5s						
BSUT	**Blindstream Ca**	**47.54**	**321**	IAmb	IAmb	05 40 17.1	
	comp=Z,9.4nm,0.9s						
TCRU	**Three Creeks R**	**47.58**	**318**	IAmb	IAmb	05 40 18.1	
	comp=Z,13nm,0.8s						
V12A	**Nelson**	**47.86**	**313**	IAmb	IAmb	05 40 19.2	
	comp=Z,8.4nm,0.8s						
BW06	**Boulder Array**

```
     comp=Z,9.1nm,1.1s
NOA  NORSAR Array B  81.32  29  P        P        05 43 53.6 +0.1
     comp=Z,0.6nm,0.6s,baz=267,slow=5.4,SNR=2.4
     comp=Z,0.6nm,0.6s
ARCES ARCESS Array B 86.67  20  P        P        05 44 20.1 -0.3
     comp=Z,3.4nm,0.9s,baz=297,slow=2.9,SNR=3.9
     comp=Z,3.4nm,0.9s
MKAR Makanchi Array  122.33  20  PKP      PKiKP    05 50 31.5 -0.1
     comp=Z,0.4nm,0.4s,baz=298,slow=2.8,SNR=10
SONM Songino Array   125.60   0  PKP      PKiKP    05 50 38.2 +0.1
     comp=Z,0.4nm,0.4s,baz=329,slow=1.7,SNR=2.6
LZH  Lanzhou         137.24   4 ePKP     PKPdf    05 50 57.3 -2.9
LZH                             sPKP               05 51 56.3
PZH  PanZhiHua       146.52   8  PKPbc    PKPbc    05 51 17.5 -1.0
PZH                             PKPab    PKPab    05 51 19.8 +0.1
ASAR Alice Springs   149.14 234  PKPbc    PKPbc    05 51 25.1 -0.4
     comp=Z,1.5nm,0.5s,baz=115,slow=3.8,SNR=12
WRA  Warramunga Arr  150.37 241  PKPbc    PKiKP    05 51 28.2 -1.0
     comp=Z,1.8nm,0.5s,baz=110,slow=2.5,SNR=40
CMAR Chiang Mai Arr  153.70  17  PKPbc    PKiKP    05 51 37.1 +1.0
     comp=Z,1.3nm,0.3s,baz=306,slow=3.4,SNR=4.2
```

*CATAC **29** 05:36:42.0±0.8, 11°.50N×88°.25W, h25km±11km, ML3.8*
*SNET **29** 05:37:03.9±0.9, 11°.37N×88°.26W, h10km, ML3.8*
ISC 29 05:36:40.4±2.3, 11°.4N±0°.1×88°.30W±0°.06, h20km, n28, σ1§06/41, Off coast of central America

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Code Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
POTN Potosi Cosigui  1.73   26  i P       Pn       05 37 08.8 -0.6
POTN                            i S       Sn       05 37 30.9  0.0
POTN                            IAML               05 38 01.5
     comp=Z,120nm,1.0s
PKGN Cerro Pekin     1.78   46  i P       Pn       05 37 10.1 +0.1
PKGN                            i S       Sn       05 37 31.5 -0.5
PKGN                            IAML               05 38 03.2
     comp=Z,2μm,1.0s
PACN Al O del Volca  1.81   54  i P       Pn       05 37 10.5  0.0
PACN                            i S       Sn       05 37 31.9 -1.0
PACN                            IAML               05 38 04.2
     comp=Z,620nm,1.0s
CNCH Conchagua       1.88   14  i P       Pn       05 37 12.0 +0.5
CNCH                            i S       Sn       05 37 34.5 -0.2
CNCH                            IAML               05 38 07.6
     comp=Z,770nm,1.0s
MACN El Madrono      1.89   57  i P       Pn       05 37 11.7 +0.2
MACN                            i S       Sn       05 37 34.8  0.0
MACN                            IAML               05 37 59.9
     comp=Z,390nm,1.0s
LCND La Caada        1.90   12  eP        Sn       05 37 36.5 +1.4
LCND La Caada        1.90   12  i P       Pn       05 37 12.2 +0.5
LCND                            i S       Sn       05 37 35.0  0.0
LCND                            IAML               05 38 14.2
     comp=Z,250nm,1.0s
ILCN San Idelfonso   1.93   54  i P       Pn       05 37 11.7 -0.4
ILCN                            i S       Sn       05 37 35.7  0.0
ILCN                            IAML               05 38 04.1
     comp=Z,150nm,1.0s
BLLM Bellamira       1.99    2  eP        Sn       05 37 37.6 +0.2
PACA Pacayal         2.02  359  eP        Sn       05 37 39.4 +1.3
PACA Pacayal         2.02  359  i P       Pn       05 37 13.6 +0.2
PACA                            i S       Sn       05 37 38.5 +0.4
PACA                            IAML               05 38 07.3
     comp=Z,5μm,1.0s
CNRM Centro Naciona  2.02    3  eP        Sn       05 37 39.2 +1.1
NANN Nandasmo        2.19   77  i P       Pn       05 37 16.3 +0.6
NANN                            i S       Sn       05 37 42.8 +0.6
NANN                            IAML               05 38 18.4
     comp=Z,7μm,1.0s
COEG Centro de Oper  2.24  345  eP        Sn       05 37 42.0 -1.5
COEG Centro de Oper  2.24  345  i P       Pn       05 37 16.6 +0.2
COEG                            i S       Sn       05 37 43.3 -0.3
COEG                            IAML               05 38 18.8
     comp=Z,280nm,1.0s
LALI Alcalda de L    2.27  334  eP        Sn       05 37 42.0 -2.2
SCLA Alcaldia de Sa  2.29  349  i P       Pn       05 37 17.9 +0.8
SCLA                            i S       Sn       05 37 45.1 +0.4
SCLA                            IAML               05 38 22.7
     comp=Z,170nm,1.0s
PAVA Las Pavas       2.34  345  i P       Pn       05 37 18.2 +0.3
PAVA                            i S       Sn       05 37 46.4 +0.2
PAVA                            IAML               05 38 15.6
     comp=Z,580nm,1.0s
LOMA Loma Larga      2.35  339  IAML               05 38 17.4
     comp=Z,285nm,0.6s
PMON Piamonte        2.47  336  i P       Pn       05 37 19.7 +0.1
PMON                            i S       Sn       05 37 49.3 +0.1
PMON                            IAML               05 38 20.1
     comp=Z,610nm,1.0s
JAYA Jayaque - finc  2.47  333  eP        Sn       05 37 44.7 -4.7
JAYA Jayaque - finc  2.47  333  i P       Pn       05 37 21.0 +1.3
JAYA                            i S       Sn       05 37 49.5 +0.1
JAYA                            IAML               05 37 54.7
     comp=Z,560nm,1.0s
LIMN Finca el Limon  2.48   49  i P       Pn       05 37 19.0 -0.8
LIMN                            IAML               05 38 21.0
     comp=Z,220nm,1.0s
CEDA San Andres      2.58  336  IAML               05 38 23.5
     comp=Z,648nm,0.2s
CEVE Cerro Verde     2.70  331  IAML               05 38 27.3
     comp=Z,282nm,0.4s
NUBE Las Nubes       2.84  330  i P       Pn       05 37 25.8 +1.0
NUBE                            i S       Sn       05 37 59.2 +0.6
NUBE                            IAML               05 38 29.2
     comp=Z,330nm,1.0s
RCVN Varillal2       2.96   44  i P       Pn       05 37 25.6 -0.8
MTO3 Montecristo     3.12  341  i P       Pn       05 37 28.5 -0.2
MTO3                            i S       Sn       05 38 05.3 -0.2
MTO3                            IAML               05 38 35.9
     comp=Z,120nm,1.0s
```

*CATAC **29** 05:56:17.9±0.6, 11°.50N×88°.26W, h26km±9km, ML3.8*
*SNET **29** 05:56:18.8±1.1, 11°.68N×88°.37W, h10km, ML3.9*
ISC 29 05:56:14.2±3.3, 11°.52N±0°.09×88°.27W±0°.04, h0km±23km, n53, σ0§88/88, Off coast of central America

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Code Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
CSGN Cosiguina Volc  1.60   26  i P       Pb       05 56 44.8 +0.1
CSGN                            i S       Sb       05 57 05.7 +0.1
CSGN                            IAML               05 57 12.2
     comp=Z,150nm,1.0s
POTN Potosi Cosigui  1.65   27  i P       Pn       05 56 44.8 +0.4
POTN                            i S       Sb       05 57 06.9 +0.2
POTN                            IAML               05 57 11.0
     comp=Z,170nm,1.0s
PKGN Cerro Pekin     1.70   48  i P       Pn       05 56 45.9 +0.7
PKGN                            i S       Sb       05 57 08.0 -0.3
PKGN                            IAML               05 57 10.2
     comp=Z,2μm,1.0s
PACN Al O del Volca  1.74   56  i P       Pn       05 56 46.4 +0.7
PACN                            i S       Sb       05 57 09.0 -0.5
PACN                            IAML               05 57 15.8
     comp=Z,670nm,1.0s
CNCH Conchagua       1.79   14  i P       Pn       05 56 47.5 +1.0
CNCH                            i S       Sn       05 57 09.9 -0.2
CNCH                            IAML               05 57 18.0
     comp=Z,820nm,1.0s
PLRN Geotermica Pol  1.81   54  i P       Pn       05 56 47.2 +0.6
PLRN                            i S       Sn       05 57 09.9 -0.4
LCND La Caada        1.81   12  eP        Pn       05 56 47.1 +0.4
LCND La Caada        1.81   12  i P       Pn       05 56 47.2 +0.5
LCND                            i S       Sb       05 57 10.9 -0.7
LCND                            IAML               05 57 20.6
     comp=Z,350nm,1.0s
MACN El Madrono      1.82   59  i P       Pn       05 56 46.7 -0.1
MACN                            IAML               05 57 07.6
     comp=Z,330nm,1.0s
MACN                            i S       Sn       05 57 10.6  0.0
ILCN San Idelfonso   1.86   56  i P       Pn       05 56 47.8 +0.5
ILCN                            i S       Sn       05 57 11.6 +0.1
ILCN                            IAML               05 57 15.6
     comp=Z,180nm,1.0s
LCY  Lacayo          1.89  359  eP        Pn       05 56 48.3 +0.5
VSM  San Miguel      1.89  360  eP        Pn       05 56 49.0 +0.9
RANC El Ranchito     1.90  359  eP        Pn       05 56 48.7 +0.7
BLLM Bellamira       1.91    1  eP        Pn       05 56 49.0 +0.9
MOMN Momotombo       1.91   62  i P       Pb       05 56 49.4 -0.5
MOMN                            i S       Sn       05 57 12.5 -0.3
MOMN                            IAML               05 57 22.5
     comp=Z,21nm,1.0s
PACA Pacayal         1.93  358  eP        Pn       05 56 49.5 +1.1
PACA                            eS        Sn       05 57 13.9 +0.4
PACA Pacayal         1.93  358  i P       Pb       05 56 49.9 -0.5
PACA                            i S       Sn       05 57 13.6  0.0
PACA                            IAML               05 57 15.1
     comp=Z,8μm,1.0s
SAPS Ciudad Sandino  1.94   70  i P       Pn       05 56 49.7 +1.3
SAPS                            i S       Sn       05 57 13.3 -0.1
SAPS                            IAML               05 57 24.5
     comp=Z,510nm,1.0s
CNRM Centro Naciona  1.94    3  eS        Sn       05 57 14.0 +0.4
TECA Tecapa          1.97  353  eP        Pn       05 56 49.9 +0.9
TECA                            eP        Pb       05 56 50.4 -0.7
TECA                            eS        Sb       05 57 15.3 -1.0
UNAN Cigeo UNAN      2.04   73  i P       Pn       05 56 50.8 +0.9
UNAN                            i S       Sn       05 57 15.9 -0.2
UNAN                            IAML               05 57 21.5
     comp=Z,4μm,1.0s
TISN Laguna Tiscapa  2.05   72  i P       Pn       05 56 50.0  0.0
TISN                            IAML               05 57 22.4
     comp=Z,40nm,1.0s
NANN Nandasmo        2.14   79  i P       Pn       05 56 51.6 +0.3
NANN                            i S       Sn       05 57 18.8 +0.2
NANN                            IAML               05 57 30.5
     comp=Z,6μm,1.0s
UESV Universidad de  2.16  347  i P       Pn       05 56 52.9 +1.4
UESV                            i S       Sn       05 57 18.7 -0.3
UESV                            IAML               05 57 23.5
     comp=Z,350nm,1.0s
COEG Centro de Oper  2.17  344  eP        Pn       05 56 52.3 +0.7
COEG                            eS        Sn       05 57 18.1 -1.1
COEG Centro de Oper  2.17  344  i P       Pn       05 56 52.7 +1.1
COEG                            i S       Sn       05 57 19.1 -0.1
COEG                            IAML               05 57 26.7
     comp=Z,320nm,1.0s
SCLA Alcaldia de Sa  2.21  348  eP        Pn       05 56 53.7 +1.5
SCLA                            eS        Sn       05 57 20.5 +0.2
SCLA Alcaldia de Sa  2.21  348  i P       Pn       05 56 53.7 +1.5
SCLA                            i S       Sn       05 57 21.0 +0.7
SCLA                            IAML               05 57 24.4
     comp=Z,230nm,1.0s
LFRS El Faro         2.23  340  eP        Pn       05 56 54.1 +1.7
CAHU Cacacuatique    2.23    1  eP        Pn       05 56 54.0 +1.3
PAVA Las Pavas       2.27  343  eP        Pn       05 56 54.1 +1.0
PAVA                            eS        Sn       05 57 20.6 -1.2
PAVA Las Pavas       2.27  343  i P       Pn       05 56 53.9 +0.8
PAVA                            i S       Sn       05 57 21.7 -0.2
PAVA                            IAML               05 57 23.7
     comp=Z,870nm,1.0s
LOMA Loma Larga      2.28  337  IAML               05 57 25.4
     comp=Z,374nm,0.7s
LOMA Loma Larga      2.28  337  i P       Pn       05 56 54.5 +1.2
LOMA                            i S       Sn       05 57 22.0 -0.2
LOMA                            IAML               05 57 26.8
     comp=Z,380nm,1.0s
PMON Piamonte        2.40  335  eP        Pn       05 56 55.7 +0.8
PMON                            eS        Sn       05 57 23.5 -1.6
PMON Piamonte        2.40  335  i P       Pn       05 56 56.2 +1.3
PMON                            i S       Sn       05 57 24.6 -0.5
PMON                            IAML               05 57 29.4
     comp=Z,790nm,1.0s
BOQS Boqueron        2.41  336  eP        Pn       05 56 55.3 +0.2
LIMN Finca el Limon  2.41   50  i P       Pn       05 56 55.2 +0.2
LIMN                            IAML               05 57 40.8
     comp=Z,230nm,1.0s
PIC2 El Picacho      2.41  337  eP        Pn       05 56 56.3 +1.2
PIC2                            eS        Sn       05 57 25.0 -0.5
JAYA Jayaque - finc  2.41  332  eP        Pn       05 56 55.9 +0.9
JAYA                            eS        Sn       05 57 24.0 -1.4
JAYA Jayaque - finc  2.41  332  i P       Pn       05 56 55.6 +0.5
JAYA                            i S       Sn       05 57 25.1 -0.3
JAYA                            IAML               05 57 25.6
     comp=Z,770nm,1.0s
CEDA San Andres      2.52  334  eS        Sn       05 57 26.2 -1.6
CEDA                            IAML               05 57 32.4
     comp=Z,1μm,0.6s
CEVE Cerro Verde     2.64  330  eP        Pn       05 57 00.1 +1.7
CEVE                            IAML               05 57 35.6
     comp=Z,518nm,0.5s
CEVE Cerro Verde     2.64  330  i P       Pn       05 56 59.7 +1.3
CEVE                            i S       Sn       05 57 31.7 +0.4
CEVE                            IAML               05 57 35.0
     comp=Z,590nm,1.0s
SNJE San Jose        2.67  331  eP        Pn       05 57 00.0 +1.4
NUBE Las Nubes       2.79  328  eP        Pn       05 57 00.8 +0.6
NUBE                            eS        Sn       05 57 32.9 -1.7
NUBE Las Nubes       2.79  328  i P       Pn       05 57 01.6 +1.4
NUBE                            i S       Sn       05 57 34.9 +0.3
NUBE                            IAML               05 57 37.1
     comp=Z,360nm,1.0s
RCVN Varillal2       2.88   45  i P       Pn       05 57 02.5 +1.0
RCVN                            i S       Sn       05 57 37.6 +0.6
RCVN                            IAML               05 57 39.2
     comp=Z,6μm,1.0s
SLOZ Alcaldia de Sa  2.89  329  eP        Pn       05 57 02.2 +0.6
RCPN Sur Rio San Ju  2.91   47  i P       Pn       05 57 02.4 +0.5
MTO3 Montecristo     3.05  340  eP        Pn       05 57 05.1 +1.2
MTO3 Montecristo     3.05  340  i P       Pn       05 57 05.5 +1.6
MTO3                            i S       Sn       05 57 42.1 +0.9
MTO3                            IAML               05 57 43.4
     comp=Z,150nm,1.0s
ESQI Esquipulas      3.19  341  eP        Pn       05 57 06.5 +0.7
ESQI                            eS        Sn       05 57 44.5 -0.1
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*IDC **29** 06:05:43.8±1.0, 37°.69N×20°.41E, h0km, mb3.8/12, mbtmp3.7/18, ML4.0/4, MS3.3/6, Error ellipse: s-maj=18.7km s-min=15.9km az=164.0*
*ATH **29** 06:05:44.4, 37°.61N×20°.30E, h6km±1km, ML3.8/18, Manual Solution by F.Gkika First location: 2018/11/29 06:06:43, This location: 2020/10/19 13:41:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **29** 06:05:45.4, 37°.62N×20°.34E, h0km±3km, ML3.7/10, Error ellipse: s-maj=3.6km s-min=1.0km az=241.0*
*BEO **29** 06:05:45.6±2.7, 37°.34N×20°.41E, h56km±8km, ML3.6/13*
ISC 29 06:05:46.0±1.0, 37°.66N±0°.03×20°.38E±0°.03, h16km±6km, n86, σ1§17/123, mb3.6/11, MS3.6/3, Ionian Sea

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Code Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
KRI1 kERI            0.34   90  P         Pg       06 05 52.7 -0.4
KRI1                            S         Sg       06 05 58.1 +0.1
     31μm,0.4s
KRI1 kERI            0.34   90  P         Pg       06 05 52.7 -0.4
KRI1                            S         Sg       06 05 57.9 -0.1
LTHK Lithakia        0.36   83  P         Pg       06 05 53.0 -0.5
LTHK                            S         Sb       06 05 59.2 -0.3
LTHK Lithakia        0.36   83  P         Pg       06 05 52.9 -0.6
LTHK                            S         Sg       06 05 58.5  0.0
PSDA Pessada-Kefalo  0.48   19  P         Pg       06 05 55.2 -0.4
PSDA                            S         Sb       06 06 02.9 +0.1
     10μm,0.2s
PSDA Pessada-Kefalo  0.48   19  P         Pg       06 05 55.1 -0.4
PSDA                            S         Sg       06 06 02.0  0.0
RTZL Ratzakli, Kefa  0.51   37  P         Pg       06 05 55.9 -0.3
RTZL                            S         Sb       06 06 03.7 -0.2
ARG2 Argostoli       0.52    9  P         Pg       06 05 55.8 -0.5
ARG2                            S         Sg       06 06 03.1 -0.2
VLS  Valsamata       0.54   18  P         Pg       06 05 56.1 -0.6
VLS                             S         Sb       06 06 04.4 -0.3
     6μm,0.3s
VLS  Valsamata       0.54   18  P         Pg       06 05 56.0 -0.6
VLS                             S         Sb       06 06 04.3 -0.3
DMLN Damoulianata-K  0.57  359  P         Pg       06 05 56.9 -0.5
DMLN                            S         Sb       06 06 06.7 +1.0
     14μm,0.5s
DMLN Damoulianata-K  0.57  359  P         Pg       06 05 57.0 -0.4
DMLN                            S         Sb       06 06 05.5 -0.2
SMHA Samh            0.62   20  P         Pg       06 05 57.7 -0.6
SMHA                            S         Sg       06 06 06.3 -0.3
VSK1 VASILIKIADES    0.76   11  P         Pg       06 06 00.2 -0.6
VSK1                            S         Sn       06 06 13.0 -0.2
FSK  Fiskardo        0.81   10  P         Pb       06 06 00.8 -0.9
FSK                             S         Sn       06 06 14.2 -0.2
     3μm,0.5s
FSK  Fiskardo        0.81   10  P         Pb       06 06 01.0 -0.6
FSK                             S         Sg       06 06 12.7 +0.3
RLS  Riolos of Patr  0.94   65  P         Pb       06 06 04.1 +0.1
RLS                             S         Sn       06 06 18.5 +0.7
     3μm,0.8s
RLS  Riolos of Patr  0.94   65  P         Pb       06 06 03.8 -0.2
RLS                             S         Sn       06 06 17.4 -0.4
AXS  Araxos          0.95   56  P         Pb       06 06 04.0  0.0
AXS                             S         Sn       06 06 18.1 +0.2
AMT  Artemida-Makis  1.06   97  P         Pb       06 06 05.6 -0.4
AMT                             S         Sg       06 06 20.4  0.0
NYDR Nydri-Lefkada   1.08   13  P         Pb       06 06 06.1 -0.2
NYDR Nydri-Lefkada   1.08   13  P         Pb       06 06 06.1 -0.2
DRO  Drossia         1.09   74  P         Pb       06 06 06.4 -0.1
DRO                             S         Sn       06 06 25.0 +3.6
     5μm,0.5s
DRO  Drossia         1.09   74  P         Pg       06 06 07.1  0.0
DRO                             S         Sn       06 06 22.2 +0.7
PDO  Prodromos       1.13   34  P         Pn       06 06 07.4 +0.3
LKD2 Lefkada island  1.14   11  P         Pg       06 06 07.8 -0.3
LKD2 Lefkada island  1.14   11  P         Pg       06 06 07.9 -0.2
LKD2                            S         Sg       06 06 23.9 +0.8
TSLK Tsoukalades, L  1.18   10  P         Pg       06 06 09.4 +0.6
TSLK                            S         Sg       06 06 28.5 +4.3
     3μm,0.5s
TSLK Tsoukalades, L  1.18   10  P         Pb       06 06 08.4 +0.3
UPR  University Cam  1.27   60  P         Pb       06 06 09.7 +0.2
PYL1 Pylos           1.29  125  P         Pn       06 06 08.6 -0.7
PVO  Paravola        1.31   43  P         Pb       06 06 10.2  0.0
ITM  Ithomi          1.32  111  P         Pb       06 06 10.4  0.0
ITM  Ithomi          1.32  111  P         Pb       06 06 10.4  0.0
PYL  PYLOS           1.33  125  P         Pn       06 06 09.9  0.0
PYL                             S         Sg       06 06 30.4 +1.5
     880nm,0.7s
PYL  PYLOS           1.33  125  P         Pn       06 06 09.8 -0.1
VVK  Vomvokou        1.36   56  P         Pb       06 06 11.2 +0.1
EFP  Efpalio         1.42   57  P         Pg       06 06 12.8 -0.6
EFP  Efpalio         1.42   57  P         Pb       06 06 11.9 -0.2
KLV  Kalavryta, Ach  1.45   74  P         Pg       06 06 13.5 -0.4
KLV  Kalavryta, Ach  1.45   74  P         Pb       06 06 12.6 -0.1
SERG Sergoula        1.52   60  P         Pb       06 06 13.4 -0.4
ANX  Ano Chora       1.53   52  P         Pb       06 06 14.2 +0.2
ANX                             S         Sg       06 06 37.3 +2.0
     5μm,0.6s
GUR  Goura           1.58   79  P         Pb       06 06 15.1 +0.3
FNA  Florina         3.21   14 ePn        Pn       06 06 37.5 +1.7
FNA                            eSn        Sn       06 07 14.0 +0.2
OHR  Ohrid           3.46    5 ePn        Pn       06 06 42.4 +3.1
OHR                            eSn        Sn       06 07 20.8 +0.9
OHR  Ohrid           3.46    5 iPn        Pn       06 06 42.8 +3.5
TIR  Tirane          3.70  354 ePn        Pn       06 06 44.0 +1.5
TIR                            eSn        Sn       06 07 26.2 +0.4
VAY  Valandovo       4.03   24 ePn        Pn       06 06 48.4 +1.4
VAY                            eSn        Sn       06 07 32.9 -0.9
VAY  Valandovo       4.03   24 iPn        Pn       06 06 49.9 +2.9
SRS  Serrai          4.25   35 ePn        Pn       06 06 50.9 +0.8
SRS                            eSn        Sn       06 07 37.2 -2.2
IDI  Anoyia          4.34  122  Pn        Pn       06 06 52.9 +1.6
     1.8nm,0.3s,baz=290,slow=14,SNR=6.4
IDI                            Sn         Sn       06 07 43.9 +2.3
     2.5nm,0.3s,baz=320,slow=20,SNR=7.0
PEHC Pehcevo         4.54   24 iPn        Pn       06 06 57.5 +3.3
VAE  Valguarnera     4.75  270  Pn        Pn       06 06 59.1 +2.2
     8.0nm,0.4s,baz=194,slow=17,SNR=1.9
VAE                            Sn         Sn       06 07 50.3 -1.4
     2.8nm,0.3s,baz=80,slow=14,SNR=2.4
PDG  Podgorica       4.84  350 ePn        Pn       06 06 59.3 +1.2
PDG                            eSn        Sn       06 07 53.0 -0.8
BOSS Bosilegrad      5.09   18 ePn        Pn       06 07 03.3 +1.7
BARS Barje           5.26   12 ePn        Pn       06 07 04.8 +0.8
SELS Selova          5.58    6 ePn        Pn       06 07 08.5 +0.1
SELS                           eSn        Sn       06 08 09.5 -2.6
SJES Sjenica         5.60  357 ePn        Pn       06 07 09.0 +0.3
SJES                           eSn        Sn       06 08 12.6 -0.2
ZAPS Zavoj           5.86   16 ePn        Pn       06 07 13.5 +1.3
IVAS Ivanjica        5.91  358 ePn        Pn       06 07 13.4 +0.5
IVAS                           eSn        Sn       06 08 18.6 -1.7
BOVS Bovan           6.05    9 ePn        Pn       06 07 14.7 -0.1
GRUS Gruza           6.22    2 ePn        Pn       06 07 16.4 -0.8
GRUS                           eSn        Sn       06 08 25.9 -2.1
BBLS Lazi&#263i      6.24  353 ePn        Pn       06 07 18.7 +1.2
BBLS                           eSn        Sn       06 08 26.6 -1.9
DIVS Divibare        6.43  357 ePn        Pn       06 07 20.5 +0.3
DIVS                           eSn        Sn       06 08 31.5 -1.8
TRUS Trudelj         6.55    0 ePn        Pn       06 07 21.9 +0.2
MLR  Muntele Rosu    8.86   26  Pn        Pn       06 07 55.7 +2.2
     1.1nm,0.3s,baz=176,slow=2.2,SNR=11
     9.0nm,0.8s
OBKA Obir            9.84  336  Pn        Pn       06 08 08.8 +1.9
     1.6nm,0.4s
BRTR Keskin Array B 10.56   75  LR        LR       06 13 15.0
     comp=Z,208nm,18.9s,baz=286,slow=43
GERES GERESS Array B 12.18  339  Pn        Pn       06 08 39.6 +0.7
     0.1nm,0.3s,baz=149,slow=16,SNR=2.1
     0.2nm,0.3s
AKASG Malin Array Be 14.48   23  Pn        Pn       06 09 10.6 +0.4
     0.2nm,0.3s,baz=215,slow=12,SNR=2.1
     0.1nm,0.3s
EIL  Elat           14.51  119  LR        LR       06 17 25.2
     comp=Z,36nm,19.6s,baz=342,slow=48
ESDC Sonseca Array  19.11  284  P         P        06 10 07.8 -0.4
     0.2nm,0.3s,baz=81,slow=8.2,SNR=2.0
     0.4nm,0.6s
GNI  Garni          19.11   75  LR        LR       06 19 05.4
     comp=Z,58nm,20.0s,baz=298,slow=42
MDT  Midelt         20.95  264  P         P        06 10 28.9 +0.6
     0.3nm,0.3s,baz=105,slow=17,SNR=1.8
     0.3nm,0.3s
HFS  Hagfors        22.89  351  P         P        06 10 48.0 -0.7
     14nm,1.1s,baz=144,slow=10,SNR=6.3
     14nm,1.1s
EKA  Eskdalemuir Ar 23.79  326  P         P        06 10 58.0 +0.2
     0.9nm,0.6s,baz=134,slow=8.2,SNR=0.9
     0.9nm,0.6s
FINES FINESS Array B 24.07   7  P         P        06 11 00.1 -0.2
     3.2nm,0.5s,baz=168,slow=9.8,SNR=22
     3.2nm,0.5s
NOA  NORSAR Array B 24.10  349  P         P        06 11 00.2 -0.5
     2.1nm,1.1s,baz=154,slow=9.0,SNR=3.1
     2.1nm,1.1s
TORD Torodi Ar. Bea 29.56  219  P         P        06 11 51.0 +0.9
     0.3nm,0.6s,baz=37,slow=8.9,SNR=1.9
     0.3nm,0.6s
ARCES ARCESS Array B 32.05   3  P         P        06 12 11.1 -0.5
     6.4nm,1.1s,baz=181,slow=6.1,SNR=6.0
     6.4nm,1.1s
BVAR Borovoye Array 37.53   49  P         P        06 12 59.0 -0.1
     0.4nm,0.4s,baz=264,slow=7.2,SNR=1.7
BVAR                           LR        LR       06 30 12.5
     comp=Z,86nm,18.4s,baz=289,slow=39
     0.4nm,0.4s
KURBB Kurchatov Arra 42.62   53  P         P        06 13 40.3 -1.0
     0.7nm,0.6s,baz=288,slow=8.8,SNR=2.5
     0.7nm,0.6s
MKAR Makanchi Array 45.66   58  P         P        06 14 05.2 -0.7
     0.4nm,0.5s,baz=275,slow=7.8,SNR=5.8
MKAR                           LR        LR       06 36 09.6
     comp=Z,90nm,18.1s,baz=302,slow=40
     0.4nm,0.5s
ZALV Zalesovo Beam  46.12   48  P         P        06 14 08.1 -1.1
     1.9nm,0.5s,baz=270,slow=10,SNR=7.6
ZALV                           LR        LR       06 34 50.1
     comp=Z,40nm,19.2s,baz=276,slow=38
     1.9nm,0.5s
SONM Songino Array  60.87   50  P         P        06 15 57.6 -0.2
     0.7nm,0.8s,baz=292,slow=8.6,SNR=3.3
     0.7nm,0.8s
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HEL 29 06:17:51.7±0.3, 67°.18N×20°.54E, h0km, ML0.9, Suspected explosion, Sweden

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Code Station Name     Δ°   AZ°  Phase ID          Time      Res
                                Op    ISC         h m s     ISC
ERTU Ertsjaerv       0.90  133  PG        Pg       06 18 07.9 -1.1
ERTU                            SB        Sg       06 18 20.4 -0.2
PAJU Pajala          1.02   97  SG        Sg       06 18 23.1 -1.3
LANU Lannavaara      1.04   32  PG        Pg       06 18 10.6 -1.0
LANU                            SB        Sg       06 18 25.0 -0.1
KLF  Kolari          1.33   86  MSG       Pg       06 18 31.9
     comp=Z,1.0nm,0.2s
KLF                             SG        Sg       06 18 33.1 -1.4
HEF  Hetta           1.71   42  PG        Pn       06 18 22.1 -0.7
HEF                             MSG       Pg       06 18 43.0
     comp=Z,0.6nm,0.2s
HEF                             SG        Sn       06 18 44.1 -1.3
TOF  Tornio          1.87  124  PG        Pn       06 18 25.5 +0.7
TOF                             MSG       Pg       06 18 47.4
     comp=Z,0.6nm,0.2s
TOF                             SG        Sn       06 18 49.5 +0.4
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KTK1	Kautokeino	2.10	27	SG	Sb	06 18 56.7	-0.6
RNF	Rovaniemi	2.23	102	SG	Sb	06 19 00.3	-0.7
KMNF	Kaamanen	3.12	48	SN	Sn	06 19 17.6	-2.5
RAJF	Raja-Jooseppi	3.22	63	PB	Pb	06 18 47.4	-2.3

*NORS **29** 06:59:49.4, 42.°72N×46.°48E, h11km, MPVA4.0*
MOS 29 06:59:48.9, 42.°72N×46.°46E, h8km, MPVA3.7, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	Botlikh	0.18	253	*i* Pg	Pg	06 59 53.6	+0.9
BTLR				*e*Sg	Sg	06 59 56.1	+0.9
UNCR	Uncukul	0.25	91	*i* Pg	Pb	06 59 56.1	+0.4
UNCR				*e*Sg	Sb	07 00 00.4	+0.2
XNZR	Khunzakh	0.25	133	*e*Pg	Pb	06 59 56.0	+0.1
XNZR				*e*Sg	Sb	06 59 60.0	-0.5
DVE	Vedeno	0.34	315	*e*Pg	Pb	06 59 56.9	-0.4
DVE				*e*Sg	Sb	07 00 01.8	-1.1
KRNR	Karanay	0.35	72	*i* Pg	Pb	06 59 58.0	+0.6
KRNR				*e*Sg	Sb	07 00 03.6	+0.4
DLMR	Dylym	0.38	20	*e*Pg	Pb	06 59 58.7	+0.8
DLMR				*e*Sg	Sb	07 00 04.3	+0.4
DBC	Dubki	0.41	42	*i* Pg	Pb	06 59 58.6	+0.1
DBC				*e*Sg	Sb	07 00 05.2	+0.3
ARKR	Arakani	0.41	106	*i* Pg	Pb	06 59 59.2	+0.7
ARKR				*e*Sg	Sb	07 00 05.8	+0.9
BUJR	Buynaksk	0.49	77	*e*Pg	Pb	07 00 00.5	+0.7
BUJR				*e*Sg	Sb	07 00 08.3	+1.1
GNBR	Gunib	0.50	131	*e*Pg	Pn	07 00 01.7	-0.7
GNBR				*e*Sg	Sb	07 00 09.1	+1.7
KMKR	Kumukh	0.76	141	*e*Pg	Pn	07 00 06.0	-0.1
KMKR				*e*Sg	Sn	07 00 16.7	-1.0
SGKR	Sergokala	0.93	106	*e*Pg	Pn	07 00 08.5	+0.3
SGKR				*e*Sg	Sn	07 00 21.8	+0.1
URKR	Urkarakh	1.03	122	*i* Pg	Pn	07 00 11.6	+1.9
URKR				*e*Sg	Sn	07 00 26.3	+1.9
VLKR	Vladikavkaz	1.35	285	*e*Pg	Pg	07 00 17.1	+2.4
VLKR				*e*Sg	Sg	07 00 35.8	+3.5
GUDG	Gudauri	1.48	261	*e*Pg	Pg	07 00 18.4	+1.1
GUDG				*e*Sg	Sg	07 00 38.4	+1.8
BTKR	Batakoyurt	1.55	296	*e*Pg	Pg	07 00 21.0	+2.5
BTKR				*e*Sg	Sg	07 00 44.0	+5.3
AKT	Akhty	1.56	142	*e*Pg	Pg	07 00 18.6	-0.2
AKT				*e*Sg	Sg	07 00 40.0	+1.0
LACR	Lac	1.59	275	*e*Pg	Pg	07 00 19.6	+0.2
LACR				*e*Sg	Sg	07 00 41.5	+1.4
ARNR	Ardon	1.66	287	*e*Pg	Pb	07 00 19.4	-0.4
ARNR				*e*Sg	Sg	07 00 41.6	-0.7
KSMR	Kasumkent	1.67	131	*e*Pg	Pg	07 00 23.9	+3.0
KSMR				*e*Sg	Sg	07 00 43.3	+0.8
KORR	Kora	1.79	283	*e*Pg	Pg	07 00 25.0	+1.7
KORR				*e*Sg	Sg	07 00 49.9	+3.3
STDR	Stavd-Durt	1.87	291	*e*Pg	Pg	07 00 27.2	+2.4
STDR				*e*Sg	Sg	07 00 51.9	+2.9
LSNR	Lesken	2.01	287	*e*Pg	Pb	07 00 26.5	+0.8
LSNR				*e*Sg	Sb	07 00 51.9	+1.0
DIGR	Digorskoe uzhe	2.12	276	*e*Pg	Pg	07 00 28.8	-0.8
DIGR				*e*Sg	Sg	07 00 56.3	-0.8
AKH	Akhalkalaki	2.56	240	*e*Pn	Pb	07 00 34.2	-1.0
AKH				*e*Sn	Sb	07 01 04.8	-2.2
KBZ	Khabaz	2.79	292	*e*Pn	Pn	07 00 35.3	+1.5
KBZ				*e*Sn	Sn	07 01 09.2	+1.6
BEYR	Belyy Ugol+	2.95	297	*e*Pn	Pn	07 00 35.5	-0.6
BEYR				*e*Sn	Sn	07 01 12.2	+0.5
SHA1	Shidzhatmaz	2.96	291	*e*Pn	Pn	07 00 38.5	+2.2
SHA1				*e*Sn	Sn	07 01 14.8	+2.7

*BJI **29** 07:07:33.7, 0.°27S×125.°24E, h64km, mB5.3/12, mb4.8/34, Ms4.6/1, Ms7 4.4/1*
*IDC **29** 07:07:37.9±1.9, 0.°06N×125.°06E, h64km±18km, mb4.2/20, mbtmp4.6/24, MS3.3/6, Error ellipse: s-maj=17.8km s-min=9.5km az=83.0*
*DJA **29** 07:07:38.6±0.2, 0.°N±2.°×12.°5E±.°, h58km±4km, M4.9/26, mB5.4/12, mb4.9/25, MLv5.0/26, Mw(mB)4.8/12*
*NEIC **29** 07:07:38.9±1.8, 0.°06N±0.°06×125.°17E±0.°04, h69km±7km, mb4.7/69, Error ellipse: s-maj=10.2km s-min=3.4km az=148.0*
ISC 29 07:07:36.8±0.3, 0.°04N±0.°04×125.°15E±0.°05, h53km, n172, σ1§66/174, mb4.7/59, MS3.1/3, 2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	Cibinong	1.28	294	P	Pn	07 07 58.2	-0.2
KMSI				S	Sn	07 08 14.1	-0.4
SANI	Sanana	2.24	158	P	Pn	07 08 11.6	0.0
SANI	Sanana	2.24	158	P	Pn	07 08 11.5	0.0
TNTI	Ternate	2.33	72	Pn	Pn	07 08 13.7	+0.9
TNTI	Ternate	2.33	72	P	Pn	07 08 14.6	+1.8
TNTI	Ternate	2.33	72	P	Pn	07 08 14.4	+1.6
LBMI	Labuha	2.45	106	P	Pn	07 08 16.3	+1.9
LUWI	Luwuk	2.61	246	Pn	Pn	07 08 19.9	+3.4
LUWI	Luwuk	2.61	246	P	Pn	07 08 20.7	+4.2
LUWI	Luwuk	2.61	246	P	Pn	07 08 20.0	+3.4
MRSI	Marisa	3.23	278	P	Pn	07 08 25.3	+0.2
APSI	Ampana	3.62	255	P	Pn	07 08 33.4	+2.9
NLAI	Namlea	3.80	149	P	Pn	07 08 33.8	+0.9
TOLI2	Tolitoli	4.49	284	Pn	Pn	07 08 43.9	+1.5
TOLI2	Tolitoli	4.49	284	P	Pn	07 08 45.3	+2.9
KDI	Kendari	4.71	212	P	Pn	07 08 46.7	+1.4
AAI	Ambon	4.79	141	P	Pn	07 08 48.6	+2.0
MSAI	Masohi	5.06	132	P	Pn	07 08 52.8	+2.6
PCI	Palu	5.39	262	P	Pn	07 08 59.1	+4.3
BBSI	Bau Bau	6.07	205	P	Pn	07 09 08.5	+4.5
	111nm,1.2s,0.4nm						
TTSI	Tana Toraja	6.14	240	P	Pn	07 09 09.5	+4.4
SWI	Sorong	6.18	98	P	Pn	07 09 07.6	+2.1
	61nm,0.7s,0.3nm						
SPSI	Sidrap Palu	6.69	233	P	Pn	07 09 15.5	+3.0
	128nm,0.6s,2μm0.5nm						
DAV	Davao City (W)	7.00	4	P	Pn	07 09 17.7	+0.9
	280nm,0.4s,baz=265,slow=8.1,SNR=1.9						
DAV				S	Sn	07 10 37.6	+2.6
	212nm,0.4s,baz=35,slow=16,SNR=1.3						
BKSI	Bulukumba	7.32	223	P	Pn	07 09 24.1	+2.9
	66nm,0.6s,0.2nm						
KAPI	Kappang	7.37	227	Pn	Pn	07 09 23.8	+1.9
KAPI	Kappang	7.37	227	P	Pn	07 09 23.6	+1.8
	9.9nm,0.3s,baz=296,slow=4.5,SNR=15						
KAPI				S	Sn	07 10 40.7	-3.4
	17nm,0.7s,baz=215,slow=21,SNR=1.0						
KAPI				LR	LR	07 12 36.8	
	comp=Z,270nm,21.4s,baz=43,slow=41						
KAPI	Kappang	7.37	227	P	Pn	07 09 25.3	+3.5
FAKI	Fak Fak	7.68	113	Pn	Pn	07 09 26.1	-0.1
FAKI	Fak Fak	7.68	113	P	Pn	07 09 26.4	+0.2
	41nm,0.9s,0.3nm						
BSSI	Bau Bau, Buton	7.70	217	P	Pn	07 09 29.8	+3.3
	105nm,1.0s,1μm0.4nm						
MYLDM	Lahad Datu	8.37	308	Pn	Pn	07 09 38.8	+3.2
MYLDM	Lahad Datu	8.37	308	P	Pn	07 09 40.3	+4.7
MMRI	Maumere	9.09	199	Pn	Pn	07 09 47.0	+1.5
SOEI	Soe	9.77	185	Pn	Pn	07 09 54.2	-0.7
SOEI	Soe	9.77	185	P	Pn	07 09 57.0	+2.1
SOEI	Soe	9.77	185	P	Pn	07 09 58.1	+3.2
	105nm,0.8s						
BATI	Baumata	10.29	188	P	Pn	07 10 03.6	+1.8
	23nm,0.4s,baz=14,slow=4.2,SNR=1.5						
BATI				LR	LR	07 14 39.9	
	comp=Z,235nm,21.9s,baz=24,slow=41						
KKM	Kota Kinabalu	10.73	304	Pn	Pn	07 10 08.5	+0.5
SBUM	Sibu	13.14	281		Pn	07 10 40.5	-0.4
SBUM	Sibu	13.14	281	P	P	07 10 46.4	-3.0
DRS	Darwin Rock St	13.64	155	P	Pn	07 10 49.7	+2.0
MTN	Manton Dam	14.11	155		Pn	07 10 54.6	+0.5
MTN	Manton Dam	14.11	155	P	Pn	07 10 54.5	+0.5
KDU	Kakadu	14.58	150	P	Pn	07 10 59.9	-0.4
PWJI	Pagerwojo	15.53	239	P	P	07 11 17.2	+1.3
	40nm,0.8s						
KNRA	Kununurra	16.02	167		Pn	07 11 19.2	+0.4
KNRA				IAmb	IAmb	07 11 21.1	
	comp=Z,89nm,0.8s						
KPJI	Karang Pucung	17.75	245	P	P	07 11 42.9	+2.3
	comp=Z,30nm,0.9s						
FITZ	Fitzroy Crossi	18.03	178	P	P	07 11 44.5	+0.9
FITZ	Fitzroy Crossi	18.03	178	P	P	07 11 44.4	+0.7
	comp=Z,30nm,0.8s,baz=16,slow=8.1,SNR=36						
FITZ				LR	LR	07 19 23.3	
	comp=Z,51nm,19.2s,baz=14,slow=39						
WB0	Warramunga Arr	21.67	156	P	P	07 12 22.5	-0.7
WB0				IAmb	IAmb	07 12 27.2	
	comp=Z,38nm,0.9s						
MBWA	Marble Bar	21.73	194	P	P	07 12 23.7	-0.1
MBWA				IAmb	IAmb	07 12 25.2	
	comp=Z,31nm,1.1s						
WRA	Warramunga Arr	21.81	156	P	P	07 12 22.8	-1.9
WRA	Warramunga Arr	21.81	156	P	P	07 12 24.1	-0.6
	comp=Z,26nm,0.9s,baz=332,slow=11,SNR=62						
	comp=Z,26nm,0.9s						
PSA00	Pilbara Seismi	22.10	193	P	P	07 12 27.1	-0.7
PSA00				IAmb	IAmb	07 12 34.0	
	comp=Z,31nm,1.1s						
PSA00	Pilbara Seismi	22.10	193	P	P	07 12 28.0	+0.2
MANU	Manus Island	22.31	95	P	P	07 12 29.1	-1.1
MANU				IAmb	IAmb	07 12 51.9	
	comp=Z,23nm,0.9s						
COEN	Coen	22.63	129	P	P	07 12 33.8	+0.2
COEN				IAmb	IAmb	07 12 41.4	
	comp=Z,31nm,0.9s						
COEN	Coen	22.63	129	P	P	07 12 35.5	+2.0
TPUB	Ta-pu	23.53	350	P	P	07 12 42.8	+0.3
TPUB				IAmb	IAmb	07 12 56.3	
	comp=Z,28nm,1.0s						
PMG	Port Moresby	23.84	114	P	P	07 12 44.0	-1.4
PMG	Port Moresby	23.84	114	P	P	07 12 45.8	+0.5
	comp=Z,5.8nm,0.4s,baz=300,slow=8.1,SNR=2.2						
PMG				S	S	07 16 51.8	-6.0
	comp=Z,24nm,0.8s,baz=337,slow=13,SNR=7.0						
	comp=Z,5.8nm,0.4s						
QIS	Mount Isa	24.88	146	P	P	07 12 56.4	+1.5
AS31	Alice Springs	25.05	161	P	P	07 12 57.4	+1.0
ASAR	Alice Springs	25.05	161	P	P	07 12 57.4	+1.0
ASAR	Alice Springs	25.05	161	P	P	07 12 57.2	+0.9
	comp=Z,11nm,0.6s,baz=340,slow=7.8,SNR=257						
	comp=Z,11nm,0.6s						
WRKA	Warakurna	25.12	173	P	P	07 12 58.2	+1.3
OOD	Oodnadatta	29.47	161	P	P	07 13 38.4	+2.5
MORW	Morawa	30.23	196	P	P	07 13 42.3	-0.3
MORW				IAmb	IAmb	07 13 55.0	
	comp=Z,33nm,1.4s						
FORT	Forrest	30.77	175	P	P	07 13 47.7	+0.3
FORT				IAmb	IAmb	07 13 49.2	
	comp=Z,16nm,0.7s						
INKA	Innaminka	31.42	153	P	P	07 13 54.9	+1.8
CM31	Chiang Mai Arr	31.59	307	P	P	07 13 54.8	0.0
CM31				IAmb	IAmb	07 14 13.7	
	comp=Z,6.0nm,0.6s						
CMAR	Chiang Mai Arr	31.59	307	P	P	07 13 53.5	-1.2
CMAR	Chiang Mai Arr	31.59	307	P	P	07 13 56.0	+1.2
	comp=Z,1.2nm,0.3s,baz=128,slow=6.4,SNR=7.0						
	comp=Z,1.2nm,0.3s						
CHTO	Chiang Mai	31.78	307	P	P	07 13 56.2	-0.2
NJ2	Nanjing	32.39	350	*e*P	P	07 14 03.0	+1.4
LCRK	Leigh Creek	32.77	159	P	P	07 14 05.9	+1.0
JNU	Nakatsue	33.34	9	LR	LR	07 26 07.4	
	comp=Z,41nm,21.7s,baz=359,slow=33						
BBOO	Buckleboo	34.26	164	P	P	07 14 17.9	+0.1
BBOO				IAmb	IAmb	07 14 18.9	
	comp=Z,8.0nm,0.8s						
PZH	PanZhiHua	34.65	321	P	P	07 14 21.5	0.0
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,160nm,5.0s						
WHYH	Whyalla	34.92	162	P	P	07 14 25.5	+1.9
STKA	Stephens Creek	35.35	155	P	P	07 14 28.6	+1.2
STKA				IAmb	IAmb	07 14 30.3	
	comp=Z,9.4nm,1.3s						
STKA	Stephens Creek	35.35	155	P	P	07 14 28.2	+0.8
	comp=Z,12nm,0.5s,baz=334,slow=8.6,SNR=30						
	comp=Z,12nm,0.5s						
HTT	Hallett	35.73	160	P	P	07 14 32.3	+1.7
CMSA	Cobar Meteorol	36.95	150	P	P	07 14 42.8	+1.8
XAN	Xi'an	37.09	337	⇓P	P	07 14 40.8	-1.4
XAN				pmax	pmax		
	comp=Z,14nm,0.7s						
JGF	Kuroka	37.16	17	P	P	07 14 43.0	+0.2
JGF				IAmb	IAmb	07 14 55.9	
	comp=Z,21nm,1.5s						
KSRS	Korea Array	37.32	4	P	P	07 14 44.5	+0.5
	comp=Z,9.0nm,0.8s,baz=179,slow=10,SNR=40						
KSRS				LR	LR	07 29 44.5	
	comp=Z,33nm,21.5s,baz=340,slow=36						
	comp=Z,9.0nm,0.8s						
KS19	Wonju Array Si	37.36	4	P	P	07 14 43.1	-1.3
KS19				IAmb	IAmb	07 14 46.4	
	comp=Z,12nm,0.8s						
MJAR	Matsushiro Arr	38.29	17	P	P	07 14 51.1	-1.2
	comp=Z,4.6nm,0.7s,baz=191,slow=8.3,SNR=6.6						
	comp=Z,4.6nm,0.7s						
MJB9	Matsu-Tunnel	38.29	17	P	P	07 14 50.6	-1.7
MJB9				IAmb	IAmb	07 14 57.4	
	comp=Z,7.3nm,0.7s						
ARMA	Armidale	39.39	143	P	P	07 15 02.4	+0.7
ARPS	Mount Arapiles	39.76	159	P	P	07 15 06.3	+1.8
JMM	Marumori	40.31	19	P	P	07 15 09.3	+0.3
LZH	Lanzhou	40.97	333	*e*P	P	07 15 19.0	+4.3
LZH				pP	pP	07 15 27.0	-0.7
LZH				pmax	pmax		
	comp=Z,17nm,0.9s						
TOO	Toolangi	41.88	156	P	P	07 15 22.1	0.0
HHC	Hu-ho-hao-te	42.45	345	*e*P	P	07 15 29.5	+2.8
HHC				pmax	pmax		
	comp=Z,14nm,0.7s						
HHC				pmax	pmax		
	comp=Z,79nm,6.8s						
JTM	Tenmabayashi	43.06	18	P	P	07 15 31.4	-0.1
CN2	Changchun	43.57	0	*e*P	P	07 15 35.8	+0.2
CN2				*e*pP	pwP	07 15 51.3	-1.2
USA0B	Ussuriysk Arra	44.39	7	P	P	07 15 41.8	-0.3
USA0B				IAmb	IAmb	07 15 48.1	
	comp=Z,8.1nm,0.7s						
USRK	Ussuriysk Ar.	44.39	7	P	P	07 15 41.5	-0.6
USRK	Ussuriysk Ar.	44.39	7	P	P	07 15 42.5	+0.3
	comp=Z,7.8nm,0.7s,baz=190,slow=7.7,SNR=15						
	comp=Z,7.8nm,0.7s						
MDJ	Mudanjiang	44.56	5	P	P	07 15 43.8	+0.3
MDJ				IAmb	IAmb	07 15 47.1	
	comp=Z,11nm,0.6s						
MDJ	Mudanjiang	44.56	5	P	P	07 15 43.0	-0.5
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MDJ	Mudanjiang	44.56	5	P	P	07 15 46.1	+2.6
GTA	Gaotai	45.52	332	*e*P	P	07 15 52.3	+0.9
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BNX	BinXian	45.55	2	⇓P	P	07 15 51.0	-0.3
BNX				pmax	pmax		
	comp=Z,12nm,1.1s						
JKA	Kamikawa-asahi	46.56	17	P	P	07 15 58.7	-0.6
HEH	HeiHe	50.06	2	*e*P	P	07 16 26.0	-0.2
HEH				pmax	pmax		
	comp=Z,16nm,0.7s						
SONM	Songino Array	50.32	344	P	P	07 16 27.4	-0.9
SONM	Songino Array	50.32	344	P	P	07 16 27.5	-0.9
	comp=Z,3.2nm,0.8s,baz=159,slow=9.1,SNR=17						
	comp=Z,3.2nm,0.8s						
WMQ	Urumqi	54.89	327	*e*P	P	07 17 03.0	+0.8
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
WHZ	Wether Hill Ro	59.21	146	P	P	07 17 32.6	0.0
MK31	Makanchi Array	59.72	327	P	P	07 17 34.4	-1.8
MK31				IAmb	IAmb	07 17 47.0	
	comp=Z,7.5nm,0.8s						
MKAR	Makanchi Array	59.72	327	P	P	07 17 35.1	-1.0
	comp=Z,1.5nm,0.4s,baz=141,slow=7.7,SNR=13						
	comp=Z,1.5nm,0.4s						
RPZ	Rata Peaks	59.73	143	P	P	07 17 37.1	+0.9
NRN	Naryn	60.51	319	P	P	07 17 42.1	+0.1
YAK	Yakutsk	61.93	2	P	P	07 17 50.9	+0.2
AAK	Ala-Archa	62.07	320	P	P	07 17 51.6	-0.8
AAK	Ala-Archa	62.07	320	LR	LR	07 47 46.6	
	comp=Z,51nm,18.1s,baz=333,slow=39						
KBL	Kabul	62.56	309	P	P	07 17 54.9	-1.0
KBL				IAmb	IAmb	07 17 56.6	
	comp=Z,8.1nm,0.9s						
ZALV	Zalesovo Beam	63.18	335	P	P	07 17 57.4	-1.9
ZALV	Zalesovo Beam	63.18	335	P	P	07 17 58.0	-1.3
	comp=Z,0.9nm,0.3s,baz=141,slow=6.8,SNR=6.5						
	comp=Z,0.9nm,0.3s						
GAR	Garm	63.30	315	P	P	07 17 59.7	-0.9
GAR				IAmb	IAmb	07 18 07.1	
	comp=Z,8.4nm,0.8s						
BTK	Batken	63.38	316	P	P	07 18 00.8	-0.3
KURBB	Kurchatov Arra	64.02	329	P	P	07 18 03.5	-1.4
	comp=Z,2.7nm,0.6s,baz=132,slow=5.8,SNR=4.4						
	comp=Z,2.7nm,0.6s						
KURK	Kurchatov	64.03	329	P	P	07 18 03.6	-1.3
KURK				IAmb	IAmb	07 18 06.1	
	comp=Z,14nm,0.9s						
KKAR	Karatay Array	64.89	319	P	P	07 18 09.7	-1.0
BVAR	Borovoye Array	69.57	328	P	P	07 18 38.6	-1.6
	comp=Z,1.1nm,0.6s,baz=138,slow=7.4,SNR=5.0						
	comp=Z,1.1nm,0.6s						
BRVK	Borovoye	69.64	328	P	P	07 18 39.9	-0.7
TIXI	Tiksi	71.53	1	P	P	07 18 51.1	-0.7
NRIK	Noril'sk	73.63	347	P	P	07 19 04.0	-0.3
NRIK				IAmb	IAmb	07 19 04.9	
	comp=Z,6.8nm,0.7s						
NRIK	Noril'sk	73.63	347	P	P	07 19 04.0	-0.3
	comp=Z,6.1nm,0.5s,baz=121,slow=4.7,SNR=14						
	comp=Z,6.1nm,0.5s						
ABKAR	Akbulak array	74.02	322	P	P	07 19 05.7	-1.2
VOI	Vohitsoka	79.21	248	P	P	07 19 35.9	-1.1
MAW	Mawson	79.77	200	P	P	07 19 39.2	+0.3
	comp=Z,2.9nm,0.8s,baz=57,slow=10,SNR=5.6						
	comp=Z,2.9nm,0.8s						
K15K	Wolf Creek Mou	82.25	27	P	P	07 19 54.6	+2.3
J16K	Anvik River	82.92	26	P	P	07 19 57.1	+1.4
J16K				IAmb	IAmb	07 20 20.1	
	comp=Z,13nm,1.1s						
L16K	Owhat River	83.06	28	P	P	07 19 57.3	+0.8
L16K				IAmb	IAmb	07 20 17.1	
	comp=Z,12nm,1.0s						
M16K	Timber Creek	83.15	28	P	P	07 19 57.6	+0.6
M16K				IAmb	IAmb	07 20 18.0	
	comp=Z,9.4nm,0.9s						
J17K	VABM Dome	83.61	26	P	P	07 20 00.2	+1.0
N17K	Nushagak Hills	83.90	29	P	P	07 20 01.9	+1.0
L18K	Granite Mounta	84.45	27	P	P	07 20 04.5	+0.9
L18K				IAmb	IAmb	07 20 24.6	
	comp=Z,4.9nm,0.8s						
G19K	Purcell Mounta	85.02	24	P	P	07 20 06.8	+0.5
OHAK	Old Harbor	85.39	33	P	P	07 20 08.3	-0.1
M20K	Styx River	86.05	28	P	P	07 20 11.7	0.0
M20K				IAmb	IAmb	07 20 36.8	
	comp=Z,6.4nm,1.1s						
B21K	Ikpikpuk River	86.56	20	P	P	07 20 14.2	+0.3
B21K				IAmb	IAmb	07 20 37.0	
	comp=Z,9.4nm,1.1s						
BRLK	Bradley Lake	86.92	30	P	P	07 20 15.5	-0.4
E22K	Anaktuvuk Pass	87.36	22	P	P	07 20 17.3	-0.7
KMBO	Kilima Mbogo	87.90	269	P	P	07 20 22.3	+0.4
	comp=Z,1.7nm,0.3s,baz=45,slow=8.6,SNR=1.8						
	comp=Z,1.7nm,0.3s						
C23K	Itkillik River	87.97	20	P	P	07 20 20.6	-0.1
C23K				IAmb	IAmb	07 20 26.9	
	comp=Z,8.4nm,1.3s						
I23K	Minto, Yukon-K	88.06	25	P	P	07 20 20.6	-0.6
H24K	Noodor Dome	88.72	24	P	P	07 20 24.3	-0.1
ILAR	Eielson Array	89.09	25	P	P	07 20 24.8	-1.3
	comp=Z,0.2nm,0.6s,baz=261,slow=4.4,SNR=4.9						
	comp=Z,0.2nm,0.6s						
M24K	Tolsona, Glenn	89.34	28	P	P	07 20 27.5	0.0
M24K				IAmb	IAmb	07 20 31.2	
	comp=Z,4.2nm,0.8s						
QSPA	South Pole Qui	89.97	180	P	P	07 20 29.2	-1.2
QSPA				IAmb	IAmb	07 20 51.7	
	comp=Z,4.6nm,1.2s						
BMAR	Burnt Mountain	90.07	23		P	07 20 31.0	+0.3
GLB	Gilahina Butte	90.47	29	P	P	07 20 32.6	-0.1
GLB				IAmb	IAmb	07 20 53.0	
	comp=Z,5.8nm,1.1s						
L26K	Log Cabin Wild	90.65	27		P	07 20 34.0	+0.5
BRTR	Keskin Array B	91.14	310	P	P	07 20 36.5	0.0
	comp=Z,1.0nm,0.8s,baz=107,slow=8.1,SNR=3.6						
	comp=Z,1.0nm,0.8s						
L27K	Beaver Creek,	91.34	27	P	P	07 20 37.1	+0.3
L27K				IAmb	IAmb	07 20 38.8	
	comp=Z,1.9nm,0.7s						
I28M	Miner Creek	92.02	25	P	P	07 20 39.4	-0.5
ARCES	ARCESS Array B	93.34	340	P	P	07 20 45.3	-0.4
	comp=Z,6.1nm,1.0s,baz=98,slow=4.6,SNR=2.3						
	comp=Z,6.1nm,1.0s						
HYT	Haines Junctio	93.56	29	P	P	07 20 47.0	-0.1
HYT				IAmb	IAmb	07 21 12.2	
	comp=Z,6.9nm,1.3s						
G31M	Satah River	94.11	23	P	P	07 20 48.1	-1.2
FINES	FINESS Array B	94.31	332	P	P	07 20 48.8	-1.5
	comp=Z,5.9nm,1.1s,baz=54,slow=7.1,SNR=1.9						
	comp=Z,5.9nm,1.1s						
FARO	Faro, Yukon	95.32	27	P	P	07 20 55.6	+0.5
PDAR	Pinedale Array	115.15	42	PKP	PKiKP	07 26 13.2	+0.3
	comp=Z,0.1nm,0.4s,baz=238,slow=3.1,SNR=1.3						
TORD	Torodi Ar. Bea	122.47	286	PKP	PKPdf	07 26 26.9	-0.4
	comp=Z,0.6nm,0.5s,baz=19,slow=1.8,SNR=5.9						
TXAR	Lajitas Array	125.08	53	PKP	PKPdf	07 26 31.5	-0.7
	comp=Z,0.2nm,0.8s,baz=261,slow=1.7,SNR=2.3						
CPUP	Villa Florida	153.75	175	PKP	PKPdf	07 27 23.7	+0.8
	comp=Z,1.5nm,1.0s,baz=117,

OOD	Oodnadatta	21.55	151	P	P	07 16 53.9	+2.9
FORT	Forrest	21.84	171	P	P	07 16 54.9	+0.9
FORT				IAmb	IAmb	07 17 05.2	
	comp=Z,42nm,1.4s						
FORT	Forrest	21.84	171	P	P	07 16 58.2	+4.2
MULG	Mulgathing	23.01	157	P	P	07 17 08.4	+2.3
BBOO	Buckleboo	26.03	156	P	P	07 17 34.7	+1.2
BBOO				IAmb	IAmb	07 17 51.5	
	comp=Z,27nm,1.5s						
BBOO	Buckleboo	26.03	156	P	P	07 17 35.7	+2.2
MK31	Makanchi Array	66.97	330	P	P	07 22 50.5	-1.2
MKAR	Makanchi Array	66.97	330	P	P	07 22 51.3	-0.4
	comp=Z,1.9nm,0.9s,baz=147,slow=7.3,SNR=7.8 comp=Z,1.9nm,0.9s						
MSEY	Mahe Island	68.13	269	P	P	07 22 59.9	+0.2
ZALV	Zalesovo Beam	71.06	337	P	P	07 23 15.0	-1.8
	comp=Z,0.3nm,0.3s,baz=99,slow=4.5,SNR=2.1 comp=Z,0.3nm,0.3s						
ABKAR	Akbulak array	80.61	323	P	P	07 24 09.4	-1.8
SNAA	Sanae	92.15	195	P	P	07 25 07.3	-0.4
SNAA				IAmb	IAmb	07 25 34.0	
	comp=Z,3.5nm,1.2s						
TORD	Torodi Ar. Bea	123.39	280	PKP	PKiKP	07 30 57.2	+0.8
	comp=Z,0.3nm,0.6s,baz=114,slow=1.0,SNR=1.7						
CPUP	Villa Florida	144.70	178	PKPbc	PKPdf	07 31 37.0	+1.5
	comp=Z,1.4nm,0.7s,baz=192,slow=1.7,SNR=5.8						

*IDC **29** 07:13:20.2±1.3, 7°.24S×155°.41E, h0km, mb4.0/7, mbtmp4.1/8, ML1.9/1, MS3.3/4, Error ellipse: s-maj=40.1km s-min=24.6km az=111.0*

ISC 29 07:13:25.8±1.1, 7°.2S±0°.2×155°.3E±0°.2, h35km, n11, σ1§08/9, mb4.0/7, MS3.2/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.33	254	Pn	Pn	07 15 23.5	-0.7
	0.8nm,0.3s,baz=42,slow=14,SNR=2.6						
PMG				LR	LR	07 18 05.9	
	comp=Z,99nm,21.2s,baz=346,slow=34 10nm,0.6s						
WRA	Warramunga Arr	23.92	236	P	P	07 18 35.8	-1.0
	2.3nm,0.4s,baz=60,slow=9.9,SNR=2.4						
WRA				LR	LR	07 28 07.9	
	comp=Z,53nm,19.6s,baz=16,slow=37 2.3nm,0.4s						
ASAR	Alice Springs	26.23	229	P	P	07 18 57.3	-0.5
	1.1nm,0.7s,baz=58,slow=9.9,SNR=6.3 1.1nm,0.7s						
STKA	Stephens Creek	27.64	206	P	P	07 19 11.7	+1.3
	2.7nm,0.6s,baz=26,slow=13,SNR=4.6 2.7nm,0.6s						
FITZ	Fitzroy Crossi	30.82	247	LR	LR	07 31 28.8	
	comp=Z,49nm,18.8s,baz=72,slow=35						
TGY	Tagaytay City	40.15	302	LR	LR	07 38 15.9	
	comp=Z,83nm,19.8s,baz=129,slow=37						
CMAR	Chiang Mai Arr	61.15	296	P	P	07 23 38.5	+1.2
	1.1nm,0.3s,baz=112,slow=5.2,SNR=7.1 1.1nm,0.3s						
SONM	Songino Array	69.70	327	P	P	07 24 32.5	+0.3
	0.8nm,0.7s,baz=139,slow=7.8,SNR=4.9 0.8nm,0.7s						
QSPA	South Pole Qui	82.73	180	P	P	07 25 45.7	-0.3
	0.6nm,0.3s,baz=6.1,slow=4.6,SNR=1.7 0.6nm,0.3s						
ILAR	Eielson Array	83.50	21	P	P	07 25 48.6	-1.2
	0.7nm,0.9s,baz=251,slow=5.6,SNR=3.9 0.7nm,0.9s						
TORD	Torodi Ar. Bea	153.37	285	PKPbc	PKiKP	07 33 22.5	+0.8
	0.2nm,0.4s,baz=67,slow=3.5,SNR=3.9						

IDC 29 07:28:11.1±7.0, 53°.84N×88°.45E, h0km, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=77.8km s-min=30.2km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	2.15	274	Pn	Pn	07 28 48.8	+0.7
	2.9nm,0.3s,baz=89,slow=14,SNR=23						
ZALV				Sn	Sn	07 29 16.5	+1.0
	4.4nm,0.3s,baz=94,slow=25,SNR=16 6.0nm,0.4s						
KURBB	Kurchatov Arra	6.89	246	Pn	Pn	07 29 53.0	-0.2
	0.2nm,0.3s,baz=59,slow=14,SNR=4.6 1.9nm,0.3s						
MKAR	Makanchi Array	8.07	212	Pn	Pn	07 30 10.8	+1.3
	0.1nm,0.3s,baz=30,slow=14,SNR=5.6 0.2nm,0.3s						
I34MN	SONGINO INFRAS	12.85	111	I	I	08 42 00.0	
	baz=309,slow=319,SNR=0.3						

IDC 29 07:34:15.9±2.3, 21°.91S×176°.64W, h373km±22km, mb3.0/3, mbtmp3.8/4, Error ellipse: s-maj=31.6km s-min=29.1km az=178.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.50	309	P	Pn	07 35 53.7	+0.4
	16nm,0.7s,baz=129,slow=14,SNR=13						
RAO	Raoul Island	7.40	189	P	Pn	07 36 02.9	-0.5
	476nm,0.3s,baz=7.0,slow=14,SNR=6.0						
ASAR	Alice Springs	45.45	258	P	P	07 42 00.9	+1.4
	2.5nm,0.6s,baz=89,slow=8.2,SNR=61 2.5nm,0.6s						
WRA	Warramunga Arr	45.67	263	P	P	07 41 59.5	-1.9
	0.3nm,0.5s,baz=97,slow=6.6,SNR=11 0.3nm,0.5s						
TXAR	Lajitas Array	86.76	57	P	P	07 46 19.3	+0.1
	0.3nm,0.7s,baz=207,slow=5.3,SNR=4.1 0.3nm,0.7s						

*AFAD **29** 07:39:04.8±0.0, 35°.40N×27°.17E, h11km±2km, ML2.3*
*ISK **29** 07:39:08.1, 35°.50N×27°.19E, h25km, ML2.4/13*
*ATH **29** 07:39:08.6, 35°.52N×27°.26E, h19km±4km, ML2.8/5, Manual Solution by S.Liakopoulos First location: 2018/11/29 07:40:54, This location: 2019/01/29 09:02:05 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 14 km; Longitude uncertainty: 23 km*
*THE **29** 07:39:09.0, 35°.46N×27°.33E, h11km±1km, ML2.6/2, Error ellipse: s-maj=2.3km s-min=0.7km az=317.0*

ISC 29 07:39:09.4±1.0, 35°.53N±0°.05×27°.22E±0°.04, h20km±3km, n36, σ0§72/55, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.05	289	Pg	Pg	07 39 12.7	-0.3
KARP				Sg	Sg	07 39 16.1	+0.6
KARP	Karpathos	0.05	289	P	Pg	07 39 12.6	-0.4
KARP				S	Sg	07 39 16.0	+0.6
KARP	Karpathos	0.05	289	P	Pg	07 39 12.5	-0.5
KARP				S	Sg	07 39 15.5	0.0
ZKR	Zakros	0.92	244	P	Pb	07 39 26.2	-0.5
ZKR				S	Sn	07 39 41.0	+1.1
	320nm,0.5s						
ZKR	Zakros	0.92	244	P	Pb	07 39 26.2	-0.5
ARG	Arkhangelos	1.00	47	Pg	Pb	07 39 27.6	-0.6
ARG				Sg	Sb	07 39 41.5	+0.6
ARG	Arkhangelos	1.00	47	P	Pb	07 39 27.5	-0.6
ARG				S	Sb	07 39 41.3	+0.4
	335nm,0.5s						
ARG	Arkhangelos	1.00	47	P	Pb	07 39 27.4	-0.7
ARG				S	Sb	07 39 39.5	-1.4
YAZI	Mula-Dat§a-	1.16	9	P	Pn	07 39 30.7	+0.1
YAZI				S	Sg	07 39 47.2	0.0
YAZI				*i* AML	AML	07 39 51.0	
	comp=E,35nm,0.6s						
YAZI				*i* AML	AML	07 39 56.0	
	comp=N,26nm,0.8s						
DAT	Datca	1.23	13	P	Pn	07 39 31.2	-0.4
DAT				S	Sn	07 39 48.4	+0.7
DAT				*i* AML	AML	07 39 51.0	
	comp=E,58nm,0.7s						
DAT				*i* AML	AML	07 39 53.0	
	comp=N,67nm,0.4s						
DAT	Datca	1.23	13	Pn	Pn	07 39 30.7	-0.9
DAT				Sn	Sb	07 39 47.6	0.0
DAT	Datca	1.23	13	P	Pn	07 39 31.6	0.0
DAT				S	Sn	07 39 48.5	+0.7
ASTA	Astypalaia	1.23	325	P	Pn	07 39 31.2	-0.3
DATC	Datca-Mugla	1.28	16	Pn	Pn	07 39 31.4	-0.7
MRSB	Marmaris-Mugla	1.42	33	Pn	Pn	07 39 33.4	-0.8
TURN	Turunc	1.49	33	P	Pn	07 39 35.7	+0.6
TURN				S	Sg	07 39 57.7	0.0
TURN				*i* AML	AML	07 40 02.0	
	comp=N,38nm,0.3s						
TURN				*i* AML	AML	07 40 38.0	
	comp=E,67nm,2.1s						
TURN	Turunc	1.49	33	Pn	Pn	07 39 34.7	-0.4
BODT	Bodrum	1.53	3	Pn	Pn	07 39 34.9	-0.8
AMGA	Amorgos Island	1.69	321	P	Pn	07 39 37.7	-0.1
DALY	Dalyan (Mula)	1.73	42	Pn	Pn	07 39 38.2	-0.1
YER	Yerkesik	1.82	28	Pn	Pn	07 39 39.4	-0.2
IZZE	Mula-Seydike	1.86	60	P	Pn	07 39 39.6	-0.6
IZZE				S	Sg	07 40 08.3	-1.0
IZZE				*i* AML	AML	07 40 09.0	
	comp=N,39nm,0.4s						
IZZE				*i* AML	AML	07 40 31.0	
	comp=E,14nm,0.4s						
FETY	Fethiye	1.87	53	P	Pb	07 39 43.8	+1.0
FETY				S	Sg	07 40 11.8	+2.2
FETY	Fethiye	1.87	53	Pn	Pn	07 39 40.5	+0.2
SABU	Mula-Dalaman	1.91	47	P	Pn	07 39 41.5	+0.6
SABU				S	Sg	07 40 12.1	+1.0
SABU				*i* AML	AML	07 40 19.0	
	comp=E,29nm,1.4s						
SABU				*i* AML	AML	07 40 21.0	
	comp=N,23nm,0.4s						
IDI	Anoyia	1.92	263	P	Pn	07 39 41.6	+0.6
MULA	Mugla, Merkez-	1.94	27	P	Pn	07 39 41.2	-0.1
MULA				S	Sg	07 40 11.7	-0.2
MULA				*i* AML	AML	07 40 15.0	
	comp=E,35nm,0.6s						
MULA				*i* AML	AML	07 40 16.0	
	comp=N,21nm,0.6s						
APE	Apeiranthos	2.06	319	Pn	Pn	07 39 42.2	-0.7
APE	Apeiranthos	2.06	319	P	Pn	07 39 43.4	+0.5
CAME	Cameli-Denizli	2.19	49	Pn	Pn	07 39 45.0	+0.1
SMG	Samos	2.20	352	P	Pb	07 39 49.5	+1.0
DNZT	Denizli-Tavas-	2.27	39	P	Pn	07 39 46.6	+0.7
DNZT				S	Sb	07 40 16.1	-1.4
DNZT				*i* AML	AML	07 40 24.0	
	comp=E,21nm,2.2s						
DNZT				*i* AML	AML	07 40 59.0	
	comp=N,15nm,2.3s						
TAVA	DENIZLI_Tavas	2.36	35	P	Pn	07 39 48.5	+1.3
TAVA				S	Sb	07 40 19.8	-0.4
TAVA				*i* AML	AML	07 40 32.0	
	comp=E,16nm,0.7s						
ESEN	Aydn-Nazilli	2.44	21	P	Pn	07 39 48.7	+0.6
ESEN				S	Sn	07 40 16.7	-0.6
ESEN				*i* AML	AML	07 41 14.0	
	comp=E,18nm,3.3s						
APMY	Acipayam-Deniz	2.56	40	Pn	Pn	07 39 49.8	-0.1
NAZL	Nazilli-Aydin	2.58	19	Pn	Pn	07 39 49.9	-0.2

*IDC **29** 07:40:34.5±1.3, 7°.13S×154°.85E, h0km, mb3.7/7, mbtmp3.7/7, MS2.9/2, Error ellipse: s-maj=52.1km s-min=24.3km az=111.0*

ISC 29 07:40:40.7±1.2, 7°.2S±0°.2×154°.8E±0°.3, h41km, n9, σ0§71/8, mb3.6/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.59	114	LR	LR	07 44 14.5	
	comp=Z,57nm,19.2s,baz=172,slow=40						
WRA	Warramunga Arr	23.55	235	P	P	07 45 46.7	-0.9
	0.9nm,0.6s,baz=58,slow=9.0,SNR=10 0.9nm,0.6s						
ASAR	Alice Springs	25.91	228	P	P	07 46 09.3	+0.1
	0.5nm,0.7s,baz=61,slow=9.1,SNR=6.6 0.5nm,0.7s						
STKA	Stephens Creek	27.50	205	P	P	07 46 23.1	-0.3
	1.1nm,0.6s,baz=43,slow=14,SNR=3.5						
STKA				LR	LR	07 56 43.0	
	comp=Z,54nm,18.4s,baz=184,slow=35 1.1nm,0.6s						
SONM	Songino Array	69.36	327	P	P	07 51 44.6	+0.3
	0.6nm,0.8s,baz=145,slow=5.3,SNR=3.4 0.6nm,0.8s						
QSPA	South Pole Qui	82.82	180	P	P	07 53 01.2	+0.6
	0.9nm,0.3s,baz=325,slow=2.6,SNR=3.1 0.9nm,0.3s						
MKAR	Makanchi Array	83.39	319	P	P	07 53 04.3	+0.5
	0.5nm,0.7s,baz=97,slow=5.0,SNR=3.7 0.5nm,0.7s						
ILAR	Eielson Array	83.60	22	P	P	07 53 03.5	-0.9
	0.5nm,0.9s,baz=239,slow=5.3,SNR=4.1 0.5nm,0.9s						
TORD	Torodi Ar. Bea	152.86	285	PKPbc	PKPbc	08 00 34.8	+0.3
	0.5nm,0.7s,baz=66,slow=4.9,SNR=5.2						

*NIC **29** 07:42:48.4, 35°.77N×30°.87E, h40km±26km, Ml2.6/5*
*ISK **29** 07:42:51.6, 35°.65N×31°.37E, h4km, ML2.7/23*
*AFAD **29** 07:42:52.4±0.0, 35°.51N×31°.29E, h43km±1km, ML2.6*

ISC 29 07:42:52.8±1.1, 35°.58N±0°.03×31°.33E±0°.02, h15km±9km, n62, σ1§77/99, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	Akamas	0.99	124	P	Pg	07 43 11.4	-0.7
AKMS				S	Sn	07 43 30.3	+4.2
AKMS				AML	AML	07 43 31.2	
	0.6nm,0.3s						
AKMS				AML	AML	07 43 32.0	
	0.4nm,0.4s						
AKUM	Antalya-Kumluc	1.09	313	P	Pb	07 43 13.5	+0.1
AKUM				S	Sn	07 43 30.9	+2.4
AKUM				*i* AML	AML	07 43 34.0	
	comp=N,130nm,0.7s						
AKUM				*i* AML	AML	07 43 34.0	
	comp=E,82nm,0.3s						
ALFC	Alefka	1.12	112	P	Pg	07 43 13.2	-1.3
ALFC				S	Sn	07 43 33.3	+4.0
ALFC				AML	AML	07 43 35.6	
	0.5nm,0.2s						
ALFC				AML	AML	07 43 36.4	
	0.4nm,0.2s						
ALAN	Alanya-ANTALYA	1.13	30	Pg	Pg	07 43 12.1	-2.6
ALAN				Sg	Sg	07 43 27.6	-1.9
AKDN	Akdeniz- Kıbrı	1.37	101	Pn	Pb	07 43 17.9	-0.2
AKDN				Sn	Sg	07 43 36.9	0.0
TROD	Troodos	1.41	116	P	Pn	07 43 17.9	-0.2
TROD				S	Sg	07 43 40.0	+1.7
TROD				AML	AML	07 43 43.7	
	0.2nm,0.7s						
TROD				AML	AML	07 43 46.4	
	0.2nm,0.5s						
BOZY	Bozyazi-Mersin	1.44	68	Pn	Pn	07 43 18.1	-0.3
AKAS	Kas	1.54	296	P	Pb	07 43 21.1	-0.2
AKAS				S	Sg	07 43 49.5	+6.9
AKAS				*i* AML	AML	07 43 56.0	
	comp=N,81nm,0.5s						
AKAS				*i* AML	AML	07 44 13.0	
	comp=E,61nm,1.6s						
TEKE	Tekeli-Mersin	1.56	68	Pn	Pn	07 43 19.7	-0.3
KORT	Korkueli	1.63	331	P	Pg	07 43 24.8	+0.7
KORT				S	Sg	07 43 46.9	+1.7
ERMK	Ermenek	1.67	50	P	Pn	07 43 22.0	+0.3
ERMK				S	Sg	07 43 45.1	-1.4
ERMK				*i* AML	AML	07 43 50.0	
	comp=E,72nm,0.3s						
ERMK				*i* AML	AML	07 43 54.0	
	comp=N,106nm,0.4s						
HDMB	Hadim	1.67	34	Pn	Pn	07 43 21.1	-0.7
HDMB				Sn	Sn	07 43 42.9	-0.2
BERE	Bereket-Mersin	1.72	63	Pn	Pn	07 43 21.8	-0.6
CSS	Mathiatis	1.75	110	Pn	Pn	07 43 23.7	+1.0
CSS	Mathiatis	1.75	110	P	Pn	07 43 22.7	0.0
CSS				S	Sg	07 43 48.7	-0.4
CSS				AML	AML	07 43 56.2	
	0.1nm,0.5s						
CSS				AML	AML	07 43 56.7	
	0.1nm,0.7s						
YORU	Yoruktepe-Mers	1.78	71	Pn	Pn	07 43 23.5	+0.3
BUCA	Burdur, Bucak-	1.85	341	P	Pb	07 43 26.7	+0.2
BUCA				S	Sg	07 43 56.2	+3.7
BUCA				*i* AML	AML	07 44 00.0	
	comp=E,50nm,0.8s						
SEYD	Seydisehir-KON	1.87	13	Pn	Pn	07 43 24.2	-0.3
AKK1	Akkuyu-Mersin	1.88	72	Pn	Pn	07 43 24.4	-0.1
AKKU	Akkuyu-Mersin	1.90	72	Pn	Pn	07 43 24.6	-0.1
GULN	MERSIN_Gulnar	1.90	71	P	Pn	07 43 25.0	+0.3
GULN				S	Sn	07 43 49.2	+0.8
GULN				*i* AML	AML	07 43 53.0	
	comp=N,50nm,0.6s						
GULN				*i* AML	AML	07 43 57.0	
	comp=E,53nm,0.6s						
KNIK	Mula-Seydike	1.90	312	P	Pn	07 43 24.6	-0.3
KNIK				S	Sn	07 43 49.2	+0.5
KNIK				*i* AML	AML	07 44 09.0	
	comp=N,35nm,1.1s						
SEDI	Konya, Seydise	1.90	10	P	Pn	07 43 24.7	-0.2
SEDI				S	Sn	07 43 48.9	+0.2
SEDI				*i* AML	AML	07 43 52.0	
	comp=E,76nm,0.6s						
SEDI				*i* AML	AML	07 43 53.0	
	comp=N,111nm,0.5s						
IZZE	Mula-Seydike	1.91	297	P	Pn	07 43 23.4	-1.5
IZZE				S	Sn	07 43 45.0	-3.6
IZZE				*i* AML	AML	07 44 01.0	
	comp=N,31nm,0.7s						
MVOU	Mavrovouni	1.97	106	P	Pn	07 43 25.3	-0.3
MVOU				S	Sg	07 43 55.9	-0.1
MVOU				AML	AML	07 44 04.9	
	0.2nm,0.5s						
MVOU				AML	AML	07 44 05.5	
	0.1nm,0.5s						
YESI	Yesilovacik-Me	1.98	71	Pn	Pn	07 43 26.2	+0.4
TISA	Tisan-Mersin	2.00	72	Pn	Pn	07 43 26.5	+0.4
IKL	Isikli	2.02	70	Pn	Pn	07 43 26.8	+0.4
KARG	Kargicak-Mersi	2.03	71	Pn	Pn	07 43 27.0	+0.4
KKBE	Karaman, Kazim	2.09	38	P	Pn	07 43 28.2	+0.7
KKBE				S	Sg	07 43 58.1	-2.1
KKBE				*i* AML	AML	07 44 02.0	
	comp=N,47nm,0.3s						
KKBE				*i* AML	AML	07 44 05.0	
	comp=E,70nm,0.7s						
FETY	Fethiye	2.10	301	P	Pn	07 43 26.9	-0.6
FETY				S	Sn	07 43 54.1	+0.6
KEBE	Keben-Mersin	2.12	65	Pn	Pn	07 43 28.2	+0.4
KRMN	Karaman	2.23	44	Pn	Pn	07 43 29.8	+0.4
CAEL	Denizli, Camel	2.24	314	P	Pg	07 43 38.0	+2.3
CAEL				S	Sg	07 44 13.0	+8.2
SILI	Silifke-Mersin	2.25	69	Pn	Pn	07 43 29.5	0.0
SLFK	Silifke-Mersin	2.27	68	Pn	Pn	07 43 29.6	-0.3
SABU	Mula-Dalaman	2.28	304	P	Pn	07 43 29.6	-0.4
SABU				S	Sn	07 43 54.8	-3.1
EREN	Erenkoy	2.32	90	Pn	Pn	07 43 31.5	+1.0
BRDR	BURDUR-Merkez	2.35	335	P	Pb	07 43 33.7	-1.2
BRDR				S	Sn	07 44 01.3	+1.6
BRDR				*i* AML	AML	07 44 22.0	
	comp=E,25nm,1.6s						
BRDR				*i* AML	AML	07 44 28.0	
	comp=N,23nm,1.9s						
KIZK	Mersin	2.45	68	P	Pn	07 43 33.4	+1.1
KIZK				S	Sb	07 44 05.3	-1.4
KIZK				*i* AML	AML	07 44 09.0	
	comp=N,31nm,0.7s						
KIZK				*i* AML	AML	07 44 15.0	
	comp=E,57nm,1.4s						
KIZK	Mersin	2.45	68	Pn	Pn	07 43 33.0	+0.7
KONT	Konya--Tatoy	2.50	19	P	Pn	07 43 34.2	+1.1
KONT				*i* AML	AML	07 44 15.0	
	comp=N,20nm,0.9s						
KONT				*i* AML	AML	07 44 29.0	
	comp=E,24nm,1.1s						
KONT	Konya--Tatoy	2.50	19	Pn	Pn	07 43 33.9	+0.8
DNZT	Denizli-Tavas-	2.52	313	P	Pn	07 43 32.8	-0.5
DOGA	KONYA_Doganhis	2.54	6	P	Pn	07 43 34.7	+1.0
DOGA				S	Sn	07 44 06.5	+2.0
DOGA				*i* AML	AML	07 44 10.0	
	comp=N,32nm,0.4s						
DOGA				*i* AML	AML	07 44 16.0	
	comp=E,42nm,0.8s						
INCE	Denizli-Bozkur	2.55	327	P	Pn	07 43 32.0	-1.8
INCE				S	Sn	07 44 05.3	+0.6
INCE				*i* AML	AML	07 44 13.0	
	comp=N,18nm,1.1s						
INCE				*i* AML	AML	07 44 20.0	
	comp=E,40nm,3.2s						
YVAC	Isparta, Yalva	2.69	359	P	Pn	07 43 36.8	+1.1
YVAC				S	Sn	07 44 08.2	+0.1
YVAC				*i* AML	AML	07 44 19.0	
	comp=E,16nm,0.6s						
TAVA	DENIZLI_Tavas	2.71	315	P	Pn	07 43 35.8	-0.1
TAVA				S	Sn	07 44 06.4	-2.2
TAVA				*i* AML	AML	07 44 25.0	
	comp=N,23nm,2.1s						
TAVA				*i* AML	AML	07 44 27.0	
	comp=E,26nm,1.0s						
DNIZ	Denizli-Tavas-	2.75	319	P	Pb	07 43 41.9	+0.1
DNIZ				S	Sb	07 44 13.4	-2.0
KZIL	AFYON_Kizioren	2.84	341	P	Pn	07 43 38.1	+0.4
KZIL				S	Sb	07 44 16.4	-1.6
KZIL				*i* AML	AML	07 44 25.0	
	comp=E,18nm,0.6s						
MERS	Mersin	2.89	63	Pn	Pn	07 43 38.9	+0.5
KERG	Konya-Eregli	2.91	50	P	Pn	07 43 39.4	+0.7
KERG				S	Sn	07 44 15.5	+2.0
KERG				*i* AML	AML	07 44 21.0	
	comp=E,21nm,0.4s						
KERG				*i* AML	AML	07 44 27.0	
	comp=N,28nm,0.3s						
YESY	Yesilyurt	2.94	41	Pn	Pn	07 43 39.4	+0.3
ALIN	Konya, Altinte	2.99	24	P	Pn	07 43 41.5	+1.7
ALIN				S	Sn	07 44 17.9	+2.4
ALIN				*i* AML	AML	07 44 48.0	
	comp=E,16nm,3.8s						
ALIN				*i* AML	AML	07 44 58.0	
	comp=N,16nm,3.3s						
KDHN	Kadinhani	3.01	12	P	Pn	07 43 39.8	-0.3
KDHN				S	Sn	07 44 16.1	+0.2
UCKU	Afyonkarahisar	3.05	1	P	Pn	07 43 41.4	+0.7
UCKU				S	Sn	07 44 17.2	+0.2
PASA	Karahalli, USA	3.13	332	P	Pn	07 43 42.8	+1.0
PASA				S	Sn	07 44 17.4	-1.7
PASA				*i* AML	AML	07 44 23.0	
	comp=N,18nm,2.5s						
BNAZ	Uak-Banaz	3.31	340	P	Pn	07 43 45.9	+1.7
BNAZ				S	Sn	07 44 24.8	+1.5
BNAZ				*i* AML	AML	07 44 32.0	
	comp=E,32nm,0.7s						
BNAZ				*i* AML	AML	07 44 36.0	
	comp=N,33nm,0.7s						
CBEY	Konya-Cihanbey	3.32	20	P	Pn	07 43 46.2	+1.8
CBEY				S	Sn	07 44 27.4	+3.9
CBEY				*i* AML	AML	07 44 29.0	
	comp=N,27nm,0.9s						
CBEY				*i* AML	AML	07 44 32.0	
	comp=E,17nm,0.6s						
YAZI	Mula-Dat§a-	3.33	290	P	Pn	07 43 42.2	-2.2
YAZI				S	Sn	07 44 18.4	-5.2
YAZI				*i* AML	AML	07 44 32.0	
	comp=N,32nm,2.1s						
YAZI				*i* AML	AML	07 44 35.0	
	comp=E,23nm,1.8s						
USAK	Uak-Merkez	3.63	330	P	Pn	07 43 42.8	-5.8
USAK				S	Sn	07 44 28.2	-3.2
GDZ	Gediz	3.80	338	P	Pn	07 43 50.3	-0.7
GDZ				S	Sn	07 44 40.0	+4.4
GDZ				*i* AML	AML	07 44 51.0	
	comp=N,13nm,1.7s						
GDZ				*i* AML	AML	07 44 54.0	
	comp=E,18nm,2.5s						

*CATAC **29** 07:45:51.0±0.5, 11°.54N×88°.27W, h23km±5km, ML3.5*
*SNET **29** 07:45:52.4±0.8, 11°.68N×88°.32W, h20km, ML3.2*

ISC 29 07:45:50.8±1.7, 11°.58N±0°.08×88°.26W±0°.04, h20km, n62, σ0§97/118, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	1.54	26	*i* P	Pn	07 46 17.9	+0.6
CSGN				*i* S	Sb	07 46 37.6	-0.4
CSGN				IAML		07 46 53.3

PKGN				*i* S	Sb	07 46 40.6	-0.4
PKGN				IAML		07 46 46.1	
comp=Z,600nm,1.0s							
PACN	**Al O del Volca**	**1.70**	**57**	*i* P	Pn	07 46 19.7	+0.4
PACN				*i* S	Sb	07 46 41.9	-0.5
PACN				IAML		07 46 46.1	
comp=Z,190nm,1.0s							
HERN	**Volcan Telica**	**1.73**	**54**	*i* P	Pn	07 46 19.5	-0.3
HERN				IAML		07 46 38.3	
comp=Z,290nm,1.0s							
HERN				*i* S	Sb	07 46 42.7	-0.6
CNCH	**Conchagua**	**1.73**	**14**	*eP*	Pn	07 46 20.2	+0.3
CNCH	**Conchagua**	**1.73**	**14**	*i* P	Pn	07 46 20.4	+0.5
CNCH				*i* S	Sb	07 46 43.1	-0.4
CNCH				IAML		07 46 49.0	
comp=Z,460nm,1.0s							
LCND	**La Caada**	**1.75**	**12**	*eP*	Pn	07 46 20.0	-0.1
LCND				IAML		07 46 50.5	
comp=Z,160nm,0.3s							
LCND	**La Caada**	**1.75**	**12**	*i* P	Pn	07 46 20.6	+0.5
LCND				*i* S	Sb	07 46 43.6	-0.3
LCND				IAML		07 46 47.9	
comp=Z,160nm,1.0s							
PLRN	**Geotermica Pol**	**1.77**	**55**	*i* P	Pn	07 46 20.0	-0.2
PLRN				*i* S	Sb	07 46 44.0	-0.2
CNGA	**Al SSO del Vol**	**1.77**	**59**	*i* P	Pn	07 46 20.5	+0.1
CNGA				*i* S	Sb	07 46 43.6	-0.9
CNGA				IAML		07 46 58.9	
comp=Z,220nm,1.0s							
MACN	**El Madrono**	**1.78**	**60**	*i* P	Pn	07 46 20.2	-0.3
MACN				*i* S	Sb	07 46 43.7	-1.0
MACN				IAML		07 46 49.9	
comp=Z,130nm,1.0s							
ILCN	**San Idelfonso**	**1.82**	**57**	*i* P	Pn	07 46 20.7	-0.2
ILCN				*i* S	Sb	07 46 44.5	-1.2
ILCN				IAML		07 46 46.5	
comp=Z,96nm,1.0s							
RANC	**El Ranchito**	**1.84**	**359**	*i* P	Pn	07 46 22.2	+0.8
RANC				*i* S	Sb	07 46 45.5	-1.1
RANC				IAML		07 47 30.2	
comp=Z,770nm,1.0s							
MOMN	**Momotombo**	**1.87**	**64**	*i* P	Pn	07 46 21.8	+0.1
MOMN				*i* S	Sb	07 46 46.2	-1.1
MOMN				IAML		07 46 50.8	
comp=Z,7.0nm,1.0s							
PACA	**Pacayal**	**1.88**	**358**	*eP*	Pn	07 46 22.5	+0.6
PACA				*eS*	Sb	07 46 46.3	-1.2
PACA	**Pacayal**	**1.88**	**358**	*i* P	Pn	07 46 22.6	+0.7
PACA				*i* S	Sb	07 46 46.4	-1.2
PACA				IAML		07 46 48.5	
comp=Z,3μm,1.0s							
CNRM	**Centro Naciona**	**1.88**	**3**	*i* P	Pn	07 46 22.6	+0.8
CNRM				*i* S	Sb	07 46 47.0	-0.6
CNRM				IAML		07 46 51.6	
comp=Z,2μm,1.0s							
APQ2	**Apoyeque**	**1.99**	**72**	*i* P	Pn	07 46 23.2	-0.1
APQ2				*i* S	Sb	07 46 49.1	-1.5
APQ2				IAML		07 46 58.8	
comp=Z,250nm,1.0s							
TECO	**Alcaldia de Te**	**2.01**	**345**	*i* P	Pn	07 46 23.6	0.0
TECO				*i* S	Sn	07 46 49.4	+1.2
TECO				IAML		07 46 51.1	
comp=Z,200nm,1.0s							
UNAN	**Cigeo UNAN**	**2.02**	**75**	*i* P	Pn	07 46 24.0	+0.3
UNAN				*i* S	Sn	07 46 49.8	+1.5
UNAN				IAML		07 46 54.9	
comp=Z,980nm,1.0s							
MGAN	**Managua**	**2.05**	**74**	*i* P	Pn	07 46 24.4	+0.3
MGAN				*i* S	Sn	07 46 50.3	+1.2
MGAN				IAML		07 46 58.8	
comp=Z,180nm,1.0s							
R4DEC	**Barrio San Lui**	**2.05**	**74**	*i* P	Pn	07 46 24.6	+0.5
R4DEC				*i* S	Sn	07 46 50.1	+1.0
R4DEC				IAML		07 46 58.8	
comp=Z,180nm,1.0s							
PQSS	**Presa 15 de Se**	**2.05**	**352**	*eP*	Pn	07 46 24.6	+0.4
PQSS				*eS*	Sn	07 46 49.1	-0.1
PQSS	**Presa 15 de Se**	**2.05**	**352**	*i* P	Pn	07 46 25.2	+1.0
PQSS				*i* S	Sb	07 46 50.7	-1.8
PQSS				IAML		07 46 53.5	
comp=Z,190nm,1.0s							
UESV	**Universidad de**	**2.11**	**346**	*i* P	Pn	07 46 25.4	+0.4
UESV				*i* S	Sb	07 46 52.2	-1.9
UESV				IAML		07 46 54.9	
comp=Z,190nm,1.0s							
COEG	**Centro de Oper**	**2.12**	**343**	*eP*	Pn	07 46 25.1	0.0
COEG				*eS*	Sn	07 46 51.0	+0.1
COEG				IAML		07 46 58.7	
comp=Z,142nm,0.2s							
COEG	**Centro de Oper**	**2.12**	**343**	*i* P	Pn	07 46 25.5	+0.4
COEG				*i* S	Sn	07 46 52.0	+1.1
COEG				IAML		07 46 59.5	
comp=Z,160nm,1.0s							
NANN	**Nandasmo**	**2.12**	**80**	*i* P	Pn	07 46 25.7	+0.5
NANN				*i* S	Sn	07 46 52.0	+1.0
NANN				IAML		07 46 58.7	
comp=Z,4μm,1.0s							
SCLA	**Alcaldia de Sa**	**2.16**	**348**	*eP*	Pn	07 46 26.5	+0.8
SCLA				*eS*	Sn	07 46 52.4	+0.5
SCLA	**Alcaldia de Sa**	**2.16**	**348**	*i* P	Pn	07 46 26.1	+0.4
SCLA				*i* S	Sn	07 46 53.1	+1.2
SCLA				IAML		07 47 03.1	
comp=Z,120nm,1.0s							
LALI	**Alcalda de L**	**2.16**	**331**	*i* P	Pn	07 46 25.6	-0.1
LALI				*i* S	Sn	07 46 52.2	+0.3
LALI				IAML		07 46 53.7	
comp=Z,120nm,1.0s							
BRAN	**Las Pilas**	**2.18**	**59**	*i* P	Pn	07 46 22.9	-3.1
BRAN				*i* S	Sn	07 46 48.5	-3.9
BRAN				IAML		07 46 49.7	
comp=Z,240nm,1.0s							
NADN	**Granada**	**2.19**	**85**	*i* P	Pn	07 46 26.3	+0.3
NADN				*i* S	Sn	07 46 54.1	+1.6
NADN				IAML		07 47 00.1	
comp=Z,310nm,1.0s							
PAVA	**Las Pavas**	**2.22**	**343**	*eP*	Pn	07 46 26.7	+0.1
PAVA				*eS*	Sn	07 46 53.1	-0.4
PAVA				*eS*	Sb	07 46 54.1	-3.4
PAVA	**Las Pavas**	**2.22**	**343**	*i* P	Pn	07 46 27.3	+0.7
PAVA				*i* S	Sn	07 46 54.2	+0.7
PAVA				IAML		07 46 56.3	
comp=Z,410nm,1.0s							
LOMA	**Loma Larga**	**2.23**	**337**	*i* P	Pn	07 46 27.4	+0.6
LOMA				*i* S	Sn	07 46 54.9	+1.0
LOMA				IAML		07 47 04.6	
comp=Z,200nm,1.0s							
UDBS	**Universidad Do**	**2.29**	**338**	*i* P	Pn	07 46 28.4	+0.8
UDBS				*i* S	Sn	07 46 56.0	+0.7
UDBS				IAML		07 46 59.6	
comp=Z,190nm,1.0s							
SNET	**Serv Nac Est T**	**2.30**	**336**	*i* P	Pn	07 46 28.1	+0.5
SNET				*i* S	Sn	07 46 55.7	+0.3
SNET				IAML		07 47 00.0	
comp=Z,290nm,1.0s							
UTEC	**Universidad Te**	**2.30**	**336**	*i* P	Pn	07 46 28.6	+1.0
UTEC				*i* S	Sn	07 46 57.0	+1.6
UTEC				IAML		07 48 13.2	
comp=Z,460nm,1.0s							
UEES	**Universidad Ev**	**2.33**	**336**	*i* P	Pn	07 46 28.5	+0.5
UEES				*i* S	Sn	07 46 57.4	+1.3
UEES				IAML		07 47 01.9	
comp=Z,120nm,1.0s							
PMON	**Piamonte**	**2.35**	**334**	*eP*	Pn	07 46 28.7	+0.3
PMON				*eS*	Sn	07 46 56.6	-0.2
PMON	**Piamonte**	**2.35**	**334**	*i* P	Pn	07 46 28.9	+0.5
PMON				*i* S	Sn	07 46 57.6	+0.8
PMON				IAML		07 47 01.9	
comp=Z,420nm,1.0s							
LIMN	**Finca el Limon**	**2.36**	**51**	*i* P	Pn	07 46 28.6	+0.1
LIMN				IAML		07 47 06.2	
comp=Z,75nm,1.0s							
JAYA	**Jayaque - finc**	**2.37**	**331**	*eP*	Pn	07 46 28.7	0.0
JAYA				*eS*	Sn	07 46 57.2	+0.1
JAYA	**Jayaque - finc**	**2.37**	**331**	*i* P	Pn	07 46 29.4	+0.8
JAYA				*i* S	Sn	07 46 58.0	+0.8
JAYA				IAML		07 47 00.0	
comp=Z,400nm,1.0s							
CEDA	**San Andres**	**2.47**	**333**	*eS*	Sn	07 46 59.0	-0.6
CEDA	**San Andres**	**2.47**	**333**	*i* P	Pn	07 46 30.4	+0.4
CEDA				*i* S	Sn	07 47 00.3	+0.7
CEDA				IAML		07 48 14.0	
comp=Z,2μm,1.0s							
CEVE	**Cerro Verde**	**2.60**	**329**	*eP*	Pn	07 46 32.4	+0.4
CEVE				*eS*	Sn	07 47 03.6	+0.5
CEVE				IAML		07 47 14.1	
comp=Z,212nm,0.6s							
CEVE	**Cerro Verde**	**2.60**	**329**	*i* P	Pn	07 46 32.3	+0.4
CEVE				*i* S	Sn	07 47 04.4	+1.3
CEVE				IAML		07 47 12.9	
comp=Z,230nm,1.0s							
SNJE	**San Jose**	**2.62**	**330**	*eP*	Pn	07 46 32.7	+0.5
LLGN	**La Laguna**	**2.65**	**345**	*i* P	Pn	07 46 33.2	+0.7
LLGN				*i* S	Sn	07 47 06.2	+2.1
LLGN				IAML		07 47 07.6	
comp=Z,490nm,1.0s							
UNIC	**Universidad Ca**	**2.70**	**332**	*i* P	Pn	07 46 33.4	+0.3
UNIC				*i* S	Sn	07 47 06.2	+1.0
UNIC				IAML		07 47 38.7	
comp=Z,140nm,1.0s							
NUBE	**Las Nubes**	**2.74**	**327**	*eP*	Pn	07 46 33.9	+0.1
NUBE				*eS*	Sn	07 47 06.2	-0.3
NUBE	**Las Nubes**	**2.74**	**327**	*i* P	Pn	07 46 34.2	+0.4
NUBE				*i* S	Sn	07 47 07.4	+0.9
NUBE				IAML		07 47 07.9	
comp=Z,170nm,1.0s							
RCFN	**Al S de San Ju**	**2.78**	**46**	*i* P	Pn	07 46 34.7	+0.3
RCFN				*i* S	Sn	07 47 09.2	+1.7
RCFN				IAML		07 47 11.0	
comp=Z,650nm,1.0s							
RCVN	**Varillal2**	**2.83**	**45**	*i* P	Pn	07 46 35.4	+0.4
RCVN				*i* S	Sn	07 47 10.1	+1.4
RCVN				IAML		07 47 12.3	
comp=Z,2μm,1.0s							
SLOZ	**Alcaldia de Sa**	**2.85**	**329**	*eP*	Pn	07 46 35.3	+0.1
MTO3	**Montecristo**	**3.00**	**339**	*eS*	Sn	07 47 13.6	+0.7
MTO3	**Montecristo**	**3.00**	**339**	*i* P	Pn	07 46 38.2	+0.8
MTO3				*i* S	Sn	07 47 14.7	+1.8
MTO3				IAML		07 47 16.5	
comp=Z,65nm,1.0s							
ACON	**Acoyapa**	**3.04**	**82**	*i* P	Pn	07 46 37.7	-0.1
ACON				*i* S	Sn	07 47 14.2	+0.5
ACON				IAML		07 48 31.5	
comp=Z,77nm,1.0s							

SNET ***29*** *07:48:35.6±1.1, 11°.62N×88°.29W, h11km±68km, ML3.6*
CATAC ***29*** *07:48:36.8±0.4, 11°.58N×88°.22W, h28km±5km, mb4.6, ML3.7*

ISC 29 07:48:36.3±2.9, 11°.61N±0°.06×88°.20W±0°.04, h19km±7km, n72, σ0°.77/127, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	**Cosiguina Volc**	**1.50**	**25**	*i* P	Pn	07 49 02.2	-0.1
CSGN				*i* S	Sn	07 49 21.6	+0.2
CSGN				IAML		07 49 35.3	
comp=Z,69nm,1.0s							
POTN	**Potosi Cosigui**	**1.54**	**26**	*i* P	Pn	07 49 02.9	+0.1
POTN				*i* S	Sb	07 49 23.5	+0.1
POTN				IAML		07 49 32.1	
comp=Z,130nm,1.0s							
CRIN	**San Cristobal**	**1.56**	**46**	*i* P	Pn	07 49 03.9	+0.7
CRIN				*i* S	Sn	07 49 23.2	+0.2
CRIN				IAML		07 49 36.9	
comp=Z,2μm,1.0s							
PKGN	**Cerro Pekin**	**1.60**	**49**	*i* P	Pn	07 49 03.4	-0.2
PKGN				*i* S	Sb	07 49 24.9	-0.1
PKGN				IAML		07 49 28.6	
comp=Z,1μm,1.0s							
PACN	**Al O del Volca**	**1.64**	**57**	*i* P	Pn	07 49 03.9	-0.3
PACN				IAML		07 49 15.8	
comp=Z,320nm,1.0s							
PACN				*i* S	Sn	07 49 25.1	+0.3
HERN	**Volcan Telica**	**1.67**	**53**	*i* P	Pn	07 49 03.9	-0.7
HERN				*i* S	Sn	07 49 26.2	+0.6
HERN				IAML		07 49 29.5	
comp=Z,550nm,1.0s							
CNCH	**Conchagua**	**1.70**	**12**	*i* P	Pn	07 49 04.4	-0.6
CNCH				*i* S	Sn	07 49 26.7	+0.4
CNCH				IAML		07 49 37.5	
comp=Z,610nm,1.0s							
PLRN	**Geotermica Pol**	**1.71**	**55**	*i* P	Pn	07 49 04.4	-0.7
PLRN				*i* S	Sn	07 49 26.2	-0.2
POLN	**Al Sur del Vol**	**1.71**	**53**	*i* P	Pn	07 49 05.2	+0.1
POLN				IAML		07 49 19.9	
comp=Z,6.9nm,1.0s							
POLN				*i* S	Sn	07 49 26.8	+0.3
CNGA	**Al SSO del Vol**	**1.71**	**59**	*i* P	Pn	07 49 04.8	-0.4
CNGA				*i* S	Sn	07 49 27.1	+0.5
CNGA				IAML		07 50 35.8	
comp=Z,470nm,1.0s							
LCND	**La Caada**	**1.72**	**10**	*eP*	Pn	07 49 05.4	+0.1
LCND				IAML		07 49 33.3	
comp=Z,269nm,0.2s							
LCND	**La Caada**	**1.72**	**10**	*i* P	Pn	07 49 05.0	-0.2
LCND				*i* S	Sn	07 49 26.2	-0.5
LCND				IAML		07 49 33.1	
comp=Z,270nm,1.0s							
MACN	**El Madrono**	**1.72**	**60**	*i* P	Pn	07 49 04.7	-0.6
MACN				*i* S	Sn	07 49 27.2	+0.4
MACN				IAML		07 50 38.4	
comp=Z,170nm,1.0s							
ILCN	**San Idelfonso**	**1.76**	**57**	*i* P	Pn	07 49 05.6	-0.2
ILCN				*i* S	Sb	07 49 29.0	-0.7
ILCN				IAML		07 49 31.6	
comp=Z,140nm,1.0s							
LCY	**Lacayo**	**1.81**	**357**	*eP*	Pn	07 49 06.7	+0.2
MOMN	**Momotombo**	**1.81**	**64**	*i* P	Pn	07 49 05.9	-0.6
MOMN				*i* S	Sn	07 49 29.1	+0.1
MOMN				IAML		07 49 45.1	
comp=Z,16nm,1.0s							
RANC	**El Ranchito**	**1.82**	**357**	*i* P	Pn	07 49 06.5	-0.2
RANC				*i* S	Sn	07 49 29.4	+0.1
RANC				IAML		07 49 33.7	
comp=Z,300nm,1.0s							
BLLM	**Bellamira**	**1.82**	**359**	*eP*	Pn	07 49 06.6	-0.2
PACA	**Pacayal**	**1.85**	**356**	*eP*	Pn	07 49 07.2	0.0
PACA				*eS*	Sn	07 49 31.3	+1.1
PACA	**Pacayal**	**1.85**	**356**	*i* P	Pn	07 49 07.6	+0.4
PACA				*i* S	Sn	07 49 30.7	+0.5
PACA				IAML		07 49 32.1	
comp=Z,4μm,1.0s							
CNRM	**Centro Naciona**	**1.85**	**1**	*i* P	Pn	07 49 06.9	-0.2
CNRM				*i* S	Sn	07 49 31.4	+1.3
CNRM				IAML		07 49 33.9	
comp=Z,3μm,1.0s							
TECA	**Tecapa**	**1.90**	**351**	*eP*	Pn	07 49 07.5	-0.4
APQ2	**Apoyeque**	**1.93**	**72**	*i* P	Pn	07 49 07.8	-0.3
APQ2				*i* S	Sn	07 49 31.4	-0.5
APQ2				IAML		07 49 44.1	
comp=Z,500nm,1.0s							
UNAN	**Cigeo UNAN**	**1.96**	**75**	*i* P	Pn	07 49 08.6	+0.1
UNAN				*i* S	Sn	07 49 33.0	+0.4
UNAN				IAML		07 49 47.9	
comp=Z,2μm,1.0s							
TISN	**Laguna Tiscapa**	**1.97**	**74**	*i* P	Pn	07 49 07.9	-0.7
TISN				IAML		07 49 39.9	
comp=Z,29nm,1.0s							
MGAN	**Managua**	**1.99**	**74**	*i* P	Pn	07 49 08.7	-0.2
MGAN				*i* S	Sn	07 49 33.7	+0.4
MGAN				IAML		07 49 40.8	
comp=Z,270nm,1.0s							
R4DEC	**Barrio San Lui**	**1.99**	**74**	*i* P	Pn	07 49 08.7	-0.2
R4DEC				*i* S	Sn	07 49 33.6	+0.3
R4DEC				IAML		07 49 40.8	
comp=Z,260nm,1.0s							
TECO	**Alcaldia de Te**	**2.00**	**344**	*eP*	Pn	07 49 08.3	-0.8
TECO	**Alcaldia de Te**	**2.00**	**344**	*i* P	Pn	07 49 09.0	-0.1
TECO				IAML		07 49 48.0	
comp=Z,130nm,1.0s							
MAS3	**Al N del Volca**	**2.03**	**78**	*i* P	Pn	07 49 10.1	+0.6
MAS3				*i* S	Sn	07 49 35.3	+0.9
MAS3				IAML		07 49 37.1	
comp=Z,560nm,1.0s							
PQSS	**Presa 15 de Se**	**2.03**	**350**	*eP*	Pn	07 49 08.4	-1.2
PQSS	**Presa 15 de Se**	**2.03**	**350**	*i* P	Pn	07 49 09.4	-0.2
PQSS				*i* S	Sn	07 49 35.2	+0.7
PQSS				IAML		07 49 38.5	
comp=Z,220nm,1.0s							
NANN	**Nandasmo**	**2.06**	**81**	*i* P	Pn	07 49 10.3	+0.3
NANN				*i* S	Sn	07 49 35.9	+0.6
NANN				IAML		07 49 43.8	
comp=Z,6μm,1.0s							
UESV	**Universidad de**	**2.10**	**344**	*i* P	Pn	07 49 09.9	-0.6
UESV				*i* S	Sn	07 49 36.8	+0.8
UESV				IAML		07 49 45.5	
comp=Z,280nm,1.0s							
COEG	**Centro de Oper**	**2.11**	**342**	*eP*	Pn	07 49 10.2	-0.4
COEG				*eS*	Sn	07 49 37.9	+1.5
COEG				IAML		07 49 45.3	
comp=Z,180nm,0.4s							
COEG	**Centro de Oper**	**2.11**	**342**	*i* P	Pn	07 49 10.3	-0.3
COEG				*i* S	Sn	07 49 36.8	+0.4
COEG				IAML		07 50 57.4	
comp=Z,170nm,1.0s							
BRAN	**Las Pilas**	**2.12**	**58**	*i* P	Pn	07 49 07.2	-3.6
BRAN				*i* S	Sn	07 49 32.0	-4.7
BRAN				IAML		07 50 47.1	
comp=Z,240nm,1.0s							
NADN	**Granada**	**2.13**	**86**	*i* P	Pn	07 49 10.5	-0.4
NADN				*i* S	Sn	07 49 37.7	+0.8
NADN				IAML		07 49 55.2	
comp=Z,650nm,1.0s							
SCLA	**Alcaldia de Sa**	**2.14**	**346**	*eP*	Pn	07 49 11.3	+0.2
SCLA				*eS*	Sn	07 49 38.3	+1.1
SCLA	**Alcaldia de Sa**	**2.14**	**346**	*i* P	Pn	07 49 11.8	+0.7
SCLA				*i* S	Sn	07 49 37.8	+0.6
SCLA				IAML		07 49 48.4	
comp=Z,150nm,1.0s							
LALI	**Alcalda de L**	**2.16**	**330**	*i* P	Pn	07 49 11.0	-0.4
LALI				*i* S	Sn	07 49 37.2	-0.5
LALI				IAML		07 49 39.0	
comp=Z,170nm,1.0s							
LFRS	**El Faro**	**2.17**	**337**	*eP*	Pn	07 49 10.4	-1.2
PAVA	**Las Pavas**	**2.21**	**341**	*i* P	Pn	07 49 12.4	+0.3
PAVA				*i* S	Sn	07 49 39.4	+0.4
PAVA				IAML		07 49 41.3	
comp=Z,540nm,1.0s							
LOMA	**Loma Larga**	**2.23**	**335**	*eP*	Pn	07 49 12.3	-0.2
LOMA	**Loma Larga**	**2.23**	**335**	*i* P	Pn	07 49 12.3	-0.2
LOMA				*i* S	Sn	07 49 39.2	-0.4
LOMA				IAML		07 49 44.1	
comp=Z,330nm,1.0s							
UDBS	**Universidad Do**	**2.29**	**336**	*i* P	Pn	07 49 13.4	+0.2
UDBS				*i* S	Sn	07 49 41.4	+0.5
UDBS				IAML		07 50 11.4	
comp=Z,300nm,1.0s							
SNET	**Serv Nac Est T**	**2.30**	**334**	*i* P	Pn	07 49 12.8	-0.5
SNET				*i* S	Sn	07 49 40.6	-0.5
SNET				IAML		07 49 44.7	
comp=Z,470nm,1.0s							
UTEC	**Universidad Te**	**2.30**	**335**	*i* P	Pn	07 49 13.6	+0.3
UTEC				*i* S	Sn	07 49 40.4	-0.7
UTEC				IAML		07 49 50.2	
comp=Z,350nm,1.0s							
LIMN	**Finca el Limon**	**2.31**	**51**	*i* P	Pn	07 49 13.3	-0.1
LIMN				IAML		07 49 47.1	
comp=Z,190nm,1.0s							
UEES	**Universidad Ev**	**2.33**	**334**	*i* P	Pn	07 49 13.5	-0.2
UEES				*i* S	Sn	07 49 41.3	-0.5
UEES				IAML		07 49 54.5	
comp=Z,160nm,1.0s							
PMON	**Piamonte**	**2.36**	**333**	*i* P	Pn	07 49 13.0	-1.1
PMON				*i* S	Sn	07 49 42.6	0.0
PMON				IAML		07 49 46.9	
comp=Z,580nm,1.0s							
PIC2	**El Picacho**	**2.36**	**334**	*eP*	Pn	07 49 14.1	-0.1
JAYA	**Jayaque - finc**	**2.37**	**329**	*eP*	Pn	07 49 13.5	-0.8
JAYA				*eS*	Sn	07 49 42.6	-0.3
JAYA	**Jayaque - finc**	**2.37**	**329**	*i* P	Pn	07 49 13.4	-0.9
JAYA				*i* S	Sn	07 49 42.7	-0.3
JAYA				IAML		07 49 52.0	
comp=Z,630nm,1.0s							
CEDA	**San Andres**	**2.47**	**332**	*eS*	Sn	07 49 45.2	-0.2
CEDA				IAML		07 49 50.3	
comp=Z,753nm,0.5s							
CEDA	**San Andres**	**2.47**	**332**	*i* P	Pn	07 49 16.0	+0.4
CEDA				*i* S	Sn	07 49 45.4	0.0
CEDA				IAML		07 49 49.4	
comp=Z,2μm,1.0s							
CEVE	**Cerro Verde**	**2.60**	**328**	*eP*	Pn	07 49 17.8	+0.2
CEVE				*eS*	Sn	07 49 50.5	+1.5
CEVE				IAML		07 49 53.5	
comp=Z,392nm,0.6s							
CEVE	**Cerro Verde**	**2.60**	**328**	*i* P	Pn	07 49 17.7	0.0
CEVE				*i* S	Sn	07 49 48.7	-0.2
CEVE				IAML		07 49 53.3	
comp=Z,350nm,1.0s							
SNJE	**San Jose**	**2.63**	**329**	*eP*	Pn	07 49 17.2	-0.8
LLGN	**La Laguna**	**2.64**	**344**	*eS*	Sn	07 49 51.3	+1.7
LLGN	**La Laguna**	**2.64**	**344**	*i* P	Pn	07 49 17.9	-0.1
LLGN				*i* S	Sn	07 49 50.2	+0.6
LLGN				IAML		07 51 04.7	
comp=Z,320nm,1.0s							
UNIC	**Universidad Ca**	**2.70**	**331**	*i* P	Pn	07 49 18.5	-0.3
UNIC				*i* S	Sn	07 49 51.2	+0.2
UNIC				IAML		07 50 01.5	
comp=Z,260nm,1.0s							
RCFN	**Al S de San Ju**	**2.73**	**45**	*i* P	Pn	07 49 19.2	0.0
RCFN				*i* S	Sn	07 49 52.7	+0.9
RCFN				IAML		07 51 08.3	
comp=Z,970nm,1.0s							
NUBE	**Las Nubes**	**2.75**	**326**	*eP*	Pn	07 49 18.4	-1.2
NUBE				*eS*	Sn	07 49 51.6	-0.8
NUBE	**Las Nubes**	**2.75**	**326**	*i* P	Pn	07 49 18.8	-0.8
NUBE				*i* S	Sn	07 49 52.8	+0.4
NUBE				IAML		07 49 54.6	
comp=Z,280nm,1.0s							
RCVN	**Varillal2**	**2.78**	**45**	*i* P	Pn	07 49 20.3	+0.4
RCVN				*i* S	Sn	07 49 52.8	-0.2
RCVN				IAML		07 49 57.4	
comp=Z,4μm,1.0s							
SLOZ	**Alcaldia de Sa**	**2.85**	**327**	*eP*	Pn	07 49 20.7	-0.2
ACON	**Acoyapa**	**2.99**	**83**	*i* P	Pn	07 49 23.0	+0.3
ACON				*i* S	Sn	07 49 58.0	0.0
ACON				IAML		07 50 06.9	
comp=Z,90nm,1.0s							
MTO3	**Montecristo**	**2.99**	**338**	*eP*	Pn	07 49 23.2	+0.3
MTO3	**Montecristo**	**2.99**	**338**	*i* P	Pn	07 49 22.8	-0.2
MTO3				*i* S	Sn	07 49 58.9	+0.4
MTO3				IAML		07 50 05.6	
comp=Z,79nm,1.0s							
ESPN	**Las Esperanzas**	**3.86**	**81**	*i* P	Pn	07 49 34.6	-0.2
ESPN				*i* S	Sn	07 50 19.8	+0.1
ESPN				IAML		07 50 59.5	
comp=Z,130nm,1.0s							
CDITO	**Canoas**	**6.05**	**119**	*i* P	Pn	07 50 05.4	+0.5
CDITO				IAmb	IAmb	07 50 22.9	
comp=Z,38nm,0.6s							
CDITO				*i* S	Sn	07 51 13.8	+

GRL	**Gorelyy**	**1.00**	**348**	PN	**Pn**	**07 49 34.1**	**+0.9**
GRL				S	**Sn**	**07 49 48.7**	**+1.0**
PAU	**Pauzhetka**	**1.00**	**264**	*e*P	**Pn**	**07 49 34.2**	**+1.2**
PAU				*e*S	**Sn**	**07 49 48.9**	**+1.4**
PAU	**Pauzhetka**	**1.00**	**264**	PN	**Pn**	**07 49 34.2**	**+1.2**
PAU				S	**Sn**	**07 49 48.9**	**+1.4**
KRMR	**Karymshinskiy**	**1.27**	**353**	*e*P	**Pn**	**07 49 37.1**	**+0.9**
KRMR				*e*S	**Sn**	**07 49 54.1**	**+0.8**
KRMR	**Karymshinskiy**	**1.27**	**353**	PN	**Pn**	**07 49 37.1**	**+0.9**
KRMR				S	**Sn**	**07 49 54.0**	**+0.8**
PET	**Petropavlovsk**	**1.46**	**6**	Pn	**Pn**	**07 49 39.4**	**+0.7**
PET	**Petropavlovsk**	**1.46**	**6**	*e*P	**Pn**	**07 49 39.2**	**+0.6**
PET				*e*S	**Sn**	**07 49 57.7**	**+0.2**
PET	**Petropavlovsk**	**1.46**	**6**	*e*PN	**Pn**	**07 49 39.5**	**+0.9**
PET				*e*S	**Sn**	**07 49 57.7**	**+0.2**
PET				smax	smax		
	comp=E,472nm,0.6s						
PET				smax	smax		
	comp=N,347nm,0.5s						
DALK	**Dalny**	**1.47**	**8**	*e*P	**Pn**	**07 49 39.5**	**+0.6**
DALK				*e*S	**Sn**	**07 49 57.8**	**-0.1**
DALK	**Dalny**	**1.47**	**8**	PN	**Pn**	**07 49 39.4**	**+0.6**
DALK				S	**Sn**	**07 49 57.8**	**-0.1**
INSR	**Institute**	**1.50**	**5**	*e*P	**Pn**	**07 49 40.3**	**+1.2**
INSR				*e*S	**Sn**	**07 49 59.4**	**+0.9**
INSR	**Institute**	**1.50**	**5**	PN	**Pn**	**07 49 40.3**	**+1.2**
INSR				S	**Sn**	**07 49 59.3**	**+0.9**
APC	**Apacha**	**1.55**	**331**	*e*P	**Pn**	**07 49 40.8**	**+1.0**
APC	**Apacha**	**1.55**	**331**	PN	**Pn**	**07 49 40.8**	**+1.0**
PEA0B	**Petropavlovsk-**	**1.59**	**345**	Pn	**Pn**	**07 49 41.0**	**+0.6**
PEA0B	**Petropavlovsk-**	**1.59**	**345**	PN	**Pn**	**07 49 41.2**	**+0.8**
PETK	**Petropavlovsk-**	**1.59**	**345**		**Pn**	**07 49 40.5**	**+0.1**
PETK	**Petropavlovsk-**	**1.59**	**345**	P	**Pn**	**07 49 40.4**	**0.0**
	comp=N,42nm,0.5s,baz=145,slow=15,SNR=120						
PETK				S	**Sn**	**07 49 58.8**	**-1.9**
	comp=N,98nm,0.6s,baz=144,slow=17,SNR=15						
UGLR	**Uglovaya**	**1.66**	**9**	*e*P	**Pn**	**07 49 42.4**	**+1.1**
UGLR				*e*S	**Sn**	**07 50 02.9**	**+0.6**
UGLR	**Uglovaya**	**1.66**	**9**	PN	**Pn**	**07 49 42.4**	**+1.1**
UGLR				S	**Sn**	**07 50 02.8**	**+0.6**
SKR	**Severo-Kuril's**	**1.69**	**239**	*e*P	**Pn**	**07 49 42.5**	**+0.8**
SKR				*e*S	**Sn**	**07 50 03.1**	**+0.2**
SKR	**Severo-Kuril's**	**1.69**	**239**	*e*PN	**Pn**	**07 49 42.4**	**+0.8**
SKR				*e*S	**Sn**	**07 50 02.7**	**-0.2**
SKR				pmax	pmax		
	comp=Z,139nm,0.4s						
SKR				smax	smax		
	comp=N,5μm,0.6s						
SKR				smax	smax		
	comp=E,2μm,0.4s						
NLC	**Nalytchevo**	**1.70**	**20**	*e*P	**Pn**	**07 49 41.5**	**-0.3**
NLC				*e*S	**Sn**	**07 50 01.4**	**-1.6**
NLC	**Nalytchevo**	**1.70**	**20**	PN	**Pn**	**07 49 41.4**	**-0.3**
NLC				S	**Sn**	**07 50 01.4**	**-1.6**
AVH	**Avacha**	**1.70**	**7**	*e*P	**Pn**	**07 49 43.5**	**+1.5**
AVH				*e*S	**Sn**	**07 50 04.9**	**+1.6**
AVH	**Avacha**	**1.70**	**7**	PN	**Pn**	**07 49 43.4**	**+1.5**
AVH				S	**Sn**	**07 50 04.9**	**+1.6**
SMAR	**Somma**	**1.71**	**8**	*e*P	**Pn**	**07 49 41.8**	**-0.3**
SMAR				*e*S	**Sn**	**07 50 01.9**	**-1.7**
SMAR	**Somma**	**1.71**	**8**	PN	**Pn**	**07 49 41.7**	**-0.3**
SMAR				S	**Sn**	**07 50 01.9**	**-1.7**
KOK	**Koryaka**	**1.73**	**5**	*e*P	**Pn**	**07 49 43.9**	**+1.7**
KOK				*e*S	**Sn**	**07 50 05.6**	**+1.7**
KOK	**Koryaka**	**1.73**	**5**	PN	**Pn**	**07 49 43.9**	**+1.7**
KOK				S	**Sn**	**07 50 05.5**	**+1.7**
SDLR	**Sedlovina**	**1.73**	**10**	*e*P	**Pn**	**07 49 42.9**	**+0.6**
SDLR				*e*S	**Sn**	**07 50 03.5**	**-0.5**
SDLR	**Sedlovina**	**1.73**	**10**	PN	**Pn**	**07 49 42.8**	**+0.6**
SDLR				S	**Sn**	**07 50 03.4**	**-0.5**
KRER	**Koryakskii**	**1.74**	**7**	*e*P	**Pn**	**07 49 44.0**	**+1.4**
KRER				*e*S	**Sn**	**07 50 05.3**	**+0.9**
KRER	**Koryakskii**	**1.74**	**7**	PN	**Pn**	**07 49 43.9**	**+1.4**
KRER				S	**Sn**	**07 50 05.3**	**+0.9**
KRX	**Arik**	**1.79**	**5**	*e*P	**Pn**	**07 49 44.5**	**+1.3**
KRX	**Arik**	**1.79**	**5**	PN	**Pn**	**07 49 44.4**	**+1.3**
SPN	**Mys Shipunski**	**1.82**	**33**	*e*P	**Pn**	**07 49 44.0**	**+0.6**
SPN				*e*S	**Sn**	**07 50 05.5**	**-0.4**
SPN	**Mys Shipunski**	**1.82**	**33**	PN	**Pn**	**07 49 43.9**	**+0.6**
SPN				S	**Sn**	**07 50 05.5**	**-0.4**
TUMR	**Tumrok**	**3.86**	**15**	*e*P	**Pn**	**07 50 12.9**	**+2.2**
TUMR	**Tumrok**	**3.86**	**15**	PN	**Pn**	**07 50 12.9**	**+2.2**
BZP	**Bezymyannyi-Pe**	**4.53**	**15**	*e*P	**Pn**	**07 50 22.2**	**+2.4**
KPT	**Kopyto**	**4.53**	**13**	*e*P	**Pn**	**07 50 22.0**	**+2.2**
KPT	**Kopyto**	**4.53**	**13**	PN	**Pn**	**07 50 22.0**	**+2.2**
KIRR	**Kirishev**	**4.53**	**14**	*e*P	**Pn**	**07 50 22.8**	**+2.8**
KIRR	**Kirishev**	**4.53**	**14**	PN	**Pn**	**07 50 22.7**	**+2.8**
KRSR	**Krestovskiy**	**4.82**	**15**	*e*P	**Pn**	**07 50 25.9**	**+2.1**
KRSR	**Krestovskiy**	**4.82**	**15**	PN	**Pn**	**07 50 25.9**	**+2.1**
KBTR	**Krutoberegovo**	**5.33**	**28**	*e*P	**Pn**	**07 50 31.3**	**+0.8**
KBTR	**Krutoberegovo**	**5.33**	**28**	PN	**Pn**	**07 50 31.3**	**+0.8**
SMKR	**Semkarok**	**5.33**	**19**	*e*P	**Pn**	**07 50 32.1**	**+1.4**
SMKR	**Semkarok**	**5.33**	**19**	PN	**Pn**	**07 50 32.1**	**+1.4**
SHEM	**Shemya Is, Ala**	**9.72**	**77**	P	**Pn**	**07 51 30.7**	**+0.3**
	comp=E,44nm,0.6s,baz=274,slow=17,SNR=1.3						
SHEM				S	**Sn**	**07 53 15.8**	**-1.9**
	comp=E,80nm,0.9s,baz=207,slow=23,SNR=1.6						
YSS	**Yuzh-Sakhalins**	**11.21**	**252**	Pn	**Pn**	**07 51 50.4**	**-0.4**
JKA	**Kamikawa-asahi**	**12.96**	**241**	Pn	**Pn**	**07 52 14.9**	**+0.7**
ASAJ	**Asahikawa**	**12.96**	**241**	P	**Pn**	**07 52 14.9**	**+0.6**
	comp=E,12nm,0.9s,baz=61,slow=13,SNR=2.2						
ADK	**Adak**	**15.42**	**79**		**P**	**07 52 49.8**	**+1.0**
ADK	**Adak**	**15.42**	**79**	P	**P**	**07 52 49.8**	**+1.0**
ADK				pmax	pmax		
	comp=Z,89nm,1.1s						
MJAR	**Matsushiro Ar**	**20.79**	**232**	P	**P**	**07 53 48.4**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=24,slow=11,SNR=7.7						
	comp=Z,2.7nm,0.8s						
J14K	**Nanvaranak Lak**	**23.09**	**46**	P	**P**	**07 54 12.0**	**+0.4**
J14K				IAmb	IAmb	07 54 23.8	
	comp=Z,27nm,1.4s						
O14K	**Tigyukauivet M**	**23.83**	**55**	P	**P**	**07 54 19.2**	**+0.9**
K15K	**Wolf Creek Mou**	**23.94**	**48**	P	**P**	**07 54 20.9**	**+1.6**
K15K				IAmb	IAmb	07 54 37.5	
	comp=Z,12nm,1.2s						
TIXI	**Tiksi**	**24.06**	**337**	P	**P**	**07 54 18.9**	**-1.4**
TIXI	**Tiksi**	**24.06**	**337**	P	**P**	**07 54 18.9**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
L16K	**Owhat River**	**24.84**	**50**	P	**P**	**07 54 26.6**	**-0.9**
L16K				IAmb	IAmb	07 54 59.9	
	comp=Z,14nm,1.5s						
H17K	**Granite Mounta**	**25.11**	**42**	P	**P**	**07 54 32.1**	**+2.1**
H17K				IAmb	IAmb	07 54 39.0	
	comp=Z,15nm,1.4s						
J17K	**VABM Dome**	**25.20**	**46**	P	**P**	**07 54 31.7**	**+0.9**
J17K				IAmb	IAmb	07 54 48.8	
	comp=Z,12nm,1.4s						
C18K	**Utukok River**	**25.69**	**33**	P	**P**	**07 54 35.0**	**-0.2**
C18K				IAmb	IAmb	07 54 57.3	
	comp=Z,16nm,1.3s						
H18K	**Honhosa River**	**25.80**	**42**	P	**P**	**07 54 36.5**	**+0.3**
H18K				IAmb	IAmb	07 54 55.7	
	comp=Z,17nm,1.4s						
F19K	**Shaleruckik Mo**	**26.39**	**38**	P	**P**	**07 54 41.5**	**0.0**
H19K	**Roundabout Mou**	**26.66**	**41**	P	**P**	**07 54 43.5**	**-0.4**
H19K				IAmb	IAmb	07 54 44.5	
	comp=Z,9.3nm,1.5s						
J19K	**Poorman**	**26.80**	**45**	P	**P**	**07 54 45.4**	**+0.2**
J19K				IAmb	IAmb	07 55 05.7	
	comp=Z,13nm,1.5s						
IMAR	**Indian Mountai**	**27.83**	**41**	P	**P**	**07 54 54.2**	**-0.2**
G21K	**Allakaket**	**28.00**	**39**	P	**P**	**07 54 56.5**	**+0.6**
G21K				IAmb	IAmb	07 54 57.0	
	comp=Z,6.7nm,1.2s						
B21K	**Ikpikpuk River**	**28.24**	**33**	P	**P**	**07 54 58.1**	**+0.2**
B22K	**Teshekpuk Lake**	**28.82**	**32**	P	**P**	**07 55 03.1**	**0.0**
B22K				IAmb	IAmb	07 55 04.2	
	comp=Z,5.9nm,0.8s						
D23K	**Nanushuk River**	**29.46**	**35**	P	**P**	**07 55 09.3**	**+0.5**
NEA2	**Nenana**	**29.69**	**44**	P	**P**	**07 55 12.0**	**+1.1**
NEA2				IAmb	IAmb	07 55 16.5	
	comp=Z,7.1nm,1.4s						
ILAR	**Eielson Array**	**30.63**	**43**	P	**P**	**07 55 19.5**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=260,slow=7.2,SNR=13						
	comp=Z,1.2nm,0.8s						
D25K	**Kavik River**	**31.03**	**34**	P	**P**	**07 55 22.6**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**32.48**	**165**	T	T	08 29 50.0	
	baz=349,slow=76,SNR=27						
H11N3	**WAKE ISLAND Hy**	**32.49**	**165**	T	T	08 29 41.8	
	baz=349,slow=76,SNR=23						
H11N1	**WAKE ISLAND Hy**	**32.49**	**165**	T	T	08 29 40.5	
	baz=349,slow=76,SNR=13						
D27M	**Malcolm River**	**32.95**	**35**	P	**P**	**07 55 40.1**	**+0.6**
D27M				IAmb	IAmb	07 55 40.9	
	comp=Z,2.1nm,0.6s						
EGAK	**Eagle**	**33.08**	**43**	P	**P**	**07 55 40.2**	**-0.4**
F28M	**Old Crow**	**33.38**	**38**	P	**P**	**07 55 44.0**	**+0.8**
H11S1	**WAKE ISLAND Hy**	**33.64**	**166**	T	T	08 31 04.4	
	baz=349,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**33.65**	**166**	T	T	08 31 08.7	
	baz=349,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**33.66**	**166**	T	T	08 31 04.0	
	baz=349,slow=76,SNR=17						
F31M	**Tsiigehtchic**	**35.74**	**38**	P	**P**	**07 56 04.1**	**+0.6**
YKA	**Yellowknife Ar**	**44.99**	**41**	P	**P**	**07 57 19.3**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=298,slow=8.3,SNR=4.4						
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**47.88**	**296**	P	**P**	**07 57 40.9**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=53,slow=5.9,SNR=4.6						
	comp=Z,0.3nm,0.5s						
SPITS	**Spitsbergen Ar**	**48.46**	**350**	P	**P**	**07 57 45.5**	**-1.1**
	comp=Z,1.7nm,0.4s,baz=356,slow=10,SNR=5.9						
	comp=Z,1.7nm,0.4s						
SPITS	**Spitsbergen Ar**	**48.46**	**350**	P	**P**	**07 57 45.6**	**-1.1**
SPITS				pmax	pmax		
	comp=Z,81nm,1.5s						
SPB2	**Spitsbergen Ar**	**48.46**	**350**	P	**P**	**07 57 46.0**	**-0.6**
NVAR	**Mina Array Bea**	**57.26**	**68**	P	**P**	**07 58 54.5**	**+2.3**
	comp=Z,0.4nm,0.5s,baz=302,slow=7.6,SNR=3.7						
	comp=Z,0.4nm,0.5s						
PDAR	**Pinedale Array**	**59.18**	**59**	P	**P**	**07 59 07.3**	**+1.7**
PDAR	**Pinedale Array**	**59.18**	**59**	P	**P**	**07 59 07.5**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=326,slow=2.7,SNR=8.7						
	comp=Z,0.7nm,0.6s						
NB2	**NORSAR Subarra**	**64.70**	**343**	P	**P**	**07 59 41.2**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=23,slow=6.9						
NOA	**NORSAR Array B**	**64.70**	**343**	P	**P**	**07 59 41.4**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=21,slow=6.5,SNR=4.5						
	comp=Z,1.4nm,0.7s						
HFS	**Hagfors**	**65.07**	**341**	P	**P**	**07 59 43.1**	**-1.2**
	comp=Z,4.4nm,0.9s,baz=62,slow=6.9,SNR=7.8						
	comp=Z,4.4nm,0.9s						
AKASG	**Malin Array Be**	**69.37**	**328**	P	**P**	**08 00 09.5**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=32,slow=6.6,SNR=2.0						
	comp=Z,0.2nm,0.3s						
TXAR	**Lajitas Array**	**72.20**	**65**	P	**P**	**08 00 30.9**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=298,slow=5.1,SNR=12						
	comp=Z,0.7nm,0.6s						
WRA	**Warramunga Arr**	**74.27**	**203**	P	**P**	**08 00 40.9**	**-0.3**
	comp=Z,0.5nm,1.0s,baz=19,slow=6.4,SNR=2.1						
	comp=Z,0.5nm,1.0s						
ASAR	**Alice Springs**	**77.95**	**203**	P	**P**	**08 01 01.1**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=13,slow=5.2,SNR=4.9						
	comp=Z,0.3nm,0.6s						
H03N2	**Juan Fernandez**	**135.25**	**89**	T	T	10 39 00.8	
	baz=314,slow=77,SNR=18						
H03N1	**Juan Fernandez**	**135.27**	**89**	T	T	10 39 04.9	
	baz=314,slow=77,SNR=22						
H03N3	**Juan Fernandez**	**135.27**	**89**	T	T	10 39 02.4	
	baz=314,slow=77,SNR=21						
PLCA	**Paso Flores**	**145.02**	**92**	PKPbc	PKPbc	08 08 39.2	-0.6
	comp=Z,1.0nm,0.8s,baz=292,slow=5.4,SNR=4.2						
NVL	**N'lazarevskaya**	**155.48**	**206**	*e*PKIKP	PKPdf	08 08 46.9	-8.5
NVL				pmax	pmax		
	comp=Z,9.0nm,0.9s						

*ISN **29** 07:52:44.4±1.5, 34°.21N×45°.60E, h15km±10km, ML2.9*
*TEH **29** 07:52:44.4, 34°.21N×45°.60E, h10km±232km, ML2.8*
ISC 29 07:52:44.8±0.9, 34°.22N±0°.04×45°.62E±0°.05, h10km, n10, σ0°58/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.27**	**112**	Pg	**Pg**	**07 52 50.4**	**+0.1**
KGS1	**Ghasr-e-Shirin**	**0.29**	**356**	Pg	**Pg**	**07 52 50.7**	**0.0**
ILBA	**Ilam Banvizeh**	**0.77**	**140**	Pg	**Pg**	**07 52 59.2**	**-0.5**
IGHG	**Ghaleghazi**	**0.80**	**82**	Pg	**Pb**	**07 53 00.8**	**-0.2**
IDHR	**Dehrash**	**0.80**	**53**	Pg	**Pg**	**07 52 59.8**	**-0.5**
IBDR	**Badra**	**1.13**	**166**	*e*Pg	**Pb**	**07 53 05.5**	**-1.0**
IBDR				*e*Sg	**Sg**	**07 53 21.5**	**+0.2**
IBDR				AML	AML	07 53 27.5	
	comp=E,133nm,0.8s						
IBDR				AML	AML	07 53 33.9	
	comp=N,105nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.18**	**87**	Pg	**Pb**	**07 53 07.2**	**-0.3**
BHD	**Baghdad**	**1.40**	**228**	*e*Pn	**Pn**	**07 53 10.0**	**-0.4**
BHD				AML	AML	07 53 14.7	
	comp=E,439nm,0.3s						
BHD				*e*Sn	**Sg**	**07 53 30.5**	**+0.8**
IKRK	**Kirkuk**	**1.58**	**319**	*e*Pn	**Pn**	**07 53 13.0**	**+0.1**
IKRK				*e*Sn	**Sg**	**07 53 36.0**	**+0.3**
IKRK				AML	AML	07 53 40.0	
	comp=N,418nm,0.4s						
IKRK				AML	AML	07 53 40.1	
	comp=E,312nm,0.7s						
RAFI	**Al-Rafai**	**2.52**	**170**	*e*Pn	**Pn**	**07 53 26.5**	**+0.7**
RAFI				*e*Sn	**Sn**	**07 53 57.5**	**+0.9**

*AZER **29** 08:05:09.4, 38°.39N×47°.66E, h11km, ml3.2*
*TEH **29** 08:05:09.1, 38°.32N×47°.60E, h16km±16km, ML3.2*
ISC 29 08:05:09.4±1.2, 38°.26N±0°.03×47°.59E±0°.02, h3km±10km, n35, σ0°99/54, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.44**	**278**	Pg	**Pg**	**08 05 17.9**	**+0.1**
IHRS				Sg	**Sg**	**08 05 24.8**	**+1.3**
ISRB	**Sarab**	**0.44**	**172**	Pg	**Pb**	**08 05 19.0**	**-0.9**
GRMI	**Germi**	**0.59**	**23**	Pg	**Pg**	**08 05 19.6**	**-1.2**
LRK	**Lerik**	**0.70**	**57**	P	**Pg**	**08 05 22.3**	**-0.5**
LRK				S	**Sg**	**08 05 31.9**	**0.0**
YRD	**Yardimli**	**0.83**	**38**	P	**Pg**	**08 05 24.4**	**-0.9**
YRD				S	**Sg**	**08 05 35.7**	**-0.3**
ASTR	**Astara**	**0.99**	**72**	P	**Pg**	**08 05 29.1**	**+0.8**
ASTR				S	**Sg**	**08 05 41.9**	**+0.8**
GAS1	**Astara - Iran**	**0.99**	**82**	Pg	**Pg**	**08 05 27.7**	**-0.6**
IHSH	**Hashtrud**	**0.99**	**195**	Pg	**Pb**	**08 05 29.0**	**-0.4**
IHSH				Sg	**Sn**	**08 05 43.8**	**-1.4**
LKRN	**Lenkeran, Azer**	**1.03**	**64**	P	**Pb**	**08 05 29.1**	**-0.8**
LKRN				S	**Sg**	**08 05 43.9**	**+1.3**
ITBZ	**Tabriz**	**1.14**	**269**	Pg	**Pb**	**08 05 30.4**	**-1.4**
GLBA	**Cilalabad**	**1.16**	**32**	P	**Pn**	**08 05 31.2**	**-1.3**
GLBA				S	**Sb**	**08 05 47.8**	**+0.2**
QRD	**Qoradiz**	**1.22**	**350**	P	**Pn**	**08 05 31.6**	**-1.7**
QRD				S	**Sb**	**08 05 48.0**	**-1.2**
IAZR	**Azarshahr**	**1.40**	**246**	Pg	**Pg**	**08 05 36.2**	**0.0**
ORD	**Ordubad**	**1.42**	**298**	Pg	**Pn**	**08 05 35.3**	**-0.9**
ORD				Sg	**Sn**	**08 05 54.4**	**-1.1**
BLQ	**Beylaqan**	**1.46**	**359**	Pn	**Pn**	**08 05 35.8**	**-0.9**
BLQ				Sn	**Sn**	**08 05 56.0**	**-0.3**
IMRD	**Marand**	**1.55**	**287**	Pg	**Pn**	**08 05 37.7**	**-0.3**
ISHB	**Shabestar**	**1.56**	**271**	Pg	**Pb**	**08 05 38.2**	**-0.8**
SAAT	**Saatly**	**1.72**	**22**	Sn	**Sb**	**08 06 04.8**	**+1.1**
NAX	**Nakhchivan**	**1.88**	**300**	Pn	**Pb**	**08 05 44.8**	**+0.4**
NAX				Sn	**Sg**	**08 06 09.1**	**-0.6**
AGDM	**Agdam**	**1.88**	**349**	Pn	**Pn**	**08 05 43.0**	**+0.5**
AGDM				Sn	**Sb**	**08 06 08.7**	**+0.3**
SBZ	**Shahbuz**	**1.95**	**306**	Pn	**Pb**	**08 05 45.5**	**-0.2**
SBZ				Sn	**Sb**	**08 06 11.0**	**+0.4**
ZRD	**Zardab**	**2.02**	**2**	Sn	**Sg**	**08 06 14.6**	**+0.5**
BRDA	**Brd**	**2.02**	**351**	Pn	**Pb**	**08 05 45.9**	**-0.9**
BRDA				Sn	**Sg**	**08 06 15.3**	**+1.0**
KDMR	**Kurdemir**	**2.16**	**12**	Sn	**Sb**	**08 06 16.7**	**+0.4**
JIR1	**Jirandeh**	**2.34**	**131**	Pn	**Pn**	**08 05 49.2**	**+0.2**
GBS	**Qobustan**	**2.50**	**24**	Pn	**Pb**	**08 05 55.7**	**+0.7**
GBS				Sn	**Sb**	**08 06 24.9**	**-1.2**
MAKU	**Maku**	**2.52**	**297**	Pn	**Pn**	**08 05 52.0**	**+0.6**
HYR	**Heyderabad**	**2.58**	**305**	Pn	**Pb**	**08 05 56.7**	**+0.3**
HYR				Sg	**Sb**	**08 06 28.5**	**-0.2**
QBL	**Gabala**	**2.69**	**4**	Sn	**Sn**	**08 06 29.3**	**+2.6**
IGZV	**Ghazvin**	**2.81**	**131**	Pn	**Pn**	**08 05 56.1**	**+0.7**
XNQ	**Khinaliq**	**2.94**	**8**	Sn	**Sn**	**08 06 33.3**	**+0.2**
SIZA	**Siyzn**	**2.98**	**19**	Pg	**Pb**	**08 06 02.5**	**-0.8**
SIZA				Sg	**Sb**	**08 06 40.7**	**+0.5**
KLST	**Kelardasht - M**	**3.26**	**121**	Pn	**Pn**	**08 06 02.8**	**+1.0**
QZX	**Qazax, Azerbai**	**3.28**	**329**	Pg	**Pb**	**08 06 07.5**	**-0.6**
QZX				Sg	**Sb**	**08 06 51.2**	**+2.7**
ZKTA	**Zakatala**	**3.45**	**348**	Pn	**Pn**	**08 06 05.6**	**+1.5**
ZKTA				Sg	**Sb**	**08 06 53.5**	**-0.1**

*NEIC **29** 08:06:26.1±1.5, 3°.38N±0°.07×125°.8E±0°.1, h173km±11km, mb4.3/11, Error ellipse: s-maj=14.6km s-min=9.6km*
az=99.0
*DJA **29** 08:06:26.2±0.6, 3°.N±4°×12°.6E±°, h180km±9km, M4.4/12, mb4.3/3, mB5.1/2, MLv4.5/12, Mw(mB)4.4/2*
*IDC **29** 08:06:29.4±1.5, 3°.23N×125°.49E, h214km±16km, mb3.4/10, mbtmp4.0/11, Error ellipse: s-maj=33.8km s-min=9.5km az=74.0*
ISC 29 08:06:28.0±0.7, 3°.17N±0°.06×125°.65E±0°.09, h200km, n34, σ1°36/36, mb3.9/15, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.94**	**144**	Pn	**Pn**	**08 07 15.1**	**-1.8**
TNTI	**Ternate**	**2.94**	**144**	P	**Pn**	**08 07 14.5**	**-2.5**
KMSI	**Cibinong**	**3.07**	**213**	P	**Pn**	**08 07 17.8**	**-0.7**
DAV	**Davao City (W)**	**3.87**	**359**	P	**Pn**	**08 07 30.3**	**+2.1**
	174nm,0.4s,baz=197,slow=19,SNR=1.6						
DAV				S	**Sn**	**08 08 17.3**	**+1.6**
	246nm,0.4s,baz=171,slow=20,SNR=2.0						
MRSI	**Marisa**	**4.57**	**234**	P	**Pn**	**08 07 36.6**	**-0.4**
LUWI	**Luwuk**	**5.08**	**215**		**Pn**	**08 07 44.8**	**+1.3**
LUWI	**Luwuk**	**5.08**	**215**	P	**Pn**	**08 07 42.0**	**-1.4**
	162nm,1.2s,2μm0.6nm						
SANI	**Sanana**	**5.20**	**176**	P	**Pn**	**08 07 42.6**	**-2.4**
TOLI2	**Tolitoli**	**5.27**	**247**	Pn	**Pn**	**08 07 45.4**	**-0.6**
APSI	**Ampana**	**5.69**	**225**	P	**Pn**	**08 07 52.1**	**+0.7**
NLAI	**Namlea**	**6.53**	**167**	P	**Pn**	**08 08 01.2**	**-1.0**
MYLDM	**Lahad Datu**	**7.40**	**286**	Pn	**Pn**	**08 08 13.5**	**0.0**
SBUM	**Sibu**	**13.43**	**267**	P	**P**	**08 09 34.8**	**+1.2**
KNRA	**Kununurra**	**18.98**	**171**	P	**P**	**08 10 35.8**	**+1.3**
KNRA				IAmb	IAmb	08 10 38.4	
	comp=Z,10.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.14**	**180**	P	**P**	**08 10 57.8**	**+0.2**
	comp=Z,5.2nm,0.5s,baz=13,slow=10,SNR=20						
	comp=Z,5.2nm,0.5s						
WRA	**Warramunga Arr**	**24.51**	**160**	P	**P**	**08 11 30.3**	**+1.1**
WRA	**Warramunga Arr**	**24.51**	**160**	P	**P**	**08 11 30.8**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=340,slow=10,SNR=22						
	comp=Z,1.6nm,0.7s						
WR0	**Warramunga Arr**	**24.59**	**160**	P	**P**	**08 11 30.9**	**+1.0**
WR0				IAmb	IAmb	08 11 37.5	
	comp=Z,10nm,1.5s						
ASAR	**Alice Springs**	**27.86**	**164**	P	**P**	**08 12 00.6**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=343,slow=7.3,SNR=6.4						
	comp=Z,0.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**30.23**	**302**	P	**P**	**08 12 19.3**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=113,slow=6.7,SNR=5.2						
	comp=Z,0.9nm,0.3s						
FORT	**Forrest**	**33.84**	**176**	P	**P**	**08 12 53.0**	**+1.5**
FORT				IAmb	IAmb	08 13 31.3	
	comp=Z,20nm,1.2s						
MJAR	**Matsushiro Arr**	**35.17**	**18**	P	**P**	**08 13 02.0**	**-0.9**
	comp=Z,2.1nm,0.9s,baz=193,slow=9.3,SNR=3.4						
	comp=Z,2.1nm,0.9s						
BBOO	**Buckleboo**	**37.12**	**165**	P	**P**	**08 13 20.9**	**+1.5**
BBOO				IAmb	IAmb	08 13 50.4	
	comp=Z,8.6nm,1.3s						
JMM	**Marumori**	**37.21**	**20**	P	**P**	**08 13 20.0**	**-0.1**
STKA	**Stephens Creek**	**38.01**	**158**	P	**P**	**08 13 28.0**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=328,slow=15,SNR=2.9						
	comp=Z,0.6nm,0.4s						
JTM	**Tenmabayashi**

comp=E,603nm,1.3s
HOM Homer 3.80 341 Sn 08 10 25.0 -1.3
ACHA Angle Creek He 3.94 305 Pn 08 09 44.5 +0.9
AUCH Augustine Cone 3.98 327 Pn 08 09 45.2 +1.1
AUL Augustine Lava 4.00 327 Pn 08 09 45.6 +1.3
ANCK Angle Creek 4.02 304 Pn 08 09 45.5 +0.9
SEW Seward 4.03 358 Pn 08 09 44.5 -0.1
P23K Montague Islan 4.03 13 Pn 08 09 44.9 +0.1
P23K Sn 08 10 29.7 -2.3
KAHC Katmai Hardscr 4.05 312 Pn 08 09 46.1 +1.1
P19K Oil Pt 4.16 331 Pn 08 09 47.0 +0.4
P19K Oil Pt 4.16 331 Sn 08 10 36.0 +0.8
PLK3 Peulik 3 4.18 295 Pn 08 09 47.5 +0.7
PLK4 Peulik 4 4.21 294 Pn 08 09 47.3 0.0
PLK4 IAML 08 10 36.5
comp=N,196nm,0.8s
PLK4 IAML 08 10 36.9
comp=E,259nm,0.8s
CNTC Contact Creek 4.23 304 Pn 08 09 48.3 +0.7
CNTC Sn 08 10 36.3 -0.7
PLK2 Peulik 2 4.24 296 Pn 08 09 48.4 +0.8
ILS Iliamna Low So 4.38 334 Pn 08 09 50.0 +0.3
O20K Slope Mountain 4.39 337 Pn 08 09 50.4 +0.6
PLK1 Peulik 1 4.39 296 Pn 08 09 50.5 +0.9
O22K Cooper Landing 4.41 357 Pn 08 09 49.9 -0.1
IVE Iliamna Volcan 4.42 334 Pn 08 09 50.1 0.0
ILSW Iliamna Southw 4.42 334 Pn 08 09 49.3 -1.0
ILSW IAML 08 10 43.6
comp=N,230nm,0.4s
ILSW IAML 08 10 43.7
comp=E,288nm,0.7s
SLKM Skilak Lake 4.46 354 Pn 08 09 50.5 -0.1
PLBL Peulik Blue Cr 4.47 294 Pn 08 09 51.8 +1.1
HIN Hinchinbrook I 4.55 17 Pn 08 09 51.7 -0.2
HIN IAML 08 10 44.8
comp=N,317nm,0.5s
HIN IAML 08 10 57.4
comp=E,248nm,1.1s
P18K Big Mountain, 4.61 318 Pn 08 09 53.3 +0.5
KAIM Kayak Island 4.62 32 Pn 08 09 52.7 0.0
KAIM IAML 08 10 55.7
comp=N,318nm,1.2s
KAIM IAML 08 11 01.8
comp=E,304nm,1.2s
RED Redoubt Volcan 4.73 338 Pn 08 09 54.0 -0.4
RDSO Redoubt South 4.75 338 Pn 08 09 54.2 -0.6
Q16K King Salmon 4.78 306 Pn 08 09 55.9 +0.9
RDT Redoubt 4.80 341 Pn 08 09 55.1 -0.2
CAPN Captain Cook N 4.80 349 Pn Pn 08 09 55.5 +0.3
PWL Port Wells 4.80 5 Pn 08 09 54.9 -0.5
PWL IAML 08 10 50.8
comp=E,134nm,0.6s
PWL IAML 08 10 56.1
comp=N,182nm,0.8s
RDWB Redoubt West 4.80 338 Pn 08 09 54.9 -0.6
EYAK Cordova Ski Ar 4.83 21 Pn 08 09 56.1 +0.4
EYAK Cordova Ski Ar 4.83 21 P Pn 08 09 56.1 +0.4
O19K Port Alsworth 4.92 329 Pn 08 09 56.5 -0.4
SUCK Suckling Hills 4.93 34 Pn 08 09 57.5 +0.5
SUCK Suckling Hills 4.93 34 IAML 08 11 07.4
comp=N,254nm,1.0s
SUCK IAML 08 11 09.2
comp=E,199nm,1.5s
GLI Glacier Island 4.93 12 Pn 08 09 57.4 +0.3
GLI IAML 08 10 55.1
comp=E,149nm,0.7s
GLI IAML 08 11 02.6
comp=N,114nm,1.0s
RAGM Ragged Mountai 4.93 27 Pn 08 09 57.5 +0.3
O18K Koktuh Hills 4.94 322 Pn 08 09 57.1 -0.1
O18K IAML 08 10 57.5
comp=N,136nm,0.9s
P17K Kvichak River 4.97 312 Pn 08 09 58.6 +1.0
NICHA Nichawak Mount 5.00 32 Pn 08 09 58.7 +0.6
RC01 Rabbit Creek A 5.02 357 Pn 08 09 58.0 -0.3
RC01 IAML 08 10 56.9
comp=N,113nm,0.6s
RC01 IAML 08 11 00.2
comp=E,166nm,0.4s
GOAT Goat Mountain 5.08 26 Pn 08 10 00.0 +0.7
CHGN Chignik 5.14 276 Pn Pn 08 10 00.0 +0.1
CHGN IAML 08 10 57.0
comp=E,120nm,1.1s
CHGN IAML 08 10 59.8
comp=N,108nm,1.7s
BERG Berg Lake 5.20 32 Pn 08 10 01.2 +0.3
GRIN Grindle Hills 5.23 34 Pn 08 10 02.0 +0.7
SNH Sunshine Point 5.31 37 Pn Pn 08 10 03.0 +0.6
SNH IAML 08 11 07.2
comp=N,129nm,1.1s
SNH IAML 08 11 12.0
comp=E,172nm,1.0s
KNK Knik Glacier 5.35 4 Pn 08 10 03.1 +0.2
KNK IAML 08 11 13.3
comp=E,101nm,0.8s
SPCR Spurr Chakacha 5.35 344 Pn 08 10 02.5 -0.4
DIV Divide 5.36 18 Pn 08 10 03.4 +0.3
KHIT Khitrov Hills 5.38 33 Pn 08 10 03.2 -0.2
SPCG Spurr Capps Gl 5.41 346 Pn 08 10 04.5 +0.6
SUA Susitna One 5.45 352 Pn 08 10 03.8 -0.5
BMRM Bremner River 5.45 24 Pn 08 10 05.1 +0.7
N19K Bonanza Creek 5.48 332 Pn 08 10 04.4 -0.3
WAX Waxell Ridge 5.51 35 Pn 08 10 05.4 +0.2
PMR Palmer 5.52 0 Pn 08 10 04.9 -0.2
PMR Palmer 5.52 0 P Pn 08 10 06.0 +0.9
P16K Nushagak River 5.56 306 Pn 08 10 07.0 +1.2
O17K Koliganek Bris 5.58 315 Pn 08 10 06.8 +0.7
STLK Strandline Lak 5.59 347 Pn 08 10 06.6 +0.4
BARK Barkley Ridge 5.59 37 Pn 08 10 07.3 +1.0
CRQM Cirque 5.66 32 Pn 08 10 07.0 -0.3
KLU Klutina 5.68 16 Pn 08 10 08.0 +0.5
GHO Glory Hole Cre 5.70 1 Pn 08 10 08.1 +0.3
SML Sawmill 5.75 4 Pn 08 10 09.1 +0.6
TGL Tana Glacier 5.75 33 Pn 08 10 08.4 -0.2
M23K Glacier View 5.77 7 Pn 08 10 09.7 +1.1
N18K Kilae Creek 5.78 325 Pn Pn 08 10 08.5 -0.3
BAGL Bagley Icefiel 5.79 38 Pn 08 10 09.5 +0.6
SCM Sheep Creek Mo 5.84 9 Pn 08 10 10.5 +0.9
O16K Kokwok River B 5.89 310 Pn 08 10 11.0 +0.7
VRDI Verde Repeater 5.96 28 Pn 08 10 11.7 +0.2
SVW2 Sparrevohn 6.02 329 Pn Pn 08 10 13.0 +1.0
SKT Skwentna 6.02 350 Pn 08 10 12.4 +0.3
N25K Chitina, Valde 6.03 22 Pn 08 10 13.0 +0.8
SAMH Samovar Hills 6.03 44 Pn 08 10 13.0 +0.7
KIAG Kiagna River 6.03 34 Pn 08 10 12.9 +0.5
CNBA Chernabura Isl 6.04 262 Pn Pn 08 10 10.5 -1.7
GLB Gilahina Butte 6.06 25 Pn 08 10 12.7 +0.1
GRNC Granite Creek 6.08 37 Pn 08 10 12.9 -0.2
N17K Nushagak Hills 6.11 320 Pn 08 10 13.6 +0.3
BALM Baldy 6.12 33 Pn 08 10 13.9 +0.4
PTPK Patty Peak 6.21 32 Pn 08 10 15.5 +0.7
MCARA McCarthy VSAT 6.21 29 Pn 08 10 15.3 +0.6
PCA Pinnacle 6.22 46 Pn 08 10 15.5 +0.7
M24K Tolsona, Glenn 6.23 13 Pn 08 10 16.0 +1.0
PNL Peninsula 6.35 52 Pn 08 10 17.1 +0.5
PNL Peninsula 6.35 52 P Pn 08 10 17.2 +0.6
BCPM Bancas Point 6.39 49 Pn 08 10 17.8 +0.6
CTGM Chitina Glacie 6.39 37 Pn 08 10 17.4 0.0
M18K Stony River 6.41 330 Pn 08 10 17.1 -0.3
WASW Wrangell South 6.41 22 Pn 08 10 18.5 +0.9
LOGN Logan Glacier 6.41 39 Pn 08 10 17.8 +0.3
M19K Big River Lodg 6.41 338 Pn 08 10 17.9 +0.5
WACK Wrangell Chich 6.43 21 Pn 08 10 18.6 +0.8
O15K Ungalikthiuk R 6.48 303 Pn 08 10 19.4 +1.1
WAZA Wrangell Mount 6.54 21 Pn 08 10 20.3 +0.8
WAT6 Susitna Watana 6.55 6 Pn 08 10 20.2 +0.7
HARP HAARP 6.66 17 Pn 08 10 21.9 +1.0
O28M Mount Upton 6.67 42 Pn 08 10 21.7 +0.5
N16K Nishlik Lake 6.68 315 Pn 08 10 22.1 +1.0
L19K White Mountain 6.76 337 Pn 08 10 22.0 -0.2
WAT7 Susitna Watana 6.76 1 Pn 08 10 23.1 +0.8
WAT1 Susitna Watana 6.77 3 Pn 08 10 23.6 +1.3
M17K Holitna River 6.82 325 Pn 08 10 23.5 +0.4
L20K Farewell, AK 6.83 342 Pn 08 10 22.9 -0.4
O29M Mount Kennedy 7.03 49 Pn 08 10 26.8 +0.8
N15K Kwethluk River 7.05 310 Pn 08 10 27.4 +1.2
DHY Denali Highway 7.07 7 Pn 08 10 27.1 +0.6
P29M Windy Craggy 7.08 55 Pn 08 10 26.8 +0.2
M26K Nabesna, AK 7.08 24 Pn 08 10 28.4 +1.7
M16K Timber Creek 7.09 318 Pn 08 10 27.6 +0.8
PAX Paxson 7.16 14 Pn 08 10 29.1 +1.3
YUK8 Steele Glacier 7.16 40 Pn 08 10 29.2 +1.2
YUK2 White River 7.17 34 Pn 08 10 29.5 +1.7
O14K Tigyukauivet M 7.19 301 Pn 08 10 29.0 +0.9
S12K Black Hills 7.23 272 Pn 08 10 28.5 -0.2
L18K Granite Mounta 7.24 331 Pn Pn 08 10 28.2 -0.6
PN7A Pavlof North-7 7.24 270 Pn 08 10 28.4 -0.4
YUK3 Moose Creek 7.28 35 Pn 08 10 30.6 +1.1
M27K Edge Creek, AK 7.32 28 Pn 08 10 31.1 +1.0
S31K Pelican 7.33 70 Pn Pn 08 10 28.6 -1.5
YUK7 Dusty Glacier 7.33 48 Pn 08 10 31.2 +0.9
RND Reindeer 7.34 1 Pn 08 10 31.5 +1.3
TRF Thorofare Moun 7.40 356 Pn 08 10 32.3 +1.2
MENT Mentasta 7.41 20 Pn 08 10 32.9 +1.7
YUK6 Outpost Mounta 7.48 45 Pn 08 10 33.7 +1.5
CAST Castle Rocks 7.49 350 Pn 08 10 33.2 +1.0
KTH Kantishna Hill 7.53 354 Pn 08 10 33.0 +0.1
L26K Log Cabin Wild 7.56 21 Pn 08 10 35.0 +1.7
M15K Kasigluk River 7.58 312 Pn 08 10 34.1 +0.6
BVCY Beaver Creek 7.65 31 Pn 08 10 35.9 +1.5
N14K Kuskokwak Cree 7.65 305 Pn 08 10 35.5 +1.2
PLBC Pleasant Camp 7.65 59 Pn 08 10 35.3 +0.9
MCK McKinley 7.67 1 Pn 08 10 35.9 +1.2
TTA Tatalina 7.67 336 Pn 08 10 35.4 +0.6
TTA Tatalina 7.67 336 P Pn 08 10 36.5 +1.7
L16K Owhat River 7.73 321 Pn 08 10 35.3 -0.3
SIT Sitka 7.74 77 P Pn 08 10 33.4 -2.2
HYT Haines Junctio 7.76 47 Pn 08 10 36.8 +0.8
YUK5 Granite Creek 7.79 45 Pn 08 10 37.8 +1.4
BCAR Beaver Creek A 7.94 25 Pn Pn 08 10 38.6 +0.1
RIDG Independent Ri 7.98 14 Pn 08 10 39.7 +0.8
DOT Dot Lake 8.01 17 Pn 08 10 40.9 +1.6
BPAW Bear Paw Mtn. 8.08 354 Pn 08 10 40.0 -0.3
M14K Bethel 8.15 310 Pn 08 10 41.6 +0.4
SKAG Skagway 8.15 60 Pn 08 10 41.9 +0.6
SKAG Skagway 8.15 60 P Pn 08 10 41.9 +0.6
S32K Killisnoo 8.16 74 Pn 08 10 40.2 -1.2
R32K Eaglecrest 8.28 69 Pn Pn 08 10 43.4 +0.3
O30N Mendenhall 8.33 50 Pn 08 10 44.6 +0.8
SCRK Sand Creek 8.33 16 Pn 08 10 45.0 +1.2
JIS Juneau Island 8.35 69 P Pn 08 10 43.7 -0.3
ISLZ Isanotski Laza 8.36 267 Pn 08 10 43.5 -0.7
HDA Harding Lake 8.42 7 Pn 08 10 45.9 +1.0
WRH Wood River Hil 8.43 3 Pn 08 10 46.0 +1.0
L15K Ungalak Mounta 8.46 316 Pn 08 10 46.7 +1.2
NEA2 Nenana 8.53 0 Pn 08 10 46.5 0.0
M13K Dall Lake 8.61 306 Pn Pn 08 10 47.7 +0.2
CCB Clear Creek Bu 8.61 4 Pn 08 10 49.2 +1.7
L14K Kuka Creek 8.75 312 Pn 08 10 49.9 +0.4
J25K Salcha River, 8.76 11 Pn 08 10 50.1 +0.5
IL31 8.78 7 Pn 08 10 51.6 +1.7
ILAR Eielson Array 8.78 7 Pn Pn 08 10 50.1 +0.2
comp=E,0.9nm,0.3s,baz=188,slow=13,SNR=45
ILAR Sn **Sn 08 12 23.8 -5.0**
comp=E,1.0nm,0.3s,baz=199,slow=23,SNR=6.6
ILAR LR LR 08 14 24.4
comp=E,196nm,19.5s,baz=236,slow=39
comp=E,2.0nm,0.4s
WHY Whitehorse 8.81 53 Pn 08 10 51.2 +0.8
N31M Braeburn, Yuko 8.82 47 Pn 08 10 51.1 +0.7
COLA College 8.84 4 Pn 08 10 52.5 +1.9
COLA College 8.84 4 P Pn 08 10 52.5 +1.9
K15K Wolf Creek Mou 8.85 320 Pn 08 10 52.1 +1.3
P32M Atlin 8.98 61 Pn 08 10 52.8 +0.1
L29M L29M 8.99 34 Pn Pn 08 10 53.6 +0.7
MLY Manley 9.00 356 Pn 08 10 52.9 -0.1
M30M Minto, Yukon 9.07 39 Pn 08 10 56.0 +2.0
I23K Minto, Yukon-K 9.09 360 Pn 08 10 55.2 +1.2
I21K Tanana 9.22 353 Pn 08 10 56.3 +0.4
DAWY Dawson 9.37 27 Pn 08 10 58.6 +0.6
EGAK Eagle 9.57 21 Pn 08 11 02.0 +1.4
P33M Teslin, Yukon 9.60 58 Pn 08 11 01.0 -0.1
PRP Porcupine Dome 9.63 9 Pn 08 11 02.9 +1.4
M31M Drury Creek, Y 9.76 45 Pn 08 11 04.4 +1.1
H23K Yukon River 9.77 359 Pn 08 11 04.8 +1.4
V35K Ketchikan 9.97 87 Pn Pn 08 11 04.3 -1.8
IMAR Indian Mountai 10.16 349 Pn 08 11 08.4 -0.3
FARO Faro, Yukon 10.19 46 Pn 08 11 11.0 +1.8
R33M Jennings River 10.30 64 Pn 08 11 11.0 +0.3
T35M Bob Quinn 10.51 77 Pn Pn 08 11 15.1 +1.4
J30M Hart River 10.62 32 Pn 08 11 16.5 +1.4
DLBC Dease Lake 10.65 69 Pn Pn 08 11 17.0 +1.4
DLBC Dease Lake 10.65 69 Pn Pn 08 11 16.1 +0.6
comp=E,0.3nm,0.3s,baz=302,slow=6.6,SNR=9.3
DLBC Sn **Sn 08 13 08.2 -6.7**
comp=E,0.1nm,0.3s,baz=248,slow=11,SNR=1.0
comp=E,1.0nm,0.4s
FYU Fort Yukon 10.68 9 Pn 08 11 16.4 +0.6
F21K Alatna River 11.35 352 Pn 08 11 25.9 +0.9
BMAR Burnt Mountain 11.58 9 Pn Pn 08 11 30.2 +1.9
F28M Old Crow 12.35 17 Pn 08 11 42.3 +3.6
E21K Killik River 12.58 352 Pn Pn 08 11 42.7 +0.8
E27K Coleen River 12.63 13 Pn Pn 08 11 42.2 -0.3
D23K Nanushuk River 12.94 358 Pn Pn 08 11 48.4 +1.7
G31M Satah River 12.95 27 Pn 08 11 48.9 +2.1
BBB Bella Bella 12.96 99 LR LR 08 15 13.6
comp=E,242nm,20.8s,baz=306,slow=30
E28M Babbage River 13.31 16 Pn Pn 08 11 50.9 -0.8
E29M Blow River 13.38 18 Pn Pn 08 11 54.9 +2.2
F31M Tsiigehtchic 13.48 26 Pn 08 11 54.1 +0.1
INK Inuvik 14.21 24 Pn 08 12 05.2 +1.3
INK Inuvik 14.21 24 Pn Pn 08 12 05.8 +1.9
comp=E,0.2nm,0.3s,baz=211,slow=15,SNR=26
INK LR LR 08 17 51.6
comp=E,179nm,18.9s,baz=250,slow=38
comp=E,22nm,1.2s
B22K Teshekpuk Lake 14.42 354 Pn Pn 08 12 07.0 +0.1
GSTR Great Sitkin T 16.20 267 Pn Pn 08 12 28.2 -2.3
C36M Paulatuk 17.39 30 P Pn 08 12 45.5 +0.1
C36M IAmb IAmb 08 12 46.8
comp=Z,30nm,1.4s
YKA Yellowknife Ar 18.62 56 P Pn 08 13 01.6 +1.0
comp=Z,0.1nm,0.3s,baz=267,slow=12,SNR=14
comp=Z,4.0nm,1.1s
A36M Sachs Harbour 18.84 23 P Pn 08 13 04.2 +1.0
LTY Liberty 19.67 105 P P 08 13 12.8 +0.9
LTY IAmb IAmb 08 13 16.3
comp=Z,21nm,1.4s
B08A Colville Reser 19.75 100 P Pn 08 13 14.3 0.0
MXC Moxie City 20.29 106 P Pn 08 13 20.9 +0.2
MXC IAmb IAmb 08 13 31.8
comp=Z,15nm,1.5s
HOOD Mount Hood Mea 20.38 110 P P 08 13 20.4 +0.6
HOOD IAmb IAmb 08 13 58.6
comp=Z,15nm,1.2s
H04A Detroit Lake 20.53 112 P P 08 13 22.7 +1.3
E07A Sunnyside 20.54 105 P P 08 13 20.9 -0.5
D08A Wollman Farm, 20.74 103 P P 08 13 23.9 +0.4
D08A IAmb IAmb 08 13 28.5
comp=Z,9.2nm,1.1s
F07A Phinny Hill Vi 20.92 107 P P 08 13 26.8 +1.3
F07A IAmb IAmb 08 13 50.9
comp=Z,13nm,1.4s
NEW Newport 21.03 98 P P 08 13 27.4 +0.6
NEW Newport 21.03 98 P P 08 13 28.3 +1.6
comp=Z,2.1nm,0.8s,baz=302,slow=6.9,SNR=5.2
NEW LR LR 08 20 08.3
comp=Z,185nm,19.5s,baz=294,slow=33
comp=Z,2.1nm,0.8s
I04A Tendick Farm, 21.03 114 P P 08 13 27.2 +0.4
E09A Wood Farm, Sta 21.49 103 P P 08 13 32.2 +0.5
E09A IAmb IAmb 08 13 33.8
comp=Z,16nm,1.3s
HUMO Hull Mountain 21.62 118 P P 08 13 34.5 +1.5
HUMO IAmb IAmb 08 13 36.2
comp=Z,19nm,1.4s
PINE Pine Mountain 21.79 112 P P 08 13 35.9 +0.8
G08A Pilot Rock 21.83 107 P P 08 13 35.9 +0.5
G08A IAmb IAmb 08 13 40.3
comp=Z,11nm,1.4s
J05D Fort Rock, OR 22.00 114 P P 08 13 39.3 +2.0
F10A Beach Ranch, E 22.33 103 P P 08 13 41.7 +0.9
F10A IAmb IAmb 08 13 44.4
comp=Z,10nm,1.1s
I07A Izee 22.34 110 P P 08 13 41.9 +1.0
I07A IAmb IAmb 08 13 43.4
comp=Z,7.9nm,1.0s
YBH Yreka Blue Hor 22.39 119 LR LR 08 20 11.7
comp=Z,242nm,19.9s,baz=326,slow=31
BMO Blue Mountains 23.00 106 P P 08 13 48.6 +0.8
WVOR Wild Horse Val 23.94 112 P P 08 13 58.5 +1.3
WVOR IAmb IAmb 08 14 24.8
comp=Z,8.2nm,1.3s
LYMT Lyon Mountain 24.45 96 P P 08 14 01.4 -0.7
HLID Hailey 25.41 105 P P 08 14 11.4 +0.7
ELK Elko 26.93 110 LR LR 08 23 07.8
comp=Z,79nm,21.2s,baz=0.5,slow=32
NVAR Mina Array Bea 27.09 118 P P 08 14 27.1 +1.1
comp=Z,1.1nm,0.8s,baz=296,slow=8.1,SNR=5.9
NVAR LR LR 08 23 08.8
comp=Z,148nm,20.1s,baz=290,slow=32
comp=Z,1.1nm,0.8s
RES Resolute Bay 27.71 28 LR LR 08 27 36.4
comp=Z,133nm,18.1s,baz=21,slow=41
PDAR Pinedale Array 28.60 101 P P 08 14 39.9 +0.5
comp=Z,0.7nm,0.9s,baz=320,slow=4.4,SNR=4.8
PDAR LR LR 08 25 27.6
comp=Z,39nm,19.9s,baz=358,slow=35
comp=Z,0.7nm,0.9s
MSU Marysvale 30.17 110 P P 08 14 52.8 -0.6
SRU San Rafael Swe 30.61 107 P P 08 14 58.3 +1.1
MA2 Magadan 31.19 302 LR LR 08 28 14.2
comp=Z,83nm,21.4s,baz=18,slow=38
PFO Pinyon Flats O 31.83 121 LR LR 08 26 14.4
comp=Z,149nm,18.2s,baz=22,slow=33
FRB Frobisher Bay 38.54 45 LR LR 08 30 39.9
comp=Z,114nm,18.3s,baz=11,slow=34
TXAR Lajitas Array 41.73 111 P P 08 16 31.6 -0.6
comp=Z,0.8nm,0.9s,baz=316,slow=8.8,SNR=6.2
TXAR LR LR 08 32 16.3
comp=Z,64nm,18.5s,baz=294,slow=34
comp=Z,0.8nm,0.9s
LPIG La Paz 42.71 122 LR LR 08 34 08.7
comp=Z,84nm,18.2s,baz=342,slow=36
SFJD Kangerlussuaq 43.23 35 LR LR 08 34 50.1
comp=Z,146nm,19.2s,baz=76,slow=36
ASAJ Asahikawa 43.57 284 LR LR 08 35 38.9
comp=Z,40nm,19.4s,baz=310,slow=37
KLR Kul'dur 45.94 296 LR LR 08 38 05.3
comp=Z,82nm,19.2s,baz=48,slow=38
TKL Tuckaleechee C 47.91 87 LR LR 08 37 11.8
comp=Z,173nm,18.8s,baz=0.0,slow=36
ARCES ARCESS Array B 54.62 2 P P 08 18 11.8 +0.7
comp=Z,7.0nm,1.1s,baz=355,slow=5.5,SNR=3.9
comp=Z,7.0nm,1.1s
KSRS Korea Array 56.15 288 LR LR 08 42 08.7
comp=Z,20nm,20.6s,baz=345,slow=36
CMIG Matias Romero 56.33 111 LR LR 08 42 13.0
comp=Z,60nm,18.9s,baz=352,slow=36
SONM Songino Array 58.79 310 P P 08 18 42.7 +1.6
comp=Z,1.4nm,0.8s,baz=30,slow=6.8,SNR=6.3
SONM LR LR 08 44 12.2
comp=Z,129nm,18.7s,baz=356,slow=36
comp=Z,1.4nm,0.8s
ZALV Zalesovo Beam 61.74 327 P P 08 19 02.9 +1.8
comp=Z,2.0nm,0.7s,baz=32,slow=8.0,SNR=7.1
comp=Z,2.0nm,0.7s
HHC Hu-ho-hao-te 61.87 302 eP P 08 19 03.0 +0.7
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,190nm,5.1s
FINES FINESS Array B 62.74 3 P P 08 19 09.1 +1.4
comp=Z,5.0nm,0.9s,baz=29,slow=4.4,SNR=3.6
comp=Z,5.0nm,0.9s
KURBB Kurchatov Arra 66.52 329 P P 08 19 33.8 +1.3
comp=Z,0.7nm,0.6s,baz=46,slow=5.5,SNR=2.1
comp=Z,0.7nm,0.6s
JTS Las Juntas de 67.27 106 LR LR 08 52 45.0
comp=Z,30nm,18.4s,baz=332,slow=39
MKAR Makanchi Array 68.77 325 P P 08 19 48.3 +1.5
comp=Z,0.9nm,0.5s,baz=26,slow=5.4,SNR=8.1
comp=Z,0.9nm,0.5s
LZH Lanzhou 69.30 304 eP P 08 19 49.5 -1.0
LZH pP pwP 08 19 57.8 -0.5
LZH pmax pmax
comp=Z,17nm,1.0s
AAK Ala-Archa 74.93 328 LR LR 08 55 59.8
comp=Z,112nm,18.3s,baz=338,slow=38
SDV Santo Domingo 76.31 94 LR LR 08 54 09.0
comp=Z,33nm,21.7s,baz=0.5,slow=36
PZH PanZhiHua 78.24 300 P P 08 20 43.3 +0.3
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,5.3s
CMAR Chiang Mai Arr 86.40 298 LR LR 09 04 50.8
comp=Z,23nm,18.2s,baz=5.0,slow=39

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*NEIC **29** 08:24:29.5±1.6, 55°.96N±0°.08×149°.2W±0°.1, h21km±10km, ML3.6/56, ML3.3(AEIC), Error ellipse: s-maj=12.2km s-min=8.4km az=155.0*
*AEIC **29** 08:24:33.5±1.4, 56°.05N±0°.09×149°.2W±0°.1, h6km±8km, Error ellipse: s-maj=13.6km s-min=9.2km az=180.0*
ISC 29 08:24:28.1±1.8, 56°.0N±0°.1×149°.31W±0°.07, h10km, n161, σ1.9 12/158, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.52**	**301**			**Pn**	**08 25 09.6**	**+0.7**
OHAK	**Old Harbor**	**2.52**	**301**			**Sn**	**08 25 38.1**	**-1.5**
OHAK	**Old Harbor**	**2.52**	**301**	IAML			08 25 45.8	
comp=E,64nm,1.3s								
OHAK				IAML			08 25 48.0	
comp=N,56nm,0.8s								
OHAK	**Old Harbor**	**2.52**	**301**	P		**Pn**	**08 25 09.4**	**+0.5**
KDAK	**Kodiak Island**	**2.53**	**316**			**Pn**	**08 25 09.9**	**+0.7**
KDAK	**Kodiak Island**	**2.53**	**316**			**Sn**	**08 25 37.9**	**-2.1**
KDAK	**Kodiak Island**	**2.53**	**316**	IAML			08 25 46.6	
comp=N,36nm,0.8s								
KDAK				IAML			08 25 47.6	
comp=N,42nm,0.9s								
SII	**Sitkinak Islan**	**2.78**	**284**	Pn		**Pn**	**08 25 10.8**	**-1.8**
SII				IAML			08 25 47.6	
comp=E,150nm,0.7s								
SII				IAML			08 25 54.5	
comp=N,168nm,0.7s								
SII	**Sitkinak Islan**	**2.78**	**284**			**Sn**	**08 25 45.7**	**-0.4**
SII	**Sitkinak Islan**	**2.78**	**284**	P		**Pn**	**08 25 13.3**	**+0.7**
SYI	**Shuyak Island**	**3.10**	**329**	Pn		**Pn**	**08 25 17.0**	**0.0**
SYI	**Shuyak Island**	**3.10**	**329**			**Sn**	**08 25 53.2**	**-0.9**
R18K	**Karluk**	**3.23**	**301**			**Pn**	**08 25 20.3**	**+1.5**
R18K						**Sn**	**08 25 56.2**	**-1.1**
R18K	**Karluk**	**3.23**	**301**	IAML			08 26 03.7	
comp=N,111nm,0.6s								
R18K				IAML			08 26 12.6	
comp=E,116nm,0.5s								
CHIR	**Chirikof Islan**	**3.56**	**270**	Pn		**Pn**	**08 25 23.4**	**+0.1**
CHIR				IAML			08 26 44.9	
comp=E,132nm,2.2s								
CHIR				IAML			08 27 28.9	
comp=N,137nm,2.0s								
CHIR	**Chirikof Islan**	**3.56**	**270**			**Sn**	**08 26 03.5**	**-1.9**
CHIR	**Chirikof Islan**	**3.56**	**270**	P		**Pn**	**08 25 24.3**	**+1.0**
CNPM	**China Poot**	**3.68**	**344**			**Pn**	**08 25 25.3**	**+0.3**
CNPM	**China Poot**	**3.68**	**344**			**Sn**	**08 26 07.1**	**-1.2**
Q19K	**Cape Douglas,**	**3.75**	**323**			**Pn**	**08 25 27.8**	**+1.8**
KAHG	**Katmai Hook Gl**	**3.78**	**313**			**Pn**	**08 25 28.5**	**+2.1**
BRSE	**Bradley Lake S**	**3.82**	**349**			**Pn**	**08 25 27.0**	**0.0**
BRLK	**Bradley Lake**	**3.86**	**348**			**Pn**	**08 25 27.4**	**-0.1**
BRLK				IAML			08 26 14.5	
comp=N,53nm,0.4s								
ACHA	**Angle Creek He**	**3.96**	**306**			**Pn**	**08 25 30.8**	**+2.0**
AU22	**Augustine Moun**	**4.01**	**329**			**Pn**	**08 25 30.8**	**+1.3**
ANCK	**Angle Creek**	**4.03**	**306**			**Pn**	**08 25 31.9**	**+2.1**
AUCH	**Augustine Cone**	**4.03**	**328**			**Pn**	**08 25 31.3**	**+1.5**
KAHC	**Katmai Hardscr**	**4.07**	**313**			**Pn**	**08 25 32.3**	**+1.9**
SEW	**Seward**	**4.11**	**359**			**Pn**	**08 25 30.6**	**-0.3**
P23K	**Montague Islan**	**4.13**	**13**			**Pn**	**08 25 31.2**	**+0.1**
PLK3	**Peulik 3**	**4.18**	**297**			**Pn**	**08 25 33.8**	**+2.0**
PLK4	**Peulik 4**	**4.20**	**296**			**Pn**	**08 25 33.7**	**+1.4**
PLK4				IAML			08 26 29.7	
comp=E,61nm,0.8s								
PLK4				IAML			08 27 52.8	
comp=N,58nm,3.4s								
P19K	**Oil Pt**	**4.21**	**332**	Pn		**Pn**	**08 25 33.3**	**+1.0**
P19K				IAML			08 26 26.8	
comp=E,108nm,0.5s								
P19K				IAML			08 26 27.0	
comp=N,96nm,0.4s								
PLK2	**Peulik 2**	**4.23**	**297**			**Pn**	**08 25 34.4**	**+1.9**
CNTC	**Contact Creek**	**4.24**	**305**			**Pn**	**08 25 34.6**	**+1.9**
PLK1	**Peulik 1**	**4.39**	**297**			**Pn**	**08 25 36.6**	**+2.0**
ILS	**Iliamna Low So**	**4.44**	**335**			**Pn**	**08 25 36.0**	**+0.5**
ILSW	**Iliamna Southw**	**4.48**	**334**	Pn		**Pn**	**08 25 36.1**	**+0.1**
ILSW				IAML			08 26 29.5	
comp=N,39nm,0.4s								
ILSW				IAML			08 26 29.6	
comp=E,46nm,0.7s								

IVE	Iliamna Volcan	4.48	335		Pn	08 25 36.3	+0.3
O22K	Cooper Landing	4.49	357		Pn	08 25 36.5	+0.5
SLKM	Skilak Lake	4.54	354		Pn	08 25 37.0	+0.2
HIN	Hinchinbrook I	4.64	17	Pn	Pn	08 25 37.9	-0.3
HIN				IAML		08 26 43.0	
	comp=N,55nm,1.2s						
HIN				IAML		08 27 08.4	
	comp=E,65nm,3.1s						
P18K	Big Mountain,	4.65	319	Pn	Pn	08 25 39.0	+0.8
KAIM	Kayak Island	4.71	31		Pn	08 25 39.3	+0.2
RED	Redoubt Volcan	4.79	339		Pn	08 25 40.0	-0.3
Q16K	King Salmon	4.80	307		Pn	08 25 42.2	+1.9
RDT	Redoubt	4.86	342		Pn	08 25 41.2	-0.1
CAPN	Captain Cook N	4.87	349	Pn	Pn	08 25 44.2	+2.9
PWL	Port Wells	4.89	6		Pn	08 25 41.7	+0.1
PWL				IAML		08 26 36.5	
	comp=N,26nm,0.7s						
PWL				IAML		08 26 53.5	
	comp=E,34nm,1.7s						
EYAK	Cordova Ski Ar	4.93	21		Pn	08 25 42.2	+0.2
EYAK	Cordova Ski Ar	4.93	21	P	Pn	08 25 42.3	+0.2
O19K	Port Alsworth	4.97	330		Pn	08 25 42.8	+0.2
O19K				IAML		08 26 42.3	
	comp=N,72nm,0.5s						
O18K	Koktuh Hills	4.98	323		Pn	08 25 43.2	+0.4
O18K				IAML		08 28 53.3	
	comp=N,32nm,3.2s						
FID	Port Fidalgo	4.98	16	Pn	Pn	08 25 41.9	-0.9
FID				IAML		08 26 44.5	
	comp=E,33nm,0.7s						
FID				IAML		08 28 50.0	
	comp=N,28nm,3.7s						
P17K	Kvichak River	4.99	313		Pn	08 25 44.6	+1.6
GLI	Glacier Island	5.02	12	Pn	Pn	08 25 43.8	+0.4
GLI				IAML		08 26 42.8	
	comp=E,29nm,1.3s						
GLI				IAML		08 29 05.5	
	comp=N,26nm,4.6s						
SUCK	Suckling Hills	5.02	33		Pn	08 25 43.8	+0.4
RAGM	Ragged Mountai	5.03	27		Pn	08 25 40.1	-3.4
RAGM				IAML		08 26 55.2	
	comp=E,64nm,1.1s						
NICHA	Nichawak Mount	5.10	31		Pn	08 25 44.9	+0.4
CHGN	Chignik	5.10	277	Pn	Pn	08 25 45.8	+1.4
RC01	Rabbit Creek A	5.10	358		Pn	08 25 45.2	+0.7
RC01				IAML		08 26 48.3	
	comp=E,26nm,0.4s						
RC01				IAML		08 26 58.9	
	comp=N,22nm,3.6s						
BERG	Berg Lake	5.30	32		Pn	08 25 47.4	+0.1
BERG	Berg Lake	5.30	32	IAML		08 26 55.8	
	comp=E,59nm,0.5s						
BERG				IAML		08 27 01.2	
	comp=N,51nm,2.2s						
GRIN	Grindle Hills	5.33	34		Pn	08 25 48.2	+0.6
SNH	Sunshine Point	5.41	37	Pn	Pn	08 25 48.2	-0.5
KNK	Knik Glacier	5.44	4	Pn	Pn	08 25 49.6	+0.4
DIV	Divide	5.46	18		Pn	08 25 50.0	+0.5
KHIT	Khitrov Hills	5.48	33		Pn	08 25 49.9	+0.2
SPCP	Crater Peak Br	5.48	345		Pn	08 25 50.3	+0.5
SPCG	Spurr Capps Gl	5.49	346		Pn	08 25 50.3	+0.4
SUA	Susitna One	5.52	353		Pn	08 25 49.7	-0.7
N19K	Bonanza Creek	5.53	333	Pn	Pn	08 25 50.5	0.0
BMRM	Bremner River	5.55	24		Pn	08 25 51.0	+0.3
P16K	Nushagak River	5.58	307		Pn	08 25 52.9	+2.0
PMR	Palmer	5.60	1	Pn	Pn	08 25 51.8	+0.4
WAX	Waxell Ridge	5.61	35		Pn	08 25 51.6	+0.1
O17K	Koliganek Bris	5.61	315		Pn	08 25 52.6	+1.2
STLK	Strandline Lak	5.66	348		Pn	08 25 52.8	+0.5
BARK	Barkley Ridge	5.69	36		Pn	08 25 53.2	+0.5
CRQM	Cirque	5.76	32		Pn	08 25 53.5	-0.2
KLU	Klutina	5.78	16		Pn	08 25 54.2	+0.4
GHO	Glory Hole Cre	5.79	2		Pn	08 25 54.9	+1.0
N18K	Kilae Creek	5.83	326		Pn	08 25 54.9	+0.4
SML	Sawmill	5.84	5		Pn	08 25 55.5	+0.8
TGL	Tana Glacier	5.85	33		Pn	08 25 54.9	0.0
BAGL	Bagley Icefiel	5.89	37		Pn	08 25 55.7	+0.4
O16K	Kokwok River B	5.92	311		Pn	08 25 57.2	+1.5
SCM	Sheep Creek Mo	5.93	9		Pn	08 25 56.5	+0.5
VRDI	Verde Repeater	6.06	28	Pn	Pn	08 25 57.8	0.0
SKT	Skwentna	6.10	350		Pn	08 25 59.1	+0.9
N25K	Chitina, Valde	6.12	22		Pn	08 25 59.2	+0.6
SAMH	Samovar Hills	6.12	44		Pn	08 25 60.0	+1.3
KIAG	Kiagna River	6.13	34		Pn	08 25 59.0	+0.3
N17K	Nushagak Hills	6.15	321		Pn	08 25 59.7	+0.8
GLB	Gilahina Butte	6.15	25		Pn	08 25 59.2	+0.2
GRNC	Granite Creek	6.18	37		Pn	08 25 59.5	0.0
BALM	Baldy	6.22	33		Pn	08 26 00.5	+0.6
PTPK	Patty Peak	6.30	32		Pn	08 26 01.6	+0.4
MCARA	McCarthy VSAT	6.31	29		Pn	08 26 01.4	+0.4
PCA	Pinnacle	6.31	46		Pn	08 26 01.7	+0.5
M24K	Tolsona, Glenn	6.33	13		Pn	08 26 02.5	+1.2
PNL	Peninsula	6.44	51		Pn	08 26 03.0	+0.2
PNL	Peninsula	6.44	51	P	Pn	08 26 03.6	+0.8
M18K	Stony River	6.46	331		Pn	08 26 03.1	0.0
M19K	Big River Lodg	6.47	338		Pn	08 26 03.6	+0.3
BCPM	Bancas Point	6.49	48		Pn	08 26 03.4	-0.1
CTGM	Chitina Glacie	6.49	37		Pn	08 26 04.1	+0.4
LOGN	Logan Glacier	6.50	39	Pn	Pn	08 26 03.4	-0.5
WACK	Wrangell Chich	6.52	21		Pn	08 26 05.2	+1.0
WAT6	Susitna Watana	6.64	6		Pn	08 26 06.5	+0.8
HARP	HAARP	6.75	17		Pn	08 26 08.2	+1.0
N15K	Kwethluk River	7.08	311		Pn	08 26 13.0	+1.5
DHY	Denali Highway	7.16	7		Pn	08 26 13.8	+1.0
P29M	Windy Craggy	7.16	55		Pn	08 26 13.1	+0.3
YUK8	Steele Glacier	7.26	39		Pn	08 26 15.9	+1.6
YUK2	White River	7.26	34		Pn	08 26 14.6	+0.4
YUK3	Moose Creek	7.37	35		Pn	08 26 16.9	+1.0
S31K	Pelican	7.41	69	Pn	Pn	08 26 14.0	-2.0
RND	Reindeer	7.43	2	Pn	Pn	08 26 18.0	+1.6
CAST	Castle Rocks	7.57	350		Pn	08 26 19.9	+1.6
YUK6	Outpost Mounta	7.57	45		Pn	08 26 19.7	+1.1
KTH	Kantishna Hill	7.61	355		Pn	08 26 19.6	+0.6
PLBC	Pleasant Camp	7.74	58		Pn	08 26 21.3	+0.7
BVCY	Beaver Creek	7.74	30		Pn	08 26 21.7	+1.0
L16K	Owhat River	7.77	322	Pn	Pn	08 26 21.7	+0.6
SIT	Sitka	7.80	76	P	Pn	08 26 19.9	-1.6
HYT	Haines Junctio	7.85	47	Pn	Pn	08 26 22.7	+0.4
YUK5	Granite Creek	7.88	45		Pn	08 26 24.0	+1.3
BCAR	Beaver Creek A	8.04	25	Pn	Pn	08 26 25.6	+0.8
RIDG	Independent Ri	8.07	14	Pn	Pn	08 26 27.0	+1.7
BPAW	Bear Paw Mtn.	8.16	355	Pn	Pn	08 26 27.0	+0.5
M14K	Bethel	8.17	311	Pn	Pn	08 26 28.2	+1.7
SKAG	Skagway	8.24	59	P	Pn	08 26 27.6	+0.1
R32K	Eaglecrest	8.36	68	Pn	Pn	08 26 29.0	-0.1
SCRK	Sand Creek	8.42	16	Pn	Pn	08 26 31.2	+1.0
JIS	Juneau Island	8.43	68	P	Pn	08 26 30.0	0.0
WRH	Wood River Hil	8.51	4	Pn	Pn	08 26 33.1	+1.9
NEA2	Nenana	8.62	1	Pn	Pn	08 26 33.6	+1.0
IL31		8.87	7	Pn	Pn	08 26 37.7	+1.6
ILAR	Eielson Array	8.87	7	Pn	Pn	08 26 37.3	+1.1
WHY	Whitehorse	8.90	52	Pn	Pn	08 26 37.3	+0.7
N31M	Braeburn, Yuko	8.91	46	Pn	Pn	08 26 37.1	+0.4
P32M	Atlin	9.06	60	Pn	Pn	08 26 38.5	-0.4
I23K	Minto, Yukon-K	9.17	360	Pn	Pn	08 26 41.5	+1.3
DAWY	Dawson	9.47	27	Pn	Pn	08 26 43.3	-1.1
P33M	Teslin, Yukon	9.68	57	Pn	Pn	08 26 47.5	+0.2
K29M	Barlow Dome	9.82	32	Pn	Pn	08 26 50.5	+1.3
H21K	Melozitna Rive	9.83	351	Pn	Pn	08 26 49.9	+0.6
M31M	Drury Creek, Y	9.85	45	Pn	Pn	08 26 50.2	+0.6
H24K	Noodor Dome	9.89	3	Pn	Pn	08 26 52.6	+2.5
J14K	Nanvaranak Lak	9.91	319	Pn	Pn	08 26 53.1	+2.8
H19K	Roundabout Mou	10.16	343	Pn	Pn	08 26 56.5	+2.7
IMAR	Indian Mountai	10.24	350	Pn	Pn	08 26 55.4	+0.5
FARO	Faro, Yukon	10.28	46	Pn	Pn	08 26 56.4	+0.8
I28M	Miner Creek	10.51	22	Pn	Pn	08 27 00.6	+2.0
G23K	Bananza Creek	10.75	358	Pn	Pn	08 27 02.6	+0.8
G24K	Hadweenzic Riv	10.77	4	Pn	Pn	08 27 02.7	+0.6
F20K	Avaraart Lake	11.49	347	Pn	Pn	08 27 13.4	+1.5
BMAR	Burnt Mountain	11.67	9	Pn	Pn	08 27 14.8	+0.3
G31M	Satah River	13.04	27	Pn	Pn	08 27 34.4	+1.3
F31M	Tsiigehtchic	13.57	26	Pn	Pn	08 27 40.3	0.0

IDC 29 08:26:39.8±2.5, 11°.06S×123°.98E, h0km, mb3.3/1, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=224.1km s-min=34.5km az=52.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.32	133	Pn	Pn	08 29 49.8	-0.6
	0.1nm,0.3s,baz=310,slow=15,SNR=6.5						
WRA				Sn	Sn	08 32 11.1	-8.2
	0.2nm,0.3s,baz=282,slow=19,SNR=7.5						
	0.4nm,0.7s						
ASAR	Alice Springs	15.70	144	Pn	Pn	08 30 23.2	+0.6
	0.2nm,0.3s,baz=318,slow=12,SNR=19						
ASAR				Sn	Sn	08 33 11.2	-6.2
	0.1nm,0.3s,baz=311,slow=22,SNR=8.1						
	0.4nm,0.4s						
MKAR	Makanchi Array	68.58	331	P	P	08 37 44.6	0.0
	0.2nm,0.5s,baz=144,slow=8.0,SNR=1.9						
	0.2nm,0.5s						

*NEIC **29** 08:28:20.3±1.8, 55°.94N±0°.08×149°.3W±0°.1, h9km±7km, ML3.6/50, ML3.4(AEIC), Error ellipse: s-maj=11.8km s-min=8.7km az=162.0*
*AEIC **29** 08:28:25.6±1.6, 56°.06N±0°.09×149°.2W±0°.1, h4km±7km, Error ellipse: s-maj=12.7km s-min=9.4km az=175.0*

ISC 29 08:28:20.4±1.7, 56°.0N±0°.1×149°.33W±0°.06, h10km, n135, σ1§22/131, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.51	301		Pn	08 29 01.8	+0.5
OHAK	Old Harbor	2.51	301		Sn	08 29 30.5	-1.3
OHAK	Old Harbor	2.51	301	IAML		08 29 38.2	
	comp=E,60nm,0.9s						
OHAK				IAML		08 29 40.3	
	comp=N,67nm,0.8s						
OHAK	Old Harbor	2.51	301	P	Pn	08 29 01.7	+0.5
KDAK	Kodiak Island	2.53	316		Pn	08 29 01.9	+0.5
KDAK	Kodiak Island	2.53	316		Sn	08 29 31.3	-1.0
KDAK	Kodiak Island	2.53	316	IAML		08 29 40.0	
	comp=N,54nm,0.8s						
KDAK				IAML		08 29 45.2	
	comp=N,49nm,0.7s						
SII	Sitkinak Islan	2.77	284	Pn	Pn	08 29 05.2	+0.4
SII				IAML		08 29 44.6	
	comp=E,251nm,0.8s						
SII				IAML		08 29 47.6	
	comp=N,192nm,0.8s						
SII	Sitkinak Islan	2.77	284		Sn	08 29 38.1	-0.1
SII	Sitkinak Islan	2.77	284	P	Pn	08 29 06.0	+1.2
SYI	Shuyak Island	3.10	329	Pn	Pn	08 29 09.7	+0.3
SYI	Shuyak Island	3.10	329		Sn	08 29 45.5	-1.0
R18K	Karluk	3.23	301		Pn	08 29 12.7	+1.6
R18K	Karluk	3.23	301	IAML		08 30 04.7	
	comp=E,103nm,0.4s						
R18K				IAML		08 30 05.2	
	comp=N,108nm,0.5s						
CHIR	Chirikof Islan	3.55	270	Pn	Pn	08 29 14.9	-0.5
CHIR				IAML		08 30 00.8	
	comp=E,128nm,1.2s						
CHIR				IAML		08 30 40.5	
	comp=N,105nm,1.5s						
CHIR	Chirikof Islan	3.55	270		Sn	08 29 55.8	-1.6
CHIR	Chirikof Islan	3.55	270	P	Pn	08 29 16.7	+1.2
CNPM	China Poot	3.68	345	Pn	Pn	08 29 17.7	+0.3
CNPM				IAML		08 30 13.0	
	comp=E,68nm,0.7s						
CNPM	China Poot	3.68	345		Sn	08 29 59.8	-1.0
Q19K	Cape Douglas,	3.75	323		Pn	08 29 19.2	+0.9
KAHG	Katmai Hook Gl	3.78	314		Pn	08 29 20.0	+1.2
Q23K	Middleton Isla	3.80	24		Pn	08 29 19.7	+0.8
Q23K	Middleton Isla	3.80	24	IAML		08 30 03.1	
	comp=N,110nm,1.3s						
BRSE	Bradley Lake S	3.83	349		Pn	08 29 19.5	+0.1
BRLK	Bradley Lake	3.87	348		Pn	08 29 19.6	-0.3
BRLK				IAML		08 30 08.2	
	comp=N,62nm,0.7s						
BRLK				IAML		08 30 16.2	
	comp=E,78nm,0.6s						
ACHA	Angle Creek He	3.95	307	Pn	Pn	08 29 23.0	+1.9
KJL	Kejulik	3.99	304		Pn	08 29 23.5	+2.0
AU22	Augustine Moun	4.01	329		Pn	08 29 23.2	+1.4
ANCK	Angle Creek	4.02	306		Pn	08 29 24.4	+2.3
AUL	Augustine Lava	4.05	329		Pn	08 29 24.1	+1.8
KAHC	Katmai Hardscr	4.07	313		Pn	08 29 24.5	+1.7
P23K	Montague Islan	4.14	14		Pn	08 29 23.4	-0.3
PLK3	Peulik 3	4.17	297		Pn	08 29 25.9	+1.9
PLK4	Peulik 4	4.20	296	Pn	Pn	08 29 25.9	+1.4
PLK4				IAML		08 30 27.4	
	comp=N,57nm,1.1s						
PLK4				IAML		08 30 31.4	
	comp=E,65nm,1.1s						
P19K	Oil Pt	4.22	332	Pn	Pn	08 29 25.5	+0.8
P19K				IAML		08 30 25.0	
	comp=N,106nm,0.6s						
PLK2	Peulik 2	4.23	298		Pn	08 29 26.7	+1.9
CNTC	Contact Creek	4.23	305		Pn	08 29 26.9	+1.9
PLK1	Peulik 1	4.38	297		Pn	08 29 28.8	+1.9
ILS	Iliamna Low So	4.44	335		Pn	08 29 28.5	+0.6
O20K	Slope Mountain	4.46	338		Pn	08 29 28.4	+0.3
ILSW	Iliamna Southw	4.48	335	Pn	Pn	08 29 28.4	-0.1
ILSW				IAML		08 30 21.5	
	comp=E,48nm,0.8s						
ILSW				IAML		08 30 39.2	
	comp=N,43nm,1.0s						
IVE	Iliamna Volcan	4.48	336		Pn	08 29 29.1	+0.6
O22K	Cooper Landing	4.50	358		Pn	08 29 30.0	+1.4
SLKM	Skilak Lake	4.55	354		Pn	08 29 29.1	-0.2
P18K	Big Mountain,	4.65	320	Pn	Pn	08 29 31.6	+0.9
HIN	Hinchinbrook I	4.66	18	Pn	Pn	08 29 30.6	-0.2
HIN				IAML		08 30 32.7	
	comp=E,57nm,0.8s						
KAIM	Kayak Island	4.73	32	Pn	Pn	08 29 31.4	-0.3
KAIM				IAML		08 32 09.6	
	comp=E,65nm,1.3s						
Q16K	King Salmon	4.79	307		Pn	08 29 34.1	+1.6
RED	Redoubt Volcan	4.79	339		Pn	08 29 32.3	-0.4
RDSO	Redoubt South	4.82	339		Pn	08 29 32.8	-0.3
RDWB	Redoubt West	4.87	339		Pn	08 29 33.5	-0.3
CAPN	Captain Cook N	4.88	349	Pn	Pn	08 29 36.8	+3.1
PWL	Port Wells	4.91	6		Pn	08 29 33.2	-0.9
PWL				IAML		08 30 43.2	
	comp=E,35nm,1.2s						
EYAK	Cordova Ski Ar	4.94	21		Pn	08 29 34.6	0.0
EYAK	Cordova Ski Ar	4.94	21	P	Pn	08 29 34.4	-0.2
O18K	Koktuh Hills	4.98	323		Pn	08 29 35.5	+0.3
O18K				IAML		08 30 44.1	
	comp=N,38nm,1.0s						
O18K				IAML		08 30 50.1	
	comp=E,31nm,0.8s						
P17K	Kvichak River	4.99	313		Pn	08 29 36.4	+1.1
FID	Port Fidalgo	5.00	16		Pn	08 29 33.9	-1.5
FID				IAML		08 30 36.7	
	comp=E,40nm,0.5s						
FID				IAML		08 30 38.1	
	comp=N,30nm,0.8s						
GLI	Glacier Island	5.04	13		Pn	08 29 37.0	+1.1
GLI				IAML		08 30 42.7	
	comp=N,28nm,0.7s						
GLI				IAML		08 30 43.6	
	comp=E,29nm,1.0s						
RC01	Rabbit Creek A	5.11	358	Pn	Pn	08 29 37.3	+0.3
RC01				IAML		08 30 40.8	
	comp=N,27nm,0.6s						
RC01				IAML		08 30 45.6	
	comp=E,41nm,1.1s						
BERG	Berg Lake	5.32	32		Pn	08 29 38.5	-1.3
GRIN	Grindle Hills	5.35	34		Pn	08 29 40.5	+0.2
SNH	Sunshine Point	5.43	37	Pn	Pn	08 29 41.4	+0.1
KNK	Knik Glacier	5.45	4		Pn	08 29 42.0	+0.4
SPCP	Crater Peak Br	5.49	346		Pn	08 29 42.5	+0.2
KHIT	Khitrov Hills	5.50	33		Pn	08 29 42.5	+0.1
SUA	Susitna One	5.53	353	Pn	Pn	08 29 43.2	+0.3
N19K	Bonanza Creek	5.54	333		Pn	08 29 42.5	-0.4
BMRM	Bremner River	5.57	24		Pn	08 29 43.6	+0.3
P16K	Nushagak River	5.57	307		Pn	08 29 44.9	+1.6
O17K	Koliganek Bris	5.61	316		Pn	08 29 45.0	+1.2
PMR	Palmer	5.62	1	Pn	Pn	08 29 44.8	+0.9
WAX	Waxell Ridge	5.63	35		Pn	08 29 44.2	+0.1
STLK	Strandline Lak	5.67	348		Pn	08 29 45.1	+0.4
BARK	Barkley Ridge	5.71	36		Pn	08 29 45.4	+0.2
CRQM	Cirque	5.78	32		Pn	08 29 45.9	-0.4
KLU	Klutina	5.79	16		Pn	08 29 46.2	-0.1
GHO	Glory Hole Cre	5.80	2		Pn	08 29 47.4	+0.9
N18K	Kilae Creek	5.83	326		Pn	08 29 46.9	+0.1
SML	Sawmill	5.85	5	Pn	Pn	08 29 47.2	0.0
TGL	Tana Glacier	5.87	33		Pn	08 29 46.8	-0.7
O16K	Kokwok River B	5.91	311		Pn	08 29 49.0	+1.1
SCM	Sheep Creek Mo	5.95	9		Pn	08 29 49.3	+0.8
VRDI	Verde Repeater	6.08	28	Pn	Pn	08 29 50.0	-0.4
SKT	Skwentna	6.11	350		Pn	08 29 51.4	+0.7
N25K	Chitina, Valde	6.14	22		Pn	08 29 51.6	+0.5
KIAG	Kiagna River	6.15	34		Pn	08 29 51.7	+0.4
GLB	Gilahina Butte	6.17	25	Pn	Pn	08 29 51.2	-0.3
GRNC	Granite Creek	6.20	37		Pn	08 29 52.1	0.0
BALM	Baldy	6.24	33		Pn	08 29 53.1	+0.6
PTPK	Patty Peak	6.32	32		Pn	08 29 53.5	-0.2
MCARA	McCarthy VSAT	6.32	29		Pn	08 29 54.0	+0.4
PCA	Pinnacle	6.33	46		Pn	08 29 54.1	+0.4
M24K	Tolsona, Glenn	6.34	14		Pn	08 29 54.6	+0.7
PNL	Peninsula	6.46	51		Pn	08 29 55.7	+0.3
PNL	Peninsula	6.46	51	P	Pn	08 29 56.0	+0.6
BCPM	Bancas Point	6.50	48	Pn	Pn	08 29 55.4	-0.7
CTGM	Chitina Glacie	6.51	37	Pn	Pn	08 29 56.8	+0.5
LOGN	Logan Glacier	6.52	39	Pn	Pn	08 29 56.0	-0.5
WAT6	Susitna Watana	6.66	6		Pn	08 29 58.7	+0.4
HARP	HAARP	6.77	17		Pn	08 30 00.8	+1.0
N15K	Kwethluk River	7.07	311		Pn	08 30 05.7	+1.8
DHY	Denali Highway	7.17	7	Pn	Pn	08 30 06.5	+1.1
M26K	Nabesna, AK	7.20	24	Pn	Pn	08 30 08.1	+2.5
YUK8	Steele Glacier	7.28	39		Pn	08 30 08.0	+1.0
YUK3	Moose Creek	7.39	35		Pn	08 30 09.9	+1.5
S31K	Pelican	7.42	69	Pn	Pn	08 30 06.5	-2.1
RND	Reindeer	7.44	2	Pn	Pn	08 30 10.6	+1.6
MENT	Mentasta	7.52	20	Pn	Pn	08 30 11.3	+1.2
CAST	Castle Rocks	7.58	351		Pn	08 30 13.1	+2.3
YUK6	Outpost Mounta	7.59	45		Pn	08 30 12.5	+1.3
KTH	Kantishna Hill	7.62	355	Pn	Pn	08 30 13.7	+2.2
L26K	Log Cabin Wild	7.68	21	Pn	Pn	08 30 14.1	+2.0
L16K	Owhat River	7.77	322	Pn	Pn	08 30 14.0	+0.6
SIT	Sitka	7.82	76	P	Pn	08 30 18.5	+4.4
YUK5	Granite Creek	7.90	45		Pn	08 30 16.8	+1.5
BCAR	Beaver Creek A	8.06	25	Pn	Pn	08 30 18.3	+0.9
RIDG	Independent Ri	8.09	14	Pn	Pn	08 30 19.4	+1.5
SKAG	Skagway	8.26	59	Pn	Pn	08 30 21.2	+1.1
SKAG	Skagway	8.26	59	P	Pn	08 30 21.9	+1.8
SCRK	Sand Creek	8.44	16	Pn	Pn	08 30 24.7	+2.0
JIS	Juneau Island	8.44	68	P	Pn	08 30 25.9	+3.3
WRH	Wood River Hil	8.53	4	Pn	Pn	08 30 26.4	+2.6
NEA2	Nenana	8.63	1		Pn	08 30 25.3	+0.1
CCB	Clear Creek Bu	8.71	4		Pn	08 30 26.8	+0.5
IL31		8.89	7		Pn	08 30 30.4	+1.8
WHY	Whitehorse	8.92	52	Pn	Pn	08 30 28.7	-0.6
J26L	Joseph Creek	9.00	16	Pn	Pn	08 30 30.9	+0.6
CRAG	Craig	9.16	87	Pn	Pn	08 30 31.0	-1.5
I23K	Minto, Yukon-K	9.18	360		Pn	08 30 33.0	+0.2
I21K	Tanana	9.31	353	Pn	Pn	08 30 35.5	+1.1
P33M	Teslin, Yukon	9.70	57	Pn	Pn	08 30 39.2	-0.7
M31M	Drury Creek, Y	9.87	45	Pn	Pn	08 30 42.6	+0.4
FARO	Faro, Yukon	10.30	46	Pn	Pn	08 30 48.2	+0.1
FYU	Fort Yukon	10.79	9	Pn	Pn	08 30 55.2	+0.5

*SSNC **29** 08:37:44.5±1.5, 18°.37N×76°.90W, h10km, MD3.1, ML1.6*
*JSN **29** 08:37:44.0±0.3, 18°.18N×76°.88W, h22km±4km, MD2.7*

ISC 29 08:37:41.4±1.5, 18°.46N±0°.08×76°.86W±0°.06, h5km±17km, n8, σ0§69/15, 1C-1D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	Stony Hill	0.38	173	⇑iP	Pg	08 37 48.3	-0.4
MTDJ	Mount Denham	0.69	251	⇓iP	Pb	08 37 55.5	-0.3
MTDJ				iS	Sg	08 38 04.1	+0.6
MTDJ	Mount Denham	0.69	251	eP	Pb	08 37 55.6	-0.3
MTDJ				eS	Sg	08 38 04.0	+0.6
MTDJ				IAML		08 38 04.8	
	comp=Z,33nm,0.3s						
MTDJ				IAML		08 38 05.5	
	30nm,0.1s						
LMGC	Las Mercedes	1.61	355	eP	Pb	08 38 11.8	+0.2
LMGC				eS	Sn	08 38 30.8	-0.9
LMGC				IAML		08 38 33.5	
	comp=N,10.0nm,0.1s						
LMGC				IAML		08 38 34.4	
	comp=E,8.0nm,0.0s						
MARVS	Santiago de Cu	1.78	30	eP	Pn	08 38 12.8	-0.1
MARVS				eS	Sb	08 38 36.8	-0.4
MARVS				IAML		08 38 39.2	
	comp=N,3.0nm,0.1s						
MARVS				IAML		08 38 39.3	
	comp=E,3.7nm,0.2s						
RCC	Rio Carpintero	1.88	35	eP	Pb	08 38 15.7	-0.6
RCC				eS	Sn	08 38 38.1	-0.4
RCC				IAML	

KZIT	Kziot	2.90	356	P	Pn	08 46 14.9	+0.6
LISJ	El Lisan	3.31	13	P	Pn	08 46 19.6	-0.3
MDBI	Mazsada	3.36	11	P	Pn	08 46 20.0	-0.6
MSBI	Mazada	3.36	11	P	Pn	08 46 20.6	0.0
MSBI	Mazada	3.36	11	P	Pn	08 46 21.0	+0.4
MSBI	Mazada	3.36	11	S	Sb	08 47 05.0	-3.5
YTIR	Yattir	3.37	7	P	Pn	08 46 20.6	-0.3
YTIR	Yattir	3.37	7	S	Sb	08 47 06.4	-2.7
YTIR	Yattir	3.37	7	P	Pn	08 46 21.4	+0.4
SWQJ	Swaqa	3.46	21	P	Pn	08 46 23.9	+1.8
AMAZ	Amatzia	3.52	4	P	Pn	08 46 22.6	-0.3
AMAZ	Amatzia	3.52	4	P	Pn	08 46 23.6	+0.6
AMAZ	Amatzia	3.52	4	S	Sb	08 47 09.5	-3.9
DSI	Dead Sea	3.61	10	P	Pn	08 46 24.2	+0.1
DSI	Dead Sea	3.61	10	P	Pn	08 46 23.8	-0.3
DSI	Dead Sea	3.61	10	S	Sb	08 47 11.9	-4.0
HMDT	Nahal Hemdat	4.30	10	P	Pn	08 46 33.7	0.0
HMDT	Nahal Hemdat	4.30	10	P	Pn	08 46 34.7	+1.1
HMDT	Nahal Hemdat	4.30	10	S	Sn	08 47 28.4	+4.8
HSUJ	Al Zarqa	4.30	18	P	Pn	08 46 33.6	-0.1
MMLI	Mount Malkishu	4.47	9	P	Pn	08 46 34.6	-1.4
MMLI	Mount Malkishu	4.47	9	S	Sn	08 47 33.4	+5.6
MMLI	Mount Malkishu	4.47	9	P	Pn	08 46 36.7	+0.7
SHMJ	Saham	4.81	12	P	Pn	08 46 40.3	-0.3
MMA0B	Mount Meron ar	5.04	8	P	Pn	08 46 44.5	+0.7
MMA0B	Mount Meron ar	5.04	8	S	Sn	08 47 47.4	+5.6
MMB1	Mount Meron ar	5.04	8	P	Pn	08 46 42.5	-1.3
MMC7	Mount Meron ar	5.04	7	P	Pn	08 46 44.5	+0.6
MMC1	Mount Meron ar	5.05	7	P	Pn	08 46 43.8	-0.2
GEM	Giv'at Ha'Em	5.26	10	P	Pn	08 46 46.3	-0.6

ISK 29 08:45:40.5, 36°.87N×36°.27E, h0km, ML1.4/5, Suspected Mining explosion., Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAHT	Tahtakopru-Hat	0.50	188	Pg	Pg	08 45 50.7	+0.7
KOZT	Kozan	0.71	330	Pg	Pg	08 45 54.7	+0.6
KOZT				Sg	Sb	08 46 04.9	-1.1
KMRS	Kahramanmaras	0.81	38	Pg	Pg	08 45 56.3	+0.3
GAZ	Gaziantep	0.81	68	Pg	Pg	08 45 56.4	+0.4
GAZ				Sg	Sb	08 46 08.2	-0.8
CMRD	Camardi-Nigde	1.29	308	Pn	Pb	08 46 05.6	-0.2

IDC 29 08:50:41.9±1.9, 51°.60N×82°.70E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=42.6km s-min=12.8km az=107.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	2.68	28	Pn	Pn	08 51 26.5	+0.3
	0.5nm,0.3s,baz=214,slow=14,SNR=5.9						
ZALV				Sn	Sn	08 52 00.8	+1.4
	0.8nm,0.3s,baz=209,slow=25,SNR=6.4						
ZALV				Lg	Lg	08 52 06.3	
	0.6nm,0.3s,baz=202,slow=23,SNR=4.8						
	2.0nm,0.5s						
I46RU	ZALESOVO INFRA	2.68	28	I	I	09 05 10.0	
	baz=214,slow=331,SNR=3.5						
MKAR	Makanchi Array	4.82	183	Pn	Pn	08 51 57.0	+1.3
	0.2nm,0.3s,baz=5.4,slow=10,SNR=6.8						
MKAR				Lg	Lg	08 53 11.8	
	0.3nm,0.3s,baz=9.1,slow=28,SNR=5.4						
	0.3nm,0.4s						

*IDC **29** 09:00:08.0±0.8, 32°.72N×78°.39E, h0km, mb3.9/12, mbtmp3.9/15, ML3.2/3, MS3.7/5, Error ellipse: s-maj=23.5km s-min=15.2km az=57.0*
*NDI **29** 09:00:11.7±3.3, 32°.92N×78°.67E, h10km, ML3.7, MW3.7*
ISC 29 09:00:10.1±0.5, 32°.83N±0°.03×78°.48E±0°.03, h10km, n34, σ1s75/44, mb3.9/13, MS3.5/5, 1D, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNLY	HANLEY	0.42	97	eP	Pg	09 00 17.4	-1.1
HNLY				eS	Sg	09 00 22.4	-1.7
HNLY				IAML		09 00 22.8	
	comp=E,5μm,0.3s						
HNLY				IAML		09 00 22.8	
	comp=N,8μm,0.2s						
KLP	Kalpa	1.30	189	ex	Pg	09 00 33.1	-2.2
KLP				ex	Sg	09 00 48.1	-4.1
KLP				IAML		09 00 53.8	
	comp=E,2μm,0.7s						
KLP				IAML		09 01 02.0	
	comp=E,1μm,0.6s						
DHRM	DHARAMSHALA	1.93	253	eP	Pb	09 00 44.8	-0.7
DHRM				eS	Sg	09 01 12.8	+0.6
DHRM				IAML		09 01 18.4	
	comp=N,3μm,0.5s						
DHRM				IAML		09 01 18.9	
	comp=E,1μm,0.1s						
SMLA	Simla	2.03	214	eP	Pb	09 00 46.5	-0.6
SMLA				eS	Sg	09 01 14.7	-0.6
SMLA				IAML		09 01 17.4	
	comp=E,566nm,0.3s						
SMLA				IAML		09 01 18.2	
	comp=N,735nm,0.3s						
BHK	Bhakra	2.25	232	eP	Pb	09 00 49.8	-1.0
BHK				ix	Pb	09 00 51.9	+1.1
BHK				eS	Sn	09 01 15.4	+0.2
BHK				IAML		09 01 26.6	
	comp=E,1μm,0.5s						
BHK				IAML		09 01 34.2	
	comp=E,1μm,0.6s						
THN	Thein Dam	2.36	261	eP	Pb	09 00 51.7	-1.1
THN				eS	Sg	09 01 24.0	-2.1
THN				IAML		09 01 29.9	
	comp=E,466nm,0.5s						
THN				IAML		09 01 30.0	
	comp=N,729nm,0.5s						
JOSI	Joshimath	2.44	158	eP	Pb	09 00 54.1	-0.2
JOSI				ex	Sg	09 01 27.7	-1.0
JOSI				IAML		09 01 37.2	
	comp=N,276nm,0.8s						
JOSI				IAML		09 01 38.8	
	comp=E,168nm,0.8s						
JMU	Jammu	3.02	269	eP	Pb	09 01 02.1	-1.9
JMU				eS	Sb	09 01 42.1	+1.2
SRNI	Srinagar	3.29	294	ex	Sg	09 01 52.3	-3.5
PTH	Pithoragarh	3.59	155	eP	Pn	09 01 07.8	+1.8
LGTI	Lohaghat	3.69	155	eP	Pn	09 01 09.8	+2.5
NDI	New Delhi	4.27	195	ex	Pb	09 01 24.3	-1.0
NDI				ex	Sb	09 02 18.4	+1.5
KUDL	Kundal	4.97	201	eP	Pn	09 01 27.4	+2.5
KUDL				eS	Sn	09 02 23.8	+1.4
KUDL				IAML		09 02 51.8	
	comp=E,98nm,0.6s						
KUDL				IAML		09 03 03.9	
	comp=E,84nm,0.8s						
KSH	Kashi	6.98	344	P	Pn	09 01 53.3	+0.8
KSH				S	Sn	09 03 14.3	+2.4
KSH				pmax	pmax		
	comp=Z,25nm,0.8s						
AAK	Ala-Archa	10.29	343	Pn	Pn	09 02 40.0	+2.1
	comp=Z,0.1nm,0.3s,baz=177,slow=15,SNR=2.1						
AAK				Sn	Sn	09 04 36.3	+3.0
	comp=Z,0.1nm,0.3s,baz=114,slow=12,SNR=1.6						
	comp=Z,0.7nm,0.4s						
MKAR	Makanchi Array	14.25	11	Pn	Pn	09 03 30.9	-1.1
	comp=Z,0.2nm,0.3s,baz=195,slow=14,SNR=8.5						
MKAR				Sn	Sn	09 06 06.4	-3.7
	baz=142,slow=13						
	comp=Z,0.6nm,0.5s						
KURBB	Kurchatov Arra	17.78	0	P	Pn	09 04 16.2	-1.4
	comp=Z,0.1nm,0.3s,baz=197,slow=10,SNR=1.9						
	comp=Z,1.0nm,0.2s						
BVAR	Borovoye Array	21.01	346	P	P	09 04 53.7	0.0
	comp=Z,3.7nm,0.7s,baz=162,slow=12,SNR=10						
	comp=Z,3.7nm,0.7s						
ZALV	Zalesovo Beam	21.59	10	P	P	09 04 58.8	-1.0
	comp=Z,3.3nm,0.6s,baz=248,slow=7.6,SNR=3.2						
ZALV				LR	LR	09 14 08.5	
	comp=Z,82nm,19.8s,baz=304,slow=39						
	comp=Z,3.3nm,0.6s						
KMI	Kunming	22.54	104	||P	P	09 05 11.8	+1.2
KMI				pmax	pmax		
	comp=Z,28nm,0.7s						
AKTO	Aktyubinsk	23.18	325	P	P	09 05 16.2	-0.6
	comp=Z,2.9nm,0.7s,baz=113,slow=8.6,SNR=7.7						
	comp=Z,2.9nm,0.7s						
CMAR	Chiang Mai Arr	23.29	123	P	P	09 05 17.1	-1.1
	comp=Z,1.4nm,0.3s,baz=311,slow=11,SNR=9.5						
	comp=Z,1.4nm,0.3s						
SONM	Songino Array	25.85	46	P	P	09 05 43.5	+1.7
	comp=Z,4.1nm,0.8s,baz=241,slow=10,SNR=16						
	comp=Z,4.1nm,0.8s						
ASF	Jabal al Asfar	34.91	280	LR	LR	09 24 44.4	
	comp=Z,377nm,21.7s,baz=334,slow=42						
EIL	Elat	37.16	277	LR	LR	09 25 14.7	
	comp=Z,35nm,19.7s,baz=10,slow=41						
TGY	Tagaytay City	42.83	106	LR	LR	09 27 02.5	
	comp=Z,260nm,21.8s,baz=122,slow=38						
JNU	Nakatsue	43.57	75	LR	LR	09 30 25.3	
	comp=Z,50nm,18.1s,baz=330,slow=42						
FINES	FINESS Array B	43.95	327	P	P	09 08 17.9	+1.0
	comp=Z,5.1nm,1.0s,baz=120,slow=8.3,SNR=2.0						
	comp=Z,5.1nm,1.0s						
ESDC	Sonseca Array	64.62	302	P	P	09 10 47.4	-0.6
	comp=Z,0.9nm,0.9s,baz=343,slow=11,SNR=3.4						
	comp=Z,0.9nm,0.9s						
TORD	Torodi Ar. Bea	71.97	274	P	P	09 11 33.1	-1.2
	comp=Z,2.2nm,0.6s,baz=36,slow=5.9,SNR=15						
	comp=Z,2.2nm,0.6s						
WRA	Warramunga Arr	74.83	126	P	P	09 11 50.4	-0.6
	comp=Z,0.8nm,0.8s,baz=325,slow=5.6,SNR=7.7						
	comp=Z,0.8nm,0.8s						
ILAR	Eielson Array	76.47	18	P	P	09 11 59.4	-0.4
	comp=Z,0.6nm,0.8s,baz=276,slow=4.4,SNR=5.7						
	comp=Z,0.6nm,0.8s						
ASAR	Alice Springs	77.13	129	P	P	09 12 03.5	-0.6
	comp=Z,0.4nm,0.6s,baz=310,slow=5.7,SNR=8.7						
	comp=Z,0.4nm,0.6s						
YKA	Yellowknife Ar	84.43	6	P	P	09 12 44.4	+1.9
	comp=Z,0.5nm,0.7s,baz=342,slow=5.2,SNR=4.0						
	comp=Z,0.5nm,0.7s						

IDC 29 09:28:31.5±20.0, 7°.60S×123°.30E, h553km±288km, mb3.0/2, mbtmp4.0/4, Error ellipse: s-maj=353.1km s-min=64.8km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.28	140	P	P	09 31 53.2	-0.4
	1.0nm,0.2s,baz=318,slow=10.0,SNR=54						
ASAR	Alice Springs	18.94	149	P	P	09 32 17.8	-0.1
	1.1nm,0.3s,baz=323,slow=8.1,SNR=60						
STKA	Stephens Creek	29.57	147	P	P	09 33 51.9	-0.1
	1.4nm,0.3s,baz=321,slow=8.0,SNR=11						
	1.4nm,0.3s						
MKAR	Makanchi Array	65.26	330	P	P	09 38 18.9	0.0
	0.4nm,0.5s,baz=133,slow=8.3,SNR=5.0						
	0.4nm,0.5s						

*CATAC **29** 09:46:03.6±0.5, 11°.49N×88°.32W, h29km±5km, mb4.2, ML3.6*
*SNET **29** 09:46:05.0±1.2, 11°.67N×88°.35W, h17km±106km, ML3.1*
ISC 29 09:46:02.8±1.3, 11°.51N±0°.05×88°.31W±0°.04, h20km, n62, σ0s57/115, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSGN	Cosiguina Volc	1.63	27	iP	Pn	09 46 30.5	0.0
CSGN				iS	Sn	09 46 51.1	+0.2
CSGN				IAML		09 47 04.2	
	comp=Z,46nm,1.0s						
POTN	Potosi Cosigui	1.67	28	iP	Pn	09 46 30.7	-0.3
POTN				IAML		09 46 50.8	
	comp=Z,58nm,1.0s						
POTN				iS	Sb	09 46 53.1	-0.5
CRIN	San Cristobal	1.71	46	iP	Pn	09 46 31.5	0.0
CRIN				iS	Sb	09 46 53.9	-0.8
CRIN				IAML		09 47 04.8	
	comp=Z,930nm,1.0s						
PKGN	Cerro Pekin	1.74	48	iP	Pn	09 46 31.9	0.0
PKGN				iS	Sn	09 46 54.1	+0.6
PKGN				IAML		09 47 02.0	
	comp=Z,620nm,1.0s						
PACN	Al O del Volca	1.78	56	iP	Pn	09 46 32.6	+0.1
PACN				IAML		09 46 53.8	
	comp=Z,170nm,1.0s						
PACN				iS	Sb	09 46 55.6	-1.1
CNCH	Conchagua	1.81	15	iP	Pn	09 46 33.6	+0.5
CNCH				iS	Sn	09 46 56.1	+0.6
CNCH				IAML		09 47 01.6	
	comp=Z,500nm,1.0s						
ROCN	Rota Cerro Neg	1.83	57	iP	Pn	09 46 33.2	0.0
ROCN				iS	Sb	09 46 56.9	-1.3
ROCN				IAML		09 47 03.8	
	comp=Z,110nm,1.0s						
LCND	La Caada	1.83	13	eP	Pn	09 46 33.2	0.0
LCND				IAML		09 47 01.4	
	comp=Z,120nm,0.3s						
LCND	La Caada	1.83	13	iP	Pn	09 46 33.4	+0.2
LCND				iS	Sn	09 46 56.7	+0.9
LCND				IAML		09 47 02.3	
	comp=Z,150nm,1.0s						
PLRN	Geotermica Pol	1.85	55	iP	Pn	09 46 33.4	0.0
PLRN				iS	Sn	09 46 56.6	+0.4
CNGA	Al SSO del Vol	1.85	58	iP	Pn	09 46 32.9	-0.6
CNGA				iS	Sn	09 46 56.6	+0.2
CNGA				IAML		09 47 01.2	
	comp=Z,260nm,1.0s						
MACN	El Madrono	1.86	59	iP	Pn	09 46 33.4	-0.2
MACN				iS	Sn	09 46 57.0	+0.4
MACN				IAML		09 47 05.1	
	comp=Z,120nm,1.0s						
ILCN	San Idelfonso	1.90	56	iP	Pn	09 46 33.8	-0.3
ILCN				iS	Sn	09 46 58.3	+0.8
ILCN				IAML		09 47 04.9	
	comp=Z,66nm,1.0s						
RANC	El Ranchito	1.91	1	iP	Pn	09 46 34.8	+0.4
RANC				iS	Sb	09 46 59.1	-1.5
RANC				IAML		09 47 35.9	
	comp=Z,400nm,1.0s						
PACA	Pacayal	1.94	360	eP	Pn	09 46 35.2	+0.4
PACA				eS	Sn	09 46 59.1	+0.3
PACA	Pacayal	1.94	360	iP	Pn	09 46 35.5	+0.6
PACA				iS	Sn	09 46 59.4	+0.6
PACA				IAML		09 46 59.8	
	comp=Z,2μm,1.0s						
MOMN	Momotombo	1.95	63	iP	Pn	09 46 35.4	+0.6
MOMN				iS	Sn	09 46 58.8	0.0
MOMN				IAML		09 47 02.2	
	comp=Z,7.8nm,1.0s						
CNRM	Centro Naciona	1.96	4	iP	Pn	09 46 34.9	0.0
CNRM				iS	Sn	09 47 00.0	+1.2
CNRM				IAML		09 47 34.3	
	comp=Z,3μm,1.0s						
TECO	Alcaldia de Te	2.06	347	iP	Pn	09 46 37.0	+0.6
TECO				iS	Sn	09 47 02.0	+0.4
TECO				IAML		09 47 39.0	
	comp=Z,98nm,1.0s						
UNAN	Cigeo UNAN	2.08	73	iP	Pn	09 46 36.1	-0.6
UNAN				iS	Sn	09 47 02.8	+0.7
UNAN				IAML		09 47 09.3	
	comp=Z,930nm,1.0s						
PQSS	Presa 15 de Se	2.11	353	iP	Pn	09 46 37.2	+0.2
PQSS				iS	Sn	09 47 03.3	+0.6
PQSS				IAML		09 47 05.7	
	comp=Z,150nm,1.0s						
R4DEC	Barrio San Lui	2.12	72	iP	Pn	09 46 37.2	+0.1
R4DEC				iS	Sn	09 47 03.6	+0.8
R4DEC				IAML		09 47 20.3	
	comp=Z,240nm,1.0s						
MGAN	Managua	2.12	72	iP	Pn	09 46 37.3	+0.2
MGAN				iS	Sn	09 47 03.5	+0.7
MGAN				IAML		09 47 36.5	
	comp=Z,240nm,1.0s						
MAS3	Al N del Volca	2.15	76	iP	Pn	09 46 37.6	0.0
MAS3				iS	Sn	09 47 04.1	+0.3
MAS3				IAML		09 47 05.1	
	comp=Z,420nm,1.0s						
UESV	Universidad de	2.16	348	iP	Pn	09 46 37.6	-0.2
UESV				iS	Sn	09 47 04.1	+0.1
UESV				IAML		09 47 13.5	
	comp=Z,220nm,1.0s						
COEG	Centro de Oper	2.17	345	eP	Pn	09 46 37.1	-0.8
COEG				eS	Sn	09 47 04.6	+0.4
COEG				IAML		09 47 13.0	
	comp=Z,111nm,0.5s						
COEG	Centro de Oper	2.17	345	iP	Pn	09 46 38.3	+0.4
COEG				iS	Sn	09 47 04.7	+0.5
COEG				IAML		09 47 09.8	
	comp=Z,110nm,1.0s						
MASN	Masaya	2.17	77	iP	Pn	09 46 37.7	-0.1
MASN				iS	Sn	09 47 05.1	+0.9
MASN				IAML		09 47 16.6	
	comp=Z,250nm,1.0s						
NANN	Nandasmo	2.19	79	iP	Pn	09 46 38.4	+0.3
NANN				iS	Sn	09 47 05.7	+1.1
NANN				IAML		09 47 07.6	
	comp=Z,3μm,1.0s						
LALI	Alcalda de L	2.20	333	iP	Pn	09 46 37.7	-0.5
LALI				iS	Sn	09 47 05.2	+0.4
LALI				IAML		09 47 06.4	
	comp=Z,89nm,1.0s						
SCLA	Alcaldia de Sa	2.21	349	eP	Pn	09 46 39.2	+0.7
SCLA	Alcaldia de Sa	2.21	349	iP	Pn	09 46 39.2	+0.7
SCLA				iS	Sn	09 47 06.6	+1.3
SCLA				IAML		09 47 12.9	
	comp=Z,77nm,1.0s						
NADN	Granada	2.25	84	iP	Pn	09 46 38.8	-0.1
NADN				iS	Sn	09 47 06.1	+0.1
PAVA	Las Pavas	2.27	344	eP	Pn	09 46 39.5	+0.2
PAVA				eS	Sn	09 47 06.6	-0.2
PAVA	Las Pavas	2.27	344	iP	Pn	09 46 39.5	+0.2
PAVA				iS	Sn	09 47 07.1	+0.3
PAVA				IAML		09 47 09.0	
	comp=Z,290nm,1.0s						
LOMA	Loma Larga	2.28	338	iP	Pn	09 46 39.7	+0.2
LOMA				iS	Sn	09 47 06.9	-0.1
LOMA				IAML		09 47 09.5	
	comp=Z,180nm,1.0s						
SNET	Serv Nac Est T	2.34	338	IAML		09 46 35.9	
	comp=Z,690nm,1.0s						
SNET				iP	Pn	09 46 40.6	+0.3
SNET				iS	Sn	09 47 08.8	+0.3
UTEC	Universidad Te	2.34	338	iP	Pn	09 46 40.3	0.0
UTEC				iS	Sn	09 47 08.8	+0.3
UTEC				IAML		09 48 07.6	
	comp=Z,310nm,1.0s						
UEES	Universidad Ev	2.37	338	iP	Pn	09 46 40.8	+0.1
UEES				iS	Sn	09 47 09.5	+0.3
UEES				IAML		09 47 22.2	
	comp=Z,88nm,1.0s						
PMON	Piamonte	2.40	336	iP	Pn	09 46 41.7	+0.7
PMON				iS	Sn	09 47 09.9	0.0
PMON				IAML		09 47 14.6	
	comp=Z,420nm,1.0s						
JAYA	Jayaque - finc	2.40	333	eP	Pn	09 46 41.1	-0.1
JAYA	Jayaque - finc	2.40	333	iP	Pn	09 46 41.3	+0.1
JAYA				iS	Sn	09 47 10.8	+0.7
JAYA				IAML		09 47 10.9	
	comp=Z,470nm,1.0s						
LIMN	Finca el Limon	2.45	51	iP	Pn	09 46 41.8	+0.1
LIMN				IAML		09 47 15.4	
	comp=Z,74nm,1.0s						
CEDA	San Andres	2.51	335	iP	Pn	09 46 42.9	+0.3
CEDA				iS	Sn	09 47 12.6	0.0
CEDA				IAML		09 47 24.1	
	comp=Z,2μm,1.0s						
CEVE	Cerro Verde	2.63	331	eP	Pn	09 46 46.0	+1.6
CEVE				eS	Sn	09 47 16.1	+0.2
CEVE				IAML		09 47 22.0	
	comp=Z,190nm,0.3s						
CEVE	Cerro Verde	2.63	331	iP	Pn	09 46 43.9	-0.5
CEVE				iS	Sn	09 47 16.6	+0.6
CEVE				IAML		09 47 22.3	
	comp=Z,230nm,1.0s						
SNJE	San Jose	2.66	332	eP	Pn	09 46 45.8	+1.0
LLGN	La Laguna	2.71	347	iP	Pn	09 46 46.0	+0.7
LLGN				IAML		09 47 10.8	
	comp=Z,810nm,1.0s						
LLGN				iS	Sn	09 47 18.2	+0.7
TGUH	Tegucigalpa,Un	2.72	22	iP	Pn	09 46 45.5	-0.1
TGUH				iS	Sn	09 47 19.2	+1.2
TGUH				IAML		09 47 25.5	
	comp=Z,48nm,1.0s						
UNIC	Universidad Ca	2.73	334	iP	Pn	09 46 46.0	+0.3
UNIC				IAML		09 47 12.4	
	comp=Z,160nm,1.0s						
UNIC				iS	Sn	09 47 18.7	+0.5
CARN	Rivas	2.75	96	iP	Pn	09 46 46.0	+0.1
CARN				iS	Sn	09 47 18.9	+0.3
CARN				IAML		09 47 28.8	
	comp=Z,400nm,1.0s						
NUBE	Las Nubes	2.77	329	eS	Sn	09 47 19.0	-0.3
NUBE	Las Nubes	2.77	329	iP	Pn	09 46 46.3	0.0
NUBE				iS	Sn	09 47 19.7	+0.4
NUBE				IAML		09 47 20.6	
	comp=Z,150nm,1.0s						
RCFN	Al S de San Ju	2.87	45	iP	Pn	09 46 48.0	+0.4
RCFN				iS	Sn	09 47 22.2	+0.6
RCFN				IAML		09 48 22.6	
	comp=Z,530nm,1.0s						
SLOZ	Alcaldia de Sa	2.88	330	eS	Sn	09 47 21.6	-0.2
RCVN	Varillal2	2.92	45	iP	Pn	09 46 48.4	+0.1
RCVN				iS	Sn	09 47 24.1	+1.3
RCVN				IAML		09 47 25.0	
	comp=Z,1μm,1.0s						
MTO3	Montecristo	3.05	340	eP	Pn	09 46 50.6	+0.5
MTO3	Montecristo	3.05	340	iP	Pn	09 46 50.3	+0.2
MTO3				iS	Sn	09 47 26.3	+0.2
MTO3				IAML		09 47 29.5	
	comp=Z,54nm,1.0s						
ACON	Acoyapa	3.11	81	iP	Pn	09 46 51.5	+0.8
ACON				iS	Sn	09 47 27.6	+0.3
ACON				IAML		09 47 31.8	
	comp=Z,69nm,1.0s						
ESQI	Esquipulas	3.19	342	eP	Pn	09 46 53.0	+1.0
INDI	Punta indio, G	3.21	120	IAML		09 46 48.7	
	comp=Z,3μm,1.0s						
INDI				iP	Pn	09 46 51.9	-0.2
INDI				iS	Sn	09 47 30.2	+0.4
CDITO	Canoas	6.10	118	iP	Pn	09 47 32.3	+0.4
CDITO				IAmb	IAmb	09 48 00.5	
	comp=Z,33nm,1.3s						
CDITO				iS	Sn	09 48 41.8	+0.6
CDITO				IAML		09 49 16.6	
	comp=Z,260nm,1.0s						

*IDC **29** 09:59:27.0±2.0, 64°.72N×30°.59E, h0km, mbtmp3.3/4, ML2.5/4, Error ellipse: s-maj=24.7km s-min=8.1km az=101.0*
*KOLA **29** 09:59:27.9, 64°.74N×31°.33E, h0km, ML2.5, Error ellipse: s-maj=21.6km s-min=10.6km az=160.0, Karelia*
ISC 29 09:59:26.9±1.5, 64°.74N±0°.06×30°.4E±0°.1, h10km, n8, σ2s47/15, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	3.06	19	P	Pn	10 00 17.2	+2.0
APA0				S	Sn	10 00 50.4	-1.4
FINES	FINESS Array B	3.86	213	Pn	Pn	10 00 27.7	+1.4
	0.5nm,0.3s,baz=31,slow=14,SNR=19						
FINES				Sn	Sn	10 01 13.8	+2.3
	1.2nm,0.3s,baz=39,slow=25,SNR=7.1						
FINES				Lg	Lg	10 01 26.2	
	2.9nm,0.3s,baz=34,slow=27,SNR=3.6						
	1.5nm,0.2s						
ARCES	ARCESS Array B	5.18	340	P	Pn	10 00 46.0	+1.6
ARCES				S	Sn	10 01 46.1	+1.9
ARCES	ARCESS Array B	5.18	340	Pn	Pn	10 00 42.7	-1.7
	0.1nm,0.3s,baz=151,slow=13,SNR=1.6						
ARCES				Pg	Pb	10 00 57.1	-0.4
	0.2nm,0.3s,baz=155,slow=14,SNR=4.9						
ARCES				Sn	Sn	10 01 44.6	+0.4

*IDC **29** 10:32:21.9±1.2, 52.°80N×160.°50E, h0km, mb3.7/8, mbtmp3.7/8, MS4.1/2, Error ellipse: s-maj=30.1km s-min=16.0km az=7.0*
*KRSC **29** 10:32:26.0±1.1, 52.°68N×160.°43E, h40km±12km, Ml3.9*
ISC 29 10:32:24.2±1.6, 52.°77N±0.°05×160.°47E±0.°05, h15km±9km, n48, σ1°53/50, mb3.9/9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.43**	**321**	*i* P	**Pn**	**10 32 36.8**	**+0.9**
SPN				*e*S	**Sn**	10 32 43.9	+0.5
DALK	**Dalny**	**1.07**	**285**	*e*P	**Pg**	**10 32 45.6**	**+0.6**
DALK				*e*S	**Sg**	10 32 59.4	+0.3
SDLR	**Sedlovina**	**1.09**	**299**	*e*P	**Pg**	**10 32 46.2**	**+1.0**
UGLR	**Uglovaya**	**1.09**	**295**	*e*P	**Pg**	**10 32 46.5**	**+1.2**
SMAR	**Somma**	**1.13**	**297**	*e*P	**Pg**	**10 32 46.6**	**+0.6**
PET	**Petropavlovsk**	**1.13**	**284**	*e*P	**Pg**	**10 32 46.4**	**+0.3**
PET				*e*S	**Sg**	**10 33 01.3**	**+0.5**
AVH	**Avacha**	**1.16**	**296**	*e*P	**Pg**	**10 32 47.6**	**+0.9**
INSR	**Institute**	**1.17**	**286**	*e*P	**Pg**	**10 32 47.2**	**+0.4**
KRER	**Koryakskii**	**1.17**	**298**	*e*P	**Pg**	**10 32 47.8**	**+0.9**
KOK	**Koryaka**	**1.23**	**296**	*e*P	**Pg**	**10 32 48.4**	**+0.5**
RUS	**Russkaya**	**1.24**	**255**	*e*P	**Pg**	**10 32 47.6**	**-0.6**
RUS				*e*S	**Sn**	**10 33 02.8**	**-0.6**
KRX	**Arik**	**1.25**	**299**	*e*P	**Pg**	**10 32 48.7**	**+0.4**
KII	**Karymskiy**	**1.41**	**335**	*e*P	**Pg**	**10 32 52.1**	**+0.7**
KRMR	**Karymshinskiy**	**1.42**	**273**	*e*P	**Pb**	**10 32 50.3**	**-0.2**
KRMR				*e*S	**Sb**	**10 33 07.3**	**-1.0**
MTVR	**Mutnovka**	**1.43**	**259**	*e*P	**Pg**	**10 32 50.6**	**-1.0**
MTVR				*e*S	**Sb**	**10 33 08.6**	**+0.1**
GRL	**Gorelyy**	**1.48**	**263**	*e*P	**Pg**	**10 32 52.0**	**-0.7**
ASAK	**Asacha**	**1.62**	**257**	*e*P	**Pb**	**10 32 53.6**	**-0.1**
PETK	**Petropavlovsk-**	**1.71**	**283**	Pn	**Pb**	**10 32 54.5**	**-0.8**
	35nm,0.3s,baz=109,slow=20,SNR=28						
PETK				Lg	Lg	10 33 18.6	
	34nm,0.3s,baz=104,slow=5.0,SNR=8.6						
PETK				LR	LR	10 33 45.7	
	comp=Z,231nm,20.6s,baz=58,slow=49						
KDTR	**Khodutka, Kamc**	**1.76**	**238**	*e*P	**Pb**	**10 32 54.5**	**-1.6**
KDTR				*e*S	**Sn**	**10 33 15.2**	**-0.9**
APC	**Apacha**	**2.02**	**276**	*e*P	**Pb**	**10 33 00.4**	**-0.1**
TUMR	**Tumrok**	**2.53**	**356**	*e*P	**Pb**	**10 33 09.0**	**-0.3**
PAU	**Pauzhetka**	**2.61**	**241**	*e*P	**Pn**	**10 33 06.7**	**+0.9**
KMNR	**Kamenistaya**	**3.00**	**357**	*e*P	**Pb**	**10 33 16.8**	**-0.6**
BZP	**Bezymyannyi-Pe**	**3.15**	**1**	*e*P	**Pb**	**10 33 18.4**	**-1.6**
BZMR	**Bezymyannaya**	**3.17**	**0**	*e*P	**Pb**	**10 33 18.4**	**-2.0**
KIRR	**Kirishev**	**3.19**	**359**	*e*P	**Pb**	**10 33 19.1**	**-1.6**
KPT	**Kopyto**	**3.21**	**357**	*e*P	**Pb**	**10 33 20.1**	**-0.8**
ZLN	**Zelenaya**	**3.26**	**3**	*e*P	**Pb**	**10 33 20.5**	**-1.4**
KOZ	**Kozyrevsk**	**3.32**	**354**	*e*P	**Pb**	**10 33 20.2**	**-2.5**
ESO	**Esso**	**3.33**	**343**	*e*P	**Pb**	**10 33 19.7**	**-3.2**
KLY	**Klyuchi**	**3.56**	**2**	*e*P	**Pb**	**10 33 23.7**	**-3.0**
KBTR	**Krutoberegovo**	**3.71**	**21**	*e*P	**Pb**	**10 33 25.4**	**-4.0**
SMKR	**Semkarok**	**3.87**	**8**	*e*P	**Pb**	**10 33 28.5**	**-3.6**
BKI	**Bering**	**4.06**	**51**	*e*P	**Pn**	**10 33 29.2**	**+3.5**
TIXI	**Tiksi**	**23.47**	**335**	P	**P**	**10 37 31.8**	**-0.9**
	0.5nm,0.3s,baz=132,slow=6.7,SNR=4.4						
	0.5nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**33.35**	**169**	T	T	11 14 28.8	
	baz=353,slow=76,SNR=42						
H11N3	**WAKE ISLAND Hy**	**33.36**	**169**	T	T	11 14 42.3	
	baz=353,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**33.37**	**169**	T	T	11 14 30.2	
	baz=353,slow=76,SNR=28						
SPITS	**Spitsbergen Ar**	**47.49**	**351**	P	**P**	**10 40 58.3**	**+0.5**
	14nm,0.9s,baz=76,slow=17,SNR=1.9						
KURBB	**Kurchatov Arra**	**48.20**	**302**	P	**P**	**10 41 02.3**	**-1.3**
	0.6nm,0.5s,baz=61,slow=7.6,SNR=3.9						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**48.50**	**296**	P	**P**	**10 41 04.2**	**-1.9**
	0.5nm,0.5s,baz=60,slow=6.7,SNR=7.7						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**50.77**	**309**	P	**P**	**10 41 21.7**	**-1.6**
	0.5nm,0.4s,baz=45,slow=11,SNR=2.1						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**60.51**	**337**	P	**P**	**10 42 34.0**	**+1.0**
	3.1nm,0.8s,baz=32,slow=5.4,SNR=9.0						
	3.1nm,0.8s						
AKASG	**Malin Array Be**	**69.01**	**329**	P	**P**	**10 43 28.2**	**-0.3**
	0.9nm,0.4s,baz=32,slow=6.3,SNR=5.5						
	0.9nm,0.4s						
KVAR	**Kislovodsk Arr**	**69.83**	**317**	LR	LR	11 17 32.3	
	comp=Z,185nm,19.4s,baz=92,slow=39						
TXAR	**Lajitas Array**	**70.55**	**67**	P	**P**	**10 43 40.4**	**+1.9**
	0.2nm,0.5s,baz=310,slow=6.0,SNR=0.7						
	0.2nm,0.5s						
TKL	**Tuckaleechee C**	**75.76**	**49**	LR	LR	11 19 05.9	
	comp=Z,90nm,18.3s,baz=58,slow=37						
ASAR	**Alice Springs**	**79.56**	**205**	P	**P**	**10 44 30.8**	**+0.6**
	0.2nm,0.5s,baz=18,slow=5.2,SNR=5.6						
	0.2nm,0.5s						

*IDC **29** 10:37:41.2±2.2, 10.°65N×86.°12W, h0km, mb3.6/3, mbtmp3.6/4, ML3.2/1, MS3.6/7, Error ellipse: s-maj=99.0km s-min=16.6km az=29.0*
*CATAC **29** 10:37:44.4±0.5, 10.°46N×86.°37W, h25km±5km, ML4.0*
*UCR **29** 10:37:44.0±1.2, 10.°41N×86.°31W, h35km±34km, MW4.4*
ISC 29 10:37:44.7±1.4, 10.°44N±0.°04×86.°34W±0.°04, h26km±11km, n72, σ0°89/93, mb3.6/3, MS4.0/5, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SACU	**Santa Cruz**	**0.77**	**103**	*e*P	**Pb**	**10 37 58.2**	**-1.3**
ERIA	**Liberia**	**0.91**	**78**	*e*P	**Pn**	**10 38 00.3**	**-1.5**
LCRUZ	**La Cruz**	**0.95**	**48**	*e*P	**Pn**	**10 38 01.9**	**-0.4**
INDI	**Punta indio, G**	**1.00**	**124**	*i* P	**Pb**	**10 38 03.8**	**+0.3**
INDI				*i* S	**Sb**	**10 38 17.3**	**+1.0**
INDI				IAML		10 38 27.1	
	comp=Z,83μm,1.0s						
GPS3	**Bodega del ICE**	**1.01**	**72**	*e*P	**Pn**	**10 38 03.0**	**-0.3**
VRLE	**La Escondida,**	**1.02**	**70**	*e*P	**Pn**	**10 38 01.6**	**-1.8**
GPS2	**Hotel Rincn d**	**1.02**	**72**	*e*P	**Pn**	**10 38 01.8**	**-1.7**
CARN	**Rivas**	**1.10**	**47**	*i* P	**Pn**	**10 38 04.1**	**-0.3**
CARN				*i* S	**Sb**	**10 38 19.7**	**+0.7**
CARN				IAML		10 38 32.5	
	comp=Z,6μm,1.0s						
COLC	**Colonia**	**1.14**	**78**	*e*P	**Pn**	**10 38 03.4**	**-1.7**
HORNC	**Hornillas**	**1.18**	**76**	*e*P	**Pn**	**10 38 03.9**	**-1.6**
CUI	**Cuipilapa**	**1.18**	**79**	*e*P	**Pn**	**10 38 04.0**	**-1.5**
CNAS	**Canas**	**1.23**	**90**	*e*P	**Pn**	**10 38 04.7**	**-1.5**
JAPN	**AI SSO del Vol**	**1.26**	**31**	*i* P	**Pn**	**10 38 06.6**	**-0.1**
JAPN				IAML		10 38 14.2	
	comp=Z,1μm,1.0s						
JAPN				*i* S	**Sn**	**10 38 22.8**	**0.0**
MORN	**AI O del Volca**	**1.30**	**32**	*i* P	**Pn**	**10 38 06.8**	**-0.4**
MORN				IAML		10 38 16.0	
	comp=Z,180nm,1.0s						
MORN				*i* S	**Sn**	**10 38 23.7**	**0.0**
CONN	**Concepcion**	**1.32**	**32**	*i* P	**Pn**	**10 38 06.6**	**-0.9**
CONN				IAML		10 38 14.4	
	comp=Z,11μm,1.0s						
CONN				*i* S	**Sn**	**10 38 24.1**	**-0.2**
NADN	**Granada**	**1.34**	**13**	*i* P	**Pn**	**10 38 07.0**	**-0.7**
NADN				*i* S	**Sn**	**10 38 24.7**	**0.0**
NADN				IAML		10 38 35.5	
	comp=Z,3μm,1.0s						
JTS	**Las Juntas de**	**1.38**	**96**	Pn	**Pn**	**10 38 05.5**	**-2.7**
	comp=Z,8.9nm,0.3s,baz=354,slow=0.7,SNR=83						
JTS				Sn	**Sn**	**10 38 24.1**	**-1.5**
	comp=Z,35nm,0.3s,baz=326,slow=22,SNR=4.6						
JTS	**Las Juntas de**	**1.38**	**96**	*e*P	**Pn**	**10 38 06.4**	**-1.8**
MTEVE	**Monteverde**	**1.50**	**94**	*e*P	**Pn**	**10 38 08.6**	**-1.4**
NANN	**Nandasmo**	**1.51**	**8**	*i* P	**Pn**	**10 38 10.1**	**0.0**
NANN				*i* S	**Sn**	**10 38 29.6**	**+0.7**
NANN				IAML		10 39 03.2	
	comp=Z,27μm,1.0s						
VERA	**Finca Concepci**	**1.51**	**74**	*e*P	**Pn**	**10 38 09.1**	**-0.9**
SABN	**Sabanita**	**1.52**	**7**	*i* P	**Pn**	**10 38 09.4**	**-0.8**
SABN				IAML		10 38 44.0	
	comp=Z,6μm,1.0s						
MASN	**Masaya**	**1.55**	**7**	*i* P	**Pn**	**10 38 10.4**	**-0.3**
MASN				*i* S	**Sn**	**10 38 31.1**	**+1.1**
MASN				IAML		10 38 41.3	
	comp=Z,330nm,1.0s						
MAS3	**AI N del Volca**	**1.59**	**6**	*i* P	**Pn**	**10 38 10.5**	**-0.6**
MAS3				*i* S	**Sn**	**10 38 31.3**	**+0.5**
MAS3				IAML		10 39 00.9	
	comp=Z,810nm,1.0s						
CEDE	**Laguna Cedeo**	**1.61**	**88**	*e*P	**Pn**	**10 38 10.9**	**-0.7**
VACR	**Volcan Arenal**	**1.64**	**89**	*e*P	**Pn**	**10 38 11.1**	**-0.8**
UNAN	**Cigeo UNAN**	**1.67**	**2**	*i* P	**Pn**	**10 38 11.1**	**-1.1**
UNAN				IAML		10 38 24.2	
	comp=Z,10μm,1.0s						
UNAN				*i* S	**Sn**	**10 38 33.0**	**+0.3**
TISN	**Laguna Tiscapa**	**1.70**	**2**	*i* P	**Pn**	**10 38 12.1**	**-0.5**
TISN				IAML		10 38 18.9	
	comp=Z,58nm,1.0s						
SOCE	**Pocosol**	**1.70**	**92**	*i* P	**Pn**	**10 38 12.6**	**-0.1**
SOCE				*i* S	**Sn**	**10 38 34.7**	**+1.1**
SOCE				IAML		10 38 49.9	
	comp=Z,890nm,1.0s						
SOCE	**Pocosol**	**1.70**	**92**	*e*P	**Pn**	**10 38 11.7**	**-1.0**
MGAN	**Managua**	**1.70**	**3**	*i* P	**Pn**	**10 38 12.7**	**0.0**
MGAN				*i* S	**Sn**	**10 38 33.6**	**0.0**
MGAN				IAML		10 39 08.1	
	comp=Z,960nm,1.0s						
LCHIL	**Los Chiles**	**1.71**	**69**	*e*P	**Pn**	**10 38 11.7**	**-1.1**
APQ2	**Apoyeque**	**1.75**	**1**	*i* P	**Pn**	**10 38 13.1**	**-0.2**
APQ2				IAML		10 38 22.2	
	comp=Z,750nm,1.0s						
APQ2				*i* S	**Sn**	**10 38 34.7**	**-0.1**
APYN	**Apoyeque**	**1.79**	**360**	*i* P	Pb	10 38 23.1	+6.3
ACON	**Acoyapa**	**1.91**	**37**	*i* P	**Pn**	**10 38 15.6**	**+0.1**
ACON				IAML		10 38 21.5	
	comp=Z,550nm,1.0s						
ACON				*i* S	**Sn**	**10 38 38.9**	**+0.2**
ACON	**Acoyapa**	**1.91**	**37**	*e*P	**Pn**	**10 38 14.5**	**-1.0**
COVE	**Coope Vega, Sa**	**1.93**	**81**	*i* P	**Pn**	**10 38 16.0**	**+0.2**
COVE				*i* S	**Sn**	**10 38 40.2**	**+0.9**
COVE				IAML		10 39 16.6	
	comp=Z,1μm,1.0s						
MOMN	**Momotombo**	**1.97**	**354**	*i* P	**Pn**	**10 38 16.0**	**-0.4**
MOMN				IAML		10 38 33.3	
	comp=Z,21nm,1.0s						
MOMN				*i* S	**Sn**	**10 38 39.8**	**-0.5**
MACN	**El Madrono**	**2.04**	**351**	*i* P	**Pn**	**10 38 17.1**	**-0.3**
MACN				IAML		10 38 52.5	
	comp=Z,340nm,1.0s						
CNGA	**AI SSO del Vol**	**2.07**	**350**	*i* P	**Pn**	**10 38 17.6**	**-0.3**
CNGA				IAML		10 38 24.6	
	comp=Z,490nm,1.0s						
ILCN	**San Idelfonso**	**2.15**	**351**	*i* P	**Pn**	**10 38 18.3**	**-0.6**
ILCN				IAML		10 38 25.4	
	comp=Z,200nm,1.0s						
PLRN	**Geotermica Pol**	**2.17**	**349**	*i* P	**Pn**	**10 38 19.0**	**-0.2**
PKGN	**Cerro Pekin**	**2.30**	**344**	*i* P	**Pn**	**10 38 20.6**	**-0.4**
PKGN				*i* S	**Sn**	**10 38 48.3**	**-0.2**
PKGN				IAML		10 38 58.7	
	comp=Z,670nm,1.0s						
CRIN	**San Cristobal**	**2.35**	**343**	*i* P	**Pn**	**10 38 21.8**	**+0.1**
CRIN				*i* S	**Sn**	**10 38 49.2**	**-0.6**
CRIN				IAML		10 39 06.8	
	comp=Z,920nm,1.0s						
VICA	**Volcano Irazu**	**2.50**	**100**	*e*P	**Pn**	**10 38 23.8**	**-0.3**
RAFA	**San Farael, Vo**	**2.54**	**101**	*i* P	**Pn**	**10 38 24.6**	**+0.1**
RAFA				*i* S	**Sn**	**10 38 55.4**	**+0.6**
RAFA				IAML		10 39 49.3	
	comp=Z,3μm,1.0s						
TRT2	**Tortugero**	**2.57**	**87**	*i* P	**Pn**	**10 38 24.7**	**+0.1**
TRT2				*i* S	**Sn**	**10 38 56.7**	**+1.7**
TRT2				IAML		10 39 23.3	
	comp=Z,980nm,1.0s						
LIMN	**Finca el Limon**	**2.61**	**360**	*i* P	**Pn**	**10 38 24.5**	**-0.8**
LIMN				IAML		10 38 40.2	
	comp=Z,190nm,1.0s						
ESPN	**Las Esperanzas**	**2.66**	**49**	*i* P	**Pn**	**10 38 25.7**	**-0.2**
ESPN				*i* S	**Sn**	**10 38 58.4**	**+1.1**
ESPN				IAML		10 39 29.9	
	comp=Z,380nm,1.0s						
ESPN	**Las Esperanzas**	**2.66**	**49**	*e*P	**Pn**	**10 38 25.0**	**-0.9**
CSGN	**Cosiguina Volc**	**2.79**	**335**	*i* P	**Pn**	**10 38 26.9**	**-0.8**
CSGN				*i* S	**Sn**	**10 39 00.5**	**-0.1**
CSGN				IAML		10 39 06.5	
	comp=Z,78nm,1.0s						
POTN	**Potosi Cosigui**	**2.79**	**336**	*i* P	**Pn**	**10 38 27.0**	**-0.7**
POTN				IAML		10 38 48.1	
	comp=Z,94nm,1.0s						
POTN				*i* S	**Sn**	**10 39 00.2**	**-0.3**
BLUN	**Bluefields**	**2.96**	**58**	*i* P	**Pn**	**10 38 29.6**	**-0.5**
BLUN				IAML		10 38 42.9	
	comp=Z,230nm,1.0s						
BLUN				*i* S	**Sn**	**10 39 06.2**	**+1.4**
RCPN	**Sur Rio San Ju**	**3.08**	**5**	*i* P	**Pn**	**10 38 32.1**	**+0.3**
CNCH	**Conchagua**	**3.18**	**333**	*i* P	**Pn**	**10 38 32.9**	**-0.2**
CNCH				*i* S	**Sn**	**10 39 10.1**	**-0.1**
CNCH				IAML		10 39 18.9	
	comp=Z,270nm,1.0s						
LCND	**La Caada**	**3.23**	**332**	*i* P	**Pn**	**10 38 33.6**	**-0.1**
LCND				*i* S	**Sn**	**10 39 11.7**	**+0.3**
LCND				IAML		10 39 14.6	
	comp=Z,130nm,1.0s						
PACA	**Pacayal**	**3.58**	**327**	*i* P	**Pn**	**10 38 38.3**	**-0.4**
PACA				*i* S	**Sn**	**10 39 20.1**	**-0.1**
PACA				IAML		10 39 34.4	
	comp=Z,760nm,1.0s						
CDITO	**Canoas**	**3.89**	**118**	*i* P	**Pn**	**10 38 43.1**	**+0.2**
CDITO				*i* S	**Sn**	**10 39 28.6**	**+0.8**
CDITO				IAML		10 40 23.6	
	comp=Z,340nm,1.0s						
CMIG	**Matias Romero**	**10.61**	**310**	Pn	**Pn**	**10 40 16.8**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=135,slow=16,SNR=7.4						
	comp=Z,1.6nm,0.6s						
SDV	**Santo Domingo**	**15.57**	**94**	LR	LR	10 48 15.3	
	comp=Z,54nm,18.5s,baz=275,slow=41						
ATAH	**Atahualpa**	**19.17**	**155**	LR	LR	10 48 07.6	
	comp=Z,49nm,21.5s,baz=344,slow=32						
TXAR	**Lajitas Array**	**24.81**	**322**	P	**P**	**10 43 04.9**	**0.0**
	comp=Z,1.3nm,0.7s,baz=138,slow=10,SNR=18						
	comp=Z,1.3nm,0.7s						
NVAR	**Mina Array Bea**	**39.92**	**320**	P	**P**	**10 45 18.3**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=145,slow=6.5,SNR=6.4						
	comp=Z,0.6nm,0.5s						
YKA	**Yellowknife Ar**	**55.83**	**345**	P	**P**	**10 47 18.1**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=192,slow=5.7,SNR=2.4						
	comp=Z,0.5nm,0.8s						
BBTS	**Babate**	**68.05**	**78**	LR	LR	11 19 44.5	
	comp=Z,57nm,18.6s,baz=154,slow=37						
MDT	**Midelt**	**77.52**	**59**	LR	LR	11 22 16.0	
	comp=Z,93nm,18.3s,baz=333,slow=35						
ESDC	**Sonseca Array**	**77.58**	**52**	LR	LR	11 22 04.5	
	comp=Z,97nm,18.8s,baz=250,slow=34						
DBIC	**Dimbokro**	**80.48**	**85**	LR	LR	11 27 26.5	
	comp=Z,32nm,18.1s,baz=291,slow=37						
TORD	**Torodi Ar. Bea**	**85.79**	**77**	LR	LR	11 22 49.6	
	comp=Z,71nm,21.9s,baz=324,slow=32						
ASAR	**Alice Springs**	**139.48**	**246**	PKP	**PKPdf**	**10 57 11.1**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=108,slow=3.0,SNR=2.1						
WRA	**Warramunga Arr**	**139.71**	**252**	PKP	**PKPdf**	**10 57 10.9**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=96,slow=2.0,SNR=1.8						
CMAR	**Chiang Mai Arr**	**150.82**	**350**	PKPbc	**PKPbc**	**10 57 35.5**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=348,slow=3.5,SNR=6.0						

*THE **29** 11:08:11.7, 37.°19N×20.°69E, h5km±1km, ML3.6/8, Error ellipse: s-maj=1.7km s-min=0.6km az=49.0*
*ATH **29** 11:08:12.7, 37.°25N×20.°79E, h16km±3km, ML3.3/12, Manual Solution by A.Papageorgiou First location: 2018/11/29 11:08:35, This location: 2019/01/30 08:35:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 3 km*
ISC 29 11:08:12.4±1.3, 37.°24N±0.°04×20.°76E±0.°04, h13km±8km, n38, σ0°62/74, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.43**	**6**	P	**Pg**	**11 08 21.0**	**+0.1**
KRI1				S	**Sb**	**11 08 27.8**	**-0.5**
	12μm,0.2s						
LTHK	**Lithakia**	**0.48**	**7**	P	**Pg**	**11 08 21.8**	**0.0**
LTHK				S	**Sb**	**11 08 29.3**	**-0.3**
LTHK	**Lithakia**	**0.48**	**7**	P	**Pg**	**11 08 21.6**	**-0.2**
LTHK				S	**Sg**	**11 08 28.8**	**+0.6**
ZARO	**Zacharo**	**0.75**	**70**	P	**Pb**	**11 08 27.7**	**+0.4**
ZARO				S	**Sg**	**11 08 37.2**	**+0.4**
PYL1	**Pylos**	**0.81**	**113**	P	**Pn**	**11 08 29.3**	**-0.2**
PYL1				S	**Sg**	**11 08 39.1**	**+0.4**
PYL2	**Kinigos**	**0.84**	**113**	P	**Pg**	**11 08 28.6**	**0.0**
PYL2				S	**Sg**	**11 08 39.0**	**-0.5**
PYL4	**Kinigos solar**	**0.84**	**113**	P	**Pg**	**11 08 28.2**	**-0.4**
PYL4				S	**Sb**	**11 08 40.2**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.84**	**0**	P	**Pg**	**11 08 28.1**	**-0.6**
RTZL				S	**Sb**	**11 08 41.2**	**+1.1**
PYL	**PYLOS**	**0.85**	**113**	P	**Pg**	**11 08 28.4**	**-0.5**
PYL				S	**Sn**	**11 08 42.3**	**-0.2**
	2μm,0.3s						
PYL	**PYLOS**	**0.85**	**113**	P	**Pg**	**11 08 28.6**	**-0.3**
PYL				S	**Sg**	**11 08 40.5**	**+0.4**
MTHA	**Methoni**	**0.86**	**119**	P	**Pb**	**11 08 29.6**	**+0.4**
MTHA				S	**Sg**	**11 08 40.3**	**0.0**
PSDA	**Pessada-Kefalo**	**0.89**	**351**	P	**Pg**	**11 08 28.9**	**-0.7**
PSDA				S	**Sn**	**11 08 43.0**	**-0.4**
	5μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.89**	**351**	P	**Pg**	**11 08 29.1**	**-0.5**
PSDA				S	**Sg**	**11 08 41.5**	**+0.3**
ITM	**Ithomi**	**0.93**	**93**	P	**Pg**	**11 08 30.1**	**-0.3**
ITM				S	**Sn**	**11 08 44.3**	**-0.2**
	2μm,0.4s						
ITM	**Ithomi**	**0.93**	**93**	P	**Pg**	**11 08 30.2**	**-0.2**
ITM				S	**Sg**	**11 08 42.5**	**-0.1**
VLS	**Valsamata**	**0.95**	**352**	P	**Pg**	**11 08 29.8**	**-1.0**
VLS				S	**Sn**	**11 08 44.6**	**-0.4**
	3μm,0.1s						
VLS	**Valsamata**	**0.95**	**352**	P	**Pg**	**11 08 30.1**	**-0.7**
VLS				S	**Sg**	**11 08 43.4**	**+0.2**
RLS	**Riolos of Patr**	**0.99**	**34**	P	**Pg**	**11 08 30.8**	**-0.7**
RLS				S	**Sg**	**11 08 43.7**	**-0.8**
SMHA	**Samh**	**1.02**	**355**	P	**Pg**	**11 08 31.3**	**-0.8**
SMHA				S	**Sg**	**11 08 45.3**	**0.0**
DRO	**Drossia**	**1.04**	**46**	P	**Pg**	**11 08 31.8**	**-0.6**
DRO				S	**Sn**	**11 08 48.0**	**+0.8**
	3μm,0.3s						
DRO	**Drossia**	**1.04**	**46**	P	**Pg**	**11 08 31.5**	**-0.9**
DRO				S	**Sg**	**11 08 45.4**	**-0.5**
DMLN	**Damoulianata-K**	**1.05**	**343**	P	**Pg**	**11 08 31.4**	**-1.2**
DMLN				S	**Sn**	**11 08 48.4**	**+1.0**
	3μm,0.4s						
DMLN	**Damoulianata-K**	**1.05**	**343**	P	**Pn**	**11 08 33.2**	**+0.3**
DMLN				S	**Sb**	**11 08 46.4**	**+0.3**
FSK	**Fiskardo**	**1.23**	**353**	P	**Pn**	**11 08 34.7**	**-0.7**
FSK				S	**Sn**	**11 08 53.3**	**+1.4**
	2μm,0.2s						
FSK	**Fiskardo**	**1.23**	**353**	P	**Pn**	**11 08 35.2**	**-0.2**
FSK				S	**Sb**	**11 08 51.8**	**+0.4**
KLV	**Kalavryta, Ach**	**1.36**	**53**	P	**Pn**	**11 08 37.3**	**0.0**
KLV				S	**Sg**	**11 08 58.4**	**+2.0**
KLV	**Kalavryta, Ach**	**1.36**	**53**	P	**Pn**	**11 08 37.2**	**-0.1**
KLV				S	**Sb**	**11 08 55.1**	**-0.2**
GUR	**Goura**	**1.44**	**60**	P	**Pn**	**11 08 38.2**	**-0.1**
GUR	**Goura**	**1.44**	**60**	P	**Pn**	**11 08 38.4**	**+0.1**
GUR				S	**Sn**	**11 08 56.4**	**-0.7**
DRAG	**Dragano-Lefkad**	**1.45**	**354**	P	**Pn**	**11 08 37.4**	**-1.1**
DRAG				S	**Sn**	**11 08 57.3**	**-0.1**
EFP	**Efpalio**	**1.49**	**37**	P	**Pn**	**11 08 39.4**	**+0.4**
EFP				S	**Sn**	**11 08 57.5**	**-0.9**
PVO	**Paravola**	**1.50**	**23**	P	**Pn**	**11 08 39.6**	**+0.5**
PVO				S	**Sn**	**11 08 58.1**	**-0.5**
LKD2	**Lefkada island**	**1.55**	**357**	P	**Pn**	**11 08 40.3**	**+0.5**
LKD2				S	**Sn**	**11 08 59.4**	**-0.5**
TSLK	**Tsoukalades, L**	**1.59**	**357**	P	**Pn**	**11 08 41.1**	**+0.8**
TSLK				S	**Sn**	**11 09 00.8**	**0.0**
ANX	**Ano Chora**	**1.64**	**34**	P	**Pn**	**11 08 41.9**	**+0.9**
ANX	**Ano Chora**	**1.64**	**34**	P	**Pn**	**11 08 41.3**	**+0.2**
ANX				S	**Sn**	**11 09 01.9**	**-0.2**
EVR	**Evrytania**	**1.87**	**26**	P	**Pn**	**11 08 44.6**	**+0.3**
EVR				S	**Sn**	**11 09 07.3**	**-0.6**
LTK	**Loutraki**	**1.92**	**65**	P	**Pn**	**11 08 44.9**	**0.0**
LTK				S	**Sn**	**11 09 07.9**	**-0.9**

*JMA **29** 11:14:23.7±0.2, 24.°7N±0.°5×121.°9E±0.°3, h97km±1km, MV2.8/18, TAIWAN REGION*
*TAP **29** 11:14:24.4, 24.°78N×121.°95E, h91km, ML3.6, B*
ISC 29 11:14:23.7±1.3, 24.°81N±0.°03×121.°94E±0.°02, h97km±5km, n136, σ0°76/239, 28C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.04**	**346**	⇓P	**Pn**	**11 14 37.4**	**+0.2**
NTC	**Toucheng**	**0.11**	**295**	*e*P	**Pn**	**11 14 37.7**	**+0.4**
NTC				*e*S	**Sn**	**11 14 47.

NSTT			eS	Sn	11 14 56.6	-0.2
HWA	Hwalien	0.88 201	eP	Pn	11 14 43.0	+0.3
HWA			eS	Sn	11 14 58.0	+1.2
HSN	Hsinchu	0.89 270 ⇑P		Pn	11 14 43.0	+0.3
HSN			eS	Sn	11 14 56.9	0.0
TWT	Tachien	0.89 232 ⇑P		Pn	11 14 44.0	+1.1
TWT			eS	Sn	11 14 58.1	+0.7
TDCB	Techi	0.90 233 ⇑P		Pn	11 14 44.0	+1.0
TDCB			eS	Sn	11 14 57.9	+0.3
WHF	Hehuan Shan	0.90 223	eP	Pn	11 14 43.8	+0.4
WHF			eS	Sn	11 14 57.9	-0.2
LXIB	Xiulin Townshi	0.92 212 ⇑P		Pn	11 14 42.7	-0.5
LXIB			eS	Sn	11 14 57.9	0.0
ETM	Tongmen	0.93 206	eP	Pn	11 14 42.7	-0.5
ETM			eS	Sn	11 14 57.5	-0.3
JYNG	Yonagunijimaku	0.98 111	P	Pn	11 14 43.8	+0.1
JYNG			eS	Sn	11 14 58.6	-0.1
TEYL	Yanliau Villag	0.98 199	eP	Pn	11 14 43.9	+0.2
TEYL			eS	Sn	11 14 58.4	-0.4
YOJ	Yonaguni jima	1.03 109	P	Pn	11 14 44.4	+0.1
YOJ	Yonaguni jima	1.03 109	P	Pn	11 14 44.3	+0.1
YOJ	Yonaguni jima	1.03 109	⇓P	Pn	11 14 44.3	+0.1
YOJ			eS	Sn	11 14 58.5	-1.2
WHP	Taichung City	1.05 240 ⇑P		Pn	11 14 45.5	+0.9
WHP			eS	Sn	11 15 00.2	-0.1
SHUL	Shoufeng	1.07 199	eP	Pn	11 14 45.0	+0.3
SHUL			eS	Sn	11 15 01.4	+0.9
NMLH	Miaoli	1.08 256	eP	Pn	11 14 45.4	+0.6
NMLH			eS	Sn	11 15 00.2	-0.6
ESL	Shilin	1.09 205	eP	Pn	11 14 44.0	-1.0
OWD	Renai	1.10 220	eP	Pn	11 14 45.8	+0.6
OWD			eS	Sn	11 15 01.8	+0.4
WUSB	Renai	1.11 223 ⇑P		Pn	11 14 46.0	+0.8
WUSB			eS	Sn	11 15 01.5	0.0
NSY	Sanyi	1.14 250 ⇑P		Pn	11 14 46.4	+0.8
NSY			eS	Sn	11 15 02.6	+0.5
TEGC	Jichi Village	1.15 199	eP	Pn	11 14 45.3	-0.3
TEGC			eS	Sn	11 15 02.3	+0.2
TWQ1	Liyutan	1.16 247 ⇑P		Pn	11 14 46.3	+0.5
TWQ1			eS	Sn	11 15 02.3	0.0
WARBT	Fenglin Townsh	1.20 205 ⇑P		Pn	11 14 45.1	-1.1
WARBT			eS	Sn	11 15 01.5	-1.6
WCS	Beigang Elemen	1.20 232⇑	eP	Pn	11 14 47.0	+0.8
WCS			eS	Sn	11 15 03.1	-0.1
EGFH	Guangfu	1.23 203	eP	Pn	11 14 46.7	+0.1
WDJ	Dajia District	1.27 249	eP	Pn	11 14 47.8	+0.7
WDJ			eS	Sn	11 15 05.2	+0.5
VWDT	VWDT	1.28 215⇑	eP	Pn	11 14 47.8	+0.7
VWDT			eS	Sn	11 15 05.6	+0.8
SMLT	Sun Moon Lake	1.32 226⇑	eP	Pn	11 14 47.6	-0.2
SMLT			eS	Sn	11 15 06.6	+0.6
TYC	Yuchr	1.34 228	eP	Pn	11 14 48.5	+0.7
TYC			eS	Sn	11 15 07.4	+1.4
SSLB	Suanglung	1.36 222	P	Pn	11 14 49.1	+1.0
SSLB	Suanglung	1.36 222 ⇑P		Pn	11 14 48.9	+0.8
SSLB			eS	Sn	11 15 07.7	+1.2
HGSD	Ruisui	1.39 200 ⇑P		Pn	11 14 48.6	+0.1
HGSD			eS	Sn	11 15 07.5	+0.3
EHY	Hungye	1.41 204	eP	Pn	11 14 48.0	-0.7
WCHH	Zhanghua	1.45 240	eP	Pn	11 14 49.7	+0.5
WCHH			eS	Sn	11 15 08.6	0.0
WNT	Mingjian	1.47 231	eP	Pn	11 14 50.2	+0.7
WNT			eS	Sn	11 15 10.3	+1.2
WJS	Zhushan	1.48 229	eP	Pn	11 14 50.4	+0.8
WJS			eS	Sn	11 15 09.8	+0.6
WHYT	Xinyi Township	1.49 222	eP	Pn	11 14 50.6	+0.9
WHYT			eS	Sn	11 15 10.8	+1.4
YULB	Yu-li	1.52 203	P	Pn	11 14 49.3	-0.9
YULB	Yu-li	1.52 203	eP	Pn	11 14 49.1	-1.0
YULB			eS	Sn	11 15 08.8	-1.4
ECBN	Changbin	1.55 197	eP	Pn	11 14 50.5	+0.1
ECBN			eS	Sn	11 15 10.0	-0.7
EYUL	Yuli	1.56 202	eP	Pn	11 14 51.3	+0.7
TWF1	Yuli	1.56 202	eP	Pn	11 14 50.3	-0.4
ALS	Alishan	1.66 219	eP	Pn	11 14 53.1	+1.0
ALS			eS	Sn	11 15 15.2	+1.7
CHN5	Tsauling	1.67 224	eP	Pn	11 14 52.7	+0.7
CHN5			eS	Sn	11 15 14.1	+0.5
CHKH	Chenggong	1.68 197	eP	Pn	11 14 51.8	-0.3
CHKH			eS	Sn	11 15 12.3	-1.4
WGK	Gukeng	1.68 229	eP	Pn	11 14 53.1	+0.9
WGK			eS	Sn	11 15 14.5	+0.8
IRIF	Iriomote-Funau	1.69 106	P	Pn	11 14 52.1	-0.1
IRIF			eS	Sn	11 15 13.6	-0.3
WDLH	Douliu	1.70 229	eP	Pn	11 14 52.8	+0.5
WDLH			eS	Sn	11 15 14.3	+0.2
FULB	Fuli	1.71 200	eP	Pn	11 14 53.0	+0.5
FULB			eS	Sn	11 15 14.4	+0.1
CHKT	Chengkung	1.78 197	eP	Pn	11 14 53.0	-0.3
CHKT			eS	Sn	11 15 14.2	-1.7
EHD	Haiduan	1.78 202	eP	Pn	11 14 53.1	-0.3
WTK	Tuku	1.80 232	eP	Pn	11 14 54.2	+0.6
WTK			eS	Sn	11 15 16.8	+0.4
ELDTW	Lidau	1.82 208	eP	Pn	11 14 54.2	+0.2
ELDTW			eS	Sn	11 15 16.8	-0.2
ECS	Chishang	1.83 201	eP	Pn	11 14 54.5	+0.6
WCKO	Fanlu	1.83 222	eP	Pn	11 14 55.0	+1.0
WCKO			eS	Sn	11 15 18.3	+1.2
CHN4	Tsaushan	1.90 221	eP	Pn	11 14 56.2	+1.2
CHN4			eS	Sn	11 15 19.8	+1.0
CHY	Chiayi	1.90 227	eP	Pn	11 14 55.6	+0.7
CHY			eS	Sn	11 15 19.1	+0.3
EDH	Donghe	1.92 198	eP	Pn	11 14 55.0	-0.1
EDH			eS	Sn	11 15 17.7	-1.3
TPUB	Ta-pu	1.92 219	P	Pn	11 14 56.1	+0.9
TPUB	Ta-pu	1.92 219	eP	Pn	11 14 56.0	+0.8
STYH	Taoyuan	1.95 214	eP	Pn	11 14 56.8	+1.3
STYH			eS	Sn	11 15 21.0	+1.3
JKRS	Kuro-shima	1.96 106	P	Pn	11 14 56.3	+0.6
JKRS			S	Sn	11 15 20.0	-0.1
TWK	Hsinying	2.03 221	eP	Pn	11 14 57.4	+0.8
TWK			eS	Sn	11 15 22.2	+0.5
LONT	Longtian	2.03 202	eP	Pn	11 14 55.8	-0.9
JIJ	Ishigaki jima	2.05 102	P	Pn	11 14 57.0	+0.2
JIJ			S	Sn	11 15 21.1	-1.0
SNST	Tainan City	2.06 220	eP	Pn	11 14 57.8	+0.9
CHN1	Nanshi	2.07 219	eP	Pn	11 14 57.9	+0.8
CHN1			eS	Sn	11 15 22.8	+0.2
SGST	Jiashian	2.12 216	eP	Pn	11 14 58.0	+0.2
SGST			eS	Sn	11 15 23.6	-0.2
TWG	Pinlang	2.13 202	eP	Pn	11 14 57.2	-0.7
TWGBT	Beinan	2.13 202	P	Pn	11 14 57.7	-0.2
TWGBT	Beinan	2.13 202	eP	Pn	11 14 57.1	-0.8
TWGBT			eS	Sn	11 15 22.1	-2.0
JISG	Ishigakijimahi	2.17 95	eP	Pn	11 14 58.9	+0.6
JISG			eS	Sn	11 15 24.6	-0.2
LDUT	Ludao	2.17 192	eP	Pn	11 14 57.5	-0.9
LDUT			eS	Sn	11 15 22.0	-2.8
MATB	Ma-tsu	2.25 307	eP	Pn	11 14 59.4	0.0
TSCK	Chigu Township	2.37 226	eP	Pn	11 15 01.7	+0.7
TSCK			eS	Sn	11 15 29.6	+0.1
ECL	Taimali	2.38 203	eP	Pn	11 15 00.8	-0.4
ECL			eS	Sn	11 15 28.0	-1.8
TSMG	Majia	2.41 210	eP	Pn	11 15 02.7	+1.2
MASBT	Mashibuluo	2.49 209	eP	Pn	11 15 03.9	+1.2
MASBT			eS	Sn	11 15 32.9	+0.3
JTJ	Tarama	2.51 93	eS	Sn	11 15 33.5	+0.5
PHUB	P'eng-hu	2.52 240	eP	Pn	11 15 02.4	-0.6
PHUB			eS	Sn	11 15 30.1	-3.0
PTMZ	Houxiangcun	2.57 276	eP	Pn	11 15 03.8	+0.1
PTMZ			eS	Sn	11 15 32.8	-1.6
LYJJ	Jianjiangzhen	2.63 312	eP	Pn	11 15 04.4	0.0
SLIU	Shizi	2.78 202	eP	Pn	11 15 07.1	+0.6
VCHM	Qimei	2.79 236	eP	Pn	11 15 06.5	-0.1
VCHM			eS	Sn	11 15 38.0	-1.7
LYUB	Lan-yu	2.81 187	eP	Pn	11 15 05.5	-1.4
JIRB	Irabujima	2.94 89	eS	Sn	11 15 43.3	+0.3
JIKM	Ikemajima	3.00 87	eP	Pn	11 15 10.7	+1.2
JIKM			eS	Sn	11 15 45.8	+1.1
JMJ2	Miyako jima3	3.08 90	eS	Sn	11 15 46.4	0.0
JOGS	Gusukube	3.15 90	eS	Sn	11 15 49.4	+1.3
AXDP	Jialang	3.61 272	eP	Pn	11 15 17.8	+0.2

*IDC **29** 11:24:02.3±0.5,51.°35N×178.°19W,h0km,mb4.5/28, mbtmp4.5/30,ML3.6/2,MS3.7/35,Error ellipse: s-maj=16.2km s-min=11.4km az=160.0*
*MOS **29** 11:24:05.5±1.1,51.°29N×178.°04W,h33km,mb4.9/25,*
Error ellipse: s-maj=11.8km s-min=7.6km az=100.8
*BJI **29** 11:24:07.6,51.°60N×178.°57W,h37km,mb4.9/49, mB5.3/17,Ms4.9/2,Ms7 4.7/2*
*AEIC **29** 11:24:07.7±2.5,51.°21N±0.°08×178.°14W±0.°07,h44km±6km, Error ellipse: s-maj=12.0km s-min=5.9km az=178.0*
*NEIC **29** 11:24:08.0±2.4,51.°20N±0.°06×178.°14W±0.°04,h35km±2km, mb4.7/319,ML4.4(AEIC),Error ellipse: s-maj=11.4km s-min=3.0km az=196.0*
ISC 29 11:24:08.7±0.7,**51.°22N**±0.°07×**178.°14W**±0.°03,**h48**km±5km, **n646**,σ1$**27**/501,**mb4.7**/185,**MS3.7**/33,**14C**,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	Tanaga Southea	0.62	6		Pn	11 24 20.7	-0.7
GALAA	Gareloi Lava P	0.68	324		Pn	11 24 21.5	-0.6
GAEA	Gareloi East	0.68	327		Pn	11 24 21.5	-0.7
TAFP	Tanaga Falls P	0.69	8		Pn	11 24 21.4	-0.9
TANO	Tanaga North	0.70	1		Pn	11 24 21.9	-0.6
GASW	Gareloi Southw	0.72	322		Pn	11 24 21.9	-0.7
GANO	Gareloi North	0.73	326		Pn	11 24 22.0	-0.8
KIWB	Kanaga Island	0.89	44	Pn	Pn	11 24 23.6	-1.2
KICM	Kanaga Island	0.92	40		Pn	11 24 24.4	-0.8
KIRH	Kanaga Island	0.95	43		Pn	11 24 24.9	-0.8
KINC	Kanaga Island	0.96	41		Pn	11 24 24.8	-0.9
ADK	Adak	1.13	53	Pn	Pn	11 24 26.8	-1.3
ADK	Adak	1.13	53	P	Pn	11 24 27.0	-1.1
ADK	Adak	1.13	53	P	Pn	11 24 26.8	-1.3
ADK						11 24 41.8	
GSCK	Great Sitkin C	1.47	56		Pn	11 24 32.2	-0.5
GSTD	Great Sitkin T	1.50	55		Pn	11 24 33.1	-0.2
GSTD					Sn	11 24 52.8	+1.1
GSSP	Great Sitkin S	1.51	54		Pn	11 24 33.0	-0.3
GSMY	Great Sitkin M	1.54	57		Pn	11 24 33.3	-0.5
GSTR	Great Sitkin T	1.57	55		Pn	11 24 34.0	-0.2
ATKA	Atka Island	2.65	67		Sn	11 25 22.2	+2.5
ATKA	Atka Island	2.65	67	Pn	Pn	11 24 48.8	0.0
ATKA	Atka Island	2.65	67	P	Pn	11 24 48.6	-0.2
KOKL	Mount Kliuchef	2.69	64		Pn	11 24 50.5	+1.0
KOFP	Korovin Flat P	2.73	66		Pn	11 24 51.5	+1.4
SHEM	Shemya Is, Ala	5.03	291	Pn	Pn	11 25 20.6	-0.9
	7.5nm,0.3s,baz=17,slow=20,SNR=2.0						
SHEM				Sn	Sn	11 26 21.8	+3.5
	5.9nm,0.3s,baz=60,slow=20,SNR=1.2						
SHEM				LR	LR	11 27 08.4	
	comp=Z,684nm,22.0s,baz=136,slow=38						
NIKH	Nikolski High	5.99	69		Pn	11 25 35.8	+1.1
NIKH	Nikolski High	5.99	69	P	Pn	11 25 33.7	-1.0
	baz=254						
NIKH	Nikolski High	5.99	69	P	Pn	11 25 35.7	+1.1
OKCE	Okmok Cone E	6.50	66		Pn	11 25 43.2	+1.4
OKTU	Okmok Mt. Tuli	6.56	67		Pn	11 25 44.0	+1.4
MAPS	Pakushin South	7.31	65		Pn	11 25 54.1	+1.3
MAPS					Sn	11 27 18.5	+4.1
P08K	Saint George I	7.40	40		Pn	11 25 55.6	+1.6
P08K					Sn	11 27 19.4	+2.9
P08K	Saint George I	7.40	40	P	Pn	11 25 54.8	+0.8
	baz=224						
SPIA	Saint Paul Isl	7.55	35	P	Pn	11 25 56.8	+0.7
	baz=219						
SPIA	Saint Paul Isl	7.55	35	P	Pn	11 25 59.5	+3.4
UNV	Unalaska Valle	7.57	65		Pn	11 25 57.6	+1.3
UNV	Unalaska Valle	7.57	65	P	Pn	11 25 55.1	-1.2
	baz=252						
UNV	Unalaska Valle	7.57	65	P	Pn	11 25 57.6	+1.3
AKMO	Akutan Morgan	7.92	64		Pn	11 26 02.9	+1.8
LVA	Lava Point	7.92	63	Pn	Pn	11 25 59.7	-1.5
AKBBA	Akutan Broad B	7.96	64		Pn	11 26 03.7	+1.9
WESE	West Dahl East	8.83	63		Pn	11 26 15.5	+1.9
ISLZ	Isanotski Laza	9.39	62		Pn	11 26 23.4	+2.1
M11K	Mekoryuk	11.36	31	P	Pn	11 26 50.2	+2.0
	baz=220						
M13K	Dall Lake	12.38	36	Pn	Pn	11 27 05.5	+3.5
M13K	Dall Lake	12.38	36	P	Pn	11 27 02.4	+0.4
	baz=227,SNR=6.0						
O14K	Tigyukauivet M	12.52	43	P	Pn	11 27 04.5	+0.5
	baz=236						
N14K	Kuskokwak Cree	12.72	40	P	Pn	11 27 07.6	+0.9
	baz=233						
K13K	Kusilvak Mount	13.03	29	P	Pn	11 27 12.0	+1.2
	baz=219						
O15K	Ungalikthiuk R	13.12	45	P	Pn	11 27 13.2	+1.1
	baz=239						
M14K	Bethel	13.12	37		Pn	11 27 15.1	+3.0
M14K	Bethel	13.12	37	P	Pn	11 27 13.6	+1.4
	baz=229						
L14K	Kuka Creek	13.25	34		Pn	11 27 15.2	+1.3
L14K	Kuka Creek	13.25	34	P	Pn	11 27 15.1	+1.2
	baz=226						
N15K	Kwethluk River	13.52	41	P	Pn	11 27 18.0	+0.3
	baz=235,SNR=5.2						
R16K	Pilot Point	13.53	54	P	Pn	11 27 17.5	-0.3
	baz=249						
M15K	Kasigluk River	13.58	39	P	Pn	11 27 19.0	+0.5
	baz=232						
P16K	Nushagak River	13.89	48	P	Pn	11 27 23.0	+0.4
	baz=243						
L15K	Ungalak Mounta	13.90	35	P	Pn	11 27 23.9	+1.1
	baz=227						
J14K	Nanvaranak Lak	13.98	29	P	Pn	11 27 25.3	+1.4
	baz=220						
O16K	Kokwok River B	14.10	46	Pn	Pn	11 27 27.6	+2.2
O16K	Kokwok River B	14.10	46	P	Pn	11 27 25.0	-0.4
	baz=241						
CHIR	Chirikof Islan	14.14	62	Pn	Pn	11 27 22.3	-3.7
CHIR	Chirikof Islan	14.14	62	P	Pn	11 27 26.3	+0.3
R17L	Mt. Peulik Vol	14.17	55	P	Pn	11 27 25.7	-0.8
	baz=251						
N16K	Nishlik Lake	14.24	42	P	Pn	11 27 27.0	-0.4
	baz=237,SNR=11						
K15K	Wolf Creek Mou	14.30	33	P	P	11 27 32.9	-1.3
K15K	Wolf Creek Mou	14.30	33	P	Pn	11 27 29.0	+0.8
	baz=226,SNR=8.4						
Q16K	King Salmon	14.38	50	P	Pn	11 27 28.9	-0.3
	baz=247						
M16K	Timber Creek	14.46	40	P	P	11 27 35.9	-0.1
M16K	Timber Creek	14.46	40	P	Pn	11 27 30.4	+0.1
	baz=235						
Q17K	Contact Creek	14.61	52	P	Pn	11 27 31.6	-0.8
	baz=250,SNR=11						
O17K	Koliganek Bris	14.63	46	P	Pn	11 27 32.6	+0.2
	baz=242						
L16K	Owhat River	14.66	37		P	11 27 37.2	-1.0
L16K	Owhat River	14.66	37	P	Pn	11 27 33.9	+1.0
	baz=232,SNR=18						
P17K	Kvichak River	14.69	49	P	Pn	11 27 32.7	-0.6
	baz=245						
ACHA	Angle Creek He	14.88	53	Pn	Pn	11 27 35.9	+0.1
PEA0B	Petropavlovsk-	14.93	287		P	11 27 39.7	-1.5
PEA0B	Petropavlovsk-	14.93	287	P	P	11 27 39.7	-1.5
PETK	Petropavlovsk-	14.93	287	Pn	Pn	11 27 32.5	-4.0
	0.1nm,0.3s,baz=81,slow=15,SNR=1.9						
PETK				Sn	Sn	11 30 18.9	-1.7
	0.1nm,0.3s,baz=83,slow=12,SNR=0.9						
PETK				LR	LR	11 34 16.8	
	comp=Z,88nm,18.2s,baz=90,slow=41						
	5.4nm,1.0s						
N17K	Nushagak Hills	14.94	43	P	P	11 27 40.7	-0.6
N17K	Nushagak Hills	14.94	43	P	Pn	11 27 37.3	+0.7
	baz=240						
SII	Sitkinak Islan	15.06	60	Pn	Pn	11 27 36.2	-2.0
SII	Sitkinak Islan	15.06	60	P	Pn	11 27 39.6	+1.4
R18K	Karluk	15.14	56	P	Pn	11 27 38.3	-0.9
	baz=254						
Q18K	Katmai Hardscr	15.18	52	P	Pn	11 27 39.2	-0.6
	baz=250,SNR=8.2						
M17K	Holitna River	15.29	40	IAmb	IAmb	11 27 50.5	
	comp=Z,68nm,0.8s						
M17K	Holitna River	15.29	40	P	Pn	11 27 41.0	-0.1
	baz=236						
J16K	Anvik River	15.30	31	IAmb	IAmb	11 27 50.3	
	comp=Z,37nm,0.8s						
J16K	Anvik River	15.30	31	P	Pn	11 27 42.2	+1.0
	baz=225						
P18K	Big Mountain,	15.34	49	P	Pn	11 27 41.0	-0.8
	baz=247						
L17K	Donlin	15.37	37	P	Pn	11 27 42.0	-0.1
	baz=233						
O18K	Koktuh Hills	15.53	47	P	Pn	11 27 43.9	-0.3
	baz=245,SNR=5.2						
N18K	Kilae Creek	15.58	44	P	Pn	11 27 44.4	-0.5
	baz=241						
G15K	Niukluk	15.63	23	P	Pn	11 27 47.0	+1.5
	baz=214						
OHAK	Old Harbor	15.68	58	Pn	Pn	11 27 45.1	-1.0
OHAK				IAmb	IAmb	11 27 51.2	
	comp=Z,31nm,0.8s						
OHAK	Old Harbor	15.68	58	P	Pn	11 27 44.4	-1.7
	baz=257						
I17K	Unalakleet	15.70	29	P	Pn	11 27 47.7	+1.4
	baz=223						
K17K	Iditarod	15.72	35	IAmb	IAmb	11 27 54.5	
	comp=Z,45nm,0.8s						
K17K	Iditarod	15.72	35	P	Pn	11 27 47.3	+0.7
	baz=231						
H16K	Elim	15.81	26	P	P	11 27 49.9	-1.0
	baz=218,SNR=5.6						
J17K	VABM Dome	15.88	33		P	11 27 51.5	-0.2
J17K				IAmb	IAmb	11 27 57.2	
	comp=Z,40nm,0.9s						
J17K	VABM Dome	15.88	33	P	P	11 27 50.8	-0.9
	baz=228,SNR=18						
Q19K	Cape Douglas,	15.94	52		Pn	11 27 49.5	0.0
Q19K				IAmb	IAmb	11 28 11.5	
	comp=Z,68nm,1.1s						
Q19K	Cape Douglas,	15.94	52	P	Pn	11 27 49.4	-0.1
	baz=251						
M18K	Stony River	16.00	41	P	Pn	11 27 51.2	+1.0
	baz=239						
L18K	Granite Mounta	16.03	38	P	Pn	11 27 51.2	+0.5
	baz=235						
O19K	Port Alsworth	16.07	47	Pn	Pn	11 27 49.7	-1.4
O19K	Port Alsworth	16.07	47	P	Pn	11 27 51.5	+0.4
	baz=246,SNR=7.5						
F15K	North Star Dit	16.09	20	P	P	11 27 54.3	+0.3
	baz=211						
KDAK	Kodiak Island	16.17	56		Pn	11 27 50.2	-2.2
KDAK				IAmb	IAmb	11 27 57.3	
	comp=Z,50nm,1.1s						
KDAK	Kodiak Island	16.17	56	Pn	Pn	11 27 48.5	-3.9
	comp=Z,2.0nm,0.3s,baz=256,slow=19,SNR=23						
KDAK				Sn	Sn	11 30 45.1	-5.4
	comp=Z,0.3nm,0.3s,baz=270,slow=15,SNR=1.4						
	comp=Z,7.3nm,0.4s						
KDAK	Kodiak Island	16.17	56	P	Pn	11 27 52.3	-0.1
	baz=256						
KDAK	Kodiak Island	16.17	56	P	Pn	11 27 50.2	-2.2
KDAK				pmax	pmax		
	comp=Z,50nm,1.1s						
N19K	Bonanza Creek	16.25	45	IAmb	IAmb	11 28 01.8	
	comp=Z,47nm,0.8s						
N19K	Bonanza Creek	16.25	45	P	P	11 27 55.1	-0.8
	baz=243						
G16K	Koyuk River	16.38	24	P	P	11 27 56.9	-0.2
	baz=216						
P19K	Oil Pt	16.38	49	P	Pn	11 27 56.1	+1.1
	baz=249						
Q20K	Shuyak Island	16.47	53	P	Pn	11 27 56.3	+0.2
	baz=253						
TTA	Tatalina	16.69	37		P	11 28 01.6	+0.8
TTA	Tatalina	16.69	37	P	Pn	11 27 59.3	+0.3
	baz=234,SNR=9.8						
TTA	Tatalina	16.69	37	P	P	11 28 02.1	+1.3
TTA	Tatalina	16.69	37	P	P	11 28 01.6	+0.8
TTA				pmax	pmax		
	comp=Z,27nm,0.8s						
H17K	Granite Mounta	16.70	28	P	Pn	11 27 59.9	+0.9
	baz=222						
L19K	White Mountain	16.74	40	IAmb	IAmb	11 28 06.9	
	comp=Z,35nm,0.8s						
L19K	White Mountain	16.74	40	P	P	11 28 00.9	-0.4
	baz=239						
J18K	Innoko River	16.75	35	P	Pn	11 28 00.4	+0.8
	baz=232,SNR=10						
M19K	Big River Lodg	16.80	41	P	P	11 28 02.5	+0.6
M19K	Big River Lodg	16.80	41	P	Pn	11 28 00.3	+0.1
	baz=240						
O20K	Slope Mountain	16.82	48	P	Pn	11 28 00.8	+0.2
	baz=248						
G17K	Kiwalik Mounta	16.91	26	P	P	11 28 03.8	+0.8
	baz=220						
L20K	Farewell, AK	17.29	40	P	P	11 28 07.1	-0.2
	baz=239,SNR=12						
CNPM	China Poot	17.30	51		Pn	11 28 06.5	0.0
H18K	Honhosa River	17.31	29	P	P	11 28 08.3	+0.8
	baz=225						
M20K	Styx River	17.31	42	P	P	11 28 07.5	-0.2
	baz=242						
N20K	Mount Spurr	17.42	45	P	Pn	11 28 08.5	+0.3
	baz=246,SNR=16						
SPCR	Spurr Chakacha	17.42	45	P	P	11 28 08.7	-0.2
	baz=246,SNR=9.7						
J19K	Poorman	17.45	34	P	P	11 28 10.4	+1.3
	baz=232						
F17K	Baldwin Pennin	17.49	23	P	P	11 28 11.0	+1.6
	baz=217						
GCSA	Galena City Sc	17.50	31	P	P	11 28 10.5	+1.0
	baz=228,SNR=13						
BRLK	Bradley Lake	17.54	50	P	P	11 28 10.1	0.0
BRSE	Bradley Lake S	17.61	50	P	P	11 28 11.0	+0.2
	baz=252,SNR=5.4						
K20K	Telida	17.66	37	P	P	11 28 11.6	+0.1
	baz=237,SNR=16						
G18K	Tagagawik	17.76	27	P	P	11 28 13.7	+1.3
	baz=223						
E17K	Hotham Inlet	17.87	21	P	P	11 28 15.9	+2.3
	baz=214,SNR=11						
F18K	Selawik	18.01	24	P	Pn	11 28 17.2	+2.0
	baz=219						
SKT	Skwentna	18.04	43		Pn	11 28 16.6	+1.0
SKT				IAmb	IAmb	11 28 20.3	
	comp=Z,35nm,0.8s						
SKT	Skwentna	18.04	43	P	Pn	11 28 15.9	+0.3
	baz=244,SNR=31						
J20K	Nowinta River	18.09	35	P	Pn	11 28 17.4	+1.2
	baz=234,SNR=10						
D17K	Noatak River	18.12	19	P	Pn	11 28 18.6	+2.1
	baz=211						
H19K	Roundabout Mou	18.15	30	P	Pn	11 28 17.2	+0.3
	baz=227,SNR=6.1						
PPLA	Purkeypile	18.17	40	P	Pn	11 28

PWL	**Port Wells**	19.08	48	P	Pn	11 28 28.0	-0.2
	baz=252						
KNK	**Knik Glacier**	19.19	46	IAmb	IAmb	11 28 33.1	
	comp=Z,42nm,0.8s						
KNK	**Knik Glacier**	19.19	46	P	Pn	11 28 29.1	-0.4
	baz=250,SNR=12						
TRF	**Thorofare Moun**	19.19	40	P	Pn	11 28 29.6	0.0
	baz=242,SNR=29						
BPAW	**Bear Paw Mtn.**	19.22	37	P	Pn	11 28 29.6	-0.3
BPAW				IAmb	IAmb	11 28 34.0	
	comp=Z,33nm,0.6s						
BPAW	**Bear Paw Mtn.**	19.22	37	P	Pn	11 28 29.5	-0.3
	baz=240,SNR=39						
E19K	**Redstone River**	19.29	25	IAmb	IAmb	11 28 36.2	
	comp=Z,25nm,0.8s						
E19K	**Redstone River**	19.29	25	P	Pn	11 28 30.7	+0.1
	baz=222,SNR=18						
P23K	**Montague Islan**	19.30	51	P	P	11 28 30.0	+0.6
	baz=256						
IMAR	**Indian Mountai**	19.30	31	P	Pn	11 28 30.4	-0.3
C18K	**Utukok River**	19.31	19	P	Pn	11 28 31.6	+0.8
	baz=213						
SML	**Sawmill**	19.38	45		P	11 28 30.2	-0.1
SML				IAmb	IAmb	11 28 38.4	
	comp=Z,25nm,0.7s						
SML	**Sawmill**	19.38	45	P	Pn	11 28 31.5	-0.2
	baz=250						
MA2	**Magadan**	19.38	308	LR	LR	11 35 38.6	
	comp=Z,265nm,18.8s,baz=100,slow=36						
F20K	**Avaraart Lake**	19.41	27	P	Pn	11 28 32.5	+0.6
	baz=225,SNR=8.5						
H21K	**Melozitna Rive**	19.41	32	IAmb	IAmb	11 28 35.9	
	comp=Z,51nm,1.2s						
H21K	**Melozitna Rive**	19.41	32	P	Pn	11 28 32.1	0.0
	baz=233						
I21K	**Tanana**	19.42	34	IAmb	IAmb	11 28 36.4	
	comp=Z,45nm,0.8s						
I21K	**Tanana**	19.42	34	P	Pn	11 28 32.6	+0.4
	baz=236,SNR=30						
M23K	**Glacier View**	19.64	46	P	P	11 28 34.0	+0.9
	baz=250,SNR=21						
SEY	**Seymchan**	19.64	318	P	Pn	11 28 34.3	-0.5
	comp=Z,12nm,0.8s,baz=116,slow=12,SNR=18						
SEY	**Seymchan**	19.64	318	*e*P	Pn	11 28 36.0	+1.2
SEY				pmax	pmax		
	comp=Z,16nm,1.0s						
WAT1	**Susitna Watana**	19.65	42	P	P	11 28 33.1	-0.2
	baz=246						
GLI	**Glacier Island**	19.66	49	IAmb	IAmb	11 28 50.6	
	comp=Z,20nm,0.6s						
GLI	**Glacier Island**	19.66	49	P	Pn	11 28 34.4	-0.7
	baz=254						
Q23K	**Middleton Isla**	19.70	53	P	P	11 28 33.6	-0.1
	baz=258						
G21K	**Allakaket**	19.71	30	P	Pn	11 28 35.0	-0.6
	baz=230						
RND	**Reindeer**	19.76	41	IAmb	IAmb	11 28 38.1	
	comp=Z,32nm,0.6s						
MLY	**Manley**	19.79	35	P	Pn	11 28 35.9	-0.6
MLY	**Manley**	19.79	35	P	P	11 28 35.6	+0.9
	baz=238,SNR=72						
B18K	**Kokolik River**	19.79	17	P	Pn	11 28 35.9	-0.6
	baz=211,SNR=5.0						
SCM	**Sheep Creek Mo**	19.84	46	IAmb	IAmb	11 28 41.9	
	comp=Z,40nm,0.6s						
SCM	**Sheep Creek Mo**	19.84	46	P	P	11 28 34.5	-0.8
	baz=251,SNR=6.4						
BWN	**Browne**	19.85	38	IAmb	IAmb	11 28 42.5	
	comp=Z,41nm,0.8s						
D19K	**Kuna River**	19.86	22	IAmb	IAmb	11 28 40.1	
	comp=Z,35nm,1.1s						
D19K	**Kuna River**	19.86	22	P	P	11 28 35.9	+0.5
	baz=219						
MCK	**McKinley**	19.86	40	P	P	11 28 35.4	-0.1
	baz=244,SNR=8.1						
WAT6	**Susitna Watana**	19.91	43	P	P	11 28 35.2	-0.9
	baz=248,SNR=15						
FID	**Port Fidalgo**	19.92	49	IAmb	IAmb	11 28 40.2	
	comp=Z,49nm,1.1s						
C19K	**Lookout Ridge**	20.02	19	P	Pn	11 28 38.5	-0.7
	baz=215						
H22K	**Ishtalitna Cre**	20.03	33	P	P	11 28 37.9	+0.6
	baz=235,SNR=13						
E20K	**Nigu River**	20.15	24	P	P	11 28 39.6	+1.0
	baz=222						
F21K	**Alatna River**	20.17	28	IAmb	IAmb	11 28 44.5	
	comp=Z,31nm,0.8s						
F21K	**Alatna River**	20.17	28	P	Pn	11 28 40.1	-1.0
	baz=229,SNR=35						
NEA2	**Nenana**	20.19	37	IAmb	IAmb	11 28 46.1	
	comp=Z,37nm,1.1s						
NEA2	**Nenana**	20.19	37	P	P	11 28 39.8	+0.7
	baz=241,SNR=24						
EYAK	**Cordova Ski Ar**	20.23	50	P	P	11 28 39.3	-0.1
	baz=256						
EYAK	**Cordova Ski Ar**	20.23	50	P	Pn	11 28 43.1	+1.4
DHY	**Denali Highway**	20.24	42	P	P	11 28 39.3	-0.4
	baz=248,SNR=44						
I23K	**Minto, Yukon-K**	20.35	36	IAmb	IAmb	11 28 46.2	
	comp=Z,35nm,0.8s						
I23K	**Minto, Yukon-K**	20.35	36	P	Pn	11 28 42.1	-1.1
	baz=240,SNR=33						
KLU	**Klutina**	20.38	47	P	P	11 28 42.1	+0.9
KLU				IAmb	IAmb	11 28 51.1	
	comp=Z,24nm,0.6s						
KLU	**Klutina**	20.38	47	P	P	11 28 42.2	+1.1
	baz=254,SNR=11						
D20K	**Etivluk River**	20.38	23	P	Pn	11 28 42.6	-0.9
	baz=221						
M24K	**Tolsona, Glenn**	20.44	45	P	P	11 28 42.0	+0.2
	baz=252,SNR=6.3						
WRH	**Wood River Hil**	20.52	38	IAmb	IAmb	11 28 47.1	
	comp=Z,19nm,0.5s						
G22K	**Bettles**	20.59	30	P	P	11 28 44.4	+1.1
	baz=232						
H23K	**Yukon River**	20.63	34	IAmb	IAmb	11 28 48.7	
	comp=Z,25nm,0.8s						
H23K	**Yukon River**	20.63	34	P	Pn	11 28 45.6	-0.9
	baz=238						
CCB	**Clear Creek Bu**	20.70	38	IAmb	IAmb	11 28 49.5	
	comp=Z,20nm,0.6s						
F22K	**John River**	20.74	28	P	Pn	11 28 46.8	-1.0
	baz=230,SNR=19						
COLA	**College**	20.79	37	P	Pn	11 28 47.1	-1.2
COLA				IAmb	IAmb	11 28 50.0	
	comp=Z,29nm,0.5s						
COLA	**College**	20.79	37	P	P	11 28 46.9	+1.4
	baz=242						
COLA	**College**	20.79	37	P	Pn	11 28 49.2	+0.9
COLA	**College**	20.79	37	P	Pn	11 28 47.1	-1.2
COLA				pmax	pmax		
	comp=Z,29nm,0.5s						
E21K	**Killik River**	20.86	25	IAmb	IAmb	11 28 49.5	
	comp=Z,14nm,0.6s						
E21K	**Killik River**	20.86	25	P	P	11 28 47.0	+0.7
	baz=226,SNR=15						
BMRM	**Bremner River**	20.87	49	P	P	11 28 47.2	+0.7
	baz=256,SNR=8.3						
HMT	**Hamilton**	20.90	51	IAmb	IAmb	11 28 57.0	
	comp=Z,24nm,0.9s						
HDA	**Harding Lake**	20.94	39	IAmb	IAmb	11 28 53.2	
	comp=Z,14nm,0.6s						
HDA	**Harding Lake**	20.94	39	P	P	11 28 48.2	+1.1
	baz=245,SNR=14						
G23K	**Bananza Creek**	20.95	32	P	P	11 28 48.6	+1.4
	baz=235,SNR=19						
HARP	**HAARP**	20.98	45	P	P	11 28 48.5	+0.9
	baz=252						
N25K	**Chitina, Valde**	21.02	47	P	P	11 28 49.0	+0.9
	baz=255,SNR=14						
PAX	**Paxson**	21.02	43	P	P	11 28 48.5	+0.4
	baz=250,SNR=21						
POKR	**Poker Plat Res**	21.06	37	IAmb	IAmb	11 28 53.0	
	comp=Z,21nm,0.7s						
POKR	**Poker Plat Res**	21.06	37	P	P	11 28 48.8	+0.4
	baz=242,SNR=7.3						
IL31		21.11	38	IAmb	IAmb	11 29 06.7	
	comp=Z,20nm,0.6s						
ILAR	**Eielson Array**	21.11	38	P	P	11 28 50.4	+1.4
ILAR	**Eielson Array**	21.11	38	P	P	11 28 47.0	-2.0
	comp=Z,2.1nm,0.5s,baz=240,slow=9.6,SNR=33						
ILAR				ScP	ScP	11 36 30.1	+4.3
	comp=Z,0.5nm,0.5s,baz=283,slow=3.7,SNR=5.8						
	comp=Z,2.1nm,0.5s						
C21K	**Knifeblade Rid**	21.16	23	P	P	11 28 50.4	+1.0
	baz=223,SNR=13						
K24K	**Donnelly Dome**	21.18	41	P	P	11 28 49.8	0.0
	baz=248,SNR=10						
COLD	**Coldfoot**	21.18	30	P	P	11 28 50.6	+0.9
	baz=234,SNR=14						
H24K	**Noodor Dome**	21.23	35	P	P	11 28 51.3	+1.0
	baz=240,SNR=33						
E22K	**Anaktuvuk Pass**	21.25	27	IAmb	IAmb	11 28 56.8	
	comp=Z,21nm,0.7s						
E22K	**Anaktuvuk Pass**	21.25	27	P	P	11 28 51.5	+1.0
	baz=230,SNR=21						
B20K	**Meade River**	21.25	20	IAmb	IAmb	11 28 53.7	
	comp=Z,42nm,0.8s						
B20K	**Meade River**	21.25	20	P	P	11 28 52.5	+2.1
	baz=218,SNR=5.9						
GLB	**Gilahina Butte**	21.35	48	P	P	11 28 50.8	-0.8
GLB				IAmb	IAmb	11 28 57.6	
	comp=Z,27nm,0.6s						
VRDI	**Verde Repeater**	21.47	49	P	P	11 28 54.0	+1.0
VRDI				IAmb	IAmb	11 29 02.1	
	comp=Z,14nm,0.6s						
D22K	**Ayikyak River**	21.50	25	IAmb	IAmb	11 28 57.3	
	comp=Z,38nm,0.8s						
D22K	**Ayikyak River**	21.50	25	P	P	11 28 54.2	+1.1
	baz=227						
B21K	**Ikpikpuk River**	21.54	22	P	P	11 28 54.1	+0.7
	baz=222,SNR=21						
RIDG	**Independent Ri**	21.54	42	IAmb	IAmb	11 29 13.2	
	comp=Z,20nm,0.6s						
RIDG	**Independent Ri**	21.54	42	P	P	11 28 54.0	+0.3
	baz=249						
CRQE	**Cirque**	21.55	50	P	P	11 28 53.8	0.0
	baz=259,SNR=8.4						
J25K	**Salcha River,**	21.65	39	P	P	11 28 53.9	-0.9
	baz=246,SNR=9.6						
MCARA	**McCarthy VSAT**	21.70	48	P	P	11 28 54.6	-0.8
	baz=257,SNR=9.3						
MENT	**Mentasta**	21.77	44	IAmb	IAmb	11 29 18.5	
	comp=Z,17nm,0.6s						
G24K	**Hadweenzic Riv**	21.80	33	IAmb	IAmb	11 29 02.5	
	comp=Z,27nm,0.7s						
G24K	**Hadweenzic Riv**	21.80	33	P	P	11 28 57.4	+1.1
	baz=239						
E23K	**Chandalar**	21.85	29	IAmb	IAmb	11 29 02.5	
	comp=Z,12nm,0.6s						
E23K	**Chandalar**	21.85	29	P	P	11 28 57.9	+0.9
	baz=233						
M26K	**Nabesna, AK**	21.95	46	IAmb	IAmb	11 29 08.5	
	comp=Z,14nm,0.6s						
M26K	**Nabesna, AK**	21.95	46	P	P	11 28 58.1	+0.1
	baz=255,SNR=13						
PRP	**Porcupine Dome**	21.95	37	P	P	11 28 59.3	+1.1
	baz=244,SNR=7.1						
L26K	**Log Cabin Wild**	21.96	44	IAmb	IAmb	11 29 08.1	
	comp=Z,24nm,0.7s						
L26K	**Log Cabin Wild**	21.96	44	P	P	11 28 58.4	+0.3
	baz=253,SNR=36						
SCRK	**Sand Creek**	21.98	41	P	P	11 28 56.6	-1.8
SCRK				IAmb	IAmb	11 29 01.8	
	comp=Z,16nm,0.6s						
SCRK	**Sand Creek**	21.98	41	P	P	11 28 57.0	-1.4
	baz=250,SNR=28						
F24K	**Squaw Lake**	22.09	31	IAmb	IAmb	11 29 05.8	
	comp=Z,33nm,0.6s						
F24K	**Squaw Lake**	22.09	31	P	P	11 28 59.6	+0.1
	baz=237,SNR=36						
D23K	**Nanushuk River**	22.11	26	P	P	11 29 00.1	+0.6
	baz=230,SNR=33						
H25L	**Birch Creek**	22.17	35	P	P	11 29 00.8	+0.5
	baz=242,SNR=15						
E24K	**Your Creek**	22.21	29	IAmb	IAmb	11 29 06.0	
	comp=Z,16nm,0.7s						
E24K	**Your Creek**	22.21	29	P	P	11 29 01.6	+0.8
	baz=235,SNR=24						
TOLK	**Toolik Lake Re**	22.22	28	IAmb	IAmb	11 29 06.4	
	comp=Z,19nm,0.7s						
TOLK	**Toolik Lake Re**	22.22	28	P	P	11 29 02.0	+1.2
	baz=232,SNR=15						
G25K	**Bearman Lake**	22.31	34	P	P	11 29 02.0	+0.3
	baz=241,SNR=6.6						
J26L	**Joseph Creek**	22.33	40	IAmb	IAmb	11 29 06.3	
	comp=Z,21nm,0.7s						
J26L	**Joseph Creek**	22.33	40	P	P	11 29 02.2	0.0
	baz=249,SNR=30						
B22K	**Teshekpuk Lake**	22.34	22	P	P	11 29 03.6	+1.6
	baz=223						
A21K	**Barrow**	22.41	18	P	P	11 29 02.6	-0.2
	baz=217						
CTG	**Chitna Glacier**	22.43	50	P	P	11 29 03.1	-0.2
	baz=260						
M27K	**Edge Creek, AK**	22.45	46	IAmb	IAmb	11 29 08.9	
	comp=Z,28nm,0.8s						
M27K	**Edge Creek, AK**	22.45	46	P	P	11 29 03.6	+0.1
	baz=256						
A22K	**Sinclair Lake**	22.49	20	P	P	11 29 03.2	-0.5
	baz=220						
L27K	**Beaver Creek,**	22.64	44	P	P	11 29 05.2	-0.2
	baz=255						
BCAR	**Beaver Creek A**	22.66	44	P	P	11 29 05.5	-0.1
C23K	**Itkillik River**	22.69	25	P	P	11 29 06.0	+0.2
	baz=228						
D24K	**Happy Valley**	22.75	27	IAmb	IAmb	11 29 11.2	
	comp=Z,33nm,0.7s						
D24K	**Happy Valley**	22.75	27	P	P	11 29 06.8	+0.4
	baz=232,SNR=30						
K27K	**Chicken**	22.80	42	IAmb	IAmb	11 29 12.1	
	comp=Z,13nm,0.7s						
K27K	**Chicken**	22.80	42	P	P	11 29 06.6	-0.3
	baz=252						
F25K	**Christian Rive**	22.87	32	IAmb	IAmb	11 29 11.9	
	comp=Z,24nm,0.7s						
F25K	**Christian Rive**	22.87	32	P	P	11 29 07.7	0.0
	baz=240						
BVCY	**Beaver Creek**	22.92	46	P	P	11 29 08.2	-0.1
	baz=257,SNR=25						
O28M	**Mount Upton**	22.96	51	P	P	11 29 08.1	-0.9
	baz=262						
YUK3	**Moose Creek**	22.98	48	P	P	11 29 08.8	-0.3
	baz=259,SNR=9.5						
C24K	**Franklin Bluff**	23.13	26	P	P	11 29 11.1	+0.9
	baz=231						
BMAR	**Burnt Mountain**	23.15	33	P	P	11 29 10.7	+0.2
G26K	**Porcupine Rive**	23.21	34	P	P	11 29 11.1	+0.1
	baz=244						
YUK8	**Steele Glacier**	23.23	49	P	P	11 29 10.8	-0.9
	baz=261,SNR=5.4						
PNL	**Peninsula**	23.24	54	P	P	11 29 16.2	+4.7
EGAK	**Eagle**	23.40	40	IAmb	IAmb	11 29 16.8	
	comp=Z,14nm,0.7s						
EGAK	**Eagle**	23.40	40	P	P	11 29 12.5	-0.5
	baz=252,SNR=14						
F26K	**Sheenjek River**	23.42	32	IAmb	IAmb	11 29 18.3	
	comp=Z,18nm,0.7s						
F26K	**Sheenjek River**	23.42	32	P	P	11 29 14.0	+0.8
	baz=242						
I27K	**Kandik River**	23.49	38	P	P	11 29 14.1	+0.2
	baz=249,SNR=6.6						
D25K	**Kavik River**	23.55	28	P	P	11 29 15.9	+1.5
	baz=235						
O29M	**Mount Kennedy**	23.70	52	P	P	11 29 14.8	-1.2
	baz=264						
H27K	**Steamboat Moun**	23.75	37	P	P	11 29 16.3	0.0
	baz=248,SNR=5.3						
YUK4	**Talbot Arm**	23.78	49	P	P	11 29 16.1	-0.6
	baz=262,SNR=6.7						
G27K	**Doyon Strip**	23.91	36	P	P	11 29 17.5	-0.3
	baz=247						
DAWY	**Dawson**	23.94	43	P	P	11 29 17.0	-1.1
DAWY				IAmb	IAmb	11 29 21.9	
	comp=Z,13nm,0.8s						
DAWY	**Dawson**	23.94	43	P	P	11 29 18.1	0.0
	baz=255,SNR=16						
M29M	**Somme Creek**	24.02	47	IAmb	IAmb	11 29 23.5	
	comp=Z,14nm,0.8s						
M29M	**Somme Creek**	24.02	47	P	P	11 29 17.4	-1.5
	baz=260						
I28M	**Miner Creek**	24.10	39	IAmb	IAmb	11 29 23.9	
	comp=Z,24nm,0.7s						
I28M	**Miner Creek**	24.10	39	P	P	11 29 18.7	-0.9
	baz=252,SNR=56						
HYT	**Haines Junctio**	24.27	51	P	P	11 29 20.1	-1.2
HYT	**Haines Junctio**	24.27	51	P	P	11 29 20.4	-0.9
	baz=264						
L29M	**L29M**	24.29	45	IAmb	IAmb	11 29 25.6	
	comp=Z,15nm,0.7s						
L29M	**L29M**	24.29	45	P	P	11 29 20.4	-0.9
	baz=259						
C26K	**Camden Bay**	24.31	27	P	P	11 29 22.2	+0.9
	baz=236						
TYV	**Tymovskoe**	24.46	285	*e*P	P	11 29 24.7	+1.9
TYV				pmax	pmax		
	comp=Z,30nm,0.7s						
TYV				pmax	pmax		
	comp=Z,400nm,3.6s						
E27K	**Coleen River**	24.50	32	IAmb	IAmb	11 29 28.4	
	comp=Z,24nm,0.7s						
E27K	**Coleen River**	24.50	32	P	P	11 29 23.7	+0.5
	baz=244						
C27K	**Jago River**	24.51	29	IAmb	IAmb	11 29 27.2	
	comp=Z,18nm,0.9s						
C27K	**Jago River**	24.51	29	P	P	11 29 24.1	+0.9
	baz=238,SNR=9.7						
N30M	**Aishikik Lake**	24.54	49	P	P	11 29 23.1	-0.5
	baz=263						
K29M	**Barlow Dome**	24.70	44	P	P	11 29 24.8	-0.3
	baz=258						
M30M	**Minto, Yukon**	24.81	47	P	P	11 29 25.4	-0.6
	baz=261						
F28M	**Old Crow**	24.87	34	IAmb	IAmb	11 29 32.1	
	comp=Z,19nm,0.8s						
F28M	**Old Crow**	24.87	34	P	P	11 29 26.9	+0.5
	baz=247,SNR=14						
H29M	**Whitestone**	24.95	38	IAmb	IAmb	11 29 31.6	
	comp=Z,15nm,0.6s						
H29M	**Whitestone**	24.95	38	P	P	11 29 28.8	+1.7
	baz=252,SNR=8.0						
N31M	**Braeburn, Yuko**	25.16	49	P	P	11 29 29.3	+0.1
	baz=265						
D27M	**Malcolm River**	25.17	30	P	P	11 29 30.8	+1.5
	baz=243						
G29M	**Pine Creek**	25.30	36	P	P	11 29 31.1	+0.8
	baz=251						
J30M	**Hart River**	25.36	42	IAmb	IAmb	11 29 35.6	
	comp=Z,10.0nm,0.7s						
J30M	**Hart River**	25.36	42	P	P	11 29 31.5	+0.5
	baz=258,SNR=9.0						
MAYO	**Mayo, Yukon**	25.37	45	P	P	11 29 31.3	+0.3
	baz=260						
E28M	**Babbage River**	25.37	32	IAmb	IAmb	11 29 37.0	
	comp=Z,24nm,0.7s						
E28M	**Babbage River**	25.37	32	P	P	11 29 32.7	+1.7
	baz=246						
I30M	**Mount Dempster**	25.48	41	IAmb	IAmb	11 29 48.7	
	comp=Z,23nm,1.4s						
I30M	**Mount Dempster**	25.48	41	P	P	11 29 31.3	-0.9
	baz=256						
WHY	**Whitehorse**	25.55	51	P	P	11 29 32.0	-0.8
	baz=267						
EPYK	**Eagle Plains**	25.63	38	IAmb	IAmb	11 29 39.1	
	comp=Z,12nm,0.8s						
EPYK	**Eagle Plains**	25.63	38	P	P	11 29 33.9	+0.5
	baz=253						
YSS	**Yuzh-Sakhalins**	25.75	276	P	P	11 29 35.7	+1.1
YSS				IAmb	IAmb	11 29 37.0	
	comp=Z,28nm,0.8s						
YSS	**Yuzh-Sakhalins**	25.75	276	*e*P	P	11 29 35.9	+1.3
YSS				*e*S	S	11 34 03.0	+2.9
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
E29M	**Blow River**	25.84	33	IAmb	IAmb	11 29 41.8	
	comp=Z,20nm,0.7s						
E29M	**Blow River**	25.84	33	P	P	11 29 36.2	+1.0
	baz=248,SNR=18						
M31M	**Drury Creek, Y**	25.88	48	P	P	11 29 35.3	-0.4
	baz=264						
D28M	**Stokes Point**	25.93	31	P	P	11 29 37.1	+1.1
	baz=245						
G30M	**tAoh Zraii Nji**	25.99	37	P	P	11 29 37.3	+0.6
	baz=253						
F30M	**Barrier River**	26.34	36	P	P	11 29 40.6	+0.8
	baz=252,SNR=6.6						
FARO	**Faro, Yukon**	26.37	48	P	P	11 29 40.4	+0.3
	baz=265						
H31M	**Peel River**	26.43	40	P	P	11 29 41.2	+0.5
	baz=257						
N32M	**Quiet Lake**	26.45	50	P	P	11 29 41.0	+0.2
	baz=268						
P33M	**Teslin, Yukon**	26.57	53	P	P	11 29 42.2	+0.2
	baz=270						
G31M	**Satah River**	26.72	37	P	P	11 29 43.7	+0.5
	baz=255						
Q32M	**Nakina River**	26.89	55	P	P	11 29 44.5	-0.6
	baz=273						
F31M	**Tsiigehtchic**	27.05	36	P	P	11 29 46.6	+0.6
	baz=255						
INK	**Inuvik**	27.36	35	P	P	11 29 50.2	+1.4
	baz=253						
T35M	**Bob Quinn**	28.18	59	P	P	11 29 56.5	+0.1
	baz=278						
YAK	**Yakutsk**	29.84	312	LR	LR	11 42 07.2	
	comp=Z,162nm,18.5s,baz=108,slow=36						
WRGLY	**Wrigley**	30.93	46	IAmb	IAmb	11 30 24.7	
	comp=Z,16nm,0.6s						
WRGLY	**Wrigley**	30.93	46	P	P	11 30 21.5	+1.0
	baz=272						
KOTAN	**Kotaneelee Air**	30.94	52	P	P	11 30 20.8	+0.1
	baz=277						
TIXI	**Tiksi**	30.98	331	P	P	11 30 23.2	+2.2
TIXI	**Tiksi**	30.98	331	LR	LR	11 43 25.0	
	comp=Z,167nm,19.6s,baz=142,slow=38						
TIXI	**Tiksi**	30.98	331	P	P	11 30 23.2	+2.2
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s						
A36M	**Sachs Harbour**	31.03	29	P	P	11 30 22.0	+0.7
	baz=256,SNR=19						
KLR	**Kul'dur**	31.62	286	LR	LR	11 42 53.7	
	comp=Z,185nm,21.2s,baz=64,slow=36						
KLR	**Kul'dur**	31.62	286	*ce*P	P	11 30 26.9	0.0
KLR				pmax	pmax		
	comp=Z,52nm,1.3s						
ZEA	**Zeya**	32.67	296	*e*P	P	11 30 35.8	-0.2
H11N2	**WAKE ISLAND Hy**	33.56	206	T	T	12 06 33.5	
	baz=17,slow=76,SNR=250						
H11N3	**WAKE ISLAND Hy**	33.57	206	T	T	12 06 35.1	
	baz=17,slow=76,SNR=213						
H11N1	**WAKE ISLAND Hy**	33.58	206	T	T	12 06 37.2	
	baz=17,slow=76,SNR=161						
USRK	**Ussuriysk Ar.**	33.73	278	P	P	11 30 45.3	0.0
	comp=Z,8.2nm,0.6s,baz=62,slow=10,SNR=19						
USRK				LR	LR	11 43 27.0	
	comp=Z,67nm,21.1s,baz=18,slow=35						
	comp=Z,8.2nm,0.6s						
HEH	**HeiHe**	33.81	290	*e*P	P	11 30 45.5	-0.4
HEH				pmax	pmax		
	comp=Z,16nm,1.0s						
MAJO	**Matsushiro**	34.17	262	P	P	11 30 50.4	+1.2
MAJO	**Matsushiro**	34.17	262	P	P	11 30 50.4	+1.2
MAJO				pmax	pmax		
	comp=Z,20nm,1.1s						
MJAR	**Matsushiro Arr**	34.17	262	P	P	11 30 49.5	+0.3
	comp=Z,5.6nm,0.8s,baz=55,slow=8.1,SNR=13						
MJAR				PcP	PcP	11 33 26.1	+0.9
	comp=Z,3.5nm,0.8s,baz=56,slow=1.7,SNR=6.9						
MJAR				LR	LR	11 42 49.6	
	comp=Z,95nm,21.1s,baz=74,slow=33						
	comp=Z,5.6nm,0.8s						
MJB9	**Matsu-Tunnel**	34.17	262	P	P	11 30 50.2	+1.0
LLLB	**Lillooet**	34.73	68	IAmb	IAmb	11 30 56.7	
	comp=Z,6.4nm,0.8s						
H11S1	**WAK

G05A	**Wamic**	37.50	76	IAmb	IAmb	11 31 40.9	
	comp=Z,20nm,1.0s						
E07A	**Sunnyside**	37.73	74	IAmb	IAmb	11 31 33.6	
	comp=Z,7.4nm,0.8s						
CN2	**Changchun**	37.99	281	*e*P	**P**	**11 31 20.3**	**-1.4**
CN2				*es*P	sP	11 31 37.8	-1.7
HAWA	**Hanford**	38.01	74	IAmb	IAmb	11 31 33.8	
	comp=Z,9.3nm,0.8s						
F07A	**Phinny Hill Vi**	38.02	75	IAmb	IAmb	11 31 30.0	
	comp=Z,12nm,0.6s						
D08A	**Wollman Farm,**	38.06	72	IAmb	IAmb	11 31 28.7	
	comp=Z,5.3nm,0.6s						
C09A	**Chrisman Ranch**	38.09	71	IAmb	IAmb	11 31 38.4	
	comp=Z,8.8nm,0.8s						
YBH	**Yreka Blue Hor**	38.49	82	LR	LR	11 45 39.5	
	comp=Z,88nm,18.4s,baz=287,slow=34						
NEW	**Newport**	38.55	70	IAmb	IAmb	11 31 42.6	
	comp=Z,8.3nm,0.8s						
J05D	**Fort Rock, OR**	38.56	79	IAmb	IAmb	11 31 47.2	
	comp=Z,7.5nm,0.7s						
HIA	**Hailar**	38.73	292	P	**P**	**11 31 27.1**	**-0.9**
HIA				IAmb	IAmb	11 31 28.7	
	comp=Z,15nm,1.1s						
HIA	**Hailar**	38.73	292	P	**P**	**11 31 27.1**	**-0.9**
HIA				pmax	pmax		
	comp=Z,15nm,1.1s						
E09A	**Wood Farm, Sta**	38.79	73	IAmb	IAmb	11 31 39.7	
	comp=Z,12nm,1.1s						
I07A	**Izee**	39.20	77	IAmb	IAmb	11 31 40.2	
	comp=Z,11nm,0.9s						
RES	**Resolute Bay**	39.72	24	LR	LR	11 50 02.4	
	comp=Z,107nm,19.9s,baz=22,slow=39						
KSRS	**Korea Array**	40.05	271	P	**P**	**11 31 40.2**	**+1.1**
	comp=Z,4.3nm,0.7s,baz=52,slow=8.6,SNR=19						
KSRS				LR	LR	11 49 56.2	
	comp=Z,27nm,18.5s,baz=55,slow=39						
	comp=Z,4.3nm,0.7s						
J08A	**Circle Bar Ran**	40.22	77	IAmb	IAmb	11 31 57.7	
	comp=Z,12nm,1.1s						
EUNU	**Eureka**	40.33	16	P	**P**	**11 31 41.8**	**+0.8**
WVOR	**Wild Horse Val**	40.63	78	IAmb	IAmb	11 32 01.0	
	comp=Z,8.8nm,0.8s						
PLID	**Pearl Lake**	40.80	73	P	**P**	**11 31 46.2**	**+0.7**
JNU	**Nakatsue**	40.97	264	P	**P**	**11 31 47.5**	**+0.8**
JNU				IAmb	IAmb	11 31 49.0	
	comp=Z,20nm,0.9s						
JNU	**Nakatsue**	40.97	264	LR	LR	11 47 06.1	
	comp=Z,70nm,20.5s,baz=80,slow=34						
MSO	**Missoula**	41.13	70	IAmb	IAmb	11 32 02.9	
	comp=Z,13nm,1.2s						
HLID	**Hailey**	42.59	74	P	**P**	**11 32 00.9**	**+0.9**
BOZ	**Bozeman (W)**	43.15	70	IAmb	IAmb	11 32 20.4	
	comp=Z,7.3nm,0.8s						
NVAR	**Mina Array Bea**	43.16	83	P	**P**	**11 32 06.2**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=299,slow=8.1,SNR=6.0						
NVAR				LR	LR	11 47 29.3	
	comp=Z,90nm,18.3s,baz=272,slow=32						
	comp=Z,1.4nm,0.8s						
XLT	**XiLinHaoTe**	43.64	287	*e*P	**P**	**11 32 09.0**	**+0.6**
XLT				pmax	pmax		
	comp=Z,16nm,1.2s						
XLT				pmax	pmax		
	comp=Z,130nm,5.3s						
ELK	**Elko**	43.68	78	LR	LR	11 46 54.3	
	comp=Z,98nm,21.6s,baz=343,slow=31						
YHL	**Hebgen Lake**	43.82	71	IAmb	IAmb	11 32 21.0	
	comp=Z,10nm,0.9s						
YMR	**Madison River**	44.05	71	IAmb	IAmb	11 32 22.4	
	comp=Z,9.5nm,0.8s						
YFT	**Old Faithful**	44.24	71	IAmb	IAmb	11 32 30.2	
	comp=Z,12nm,0.9s						
FLWY	**Flagg Ranch**	44.53	72	IAmb	IAmb	11 32 27.8	
	comp=Z,11nm,0.8s						
HVU	**Hansel Valley**	44.59	76	IAmb	IAmb	11 32 18.1	
	comp=Z,7.3nm,0.7s						
RLMT	**Red Lodge**	44.80	70	IAmb	IAmb	11 32 34.9	
	comp=Z,22nm,1.3s						
R11B	**Troy Canyon, C**	44.90	81	P	**P**	**11 32 19.7**	**+1.0**
R11B	**Troy Canyon, C**	44.90	81	P	**P**	**11 32 17.9**	**-0.8**
	baz=308						
Q12A	**Willow Creek R**	44.95	80	P	**P**	**11 32 18.9**	**-0.1**
Q12A				IAmb	IAmb	11 32 35.6	
	comp=Z,8.3nm,0.9s						
SPR3	**Spring Creek 3**	45.28	80	P	**P**	**11 32 23.5**	**+1.6**
DUG	**Dugway, Tooele**	45.50	77	IAmb	IAmb	11 32 40.4	
	comp=Z,20nm,1.1s						
LAO	**LASA Array**	45.71	66	IAmb	IAmb	11 32 26.7	
	comp=Z,16nm,0.9s						
FCC	**Fort Churchill**	45.77	46	IAmb	IAmb	11 32 29.1	
	comp=Z,7.5nm,0.7s						
TCUT	**Toone Canyon**	45.81	75	IAmb	IAmb	11 32 27.9	
	comp=Z,7.8nm,0.7s						
PRN	**Pahroc Range**	45.82	82	P	**P**	**11 32 26.7**	**+0.8**
PRN				IAmb	IAmb	11 32 44.1	
	comp=Z,18nm,1.2s						
PSUT	**Pine Spring**	45.86	80	IAmb	IAmb	11 32 35.9	
	comp=Z,5.6nm,0.6s						
PD31	**Pinedale Array**	45.96	72	IAmb	IAmb	11 32 42.9	
	comp=Z,8.9nm,0.8s						
PDAR	**Pinedale Array**	45.96	72	P	**P**	**11 32 27.6**	**+0.5**
PDAR	**Pinedale Array**	45.96	72	P	**P**	**11 32 27.8**	**+0.7**
	comp=Z,8.0nm,0.7s,baz=305,slow=3.7,SNR=81						
PDAR				LR	LR	11 47 59.4	
	comp=Z,54nm,20.2s,baz=342,slow=31						
	comp=Z,8.0nm,0.7s						
BSUT	**Blindstream Ca**	46.55	76	IAmb	IAmb	11 32 56.5	
	comp=Z,6.7nm,1.1s						
ULN	**Ulaanbaatar**	46.70	297	P	**P**	**11 32 33.6**	**+0.9**
ULN				IAmb	IAmb	11 32 34.4	
	comp=Z,10nm,0.8s						
ULN	**Ulaanbaatar**	46.70	297	P	**P**	**11 32 33.6**	**+0.9**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MVU	**Marysvale**	46.90	79	P	**P**	**11 32 34.9**	**+0.4**
SONM	**Songino Array**	47.09	297	P	**P**	**11 32 36.9**	**+1.2**
SONM				IAmb	IAmb	11 32 37.5	
	comp=Z,15nm,1.3s						
SONM	**Songino Array**	47.09	297	P	**P**	**11 32 36.1**	**+0.4**
	comp=Z,4.8nm,0.6s,baz=67,slow=7.1,SNR=29						
SONM				PcP	**PcP**	**11 34 07.3**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=116,slow=2.0,SNR=4.3						
	comp=Z,4.8nm,0.6s						
LCMT	**Little Creek M**	47.19	81	IAmb	IAmb	11 32 54.4	
	comp=Z,5.4nm,1.0s						
Q16A	**Castle Valley**	47.28	78	IAmb	IAmb	11 32 54.0	
	comp=Z,6.1nm,0.8s						
PFO	**Pinyon Flats O**	47.36	87	LR	LR	11 47 27.9	
	comp=Z,58nm,21.7s,baz=256,slow=30						
ZAK	**Zakamensk**	47.39	302	*e*P	**P**	**11 32 39.4**	**+1.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
P18A	**Preston Nutter**	47.42	76	IAmb	IAmb	11 32 55.6	
	comp=Z,9.6nm,1.0s						
SRU	**San Rafael Swe**	47.56	77	IAmb	IAmb	11 32 57.1	
	comp=Z,11nm,0.9s						
TIA	**Tai'an**	47.60	278	P	**P**	**11 32 40.0**	**+0.4**
TIA				pmax	pmax		
	comp=Z,16nm,1.0s						
K22A	**Casper**	47.84	71	IAmb	IAmb	11 32 53.7	
	comp=Z,8.0nm,0.9s						
HHC	**Hu-ho-hao-te**	48.13	286	*e*P	**P**	**11 32 46.5**	**+2.6**
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,370nm,5.4s						
U15A	**North Rim**	48.15	81	IAmb	IAmb	11 32 54.0	
	comp=Z,5.8nm,0.7s						
HNS	**HongShan**	48.34	281	⇑P	**P**	**11 32 46.3**	**+1.0**
HNS				pmax	pmax		
	comp=Z,13nm,0.9s						
RSSD	**Black Hills**	48.44	68	P	**P**	**11 32 46.3**	**0.0**
RSSD				IAmb	IAmb	11 32 51.2	
	comp=Z,4.5nm,0.7s						
RSSD	**Black Hills**	48.44	68	P	**P**	**11 32 46.3**	**0.0**
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BTO	**Baotou**	49.21	287	*e*P	**P**	**11 32 53.8**	**+1.7**
BTO				pP	**pP**	**11 33 06.5**	**+1.9**
BTO				sP	**sP**	**11 33 10.0**	**+0.1**
BTO				PP	**PP**	**11 34 43.8**	**-2.1**
BTO				S	**S**	**11 39 58.0**	**+3.6**
BTO				pmax	pmax		
	comp=Z,45nm,0.9s						
BTO				pmax	pmax		
	comp=Z,330nm,7.5s						
BTO				LR	LR		
	comp=Z,430nm,6.1s						
BTO				LR	LR		
	comp=Z,360nm,5.5s						
BTO				LR	LR		
	comp=Z,460nm,7.2s						
NJ2	**Nanjing**	49.23	272	*e*P	**P**	**11 32 54.8**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,3.0nm,0.6s						
N23A	**Red Feather La**	49.25	72	P	**P**	**11 32 52.0**	**-0.6**
	baz=308						
MVCO	**Mesa Verde**	50.00	78	IAmb	IAmb	11 33 04.4	
	comp=Z,14nm,1.4s						
ISCO	**Idaho Springs**	50.12	73	IAmb	IAmb	11 33 15.2	
	comp=Z,9.2nm,0.8s						
SPITS	**Spitsbergen Ar**	50.57	356	P	**P**	**11 33 00.3**	**-1.5**
	comp=Z,5.5nm,0.5s,baz=44,slow=7.3,SNR=12						
	comp=Z,5.5nm,0.5s						
S22A	**4UR Ranch, Cre**	50.68	76	IAmb	IAmb	11 33 11.4	
	comp=Z,6.3nm,1.1s						
S22A	**4UR Ranch, Cre**	50.68	76	P	**P**	**11 33 03.0**	**-0.5**
	baz=309						
Q24A	**Divide**	50.92	74	P	**P**	**11 33 05.0**	**-0.4**
	baz=309						
T25A	**Trinidad**	52.54	75	P	**P**	**11 33 17.2**	**-0.2**
	baz=310						
ANMO	**Albuquerque**	52.72	79	LR	LR	11 56 23.2	
	comp=Z,44nm,18.2s,baz=146,slow=37						
ANMO	**Albuquerque**	52.72	79	*i* P	**P**	**11 33 17.8**	**-0.9**
FRB	**Frobisher Bay**	52.95	32	LR	LR	11 58 09.8	
	comp=Z,145nm,18.1s,baz=0.5,slow=39						
WHN	**Wuhan**	53.08	274	P	**P**	**11 33 21.0**	**-0.1**
WHN				pmax	pmax		
	comp=Z,44nm,0.7s						
SUMG	**Summit**	53.36	14	*i* P	**P**	**11 33 23.0**	**-0.1**
RTBA	**Rita Blanca**	54.01	75	IAmb	IAmb	11 33 40.8	
	comp=Z,6.9nm,1.1s						
XAN	**Xi'an**	54.10	281	P	**P**	**11 33 28.5**	**-0.1**
XAN				pmax	pmax		
	comp=Z,12nm,0.6s						
ZALV	**Zalesovo Beam**	54.44	314	P	**P**	**11 33 30.7**	**0.0**
	comp=Z,0.8nm,0.4s,baz=57,slow=7.6,SNR=4.3						
ZALV				PcP	**PcP**	**11 34 33.6**	**-0.2**
	comp=Z,6.7nm,0.7s,baz=38,slow=4.0,SNR=24						
ZALV				LR	LR	11 57 16.5	
	comp=Z,99nm,18.7s,baz=6.5,slow=37						
	comp=Z,0.8nm,0.4s						
R32A	**Long Quarter,**	55.12	70	IAmb	IAmb	11 33 37.0	
	comp=Z,11nm,0.8s						
MSTX	**Mustshoe**	55.64	77	IAmb	IAmb	11 33 56.8	
	comp=Z,17nm,1.3s						
SFJD	**Kangerlussuaq**	55.64	22	LR	LR	12 00 18.4	
	comp=Z,74nm,18.5s,baz=98,slow=39						
LZH	**Lanzhou**	55.83	287	*e*P	**P**	**11 33 42.8**	**+1.6**
LZH				sP	pwP	11 33 58.3	+4.3
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
GTA	**Gaotai**	56.01	292	P	**P**	**11 33 43.5**	**+1.1**
GTA				pP	pP	11 33 53.5	-1.6
GTA				pmax	pmax		
	comp=Z,30nm,0.8s						
SMWD	**Samnorwood**	56.41	74	IAmb	IAmb	11 34 01.2	
	comp=Z,10nm,1.0s						
N38A	**Joes South For**	56.74	65	IAmb	IAmb	11 33 48.0	
	comp=Z,11nm,0.8s						
T35A	**Sooner Cattle**	57.43	70	IAmb	IAmb	11 33 53.0	
	comp=Z,7.9nm,0.9s						
MNHN	**Monahans**	57.44	79	IAmb	IAmb	11 34 01.8	
	comp=Z,8.4nm,0.7s						
WMOK	**Wichita Mounta**	57.54	74	IAmb	IAmb	11 34 09.8	
	comp=Z,9.1nm,1.4s						
OK031	**S. Brethren Rd**	57.88	71	IAmb	IAmb	11 34 01.7	
	comp=Z,9.5nm,0.8s						
TX31	**Lajitas Ar. Si**	58.27	82	IAmb	IAmb	11 34 14.9	
	comp=Z,14nm,1.4s						
TXAR	**Lajitas Array**	58.27	82	P	**P**	**11 33 58.2**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=306,slow=5.9,SNR=13						
	comp=Z,0.3nm,0.5s						
ARCES	**ARCESS Array B**	58.32	350	P	**P**	**11 33 57.5**	**-0.6**
	comp=Z,4.1nm,0.6s,baz=29,slow=6.0,SNR=20						
	comp=Z,4.1nm,0.6s						
OZNA	**Ozona**	58.73	78	IAmb	IAmb	11 34 17.9	
	comp=Z,6.3nm,0.8s						
L44A	**Lake County Fo**	58.79	60	P	**P**	**11 34 01.1**	**-0.6**
	baz=312						
U38A	**Gravette**	59.01	69	IAmb	IAmb	11 34 03.6	
	comp=Z,6.0nm,0.6s						
HHAR	**Hobbs**	59.38	69	IAmb	IAmb	11 34 11.1	
	comp=Z,5.8nm,0.8s						
KURK	**Kurchatov**	59.43	314	P	**P**	**11 34 04.7**	**-1.4**
KURK				IAmb	IAmb	11 34 08.3	
	comp=Z,4.5nm,0.8s						
KURK	**Kurchatov**	59.43	314	P	**P**	**11 34 05.9**	**-0.2**
KURK						11 34 53.9	
KURBB	**Kurchatov Arra**	59.54	314	P	**P**	**11 34 05.8**	**-1.0**
	comp=Z,2.2nm,0.5s,baz=44,slow=6.7,SNR=15						
KURBB				PcP	**PcP**	**11 34 53.9**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=49,slow=3.8,SNR=7.7						
KURBB				LR	LR	12 01 10.4	
	comp=Z,112nm,18.2s,baz=176,slow=38						
	comp=Z,2.2nm,0.5s						
CCM	**Cathedral Cave**	59.73	66	P	**P**	**11 34 07.4**	**-0.9**
CCM				IAmb	IAmb	11 34 48.0	
	comp=Z,9.9nm,1.5s						
CCM	**Cathedral Cave**	59.73	66	P	**P**	**11 34 07.4**	**-0.9**
CCM				pmax	pmax		
	comp=Z,10.0nm,1.5s						
MK31	**Makanchi Array**	60.46	309	IAmb	IAmb	11 34 14.4	
	comp=Z,2.9nm,0.7s						
MK31	**Makanchi Array**	60.46	309	*ce*P	**P**	**11 34 10.6**	**-2.7**
MKAR	**Makanchi Array**	60.46	309	P	**P**	**11 34 11.1**	**-2.1**
	comp=Z,2.0nm,0.4s,baz=47,slow=6.2,SNR=27						
MKAR				PcP	**PcP**	**11 34 58.3**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=41,slow=5.4,SNR=3.8						
MKAR				LR	LR	12 00 45.4	
	comp=Z,154nm,20.7s,baz=336,slow=36						
	comp=Z,2.0nm,0.4s						
MIAR	**Mount Ida**	60.79	70	P	**P**	**11 34 15.6**	**0.0**
MIAR	**Mount Ida**	60.79	70	P	**P**	**11 34 15.6**	**0.0**
MIAR				pmax	pmax		
	comp=Z,23nm,1.5s						
GOMU	**GeErMu**	61.10	293	P	**P**	**11 34 18.5**	**+0.3**
GOMU				pmax	pmax		
	comp=Z,32nm,0.9s						
LCAR	**Lake Charles**	61.15	67	IAmb	IAmb	11 34 18.7	
	comp=Z,13nm,1.3s						
BVAR	**Borovoye Array**	61.28	320	P	**P**	**11 34 18.4**	**-0.3**
	comp=Z,7.0nm,0.4s,baz=48,slow=6.2,SNR=38						
BVAR				PcP	**PcP**	**11 35 00.8**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=48,slow=4.6,SNR=4.7						
BVAR				LR	LR	12 03 52.8	
	comp=Z,124nm,18.5s,baz=21,slow=39						
	comp=Z,7.0nm,0.4s						
BRVK	**Borovoye**	61.30	320	P	**P**	**11 34 18.7**	**-0.1**
BRVK				IAmb	IAmb	11 34 19.5	
	comp=Z,4.8nm,0.5s						
BRVK	**Borovoye**	61.30	320	P	**P**	**11 34 18.7**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
O48B	**Farmland**	61.62	60	P	**P**	**11 34 21.0**	**-0.1**
O48B	**Farmland**	61.62	60	P	**P**	**11 34 20.8**	**-0.3**
	baz=314						
ARTI	**Arti**	63.05	329	*c i* P	**P**	**11 34 30.1**	**-0.4**
ARTI						11 35 03.0	
ARTI				S	**S**	**11 43 01.9**	**+4.7**
ARTI				SS	**SS**	**11 47 01.3**	**-1.2**
ARTI				pmax	pmax		
	comp=Z,74nm,5.0s						
PLAL	**Pickwick Lake**	63.70	66	IAmb	IAmb	11 34 50.3	
	comp=Z,7.3nm,0.7s						
PZH	**PanZhiHua**	63.78	280	P	**P**	**11 34 36.3**	**+0.4**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,230nm,5.6s						
KIRV	**Kirov**	63.90	335	LR	LR	12 04 39.0	
	comp=Z,167nm,19.1s,baz=348,slow=38						
KIRV	**Kirov**	63.90	335	*ce*P	**P**	**11 34 35.8**	**-0.2**
FPAL	**Fort Paine**	65.42	65	IAmb	IAmb	11 34 52.6	
	comp=Z,7.9nm,0.7s						
TKL	**Tuckaleechee C**	65.66	63	LR	LR	12 01 54.5	
	comp=Z,74nm,19.4s,baz=1.5,slow=35						
LRAL	**Lakeview Retre**	65.71	67	P	**P**	**11 34 47.7**	**-0.5**
LRAL				IAmb	IAmb	11 34 49.2	
	comp=Z,5.9nm,0.6s						
WUS	**Wushi**	66.03	306	IAmb	IAmb	11 34 52.4	
	comp=Z,7.5nm,0.8s						
FINES	**FINESS Array B**	66.03	348	P	**P**	**11 34 48.8**	**-1.1**
	comp=Z,4.9nm,0.8s,baz=54,slow=5.0,SNR=11						
FINES	**FINESS Array B**	66.03	348	*i* P	**P**	**11 34 49.0**	**-0.8**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AAK	**Ala-Archa**	67.28	310	P	**P**	**11 34 58.0**	**-0.3**
AAK				IAmb	IAmb	11 35 00.8	
	comp=Z,3.8nm,0.7s						
AAK	**Ala-Archa**	67.28	310	P	**P**	**11 34 58.0**	**-0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NB2	**NORSAR Subarra**	67.84	355	P	**P**	**11 35 01.7**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=7.2,slow=6.5						
NOA	**NORSAR Array B**	67.84	355	P	**P**	**11 35 01.3**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=3.7,slow=7.3,SNR=6.0						
NOA				LR	LR	12 05 55.2	
	comp=Z,32nm,19.5s,baz=275,slow=37						
	comp=Z,1.7nm,0.7s						
AKTO	**Aktyubinsk**	68.06	325	LR	LR	12 06 51.2	
	comp=Z,80nm,21.3s,baz=134,slow=38						
TAOE	**Nuku Hiva Isla**	68.22	139	*e*LR	LR	11 55 34.2	
	comp=Z,201nm,24.3s						
ABKAR	**Akbulak array**	68.32	323	P	**P**	**11 35 03.8**	**-0.7**
ABKAR	**Akbulak array**	68.32	323	P	**P**	**11 35 04.3**	**-0.2**
ABKAR				IAmb	IAmb	11 35 05.5	
	comp=Z,8.9nm,1.2s						
HFS	**Hagfors**	68.59	354	P	**P**	**11 35 05.2**	**-0.9**
	comp=Z,5.8nm,0.8s,baz=14,slow=3.1,SNR=10						
	comp=Z,5.8nm,0.8s						
KKAR	**Karatay Array**	68.80	313	P	**P**	**11 35 07.5**	**-0.2**
KKAR	**Karatay Array**	68.80	313	P	**P**	**11 35 07.5**	**-0.2**
KKAR				IAmb	IAmb	11 35 08.0	
	comp=Z,2.6nm,0.6s						
KKAR	**Karatay Array**	68.80	313	P	**P**	**11 35 07.5**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KSH	**Kashi**	68.93	307	P	**P**	**11 35 11.8**	**+3.1**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BELG	**Belogornoye**	69.79	332	LR	LR	12 08 23.4	
	comp=Z,130nm,19.1s,baz=313,slow=38						
CMAR	**Chiang Mai Arr**	71.44	276	P	**P**	**11 35 24.6**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=28,slow=6.7,SNR=19						
CMAR				LR	LR	12 10 37.1	
	comp=Z,23nm,18.6s,baz=85,slow=39						
	comp=Z,2.8nm,0.6s						
MNK	**Minsk**	72.43	344	*i* P	**P**	**11 35 25.0**	**-4.5**
MNK				*i*		11 35 44.6	
MNK				*i* PPP	PPP	11 39 48.3	
MNK				*i* S	**S**	**11 44 43.5**	**-5.9**
MNK				pmax	pmax		
	comp=N,22nm,0.7s						
MNK				pmax	pmax		
	comp=E,19nm,0.8s						
MNK				pmax	pmax		
	comp=Z,17nm,0.8s						
MNK				MLR	MLR		
	comp=N,279nm,17.0s						
MNK				MLR	MLR		
	comp=Z,128nm,16.0s						
MNK				MLR	MLR		
	comp=E,247nm,14.0s						
VRH	**Novokhopyorsk**	72.51	335	*e*P	**P**	**11 35 27.9**	**-2.1**
VRH				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CMIG	**Matias Romero**	72.68	84	LR	LR	12 06 13.8	
	comp=Z,56nm,18.4s,baz=325,slow=35						
SIMJ	**Simiganj**	73.00	311	P	**P**	**11 35 33.5**	**+0.1**
SIMJ				IAmb	IAmb	11 35 35.8	
	comp=Z,5.1nm,0.9s						
VSR	**Storozhevoye**	73.16	337	*e*P	**P**	**11 35 31.9**	**-2.0**
VSR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
RAR	**Rarotonga**	73.90	162	LR	LR	12 00 26.0	
	comp=Z,102nm,21.3s,baz=160,slow=30						
DZM	**Mont Dzumac**	74.22	195	*e*LR	LR	11 58 22.1	
	comp=Z,76nm,23.4s						
DZM	**Mont Dzumac**	74.22	195	LR	LR	12 01 29.8	
	comp=Z,26nm,21.0s,baz=76,slow=30						
AK23	**Malin Array Si**	75.79	343	P	**P**	**11 35 49.4**	**+0.2**
AK21	**Malin Array Si**	75.79	343	P	**P**	**11 35 48.0**	**-1.2**
AK22	**Malin Array Si**	75.80	343	P	**P**	**11 35 48.3**	**-0.9**
AK03	**Malin Array Si**	75.81	342	P	**P**	**11 35 48.9**	**-0.4**
RNPP1	**Kostyukhnivka**	75.82	345	P	**P**	**11 35 50.6**	**+1.3**
AK04	**Malin Array Si**	75.82	342	P	**P**	**11 35 48.5**	**-0.8**
AKASG	**Malin Array Be**	75.83	342	P	**P**	**11 35 48.2**	**-1.2**
	comp=Z,1.6nm,0.3s,baz=22,slow=5.7,SNR=25						
	comp=Z,1.6nm,0.3s						
AKASG	**Malin Array Be**	75.83	342	*i* P	**P**	**11 35 49.2**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKBB	**Malin Array Si**	75.83	342	IAmb	IAmb	11 35 50.4	
	comp=Z,11nm,0.8s						
AKBB	**Malin Array Si**	75.83	342	*ce*P	**P**	**11 35 48.2**	**-1.2**
AKBB				pmax	pmax		
	comp=Z,12nm,0.8s						
AKBB	**Malin Array Si**	75.83	342	P	**P**	**11 35 49.0**	**-0.4**
KIEV	**Kiev**	75.84	342	P	**P**	**11 35 49.3**	**-0.1**
KIEV				IAmb	IAmb	11 35 50.4	
	comp=Z,10nm,0.8s						
KIEV	**Kiev**	75.84	342	P	**P**	**11 35 49.3**	**-0.1**
KIEV				pmax	pmax		
	comp=Z,11nm,0.8s						
MI28	**Mi28,Pidlybu**	75.90	343	P	**P**	**11 35 50.3**	**+0.5**
	comp=Z,115nm,1.6s						
KBL	**Kabul**	76.26	308	P	**P**	**11 35 52.1**	**-0.3**
KBL				IAmb	IAmb	11 35 53.7	
	comp=Z,7.6nm,0.8s						
KBL	**Kabul**	76.26	308	P	**P**	**11 35 52.1**	**-0.3**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LUBAR	**Lubar, Ukraine**	76.85	343	P	**P**	**11 35 54.9**	**-0.3**
KWP	**Kalwaria Pacla**	77.97	346	P	**P**	**11 36 01.7**	**+0.2**
NDNU	**Novodnistrovsk**	78.20	343	P	**P**	**11 36 02.6**	**-0.1**
STHS	**Stebnicka Huta**	78.39	347	*e*P	**P**	**11 36 03.9**	**+0.1**
STHS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
STHS	**Stebnicka Huta**	78.39	347

comp=Z,6.1nm,1.0s
OBKA Obir 82.04 351 *e*P **P 11 36 23.6 0.0**
comp=Z,9.8nm,1.0s
WRA Warramunga Arr 82.19 224 P **P 11 36 24.2 -0.2**
comp=Z,1.3nm,0.5s,baz=32,slow=5.8,SNR=16
comp=Z,1.3nm,0.5s
WRA Warramunga Arr 82.19 224 *i* P **P 11 36 24.5 0.0**
WRA pmax pmax
comp=Z,1.0nm,0.4s
JTS Las Juntas de 84.06 81 LR LR 12 15 07.5
comp=Z,28nm,18.2s,baz=350,slow=36
FITZ Fitzroy Crossi 84.69 233 P **P 11 36 37.6 +0.3**
comp=Z,7.6nm,0.7s,baz=32,slow=6.5,SNR=18
comp=Z,7.6nm,0.7s
BRTR Keskin Array B 85.27 336 P **P 11 36 39.9 -0.5**
BRTR Keskin Array B 85.27 336 P **P 11 36 40.5 +0.2**
comp=Z,8.0nm,0.8s,baz=52,slow=2.4,SNR=23
comp=Z,8.0nm,0.8s
AS31 Alice Springs 85.65 223 P **P 11 36 42.6 +0.5**
ASAR Alice Springs 85.65 223 P **P 11 36 42.3 +0.2**
ASAR Alice Springs 85.65 223 P **P 11 36 42.5 +0.5**
comp=Z,4.0nm,0.8s,baz=24,slow=5.7,SNR=48
comp=Z,4.0nm,0.8s
ESDC Sonseca Array 89.34 4 P **P 11 36 59.2 -0.7**
comp=Z,2.7nm,0.9s,baz=350,slow=3.6,SNR=8.1
comp=Z,2.7nm,0.9s
STKA Stephens Creek 90.02 213 P **P 11 37 04.2 +1.4**
comp=Z,4.0nm,0.7s,baz=335,slow=6.5,SNR=10
comp=Z,4.0nm,0.7s
MMAI Mount Meron Ar 91.08 332 LR LR 12 24 00.1
comp=Z,36nm,18.0s,baz=254,slow=40
TORD Torodi Ar. Bea 115.91 0 PKP **PKiKP 11 42 45.6 -0.7**
comp=Z,0.7nm,0.6s,baz=350,slow=2.7,SNR=5.3
H03N2 Juan Fernandez 120.70 106 T T 13 55 34.1
baz=317,slow=78,SNR=23
H03N1 Juan Fernandez 120.71 106 T T 13 55 32.4
baz=317,slow=78,SNR=28
H03N3 Juan Fernandez 120.72 106 T T 13 55 27.7
baz=317,slow=78,SNR=33
DBIC Dimbokro 122.06 8 PKP **PKPdf 11 42 58.0 -0.1**
comp=Z,3.6nm,0.5s,baz=13,slow=1.6,SNR=10
QSPA South Pole Qui 140.97 180 PKP **PKPdf 11 43 32.8 +0.7**
comp=Z,0.7nm,0.2s,baz=354,slow=2.0,SNR=3.7
QNGWA **Qangwa 144.90 327** *i* P **PKPdf 11 43 40.7 +0.1**
MREMI **Moremi 145.19 316** *i* P **PKPdf 11 43 41.6 +0.7**
CKGRV **CKGRV 145.67 322** *i* P **PKPab 11 43 43.3 +0.8**
GRTLG **Ghanzi 146.58 326** *i* P **PKPab 11 43 45.9 -0.2**
MAW Mawson 146.61 218 PKPbc **PKPbc 11 43 43.1 -0.3**
comp=Z,3.0nm,0.6s,baz=65,slow=5.1,SNR=7.9
KDWAN **Kaudwane 147.09 319** *i* P **PKPbc 11 43 46.5 +0.1**
KOOLE **Kule 148.44 326** *i* P **PKiKP 11 43 51.1 -0.6**
BOSA Boshof 151.39 313 PKPbc **PKPbc 11 43 57.1 +0.1**
comp=Z,7.4nm,0.5s,baz=34,slow=2.1,SNR=28
TROLL Troll, Antarti 159.13 181 ⇑PKPdf **PKPdf 11 43 57.4 -2.7**
comp=Z,86nm,0.8s
VNA3 Neumayer Olymp 159.23 169 ⇑PKPdf **PKPdf 11 43 57.4 -2.6**
comp=Z,2.6nm,0.9s
SNAA Sanae 159.36 176 ⇑PKPdf **PKPdf 11 43 54.6 -5.6**
comp=Z,34nm,1.0s
VNA2 Neumayer--Watz 159.77 171 ⇑PKPdf **PKPdf 11 43 57.6 -3.1**
comp=Z,2.0nm,0.4s,baz=342,slow=32
VNA1 Neumayer--Stat 159.94 170 ⇑PKPdf **PKPdf 11 43 56.1 -4.7**
comp=Z,5.2nm,0.8s

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*IDC **29** 11:36:37.3±1.4, 63°.04N×28°.08E, h0km, mbtmp3.4/3, ML2.2/3, Error ellipse: s-maj=16.8km s-min=6.6km az=107.0*
*HEL **29** 11:36:38.1±0.1, 63°.12N×27°.71E, h0km, ML2.1, Suspected explosion*
*UPP **29** 11:36:40.6±2.3, 63°.16N×27°.42E, h0km, ML2.1*
ISC 29 11:36:37.4±0.8, **63°.05N**±0°.02×**27°.74E**±0°.03, **h0km, n52, σ1°38/79, Finland**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.34**	**5**	PG	**Pg**		**11 36 42.9**	**-1.0**
NIF				SG	**Sg**		**11 36 46.7**	**-1.6**
SUF	**Sumiainen**	**0.80**	**246**	PG	**Pg**		**11 36 53.0**	**+0.2**
	baz=57							
SUF				MSG			11 37 03.5	
	comp=Z,11nm,0.2s							
SUF				SB	**Sg**		**11 37 03.8**	**+0.7**
KAF	**Kangasniemi**	**1.15**	**216**	PG	**Pg**		**11 36 59.7**	**+0.2**
KAF				MSG			11 37 14.7	
	comp=Z,23nm,0.2s							
KAF				SB	**Sb**		**11 37 16.5**	**+0.8**
RMF	**Romuvaara**	**1.52**	**39**	PG	**Pn**		**11 37 04.8**	**-1.1**
	baz=224							
RMF				MSG			11 37 22.7	
	comp=Z,14nm,0.2s							
RMF				SG	**Sn**		**11 37 23.9**	**-2.5**
KEF	**Keuruu**	**1.60**	**237**	*e*P	**Pn**		**11 37 07.6**	**+0.7**
KEF	**Keuruu**	**1.60**	**237**	PN	**Pn**		**11 37 07.6**	**+0.7**
KEF				MSG			11 37 26.8	
	comp=Z,14nm,0.2s							
KEF				SN	**Sg**		**11 37 29.2**	**+0.5**
JOF	**Joensuu**	**1.64**	**93**	*e*P	**Pn**		**11 37 07.4**	**0.0**
JOF	**Joensuu**	**1.64**	**93**	PG	**Pn**		**11 37 07.7**	**+0.2**
JOF				SN	**Sn**		**11 37 29.0**	**-0.2**
RUF	**Ruokolahti**	**1.73**	**160**	PG	**Pb**		**11 37 10.0**	**-0.1**
	baz=339							
RUF				MSG			11 37 31.8	
	comp=Z,16nm,0.2s							
FIA0	**FINESS Array S**	**1.79**	**206**	PG	**Pb**		**11 37 11.0**	**-0.1**
FIA0				MSG			11 37 33.0	
	comp=Z,10nm,0.2s							
FIA0				SN	**Sg**		**11 37 35.3**	**+0.3**
FINES	**FINESS Array B**	**1.79**	**206**	Pn	**Pb**		**11 37 11.2**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=25,slow=17,SNR=48							
FINES				Lg	Lg		11 37 36.4	
	comp=Z,3.4nm,0.3s,baz=24,slow=30,SNR=40							
OUF	**Merijarvi**	**1.88**	**316**	PG	**Pn**		**11 37 10.9**	**+0.1**
	baz=129							
OUF				MSG			11 37 32.5	
	comp=Z,23nm,0.2s							
OUF				SN	**Sn**		**11 37 35.2**	**+0.1**
OBF4	**Vikkela, Lumij**	**2.12**	**328**	PG	**Pn**		**11 37 15.0**	**+1.0**
OBF4				MSG			11 37 39.0	
	comp=Z,12nm,0.2s							
OBF0	**Syolatti, Pyha**	**2.13**	**315**	PG	**Pn**		**11 37 15.0**	**+0.8**
OBF0				MSG			11 37 39.5	
	comp=Z,11nm,0.2s							
OBF0				SG	**Sb**		**11 37 43.5**	**-0.1**
OUL	**Oulu**	**2.19**	**339**	PG	**Pn**		**11 37 15.9**	**+0.8**
OUL				SG	**Sn**		**11 37 43.9**	**+1.0**
VAF	**Ylistaro**	**2.31**	**272**	*e*P	**Pn**		**11 37 17.7**	**+1.1**
VAF	**Ylistaro**	**2.31**	**272**	PG	**Pn**		**11 37 18.5**	**+1.9**
	baz=83							
VAF				MSG			11 37 46.0	
	comp=Z,16nm,0.2s							
VAF				SG	**Sb**		**11 37 48.9**	**0.0**
VJF	**Virojoki**	**2.53**	**182**	PB	**Pb**		**11 37 22.2**	**-1.4**
VJF				MSG			11 37 54.5	
	comp=Z,7.1nm,0.2s							
VJF				SG	**Sb**		**11 37 56.3**	**+1.1**
PVF	**Pernaja**	**2.67**	**200**	PB	**Pb**		**11 37 25.3**	**-0.8**
	baz=18							
PVF				MSG			11 37 58.4	
	comp=Z,6.5nm,0.2s							
KPF	**Kankaanpaa**	**2.91**	**248**	PB	**Pn**		**11 37 27.1**	**+2.2**
KPF				SG	**Sb**		**11 38 05.5**	**-0.6**
MSF	**Maaselka**	**2.92**	**11**	PB	**Pn**		**11 37 25.8**	**+0.6**
	baz=190							
MSF				SB	**Sn**		**11 38 01.8**	**+0.8**
NUR	**Nurmijarvi**	**2.95**	**211**	MSG			11 38 06.2	
	comp=Z,5.6nm,0.2s							
NUR				SG	**Sb**		**11 38 07.7**	**+0.4**
RANF	**Ranua**	**3.00**	**353**	PB	**Pn**		**11 37 26.9**	**+0.7**
	baz=173							
RANF				SB	**Sn**		**11 38 05.0**	**+2.2**
KU6	**Riekki**	**3.12**	**16**	PN	**Pn**		**11 37 28.5**	**+0.6**
KU6				MSG	**Sn**		**11 38 08.3**	**+2.4**
	comp=Z,3.7nm,0.2s							
KU6				SB	**Sn**		**11 38 08.3**	**+2.4**
MEF	**Metsahovi**	**3.26**	**211**	*e*P	**Pn**		**11 37 32.6**	**+2.8**
MEF	**Metsahovi**	**3.26**	**211**	SN	**Sn**		**11 38 06.8**	**-2.5**
UMAU	**Umeaa**	**3.28**	**288**	P	**Pn**		**11 37 30.4**	**+0.4**
UMAU				S	**Sn**		**11 38 11.4**	**+1.8**
UMAU	**Umeaa**	**3.28**	**288**	PN	**Pn**		**11 37 30.3**	**+0.4**
UMAU				SB	**Sn**		**11 38 11.6**	**+2.1**
OLKF	**Oulanka, Finla**	**3.36**	**12**	PN	**Pn**		**11 37 32.0**	**+0.9**
OLKF				SB	**Sn**		**11 38 13.2**	**+1.6**
TOF	**Tornio**	**3.38**	**336**	PB	**Pn**		**11 37 32.5**	**+1.2**
KALU	**Kalix**	**3.40**	**328**	P	**Pn**		**11 37 32.4**	**+0.8**
KALU	**Kalix**	**3.40**	**328**	PN	**Pn**		**11 37 32.8**	**+1.2**
ODEU	**Stanfors**	**3.41**	**297**	P	**Pn**		**11 37 32.0**	**+0.2**
ODEU				S	**Sn**		**11 38 11.6**	**-1.2**
RAF	**Rauma**	**3.48**	**237**	*e*P	**Pn**		**11 37 35.1**	**+2.4**
RAF	**Rauma**	**3.48**	**237**	PN	**Pn**		**11 37 34.6**	**+1.9**
RAF				SB	**Sb**		**11 38 18.9**	**-3.5**
SJUU	**Sjulsmark**	**3.64**	**315**	P	**Pn**		**11 37 35.4**	**+0.5**
RNF	**Rovaniemi**	**3.65**	**349**	PN	**Pn**		**11 37 35.9**	**+0.9**
HUSU	**Husum**	**3.87**	**278**	P	**Pn**		**11 37 39.5**	**+1.4**
LILU	**Lilltraesk**	**4.12**	**306**	P	**Pn**		**11 37 41.5**	**0.0**
BREU	**Bredtraesk**	**4.20**	**286**	P	**Pn**		**11 37 42.9**	**+0.4**
ERTU	**Ertsjaerv**	**4.24**	**328**	P	**Pn**		**11 37 44.2**	**+1.1**
ERTU	**Ertsjaerv**	**4.24**	**328**	PN	**Pn**		**11 37 44.2**	**+1.1**
	baz=145							
HARU	**Harads**	**4.27**	**320**	P	**Pn**		**11 37 44.1**	**+0.5**
PAJU	**Pajala**	**4.44**	**336**	PN	**Pn**		**11 37 47.0**	**+1.0**
PAJU				SN	**Sn**		**11 38 37.8**	**-0.6**
HEMU	**Hemsoen**	**4.46**	**269**	P	**Pn**		**11 37 47.1**	**+0.9**
HEMU	**Hemsoen**	**4.46**	**269**	PN	**Pn**		**11 37 47.2**	**+1.0**
KLF	**Kolari**	**4.49**	**341**	PN	**Pn**		**11 37 47.4**	**+0.8**
VSU	**Vasula**	**4.63**	**187**	PN	**Pn**		**11 37 48.3**	**-0.3**
VRF	**Varrio**	**4.78**	**9**	PN	**Pn**		**11 37 51.8**	**+1.2**
VRF				SG	**Sb**		**11 39 02.9**	**+3.0**
ARCES	**ARCESS Array B**	**6.57**	**353**	Pn	**Pn**		**11 38 14.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=165,slow=15,SNR=12							
ARCES				Sn	**Sn**		**11 39 27.3**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=176,slow=22,SNR=7.3							
	comp=Z,4.8nm,1.0s							
HFS	**Hagfors**	**7.31**	**253**	Pn	**Pn**		**11 38 25.4**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=67,slow=16,SNR=1.5							
HFS				Sn	**Sn**		**11 39 47.1**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=65,slow=35,SNR=2.2							
HFS				Lg	Lg		11 40 29.9	
	comp=Z,0.2nm,0.3s,baz=65,slow=30,SNR=2.2							
	comp=Z,5.5nm,1.1s							
NOA	**NORSAR Array B**	**8.02**	**263**	Pn	**Pn**		**11 38 35.2**	**+0.1**
	baz=70,slow=15,SNR=1.4							
NOA				Sn	**Sn**		**11 40 03.5**	**-2.9**
	baz=72,slow=17,SNR=1.5							
	comp=Z,1.4nm,1.0s							

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*NOU **29** 11:37:04.6, 38°.85S×175°.19E, h233km, MLv3.7/16, North Island, New Zealand*
*WEL **29** 11:37:08.3±0.9, 39°.S±15°×17°.5E±1°.8, h201km±7km, M2.5/18, ML2.4/10, MLv2.5/18, Error ellipse: s-maj=26.8km s-min=15.2km az=55.0, confirmed*
ISC 29 11:37:04.0±1.9, **38°.87S**±0°.08×**175°.16E**±0°.06, **h234**km±11km, **n157, σ1°23/166, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.30**	**134**	P	**Pn**		**11 37 35.6**	**+1.0**
VRZ	**Vera Road**	**0.41**	**230**	P	**Pn**		**11 37 35.9**	**+1.2**
WTVZ	**West Tongariro**	**0.42**	**127**	P	**Pn**		**11 37 35.9**	**+1.0**
WTVZ				S	**S**		**11 37 57.8**	**-1.3**
HIZ	**Hauiti**	**0.42**	**326**	P	**Pn**		**11 37 35.7**	**+0.9**
HIZ				S	**S**		**11 37 58.2**	**-0.7**
HIZ	**Hauiti**	**0.42**	**326**	P	**Pn**		**11 37 35.5**	**+0.6**
KATZ	**Kakaramea**	**0.43**	**105**	P	**Pn**		**11 37 35.8**	**+0.8**
KRVZ	**Karewarewa**	**0.44**	**122**	P	**Pn**		**11 37 36.1**	**+1.1**
NNVZ	**North Ngauruho**	**0.44**	**127**	P	**Pn**		**11 37 36.1**	**+1.1**
NNVZ				S	**S**		**11 37 58.8**	**-0.6**
COVZ	**Chateau Observ**	**0.45**	**139**	P	**Pn**		**11 37 36.2**	**+1.2**
COVZ				S	**S**		**11 37 57.8**	**-1.5**
PKVZ	**Pokaka**	**0.45**	**161**	P	**Pn**		**11 37 36.1**	**+1.2**
NGZ	**Ngauruhoe**	**0.46**	**132**	P	**Pn**		**11 37 36.2**	**+1.1**
NTVZ	**North Tongarir**	**0.46**	**120**	P	**Pn**		**11 37 36.3**	**+1.2**
WATZ	**Wairara**	**0.47**	**71**	P	**Pn**		**11 37 35.9**	**+0.8**
RATZ	**Rangitukua**	**0.48**	**90**	P	**Pn**		**11 37 35.7**	**+0.7**
SNVZ	**South Ngauruho**	**0.49**	**131**	P	**Pn**		**11 37 36.6**	**+1.4**
SNVZ				S	**S**		**11 37 58.5**	**-1.2**
TMVZ	**Te Maari**	**0.49**	**121**	P	**Pn**		**11 37 36.2**	**+1.0**
OTVZ	**Oturere**	**0.49**	**127**	P	**Pn**		**11 37 36.3**	**+1.2**
OTVZ				S	**S**		**11 37 58.7**	**-1.0**
FWVZ	**Far West T-bar**	**0.49**	**142**	P	**Pn**		**11 37 36.4**	**+1.1**
ETVZ	**East Tongariro**	**0.51**	**122**	P	**Pn**		**11 37 36.2**	**+1.0**
ETVZ				S	**S**		**11 37 57.5**	**-2.2**
MAVZ	**Matarangi**	**0.51**	**142**	P	**Pn**		**11 37 36.6**	**+1.1**
TRVZ	**Turoa**	**0.53**	**145**	P	**Pn**		**11 37 36.6**	**+1.2**
WHVZ	**Whangaehu Hut**	**0.53**	**142**	P	**Pn**		**11 37 36.6**	**+1.2**
WHVZ				S	**S**		**11 37 58.4**	**-1.7**
RITZ	**Rihia Road**	**0.56**	**102**	P	**Pn**		**11 37 36.4**	**+1.1**
TUVZ	**Tukino**	**0.56**	**136**	P	**Pn**		**11 37 36.6**	**+1.3**
MTVZ	**Mangateitei**	**0.57**	**155**	P	**Pn**		**11 37 36.6**	**+1.3**
MTVZ				S	**S**		**11 37 58.5**	**-1.5**
WNVZ	**Wahianoa**	**0.57**	**144**	P	**Pn**		**11 37 36.6**	**+1.1**
WNVZ				S	**S**		**11 37 58.4**	**-1.8**
TLZ	**Tolley Road**	**0.61**	**29**	P	**Pn**		**11 37 36.0**	**+0.5**
KUTZ	**Kaahu Road**	**0.64**	**54**	P	**Pn**		**11 37 36.3**	**+0.7**
MHEZ	**Mangahewa**	**0.69**	**252**	P	**Pn**		**11 37 37.4**	**+1.7**
MOVZ	**Moawhango**	**0.71**	**140**	P	**Pn**		**11 37 36.8**	**+0.9**
DREZ	**Durham Road**	**0.81**	**246**	P	**Pn**		**11 37 37.9**	**+1.6**
LREZ	**Lake Rotokare**	**0.84**	**225**	P	**Pn**		**11 37 38.2**	**+1.8**
WAZ	**Wanganui**	**0.90**	**189**	P	Pn		11 37 44.0	+7.2
PREZ	**Palmer Road**	**0.91**	**238**	P	**Pn**		**11 37 38.7**	**+1.8**
NEZ	**North Egmont**	**0.92**	**244**	P	**Pn**		**11 37 38.7**	**+1.8**
PKE	**Pukeiti**	**0.97**	**250**	P	**Pn**		**11 37 39.0**	**+1.8**
ALRZ	**Allen Road**	**0.97**	**72**	P	**Pn**		**11 37 37.5**	**+0.3**
MRHZ	**Matea Rd**	**0.98**	**89**	P	**Pn**		**11 37 37.5**	**+0.2**
KHEZ	**Kahui Hut**	**0.99**	**244**	P	**Pn**		**11 37 39.0**	**+1.7**
KHEZ	**Kahui Hut**	**0.99**	**244**	P	**Pn**		**11 37 38.9**	**+1.6**
HSRZ	**Hossack Road**	**1.01**	**57**	P	**Pn**		**11 37 41.4**	**+3.9**
BKZ	**Black Stump Fm**	**1.08**	**107**	P	**Pn**		**11 37 38.6**	**+0.8**
BKZ	**Black Stump Fm**	**1.08**	**107**	P	**Pn**		**11 37 38.3**	**+0.5**
NBEZ	**Newall Road No**	**1.08**	**248**	P	**Pn**		**11 37 39.7**	**+1.9**
KWHZ	**Kaweka Forest**	**1.13**	**120**	P	**Pn**		**11 37 39.5**	**+1.3**
TOZ	**Tahuroa Road**	**1.16**	**13**	P	**Pn**		**11 37 38.9**	**+0.5**
KRHZ	**Kereru**	**1.22**	**130**	P	**Pn**		**11 37 40.1**	**+1.4**
NMHZ	**Naumai**	**1.30**	**101**	P	**Pn**		**11 37 41.1**	**+1.7**
MTHZ	**Maungataniwha**	**1.31**	**90**	P	**Pn**		**11 37 40.0**	**+0.6**
MUGZ	**Murupara**	**1.32**	**73**	P	**Pn**		**11 37 37.3**	**-2.1**
MCHZ	**McNeill Hill**	**1.33**	**116**	P	**Pn**		**11 37 41.3**	**+1.9**
TSZ	**Takapari Road**	**1.34**	**153**	P	**Pn**		**11 37 41.2**	**+1.7**
OHWZ	**Ohakea**	**1.34**	**175**	P	**Pn**		**11 37 41.8**	**+2.3**
RTZ	**Ruatahuna**	**1.44**	**81**	P	**Pn**		**11 37 40.6**	**+0.2**
ARHZ	**Aropaoanui**	**1.48**	**106**	P	**Pn**		**11 37 42.1**	**+1.5**
RAHZ	**Arahi**	**1.50**	**93**	P	**Pn**		**11 37 41.9**	**+1.1**
WPHZ	**Waipukurau**	**1.55**	**141**	P	**Pn**		**11 37 42.9**	**+1.7**
POWZ	**Post Office Ro**	**1.59**	**163**	P	**Pn**		**11 37 43.1**	**+1.6**
KAHZ	**Kahuranaki**	**1.62**	**125**	P	**Pn**		**11 37 43.6**	**+1.8**
DVHZ	**Dannevirke**	**1.63**	**152**	P	**Pn**		**11 37 43.3**	**+1.5**
WHHZ	**Waihua**	**1.63**	**98**	P	**Pn**		**11 37 43.0**	**+1.2**
URZ	**Urewera**	**1.64**	**69**	P	**Pn**		**11 37 41.6**	**-0.4**
URZ	**Urewera**	**1.64**	**69**	P	**Pn**		**11 37 41.3**	**-0.6**
CKHZ	**Cape Kidnapper**	**1.69**	**119**	P	**Pn**		**11 37 44.0**	**+1.7**
SNGZ	**Shannon Statio**	**1.70**	**88**	P	**Pn**		**11 37 43.3**	**+0.8**
MKAZ	**Moumakai**	**1.76**	**0**	P	**Pn**		**11 37 43.5**	**+0.5**
PXZ	**Pawanui**	**1.76**	**132**	P	**Pn**		**11 37 44.3**	**+1.5**
PRWZ	**Pori Road**	**1.80**	**160**	P	**Pn**		**11 37 45.0**	**+1.8**
RAGZ	**Rawiri**	**1.80**	**79**	P	**Pn**		**11 37 43.8**	**+0.3**
PRHZ	**Porangahau**	**1.81**	**141**	P	**Pn**		**11 37 44.9**	**+1.6**
MRZ	**Mangatainoka R**	**1.82**	**170**	P	**Pn**		**11 37 45.0**	**+1.5**
AWAZ	**Awhitu Peninsu**	**1.84**	**347**	P	**Pn**		**11 37 44.5**	**+0.8**
ANWZ	**Angora Road**	**1.89**	**148**	P	**Pn**		**11 37 45.8**	**+1.8**
ETAZ	**East Tamaki Re**	**1.92**	**354**	P	**Pn**		**11 37 45.1**	**+0.6**
MWZ	**Matawai**	**1.93**	**75**	P	**Pn**		**11 37 44.5**	**0.0**
OGWZ	**Otaki Gorge**	**1.95**	**180**	P	**Pn**		**11 37 46.5**	**+1.9**
KNZ	**Kokohu**	**1.97**	**95**	P	**Pn**		**11 37 45.6**	**+0.9**
WTAZ	**Waiatarua**	**1.98**	**346**	P	**Pn**		**11 37 46.1**	**+1.1**
TIWZ	**Tintock**	**1.99**	**164**	P	**Pn**		**11 37 46.5**	**+1.5**
BFZ	**Birch Farm**	**2.00**	**156**	P	**Pn**		**11 37 46.5**	**+1.4**
BFZ	**Birch Farm**	**2.00**	**156**	P	**Pn**		**11 37 46.3**	**+1.2**
KIW	**Kapiti Island**	**2.00**	**185**	P	**Pn**		**11 37 46.6**	**+1.5**
RIGZ	**Rimuhau**	**2.04**	**86**	P	**Pn**		**11 37 46.2**	**+0.7**
HOWZ	**Holdsworth Sta**	**2.05**	**172**	P	**Pn**		**11 37 46.9**	**+1.4**
WIAZ	**Waiheke Island**	**2.07**	**359**	P	**Pn**		**11 37 46.3**	**+0.5**
MBAZ	**Motutapu North**	**2.10**	**354**	P	**Pn**		**11 37 46.9**	**+0.7**
PRGZ	**Paritu Road**	**2.12**	**92**	P	**Pn**		**11 37 47.2**	**+0.8**
TKGZ	**Te Karaka**	**2.15**	**79**	P	**Pn**		**11 37 47.2**	**+0.7**
DUWZ	**D'Urville Isla**	**2.16**	**206**	P	**Pn**		**11 37 48.1**	**+1.5**
MHGZ	**Mahia Peninsul**	**2.16**	**99**	P	**Pn**		**11 37 47.7**	**+1.1**
KUZ	**Kuaotunu**	**2.16**	**12**	P	**Pn**		**11 37 47.0**	**+0.2**
KUZ	**Kuaotunu**	**2.16**	**12**	P	**Pn**		**11 37 46.7**	**0.0**
CAW	**Cannon Point**	**2.24**	**182**	P	**Pn**		**11 37 49.0**	**+1.6**
ABAZ	**Army Bay**	**2.28**	**353**	P	**Pn**		**11 37 47.8**	**0.0**
MTW	**Mount Morrison**	**2.31**	**174**	P	**Pn**		**11 37 49.2**	**+1.2**
TMWZ	**Te Maipa**	**2.31**	**166**	P	**Pn**		**11 37 49.4**	**+1.3**
TWGZ	**Tauwhareparae**	**2.32**	**74**	P	**Pn**		**11 37 49.7**	**+1.4**
HAZ	**Te Kaha**	**2.34**	**63**	P	**Pn**		**11 37 47.6**	**-0.8**
CNGZ	**Carnagh Statio**	**2.42**	**82**	P	**Pn**		**11 37 50.2**	**+1.0**
WEL	**Wellington**	**2.44**	**187**	P	**Pn**		**11 37 50.8**	**+1.5**
TCW	**Tory Channel**	**2.44**	**196**	P	**Pn**		**11 37 51.2**	**+1.8**
SNZO	**South Karori**	**2.47**	**188**	P	**Pn**		**11 37 50.9**	**+1.2**
PKGZ	**Pakihiroa**	**2.50**	**67**	P	**Pn**		**11 37 50.0**	**-0.1**
PAWZ	**Paruwai Farm**	**2.52**	**175**	P	**Pn**		**11 37 51.5**	**+1.2**
MSWZ	**Moikau Station**	**2.55**	**179**	P	**Pn**		**11 37 51.8**	**+1.2**
BHW	**Baring Head**	**2.55**	**185**	P	**Pn**		**11 37 51.8**	**+1.3**
PUZ	**Puketiti**	**2.56**	**73**	P	**Pn**		**11 37 50.6**	**-0.2**
TRWZ	**Traveller**	**2.56**	**171**	P	**Pn**		**11 37 52.1**	**+1.4**
GRZ	**Great Barrier**	**2.62**	**5**	P	**Pn**		**11 37 52.0**	**+0.6**
PLWZ	**Palliser**	**2.70**	**179**	P	**Pn**		**11 37 53.4**	**+1.1**
NNZ	**Nelson**	**2.72**	**210**	P	**Pn**		**11 37 53.6**	**+1.2**
TUWZ	**Tuamarina**	**2.73**	**200**	P	**Pn**		**11 37 54.6**	**+2.2**
TKNZ	**Takaka Hill**	**2.75**	**217**	P	**Pn**		**11 37 53.4**	**+0.7**
WMGZ	**Waiomatatini S**	**2.76**	**69**	P	**Pn**		**11 37 52.7**	**-0.2**
MXZ	**Matakaoa Point**	**2.80**	**63**	P	**Pn**		**11 37 53.7**	**+0.4**
MXZ	**Matakaoa Point**	**2.80**	**63**	P	**Pn**		**11 37 54.0**	**+0.7**
QRZ	**Quartz Range**	**2.82**	**225**	P	**Pn**		**11 37 54.1**	**+0.6**
QRZ	**Quartz Range**	**2.82**	**225**	P	**Pn**		**11 37 53.8**	**+0.4**
CMWZ	**Cape Campbell**	**2.97**	**194**	P	**Pn**		**11 37 57.2**	**+2.1**
WCZ	**Waipu Caves**	**2.99**	**347**	P	**Pn**		**11 37 56.4**	**+1.0**
BSWZ	**Blackbirch Sta**	**3.01**	**199**	P	**Pn**		**11 37 57.4**	**+1.8**
MRNZ	**Matariki Terra**	**3.13**	**215**	P	**Pn**		**11 37 57.6**	**+0.7**
THZ	**Tophouse**	**3.37**	**210**	P	**Pn**		**11 38 00.6**	**+1.0**
KHZ	**Kahutara**	**3.76**	**199**	P	**Pn**		**11 38 05.6**	**+1.6**
KHZ	**Kahutara**	**3.76**	**199**	P	**Pn**		**11 38 05.4**	**+1.3**
OUZ	**Omahuta**	**3.85**	**341**	P	**Pn**		**11 38 06.7**	**+1.3**
OUZ	**Omahuta**	**3.85**	**341**	P	**Pn**		**11 38 06.6**	**+1.3**
DSZ	**Denniston Nort**	**3.85**	**221**	P	**Pn**		**11 38 05.7**	**+0.4**
GVZ	**Greta Valley S**	**4.40**	**201**	P	**Pn**		**11 38 12.8**	**+1.0**
LTZ	**Lake Taylor**	**4.49**	**208**	P	**Pn**		**11 38 13.5**	**+0.6**
AMCZ	**Amberley**	**4.71**	**203**	P	**Pn**		**11 38 16.4**	**+0.9**
INZ	**Inchbonnie**	**4.78**	**215**	P	**Pn**		**11 38 16.6**	**+0.2**
OXZ	**Oxford**	**5.04**	**207**	P	**Pn**		**11 38 19.8**	**0.0**
OKCZ	**Okains Bay**	**5.11**	**197**	P	**Pn**		**11 38 21.4**	**+0.9**
MQZ	**McQueen's Vall**	**5.19**	**201**	P	**Pn**		**11 38 21.5**	**-0.1**
AKCZ	**Akaroa Harbour**	**5.28**	**198**	P	**Pn**		**11 38 23.2**	**+0.5**
RACZ	**Rakaia**	**5.36**	**204**	P	**Pn**		**11 38 24.1**	**+0.4**
MHCZ	**Mount Hutt**	**5.39**	**209**	P	**Pn**		**11 38 24.4**	**+0.2**
WACZ	**Wakanui South**	**5.65**	**205**	P	**Pn**		**11 38 27.9**	**+0.6**
RPZ	**Rata Peaks**	**5.75**	**211**	P	**Pn**		**11 38 28.9**	**+0.4**
RPZ	**Rata Peaks**	**5.75**	**211**	P	**Pn**		**11 38 29.2**	**+0.7**
GCSZ	**Gaunt Creek Bo**	**5.75**	**218**	P	**Pn**		**11 38 29.1**	**+0.5**
ARCZ	**Arundel**	**5.89**	**209**	P	**Pn**		**11 38 30.

AOPR	**Arecibo Observ**	**1.94 258**			**Pn**	**11 41 33.0**	**+0.5**
AOPR					**Sn**	**11 41 55.9**	**-0.3**
AOPR	**Arecibo Observ**	**1.94 258**	*e*Pg		**Pn**	**11 41 32.0**	**-0.6**
AOPR			*e*Sg		**Sn**	**11 41 55.7**	**-0.5**
AOPR			IAML			11 42 03.6	
	comp=N,177nm,0.2s						
AOPR	**Arecibo Observ**	**1.94 258**	*e*P		**Pn**	**11 41 32.6**	**+0.1**
AOPR			*e*S		**Sn**	**11 41 55.3**	**-0.9**
GBPR	**Guanica, Bosqu**	**2.17 249**			**Pn**	**11 41 36.4**	**+0.8**
GBPR					**Sn**	**11 42 02.2**	**+0.5**
AGPR	**Aguadilla, PR**	**2.25 262**			**Pn**	**11 41 37.3**	**+0.5**
AGPR					**Sn**	**11 42 03.6**	**-0.2**
AGPR	**Aguadilla, PR**	**2.25 262**	IAML			11 42 08.7	
	comp=N,74nm,0.6s						
AGPR			IAML			11 42 08.7	
	comp=E,62nm,0.3s						
AGPR	**Aguadilla, PR**	**2.25 262**	*e*Pg		**Pn**	**11 41 36.4**	**-0.4**
AGPR			⇓*e*Sg		**Sn**	**11 42 03.4**	**-0.5**
AGPR			IAML			11 42 08.6	
	comp=N,75nm,0.5s						
MLPR	**Magueyes Islan**	**2.32 250**			**Pn**	**11 41 38.0**	**+0.3**
MLPR					**Sn**	**11 42 05.6**	**+0.3**
MLPR	**Magueyes Islan**	**2.32 250**	⇓*e*Pg		**Pn**	**11 41 38.4**	**+0.7**
MLPR			⇑*e*Sg		**Sn**	**11 42 06.7**	**+1.4**
MLPR			IAML			11 42 10.1	
	comp=N,33nm,0.4s						
CRPR	**Cabo Rojo, PR**	**2.36 251**			**Pn**	**11 41 38.7**	**+0.4**
CRPR					**Sn**	**11 42 06.7**	**+0.3**
CRPR	**Cabo Rojo, PR**	**2.36 251**	*e*Pg		**Pn**	**11 41 38.6**	**+0.3**
CRPR			⇑*e*Sg		**Sn**	**11 42 07.2**	**+0.7**
CRPR			IAML			11 42 14.9	
	comp=N,29nm,0.6s						
IDE	**Isla Desecheo**	**2.61 262**			**Pn**	**11 41 41.2**	**-0.4**
IDE					**Sn**	**11 42 11.6**	**-0.9**
ANWB	**Willy Bob**	**3.03 111**	*e*P		Pn	11 41 42.6	-4.9
ANWB			*e*S		**Sn**	**11 42 23.8**	**+0.7**
MBFL	**Flemmings, Mon**	**3.16 129**	*e*P		**Pn**	**11 41 49.3**	**+0.1**
MBWH		**3.17 129**	*e*P		**Pn**	**11 41 50.9**	**+1.4**
MBWH			*e*S		Sn	11 42 17.2	-9.4
ANBD	**Bethesda, Anti**	**3.33 121**	*e*P		Pn	11 41 47.8	-3.7
ANBD			*e*S		**Sn**	**11 42 26.4**	**-4.0**

IDC 29 11:44:54.3±3.9, 18°.72S×174°.52W, h0^km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=181.8km s-min=35.9km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.12 260**		P	P	11 53 36.1	-0.3
	0.4nm,0.3s,baz=97,slow=7.5,SNR=24						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**48.13 255**		P	P	11 53 36.8	+0.2
	0.4nm,0.7s,baz=90,slow=8.3,SNR=16						
ASAR				PcP	PcP	11 55 03.5	-0.7
	0.1nm,0.4s,baz=107,slow=4.4,SNR=4.5						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**85.90 11**		P	P	11 57 35.8	+0.1
	0.4nm,0.5s,baz=225,slow=6.2,SNR=8.7						
	0.4nm,0.5s						

*IDC **29** 11:47:56.7±2.1, 36°.04N×141°.65E, h0^km, mb3.4/5, mbtmp3.4/6, ML2.5/1, Error ellipse: s-maj=57.3km s-min=24.4km az=53.0*

*JMA **29** 11:47:57.8±0.2, 36°.5N±0°.5×14°2E±°, h55^km, MV3.2/38, FAR E OFF IBARAKI PREF*

ISC 29 11:48:00.4±1.2, 36°.47N±0°.05×141°.80E±0°.09, h35^km, n20, σ2°.06/25, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.99 263**		P	**Pn**	**11 48 15.7**	**-2.1**
JHYU				S	**Sn**	**11 48 29.3**	**-1.1**
JHO	**Hitachi**	**1.00 279**		P	**Pn**	**11 48 15.4**	**-2.6**
JHO				S	**Sn**	**11 48 28.9**	**-1.9**
ONAJ	**Iwakimizuishiy**	**1.02 309**		P	**Pn**	**11 48 16.2**	**-2.1**
ONAJ				S	**Sn**	**11 48 29.4**	**-2.1**
JIHU	**Itakohorinouch**	**1.15 244**		P	**Pn**	**11 48 18.2**	**-1.7**
JFK	**Kawauchi**	**1.16 321**		P	**Pn**	**11 48 18.1**	**-2.2**
JFK				*e*S	**Sn**	**11 48 33.0**	**-2.0**
JOTO	**OTAMA OYAMA**	**1.60 313**		P	**Pn**	**11 48 25.5**	**-0.7**
JMM	**Marumori**	**1.61 330**		P	**Pn**	**11 48 24.1**	**-2.3**
JAG	**Ashikaga**	**1.89 269**		P	**Pn**	**11 48 28.6**	**-1.6**
JFY	**Yanaizu**	**1.92 300**		P	**Pn**	**11 48 30.1**	**-0.6**
BSO1	**Boso 1**	**1.93 201**		P	**Pn**	**11 48 28.4**	**-1.9**
BSO3	**Boso 3**	**1.97 213**		P	**Pn**	**11 48 29.5**	**-1.5**
JRY	**Ryogami san**	**2.38 260**		P	**Pn**	**11 48 35.5**	**-1.6**
JOD2	**Odawara 2**	**2.51 242**		P	**Pn**	**11 48 37.7**	**-1.0**
JMK	**Ichinoseki**	**2.52 350**		*e*P	**Pn**	**11 48 37.0**	**-1.9**
MJAR	**Matsushiro Arr**	**2.89 273**		Pn	**Pn**	**11 48 42.4**	**-1.7**
	0.8nm,0.3s,baz=96,slow=8.9,SNR=59						
MJAR				Sn	**Sn**	**11 49 18.9**	**+1.3**
	0.4nm,0.3s,baz=94,slow=14,SNR=4.8						
	11nm,0.6s						
SONM	**Songino Array**	**28.36 305**		P	**P**	**11 53 54.8**	**+3.6**
	0.4nm,0.8s,baz=89,slow=10,SNR=2.2						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**44.68 303**		P	**P**	**11 56 10.9**	**+1.1**
	0.1nm,0.5s,baz=85,slow=8.8,SNR=1.6						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**46.59 308**		P	**P**	**11 56 28.1**	**+3.3**
	0.2nm,0.3s,baz=84,slow=7.6,SNR=1.8						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**56.55 188**		P	**P**	**11 57 37.9**	**-1.5**
	0.3nm,0.7s,baz=2.3,slow=7.2,SNR=2.2						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**60.27 188**		P	**P**	**11 58 03.6**	**-1.8**
	0.5nm,1.0s,baz=6.9,slow=7.6,SNR=3.0						
	0.5nm,1.0s						

*IDC **29** 12:15:48.2±0.6, 41°.33N×143°.22E, h0^km, mb4.0/16, mbtmp3.9/20, ML3.2/4, MS3.3/5, Error ellipse: s-maj=16.3km s-min=15.0km az=93.0*

*JMA **29** 12:15:51.0±0.3, 41°.3N±0°.7×143°.2E±0°.9, h17^km±3^km, MD4.1/33, MV4.1/33, E OFF AOMORI PREF*

*NIED **29** 12:15:51.0, 41°.32N×143°.20E, h17^km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; M_{rr}0.92; $M_{\theta\theta}$-0.98; $M_{\phi\phi}$0.06; $M_{r\theta}$-0.47; $M_{\theta\phi}$-0.50; $M_{\phi r}$-0.57; Fault plane solution: $M_0$1.29000×10^15 NP1: ϕ_s230.00000°, δ64.00000°, λ70.00000°. NP2:ϕ_s89.00000°, δ33.00000°, λ124.00000°.*

*NEIC **29** 12:15:50.5±1.5, 41°.30N±0°.04×143°.29E±0°.09, h10^km±1^km, mb4.3/14 Error ellipse: s-maj=11.1km s-min=7.0km az=105.0*

ISC 29 12:15:49.8±0.6, 41°.29N±0°.04×143°.31E±0°.06, h10^km, n79, σ1°17/72, mb4.2/26, 8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.73 351**		Pg	**Pg**	**12 16 04.0**	**0.0**
JEM	**Erimo**	**0.73 351**		⇓P	**Pg**	**12 16 04.2**	**+0.1**
JEM				⇓*e*S	**Sb**	**12 16 13.9**	**-0.9**
JEM	**Erimo**	**0.73 351**		A	A	12 16 04.2	
	comp=E,7.0nm,0.6s,comp=N,5.0nm,0.8s						
JTHR	**Tokachihiroo**	**1.00 360**		⇓P	**Pg**	**12 16 08.9**	**-0.2**
JTHR				⇓*e*S	**Sg**	**12 16 21.6**	**-0.6**
JTHR	**Tokachihiroo**	**1.00 360**		A	A	12 16 08.9	
	comp=E,13nm,0.8s,comp=N,14nm,1.4s						
JNBK	**Urakawa-nobuka**	**1.07 338**		⇓P	**Pg**	**12 16 10.0**	**-0.5**
JNBK				⇓*e*S	**Sb**	**12 16 24.2**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.07 338**		A	A	12 16 10.0	
	comp=E,11nm,0.4s,comp=N,14nm,1.3s						
JSHD	**Hidakashinhida**	**1.28 331**		P	**Pn**	**12 16 13.5**	**-0.4**
JSHD	**Hidakashinhida**	**1.28 331**		A	A	12 16 13.5	
	comp=E,13nm,1.2s,comp=N,11nm,1.1s						
JCH	**Churui**	**1.33 2**		⇓P	**Pb**	**12 16 14.6**	**-0.2**
JCH	**Churui**	**1.33 2**		A	A	12 16 14.6	
	comp=E,5.0nm,2.7s,comp=N,6.0nm,0.9s						
JARK	**Aomorirokkasho**	**1.49 260**		*e*P	**Pn**	**12 16 16.1**	**-0.6**
JANG	**Nango**	**1.64 237**		*e*P	**Pn**	**12 16 18.5**	**-0.2**
JBT2	**Biratori 2**	**1.65 335**		*e*P	**Pn**	**12 16 19.1**	**+0.3**
JOB	**Onbets**	**1.66 14**		*e*P	**Pn**	**12 16 19.4**	**+0.4**
JOB	**Onbets**	**1.66 14**		A	A	12 16 19.4	
	comp=E,6.0nm,1.6s,comp=N,7.0nm,2.8s						
JIAM	**Iburiatsuma**	**1.69 323**		*e*P	**Pg**	**12 16 21.4**	**-0.7**
JOT	**Ohata**	**1.70 274**		*e*P	**Pn**	**12 16 19.4**	**-0.2**
JTM	**Tenmabayashi**	**1.77 254**		P	**Pn**	**12 16 20.9**	**+0.5**
JTM	**Tenmabayashi**	**1.77 254**		*e*P	**Pn**	**12 16 20.8**	**+0.4**
JKB	**Kayabe**	**1.81 290**		⇓*e*P	**Pn**	**12 16 21.4**	**+0.4**
JFR	**Furan**	**1.95 344**		*e*P	**Pn**	**12 16 23.2**	**+0.2**
JKA	**Kamikawa-asahi**	**2.87 350**			**Pn**	**12 16 37.8**	**+2.1**
ASAJ	**Asahikawa**	**2.87 350**		Pn	**Pn**	**12 16 35.1**	**-0.6**
	comp=N,14nm,0.3s,baz=211,slow=9.2,SNR=62						
ASAJ				Sn	**Sn**	**12 17 10.9**	**+0.6**
	comp=N,9.0nm,0.3s,baz=158,slow=19,SNR=4.2						
	comp=N,15nm,0.3s						
JMM	**Marumori**	**3.93 210**			**Pn**	**12 16 47.1**	**-3.1**
JSD	**Sado**	**5.07 232**		Pn	**Pn**	**12 17 06.0**	**+0.1**
YSS	**Yuzh-Sakhalins**	**5.68 356**		Pn	**Pn**	**12 17 15.9**	**+1.7**
MJB9	**Matsu-Tunnel**	**6.18 222**		Pn	**Pn**	**12 17 21.6**	**+0.4**
MAJO	**Matsushiro**	**6.18 222**		Pn	**Pn**	**12 17 20.6**	**-0.6**
MJAR	**Matsushiro Arr**	**6.18 222**		Pn	**Pn**	**12 17 21.9**	**+0.7**
	comp=N,0.1nm,0.3s,baz=30,slow=13,SNR=11						
	comp=N,5.4nm,0.6s						
JGF	**Kuroka**	**7.35 221**		Pn	**Pn**	**12 17 38.0**	**+0.7**
USRK	**Ussuriysk Ar.**	**8.82 293**		Pn	**Pn**	**12 17 55.9**	**-1.5**
	comp=N,0.1nm,0.3s,baz=91,slow=12,SNR=2.1						
	comp=N,1.6nm,0.6s						
KLR	**Kul'dur**	**11.36 318**		Pn	**Pn**	**12 18 32.1**	**-0.1**
	comp=N,0.1nm,0.3s,baz=128,slow=9.6,SNR=1.5						
KLR				LR	LR	12 23 40.8	
	comp=N,88nm,19.0s,baz=265,slow=42						
	comp=N,0.6nm,0.5s						
KSRS	**Korea Array**	**12.50 257**		Pn	**Pn**	**12 18 51.5**	**+3.8**
	comp=N,0.1nm,0.3s,baz=65,slow=13,SNR=4.9						
KSRS				LR	LR	12 23 21.7	
	comp=N,78nm,18.5s,baz=50,slow=36						
JNU	**Nakatsue**	**12.82 234**		LR	LR	12 23 55.7	
	comp=N,104nm,19.5s,baz=358,slow=38						
PETK	**Petropavlovsk-**	**15.31 35**		Pn	**Pn**	**12 19 22.4**	**-3.4**
	comp=N,0.2nm,0.3s,baz=219,slow=6.9,SNR=5.7						
SONM	**Songino Array**	**26.91 297**		P	**P**	**12 21 30.1**	**-1.0**
	comp=N,2.0nm,0.7s,baz=84,slow=8.0,SNR=8.1						
	comp=N,2.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**29.41 130**		T	T	12 53 16.5	
	baz=323,slow=75,SNR=215						
H11N1	**WAKE ISLAND Hy**	**29.42 130**		T	T	12 53 13.4	
	baz=323,slow=75,SNR=152						
H11N3	**WAKE ISLAND Hy**	**29.42 130**		T	T	12 53 15.8	
	baz=323,slow=75,SNR=164						
H11S1	**WAKE ISLAND Hy**	**30.26 132**		T	T	12 54 09.1	
	baz=325,slow=76,SNR=92						
H11S3	**WAKE ISLAND Hy**	**30.27 132**		T	T	12 54 17.2	
	baz=325,slow=76,SNR=60						
H11S2	**WAKE ISLAND Hy**	**30.28 132**		T	T	12 54 10.6	
	baz=325,slow=76,SNR=76						
TIXI	**Tiksi**	**31.28 351**		P	**P**	**12 22 08.0**	**-1.4**
NRIK	**Noril'sk**	**40.09 333**		P	**P**	**12 23 26.9**	**+1.9**
	comp=N,1.1nm,0.3s,baz=95,slow=3.1,SNR=2.1						
ZAA0	**Zalesovo Array**	**40.27 309**		P	**P**	**12 23 26.9**	**+0.2**
ZAA0				IAmb	IAmb	12 23 35.4	
	comp=Z,4.7nm,0.8s						
ZALV	**Zalesovo Beam**	**40.27 309**		P	**P**	**12 23 26.7**	**0.0**
ZALV	**Zalesovo Beam**	**40.27 309**		P	**P**	**12 23 26.2**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=90,slow=7.8,SNR=8.6						
ZALV				PcP	**PcP**	**12 25 30.0**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=113,slow=3.3,SNR=2.6						
	comp=Z,1.8nm,0.5s						
H18K	**Honhosa River**	**40.27 34**		P	**P**	**12 23 27.7**	**+1.0**
L18K	**Granite Mounta**	**40.78 38**		P	**P**	**12 23 31.5**	**+0.7**
L18K				IAmb	IAmb	12 23 41.2	
	comp=Z,7.2nm,1.3s						
E19K	**Redstone River**	**41.05 30**		P	**P**	**12 23 33.1**	**+0.1**
E19K				IAmb	IAmb	12 23 55.3	
	comp=Z,6.1nm,1.2s						
IMAR	**Indian Mountai**	**42.26 33**		P	**P**	**12 23 43.9**	**+0.9**
G21K	**Allakaket**	**42.40 32**		P	**P**	**12 23 44.4**	**+0.4**
G21K				IAmb	IAmb	12 24 07.3	
	comp=Z,7.0nm,1.2s						
MK31	**Makanchi Array**	**43.24 299**		P	**P**	**12 23 51.3**	**+0.2**
MK31				IAmb	IAmb	12 24 00.1	
	comp=Z,3.3nm,0.7s						
MKAR	**Makanchi Array**	**43.24 299**		P	**P**	**12 23 50.9**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=87,slow=8.7,SNR=3.8						
	comp=Z,0.5nm,0.6s						
MAKZ	**Makanchi**	**43.44 299**		P	**P**	**12 23 53.7**	**+0.9**
MAKZ				IAmb	IAmb	12 24 02.3	
	comp=Z,6.5nm,1.1s						
MLY	**Manley**	**43.49 34**		P	**P**	**12 23 52.3**	**-0.7**
TOLK	**Toolik Lake Re**	**44.03 29**		P	**P**	**12 23 57.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**44.09 253**		P	**P**	**12 23 58.3**	**0.0**
	comp=Z,0.3nm,0.3s,baz=38,slow=6.0,SNR=1.8						
CMAR				LR	LR	12 43 09.4	
	comp=Z,21nm,18.2s,baz=295,slow=37						
	comp=Z,0.3nm,0.3s						
KURK	**Kurchatov**	**44.58 305**		P	**P**	**12 24 00.8**	**-1.0**
KURK				IAmb	IAmb	12 24 26.1	
	comp=Z,3.9nm,0.8s						
KURBB	**Kurchatov Arra**	**44.66 305**		P	**P**	**12 24 01.4**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=76,slow=8.7,SNR=10						
	comp=Z,1.0nm,0.3s						
DHY	**Denali Highway**	**45.05 37**		P	**P**	**12 24 05.5**	**-0.1**
IL31		**45.14 35**		P	**P**	**12 24 06.1**	**+0.1**
IL31				IAmb	IAmb	12 24 27.6	
	comp=Z,5.1nm,1.1s						
ILAR	**Eielson Array**	**45.14 35**		P	**P**	**12 24 06.9**	**+0.8**
ILAR	**Eielson Array**	**45.14 35**		P	**P**	**12 24 05.8**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=269,slow=5.4,SNR=21						
	comp=Z,1.7nm,0.8s						
BMAR	**Burnt Mountain**	**45.91 31**		P	**P**	**12 24 12.8**	**+0.5**
BCAR	**Beaver Creek A**	**47.58 37**		P	**P**	**12 24 26.4**	**+1.1**
BVAR	**Borovoye Array**	**48.88 310**		P	**P**	**12 24 34.2**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=71,slow=9.6,SNR=6.4						
BVAR				PcP	**PcP**	**12 26 00.7**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=62,slow=3.4,SNR=1.7						
	comp=Z,0.8nm,0.4s						
YKA	**Yellowknife Ar**	**59.41 32**		P	**P**	**12 25 51.5**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=302,slow=7.1,SNR=3.5						
	comp=Z,0.6nm,0.7s						
WRA	**Warramunga Arr**	**61.48 190**		P	**P**	**12 26 06.3**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=6.7,slow=6.8,SNR=36						
	comp=Z,1.3nm,0.5s						
ASAR	**Alice Springs**	**65.21 189**		P	**P**	**12 26 31.6**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=9.6,slow=5.7,SNR=12						
	comp=Z,1.3nm,0.7s						
FINES	**FINESS Array B**	**65.74 332**		P	**P**	**12 26 33.0**	**-1.4**
	comp=Z,2.1nm,0.6s,baz=40,slow=6.2,SNR=7.0						
	comp=Z,2.1nm,0.6s						
KBZ	**Khabaz**	**69.26 310**		P	**P**	**12 27 01.2**	**+4.3**
	comp=Z,1.8nm,0.9s,baz=39,slow=15,SNR=1.8						
HFS	**Hagfors**	**70.81 336**		P	**P**	**12 27 05.6**	**-0.6**
	comp=Z,6.7nm,1.1s,baz=72,slow=6.4,SNR=6.3						
HFS				LR	LR	13 00 19.2	
	comp=Z,169nm,18.2s,baz=264,slow=38						
	comp=Z,6.7nm,1.1s						
NVAR	**Mina Array Bea**	**71.31 55**		P	**P**	**12 27 10.7**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=285,slow=0.8,SNR=3.6						
	comp=Z,0.3nm,0.3s						
AKASG	**Malin Array Be**	**71.83 322**		P	**P**	**12 27 11.8**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=42,slow=6.7,SNR=4.3						
	comp=Z,0.3nm,0.4s						
PDAR	**Pinedale Array**	**73.67 47**		P	**P**	**12 27 24.8**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=267,slow=1.6,SNR=10						
	comp=Z,0.9nm,0.6s						
TXAR	**Lajitas Array**	**86.39 54**		P	**P**	**12 28 33.2**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=283,slow=3.3,SNR=15						
	comp=Z,1.2nm,0.8s						
PLCA	**Paso Flores**	**154.53 100**		PKPbc	**PKPbc**	**12 35 49.0**	**-1.5**
	comp=Z,2.1nm,1.0s,baz=341,slow=2.6,SNR=3.0						

*IDC **29** 12:23:54.3±1.1, 5°.52N×33°.06W, h0^km, mb3.9/7, mbtmp4.0/8, ML4.6/1, MS3.7/26, Error ellipse: s-maj=39.8km s-min=21.4km az=154.0*

ISC 29 12:23:56.1±1.1, 5°.5N±0°.3×33°.1W±0°.2, h12^km, n36, σ1°31/8, mb3.9/7, MS3.8/23, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**11.62 194**		Pn	Pn	12 26 47.4	+5.4
	0.2nm,0.3s,baz=12,slow=20,SNR=1.2						
RCBR				LR	LR	12 30 25.7	
	comp=Z,86nm,19.3s,baz=74,slow=34						
BBTS	**Babate**	**18.61 60**		P	**P**	**12 28 13.6**	**0.0**
	1.9nm,0.3s,baz=277,slow=8.1,SNR=4.0						
BBTS				LR	LR	12 33 46.8	
	comp=Z,187nm,20.8s,baz=150,slow=32						
	25nm,0.8s						
MDP	**Montagnes des**	**19.51 270**		LR	LR	12 33 47.9	
	comp=Z,83nm,21.2s,baz=80,slow=30						
H10N3	**ASCENSION HYDR**	**22.77 125**		T	T	12 53 40.5	
	baz=306,slow=75,SNR=19						
H10N2	**ASCENSION HYDR**	**22.77 125**		T	T	12 53 40.5	
	baz=306,slow=75,SNR=21						
H10N1	**ASCENSION HYDR**	**22.79 125**		T	T	12 53 42.1	
	baz=306,slow=75,SNR=22						
H10S3	**ASCENSION HYDR**	**23.29 128**		T	T	12 54 21.2	
	baz=305,slow=74,SNR=14						
H10S2	**ASCENSION HYDR**	**23.31 128**		T	T	12 54 22.3	
	baz=275,slow=74,SNR=21						
BDFB	**Brasilia**	**25.72 215**		LR	LR	12 38 52.4	
	comp=Z,334nm,18.8s,baz=357,slow=35						
DBIC	**Dimbokro**	**28.06 86**		LR	LR	12 38 29.5	
	comp=Z,172nm,21.5s,baz=260,slow=31						
SJG	**San Juan**	**34.65 294**		LR	LR	12 42 34.7	
	comp=Z,33nm,18.1s,baz=98,slow=32						
SIV	**San Ignacio**	**35.01 232**		P	**P**	**12 30 49.2**	**+0.3**
	1.0nm,0.3s,baz=44,slow=9.8,SNR=8.2						
SIV				LR	LR	12 44 15.0	
	comp=Z,116nm,18.6s,baz=88,slow=35						
	1.0nm,0.3s						
TORD	**Torodi Ar. Bea**	**35.08 75**		P	**P**	**12 30 49.6**	**+0.1**
	1.6nm,0.8s,baz=277,slow=8.9,SNR=9.1						
	1.6nm,0.8s						
MDT	**Midelt**	**37.95 41**		LR	LR	12 43 46.5	
	comp=Z,128nm,20.9s,baz=271,slow=31						
CPUP	**Villa Florida**	**39.45 216**		LR	LR	12 47 35.7	
	comp=Z,249nm,18.7s,baz=38,slow=36						
LPAZ	**La Paz**	**40.91 237**		P	**P**	**12 31 38.7**	**-0.7**
	2.5nm,0.8s,baz=70,slow=12,SNR=7.2						
LPAZ				LR	LR	12 47 13.4	
	comp=Z,132nm,19.7s,baz=75,slow=34						
	2.5nm,0.8s						
ROSC	**El Rosal**	**41.10 271**		LR	LR	12 48 41.3	
	comp=Z,174nm,18.7s,baz=80,slow=36						
ESDC	**Sonseca Array**	**42.94 33**		LR	LR	12 49 25.6	
	comp=Z,127nm,18.0s,baz=182,slow=36						
NNA	**Nana**	**46.89 248**		LR	LR	12 51 13.3	
	comp=Z,150nm,19.3s,baz=25,slow=35						
ATAH	**Atahualpa**	**46.96 255**		LR	LR	12 51 41.1	
	comp=Z,86nm,18.9s,baz=75,slow=36						
KEST	**Kesra**	**49.19 46**		LR	LR	12 54 07.0	
	comp=Z,124nm,18.2s,baz=328,slow=37						
DAVOX	**Davos/Dischmat**	**55.23 35**		LR	LR	12 53 35.6	
	comp=Z,127nm,20.5s,baz=272,slow=32						
TKL	**Tuckaleechee C**	**55.35 310**		LR	LR	12 52 30.3	
	comp=Z,43nm,20.8s,baz=22,slow=31						
TSUM	**Tsumeb**	**55.57 118**		LR	LR	12 51 51.0	
	comp=Z,58nm,20.8s,baz=328,slow=30						
PLCA	**Paso Flores**	**57.45 213**		LR	LR	12 58 56.0	
	comp=Z,252nm,18.8s,baz=48,slow=37						
SUR	**Sutherland**	**63.52 130**		LR	LR	12 57 45.7	
	comp=Z,38nm,18.3s,baz=322,slow=32						
NOA	**NORSAR Array B**	**64.51 22**		LR	LR	13 00 21.1	
	comp=Z,97nm,18.9s,baz=345,slow=34						
LBTB	**Lobatse**	**64.55 121**		LR	LR	12 58 10.4	
	comp=Z,45nm,19.1s,baz=326,slow=32						
BOSA	**Boshof**	**65.52 125**		LR	LR	12 58 37.0	
	comp=Z,44nm,18.4s,baz=29,slow=32						
TXAR	**Lajitas Array**	**70.43 299**		P	**P**	**12 35 10.3**	**-0.5**
	0.7nm,0.9s,baz=102,slow=8.4,SNR=4.9						
	0.7nm,0.9s						
ANMO	**Albuquerque**	**73.26 305**		LR	LR	13 02 31.1	
	comp=Z,50nm,21.9s,baz=223,slow=32						
ARCES	**ARCESS Array B**	**74.22 18**		LR	LR	13 08 54.3	
	comp=Z,51nm,18.1s,baz=269,slow=36						
PDAR	**Pinedale Array**	**76.37 313**		P	**P**	**12 35 47.5**	**+1.6**
	0.6nm,0.8s,baz=98,slow=6.5,SNR=4.0						
	0.6nm,0.8s						
RPN	**Rapa Nui**	**80.38 241**		LR	LR	13 07 22.2	
	comp=Z,43nm,19.2s,baz=52,slow=32						
YKA	**Yellowknife Ar**	**81.23 332**		P	**P**	**12 36 10.3**	**-1.5**
	0.9nm,0.8s,baz=97,slow=5.2,SNR=4.7						
	0.9nm,0.8s						
NVAR	**Mina Array Bea**	**82.89 308**		P	**P**	**12 36 23.0**	**+1.7**
	0.3nm,0.3s,baz=98,slow=6.5,SNR=1.8						
	0.3nm,0.3s						

*SOME **29** 12:30:09.6, 41°.48N×72°.15E, h0^km*

KRNET 29 12:30:08.3±0.1, 40°.38N×69°.21E, mb2.5, 6C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.27 104**		⇓*e*P	Pg	12 30 31.4	-1.2
BTK				⇓*e*S	Sg	12 30 48.1	-1.0
TRKS	**Terek-Say**	**1.86 51**		⇑*e*P	Pn	12 30 39.9

SNAA Sanae 82.91 178 P P 12 44 53.1 -0.1
SNAA IAmb IAmb 12 45 13.7
comp=Z,6.8nm,1.4s
SNAA Sanae 82.91 178 ⇑P P 12 44 53.9 +0.7
comp=Z,46nm,0.8s
SNAA Sanae 82.91 178 P P 12 44 54.0 +0.8
comp=Z,1.3nm,0.7s,baz=142,slow=12,SNR=5.9
comp=Z,1.3nm,0.7s
VNA3 Neumayer Olymp 83.02 176 ⇑P P 12 44 53.8 +0.1
comp=Z,4.9nm,0.6s
VNA2 Neumayer--Watz 83.47 177 ⇑P P 12 44 57.0 +1.0
comp=Z,6.4nm,0.8s,baz=191,slow=3.8
VNA1 Neumayer--Stat 83.69 176 ⇑P P 12 44 58.1 +1.0
comp=Z,4.7nm,0.6s
TXAR Lajitas Array 89.08 57 P P 12 45 25.0 +0.8
comp=Z,0.4nm,0.9s,baz=284,slow=3.6,SNR=2.4
comp=Z,0.4nm,0.9s
PDAR Pinedale Array 92.07 43 P P 12 45 38.6 +0.5
comp=Z,0.3nm,0.6s,baz=211,slow=5.1,SNR=2.7
comp=Z,0.3nm,0.6s
HFS Hagfors 144.69 351 PKP PKPab 12 52 01.5 -1.8
comp=Z,3.7nm,0.9s,baz=55,slow=5.6,SNR=6.7

HEL 29 12:33:53.6±0.3, 60.32N×24.96E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUR	**Nurmijarvi**	**0.24**	**322**	PG	Pg	12 33 57.3	-1.0
NUR				SG	Sg	12 34 00.7	-0.8
MEF	**Metsahovi**	**0.30**	**250**	PG	Pg	12 33 58.6	-0.6
MEF				SG	Sg	12 34 03.3	+0.2
PVF	**Pernaja**	**0.50**	**63**	PG	Pg	12 34 02.4	-0.8
PVF				SG	Sg	12 34 08.9	-0.8
PVF				MSG		12 34 09.9	
	comp=Z,2.3nm,0.2s						
FIA0	**FINESS Array S**	**1.25**	**25**	PN	Pb	12 34 17.9	-0.2
FIA0				MSG		12 34 31.4	
	comp=Z,1.4nm,0.2s						
FIA0				SN	Sn	12 34 37.0	+1.1
VJF	**Virojoki**	**1.31**	**79**	MSG		12 34 33.0	
	comp=Z,1.6nm,0.2s						
VJF				SN	Sn	12 34 37.8	+0.6
RAF	**Rauma**	**1.72**	**296**	PG	Pn	12 34 25.0	+0.2
RAF				MSG		12 34 44.9	
	comp=Z,2.7nm,0.2s						
VSU	**Vasula**	**2.07**	**153**	SB	Sn	12 34 55.5	-0.5

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*HEL **29** 12:34:44.5±0.3, 61.16N×22.63E, h0km, ML1.0, Explosion*
ISC 29 12:34:44.2±1.7, 61.18N±0.07×22.60E±0.06, h0km, n4, σ0.15/5, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAF	**Rauma**	**0.43**	**250**	*eP*	**Pg**	**12 34 52.3**	**-0.1**
RAF				*eS*	**Sg**	**12 34 58.2**	**+0.2**
RAF				MSG		12 34 58.8	
	comp=Z,2.0nm,0.1s						
KPF	**Kankaanpaa**	**0.71**	**339**	SG	Sg	12 34 57.7	-9.1
KPF	**Kankaanpaa**	**0.71**	**339**	*eP*	**Pg**	**12 34 57.7**	**0.0**
KPF				*eS*	**Sg**	**12 35 06.8**	**-0.1**
FIA0	**FINESS Array S**	**1.70**	**79**	*eS*	**Sg**	**12 35 38.8**	**0.0**
FIA0				MSG		12 35 39.9	
	comp=Z,0.9nm,0.2s						

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*NEIC **29** 13:06:22.8±1.8, 21.48S±0.08×178.4W±0.2, h544km±16km, mb4.3/25, Error ellipse: s-maj=22.0km s-min=11.0km az=74.0*
*NOU **29** 13:06:23.4, 21.39S×178.33W, h542km, mb4.2/9, Fiji Islands Region*
*IDC **29** 13:06:25.1±1.4, 21.55S×178.85W, h543km±14km, mb3.4/5, mbtmp4.4/8, Error ellipse: s-maj=25.9km s-min=19.7km az=36.0*
ISC 29 13:06:22.5±0.7, 21.57S±0.08×178.51W±0.09, h536km, n73, σ1.85/73, mb4.3/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.00**	**319**		**P**	**13 07 52.5**	**+0.8**
MSVF	**Nonsavu**	**5.00**	**319**	P	**P**	**13 07 52.3**	**+0.6**
	37nm,0.7s,baz=142,slow=4.5,SNR=41						
MSVF				S	**S**	**13 09 04.8**	**+0.4**
	1.6nm,0.6s,baz=319,slow=19,SNR=0.7						
MSVF	**Nonsavu**	**5.00**	**319**	P	**P**	**13 07 52.8**	**+1.1**
FUTU	**Fugatoga**	**7.23**	**3**	P	**P**	**13 08 12.4**	**+0.2**
NIUE	**Niue**	**8.43**	**74**	P	**P**	**13 08 23.1**	**-1.1**
AFI	**Afiamalu**	**9.96**	**41**	P	**P**	**13 08 37.5**	**-2.5**
DZM	**Mont Dzumac**	**13.98**	**265**	P	**P**	**13 09 22.1**	**+0.3**
DZM	**Mont Dzumac**	**13.98**	**265**	P	**P**	**13 09 21.5**	**-0.2**
	7.1nm,0.6s,baz=299,slow=16,SNR=10						
VLAKA	**Lakatoro**	**14.38**	**290**	P	**P**	**13 09 27.2**	**+1.4**
OUZ	**Omahuta**	**15.26**	**205**	P	**P**	**13 09 37.8**	**+3.1**
KUZ	**Kuaotunu**	**15.94**	**197**	P	**P**	**13 09 44.5**	**+3.0**
KUZ	**Kuaotunu**	**15.94**	**197**	P	**P**	**13 09 44.6**	**+3.0**
MKAZ	**Moumakai**	**16.43**	**198**	P	**P**	**13 09 49.6**	**+3.3**
HAZ	**Te Kaha**	**16.45**	**190**	P	**P**	**13 09 48.2**	**+1.7**
PKGZ	**Pakihiroa**	**16.51**	**190**	P	**P**	**13 09 52.6**	**+5.4**
PUZ	**Puketiti**	**16.68**	**189**	P	**P**	**13 09 52.3**	**+3.5**
TWGZ	**Tauwhareparae**	**16.83**	**190**	P	**P**	**13 09 47.9**	**-2.3**
TOZ	**Tahuroa Road**	**16.92**	**197**	P	**P**	**13 09 53.4**	**+2.4**
TOZ				IAmb	IAmb	13 09 56.1	
	comp=Z,3.8nm,0.5s						
TOZ	**Tahuroa Road**	**16.92**	**197**	P	**P**	**13 09 54.1**	**+3.2**
MWZ	**Matawai**	**17.06**	**191**	P	**P**	**13 09 53.4**	**+1.2**
URZ	**Urewera**	**17.06**	**192**	P	**P**	**13 09 52.8**	**+0.6**
	comp=Z,5.8nm,0.4s,baz=9.9,slow=2.5,SNR=14						
URZ				S	**S**	**13 12 38.2**	**-5.2**
	comp=Z,8.1nm,1.0s,baz=210,slow=20,SNR=2.1						
URZ	**Urewera**	**17.06**	**192**	P	**P**	**13 09 52.8**	**+0.6**
URZ	**Urewera**	**17.06**	**192**	P	**P**	**13 09 54.0**	**+1.8**
CNGZ	**Carnagh Statio**	**17.10**	**189**	P	**P**	**13 09 55.4**	**+2.8**
RIGZ	**Rimuhau**	**17.38**	**190**	P	**P**	**13 09 57.5**	**+2.2**
RTZ	**Ruatahuna**	**17.43**	**192**	P	**P**	**13 09 56.2**	**+0.5**
RTZ	**Ruatahuna**	**17.43**	**192**	P	**P**	**13 09 56.5**	**+0.8**
WHTZ	**Whakaora**	**17.69**	**194**	P	**P**	**13 09 58.5**	**+0.3**
RAHZ	**Arahi**	**17.70**	**191**	P	**P**	**13 09 59.3**	**+1.2**
BKZ	**Black Stump Fm**	**18.06**	**193**	P	**P**	**13 10 00.3**	**-1.1**
BKZ				IAmb	IAmb	13 10 10.5	
	comp=Z,8.4nm,1.0s						
BKZ	**Black Stump Fm**	**18.06**	**193**	P	**P**	**13 10 00.8**	**-0.6**
OTVZ	**Oturere**	**18.24**	**195**	P	**P**	**13 10 02.9**	**-0.3**
LUES	**Luesalemba Tem**	**18.46**	**304**	P	**P**	**13 10 07.0**	**+1.7**
BFZ	**Birch Farm**	**19.57**	**192**	P	**P**	**13 10 17.3**	**+2.2**
MRZ	**Mangatainoka R**	**19.68**	**193**	P	**P**	**13 10 15.8**	**-0.4**
QRZ	**Quartz Range**	**20.65**	**200**	P	**P**	**13 10 27.5**	**+2.6**
THZ	**Tophouse**	**21.40**	**198**	P	**P**	**13 10 32.7**	**+1.0**
THZ				IAmb	IAmb	13 10 45.6	
	comp=Z,4.3nm,0.6s						
DSZ	**Denniston Nort**	**21.71**	**200**	P	**P**	**13 10 35.5**	**+0.9**
KHZ	**Kahutara**	**21.83**	**196**	P	**P**	**13 10 38.3**	**+2.8**
HNR	**Honiara**	**23.97**	**297**	P	**P**	**13 10 55.6**	**+0.6**
DCZ	**Deep Cove**	**26.58**	**203**	P	**P**	**13 11 16.5**	**-1.1**
DCZ				IAmb	IAmb	13 11 23.9	
	comp=Z,6.9nm,1.0s						
ARMA	**Armidale**	**28.18**	**246**	P	**P**	**13 11 34.0**	**+1.9**
ARMA				IAmb	IAmb	13 11 48.9	
	comp=Z,8.5nm,1.1s						
CTAO	**Charters Tower**	**32.92**	**266**	P	**P**	**13 12 13.3**	**+0.5**
CTAO				IAmb	IAmb	13 12 14.4	
	comp=Z,10nm,1.1s						
TOO	**Toolangi**	**34.89**	**235**	P	**P**	**13 12 28.6**	**-0.5**
PMG	**Port Moresby**	**35.13**	**285**	P	**P**	**13 12 29.2**	**-2.2**
STKA	**Stephens Creek**	**36.90**	**245**	P	**P**	**13 12 45.9**	**0.0**
STKA	**Stephens Creek**	**36.90**	**245**	P	**P**	**13 12 46.7**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=83,slow=9.8,SNR=10						
	comp=Z,1.9nm,0.3s						
COEN	**Coen**	**37.19**	**275**	P	**P**	**13 12 47.7**	**-0.7**
COEN				IAmb	IAmb	13 12 50.5	
	comp=Z,8.8nm,0.9s						
BBOO	**Buckleboo**	**41.65**	**245**	P	**P**	**13 13 23.8**	**-0.3**
WR0	**Warramunga Arr**	**43.80**	**263**	P	**P**	**13 13 40.8**	**-0.3**
AS31	**Alice Springs**	**43.82**	**258**	P	**P**	**13 13 40.9**	**-0.4**
ASAR	**Alice Springs**	**43.82**	**258**	P	**P**	**13 13 41.4**	**+0.2**
ASAR	**Alice Springs**	**43.82**	**258**	P	**P**	**13 13 41.1**	**-0.1**
	comp=Z,9.5nm,0.6s,baz=93,slow=8.3,SNR=116						
ASAR				PcP	**PcP**	**13 15 16.2**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=101,slow=3.9,SNR=4.2						
ASAR				S	**S**	**13 19 30.9**	**-2.5**
	comp=Z,0.5nm,0.9s,baz=97,slow=15,SNR=4.7						
	comp=Z,9.5nm,0.6s						
WB0	**Warramunga Arr**	**43.97**	**263**	P	**P**	**13 13 42.2**	**-0.3**
WB2	**Warramunga Arr**	**43.98**	**263**	P	**P**	**13 13 42.0**	**-0.5**
WB2				IAmb	IAmb	13 13 42.7	
	comp=Z,5.7nm,0.8s						
WRAB	**Tennant Creek**	**43.98**	**263**	P	**P**	**13 13 42.1**	**-0.4**
WRA	**Warramunga Arr**	**43.99**	**263**	P	**P**	**13 13 41.2**	**-1.4**
WRA	**Warramunga Arr**	**43.99**	**263**	P	**P**	**13 13 42.3**	**-0.4**
	comp=Z,2.6nm,0.3s,baz=96,slow=7.7,SNR=289						
WRA				S	**S**	**13 19 32.3**	**-3.5**
	comp=Z,0.3nm,0.9s,baz=99,slow=14,SNR=2.1						
	comp=Z,2.6nm,0.3s						
MTN	**Manton Dam**	**48.70**	**272**	P	**P**	**13 14 18.1**	**-0.3**
MTN				IAmb	IAmb	13 14 18.6	
	comp=Z,8.3nm,0.7s						
KNRA	**Kununurra**	**50.12**	**267**	P	**P**	**13 14 29.0**	**+0.2**
KNRA				IAmb	IAmb	13 14 29.6	
	comp=Z,8.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.42**	**263**	P	**P**	**13 14 45.2**	**-0.2**
SOEI	**Soe**	**56.06**	**273**	P	**P**	**13 15 12.2**	**+0.9**
SOEI				IAmb	IAmb	13 15 27.4	
	comp=Z,19nm,1.1s						
MBWA	**Marble Bar**	**57.16**	**258**	P	**P**	**13 15 17.4**	**-1.3**
MBWA				IAmb	IAmb	13 15 27.0	
	comp=Z,14nm,1.1s						
TOLI2	**Tolitoli**	**63.36**	**283**	P	**P**	**13 15 58.1**	**-1.6**
TOLI2				IAmb	IAmb	13 16 15.7	
	comp=Z,10nm,0.9s						
QSPA	**South Pole Qui**	**68.51**	**180**	P	**P**	**13 16 32.4**	**+1.3**
QSPA	**South Pole Qui**	**68.51**	**180**	P	**P**	**13 16 33.6**	**+2.5**
	comp=Z,0.5nm,0.6s,baz=23,slow=1.6,SNR=1.2						
	comp=Z,0.5nm,0.6s						
TX31	**Lajitas Ar. Si**	**88.03**	**57**		pwP	13 20 17.3	+1.3
CMAR	**Chiang Mai Arr**	**90.02**	**290**	P	**P**	**13 18 27.2**	**+1.7**
	comp=Z,0.9nm,0.9s,baz=124,slow=4.2,SNR=5.8						
	comp=Z,0.9nm,0.9s						
AKASG	**Malin Array Be**	**143.70**	**330**	PKhKP	PKPpre	13 24 54.6	
	comp=Z,3.5nm,0.5s,baz=45,slow=4.3,SNR=18						
H10N3	**ASCENSION HYDR**	**146.83**	**150**	T	T	16 11 23.1	
	baz=207						
H10N1	**ASCENSION HYDR**	**146.84**	**150**	T	T	16 11 26.0	
	baz=207						
H10N2	**ASCENSION HYDR**	**146.85**	**150**	T	T	16 11 22.9	
	baz=207						
BRTR	**Keskin Array B**	**147.18**	**311**	PKPbc	**PKPbc**	**13 25 05.7**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=98,slow=6.4,SNR=3.6						

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*THE **29** 13:06:58.0, 37.63N×20.34E, h0km±1km, ML3.4/13, Error ellipse: s-maj=1.9km s-min=0.6km az=249.0*
*ATH **29** 13:06:58.7, 37.62N×20.37E, h4km±1km, ML3.5/15, Manual Solution by A.Papageorgiou First location: 2018/11/29 13:07:27, This location: 2020/07/20 07:24:09 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*IDC **29** 13:07:04.0±3.1, 38.65N×21.22E, h0km, mb3.9/4, mbtmp3.8/5, ML4.4/1, Error ellipse: s-maj=63.4km s-min=34.1km az=178.0*
ISC 29 13:06:58.5±1.3, 37.65N±0.03×20.39E±0.05, h18km±6km, n44, σ0.77/81, mb4.2/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.34**	**87**	P	**Pg**	**13 07 05.6**	**0.0**
KRI1				S	**Sb**	**13 07 10.8**	**-0.3**
	23μm,0.4s						
LTHK	**Lithakia**	**0.36**	**80**	P	**Pg**	**13 07 05.7**	**-0.3**
LTHK				S	**Sg**	**13 07 11.2**	**+0.1**
	18μm,0.5s						
LTHK	**Lithakia**	**0.36**	**80**	P	**Pg**	**13 07 06.1**	**+0.1**
LTHK				S	**Sg**	**13 07 11.2**	**+0.1**
PSDA	**Pessada-Kefalo**	**0.49**	**18**	P	**Pg**	**13 07 07.7**	**-0.7**
PSDA				S	**Sg**	**13 07 15.2**	**+0.2**
	6μm,0.4s						
PSDA	**Pessada-Kefalo**	**0.49**	**18**	P	**Pg**	**13 07 08.3**	**-0.1**
PSDA				S	**Sb**	**13 07 15.4**	**-0.1**
RTZL	**Ratzakli, Kefa**	**0.52**	**35**	P	**Pg**	**13 07 08.4**	**-0.6**
RTZL				S	**Sb**	**13 07 16.8**	**+0.4**
VLS	**Valsamata**	**0.55**	**16**	P	**Pg**	**13 07 08.6**	**-0.9**
VLS				S	**Sg**	**13 07 16.8**	**-0.2**
	4μm,0.3s						
VLS	**Valsamata**	**0.55**	**16**	P	**Pg**	**13 07 09.4**	**-0.2**
VLS				S	**Sg**	**13 07 17.2**	**+0.2**
DMLN	**Damoulianata-K**	**0.59**	**359**	P	**Pg**	**13 07 09.8**	**-0.5**
DMLN				S	**Sb**	**13 07 19.1**	**+0.7**
	6μm,0.5s						
DMLN	**Damoulianata-K**	**0.59**	**359**	P	**Pb**	**13 07 11.0**	**+0.6**
DMLN				S	**Sb**	**13 07 19.1**	**+0.7**
SMHA	**Samh**	**0.64**	**18**	P	**Pb**	**13 07 11.7**	**+0.6**
SMHA				S	**Sg**	**13 07 19.6**	**+0.1**
VSK1	**VASILIKIADES**	**0.77**	**10**	P	**Pb**	**13 07 12.1**	**-0.4**
VSK1				S	**Sn**	**13 07 25.2**	**-0.6**
	4μm,0.7s						
FSK	**Fiskardo**	**0.82**	**9**	P	**Pb**	**13 07 13.8**	**-0.5**
FSK				S	**Sn**	**13 07 26.8**	**-0.2**
	2μm,0.6s						
FSK	**Fiskardo**	**0.82**	**9**	P	**Pg**	**13 07 14.9**	**+0.4**
FSK				S	**Sg**	**13 07 25.9**	**+0.5**
RLS	**Riolos of Patr**	**0.94**	**64**	P	**Pb**	**13 07 16.4**	**0.0**
RLS				S	**Sn**	**13 07 31.3**	**+1.3**
	1μm,0.8s						
RLS	**Riolos of Patr**	**0.94**	**64**	P	**Pb**	**13 07 16.7**	**+0.3**
RLS				S	**Sg**	**13 07 29.6**	**+0.3**
EVGI	**Lefkada island**	**1.00**	**12**	P	**Pb**	**13 07 16.9**	**-0.3**
EVGI				S	**Sn**	**13 07 31.8**	**+0.6**
	2μm,0.4s						
EVGI	**Lefkada island**	**1.00**	**12**	P	**Pg**	**13 07 18.3**	**+0.5**
EVGI				S	**Sn**	**13 07 32.3**	**+1.0**
DRAG	**Dragano-Lefkad**	**1.05**	**8**	P	**Pg**	**13 07 20.0**	**+1.2**
DRAG				S	**Sn**	**13 07 33.7**	**+1.2**
DRO	**Drossia**	**1.09**	**73**	P	**Pn**	**13 07 19.2**	**+0.3**
DRO				S	**Sg**	**13 07 36.9**	**+3.0**
	3μm,0.8s						
DRO	**Drossia**	**1.09**	**73**	P	**Pg**	**13 07 19.4**	**-0.2**
DRO				S	**Sg**	**13 07 34.2**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.09**	**13**	P	**Pb**	**13 07 18.7**	**-0.2**
NYDR				S	**Sg**	**13 07 35.3**	**+1.3**
	1μm,0.8s						
LKD2	**Lefkada island**	**1.16**	**10**	P	**Pg**	**13 07 21.3**	**+0.4**
LKD2				S	**Sg**	**13 07 37.0**	**+0.9**
TSLK	**Tsoukalades, L**	**1.20**	**10**	P	**Pb**	**13 07 21.1**	**+0.5**
TSLK				S	**Sg**	**13 07 38.9**	**+1.7**
	1μm,0.6s						
TSLK	**Tsoukalades, L**	**1.20**	**10**	P	**Pg**	**13 07 22.4**	**+0.8**
TSLK				S	**Sg**	**13 07 37.3**	**+0.1**
PYL1	**Pylos**	**1.27**	**125**	P	**Pg**	**13 07 23.4**	**+0.4**
PYL1				S	**Sg**	**13 07 39.8**	**+0.2**
PYL4	**Kinigos solar**	**1.29**	**124**	P	**Pg**	**13 07 23.2**	**-0.3**
PYL4				S	**Sg**	**13 07 40.5**	**+0.2**
PYL2	**Kinigos**	**1.30**	**124**	P	**Pb**	**13 07 23.1**	**+0.7**
PYL2				S	**Sg**	**13 07 40.1**	**-0.3**
ITM	**Ithomi**	**1.31**	**110**	P	**Pb**	**13 07 23.2**	**+0.6**
ITM				S	**Sg**	**13 07 42.3**	**+1.5**
	630nm,1.1s						
ITM	**Ithomi**	**1.31**	**110**	P	**Pb**	**13 07 23.3**	**+0.8**
ITM				S	**Sg**	**13 07 40.4**	**-0.5**
PYL	**PYLOS**	**1.31**	**124**	P	**Pb**	**13 07 23.3**	**+0.7**
PYL				S	**Sg**	**13 07 42.5**	**+1.6**
PYL	**PYLOS**	**1.31**	**124**	P	**Pg**	**13 07 23.7**	**-0.1**
PYL				S	**Sg**	**13 07 40.4**	**-0.5**
PVO	**Paravola**	**1.32**	**42**	P	**Pg**	**13 07 23.9**	**0.0**
PVO				S	**Sg**	**13 07 41.1**	**-0.1**
EFP	**Efpalio**	**1.43**	**56**	P	**Pg**	**13 07 25.9**	**-0.1**
EFP				S	**Sg**	**13 07 45.0**	**+0.3**
KLV	**Kalavryta, Ach**	**1.45**	**74**	P	**Pg**	**13 07 26.3**	**-0.1**
KLV				S	**Sg**	**13 07 45.6**	**+0.3**
ANX	**Ano Chora**	**1.53**	**51**	P	**Pb**	**13 07 27.3**	**+0.8**
ANX				S	**Sg**	**13 07 48.4**	**+0.3**
KALE	**Kalithea**	**1.57**	**61**	P	**Pg**	**13 07 28.4**	**-0.3**
KALE				S	**Sg**	**13 07 48.6**	**-0.5**
GUR	**Goura**	**1.57**	**79**	P	**Pg**	**13 07 28.3**	**-0.5**
GUR				S	**Sg**	**13 07 49.2**	**0.0**
AXAR	**Agios Charalam**	**2.11**	**57**	P	**Pb**	**13 07 35.6**	**-0.5**
ESDC	**Sonseca Array**	**19.12**	**284**	P	Pn	13 11 33.2	+12
	0.3nm,0.3s,baz=74,slow=4.7,SNR=3.2						
	0.5nm,0.5s						
FINES	**FINESS Array B**	**24.09**	**7**	P	**P**	**13 12 09.8**	**-2.9**
	6.0nm,0.9s,baz=171,slow=9.8,SNR=9.1						
	6.0nm,0.9s						
ARCES	**ARCESS Array B**	**32.07**	**3**	P	**P**	**13 13 23.7**	**-0.3**
	2.6nm,0.9s,baz=189,slow=10.0,SNR=5.1						
	2.6nm,0.9s						
MKAR	**Makanchi Array**	**45.67**	**58**	P	**P**	**13 15 17.6**	**-0.5**
	0.3nm,0.4s,baz=279,slow=7.2,SNR=5.3						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**46.12**	**48**	P	**P**	**13 15 20.7**	**-0.8**
	1.1nm,0.4s,baz=282,slow=8.3,SNR=4.8						
	1.1nm,0.4s						

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*PDG **29** 13:08:05.3±0.7, 39.48N×16.23E, h17km±1km, ML3.5/8, Error ellipse: s-maj=0.9km s-min=1.7km az=0.0*
*ROM **29** 13:08:05.1±0.1, 39.475N±0.005×16.245E±0.009, h9km, ML3.4/80, Error ellipse: s-maj=0.6km s-min=0.6km az=250.0*
ISC 29 13:08:05.4±0.8, 39.48N±0.02×16.22E±0.03, h13km±6km, n44, σ0.51/59, 11C-4D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDS	**Terranova Siba**	**0.20**	**27**	⇑P	**Pg**	**13 08 09.6**	**-0.4**
TDS				S	**Sg**	**13 08 12.8**	**-0.3**
TDS				AML	AML		
	comp=N,7910μm,0.8s						
TDS				AML	AML		
	comp=E,8320μm,0.3s						
SPS2	**Spezzano della**	**0.21**	**153**	⇑P	**Pg**	**13 08 10.0**	**0.0**
SPS2				S	**Sg**	**13 08 13.4**	**+0.2**
SPS2				AML	AML		
	comp=N,23100μm,0.2s						
SPS2				AML	AML		
	comp=E,34000μm,0.3s						
CET2	**Cetraro**	**0.21**	**284**	⇑P	**Pg**	**13 08 10.6**	**+0.5**
CET2				S	**Sb**	**13 08 14.5**	**-0.5**
CET2				AML	AML		
	comp=N,46000μm,0.5s						
CET2				AML	AML		
	comp=E,34800μm,0.5s						
CET2				AML	AML		
	comp=N,46000μm,1.5s						
CAR1	**CAROLEI**	**0.22**	**181**	P	**Pg**	**13 08 10.6**	**+0.3**
CAR1				S	**Sg**	**13 08 14.0**	**+0.3**
CAR1				AML	AML		
	comp=E,13800μm,0.4s						
CAR1				AML	AML		
	comp=N,13900μm,0.2s						
CAR1				AML	AML		
	comp=N,13000μm,0.2s						
CAR1				AML	AML		
	comp=E,13800μm,0.4s						
CAR1				AML	AML		
	comp=E,15150μm,0.3s						
CAR1				AML	AML		
	comp=E,15150μm,1.7s						
CAR1				AML	AML		
	comp=E,13800μm,1.6s						
SALB	**San Lorenzo Be**	**0.41**	**14**	P	**Pg**	**13 08 13.3**	**-0.3**
SALB				S	**Sg**	**13 08 19.6**	**+0.3**
SALB				AML	AML		
	comp=E,3150μm,0.3s						
SALB				AML	AML		
	comp=N,1950μm,1.5s						
SALB				AML	AML		
	comp=N,1950μm,0.5s						
SALB				AML	AML		
	comp=E,3150μm,1.7s						
MMN	**Mormanno**	**0.45**	**337**	P	**Pg**	**13 08 14.6**	**+0.3**
MMN				S	**Sb**	**13 08 21.5**	**-0.3**
MMN				AML	AML		
	comp=N,11400μm,1.4s						
MMN				AML	AML		
	comp=E,8535μm,1.4s						
MMN				AML	AML		
	comp=E,8535μm,0.6s						
MMN				AML	AML		
	comp=N,11400μm,0.6s						
PIPA	**Pietrapaola**	**0.46**	**89**	⇑P	**Pg**	**13 08 14.1**	**-0.5**
PIPA				AML	AML		
	comp=E,12000μm,0.3s						
PIPA				AML	AML		
	comp=N,8620μm,0.2s						
PIPA				AML	AML		
	comp=N,8615μm,0.2s						
PIPA				AML	AML		
	comp=E,12000μm,0.2s						
PIPA				AML	AML		
	comp=N,8615μm,0.3s						
PIPA				AML	AML		
	comp=E,12050μm,0.7s						
PIPA				AML	AML		
	comp=N,8990μm,0.3s						
PIPA				AML	AML		
	comp=N,8990μm,1.7s						
PIPA				AML	AML		
	comp=N,8615μm,1.7s						
TIP	**Timpagrande**	**0.52**	**125**	⇑P	**Pg**	**13 08 15.3**	**-0.3**
TIP				S	**Sg**	**13 08 22.2**	**-0.2**
TIP				AML	AML		
	comp=E,2600μm,0.7s						
TIP				AML	AML		
	comp=E,3170μm,0.7s						
TIP				AML	AML		
	comp=N,2370μm,1.5s						
TIP				AML	AML		
	comp=E,2600μm,1.3s						
TIP				AML	AML		
	comp=E,3170μm,1.3s						
TIP				AML	AML		
	comp=N,2370μm,0.5s						
TIP				AML	AML		
	comp=N,2900μm,0.6s						
CUC	**Castrocucco**	**0.60**	**329**	P	**Pg**	**13 08 17.0**	**-0.2**
CUC				AML	AML		
	comp=E,4970μm,1.6s						
CUC				AML	AML		
	comp=E,6025μm,1.6s						
CUC				AML	AML		
	comp=N,3250μm,0.4s						
CUC				AML	AML		
	comp=E,6025μm,0.4s						
CUC				AML	AML		
	comp=E,4970μm,0.4s						
CUC				AML	AML		
	comp=N,2630μm,0.4s						
ORI	**Oriolo Calabro**	**0.61**	**17**	P	**Pg**	**13 08 16.8**	**-0.6**
LADO	**San Nicola del**	**0.62**	**108**	⇑P	**Pg**	**13 08 16.9**	**-0.7**
LADO				AML	AML		
	comp=N,311μm,1.1s						
LADO				AML	AML		
	comp=E,486μm,0.4s						
LADO				AML	AML		
	comp=N,311μm,0.9s						
LADO				AML	AML		
	comp=E,486μm,1.6s						
GRI	**Girifalco**	**0.67**	**166**	P	**Pg**	**13 08 18.3**	**-0.3**
GRI				S	**Sb**	**13 08 28.5**	**+0.2**
GRI				AML	AML		
	comp=N,5315μm,0.8s						
GRI				AML	AML		
	comp=E,4280μm,0.3s						
GRI				AML	AML		
	comp=N,5315μm,1.2s						
SIRI	**Monte Sirino -**	**0.75**	**339**	P	**Pb**	**13 08 20.4**	**-0.1**
SIRI				AML	AML		
	comp=E,2910μm,1.4s						
SIRI				AML	A

MCEL				AML	AML		
	comp=N,2225μm,0.8s						
MCEL				AML	AML		
	comp=E,1500μm,1.2s						
MCEL				AML	AML		
	comp=E,1500μm,0.8s						
MCEL				AML	AML		
	comp=E,1475μm,0.8s						
MCEL				AML	AML		
	comp=N,2225μm,1.2s						
MCEL				AML	AML		
	comp=N,2190μm,1.2s						
JOPP	**Joppolo**	**0.91**	**197**	P	**Pb**	**13 08 22.9**	**-0.1**
JOPP				AML	AML		
	comp=E,2920μm,0.3s						
JOPP				AML	AML		
	comp=N,2225μm,0.3s						
JOPP				AML	AML		
	comp=E,2920μm,1.7s						
IST3	**Stromboli F**	**1.02**	**229**	P	**Pg**	**13 08 25.2**	**0.0**
IST3				AML	AML		
	comp=E,2895μm,1.3s						
IST3				AML	AML		
	comp=N,3090μm,0.3s						
PLAC	**Placanica**	**1.04**	**170**	P	**Pg**	**13 08 25.2**	**-0.3**
PLAC				AML	AML		
	comp=N,2350μm,0.5s						
PLAC				AML	AML		
	comp=N,1560μm,0.5s						
PLAC				AML	AML		
	comp=E,1590μm,0.7s						
PLAC				AML	AML		
	comp=E,2260μm,0.5s						
CMPR	**Campora**	**1.09**	**320**	P	**Pb**	**13 08 25.3**	**-1.0**
CMPR				AML	AML		
	comp=E,1530μm,0.7s						
CMPR				AML	AML		
	comp=N,1095μm,0.4s						
LTRZ	**Laterza**	**1.22**	**22**	P	**Pb**	**13 08 28.2**	**-0.1**
LTRZ				AML	AML		
	comp=N,1109μm,0.5s						
LTRZ				AML	AML		
	comp=N,1109μm,1.5s						
LTRZ				AML	AML		
	comp=E,1021μm,0.9s						
MATE	**Matera**	**1.23**	**18**	P	**Pg**	**13 08 29.2**	**+0.1**
MATE				AML	AML		
	comp=E,1425μm,0.6s						
MATE				AML	AML		
	comp=N,1395μm,0.8s						
SICLA	**Scilla**	**1.28**	**198**	AML	AML		
	comp=N,1515μm,1.0s						
SICLA				AML	AML		
	comp=E,1880μm,1.5s						
SICLA				AML	AML		
	comp=E,1880μm,0.5s						
ACER	**Acerenza**	**1.32**	**351**	P	**Pg**	**13 08 30.5**	**-0.4**
ACER				AML	AML		
	comp=E,1735μm,0.6s						
ACER				AML	AML		
	comp=N,1295μm,0.5s						
ACER				AML	AML		
	comp=E,1805μm,0.6s						
ACER				AML	AML		
	comp=E,1805μm,1.4s						
ACER				AML	AML		
	comp=E,1735μm,1.4s						
ACER				AML	AML		
	comp=N,1258μm,0.5s						
TAR1	**Taranto**	**1.33**	**38**	P	**Pg**	**13 08 30.6**	**-0.4**
TAR1				AML	AML		
	comp=N,884μm,0.8s						
TAR1				AML	AML		
	comp=E,796μm,0.5s						
MSRU	**Castanea**	**1.33**	**205**	P	**Pn**	**13 08 28.9**	**-0.8**
MSRU				AML	AML		
	comp=N,2400μm,0.3s						
MSRU				AML	AML		
	comp=E,5435μm,0.4s						
SOI	**Samo**	**1.41**	**185**	P	**Pn**	**13 08 30.6**	**-0.1**
SOI				AML	AML		
	comp=E,865μm,0.4s						
SOI				AML	AML		
	comp=N,862μm,0.8s						
AMUR	**Altamura**	**1.46**	**12**	P	**Pg**	**13 08 33.4**	**-0.1**
AMUR				AML	AML		
	comp=N,688μm,0.6s						
AMUR				AML	AML		
	comp=E,792μm,0.9s						
VPL	**Vulcano Piano**	**1.46**	**222**	P	**Pn**	**13 08 31.6**	**+0.2**
VPL				AML	AML		
	comp=N,2255μm,0.6s						
VPL				AML	AML		
	comp=E,1835μm,0.5s						
VPL				AML	AML		
	comp=E,1835μm,1.5s						
PALZ	**Palazzo San Ge**	**1.48**	**352**	P	**Pg**	**13 08 33.8**	**0.0**
PALZ				AML	AML		
	comp=E,991μm,0.7s						
PALZ				AML	AML		
	comp=N,1018μm,1.1s						
PALZ				AML	AML		
	comp=E,991μm,1.3s						
PALZ				AML	AML		
	comp=N,1018μm,0.9s						
MPNC	**Port Mandanici**	**1.49**	**207**	P	**Pn**	**13 08 31.8**	**-0.2**
MPNC				AML	AML		
	comp=E,2625μm,0.4s						
MPNC				AML	AML		
	comp=N,2780μm,0.4s						
MTTG	**Motta San Giov**	**1.53**	**196**	P	**Pn**	**13 08 32.1**	**-0.3**
MRVN	**Minervino Murg**	**1.58**	**359**	P	**Pg**	**13 08 35.4**	**-0.4**
MRVN				AML	AML		
	comp=N,322μm,1.0s						
MRVN				AML	AML		
	comp=E,383μm,0.5s						
IACL	**Alicudi**	**1.73**	**238**	P	**Pn**	**13 08 34.4**	**-0.7**
IACL				AML	AML		
	comp=E,1200μm,0.5s						
IACL				AML	AML		
	comp=N,1175μm,0.4s						
MUCR	**Ucria**	**1.78**	**217**	P	**Pn**	**13 08 35.5**	**-0.4**
MUCR				AML	AML		
	comp=E,696μm,0.8s						
MUCR				AML	AML		
	comp=N,1180μm,0.5s						
MNO	**Monte Soro**	**1.95**	**218**	P	**Pb**	**13 08 40.1**	**-0.7**
MNO				AML	AML		
	comp=E,1385μm,0.6s						
MNO				AML	AML		
	comp=N,752μm,0.5s						
MNO				AML	AML		
	comp=E,1385μm,1.4s						
HLNI	**Lentini**	**2.37**	**207**	P	**Pn**	**13 08 45.0**	**+1.0**
HLNI				AML	AML		
	comp=E,190μm,0.5s						
HLNI				AML	AML		
	comp=N,218μm,1.5s						
HLNI				AML	AML		
	comp=N,218μm,0.5s						
DRME	**Dracevica, Mon**	**3.52**	**39⇑**	*i* Pn	**Pn**	**13 08 59.2**	**-0.6**
DRME				*i* Sn	**Sn**	**13 09 42.4**	**+1.1**
CEME	**Cevo**	**3.68**	**33⇓**	*i* Pn	**Pn**	**13 09 02.5**	**+0.4**
CEME				*i* Sn	**Sn**	**13 09 46.5**	**+1.1**
PDG	**Podgorica**	**3.74**	**37⇑**	*i* Pn	**Pn**	**13 09 03.0**	**+0.2**
PDG				*i* Sn	**Sn**	**13 09 47.7**	**+1.0**
BRY	**Bratogost**	**3.84**	**26⇓**	*i* Pn	**Pn**	**13 09 04.8**	**+0.4**
BRY				*i* Sn	**Sn**	**13 09 50.1**	**+0.7**
NKME	**Niksic**	**3.88**	**31⇑**	*i* Pn	**Pn**	**13 09 05.1**	**+0.3**
NKME				*i* Sn	**Sn**	**13 09 50.2**	**-0.1**
KOME	**Kolasin**	**4.19**	**35⇓**	*i* Pn	**Pn**	**13 09 09.3**	**+0.2**
KOME				*i* Sn	**Sn**	**13 09 58.7**	**+0.8**
IVA	**Berane**	**4.38**	**38⇓**	*i* Pn	**Pn**	**13 09 12.3**	**+0.6**
IVA				*i* Sn	**Sn**	**13 10 03.4**	**+0.8**
PLE	**Pljevlja**	**4.53**	**31⇑**	*i* Pn	**Pn**	**13 09 14.1**	**+0.4**
PLE				*i* Sn	**Sn**	**13 10 06.5**	**+0.2**

*IDC **29** 13:16:17.6±0.9,33°.88N×45°.39E, h0km, mb4.2/16, mbtmp4.2/23, ML3.8/8, MS3.4/6, Error ellipse: s-maj=16.4km s-min=12.1km az=179.0*
*MOS **29** 13:16:18.9±1.1,34°.06N×45°.51E, h11km, mb4.5/15, Error ellipse: s-maj=10.1km s-min=5.3km az=91.4*
*ISN **29** 13:16:23.1±0.5,34°.20N×45°.67E, h15km±3km, ML4.3*
*TEH **29** 13:16:23.1,34°.18N×45°.68E, h12km±9km, ML4.2*

*NEIC **29** 13:16:23.5±1.7,34°.4N±0°.1×45°.9E±0°.1, h10km±2km, mb4.5/44, Error ellipse: s-maj=19.2km s-min=15.2km az=226.0*
*OMAN **29** 13:16:33.4±0.7,33°.38N×46°.24E, h10km, mb4.2/26, ms2.8/1, Error ellipse: s-maj=10.6km s-min=5.1km az=59.0*
ISC 29 13:16:21.5±0.4,34°.14N±0°.03×45°.68E±0°.03, h10km, n244, σ2s30/248, mb4.5/51, MS3.5/5, 8C-1D, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.20**	**96**	Pg	**Pg**	**13 16 27.9**	**+2.3**
KGS1	**Ghasr-e-Shirin**	**0.38**	**349**	Pg	**Pg**	**13 16 29.8**	**+0.8**
ILBA	**Ilam Banvizeh**	**0.68**	**139**	Pg	**Pg**	**13 16 36.8**	**+2.3**
IGHG	**Ghaleghazi**	**0.76**	**75**	Pg	**Pb**	**13 16 38.2**	**+1.2**
IDHR	**Dehrash**	**0.81**	**46**	Pg	**Pg**	**13 16 38.5**	**+1.3**
IBDR	**Badra**	**1.04**	**168**	*e*Pg	**Pb**	**13 16 44.0**	**+2.4**
IBDR				*e*Sg	**Sb**	**13 16 58.5**	**+3.1**
IBDR				AML	AML	13 17 05.0	
	comp=E,3μm,0.5s						
IBDR				AML	AML	13 17 05.8	
	comp=N,2μm,0.5s						
ILIN	**Lien**	**1.32**	**53**	Pg	**Pb**	**13 16 47.8**	**+1.3**
BHD	**Baghdad**	**1.38**	**232**	*e*Pn	**Pg**	**13 16 50.0**	**+2.0**
BHD				*e*Sn	**Sg**	**13 17 10.0**	**+4.0**
BHD				AML	AML	13 17 12.8	
	comp=E,5μm,0.3s						
IKRK	**Kirkuk**	**1.67**	**319**	*e*Pn	**Pb**	**13 16 53.3**	**+0.9**
IKRK				*e*Sn	**Sb**	**13 17 15.0**	**+1.5**
IKRK				AML	AML	13 17 18.5	
	comp=N,12μm,0.3s						
IKRK				AML	AML	13 17 18.6	
	comp=E,17μm,0.6s						
SNQR	**Sonqor, Kerman**	**1.77**	**65**	Pg	**Pg**	**13 16 56.3**	**+1.0**
IKFM	**Kafar-mosalman**	**1.91**	**108**	Pn	**Pb**	**13 16 57.3**	**+1.0**
SDS1	**Sardasht. Az.**	**2.02**	**356**	Pn	**Pb**	**13 16 58.8**	**+0.5**
IDOB	**Doab**	**2.11**	**99**	Pn	**Pn**	**13 17 00.0**	**+3.0**
HSAM	**Samen**	**2.43**	**87**	Pn	**Pn**	**13 17 04.7**	**+3.3**
RAFI	**Al-Rafai**	**2.43**	**171**	*e*Pn	**Pn**	**13 17 05.0**	**+3.7**
RAFI				*e*Sn	**Sb**	**13 17 36.0**	**+0.6**
MAHB	**Mahabad**	**2.62**	**1**	Pn	**Pn**	**13 17 07.0**	**+2.9**
BDRS	**Dareh Seyedi**	**2.67**	**93**	Pn	**Pn**	**13 17 08.0**	**+3.3**
HAGD	**Aghdareh**	**2.94**	**76**	Pn	**Pn**	**13 17 11.9**	**+3.4**
IHSH	**Hashtrud**	**3.42**	**22**	Pn	**Pn**	**13 17 17.9**	**+2.9**
IAZR	**Azarshahr**	**3.54**	**4**	Pn	**Pn**	**13 17 19.9**	**+3.1**
QABG	**Abgarm-Qazvin**	**3.57**	**63**	Pn	**Pn**	**13 17 20.4**	**+3.3**
ISRB	**Sarab**	**4.02**	**23**	Pn	**Pn**	**13 17 26.6**	**+3.3**
JIR1	**Jirandeh**	**4.24**	**52**	Pn	**Pn**	**13 17 28.8**	**+2.6**
IHRS	**Heris**	**4.32**	**14**	Pn	**Pn**	**13 17 30.3**	**+2.9**
IQOM	**Qom**	**4.51**	**79**	Pn	**Pn**	**13 17 32.8**	**+2.7**
IMRD	**Marand**	**4.57**	**0**	Pn	**Pn**	**13 17 33.7**	**+2.9**
IPIR	**Pirpir**	**4.60**	**107**	Pn	**Pn**	**13 17 33.5**	**+2.2**
GEVA	**Gevas**	**4.67**	**334**	Pn	**Pn**	**13 17 34.9**	**+2.6**
QAMS	**Qamsar**	**4.77**	**93**	Pn	**Pn**	**13 17 37.3**	**+3.6**
ZNGN	**Zangian**	**4.79**	**113**	Pn	**Pn**	**13 17 36.2**	**+2.3**
IKLH	**Kolahrood**	**4.99**	**98**	Pn	**Pn**	**13 17 40.5**	**+3.9**
GRMI	**Germi**	**4.99**	**20**	Pn	**Pn**	**13 17 39.4**	**+2.8**
KLST	**Kelardasht - M**	**5.00**	**60**	Pn	**Pn**	**13 17 40.2**	**+3.4**
IVRN	**Varamin**	**5.07**	**79**	Pn	**Pn**	**13 17 41.2**	**+3.6**
MAKU	**Maku**	**5.27**	**352**	Pn	**Pn**	**13 17 43.6**	**+3.2**
MZPU	**Pul - Mazandar**	**5.34**	**63**	Pn	**Pn**	**13 17 45.6**	**+4.1**
KRSH	**Karshahi**	**5.36**	**90**	Pn	**Pn**	**13 17 44.7**	**+3.0**
IDMV	**Damavand**	**5.42**	**73**	Pn	**Pn**	**13 17 45.6**	**+3.0**
ISFB	**Sefidab**	**5.44**	**86**	Pn	**Pn**	**13 17 45.1**	**+2.4**
IZEF	**Zefreh**	**5.69**	**101**	Pn	**Pn**	**13 17 49.4**	**+3.0**
IFIR	**Firoozkooh**	**6.01**	**74**	Pn	**Pn**	**13 17 53.6**	**+2.9**
GNI	**Garni**	**6.05**	**353**	Pn	**Pn**	**13 17 54.6**	**+3.5**
	comp=E,1.6nm,0.3s,baz=348,slow=19,SNR=1.5						
GNI				Pg	**Pb**	**13 18 10.9**	**+3.8**
	comp=E,2.2nm,0.3s,baz=206,slow=22,SNR=4.4						
GNI				Lg	Lg	13 19 37.5	
	baz=218,slow=19						
GNI				LR	LR	13 20 07.8	
	comp=E,83nm,19.1s,baz=165,slow=37						
	comp=E,10nm,0.5s						
GNI	**Garni**	**6.05**	**353**	P	**Pg**	**13 18 17.7**	**+0.4**
GNI				S	**Sg**	**13 19 35.9**	**+0.3**
ASF	**Jabal al Asfar**	**7.62**	**258**	Pn	Pn	13 18 06.0	-6.6
	comp=E,0.6nm,0.3s,baz=47,slow=0.1,SNR=8.0						
ASF				Lg	Lg	13 20 09.4	
	comp=E,1.2nm,0.3s,baz=331,slow=0.0,SNR=1.5						
	comp=E,2.0nm,0.4s						
ASF	**Jabal al Asfar**	**7.62**	**258**	P	Pg	13 18 57.0	+10
HSUJ	**Al Zarqa**	**8.21**	**258**	P	**Pg**	**13 19 03.4**	**+4.8**
NATI	**Neve Ativ**	**8.33**	**267**	P	**Pg**	**13 19 00.8**	**-0.1**
GEM	**Giv'at Ha'Em**	**8.40**	**266**	P	**Pg**	**13 19 00.3**	**-1.9**
SHMJ	**Saham**	**8.40**	**263**	P	**Pg**	**13 19 06.8**	**+4.4**
MMC4	**Mount Meron ar**	**8.63**	**265**	P	**Pg**	**13 19 04.4**	**-2.4**
MMC3	**Mount Meron ar**	**8.64**	**265**	P	**Pg**	**13 19 03.8**	**-3.0**
MMC2	**Mount Meron ar**	**8.64**	**265**	P	**Pg**	**13 19 04.9**	**-1.9**
MMB1	**Mount Meron ar**	**8.64**	**265**	P	Pg	13 19 03.5	-3.4
MMC5	**Mount Meron ar**	**8.64**	**265**	P	**Pg**	**13 19 09.3**	**+2.5**
MMC1	**Mount Meron ar**	**8.64**	**266**	P	**Pg**	**13 19 08.1**	**+1.2**
MMA1	**Mount Meron ar**	**8.64**	**265**	P	**Pg**	**13 19 06.0**	**-0.9**
MMA2	**Mount Meron ar**	**8.64**	**265**	P	**Pg**	**13 19 06.4**	**-0.5**
MMA0	**Mount Meron ar**	**8.65**	**265**	P	**Pg**	**13 19 06.5**	**-0.5**
MMA0B	**Mount Meron ar**	**8.65**	**265**	P	**Pg**	**13 19 06.3**	**-0.7**
MMAI	**Mount Meron Ar**	**8.65**	**265**	Pn	Pn	13 18 20.9	-5.8
	comp=E,2.8nm,0.3s,baz=88,slow=16,SNR=2.8						
MMAI				Lg	Lg	13 20 43.5	
	comp=E,2.1nm,0.3s,baz=101,slow=15,SNR=1.5						
MMAI				LR	LR	13 22 42.7	
	comp=E,247nm,19.9s,baz=24,slow=46						
MMB4	**Mount Meron ar**	**8.65**	**265**	P	**Pg**	**13 19 07.7**	**+0.7**
MMA3	**Mount Meron ar**	**8.65**	**265**	P	**Pg**	**13 19 06.1**	**-0.9**
MMA4	**Mount Meron ar**	**8.65**	**265**	P	**Pg**	**13 19 06.5**	**-0.6**
MMB3	**Mount Meron ar**	**8.65**	**265**	P	**Pg**	**13 19 08.1**	**+1.0**
QRNJ	**Al-Qirein**	**8.65**	**261**	P	**Pg**	**13 19 07.4**	**+0.3**
MMB2	**Mount Meron ar**	**8.65**	**265**	P	**Pg**	**13 19 07.0**	**-0.1**
MMC7	**Mount Meron ar**	**8.65**	**265**	P	**Pg**	**13 19 08.0**	**+0.9**
MMC6	**Mount Meron ar**	**8.66**	**265**	P	**Pg**	**13 19 10.2**	**+3.0**
BALJ	**Balqa**	**8.66**	**259**	P	**Pg**	**13 19 11.3**	**+4.0**
HMDT	**Nahal Hemdat**	**8.71**	**260**	P	**Pg**	**13 19 09.9**	**+1.7**
MMLI	**Mount Malkishu**	**8.75**	**262**	P	**Pg**	**13 19 10.2**	**+1.2**
SHMA	**Al-Shehemyia**	**9.44**	**150**	P	**Pn**	**13 18 39.2**	**+1.7**
SHMA				S	Sn	13 20 16.6	-7.0
KBZ	**Khabaz**	**9.82**	**348**	Pn	**Pn**	**13 18 46.8**	**+4.2**
	comp=E,0.1nm,0.3s,baz=180,slow=8.8,SNR=6.6						
	comp=E,8.9nm,1.0s						
SHA1	**Shidzhatmaz**	**9.87**	**347**	*i* P	Pn	13 18 48.5	+4.9
KIV	**Kislovodsk**	**10.08**	**348**	Pn	**Pn**	**13 18 49.2**	**+2.9**
KIV	**Kislovodsk**	**10.08**	**348**	*e*P	**Pn**	**13 18 48.4**	**+2.1**
KIV				pmax	pmax		
	comp=Z,32nm,1.1s						
KIV				MLR	MLR		
	comp=Z,74nm,13.0s						
EIL	**Elat**	**10.14**	**247**	Pn	Pn	13 18 41.1	-6.0
	comp=Z,0.3nm,0.3s,baz=126,slow=8.7,SNR=1.7						
EIL				Lg	Lg	13 21 28.7	
	comp=Z,0.5nm,0.3s,baz=339,slow=11,SNR=3.6						
	comp=Z,1.8nm,0.7s						
SMRA	**Abu-Samra**	**10.38**	**153**	P	**Pn**	**13 18 51.2**	**+0.9**
SMRA				S	**Sn**	**13 20 40.2**	**-6.5**
SOC	**Sochi**	**10.51**	**336**	*e*P	**Pn**	**13 18 50.3**	**-1.9**
SOC				*e*		13 20 53.4	
SOC				pmax	pmax		
	comp=Z,11nm,0.5s						
SOC				MLR	MLR		
	comp=Z,193nm,14.0s						
TRNA	**Turayna**	**10.53**	**151**	P	**Pn**	**13 18 53.0**	**+0.5**
	SNR=9.1						
TRNA				S	Sn	13 20 43.9	-6.7
RAYN	**Ar Rayn**	**10.58**	**181**	Pn	**Pn**	**13 18 53.5**	**+0.3**
RAYN	**Ar Rayn**	**10.58**	**181**	P	**Pn**	**13 18 55.1**	**+1.9**
RAYN				S	**Sn**	**13 20 48.6**	**-3.2**
RAYN	**Ar Rayn**	**10.58**	**181**	P	**Pn**	**13 18 53.5**	**+0.3**
BRTR	**Keskin Array B**	**11.13**	**304**	Pn	**Pn**	**13 18 60.0**	**-0.8**
	baz=124,slow=13,SNR=1.3						
BRTR	**Keskin Array B**	**11.13**	**304**	P	**Pn**	**13 19 00.0**	**-0.8**
SLWR	**Sila**	**11.32**	**151**	P	**Pn**	**13 19 03.9**	**+0.6**
SLWR				S	Sn	13 21 02.3	-7.6
SHME	**Shamm**	**12.12**	**129**	Pn	**Pn**	**13 19 14.0**	**-0.2**
SHME	**Shamm**	**12.12**	**129**	P	**Pn**	**13 19 14.7**	**+0.5**
SHME				S	**Sn**	**13 21 23.0**	**-6.4**
BANOM	**Banah**	**12.31**	**129**	*i* Pn	**Pn**	**13 19 16.5**	**-0.4**
	SNR=19						
BANOM	**Banah**	**12.31**	**129**	P	**Pn**	**13 19 16.5**	**-0.4**
BANOM				S	Sn	13 21 27.3	-6.9
AJN	**Ajban**	**12.52**	**137**	P	**Pn**	**13 19 21.0**	**+1.3**
AJN				S	**Sn**	**13 21 33.1**	**-6.1**
MZWR	**Madinat Zayed**	**12.58**	**143**	P	**Pn**	**13 19 22.4**	**+1.8**
MZWR				S	**Sn**	**13 21 34.1**	**-6.6**
NAZ	**Nazwa, Dubai**	**12.59**	**134**	*i* Pn	**Pn**	**13 19 20.4**	**-0.2**
	SNR=7.2						
NAZ	**Nazwa, Dubai**	**12.59**	**134**	P	**Pn**	**13 19 21.9**	**+1.2**
	SNR=7.5						
NAZ				S	**Sn**	**13 21 34.9**	**-6.0**
MASF	**Masafi**	**12.61**	**131**	P	**Pn**	**13 19 21.2**	**+0.2**
	SNR=11						
MASF				S	**Sn**	**13 21 35.7**	**-5.8**
MSFE	**Esma-Masafi**	**12.62**	**131**	*i* Pn	**Pn**	**13 19 20.5**	**-0.6**
	SNR=11						
ASUD	**Al Ashush, Dub**	**12.67**	**136**	Pn	**Pn**	**13 19 21.5**	**-0.2**
ASUD	**Al Ashush, Dub**	**12.67**	**136**	P	**Pn**	**13 19 22.3**	**+0.6**
ASUD				S	**Sn**	**13 21 36.2**	**-6.6**
FAQ	**Al Faqa, Dubai**	**12.73**	**135**	Pn	**Pn**	**13 19 22.3**	**-0.3**
FAQ	**Al Faqa, Dubai**	**12.73**	**135**	P	**Pn**	**13 19 22.3**	**-0.3**
FAQ				S	**Sn**	**13 21 38.0**	**-6.4**
MDH	**Madha**	**12.75**	**131**	*i* Pn	**Pn**	**13 19 21.7**	**-1.2**
	SNR=8.2						
MDH	**Madha**	**12.75**	**131**	P	**Pn**	**13 19 23.0**	**+0.1**
	SNR=8.2						
MDH				S	Sn	13 21 37.0	-7.9
UOSS	**Minazif**	**12.95**	**132**	Pn	**Pn**	**13 19 23.3**	**-2.2**
UOSS	**Minazif**	**12.95**	**132**	*i* Pn	**Pn**	**13 19 24.8**	**-0.7**
	SNR=8.0						
UOSS	**Minazif**	**12.95**	**132**	P	**Pn**	**13 19 25.9**	**+0.3**
UOSS				S	Sn	13 21 41.0	-8.8
HATD	**Hatta, Dubai**	**12.99**	**133**	*i* Pn	**Pn**	**13 19 26.1**	**-0.1**
	SNR=7.9						
HATD	**Hatta, Dubai**	**12.99**	**133**	P	**Pn**	**13 19 26.7**	**+0.5**
	SNR=7.9						
HATD				S	Sn	13 21 43.4	-7.4
MZR	**Muzera**	**13.03**	**146**	Pn	**Pn**	**13 19 26.8**	**+0.1**
MZR	**Muzera**	**13.03**	**146**	P	**Pn**	**13 19 27.2**	**+0.4**
MZR				S	Sn	13 21 43.8	-8.1
ASHO	**Ashiyiah**	**13.05**	**133**	*i* Pn	**Pn**	**13 19 26.1**	**-0.9**
	SNR=12						
ASHO	**Ashiyiah**	**13.05**	**133**	P	**Pn**	**13 19 26.9**	**-0.1**
	SNR=12						
ASHO				P	**Pn**	**13 19 26.9**	**-0.1**
	SNR=12						
ASHO				S	Sn	13 21 45.2	-7.2
ASHO				S	Sn	13 21 45.2	-7.2
ALNE	**Al Ain**	**13.35**	**136**	Pn	**Pn**	**13 19 31.2**	**+0.2**
ALNE	**Al Ain**	**13.35**	**136**	P	**Pn**	**13 19 31.5**	**+0.4**
	SNR=6.0						
ALNE				S	Sn	13 21 50.9	-8.7
JASK	**Jask - Hormozg**	**13.39**	**125**	P	**Pn**	**13 19 32.0**	**+0.5**
SOHO	**SOHO**	**13.75**	**134**	*i* Pn	**Pn**	**13 19 35.5**	**-1.0**
	SNR=5.5						
SOHO	**SOHO**	**13.75**	**134**	P	**Pn**	**13 19 36.1**	**-0.4**
SOHO				S	Sn	13 22 01.6	-7.7
UMZA	**Um Al Zommool**	**14.10**	**141**	P	**Pn**	**13 19 40.6**	**-0.7**
UMZA				S	Sn	13 22 08.3	-10
ARQ	**Araqi**	**14.35**	**136**	P	**Pn**	**13 19 44.7**	**0.0**
	SNR=8.1						
ARQ				S	Sn	13 22 16.9	-7.1
BIDO	**Bidbid**	**15.18**	**131**	P	**Pn**	**13 19 55.0**	**-1.0**
BSY	**Bisya**	**15.20**	**135**	P	**Pn**	**13 19 54.9**	**-1.4**
	SNR=9.6						
BSY				S	**Sn**	**13 22 36.2**	**-8.6**
SMDO	**Samad**	**15.47**	**132**	P	**Pn**	**13 19 58.7**	**-1.2**
SMDO				S	Sn	13 22 42.0	-9.5
WSAR	**Wadi Sarin**	**15.70**	**130**	Pn	**Pn**	**13 19 59.5**	**-3.4**
	comp=Z,1.6nm,0.3s,baz=332,slow=3.7,SNR=18						
WSAR				Sn	Sn	13 22 48.3	-8.7
	comp=Z,1.1nm,0.3s,baz=111,slow=15,SNR=5.5						
	comp=Z,6.0nm,0.5s						
NGCH	**Negor - Chabah**	**16.01**	**119**	P	**Pn**	**13 20 05.3**	**-1.4**
WBK	**Wadi Bani Khal**	**16.37**	**131**	P	**Pn**	**13 20 11.7**	**+0.2**
MHTO	**MHTO**	**17.02**	**137**	P	**Pn**	**13 20 18.0**	**-1.6**
	SNR=14						
MHTO				S	Sn	13 23 20.3	-8.6
DOK	**Doka**	**17.20**	**152**	P	**Pn**	**13 20 19.8**	**-2.0**
	SNR=6.3						
VRH	**Novokhopyorsk**	**17.30**	**352**	*e*P	**Pn**	**13 20 21.4**	**-1.5**
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WHFO	**Wadi Hawf**	**17.70**	**154**	P	**Pn**	**13 20 26.1**	**-2.0**
	SNR=14						
VSR	**Storozhevoye**	**17.72**	**346**	*e*P	**Pn**	**13 20 27.7**	**-0.4**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ABTO	**Aybut**	**18.05**	**156**	P	**Pn**	**13 20 30.7**	**-1.9**
VORR	**Voronezh**	**18.14**	**347**	*e*P	**Pn**	**13 20 33.2**	**-0.2**
VORR				pmax	pmax		
	comp=Z,30nm,1.0s						
RBK	**Rabkut**	**18.24**	**153**	P	**Pn**	**13 20 33.4**	**-1.5**
BELG	**Belogornoye**	**18.30**	**4**	P	**Pn**	**13 20 35.2**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=95,slow=2.5,SNR=8.4						
	comp=Z,39nm,0.7s						
DMTO	**DMTO**	**18.34**	**151**	P	**Pn**	**13 20 33.9**	**-2.1**
ABKAR	**Akbulak array**	**18.44**	**31**	P	**P**	**13 20 34.6**	**-2.3**
AKTO	**Aktyubinsk**	**18.63**	**25**	P	**P**	**13 20 40.0**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=215,slow=10,SNR=9.7						
	comp=Z,4.1nm,0.9s						
LPSR	**Galich'ya Gora**	**19.08**	**347**	*e*P	**P**	**13 20 43.5**	**-0.5**
LPSR				pmax	pmax		
	comp=Z,130nm,0.9s						
KBL	**Kabul**	**19.30**	**82**		**P**	**13 20 47.7**	**+0.9**
KBL	**Kabul**	**19.30**	**82**	P	**Pn**	**13 20 51.5**	**+3.8**
	SNR=6.2						
KBL	**Kabul**	**19.30**	**82**	P	**P**	**13 20 47.7**	**+0.9**
KBL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SIMJ	**Simiganj**	**19.30**	**70**	P	**P**	**13 20 47.8**	**+1.1**
NDNU	**Novodnistrovsk**	**19.86**	**322**	P	**P**	**13 20 54.5**	**+1.9**
KMPD	**K-Podol'skiy**	**20.31**	**321**	P	**P**	**13 20 56.6**	**-0.9**
	comp=Z,7μ

MOS				*e*			13 21 45.6	
MOS				pmax	pmax			
	comp=Z,39nm,0.6s							
MNK	**Minsk**	**23.88**	**334**	*i* P		**P**	**13 21 34.3**	**-0.7**
	comp=E,22nm,0.9s							
MNK				*i* P		**P**	**13 21 34.3**	**-0.7**
	comp=N,14nm,0.8s							
MNK				*i* P		**P**	**13 21 34.3**	**-0.7**
	comp=Z,25nm,0.8s,baz=141							
MNK				*i* sP		**PnPn**	**13 22 07.8**	**+4.8**
MNK				*i* S		**S**	**13 25 42.6**	**-8.5**
MNK				*i* sS		Sn	13 26 21.0	+7.4
MNK	**Minsk**	**23.88**	**334**	*i* P		**P**	**13 21 34.3**	**-0.7**
MNK				*i* *SP		**PnPn**	**13 22 07.8**	**+4.8**
MNK				*i* S		**S**	**13 25 42.5**	**-8.5**
MNK				pmax	pmax			
	comp=Z,25nm,0.8s							
MNK				pmax	pmax			
	comp=N,14nm,0.8s							
MNK				pmax	pmax			
	comp=E,22nm,0.9s							
ARTI	**Arti**	**23.91**	**18**	P		**P**	**13 21 34.6**	**-0.6**
ARTI				IAmb	IAmb		13 21 49.7	
	comp=Z,18nm,1.0s							
ARTI	**Arti**	**23.91**	**18**	P		**P**	**13 21 34.9**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=214,slow=10,SNR=5.6							
	comp=Z,3.7nm,0.7s							
ARTI	**Arti**	**23.91**	**18**	*d i* P		**P**	**13 21 36.6**	**+1.4**
ARTI							13 22 05.0	
ARTI				SS		SnSn	13 26 53.7	+23
ARTI				pmax	pmax			
	comp=Z,30nm,2.5s							
AAK	**Ala-Archa**	**24.04**	**61**	P		**P**	**13 21 35.8**	**-1.1**
AAK	**Ala-Archa**	**24.04**	**61**	P		**P**	**13 21 36.6**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=211,slow=18,SNR=1.5							
	comp=Z,0.4nm,0.4s							
KIRV	**Kirov**	**24.58**	**5**	P		**P**	**13 21 40.7**	**-0.7**
	comp=Z,26nm,0.6s,baz=7.5,slow=1.1,SNR=13							
	comp=Z,26nm,0.6s							
KIRV	**Kirov**	**24.58**	**5**	*ce* P		**P**	**13 21 41.1**	**-0.3**
NACGM	**Naroch**	**24.60**	**333**	*e* P		**P**	**13 21 41.7**	**+0.1**
	comp=Z,28nm,0.9s,baz=140							
KSH	**Kashi**	**24.77**	**69**	P		**P**	**13 21 40.0**	**-3.5**
KSH				pmax	pmax			
	comp=Z,4.0nm,3.4s							
BRVK	**Borovoye**	**25.77**	**35**	P		**P**	**13 21 52.9**	**+0.6**
BRVK	**Borovoye**	**25.77**	**35**	*ce* P		**P**	**13 21 53.7**	**+1.4**
BRVK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
BVAR	**Borovoye Array**	**25.80**	**35**	P		**P**	**13 21 53.6**	**+1.0**
	comp=Z,5.8nm,0.8s,baz=226,slow=7.7,SNR=19							
BVAR				LR		LR	13 33 48.8	
	comp=Z,93nm,18.4s,baz=258,slow=40							
	comp=Z,5.8nm,0.8s							
MORC	**Moravsky Berou**	**25.91**	**316**	P		**P**	**13 21 54.0**	**+0.4**
MORC	**Moravsky Berou**	**25.91**	**316**	P		**P**	**13 21 54.0**	**+0.4**
MORC				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KDJ	**Kajisay**	**25.92**	**63**	P		**P**	**13 21 54.1**	**+0.1**
KDJ	**Kajisay**	**25.92**	**63**	P		**P**	**13 21 54.1**	**+0.1**
KDJ				pmax	pmax			
	comp=Z,7.0nm,1.2s							
KLMR	**Klimovskoe**	**27.03**	**353**	*e* P		**P**	**13 22 01.7**	**-1.8**
KLMR				*e* PPP		PPP	13 22 53.5	
KLMR				pmax	pmax			
	comp=Z,20nm,0.7s							
KURBB	**Kurchatov Arra**	**29.02**	**45**	P		**P**	**13 22 22.6**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=251,slow=8.8,SNR=8.7							
	comp=Z,0.8nm,0.3s							
KURK	**Kurchatov**	**29.11**	**45**	P		**P**	**13 22 22.6**	**+0.4**
FINES	**FINESS Array B**	**30.08**	**341**	P		**P**	**13 22 30.4**	**-0.2**
	comp=Z,4.2nm,0.7s,baz=146,slow=10.0,SNR=8.6							
	comp=Z,4.2nm,0.7s							
FINES	**FINESS Array B**	**30.08**	**341**	*i* P		**P**	**13 22 31.5**	**+0.8**
FINES				pmax	pmax			
	comp=Z,4.0nm,0.7s							
MK31	**Makanchi Array**	**30.31**	**54**	*ce* P		**P**	**13 22 33.0**	**0.0**
MKAR	**Makanchi Array**	**30.31**	**54**	P		**P**	**13 22 34.5**	**+1.5**
	comp=Z,2.1nm,0.7s,baz=253,slow=6.8,SNR=13							
	comp=Z,2.1nm,0.7s							
HFS	**Hagfors**	**33.31**	**331**	P		**P**	**13 22 56.8**	**-2.3**
	comp=Z,7.4nm,0.7s,baz=123,slow=6.3,SNR=14							
	comp=Z,7.4nm,0.7s							
ZAA0	**Zalesovo Array**	**33.82**	**42**	P		**P**	**13 23 03.3**	**-0.3**
ZAA0				IAmb	IAmb		13 23 16.7	
	comp=Z,7.5nm,1.4s							
ZALV	**Zalesovo Beam**	**33.82**	**42**	P		**P**	**13 23 02.1**	**-1.5**
ZALV	**Zalesovo Beam**	**33.82**	**42**	P		**P**	**13 23 04.3**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=262,slow=8.8,SNR=9.1							
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**33.82**	**42**	*i* P		**P**	**13 23 04.4**	**+0.8**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
LVZ	**Lovozero**	**34.40**	**353**	*ce* P		**P**	**13 23 07.6**	**-0.9**
LVZ				pmax	pmax			
	comp=Z,74nm,2.5s							
KMBO	**Kilima Mbogo**	**35.96**	**194**	LR		LR	13 37 14.6	
	comp=Z,50nm,19.2s,baz=72,slow=35							
ARCES	**ARCESS Array B**	**37.18**	**348**	P		**P**	**13 23 31.9**	**-0.5**
	comp=Z,7.6nm,1.0s,baz=162,slow=8.8,SNR=26							
ARCES				LR		LR	13 40 13.2	
	comp=Z,213nm,18.8s,baz=230,slow=38							
	comp=Z,7.6nm,1.0s							
EKA	**Eskdalemuir Ar**	**39.61**	**318**	P		**P**	**13 23 51.2**	**-1.8**
	comp=Z,1.6nm,0.6s,baz=108,slow=8.3,SNR=4.1							
	comp=Z,1.6nm,0.6s							
NRIK	**Noril'sk**	**42.15**	**21**	P		**P**	**13 24 15.1**	**+1.4**
NRIK				IAmb	IAmb		13 24 16.4	
	comp=Z,13nm,1.3s							
NRIK	**Noril'sk**	**42.15**	**21**	P		**P**	**13 24 15.1**	**+1.4**
NRIK				pmax	pmax			
	comp=Z,13nm,1.3s							
GTA	**Gaotai**	**43.14**	**67**	*e* P		**P**	**13 24 24.3**	**+2.0**
GTA				pP	sP		13 24 29.0	+2.0
GTA				pmax	pmax			
	comp=Z,6.0nm,1.2s							
SPITS	**Spitsbergen Ar**	**45.92**	**352**	P		**P**	**13 24 44.1**	**+0.3**
	comp=Z,3.4nm,0.3s,baz=138,slow=12,SNR=13							
	comp=Z,3.4nm,0.3s							
LZH	**Lanzhou**	**47.01**	**70**	*e* P		P	13 24 47.5	-5.6
LZH				sP		pP	13 24 54.3	-2.2
LZH				pmax	pmax			
	comp=Z,10.0nm,1.1s							
ULN	**Ulaanbaatar**	**47.12**	**54**	*ce* P		**P**	**13 24 52.6**	**-1.2**
ULN				pmax	pmax			
	comp=Z,8.0nm,1.7s							
PZH	**PanZhiHua**	**48.48**	**83**	P		**P**	**13 25 06.5**	**+1.8**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,180nm,6.7s							
CMAR	**Chiang Mai Arr**	**49.71**	**94**	P		**P**	**13 25 13.3**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=296,slow=8.5,SNR=17							
	comp=Z,2.1nm,0.7s							
XAN	**Xi'an**	**51.59**	**71**	P		**P**	**13 25 25.8**	**-2.3**
XAN				pmax	pmax			
	comp=Z,17nm,1.0s							
HHC	**Hu-ho-hao-te**	**51.61**	**62**	*e* P		**P**	**13 25 28.5**	**+0.3**
HHC				pmax	pmax			
	comp=Z,7.0nm,1.2s							
HHC				pmax	pmax			
	comp=Z,85nm,4.2s							
TIXI	**Tiksi**	**55.88**	**22**	*ce* P		**P**	**13 25 58.7**	**-0.1**
TIXI				pmax	pmax			
	comp=Z,6.0nm,1.3s							
YAK	**Yakutsk**	**57.76**	**34**	LR		LR	13 55 41.5	
	comp=Z,45nm,18.8s,baz=305,slow=41							
YAK	**Yakutsk**	**57.76**	**34**	*i* P		**P**	**13 26 12.8**	**+0.5**
YAK				pmax	pmax			
	comp=Z,46nm,3.1s							
NJ2	**Nanjing**	**60.08**	**70**	*e* P		**P**	**13 26 29.3**	**+0.4**
NJ2				pmax	pmax			
	comp=Z,6.0nm,0.6s							
KSRS	**Korea Array**	**64.70**	**61**	P		**P**	**13 26 59.2**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=282,slow=6.6,SNR=6.4							
	comp=Z,1.5nm,0.6s							
SEY	**Seymchan**	**67.19**	**28**	*i* P		**P**	**13 27 13.2**	**-2.2**
SEY				pmax	pmax			
	comp=Z,7.0nm,0.9s							
E22K	**Anaktuvuk Pass**	**77.20**	**7**	IAmb	IAmb		13 28 17.2	
	comp=Z,4.0nm,0.9s							
E28M	**Babbage River**	**77.50**	**2**	IAmb	IAmb		13 28 23.6	
	comp=Z,7.7nm,1.3s							
F21K	**Alatna River**	**77.91**	**8**	IAmb	IAmb		13 28 21.6	
	comp=Z,6.5nm,1.1s							
F24K	**Squaw Lake**	**78.14**	**5**	IAmb	IAmb		13 28 22.7	
	comp=Z,3.0nm,0.8s							
F31M	**Tsiigehtchic**	**78.74**	**360**	P		**P**	**13 28 24.1**	**+0.4**
G31M	**Satah River**	**79.26**	**360**	P		**P**	**13 28 27.0**	**+0.5**
H21K	**Melozitna Rive**	**79.50**	**8**	P		**P**	**13 28 29.2**	**+1.3**
H23K	**Yukon River**	**79.67**	**6**	IAmb	IAmb		13 28 36.9	
	comp=Z,4.1nm,0.9s							
EPYK	**Eagle Plains**	**79.80**	**1**	IAmb	IAmb		13 28 35.3	
	comp=Z,5.4nm,0.8s							
H29M	**Whitestone**	**79.92**	**2**	P		**P**	**13 28 31.2**	**+1.0**
H29M				IAmb	IAmb		13 28 38.4	
	comp=Z,4.1nm,0.9s							
H31M	**Peel River**	**80.38**	**0**	P		**P**	**13 28 31.8**	**-0.9**
H31M				IAmb	IAmb		13 29 00.5	
	comp=Z,6.2nm,1.2s							
I28M	**Miner Creek**	**80.64**	**2**	IAmb	IAmb		13 28 41.2	
	comp=Z,3.5nm,0.9s							
J20K	**Nowinta River**	**80.77**	**9**	P		**P**	**13 28 34.3**	**-0.5**
J20K				IAmb	IAmb		13 28 37.0	
	comp=Z,5.4nm,0.9s							
ILAR	**Eielson Array**	**80.93**	**5**	P		**P**	**13 28 35.7**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=326,slow=3.7,SNR=11							
	comp=Z,1.0nm,0.9s							
I30M	**Mount Dempster**	**80.95**	**1**	IAmb	IAmb		13 28 41.5	
	comp=Z,3.1nm,0.7s							
J25K	**Salcha River,**	**81.19**	**5**	P		**P**	**13 28 37.4**	**+0.3**
J25K				IAmb	IAmb		13 28 39.3	
	comp=Z,8.5nm,1.4s							
K20K	**Telida**	**81.57**	**9**	P		**P**	**13 28 39.2**	**+0.1**
K20K				IAmb	IAmb		13 28 41.3	
	comp=Z,4.6nm,0.9s							
J30M	**Hart River**	**81.60**	**1**	IAmb	IAmb		13 28 41.9	
	comp=Z,7.4nm,1.3s							
CAST	**Castle Rocks**	**81.75**	**8**	IAmb	IAmb		13 28 47.8	
	comp=Z,6.2nm,1.1s							
SCRK	**Sand Creek**	**81.92**	**4**	P		**P**	**13 28 41.5**	**+0.5**
WRA	**Warramunga Arr**	**99.86**	**107**	P		**Pdif**	**13 30 05.1**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=313,slow=3.7,SNR=3.0							

*IDC **29** 13:17:50.9±1.0, 37.71N×20.70E, h0km, mb3.9/11, mbtmp3.8/14, ML3.9/3, MS3.6/9, Error ellipse: s-maj=25.6km s-min=18.3km az=149.0*
*ATH **29** 13:17:52.3, 37.65N×20.26E, h4km, ML4.0/22, Manual Solution by A.Papageorgiou First location: 2018/11/29 13:18:29, This location: 2020/07/20 07:19:43 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*
*THE **29** 13:17:52.9, 37.66N×20.35E, h15km, ML3.8/9, Error ellipse: s-maj=1.5km s-min=0.7km az=57.0*

ISC 29 13:17:54.1±0.6, 37.73N±0.03×20.38E±0.04, h21km±2km, n82, σ1.53/112, mb3.9/11, MS3.8/6, 8C-2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.35**	**102**	P	**Pb**	**13 18 00.5**	**-1.1**
KRI1				S	**Sb**	**13 18 06.1**	**-0.6**
	90μm,0.5s						
LTHK	**Lithakia**	**0.36**	**94**	P	**Pb**	**13 18 00.6**	**-1.1**
LTHK				S	**Sb**	**13 18 06.3**	**-0.6**
	88μm,0.6s						
LTHK	**Lithakia**	**0.36**	**94**	P	**Pb**	**13 18 01.2**	**-0.5**
LTHK				S	**Sb**	**13 18 06.6**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.41**	**23**	P	**Pb**	**13 18 02.2**	**-0.4**
PSDA				S	**Sb**	**13 18 09.4**	**+1.0**
	12μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.41**	**23**	P	**Pb**	**13 18 02.5**	**-0.1**
PSDA				S	**Sb**	**13 18 09.8**	**+1.5**
RTZL	**Ratzakli, Kefa**	**0.46**	**42**	P	**Pb**	**13 18 03.1**	**-0.4**
RTZL				S	**Sn**	**13 18 11.6**	**-1.4**
VLS	**Valsamata**	**0.47**	**20**	P	**Pb**	**13 18 03.3**	**-0.4**
VLS				S	**Sb**	**13 18 11.6**	**+1.4**
	8μm,0.4s						
VLS	**Valsamata**	**0.47**	**20**	P	**Pb**	**13 18 03.7**	**0.0**
VLS				S	**Sb**	**13 18 11.6**	**+1.4**
DMLN	**Damoulianata-K**	**0.50**	**359**	P	**Pb**	**13 18 03.9**	**-0.4**
DMLN				S	**Sn**	**13 18 13.9**	**-0.2**
	14μm,0.6s						
DMLN	**Damoulianata-K**	**0.50**	**359**	P	**Pb**	**13 18 04.3**	**0.0**
DMLN				S	**Sb**	**13 18 12.2**	**+1.0**
SMHA	**Samh**	**0.56**	**22**	P	**Pb**	**13 18 05.0**	**-0.3**
SMHA				S	**Sb**	**13 18 14.0**	**+1.2**
VSK1	**VASILIKIADES**	**0.69**	**12**	P	**Pb**	**13 18 07.2**	**-0.3**
VSK1				S	**Sn**	**13 18 18.8**	**+0.1**
	8μm,1.0s						
LCHA	**Lechaina**	**0.73**	**73**	P	**Pn**	**13 18 08.6**	**-0.5**
LCHA				S	**Sn**	**13 18 19.6**	**0.0**
FSK	**Fiskardo**	**0.74**	**11**	P	**Pb**	**13 18 08.2**	**0.0**
FSK				S	**Sn**	**13 18 20.3**	**+0.4**
	7μm,0.8s						
FSK	**Fiskardo**	**0.74**	**11**	P	**Pb**	**13 18 08.3**	**0.0**
FSK				S	**Sn**	**13 18 19.9**	**+0.1**
EVGI	**Lefkada island**	**0.91**	**14**	P	**Pb**	**13 18 11.0**	**-0.2**
EVGI				S	**Sn**	**13 18 25.7**	**+1.5**
	4μm,0.3s						
EVGI	**Lefkada island**	**0.91**	**14**	P	**Pb**	**13 18 11.4**	**+0.2**
EVGI				S	**Sn**	**13 18 25.0**	**+0.8**
RLS	**Riolos of Patr**	**0.92**	**69**	P	**Pb**	**13 18 10.8**	**-0.5**
RLS				S	**Sn**	**13 18 25.1**	**+0.8**
	7μm,1.1s						
RLS	**Riolos of Patr**	**0.92**	**69**	P	**Pn**	**13 18 11.7**	**0.0**
RLS				S	**Sn**	**13 18 25.6**	**+1.3**
DRAG	**Dragano-Lefkad**	**0.96**	**9**	P	**Pb**	**13 18 12.1**	**0.0**
DRAG	**Dragano-Lefkad**	**0.96**	**9**	P	**Pn**	**13 18 12.5**	**+0.1**
DRAG				S	**Sn**	**13 18 26.7**	**+1.3**
ZARO	**Zacharo**	**1.04**	**103**	P	**Pn**	**13 18 14.2**	**+0.9**
ZARO				S	**Sn**	**13 18 28.2**	**+1.0**
DRO	**Drossia**	**1.07**	**78**	P	**Pb**	**13 18 14.7**	**+0.7**
DRO				S	**Sn**	**13 18 30.4**	**+2.2**
LKD2	**Lefkada island**	**1.08**	**12**	P	**Pb**	**13 18 14.8**	**+0.7**
LKD2				S	**Sn**	**13 18 30.3**	**+2.0**
TSLK	**Tsoukalades, L**	**1.11**	**11**	P	**Pb**	**13 18 14.6**	**0.0**
TSLK				S	**Sn**	**13 18 29.8**	**+0.7**
TSLK	**Tsoukalades, L**	**1.11**	**11**	P	**Pb**	**13 18 15.3**	**+0.7**
TSLK				S	**Sn**	**13 18 32.0**	**+3.0**
PVO	**Paravola**	**1.26**	**45**	P	**Pb**	**13 18 17.9**	**+0.7**
PVO				S	**Sb**	**13 18 36.6**	**+3.6**
PYL1	**Pylos**	**1.33**	**128**	P	**Pb**	**13 18 19.4**	**+1.1**
PYL1				S	**Sb**	**13 18 37.5**	**+2.7**
ITM	**Ithomi**	**1.35**	**114**	P	**Pn**	**13 18 16.7**	**-1.0**
ITM				S	**Sn**	**13 18 34.9**	**-0.1**
ITM	**Ithomi**	**1.35**	**114**	P	**Pb**	**13 18 18.8**	**+0.1**
ITM				S	**Sb**	**13 18 37.4**	**+2.0**
PYL4	**Kinigos solar**	**1.35**	**127**	P	**Pb**	**13 18 18.4**	**-0.3**
PYL4				S	**Sb**	**13 18 36.9**	**+1.4**
PYL2	**Kinigos**	**1.35**	**127**	P	**Pb**	**13 18 18.3**	**-0.4**
PYL2				S	**Sb**	**13 18 37.2**	**+1.6**
PYL	**PYLOS**	**1.37**	**127**	P	**Pn**	**13 18 18.1**	**+0.2**
PYL				S	**Sb**	**13 18 37.7**	**+1.6**
EFP	**Efpalio**	**1.39**	**60**	P	**Pb**	**13 18 19.9**	**+0.6**
EFP				S	**Sb**	**13 18 40.8**	**+4.2**
MTHA	**Methoni**	**1.40**	**130**	P	**Pb**	**13 18 19.3**	**-0.1**
MTHA				S	**Sb**	**13 18 38.0**	**+1.2**
KLV	**Kalavryta, Ach**	**1.43**	**77**	P	**Pb**	**13 18 20.7**	**+0.6**
KLV				S	**Sb**	**13 18 41.5**	**+3.5**
ANX	**Ano Chora**	**1.49**	**54**	P	**Pb**	**13 18 21.6**	**+0.5**
ANX				S	**Sb**	**13 18 43.7**	**+4.2**
KALE	**Kalithea**	**1.54**	**64**	P	**Pb**	**13 18 22.2**	**+0.3**
KALE				S	**Sb**	**13 18 44.0**	**+3.1**
GUR	**Goura**	**1.56**	**82**	P	**Pb**	**13 18 22.8**	**+0.4**
GUR				S	**Sb**	**13 18 44.5**	**+2.7**
DLFA	**Delphi**	**1.83**	**65**	P	**Pb**	**13 18 26.1**	**-0.7**
KEK	**Kerkira**	**2.03**	**347**	P	**Pb**	**13 18 29.4**	**-0.8**
LTK	**Loutraki**	**2.07**	**81**	P	**Pb**	**13 18 29.7**	**-1.2**
LTK				S	**Sb**	**13 18 57.0**	**+0.8**
VLI	**Veliai**	**2.28**	**116**	P	**Pn**	**13 18 32.1**	**+1.7**
VLI				S	**Sb**	**13 19 01.3**	**-0.9**
VIL2	**Platees**	**2.33**	**77**	P	**Pb**	**13 18 33.6**	**-1.8**
VIL2				S	**Sb**	**13 19 04.1**	**+0.4**
KPRO	**Kipourio**	**2.35**	**19**	P	**Pb**	**13 18 34.5**	**-1.3**
TIP	**Timpagrande**	**3.19**	**298**	↓P	Pb	13 18 58.5	+8.4
OHR	**Ohrid**	**3.39**	**5**	*i* Pn	**Pb**	**13 18 50.3**	**-3.2**
MATE	**Matera**	**4.08**	**317**	↑P	Pb	13 19 11.6	+6.4
PDG	**Podgorica**	**4.77**	**350**	↑P	Pb	13 19 24.2	+7.3
BOVS	**Bovan**	**5.98**	**9**	↑P	**Pb**	**13 19 34.5**	**-3.1**
ELND	**Elena**	**6.67**	**37**	↑P	**Pn**	**13 19 31.3**	**+0.4**
GZR	**Gura Zlata**	**7.86**	**12**	↓P	**Pn**	**13 19 51.0**	**+3.8**
ARR	**Arges**	**8.27**	**21**	↑P	**Pn**	**13 19 52.0**	**-0.8**
MLR	**Muntele Rosu**	**8.80**	**26**	Pn	**Pn**	**13 19 57.8**	**-2.3**
	0.2nm,0.3s,baz=190,slow=11,SNR=2.4						
MLR				LR	LR	13 23 48.5	
	comp=Z,278nm,20.9s,baz=232,slow=41						
	1.8nm,0.5s						
MLR	**Muntele Rosu**	**8.80**	**26**	⇑P	Pn	13 19 53.1	-7.0
KEST	**Kesra**	**9.08**	**261**	Pn	**Pn**	**13 20 06.1**	**+2.1**
	0.1nm,0.3s,baz=104,slow=4.2,SNR=1.7						
	2.7nm,0.7s						
MARR	**Marisel-Cluj**	**9.16**	**12**	⇑P	**Pn**	**13 20 02.0**	**-3.1**
DRGR		**9.21**	**10**	⇑P	**Pn**	**13 20 03.6**	**-2.2**
BRTR	**Keskin Array B**	**10.55**	**75**	Pn	Pn	13 20 17.1	-7.0
	baz=287,slow=13,SNR=1.0						
LUBAR	**Lubar, Ukraine**	**13.29**	**21**	P	**Pn**	**13 20 59.9**	**-1.4**
RNPP5	**Staryi Chortor**	**14.05**	**14**	P	**P**	**13 21 17.4**	**-2.0**
RNPP8	**Varash**	**14.14**	**14**	P	**P**	**13 21 18.9**	**-1.5**
RNPP9	**Sopachiv**	**14.22**	**14**	P	**P**	**13 21 19.2**	**-2.1**
AKASG	**Malin Array Be**	**14.41**	**23**	LR	LR	13 26 47.6	
	comp=Z,154nm,18.2s,baz=309,slow=37						
ESDC	**Sonseca Array**	**19.09**	**283**	P	**Pn**	**13 22 19.1**	**+2.9**
	0.3nm,0.3s,baz=73,slow=10,SNR=2.7						
	1.3nm,0.9s						
GNI	**Garni**	**19.09**	**75**	LR	LR	13 29 44.3	
	comp=Z,74nm,20.9s,baz=300,slow=38						
EKA	**Eskdalemuir Ar**	**23.73**	**325**	P	**P**	**13 23 05.6**	**+1.1**
	3.2nm,0.9s,baz=124,slow=11,SNR=2.0						
	3.2nm,0.9s						
FINES	**FINESS Array B**	**24.00**	**7**	P	**P**	**13 23 07.6**	**+0.6**
	2.7nm,0.4s,baz=170,slow=9.9,SNR=11						
	2.7nm,0.4s						
NOA	**NORSAR Array B**	**24.03**	**349**	P	**P**	**13 23 07.9**	**+0.5**
	0.9nm,0.7s,baz=156,slow=6.1,SNR=3.0						
	0.9nm,0.7s						
NOA	**NORSAR Array B**	**24.03**	**349**	P	**P**	**13 23 07.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**29.62**	**219**	P	**P**	**13 23 58.7**	**+0.8**
	0.6nm,0.8s,baz=28,slow=9.8,SNR=5.8						
TORD				LR	LR	13 35 46.7	
	comp=Z,66nm,18.8s,baz=320,slow=36						
	0.6nm,0.8s						
ARCES	**ARCESS Array B**	**31.98**	**3**	P	**P**	**13 24 18.5**	**+0.2**
	4.2nm,0.9s,baz=182,slow=9.9,SNR=2.1						
	4.2nm,0.9s						
KURBB	**Kurchatov Arra**	**42.58**	**53**	P	**P**	**13 25 47.6**	**-0.8**
	0.6nm,0.3s,baz=281,slow=9.0,SNR=1.9						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**45.63**	**58**	P	**P**	**13 26 12.1**	**-0.8**
	0.3nm,0.3s,baz=273,slow=7.4,SNR=8.5						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**46.07**	**48**	P	**P**	**13 26 15.6**	**-0.6**
	2.1nm,0.4s,baz=276,slow=8.8,SNR=12						
	2.1nm,0.4s						
SONM	**Songino Array**	**60.83**	**50**	P	**P**	**13 28 02.1**	**-2.6**
	0.4nm,0.5s,baz=289,slow=4.4,SNR=2.4						
	0.4nm,0.5s						
LBTB	**Lobatse**	**62.61**	**175**	LR	LR	14 00 21.2	
	comp=Z,50nm,20.8s,baz=2.5,slow=41						
BOSA	**Boshof**	**66.16**	**175**	LR	LR	13 58 56.9	
	comp=Z,59nm,18.8s,baz=18,slow=37						
CMAR	**Chiang Mai Arr**	**70.06**	**82**	P	**P**	**13 29 03.0**	**-1.8**
	0.9nm,0.6s,baz=302,slow=8.4,SNR=4.2						
	0.9nm,0.6s						
USRK	**Ussuriysk Ar.**	**77.68**	**43**	LR	LR	14 06 31.6	
	comp=Z,58nm,18.0s,baz=147,slow=38						
KSRS	**Korea Array**	**79.70**	**50**	P	**P**	**13 29 59.8**	**-0.4**
	1.3nm,1.0s,baz=323,slow=4.9,SNR=2.7						
KSRS				LR	LR	14 10 29.2	
	comp=Z,34nm,18.8s,baz=80,slow=40						
	1.3nm,1.0s						
KDAK	**Kodiak Island**	**84.66**	**356**	LR	LR	14 09 49.1	
	comp=Z,45nm,20.4s,baz=259,slow=37						

*IDC **29** 13:36:55.7±1.1, 3.40S×129.26E, h0km, mb3.8/5, mbtmp3.8/8, ML3.7/3, Error ellipse: s-maj=40.1km s-min=19.4km az=77.0*
*DJA **29** 13:36:59.5±0.5, 3°S±2°×13°0E±°, h17km±4km, M3.8/11, MLv3.8/11*

ISC 29 13:36:57.7±0.8, 2.87S±0.04×130.14E±0.04, h25km, n17, σ2.49/20, mb3.8/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.30**	**249**	P	**Pb**	**13 37 21.4**	**-0.2**
MSAI				S	**Sb**	**13 37 38.9**	**+1.0**
BNDI	**Bandanaira**	**1.66**	**188**	P	**Pb**	**13 37 27.1**	**-0.6**
BNDI				S	**Sb**	**13 37 50.6**	**+2.4**
FAKI	**Fak Fak**	**2.10**	**91**	P	**Pb**	**13 37 34.1**	**-1.1**
FAKI				S	**Sb**	**13 38 02.8**	**+1.9**
AAI	**Ambon**	**2.11**	**247**	P	**Pn**	**13 37 32.9**	**+1.4**
SWI	**Sorong**	**2.28**	**29**	P	**Pb**	**13 37 36.5**	**-1.8**
SWI				S	**Sb**	**13 38 06.9**	**+0.8**
NLAI	**Namlea**	**3.06**	**263**	P	**Pn**	**13 37 46.3**	**+1.7**
NLAI		

s-maj=1.4km s-min=0.8km az=144.0
*ECX **29** 13:48:54.0±0.6, 33°.01N×116°.00W, h3km±3km, MD3.7, ML3.9*

ISC 29 13:48:52.8±0.8, 33°.00N±0°.01×116°.02W±0°.01, h13km±6km, n124, σ0.99/168, 15C-20D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRR	Carrizo Plain	0.12	159		Pb	13 48 56.5	-0.5
CRR					Sb	13 48 59.1	-0.6
SUP	Superstition M	0.17	105		Pg	13 48 56.6	-0.1
SUP					Sg	13 48 59.0	-0.4
SWSC	Sam W. Stewart	0.19	106		Pg	13 48 57.0	-0.1
SWSC					Sg	13 48 59.6	-0.4
SWSC	Sam W. Stewart	0.19	106	⇑iP	Pg	13 48 57.0	-0.1
SWSC				eS	Sg	13 48 59.8	-0.2
ERRC	Elmore Ranch	0.20	55		Pb	13 49 01.1	+2.7
SLH	Sleepy Hollow	0.28	314		Pb	13 48 59.2	-0.4
SLH					Sb	13 49 04.0	-0.3
SLH	Sleepy Hollow	0.28	314	⇓iP	Pb	13 48 59.2	-0.4
SLH				eS	Sb	13 49 03.8	-0.5
SALN	Salton City	0.28	6		Pg	13 48 58.9	+0.3
SALN					Sg	13 49 03.3	+0.8
COK2	Cook Ranch 2	0.29	121		Pb	13 48 59.3	-0.5
COK2					Sb	13 49 04.2	-0.4
COK2	Cook Ranch 2	0.29	121	⇓iP	Pb	13 48 59.3	-0.5
COK2				eS	Sb	13 49 04.2	-0.4
WESC	Westside Schoo	0.34	135		Sb	13 49 06.4	+0.3
WESC	Westside Schoo	0.34	135	⇓iP	Pb	13 49 00.4	-0.3
WESC				i S	Sb	13 49 06.2	+0.1
MONP2	Monument Peak	0.35	252		Pb	13 49 01.0	-0.2
MONP2					Sb	13 49 06.5	-0.2
MONP2	Monument Peak	0.35	252	⇑iP	Pb	13 49 01.0	-0.2
MONP2				i S	Sb	13 49 06.5	-0.2
MONP2				⇓e		13 49 06.8	
MONP2				IAML		13 49 06.8	
	comp=N,10μm,0.1s						
MONP2				IAML		13 49 07.1	
	comp=E,7μm,0.5s						
IKP	In-Ko-Pah, Jac	0.36	192		Pb	13 49 00.8	-0.3
IKP					Sb	13 49 06.2	-0.5
IKP	In-Ko-Pah, Jac	0.36	192	⇓iP	Pb	13 49 00.8	-0.3
IKP				eS	Sb	13 49 06.1	-0.6
YUH	Yuha Desert	0.36	167		Pg	13 49 00.3	+0.2
YUH	Yuha Desert	0.36	167		Sb	13 49 05.9	-0.7
YUH	Yuha Desert	0.36	167	IAML		13 49 06.2	
	comp=N,12μm,0.4s						
YUH				IAML		13 49 06.4	
	comp=E,9μm,0.2s						
YUH2	Yuha Desert	0.36	167	⇓iP	Pb	13 49 00.6	-0.5
YUH2				eS	Sb	13 49 05.8	-0.8
WEMD	Westmorland, C	0.37	84		Pg	13 49 00.8	+0.5
WEMD					Sb	13 49 06.7	-0.3
WEMD	Westmorland, C	0.37	84	⇑iP	Pg	13 49 00.8	+0.5
CLI2	Calipatria 2	0.39	72		Pb	13 49 01.1	-0.4
CLI2					Sb	13 49 07.4	-0.1
IMPE	Imperial	0.40	104		Pb	13 49 01.6	-0.1
IMPE					Sb	13 49 08.1	+0.4
RMX	La Rumorosa	0.40	187		Pb	13 49 02.3	+0.4
RMX					Sb	13 49 08.6	+0.6
RMX	La Rumorosa	0.40	187	⇓eP	Pb	13 49 02.3	+0.4
RMX				eS	Sb	13 49 08.6	+0.6
RMX				⇓e		13 49 10.9	
BORC	Borrego Spring	0.43	309		Pb	13 49 01.7	-0.6
BORC					Sb	13 49 07.8	-0.9
BOMB	Bombay Beach	0.44	34		Sg	13 49 07.7	+0.3
CEA0	Mexicali	0.46	139	⇓eP	Pb	13 49 02.2	-0.5
JUEM	Julian Eagle M	0.49	280		Sb	13 49 10.3	-0.3
SNR	Schaffner Ranc	0.51	106		Pb	13 49 03.3	-0.3
SNR					Sb	13 49 11.8	+0.8
FRK	Frink	0.51	38		Pg	13 49 02.3	-0.6
DREC	Desert Rsrch C	0.52	112		Pb	13 49 03.8	0.0
DREC					Sn	13 49 12.5	-2.2
DREC	Desert Rsrch C	0.52	112	⇓eP	Pb	13 49 03.8	0.0
5053	Calexico	0.55	126		Pb	13 49 04.3	-0.1
5053					Sb	13 49 13.1	+0.9
MATG	Mataguay Scout	0.56	291		Pb	13 49 04.6	0.0
MATG					Sb	13 49 12.6	-0.1
MATG	Mataguay Scout	0.56	291	⇑eP	Pb	13 49 04.6	0.0
ICBC	Inst. de Cultu	0.57	126	⇓iP	Pb	13 49 04.5	-0.2
JARAX	Ej. Heriberto	0.59	141	⇓iP	Pg	13 49 04.6	+0.2
JARAX				i S	Sb	13 49 13.4	+0.1
UABX	UABC, Campus M	0.61	127		Pb	13 49 05.1	-0.2
UABX					Sb	13 49 14.7	+0.8
UABX	UABC, Campus M	0.61	127	eP	Pb	13 49 05.1	-0.2
UABX				i S	Sb	13 49 14.7	+0.8
BAR	Barrett	0.64	240		Sb	13 49 14.5	-0.2
BAR	Barrett	0.64	240	⇑iP	Pb	13 49 05.7	-0.1
BAR				IAML		13 49 16.8	
	comp=E,9μm,0.2s						
BAR				⇓e		13 49 16.8	
SLVP	Salvation Pass	0.65	68		Pg	13 49 04.8	-0.6
SLVP					Sg	13 49 13.3	-0.6
5054	Holtville Bond	0.65	118		Pg	13 49 05.6	+0.2
5054					Sb	13 49 15.7	+0.7
POT2	Potabilizadora	0.65	125	⇓eP	Pb	13 49 05.7	-0.3
CTCC	Cactus City	0.65	2		Pg	13 49 05.3	-0.2
CTCC					Sg	13 49 14.4	+0.1
TKX	Tecate	0.66	229		Pb	13 49 06.1	-0.1
TKX	Tecate	0.66	229		Sb	13 49 15.3	+0.1
TKX	Tecate	0.66	229	⇑eP	Pb	13 49 06.1	-0.1
TKX				eS	Sb	13 49 15.3	+0.1
CTW	Cottonwood Mou	0.69	10		Pg	13 49 05.6	-0.5
CTW					Sg	13 49 14.9	-0.4
FRD	Ford Ranch, An	0.69	316		Sb	13 49 16.0	-0.4
FRD	Ford Ranch, An	0.69	316		Sg	13 49 15.7	+0.2
FRD	Ford Ranch, An	0.69	316	⇓iP	Pb	13 49 06.7	-0.2
EML	El Monte Cty P	0.70	261		Sb	13 49 16.3	-0.3
EML	El Monte Cty P	0.70	261	⇑iP	Pb	13 49 06.8	-0.2
EML				eS	Sb	13 49 16.2	-0.3
EML				IAML		13 49 17.2	
	comp=N,6μm,0.1s						
EML				e		13 49 17.2	
EML				IAML		13 49 17.6	
	comp=E,5μm,0.2s						
EML				⇑e		13 49 17.6	
XPFO	Pinon Flat	0.71	329		Sg	13 49 15.8	-0.2
PMD	Palm Desert	0.71	335		Sg	13 49 15.6	-0.4
PFO	Pinyon Flats O	0.71	329		Pg	13 49 06.5	-0.1
PFO				IAML		13 49 17.1	
	comp=E,9μm,0.2s						
PFO				IAML		13 49 17.4	
	comp=E,16μm,0.5s						
PFO	Pinyon Flats O	0.71	329		Sg	13 49 15.8	-0.3
PFO	Pinyon Flats O	0.71	329	Pg	Pg	13 49 06.6	-0.1
	comp=E,690nm,0.3s,baz=145,slow=16,SNR=1267						
PFO				Lg	Lg	13 49 16.0	
	baz=84,slow=14						
PFO				LR	LR	13 49 26.4	
	comp=E,713nm,18.9s,baz=292,slow=48						
BZNA	Buzz No.'s Pla	0.73	312		Pb	13 49 07.5	0.0
BZNA					Sb	13 49 17.0	-0.5
SNDA	J Saunders Pla	0.74	318		Sb	13 49 18.5	+0.6
DUZA	Dulzura	0.75	239		Pb	13 49 07.7	-0.1
DUZA					Sb	13 49 18.1	+0.3
HAY	Hayfield	0.76	22		Pg	13 49 07.1	-0.5
HAY					Sg	13 49 17.6	0.0
DNR	Dunn Ranch,Anz	0.76	318		Sn	13 49 19.2	-1.8
COA	Coachella	0.77	100		Pb	13 49 06.9	-1.2
COA					Sg	13 49 17.8	0.0
COA	Coachella	0.77	100	⇓iP	Pb	13 49 06.9	-1.2
COA				eS	Sg	13 49 17.8	0.0
DPP	Dos Picos Cty	0.77	270		Sb	13 49 18.7	+0.1
PLM	Palomar	0.79	297		Sb	13 49 19.6	+0.3
PLM	Palomar	0.79	297	⇑iP	Pb	13 49 08.6	+0.1
BC3	Big Chuckawall	0.81	36		Pb	13 49 07.7	-1.1
BC3					Sb	13 49 18.4	-1.3
SDRC	San Diego Road	0.82	252		Sg	13 49 19.7	+0.3
SDRC	San Diego Road	0.82	252	⇑iP	Pg	13 49 08.8	+0.1
CRY	Cary Ranch	0.82	313		Sg	13 49 19.9	+0.3
CPBX	Cerro Prieto	0.84	134		Pb	13 49 07.9	-1.3
CPBX	Cerro Prieto	0.84	134		Sn	13 49 21.2	-1.3
CPBX	Cerro Prieto	0.84	134	⇓eP	Pb	13 49 07.9	-1.3
CPBX				⇑e		13 49 34.5	
CPBX				IAML		13 49 34.5	
	comp=N,21μm,0.5s						
OLP	Otay Lakes Par	0.86	243		Sg	13 49 21.2	+0.5
OLP	Otay Lakes Par	0.86	243	⇑eP	Pg	13 49 09.6	+0.2
OLP				eS	Sn	13 49 21.5	-1.7
GVDA	Garner Valley	0.86	321		Pb	13 49 09.2	-0.6
GVDA					Sg	13 49 21.0	+0.1
CBX	Cerro Bola	0.87	219		Pn	13 49 10.1	-0.9
CBX	Cerro Bola	0.87	219	⇑eP	Pn	13 49 10.1	-0.9
CBX				eS	Sn	13 49 22.1	-1.6
EMSC	East Mesa	0.91	106		Pb	13 49 09.0	-1.4
EMSC	East Mesa	0.91	106	⇓eP	Pb	13 49 09.0	-1.4
EMSC				eS	Sb	13 49 22.2	-0.2
CPE	Camp Elliot	0.92	263		Pg	13 49 10.5	-0.1
CPE	Camp Elliot	0.92	263	IAML		13 49 23.8	
	comp=N,10μm,0.2s						
CPE	Camp Elliot	0.92	263	⇑iP	Pg	13 49 10.5	-0.1
CPE				i S	Sn	13 49 23.5	-1.1
HGTTJ	Hospital Gral.	0.96	241	eP	Pn	13 49 11.5	-0.4
HGTTJ				eS	Sn	13 49 24.9	-0.6
AGUTJ	Tijuana	0.98	238	eP	Pn	13 49 11.9	-0.4
ESJX	Sierra Juarez	0.99	176		Pb	13 49 11.8	-0.3
ESJX				IAML		13 49 26.6	
	comp=E,7μm,0.6s						
TJX	Tijuana	1.00	241		Pn	13 49 12.5	-0.1
TJX				IAML		13 49 31.2	
	comp=N,15μm,0.7s						
TJX				IAML		13 49 33.7	
	comp=E,15μm,0.5s						
GLA	Glamis	1.00	87		Pb	13 49 10.3	-1.8
GLA				IAML		13 49 25.3	
	comp=E,12μm,0.8s						
GLA				IAML		13 49 25.8	
	comp=N,6μm,0.5s						
ALAMX	Rancho Alamar	1.02	165	eP	Pb	13 49 11.7	-0.7
ALAMX				i S	Sn	13 49 26.4	-0.8
ALAMX				IAML		13 49 28.5	
	comp=N,7μm,0.5s						
ALAMX				⇓e		13 49 28.5	
DEVC	Devers	1.04	334		Pn	13 49 12.9	-0.3
GUVIX	Guadalupe Vict	1.06	131	eP	Pb	13 49 12.1	-0.8
GUVIX				eS	Sg	13 49 27.1	+0.2
TPC	Twentynine Pal	1.10	359		Pb	13 49 12.4	-1.4
CORX	Isla Coronado	1.19	241	⇓eP	Pg	13 49 15.3	-0.4
SJX	San Joaquin	1.23	178	⇓iP	Pn	13 49 11.8	-4.0
ELS	Elsinore Mount	1.34	299	Pn	Pn	13 49 16.2	-1.2
ELS				IAML		13 49 36.3	
	comp=E,3μm,0.3s						
ELS				IAML		13 49 37.2	
	comp=N,3μm,0.3s						
113A	Mohawk Valley,	1.91	96	Pn	Pn	13 49 23.2	-1.9
PASC	Pasadena Art C	2.15	303	Pn	Pb	13 49 30.1	-1.5
PASC				IAML		13 50 01.3	
	comp=N,3μm,0.7s						
PASC				IAML		13 50 01.4	
	comp=E,2μm,0.6s						
GSC	Goldstone, Bar	2.39	344		Pb	13 49 37.0	+1.2
GSC				IAML		13 50 12.2	
	comp=E,1μm,0.6s						
Y14A	Wickenburg	2.69	69		Pn	13 49 35.3	-0.6
CCAC	Calif City Air	2.71	323		Pg	13 49 42.9	-1.9
CCAC				IAML		13 50 20.9	
	comp=E,2μm,0.5s						
W13A	Hualapai Mount	2.74	40	Pn	Pn	13 49 36.0	-0.8
GWY	Greenwater Val	3.22	351		Pb	13 49 52.1	+2.1
ISA	Isabella, Lake	3.34	323	Pn	Pn	13 49 44.2	-0.7
SHPR	Sheep Range	3.57	11		Pn	13 49 47.8	-0.3
TUC	Tucson	4.47	97		Pn	13 49 58.7	-1.7
WUAZ	Wupatki	4.59	56		Pn	13 50 02.8	+0.6
U15A	North Rim	4.60	41		Pn	13 50 02.9	+0.6
X18A	Snowflake	5.28	72		Pn	13 50 11.9	+0.2
NVAR	Mina Array Bea	5.73	342	Pn	Pn	13 50 20.2	+2.4
	comp=E,0.7nm,0.3s,baz=165,slow=15,SNR=4.4						
NVAR				Pg	Pb	13 50 28.3	-4.5
	comp=E,1.1nm,0.3s,baz=166,slow=14,SNR=6.4						
NVAR				Lg	Lg	13 51 52.4	
	comp=E,0.9nm,0.3s,baz=129,slow=38,SNR=2.0						
NVAR				LR	LR	13 52 38.3	
	comp=E,128nm,20.4s,baz=258,slow=40						
	comp=E,0.7nm,0.4s						
SPR3	Spring Creek 3	6.14	12		Pn	13 50 23.6	0.0
121A	Cookes Peak, D	6.95	92		Pn	13 50 34.1	-0.5
SRU	San Rafael Swe	7.55	35	Pn	Pn	13 50 48.8	+6.0
ELK	Elko	7.76	4	Pn	Pn	13 50 48.9	+3.3
	comp=E,0.1nm,0.3s,baz=162,slow=13,SNR=2.4						
ELK				Pg	Pb	13 51 01.4	-5.8
	comp=E,0.3nm,0.3s,baz=195,slow=10,SNR=6.7						
ELK				Lg	Lg	13 52 55.6	
	comp=E,0.4nm,0.3s,baz=280,slow=19,SNR=3.9						
	comp=E,0.3nm,0.3s						
ANMO	Albuquerque	8.18	74	Pn	Pn	13 50 52.4	+1.0
	comp=E,0.2nm,0.3s,baz=344,slow=16,SNR=3.6						
ANMO				Pg	Pb	13 51 22.6	+8.1
	comp=E,0.2nm,0.3s,baz=31,slow=9.8,SNR=4.6						
ANMO				Lg	Lg	13 53 12.0	
	comp=E,0.3nm,0.3s,baz=320,slow=23,SNR=4.2						
ANMO				LR	LR	13 54 13.1	
	comp=E,143nm,19.1s,baz=30,slow=39						
	comp=E,2.3nm,0.9s						
PDAR	Pinedale Array	11.00	26	Pn	Pn	13 51 33.4	+3.3
	comp=E,0.1nm,0.3s,baz=198,slow=11,SNR=9.2						
PDAR				Lg	Lg	13 54 37.7	
	comp=E,0.1nm,0.3s,baz=304,slow=27,SNR=1.7						
	comp=E,0.4nm,0.6s						
TXAR	Lajitas Array	11.19	106	Pn	Pn	13 51 34.6	+1.9
	comp=E,0.2nm,0.3s,baz=287,slow=12,SNR=2.7						
TXAR				Lg	Lg	13 54 46.3	
	comp=E,0.4nm,0.3s,baz=283,slow=29,SNR=2.5						
	comp=E,0.4nm,0.3s						
NEW	Newport	15.27	357	LR	LR	13 59 15.1	
	comp=E,90nm,21.1s,baz=41,slow=41						
TKL	Tuckaleechee C	26.70	75	LR	LR	14 06 11.9	
	comp=E,126nm,18.5s,baz=18,slow=39						
ILAR	Eielson Array	36.98	339	P	P	13 56 03.9	+2.3
	comp=E,0.5nm,0.8s,baz=156,slow=7.3,SNR=7.5						
	comp=E,0.5nm,0.8s						

RSNC 29 13:51:24.9±0.0, 7°.N±2°×7°.3W±°, h159km±4km, M2.0, mb2.9, mB4.2, ML1.8, Mw(mB)3.3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.31	231	P	Pn	13 51 47.6	+0.7
BARC				S	Sn	13 52 02.7	-0.9
PAMC	Pamplona, Colo	0.60	24	P	Pn	13 51 50.3	+1.9
PAMC				S	Sn	13 52 05.9	-0.4
RUSC	La Rusia	0.90	189	P	Pn	13 51 51.9	+1.5
RUSC				S	Sn	13 52 10.1	+0.2
TAMC	Tame, Arauca	1.19	107	P	Pn	13 51 52.0	-0.3
TAMC				S	Sn	13 52 12.0	-1.2
OCAC	Ocana	1.49	345	P	Pn	13 51 54.4	-0.8
OCAC				S	Sn	13 52 18.7	+0.1
PTBC	PUERTO BERRIO,	1.53	261	P	Pn	13 51 54.5	-0.9
PTBC				S	Sn	13 52 15.3	-3.6
SPBC	San Pablo de B	1.59	225	P	Pn	13 51 56.7	+0.4
SPBC				S	Sn	13 52 19.7	-0.7
ZARC	Zaragoza, Cauc	2.03	290	P	Pn	13 52 00.7	-0.2
ZARC				S	Sn	13 52 25.4	-3.2
NORC	Norcasia	2.27	238	P	Pn	13 52 03.9	+0.1
NORC				S	Sn	13 52 31.5	-2.3
GUY2C	Guyana, Caldas	2.87	237	P	Pn	13 52 11.8	+0.3
GUY2C				S	Sn	13 52 46.4	-1.1
PRAC	Prado	3.62	212	P	Pn	13 52 20.8	+0.2
PRAC				S	Sn	13 53 03.3	-0.5
ORTC	Ortega, Tolima	3.67	219	P	Pn	13 52 22.5	+1.3
ORTC				S	Sn	13 53 04.7	-0.3
POPC	Popayan, Colom	5.63	222	P	Pn	13 52 47.9	+0.9
POPC				S	Sn	13 53 51.7	+0.4

IDC 29 14:25:01.4±58.0, 19°.03S×176°.57W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=1074.0km s-min=175.9km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.64	243	P	P	14 32 35.3	+0.2
	0.7nm,0.4s,baz=71,slow=13,SNR=4.8						
	0.7nm,0.4s						
WRA	Warramunga Arr	46.15	260	P	P	14 33 27.7	-0.3
	0.2nm,0.3s,baz=98,slow=8.1,SNR=4.9						
	0.2nm,0.3s						
ASAR	Alice Springs	46.18	255	P	P	14 33 28.1	-0.2
	0.9nm,0.6s,baz=94,slow=7.9,SNR=8.2						
	0.9nm,0.6s						

IDC 29 14:25:30.9±3.9, 17°.61S×178°.56W, h600km±21km, mb2.8/3, mbtmp3.8/4, Error ellipse: s-maj=139.0km s-min=29.4km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.23	267	P	P	14 26 51.4	-0.1
	21nm,0.7s,baz=145,slow=4.3,SNR=26						
WRA	Warramunga Arr	44.55	259	P	P	14 32 51.0	-0.1
	0.4nm,0.4s,baz=96,slow=7.4,SNR=16						
WRA				PcP	PcP	14 34 20.5	-0.5
	0.4nm,1.0s,baz=89,slow=3.2,SNR=2.0						
	0.4nm,0.4s						
ASAR	Alice Springs	44.73	254	P	P	14 32 52.5	0.0
	1.9nm,0.6s,baz=87,slow=9.0,SNR=44						
ASAR				PcP	PcP	14 34 21.3	-0.3
	0.2nm,0.5s,baz=102,slow=3.8,SNR=4.9						
	1.9nm,0.6s						
ILAR	Eielson Array	85.63	13	P	P	14 37 06.5	-0.1
	0.2nm,0.5s,baz=222,slow=4.9,SNR=6.8						
	0.2nm,0.5s						

*TEH **29** 15:00:35.7, 34°.26N×45°.51E, h10km±90km, ML2.8*
*ISN **29** 15:00:36.5±0.5, 34°.25N×45°.48E, h17km±3km, ML2.8*

ISC 29 15:00:36.6±1.0, 34°.26N±0°.03×45°.55E±0°.04, h10km, n11, σ0.68/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.24	8	Pg	Pg	15 00 41.2	-0.4
GLG1	Gilan-e-Gharb	0.34	116	Pg	Pg	15 00 43.2	-0.1
IDHR	Dehrash	0.82	58	Pg	Pg	15 00 52.1	-0.4
ILBA	Ilam Banvizeh	0.84	139	Pg	Pg	15 00 52.3	-0.6
IGHG	Ghaleghazi	0.85	85	Pg	Pb	15 00 53.3	-0.3
IBDR	Badra	1.20	164	ePg	Pb	15 00 58.5	-0.8
IBDR				eSg	Sg	15 01 14.5	-0.6
KCHF	Cheshme Sefid,	1.24	89	Pg	Pb	15 00 59.6	-0.6
ILIN	Lien	1.34	60	Pg	Pg	15 01 02.1	-0.2
BHD	Baghdad	1.39	225	ePn	Pb	15 01 02.0	-0.6
BHD				eSn	Sg	15 01 21.0	-0.3
IKRK	Kirkuk	1.51	319	ePn	Pb	15 01 04.3	-0.4
IKRK				eSn	Sg	15 01 25.0	-0.1
IKRK				AML	AML	15 01 30.8	
	comp=E,144nm,0.4s						
IKRK				AML	AML	15 01 30.8	
	comp=N,189nm,0.4s						
RAFI	Al-Rafai	2.58	169	ePn	Pn	15 01 19.5	+1.1
RAFI				eSn	Sn	15 01 51.0	+1.2

*IDC **29** 15:12:19.9±11.0, 15°.17S×165°.29E, h0km, mb4.2/4, mbtmp4.1/5, ML3.4/1, MS3.5/5, Error ellipse: s-maj=203.4km s-min=33.4km az=54.0*
*NOU **29** 15:12:31.5, 15°.71S×168°.05E, h0km, MLv3.5/4, Vanuatu Islands*

ISC 29 15:12:10.6±2.1, 14°.5S±0°.2×166°.5E±0°.2, h10km, n11, σ1.9/48/8, mb4.2/4, MS3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	1.86	150	P	Pb	15 12 45.6	+0.8
DVP	Devils Point	3.63	153	P	Pn	15 13 06.3	-0.6
DZM	Mont Dzumac	7.54	180	Pn	Pn	15 14 03.1	+2.3
	0.7nm,0.3s,baz=95,slow=13,SNR=15						
DZM				Sn	Sn	15 15 24.6	-1.9
	0.2nm,0.3s,baz=196,slow=20,SNR=1.5						
	2.2nm,0.3s						
STKA	Stephens Creek	28.55	228	P	P	15 18 06.0	-0.7
	2.8nm,0.4s,baz=55,slow=9.3,SNR=16						
STKA				LR	LR	15 28 05.0	
	comp=Z,127nm,18.5s,baz=51,slow=35						
	2.8nm,0.4s						
WRA	Warramunga Arr	31.12	255	P	P	15 18 29.3	-0.3
	0.8nm,0.7s,baz=83,slow=7.9,SNR=9.6						
	0.8nm,0.7s						
ASAR	Alice Springs	32.02	248	P	P	15 18 37.0	-0.6
	1.4nm,0.4s,baz=80,slow=9.1,SNR=42						
	1.4nm,0.4s						
FITZ	Fitzroy Crossi	39.28	259	P	P	15 19 40.4	+0.4
	2.1nm,0.5s,baz=70,slow=9.0,SNR=7.5						
	2.1nm,0.5s						
PETK	Petropavlovsk-	67.74	354	LR	LR	15 51 12.9	
	comp=Z,31nm,18.6s,baz=97,slow=34						
MA2	Magadan	74.89	352	LR	LR	15 49 45.0	
	comp=Z,30nm,21.6s,baz=12,slow=30						
YAK	Yakutsk	81.57	343	LR	LR	16 01 12.1	
	comp=Z,21nm,18.7s,baz=62,slow=36						
ILAR	Eielson Array	86.54	18	LR	LR	16 01 08.5	
	comp=Z,34nm,19.9s,baz=60,slow=34						

*NEIC **29** 15:13:55.9±2.3, 30°.63S±0°.09×180°.0E±0°.1, h385km±6km, mb4.1/19, Error ellipse: s-maj=15.3km s-min=10.8km az=130.0*
*IDC **29** 15:13:56.3±0.6, 30°.42S×179°.89W, h399km±7km, mb3.5/7, mbtmp4.4/10, Error ellipse: s-maj=15.4km s-min=14.8km az=54.0*
*WEL **29** 15:14:01.8±0.7, 31°.S±7°×17°.9W±1°.7, h359km±9km, M4.1/10, mB4.5/10, ML5.1/6, MLv4.8/10, Mw(mB)3.7/10, Error ellipse: s-maj=24.1km s-min=4.8km az=109.4, confirmed*

ISC 29 15:13:56.2±0.4, 30°.62S±0°.05×179°.98W±0°.07, h400km, n120, σ2.9/27/154, mb4.0/17, 5C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.24	53	P	Pn	15 14 54.5	+0.7
GLKZ				S	S	15 15 39.5	-0.8
RIZ	Raoul Island	2.25	53	P	Pn	15 14 54.7	+0.9
RIZ				S	S	15 15 38.1	-2.2
RAO	Raoul Island	2.25	53	Pn	Pn	15 14 52.1	-1.7
RAO				Sn	S	15 15 34.8	-5.6
RAO	Raoul Island	2.25	53	P	Pn	15 14 53.5	-0.3
	436nm,0.3s,baz=86,slow=10,SNR=11						
RAO				S	S	15 15 38.0	-2.3
	598nm,0.2s,baz=146,slow=21,SNR=6.2						
GRZ	Great Barrier	6.78	213	P	P	15 15 42.2	+4.3
MXZ	Matakaoa Point	7.07	191	Pn	Pn	15 15 39.0	-1.5
MXZ				Sn	S	15 17 02.5	-3.2
MXZ	Matakaoa Point	7.07	191	P	P	15 15 43.3	+2.2
MXZ				S	S	15 17 02.5	-3.2
KUZ	Ku

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WNVZ Wahianoa          9.41 201  P   Pn   15 16 08.5 +1.1
WNVZ                             S   S    15 17 55.4 +0.3
MOVZ Moawhango         9.43 201  P   Pn   15 16 08.6 +1.0
MOVZ                             S   S    15 17 51.0 -4.4
PKVZ Pokaka            9.46 203  P   Pn   15 16 09.5 +1.6
KRHZ Kereru            9.48 197  P   Pn   15 16 08.7 +0.6
KRHZ                             S   S    15 17 50.0 -6.4
KAHZ Kahuranaki        9.50 195  P   Pn   15 16 09.2 +0.8
KAHZ                             S   S    15 17 53.8 -3.1
PXZ  Pawanui           9.73 195  P   P    15 16 11.0 +0.4
PXZ                              S   S    15 17 57.0 -4.4
WPHZ Waipukurau        9.86 196  P   Pn   15 16 13.6 +1.1
WPHZ                             S   S    15 18 03.5 -0.6
NEZ  North Egmont      9.90 208  P   Pn   15 16 18.3 +5.2
PRHZ Porangahau       10.01 195  P   Pn   15 16 15.6 +1.4
PRHZ                             S   S    15 18 04.1 -3.0
DVHZ Dannevirke       10.15 197  P   Pn   15 16 16.4 +0.5
DVHZ                             S   S    15 18 04.1 -6.0
ANWZ Angora Road      10.23 195  P   Pn   15 16 18.3 +1.6
ANWZ                             S   S    15 18 09.5 -2.1
PRWZ Pori Road        10.44 197  P   Pn   15 16 20.7 +1.5
PRWZ                             S   S    15 18 10.6 -5.4
BFZ  Birch Farm       10.49 196  P   P    15 16 20.0 +0.8
BFZ                              S   S    15 18 10.6 -6.4
MRZ  Mangatainoka R   10.64 199  P   P    15 16 20.9 +0.1
MRZ  Mangatainoka R   10.64 199  P   P    15 16 20.6 -0.1
MRZ                              S   S    15 18 15.5 -4.6
TIWZ Tintock          10.67 197  P   Pn   15 16 22.2 +0.3
HOWZ Holdsworth Sta   10.88 198  P   P    15 16 24.0 +0.6
OGWZ Otaki Gorge      10.90 200  P   P    15 16 23.7  0.0
TMWZ Te Maipa         10.98 197  P   Pn   15 16 26.5 +1.0
KIW  Kapiti Island    11.02 201  P   P    15 16 25.9 +0.9
MTW  Mount Morrison   11.13 198  P   Pn   15 16 27.4 +0.2
CAW  Cannon Point     11.20 200  P   P    15 16 27.9 +1.0
DUWZ D'Urville Isla   11.30 204  P   P    15 16 28.6 +0.5
PAWZ Paruwai Farm     11.36 198  P   Pn   15 16 30.2 +0.4
MSWZ Moikau Station   11.44 198  P   P    15 16 30.2 +0.7
WEL  Wellington       11.45 200  P   P    15 16 29.0 -0.7
TCW  Tory Channel     11.54 202  P   P    15 16 31.2 +0.6
PLWZ Palliser         11.58 198  P   Pn   15 16 32.9 +0.5
TUWZ Tuamarina        11.85 203  P   P    15 16 35.1 +1.1
QRZ  Quartz Range     11.86 209  P   Pn   15 16 36.1 +0.5
NNZ  Nelson           11.86 205  P   P    15 16 34.4 +0.3
BSWZ Blackbirch Sta   12.13 202  P   P    15 16 38.4 +1.3
THZ  Tophouse         12.51 205  P   Pn   15 16 43.0 -0.2
KHZ  Kahutara         12.87 202  P   Pn   15 16 47.0 -0.2
DSZ  Denniston Nort   12.92 209  P   P    15 16 46.5 +0.5
MSVF Nonsavu          12.96 352  P   P    15 16 47.2 +0.5
MSVF Nonsavu          12.96 352  P   P    15 16 45.4 -1.2
     17nm,0.7s,baz=178,slow=13,SNR=11
DZM  Mont Dzumac      14.85 302  P   P    15 17 08.2 +1.0
     5.0nm,1.0s,baz=323,slow=20,SNR=2.1
AFI  Afiamalu         18.27  26  P   P    15 17 43.6 -0.3
CTAO Charters Tower   32.16 281  P   P    15 19 49.2 +0.4
CTAO                             IAmb IAmb 15 20 11.9
     comp=Z,17nm,1.4s
STKA Stephens Creek   32.76 258  P   P    15 19 55.1 +1.2
STKA Stephens Creek   32.76 258  P   P    15 19 56.0 +2.1
     comp=Z,1.4nm,0.6s,baz=93,slow=4.7,SNR=5.9
     comp=Z,1.4nm,0.6s
PMG  Port Moresby     37.18 298  P   P    15 20 31.6 +0.3
     comp=Z,2.9nm,0.6s,baz=194,slow=8.3,SNR=2.3
     comp=Z,2.9nm,0.6s
BBOO Buckleboo        37.26 255  P   P    15 20 32.3 +0.5
BBOO                             IAmb IAmb 15 20 48.1
     comp=Z,19nm,1.4s
AS31 Alice Springs    41.39 268  P   P    15 21 06.0 +0.3
ASAR Alice Springs    41.39 268  P   P    15 21 05.4 -0.3
ASAR Alice Springs    41.39 268  P   P    15 21 05.9 +0.2
     comp=Z,1.1nm,0.5s,baz=106,slow=7.2,SNR=30
ASAR                             PcP  PcP  15 22 54.9 -0.1
     comp=Z,0.4nm,0.7s,baz=114,slow=4.0,SNR=5.0
ASAR                             ScP  ScP  15 26 05.6 -0.6
     comp=Z,0.7nm,0.9s,baz=118,slow=3.6,SNR=5.4
ASAR                             S    S    15 26 45.5 -4.8
     comp=Z,0.3nm,0.9s,baz=110,slow=16,SNR=2.0
     comp=Z,1.1nm,0.5s
WR0  Warramunga Arr   42.22 274  P   P    15 21 12.9 +0.6
WB2  Warramunga Arr   42.39 273  P   P    15 21 14.1 +0.5
WB2                              IAmb IAmb 15 21 15.4
     comp=Z,5.3nm,0.6s
WRA  Warramunga Arr   42.40 273  P   P    15 21 13.3 -0.4
WRA                              PcP  PcP  15 22 56.9 -1.5
WRA  Warramunga Arr   42.40 273  P   P    15 21 14.0 +0.3
     comp=Z,3.4nm,0.5s,baz=112,slow=7.6,SNR=54
WRA                              PcP  PcP  15 22 58.0 -0.4
     comp=Z,0.9nm,0.9s,baz=101,slow=3.2,SNR=4.8
WRA                              S    S    15 26 59.4 -5.6
     comp=Z,0.7nm,0.9s,baz=106,slow=14,SNR=3.1
     comp=Z,3.4nm,0.5s
WB0  Warramunga Arr   42.43 274  P   P    15 21 14.0 +0.1
WB0                              IAmb IAmb 15 21 15.6
     comp=Z,5.1nm,0.6s
PTCN Pitcairn Islan   44.16  96  P   P    15 21 30.6 +3.1
FORT Forrest          44.34 256  P   P    15 21 29.4 +0.6
FORT                             IAmb IAmb 15 22 04.4
     comp=Z,23nm,1.1s
KNRA Kununurra        49.02 276  P   P    15 22 05.0 +0.2
KNRA                             IAmb IAmb 15 22 12.5
     comp=Z,12nm,1.4s
FITZ Fitzroy Crossi   50.66 271  P   P    15 22 17.3 +0.4
     comp=Z,4.8nm,0.9s,baz=226,slow=3.4,SNR=4.5
     comp=Z,4.8nm,0.9s
FAKI Fak Fak          52.83 292  P   P    15 22 32.8  0.0
CASY Casey            54.14 208  P   P    15 22 41.4  0.0
PSA00 Pilbara Seismi  54.24 264  P   P    15 22 42.8 -0.1
PSA00                            IAmb IAmb 15 22 46.1
     comp=Z,17nm,1.1s
QSPA South Pole Qui   59.48 180  P   P    15 23 20.8 +2.2
QSPA                             IAmb IAmb 15 23 21.8
     comp=Z,4.6nm,0.7s
QSPA                             PcP  PcP  15 24 01.9 +0.5
QSPA South Pole Qui   59.48 180  P   P    15 23 21.0 +2.3
     comp=Z,5.9nm,0.8s,baz=218,slow=1.1,SNR=44
     comp=Z,5.9nm,0.8s
TROLL Troll, Antarti  77.63 181 ⇑P       P    15 25 10.2 +0.9
     comp=Z,249nm,0.9s
SNAA Sanae            77.97 179  P   P    15 25 11.7 +0.6
SNAA                             IAmb IAmb 15 25 38.1
     comp=Z,6.9nm,1.4s
SNAA Sanae            77.97 179 ⇑P       P    15 25 11.7 +0.6
     comp=Z,26nm,0.5s
SNAA Sanae            77.97 179  P   P    15 25 12.1 +1.1
     comp=Z,1.5nm,0.7s,baz=2.8,slow=19,SNR=12
     comp=Z,1.5nm,0.7s
VNA3 Neumayer Olymp   78.19 177 ⇑P       P    15 25 13.2 +1.0
     comp=Z,4.3nm,0.5s
TPUB Ta-pu            78.22 306  P   P    15 25 12.1 -1.0
SSLB Suanglung        78.31 307  P   P    15 25 12.8 -0.8
VNA2 Neumayer--Watz   78.60 178 ⇑P       P    15 25 15.8 +1.4
     comp=Z,3.6nm,0.5s,baz=176,slow=6.1
VNA1 Neumayer--Stat   78.84 177 ⇑P       P    15 25 16.3 +0.7
     comp=Z,2.8nm,0.8s
MKAR Makanchi Array  116.61 310  PKP  PKPdf 15 31 52.9 -0.4
     comp=Z,0.2nm,0.5s,baz=199,slow=3.1,SNR=2.2
KURBB Kurchatov Arra 120.01 314  PKP  PKPdf 15 31 58.2 -1.4
     comp=Z,0.7nm,0.6s,baz=105,slow=1.8,SNR=6.7
BVAR Borovoye Array  125.37 316  PKP  PKPdf 15 32 09.5 -0.3
     comp=Z,0.3nm,0.3s,baz=116,slow=3.4,SNR=4.3
ARCES ARCESS Array B 138.43 347  PKP  PKPdf 15 32 35.2 +1.2
     comp=Z,4.4nm,1.0s,baz=56,slow=4.8,SNR=3.7
KBZ  Khabaz          143.81 303  PKP  PKPbc 15 32 43.5 +0.6
     comp=Z,1.6nm,0.8s,baz=270,slow=2.0,SNR=2.1
GEVA Gevas           143.96 294  PKPdf PKPbc 15 32 44.1 +0.2
FIA1 FINESS Array S  144.75 339       PKPdf 15 32 44.7 -0.6
FINES FINESS Array B 144.75 339  PKP  PKPdf 15 32 44.9 -0.4
     comp=Z,11nm,0.7s,baz=45,slow=3.3,SNR=31
NC303 NORSAR Array S 148.49 350  PKPbc PKPbc 15 32 55.4 -0.4
NB2  NORSAR Subarra148.69 350  PKP  PKPbc 15 32 56.1 -0.2
     comp=Z,1.0nm,0.6s,baz=18,slow=2.6
NOA  NORSAR Array B 148.69 350  PKPbc PKPbc 15 32 55.4 -0.9
     comp=Z,1.5nm,0.6s,baz=14,slow=4.2,SNR=4.8
HFS  Hagfors         149.10 347  PKPbc PKPbc 15 32 56.5 -0.8
     comp=Z,8.7nm,1.0s,baz=85,slow=3.1,SNR=5.7
HFS                              PKPab PKPab 15 33 02.4 -0.7
     comp=Z,5.6nm,1.0s,baz=339,slow=2.1,SNR=7.1
MMAI Mount Meron Ar  149.93 284  PKPbc PKPbc 15 33 01.0 +0.7
     comp=Z,3.8nm,0.8s,baz=74,slow=6.2,SNR=5.6
AKASG Malin Array Be 150.42 321  PKPbc PKPbc 15 33 00.7 -0.1
     comp=Z,1.4nm,0.6s,baz=55,slow=2.2,SNR=5.8
BRTR Keskin Array B  151.20 298  PKPbc PKPbc 15 33 02.8 -0.4
     comp=Z,0.8nm,0.6s,baz=139,slow=4.8,SNR=4.9
TORD Torodi Ar. Bea  162.54 185  PKPab PKPab 15 34 01.9  0.0
     comp=Z,0.8nm,0.7s,baz=178,slow=3.7,SNR=3.9
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GCMT ***29*** *15:22:20.4±0.4,27°.02S±0°.03×177°.69W±0°.04, h266km±3km, MW5.1/64, Moment Tensor Solution. s25,c27; s64,c75; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mr=4.29±.25; Mθθ=5.18±.23; Mφφ=0.88±.25; Mrθ=0.85±.26; Mrφ=0.69±.30; Mθf=1.90±.23; Best double couple: M0=5.27400×10^{16} NP1:φ=286.00000°, δ=54.00000°, λ=121.00000°. NP2:φ=61.00000°, δ=46.00000°, λ=55.00000°. Principal axes: T 5.2470, Plg65.0000°, Azm256.0000°; N 0.0530, Plg25.0000°, Azm87.0000°; P -5.3020, Plg4.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU ***29*** *15:22:20.4,27°.27S×177°.47W, h262km, mb4.8/48, Kermadec Islands Region*

NEIC ***29*** *15:22:21.4±2.5,26°.91S±0°.07×177°.9W±0°.1, h247km±5km, mb4.8/56, Error ellipse: s-maj=14.8km s-min=9.9km az=109.0*

IDC ***29*** *15:22:22.7±0.4,27°.00S×178°.16W, h252km±3km, mb4.0/15, mbtmp4.6/16, Error ellipse: s-maj=13.2km s-min=11.6km az=74.0*

ISC 29 15:22:21.6±0.3, 26°.96S±0°.04×177°.88W±0°.05, h253km±3km, h255km: pP-P, n261, σ1s82/253, mb4.7/52, 9C, South of Fiji Islands

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Code Station Name        Δ°   AZ°   Phase ID      Time      Res
                                    Op    ISC     h m s     ISC
RIZ  Raoul Island      2.27 181      P     Pn    15 23 07.2 +0.3
RAO  Raoul Island      2.28 181            Pn    15 23 07.0 +0.1
RAO                                   Sn    S     15 23 40.8 -2.1
RAO  Raoul Island      2.28 181      P     Pn    15 23 06.8 -0.1
     3µm,0.4s,baz=13,slow=2.6,SNR=41
RAO                                   S     S     15 23 40.5 -2.3
     3µm,0.2s,baz=134,slow=23,SNR=6.9
GLKZ Green Lake        2.29 181      P     Pn    15 23 05.6 -1.4
GLKZ                                  S     S     15 23 41.8 -1.2
MSVF Nonsavu           9.93 337      Pn    Pn    15 24 40.0 +0.6
MSVF Nonsavu           9.93 337      P     Pn    15 24 40.6 +1.2
     347nm,0.8s,baz=146,slow=12,SNR=220
MSVF Nonsavu           9.93 337      P     Pn    15 24 40.9 +1.5
NIUE Niue             10.73  45            Pn    15 24 46.2 -3.1
NIUE                                  Sn    S     15 26 43.2 -6.5
NIUE Niue             10.73  45      P     Pn    15 24 49.2 -0.2
OUZ  Omahuta          11.00 219      P     Pn    15 24 54.1 +1.6
HAZ  Te Kaha          11.37 198      P     Pn    15 24 48.9 -8.2
HAZ                                   S     S     15 26 51.0 -13
TWGZ Tauwhareparae    11.71 196      P     Pn    15 24 52.5 -8.9
TWGZ                                  S     S     15 26 58.8 -13
CNGZ Carnagh Statio   11.95 195      P     Pn    15 24 55.8 -8.6
CNGZ                                  S     S     15 26 59.6 -18
MWZ  Matawai          11.98 198      P     Pn    15 24 55.8 -9.0
MWZ                                   S     S     15 27 00.4 -18
TKGZ Te Karaka        11.99 196      P     Pn    15 24 54.9 -10
TKGZ                                  S     S     15 27 02.5 -16
URZ  Urewera          12.03 199      P     Pn    15 24 57.5 -7.8
     8.8nm,0.2s,baz=352,slow=6.1,SNR=25
URZ                                   S     S     15 27 05.2 -14
     65nm,0.5s,baz=276,slow=17,SNR=11
URZ  Urewera          12.03 199      P     Pn    15 25 02.8 -2.5
RAGZ Rawiri           12.16 198      P     Pn    15 24 58.5 -8.6
RAGZ                                  S     S     15 27 07.2 -15
RIGZ Rimuhau          12.27 196      P     Pn    15 24 57.1 -11
RIGZ                                  S     S     15 27 07.3 -18
MUGZ Murupara         12.33 200      P     Pn    15 25 00.2 -8.8
MUGZ                                  S     S     15 27 13.4 -13
RTZ  Ruatahuna        12.39 199      P     Pn    15 25 00.1 -10
RTZ                                   S     S     15 27 09.1 -19
PRWZ Paritu Road      12.44 196      P     Pn    15 25 02.3 -8.2
PRGZ                                  S     S     15 27 13.4 -16
SNGZ Shannon Statio   12.45 198      P     Pn    15 25 01.6 -9.0
SNGZ                                  S     S     15 27 13.4 -16
FUTU Fugatoga         12.59 359      Pn    Pn    15 25 11.5 -1.0
FUTU Fugatoga         12.59 359      P     Pn    15 25 13.7 -1.0
RAHZ Arahi            12.64 198      P     Pn    15 25 03.8 -9.2
RAHZ                                  S     S     15 27 18.9 -15
MTHZ Maungataniwha    12.65 199      P     Pn    15 25 05.3 -7.8
MTHZ                                  S     S     15 27 21.9 -12
NMHZ Naumai           12.89 199      P     Pn    15 25 07.9 -8.2
NMHZ                                  S     S     15 27 21.8 -18
ARHZ Aropaoanui       12.99 198      P     Pn    15 25 10.0 -7.2
ARHZ                                  S     S     15 27 26.6 -15
HIZ  Hauiti           13.03 206      P     Pn    15 25 15.1 -2.6
BKZ  Black Stump Fm   13.05 200      P     Pn    15 25 08.3 -10
BKZ                                   S     S     15 27 26.3 -17
MCHZ McNeill Hill     13.25 199      P     Pn    15 25 11.1 -9.2
MCHZ                                  S     S     15 27 34.5 -13
ETVZ East Tongariro   13.27 202      P     Pn    15 25 14.8 -6.0
ETVZ                                  S     S     15 27 36.1 -12
FWVZ Far West T-bar   13.43 202      P     Pn    15 25 16.3 -6.5
KAHZ Kahuranaki       13.52 198      P     Pn    15 25 15.0 -8.7
KAHZ                                  S     S     15 27 35.7 -18
PXZ  Pawanui          13.75 197      P     Pn    15 25 17.9 -8.5
PXZ                                   S     S     15 27 40.6 -18
MARNC Mare, Loyalty   13.96 290      P     P     15 25 33.9 +4.1
PINNC Pines Island,   14.01 285      P     P     15 25 31.6 +1.3
PINNC Pines Island,   14.01 285      P     P     15 25 33.5 +3.1
AFI  Afiamalu         14.19  25            Pn    15 25 27.0 -5.0
BFZ  Birch Farm       14.52 198      P     Pn    15 25 25.8 -10
OUENC Ouen Island, N  14.60 285      P     P     15 25 41.6 +4.7
YATNC Mamie plateau,  14.69 286      P     Pn    15 25 41.5 +3.4
MRZ  Mangatainoka R   14.70 200      P     P     15 25 27.2 -11
TIWZ Tintock          14.71 199      P     P     15 25 29.3 -8.6
HOWZ Holdsworth Sta   14.93 200      P     P     15 25 32.4 -8.0
OGWZ Otaki Gorge      14.97 201      P     P     15 25 30.4 -10
ONTNC Ouen Toro       14.98 285      P     P     15 25 40.6 -0.5
ONTNC Ouen Toro       14.98 285      P     Pn    15 25 45.9 +4.4
DZM  Mont Dzumac      15.07 285      P     Pn    15 25 42.7  0.0
DZM  Mont Dzumac      15.07 285      P     Pn    15 25 45.0 +2.3
     111nm,0.8s,baz=97,slow=16,SNR=40
DZM  Mont Dzumac      15.07 285      P     Pn    15 25 45.4 +2.7
KIW  Kapiti Island    15.09 201      P     P     15 25 34.1 -8.0
MTW  Mount Morrison   15.18 199      P     P     15 25 35.3 -7.8
NOUC Port Laguerre    15.18 285      P     Pn    15 25 46.1 +2.2
CAW  Cannon Point     15.26 201      P     P     15 25 35.8 -8.2
TRWZ Traveller        15.34 199      P     P     15 25 38.2 -6.7
DUWZ D'Urville Isla   15.38 204      P     P     15 25 38.9 -6.4
MSWZ Moikau Station   15.49 200      P     P     15 25 39.1 -7.4
BHW  Baring Head      15.60 201      P     P     15 25 40.5 -7.1
TCW  Tory Channel     15.62 202      P     P     15 25 40.1 -7.8
PLWZ Palliser         15.63 199      P     P     15 25 39.8 -8.3
PLWZ Palliser         15.63 199      P     P     15 25 41.2 -6.9
DVP  Devils Point     15.82 303      P     Pn    15 25 54.0 +2.5
TUWZ Tuamarina        15.93 203      P     P     15 25 43.1 -8.2
TUWZ Tuamarina        15.93 203      P     P     15 25 45.9 -5.4
QRZ  Quartz Range     15.94 207      P     P     15 25 46.3 -5.1
QRZ  Quartz Range     15.94 207      P     P     15 25 47.1 -4.3
NNZ  Nelson           15.94 205      P     P     15 25 45.2 -6.2
TKNZ Takaka Hill      15.94 206      P     P     15 25 46.7 -4.8
BSWZ Blackbirch Sta   16.20 203      P     P     15 25 49.4 -4.9
MRNZ Matariki Terra   16.34 206      P     P     15 25 50.4 -5.4
THZ  Tophouse         16.59 205      P     P     15 25 54.5 -4.1
CTZ  Chatham Island   16.77 177      P     P     15 25 56.5 -3.9
KHZ  Kahutara         16.94 202      P     P     15 25 54.2 -8.2
KHZ  Kahutara         16.94 202      P     P     15 25 56.0 -6.3
KHZ  Kahutara         16.94 202      P     P     15 25 57.4 -4.9
DSZ  Denniston Nort   17.01 207      P     P     15 25 59.3 -3.9
RAR  Rarotonga        17.49  75      P     Pn    15 26 12.9 +1.9
     12nm,0.4s,baz=235,slow=1.8,SNR=3.5
GVZ  Greta Valley S   17.60 203      P     P     15 26 07.3 -2.3
FUNA Funafuti         18.55 351      P     P     15 26 18.6 -1.3
RPZ  Rata Peaks       18.97 205      S     S     15 29 35.5 -10
     20nm,0.8s,baz=353,slow=3.3,SNR=11
WKZ  Wanaka           20.70 207      P     P     15 26 41.8 -0.9
ARMA Armidale         26.93 255      P     P     15 27 41.4 +1.4
CAN  Canberra         29.44 245      P     P     15 28 01.7 -0.3
CAN                                   IAmb  IAmb  15 28 53.9
     comp=Z,37nm,1.3s
CMSA Cobar Meteorol   32.01 253      P     P     15 28 25.4 +0.8
TAU  Tasmania Unive   32.39 232      P     P     15 28 27.4 -0.3
TAU                                   IAmb  IAmb  15 29 44.0
     comp=Z,26nm,1.4s
TOO  Toolangi         32.55 242      P     P     15 28 29.6 +0.4
AUMAG Moama Anglican  32.97 245      P     P     15 28 33.5 +0.7
TV1H Townsville Har   33.30 276      P     P     15 28 37.0 +1.2
CTAO Charters Tower   33.51 274      P     P     15 28 37.9 +0.2
CTAO                                  IAmb  IAmb  15 28 39.2
     comp=Z,21nm,0.7s
CTAO Charters Tower   33.51 274      P     P     15 28 38.4 +0.7
CTAO Charters Tower   33.51 274      P     P     15 28 37.8 +0.2
QLP  Quilpie          33.74 262      P     P     15 28 40.3 +0.7
BRAT Ballarat         33.77 242      P     P     15 28 40.3 +0.6
ARPS Mount Arapiles   35.36 244      P     P     15 28 53.6 +0.3
STKA Stephens Creek   35.49 252      P     P     15 28 54.0 -0.5
STKA                                  PcP   PcP   15 31 19.2 +1.3
STKA Stephens Creek   35.49 252      P     P     15 28 53.4 -1.1
     comp=Z,3.8nm,0.9s,baz=126,slow=9.6,SNR=7.6
STKA                                  PcP   PcP   15 31 18.5 +0.6
     comp=Z,5.7nm,0.8s,baz=34,slow=1.7,SNR=7.1
     comp=Z,3.8nm,0.9s
MTSU Mount Surprise   35.89 276      P     P     15 28 58.9 +0.9
INKA Innaminka        36.63 259      P     P     15 29 05.0 +0.8
PMG  Port Moresby     37.35 291      P     P     15 29 09.8 -0.5
PMG                                   IAmb  IAmb  15 29 12.4
     comp=Z,32nm,1.3s
PMG  Port Moresby     37.35 291      P     P     15 29 09.3 -1.0
     comp=Z,23nm,1.1s,baz=93,slow=5.2,SNR=6.3
     comp=Z,23nm,1.1s
PMG  Port Moresby     37.35 291      P     P     15 29 12.8 +2.5
PMG  Port Moresby     37.35 291      P     P     15 29 10.3  0.0
PMG                                   PcP   PcP   15 31 24.4 +0.7
AUMBR Murray Bridge   37.36 247      P     P     15 29 10.0 -0.2
HTT  Hallett          37.68 249      P     P     15 29 11.6 -1.4
LCRK Leigh Creek      38.49 254      P     P     15 29 19.2 -0.4
COEN Coen             38.55 282      P     P     15 29 19.3 -1.0
COEN                                  IAmb  IAmb  15 29 21.6
     comp=Z,34nm,1.4s
COEN Coen             38.55 282      P     P     15 29 20.9 +0.5
QIS  Mount Isa        39.29 270      P     P     15 29 26.5 +0.1
BBOO Buckleboo        40.12 250      P     P     15 29 31.3 -1.7
OOD  Oodnadatta       41.05 258      P     P     15 29 40.4 -0.3
MULG Mulgathing       42.08 254      P     P     15 29 47.4 -1.6
AS31 Alice Springs    43.51 263      P     P     15 29 59.6 -1.0
AS31                                  PcP   PcP   15 31 44.1 +0.4
ASAR Alice Springs    43.51 263      P     P     15 29 59.4 -1.2
     comp=Z,12nm,0.6s,baz=96,slow=6.9,SNR=227
ASAR                                  PcP   PcP   15 31 43.5 -0.1
     comp=Z,2.4nm,0.8s,baz=108,slow=4.6,SNR=4.5
     comp=Z,12nm,0.6s
WR0  Warramunga Arr   44.00 269      P     P     15 30 03.3 -1.2
WR0                                   IAmb  IAmb  15 30 04.4
     comp=Z,28nm,0.8s
WR0                                   PcP   PcP   15 31 42.5 -2.9
WB2  Warramunga Arr   44.17 269      P     P     15 30 04.6 -1.2
WB2                                   IAmb  IAmb  15 30 05.9
     comp=Z,42nm,0.8s
WRAB Tennant Creek    44.17 269      P     P     15 30 04.4 -1.4
WRAB                                  IAmb  IAmb  15 30 05.8
     comp=Z,39nm,0.8s
WRA  Warramunga Arr   44.18 269      P     P     15 30 03.7 -2.2
WRA                                   PcP   PcP   15 31 46.8 +0.8
WRA  Warramunga Arr   44.18 269      P     P     15 30 04.5 -1.4
     comp=Z,30nm,0.6s,baz=108,slow=7.4,SNR=189
WRA                                   PcP   PcP   15 31 46.5 +0.5
     comp=Z,6.9nm,1.0s,baz=105,slow=3.5,SNR=6.8
WRA                                   S     S     15 36 12.3 -7.5
     comp=Z,0.2nm,0.6s,baz=106,slow=13,SNR=1.5
     comp=Z,30nm,0.6s
WB0  Warramunga Arr   44.19 269      P     P     15 30 04.5 -1.5
WB0                                   IAmb  IAmb  15 30 06.3
     comp=Z,44nm,0.7s
WB0                                   PcP   PcP   15 31 45.6 -0.4
FORT Forrest          47.12 252      P     P     15 30 26.6 -2.1
FORT                                  IAmb  IAmb  15 30 27.6
     comp=Z,33nm,0.8s
DRV  Dumont d'Urvil   47.36 201      P     P     15 30 31.5 +1.6
WRKA Warakurna        48.11 260      P     P     15 30 34.9 -1.5
MTN  Manton Dam       49.64 276      P     P     15 30 46.3 -1.8
MTN                                   PcP   PcP   15 32 05.5  0.0
KNRA Kununurra        50.64 271      P     P     15 30 54.6 -0.9
KNRA                                  IAmb  IAmb  15 30 56.0
     comp=Z,48nm,1.1s
SBA  Scott Base       51.46 184      P     P     15 31 01.9 +1.2
SBA                                   IAmb  IAmb  15 31 05.8
     comp=Z,42nm,1.4s
SBA  Scott Base       51.46 184      P     P     15 31 04.5 +3.8
KPA  Kalaupapa        51.97  25      P     P     15 31 03.8 -1.3
FITZ Fitzroy Crossi   52.55 267      P     P     15 31 08.7 -0.9
FAKI Fak Fak          53.32 288      P     P     15 31 14.2 -1.0
FAKI                                  IAmb  IAmb  15 32 18.0
     comp=Z,27nm,1.1s
FAKI Fak Fak          53.32 288      P     P     15 31 14.1 -1.2
     comp=Z,22nm,1.6s
SWI  Sorong           55.25 289      P     P     15 31 28.9 -0.2
CCD  Concordia, Ant   56.28 195      P     P     15 31 36.1 +0.2
CCD                                   PcP   PcP   15 32 31.0 +0.9
PSA00 Pilbara Seismi  56.54 261      P     P     15 31 36.2 -2.0
PSA00                                 IAmb  IAmb  15 31 37.5
     comp=Z,22nm,1.2s
MBWA Marble Bar       56.77 261      P     P     15 31 38.4 -1.4
MBWA                                  IAmb  IAmb  15 31 38.8
     comp=Z,29nm,1.1s
MBWA Marble Bar       56.77 261      P     P     15 31 37.5 -2.3
MBWA                                  pP    pP    15 32 34.8 -0.5
SOEI Soe              57.04 276      P     P     15 31 41.1 -0.8
SOEI Soe              57.04 276      P     P     15 31 42.4 +0.5
SOEI Soe              57.04 276      P     P     15 31 41.7 -0.2
     comp=Z,56nm,0.9s
NLAI Namlea           57.58 284      P     P     15 31 44.9 -0.6
     comp=Z,38nm,1.2s
MORW Morawa           57.67 251      P     P     15 31 44.1 -1.9
MORW                                  IAmb  IAmb  15 33 05.2
     comp=Z,40nm,1.4s
CASY Casey            58.23 207      P     P     15 31 48.1 -1.0
CASY                                  PcP   PcP   15 32 37.7 +0.2
CASY Casey            58.23 207      P     P     15 31 47.8 -1.3
CASY                                  PcP   PcP   15 32 35.4 -2.1
SANI Sanana           59.13 285      P     P     15 31 56.5 +0.3
SANI Sanana           59.13 285      P     P     15 31 55.0 -1.2
     comp=Z,26nm,0.8s
MMRI Maumere          59.33 276      P     P     15 31 56.6 -1.0
MMRI                                  IAmb  IAmb  15 31 57.7
     comp=Z,30nm,0.9s
MMRI Maumere          59.33 276      P     P     15 31 57.5 -0.1
WSI  Waingapu         60.61 274      P     P     15 32 06.3 +0.1
GIRL Giralia          61.12 258      P     P     15 32 09.2 -0.3
KDI  Kendari          61.13 281      P     P     15 32 09.0 -0.7
     comp=Z,16nm,0.9s,comp=Z,430nm
BKSI Bulukumba        62.69 278      P     P     15 32 19.3 -0.8
QSPA South Pole Qui   63.13 180      P     P     15 32 23.7 +1.4
QSPA                                  IAmb  IAmb  15 32 25.5
     comp=Z,21nm,1.1s
QSPA South Pole Qui   63.13 180      P     P     15 32 23.6 +1.2
     comp=Z,11nm,0.9s,baz=5.2,slow=0.9,SNR=47
QSPA                                  pP    pwP   15 33 20.3 -0.8
     comp=Z,1.9nm,0.8s,baz=0.7,slow=2.6,SNR=1.7
     comp=Z,11nm,0.9s
QSPA South Pole Qui   63.13 180      P     P     15 32 24.0 +1.6
QSPA                                  PcP   PcP   15 32 59.4 +1.9
QSPA                                  pP    pwP   15 33 25.2 +4.1
KAPI Kappang          63.16 278      P     P     15 32 23.1 -0.1
PLAI Plampang         63.21 274      P     P     15 32 23.2 -0.3
     comp=Z,75nm,1.1s
PCI  Palu             65.03 282      P     P     15 32 37.0 +1.7
TOLI2 Tolitoli        65.21 285      P     P     15 32 35.7 -0.8
JAGI Jajag, Banyuwa   66.60 272      P     P     15 32 43.9 -1.4
UGM  Wanagama         70.08 271      P     P     15 33 06.5 -0.4
KKM  Kota Kinabalu    71.63 287      P     P     15 33 16.2 -0.1
KKM                                   IAmb  IAmb  15 33 17.1
     comp=Z,27nm,1.0s
SMAI San Martin Ant   72.57 158      P     P     15 33 23.1 +2.3
STKI Sintang          72.82 279      P     P     15 33 23.4 +0.2
BELA Belgrano 2       73.17 172      P     P     15 33 24.3 +0.1
SBUM Sibu             73.30 282      P     P     15 33 25.6 -0.4
SBUM Sibu             73.30 282      P     P     15 33 26.1 +0.1
KSM  Kuching          74.52 280      P     P     15 33 32.5 -0.5
KSM  Kuching          74.52 280      P     P     15 33 33.8 +0.8
TPI  Tanjungpandan    74.91 275      P     P     15 33 36.0 +0.7
MJAR Matsushiro Arr   75.50 325      P     P     15 33 38.8 +0.8
     comp=Z,5.0nm,0.7s,baz=160,slow=3.9,SNR=2.5
     comp=Z,5.0nm,0.7s
MAJO Matsushiro       75.50 325      P     P     15 33 38.1 +0.1
MJB9 Matsu-Tunnel     75.50 325      P     P     15 33 38.6 +0.5
MAW  Mawson           75.56 200      P     P     15 33 39.0 +1.1
     comp=Z,16nm,0.5s,baz=136,slow=5.6,SNR=74
     comp=Z,16nm,0.5s
KASI Kota Agung       76.50 271      P     P     15 33 44.1 -0.1
PPBI Pangkal Pinang   76.53 274      P     P     15 33 44.9 +0.5
JNU  Nakatsue         77.08 318      P     P     15 33 46.7 -0.4
JNU                                   IAmb  IAmb  15 34 40.7
     comp=Z,29nm,1.4s
YULB Yu-li            77.19 305      P     P     15 33 46.1 -1.7
MYKOM Kota Tinggi     80.37 277      P     P     15 34 04.8 -0.6
MYKOM                                 IAmb  IAmb  15 34 06.6
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comp=Z,22nm,0.8s
MYKOM **Kota Tinggi** 80.37 277 P **P** 15 34 06.1 +0.8
DLV **Lat** 81.18 288 P **P** 15 34 10.1 +0.3
TROLL **Troll, Antarti** 81.30 180 ⇑P **P** 15 34 10.3 +0.9
comp=Z,875nm,0.7s
TROLL ⇑pP **pP** 15 35 09.1 +0.2
comp=Z,417nm,0.9s
SNAA **Sanae** 81.58 178 P **P** 15 34 10.4 -0.4
SNAA **Sanae** 81.58 178 ⇑P **P** 15 34 11.8 +1.0
comp=Z,87nm,0.7s
SNAA **Sanae** 81.58 178 P **P** 15 34 11.3 +0.5
comp=Z,4.3nm,0.8s,baz=189,slow=8.8,SNR=7.7
comp=Z,4.3nm,0.8s
VNA3 **Neumayer Olymp** 81.72 176 ⇑P **P** 15 34 11.6 +0.1
comp=Z,18nm,0.6s
VNA3 ⇑pP **pwP** 15 35 15.5 +1.8
comp=Z,6.4nm,0.7s
KSRS **Korea Array** 81.81 319 P **P** 15 34 13.1 +0.8
comp=Z,1.6nm,0.6s,baz=137,slow=6.5,SNR=7.2
comp=Z,1.6nm,0.6s
KSAR **Wonju Array Be** 81.83 319 P **P** 15 34 12.8 +0.4
VNA2 **Neumayer--Watz** 82.15 177 ⇑P **P** 15 34 14.4 +0.7
comp=Z,24nm,1.1s,baz=186,slow=6.3
VNA2 ⇑pP **pwP** 15 35 17.5 +1.4
comp=Z,7.1nm,0.7s,baz=179,slow=5.5
VNA1 **Neumayer--Stat** 82.38 177 ⇑P **P** 15 34 15.3 +0.4
comp=Z,32nm,1.1s
VNA1 ⇑pP **pwP** 15 35 16.2 -1.1
comp=Z,9.3nm,0.9s
PETK **Petropavlovsk-** 82.52 345 P **P** 15 34 16.1 +0.4
PETK **Petropavlovsk-** 82.52 345 P **P** 15 34 17.4 +1.7
comp=Z,4.1nm,0.9s,baz=205,slow=3.0,SNR=4.0
comp=Z,4.1nm,0.9s
IPM **Ipoh** 84.10 278 P **P** 15 34 22.8 -1.9
IPM IAmb IAmb 15 34 25.7
comp=Z,17nm,1.0s
IPM **Ipoh** 84.10 278 P **P** 15 34 24.5 -0.2
USRK **Ussuriysk Ar.** 84.37 326 P **P** 15 34 26.1 +0.9
comp=Z,4.3nm,0.9s,baz=116,slow=6.6,SNR=4.2
comp=Z,4.3nm,0.9s
AIS **Amsterdam Isla** 84.40 230 P **P** 15 34 23.9 -1.8
PLCA **Paso Flores** 84.77 133 P **P** 15 34 28.9 +1.2
PLCA IAmb IAmb 15 35 00.1
comp=Z,18nm,1.8s
PLCA **Paso Flores** 84.77 133 P **P** 15 34 30.2 +2.5
comp=Z,2.3nm,0.9s,baz=217,slow=6.6,SNR=3.7
comp=Z,2.3nm,0.9s
KULM **Kulim** 84.81 279 P **P** 15 34 27.8 -0.4
KULM IAmb IAmb 15 34 52.7
comp=Z,24nm,1.4s
RPSI **Rantau Prapat** 85.15 275 P **P** 15 34 28.4 -1.5
RPSI IAmb IAmb 15 34 30.3
comp=Z,19nm,1.0s
PSI **Prapat** 85.20 276 P **P** 15 34 29.8 -0.5
NVAR **Mina Array Bea** 85.65 43 pP pP 15 35 34.3 +1.9
comp=Z,2.2nm,0.8s,baz=215,slow=7.5,SNR=7.3
GSI **Gunungsitoli** 85.72 274 P **P** 15 34 32.3 -0.4
GSI **Gunungsitoli** 85.72 274 P **P** 15 34 33.8 +1.1
WHN **Wuhan** 86.37 307 P **P** 15 34 37.0 +1.6
WHN pmax pmax
comp=Z,24nm,0.8s
CN2 **Changchun** 87.48 323 *e*P P 15 34 35.5 -4.9
CN2 pmax pmax
comp=Z,10.0nm,1.6s
SLVN **Son La** 89.61 294 P **P** 15 34 51.7 +0.6
SLVN IAmb IAmb 15 34 54.2
comp=Z,18nm,1.4s
SLVN **Son La** 89.61 294 P **P** 15 34 52.1 +1.1
ENH **Enshi** 89.76 304 P **P** 15 34 51.5 0.0
TXAR **Lajitas Array** 90.44 57 P **P** 15 34 57.4 +2.5
comp=Z,0.5nm,0.8s,baz=189,slow=4.6,SNR=4.1
TXAR pP **pwP** 15 35 57.5 +1.8
comp=Z,1.4nm,0.8s,baz=211,slow=4.9,SNR=5.6
comp=Z,0.5nm,0.8s
F10A **Beach Ranch, E** 91.04 37 P **P** 15 34 58.0 +0.8
F10A IAmb IAmb 15 36 04.1
comp=Z,8.4nm,1.1s
PHRA **Phrae** 91.30 290 P **P** 15 34 58.6 -0.3
XAN **Xi'an** 92.12 307 P **P** 15 35 03.0 +0.6
XAN pmax pmax
comp=Z,8.0nm,1.2s
CMAR **Chiang Mai Arr** 92.37 289 P **P** 15 35 04.0 +0.1
CMAR **Chiang Mai Arr** 92.37 289 P **P** 15 35 05.2 +1.3
comp=Z,1.0nm,0.4s,baz=135,slow=3.4,SNR=12
CMAR pP **pP** 15 36 04.9 +0.4
comp=Z,1.0nm,0.4s,baz=317,slow=6.8,SNR=4.6
comp=Z,1.0nm,0.4s
CHTO **Chiang Mai** 92.53 290 P **P** 15 35 04.3 -0.2
PDAR **Pinedale Array** 93.57 43 P **P** 15 35 10.8 +1.7
comp=Z,0.4nm,0.8s,baz=202,slow=6.8,SNR=1.9
PDAR pP **pwP** 15 36 12.7 +0.5
comp=Z,1.3nm,0.9s,baz=222,slow=3.6,SNR=7.5
comp=Z,0.4nm,0.8s
ILAR **Eielson Array** 94.56 13 pP pP 15 36 16.5 +3.0
comp=Z,0.5nm,0.8s,baz=226,slow=6.6,SNR=1.6
ZALV **Zalesovo Beam** 115.52 319 PKP **PKPdf** 15 40 32.8 -0.2
comp=Z,0.7nm,0.4s,baz=120,slow=0.7,SNR=2.6
MKAR **Makanchi Array** 115.62 311 PKP **PKPdf** 15 40 32.4 -1.0
comp=Z,1.7nm,0.9s,baz=143,slow=0.9,SNR=5.5
KURBB **Kurchatov Arra** 118.77 315 PKP **PKPdf** 15 40 39.2 -0.1
comp=Z,1.4nm,0.7s,baz=116,slow=1.9,SNR=11
KURBB pPKP **pPKPdf** 15 41 44.1 +1.2
comp=Z,0.6nm,0.7s,baz=98,slow=1.8,SNR=2.3
BVAR **Borovoye Array** 123.99 317 PKP **PKPdf** 15 40 49.7 +0.4
comp=Z,3.0nm,0.5s,baz=143,slow=1.0,SNR=12
BVAR pPKP **pPKPdf** 15 41 54.2 +1.2
comp=Z,1.2nm,0.7s,baz=66,slow=3.5,SNR=2.8
KIRV **Kirov** 134.53 327 PKP **PKPdf** 15 41 09.8 +0.8
comp=Z,9.3nm,0.5s,baz=330,slow=2.2,SNR=4.7
ARCES **ARCESS Array B** 135.26 349 PKhKP PKPpre 15 41 04.9
comp=Z,6.2nm,1.0s,baz=66,slow=3.0,SNR=4.2
ARCES PKP **PKiKP** 15 41 11.5 -0.3
comp=Z,3.1nm,0.7s,baz=40,slow=1.5,SNR=2.8
FINES **FINESS Array B** 141.95 342 PKhKP PKPpre 15 41 17.1
comp=Z,7.3nm,1.0s,baz=50,slow=4.3,SNR=8.8
GEVA **Gevas** 143.98 299 PKPdf PKPbc 15 41 26.1 +0.3
GURO **Guroymak-BITLI** 144.75 299 PKPdf **PKPab** 15 41 28.7 +0.6
GURO pPKPdf **pPKPdf** 15 42 33.8 +1.5
NC303 **NORSAR Array S** 145.18 352 PKPdf **PKPdf** 15 41 28.1 -0.1
NC303 pPKPdf **pPKPdf** 15 42 33.0 +0.8
NB201 **NORSAR Array S** 145.36 352 PKPdf **PKPbc** 15 41 29.4 +0.4
NB2 **NORSAR Subarra** 145.38 352 PKP **PKPbc** 15 41 29.6 +0.5
comp=Z,30nm,1.4s,baz=11,slow=3.0
NB2 **NORSAR Subarra** 145.38 352 PKP pPKPdf 15 42 32.7 +0.1
comp=Z,32nm,1.7s,baz=16,slow=3.2
NOA **NORSAR Array B** 145.38 352 PKPbc **PKPbc** 15 41 29.5 +0.3
comp=Z,0.5nm,0.6s,baz=5.5,slow=4.5,SNR=9.8
NOA pPKPbc **pPKPdf** 15 42 32.5 -0.1
comp=Z,10nm,0.9s,baz=16,slow=2.4,SNR=10
HFS **Hagfors** 145.90 350 PKPbc **PKPbc** 15 41 30.6 0.0
comp=Z,7.4nm,0.5s,baz=70,slow=4.9,SNR=31
HFS pPKPbc pPKPab 15 42 34.0 +0.4
comp=Z,12nm,0.8s,baz=31,slow=3.4,SNR=5.1
NACGM **Naroch** 146.78 334 *e*PKP **PKPab** 15 41 34.9 -0.3
comp=Z,33nm,1.1s,baz=42
PABE **Paberze** 147.37 337 **PKPbc** 15 41 35.5 +0.5
AK03 **Malin Array Si** 148.56 326 PKP **PKPbc** 15 41 38.3 +0.1
AKASG **Malin Array Be** 148.57 326 PKPbc **PKPbc** 15 41 38.2 0.0
comp=Z,4.8nm,0.5s,baz=42,slow=3.5,SNR=40
AKASG pPKPbc **pPKPab** 15 42 42.0 -2.0
comp=Z,2.4nm,0.9s,baz=47,slow=4.3,SNR=1.5
AKBB **Malin Array Si** 148.57 326 PKP **PKPbc** 15 41 38.6 +0.4
KIEV **Kiev** 148.58 326 **PKPbc** 15 41 38.2 -0.1
KIEV **Kiev** 148.58 326 PKP **PKPbc** 15 41 38.6 +0.4
AK04 **Malin Array Si** 148.59 326 PKP **PKPbc** 15 41 38.4 +0.1
AK05 **Malin Array Si** 148.63 326 PKPbc **PKPbc** 15 41 38.8 +0.4
GAZ **Gaziantep** 148.72 298 PKPdf **PKPdf** 15 41 33.3 -1.7
GAZ PKPbc **PKPbc** 15 41 40.0 +0.8
MI28 **Mi28,Pidlybu** 149.18 328 PKP **PKPbc** 15 41 40.3 +0.6
BNN **Bunyan** 149.47 301 PKPbc **PKPbc** 15 41 41.1 +0.1
RNPP8 **Varash** 149.74 330 PKP **PKPbc** 15 41 41.5 +0.4
LUBAR **Lubar, Ukraine** 149.79 326 PKP **PKPbc** 15 41 41.3 0.0
RNPP5 **Staryi Chortor** 149.80 330 PKP **PKPbc** 15 41 41.3 +0.1
SORM **Soroca** 150.59 323 PKP **PKPbc** 15 41 43.3 +0.1
MMAI **Mount Meron Ar** 150.63 290 PKPbc **PKiKP** 15 41 45.5 +1.0
comp=Z,8.9nm,0.5s,baz=75,slow=7.0,SNR=25
MMAI pPKPbc **pPKPab** 15 42 49.6 -3.5
comp=Z,4.8nm,0.7s,baz=78,slow=2.1,SNR=3.0
NDNU **Novodnistrovsk** 150.83 324 PKP **PKPbc** 15 41 43.7 -0.1
BRTR **Keskin Array B** 150.91 304 PKPbc **PKPbc** 15 41 43.8 -0.7
BRTR **Keskin Array B** 150.91 304 PKPbc **PKPbc** 15 41 44.7 +0.2
comp=Z,2.4nm,0.5s,baz=140,slow=4.2,SNR=12
BRTR PKPab **PKPab** 15 41 52.9 0.0
comp=Z,1.9nm,0.7s,baz=66,slow=0.7,SNR=5.2
BRTR pPKPbc **pPKPbc** 15 42 49.2 +1.5
comp=Z,1.5nm,0.8s,baz=113,slow=2.4,SNR=1.7

EIL **Elat** 151.02 283 PKPbc **PKPbc** 15 41 45.4 +0.5
comp=Z,11nm,0.9s,baz=179,slow=5.9,SNR=9.3
EKA **Eskdalemuir Ar** 151.39 6 PKPbc **PKPbc** 15 41 45.3 +0.5
comp=Z,0.9nm,0.5s,baz=341,slow=2.7,SNR=6.4
STHS **Stebnicka Huta** 153.16 332 *e* **PKPab** 15 41 58.7 -3.0
STHS **Stebnicka Huta** 153.16 332 *e*PKP **PKPdf** 15 41 40.9 -0.5
STHS **Stebnicka Huta** 153.16 332 *e* **PKPbc** 15 41 48.1 -0.9
CLL **Collm** 154.32 344 *e*PKPbc **PKiKP** 15 41 53.0 +1.6
DBIC **Dimbokro** 158.75 161 PKPab **PKPab** 15 42 27.0 +0.4
comp=Z,1.2nm,0.4s,baz=231,slow=3.8,SNR=3.7
TORD **Torodi Ar. Bea** 166.25 178 PKP **PKPdf** 15 41 57.5 +0.4
comp=Z,3.1nm,1.1s,baz=341,slow=3.1,SNR=9.2
TORD PKPab **PKPab** 15 43 00.2 +0.9
comp=Z,4.0nm,0.9s,baz=189,slow=2.2,SNR=15

*IDC **29** 15:31:44.1±1.0, 34°.87N×23°.50E, h0km, mb4.0/13, mbtmp3.9/19, ML3.7/5, Error ellipse: s-maj=21.0km s-min=18.5km az=18.0*
*NEIC **29** 15:31:48.4±1.5, 34°.7N±0°.1×23°.50E±0°.07, h35km±9km, mb4.0/15, Error ellipse: s-maj=20.8km s-min=0.9km az=202.0*
*THE **29** 15:31:50.4, 34°.65N×23°.44E, h37km±7km, ML3.6/2, Error ellipse: s-maj=7.8km s-min=1.1km az=64.0*
*ATH **29** 15:31:50.2, 34°.79N×23°.44E, h16km±3km, ML3.7/3, Error ellipse: s-maj=4.1km s-min=2.3km az=44.0*
*ISK **29** 15:31:50.1, 34°.94N×23°.55E, h49km, ML3.4/16*
*NAO **29** 15:31:59.7, 36°.34N×24°.92E, h33km, mb3.6*
ISC 29 15:31:49.1±0.8, 34°.76N±0°.06×23°.52E±0°.05, h37km±1km, n99, σ1°64/113, mb4.0/18, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.47**	**81**	Pg	**Pn**	**15 32 01.2**	**+1.9**
GVD				Sg	**Sn**	**15 32 09.3**	**+2.8**
GVD	**Gavdhos**	**0.47**	**81**	P	**Pn**	**15 32 01.1**	**+1.9**
GVD				S	**Sn**	**15 32 10.0**	**+3.5**
	9μm,0.5s						
GVD	**Gavdhos**	**0.47**	**81**	P	**Pn**	**15 32 01.2**	**+1.9**
GVD				S	**Sn**	**15 32 08.0**	**+1.5**
GVD				AML	AML	15 32 11.6	
	comp=N,20523μm,0.7s						
GVD				AML	AML	15 32 16.4	
	comp=E,25300μm,0.3s						
KNDR	**Palaiochora Ch**	**0.49**	**16**	Pg	**Pn**	**15 31 59.5**	**0.0**
KNDR				Sg	**Sn**	**15 32 06.5**	**-0.4**
KNDR	**Palaiochora Ch**	**0.49**	**16**	P	**Pn**	**15 31 59.5**	**0.0**
KNDR				S	**Sn**	**15 32 05.8**	**-1.1**
KNDR				AML	AML	15 32 11.4	
	comp=N,26146μm,0.4s						
KNDR				AML	AML	15 32 11.5	
	comp=E,24962μm,0.4s						
IMMV	**Iera Moni Meta**	**0.79**	**28**	Pg	**Pn**	**15 32 03.9**	**+0.1**
IMMV				Sg	**Sn**	**15 32 13.3**	**-1.1**
IMMV	**Iera Moni Meta**	**0.79**	**28**	P	**Pn**	**15 32 05.1**	**+1.3**
IMMV				S	**Sn**	**15 32 16.6**	**+2.2**
IMMV				AML	AML	15 32 21.5	
	comp=N,12218μm,0.4s						
IMMV				AML	AML	15 32 22.6	
	comp=E,9436μm,0.4s						
PRNS	**Prines Rethymn**	**1.00**	**53**	P	**Pn**	**15 32 07.9**	**+1.3**
PRNS				S	**Sn**	**15 32 22.2**	**+2.7**
TMBK	**Timbaki Herakl**	**1.07**	**73**	P	**Pn**	**15 32 09.9**	**+2.4**
TMBK	**Timbaki Herakl**	**1.07**	**73**	P	**Pn**	**15 32 10.3**	**+2.8**
ANKY	**Antikythira Is**	**1.12**	**351**	P	**Pn**	**15 32 10.6**	**+2.4**
ANKY				S	**Sn**	**15 32 26.3**	**+4.0**
	comp=E,1μm,1.0s						
ANKY	**Antikythira Is**	**1.12**	**351**	P	**Pn**	**15 32 10.7**	**+2.4**
IACM	**Heraklion**	**1.38**	**66**	P	**Pn**	**15 32 14.9**	**+3.1**
VLI	**Veliai**	**2.01**	**347**	P	**Pn**	**15 32 22.8**	**+2.3**
VLI	**Veliai**	**2.01**	**347**	P	**Pn**	**15 32 23.9**	**+3.4**
MHLO	**Agia Marina, M**	**2.05**	**20**	P	**Pn**	**15 32 22.3**	**+1.2**
THR6	**Thira Island,**	**2.21**	**43**	P	**Pn**	**15 32 25.5**	**+2.3**
THR5	**Thira Island,**	**2.22**	**42**	P	**Pn**	**15 32 25.1**	**+1.7**
ZKR	**Zakros**	**2.24**	**80**	Pn	**Pn**	**15 32 25.7**	**+2.0**
THR3	**Thira Island,**	**2.25**	**42**	P	**Pn**	**15 32 25.5**	**+1.8**
THR8	**Santorini-Mono**	**2.29**	**44**	P	**Pn**	**15 32 25.9**	**+1.6**
ITM	**Ithomi**	**2.74**	**332**	Pn	**Pn**	**15 32 30.8**	**+0.3**
APE	**Apeiranthos**	**2.82**	**35**	Pn	**Pn**	**15 32 32.1**	**+0.4**
APE	**Apeiranthos**	**2.82**	**35**	P	**Pn**	**15 32 31.8**	**+0.1**
APE				S	Sn	15 32 43.3	-21
KARP	**Karpathos**	**3.08**	**74**	Pn	**Pn**	**15 32 37.2**	**+1.9**
KARP	**Karpathos**	**3.08**	**74**		**Pn**	**15 32 35.9**	**+0.6**
KARP	**Karpathos**	**3.08**	**74**	P	**Pn**	**15 32 37.7**	**+2.4**
VLY	**Voula,Athens**	**3.09**	**4**	P	**Pn**	**15 32 36.8**	**+1.4**
DION	**Dionisos Attik**	**3.33**	**6**	P	**Pn**	**15 32 40.0**	**+1.4**
KARY	**Karystos**	**3.35**	**13**	P	**Pn**	**15 32 40.0**	**+1.2**
BODT	**Bodrum**	**3.84**	**52**	Pn	**Pn**	**15 32 46.4**	**+0.8**
DAT	**Datca**	**3.84**	**58**	Pn	**Pn**	**15 32 47.1**	**+1.4**
DAT	**Datca**	**3.84**	**58**	P	**Pn**	**15 32 47.3**	**+1.6**
ARG	**Arkhangelos**	**4.03**	**68**	Pn	**Pn**	**15 32 50.4**	**+2.2**
ARG				Sn	**Sn**	**15 33 34.2**	**+0.1**
ARG	**Arkhangelos**	**4.03**	**68**	Pn	**Pn**	**15 32 48.3**	**+0.1**
ARG	**Arkhangelos**	**4.03**	**68**	P	**Pn**	**15 32 50.8**	**+2.6**
TURN	**Turunc**	**4.33**	**61**	Pn	**Pn**	**15 32 54.3**	**+1.9**
TURN				Sn	**Sn**	**15 33 41.4**	**-0.2**
YER	**Yerkesik**	**4.53**	**57**	Pn	**Pn**	**15 32 57.3**	**+2.1**
DALY	**Dalyan (Mula)**	**4.65**	**62**	Pn	**Pn**	**15 32 58.8**	**+2.1**
FETY	**Fethiye**	**4.90**	**66**	Pn	**Pn**	**15 33 02.4**	**+2.2**
AKAS	**Kas**	**5.18**	**72**	Pn	**Pn**	**15 33 03.1**	**-1.0**
CAME	**Cameli-Denizli**	**5.18**	**63**	Pn	**Pn**	**15 33 06.7**	**+2.6**
LIT	**Litokhoron**	**5.39**	**352**	Pn	**Pn**	**15 33 06.7**	**-0.3**
APMY	**Acipayam-Deniz**	**5.40**	**58**	Pn	**Pn**	**15 33 09.7**	**+2.5**
ELL	**Elmali**	**5.56**	**67**	Pn	**Pn**	**15 33 10.8**	**+1.4**
KEK	**Kerkira**	**5.76**	**330**	Pn	**Pn**	**15 33 12.2**	**+0.1**
FNA	**Florina**	**6.25**	**345**	Pn	**Pn**	**15 33 19.0**	**+0.3**
SCTE	**Santa Cesarea**	**6.65**	**324**	Pn	**Pn**	**15 33 23.8**	**-0.4**
TIP	**Timpagrande**	**6.98**	**311**	Pn	**Pn**	**15 33 28.7**	**-0.1**
RUK	**Puka**	**7.81**	**340**	Pn	**Pn**	**15 33 39.5**	**-0.7**
RAFF	**Raffo Rosso**	**7.82**	**291**	Pn	**Pn**	**15 33 39.8**	**-0.4**
CUC	**Castrocucco**	**8.05**	**313**	Pn	**Pn**	**15 33 42.6**	**-0.9**
CSS	**Mathiatis**	**8.07**	**86**	Pn	**Pn**	**15 33 42.6**	**-1.0**
BR131	**Keskin Array S**	**9.46**	**55**	Pn	**Pn**	**15 34 03.3**	**+0.3**
BRTR	**Keskin Array B**	**9.46**	**55**	Pn	**Pn**	**15 34 03.3**	**+0.3**
BRTR	**Keskin Array B**	**9.46**	**55**	Pn	**Pn**	**15 34 01.8**	**-1.2**
	comp=E,0.9nm,0.6s,baz=226,slow=15,SNR=2.5						
MMAI	**Mount Meron Ar**	**10.03**	**97**	Pn	**Pn**	**15 34 09.7**	**-1.0**
	comp=E,0.6nm,0.3s,baz=283,slow=13,SNR=2.0						
MMAI				Sn	**Sn**	**15 35 59.4**	**-2.5**
	comp=E,1.4nm,0.3s,baz=34,slow=16,SNR=2.7						
	comp=E,0.9nm,0.4s						
GHAJ	**Ghor Haditha**	**10.68**	**105**	Pn	**Pn**	**15 34 17.4**	**-2.1**
EIL	**Elat**	**10.93**	**115**	Pn	**Pn**	**15 34 22.3**	**-0.6**
	comp=E,0.7nm,0.3s,baz=243,slow=2.3,SNR=2.5						
EIL				Sn	**Sn**	**15 36 18.9**	**-5.1**
	comp=E,0.9nm,0.3s,baz=74,slow=18,SNR=4.2						
	comp=E,2.1nm,0.4s						
FUORN	**Ofenpass-Fuorn**	**15.51**	**324**	P	**P**	**15 35 29.3**	**+0.1**
CKRC	**Cesky Krumlov**	**15.62**	**337**	*e*P	**P**	**15 35 32.4**	**+2.3**
TREC	**Trest**	**15.69**	**340**	*e*P	**P**	**15 35 31.3**	**+0.4**
GEC2	**GERESS Array S**	**15.84**	**336**	P	**P**	**15 35 33.4**	**+0.7**
GERES	**GERESS Array B**	**15.84**	**336**	Pn	**Pn**	**15 35 28.6**	**-0.7**
	comp=E,0.1nm,0.3s,baz=154,slow=12,SNR=1.5						
	comp=E,0.2nm,0.3s						
KHC	**Kasperske Hory**	**16.13**	**336**	P	**P**	**15 35 36.9**	**+1.1**
KHC				IAmb	IAmb	15 35 38.5	
	comp=Z,5.7nm,0.7s						
KHC	**Kasperske Hory**	**16.13**	**336**	*e*P	**P**	**15 35 37.8**	**+2.0**
ZVC	**Zvikov**	**16.20**	**338**	*e*P	**P**	**15 35 38.4**	**+1.9**
DPC	**Dobruska-Polom**	**16.44**	**344**	*e*P	**P**	**15 35 40.8**	**+1.5**
KIEV	**Kiev**	**16.45**	**13**	P	**Pn**	**15 35 37.0**	**+0.1**
AKASG	**Malin Array Be**	**16.46**	**13**	Pn	**Pn**	**15 35 35.1**	**-1.9**
	comp=Z,1.5nm,0.3s,baz=210,slow=10,SNR=6.5						
	comp=Z,0.1nm,0.3s						
KBZ	**Khabaz**	**17.45**	**53**	P	**Pn**	**15 35 49.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=256,slow=10,SNR=5.4						
	comp=Z,2.3nm,0.7s						
CLL	**Collm**	**18.20**	**338**	*e*P	**Pn**	**15 36 01.0**	**+2.3**
CLL				*e*PP	**sP**	**15 36 12.0**	**-0.6**
CLL				*e*PPP	PPP	15 36 22.0	
PABE	**Paberze**	**20.75**	**1**	P	**P**	**15 36 24.5**	**-1.8**
HFS	**Hagfors**	**26.18**	**349**	P	**P**	**15 37 19.2**	**-0.6**
	comp=Z,2.0nm,0.3s,baz=154,slow=11,SNR=18						
	comp=Z,2.0nm,0.3s						
FIA1	**FINESS Array S**	**26.75**	**3**	P	**P**	**15 37 23.2**	**-1.7**
FINES	**FINESS Array B**	**26.75**	**3**	P	**P**	**15 37 23.4**	**-1.5**
	comp=Z,6.9nm,1.1s,baz=153,slow=13,SNR=5.0						
	comp=Z,6.9nm,1.1s						
NC602	**NORSAR Array S**	**27.12**	**347**	P	**P**	**15 37 27.6**	**-0.7**
NB201	**NORSAR Array S**	**27.45**	**347**	P	**P**	**15 37 31.0**	**-0.3**
NB2	**NORSAR Subarra**	**27.46**	**347**	P	**P**	**15 37 30.9**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=154,slow=9.3						

NOA **NORSAR Array B** 27.46 347 P **P** 15 37 30.8 -0.6
comp=Z,0.6nm,0.5s,baz=156,slow=8.7,SNR=3.0
comp=Z,0.6nm,0.5s
EKA **Eskdalemuir Ar** 27.61 326 P **P** 15 37 32.1 -0.6
comp=Z,0.6nm,0.4s,baz=123,slow=7.7,SNR=1.7
comp=Z,0.6nm,0.4s
TORD **Torodi Ar. Bea** 29.21 228 P **P** 15 37 47.9 +0.6
comp=Z,0.2nm,0.4s,baz=34,slow=9.6,SNR=4.6
comp=Z,0.2nm,0.4s
ABKAR **Akbulak array** 30.36 50 P **P** 15 37 56.9 -0.3
ABKAR IAmb IAmb 15 38 03.1
comp=Z,1.4nm,0.8s
ARCES **ARCESS Array B** 34.84 1 P **P** 15 38 34.8 -1.4
comp=Z,2.9nm,0.9s,baz=184,slow=7.9,SNR=8.3
comp=Z,2.9nm,0.9s
KKAR **Karatay Array** 37.08 63 P **P** 15 38 55.8 0.0
KKAR IAmb IAmb 15 38 58.0
comp=Z,1.9nm,1.1s
BVAR **Borovoye Array** 37.59 46 P **P** 15 38 58.8 -1.1
comp=Z,0.8nm,0.6s,baz=234,slow=4.6,SNR=3.9
comp=Z,0.8nm,0.6s
KURBB **Kurchatov Arra** 42.42 51 P **P** 15 39 39.9 0.0
comp=Z,1.7nm,0.3s,baz=272,slow=8.7,SNR=15
comp=Z,1.7nm,0.3s
KURK **Kurchatov** 42.47 51 P **P** 15 39 39.6 -0.7
KURK IAmb IAmb 15 39 41.3
comp=Z,3.4nm,0.9s
MAKZ **Makanchi** 44.90 56 P **P** 15 40 00.5 +0.5
MAKZ IAmb IAmb 15 40 29.9
comp=Z,3.1nm,1.1s
MK31 **Makanchi Array** 45.12 56 P **P** 15 40 01.8 +0.1
MKAR **Makanchi Array** 45.12 56 P **P** 15 40 02.5 +0.8
comp=Z,1.2nm,0.4s,baz=265,slow=7.4,SNR=43
comp=Z,1.2nm,0.4s
ZAA0 **Zalesovo Array** 46.25 46 P **P** 15 40 10.1 -0.4
ZAA0 IAmb IAmb 15 40 10.8
comp=Z,2.6nm,1.1s
ZALV **Zalesovo Beam** 46.25 46 P **P** 15 40 10.2 -0.2
comp=Z,1.7nm,0.4s,baz=268,slow=8.5,SNR=7.5
comp=Z,1.7nm,0.4s
TIXI **Tiksi** 62.01 20 P **P** 15 42 04.6 -0.4
YKA **Yellowknife Ar** 77.40 341 P **P** 15 43 40.7 +0.8
comp=Z,0.2nm,0.4s,baz=77,slow=7.6,SNR=4.9
comp=Z,0.2nm,0.4s
KSRS **Korea Array** 79.59 52 P **P** 15 43 52.6 +0.2
comp=Z,0.7nm,0.5s,baz=304,slow=5.1,SNR=6.0
comp=Z,0.7nm,0.5s
ILAR **Eielson Array** 80.51 356 P **P** 15 43 56.9 0.0
comp=Z,0.4nm,0.9s,baz=330,slow=3.4,SNR=4.5
comp=Z,0.4nm,0.9s
WRA **Warramunga Arr** 117.89 96 PKP **PKiKP** 15 50 33.1 +1.1
comp=Z,0.2nm,0.7s,baz=327,slow=1.5,SNR=5.4
ASAR **Alice Springs** 119.31 100 PKP **PKiKP** 15 50 36.0 +1.2
comp=Z,0.2nm,0.5s,baz=314,slow=1.5,SNR=6.3

IDC 29 15:33:05.0±2.7, 2°.99N×65°.76E, h0km, mb3.8/4, mbtmp3.8/4, MS2.9/1, Error ellipse: s-maj=94.0km s-min=34.1km az=66.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**35.94**	**62**	LR	LR	15 53 54.6	
	comp=Z,17nm,20.0s,baz=280,slow=35						
H04N2	**CROZET ISLANDS**	**50.48**	**193**	T	T	16 36 13.6	
	baz=18,slow=75,SNR=12						
H04N1	**CROZET ISLANDS**	**50.48**	**193**	T	T	16 36 09.7	
	baz=18,slow=75,SNR=11						
H04N3	**CROZET ISLANDS**	**50.50**	**193**	T	T	16 36 05.2	
	baz=18,slow=75,SNR=13						
ZALV	**Zalesovo Beam**	**53.15**	**14**	P	P	15 42 23.5	-1.0
	0.9nm,0.5s,baz=205,slow=6.4,SNR=5.2						
	0.9nm,0.5s						
SONM	**Songino Array**	**56.71**	**32**	P	P	15 42 51.5	+0.9
	0.3nm,0.4s,baz=238,slow=8.3,SNR=1.8						
	0.3nm,0.4s						
H01W3	**Cape Leeuwin H**	**58.95**	**134**	T	T	16 46 47.1	
	baz=300,slow=75,SNR=10						
H01W2	**Cape Leeuwin H**	**58.95**	**134**	T	T	16 46 47.3	
	baz=300,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**58.97**	**134**	T	T	16 46 47.5	
	baz=300,slow=75,SNR=7.8						
WRA	**Warramunga Arr**	**71.00**	**112**	P	P	15 44 25.3	+0.1
	1.0nm,0.8s,baz=289,slow=5.7,SNR=6.3						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**71.33**	**116**	P	P	15 44 27.0	-0.2
	0.7nm,0.9s,baz=282,slow=5.4,SNR=5.5						
	0.7nm,0.9s						
TXAR	**Lajitas Array**	**146.30**	**343**	PKPbc	PKPbc	15 52 48.0	-0.5
	0.3nm,0.4s,baz=38,slow=4.9,SNR=4.1						

PRU 29 15:37:15.4, 50°.25N×18°.65E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.53**	**218**	*e*PG	Pg	15 37 25.9	+0.5
OJC	**Ojcow**	**0.74**	**92**	*e*Pg	Pg	15 37 28.3	-1.2
OJC				*e*Sg	Sg	15 37 38.0	-1.1
MORC	**Moravsky Berou**	**0.86**	**237**	*e*PG	Pg	15 37 31.5	-0.3
MORC				*e*SG	Sg	15 37 42.8	-0.1
KRLC	**Kraliky**	**1.21**	**262**	*e*SG	Sg	15 37 53.9	-0.5
NIE	**Niedzica**	**1.35**	**127**	*e*Pg	Pg	15 37 40.7	-0.7
NIE				*e*Sg	Sg	15 37 59.1	+0.3
DPC	**Dobruska-Polom**	**1.50**	**275**	*e*PG	Pn	15 37 43.1	-0.5
DPC				*e*SG	Sb	15 38 03.6	0.0
	comp=Z,10nm,0.4s						
OSTC	**Ostas**	**1.59**	**282**	*e*SG	Sb

SULZ	**Cheisacher**	**1.72**	**228**	Sn	Sn	15 40 26.4	-0.2
WATA	**Walderalm**	**1.73**	**142**	Pg	Pn	15 40 00.9	-3.2
	1.0nm,0.1s						
WATA				*e*Sg	Sn	15 40 24.7	-2.1
	12nm,0.3s						
FETA	**Feichten**	**1.75**	**163**	*e*Pn	Pn	15 40 00.4	-4.0
	0.1nm,0.1s						
FETA				*e*Sg	Sn	15 40 26.3	-1.1
	1.9nm,0.2s						
WTTA	**Wattenberg**	**1.81**	**142**	Sg	Sn	15 40 26.6	-2.4
	13nm,0.4s						
KHC	**Kasperske Hory**	**2.40**	**78**	*e*PG	Pn	15 40 11.5	-1.8
KHC				*e*SG	Sn	15 40 40.0	-3.4
CKRC	**Cesky Krumlov**	**2.86**	**86**	*e*SG	Sn	15 40 55.3	+0.7

SKHL ***29*** *15:46:07.3±0.8, 45°.60N×150°.50E, h141km±8km, mb4.8/3, msha5.2/3*
JMA ***29*** *15:46:09.3±0.9, 45°N±6'×15°0E±°, h183km, MV3.7/12, KURILE ISLANDS REGION*
IDC ***29*** *15:46:10.6±2.6, 46°.43N×149°.61E, h179km±26km, mb3.0/5, mbtmp3.5/8, Error ellipse: s-maj=35.4km s-min=15.2km az=134.0*
ISC 29 15:46:06.5±0.9, 45°.4N±0°.1×150°.61E±0°.10, h150km, n26, σ1§83/32, mb3.3/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.95**	**265**	*i* P	**Pn**	**15 46 41.4**	**+0.5**
KUR				AMB	AMB	15 46 41.5	
	230nm,0.5s						
KUR				*i* S	**Sn**	**15 47 07.1**	**-0.3**
KUR				A	A	15 47 10.7	
	240nm,0.7s						
KUR				A	A	15 47 10.7	
	140nm,0.7s						
SHO	**Shikotan**	**3.12**	**241**	*e*P	**Pn**	**15 46 57.2**	**+1.9**
SHO				AMB	AMB	15 46 57.8	
	20nm,0.3s						
SHO				*e*S	**Sn**	**15 47 33.9**	**+0.8**
SHO				A	A	15 47 35.3	
	60nm,0.2s						
SHO				A	A	15 47 35.3	
	100nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.66**	**249**	*e*P	**Pn**	**15 47 03.8**	**+1.5**
YUK				AMB	AMB	15 47 04.1	
	120nm,0.2s						
YUK				*e*S	**Sn**	**15 47 45.1**	**-0.5**
YUK				A	A	15 47 50.1	
	60nm,0.3s						
YUK				A	A	15 47 50.1	
	180nm,0.3s						
NEM2	**Nemuro 2**	**4.06**	**241**	P	**Pn**	**15 47 08.1**	**+0.7**
NEM2				S	**Sn**	**15 47 53.2**	**-1.6**
NMR	**Nemuro--Hokkai**	**4.06**	**241**	*e*P	**Pn**	**15 47 08.3**	**+0.8**
NMR				*e*S	**Sn**	**15 47 53.8**	**-1.1**
JRA	**Rausu**	**4.19**	**251**	P	**Pn**	**15 47 10.3**	**+1.1**
JNK	**Nakash**	**4.60**	**248**	P	**Pn**	**15 47 15.5**	**+0.9**
AKK	**Akkeshi**	**4.80**	**242**	*e*P	**Pn**	**15 47 17.8**	**+0.6**
JAK	**Akkeshi**	**4.90**	**242**	P	**Pn**	**15 47 18.7**	**+0.2**
JAK				*e*S	**Sn**	**15 48 12.5**	**-2.2**
JTKR	**Abashiri--Toko**	**5.00**	**255**	P	**Pn**	**15 47 19.4**	**-0.4**
JAR	**Ashorobuto**	**5.35**	**249**	P	**Pn**	**15 47 25.8**	**+1.3**
JAR				*e*S	**Sn**	**15 48 24.5**	**-0.9**
JOB	**Onbets**	**5.49**	**245**	P	**Pn**	**15 47 26.7**	**+0.4**
JOB				*e*S	**Sn**	**15 48 26.0**	**-2.8**
YSS	**Yuzh-Sakhalins**	**5.66**	**288**	*e*P	**Pn**	**15 47 31.5**	**+2.9**
ASAJ	**Asahikawa**	**5.86**	**260**	P	**Pn**	**15 47 30.6**	**-0.6**
	6.9nm,0.9s,baz=129,slow=11,SNR=6.5						
JCH	**Churui**	**5.94**	**244**	P	**Pn**	**15 47 31.9**	**-0.4**
JCH				*e*S	**Sn**	**15 48 34.7**	**-4.7**
SKR	**Severo-Kuril's**	**6.41**	**33**	*e*P	**Pn**	**15 47 37.6**	**-1.0**
JNBK	**Urakawa-nobuka**	**6.50**	**244**	P	**Pn**	**15 47 38.5**	**-1.3**
JANG	**Nango**	**8.38**	**236**	P	**Pn**	**15 48 03.6**	**-1.2**
JTH	**Tanohata**	**8.46**	**233**	*e*S	Sn	15 49 32.6	-7.5
PETK	**Petropavlovsk-**	**8.96**	**29**	P	**Pn**	**15 48 09.1**	**-3.5**
	5.9nm,1.0s,baz=203,slow=12,SNR=5.0						
KSRS	**Korea Array**	**18.74**	**253**	P	**P**	**15 50 14.1**	**+0.4**
	0.8nm,0.6s,baz=54,slow=11,SNR=4.9						
ILAR	**Eielson Array**	**38.66**	**37**	P	**P**	**15 53 14.3**	**-0.7**
	0.2nm,0.6s,baz=279,slow=6.3,SNR=4.0						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**46.00**	**297**	P	P	15 54 06.3	-8.3
	0.2nm,0.7s,baz=66,slow=11,SNR=2.1						
	0.2nm,0.7s						
WRA	**Warramunga Arr**	**66.73**	**197**	P	**P**	**15 56 45.8**	**+4.4**
	0.3nm,0.6s,baz=12,slow=6.2,SNR=2.4						
	0.3nm,0.6s						
PDAR	**Pinedale Array**	**66.93**	**52**	P	**P**	**15 56 43.4**	**+0.6**
	0.4nm,0.4s,baz=329,slow=1.1,SNR=7.9						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**70.44**	**196**	P	P	15 57 10.2	+5.9
	0.4nm,0.6s,baz=9.4,slow=6.3,SNR=14						
	0.4nm,0.6s						

IDC ***29*** *16:55:24.0±8.2, 54°.17N×164°.06E, h200km±63km, mb3.1/2, mbtmp3.5/3, Error ellipse: s-maj=123.3km s-min=85.2km az=153.0*
KRSC ***29*** *16:55:38.7±2.2, 55°.09N×158°.69E, h279km±23km, Ml4.2*
ISC 29 16:55:37.3±1.2, 55°.05N±0°.09×158°.8E±0°.1, h300km, n30, σ1§34/33, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.82**	**73**	*e*P	**Pn**	**16 56 18.2**	**+1.3**
KMNR	**Kamenistaya**	**1.09**	**49**	*e*P	**Pn**	**16 56 18.6**	**+0.5**
KOZ	**Kozyrevsk**	**1.19**	**31**	*e*P	**Pn**	**16 56 18.7**	**+0.2**
KPT	**Kopyto**	**1.23**	**41**	*e*P	**Pn**	**16 56 19.1**	**+0.3**
KIRR	**Kirishev**	**1.27**	**44**	*e*P	**Pn**	**16 56 19.5**	**+0.4**
BZMR	**Bezymyannaya**	**1.32**	**47**	*e*P	**Pn**	**16 56 20.2**	**+0.9**
BZP	**Bezymyannyi-Pe**	**1.32**	**48**	*e*P	**Pn**	**16 56 20.5**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**1.41**	**50**	*e*P	**Pn**	**16 56 21.5**	**+1.6**
ZLN	**Zelenaya**	**1.50**	**49**	*e*P	**Pn**	**16 56 22.1**	**+1.6**
KRSR	**Krestovskiy**	**1.55**	**40**	*e*P	**Pn**	**16 56 20.9**	**+0.2**
KRX	**Arik**	**1.69**	**183**	*e*P	**Pn**	**16 56 23.7**	**+1.7**
KOK	**Koryaka**	**1.76**	**183**	*e*P	**Pn**	**16 56 23.9**	**+1.5**
SDLR	**Sedlovina**	**1.77**	**178**	*e*P	**Pn**	**16 56 24.6**	**+2.1**
AVH	**Avacha**	**1.79**	**181**	*e*P	**Pn**	**16 56 24.4**	**+1.8**
SMAR	**Somma**	**1.79**	**180**	*e*P	**Pn**	**16 56 24.8**	**+2.1**
NLC	**Nalytchevo**	**1.91**	**170**	*e*S	**S**	**16 56 59.6**	**-0.4**
DALK	**Dalny**	**2.02**	**181**	*e*P	**Pn**	**16 56 25.1**	**+0.8**
PETK	**Petropavlovsk-**	**2.05**	**199**	P	**Pn**	**16 56 24.5**	**+0.1**
	5.5nm,0.7s,baz=72,slow=27,SNR=27						
PETK				S	S	16 57 13.3	+11
	9.4nm,1.1s,baz=247,slow=14,SNR=1.9						
SPN	**Mys Shipunski**	**2.09**	**159**	*e*P	**Pn**	**16 56 24.7**	**0.0**
SPN				*e*S	**S**	**16 57 00.4**	**-2.2**
SMKR	**Semkarok**	**2.16**	**43**	*e*P	**Pn**	**16 56 25.8**	**+0.5**
SMKR				*e*S	**S**	**16 57 02.2**	**-1.3**
KRMR	**Karymshinskiy**	**2.26**	**190**	*e*P	**Pn**	**16 56 26.8**	**+0.6**
KBG	**Krutoberegovo**	**2.53**	**60**	*e*S	**S**	**16 57 08.2**	**-1.0**
GRL	**Gorelyy**	**2.54**	**190**	*e*P	**Pn**	**16 56 30.1**	**+1.3**
KBTR	**Krutoberegovo**	**2.57**	**61**	*e*P	**Pn**	**16 56 28.7**	**0.0**
KBTR				*e*S	**S**	**16 57 07.6**	**-2.2**
MTVR	**Mutnovka**	**2.59**	**188**	*e*P	**Pn**	**16 56 31.1**	**+1.7**
RUS	**Russkaya**	**2.62**	**184**	*e*P	**Pn**	**16 56 28.9**	**-0.5**
KDTR	**Khodutka, Kamc**	**3.27**	**188**	*e*S	**S**	**16 57 19.8**	**-2.7**
BKI	**Bering**	**4.13**	**85**	*e*S	**S**	**16 57 39.8**	**+1.0**
WRA	**Warramunga Arr**	**77.55**	**203**	P	**P**	**17 07 00.2**	**+0.1**
	0.3nm,0.4s,baz=19,slow=6.1,SNR=5.6						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**81.24**	**203**	P	**P**	**17 07 20.4**	**+0.6**
	0.3nm,0.6s,baz=13,slow=4.9,SNR=8.0						
	0.3nm,0.6s						

IDC ***29*** *17:05:35.3±1.2, 4°.23N×126°.87E, h0km, mb3.9/8, mbtmp3.9/8, MS3.3/4, Error ellipse: s-maj=69.1km s-min=15.3km az=65.0*
NEIC ***29*** *17:05:40.2±1.7, 3°.91N±0°.03×126°.0E±0°.2, h35km±2km, mb4.4/27, Error ellipse: s-maj=27.5km s-min=4.3km az=82.0*
ISC 29 17:05:40.1±0.6, 3°.89N±0°.05×125°.98E±0°.09, h35km, n49, σ1§26/45, mb4.3/20, MS3.5/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.18**	**353**	Pn	**Pn**	**17 06 26.8**	**-0.8**
TNTI	**Ternate**	**3.40**	**156**	Pn	**Pn**	**17 06 29.3**	**-1.3**
TNTI				Sn	**Sn**	**17 07 10.9**	**+1.3**
LUWI	**Luwuk**	**5.86**	**213**		**Pn**	**17 07 02.8**	**-1.7**
TOLI2	**Tolitoli**	**5.89**	**242**	Pn	**Pn**	**17 07 03.6**	**-1.3**
MYLDM	**Lahad Datu**	**7.57**	**280**		**Pn**	**17 07 28.2**	**+0.2**
FAKI	**Fak Fak**	**9.22**	**137**	Pn	**Pn**	**17 07 49.3**	**-1.3**
KAPI	**Kappang**	**10.82**	**215**	LR	LR	17 13 37.2	
	comp=Z,45nm,19.3s,baz=56,slow=42						
JAGI	**Jajag, Banyuwa**	**17.03**	**224**	Pn	**Pn**	**17 09 34.6**	**-1.1**
MTN	**Manton Dam**	**17.40**	**163**	Pn	**Pn**	**17 09 38.4**	**-1.8**
KNRA	**Kununurra**	**19.64**	**172**	P	**Pn**	**17 10 08.6**	**+1.2**
KNRA				IAmb	IAmb	17 10 15.5	
	comp=Z,23nm,1.4s						
YULB	**Yu-li**	**19.91**	**347**	P	**P**	**17 10 07.5**	**-1.3**
YULB				IAmb	IAmb	17 10 18.7	
	comp=Z,24nm,1.3s						
TPUB	**Ta-pu**	**19.98**	**345**	P	**P**	**17 10 08.3**	**-1.2**
TPUB				IAmb	IAmb	17 10 22.6	
	comp=Z,57nm,1.5s						
FITZ	**Fitzroy Crossi**	**21.86**	**181**	P	**P**	**17 10 29.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**21.86**	**181**	P	**P**	**17 10 33.4**	**+3.6**
	comp=Z,0.9nm,0.6s,baz=13,slow=9.5,SNR=6.8						
	comp=Z,0.9nm,0.6s						
WB0	**Warramunga Arr**	**24.92**	**161**	P	**P**	**17 11 00.9**	**+0.8**
WRAB	**Tennant Creek**	**25.07**	**161**	P	**P**	**17 11 00.6**	**-0.8**
WRA	**Warramunga Arr**	**25.07**	**161**	P	**P**	**17 11 02.5**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=342,slow=10.0,SNR=22						
	comp=Z,2.3nm,0.7s						
WB2	**Warramunga Arr**	**25.07**	**161**	P	**P**	**17 11 01.3**	**-0.2**
WB2				IAmb	IAmb	17 11 13.7	
	comp=Z,6.8nm,0.8s						
WR0	**Warramunga Arr**	**25.15**	**161**	P	**P**	**17 11 00.9**	**-1.3**
WR0				IAmb	IAmb	17 11 13.5	
	comp=Z,7.8nm,1.1s						
PSI	**Prapat**	**27.04**	**269**	LR	LR	17 24 39.4	
	comp=Z,35nm,18.7s,baz=348,slow=41						
AS31	**Alice Springs**	**28.46**	**165**		**P**	**17 11 32.5**	**+0.5**
ASAR	**Alice Springs**	**28.46**	**165**	P	**P**	**17 11 31.8**	**-0.2**
ASAR	**Alice Springs**	**28.46**	**165**	P	**P**	**17 11 31.2**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=346,slow=7.5,SNR=10						
	comp=Z,0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.15**	**301**	P	P	17 11 53.4	+6.4
	comp=Z,0.5nm,0.4s,baz=119,slow=6.5,SNR=9.1						
	comp=Z,0.5nm,0.4s						
BBOO	**Buckleboo**	**37.73**	**166**	P	**P**	**17 12 51.2**	**-1.4**
STKA	**Stephens Creek**	**38.55**	**158**	P	**P**	**17 13 01.8**	**+2.3**
STKA	**Stephens Creek**	**38.55**	**158**	P	**P**	**17 13 01.5**	**+2.0**
	comp=Z,1.6nm,0.5s,baz=340,slow=8.3,SNR=5.9						
	comp=Z,1.6nm,0.5s						
ARMA	**Armidale**	**42.02**	**146**	P	**P**	**17 13 27.6**	**-0.8**
SONM	**Songino Array**	**46.91**	**342**	LR	LR	17 35 34.5	
	comp=Z,55nm,18.2s,baz=330,slow=38						
MK31	**Makanchi Array**	**57.00**	**326**		**P**	**17 15 22.5**	**+0.1**
MKAR	**Makanchi Array**	**57.00**	**326**	P	**P**	**17 15 23.4**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=128,slow=8.5,SNR=9.7						
	comp=Z,0.8nm,0.6s						
MAKZ	**Makanchi**	**57.18**	**325**	P	**P**	**17 15 25.0**	**+1.3**
MAKZ				IAmb	IAmb	17 15 42.8	
	comp=Z,2.5nm,1.0s						
KURBB	**Kurchatov Arra**	**61.20**	**328**	P	**P**	**17 15 53.5**	**+2.2**
	comp=Z,2.1nm,0.2s,baz=125,slow=6.3,SNR=8.6						
	comp=Z,2.1nm,0.2s						
KURK	**Kurchatov**	**61.20**	**328**	P	**P**	**17 15 52.3**	**+1.0**
KURK				IAmb	IAmb	17 15 55.1	
	comp=Z,2.3nm,0.7s						
BVAR	**Borovoye Array**	**66.78**	**327**	P	**P**	**17 16 30.1**	**+2.1**
	comp=Z,1.1nm,0.7s,baz=123,slow=11,SNR=6.5						
	comp=Z,1.1nm,0.7s						
TIXI	**Tiksi**	**67.69**	**1**	P	**P**	**17 16 32.4**	**-1.0**
TIXI				IAmb	IAmb	17 16 39.2	
	comp=Z,7.7nm,1.4s						
ABKAR	**Akbulak array**	**71.55**	**321**	P	**P**	**17 16 57.4**	**-0.2**
J17K	**VABM Dome**	**79.81**	**26**	P	**P**	**17 17 44.5**	**0.0**
L18K	**Granite Mounta**	**80.67**	**28**	P	**P**	**17 17 49.0**	**-0.2**
L18K				IAmb	IAmb	17 18 27.0	
	comp=Z,13nm,1.5s						
H19K	**Roundabout Mou**	**81.33**	**24**	P	**P**	**17 17 53.2**	**+0.6**
H19K				IAmb	IAmb	17 17 54.2	
	comp=Z,4.7nm,1.1s						
J20K	**Nowinta River**	**82.10**	**26**	P	**P**	**17 17 56.4**	**-0.4**
J20K				IAmb	IAmb	17 18 33.0	
	comp=Z,5.7nm,1.4s						
IMAR	**Indian Mountai**	**82.50**	**24**	P	**P**	**17 17 58.4**	**-0.4**
B21K	**Ikpikpuk River**	**82.68**	**20**	P	**P**	**17 17 59.7**	**+0.1**
E21K	**Killik River**	**82.74**	**22**	P	**P**	**17 17 59.4**	**-0.7**
E21K				IAmb	IAmb	17 18 22.1	
	comp=Z,4.8nm,1.3s						
H21K	**Melozitna Rive**	**82.84**	**24**	P	**P**	**17 17 59.7**	**-1.0**
H21K				IAmb	IAmb	17 18 11.3	
	comp=Z,7.3nm,1.4s						
I21K	**Tanana**	**83.14**	**25**	P	**P**	**17 18 01.4**	**-0.8**
I21K				IAmb	IAmb	17 18 08.6	
	comp=Z,4.1nm,1.2s						
TOLK	**Toolik Lake Re**	**84.37**	**21**	P	**P**	**17 18 09.3**	**+0.8**
TOLK				IAmb	IAmb	17 18 46.0	
	comp=Z,3.9nm,1.4s						
BMAR	**Burnt Mountain**	**86.21**	**23**	P	**P**	**17 18 18.0**	**+0.3**
BBB	**Bella Bella**	**96.61**	**37**	LR	LR	18 02 35.8	
	comp=Z,28nm,19.2s,baz=17,slow=36						

NEIC 29 17:08:16.9±1.8, 56°.40N±0°.09×148°.9W±0°.1, h10km±2km, ML3.5/60, Error ellipse: s-maj=14.5km s-min=10.1km az=184.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.42**	**306**	Pn	Pn	17 08 56.1	-0.5
OHAK	**Old Harbor**	**2.53**	**291**	Pn	Pn	17 08 57.1	-0.9
SYI	**Shuyak Island**	**2.90**	**321**		Pn	17 09 03.1	+0.1
Q23K	**Middleton Isla**	**3.34**	**23**	Pn	Pn	17 09 08.4	-0.7
Q23K				IAML		17 09 36.0	
	comp=E,130nm,1.6s						
Q23K				IAML		17 09 58.5	
	comp=N,126nm,1.9s						
CNPM	**China Poot**	**3.37**	**340**		Pn	17 09 09.5	0.0
BRLK	**Bradley Lake**	**3.53**	**344**		Pn	17 09 11.4	-0.4
HOM	**Homer**	**3.57**	**337**	Pn	Pn	17 09 12.3	0.0
Q19K	**Cape Douglas,**	**3.58**	**317**		Pn	17 09 13.3	+0.8
Q19K				IAML		17 10 11.0	
	comp=N,102nm,0.8s						
SEW	**Seward**	**3.72**	**356**	Pn	Pn	17 09 13.7	-0.7
CHIR	**Chirikof Islan**	**3.79**	**264**	Pn	Pn	17 09 15.6	+0.3
ACHA	**Angle Creek He**	**3.91**	**300**	Pn	Pn	17 09 18.5	+1.4
P19K	**Oil Pt**	**3.98**	**327**	Pn	Pn	17 09 18.5	+0.5
P19K				IAML		17 10 09.4	
	comp=N,68nm,0.7s						
P19K				IAML		17 10 14.9	
	comp=E,78nm,0.5s						
HIN	**Hinchinbrook I**	**4.21**	**17**	Pn	Pn	17 09 20.7	-0.4
HIN				IAML		17 10 15.4	
	comp=E,75nm,1.2s						
HIN				IAML		17 10 37.1	
	comp=N,58nm,1.6s						
ILSW	**Iliamna Southw**	**4.22**	**330**		Pn	17 09 21.2	-0.2
PLK4	**Peulik 4**	**4.24**	**290**	Pn	Pn	17 09 21.6	0.0
KAIM	**Kayak Island**	**4.27**	**32**	Pn	Pn	17 09 22.4	+0.5
PWL	**Port Wells**	**4.48**	**4**		Pn	17 09 24.6	-0.3
PWL				IAML		17 10 13.8	
	comp=E,32nm,0.7s						
PWL				IAML		17 10 19.0	
	comp=N,33nm,0.9s						
P18K	**Big Mountain,**	**4.50**	**314**	Pn	Pn	17 09 24.8	-0.3
P18K				IAML		17 11 27.8	
	comp=E,28nm,3.2s						
P18K				IAML		17 11 32.4	
	comp=N,31nm,2.9s						
FID	**Port Fidalgo**	**4.55**	**15**	Pn	Pn	17 09 23.6	-2.1
FID				IAML		17 10 16.0	
	comp=E,28nm,0.5s						
FID				IAML		17 10 45.5	
	comp=N,28nm,4.3s						
RAGM	**Ragged Mountai**	**4.58**	**28**	Pn	Pn	17 09 23.2	-3.1
GLI	**Glacier Island**	**4.59**	**11**	Pn	Pn	17 09 24.2	-2.1
GLI				IAML		17 10 26.3	
	comp=E,29nm,0.9s						
GLI				IAML		17 11 07.8	
	comp=N,33nm,3.7s						
RC01	**Rabbit Creek A**	**4.72**	**355**		Pn	17 09 27.9	-0.2
RC01				IAML		17 10 25.4	
	comp=E,29nm,0.5s						
RC01				IAML		17 10 29.0	
	comp=N,23nm,0.5s						
O18K	**Koktuh Hills**	**4.80**	**319**	Pn	Pn	17 09 28.8	-0.4
O18K				IAML		17 10 38.1	
	comp=N,31nm,2.6s						
O18K				IAML		17 11 37.3	
	comp=E,33nm,4.5s						
BERG	**Berg Lake**	**4.86**	**32**		Pn	17 09 30.2	+0.2
SNH	**Sunshine Point**	**4.97**	**38**	Pn	Pn	17 09 32.2	+0.6
KNK	**Knik Glacier**	**5.03**	**3**	Pn	Pn	17 09 31.4	-1.0
KNK				IAML		17 11 40.5	
	comp=E,22nm,4.8s						
SUA	**Susitna One**	**5.16**	**350**	Pn	Pn	17 09 33.8	-0.5
SUA				IAML		17 10 24.6	
	comp=N,26nm,4.0s						
SUA				IAML		17 11 15.6	
	comp=E,32nm,3.7s						
N19K	**Bonanza Creek**	**5.29**	**329**	Pn	Pn	17 09 35.3	-0.7
N19K				IAML		17 10 46.0	
	comp=N,30nm,3.5s						
N19K				IAML		17 10 54.1	
	comp=E,24nm,3.3s						
CRQM	**Cirque**	**5.32**	**32**		Pn	17 09 36.9	+0.4
CRQM				IAML		17 10 47.9	
	comp=N,28nm,2.0s						
CRQM				IAML		17 10 52.2	
	comp=E,24nm,2.7s						
KLU	**Klutina**	**5.34**	**16**		Pn	17 09 37.3	+0.6
KLU				IAML		17 10 35.7	
	comp=N,26nm,4.9s						
KLU				IAML		17 10 41.6	
	comp=E,23nm,0.4s						
GHO	**Glory Hole Cre**	**5.39**	**0**		Pn	17 09 38.3	+0.9
GHO				IAML		17 10 40.7	
	comp=N,32nm,0.8s						
GHO				IAML		17 10 44.0	
	comp=E,27nm,0.7s						
TGL	**Tana Glacier**	**5.41**	**34**		Pn	17 09 38.1	+0.4
SML	**Sawmill**	**5.43**	**3**		Pn	17 09 38.7	+0.8
SCM	**Sheep Creek Mo**	**5.51**	**8**	Pn	Pn	17 09 39.6	+0.6
N18K	**Kilaea Creek**	**5.63**	**323**	Pn	Pn	17 09 40.1	-0.4
N25K	**Chitina, Valde**	**5.68**	**21**		Pn	17 09 42.4	+1.1
GLB	**Gilahina Butte**	**5.71**	**26**		Pn	17 09 42.3	+0.6
GRNC	**Granite Creek**	**5.74**	**38**		Pn	17 09 42.9	+0.6
SKT	**Skwentna**	**5.75**	**348**		Pn	17 09 42.3	0.0
O16K	**Kokwok River B**	**5.83**	**307**		Pn	17 09 43.8	+0.5
MCARA	**McCarthy VSAT**	**5.86**	**29**		Pn	17 09 44.7	+0.9
M24K	**Tolsona, Glenn**	**5.90**	**13**	Pn	Pn	17 09 44.2	-0.1
M20K	**Styx River**	**5.91**	**340**	Pn	Pn	17 09 44.4	-0.1
N17K	**Nushagak Hills**	**5.99**	**317**	Pn	Pn	17 09 45.3	-0.1
LOGN	**Logan Glacier**	**6.07**	**40**		Pn	17 09 46.4	-0.4
BCPM	**Bancas Point**	**6.07**	**50**		Pn	17 09 47.8	+1.2
M19K	**Big River Lodg**	**6.19**	**335**	Pn	Pn	17 09 47.1	-1.2
M17K	**Holitna River**	**6.67**	**322**		Pn	17 09 54.6	-0.3
M27K	**Edge Creek, AK**	**6.97**	**28**	Pn	Pn	17 09 58.4	-0.7
M16K	**Timber Creek**	**6.98**	**316**	Pn	Pn	17 09 58.9	-0.1
N15K	**Kwethluk River**	**6.99**	**307**	Pn	Pn	17 09 59.9	+0.7
RND	**Reindeer**	**7.03**	**0**	Pn	Pn	17 09 59.9	0.0
L18K	**Granite Mounta**	**7.05**	**329**	Pn	Pn	17 09 59.6	-0.5
S31K	**Pelican**	**7.08**	**72**	Pn	Pn	17 10 00.1	-0.4
O14K	**Tigyukauivet M**	**7.17**	**299**	Pn	Pn	17 10 03.0	+1.2
CAST	**Castle Rocks**	**7.21**	**349**	Pn	Pn	17 10 02.9	+0.6
KTH	**Kantishna Hill**	**7.24**	**353**	Pn	Pn	17 10 03.0	+0.2
HYT	**Haines Junctio**	**7.43**	**49**	Pn	Pn	17 10 06.0	+0.6
K20K	**Telida**	**7.44**	**342**	Pn	Pn	17 10 02.7	-2.7
TTA	**Tatalina**	**7.46**	**334**	Pn	Pn	17 10 03.4	-2.3
L27K	**Beaver Creek,**	**7.58**	**25**	Pn	Pn	17 10 08.4	+1.0
BCAR	**Beaver Creek A**	**7.59**	**25**	Pn	Pn	17 10 08.3	+0.7
L16K	**Owhat River**	**7.60**	**319**	Pn	Pn	17 10 07.6	0.0
RIDG	**Independent Ri**	**7.64**	**14**	Pn	Pn	17 10 09.8	+1.6
BPAW	**Bear Paw Mtn.**	**7.79**	**353**		Pn	17 10 09.1	-1.2
WHY	**Whitehorse**	**8.50**	**54**		Pn	17 10 21.1	+1.1
L29M	**L29M**	**8.65**	**35**	Pn	Pn	17 10 22.9	+0.9
J17K	**VABM Dome**	**8.66**	**328**	Pn	Pn	17 10 21.2	-0.9
L14K	**Kuka Creek**	**8.66**	**311**	Pn	Pn	17 10 22.0	-0.1
P32M	**Atlin**	**8.69**	**62**	Pn	Pn	17 10 23.1	+0.6
K15K	**Wolf Creek Mou**	**8.72**	**318**	Pn	Pn	17 10 22.3	-0.7
M30M	**Minto, Yukon**	**8.73**	**40**	Pn	Pn	17 10 23.1	-0.1
U33K	**Whale Pass**	**8.81**	**85**	Pn	Pn	17 10 22.7	-1.5
I21K	**Tanana**	**8.93**	**352**	Pn	Pn	17 10 24.8	-1.0
DAWY	**Dawson**	**9.03**	**28**	Pn	Pn	17 10 26.5	-0.7
J16K	**Anvik River**	**9.05**	**324**	Pn	Pn	17 10 27.1	-0.3
Q32M	**Nakina River**	**9.29**	**67**	Pn	Pn	17 10 30.6	-0.3
P33M	**Teslin, Yukon**	**9.30**	**59**	Pn	Pn	17 10 30.5	-0.5
K29M	**Barlow Dome**	**9.38**	**33**	Pn	Pn	17 10 32.1	+0.1
H23K	**Yukon River**	**9.46**	**358**	Pn	Pn	17 10 32.6	-0.5
H21K	**Melozitna Rive**	**9.47**	**350**	Pn	Pn	17 10 32.5	-0.8
IMAR	**Indian Mountai**	**9.89**	**348**	Pn	Pn	17 10

IMRD	Marand	0.85	290	Pg	Pg	17 57 52.4	-0.7
ISHB	Shabestar	0.88	261	Pg	Pg	17 57 52.5	-1.2
IAZR	Azarshahr	0.94	219	Pg	Pb	17 57 55.1	-0.7
ISRB	Sarab	0.95	128	Pg	Pg	17 57 54.4	-0.7
GRMI	Germi	1.00	67	Pg	Pg	17 57 55.1	-0.7
QRD	Qoradiz	1.14	24	P	Pg	17 57 58.0	-0.6
QRD				S	Sb	17 58 14.0	-0.2
IHSH	Hashtrud	1.19	159	Pg	Pg	17 57 58.8	-0.8
NAX	Nakhchivan	1.22	309	P	Pg	17 57 59.1	-1.0
NAX				S	Sb	17 58 16.4	-0.2
LRK	Lerik	1.29	80	P	Pg	17 58 00.4	-1.1
LRK				S	Sn	17 58 19.5	0.0
YRD	Yardimli	1.29	67	P	Pg	17 58 00.6	-0.9
YRD				S	Sb	17 58 18.6	-0.1
SBZ	Shahbuz	1.34	317	P	Pg	17 58 01.3	-1.1
SBZ				S	Sn	17 58 20.7	+0.1
GLBA	Clilabad	1.54	57	P	Pg	17 58 06.0	-0.3
GLBA				S	Sg	17 58 28.4	+2.2
ASTR	Astara	1.63	84	P	Pb	17 58 07.2	-0.1
ASTR				S	Sg	17 58 30.1	+1.0
LKRN	Lenkeran, Azer	1.64	79	P	Pb	17 58 07.3	-0.2
LKRN				S	Sg	17 58 31.1	+1.7
GAS1	Astara - Iran	1.66	90	Pg	Pb	17 58 07.7	-0.2
AGDM	Agdam	1.71	10	P	Pn	17 58 07.9	+0.5
AGDM				S	Sb	17 58 31.1	+0.4
MAHB	Mahabad	1.84	206	Pn	Pb	17 58 10.5	-0.5
MAKU	Maku	1.85	301	Pn	Pn	17 58 09.4	0.0
BRDA	Brd	1.88	11	S	Sg	17 58 38.6	+1.6
HYR	Heyderabad	1.95	312	P	Pn	17 58 11.4	+0.7
HYR				S	Sg	17 58 42.5	+3.1
ZRD	Zardab	2.00	22	P	Pb	17 58 13.7	0.0
ZRD				S	Sg	17 58 42.2	+1.1
KDMR	Kurdemir	2.26	30	S	Sg	17 58 49.2	-0.1
MNGR	Mingechevir, A	2.37	7	S	Sg	17 58 51.8	-0.9
GDB	GEDABAY	2.42	342	P	Pb	17 58 19.6	-1.3
GDB				S	Sb	17 58 51.7	+0.6
IML	Ismayilli	2.62	25	P	Pb	17 58 22.6	-1.8
IML				S	Sb	17 58 56.0	-1.0
QBL	Gabala	2.67	18	P	Pb	17 58 22.7	-2.4
QBL				S	Sb	17 58 57.9	-0.2
PQL	Pirkuli	2.77	31	P	Pb	17 58 24.6	-2.4
PQL				S	Sb	17 59 01.4	0.0
SEKA	Sheki	2.81	7	P	Pn	17 58 23.8	+1.3
SEKA				S	Sb	17 59 01.8	-0.5
QZX	Qazax, Azerbai	2.83	339	P	Pb	17 58 28.6	+0.7
QZX				S	Sg	17 59 06.5	-1.3
XNQ	Khinaliq	2.96	21	P	Pn	17 58 25.9	+1.2
XNQ				S	Sb	17 59 06.7	0.0
ZKTA	Zakatala	3.22	359	P	Pb	17 58 33.4	-1.1
ZKTA				S	Sb	17 59 14.9	+1.0
QUBA	Quba, Azerbaij	3.23	24	S	Sb	17 59 13.2	-1.3
TRLG	Trialeti	3.71	328	P	Pb	17 58 42.5	-0.4
TRLG				S	Sb	17 59 31.3	+2.9
ALIG	Mtskhetisjvari	4.37	328	P	Pb	17 58 54.7	+0.6

RSNC 29 17:58:53.1±0.0, 13°N±1°×8°1W±°, h1km±1km, M3.5, mb4.3, mB6.2, ML3.4, Mw(mB)5.9, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	Isla de Provid	0.22	311	P	Pg	17 58 58.6	+1.2
PRVC				S	Sg	17 59 02.6	+2.3
SAIC	Isla e San And	0.86	217	P	Pg	17 59 09.4	-0.1
SAIC				S	Sb	17 59 22.8	0.0
RNCC	Cayo Roncador,	1.12	72	P	Pg	17 59 13.8	-0.8
RNCC				S	Sb	17 59 30.0	-0.4
SERC	Banco Serrana,	1.32	37	P	Pg	17 59 16.7	-1.8
SERC				S	Sg	17 59 35.1	-0.5
BLUN	Bluefields	2.80	245	P	Pb	17 59 41.6	-2.4
BLUN				S	Sn	18 00 15.3	+1.8
ESPN	Las Esperanzas	3.20	252	P	Pn	17 59 44.3	-0.3
ESPN				S	Sb	18 00 30.7	+0.3
BCIP	Isla Barro Col	4.25	162	P	Pn	17 59 51.9	-7.1
BCIP				S	Sn	18 00 44.9	-4.4
JTS	Las Juntas de	4.70	232	P	Pn	18 00 05.2	-0.1
JTS				S	Sn	18 00 58.8	-1.7
GMAL	Guarumal, Vera	5.43	180	P	Pn	18 00 16.4	+1.1
GMAL				S	Sn	18 01 13.1	-5.4
AZU	Azuero	5.48	170	P	Pn	18 00 18.3	+2.4
AZU	24nm,1.5s			S	Sn	18 01 15.7	-3.9
CACAO	El Cacao, Vera	5.86	177	P	Pn	18 00 22.1	+1.0
CACAO	29nm,1.2s			S	Sn	18 01 27.2	-1.8
CAPC	Capurgana	5.92	140	P	Pn	18 00 19.5	-2.5
CAPC	29nm,1.2s 10nm,1.0s			S	Sn	18 01 24.2	-6.3
MTDJ	Mount Denham	6.09	35	P	Pn	18 00 23.6	-0.8
LCBC	10nm,1.0s 85nm,1.6s Los crdobas,	6.42	132	P	Pn	18 00 28.4	-0.5
SJCC	52nm,1.5s San Jacinto, C	6.76	119	P	Pn	18 00 31.1	-2.5
SJCC	15nm,0.8s			S	Sn	18 01 44.8	-6.5
APAC	15nm,0.8s Apartado, Choc	6.97	139	P	Pn	18 00 31.4	-5.0
APAC	16nm,0.6s			S	Sn	18 01 52.2	-4.2
UREC	16nm,0.6s San Jos de Ur	7.78	134	P	Pn	18 00 46.4	-1.2
UREC	3.9nm,0.8s			S	Sn	18 02 09.3	-7.2
CRJC	3.9nm,0.8s Cerrejon, Guaj	8.42	104	P	Pn	18 00 56.8	+0.4
CRJC				S	Sn	18 02 23.8	-8.4
ZARC	Zaragoza, Cauc	8.44	132	P	Pn	18 00 53.5	-3.2
ZARC	9.5nm,0.6s			S	Sn	18 02 25.6	-7.1
PTBC	9.5nm,0.6s PUERTO BERRIO,	9.39	134	P	Pn	18 01 07.4	-2.3
PTBC	6.8nm,2.8s			S	Sn	18 02 46.7	-9.3
TEIG	6.8nm,2.8s Tepich	9.72	317	P	Pn	18 01 13.7	-0.4

BEO ***29*** *18:11:00.2±0.7, 40°.90N×20°.09E, h0km, ML2.3/10*
TIR ***29*** *18:11:01.1, 41°.12N×20°.22E, h13km±2km, Md2.3, Ml2.2*
ATH ***29*** *18:11:01.9, 41°.27N×20°.31E, h11km±4km, ML2.3/1,*
Manual Solution by A.Andreou First location: 2018/11/29 18:12:20, This location: 2020/07/03 15:50:24 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 2 km
SKO ***29*** *18:11:01.4, 41°.05N×20°.12E, h0km, ML2.5*

ISC 29 18:11:02.3±1.1, 41°.15N±0°.03×20°.25E±0°.03, h10km±10km, n27, σ1§10/38, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	0.35	304	AMP			
	comp=E,1.0nm,0.3s,baz=311						
TIR	Tirane	0.35	304	*e*Pg	Pg	18 11 08.5	-0.8
TIR				*e*Sg	Sb	18 11 15.0	-1.3
TIR	Tirane	0.35	304	P	Pg	18 11 08.5	-0.8
TIR				S	Sg	18 11 13.9	-0.2
OHR	Ohrid	0.41	95	*e*Pg	Pg	18 11 10.5	+0.1
OHR				*e*Sg	Sb	18 11 17.8	-0.2
OHR	Ohrid	0.41	95	*i* Pg	Pg	18 11 10.5	+0.1
OHR				*i* Sg	Sb	18 11 17.6	-0.4
OHR				*e*Lg	Lg	18 11 17.7	
	comp=N,273nm,0.3s						
OHR				*e*Lg	Lg	18 11 18.3	
	comp=E,189nm,0.5s						
KBN	Korca	0.66	142	AMP			
	comp=N,0.5nm,0.5s,baz=138						
FNA	Florina	0.93	113	AMP			
	comp=N,0.2nm,0.3s,baz=110						
FNA	Florina	0.93	113	*e*Pg	Pg	18 11 18.7	-1.4
FNA				*e*Sg	Sb	18 11 32.6	-0.2
FNA	Florina	0.93	113	*i* Pg	Pg	18 11 18.8	-1.3
FNA				*i* Sg	Sn	18 11 33.4	-1.3
FNA	Florina	0.93	113	P	Pn	18 11 20.6	-0.8
PUK	Puka	0.93	343	P	Pg	18 11 19.5	-0.8
PUK				AMP			
	comp=N,0.5nm,0.2s,baz=346						
PENT	Pentalofos	1.17	144	P	Pg	18 11 25.6	+0.9
PENT				S	Sn	18 11 41.8	+1.1
BCI	Bajram Curri	1.22	354	AMP			
	comp=E,0.2nm,0.6s,baz=355						
KPRO	Kipourio	1.46	144	P	Pg	18 11 29.9	-0.4
KEK	Kerkira	1.48	194	P	Pg	18 11 30.2	-0.4
KEK				S	Sg	18 11 51.4	+1.6
PDG	Podgorica	1.48	330	*e*Pg	Pb	18 11 29.0	-0.9
PDG				*e*Sg	Sg	18 11 52.8	+2.8
PDG	Podgorica	1.48	330	*i* Pn	Pb	18 11 29.4	-0.4
BEY	Berane	1.74	351	*i* Pn	Pb	18 11 34.4	0.0
KNT	Kendrikon	2.00	89	P	Pn	18 11 35.1	-0.9
BARS	Barje	2.03	34	*e*Pn	Pb	18 11 39.4	+0.1
BARS				*e*Sn	Sg	18 12 08.8	+1.2
THL	Klokotos Trika	2.08	139	P	Pn	18 11 37.6	+0.4
SJES	Sjenica	2.12	354	*e*Pn	Pb	18 11 41.3	+0.4
SJES				*e*Sn	Sg	18 12 10.6	+0.1
BOSS	Bosilegrad	2.14	50	*e*Pn	Pb	18 11 40.0	-1.1
BOSS				*e*Sn	Sb	18 12 09.0	+1.3
SELS	Selova	2.17	17	*e*Pn	Pb	18 11 42.4	+0.8
SELS				*e*Sn	Sg	18 12 13.5	+1.6
HORT	Hortiatis	2.23	103	P	Pn	18 11 39.1	-0.2
IVAS	Ivanjica	2.43	358	*e*Pn	Pb	18 11 44.1	-1.9
IVAS				*e*Sn	Sg	18 12 19.6	-0.7
BBLS	Lazi&#263i	2.79	347	*e*Pn	Pn	18 11 49.0	+2.0
BBLS				*e*Sn	Sb	18 12 26.6	+0.2

SKHL ***29*** *18:39:11.8±0.9, 45°.70N×150°.70E, h141km±9km, mb5.0/3, msha5.4/3*
JMA ***29*** *18:39:13.5±0.7, 45°N±4°×15°0E±°, h148km, MV3.7/13, KURILE ISLANDS REGION*
IDC ***29*** *18:39:15.3±2.3, 46°.43N×149°.84E, h168km±22km, mb3.0/11, mbtmp3.6/17, Error ellipse: s-maj=21.1km s-min=12.3km az=145.0*

ISC 29 18:39:12.1±0.7, 46°.1N±0°.1×149°.99E±0°.09, h150km, n40, σ2§30/44, mb3.3/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.74	240	*e*P	Pn	18 39 47.9	+3.7
KUR				AMB	AMB	18 39 48.6	
	110nm,0.3s						
KUR				*e*S	Sn	18 40 14.3	+5.5
KUR				A	A	18 40 16.7	
	240nm,0.4s						
KUR				A	A	18 40 16.7	
	190nm,0.4s						
SHO	Shikotan	3.18	226	*e*P	Pn	18 40 02.8	+1.0
SHO				AMB	AMB	18 40 03.3	
	30nm,0.2s						
SHO				*e*S	Sn	18 40 41.0	+0.8
SHO				A	A	18 40 46.3	
	160nm,0.3s						
SHO				A	A	18 40 46.3	
	150nm,0.3s						
YUK	Yuzh-Kuril'sk	3.60	236	*e*P	Pn	18 40 09.3	+2.2
YUK				AMB	AMB	18 40 10.0	
	210nm,0.3s						
YUK				*e*S	Sn	18 40 53.3	+3.6
YUK				A	A	18 41 00.3	
	110nm,0.4s						
YUK				A	A	18 41 00.3	
	160nm,0.4s						
JRA	Rausu	4.09	239	*e*P	Pn	18 40 15.5	+2.1
NEM2	Nemuro 2	4.10	229	*e*P	Pn	18 40 13.3	-0.3
NEM2				*e*S	Sn	18 40 59.8	-1.6
NMR	Nemuro--Hokkai	4.10	229	*i* P	Pn	18 40 13.3	-0.3
NMR				*e*S	Sn	18 40 59.7	-1.8
JNK	Nakash	4.53	238	*e*P	Pn	18 40 20.8	+1.5
AKK	Akkeshi	4.82	232	*e*P	Pn	18 40 23.1	+0.1
JTKR	Abashiri--Toko	4.82	246	*e*P	Pn	18 40 25.5	+2.5
JAK	Akkeshi	4.91	232	*e*P	Pn	18 40 24.1	-0.1
JAK				*e*S	Sn	18 41 19.1	-1.4
JAR	Ashorobuto	5.26	240	P	Pn	18 40 31.0	+2.1
JAR				*e*S	Sn	18 41 30.9	+2.1
JOB	Onbets	5.46	236	P	Pn	18 40 32.2	+0.7
JOB				*e*S	Sn	18 41 32.8	-0.7
ASAJ	Asahikawa	5.60	252	P	Pn	18 40 37.5	+4.0
	9.9nm,0.8s,baz=53,slow=20,SNR=5.5						
JKK2	Kamakawa 2	5.61	249	*e*P	Pn	18 40 36.2	+2.7
JCH	Churui	5.91	236	*e*P	Pn	18 40 37.8	+0.3
JCH				*e*S	Sn	18 41 41.3	-3.0
SKR	Severo-Kuril's	6.11	40	*e*P	Pn	18 40 40.9	+0.8
SKR				*e*S	Sn	18 41 48.6	-0.5
JNBK	Urakawa-nobuka	6.47	236	*e*P	Pn	18 40 44.4	-0.6
JANG	Nango	8.44	230	*e*P	Pn	18 41 09.2	-2.1
JANG				*e*S	Sn	18 42 37.4	-7.9
PETK	Petropavlovsk-	8.59	33	P	Pn	18 41 12.7	-0.5
	3.6nm,0.6s,baz=199,slow=10,SNR=9.8						
USRK	Ussuriysk Ar.	12.85	268	P	P	18 42 11.0	-3.3
	0.9nm,0.3s,baz=73,slow=11,SNR=5.1						
SEY	Seymchan	16.89	4	P	P	18 42 57.6	-1.2
	3.1nm,1.0s,baz=148,slow=15,SNR=1.6						
KSRS	Korea Array	18.55	250	P	Pn	18 43 19.8	+0.6
	1.4nm,0.5s,baz=56,slow=10,SNR=9.7						
YAK	Yakutsk	19.74	331	P	P	18 43 28.7	-1.2
	3.7nm,0.5s,baz=147,slow=18,SNR=1.9						
SONM	Songino Array	29.50	289	P	P	18 45 02.1	0.0
	0.1nm,0.3s,baz=52,slow=9.3,SNR=1.6						
	0.1nm,0.3s						
H11N2	WAKE ISLAND Hy	29.78	147	T	T	19 16 21.7	
	baz=336						
H11N1	WAKE ISLAND Hy	29.80	147	T	T	19 16 24.0	
	baz=336						
H11N3	WAKE ISLAND Hy	29.80	147	T	T	19 16 23.0	
	baz=336						
H11S1	WAKE ISLAND Hy	30.82	148	T	T	19 17 41.8	
	baz=337						
H11S3	WAKE ISLAND Hy	30.83	148	T	T	19 17 42.8	
	baz=337						
H11S2	WAKE ISLAND Hy	30.84	148	T	T	19 17 37.3	
	baz=337						
ILAR	Eielson Array	38.37	38	P	P	18 46 18.5	+0.3
	0.5nm,0.8s,baz=281,slow=6.6,SNR=5.8						
	0.5nm,0.8s						
MKAR	Makanchi Array	45.29	297	P	P	18 47 13.7	-0.9
	0.1nm,0.4s,baz=79,slow=9.0,SNR=1.8						
	0.1nm,0.4s						
KURBB	Kurchatov Arra	45.98	303	P	P	18 47 18.1	-1.8
	0.4nm,0.7s,baz=72,slow=8.7,SNR=5.4						
	0.4nm,0.7s						
BVAR	Borovoye Array	49.57	309	P	P	18 47 46.6	-0.9
	0.2nm,0.4s,baz=56,slow=2.6,SNR=2.0						
	0.2nm,0.4s						
CMAR	Chiang Mai Arr	50.12	254	P	P	18 47 54.5	+2.4
	0.3nm,0.5s,baz=36,slow=6.4,SNR=6.4						
	0.3nm,0.5s						
YKA	Yellowknife Ar	52.70	36	P	P	18 48 11.3	+0.7
	0.3nm,0.5s,baz=299,slow=7.5,SNR=4.9						
	0.3nm,0.5s						
NVAR	Mina Array Bea	64.63	60	P	P	18 49 34.5	+0.8
	0.3nm,0.4s,baz=316,slow=6.3,SNR=3.0						
	0.3nm,0.4s						
PDAR	Pinedale Array	66.84	52	P	P	18 49 48.6	+0.7
	0.6nm,0.6s,baz=297,slow=0.4,SNR=7.4						
	0.6nm,0.6s						
WRA	Warramunga Arr	67.28	196	P	P	18 49 52.2	+1.8
	0.1nm,0.3s,baz=11,slow=6.7,SNR=1.6						
	0.1nm,0.3s						
ASAR	Alice Springs	70.99	196	P	P	18 50 16.1	+2.8
	0.5nm,1.1s,baz=15,slow=6.3,SNR=5.3						
	0.5nm,1.1s						

SDD ***29*** *18:50:46.0±4.3, 17°.90N×68°.75W, h141km±78km, MD3.3, ML2.7, MW2.9*
RSPR ***29*** *18:50:47.7±1.2, 18°.5N±0°.4×68°.83W±0°.08, h152km±9km, Error ellipse: s-maj=55.4km s-min=4.1km az=190.0*
OSPL ***29*** *18:50:48.3±1.0, 18°.13N×68°.81W, h157km±8km, ML2.4*
NEIC ***29*** *18:50:48.9±1.3, 18°.5N±0°.3×68°.91W±0°.09, h130km±26km, ML2.4/14, Md3.4/6(RSPR), Error ellipse: s-maj=37.8km s-min=11.7km az=186.0*

ISC 29 18:50:49.2±1.7, 18°.1N±0°.1×68°.91W±0°.04, h126km±17km, n28, σ1§41/31, 4C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	Higuey Centro	0.48	22⇑	*e*Sg	Sn	18 51 24.8	+3.1
HIDR				IAML		18 51 26.5	
	comp=N,90nm,0.2s						
PCDR	Punta Cana, DR	0.62	53	Pn	Pn	18 51 06.7	-1.9
PCDR				IAML		18 51 52.1	
	comp=N,80nm,2.1s						
PCDR	Punta Cana, DR	0.62	53⇓	*e*Sg	Sn	18 51 18.7	-4.5
PCDR				IAML		18 51 51.7	
	comp=N,76nm,2.2s						
PCDR	Punta Cana, DR	0.62	53	*e*S	Sn	18 51 25.2	+2.0
PCDR				IAML		18 51 31.1	
	comp=Z,38nm,0.5s						
HATOM	Hato Mayor del	0.79	325⇑	*e*Pg	Pn	18 51 09.7	-0.2
HATOM				*e*		18 51 13.4	
HATOM				⇓*e*Sg	Sn	18 51 26.8	+1.2
HATOM				IAML		18 51 32.2	
	comp=N,28nm,0.2s						
MIDR	Miches	0.85	351⇑	*e*Pg	Pn	18 51 09.9	-0.5
MIDR				⇓*e*Sg	Sn	18 51 27.6	+1.2
MIDR				IAML		18 51 29.7	
	comp=N,34nm,0.1s						
DR08	Loma La Naviza	1.33	308⇑	*e*Pg	Pn	18 51 15.3	0.0
DR08				⇓*e*Sg	Sn	18 51 34.5	-0.5
DR08				IAML		18 51 38.2	
	comp=N,622nm,0.2s						
IDE	Isla Desecheo	1.39	80		Pn	18 51 15.8	0.0
IDE					Sn	18 51 37.8	+1.9
CRPR	Cabo Rojo, PR	1.72	94		Pn	18 51 20.4	+0.8
CRPR				IAML		18 52 05.8	
	comp=N,18nm,3.1s						
CRPR	Cabo Rojo, PR	1.72	94		Sn	18 51 44.4	+1.7
CRPR	Cabo Rojo, PR	1.72	94	*i* P	Pn	18 51 18.6	-0.9
CRPR				IAML		18 51 52.6	
	comp=Z,0.1nm,0.0s						
AGPR	Aguadilla, PR	1.74	79		Sn	18 51 42.8	-0.3
AGPR	Aguadilla, PR	1.74	79	Pn	Pn	18 51 18.7	-1.1
AGPR	Aguadilla, PR	1.74	79	IAML		18 52 04.4	
	comp=E,32nm,0.9s						
MLPR	Magueyes Islan	1.78	95		Pn	18 51 19.9	-0.4
MLPR	Magueyes Islan	1.78	95		Sn	18 51 43.5	-0.5
MLPR				IAML		18 52 00.1	
	comp=N,14nm,2.7s						
AOPR	Arecibo Observ	2.06	84		Pn	18 51 23.2	-0.5
AOPR					Sn	18 51 49.6	-0.5
CELP	Cerrillos	2.22	91		Pn	18 51 25.8	+0.1
CELP	Cerrillos	2.22	91		Sn	18 51 54.9	+1.3
CELP	Cerrillos	2.22	91	IAML		18 51 45.9	
	comp=E,13nm,4.9s						
CELP	Cerrillos	2.22	91	IAML		18 52 30.5	
	comp=N,12nm,4.9s						
PODR	Polo	2.25	271	*i* P	Pn	18 51 26.7	+0.4
PODR				*e*S	Sn	18 51 55.0	+0.2
PODR				IAML		18 51 57.6	
	comp=Z,20nm,0.8s						
LOVI	El Cajuil, Ovi	2.37	262	*e*S	Sn	18 51 56.4	-0.5
SDDR	Presa de Saban	2.41	291		Pn	18 51 27.7	-0.3
SDDR	Presa de Saban	2.41	291	IAML		18 52 18.0	
	comp=Z,21nm,4.5s						
SDDR				IAML		18 53 01.1	
	comp=Z,16nm,4.0s						
SDDR	Presa de Saban	2.41	291	*i* P	Pn	18 51 27.8	-0.3
SDDR				*e*S	Sn	18 51 58.1	+0.1
SDDR				IAML		18 52 00.1	
	comp=Z,11nm,2.6s						
LONE3	El Aguacate, B	2.46	281	*i* P	Pn	18 51 28.7	-0.2
LONE3				IAML		18 52 01.9	
	comp=Z,13nm,1.6s						
LOBH	Bahia de las A	2.61	264	*e*S	Sn	18 52 02.6	0.0
LOBH				IAML		18 52 05.9	
	comp=Z,32nm,1.5s						

IDC 29 18:50:57.3±2.3, 1°.80N×127°.27E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=179.7km s-min=27.5km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.70	163	P	P	18 56 00.1	-0.7
	0.3nm,0.7s,baz=341,slow=11,SNR=10.0						
	0.3nm,0.7s						
ASAR	Alice Springs	26.12	166	P	P	18 56 34.2	+0.9
	0.2nm,0.9s,baz=344,slow=12,SNR=2.5						
	0.2nm,0.9s						
MKAR	Makanchi Array	59.44	326	P	P	19 01 01.9	-0.1
	0.4nm,0.8s,baz=117,slow=8.5,SNR=4.1						
	0.4nm,0.8s						

ISK ***29*** *18:55:54.8, 39°.09N×31°.71E, h8km, ML1.7/9*

AFAD 29 18:55:55.5±0.0, 39°.03N×31°.67E, h7km±1km, ML1.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZT	Kizilcal	0.22	132	Pg	Pg	18 55 59.7	-0.2
KIZT				Sg	Sg	18 56 03.2	+0.4
UCKU	Afyonkarahisar	0.43	207	P	Pg	18 56 04.3	+0.3
UCKU				S	Sg	18 56 10.9	+1.2
UCKU				*i* AML	AML	18 56 13.0	
	comp=N,18nm,0.4s						
UCKU				*i* AML	AML	18 56 14.0	
	comp=E,13nm,0.6s						
SVRH	Sivrihisar-ESK	0.44	345	Pg	Pg	18 56 02.9	-1.1
SVRH				Sg	Sg	18 56 08.8	-1.0
BYAT	Afyon-Bayat	0.54	262	P	Pg	18 56 06.3	+0.3
BYAT				S	Sb	18 56 14.9	-0.5
BYAT				*i* AML	AML	18 56 15.0	
	comp=N,83nm,0.3s						
BYAT				*i* AML	AML	18 56 15.0	
	comp=E,54nm,0.4s						
CIFT	Cifteler, Eski	0.58	305	Pg	Pg	18 56 06.4	-0.3
CIFT				Sg	Sg	18 56 13.6	-0.7
KURO	Afyon-Bolvadin	0.65	244	P	Pg	18 56 08.3	+0.3
KURO				S	Sb	18 56 17.6	-0.9
KURO				*i* AML	AML	18 56 21.0	
	comp=E,22nm,0.2s						
KURO				*i* AML	AML	18 56 22.0	
	comp=N,12nm,0.4s						
SGAZ	Eskisehir, Sey	0.82	308	P	Pn	18 56 13.7	+0.1
SGAZ				S	Sg	18 56 21.8	-0.1
SGAZ				*i* AML	AML	18 56 27.0	
	comp=E,24nm,0.2s						
SGAZ				*i* AML	AML	18 56 28.0	
	comp=N,26nm,0.2s						
YVAC	Isparta, Yalva	0.83	204	P	Pb	18 56 11.9	-0.4
YVAC				*i* AML	AML	18 56 24.0	
	comp=E,22nm,1.6s						
YVAC				*i* AML	AML	18 56 26.0	
	comp=N,16nm,2.0s						
LADK	Ladik-KONYA	0.99	146	Pg	Pg	18 56 14.0	-0.4
SHUT	Suhut-Afyon	0.99	242	Pg	Pb	18 56 14.9	-0.2
KONT	Konya--Tatoy	1.21	153	Pn	Pn	18 56 18.8	0.0
SRCK	Saricakaya, Es	1.30	322	Pn	Pn	18 56 19.6	-0.5
YUVA	Yuva-Kibriscik	1.36	0	Pn	Pn	18 56 20.0	-1.1
BR131	Keskin Array S	1.68	65	Pn	Pn	18 56 24.4	-1.0

BEO ***29*** *18:55:58.4±3.3, 37°.18N×20°.21E, h56km±3km, ML4.0/9*
IDC ***29*** *18:56:00.0±1.0, 37°.80N×20°.53E, h0km, mb3.8/13, mbtmp3.7/21, ML3.4/7, Error ellipse: s-maj=18.3km s-min=14.4km az=165.0*
NEIC ***29*** *18:56:00.9±2.3, 37°.63N±0°.04×20°.40E±0°.07, h10km±1km, mb4.4/13, Error ellipse: s-maj=9.6km s-min=6.5km az=247.0*
THE ***29*** *18:56:01.5, 37°.68N×20°.36E, h11km, ML3.8/12, Error ellipse: s-maj=1.4km s-min=0.6km az=56.0*
ATH ***29*** *18:56:02.4, 37°.72N×20°.41E, h10km±3km, ML3.5/7, Manual Solution by F.

LXR1 Lixouri, Cepha 0.51 6 P **Pg 18 56 12.0 +0.2**
LXR1 S **Sb 18 56 20.2 +0.8**
44μm,0.4s
VLS Valsamata 0.51 19 P **Pg 18 56 11.6 -0.3**
VLS S **Sb 18 56 19.4 -0.1**
9μm,0.3s
DMLN Damoulianata-K 0.54 360 P **Pg 18 56 12.5 0.0**
DMLN S **Sb 18 56 20.8 +0.3**
16μm,0.5s
DMLN Damoulianata-K 0.54 360 P **Pg 18 56 12.6 +0.1**
DMLN S **Sg 18 56 19.4 -0.4**
VSK1 VASILIKIADES 0.73 12 P **Pg 18 56 15.4 -0.5**
VSK1 S **Sb 18 56 26.9 +1.1**
8μm,0.5s
FSK Fiskardo 0.78 11 P **Pb 18 56 16.4 -0.5**
FSK S **Sg 18 56 27.6 +0.5**
7μm,0.6s
RLS Riolos of Patr 0.94 67 P **Pb 18 56 19.3 -0.3**
RLS S **Sn 18 56 33.7 +0.4**
2μm,0.5s
RLS Riolos of Patr 0.94 67 P **Pg 18 56 19.6 -0.2**
RLS S **Sg 18 56 32.2 +0.1**
EVGI Lefkada island 0.95 13 P **Pb 18 56 19.4 -0.4**
EVGI S **Sn 18 56 33.9 +0.2**
5μm,0.3s
NYDR Nydri-Lefkada 1.05 14 P **Pb 18 56 21.1 -0.4**
NYDR S **Sn 18 56 36.5 +0.5**
3μm,1.1s
DRO Drossia 1.09 76 P **Pb 18 56 22.0 -0.2**
DRO Drossia 1.09 76 P **Pn 18 56 22.1 -0.2**
DRO S **Sn 18 56 37.0 -0.1**
LKD2 Lefkada island 1.11 11 P **Pb 18 56 22.5 -0.1**
LKD2 S **Sg 18 56 38.8 +1.0**
3μm,0.5s
LKD2 Lefkada island 1.11 11 P **Pg 18 56 23.4 +0.1**
LKD2 S **Sg 18 56 38.0 +0.2**
TSLK Tsoukalades, L 1.15 11 P **Pb 18 56 23.4 +0.2**
TSLK Tsoukalades, L 1.15 11 P **Pg 18 56 24.4 +0.5**
TSLK S **Sg 18 56 39.0 +0.1**
PVO Paravola 1.29 44 P **Pg 18 56 26.2 -0.4**
ITM Ithomi 1.34 112 Pn **Pn 18 56 25.3 -0.5**
ITM Ithomi 1.34 112 P **Pg 18 56 27.0 -0.5**
ITM S **Sg 18 56 44.5 -0.4**
PYL PYLOS 1.35 126 P **Pb 18 56 25.9 -0.1**
PYL S **Sb 18 56 44.2 +0.5**
PYL PYLOS 1.35 126 P **Pb 18 56 26.5 -0.2**
PYL S **Sg 18 56 45.5 +0.1**
KLV Kalavryta, Ach 1.45 76 P **Pg 18 56 28.9 -0.7**
KEK Kerkira 2.06 348 Pn **Pn 18 56 36.5 +0.7**
KEK Kerkira 2.06 348 P **Pn 18 56 36.9 +1.1**
SCTE Santa Cesarea 2.80 328 Pn **Pn 18 56 45.6 -0.3**
LIT Litokhoron 2.91 34 **Pn 18 56 49.5 +2.1**
FNA Florina 3.18 14 **Pn 18 56 53.1 +2.0**
FNA Florina 3.18 14 *e*Pn **Pn 18 56 53.4 +2.2**
FNA *e*Sn **Sn 18 57 31.2 +2.4**
TIP Timpagrande 3.20 299 **Pn 18 56 52.3 +0.9**
TIP Timpagrande 3.20 299 ⇓P **Pn 18 56 51.4 -0.1**
OHR Ohrid 3.43 5 *e*Pn **Pn 18 56 56.4 +1.9**
OHR *e*Sn **Sn 18 57 37.6 +2.7**
OHR Ohrid 3.43 5 *i* Pn **Pn 18 56 57.5 +3.0**
TIR Tirane 3.67 354 Pn **Pn 18 56 56.7 -1.1**
TIR Tirane 3.67 354 *e*Pn **Pn 18 57 00.0 +2.2**
TIR Tirane 3.67 354 ⇑P **Pn 18 56 58.2 +0.4**
VAY Valandovo 4.00 24 *e*Pn **Pn 18 57 02.9 +0.6**
VAY *e*Sn **Sn 18 57 51.2 +2.3**
VAY Valandovo 4.00 24 *i* Pn **Pn 18 57 04.1 +1.7**
MATE Matera 4.10 317 ⇑P **Pn 18 57 04.1 +0.4**
SRS Serrai 4.23 35 *e*Pn **Pn 18 57 06.0 +0.5**
CUC Castrocucco 4.23 304 **Pn 18 57 08.0 +2.4**
PUK Puka 4.36 355 **Pn 18 57 08.6 +1.2**
VAE Valguarnera 4.74 269 Pn **Pn 18 57 16.4 +3.8**
6.0nm,0.4s,baz=87,slow=17,SNR=1.9
VAE Sn **Sn 18 58 08.0 +0.7**
3.3nm,0.3s,baz=119,slow=14,SNR=3.2
PDG Podgorica 4.81 350 Pn **Pn 18 57 12.3 -1.1**
PDG Podgorica 4.81 350 *e*Pn **Pn 18 57 13.7 +0.3**
PDG *e*Sn **Sn 18 58 09.8 +1.1**
PDG Podgorica 4.81 350 *e*Pn **Pn 18 57 13.7 +0.3**
PDG Podgorica 4.81 350 ⇑P **Pn 18 57 13.9 +0.5**
RAFF Raffo Rosso 4.81 266 Pn **Pn 18 57 12.9 -0.5**
WDD Wied Dalam 5.05 250 Pn **Pn 18 57 16.6 -0.2**
BOSS Bosilegrad 5.06 18 *e*Pn **Pn 18 57 18.7 +1.8**
BARS Barje 5.23 12 *e*Pn **Pn 18 57 20.1 +0.8**
TREB Trebinje 5.25 343 *e*Pn **Pn 18 57 18.6 -0.9**
RDO Rodhopi 5.28 48 Pn **Pn 18 57 21.1 +1.2**
SELS Selova 5.55 6 *e*Pn **Pn 18 57 23.8 +0.2**
SELS *e*Sn **Sn 18 58 27.2 +0.1**
STON Ston 5.56 339 *e*Pn **Pn 18 57 22.2 -1.5**
SJES Sjenica 5.57 357 *e*Pn **Pn 18 57 24.8 +0.8**
SJES *e*Sn **Sn 18 58 27.2 -0.5**
SJES Sjenica 5.57 357 *e*Pn **Pn 18 57 24.4 +0.4**
PAOL Paolisi 5.60 308 Pn **Pn 18 57 25.2 +0.8**
ZAPS Zavoj 5.83 16 *e*Pn **Pn 18 57 28.4 +0.8**
IVAS Ivanjica 5.88 358 *e*Pn **Pn 18 57 28.2 0.0**
IVAS *e*Sn **Sn 18 58 35.1 -0.1**
RUDO Rudo 5.96 353 *e*Pn **Pn 18 57 27.5 -1.9**
BOVS Bovan 6.02 9 ⇑P **Pn 18 57 29.3 -0.7**
GRUS Gruza 6.19 2 *e*Pn **Pn 18 57 33.0 +0.5**
GRUS *e*Sn **Sn 18 58 43.2 +0.3**
BBLS Lazi&#263i 6.21 353 *e*Pn **Pn 18 57 32.9 +0.2**
BBLS *e*Sn **Sn 18 58 42.2 -1.2**
BBLS Lazi&#263i 6.21 353 *e*Pn **Pn 18 57 31.8 -0.9**
DIVS Divibare 6.40 358 *e*Pn **Pn 18 57 35.0 -0.4**
DIVS *e*Sn **Sn 18 58 48.4 +0.2**
HAPS Han Pijesak,Bl 6.47 351 *e*Pn **Pn 18 57 36.1 -0.3**
TRUS Trudelj 6.52 0 *e*Pn **Pn 18 57 36.6 -0.4**
INTR Introdacqua 6.58 313 Pn **Pn 18 57 36.0 -2.0**
A050A Klekovaca 7.37 338 *e*Pn **Pn 18 57 49.4 +0.6**
BLY Banja Luka 7.44 342 *e*Pn **Pn 18 57 50.6 +0.9**
NRCA Norcia 7.56 315 Pn **Pn 18 57 53.3 +2.0**
FDMO Fiordimonte 7.71 316 Pn **Pn 18 57 54.1 +0.8**
A051A Mrakovica 7.76 341 *e*Pn **Pn 18 57 52.7 -1.4**
GZR Gura Zlata 7.90 12 ⇑P **Pn 18 57 55.2 -0.8**
BZS Buzias 7.97 6 ⇑P **Pn 18 57 56.7 -0.1**
ARR Arges 8.30 21 ⇓P **Pn 18 57 59.5 -2.0**
MORH Mrgy, Hungar 8.61 352 ⇓P **Pn 18 58 06.0 +0.4**
BOJS Bojanci 8.69 335 *e*Pn **Pn 18 58 06.4 -0.4**
MLR Muntele Rosu 8.83 26 Pn **Pn 18 58 10.5 +1.7**
0.2nm,0.3s,baz=198,slow=3.2,SNR=3.2
10nm,1.1s
MLR Muntele Rosu 8.83 26 ⇑P **Pn 18 58 06.7 -2.1**
CRES Cresnjevec Ost 8.91 337 *e*Pn **Pn 18 58 08.6 -1.2**
KEST Kesra 9.07 261 Pn **Pn 18 58 13.0 +0.9**
0.2nm,0.3s,baz=83,slow=8.1,SNR=4.8
1.1nm,0.5s
CEY Cerknica 9.18 333 *e*Pn **Pn 18 58 13.9 +0.4**
PLOR Plostina 9.40 28 ⇑P **Pn 18 58 13.8 -2.6**
VRI Vrincioaia 9.44 28 ⇓P **Pn 18 58 14.2 -2.8**
SABO M.te Sabotino 9.69 331 Pn **Pn 18 58 20.2 -0.3**
OBKA Obir 9.81 336 Pn **Pn 18 58 23.6 +1.5**
1.5nm,0.3s
OBKA *e*Sn **Sn 19 00 10.3 -1.6**
10nm,0.7s
OBKA Obir 9.81 336 *e*Pn **Pn 18 58 23.4 +1.2**
SOKA Soboth 9.81 338 *i* Pn **Pn 18 58 21.8 -0.4**
1.4nm,0.3s
SOKA *i* Sn **Sn 19 00 07.4 -4.5**
3.5nm,0.5s
CIMO Cimolais 10.43 328 Pn **Pn 18 58 31.3 +0.7**
BRTR Keskin Array B 10.56 75 Pn **Pn 18 58 34.1 +1.6**
baz=256,slow=12,SNR=1.9
0.8nm,0.8s
CTI Castel Tesino 10.57 325 Pn **Pn 18 58 31.4 -1.2**
KBA Koelnbreinsper 10.71 333 *e*Pn Pn 18 58 40.9 +6.3
0.8nm,0.5s
KBA *e*Sn **Sn 19 00 31.4 -3.0**
1.7nm,0.4s
ABTA Abfaltersbach 10.75 330 *i* Pn Pn 18 58 43.8 +8.7
1.1nm,0.4s
ABTA *e*Sn **Sn 19 00 31.7 -3.4**
4.3nm,0.6s
LESA Schwarzleotal 11.25 332 *e*Pn **Pn 18 58 46.4 +4.6**
0.9nm,0.3s
LESA *e*Sn **Sn 19 00 46.1 -1.2**
3.3nm,0.5s
DAVOX Davos/Dischmat 11.94 323 Pn **Pn 18 58 51.4 -0.1**
0.2nm,0.3s,baz=151,slow=19,SNR=2.2
DAVOX Sn **Sn 19 01 00.7 -3.7**
0.1nm,0.3s,baz=120,slow=20,SNR=1.7
0.6nm,0.3s
GERES GERESS Array B 12.15 339 Pn **Pn 18 58 53.9 -0.3**
0.1nm,0.3s,baz=147,slow=12,SNR=1.7
GERES Sn **Sn 19 01 06.2 -3.2**
0.3nm,0.3s,baz=152,slow=21,SNR=3.0
0.2nm,0.3s
AKASG Malin Array Be 14.45 23 Pn **Pn 18 59 24.4 -1.1**
0.4nm,0.3s,baz=214,slow=11,SNR=1.2
0.1nm,0.2s
PABE Paberze 17.98 7 **Pn 19 00 10.5 -0.3**
PABE IAmb IAmb 19 00 11.3
comp=Z,29nm,1.0s
ESDC Sonseca Array 19.09 283 P **Pn 19 00 25.1 +0.6**
baz=77,slow=9.8,SNR=2.5
comp=Z,0.8nm,0.9s
MDT Midelt 20.95 264 P Pn 19 00 48.0 +1.4
comp=Z,2.0nm,0.9s,baz=73,slow=12,SNR=3.7
comp=Z,2.0nm,0.9s
HFS Hagfors 22.86 351 P **P 19 01 03.8 -0.3**
comp=Z,4.1nm,0.7s,baz=162,slow=12,SNR=8.6
comp=Z,4.1nm,0.7s
NC602 NORSAR Array S 23.73 349 P **P 19 01 14.1 +1.3**
EKA Eskdalemuir Ar 23.76 326 P **P 19 01 13.4 +0.2**
comp=Z,0.7nm,0.5s,baz=116,slow=8.0,SNR=1.4
comp=Z,0.7nm,0.5s
FINES FINESS Array B 24.04 7 P **P 19 01 15.5 -0.2**
FINES FINESS Array B 24.04 7 P **P 19 01 15.3 -0.4**
comp=Z,3.5nm,0.5s,baz=173,slow=9.5,SNR=25
comp=Z,3.5nm,0.5s
NB201 NORSAR Array S 24.07 349 P **P 19 01 16.5 +0.4**
NOA NORSAR Array B 24.07 349 P **P 19 01 16.2 +0.1**
comp=Z,1.5nm,0.9s,baz=171,slow=9.8,SNR=2.3
comp=Z,1.5nm,0.9s
TORD Torodi Ar. Bea 29.58 219 P **P 19 02 08.0 +2.0**
comp=Z,0.5nm,0.5s,baz=32,slow=9.2,SNR=2.5
comp=Z,0.5nm,0.5s
ABKAR Akbulak array 30.61 55 P **P 19 02 14.8 -0.1**
ABKAR Akbulak array 30.61 55 P **P 19 02 14.8 -0.1**
ABKAR IAmb IAmb 19 02 30.2
comp=Z,3.1nm,1.4s
ARCES ARCESS Array B 32.02 3 P **P 19 02 26.8 -0.3**
comp=Z,1.3nm,0.5s,baz=188,slow=11,SNR=14
comp=Z,1.3nm,0.5s
BVAR Borovoye Array 37.52 49 P **P 19 03 14.4 -0.4**
comp=Z,0.5nm,0.5s,baz=262,slow=4.4,SNR=2.6
comp=Z,0.5nm,0.5s
KURBB Kurchatov Arra 42.61 53 P **P 19 03 55.9 -1.0**
comp=Z,0.4nm,0.4s,baz=280,slow=7.4,SNR=1.1
comp=Z,0.4nm,0.4s
MK31 Makanchi Array 45.65 58 P **P 19 04 20.6 -0.9**
MKAR Makanchi Array 45.65 58 P **P 19 04 20.4 -1.1**
comp=Z,0.3nm,0.5s,baz=271,slow=7.8,SNR=8.7
comp=Z,0.3nm,0.5s
ZAA0 Zalesovo Array 46.10 48 P **P 19 04 23.9 -0.9**
ZAA0 IAmb IAmb 19 04 24.7
comp=Z,2.9nm,0.6s
ZALV Zalesovo Beam 46.10 48 P **P 19 04 23.9 -1.0**
comp=Z,2.7nm,0.4s,baz=282,slow=10,SNR=6.1
comp=Z,2.7nm,0.4s
SONM Songino Array 60.85 50 P **P 19 06 12.6 -0.8**
comp=Z,0.4nm,0.7s,baz=291,slow=12,SNR=2.6
comp=Z,0.4nm,0.7s
CMAR Chiang Mai Arr 70.07 82 P **P 19 07 13.0 -0.3**
comp=Z,0.3nm,0.6s,baz=310,slow=5.6,SNR=2.4
comp=Z,0.3nm,0.6s
E22K Anaktuvuk Pass 74.33 357 P **P 19 07 39.3 +1.2**
E22K IAmb IAmb 19 08 00.7
comp=Z,6.7nm,1.4s
H29M Whitestone 75.12 351 P **P 19 07 41.7 -0.9**
E19K Redstone River 75.15 359 P **P 19 07 42.0 -0.8**
I30M Mount Dempster 75.81 350 P **P 19 07 47.3 +0.6**
I30M IAmb IAmb 19 08 19.6
comp=Z,5.3nm,1.5s
J30M Hart River 76.42 350 P **P 19 07 49.7 -0.5**
J30M IAmb IAmb 19 08 31.5
comp=Z,5.0nm,1.4s
IMAR Indian Mountai 76.55 358 P **P 19 07 52.3 +1.6**

*IDC **29** 19:12:09.8±0.8, 29°.53N×139°.32E, h448km±12km, mb3.1/8, mbtmp4.0/13, Error ellipse: s-maj=26.8km s-min=15.8km az=62.0*
*JMA **29** 19:12:11.2±0.2, 30°.N±.1°×13°.9E±°, h476km, MV3.6/19, NEAR TORISHIMA IS*
ISC 29 19:12:10.7±0.8, 29°.47N±0°.07×139°.1E±0°.1, h445km, n27, σ1°78/32, mb3.5/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.58**	**131**	*e*P	**P**	**19 13 25.1**	**+3.0**
CBIJ				*e*S	**S**	**19 14 23.1**	**+3.1**
JCJ	**Chichijima**	**3.59**	**131**	P	**P**	**19 13 20.3**	**-1.8**
	41nm,0.3s,baz=226,slow=19						
JCJ				S	**S**	**19 14 17.8**	**-2.2**
	baz=226,slow=19						
JHJ2	**Mitsune**	**3.68**	**9**	*e*S	**S**	**19 14 23.0**	**+1.7**
JTNC	**Tanabenakahech**	**5.27**	**326**	P	**P**	**19 13 40.2**	**+2.8**
JIE	**Ise**	**5.32**	**338**	*e*P	**P**	**19 13 41.0**	**+3.1**
BSO1	**Boso 1**	**5.40**	**16**	*e*S	**S**	**19 14 50.6**	**+1.0**
JOD2	**Odawara 2**	**5.78**	**360**	*e*P	**P**	**19 13 43.7**	**+1.2**
JOD2				*e*S	**S**	**19 14 57.1**	**-0.4**
JNY	**Yasuok**	**5.97**	**350**	*e*P	**P**	**19 13 46.7**	**+2.2**
JTO	**Tosashimizu**	**6.39**	**304**	*e*P	**P**	**19 13 51.4**	**+2.6**
JRY	**Ryogami san**	**6.53**	**358**	*e*P	**P**	**19 13 51.4**	**+1.1**
JRY				*e*S	**S**	**19 15 10.0**	**-1.8**
MJAR	**Matsushiro Arr**	**7.10**	**354**	P	**P**	**19 13 56.6**	**+0.3**
	2.5nm,0.4s,baz=175,slow=12,SNR=1.7						
JHS	**Saijyo**	**7.50**	**319**	*e*P	**P**	**19 14 02.8**	**+2.1**
JNU	**Nakatsue**	**7.94**	**299**	P	**P**	**19 14 07.2**	**+1.7**
	5.8nm,0.8s,baz=124,slow=3.6,SNR=9.1						
JSJ	**Shimokoshiki**	**8.41**	**288**	*e*P	**P**	**19 14 11.9**	**+1.4**
JMK	**Ichinoseki**	**9.62**	**10**	*e*P	**P**	**19 14 25.4**	**+2.0**
KSRS	**Korea Array**	**12.28**	**313**	P	**P**	**19 14 52.5**	**0.0**
	1.2nm,0.4s,baz=125,slow=10,SNR=7.5						
USRK	**Ussuriysk Ar.**	**15.76**	**341**	P	**P**	**19 15 30.1**	**+0.2**
	4.2nm,0.6s,baz=151,slow=11,SNR=13						
CMAR	**Chiang Mai Arr**	**38.15**	**263**	P	**P**	**19 18 50.7**	**+0.1**
	0.3nm,0.3s,baz=69,slow=5.0,SNR=4.1						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**46.89**	**308**	P	**P**	**19 19 58.2**	**-1.1**
	0.8nm,0.9s,baz=89,slow=10.0,SNR=6.5						
	0.8nm,0.9s						
WRA	**Warramunga Arr**	**49.34**	**186**	P	**P**	**19 20 18.7**	**+0.7**
	0.2nm,0.7s,baz=1.1,slow=7.8,SNR=1.6						
	0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**49.46**	**313**	P	**P**	**19 20 17.5**	**-1.0**
	1.0nm,0.4s,baz=92,slow=7.2,SNR=20						
	1.0nm,0.4s						
BVAR	**Borovoye Array**	**54.47**	**316**	P	**P**	**19 20 53.8**	**-1.0**
	1.8nm,0.4s,baz=91,slow=6.9,SNR=15						
BVAR				PcP	**PcP**	**19 21 51.3**	**-0.4**
	0.8nm,0.7s,baz=85,slow=3.4,SNR=3.5						
	1.8nm,0.4s						
ARCES	**ARCESS Array B**	**70.41**	**340**	P	**P**	**19 22 37.8**	**-0.5**
	1.1nm,0.5s,baz=65,slow=11,SNR=13						
	1.1nm,0.5s						
FINES	**FINESS Array B**	**74.62**	**333**	P	**P**	**19 23 01.7**	**-1.2**
	8.4nm,1.1s,baz=72,slow=4.8,SNR=6.6						
	8.4nm,1.1s						
HFS	**Hagfors**	**80.17**	**336**	P	**P**	**19 23 31.5**	**-1.7**
	9.6nm,1.1s,baz=65,slow=6.2,SNR=6.1						
NB2	**NORSAR Subarra**	**80.40**	**337**	P	**P**	**19 23 33.3**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=46,slow=5.3						
NOA	**NORSAR Array B**	**80.40**	**337**	P	**P**	**19 23 33.3**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=44,slow=5.2,SNR=2.6						
	comp=Z,0.7nm,0.6s						

*THE **29** 19:13:21.9, 37°.42N×20°.61E, h10km±3km, ML2.8/6, Error ellipse: s-maj=3.9km s-min=2.0km az=75.0*
*ATH **29** 19:13:24.6, 37°.60N×20°.76E, h20km±4km, ML2.7/6, Manual Solution by F.Xalaris First location: 2018/11/29 19:14:47, This location: 2019/01/24 11:33:23 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 4 km*
ISC 29 19:13:22.3±2.6, 37°.5N±0°.1×20°.66E±0°.07, h13km±9km, n15, σ0°48/26, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.23**	**34**	P	**Pg**	**19 13 27.6**	**+0.3**
KRI1				S	**Sb**	**19 13 32.4**	**-0.1**
	4μm,0.3s						
LTHK	**Lithakia**	**0.28**	**31**	P	**Pg**	**19 13 28.5**	**+0.4**
LTHK				S	**Sb**	**19 13 33.8**	**0.0**
	11μm,0.3s						
LTHK	**Lithakia**	**0.28**	**31**	P	**Pg**	**19 13 28.5**	**+0.4**
LTHK				S	**Sg**	**19 13 32.2**	**+0.2**
RTZL	**Ratzakli, Kefa**	**0.61**	**9**	P	**Pg**	**19 13 34.2**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.65**	**355**	P	**Pg**	**19 13 35.2**	**+0.3**
PSDA				S	**Sb**	**19 13 45.1**	**+0.7**
	795nm,0.2s						
PSDA	**Pessada-Kefalo**	**0.65**	**355**	P	**Pg**	**19 13 35.2**	**+0.3**
PSDA				S	**Sg**	**19 13 42.8**	**-0.7**
VLS	**Valsamata**	**0.71**	**356**	P	**Pg**	**19 13 36.1**	**0.0**
VLS				S	**Sb**	**19 13 45.8**	**-0.4**
	498nm,0.3s						
VLS	**Valsamata**	**0.71**	**356**	P	**Pg**	**19 13 36.4**	**+0.3**
VLS				S	**Sg**	**19 13 44.6**	**-0.8**
DMLN	**Damoulianata-K**	**0.80**	**344**	P	**Pg**	**19 13 38.0**	**+0.2**
DMLN				S	**Sn**	**19 13 50.6**	**-0.5**
	892nm,0.5s						
DMLN	**Damoulianata-K**	**0.80**	**344**	P	**Pb**	**19 13 38.2**	**+0.1**
DMLN				S	**Sg**	**19 13 48.2**	**-0.1**
AMT	**Artemida-Makis**	**0.84**	**85**	P	**Pg**	**19 13 38.7**	**+0.1**
AMT				S	**Sg**	**19 13 48.9**	**-0.6**
RLS	**Riolos of Patr**	**0.87**	**47**	P	**Pb**	**19 13 39.1**	**-0.2**
FSK	**Fiskardo**	**0.99**	**356**	P	**Pb**	**19 13 40.8**	**-0.5**
FSK				S	**Sn**	**19 13 57.0**	**+1.2**
	525nm,0.7s						
FSK	**Fiskardo**	**0.99**	**356**	P	**Pb**	**19 13 41.1**	**-0.2**
KLV	**Kalavryta, Ach**	**1.32**	**64**	P	**Pb**	**19 13 47.0**	**+0.1**

*TEH **29** 19:23:17.7, 32°.92N×46°.13E, h13km±95km, ML2.7*
*ISN **29** 19:23:18.0±0.5, 32°.90N×46°.06E, h9km±5km, ML2.7*
ISC 29 19:23:18.6±1.1, 32°.92N±0°.05×46°.10E±0°.06, h10km, n9, σ0°47/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.23**	**323**	*e*Pg	**Pg**	**19 23 23.0**	**-0.4**
IBDR				*e*Sg	**Sg**	**19 23 26.3**	**-0.3**
GLG1	**Gilan-e-Gharb**	**1.20**	**353**	Pg	**Pb**	**19 23 41.0**	**-0.4**
RAFI	**Al-Rafai**	**1.20**	**179**	*e*Pg	**Pn**	**19 23 41.0**	**-0.3**
RAFI				*e*Sg	**Sb**	**19 23 57.5**	**+0.7**
IGHG	**Ghaleghazi**	**1.46**	**16**	Pg	**Pn**	**19 23 45.2**	**0.0**
IGHG				Sg	**Sg**	**19 24 05.8**	**+0.4**
BHD	**Baghdad**	**1.48**	**284**	*e*Pn	**Pb**	**19 23 46.0**	**-0.2**
BHD				*e*Sn	**Sg**	**19 24 07.0**	**+0.8**
KCHF	**Cheshme Sefid,**	**1.56**	**30**	Pg	**Pb**	**19 23 47.3**	**-0.4**
IKFM	**Kafar-mosalman**	**1.58**	**67**	Pg	**Pn**	**19 23 46.9**	**+0.3**
IDHR	**Dehrash**	**1.79**	**8**	Pg	**Pn**	**19 23 50.1**	**+0.4**
ILIN	**Lien**	**2.12**	**20**	Pn	**Pn**	**19 23 54.7**	**+0.5**

*IDC **29** 19:57:53.1±1.6, 4°.91S×145°.39E, h0km, mb3.2/3, mbtmp3.5/6, ML3.0/3, MS2.9/2, Error ellipse: s-maj=36.9km s-min=23.8km az=74.0*
ISC 29 19:57:58.6±1.3, 4°.9S±0°.1×145°.3E±0°.2, h35km, n6, σ1°16/7, mb3.4/3, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.80**	**158**	Pn	**Pn**	**19 59 08.6**	**+0.1**
	5.4nm,0.3s,baz=344,slow=7.4,SNR=14						
PMG				Sn	**Sn**	**20 00 04.0**	**+1.0**
	5.4nm,0.3s,baz=323,slow=5.1,SNR=8.2						
PMG				LR	LR	20 01 45.4	
	comp=Z,55nm,18.6s,baz=46,slow=48						
	11nm,0.3s						
JAY	**Jayapura**	**5.19**	**297**	Pn	**Pn**	**19 59 14.9**	**+1.1**
	3.8nm,0.3s,baz=142,slow=17,SNR=15						
	11nm,0.4s						
WRA	**Warramunga Arr**	**18.34**	**215**	P	**P**	**20 02 08.6**	**-1.6**
	0.1nm,0.3s,baz=38,slow=12,SNR=5.2						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**21.63**	**209**	P	**P**	**20 02 45.4**	**-0.5**
	0.5nm,0.6s,baz=34,slow=12,SNR=4.0						
ASAR				LR	LR	20 11 34.3	
	comp=Z,79nm,19.9s,baz=104,slow=38						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**51.27**	**298**	P	**P**	**20 06 59.2**	**-0.2**
	0.2nm,0.4s,baz=114,slow=5.8,SNR=2.2						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**85.18**	**23**	P	**P**	**20 10 30.6**	**-0.4**
	0.2nm,0.6s,baz=265,slow=6.0,SNR=4.2						
	0.2nm,0.6s						

*IDC **29** 19:59:56.3±0.8, 37°.57N×20°.53E, h0km, mb3.9/18, mbtmp3.9/30, ML3.7/11, MS3.1/7, Error ellipse: s-maj=16.0km s-min=12.5km az=174.0*
*NEIC **29** 19:59:57.5±1.9, 37°.52N±0°.08×20°.36E±0°.07, h10km±1km, mb4.6/13, Error ellipse: s-maj=14.5km s-min=7.6km az=201.0*
*THE **29** 19:59:57.5, 37°.58N×20°.35E, h7km, ML4.1/18, Error ellipse: s-maj=0.7km s-min=0.3km az=51.0*
*PDG **29** 19:59:57.3±0.8, 37°.52N×20°.30E, h12km±1km, ML4.4/10, Error ellipse: s-maj=2.0km s-min=1.9km az=90.0*
*ATH **29** 19:59:58.4, 37°.61N×20°.38E, h11km±1km, ML3.9/15, Error ellipse: s-maj=2.2km s-min=0.9km az=47.0*
*MED_RC **29** 19:59:58.0±1.0, 37°.51N×20°.36E, h23km±2km, MW4.2/5, Moment Tensor Solution.Mantle waves: s5,c5; Duration: 1*10 Moment tensor: Scale 10^15Nm; Mrr2.70±1.50; Mθθ-0.37±.75; Mφφ-2.33±.84; Mrθ0.74±.41; Mrφ-0.06±.33; Mθφ-0.62±.29; Best double couple: M=2.67000×10^15 NP1:φs168.00000°, δ53.00000°, λ74.00000°. NP2: φs13.00000°, δ39.00000°, λ110.00000°. Principal axes: T 2.9400, Plg76.0000°, Azm28.0000°; N -0.5300, Plg12.0000°, Azm177.0000°; P -2.4100, Plg7.0000°, Azm269.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*BEO **29** 20:00:00.0±0.7, 37°.74N×20°.40E, h0km±1km, ML4.0/11*
*NAO **29** 20:00:20.1, 39°.14N×19°.81E, h10km, mb4.8*
ISC 29 19:59:59.1±1.0, 37°.62N±0°.03×20°.42E±0°.03, h20km±4km, n202, σ1°70/254, mb4.2/20, 19C-7D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.32**	**83**	P	**Pg**	**20 00 04.9**	**-1.1**
KRI1				S	**Sg**	**20 00 10.7**	**-0.1**
	79μm,0.5s						
LTHK	**Lithakia**	**0.34**	**75**	P	**Pg**	**20 00 05.3**	**-1.1**
LTHK				S	**Sg**	**20 00 11.2**	**-0.2**
	68μm,0.3s						
LTHK	**Lithakia**	**0.34**	**75**	P	**Pg**	**20 00 05.4**	**-1.1**
PSDA	**Pessada-Kefalo**	**0.51**	**15**	P	**Pg**	**20 00 08.2**	**-1.2**
PSDA				S	**Sb**	**20 00 16.2**	**-0.1**
	22μm,0.5s						
PSDA	**Pessada-Kefalo**	**0.51**	**15**	P	**Pg**	**20 00 08.4**	**-1.0**
PSDA				S	**Sb**	**20 00 16.7**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.53**	**31**	P	**Pg**	**20 00 08.5**	**-1.3**
RTZL				S	**Sb**	**20 00 17.6**	**+0.7**
VLS	**Valsamata**	**0.57**	**13**	P	**Pg**	**20 00 09.1**	**-1.4**
VLS				S	**Sb**	**20 00 18.8**	**+0.7**
	16μm,0.5s						
VLS	**Valsamata**	**0.57**	**13**	P	**Pg**	**20 00 09.5**	**-1.0**
VLS				S	**Sb**	**20 00 18.2**	**+0.2**
VLS				AML	AML	20 00 20.8	
	comp=E,28580μm,0.5s						
VLS				AML	AML	20 00 21.2	
	comp=N,35984μm,0.5s						
LXR1	**Lixouri, Cepha**	**0.58**	**1**	P	**Pg**	**20 00 09.1**	**-1.6**
LXR1				S	**Sb**	**20 00 18.1**	**-0.1**
	comp=N,78μm,0.5s						
DMLN	**Damoulianata-K**	**0.62**	**356**	P	**Pg**	**20 00 10.2**	**-1.2**
DMLN				S	**Sb**	**20 00 19.8**	**+0.4**
	comp=N,29μm,0.5s						
DMLN	**Damoulianata-K**	**0.62**	**356**	P	**Pg**	**20 00 10.6**	**-0.8**
DMLN				S	**Sg**	**20 00 18.6**	**-1.1**
VSK1	**VASILIKIAD

RLS AML AML 20 00 39.4
comp=N,11708µm,0.9s
EVGI Lefkada island 1.01 10 P **Pb 20 00 17.2 -0.8**
EVGI S **Sn 20 00 33.2 +1.3**
comp=N,8µm,0.5s
EVGI Lefkada island 1.01 10 P **Pb 20 00 17.3 -0.6**
AMT Artemida-Makis 1.03 95 P **Pb 20 00 18.0 -0.2**
AMT S **Sg 20 00 32.2 -0.4**
AMT AML AML 20 00 39.1
comp=N,22157µm,0.6s
AMT AML AML 20 00 43.3
comp=E,33035µm,0.5s
AST1 Astakos 1.06 30 P **Pb 20 00 18.4 -0.3**
AST1 S **Sg 20 00 35.1 +1.5**
comp=E,10µm,0.9s
DRAG Dragano-Lefkad 1.07 6 P **Pb 20 00 18.6 -0.3**
DRAG S **Sg 20 00 35.1 +1.2**
DRAG Dragano-Lefkad 1.07 6 P **Pn 20 00 18.9 0.0**
DRO Drossia 1.07 72 P **Pb 20 00 18.5 -0.5**
DRO S **Sg 20 00 35.1 +1.0**
comp=E,9µm,0.4s
DRO Drossia 1.07 72 P **Pn 20 00 19.3 +0.3**
DRO S **Sg 20 00 34.3 +0.3**
NYDR Nydri-Lefkada 1.11 11 P **Pn 20 00 18.7 -0.8**
NYDR S **Sg 20 00 36.2 +1.0**
comp=E,6µm,0.7s
NYDR Nydri-Lefkada 1.11 11 P **Pn 20 00 19.1 -0.4**
NYDR S **Sn 20 00 34.3 +0.1**
LKD2 Lefkada island 1.18 9 P **Pn 20 00 20.2 -0.3**
LKD2 S **Sg 20 00 37.8 +0.4**
comp=E,8µm,0.9s
LKD2 Lefkada island 1.18 9 P **Pn 20 00 20.5 0.0**
TSLK Tsoukalades, L 1.21 9 P **Pn 20 00 20.9 0.0**
TSLK S **Sg 20 00 38.7 +0.2**
comp=E,11µm,0.6s
TSLK Tsoukalades, L 1.21 9 P **Pb 20 00 21.3 -0.1**
TSLK S **Sg 20 00 37.8 -0.7**
UPR University Cam 1.27 58 P **Pb 20 00 22.1 -0.1**
ITM Ithomi 1.28 110 **Pn 20 00 22.1 +0.3**
ITM Ithomi 1.28 110 P **Pn 20 00 22.1 +0.3**
ITM S **Sg 20 00 40.0 -0.6**
comp=E,2µm,1.4s
ITM Ithomi 1.28 110 P **Pb 20 00 22.5 +0.1**
ITM AML AML 20 00 54.3
comp=E,3840µm,1.2s
ITM AML AML 20 00 54.8
comp=N,4256µm,1.1s
PYL PYLOS 1.28 124 P **Pn 20 00 21.3 -0.5**
PYL S **Sb 20 00 39.6 +1.1**
comp=N,2µm,0.3s
PYL PYLOS 1.28 124 P **Pn 20 00 21.9 0.0**
PYL S **Sg 20 00 40.3 -0.3**
PYL AML AML 20 00 45.4
comp=E,5303µm,0.6s
PYL AML AML 20 00 45.9
comp=N,2887µm,0.5s
EFP Efpalio 1.42 55 P **Pn 20 00 24.0 +0.2**
EFP S **Sg 20 00 44.9 -0.2**
comp=N,3µm,1.4s
EFP Efpalio 1.42 55 P **Pb 20 00 24.9 0.0**
EFP S **Sb 20 00 43.3 +0.7**
EFP AML AML 20 00 59.7
comp=E,5556µm,0.6s
EFP AML AML 20 01 01.9
comp=N,6904µm,1.0s
KLV Kalavryta, Ach 1.43 72 P **Pn 20 00 23.8 -0.2**
KLV Kalavryta, Ach 1.43 72 P **Pb 20 00 24.9 -0.2**
KLV AML AML 20 00 59.1
comp=E,2156µm,0.8s
KLV AML AML 20 00 59.5
comp=N,4344µm,0.7s
ANX Ano Chora 1.53 50 P **Pn 20 00 25.5 +0.1**
ANX Ano Chora 1.53 50 P **Pb 20 00 26.8 0.0**
GUR Goura 1.55 78 P **Pn 20 00 25.6 -0.1**
GUR Goura 1.55 78 P **Pb 20 00 27.2 -0.1**
GUR AML AML 20 01 00.0
comp=N,5521µm,0.6s
GUR AML AML 20 01 04.8
comp=E,6346µm,0.7s
KALE Kalithea 1.56 60 P **Pg 20 00 28.6 -0.5**
KALE AML AML 20 01 00.4
comp=E,5745µm,0.4s
KALE AML AML 20 01 03.0
comp=N,7258µm,0.6s
EVR Evrytania 1.69 40 P **Pb 20 00 29.2 -0.4**
EVR AML AML 20 01 10.1
comp=E,3929µm,1.1s
EVR AML AML 20 01 11.1
comp=N,4652µm,0.9s
DLFA Delphi 1.85 62 P **Pb 20 00 32.5 +0.4**
DLFA AML AML 20 01 07.3
comp=E,3323µm,0.7s
DLFA AML AML 20 01 11.2
comp=N,3778µm,0.8s
MAKR Makrakomi, Fth 1.93 44 P **Pb 20 00 34.8 +1.2**
MAKR AML AML 20 01 18.1
comp=N,6800µm,0.8s
MAKR AML AML 20 01 19.3
comp=E,5470µm,0.6s
JAN Janina 2.06 9 P **Pb 20 00 36.0 +0.2**
JAN AML AML 20 01 15.5
comp=E,4506µm,0.6s
JAN AML AML 20 01 16.5
comp=N,3834µm,0.6s
KEK Kerkira 2.14 347 **Pb 20 00 35.6 -1.6**
THL Klokotos Trika 2.31 32 P **Pb 20 00 38.7 -1.3**
THL AML AML 20 01 29.8
comp=E,2778µm,0.9s
THL AML AML 20 01 30.1
comp=N,2214µm,0.9s
SCTE Santa Cesarea 2.88 329 **Pn 20 00 43.9 +0.1**
LIT Litokhoron 2.96 32 Pn **Pn 20 00 45.9 +1.0**
FNA Florina 3.24 13 **Pn 20 00 51.2 +2.4**
FNA Florina 3.24 13 *e*Pn **Pn 20 00 50.9 +2.0**
FNA *e*Sn **Sn 20 01 26.9 0.0**
TIP Timpagrande 3.27 299 **Pn 20 00 48.2 -1.0**
TIP Timpagrande 3.27 299 ⇓P **Pn 20 00 48.4 -0.8**
OHR Ohrid 3.50 5 *e*Pn **Pn 20 00 54.3 +1.9**
OHR *e*Sn **Sn 20 01 33.9 +0.7**
OHR Ohrid 3.50 5 *i* Pn **Pn 20 00 55.5 +3.1**
TIR Tirane 3.75 354 **Pn 20 00 58.0 +2.2**
TIR Tirane 3.75 354 *e*Pn **Pn 20 00 57.4 +1.7**
TIR *e*Sn **Sn 20 01 40.1 +0.9**
TIR Tirane 3.75 354 ⇑P **Pn 20 00 57.2 +1.4**
VAY Valandovo 4.05 24 *i* Pn **Pn 20 01 02.5 +2.6**
SRS Serrai 4.27 34 *e*Pn **Pn 20 01 04.7 +1.8**
CUC Castrocucco 4.31 305 **Pn 20 01 02.4 -1.1**
PUK Puka 4.43 355 **Pn 20 01 06.4 +1.1**
PEHC Pehcevo 4.57 24 *i* Pn **Pn 20 01 09.3 +2.1**
DRME Dracevica, Mon 4.66 349 ⇑*i*Pn **Pn 20 01 09.7 +1.4**
DRME *i* Sn **Sn 20 02 04.5 +2.8**
VAE Valguarnera 4.78 270 Pn **Pn 20 01 11.2 +1.2**
comp=N,20nm,0.8s,baz=121,slow=19,SNR=3.9
VAE Sn **Sn 20 02 07.1 +2.3**
comp=N,6.1nm,0.3s,baz=349,slow=16,SNR=3.9
BUM Brajici-Budva 4.82 346 ⇑*i*Pn **Pn 20 01 12.0 +1.5**
BUM *i* Sn **Sn 20 02 09.1 +3.3**
RAFF Raffo Rosso 4.84 267 **Pn 20 01 08.8 -1.9**
PDG Podgorica 4.88 350 Pn **Pn 20 01 12.2 +0.8**
PDG Podgorica 4.88 350 *e*Pn **Pn 20 01 12.5 +1.1**
PDG *e*Sn **Sn 20 02 06.5 -0.8**
PDG Podgorica 4.88 350 *e*Pn **Pn 20 01 10.7 -0.7**
PDG Podgorica 4.88 350 ⇑*i*Pn **Pn 20 01 13.4 +2.0**
PDG *i* Sn **Sn 20 02 10.3 +3.0**
PVY Plav 4.98 356 ⇓*i*Pn **Pn 20 01 14.9 +2.1**
PVY *i* Sn **Sn 20 02 13.2 +3.4**
HCY Herceg Novi 5.04 344 *e*Pn **Pn 20 01 13.2 -0.3**
HCY Herceg Novi 5.04 344 ⇑*i*Pn **Pn 20 01 15.2 +1.7**
HCY *i* Sn **Sn 20 02 14.7 +3.5**
CEME Cevo 5.05 347 ⇑*i*Pn **Pn 20 01 15.3 +1.6**
CEME *i* Sn **Sn 20 02 14.0 +2.5**
BOSS Bosilegrad 5.12 17 *e*Pn **Pn 20 01 15.4 +0.8**
IVA Berane 5.26 356 ⇓*i*Pn **Pn 20 01 18.5 +1.9**
IVA *i* Sn **Sn 20 02 19.6 +2.9**
KOME Kolasin 5.27 353 ⇑*i*Pn **Pn 20 01 19.4 +2.7**
KOME *i* Sn **Sn 20 02 20.3 +3.4**
BARS Barje 5.30 11 *e*Pn **Pn 20 01 17.7 +0.6**
BARS *e*Sn **Sn 20 02 18.2 +0.7**
RDO Rodhopi 5.30 47 **Pn 20 01 17.8 +0.7**
TREB Trebinje 5.33 343 *e*Pn **Pn 20 01 16.5 -1.0**
BRY Bratogost 5.46 345 *e*Pn **Pn 20 01 18.5 -1.0**
SELS Selova 5.62 5 *e*Pn **Pn 20 01 21.6 +0.1**
SELS *e*Sn **Sn 20 02 24.5 -0.9**

STON Ston 5.64 339 *e*Pn **Pn 20 01 21.2 -0.5**
SJES Sjenica 5.64 357 *e*Pn **Pn 20 01 23.2 +1.3**
SJES *e*Sn **Sn 20 02 24.2 -2.0**
SJES Sjenica 5.64 357 *e*Pn **Pn 20 01 23.2 +1.3**
PAOL Paolisi 5.67 309 Pn **Pn 20 01 21.9 -0.4**
UPM Unac-Piva 5.69 349 *e*Pn Pn 20 01 27.5 +4.8
UPM Unac-Piva 5.69 349 ⇓*i*Pn **Pn 20 01 24.2 +1.5**
UPM *i* Sn **Sn 20 02 30.1 +2.6**
PLE Pljevlja 5.75 352 ⇓*i*Pn **Pn 20 01 24.9 +1.4**
PLE *i* Sn **Sn 20 02 31.3 +2.4**
ZAPS Zavoj 5.89 16 *e*Pn **Pn 20 01 26.9 +1.6**
IVAS Ivanjica 5.95 358 *e*Pn **Pn 20 01 25.7 -0.4**
IVAS *e*Sn **Sn 20 02 32.9 -0.8**
RUDO Rudo 6.04 353 *e*Pn **Pn 20 01 26.8 -0.5**
BOVS Bovan 6.08 9 *e*Pn **Pn 20 01 28.6 +0.7**
BOVS Bovan 6.08 9 ⇑P **Pn 20 01 28.4 +0.5**
GRUS Gruza 6.26 2 *e*Pn **Pn 20 01 30.8 +0.5**
GRUS *e*Sn **Sn 20 02 40.0 -1.3**
BBLS Lazi&#263i 6.28 353 *e*Pn **Pn 20 01 32.5 +1.8**
BBLS *e*Sn **Sn 20 02 40.3 -1.6**
BBLS Lazi&#263i 6.28 353 *e*Pn **Pn 20 01 30.7 0.0**
ZAGS Zajecar 6.33 12 *e*Pn **Pn 20 01 31.8 +0.5**
DIVS Divibare 6.48 357 *e*Pn **Pn 20 01 34.8 +1.5**
DIVS *e*Sn **Sn 20 02 44.2 -2.5**
HAPS Han Pijesak,Bl 6.55 351 *e*Pn **Pn 20 01 34.3 -0.1**
TRUS Trudelj 6.59 360 *e*Pn **Pn 20 01 35.1 +0.2**
INTR Introdacqua 6.66 313 Pn **Pn 20 01 37.9 +2.0**
ELND Elena 6.74 36 ⇑P **Pn 20 01 39.0 +2.1**
TEKS Tekeris 6.95 355 *e*Pn **Pn 20 01 40.9 +1.1**
TEKS Tekeris 6.95 355 *e*Pn **Pn 20 01 38.4 -1.4**
A050A Klekovaca 7.46 338 *e*Pn **Pn 20 01 48.2 +1.4**
BLY Banja Luka 7.53 342 *e*Pn **Pn 20 01 49.9 +2.3**
FRGS Fruska Gora 7.54 357 *e*Pn **Pn 20 01 50.2 +2.3**
NRCA Norcia 7.63 315 **Pn 20 01 51.1 +1.8**
HUMR Humele 7.71 25 ⇑P **Pn 20 01 52.4 +2.2**
FDMO Fiordimonte 7.78 316 **Pn 20 01 53.3 +2.1**
A051A Mrakovica 7.84 341 *e*Pn **Pn 20 01 51.7 -0.3**
SURR Surduc 8.22 8 ⇑P **Pn 20 01 58.5 +1.3**
ARR Arges 8.36 21 ⇓P **Pn 20 02 01.0 +1.9**
SIRR Siria 8.69 6 ⇑P **Pn 20 02 04.9 +1.3**
BOJS Bojanci 8.77 335 *e*Pn **Pn 20 02 05.2 +0.5**
MLR Muntele Rosu 8.88 26 Pn **Pn 20 02 09.2 +2.9**
comp=N,0.9nm,0.3s,baz=190,slow=11,SNR=26
MLR LR LR 20 05 58.5
comp=N,84nm,21.7s,baz=224,slow=41
MLR Muntele Rosu 8.88 26 ⇓P **Pn 20 02 08.9 +2.6**
NEHR Nehoiu 8.95 28 ⇑P **Pn 20 02 10.1 +2.8**
CRES Cresnjevec Ost 8.99 337 *e*Pn **Pn 20 02 06.7 -1.1**
KEST Kesra 9.10 261 Pn **Pn 20 02 09.9 +0.6**
comp=N,0.3nm,0.3s,baz=90,slow=20,SNR=2.1
KEST Sn **Sn 20 03 48.4 -2.7**
comp=N,0.2nm,0.3s,baz=277,slow=21,SNR=1.3
KEST LR LR 20 05 32.1
comp=N,91nm,19.7s,baz=9.2,slow=37
comp=N,2.1nm,0.6s
DOPR Dopca 9.12 22 ⇑P **Pn 20 02 11.7 +2.1**
CEY Cerknica 9.26 333 *e*Pn **Pn 20 02 11.2 -0.3**
COVR Voineasa-Covas 9.28 26 ⇑P **Pn 20 02 14.1 +2.4**
OZUR 9.36 24 ⇑P **Pn 20 02 14.5 +1.7**
TURR Turia 9.40 25 ⇑P **Pn 20 02 15.4 +2.1**
PLOR Plostina 9.44 28 ⇑P **Pn 20 02 16.4 +2.4**
VRI Vrincioaia 9.48 28 ⇑P **Pn 20 02 17.0 +2.5**
SOKA Soboth 9.89 338 *e*Pn **Pn 20 02 21.0 +0.8**
comp=N,4.9nm,0.5s
SOKA *e*Sg **Sn 20 04 04.5 -6.0**
comp=N,5.7nm,0.6s
OBKA Obir 9.89 336 *e*Pn **Pn 20 02 23.7 +3.5**
comp=N,5.4nm,0.5s
OBKA *e*Sg **Sn 20 04 07.0 -3.6**
comp=N,13nm,0.5s
OBKA Obir 9.89 336 *e*Pn **Pn 20 02 22.2 +2.0**
TEOL Teolo 10.13 322 Pn **Pn 20 02 23.8 +0.4**
ARSA Arzberg 10.28 341 *e*Pn Pn 20 02 30.7 +5.3
comp=N,1.9nm,0.4s
MYKA Terra Mystica 10.31 333 Pn Pn 20 02 32.4 +6.6
comp=N,1.8nm,0.4s
MYKA *e*Sg **Sn 20 04 20.2 -0.6**
comp=N,3.9nm,0.6s
BRTR Keskin Array B 10.55 74 Pn **Pn 20 02 32.4 +3.2**
comp=N,0.1nm,0.3s,baz=262,slow=12,SNR=2.1
BRTR LR LR 20 07 27.9
comp=N,253nm,20.3s,baz=304,slow=43
comp=N,0.8nm,0.8s
CTI Castel Tesino 10.65 325 **Pn 20 02 31.7 +1.1**
KBA Koelnbreinsper 10.80 333 *e*Pn Pn 20 02 41.8 +9.2
comp=N,0.9nm,0.4s
KBA *e*Sg **Sn 20 04 29.6 -3.3**
comp=N,5.2nm,0.8s
CONA Conrad Observa 10.83 343 *e*Pn Pn 20 02 40.6 +7.6
comp=N,0.9nm,0.4s
ABTA Abfaltersbach 10.84 330 *i* Pn Pn 20 02 42.2 +9.1
comp=N,2.0nm,0.5s
ABTA *e*Sg **Sn 20 04 30.5 -3.3**
comp=N,15nm,0.9s
MOA Molln 11.17 338 *e*Pn **Pn 20 02 41.7 +4.0**
comp=N,6.0nm,0.6s
BIOA Bad Ischl, Aus 11.23 336 *e*Pn Pn 20 02 43.5 +5.1
comp=N,2.3nm,0.3s
LESA Schwarzleotal 11.33 332 *e*Pn Pn 20 02 44.6 +4.7
comp=N,2.4nm,0.4s
LESA *e*Sg **Sn 20 04 42.4 -3.5**
comp=N,7.7nm,0.6s
WTTA Wattenberg 11.61 329 *e*Sg **Sn 20 04 49.9 -2.8**
comp=N,9.1nm,0.6s
WATA Walderalm 11.69 329 Pn Pn 20 02 53.8 +9.0
comp=N,4.3nm,0.6s
WATA *e*Sg **Sn 20 04 55.5 +0.8**
comp=N,6.2nm,0.7s
FUORN Ofenpass-Fuorn 11.72 323 **Pn 20 02 44.7 -0.7**
SQTA Sankt Quirin 11.75 328 *e*Sg **Sn 20 04 55.4 -0.8**
comp=N,4.1nm,0.5s
MOTA Moosalm 11.89 328 *e*Sg **Sn 20 04 57.8 -1.9**
comp=N,5.7nm,0.8s
VRAC Vranov 12.01 348 Pn **Pn 20 02 50.0 +1.1**
comp=N,1.0nm,0.3s,baz=185,slow=12,SNR=1.2
VRAC LR LR 20 07 37.4
comp=N,47nm,21.6s,baz=20,slow=38
DAVOX Davos/Dischmat 12.02 323 Pn **Pn 20 02 50.4 +0.9**
comp=N,0.1nm,0.3s,baz=162,slow=20,SNR=2.3
DAVOX Sn **Sn 20 05 00.9 -2.1**
comp=N,0.2nm,0.3s,baz=156,slow=20,SNR=1.8
comp=N,1.1nm,0.7s
TUE Stuetta 12.07 321 **Pn 20 02 50.4 +0.3**
RETA Reutte 12.15 327 *e*Sg **Sn 20 05 05.2 -0.7**
comp=N,3.6nm,0.6s
GERES GERESS Array B 12.23 339 Pn **Pn 20 02 51.9 -0.3**
GERES GERESS Array B 12.23 339 Pn **Pn 20 02 55.2 +3.0**
comp=N,0.2nm,0.3s,baz=144,slow=12,SNR=5.4
GERES Sn **Sn 20 05 02.7 -5.2**
comp=N,0.2nm,0.3s,baz=150,slow=22,SNR=2.6
comp=N,1.7nm,0.8s
DAVA Damuels 12.39 325 *e*Sg **Sn 20 05 06.0 -5.9**
comp=N,5.1nm,0.8s
KHC Kasperske Hory 12.53 339 *e*PN **Pn 20 02 57.1 +1.0**
KHC *e*SN Sn 20 05 03.4 -12
MMAI Mount Meron Ar 13.07 106 Pn **Pn 20 03 02.1 -1.6**
comp=N,1.0nm,0.3s,baz=304,slow=13,SNR=2.1
MMAI Sn **Sn 20 05 20.8 -7.7**
comp=N,0.7nm,0.3s,baz=306,slow=25,SNR=2.0
comp=N,0.4nm,0.3s
SSB Saint Sauveur 14.14 308 **P 20 03 24.8 -0.9**
EIL Elat 14.46 119 Pn **Pn 20 03 21.7 -0.9**
comp=N,0.5nm,0.3s,baz=278,slow=14,SNR=1.8
EIL Sn Sn 20 05 49.7 -13
comp=N,0.3nm,0.3s,baz=334,slow=17,SNR=1.5
EIL LR LR 20 10 17.8
comp=N,20nm,19.3s,baz=356,slow=43
comp=N,2.3nm,0.4s
AKASG Malin Array Be 14.51 23 Pn **Pn 20 03 22.6 -0.5**
comp=N,0.3nm,0.3s,baz=197,slow=12,SNR=5.7
comp=N,0.2nm,0.3s
CLL Collm 14.66 341 *e*(PP) 20 03 39.0
WLF Walferdange 15.83 324 Pn **Pn 20 03 41.3 +0.7**
WLF IAmb IAmb 20 03 59.2
comp=Z,57nm,1.3s
GURO Guroymak-BITLI 17.04 80 Pn **Pn 20 03 55.9 -0.4**
PABE Paberze 18.05 7 **Pn 20 04 07.7 -0.8**
PABE IAmb IAmb 20 04 09.1
comp=Z,56nm,0.8s
KBZ Khabaz 18.08 63 P **P 20 04 10.1 +0.8**
comp=Z,0.1nm,0.3s,baz=298,slow=8.2,SNR=2.9
comp=Z,1.1nm,0.5s
GNI Garni 19.09 75 P **Pn 20 04 21.6 +0.2**
comp=Z,0.3nm,0.3s,baz=235,slow=19,SNR=3.8
GNI LR LR 20 12 13.7
comp=Z,64nm,20.1s,baz=299,slow=39
comp=Z,4.1nm,0.7s
ESDC Sonseca Array 19.14 284 P **Pn 20 04 22.7 +0.7**
comp=Z,0.1nm,0.3s,baz=83,slow=11,SNR=6.5
comp=Z,1.3nm,0.9s
OBN Obninsk 20.65 27 P **P 20 04 36.8 -0.5**
OBN IAmb IAmb 20 04 51.3
comp=Z,42nm,1.2s
OBN Obninsk 20.65 27 P **P 20 04 36.1 -1.2**
comp=Z,7.2nm,0.5s,baz=194,slow=8.3,SNR=1.8
comp=Z,7.2nm,0.5s
MDT Midelt 20.98 264 P **P 20 04 41.4 +0.2**
comp=Z,2.1nm,0.9s,baz=63,slow=11,SNR=3.1
comp=Z,2.1nm,0.9s
HFS Hagfors 22.94 351 P **P 20 05 02.1 +0.4**
comp=Z,5.9nm,0.7s,baz=165,slow=12,SNR=8.6
comp=Z,5.9nm,0.7s
EKA Eskdalemuir Ar 23.84 326 P **P 20 05 12.1 +1.5**
comp=Z,6.8nm,0.8s,baz=126,slow=11,SNR=13
comp=Z,6.8nm,0.8s
FINES FINESS Array B 24.11 7 P **P 20 05 12.5 -0.6**
comp=Z,8.7nm,0.9s,baz=183,slow=8.4,SNR=13
comp=Z,8.7nm,0.9s
FIA1 FINESS Array S 24.11 7 P **P 20 05 13.9 +0.8**
NB2 NORSAR Subarra 24.15 349 P **P 20 05 19.5 +5.9**
comp=Z,66nm,1.7s,baz=162,slow=10
NOA NORSAR Array B 24.15 349 P **P 20 05 13.9 +0.3**
comp=Z,1.1nm,0.8s,baz=162,slow=9.9,SNR=2.1
comp=Z,1.1nm,0.8s
TORD Torodi Ar. Bea 29.55 219 P **P 20 06 02.9 +0.4**
comp=Z,1.5nm,0.8s,baz=27,slow=10.0,SNR=9.5
comp=Z,1.5nm,0.8s
ABKAR Akbulak array 30.62 55 P **P 20 06 10.8 -0.9**
ARCES ARCESS Array B 32.09 3 P **P 20 06 24.5 0.0**
comp=Z,2.5nm,0.9s,baz=185,slow=8.1,SNR=5.3
comp=Z,2.5nm,0.9s
BVAR Borovoye Array 37.54 49 P **P 20 07 10.3 -1.3**
comp=Z,0.8nm,0.6s,baz=264,slow=6.7,SNR=4.4
comp=Z,0.8nm,0.6s
KKAR Karatay Array 38.09 66 P **P 20 07 18.0 +1.6**
BBTS Babate 39.91 245 LR LR 20 25 34.3
comp=Z,63nm,19.4s,baz=161,slow=38
KURBB Kurchatov Arra 42.62 53 P **P 20 07 53.2 -0.7**
comp=Z,0.6nm,0.4s,baz=281,slow=8.7,SNR=6.1
comp=Z,0.6nm,0.4s
MKAR Makanchi Array 45.66 58 P **P 20 08 17.4 -0.9**
comp=Z,1.1nm,0.6s,baz=274,slow=7.2,SNR=18
comp=Z,1.1nm,0.6s
ZALV Zalesovo Beam 46.12 48 P **P 20 08 20.9 -0.8**
comp=Z,2.7nm,0.5s,baz=276,slow=8.7,SNR=5.4
comp=Z,2.7nm,0.5s
SONM Songino Array 60.87 50 P **P 20 10 10.0 -0.2**
comp=Z,0.8nm,0.7s,baz=280,slow=8.2,SNR=6.1
comp=Z,0.8nm,0.7s
LZH Lanzhou 64.52 63 *e*P P 20 10 30.0 -4.8
LZH pP pP 20 10 35.8 -4.3
LZH pmax pmax
comp=Z,16nm,1.0s
CMAR Chiang Mai Arr 70.05 82 P **P 20 11 10.1 +0.3**
comp=Z,0.7nm,0.7s,baz=303,slow=6.5,SNR=7.4
comp=Z,0.7nm,0.7s
D23K Nanushuk River 73.52 357 P **P 20 11 30.4 +0.4**
D23K IAmb IAmb 20 11 52.5
comp=Z,6.4nm,1.2s
TIA Tai'an 73.58 57 P **P 20 11 29.3 -1.6**
TIA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 73.88 340 P **P 20 11 32.7 +0.5**
comp=Z,0.3nm,0.8s,baz=41,slow=5.8,SNR=2.4
comp=Z,0.3nm,0.8s
G31M Satah River 74.00 350 P **P 20 11 33.6 +0.9**
G29M Pine Creek 74.49 351 P **P 20 11 36.1 +0.4**
F19K Shaleruckik Mo 75.86 359 P **P 20 11 44.4 +0.9**
I30M Mount Dempster 75.89 350 P **P 20 11 45.2 +1.3**
I30M IAmb IAmb 20 11 51.6
comp=Z,4.0nm,0.9s
ULM Lac du Bonnet 76.10 324 P **P 20 11 47.5 +2.3**
comp=Z,2.1nm,0.7s,baz=45,slow=4.3,SNR=1.4
comp=Z,2.1nm,0.7s
ILAR Eielson Array 77.45 354 P **P 20 11 55.1 +2.6**
comp=Z,0.2nm,0.6s,baz=350,slow=3.0,SNR=1.7
comp=Z,0.2nm,0.6s
KSRS Korea Array 79.74 50 P **P 20 12 05.7 +0.1**
comp=Z,1.6nm,0.8s,baz=295,slow=4.8,SNR=4.3
comp=Z,1.6nm,0.8s

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*IDC **29** 20:13:09.9±1.9, 2°.85S×119°.42E, h0km, mb3.4/4, mbtmp3.5/4, MS2.4/1, Error ellipse: s-maj=173.1km s-min=22.8km az=61.0*
*DJA **29** 20:13:11.0±0.3, 3°S±2°×12°0E±°, h10km, M4.0/10, MLv4.0/10*
ISC 29 20:13:11.2±0.9, 2°.97S±0°.04×119°.49E±0°.07, h10km, n14, σ1°04/16, mb3.5/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.34**	**103**	P	**Pg**	**20 13 17.4**	**-0.6**
TTSI				S	**Sg**	**20 13 23.8**	**+1.3**
SPSI	**Sidrap Palu**	**1.03**	**164**	P	**Pg**	**20 13 29.9**	**-1.1**
SPSI				S	**Sb**	**20 13 44.8**	**+0.1**
PCI	**Palu**	**2.08**	**10**	P	**Pn**	**20 13 46.5**	**+0.3**
PCI				S	**Sn**	**20 14 13.0**	**+0.8**
BKSI	**Bulukumba**	**2.42**	**165**	P	**Pn**	**20 13 51.6**	**+0.7**
APSI	**Ampana**	**2.97**	**47**	P	**Pn**	**20 13 59.0**	**+0.5**
KDI	**Kendari**	**3.27**	**108**	P	**Pn**	**20 14 01.0**	**-1.6**
BSSI	**Bau Bau, Buton**	**3.31**	**162**	P	**Pn**	**20 14 03.6**	**+0.5**
LUWI	**Luwuk**	**3.80**	**60**	P	**Pn**	**20 14 09.6**	**-0.2**
BBSI	**Bau Bau**	**3.96**	**129**	P	**Pn**	**20 14 12.0**	**-0.1**
BATI	**Baumata**	**8.30**	**150**	LR	LR	20 19 23.5	
	comp=Z,29nm,20.9s,baz=326,slow=44						
WRA	**Warramunga Arr**	**22.24**	**140**	P	**P**	**20 18 08.9**	**+0.5**
	0.9nm,0.7s,baz=316,slow=11,SNR=5.0						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**24.85**	**147**	P	**P**	**20 18 36.3**	**+2.2**
	0.8nm,1.0s,baz=329,slow=9.9,SNR=6.8						
	0.8nm,1.0s						
SONM	**Songino Array**	**51.88**	**349**	P	**P**	**20 22 19.1**	**-0.9**
	0.6nm,0.7s,baz=174,slow=6.1,SNR=4.6						
	0.6nm,0.7s						
MKAR	**Makanchi Array**	**59.39**	**331**	P	**P**	**20 23 13.2**	**-0.7**
	0.4nm,0.6s,baz=136,slow=8.3,SNR=4.0						
	0.4nm,0.6s						

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*DJA **29** 20:18:12.7±0.4, 0°N±2°×9°7E±°, h42km±20km, M4.7/19, mb4.9/10, mB5.2/6, MLv4.7/19, Mw(mB)4.6/6*
*NEIC **29** 20:18:14.0±1.5, 0°.33N±0°.05×97°.35E±0°.07, h10km±1km, mb4.6/24, Error ellipse: s-maj=13.3km s-min=6.2km az=295.0*
*IDC **29** 20:18:16.4±2.5, 0°.19N×97°.09E, h44km±20km, mb3.8/16, mbtmp4.1/18, ML4.3/2, Error ellipse: s-maj=21.9km s-min=13.0km az=66.0*
ISC 29 20:18:13.7±2.4, 0°.19N±0°.05×97°.02E±0°.07, h26km±16km, n92, σ1°40/85, mb4.4/30, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.24**	**27**	Pn	**Pn**	**20 18 34.4**	**-1.0**
GSI	**Gunungsitoli**	**1.24**	**27**	P	**Pn**	**20 18 34.3**	**-1.1**
GSI	**Gunungsitoli**	**1.24**	**27**	P	**Pn**	**20 18 34.4**	**-1.0**
GSI				S	**Sn**	**20 18 51.5**	**+0.2**
PBSI	**Pulau Batu**	**1.28**	**101**	P	**Pn**	**20 18 35.8**	**-0.2**
PBSI				S	**Sn**	**20 18 51.8**	**-0.5**
SNSI	**Sinabang, Aceh**	**2.31**	**343**	P	**Pn**	**20 18 48.3**	**-1.9**
SNSI				S	**Sn**	**20 19 14.6**	**-3.2**
SISI	**Saibi**	**2.56**	**126**	P	**Pn**	**20 18 52.5**	**-1.1**
SISI				S	**Sn**	**20 19 21.5**	**-2.4**
MNSI	**Mandailing Nat**	**2.63**	**77**	P	**Pn**	**20 18 54.1**	**-0.4**
MNSI				S	**Sn**	**20 19 24.0**	**-1.6**
RPSI	**Rantau Prapat**	**3.13**	**37**		**Pn**	**20 19 01.1**	**-0.3**
RPSI					**Sn**	**20 19 39.1**	**+1.1**
RPSI	**Rantau Prapat**	**3.13**	**37**		**Pn**	**20 19 00.8**	**-0.7**
PSI	**Prapat**	**3.22**	**36**	P	**Pn**	**20 19 01.1**	**-1.6**
	12nm,0.3s,baz=265,slow=6.3,SNR=20						
PSI				S	**Sn**	**20 19 39.1**	**-1.2**
	24nm,0.5s,baz=177,slow=16,SNR=1.9						
	22nm,0.3s						
KCSI	**Kotacane, Aceh**	**3.39**	**13**	P	**Pn**	**20 19 03.9**	**-1.2**
KCSI				S	**Sn**	**20 19 42.8**	**-1.7**
PPI	**Padang Panjang**	**3.44**	**101**	P	**Pn**	**20 19 05.7**	**+0.1**
TSI	**Tuntungan**	**3.63**	**25**	P	**Pn**	**20 19 07.7**	**-0.6**
MLSI	**Meulaboh, Aceh**	**4.10**	**351**	P	**Pn**	**20 19 12.3**	**-2.4**
PPSI	**Pulau Pagai**	**4.19**	**135**	P	**Pn**	**20 19 14.8**	**-1.2**
LHMI	**Lhok Sumawe**	**5.01**	**359**	Pn	**Pn**	**20 19 25.7**	**-1.5**

LHMI	Lhok Sumawe	5.01	359	P	Pn	20 19 26.9	-0.3
LHMI	Lhok Sumawe	5.01	359	P	Pn	20 19 25.3	-1.9
	95nm,0.9s,2μm0.6nm						
BSI	Banda Aceh	5.55	342	P	Pn	20 19 31.4	-3.3
IPM	Ipoh	5.84	43		Pn	20 19 37.6	-1.2
IPM	Ipoh	5.84	43	P	Pn	20 19 39.1	+0.3
KULM	Kulim	6.23	36		Pn	20 19 42.0	-2.0
KULM	Kulim	6.23	36	P	Pn	20 19 43.0	-1.1
KSI	Kapahiang	6.75	124	P	Pn	20 19 51.0	-0.3
MYKOM	Kota Tinggi	7.01	77		Pn	20 19 54.0	-0.8
MYKOM	Kota Tinggi	7.01	77	P	Pn	20 19 54.7	-0.1
MNAI	Manna	7.46	127	Pn	Pn	20 19 59.3	-1.6
MNAI	Manna	7.46	127	P	Pn	20 20 00.5	-0.4
MNAI	Manna	7.46	127	P	Pn	20 19 59.4	-1.5
	223nm,1.3s						
LWLI	Liwa	8.73	126	P	Pn	20 20 17.3	-1.2
	62nm,0.7s						
KASI	Kota Agung	9.38	127	P	Pn	20 20 26.0	-1.3
	9.7nm,0.5s						
CNJI	Cibinong	12.54	127	P	Pn	20 21 08.3	-2.3
BBJI	Bungbulang	13.04	126	P	Pn	20 21 18.1	+0.5
CM31	Chiang Mai Arr	18.25	6	P	Pn	20 22 24.9	-0.5
CMAR	Chiang Mai Arr	18.25	6	P	Pn	20 22 24.4	-1.0
CMAR	Chiang Mai Arr	18.25	6	P	Pn	20 22 25.0	-0.4
	0.8nm,0.3s,baz=196,slow=12,SNR=40						
	7.0nm,0.7s						
PHRA	Phrae	18.46	10	P	P	20 22 26.6	-1.1
CHTO	Chiang Mai	18.60	6	P	P	20 22 28.3	-1.0
KKM	Kota Kinabalu	20.02	73	P	P	20 22 45.4	+0.4
SLVN	Son La	22.06	17	P	P	20 23 06.2	-0.7
SLVN				IAmb	IAmb	20 23 08.2	
	comp=Z,16nm,0.7s						
SLVN	Son La	22.06	17	P	P	20 23 09.2	+2.3
TOLI2	Tolitoli	23.78	88	P	P	20 23 25.9	+1.4
TNCH	TengChong	24.73	3	*eP*	P	20 23 34.3	+0.9
TNCH				pmax	pmax		
	comp=Z,14nm,1.0s						
KMI	Kunming	25.40	12	⇓P	P	20 23 40.8	+1.3
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
H08S2	Diego Garcia H	25.67	252	T	T	20 50 53.8	
	baz=72,slow=74						
H08S3	Diego Garcia H	25.67	252	T	T	20 50 44.8	
	baz=72,slow=74						
H08S1	Diego Carcia H	25.68	252	T	T	20 50 51.1	
	baz=72						
SHL	Shillong	25.71	349	P	P	20 23 42.5	+0.3
ENH	Enshi	32.18	21	P	P	20 24 38.2	-1.4
ENH				IAmb	IAmb	20 24 39.8	
	comp=Z,8.5nm,1.0s						
FITZ	Fitzroy Crossi	33.50	124	P	P	20 24 51.3	0.0
FITZ	Fitzroy Crossi	33.50	124	P	P	20 24 50.9	-0.5
	comp=Z,4.3nm,0.7s,baz=282,slow=8.2,SNR=9.1						
	comp=Z,4.3nm,0.7s						
LZH	Lanzhou	36.27	9	*eP*	P	20 25 17.8	+2.5
LZH				pP	pP	20 25 22.0	+0.6
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
H01W3	Cape Leeuwin H	38.39	157	T	T	21 06 49.2	
	baz=331						
H01W2	Cape Leeuwin H	38.40	157	T	T	21 06 53.3	
	baz=331						
H01W1	Cape Leeuwin H	38.40	157	T	T	21 06 55.4	
	baz=331						
GTA	Gaotai	39.12	3	*eP*	P	20 25 39.5	+0.3
GTA				sP	pwP	20 25 51.0	-1.2
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WB0	Warramunga Arr	41.64	121	P	P	20 25 59.8	-0.5
WB0				IAmb	IAmb	20 26 00.6	
	comp=Z,7.7nm,0.7s						
WRA	Warramunga Arr	41.66	121	P	P	20 26 00.4	-0.1
	comp=Z,4.9nm,0.8s,baz=301,slow=9.1,SNR=34						
WRA				ScP	ScP	20 31 42.3	-3.7
	comp=Z,18nm,1.1s,baz=305,slow=2.8,SNR=4.2						
	comp=Z,4.9nm,0.8s						
WRAB	Tennant Creek	41.67	121	P	P	20 26 00.4	-0.1
WRAB				IAmb	IAmb	20 26 01.1	
	comp=Z,6.3nm,0.8s						
WB2	Warramunga Arr	41.67	121	P	P	20 26 00.2	-0.3
WB2				IAmb	IAmb	20 26 01.1	
	comp=Z,5.4nm,0.7s						
WR0	Warramunga Arr	41.84	121	IAmb	IAmb	20 26 02.6	
	comp=Z,9.1nm,0.8s						
FORT	Forrest	42.63	139	P	P	20 26 08.4	+0.2
FORT				IAmb	IAmb	20 26 10.6	
	comp=Z,16nm,0.8s						
AS31	Alice Springs	42.94	126	P	P	20 26 10.8	0.0
ASAR	Alice Springs	42.94	126	P	P	20 26 10.9	0.0
	comp=Z,1.5nm,0.6s,baz=297,slow=8.1,SNR=29						
ASAR				ScP	ScP	20 31 47.6	-3.4
	comp=Z,13nm,0.9s,baz=303,slow=4.3,SNR=4.3						
	comp=Z,1.5nm,0.6s						
NRN	Naryn	45.25	338	P	P	20 26 31.8	+2.3
NRN				IAmb	IAmb	20 26 42.1	
	comp=Z,5.0nm,0.7s						
BTK	Batken	46.31	332	IAmb	IAmb	20 26 51.5	
	comp=Z,8.0nm,1.1s						
ARSB	Arslanbob	46.37	335	IAmb	IAmb	20 26 51.0	
	comp=Z,2.6nm,0.9s						
KSRS	Korea Array	46.78	34	P	P	20 26 41.0	-0.1
	comp=Z,3.9nm,0.7s,baz=217,slow=8.6,SNR=15						
	comp=Z,3.9nm,0.7s						
SONM	Songino Array	48.15	8	P	P	20 26 52.2	+0.4
	comp=Z,1.6nm,0.7s,baz=191,slow=7.6,SNR=14						
	comp=Z,1.6nm,0.7s						
MKAR	Makanchi Array	48.17	346	P	P	20 26 52.0	+0.1
	comp=Z,0.6nm,0.6s,baz=157,slow=8.5,SNR=7.2						
	comp=Z,0.6nm,0.6s						
KKAR	Karatay Array	48.88	334	P	P	20 26 59.7	+2.3
KURBB	Kurchatov Arra	52.66	345	P	P	20 27 25.9	+0.2
	comp=Z,0.7nm,0.6s,baz=156,slow=8.0,SNR=2.0						
	comp=Z,0.7nm,0.6s						
STKA	Stephens Creek	52.82	131	P	P	20 27 27.9	+0.7
STKA	Stephens Creek	52.82	131	P	P	20 27 27.6	+0.4
	comp=Z,3.0nm,0.7s,baz=314,slow=9.3,SNR=8.0						
	comp=Z,3.0nm,0.7s						
USRK	Ussuriysk Ar.	53.72	31	P	P	20 27 34.1	+0.5
	comp=Z,3.7nm,0.8s,baz=223,slow=7.5,SNR=3.0						
	comp=Z,3.7nm,0.8s						
ZAA0	Zalesovo Array	54.52	351	P	P	20 27 42.3	+3.0
ZALV	Zalesovo Beam	54.52	351	P	P	20 27 38.5	-0.8
ZALV	Zalesovo Beam	54.52	351	P	P	20 27 39.6	+0.3
	comp=Z,3.6nm,0.6s,baz=166,slow=7.7,SNR=2.2						
	comp=Z,3.6nm,0.6s						
BVAR	Borovoye Array	57.14	341	P	P	20 27 59.2	+1.1
	comp=Z,0.6nm,0.7s,baz=146,slow=11,SNR=3.0						
	comp=Z,0.6nm,0.7s						
KLR	Kul'dur	57.23	26	P	P	20 28 00.2	+1.4
	comp=Z,3.0nm,0.8s,baz=158,slow=16,SNR=3.7						
	comp=Z,3.0nm,0.8s						
H04N2	CROZET ISLANDS	60.84	214	T	T	21 35 10.6	
	baz=55						
H04N1	CROZET ISLANDS	60.85	214	T	T	21 35 05.6	
	baz=55						
H04N3	CROZET ISLANDS	60.86	214	T	T	21 35 09.4	
	baz=55						
H04S1	CROZET ISLANDS	61.18	214	T	T	21 35 40.8	
	baz=55						
H04S3	CROZET ISLANDS	61.19	214	T	T	21 35 31.2	
	baz=55						
H04S2	CROZET ISLANDS	61.20	214	T	T	21 35 38.1	
	baz=55						
BRTR	Keskin Array B	69.66	313	P	P	20 29 21.9	+0.5
	comp=Z,0.5nm,0.8s,baz=120,slow=6.7,SNR=1.5						
	comp=Z,0.5nm,0.8s						
MAW	Mawson	71.69	193	P	P	20 29 33.5	+0.4
	comp=Z,1.2nm,0.7s,baz=190,slow=2.3,SNR=4.1						
	comp=Z,1.2nm,0.7s						
AKASG	Malin Array Be	75.95	323	P	P	20 29 59.7	+1.3
	comp=Z,0.1nm,0.2s,baz=112,slow=6.2,SNR=1.8						
	comp=Z,0.1nm,0.2s						
ARCES	ARCESS Array B	83.42	340	P	P	20 30 38.0	-0.5
	comp=Z,2.1nm,0.9s,baz=103,slow=3.9,SNR=1.4						
	comp=Z,2.1nm,0.9s						
CPUP	Villa Florida	144.14	222	PKP	PKPbc	20 37 45.8	-0.3
	comp=Z,3.4nm,0.7s,baz=107,slow=2.4,SNR=8.6						
TXAR	Lajitas Array	144.61	32	PKP	PKPbc	20 37 48.1	+0.4
	comp=Z,0.3nm,0.3s,baz=324,slow=1.5,SNR=2.4						

*BJI **29** 20:21:42.0,0.°08S×97.°07E, h20km, mb5.5/100, mB5.8/84, Ms5.8/99, Ms7 5.6/99*
*MOS **29** 20:21:43.7±0.9, 0.°28N×97.°02E, h15km, mb6.0/79, MS5.3/28, Error ellipse: s-maj=6.2km s-min=3.8km az=111.8*

*NEIC **29** 20:21:44.7±1.5, 0.°23N±0.°06×97.°00E±0.°07, h10km±3km, mb6.0/292, Ms_20 5.5/249, Mwb5.7/21, Mww5.8/38, Error ellipse: s-maj=10.5km s-min=8.9km az=65.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=2.64; $M_{\theta\theta}$0.57; $M_{\phi\phi}$2.07; $M_{r\theta}$2.94; $M_{\theta\phi}$-0.95; $M_{\phi r}$-1.43; Fault plane solution: $M_0$4.17000×10^{17} NP1: ϕ_s306.75000°, δ71.77000°, λ-105.92000°. NP2: ϕ_s169.11000°, δ24.03000°, λ-50.21000°. Principal axes: T 3.7810, Plg25.0000°, Azm49.0000°; N 0.6941, Plg15.0000°, Azm312.0000°; P -4.4751, Plg60.0000°, Azm194.0000°;*
*NEIC **29** 20:21:44.3, 0.°25N×97.°03E, h20km*
*IPGP **29** 20:21:44.0, 0.°26N×97.°04E, h11km, Mw5.8, Fault plane solution: NP1:ϕ_s313.00000°, δ56.00000°, λ-102.00000°. NP2:ϕ_s155.00000°, δ36.00000°, λ-72.00000°.*
*NEIC **29** 20:21:44.6, 0.°23N×97.°00E, h9km*
*NEIC **29** 20:21:44.3, 0.°35S×96.°34E, h20km, Moment Tensor Solution. Duration: 3s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-6.08; $M_{\theta\theta}$2.29; $M_{\phi\phi}$3.79; $M_{r\theta}$-0.18; $M_{\theta\phi}$-3.08; $M_{\phi r}$-0.76; Fault plane solution: $M_0$6.19000×10^{17} NP1: ϕ_s327.63000°, δ47.55000°, λ-82.09000°. NP2: ϕ_s136.00000°, δ43.04000°, λ-98.55000°. Principal axes: T 6.2270, Plg2.0000°, Azm52.0000°; N -0.0686, Plg6.0000°, Azm142.0000°; P -6.1584, Plg84.0000°, Azm301.0000°;*
*IDC **29** 20:21:44.8±1.9, 0.°22N×97.°04E, h11km±11km, mb5.4/44, mbtmp5.5/47, ML5.0/3, MS5.1/69 Error ellipse: s-maj=9.6km s-min=6.8km az=51.0*
*DJA **29** 20:21:44.6±0.1, 0.°N±1.°×9.°7E±.°, h10km, M5.7/138, mb5.7/138, mB6.1/121, MLv6.0/22, Mw5.7/176, Mw(mB)5.8/121, MwMwp5.5/84, Mwp5.6/84*
*GCMT **29** 20:21:46.6±0.1, 0.°21N±0.°01×96.°89E, h13km, MW5.8/148, Moment Tensor Solution. s147,c280; s148,c478; Duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-4.55±.04; $M_{\theta\theta}$1.38±.03; $M_{\phi\phi}$3.18±.04; $M_{r\theta}$2.63±.10; $M_{\theta\phi}$-3.01±.03; $M_{\phi r}$-1.09±.08; Best double couple: $M_0$5.77700×10^{17} NP1:ϕ_s307.00000°, δ60.00000°, λ-108.00000°. NP2:ϕ_s161.00000°, δ34.00000°, λ-61.00000°. Principal axes: T 6.0050, Plg13.0000°, Azm50.0000°; N -0.4470, Plg16.0000°, Azm317.0000°; P -5.5490, Plg69.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*BGR **29** 20:21:50.7, 0.°29S×95.°57E, h33km, mb5.7, Ms5.2*
ISC 29 20:21:46.1±0.3, 0.°20N±0.°03×97.°03E±0.°03, h22km±3km, h23km:pP-P, n1636, σ1.9±35/1589, mb5.9/406, MS5.4/242, 95C-60D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID	Time h m s	Res ISC
GSI	Gunungsitoli	1.22	26		Pn	20 22 07.7	-0.3
GSI	Gunungsitoli	1.22	26	P	Pn	20 22 07.8	-0.1
GSI	Gunungsitoli	1.22	26	P	Pn	20 22 08.0	+0.1
GSI				S	Sb	20 22 24.1	+0.2
PBSI	Pulau Batu	1.27	102	P	Pb	20 22 09.3	-0.1
SNSI	Sinabang, Aceh	2.30	342	P	Pn	20 22 21.8	-1.0
SISI	Saibi	2.56	126	P	Pn	20 22 26.5	+0.2
MNSI	Mandailing Nat	2.61	77	P	Pn	20 22 27.6	+0.5
RPSI	Rantau Prapat	3.12	37		Pn	20 22 34.2	+0.2
PSI	Prapat	3.20	36	Pn	Pn	20 22 33.7	-1.6
	126nm,0.3s,baz=197,slow=10,SNR=136						
PSI				LR	LR	20 23 33.6	
	comp=Z,37μm,20.7s,baz=230,slow=35						
	230nm,0.3s						
PSI	Prapat	3.20	36	P	Pn	20 22 34.2	-1.1
KCSI	Kotacane, Aceh	3.38	13	P	Pn	20 22 37.1	-0.6
PPI	Padang Panjang	3.43	101	P	Pn	20 22 39.2	+0.9
TSI	Tuntungan	3.62	25	P	Pn	20 22 41.3	+0.4
BKNI	Bangkinang	4.01	88		Pn	20 22 47.0	+0.6
BKNI	Bangkinang	4.01	88	P	Pn	20 22 44.8	-1.5
BKNI	Bangkinang	4.01	88	P	Pn	20 22 47.6	+1.3
BKNI	Bangkinang	4.01	88	P	Pn	20 22 46.9	+0.6
MLSI	Meulaboh, Aceh	4.09	351	P	Pn	20 22 45.7	-1.7
PPSI	Pulau Pagai	4.19	135	P	Pn	20 22 48.2	-0.6
LHMI	Lhok Sumawe	4.99	359		Pn	20 22 58.4	-1.4
LHMI	Lhok Sumawe	4.99	359	P	Pn	20 23 00.2	+0.3
LHMI	Lhok Sumawe	4.99	359	P	Pn	20 22 58.8	-1.1
	755nm,0.5s,29μm54μm21nm						
BSI	Banda Aceh	5.54	342	P	Pn	20 23 04.9	-2.5
	1μm,1.0s,16μm21μm8.9nm						
IPM	Ipoh	5.83	43	Pn	Pn	20 23 11.7	+0.4
IPM	Ipoh	5.83	43	P	Pn	20 23 12.0	+0.7
KULM	Kulim	6.21	35	Pn	Pn	20 23 16.4	-0.2
KULM	Kulim	6.21	35	P	Pn	20 23 16.1	-0.5
KSI	Kapahiang	6.75	125	P	Pn	20 23 24.3	+0.3
BTDF	Bukit Timah Da	6.84	80	P	Pn	20 23 25.9	+0.7
MYKOM	Kota Tinggi	7.00	77	Pn	Pn	20 23 27.4	0.0
MYKOM	Kota Tinggi	7.00	77	P	Pn	20 23 27.9	+0.5
CMBY	CAMPBELL BAY	7.44	335	*eP*	Pn	20 23 32.6	-0.9
CMBY				*eS*	Sn	20 24 51.3	-5.9
MNAI	Manna	7.45	128	Pn	Pn	20 23 33.2	-0.4
MNAI	Manna	7.45	128	P	Pn	20 23 33.6	-0.1
MNAI	Manna	7.45	128	P	Pn	20 23 33.3	-0.4
TPRI	Tanjung Pinang	7.53	85	P	Pn	20 23 34.7	0.0
	417nm,0.8s,8μm2.9nm						
PMBI	Palembang	8.34	112	Pn	Pn	20 23 45.0	-0.8
PMBI	Palembang	8.34	112	P	Pn	20 23 45.8	0.0
PMBI	Palembang	8.34	112	P	Pn	20 23 44.8	-1.0
	619nm,0.9s,9μm20μm						
SRIT	Nakonsritamara	8.72	17	Pn	Pn	20 23 48.5	-2.5
SRIT	Nakonsritamara	8.72	17	P	Pn	20 23 49.5	-1.6
LWLI	Liwa	8.72	127	P	Pn	20 23 50.4	-0.9
KASI	Kota Agung	9.38	127	P	Pn	20 23 58.6	-1.5
	415nm,0.9s,4μm						
PPBI	Pangkal Pinang	9.40	105	P	Pn	20 24 02.0	+1.6
	215nm,1.1s,6μm18μm						
BLSI	Bandar Lampung	9.89	124	P	Pn	20 24 05.8	-1.4
	607nm,1.1s,7μm						
TPI	Tanjungpandan	11.02	106	P	Pn	20 24 24.2	+1.6
	207nm,1.2s,6μm15μm						
SKJI	Sukabumi	11.90	127	P	Pn	20 24 34.5	-0.1
	407nm,1.0s,6μm7μm						
PBA	Port Blair	12.15	340	*ex*	x	20 24 56.2	
COCO	West Island	12.31	181		Pn	20 24 37.9	-2.4
COCO	West Island	12.31	181	P	Pn	20 24 40.0	-0.3
COCO	West Island	12.31	181	P	Pn	20 24 37.9	-2.4
CNJI	Cibinong	12.53	127	P	Pn	20 24 39.7	-3.6
LEM	Lembang	12.66	124	Pn	Pn	20 24 44.8	-0.4
	2.0nm,0.3s,baz=208,slow=12,SNR=16						
LEM				Sn	Sn	20 27 08.2	+2.5
	4.1nm,0.3s,baz=330,slow=20,SNR=2.0						
LEM				LR	LR	20 30 46.0	
	comp=Z,22μm,18.2s,baz=286,slow=43						
	102nm,1.0s						
LEM	Lembang	12.66	124	P	Pn	20 24 44.4	-0.8
	275nm,1.1s,3μm						
KSM	Kuching	13.33	84		Pn	20 24 53.1	-1.2
KSM	Kuching	13.33	84	P	Pn	20 24 55.6	+1.3
DGPR	DIGLIPUR	13.52	343	*eP*	Pn	20 24 52.4	-4.4
XMIS	Christmas Isla	13.64	141		Pn	20 24 51.5	-7.0
XMIS	Christmas Isla	13.64	141	P	Pn	20 25 00.4	+1.9
CMJI	Cimerak	13.87	125	P	Pn	20 24 57.6	-4.0
	356nm,1.1s,7μm						
KPJI	Karang Pucung	14.03	122	P	Pn	20 25 01.7	-2.1
	254nm,1.2s,8μm						
SRDT	SRDT	14.21	8	P	Pn	20 25 05.0	-1.2
STKI	Sintang	14.45	91	P	Pn	20 25 10.7	+1.2
	720nm,0.8s,16μm15μm						
SMRI	Semarang	15.19	119	Pn	Pn	20 25 17.2	-2.4
SMRI	Semarang	15.19	119	P	Pn	20 25 20.1	+0.5
SMRI	Semarang	15.19	119	P	Pn	20 25 17.9	-1.7
	421nm,0.9s,6μm8μm						
SBUM	Sibu	15.35	82		Pn	20 25 22.1	+0.6
SBUM	Sibu	15.35	82	P	Pn	20 25 22.6	+1.0
UGM	Wanagama	15.68	121	Pn	Pn	20 25 22.7	-3.3
UGM	Wanagama	15.68	121	P	Pn	20 25 26.9	+0.9
UGM	Wanagama	15.68	121	P	Pn	20 25 23.0	-3.0
	514nm,1.3s,5μm8μm						
NGJI	Ngawi	16.24	118	P	Pn	20 25 33.5	+0.4
	221nm,1.1s,5μm						
DLV	Lat	16.29	44	Pn	Pn	20 25 30.4	-3.6
DLV	Lat	16.29	44	P	Pn	20 25 33.9	0.0
TBJI	Tambak Boyo	16.34	116	P	Pn	20 25 35.0	+0.6
	699nm,0.9s,8μm						
PCJI	Pacitan	16.38	121	P	Pn	20 25 33.4	-1.5
	142nm,0.7s						
PWJI	Pagerwojo	16.84	119	P	Pn	20 25 38.9	-1.8
GRJI	Gresik	16.95	115	P	P	20 25 43.3	-0.7
	586nm,1.5s,11μm8μm						
MTKI	Muara Teweh, K	17.90	94	P	Pn	20 25 53.6	-0.3
	328nm,1.0s,8μm10μm						
CM31	Chiang Mai Arr	18.24	6	P	Pn	20 25 56.3	-1.7
CMAR	Chiang Mai Arr	18.24	6	P	Pn	20 25 57.0	-1.0
	7.2nm,0.3s,baz=196,slow=14,SNR=181						
CMAR				S	Sn	20 29 22.6	+1.4
	3.5nm,1.0s,baz=185,slow=24,SNR=0.9						
CMAR				PcP	PcP	20 30 32.0	+1.6
	10nm,0.8s,baz=209,slow=3.3,SNR=6.7						
CMAR				LR	LR	20 33 48.0	
	comp=Z,8μm,19.3s,baz=180,slow=40						
	190nm,1.0s						
BLJI	Banyuglugur	18.30	116	P	Pn	20 25 58.0	-0.9
MALK	Mahakanadarawa	18.34	297	P	Pn	20 25 59.6	+0.3
KMMI	Kalianget	18.36	113	P	P	20 25 59.5	-0.1
	475nm,0.9s,7μm9μm						
GMJI	Gumukmas	18.40	118	P	P	20 25 59.7	-0.2
PHRA	Phrae	18.45	10	P	P	20 25 59.7	-0.8
CHTO	Chiang Mai	18.59	6	P	P	20 26 01.2	-0.8
CHTO	Chiang Mai	18.59	6	P	P	20 26 01.2	-0.8
CHTO				pmax	pmax		
	comp=Z,282nm,1.0s						
ABJI	Asem Bagus	18.90	115	P	P	20 26 05.8	+0.3
	comp=Z,198nm,1.1s,comp=Z,5μmcomp=Z,6μm						
JAGI	Jajag, Banyuwa	19.11	117	P	P	20 26 07.3	-0.5
JAGI	Jajag, Banyuwa	19.11	117	P	Pn	20 26 09.0	+0.3
JAGI	Jajag, Banyuwa	19.11	117	P	P	20 26 07.1	-0.7
SRBI	Singaraja	19.90	115	P	P	20 26 15.0	-1.5
	comp=Z,246nm,1.1s,comp=Z,5μm						
BKB	Balikpapan	19.91	94	P	P	20 26 15.4	-1.2
BKB				IAmb	IAmb	20 26 31.4	
	comp=Z,837nm,1.1s						
BKB	Balikpapan	19.91	94	P	Pn	20 26 17.6	-0.7
BKB	Balikpapan	19.91	94	P	Pn	20 26 18.1	-0.2
	comp=Z,1μm,1.1s,comp=Z,16μmcomp=Z,13μm						
KKM	Kota Kinabalu	20.00	73	P	P	20 26 16.2	-1.5
KKM	Kota Kinabalu	20.00	73	P	P	20 26 17.9	+0.2
SMKI	Samarinda	20.18	92	P	Pn	20 26 21.6	+0.1
	comp=Z,527nm,1.0s,comp=Z,10μm						
MDRS	Chennai	20.98	308	*eP*	Pn	20 26 30.5	-0.3
TRD	Trivandrum	21.63	293	*eP*	P	20 26 37.4	+2.2
TRD				IAmb	IAmb	20 26 49.4	
	comp=Z,248nm,0.8s						
SALM	Salem	21.89	302	*eP*	P	20 26 39.8	+1.9
SALM				IAmb	IAmb	20 26 43.7	
	comp=Z,204nm,0.5s						
SALM				IAMs_20	IAMs_20	20 34 43.0	
	comp=Z,7μm,14.4s						
MYLDM	Lahad Datu	22.00	77	P	P	20 26 39.0	-0.2
MYLDM				IAMs_20	IAMs_20	20 36 24.8	
	comp=Z,16μm,18.0s						
MYLDM	Lahad Datu	22.00	77	P	P	20 26 40.5	+1.4
SLVN	Son La	22.05	17	P	P	20 26 38.8	-0.8
SLVN				IAmb	IAmb	20 26 55.0	
	comp=Z,374nm,0.9s						
SLVN	Son La	22.05	17	P	P	20 26 39.6	0.0
PLAI	Plampang	22.53	114	P	P	20 26 44.1	-0.7
PLAI	Plampang	22.53	114	P	P	20 26 43.9	-0.9
	comp=Z,226nm,0.9s						
QIZ	Qiongzhong	22.54	33	P	P	20 26 43.7	-1.2
QIZ				IAmb	IAmb	20 26 48.0	
	comp=Z,448nm,1.3s						
QIZ	Qiongzhong	22.54	33	P	P	20 26 44.5	-0.3
QIZ				S	S	20 30 53.5	+2.4
QIZ				pmax	pmax		
	comp=Z,180nm,1.7s						
QIZ				pmax	pmax		
	comp=Z,4μm,11.6s						
QIZ				LR	LR		
	comp=Z,9μm,18.5s						
QIZ				LR	LR		
	comp=Z,8μm,18.8s						
QIZ				LR	LR		
	comp=Z,7μm,12.7s						
QIZ	Qiongzhong	22.54	33	P	P	20 26 44.6	-0.3
PCI	Palu	22.83	93	P	P	20 26 48.2	+0.2
	comp=Z,433nm,1.1s,comp=Z,8μmcomp=Z,9μm						
TTSI	Tana Toraja	23.00	98	P	P	20 26 51.2	+1.4
	comp=Z,331nm,1.2s,comp=Z,5μmcomp=Z,7μm						
SPSI	Sidrap Palu	23.09	101	P	P	20 26 51.2	+0.5
	comp=Z,321nm,1.3s,comp=Z,5μmcomp=Z,6μm						
KAPI	Kappang	23.27	103	P	P	20 26 52.1	-0.4
KAPI				IAmb	IAmb	20 27 07.8	
	comp=Z,747nm,1.2s						
KAPI	Kappang	23.27	103	P	P	20 26 52.1	-0.4
	comp=Z,180nm,1.1s,baz=269,slow=8.3,SNR=68						
KAPI				S	S	20 31 05.0	+1.0
	comp=Z,3.3nm,0.2s,baz=91,slow=21,SNR=1.1						
	comp=Z,180nm,1.1s						
KAPI	Kappang	23.27	103	P	P	20 26 52.7	+0.2
KAPI				P	P	20 26 52.7	+0.2
KAPI	Kappang	23.27	103	P	P	20 26 53.5	+0.9
BKSI	Bulukumba	23.70	104	P	P	20 26 57.1	+0.4
	comp=Z,572nm,2.7s,comp=Z,12μmcomp=Z,7μm						
TOLI2	Tolitoli	23.76	88	P	P	20 26 56.1	-1.3
TOLI2	Tolitoli	23.76	88	P	P	20 26 57.8	+0.4
AZL	Aizawl	23.77	350	⇑*iP*	P	20 26 57.3	-0.1
AZL				IAmb	IAmb	20 27 02.8	
	comp=Z,465nm,1.1s						
AZL				*eS*	S	20 31 11.5	-0.5
KA

SHL	**Shillong**	**25.70**	**349**	P	**P**	**20 27 14.4 -0.8**
SHL	**Shillong**	**25.70**	**349**	P	**P**	**20 27 15.8 +0.6**
	SNR=544					
SHL	**Shillong**	**25.70**	**349**	*e*P	**P**	**20 27 15.7 +0.5**
SHL				IAmb	IAmb	20 27 29.1
	comp=Z,2μm,1.2s					
SHL	**Shillong**	**25.70**	**349**	P	**P**	**20 27 14.4 -0.8**
SHL				pmax	pmax	
	comp=Z,2μm,0.8s					
SHL				MLR	MLR	
	comp=Z,2μm,18.0s					
LUWI	**Luwuk**	**25.77**	**93**	P	**P**	**20 27 14.7 -1.0**
LUWI	**Luwuk**	**25.77**	**93**	P	**P**	**20 27 19.4 +3.7**
LUWI	**Luwuk**	**25.77**	**93**	P	**P**	**20 27 16.8 +1.1**
LUWI	**Luwuk**	**25.77**	**93**	P	**P**	**20 27 16.1 +0.4**
BOK	**Bokaro**	**25.83**	**336**	*e*P	**P**	**20 27 18.3 +2.2**
BOK				IAmb	IAmb	20 27 22.8
	comp=Z,429nm,0.4s					
BOK				*i* x	x	20 27 29.3
KDI	**Kendari**	**25.90**	**99**	P	**P**	**20 27 17.6 +0.7**
	comp=Z,323nm,1.1s,comp=Z,4μmcomp=Z,7μm					
BBSI	**Bau Bau**	**26.12**	**103**	P	**P**	**20 27 20.0 +1.1**
PZH	**PanZhiHua**	**26.54**	**9**	P	**P**	**20 27 22.8 +0.1**
PZH				S	**S**	**20 31 55.5 -0.6**
PZH				pmax	pmax	
	comp=Z,210nm,0.9s					
PZH				pmax	pmax	
	comp=Z,3μm,9.4s					
PZH				LR	LR	
	comp=Z,9μm,14.5s					
PZH				LR	LR	
	comp=Z,7μm,13.6s					
PZH				LR	LR	
	comp=Z,10μm,14.7s					
MMRI	**Maumere**	**26.60**	**110**	P	**P**	**20 27 20.7 -2.5**
MMRI				IAmb	IAmb	20 27 55.3
	comp=Z,310nm,1.3s					
MMRI	**Maumere**	**26.60**	**110**	P	**P**	**20 27 24.4 +1.2**
MMRI	**Maumere**	**26.60**	**110**	P	**P**	**20 27 22.3 -0.9**
	comp=Z,161nm,1.1s,comp=Z,3μm					
KMSI	**Cibinong**	**26.95**	**89**	P	**P**	**20 27 29.5 +3.1**
LKP	**Lekhapani**	**27.00**	**358**	*e*P	**P**	**20 27 26.4 -0.3**
LKP				*e*S	**S**	**20 31 59.9 -3.2**
NGP	**Nagpur**	**27.24**	**321**	*i* P	**P**	**20 27 29.6 +0.7**
ZIRO	**ZIRO**	**27.34**	**354**	*e*P	**P**	**20 27 29.7 -0.2**
TGY	**Tagaytay City**	**27.39**	**59**	P	**P**	**20 27 30.1 -0.3**
	comp=Z,272nm,0.4s,baz=158,slow=4.3,SNR=5.3					
TGY				LR	LR	20 38 31.2
	comp=Z,3μm,21.9s,baz=260,slow=37					
GOA	**Goa**	**27.50**	**305**	*e*P	**P**	**20 27 32.7 +1.4**
HKPS	**Hong Kong Po S**	**27.55**	**36**	P	**P**	**20 27 30.8 -0.9**
HKPS				IAmb	IAmb	20 27 47.6
	comp=Z,376nm,1.0s					
HKPS	**Hong Kong Po S**	**27.55**	**36**	P	**P**	**20 27 33.0 +1.3**
GYA	**Guiyang**	**27.70**	**19**	⇑P	**P**	**20 27 33.3 +0.2**
GYA				S	**S**	**20 32 11.0 -3.5**
GYA				pmax	pmax	
	comp=Z,100nm,1.3s					
GYA				pmax	pmax	
	comp=Z,3μm,9.3s					
GYA				LR	LR	
	comp=Z,16μm,14.1s					
GYA				LR	LR	
	comp=Z,13μm,13.4s					
GYA				LR	LR	
	comp=Z,25μm,14.4s					
GZH	**Guangzhou**	**27.73**	**34**	P	**P**	**20 27 39.5 +6.3**
GZH				S	S	20 32 27.0 +12
GZH				pmax	pmax	
	comp=Z,160nm,1.7s					
GZH				LR	LR	
	comp=Z,14μm,16.9s					
GZH				LR	LR	
	comp=Z,17μm,16.4s					
GZH				LR	LR	
	comp=Z,12μm,12.9s					
GULI	**GuiLin**	**28.07**	**26**	P	**P**	**20 27 37.0 +0.7**
GULI				S	**S**	**20 32 21.3 +1.2**
GULI				pmax	pmax	
	comp=Z,100nm,1.3s					
GULI				LR	LR	
	comp=Z,7μm,18.4s					
GULI				LR	LR	
	comp=Z,10μm,19.1s					
GULI				LR	LR	
	comp=Z,8μm,14.7s					
GTK	**Tadong**	**28.15**	**344**	*e*P	**P**	**20 27 38.5 +1.4**
GTK				IAmb	IAmb	20 27 45.5
	comp=Z,142nm,0.9s					
KAD	**Karad**	**28.19**	**308**	⇓*i*P	**P**	**20 27 38.8 +1.3**
AKL	**Akola**	**28.25**	**317**	⇓*i*P	**P**	**20 27 39.1 +1.1**
BATI	**Baumata**	**28.44**	**112**	P	**P**	**20 27 38.2 -1.5**
	comp=Z,30nm,0.7s,baz=276,slow=3.5,SNR=6.2					
BATI				S	**S**	**20 32 27.9 +1.7**
	comp=Z,19nm,0.7s,baz=349,slow=22,SNR=2.2					
BATI				LR	LR	20 41 19.5
	comp=Z,14μm,18.7s,baz=299,slow=41					
	comp=Z,30nm,0.7s					
BATI	**Baumata**	**28.44**	**112**	P	**P**	**20 27 38.2 -1.5**
	comp=Z,78nm,0.9s,comp=Z,2μm					
SGSI	**Sangihe**	**28.68**	**83**	P	**P**	**20 27 41.8 -0.1**
SZP	**Santa**	**28.78**	**52**	P	**P**	**20 27 43.5 +0.8**
SOEI	**Soe**	**28.85**	**111**	P	**P**	**20 27 43.0 -0.6**
SOEI				IAmb	IAmb	20 28 14.4
	comp=Z,203nm,1.1s					
SOEI	**Soe**	**28.85**	**111**	P	**P**	**20 27 38.8 -4.7**
SOEI	**Soe**	**28.85**	**111**	P	**P**	**20 27 44.8 +1.3**
SOEI	**Soe**	**28.85**	**111**	P	**P**	**20 27 43.4 -0.1**
	comp=Z,170nm,1.4s,comp=Z,2μm					
ALBI	**Allahabad**	**28.97**	**331**	⇓*i*P	**P**	**20 27 45.4 +1.1**
ALBI				IAmb	IAmb	20 27 46.7
	comp=Z,99nm,0.9s					
SANI	**Sanana**	**29.04**	**95**	P	**P**	**20 27 45.2 +0.2**
SANI	**Sanana**	**29.04**	**95**	P	**P**	**20 27 46.1 +1.1**
SANI	**Sanana**	**29.04**	**95**	P	**P**	**20 27 44.4 -0.6**
	comp=Z,122nm,1.3s,comp=Z,3μmcomp=Z,4μm					
POO	**Poona**	**29.16**	**310**	*e*P	**P**	**20 27 47.0 +0.9**
POO				IAmb	IAmb	20 27 48.4
	comp=Z,434nm,2.0s					
DAV	**Davao City (W)**	**29.28**	**76**	P	**P**	**20 27 47.5 +0.4**
	comp=Z,146nm,0.4s,baz=49,slow=3.6,SNR=2.3					
DAV				S	**S**	**20 32 34.5 -4.9**
	comp=Z,127nm,0.4s,baz=208,slow=7.5,SNR=2.4					
DAV				LR	LR	20 40 50.4
	comp=Z,5μm,19.0s,baz=244,slow=39					
	comp=Z,146nm,0.4s					
DAV	**Davao City (W)**	**29.28**	**76**	P	**P**	**20 27 48.0 +0.8**
NRDN	**NARMADA NAGAR**	**29.57**	**321**	⇓*i*P	**P**	**20 27 52.4 +2.6**
NRDN				*i* x	x	20 28 03.8
BHPL	**Bhopal**	**29.79**	**322**	*e*P	**P**	**20 27 53.5 +1.8**
BHPL				*i* x	x	20 28 04.2
BNDA	**BANDA**	**29.86**	**329**	*e*P	**P**	**20 27 53.0 +0.7**
BNDA				IAmb	IAmb	20 27 54.3
	comp=Z,87nm,0.4s					
LSA	**Lhasa**	**29.86**	**350**	IAmb	IAmb	20 28 07.0
	comp=Z,214nm,0.9s					
LSA	**Lhasa**	**29.86**	**350**	P	**P**	**20 27 53.8 +1.0**
LSA	**Lhasa**	**29.86**	**350**	P	**P**	**20 27 53.8 +1.0**
LSA				S	**S**	**20 32 47.8 -1.3**
LSA				pmax	pmax	
	comp=Z,42nm,0.9s					
LSA				LR	LR	
	comp=Z,3μm,20.8s					
LSA				LR	LR	
	comp=Z,6μm,21.6s					
LSA	**Lhasa**	**29.86**	**350**	P	**P**	**20 27 53.7 +1.0**
LSA				P	**P**	**20 27 53.7 +1.0**
NLAI	**Namlea**	**30.25**	**97**	P	**P**	**20 27 56.8 +1.0**
TNTI	**Ternate**	**30.34**	**89**	P	**P**	**20 27 56.6 0.0**
LBMI	**Labuha**	**30.48**	**92**	P	**P**	**20 27 57.9 +0.1**
	comp=Z,360nm,1.4s,comp=Z,6μm					
MBWA	**Marble Bar**	**30.70**	**135**	P	**P**	**20 27 59.2 -0.5**
MBWA	**Marble Bar**	**30.70**	**135**	P	**P**	**20 27 60.0 +0.3**
	comp=Z,118nm,1.5s					
MBWA	**Marble Bar**	**30.70**	**135**	P	**P**	**20 28 00.7 +1.0**
MBWA				P	**P**	**20 28 00.7 +1.0**
MBWA				P	**P**	**20 28 00.7 +1.0**
MBWA	**Marble Bar**	**30.70**	**135**	P	**P**	**20 28 00.8 +1.1**
JHNI	**Jhansi**	**30.82**	**326**	⇓*i*P	**P**	**20 28 00.3 -0.4**
JHNI				IAmb	IAmb	20 28 02.2
	comp=Z,72nm,0.9s					
GUNA	**GUNA**	**30.89**	**323**	⇓*i*P	**P**	**20 28 01.8 +0.4**
PSAC1	**Pilbara Seismi**	**31.00**	**136**	P	**P**	**20 28 02.6 +0.3**
	comp=Z,198nm,1.3s					
PSA00	**Pilbara Seismi**	**31.05**	**136**	P	**P**	**20 28 02.5 -0.3**
PSA00	**Pilbara Seismi**	**31.05**	**136**	P	**P**	**20 28 03.2 +0.4**
	comp=Z,162nm,1.3s					
PSA00	**Pilbara Seismi**	**31.05**	**136**	P	**P**	**20 28 03.9 +1.1**
CD2	**Chengdu**	**31.20**	**11**	P	**P**	**20 28 03.5 -0.5**
CD2				pP	pP	20 28 08.5 -0.5
CD2				S	**S**	**20 33 09.0 -0.2**
CD2				pmax	pmax	
	comp=Z,70nm,0.9s					
CD2				pmax	pmax	
	comp=Z,560nm,2.8s					
CD2				LR	LR	
	comp=Z,15μm,15.9s					
CD2				LR	LR	
	comp=Z,11μm,13.3s					
CD2				LR	LR	
	comp=Z,14μm,15.9s					
AAI	**Ambon**	**31.38**	**97**	P	**P**	**20 28 05.5 -0.3**
	comp=Z,272nm,1.1s,comp=Z,4μm					
CNSH	**ChangSha**	**31.72**	**27**	P	**P**	**20 28 09.0 +0.5**
CNSH				S	**S**	**20 33 20.5 +3.3**
CNSH				pmax	pmax	
	comp=Z,78nm,1.3s					
CNSH				LR	LR	
	comp=Z,6μm,15.9s					
CNSH				LR	LR	
	comp=Z,10μm,17.9s					
CNSH				LR	LR	
	comp=Z,8μm,13.2s					
MSAI	**Masohi**	**32.07**	**97**	P	**P**	**20 28 11.8 -0.1**
	comp=Z,316nm,1.8s,comp=Z,3μm					
ENH	**Enshi**	**32.16**	**21**	IAmb	IAmb	20 28 25.1
	comp=Z,172nm,0.8s					
ENH				IAMs_20	IAMs_20	20 43 40.1
	comp=Z,10μm,18.0s					
ENH	**Enshi**	**32.16**	**21**	P	**P**	**20 28 12.1 -0.4**
QZH	**Quanzhou**	**32.25**	**39**	⇑*i*P	**P**	**20 28 14.0 +0.8**
QZH				S	**S**	**20 33 21.0 -4.5**
QZH				pmax	pmax	
	comp=Z,190nm,1.3s					
QZH				pmax	pmax	
	comp=Z,2μm,4.5s					
QZH				LR	LR	
	comp=Z,11μm,17.5s					
QZH				LR	LR	
	comp=Z,22μm,17.5s					
QZH				LR	LR	
	comp=Z,11μm,13.4s					
TWG	**Pinlang**	**32.44**	**44**	P	**P**	**20 28 15.1 +0.1**
TWGBT	**Beinan**	**32.44**	**44**	P	**P**	**20 28 16.4 +1.4**
TPUB	**Ta-pu**	**32.45**	**43**	P	**P**	**20 28 14.6 -0.5**
TPUB	**Ta-pu**	**32.45**	**43**	P	**P**	**20 28 16.1 +1.1**
YULB	**Yu-li**	**32.97**	**44**	IAmb	IAmb	20 28 35.7
	comp=Z,270nm,1.0s					
YULB	**Yu-li**	**32.97**	**44**	P	**P**	**20 28 21.1 +1.5**
SSLB	**Suanglung**	**32.99**	**43**	P	**P**	**20 28 19.5 -0.3**
SSLB				IAMs_20	IAMs_20	20 41 26.1
	comp=Z,6μm,20.0s					
SSLB	**Suanglung**	**32.99**	**43**	P	**P**	**20 28 20.9 +1.1**
LGTI	**Lohaghat**	**33.20**	**333**	*e*P	**P**	**20 28 22.6 +1.1**
FITZ	**Fitzroy Crossi**	**33.49**	**124**	P	**P**	**20 28 24.4 +0.2**
	comp=Z,104nm,0.9s,baz=304,slow=5.5,SNR=78					
FITZ				S	**S**	**20 33 40.3 -4.9**
	comp=Z,5.0nm,0.9s,baz=141,slow=20,SNR=0.7					
FITZ				LR	LR	20 44 02.9
	comp=Z,6μm,19.2s,baz=320,slow=40					
	comp=Z,104nm,0.9s					
NACB	**Ninganchiao**	**33.68**	**43**	P	**P**	**20 28 25.6 -0.3**
NACB				IAmb	IAmb	20 28 40.1
	comp=Z,324nm,1.2s					
NACB				IAMs_20	IAMs_20	20 41 38.5
	comp=Z,6μm,21.0s					
NACB	**Ninganchiao**	**33.68**	**43**	P	**P**	**20 28 26.9 +1.1**
SONA	**Sohna**	**33.81**	**327**	*e*P	**P**	**20 28 26.6 -0.2**
MEEK	**Meekatharra**	**33.82**	**144**	P	**P**	**20 28 28.4 +1.3**
YHNB	**Yeheng**	**33.86**	**42**	P	**P**	**20 28 27.4 -0.1**
YHNB				IAmb	IAmb	20 28 33.5
	comp=Z,195nm,1.3s					
YHNB	**Yeheng**	**33.86**	**42**	P	**P**	**20 28 28.4 +0.9**
AJM	**Ajmer**	**33.87**	**322**	⇓*i*P	**P**	**20 28 27.9 +0.4**
AJM				*i* x	x	20 28 40.0
KUDL	**Kundal**	**34.05**	**326**	*e*P	**P**	**20 28 28.7 -0.2**
NPLP	**NPLP New Delhi**	**34.07**	**328**	⇓*i*P	**P**	**20 28 28.7 -0.4**
NDI	**New Delhi**	**34.08**	**328**	*e*P	**P**	**20 28 29.0 -0.2**
TATO	**Taipei**	**34.15**	**42**	P	**P**	**20 28 29.2 -0.6**
TATO				IAmb	IAmb	20 28 47.1
	comp=Z,368nm,1.2s					
TATO	**Taipei**	**34.15**	**42**	P	**P**	**20 28 31.4 +1.6**
TATO	**Taipei**	**34.15**	**42**	P	**P**	**20 28 31.4 +1.6**
SWI	**Sorong**	**34.24**	**92**	P	**P**	**20 28 30.2 -0.6**
	comp=Z,158nm,1.4s,comp=Z,3μm					
MORW	**Morawa**	**34.31**	**150**	P	**P**	**20 28 31.0 -0.3**
MORW				IAMs_20	IAMs_20	20 40 31.7
	comp=Z,5μm,18.0s					
MORW	**Morawa**	**34.31**	**150**	P	**P**	**20 28 33.1 +1.9**
WHN	**Wuhan**	**34.37**	**27**	⇑*i*P	**P**	**20 28 32.5 +0.8**
WHN				sP	**pwP**	**20 28 44.0 +0.4**
WHN				PP	**PP**	**20 29 48.8 -1.0**
WHN				S	**S**	**20 33 56.0 -2.4**
WHN				pmax	pmax	
	comp=Z,540nm,1.2s					
WHN				pmax	pmax	
	comp=Z,4μm,3.4s					
WHN				LR	LR	
	comp=Z,19μm,14.4s					
WHN				LR	LR	
	comp=Z,30μm,16.4s					
WHN				LR	LR	
	comp=Z,17μm,12.2s					
DDI	**Dehra Dun**	**34.97**	**331**	*e*P	**P**	**20 28 37.8 +0.8**
DDI				*i* x	x	20 28 48.5
SAUI	**Saumlaki**	**35.11**	**104**	P	**P**	**20 28 37.3 -1.0**
SAUI				IAmb	IAmb	20 28 50.9
	comp=Z,220nm,1.2s					
SAUI	**Saumlaki**	**35.11**	**104**	P	**P**	**20 28 39.7 +1.3**
SAUI	**Saumlaki**	**35.11**	**104**	P	**P**	**20 28 39.0 +0.6**
	comp=Z,173nm,1.1s					
FAKI	**Fak Fak**	**35.34**	**95**	IAmb	IAmb	20 28 56.2
	comp=Z,366nm,1.2s					
FAKI	**Fak Fak**	**35.34**	**95**	P	**P**	**20 28 41.2 +0.9**
FAKI	**Fak Fak**	**35.34**	**95**	P	**P**	**20 28 40.2 -0.1**
	comp=Z,280nm,1.4s,comp=Z,5μmcomp=Z,3μm					
XAN	**Xi'an**	**35.46**	**17**	⇑P	**P**	**20 28 41.0 -0.1**
XAN				pP	pwP	20 28 52.3 -0.7
XAN				PP	**PP**	**20 30 01.8 -0.1**
XAN				S	**S**	**20 34 13.3 -1.9**
XAN				ScS	**ScS**	**20 38 53.8 -6.2**
XAN				pmax	pmax	
	comp=Z,260nm,1.2s					
XAN				pmax	pmax	
	comp=Z,2μm,5.7s					
XAN				LR	LR	
	comp=Z,13μm,15.3s					
XAN				LR	LR	
	comp=Z,18μm,15.5s					
XAN				LR	LR	
	comp=Z,16μm,16.7s					
DRS	**Darwin Rock St**	**35.87**	**112**	P	**P**	**20 28 44.5 -0.3**
GOMU	**GeErMu**	**35.87**	**357**	P	**P**	**20 28 45.5 +0.5**
GOMU				pP	pP	20 28 49.0 -1.0
GOMU				sP	sP	20 28 53.8 +1.6
GOMU				S	**S**	**20 34 22.0 -0.1**
GOMU				pmax	pmax	
	comp=Z,68nm,1.1s					
GOMU				LR	LR	
	comp=Z,6μm,16.5s					
GOMU				LR	LR	
	comp=Z,4μm,16.2s					
GOMU				LR	LR	
	comp=Z,5μm,16.2s					
KLP	**Kalpa**	**35.88**	**332**	*e*P	**P**	**20 28 45.2 +0.1**
BLDU	**Ballidu**	**35.91**	**150**	P	**P**	**20 28 46.9 +1.9**
SMLA	**Simla**	**36.07**	**330**	*e*P	**P**	**20 28 46.5 +0.2**
SMLA				*i* x	x	20 28 57.9
MTN	**Manton Dam**	**36.21**	**112**	P	**P**	**20 28 49.0 +1.2**
LZH	**Lanzhou**	**36.26**	**9**	⇑*i*P	**P**	**20 28 48.5 +0.4**
LZH				pP	pP	20 28 52.8 -0.3
LZH				S	**S**	**20 34 23.0 -4.7**
LZH				SS	**SnSn**	**20 36 51.5 -3.6**
LZH				pmax	pmax	
	comp=Z,85nm,1.1s					
LZH				pmax	pmax	
	comp=Z,1μm,7.6s					
LZH				LR	LR	
	comp=Z,10μm,16.1s					
LZH				LR	LR	
	comp=Z,15μm,22.0s					
LZH				LR	LR	
	comp=Z,10μm,17.2s					
JASL	**Jaisalmer**	**36.57**	**319**	*e*P	**P**	**20 28 52.0 +1.3**
BHK	**Bhakra**	**36.68**	**330**	⇓*i*P	**P**	**20 28 51.7 +0.1**
MUN	**Mundaring**	**36.79**	**152**	P	**P**	**20 28 53.9 +1.4**
LYN	**LuoYang**	**37.10**	**21**	⇑*i*P	**P**	**20 28 56.3 +1.2**
LYN				pP	pwP	20 29 05.8 -1.2
LYN				sP	sP	20 29 08.5 +5.8
LYN				PP	**PnPn**	**20 30 27.3 +7.0**
LYN				S	**S**	**20 34 43.0 +2.8**
LYN				pmax	pmax	
	comp=Z,460nm,1.1s					
LYN				pmax	pmax	
	comp=Z,2μm,5.8s					
LYN				LR	LR	
	comp=Z,8μm,13.7s					
LYN				LR	LR	
	comp=Z,10μm,13.7s					
LYN				LR	LR	
	comp=Z,11μm,16.1s					
RKPI	**Ransiki, Papua**	**37.18**	**93**	P	**P**	**20 28 55.7 -0.4**
	comp=Z,151nm,2.0s,comp=Z,3μm					
KLBR	**Kellerberrin**	**37.22**	**150**	P	**P**	**20 28 57.8 +1.6**
DHRM	**DHARAMSHALA**	**37.41**	**330**	*e*P	**P**	**20 28 57.7 -0.3**
DHRM				*i* x	x	20 30 37.3
KDU	**Kakadu**	**37.41**	**111**	P	**P**	**20 28 57.6 -0.4**
AUHAR	**St Anne's Scho**	**37.58**	**154**	P	**P**	**20 29 01.0 +1.9**
NJ2	**Nanjing**	**37.80**	**31**	⇑*i*P	**P**	**20 29 01.8 +0.8**
NJ2				PP	**PnPn**	**20 30 29.5 +0.7**
NJ2				S	**S**	**20 34 53.5 +2.7**
NJ2				pmax	pmax	
	comp=Z,53nm,1.0s					
NJ2				pmax	pmax	
	comp=Z,1μm,5.4s					
NJ2				LR	LR	
	comp=Z,7μm,17.5s					
NJ2				LR	LR	
	comp=Z,8μm,16.1s					
NJ2				LR	LR	
	comp=Z,4μm,21.8s					
NWAO	**Narrogin (SRO)**	**38.06**	**152**	P	**P**	**20 29 03.3 +0.1**
NWAO				IAmb	IAmb	20 29 06.0
	comp=Z,527nm,1.4s					
NWAO	**Narrogin (SRO)**	**38.06**	**152**	P	**P**	**20 29 04.9 +1.6**
NWAO				P	**P**	**20 29 04.9 +1.6**
NWAO	**Narrogin (SRO)**	**38.06**	**152**	P	**P**	**20 29 04.8 +1.6**
NWAO	**Narrogin (SRO)**	**38.06**	**152**	P	**P**	**20 29 03.3 +0.1**
NWAO				pmax	pmax	
	comp=Z,527nm,1.4s					
NWAO				MLR	MLR	
	comp=Z,4μm,21.0s					
SSE	**Sheshan**	**38.32**	**34**	P	**P**	**20 29 06.3 +0.8**
SSE				PP	**PnPn**	**20 30 40.0 +4.9**
SSE				PcP	**PcP**	**20 31 19.3 +0.1**
SSE				S	**S**	**20 34 57.5 -1.3**
SSE				pmax	pmax	
	comp=Z,65nm,1.0s					
SSE				pmax	pmax	
	comp=Z,700nm,4.4s					
SSE				LR	LR	
	comp=Z,3μm,14.7s					
H01W3	**Cape Leeuwin H**	**38.39**	**157**	T	T	21 09 54.2
	baz=333,slow=76,SNR=92					
H01W2	**Cape Leeuwin H**	**38.41**	**157**	T	T	21 10 17.6
	baz=333,slow=76,SNR=89					
H01W1	**Cape Leeuwin H**	**38.41**	**157**	T	T	21 10 21.5
	baz=333,slow=76,SNR=85					
ROCAM	**Rodrigues Isla**	**38.49**	**237**	P	**P**	**20 29 07.2 +0.1**
ROCAM				IAmb	IAmb	20 29 22.1
	comp=Z,180nm,0.8s					
ROCAM				IAMs_20	IAMs_20	20 42 16.3
	comp=Z,4μm,18.0s					
GTA	**Gaotai**	**39.10**	**3**	P	**P**	**20 29 12.3 +0.2**
GTA				pP	pP	20 29 17.8 +0.7
GTA				sP	pwP	20 29 22.0 -2.0
GTA				PP	**PnPn**	**20 30 49.8 +5.2**
GTA				PcP	**PcP**	**20 31 22.5 +0.8**
GTA				S	**S**	**20 35 06.3 -4.4**
GTA				SS	**SnSn**	**20 38 02.5 -1.2**
GTA				ScS	**ScS**	**20 39 17.5 -3.0**
GTA				pmax	pmax	
	comp=Z,43nm,1.1s					
GTA				pmax	pmax	
	comp=Z,170nm,4.9s					
GTA				LR	LR	
	comp=Z,2μm,24.0s					
GTA				LR	LR	
	comp=Z,5μm,24.0s					
GTA				LR	LR	
	comp=Z,3μm,24.4s					
KMBL	**Kambalda**	**39.25**	**145**	P	**P**	**20 29 14.8 +1.5**
WRKA	**Warakurna**	**39.29**	**132**	P	**P**	**20 29 15.3 +1.5**
RKGY	**Rocky Gully**	**39.34**	**154**	P	**P**	**20 29 16.2 +2.2**
TIY	**Taiyuan**	**39.94**	**19**	P	**P**	**20 29 19.5 +0.5**
TIY				PP	**PnPn**	**20 30 58.5 +4.0**
TIY				S	**S**	**20 35 22.5 -0.7**
TIY				pmax	pmax	
	comp=Z,56nm,0.6s					
TIY				pmax	pmax	
	comp=Z,1μm,11.7s					
TIY				LR	LR	
	comp=Z,8μm,14.4s					
TIY				LR	LR	
	comp=Z,6μm,15.8s					
TIY				LR	LR	
	comp=Z,8μm,16.5s					
JOW	**Kunigami**	**40.04**	**46**	P	**P**	**20 29 19.2 -0.7**
JOW				IAmb	IAmb	20 29 33.2
	comp=Z,280nm,1.1s					
JOW	**Kunigami**	**40.04**	**46**	LR	LR	20 45 14.8
	comp=Z,2μm,21.9s,baz=245,slow=35					
JOW	**Kunigami**	**40.04**	**46**	P	**P**	**20 29 21.3 +1.3**
NIL	**Nilore**	**40.07**	**328**	P	**P**	**20 29 19.1 -1.0**
NIL				IAmb	IAmb	20 29 32.2
	comp=Z,286nm,1.1s					
NIL	**Nilore**	**40.07**	**328**	P	**P**	**20 29 19.1 -1.0**
NIL				pmax	pmax	
	comp=Z,286nm,1.1s					
AUALB	**St Joseph's Co**	**40.08**	**153**	P	**P**	**20 29 21.5 +1.4**
TIA	**Tai'an**	**40.40**	**25**	P	**P**	**20 29 23.0 +0.3**
TIA				S	**S**	**20 35 28.5 -1.4**
TIA				pmax	pmax	
	comp=Z,68nm,1.0s					
TIA				pmax	pmax	
	comp=Z,2μm,8.6s					
TIA				LR	LR	
	comp=Z,5μm,18.3s					
TIA				LR	LR	
	comp=Z,11μm,20.0s					
TIA				LR	LR	
	comp=Z,9μm,14.8s					
HNS	**HongShan**	**40.45**	**22**	⇑P	**P**	**20 29 24.5 +1.3**
HNS				PP	**PnPn**	**20 31 00.8 +0.3**
HNS				S	**S**	**20 35 33.5 +2.8**
HNS				SS	**SS**	**20 38 30.0 -0.5**
HNS				pmax	pmax	
	comp=Z,240nm,1.2s					
HNS				pmax	pmax	
	comp=Z,2μm,9.3s					
HNS				LR	LR	
	comp=Z,4μm,13.3s					
HNS				LR	LR	
	comp=Z,5μm,15.1s					
HNS				LR	LR	
	comp=Z,6μm,15.1s					
WB0	**Warramunga Arr**	**41.63**	**121**	IAmb	IAmb	20 29 46.3
	comp=Z,278nm,1.0s					
WRA	**Warramunga Arr**	**41.66**	**121**	P	**P**	**20 29 33.5 +0.1**
	comp=Z,170nm,1.1s,baz=299,slow=9.5,SNR=194					
WRA				PcP	**PcP**	**20 31 30.9 +0.7**
	comp=Z,7.7nm,0.9s,baz=290,slow=3.1,SNR=2.2					
WRA				S	**S**	**20 35 45.0 -4.2**
	comp=Z,4.3nm,1.1s,baz=294,slow=15,SNR=9.5					
WRA				PKiKP	**PKiKP**	**20 38 35.3 -2.0**
	comp=Z,0.1nm,0.4s,baz=287,slow=1.6,SNR=4.7					
WRA				LR	LR	20 47 52.1
	comp=Z,2μm,21.0s,baz=304,slow=38					
	comp=Z,170nm,1.1s					
WRAB	**Tennant Creek**	**41.67**	**121**	P	**P**	**20 29 33.1 -0.4**
WRAB				IAmb	IAmb	20 29 46.8
	comp=Z,355nm,1.1s					
WRAB	**Tennant Creek**	**41.67**	**121**	*i* P	**P**	**20 29 33.1 -0.4**
WRAB				pmax	pmax	
	comp=Z,466nm,1.5s					

WRAB				MLR	MLR	
	comp=Z,3μm,24.0s					
WB2	**Warramunga Arr**	**41.67**	**121**	IAmb	IAmb	20 29 35.1
	comp=Z,677nm,1.5s					
MSEY	**Mahe Island**	**41.79**	**263**	P	**P**	**20 29 34.1 -0.5**
MSEY	**Mahe Island**	**41.79**	**263**	IAMs_20	IAMs_20	20 45 36.3
	comp=Z,5μm,18.0s					
MSEY	**Mahe Island**	**41.79**	**263**	*i* P	**P**	**20 29 35.1 +0.5**
MSEY	**Mahe Island**	**41.79**	**263**	P	**P**	**20 29 36.4 +1.7**
MSEY				P	**P**	**20 29 36.4 +1.7**
MSEY				P	**P**	**20 29 36.4 +1.7**
MSEY	**Mahe Island**	**41.79**	**263**	P	**P**	**20 29 34.1 -0.5**
MSEY				pmax	pmax	
	comp=Z,106nm,1.1s					
MSEY				MLR	MLR	
	comp=Z,4μm,18.0s					
WR0	**Warramunga Arr**	**41.84**	**121**	IAmb	IAmb	20 29 48.2
	comp=Z,478nm,1.1s					
AIS	**Amsterdam Isla**	**41.86**	**203**	IAMs_20	IAMs_20	20 43 49.7
	comp=Z,6μm,19.0s					
BTO	**Baotou**	**41.91**	**15**	*e*P	**P**	**20 29 36.8 +1.5**
BTO				pP	**pwP**	**20 29 46.0 -1.2**
BTO				sP	sP	20 29 50.5 +8.1
BTO				PP	**PP**	**20 31 14.5 +2.0**
BTO				S	**S**	**20 35 54.8 +2.3**
BTO				pmax	pmax	
	comp=Z,150nm,1.0s					
BTO				LR	LR	
	comp=Z,11μm,22.4s					
BTO				LR	LR	
	comp=Z,24μm,14.1s					
BTO				LR	LR	
	comp=Z,8μm,14.3s					
HHC	**Hu-ho-hao-te**	**42.56**	**16⇑**	*i* P	**P**	**20 29 42.0 +1.5**
HHC				pP	sP	20 29 47.5 -0.1
HHC				S	**S**	**20 36 06.0 +4.0**
HHC				ScS	**ScS**	**20 39 40.8 -0.3**
HHC				pmax	pmax	
	comp=Z,83nm,1.6s					
HHC				pmax	pmax	
	comp=Z,1μm,5.3s					
HHC				LR	LR	
	comp=Z,6μm,14.3s					
HHC				LR	LR	
	comp=Z,3μm,15.7s					
HHC				LR	LR	
	comp=Z,6μm,18.6s					
FORT	**Forrest**	**42.63**	**139**	P	**P**	**20 29 41.6 +0.5**
FORT				IAmb	IAmb	20 29 43.6
	comp=Z,253nm,0.9s					
FORT				IAMs_20	IAMs_20	20 47 20.0
	comp=Z,5μm,18.0s					
FORT	**Forrest**	**42.63**	**139**	P	**P**	**20 29 42.5 +1.3**
JLN	**Jalan Bani Buh**	**42.64**	**303**	P	**P**	**20 29 43.2 +1.8**
NGCH	**Negor - Chabah**	**42.74**	**309**	P	**P**	**20 29 45.0 +2.9**
	SNR=9.2					
ASAR	**Alice Springs**	**42.94**	**126**	P	**P**	**20 29 44.5 +0.6**
	comp=Z,24nm,0.6s,baz=297,slow=7.2,SNR=137					
ASAR				S	**S**	**20 36 11.2 +3.1**
	comp=Z,5.3nm,1.0s,baz=297,slow=14,SNR=8.2					
ASAR				LR	LR	20 49 26.8
	comp=Z,2μm,19.8s,baz=314,slow=39					
	comp=Z,24nm,0.6s					
KBL	**Kabul**	**43.04**	**325**	P	**P**	**20 29 43.6 -1.0**
KBL	**Kabul**	**43.04**	**325**	P	**P**	**20 29 44.3 -0.4**
	SNR=18					
KBL				P	**P**	**20 29 44.3 -0.4**
	SNR=18					
KBL	**Kabul**	**43.04**	**325**	P	**P**	**20 29 43.6 -1.0**
KBL				pmax	pmax	
	comp=Z,44nm,1.2s					
WBK	**Wadi Bani Khal**	**43.21**	**304**	P	**P**	**20 29 47.8 +1.8**
	SNR=8.3					
GENI	**Genyem**	**43.21**	**94**	P	**P**	**20 29 46.6 +0.5**
GENI	**Genyem**	**43.21**	**94**	P	**P**	**20 29 44.6 -1.5**
	comp=Z,264nm,1.3s,comp=Z,4μmcomp=Z,3μm					
BJT	**Baijiatuau**	**43.30**	**22**	IAmb	IAmb	20 30 01.4
	comp=Z,298nm,0.8s					
BJT	**Baijiatuau**	**43.30**	**22**	P	**P**	**20 29 48.1 +1.7**
BJI	**Beijing**	**43.32**	**22**	P	**P**	**20 29 48.0 +1.4**
BJI				S	**S**	**20 36 16.5 +3.5**
BJI				pmax	pmax	
	comp=Z,69nm,1.2s					
BJI				pmax	pmax	
	comp=Z,780nm,4.7s					
BJI				LR	LR	
	comp=Z,1μm,17.5s					
BJI				LR	LR	
	comp=Z,1μm,15.5s					
BJI				LR	LR	
	comp=Z,2μm,17.8s					
MHTO	**MHTO**	**43.38**	**301**	P	**P**	**20 29 48.0 +0.7**
	SNR=12					
MHTO				P	**P**	**20 29 48.0 +0.7**
	SNR=12					
MHTO				P	**P**	**20 29 48.0 +0.7**
	SNR=12					
KSH	**Kashi**	**43.61**	**336**	P	**P**	**20 29 48.3 -0.8**
KSH				pP	pP	20 29 53.0 -1.1
KSH				S	**S**	**20 36 16.0 -1.5**
KSH				sS	sS	20 36 25.3 -0.7
KSH				ScS	**ScS**	**20 39 45.5 -2.3**
KSH				pmax	pmax	
	comp=Z,110nm,1.1s					
KSH				pmax	pmax	
	comp=Z,1μm,9.2s					
KSH				LR	LR	
	comp=Z,2μm,19.2s					
KSH				LR	LR	
	comp=Z,2μm,19.6s					
KSH				LR	LR	
	comp=Z,3μm,18.6s					
JAY	**Jayapura**	**43.74**	**94**	P	**P**	**20 29 49.9 -0.6**
	comp=Z,40nm,1.1s,baz=279,slow=6.2,SNR=5.2					
	comp=Z,40nm,1.1s					
JAY	**Jayapura**	**43.74**	**94**	P	**P**	**20 29 49.2 -1.3**
	comp=Z,98nm,1.1s,comp=Z,1μm					
WSAR	**Wadi Sarin**	**43.76**	**304**	LR	LR	20 48 09.7
	comp=Z,2μm,18.1s,baz=138,slow=36					
JMDO	**Jabal Madar**	**43.83**	**303**	P	**P**	**20 29 52.3 +1.3**
	SNR=9.9					
WUS	**Wushi**	**43.88**	**341**	IAmb	IAmb	20 30 05.0
	comp=Z,216nm,0.9s					
SMDO	**Samad**	**44.17**	**304**	P	**P**	**20 29 55.3 +1.5**
	SNR=19					
WMQ	**Urumqi**	**44.22**	**350**	*e*P	**P**	**20 29 55.5 +1.6**
WMQ				pP	pP	20 29 59.0 0.0
WMQ				sP	pwP	20 30 07.0 +1.2
WMQ				ScP	**ScP**	**20 35 31.0 +1.8**
WMQ				S	**S**	**20 36 26.0 -0.2**
WMQ				ScS	**ScS**	**20 39 48.5 -2.8**
WMQ				pmax	pmax	
	comp=Z,460nm,1.3s					
WMQ				pmax	pmax	
	comp=Z,900nm,5.9s					
WMQ				LR	LR	
	comp=Z,3μm,17.5s					
WMQ				LR	LR	
	comp=Z,3μm,14.9s					
WMQ				LR	LR	
	comp=Z,2μm,20.1s					
BIDO	**Bidbid**	**44.30**	**304**	P	**P**	**20 29 56.6 +1.9**
	SNR=32					
BIDO				P	**P**	**20 29 56.6 +1.9**
	SNR=32					
TABU	**Tabubil**	**44.46**	**98**	P	**P**	**20 29 57.5 +1.2**
DL2	**Dalian**	**44.63**	**28⇑**	*i* P	**P**	**20 29 58.0 +0.9**
DL2				PP	**PP**	**20 31 44.5 +2.9**
DL2				S	**S**	**20 36 35.0 +2.8**
DL2				SS	**SS**	**20 39 46.8 -6.0**
DL2				pmax	pmax	
	comp=Z,370nm,0.7s					
DL2				pmax	pmax	
	comp=Z,2μm,8.6s					
DL2				LR	LR	
	comp=Z,4μm,12.3s					
DL2				LR	LR	
	comp=Z,9μm,16.1s					
DL2				LR	LR	
	comp=Z,4μm,22.5s					
BSY	**Bisya**	**44.74**	**303**	P	**P**	**20 30 00.2 +1.8**
	SNR=28					
DMTO	**DMTO**	**44.89**	**295**	P	**P**	**20 30 00.7 +1.2**
	SNR=6.9					
DMTO				P	**P**	**20 30 00.7 +1.2**
	SNR=6.9					
HOQ	**Hoqain**	**45.00**	**304**	P	**P**	**20 30 02.4 +2.0**
	SNR=28					
HOQ				P	**P**	**20 30 02.4 +2.0**
	SNR=28					
NRN	**Naryn**	**45.24**	**338**	IAmb	IAmb	20 30 16.0
	comp=Z,258nm,1.0s					
NRN				IAMs_20	IAMs_20	20 51 07.7
	comp=Z,5μm,19.0s					
DRK	**Karamyk**	**45.39**	**332**	IAMs_20	IAMs_20	20 50 13.6
	comp=Z,4μm,20.0s					
RBK	**Rabkut**	**45.50**	**295**	P	**P**	**20 30 06.0 +1.5**
	SNR=18					
RBK				P	**P**	**20 30 06.0 +1.5**
	SNR=18					
ARQ	**Araqi**	**45.56**	**303**	P	**P**	**20 30 07.0 +2.2**
	SNR=24					
ARQ				P	**P**	**20 30 07.0 +2.2**
	SNR=24					
RER	**Riviere de l'E**	**45.56**	**240**	P	**P**	**20 30 05.5 +0.5**
JASK	**Jask - Hormozg**	**45.57**	**307**	P	**P**	**20 30 07.1 +2.2**
SHLS	**Shalkode**	**45.57**	**342**	*e*P	**P**	**20 30 03.7 -1.0**
	comp=Z,122nm,1.0s					
SHLS				*e*S	**S**	**20 36 45.5 -0.5**
SHLS	**Shalkode**	**45.57**	**342**	*e*P	**P**	**20 30 03.7 -1.0**
SHLS				*e*S	**S**	**20 36 45.4 -0.5**
SHLS				pmax	pmax	
	comp=Z,122nm,1.0s					
JNU	**Nakatsue**	**45.66**	**41**	P	**P**	**20 30 05.7 +0.2**
JNU				IAmb	IAmb	20 30 24.5
	comp=Z,181nm,1.1s					
JNU	**Nakatsue**	**45.66**	**41**	LR	LR	20 49 17.8
	comp=Z,4μm,20.6s,baz=232,slow=36					
JNU	**Nakatsue**	**45.66**	**41**	P	**P**	**20 30 06.2 +0.7**
TJN	**Taejon**	**45.68**	**35**	P	**P**	**20 30 04.6 -0.9**
TJN	**Taejon**	**45.68**	**35**	P	**P**	**20 30 06.6 +1.1**
TJN	**Taejon**	**45.68**	**35**	*i* P	**P**	**20 30 05.3 -0.2**
UZB	**Uzynbulak**	**45.70**	**342**	*e*P	**P**	**20 30 05.7 -0.1**
	comp=Z,82nm,1.0s					
UZB				*e*S	**S**	**20 36 49.2 +1.3**
UZB	**Uzynbulak**	**45.70**	**342**	*e*P	**P**	**20 30 05.6 -0.1**
UZB				*e*S	**S**	**20 36 49.1 +1.3**
UZB				pmax	pmax	
	comp=Z,82nm,1.0s					
SATY	**Saty**	**45.82**	**341**	*e*P	**P**	**20 30 06.7 0.0**
	comp=Z,146nm,1.0s					
SATY				*e*S	**S**	**20 36 50.7 +1.1**
SATY	**Saty**	**45.82**	**341**	*e*P	**P**	**20 30 06.7 0.0**
SATY				*e*S	**S**	**20 36 50.6 +1.0**
SATY				pmax	pmax	
	comp=Z,146nm,1.0s					
ULHL	**Ulahol**	**45.85**	**338**	P	**P**	**20 30 08.1 +1.1**
	SNR=18					
SOHO	**SOHO**	**45.88**	**304**	*i* P	**P**	**20 30 07.8 +0.5**
	SNR=25					
SOHO	**SOHO**	**45.88**	**304**	P	**P**	**20 30 09.0 +1.7**
SOHO				P	**P**	**20 30 09.0 +1.7**
ZHN	**Zhinishke**	**45.91**	**341**	*e*P	**P**	**20 30 07.3 0.0**
	comp=Z,102nm,1.1s					
ZHN	**Zhinishke**	**45.91**	**341**	*e*P	**P**	**20 30 07.3 0.0**
ZHN				pmax	pmax	
	comp=Z,102nm,1.1s					
DOK	**Doka**	**45.91**	**296**	P	**P**	**20 30 08.7 +1.1**
	SNR=28					
DOK				P	**P**	**20 30 08.7 +1.1**
	SNR=28					
DOK				P	**P**	**20 30 08.7 +1.1**
	SNR=28					
WHFO	**Wadi Hawf**	**46.02**	**295**	P	**P**	**20 30 10.1 +1.6**
	SNR=14					
INCN	**Inchon**	**46.07**	**33**	P	**P**	**20 30 06.9 -1.7**
INCN				IAmb	IAmb	20 30 24.2
	comp=Z,172nm,1.4s					
INCN	**Inchon**	**46.07**	**33**	P	**P**	**20 30 09.4 +0.8**
INCN	**Inchon**	**46.07**	**33**	P	**P**	**20 30 06.9 -1.7**
INCN				pmax	pmax	
	comp=Z,172nm,1.4s					
INCN				MLR	MLR	
	comp=Z,4μm,22.0s					
SIMJ	**Simiganj**	**46.11**	**329**	P	**P**	**20 30 07.7 -1.3**
SIMJ				IAmb	IAmb	20 30 22.8
	comp=Z,168nm,0.9s					
SIMJ				IAMs_20	IAMs_20	20 51 56.8
	comp=Z,3μm,18.0s					
ABTO	**Aybut**	**46.28**	**294**	P	**P**	**20 30 12.0 +1.3**
	SNR=11					
ABTO				P	**P**	**20 30 12.0 +1.3**
	SNR=11					
OOD	**Oodnadatta**	**46.35**	**130**	P	**P**	**20 30 12.4 +1.4**
ARSB	**Arslanbob**	**46.36**	**335**	IAmb	IAmb	20 30 24.9
	comp=Z,131nm,1.0s					
MDOK	**Medeo**	**46.37**	**340**	*e*P	**P**	**20 30 11.0 -0.1**
MDOK				*e*S	**S**	**20 36 58.7 +1.1**
MDOK				LR	LR	20 51 38.6
	comp=Z,936nm,15.0s					
MDOK	**Medeo**	**46.37**	**340**	*e*P	**P**	**20 30 10.9 -0.1**
MDOK				*e*S	**S**	**20 36 58.6 +1.1**
AAA	**Alma-Ata**	**46.45**	**340**	*e*P	**P**	**20 30 11.6 0.0**
	comp=Z,86nm,0.8s					
AAA				LR	LR	20 51 47.7
AAA	**Alma-Ata**	**46.45**	**340**	*e*P	**P**	**20 30 11.6 0.0**
AAA				pmax	pmax	
	comp=Z,86nm,0.8s					
UMZA	**Um Al Zommool**	**46.46**	**302**	P	**P**	**20 30 13.5 +1.6**
QIS	**Mount Isa**	**46.46**	**119**	P	**P**	**20 30 12.2 +0.2**
MULG	**Mulgathing**	**46.46**	**134**	P	**P**	**20 30 12.9 +1.1**
UCH	**Uchtor**	**46.49**	**337**	P	**P**	**20 30 13.8 +1.4**
	SNR=12					
ALNE	**Al Ain**	**46.50**	**304**	*i* P	**P**	**20 30 13.4 +1.2**
	SNR=78					
ALNE	**Al Ain**	**46.50**	**304**	P	**P**	**20 30 13.7 +1.5**
	SNR=32					
UOSS	**Minazif**	**46.50**	**305**	P	**P**	**20 30 11.7 -0.5**
UOSS	**Minazif**	**46.50**	**305**	*i* P	**P**	**20 30 12.3 +0.1**
	SNR=14					
UOSS	**Minazif**	**46.50**	**305**	P	**P**	**20 30 13.2 +1.0**
UOSS				P	**P**	**20 30 13.2 +1.0**
ASHO	**Ashiyiah**	**46.51**	**305**	*i* P	**P**	**20 30 13.1 +0.8**
	SNR=13					
ASHO	**Ashiyiah**	**46.51**	**305**	P	**P**	**20 30 13.9 +1.6**
	SNR=9.9					
ASHO				P	**P**	**20 30 13.9 +1.6**
	SNR=9.9					
HATD	**Hatta, Dubai**	**46.51**	**305**	*i* P	**P**	**20 30 13.1 +0.8**
	SNR=12					
HATD	**Hatta, Dubai**	**46.51**	**305**	P	**P**	**20 30 14.0 +1.7**
	SNR=24					
HATD				P	**P**	**20 30 14.0 +1.7**
	SNR=24					
MDH	**Madha**	**46.58**	**306**	*i* P	**P**	**20 30 12.6 -0.2**
	SNR=10					
MDH	**Madha**	**46.58**	**306**	P	**P**	**20 30 13.4 +0.7**
MDH				P	**P**	**20 30 13.4 +0.7**
MDH				P	**P**	**20 30 13.4 +0.7**
TKM2	**Tokmak 2**	**46.67**	**338**	P	**P**	**20 30 14.8 +1.3**
	SNR=18					
TKM2	**Tokmak 2**	**46.67**	**338**	*i* P	**P**	**20 30 13.7 +0.2**
TKM2				pmax	pmax	
	comp=Z,361nm,1.3s					
KBK	**Karagaybulak**	**46.69**	**338**	P	**P**	**20 30 15.3 +1.7**
	SNR=58					
XLT	**XiLinHaoTe**	**46.71**	**19**	*e*P	**P**	**20 30 14.5 +0.9**
XLT				sP	pwP	20 30 26.0 +0.4
XLT				PP	**PP**	**20 32 08.5 +4.8**
XLT				S	**S**	**20 37 02.0 -0.2**
XLT				SS	**SS**	**20 40 24.3 -4.5**
XLT				pmax	pmax	
	comp=Z,58nm,1.1s					
XLT				pmax	pmax	
	comp=Z,1μm,6.5s					
XLT				LR	LR	
	comp=Z,810nm,15.1s					
XLT				LR	LR	
	comp=Z,4μm,14.7s					
XLT				LR	LR	
	comp=Z,11μm,15.3s					
MSFE	**Esma-Masafi**	**46.72**	**306**	*i* P	**P**	**20 30 14.6 +0.7**
	SNR=18					
MASF	**Masafi**	**46.72**	**306**	P	**P**	**20 30 15.8 +1.8**
	SNR=26					
MASF				P	**P**	**20 30 15.8 +1.8**
	SNR=26					
MASF				P	**P**	**20 30 15.8 +1.8**
	SNR=26					
AML	**Almayashu**	**46.74**	**336**	P	**P**	**20 30 15.6 +1.3**
	SNR=65					
KSRS	**Korea Array**	**46.76**	**34**	P	**P**	**20 30 14.0 0.0**
	comp=Z,79nm,0.9s,baz=224,slow=8.8,SNR=93					
KSRS				PP	**PP**	**20 31 59.5 -4.7**
	comp=Z,26nm,1.1s,baz=222,slow=5.7,SNR=4.6					
KSRS				LR	LR	20 50 15.5
	comp=Z,2μm,18.1s,baz=225,slow=37					
	comp=Z,79nm,0.9s					
PYAG	**Pyongyang**	**46.76**	**31**	P	**P**	**20 30 13.2 -0.7**
PYAG				S	**S**	**20 37 00.2 -2.6**
PYAG				AmB		
	comp=Z,825nm,2.1s					
PYAG				AMS	AMS	
	comp=Z,5μm,17.3s					
KS19	**Wonju Array Si**	**46.76**	**34**	IAmb	IAmb	20 30 31.4
	comp=Z,186nm,0.9s					
AAK	**Ala-Archa**	**46.85**	**337**	P	**P**	**20 30 14.0 -0.8**
	SNR=21					
AAK	**Ala-Archa**	**46.85**	**337**	P	**P**	**20 30 14.8 0.0**
AAK				IAmb	IAmb	20 30 32.8
	comp=Z,125nm,1.1s					
AAK	**Ala-Archa**	**46.85**	**337**	IAMs_20	IAMs_20	20 51 48.1
	comp=Z,4μm,20.0s					
AAK	**Ala-Archa**	**46.85**	**337**	*i* P	**P**	**20 30 15.7 +0.9**
	SNR=59					
AAK	**Ala-Archa**	**46.85**	**337**	P	**P**	**20 30 15.9 +1.1**
	comp=Z,13nm,0.8s,baz=163,slow=6.3,SNR=33					
AAK				S	**S**	**20 36 56.8 -7.6**
	comp=Z,2.6nm,1.0s,baz=166,slow=23,SNR=1.2					
AAK				LR	LR	20 52 00.5
	comp=Z,4μm,19.9s,baz=144,slow=39					
	comp=Z,13nm,0.8s					
AAK	**Ala-Archa**	**46.85**	**337**	P	**P**	**20 30 16.5 +1.7**
AAK				P	**P**	**20 30 16.5 +1.7**
AAK	**Ala-Archa**	**46.85**	**337**	*ce*P	**P**	**20 30 16.2 +1.4**
AAK				pmax	pmax	
	comp=Z,68nm,1.7s					
BANOM	**Banah**	**46.85**	**306**	*i* P	**P**	**20 30 15.4 +0.4**
	SNR=6.9					
BANOM	**Banah**	**46.85**	**306**	P	**P**	**20 30 16.3 +1.3**
BANOM				P	**P**	**20 30 16.3 +1.3**
FAQ	**Al Faqa, Dubai**	**46.92**	**305**	*i* P	**P**	**20 30 16.4 +0.9**
	SNR=17					
FAQ	**Al Faqa, Dubai**	**46.92**	**305**	P	**P**	**20 30 16.8 +1.4**
	SNR=14					
FAQ				P	**P**	**20 30 16.8 +1.4**
	SNR=14					
SUJ	**Sinuiju**	**46.93**	**29**	P	**P**	**20 30 14.7 -0.6**
SUJ				S	**S**	**20 37 02.4 -2.9**
SUJ				AmB		
	comp=Z,2μm,5.4s					
SUJ				AMS	AMS	
	comp=Z,6μm,13.0s					
FRU1	**Bishkek**	**46.94**	**337**	IAMs_20	IAMs_20	20 51 53.6
	comp=Z,5μm,20.0s					
NAZ	**Nazwa, Dubai**	**46.96**	**305**	*i* P	**P**	**20 30 16.9 +1.1**
	SNR=7.6					
NAZ	**Nazwa, Dubai**	**46.96**	**305**	P	**P**	**20 30 17.6 +1.8**
	SNR=9.8					
NAZ				P	**P**	**20 30 17.6 +1.8**
	SNR=9.8					
SHME	**Shamm**	**47.03**	**306**	*i* P	**P**	**20 30 17.3 +1.0**
	SNR=8.6					
SHME	**Shamm**	**47.03**	**306**	P	**P**	**20 30 18.1 +1.7**
SHME				P	**P**	**20 30 18.1 +1.7**
SHME				P	**P**	**20 30 18.1 +1.7**
ARXS	**Arharly**	**47.04**	**341**	*e*P	**P**	**20 30 16.7 +0.5**
CHMS	**Chumysh**	**47.06**	**338**	P	**P**	**20 30 17.0 +0.7**
	SNR=23					
HRA	**Herat**	**47.07**	**320**	P	**P**	**20 30 15.5 -1.2**
ASUD	**Al Ashush, Dub**	**47.08**	**304**	*i* P	**P**	**20 30 18.1 +1.4**
	SNR=13					
ASUD	**Al Ashush, Dub**	**47.08**	**304**	P	**P**	**20 30 18.7 +1.9**
	SNR=11					
EKS2	**Erkin-Say**	**47.15**	**337**	P	**P**	**20 30 18.7 +1.5**
	SNR=62					
UMQ	**Umm Al-Quwin**	**47.19**	**306**	P	**P**	**20 30 18.2 +0.6**
KUU	**Kurty**	**47.26**	**340**	*e*P	**P**	**20 30 17.6 -0.2**
	comp=Z,146nm,1.2s					
KUU				LR	LR	20 52 16.6
	comp=Z,1μm,11.9s					
KUU	**Kurty**	**47.26**	**340**	*e*P	**P**	**20 30 17.6 -0.2**
KUU				pmax	pmax	
	comp=Z,146nm,1.2s					
AJN	**Ajban**	**47.34**	**304**	P	**P**	**20 30 19.2 +0.5**
AJN	**Ajban**	**47.34**	**304**	P	**P**	**20 30 20.0 +1.2**
AJN				P	**P**	**20 30 20.0 +1.2**
USP	**Ospenovka**	**47.38**	**338**	P	**P**	**20 30 19.9 +1.1**
	SNR=163					
TDK	**Taldyqorghan**	**47.56**	**342**	*e*P	**P**	**20 30 20.2 0.0**
	comp=Z,78nm,1.2s					
TDK				*e*S	**S**	**20 37 15.5 +1.3**
TDK				LR	LR	20 52 28.7
TDK	**Taldyqorghan**	**47.56**	**342**	*e*P	**P**	**20 30 20.2 0.0**
TDK				*e*S	**S**	**20 37 15.5 +1.3**
TDK				pmax	pmax	
	comp=Z,78nm,1.2s					
COEN	**Coen**	**47.79**	**109**	P	**P**	**20 30 21.0 -1.4**
COEN				IAMs_20	IAMs_20	20 53 22.4
	comp=Z,4μm,18.0s					
COEN	**Coen**	**47.79**	**109**	P	**P**	**20 30 22.5 +0.1**
SNY	**Shenyang**	**47.86**	**27⇑**	P	**P**	**20 30 22.5 0.0**
SNY				S	**S**	**20 37 17.8 -0.7**
SNY				pmax	pmax	
	comp=Z,81nm,1.1s					
SNY				pmax	pmax	
	comp=Z,900nm,6.1s					
SNY				LR	LR	
	comp=Z,3μm,19.0s					
SNY				LR	LR	
	comp=Z,4μm,17.4s					
SNY				LR	LR	
	comp=Z,4μm,18.2s					
MZWR	**Madinat Zayed**	**47.95**	**302**	P	**P**	**20 30 24.8 +1.4**
MZR	**Muzera**	**48.00**	**301**	*i* P	**P**	**20 30 25.1 +1.2**
	SNR=28					
MZR	**Muzera**	**48.00**	**301**	P	**P**	**20 30 25.4 +1.5**
	SNR=15					
MZR				P	**P**	**20 30 25.4 +1.5**
	SNR=15					
JMN	**Monobe**	**48.02**	**42**	P	**P**	**20 30 23.0 -0.9**
JMN	**Monobe**	**48.02**	**42**	P	**P**	**20 30 24.8 +0.9**
SONM	**Songino Array**	**48.14**	**8**	P	**P**	**20 30 25.5 +0.8**
	comp=Z,56nm,0.9s,baz=190,slow=8.6,SNR=235					
SONM				PcP	**PcP**	**20 31 52.8 +0.7**
	comp=Z,21nm,0.8s,baz=180,slow=5.8,SNR=3.9					
SONM				LR	LR	20 53 27.4
	comp=Z,6μm,19.5s,baz=184,slow=40					
	comp=Z,56nm,0.9s					
MK31	**Makanchi Array**	**48.16**	**346**	IAmb	IAmb	20 30 38.3
	comp=Z,186nm,0.9s					
MK31	**Makanchi Array**	**48.16**	**346**	*ce*P	**P**	**20 30 25.4 +0.6**
MKAR	**Makanchi Array**	**48.16**	**346**	P	**P**	**20 30 25.3 +0.5**
	comp=Z,50nm,0.8s,baz=158,slow=7.8,SNR=226					
MKAR				LR	LR	20 53 07.2
	comp=Z,1μm,20.0s,baz=158,slow=39					
	comp=Z,50nm,0.8s					
ZSN	**Zaisan**	**48.24**	**349**	*e*P	**P**	**20 30 25.7 +0.3**
	comp=Z,131nm,1.2s					
ZSN	**Zaisan**	**48.24**	**349**	*e*P	**P**	**20 30 25.6 +0.3**
ZSN				pmax	pmax	
	comp=Z,131nm,1.2s					
MAKZ	**Makanchi**	**48.25**	**346**	P	**P**	**20 30 25.2 -0.3**
MAKZ				IAmb	IAmb	20 30 38.9
	comp=Z,153nm,0.9s					
MAKZ	**Makanchi**	**48.25**	**346**	P	**P**	**20 30 25.9 +0.4**
ULN	**Ulaanbaatar**	**48.27**	**9**	P	**P**	**20 30 25.5 -0.2**
ULN				IAmb	IAmb	20 30 39.4
	comp=Z,112nm,0.9s					
ULN	**Ulaanbaatar**	**48.27**	**9**	IAMs_20	IAMs_20	20 52 57.5
	comp=Z,5μm,20.0s					
ULN	**Ulaanbaatar**	**48.27**	**9**	P	**P**	**20 30 26.5 +0.8**
ULN				P	**P**	**20 30 26.5 +0.8**
ULN				P	**P**	**20 30 26.5 +0.8**
ULN	**Ulaanbaatar**	**48.27**	**9**	P	**P**	**20 30 26.4 +0.7**
IUG	**Iuzhnay**	**48.32**	**333**	*e*P	**P**	**20 30 26.0 -0.3**
	comp=Z,112nm,0.9s					
IUG	**Iuzhnay**	**48.32**	**333**	*e*P	**P**	**20 30 25.9 -0.3**
IUG				pmax	pmax	
	comp=Z,111nm,0.9s					
DZA	**Taraz**	**48.35**	**335**	*e*P	**P**	**20 30 26.1 -0.2**
	comp=Z,60nm,0.8s					
DZA	**Taraz**	**48.35**	**335**	*e*P	**P**	**20 30 26.1 -0.2**
DZA				pmax	pmax	
	comp=Z,60nm,0.8s					

SBV	**Sambava**	**48.60**	**252**	P	**P**	**20 30 29.1 +0.5**
	SNR=8.1					
GHWR	**Ruwais**	**48.87**	**302**	P	**P**	**20 30 32.3 +1.7**
KKAR	**Karatay Array**	**48.87**	**334**	IAmb	IAmb	20 30 43.5
	comp=Z,211nm,1.2s					
BTLS	**Baital**	**49.07**	**339**	*e*P	**P**	**20 30 31.7 0.0**
	comp=Z,59nm,0.9s					
BTLS	**Baital**	**49.07**	**339**	*e*P	**P**	**20 30 31.7 0.0**
BTLS				pmax	pmax	
	comp=Z,59nm,0.9s					
BRLS	**Borolday**	**49.11**	**334**	*e*P	**P**	**20 30 31.0 -1.2**
BRLS	**Borolday**	**49.11**	**334**	*e*P	**P**	**20 30 30.9 -1.2**
GUMO	**Guam**	**49.19**	**72**	LR	LR	20 50 42.0
	comp=Z,609nm,20.7s,baz=254,slow=35					
JRN	**Qarnain Island**	**49.27**	**303**	P	**P**	**20 30 34.9 +1.3**
BBOO	**Buckleboo**	**49.28**	**136**	IAMs_20	IAMs_20	20 49 35.1
	comp=Z,4μm,21.0s					
BBOO	**Buckleboo**	**49.28**	**136**	P	**P**	**20 30 34.7 +1.1**
LCRK	**Leigh Creek**	**49.60**	**132**	P	**P**	**20 30 37.5 +1.4**
MTSU	**Mount Surprise**	**49.91**	**114**	P	**P**	**20 30 39.7 +1.0**
SLWR	**Sila**	**49.92**	**302**	P	**P**	**20 30 39.7 +1.2**
SLWR				P	**P**	**20 30 39.7 +1.2**
SLWR				P	**P**	**20 30 39.7 +1.2**
CN2	**Changchun**	**50.26**	**27**	*e*P	**P**	**20 30 40.8 -0.1**
CN2				*e*PP	**PP**	**20 32 37.0 +0.6**
CN2				*e*S	**S**	**20 37 50.0 -2.2**
CN2				pmax	pmax	
	comp=Z,70nm,1.2s					
CN2				pmax	pmax	
	comp=Z,1μm,6.0s					
CN2				LR	LR	
	comp=Z,2μm,13.0s					
CN2				LR	LR	
	comp=Z,380nm,13.0s					
CN2				LR	LR	
	comp=Z,2μm,13.0s					
ZAK	**Zakamensk**	**50.27**	**5**	*e*P	**P**	**20 30 41.3 +0.3**
ZAK				pmax	pmax	
	comp=Z,31nm,1.1s					
INKA	**Innaminka**	**50.28**	**127**	P	**P**	**20 30 42.8 +1.5**
WHYH	**Whyalla**	**50.47**	**135**	P	**P**	**20 30 44.1 +1.5**
TRNA	**Turayna**	**50.57**	**302**	P	**P**	**20 30 44.4 +0.9**
PMG	**Port Moresby**	**50.80**	**102**	P	**P**	**20 30 45.8 +0.3**
PMG				IAmb	IAmb	20 30 59.1
	comp=Z,220nm,1.1s					
PMG	**Port Moresby**	**50.80**	**102**	P	**P**	**20 30 46.2 +0.8**
	comp=Z,99nm,0.9s,baz=318,slow=3.1,SNR=46					
PMG				S	**S**	**20 37 54.8 -5.8**
	comp=Z,2.7nm,0.4s,baz=340,slow=16,SNR=1.7					
PMG				LR	LR	20 55 38.5
	comp=Z,1μm,18.9s,baz=268,slow=40					
	comp=Z,99nm,0.9s					
PMG	**Port Moresby**	**50.80**	**102**	P	**P**	**20 30 46.4 +1.0**
PMG	**Port Moresby**	**50.80**	**102**	P	**P**	**20 30 46.6 +1.2**
PMG	**Port Moresby**	**50.80**	**102**	*ce*P	**P**	**20 30 46.3 +0.9**
PMG				pmax	pmax	
	comp=Z,105nm,0.7s					
PTPS	**Port Pirie**	**50.84**	**135**	P	**P**	**20 30 47.1 +1.7**
SMRA	**Abu-Samra**	**50.90**	**302**	P	**P**	**20 30 46.8 +0.8**
	SNR=15					
JCJ	**Chichijima**	**50.93**	**54**	LR	LR	20 50 01.5
	comp=Z,691nm,20.9s,baz=315,slow=33					
INU	**Inuyama**	**51.07**	**42**	P	**P**	**20 30 48.0 +0.9**
SHMA	**Al-Shehemyia**	**51.20**	**304**	P	**P**	**20 30 49.1 +0.9**
	SNR=10					
MOY	**Mondy**	**51.39**	**3**	*e*P	**P**	**20 30 49.7 +0.3**
MOY				pmax	pmax	
	comp=Z,167nm,2.0s					
JGF	**Kuroka**	**51.44**	**42**	P	**P**	**20 30 50.0 0.0**
SAKB	**Bahrain**	**51.60**	**304**	P	**P**	**20 30 52.6 +1.3**
HTT	**Hallett**	**51.64**	**135**	P	**P**	**20 30 52.8 +1.3**
SEM	**Semipalatinsk**	**52.03**	**346**	*e*P	**P**	**20 30 54.0 -0.3**
	comp=Z,108nm,0.8s					
SEM				LR	LR	20 55 32.5
SEM	**Semipalatinsk**	**52.03**	**346**	*e*P	**P**	**20 30 54.0 -0.3**
SEM				pmax	pmax	
	comp=Z,108nm,0.8s					
MSHR	**Mys Shultsa**	**52.14**	**32**	*i* P	**P**	**20 30 54.7 -0.2**
GHSS	**Government Hou**	**52.21**	**136**	P	**P**	**20 30 57.8 +2.2**
IRK	**Irkutsk**	**52.21**	**6**	*e*P	**P**	**20 30 55.2 -0.2**
IRK				*e*S	**S**	**20 38 21.9 +3.0**
IRK				pmax	pmax	
	comp=Z,437nm,1.7s					
CTAO	**Charters Tower**	**52.22**	**116**	P	**P**	**20 30 56.0 0.0**
CTAO				IAmb	IAmb	20 31 10.0
	comp=Z,303nm,1.1s					
CTAO	**Charters Tower**	**52.22**	**116**	IAMs_20	IAMs_20	20 55 37.7
	comp=Z,4μm,19.0s					
CTAO	**Charters Tower**	**52.22**	**116**	P	**P**	**20 30 57.2 +1.2**
CTAO	**Charters Tower**	**52.22**	**116**	P	**P**	**20 30 56.0 0.0**
CTAO				pmax	pmax	
	comp=Z,303nm,1.1s					
CTAO				MLR	MLR	
	comp=Z,4μm,19.0s					
ABPO	**Ambohimpanom**	**52.45**	**246**	P	**P**	**20 30 56.9 -1.0**
ABPO	**Ambohimpanom**	**52.45**	**246**	IAMs_20	IAMs_20	20 49 26.0
	comp=Z,3μm,19.0s					
ABPO	**Ambohimpanom**	**52.45**	**246**	P	**P**	**20 30 56.9 -1.0**
ABPO				pmax	pmax	
	comp=Z,68nm,1.4s					
ABPO				MLR	MLR	
	comp=Z,3μm,19.0s					
TV1H	**Townsville Har**	**52.48**	**115**	P	**P**	**20 30 59.2 +1.3**
MAJO	**Matsushiro**	**52.54**	**42**	P	**P**	**20 30 56.3 -1.8**
MAJO	**Matsushiro**	**52.54**	**42**	P	**P**	**20 30 58.8 +0.7**
MAJO	**Matsushiro**	**52.54**	**42**	P	**P**	**20 30 56.3 -1.8**
MAJO				pmax	pmax	
	comp=Z,81nm,1.1s					
MAJO				MLR	MLR	
	comp=Z,2μm,22.0s					
MJAR	**Matsushiro Arr**	**52.54**	**42**	P	**P**	**20 30 57.6 -0.4**
	comp=Z,29nm,0.9s,baz=223,slow=6.7,SNR=36					
MJAR				LR	LR	20 53 18.7
	comp=Z,2μm,21.4s,baz=230,slow=36					
	comp=Z,29nm,0.9s					
HIA	**Hailar**	**52.63**	**19**	IAmb	IAmb	20 31 12.1
	comp=Z,116nm,0.9s					
HIA	**Hailar**	**52.63**	**19**	P	**P**	**20 30 59.5 +0.9**
QLP	**Quilpie**	**52.64**	**124**	P	**P**	**20 31 00.4 +1.4**
KURBB	**Kurchatov Arra**	**52.65**	**345**	P	**P**	**20 30 59.2 +0.6**
	comp=Z,23nm,0.8s,baz=166,slow=6.9,SNR=170					
KURBB				PcP	**PcP**	**20 32 09.2 +0.8**
	comp=Z,18nm,0.8s,baz=159,slow=2.8,SNR=4.7					
KURBB				PP	**PP**	**20 32 59.2 +1.3**
	comp=Z,9.9nm,1.0s,baz=154,slow=9.4,SNR=2.4					
KURBB				S	**S**	**20 38 27.4 +2.6**
	comp=Z,0.5nm,0.8s,baz=155,slow=14,SNR=1.8					
KURBB				LR	LR	20 57 03.2
	comp=Z,1μm,19.0s,baz=171,slow=40					
KURBB				PKP2bc	**P'P'bc**	**21 01 42.3 -0.3**
	comp=Z,0.9nm,0.9s,baz=342,slow=3.6,SNR=6.1					
KURBB				P4KPbc		21 08 21.2
	comp=Z,0.3nm,0.7s,baz=148,slow=3.8,SNR=6.7					
	comp=Z,23nm,0.8s					
BNX	**BinXian**	**52.65**	**26**	⇑P	**P**	**20 30 59.0 +0.3**
BNX				pP	**sP**	**20 31 08.3 +1.8**
BNX				PcP	**PcP**	**20 32 07.5 -1.0**
BNX				S	**S**	**20 38 23.0 -2.0**
BNX				pmax	pmax	
	comp=Z,88nm,0.8s					
BNX				pmax	pmax	
	comp=Z,1μm,11.5s					
BNX				LR	LR	
	comp=Z,3μm,14.3s					
BNX				LR	LR	
	comp=Z,3μm,14.8s					
BNX				LR	LR	
	comp=Z,5μm,15.2s					
KURK	**Kurchatov**	**52.71**	**345**	P	**P**	**20 30 59.2 +0.2**
KURK				IAmb	IAmb	20 31 12.5
	comp=Z,189nm,1.0s					
KURK	**Kurchatov**	**52.71**	**345**	IAMs_20	IAMs_20	20 55 40.0
	comp=Z,3μm,22.0s					
KURK	**Kurchatov**	**52.71**	**345**	P	**P**	**20 30 59.7 +0.6**
KURK				P	**P**	**20 30 59.7 +0.6**
KURK	**Kurchatov**	**52.71**	**345**	P	**P**	**20 30 59.2 +0.2**
KURK						20 32 09.2
KURK				S	**S**	**20 38 27.4 +1.7**
AUMBR	**Murray Bridge**	**52.80**	**136**	P	**P**	**20 31 01.9 +1.9**
MDJ	**Mudanjiang**	**52.81**	**29**	IAMs_20	IAMs_20	20 55 01.7
	comp=Z,4μm,19.0s					
MDJ	**Mudanjiang**	**52.81**	**29**	P	**P**	**20 31 00.3 +0.3**
MDJ				PcS	**PcS**	**20 36 08.0 +0.3**
MDJ				S	**S**	**20 38 29.0 +1.6**
MDJ				pmax	pmax	
	comp=Z,31nm,1.5s					
MDJ				pmax	pmax	
	comp=Z,1μm,7.2s					
MDJ				LR	LR	
	comp=Z,5μm,16.3s					
MDJ				LR	LR	
	comp=Z,9μm,16.7s					
MDJ				LR	LR	
	comp=Z,2μm,17.5s					
MDJ	**Mudanjiang**	**52.81**	**29**	P	**P**	**20 31 01.6 +1.6**
STKA	**Stephens Creek**	**52.82**	**131**	P	**P**	**20 31 01.3 +1.1**
	comp=Z,114nm,1.0s,baz=303,slow=7.8,SNR=131					
STKA				LR	LR	20 54 52.9
	comp=Z,2μm,20.7s,baz=292,slow=38					
	comp=Z,114nm,1.0s					
VLA	**Vladivostok**	**52.90**	**32**	*i* P	**P**	**20 31 00.8 +0.2**
VLA				pmax	pmax	
	comp=Z,97nm,1.2s					
AUAYR	**Ayr State High**	**53.12**	**115**	P	**P**	**20 31 03.7 +1.1**
CIT	**Chita**	**53.47**	**13**	*e*P	**P**	**20 31 05.8 +1.1**
CIT				*e*		20 32 08.2
CIT				*e*S	**S**	**20 38 39.6 +3.4**
CIT				*e*		20 40 44.0
CIT				*e*		20 42 13.2
CIT				pmax	pmax	
	comp=Z,711nm,1.3s					
VOI	**Vohitsoka**	**53.66**	**242**	P	**P**	**20 31 07.6 +0.9**
USA0B	**Ussuriysk Arra**	**53.71**	**31**	*e*P	**P**	**20 31 06.9 +0.4**
USRK	**Ussuriysk Ar.**	**53.71**	**31**	P	**P**	**20 31 07.2 +0.6**
	comp=Z,91nm,0.8s,baz=230,slow=6.2,SNR=76					
USRK				LR	LR	20 54 06.2
	comp=Z,4μm,21.8s,baz=219,slow=36					
	comp=Z,91nm,0.8s					
HARA	**HARA**	**54.26**	**281**	*e*P	**P**	**20 31 13.6 +2.2**
HARA				*e*S	S	20 38 58.7 +10
ZALV	**Zalesovo Beam**	**54.51**	**351**	P	**P**	**20 31 12.7 +0.5**
	comp=Z,83nm,0.6s,baz=176,slow=6.5,SNR=188					
ZALV				S	**S**	**20 38 50.8 +0.8**
	comp=Z,0.9nm,0.4s,baz=165,slow=14,SNR=1.7					
ZALV				LR	LR	20 58 20.6
	comp=Z,2μm,18.1s,baz=153,slow=40					
	comp=Z,83nm,0.6s					
ATD	**Arta Tunnel**	**54.96**	**284**	P	**P**	**20 31 16.1 -0.1**
ATD	**Arta Tunnel**	**54.96**	**284**	*e*P	**P**	**20 31 14.5 -1.7**
ATD				*e*S	**S**	**20 39 01.0 +3.6**
JMM	**Marumori**	**54.99**	**42**	IAmb	IAmb	20 31 29.9
	comp=Z,108nm,0.9s					
JMM	**Marumori**	**54.99**	**42**	P	**P**	**20 31 14.9 -1.1**
RAYN	**Ar Rayn**	**55.08**	**299**	P	**P**	**20 31 16.5 -0.5**
RAYN				IAmb	IAmb	20 31 32.5
	comp=Z,117nm,1.1s					
RAYN	**Ar Rayn**	**55.08**	**299**	IAMs_20	IAMs_20	20 53 39.4
	comp=Z,4μm,20.0s					
RAYN	**Ar Rayn**	**55.08**	**299**	*i* P	**P**	**20 31 17.1 +0.1**
	SNR=14					
RAYN	**Ar Rayn**	**55.08**	**299**	P	**P**	**20 31 17.4 +0.4**
RAYN	**Ar Rayn**	**55.08**	**299**	P	**P**	**20 31 16.5 -0.5**
RAYN				pmax	pmax	
	comp=Z,117nm,1.2s					
RAYN				MLR	MLR	
	comp=Z,4μm,20.0s					
ARPS	**Mount Arapiles**	**55.42**	**137**	P	**P**	**20 31 20.7 +1.6**
CMSA	**Cobar Meteorol**	**55.79**	**129**	P	**P**	**20 31 23.3 +1.4**
HEH	**HeiHe**	**56.19**	**23**	*e*P	**P**	**20 31 24.5 +0.1**
HEH				sP	**pwP**	**20 31 35.0 -1.5**
HEH				PP	**PP**	**20 33 31.5 +1.8**
HEH				S	**S**	**20 39 13.8 +1.2**
HEH				SS	**SS**	**20 43 01.0 +1.6**
HEH				pmax	pmax	
	comp=Z,52nm,1.3s					
HEH				pmax	pmax	
	comp=Z,2μm,5.7s					
HEH				LR	LR	
	comp=Z,4μm,18.9s					
HEH				LR	LR	
	comp=Z,6μm,17.0s					
HEH				LR	LR	
	comp=Z,5μm,17.4s					
TEY	**Ternei**	**56.70**	**33**	*e*P	**P**	**20 31 25.3 -2.8**
TEY				*e*		20 31 33.0
AULRC	**Lightning Ridg**	**56.78**	**126**	P	**P**	**20 31 30.2 +1.2**
BVAR	**Borovoye Array**	**57.13**	**341**	P	**P**	**20 31 30.5 -0.6**
	comp=Z,21nm,0.8s,baz=149,slow=8.1,SNR=62					
BVAR				LR	LR	20 58 40.5
	comp=Z,1μm,19.8s,baz=137,slow=39					
BVAR				PKPPKP	**P'P'df**	**21 01 22.0 +1.3**
	comp=Z,0.8nm,0.8s,baz=320,slow=1.6,SNR=2.9					
	comp=Z,21nm,0.8s					
BRVK	**Borovoye**	**57.20**	**341**	P	**P**	**20 31 30.2 -1.3**
BRVK				IAmb	IAmb	20 31 45.9
	comp=Z,153nm,1.2s					
BRVK	**Borovoye**	**57.20**	**341**	P	**P**	**20 31 31.3 -0.2**
BRVK				P	**P**	**20 31 31.3 -0.2**
BRVK	**Borovoye**	**57.20**	**341**	P	**P**	**20 31 30.2 -1.3**
BRVK				pmax	pmax	
	comp=Z,153nm,1.3s					
BRVK				MLR	MLR	
	comp=Z,2μm,18.0s					
KLR	**Kul'dur**	**57.22**	**26**	P	**P**	**20 31 32.5 +0.8**
	comp=Z,54nm,1.0s,baz=240,slow=6.7,SNR=72					
KLR				LR	LR	20 57 59.9
	comp=Z,4μm,18.4s,baz=216,slow=38					
	comp=Z,54nm,1.0s					
KLR	**Kul'dur**	**57.22**	**26**	*ce*P	**P**	**20 31 32.7 +1.0**
KLR				pmax	pmax	
	comp=Z,95nm,1.3s					
KLR				MLR	MLR	
	comp=Z,5μm,16.0s					
BRAT	**Ballarat**	**57.25**	**136**	P	**P**	**20 31 33.8 +1.6**
GD1S	**Gladstone Soft**	**57.65**	**119**	P	**P**	**20 31 36.8 +1.6**
ABKAR	**Akbulak array**	**58.31**	**332**	IAmb	IAmb	20 31 51.5
	comp=Z,174nm,0.9s					
AUDCS	**Dubbo College**	**58.36**	**129**	P	**P**	**20 31 41.5 +1.4**
AAE	**Adis Abeba**	**58.66**	**280**	*e*P	**P**	**20 31 40.4 -2.5**
AAE				*e*S	**S**	**20 39 51.1 +4.2**
FURI	**Furi**	**58.74**	**280**	P	**P**	**20 31 44.3 +0.9**
FURI				IAmb	IAmb	20 32 02.7
	comp=Z,163nm,1.3s					
FURI	**Furi**	**58.74**	**280**	LR	LR	20 53 09.1
	comp=Z,571nm,21.0s,baz=102,slow=32					
FURI	**Furi**	**58.74**	**280**	*e*P	**P**	**20 31 41.3 -2.1**
FURI				*e*S	**S**	**20 39 52.1 +4.1**
ZEA	**Zeya**	**58.92**	**20**	*e*P	**P**	**20 31 43.4 -0.2**
ZEA				*e*S	**S**	**20 39 52.1 +3.7**
ZEA				*e*		20 43 44.3
ZEA				pmax	pmax	
	comp=N,50nm,1.0s					
ZEA				pmax	pmax	
	comp=E,40nm,0.9s					
ZEA				pmax	pmax	
	comp=Z,120nm,0.9s					
ZEA				pmax	pmax	
	comp=Z,600nm,9.4s					
ZEA				smax	smax	
	comp=E,600nm,6.0s					
ZEA				smax	smax	
	comp=N,700nm,7.3s					
ZEA				MLR	MLR	
	comp=E,800nm,13.0s					
ZEA				MLR	MLR	
	comp=N,3μm,16.0s					
ZEA				MLR	MLR	
	comp=Z,3μm,16.0s					
YNG	**Young**	**59.01**	**131**	P	**P**	**20 31 45.8 +1.2**
BOD	**Bodaibo**	**59.01**	**10**	*e*P	**P**	**20 31 44.4 +0.3**
BOD				pmax	pmax	
	comp=Z,431nm,1.5s					
KIBK	**Kibwezi**	**59.02**	**267**	P	**P**	**20 31 44.2 -0.9**
KIBK	**Kibwezi**	**59.02**	**267**	P	**P**	**20 31 45.7 +0.5**
	SNR=26					
TW1H	**Toowoomba 1 Ha**	**59.44**	**122**	P	**P**	**20 31 49.4 +1.6**
ASAJ	**Asahikawa**	**59.56**	**37**	LR	LR	20 58 25.8
	comp=Z,2μm,20.1s,baz=246,slow=37					
JKA	**Kamikawa-asahi**	**59.56**	**37**	IAmb	IAmb	20 31 55.9
	comp=Z,247nm,1.6s					
AUPHS	**Peel High Scho**	**59.73**	**127**	P	**P**	**20 31 50.8 +1.2**
KMBO	**Kilima Mbogo**	**59.79**	**269**	P	**P**	**20 31 50.6 -0.1**
KMBO	**Kilima Mbogo**	**59.79**	**269**	*i* P	**P**	**20 31 51.3 +0.7**
	SNR=23					
KMBO	**Kilima Mbogo**	**59.79**	**269**	P	**P**	**20 31 51.2 +0.7**
	comp=Z,34nm,1.0s,baz=68,slow=8.5,SNR=53					
KMBO				LR	LR	20 55 15.8
	comp=Z,1μm,19.1s,baz=94,slow=34					
KMBO				PKPPKP	**P'P'df**	**21 01 17.2 -3.1**
	comp=Z,0.4nm,0.4s,baz=202,slow=22,SNR=1.2					
	comp=Z,34nm,1.0s					
KMBO	**Kilima Mbogo**	**59.79**	**269**	P	**P**	**20 31 51.3 +0.7**
KMBO				P	**P**	**20 31 51.3 +0.7**
CAN	**Canberra**	**59.88**	**132**	P	**P**	**20 31 52.7 +2.1**
AUSMG	**Snowy Mountain**	**60.05**	**133**	P	**P**	**20 31 53.3 +1.4**
ARMA	**Armidale**	**60.09**	**126**	P	**P**	**20 31 53.3 +1.0**
ARMA				IAmb	IAmb	20 32 07.8
	comp=Z,161nm,1.1s					
ARMA	**Armidale**	**60.09**	**126**	P	**P**	**20 31 53.5 +1.3**
CNB	**Canberra Magne**	**60.15**	**132**	P	**P**	**20 31 54.0 +1.5**
AUWSH	**Wavell State H**	**60.30**	**122**	P	**P**	**20 31 55.4 +1.8**
GRNR	**Gornyy**	**60.43**	**28**	⇑*i* P	**P**	**20 31 54.7 +0.7**
GRNR				pmax	pmax	
	comp=Z,20nm,1.2s					
GRNR				MLR	MLR	
	comp=E,1μm,12.0s					
AKT	**Akhty**	**60.51**	**319**	*e*P	**P**	**20 31 53.8 -1.1**
AKT				*e*		20 32 36.0
AKT				*e*		20 34 06.2
AKT				pmax	pmax	
	comp=Z,166nm,1.3s					
SYDH	**Sydney Hard Ro**	**60.58**	**130**	P	**P**	**20 31 57.3 +1.9**
MGCD	**Mangrove Creek**	**60.66**	**129**	P	**P**	**20 31 57.3 +1.3**
H04N2	**CROZET ISLANDS**	**60.86**	**214**	T	T	21 38 52.3
	baz=54,slow=75,SNR=170					
H04N1	**CROZET ISLANDS**	**60.87**	**214**	T	T	21 38 52.9
	baz=54,slow=75,SNR=148					
H04N3	**CROZET ISLANDS**	**60.88**	**214**	T	T	21 38 51.5
	baz=54,slow=75,SNR=170					
CRZF	**Crozet Islands**	**60.98**	**214**	IAMs_20	IAMs_20	20 54 56.6
	comp=Z,3μm,18.0s					
H04S1	**CROZET ISLANDS**	**61.20**	**214**	T	T	21 39 03.1
	baz=54,slow=76,SNR=92					
H04S3	**CROZET ISLANDS**	**61.21**	**214**	T	T	21 38 58.9
	baz=54,slow=76,SNR=118					
H04S2	**CROZET ISLANDS**	**61.21**	**214**	T	T	21 38 59.5
	baz=54,slow=76,SNR=106					
YSS	**Yuzh-Sakhalins**	**61.26**	**34**	P	**P**	**20 31 59.8 0.0**
YSS	**Yuzh-Sakhalins**	**61.26**	**34**	P	**P**	**20 32 00.9 +1.2**
YSS	**Yuzh-Sakhalins**	**61.26**	**34**	*e*P	**P**	**20 32 00.3 +0.6**
YSS				*e*		20 34 21.8
YSS				*e*S	**S**	**20 40 22.1 +3.4**
YSS				*e*SS	**SS**	**20 44 24.6 +5.3**
YSS				pmax	pmax	
	comp=Z,130nm,1.2s					
YSS				pmax	pmax	
	comp=Z,1μm,8.0s					
YSS				smax	smax	
	comp=E,900nm,4.8s					
CORO	**Coronation Par**	**61.33**	**139**	P	**P**	**20 32 02.5 +2.2**
MAK	**Makhachkala**	**61.39**	**320**	*e*P	**P**	**20 31 56.3 -4.4**
MAK				*e*S	**S**	**20 40 15.2 -5.2**
MAK				*e*SS	**SS**	**20 44 20.4 -1.0**
MAK				pmax	pmax	
	comp=Z,367nm,1.3s					
PATS	**Pohnpei**	**61.47**	**82**	P	**P**	**20 32 03.3 +1.5**
GLAD	**Gladstone**	**61.68**	**138**	P	**P**	**20 32 04.8 +2.1**
LODK	**Lodwar**	**61.71**	**274**	P	**P**	**20 32 05.0 +1.5**
	SNR=11					
MOO	**Moorlands**	**61.84**	**140**	P	**P**	**20 32 05.5 +1.7**
GNI	**Garni**	**61.90**	**317**	P	**P**	**20 32 04.3 -0.1**
GNI				IAmb	IAmb	20 32 26.2
	comp=Z,105nm,1.0s					
GNI	**Garni**	**61.90**	**317**	P	**P**	**20 32 04.4 0.0**
GNI	**Garni**	**61.90**	**317**	LR	LR	21 03 27.1
	comp=Z,478nm,18.1s,baz=112,slow=40					
GNI	**Garni**	**61.90**	**317**	P	**P**	**20 32 05.2 +0.8**
GNI				P	**P**	**20 32 05.2 +0.8**
GNI	**Garni**	**61.90**	**317**	*ce*P	**P**	**20 32 05.1 +0.7**
GNI				pmax	pmax	
	comp=Z,149nm,1.7s					
GNI	**Garni**	**61.90**	**317**	P	**P**	**20 32 04.6 +0.2**
	comp=Z,121nm,1.1s,comp=Z,2μm					
UGL	**Uglegorsk**	**62.14**	**32**	*e*P	**P**	**20 32 08.0 +2.4**
UGL				*e*S	**S**	**20 40 36.7 +7.0**
UGL				pmax	pmax	
	comp=Z,160nm,1.3s					
UGL				pmax	pmax	
	comp=Z,2μm,5.0s					
UGL				smax	smax	
	comp=E,2μm,4.5s					
UGL				smax	smax	
	comp=N,3μm,7.0s					
UGL				MLR	MLR	
	comp=Z,4μm,15.0s					
TAU	**Tasmania Unive**	**62.16**	**140**	P	**P**	**20 32 06.6 +0.8**
TAU	**Tasmania Unive**	**62.16**	**140**	P	**P**	**20 32 07.4 +1.5**
TAU	**Tasmania Unive**	**62.16**	**140**	P	**P**	**20 32 06.6 +0.8**
TAU				pmax	pmax	
	comp=Z,287nm,1.5s					
AUTAR	**Taroona High S**	**62.20**	**140**	P	**P**	**20 32 08.1 +2.0**
TATA	**Tatamba Isabel**	**63.12**	**99**	P	**P**	**20 32 13.7 +0.9**
GURO	**Guroymak-BITLI**	**63.13**	**314**	IAmb	IAmb	20 32 28.0
	comp=Z,274nm,1.9s					
KUR	**Kuril'sk**	**63.34**	**38**	*i* P	**P**	**20 32 12.7 -1.0**
KUR				pmax	pmax	
	comp=Z,245nm,1.0s					
HNR	**Honiara**	**63.34**	**101**	P	**P**	**20 32 14.5 +0.2**
HNR	**Honiara**	**63.34**	**101**	LR	LR	21 02 04.8
	comp=Z,577nm,19.6s,baz=274,slow=38					
HNR	**Honiara**	**63.34**	**101**	P	**P**	**20 32 15.0 +0.7**
HNR	**Honiara**	**63.34**	**101**	P	**P**	**20 32 14.5 +0.2**
HNR				pmax	pmax	
	comp=Z,1μm,1.0s					
TYV	**Tymovskoe**	**63.52**	**30**	*e*P	P	20 32 28.4 +14
TYV				*e*S	S	20 41 13.0 +26
TYV				pmax	pmax	
	comp=Z,45nm,1.3s					
TYV				pmax	pmax	
	comp=Z,2μm,3.7s					
TYV				smax	smax	
	comp=N,900nm,4.6s					
TYV				smax	smax	
	comp=E,500nm,4.6s					
SVE	**Sverdlovsk**	**63.55**	**339**	*c* *i* P	**P**	**20 32 14.6 -0.2**
SVE				*e*S	**S**	**20 40 43.6 -3.5**
SVE				pmax	pmax	
	comp=Z,273nm,1.5s					
SVE				MLR	MLR	
	comp=Z,3μm,19.0s					
NGOA	**Tingoa Renbel**	**63.66**	**103**	P	**P**	**20 32 18.4 +2.0**
ALEG	**Aligegeo Malai**	**64.02**	**100**	P	**P**	**20 32 18.7 -0.1**
ARTI	**Arti**	**64.07**	**337**	P	**P**	**20 32 16.7 -1.6**
ARTI				IAmb	IAmb	20 32 30.3
	comp=Z,100nm,0.8s					
ARTI	**Arti**	**64.07**	**337**	LR	LR	21 03 23.1
	comp=Z,2μm,19.1s,baz=130,slow=39					
ARTI	**Arti**	**64.07**	**337**	*d* *i* P	**P**	**20 32 17.6 -0.7**
ARTI				S	**S**	**20 40 56.7 +3.1**
ARTI				SS	**SS**	**20 45 02.2 -0.7**
ARTI				pmax	pmax	
	comp=Z,109nm,1.6s					
ARTI				MLR	MLR	
	comp=Z,2μm,18.0s					
NCK	**Nalchik**	**64.16**	**319**	*i* P	**P**	**20 32 18.6 -0.6**
NCK				pmax	pmax	
	comp=Z,140nm,2.1s					
BCA	**Borcka**	**64.59**	**317**	⇑P	**P**	**20 32 22.4 +0.4**
BATM	**Batumi**	**64.61**	**317**	⇑P	**P**	**20 32 22.4 +0.2**
KBZ	**Khabaz**	**64.71**	**319**	P	**P**	**20 32 22.6 -0.2**
	comp=Z,30nm,0.8s,baz=126,slow=5.3,SNR=47					
KBZ				PKPPKP	**P'P'df**	**21 01 08

GHAJ	**Ghor Haditha**	65.75	304	IAmb	IAmb	20 32 31.7
	comp=Z,69nm,1.0s					
EIL	**Elat**	65.84	303	LR	LR	21 01 15.1
	comp=Z,4μm,18.0s,baz=108,slow=36					
MBAR	**Mbarara**	66.30	269	P	P	20 32 33.0 -0.9
MBAR	**Mbarara**	66.30	269	P	P	20 32 34.9 +1.1
MBAR				P	P	20 32 34.9 +1.1
MBAR	**Mbarara**	66.30	269	*e*P	P	20 32 32.0 -1.9
MBAR				*e*S	S	20 41 28.8 +5.9
MBAR	**Mbarara**	66.30	269	*e*P	P	20 32 33.4 -0.4
MBAR				pmax	pmax	
	comp=Z,68nm,1.0s					
BELG	**Belogornoye**	66.33	329	*i* P	P	20 32 31.5 -1.5
BELG				pmax	pmax	
	comp=Z,22nm,1.0s					
MMAI	**Mount Meron Ar**	66.35	306	P	P	20 32 35.0 +1.3
	comp=Z,52nm,0.9s,baz=101,slow=8.8,SNR=49					
MMAI				LR	LR	21 03 12.7
	comp=Z,1μm,19.2s,baz=68,slow=38					
	comp=Z,52nm,0.9s					
YAK	**Yakutsk**	66.42	16	P	P	20 32 32.5 -0.8
YAK	**Yakutsk**	66.42	16	IAms_20	IAms_20	21 02 54.5
	comp=Z,3μm,20.0s					
YAK	**Yakutsk**	66.42	16	P	P	20 32 33.0 -0.4
	comp=Z,200nm,0.9s,baz=29,slow=0.4,SNR=87					
YAK				LR	LR	21 03 13.2
	comp=Z,3μm,20.7s,baz=212,slow=38					
	comp=Z,200nm,0.9s					
YAK	**Yakutsk**	66.42	16	*e*P	P	20 32 33.0 -0.4
YAK				*e*PP	pwP	20 32 44.3 -1.3
YAK				*e*S	S	20 41 22.1 -0.1
YAK				*e*SS	sS	20 41 36.7 +4.6
YAK				*e*SS	SS	20 45 44.0 +4.9
YAK				pmax	pmax	
	comp=Z,279nm,1.0s					
YAK				pmax	pmax	
	comp=N,73nm,1.1s					
YAK				pmax	pmax	
	comp=E,65nm,1.2s					
YAK				pmax	pmax	
	comp=Z,363nm,3.6s					
YAK				pmax	pmax	
	comp=E,232nm,2.2s					
YAK				pmax	pmax	
	comp=N,477nm,3.2s					
YAK				smax	smax	
	comp=N,1μm,4.9s					
YAK				smax	smax	
	comp=E,877nm,3.8s					
YAK				MLR	MLR	
	comp=Z,4μm,14.0s					
YAK				MLR	MLR	
	comp=E,1μm,14.0s					
YAK				MLR	MLR	
	comp=N,3μm,16.0s					
VSLR	**Vesyoloye**	66.49	318	*i* P	P	20 32 33.4 -0.9
VSLR				pmax	pmax	
	comp=Z,120nm,1.2s					
LABN	**Labinsk**	66.52	320	*e*P	P	20 32 34.6 +0.2
LABN				pmax	pmax	
	comp=Z,149nm,1.6s					
SOC	**Sochi**	66.75	318	*e*P	P	20 32 31.0 -4.9
SOC				*e*		20 34 58.7
SOC				*e*PPP	PPP	20 36 43.3
SOC				*e*S	S	20 41 21.3 -5.6
SOC				pmax	pmax	
	comp=Z,74nm,0.9s					
SOC				MLR	MLR	
	comp=Z,751nm,20.0s					
CASY	**Casey**	67.04	174	P	P	20 32 37.6 +0.3
CASY				IAmb	IAmb	20 32 39.6
	comp=Z,172nm,1.4s					
CASY	**Casey**	67.04	174	IAms_20	IAms_20	20 57 34.3
	comp=Z,2μm,19.0s					
ERBR	**Yeremizino-Bor**	67.13	321	*e*P	P	20 32 37.6 -0.7
ERBR				pmax	pmax	
	comp=Z,250nm,1.7s					
POGA	**Pongola**	68.30	240	P	P	20 32 45.8 -0.3
POGA				IAmb	IAmb	20 33 00.3
	comp=Z,293nm,1.9s					
CSS	**Mathiatis**	68.54	308	IAms_20	IAms_20	21 07 50.2
	comp=Z,2μm,18.0s					
CSS	**Mathiatis**	68.54	308	P	P	20 32 47.8 +0.4
	comp=Z,122nm,1.2s					
ANN	**Anapa**	68.73	319	*e*P	P	20 32 55.1 +6.7
ANN				pmax	pmax	
	comp=Z,140nm,1.1s					
KOUNC	**Koumac, New Ca**	68.83	112	P	P	20 32 49.2 -0.2
KOUNC				IAmb	IAmb	20 32 52.3
	comp=Z,130nm,1.2s					
KOUNC	**Koumac, New Ca**	68.83	112	P	P	20 32 51.0 +1.5
VRH	**Novokhopyorsk**	68.85	326	*e*P	P	20 32 47.6 -1.4
VRH				*e*S	S	20 41 52.5 +0.7
VRH				pmax	pmax	
	comp=Z,170nm,1.6s					
VRH				smax	smax	
	comp=N,600nm,4.0s					
KIRV	**Kirov**	69.14	336	LR	LR	21 06 00.5
	comp=N,935nm,18.1s,baz=129,slow=38					
KIRV	**Kirov**	69.14	336	*ce*P	P	20 32 50.5 -0.1
KIRS	**Kirsehir-Merke**	69.28	312	⇑P	P	20 32 51.5 -0.6
NRIK	**Noril'sk**	69.31	356	P	P	20 32 51.6 +0.1
	comp=N,67nm,1.0s,baz=157,slow=5.5,SNR=50					
NRIK				PKPPKP	P'P'df	21 00 58.5 -2.0
	comp=N,0.6nm,0.3s,baz=21,slow=3.7,SNR=4.7					
NRIK				LR	LR	21 06 32.8
	comp=N,2μm,20.7s,baz=160,slow=39					
	comp=N,67nm,1.0s					
BR104	**Keskin Array S**	69.65	313	P	P	20 32 53.5 -0.9
	comp=N,44nm,0.9s,comp=N,387nm					
BR131	**Keskin Array S**	69.66	313	*i* P	P	20 32 52.7 -1.8
BRTR	**Keskin Array B**	69.66	313	P	P	20 32 52.3 -2.2
BRTR	**Keskin Array B**	69.66	313	P	P	20 32 53.4 -1.1
	comp=N,28nm,0.8s,baz=111,slow=6.9,SNR=93					
BRTR				LR	LR	21 05 14.6
	comp=N,810nm,20.0s,baz=121,slow=38					
	comp=N,28nm,0.8s					
BR105	**Keskin Array S**	69.67	313	P	P	20 32 53.4 -1.1
	comp=N,54nm,1.2s,comp=N,503nm					
LSZ	**Lusaka**	69.67	254	P	P	20 32 53.6 -1.3
LSZ	**Lusaka**	69.67	254	P	P	20 32 55.0 0.0
LSZ				P	P	20 32 55.0 0.0
LSZ	**Lusaka**	69.67	254	P	P	20 32 53.6 -1.3
LSZ				pmax	pmax	
	comp=Z,30nm,1.1s					
LSZ				MLR	MLR	
	comp=Z,4μm,18.0s					
BR106	**Keskin Array S**	69.68	313	P	P	20 32 53.5 -1.1
	comp=Z,49nm,1.0s,comp=Z,435nm					
MATP	**Matopo**	70.00	248	LR	LR	20 57 50.8
	comp=Z,626nm,21.1s,baz=72,slow=31					
BZK	**Bozkurt**	70.09	315	⇑P	P	20 32 56.7 -0.1
VORD	**Divnogorie**	70.11	325	*e*P	P	20 32 54.1 -2.7
VORD				pmax	pmax	
	comp=Z,30nm,1.0s					
VSR	**Storozhevoye**	70.29	326	*e*P	P	20 32 54.4 -3.5
VSR				pmax	pmax	
	comp=Z,30nm,1.0s					
ANTO	**Ankara**	70.32	313	P	P	20 32 57.3 -1.2
ANTO				IAmb	IAmb	20 33 10.7
	comp=Z,310nm,1.6s					
ANTO	**Ankara**	70.32	313	P	P	20 32 58.5 +0.1
ANTO				P	P	20 32 58.5 +0.1
ANTO	**Ankara**	70.32	313	⇑P	P	20 32 58.1 -0.3
ANTO	**Ankara**	70.32	313	P	P	20 32 57.3 -1.2
ANTO				pmax	pmax	
	comp=Z,310nm,1.7s					
ANTO	**Ankara**	70.32	313	P	P	20 32 57.6 -0.8
	comp=Z,61nm,1.3s					
VORR	**Voronezh**	70.47	326	*e*P	P	20 32 56.2 -2.7
VORR				*e*		20 33 07.7
VORR				pmax	pmax	
	comp=Z,40nm,1.2s					
SKR	**Severo-Kuril's**	70.76	35	*i* P	P	20 33 02.8 +2.1
NOUC	**Port Laguerre**	70.92	113	P	P	20 33 03.7 +1.4
SIM	**Simferopol'**	70.99	318	*d* P	P	20 33 01.2 -1.1
SIM				*e*		20 33 22.0
SIM				*e*S	S	20 42 15.0 -2.2
SIM				pmax	pmax	
	comp=Z,209nm,1.0s					
SIM				MLR	MLR	
	comp=Z,300nm,17.4s					
H11N1	**WAKE ISLAND Hy**	71.00	69	P	P	20 33 03.2 +0.6
	baz=49,slow=75,SNR=3.6					
H11N2	**WAKE ISLAND Hy**	71.01	69	P	P	20 33 03.5 +0.9
	baz=49,slow=75,SNR=7.0					
H11N3	**WAKE ISLAND Hy**	71.02	69	P	P	20 33 01.3 -1.4
	baz=49,slow=75,SNR=11					
LPSR	**Galich'ya Gora**	71.03	327	*e*P	P	20 33 01.2 -1.2
LPSR				*e*S	S	20 42 09.5 -7.8
LPSR				pmax	pmax	
	comp=Z,110nm,1.2s					
LPSR				smax	smax	
	comp=E,400nm,3.5s					
DZM	**Mont Dzumac**	71.04	113	P	P	20 33 03.2 0.0
DZM	**Mont Dzumac**	71.04	113	*e*P	P	20 33 02.6 -0.6
	comp=E,158nm,1.3s					
DZM				*e*S	S	20 42 13.3 -5.5
	comp=E,300nm,24.3s					
DZM				*e*SS	SS	20 46 51.9 -0.5
	comp=E,924nm,28.1s					
DZM				*e*LR	LR	20 54 39.4
	comp=E,2μm,22.4s					
DZM	**Mont Dzumac**	71.04	113	P	P	20 33 04.0 +0.8
	comp=E,48nm,1.2s,baz=166,slow=18,SNR=8.0					
DZM				LR	LR	21 06 43.7
	comp=E,1μm,18.6s,baz=286,slow=38					
	comp=E,48nm,1.2s					
DZM	**Mont Dzumac**	71.04	113	P	P	20 33 04.7 +1.5
ONTNC	**Ouen Toro**	71.08	114	IAms_20	IAms_20	21 08 26.0
	comp=Z,2μm,18.0s					
ONTNC	**Ouen Toro**	71.08	114	P	P	20 33 04.4 +1.1
VLAKA	**Lakatoro**	71.24	107	P	P	20 33 05.3 +1.0
YATNC	**Mamie plateau,**	71.45	113	P	P	20 33 07.4 +1.9
ISP	**Isparta**	71.47	310	*ce*P	P	20 33 06.6 +1.1
ISP				pmax	pmax	
	comp=Z,62nm,1.3s					
KHAM	**Kharkiv**	71.48	324	P	P	20 33 05.3 +0.1
MAW	**Mawson**	71.71	193	P	P	20 33 07.3 +1.2
	comp=Z,25nm,0.9s,baz=22,slow=5.7,SNR=56					
MAW				LR	LR	20 58 08.8
	comp=Z,2μm,20.1s,baz=30,slow=30					
	comp=Z,25nm,0.9s					
PINNC	**Pines Island,**	72.04	114	IAms_20	IAms_20	21 09 30.2
	comp=Z,2μm,18.0s					
DVP	**Devils Point**	72.13	109	P	P	20 33 12.0 +2.3
MA2	**Magadan**	72.30	26	P	P	20 33 09.2 -0.6
MA2				IAmb	IAmb	20 33 23.3
	comp=Z,108nm,0.9s					
MA2	**Magadan**	72.30	26	LR	LR	21 07 19.0
	comp=Z,2μm,18.0s,baz=236,slow=38					
MA2	**Magadan**	72.30	26	P	P	20 33 11.0 +1.1
MA2	**Magadan**	72.30	26	*e*P	P	20 33 10.2 +0.3
MA2				pmax	pmax	
	comp=Z,213nm,1.6s					
PLTM	**Poltava**	72.35	323	P	P	20 33 10.9 +0.5
PEA0B	**Petropavlovsk-**	72.65	33	*i* P	P	20 33 13.0 +0.9
PETK	**Petropavlovsk-**	72.65	33	P	P	20 33 12.1 -0.1
	comp=Z,15nm,0.9s,baz=213,slow=7.9,SNR=4.6					
PETK				LR	LR	21 06 53.0
	comp=Z,1μm,19.4s,baz=239,slow=37					
	comp=Z,15nm,0.9s					
MOS	**Moscow**	73.10	329	*e*P	P	20 33 12.5 -2.2
MOS				*e*		20 33 26.8
MOS				*e*		20 35 55.5
MOS				*e*S	S	20 42 38.2 -2.7
MOS				pmax	pmax	
	comp=Z,155nm,1.2s					
MOS				MLR	MLR	
	comp=Z,2μm,21.0s					
PET	**Petropavlovsk**	73.15	34	P	P	20 33 16.7 +1.7
PET	**Petropavlovsk**	73.15	34	*e*P	P	20 33 15.8 +0.8
PET				*e*		20 33 27.0
PET				*e*		20 36 00.0
PET				*e*S	S	20 42 41.9 +0.3
PET				pmax	pmax	
	comp=Z,101nm,1.0s					
PET				MLR	MLR	
	comp=Z,1μm,14.0s					
PET				MLR	MLR	
	comp=Z,1μm,16.0s					
LBTB	**Lobatse**	73.30	244	LR	LR	20 59 07.1
	comp=Z,935nm,21.4s,baz=80,slow=31					
OBN	**Obninsk**	73.38	329	P	P	20 33 15.9 -0.5
OBN	**Obninsk**	73.38	329	LR	LR	21 09 45.3
	comp=Z,750nm,20.3s,baz=136,slow=39					
OBN	**Obninsk**	73.38	329	⇑P	P	20 33 16.3 0.0
OBN	**Obninsk**	73.38	329	*d* P	P	20 33 15.8 -0.5
OBN				*i*		20 33 27.3
OBN				*e*		20 35 58.3
OBN				*i* S	S	20 42 41.7 -2.4
OBN				*e*SS	SS	20 47 31.7 +5.2
OBN				pmax	pmax	
	comp=Z,241nm,1.7s					
OBN	**Obninsk**	73.38	329	P	P	20 33 15.7 -0.6
	comp=Z,163nm,1.9s,comp=Z,5μm					
KLYT	**Kilyos**	73.45	313	P	P	20 33 16.8 -0.3
	comp=Z,261nm,1.2s					
KARP	**Karpathos**	73.58	307	*e*P	P	20 33 18.4 +0.4
KARP	**Karpathos**	73.58	307	P	P	20 33 18.2 +0.2
	comp=Z,392nm,0.9s					
NE56	**Odesa**	73.67	319	P	P	20 33 17.3 -0.9
CTYL	**Yalikoy Yolu**	74.05	313	P	P	20 33 19.9 -0.7
	comp=Z,156nm,0.7s					
BOSA	**Boshof**	74.14	240	P	P	20 33 21.3 -0.3
	comp=Z,17nm,0.7s,baz=107,slow=5.1,SNR=28					
BOSA				LR	LR	21 01 34.1
	comp=Z,2μm,18.4s,baz=76,slow=32					
	comp=Z,17nm,0.7s					
TIXI	**Tiksi**	74.19	10	P	P	20 33 19.4 -1.3
TIXI	**Tiksi**	74.19	10	IAms_20	IAms_20	21 07 43.2
	comp=Z,3μm,21.0s					
TIXI	**Tiksi**	74.19	10	LR	LR	21 08 03.6
	comp=Z,3μm,20.1s,baz=230,slow=38					
TIXI	**Tiksi**	74.19	10	⇑P	P	20 33 20.2 -0.6
MCQ	**Macquarie Isla**	74.24	148	IAmb	IAmb	20 33 23.4
	comp=Z,253nm,1.4s					
PURM	**Purcari**	74.31	319	⇑P	P	20 33 21.5 -0.4
PURM	**Purcari**	74.31	319	P	P	20 33 21.2 -0.8
	comp=Z,219nm,1.3s					
SOE	**Somerset East**	74.57	236	IAms_20	IAms_20	21 01 07.5
	comp=Z,3μm,21.0s					
KLMR	**Klimovskoe**	74.57	335	*e*P	P	20 33 22.7 -0.5
KLMR				*e*		20 33 33.4
KLMR				*e*		20 36 09.3
KLMR				S	S	20 42 58.2 +0.8
KLMR				pmax	pmax	
	comp=Z,161nm,1.4s					
TLCR		74.64	317	⇑P	P	20 33 23.8 -0.2
TLCR		74.64	317	⇑P	P	20 33 23.8 -0.2
SEY	**Seymchan**	74.74	23	LR	LR	21 09 07.8
	comp=Z,2μm,19.5s,baz=220,slow=38					
SEY	**Seymchan**	74.74	23	*ce*P	P	20 33 22.5 -1.6
SEY				pmax	pmax	
	comp=Z,175nm,1.1s					
TPGR	**Topolog**	74.82	317	⇑P	P	20 33 24.8 -0.2
BAL3X	**Bal3x, Balta**	74.89	320	P	P	20 33 24.5 -0.8
ICOR	**Ion Corvin**	75.06	316	⇓P	P	20 33 27.0 +0.6
CFR	**Carcaliu**	75.10	317	⇑P	P	20 33 26.2 -0.4
CFR	**Carcaliu**	75.10	317	⇑P	P	20 33 26.2 -0.4
MILM	**Milestii Mici**	75.11	319	⇑P	P	20 33 26.0 -0.6
MILM	**Milestii Mici**	75.11	319	P	P	20 33 26.2 -0.4
VLDR	**Vladesti**	75.31	318	⇓P	P	20 33 27.7 -0.1
SORM	**Soroca**	75.75	320	⇑P	P	20 33 29.8 -0.5
SORM	**Soroca**	75.75	320	⇑P	P	20 33 29.8 -0.5
SORM	**Soroca**	75.75	320	P	P	20 33 29.2 -1.1
	comp=Z,170nm,1.2s					
GHRR		75.82	318	⇓P	P	20 33 30.7 -0.1
GHRR		75.82	318	P	P	20 33 31.2 +0.5
AK09	**Malin Array Si**	75.88	323	P	P	20 33 30.4 -0.6
AK10	**Malin Array Si**	75.90	323	P	P	20 33 30.5 -0.6
AKASG	**Malin Array Be**	75.94	323	P	P	20 33 30.2 -1.1
	comp=Z,40nm,0.9s,baz=91,slow=4.8,SNR=155					
AKASG				PP	PP	20 36 22.1 +0.2
	comp=Z,3.4nm,0.9s,baz=100,slow=6.3,SNR=5.8					
AKASG				LR	LR	21 11 37.6
	comp=Z,1μm,18.1s,baz=96,slow=39					
	comp=Z,40nm,0.9s					
AKBB	**Malin Array Si**	75.94	323	IAmb	IAmb	20 33 31.7
	comp=Z,97nm,0.9s					
AKBB	**Malin Array Si**	75.94	323	*ce*P	P	20 33 30.7 -0.6
AKBB				pmax	pmax	
	comp=Z,111nm,0.9s					
AKBB	**Malin Array Si**	75.94	323	P	P	20 33 30.4 -0.9
KIEV	**Kiev**	75.95	323	P	P	20 33 29.5 -1.9
KIEV				IAmb	IAmb	20 33 31.7
	comp=Z,87nm,0.9s					
KIEV	**Kiev**	75.95	323	*i* P	P	20 33 30.2 -1.1
	SNR=30					
KIEV	**Kiev**	75.95	323	⇑P	P	20 33 30.8 -0.6
KIEV	**Kiev**	75.95	323	⇑P	P	20 33 30.8 -0.6
KIEV	**Kiev**	75.95	323	P	P	20 33 30.5 -0.9
	comp=Z,468nm,1.3s					
ELND	**Elena**	76.14	314	⇑P	P	20 33 32.6 -0.1
PYZ	**Puysegur Point**	76.16	138	IAmb	IAmb	20 33 35.5
	comp=Z,295nm,1.9s					
PYZ				IAMs_20	IAMs_20	21 09 06.9
	comp=Z,1μm,20.0s					
VRI	**Vrincioaia**	76.23	317	⇓P	P	20 33 33.1 -0.1
VRI	**Vrincioaia**	76.23	317	P	P	20 33 33.2 +0.1
VRI	**Vrincioaia**	76.23	317	P	P	20 33 33.0 -0.1
	comp=Z,193nm,1.3s,comp=Z,3μm					
PLOR5	**Plostina Array**	76.27	317	P	P	20 33 34.8 +1.4
	comp=Z,127nm,1.7s					
PLOR	**Plostina**	76.28	317	⇓P	P	20 33 33.7 +0.3
PLOR	**Plostina**	76.28	317	P	P	20 33 33.9 +0.5
PLOR3	**Plostina Array**	76.28	317	P	P	20 33 33.5 0.0
	comp=Z,103nm,1.5s,comp=Z,3μm					
NEHR	**Nehoiu**	76.42	317	⇓P	P	20 33 34.3 +0.1
TESR	**Tescani**	76.44	318	⇑P	P	20 33 34.4 +0.1
NDNU	**Novodnistrovsk**	76.51	320	P	P	20 33 34.1 -0.5
ONER	**Baraj Valea Uz**	76.57	318	⇓P	P	20 33 35.4 +0.4
COVR	**Voineasa-Covas**	76.58	317	⇑P	P	20 33 34.8 -0.3
MI30	**MI30,Zelenitsa**	76.58	322	P	P	20 33 34.1 -0.9
	comp=Z,161nm,1.3s					
LUBAR	**Lubar, Ukraine**	76.62	322	P	P	20 33 34.3 -0.9
GIRR	**Girov**	76.65	318	⇑P	P	20 33 35.5 0.0
ZIMR		76.66	315	⇑P	P	20 33 35.5 0.0
ZIMR		76.66	315	⇑P	P	20 33 35.5 0.0
MLR	**Muntele Rosu**	76.67	317	IAmb	IAmb	20 33 51.5
	comp=Z,186nm,1.1s					
MLR	**Muntele Rosu**	76.67	317	⇑P	P	20 33 36.1 +0.3
MLR	**Muntele Rosu**	76.67	317	⇑P	P	20 33 36.1 +0.3
MLR	**Muntele Rosu**	76.67	317	P	P	20 33 35.7 -0.1
	comp=Z,178nm,1.3s					
MI29	**MI29, Kamyanyy**	76.70	322	P	P	20 33 35.0 -0.6
	comp=Z,1μm,1.3s					
TURR	**Turia**	76.76	317	⇑P	P	20 33 36.3 +0.1
OZUR		76.92	317	⇑P	P	20 33 37.0 0.0
PRAR	**RASCA**	76.93	319	⇑P	P	20 33 37.0 -0.1
MLZ	**Mavora Lakes**	76.94	137	P	P	20 33 34.5 -2.7
MLZ				IAMs_20	IAMs_20	21 07 13.5
	comp=Z,2μm,22.0s					
WHZ	**Wether Hill Ro**	76.95	137	IAMs_20	IAMs_20	21 07 13.7
	comp=Z,1μm,19.0s					
MI28	**MI28,Pidlybu**	76.95	323	P	P	20 33 36.1 -1.0
	comp=Z,800nm,1.4s					
KMPD	**K-Podol'skiy**	77.08	320	P	P	20 33 36.3 -1.5
JCZ	**Jackson Bay**	77.10	135	P	P	20 33 40.1 +1.9
HUMR	**Humele**	77.12	316	⇓P	P	20 33 38.1 -0.1
DOPR	**Dopca**	77.16	317	⇓P	P	20 33 38.3 -0.1
MTUR	**Matau**	77.22	316	⇑P	P	20 33 38.6 -0.2
MTUR	**Matau**	77.22	316	⇑P	P	20 33 38.6 -0.2
HORU	**Horodok**	77.27	321	P	P	20 33 38.2 -0.7
CHRU	**Chernivtsi**	77.36	320	P	P	20 33 39.2 -0.2
	comp=Z,92nm,0.9s					
WKZ	**Wanaka**	77.43	136	IAMs_20	IAMs_20	21 08 09.6
	comp=Z,2μm,20.0s					
ARR	**Arges**	77.55	317	⇓P	P	20 33 40.4 -0.2
MNK	**Minsk**	77.85	326	*i* P	P	20 33 41.7 -0.3
	comp=E,25nm,1.0s,baz=326					
MNK				*i* P	P	20 33 41.7 -0.3
	comp=N,74nm,0.9s,baz=326					
MNK				*i* P	P	20 33 41.7 -0.3
	comp=Z,173nm,0.9s,baz=326					
MNK				*i* PcP	PcP	20 33 51.3 -0.6
	baz=326					
MNK				*i* PP	PP	20 36 37.2 -0.6
	baz=326					
MNK				*i* PPP	PPP	20 38 24.8
	baz=326					
MNK				*i* S	S	20 43 35.5 +1.8
	baz=326					
MNK				*i* SS	SS	20 48 37.1 +2.6
	baz=326					
MNK				*i* LQ	LQ	21 02 58.6
	baz=326					
MNK				*i* LR	LR	21 05 46.5
	baz=326					
MNK				*i* LRM	MLR	21 11 12.6
	comp=E,880nm,18.2s,baz=326					
MNK				*i* LRM	MLR	21 13 20.6
	comp=N,969nm,18.5s,baz=326					
MNK				*i* LRM	MLR	21 13 30.9
	comp=Z,1μm,17.3s,baz=326					
MNK	**Minsk**	77.85	326	*i* P	P	20 33 41.7 -0.3
MNK				*i*		20 33 51.2
MNK				*i*		20 36 37.2
MNK				*i* PPP	PPP	20 38 24.7
MNK				*i* S	S	20 43 35.5 +1.8
MNK				*i* SS	SS	20 48 37.0 +2.6
MNK				pmax	pmax	
	comp=E,25nm,1.0s					
MNK				pmax	pmax	
	comp=N,74nm,0.9s					
MNK				pmax	pmax	
	comp=Z,173nm,0.9s					
MNK				MLR	MLR	
	comp=E,880nm,18.0s					
TNR	**Turnu Rosu**	77.86	317	⇑P	P	20 33 42.2 -0.1
TNR	**Turnu Rosu**	77.86	317	⇑P	P	20 33 42.2 -0.1
KSV	**Kosov**	77.92	320	P	P	20 33 42.1 -0.5
ITM	**Ithomi**	78.03	308	IAmb	IAmb	20 34 02.4
	comp=Z,204nm,1.3s					
PEHC	**Pehcevo**	78.06	313	*i* P	P	20 33 42.7 -0.9
ARCR	**ARCALIA**	78.11	318	⇑P	P	20 33 43.7 +0.1
RNPP5	**Staryi Chortor**	78.12	323	P	P	20 33 42.9 -0.7
LBZ	**Lake Benmore**	78.15	135	IAMs_20	IAMs_20	21 11 06.6
	comp=Z,1μm,19.0s					
LOT	**Lotru**	78.16	316	⇑P	P	20 33 43.3 -0.7
RNPP9	**Sopachiv**	78.16	323	P	P	20 33 43.3 -0.5
VAY	**Valandovo**	78.22	312	*i* P	P	20 33 43.0 -1.4
PUL	**Pulkovo**	78.28	332	*ce*P	P	20 33 45.1 +0.8
PUL				pmax	pmax	
	comp=Z,104nm,0.8s					
STNU	**Starunia**	78.38	320	P	P	20 33 45.0 -0.1
RAKU	**Rahkiv**	78.44	319	P	P	20 33 45.1 -0.4
SUR	**Sutherland**	78.48	237	P	P	20 33 46.4 +0.2
SUR				IAmb	IAmb	20 33 48.7
	comp=Z,123nm,1.2s					
SUR	**Sutherland**	78.48	237	LR	LR	21 03 37.0
	comp=Z,2μm,18.0s,baz=96,slow=32					
SUR	**Sutherland**	78.48	237	P	P	20 33 47.9 +1.6
SUR				P	P	20 33 47.9 +1.6
CJR	**Cluj-Napoca**	78.54	318	⇓P	P	20 33 46.2 +0.1
CJR	**Cluj-Napoca**	78.54	318	⇓P	P	20 33 46.2 +0.1
BLKB	**Belogradchik**	78.57	314	⇓P	P	20 33 45.9 -0.4
NACGM	**Naroch**	78.58	326	⇓*i* P	P	20 33 45.8 -0.2
	comp=Z,254nm,1.1s,baz=106					
ODZ	**Otahua Downs**	78.61	136	IAMs_20	IAMs_20	21 13 47.7
	comp=Z,2μm,19.0s					
RPZ	**Rata Peaks**	78.63	135	IAMs_20	IAMs_20	21 09 04.3
	comp=Z,2μm,21.0s					
RPZ	**Rata Peaks**	78.63	135	LR	LR	21 09 34.4
	comp=Z,1μm,19.7s,baz=294,slow=36					
INZ	**Inchbonnie**	78.72	134	IAmb	IAmb	20 34 00.7
	comp=Z,142nm,1.0s					
DSZ	**Denniston Nort**	78.80	133	IAMs_20	IAMs_20	21 09 09.9
	comp=

OHR Ohrid 79.51 312 *i* P **P 20 33 50.3 -1.3**
THZ Tophouse 79.61 132 IAMs_20 IAMs_20 21 09 33.5
comp=Z,2μm,21.0s
VSU Vasula 79.62 330 *ce*P **P 20 33 52.2 +0.6**
VSU pmax pmax
comp=Z,139nm,1.7s
BZS Buzias 79.68 316 ⇑P **P 20 33 52.2 -0.1**
BZS Buzias 79.68 316 ⇑P **P 20 33 52.2 -0.1**
LVZ Lovozero 79.71 340 P **P 20 33 51.7 -0.4**
LVZ IAmb IAmb 20 34 06.9
comp=Z,349nm,1.8s
LVZ Lovozero 79.71 340 *ce*P **P 20 33 52.6 +0.6**
LVZ pmax pmax
comp=Z,140nm,1.7s
LVZ Lovozero 79.71 340 P **P 20 33 51.6 -0.4**
comp=Z,143nm,2.2s
KWP Kalwaria Pacla 79.73 320 *e*P **P 20 33 53.0 +0.5**
KWP Kalwaria Pacla 79.73 320 IAmb IAmb 20 33 54.0
comp=Z,259nm,1.4s
KWP Kalwaria Pacla 79.73 320 P **P 20 33 52.4 -0.1**
comp=Z,146nm,1.5s
SIRR Siria 79.76 317 ⇓P **P 20 33 52.8 0.0**
MQZ McQueen's Vall 79.77 134 IAmb IAmb 20 33 55.0
comp=Z,259nm,1.5s
UZHM Uzhgorod 79.79 319 P **P 20 33 53.3 +0.5**
BORR Bors 79.83 318 ⇑P **P 20 33 53.3 +0.2**
KOLS Kolonicke sedl 79.86 320 *e*P **P 20 33 54.2 +1.0**
KOLS pmax pmax
comp=Z,164nm,0.9s
KOLS Kolonicke sedl 79.86 320 *e*P **P 20 33 54.2 +1.0**
NNZ Nelson 79.88 132 IAMs_20 IAMs_20 21 09 53.4
comp=Z,3μm,20.0s
APA Apatity 80.00 340 ⇓*i*P **P 20 33 52.5 -1.0**
APA *i* 20 34 01.6
APA pmax pmax
comp=Z,44nm,0.9s
APA MLR MLR
comp=Z,3μm,22.0s
KEK Kerkira 80.06 310 IAmb IAmb 20 34 10.2
comp=Z,112nm,0.9s
TSUM Tsumeb 80.10 251 LR LR 21 06 59.8
comp=Z,1μm,18.2s,baz=68,slow=34
KHZ Kahutara 80.19 133 IAmb IAmb 20 34 08.4
comp=Z,136nm,1.1s
KHZ IAMs_20 IAMs_20 21 08 38.6
comp=Z,2μm,20.0s
PABE Paberze 80.29 326 IAmb IAmb 20 33 56.4
comp=Z,217nm,1.0s
PABE Paberze 80.29 326 *e*P **P 20 33 55.8 +0.5**
SUW Suwalki 80.39 325 *e*P **P 20 33 55.6 -0.3**
SUW Suwalki 80.39 325 *e*P **P 20 33 56.2 +0.3**
VSVD Vaisvydziai 80.43 327 *e*P **P 20 33 56.9 +0.8**
SJES Sjenica 80.44 314 ⇓*i*P **P 20 33 56.0 -0.6**
HIZ Hauiti 80.60 129 IAmb IAmb 20 34 12.3
comp=Z,247nm,1.1s
HIZ IAMs_20 IAMs_20 21 10 32.7
comp=Z,2μm,19.0s
STHS Stebnicka Huta 80.62 320 *e*P **P 20 33 57.3 0.0**
STHS pmax pmax
comp=Z,56nm,0.9s
STHS Stebnicka Huta 80.62 320 *e*P **P 20 33 57.3 0.0**
WIN Windhoek 80.78 247 IAMs_20 IAMs_20 21 07 36.4
comp=Z,2μm,18.0s
FIA1 FINESS Array S 80.80 333 IAmb IAmb 20 34 10.7
comp=Z,342nm,1.4s
FINES FINESS Array B 80.80 333 P **P 20 33 58.2 +0.3**
comp=Z,31nm,0.7s,baz=102,slow=5.1,SNR=54
FINES PP **PP 20 37 01.0 -1.2**
comp=Z,5.5nm,0.8s,baz=110,slow=8.5,SNR=1.6
comp=Z,31nm,0.7s
PDG Podgorica 80.85 313 IAmb IAmb 20 33 59.0
comp=Z,111nm,0.9s
PDG Podgorica 80.85 313 ⇓*i*P **P 20 33 57.4 -1.2**
PDG Podgorica 80.85 313 ⇑P **P 20 33 58.5 -0.1**
FRGS Fruska Gora 80.85 316 ⇓*i*P **P 20 33 56.8 -1.9**
RUDO Rudo 80.93 314 *e*P **P 20 33 58.2 -0.9**
BBLS Lazi&#263i 80.94 314 ⇓*i*P **P 20 33 59.0 -0.2**
KECS Kecovo 80.94 319 *e*P **P 20 33 59.8 +0.8**
KECS pmax pmax
comp=Z,14nm,1.0s
KECS Kecovo 80.94 319 *e*P **P 20 33 59.8 +0.8**
TEKS Tekeris 80.96 315 ⇓*i*P **P 20 33 58.5 -0.7**
TOZ Tahuroa Road 81.00 128 IAmb IAmb 20 34 17.1
comp=Z,214nm,1.6s
TOZ IAMs_20 IAMs_20 21 12 09.4
comp=Z,2μm,19.0s
BHW Baring Head 81.02 132 IAMs_20 IAMs_20 21 10 40.6
comp=Z,2μm,20.0s
PKVZ Pokaka 81.08 130 P **P 20 34 00.9 +0.8**
MTSE Matsula 81.16 330 *e*P **P 20 34 00.8 +0.9**
UPM Unac-Piva 81.21 314 ⇑*i*P **P 20 34 00.1 -0.7**
NIE Niedzica 81.23 320 *e*P **P 20 34 01.5 +0.9**
NIE Niedzica 81.23 320 P **P 20 34 00.7 +0.1**
comp=Z,38nm,1.4s
PSZ Piszkesteto 81.24 318 IAmb IAmb 20 34 18.3
comp=Z,210nm,1.5s
PSZ Piszkesteto 81.24 318 *e*P **P 20 34 01.4 +0.7**
PSZ Piszkesteto 81.24 318 ⇑P **P 20 34 01.0 +0.3**
PSZ Piszkesteto 81.24 318 ⇑P **P 20 34 01.0 +0.3**
FWVZ Far West T-bar 81.24 130 P **P 20 34 01.8 +0.7**
TRVZ Turoa 81.24 130 P **P 20 34 01.8 +0.7**
WTVZ West Tongariro 81.25 130 P **P 20 34 01.8 +0.8**
MEF Metsahovi 81.26 331 *e*P **P 20 34 00.8 +0.4**
NGZ Ngauruhoe 81.27 130 P **P 20 34 01.1 -0.1**
WNVZ Wahianoa 81.28 130 P **P 20 34 01.8 +0.5**
HAPS Han Pijesak,BI 81.30 314 ⇓*i*P **P 20 34 00.8 -0.4**
NTVZ North Tongarir 81.31 129 P **P 20 34 02.9 +1.5**
OTVZ Oturere 81.31 130 P **P 20 34 02.3 +0.9**
TUVZ Tukino 81.32 130 P **P 20 34 02.5 +1.0**
TMVZ Te Maari 81.34 130 P **P 20 34 02.9 +1.4**
ETVZ East Tongariro 81.34 130 P **P 20 34 02.3 +0.8**
BEL Belsk 81.36 322 *e*P **P 20 34 01.6 +0.5**
RATZ Rangitukua 81.36 129 P **P 20 34 02.6 +1.1**
HCY Herceg Novi 81.41 313 ⇑*i*P **P 20 33 59.5 -2.1**
MOVZ Moawhango 81.41 130 P **P 20 34 01.9 +0.1**
BRY Bratogost 81.43 313 ⇑*i*P **P 20 34 00.9 -1.0**
MSVF Nonsavu 81.50 108 P **P 20 34 04.2 +1.5**
MSVF Nonsavu 81.50 108 P **P 20 34 03.3 +0.6**
comp=Z,34nm,1.1s,baz=190,slow=5.0,SNR=13
MSVF LR LR 21 10 36.5
comp=Z,675nm,21.4s,baz=256,slow=36
comp=Z,34nm,1.1s
MSVF Nonsavu 81.50 108 P **P 20 34 04.3 +1.6**
MSVF Nonsavu 81.50 108 P **P 20 34 04.2 +1.5**
MSVF pmax pmax
comp=Z,98nm,1.2s
PBUR Paburge 81.53 327 *e*P **P 20 34 02.8 +0.9**
TREB Trebinje 81.55 313 *e*P **P 20 34 01.1 -1.3**
KEF Keuruu 81.55 333 *e*P **P 20 34 03.0 +1.1**
OJC Ojcow 81.68 321 *e*P **P 20 34 03.4 +0.4**
OJC Ojcow 81.68 321 P **P 20 34 02.8 -0.1**
comp=Z,94nm,1.3s,comp=Z,2μm
MORH Mrgy, Hungar 81.82 317 ⇑P **P 20 34 03.7 0.0**
MORH Mrgy, Hungar 81.82 317 P **P 20 34 03.1 -0.6**
comp=Z,68nm,1.9s
KRHZ Kereru 81.92 130 P **P 20 34 04.2 -0.2**
BFZ Birch Farm 81.95 131 IAmb IAmb 20 34 18.1
comp=Z,183nm,1.2s
BFZ Birch Farm 81.95 131 P **P 20 34 04.6 +0.1**
BFZ Birch Farm 81.95 131 P **P 20 34 06.4 +1.9**
BKZ Black Stump Fm 81.95 129 P **P 20 34 04.7 0.0**
BKZ Black Stump Fm 81.95 129 P **P 20 34 05.0 +0.3**
SHEM Shemya Is, Ala 82.02 37 LR LR 21 14 21.1
comp=Z,342nm,18.9s,baz=290,slow=38
VYHS Vyhne 82.03 319 *e*P **P 20 34 04.8 0.0**
VYHS pmax pmax
comp=Z,55nm,1.3s
VYHS Vyhne 82.03 319 *e*P **P 20 34 04.8 0.0**
STON Ston 82.04 313 ⇓*i*P **P 20 34 03.5 -1.4**
BILL Bilibino 82.15 21 *i* P **P 20 34 04.6 -0.4**
BILL pmax pmax
comp=Z,56nm,2.1s
BILL MLR MLR
comp=Z,4μm,16.0s
MTHZ Maungataniwha 82.19 129 P **P 20 34 06.6 +0.7**
PRHZ Porangahau 82.19 131 P **P 20 34 06.7 +0.9**
RTZ Ruatahuna 82.27 129 IAMs_20 IAMs_20 21 09 13.8
comp=Z,2μm,20.0s
RTZ Ruatahuna 82.27 129 P **P 20 34 05.9 -0.4**
KAHZ Kahuranaki 82.32 130 P **P 20 34 07.3 +0.7**
TIP Timpagrande 82.33 309 IAmb IAmb 20 34 08.3
comp=Z,116nm,1.3s
TIP Timpagrande 82.33 309 ⇑P **P 20 34 07.0 +0.4**
URZ Urewera 82.33 129 P **P 20 34 06.0 -0.5**
comp=Z,128nm,1.2s,baz=62,slow=2.4,SNR=17
URZ LR LR 21 14 32.7
comp=Z,2μm,18.0s,baz=10,slow=38
comp=Z,128nm,1.2s
URZ Urewera 82.33 129 P **P 20 34 06.4 -0.1**
VADS Vadso 82.34 341 *e*P **P 20 34 06.8 +0.9**
VADS IAmb IAmb 20 34 07.6
comp=Z,135nm,0.9s
MATE Matera 82.52 311 *e*P **P 20 34 06.8 -0.7**
MATE Matera 82.52 311 ⇑P **P 20 34 07.4 -0.1**
BLY Banja Luka 82.64 315 ⇓*i*P **P 20 34 07.8 -0.3**
MWZ Matawai 82.66 129 P **P 20 34 08.1 -0.2**
OKC Ostrava-Krasne 82.68 320 *e*P **P 20 34 08.3 +0.2**
OKC Ostrava-Krasne 82.68 320 *e*P **P 20 34 08.3 +0.2**
MPLH Magyarpolny 82.70 317 P **P 20 34 08.4 +0.1**
comp=Z,476nm,1.4s,comp=Z,7μm
RAF Rauma 82.71 332 *e*P **P 20 34 08.6 +0.6**
VAF Ylistaro 82.76 334 *e*P **P 20 34 09.6 +1.4**
HAZ Te Kaha 82.80 128 P **P 20 34 08.5 -0.5**
MAUC Maruska 82.81 320 *e*P **P 20 34 09.4 +0.5**
JAVC Velka Javorina 82.84 319 *e*P **P 20 34 09.8 +0.7**
A051A Mrakovica 82.87 315 ⇓*i*P **P 20 34 08.8 -0.5**
KEV Kevo 82.98 341 P **P 20 34 09.9 +0.6**
KEV Kevo 82.98 341 P **P 20 34 09.9 +0.6**
KEV pmax pmax
comp=Z,305nm,1.7s
TWGZ Tauwhareparae 83.00 128 P **P 20 34 10.3 +0.2**
MODS Modra-Piesok 83.04 319 *e*P **P 20 34 10.3 +0.2**
MODS pmax pmax
comp=Z,264nm,1.4s
MODS Modra-Piesok 83.04 319 *e*P **P 20 34 10.3 +0.2**
MORC Moravsky Berou 83.06 320 IAmb IAmb 20 34 23.5
comp=Z,148nm,1.4s
MORC Moravsky Berou 83.06 320 *e*P **P 20 34 10.2 0.0**
MORC Moravsky Berou 83.06 320 ⇑P **P 20 34 09.7 -0.4**
MORC Moravsky Berou 83.06 320 ⇑P **P 20 34 09.7 -0.4**
A050A Klekovaca 83.08 315 *e*P **P 20 34 10.6 +0.2**
BEHE Becsehely 83.14 317 IAmb IAmb 20 34 24.2
comp=Z,101nm,1.3s
PUZ Puketiti 83.21 128 P P 20 34 05.3 -5.9
ARA0 ARCESS Array S 83.41 340 *e*P **P 20 34 12.3 +0.8**
ARA0 IAmb IAmb 20 34 13.4
comp=Z,83nm,0.9s
ARCES ARCESS Array B 83.41 340 P **P 20 34 12.1 +0.6**
comp=Z,52nm,0.8s,baz=105,slow=4.8,SNR=131
ARCES LR LR 21 14 17.8
comp=Z,2μm,21.1s,baz=96,slow=38
comp=Z,52nm,0.8s
KOGS Kog 83.50 317 *e*P **P 20 34 12.2 -0.2**
KOGS *e*pP **pwP 20 34 24.0 -0.9**
KRLC Kraliky 83.58 320 *e*P **P 20 34 13.3 +0.4**
KRLC Kraliky 83.58 320 *e*P **P 20 34 13.3 +0.4**
VRAC Vranov 83.61 320 *e*P **P 20 34 12.6 -0.4**
VRAC Vranov 83.61 320 ⇑P **P 20 34 13.4 +0.4**
VRAC Vranov 83.61 320 ⇑P **P 20 34 13.4 +0.4**
RONA Rosalia, Austr 83.61 318 *i* P **P 20 34 13.3 +0.2**
comp=Z,6.6nm,0.7s,SNR=5.5
KRUC Moravsky 83.70 319 *e*P **P 20 34 12.7 -0.8**
GKP Gorka Klasztor 83.73 324 *e*P **P 20 34 13.7 +0.3**
GKP Gorka Klasztor 83.73 324 *e*P **P 20 34 14.2 +0.7**
DPC Dobruska-Polom 83.91 321 *e*P **P 20 34 14.7 +0.2**
DPC Dobruska-Polom 83.91 321 *e*P **P 20 34 14.7 +0.2**
DPC Dobruska-Polom 83.91 321 P **P 20 34 15.0 +0.5**
comp=Z,88nm,1.5s,comp=Z,2μm
CONA Conrad Observa 83.93 318 *i* P **P 20 34 14.6 -0.2**
SNR=10.0
CRES Cresnjevec Ost 83.98 316 ⇓*i*P **P 20 34 14.3 -0.6**
KSP Ksiaz 83.99 321 *e*P **P 20 34 15.7 +0.8**
KSP Ksiaz 83.99 321 P **P 20 34 15.1 +0.2**
comp=Z,85nm,1.3s
OSTC Ostas 84.00 321 *e*P **P 20 34 15.5 +0.5**
OSTC Ostas 84.00 321 *e*P **P 20 34 15.5 +0.5**
VAE Valguarnera 84.01 308 LR LR 21 15 18.2
comp=Z,348nm,20.4s,baz=116,slow=38
KTK1 Kautokeino 84.04 340 *e*P **P 20 34 15.3 +0.5**
KTK1 IAmb IAmb 20 34 16.4
comp=Z,205nm,1.3s
ARSA Arzberg 84.08 317 *i* P **P 20 34 16.0 +0.5**
comp=Z,20nm,0.8s,SNR=20
BOJS Bojanci 84.09 316 ⇓*i*P **P 20 34 14.6 -0.9**
CHVC Chvalec 84.11 321 *e*P **P 20 34 16.1 +0.6**
CHVC Chvalec 84.11 321 *e*P **P 20 34 16.1 +0.6**
UPC Upice 84.12 321 *e*P **P 20 34 16.2 +0.6**
UPC Upice 84.12 321 *e*P **P 20 34 16.2 +0.6**
PAOL Paolisi 84.17 311 IAmb IAmb 20 34 30.8
comp=Z,149nm,1.5s
PERS Pernice 84.29 317 *i* P **P 20 34 16.5 -0.1**
PERS *i* pP **pwP 20 34 27.7 -1.3**
HAMF Hammerfest 84.33 341 *e*P **P 20 34 16.7 +0.5**
HAMF IAmb IAmb 20 34 17.0
comp=Z,68nm,1.0s
SOKA Soboth 84.36 317 *i* P **P 20 34 17.6 +0.7**
comp=Z,29nm,0.8s,SNR=28
OBKA Obir 84.67 317 *i* P **P 20 34 19.1 +0.6**
comp=Z,13nm,0.8s,SNR=6.9
OBKA Obir 84.67 317 *e*P **P 20 34 18.2 -0.4**
CEY Cerknica 84.69 316 *e*P **P 20 34 17.9 -0.7**
GOPC GO Pecny, Ondr 84.84 320 *e*P **P 20 34 19.5 +0.2**
GOPC GO Pecny, Ondr 84.84 320 *e*P **P 20 34 19.5 +0.2**
MOA Molln 84.99 318 *i* P **P 20 34 20.1 +0.1**
comp=Z,11nm,0.9s,SNR=8.7
PRU Pruhonice 85.01 320 *e*P **P 20 34 20.6 +0.6**
PRU Pruhonice 85.01 320 *e*P **P 20 34 20.6 +0.6**
PVCC Panska Ves 85.04 321 *e*P **P 20 34 21.2 +1.0**
PVCC Panska Ves 85.04 321 *e*P **P 20 34 21.2 +1.0**
CKRC Cesky Krumlov 85.05 319 *e*P **P 20 34 20.6 +0.3**
CKRC Cesky Krumlov 85.05 319 *e*P **P 20 34 20.6 +0.3**
JETT Jettan, Norway 85.15 340 *e*P **P 20 34 20.9 +0.5**
JETT IAmb IAmb 20 34 21.9
comp=Z,152nm,1.0s
CAMP Campotosto 85.16 313 IAmb IAmb 20 34 34.0
comp=Z,163nm,1.4s
ELIB Princess Elisa 85.17 197 *d*P **P 20 34 22.0 +1.4**
comp=Z,42nm,1.4s
ZVC Zvikov 85.18 319 *e*P **P 20 34 21.1 +0.2**
CADS Cadrg 85.21 316 *i* P **P 20 34 20.6 -0.6**
GUMA Gualdo di Mace 85.25 313 IAmb IAmb 20 34 22.7
comp=Z,94nm,0.9s
SABO M.te Sabotino 85.28 316 IAmb IAmb 20 34 34.0
comp=Z,151nm,1.5s
MYKA Terra Mystica 85.31 317 *i* P **P 20 34 21.6 -0.1**
comp=Z,13nm,0.7s,SNR=10
BSD Bornholm Skovb 85.32 325 *i* P **P 20 34 21.0 -0.4**
BSD IAmb IAmb 20 34 21.9
comp=Z,80nm,0.9s
PRED Cave del Predi 85.34 316 IAmb IAmb 20 34 33.8
comp=Z,88nm,1.1s
RICC Richard 85.34 321 *e*P **P 20 34 22.6 +0.9**
BIOA Bad Ischl, Aus 85.39 318 *i* P **P 20 34 21.5 -0.5**
comp=Z,12nm,0.7s,SNR=8.8
NRCA Norcia 85.39 313 IAmb IAmb 20 34 23.3
comp=Z,74nm,1.1s
FDMO Fiordimonte 85.43 313 IAmb IAmb 20 35 01.7
comp=Z,87nm,1.3s
GEC2 GERESS Array S 85.45 319 *e*P **P 20 34 22.4 -0.1**
comp=Z,130nm,1.2s,baz=94,slow=4.9
GERES GERESS Array B 85.45 319 P **P 20 34 22.2 -0.2**
comp=Z,36nm,1.0s,baz=100,slow=5.5,SNR=84
comp=Z,36nm,1.0s
BRG Berggiesshubel 85.47 321 *i* P **P 20 34 23.1 +0.8**
BRG Amp 20 34 23.9
comp=Z,58nm,1.1s
BRG Berggiesshubel 85.47 321 P P 20 34 34.8 +12
BRG Amp 20 34 36.4
comp=Z,44nm,1.0s
BRG Berggiesshubel 85.47 321 *i* P **P 20 34 23.1 +0.8**
BRG 20 37 46.7
BRG pmax pmax
comp=Z,58nm,1.1s
BRG pmax pmax
comp=Z,44nm,1.0s
BRG pmax pmax
comp=Z,36nm,1.1s
BRG pmax pmax
comp=Z,13nm,1.3s
BRG MLR MLR
comp=Z,1μm,19.8s
BRG MLR MLR
comp=N,456nm,20.2s
BRG MLR MLR
comp=E,943nm,18.3s
BRG Berggiesshubel 85.47 321 *e*P **P 20 34 22.9 +0.5**
comp=E,58nm,1.1s,baz=94,slow=4.9
KBA Koelnbreinsper 85.54 317 *i* P **P 20 34 22.7 -0.3**
comp=E,8.7nm,0.8s,SNR=7.4
KHC Kasperske Hory 85.55 319 *e*P **P 20 34 22.7 -0.2**
KHC *ex* x 20 34 34.0
KHC AMS AMS 21 20 30.0
comp=E,1μm,19.1s
KHC Kasperske Hory 85.55 319 *e*P **P 20 34 22.7 -0.2**
KHC *e* 20 34 34.0
KHC MLR MLR
comp=Z,1μm,19.1s
KHC Kasperske Hory 85.55 319 P **P 20 34 22.5 -0.4**
comp=Z,34nm,1.5s
TRO Tromso 85.67 340 *e*P **P 20 34 23.2 +0.3**
TRO IAmb IAmb 20 34 24.1
comp=Z,54nm,0.8s
RUE Ruedersdorf 85.72 322 *e*P **P 20 34 24.0 +0.6**
RUE Ruedersdorf 85.72 322 *e*P **P 20 34 24.1 +0.6**
comp=Z,143nm,1.0s,baz=94,slow=4.9
HSKC Hora Svate Kat 85.77 321 *e*P **P 20 34 24.3 +0.4**
RAO Raoul Island 85.77 119 LR LR 21 14 39.2
comp=Z,751nm,18.4s,baz=260,slow=37
RJOB Jochberg 85.97 318 *e*P **P 20 34 24.2 -0.8**
comp=Z,34nm,1.2s,baz=94,slow=4.9
SBA Scott Base 85.99 169 P **P 20 34 25.9 +1.5**
SBA IAmb IAmb 20 34 26.5
comp=Z,118nm,1.4s
SBA Scott Base 85.99 169 P **P 20 34 25.9 +1.5**
SBA pmax pmax
comp=Z,118nm,1.4s
WET Wettzell 86.01 319 *e*P **P 20 34 25.0 -0.2**
comp=Z,52nm,1.1s,baz=94,slow=4.9
LESA Schwarzleotal 86.02 317 *i* P **P 20 34 24.4 -0.9**
comp=Z,20nm,0.9s
ABTA Abfaltersbach 86.09 317 *i* P **P 20 34 25.3 -0.3**
comp=Z,11nm,0.8s,SNR=9.0
CLL Collm 86.10 321 *i* P **P 20 34 24.9 -0.5**
CLL *i* 20 34 30.1
CLL *e*S **S 20 45 03.0 +4.3**
CLL pmax pmax
comp=Z,47nm,1.1s
CLL MLR MLR
comp=Z,800nm,19.2s
CLL Collm 86.10 321 *e*P **P 20 34 25.4 -0.1**
comp=Z,40nm,1.1s,baz=94,slow=4.9
CLL Collm 86.10 321 *i* P **P 20 34 24.9 -0.5**
comp=Z,47nm,1.1s
CLL *i* sP **pP 20 34 30.1 -0.8**
CLL *i* x x 20 34 36.9
comp=Z,71nm,1.3s
CLL *e*PP **PP 20 37 46.0 +0.2**
CLL *e*SKSac **SKSac 20 44 50.0 -0.3**
CLL *e*S **S 20 45 03.0 +4.3**
CLL *ex* x 20 45 26.0
CLL *e*PS **PnS 20 45 59.0 +1.2**
CLL *e*PPS PPS 20 46 30.0
CLL *ex* x 20 55 12.0
CLL *e*SSSS 20 57 06.0
CLL AMS AMS 21 15 00.0
comp=N,1μm,21.0s
CLL AMS AMS 21 15 00.0
comp=E,400nm,21.2s
CLL AMS AMS 21 22 00.0
comp=Z,800nm,19.2s
CLL Collm 86.10 321 P **P 20 34 25.2 -0.2**
comp=Z,56nm,1.3s
CIMO Cimolais 86.11 316 IAmb IAmb 20 34 26.8
comp=Z,110nm,1.0s
NKC Novy Kostel 86.37 320 *e*P **P 20 34 27.7 +0.8**
NKC Novy Kostel 86.37 320 *e*P **P 20 34 27.7 +0.8**
TANN Tannenbergstha 86.38 320 *e*P **P 20 34 26.9 0.0**
comp=Z,33nm,1.2s,baz=94,slow=4.9
ROTZ Rotzenmuhle 86.49 320 *e*P **P 20 34 27.8 +0.3**
comp=Z,10nm,1.0s,baz=94,slow=4.9
HFS Hagfors 86.50 330 P **P 20 34 27.6 +0.4**
comp=Z,101nm,1.0s,baz=90,slow=5.5,SNR=61
HFS PKP2bc 20 59 58.4
comp=Z,2.3nm,0.4s,baz=64,slow=3.4,SNR=17
HFS LR LR 21 17 27.1
comp=Z,1μm,19.7s,baz=68,slow=39
comp=Z,101nm,1.0s
MANZ Manzenberg 86.57 320 *e*P **P 20 34 28.3 +0.4**
comp=Z,19nm,1.0s,baz=94,slow=4.9
PLN Plauen 86.57 320 *e*P **P 20 34 27.5 -0.3**
comp=Z,28nm,1.0s,baz=94,slow=4.9
FAUS Fauske 86.63 337 *e*P **P 20 34 28.2 +0.5**
FAUS IAmb IAmb 20 34 29.2
comp=Z,63nm,0.8s
CTI Castel Tesino 86.64 316 IAmb IAmb 20 34 29.7
comp=Z,79nm,0.8s
WTTA Wattenberg 86.72 317 *i* P **P 20 34 28.0 -0.8**
comp=Z,25nm,0.9s,SNR=12
STEI Steigen 86.72 338 *e*P **P 20 34 28.8 +0.7**
STEI IAmb IAmb 20 34 29.6
comp=Z,134nm,1.0s
WATA Walderalm 86.76 317 *i* P **P 20 34 28.0 -1.0**
comp=Z,14nm,0.9s,SNR=9.5
MOR8 Moi Rana 86.81 336 *e*P **P 20 34 28.6 -0.1**
MOR8 IAmb IAmb 20 34 28.6
comp=Z,85nm,1.1s
NEUB Neuenburg 86.86 321 *e*P **P 20 34 29.7 +0.5**
comp=Z,74nm,1.0s,baz=94,slow=4.9
MOX Moxa 86.93 321 *e*P **P 20 34 29.4 -0.2**
comp=Z,32nm,1.1s,baz=94,slow=4.9
MOX *e*L L 21 22 09.9
comp=Z,1μm,19.4s
SQTA Sankt Quirin 87.01 317 *i* P **P 20 34 29.3 -0.9**
comp=Z,24nm,0.8s,SNR=14
ZCCA Zocca 87.03 314 IAmb IAmb 20 35 02.3
comp=Z,159nm,1.3s
MOTA Moosalm 87.08 317 *e*P **P 20 34 30.0 -0.6**
comp=Z,17nm,0.7s
GRA1 Grafenberg Arr 87.13 320 IAmb IAmb 20 34 44.1
comp=Z,93nm,1.2s
GRF Grafenberg Arr 87.13 320 *e*P **P 20 34 30.9 +0.4**
comp=Z,64nm,1.1s,baz=94,slow=4.9
GRF *e*L L 21 20 59.4
comp=Z,928nm,19.1s
GRFO Grafenberg 87.13 320 P **P 20 34 30.9 +0.3**
GRFO IAmb IAmb 20 34 44.0
comp=Z,95nm,1.2s
GRFO Grafenberg 87.13 320 P **P 20 34 30.9 +0.3**
GRFO pmax pmax
comp=Z,95nm,1.2s
GORT1 Trebel 87.26 323 *e*P **P 20 34 31.6 +0.6**
comp=Z,142nm,1.4s,baz=94,slow=4.9
FLTG Flechtingen 87.26 322 *e*P **P 20 34 30.4 -0.7**
comp=Z,45nm,1.3s,baz=94,slow=4.9
RETA Reutte 87.32 317 *i* P **P 20 34 30.8 -0.8**
comp=Z,20nm,0.7s,SNR=12
FETA Feichten 87.33 317 *i* P **P 20 34 31.9 +0.1**
comp=Z,11nm,0.8s,SNR=7.6
VLC Villacollemand 87.45 314 P **P 20 34 33.5 +1.2**
CTZ Chatham Island 87.49 134 P **P 20 34 34.4 +2.0**
PRMA PARMA 87.52 315 IAmb IAmb 20 34 46.4
comp=Z,168nm,1.3s
ADK Adak 87.54 38 P **P 20 34 32.9 +0.5**
NC405 NORSAR Array S 87.55 331 IAmb IAmb 20 34 33.5
comp=Z,83nm,0.9s
NC602 NORSAR Array S 87.61 331 IAmb IAmb 20 34 45.5
comp=Z,142nm,1.2s
NC602 NORSAR Array S 87.61 331 *e*P **P 20 34 32.6 0.0**
NC602 IAmb IAmb 20 34 33.8
comp=Z,118nm,1.3s
FUORN Ofenpass-Fuorn 87.63 316 IAmb IAmb 20 34 46.7
comp=Z,99nm,1.4s
NSS Namsos 87.69 334 *e*P **P 20 34 33.3 +0.4**
NSS IAmb IAmb 20 34 33.6
comp=Z,66nm,1.0s
NC303 NORSAR Array S 87.73 331 IAmb IAmb 20 34 46.2
comp=Z,125nm,1.2s
CLZ Clausthal 87.77 322 *e*P **P 20 34 34.2 +0.6**
comp=Z,73nm,1.2s,baz=94,slow=4.9
NB2 NORSAR Subarra 87.79 331 P **P 20 34 33.2 -0.3**
comp=Z,98nm,1.1s,baz=98,slow=4.6
NB2 NORSAR Subarra 87.79 331 P **P 20 34 33.2 -0.3**
baz=98,slow=4.6
NOA NORSAR Array B 87.79 331 P **P 20 34 33.7 +0.1**
comp=Z,38nm,0.9s,baz=95,slow=4.9,SNR=54
NOA PP **PP 20 37 59.2 -0.1**
comp=Z,1.5nm,0.9s,baz=94,slow=8.4,SNR=2.0
NOA LR LR 21 18 27.8
comp=Z,820nm,19.3s,baz=75,slow=39
comp=Z,38nm,0.9s
SPA0 Spitsbergen Ar 87.89 348 *e*P **P 20 34 33.8 +0.1**
SPA0 IAmb IAmb 20 34 35.0
comp=Z,183nm,1.2s
SPITS Spitsbergen Ar 87.89 348 P **P 20 34 33.8 +0.1**
comp=Z,59nm,0.9s,baz=145,slow=10,SNR=9.7
SPITS LR LR 21 20 52.8

comp=Z,1µm,19.8s,baz=77,slow=40
comp=Z,59nm,0.9s
BSEG Bad Segeberg 87.90 324 *eP* **P 20 34 34.9 +0.8**
comp=Z,129nm,1.1s,baz=94,slow=4.9
DAVA Damuels 87.92 317 *i* P **P 20 34 35.2 +0.6**
comp=Z,24nm,0.9s,SNR=14
NAO01 NORSAR Array S 87.94 331 IAmb IAmb 20 34 47.1
comp=Z,108nm,1.1s
NRDL Niedersach Rie 87.96 322 *eP* **P 20 34 35.1 +0.8**
comp=Z,150nm,1.2s,baz=94,slow=4.9
OSL Oslo 87.97 330 *eP* **P 20 34 34.8 +0.5**
OSL IAmb IAmb 20 34 36.4
comp=Z,342nm,1.5s
KEST Kesra 88.00 306 P **P 20 34 35.9 +0.8**
comp=Z,80nm,1.0s,baz=76,slow=0.4,SNR=48
KEST LR LR 21 18 47.1
comp=Z,756nm,18.5s,baz=79,slow=39
comp=Z,80nm,1.0s
NBO00 NORSAR Array S 88.00 331 IAmb IAmb 20 34 47.6
comp=Z,133nm,1.1s
GTTG Gottingen 88.01 321 *eP* **P 20 34 35.2 +0.5**
comp=Z,95nm,1.3s,baz=94,slow=4.9
VSL Villasalto 88.06 309 IAmb IAmb 20 34 36.2
comp=Z,57nm,1.1s
MSSA Maissana 88.08 314 IAmb IAmb 20 34 50.0
comp=Z,80nm,1.2s
TUE Stuetta 88.25 316 P **P 20 34 36.1 -0.2**
comp=Z,183nm,1.6s
RETH Rethem/Aller, 88.42 323 *eP* **P 20 34 36.9 +0.4**
comp=Z,78nm,1.1s,baz=94,slow=4.9
KONO Kongsberg 88.52 330 P **P 20 34 36.3 -0.6**
KONO Kongsberg 88.52 330 *eP* **P 20 34 37.9 +0.9**
KONO Kongsberg 88.52 330 *ceP* **P 20 34 38.2 +1.2**
KONO pmax pmax
comp=Z,150nm,1.7s
NVL N'lazarevskaya 88.60 199 *eP* **P 20 34 37.5 +0.4**
NVL *eS* **SKSac 20 45 03.9 -0.9**
NVL pmax pmax
comp=Z,197nm,1.1s
NVL MLR MLR
comp=Z,2µm,17.0s
MUD Monsted U'grnd 88.64 326 *i* P **P 20 34 38.3 +0.8**
KBS Kingsbay 88.86 349 *eP* **P 20 34 38.3 +0.1**
KBS IAmb IAmb 20 34 39.2
comp=Z,42nm,0.6s
KBS Kingsbay 88.86 349 *ceP* **P 20 34 39.2 +1.0**
KBS pmax pmax
comp=Z,133nm,2.5s
KBS Kingsbay 88.86 349 *i* P **P 20 34 38.1 -0.1**
TNS Taunus Mts 88.94 320 *eP* **P 20 34 39.5 +0.3**
comp=Z,88nm,1.3s,baz=94,slow=4.9
KASTN Kahler Asten 88.97 321 *eP* **P 20 34 39.6 +0.2**
comp=Z,80nm,1.1s,baz=94,slow=4.9
BFO Black Forest 88.98 318 P **P 20 34 39.0 -0.4**
BFO Black Forest 88.98 318 P **P 20 34 39.0 -0.4**
BFO pmax pmax
comp=Z,44nm,1.2s
ATKA Atka Island 89.08 38 P **P 20 34 41.2 +1.5**
SKAR Skarslia 89.20 331 *eP* **P 20 34 40.2 0.0**
IBBN Ibbenburen 89.40 322 *eP* **P 20 34 42.3 +1.0**
comp=Z,122nm,0.9s,baz=94,slow=4.9
BUG Bochum--Univer 89.69 321 *eP* **P 20 34 42.9 +0.3**
comp=Z,90nm,1.0s,baz=94,slow=4.9
AKN Aaknes 89.84 332 *eP* **P 20 34 44.2 +1.1**
BLS5 Blasjo 90.12 329 *eP* **P 20 34 45.5 +1.0**
QSPA South Pole Qui 90.15 180 P **P 20 34 44.8 +0.2**
QSPA IAmb IAmb 20 34 46.8
comp=Z,203nm,1.4s
QSPA South Pole Qui 90.15 180 IAMs_20 IAMs_20 21 10 30.9
comp=Z,2µm,20.0s
QSPA South Pole Qui 90.15 180 P **P 20 34 45.8 +1.2**
comp=Z,41nm,1.0s,baz=300,slow=1.9,SNR=49
QSPA PP **PP 20 38 18.9 +0.9**
comp=Z,1.3nm,0.3s,baz=179,slow=4.5,SNR=1.5
QSPA PKKP **PKKPdf 20 52 12.7 -1.0**
comp=Z,2.8nm,0.8s,baz=313,slow=4.4,SNR=2.4
QSPA PKPPKP **P'P'df 21 00 20.7 -2.8**
comp=Z,2.0nm,0.2s,baz=302,slow=0.9,SNR=5.8
QSPA LR LR 21 10 41.8
comp=Z,2µm,19.6s,baz=311,slow=33
comp=Z,41nm,1.0s
HYA Hoyanger 90.23 331 *eP* **P 20 34 45.8 +0.9**
GAMB Gambell 90.38 26 P **P 20 34 46.1 +0.5**
baz=271
WLF Walferdange 90.42 319 P **P 20 34 45.7 -0.4**
WLF Walferdange 90.42 319 *eP* **P 20 34 46.6 +0.5**
comp=Z,101nm,1.2s,baz=94,slow=4.9
WLF Walferdange 90.42 319 *dP* **P 20 34 46.7 +0.6**
comp=Z,49nm,1.3s
BTNL Ternell 90.42 320 *dP* **P 20 34 46.9 +0.7**
comp=Z,46nm,1.0s
BTNL *dx* x 20 34 58.0
MEM Membach 90.50 320 *dP* **P 20 34 47.0 +0.6**
comp=Z,41nm,1.1s
MEM *dx* x 20 34 58.0
BEBN Eben Emael 90.70 321 *dP* **P 20 34 47.7 +0.3**
comp=Z,37nm,0.9s
BSTI Sart Tilman 90.78 320 *dP* **P 20 34 48.4 +0.6**
comp=Z,5.9nm,1.1s
BSTI *dx* x 20 34 59.7
BCLA Clavier 90.95 320 *dP* **P 20 34 48.7 +0.1**
comp=Z,32nm,1.2s
BCLA *dx* x 20 35 00.5
RCHB Rochefort 91.01 320 *dP* **P 20 34 49.3 +0.5**
comp=Z,27nm,1.2s
RCHB *dx* x 20 35 00.8
BGES Gesves 91.09 320 *dP* **P 20 34 49.3 +0.1**
comp=Z,32nm,0.9s
BGES *dx* x 20 35 01.1
AFI Afiamalu 91.20 104 P **P 20 34 51.8 +1.3**
BMRD Maredsous 91.30 320 *dP* **P 20 34 50.5 +0.3**
comp=Z,31nm,1.2s
SPIA Saint Paul Isl 91.31 33 P **P 20 34 50.4 +0.3**
baz=272
DOU Dourbes 91.42 320 *dP* **P 20 34 51.5 +0.8**
comp=Z,36nm,1.2s
DOU *dx* x 20 35 03.0
TROLL Troll, Antarti 91.59 198 ⇑P **P 20 34 52.1 +0.9**
comp=Z,479nm,0.8s
SSB Saint Sauveur 91.62 315 IAmb IAmb 20 34 53.2
comp=Z,51nm,1.0s
P08K Saint George I 91.72 34 P **P 20 34 52.1 +0.2**
baz=273
TNA Tin City 91.91 24 P **P 20 34 52.6 0.0**
baz=275
NIKH Nikolski High 92.33 37 P **P 20 34 55.4 +0.6**
baz=273
F14K Arctic Creek 92.58 25 P **P 20 34 56.4 +0.7**
baz=276
C16K Lisburne Hills 92.64 22 IAMs_20 IAMs_20 21 19 56.5
comp=Z,2µm,20.0s
C16K Lisburne Hills 92.64 22 P **P 20 34 56.7 +0.7**
baz=277
ANM Nome 93.09 25 IAMs_20 IAMs_20 21 20 08.5
comp=Z,1µm,19.0s
ANM Nome 93.09 25 P **P 20 34 57.9 -0.2**
baz=277
ETOS Mallorca 93.12 310 P **P 20 34 59.0 +0.1**
NOR Nord 93.19 352 *i* P **P 20 34 57.3 -1.0**
NOR IAmb IAmb 20 34 59.1
comp=Z,38nm,1.2s
F15K North Star Dit 93.25 24 IAMs_20 IAMs_20 21 23 10.9
comp=Z,1µm,18.0s
F15K North Star Dit 93.25 24 P **P 20 34 59.4 +0.6**
baz=278
SNAA Sanae 93.30 198 IAMs_20 IAMs_20 21 19 51.3
comp=Z,2µm,18.0s
SNAA Sanae 93.30 198 ⇑P **P 20 34 59.7 +0.6**
comp=Z,204nm,1.1s
SNAA Sanae 93.30 198 P **P 20 35 00.0 +1.0**
comp=Z,11nm,1.0s,baz=79,slow=5.1,SNR=17
SNAA PKKP **PKKPdf 20 52 05.0 -2.6**
comp=Z,1.5nm,0.9s,baz=323,slow=20,SNR=2.6
SNAA LR LR 21 12 20.7
comp=Z,759nm,18.5s,baz=69,slow=32
comp=Z,11nm,1.0s
SNAA Sanae 93.30 198 *ceP* **P 20 35 00.3 +1.2**
SNAA pmax pmax
comp=Z,26nm,1.3s
C17K DeLong Mountai 93.41 21 P **P 20 35 00.2 +0.6**
baz=279
D17K Noatak River 93.57 22 P **P 20 35 00.5 +0.2**
baz=279,SNR=7.3
RDOG Red Dog Mine 93.58 22 IAmb IAmb 20 35 13.7
comp=Z,119nm,1.4s
RDOG IAMs_20 IAMs_20 21 20 36.1
comp=Z,2µm,19.0s

RDOG Red Dog Mine 93.58 22 P **P 20 35 00.6 +0.3**
baz=279
G15K Niukluk 93.60 25 P **P 20 35 00.9 +0.5**
baz=278
UNV Unalaska Valle 93.66 36 P **P 20 35 01.3 +0.3**
baz=275
K13K Kusilvak Mount 93.74 28 IAMs_20 IAMs_20 21 18 58.2
comp=Z,1µm,19.0s
K13K Kusilvak Mount 93.74 28 P **P 20 35 01.1 0.0**
baz=278
B18K Kokolik River 93.75 20 P **P 20 35 01.6 +0.6**
baz=281
A19K Wainwright 93.84 20 P **P 20 35 01.9 +0.5**
baz=281
C18K Utukok River 94.10 21 P **P 20 35 03.4 +0.7**
baz=281
J14K Nanvaranak Lak 94.14 27 IAMs_20 IAMs_20 21 20 02.3
comp=Z,1µm,18.0s
J14K Nanvaranak Lak 94.14 27 P **P 20 35 03.7 +0.8**
baz=278
E17K Hotham Inlet 94.15 23 P **P 20 35 03.7 +0.7**
baz=280,SNR=6.5
G16K Koyuk River 94.24 24 IAmb IAmb 20 35 17.1
comp=Z,106nm,1.1s
G16K Koyuk River 94.24 24 P **P 20 35 03.9 +0.5**
baz=280
H16K Elim 94.42 25 P **P 20 35 04.5 +0.3**
baz=280,SNR=5.2
F17K Baldwin Pennin 94.50 23 IAmb IAmb 20 35 18.2
comp=Z,73nm,1.1s
F17K Baldwin Pennin 94.50 23 P **P 20 35 05.4 +0.8**
baz=281
E18K Tukpahlearik C 94.56 22 IAmb IAmb 20 35 18.6
comp=Z,125nm,1.2s
E18K IAMs_20 IAMs_20 21 17 46.3
comp=Z,2µm,20.0s
E18K Tukpahlearik C 94.56 22 P **P 20 35 05.5 +0.7**
baz=282,SNR=9.0
C19K Lookout Ridge 94.57 20 P **P 20 35 05.6 +0.7**
baz=283,SNR=10
M13K Dall Lake 94.58 29 P **P 20 35 05.9 +0.9**
baz=278
L14K Kuka Creek 94.76 28 IAmb IAmb 20 35 19.7
comp=Z,98nm,1.1s
L14K Kuka Creek 94.76 28 P **P 20 35 06.2 +0.4**
baz=279,SNR=5.4
JMIC Jan Mayen 94.85 342 LR LR 21 23 43.3
comp=Z,421nm,18.5s,baz=63,slow=39
VNA2 Neumayer--Watz 94.89 199 ⇑P **P 20 35 07.2 +0.9**
comp=Z,6.1nm,0.8s,baz=89,slow=3.4
G17K Kiwalik Mounta 94.92 24 P **P 20 35 07.2 +0.7**
baz=281
A21K Barrow 95.01 18 P **P 20 35 07.3 +0.5**
baz=286
F18K Selawik 95.09 23 P **P 20 35 07.4 +0.1**
baz=282,SNR=14
K15K Wolf Creek Mou 95.14 27 IAmb IAmb 20 35 21.7
comp=Z,77nm,1.2s
K15K IAMs_20 IAMs_20 21 23 21.1
comp=Z,2µm,19.0s
K15K Wolf Creek Mou 95.14 27 P **P 20 35 06.9 -0.7**
baz=280
TORD Torodi Ar. Bea 95.15 283 P **P 20 35 08.4 -0.2**
comp=Z,4.7nm,0.7s,baz=95,slow=4.5,SNR=34
TORD PP **PP 20 38 57.8 -0.9**
comp=Z,1.3nm,0.9s,baz=86,slow=7.9,SNR=4.0
TORD LR LR 21 17 03.8
comp=Z,773nm,18.0s,baz=90,slow=35
comp=Z,4.7nm,0.7s
B20K Meade River 95.19 19 P **P 20 35 07.8 +0.2**
baz=285
M14K Bethel 95.20 29 P **P 20 35 07.8 -0.1**
baz=280
I17K Unalakleet 95.22 26 IAmb IAmb 20 35 21.9
comp=Z,75nm,1.1s
I17K IAMs_20 IAMs_20 21 18 33.7
comp=Z,2µm,20.0s
I17K Unalakleet 95.22 26 P **P 20 35 07.9 +0.1**
baz=281,SNR=5.4
D19K Kuna River 95.23 21 P **P 20 35 08.5 +0.5**
baz=284
VNA1 Neumayer--Stat 95.23 199 ⇑P **P 20 35 08.9 +1.0**
comp=Z,17nm,1.0s
L15K Ungalak Mounta 95.27 28 P **P 20 35 08.6 +0.5**
baz=280
H17K Granite Mounta 95.34 25 IAmb IAmb 20 35 22.2
comp=Z,96nm,1.2s
H17K Granite Mounta 95.34 25 P **P 20 35 08.9 +0.5**
baz=282
FALS False Pass 95.34 35 P **P 20 35 08.8 +0.2**
baz=278
J16K Anvik River 95.37 26 IAMs_20 IAMs_20 21 21 44.2
comp=Z,2µm,19.0s
J16K Anvik River 95.37 26 P **P 20 35 08.5 -0.1**
baz=281
N14K Kuskokwak Cree 95.48 30 P **P 20 35 08.8 -0.3**
baz=280
DAG Danmarks Havn 95.53 348 *i* P **P 20 35 07.2 -1.9**
DAG IAmb IAmb 20 35 09.3
comp=Z,26nm,0.9s
A22K Sinclair Lake 95.61 18 P **P 20 35 10.2 +0.6**
baz=287
EKA Eskdalemuir Ar 95.64 326 P **P 20 35 10.4 +0.4**
comp=Z,9.3nm,0.7s,baz=101,slow=5.1,SNR=17
EKA PP **PP 20 39 01.0 -0.2**
comp=Z,1.4nm,0.6s,baz=99,slow=6.7,SNR=1.7
comp=Z,9.3nm,0.7s
G18K Tagagawik 95.64 24 IAMs_20 IAMs_20 21 20 22.1
comp=Z,2µm,20.0s
G18K Tagagawik 95.64 24 P **P 20 35 10.1 +0.3**
baz=283
D20K Etivluk River 95.71 21 P **P 20 35 10.2 +0.1**
baz=285
F19K Shaleruckik Mo 95.77 23 IAMs_20 IAMs_20 21 26 23.0
comp=Z,2µm,18.0s
F19K Shaleruckik Mo 95.77 23 P **P 20 35 10.8 +0.4**
baz=284
O14K Tigyukauivet M 95.81 30 P **P 20 35 10.0 -0.7**
baz=280
E19K Redstone River 95.81 22 IAMs_20 IAMs_20 21 21 57.6
comp=Z,2µm,20.0s
E19K Redstone River 95.81 22 P **P 20 35 11.1 +0.5**
baz=285,SNR=17
M15K Kasigluk River 95.83 29 P **P 20 35 11.3 +0.6**
baz=281
H18K Honhosa River 95.93 24 IAmb IAmb 20 35 24.6
comp=Z,88nm,1.2s
H18K IAMs_20 IAMs_20 21 25 07.8
comp=Z,1µm,18.0s
H18K Honhosa River 95.93 24 P **P 20 35 11.2 0.0**
baz=283
S12K Black Hills 95.98 34 P **P 20 35 11.7 +0.1**
baz=279
E20K Nigu River 95.99 21 P **P 20 35 11.7 +0.3**
baz=286
J17K VABM Dome 96.02 26 IAmb IAmb 20 35 25.5
comp=Z,88nm,1.2s
J17K IAMs_20 IAMs_20 21 19 00.1
comp=Z,2µm,22.0s
J17K VABM Dome 96.02 26 P **P 20 35 12.4 +0.8**
baz=283,SNR=6.6
ECHE Chera 96.05 310 P **P 20 35 12.1 -0.2**
B21K Ikpikpuk River 96.14 20 P **P 20 35 12.3 +0.4**
baz=287
L16K Owhat River 96.20 28 IAmb IAmb 20 35 26.3
comp=Z,83nm,1.1s
L16K IAMs_20 IAMs_20 21 25 18.0
comp=Z,1µm,20.0s
L16K Owhat River 96.20 28 P **P 20 35 12.4 0.0**
baz=282,SNR=6.0
G19K Purcell Mounta 96.20 23 IAmb IAmb 20 35 26.1
comp=Z,85nm,1.1s
G19K IAMs_20 IAMs_20 21 24 20.0
comp=Z,2µm,18.0s
G19K Purcell Mounta 96.20 23 P **P 20 35 12.4 0.0**
baz=285
N15K Kwethluk River 96.22 29 IAMs_20 IAMs_20 21 24 11.8
comp=Z,1µm,20.0s
N15K Kwethluk River 96.22 29 P **P 20 35 13.3 +0.7**
baz=281,SNR=6.2
C21K Knifeblade Rid 96.22 20 P **P 20 35 13.3 +0.9**
baz=287,SNR=8.8
B22K Teshekpuk Lake 96.31 19 IAmb IAmb 20 35 26.4
comp=Z,112nm,1.6s
B22K IAMs_20 IAMs_20 21 24 12.5
comp=Z,2µm,20.0s
B22K Teshekpuk Lake 96.31 19 P **P 20 35 12.6 -0.1**
baz=289

F20K Avaraart Lake 96.49 22 IAMs_20 IAMs_20 21 24 15.4
comp=Z,2µm,19.0s
F20K Avaraart Lake 96.49 22 P **P 20 35 13.9 +0.3**
baz=286
K17K Iditarod 96.52 27 IAMs_20 IAMs_20 21 22 40.5
comp=Z,1µm,18.0s
K17K Iditarod 96.52 27 P **P 20 35 14.2 +0.3**
baz=283
O15K Ungalikthiuk R 96.55 30 P **P 20 35 15.0 +0.9**
baz=282
M16K Timber Creek 96.59 28 IAmb IAmb 20 35 28.6
comp=Z,78nm,1.1s
M16K IAMs_20 IAMs_20 21 25 50.3
comp=Z,1µm,19.0s
M16K Timber Creek 96.59 28 P **P 20 35 14.4 +0.1**
baz=282
H19K Roundabout Mou 96.62 24 IAMs_20 IAMs_20 21 21 00.9
comp=Z,2µm,21.0s
H19K Roundabout Mou 96.62 24 P **P 20 35 15.3 +1.1**
baz=285
GCSA Galena City Sc 96.64 25 P **P 20 35 14.7 +0.4**
baz=285,SNR=7.5
L17K Donlin 96.66 27 P **P 20 35 15.1 +0.6**
baz=283
E21K Killik River 96.72 21 P **P 20 35 15.0 +0.3**
baz=288
N16K Nishlik Lake 96.80 29 P **P 20 35 15.7 +0.4**
baz=282
D22K Ayikyak River 97.03 20 IAmb IAmb 20 35 30.8
comp=Z,99nm,1.6s
D22K Ayikyak River 97.03 20 P Pdif 20 35 16.9 +0.7
baz=289
J18K Innoko River 97.04 26 IAmb IAmb 20 35 29.8
comp=Z,72nm,1.1s
J18K IAMs_20 IAMs_20 21 22 43.2
comp=Z,1µm,19.0s
J18K Innoko River 97.04 26 P Pdif 20 35 16.8 +0.5
baz=285
M17K Holitna River 97.22 28 IAmb IAmb 20 35 31.4
comp=Z,57nm,1.1s
M17K IAMs_20 IAMs_20 21 23 10.2
comp=Z,1µm,20.0s
M17K Holitna River 97.22 28 P Pdif 20 35 17.7 +0.5
baz=284
H20K Anotleneega Mo 97.26 24 P Pdif 20 35 17.8 +0.5
baz=287
F21K Alatna River 97.28 22 IAmb IAmb 20 35 31.3
comp=Z,82nm,1.3s
F21K Alatna River 97.28 22 P Pdif 20 35 17.9 +0.5
baz=288
O16K Kokwok River B 97.33 30 P Pdif 20 35 18.2 +0.6
baz=283
L18K Granite Mounta 97.37 27 IAmb IAmb 20 35 31.7
comp=Z,53nm,1.1s
L18K IAMs_20 IAMs_20 21 20 08.0
comp=Z,2µm,20.0s
L18K Granite Mounta 97.37 27 P Pdif 20 35 18.4 +0.6
baz=285
J19K Poorman 97.37 25 IAMs_20 IAMs_20 21 27 13.9
comp=Z,2µm,18.0s
J19K Poorman 97.37 25 P Pdif 20 35 18.4 +0.6
baz=286
C23K Itkillik River 97.39 19 IAMs_20 IAMs_20 21 24 56.7
comp=Z,2µm,20.0s
C23K Itkillik River 97.39 19 P **P 20 35 17.0 -0.6**
baz=291
TTA Tatalina 97.49 26 IAmb IAmb 20 35 32.2
comp=Z,65nm,1.2s
TTA Tatalina 97.49 26 P Pdif 20 35 18.8 +0.4
baz=285,SNR=6.7
TTA Tatalina 97.49 26 P Pdif 20 35 19.3 +0.9
G21K Allakaket 97.49 22 IAMs_20 IAMs_20 21 20 55.5
comp=Z,1µm,21.0s
G21K Allakaket 97.49 22 P Pdif 20 35 18.8 +0.6
baz=288
P16K Nushagak River 97.50 30 P Pdif 20 35 18.6 +0.2
baz=283
CHNA Chernabura Isl 97.53 35 P **P 20 35 18.6 0.0**
baz=281
N17K Nushagak Hills 97.55 29 IAmb IAmb 20 35 32.8
comp=Z,59nm,1.1s
N17K IAMs_20 IAMs_20 21 26 47.0
comp=Z,1µm,18.0s
N17K Nushagak Hills 97.55 29 P Pdif 20 35 18.8 +0.1
baz=284
IMAR Indian Mountai 97.56 23 P **P 20 35 18.3 -0.2**
E22K Anaktuvuk Pass 97.58 21 IAmb IAmb 20 35 33.2
comp=Z,109nm,1.8s
E22K IAMs_20 IAMs_20 21 25 41.2
comp=Z,2µm,20.0s
E22K Anaktuvuk Pass 97.58 21 P Pdif 20 35 19.2 +0.5
baz=290
I20K Naaghedeneel 97.62 24 P Pdif 20 35 19.5 +0.7
baz=287
F22K John River 97.66 21 P Pdif 20 35 19.7 +0.7
baz=289
D23K Nanushuk River 97.68 20 IAmb IAmb 20 35 33.0
comp=Z,73nm,1.4s
D23K Nanushuk River 97.68 20 P **P 20 35 19.1 +0.1**
baz=291
O17K Koliganek Bris 97.78 29 P Pdif 20 35 19.8 +0.2
baz=284,SNR=6.1
EBER Berja 97.82 307 P **P 20 35 19.2 -1.4**
CHGN Chignik 97.88 33 P Pdif 20 35 20.3 +0.1
baz=282
J20K Nowinta River 97.94 25 P Pdif 20 35 21.2 +0.9
baz=287
M18K Stony River 97.95 28 P Pdif 20 35 20.7 +0.3
baz=285
H21K Melozitna Rive 98.03 23 IAMs_20 IAMs_20 21 24 06.2
comp=Z,1µm,20.0s
H21K Melozitna Rive 98.03 23 P Pdif 20 35 21.0 +0.3
baz=289
C24K Franklin Bluff 98.05 19 P Pdif 20 35 21.2 +0.5
baz=293
R16K Pilot Point 98.05 32 P **P 20 35 20.6 -0.3**
baz=283
G22K Bettles 98.11 22 P Pdif 20 35 21.2 +0.3
baz=290
N18K Kilae Creek 98.13 28 IAmb IAmb 20 35 35.0
comp=Z,35nm,1.1s
N18K Kilae Creek 98.13 28 P Pdif 20 35 21.4 +0.1
baz=285
TOLK Toolik Lake Re 98.17 20 IAmb IAmb 20 35 35.0
comp=Z,54nm,1.4s
TOLK Toolik Lake Re 98.17 20 P Pdif 20 35 21.6 +0.3
baz=292
L19K White Mountain 98.21 27 IAmb IAmb 20 35 35.5
comp=Z,60nm,1.2s
L19K IAMs_20 IAMs_20 21 23 52.1
comp=Z,2µm,20.0s
L19K White Mountain 98.21 27 P Pdif 20 35 21.7 +0.1
baz=286
K20K Telida 98.21 26 IAMs_20 IAMs_20 21 27 43.2
comp=Z,2µm,18.0s
K20K Telida 98.21 26 P Pdif 20 35 21.8 +0.3
baz=287
D24K Happy Valley 98.23 19 IAmb IAmb 20 35 37.3
comp=Z,30nm,1.2s
D24K Happy Valley 98.23 19 P Pdif 20 35 22.0 +0.5
baz=293
P17K Kvichak River 98.24 30 P **P 20 35 21.7 +0.1**
baz=284
Q16K King Salmon 98.26 30 P **P 20 35 21.8 +0.1**
baz=284
ESDC Sonseca Array 98.34 310 P **P 20 35 22.2 -0.5**
comp=Z,2.3nm,0.9s,baz=80,slow=3.3,SNR=6.9
ESDC PP **PP 20 39 21.5 -1.1**
comp=Z,2.1nm,1.0s,baz=75,slow=7.1,SNR=5.0
ESDC LR LR 21 26 17.4
comp=Z,562nm,18.1s,baz=66,slow=39
comp=Z,2.3nm,0.9s
E23K Chandalar 98.38 20 IAmb IAmb 20 35 38.1
comp=Z,39nm,1.4s
E23K IAMs_20 IAMs_20 21 19 26.2
comp=Z,2µm,21.0s
E23K Chandalar 98.38 20 P Pdif 20 35 22.5 +0.2
baz=292
COLD Coldfoot 98.48 21 P Pdif 20 35 22.8 +0.2
baz=291
M19K Big River Lodg 98.49 27 IAMs_20 IAMs_20 21 20 52.8
comp=Z,2µm,21.0s
M19K Big River Lodg 98.49 27 P Pdif 20 35 22.9 +0.1
baz=287
H22K Ishtalitna Cre 98.51 23 P Pdif 20 35 23.4 +0.6
baz=290
I21K Tanana 98.51 23 IAmb IAmb 20 35 36.8
comp=Z,73nm,1.4s

I21K IAMs_20 IAMs_20 21 25 59.6
comp=Z,2µm,18.0s
I21K Tanana 98.51 23 P **P 20 35 22.7 -0.1**
baz=289,SNR=6.5
L20K Farewell, AK 98.56 26 P Pdif 20 35 23.7 +0.6
baz=287,SNR=7.3
R17L Mt. Peulik Vol 98.67 31 P Pdif 20 35 24.4 +0.7
baz=284
O18K Koktuh Hills 98.68 29 P Pdif 20 35 24.0 +0.3
baz=286
G23K Bananza Creek 98.73 22 IAmb IAmb 20 35 37.7
comp=Z,64nm,1.5s
G23K Bananza Creek 98.73 22 P Pdif 20 35 24.2 +0.4
baz=291
Q17K Contact Creek 98.76 31 P **P 20 35 24.1 0.0**
baz=285
N19K Bonanza Creek 98.76 28 P **P 20 35 23.6 -0.6**
baz=286
E24K Your Creek 98.76 20 P **P 20 35 23.8 -0.2**
baz=293
P18K Big Mountain, 98.79 30 IAMs_20 IAMs_20 21 25 04.6
comp=Z,990nm,19.0s
P18K Big Mountain, 98.79 30 P **P 20 35 23.8 -0.4**
baz=286
CHUM Lake Minchumin 98.80 25 P **P 20 35 23.7 -0.4**
baz=289,SNR=5.7
D25K Kavik River 98.96 19 IAmb IAmb 20 35 38.3
comp=Z,54nm,1.4s
D25K IAMs_20 IAMs_20 21 23 42.5
comp=Z,2µm,22.0s
D25K Kavik River 98.96 19 P **P 20 35 24.4 -0.4**
baz=295
O19K Port Alsworth 99.01 29 P **Pdif 20 35 24.8 -0.3**
baz=286
CAST Castle Rocks 99.05 25 IAmb IAmb 20 35 39.6
comp=Z,74nm,1.3s
CAST IAMs_20 IAMs_20 21 26 35.9
comp=Z,1µm,18.0s
CAST Castle Rocks 99.05 25 P **Pdif 20 35 24.8 -0.5**
baz=289,SNR=8.1
MLY Manley 99.06 23 IAmb IAmb 20 35 39.8
comp=Z,48nm,1.5s
MLY Manley 99.06 23 P **Pdif 20 35 25.4 +0.1**
baz=290
M20K Styx River 99.07 27 IAmb IAmb 20 35 41.6
comp=Z,42nm,1.1s
M20K IAMs_20 IAMs_20 21 25 58.0
comp=Z,1µm,19.0s
M20K Styx River 99.07 27 P **Pdif 20 35 25.6 +0.1**
baz=288
Q18K Katmai Hardscr 99.10 30 P **Pdif 20 35 25.5 -0.2**
baz=286
C26K Camden Bay 99.16 18 P **Pdif 20 35 25.8 +0.3**
baz=297
PPLA Purkeypile 99.17 26 P **Pdif 20 35 25.6 -0.4**
baz=289
F24K Squaw Lake 99.19 21 P **Pdif 20 35 25.6 -0.3**
baz=294
H23K Yukon River 99.24 23 IAmb IAmb 20 35 40.1
comp=Z,56nm,1.5s
H23K IAMs_20 IAMs_20 21 22 37.0
comp=Z,2µm,19.0s
H23K Yukon River 99.24 23 P **Pdif 20 35 25.4 -0.7**
baz=292
BPAW Bear Paw Mtn. 99.28 24 IAMs_20 IAMs_20 21 27 42.0
comp=Z,1µm,18.0s
BPAW Bear Paw Mtn. 99.28 24 P **Pdif 20 35 25.8 -0.5**
baz=290,SNR=8.3
KTH Kantishna Hill 99.49 25 IAMs_20 IAMs_20 21 28 38.7
comp=Z,1µm,18.0s
CHIR Chirikof Islan 99.52 33 P **Pdif 20 35 27.6 +0.1**
baz=285
I23K Minto, Yukon-K 99.56 23 P **Pdif 20 35 28.0 +0.5**
baz=292
C27K Jago River 99.66 18 P **Pdif 20 35 28.4 +0.5**
baz=298
G24K Hadweenzic Riv 99.67 21 P **Pdif 20 35 27.7 -0.3**
baz=294
MDT Midelt 99.67 303 LR LR 21 24 50.2
comp=Z,749nm,18.9s,baz=100,slow=38
R18K Karluk 99.68 31 P **Pdif 20 35 27.6 -0.5**
baz=286
P19K Oil Pt 99.70 29 P **Pdif 20 35 28.4 +0.1**
baz=287
N20K Mount Spurr 99.70 27 P **Pdif 20 35 27.6 -0.7**
baz=288,SNR=5.4
SPCR Spurr Chakacha 99.70 27 P **Pdif 20 35 28.4 +0.1**
baz=288
Q19K Cape Douglas, 99.71 30 P **Pdif 20 35 28.3 0.0**
baz=287
SKT Skwentna 99.76 26 IAMs_20 IAMs_20 21 24 40.8
comp=Z,1µm,18.0s
SKT Skwentna 99.76 26 P **Pdif 20 35 28.4 -0.1**
baz=289,SNR=7.0
TRF Thorofare Moun 99.79 25 P **Pdif 20 35 28.7 -0.1**
baz=291
O20K Slope Mountain 99.86 28 P **Pdif 20 35 28.9 -0.1**
baz=288
H24K Noodor Dome 99.86 22 IAMs_20 IAMs_20 21 27 16.7
comp=Z,2µm,18.0s
H24K Noodor Dome 99.86 22 P **Pdif 20 35 29.0 +0.1**
baz=293
BWN Browne 99.88 24 IAMs_20 IAMs_20 21 26 56.6
comp=Z,2µm,18.0s
NEA2 Nenana 99.88 24 P **Pdif 20 35 28.8 -0.1**
baz=292
F25K Christian Rive 99.95 20 P **Pdif 20 35 29.0 -0.3**
baz=296
SII Sitkinak Islan 100.10 32 P **Pdif 20 35 29.4 -0.7**
baz=286
G25K Bearman Lake 100.14 21 P **Pdif 20 35 29.7 -0.3**
baz=295
COLA College 100.26 23 P **Pdif 20 35 30.6 0.0**
baz=293
MCK McKinley 100.26 24 P **Pdif 20 35 30.9 +0.3**
baz=292,SNR=5.0
SUA Susitna One 100.28 27 P **Pdif 20 35 30.9 0.0**
baz=290,SNR=6.9
WRH Wood River Hil 100.32 24 IAMs_20 IAMs_20 21 27 07.4
comp=Z,1µm,18.0s
POKR Poker Plat Res 100.32 23 P **Pdif 20 35 30.4 -0.5**
baz=294
CAPN Captain Cook N 100.33 28 P **Pdif 20 35 30.1 -0.8**
baz=289
OHAK Old Harbor 100.38 31 P **Pdif 20 35 31.3 0.0**
baz=287
RND Reindeer 100.41 25 IAMs_20 IAMs_20 21 27 12.9
comp=Z,2µm,18.0s
F26K Sheenjek River 100.42 20 P **Pdif 20 35 31.6 +0.3**
baz=297
Q20K Shuyak Island 100.42 30 P **Pdif 20 35 30.9 -0.5**
baz=288
H25L Birch Creek 100.45 21 P **Pdif 20 35 31.8 +0.4**
baz=295
HOM Homer 100.46 29 P **Pdif 20 35 31.3 -0.3**
baz=289
M22K Willow 100.46 26 P **Pdif 20 35 32.0 +0.5**
baz=290
NEEM North Greenlan 100.50 353 *i* P **Pdif 20 35 32.1 +0.3**
KDAK Kodiak Island 100.58 31 P **Pdif 20 35 32.4 +0.2**
comp=Z,4.2nm,0.8s,baz=326,slow=22,SNR=1.5
KDAK Kodiak Island 100.58 31 P **Pdif 20 35 32.8 +0.6**
baz=288
ILAR Eielson Array 100.67 23 P **Pdif 20 35 31.1 -1.3**
comp=Z,0.6nm,0.7s,baz=300,slow=5.1,SNR=6.6
ILAR PP **PP 20 39 38.1 -1.4**
comp=Z,8.9nm,1.3s,baz=292,slow=7.5,SNR=7.3
ILAR PKKPbc **PKKPbc 20 51 46.1 -3.0**
comp=Z,4.2nm,1.1s,baz=151,slow=2.1,SNR=12
D27M Malcolm River 100.70 18 IAMs_20 IAMs_20 21 22 42.4
comp=Z,2µm,20.0s
D27M Malcolm River 100.70 18 P **Pdif 20 35 33.0 +0.4**
baz=300
CNPM China Poot 100.70 29 IAMs_20 IAMs_20 21 29 01.9
comp=Z,1µm,18.0s
WAT1 Susitna Watana 100.76 25 P **Pdif 20 35 32.4 -0.6**
baz=292
HDA Harding Lake 100.80 23 P **Pdif 20 35 32.6 -0.4**
baz=294
BRSE Bradley Lake S 100.87 29 P **Pdif 20 35 33.0 -0.5**
baz=290
RC01 Rabbit Creek A 100.87 27 IAMs_20 IAMs_20 21 27 15.6
comp=Z,1µm,21.0s
RC01 Rabbit Creek A 100.87 27 P **Pdif 20 35 33.0 -0.4**
baz=291
G26K Porcupine Rive 100.88 20 P **Pdif 20 35 33.1 -0.2**
baz=297
PRP Porcupine Dome 100.89 22 P **Pdif 20 35 33.0 -0.5**
baz=295
PMR Palmer 100.96 26 P **Pdif 20 35 33.0 -0.7**
baz=291
PMR Palmer 100.96 26 P **Pdif 20 35 34.7 +0.9**
GHO Glory Hole Cre 100.99 26 IAMs_20 IAMs_20 21 29 14.3
comp=Z,2µm,22.0s
E27K Coleen River 101.03 19 P **Pdif 20 35 33.3 -0.7**
baz=300
O22K Cooper Landing 101.09 28 IAMs_20 IAMs_20 21 24 39.2
comp=Z,1µm,20.0s
O22K Cooper Landing 101.09 28 P **Pdif 20 35 33.9 -0.5**
baz=291
DHY Denali Highway 101.16 25 P **Pdif 20 35 34.1 -0.7**
baz=293
WAT6 Susitna Watana 101.20 25 P **Pdif 20 35 34.0 -1.1**
baz=293,SNR=7.8
SML Sawmill 101.24 26 P **Pdif 20 35 34.4 -0.7**
baz=292,SNR=6.9
KNK Knik Glacier 101.33 27 IAMs_20 IAMs_20 21 21 49.4
comp=Z,1µm,21.0s
KNK Knik Glacier 101.33 27 P **Pdif 20 35 35.0 -0.5**
baz=292
D28M Stokes Point 101.33 17 P **Pdif 20 35 35.0 -0.3**
baz=303
J25K Salcha River, 101.33 23 P **Pdif 20 35 34.7 -0.8**
baz=295
SEW Seward 101.35 28 P **Pdif 20 35 35.0 -0.5**
baz=291
E28M Babbage River 101.47 18 IAMs_20 IAMs_20 21 26 06.9
comp=Z,2µm,20.0s
E28M Babbage River 101.47 18 P **Pdif 20 35 35.6 -0.3**
baz=302
M23K Glacier View 101.51 26 P **Pdif 20 35 35.2 -1.0**
baz=293
K24K Donnelly Dome 101.52 24 P **Pdif 20 35 35.5 -0.8**
baz=295
PWL Port Wells 101.59 27 IAMs_20 IAMs_20 21 27 48.4
comp=Z,2µm,20.0s
PWL Port Wells 101.59 27 P **Pdif 20 35 36.7 +0.1**
baz=292
SCM Sheep Creek Mo 101.67 26 P **Pdif 20 35 37.0 -0.1**
baz=293
G27K Doyon Strip 101.69 20 P **Pdif 20 35 37.0 0.0**
baz=299
DBIC Dimbokro 101.78 277 P **Pdif 20 35 38.9 +0.4**
comp=Z,9.9nm,1.0s,baz=101,slow=9.1,SNR=5.6
I26K Coal Creek Min 101.87 22 P **Pdif 20 35 37.8 +0.1**
baz=298
F28M Old Crow 101.88 19 P **Pdif 20 35 37.6 -0.2**
baz=301
RIDG Independent Ri 101.92 24 P **Pdif 20 35 37.9 -0.2**
baz=296
AVE Averroes 101.95 304 IAMs_20 IAMs_20 21 26 34.9
comp=Z,2µm,18.0s
PAX Paxson 101.99 24 P **Pdif 20 35 38.0 -0.4**
baz=295
H27K Steamboat Moun 102.02 21 P **Pdif 20 35 38.2 -0.2**
baz=299
M24K Tolsona, Glenn 102.06 25 P **Pdif 20 35 38.2 -0.5**
baz=294
J26L Joseph Creek 102.08 23 P **Pdif 20 35 38.4 -0.4**
baz=297
E29M Blow River 102.10 18 P **Pdif 20 35 38.0 -0.7**
baz=303
GLI Glacier Island 102.14 27 P **Pdif 20 35 38.3 -0.8**
baz=293
SCRK Sand Creek 102.16 23 IAMs_20 IAMs_20 21 28 21.9
comp=Z,2µm,19.0s
SCRK Sand Creek 102.16 23 P **Pdif 20 35 38.5 -0.7**
baz=297
SUMG Summit 102.21 348 *e*P **Pdif 20 35 43.4 +3.8**
I27K Kandik River 102.29 21 P **Pdif 20 35 39.9 +0.2**
baz=299
P23K Montague Islan 102.35 28 P **Pdif 20 35 39.7 -0.2**
baz=293
HARP HAARP 102.37 25 P **Pdif 20 35 39.6 -0.5**
baz=295
KLU Klutina 102.42 26 P **Pdif 20 35 39.5 -0.9**
baz=294
FID Port Fidalgo 102.47 27 IAMs_20 IAMs_20 21 30 35.4
comp=Z,2µm,18.0s
HIN Hinchinbrook I 102.60 27 IAMs_20 IAMs_20 21 28 29.1
comp=Z,2µm,18.0s
MENT Mentasta 102.73 24 P **Pdif 20 35 42.5 +0.8**
L26K Log Cabin Wild 102.84 24 P **Pdif 20 35 41.9 -0.3**
baz=297
EGAK Eagle 102.87 22 P **Pdif 20 35 41.7 -0.5**
baz=299
G29M Pine Creek 102.87 19 P **Pdif 20 35 41.8 -0.4**
baz=303
K27K Chicken 102.88 23 P **Pdif 20 35 42.6 +0.3**
baz=298
EYAK Cordova Ski Ar 102.88 27 P **Pdif 20 35 42.6 +0.3**
baz=294
N25K Chitina, Valde 102.95 26 P **Pdif 20 35 42.2 -0.5**
baz=296
I28M Miner Creek 102.98 21 P **Pdif 20 35 42.3 -0.5**
baz=301
Q23K Middleton Isla 103.06 28 P **Pdif 20 35 43.0 -0.1**
baz=294
A36M Sachs Harbour 103.11 12 IAMs_20 IAMs_20 21 25 10.7
comp=Z,2µm,20.0s
A36M Sachs Harbour 103.11 12 P **Pdif 20 35 43.5 +0.4**
baz=316
H29M Whitestone 103.12 20 P **Pdif 20 35 43.9 +0.6**
baz=302
F30M Barrier River 103.19 18 P **Pdif 20 35 44.0 +0.3**
baz=305
BMRM Bremner River 103.22 26 P **Pdif 20 35 45.1 +1.2**
baz=295
M26K Nabesna, AK 103.27 24 IAMs_20 IAMs_20 21 29 02.8
comp=Z,1µm,18.0s
M26K Nabesna, AK 103.27 24 P **Pdif 20 35 44.3 +0.1**
baz=297
GLB Gilahina Butte 103.36 26 IAMs_20 IAMs_20 21 24 35.9
comp=Z,1µm,20.0s
G30M tAoh Zraii Nji 103.42 19 P **Pdif 20 35 45.1 +0.4**
baz=305
L27K Beaver Creek, 103.44 24 IAMs_20 IAMs_20 21 30 11.2
comp=Z,1µm,19.0s
L27K Beaver Creek, 103.44 24 P **Pdif 20 35 45.1 +0.2**
baz=298
INK Inuvik 103.47 17 P **Pdif 20 35 45.2 +0.4**
baz=308
EPYK Eagle Plains 103.60 20 P **Pdif 20 35 45.8 +0.3**
baz=304
MCARA McCarthy VSAT 103.72 25 P **Pdif 20 35 47.0 +0.9**
baz=297
KAIM Kayak Island 103.75 27 P **Pdif 20 35 46.6 +0.4**
baz=295
M27K Edge Creek, AK 103.75 24 P **Pdif 20 35 47.1 +0.7**
baz=298
DAWY Dawson 103.89 22 P **Pdif 20 35 47.2 +0.4**
baz=301
F31M Tsiigehtchic 103.93 18 P **Pdif 20 35 47.5 +0.7**
baz=307
CRQM Cirque 103.95 26 IAMs_20 IAMs_20 21 22 35.4
comp=Z,2µm,19.0s
CRQE Cirque 103.98 26 P **Pdif 20 35 47.8 +0.4**
baz=297
G31M Satah River 104.08 18 P **Pdif 20 35 47.7 +0.2**
baz=306
J29N Klondike Camp 104.12 22 P **Pdif 20 35 47.5 -0.4**
baz=302
BVCY Beaver Creek 104.14 24 P **Pdif 20 35 48.1 +0.1**
baz=299
BGLC Bering Glacier 104.18 27 P **Pdif 20 35 48.7 +0.6**
baz=296
I30M Mount Dempster 104.36 20 P **Pdif 20 35 49.5 +0.4**
baz=304
YUK3 Moose Creek 104.62 24 P **Pdif 20 35 49.9 -0.5**
baz=299
CTG Chitna Glacier 104.64 25 P **Pdif 20 35 49.7 -0.6**
baz=298
K29M Barlow Dome 104.71 22 P **Pdif 20 35 50.7 +0.1**
baz=303
H31M Peel River 104.72 19 P **Pdif 20 35 50.4 -0.1**
baz=306
J30M Hart River 104.74 21 P **Pdif 20 35 50.3 -0.4**
baz=304
LOGN Logan Glacier 104.85 25 IAMs_20 IAMs_20 21 27 59.7
comp=Z,1µm,20.0s
L29M L29M 104.87 23 P **Pdif 20 35 51.0 -0.2**
baz=302
M29M Somme Creek 105.09 23 P **Pdif 20 35 52.1 -0.2**
baz=301
YUK8 Steele Glacier 105.15 25 P **PKiKP 20 40 06.5 -0.6**
baz=300
O28M Mount Upton 105.23 25 P **PKiKP 20 40 06.9 -0.4**
baz=299
C36M Paulatuk 105.31 14 P **PKiKP 20 40 07.4 +0.7**
baz=317
MAYO Mayo, Yukon 105.45 22 P **PKiKP 20 40 08.1 +0.8**
baz=304
PINM Pinnacle 105.53 26 P **PKiKP 20 40 08.5 +1.0**
baz=299
YUK4 Talbot Arm 105.59 24 P **PKiKP 20 40 07.4 -0.4**
baz=301
M30M Minto, Yukon 105.67 23 P **PKiKP 20 40 07.6 -0.1**
baz=303
YUK6 Outpost Mounta 105.91 25 P **PKiKP 20 40 08.9 +0.4**
baz=301
PNL Peninsula 106.12 26 P **PKiKP 20 40 09.6 +1.0**
baz=300
O29M Mount Kennedy 106.15 25 P **PKiKP 20 40 08.6 -0.2**
baz=301
N30M Aishikik Lake 106.16 24 P **PKiKP 20 40 08.8 +0.1**
baz=302
HYT Haines Junctio 106.33 25 P **PKiKP 20 40 09.3 +0.2**
baz=302
N31M Braeburn, Yuko 106.67 24 P **PKiKP 20 40 10.7 +1.1**
baz=304
M31M Drury Creek, Y 106.81 23 P **PKiKP 20 40 10.0 +0.2**
baz=305
P29M Windy Craggy 106.86 26 P **PKiKP 20 40 10.4 +0.4**
baz=302
P30M Million Dollar 106.94 25 P **PKiKP 20 40 11.1 +1.0**
baz=302
O30N Mendenhall 106.95 24 P **PKiKP 20 40 10.9 +0.7**
baz=303
FARO Faro, Yukon 107.19 22 P **PKiKP 20 40 10.6 0.0**
baz=306
WHY Whitehorse 107.50 24 P **PKiKP 20 40 11.2 -0.1**
baz=304
PLBC Pleasant Camp 107.55 25 P **PKiKP 20 40 12.4 +1.2**
baz=303
MMPY Sheldon Lake, 107.73 21 P **PKiKP 20 40 12.3 +0.7**
baz=308
N32M Quiet Lake 107.93 23 P **PKiKP 20 40 12.5 +0.5**
baz=306
SKAG Skagway 107.99 25 P **PKiKP 20 40 13.2 +1.2**
baz=304
R31K City Hall, Gus 108.39 26 P **PKiKP 20 40 13.2 +0.4**
baz=303
S31K Pelican 108.41 27 P **PKiKP 20 40 13.2 +0.4**
baz=302
P32M Atlin 108.59 25 P **PKiKP 20 40 13.7 +0.4**
baz=305
P33M Teslin, Yukon 108.60 24 P **PKiKP 20 40 13.2 0.0**
baz=306
R32K Eaglecrest 109.00 26 P **PKiKP 20 40 14.0 0.0**
baz=304
SIT Sitka 109.31 27 P **PKiKP 20 40 15.9 +1.4**
baz=303
S32K Killisnoo 109.43 27 P **PKiKP 20 40 15.9 +1.2**
baz=304
Q32M Nakina River 109.56 25 P **PKiKP 20 40 16.1 +0.8**
baz=306
R33M Jennings River 109.84 24 P **PKiKP 20 40 16.2 +0.5**
baz=308
WRGLY Wrigley 109.95 18 P **PKiKP 20 40 16.8 +1.2**
baz=316
WTLY Watson Lake, Y 110.24 23 P **PKiKP 20 40 18.0 +1.7**
baz=310
S34M Telegraph Cree 110.67 25 P **PKiKP 20 40 18.1 +1.0**
baz=307
DLBC Dease Lake 110.81 24 P **PKiKP 20 40 18.1 +0.6**
baz=308
U33K Whale Pass 110.85 27 P **PKiKP 20 40 17.4 0.0**
baz=305
WRAK Wrangell Islan 111.03 27 P **PKiKP 20 40 18.5 +0.6**
baz=306
CRAG Craig 111.22 28 P **PKiKP 20 40 19.0 +0.8**
baz=305
TBI Tubuai 111.59 115 *e*LR LR 21 13 26.6
comp=Z,1µm,30.5s
TBI *e*LR LR 21 13 27.7
comp=Z,4µm,23.8s
T35M Bob Quinn 111.62 26 P **PKiKP 20 40 19.6 +0.6**
baz=308
LIRD Liard River Hi 111.73 22 P **PKiKP 20 40 20.1 +1.0**
baz=313
KOTAN Kotaneelee Air 111.98 21 P **PKiKP 20 40 20.1 +0.6**
baz=315
V35K Ketchikan 112.00 28 P **PKiKP 20 40 21.0 +1.3**
baz=306
PPT2 Papeete2 112.32 109 *e*LQ LQ 21 09 03.8
comp=Z,3µm,37.8s
PPT2 *e*LR LR 21 13 47.3
comp=Z,1µm,27.2s
PPT2 *e*LR LR 21 13 50.6
comp=Z,717nm,28.8s
U35K Hyder 112.37 26 P **PKiKP 20 40 21.5 +1.1**
baz=308
TOAD Toad River Com 112.44 22 P **PKiKP 20 40 21.9 +1.4**
baz=313
YKA Yellowknife Ar 113.09 15 Pdiff **Pdif 20 36 28.1 +0.4**
comp=Z,0.2nm,0.4s,baz=321,slow=2.6,SNR=2.8
YKA PKiKP **PKiKP 20 40 20.7 -0.9**
comp=Z,2.1nm,1.0s,baz=320,slow=2.5,SNR=11
YKA PP **PP 20 41 09.2 -1.2**
comp=Z,5.2nm,1.2s,baz=327,slow=7.4,SNR=5.2
YKA PKKPbc **PKKPbc 20 51 07.6 -2.7**
comp=Z,5.2nm,1.1s,baz=144,slow=3.0,SNR=14
YKA SKKPbc SKKPbc 20 54 58.3 +3.7
comp=Z,0.5nm,1.0s,baz=150,slow=2.8,SNR=3.7
TAOE Nuku Hiva Isla 122.42 100 *e*LR LR 21 18 27.2
comp=Z,1µm,23.7s
FFC Flin Flon 123.06 13 PKPdf **PKPdf 20 40 39.9 -1.1**
FFC Flin Flon 123.06 13 PKIKP **PKPdf 20 40 39.9 -1.1**
NEW Newport 123.39 27 PKP **PKiKP 20 40 42.1 -0.1**
comp=Z,6.9nm,0.7s,baz=128,slow=4.1,SNR=9.3
SCHQ Schefferville 123.57 349 PKP **PKPdf 20 40 41.6 -0.4**
comp=Z,9.1nm,0.8s,baz=40,slow=5.9,SNR=7.0
SCHQ PP **PP 20 42 23.3 +0.4**
comp=Z,4.5nm,0.8s,baz=6.9,slow=4.3,SNR=1.9
YBH Yreka Blue Hor 124.97 36 PKP **PKiKP 20 40 45.4 -0.1**
comp=Z,3.6nm,0.9s,baz=58,slow=4.2,SNR=3.8
ULM Lac du Bonnet 128.54 11 PKP **PKPdf 20 40 51.0 -0.6**
comp=Z,12nm,0.7s,baz=349,slow=2.4,SNR=20
ULM PP **PP 20 42 53.7 -2.2**
comp=Z,8.0nm,1.1s,baz=353,slow=14,SNR=3.6
NVAR Mina Array Bea 129.68 36 PKP **PKiKP 20 40 55.6 +0.4**
comp=Z,9.7nm,0.8s,baz=271,slow=1.9,SNR=33
ELK Elko 129.80 32 PKP **PKPdf 20 40 54.6 0.0**
comp=Z,5.7nm,0.7s,baz=309,slow=3.1,SNR=23
PDAR Prudhoe Array 131.00 26 PKP **PKPdf 20 40 56.0 -0.9**
comp=Z,3.1nm,0.6s,baz=154,slow=1.3,SNR=24
PDAR PP **PP 20 43 12.8 +0.1**
comp=Z,2.6nm,1.0s,baz=315,slow=5.8,SNR=4.2
R11B Troy Canyon, C 131.31 34 P **PKPdf 20 40 58.0 +0.5**
baz=314
RSSD Black Hills 132.04 20 PKPdf **PKPdf 20 40 57.9 -0.8**
RSSD Black Hills 132.04 20 PKIKP **PKPdf 20 40 57.9 -0.8**
NBAN Anadia - AL 132.60 257 *e*P **PKPdf 20 40 60.0 -0.4**
RCBR Riachuelo 132.69 262 IAMs_20 IAMs_20 21 34 31.1
comp=Z,636nm,19.0s
RCBR Riachuelo 132.69 262 *e*P **PKPdf 20 41 01.1 +0.6**
NBLA Lagarto - SE 133.85 255 *e*P **PKPdf 20 41 03.0 +0.4**
PFO Pinyon Flats O 133.95 40 PKP **PKiKP 20 41 04.5 +0.7**
comp=Z,10nm,0.8s,baz=66,slow=0.4,SNR=6.5
ALF01 Guarapari-ES 134.00 241 *e*P **PKPdf 20 41 02.8 +0.1**
N23A Red Feather La 134.08 24 P **PKPdf 20 41 03.3 +0.6**
baz=327
GUA01 Guaratinga, BA 134.46 247 *e*P **PKiKP 20 41 04.5 -0.6**
CMC01 Camacan, BA 134.53 249 *e*P **PKiKP 20 41 04.7 -0.6**
DUB01 Friburgo-RJ 134.88 238 *e*P **PKiKP 20 41 05.3 -0.6**
GDU01 Guandu, BA 134.99 251 *e*P **PKPdf 20 41 05.3 +0.6**
SJMB Sao Joao De Ma 135.06 243 *e*P **PKPdf 20 41 04.7 -0.1**
SADO Sadowa 135.09 356 PKP **PKPdf 20 41 03.7 -0.5**
comp=Z,11nm,0.8s,baz=0.0,slow=4.4,SNR=6.4
NBCL Cascavel-CE 135.19 264 *e*P **PKiKP 20 41 06.6 -0.1**
Q24A Divide 136.03 25 P **PKPdf 20 41 06.4 -0.2**
baz=327
LL02 Futaleuf 136.06 192 PKPdf **PKPdf 20 41 04.2 -1.8**
S22A 4UR Ranch, Cre 136.29 28 P **PKPdf 20 41 07.2 +0.2**
baz=324
L61B Northampton 136.54 349 P **PKPdf 20 41 06.8 -0.1**
baz=15
M65A Busby, Falmout 136.96 346 P **PKPdf 20 41 08.3 +0.6**
baz=18
BINY Binghamton 137.32 352 **PKPdf 20 41 07.0 -1.4**
BSCB Bom Sucesso 137.36 239 *e*P **PKPdf 20 41 09.9 +0.7**
DIAM Diamantina, MG 137.42 243 *e*P **PKiKP 20 41 10.5 -0.8**
L44A Lake County Fo 137.58 5 P **PKPdf 20 41 09.4 +0.5**

baz=353
TRQA Tornquist 137.66 205 PKPpre 20 41 00.2
TRQA IAMs_20 IAMs_20 21 42 29.2
comp=Z,879nm,20.0s
TRQA Tornquist 137.66 205 PKHKP PKPpre 20 41 00.2
TRQA MLR MLR
comp=Z,900nm,20.0s
T25A Trinidad 137.88 26 P **PKPdf 20 41 09.5 -0.3**
baz=327
PLCA Paso Flores 138.11 194 PKPpre 20 41 01.9
PLCA Paso Flores 138.11 194 PKhKP PKPpre 20 41 00.2
comp=Z,3.8nm,0.7s,baz=115,slow=1.5,SNR=3.8
PLCA PKP **PKPdf 20 41 10.1 0.0**
comp=Z,14nm,1.1s,baz=194,slow=4.0,SNR=5.9
PLCA Paso Flores 138.11 194 *eP* **PKiKP 20 41 11.3 -0.7**
VAO Valinhos 138.31 235 *eP* **PKiKP 20 41 12.4 -0.6**
SPB Sao Paulo 138.41 233 IAMs_20 IAMs_20 21 42 21.1
comp=Z,958nm,18.0s
SPB Sao Paulo 138.41 233 *eP* **PKiKP 20 41 12.6 -0.4**
ANMO Albuquerque 138.71 30 PKPpre 20 41 05.3
ANMO Albuquerque 138.71 30 PKIKP **PKPdf 20 41 05.3 -6.1**
JANB Januaria 139.06 247 *eP* **PKPdf 20 41 13.0 +0.6**
Y22D IRIS PASSCAL I 139.16 31 P **PKPdf 20 41 12.1 -0.1**
baz=322
O48B Farmland 139.68 3 P **PKPdf 20 41 12.3 -0.5**
baz=357
PMNB Patos De Minas 139.77 241 *eP* **PKPdf 20 41 14.6 +1.0**
121A Cookes Peak, D 139.89 33 P **PKPdf 20 41 13.2 -0.4**
baz=320
ITAB Concordia 140.01 225 PKPpre 20 41 07.3
FRTB Fartura 140.23 232 *eP* **PKiKP 20 41 15.7 -1.1**
SDBA SAO DESIDERIO 140.35 251 *eP* **PKPdf 20 41 15.7 +0.9**
BB19B Bebedouro 140.49 236 *eP* **PKPdf 20 41 15.7 +0.8**
CCM Cathedral Cave 141.17 10 PKPpre 20 41 10.2
CCM Cathedral Cave 141.17 10 PKIKP **PKPdf 20 41 10.2 -5.3**
ITQB Itaqui 141.41 218 PKPdf **PKPdf 20 41 11.5 -4.7**
LDASE Londrina, Braz 141.43 231 *eP* **PKPdf 20 41 17.5 +1.1**
IPMB Ipameri, GO 141.54 241 *eP* **PKPdf 20 41 17.3 +0.5**
BDFB Brasilia 142.24 244 PKPdf **PKPdf 20 41 13.3 -4.9**
BDFB Brasilia 142.24 244 PKhKP PKPpre 20 41 13.5
BDFB PKP **PKPdf 20 41 18.8 +0.6**
comp=Z,22nm,1.0s,baz=347,slow=1.7,SNR=14
WVT Waverly 143.57 7 PKPab 20 41 16.0 -0.2
WVT Waverly 143.57 7 PKIKP PKPab 20 41 16.0 -0.3
SMTB Santa Maria do 143.73 255 *eP* **PKPdf 20 41 20.2 -0.6**
GO05 Hualane 143.87 195 PKPab 20 41 17.8 +0.3
LPIG La Paz 144.13 46 PKP **PKPdf 20 41 21.1 -0.1**
comp=Z,53nm,0.5s,baz=68,slow=1.1,SNR=15
CPUP Villa Florida 144.16 222 PKP PKPbc 20 41 19.2 0.0
comp=Z,82nm,0.7s,baz=114,slow=2.6,SNR=126
CPUP Villa Florida 144.16 222 *eP* PKPbc 20 41 19.1 0.0
TKL Tuckaleechee C 144.31 1 PKP **PKPab 20 41 19.1 0.0**
comp=Z,20nm,0.8s,baz=131,slow=0.8,SNR=21
TKL PP **PP 20 44 34.8 +0.1**
comp=Z,15nm,1.1s,baz=259,slow=7.3,SNR=2.5
TXAR Lajitas Array 144.60 32 PKP PKPbc 20 41 21.1 +0.5
comp=Z,50nm,0.9s,baz=276,slow=2.4,SNR=175
SLBS Sierra La Lagu 144.65 46 PKPdf PKPbc 20 41 21.6 +0.6
RPRD Ribas do Rio P 145.00 233 *eP* **PKPdf 20 41 22.6 -0.2**
C2SB Chapadao do Su 145.14 236 *eP* **PKPdf 20 41 23.4 +0.4**
PEL Peldehue 145.25 198 **PKPbc 20 41 21.9 -0.7**
PEL IAMs_20 IAMs_20 21 42 16.7
comp=Z,1μm,21.0s
PEL Peldehue 145.25 198 PKIKP **PKPbc 20 41 21.9 -0.7**
PEL MLR MLR
comp=Z,1μm,21.0s
ARAG Araguaiana, MT 145.60 242 *eP* **PKPab 20 41 25.1 +0.7**
Y58A Scranton 145.93 355 **PKPbc 20 41 24.5 -0.1**
435B Jarrell 146.20 23 P **PKPdf 20 41 24.5 -0.1**
baz=333
PAPY Pozo Azul 146.25 224 *eP* **PKPdf 20 41 25.1 +0.3**
PRPB Parauapebas 146.39 259 *eP* **PKPdf 20 41 25.5 +0.1**
SNDB Serra Nova Dou 146.46 248 *eP* **PKPdf 20 41 25.5 +0.1**
AQDB Aquidauana 146.58 231 PKPdf **PKPdf 20 41 24.4 -1.0**
AQDB Aquidauana 146.58 231 *eP* **PKPdf 20 41 25.1 -0.4**
MURT Porto Murtinho 147.34 228 *eP* **PKPdf 20 41 26.7 0.0**
833A Chaparral WMA, 147.56 28 P **PKPdf 20 41 27.1 +0.1**
baz=328
HKT Hockley 147.60 21 **PKPdf 20 41 27.3 +0.5**
HKT Hockley 147.60 21 PKIKP **PKPdf 20 41 27.3 +0.5**
FDPY Filadelfia 148.63 224 *eP* **PKPdf 20 41 29.6 +0.8**
SALV Santo Antonio 148.89 239 *eP* **PKPdf 20 41 30.1 +0.7**
LCO Las Campanas 149.05 201 **PKPdf 20 41 30.0 +0.3**
LCO Las Campanas 149.05 201 PKIKP **PKPdf 20 41 30.0 +0.3**
CLDB Colider 150.99 248 *eP* **PKPdf 20 41 33.4 +0.6**
PDRB Porto dos Gac 151.59 246 *eP* **PKPdf 20 41 33.7 0.0**
NPGB Novo Progresso 151.64 256 *eP* **PKPdf 20 41 34.1 +0.3**
PTLB Pontes e Lacer 152.01 236 *eP* **PKPdf 20 41 34.1 -0.1**
BBSD Serra de San D 152.26 231 *eP* **PKPdf 20 41 34.5 -0.1**
ITTB Itaituba 152.48 261 *eP* **PKPdf 20 41 35.1 +0.1**
SIV San Ignacio 153.30 233 PKP **PKPdf 20 41 35.6 -0.6**
comp=Z,6.2nm,0.9s,baz=120,slow=2.2,SNR=22
SIV PKPbc **sPKPdf 20 41 43.1 -0.6**
comp=Z,12nm,0.8s,baz=113,slow=2.3,SNR=20
SMRT St. Maarten 153.32 314 IAMs_20 IAMs_20 21 49 32.2
comp=Z,863nm,22.0s
VILB Vilhena 154.12 240 *eP* **PKPdf 20 41 38.2 +0.8**
CELP Cerrillos 155.72 319 PKPdf **PKPdf 20 41 37.0 -2.5**
OBIP Obispado Ponce 155.76 319 PKPdf **PKPdf 20 41 39.0 -0.5**
BOAV Boa Vista 157.41 277 *eP* **PKPdf 20 41 41.7 -0.1**
MACA Manacapuru-AM 157.54 262 *eP* **PKPdf 20 41 40.7 -1.3**
LPAZ La Paz 158.33 222 PKP **PKPdf 20 41 43.5 -0.1**
comp=Z,7.1nm,0.8s,baz=48,slow=2.8,SNR=25
LPAZ PKPab **PKPab 20 42 18.3 +0.5**
comp=Z,5.1nm,0.7s,baz=128,slow=5.6,SNR=4.0
LPAZ PP **PP 20 45 56.0 -0.9**
comp=Z,5.5nm,1.2s,baz=111,slow=3.8,SNR=5.9
LPAZ La Paz 158.33 222 *eP* **PKPdf 20 41 43.8 +0.2**
TEIG Tepich 159.04 14 IAMs_20 IAMs_20 21 57 38.8
comp=Z,800nm,21.0s
ETMB Extrema 160.79 240 *eP* **PKPdf 20 41 44.0 -1.7**
SDV Santo Domingo 164.75 307 PKPdf **PKPdf 20 41 45.5 -4.4**
SDV Santo Domingo 164.75 307 *eP* **PKPdf 20 41 49.5 -0.3**
CZSB Cruzeiro do Su 167.33 234 *eP* **PKPdf 20 41 51.0 -0.7**
HDC Heredia 169.80 6 *eP* **PKPdf 20 41 53.8 +0.4**
ROSC El Rosal 170.02 300 PKP **PKPdf 20 41 53.8 -0.2**
comp=Z,14nm,0.5s,baz=142,slow=3.6,SNR=13
ROSC PP **PP 20 46 57.3 -1.6**
comp=Z,6.0nm,0.4s,baz=91,slow=8.0,SNR=4.8
ATAH Atahualpa 171.74 213 PKP **PKPdf 20 41 55.2 +0.4**
comp=Z,4.9nm,0.9s,baz=329,slow=2.2,SNR=12
ATAH PP **PP 20 47 07.0 +0.8**
comp=Z,2.8nm,0.5s,baz=182,slow=8.2,SNR=5.1

IDC 29 20:40:56.8±15.0, 25°.17S×179°.50W, h144km±138km, mb3.9/3, mbtmp4.3/4, Error ellipse: s-maj=318.5km s-min=112.8km az=95.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.75**	**342**	P	Pn	20 42 47.0	0.0
	8.2nm,0.7s,baz=163,slow=16,SNR=7.1						
STKA	**Stephens Creek**	**34.70**	**250**	P	P	20 47 32.0	-0.9
	1.6nm,0.5s,baz=90,slow=11,SNR=7.1						
	1.6nm,0.5s						
ASAR	**Alice Springs**	**42.30**	**262**	P	P	20 48 36.7	+0.2
	3.4nm,0.4s,baz=93,slow=7.5,SNR=25						
	3.4nm,0.4s						
WRA	**Warramunga Arr**	**42.79**	**267**	P	P	20 48 40.7	+0.2
	3.2nm,0.5s,baz=102,slow=7.8,SNR=6.3						
	3.2nm,0.5s						

MOS ***29*** *20:42:03.8±0.9, 8°.43S×109°.82E, h86km, mb5.1/32, Error ellipse: s-maj=10.9km s-min=6.2km az=109.1*
BJI ***29*** *20:42:03.0, 8°.70S×109°.80E, h96km, mb4.9/48, mB5.7/2*
DJA ***29*** *20:42:05.1±0.2, 9°S±2°×11°0E±°, h79km±3km, M5.1/43, mB5.6/9, mb4.9/43, MLv5.1/30, Mw(mB)5.1/9*
NEIC ***29*** *20:42:05.4±2.4, 8°.70S±0°.06×109°.79E±0°.03, h89km±6km, mb5.0/65, Error ellipse: s-maj=9.1km s-min=1.8km az=202.0*
IDC ***29*** *20:42:08.3±1.3, 8°.47S×109°.91E, h111km±12km, mb4.5/22, mbtmp4.9/25, Error ellipse: s-maj=17.2km s-min=9.2km az=48.0*
ISC 29 20:42:05.0±0.4, 8°.68S±0°.04×109°.77E±0°.04, h87km±2km, h87km; pP-P, n309, σ1$66/319, mb5.0/103, 12C-2D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.06**	**45**		**Pn**	**20 42 26.3**	**+1.0**
UGM				Sn	**Sn**	**20 42 41.1**	**+0.6**
UGM	**Wanagama**	**1.06**	**45**	P	**Pn**	**20 42 26.6**	**+1.3**
UGM	**Wanagama**	**1.06**	**45**	P	**Pn**	**20 42 26.3**	**+1.0**
UGM				S	**Sn**	**20 42 41.1**	**+0.6**
PCJI	**Pacitan**	**1.47**	**71**	P	**Pn**	**20 42 30.6**	**+0.3**
KPJI	**Karang Pucung**	**1.57**	**328**	P	**Pn**	**20 42 33.8**	**+2.2**
CMJI	**Cimerak**	**1.58**	**304**	P	**Pn**	**20 42 32.6**	**+0.9**
SMRI	**Semarang**	**1.75**	**22**		**Pn**	**20 42 35.6**	**+1.7**
SMRI	**Semarang**	**1.75**	**22**	P	**Pn**	**20 42 36.6**	**+2.7**
SMRI	**Semarang**	**1.75**	**22**	P	**Pn**	**20 42 36.4**	**+2.5**
PWJI	**Pagerwojo**	**2.11**	**72**	P	**Pn**	**20 42 39.3**	**+0.6**
NGJI	**Ngawi**	**2.12**	**52**	P	**Pn**	**20 42 42.1**	**+3.4**
BBJI	**Bungbulang**	**2.42**	**300**	P	**Pn**	**20 42 43.9**	**+1.1**
UWJI	**Ujung Watu**	**2.53**	**28**	P	**Pn**	**20 42 46.1**	**+1.9**
TBJI	**Tambak Boyo**	**2.76**	**48**	P	**Pn**	**20 42 49.0**	**+1.6**
LEM	**Lembang**	**2.81**	**311**	P	**Pn**	**20 42 51.7**	**+3.5**
	238nm,0.4s,baz=85,slow=9.1,SNR=47						
LEM				S	**Sn**	**20 43 25.9**	**+4.5**
	1μm,0.6s,baz=349,slow=20,SNR=11						
LEM	**Lembang**	**2.81**	**311**	P	**Pn**	**20 42 50.3**	**+2.1**
CNJI	**Cibinong**	**2.95**	**297**	P	**Pn**	**20 42 50.6**	**+0.8**
GRJI	**Gresik**	**3.20**	**57**	P	**Pn**	**20 42 54.9**	**+1.6**
SKJI	**Sukabumi**	**3.59**	**297**	P	**Pn**	**20 43 01.2**	**+2.7**
GMJI	**Gumukmas**	**3.66**	**84**	P	**Pn**	**20 43 00.0**	**+0.6**
BLJI	**Banyuglugur**	**3.90**	**77**	P	**Pn**	**20 43 03.9**	**+1.2**
JAGI	**Jajag, Banyuwa**	**4.34**	**88**	Pn	**Pn**	**20 43 08.8**	**+0.1**
JAGI	**Jajag, Banyuwa**	**4.34**	**88**	P	**Pn**	**20 43 09.4**	**+0.7**
JAGI	**Jajag, Banyuwa**	**4.34**	**88**	P	**Pn**	**20 43 08.9**	**+0.2**
XMI	**Christmas Isla**	**4.39**	**246**	P	**Pn**	**20 43 09.1**	**-0.4**
XMIS	**Christmas Isla**	**4.44**	**246**		**Pn**	**20 43 08.6**	**-1.5**
XMIS				Sn	Sn	20 43 49.1	-11
XMIS	**Christmas Isla**	**4.44**	**246**	P	**Pn**	**20 43 09.3**	**-0.8**
KMMI	**Kalianget**	**4.46**	**69**	P	**Pn**	**20 43 10.8**	**+0.5**
ABJI	**Asem Bagus**	**4.50**	**79**	P	**Pn**	**20 43 13.1**	**+2.2**
DNP	**Denpasar**	**5.38**	**90**	P	**Pn**	**20 43 23.6**	**+0.8**
SRBI	**Singaraja**	**5.42**	**84**	P	**Pn**	**20 43 24.2**	**+0.8**
BLSI	**Bandar Lampung**	**5.56**	**306**	P	**Pn**	**20 43 26.0**	**+0.6**
	92nm,0.4s,0.6nm						
KASI	**Kota Agung**	**6.10**	**301**	P	**Pn**	**20 43 34.8**	**+2.1**
TPI	**Tanjungpandan**	**6.25**	**340**	P	**Pn**	**20 43 35.5**	**+0.8**
	56nm,0.7s,0.6nm						
LWLI	**Liwa**	**6.74**	**302**	P	**Pn**	**20 43 43.6**	**+2.1**
PPBI	**Pangkal Pinang**	**7.41**	**331**	P	**Pn**	**20 43 52.5**	**+1.9**
	42nm,0.6s,0.5nm						
PLAI	**Plampang**	**7.92**	**92**	P	**Pn**	**20 43 57.6**	**+0.1**
PLAI	**Plampang**	**7.92**	**92**	P	**Pn**	**20 43 57.3**	**-0.2**
MNAI	**Manna**	**8.01**	**302**	Pn	**Pn**	**20 43 60.0**	**+1.2**
MNAI	**Manna**	**8.01**	**302**	P	**Pn**	**20 44 00.5**	**+1.7**
MNAI	**Manna**	**8.01**	**302**	P	**Pn**	**20 44 00.2**	**+1.4**
	182nm,1.1s						
KSI	**Kapahiang**	**8.71**	**305**	P	**Pn**	**20 44 08.7**	**+0.4**
	109nm,0.6s,6μm						
STKI	**Sintang**	**8.85**	**11**	P	**Pn**	**20 44 12.3**	**+2.1**
	50nm,1.0s						
MTKI	**Muara Teweh, K**	**9.22**	**34**	P	**Pn**	**20 44 17.6**	**+2.3**
	32nm,0.7s						
WSI	**Waingapu**	**10.44**	**96**	P	**Pn**	**20 44 29.1**	**-2.8**
KAPI	**Kappang**	**10.55**	**70**	Pn	**Pn**	**20 44 34.0**	**+0.5**
KAPI	**Kappang**	**10.55**	**70**	P	**Pn**	**20 44 34.0**	**+0.5**
BASI	**Baing, Sumba**	**10.77**	**99**	P	**Pn**	**20 44 35.3**	**-1.1**
	186nm,1.0s						
BKSI	**Bulukumba**	**10.80**	**73**	P	**Pn**	**20 44 39.7**	**+2.9**
	26nm,0.8s						
TPRI	**Tanjung Pinang**	**10.87**	**331**	P	**Pn**	**20 44 39.2**	**+1.4**
	53nm,0.6s						
BSSI	**Bau Bau, Buton**	**10.92**	**77**	P	**Pn**	**20 44 39.9**	**+1.4**
	72nm,0.7s						
SBUM	**Sibu**	**11.32**	**13**	Pn	**Pn**	**20 44 45.1**	**+1.3**
PPSI	**Pulau Pagai**	**11.35**	**301**	P	**Pn**	**20 44 44.3**	**+0.1**
	95nm,0.7s						
TTSI	**Tana Toraja**	**11.45**	**61**	P	**Pn**	**20 44 47.8**	**+2.2**
MMRI	**Maumere**	**12.33**	**91**	Pn	**Pn**	**20 44 53.9**	**-3.6**
MMRI	**Maumere**	**12.33**	**91**	P	**Pn**	**20 44 56.3**	**-1.2**
	55nm,0.7s						
BATI	**Baumata**	**13.79**	**97**	P	**Pn**	**20 45 16.3**	**-0.6**
	32nm,0.3s,baz=32,slow=4.1,SNR=14						
BATI				S	Sn	20 47 36.5	-12
	29nm,0.5s,baz=268,slow=22,SNR=2.3						
BATI	**Baumata**	**13.79**	**97**	P	**Pn**	**20 45 15.9**	**-1.0**
	44nm,0.6s						
APSI	**Ampana**	**14.12**	**58**	P	**P**	**20 45 24.4**	**-1.7**
	41nm,0.7s						
SOEI	**Soe**	**14.35**	**95**	Pn	**Pn**	**20 45 20.7**	**-3.5**
SOEI	**Soe**	**14.35**	**95**	P	**Pn**	**20 45 22.5**	**-1.8**
SOEI	**Soe**	**14.35**	**95**	P	**Pn**	**20 45 21.2**	**-3.1**
	95nm,0.8s						
GIRL	**Giralia**	**14.54**	**163**	Pn	**Pn**	**20 45 23.4**	**-3.0**
GIRL	**Giralia**	**14.54**	**163**	P	**Pn**	**20 45 23.8**	**-2.7**
TOLI2	**Tolitoli**	**14.66**	**49**	Pn	**Pn**	**20 45 25.3**	**-2.8**
TOLI2	**Tolitoli**	**14.66**	**49**	P	**P**	**20 45 31.4**	**-0.7**
MRSI	**Marisa**	**15.16**	**54**	P	**P**	**20 45 36.0**	**-1.6**
MBWA	**Marble Bar**	**15.70**	**143**		**Pn**	**20 45 38.3**	**-3.0**
MBWA	**Marble Bar**	**15.70**	**143**	P	**Pn**	**20 45 39.3**	**-1.9**
IPM	**Ipoh**	**15.71**	**326**	Pn	**Pn**	**20 45 41.2**	**-0.3**
PSA00	**Pilbara Seismi**	**16.08**	**144**	P	**Pn**	**20 45 44.9**	**-1.2**
PSA00	**Pilbara Seismi**	**16.08**	**144**	P	**Pn**	**20 45 44.9**	**-1.2**
MYLDM	**Lahad Datu**	**16.29**	**33**		**Pn**	**20 45 48.6**	**0.0**
MYLDM	**Lahad Datu**	**16.29**	**33**	P	**P**	**20 45 54.5**	**+4.4**
KULM	**Kulim**	**16.59**	**326**	Pn	**Pn**	**20 45 50.6**	**-1.8**
SANI	**Sanana**	**17.43**	**69**	P	**Pn**	**20 46 03.5**	**+0.8**
	16nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.04**	**123**	Pn	**Pn**	**20 46 10.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**18.04**	**123**	P	**Pn**	**20 46 10.6**	**+0.5**
	43nm,0.9s,baz=290,slow=5.9,SNR=59						
FITZ				S	Sn	20 49 13.8	-18
	11nm,0.6s,baz=266,slow=15,SNR=2.8						
NLAI	**Namlea**	**18.06**	**74**	P	**Pn**	**20 46 12.5**	**+2.1**
	30nm,0.6s						
MEEK	**Meekatharra**	**19.74**	**156**	P	**Pn**	**20 46 29.4**	**-0.8**
KNRA	**Kununurra**	**19.82**	**112**		**Pn**	**20 46 29.6**	**-1.6**
KNRA				IAmb	IAmb	20 46 34.3	
	comp=Z,32nm,0.8s						
TNTI	**Ternate**	**19.89**	**63**	P	**P**	**20 46 30.3**	**+0.6**
	comp=Z,28nm,0.7s						
SRIT	**Nakonsritamara**	**19.92**	**329**	Pn	**Pn**	**20 46 32.4**	**-0.1**
BSI	**Banda Aceh**	**20.16**	**314**	P	**P**	**20 46 31.9**	**-0.7**
SAUI	**Saumlaki**	**21.31**	**90**	P	**P**	**20 46 43.6**	**-1.4**
SAUI				IAmb	IAmb	20 46 57.6	
	comp=Z,62nm,0.9s						
MTN	**Manton Dam**	**21.39**	**103**	P	**P**	**20 46 45.7**	**-0.1**
MTN				IAmb	IAmb	20 46 57.2	
	comp=Z,62nm,1.2s						
KDU	**Kakadu**	**22.66**	**102**	P	**P**	**20 47 01.8**	**+2.5**
BLDU	**Ballidu**	**22.77**	**164**	P	**P**	**20 47 00.0**	**-0.3**
FAKI	**Fak Fak**	**23.07**	**77**	P	**P**	**20 47 07.0**	**+3.5**
WRKA	**Warakurna**	**24.01**	**135**	P	**P**	**20 47 13.1**	**+1.1**
WB0	**Warramunga Arr**	**26.25**	**117**	P	**P**	**20 47 33.2**	**+0.9**
WB0				IAmb	IAmb	20 47 34.0	
	comp=Z,27nm,0.7s						
WRA	**Warramunga Arr**	**26.27**	**118**	P	**P**	**20 47 33.1**	**+0.6**
	comp=Z,26nm,0.7s,baz=289,slow=11,SNR=218						
	comp=Z,26nm,0.7s						
WRAB	**Tennant Creek**	**26.27**	**118**	P	**P**	**20 47 33.1**	**+0.6**
WRAB	**Tennant Creek**	**26.27**	**118**	*i* P	**P**	**20 47 33.2**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,42nm,0.6s						
WB2	**Warramunga Arr**	**26.28**	**118**	P	**P**	**20 47 33.4**	**+0.8**
WB2				IAmb	IAmb	20 47 34.3	
	comp=Z,44nm,0.6s						
WR0	**Warramunga Arr**	**26.45**	**118**	P	**P**	**20 47 34.5**	**+0.4**
WR0				IAmb	IAmb	20 47 38.2	
	comp=Z,32nm,0.8s						
AS31	**Alice Springs**	**27.49**	**126**	P	**P**	**20 47 42.6**	**-0.8**
ASAR	**Alice Springs**	**27.49**	**126**	P	**P**	**20 47 43.8**	**+0.4**
ASAR	**Alice Springs**	**27.49**	**126**	P	**P**	**20 47 44.5**	**+1.0**
	comp=Z,12nm,0.7s,baz=304,slow=9.1,SNR=131						
	comp=Z,12nm,0.7s						
FORT	**Forrest**	**27.84**	**145**	P	**P**	**20 47 47.7**	**+1.3**
PHRA	**Phrae**	**28.60**	**341**	P	**P**	**20 47 52.3**	**-0.9**
PHRA				IAmb	IAmb	20 47 56.3	
	comp=Z,47nm,0.9s						
CM31	**Chiang Mai Arr**	**29.00**	**338**	P	**P**	**20 47 55.5**	**-1.3**
CMAR	**Chiang Mai Arr**	**29.00**	**338**		**PcP**	**20 51 05.6**	**+2.0**
CMAR	**Chiang Mai Arr**	**29.00**	**338**	P	**P**	**20 47 56.0**	**-0.8**
	comp=Z,3.9nm,0.5s,baz=174,slow=8.1,SNR=30						
	comp=Z,3.9nm,0.5s						
CHTO	**Chiang Mai**	**29.33**	**339**	P	**P**	**20 47 59.2**	**-0.4**
CHTO	**Chiang Mai**	**29.33**	**339**	P	**P**	**20 47 59.3**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
OOD	**Oodnadatta**	**30.98**	**131**	P	**P**	**20 48 15.2**	**+0.9**
MULG	**Mulgathing**	**31.27**	**137**	P	**P**	**20 48 17.9**	**+1.1**
COEN	**Coen**	**33.15**	**102**	P	**P**	**20 48 33.6**	**+0.1**
COEN				IAmb	IAmb	20 48 34.6	
	comp=Z,8.4nm,0.5s						
COEN	**Coen**	**33.15**	**102**	P	**P**	**20 48 34.6**	**+1.1**
BBOO	**Buckleboo**	**34.18**	**138**	P	**P**	**20 48 43.1**	**+0.9**
MTSU	**Mount Surprise**	**34.84**	**109**	P	**P**	**20 48 50.5**	**+2.4**
YHNB	**Yeheng**	**35.02**	**19**	P	**P**	**20 48 53.9**	**+4.4**
GYA	**Guiyang**	**35.05**	**355**	P	**P**	**20 48 50.8**	**+1.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
PZH	**PanZhiHua**	**35.83**	**348**	P	**P**	**20 48 58.0**	**+1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HTT	**Hallett**	**36.46**	**137**	P	**P**	**20 49 03.3**	**+1.5**
H08S2	**Diego Garcia H**	**36.91**	**269**	T	T	21 28 24.5	
	baz=93,slow=74						
H08S3	**Diego Garcia H**	**36.92**	**269**	T	T	21 28 23.5	
	baz=93,slow=74						
H08S1	**Diego Garcia H**	**36.92**	**269**	T	T	21 28 22.9	
	baz=93,SNR=20						
STKA	**Stephens Creek**	**37.49**	**133**	P	**P**	**20 49 10.7**	**+0.2**
STKA	**Stephens Creek**	**37.49**	**133**	P	**P**	**20 49 12.2**	**+1.6**
	comp=Z,13nm,0.6s,baz=310,slow=8.9,SNR=39						
	comp=Z,13nm,0.6s						
STKA	**Stephens Creek**	**37.49**	**133**	P	**P**	**20 49 11.6**	**+1.1**
SHL	**Shillong**	**38.23**	**333**	P	**P**	**20 49 14.8**	**-2.2**
SHL				IAmb	IAmb	20 49 17.7	
	comp=Z,9.7nm,0.8s						
SHL	**Shillong**	**38.23**	**333**	P	**P**	**20 49 14.8**	**-2.2**
SHL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ENH	**Enshi**	**38.72**	**360**	P	**P**	**20 49 20.1**	**-0.7**
ENH				IAmb	IAmb	20 49 21.5	
	comp=Z,6.3nm,0.6s						
ENH	**Enshi**	**38.72**	**360**	P	**P**	**20 49 18.6**	**-2.2**
CD2	**Chengdu**	**39.78**	**352**	P	**P**	**20 49 29.5**	**-0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
HYB	**Hyderabad**	**40.30**	**310**	*eP*	**P**	**20 49 34.4**	**+0.3**
ARPS	**Mount Arapiles**	**40.35**	**139**	P	**P**	**20 49 35.8**	**+1.5**
CMSA	**Cobar Meteorol**	**40.39**	**129**	P	**P**	**20 49 36.5**	**+1.8**
NJ2	**Nanjing**	**41.42**	**12**	*eP*	**P**	**20 49 45.3**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LSA	**Lhasa**	**42.15**	**336**	P	**P**	**20 49 49.0**	**-0.6**
LSA				IAmb	IAmb	20 49 51.8	
	comp=Z,24nm,0.7s						
LSA	**Lhasa**	**42.15**	**336**	P	**P**	**20 49 49.0**	**-0.6**
LSA				pmax	pmax		
	comp=Z,24nm,0.7s						
XAN	**Xi'an**	**42.49**	**359**	P	**P**	**20 49 51.3**	**-0.5**
XAN				pmax	pmax		
	comp=Z,23nm,0.6s						
LZH	**Lanzhou**	**44.87**	**353**	*eP*	**P**	**20 50 11.3**	**+0.3**
LZH				pP	pP	20 50 28.0	-3.7
LZH				pmax	pmax		
	comp=Z,17nm,1.0s						
TIA	**Tai'an**	**45.18**	**8**	P	**P**	**20 50 12.3**	**-1.0**
TIA				pP	**pP**	**20 50 30.5**	**-3.6**
TIA				pmax	pmax		
	comp=Z,14nm,0.7s						
JNU	**Nakatsue**	**46.17**	**25**	P	**P**	**20 50 19.8**	**-1.4**
JNU				IAmb	IAmb	20 50 22.2	
	comp=Z,11nm,0.8s						
JTU	**Tsushima**	**46.81**	**22**	P	P	20 50 31.0	+4.9
TJN	**Taejon**	**47.77**	**19**	P	**P**	**20 50 32.4**	**-1.1**
TJN	**Taejon**	**47.77**	**19**	P	**P**	**20 50 32.4**	**-1.1**
TJN				pmax	pmax		
	comp=Z,46nm,0.8s						
JMN	**Monobe**	**47.99**	**27**	P	**P**	**20 50 34.8**	**-0.5**
JMN				IAmb	IAmb	20 50 38.7	
	comp=Z,29nm,1.0s						
JMN	**Monobe**	**47.99**	**27**	P	**P**	**20 50 38.0**	**+2.7**
GTA	**Gaotai**	**48.73**	**350**	*eP*	**P**	**20 50 41.5**	**+0.5**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KSAR	**Wonju Array Be**	**48.91**	**19**	P	**P**	**20 50 41.4**	**-0.9**
KSAR	**Wonju Array Be**	**48.91**	**19**	P	**P**	**20 50 41.4**	**-0.9**
KSRS	**Korea Array**	**48.93**	**19**	P	**P**	**20 50 42.4**	**0.0**
	comp=Z,13nm,0.9s,baz=197,slow=8.0,SNR=37						
	comp=Z,13nm,0.9s						
KS19	**Wonju Array Si**	**48.96**	**19**	P	**P**	**20 50 41.9**	**-0.8**
KS19				IAmb	IAmb	20 51 00.9	
	comp=Z,36nm,1.5s						
BTO	**Baotou**	**49.03**	**0**	*eP*	**P**	**20 50 44.0**	**+0.7**
BTO				pP	**pP**	**20 51 07.8**	**+3.4**
BTO				sP	**sP**	**20 51 19.8**	**+5.7**
BTO				S	**S**	**20 57 41.5**	**0.0**
BTO				SS	**SS**	**21 01 05.3**	**-8.6**
BTO				pmax	pmax		
	comp=Z,41nm,0.5s						
BTO				LR	LR		
	comp=Z,1μm,13.7s						
BTO				LR	LR		
	comp=Z,870n

UZB Uzynbulak 58.68 334 *e*P **P 20 51 53.5 -0.1**
UZB pmax pmax
comp=Z,7.0nm,0.4s
KDJ Kajisay 58.70 332 P **P 20 51 53.6 -0.3**
KDJ Kajisay 58.70 332 P **P 20 51 53.6 -0.3**
KDJ pmax pmax
comp=Z,16nm,0.8s
NRN Naryn 58.72 331 IAmb IAmb 20 51 54.2
comp=Z,11nm,0.9s
SATY Saty 58.88 334 *e*P **P 20 51 55.0 -0.1**
comp=Z,4.8nm,0.4s
SATY Saty 58.88 334 *e*P **P 20 51 54.9 -0.1**
SATY pmax pmax
comp=Z,5.0nm,0.4s
ZHN Zhinishke 58.95 334 *e*P **P 20 51 55.2 -0.3**
ZHN Zhinishke 58.95 334 *e*P **P 20 51 55.2 -0.3**
TNSS Tian-Shan 59.52 333 *e*P **P 20 51 59.2 -0.6**
TNSS Tian-Shan 59.52 333 *e*P **P 20 51 59.1 -0.6**
MDOK Medeo 59.57 333 *e*P **P 20 51 59.5 -0.3**
MDOK Medeo 59.57 333 *e*P **P 20 51 59.5 -0.3**
AAA Alma-Ata 59.67 333 *e*P **P 20 52 00.3 -0.1**
AAA Alma-Ata 59.67 333 *e*P **P 20 52 00.2 -0.1**
TKM2 Tokmak 2 60.05 332 P **P 20 52 02.7 -0.5**
SNR=11
ZSN Zaisan 60.09 341 *e*P **P 20 52 03.0 -0.1**
ZSN Zaisan 60.09 341 *e*P **P 20 52 03.0 -0.1**
KBK Karagaybulak 60.16 331 P **P 20 52 03.8 -0.1**
SNR=23
AAK Ala-Archa 60.36 331 P **P 20 52 05.2 -0.1**
SNR=5.3
AAK Ala-Archa 60.36 331 P **P 20 52 04.2 -1.1**
AAK IAmb IAmb 20 52 07.7
comp=Z,3.7nm,0.8s
AAK Ala-Archa 60.36 331 P **P 20 52 04.2 -1.1**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AML Almayashu 60.38 330 P **P 20 52 04.6 -1.1**
SNR=25
BTK Batken 60.39 326 IAmb IAmb 20 52 05.7
comp=Z,12nm,0.6s
MK31 Makanchi Array 60.41 339 IAmb IAmb 20 52 05.8
comp=Z,9.8nm,0.6s
MK31 Makanchi Array 60.41 339 *ce*P **P 20 52 05.4 +0.1**
MKAR Makanchi Array 60.41 339 P **P 20 52 05.3 0.0**
comp=Z,14nm,0.5s,baz=149,slow=7.6,SNR=248
comp=Z,14nm,0.5s
FRU1 Bishkek 60.43 331 IAmb IAmb 20 52 06.2
comp=Z,15nm,0.8s
TDK Taldyqorghan 60.44 335 *e*P **P 20 52 05.4 -0.2**
comp=Z,8.9nm,0.5s
TDK Taldyqorghan 60.44 335 *e*P **P 20 52 05.3 -0.2**
TDK pmax pmax
comp=Z,9.0nm,0.5s
SIMJ Simiganj 60.46 324 P **P 20 52 04.0 -2.0**
SIMJ IAmb IAmb 20 52 05.9
comp=Z,10.0nm,0.7s
SIMJ Simiganj 60.46 324 P **P 20 52 03.6 -2.3**
MAKZ Makanchi 60.54 338 P **P 20 52 05.3 -0.9**
MAKZ IAmb IAmb 20 52 06.6
comp=Z,8.2nm,1.1s
MAKZ Makanchi 60.54 338 P **P 20 52 05.3 -0.9**
MAKZ pmax pmax
comp=Z,8.0nm,1.1s
HEH HeiHe 60.66 13 ⇑P **P 20 52 06.3 -0.6**
HEH pmax pmax
comp=Z,57nm,1.1s
EKS2 Erkin-Say 60.73 330 P **P 20 52 07.6 -0.2**
SNR=15
KLR Kul'dur 60.80 16 *ce*P **P 20 52 05.9 -2.0**
KLR pmax pmax
comp=Z,31nm,0.6s
USP Ospenovka 60.84 331 P **P 20 52 07.7 -0.7**
SNR=10
H04N2 CROZET ISLANDS 61.82 222 T T 21 59 49.1
baz=70,slow=75,SNR=194
H04N1 CROZET ISLANDS 61.84 222 T T 21 59 50.2
baz=70,slow=75,SNR=160
H04N3 CROZET ISLANDS 61.84 222 T T 21 59 48.0
baz=70,slow=75,SNR=180
JCZ Jackson Bay 61.92 136 P **P 20 52 19.2 +3.4**
UOSS Minazif 61.95 304 P **P 20 52 15.7 -0.5**
UOSS IAmb IAmb 20 52 18.0
comp=Z,10nm,1.0s
UOSS Minazif 61.95 304 P **P 20 52 16.2 0.0**
UOSS pP **pP 20 52 37.0 -0.5**
UOSS sP **sP 20 52 46.6 -0.2**
IUG Iuzhnay 62.28 328 *e*P **P 20 52 18.2 +0.1**
IUG Iuzhnay 62.28 328 *e*P **P 20 52 18.2 +0.1**
BTLS Baital 62.39 332 *e*P **P 20 52 18.9 +0.1**
BTLS Baital 62.39 332 *e*P **P 20 52 18.8 +0.1**
YSS Yuzh-Sakhalins 62.68 25 *e*P **P 20 52 19.7 -0.8**
YSS *e* 20 52 58.7
YSS pmax pmax
comp=Z,30nm,0.9s
KKAR Karatay Array 62.70 329 P **P 20 52 18.5 -2.3**
KKAR Karatay Array 62.70 329 IAmb IAmb 20 52 22.0
comp=Z,3.3nm,1.1s
KKAR Karatay Array 62.70 329 P **P 20 52 18.5 -2.3**
BRLS Borolday 63.00 328 *e*P **P 20 52 22.3 -0.6**
BRLS Borolday 63.00 328 *e*P **P 20 52 22.2 -0.6**
ZEA Zeya 63.91 11 *e*P **P 20 52 28.2 -0.4**
ZEA pmax pmax
comp=Z,20nm,0.8s
KURBB Kurchatov Arra 64.98 339 P **P 20 52 35.3 -0.2**
comp=Z,8.7nm,0.5s,baz=146,slow=6.9,SNR=92
KURBB PcP **sP 20 53 07.2 +0.2**
comp=Z,2.2nm,0.7s,baz=151,slow=4.2,SNR=6.4
comp=Z,8.7nm,0.5s
KURK Kurchatov 65.02 339 P **P 20 52 35.6 -0.2**
KURK IAmb IAmb 20 52 36.2
comp=Z,23nm,0.8s
KURK Kurchatov 65.02 339 P **P 20 52 35.3 -0.5**
KURK 20 53 07.2
KURK Kurchatov 65.02 339 P **P 20 52 35.5 -0.4**
ZALV Zalesovo Beam 65.86 344 P **P 20 52 40.2 -1.0**
ZALV Zalesovo Beam 65.86 344 P **P 20 52 40.4 -0.8**
comp=Z,14nm,0.4s,baz=150,slow=7.3,SNR=36
comp=Z,14nm,0.4s
BKZ Black Stump Fm 66.55 129 P **P 20 52 48.8 +2.7**
FUNA Funafuti 68.55 96 P **P 20 53 02.7 +3.7**
BVAR Borovoye Array 69.99 336 P **P 20 53 06.6 -0.5**
comp=Z,24nm,0.6s,baz=139,slow=5.9,SNR=124
comp=Z,24nm,0.6s
BRVK Borovoye 70.06 336 P **P 20 53 06.8 -0.7**
BRVK IAmb IAmb 20 53 07.9
comp=Z,26nm,1.2s
BRVK Borovoye 70.06 336 P **P 20 53 06.8 -0.7**
BRVK pmax pmax
comp=Z,26nm,1.2s
BRVK Borovoye 70.06 336 P **P 20 53 07.0 -0.5**
BRVK pP **pP 20 53 29.6 -0.1**
RAYN Ar Rayn 70.45 299 P **P 20 53 10.8 +0.1**
YAK Yakutsk 72.17 10 P **P 20 53 18.3 -1.7**
YAK Yakutsk 72.17 10 *e*P **P 20 53 18.5 -1.6**
YAK *e*S **S 21 02 32.0 -3.4**
YAK pmax pmax
comp=Z,51nm,0.8s
YAK pmax pmax
comp=E,11nm,1.2s
YAK pmax pmax
comp=N,17nm,1.3s
YAK smax smax
comp=E,674nm,12.3s
YAK smax smax
comp=N,2μm,19.4s
ABKAR Abkulak array 72.26 328 P **P 20 53 20.7 -0.2**
ABKAR Abkulak array 72.26 328 IAmb IAmb 20 53 21.6
comp=Z,44nm,0.6s
PETK Petropavlovsk- 73.75 28 P **P 20 53 28.6 -1.1**
comp=Z,4.9nm,0.6s,baz=156,slow=0.5,SNR=9.4
comp=Z,4.9nm,0.6s
AKT Akhty 75.56 317 *e*P **P 20 53 38.4 -2.1**
AKT *e* 20 53 49.9
AKT *e**PP **PcP 20 53 56.8 +3.7**
AKT *e**SS **sS 21 03 47.7 -5.6**
AKT pmax pmax
comp=Z,81nm,2.1s
MAK Makhachkala 76.35 318 *e*P **P 20 53 44.5 -0.3**
MAK *e**PP **pP 20 54 08.3 +1.5**
MAK *e**SP **sP 20 54 17.3 +1.3**
MAK *e*S **S 21 03 24.4 +1.5**
MAK *e**SS **sS 21 04 02.9 +1.2**
MAK pmax pmax
comp=Z,239nm,1.2s
SVE Sverdlovsk 76.67 335 *e*P **P 20 53 46.4 +0.1**
SVE pmax pmax
comp=Z,23nm,1.0s
ARTI Arti 77.37 334 P **P 20 53 49.9 -0.3**
ARTI IAmb IAmb 20 53 50.9
comp=Z,18nm,0.9s
ARTI Arti 77.37 334 *d*P **P 20 53 50.3 0.0**
ARTI 20 56 46.3
ARTI S **S 21 03 37.0 +3.5**
ARTI SS **SS 21 08 36.4 +2.3**
ARTI pmax pmax
comp=Z,20nm,0.9s
GURO Guroymak-BITLI 78.42 312 P **P 20 53 57.1 +0.4**
KARS Kars 78.43 314 P **P 20 53 58.1 +1.4**
KARS Kars 78.43 314 P **P 20 53 58.1 +1.4**
KARS pmax pmax
comp=Z,82nm,0.7s
SEY Seymchan 78.48 18 *i*P **P 20 53 55.1 -1.2**
SEY pmax pmax
comp=Z,54nm,2.5s
MBAR Mbarara 79.07 271 *e*P **P 20 54 02.5 +1.7**
MBAR pmax pmax
comp=Z,8.0nm,1.5s
NCK Nalchik 79.17 317 *i*P **P 20 54 00.2 -0.3**
NCK pmax pmax
comp=Z,10.0nm,0.6s
NRIK Noril'sk 79.35 352 IAmb IAmb 20 54 01.1
comp=Z,12nm,0.8s
NRIK Noril'sk 79.35 352 P **P 20 54 00.2 -0.7**
comp=Z,9.3nm,0.8s,baz=141,slow=4.7,SNR=15
comp=Z,9.3nm,0.8s
KBZ Khabaz 79.73 317 P **P 20 54 03.7 +0.2**
comp=Z,5.3nm,0.8s,baz=188,slow=5.3,SNR=8.7
comp=Z,5.3nm,0.8s
KIV Kislovodsk 79.96 318 *e*P **P 20 54 03.3 -1.6**
KIV pmax pmax
comp=Z,9.0nm,1.0s
BELG Belogornoye 80.52 327 *i*P **P 20 54 05.6 -1.9**
BELG pmax pmax
comp=Z,8.0nm,1.0s
TIXI Tiksi 81.15 6 *ce*P **P 20 54 09.6 -0.9**
TIXI pmax pmax
comp=Z,28nm,0.6s
QSPA South Pole Qui 81.32 180 P **P 20 54 13.5 +1.6**
comp=Z,2.9nm,0.6s,baz=338,slow=3.0,SNR=5.8
comp=Z,2.9nm,0.6s
MMAI Mount Meron Ar 81.80 305 P **P 20 54 15.5 +0.6**
comp=Z,1.4nm,0.4s,baz=107,slow=5.5,SNR=8.1
comp=Z,1.4nm,0.4s
SOC Sochi 81.83 316 *e*P **P 20 54 13.8 -0.9**
SOC *e* 20 57 23.1
SOC *e*S **S 21 04 21.8 +0.7**
SOC *e*SS **SS 21 09 40.8 -0.5**
SOC *e*SSS SSS 21 13 04.8
SOC pmax pmax
comp=Z,16nm,0.7s
KIRV Kirov 82.62 333 *ce*P **P 20 54 18.8 +0.4**
VRH Novokhopyorsk 83.34 324 *e*P **P 20 54 22.0 -0.3**
VRH pmax pmax
comp=Z,39nm,0.6s
VORD Divnogorie 84.67 323 *e*P **P 20 54 27.5 -1.6**
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 84.84 323 *e*P **P 20 54 28.3 -1.6**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORR Voronezh 84.97 324 *e*P **P 20 54 29.1 -1.5**
VORR pmax pmax
comp=Z,23nm,0.5s
BR104 Keskin Array S 84.98 311 P **P 20 54 31.4 +0.2**
comp=Z,9.3nm,1.0s
BR131 Keskin Array S 84.99 311 *i*P **P 20 54 30.8 -0.4**
BRTR Keskin Array B 84.99 311 P **P 20 54 31.4 +0.2**
BRTR Keskin Array B 84.99 311 P **P 20 54 31.9 +0.6**
comp=Z,6.1nm,0.7s,baz=103,slow=5.4,SNR=26
comp=Z,6.1nm,0.7s
BR105 Keskin Array S 85.00 311 P **P 20 54 31.9 +0.6**
comp=Z,13nm,1.0s,comp=Z,132nm
BR106 Keskin Array S 85.00 311 P **P 20 54 32.0 +0.7**
comp=Z,8.7nm,0.8s
LPSR Galich'ya Gora 85.46 325 *e*P **P 20 54 33.1 +0.1**
LPSR pmax pmax
comp=Z,18nm,0.7s
TROLL Troll, Antarti 87.06 197 ⇑P **P 20 54 41.4 +0.6**
comp=Z,75nm,0.8s
OBN Obninsk 87.62 327 ⇑*e*P **P 20 54 43.1 -0.4**
OBN pmax pmax
comp=Z,80nm,2.5s
OBN Obninsk 87.62 327 P **P 20 54 43.6 +0.1**
comp=Z,32nm,1.1s
KLMR Klimovskoe 88.12 333 *e*P **P 20 54 43.3 -2.4**
KLMR pmax pmax
comp=Z,70nm,1.3s
SNAA Sanae 88.75 197 ⇑P **P 20 54 50.3 +1.5**
comp=Z,57nm,0.6s
SNAA Sanae 88.75 197 P **P 20 54 50.5 +1.8**
comp=Z,2.7nm,0.7s,baz=151,slow=5.4,SNR=12
comp=Z,2.7nm,0.7s
VNA2 Neumayer--Watz 90.39 197 ⇑P **P 20 54 58.9 +2.5**
comp=Z,2.5nm,0.8s,baz=92,slow=4.7
AK09 Malin Array Si 90.65 321 P **P 20 54 57.5 -0.4**
AK10 Malin Array Si 90.67 321 P **P 20 54 57.6 -0.3**
AK06 Malin Array Si 90.70 321 P **P 20 54 57.6 -0.5**
AKASG Malin Array Be 90.71 321 P **P 20 54 57.0 -1.1**
comp=Z,2.0nm,0.7s,baz=103,slow=5.0,SNR=16
comp=Z,2.0nm,0.7s
AK02 Malin Array Si 90.71 321 P **P 20 54 57.5 -0.6**
AK01 Malin Array Si 90.71 321 P **P 20 54 57.4 -0.7**
VNA1 Neumayer--Stat 90.78 197 ⇑P **P 20 54 54.9 -3.2**
comp=Z,3.4nm,0.9s
VNA3 Neumayer Olymp 90.88 196 ⇑P **P 20 54 55.6 -3.1**
comp=Z,1.5nm,0.7s
LUBAR Lubar, Ukraine 91.46 320 P **P 20 55 00.4 -1.3**
FINES FINESS Array B 94.54 331 P **P 20 55 15.4 -0.2**
comp=Z,15nm,1.1s,baz=100,slow=4.9,SNR=8.7
comp=Z,15nm,1.1s
FINES FINESS Array B 94.54 331 *i*P **P 20 55 16.2 +0.6**
FINES pmax pmax
comp=Z,6.0nm,0.9s
KIP Kipapa 95.17 69 *ce*P **P 20 55 17.1 -2.2**
KIP pmax pmax
comp=Z,71nm,2.5s
ARCES ARCESS Array B 96.06 339 P **P 20 55 21.8 -0.5**
comp=Z,1.7nm,0.6s,baz=84,slow=5.0,SNR=12
comp=Z,1.7nm,0.6s
TXAR Lajitas Array 142.51 52 PKP **PKPdf 21 01 28.3 -0.4**
comp=Z,0.2nm,0.3s,baz=297,slow=2.0,SNR=2.0
R40A Maddies Statio 144.45 31 PKPbc 21 01 30.7 +0.4
NCB Newcomb 144.67 5 **PKPdf 21 01 31.6 -0.3**
U38A Gravette 144.69 35 PKPdf **PKPdf 21 01 31.5 -0.7**
MEDO Medina 144.90 10 PKPdf PKPbc 21 01 31.7 +0.1
TKL Tuckaleechee C 150.43 23 PKPbc **PKPbc 21 01 46.7 -0.4**
comp=Z,2.6nm,0.4s,baz=157,slow=5.2,SNR=5.0
LPAZ La Paz 155.11 185 PKPab **PKPab 21 02 15.1 +0.6**
comp=Z,1.1nm,0.6s,baz=163,slow=5.5,SNR=4.4

IDC 29 20:54:38.4±4.4, 18°.07S×178°.18W, h598km±23km, mb3.0/4, mbtmp3.9/5, Error ellipse: s-maj=113.8km s-min=28.1km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.61**	**275**	P	P	20 56 00.9	-0.3
	5.7nm,0.6s,baz=302,slow=23,SNR=3.3						
MSVF				S	S	20 57 09.1	+0.5
	1.3nm,0.4s,baz=143,slow=23,SNR=1.6						
STKA	**Stephens Creek**	**38.74**	**241**	P	P	21 01 12.9	0.0
	1.6nm,0.5s,baz=83,slow=8.5,SNR=5.5						
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**44.82**	**260**	P	P	21 02 00.5	-0.2
	0.5nm,0.5s,baz=96,slow=7.3,SNR=14						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**44.96**	**254**	P	P	21 02 01.7	-0.1
	2.8nm,0.7s,baz=87,slow=8.8,SNR=36						
	2.8nm,0.7s						
ILAR	**Eielson Array**	**86.00**	**13**	P	P	21 06 15.9	0.0
	0.3nm,0.4s,baz=219,slow=5.2,SNR=7.0						
	0.3nm,0.4s						

*SJA **29** 21:02:22.0, 22°.28S×67°.55W, h212km, ML4.4*
*IDC **29** 21:02:23.9±1.8, 22°.15S×67°.33W, h182km±16km, mb3.8/7, mbtmp4.4/11, Error ellipse: s-maj=23.0km s-min=12.4km az=74.0*
*GUC **29** 21:02:23.9±0.6, 22°.13S×67°.85W, h216km±7km, ML4.4*
*SCB **29** 21:02:23.4±1.3, 22°.17S×67°.40W, h188km±12km, ML4.4/3, MW3.7, Error ellipse: s-maj=10.2km s-min=3.9km az=0.0*
*NEIC **29** 21:02:23.3±2.5, 22°.28S±0°.04×67°.37W±0°.09, h180km±9km, mb4.4/18, Error ellipse: s-maj=12.5km s-min=6.4km az=91.0*
*VAO **29** 21:02:24.0±0.5, 22°.13S×67°.31W, h180km, mb4.1*

ISC 29 21:02:23.0±0.6, 22°.27S±0°.04×67°.44W±0°.04, h180km±6km, n128, σ1§24/147, mb4.3/14, 13C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.96**	**225**		**Pn**	**21 02 51.7**	**+1.0**
AF01	**San Pedro de A**	**0.96**	**225**	*i* P	**Pn**	**21 02 53.3**	**+2.6**
PB09	**IPOC Station P**	**1.74**	**285**		**Pn**	**21 02 58.9**	**+1.5**
PB09				Sn	**Sn**	**21 03 25.4**	**+1.3**
PB09	**IPOC Station P**	**1.74**	**285**	⇑*i*P	**Pn**	**21 02 59.3**	**+1.8**
PB09				*e*S	**Sn**	**21 03 25.7**	**+1.6**
PB09				IAML		21 03 29.7	
	comp=N,1μm,0.3s						
PB09	**IPOC Station P**	**1.74**	**285**	*i* P	**Pn**	**21 02 58.7**	**+1.3**
PB09	**IPOC Station P**	**1.74**	**285**	Pg	**Pn**	**21 02 59.7**	**+2.3**
YJA	**Yavi**	**1.79**	**87**	⇑*i*P	**Pn**	**21 02 59.5**	**+1.3**
YJA				*e*S	**Sn**	**21 03 25.6**	**+0.2**
YJA				IAML		21 03 27.0	
	comp=E,801nm,0.8s						
YJA	**Yavi**	**1.79**	**87**	*i* P	**Pn**	**21 02 59.6**	**+1.3**
MOCB	**Mochara**	**1.96**	**59**	Pg	**Pn**	**21 03 00.3**	**+0.2**
MOCB				Sg	**Sn**	**21 03 29.0**	**+0.3**
MOCB				IAML		21 03 30.6	
	comp=E,2μm,0.5s						
PB01	**IPOC Station P**	**2.26**	**302**		**Pn**	**21 03 03.9**	**+0.9**
PB01				Sn	**Sn**	**21 03 34.7**	**+0.6**
PB01	**IPOC Station P**	**2.26**	**302**	⇑*i*P	**Pn**	**21 03 03.9**	**+0.9**
PB01				*e*S	**Sn**	**21 03 33.8**	**-0.3**
PB01	**IPOC Station P**	**2.26**	**302**	*i* P	**Pn**	**21 03 03.3**	**+0.3**
PB01	**IPOC Station P**	**2.26**	**302**	Pg	**Pn**	**21 03 04.0**	**+1.0**
PB01				Sg	**Sn**	**21 03 34.3**	**+0.2**
PB01				IAML		21 03 35.3	
	comp=E,2μm,0.4s						
PB04	**IPOC Station P**	**2.51**	**268**	Pn	**Pn**	**21 03 06.5**	**+0.6**
PB04				Sn	**Sn**	**21 03 40.0**	**+0.7**
PB04	**IPOC Station P**	**2.51**	**268**	*i* P	**Pn**	**21 03 06.9**	**+1.0**
PB04				*e*S	**Sn**	**21 03 39.0**	**-0.3**
PB04				IAML		21 03 42.7	
	comp=E,2μm,0.3s						
PB04	**IPOC Station P**	**2.51**	**268**	*i* P	**Pn**	**21 03 06.4**	**+0.4**
PB05	**IPOC Station P**	**2.62**	**257**	*i* P	**Pn**	**21 03 07.5**	**+0.4**
AOVT	**TarijaAcel**	**2.64**	**74**	Pg	**Pn**	**21 03 08.5**	**+1.0**
PB08	**IPOC Station P**	**2.65**	**323**		**Pn**	**21 03 09.3**	**+1.4**
PB08	**IPOC Station P**	**2.65**	**323**	⇑*i*P	**Pn**	**21 03 09.4**	**+1.5**
PB08				*e*S	**Sn**	**21 03 43.5**	**+0.8**
PB08				IAML		21 03 45.5	
	comp=E,909nm,0.3s						
PB08	**IPOC Station P**	**2.65**	**323**	*i* P	**Pn**	**21 03 08.8**	**+0.9**
PB08	**IPOC Station P**	**2.65**	**323**	Pg	**Pn**	**21 03 09.6**	**+1.7**
PB08				Sg	**Sn**	**21 03 43.3**	**+0.6**
PB08				IAML		21 03 47.7	
	comp=E,550nm,0.2s						
SLA	**San Lorenzo**	**3.02**	**144**	*i* P	**Pn**	**21 03 14.0**	**+2.1**
HMBC	**Humberstone**	**3.02**	**311**		**Pn**	**21 03 11.8**	**-0.2**
HMBC				Sn	**Sn**	**21 03 48.6**	**-1.6**
HMBC	**Humberstone**	**3.02**	**311**	⇑*i*P	**Pn**	**21 03 11.8**	**-0.2**
HMBC				*e*S	**Sn**	**21 03 48.6**	**-1.6**
HMBC	**Humberstone**	**3.02**	**311**	*i* P	**Pn**	**21 03 11.2**	**-0.8**
GO01	**Chusmiza**	**3.06**	**327**	Pn	**Pn**	**21 03 13.6**	**+0.7**
GO01	**Chusmiza**	**3.06**	**327**	⇑*i*P	**Pn**	**21 03 13.9**	**+1.0**
GO01				*e*S	**Sn**	**21 03 52.0**	**+0.3**
GO01	**Chusmiza**	**3.06**	**327**	*i* P	**Pn**	**21 03 13.3**	**+0.4**
GO01	**Chusmiza**	**3.06**	**327**	Pg	**Pn**	**21 03 14.0**	**+1.1**
TA01	**Diego Aracena**	**3.07**	**303**		**Pn**	**21 03 12.5**	**+0.1**
TA01	**Diego Aracena**	**3.07**	**303**	*e*P	**Pn**	**21 03 12.3**	**-0.1**
TA01				*e*S	**Sn**	**21 03 49.1**	**-1.8**
TA01	**Diego Aracena**	**3.07**	**303**	*i* P	**Pn**	**21 03 11.7**	**-0.7**
TA02	**Huaiquique**	**3.20**	**308**		**Pn**	**21 03 13.7**	**-0.4**
GO02	**Mina Guanaco**	**3.49**	**214**	Pn	**Pn**	**21 03 19.2**	**+1.4**
GO02	**Mina Guanaco**	**3.49**	**214**	⇑*i*P	**Pn**	**21 03 19.3**	**+1.4**
GO02				*e*S	**Sn**	**21 04 01.1**	**+0.2**
GO02	**Mina Guanaco**	**3.49**	**214**	*i* P	**Pn**	**21 03 18.5**	**+0.6**
PB14	**IPOC Station P**	**3.59**	**229**	Pn	**Pn**	**21 03 20.0**	**+0.8**
PB14	**IPOC Station P**	**3.59**	**229**	⇑*i*P	**Pn**	**21 03 20.0**	**+0.8**
PB14				*e*S	**Sn**	**21 04 02.2**	**-1.0**
PB14	**IPOC Station P**	**3.59**	**229**	*i* P	**Pn**	**21 03 19.6**	**+0.4**
SOET	**ToroToro**	**4.41**	**21**	Pg	**Pn**	**21 03 29.1**	**-0.6**
AOEA	**Aiquile**	**4.56**	**27**	Pg	**Pn**	**21 03 31.3**	**-0.3**
AOEA	**Aiquile**	**4.56**	**27**	Pg	**Pn**	**21 03 31.7**	**+0.1**
AP01	**Chacalluta**	**4.74**	**324**	Pn	**Pn**	**21 03 33.5**	**-0.1**
AC01	**Pan de Azucar**	**4.82**	**216**		**Pn**	**21 03 34.2**	**-0.4**
AC01	**Pan de Azucar**	**4.82**	**216**	⇓*e*P	**Pn**	**21 03 34.1**	**-0.4**
AC01				*e*S	**Sn**	**21 04 27.7**	**-3.2**
AC01	**Pan de Azucar**	**4.82**	**216**	*i* P	**Pn**	**21 03 33.3**	**-1.2**
AHML	**Horco Molle**	**4.89**	**157**	⇑*i*P	**Pn**	**21 03 36.9**	**+1.4**
PB18	**Visviri**	**5.04**	**337**	Pn	**Pn**	**21 03 38.6**	**+0.7**
AC06	**Mina Casimiro**	**5.71**	**207**		**Pn**	**21 03 44.9**	**-1.3**
GO03	**Copiapo**	**5.88**	**205**	Pn	**Pn**	**21 03 47.4**	**-0.9**
LPAZ	**La Paz**	**5.99**	**354**	P	**Pn**	**21 03 51.2**	**+0.8**
	comp=E,46nm,0.4s,baz=163,slow=7.8,SNR=202						
LPAZ				S	**Sn**	**21 04 57.8**	**-1.4**
	comp=E,13nm,0.8s,baz=1.7,slow=17,SNR=1.2						
LPAZ	**La Paz**	**5.99**	**354**	Pg	**Pn**	**21 03 49.8**	**-0.6**
LPAZ	**La Paz**	**5.99**	**354**	*e*P	**Pn**	**21 03 50.8**	**+0.4**
AC04	**Llanos de Chal**	**6.76**	**208**	Pn	**Pn**	**21 03 57.4**	**-2.5**
FDPY	**Filadelfia**	**6.94**	**91**	*e*P	**Pn**	**21 04 01.4**	**-0.9**
LCO	**Las Campanas**	**7.33**	**203**	Pn	**Pn**	**21 04 05.6**	**-2.1**
CO01	**Juntas del Tor**	**8.04**	**197**		**Pn**	**21 04 16.3**	**-0.7**
BBSD	**Serra de San D**	**8.18**	**53**	*e*P	**Pn**	**21 04 16.3**	**-2.4**
GO04	**Tololo Observa**	**8.43**	**200**		**Pn**	**21 04 19.8**	**-2.3**
PAPY	**Pozo Azul**	**8.66**	**104**	*e*P	**Pn**	**21 04 26.3**	**+1.3**
SIV	**San Ignacio**	**8.67**	**45**	P	**Pn**	**21 04 22.7**	**-2.6**
	comp=E,30nm,0.3s,baz=224,slow=10,SNR=122						
SIV				S	Sn	21 05 46.3	-16
	comp=E,13nm,0.5s,baz=239,slow=14,SNR=4.7						
CO03	**El Pedregal**	**9.02**	**198**	Pn	**Pn**	**21 04 27.7**	**-2.0**
MURT	**Porto Murtinho**	**9.14**	**88**	*e*P	**Pn**	**21 04 29.1**	**-2.3**
CO06	**Fray Jorge**	**9.17**	**203**		**Pn**	**21 04 28.8**	**-2.9**
ZON	**Zonda**	**9.30**	**187**	Pn	**Pn**	**21 04 31.6**	**-1.8**
CPUP	**Villa Florida**	**10.07**	**116**	Pn	**Pn**	**21 04 43.8**	**+0.4**
CPUP	**Villa Florida**	**10.07**	**116**	P	**Pn**	**21 04 44.9**	**+1.5**
	comp=E,3.6nm,0.6s,baz=301,slow=12,SNR=10						
CPUP	**Villa Florida**	**10.07**	**116**	*e*P	**Pn**	**21 04 44.5**	**+1.1**
PTLB	**Pontes e Lacer**	**10.38**	**51**	Pn	**Pn**	**21 04 46.5**	**-1.0**
PTLB	**Pontes e Lacer**	**10.38**	**51**	*e*P	**Pn**	**21 04 45.8**	**-1.7**
AQDB	**Aquidauana**	**11.08**	**83**	Pn	**Pn**	**21 04 54.2**	**-2.5**
AMBA	**Amambai (Brazi**	**11.52**	**96**	*e*P	**Pn**	**21 05 00.3**	**-1.9**
VILB	**Vilhena**	**11.55**	**38**	Pn	**Pn**	**21 05 02.2**	**-0.5**
VILB	**Vilhena**	**11.55**	**38**	*e*P	**Pn**	**21 05 01.0**	**-1.8**
PSAL	**Palomas, Salto**	**12.41**	**137**	*e*P	**Pn**	**21 05 14.6**	**+1.0**
ETMB	**Extrema**	**12.44**	**6**	Pn	**Pn**	**21 05 12.1**	**-2.0**
ETMB	**Extrema**	**12.44**	**6**	*e*P	**Pn**	**21 05 12.6**	**-1.6**
NNA	**Nana**	**13.61**	**317**	P	**P**	**21 05 33.8**	**+1.9**
	comp=E,16nm,0.6s,baz=161,slow=9.1,SNR=7.9						
PTGB	**Pitanga**	**14.31**	**103**	*e*P	**P**	**21 05 39.8**	**+0.1**
PDRB	**Porto dos Gac**	**14.73**	**46**	*e*P	**Pn**	**21 05 41.2**	**-1.6**
ITAB	**Concordia**	**14.76**	**113**	*e*P	**P**	**21 05 44.5**	**0.0**
CPSB	**Cacapava Do Su**	**14.93**	**126**	*e*P	**Pn**	**21 05 45.4**	**+0.3**
PLTB	**Pedras Altas**	**15.52**	**130**	*e*P	**P**	**21 05 53.0**	**0.0**
FRTB	**Fartura**	**16.52**	**97**	*e*P	**Pn**	**21 06 04.7**	**+0.1**
MAJ01	**Sao Joao Batis**	**17.48**	**111**	*e*P	**P**	**21 06 14.8**	**+0.2**
GO06	**Curarrehue**	**17.60**	**190**		**P**	**21 06 15.4**	**-0.4**
GO06				IAmb	IAmb	21 06 19.1	
	comp=Z,14nm,0.8s						
LR05	**Currie**	**18.32**	**191**	P	**Pn**	**21 06 24.3**	**-1.4**
LR05				IAmb	IAmb	21 06 25.9	
	comp=Z,19nm,0.8s						
SNDB	**Serra Nova Dou**	**18.50**	**59**	*e*P	**P**	**21 06 24.6**	**-1.2**
IPMB	**Ipameri, GO**	**18.55**	**80**	*e*P	**P**	**21 06 26.8**	**+0.5**
PLCA	**Paso Flores**	**18.59**	**187**	P	**P**	**21 06 27.2**	**+0.6**
PLCA				IAmb	IAmb	21 06 28.5	
	comp=Z,9.5nm,0.8s						
PLCA	**Paso Flores**	**18.59**	**187**	P	**Pn**	**21 06 27.9**	**-1.2**
	comp=Z,7.0nm,0.8s,baz=8.3,slow=11,SNR=14						
PLCA	**Paso Flores**	**18.59**	**187**	*e*P	**Pn**	**21 06 28.0**	**-1.0**
VAO	**Valinhos**	**18.91**	**96**	P	**P**	**21 06 29.4**	**-0.8**
VAO	**Valinhos**	**18.91**	**96**	*e*P	**P**	**21 06 29.8**	**-0.4**
LL04	**Puerto Octay**	**19.05**	**192**	P	**P**	**21 06 31.7**	**+

LL01	San Ignacio de	20.48	191	P	P	21 06 47.5 +0.7
LL01				IAmb	IAmb	21 06 53.1
comp=Z,13nm,0.6s						
ITTB	Itaituba	21.10	34	eP	P	21 06 51.7 -1.9
COHC	Cochancay	22.79	328	P	P	21 07 10.7 +0.4
JANB	Januaria	23.04	76	eP	P	21 07 12.2 -0.4
MAL2	Monte Alegre,	23.90	34	P	P	21 07 19.4 -1.0
MAL2				IAmb	IAmb	21 07 21.8
comp=Z,11nm,0.8s						
VNA3	Neumayer Olymp	58.91	161	⇑P	P	21 12 03.6 +0.8
comp=Z,4.0nm,0.7s						
VNA2	Neumayer--Watz	59.48	161	⇑P	P	21 12 07.7 +1.1
comp=Z,2.6nm,0.6s,baz=284,slow=7.7						
SNAA	Sanae	61.11	161	⇑P	P	21 12 18.2 +0.4
comp=Z,65nm,0.7s						
SNAA	Sanae	61.11	161	P	P	21 12 19.0 +1.2
comp=Z,2.0nm,0.6s,baz=278,slow=8.9,SNR=14						
comp=Z,2.0nm,0.6s						
TROLL	Troll, Antarti	62.82	161	⇑P	P	21 12 30.3 +1.0
comp=Z,131nm,0.5s						
POST	Post	63.91	328	P	P	21 12 37.4 +0.6
QSPA	South Pole Qui	67.93	180	P	P	21 13 04.1 +2.0
comp=Z,3.1nm,0.4s,baz=150,slow=1.6,SNR=7.5						
comp=Z,3.1nm,0.4s						
BGNE	Belgrade	69.47	336	P	P	21 13 12.4 +0.7
LDAQ	Lac Daran	69.99	357	P	P	21 13 13.4 -1.4
LDAQ				IAmb	IAmb	21 13 14.9
comp=Z,9.3nm,1.0s						
SRU	San Rafael Swe	73.17	326	P	P	21 13 36.0 +1.8
SRU				IAmb	IAmb	21 13 36.6
comp=Z,4.8nm,0.7s						
CCUT	Cedar City	73.53	323	P	P	21 13 38.1 +1.6
CCUT				IAmb	IAmb	21 13 39.9
comp=Z,7.0nm,1.0s						
PDAR	Pinedale Array	75.46	329	P	P	21 13 48.5 +1.1
comp=Z,0.6nm,0.6s,baz=131,slow=7.8,SNR=8.5						
comp=Z,0.6nm,0.6s						
TORD	Torodi Ar. Bea	76.34	70	P	P	21 13 52.4 -0.3
comp=Z,1.3nm,0.5s,baz=240,slow=5.4,SNR=22						
comp=Z,1.3nm,0.5s						
ULM	Lac du Bonnet	76.47	342	P	P	21 13 52.7 +0.1
comp=Z,3.8nm,0.6s,baz=149,slow=7.5,SNR=6.2						
comp=Z,3.8nm,0.6s						
YNE	Yellowstone No	77.39	331	P	P	21 13 60.0 +1.7
PAHR	Pah Rah Range	78.42	322	P	P	21 14 05.4 +1.5
PAHR				IAmb	IAmb	21 14 07.4
comp=Z,6.5nm,1.0s						
HLID	Hailey	78.42	327	P	P	21 14 05.2 +1.4
BOSA	Boshof	81.88	117	P	P	21 14 23.2 +0.4
comp=Z,1.9nm,0.9s,baz=296,slow=4.0,SNR=5.1						
comp=Z,1.9nm,0.9s						
YKA	Yellowknife Ar	92.37	340	P	P	21 15 13.1 +0.7
comp=Z,1.4nm,0.7s,baz=137,slow=4.1,SNR=19						
comp=Z,1.4nm,0.7s						
WRA	Warramunga Arr	132.96	208	PKP	PKiKP	21 21 18.6 -0.3
comp=Z,0.3nm,0.5s,baz=161,slow=1.8,SNR=4.6						
MKAR	Makanchi Array	145.43	38	PKPbc	PKPab	21 21 40.4 +0.1
comp=Z,0.7nm,0.5s,baz=307,slow=3.0,SNR=9.7						
MJAR	Matsushiro Arr	153.62	308	PKPbc	PKiKP	21 21 59.8 -0.9
comp=Z,1.0nm,0.4s,baz=72,slow=2.5,SNR=16						
PZH	PanZhiHua	169.28	65	PKP	PKPdf	21 22 08.5 -0.9

*IDC **29** 21:40:51.2±0.8, 35°.58N×136°.77E, h293km±18km, mb2.9/6, mbtmp3.5/7, Error ellipse: s-maj=43.9km s-min=15.8km az=55.0*
*JMA **29** 21:40:51.6±0.1, 35°.7N±0°.8×136°.7E±0°.7, h293km±1km, MV2.9/32, SW GIFU PREF*
ISC 29 21:40:51.5±0.8, 35°.7N±0°.1×136°.76E±0°.08, h293km±7km, n19, σ0s52/26, mb3.0/6, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	Yamagatataniai	0.07	195	P	Pn	21 41 29.0	+0.1
JYTA				eS	S	21 41 58.1	-0.4
JKG	Kaga	0.70	331	P	Pn	21 41 29.9	0.0
JWT	Wachi	1.17	252	P	Pn	21 41 32.3	+0.2
JWT				S	S	21 42 03.5	-0.7
JIE	Ise	1.27	182	P	Pn	21 41 33.4	+0.7
JNG	Nsakai	1.32	55	P	Pn	21 41 33.3	+0.3
JNG				eS	S	21 42 05.6	-0.3
JYN	Shimob	1.47	96	P	Pn	21 41 34.2	+0.3
JYN				eS	S	21 42 07.8	+0.3
MAT	Matsushiro	1.47	53	P	Pn	21 41 34.1	+0.3
MAT				eS	S	21 42 07.3	-0.1
MJAR	Matsushiro Arr	1.47	53	P	Pn	21 41 34.0	+0.2
7.0nm,0.6s,baz=243,slow=7.6,SNR=20							
MJAR				S	S	21 42 08.0	+0.5
5.3nm,0.8s,baz=238,slow=12,SNR=8.4							
JRY	Ryogami san	1.78	78	eP	Pn	21 41 36.4	+0.4
JRY				eS	S	21 42 11.2	-0.2
JSZ	Suzu	1.85	15	P	Pn	21 41 36.3	-0.1
JOD2	Odawara 2	1.94	101	P	Pn	21 41 37.8	+0.5
JAG	Ashikaga	2.31	70	eP	Pn	21 41 39.5	-0.8
KSRS	Korea Array	7.33	287	P	Pn	21 42 37.1	+0.4
1.4nm,0.5s,baz=101,slow=13,SNR=5.2							
SONM	Songino Array	25.54	308	P	P	21 45 54.7	+0.7
0.8nm,0.7s,baz=108,slow=9.4,SNR=5.8							
0.8nm,0.7s							
MKAR	Makanchi Array	41.68	303	P	P	21 48 11.9	0.0
0.5nm,0.5s,baz=87,slow=8.3,SNR=7.8							
0.5nm,0.5s							
KURBB	Kurchatov Arra	43.90	309	P	P	21 48 28.8	-0.6
0.8nm,0.8s,baz=90,slow=7.8,SNR=5.4							
0.8nm,0.8s							
BVAR	Borovoye Array	48.72	313	P	P	21 49 07.2	+0.5
0.4nm,0.4s,baz=90,slow=4.3,SNR=3.4							
0.4nm,0.4s							
WRA	Warramunga Arr	55.35	183	P	P	21 49 54.5	-1.1
0.2nm,0.4s,baz=357,slow=7.7,SNR=7.8							
0.2nm,0.4s							
ASAR	Alice Springs	59.07	183	P	P	21 50 20.9	-0.5
0.3nm,0.7s,baz=1.9,slow=6.9,SNR=4.3							
0.3nm,0.7s							

*IDC **29** 21:42:12.5±1.1, 37°.92N×20°.83E, h0km, mb3.7/12, mbtmp3.6/18, ML3.4/5, Error ellipse: s-maj=20.9km s-min=17.1km az=5.0*
ISC 29 21:42:14.9±0.8, 38°.09N±0°.07×20°.78E±0°.07, h13km, n27, σ2s17/26, mb3.7/12, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	Ohrid	3.02	0	i Pn	Pb	21 43 08.5	0.0
VAY	Valandovo	3.51	23	i Pn	Pb	21 43 15.9	-0.9
PEHC	Pehcevo	4.03	23	i Pn	Pb	21 43 23.1	-2.7
VAE	Valguarnera	5.08	265	Pn	Pn	21 43 30.0	-0.7
4.7nm,0.5s,baz=257,slow=20,SNR=1.7							
VAE				Sn	Sn	21 44 19.0	-10
2.5nm,0.3s,baz=184,slow=14,SNR=3.7							
MLR	Muntele Rosu	8.34	26	Pn	Pn	21 44 22.5	+7.0
0.5nm,0.3s,baz=284,slow=14,SNR=8.7							
SOKA	Soboth	9.57	336	eSn	Sn	21 46 18.4	-1.4
3.1nm,0.6s							
OBKA	Obir	9.59	333	ePn	Pn	21 44 38.2	+5.5
0.7nm,0.2s							
OBKA				eSn	Sn	21 46 17.2	-3.1
7.0nm,0.7s							
KBA	Koelnbreinsper	10.52	331	ePn	Pn	21 44 51.3	+5.9
0.6nm,0.3s							
KBA				eSn	Sn	21 46 43.1	+0.1
2.5nm,0.5s							
LESA	Schwarzleotal	11.06	330	Pn	Pn	21 45 00.5	+7.7
1.7nm,0.5s							
VRAC	Vranov	11.61	346	Sn	Sn	21 47 03.5	-6.2
0.5nm,0.3s,baz=299,slow=23,SNR=2.1							
DAVOX	Davos/Dischmat	11.83	321	Pn	Pn	21 45 04.9	+1.6
0.1nm,0.3s,baz=121,slow=8.7,SNR=1.5							
DAVOX				Sn	Sn	21 47 10.7	-4.6
0.2nm,0.3s,baz=166,slow=21,SNR=2.5							
0.8nm,0.6s							
GERES	GERESS Array B	11.91	337	Pn	Pn	21 45 07.6	+3.2
0.1nm,0.3s,baz=152,slow=14,SNR=1.7							
0.2nm,0.3s							
MMAI	Mount Meron Ar	12.94	109	Pn	Pn	21 45 17.4	-1.0
0.5nm,0.3s,baz=21,slow=14,SNR=1.9							
1.0nm,0.7s							
AKASG	Malin Array Be	13.96	23	Pn	Pn	21 45 35.2	+2.9
0.1nm,0.3s,baz=214,slow=10,SNR=2.4							
1.0nm,0.8s							
ESDC	Sonseca Array	19.31	282	P	Pn	21 46 40.6	-0.1
baz=87,slow=11,SNR=4.6							
0.9nm,0.8s							
HFS	Hagfors	22.52	351	P	P	21 47 15.2	+1.1
2.4nm,0.7s,baz=161,slow=9.4,SNR=5.1							
2.4nm,0.7s							

FINES	FINESS Array B	23.61	6	P	P	21 47 26.1 +0.9
2.4nm,0.5s,baz=168,slow=8.9,SNR=12						
2.4nm,0.5s						
EKA	Eskdalemuir Ar	23.61	325	P	P	21 47 26.7 +1.4
3.0nm,0.8s,baz=127,slow=10,SNR=2.0						
3.0nm,0.8s						
NOA	NORSAR Array B	23.74	348	P	P	21 47 27.6 +1.0
1.1nm,0.9s,baz=160,slow=9.8,SNR=1.9						
1.1nm,0.9s						
TORD	Torodi Ar. Bea	30.09	219	P	P	21 48 23.3 -0.8
0.5nm,0.7s,baz=34,slow=9.7,SNR=3.6						
0.5nm,0.7s						
ARCES	ARCESS Array B	31.61	3	P	P	21 48 37.9 +0.8
3.3nm,0.9s,baz=190,slow=11,SNR=7.1						
3.3nm,0.9s						
BVAR	Borovoye Array	37.02	50	P	P	21 49 24.1 +0.1
0.6nm,0.7s,baz=261,slow=8.6,SNR=2.4						
0.6nm,0.7s						
KURBB	Kurchatov Arra	42.12	53	P	P	21 50 06.8 +0.3
0.4nm,0.6s,baz=280,slow=8.4,SNR=4.8						
0.4nm,0.6s						
MKAR	Makanchi Array	45.18	58	P	P	21 50 31.6 +0.3
0.3nm,0.4s,baz=282,slow=7.5,SNR=13						
0.3nm,0.4s						
ZALV	Zalesovo Beam	45.60	48	P	P	21 50 34.0 -0.5
1.0nm,0.4s,baz=282,slow=9.5,SNR=3.8						
1.0nm,0.4s						
SONM	Songino Array	60.36	51	P	P	21 52 23.4 -0.2
0.6nm,0.9s,baz=298,slow=6.9,SNR=3.6						
0.6nm,0.9s						
CMAR	Chiang Mai Arr	69.70	82	P	P	21 53 24.1 -0.5
0.4nm,0.7s,baz=307,slow=7.5,SNR=2.1						
0.4nm,0.7s						

*IDC **29** 22:03:21.0±0.7, 22°.48S×175°.32W, h0km, mb4.4/14, mbtmp4.4/14, MS4.0/14, Error ellipse: s-maj=24.6km s-min=20.2km az=121.0*
*NEIC **29** 22:03:22.0±1.1, 22°.9S±0°.2×175°.1W±0°.1, h10km±1km, mb4.8/30, Error ellipse: s-maj=26.7km s-min=19.7km az=203.0*
ISC 29 22:03:24.9±0.6, 22°.87S±0°.09×175°.14W±0°.10, h30km, n94, σ1s32/79, mb4.7/31, MS4.1/13, 4C, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	6.83	201	Sn	Sn	22 06 19.0	-0.8
62nm,0.3s,baz=73,slow=18,SNR=1.7							
MSVF	Nonsavu	8.18	307	Pn	Pn	22 05 25.1	+3.4
MSVF	Nonsavu	8.18	307	Pn	Pn	22 05 26.1	+4.3
3.0nm,0.3s,baz=130,slow=15,SNR=30							
MSVF				LR	LR	22 08 13.4	
comp=Z,1μm,19.9s,baz=125,slow=38							
RAR	Rarotonga	14.34	86	Pn	Pn	22 06 35.9	-10
6.0nm,0.3s,baz=247,slow=13,SNR=5.6							
DZM	Mont Dzumac	17.05	269	P	P	22 07 22.6	-0.2
DZM	Mont Dzumac	17.05	269	eP	Pn	22 07 17.6	-3.6
56nm,1.1s							
DZM				eLR	LR	22 11 15.1	
292nm,21.1s							
TBI	Tubuai	23.61	96	eLR	LR	22 14 07.7	
802nm,24.0s							
PPT2	Papeete2	24.54	82	eLR	LR	22 14 27.3	
169nm,22.0s							
PPT2				eLR	LR	22 14 28.2	
176nm,23.2s							
PPT	Papeete	24.54	82	LR	LR	22 17 07.3	
comp=Z,199nm,18.9s,baz=236,slow=34							
DCZ	Deep Cove	26.77	208	P	P	22 09 02.7	+0.7
HNR	Honiara	27.35	295	P	P	22 09 07.3	-0.3
HNR	Honiara	27.35	295	P	P	22 09 06.8	-0.7
60nm,0.3s,baz=199,slow=19,SNR=2.0							
HNR				LR	LR	22 18 36.3	
comp=Z,102nm,18.4s,baz=117,slow=34							
CTAO	Charters Tower	35.97	267	P	P	22 10 23.2	0.0
CTAO				IAmb	IAmb	22 10 24.0	
comp=Z,11nm,1.1s							
STKA	Stephens Creek	39.24	247	P	P	22 10 50.4	-0.5
comp=Z,2.1nm,0.7s,baz=77,slow=11,SNR=4.9							
STKA				LR	LR	22 25 02.4	
comp=Z,127nm,18.5s,baz=40,slow=33							
comp=Z,2.1nm,0.7s							
AS31	Alice Springs	46.61	258	P	P	22 11 50.1	-0.7
AS31				IAmb	IAmb	22 11 52.7	
comp=Z,2.9nm,0.5s							
ASAR	Alice Springs	46.62	258	P	P	22 11 50.1	-0.6
ASAR	Alice Springs	46.62	258	P	P	22 11 50.2	-0.5
comp=Z,14nm,0.9s,baz=94,slow=8.1,SNR=94							
ASAR				PcP	PcP	22 13 23.5	-0.9
comp=Z,0.6nm,0.6s,baz=94,slow=5.6,SNR=1.2							
ASAR				LR	LR	22 31 08.2	
comp=Z,237nm,18.7s,baz=114,slow=36							
comp=Z,14nm,0.9s							
WR0	Warramunga Arr	46.76	264	P	P	22 11 50.8	-1.0
WB2	Warramunga Arr	46.94	264	P	P	22 11 52.3	-0.9
WB2				IAmb	IAmb	22 11 52.7	
comp=Z,5.6nm,0.7s							
WB0	Warramunga Arr	46.94	264	P	P	22 11 52.3	-1.0
WB0				IAmb	IAmb	22 11 52.7	
comp=Z,6.8nm,0.8s							
WRAB	Tennant Creek	46.94	264	P	P	22 11 51.6	-1.7
WRAB				IAmb	IAmb	22 11 56.2	
comp=Z,4.3nm,0.7s							
WRA	Warramunga Arr	46.95	264	P	P	22 11 52.1	-1.2
WRA	Warramunga Arr	46.95	264	P	P	22 11 52.3	-1.1
comp=Z,3.5nm,0.6s,baz=94,slow=8.4,SNR=36							
WRA				PcP	PcP	22 13 26.1	+0.5
comp=Z,0.7nm,0.7s,baz=100,slow=3.5,SNR=4.7							
WRA				LR	LR	22 30 57.9	
comp=Z,194nm,18.2s,baz=50,slow=35							
comp=Z,3.5nm,0.6s							
JAY	Jayapura	47.32	289	LR	LR	22 30 40.7	
comp=Z,136nm,19.1s,baz=322,slow=35							
KNRA	Kununurra	53.18	267	P	P	22 12 40.1	-0.6
FAKI	Fak Fak	54.63	283	P	P	22 12 51.1	-0.2
FITZ	Fitzroy Crossi	55.38	263	P	P	22 12 55.4	-1.2
SOEI	Soe	59.24	272	P	P	22 13 23.8	-0.3
BATI	Baumata	59.64	271	LR	LR	22 39 35.7	
comp=Z,279nm,19.1s,baz=154,slow=37							
QSPA	South Pole Qui	67.21	180	P	P	22 14 21.2	+5.0
comp=Z,1.3nm,0.2s,baz=60,slow=1.8,SNR=5.3							
comp=Z,1.3nm,0.2s							
MJAR	Matsushiro Arr	73.69	322	P	P	22 14 54.5	-1.4
comp=Z,2.8nm,0.7s,baz=151,slow=5.1,SNR=7.8							
comp=Z,2.8nm,0.7s							
PFO	Pinyon Flats O	79.21	47	LR	LR	22 44 49.2	
comp=Z,93nm,18.2s,baz=153,slow=32							
PETK	Petropavlovsk-	79.25	344	P	P	22 15 26.0	-1.0
comp=Z,16nm,1.0s,baz=141,slow=9.3,SNR=5.5							
comp=Z,16nm,1.0s							
MAW	Mawson	80.23	199	P	P	22 15 35.0	+2.8
comp=Z,3.1nm,0.9s,baz=140,slow=7.9,SNR=3.8							
comp=Z,3.1nm,0.9s							
KSRS	Korea Array	80.42	317	LR	LR	22 47 02.3	
comp=Z,38nm,20.4s,baz=50,slow=33							
YBH	Yreka Blue Hor	80.52	37	LR	LR	22 45 29.9	
comp=Z,89nm,18.3s,baz=186,slow=32							
NVAR	Mina Array Bea	80.96	42	P	P	22 15 37.0	+0.1
comp=Z,0.5nm,0.6s,baz=235,slow=6.3,SNR=1.4							
comp=Z,0.5nm,0.6s							
USRK	Ussuriysk Ar.	82.42	325	P	P	22 15 44.8	+0.7
USRK	Ussuriysk Ar.	82.42	325	P	P	22 15 42.9	-1.3
comp=Z,9.2nm,0.9s,baz=135,slow=3.4,SNR=8.9							
comp=Z,9.2nm,0.9s							
H03S2	Juan Fernandez	82.47	123	T	T	23 47 18.7	
baz=246							
H03S1	Juan Fernandez	82.48	123	T	T	23 47 23.1	
baz=246							
H03S3	Juan Fernandez	82.48	123	T	T	23 47 24.7	
baz=246							
O18K	Koktuh Hills	84.03	10	P	P	22 15 51.8	-0.2
ELK	Elko	84.25	41	LR	LR	22 52 05.9	
comp=Z,116nm,18.7s,baz=159,slow=35							
TROLL	Troll, Antarti	85.36	179	⇑P	P	22 16 00.4	+1.4
comp=Z,160nm,0.6s							
SNAA	Sanae	85.56	178	⇑P	P	22 16 01.5	+1.5
comp=Z,43nm,0.9s							
SNAA	Sanae	85.56	178	P	P	22 16 02.1	+2.1
comp=Z,1.8nm,0.9s,baz=174,slow=5.7,SNR=7.7							
comp=Z,1.8nm,0.9s							
VNA3	Neumayer Olymp	85.59	175	⇑P	P	22 16 01.5	+1.4
comp=Z,5.4nm,0.7s							
VNA2	Neumayer--Watz	86.07	176	⇑P	P	22 16 04.4	+2.0
comp=Z,5.2nm,0.8s,baz=174,slow=5.2							
MA2	Magadan	86.78	343	LR	LR	22 50 26.3	
comp=Z,89nm,19.6s,baz=82,slow=33							
CAST	Castle Rocks	87.90	10	P	P	22 16 09.8	-1.4
CAST				IAmb	IAmb	22 16 09.9	
comp=Z,4.6nm,1.1s							
CTGM	Chitina Glacie	87.90	16	P	P	22 16 11.5	+0.1
CTGM				IAmb	IAmb	22 16 21.2	
comp=Z,5.1nm,1.2s							
J19K	Poorman	87.91	8	P	P	22 16 11.6	+0.5
J19K				IAmb	IAmb	22 16 25.9	
comp=Z,5.5nm,1.1s							
GSI	Gunungsitoli	88.00	272	P	P	22 16 14.6	+1.8
PDAR	Pinedale Array	88.89	42	P	P	22 16 17.7	+1.1
comp=Z,0.6nm,0.9s,baz=210,slow=5.2,SNR=3.5							
comp=Z,0.6nm,0.9s							
M27K	Edge Creek, AK	88.97	15	P	P	22 16 17.0	+0.6
M27K				IAmb	IAmb	22 16 17.8	
comp=Z,9.6nm,1.1s							
ILAR	Eielson Array	90.05	12	P	P	22 16 19.6	-1.6
comp=Z,1.6nm,1.0s,baz=226,slow=5.3,SNR=7.1							
comp=Z,1.6nm,1.0s							
F19K	Shaleruckik Mo	90.38	7	P	P	22 16 22.6	-0.1
F19K				IAmb	IAmb	22 16 23.3	
comp=Z,4.9nm,0.8s							
J26L	Joseph Creek	90.47	13	P	P	22 16 24.1	+0.8
J26L				IAmb	IAmb	22 16 24.7	
comp=Z,8.2nm,0.8s							
L29M	L29M	90.53	16	P	P	22 16 24.1	+0.6
L29M				IAmb	IAmb	22 16 24.6	
comp=Z,5.1nm,1.0s							
F20K	Avaraart Lake	90.82	7	P	P	22 16 24.9	+0.1
E19K	Redstone River	91.04	7	P	P	22 16 26.2	+0.4
E19K				IAmb	IAmb	22 16 27.2	
comp=Z,8.7nm,0.9s							
K29M	Barlow Dome	91.29	16	P	P	22 16 27.6	+0.4
K29M				IAmb	IAmb	22 16 33.0	
comp=Z,5.2nm,1.1s							
KSCO	Kaye Shedlock'	91.51	48	P	P	22 16 28.0	-0.8
I30M	Mount Dempster	92.71	15	P	P	22 16 34.0	+0.3
I30M				IAmb	IAmb	22 16 34.2	
comp=Z,3.8nm,1.0s							
BMAR	Burnt Mountain	92.86	11	P	P	22 16 35.1	+0.9
D22K	Ayikyak River	92.93	8	P	P	22 16 35.2	+0.6
D23K	Nanushuk River	93.28	9	P	P	22 16 37.1	+1.0
CMAR	Chiang Mai Arr	93.40	288	P	P	22 16 38.8	+1.0
comp=Z,2.0nm,0.3s,baz=126,slow=3.1,SNR=29							
comp=Z,2.0nm,0.3s							
ATAH	Atahualpa	93.43	99	LR	LR	22 51 29.0	
comp=Z,57nm,18.5s,baz=103,slow=31							
SONM	Songino Array	99.28	318	P	Pdif	22 17 02.0	-2.0
comp=Z,0.3nm,0.7s,baz=126,slow=5.1,SNR=1.9							
comp=Z,0.3nm,0.7s							
MKAR	Makanchi Array	114.75	312	PKP	PKPdf	22 22 01.2	-1.3
comp=Z,0.3nm,0.6s,baz=85,slow=1.7,SNR=2.4							
KURBB	Kurchatov Arra	117.59	316	PKP	PKPdf	22 22 06.7	-1.0
comp=Z,0.5nm,0.7s,baz=93,slow=2.0,SNR=5.4							
BVAR	Borovoye Array	122.60	319	PKP	PKPdf	22 22 16.3	-1.0
comp=Z,0.6nm,0.5s,baz=141,slow=0.9,SNR=4.9							
LVZ	Lovozero	131.34	345	PKPdf	PKPdf	22 22 28.8	-4.8
ARCES	ARCESS Array B	131.70	350	PKP	PKPdf	22 22 33.6	-0.6
comp=Z,4.5nm,1.0s,baz=11,slow=1.2,SNR=6.7							
HFS	Hagfors	142.25	353	PKhKP	PKPpre	22 22 48.2	
comp=Z,4.9nm,0.8s,baz=91,slow=6.5,SNR=4.2							
AK03	Malin Array Si	146.34	332	PKP	PKPdf	22 23 01.1	-0.2
AKASG	Malin Array Be	146.36	332	PKPbc	PKPdf	22 23 01.6	+0.2
comp=Z,8.2nm,0.8s,baz=42,slow=4.1,SNR=37							
AKBB	Malin Array Si	146.36	332		PKPbc	22 23 02.1	-0.5
AKBB	Malin Array Si	146.36	332	PKP	PKPdf	22 23 01.1	-0.2
AK04	Malin Array Si	146.37	332	PKP	PKPdf	22 23 01.1	-0.2
KIEV	Kiev	146.37	332		PKPdf	22 23 01.2	-0.2
KIEV	Kiev	146.37	332	PKP	PKPdf	22 23 01.1	-0.2
AK01	Malin Array Si	146.37	332	PKP	PKPdf	22 23 01.1	-0.2
MI28	Mi28,Pidlybu	146.85	333	PKP	PKPdf	22 23 01.8	-0.4
EKA	Eskdalemuir Ar	147.03	8	PKPbc	PKPdf	22 23 02.1	-0.2
comp=Z,2.4nm,0.8s,baz=320,slow=2.1,SNR=2.5							
RNPP9	Sopachiv	147.18	336	PKP	PKPdf	22 23 02.4	-0.3
LUBAR	Lubar, Ukraine	147.57	332	PKP	PKPdf	22 23 03.1	-0.3
SORM	Soroca	148.60	329	PKP	PKPdf	22 23 04.7	-0.4
HORU	Horodok	148.67	332	PKP	PKPdf	22 23 04.6	-0.7
BRTR	Keskin Array B	150.40	311	PKPbc	PKPbc	22 23 13.6	-0.2
comp=Z,2.5nm,0.8s,baz=151,slow=3.0,SNR=11							
CLL	Collm	150.92	349	ePKPdf	PKPdf	22 23 10.0	+1.3
CLL				ePKPbc	PKiKP	22 23 15.0	0.0
MMAI	Mount Meron Ar	151.28	297	PKPbc	PKiKP	22 23 17.1	+0.6
comp=Z,5.8nm,0.8s,baz=80,slow=6.9,SNR=9.8							

*IDC **29** 22:11:27.6±1.3, 37°.36N×20°.98E, h0km, mb3.8/6, mbtmp3.7/10, ML3.5/4, Error ellipse: s-maj=35.5km s-min=18.8km az=140.0*
*ATH **29** 22:11:28.9, 37°.40N×20°.73E, h17km±5km, ML3.8/10, Manual Solution by A.Fokaefs First location: 2018/11/29 22:12:02, This location: 2019/02/04 11:16:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 7 km*
*THE **29** 22:11:29.4, 37°.40N×20°.72E, h6km, ML3.7/13, Error ellipse: s-maj=1.5km s-min=0.6km az=54.0*
ISC 29 22:11:29.9±1.2, 37°.44N±0°.04×20°.78E±0°.05, h16km±6km, n51, σ0s89/69, mb3.8/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.23	16	P	Pg	22 11 34.9	-0.3
KRI1				S	Sg	22 11 38.5	-0.4
30μm,0.5s				

GUR	**Goura**	**1.37**	**68**	P	**Pn**	**22 11 54.0**	**-0.4**
TSLK	**Tsoukalades, L**	**1.39**	**357**	P	**Pn**	**22 11 54.9**	**+0.3**
TSLK				S	**Sg**	**22 12 15.7**	**+0.9**
TSLK	**Tsoukalades, L**	**1.39**	**357**	P	**Pn**	**22 11 54.7**	**+0.2**
KALE	**Kalithea**	**1.46**	**49**	P	**Pn**	**22 11 56.2**	**+0.6**
ANX	**Ano Chora**	**1.49**	**39**	P	**Pn**	**22 11 56.2**	**+0.2**
ANX	**Ano Chora**	**1.49**	**39**	P	**Pn**	**22 11 56.1**	**+0.1**
MLR	**Muntele Rosu**	**8.95**	**24**	Pn	**Pn**	**22 13 41.3**	**+2.9**
	0.2nm,0.3s,baz=187,slow=12,SNR=3.7						
	3.7nm,0.9s						
KEST	**Kesra**	**9.32**	**263**	Pn	Pn	22 13 47.8	+4.2
	0.1nm,0.3s,baz=80,slow=23,SNR=3.1						
	4.5nm,1.0s						
OBKA	**Obir**	**10.17**	**335**	*e*Pn	Pn	22 14 08.9	+14
	1.1nm,0.5s						
OBKA				Sn	**Sn**	**22 15 47.0**	**-1.8**
	5.1nm,0.8s						
LESA	**Schwarzleotal**	**11.62**	**332**	*e*Pn	Pn	22 14 20.0	+5.1
	1.7nm,0.5s						
LESA				*e*Sn	**Sn**	**22 16 21.3**	**-3.0**
	1.4nm,0.5s						
AKASG	**Malin Array Be**	**14.58**	**22**	Pn	**Pn**	**22 14 54.7**	**-0.6**
	0.6nm,0.3s,baz=212,slow=9.3,SNR=3.5						
	0.1nm,0.2s						
ESDC	**Sonseca Array**	**19.43**	**284**	P	**Pn**	**22 15 57.3**	**+0.5**
	baz=82,slow=9.9,SNR=5.9						
	1.2nm,1.0s						
FINES	**FINESS Array B**	**24.27**	**6**	P	**P**	**22 16 45.3**	**-0.6**
	3.8nm,1.0s,baz=188,slow=9.4,SNR=1.5						
	3.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**29.57**	**220**	P	**P**	**22 17 35.0**	**+1.1**
	0.4nm,0.7s,baz=20,slow=9.4,SNR=3.6						
	0.4nm,0.7s						
ARCES	**ARCESS Array B**	**32.26**	**3**	P	**P**	**22 17 57.7**	**+0.4**
	2.4nm,1.0s,baz=182,slow=12,SNR=1.7						
	2.4nm,1.0s						
KURBB	**Kurchatov Arra**	**42.54**	**53**	P	**P**	**22 19 23.9**	**-0.5**
	0.6nm,0.6s,baz=279,slow=8.9,SNR=6.9						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**45.55**	**58**	P	**P**	**22 19 48.0**	**-0.7**
	0.4nm,0.5s,baz=278,slow=7.1,SNR=5.9						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**46.06**	**48**	P	**P**	**22 19 51.5**	**-1.1**
	0.8nm,0.4s,baz=260,slow=8.5,SNR=1.3						
	0.8nm,0.4s						

IDC 29 22:22:53.8±4.5, 7°.22S×148°.07E, h138km±38km, mb2.7/1, mbtmp3.2/3, Error ellipse: s-maj=70.7km s-min=26.6km az=155.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.35**	**203**	P	Pn	22 23 32.6	+0.1
	18nm,0.5s,baz=20,slow=8.5,SNR=9.6						
PMG				S	Sn	22 24 03.2	+1.0
	12nm,0.6s,baz=16,slow=17,SNR=1.6						
HNR	**Honiara**	**11.95**	**101**	P	Pn	22 25 39.3	-0.6
	117nm,0.5s,baz=146,slow=1.4,SNR=4.5						
WRA	**Warramunga Arr**	**18.37**	**225**	P	P	22 26 56.6	-1.4
	0.3nm,0.6s,baz=51,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**21.27**	**218**	P	P	22 27 29.1	-0.3
	0.5nm,0.5s,baz=52,slow=8.2,SNR=11						
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**146.41**	**283**	PKPbc	PKPbc	22 42 19.6	-0.1
	0.4nm,0.6s,baz=61,slow=3.9,SNR=5.5						

*TEH **29** 22:43:11.6, 34°.22N×45°.64E, h10km±144km, ML2.7*
*ISN **29** 22:43:11.3±0.5, 34°.23N×45°.64E, h7km±3km, ML2.5*
ISC 29 22:43:12.5±0.9, 34°.24N±0°.04×45°.67E±0°.05, h10km, n11, σ0°.77/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.23**	**122**	Pg	**Pg**	**22 43 17.1**	**-0.2**
KGS1	**Ghasr-e-Shirin**	**0.28**	**345**	Pg	**Pg**	**22 43 17.8**	**-0.4**
IGHG	**Ghaleghazi**	**0.75**	**83**	Pg	**Pg**	**22 43 27.3**	**+0.4**
IDHR	**Dehrash**	**0.75**	**52**	Pg	**Pg**	**22 43 26.5**	**-0.5**
ILBA	**Ilam Banvizeh**	**0.76**	**144**	Pg	**Pg**	**22 43 26.2**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.13**	**88**	Pg	**Pg**	**22 43 33.9**	**-0.4**
IBDR	**Badra**	**1.14**	**169**	*e*Pg	**Pb**	**22 43 33.5**	**-0.9**
IBDR				*e*Sg	**Sb**	**22 43 49.0**	**-0.3**
IBDR				AML	AML	22 43 54.4	
	comp=N,54nm,0.6s						
IBDR				AML	AML	22 43 54.6	
	comp=E,109nm,0.5s						
ILIN	**Lien**	**1.26**	**57**	Pg	**Pn**	**22 43 36.6**	**+0.1**
BHD	**Baghdad**	**1.45**	**229**	*e*Pn	**Pn**	**22 43 39.0**	**+0.3**
BHD				*e*Sg	**Sn**	**22 43 58.0**	**+0.2**
BHD				AML	AML	22 44 11.1	
	comp=E,153nm,0.3s						
IKRK	**Kirkuk**	**1.60**	**317**	*e*Pn	**Pn**	**22 43 41.5**	**+0.6**
IKRK				*e*Sn	**Sg**	**22 44 04.0**	**+0.1**
IKRK				AML	AML	22 44 06.3	
	comp=E,60nm,0.4s						
IKRK				AML	AML	22 44 06.3	
	comp=N,88nm,0.5s						
RAFI	**Al-Rafai**	**2.53**	**171**	*e*Pn	**Pn**	**22 43 54.5**	**+0.8**
RAFI				*e*Sn	**Sn**	**22 44 26.5**	**+1.9**

*TEH **29** 22:51:10.4, 37°.17N×44°.78E, h8km±52km, ML2.6*
*ISK **29** 22:51:11.3, 36°.73N×44°.68E, h6km, ML2.6/5*
*AFAD **29** 22:51:12.3±0.0, 37°.15N×44°.87E, h7km±4km, ML2.4*
ISC 29 22:51:11.7±1.2, 37°.15N±0°.04×44°.92E±0°.03, h14km±12km, n21, σ1°.45/30, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOVA	**Hakkari_Yksek**	**0.67**	**311**	P	**Pb**	**22 51 24.2**	**-1.0**
YOVA				*i* AML	AML	22 51 39.0	
	comp=E,108nm,0.3s						
YOVA				*i* AML	AML	22 51 42.0	
	comp=N,126nm,0.4s						
MAHB	**Mahabad**	**0.74**	**121**	Pg	**Pb**	**22 51 25.9**	**-0.5**
IAZR	**Azarshahr**	**1.00**	**58**	Pg	**Pn**	**22 51 31.7**	**+0.2**
HAKT	**HAKKARI**	**1.05**	**293**	P	**Pb**	**22 51 30.5**	**-1.2**
HAKT				S	**Sn**	**22 51 46.8**	**+0.1**
HAKT				*i* AML	AML	22 51 51.0	
	comp=E,136nm,0.5s						
HAKT				*i* AML	AML	22 51 52.0	
	comp=N,83nm,0.5s						
CUKT	**Cukurca**	**1.05**	**276**	P	**Pn**	**22 51 32.2**	**+0.1**
CUKT				S	**Sb**	**22 51 46.0**	**+0.5**
CUKT				*i* AML	AML	22 51 49.0	
	comp=E,377nm,0.8s						
CUKT				*i* AML	AML	22 51 57.0	
	comp=N,143nm,0.6s						
CUKT	**Cukurca**	**1.05**	**276**	Pg	**Pb**	**22 51 30.9**	**-0.9**
CUKT				Sg	**Sb**	**22 51 45.4**	**0.0**
SDS1	**Sardasht. Az.**	**1.10**	**155**	Pg	**Pg**	**22 51 32.2**	**-0.7**
SDS1				Sg	**Sb**	**22 51 48.9**	**+2.2**
ISHB	**Shabestar**	**1.26**	**26**	Pg	**Pb**	**22 51 34.7**	**-0.7**
ITBZ	**Tabriz**	**1.46**	**42**	Pg	**Pb**	**22 51 38.2**	**-0.5**
OZAP	**Van, Ozalp-Mer**	**1.68**	**334**	P	Pg	22 51 46.9	+2.9
IMRD	**Marand**	**1.68**	**21**	Pg	**Pg**	**22 51 42.6**	**-1.4**
IHSH	**Hashtrud**	**1.88**	**85**	Pn	**Pg**	**22 51 46.4**	**-1.4**
GEVA	**Gevas**	**1.88**	**309**	P	**Pg**	**22 51 47.8**	**0.0**
GEVA				S	**Sg**	**22 52 16.9**	**+4.7**
GEVA				*i* AML	AML	22 52 19.0	
	comp=E,26nm,1.0s						
GEVA				*i* AML	AML	22 52 20.0	
	comp=N,11nm,0.4s						
VANB	**Van**	**1.89**	**320**	Pn	**Pg**	**22 51 47.2**	**-0.7**
VANB				Sn	**Sg**	**22 52 13.6**	**+1.2**
AKDM	**Akdamar-Van**	**1.94**	**308**	Pn	**Pg**	**22 51 47.9**	**-1.0**
AKDM				Sn	**Sg**	**22 52 14.7**	**+0.6**
SIRN	**Sırnak**	**2.03**	**281**	P	**Pg**	**22 51 49.8**	**-0.9**
SIRN				S	**Sg**	**22 52 17.6**	**+0.6**
SIRN				*i* AML	AML	22 52 27.0	
	comp=N,72nm,0.6s						
SIRN				*i* AML	AML	22 52 29.0	
	comp=E,58nm,0.7s						
IHRS	**Heris**	**2.05**	**55**	Pn	**Pg**	**22 51 49.7**	**-1.4**
PERV	**Siirt/Pervari-**	**2.05**	**294**	P	**Pg**	**22 51 49.4**	**-1.6**
PERV				S	**Sg**	**22 52 20.1**	**+2.4**
PERV				*i* AML	AML	22 52 24.0	
	comp=N,74nm,0.5s						
PERV				*i* AML	AML	22 52 25.0	
	comp=E,67nm,0.6s						
CLDR	**Caldiran**	**2.14**	**339**	Pn	**Pg**	**22 51 53.6**	**+0.8**
SRTM	**Siirt_Merkez**	**2.53**	**290**	P	**Pg**	**22 51 59.2**	**-1.0**
SRTM				S	**Sg**	**22 52 32.9**	**0.0**
GURO	**Guroymak-BITLI**	**2.68**	**302**	Pn	**Pb**	**22 51 57.9**	**-1.6**

*IDC **29** 23:11:38.2±3.0, 37°.26N×20°.59E, h0km, mb3.8/4, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=53.7km s-min=32.8km az=167.0*
*ATH **29** 23:11:42.5, 37°.60N×20°.34E, h6km±1km, ML3.4/13, Manual Solution by I.Dede First location: 2018/11/29 23:12:04, This location: 2020/06/05 21:50:40 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
*THE **29** 23:11:42.2, 37°.59N×20°.36E, h0km±2km, ML3.4/16, Error ellipse: s-maj=2.6km s-min=0.5km az=231.0*
ISC 29 23:11:41.7±1.4, 37°.56N±0°.04×20°.32E±0°.04, h9km±8km, n44, σ0°.81/77, mb4.0/4, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.41**	**75**	P	**Pg**	**23 11 49.6**	**-0.1**
KRI1				S	**Sg**	**23 11 55.1**	**0.0**
	12μm,0.6s						
LTHK	**Lithakia**	**0.44**	**70**	P	**Pg**	**23 11 49.9**	**-0.4**
LTHK				S	**Sg**	**23 11 55.8**	**-0.3**
	12μm,0.7s						
LTHK	**Lithakia**	**0.44**	**70**	P	**Pg**	**23 11 50.4**	**+0.1**
LTHK				S	**Sg**	**23 11 55.8**	**-0.3**
PSDA	**Pessada-Kefalo**	**0.59**	**21**	P	**Pg**	**23 11 52.9**	**-0.3**
PSDA				S	**Sg**	**23 12 00.9**	**-0.1**
	6μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.59**	**21**	P	**Pg**	**23 11 53.2**	**0.0**
PSDA				S	**Sg**	**23 12 01.4**	**+0.4**
RTZL	**Ratzakli, Kefa**	**0.63**	**35**	P	**Pg**	**23 11 53.2**	**-0.7**
RTZL				S	**Sg**	**23 12 02.1**	**-0.1**
LXR1	**Lixouri, Cepha**	**0.65**	**8**	P	**Pg**	**23 11 54.6**	**+0.3**
LXR1				S	**Sg**	**23 12 03.5**	**+0.7**
	19μm,0.6s						
VLS	**Valsamata**	**0.66**	**19**	P	**Pg**	**23 11 53.8**	**-0.6**
VLS				S	**Sg**	**23 12 02.4**	**-0.6**
	4μm,0.4s						
VLS	**Valsamata**	**0.66**	**19**	P	**Pg**	**23 11 54.1**	**-0.2**
VLS				S	**Sg**	**23 12 02.7**	**-0.3**
DMLN	**Damoulianata-K**	**0.68**	**4**	P	**Pg**	**23 11 54.9**	**0.0**
DMLN				S	**Sg**	**23 12 04.5**	**+0.7**
	7μm,0.5s						
DMLN	**Damoulianata-K**	**0.68**	**4**	P	**Pg**	**23 11 55.1**	**+0.3**
DMLN				S	**Sg**	**23 12 03.6**	**-0.2**
SMHA	**Samh**	**0.74**	**21**	P	**Pg**	**23 11 55.2**	**-0.8**
SMHA				S	**Sg**	**23 12 04.8**	**-0.9**
VSK1	**VASILIKIADES**	**0.87**	**13**	P	**Pg**	**23 11 58.0**	**-0.5**
VSK1				S	**Sg**	**23 12 10.3**	**+0.4**
	3μm,0.8s						
FSK	**Fiskardo**	**0.92**	**12**	P	**Pg**	**23 11 58.8**	**-0.6**
FSK				S	**Sg**	**23 12 11.8**	**+0.4**
	2μm,0.5s						
RLS	**Riolos of Patr**	**1.04**	**61**	P	**Pg**	**23 12 00.8**	**-0.8**
RLS				S	**Sb**	**23 12 15.6**	**0.0**
	1μm,1.0s						
RLS	**Riolos of Patr**	**1.04**	**61**	P	**Pg**	**23 12 01.1**	**-0.6**
RLS				S	**Sg**	**23 12 14.4**	**-0.7**
EVGI	**Lefkada island**	**1.09**	**14**	P	**Pg**	**23 12 01.9**	**-0.8**
EVGI				S	**Sb**	**23 12 17.7**	**+0.4**
	2μm,0.4s						
EVGI	**Lefkada island**	**1.09**	**14**	P	**Pg**	**23 12 03.0**	**+0.2**
EVGI				S	**Sg**	**23 12 16.6**	**-0.4**
AMT	**Artemida-Makis**	**1.11**	**91**	P	**Pg**	**23 12 02.7**	**-0.2**
AMT				S	**Sb**	**23 12 17.9**	**+0.3**
DRAG	**Dragano-Lefkad**	**1.14**	**10**	P	**Pb**	**23 12 04.6**	**+0.9**
DRAG				S	**Sg**	**23 12 18.1**	**-0.4**
AST1	**Astakos**	**1.16**	**32**	P	**Pg**	**23 12 03.0**	**-0.9**
AST1				S	**Sb**	**23 12 19.5**	**+0.5**
	2μm,0.8s						
DRO	**Drossia**	**1.17**	**70**	P	**Pg**	**23 12 03.6**	**-0.6**
DRO				S	**Sb**	**23 12 20.4**	**+0.9**
	2μm,0.5s						
DRO	**Drossia**	**1.17**	**70**	P	**Pb**	**23 12 04.6**	**+0.5**
DRO				S	**Sg**	**23 12 18.6**	**-0.8**
NYDR	**Nydri-Lefkada**	**1.19**	**14**	P	**Pg**	**23 12 03.3**	**-1.3**
NYDR				S	**Sn**	**23 12 22.0**	**+1.1**
	1μm,0.6s						
LKD2	**Lefkada island**	**1.26**	**12**	P	**Pg**	**23 12 04.8**	**-1.1**
LKD2				S	**Sn**	**23 12 23.3**	**+0.6**
	2μm,0.9s						
TSLK	**Tsoukalades, L**	**1.29**	**12**	P	**Pg**	**23 12 05.9**	**-0.6**
TSLK				S	**Sn**	**23 12 24.6**	**+1.1**
	2μm,0.9s						
TSLK	**Tsoukalades, L**	**1.29**	**12**	P	**Pb**	**23 12 06.8**	**+0.5**
TSLK				S	**Sg**	**23 12 23.0**	**-0.3**
PYL	**PYLOS**	**1.31**	**120**	P	**Pg**	**23 12 06.7**	**-0.2**
PYL				S	**Sn**	**23 12 25.8**	**+1.8**
	368nm,1.1s						
ITM	**Ithomi**	**1.34**	**106**	P	**Pg**	**23 12 07.1**	**-0.2**
ITM	**Ithomi**	**1.34**	**106**	P	**Pg**	**23 12 07.6**	**+0.2**
ITM				S	**Sg**	**23 12 24.5**	**-0.2**
PVO	**Paravola**	**1.42**	**42**	P	**Pg**	**23 12 08.3**	**-0.8**
PVO				S	**Sn**	**23 12 27.5**	**+0.9**
EFP	**Efpalio**	**1.53**	**55**	P	**Pn**	**23 12 10.1**	**+0.9**
EFP				S	**Sg**	**23 12 29.2**	**-1.6**
KLV	**Kalavryta, Ach**	**1.53**	**71**	P	**Pn**	**23 12 10.5**	**+1.2**
ANX	**Ano Chora**	**1.63**	**50**	P	**Pn**	**23 12 10.9**	**+0.1**
ANX				S	**Sb**	**23 12 33.3**	**+0.4**
ANX	**Ano Chora**	**1.63**	**50**	P	**Pn**	**23 12 11.5**	**+0.7**
GUR	**Goura**	**1.65**	**76**	P	**Pn**	**23 12 10.7**	**-0.3**
EVR	**Evrytania**	**1.79**	**40**	P	**Pn**	**23 12 13.9**	**+0.9**
MAKR	**Makrakomi, Fth**	**2.04**	**44**	P	**Pn**	**23 12 15.3**	**-1.0**
VAE	**Valguarnera**	**4.70**	**271**	**Pn**	**Pn**	**23 12 54.5**	**+1.6**
	5.9nm,0.9s,baz=22,slow=11,SNR=1.4						
VAE				Sn	**Sn**	**23 13 46.9**	**-0.5**
	0.4nm,0.3s,baz=124,slow=16,SNR=1.0						
MLR	**Muntele Rosu**	**8.98**	**26**	Pn	**Pn**	**23 13 53.3**	**+1.6**
	0.2nm,0.3s,baz=206,slow=5.6,SNR=6.7						
	6.9nm,0.9s						
HFS	**Hagfors**	**22.99**	**352**	P	**P**	**23 16 47.8**	**+1.3**
	6.5nm,1.1s,baz=141,slow=12,SNR=2.0						
	6.5nm,1.1s						
FINES	**FINESS Array B**	**24.18**	**7**	P	**P**	**23 16 58.0**	**-0.2**
	4.1nm,0.9s,baz=163,slow=10,SNR=5.0						
	4.1nm,0.9s						
MKAR	**Makanchi Array**	**45.77**	**58**	P	**P**	**23 20 01.3**	**-2.2**
	0.4nm,0.8s,baz=283,slow=8.3,SNR=2.5						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**46.23**	**48**	P	**P**	**23 20 04.8**	**-2.1**
	0.6nm,0.3s,baz=270,slow=7.2,SNR=1.4						
	0.6nm,0.3s						

*IDC **29** 23:12:48.2±1.0, 0°.20S×17°.88W, h0km, mb4.0/12, mbtmp4.1/15, ML4.4/3, MS3.5/25, Error ellipse: s-maj=34.4km s-min=19.3km az=147.0*
*NEIC **29** 23:12:50.6±1.0, 0°.14S±0°.08×18°.0W±0°.1, h10km±1km, mb4.6/27, Error ellipse: s-maj=19.7km s-min=11.2km az=66.0*
ISC 29 23:12:51.8±0.6, 0°.15S±0°.08×17°.93W±0°.09, h23km, n76, σ0°.65/51, mb4.4/29, MS3.5/23, 1D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.37**	**156**	T	T	23 24 07.6	
	baz=335,slow=74						
H10N3	**ASCENSION HYDR**	**8.37**	**156**	T	T	23 24 10.1	
	baz=335						
H10N1	**ASCENSION HYDR**	**8.38**	**156**	T	T	23 23 55.6	
	baz=335,slow=74						
ASCN	**Ascension**	**8.51**	**155**	Pn	**Pn**	**23 14 53.6**	**-0.1**
H10S3	**ASCENSION HYDR**	**9.33**	**160**	T	T	23 25 08.9	
	baz=356,slow=74,SNR=47						
H10S2	**ASCENSION HYDR**	**9.35**	**160**	T	T	23 25 10.2	
	baz=224,slow=74,SNR=24						
MBO	**M'Bour**	**14.48**	**4**	Pn	**Pn**	**23 16 13.3**	**-2.1**
DBIC	**Dimbokro**	**14.70**	**62**		**Pn**	**23 16 17.8**	**-0.6**
DBIC	**Dimbokro**	**14.70**	**62**	Pn	**Pn**	**23 16 17.5**	**-0.9**
	6.4nm,0.3s,baz=243,slow=13,SNR=77						
DBIC				Sn	Sn	23 18 48.8	-12
	0.7nm,0.3s,baz=143,slow=11,SNR=2.5						
DBIC				LR	LR	23 21 04.9	
	comp=Z,150nm,18.2s,baz=242,slow=34						
	16nm,0.3s						
BBTS	**Babate**	**14.78**	**5**	Pn	**Pn**	**23 16 19.2**	**-0.3**
	1.1nm,0.3s,baz=67,slow=8.4,SNR=4.2						
BBTS				Sn	Sn	23 18 48.4	-14
	4.9nm,0.3s,baz=282,slow=21,SNR=8.9						
	20nm,0.8s						
SACV	**Santiago Islan**	**16.04**	**340**	Pn	**Pn**	**23 16 35.0**	**-1.0**
SACV				IAmb	IAmb	23 16 49.4	
	comp=Z,35nm,0.8s						
ACRG	**Accra**	**18.60**	**72**	P	**P**	**23 17 06.7**	**-1.0**
ACRG				IAmb	IAmb	23 17 11.4	
	comp=Z,35nm,0.8s						
RCBR	**Riachuelo**	**18.81**	**252**	P	**P**	**23 17 08.6**	**-1.4**
RCBR	**Riachuelo**	**18.81**	**252**	P	**P**	**23 17 09.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=99,slow=20,SNR=7.7						
RCBR				S	Sn	23 20 20.1	-21
	comp=Z,1.9nm,0.8s,baz=331,slow=21,SNR=1.1						
RCBR				LR	LR	23 22 32.3	
	comp=Z,50nm,19.8s,baz=72,slow=31						
	comp=Z,2.0nm,0.6s						
SHEL	**Horse Pasture**	**19.78**	**143**	P	**P**	**23 17 20.6**	**0.0**
TORD	**Torodi Ar. Bea**	**23.51**	**55**	P	**P**	**23 18 00.2**	**-0.1**
TORD				IAmb	IAmb	23 18 03.1	
	comp=Z,13nm,1.1s						
TORD	**Torodi Ar. Bea**	**23.51**	**55**	P	**P**	**23 18 00.7**	**+0.3**
	comp=Z,12nm,0.9s,baz=240,slow=9.0,SNR=41						
TORD				LR	LR	23 26 17.3	
	comp=Z,108nm,18.3s,baz=282,slow=34						
	comp=Z,12nm,0.9s						
TAM	**Tamanrasset**	**32.26**	**43**	P	**P**	**23 19 20.0**	**+0.9**
TAM				IAmb	IAmb	23 19 22.2	
	comp=Z,5.4nm,1.0s						
BDFB	**Brasilia**	**33.46**	**241**	LR	LR	23 31 15.9	
	comp=Z,101nm,20.1s,baz=14,slow=33						
AVE	**Averroes**	**34.71**	**16**	P	**P**	**23 19 40.2**	**+0.2**
MDP	**Montagnes des**	**35.06**	**279**	LR	LR	23 32 44.1	
	comp=Z,51nm,18.2s,baz=94,slow=34						
MDT	**Midelt**	**35.11**	**20**	LR	LR	23 33 29.2	
	comp=Z,110nm,19.8s,baz=216,slow=35						
MESJ	**Messejana**	**38.85**	**12**	P	**P**	**23 20 16.0**	**+0.7**
MESJ				IAmb	IAmb	23 20 18.0	
	comp=Z,8.9nm,0.8s						
PAB	**San Pablo**	**41.41**	**16**	P	**P**	**23 20 37.7**	**+1.1**
MTE	**Manteigas**	**41.45**	**12**	P	**P**	**23 20 37.1**	**+0.1**
MTE				IAmb	IAmb	23 20 44.8	
	comp=Z,18nm,1.1s						
ESDC	**Sonseca Array**	**41.64**	**16**	P	**P**	**23 20 38.9**	**+0.5**
	comp=Z,1.3nm,1.0s,baz=206,slow=8.6,SNR=4.6						
	comp=Z,1.3nm,1.0s						
KEST	**Kesra**	**43.81**	**33**	LR	LR	23 40 34.4	
	comp=Z,200nm,18.7s,baz=357,slow=38						
SIV	**San Ignacio**	**45.38**	**248**	LR	LR	23 39 29.3	
	comp=Z,60nm,18.1s,baz=132,slow=35						
CPUP	**Villa Florida**	**46.01**	**232**	LR	LR	23 39 03.8	
	comp=Z,42nm,18.1s,baz=44,slow=34						
SUR	**Suthland**	**48.60**	**135**	LR	LR	23 37 33.6	
	comp=Z,32nm,19.8s,baz=282,slow=31						
MBAR	**Mbarara**	**48.67**	**91**	LR	LR	23 40 33.4	
	comp=Z,74nm,18.0s,baz=250,slow=34						
LBTB	**Lobatse**	**48.78**	**124**	LR	LR	23 37 54.6	
	comp=Z,34nm,21.6s,baz=270,slow=31						
BOSA	**Boshof**	**50.04**	**128**	LR	LR	23 38 59.8	
	comp=Z,29nm,20.2s,baz=208,slow=31						
SJG	**San Juan**	**50.74**	**294**	LR	LR	23 38 49.0	
	comp=Z,36nm,21.1s,baz=83,slow=31						
LPAZ	**La Paz**	**52.02**	**249**	P	**P**	**23 22 01.2**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=63,slow=2.3,SNR=1.9						
LPAZ				LR	LR	23 43 22.6	
	comp=Z,37nm,18.2s,baz=94,slow=35						
	comp=Z,0.4nm,0.4s						
DAVOX	**Davos/Dischmat**	**52.70**	**24**	P	**P**	**23 22 04.5**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=206,slow=18,SNR=5.4						
	comp=Z,2.0nm,0.8s						
DAVA	**Damuels**	**53.11**	**23**	*e*P	**P**	**23 22 08.4**	**+0.7**
	comp=Z,4.8nm,0.7s						
SDV	**Santo Domingo**	**53.25**	**281**	LR	LR	23 44 28.7	
	comp=Z,28nm,18.6s,baz=78,slow=36						
SQTA	**Sankt Quirin**	**53.59**	**24**	*e*P	**P**	**23 22 11.7**	**+0.5**
	comp=Z,2.8nm,0.6s						
WTTA	**Wattenberg**	**53.80**	**25**	*e*P	**P**	**23 22 13.8**	**+0.9**
	comp=Z,0.6nm,0.4s						
LESA	**Schwarzleotal**	**54.37**	**25**	*e*P	**P**	**23 22 17.4**	**+0.5**
	comp=Z,3.2nm,0.6s						
KBA	**Koelnbreinsper**	**54.39**	**26**	*e*P	**P**	**23 22 18.2**	**+1.0**
	comp=Z,1.0nm,0.5s						
KMBO	**Kilima Mbogo**	**55.18**	**91**	P	**P**	**23 22 23.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=225,slow=10.0,SNR=1.2						
KMBO				LR	LR	23 44 28.0	
	comp=Z,88nm,18.1s,baz=76,slow=34						
	comp=Z,0.4nm,0.3s						
GERES	**GERESS Array B**	**55.91**	**25**	P	**P**	**23 22 27.4**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=207,slow=9.9,SNR=5.7						
	comp=Z,1.3nm,0.7s						
ROSC	**El Rosal**	**56.54**	**276**	LR	LR	23 43 44.8	
	comp=Z,59nm,20.5s,baz=65,slow=33						
NNA	**Nana**	**59.62**	**256**	LR	LR	23 47 05.9	
	comp=Z,59nm,19.7s,baz=76,slow=34						
MMAI	**Mount Meron Ar**	**59.97**	**51**	LR	LR	23 50 41.7	
	comp=Z,27nm,18.1s,baz=195,slow=38						
ATAH	**Atahualpa**	**60.70**	**262**	LR	LR	23 48 08.4	
	comp=Z,73nm,20.4s,baz=98,slow=35						
BRTR	**Keskin Array B**	**61.46**	**43**	P	**P**	**23 23 06.7**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=238,slow=5.0,SNR=4.9						
	comp=Z,1.2nm,0.7s						
PLCA	**Paso Flores**	**62.42**	**223**	LR	LR	23 45 49.4	
	comp=Z,20nm,22.0s,baz=118,slow=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAK	**Akyaka**	**0.49**	**221**	P	**Pg**	**23 31 30.1**	**-0.1**
EAK				S	**Sg**	**23 31 36.8**	**0.0**
EAK				*i* AML	AML	23 31 43.0	
	comp=N,315nm,0.6s						
EAK				*i* AML	AML	23 31 44.0	
	comp=E,549nm,0.6s						
AKH	**Akhalkalaki**	**0.54**	**311**	Pg	**Pg**	**23 31 31.1**	**-0.1**
AKH				Sg	**Sg**	**23 31 38.1**	**-0.3**
DIGO	**Kars**	**0.81**	**218**	P	**Pb**	**23 31 36.1**	**-0.3**
DIGO				S	**Sb**	**23 31 46.9**	**-0.3**
DIGO				*i* AML	AML	23 31 48.0	
	comp=N,576nm,0.3s						
DIGO				*i* AML	AML	23 31 52.0	
	comp=E,537nm,0.5s						
KARS	**Kars**	**0.84**	**240**	Pg	**Pb**	**23 31 36.4**	**-0.4**
TBLG	**Delisi**	**0.86**	**38**	Pg	**Pg**	**23 31 37.6**	**+0.4**
TBLG				Sg	**Sn**	**23 31 49.9**	**-0.5**
BOZK	**Kars-Merkez-Bo**	**0.93**	**240**	P	**Pb**	**23 31 37.8**	**-0.6**
BOZK				S	**Sb**	**23 31 49.6**	**-0.9**
BOZK				*i* AML	AML	23 31 50.0	
	comp=E,59nm,0.6s						
BOZK				*i* AML	AML	23 31 53.0	
	comp=N,38nm,0.3s						
QZX	**Qazax, Azerbai**	**1.01**	**89**	P	**Pg**	**23 31 40.8**	**+0.7**
QZX				S	**Sn**	**23 31 55.1**	**+0.9**
GNI	**Garni**	**1.05**	**149**	Pg	**Pg**	**23 31 41.7**	**+0.9**
GNI				Sg	**Sn**	**23 31 56.9**	**+1.5**
AHAN	**Ardahan-Merkez**	**1.07**	**276**	P	**Pb**	**23 31 40.6**	**-0.2**
AHAN				S	**Sb**	**23 31 55.0**	**+0.4**
AHAN				*i* AML	AML	23 31 56.0	
	comp=N,53nm,0.4s						
AHAN				*i* AML	AML	23 31 56.0	
	comp=E,99nm,0.4s						
EPOS	**Posof**	**1.08**	**295**	P	**Pb**	**23 31 40.8**	**-0.2**
EPOS				S	**Sb**	**23 31 55.0**	**+0.1**
EPOS				*i* AML	AML	23 31 55.0	
	comp=N,184nm,0.3s						
EPOS				*i* AML	AML	23 31 55.0	
	comp=E,77nm,0.3s						
TASB	**TASBURUN-IGDIR**	**1.08**	**172**	Pn	**Pg**	**23 31 41.6**	**+0.3**
TASB				Sn	**Sg**	**23 31 56.5**	**+1.0**
GOLE	**Ardahan-G¶le**	**1.11**	**259**	P	**Pn**	**23 31 41.6**	**0.0**
GOLE				S	**Sn**	**23 31 56.7**	**-0.1**
GOLE				*i* AML	AML	23 31 58.0	
	comp=N,79nm,0.5s						
GOLE				*i* AML	AML	23 32 01.0	
	comp=E,54nm,0.3s						
GDB	**GEDABAY**	**1.35**	**104**	P	**Pg**	**23 31 46.0**	**-0.5**
GDB				S	**Sg**	**23 32 04.1**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.37**	**249**	Pn	**Pb**	**23 31 45.8**	**-0.1**
HYR	**Heyderabad**	**1.47**	**155**	P	**Pg**	**23 31 48.8**	**0.0**
HYR				S	**Sg**	**23 32 09.8**	**+1.8**
DAGI	**Agillar**	**1.60**	**272**	P	**Pb**	**23 31 50.2**	**+0.4**
DAGI				S	**Sg**	**23 32 12.4**	**+0.4**
	comp=E,20nm,0.6s						
DAGI				*i* AML	AML	23 32 12.0	
	comp=N,27nm,0.5s						
AGRB	**Hanur-Agry**	**1.68**	**209**	Pn	**Pb**	**23 31 51.2**	**0.0**
DBAD	**Bademkaya**	**1.77**	**270**	P	**Pb**	**23 31 53.0**	**+0.4**
DBAD				S	**Sb**	**23 32 16.3**	**+1.7**
DBAD				*i* AML	AML	23 32 18.0	
	comp=E,24nm,0.8s						
DBAD				*i* AML	AML	23 32 19.0	
	comp=N,22nm,0.8s						
DBOC	**Borcka**	**1.81**	**280**	P	**Pb**	**23 31 53.5**	**+0.2**
DBOC				S	**Sb**	**23 32 16.2**	**+0.5**
DBOC				*i* AML	AML	23 32 17.0	
	comp=E,22nm,0.3s						
BATM	**Batumi**	**1.84**	**288**	Pn	**Pb**	**23 31 53.3**	**-0.6**
BCA	**Borcka**	**1.86**	**283**	Pn	**Pb**	**23 31 53.5**	**-0.6**
CLDR	**Caldiran**	**1.91**	**183**	Pn	**Pb**	**23 31 54.2**	**-1.0**
KOPR	**Koprukoy-ERZUR**	**1.97**	**238**	Pn	**Pb**	**23 31 54.9**	**-1.2**
SBZ	**Shahbuz**	**2.02**	**144**	P	**Pg**	**23 31 59.3**	**0.0**
SBZ				S	**Sg**	**23 32 26.8**	**+1.2**
ZKTA	**Zakatala**	**2.04**	**73**	P	**Pb**	**23 31 58.0**	**+0.9**
ZKTA				S	**Sg**	**23 32 26.8**	**+0.8**
NAX	**Nakhchivan**	**2.19**	**149**	S	**Sg**	**23 32 29.4**	**-1.4**
MNGR	**Mingechevir, A**	**2.33**	**96**	P	**Pg**	**23 32 04.8**	**-0.4**
MNGR				S	**Sg**	**23 32 33.5**	**-1.9**
SEKA	**Sheki**	**2.40**	**85**	P	**Pb**	**23 32 03.8**	**+0.5**
SEKA				S	**Sg**	**23 32 35.3**	**-2.2**
AGDM	**Agdam**	**2.53**	**111**	P	**Pg**	**23 32 08.1**	**-0.8**
AGDM				S	**Sg**	**23 32 39.3**	**-2.4**
ORD	**Ordubad**	**2.60**	**144**	P	**Pg**	**23 32 09.3**	**-1.1**
ORD				S	**Sg**	**23 32 44.4**	**+0.2**
QBL	**Gabala**	**2.88**	**91**	P	**Pb**	**23 32 12.9**	**+1.3**
QBL				S	**Sg**	**23 32 53.1**	**0.0**
ZRD	**Zardab**	**2.88**	**104**	P	**Pg**	**23 32 14.1**	**-1.7**
ZRD				S	**Sg**	**23 32 51.1**	**-2.0**
XNQ	**Khinaliq**	**3.11**	**86**	P	**Pb**	**23 32 15.8**	**+0.2**
XNQ				S	**Sb**	**23 32 53.6**	**+0.2**
IML	**Ismayilli**	**3.16**	**93**	P	**Pb**	**23 32 16.9**	**+0.7**
QSAR	**Qusar**	**3.22**	**80**	P	**Pb**	**23 32 17.2**	**-0.2**
PQL	**Pirkuli**	**3.47**	**93**	P	**Pb**	**23 32 22.4**	**+0.8**

*CATAC **29** 23:48:32.1±0.9, 12°.71N×90°.48W, h12km±9km, ML3.7*
*SNET **29** 23:48:36.5±2.0, 12°.85N×90°.39W, h42km, ML3.5*
ISC 29 23:48:33.5±5.2, 12°.8N±0°.1×90°.5W±0°.2, h26km±24km, n16, σ0°45/24, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.34**	**32**	*i* P	**Pn**	**23 48 56.4**	**-0.4**
NUBE				*i* S	**Sb**	**23 49 14.6**	**-0.4**
NUBE				IAML		23 49 24.9	
	comp=Z,440nm,1.0s						
JAYA	**Jayaque - finc**	**1.36**	**49**	*e*P	**Pn**	**23 48 57.1**	**+0.1**
JAYA	**Jayaque - finc**	**1.36**	**49**	*i* P	**Pn**	**23 48 56.8**	**-0.3**
JAYA				IAML		23 49 20.1	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**1.37**	**39**	*e*P	**Pn**	**23 48 57.6**	**+0.4**
CEVE				*e*S	**Sb**	**23 49 16.3**	**+0.4**
CEVE	**Cerro Verde**	**1.37**	**39**	*i* P	**Pn**	**23 48 57.3**	**+0.1**
CEVE				*i* S	**Sn**	**23 49 15.0**	**+0.3**
CEVE				IAML		23 49 24.1	
	comp=Z,2μm,1.0s						
LOAL	**Lomas de Alarc**	**1.43**	**30**	*i* P	**Pn**	**23 48 58.0**	**+0.2**
LOAL				*i* S	**Sn**	**23 49 15.7**	**-0.1**
LOAL				IAML		23 49 24.5	
	comp=Z,2μm,1.0s						
PMON	**Piamonte**	**1.50**	**50**	*i* P	**Pn**	**23 48 59.0**	**+0.1**
PMON				*i* S	**Sb**	**23 49 20.4**	**+0.9**
PMON				IAML		23 49 34.5	
	comp=Z,920nm,1.0s						
BOQS	**Boqueron**	**1.54**	**51**	*e*P	**Pn**	**23 48 58.8**	**-0.7**
LOMA	**Loma Larga**	**1.57**	**56**	*i* P	**Pn**	**23 48 59.3**	**-0.6**
LOMA				*i* S	**Sb**	**23 49 21.7**	**+0.1**
LOMA				IAML		23 49 23.5	
	comp=Z,360nm,1.0s						
LFRS	**El Faro**	**1.65**	**58**	*e*P	**Pn**	**23 49 00.9**	**0.0**
PAVA	**Las Pavas**	**1.80**	**58**	*i* P	**Pn**	**23 49 03.3**	**+0.3**
PAVA				IAML		23 49 04.3	
	comp=Z,530nm,1.0s						
COEG	**Centro de Oper**	**1.80**	**61**	*i* P	**Pn**	**23 49 02.7**	**-0.3**
COEG				IAML		23 49 03.8	
	comp=Z,500nm,1.0s						
MTO3	**Montecristo**	**1.98**	**34**	*i* P	**Pn**	**23 49 06.0**	**+0.4**
MTO3				IAML		23 49 09.2	
	comp=Z,260nm,1.0s						
MTO3				*i* S	**Sb**	**23 49 32.4**	**-1.0**
CNCH	**Conchagua**	**2.66**	**78**	*i* P	**Pn**	**23 49 14.5**	**-0.3**
CNCH				IAML		23 49 28.0	
	comp=Z,230nm,1.0s						
CRIN	**San Cristobal**	**3.37**	**91**	*i* P	**Pn**	**23 49 24.8**	**+0.2**
PKGN	**Cerro Pekin**	**3.45**	**91**	*i* P	**Pn**	**23 49 25.7**	**+0.2**
PKGN				*i* S	**Sn**	**23 50 05.4**	**-0.2**

*IDC **29** 23:55:20.7±0.9, 29°.88N×94°.94E, h0km, mb3.6/8,*
mbtmp3.6/11, ML4.0/3, MS3.2/3, Error ellipse:
s-maj=43.5km s-min=17.0km az=59.0
ISC 29 23:55:25.4±0.9, 29°.9N±0°.1×95°.0E±0°.2, h35km, n12, σ1°03/11, mb3.6/7, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.92**	**162**	Pn	**Pn**	**23 58 12.1**	**-0.8**
	0.6nm,0.3s,baz=335,slow=15,SNR=1.4						
CMAR				LR	LR	00 03 21.5	
	comp=Z,51nm,18.5s,baz=340,slow=40						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**19.57**	**333**	P	**P**	**23 59 48.8**	**-1.5**
	0.2nm,0.3s,baz=141,slow=9.8,SNR=5.7						
	0.5nm,0.7s						
SONM	**Songino Array**	**19.98**	**23**	P	**P**	**23 59 54.3**	**-0.5**
	0.5nm,0.3s,baz=206,slow=9.4,SNR=5.7						
	1.4nm,0.6s						
AAK	**Ala-Archa**	**20.81**	**313**	P	**P**	**00 00 02.9**	**-1.0**
	0.6nm,0.5s,baz=140,slow=5.9,SNR=2.4						
AAK				LR	LR	00 09 35.0	
	comp=Z,86nm,18.4s,baz=324,slow=41						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**24.14**	**334**	P	**P**	**00 00 37.6**	**-0.3**
	1.4nm,0.8s,baz=146,slow=10,SNR=15						
	1.4nm,0.8s						
ZALV	**Zalesovo Beam**	**25.17**	**346**	P	**P**	**00 00 48.0**	**+0.6**
	1.6nm,0.5s,baz=151,slow=8.5,SNR=5.3						
	1.6nm,0.5s						
BVAR	**Borovoye Array**	**29.32**	**329**	P	**P**	**00 01 25.5**	**+1.0**
	1.4nm,0.7s,baz=139,slow=9.7,SNR=7.3						
	1.4nm,0.7s						
BRTR	**Keskin Array B**	**50.46**	**299**	LR	LR	00 28 51.4	
	comp=Z,49nm,20.4s,baz=292,slow=40						
AKASG	**Malin Array Be**	**52.47**	**313**	P	**P**	**00 04 34.4**	**-0.2**
	0.2nm,0.2s,baz=75,slow=6.8,SNR=1.9						
	0.2nm,0.2s						
WRA	**Warramunga Arr**	**62.36**	**138**	P	**P**	**00 05 46.3**	**+1.6**
	0.4nm,0.7s,baz=326,slow=7.2,SNR=6.4						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**65.05**	**141**	P	**P**	**00 06 02.2**	**-0.2**
	0.4nm,0.7s,baz=329,slow=6.8,SNR=3.1						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**86.37**	**283**	P	**P**	**00 08 05.2**	**+0.6**
	0.4nm,0.7s,baz=41,slow=5.7,SNR=3.2						
	0.4nm,0.7s						

CATAC 30 00:02:09.4±0.8, 11°.37N×87°.20W, h8km±7km, ML3.6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNAN	**Cigeo UNAN**	**1.17**	**51**	*i* P	Pg	00 02 31.3	-0.7
UNAN				IAML		00 02 40.8	
	comp=Z,9μm,1.0s						
SABN	**Sabanita**	**1.18**	**60**	*i* P	Pg	00 02 31.0	-1.0
SABN				IAML		00 03 05.8	
	comp=Z,4μm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.18**	**29**	*i* P	Pb	00 02 31.9	-0.1
LEVN				IAML		00 02 57.6	
	comp=Z,2μm,1.0s						
APQ2	**Apoyeque**	**1.19**	**46**	*i* P	Pb	00 02 31.2	-1.0
APQ2				IAML		00 02 41.6	
	comp=Z,2μm,1.0s						
PACN	**Al O del Volca**	**1.20**	**20**	*i* P	Pb	00 02 32.0	-0.3
PACN				IAML		00 02 54.5	
	comp=Z,1μm,1.0s						
TISN	**Laguna Tiscapa**	**1.20**	**50**	*i* P	Pb	00 02 31.6	-0.7
TISN				IAML		00 02 40.9	
	comp=Z,140nm,1.0s						
MAS3	**Al N del Volca**	**1.20**	**57**	*i* P	Pb	00 02 31.1	-1.3
MAS3				IAML		00 02 40.7	
	comp=Z,1μm,1.0s						
MAS3				*i* S	Sg	00 02 47.7	-0.3
NANN	**Nandasmo**	**1.20**	**62**	*i* P	Pb	00 02 32.4	-0.1
NANN				IAML		00 02 51.8	
	comp=Z,17μm,1.0s						
MACN	**El Madrono**	**1.21**	**25**	*i* P	Pb	00 02 31.5	-1.0
MACN				IAML		00 03 02.8	
	comp=Z,510nm,1.0s						
MOMN	**Momotombo**	**1.22**	**32**	*i* P	Pb	00 02 31.4	-1.4
MOMN				IAML		00 02 39.8	
	comp=Z,45nm,1.0s						
MOMN				*i* S	Sb	00 02 49.1	+0.4
CNGA	**Al SSO del Vol**	**1.22**	**24**	*i* P	Pb	00 02 31.7	-1.1
CNGA				*i* S	Sn	00 02 49.5	-0.1
CNGA				IAML		00 02 53.6	
	comp=Z,1μm,1.0s						
PLRN	**Geotermica Pol**	**1.28**	**19**	*i* P	Pn	00 02 32.6	-1.0
ILCN	**San Idelfonso**	**1.30**	**22**	*i* P	Pn	00 02 32.5	-1.4
ILCN				IAML		00 02 40.3	
	comp=Z,420nm,1.0s						
PKGN	**Cerro Pekin**	**1.31**	**10**	*i* P	Pn	00 02 33.2	-0.8
PKGN				IAML		00 03 44.8	
	comp=Z,3μm,1.0s						
CRIN	**San Cristobal**	**1.33**	**6**	*i* P	Pn	00 02 33.5	-0.9
CRIN				IAML		00 02 58.8	
	comp=Z,3μm,1.0s						
CSGN	**Cosiguina Volc**	**1.64**	**348**	*i* P	Pn	00 02 37.8	-0.8
CSGN				IAML		00 03 06.6	
	comp=Z,160nm,1.0s						
POTN	**Potosi Cosigui**	**1.65**	**350**	*i* P	Pn	00 02 38.1	-0.6
POTN				IAML		00 03 09.6	
	comp=Z,290nm,1.0s						
LIMN	**Finca el Limon**	**1.87**	**26**	*i* P	Pn	00 02 41.2	-0.6
LIMN				IAML		00 03 22.3	
	comp=Z,360nm,1.0s						
CNCH	**Conchagua**	**1.99**	**342**	*i* P	Pn	00 02 43.0	-0.5
CNCH				*i* S	Sn	00 03 08.4	-0.4
CNCH				IAML		00 03 20.1	
	comp=Z,810nm,1.0s						
LCND	**La Caada**	**2.04**	**341**	*i* P	Pb	00 02 46.6	-0.2
LCND				IAML		00 02 51.6	
	comp=Z,280nm,1.0s						
RCPN	**Sur Rio San Ju**	**2.40**	**27**	*i* P	Pn	00 02 49.5	+0.3
RCPN				IAML		00 03 23.9	
	comp=Z,0.7nm,1.0s						
RCVN	**Varillal2**	**2.41**	**24**	*i* P	Pn	00 02 49.3	0.0
RCVN				IAML		00 03 24.0	
	comp=Z,3μm,1.0s						

*NEIC **30** 00:10:50.8±1.3, 7°.20S±0°.09×154°.97E±0°.08, h10km±1km,*
mb4.6/100, Error ellipse: s-maj=16.4km s-min=12.9km
az=23.0
*IDC **30** 00:10:58.4±5.2, 7°.15S×154°.75E, h80km±43km, mb3.9/12,*
mbtmp4.2/13, ML2.2/1, MS3.4/7, Error ellipse:
s-maj=30.5km s-min=18.8km az=94.0
ISC 30 00:10:53.4±0.5, 7°.18S±0°.08×155°.00E±0°.07, h35km, n130, σ1°51/128, mb4.5/61, MS3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.10**	**316**	Pn	**Pn**	**00 11 52.8**	**-0.8**
HNR	**Honiara**	**5.38**	**115**	Pn	**Pn**	**00 12 11.1**	**-0.1**
HNR	**Honiara**	**5.38**	**115**	LR	LR	00 14 26.2	
	comp=Z,202nm,18.9s,baz=220,slow=37						
PMG	**Port Moresby**	**8.07**	**254**		**Pn**	**00 12 47.5**	**-0.7**
PMG	**Port Moresby**	**8.07**	**254**	P	**Pn**	**00 12 50.4**	**+2.3**
	1.8nm,0.3s,baz=36,slow=10,SNR=9.8						
PMG				S	**Sn**	**00 14 20.9**	**+2.8**
	39nm,0.9s,baz=326,slow=14,SNR=7.3						
	16nm,0.6s						
CTA	**Charters Tower**	**15.38**	**213**	LR	LR	00 19 39.4	
	comp=Z,184nm,19.2s,baz=56,slow=34						
CTAO	**Charters Tower**	**15.38**	**213**		**Pn**	**00 14 26.9**	**-1.0**
PINNC	**Pines Island,**	**19.47**	**143**	P	**P**	**00 15 14.5**	**-2.8**
PINNC				IAmb	IAmb	00 15 21.4	
	comp=Z,31nm,1.1s						
WR0	**Warramunga Arr**	**23.56**	**235**	P	**P**	**00 15 58.9**	**-2.0**
WB0	**Warramunga Arr**	**23.59**	**236**	P	**P**	**00 15 59.8**	**-1.4**
WB2	**Warramunga Arr**	**23.70**	**236**	P	**P**	**00 16 01.4**	**-0.9**
WRA	**Warramunga Arr**	**23.71**	**236**	P	**P**	**00 16 00.1**	**-2.2**
	comp=Z,6.9nm,1.0s,baz=62,slow=9.3,SNR=27						
WRA				PcP	**PcP**	**00 19 46.7**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=63,slow=2.2,SNR=3.1						
WRA				LR	LR	00 24 40.1	
	comp=Z,114nm,19.9s,baz=63,slow=35						
	comp=Z,6.9nm,1.0s						
FUNA	**Funafuti**	**24.01**	**95**	P	**P**	**00 16 05.0**	**-0.1**
MTN	**Manton Dam**	**24.16**	**255**	P	**P**	**00 16 06.6**	**+0.1**
MTN				IAmb	IAmb	00 16 08.2	
	comp=Z,30nm,1.1s						
AS31	**Alice Springs**	**26.05**	**229**	P	**P**	**00 16 23.3**	**-0.4**
ASAR	**Alice Springs**	**26.05**	**229**	P	**P**	**00 16 24.1**	**+0.4**
ASAR	**Alice Springs**	**26.05**	**229**	P	**P**	**00 16 22.3**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=60,slow=9.1,SNR=25						
ASAR				PcP	**PcP**	**00 19 50.4**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=77,slow=2.0,SNR=1.5						
ASAR				LR	LR	00 26 03.6	
	comp=Z,69nm,19.4s,baz=60,slow=35						
	comp=Z,2.0nm,0.7s						
KNRA	**Kununurra**	**27.04**	**250**	P	**P**	**00 16 34.0**	**+1.4**
STKA	**Stephens Creek**	**27.57**	**205**	P	**P**	**00 16 38.7**	**+1.5**
STKA	**Stephens Creek**	**27.57**	**205**	P	**P**	**00 16 37.4**	**+0.1**
	comp=Z,8.6nm,0.9s,baz=18,slow=13,SNR=17						
STKA				LR	LR	00 27 35.1	
	comp=Z,108nm,18.0s,baz=31,slow=36						
	comp=Z,8.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**30.58**	**246**	P	**P**	**00 17 03.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**30.58**	**246**	LR	LR	00 28 20.8	
	comp=Z,64nm,22.0s,baz=56,slow=34						
BBOO	**Buckleboo**	**30.98**	**212**	P	**P**	**00 17 06.2**	**-1.4**
BATI	**Baumata**	**31.11**	**262**	LR	LR	00 30 06.6	
	comp=Z,82nm,21.1s,baz=62,slow=37						
FORT	**Forrest**	**34.46**	**224**	P	**P**	**00 17 36.4**	**-1.5**
MBWA	**Marble Bar**	**36.80**	**244**	P	**P**	**00 17 57.8**	**-0.4**
MBWA				IAmb	IAmb	00 18 08.0	
	comp=Z,12nm,0.9s						
QRZ	**Quartz Range**	**36.98**	**158**	P	**P**	**00 17 59.3**	**-0.1**
DSZ	**Denniston Nort**	**37.51**	**159**	P	**P**	**00 18 07.3**	**+3.3**
CMAR	**Chiang Mai Arr**	**60.87**	**296**	P	**P**	**00 21 00.1**	**-2.8**
	comp=Z,1.2nm,0.3s,baz=120,slow=5.3,SNR=8.9						
	comp=Z,1.2nm,0.3s						
SONM	**Songino Array**	**69.49**	**327**	P	**P**	**00 21 57.3**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=128,slow=5.8,SNR=7.4						
	comp=Z,1.6nm,0.8s						
M14K	**Bethel**	**75.64**	**20**	P	**P**	**00 22 35.6**	**+1.0**
ACHA	**Angle Creek He**	**76.44**	**25**	P	**P**	**00 22 39.8**	**+0.5**
ACHA				IAmb	IAmb	00 22 51.9	
	comp=Z,4.0nm,1.0s						
OHAK	**Old Harbor**	**76.69**	**26**	P	**P**	**00 22 41.5**	**+0.9**
M16K	**Timber Creek**	**76.88**	**21**	P	**P**	**00 22 43.5**	**+1.8**
M16K				IAmb	IAmb	00 22 43.9	
	comp=Z,5.0nm,0.9s						
L16K	**Owhat River**	**77.17**	**20**	P	**P**	**00 22 44.5**	**+1.3**
L16K				IAmb	IAmb	00 22 45.1	
	comp=Z,8.1nm,1.1s						
Q19K	**Cape Douglas,**	**77.57**	**25**	P	**P**	**00 22 47.9**	**+2.3**
N18K	**Kilae Creek**	**77.78**	**22**	P	**P**	**00 22 48.1**	**+1.4**
N18K				IAmb	IAmb	00 23 01.5	
	comp=Z,9.1nm,1.1s						
J16K	**Anvik River**	**77.90**	**19**	P	**P**	**00 22 48.5**	**+1.2**
J16K				IAmb	IAmb	00 22 49.6	
	comp=Z,9.4nm,1.1s						
ILSW	**Iliamna Southw**	**78.42**	**24**	P	**P**	**00 22 51.4**	**+1.0**
ILSW				IAmb	IAmb	00 23 01.0	
	comp=Z,7.3nm,1.2s						
J17K	**VABM Dome**	**78.47**	**19**	P	**P**	**00 22 51.8**	**+1.4**
J17K				IAmb	IAmb	00 22 55.6	
	comp=Z,5.4nm,1.1s						
L18K	**Granite Mounta**	**78.49**	**21**	P	**P**	**00 22 52.4**	**+1.8**
L18K				IAmb	IAmb	00 22 52.9	
	comp=Z,6.4nm,1.1s						
CNPM	**China Poot**	**78.92**	**25**	P	**P**	**00 22 53.8**	**+0.7**
CNPM				IAmb	IAmb	00 22 56.2	
	comp=Z,9.0nm,0.8s						
M19K	**Big River Lodg**	**79.12**	**22**	P	**P**	**00 22 55.3**	**+1.2**
M19K				IAmb	IAmb	00 22 58.0	
	comp=Z,5.8nm,0.9s						
L19K	**White Mountain**	**79.13**	**22**	P	**P**	**00 22 55.4**	**+1.2**
L19K				IAmb	IAmb	00 22 58.2	
	comp=Z,7.8nm,1.1s						
BRLK	**Bradley Lake**	**79.21**	**25**	P	**P**	**00 22 57.3**	**+2.6**
BRLK				IAmb	IAmb	00 22 59.9	
	comp=Z,4.9nm,1.1s						
H17K	**Granite Mounta**	**79.28**	**18**	P	**P**	**00 22 56.2**	**+1.3**
H17K				IAmb	IAmb	00 22 56.8	
	comp=Z,7.8nm,1.1s						
J18K	**Innoko River**	**79.30**	**20**	P	**P**	**00 22 56.3**	**+1.2**
J18K				IAmb	IAmb	00 23 11.8	
	comp=Z,5.0nm,1.1s						
M20K	**Styx River**	**79.58**	**22**	P	**P**	**00 22 57.4**	**+0.7**
M20K				IAmb	IAmb	00 22 58.7	
	comp=Z,7.4nm,1.1s						
H18K	**Honhosa River**	**79.90**	**18**	P	**P**	**00 23 01.4**	**+3.1**
F17K	**Baldwin Pennin**	**79.96**	**16**	P	**P**	**00 23 00.9**	**+2.5**
F17K				IAmb	IAmb	00 23 12.6	
	comp=Z,4.9nm,1.0s						
J19K	**Poorman**	**80.02**	**20**	P	**P**	**00 23 00.6**	**+1.6**
K20K	**Telida**	**80.15**	**21**	P	**P**	**00 23 01.1**	**+1.5**
SUA	**Susitna One**	**80.25**	**23**	P	**P**	**00 23 00.6**	**+0.3**
SUA				IAmb	IAmb	00 23 01.2	
	comp=Z,6.4nm,0.9s						
G18K	**Tagagawik**	**80.32**	**18**	P	**P**	**00 23 01.5**	**+0.9**
RC01	**Rabbit Creek A**	**80.43**	**24**	P	**P**	**00 23 01.5**	**+0.3**
RC01				IAmb	IAmb	00 23 03.1	
	comp=Z,6.4nm,1.0s						
J20K	**Nowinta River**	**80.64**	**20**	P	**P**	**00 23 03.9**	**+1.6**
J20K				IAmb	IAmb	00 23 17.3	
	comp=Z,4.9nm,1.1s						
RDOG	**Red Dog Mine**	**80.69**	**15**	P	**P**	**00 23 05.0**	**+2.5**
RDOG				IAmb	IAmb	00 23 19.2	
	comp=Z,12nm,1.2s						
H19K	**Roundabout Mou**	**80.75**	**18**	P	**P**	**00 23 04.2**	**+1.4**
H19K				IAmb	IAmb	00 23 04.7	
	comp=Z,5.7nm,1.1s						
E18K	**Tukpahlearik C**	**80.84**	**16**	P	**P**	**00 23 06.7**	**+3.5**
PWL	**Port Wells**	**80.88**	**24**	P	**P**	**00 23 04.5**	**+0.9**
CAST	**Castle Rocks**	**80.89**	**21**	P	**P**	**00 23 04.3**	**+0.6**
CAST				IAmb	IAmb	00 23 06.9	
	comp=Z,3.8nm,0.7s						
Q23K	**Middleton Isla**	**80.96**	**26**	P	**P**	**00 23 06.6**	**+2.6**
G19K	**Purcell Mounta**	**80.96**	**18**	P	**P**	**00 23 05.4**	**+1.5**
GHO	**Glory Hole Cre**	**81.14**	**24**	P	**P**	**00 23 05.9**	**+0.9**
GHO				IAmb	IAmb	00 23 07.0	
	comp=Z,7.3nm,0.8s						
F19K	**Shaleruckik Mo**	**81.22**	**17**	P	**P**	**00 23 07.3**	**+2.0**
SML	**

CTGM	Chitina Glacie	83.90	26	P		P	00 23 20.9	+1.4
LOGN	Logan Glacier	83.98	26	P		P	00 23 21.0	+1.0
J25K	Salcha River,	84.02	22	P		P	00 23 20.7	+0.7
J25K				IAmb		IAmb	00 23 31.3	
	comp=Z,2.7nm,0.8s							
D22K	Ayikyak River	84.03	17	P		P	00 23 21.5	+1.6
SCRK	Sand Creek	84.22	23	P		P	00 23 21.3	+0.2
MAW	Mawson	84.23	203	P		P	00 23 19.5	-1.4
	comp=Z,0.9nm,0.7s,baz=97,slow=16,SNR=2.1							
	comp=Z,0.9nm,0.7s							
M27K	Edge Creek, AK	84.30	25	P		P	00 23 22.8	+1.2
ZALV	Zalesovo Beam	84.33	326	P		P	00 23 21.7	0.0
	comp=Z,0.6nm,0.5s,baz=76,slow=6.1,SNR=1.3							
	comp=Z,0.6nm,0.5s							
J26L	Joseph Creek	84.64	22	P		P	00 23 24.2	+1.0
J26L				IAmb		IAmb	00 23 26.2	
	comp=Z,1.9nm,0.7s							
L27K	Beaver Creek,	84.64	24	P		P	00 23 25.1	+1.9
L27K				IAmb		IAmb	00 23 25.4	
	comp=Z,4.0nm,1.0s							
D23K	Nanushuk River	84.66	17	P		P	00 23 24.9	+1.8
F24K	Squaw Lake	84.69	19	P		P	00 23 24.6	+1.3
B22K	Teshekpuk Lake	84.73	15	P		P	00 23 24.3	+0.9
TOLK	Toolik Lake Re	84.80	18	P		P	00 23 24.7	+0.9
TOLK				IAmb		IAmb	00 23 26.7	
	comp=Z,4.1nm,1.1s							
O29M	Mount Kennedy	84.84	27	P		P	00 23 23.1	-1.2
O29M				IAmb		IAmb	00 23 28.4	
	comp=Z,3.6nm,0.8s							
K27K	Chicken	84.99	23	P		P	00 23 27.4	+2.6
K27K				IAmb		IAmb	00 23 28.5	
	comp=Z,3.5nm,0.8s							
HYT	Haines Junctio	85.54	27	P		P	00 23 30.0	+2.2
HYT				IAmb		IAmb	00 23 31.3	
	comp=Z,5.2nm,0.8s							
BMAR	Burnt Mountain	85.73	20	P		P	00 23 29.9	+1.4
M29M	Somme Creek	85.77	25	P		P	00 23 30.3	+1.4
K29M	Barlow Dome	86.73	24	P		P	00 23 36.0	+2.4
P32M	Atlin	86.84	29	P		P	00 23 35.4	+1.2
E27K	Coleen River	87.09	20	P		P	00 23 36.9	+1.8
C27K	Jago River	87.10	18	P		P	00 23 36.7	+1.6
C27K				IAmb		IAmb	00 23 37.7	
	comp=Z,3.6nm,0.8s							
HOLB	Holberg	87.26	38	P		P	00 23 37.5	+1.1
H29M	Whitestone	87.36	22	P		P	00 23 38.2	+1.7
J30M	Hart River	87.49	24	P		P	00 23 39.2	+1.9
I30M	Mount Dempster	87.72	23	P		P	00 23 40.0	+1.6
G29M	Pine Creek	87.77	21	P		P	00 23 40.0	+1.6
D27M	Malcolm River	87.77	19	P		P	00 23 40.5	+2.0
D27M				IAmb		IAmb	00 23 48.6	
	comp=Z,3.1nm,0.8s							
E28M	Babbage River	87.96	20	P		P	00 23 41.0	+1.7
E28M				IAmb		IAmb	00 23 41.4	
	comp=Z,3.0nm,0.9s							
EPYK	Eagle Plains	88.03	22			P	00 23 41.3	+1.6
H31M	Peel River	88.72	23			P	00 23 44.1	+1.1
G31M	Satah River	89.14	22			P	00 23 46.3	+1.4
NVAR	Mina Array Bea	91.83	52	P		P	00 23 59.6	+1.3
	comp=Z,0.6nm,0.7s,baz=244,slow=5.9,SNR=3.9							
	comp=Z,0.6nm,0.7s							
YKA	Yellowknife Ar	96.50	28	P		P	00 24 19.5	+0.6
	comp=Z,1.1nm,0.9s,baz=269,slow=5.1,SNR=10.0							
	comp=Z,1.1nm,0.9s							
P18A	Preston Nutter	98.19	51	P		Pdif	00 24 29.2	+1.7
BDFB	Brasilia	147.85	135	PKPbc		PKPbc	00 30 36.0	+0.1
	comp=Z,1.6nm,0.6s,baz=214,slow=3.6,SNR=3.3							
TORD	Torodi Ar. Bea	153.08	285	PKPbc		PKPbc	00 30 48.3	-0.1
	comp=Z,1.3nm,0.7s,baz=46,slow=2.9,SNR=7.7							

IDC 30 00:23:18.8±1.8, 6°.99S×154°.81E, h0km, mb3.6/4, mbtmp3.6/4, MS3.4/2, Error ellipse: s-maj=96.8km s-min=30.2km az=124.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.67	235	P	P	00 28 31.7	-0.5
	2.1nm,1.2s,baz=60,slow=9.5,SNR=5.3						
	2.1nm,1.2s						
MSVF	Nonsavu	25.06	117	LR	LR	00 38 18.5	
	comp=Z,72nm,18.1s,baz=244,slow=36						
ASAR	Alice Springs	26.04	228	P	P	00 28 53.6	-0.4
	0.3nm,0.7s,baz=66,slow=9.2,SNR=2.3						
	0.3nm,0.7s						
STKA	Stephens Creek	27.66	205	P	P	00 29 08.7	+0.2
	2.1nm,0.8s,baz=0.0,slow=11,SNR=5.0						
	2.1nm,0.8s						
ILAR	Eielson Array	83.44	22	P	P	00 35 47.5	-0.3
	0.3nm,0.7s,baz=227,slow=6.0,SNR=2.6						
	0.3nm,0.7s						
MAW	Mawson	84.33	203	LR	LR	01 10 45.0	
	comp=Z,21nm,19.1s,baz=132,slow=34						
TORD	Torodi Ar. Bea	152.84	285	PKPbc	PKiKP	00 43 19.7	+0.6
	0.2nm,0.7s,baz=75,slow=3.2,SNR=1.7						

*NOU **30** 00:24:34.4,21°.90S×170°.13E, h0km, MLv3.7/6, Southeast of Loyalty Islands*
*NEIC **30** 00:24:36.6±2.9, 22°.4S±0°.2×170°.0E±0°.1, h10km±2km, mb4.3/12, Error ellipse: s-maj=29.5km s-min=17.2km az=5.0*
*IDC **30** 00:24:39.0±2.8, 22°.11S×170°.21E, h66km±31km, mb3.7/4, mbtmp4.0/6, ML4.5/2, MS3.6/22, Error ellipse: s-maj=57.0km s-min=18.6km az=174.0*
ISC 30 00:24:36.3±0.8, 22°.3S±0°.1×170°.13E±0°.07, h21km, n49, σ1§44/29, mb4.2/7, MS3.5/19, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	2.11	292	P	Pn	00 25 09.2	-1.2
PINNC	Pines Island,	2.51	262		Pn	00 25 15.0	-0.8
YATNC	Mamie plateau,	3.01	274	P	Pn	00 25 22.3	-0.5
OUENC	Ouen Island, N	3.05	267	P	Pn	00 25 24.2	+0.9
ONTNC	Ouen Toro	3.41	269		Pn	00 25 28.7	+0.4
ONTNC	Ouen Toro	3.41	269	P	Pn	00 25 29.0	+0.8
DZM	Mont Dzumac	3.43	273		Pn	00 25 28.9	+0.3
DZM	Mont Dzumac	3.43	273	P	Pn	00 25 29.1	+0.5
	16nm,0.3s,baz=125,slow=13,SNR=108						
DZM				S	Sn	00 26 12.1	+3.5
	74nm,0.7s,baz=30,slow=11,SNR=8.2						
	43nm,0.4s						
DZM	Mont Dzumac	3.43	273	P	Pn	00 25 29.1	+0.5
NOUC	Port Laguerre	3.56	272	P	Pn	00 25 31.0	+0.7
KOUNC	Koumac, New Ca	5.71	287		Pn	00 26 00.2	+0.2
MSVF	Nonsavu	8.71	60	P	Pn	00 26 40.9	-0.3
	0.3nm,0.3s,baz=233,slow=20,SNR=4.3						
	9.2nm,1.0s						
RAO	Raoul Island	12.80	125	LR	LR	00 31 15.2	
	comp=Z,399nm,21.2s,baz=140,slow=31						
HNR	Honiara	16.09	321	LR	LR	00 33 38.3	
	comp=Z,243nm,19.8s,baz=156,slow=34						
URZ	Urewera	17.01	161	LR	LR	00 33 19.7	
	comp=Z,153nm,21.9s,baz=64,slow=30						
QRZ	Quartz Range	18.59	174	P	P	00 28 51.7	-0.4
QRZ				IAmb	IAmb	00 29 07.0	
	comp=Z,14nm,1.0s						
NIUE	Niue	18.93	84		Pn	00 29 00.1	+3.5
NNZ	Nelson	19.07	172	P	Pn	00 28 59.6	+1.4
NNZ				IAmb	IAmb	00 29 06.5	
	comp=Z,30nm,1.0s						
LTZ	Lake Taylor	20.52	176	P	P	00 29 14.0	+0.8
LTZ				IAmb	IAmb	00 29 27.1	
	comp=Z,11nm,1.2s						
CTA	Charters Tower	22.37	271	LR	LR	00 38 05.6	
	comp=Z,163nm,18.3s,baz=96,slow=36						
PMG	Port Moresby	25.49	297	LR	LR	00 38 17.9	
	comp=Z,107nm,21.6s,baz=163,slow=32						
COEN	Coen	26.89	283	P	P	00 30 16.5	+0.4
COEN				IAmb	IAmb	00 30 19.0	
	comp=Z,7.3nm,1.1s						
STKA	Stephens Creek	27.08	243	LR	LR	00 40 39.1	
	comp=Z,100nm,18.6s,baz=39,slow=35						
RAR	Rarotonga	27.95	94	LR	LR	00 39 31.6	
	comp=Z,65nm,20.4s,baz=256,slow=32						
WR0	Warramunga Arr	33.24	267	P	P	00 31 10.9	-1.4
ASAR	Alice Springs	33.33	260	P	P	00 31 11.7	-1.3
	comp=Z,0.7nm,0.6s,baz=89,slow=9.3,SNR=6.6						
ASAR				LR	LR	00 44 05.1	
	comp=Z,64nm,18.1s,baz=90,slow=35						
	comp=Z,0.7nm,0.6s						
WB0	Warramunga Arr	33.41	268	P	P	00 31 12.3	-1.4
WB2	Warramunga Arr	33.41	267	P	P	00 31 12.2	-1.5
WB2				IAmb	IAmb	00 31 18.5	
	comp=Z,3.5nm,1.1s						
WRA	Warramunga Arr	33.43	267	P	P	00 31 12.4	-1.5
WRA	Warramunga Arr	33.43	267	P	P	00 31 12.1	-1.8
	comp=Z,1.2nm,0.4s,baz=100,slow=8.3,SNR=23						
	comp=Z,1.2nm,0.4s						
JAY	Jayapura	34.68	300	LR	LR	00 44 53.4	
	comp=Z,65nm,20.6s,baz=143,slow=35						
MTN	Manton Dam	38.25	278	P	P	00 31 54.4	-0.9
KNRA	Kununurra	39.58	272	P	P	00 32 05.3	-1.1
KNRA				IAmb	IAmb	00 32 14.2	
	comp=Z,11nm,1.1s						
FITZ	Fitzroy Crossi	41.86	267	P	P	00 32 25.1	-0.1
FITZ	Fitzroy Crossi	41.86	267	LR	LR	00 50 15.2	
	comp=Z,177nm,18.8s,baz=103,slow=37						
GUMO	Guam	43.41	323	LR	LR	00 48 36.6	
	comp=Z,47nm,21.8s,baz=74,slow=33						
BATI	Baumata	46.03	277	LR	LR	00 52 24.7	
	comp=Z,168nm,20.4s,baz=146,slow=36						
KAPI	Kappang	51.60	282	LR	LR	00 58 27.2	
	comp=Z,41nm,18.2s,baz=106,slow=39						
MJAR	Matsushiro Arr	65.82	332	LR	LR	01 03 07.4	
	comp=Z,29nm,19.7s,baz=130,slow=35						
JNU	Nakatsue	66.62	325	LR	LR	01 03 53.5	
	comp=Z,19nm,18.6s,baz=90,slow=35						
QSPA	South Pole Qui	67.78	180	P	P	00 35 31.2	-1.2
	comp=Z,2.3nm,1.0s,baz=35,slow=4.9,SNR=4.1						
	comp=Z,2.3nm,1.0s						
ASAJ	Asahikawa	70.73	339	LR	LR	01 03 50.1	
	comp=Z,38nm,19.6s,baz=148,slow=33						
KSRS	Korea Array	71.48	326	LR	LR	01 05 14.5	
	comp=Z,20nm,20.5s,baz=120,slow=34						
RPN	Rapa Nui	72.14	113	LR	LR	00 59 45.4	
	comp=Z,65nm,18.6s,baz=258,slow=29						
PSI	Prapat	73.76	280	LR	LR	01 12 19.5	
	comp=Z,28nm,18.4s,baz=126,slow=39						
MAW	Mawson	75.94	202	P	P	00 36 19.1	-2.1
	comp=Z,1.8nm,0.8s,baz=107,slow=14,SNR=4.3						
	comp=Z,1.8nm,0.8s						
MA2	Magadan	83.10	350	LR	LR	01 08 59.9	
	comp=Z,54nm,18.8s,baz=181,slow=32						
SONM	Songino Array	90.14	323	LR	LR	01 19 00.8	
	comp=Z,24nm,18.1s,baz=169,slow=36						
PLCA	Paso Flores	95.71	138	LR	LR	01 18 56.2	
	comp=Z,13nm,18.2s,baz=214,slow=34						

*IDC **30** 00:32:25.9±0.7, 36°.87N×23°.33E, h0km, mb4.0/15, mbtmp3.9/24, ML3.3/8, Error ellipse: s-maj=15.7km s-min=13.1km az=161.0*
*ISK **30** 00:32:29.2, 36°.94N×23°.20E, h17km, ML3.8/17*
*ATH **30** 00:32:29.2, 36°.86N×23°.20E, h14km±2km, ML3.8/10, Error ellipse: s-maj=2.4km s-min=0.8km az=227.0*
*THE **30** 00:32:29.4, 36°.85N×23°.16E, h12km±1km, ML3.7/16, Error ellipse: s-maj=1.7km s-min=0.6km az=194.0*
*NEIC **30** 00:32:33.8±1.4, 37°.08N±0°.08×23°.30E±0°.06, h40km±9km, mb4.4/85, Error ellipse: s-maj=11.6km s-min=7.0km az=188.0*
*NAO **30** 00:32:37.0, 37°.57N×20°.34E, h10km, mb3.6*
ISC 30 00:32:29.1±0.8, 36°.87N±0°.02×23°.20E±0°.02, h16km±5km, n239, σ1§28/276, mb4.4/57, 7C-6D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNVA	Monemvasia	0.22	216	P	Pb	00 32 34.7	-0.2
MNVA				S	Sg	00 32 37.7	0.0
VLI	Veliai	0.26	235	P	Pg	00 32 33.8	-1.0
VLI				S	Sg	00 32 37.7	-1.0
	13μm,0.4s						
VLI	Veliai	0.26	235	P	Pg	00 32 34.0	-0.9
VLI				S	Sg	00 32 37.9	-0.8
MHLO	Agia Marina, M	0.98	100	P	Pn	00 32 48.4	+0.2
MHLO				S	Sn	00 33 03.3	+1.5
	18μm,0.4s						
ANKY	Antikythira Is	1.00	175	P	Pb	00 32 48.0	-0.1
ANKY				S	Sb	00 33 01.5	+0.4
	3μm,0.5s						
ANKY	Antikythira Is	1.00	175	P	Pb	00 32 48.3	+0.2
ANKY				S	Sb	00 33 00.4	-0.7
ANKY				AML	AML	00 33 04.1	
	comp=E,6566μm,0.3s						
ANKY				AML	AML	00 33 06.2	
	comp=N,4830μm,0.4s						
ITM	Ithomi	1.07	287	Pn	Pb	00 32 48.5	-0.8
ITM	Ithomi	1.07	287	P	Pb	00 32 48.5	-0.8
ITM				S	Sg	00 33 03.9	+0.2
	comp=N,3μm,0.5s						
ITM	Ithomi	1.07	287	P	Pb	00 32 48.5	-0.8
VLY	Voula,Athens	1.09	25	P	Pb	00 32 49.5	-0.1
VLY				S	Sg	00 33 04.3	-0.2
	comp=N,8μm,0.4s						
VLY	Voula,Athens	1.09	25	P	Pb	00 32 49.5	-0.1
VLY				S	Sg	00 33 04.5	0.0
VLY				AML	AML	00 33 09.4	
	comp=N,14673μm,0.4s						
VLY				AML	AML	00 33 10.4	
	comp=E,15302μm,0.4s						
LOUT	Loutraki	1.13	351	P	Pg	00 32 51.0	0.0
LOUT				S	Sn	00 33 07.1	+1.5
	comp=E,4μm,0.6s						
LTK	Loutraki	1.17	351	P	Pb	00 32 51.1	+0.2
LTK				S	Sb	00 33 06.3	+0.4
LTK				AML	AML	00 33 14.0	
	comp=E,1633μm,0.5s						
LTK				AML	AML	00 33 17.3	
	comp=N,2093μm,0.7s						
PYL	PYLOS	1.17	272	P	Pn	00 32 50.1	-0.8
PYL				S	Sn	00 33 06.9	+0.4
	comp=N,3μm,0.6s						
PYL	PYLOS	1.17	272	P	Pn	00 32 50.4	-0.4
PYL				S	Sb	00 33 06.4	+0.5
PYL				AML	AML	00 33 09.2	
	comp=N,5888μm,0.9s						
PYL				AML	AML	00 33 14.1	
	comp=E,4959μm,0.6s						
ATH	Athens Observa	1.18	20	P	Pn	00 32 51.0	0.0
ATH				S	Sb	00 33 06.5	+0.4
	comp=E,4μm,0.4s						
ATH	Athens Observa	1.18	20	P	Pn	00 32 50.9	0.0
ATH				S	Sg	00 33 07.4	+0.2
ATH				AML	AML	00 33 11.5	
	comp=E,9147μm,0.3s						
ATH				AML	AML	00 33 11.7	
	comp=N,12317μm,0.5s						
ATHU	Athens Univers	1.19	23	P	Pn	00 32 50.9	-0.3
ATHU				S	Sb	00 33 06.2	-0.3
	comp=N,2μm,0.5s						
ATHU	Athens Univers	1.19	23	P	Pn	00 32 50.8	-0.3
ATHU				S	Sn	00 33 07.1	+0.1
ATHU				AML	AML	00 33 11.7	
	comp=E,2169μm,0.3s						
ATHU				AML	AML	00 33 13.2	
	comp=N,3899μm,0.5s						
GUR	Goura	1.27	328	P	Pn	00 32 51.6	-0.7
GUR				S	Sn	00 33 09.6	+0.5
	comp=N,9μm,0.4s						
GUR	Goura	1.27	328	P	Pn	00 32 51.8	-0.5
GUR				S	Sn	00 33 09.4	+0.3
GUR				AML	AML	00 33 12.3	
	comp=N,18558μm,0.3s						
GUR				AML	AML	00 33 14.0	
	comp=E,15589μm,0.5s						
PTL	Penteli	1.29	24	P	Pn	00 32 52.5	-0.1
PTL				S	Sb	00 33 09.7	+0.2
	comp=E,4μm,0.5s						
VILL	Villia	1.30	4	P	Pn	00 32 52.6	-0.1
VILL				S	Sn	00 33 10.4	+0.7
	comp=E,6μm,0.5s						
DION	Dionisos Attik	1.34	26	P	Pn	00 32 53.3	+0.1
DION				S	Sb	00 33 09.9	-1.0
DION	Dionisos Attik	1.34	26	P	Pn	00 32 53.4	+0.1
VIL2	Platees	1.34	2	P	Pn	00 32 52.5	-0.7
VIL2				S	Sb	00 33 10.1	-0.8
VIL2				AML	AML	00 33 16.4	
	comp=E,11269μm,0.4s						
VIL2				AML	AML	00 33 18.2	
	comp=N,8647μm,0.7s						
AMT	Artemida-Makis	1.36	300	P	Pn	00 32 54.1	+0.6
AMT				S	Sg	00 33 12.9	-0.3
AMT				AML	AML	00 33 19.5	
	comp=N,7540μm,0.4s						
AMT				AML	AML	00 33 21.9	
	comp=E,4989μm,0.6s						
KLV	Kalavryta, Ach	1.44	325	P	Pn	00 32 54.2	-0.5
KLV				S	Sn	00 33 13.4	+0.1
	comp=E,2μm,0.4s						
KLV	Kalavryta, Ach	1.44	325	P	Pn	00 32 54.5	-0.2
KARY	Karystos	1.52	40	P	Pn	00 32 56.1	+0.4
IMMV	Iera Moni Meta	1.54	156	Pn	Pb	00 32 57.4	+0.1
IMMV				Sn	Sb	00 33 17.4	+0.9
IMMV	Iera Moni Meta	1.54	156	P	Pn	00 32 56.4	+0.5
IMMV	Iera Moni Meta	1.54	156	P	Pn	00 32 56.6	+0.7
IMMV				S	Sb	00 33 16.6	0.0
IMMV				AML	AML	00 33 25.6	
	comp=E,4421μm,0.4s						
IMMV				AML	AML	00 33 27.8	
	comp=N,4613μm,0.5s						
DRO	Drossia	1.61	313	P	Pb	00 32 57.9	-0.5
DRO	Drossia	1.61	313	P	Pb	00 32 58.3	-0.1
KNDR	Palaiochora Ch	1.68	166	Pn	Pb	00 32 59.5	-0.1
KNDR				Sn	Sb	00 33 21.6	+1.1
KALE	Kalithea	1.74	331	P	Pn	00 32 57.6	-1.1
KALE				S	Sn	00 33 21.2	+0.6
	comp=N,1μm,0.4s						
EFP	Efpalio	1.86	327	P	Pn	00 33 01.2	+0.8
EFP				S	Sn	00 33 24.4	+0.7
	comp=N,1μm,0.4s						
APE	Apeiranthos	1.88	83	Pn	Pn	00 33 01.4	+0.8
APE	Apeiranthos	1.88	83	⇓P	Pb	00 33 03.2	+0.1
APE				⇑S	Sg	00 33 32.2	+2.7
AXAR	Agios Charalam	1.94	347	P	Pn	00 33 02.3	+0.8
ANX	Ano Chora	2.00	330	P	Pn	00 33 02.4	0.0
ANX				S	Sn	00 33 28.5	+1.4
	comp=N,1μm,0.4s						
GVD	Gavdhos	2.15	160	Pn	Pn	00 33 06.3	+2.0
ZKR	Zakros	3.01	125	Pn	Pn	00 33 18.2	+2.1
SIGR	SIGRI	3.14	41	Pn	Pn	00 33 18.7	+0.8
GMLD	Gumuldur	3.19	67	Pn	Pn	00 33 19.5	+0.9
LIT	Litokhoron	3.28	350	Pn	Pn	00 33 20.5	+0.7
BODT	Bodrum	3.30	85	Pn	Pn	00 33 21.7	+1.6
GCAM	G?zelcaml?	3.32	74	Pn	Pn	00 33 21.9	+1.5
BLCB	Balcova	3.40	62	Pn	Pn	00 33 22.9	+1.3
KARP	Karpathos	3.46	111	Pn	Pn	00 33 24.6	+2.2
KARP	Karpathos	3.46	111		Pn	00 33 24.7	+2.3
KARP	Karpathos	3.46	111	P	Pn	00 33 25.2	+2.8
DAT	Datca	3.52	91	Pn	Pn	00 33 24.6	+1.4
DKL	Dikili	3.66	52	Pn	Pn	00 33 25.9	+0.8
KEK	Kerkira	3.90	318	Pn	Pn	00 33 30.6	+2.2
ARG	Arkhangelos	4.02	98	Pn	Pn	00 33 32.5	+2.5
ARG	Arkhangelos	4.02	98	Pn	Pn	00 33 30.9	+0.8
TURN	Turunc	4.05	90	Pn	Pn	00 33 32.7	+2.3
YER	Yerkesik	4.08	85	Pn	Pn	00 33 33.1	+2.2
FNA	Florina	4.16	341		Pn	00 33 32.3	+0.3
NAZL	Nazilli-Aydin	4.20	73	Pn	Pn	00 33 33.9	+1.4
DALY	Dalyan (Mula)	4.37	89	Pn	Pn	00 33 37.1	+2.2
ALN	Alexandroupoli	4.59	28	Pn	Pn	00 33 37.3	-0.6
RDO	Rodhopi	4.64	22	Pn	Pn	00 33 36.2	-2.4
SCTE	Santa Cesarea	4.90	312	Pn	Pn	00 33 45.2	+3.0
ELL	Elmali	5.38	89		Pn	00 33 52.3	+3.4
TIP	Timpagrande	5.58	296		Pn	00 33 53.9	+2.2
TIP	Timpagrande	5.58	296	⇑P	Pn	00 33 52.5	+0.9
PUK	Puka	5.77	335	Pn	Pn	00 33 55.0	+0.9
PDG	Podgorica	6.33	332	Pn	Pn	00 34 01.8	0.0
PDG	Podgorica	6.33	332	⇓P	Pn	00 34 02.3	+0.5
PDG				⇓S	Sn	00 35 12.4	-1.4
ELND	Elena	6.39	18	⇓P	Pn	00 34 03.4	+0.7
ELND				⇑S	Sn	00 35 14.6	-0.6
CUC	Castrocucco	6.58	301		Pn	00 34 07.7	+2.4
BLKB	Belogradchik	6.76	357	⇑P	Pn	00 34 08.9	+1.2
VAE	Valguarnera	7.04	278	Pn	Pn	00 34 13.4	+1.7
	comp=N,12nm,0.9s,baz=328,slow=17,SNR=2.6						
VAE				Sn	Sn	00 35 32.1	+0.7
	comp=N,1.3nm,0.3s,baz=228,slow=17,SNR=2.0						
RAFF	Raffo Rosso	7.08	276	Pn	Pn	00 34 12.8	+0.8
PAOL	Paolisi	7.91	304	Pn	Pn	00 34 25.0	+1.6
CSS	Mathiatis	8.44	100	Pn	Pn	00 34 32.0	+1.3
ARR	Arges	8.56	7	⇓P	Pn	00 34 33.0	+0.6
BRTR	Keskin Array B	8.69	68	Pn	Pn	00 34 34.6	+0.4
BRTR	Keskin Array B	8.69	68	Pn	Pn	00 34 33.1	-1.2
	baz=257,slow=13,SNR=1.8						
	comp=N,1.5nm,1.1s						
INTR	Introdacqua	8.84	308	Pn	Pn	00 34 38.6	+2.4
MLR	Muntele Rosu	8.86	13	Pn	Pn	00 34 36.6	0.0
MLR	Muntele Rosu	8.86	13	Pn	Pn	00 34 36.2	-0.4
	comp=N,0.1nm,0.3s,baz=170,slow=15,SNR=2.7						
MLR				Sn	Sn	00 36 15.7	-0.4
	comp=N,0.3nm,0.3s,baz=217,slow=17,SNR=1.8						
	comp=N,3.2nm,0.8s						
MLR	Muntele Rosu	8.86	13	⇓P	Pn	00 34 37.7	+1.1
PLOR	Plostina	9.34	15	⇑P	Pn	00 34 44.4	+1.3
VRI	Vrincioaia	9.37	15	⇑P	Pn	00 34 45.7	+2.2
TURR	Turia	9.42	12	⇑P	Pn	00 34 45.9	+1.7
NRCA	Norcia	9.78	311	Pn	Pn	00 34 51.5	+2.4
FDMO	Fiordimonte	9.91	312	Pn	Pn	00 34 53.5	+2.7
MMA0	Mount Meron ar	10.72	107	P	Pn	00 35 04.3	+2.1
MMAI	Mount Meron Ar	10.72	107	Pn	Pn	00 35 00.6	-1.5
	comp=N,1.1nm,0.3s,baz=305,slow=12,SNR=12						
MMAI				Sn	Sn	00 36 56.0	-5.9
	comp=N,0.7nm,0.3s,baz=305,slow=18,SNR=1.8						
	comp=N,0.5nm,0.3s						
SLTI	Sal'it	10.80	112	P	Pn	00 35 04.9	+1.8
GEM	Giv'at Ha'Em	10.85	106	P	Pn	00 35 06.5	+2.8
NATI	Neve Ativ	10.88	106	P	Pn	00 35 06.3	+2.1
KZIT	Kziot	11.04	119	P	Pn	00 35 07.8	+1.4
AMAZ	Amatzia	11.06	115	P	Pn	00 35 08.8	+2.1
SHMJ	Saham	11.12	108	P	Pn	00 35 09.1	+1.6
QRNJ	Al-Qirein	11.15	110	P	Pn	00 35 09.4	+1.5
HMDT	Nahal Hemdat	11.15	111	P	Pn	00 35 10.2	+2.3
KEST	Kesra	11.24	268	Pn	Pn	00 35 11.3	+2.2
	comp=N,0.1nm,0.3s,baz=138,slow=16,SNR=1.9						
	comp=N,2

NAO01	NORSAR Array S	25.24	346	P	P	00 37 53.1	-1.0	
NC405	NORSAR Array S	25.33	347	P	P	00 37 53.2	-1.8	
NB201	NORSAR Array S	25.35	346	P	P	00 37 53.9	-1.3	
NB201				IAmb	IAmb	00 38 36.5		
	comp=Z,23nm,1.2s							
NB2	NORSAR Subarra	25.36	346	P	P	00 37 54.0	-1.2	
	comp=Z,0.5nm,0.4s,baz=162,slow=9.3							
NOA	NORSAR Array B	25.36	346	P	P	00 37 53.0	-2.2	
	comp=Z,1.3nm,0.7s,baz=156,slow=10,SNR=9.3							
	comp=Z,1.3nm,0.7s							
NBO00	NORSAR Array S	25.43	346	P	P	00 37 55.0	-0.9	
NBO00				IAmb	IAmb	00 38 32.3		
	comp=Z,28nm,1.3s							
NC303	NORSAR Array S	25.50	347	P	P	00 37 56.4	-0.1	
NC303				IAmb	IAmb	00 38 34.7		
	comp=Z,19nm,1.1s							
NC204	NORSAR Array S	25.66	346	P	P	00 37 57.7	-0.3	
NC204				IAmb	IAmb	00 38 24.7		
	comp=Z,23nm,1.2s							
EKA	Eskdalemuir Ar	25.73	324	P	P	00 37 58.8	+0.2	
	comp=Z,2.3nm,0.5s,baz=117,slow=8.2,SNR=13							
	comp=Z,2.3nm,0.5s							
ESK	Eskdalemuir	25.74	324	P	P	00 37 59.1	+0.4	
ESK				IAmb	IAmb	00 38 07.9		
	comp=Z,17nm,1.0s							
EKB	Eskdalemuir	25.75	324	P	P	00 37 58.9	+0.1	
ABKAR	Akbulak array	29.27	53	P	P	00 38 30.9	+0.5	
TORD	Torodi Ar. Bea	30.48	225	P	P	00 38 40.8	-0.6	
	comp=Z,0.6nm,0.7s,baz=36,slow=10.0,SNR=6.4							
	comp=Z,0.6nm,0.7s							
UOSS	Minazif	30.56	103	P	P	00 38 41.1	-0.9	
UOSS				IAmb	IAmb	00 38 43.9		
	comp=Z,9.2nm,1.4s							
ARTI	Arti	30.57	39	P	P	00 38 41.3	-0.5	
SIMJ	Simiganj	35.97	73	P	P	00 39 27.9	-1.4	
KKAR	Karatay Array	36.39	65	P	P	00 39 32.5	-0.2	
GAR	Garm	36.90	72	P	P	00 39 37.9	+0.7	
DBIC	Dimbokro	39.48	227	P	P	00 39 58.8	-0.1	
	comp=Z,5.7nm,1.2s,baz=18,slow=11,SNR=3.6							
	comp=Z,5.7nm,1.2s							
KURBB	Kurchatov Arra	41.31	53	P	P	00 40 12.2	-1.5	
	comp=Z,0.6nm,0.3s,baz=276,slow=8.8,SNR=5.4							
	comp=Z,0.6nm,0.3s							
MAKZ	Makanchi	43.97	58	P	P	00 40 34.6	-0.8	
MK31	Makanchi Array	44.18	58	P	P	00 40 36.2	-1.0	
MKAR	Makanchi Array	44.18	58	P	P	00 40 36.0	-1.2	
	comp=Z,1.3nm,0.3s,baz=268,slow=8.1,SNR=30							
	comp=Z,1.3nm,0.3s							
ZAA0	Zalesovo Array	44.99	47	P	P	00 40 42.5	-0.9	
ZAA0				IAmb	IAmb	00 40 47.9		
	comp=Z,4.5nm,1.2s							
ZALV	Zalesovo Beam	44.99	47	P	P	00 40 42.6	-0.9	
ZALV	Zalesovo Beam	44.99	47	P	P	00 40 42.3	-1.2	
	comp=Z,1.8nm,0.3s,baz=280,slow=8.5,SNR=8.6							
	comp=Z,1.8nm,0.3s							
NRIK	Noril'sk	47.02	26	P	P	00 40 59.3	0.0	
NRIK				IAmb	IAmb	00 40 59.4		
	comp=Z,4.3nm,0.7s							
NRIK	Noril'sk	47.02	26	P	P	00 40 58.9	-0.4	
	comp=Z,1.7nm,0.3s,baz=287,slow=21,SNR=7.1							
	comp=Z,1.7nm,0.3s							
TULEG	Thule	54.96	343	P	P	00 41 59.0	+0.1	
SONM	Songino Array	59.64	51	P	P	00 42 31.1	-1.4	
	comp=Z,0.4nm,0.4s,baz=274,slow=6.8,SNR=2.0							
	comp=Z,0.4nm,0.4s							
SCHQ	Schefferville	60.86	319	P	P	00 42 41.0	+0.4	
SCHQ	Schefferville	60.86	319	P	P	00 42 40.4	-0.2	
	comp=Z,2.0nm,0.4s,baz=88,slow=4.4,SNR=12							
	comp=Z,2.0nm,0.4s							
RES	Resolute Bay	61.61	345	P	P	00 42 45.5	+0.2	
RES				IAmb	IAmb	00 43 22.3		
	comp=Z,4.9nm,1.3s							
CMAR	Chiang Mai Arr	67.95	83	P	P	00 43 26.4	-1.2	
	comp=Z,1.4nm,0.3s,baz=301,slow=7.6,SNR=6.8							
	comp=Z,1.4nm,0.3s							
BRNJ	Basking Ridge	72.21	308	P	P	00 43 53.9	+0.5	
C27K	Jago River	73.38	355	P	P	00 44 00.2	+0.4	
C27K				IAmb	IAmb	00 44 16.4		
	comp=Z,4.7nm,1.2s							
B20K	Meade River	73.43	0	P	P	00 44 00.2	+0.1	
C23K	Itkillik River	73.51	358	P	P	00 44 01.5	+0.9	
C23K				IAmb	IAmb	00 44 05.1		
	comp=Z,6.7nm,1.4s							
D27M	Malcolm River	73.55	354	P	P	00 44 01.6	+0.7	
INK	Inuvik	73.70	351	P	P	00 44 00.9	-0.7	
D25K	Kavik River	73.84	356	P	P	00 44 02.4	-0.2	
D25K				IAmb	IAmb	00 44 32.6		
	comp=Z,4.4nm,1.4s							
E28M	Babbage River	74.06	353	P	P	00 44 04.2	+0.4	
E29M	Blow River	74.11	353	P	P	00 44 04.5	+0.4	
C19K	Lookout Ridge	74.32	1	P	P	00 44 06.3	+1.0	
D23K	Nanushuk River	74.38	358	P	P	00 44 06.2	+0.5	
F31M	Tsiigehtchic	74.55	351	P	P	00 44 06.7	+0.1	
F31M				IAmb	IAmb	00 44 40.9		
	comp=Z,8.2nm,1.5s							
TOLK	Toolik Lake Re	74.67	357	P	P	00 44 08.3	+0.8	
C18K	Utukok River	74.75	2	P	P	00 44 07.2	-0.7	
D19K	Kuna River	74.95	1	P	P	00 44 09.4	+0.4	
E21K	Killik River	74.99	359	P	P	00 44 09.3	+0.1	
E21K				IAmb	IAmb	00 44 11.8		
	comp=Z,5.3nm,1.5s							
F28M	Old Crow	75.05	353	P	P	00 44 09.4	-0.2	
F28M				IAmb	IAmb	00 44 36.3		
	comp=Z,6.1nm,1.5s							
G31M	Satah River	75.11	351	P	P	00 44 09.5	-0.3	
E24K	Your Creek	75.19	357	P	P	00 44 10.6	+0.2	
E24K				IAmb	IAmb	00 44 22.7		
	comp=Z,4.2nm,1.4s							
G30M	tAoh Zraii Nji	75.29	352	P	P	00 44 10.8	-0.3	
F25K	Christian Rive	75.52	356	P	P	00 44 13.1	+0.8	
G29M	Pine Creek	75.55	352	P	P	00 44 12.5	0.0	
G29M				IAmb	IAmb	00 44 30.7		
	comp=Z,4.6nm,1.4s							
BMAR	Burnt Mountain	75.61	355	P	P	00 44 13.3	+0.5	
F24K	Squaw Lake	75.71	356	P	P	00 44 14.5	+1.0	
F24K				IAmb	IAmb	00 44 51.1		
	comp=Z,6.0nm,1.4s							
EPYK	Eagle Plains	75.93	352	P	P	00 44 14.5	-0.2	
EPYK				IAmb	IAmb	00 44 30.4		
	comp=Z,4.0nm,1.1s							
E18K	Tukpahlearik C	75.99	2	P	P	00 44 14.6	-0.3	
E19K	Redstone River	76.00	0	P	P	00 44 15.5	+0.5	
E19K				IAmb	IAmb	00 44 15.9		
	comp=Z,3.7nm,0.8s							
G27K	Doyon Strip	76.00	354	P	P	00 44 15.5	+0.4	
G27K				IAmb	IAmb	00 44 40.7		
	comp=Z,4.8nm,1.5s							
H31M	Peel River	76.18	351	P	P	00 44 16.0	-0.2	
H31M				IAmb	IAmb	00 44 28.9		
	comp=Z,10.0nm,1.5s							
F21K	Alatna River	76.20	359	P	P	00 44 16.9	+0.7	
F21K				IAmb	IAmb	00 44 18.4		
	comp=Z,5.4nm,1.4s							
H29M	Whitestone	76.26	352	P	P	00 44 16.5	0.0	
F20K	Avaraart Lake	76.40	360	P	P	00 44 17.5	+0.2	
F20K				IAmb	IAmb	00 44 48.1		
	comp=Z,6.9nm,1.5s							
G24K	Hadweenzic Riv	76.51	356	P	P	00 44 18.8	+0.9	
G24K				IAmb	IAmb	00 44 38.0		
	comp=Z,3.5nm,1.3s							
G23K	Bananza Creek	76.61	357	P	P	00 44 18.4	-0.2	
G23K				IAmb	IAmb	00 44 23.3		
	comp=Z,5.5nm,1.5s							
F19K	Shaleruckik Mo	76.62	0	P	P	00 44 18.3	-0.2	
F19K				IAmb	IAmb	00 44 23.1		
	comp=Z,6.6nm,1.4s							
USRK	Ussuriysk Ar.	76.75	44	P	P	00 44 19.6	0.0	
G21K	Allakaket	76.91	359	P	P	00 44 20.5	+0.3	
G21K				IAmb	IAmb	00 44 28.7		
	comp=Z,10.0nm,1.5s							
I30M	Mount Dempster	77.00	351	P	P	00 44 20.9	0.0	
I30M				IAmb	IAmb	00 44 21.5		
	comp=Z,2.4nm,0.7s							
I28M	Miner Creek	77.17	353	P	P	00 44 21.8	0.0	
G19K	Purcell Mounta	77.32	0	P	P	00 44 22.8	+0.3	
G19K				IAmb	IAmb	00 44 52.8		
	comp=Z,10nm,1.4s							
IMAR	Indian Mountai	77.45	359	P	P	00 44 23.8	+0.6	
G18K	Tagagawik	77.56	1	P	P	00 44 23.6	-0.2	
G18K				IAmb	IAmb	00 45 05.3		
	comp=Z,9.7nm,1.4s							
I26K	Coal Creek Min	77.60	354	P	P	00 44 24.7	+0.7	
I26K				IAmb	IAmb	00 44 59.2		
	comp=Z,8.5nm,1.5s							
J30M	Hart River	77.61	351	P	P	00 44 24.8	+0.5	
J30M				IAmb	IAmb	00 44 30.9		
	comp=Z,5.3nm,1.5s							
H21K	Melozitna River	77.76	358	P	P	00 44 25.8	+0.8	
H19K	Roundabout Mou	77.93	360	P	P	00 44 26.4	+0.5	
H19K				IAmb	IAmb	00 44 30.5		
	comp=Z,6.6nm,1.2s							
EGAK	Eagle	77.94	353	P	P	00 44 25.7	-0.3	
I21K	Tanana	78.21	358	P	P	00 44 28.3	+0.9	
I21K				IAmb	IAmb	00 44 39.5		
	comp=Z,5.3nm,1.4s							
H18K	Honhosa River	78.30	1	P	P	00 44 28.2	+0.2	
MLY	Manley	78.32	357	P	P	00 44 29.0	+0.8	
ILAR	Eielson Array	78.39	356	P	P	00 44 28.1	-0.4	
ILAR	Eielson Array	78.39	356	P	P	00 44 27.9	-0.7	
	comp=Z,0.4nm,0.8s,baz=336,slow=2.4,SNR=6.5							
	comp=Z,0.4nm,0.8s							
J26L	Joseph Creek	78.43	354	P	P	00 44 28.9	+0.1	
J26L				IAmb	IAmb	00 44 29.3		
	comp=Z,2.1nm,0.6s							
DAWY	Dawson	78.46	352	P	P	00 44 29.4	+0.5	
DAWY				IAmb	IAmb	00 45 09.7		
	comp=Z,3.9nm,1.4s							
K29M	Barlow Dome	78.46	351	P	P	00 44 29.2	+0.1	
HDA	Harding Lake	78.76	356	P	P	00 44 30.4	-0.2	
WRH	Wood River Hil	78.76	356	P	P	00 44 30.4	-0.1	
BPAW	Bear Paw Mtn.	79.26	357	P	P	00 44 33.0	-0.3	
BPAW				IAmb	IAmb	00 45 07.1		
	comp=Z,3.7nm,1.3s							
J20K	Nowinta River	79.27	359	P	P	00 44 33.0	-0.3	
J20K				IAmb	IAmb	00 44 34.7		
	comp=Z,7.1nm,1.4s							
J19K	Poorman	79.47	359	P	P	00 44 35.1	+0.7	
M31M	Drury Creek, Y	79.62	350	P	P	00 44 36.3	+1.0	
RND	Reindeer	79.86	356	P	P	00 44 35.9	-0.8	
M29M	Somme Creek	79.93	351	P	P	00 44 37.9	+0.8	
M29M				IAmb	IAmb	00 44 38.8		
	comp=Z,3.1nm,0.8s							
CAST	Castle Rocks	79.98	358	P	P	00 44 37.8	+0.5	
CAST				IAmb	IAmb	00 44 49.3		
	comp=Z,4.7nm,1.4s							
J18K	Innoko River	80.01	360	P	P	00 44 38.6	+1.3	
WRA	Warramunga Arr	118.33	95	PKP	PKPdf	00 51 14.9	-1.2	
	comp=Z,0.4nm,0.6s,baz=312,slow=1.9,SNR=2.5							
ASAR	Alice Springs	119.89	98	PKP	PKPdf	00 51 17.6	-1.5	
	comp=Z,0.3nm,0.5s,baz=302,slow=1.3,SNR=4.1							

IDC 30 00:37:31.5±1.2, 18°.76N×143°.56E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=40.2km s-min=32.2km az=106.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	39.51	194	P	P	00 45 04.1	-0.1
	0.1nm,0.4s,baz=13,slow=8.5,SNR=1.7						
	0.1nm,0.4s						
MKAR	Makanchi Array	56.96	314	P	P	00 47 20.3	+1.5
	0.4nm,0.8s,baz=95,slow=7.5,SNR=1.5						
	0.4nm,0.8s						
KURBB	Kurchatov Arra	59.92	318	P	P	00 47 38.1	-1.2
	0.7nm,0.2s,baz=90,slow=8.3,SNR=6.6						
	0.7nm,0.2s						
ILAR	Eielson Array	64.49	26	P	P	00 48 09.3	-0.4
	0.5nm,0.7s,baz=263,slow=4.5,SNR=4.6						
	0.5nm,0.7s						
YKA	Yellowknife Ar	78.88	28	P	P	00 49 37.9	+1.5
	0.4nm,0.8s,baz=294,slow=5.9,SNR=3.8						
	0.4nm,0.8s						
NVAR	Mina Array Bea	84.69	51	P	P	00 50 06.8	-1.1
	0.2nm,0.6s,baz=268,slow=7.0,SNR=1.8						
	0.2nm,0.6s						

IDC 30 01:00:58.8±1.5, 26°.53N×126°.77E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=29.5km s-min=23.7km az=152.0
JMA 30 01:01:00.6±0.1, 26°.6N±0°.5×126°.7E±0°.5, h20km±1km, MV3.2/11, NW OFF OKINAWAJIMA IS
ISC 30 01:01:01.5±1.5, 26°.55N±0°.07×126.78E±0°.07, h19km±3km, n13, σ0=43/19, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	Kume jima 2	0.23	179	P	Pb	01 01 06.4	-0.2
JKE				S	Sg	01 01 10.8	+0.3
JAGN	Aguni-jima	0.41	85	P	Pg	01 01 09.8	-0.2
JAGN				eS	Sg	01 01 16.0	+0.2
JJT3	Tamagusuku3	0.98	114	eP	Pb	01 01 19.7	-0.3
JNTH	Nagotoyohara	1.11	91	P	Pn	01 01 21.9	-0.1
JNTH				S	Sg	01 01 37.6	0.0
JIH	Iheya	1.16	65	P	Pn	01 01 22.2	-0.6
JIH				eS	Sb	01 01 37.8	+0.1
JOW	Kunigami	1.36	78	Pn	Pn	01 01 25.6	+0.1
	43nm,0.3s,baz=259,slow=12,SNR=21						
JOW				Sn	Sb	01 01 44.5	+1.0
	46nm,0.3s,baz=123,slow=26,SNR=5.1						
JOW	Kunigami	1.36	78	P	Pn	01 01 25.8	+0.2
JYRO	Yoronjima	1.56	72	P	Pn	01 01 29.0	+0.7
JYRO				eS	Sb	01 01 48.9	-0.3
JOKE	Okinoerabujima	1.79	63	eP	Pn	01 01 31.4	0.0
JTK	Tokunoshima	2.29	57	eP	Pn	01 01 38.5	+0.2
SONM	Songino Array	26.59	328	P	P	01 06 38.9	+0.2
	0.6nm,0.6s,baz=140,slow=7.8,SNR=2.9						
	0.6nm,0.6s						
WRA	Warramunga Arr	46.80	170	P	P	01 09 30.5	+0.4
	0.7nm,0.7s,baz=351,slow=8.7,SNR=6.0						
	0.7nm,0.7s						
ASAR	Alice Springs	50.40	172	P	P	01 09 57.3	-0.5
	0.4nm,0.6s,baz=354,slow=8.5,SNR=5.3						
	0.4nm,0.6s						

KRNET 30 01:09:16.2±0.1, 40°.75N×78°.20E, h18km, mb3.5
SOME 30 01:09:16.0, 40°.73N×78°.20E, h10km
NNC 30 01:09:17.6±0.6, 40°.81N×78°.15E, h10km±4km, mb4.4, mpv4.2, Error ellipse: s-maj=3.7km s-min=2.7km az=159.0
ISC 30 01:09:20.0±1.9, 40°.92N±0°.07×78°.13E±0°.04, h2km±11km, n73, σ1=26/113, 23C-22D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	Kajisay	1.40	330	↓iP	Pn	01 09 45.4	-1.4
KDJ				↓iS	Sg	01 10 06.7	+1.6
PRZ	Przheval'sk	1.57	7	↑iP	Pn	01 09 48.7	-0.4
PRZ				↑iS	Sg	01 10 12.3	+1.7
NRN	Naryn	1.69	288	↓iP	Pn	01 09 49.6	-1.2
NRN				↓iS	Sg	01 10 14.3	+0.1
ANVS	Anan'yevo	1.89	350	↑iP	Pb	01 09 53.9	-1.5
ANVS				↑iS	Sg	01 10 21.3	+0.5
ULHL	Ulahol	1.94	314	↑iP	Pn	01 09 54.1	-0.1
ULHL				↑iS	Sb	01 10 21.9	+1.0
SATY	Saty	2.15	5	Pg	Pb	01 09 59.3	-0.3
	157nm,0.4s						
SATY				Lg	Lg	01 10 30.8	
	132nm,0.5s						
SATY	Saty	2.15	5	eP	Pb	01 09 59.3	-0.3
	157nm,0.4s						
SATY				eS	Sg	01 10 30.8	+1.9
	174nm,0.3s						
ZHN	Zhinishke	2.26	6	Pg	Pb	01 10 01.1	-0.4
	126nm,0.3s						
ZHN				Lg	Lg	01 10 33.7	
	201nm,0.3s						
ZHN	Zhinishke	2.26	6	eP	Pb	01 10 01.1	-0.4
	126nm,0.3s						
ZHN				eS	Sg	01 10 33.7	+1.3
	201nm,0.3s						
BOOM	Boomskoye usch	2.27	314	↑eP	Pn	01 09 58.6	-0.1
BOOM				↑eS	Sb	01 10 29.5	-0.9
TNSS	Tian-Shan	2.29	338	Pg	Pb	01 10 02.0	-0.3
	58nm,0.3s						
TNSS				Lg	Lg	01 10 35.0	
	44nm,0.5s						
TNSS	Tian-Shan	2.29	338	eP	Pb	01 10 02.0	-0.3
	58nm,0.3s						
TNSS				eS	Sg	01 10 35.0	+1.4
	44nm,0.5s						
UZB	Uzynbulak	2.32	16	Pg	Pb	01 10 01.6	-1.0
	31nm,0.3s						
UZB				Lg	Lg	01 10 34.6	
	79nm,0.5s						
UZB	Uzynbulak	2.32	16	eP	Pb	01 10 01.6	-1.0
	23nm,0.4s						
UZB				eS	Sg	01 10 34.6	0.0
	120nm,0.3s						
MDOK	Medeo	2.38	341	⇓Pg	Pb	01 10 03.2	-0.4
	59nm,0.6s						
MDOK				Pg	Pb	01 10 03.4	-0.2
	70nm,0.3s						
MDOK				⇓Lg	Lg	01 10 37.1	
	74nm,0.6s						
MDOK				Lg	Lg	01 10 37.7	
	86nm,0.5s						
MDOK	Medeo	2.38	341	eP	Pb	01 10 03.4	-0.2
	70nm,0.3s						
MDOK				eS	Sg	01 10 37.7	+1.2
	86nm,0.5s						
KOTS	Kotyrbulak	2.43	342	Pg	Pb	01 10 04.3	-0.2
	46nm,0.2s						
KOTS				Lg	Lg	01 10 39.5	
	203nm,0.6s						
KOTS	Kotyrbulak	2.43	342	eP	Pb	01 10 04.3	-0.2
	46nm,0.2s						
KOTS				eS	Sg	01 10 39.5	+1.3
	203nm,0.6s						
SHLS	Shalkode	2.44	24	Pg	Pg	01 10 06.1	-0.8
	30nm,0.3s						
SHLS				Lg	Lg	01 10 42.0	
	199nm,0.5s						
SHLS	Shalkode	2.44	24	eP	Pg	01 10 06.1	-0.8
	30nm,0.3s						
SHLS				eS	Sg	01 10 42.0	+3.5
	199nm,0.5s						
KNDC	Almaty	2.45	340	⇑Pg	Pb	01 10 05.0	+0.1
	88nm,0.6s						
KNDC				⇓Lg	Lg	01 10 40.2	
	133nm,0.5s						
AAA	Alma-Ata	2.46	339	Pg	Pb	01 10 04.7	-0.2
	134nm,0.2s						
AAA				Lg	Lg	01 10 39.9	
	81nm,0.5s						
AAA	Alma-Ata	2.46	339	eP	Pb	01 10 04.7	-0.2
	134nm,0.2s						
AAA				eS	Sg	01 10 39.9	+0.9
	81nm,0.5s						
MTBS	Maitube	2.54	331	Pg	Pb	01 10 05.7	-0.7
	34nm,0.2s						
MTBS				Lg	Lg	01 10 41.4	
	57nm,0.5s						
MTBS	Maitube	2.54	331	eP	Pb	01 10 05.7	-0.7
	34nm,0.2s						
MTBS				eS	Sg	01 10 41.4	-0.4
	57nm,0.5s						
KURS	Kuram	2.56	1	eP	Pb	01 10 07.0	+0.3
	89nm,0.2s						
KURS				eS	Sg	01 10 43.8	+1.5
	63nm,0.3s						
KST	Kastek	2.67	323	Pg	Pb	01 10 07.5	-1.0
	60nm,0.4s						
KST				Lg	Lg	01 10 44.6	
	66nm,1.0s						
KST	Kastek	2.67	323	eP	Pb	01 10 07.5	-1.0
	60nm,0.4s						
KST				eS	Sg	01 10 44.6	-1.0
	66nm,1.0s						
TKM2	Tokmak 2	2.75	317	P	Pb	01 10 10.7	+0.7
	SNR=19						
TKM2	Tokmak 2	2.75	317	⇑Pg	Pb	01 10 10.1	+0.1
	39nm,0.5s						
TKM2				⇑Lg	Lg	01 10 48.9	
	59nm,0.6s						
TKM2	Tokmak 2	2.75	317	↓iP	Pn	01 10 05.5	+0.2
TKM2				↓iS	Sb	01 10 41.4	-2.9
DGS	Degeres	2.91	324	Pg	Pb	01 10 12.6	0.0
	37nm,0.4s						
DGS				Lg	Lg	01 10 53.3	
	69nm,0.5s						
DGS	Degeres	2.91	324	eP	Pb	01 10 12.6	0.0
	37nm,0.4s						
DGS				eS	Sg	01 10 53.3	-0.1
	69nm,0.5s						
KBK	Karagaybulak	2.94	307	P	Pb	01 10 13.7	+0.4
	SNR=23						
KBK	Karagaybulak	2.94	307	↑iP	Pn	01 10 08.0	0.0
KBK				↑iS	Sn	01 10 45.7	+1.7
KTBS	Karatobe	2.99	339	Pg	Pb	01 10 14.0	0.0
	52nm,0.3s						
KTBS				Lg	Lg	01 10 55.7	
	29nm,0.4s						
KTBS	Karatobe	2.99	339	eP	Pb	01 10 14.0	0.0
	52nm,0.3s						
KTBS				eS	Sg	01 10 55.7	-0.3
	29nm,0.4s						
UCH	Uchtor	3.01	297	iP	Pn	01 10 08.9	-0.2
UCH				iS	Sn	01 10 47.1	+1.1
ARLS	Aral	3.01	289	↑iP	Pn	01 10 08.2	-0.7
ARLS				↑eS	Sn	01 10 46.3	+0.6
CHKK	Chushkaly	3.05	344	eP	Pb	01 10 16.1	+1.1
	4.9nm,0.1s						
CHKK				eS	Sg	01 10 59.0	+1.1
	64nm,0.4s						
BLB	Baldybastay	3.18	5	Pg	Pb	01 10 17.5	+0.1
	138nm,0.3s						
BLB				Lg	Lg	01 11 01.7	
	96nm,0.4s						
AAK	Ala-Archa	3.21	303	P	Pb	01 10 18.0	+0.1
	SNR=21						
KUU	Kurty	3.25	337	Pg	Pb	01 10 18.7	+0.3
	13nm,0.3s						
KUU				Lg	Lg	01 11 04.0	
	43nm,0.3s						
KUU	Kurty	3.25	337	eP	Pb	01 10 18.7	+0.3
	13nm,0.3s						
KUU				eS	Sg	01 11 04.0	-0.5
	43nm,0.3s						
CHMS	Chumysh	3.26	311	P	Pb	01 10 19.2	+0.5
	SNR=15						
CHMS	Chumysh	3.26	311	⇓Pg	Pb	01 10 18.7	+0.1
	36nm,1.1s						
CHMS				⇓Lg	Lg	01 11 04.2	
	58nm,1.1s						
CHMS	Chumysh	3.26	311	↓iP	Pn	01 10 12.5	+0.3
CHMS				↓eS	Sn	01 10 53.4	+1.7
SALK	Salom-Alik	3.27	271	↓eP	Pn	01 10 11.1	-1.3
SALK				↓eS	Sn	01 10 51.4	-0.5
ARXS	Arharly	3.30	356	Pg	Pb	01 10 19.7	+0.4
	30nm,0.3s						
ARXS				Lg	Lg	01 11 05.5	
	61nm,0.5s						
ARXS	Arharly	3.30	356	eP	Pb	01 10 19.7	+0.4
	30nm,0.3s						
ARXS				eS	Sg	01 11 05.5	-0.4
	61nm,0.5s						
AML	Almayashu	3.54	291	P	Pb	01 10 24.9	+1.2
	SNR=9.2						
AML	Almayashu	3.54	291	↓iP	Pn	01 10 16.0	-0.4
AML				↓iS	Sn	01 10 59.5	+0.5
USP	Ospenovka	3.58

29nm,0.2s
KAPS Kapalarasan 4.45 11 *e*P **Pb 01 10 41.1 +2.2**
11nm,0.3s
KAPS *e*S **Sg 01 11 42.4 -0.6**
29nm,0.2s
MNAS Manas 4.49 292⇑*i*P **Pn 01 10 29.0 -0.2**
MNAS ⇑*i*S **Sn 01 11 22.1 0.0**
BTLS Baital 5.09 325 Pg **Pb 01 10 52.7 +3.0**
5.9nm,0.5s
BTLS Lg Lg 01 12 02.4
6.7nm,0.7s
BTLS Baital 5.09 325 *e*P **Pb 01 10 52.7 +3.0**
5.9nm,0.5s
BTLS *e*S **Sg 01 12 02.4 -1.1**
6.7nm,0.7s
KK31 Karatay Array 6.08 294 Pg **Pb 01 11 08.4 +1.8**
1.4nm,0.5s,baz=116,slow=15,SNR=24
KK31 Lg Lg 01 12 31.2
11nm,1.1s,baz=111,slow=26,SNR=6.1
IUG Iuzhnay 6.20 284 Pg **Pb 01 11 12.5 +3.7**
7.4nm,0.3s
IUG Lg Lg 01 12 36.2
19nm,0.8s
IUG Iuzhnay 6.20 284 *e*P **Pb 01 11 12.5 +3.7**
7.4nm,0.3s
IUG *e*S **Sg 01 12 36.2 -2.9**
19nm,0.8s
MK31 Makanchi Array 6.59 26⇑Pn **Pn 01 10 57.7 -0.3**
0.2nm,0.3s,baz=207,slow=14,SNR=14
MK31 ⇑Sn **Sn 01 12 12.0 -1.7**
2.5nm,0.8s,baz=201,slow=29,SNR=3.9
MK31 ⇓Lg Lg 01 12 51.8
11nm,1.1s,baz=202,slow=22,SNR=3.9
KURBB Kurchatov Arra 9.71 2⇑Pn **Pn 01 11 39.4 -1.2**
2.1nm,1.1s
KURBB ⇓Lg Lg 01 14 28.5
12nm,1.1s
KURK Kurchatov 9.80 2⇑Pn **Pn 01 11 40.6 -1.3**
2.2nm,0.7s
KURK ⇓Lg Lg 01 14 31.3
13nm,1.6s

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*IDC **30** 01:27:05.3±0.4, 56°.15N×120°.72W, h0km, mb4.1/15, mbtmp4.1/25, ML3.8/10, MS3.8/46, Error ellipse: s-maj=7.9km s-min=6.3km az=89.0*
*PGC **30** 01:27:06.6, 56°.06N×120°.68W, h5km, ML4.7/23, Mw4.5, mb4.2(NEIC), 23km southeast of Fort St. John, Bc British Columbia, Canada Induced.*
*NEIC **30** 01:27:06.9±2.0, 56°.10N±0°.06×120°.64W±0°.04, h1km±5km, Error ellipse: s-maj=8.7km s-min=2.7km az=190.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr3.46; Mθθ-2.96; Mφφ-0.50; Mrθ0.43; Mrφ2.25; Mθφ-1.11; Fault plane solution: M0=4.12000×10^15 NP1: φs133.93000°, δ53.35000°, λ107.38000°. NP2: φs286.26000°, δ40.03000°, λ68.12000°. Principal axes: T 3.7581, Plg74.0000°, Azm96.0000°; N 0.6453, Plg14.0000°, Azm303.0000°; P -4.4034, Plg7.0000°, Azm212.0000°;*
*NEIC **30** 01:27:07, 56°.02N×120°.68W, h5km*
*NEIC **30** 01:27:07.2, 56°.02N×120°.68W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr2.20; Mθθ-3.73; Mφφ-0.98; Mrθ4.72; Mrφ1.04; Mθφ-1.24; Fault plane solution: M0=5.90000×10^15 NP1: φs105.00000°, δ74.00000°, λ88.00000°. NP2: φs292.00000°, δ16.00000°, λ97.00000°. Principal axes: T 5.7047, Plg61.0000°, Azm12.0000°; N 0.1978, Plg2.0000°, Azm106.0000°; P -5.9024, Plg29.0000°, Azm197.0000°;*
ISC 30 01:27:04.0±0.4, 56°.06N±0°.03×120°.76W±0°.02, h0km, n338, σ2s 04/267, mb4.3/26, MS4.0/37, 5C, British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBC4	**NorthernBC 4**	**0.37**	**171**	P	**Pb**	**01 27 13.1**	**-0.4**
NBC4				S	**Sg**	**01 27 18.5**	**+2.5**
BMTB	**Bullhead Mount**	**0.77**	**270**	P	**Pb**	**01 27 21.3**	**+1.1**
BMTB				S	**Sb**	**01 27 32.4**	**+1.1**
WTMTA	**White Mountain**	**0.93**	**112**	P	**Pb**	**01 27 22.8**	**-0.2**
WTMTA				S	**Sb**	**01 27 35.0**	**-0.9**
BDMTA	**Bald Mountain**	**1.63**	**139**	Pn	**Pb**	**01 27 35.2**	**+0.3**
BDMTA				Sn	**Sg**	**01 27 56.7**	**+0.4**
NBC5	**NorthernBC 5**	**1.81**	**325**	Pn	**Pb**	**01 27 38.4**	**+0.4**
NBC5				Sn	**Sb**	**01 28 01.8**	**+0.5**
NBC6	**NorthernBC 6**	**2.55**	**353**	Pn	**Pn**	**01 27 47.8**	**+1.2**
NBC6				Sg	**Sg**	**01 28 25.8**	**-0.2**
SWHSA	**Sweathouse Loo**	**2.56**	**115**	Pn	**Pn**	**01 27 48.0**	**+1.3**
SWHSA				Sn	**Sn**	**01 28 18.7**	**+0.1**
SWHSA				Sg	**Sg**	**01 28 25.0**	**-1.2**
FSJB	**Fort St James**	**2.58**	**233**	Pn	**Pn**	**01 27 48.9**	**+1.9**
FSJB				Sn	**Sn**	**01 28 21.2**	**+2.1**
BRLDA	**Berland Lookou**	**2.76**	**134**	Pn	**Pn**	**01 27 50.9**	**+1.4**
BRLDA				Sg	**Sb**	**01 28 30.5**	**+2.0**
STPRA	**Salt Prairie L**	**2.81**	**96**	Pn	**Pn**	**01 27 51.1**	**+1.0**
STPRA				Sg	**Sg**	**01 28 32.0**	**-2.0**
FNSB	**Fort Nelson**	**2.96**	**340**	Pn	**Pn**	**01 27 53.9**	**+1.8**
FNSB				Sn	**Sn**	**01 28 29.4**	**+1.1**
TOAD	**Toad River Com**	**3.70**	**321**	Pn	**Pn**	**01 28 03.5**	**+1.2**
TOAD				Sn	**Sn**	**01 28 46.6**	**-0.1**
UBRB	**Upper Baezaeko**	**3.72**	**213**	Pn	**Pn**	**01 28 04.2**	**+1.5**
UBRB				Sg	**Sg**	**01 29 01.6**	**-1.7**
NBC1	**NorthernBC 1**	**3.96**	**337**	Pn	**Pn**	**01 28 07.1**	**+1.2**
LIRD	**Liard River Hi**	**4.42**	**322**	Pn	**Pn**	**01 28 13.6**	**+1.4**
LIRD				Sn	**Sn**	**01 29 04.0**	**-0.2**
KITB	**Kitimat**	**4.94**	**250**	Pn	**Pn**	**01 28 21.2**	**+1.8**
KITB				Sn	**Sn**	**01 29 17.1**	**-0.1**
KITB				Sg	**Sg**	**01 29 40.7**	**-1.8**
MBLB	**Minette Bay Lo**	**4.95**	**249**	Pn	**Pn**	**01 28 21.6**	**+2.1**
U35K	**Hyder**	**5.21**	**272**	Sg	**Sg**	**01 29 50.1**	**-0.9**
T35M	**Bob Quinn**	**5.34**	**284**		**Pn**	**01 28 27.7**	**+2.9**
T35M	**Bob Quinn**	**5.34**	**284**	Pn	**Pn**	**01 28 26.9**	**+2.1**
BUTB	**Butedale**	**5.39**	**239**	Pn	**Pn**	**01 28 27.1**	**+1.4**
BUTB				Sn	**Sn**	**01 29 27.1**	**-1.3**
LLLB	**Lillooet**	**5.50**	**187**		**Pn**	**01 28 29.2**	**+2.2**
LLLB	**Lillooet**	**5.50**	**187**	Pn	**Pn**	**01 28 28.9**	**+1.8**
LLLB				Sn	**Sn**	**01 29 30.0**	**-1.0**
LLLB				Sg	**Sg**	**01 29 58.2**	**-2.2**
DLBC	**Dease Lake**	**5.57**	**299**	Pn	**Pn**	**01 28 29.8**	**+1.7**
	2.2nm,0.3s,baz=100,slow=13,SNR=46						
DLBC				Sn	**Sn**	**01 29 33.4**	**+0.7**
	12nm,0.3s,baz=109,slow=16,SNR=3.3						
DLBC				Lg	Lg	01 30 00.8	
	20nm,0.3s,baz=213,slow=24,SNR=8.9						
	12nm,0.4s						
DLBC	**Dease Lake**	**5.57**	**299**	Pn	**Pn**	**01 28 30.0**	**+2.0**
DLBC				Sg	**Sg**	**01 30 01.6**	**-1.1**
GRIB	**Gribbell Islan**	**5.57**	**244**	Pn	**Pn**	**01 28 29.8**	**+1.8**
GRIB				Sn	**Sn**	**01 29 31.6**	**-1.1**
RUBB	**Prince Rupert**	**5.71**	**256**		**Pn**	**01 28 32.0**	**+2.2**
RUBB	**Prince Rupert**	**5.71**	**256**	Pn	**Pn**	**01 28 32.1**	**+2.2**
RUBB				Sg	**Sg**	**01 30 03.8**	**-3.3**
GRNB	**Grenville Isla**	**5.74**	**251**		**Pn**	**01 28 32.4**	**+2.0**
GRNB	**Grenville Isla**	**5.74**	**251**	Pn	**Pn**	**01 28 32.3**	**+1.9**
GRNB				Sg	**Sg**	**01 30 05.1**	**-3.2**
BBB	**Bella Bella**	**5.81**	**231**	Pn	**Pn**	**01 28 32.2**	**+1.0**
	2.1nm,0.3s,baz=47,slow=13,SNR=33						
BBB				Sn	**Sn**	**01 29 37.8**	**-0.7**
	6.8nm,0.3s,baz=173,slow=20,SNR=4.6						
BBB				Lg	Lg	01 30 07.3	
	17nm,0.3s,baz=126,slow=13,SNR=7.4						
BBB				LR	LR	01 31 11.2	
	comp=Z,722nm,20.2s,baz=60,slow=42						
	7.0nm,0.4s						
BBB	**Bella Bella**	**5.81**	**231**	Pn	**Pn**	**01 28 32.0**	**+0.8**
BBB				Sn	**Sn**	**01 29 36.6**	**-1.8**
S34M	**Telegraph Cree**	**5.97**	**292**	Pn	**Pn**	**01 28 35.5**	**+2.1**
WSLR	**Whistler**	**6.08**	**193**	Pn	**Pn**	**01 28 36.0**	**+0.9**
V35K	**Ketchikan**	**6.18**	**268**	Pn	**Pn**	**01 28 38.2**	**+1.8**
BNAB	**Bonilla**	**6.26**	**250**	Pn	**Pn**	**01 28 39.1**	**+1.6**
BNAB				Sg	**Sg**	**01 30 20.9**	**-4.1**
R33M	**Jennings River**	**6.41**	**306**		**Pn**	**01 28 40.6**	**+0.9**
R33M	**Jennings River**	**6.41**	**306**	Pn	**Pn**	**01 28 40.5**	**+0.9**
WRAK	**Wrangell Islan**	**6.47**	**278**		**Pn**	**01 28 42.7**	**+2.3**
WRAK	**Wrangell Islan**	**6.47**	**278**	Pn	**Pn**	**01 28 42.4**	**+2.1**
NCRB	**Newcastle Ridg**	**6.49**	**211**	Pn	**Pn**	**01 28 42.8**	**+2.0**
NCSB	**Newcastle Ridg**	**6.49**	**211**	Pn	**Pn**	**01 28 42.8**	**+2.0**
CBB	**Campbell River**	**6.64**	**207**		**Pn**	**01 28 46.4**	**+3.7**
CBB	**Campbell River**	**6.64**	**207**	Pn	**Pn**	**01 28 45.3**	**+2.6**
PHC	**Port Hardy**	**6.68**	**219**	Pn	**Pn**	**01 28 45.3**	**+2.1**
SHB	**Sechelt**	**6.74**	**198**	Pn	**Pn**	**01 28 46.0**	**+1.9**
TXB	**Texada**	**6.75**	**201**	Pn	**Pn**	**01 28 46.4**	**+2.2**
MAYB	**Maynard**	**6.84**	**217**	Pn	**Pn**	**01 28 47.9**	**+2.2**
Q32M	**Nakina River**	**6.85**	**300**		**Pn**	**01 28 47.6**	**+1.9**
Q32M	**Nakina River**	**6.85**	**300**	Pn	**Pn**	**01 28 47.4**	**+1.7**
U33K	**Whale Pass**	**6.92**	**276**	Pn	**Pn**	**01 28 48.3**	**+1.8**
U33K	**Whale Pass**	**6.92**	**276**	Pn	**Pn**	**01 28 47.8**	**+1.3**
PACB	**Port Alice, BC**	**6.93**	**218**	Pn	**Pn**	**01 28 47.6**	**+1.0**
PACB				Sg	**Sg**	**01 30 41.2**	**-5.0**
HOLB	**Holberg**	**6.99**	**222**	Pn	**Pn**	**01 28 49.6**	**+2.1**
HOLB	**Holberg**	**6.99**	**222**	Pn	**Pn**	**01 28 49.2**	**+1.7**
HOLB				Sg	**Sg**	**01 30 43.2**	**-5.1**
CRAG	**Craig**	**7.00**	**270**		**Pn**	**01 28 51.2**	**+3.6**
MOBC	**Moresby Island**	**7.13**	**251**	Pn	**Pn**	**01 28 50.6**	**+1.1**
MOBC				Sg	**Sg**	**01 30 49.2**	**-3.7**
YKA	**Yellowknife Ar**	**7.18**	**23**	Pn	**Pn**	**01 28 47.8**	**-2.3**
YKA	**Yellowknife Ar**	**7.18**	**23**	Pn	**Pn**	**01 28 48.1**	**-2.0**
	3.2nm,0.3s,baz=213,slow=14,SNR=96						
YKA				Sn	**Sn**	**01 30 04.8**	**-7.4**
	12nm,0.3s,baz=32,slow=16,SNR=5.9						
YKA				Lg	Lg	01 30 45.0	
	25nm,0.3s,baz=204,slow=27,SNR=6.2						
YKA				LR	LR	01 31 57.7	
	comp=Z,930nm,19.5s,baz=187,slow=41						
	1.9nm,0.3s						
YKAW1	**Yellowknife Wh**	**7.20**	**24**	Pn	**Pn**	**01 28 48.2**	**-2.1**
YKAW3	**Yellowknife Wh**	**7.24**	**23**	Pn	**Pn**	**01 28 48.5**	**-2.4**
BPEB	**Brooks Peninsu**	**7.26**	**218**	Pn	**Pn**	**01 28 53.6**	**+2.3**
BNB	**Barry Inlet**	**7.31**	**246**	Pn	**Pn**	**01 28 54.1**	**+2.2**
BAIB	**Barry Inlet**	**7.31**	**246**	Pn	**Pn**	**01 28 54.1**	**+2.1**
MBW	**Mount Baker**	**7.32**	**186**	Pn	**Pn**	**01 28 53.9**	**+1.8**
WRGLY	**Wrigley**	**7.32**	**350**	Pn	**Pn**	**01 28 52.7**	**+0.7**
DI2B	**Dawson Inlet**	**7.38**	**252**	Pn	**Pn**	**01 28 54.4**	**+1.6**
DIB	**Dawson Inlet,**	**7.38**	**252**	Pn	**Pn**	**01 28 54.1**	**+1.3**
DIB	**Dawson Inlet,**	**7.38**	**252**	Pn	**Pn**	**01 28 54.3**	**+1.6**
NTKA	**Nootka**	**7.38**	**211**	Pn	**Pn**	**01 28 53.7**	**+0.9**
CLRS	**Cowichan Lake**	**7.53**	**197**		**Pn**	**01 28 58.7**	**+3.8**
CLRS	**Cowichan Lake**	**7.53**	**197**	Pn	**Pn**	**01 28 56.9**	**+2.0**
PGC	**Sidney**	**7.60**	**194**	Pn	**Pn**	**01 28 56.0**	**+0.2**
PGC				Sg	**Sg**	**01 31 02.9**	**-4.9**
P33M	**Teslin, Yukon**	**7.62**	**308**	Pn	**Pn**	**01 28 58.0**	**+1.8**
P33M	**Teslin, Yukon**	**7.62**	**308**	Pn	**Pn**	**01 28 57.5**	**+1.3**
RPW	**Rockport**	**7.63**	**184**	Pn	**Pn**	**01 28 57.6**	**+1.2**
OZB	**Mount Ozzard**	**7.67**	**204**	Pn	**Pn**	**01 28 57.9**	**+1.1**
S32K	**Killisnoo**	**7.72**	**286**	Pn	**Pn**	**01 28 58.7**	**+1.2**
P32M	**Atlin**	**7.77**	**302**	Pn	**Pn**	**01 28 59.8**	**+1.6**
R32K	**Eaglecrest**	**7.80**	**292**	Pn	**Pn**	**01 29 01.7**	**+3.1**
HSPGA	**Hill Springs,**	**7.97**	**144**	Pn	**Pn**	**01 29 02.7**	**+1.7**
BESE	**Bessie Mountai**	**8.04**	**294**	Pn	**Pn**	**01 29 03.9**	**+2.0**
NEW	**Newport**	**8.12**	**163**	Pn	**Pn**	**01 29 05.0**	**+2.0**
	0.3nm,0.3s,baz=356,slow=15,SNR=4.6						
NEW				Sn	**Sn**	**01 30 36.0**	**+0.6**
	1.4nm,0.3s,baz=311,slow=9.5,SNR=5.0						
NEW				Lg	Lg	01 31 19.0	
	1.9nm,0.3s,baz=96,slow=19,SNR=4.2						
NEW				LR	LR	01 31 36.4	
	comp=Z,117nm,20.3s,baz=342,slow=33						
	1.7nm,0.4s						
OSD	**Olympics--Snow**	**8.45**	**194**	Pn	**Pn**	**01 29 10.2**	**+2.5**
WHY	**Whitehorse**	**8.73**	**308**		**Pn**	**01 29 12.6**	**+1.2**
WHY	**Whitehorse**	**8.73**	**308**	Pn	**Pn**	**01 29 12.1**	**+0.6**
MKRVA	**Milk River, Al**	**8.82**	**138**	Pn	**Pn**	**01 29 12.2**	**-0.4**
BSMT	**Bassoo Peak**	**9.00**	**153**	Pn	**Pn**	**01 29 15.9**	**+0.6**
PLBC	**Pleasant Camp**	**9.01**	**299**	Pn	**Pn**	**01 29 16.7**	**+1.6**
FMW	**Mount Fremont**	**9.15**	**184**	Pn	**Pn**	**01 29 20.6**	**+3.2**
YBMT	**Yellow Bay**	**9.20**	**150**	Pn	**Pn**	**01 29 17.9**	**0.0**
JTMT	**Jette**	**9.23**	**152**	Pn	**Pn**	**01 29 18.6**	**+0.3**
M31M	**Drury Creek, Y**	**9.32**	**317**	Pn	**Pn**	**01 29 20.2**	**+0.8**
O30N	**Mendenhall**	**9.32**	**307**	Pn	**Pn**	**01 29 20.3**	**+0.9**
P30M	**Million Dollar**	**9.49**	**302**	Pn	**Pn**	**01 29 23.4**	**+1.6**
N31M	**Braeburn, Yuko**	**9.50**	**311**	Pn	**Pn**	**01 29 23.7**	**+1.8**
P29M	**Windy Craggy**	**9.73**	**299**	Pn	**Pn**	**01 29 27.4**	**+2.3**
HYT	**Haines Junctio**	**9.98**	**305**	Pn	**Pn**	**01 29 30.4**	**+1.8**
HYT	**Haines Junctio**	**9.98**	**305**	Pn	**Pn**	**01 29 30.3**	**+1.8**
N30M	**Aishikik Lake**	**10.05**	**309**	Pn	**Pn**	**01 29 30.4**	**+1.0**
MSO	**Missoula**	**10.17**	**152**	Pn	**Pn**	**01 29 31.5**	**+0.3**
OVMT	**Ovando**	**10.21**	**149**	Pn	**Pn**	**01 29 31.5**	**-0.3**
YUK5	**Granite Creek**	**10.26**	**307**	Pn	**Pn**	**01 29 33.8**	**+1.4**
O29M	**Mount Kennedy**	**10.31**	**302**	Pn	**Pn**	**01 29 34.5**	**+1.4**
YUK6	**Outpost Mounta**	**10.42**	**305**	Pn	**Pn**	**01 29 36.3**	**+1.7**
M30M	**Minto, Yukon**	**10.46**	**315**	Pn	**Pn**	**01 29 35.2**	**+0.1**
LYMT	**Lyon Mountain**	**10.51**	**146**	Pn	**Pn**	**01 29 35.6**	**-0.4**
YUK4	**Talbot Arm**	**10.69**	**307**	Pn	**Pn**	**01 29 40.0**	**+1.7**
FFC	**Flin Flon**	**10.77**	**89**	Pn	**Pn**	**01 29 38.6**	**-0.6**
FFC	**Flin Flon**	**10.77**	**89**	Pn	**Pn**	**01 29 38.1**	**-1.1**
M29M	**Somme Creek**	**11.07**	**313**	Pn	**Pn**	**01 29 45.4**	**+2.0**
YUK8	**Steele Glacier**	**11.17**	**306**	Pn	**Pn**	**01 29 45.2**	**+0.2**
L29M	**L29M**	**11.26**	**316**	Pn	**Pn**	**01 29 45.7**	**-0.3**
PLID	**Pearl Lake**	**11.39**	**163**	Pn	**Pn**	**01 29 50.1**	**+2.1**
K29M	**Barlow Dome**	**11.43**	**320**	Pn	**Pn**	**01 29 48.5**	**+0.1**
J30M	**Hart River**	**11.48**	**324**	Pn	**Pn**	**01 29 50.5**	**+1.4**
LOGN	**Logan Glacier**	**11.61**	**303**	Pn	**Pn**	**01 29 52.6**	**+1.7**
YUK3	**Moose Creek**	**11.65**	**308**	Pn	**Pn**	**01 29 52.2**	**+0.6**
H31M	**Peel River**	**11.77**	**332**	Pn	**Pn**	**01 29 53.3**	**+0.4**
YUK2	**White River**	**11.83**	**307**	Pn	**Pn**	**01 29 55.1**	**+1.3**
DLMT	**Dillon**	**11.88**	**151**		**Pn**	**01 29 54.5**	**-0.1**
I30M	**Mount Dempster**	**11.93**	**327**	Pn	**Pn**	**01 29 57.9**	**+2.8**
GRNC	**Granite Creek**	**11.94**	**302**	Pn	**Pn**	**01 29 57.5**	**+2.0**
I07A	**Izee**	**12.01**	**176**	Pn	**Pn**	**01 30 01.1**	**+4.7**
BVCY	**Beaver Creek**	**12.07**	**310**	Pn	**Pn**	**01 29 59.7**	**+2.7**
KUKN	**Kugluktuk,NWT**	**12.10**	**10**	Pn	**Pn**	**01 29 54.5**	**-2.9**
DAWY	**Dawson**	**12.24**	**319**	Pn	**Pn**	**01 30 01.8**	**+2.4**
DAWY	**Dawson**	**12.24**	**319**	Pn	**Pn**	**01 30 01.1**	**+1.7**
BALM	**Baldy**	**12.30**	**303**	Pn	**Pn**	**01 30 02.7**	**+2.5**
PTPK	**Patty Peak**	**12.39**	**303**	Pn	**Pn**	**01 30 05.1**	**+3.5**
M27K	**Edge Creek, AK**	**12.49**	**309**	Pn	**Pn**	**01 30 06.1**	**+3.3**
G31M	**Satah River**	**12.63**	**335**	Pn	**Pn**	**01 30 04.3**	**-0.3**
BCAR	**Beaver Creek A**	**12.72**	**312**	Pn	**Pn**	**01 30 08.3**	**+2.4**
L27K	**Beaver Creek,**	**12.73**	**312**	Pn	**Pn**	**01 30 08.0**	**+1.9**
J05D	**Fort Rock, OR**	**12.79**	**182**	Pn	**Pn**	**01 30 11.6**	**+4.5**
EPYK	**Eagle Plains**	**12.84**	**330**	Pn	**Pn**	**01 30 07.9**	**+0.4**
F31M	**Tsiigehtchic**	**12.93**	**337**	Pn	**Pn**	**01 30 08.2**	**-0.4**
F31M	**Tsiigehtchic**	**12.93**	**337**	Pn	**Pn**	**01 30 07.0**	**-1.7**
G30M	**tAoh Zraii Nji**	**13.15**	**333**	Pn	**Pn**	**01 30 11.4**	**-0.4**
H29M	**Whitestone**	**13.21**	**328**	Pn	**Pn**	**01 30 14.2**	**+1.6**
I28M	**Miner Creek**	**13.22**	**323**	Pn	**Pn**	**01 30 14.7**	**+1.9**
K27K	**Chicken**	**13.25**	**316**	Pn	**Pn**	**01 30 14.2**	**+1.1**
C36M	**Paulatuk**	**13.43**	**355**	Pn	**Pn**	**01 30 11.9**	**-3.5**
F30M	**Barrier River**	**13.53**	**335**	Pn	**Pn**	**01 30 15.3**	**-1.6**
G29M	**Pine Creek**	**13.59**	**330**	Pn	**Pn**	**01 30 17.5**	**-0.2**
INK	**Inuvik**	**13.61**	**340**	Pn	**Pn**	**01 30 16.9**	**-1.1**
INK	**Inuvik**	**13.61**	**340**	Pn	**Pn**	**01 30 16.2**	**-1.7**
	1.0nm,0.3s,baz=153,slow=7.7,SNR=12						
INK				Sn	Sn	01 32 40.8	-8.9
	1.1nm,0.3s,baz=260,slow=25,SNR=5.4						
INK				Lg	Lg	01 34 09.5	
	0.6nm,0.3s,baz=273,slow=28,SNR=0.9						
INK				LR	LR	01 35 53.5	
	comp=Z,314nm,19.8s,baz=192,slow=39						
	5.6nm,0.5s						
INK	**Inuvik**	**13.61**	**340**	Pn	**Pn**	**01 30 15.8**	**-2.2**
I27K	**Kandik River**	**13.88**	**322**	Pn	**Pn**	**01 30 22.8**	**+1.0**
DOT	**Dot Lake**	**13.89**	**313**	Pn	**Pn**	**01 30 23.4**	**+1.6**
SCRK	**Sand Creek**	**13.99**	**314**	Pn	**Pn**	**01 30 25.1**	**+1.9**
H27K	**Steamboat Moun**	**14.21**	**324**	Pn	**Pn**	**01 30 26.2**	**-0.1**
YBH	**Yreka Blue Hor**	**14.39**	**186**	LR	LR	01 36 26.6	
	comp=Z,437nm,20.1s,baz=6.5,slow=39						
FCC	**Fort Churchill**	**14.59**	**68**	Pn	Pn	01 30 25.4	-5.9
FCC	**Fort Churchill**	**14.59**	**68**	Pn	Pn	01 30 26.0	-5.4
F28M	**Old Crow**	**14.60**	**330**		**Pn**	**01 30 31.2**	**-0.3**
F28M	**Old Crow**	**14.60**	**330**	Pn	**Pn**	**01 30 30.7**	**-0.7**
G27K	**Doyon Strip**	**14.60**	**326**	Pn	**Pn**	**01 30 31.1**	**-0.5**
E29M	**Blow River**	**14.64**	**334**	Pn	**Pn**	**01 30 30.1**	**-2.0**
BLKN	**Baker Lake**	**14.74**	**46**	Pn	Pn	01 30 26.4	-7.0
J25K	**Salcha River,**	**14.80**	**315**	Pn	**Pn**	**01 30 32.2**	**-2.1**
DHY	**Denali Highway**	**15.12**	**309**	IAmb	IAmb	01 30 49.3	
	comp=Z,13nm,1.0s						
PD31	**Pinedale Array**	**15.14**	**147**	IAmb	IAmb	01 30 47.8	
	comp=Z,8.2nm,1.1s						
PDAR	**Pinedale Array**	**15.14**	**147**		**P**	**01 30 42.3**	**-2.3**
PDAR	**Pinedale Array**	**15.14**	**147**	Pn	**Pn**	**01 30 39.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=352,slow=10,SNR=5.3						
PDAR				LR	LR	01 36 52.0	
	comp=Z,118nm,18.2s,baz=340,slow=39						
	comp=Z,0.8nm,0.8s						
HVU	**Hansel Valley**	**15.21**	**157**	IAmb	IAmb	01 31 26.2	
	comp=Z,6.6nm,0.9s						
E28M	**Babbage River**	**15.21**	**333**	IAmb	IAmb	01 30 47.7	
	comp=Z,13nm,1.1s						
E28M	**Babbage River**	**15.21**	**333**	Pn	**Pn**	**01 30 38.2**	**-1.5**
PRP	**Porcupine Dome**	**15.25**	**318**	IAmb	IAmb	01 31 05.2	
	comp=Z,8.4nm,1.1s						
KNK	**Knik Glacier**	**15.27**	**302**	IAmb	IAmb	01 30 51.6	
	comp=Z,11nm,0.8s						
SML	**Sawmill**	**15.27**	**303**	IAmb	IAmb	01 30 52.1	
	comp=Z,19nm,1.1s						
HDA	**Harding Lake**	**15.35**	**314**	IAmb	IAmb	01 30 45.3	
	comp=Z,16nm,1.2s						
G26K	**Porcupine Rive**	**15.37**	**324**	Pn	**Pn**	**01 30 39.3**	**-2.5**
IL31		**15.46**	**315**	IAmb	IAmb	01 30 52.2	
	comp=Z,11nm,0.9s						
ILAR	**Eielson Array**	**15.46**	**315**	Pn	**Pn**	**01 30 43.8**	**+0.7**
ILAR	**Eielson Array**	**15.46**	**315**	Pn	**Pn**	**01 30 43.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=118,slow=12,SNR=27						
ILAR				Lg	Lg	01 35 07.7	
	baz=93,slow=23						
ILAR				LR	LR	01 37 12.1	
	comp=Z,110nm,20.8s,baz=92,slow=39						
	comp=Z,3.0nm,0.8s						
E27K	**Coleen River**	**15.46**	**330**	Pn	**Pn**	**01 30 42.3**	**-0.8**
D28M	**Stokes Point**	**15.56**	**336**	Pn	**Pn**	**01 30 44.8**	**+0.5**
PMR	**Palmer**	**15.62**	**302**	IAmb	IAmb	01 30 55.9	
	comp=Z,13nm,0.8s						
HWUT	**Hardware Ranch**	**15.65**	**154**	IAmb	IAmb	01 30 55.8	
	comp=Z,17nm,1.4s						
E28A	**Huff**	**15.68**	**119**	Pn	**Pn**	**01 30 44.0**	**-2.0**
ELK	**Elko**	**15.75**	**164**	Pn	**P**	**01 30 49.9**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=343,slow=10,SNR=11						
ELK				Lg	Lg	01 35 19.4	
	baz=207,slow=15,SNR=2.1						
ELK				LR	LR	01 37 20.5	
	comp=Z,192nm,19.9s,baz=346,slow=39						
	comp=Z,1.5nm,0.6s						
BMN	**Battle Mountai**	**15.81**	**170**	IAmb	IAmb	01 30 56.0	
	comp=Z,24nm,1.3s						
WRH	**Wood River Hil**	**15.84**	**313**	IAmb	IAmb	01 30 57.4	
	comp=Z,19nm,0.9s						
RND	**Reindeer**	**15.85**	**309**	IAmb	IAmb	01 30 59.8	
	comp=Z,14nm,1.0s						
F26K	**Sheenjek River**	**15.91**	**326**	Pn	**Pn**	**01 30 49.2**	**+0.3**
ULM	**Lac du Bonnet**	**15.97**	**101**	Pn	**Pn**	**01 30 46.6**	**-3.2**
ULM	**Lac du Bonnet**	**15.97**	**101**	Pn	**Pn**	**01 30 45.7**	**-4.0**
	comp=Z,1.8nm,0.3s,baz=304,slow=12,SNR=14						
ULM				Sn	Sn	01 33 30.5	-17
	comp=Z,0.9nm,0.3s,baz=328,slow=17,SNR=2.1						
ULM				Lg	Lg	01 35 16.4	
	comp=Z,0.3nm,0.3s,baz=39,slow=22,SNR=2.3						
	comp=Z,3.8nm,0.3s						
ULM	**Lac du Bonnet**	**15.97**	**101**	Pn	**Pn**	**01 30 45.8**	**-4.0**
RSSD	**Black Hills**	**16.00**	**131**	Pn	**Pn**	**01 30 48.0**	**-2.5**
RSSD				IAmb	IAmb	01 30 49.4	
	comp=Z,28nm,1.4s						
D27M	**Malcolm River**	**16.03**	**334**	Pn	**Pn**	**01 30 49.8**	**-0.7**
G25K	**Bearman Lake**	**16.05**	**322**	Pn	**Pn**	**01 30 48.3**	**-2.3**
A36M	**Sachs Harbour**	**16.11**	**355**	Pn	**Pn**	**01 30 47.4**	**-4.0**
TCUT	**Toone Canyon**	**16.15**	**154**	IAmb	IAmb	01 31 19.1	
	comp=Z,12nm,0.9s			

comp=Z,16nm,1.0s
B21K Ikpikpuk River 20.19 326 Pn 01 31 42.8 +1.2
B21K IAmb IAmb 01 31 51.2
comp=Z,15nm,1.1s
H18K Honhosa River 20.27 312 Pn Pn 01 31 44.5 +2.0
H18K IAmb IAmb 01 31 48.2
comp=Z,20nm,1.1s
E19K Redstone River 20.32 319 IAmb IAmb 01 31 49.3
comp=Z,8.7nm,0.9s
J17K VABM Dome 20.39 307 P Pn 01 31 45.2 +1.2
J17K IAmb IAmb 01 31 50.3
comp=Z,19nm,1.1s
U15A North Rim 20.46 160 Pn 01 31 45.3 0.0
U15A IAmb IAmb 01 31 50.4
comp=Z,24nm,1.2s
MVCO Mesa Verde 20.59 151 IAmb IAmb 01 31 53.6
comp=Z,11nm,0.8s
SPMN Marine on St. 20.63 110 P **P** **01 31 45.1 +0.3**
KSCO Kaye Shedlock' 20.88 137 IAmb IAmb 01 31 56.3
comp=Z,17nm,1.0s
I37A Lemond, Waseca 21.14 113 P **P** **01 31 54.5 +4.2**
B20K Meade River 21.15 326 P **P** **01 31 53.7 +3.5**
RES Resolute Bay 21.22 19 **P** **01 31 51.2 +0.4**
RES Resolute Bay 21.22 19 P **P** **01 31 50.6 -0.2**
comp=Z,13nm,0.9s,baz=222,slow=11,SNR=30
RES LR LR 01 40 19.0
comp=Z,425nm,19.3s,baz=200,slow=38
comp=Z,13nm,0.9s
RES Resolute Bay 21.22 19 P **P** **01 31 50.6 -0.2**
E18K Tukpahlearik C 21.57 318 P **P** **01 31 57.6 +2.9**
E18K IAmb IAmb 01 31 59.5
comp=Z,12nm,0.8s
T25A Trinidad 21.90 143 IAmb IAmb 01 32 04.0
comp=Z,8.1nm,1.0s
G40A Rib Lake 21.99 106 IAmb IAmb 01 32 03.1
comp=Z,15nm,1.1s
X16A Lo Mia Camp, P 22.57 160 P **P** **01 32 07.4 +1.6**
PFO Pinyon Flats O 22.64 171 LR LR 01 41 59.9
comp=Z,172nm,19.8s,baz=244,slow=39
I40A Norwalk 22.68 110 P **P** **01 32 05.7 -1.1**
SAKN Sanikiluaq 22.80 71 P **P** **01 32 07.7 -0.2**
R32A Long Quarter, 22.96 131 IAmb IAmb 01 32 31.1
comp=Z,10nm,0.8s
ANMO Albuquerque 23.28 149 P **P** **01 32 14.6 +1.3**
ANMO Albuquerque 23.28 149 LR LR 01 41 57.7
comp=Z,148nm,21.4s,baz=136,slow=38
KAPO Kapuskasing 23.83 90 P **P** **01 32 19.7 +1.3**
POIN Pond Inlet 24.07 30 P **P** **01 32 21.3 +0.9**
P38A Dawn 24.34 121 IAmb IAmb 01 33 02.8
comp=Z,8.9nm,1.0s
TUC Tucson 24.74 159 P **P** **01 32 29.1 +2.0**
P40A Paris 25.14 119 P **P** **01 32 31.0 +0.6**
P40A IAmb IAmb 01 33 03.4
comp=Z,6.8nm,0.8s
121A Cookes Peak, D 25.20 154 IAmb IAmb 01 33 13.1
comp=Z,9.6nm,1.1s
OK052 Battle Ridge R 25.83 131 P **P** **01 32 39.1 +2.3**
S39A Bolivar 25.98 123 IAmb IAmb 01 33 07.2
comp=Z,7.3nm,1.1s
EUNU Eureka 26.39 13 P **P** **01 32 43.7 +2.1**
FRB Frobisher Bay 26.58 52 LR LR 01 43 13.6
comp=Z,308nm,20.2s,baz=292,slow=36
LG4Q La Grande 4 26.58 75 P **P** **01 32 45.1 +1.7**
BUKO Buck Lake 27.83 95 P **P** **01 32 53.7 -1.0**
TXAR Lajitas Array 29.35 148 P **P** **01 33 10.2 +1.8**
comp=Z,1.0nm,0.8s,baz=350,slow=6.4,SNR=9.2
TXAR LR LR 01 46 15.2
comp=Z,71nm,19.0s,baz=338,slow=39
comp=Z,1.0nm,0.8s
SCHQ Schefferville 29.97 69 LR LR 01 45 23.7
comp=Z,512nm,18.1s,baz=279,slow=37
LPIG La Paz 32.83 162 LR LR 01 45 58.0
comp=Z,105nm,18.2s,baz=334,slow=34
SFJD Kangerlussuaq 33.27 42 LR LR 01 47 26.3
comp=Z,514nm,19.8s,baz=299,slow=37
SHEM Shemya Is, Ala 36.81 293 LR LR 01 48 58.4
comp=Z,70nm,19.1s,baz=88,slow=36
SPITS Spitsbergen Ar 43.51 12 LR LR 01 53 29.0
comp=Z,196nm,19.0s,baz=271,slow=36
TIXI Tiksi 43.67 335 LR LR 01 56 22.3
comp=Z,67nm,18.9s,baz=14,slow=40
BORG Borgarnes 44.90 37 LR LR 01 54 35.4
comp=Z,285nm,19.1s,baz=318,slow=37
ARCES ARCESS Array B 52.35 14 LR LR 02 00 08.3
comp=Z,166nm,18.1s,baz=302,slow=38
NOA NORSAR Array B 57.28 25 LR LR 02 00 00.1
comp=Z,74nm,18.1s,baz=330,slow=34
HFS Hagfors 58.66 25 LR LR 02 02 53.4
comp=Z,157nm,20.2s,baz=327,slow=37
KLR Kul'dur 59.03 313 P **P** **01 37 07.1 +2.0**
comp=Z,1.8nm,0.9s,baz=24,slow=10,SNR=4.2
comp=Z,1.8nm,0.9s
FINES FINESS Array B 59.98 18 P **P** **01 37 12.4 +0.9**
comp=Z,5.8nm,0.9s,baz=347,slow=7.8,SNR=13
FINES LR LR 02 02 32.1
comp=Z,161nm,21.2s,baz=252,slow=36
comp=Z,5.8nm,0.9s
KIRV Kirov 65.44 6 LR LR 02 09 32.1
comp=Z,74nm,19.5s,baz=323,slow=39
OBN Obninsk 67.66 14 LR LR 02 09 09.6
comp=Z,95nm,19.3s,baz=355,slow=37
ARTI Arti 67.91 1 P **P** **01 38 05.0 +1.2**
comp=Z,2.8nm,0.6s,baz=340,slow=3.2,SNR=7.1
ARTI LR LR 02 10 40.2
comp=Z,64nm,18.4s,baz=328,slow=39
comp=Z,2.8nm,0.6s
ZALV Zalesovo Beam 68.37 344 P **P** **01 38 08.1 +1.4**
comp=Z,1.3nm,0.6s,baz=359,slow=7.9,SNR=4.3
comp=Z,1.3nm,0.6s
GERES GERESS Array B 68.78 30 LR LR 02 08 38.5
comp=Z,80nm,18.0s,baz=332,slow=36
VRAC Vranov 69.16 28 LR LR 02 07 15.8
comp=Z,42nm,21.7s,baz=358,slow=35
SONM Songino Array 69.22 328 P **P** **01 38 13.7 +1.3**
comp=Z,0.9nm,0.6s,baz=24,slow=5.0,SNR=7.5
SONM LR LR 02 10 13.4
comp=Z,80nm,18.1s,baz=342,slow=37
comp=Z,0.9nm,0.6s
DAVOX Davos/Dischmat 69.50 34 LR LR 02 08 23.8
comp=Z,150nm,20.1s,baz=328,slow=36
KSRS Korea Array 70.18 308 P **P** **01 38 19.4 +1.2**
comp=Z,1.6nm,0.8s,baz=22,slow=7.1,SNR=5.7
comp=Z,1.6nm,0.8s
ESDC Sonseca Array 70.66 47 P **P** **01 38 22.1 +0.9**
comp=Z,1.2nm,0.6s,baz=326,slow=6.7,SNR=9.2
ESDC LR LR 02 07 39.7
comp=Z,87nm,19.3s,baz=336,slow=34
comp=Z,1.2nm,0.6s
AKASG Malin Array Be 70.73 20 P **P** **01 38 21.3 0.0**
comp=Z,1.5nm,0.7s,baz=346,slow=6.3,SNR=7.0
AKASG LR LR 02 08 41.1
comp=Z,114nm,18.7s,baz=331,slow=35
comp=Z,1.5nm,0.7s
BVAR Borovoye Array 70.90 353 P **P** **01 38 23.0 +0.7**
comp=Z,1.4nm,0.6s,baz=20,slow=4.9,SNR=7.7
BVAR LR LR 02 12 57.4
comp=Z,63nm,20.0s,baz=314,slow=39
comp=Z,1.4nm,0.6s
BELG Belogornoye 71.49 7 LR LR 02 11 57.7
comp=Z,38nm,20.2s,baz=332,slow=38
KURBB Kurchatov Arra 72.49 347 P **P** **01 38 32.5 +0.6**
comp=Z,1.0nm,0.6s,baz=9.9,slow=5.7,SNR=9.6
comp=Z,1.0nm,0.6s
MDP Montagnes des 73.66 106 LR LR 02 12 08.5
comp=Z,18nm,20.2s,baz=308,slow=37
HHC Hu-ho-hao-te 73.78 321 *eP* **P** **01 38 39.5 -0.4**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,120nm,4.3s
AKTO Aktyubinsk 73.87 1 P **P** **01 38 40.4 +0.3**
comp=Z,1.5nm,0.7s,baz=23,slow=2.1,SNR=4.7
comp=Z,1.5nm,0.7s
MLR Muntele Rosu 75.01 24 LR LR 02 11 42.3
comp=Z,141nm,18.9s,baz=322,slow=36
MKAR Makanchi Array 75.71 344 P **P** **01 38 50.8 0.0**
comp=Z,0.3nm,0.5s,baz=14,slow=4.9,SNR=2.2
comp=Z,0.3nm,0.5s
PPT Papeete 77.26 208 LR LR 02 04 48.7
comp=Z,97nm,18.9s,baz=67,slow=29
WMQ Urumqi 77.63 339 *eP* **P** **01 39 02.3 +0.5**
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ LR LR
comp=N,2μm,23.8s
WMQ LR LR
comp=E,1μm,14.1s
WMQ LR LR
comp=Z,160nm,24.1s
KBZ Khabaz 79.63 12 P **P** **01 39 13.8 +1.1**
comp=Z,3.2nm,1.0s,baz=345,slow=7.5,SNR=3.8
comp=Z,3.2nm,1.0s
GNI Garni 83.37 11 LR LR 02 19 19.2
comp=Z,46nm,18.8s,baz=322,slow=38
RAR Rarotonga 83.75 216 LR LR 02 12 36.1
comp=Z,71nm,18.9s,baz=188,slow=33
MSVF Nonsavu 89.60 237 LR LR 02 18 02.6
comp=Z,87nm,18.2s,baz=83,slow=34
PZH PanZhiHua 90.18 323 P **P** **01 40 02.0 -4.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,140nm,5.5s
HNR Honiara 91.83 256 LR LR 02 14 19.4
comp=Z,38nm,20.4s,baz=80,slow=31
TORD Torodi Ar. Bea 96.09 56 LR LR 02 21 28.2
comp=Z,72nm,19.1s,baz=331,slow=34
DBIC Dimbokro 98.51 65 LR LR 02 24 12.9
comp=Z,57nm,18.4s,baz=326,slow=35
ASAR Alice Springs 117.81 268 PKP **PKPdf** **01 45 52.0 0.0**
comp=Z,0.3nm,0.8s,baz=358,slow=2.8,SNR=2.7
VNA3 Neumayer Olymp 148.06 145 ⇑PKiKP **PKPbc** **01 46 50.7 +0.9**
comp=Z,5.6nm,0.8s
VNA1 Neumayer--Stat 148.44 144 ⇑PKiKP **PKPbc** **01 46 51.7 +1.0**
comp=Z,3.9nm,0.8s
VNA2 Neumayer--Watz 148.76 144 ⇑PKiKP **PKPbc** **01 46 52.0 +0.4**
comp=Z,4.1nm,0.6s,baz=303,slow=4.6
SNAA Sanae 150.28 146 ⇑PKiKP **PKPbc** **01 46 55.7 +0.4**
comp=Z,70nm,0.8s
SNAA Sanae 150.28 146 PKPbc **PKPbc** **01 46 55.4 +0.1**
comp=Z,3.5nm,0.9s,baz=293,slow=3.4,SNR=11
TROLL Troll, Antarti 151.95 146 ⇑PKiKP **PKiKP** **01 46 60.0 +0.3**
comp=Z,93nm,0.8s

*IDC **30** 01:37:07.2±0.7, 41°.28N×143°.38E, h0km, mb4.0/14, mbtmp3.9/19, ML3.2/5, MS2.8/3, Error ellipse: s-maj=18.1km s-min=15.9km az=83.0*
*JMA **30** 01:37:09.6±0.2, 41°.3N±0°.6×143°.2E±0°.7, h14km±2km, MV3.9/30, E OFF AOMORI PREF*
*NIED **30** 01:37:09.6, 41°.33N×143°.20E, h14km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}7.47; $M_{\theta\theta}$-4.96; $M_{\phi\phi}$-2.51; $M_{r\theta}$-1.16; $M_{\theta\phi}$-6.08; $M_{\phi r}$-2.72; Fault plane solution: $M_0$9.25000×10^{14} NP1: ϕ_s218.00000°, δ55.00000°, λ74.00000°. NP2:ϕ_s65.00000°, δ38.00000°, λ111.00000°.*

ISC 30 01:37:08.5±1.9, 41°.29N±0°.05×143°.32E±0°.07, h8km±11km, n37, σ1°.12/36, mb4.0/14, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.74**	**351**	⇓P	**Pg**	**01 37 22.7**	**0.0**
JEM				⇓*e*S	**Sg**	**01 37 32.4**	**+0.1**
JTHR	**Tokachihiroo**	**1.00**	**359**	P	**Pg**	**01 37 27.4**	**-0.3**
JTHR				S	**Sb**	**01 37 41.2**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.08**	**337**	⇓P	**Pg**	**01 37 28.5**	**-0.7**
JNBK				⇓*e*S	**Sb**	**01 37 43.2**	**-0.5**
JSHD	**Hidakashinhida**	**1.29**	**331**	P	**Pn**	**01 37 32.5**	**-0.3**
JCH	**Churui**	**1.32**	**1**	P	**Pn**	**01 37 33.1**	**-0.2**
JCH				*e*S	**Sb**	**01 37 49.5**	**-1.2**
JARK	**Aomorirokkasho**	**1.50**	**260**	*e*P	**Pn**	**01 37 34.9**	**-0.9**
JBT2	**Biratori 2**	**1.65**	**335**	P	**Pn**	**01 37 38.1**	**+0.3**
JBT2				*e*S	**Sn**	**01 37 58.1**	**-1.1**
JOB	**Onbets**	**1.66**	**13**	P	**Pn**	**01 37 37.9**	**+0.1**
JOT	**Ohata**	**1.71**	**274**	P	**Pn**	**01 37 38.1**	**-0.5**
JTM	**Tenmabayashi**	**1.78**	**254**	P	**Pn**	**01 37 39.8**	**+0.3**
JKB	**Kayabe**	**1.82**	**290**	*e*P	**Pn**	**01 37 39.4**	**-0.7**
ASAJ	**Asahikawa**	**2.88**	**350**	Pn	**Pn**	**01 37 56.0**	**+1.4**
	8.0nm,0.3s,baz=205,slow=9.7,SNR=17						
ASAJ				Sn	**Sn**	**01 38 31.5**	**+2.1**
	3.8nm,0.3s,baz=11,slow=33,SNR=4.0						
	33nm,0.4s						
MJAR	**Matsushiro Arr**	**6.19**	**222**	Pn	**Pn**	**01 38 41.9**	**+1.7**
	0.1nm,0.3s,baz=30,slow=13,SNR=7.8						
MJAR				LR	LR	01 41 34.9	
	comp=Z,50nm,18.7s,baz=15,slow=43						
	2.7nm,0.6s						
USRK	**Ussuriysk Ar.**	**8.83**	**293**	Pn	**Pn**	**01 39 18.6**	**+2.2**
	0.2nm,0.3s,baz=87,slow=15,SNR=2.1						
	1.7nm,0.7s						
KLR	**Kul'dur**	**11.37**	**318**	Pn	**Pn**	**01 39 53.5**	**+2.4**
	0.1nm,0.3s,baz=156,slow=14,SNR=2.5						
KLR				LR	LR	01 44 52.7	
	comp=Z,54nm,18.3s,baz=118,slow=41						
	1.2nm,0.8s						
KSRS	**Korea Array**	**12.51**	**257**	LR	LR	01 44 39.9	
	comp=Z,42nm,18.0s,baz=55,slow=36						
PETK	**Petropavlovsk-**	**15.30**	**35**	Pn	**Pn**	**01 40 42.7**	**-2.0**
	0.2nm,0.3s,baz=210,slow=7.9,SNR=1.8						
	7.2nm,1.0s						
SONM	**Songino Array**	**26.92**	**297**	P	**P**	**01 42 48.8**	**-1.3**
	0.6nm,0.6s,baz=81,slow=9.2,SNR=3.0						
	0.6nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.40**	**130**	T	T	02 14 24.4	
	baz=323,slow=76,SNR=323						
H11N1	**WAKE ISLAND Hy**	**29.41**	**130**	T	T	02 14 25.2	
	baz=323,slow=76,SNR=260						
H11N3	**WAKE ISLAND Hy**	**29.42**	**130**	T	T	02 14 25.8	
	baz=323,slow=76,SNR=240						
H11S1	**WAKE ISLAND Hy**	**30.25**	**132**	T	T	02 15 30.5	
	baz=325,slow=76,SNR=301						
H11S3	**WAKE ISLAND Hy**	**30.26**	**132**	T	T	02 15 30.2	
	baz=325,slow=76,SNR=254						
H11S2	**WAKE ISLAND Hy**	**30.27**	**132**	T	T	02 15 29.7	
	baz=325,slow=76,SNR=240						
ZALV	**Zalesovo Beam**	**40.27**	**309**	P	**P**	**01 44 46.3**	**+0.5**
	1.6nm,0.6s,baz=88,slow=9.8,SNR=5.2						
	1.6nm,0.6s						
MKAR	**Makanchi Array**	**43.25**	**299**	P	**P**	**01 45 11.8**	**+1.6**
	0.9nm,0.8s,baz=87,slow=9.4,SNR=3.9						
	0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**44.67**	**305**	P	**P**	**01 45 22.8**	**+1.3**
	2.2nm,0.3s,baz=78,slow=8.9,SNR=6.3						
	2.2nm,0.3s						
ILAR	**Eielson Array**	**45.13**	**35**	P	**P**	**01 45 24.6**	**-0.4**
	1.5nm,1.0s,baz=272,slow=7.6,SNR=9.7						
	1.5nm,1.0s						
BVAR	**Borovoye Array**	**48.89**	**310**	P	**P**	**01 45 54.1**	**-0.4**
	0.8nm,0.4s,baz=75,slow=9.3,SNR=6.2						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**61.49**	**190**	P	**P**	**01 47 25.1**	**-0.6**
	0.7nm,0.5s,baz=6.7,slow=6.8,SNR=17						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**65.21**	**190**	P	**P**	**01 47 50.6**	**+0.2**
	0.8nm,0.8s,baz=0.6,slow=6.3,SNR=7.8						
	0.8nm,0.8s						
FINES	**FINESS Array B**	**65.75**	**332**	P	**P**	**01 47 52.4**	**-1.0**
	3.6nm,0.9s,baz=46,slow=8.0,SNR=6.1						
	3.6nm,0.9s						
HFS	**Hagfors**	**70.82**	**336**	P	**P**	**01 48 24.2**	**-1.0**
	3.0nm,0.9s,baz=60,slow=8.5,SNR=5.8						
	3.0nm,0.9s						
NVAR	**Mina Array Bea**	**71.30**	**55**	P	**P**	**01 48 29.5**	**+0.7**
	1.1nm,0.9s,baz=269,slow=6.5,SNR=4.3						
	1.1nm,0.9s						
AKASG	**Malin Array Be**	**71.84**	**322**	P	**P**	**01 48 30.3**	**-1.2**
	0.2nm,0.2s,baz=44,slow=6.9,SNR=2.7						
	0.2nm,0.2s						
PDAR	**Pinedale Array**	**73.66**	**47**	P	**P**	**01 48 43.2**	**+0.4**
	0.4nm,0.5s,baz=194,slow=0.9,SNR=7.0						
	0.4nm,0.5s						
TXAR	**Lajitas Array**	**86.38**	**54**	P	**P**	**01 49 52.1**	**+0.5**
	0.8nm,0.8s,baz=302,slow=4.0,SNR=8.8						
	0.8nm,0.8s						

*THE **30** 01:54:13.5, 37°.60N×20°.68E, h0km±10km, ML2.8/6, Error ellipse: s-maj=13.1km s-min=1.0km az=203.0*
*ATH **30** 01:54:13.2, 37°.63N×20°.70E, h10km±3km, ML2.8/11, Manual Solution by M.Kolligri First location: 2018/11/30 01:55:11, This location: 2019/02/01 09:17:41 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*

ISC 30 01:54:13.3±1.8, 37°.61N±0°.07×20°.68E±0°.05, h5km±10km, n25, σ0°.80/42, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.12**	**63**	P	**Pg**	**01 54 16.0**	**+0.2**
KRI1				S	**Sg**	**01 54 17.4**	**-0.1**
	14μm,0.4s						
LTHK	**Lithakia**	**0.16**	**50**	P	**Pg**	**01 54 16.6**	**+0.1**
LTHK				S	**Sg**	**01 54 18.5**	**-0.2**
	13μm,0.1s						
LTHK	**Lithakia**	**0.16**	**50**	P	**Pg**	**01 54 16.2**	**-0.4**
LTHK				S	**Sg**	**01 54 18.3**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.47**	**9**	P	**Pg**	**01 54 22.4**	**-0.1**
PSDA	**Pessada-Kefalo**	**0.51**	**351**	P	**Pg**	**01 54 23.1**	**-0.1**
PSDA				S	**Sb**	**01 54 31.2**	**-1.3**
	1μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.51**	**351**	P	**Pg**	**01 54 23.1**	**-0.1**
PSDA				S	**Sg**	**01 54 30.7**	**+0.9**
VLS	**Valsamata**	**0.57**	**353**	P	**Pg**	**01 54 24.1**	**-0.3**
VLS				S	**Sg**	**01 54 32.8**	**+0.9**
	815nm,0.5s						
VLS	**Valsamata**	**0.57**	**353**	P	**Pg**	**01 54 23.8**	**-0.6**
VLS				S	**Sb**	**01 54 33.0**	**-1.3**
SMHA	**Samh**	**0.64**	**358**	P	**Pg**	**01 54 24.8**	**-0.9**
SMHA				S	**Sg**	**01 54 34.6**	**+0.5**
DMLN	**Damoulianata-K**	**0.68**	**339**	P	**Pg**	**01 54 26.2**	**-0.1**
DMLN				S	**Sb**	**01 54 36.6**	**-0.7**
	1μm,0.5s						
DMLN	**Damoulianata-K**	**0.68**	**339**	P	**Pg**	**01 54 26.3**	**0.0**
DMLN				S	**Sg**	**01 54 35.7**	**+0.6**
RLS	**Riolos of Patr**	**0.77**	**54**	P	**Pg**	**01 54 28.0**	**-0.1**
RLS				S	**Sb**	**01 54 40.0**	**+0.2**
	388nm,0.3s						
RLS	**Riolos of Patr**	**0.77**	**54**	P	**Pg**	**01 54 28.0**	**-0.1**
RLS				S	**Sg**	**01 54 38.5**	**+0.5**
AMT	**Artemida-Makis**	**0.82**	**95**	P	**Pg**	**01 54 28.8**	**-0.2**
AMT				S	**Sb**	**01 54 40.6**	**-0.7**
FSK	**Fiskardo**	**0.86**	**354**	P	**Pg**	**01 54 28.9**	**-0.9**
FSK				S	**Sg**	**01 54 40.9**	**0.0**
DRO	**Drossia**	**0.89**	**67**	P	**Pb**	**01 54 31.0**	**-0.1**
LKD2	**Lefkada island**	**1.18**	**359**	P	**Pg**	**01 54 34.9**	**-1.1**
LKD2				S	**Sg**	**01 54 50.3**	**-1.0**
TSLK	**Tsoukalades, L**	**1.22**	**359**	P	**Pg**	**01 54 35.6**	**-1.0**
TSLK				S	**Sg**	**01 54 51.2**	**-1.2**
GUR	**Goura**	**1.36**	**75**	P	**Pn**	**01 54 38.6**	**-0.3**
GUR				S	**Sg**	**01 54 55.0**	**-1.9**
MAKR	**Makrakomi, Fth**	**1.81**	**39**	P	**Pg**	**01 54 49.1**	**+1.1**
LTK	**Loutraki**	**1.86**	**76**	P	**Pb**	**01 54 48.0**	**+0.3**
AXAR	**Agios Charalam**	**1.94**	**53**	P	**Pb**	**01 54 49.1**	**0.0**
VLI	**Veliai**	**2.01**	**116**	P	**Pb**	**01 54 50.5**	**+0.2**
TYRN	**Tyrnavos**	**2.43**	**30**	P	**Pn**	**01 54 55.3**	**+1.7**
FNA	**Florina**	**3.22**	**9**	P	**Pn**	**01 55 05.9**	**+1.4**

NNC 30 02:00:49.7±2.4, 54°.61N×83°.64E, h0km, mb3.7, mpv2.9, 4C-4D, Error ellipse: s-maj=21.1km s-min=7.3km az=8.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.95**	**133**	⇓P	Pg	02 01 07.9	-0.1
	0.6nm,0.3s						
ZAA0				⇑S	Sb	02 01 21.4	-0.8
	4.3nm,0.3s						
KURK	**Kurchatov**	**4.95**	**220**	⇓Pg	Pg	02 02 22.5	-2.0
	3.9nm,0.9s						
KURK				⇑Sn	Sn	02 03 03.7	+0.5
	4.9nm,1.1s						
KURK				⇑Lg	Lg	02 03 29.4	
	17nm,1.1s						
KURBB	**Kurchatov Arra**	**5.06**	**220**	⇑Pg	Pg	02 02 23.5	-3.1
	5.2nm,1.0s,baz=40,slow=16						
KURBB				⇓Sn	Sn	02 03 05.9	0.0
	7.6nm,0.7s						
KURBB				⇓Lg	Lg	02 03 31.6	
	17nm,0.7s						

*IDC **30** 02:06:00.7±0.8, 56°.06N×120°.64W, h0km, mbtmp3.1/8, ML3.1/8, Error ellipse: s-maj=11.0km s-min=8.0km az=114.0*
*PGC **30** 02:06:02.5±0.0, 56°.06N×120°.69W, h6km, ML3.4/15, 24km southeast of Fort St. John, Bc British Columbia, Canada Induced.*

ISC 30 02:05:59.1±0.7, 56°.12N±0°.04×120°.72W±0°.04, h0km, n24, σ1°.91/34, British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMTB	**Bullhead Mount**	**0.79**	**266**	P	**Pb**	**02 06 17.0**	**+1.1**
BMTB				S	**Sb**	**02 06 28.0**	**+0.8**
WTMTA	**White Mountain**	**0.94**	**116**	P	**Pg**	**02 06 18.6**	**+1.5**
BDMTA	**Bald Mountain**	**1.66**	**141**	Pn	**Pn**	**02 06 30.9**	**+1.3**
BDMTA				Sg	**Sn**	**02 06 52.2**	**+0.5**
SWHSA	**Sweathouse Loo**	**2.57**	**117**	Pn	**Pn**	**02 06 43.6**	**+1.6**
FSJB	**Fort St James**	**2.63**	**232**	Pn	**Pn**	**02 06 44.4**	**+1.6**
FSJB				Sg	**Sg**	**02 07 23.4**	**-0.3**
BRLDA	**Berland Lookou**	**2.78**	**135**	Pn	**Pn**	**02 06 46.6**	**+1.6**
BRLDA				Sg	**Sb**	**02 07 24.5**	**+0.1**
STPRA	**Salt Prairie L**	**2.79**	**97**	Pn	**Pn**	**02 06 46.8**	**+1.7**
STPRA				Sg	**Sb**	**02 07 27.2**	**+2.6**
FNSB	**Fort Nelson**	**2.91**	**339**	Pn	**Pn**	**02 06 49.5**	**+2.8**
FNSB				Sn	**Sn**	**02 07 25.1**	**+2.7**
TOAD	**Toad River Com**	**3.67**	**320**	Pn	**Pn**	**02 06 59.2**	**+2.1**
UBRB	**Upper Baezaeko**	**3.78**	**213**	Pn	**Pn**	**02 06 60.0**	**+1.3**
KITB	**Kitimat**	**4.98**	**249**	Pn	**Pn**	**02 07 16.4**	**+1.3**
BUTB	**Butedale**	**5.44**	**239**	Pn	**Pn**	**02 07 22.4**	**+0.9**
DLBC	**Dease Lake**	**5.56**	**299**	Pn	**Pn**	**02 07 25.4**	**+2.3**
	0.3nm,0.3s,baz=132,slow=15,SNR=3.5						
DLBC				Lg	Lg	02 08 59.1	
	1.3nm,0.3s,baz=284,slow=13,SNR=6.4						
	1.1nm,0.4s						
LLLB	**Lillooet**	**5.56**	**188**	Pn	**Pn**	**02 07 25.4**	**+2.3**
LLLB				Sn	**Sn**	**02 08 27.6**	**-0.1**
GRIB	**Gribbell Islan**	**5.61**	**244**	Pn	**Pn**	**02 07 25.4**	**+1.6**
BBB	**Bella Bella**	**5.86**	**231**	Pn	**Pn**	**02 07 28.0**	**+0.9**
	0.2nm,0.3s,baz=41,slow=9.3,SNR=7.6						
BBB				Sn	**Sn**	**02 08 32.1**	**-2.8**
	0.5nm,0.3s,baz=187,slow=15,SNR=1.6						
BBB				Lg	Lg	02 09 05.2	
	2.2nm,0.3s,baz=301,slow=16,SNR=4.9						
	5.4nm,0.8s						
BBB	**Bella Bella**	**5.86**	**231**	Pn	**Pn**	**02 07 27.8**	**+0.6**
BNAB	**Bonilla**	**6.30**	**250**	Pn	**Pn**	**02 07 34.6**	**+1.4**
YKA	**Yellowknife Ar**	**7.12**	**24**	Pn	**Pn**	**02 07 44.0**	**-0.5**
	0.5nm,0.3s,baz=208,slow=16,SNR=11						
YKA				Sn	**Sn**	**02 09 03.4**	**-2.5**
	2.0nm,0.3s,baz=201,slow=24,SNR=7.1						
YKA				Lg	Lg	02 09 43.2	
	3.2nm,0.3s,baz=206,slow=32,SNR=5.9						
	0.4nm,0.3s						
NEW	**Newport**	**8.17**	**163**	Pn	**Pn**	**02 07 58.4**	**-0.5**
	0.1nm,0.3s,baz=344,slow=19,SNR=1.8						
NEW				Lg	Lg	02 10 14.5	
	0.6nm,0.3s,baz=64,slow=23,SNR=6.4						
	0.6nm,0.6s						
INK	**Inuvik**	**13.57**	**339**	Pn	**Pn**	**02 09 12.1**	**-0.4**
	0.1nm,0.3s,baz=153,slow=6.8,SNR=1.9						
INK				Sn	**Sn**	**02 11 39.6**	**-4.1**
	0.1nm,0.3s,baz=266,slow=5.0,SNR=3.6						
	0.5nm,0.6s						
PDAR	**Pinedale Array**	**15.18**	**147**	Pn	**Pn**	**02 09 34.3**	**-0.5**
	baz=16,slow=10,SNR=2.1						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**15.44**	**315**	Pn	**Pn**	**02 09 39.0**	**+1.1**
	baz=96,slow=13,SNR=2.9						
	0.2nm,0.7s						
ULM	**Lac du Bonnet**	**15.96**	**101**	Pn	**Pn**	**02 09 40.7**	**-4.1**
	0.3nm,0.3s,baz=310,slow=15,SNR=2.0						
	0.6nm,0.4s						

*ANF **30** 02:14:59.9±1.1, 56°.01N×120°.55W, h10km, Error ellipse: s-maj=11.6km s-min=4.8km az=141.0*
*IDC **30** 02:14:59.6±0.6, 56°.13N×120°.74W, h0km, mb3.7/7, mbtmp3.6/17, ML3.4/9, Error ellipse: s-maj=9.1km s-min=7.

BRLDA Berland Lookou 2.80 134 Pn **Pn** 02 15 45.5 +0.7
BRLDA Sg **Sb** 02 16 23.9 -0.5
STPRA Salt Prairie L 2.84 97 Pn **Pn** 02 15 45.5 +0.3
STPRA Sg **Sb** 02 16 25.9 +0.4
FNSB Fort Nelson 2.92 340 Pn **Pn** 02 15 48.6 +2.3
TOAD Toad River Com 3.66 321 Pn **Pn** 02 15 58.1 +1.6
TOAD Toad River Com 3.66 321 P **Pn** 02 15 58.3 +1.8
baz=137,SNR=88
TOAD S **Sn** 02 16 41.9 +1.6
baz=137
UBRB Upper Baezaeko 3.73 212 Pn **Pn** 02 15 59.1 +1.5
LIRD Liard River Hi 4.37 322 Pn **Pn** 02 16 07.9 +1.6
LIRD Liard River Hi 4.37 322 P **Pn** 02 16 08.0 +1.8
baz=137,SNR=66
LIRD S **Sn** 02 17 00.5 +2.6
baz=137
KOTAN Kotaneelee Air 4.40 338 P **Pn** 02 16 08.2 +1.5
baz=155,SNR=13
KOTAN S **Sn** 02 17 00.1 +1.5
baz=155
KITB Kitimat 4.93 249 Pn **Pn** 02 16 15.5 +1.6
KITB Sg **Sg** 02 17 35.8 -1.0
U35K Hyder 5.18 272 Sb **Sg** 02 17 43.8 -1.1
baz=85
T35M Bob Quinn 5.30 284 Pn **Pn** 02 16 21.3 +2.2
T35M Bob Quinn 5.30 284 P **Pn** 02 16 21.0 +1.9
baz=96,SNR=7.6
T35M Sb **Sg** 02 17 46.9 -1.9
baz=96
BUTB Butedale 5.39 239 Pn **Pn** 02 16 21.6 +1.3
BUTB Sg **Sg** 02 17 48.7 -2.9
DLBC Dease Lake 5.53 299 Pn **Pn** 02 16 24.4 +2.2
0.9nm,0.3s,baz=110,slow=11,SNR=24
DLBC Lg Lg 02 17 52.1
0.9nm,0.3s,baz=18,slow=20,SNR=1.3
5.8nm,0.5s
DLBC Dease Lake 5.53 299 Pn **Pn** 02 16 24.4 +2.2
DLBC Dease Lake 5.53 299 P **Pn** 02 16 24.1 +1.8
baz=112,SNR=6.9
DLBC Sb **Sg** 02 17 54.0 -2.1
baz=112
LLLB Lillooet 5.53 187 Pn **Pn** 02 16 23.4 +1.2
GRIB Gribbell Islan 5.56 244 Pn **Pn** 02 16 24.6 +2.0
RUBB Prince Rupert 5.69 256 Sg **Sg** 02 17 56.4 -4.8
GRNB Grenville Isla 5.73 251 Pn **Pn** 02 16 26.5 +1.6
GRNB Sg **Sg** 02 17 57.6 -5.0
BBB Bella Bella 5.81 231 Pn **Pn** 02 16 26.8 +0.9
0.7nm,0.3s,baz=61,slow=17,SNR=20
BBB Sn **Sn** 02 17 31.2 -2.0
1.9nm,0.3s,baz=285,slow=9.3,SNR=3.3
BBB Lg Lg 02 18 02.5
5.0nm,0.3s,baz=136,slow=22,SNR=5.7
3.0nm,0.4s
BBB Bella Bella 5.81 231 Pn **Pn** 02 16 26.7 +0.7
WTLY Watson Lake, Y 5.85 317 P **Pn** 02 16 27.7 +1.2
baz=130,SNR=9.2
WTLY S **Sn** 02 17 33.7 -0.5
baz=130
S34M Telegraph Cree 5.93 292 Sb **Sg** 02 18 06.0 -3.0
baz=104
V35K Ketchikan 6.16 267 Sb **Sg** 02 18 11.2 -5.1
baz=79
BNAB Bonilla 6.25 249 Pn **Pn** 02 16 33.5 +1.5
BNAB Sg **Sg** 02 18 13.8 -5.4
R33M Jennings River 6.37 306 P **Pn** 02 16 35.0 +1.2
baz=117,SNR=6.8
R33M Sb **Sg** 02 18 17.9 -5.1
baz=117
WRAK Wrangell Islan 6.44 278 P **Pn** 02 16 36.8 +2.1
baz=89
WRAK Sb **Sg** 02 18 22.0 -3.3
baz=89
Q32M Nakina River 6.81 300 P **Pn** 02 16 41.8 +1.8
baz=110
Q32M Sb **Sg** 02 18 33.9 -3.3
baz=110
U33K Whale Pass 6.89 275 Sb **Sg** 02 18 33.0 -6.7
baz=86
CRAG Craig 6.97 270 Sb **Sg** 02 18 35.0 -7.5
baz=80
YKA Yellowknife Ar 7.16 24 Pn **Pn** 02 16 41.9 -2.7
1.3nm,0.3s,baz=199,slow=13,SNR=22
YKA Sn **Sn** 02 18 01.1 -5.4
8.6nm,0.3s,baz=142,slow=30,SNR=8.1
YKA Lg Lg 02 18 40.6
6.3nm,0.3s,baz=204,slow=29,SNR=6.4
1.3nm,0.4s
WRGLY Wrigley 7.29 350 P **Pn** 02 16 47.9 +1.7
baz=168,SNR=7.5
WRGLY S **Sn** 02 18 11.2 +1.7
baz=168
P33M Teslin, Yukon 7.57 308 Sb **Sg** 02 18 55.5 -6.2
baz=118
P32M Atlin 7.73 302 Sb Sb 02 18 57.3 +11
baz=112
NEW Newport 8.16 162 Pn **Pn** 02 16 58.3 0.0
0.3nm,0.3s,baz=349,slow=14,SNR=2.8
NEW Lg Lg 02 19 13.9
3.3nm,0.3s,baz=233,slow=22,SNR=7.4
1.0nm,0.3s
FARO Faro, Yukon 8.90 319 P **Pn** 02 17 09.6 +1.2
baz=128
PLBC Pleasant Camp 8.97 299 P **Pn** 02 17 10.4 +1.1
baz=106
M31M Drury Creek, Y 9.27 317 P **Pn** 02 17 15.1 +1.5
baz=125
N31M Braeburn, Yuko 9.46 311 P **Pn** 02 17 17.5 +1.4
baz=118
N30M Aishikik Lake 10.01 309 P **Pn** 02 17 24.1 +0.5
baz=115
M30M Minto, Yukon 10.41 315 P **Pn** 02 17 30.7 +1.5
baz=122
J30M Hart River 11.43 324 P **Pn** 02 17 45.6 +2.4
baz=131,SNR=9.2
I30M Mount Dempster 11.88 327 P **Pn** 02 17 52.0 +2.7
baz=133,SNR=18
DAWY Dawson 12.20 318 P **Pn** 02 17 53.8 +0.2
baz=122
L27K Beaver Creek, 12.69 312 P **Pn** 02 18 03.0 +2.8
baz=114
EPYK Eagle Plains 12.79 330 P **Pn** 02 18 04.0 +2.4
baz=136
F31M Tsiigehtchic 12.89 337 P **Pn** 02 18 04.8 +2.0
baz=146
G30M tAoh Zraii Nji 13.11 333 P **Pn** 02 18 06.9 +1.0
baz=139
H29M Whitestone 13.17 328 P **Pn** 02 18 09.0 +2.3
baz=132
I28M Miner Creek 13.18 323 P **Pn** 02 18 09.2 +2.2
baz=126
K27K Chicken 13.21 316 P **Pn** 02 18 11.0 +3.7
baz=117
C36M Paulatuk 13.39 355 P **Pn** 02 18 09.2 -0.4
baz=172
F30M Barrier River 13.49 335 P **Pn** 02 18 12.2 +1.1
baz=142
G29M Pine Creek 13.54 330 P **Pn** 02 18 13.8 +1.9
baz=135
INK Inuvik 13.57 340 Pn **Pn** 02 18 10.2 -1.9
0.2nm,0.3s,baz=156,slow=9.1,SNR=7.3
INK Sn Sn 02 20 36.5 -6.9
0.3nm,0.3s,baz=254,slow=24,SNR=2.4
1.3nm,0.6s
INK Inuvik 13.57 340 P **Pn** 02 18 12.7 +0.5
baz=148
I27K Kandik River 13.84 322 P **Pn** 02 18 18.2 +2.2
baz=124
SCRK Sand Creek 13.95 314 P **Pn** 02 18 19.9 +2.4
baz=114
H27K Steamboat Moun 14.17 324 P **Pn** 02 18 21.8 +1.4
baz=126
RIDG Independent Ri 14.21 312 P **Pn** 02 18 22.8 +1.8
baz=112
F28M Old Crow 14.55 330 P **Pn** 02 18 26.5 +0.9
baz=133
G27K Doyon Strip 14.56 326 P **Pn** 02 18 26.0 +0.3
baz=128
E29M Blow River 14.60 334 P **Pn** 02 18 27.0 +0.8
baz=139
J25K Salcha River, 14.76 315 P **Pn** 02 18 29.9 +1.4
baz=114
E28M Babbage River 15.16 333 P **Pn** 02 18 37.7 +3.8
baz=136
PDAR Pinedale Array 15.18 147 Pn **Pn** 02 18 34.2 -0.2
baz=357,slow=14,SNR=2.9
0.2nm,0.6s
ILAR Eielson Array 15.42 315 Pn **Pn** 02 18 37.0 -0.2
0.8nm,0.8s,baz=121,slow=12,SNR=12
ILAR Lg Lg 02 23 06.7
baz=324,slow=33,SNR=1.8
E27K Coleen River 15.42 330 P **Pn** 02 18 40.7 +3.4
baz=132
D28M Stokes Point 15.52 336 P **P** 02 18 43.2 +0.2
baz=140
ELK Elko 15.79 164 Pn **Pn** 02 18 42.4 0.0
0.1nm,0.3s,baz=341,slow=14,SNR=2.0
ELK Lg Lg 02 23 13.7
0.1nm,0.3s,baz=129,slow=23,SNR=1.1
0.2nm,0.3s
F26K Sheenjek River 15.87 326 P **Pn** 02 18 44.2 +1.1
baz=126
ULM Lac du Bonnet 16.00 101 Pn **Pn** 02 18 40.5 -4.4
0.7nm,0.3s,baz=305,slow=12,SNR=6.8
ULM Lg Lg 02 23 12.7
0.3nm,0.3s,baz=225,slow=15,SNR=2.3
3.4nm,0.7s
A36M Sachs Harbour 16.07 355 P **Pn** 02 18 43.4 -2.2
baz=171
NVAR Mina Array Bea 17.75 174 P **P** 02 19 09.1 +0.9
0.1nm,0.3s,baz=353,slow=10,SNR=4.9
0.7nm,0.7s
RES Resolute Bay 21.19 19 P **P** 02 19 44.8 -0.5
2.8nm,0.8s,baz=222,slow=14,SNR=4.6
RES S S 02 23 28.6 -13
0.9nm,0.4s,baz=63,slow=16,SNR=3.1
RES Lg Lg 02 25 54.0
0.3nm,0.3s,baz=140,slow=16,SNR=3.6
2.8nm,0.8s
TXAR Lajitas Array 29.39 148 P **P** 02 21 04.3 +0.8
0.2nm,0.5s,baz=353,slow=9.3,SNR=3.1
0.2nm,0.5s
FINES FINESS Array B 59.95 18 P **P** 02 25 07.1 +1.0
5.0nm,1.1s,baz=14,slow=6.4,SNR=3.4
5.0nm,1.1s
ESDC Sonseca Array 70.65 47 P **P** 02 26 16.8 +0.9
0.7nm,0.8s,baz=327,slow=6.8,SNR=5.5
0.7nm,0.8s
AKASG Malin Array Be 70.71 20 P **P** 02 26 17.7 +1.8
0.3nm,0.5s,baz=351,slow=6.7,SNR=1.9
0.3nm,0.5s
KURBB Kurchatov Arra 72.45 347 P **P** 02 26 27.6 +1.2
0.4nm,0.6s,baz=13,slow=5.4,SNR=2.1
0.4nm,0.6s
MKAR Makanchi Array 75.67 344 P **P** 02 26 45.8 +0.5
0.1nm,0.4s,baz=359,slow=4.1,SNR=1.3
0.1nm,0.4s

MOS ***30*** *02:26:04.1±1.2,36°.52N×70°.59E,h205km,mb4.1/6,Error ellipse: s-maj=10.8km s-min=5.5km az=79.9*
NEIC ***30*** *02:26:05.1±1.9,36°.52N±0°.04×70°.57E±0°.09,h205km±8km, mb4.3/8,Error ellipse: s-maj=10.3km s-min=5.8km az=78.0*
IDC ***30*** *02:26:06.7±1.7,36°.55N×70°.70E,h221km±16km,mb3.5/13, mbtmp4.2/20,Error ellipse: s-maj=12.1km s-min=10.4km az=68.0*
NNC ***30*** *02:26:09.4±1.9,36°.93N×70°.64E,h210km±24km,mb3.9, mpv4.9,Error ellipse: s-maj=19.0km s-min=10.0km az=28.0*

ISC 30 02:26:04.9±0.4,**36°.56N**±0°.04×**70°.55E**±0°.05,**h204**km,**n158,** σ1°**57**/173,**mb3.9**/18,**4C-3D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.36**	**212**	Pn	**Pn**	**02 26 47.0**	**-0.7**
KBL	**Kabul**	**2.36**	**212**	P	**Pn**	**02 26 47.2**	**-0.7**
SNR=57							
KBL				S	**S**	**02 27 18.5**	**-2.1**
KBL	**Kabul**	**2.36**	**212**	PN	**Pn**	**02 26 47.1**	**-0.7**
SIMJ	**Simiganj**	**2.42**	**330**		**Pn**	**02 26 48.6**	**+0.3**
GAR	**Garm**	**2.44**	**356**		**Pn**	**02 26 49.1**	**+0.6**
DRK	**Karamyk**	**3.08**	**18**		**Pn**	**02 26 56.8**	**+0.9**
DRK	**Karamyk**	**3.08**	**18**	PN	**Pn**	**02 26 56.8**	**+0.9**
BTK	**Batken**	**3.50**	**3**	Pn	**Pn**	**02 27 02.3**	**+1.6**
BTK	**Batken**	**3.50**	**3**	PN	**Pn**	**02 27 02.3**	**+1.6**
NIL	**Nilore**	**3.65**	**142**		**Pn**	**02 27 02.4**	**-0.2**
NIL	**Nilore**	**3.65**	**142**	PN	**Pn**	**02 27 02.4**	**-0.2**
ARSB	**Arslanbob**	**5.12**	**21**		**Pn**	**02 27 20.9**	**-0.1**
ARSB	**Arslanbob**	**5.12**	**21**	PN	**Pn**	**02 27 20.9**	**-0.1**
KSH	**Kashi**	**5.20**	**54**	P	**Pn**	**02 27 17.5**	**-4.5**
KSH				S	S	02 28 13.0	-10
KSH				pmax	pmax		
comp=Z,350nm,0.8s							
JMU	**Jammu**	**5.25**	**136**	*e*P	**Pn**	**02 27 25.7**	**+3.1**
JMU				IAML		02 28 21.0	
comp=E,228nm,0.7s							
JMU				*e*S	**S**	**02 28 30.1**	**+6.5**
JMU				IAML		02 28 36.9	
comp=E,234nm,0.1s							
AML	**Almayashu**	**6.07**	**23**	P	**Pn**	**02 27 33.6**	**+0.1**
SNR=362							
DHRM	**DHARAMSHALA**	**6.41**	**130**	*e*P	**Pn**	**02 27 37.4**	**-0.4**
DHRM				IAML		02 28 50.1	
comp=E,681nm,0.5s							
DHRM				*e*S	**S**	**02 28 50.3**	**-0.7**
DHRM				IAML		02 28 50.4	
comp=E,399nm,0.5s							
UCH	**Uchtor**	**6.44**	**27**	P	**Pn**	**02 27 38.1**	**-0.1**
SNR=40							
NRN	**Naryn**	**6.46**	**39**		**Pn**	**02 27 36.8**	**-1.6**
NRN	**Naryn**	**6.46**	**39**	PN	**Pn**	**02 27 36.8**	**-1.6**
KK31	**Karatay Array**	**6.53**	**360**	⇓P	**Pn**	**02 27 39.3**	**+0.3**
comp=E,14nm,0.2s,baz=167,slow=9.4,SNR=714							
KK31				S	**S**	**02 28 49.9**	**-3.7**
comp=E,109nm,0.5s,baz=198,slow=17,SNR=35							
KKAR	**Karatay Array**	**6.53**	**360**	Pn	**Pn**	**02 27 39.3**	**+0.2**
KKAR	**Karatay Array**	**6.53**	**360**	Pn	**Pn**	**02 27 39.2**	**+0.2**
KKAR	**Karatay Array**	**6.53**	**360**	PN	**Pn**	**02 27 39.2**	**+0.2**
EKS2	**Erkin-Say**	**6.58**	**21**	P	**Pn**	**02 27 40.2**	**+0.5**
SNR=76							
AAK	**Ala-Archa**	**6.79**	**25**	P	**Pn**	**02 27 42.0**	**-0.5**
SNR=28							
AAK	**Ala-Archa**	**6.79**	**25**	*i* Pn	**Pn**	**02 27 43.0**	**+0.4**
SNR=134							
AAK	**Ala-Archa**	**6.79**	**25**	P	**Pn**	**02 27 42.9**	**+0.4**
comp=E,66nm,0.6s,baz=207,slow=8.5,SNR=161							
AAK				S	**S**	**02 28 56.6**	**-3.2**
comp=E,27nm,0.6s,baz=214,slow=7.1,SNR=3.6							
AAK	**Ala-Archa**	**6.79**	**25**	P	**Pn**	**02 27 42.9**	**+0.4**
AAK				S	**S**	**02 28 58.9**	**-0.9**
KBK	**Karagaybulak**	**6.97**	**28**	P	**Pn**	**02 27 45.3**	**+0.5**
SNR=85							
FRU1	**Bishkek**	**6.99**	**25**		**Pn**	**02 27 45.5**	**+0.5**
FRU1	**Bishkek**	**6.99**	**25**	PN	**Pn**	**02 27 45.5**	**+0.5**
BHK	**Bhakra**	**7.08**	**135**	*ex*	**Pn**	**02 27 44.0**	**-2.2**
BHK				*ex*	**S**	**02 29 00.3**	**-6.2**
HRA	**Herat**	**7.12**	**255**	Pn	**Pn**	**02 27 46.8**	**-0.1**
ULHL	**Ulahol**	**7.18**	**36**	P	**Pn**	**02 27 47.9**	**+0.2**
SNR=22							
CHMS	**Chumysh**	**7.20**	**25**	P	**Pn**	**02 27 47.6**	**-0.1**
SNR=56							
CHMS	**Chumysh**	**7.20**	**25**	⇓P	**Pn**	**02 27 47.5**	**-0.1**
comp=E,102nm,0.8s							
CHMS				⇑S	**S**	**02 29 06.4**	**-2.9**
comp=E,52nm,0.6s							
USP	**Ospenovka**	**7.35**	**23**	P	**Pn**	**02 27 49.6**	**-0.1**
SNR=26							
TKM2	**Tokmak 2**	**7.45**	**30**	P	**Pn**	**02 27 51.2**	**+0.2**
SNR=54							
TKM2	**Tokmak 2**	**7.45**	**30**	⇓P	**Pn**	**02 27 51.3**	**+0.2**
comp=E,134nm,0.6s							
KDJ	**Kajisay**	**7.57**	**41**		**Pn**	**02 27 52.6**	**0.0**
KDJ	**Kajisay**	**7.57**	**41**	PN	**Pn**	**02 27 52.6**	**0.0**
KST	**Kastek**	**7.70**	**31**	Lg	Lg	02 29 16.7	
comp=E,41nm,0.8s							
SMLA	**Simla**	**7.72**	**133**	*e*P	**Pn**	**02 27 52.5**	**-2.1**
SMLA				*e*S	**S**	**02 29 15.5**	**-6.3**
SMLA				IAML		02 29 18.2	
comp=E,100nm,0.2s							
SMLA				IAML		02 29 18.8	
comp=E,135nm,0.5s							
DGS	**Degeres**	**7.78**	**29**	P	**Pn**	**02 27 55.2**	**-0.1**
comp=E,26nm,0.6s							
HNLY	**HANLEY**	**7.90**	**116**	*e*P	**Pn**	**02 27 56.4**	**-1.0**
HNLY				*ex*	x	02 29 11.2	
MTBS	**Maitube**	**7.96**	**33**	P	**Pn**	**02 27 58.1**	**+0.5**
comp=E,77nm,0.7s							
TNSS	**Tian-Shan**	**8.12**	**35**	P	**Pn**	**02 27 60.0**	**-0.1**
comp=E,35nm,0.6s							
WUS	**Wushi**	**8.19**	**53**		**Pn**	**02 28 00.1**	**-0.6**
AAA	**Alma-Ata**	**8.24**	**34**	P	**Pn**	**02 28 02.3**	**+1.0**
comp=E,113nm,0.3s							
MDOK	**Medeo**	**8.27**	**35**	⇑P	**Pn**	**02 28 02.0**	**+0.3**
comp=E,92nm,1.0s							
KOTS	**Kotyrbulak**	**8.35**	**35**	P	**Pn**	**02 28 03.9**	**+1.1**
comp=E,150nm,0.8s							
PRZ	**Przheval'sk**	**8.47**	**43**		**Pn**	**02 28 04.7**	**+0.4**
PRZ	**Przheval'sk**	**8.47**	**43**	PN	**Pn**	**02 28 04.7**	**+0.4**
KTBS	**Karatobe**	**8.54**	**31**	P	**Pn**	**02 28 04.3**	**-0.9**
comp=E,7.6nm,0.5s							
BTLS	**Baital**	**8.87**	**16**	P	**Pn**	**02 28 09.1**	**-0.2**
comp=E,10.0nm,0.6s							
ZHN	**Zhinishke**	**8.96**	**40**	P	**Pn**	**02 28 10.5**	**-0.1**
comp=E,29nm,0.4s							
UZB	**Uzynbulak**	**9.25**	**42**	P	**Pn**	**02 28 14.3**	**-0.2**
comp=E,23nm,0.5s							
ARXS	**Arharly**	**9.44**	**34**	P	**Pn**	**02 28 15.9**	**-0.9**
comp=E,30nm,0.6s							
ARXS	**Arharly**	**9.44**	**34**	*e*P	**Pn**	**02 28 15.6**	**-1.2**
SHLS	**Shalkode**	**9.50**	**43**	P	**Pn**	**02 28 20.5**	**+2.8**
comp=E,23nm,0.7s							
NDI	**New Delhi**	**9.66**	**143**	*e*P	**Pn**	**02 28 17.3**	**-2.4**
KUDL	**Kundal**	**9.78**	**147**	*e*P	**Pn**	**02 28 18.5**	**-2.7**
KUDL				*e*S	S	02 29 55.3	-16
KUDL				IAML		02 30 01.4	
comp=E,31nm,0.3s							
KUDL				IAML		02 30 04.8	
comp=N,31nm,0.4s							
DJR	**Jarkent**	**10.47**	**39**	P	**Pn**	**02 28 29.6**	**-0.5**
comp=N,4.7nm,0.7s							
AJM	**Ajmer**	**10.64**	**160**	*e*P	Pn	02 28 27.6	-4.8
LGTI	**Lohaghat**	**10.79**	**128**	*e*P	**Pn**	**02 28 31.1**	**-3.2**
KAPS	**Kapalarasan**	**10.96**	**35**	P	**Pn**	**02 28 37.0**	**+0.6**
comp=N,14nm,0.4s							
OTUK	**Ortayu**	**11.75**	**6**	P	**Pn**	**02 28 46.6**	**+0.2**
comp=N,5.5nm,0.9s							
MAKZ	**Makanchi**	**13.32**	**36**	P	**Pn**	**02 29 06.3**	**+0.2**
MAKZ	**Makanchi**	**13.32**	**36**	P	**Pn**	**02 29 06.3**	**+0.2**
MK31	**Makanchi Array**	**13.46**	**37**	⇑P	**Pn**	**02 29 07.6**	**-0.2**
comp=N,20nm,0.7s,baz=218,slow=13,SNR=90							
MK31	**Makanchi Array**	**13.46**	**37**	P	**Pn**	**02 29 07.8**	**0.0**
MK31	**Makanchi Array**	**13.46**	**37**	P	**Pn**	**02 29 07.8**	**0.0**
MKAR	**Makanchi Array**	**13.46**	**37**	P	**Pn**	**02 29 07.9**	**+0.1**
comp=N,21nm,0.8s,baz=219,slow=15,SNR=67							
BHPL	**Bhopal**	**14.54**	**154**	*ex*	**Pn**	**02 29 23.5**	**+2.0**
AB31	**Akbulak array**	**14.86**	**332**	P	**Pn**	**02 29 24.6**	**-0.4**
comp=N,3.7nm,0.5s,baz=150,slow=9.4,SNR=140							
ABKAR	**Akbulak array**	**14.86**	**332**		**Pn**	**02 29 25.0**	**0.0**
ABKAR	**Akbulak array**	**14.86**	**332**	P	**Pn**	**02 29 24.8**	**-0.2**
WMQ	**Urumqi**	**14.96**	**56**	*e*P	**P**	**02 29 27.0**	**-0.1**
WMQ				pmax	pmax		
comp=Z,24nm,0.7s							
KURBB	**Kurchatov Arra**	**15.18**	**20**	P	**Pn**	**02 29 27.8**	**-1.1**
comp=Z,3.5nm,0.5s,baz=209,slow=11,SNR=21							
KURK	**Kurchatov**	**15.29**	**20**		**Pn**	**02 29 29.8**	**-0.5**
KURK				IAmb	IAmb	02 29 33.2	
comp=Z,7.3nm,0.7s							
KURK	**Kurchatov**	**15.29**	**20**	P	**Pn**	**02 29 29.8**	**-0.5**
KURK				pmax	pmax		
comp=Z,7.0nm,0.7s							
BANOM	**Banah**	**16.14**	**233**	*i* P	**P**	**02 29 38.5**	**-1.7**
SNR=9.7							
BANOM	**Banah**	**16.14**	**233**	P	**P**	**02 29 40.1**	**0.0**
SHME	**Shamm**	**16.15**	**234**	P	**Pn**	**02 29 40.6**	**-0.2**
BVA0	**Borovoye Array**	**16.46**	**360**	P	**Pn**	**02 29 44.6**	**+0.3**
comp=Z,3.5nm,0.8s,baz=157,slow=12,SNR=9.9							
BVAR	**Borovoye Array**	**16.46**	**360**	P	**P**	**02 29 43.7**	**+0.3**
comp=Z,4.0nm,0.6s,baz=156,slow=11,SNR=12							
BVAR				S	**S**	**02 32 42.4**	**-2.8**
comp=Z,1.1nm,0.5s,baz=154,slow=24,SNR=2.4							
BRVK	**Borovoye**	**16.50**	**359**	P	**Pn**	**02 29 45.3**	**+0.6**
BRVK	**Borovoye**	**16.50**	**359**	P	**Pn**	**02 29 45.3**	**+0.6**
BRVK				pmax	pmax		
comp=Z,5.0nm,1.0s							
AKTO	**Aktyubinsk**	**16.55**	**331**	P	**Pn**	**02 29 46.8**	**+1.4**
comp=Z,14nm,0.6s,baz=139,slow=8.2,SNR=48							
AKTO				S	**S**	**02 32 43.6**	**-3.3**
comp=Z,2.0nm,0.8s,baz=226,slow=22,SNR=2.0							
MDH	**Madha**	**16.58**	**231**	*i* P	**P**	**02 29 42.0**	**-2.9**
SNR=6.3							
MDH	**Madha**	**16.58**	**231**	P	**P**	**02 29 45.2**	**+0.2**
SNR=6.3							
MASF	**Masafi**	**16.61**	**232**	P	**P**	**02 29 45.7**	**+0.3**
MSFE	**Esma-Masafi**	**16.62**	**232**	*i* P	**P**	**02 29 44.5**	**-1.0**
SNR=7.8							
WSAR	**Wadi Sarin**	**16.80**	**221**	P	**P**	**02 29 48.0**	**+0.5**
comp=Z,5.2nm,0.6s,baz=72,slow=10,SNR=12							
UOSS	**Minazif**	**16.89**	**231**	P	**P**	**02 29 48.3**	**-0.1**
UOSS				IAmb	IAmb	02 29 52.0	
comp=Z,14nm,0.7s							
UOSS	**Minazif**	**16.89**	**231**	*i* P	**P**	**02 29 46.5**	**-1.9**
SNR=11							
UOSS	**Minazif**	**16.89**	**231**	P	**P**	**02 29 48.2**	**-0.2**
HATD	**Hatta, Dubai**	**17.02**	**231**	*i* P	**P**	**02 29 46.9**	**-3.0**
SNR=9.5							
HATD	**Hatta, Dubai**	**17.02**	**231**	P	**Pn**	**02 29 51.1**	**-0.2**
ASHO	**Ashiyiah**	**17.17**	**230**	*i* P	**P**	**02 29 50.1**	**-1.5**
SNR=27							
ASHO	**Ashiyiah**	**17.17**	**230**	P	**Pn**	**02 29 52.3**	**-0.7**
SNR=27							
ASHO				P	**Pn**	**02 29 52.4**	**-0.7**
SNR=17							
NAZ	**Nazwa, Dubai**	**17.20**	**232**	*i* P	**P**	**02 29 51.2**	**-0.6**
SNR=5.5							
NAZ	**Nazwa, Dubai**	**17.20**	**232**	P	**Pn**	**02 29 52.9**	**-0.5**
SMDO	**Samad**	**17.26**	**222**	P	**P**	**02 29 52.3**	**-0.3**
SOHO	**SOHO**	**17.29**	**228**	P	**P**	**02 29 52.9**	**+0.1**
ASUD	**Al Ashush, Dub**	**17.67**	**232**	*i* P	**P**	**02 29 56.7**	**-0.2**
SNR=6.9							
ASUD	**Al Ashush, Dub**	**17.67**	**232**	P	**Pn**	**02 29 58.7**	**-0.2**
SNR=6.9							
JMDO	**Jabal Madar**	**17.79**	**221**	P	**Pn**	**02 29 59.8**	**-0.5**
ALNE	**Al Ain**	**17.82**	**230**	*i* P	**P**	**02 29 57.5**	**-1.0**
SNR=12							
ALNE	**Al Ain**	**17.82**	**230**	P	**P**	**02 29 59.3**	**+0.7**
SNR=6.4							
ARQ	**Araqi**	**17.90**	**226**	P	**Pn**	**02 30 00.6**	**-1.0**
SNR=11							
AJN	**Ajban**	**17.93**	**233**	P	**P**	**02 30 00.3**	**+0.5**
BSY	**Bisya**	**17.98**	**224**	P	**Pn**	**02 30 01.9**	**-0.7**
AKT	**Akhty**	**18.38**	**292**	*e*P	**P**	**02 30 04.0**	**-0.6**
AKT				*e*S	**S**	**02 33 20.8**	**-3.0**
AKT				pmax	pmax		
comp=Z,52nm,1.5s							
MHTO	**MHTO**	**19.01**	**219**	P	**P**	**02 30 12.2**	**+0.7**
JRN	**Qarnain Island**	**19.09**	**238**	P	**P**	**02 30 11.8**	**-0.4**
GHWR	**Ruwais**	**19.73**	**235**	P	**P**	**02 30 18.5**	**-0.6**
SHMA	**Al-Shehemyia**	**19.83**	**243**	P	**P**	**02 30 20.0**	**-0.2**
SNR=20							
MZR	**Muzera**	**20.01**	**232**	P	**P**	**02 30 21.7**	**-0.5**
ZAA0	**Zalesovo Array**	**20.01**	**25**	P	**P**	**02 30 22.8**	**+0.9**
ZAA0				IAmb	IAmb	02 30 23.8	
comp=Z,9.2nm,0.8s							
ZALV	**Zalesovo Beam**	**20.01**	**25**	P	**P**	**02 30 22.8**	**+0.9**
ZALV	**Zalesovo Beam**	**20.01**	**25**	P	**P**	**02 30 23.1**	**+1.2**
comp=Z,6.5nm,0.4s,baz=218,slow=11,SNR=28							
ZALV				S	**S**	**02 33 53.8**	**-1.5**
comp=Z,1.4nm,0.7s,baz=218,slow=17,SNR=2.1							
ZALV	**Zalesovo Beam**	**20.01**	**25**	*i* P	**P**	**02 30 23.1**	**+1.2**
ZALV				pmax	pmax		
comp=Z,6.0nm,0.4s							
SAKB	**Bahrain**	**20.06**	**244**	P	**P**	**02 30 22.8**	**+0.1**
TRNA	**Turayna**	**20.35**	**240**	P	**P**	**02 30 24.5**	**-1.3**
SNR=13							
SLWR	**Sila**	**20.45**	**238**	P	**P**	**02 30 25.4**	**-1.5**
SMRA	**Abu-Samra**	**20.61**	**241**	P	**P**	**02 30 27.6**	**-1.0**
SNR=5.4							
ARTI	**Arti**	**21.47**	**341**	P	**P**	**02 30 40.1**	**+2.9**
comp=Z,2.5nm,0.7s,baz=155,slow=11,SNR=5.8							
ARTI				S	**S**	**02 34 19.9**	**-1.7**
comp=Z,0.4nm,0.3s,baz=29,slow=18,SNR=1.2							
comp=Z,2.5nm,0.7s							
ARTI	**Arti**	**21.47**	**341**	*c i* P	**P**	**02 30 38.8**	**+1.6**
ARTI				*PP	**pP**	**02 31 08.2**	**-4.1**
ARTI						02 31 41.1	
ARTI				S	**S**	**02 34 24.0**	**+2.4**
ARTI				pmax	pmax		
comp=Z,72nm,5.3s							
KBZ	**Khabaz**	**22.25**	**297**	P	**P**	**02 30 46.7**	**+1.8**
comp=Z,0.7nm,0.7s,baz=95,slow=11,SNR=1.0							
comp=Z,0.7nm,0.7s							
BELG	**Belogornoye**	**22.62**	**322**	*

comp=Z,8.1nm,1.3s
RAYN Ar Rayn 25.19 246 P **P 02 31 12.5 +0.7**
RAYN Ar Rayn 25.19 246 P **P 02 31 12.2 +0.3**
RAYN pmax pmax
comp=Z,8.0nm,1.3s
PZH PanZhiHua 28.31 102 P **P 02 31 41.0 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.7s
CMAR Chiang Mai Arr 30.80 118 P **P 02 32 02.0 +0.4**
comp=Z,1.9nm,0.3s,baz=306,slow=7.7,SNR=8.6
comp=Z,1.9nm,0.3s
HHC Hu-ho-hao-te 32.08 70 *e*P **P 02 32 14.5 +1.7**
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,170nm,4.7s
AKASG Malin Array Be 32.62 309 P **P 02 32 17.9 +0.7**
comp=Z,0.4nm,0.4s,baz=82,slow=7.2,SNR=6.2
comp=Z,0.4nm,0.4s
AKBB Malin Array Si 32.62 309 *i* P **P 02 32 18.1 +0.9**
AKBB pmax pmax
comp=Z,3.0nm,1.1s
FINES FINESS Array B 37.23 326 P **P 02 32 58.0 +1.6**
comp=Z,4.5nm,0.6s,baz=118,slow=10,SNR=17
comp=Z,4.5nm,0.6s
FINES FINESS Array B 37.23 326 *i* P **P 02 32 58.2 +1.8**
FINES pmax pmax
comp=Z,4.0nm,0.6s
ARCES ARCESS Array B 40.95 338 P **P 02 33 29.1 +1.9**
comp=Z,2.7nm,0.7s,baz=110,slow=8.2,SNR=16
comp=Z,2.7nm,0.7s
HFS Hagfors 42.79 322 P **P 02 33 43.3 +1.2**
comp=Z,4.4nm,0.6s,baz=107,slow=9.5,SNR=9.7
comp=Z,4.4nm,0.6s
NB2 NORSAR Subarra 44.11 323 P **P 02 33 54.1 +1.4**
comp=Z,1.0nm,0.5s,baz=97,slow=7.9
NOA NORSAR Array B 44.11 323 P **P 02 33 54.1 +1.4**
comp=Z,1.9nm,0.7s,baz=98,slow=7.7,SNR=5.6
comp=Z,1.9nm,0.7s
KLR Kul'dur 45.40 54 *e*P **P 02 34 05.8 +2.8**
KLR pmax pmax
comp=Z,24nm,2.8s
TORD Torodi Ar. Bea 65.36 268 P **P 02 36 24.7 -1.0**
comp=Z,2.0nm,0.4s,baz=47,slow=6.1,SNR=46
comp=Z,2.0nm,0.4s
IMAR Indian Mountai 72.22 17 P **P 02 37 07.8 +0.6**
C36M Paulatuk 73.85 5 P **P 02 37 17.3 +0.6**
ILAR Eielson Array 74.82 16 P **P 02 37 22.7 +0.3**
comp=Z,0.5nm,0.5s,baz=302,slow=4.9,SNR=16
comp=Z,0.5nm,0.5s
YKA Yellowknife Ar 81.20 2 P **P 02 37 58.8 +1.3**
comp=Z,0.6nm,0.7s,baz=346,slow=5.7,SNR=9.3
comp=Z,0.6nm,0.7s
WRA Warramunga Arr 82.33 122 P **P 02 38 02.5 -1.5**
comp=Z,1.9nm,0.7s,baz=324,slow=5.0,SNR=27
comp=Z,1.9nm,0.7s
ASAR Alice Springs 84.59 125 P **P 02 38 14.2 -1.3**
comp=Z,1.9nm,0.8s,baz=310,slow=4.9,SNR=23
comp=Z,1.9nm,0.8s
SHEL Horse Pasture 88.77 249 *i* P **P 02 38 38.5 +2.7**

IDC 30 02:35:15.9±423.0, 62°.27N×45°.06E, h0km, Error ellipse: s-maj=241.1km s-min=99.2km az=22.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	**I37NO**	**12.76**	**314**	I	I	03 48 30.0	
	baz=111,slow=329,SNR=1.2						
I46RU	**ZALESOVO INFRA**	**22.26**	**94**	I	I	04 50 30.0	
	baz=312,slow=314,SNR=1.1						
I18DK	**QAANAAQ INFRAS**	**34.87**	**340**	I	I	06 12 00.0	
	baz=44,slow=336,SNR=3.1						
I34MN	**SONGINO INFRAS**	**36.49**	**84**	I	I	06 14 30.0	
	baz=320,slow=318,SNR=0.9						

BEO ***30*** *02:36:25.8±0.8, 41°.10N×30°.25E, h0km, ML4.2/6*
IDC ***30*** *02:36:33.5±0.6, 40°.64N×29°.02E, h0km, mb4.0/16, mbtmp3.9/25, ML3.3/9, MS3.1/4, Error ellipse: s-maj=10.0km s-min=8.7km az=22.0*
SOF ***30*** *02:36:34.3, 40°.57N±0°.02×28°.85E±0°.02, h9km±6km, MD4.0/5*
ISK ***30*** *02:36:34.6, 40°.60N×28°.97E, h12km, ML4.3/62*
AFAD ***30*** *02:36:34.7±0.0, 40°.60N×28°.95E, h14km±1km, MW4.1*
MOS ***30*** *02:36:34.0±1.5, 40°.65N×29°.06E, h10km, mb4.2/4, Error ellipse: s-maj=6.5km s-min=3.8km az=88.2*
THE ***30*** *02:36:35.4, 40°.59N×28°.97E, h6km±4km, ML4.1/7, Error ellipse: s-maj=5.1km s-min=1.0km az=71.0*
NEIC ***30*** *02:36:35.7±2.4, 40°.60N±0°.06×28°.96E±0°.05, h10km±1km, mb4.2/6, ML4.4/3(BUC), Error ellipse: s-maj=9.6km s-min=6.6km az=185.0*
MCSM ***30*** *02:36:36.6±0.7, 41°.N±4°.×2°.9E±°, h12km±5km, mb4.7, MLv4.4*
CFUSG ***30*** *02:36:42.7, 40°.73N×29°.88E, h10km, mb4.3/8, Western Turkey Magtype MSH 3.5 from 8 stations*

ISC 30 02:36:35.3±0.8, 40°.62N±0°.01×28°.98E±0°.01, h11km±5km, n358, σ1$46/472, mb4.0/22, 66C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMT	**Armutlu**	**0.10**	**240**	Pg	**Pg**	**02 36 37.8**	**-0.3**
KURT	**Yalova, Merkez**	**0.18**	**99**	P	**Pg**	**02 36 39.4**	**+0.3**
KURT				S	**Sg**	**02 36 42.5**	**+0.6**
MDNY	**Mudanya-Bursa**	**0.26**	**197**	Pg	**Pg**	**02 36 40.7**	**+0.1**
MDNY				Sg	**Sg**	**02 36 43.9**	**-0.3**
TUZL	**Tuzla-Istanbul**	**0.29**	**48**	P	**Pb**	**02 36 42.0**	**-0.5**
KRSK	**Karsak**	**0.30**	**135**	P	**Pb**	**02 36 41.6**	**-1.0**
KRSK				S	**Sb**	**02 36 46.3**	**-1.2**
YYLC	**Yaylacik**	**0.34**	**202**	P	**Pg**	**02 36 42.2**	**+0.1**
YYLC				S	**Sg**	**02 36 47.3**	**+0.7**
YYLC				*i* AML	AML	02 36 50.0	
	comp=E,3μm,0.6s						
YYLC				*i* AML	AML	02 36 51.0	
	comp=N,3μm,1.1s						
AVDN	**Avdancik/Bursa**	**0.35**	**157**	P	**Pg**	**02 36 42.7**	**+0.3**
AVDN				S	**Sg**	**02 36 47.7**	**+0.6**
AVDN				*i* AML	AML	02 36 51.0	
	comp=E,2μm,0.8s						
AVDN				*i* AML	AML	02 36 54.0	
	comp=N,1μm,0.5s						
IGD	**Bursa**	**0.39**	**154**	P	**Pg**	**02 36 43.1**	**0.0**
IGD				S	**Sg**	**02 36 48.6**	**+0.4**
IGD				*i* AML	AML	02 36 51.0	
	comp=E,5μm,0.7s						
IGD				*i* AML	AML	02 36 54.0	
	comp=N,3μm,0.6s						
AVCI	**Avcilar-stanb**	**0.42**	**333**	Pg	**Pb**	**02 36 44.4**	**-0.4**
AVCI				Sg	**Sb**	**02 36 50.6**	**-0.6**
ISK	**Istanbul-Kandi**	**0.45**	**8**	Pg	**Pb**	**02 36 44.7**	**-0.5**
ISK				Sg	**Sb**	**02 36 51.0**	**-0.9**
ISK	**Istanbul-Kandi**	**0.45**	**8**	P	**Pb**	**02 36 44.7**	**-0.5**
ISK				S	**Sb**	**02 36 51.1**	**-0.9**
	16μm,0.3s						
ULDT	**Uludag**	**0.49**	**166**	P	**Pg**	**02 36 44.9**	**0.0**
ULDT				S	**Sg**	**02 36 51.8**	**+0.3**
ULDT				*i* AML	AML	02 36 57.0	
	comp=N,5μm,0.5s						
ULDT				*i* AML	AML	02 36 57.0	
	comp=E,6μm,0.3s						
OSMT	**Osmaniye**	**0.55**	**91**	Pg	**Pg**	**02 36 45.4**	**-0.6**
OSMT				Sg	**Sb**	**02 36 54.2**	**-0.6**
HRT	**Hereke**	**0.56**	**68**	Pg	**Pb**	**02 36 46.2**	**-0.9**
HRT				Sg	**Sb**	**02 36 54.8**	**-0.3**
BGKT	**Bogazkoy**	**0.58**	**344**	Pg	**Pb**	**02 36 46.9**	**-0.6**
BGKT				Sg	**Sb**	**02 36 55.4**	**-0.4**
KCTX	**Karacabey (Bur**	**0.59**	**234**	Pg	**Pg**	**02 36 46.3**	**-0.5**
KCTX				Sg	**Sg**	**02 36 54.9**	**+0.3**
ADVT	**Abdulvahap**	**0.61**	**107**	Pg	**Pb**	**02 36 47.3**	**-0.6**
ADVT				Sg	**Sb**	**02 36 55.6**	**-0.8**
SEMS	**Kocaeli-K¶rfe**	**0.63**	**66**	P	**Pb**	**02 36 47.6**	**-0.6**
SEMS				S	**Sb**	**02 36 56.6**	**-0.5**
SEMS				*i* AML	AML	02 37 01.0	
	comp=N,7μm,0.6s						
SEMS				*i* AML	AML	02 37 01.0	
	comp=E,9μm,0.5s						
KLYT	**Kilyos**	**0.64**	**4**	Pg	**Pb**	**02 36 48.2**	**-0.2**
KLYT				Sg	**Sb**	**02 36 56.9**	**-0.3**
KLYT	**Kilyos**	**0.64**	**4**	P	**Pb**	**02 36 48.1**	**-0.3**
CTKS	**Kestanelik-??a**	**0.71**	**330**	Pg	**Pb**	**02 36 49.1**	**-0.6**
BAND	**Balkesir-Ban**	**0.72**	**249**	P	**Pg**	**02 36 48.6**	**-0.7**
BAND				S	**Sg**	**02 36 58.5**	**-0.2**
BAND				*i* AML	AML	02 37 02.0	
	comp=N,2μm,0.4s						
BAND				*i* AML	AML	02 37 02.0	
	comp=E,9μm,0.2s						
HISA	**Bilecik-Osmane**	**0.73**	**102**	P	**Pb**	**02 36 49.5**	**-0.6**
HISA				S	**Sb**	**02 36 59.9**	**-0.2**
HISA				*i* AML	AML	02 37 04.0	
	comp=E,1μm,0.4s						
HISA				*i* AML	AML	02 37 05.0	
	comp=N,1μm,0.5s						
SILT	**Sile**	**0.73**	**43**	Pg	**Pb**	**02 36 49.8**	**-0.2**
SILT				Sg	**Sb**	**02 37 00.3**	**+0.3**
CAVI	**Cavuskoy**	**0.78**	**122**	Pg	**Pb**	**02 36 50.2**	**-0.6**
CAVI				Sg	**Sb**	**02 37 01.2**	**-0.2**
BILE	**Bilecik/Merkez**	**0.82**	**123**	P	**Pg**	**02 36 50.8**	**-0.4**
BILE				S	**Sb**	**02 37 02.9**	**+0.3**
BILE				*i* AML	AML	02 37 07.0	
	comp=E,5μm,0.7s						
BILE				*i* AML	AML	02 37 09.0	
	comp=N,7μm,0.3s						
SLVT	**Silivri**	**0.85**	**317**	Pg	**Pb**	**02 36 51.9**	**0.0**
EDC	**Edincik**	**0.89**	**253**	Pg	**Pg**	**02 36 51.4**	**-1.1**
EDC				Sg	**Sb**	**02 37 04.7**	**0.0**
DOMA	**Ktahya-Doman**	**0.99**	**146**	P	**Pb**	**02 36 54.5**	**-0.1**
DOMA				S	**Sn**	**02 37 09.7**	**+0.4**
DOMA				*i* AML	AML	02 37 10.0	
	comp=N,6μm,0.5s						
DOMA				*i* AML	AML	02 37 10.0	
	comp=E,5μm,0.6s						
CTYL	**Yalikoy Yolu**	**1.00**	**329**	Pg	**Pb**	**02 36 54.2**	**-0.4**
CTYL	**Yalikoy Yolu**	**1.00**	**329**	P	**Pb**	**02 36 54.3**	**-0.4**
GEYV	**SAKARYA_Geyve**	**1.01**	**97**	P	**Pn**	**02 36 54.6**	**-0.8**
GEYV				S	**Sn**	**02 37 08.3**	**-1.2**
GEYV				*i* AML	AML	02 37 12.0	
	comp=N,10μm,0.5s						
GEYV				*i* AML	AML	02 37 17.0	
	comp=E,6μm,0.6s						
SAUV	**Serdivan-Sakar**	**1.03**	**83**	Pg	**Pb**	**02 36 54.4**	**-0.7**
AUKUT	**KUTAHYA**	**1.03**	**129**	P	Pn	02 37 02.1	+6.3
AUKUT				S	Sn	02 37 22.1	+12
AUKUT				*i* AML	AML	02 37 25.0	
	comp=N,3μm,0.4s						
AUKUT				*i* AML	AML	02 37 26.0	
	comp=E,4μm,0.4s						
KAND	**Kocaeli-Kandir**	**1.03**	**62**	P	**Pn**	**02 36 55.0**	**-0.7**
KAND				S	**Sn**	**02 37 09.9**	**-0.2**
KAND				*i* AML	AML	02 37 11.0	
	comp=N,9μm,0.4s						
KAND				*i* AML	AML	02 37 12.0	
	comp=E,5μm,0.4s						
DST	**Dursunbey**	**1.05**	**195**	Pg	**Pg**	**02 36 54.5**	**-1.0**
GPA	**Golpazari**	**1.07**	**108**	Pg	**Pn**	**02 36 56.1**	**0.0**
AUBOZ	**BOZOYUK**	**1.07**	**131**	P	**Pn**	**02 36 55.7**	**-0.6**
AUBOZ				S	**Sn**	**02 37 11.1**	**0.0**
AUBOZ				*i* AML	AML	02 37 12.0	
	comp=N,1μm,0.6s						
AUBOZ				*i* AML	AML	02 37 13.0	
	comp=E,10μm,0.5s						
CRLT	**Corlu**	**1.07**	**299**	Pg	**Pn**	**02 36 55.9**	**-0.3**
DURS	**Dursunbey**	**1.09**	**201**	P	**Pb**	**02 36 55.1**	**-1.0**
DURS				S	**Sb**	**02 37 11.0**	**+0.6**
DURS				*i* AML	AML	02 37 12.0	
	comp=N,2μm,0.7s						
DURS				*i* AML	AML	02 37 12.0	
	comp=E,2μm,0.5s						
KAYN	**Sakarya, Kayna**	**1.09**	**71**	P	**Pn**	**02 36 55.6**	**-0.8**
KAYN				S	**Sn**	**02 37 11.7**	**+0.3**
KAYN				*i* AML	AML	02 37 13.0	
	comp=N,9μm,0.6s						
KAYN				*i* AML	AML	02 37 13.0	
	comp=E,6μm,0.4s						
GONE	**Gonen-Balikesi**	**1.14**	**240**	Pn	**Pb**	**02 36 55.9**	**-1.1**
TKR	**Tekirdag**	**1.16**	**289**	Pn	**Pg**	**02 36 57.3**	**-0.2**
GULT	**Gulveren**	**1.18**	**99**	Pn	**Pn**	**02 36 57.7**	**-0.1**
BKES	**Balkesir-Mer**	**1.20**	**223**	P	**Pn**	**02 36 57.4**	**-0.5**
BKES				S	**Sb**	**02 37 13.8**	**+0.4**
BKES				*i* AML	AML	02 37 15.0	
	comp=N,6μm,0.9s						
BKES				*i* AML	AML	02 37 16.0	
	comp=E,1μm,0.5s						
TVSB	**Tavsanli**	**1.22**	**162**	Pn	**Pn**	**02 36 58.2**	**-0.2**
EMET	**Ktahya-Emet**	**1.27**	**168**	P	**Pn**	**02 36 58.9**	**-0.1**
EMET				S	**Sn**	**02 37 16.6**	**+0.6**
EMET				*i* AML	AML	02 37 18.0	
	comp=E,7μm,0.6s						
EMET				*i* AML	AML	02 37 19.0	
	comp=N,4μm,0.5s						
VIZE	**Kirklareli, Vi**	**1.29**	**318**	P	**Pg**	**02 36 59.2**	**-0.9**
VIZE				S	**Sg**	**02 37 16.7**	**-0.2**
VIZE				*i* AML	AML	02 37 17.0	
	comp=E,3μm,0.3s						
VIZE				*i* AML	AML	02 37 18.0	
	comp=N,3μm,0.3s						
KRBG	**Karabiga-Canak**	**1.30**	**261**	Pn	**Pn**	**02 36 58.8**	**-0.5**
ANDZ	**Kutahya, Merke**	**1.31**	**147**	P	**Pb**	**02 36 59.7**	**-0.3**
ANDZ				S	**Sg**	**02 37 17.8**	**+0.2**
ANDZ				*i* AML	AML	02 37 19.0	
	comp=E,2μm,0.5s						
ANDZ				*i* AML	AML	02 37 21.0	
	comp=N,2μm,0.8s						
BORA	**Eskisehir**	**1.35**	**123**	P	**Pg**	**02 37 00.4**	**-0.8**
BORA				S	**Sg**	**02 37 19.0**	**+0.4**
BORA				*i* AML	AML	02 37 22.0	
	comp=N,2μm,0.3s						
BORA				*i* AML	AML	02 37 25.0	
	comp=E,4μm,0.3s						
BALY	**Balya**	**1.36**	**230**	P	**Pn**	**02 36 57.5**	**-2.8**
BALY				S	**Sb**	**02 37 17.4**	**-0.8**
SART	**Tekirdag**	**1.37**	**274**	P	**Pg**	**02 37 01.1**	**-0.5**
SART				S	**Sg**	**02 37 19.9**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.37**	**273**	Pn	**Pn**	**02 36 59.6**	**-0.8**
SRCK	**Saricakaya, Es**	**1.38**	**114**	Pn	**Pb**	**02 37 00.6**	**-0.5**
SUSU	**Bolu-G¶lynk-**	**1.45**	**100**	P	**Pg**	**02 37 02.5**	**-0.5**
SUSU				S	**Sg**	**02 37 22.9**	**+1.0**
SUSU				*i* AML	AML	02 37 28.0	
	comp=E,2μm,0.8s						
SUSU				*i* AML	AML	02 37 30.0	
	comp=N,3μm,0.6s						
PHSR	**Pinarhisar**	**1.50**	**313**	Pn	**Pb**	**02 37 02.4**	**-0.6**
YENI	**Yenice-Canakka**	**1.50**	**243**	Pn	**Pn**	**02 37 01.4**	**-0.6**
SMAA	**Simav-Kutahya**	**1.52**	**180**	Pn	**Pn**	**02 37 02.3**	**-0.1**
SIMA	**Simav-Kutahya**	**1.53**	**180**	Pn	**Pn**	**02 37 02.4**	**-0.2**
BTAS	**Taskesti**	**1.54**	**91**	P	**Pg**	**02 37 03.6**	**-1.2**
BTAS				S	**Sg**	**02 37 25.2**	**+0.5**
BTAS				*i* AML	AML	02 37 29.0	
	comp=N,7μm,0.5s						
BTAS				*i* AML	AML	02 37 31.0	
	comp=E,5μm,0.6s						
STEP	**BALIKESIR_Sava**	**1.57**	**218**	P	**Pn**	**02 37 02.2**	**-1.0**
STEP				S	**Sn**	**02 37 22.7**	**-0.7**
GDZ	**Gediz**	**1.57**	**166**	P	**Pn**	**02 37 02.8**	**-0.4**
GDZ				S	**Sn**	**02 37 24.1**	**+0.5**
SHAP	**Saphane-Kutahy**	**1.60**	**173**	Pn	**Pn**	**02 37 03.3**	**-0.3**
GEDZ	**Gediz**	**1.61**	**168**	Pn	**Pn**	**02 37 03.5**	**-0.1**
MDUB	**Mudurnu**	**1.70**	**94**	Pn	**Pn**	**02 37 04.8**	**-0.1**
MDUB	**Mudurnu**	**1.70**	**94**	Pn	**Pg**	**02 37 06.6**	**-1.3**
MDUB				Sg	**Sg**	**02 37 30.9**	**+1.1**
ARMN	**Kirklareli, Me**	**1.71**	**317**	P	**Pn**	**02 37 03.9**	**-1.1**
ARMN				S	**Sg**	**02 37 28.9**	**-1.3**
LPK	**Lapseki**	**1.71**	**262**	Pn	**Pn**	**02 37 04.5**	**-0.5**
AUKIR	**Kırka- Seyitga**	**1.79**	**138**	P	**Pn**	**02 37 05.7**	**-0.5**
SGAZ	**Eskisehir, Sey**	**1.79**	**127**	P	**Pn**	**02 37 06.4**	**+0.2**
SGAZ				S	**Sg**	**02 37 33.1**	**+0.2**
GORD	**Gordes-Manisa**	**1.82**	**200**	Pn	**Pn**	**02 37 05.9**	**-0.6**
BUHA	**Balikesir, Bur**	**1.84**	**233**	P	**Pn**	**02 37 06.4**	**-0.3**
BUHA				S	**Sb**	**02 37 33.3**	**+1.4**
UKOP	**Uzunkopru-Edir**	**1.85**	**287**	Pn	**Pn**	**02 37 06.8**	**-0.1**
ERIK	**Erikli-Kesan**	**1.88**	**272**	Pn	**Pn**	**02 37 06.7**	**-0.6**
USAK	**Uak-Merkez**	**1.90**	**179**	P	**Pn**	**02 37 08.1**	**+0.5**
USAK				S	**Sg**	**02 37 35.7**	**-0.7**
YIGI	**Dzce**	**1.91**	**79**	P	**Pb**	**02 37 09.3**	**-0.7**
YIGI				S	**Sg**	**02 37 35.7**	**-0.8**
YIGI				*i* AML	AML	02 37 39.0	
	comp=E,2μm,0.5s						
YIGI				*i* AML	AML	02 37 40.0	
	comp=N,2μm,0.7s						
GELI	**Tayfur-Gelibol**	**1.92**	**264**	Pn	**Pn**	**02 37 07.8**	**-0.1**
AKS	**Akhisar**	**1.96**	**208**	Pn	**Pn**	**02 37 07.4**	**-1.0**
COMU	**Canakkale**	**1.98**	**256**	Pn	**Pn**	**02 37 08.5**	**-0.3**
KDZE	**Karadeniz Ereo**	**1.99**	**69**	Pn	**Pn**	**02 37 09.1**	**+0.3**
KDZE	**Karadeniz Ereo**	**1.99**	**69**		**Pb**	**02 37 09.5**	**-2.0**
KDZE					**Sb**	**02 37 35.8**	**-0.4**
KDZE	**Karadeniz Ereo**	**1.99**	**69**	⇑P	**Pb**	**02 37 09.5**	**-2.0**
KDZE				⇑S	**Sb**	**02 37 35.8**	**-0.4**
CIFT	**Cifteler, Eski**	**2.03**	**127**	Pn	**Pn**	**02 37 09.7**	**+0.2**
BOLU	**Bolu-Merkez-Mu**	**2.06**	**85**	P	**Pn**	**02 37 10.2**	**+0.4**
BOLU				S	**Sg**	**02 37 40.6**	**-0.7**
BNAZ	**Uak-Banaz**	**2.06**	**160**	P	**Pn**	**02 37 10.1**	**+0.2**
BNAZ				S	**Sb**	**02 37 39.4**	**+1.1**
BAYC	**CANAKKALE_Bayr**	**2.06**	**246**	P	**Pn**	**02 37 10.6**	**+0.8**
BAYC				S	**Sb**	**02 37 39.5**	**+1.3**
YUVA	**Yuva-Kibriscik**	**2.08**	**95**	Pn	**Pn**	**02 37 10.2**	**+0.1**
GOMA	**Golmarmara-Man**	**2.08**	**204**	Pn	**Pn**	**02 37 09.2**	**-0.8**
EDRB	**Edirne**	**2.09**	**307**	Pn	**Pn**	**02 37 10.3**	**+0.2**
EDRB	**Edirne**	**2.09**	**307**	P	**Pn**	**02 37 10.1**	**0.0**
EDRB				S	**Sb**	**02 37 37.4**	**-1.6**
	1μm,0.5s						
KULA	**Kula-Manisa**	**2.12**	**187**	Pn	**Pn**	**02 37 10.3**	**-0.4**
KULA	**Kula-Manisa**	**2.12**	**187**	P	**Pn**	**02 37 10.2**	**-0.4**
KULA				S	**Sn**	**02 37 36.4**	**-0.5**
CAVK	**Edirne/Enez-Ca**	**2.14**	**273**		**Pb**	**02 37 13.6**	**-0.4**
CAVK					**Sb**	**02 37 41.4**	**+0.8**
CAVK	**Edirne/Enez-Ca**	**2.14**	**273**	⇓P	**Pb**	**02 37 13.6**	**-0.4**
CAVK				⇑S	**Sb**	**02 37 41.4**	**+0.8**
ENEZ	**Enez**	**2.15**	**274**	Pn	**Pn**	**02 37 10.8**	**-0.2**
ENEZ	**Enez**	**2.15**	**274**	P	**Pn**	**02 37 10.5**	**-0.5**
ENEZ				S	**Sn**	**02 37 37.6**	**-0.1**
	4μm,0.6s						
EZNE	**Ezine-Canakkal**	**2.18**	**248**	Pn	**Pn**	**02 37 11.3**	**-0.1**
EZN	**Ezine**	**2.18**	**250**	Pn	**Pn**	**02 37 10.6**	**-0.8**
EZN	**Ezine**	**2.18**	**250**	P	**Pn**	**02 37 10.2**	**-1.2**
EZN				S	**Sn**	**02 37 37.7**	**-0.7**
	3μm,0.6s						
EZN	**Ezine**	**2.18**	**250**	P	**Pb**	**02 37 13.5**	**-1.2**
KIBS	**BOLU**	**2.20**	**94**	P	**Pn**	**02 37 11.8**	**0.0**
KIBS				S	**Sg**	**02 37 47.5**	**+1.6**
DKL	**Dikili**	**2.22**	**227**	Pn	**Pn**	**02 37 11.6**	**-0.4**
ALN	**Alexandroupoli**	**2.25**	**278**	Pn	**Pn**	**02 37 11.5**	**-0.9**
ALN	**Alexandroupoli**	**2.25**	**278**	Pn	**Pn**	**02 37 11.7**	**-0.7**
ALN	**Alexandroupoli**	**2.25**	**278**	P	**Pn**	**02 37 11.4**	**-0.9**
ALN				S	**Sn**	**02 37 40.5**	**+0.5**
	1μm,0.6s						
ALN	**Alexandroupoli**	**2.25**	**278**	P	**Pn**	**02 37 11.7**	**-0.7**
SVRH	**Sivrihisar-ESK**	**2.27**	**120**	Pn	**Pn**	**02 37 13.0**	**+0.2**
DEVR	**Zonguldak/Devr**	**2.33**	**76**	P	**Pn**	**02 37 13.6**	**+0.1**
DEVR				S	**Sb**	**02 37 45.2**	**-0.8**
KHL	**Karahalli**	**2.33**	**169**	Pn	**Pn**	**02 37 13.5**	**-0.1**
BCAM	**Yenicaga**	**2.35**	**84**	P	**Pn**	**02 37 14.4**	**+0.5**
GADA	**Gvkgeada**	**2.39**	**261**	Pn	**Pn**	**02 37 14.2**	**-0.1**
SHUT	**Suhut-Afyon**	**2.39**	**149**	Pn	**Pn**	**02 37 14.4**	**-0.1**
GPNR	**Gulpinar-Canak**	**2.48**	**243**	Pn	**Pn**	**02 37 15.5**	**0.0**
PRK	**Paraskevi**	**2.49**	**238**	P	**Pn**	**02 37 15.4**	**-0.3**
PRK				S	**Sn**	**02 37 46.0**	**-0.1**
	6μm,0.7s						
FOCM	**Foa**	**2.58**	**223**	Pn	**Pn**	**02 37 16.9**	**+0.1**
JMB	**Yambol**	**2.62**	**316**	P	**Pn**	**02 37 18.0**	**+0.5**
SMTH	**Samothraki Isl**	**2.63**	**268**	P	**Pn**	**02 37 16.5**	**-1.2**
RDO	**Rodhopi**	**2.66**	**283**	Pn	**Pn**	**02 37 17.9**	**-0.2**
RDO	**Rodhopi**	**2.66**	**283**	Pn	**Pn**	**02 37 17.7**	**-0.3**
RDO	**Rodhopi**	**2.66**	**283**	P	**Pn**	**02 37 17.8**	**-0.3**
BLCB	**Balcova**	**2.69**	**215**	Pn	**Pn**	**02 37 17.5**	**-0.9**
BLCB	**Balcova**	**2.69**	**215**	P	**Pn**	**02 37 17.3**	**-1.1**
BLCB				S	**Sn**	**02 37 48.8**	**-2.1**
NAZL	**Nazilli-Aydin**	**2.70**	**192**	Pn	**Pn**	**02 37 18.2**	**-0.5**
SIGR	**SIGRI**	**2.78**	**241**	Pn	**Pn**	**02 37 19.7**	**0.0**
SIGR	**SIGRI**	**2.78**	**241**	P	**Pn**	**02 37 19.7**	**0.0**
KDZ	**Kurdzhali**	**2.93**	**291**	P	**Pn**	**02 37 21.5**	**-0.3**
LIA	**Limnos Island**	**2.99**	**257**	P	**Pn**	**02 37 22.6**	**0.0**
LIA				S	**Sn**	**02 37 58.1**	**-0.3**
	3μm,0.7s						
BR231	**Keskin MP Arra**	**3.01**	**104**		**Pn**	**02 37 23.4**	**+0.5**
ANTO	**Ankara**	**3.01**	**103**		**Pn**	**02 37 24.0**	**+1.0**
ANTO	**Ankara**	**3.01**	**103**	⇑P	**Pn**	**02 37 24.6**	**+1.6**
ANTO	**Ankara**	**3.01**	**103**	P	**Pn**	**02 37 24.5**	**+1.6**
ANTO	**Ankara**	**3.01**	**103**	P	**Pn**	**02 37 24.5**	**+1.6**
ISP	**Isparta**	**3.04**	**156**		**Pn**	**02 37 23.2**	**-0.1**
ISP	**Isparta**	**3.04**	**156**	P	**Pn**	**02 37 23.2**	**-0.1**
PSN	**Preselentsi**	**3.08**	**349**	P	**Pn**	**02 37 25.3**	**+1.5**
CIDE	**Kastamonu/Cide**	**3.25**	**66**		**Pn**	**02 37 27.8**	**+1.7**
CIDE					**Sn**	**02 38 06.6**	**+2.0**
CIDE	**Kastamonu/Cide**	**3.25**	**66**	⇑P	**Pn**	**02 37 27.8**	**+1.7**
CIDE				⇑S	**Sn**	**02 38 06.6**	**+2.0**
ELND	**Elena**	**3.27**	**316**		**Pn**	**02 37 27.3**	**+0.8**
ELND					**Sn**	**02 38 07.1**	**+1.7**
ELND	**Elena**	**3.27**	**316**	⇓P	**Pn**	**02 37 27.3**	**+0.8**
ELND				⇑S	**Sn**	**02 38 07.1**	**+1.7**
SMG	**Samos**	**3.35**	**211**	P	**Pn**	**02 37 27.5**	**0.0**
RZN	**Rozhen**	**3.38**	**290**	P	**Pn**	**02 37 28.0**	**-0.1**
KAVA	**Kavala**	**3.41**	**278**	P	**Pn**	**02 37 28.0**	**-0.3**
SZH	**Strazhitsa**	**3.47**	**321**	P	**Pn**	**02 37 30.3**	**+1.2**
YER	**Yerkesik**	**3.52**	**189**	P	**Pn**	**02 37 29.6**	**-0.3**
PLD	**Plovdiv**	**3.53**	**297**	*e*Pn	**Pn**	**02 37 30.2**	**+0.2**
PLD				*e*Sn	**Sb**	**02 38 21.1**	**+0.

SCTR ⇑S Sn 02 38 51.5 +1.1
NEHR Nehoiu 5.19 339 Pn 02 37 54.7 +1.8
NEHR Nehoiu 5.19 339 ⇓P Pn 02 37 54.7 +1.8
BOSS Bosilegrad 5.23 293 *e*Pn **Pn 02 37 54.0 +0.7**
BOSS *e*Sn **Sb 02 39 03.1 -6.2**
SEV Sevastopol' 5.23 40 ⇑*i*P **Pn 02 37 54.0 +0.7**
SEV Pm 02 37 56.3
comp=Z,66nm,0.3s
SEV *i* S **Sn 02 38 50.1 -3.5**
SEV Sm 02 38 54.7
comp=E,124nm,0.3s,comp=N,111nm,0.3s
SEV Sevastopol' 5.23 40 ⇑*i*P **Pn 02 37 54.0 +0.7**
SEV *i* S **Sn 02 38 50.1 -3.5**
SEV pmax pmax
comp=Z,66nm,0.3s
SEV smax smax
comp=N,111nm,0.3s
SEV smax smax
comp=E,124nm,0.3s
KARP Karpathos 5.26 196 Pn **Pn 02 37 53.5 -0.3**
VLDR Vladesti 5.26 353 Pn 02 37 55.3 +1.5
VLDR **Sn 02 38 56.0 +1.6**
VLDR Vladesti 5.26 353 ⇑P **Pn 02 37 55.3 +1.5**
VLDR ⇑S **Sn 02 38 56.0 +1.6**
ODBI Odobesti 5.33 345 Pn 02 37 56.4 +1.6
ODBI **Sn 02 38 57.3 +1.2**
ODBI Odobesti 5.33 345 ⇑P **Pn 02 37 56.4 +1.6**
ODBI ⇑S **Sn 02 38 57.3 +1.2**
VARL Varlezi 5.34 351 Pn 02 37 56.4 +1.5
VARL **Sn 02 38 57.7 +1.4**
VARL Varlezi 5.34 351 ⇑P **Pn 02 37 56.4 +1.5**
VARL ⇑S **Sn 02 38 57.7 +1.4**
MLR Muntele Rosu 5.35 336 Pn **Pn 02 37 57.3 +2.1**
MLR Muntele Rosu 5.35 336 Pn **Pn 02 37 54.2 -1.0**
comp=E,0.2nm,0.3s,baz=163,slow=17,SNR=3.5
MLR Sn **Sn 02 38 58.9 +2.1**
comp=E,1.9nm,0.3s,baz=264,slow=12,SNR=1.6
MLR Lg Lg 02 39 26.5
comp=E,1.5nm,0.3s,baz=169,slow=15,SNR=2.0
comp=E,4.7nm,0.3s
MLR Muntele Rosu 5.35 336 ⇑P **Pn 02 37 56.5 +1.3**
SPBR Spulber 5.38 343 ⇓P **Pn 02 37 57.0 +1.5**
TARU Tarkhankut 5.42 28 *e*P **Pn 02 37 58.1 +2.2**
TARU *e*S **Sn 02 38 57.7 -0.6**
TARU Sm 02 39 01.5
comp=E,100nm,0.4s
ZAPS Zavoj 5.43 301 *e*Pn **Pn 02 37 56.8 +0.7**
MTUR Matau 5.43 329 Pn 02 37 57.8 +1.6
MTUR Matau 5.43 329 ⇑P **Pn 02 37 57.8 +1.6**
MTUR Matau 5.43 329 P **Pn 02 37 57.7 +1.6**
YAL Yalta 5.44 43 ⇓*i*P **Pn 02 37 57.0 +0.9**
YAL Pm 02 37 57.7
comp=Z,98nm,0.4s
YAL *i* S **Sn 02 38 54.6 -4.0**
YAL Sm 02 38 56.8
comp=N,273nm,0.3s
YAL Sm 02 38 56.8
comp=E,452nm,0.4s
YAL Yalta 5.44 43 ⇓*i*P **Pn 02 37 57.0 +0.9**
YAL *i* S **Sn 02 38 54.6 -4.0**
YAL pmax pmax
comp=Z,98nm,0.4s
YAL smax smax
comp=N,273nm,0.3s
YAL smax smax
comp=E,452nm,0.4s
VRI Vrincioaia 5.50 343 ⇑P **Pn 02 37 58.3 +1.3**
VRI ⇑S **Sn 02 39 02.4 +2.2**
VRI Vrincioaia 5.50 343 P **Pn 02 37 59.6 +2.6**
VRI Vrincioaia 5.50 343 P **Pn 02 37 57.7 +0.7**
comp=E,53nm,0.8s,comp=E,0.3nm
PLOR Plostina 5.50 343 ⇑P **Pn 02 37 58.6 +1.6**
PLOR Plostina 5.50 343 P **Pn 02 38 00.4 +3.3**
BNN Bunyan 5.58 106 Pn 02 37 57.7 -0.6
COVR Voineasa-Covas 5.61 340 Pn 02 38 00.5 +1.9
COVR **Sn 02 39 04.4 +1.5**
COVR Voineasa-Covas 5.61 340 ⇑P **Pn 02 38 00.5 +1.9**
COVR ⇑S **Sn 02 39 04.4 +1.5**
DNZ2 Donuzlav2 5.68 32 *e*P **Pn 02 38 01.7 +2.3**
DNZ2 Pm 02 37 06.4
comp=Z,54nm,0.3s
DNZ2 *e*S **Sn 02 39 02.0 -2.5**
DNZ2 Sm 02 39 09.8
comp=N,121nm,0.4s
DNZ2 Sm 02 39 09.8
comp=E,46nm,0.3s
ALU Alushta 5.70 43 ⇑*i*P **Pn 02 37 59.4 -0.3**
ALU Pm 02 37 59.9
comp=Z,96nm,0.4s
ALU *e*S **Sn 02 39 00.3 -4.8**
ALU Sm 02 39 03.1
comp=N,689nm,0.4s
ALU Sm 02 39 03.1
comp=E,269nm,0.4s
ALU Alushta 5.70 43 ⇑*i*P **Pn 02 37 59.4 -0.3**
ALU *e*S **Sn 02 39 00.3 -4.8**
ALU pmax pmax
comp=Z,96nm,0.4s
ALU smax smax
comp=N,689nm,0.4s
ALU smax smax
comp=E,269nm,0.4s
ARR Arges 5.72 328 ⇑P **Pn 02 38 00.9 +0.8**
BIR Birlad 5.73 351 Pn 02 38 01.3 +1.1
BIR **Sn 02 39 06.3 +0.4**
BIR Birlad 5.73 351 ⇑P **Pn 02 38 01.3 +1.1**
BIR ⇑S **Sn 02 39 06.3 +0.4**
BIR Birlad 5.73 351 P **Pn 02 38 01.3 +1.1**
BIR 02 39 06.3
SIM Simferopol' 5.75 39 ⇑*e*P **Pn 02 38 01.4 +1.0**
SIM Pm 02 38 02.0
comp=Z,143nm,0.3s
SIM *e*S **Sn 02 39 02.8 -3.5**
SIM Sm 02 39 05.9
comp=N,362nm,0.5s
SIM Sm 02 39 05.9
comp=E,122nm,0.5s
SIM Simferopol' 5.75 39*d i*P **Pn 02 38 01.6 +1.2**
SIM *i* S **Sn 02 39 03.0 -3.3**
SIM pmax pmax
comp=Z,20nm,0.5s
SIM smax smax
comp=N,240nm,0.8s
SIM smax smax
comp=E,160nm,0.7s
FNA Florina 5.78 274 *e*Pn **Pn 02 38 03.3 +2.3**
BARS Barje 5.79 295 *e*Pn **Pn 02 38 01.7 +0.6**
BARS *e*Sn **Sn 02 39 14.1 +6.6**
TURR Turia 5.85 339 ⇑P **Pn 02 38 03.7 +1.8**
SRE Strehaia 5.87 315 ⇑P **Pn 02 38 03.2 +1.0**
SRE Strehaia 5.87 315 P **Pn 02 38 03.1 +1.0**
ZAGS Zajecar 5.94 305 *e*Pn **Pn 02 38 01.8 -1.3**
DOPR Dopca 5.95 335 ⇑P **Pn 02 38 05.4 +2.1**
ONER Baraj Valea Uz 6.02 343 ⇑P **Pn 02 38 06.2 +2.1**
TNR Turnu Rosu 6.10 327 Pn 02 38 06.7 +1.5
TNR Turnu Rosu 6.10 327 ⇑P **Pn 02 38 06.7 +1.5**
TNR Turnu Rosu 6.10 327 P **Pn 02 38 08.9 +3.6**
TESR Tescani 6.13 345 ⇑P **Pn 02 38 06.4 +0.7**
TESR ⇑S **Sn 02 39 16.9 +1.2**
TESR Tescani 6.13 345 P **Pn 02 38 05.8 +0.1**
comp=E,27nm,0.5s,comp=E,0.3nm
SUDU Sudak 6.15 44 *e*P **Pn 02 38 06.2 +0.2**
SUDU Pm 02 38 07.5
comp=Z,89nm,0.5s
SUDU *e*S **Sn 02 39 12.1 -4.2**
SUDU Sm 02 39 14.8
comp=N,252nm,0.4s
SUDU Sm 02 39 14.8
comp=E,50nm,0.3s
SUDU Sudak 6.15 44 *e*P **Pn 02 38 06.2 +0.2**
SUDU *e*S **Sn 02 39 12.1 -4.2**
SUDU pmax pmax
comp=Z,89nm,0.5s
SUDU smax smax
comp=N,252nm,0.4s
SUDU smax smax
comp=E,50nm,0.3s
LOT Lotru 6.15 323 ⇑P **Pn 02 38 07.9 +1.7**
BOVS Bovan 6.19 302 *e*Pn **Pn 02 38 06.5 0.0**
BOVS *e*Sn **Sn 02 39 20.4 +3.1**
MILM Milestii Mici 6.30 359 ⇑P **Pn 02 38 08.8 +0.8**
MILM Milestii Mici 6.30 359 P Pn 02 38 10.4 +2.4
SELS Selova 6.41 296 *e*Pn **Pn 02 38 09.7 +0.1**

FEO Feodosiya 6.45 45 *e*P **Pn 02 38 10.0 0.0**
FEO Pm 02 38 11.5
comp=Z,65nm,0.3s
FEO *e*S **Sn 02 39 18.9 -4.6**
FEO Sm 02 39 21.2
comp=N,131nm,0.3s
FEO Sm 02 39 21.2
comp=E,40nm,0.3s
FEO Feodosiya 6.45 45 *e*P **Pn 02 38 10.0 0.0**
FEO *e*S **Sn 02 39 18.9 -4.6**
FEO pmax pmax
comp=Z,65nm,0.3s
FEO smax smax
comp=N,131nm,0.3s
FEO smax smax
comp=E,40nm,0.3s
ITM Ithomi 6.48 240 Pn **Pn 02 38 09.7 -0.9**
GZR Gura Zlata 6.59 318 ⇑P **Pn 02 38 12.8 +0.8**
KUBS Kucevo 6.60 307 *e*Pn **Pn 02 38 10.8 -1.3**
GRUS Gruza 6.95 301 *e*Pn **Pn 02 38 16.9 0.0**
SURR Surduc 7.17 318 Pn 02 38 20.7 +0.7
SURR Surduc 7.17 318 ⇑P **Pn 02 38 20.7 +0.7**
IVAS Ivanjica 7.20 297 *e*Pn **Pn 02 38 19.4 -1.0**
VRSS Vrsac 7.20 311 *e*Pn **Pn 02 38 17.2 -3.2**
SJES Sjenica 7.22 294 *e*Pn **Pn 02 38 21.0 +0.3**
ARCR ARCALIA 7.28 334 Pn 02 38 23.1 +1.7
ARCR ARCALIA 7.28 334 ⇑P **Pn 02 38 23.1 +1.7**
TRUS Trudelj 7.29 302 *e*Pn **Pn 02 38 21.5 -0.2**
BAL3X Bal3x, Balta 7.33 3 P **Pn 02 38 21.5 -0.6**
BZS Buzias 7.34 315 ⇑P **Pn 02 38 22.8 +0.4**
BZS Buzias 7.34 315 P **Pn 02 38 22.7 +0.4**
MARR Marisel-Cluj 7.40 327 Pn 02 38 25.1 +1.9
MARR Marisel-Cluj 7.40 327 ⇑P **Pn 02 38 25.1 +1.9**
ANN Anapa 7.50 53 *e*P **Pn 02 38 23.5 -0.9**
ANN *e*S **Sn 02 39 48.1 -1.2**
ANN pmax pmax
comp=Z,54nm,0.9s
ANN MLR MLR
comp=Z,2μm,26.0s
DIVS Divibare 7.51 301 *e*Pn **Pn 02 38 24.6 -0.1**
PDG Podgorica 7.52 287 ⇑P **Pn 02 38 26.6 +1.9**
SORM Soroca 7.53 357 P **Pn 02 38 24.6 -0.3**
comp=Z,47nm,0.8s,comp=Z,0.3nm
DRGR 7.66 326 ⇑P **Pn 02 38 27.8 +1.0**
DRGR 7.66 326 P **Pn 02 38 27.7 +1.0**
SIRR Siria 7.76 319 ⇑P **Pn 02 38 29.2 +1.1**
BBLS Lazi&#263i 7.81 298 *e*Pn **Pn 02 38 30.0 +1.2**
TEKS Tekeris 8.00 303 *e*Pn **Pn 02 38 31.0 -0.4**
SOC Sochi 8.51 66 *e*P **Pn 02 38 38.8 +0.4**
SOC *e* 02 40 16.7
SOC MLR MLR
comp=Z,51nm,11.0s
MMAI Mount Meron Ar 9.17 144 Pn **Pn 02 38 48.0 +0.6**
comp=Z,0.7nm,0.3s,baz=338,slow=13,SNR=6.0
comp=Z,1.6nm,0.6s
LABN Labinsk 9.54 61 *e*P **Pn 02 38 52.6 +0.1**
LABN *e*S **Sn 02 40 42.4 +2.8**
LABN pmax pmax
comp=Z,25nm,0.6s
KOLS Kolonicke sedl 9.58 332 *e*P Pn 02 38 58.4 +5.4
KOLS Kolonicke sedl 9.58 332 *e*PN Pn 02 38 58.4 +5.4
ERBR Yeremizino-Bor 9.82 55 *e*P **Pn 02 38 55.9 -0.4**
ERBR *e*S **Sn 02 40 42.7 -3.9**
ERBR pmax pmax
comp=Z,17nm,0.5s
ERBR MLR MLR
comp=Z,441nm,6.0s
AK07 Malin Array Si 9.94 1 P **Pn 02 38 57.3 -0.5**
AK06 Malin Array Si 9.97 1 P **Pn 02 38 57.6 -0.7**
AK10 Malin Array Si 9.98 1 P **Pn 02 38 58.2 -0.3**
AK13 Malin Array Si 10.00 0 P **Pn 02 38 59.4 +0.7**
AK09 Malin Array Si 10.00 1 P **Pn 02 38 58.7 0.0**
AK05 Malin Array Si 10.00 1 P **Pn 02 38 58.2 -0.6**
AK14 Malin Array Si 10.01 0 P **Pn 02 38 58.3 -0.6**
AK08 Malin Array Si 10.02 1 P **Pn 02 38 58.5 -0.5**
AK12 Malin Array Si 10.03 1 P **Pn 02 38 58.7 -0.4**
AK02 Malin Array Si 10.04 1 P **Pn 02 38 58.7 -0.6**
AK16 Malin Array Si 10.05 0 P **Pn 02 38 59.5 0.0**
KIEV Kiev 10.08 1 Pn 02 39 01.1 +1.3
KIEV Kiev 10.08 1 P **Pn 02 39 01.1 +1.3**
KIEV Kiev 10.08 1 P **Pn 02 39 01.0 +1.3**
comp=Z,74nm,0.8s
AKASG Malin Array Be 10.09 1 Pn **Pn 02 38 58.4 -1.5**
comp=Z,2.5nm,0.3s,baz=189,slow=12,SNR=15
AKASG Sn **Sn 02 40 47.2 -5.7**
comp=Z,3.5nm,0.3s,baz=188,slow=22,SNR=4.8
comp=Z,1.3nm,0.4s
AKBB Malin Array Si 10.09 1 Pn 02 39 01.0 +1.1
AKBB Malin Array Si 10.09 1 *i* P **Pn 02 39 02.1 +2.2**
AKBB Malin Array Si 10.09 1 P **Pn 02 39 00.1 +0.2**
AK18 Malin Array Si 10.11 0 P **Pn 02 39 00.3 +0.1**
MI28 Mi28,Pidlybu 10.35 355 P **Pn 02 39 04.2 +0.6**
comp=Z,200nm,1.2s
KIV Kislovodsk 10.69 67 Pn **Pn 02 39 06.5 -1.8**
KIV Kislovodsk 10.69 67 *e*P **Pn 02 39 07.6 -0.7**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KVAR Kislovodsk Arr 10.69 67 Pn **Pn 02 39 08.4 0.0**
baz=264,slow=19
KVAR Sn **Sn 02 41 06.8 -1.3**
baz=92,slow=23
comp=Z,2.4nm,0.5s
KBZ Khabaz 10.79 69 Pn **Pn 02 39 09.7 +0.1**
comp=Z,0.2nm,0.3s,baz=238,slow=9.5,SNR=4.3
KBZ Sn **Sn 02 41 07.2 -2.9**
comp=Z,0.1nm,0.3s,baz=195,slow=16,SNR=1.4
comp=Z,0.7nm,0.4s
EIL Elat 11.96 154 LR LR 02 45 11.2
comp=Z,54nm,18.1s,baz=48,slow=43
GNI Garni 12.03 87 LR LR 02 44 27.6
comp=Z,120nm,18.4s,baz=277,slow=40
VSR Storozhevoye 12.74 30 *e*P **Pn 02 39 34.5 -1.7**
VSR pmax pmax
comp=Z,9.0nm,0.8s
LPSR Galich'ya Gora 13.78 26 *e*P **Pn 02 39 46.9 -3.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 13.79 36 *e*P **Pn 02 39 48.0 -2.5**
VRH pmax pmax
comp=Z,8.0nm,0.8s
DAVOX Davos/Dischmat 15.11 300 Pn **Pn 02 40 06.6 -2.1**
comp=Z,0.1nm,0.3s,baz=145,slow=17,SNR=1.4
comp=Z,1.3nm,0.9s
MOS Moscow 16.17 18 *e*P **Pn 02 40 22.8 +0.6**
KEST Kesra 16.18 259 Pn **Pn 02 40 21.1 -1.5**
baz=74,slow=15,SNR=2.2
comp=Z,3.0nm,1.1s
BELG Belogornoye 17.36 41 P **Pn 02 40 36.2 -1.0**
comp=Z,0.7nm,0.3s,baz=273,slow=8.0,SNR=6.0
BELG LR LR 02 47 24.6
comp=Z,76nm,19.6s,baz=289,slow=38
comp=Z,18nm,1.0s
VSU Vasula 17.92 356 *i* P **P 02 40 46.6 +1.9**
FINES FINESS Array B 20.93 356 P **P 02 41 17.2 -0.4**
FINES FINESS Array B 20.93 356 P **P 02 41 15.9 -1.7**
comp=Z,4.7nm,0.9s,baz=170,slow=17,SNR=2.0
comp=Z,4.7nm,0.9s
FINES FINESS Array B 20.93 356 P **P 02 41 17.2 -0.4**
FIA1 FINESS Array S 20.93 356 P **P 02 41 16.6 -1.0**
KLMR Klimovskoe 21.28 14 *e*P **P 02 41 25.1 +3.8**
KLMR pmax pmax
comp=Z,35nm,2.2s
HFS Hagfors 21.73 339 P **P 02 41 24.8 -1.4**
comp=Z,7.0nm,1.0s,baz=150,slow=15,SNR=1.9
comp=Z,7.0nm,1.0s
RAYN Ar Rayn 22.00 136 P **P 02 41 31.8 +2.4**
RAYN IAmb IAmb 02 41 32.8
comp=Z,5.6nm,1.1s
RAYN Ar Rayn 22.00 136 P **P 02 41 31.8 +2.4**
RAYN pmax pmax
comp=Z,6.0nm,1.1s
KIRV Kirov 22.17 29 *i* P **P 02 41 33.8 +2.8**
NOA NORSAR Array B 23.17 338 P **P 02 41 40.5 -1.1**
comp=Z,1.0nm,0.8s,baz=146,slow=11,SNR=2.0
NOA LR LR 02 51 27.7
comp=Z,40nm,18.4s,baz=285,slow=39
comp=Z,1.0nm,0.8s
ABKAR Abkulak array 23.42 58 P **P 02 41 42.7 -1.4**
ABKAR Abkulak array 23.42 58 P **P 02 41 42.2 -1.9**
ABKAR IAmb IAmb 02 42 25.7
comp=Z,7.7nm,1.4s
ARTI Arti 24.80 41 P **P 02 41 57.0 0.0**
ARTI IAmb IAmb 02 42 02.7
comp=Z,6.7nm,0.9s
ARTI Arti 24.80 41 P **P 02 41 56.7 -0.2**
comp=Z,3.0nm,0.5s,baz=240,slow=8.1,SNR=7.6
comp=Z,3.0nm,0.5s
ESDC Sonseca Array 25.12 279 P **P 02 41 59.8 -0.4**
comp=Z,1.6nm,0.7s,baz=66,slow=8.9,SNR=12
comp=Z,1.6nm,0.7s
EKA Eskdalemuir Ar 25.78 316 P **P 02 42 06.8 +1.0**
comp=Z,3.3nm,0.9s,baz=116,slow=12,SNR=2.3
comp=Z,3.3nm,0.9s
ARCES ARCESS Array B 29.04 357 P **P 02 42 35.8 +0.8**
comp=Z,2.3nm,0.8s,baz=185,slow=9.1,SNR=2.4
comp=Z,2.3nm,0.8s
KKAR Karatay Array 30.81 71 P **P 02 42 49.7 -1.2**
KKAR Karatay Array 30.81 71 P **P 02 42 49.6 -1.2**
KKAR IAmb IAmb 02 43 27.9
comp=Z,1.1nm,1.0s
KKAR Karatay Array 30.81 71 P **P 02 42 49.7 -1.2**
KKAR 02 42 49.7
KKAR pmax pmax
comp=Z,1.0nm,1.0s
GAR Garm 31.59 79 P **P 02 42 59.9 +1.9**
GAR IAmb IAmb 02 43 08.8
comp=Z,5.8nm,0.8s
KURBB Kurchatov Arra 35.46 57 P **P 02 43 31.6 +0.3**
comp=Z,0.6nm,0.5s,baz=276,slow=8.4,SNR=5.3
comp=Z,0.6nm,0.5s
KURK Kurchatov 35.51 56 P **P 02 43 31.6 -0.2**
TORD Torodi Ar. Bea 36.33 229 P **P 02 43 38.9 -0.3**
comp=Z,2.3nm,0.6s,baz=30,slow=10,SNR=21
comp=Z,2.3nm,0.6s
MKAR Makanchi Array 38.40 62 P **P 02 43 57.4 +0.9**
comp=Z,0.8nm,0.7s,baz=268,slow=9.3,SNR=8.0
comp=Z,0.8nm,0.7s
MKAR Makanchi Array 38.40 62 *i* P **P 02 43 57.7 +1.2**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 39.13 51 P **P 02 44 03.4 +0.9**
comp=Z,0.9nm,0.4s,baz=254,slow=11,SNR=3.8
comp=Z,0.9nm,0.4s
ZALV Zalesovo Beam 39.13 51 *i* P **P 02 44 05.6 +3.2**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
DBIC Dimbokro 45.34 231 P **P 02 44 53.2 -0.3**
comp=Z,3.7nm,0.7s,baz=41,slow=8.5,SNR=6.4
comp=Z,3.7nm,0.7s
SONM Songino Array 53.77 55 P **P 02 45 57.7 +0.1**
comp=Z,0.4nm,0.7s,baz=326,slow=7.5,SNR=2.2
comp=Z,0.4nm,0.7s
HHC Hu-ho-hao-te 60.19 60 *e*P **P 02 46 44.3 +1.1**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,120nm,4.5s
PZH PanZhiHua 60.66 79 P **P 02 46 47.3 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,140nm,5.8s
BOSA Boshof 68.97 184 P **P 02 47 41.0 +0.6**
comp=Z,5.8nm,1.0s,baz=341,slow=8.0,SNR=4.3
comp=Z,5.8nm,1.0s
KSRS Korea Array 72.63 55 P **P 02 48 02.7 0.0**
comp=Z,0.8nm,0.4s,baz=310,slow=5.1,SNR=2.2
comp=Z,0.8nm,0.4s
YKA Yellowknife Ar 73.15 343 P **P 02 48 05.8 +0.5**
comp=Z,1.0nm,1.0s,baz=27,slow=6.6,SNR=6.7
comp=Z,1.0nm,1.0s

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*IDC **30** 02:44:27.1±0.9, 0°.31N×97°.21E, h0km, mb4.0/17, mbtmp4.0/18, ML4.8/1, MS3.2/5, Error ellipse: s-maj=32.5km s-min=15.1km az=51.0*
*DJA **30** 02:44:27.0±1.1, 0°.7N±3°×9°.7E±°, h13km±7km, M4.6/17, mb4.9/6, mB5.1/3, MLv4.5/17, Mw(mB)4.5/3*
*NEIC **30** 02:44:29.4±1.7, 0°.27N±0°.07×97°.1E±0°.1, h10km±1km, mb4.7/16, Error ellipse: s-maj=19.9km s-min=12.0km az=257.0*
ISC 30 02:44:30.0±0.6, 0°.16N±0°.07×97°.08E±0°.07, h22km, n81, σ1§49/64, mb4.3/28, MS3.3/5, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**1.22**	**100**	P	**Pn**	**02 44 51.8**	**+0.1**
PBSI				S	**Sb**	**02 45 08.3**	**+0.6**
GSI	**Gunungsitoli**	**1.24**	**24**		**Pn**	**02 44 50.3**	**-1.7**
GSI	**Gunungsitoli**	**1.24**	**24**	P	**Pn**	**02 44 50.4**	**-1.6**
GSI	**Gunungsitoli**	**1.24**	**24**	P	**Pn**	**02 44 50.5**	**-1.6**
SNSI	**Sinabang, Aceh**	**2.36**	**341**	P	**Pn**	**02 45 04.7**	**-2.7**
SISI	**Saibi**	**2.49**	**126**	P	**Pn**	**02 45 09.2**	**-0.1**
MNSI	**Mandailing Nat**	**2.58**	**76**	P	**Pn**	**02 45 10.3**	**-0.1**
RPSI	**Rantau Prapat**	**3.12**	**36**	Pn	**Pn**	**02 45 16.9**	**-1.0**
PSI	**Prapat**	**3.20**	**35**	P	**Pn**	**02 45 17.5**	**-1.7**
PPI	**Padang Panjang**	**3.37**	**100**	P	**Pn**	**02 45 21.9**	**+0.5**
KCSI	**Kotacane, Aceh**	**3.41**	**12**	P	**Pn**	**02 45 20.1**	**-1.8**
TSI	**Tuntungan**	**3.63**	**24**	P	**Pn**	**02 45 24.0**	**-1.0**
PPSI	**Pulau Pagai**	**4.12**	**135**	P	**Pn**	**02 45 30.9**	**-0.9**
BSI	**Banda Aceh**	**5.59**	**341**	P	Pn	02 45 46.6	-5.3
	73nm,0.5s,2μm0.4nm						
IPM	**Ipoh**	**5.83**	**43**		**Pn**	**02 45 55.1**	**0.0**
KULM	**Kulim**	**6.22**	**35**		**Pn**	**02 45 58.7**	**-1.8**
KULM	**Kulim**	**6.22**	**35**	P	**Pn**	**02 45 59.4**	**-1.1**
MNAI	**Manna**	**7.39**	**127**	Pn	**Pn**	**02 46 15.6**	**-1.1**
MNAI	**Manna**	**7.39**	**127**	P	**Pn**	**02 46 16.6**	**-0.1**
KASI	**Kota Agung**	**9.31**	**127**	P	**Pn**	**02 46 41.6**	**-1.5**
BBJI	**Bungbulang**	**12.98**	**126**	P	**Pn**	**02 47 30.0**	**-3.3**
XMI	**Christmas Isla**	**13.58**	**141**	P	Pn	02 47 36.4	-5.1
	44nm,0.6s						
CMAR	**Chiang Mai Arr**	**18.27**	**6**	P	**Pn**	**02 48 41.6**	**-0.7**
	1.3nm,0.3s,baz=196,slow=10,SNR=6.1						
CMAR				LR	LR	02 55 43.5	
	comp=Z,37nm,18.1s,baz=200,slow=37						
	1.9nm,0.3s						
PHRA	**Phrae**	**18.48**	**9**	P	**P**	**02 48 44.6**	**-0.1**
PHRA				IAmb	IAmb	02 48 54.9	
	comp=Z,58nm,1.1s						
KKM	**Kota Kinabalu**	**19.97**	**73**		**P**	**02 49 01.2**	**0.0**
KKM				IAmb	IAmb	02 49 13.0	
	comp=Z,28nm,0.8s						
PLAI	**Plampang**	**22.47**	**114**	P	**P**	**02 49 25.7**	**-2.3**
TOLI2	**Tolitoli**	**23.72**	**88**	P	**P**	**02 49 39.7**	**-1.1**
TOLI2				IAmb	IAmb	02 49 51.4	
	comp=Z,19nm,0.8s						
H08S2	**Diego Garcia H**	**25.71**	**252**	T	T	03 17 23.1	
	baz=72,slow=76,SNR=79						
H08S3	**Diego Garcia H**	**25.72**	**252**	T	T	03 17 15.2	
	baz=72,slow=76,SNR=127						
LUWI	**Luwuk**	**25.72**	**93**	P	**P**	**02 50 01.8**	**+2.8**
H08S1	**Diego Carcia H**	**25.73**	**252**	T	T	03 17 17.0	
	baz=72,slow=76,SNR=148						
SHL	**Shillong**	**25.75**	**349**	P	**P**	**02 50 00.6**	**+1.1**
PZH	**PanZhiHua**	**26.57**	**9**	P	**P**	**02 50 10.0**	**+3.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,160nm,5.2s						
SOEI	**Soe**	**28.79**	**111**	P	**P**	**02 50 24.9**	**-2.0**
DAV	**Davao City (W)**	**29.24**	**76**	LR	LR	03 03 08.1	
	comp=Z,65nm,18.8s,baz=324,slow=38						
XAN	**Xi'an**	**35.48**	**17**	P	P	02 51 34.0	+8.8
XAN				pmax	pmax		
	comp=Z,9.0nm,0.5s						
LYN	**LuoYang**	**37.12**	**21**	*e*P	**P**	**02 51 41.0**	**+1.9**
LYN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
H01W3	**Cape Leeuwin H**	**38.34**	**157**	T	T	03 32 47.5	
	baz=333,slow=76,SNR=28						
H01W2	**Cape Leeuwin H**	**38.35**	**157**	T	T	03 32 47.6	
	baz=333,slow=76,SNR=29						
H01W1	**Cape Leeuwin H**	**38.35**	**157**	T	T	03 32 45.2	
	baz=333,slow=76,SNR=22						
HNS	**HongShan**	**40.48**	**22**	⇑P	**P**	**02 52 07.5**	**+0.3**
HNS				pmax	pmax		
	comp=Z,5.0nm,0.9s						
WRA	**Warramunga Arr**	**41.60**	**121**	P	**P**	**02 52 17.2**	**+0.4**
	comp=Z,9.7nm,0.8s,baz=301,slow=9.0,SNR=90						
	comp=Z,9.7nm,0.8s						
WR0	**Warramunga Arr**	**41.78**	**121**	P	**P**	**02 52 18.4**	**+0.2**
WR0				IAmb	IAmb	02 52 19.4	
	comp=Z,16nm,0.8s						
HHC	**Hu-ho-hao-te**	**42.58**	**16**	*e*P	**P**	**02 52 26.3**	**+1.7**
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,80nm,3.8s						
ASAR	**Alice Springs**	**42.88**	**126**	P	**P**	**02 52 27.7**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=298,slow=8.1,SNR=22						
	comp=Z,1.8nm,0.7s						

WMQ	**Urumqi**	**44.27**	**350**	*e*P	**P**	**02 52 40.0**	**+1.9**
WMQ				LR	LR		
	comp=N,1μm,20.9s						
WMQ				LR	LR		
	comp=E,1μm,24.2s						
NRN	**Naryn**	**45.30**	**338**	P	**P**	**02 52 47.1**	**+0.5**
NRN				IAmb	IAmb	02 52 57.3	
	comp=Z,6.3nm,0.8s						
DRK	**Karamyk**	**45.45**	**332**	P	**P**	**02 52 47.8**	**-0.1**
JNU	**Nakatsue**	**45.66**	**41**	LR	LR	03 13 37.8	
	comp=Z,42nm,18.6s,baz=21,slow=38						
BTK	**Batken**	**46.36**	**332**	P	**P**	**02 52 54.5**	**-0.3**
BTK				IAmb	IAmb	02 53 07.0	
	comp=Z,8.5nm,0.9s						
XLT	**XiLinHaoTe**	**46.73**	**19**	*e*P	**P**	**02 53 02.3**	**+4.7**
XLT				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSRS	**Korea Array**	**46.77**	**34**	P	**P**	**02 52 57.1**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=220,slow=9.1,SNR=2.2						
KSRS				LR	LR	03 13 06.0	
	comp=Z,23nm,18.0s,baz=350,slow=37						
	comp=Z,0.7nm,0.5s						
SONM	**Songino Array**	**48.17**	**8**	P	**P**	**02 53 08.8**	**0.0**
	comp=Z,0.3nm,0.4s,baz=187,slow=11,SNR=2.1						
	comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**48.22**	**346**	P	**P**	**02 53 09.1**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=165,slow=7.8,SNR=11						
	comp=Z,1.3nm,0.5s						
KKAR	**Karatay Array**	**48.93**	**334**	P	**P**	**02 53 14.1**	**-0.5**
KKAR	**Karatay Array**	**48.93**	**334**	P	**P**	**02 53 14.1**	**-0.5**
KKAR				IAmb	IAmb	02 53 25.8	
	comp=Z,2.8nm,0.9s						
CTA	**Charters Tower**	**52.16**	**116**	LR	LR	03 17 20.3	
	comp=Z,20nm,21.5s,baz=296,slow=38						
KURBB	**Kurchatov Arra**	**52.70**	**345**	P	**P**	**02 53 41.7**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=165,slow=7.0,SNR=8.2						
	comp=Z,0.8nm,0.7s						
STKA	**Stephens Creek**	**52.76**	**131**	P	**P**	**02 53 45.0**	**+1.4**
STKA	**Stephens Creek**	**52.76**	**131**	P	**P**	**02 53 43.8**	**+0.2**
	comp=Z,4.4nm,0.9s,baz=326,slow=4.4,SNR=7.5						
	comp=Z,4.4nm,0.9s						
USRK	**Ussuriysk Ar.**	**53.72**	**31**	P	**P**	**02 53 49.2**	**-1.2**
	comp=Z,3.0nm,0.8s,baz=218,slow=6.8,SNR=4.3						
	comp=Z,3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**54.56**	**351**	P	**P**	**02 53 56.0**	**-0.4**
ZALV	**Zalesovo Beam**	**54.56**	**351**	P	**P**	**02 53 55.8**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=182,slow=5.8,SNR=8.6						
	comp=Z,2.5nm,0.6s						
RAYN	**Ar Rayn**	**55.14**	**299**	P	**P**	**02 54 01.0**	**-0.3**
KLR	**Kul'dur**	**57.23**	**26**	P	**P**	**02 54 13.2**	**-2.4**
	comp=Z,1.4nm,0.8s,baz=270,slow=7.1,SNR=2.3						
	comp=Z,1.4nm,0.8s						
ABKAR	**Akbulak array**	**58.37**	**332**	P	**P**	**02 54 22.5**	**-1.2**
ABKAR				IAmb	IAmb	02 54 33.3	
	comp=Z,7.6nm,0.8s						
ABKAR	**Akbulak array**	**58.37**	**332**	P	**P**	**02 54 22.2**	**-1.4**
AKTO	**Aktyubinsk**	**60.09**	**332**	P	**P**	**02 54 36.4**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=149,slow=12,SNR=1.9						
	comp=Z,0.7nm,0.6s						
H04N2	**CROZET ISLANDS**	**60.85**	**214**	T	T	04 02 01.3	
	baz=55,slow=75,SNR=68						
H04N1	**CROZET ISLANDS**	**60.87**	**214**	T	T	04 02 01.8	
	baz=55,slow=75,SNR=92						
H04N3	**CROZET ISLANDS**	**60.87**	**214**	T	T	04 02 00.5	
	baz=55,slow=75,SNR=62						
H04S1	**CROZET ISLANDS**	**61.19**	**214**	T	T	04 01 45.5	
	baz=54,slow=75,SNR=10.0						
H04S3	**CROZET ISLANDS**	**61.20**	**214**	T	T	04 02 07.0	
	baz=54,slow=75,SNR=11						
H04S2	**CROZET ISLANDS**	**61.21**	**214**	T	T	04 02 12.4	
	baz=54,slow=75,SNR=3.9						
KBZ	**Khabaz**	**64.78**	**319**	P	**P**	**02 55 09.3**	**+2.3**
	comp=Z,1.1nm,0.8s,baz=117,slow=9.0,SNR=1.6						
	comp=Z,1.1nm,0.8s						
MMAI	**Mount Meron Ar**	**66.41**	**306**	P	**P**	**02 55 19.4**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=98,slow=11,SNR=2.0						
	comp=Z,0.5nm,0.4s						
NRIK	**Noril'sk**	**69.35**	**356**	P	**P**	**02 55 34.0**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=159,slow=5.8,SNR=1.7						
	comp=Z,1.4nm,0.5s						
BRTR	**Keskin Array B**	**69.72**	**313**	P	**P**	**02 55 37.5**	**-1.1**
	comp=Z,0.8nm,0.7s,baz=149,slow=4.2,SNR=4.2						
	comp=Z,0.8nm,0.7s						
AKASG	**Malin Array Be**	**76.00**	**323**	P	**P**	**02 56 15.4**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=85,slow=5.5,SNR=3.1						
	comp=Z,0.1nm,0.4s						
ARCES	**ARCESS Array B**	**83.47**	**340**	P	**P**	**02 56 56.3**	**+0.6**
	comp=Z,2.5nm,1.0s,baz=121,slow=3.5,SNR=1.3						
	comp=Z,2.5nm,1.0s						
TXAR	**Lajitas Array**	**144.61**	**32**	PKP	**PKPab**	**03 04 04.2**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=268,slow=2.3,SNR=5.4						

GCMT 30 03:24:18.0±0.3,55.61S±0.02×124.77W±0.03,h26km±1km, MW4.9/81,5C,Moment Tensor Solution. s25,c31; s81,c108; Duration: 0 Moment tensor: Scale 1016 Nm; M_{rr}0.26±.19; $M_{\theta\theta}$1.74±.17; $M_{\phi\phi}$-2.00±.16; $M_{r\theta}$-0.16±.28; $M_{\theta\phi}$2.49±.09; $M_{\phi r}$0.30±.25; **Best double couple:** $M_0$3.13000×10^{16} **NP1:**ϕ_s108.00000°,δ86.00000°, λ-4.00000°. **NP2:**ϕ_s199.00000°,δ86.00000°, λ-176.00000°. **Principal axes:** T 2.9840, Plg0.0000°, Azm153.0000°; N 0.2940, Plg85.0000°, Azm245.0000°; P -3.2770, Plg5.0000°, Azm63.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**37.03**	**320**	*e*LR	LR	03 41 21.3	
	2μm,26.8s						
PPT2	**Papeete2**	**42.39**	**324**	*e*LR	LR	03 43 50.6	
	324nm,23.2s						
PPT2				*e*LR	LR	03 43 58.3	
	208nm,21.2s						
VNA3	**Neumayer Olymp**	**45.47**	**156**	⇑P	P	03 32 29.9	-4.4
	comp=Z,4.2nm,0.8s						
VNA1	**Neumayer--Stat**	**46.22**	**156**	⇑P	P	03 32 37.1	-3.0
	comp=Z,7.4nm,0.9s						
VNA2	**Neumayer--Wtz**	**46.22**	**156**	⇑P	P	03 32 36.5	-3.7
	comp=Z,5.8nm,0.7s,baz=220,slow=9.4						
SNAA	**Sanae**	**46.67**	**158**	⇑P	P	03 32 40.0	-3.8
	comp=Z,44nm,0.8s						
TROLL	**Troll, Antarti**	**47.48**	**160**	⇑P	P	03 32 46.7	-3.5
	comp=Z,136nm,0.9s						
TAOE	**Nuku Hiva Isla**	**48.20**	**339**	*e*LR	LR	03 46 40.3	
	comp=Z,288nm,24.8s						
DZM	**Mont Dzumac**	**60.13**	**274**	*e*LR	LR	03 52 01.0	
	comp=Z,172nm,25.0s						

WEL 30 04:06:53.3±0.7,39.5S±5.5°×18.0W±.°,h33km,M3.4/16, ML3.7/20,MLv3.4/16 Error ellipse: s-maj=6.5km s-min=5.3km az=32.7,confirmed,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**1.90**	**295**	P	Pn	04 07 23.7	+0.2
MHGZ	**Mahia Peninsul**	**1.95**	**274**	P	Pn	04 07 24.1	0.0
MHGZ				S	Sb	04 07 49.9	-2.2
PRGZ	**Paritu Road**	**2.00**	**280**	P	Pn	04 07 24.9	+0.1
PRGZ				S	Sn	04 07 49.3	+0.6
PUZ	**Puketiti**	**2.08**	**305**	P	Pn	04 07 25.5	-0.4
PUZ				S	Sn	04 07 49.8	-1.0
KNZ	**Kokohu**	**2.15**	**277**	P	Pn	04 07 27.0	+0.2
RIGZ	**Rimuhau**	**2.15**	**285**	P	Pn	04 07 27.0	+0.1
WMGZ	**Waiomatatini S**	**2.15**	**313**	P	Pn	04 07 26.3	-0.6
WMGZ				S	Sn	04 07 53.7	+1.3
TKGZ	**Te Karaka**	**2.18**	**292**	P	Pn	04 07 26.7	-0.5
TKGZ				S	Sn	04 07 53.4	+0.4
TWGZ	**Tauwhareparae**	**2.21**	**300**	P	Pb	04 07 30.6	-2.0
TWGZ				S	Sn	04 07 53.8	0.0
PKGZ	**Pakihiroa**	**2.32**	**307**	P	Pn	04 07 28.1	-1.1
PKGZ				S	Sn	04 07 56.5	-0.1
MXZ	**Matakaoa Point**	**2.40**	**316**	P	Pn	04 07 31.3	+1.1
MXZ				S	Sn	04 07 59.8	+1.4
SNGZ	**Shannon Statio**	**2.45**	**281**	P	Pn	04 07 31.6	+0.7
MWZ	**Matawai**	**2.45**	**292**	P	Pn	04 07 30.7	-0.3
MWZ				S	Sn	04 07 59.4	-0.4
RAGZ	**Rawiri**	**2.47**	**288**	P	Pn	04 07 32.0	+0.6
WHHZ	**Waihua**	**2.48**	**274**	S	Sn	04 08 00.4	-0.1
HAZ	**Te Kaha**	**2.57**	**306**	P	Pn	04 07 32.0	-0.7
ARHZ	**Aropaoanui**	**2.65**	**270**	P	Pn	04 07 34.7	+0.9
ARHZ				S	Sn	04 08 06.5	+1.8
RTZ	**Ruatahuna**	**2.76**	**283**	P	Pn	04 07 35.6	+0.3
RTZ				S	Sn	04 08 08.2	+0.6
URZ	**Urewera**	**2.78**	**291**	P	Pn	04 07 36.4	+0.9
URZ				S	Sn	04 08 08.7	+0.8
MTHZ	**Maungataniwha**	**2.81**	**278**	P	Pn	04 07 36.6	+0.6
MTHZ				S	Sn	04 08 09.6	+0.8
MCHZ	**McNeill Hill**	**2.88**	**266**	P	Pn	04 07 37.6	+0.6
MCHZ				S	Sn	04 08 11.1	+0.7
MUGZ	**Murupara**	**2.96**	**285**	P	Pn	04 07 39.3	+1.4
MUGZ				S	Sn	04 08 14.3	+2.0
BKZ	**Black Stump Fm**	**3.04**	**271**	P	Pn	04 07 39.4	+0.2
BKZ				S	Sn	04 08 13.2	-1.3
KWHZ	**Kaweka Forest**	**3.09**	**266**	P	Pn	04 07 39.9	0.0
KWHZ				S	Sn	04 08 15.3	-0.4
MRHZ	**Matea Rd**	**3.14**	**277**	P	Pn	04 07 41.5	+0.9
TSZ	**Takapari Road**	**3.52**	**256**	P	Pn	04 07 46.1	+0.5
TSZ				S	Sn	04 08 25.8	-0.3
MOVZ	**Moawhango**	**3.61**	**267**	P	Pn	04 07 47.9	+0.9
MOVZ				S	Sn	04 08 28.8	+0.3
CTZ	**Chatham Island**	**4.96**	**154**	P	Pn	04 08 03.8	-1.7
CTZ				S	Sn	04 08 55.6	-6.1

BUC ***30*** *04:15:51.8±0.2,45.64N×26.75E,h128km±1km,ml3.7/51, Error ellipse: s-maj=1.6km s-min=1.1km az=3.0*
MOLD ***30*** *04:15:52.2,45.68N×26.67E,h110km,MB3.2,Mb3.1*
BEO ***30*** *04:15:53.2±1.6,45.64N×26.62E,h50km±1km,ML3.3/8*
ISC 30 04:15:49.2±1.3,45.65N±0.03×26.73E±0.03,h148km±6km, n79,σ1.958/129,70C-28D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBR	**Spulber**	**0.10**	**8**	⇑P	**Pn**	**04 16 10.0**	**+0.9**
SPBR				⇑S	**Sn**	**04 16 23.0**	**-1.4**
PLOR	**Plostina**	**0.21**	**344**	⇑P	**Pn**	**04 16 09.9**	**+0.6**
PLOR				⇓S	**Sn**	**04 16 22.9**	**-1.8**
VRI	**Vrincioaia**	**0.22**	**359**	⇑P	**Pn**	**04 16 10.1**	**+0.8**
VRI				⇓S	**Sn**	**04 16 23.4**	**-1.3**
PANC	**Panciu**	**0.37**	**52**	⇓P	**Pn**	**04 16 10.4**	**+0.7**
PANC				⇑S	**Sn**	**04 16 24.5**	**-0.8**
NEHR	**Nehoiu**	**0.38**	**234**	⇑P	**Pn**	**04 16 11.0**	**+1.1**
NEHR				⇑S	**Sn**	**04 16 24.6**	**-0.8**
COVR	**Voineasa-Covas**	**0.42**	**298**	⇑P	**Pn**	**04 16 10.7**	**+0.7**
COVR				⇓S	**Sn**	**04 16 24.1**	**-1.7**
COSR	**Cosmesti PH**	**0.46**	**63**	⇑P	**Pn**	**04 16 10.7**	**+0.6**
COSR				⇑S	**Sn**	**04 16 25.1**	**-0.9**
ISR	**Istrita**	**0.55**	**194**	⇓P	**Pn**	**04 16 11.8**	**+1.1**
ISR				⇓S	**Sn**	**04 16 24.7**	**-2.2**
MLR	**Muntele Rosu**	**0.57**	**254**	⇓P	**Pn**	**04 16 12.1**	**+1.2**
MLR				⇑S	**Sn**	**04 16 26.5**	**-0.9**
GHRR		**0.63**	**49**	⇑P	**Pn**	**04 16 11.9**	**+0.9**
GHRR				⇑S	**Sn**	**04 16 27.0**	**-0.7**
TURR	**Turia**	**0.64**	**309**	⇑P	**Pn**	**04 16 12.2**	**+1.0**
TURR				⇓S	**Sn**	**04 16 27.1**	**-0.8**
TUDR		**0.66**	**94**	⇑P	**Pn**	**04 16 11.7**	**+0.5**
TUDR				⇑S	**Sn**	**04 16 27.2**	**-0.7**
ONER	**Baraj Valea Uz**	**0.73**	**341**	⇑P	**Pn**	**04 16 12.5**	**+0.8**
ONER				⇓S	**Sn**	**04 16 28.0**	**-0.9**
SLCR	**Slobozia Conac**	**0.73**	**94**	⇑P	**Pn**	**04 16 12.1**	**+0.5**
SLCR				⇑S	**Sn**	**04 16 27.4**	**-1.3**
IZVR	**Izvoarele**	**0.73**	**98**	⇑P	**Pn**	**04 16 11.9**	**+0.3**
IZVR				⇑S	**Sn**	**04 16 27.2**	**-1.6**
SCHL	**Schela**	**0.79**	**100**	⇑P	**Pn**	**04 16 12.7**	**+0.6**
SCHL				⇑S	**Sn**	**04 16 28.1**	**-1.3**
SCHLR	**Schela**	**0.79**	**103**	⇑S	**Sn**	**04 16 28.5**	**-1.0**
SCHLR				⇑P	**Pn**	**04 16 12.7**	**+0.6**
OZUR		**0.80**	**304**	⇓P	**Pn**	**04 16 12.8**	**+0.6**
OZUR				⇑S	**Sn**	**04 16 28.2**	**-1.5**
NEGRR	**Negrea**	**0.81**	**97**	⇑P	**Pn**	**04 16 13.0**	**+0.8**
NEGRR				⇑S	**Sn**	**04 16 28.8**	**-1.0**
TESR	**Tescani**	**0.87**	**356**	⇑P	**Pn**	**04 16 13.2**	**+0.5**
BIR	**Birlad**	**0.88**	**45**	⇑P	**Pn**	**04 16 13.4**	**+0.6**
BIR				⇑S	**Sn**	**04 16 29.3**	**-1.5**
SCTR	**Scanteiesti**	**0.89**	**88**	⇓P	**Pn**	**04 16 13.7**	**+0.9**
SCTR				⇓S	**Sn**	**04 16 29.7**	**-1.2**
TATR	**Tatarca**	**0.93**	**93**	⇑P	**Pn**	**04 16 14.0**	**+0.9**
TATR				⇓S	**Sn**	**04 16 30.3**	**-1.1**
GISR	**Galati**	**0.95**	**102**	⇑P	**Pn**	**04 16 13.0**	**-0.3**
GISR				⇓S	**Sn**	**04 16 31.0**	**-0.8**
VLDR	**Vladesti**	**0.97**	**78**	⇑P	**Pn**	**04 16 14.3**	**+0.8**
VLDR				⇑S	**Sn**	**04 16 31.0**	**-1.0**
DOPR	**Dopca**	**0.99**	**289**	⇑P	**Pn**	**04 16 14.9**	**+1.2**
DOPR				⇑S	**Sn**	**04 16 31.9**	**-0.6**
SULR		**1.03**	**199**	⇑P	**Pn**	**04 16 15.5**	**+1.5**
SULR				⇓S	**Sn**	**04 16 32.9**	**0.0**
GIUM	**Giurgiulesti**	**1.05**	**98**	⇑P	**Pn**	**04 16 15.1**	**+1.0**
GIUM				⇑S	**Sn**	**04 16 32.5**	**-0.7**
GIUM	**Giurgiulesti**	**1.05**	**98**	*e*P	**Pn**	**04 16 15.3**	**+1.1**
	23μm,0.1s						
GIUM				*e*S	**Sn**	**04 16 32.2**	**-1.0**
	22μm,0.3s						
CFR	**Carcaliu**	**1.10**	**115**	⇓P	**Pn**	**04 16 15.1**	**+0.5**
CFR				⇓S	**Sn**	**04 16 32.3**	**-1.6**
AMRR	**Amara**	**1.12**	**157**	⇑P	**Pn**	**04 16 16.2**	**+1.3**
AMRR				⇑S	**Sn**	**04 16 34.3**	**-0.1**
LEHL	**Lehliu**	**1.18**	**177**	⇑P	**Pn**	**04 16 17.0**	**+1.7**
LEHL				⇑S	**Sn**	**04 16 35.6**	**+0.4**
MTUR	**Matau**	**1.25**	**251**	⇓P	**Pn**	**04 16 17.9**	**+1.8**
HARR	**Harsova**	**1.28**	**138**	⇑P	**Pn**	**04 16 17.3**	**+1.0**
LEOM	**Leova**	**1.34**	**51**	P	**Pn**	**04 16 17.8**	**+0.9**
LEOM				S	**Sn**	**04 16 36.4**	**-1.7**
CIOR	**Ciorogarla**	**1.34**	**207**	⇓P	**Pn**	**04 16 17.9**	**+0.9**
CIOR				⇓S	**Sn**	**04 16 38.5**	**+0.3**
BIZ	**Bicaz**	**1.36**	**342**	⇓S	**Sn**	**04 16 38.5**	**-0.1**
BUC1	**Bucharest**	**1.39**	**201**	⇓S	**Sn**	**04 16 39.0**	**-0.1**
TPGR	**Topolog**	**1.43**	**123**	⇑P	**Pn**	**04 16 18.6**	**+0.7**
TLBR	**Topalu**	**1.45**	**139**	⇑P	**Pn**	**04 16 19.1**	**+1.1**
ARR	**Arges**	**1.50**	**260**	⇓P	**Pn**	**04 16 20.4**	**+1.7**
ARR				⇑S	**Sn**	**04 16 41.4**	**+0.2**
SGRR	**Singureni**	**1.52**	**201**	⇓S	**Sn**	**04 16 41.4**	**0.0**
TLCR		**1.54**	**107**	⇑P	**Pn**	**04 16 20.2**	**+1.2**
TLCR				⇑S	**Sn**	**04 16 40.7**	**-1.0**
HUMR	**Humele**	**1.67**	**229**	⇑P	**Pn**	**04 16 21.9**	**+1.5**
HUMR				⇓S	**Sn**	**04 16 44.6**	**+0.3**
ICOR	**Ion Corvin**	**1.71**	**153**	⇑P	**Pn**	**04 16 22.4**	**+1.5**
ICOR				⇑S	**Sn**	**04 16 44.4**	**-0.7**
TNR	**Turnu Rosu**	**1.72**	**271**	⇑P	**Pn**	**04 16 22.3**	**+1.2**
PRAR	**RASCA**	**1.75**	**349**	⇑P	**Pn**	**04 16 23.0**	**+1.7**
MFTR	**Murfatlar**	**1.90**	**140**	⇑P	**Pn**	**04 16 24.4**	**+1.4**
MILM	**Milestii Mici**	**1.92**	**48**	⇑P	**Pn**	**04 16 24.3**	**+1.0**
MILM	**Milestii Mici**	**1.92**	**48**	⇑*i*P	**Pn**	**04 16 24.2**	**+1.0**
	2μm,0.1s						
MILM				⇑*i*S	**Sn**	**04 16 47.6**	**-1.8**
	13μm,0.1s						
KIS	**Kishinev**	**1.98**	**46**	⇓P	**Pn**	**04 16 25.0**	**+1.1**
KIS	**Kishinev**	**1.98**	**46**	*e*P	**Pn**	**04 16 24.9**	**+1.1**
	2μm,0.2s						
KIS				*e*S	**Sn**	**04 16 49.1**	**-1.5**
	9μm,0.2s						
LOT	**Lotru**	**2.09**	**266**	⇑P	**Pn**	**04 16 27.0**	**+1.6**
LOT				⇑S	**Sn**	**04 16 54.5**	**+1.3**
SRE	**Strehaia**	**2.68**	**250**	⇑P	**Pn**	**04 16 34.2**	**+1.7**
MARR	**Marisel-Cluj**	**2.71**	**294**	⇑P	**Pn**	**04 16 34.6**	**+1.7**
GZR	**Gura Zlata**	**2.79**	**266**	⇑P	**Pn**	**04 16 35.5**	**+1.6**
GZR				⇑S	**Sn**	**04 17 09.7**	**+1.4**
DRGR		**3.02**	**294**	*e*Pn	**Pn**	**04 16 37.9**	**+1.2**
DRGR				*e*Sn	**Sn**	**04 17 08.6**	**-4.8**
RMGR	**Halanga-Turnu**	**3.02**	**252**	⇑P	**Pn**	**04 16 38.0**	**+1.3**
DJES	**Djerdap**	**3.14**	**253**	*e*Pn	**Pn**	**04 16 38.7**	**+0.5**
DJES				*e*Sn	**Sn**	**04 17 11.6**	**-4.5**
HERR	**Herculane**	**3.14**	**257**	⇑P	**Pn**	**04 16 39.6**	**+1.3**
SURR	**Surduc**	**3.23**	**274**	⇑S	**Sn**	**04 17 20.0**	**+1.8**
BZS	**Buzias**	**3.59**	**271**	⇓P	**Pn**	**04 16 45.8**	**+1.9**
BZS	**Buzias**	**3.59**	**271**	*e*Pn	**Pn**	**04 16 45.6**	**+1.6**
SIRR	**Siria**	**3.59**	**282**	⇑P	**Pn**	**04 16 46.4**	**+2.4**
MDVR	**Moldovita**	**3.65**	**258**	⇑P	**Pn**	**04 16 46.1**	**+1.3**
MDVR	**Moldovita**	**3.65**	**258**	*e*Pn	**Pn**	**04 16 46.1**	**+1.3**
MDVR				*e*Sn	**Sn**	**04 17 24.4**	**-3.6**
ZAGS	**Zajecar**	**3.69**	**242**	*e*Pn	**Pn**	**04 16 45.6**	**+0.2**
ZAGS				*e*Sn	**Sn**	**04 17 25.1**	**-3.8**
ZAPS	**Zavoj**	**3.77**	**232**	*e*Pn	**Pn**	**04 16 47.7**	**+1.3**
ZAPS				*e*Sn	**Sn**	**04 17 27.3**	**-3.6**
KUBS	**Kucevo**	**3.79**	**253**	*e*Pn	**Pn**	**04 16 46.3**	**-0.3**
KUBS				*e*Sn	**Sn**	**04 17 28.1**	**-3.1**
BOVS	**Bovan**	**4.11**	**242**	⇓P	**Pn**	**04 16 51.9**	**+1.1**
BOVS	**Bovan**	**4.11**	**242**	*e*Pn	**Pn**	**04 16 51.5**	**+0.7**
BOVS				*e*Sn	**Sn**	**04 17 35.5**	**-3.2**
BOSS	**Bosilegrad**	**4.39**	**226**	*e*Pn	**Pn**	**04 16 56.7**	**+2.1**
KOLS	**Kolonicke sedl**	**4.47**	**319**	*e*P	**Pn**	**04 16 59.2**	**+3.7**
BARS	**Barje**	**4.53**	**233**	*e*Pn	**Pn**	**04 16 58.0**	**+1.7**
GRUS	**Gruza**	**4.63**	**250**	*e*Pn	**Pn**	**04 16 59.1**	**+1.5**
GRUS				*e*Sn	**Sn**	**04 17 48.1**	**-2.8**
SELS	**Selova**	**4.70**	**241**	*e*Pn	**Pn**	**04 17 00.5**	**+2.0**
SELS				*e*Sn	**Sn**	**04 17 48.0**	**-4.5**
TRUS	**Trudelj**	**4.71**	**255**	*e*Pn	**Pn**	**04 17 00.2**	**+1.5**
DIVS	**Divibare**	**5.03**	**254**	*e*Pn	**Pn**	**04 17 04.5**	**+1.4**
IVAS	**Ivanjica**	**5.13**	**249**	*e*Pn	**Pn**	**04 17 05.2**	**+0.9**

IDC ***30*** *04:17:17.1±0.5,45.71S×166.61E,h0km,mb4.3/10, mbtmp4.4/12,ML4.7/2,MS3.9/15,Error ellipse: s-maj=20.8km s-min=18.0km az=44.0*
WEL ***30*** *04:17:19.0,45.73S×166.51E,h22km,ML5.2,Mw4.7, Moment Tensor Solution. s9 Moment tensor: Scale 1016 Nm;* M_{rr}*0.75;* $M_{\theta\theta}$*0.60;* $M_{\phi\phi}$*-1.35;* $M_{r\theta}$*0.52;* $M_{\theta\phi}$*0.05;* $M_{\phi r}$*-0.76; Fault plane solution:* M_0*1.47000×10^{16} NP1:* ϕ_s*33.00000°,*δ*37.00000°,*λ*146.00000°. NP2:* ϕ_s*150.00000°,*δ*70.00000°,*λ*57.00000°. Principal axes: T 1.3236, Plg53.0000°, Azm21.0000°; N 0.2906, Plg30.0000°, Azm162.0000°; P -1.6142, Plg19.0000°, Azm264.0000°; Stations used: PYZ WHZ APZ SYZ WKZ EAZ JCZ LBZ ODZ REVERSE FAULTING*
NEIC ***30*** *04:17:19.3±1.6,45.68S±0.02×166.54E±0.05,h10km±1km, mb4.4/8 Error ellipse: s-maj=6.8km s-min=2.9km az=290.0*
WEL ***30*** *04:17:19.8±0.9,46.3S±3.3°×16.7E±.°,h5km,M5.2/12, ML5.3/12,MLv5.2/12,Error ellipse: s-maj=8.1km s-min=3.9km az=106.4,confirmed*
NOU ***30*** *04:17:20.5,45.72S×166.66E,h2km,mb5.1/19,Off W. Coast of S. Island, N.Z.*
GCMT ***30*** *04:17:21.3±0.4,45.57S±0.03×166.12E±0.04,h32km±1km, MW5.0/60,Moment Tensor Solution. s26,c31; s60,c86; Duration: 0 Moment tensor: Scale 1016Nm;* M_{rr}*2.13±.26;* $M_{\theta\theta}$*0.78±.17;* $M_{\phi\phi}$*-2.91±.16;* $M_{r\theta}$*1.38±.25;* $M_{\theta\phi}$*-0.02±.11;* $M_{\phi r}$*-2.20±.21; Best double couple:* M_0*3.67700×10^{16} NP1:*ϕ_s*156.00000°,*δ*70.00000°,*λ*67.00000°. NP2:* ϕ_s*27.00000°,*δ*30.00000°,*λ*136.00000°. Principal axes: T 3.5670, Plg59.0000°, Azm34.0000°; N 0.2230, Plg21.0000°, Azm164.0000°; P -3.7860, Plg22.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 04:17:20.5±0.6,45.77S±0.03×166.62E±0.04,h20km±2km, n217,σ1.966/207,mb4.5/18,MS3.8/14,5C,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLNS	**Resolution Isl**	**0.09**	**31**	P	**Pb**	**04 17 24.5**	**+0.1**
RLNS				S	**Sb**	**04 17 28.2**	**+1.3**
PYZ	**Puysegur Point**	**0.40**	**174**	Pg	**Pb**	**04 17 28.9**	**0.0**
PYZ				Sg	**Sb**	**04 17 35.1**	**+0.3**
PYZ	**Puysegur Point**	**0.40**	**174**	P	**Pb**	**04 17 29.0**	**0.0**
PYZ				S	**Sb**	**04 17 35.0**	**+0.2**
PYZ	**Puysegur Point**	**0.40**	**174**	P	**Pb**	**04 17 29.0**	**0.0**
DCZ	**Deep Cove**	**0.48**	**51**		**Pb**	**04 17 29.6**	**-0.7**
DCZ				Sg	**Sg**	**04 17 35.0**	**-1.9**
DCZ	**Deep Cove**	**0.48**	**51**	P	**Pb**	**04 17 29.6**	**-0.7**
DCZ				S	**Sg**	**04 17 36.1**	**-0.8**
TAFS	**Te Anau Fire S**	**0.85**	**66**	P	**Pb**	**04 17 35.0**	**-1.5**
TAFS				S	**Sb**	**04 17 46.1**	**-1.4**
WHZ	**Wether Hill Ro**	**0.94**	**98**		**Pb**	**04 17 38.4**	**+0.3

PKE	Pukeiti	8.53	42	P	Pn	04 19 25.0	+2.2
PRWZ	Pori Road	8.59	56	P	Pn	04 19 25.2	+1.5
DREZ	Durham Road	8.63	43	P	Pn	04 19 29.5	+5.3
BFZ	Birch Farm	8.67	58	P	Pn	04 19 25.2	+0.4
BFZ	Birch Farm	8.67	58	P	Pn	04 19 26.2	+1.4
DVHZ	Dannevirke	8.87	55	P	Pn	04 19 28.4	+0.9
ANWZ	Angora Road	8.95	57	P	Pn	04 19 29.3	+0.8
VRZ	Vera Road	8.96	45	P	Pn	04 19 30.6	+2.0
PKVZ	Pokaka	9.13	48	P	Pn	04 19 37.9	+6.8
PRHZ	Porangahau	9.16	57	P	Pn	04 19 34.3	+2.8
TRVZ	Turoa	9.23	49	P	Pn	04 19 36.3	+3.7
WNVZ	Wahianoa	9.23	49	P	Pn	04 19 37.1	+4.5
MAVZ	Matarangi	9.26	49	P	Pn	04 19 39.6	+6.5
MOVZ	Moawhango	9.26	50	P	Pn	04 19 37.4	+4.5
WHVZ	Whangaehu Hut	9.26	49	P	Pn	04 19 37.9	+4.8
FWVZ	Far West T-bar	9.26	49	P	Pn	04 19 37.3	+4.2
TUVZ	Tukino	9.31	49	P	Pn	04 19 38.3	+4.7
TWVZ	Taurewa	9.34	47	P	Pn	04 19 37.1	+3.1
NGZ	Ngauruhoe	9.35	48	P	Pn	04 19 38.4	+4.2
WTVZ	West Tongariro	9.38	48	P	Pn	04 19 37.7	+3.0
NNVZ	North Ngauruho	9.39	48	P	Pn	04 19 37.9	+3.1
OTVZ	Oturere	9.39	49	P	Pn	04 19 37.7	+2.9
KRHZ	Kereru	9.43	53	P	Pn	04 19 37.6	+2.4
ETVZ	East Tongariro	9.43	49	P	Pn	04 19 38.1	+2.8
NTVZ	North Tongarir	9.44	48	P	Pn	04 19 41.4	+5.9
TMVZ	Te Maari	9.44	48	P	Pn	04 19 38.8	+3.3
PXZ	Pawanui	9.45	56	P	Pn	04 19 39.4	+3.9
HIZ	Hauiti	9.48	43	P	Pn	04 19 36.9	+1.1
HIZ	Hauiti	9.48	43	P	Pn	04 19 36.3	+0.4
KATZ	Kakaramea	9.54	48	P	Pn	04 19 43.3	+6.4
KAHZ	Kahuranaki	9.61	55	P	Pn	04 19 39.3	+1.5
RATZ	Rangitukua	9.66	48	P	Pn	04 19 42.7	+4.2
BKZ	Black Stump Fm	9.83	51	P	Pn	04 19 42.8	+2.0
BKZ	Black Stump Fm	9.83	51	P	Pn	04 19 42.7	+2.0
TLZ	Tolley Road	9.96	45	P	Pn	04 19 46.2	+3.7
MTHZ	Maungataniwha	10.24	51	P	Pn	04 19 50.6	+4.2
RTZ	Ruatahuna	10.49	51		Pn	04 19 50.2	+0.4
RTZ	Ruatahuna	10.49	51	P	Pn	04 19 52.9	+3.1
AWAZ	Awhitu Peninsu	10.57	37	P	Pn	04 19 51.8	+1.0
WTAZ	Waiatarua	10.65	37	P	Pn	04 19 53.0	+1.0
MKAZ	Moumakai	10.77	39	P	Pn	04 19 54.0	+0.6
RAGZ	Rawiri	10.81	52	P	Pn	04 19 59.5	+5.3
URZ	Urewera	10.82	50	Pn	Pn	04 19 53.6	-0.5
	2.6nm,0.3s,baz=237,slow=7.8,SNR=12						
URZ				Sn	Sn	04 21 50.3	-4.3
	2.7nm,0.3s,baz=127,slow=18,SNR=3.3 14nm,0.6s						
URZ	Urewera	10.82	50	P	Pn	04 19 54.8	+0.6
URZ	Urewera	10.82	50	P	Pn	04 19 54.8	+0.6
RIGZ	Rimuhau	10.86	53	P	Pn	04 19 57.1	+2.3
MBAZ	Motutapu North	10.93	38	P	Pn	04 19 57.8	+2.1
MWZ	Matawai	10.99	51	P	Pn	04 19 58.9	+2.3
KUZ	Kuaotunu	11.31	40	P	Pn	04 20 05.8	+4.9
KUZ	Kuaotunu	11.31	40	P	Pn	04 20 02.6	+1.7
TWGZ	Tauwhareparae	11.35	52	P	Pn	04 20 05.3	+3.8
WCZ	Waipu Caves	11.42	33	P	Pn	04 20 02.8	+0.3
HAZ	Te Kaha	11.55	50	P	Pn	04 20 05.4	+1.3
PUZ	Puketiti	11.58	52	P	Pn	04 20 06.4	+1.8
OUZ	Omahuta	11.79	29	P	Pn	04 20 08.1	+0.6
OUZ	Omahuta	11.79	29	P	Pn	04 20 07.9	+0.4
WMGZ	Waiomatatini S	11.85	52	P	Pn	04 20 08.0	-0.2
MXZ	Matakaoa Point	11.97	51	P	Pn	04 20 12.1	+2.2
MXZ	Matakaoa Point	11.97	51	P	Pn	04 20 10.4	+0.4
CTZ	Chatham Island	12.09	86	P	Pn	04 20 12.6	+1.0
CTZ	Chatham Island	12.09	86	P	Pn	04 20 11.7	+0.1
TAU	Tasmania Unive	14.10	275	P	Pn	04 20 41.1	+2.1
MOO	Moorlands	14.35	276	P	Pn	04 20 42.3	-0.1
TOO	Toolangi	17.75	290		Pn	04 21 22.8	-3.6
TOO				IAmb	IAmb	04 21 58.2	
	comp=Z,20nm,1.4s						
RAO	Raoul Island	20.49	42	LR	LR	04 29 42.2	
	comp=Z,703nm,21.0s,baz=202,slow=36						
DZM	Mont Dzumac	23.64	360	*e*P	P	04 22 30.8	+0.3
	comp=Z,92nm,1.4s						
DZM				*e*LR	LR	04 28 13.9	
	comp=Z,132nm,21.6s						
DZM	Mont Dzumac	23.64	360	LR	LR	04 30 39.0	
	comp=Z,168nm,18.6s,baz=90,slow=34						
STKA	Stephens Creek	23.80	297	P	P	04 22 31.7	-0.2
STKA	Stephens Creek	23.80	297	P	P	04 22 30.6	-1.3
	comp=Z,3.2nm,0.7s,baz=112,slow=9.1,SNR=8.8						
STKA				LR	LR	04 31 02.4	
	comp=Z,263nm,18.1s,baz=177,slow=35 comp=Z,3.2nm,0.7s						
BBOO	Buckleboo	26.78	288	P	P	04 22 59.5	+0.5
MSVF	Nonsavu	29.53	23	LR	LR	04 33 51.7	
	comp=Z,328nm,19.0s,baz=174,slow=34						
CTA	Charters Tower	30.61	320	LR	LR	04 35 00.7	
	comp=Z,187nm,18.0s,baz=134,slow=35						
ASAR	Alice Springs	34.41	299	P	P	04 24 05.3	-1.1
ASAR	Alice Springs	34.41	299	P	P	04 24 06.0	-0.5
	comp=Z,2.4nm,0.9s,baz=140,slow=8.8,SNR=12						
ASAR				PcP	PcP	04 26 40.9	-1.0
	comp=Z,0.2nm,0.3s,baz=130,slow=4.6,SNR=3.0						
ASAR				LR	LR	04 37 36.1	
	comp=Z,173nm,19.6s,baz=146,slow=36 comp=Z,2.4nm,0.9s						
HNR	Honiara	36.66	349	LR	LR	04 37 54.4	
	comp=Z,242nm,19.7s,baz=176,slow=34						
WR0	Warramunga Arr	36.84	304	P	P	04 24 27.5	+0.1
WR0				IAmb	IAmb	04 24 40.4	
	comp=Z,8.4nm,0.9s						
WRA	Warramunga Arr	36.98	303	P	P	04 24 26.8	-1.7
WRA	Warramunga Arr	36.98	303	P	P	04 24 27.1	-1.4
	comp=Z,4.3nm,1.1s,baz=138,slow=7.9,SNR=14						
WRA				PcP	PcP	04 26 49.0	-0.5
	comp=Z,1.4nm,0.8s,baz=136,slow=2.6,SNR=4.9						
WRA				LR	LR	04 39 23.3	
	comp=Z,142nm,18.2s,baz=84,slow=36 comp=Z,4.3nm,1.1s						
NWAO	Narrogin (SRO)	39.68	271	LR	LR	04 37 16.7	
	comp=Z,139nm,20.2s,baz=322,slow=30						
H01W1	Cape Leeuwin H	40.78	266	T	T	05 08 08.4	
	baz=122,slow=75,SNR=1041						
H01W2	Cape Leeuwin H	40.79	266	T	T	05 08 09.2	
	baz=122,slow=75,SNR=1424						
H01W3	Cape Leeuwin H	40.80	266	T	T	05 08 09.7	
	baz=122,slow=75,SNR=1251						
TBI	Tubuai	41.85	73	*e*LR	LR	04 36 38.3	
	comp=Z,2μm,34.0s						
FITZ	Fitzroy Crossi	43.68	295	LR	LR	04 43 21.4	
	comp=Z,99nm,18.3s,baz=142,slow=36						
QSPA	South Pole Qui	44.36	180	P	P	04 25 30.1	+1.0
QSPA				IAmb	IAmb	04 25 56.4	
	comp=Z,9.0nm,1.2s						
QSPA	South Pole Qui	44.36	180	P	P	04 25 29.6	+0.5
	comp=Z,2.6nm,0.9s,baz=14,slow=3.9,SNR=6.3 comp=Z,2.6nm,0.9s						
PPT2	Papeete2	45.87	67	*e*LR	LR	04 38 40.4	
	comp=Z,331nm,23.8s						
BATI	Baumata	50.95	300	LR	LR	04 47 15.5	
	comp=Z,135nm,18.4s,slow=35						
BELA	Belgrano 2	55.94	175	P	P	04 26 57.0	+0.5
BELA				IAmb	IAmb	04 27 17.3	
	comp=Z,7.5nm,1.3s						
TAOE	Nuku Hiva Isla	58.45	68	*e*LR	LR	04 44 17.6	
	comp=Z,266nm,22.3s						
TROLL	Troll, Antarti	61.99	186	⇑P	P	04 27 39.1	+0.3
	comp=Z,212nm,0.9s						
SNAA	Sanae	62.63	184	P	P	04 27 43.3	+0.3
SNAA	Sanae	62.63	184	⇑P	P	04 27 42.0	-0.9
	comp=Z,61nm,0.8s						
SNAA	Sanae	62.63	184	P	P	04 27 43.0	0.0
	comp=Z,3.2nm,0.9s,baz=168,slow=2.6,SNR=8.5 comp=Z,3.2nm,0.9s						
PMSA	Palmer Station	62.93	158	LR	LR	04 51 32.8	
	comp=Z,81nm,18.1s,baz=278,slow=33						
VNA3	Neumayer Olymp	63.27	181	⇑P	P	04 27 46.9	-0.3
	comp=Z,2.4nm,0.8s						
VNA2	Neumayer-Watz	63.54	182	⇑P	P	04 27 49.1	+0.2
	comp=Z,3.6nm,0.7s,baz=164,slow=5.0						
VNA1	Neumayer-Stat	63.84	182	⇑P	P	04 27 51.4	+0.6
	comp=Z,0.3nm,0.5s						
RPN	Rapa Nui	67.13	106	LR	LR	04 49 53.5	
	comp=Z,60nm,21.1s,baz=236,slow=29						
DHH	Diamond Head	74.13	34	P	P	04 28 56.0	+0.7
PLCA	Paso Flores	79.87	140	P	P	04 29 28.1	+0.3
	comp=Z,1.7nm,0.9s,baz=225,slow=2.9,SNR=3.5 comp=Z,1.7nm,0.9s						
JNU	Nakatsue	84.93	331	P	P	04 29 53.7	-0.1
	comp=Z,10nm,0.9s,baz=131,slow=2.7,SNR=6.7 comp=Z,10nm,0.9s						
MJAR	Matsushiro Arr	85.84	337	P	P	04 29 58.3	0.0
	comp=Z,2.9nm,0.9s,baz=187,slow=4.8,SNR=4.1 comp=Z,2.9nm,0.9s						
H08S2	Diego Garcia H	87.45	262	T	T	06 06 21.0	
	baz=136,slow=76,SNR=785						
H08S1	Diego Garcia H	87.46	262	T	T	06 06 22.0	
	baz=136,slow=76,SNR=365						
H08S3	Diego Garcia H	87.47	262	T	T	06 06 22.5	
	baz=136,slow=76,SNR=829						
CMAR	Chiang Mai Arr	88.42	299	P	P	04 30 11.7	+0.5
	comp=Z,1.4nm,0.3s,baz=154,slow=3.2,SNR=18						
CMAR				LR	LR	05 10 40.2	
	comp=Z,20nm,20.4s,baz=140,slow=36 comp=Z,1.4nm,0.3s						
KSRS	Korea Array	89.87	330	P	P	04 30 18.4	+0.9
	comp=Z,2.4nm,0.9s,baz=154,slow=5.6,SNR=6.4 comp=Z,2.4nm,0.9s						
PZH	PanZhiHua	92.90	306	P	P	04 30 34.5	+2.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,4.8s						
HHC	Hu-ho-hao-te	99.27	321	*e*P	Pdif	04 31 03.0	+2.3
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,4.2s						
ILAR	Eielson Array	116.02	20	PKP	PKPdf	04 35 59.5	-1.2
	comp=Z,0.9nm,0.6s,baz=295,slow=3.8,SNR=14						
MKAR	Makanchi Array	118.12	309	PKP	PKPdf	04 36 04.9	-0.5
	comp=Z,1.0nm,0.9s,baz=108,slow=4.7,SNR=3.2						
TIXI	Tiksi	120.14	347	PKP	PKPdf	04 36 06.8	-1.6
	comp=Z,1.4nm,0.4s,baz=114,slow=2.3,SNR=5.8						
KURBB	Kurchatov Arra	122.39	311	PKP	PKPdf	04 36 12.6	-0.8
	comp=Z,2.8nm,1.1s,baz=119,slow=1.6,SNR=12						
YKA	Yellowknife Ar	124.70	34	PKP	PKPdf	04 36 16.1	-1.2
	comp=Z,0.8nm,0.7s,baz=256,slow=1.9,SNR=10						
BVAR	Borovoye Array	127.95	310	PKP	PKPdf	04 36 23.9	-0.1
	comp=Z,1.6nm,0.9s,baz=103,slow=4.7,SNR=5.5						
DBIC	Dimbokro	140.36	193	PKP	PKPdf	04 36 48.2	-0.2
	comp=Z,4.9nm,0.8s,baz=152,slow=5.2,SNR=5.1						
NOR	Nord	144.01	1	*i* P	PKPab	04 36 51.0	+0.6
NEEM	North Greenlan	144.89	13	*i* P	PKPbc	04 36 52.2	-1.9
TORD	Torodi Ar. Bea	145.07	206	PKPbc	PKPab	04 36 55.5	-0.6
	comp=Z,18nm,0.8s,baz=137,slow=2.9,SNR=112						
BRTR	Keskin Array B	145.35	277	PKPbc	PKPbc	04 36 56.4	-0.2
	comp=Z,5.2nm,0.8s,baz=144,slow=4.9,SNR=21						
KULLO	Kullorsuaq	145.41	19	*i* P	PKPdf	04 36 53.4	-2.1
SCHQ	Schefferville	145.45	55	PKPbc	PKPdf	04 36 54.8	-1.4
	comp=Z,6.8nm,0.8s,baz=251,slow=6.8,SNR=3.8						
SPITS	Spitsbergen Ar	145.50	350	PKPbc	PKPdf	04 36 54.7	-0.9
	comp=Z,25nm,0.7s,baz=64,slow=6.6,SNR=12						
UPNV	Upernavik	146.60	22	*i* P	PKPdf	04 36 58.5	+1.0
DAG	Danmarks Havn	148.81	2	*i* P	PKPdf	04 37 02.0	+0.9
ARCES	ARCESS Array B	149.33	334	PKPbc	PKPbc	04 37 06.2	-0.3
	comp=Z,13nm,0.7s,baz=77,slow=3.3,SNR=31						
DBG	Daneborg	151.21	4	*e*P	PKPdf	04 37 07.4	+2.5
AKASG	Malin Array Be	151.50	296	PKPbc	PKPbc	04 37 11.9	-0.3
	comp=Z,2.3nm,0.6s,baz=82,slow=2.5,SNR=9.0						
FINES	FINESS Array B	152.37	319	PKPbc	PKPbc	04 37 13.7	-0.1
	comp=Z,7.4nm,0.9s,baz=76,slow=4.7,SNR=11						
DY2G	Dye2	152.88	29	*i* P	PKPbc	04 37 13.9	-1.3
ICESG	Greenland Ices	153.11	21	*e*P	PKPdf	04 37 11.4	+3.0

*IDC **30** 04:19:27.7±0.8, 55°.23S×143°.70W, h0km, mb4.1/5, mbtmp4.1/5, MS3.9/21, Error ellipse: s-maj=133.4km s-min=21.9km az=178.0*

*GCMT **30** 04:19:38.0±0.3, 56°.51S±0°.02×142°.93W±0°.06, h18km±1km, MW5.0/74, Moment Tensor Solution. s23,c26; s74,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.08±.25; $M_{\theta\theta}$=2.87±.17; $M_{\phi\phi}$=0.21±.14; $M_{r\theta}$=2.36±.34; $M_{\theta\phi}$=-0.12±.09; $M_{r\phi}$=-1.67±.40; Best double couple: M_0=4.12200×10^{16} NP1:φs=293.00000°, δ67.00000°, λ=-75.00000°. NP2: φs=79.00000°, δ27.00000°, λ=-121.00000°. Principal axes: T 3.8270, Plg21.0000°, Azm12.0000°; N 0.5950, Plg13.0000°, Azm108.0000°; P -4.4180, Plg65.0000°, Azm228.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 30 04:19:35.0±1.6, 56°.4S±0°.2×142°.2W±0°.4, h10km, n44, σ3§29/7, mb4.3/5, MS3.9/21, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	32.38	287	LR	LR	04 35 16.8	
	comp=Z,226nm,21.7s,baz=193,slow=30						
TBI	Tubuai	33.39	348	*e*S	S	04 31 38.7	+4.4
	643nm,30.0s						
TBI				*e*LR	LR	04 34 29.0	
	518nm,47.8s						
TBI				*e*LR	LR	04 34 54.8	
	3μm,25.8s						
QSPA	South Pole Qui	33.81	180	LR	LR	04 37 40.3	
	comp=Z,293nm,20.3s,baz=43,slow=31						
PMSA	Palmer Station	36.91	136	LR	LR	04 38 32.7	
	comp=Z,118nm,18.5s,baz=7.5,slow=30						
RPN	Rapa Nui	37.48	53	LR	LR	04 38 08.5	
	comp=Z,164nm,21.6s,baz=226,slow=30						
PPT2	Papeete2	39.09	349	*e*S	S	04 32 57.4	-4.3
	159nm,27.5s						
PPT2				*e*LR	LR	04 37 30.7	
	701nm,26.2s						
PPT2				*e*LR	LR	04 37 38.4	
	403nm,41.0s						
TAOE	Nuku Hiva Isla	47.40	3	*e*LR	LR	04 41 36.3	
	515nm,25.1s						
PLCA	Paso Flores	47.69	103	LR	LR	04 43 19.4	
	comp=Z,73nm,21.2s,baz=222,slow=29						
H03S2	Juan Fernandez	48.02	90	T	T	05 20 29.4	
	baz=220,slow=74,SNR=45						
H03S1	Juan Fernandez	48.03	90	T	T	05 20 30.3	
	baz=220,slow=74,SNR=35						
H03S3	Juan Fernandez	48.04	90	T	T	05 20 33.9	
	baz=220,slow=74,SNR=20						
H03N3	Juan Fernandez	48.31	89	T	T	05 20 55.6	
	baz=223,slow=72,SNR=88						
H03N2	Juan Fernandez	48.31	89	T	T	05 20 55.6	
	baz=223,slow=72,SNR=30						
H03N1	Juan Fernandez	48.33	89	T	T	05 20 53.7	
	baz=223,slow=72,SNR=114						
MSVF	Nonsavu	48.74	306	LR	LR	04 43 55.9	
	comp=Z,95nm,21.1s,baz=137,slow=31						
DZM	Mont Dzumac	50.74	291	*e*LR	LR	04 42 59.0	
	210nm,26.5s						
DZM	Mont Dzumac	50.74	291	LR	LR	04 46 30.9	
	comp=Z,120nm,18.5s,baz=180,slow=33						
STKA	Stephens Creek	56.67	261	P	P	04 29 09.5	-8.8
	1.3nm,0.7s,baz=150,slow=8.7,SNR=3.9						
STKA				LR	LR	04 49 24.3	
	comp=Z,66nm,18.5s,baz=118,slow=32 1.3nm,0.7s						
CTA	Charters Tower	63.30	274	LR	LR	04 54 37.2	
	comp=Z,57nm,18.3s,baz=96,slow=34						
CPUP	Villa Florida	65.72	101	P	P	04 30 20.6	+0.9
	3.8nm,1.1s,baz=204,slow=10.0,SNR=4.0						
CPUP				LR	LR	04 55 19.6	
	comp=Z,74nm,18.0s,baz=206,slow=32 3.8nm,1.1s						
NNA	Nana	66.51	76	LR	LR	04 52 13.4	
	comp=Z,110nm,20.1s,baz=232,slow=29						
ASAR	Alice Springs	67.31	261	P	P	04 30 19.3	-11
	1.8nm,0.9s,baz=141,slow=6.3,SNR=14 1.8nm,0.9s						
LPAZ	La Paz	67.77	86	P	P	04 30 32.6	-1.0
	2.6nm,1.0s,baz=209,slow=2.8,SNR=6.1						
LPAZ				LR	LR	04 54 49.3	
	comp=Z,40nm,18.5s,baz=192,slow=31 2.6nm,1.0s						
H01W1	Cape Leeuwin H	68.59	239	T	T	05 45 42.9	
	baz=142,slow=76,SNR=157						
H01W2	Cape Leeuwin H	68.59	239	T	T	05 45 43.4	
	baz=142,slow=76,SNR=173						
H01W3	Cape Leeuwin H	68.61	239	T	T	05 45 44.2	
	baz=142,slow=76,SNR=179						
WRA	Warramunga Arr	70.05	264	P	P	04 30 36.2	-11
	1.3nm,0.9s,baz=144,slow=5.8,SNR=6.8						
WRA				LR	LR	04 58 43.7	
	comp=Z,60nm,18.8s,baz=32,slow=34 1.3nm,0.9s						
FITZ	Fitzroy Crossi	76.32	258	LR	LR	05 01 53.6	
	comp=Z,84nm,18.4s,baz=159,slow=34						
CMIG	Matias Romero	83.20	45	LR	LR	05 00 17.6	
	comp=Z,74nm,21.2s,baz=243,slow=30						
PFO	Pinyon Flats O	92.25	21	LR	LR	05 04 12.0	
	comp=Z,156nm,21.5s,baz=174,slow=29						
RCBR	Riachuelo	94.11	107	LR	LR	05 12 32.5	
	comp=Z,15nm,18.6s,baz=218,slow=33						
ANMO	Albuquerque	95.88	29	LR	LR	05 07 01.8	
	comp=Z,90nm,21.2s,baz=26,slow=30						
NVAR	Mina Array Bea	96.57	19	LR	LR	05 06 11.7	
	comp=Z,112nm,21.6s,baz=226,slow=29						
LBTB	Lobatse	98.30	169	LR	LR	05 12 26.1	
	comp=Z,108nm,20.7s,baz=214,slow=32						
YBH	Yreka Blue Hor	99.09	15	LR	LR	05 07 43.0	
	comp=Z,129nm,21.4s,baz=180,slow=30						
H10S3	ASCENSION HYDR	101.93	127	T	T	06 28 33.7	
	baz=13,slow=74,SNR=23						
H10S2	ASCENSION HYDR	101.93	127	T	T	06 28 33.4	
	baz=207,slow=74,SNR=29						
H10N3	ASCENSION HYDR	102.98	126	T	T	06 30 27.7	
	baz=206,slow=74,SNR=32						
H10N1	ASCENSION HYDR	102.99	126	T	T	06 30 20.9	
	baz=206,slow=74,SNR=29						
H10N2	ASCENSION HYDR	103.00	126	T	T	06 30 25.4	
	baz=206,slow=74,SNR=31						
ILAR	Eielson Array	120.85	358	PKP	PKPdf	04 38 18.2	-7.6
	0.5nm,0.9s,baz=204,slow=2.0,SNR=3.4						
ESDC	Sonseca Array	148.07	104	PKPbc	PKPdf	04 39 18.0	+1.1
	1.5nm,0.9s,baz=241,slow=1.3,SNR=4.4						
MKAR	Makanchi Array	151.22	270	PKPbc	PKPdf	04 39 20.1	-1.5
	1.3nm,0.8s,baz=113,slow=3.2,SNR=6.1						
KURBB	Kurchatov Arra	155.38	274	PKPbc	PKPdf	04 39 27.8	+0.3
	0.2nm,0.5s,baz=116,slow=2.2,SNR=2.4						

*IDC **30** 04:33:20.7±3.3, 23°.75N×94°.07E, h54km±36km, mb3.5/7, mbtmp3.8/9, ML3.8/2, MS3.7/2, Error ellipse: s-maj=24.4km s-min=15.2km az=61.0*

ISC 30 04:33:22.1±0.9, 23°.7N±0°.1×94°.01E±0°.08, h73km, n11, σ1§02/10, mb3.8/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRDH	Bariadhala	2.40	246	P	Pn	04 33 58.4	-0.8
	22nm,0.3s,baz=262,slow=16,SNR=1.4						
BRDH				S	Sn	04 34 28.2	+0.5
	101nm,0.3s,baz=50,slow=23,SNR=6.8 71nm,0.3s						
CMAR	Chiang Mai Arr	6.95	138	P	Pn	04 35 00.8	-0.6
	0.5nm,0.3s,baz=311,slow=13,SNR=2.4						
CMAR				LR	LR	04 38 27.6	
	comp=Z,20nm,19.9s,baz=265,slow=44 1.6nm,0.4s						
MKAR	Makanchi Array	24.90	341	P	P	04 38 38.1	0.0
	0.5nm,0.3s,baz=158,slow=9.4,SNR=12 0.5nm,0.3s						
SONM	Songino Array	26.04	19	P	P	04 38 48.0	-0.6
	0.2nm,0.3s,baz=208,slow=11,SNR=1.7 0.2nm,0.3s						
KURBB	Kurchatov Arra	29.45	340	P	P	04 39 18.2	-0.6
	0.2nm,0.3s,baz=154,slow=7.2,SNR=3.8 0.2nm,0.3s						
ZALV	Zalesovo Beam	31.00	349	P	P	04 39 32.0	-0.4
	0.6nm,0.3s,baz=145,slow=8.8,SNR=5.1 0.6nm,0.3s						
BVAR	Borovoye Array	34.33	335	P	P	04 40 03.7	+2.1
	1.2nm,0.9s,baz=116,slow=6.7,SNR=1.5 1.2nm,0.9s						
SEY	Seymchan	54.89	28	LR	LR	05 10 32.2	
	comp=Z,103nm,20.4s,baz=151,slow=41						
WRA	Warramunga Arr	58.54	134	P	P	04 43 11.7	+0.4
	0.9nm,0.4s,baz=320,slow=7.5,SNR=40 0.9nm,0.4s						
ASAR	Alice Springs	60.96	138	P	P	04 43 28.6	+0.7
	1.8nm,0.5s,baz=320,slow=6.5,SNR=19 1.8nm,0.5s						
NOA	NORSAR Array B	66.11	328	LR	LR	05 17 15.4	
	comp=Z,44nm,18.8s,baz=280,slow=40						

IDC 30 05:17:36.0±7.5, 15°.73S×176°.94W, h401km±30km, mb3.1/3, mbtmp3.8/4, Error ellipse: s-maj=301.8km s-min=36.7km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	5.20	247	P	P	05 19 00.2	+0.3
	5.0nm,0.5s,baz=107,slow=15,SNR=7.0						
WRA	Warramunga Arr	46.45	257	P	P	05 25 24.4	-0.7
	0.3nm,0.4s,baz=93,slow=7.4,SNR=11 0.3nm,0.4s						
ASAR	Alice Springs	46.76	252	P	P	05 25 27.9	+0.4
	2.8nm,0.5s,baz=89,slow=8.0,SNR=32 2.8nm,0.5s						
ILAR	Eielson Array	83.47	12	P	P	05 29 19.4	0.0
	0.3nm,0.7s,baz=215,slow=5.9,SNR=2.8 0.3nm,0.7s						

*IDC **30** 05:21:23.1±10.0, 0°.77N×99°.02E, h188km±41km, mb3.3/4, mbtmp3.8/4, Error ellipse: s-maj=300.5km s-min=18.6km az=54.0*

*DJA **30** 05:21:25.2±1.2, 1°.N±3°×10°.0E±°, h11km±11km, M4.0/8, MLv4.0/8*

ISC 30 05:21:23.4±1.0, 1°.44N±0°.06×100°.20E±0°.08, h150km, n18, σ1§60/15, mb3.6/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKNI	Bangkinang	1.38	143	P	Pn	05

MAKR			AML	AML	05 28 32.9	
AXAR	**Agios Charalam**	**0.37 158**	P	**Pg**	**05 28 26.2**	**-0.3**
AXAR			S	**Sb**	**05 28 33.1**	**+0.2**
48μm,0.4s						
AXAR	**Agios Charalam**	**0.37 158**	P	**Pg**	**05 28 26.1**	**-0.5**
AXAR			S	**Sb**	**05 28 32.1**	**-0.8**
AXAR			AML	AML	05 28 36.0	
AXAR			AML	AML	05 28 37.6	
comp=E,84316μm,0.5s						
EVR	**Evrytania**	**0.56 250**	P	**Pb**	**05 28 30.4**	**-0.1**
EVR			S	**Sb**	**05 28 39.0**	**+0.7**
comp=E,20μm,0.4s						
LRSO	**Larissa Observ**	**0.56 353**	P	**Pg**	**05 28 29.5**	**-0.6**
LRSO			S	**Sb**	**05 28 39.4**	**+1.0**
comp=E,27μm,0.6s						
LRSO	**Larissa Observ**	**0.56 353**	P	**Pg**	**05 28 29.4**	**-0.6**
LRSO			S	**Sg**	**05 28 37.0**	**-0.5**
THL	**Klokotos Trika**	**0.58 322**	P	**Pg**	**05 28 29.7**	**-0.6**
THL			S	**Sb**	**05 28 38.5**	**-0.3**
comp=E,8μm,0.5s						
THL	**Klokotos Trika**	**0.58 322**	P	**Pg**	**05 28 29.7**	**-0.6**
THL			S	**Sg**	**05 28 37.9**	**-0.1**
THL			AML	AML	05 28 41.5	
comp=N,18267μm,0.5s						
THL			AML	AML	05 28 43.5	
comp=E,14882μm,0.6s						
XOR	**Xorichti**	**0.61 65**	P	**Pg**	**05 28 30.1**	**-0.8**
XOR			S	**Sg**	**05 28 39.3**	**+0.2**
comp=E,7μm,0.5s						
NEO	**Neokhori**	**0.61 71**	P	**Pg**	**05 28 30.1**	**-0.9**
NEO			S	**Sg**	**05 28 39.3**	**+0.2**
comp=E,21μm,0.3s						
NEO	**Neokhori**	**0.61 71**	P	**Pg**	**05 28 30.2**	**-0.7**
NEO			S	**Sg**	**05 28 38.1**	**-1.0**
NEO			AML	AML	05 28 41.7	
comp=N,50741μm,0.3s						
NEO			AML	AML	05 28 42.9	
comp=E,34858μm,0.3s						
TYRN	**Tyrnavos**	**0.63 343**	P	**Pg**	**05 28 30.4**	**-0.8**
TYRN			S	**Sg**	**05 28 39.9**	**+0.3**
comp=E,11μm,0.6s						
TYRN	**Tyrnavos**	**0.63 343**	P	**Pg**	**05 28 30.3**	**-1.0**
TYRN			S	**Sg**	**05 28 38.5**	**-1.1**
DLFA	**Delphi**	**0.63 179**	P	**Pg**	**05 28 30.1**	**-1.2**
DLFA			S	**Sb**	**05 28 40.0**	**-0.4**
ANX	**Ano Chora**	**0.68 220**	P	**Pg**	**05 28 31.1**	**-1.1**
ANX			S	**Sb**	**05 28 41.5**	**-0.2**
comp=E,13μm,0.3s						
ANX	**Ano Chora**	**0.68 220**	P	**Pg**	**05 28 31.1**	**-1.1**
ANX			S	**Sb**	**05 28 41.2**	**-0.5**
ANX			AML	AML	05 28 47.6	
comp=N,28833μm,0.3s						
ANX			AML	AML	05 28 48.3	
comp=E,23265μm,0.4s						
KALE	**Kalithea**	**0.77 200**	P	**Pg**	**05 28 32.6**	**-1.2**
KALE			AML	AML	05 28 49.5	
comp=N,32992μm,0.5s						
KALE			AML	AML	05 28 53.2	
comp=E,22511μm,0.5s						
EFP	**Efpalio**	**0.82 213**	P	**Pg**	**05 28 33.3**	**-1.5**
EFP			S	**Sb**	**05 28 46.0**	**+0.3**
EFP	**Efpalio**	**0.82 213**	P	**Pg**	**05 28 33.9**	**-0.9**
EFP			S	**Sn**	**05 28 46.5**	**-1.3**
EFP			AML	AML	05 28 51.4	
comp=N,20025μm,0.4s						
EFP			AML	AML	05 28 59.8	
comp=E,19098μm,0.8s						
LIT	**Litokhoron**	**0.99 1**	P	**Pb**	**05 28 36.8**	**-1.0**
LIT			S	**Sn**	**05 28 52.0**	**-0.1**
comp=E,8μm,0.4s						
UPR	**University Cam**	**0.99 213**	P	**Pb**	**05 28 37.1**	**-0.7**
AOS2	**Alonissos-2**	**1.06 88**	P	**Pb**	**05 28 38.2**	**-0.8**
AOS2			S	**Sb**	**05 28 52.1**	**-0.7**
AOS2			AML	AML	05 28 55.2	
comp=E,5833μm,0.4s						
AOS2			AML	AML	05 28 58.1	
comp=N,6869μm,0.6s						
VIL2	**Platees**	**1.09 145**	P	**Pg**	**05 28 40.0**	**0.0**
VIL2			AML	AML	05 29 05.0	
comp=E,8529μm,0.5s						
VIL2			AML	AML	05 29 05.4	
comp=N,4770μm,0.5s						
AOS	**Alonnisos**	**1.09 87**	P	**Pb**	**05 28 38.1**	**-1.5**
AOS			S	**Sb**	**05 28 54.3**	**+0.7**
comp=N,3μm,0.5s						
KLV	**Kalavryta, Ach**	**1.10 194**	P	**Pb**	**05 28 39.1**	**-0.6**
LTK	**Loutraki**	**1.15 160**	P	**Pb**	**05 28 40.1**	**-0.5**
LTK			S	**Sb**	**05 28 55.3**	**0.0**
LTK			AML	AML	05 29 04.6	
comp=N,1266μm,0.5s						
LTK			AML	AML	05 29 07.0	
comp=E,1049μm,0.7s						
GUR	**Goura**	**1.18 185**	P	**Pb**	**05 28 40.7**	**-0.4**
GUR			AML	AML	05 29 04.0	
comp=E,6237μm,0.4s						
GUR			AML	AML	05 29 05.0	
comp=N,8116μm,0.8s						
LOUT	**Loutraki**	**1.19 161**	P	**Pn**	**05 28 40.2**	**-0.9**
KPRO	**Kipourio**	**1.20 315**	P	**Pn**	**05 28 41.3**	**-0.1**
KPRO			S	**Sb**	**05 28 56.8**	**-0.2**
PAIG	**Paliouri**	**1.24 48**	Pg	**Pn**	**05 28 41.6**	**-0.1**
PAIG			Sg	**Sb**	**05 28 55.2**	**-2.6**
DRO	**Drossia**	**1.30 208**	P	**Pb**	**05 28 42.7**	**-0.4**
DRO			AML	AML	05 29 11.4	
comp=N,9982μm,0.6s						
DRO			AML	AML	05 29 12.6	
comp=E,7196μm,0.3s						
KZN	**Kozani**	**1.31 336**	P	**Pn**	**05 28 42.2**	**-0.7**
KZN			S	**Sn**	**05 29 00.3**	**+0.2**
KZN			AML	AML	05 29 06.0	
comp=N,5153μm,0.5s						
KZN			AML	AML	05 29 09.7	
comp=E,8002μm,0.5s						
RLS	**Riolos of Patr**	**1.32 217**	P	**Pb**	**05 28 43.2**	**-0.2**
RLS			AML	AML	05 29 10.2	
comp=N,3308μm,0.6s						
RLS			AML	AML	05 29 12.5	
comp=E,4195μm,0.6s						
KYMI	**Kymi, Euboea I**	**1.35 110**	P	**Pn**	**05 28 43.7**	**+0.3**
KYMI			S	**Sn**	**05 29 01.3**	**+0.2**
KYMI			AML	AML	05 29 09.8	
comp=N,2393μm,0.6s						
KYMI			AML	AML	05 29 11.0	
comp=E,2842μm,0.5s						
JAN	**Janina**	**1.37 294**	P	**Pb**	**05 28 44.5**	**+0.1**
JAN			S	**Sg**	**05 29 02.2**	**-1.0**
JAN			AML	AML	05 29 10.3	
comp=N,7159μm,0.4s						
JAN			AML	AML	05 29 14.7	
comp=E,5210μm,0.6s						
NYDR	**Nydri-Lefkada**	**1.44 255**	P	**Pg**	**05 28 45.7**	**-1.0**
TSLK	**Tsoukalades, L**	**1.45 259**	P	**Pg**	**05 28 45.9**	**-0.9**
TSLK			AML	AML	05 29 13.9	
comp=E,8367μm,0.5s						
TSLK			AML	AML	05 29 15.8	
comp=N,5348μm,0.4s						
LKD2	**Lefkada island**	**1.45 258**	P	**Pg**	**05 28 45.9**	**-1.0**
LKD2			AML	AML	05 29 14.2	
comp=E,14760μm,0.7s						
LKD2			AML	AML	05 29 14.7	
comp=N,13904μm,0.7s						
PLG	**Polygyros**	**1.47 30**	P	**Pn**	**05 28 44.4**	**-0.5**
PLG			AML	AML	05 29 10.3	
comp=E,3178μm,0.9s						
PLG			AML	AML	05 29 10.4	
comp=N,2879μm,0.8s						
PENT	**Pentalofos**	**1.50 317**	P	**Pb**	**05 28 46.2**	**-0.4**
ATH	**Athens Observa**	**1.50 139**	P	**Pb**	**05 28 45.9**	**-0.5**
ATH			S	**Sb**	**05 29 05.0**	**-0.2**
ATH			AML	AML	05 29 12.9	
comp=N,3726μm,0.6s						
ATH			AML	AML	05 29 14.6	
comp=E,5493μm,0.6s						
EVGI	**Lefkada island**	**1.50 252**	P	**Pg**	**05 28 46.8**	**-1.1**
PTL	**Penteli**	**1.52 134**	P	**Pn**	**05 28 46.0**	**+0.4**
PTL			AML	AML	05 29 13.5	
comp=E,2702μm,0.7s						
PTL			AML	AML	05 29 14.2	
comp=N,3399μm,0.7s						
ATHU	**Athens Univers**	**1.54 138**	P	**Pb**	**05 28 47.5**	**+0.3**
DRAG	**Dragano-Lefkad**	**1.54 255**	P	**Pb**	**05 28 47.3**	**+0.1**
HORT	**Hortiatis**	**1.56 18**	Pn	**Pn**	**05 28 46.0**	**-0.2**
HORT			Sn	**Sn**	**05 29 02.9**	**-3.4**
HORT	**Hortiatis**	**1.56 18**	P	**Pn**	**05 28 45.7**	**-0.6**
HORT			AML	AML	05 29 10.3	
comp=N,1392μm,0.7s						
HORT			AML	AML	05 29 14.4	
comp=E,1336μm,0.8s						
THE	**Thessaloniki**	**1.56 14**	P	**Pn**	**05 28 46.0**	**-0.2**
THE			S	**Sn**	**05 29 06.2**	**0.0**
THE			AML	AML	05 29 10.0	
comp=E,971μm,0.5s						
THE			AML	AML	05 29 15.3	
comp=N,1310μm,0.5s						
VLY	**Voula,Athens**	**1.63 140**	P	**Pb**	**05 28 48.0**	**-0.6**
VLY			AML	AML	05 29 17.5	
comp=E,3297μm,0.6s						
VLY			AML	AML	05 29 17.9	
comp=N,3342μm,0.8s						
FSK	**Fiskardo**	**1.63 247**	P	**Pb**	**05 28 48.7**	**0.0**
FSK			AML	AML	05 29 16.1	
comp=E,7764μm,0.6s						
FSK			AML	AML	05 29 20.8	
comp=N,3852μm,0.4s						
OUR	**Ouranopolis**	**1.69 43**	Pn	**Pn**	**05 28 47.9**	**0.0**
OUR			Sn	**Sn**	**05 29 06.3**	**-2.9**
OUR	**Ouranopolis**	**1.69 43**	P	**Pn**	**05 28 47.8**	**0.0**
OUR			AML	AML	05 29 23.5	
comp=N,1431μm,0.9s						
OUR			AML	AML	05 29 29.1	
comp=E,2487μm,1.0s						
AMT	**Artemida-Makis**	**1.69 201**	P	**Pb**	**05 28 49.7**	**-0.1**
AMT			AML	AML	05 29 23.3	
comp=N,7767μm,0.5s						
AMT			AML	AML	05 29 24.0	
comp=E,6678μm,0.5s						
VLS	**Valsamata**	**1.75 238**	P	**Pb**	**05 28 50.2**	**-0.5**
VLS			AML	AML	05 29 23.7	
comp=E,2539μm,0.6s						
VLS			AML	AML	05 29 24.1	
comp=N,2850μm,0.5s						
SOH	**Sokhos**	**1.84 21**	P	**Pn**	**05 28 50.4**	**+0.3**
SOH			AML	AML	05 29 15.8	
comp=N,4909μm,0.5s						
SOH			AML	AML	05 29 19.7	
comp=E,4065μm,0.9s						
DMLN	**Damoulianata-K**	**1.86 243**	P	**Pb**	**05 28 53.0**	**+0.3**
FNA	**Florina**	**1.87 333**	Pn	**Pb**	**05 28 52.1**	**-0.8**
FNA			Sn	**Sn**	**05 29 14.4**	**+0.5**
FNA	**Florina**	**1.87 333**	*e*Pn	**Pn**	**05 28 51.5**	**+1.0**
FNA			*e*Sn	**Sb**	**05 29 16.6**	**+0.5**
FNA	**Florina**	**1.87 333**	P	**Pn**	**05 28 51.4**	**+1.0**
FNA			AML	AML	05 29 30.5	
comp=E,3415μm,0.6s						
FNA			AML	AML	05 29 35.5	
comp=N,3411μm,1.0s						
ITM	**Ithomi**	**1.98 193**	P	**Pb**	**05 28 54.6**	**0.0**
ITM			AML	AML	05 29 33.9	
comp=N,1549μm,0.6s						
ITM			AML	AML	05 29 37.6	
comp=E,1747μm,0.6s						
KOKK	**Kokkinochori,**	**2.07 34**	P	**Pn**	**05 28 53.0**	**-0.1**
KEK	**Kerkira**	**2.16 287**	P	**Pb**	**05 28 57.0**	**-0.8**
SRS	**Serrai**	**2.18 23**	*e*Pn	**Pn**	**05 28 54.8**	**+0.1**
SRS			*e*Sn	**Sn**	**05 29 19.5**	**-1.9**
SRS	**Serrai**	**2.18 23**	P	**Pn**	**05 28 54.8**	**+0.1**
VAY	**Valandovo**	**2.21 2**	*e*Pn	**Pn**	**05 28 55.8**	**+0.7**
VAY			*e*Sn	**Sn**	**05 29 23.3**	**+1.2**
VAY	**Valandovo**	**2.21 2**	*i* Pn	**Pn**	**05 28 55.9**	**+0.9**
PYL	**PYLOS**	**2.29 195**	P	**Pb**	**05 28 59.0**	**-0.9**
PYL			AML	AML	05 29 43.6	
comp=N,794μm,0.5s						
PYL			AML	AML	05 29 45.1	
comp=E,1454μm,1.1s						
OHR	**Ohrid**	**2.38 328**	*e*Pn	**Pn**	**05 28 59.3**	**+1.9**
OHR			*e*Sn	**Sb**	**05 29 28.6**	**-2.0**
OHR	**Ohrid**	**2.38 328**	*i* Pn	**Pb**	**05 28 59.4**	**-2.0**
NVR	**Nevrokopi**	**2.47 25**	P	**Pn**	**05 29 00.1**	**+1.3**
MMB	**Musomishta**	**2.62 21**	P	**Pn**	**05 29 01.3**	**+0.5**
MMB			S	**Sn**	**05 29 32.5**	**+0.2**
SIGR	**SIGRI**	**2.63 87**	Pn	**Pn**	**05 29 03.0**	**+2.2**
KKB	**Krupnik**	**2.77 10**	P	**Pn**	**05 29 04.4**	**+1.6**
KKB			S	**Sn**	**05 29 36.4**	**+0.3**
GADA	**Gvkgeada**	**2.85 67**	Pn	**Pn**	**05 29 04.6**	**+0.7**
TIR	**Tirane**	**3.00 319**	*e*Pn	**Pn**	**05 29 08.4**	**+2.5**
TIR			*e*Sn	**Sn**	**05 29 44.2**	**+2.6**
TIR	**Tirane**	**3.00 319**	⇑P	**Pn**	**05 29 06.9**	**+1.0**
TIR	**Tirane**	**3.00 319**	P	**Pn**	**05 29 08.8**	**+2.9**
TIR			P	**Pb**	**05 29 09.1**	**-2.9**
EZN	**Ezine**	**3.06 75**	Pn	**Pn**	**05 29 07.8**	**+1.0**
EZNE	**Ezine-Canakkal**	**3.08 77**	Pn	**Pn**	**05 29 08.7**	**+1.7**
RDO	**Rodhopi**	**3.10 48**	Pn	**Pn**	**05 29 07.7**	**+0.3**
RZN	**Rozhen**	**3.10 33**	P	**Pn**	**05 29 08.0**	**+0.4**
APE	**Apeiranthos**	**3.16 129**	⇑P	**Pb**	**05 29 12.6**	**-2.1**
COMU	**Canakkale**	**3.24 71**	Pn	**Pn**	**05 29 10.3**	**+1.0**
ENEZ	**Enez**	**3.26 59**	Pn	**Pn**	**05 29 10.9**	**+1.4**
ALN	**Alexandroupoli**	**3.27 56**	Pn	**Pn**	**05 29 10.9**	**+1.2**
KDZ	**Kurdzhali**	**3.33 40**	Pn	**Pn**	**05 29 11.4**	**+0.9**
KDZ	**Kurdzhali**	**3.33 40**	P	**Pn**	**05 29 10.5**	**0.0**
GELI	**Tayfur-Gelibol**	**3.34 66**	Pn	**Pn**	**05 29 12.3**	**+1.7**
BOSS	**Bosilegrad**	**3.38 0**	*e*Pn	**Pn**	**05 29 11.9**	**+0.7**
PLNA	**Plana**	**3.44 12**	P	**Pn**	**05 29 14.5**	**+2.4**
PLNA			S	**Sn**	**05 29 52.0**	**-0.6**
ERIK	**Erikli-Kesan**	**3.47 62**	Pn	**Pn**	**05 29 13.2**	**+0.8**
PLD	**Plovdiv**	**3.49 29**	Pn	**Pn**	**05 29 12.5**	**-0.2**
VTS	**Vitosha**	**3.55 9**	P	**Pn**	**05 29 14.4**	**+0.7**
CANM	**Can-anakkale**	**3.65 74**	Pn	**Pn**	**05 29 16.6**	**+1.7**
BARS	**Barje**	**3.73 353**	*e*Pn	**Pn**	**05 29 16.7**	**+0.6**
PDG	**Podgorica**	**4.12 325**	*e*Pn	**Pn**	**05 29 22.4**	**+1.1**
PDG	**Podgorica**	**4.12 325**	⇑P	**Pn**	**05 29 22.2**	**+0.9**
ZAPS	**Zavoj**	**4.16 2**	*e*Pn	**Pn**	**05 29 22.4**	**+0.5**
SELS	**Selova**	**4.23 346**	*e*Pn	**Pn**	**05 29 23.8**	**+0.9**
MPEP	**Malo Peshtene**	**4.35 12**	P	**Pn**	**05 29 26.5**	**+2.0**
TIP	**Timpagrande**	**4.45 273**	⇑P	**Pn**	**05 29 27.4**	**+1.5**
TIP	**Timpagrande**	**4.45 273**	P	**Pn**	**05 29 27.3**	**+1.4**
TIP			S	**Sn**	**05 30 17.6**	**+0.2**
HCY	**Herceg Novi**	**4.50 319**	*e*Pn	**Pn**	**05 29 27.3**	**+0.7**
BLKB	**Belogradchik**	**4.51 2**	⇓P	**Pn**	**05 29 27.3**	**+0.6**
SJES	**Sjenica**	**4.55 336**	*e*Pn	**Pn**	**05 29 28.7**	**+1.3**
BOVS	**Bovan**	**4.56 353**	*e*Pn	**Pn**	**05 29 27.2**	**-0.1**
BOVS	**Bovan**	**4.56 353**	⇑P	**Pn**	**05 29 27.6**	**+0.3**
ELND	**Elena**	**4.60 33**	⇑P	**Pn**	**05 29 29.1**	**+1.2**
MATE	**Matera**	**4.70 291**	⇑P	**Pn**	**05 29 31.1**	**+1.8**
ZAGS	**Zajecar**	**4.70 358**	*e*Pn	**Pn**	**05 29 29.7**	**+0.4**
TREB	**Trebinje**	**4.77 320**	*e*Pn	**Pn**	**05 29 30.7**	**+0.4**
IVAS	**Ivanjica**	**4.79 339**	*e*Pn	**Pn**	**05 29 31.1**	**+0.5**
BRY	**Bratogost**	**4.82 323**	*e*Pn	**Pn**	**05 29 31.7**	**+0.6**
UPM	**Unac-Piva**	**4.89 328**	*e*Pn	**Pn**	**05 29 34.4**	**+2.2**
SZH	**Strazhitsa**	**4.92 31**	P	**Pn**	**05 29 32.8**	**+0.5**
GRUS	**Gruza**	**4.95 345**	*e*Pn	**Pn**	**05 29 33.5**	**+0.7**
GRUS			*e*Sn	**Sn**	**05 30 28.4**	**-1.4**
RUDO	**Rudo**	**5.07 334**	*e*Pn	**Pn**	**05 29 35.4**	**+1.0**
KARP	**Karpathos**	**5.16 132**	P	**Pn**	**05 29 38.6**	**+2.9**
comp=E,62nm,0.7s,comp=E,0.4nm						
BBLS	**Lazi&#263i**	**5.28 335**	*e*Pn	**Pn**	**05 29 38.7**	**+1.4**
BBLS			*e*Sn	**Sn**	**05 30 37.9**	**-0.1**
BBLS	**Lazi&#263i**	**5.28 335**	*e*Pn	**Pn**	**05 29 38.8**	**+1.4**
DIVS	**Divibare**	**5.32 340**	*e*Pn	**Pn**	**05 29 38.4**	**+0.5**
DIVS			*e*Sn	**Sn**	**05 30 36.3**	**-2.6**
TRUS	**Trudelj**	**5.34 344**	*e*Pn	**Pn**	**05 29 38.0**	**-0.1**
HAPS	**Han Pijesak,Bl**	**5.63 333**	*e*Pn	**Pn**	**05 29 43.2**	**+1.0**
HERR	**Herculane**	**5.76 360**	⇑P	**Pn**	**05 29 44.2**	**+0.2**
TEKS	**Tekeris**	**5.86 339**	*e*Pn	**Pn**	**05 29 45.8**	**+0.5**
TEKS	**Tekeris**	**5.86 339**	*e*Pn	**Pn**	**05 29 45.9**	**+0.6**
GZR	**Gura Zlata**	**6.28 2**	⇑P	**Pn**	**05 29 51.8**	**+0.7**
FRGS	**Fruska Gora**	**6.36 343**	*e*Pn	**Pn**	**05 29 52.4**	**+0.3**
FRGS	**Fruska Gora**	**6.36 343**	*e*Pn	**Pn**	**05 29 52.1**	**0.0**
LOT	**Lotru**	**6.40 8**	⇑P	**Pn**	**05 29 53.1**	**+0.3**
ARR	**Arges**	**6.45 14**	⇑P	**Pn**	**05 29 54.1**	**+0.7**
BZS	**Buzias**	**6.53 355**	⇓P	**Pn**	**05 29 55.7**	**+1.2**
VAE	**Valguarnera**	**6.55 258**	Sn	**Sn**	**05 31 09.4**	**+0.1**
comp=E,3.9nm,0.3s,baz=334,slow=20,SNR=2.2						
ISR	**Istrita**	**6.72 25**	P	**Pn**	**05 30 01.3**	**+4.2**
comp=E,41nm,0.7s,comp=E,0.4nm						
MLR	**Muntele Rosu**	**6.87 21**	Pn	**Pn**	**05 30 00.2**	**+0.9**
comp=E,1.4nm,0.3s,baz=180,slow=11,SNR=22						
MLR			Sn	**Sn**	**05 31 19.7**	**+2.4**
baz=296,slow=20						
comp=E,14nm,0.6s						
MLR	**Muntele Rosu**	**6.87 21**	⇓P	**Pn**	**05 30 00.1**	**+0.9**
MLR	**Muntele Rosu**	**6.87 21**	P	**Pn**	**05 30 02.8**	**+3.5**
comp=E,30nm,0.9s,comp=E,0.2nm						
MLR			P	**Pn**	**05 30 03.2**	**+3.9**
comp=E,30nm,0.9s,comp=E,0.2nm						
BLY	**Banja Luka**	**6.88 327**	*e*Pn	**Pn**	**05 30 00.3**	**+1.1**
NEHR	**Nehoiu**	**6.92 23**	⇓P	**Pn**	**05 30 02.0**	**+2.2**
A050A	**Klekovaca**	**6.96 322**	*e*Pn	**Pn**	**05 30 01.4**	**+0.9**
SIRR	**Siria**	**7.18 355**	⇑P	**Pn**	**05 30 04.8**	**+1.5**
DOPR	**Dopca**	**7.18 16**	⇑P	**Pn**	**05 30 05.3**	**+1.9**
A051A	**Mrakovica**	**7.21 327**	*e*Pn	**Pn**	**05 30 04.3**	**+0.5**
COVR	**Voineasa-Covas**	**7.27 21**	⇓P	**Pn**	**05 30 06.7**	**+2.0**
OZUR		**7.39 18**	⇓P	**Pn**	**05 30 08.6**	**+2.2**
PLOR5	**Plostina Array**	**7.41 23**	P	**Pn**	**05 30 10.2**	**+3.7**
comp=E,47nm,0.7s,comp=E,0.2nm						
PLOR	**Plostina**	**7.41 23**	⇑P	**Pn**	**05 30 08.6**	**+2.1**
PLOR3	**Plostina Array**	**7.41 23**	P	**Pn**	**05 30 08.9**	**+2.4**
comp=E,54nm,0.9s,comp=E,0.2nm						
TURR	**Turia**	**7.41 19**	⇑P	**Pn**	**05 30 08.2**	**+1.6**
VRI	**Vrincioaia**	**7.44 24**	⇑P	**Pn**	**05 30 08.5**	**+1.5**
VRI	**Vrincioaia**	**7.44 24**	P	**Pn**	**05 30 09.6**	**+2.6**
comp=E,46nm,0.8s,comp=E,0.2nm						
MORH	**Mrgy, Hungar**	**7.64 340**	⇑P	**Pn**	**05 30 10.4**	**+0.8**
DRGR		**7.68 1**	⇑P	**Pn**	**05 30 11.1**	**+0.9**
GHRR		**7.84 26**	P	**Pn**	**05 30 15.2**	**+2.8**
TESR	**Tescani**	**8.01 21**	P	**Pn**	**05 30 18.0**	**+3.3**
comp=E,22nm,2.4s						
BOJS	**Bojanci**	**8.33 322**	*e*Pn	**Pn**	**05 30 18.8**	**-0.3**
CRES	**Cresnjevec Ost**	**8.48 325**	*e*Pn	**Pn**	**05 30 20.4**	**-0.8**
BRTR	**Keskin Array B**	**8.66 82**	Pn	**Pn**	**05 30 26.0**	**+2.1**
comp=E,0.4nm,0.3s,baz=253,slow=13,SNR=9.1						
comp=E,1.4nm,0.5s						
MPLH	**Magyarpolny**	**8.82 337**	P	**Pn**	**05 30 28.3**	**+2.4**
comp=E,53nm,1.0s						
CEY	**Cerknica**	**8.90 321**	*e*Pn	**Pn**	**05 30 25.8**	**-1.2**
SKDS	**Skadanscina**	**8.97 318**	*e*Pn	**Pn**	**05 30 26.8**	**-1.2**
PSZ	**Piszkesteto**	**9.00 349**	⇑P	**Pn**	**05 30 29.9**	**+1.5**
BERU	**Beregovo**	**9.12 1**	P	**Pn**	**05 30 33.5**	**+3.6**
NSLU	**Nyzhne Selyshc**	**9.20 8**	P	**Pn**	**05 30 33.0**	**+2.0**
SOKA	**Soboth**	**9.32 327**	*e*Pn	**Pn**	**05 30 33.4**	**+0.5**
comp=E,2.0nm,0.3s						
MUKU	**Mukachevo**	**9.34 1**	P	**Pn**	**05 30 35.2**	**+2.3**
OBKA	**Obir**	**9.41 324**	*i* Pn	**Pn**	**05 30 35.2**	**+1.2**
comp=E,3.5nm,0.4s						
OBKA	**Obir**	**9.41 324**	*e*Pn	**Pn**	**05 30 34.5**	**+0.5**
MEZ	**Mezhgor'ye**	**9.43 4**	P	**Pn**	**05 30 36.0**	**+1.8**
KECS	**Kecovo**	**9.48 352**	*e*PN	**Pn**	**05 30 37.6**	**+2.7**
KECS			*e*SN	**Sn**	**05 32 23.8**	**+2.7**
UZHM	**Uzhgorod**	**9.52 359**	P	**Pn**	**05 30 38.1**	**+2.8**
ARSA	**Arzberg**	**9.59 330**	*i* Pn	**Pn**	**05 30 37.0**	**+0.7**
comp=E,3.8nm,0.4s						
RONA	**Rosalia, Austr**	**9.69 334**	*i* Pn	**Pn**	**05 30 39.0**	**+1.2**
comp=E,3.5nm,0.5s						
STNU	**Starunia**	**9.71 8**	P	**Pn**	**05 30 41.5**	**+3.5**
VYHS	**Vyhne**	**9.74 346**	*e*PN	**Pn**	**05 30 40.5**	**+2.0**
VYHS			*e*SN	**Sn**	**05 32 31.5**	**+4.0**
MYKA	**Terra Mystica**	**9.92 322**	*i* Pn	**Pn**	**05 30 39.3**	**-1.7**
comp=E,1.2nm,0.3s						
CONA	**Conrad Observa**	**10.03 334**	*i* Pn	**Pn**	**05 30 44.9**	**+2.4**
comp=E,0.9nm,0.4s						
BAL3X	**Bal3x, Balta**	**10.22 28**	P	**Pn**	**05 30 48.9**	**+3.9**
KBA	**Koelnbreinsper**	**10.38 323**	*i* Pn	**Pn**	**05 30 46.6**	**-0.9**
comp=E,1.2nm,0.3s						
ABTA	**Abfaltersbach**	**10.56 320**	*e*Pn	**Pn**	**05 30 49.6**	**-0.2**
comp=E,4.4nm,0.3s,SNR=7.3						
MOA	**Molln**	**10.57 328**	*i* Pn	**Pn**	**05 30 50.8**	**+1.0**
comp=E,1.9nm,0.6s						
BIOA	**Bad Ischl, Aus**	**10.71 326**	*i* Pn	**Pn**	**05 30 52.1**	**+0.4**
comp=E,4.6nm,0.7s						
LESA	**Schwarzleotal**	**10.95 323**	*i* Pn	**Pn**	**05 30 54.9**	**-0.2**
comp=E,2.6nm,0.5s						
KEST	**Kesra**	**10.97 256**	Pn	**Pn**	**05 30 55.5**	**+0.1**
comp=E,0.2nm,0.3s,baz=104,slow=19,SNR=2.1						
comp=E,2.4nm,0.8s						
WTTA	**Wattenberg**	**11.35 319**	*i* Pn	**Pn**	**05 31 00.3**	**-0.4**
comp=E,1.4nm,0.3s						
WATA	**Walderalm**	**11.43 320**	*i* Pn	**Pn**	**05 31 02.9**	**+1.2**
comp=E,1.3nm,0.3s						
LUBAR	**Lubar, Ukraine**	**11.44 17**	P	**Pn**	**05 31 04.4**	**+2.7**
SQTA	**Sankt Quirin**	**11.54 318**	*i* Pn	**Pn**	**05 31 04.0**	**+0.8**
comp=E,5.1nm,0.4s						
GERES	**GERESS Array B**	**11.59 330**	Pn	**Pn**	**05 31 04.4**	**+0.5**
comp=E,0.2nm,0.3s,baz=149,slow=11,SNR=4.7						
comp=E,1.1nm,0.6s						
FETA	**Feichten**	**11.66 316**	*i* Pn	**Pn**	**05 31 05.6**	**+0.7**
comp=E,0.5nm,0.4s						
MOTA	**Moosalm**	**11.67 318**	*i* Pn	**Pn**	**05 31 05.3**	**+0.2**
comp=E,1.0nm,0.3s						
KHC	**Kasperske Hory**	**11.87 330**	*e*P	**Pn**	**05 31 08.7**	**+1.0**
RETA	**Reutte**	**11.94 318**	*i* Pn	**Pn**	**05 31 07.5**	**-1.2**

SHO	**Shikotan**	**0.75**	**280**	*i* P	**Pb**	**05 40 46.4**	**-0.7**
SHO				AMB	AMB	05 40 46.8	
	510nm,0.4s						
SHO				*e*S	**Sb**	**05 40 57.1**	**+0.1**
SHO				A	A	05 40 57.9	
	2μm,0.3s						
SHO				A	A	05 40 57.9	
	2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.47**	**282**	*e*P	**Pn**	**05 40 56.6**	**-0.5**
YUK				AMB	AMB	05 40 57.6	
	370nm,0.2s						
YUK				*e*S	**Sn**	**05 41 14.7**	**-0.6**
YUK				A	A	05 41 15.5	
	2μm,0.3s						
YUK				A	A	05 41 15.5	
	1μm,0.3s						
KUR	**Kuril'sk**	**1.49**	**1**	*e*P	**Pn**	**05 40 58.0**	**+0.6**
KUR				AMB	AMB	05 40 59.0	
	100nm,0.3s						
KUR				*e*S	**Sn**	**05 41 16.4**	**+0.6**
KUR				A	A	05 41 18.6	
	240nm,0.3s						
KUR				A	A	05 41 18.6	
	330nm,0.3s						
NEM2	**Nemuro 2**	**1.58**	**257**	*e*P	**Pn**	**05 40 57.7**	**-0.9**
NMR	**Nemuro--Hokkai**	**1.59**	**257**	*e*P	**Pn**	**05 40 58.8**	**0.0**
NMR				*e*S	**Sn**	**05 41 18.1**	**-0.2**
JRA	**Rausu**	**1.98**	**276**	P	**Pn**	**05 41 04.5**	**+0.3**
JRA				*e*S	**Sn**	**05 41 28.5**	**+0.5**
JNSB	**Nemuroshibetsu**	**2.06**	**272**	P	**Pn**	**05 41 05.8**	**+0.5**
JNSB				*e*S	**Sn**	**05 41 30.6**	**+0.6**
JNK	**Nakash**	**2.28**	**267**	*e*P	**Pn**	**05 41 09.2**	**+1.0**
AKK	**Akkeshi**	**2.31**	**253**	*e*P	**Pn**	**05 41 09.4**	**+0.7**
JAK	**Akkeshi**	**2.42**	**253**	*e*P	**Pn**	**05 41 10.2**	**0.0**
JAK				*e*S	**Sn**	**05 41 38.4**	**-0.4**
JTKR	**Abashiri--Toko**	**2.86**	**276**	*e*P	**Pn**	**05 41 17.4**	**+1.1**
JTKR				S	**Sn**	**05 41 52.7**	**+3.1**
JAR	**Ashorobuto**	**3.00**	**263**	*e*P	**Pn**	**05 41 20.0**	**+1.8**
ASAJ	**Asahikawa**	**3.81**	**277**	P	**Pn**	**05 41 32.0**	**+2.6**
	0.7nm,0.3s,baz=126,slow=17,SNR=1.9						
	5.0nm,0.5s						
JEM	**Erimo**	**3.86**	**245**	*e*P	**Pn**	**05 41 32.5**	**+2.5**
JNBK	**Urakawa-nobuka**	**4.01**	**250**	*e*P	**Pn**	**05 41 32.9**	**+0.7**
PETK	**Petropavlovsk-**	**11.41**	**31**	P	**Pn**	**05 43 13.8**	**+0.2**
	0.1nm,0.3s,baz=209,slow=15,SNR=1.3						
	3.3nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**28.77**	**140**	T	T	06 17 12.0	
	baz=330,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**28.78**	**140**	T	T	06 17 12.1	
	baz=330,slow=76,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**28.79**	**140**	T	T	06 17 10.6	
	baz=330,slow=76,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**29.75**	**142**	T	T	06 18 17.5	
	baz=332,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**29.75**	**142**	T	T	06 18 24.4	
	baz=332,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**29.77**	**142**	T	T	06 18 18.8	
	baz=332,slow=76,SNR=17						
ILAR	**Eielson Array**	**41.19**	**36**	P	**P**	**05 48 14.8**	**+0.6**
	0.4nm,1.0s,baz=270,slow=9.2,SNR=4.3						
	0.4nm,1.0s						
YKA	**Yellowknife Ar**	**55.52**	**34**	P	**P**	**05 50 06.5**	**+1.9**
	0.2nm,0.7s,baz=304,slow=7.1,SNR=4.3						
	0.2nm,0.7s						
ARCES	**ARCESS Array B**	**59.42**	**340**	P	**P**	**05 50 30.0**	**-2.0**
	5.4nm,1.2s,baz=57,slow=6.6,SNR=1.2						
	5.4nm,1.2s						
FINES	**FINESS Array B**	**65.11**	**333**	P	**P**	**05 51 06.7**	**-3.5**
	1.7nm,0.8s,baz=46,slow=6.6,SNR=1.0						
	1.7nm,0.8s						
NOA	**NORSAR Array B**	**69.79**	**339**	P	**P**	**05 51 37.9**	**-1.9**
	0.5nm,0.7s,baz=31,slow=6.2,SNR=1.2						
	0.5nm,0.7s						
HFS	**Hagfors**	**69.89**	**338**	P	**P**	**05 51 38.6**	**-1.8**
	15nm,1.2s,baz=0.0,slow=6.3,SNR=2.9						
	15nm,1.2s						

RSNC 30 05:41:14.0±0.0, 7°N±1°×7°3W±°, h146km±1km, M2.3, mb3.7, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.19**	**187**	P	Pn	05 41 33.7	-0.4
BARC				S	Sn	05 41 48.6	-0.8
BRJC	**Barrancabermej**	**0.61**	**288**	P	Pn	05 41 35.6	+0.1
BRJC				S	Sn	05 41 52.2	+0.4
PAMC	**Pamplona, Colo**	**0.72**	**39**	P	Pn	05 41 36.7	-0.1
PAMC				S	Sn	05 41 53.9	-0.2
RUSC	**La Rusia**	**0.89**	**175**	P	Pn	05 41 37.4	-0.6
RUSC				S	Sn	05 41 55.6	-0.7
PTBC	**PUERTO BERRIO,**	**1.31**	**260**	P	Pn	05 41 40.4	-0.9
PTBC				S	Sn	05 42 01.0	-1.1
TAMC	**Tame, Arauca**	**1.40**	**104**	P	Pn	05 41 41.9	-0.4
TAMC				S	Sn	05 42 03.4	-0.5
SPBC	**San Pablo de B**	**1.44**	**219**	P	Pn	05 41 42.6	-0.2
SPBC				S	Sn	05 42 04.4	-0.3
OCAC	**Ocana**	**1.46**	**354**	P	Pn	05 41 42.4	-0.6
OCAC				S	Sn	05 42 04.5	-0.7
ZARC	**Zaragoza, Cauc**	**1.83**	**293**	P	Pn	05 41 48.5	+1.6
ZARC				S	Sn	05 42 12.6	+0.5
NORC	**Norcasia**	**2.08**	**235**	P	Pn	05 41 50.5	+0.5
NORC				S	Sn	05 42 17.1	-0.5
CHIC	**Chingaza**	**2.21**	**195**	P	Pn	05 41 51.3	-0.6
CHIC				S	Sn	05 42 20.5	-0.4
ROSC	**El Rosal**	**2.25**	**211**	P	Pn	05 41 52.1	-0.1
ROSC				S	Sn	05 42 20.9	-0.7
HELC	**Santa Helena**	**2.43**	**256**	P	Pn	05 41 52.7	-1.7
HELC				S	Sn	05 42 22.3	-3.1
UREC	**San Jos de Ur**	**2.54**	**292**	P	Pn	05 41 54.9	-0.6
UREC				S	Sn	05 42 25.5	-2.0
GUY2C	**Guyana, Caldas**	**2.68**	**235**	P	Pn	05 41 58.7	+1.0
GUY2C				S	Sn	05 42 30.7	-0.6
VILC	**Villavicencio,**	**2.70**	**191**	P	Pn	05 41 55.8	-1.8
VILC				S	Sn	05 42 28.4	-2.9
CBOC	**Ciudad Bolivar**	**2.98**	**252**	P	Pn	05 42 01.3	+0.2
CBOC				S	Sn	05 42 32.4	-5.1
ARGC	**Ariguani, Magd**	**3.24**	**341**	P	Pn	05 42 04.4	+0.1
ARGC				S	Sn	05 42 43.2	-0.1
PRAC	**Prado**	**3.50**	**210**	P	Pn	05 42 06.8	-0.9
PRAC				S	Sn	05 42 48.8	-0.5
ORTC	**Ortega, Tolima**	**3.53**	**216**	P	Pn	05 42 07.9	-0.2
ORTC				S	Sn	05 42 49.8	-0.2
APAC	**Apartado, Choc**	**3.57**	**288**	P	Pn	05 42 08.5	-0.1
APAC				S	Sn	05 42 50.2	-0.6
SJCC	**San Jacinto, C**	**3.69**	**327**	P	Pn	05 42 08.2	-1.9
SJCC				S	Sn	05 42 50.9	-2.8
LCBC	**Los crdobas,**	**3.79**	**303**	P	Pn	05 42 08.2	-3.2
LCBC				S	Sn	05 42 51.3	-4.7
CRJC	**Cerrejon, Guaj**	**4.22**	**4**	P	Pn	05 42 15.8	-1.4
CRJC				S	Sn	05 43 04.0	-2.3
URIC	**Uribia, Colomb**	**5.02**	**13**	P	Pn	05 42 24.7	-3.0
URIC				S	Sn	05 43 22.2	-3.0

MOS ***30*** *05:46:06.7±1.0, 18°.55S×173°.99W, h10km, mb5.1/16, Error ellipse: s-maj=14.1km s-min=9.6km az=157.2*
IDC ***30*** *05:46:06.7±0.5, 18°.54S×173°.96W, h0km, mb4.8/19, mbtmp4.8/20, ML3.9/1, MS3.8/47, Error ellipse: s-maj=18.5km s-min=13.7km az=150.0*
NEIC ***30*** *05:46:08.6±1.3, 18°.49S±0°.09×173°.93W±0°.10, h10km±1km, mb5.2/90, Error ellipse: s-maj=15.6km s-min=15.3km az=196.0*
NOU ***30*** *05:46:14.6, 18°.49S×173°.36W, h71km, mb5.4/18, Tonga Islands*
GCMT ***30*** *05:46:18.6±0.3, 18°.47S±0°.03×173°.54W±0°.02, h25km±1km, MW5.1/74, Moment Tensor Solution. s17,c18; s74,c97; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.97±.17; $M_{\theta\theta}$-0.66±.14; $M_{r\theta}$-0.31±.14; $M_{r\theta}$2.86±.41; $M_{\theta\theta}$-0.02±.11; $M_{\theta r}$~4.87±.71; Best double couple: $M_0$5.69000×10^{16} NP1:ϕ_s149.00000°, δ87.00000°, λ.91.00000°. NP2: ϕ_s306.00000°, δ4.00000°, λ67.00000°. Principal axes: T 5.9840, Plg48.0000°, Azm61.0000°; N -0.5870, Plg1.0000°, Azm329.0000°; P -5.3970, Plg42.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 05:46:08.2±0.3, 18°.46S±0°.06×173°.90W±0°.06, h10km, n297, σ1$35/252, mb5.1/79, MS3.9/46, 6C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.81**	**100**		**Pn**	**05 47 05.7**	**-1.3**
NIUE	**Niue**	**3.81**	**100**	P	**Pn**	**05 47 05.7**	**-1.3**
AFI	**Afiamalu**	**4.96**	**25**		**Pn**	**05 47 21.0**	**-1.9**
AFI	**Afiamalu**	**4.96**	**25**	P	**Pn**	**05 47 22.2**	**-0.7**
AFI	**Afiamalu**	**4.96**	**25**	P	**Pn**	**05 47 21.0**	**-1.9**
MSVF	**Nonsavu**	**7.70**	**274**	Pn	Pb	05 48 10.8	-11
MSVF	**Nonsavu**	**7.70**	**274**	Pn	Pb	05 48 11.0	-11
	8.4nm,0.3s,baz=117,slow=16,SNR=96						
MSVF	**Nonsavu**	**7.70**	**274**	P	Pb	05 48 12.2	-10
MSVF	**Nonsavu**	**7.70**	**274**	P	Pb	05 48 10.9	-11
RAO	**Raoul Island**	**11.36**	**198**	P	**Pn**	**05 48 52.5**	**+1.9**
RAR	**Rarotonga**	**13.57**	**104**	Pn	**Pn**	**05 49 21.2**	**+0.3**
RAR	**Rarotonga**	**13.57**	**104**	Pn	**Pn**	**05 49 20.6**	**-0.3**
	6.1nm,0.3s,baz=290,slow=5.4,SNR=4.5						
RAR				Sn	Sn	05 51 37.9	-14
	4.1nm,0.3s,baz=253,slow=20,SNR=1.9						
RAR				LR	LR	05 53 41.5	
	comp=Z,138nm,20.3s,baz=270,slow=33						
	32nm,0.4s						
RAR	**Rarotonga**	**13.57**	**104**	P	**Pn**	**05 49 21.2**	**+0.3**
DVP	**Devils Point**	**17.05**	**270**	P	**P**	**05 50 13.2**	**+4.5**
PINNC	**Pines Island,**	**17.96**	**254**	P	**P**	**05 50 20.1**	**+1.4**
PINNC				IAmb	IAmb	05 50 23.9	
	comp=Z,101nm,0.9s						
PINNC	**Pines Island,**	**17.96**	**254**	P	**P**	**05 50 22.6**	**+3.9**
VLAKA	**Lakatoro**	**17.99**	**275**	P	**P**	**05 50 23.5**	**+4.4**
OUENC	**Ouen Island, N**	**18.48**	**254**	P	**Pn**	**05 50 28.2**	**+3.7**
DZM	**Mont Dzumac**	**18.79**	**256**	P	**Pn**	**05 50 29.7**	**+1.2**
DZM	**Mont Dzumac**	**18.79**	**256**	*e*P	**Pn**	**05 50 31.0**	**+2.5**
	comp=Z,88nm,1.2s						
DZM				*e*LR	LR	05 54 54.3	
	comp=Z,1μm,26.2s						
DZM	**Mont Dzumac**	**18.79**	**256**	P	**Pn**	**05 50 30.8**	**+2.3**
	comp=Z,9.9nm,0.6s,baz=78,slow=18,SNR=18						
DZM				LR	LR	05 56 45.2	
	comp=Z,451nm,21.1s,baz=87,slow=34						
DZM	**Mont Dzumac**	**18.79**	**256**	P	**Pn**	**05 50 31.9**	**+3.4**
ONTNC	**Ouen Toro**	**18.81**	**255**	P	**P**	**05 50 27.7**	**-0.5**
MXZ	**Matakaoa Point**	**20.23**	**198**	P	**P**	**05 50 44.0**	**+0.5**
MXZ				IAmb	IAmb	05 50 47.8	
	comp=Z,62nm,0.5s						
KUZ	**Kuaotunu**	**20.39**	**205**	P	Pn	05 50 48.0	+0.7
KOUNC	**Koumac, New Ca**	**20.67**	**261**	P	Pn	05 50 54.8	+4.0
URZ	**Urewera**	**21.24**	**200**	P	**P**	**05 50 54.1**	**-0.3**
	comp=Z,138nm,0.3s,baz=67,slow=3.0,SNR=118						
URZ				S	S	05 54 34.1	-16
	comp=Z,5.0nm,0.6s,baz=52,slow=19,SNR=1.8						
	comp=Z,138nm,0.3s						
URZ	**Urewera**	**21.24**	**200**	P	**P**	**05 50 54.9**	**+0.5**
RTZ	**Ruatahuna**	**21.60**	**200**	P	**P**	**05 50 57.3**	**-1.1**
HIZ	**Hauiti**	**22.26**	**204**	P	**P**	**05 51 08.0**	**+2.6**
BKZ	**Black Stump Fm**	**22.26**	**200**	P	**P**	**05 51 05.3**	**-0.2**
KATZ	**Kakaramea**	**22.36**	**202**	P	**P**	**05 51 08.9**	**+2.3**
KWHZ	**Kaweka Forest**	**22.52**	**200**	P	**P**	**05 51 07.9**	**-0.3**
WTVZ	**West Tongariro**	**22.52**	**202**	P	**P**	**05 51 06.9**	**-1.4**
NNVZ	**North Ngauruho**	**22.53**	**202**	P	**P**	**05 51 09.7**	**+1.3**
CKHZ	**Cape Kidnapper**	**22.53**	**198**	P	**P**	**05 51 10.1**	**+1.8**
TUVZ	**Tukino**	**22.64**	**201**	P	**P**	**05 51 07.9**	**-1.6**
MAVZ	**Matatangi**	**22.67**	**202**	P	**P**	**05 51 09.1**	**-1.0**
WHVZ	**Whangaehu Hut**	**22.67**	**202**	P	**P**	**05 51 08.5**	**-1.6**
TRVZ	**Turoa**	**22.70**	**202**	P	**P**	**05 51 08.6**	**-1.8**
KAHZ	**Kahuranaki**	**22.71**	**199**	P	**P**	**05 51 11.4**	**+1.1**
KRHZ	**Kereru**	**22.73**	**200**	P	**P**	**05 51 08.5**	**-2.0**
PKVZ	**Pokaka**	**22.76**	**202**	P	**P**	**05 51 09.9**	**-0.9**
PXZ	**Pawanui**	**22.93**	**198**	P	**P**	**05 51 13.0**	**+0.5**
PPT2	**Papeete2**	**23.14**	**92**	*e*P	**P**	**05 51 18.8**	**+3.8**
	comp=Z,134nm,29.8s						
PPT2				*e*LR	LR	05 56 38.0	
	comp=Z,1μm,26.5s						
PPT2				*e*LR	LR	05 56 46.8	
	comp=Z,564nm,25.0s						
PPT	**Papeete**	**23.14**	**92**	P	**P**	**05 51 15.5**	**+0.6**
	comp=Z,36nm,0.9s,baz=191,slow=0.8,SNR=4.3						
PPT				LR	LR	05 57 45.0	
	comp=Z,278nm,20.8s,baz=251,slow=30						
	comp=Z,36nm,0.9s						
NEZ	**North Egmont**	**23.21**	**204**	P	**P**	**05 51 17.2**	**+1.7**
PRHZ	**Porangahau**	**23.22**	**199**	P	**P**	**05 51 16.8**	**+1.3**
TSZ	**Takapari Road**	**23.24**	**200**	P	**P**	**05 51 14.8**	**-0.9**
LREZ	**Lake Rotokare**	**23.26**	**203**	P	**P**	**05 51 18.8**	**+3.0**
WAZ	**Wanganui**	**23.30**	**202**	P	**P**	**05 51 22.3**	**+5.9**
TBI	**Tubuai**	**23.33**	**106**	*e*LR	LR	05 56 49.7	
	comp=Z,3μm,29.8s						
DVHZ	**Dannevirke**	**23.39**	**199**	P	**P**	**05 51 16.9**	**-0.4**
ANWZ	**Angora Road**	**23.45**	**199**	P	**P**	**05 51 19.3**	**+1.5**
POWZ	**Post Office Ro**	**23.61**	**200**	P	**P**	**05 51 19.5**	**+0.2**
PRWZ	**Pori Road**	**23.69**	**199**	P	**P**	**05 51 21.6**	**+1.4**
BFZ	**Birch Farm**	**23.72**	**199**	P	**P**	**05 51 18.6**	**-1.8**
BFZ	**Birch Farm**	**23.72**	**199**	P	**P**	**05 51 21.7**	**+1.3**
MRZ	**Mangatainoka R**	**23.91**	**200**	P	**P**	**05 51 20.7**	**-1.5**
TIWZ	**Tintock**	**23.92**	**199**	P	**P**	**05 51 24.1**	**+1.7**
HOWZ	**Holdsworth Sta**	**24.15**	**200**	P	**P**	**05 51 22.6**	**-1.9**
OGWZ	**Otaki Gorge**	**24.19**	**201**	P	**P**	**05 51 23.2**	**-1.7**
TMWZ	**Te Maipa**	**24.22**	**199**	P	**P**	**05 51 25.9**	**+0.7**
KIW	**Kapiti Island**	**24.31**	**201**	P	**P**	**05 51 24.5**	**-1.6**
CAW	**Cannon Point**	**24.48**	**200**	P	**P**	**05 51 27.3**	**-0.2**
TRWZ	**Traveller**	**24.55**	**199**	P	**P**	**05 51 28.9**	**+0.7**
DUWZ	**D'Urville Isla**	**24.61**	**203**	P	**P**	**05 51 27.7**	**-1.0**
PAWZ	**Paruwai Farm**	**24.61**	**200**	P	**P**	**05 51 29.2**	**+0.4**
MSWZ	**Moikau Station**	**24.70**	**200**	P	**P**	**05 51 29.7**	**+0.2**
BHW	**Baring Head**	**24.82**	**200**	P	**P**	**05 51 30.6**	**+0.1**
PLWZ	**Palliser**	**24.84**	**200**	P	**P**	**05 51 31.7**	**+0.9**
TCW	**Tory Channel**	**24.84**	**202**	P	**P**	**05 51 29.8**	**-1.0**
TUWZ	**Tuamarina**	**25.15**	**202**	P	**P**	**05 51 33.9**	**+0.3**
QRZ	**Quartz Range**	**25.16**	**205**	P	**P**	**05 51 34.2**	**+0.5**
QRZ	**Quartz Range**	**25.16**	**205**	P	**P**	**05 51 34.4**	**+0.7**
NNZ	**Nelson**	**25.17**	**203**	P	**P**	**05 51 32.9**	**-0.8**
BSWZ	**Blackbirch Sta**	**25.43**	**202**	P	**P**	**05 51 37.8**	**+1.6**
MRNZ	**Matariki Terra**	**25.56**	**204**	P	**P**	**05 51 37.8**	**+0.5**
THZ	**Tophouse**	**25.82**	**203**	P	**P**	**05 51 39.9**	**+0.2**
KHZ	**Kahutara**	**26.16**	**201**	P	**P**	**05 51 44.1**	**+1.3**
HNR	**Honiara**	**26.89**	**286**	LR	LR	06 01 04.0	
	comp=Z,113nm,18.5s,baz=142,slow=33						
JCZ	**Jackson Bay**	**29.39**	**206**	P	**P**	**05 52 12.2**	**+0.4**
MLZ	**Mavora Lakes**	**30.73**	**205**	P	**P**	**05 52 23.0**	**-0.5**
DCZ	**Deep Cove**	**31.20**	**206**	P	**P**	**05 52 27.1**	**-0.5**
DCZ				IAmb	IAmb	05 52 31.3	
	comp=Z,35nm,1.3s						
WHZ	**Wether Hill Ro**	**31.23**	**205**	P	**P**	**05 52 27.5**	**-0.4**
WHZ				IAmb	IAmb	05 52 36.8	
	comp=Z,58nm,1.1s						
ARMA	**Armidale**	**33.44**	**243**	P	**P**	**05 52 46.6**	**-1.0**
ARMA				IAmb	IAmb	05 52 48.1	
	comp=Z,18nm,1.0s						
TAOE	**Nuku Hiva Isla**	**34.10**	**78**	*e*LR	LR	06 01 35.5	
	comp=Z,507nm,26.6s						
CAN	**Canberra**	**36.85**	**235**	P	**P**	**05 53 15.8**	**-1.2**
CAN	**Canberra**	**36.85**	**235**	P	**P**	**05 53 15.8**	**-1.2**
CAN				pmax	pmax		
	comp=Z,18nm,0.9s						
CTA	**Charters Tower**	**37.59**	**261**	LR	LR	06 06 57.1	
	comp=Z,214nm,21.5s,baz=90,slow=33						
CTAO	**Charters Tower**	**37.59**	**261**	P	**P**	**05 53 22.1**	**-1.2**
CTAO	**Charters Tower**	**37.59**	**261**	P	**P**	**05 53 22.1**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,61nm,0.8s						
PMG	**Port Moresby**	**38.78**	**278**	P	**P**	**05 53 33.2**	**-0.1**
PMG	**Port Moresby**	**38.78**	**278**	P	**P**	**05 53 34.5**	**+1.1**
	comp=Z,7.7nm,0.5s,baz=82,slow=4.2,SNR=5.1						
PMG				LR	LR	06 07 57.3	
	comp=Z,116nm,18.7s,baz=118,slow=34						
	comp=Z,7.7nm,0.5s						
TOO	**Toolangi**	**40.22**	**233**	P	**P**	**05 53 43.4**	**-1.8**
TOO	**Toolangi**	**40.22**	**233**	P	**P**	**05 53 43.4**	**-1.8**
TOO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TAU	**Tasmania Unive**	**40.79**	**225**	P	**P**	**05 53 48.5**	**-1.3**
TAU				IAmb	IAmb	05 53 51.5	
	comp=Z,100nm,1.4s						
TAU	**Tasmania Unive**	**40.79**	**225**	P	**P**	**05 53 48.5**	**-1.3**
TAU				pmax	pmax		
	comp=Z,100nm,1.4s						
COEN	**Coen**	**41.40**	**270**	P	**P**	**05 53 53.6**	**-1.5**
STKA	**Stephens Creek**	**42.16**	**243**	P	**P**	**05 53 59.9**	**-1.3**
STKA	**Stephens Creek**	**42.16**	**243**	P	**P**	**05 53 59.7**	**-1.5**
	comp=Z,16nm,1.0s,baz=95,slow=10,SNR=18						
STKA				LR	LR	06 09 33.8	
	comp=Z,148nm,18.5s,baz=32,slow=34						
	comp=Z,16nm,1.0s						
STKA	**Stephens Creek**	**42.16**	**243**	P	**P**	**05 53 59.9**	**-1.3**
STKA				pmax	pmax		

	comp=Z,5.0nm,1.1s						
H11N3	**WAKE ISLAND Hy**	**42.35**	**333**	T	T	06 39 14.0	
	baz=150						
H11N1	**WAKE ISLAND Hy**	**42.36**	**333**	T	T	06 39 05.5	
	baz=150						
H11N2	**WAKE ISLAND Hy**	**42.37**	**333**	T	T	06 39 19.7	
	baz=150						
BBOO	**Buckleboo**	**46.92**	**242**	P	**P**	**05 54 37.0**	**-2.2**
BBOO				IAmb	IAmb	05 54 38.1	
	comp=Z,42nm,1.4s						
JAY	**Jayapura**	**47.19**	**284**	P	**P**	**05 54 42.6**	**+1.0**
	comp=Z,12nm,0.9s,baz=76,slow=8.3,SNR=2.1						
	comp=Z,12nm,0.9s						
WRAB	**Tennant Creek**	**48.74**	**259**	P	**P**	**05 54 51.1**	**-2.4**
WRAB	**Tennant Creek**	**48.74**	**259**	*i* P	**P**	**05 54 51.1**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,27nm,0.9s						
WRA	**Warramunga Arr**	**48.75**	**259**	P	**P**	**05 54 51.3**	**-2.3**
WRA	**Warramunga Arr**	**48.75**	**259**	P	**P**	**05 54 51.5**	**-2.1**
	comp=Z,26nm,0.7s,baz=98,slow=5.8,SNR=210						
WRA				PcP	**PcP**	**05 56 18.1**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=91,slow=3.1,SNR=3.6						
WRA				S	S	06 01 43.7	-13
	comp=Z,1.3nm,1.0s,baz=97,slow=13,SNR=4.5						
WRA				LR	LR	06 13 44.8	
	comp=Z,203nm,21.2s,baz=108,slow=34						
	comp=Z,26nm,0.7s						
AS31	**Alice Springs**	**48.77**	**254**	P	**P**	**05 54 52.3**	**-1.5**
ASAR	**Alice Springs**	**48.78**	**254**	P	**P**	**05 54 51.9**	**-1.9**
ASAR	**Alice Springs**	**48.78**	**254**	P	**P**	**05 54 52.0**	**-1.8**
	comp=Z,29nm,0.6s,baz=91,slow=7.8,SNR=322						
ASAR				PcP	**PcP**	**05 56 18.4**	**-0.4**
	comp=Z,5.7nm,0.8s,baz=105,slow=4.6,SNR=6.6						
ASAR				S	S	06 01 47.2	-10
	comp=Z,1.6nm,0.7s,baz=91,slow=15,SNR=14						
ASAR				LR	LR	06 14 34.2	
	comp=Z,82nm,19.8s,baz=102,slow=35						
	comp=Z,29nm,0.6s						
GUMO	**Guam**	**51.64**	**305**	LR	LR	06 15 54.2	
	comp=Z,62nm,19.1s,baz=76,slow=35						
MTN	**Manton Dam**	**53.07**	**268**	P	**P**	**05 55 24.0**	**-2.1**
FORT	**Forrest**	**53.66**	**245**	P	**P**	**05 55 27.6**	**-2.7**
KNRA	**Kununurra**	**54.70**	**264**	P	**P**	**05 55 35.5**	**-2.6**
FITZ	**Fitzroy Crossi**	**57.17**	**260**	P	**P**	**05 55 54.5**	**-1.3**
FITZ	**Fitzroy Crossi**	**57.17**	**260**	P	**P**	**05 55 54.2**	**-1.5**
	comp=Z,3.1nm,0.3s,baz=114,slow=4.6,SNR=33						
FITZ				LR	LR	06 18 32.6	
	comp=Z,201nm,21.6s,baz=104,slow=34						
	comp=Z,3.1nm,0.3s						
RPN	**Rapa Nui**	**59.60**	**111**	LR	LR	06 15 21.1	
	comp=Z,80nm,21.0s,baz=243,slow=29						
SBA	**Scott Base**	**60.18**	**185**	P	**P**	**05 56 17.8**	**+2.0**
SBA				IAmb	IAmb	05 56 19.8	
	comp=Z,20nm,0.8s						
SBA	**Scott Base**	**60.18**	**185**	P	**P**	**05 56 17.8**	**+2.0**
SBA				pmax	pmax		
	comp=Z,20nm,0.8s						
SOEI	**Soe**	**60.36**	**269**	P	**P**	**05 56 17.9**	**-0.3**
SOEI	**Soe**	**60.36**	**269**	P	**P**	**05 56 16.5**	**-1.7**
BATI	**Baumata**	**60.81**	**268**	LR	LR	06 23 21.0	
	comp=Z,97nm,19.1s,baz=156,slow=37						
PSA00	**Pilbara Seismi**	**61.92**	**255**	P	**P**	**05 56 26.4**	**-2.1**
PSA00				IAmb	IAmb	05 56 28.0	
	comp=Z,20nm,1.1s						
MBWA	**Marble Bar**	**62.10**	**255**	P	**P**	**05 56 27.6**	**-2.1**
MBWA				IAmb	IAmb	05 56 30.2	
	comp=Z,40nm,1.6s						
NWAO	**Narrogin (SRO)**	**62.74**	**242**	P	**P**	**05 56 32.8**	**-1.1**
NWAO	**Narrogin (SRO)**	**62.74**	**242**	LR	LR	06 22 19.9	
	comp=Z,79nm,18.6s,baz=318,slow=35						
NWAO	**Narrogin (SRO)**	**62.74**	**242**	P	**P**	**05 56 32.8**	**-1.1**
NWAO				pmax	pmax		
	comp=Z,42nm,1.3s						
KAPI	**Kappang**	**66.01**	**273**	LR	LR	06 23 41.8	
	comp=Z,23nm,21.9s,baz=96,slow=34						
CASY	**Casey**	**67.45**	**205**	P	**P**	**05 57 04.1**	**+0.2**
MJAR	**Matsushiro Arr**	**70.97**	**321**	P	**P**	**05 57 27.8**	**+1.7**
	comp=Z,0.9nm,

319A Douglas 79.34 52 P **P 05 58 15.4 +0.7**
LCMT Little Creek M 79.41 45 P **P 05 58 15.4 +0.4**
DUN6 Lazy B Ranch 80.05 51 P **P 05 58 18.2 -0.3**
M16K Timber Creek 80.11 7 **P 05 58 18.8 +0.7**
M16K IAmb IAmb 05 58 37.5
comp=Z,41nm,1.1s
PGC Sidney 80.48 31 P **P 05 58 20.9 +0.7**
PGC IAmb IAmb 05 58 22.3
comp=Z,21nm,1.1s
CBB Campbell River 80.51 29 **P 05 58 21.0 +0.6**
CBB IAmb IAmb 05 58 22.5
comp=Z,14nm,1.0s
BBB Bella Bella 80.81 27 LR LR 06 28 35.5
comp=Z,56nm,18.6s,baz=240,slow=32
BELA Belgrano 2 81.06 172 P **P 05 58 22.0 -1.1**
K15K Wolf Creek Mou 81.07 6 **P 05 58 23.7 +0.5**
NJ2 Nanjing 81.63 308 *e*P **P 05 58 27.5 +0.7**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
SUA Susitna One 81.77 11 P **P 05 58 27.1 +0.1**
SUA IAmb IAmb 05 58 45.0
comp=Z,13nm,0.8s
TMUT Trail Mountain 81.98 44 P **P 05 58 29.8 +0.9**
TMUT IAmb IAmb 05 58 31.9
comp=Z,32nm,1.9s
F10A Beach Ranch, E 82.05 36 P **P 05 58 28.2 -0.6**
F10A IAmb IAmb 05 58 30.3
comp=Z,13nm,1.1s
HVU Hansel Valley 82.30 41 P **P 05 58 30.8 +0.5**
HVU Hansel Valley 82.30 41 P **P 05 58 30.8 +0.5**
HVU pmax pmax
comp=Z,7.0nm,1.4s
TX31 Lajitas Ar. Si 82.70 56 P **P 05 58 33.6 +1.0**
TX31 IAmb IAmb 05 58 35.5
comp=Z,22nm,1.4s
TXAR Lajitas Array 82.70 56 P **P 05 58 33.7 +1.0**
TXAR Lajitas Array 82.70 56 P **P 05 58 33.9 +1.3**
comp=Z,6.0nm,1.1s,baz=222,slow=5.0,SNR=27
TXAR LR LR 06 25 48.1
comp=Z,44nm,21.5s,baz=219,slow=29
comp=Z,6.0nm,1.1s
KLR Kul'dur 82.82 328 LR LR 06 27 11.8
comp=Z,36nm,21.8s,baz=68,slow=30
MA2 Magadan 82.92 343 LR LR 06 28 46.5
comp=Z,43nm,20.1s,baz=136,slow=31
BNX BinXian 83.06 323 ⇑P **P 05 58 35.3 +1.3**
BNX pmax pmax
comp=Z,6.0nm,2.0s
ANMO Albuquerque 83.12 50 LR LR 06 27 24.9
comp=Z,102nm,18.9s,baz=52,slow=30
ANMO Albuquerque 83.12 50 *i* P **P 05 58 35.9 +1.1**
ANMO pmax pmax
comp=Z,6.0nm,1.3s
N25K Chitina, Valde 83.15 14 P **P 05 58 34.5 +0.3**
N25K IAmb IAmb 05 58 52.8
comp=Z,8.7nm,0.9s
NEW Newport 83.49 34 LR LR 06 27 37.4
comp=Z,134nm,21.7s,baz=210,slow=30
J20K Nowinta River 83.78 9 P **P 05 58 37.3 +0.1**
H03S2 Juan Fernandez 83.92 123 T T 07 31 24.3
baz=249,slow=75,SNR=58
H03S1 Juan Fernandez 83.93 124 T T 07 31 27.0
baz=249,slow=75,SNR=53
H03S3 Juan Fernandez 83.93 123 T T 07 31 26.6
baz=249,slow=75,SNR=36
H03N2 Juan Fernandez 84.03 123 T T 07 31 30.7
baz=257,slow=72,SNR=28
H03N3 Juan Fernandez 84.04 123 T T 07 31 25.3
baz=257,slow=72,SNR=24
H03N1 Juan Fernandez 84.05 123 T T 07 31 30.0
baz=257,slow=72,SNR=12
FXWY Fox Creek 84.38 40 P **P 05 58 41.3 +0.2**
M27K Edge Creek, AK 84.43 14 P **P 05 58 41.6 +0.8**
M27K IAmb IAmb 05 59 00.1
comp=Z,24nm,1.3s
BPMT Black Pine Rid 84.46 37 P **P 05 58 41.4 -0.1**
O30N Mendenhall 84.61 18 P **P 05 58 41.3 -0.3**
DLBC Dease Lake 84.70 21 LR LR 06 30 20.5
comp=Z,80nm,18.4s,baz=156,slow=31
MAW Mawson 84.76 199 P **P 05 58 42.2 -0.1**
comp=Z,2.7nm,0.2s,baz=115,slow=5.4,SNR=13
MAW LR LR 06 36 59.5
comp=Z,62nm,18.0s,baz=90,slow=36
comp=Z,2.7nm,0.2s
PDAR Pinedale Array 84.85 42 P **P 05 58 43.4 -0.1**
comp=Z,1.3nm,0.8s,baz=238,slow=2.2,SNR=9.2
PDAR LR LR 06 29 35.4
comp=Z,89nm,20.2s,baz=252,slow=31
comp=Z,1.3nm,0.8s
RIDG Independent Ri 84.99 13 P **P 05 58 42.3 -1.2**
RIDG IAmb IAmb 05 59 02.1
comp=Z,20nm,1.2s
WRH Wood River Hil 85.03 11 P **P 05 58 43.9 +0.3**
BOZ Bozeman (W) 85.06 39 P **P 05 58 44.6 +0.2**
BOZ Bozeman (W) 85.06 39 P **P 05 58 44.6 +0.2**
BOZ pmax pmax
comp=Z,12nm,1.4s
HDA Harding Lake 85.18 11 P **P 05 58 44.8 +0.5**
CCB Clear Creek Bu 85.24 11 P **P 05 58 44.0 -0.6**
CMIG Matias Romero 85.35 70 LR LR 06 27 28.4
comp=Z,71nm,21.1s,baz=218,slow=29
COLA College 85.44 11 *i* P **P 05 58 44.6 -1.0**
COLA pmax pmax
comp=Z,14nm,0.9s
IL31 85.52 11 P **P 05 58 46.0 +0.1**
IL31 IAmb IAmb 05 59 05.7
comp=Z,35nm,1.5s
ILAR Eielson Array 85.52 11 P **P 05 58 45.5 -0.5**
ILAR Eielson Array 85.52 11 P **P 05 58 46.1 +0.1**
comp=Z,1.5nm,0.6s,baz=223,slow=5.6,SNR=28
ILAR LR LR 06 28 01.6
comp=Z,80nm,21.4s,baz=112,slow=29
comp=Z,1.5nm,0.6s
J25K Salcha River, 85.66 12 P **P 05 58 47.0 +0.2**
J25K IAmb IAmb 05 59 05.5
comp=Z,15nm,0.9s
F19K Shaleruckik Mo 85.88 6 **P 05 58 48.1 +0.4**
F19K IAmb IAmb 05 59 06.6
comp=Z,22nm,1.0s
M30M Minto, Yukon 85.89 16 P **P 05 58 48.1 +0.1**
M30M IAmb IAmb 05 59 06.6
comp=Z,26nm,1.9s
J26L Joseph Creek 85.93 13 P **P 05 58 48.7 +0.5**
J26L IAmb IAmb 05 59 07.6
comp=Z,21nm,1.1s
HNDO Hondo 86.26 57 P **P 05 58 51.6 +1.1**
HNDO IAmb IAmb 05 58 53.2
comp=Z,25nm,1.2s
DAWY Dawson 86.48 14 P **P 05 58 51.4 +0.5**
DAWY IAmb IAmb 05 59 10.0
comp=Z,12nm,1.0s
EGAK Eagle 86.69 13 P **P 05 58 52.4 +0.6**
EGAK IAmb IAmb 05 59 11.3
comp=Z,27nm,1.5s
APMT Aspermont 87.13 54 P **P 05 58 55.2 +0.4**
ABTX Abilene, Hawle 87.22 54 P **P 05 58 55.1 -0.1**
BILL Biiibino 87.46 353 *i* P **P 05 58 55.6 +0.1**
BILL pmax pmax
comp=Z,3.0nm,0.8s
PLCA Paso Flores 87.82 132 LR LR 06 31 42.9
comp=Z,30nm,18.9s,baz=224,slow=31
E21K Killik River 87.85 7 P **P 05 58 58.0 +0.6**
E21K IAmb IAmb 05 59 16.7
comp=Z,14nm,1.1s
PSI Prapat 88.20 274 LR LR 06 40 01.1
comp=Z,40nm,18.3s,baz=34,slow=37
ELIB Princess Elisa 89.06 185 *d*P **P 05 59 02.8 -0.6**
comp=Z,5.2nm,1.1s
C23K Itkillik River 89.59 8 P **P 05 59 06.3 +0.8**
G30M tAoh Zraii Nji 89.65 14 P **P 05 59 06.8 +0.8**
G30M IAmb IAmb 05 59 26.5
comp=Z,20nm,1.5s
TROLL Troll, Antarti 89.73 179 ⇑P **P 05 59 06.5 -0.1**
comp=Z,410nm,0.8s
VNA3 Neumayer Olymp 89.87 175 ⇑P **P 05 59 07.4 +0.3**
comp=Z,9.0nm,0.7s
SNAA Sanae 89.89 177 P **P 05 59 06.9 -0.4**
SNAA IAmb IAmb 05 59 08.3
comp=Z,8.0nm,0.9s
SNAA Sanae 89.89 177 ⇑P **P 05 59 06.7 -0.6**
comp=Z,162nm,0.9s
SNAA Sanae 89.89 177 P **P 05 59 07.1 -0.2**
comp=Z,6.6nm,0.8s,baz=213,slow=4.8,SNR=22
SNAA LR LR 06 36 32.6
comp=Z,22nm,19.4s,baz=191,slow=34
comp=Z,6.6nm,0.8s

SNAA Sanae 89.89 177 *i* P **P 05 59 07.2 -0.1**
SNAA pmax pmax
comp=Z,9.0nm,0.9s
G31M Satah River 90.06 15 P **P 05 59 08.4 +0.7**
G31M IAmb IAmb 05 59 27.5
comp=Z,16nm,1.1s
VNA2 Neumayer--Watz 90.36 176 ⇑P **P 05 59 09.7 +0.3**
comp=Z,9.7nm,0.6s,baz=185,slow=4.2
VNA1 Neumayer--Stat 90.56 175 ⇑P **P 05 59 09.7 -0.6**
comp=Z,12nm,1.0s
HHC Hu-ho-hao-te 90.75 313 *e*P **P 05 59 12.5 +0.7**
HHC pmax pmax
comp=Z,18nm,0.6s
HHC pmax pmax
comp=Z,85nm,4.9s
INK Inuvik 91.33 14 LR LR 06 31 50.8
comp=Z,71nm,21.4s,baz=242,slow=30
YAK Yakutsk 91.72 337 LR LR 06 38 03.3
comp=Z,28nm,19.0s,baz=110,slow=34
JTS Las Juntas de 92.21 80 LR LR 06 30 43.1
comp=Z,57nm,21.3s,baz=288,slow=29
ATAH Atahualpa 92.95 98 LR LR 06 30 51.5
comp=Z,53nm,21.4s,baz=242,slow=29
YKA Yellowknife Ar 93.07 24 P **P 05 59 21.7 -0.1**
comp=Z,1.2nm,1.1s,baz=242,slow=4.9,SNR=7.1
YKA LR LR 06 34 02.7
comp=Z,64nm,19.0s,baz=303,slow=31
comp=Z,1.2nm,1.1s
CMAR Chiang Mai Arr 93.12 288 LR LR 06 39 38.5
comp=Z,24nm,20.0s,baz=90,slow=34
PZH PanZhiHua 93.22 297 P **P 05 59 24.0 +0.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.7s
MGMO Mountain Grove 94.52 52 P **P 05 59 29.1 0.0**
LZH Lanzhou 94.64 306 P **P 05 59 28.5 -1.5**
LZH sP sP 05 59 33.5 -0.1
LZH pmax pmax
comp=Z,16nm,1.0s
ULM Lac du Bonnet 96.59 39 LR LR 06 35 26.7
comp=Z,279nm,19.4s,baz=258,slow=31
LPAZ La Paz 99.20 111 LR LR 06 35 26.9
comp=Z,50nm,20.2s,baz=262,slow=30
WMQ Urumqi 108.52 311 Pdif **Pdif 06 00 33.0 +1.3**
WMQ LR LR
comp=N,4μm,24.1s
WMQ LR LR
comp=E,3μm,24.0s
WMQ LR LR
comp=Z,250nm,23.9s
MKAR Makanchi Array 112.60 314 PKiKP **PKiKP 06 04 44.6 -0.4**
comp=Z,0.4nm,0.6s,baz=104,slow=0.6,SNR=4.3
BVAR Borovoye Array 119.97 321 PKP **PKPdf 06 04 58.0 -0.9**
comp=Z,0.8nm,0.4s,baz=274,slow=1.7,SNR=4.8
ARCES ARCESS Array B 127.55 352 PKP **PKiKP 06 05 13.4 -0.2**
comp=Z,4.2nm,0.9s,baz=323,slow=1.8,SNR=7.5
FINES FINESS Array B 134.80 347 PKP **PKPdf 06 05 25.1 -1.8**
comp=Z,7.8nm,1.1s,baz=36,slow=5.2,SNR=2.0
MAK Makhachkala 137.42 314 *d* *i* P **Pdif 06 02 34.5 -5.6**
MAK *e*PPP PPP 06 11 13.7
MAK *e* 06 12 40.5
MAK pmax pmax
comp=Z,419nm,1.3s
KIV Kislovodsk 140.19 318 *e*PKIKP **PKPdf 06 05 37.1 -0.4**
KIV pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 142.94 336 PKP **PKPdf 06 05 42.5 +0.5**
comp=Z,0.5nm,0.4s,baz=46,slow=3.5,SNR=4.9
KMBO Kilima Mbogo 143.71 241 PKP PKPbc 06 05 43.0 +0.7
comp=Z,0.7nm,0.3s,baz=121,slow=3.3,SNR=4.8
KMBO Kilima Mbogo 143.71 241 *i* PKIKP **PKPdf 06 05 43.9 -1.0**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
CLL Collm 146.77 352 *e*PKP2 **PKPab 06 05 52.0 +0.4**
CLL *e* 06 09 23.0
CLL Collm 146.77 352 *e*PKPbc **PKPab 06 05 52.0 +0.4**
CLL *i* x x 06 06 00.1
CLL *i* PKPmax 06 06 08.8
comp=Z,50nm,1.6s
CLL *e*SKPdf **SKPdf 06 09 23.0 0.0**
BRG Berggiesshubel 147.06 351 *e*PKP **PKPbc 06 05 51.4 +0.2**
BRG Amp 06 05 57.0
comp=Z,3.3nm,0.7s
BRG Berggiesshubel 147.06 351 *e*PKP2 **PKPbc 06 05 51.4 +0.2**
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG pmax pmax
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 147.43 346 *e*PKP **PKiKP 06 05 55.3 +0.7**
MORC *e* 06 06 13.2
VRAC Vranov 148.08 347 *e*PKP **PKiKP 06 05 56.2 +0.2**
VRAC *e* 06 06 14.4
BRTR Keskin Array B 148.15 317 PKPbc **PKPbc 06 05 55.1 +0.3**
comp=Z,1.7nm,0.7s,baz=133,slow=2.9,SNR=5.5
VYHS Vyhne 148.30 344 *e*PKP2 **PKPab 06 05 57.2 -0.6**
VYHS Vyhne 148.30 344 *e*PKP **PKPab 06 05 57.2 -0.6**
KRUC Moravsky 148.35 347 *e*PKP **PKPab 06 05 57.8 -0.2**
KRUC *e* 06 06 15.9
KHC Kasperske Hory 148.81 351 *e*PKP **PKiKP 06 05 57.5 0.0**
KHC Kasperske Hory 148.81 351 *e*PKP2 **PKiKP 06 05 57.5 0.0**
GERES GERESS Array B 149.07 350 PKPbc **PKiKP 06 05 58.3 +0.2**
comp=Z,1.3nm,0.8s,baz=356,slow=1.7,SNR=3.8
CONA Conrad Observa 149.54 347 *i* pPKP **PKiKP 06 06 01.1 +1.9**
comp=Z,7.5nm,1.5s
MOA Molln 149.93 349 *i* PKP **PKPab 06 06 03.8 -0.6**
comp=Z,3.9nm,0.9s
MMAI Mount Meron Ar 150.01 305 PKPbc **PKPbc 06 05 59.6 0.0**
comp=Z,3.0nm,0.6s,baz=57,slow=5.3,SNR=2.2
ARSA Arzberg 150.26 347 *i* PKP **PKPbc 06 05 59.2 -0.5**
comp=Z,6.4nm,1.1s
LESA Schwarzleotal 150.61 351 *i* pPKP pPKPdf 06 05 59.0 +1.0
comp=Z,5.5nm,1.0s
RETA Reutte 150.79 354 *e*PKiKP **PKiKP 06 06 01.9 +0.2**
comp=Z,6.4nm,1.0s
KBA Koelnbreinsper 150.84 350 *i* PKiKP **PKiKP 06 06 01.8 -0.1**
comp=Z,4.4nm,1.1s
WATA Walderalm 150.85 352 *i* PKiKP **PKiKP 06 06 02.5 +0.6**
comp=Z,3.1nm,0.5s
MOTA Moosalm 150.90 353 *e*PKP **PKPbc 06 06 00.6 -0.8**
comp=Z,7.4nm,0.8s
SOKA Soboth 150.91 347 *e*PKP **PKPbc 06 06 00.7 -0.7**
comp=Z,4.3nm,1.0s
WTTA Wattenberg 150.91 352 *i* PKiKP **PKiKP 06 06 02.6 +0.5**
comp=Z,4.5nm,0.5s
SQTA Sankt Quirin 151.01 353 *e*PKP **PKPbc 06 06 01.4 -0.3**
comp=Z,1.5nm,0.4s
DAVA Damuels 151.08 355 *e*PKiKP **PKiKP 06 06 03.4 +1.0**
comp=Z,6.8nm,1.1s
OBKA Obir 151.17 348 *i* PKiKP **PKPbc 06 06 01.8 -0.2**
comp=Z,19nm,1.7s
FETA Feichten 151.26 353 *i* PKiKP **PKiKP 06 06 03.9 +1.1**
comp=Z,7.1nm,0.9s
ABTA Abfaltersbach 151.29 351 *i* PKiKP **PKPbc 06 06 02.5 +0.2**
comp=Z,6.0nm,0.7s
ESDC Sonseca Array 157.13 20 PKPab **PKPab 06 06 34.8 -0.3**
comp=Z,0.6nm,0.6s,baz=298,slow=5.4,SNR=2.7
TORD Torodi Ar. Bea 173.23 141 PKP **PKPdf 06 06 18.2 -0.6**
comp=Z,0.8nm,0.9s,baz=151,slow=0.7,SNR=3.8
TORD PKPab **PKPab 06 07 44.7 -1.7**
comp=Z,0.8nm,0.9s,baz=216,slow=3.9,SNR=2.2

*IDC **30** 06:04:17.6±20.0, 35°.56N×23°.28E, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=391.8km s-min=44.3km az=30.0*
*THE **30** 06:04:21.5, 35°.17N×22°.96E, h0km±1km, ML3.2/4, Error ellipse: s-maj=2.6km s-min=0.9km az=227.0*
*ATH **30** 06:04:22.9, 35°.25N×23°.04E, h18km±1km, ML3.2/5, Error ellipse: s-maj=2.6km s-min=1.1km az=215.0*
ISC 30 06:04:21.1±1.6, 35°.23N±0°.07×23°.00E±0°.06, h12km±10km, n16, σ2°.04/22, mb4.1/5, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.56**	**89**	P	**Pg**	**06 04 32.3**	**+0.2**
KNDR				S	**Sg**	**06 04 39.2**	**-0.4**
KNDR				AML	AML	06 04 47.1	
	comp=N,14192μm,0.5s						
KNDR				AML	AML	06 04 48.3	
	comp=E,15072μm,0.4s						
ANKY	**Antikythira Is**	**0.68**	**21**	P	**Pb**	**06 04 35.7**	**+0.7**
ANKY				S	**Sn**	**06 04 47.5**	**+0.4**
	comp=E,2μm,0.5s						
ANKY	**Antikythira Is**	**0.68**	**21**	P	**Pb**	**06 04 35.4**	**+0.4**
ANKY				S	**Sb**	**06 04 44.1**	**-0.2**
ANKY				AML	AML	06 04 49.9	
	comp=N,3828μm,0.5s						
ANKY				AML	AML	06 04 51.6	
	comp=E,2964μm,0.6s						
IMMV	**Iera Moni Meta**	**0.84**	**74**	P	**Pb**	**06 04 38.4**	**+0.8**
IMMV				S	**Sn**	**06 04 51.3**	**+0.4**
	comp=E,2μm,0.7s						
IMMV	**Iera Moni Meta**	**0.84**	**74**	P	**Pb**	**06 04 37.9**	**+0.3**
IMMV				S	**Sb**	**06 04 48.8**	**0.0**
IMMV				AML	AML	06 04 57.2	
	comp=N,3068μm,0.8s						
IMMV				AML	AML	06 04 58.1	
	comp=E,4853μm,0.7s						
GVD	**Gavdhos**	**0.97**	**113**	P	**Pg**	**06 04 39.9**	**0.0**
GVD				S	**Sb**	**06 04 55.1**	**+2.4**
	comp=E,2μm,0.4s						
GVD	**Gavdhos**	**0.97**	**113**	P	**Pg**	**06 04 39.9**	**0.0**
GVD				S	**Sb**	**06 04 53.2**	**+0.5**
GVD				AML	AML	06 05 05.3	
	comp=E,3316μm,0.4s						
GVD				AML	AML	06 05 07.2	
	comp=N,2950μm,0.3s						
VLI	**Veliai**	**1.49**	**358**	P	**Pn**	**06 04 49.1**	**+1.5**
VLI				S	**Sn**	**06 05 11.5**	**+4.5**
	comp=N,475nm,0.9s						
VLI	**Veliai**	**1.49**	**358**	P	**Pn**	**06 04 48.8**	**+1.1**
VLI				S	**Sg**	**06 05 07.9**	**-1.2**
VLI				AML	AML	06 05 14.4	
	comp=N,1049μm,0.8s						
VLI				AML	AML	06 05 19.5	
	comp=E,856μm,0.8s						
PYL	**PYLOS**	**1.95**	**329**	P	**Pb**	**06 04 57.7**	**+1.1**
ITM	**Ithomi**	**2.13**	**336**	P	**Pb**	**06 05 00.5**	**+0.9**
HFS	**Hagfors**	**25.64**	**349**	P	**P**	**06 09 46.2**	**-4.1**
	comp=E,1.5nm,0.5s,baz=180,slow=10,SNR=5.4						
	comp=E,1.5nm,0.5s						
FINES	**FINESS Array B**	**26.31**	**3**	P	**P**	**06 09 51.5**	**-4.8**
	comp=E,5.8nm,0.9s,baz=171,slow=9.8,SNR=1.7						
	comp=E,5.8nm,0.9s						
ARCES	**ARCESS Array B**	**34.39**	**2**	P	P	06 11 03.1	-4.6
	comp=E,2.9nm,0.9s,baz=184,slow=10,SNR=1.8						
	comp=E,2.9nm,0.9s						
MKAR	**Makanchi Array**	**45.21**	**56**	P	P	06 12 33.6	-4.3
	comp=E,0.3nm,0.4s,baz=264,slow=7.9,SNR=4.9						
	comp=E,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**46.23**	**46**	P	P	06 12 40.5	-5.4
	comp=E,0.7nm,0.3s,baz=264,slow=9.5,SNR=3.9						
	comp=E,0.7nm,0.3s						

ISC 30 06:15:51.5±1.3, 28°.93N±0°.07×113°.25W±0°.04, h10km, n4, σ1°.08/8, 1D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAHB	**Baha de los**	**0.28**	**273**	*e*P	**Pg**	**06 15 57.9**	**+0.9**
BAHB				*e*S	**Sg**	**06 16 01.4**	**+0.5**
BAHB				IAML		06 16 02.5	
	comp=N,641nm,0.3s						
BAHB				*e*		06 16 02.5	
SFQB	**San Francisqui**	**0.62**	**147**	⇓*e*P	**Pg**	**06 16 04.5**	**+1.0**
SFQB				*e*S	**Sg**	**06 16 12.7**	**+1.0**
SFQB				IAML		06 16 14.3	
	comp=N,220nm,0.2s						
SFQB				*e*		06 16 14.3	
BKIRB	**Bahia Kino**	**1.09**	**94**	*e*P	**Pb**	**06 16 12.1**	**-0.3**
BKIRB				*e*S	**Sg**	**06 16 25.7**	**-1.0**
NE74	**Guerrero Negro**	**1.14**	**216**	*e*P	**Pb**	**06 16 12.2**	**-1.1**
NE74				*e*S	**Sb**	**06 16 27.3**	**-0.8**

*IDC **30** 06:30:27.8±1.4, 42°.68N×16°.61E, h0km, mb3.6/4, mbtmp3.7/10, ML3.3/6, Error ellipse: s-maj=32.5km s-min=15.7km az=87.0*
*BEO **30** 06:30:27.7±0.5, 42°.36N×16°.24E, h0km, ML3.5/11*
*PDG **30** 06:30:28.3±0.2, 42°.45N×16°.31E, h15km, MD3.7/1, ML3.6/12, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
*RHSSO **30** 06:30:29.2±0.5, 42°.48N×16°.36E, h14km±3km, ML3.7/15*
*VIE **30** 06:30:29.6±0.7, 42°.47N×15°.87E, h10km, mb3.3/19, ml3.4/12, ms4.1/5, Error ellipse: s-maj=9.2km s-min=4.5km az=78.0*
*MED_RC **30** 06:30:29.0±0.8, 42°.46N×16°.27E, h22km±2km, MW4.0/8, Moment Tensor Solution. Mantle waves: s8, c8; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}1.01±.32; $M_{\theta\theta}$-0.95±.18; $M_{\phi\phi}$-0.06±.25; $M_{r\theta}$-0.11±.12; $M_{\phi\theta}$-0.51±.16; $M_{\phi r}$0.02±.25; Best double couple: $M_0$1.10000×10^{15} NP1:ϕ_s249.00000°, δ47.00000°, λ95.00000°. NP2: ϕ_s61.00000°, δ43.00000°, λ84.00000°. Principal axes: T 1.0200, Plg85.0000°, Azm216.0000°; N 0.1700, Plg4.0000°, Azm66.0000°; P -1.1900, Plg2.0000°, Azm336.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*PRU **30** 06:30:31.0, 42°.60N×16°.38E, h10km*
*LDG **30** 06:30:34.7±0.8, 42°.85N×16°.05E, h10km, Ml3.7/8, Error ellipse: s-maj=18.3km s-min=15.5km az=63.0*
ISC 30 06:30:26.9±1.3, 42°.51N±0°.03×16°.32E±0°.02, h5km±9km, n141, σ1°.66/212, mb3.6/4, 25C-15D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSTV	**Lastovo**	**0.50**	**58**	*e*Pg	**Pg**	**06 30 37.3**	**+0.9**
LSTV				Sg	**Sb**	**06 30 45.2**	**-0.5**
HVAR	**Hvar**	**0.68**	**8**	*e*Pg	**Pg**	**06 30 40.8**	**+0.9**
HVAR				Sg	**Sb**	**06 30 51.8**	**+0.8**
MAKA	**Makarska**	**0.94**	**33**	*e*Pg	**Pn**	**06 30 46.4**	**-0.4**
MAKA				Sg	**Sn**	**06 30 59.7**	**-0.8**
STON	**Ston**	**1.08**	**70**	*e*Pg	**Pn**	**06 30 48.7**	**0.0**
STON				*e*Sg	**Sn**	**06 31 05.4**	**+1.3**
STON	**Ston**	**1.08**	**70**	*i* Pg	**Pn**	**06 30 48.8**	**+0.1**
STON				Sg	**Sn**	**06 31 04.3**	**+0.3**
STON	**Ston**	**1.08**	**70**	⇑*i*Pg	**Pn**	**06 30 48.6**	**-0.1**
STON				*e*Sg	**Sb**	**06 31 02.9**	**+0.4**
RICI	**Ricice**	**1.15**	**31**	*e*Pg	**Pb**	**06 30 49.4**	**+0.1**
RICI				Sg	**Sn**	**06 31 05.7**	**-0.3**
ZIRJ	**Zirje**	**1.25**	**337**	*e*Pg	**Pb**	**06 30 50.8**	**-0.2**
ZIRJ				Sg	**Sn**	**06 31 08.7**	**+0.5**
DBRK	**Dubrovnik**	**1.36**	**82**	*e*Pg	**Pg**	**06 30 53.6**	**+0.6**
DBRK				Sg	**Sg**	**06 31 11.7**	**+1.2**
MORI	**Morici**	**1.43**	**342**	*i* Pn	**Pb**	**06 30 54.0**	**-0.1**
MORI				Sg	**Sg**	**06 31 13.7**	**+0.7**
KJIV	**Kijevo**	**1.50**	**2**	*e*Pn	**Pb**	**06 30 55.3**	**+0.1**
TREB	**Trebinje**	**1.51**	**81**	*e*Pg	**Pb**	**06 30 55.6**	**+0.1**
TREB				*e*Sg	**Sg**	**06 31 16.7**	**+1.2**
TREB	**Trebinje**	**1.51**	**81**	⇑*i*Pg	**Pb**	**06 30 55.1**	**-0.4**
TREB				*e*Sg	**Sg**	**06 31 16.5**	**+1.0**
HCY	**Herceg Novi**	**1.61**	**91**	*e*Pn	**Pb**	**06 30 56.7**	**-0.4**
HCY				*e*Sn	**Sn**	**06 31 16.8**	**-0.3**
HCY	**Herceg Novi**	**1.61**	**91**	⇓*i*Pn	**Pb**	**06 30 57.1**	**0.0**
HCY				*i* Sn	**Sg**	**06 31 19.9**	**+1.3**
BRY	**Bratogost**	**1.68**	**76**	⇑*i*Pn	**Pn**	**06 30 57.6**	**+0.5**
BRY				*e*Sn	**Sn**	**06 31 19.0**	**-0.2**
BRY	**Bratogost**	**1.68**	**76**	⇑*i*Pn	**Pb**	**06 30 58.1**	**-0.3**
BRY				*i* Sn	**Sg**	**06 31 22.4**	**+1.5**
DUGI	**Dugi Otok**	**1.75**	**329**	*e*Pn	**Pb**	**06 30 58.4**	**-1.1**
DUGI				Sn	**Sb**	**06 31 21.8**	**0.0**
MATE	**Matera**	**1.88**	**171**	⇑P	**Pb**	**06 31 00.3**	**-1.3**
BUM	**Brajici-Budva**	**1.92**	**95**	⇑*i*Pn	**Pb**	**06 31 01.8**	**-0.6**
BUM				*i* Sn	**Sb**	**06 31 27.5**	**+0.9**
CEME	**Cevo**	**1.92**	**88**	⇓*i*Pn	**Pb**	**06 31 01.9**	**-0.5**
CEME				*i* Sn	**Sb**	**06 31 27.9**	**+1.2**
NKME	**Niksic**	**1.96**	**81**	⇓*i*Pn	**Pb**	**06 31 02.6**	**-0.5**
NKME				*i* Sn	**Sb**	**06 31 29.1**	**+1.2**
A050A	**Klekovaca**	**1.98**	**4**	⇓*i*Pn	**Pb**	**06 31 03.3**	**-0.2**
A050A				*e*Sn	**Sb**	**06 31 27.5**	**-1.0**
VIRC	**Vir**	**2.01**	**333**	*e*Pn	**Pb**	**06 31 02.8**	**-1.1**
VIRC				Sn	**Sb**	**06 31 29.2**	**-0.1**
UPM	**Unac-Piva**	**2.02**	**69**	⇑*i*Pn	**Pb**	**06 31 03.4**	**-0.8**
UPM				*e*Sn	**Sn**	**06 31 27.4**	**-0.3**
UPM	**Unac-Piva**	**2.02**	**69**	⇑*i*Pn	**Pb**	**06 31 03.5**	**-0.8**
UPM				*i* Sn	**Sb**	**06 31 30.8**	**+0.9**
UDBI	**Udbina**	**2.06**	**349**	*e*Pn	**Pb**	**06 31 04.6**	**-0.3**
UDBI				Sn	**Sb**	**06 31 31.7**	**+0.9**
DRME	**Dracevica, Mon**	**2.15**	**98**	⇑*i*Pn	**Pb**	**06 31 05.2**	**-1.1**
DRME				*i* Sn	**Sb**	**06 31 32.9**	**-0.3**
PDG	**Podgorica**	**2.17**	**91**	*e*Pn	**Pb**	**06 31 05.2**	**-1.5**
PDG				*e*Sn	**Sb**	**06 31 34.4**	**+0.5**
PDG	**Podgorica**	**2.17**	**91**	*e*Pn	**Pn**	**06 31 04.7**	**+1.0**
PDG				*e*Sn	**Sn**	**06 31 30.9**	**-0.1**
PDG	**Podgorica**	**2.17**	**91**	⇑P	**Pb**	**06 31 06.1**	**-0.6**

PDG Podgorica 2.17 91 ⇓i Pn Pb 06 31 05.2 -1.5
PDG i Sn Sb 06 31 34.0 +0.1
NVLJ Novalja 2.31 333 ePn Pn 06 31 06.9 +1.3
NVLJ Sn Sb 06 31 36.3 -1.6
BLY Banja Luka 2.33 15 ePn Pb 06 31 09.1 -0.3
BLY eSn Sg 06 31 41.0 -0.7
BLY Banja Luka 2.33 15 ⇑i Pn Pn 06 31 07.4 +1.5
BLY eSn Sn 06 31 35.6 +0.7
KOME Kolasin 2.38 81 ⇑i Pn Pb 06 31 08.6 -1.7
KOME i Sn Sb 06 31 38.9 -1.1
PLE Pljevlja 2.40 69 ⇓i Pn Pb 06 31 09.2 -1.4
PLE i Sn Sb 06 31 39.6 -1.0
PLIT Plitvice 2.42 348 ePn Pb 06 31 09.3 -1.7
PLIT Sn Sn 06 31 38.7 +1.4
HAPS Han Pijesak,BI 2.49 50 ePn Pb 06 31 10.9 -1.2
HAPS eSn Sb 06 31 44.2 +1.1
HAPS Han Pijesak,BI 2.49 50 ⇓i Pn Pn 06 31 09.6 +1.4
HAPS eSn Sn 06 31 40.1 +1.1
PRIJ Prijedor 2.49 6 eSn Sn 06 31 40.0 +1.2
RUDO Rudo 2.50 63 ePn Pn 06 31 10.0 +1.8
RUDO eSn Sn 06 31 38.9 -0.1
RABC Rab 2.51 334 ePn Pn 06 31 09.5 +1.2
RABC Sn Sn 06 31 40.9 +1.6
A051A Mrakovica 2.54 9 ⇓i Pn Pn 06 31 10.8 +1.9
A051A eSn Sn 06 31 42.1 +1.8
DOB Doboj 2.57 30 ePn Pn 06 31 11.3 +2.1
DOB eSn Sn 06 31 41.5 +0.6
BBLS Lazi&#263i 2.63 58 ePn Pn 06 31 12.2 +2.0
BBLS eSn Sb 06 31 47.4 +0.1
BBLS Lazi&#263i 2.63 58 ⇑i Pn Pn 06 31 12.1 +1.9
BBLS eSn Sn 06 31 43.6 +1.1
IVA Berane 2.66 81 ⇓i Pn Pb 06 31 12.3 +1.8
IVA i Sn Sb 06 31 45.7 -2.3
PVY Plav 2.69 87 ⇓i Pn Pn 06 31 12.7 +1.7
PVY i Sn Sb 06 31 46.3 -2.6
SJES Sjenica 2.79 73 ePn Pb 06 31 15.9 -1.4
SJES eSn Sb 06 31 51.6 -0.2
SJES Sjenica 2.79 73 ePn Pn 06 31 13.8 +1.5
SJES eSn Sn 06 31 46.9 +0.5
TIR Tirane 2.89 112 ePn Pn 06 31 14.7 +1.2
TIR eSn Sn 06 31 50.2 +1.6
TIR Tirane 2.89 112 ⇓P Pn 06 31 15.3 +1.7
IVAS Ivanjica 3.01 68 ePn Pn 06 31 17.0 +1.7
IVAS eSn Sb 06 31 55.5 -2.5
BOJS Bojanci 3.10 346 ⇑i Pn Pn 06 31 18.4 +2.0
BOJS eSn Sn 06 31 55.1 +1.3
TEKS Tekeris 3.10 48 ePn Pb 06 31 21.0 -1.5
TEKS Tekeris 3.10 48 ePn Pn 06 31 18.3 +1.8
TEKS eSn Sn 06 31 53.9 -0.1
DIVS Divibare 3.12 58 ePn Pb 06 31 20.4 -2.5
DIVS eSn Sb 06 31 59.6 -1.6
MOSL Moslavina 3.12 6 ePn Pn 06 31 17.9 +1.1
TIP Timpagrande 3.34 174 ⇑P Pn 06 31 21.8 +1.9
CRES Cresnjevec Ost 3.38 350 ⇑i Pn Pn 06 31 21.6 +1.3
CRES eSn Sn 06 32 01.4 +0.6
PTJ Puntijarka 3.41 356 ePn Pn 06 31 22.4 +1.6
TRUS Trudelj 3.44 59 ePn Pn 06 31 23.5 +2.4
TRUS eSn Sb 06 32 06.7 -3.7
SKDS Skadanscina 3.46 332 ePn Pn 06 31 22.3 +0.8
SKDS eSn Sn 06 32 03.0 0.0
GRUS Gruza 3.50 65 ePn Pb 06 31 26.1 -3.2
CEY Cerknica 3.51 338 ⇑i Pn Pn 06 31 23.2 +1.1
CEY eSn Sn 06 32 04.3 +0.3
SELS Selova 3.60 77 ePn Pn 06 31 25.0 +1.6
OHR Ohrid 3.62 111 i Pn Pn 06 31 26.3 +2.6
OHR i Sn Sn 06 32 08.5 +1.5
KALN Kalnik 3.63 1 ePn Pn 06 31 24.9 +1.2
LOBO Lobor 3.65 357 ePn Pn 06 31 26.0 +1.9
FRGS Fruska Gora 3.66 42 ePn Pn 06 31 26.8 +2.6
FRGS Fruska Gora 3.66 42 ePn Pn 06 31 26.2 +2.0
FRGS eSn Sn 06 32 07.2 -0.6
BARS Barje 4.06 84 ePn Pn 06 31 31.3 +1.6
MORH Mrgy, Hungar 4.07 23 ⇑P Pb 06 31 34.7 -4.3
BOVS Bovan 4.10 72 ePn Pn 06 31 33.6 +3.3
BOVS Bovan 4.10 72 ⇑P Pb 06 31 36.6 -3.0
OBKA Obir 4.20 343 i Pn Pn 06 31 33.7 +2.0
2.9nm,0.2s,SNR=15
OBKA eSn Sn 06 32 22.3 +1.1
96nm,0.7s
OBKA Obir 4.20 343 ⇓i Pn Pn 06 31 32.7 +1.0
OBKA eSn Sn 06 32 22.0 +0.8
SOKA Soboth 4.27 348 i Pn Pn 06 31 34.0 +1.3
6.3nm,0.3s,SNR=16
SOKA eSn Sn 06 32 25.5 +2.5
8.4nm,0.3s
VRSS Vrsac 4.47 52 ePn Pn 06 31 38.3 +3.0
ZAGS Zajecar 4.52 71 ePn Pn 06 31 38.5 +2.5
MDVR Moldovita 4.53 58 ⇓P Pb 06 31 47.5 +0.7
MYKA Terra Mystica 4.55 336 i Pn Pn 06 31 39.2 +2.8
4.8nm,0.2s
MYKA eSn Sn 06 32 29.6 -0.1
17nm,0.5s
BOSS Bosilegrad 4.55 88 ePn Pn 06 31 37.6 +1.1
ZAPS Zavoj 4.70 78 ePn Pn 06 31 40.4 +1.9
ARSA Arzberg 4.78 353 ePn Pn 06 31 41.4 +1.9
14nm,0.4s,SNR=16
ARSA eSn Sn 06 32 38.9 +3.5
11nm,0.6s
BLKB Belogradchik 4.79 74 ⇑P Pb 06 31 50.9 -0.4
VAY Valandovo 4.81 102 i Pn Pn 06 31 39.4 -0.6
BZS Buzias 4.92 49 ⇓P Pb 06 31 50.6 -3.0
HERR Herculane 5.02 60 ⇑P Pn 06 31 48.6 +5.8
ABTA Abfaltersbach 5.04 329 i Pn Pn 06 31 44.4 +1.3
6.0nm,0.3s,SNR=8.4
ABTA i Sn Sn 06 32 41.0 -0.8
55nm,1.0s
KBA Koelnbreinsper 5.04 336 i Pn Pn 06 31 44.7 +1.5
3.9nm,0.3s,SNR=11
KBA i Sn Sn 06 32 41.8 -0.2
21nm,0.6s
RONA Rosalia, Austr 5.19 360 i Pn Pn 06 31 46.1 +0.8
4.2nm,0.4s
RONA i Sn Sn 06 32 47.6 +2.0
4.0nm,0.3s
SURR Surduc 5.29 50 ⇑P Pb 06 31 53.5 -6.3
SIRR Siria 5.36 44 ⇑P Pb 06 31 55.1 -6.0
PGF Pioggiola 5.41 273 ePn Pn 06 31 50.5 +2.2
CONA Conrad Observa 5.43 357 ePn Pn 06 31 50.4 +1.8
1.6nm,0.3s,SNR=8.3
CONA i Sn Sn 06 32 56.0 +4.4
8.7nm,0.4s
GZR Gura Zlata 5.48 56 ⇑P Pb 06 31 56.3 -6.8
BIOA Bad Ischl, Aus 5.52 341 ePn Pn 06 31 51.8 +2.0
21nm,0.3s,SNR=15
BIOA i Sn Sn 06 32 54.7 +1.0
26nm,0.6s
MOA Molln 5.54 346 ePn Pn 06 31 52.0 +2.0
15nm,0.4s,SNR=24
MOA eSn Sn 06 32 53.6 -0.4
9.1nm,0.4s
LESA Schwarzleotal 5.56 334 i Pn Pn 06 31 53.0 +2.7
6.0nm,0.4s
LESA i Sn Sn 06 32 55.0 +0.4
8.0nm,0.4s
WTTA Wattenberg 5.80 327 i Pn Pn 06 31 55.8 +1.9
2.4nm,0.3s
WTTA i Sn Sn 06 33 00.4 -0.5
19nm,0.5s
WATA Walderalm 5.89 327 i Pn Pn 06 31 57.4 +2.5
0.7nm,0.1s
WATA i Sn Sn 06 33 01.1 -1.8
4.2nm,0.3s
MODS Modra-Piesok 5.91 6 ePN Pn 06 32 00.8 +5.7
MODS eSN Sn 06 33 06.9 +3.8
SQTA Sankt Quirin 5.95 324 i Pn Pn 06 31 58.7 +2.9
3.2nm,0.3s
SQTA i Sn Sn 06 33 03.0 -1.3
6.0nm,0.4s
FETA Feichten 6.02 321 i Pn Pn 06 32 01.1 +4.4
1.2nm,0.4s
FETA i Sn Sn 06 33 05.6 -0.5
5.0nm,0.6s
MOTA Moosalm 6.09 324 i Pn Pn 06 32 00.7 +2.9
3.4nm,0.3s
VYHS Vyhne 6.24 16 ePN Pn 06 32 04.3 +4.6
VYHS eSN Sn 06 33 10.9 -0.5
DRGR 6.25 45 ⇑P Pb 06 32 13.2 -3.1
DAVOX Davos/Dischmat 6.27 315 Pn **Pn 06 32 03.2 +2.9**
1.9nm,0.3s,baz=120,slow=17,SNR=13
DAVOX Sn Sn 06 33 10.8 -1.6
1.6nm,0.3s,baz=121,slow=20,SNR=2.0
3.1nm,0.4s
RETA Reutte 6.35 324 *i Pn* Pn 06 32 05.6 +4.4
0.4nm,0.1s
RETA *i* Sn **Sn 06 33 11.5 -2.6**
7.7nm,0.3s
MARR Marisel-Cluj 6.40 47 ⇓P Pb 06 32 10.9 -7.8
CKRC Cesky Krumlov 6.47 348 *e*PN **Pn 06 32 05.2 +2.4**
KRUC Moravsky 6.56 0 *e*PN **Pn 06 32 05.8 +1.8**
KRUC *e*SN **Sn 06 33 22.8 +3.7**
GERES GERESS Array B 6.60 345 Pn **Pn 06 32 05.7 +1.1**
1.9nm,0.3s,baz=160,slow=15,SNR=11
GERES Sn **Sn 06 33 19.0 -1.3**
2.2nm,0.3s,baz=160,slow=24,SNR=5.6
3.1nm,0.3s
DAVA Damuels 6.62 318 *i Pn* **Pn 06 32 07.2 +2.3**
0.7nm,0.2s
DAVA *i* Sn **Sn 06 33 18.6 -2.2**
22nm,0.4s
SBF Sospel 6.64 285 *e*Pn **Pn 06 32 06.8 +1.7**
KHC Kasperske Hory 6.90 345 *e*PN **Pn 06 32 10.2 +1.5**
KHC *e*SN **Sn 06 33 24.8 -2.7**
KHC *ex* x 06 34 09.0
LMR La Mourre 7.25 280 *e*Pn **Pn 06 32 13.8 +0.3**
MBDF Montbardon 7.28 291 *e*Pn **Pn 06 32 13.9 -0.1**
MBDF *e*Sn Sn 06 33 27.9 -9.2
29nm,0.9s
MORC Moravsky Berou 7.32 6 *e*SN **Sn 06 33 41.8 +3.8**
LPG La Plagne 7.52 297 *e*Pn **Pn 06 32 16.5 -1.0**
LPG *e*Sn Sn 06 33 32.6 -11
26nm,0.6s
LPL La Plagne 7.54 297 *e*Pn **Pn 06 32 17.3 -0.4**
LPL *e*Sn Sn 06 33 32.2 -11
32nm,0.7s
ORIF Oris-en-Rattie 7.94 291 *e*Pn **Pn 06 32 24.7 +1.7**
ORIF *e*Sn **Sn 06 33 46.7 -6.6**
14nm,0.6s
SMRF Simiane la Rot 7.98 284 *e*Pn **Pn 06 32 25.6 +2.0**
CABF La Chapelle 8.38 303 *e*Pn **Pn 06 32 29.4 +0.3**
HINF Hinteralfeld 8.54 312 *e*Pn **Pn 06 32 30.9 -0.3**
KEST Kesra 8.66 221 Pn Pn 06 32 39.4 +6.4
0.3nm,0.3s,baz=14,slow=19,SNR=2.7
2.2nm,0.6s
HAU Haudompre 8.93 311 *e*Pn **Pn 06 32 35.6 -0.9**
CLL Collm 9.09 347 *ex* x 06 34 34.0
CLL *e*Sb Sn 06 34 54.0 +33
CLL *e*Sg 06 35 17.0
comp=Z,21nm,1.1s
SMF Signal de Mont 9.82 299 *e*Pn **Pn 06 32 48.1 -0.6**
SMF *e*Sn Sn 06 34 29.4 -10
comp=Z,19nm,0.8s
LOR Lormes 10.04 303 *e*Pn **Pn 06 32 51.5 -0.3**
LOR *e*Sn Sn 06 34 35.2 -10
comp=Z,11nm,0.6s
AVF Avril sur Loir 10.18 299 *e*Pn **Pn 06 32 53.3 -0.4**
AVF *e*Sn Sn 06 34 38.8 -9.4
comp=Z,0.5nm,0.3s
BGF Bois d'Agland 10.44 297 *e*Pn **Pn 06 32 56.7 -0.5**
HFS Hagfors 17.73 356 Pn **P 06 34 35.8 +0.6**
comp=Z,0.1nm,0.3s,baz=172,slow=14,SNR=1.6
comp=Z,3.8nm,0.9s
NOA NORSAR Array B 18.82 352 P **P 06 34 46.5 -0.8**
baz=168,slow=10,SNR=1.9
comp=Z,0.1nm,0.4s
FINES FINESS Array B 19.85 14 P **P 06 34 57.6 -0.9**
comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=3.2
comp=Z,7.8nm,0.9s
TORD Torodi Ar. Bea 31.88 208 P P 06 36 57.0 +3.8
comp=Z,0.2nm,0.4s,baz=13,slow=9.7,SNR=2.3
comp=Z,0.2nm,0.4s
ZALV Zalesovo Beam 45.31 51 P **P 06 38 45.0 -0.5**
comp=Z,0.5nm,0.5s,baz=282,slow=7.2,SNR=2.0
comp=Z,0.5nm,0.5s
PDAR Pinedale Array 82.17 323 P **P 06 42 49.9 +0.9**
comp=Z,0.7nm,1.1s,baz=30,slow=5.5,SNR=2.4
comp=Z,0.7nm,1.1s
TXAR Lajitas Array 89.69 311 P **P 06 43 27.5 +1.2**
comp=Z,0.3nm,0.8s,baz=60,slow=5.4,SNR=2.8
comp=Z,0.3nm,0.8s

IDC 30 06:35:10.2±4.0, 53°.65N×87°.83E, h0km, mbtmp2.7/2, ML2.0/2, Error ellipse: s-maj=38.8km s-min=19.1km az=43.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.81**	**281**	Pg	Pn	06 35 43.1	+0.6
	1.0nm,0.3s,baz=99,slow=15,SNR=9.3						
ZALV				Lg	Lg	06 36 07.3	
	1.7nm,0.3s,baz=96,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**6.48**	**246**	Pn	Pn	06 36 47.7	+1.1
	baz=65,slow=13,SNR=2.3						
KURBB				Lg	Lg	06 38 34.4	
	baz=62,slow=33,SNR=4.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.72**	**210**	Pn	Pn	06 37 04.7	+0.9
	baz=28,slow=14,SNR=1.7						
	0.4nm,0.8s						
I34MN	**SONGINO INFRAS**	**13.13**	**109**	I	I	07 49 00.0	
	baz=309,slow=318,SNR=0.5						

MEX 30 06:36:10.6±0.3, 16°.55N×97°.40W, h9km±165km, MD3.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOIG	**Yosondua**	**0.34**	**335**	*i* P	Pg	06 36 17.1	-0.4
YOIG				*e*S	Sg	06 36 21.9	-0.1
PEIG	**Puerto Escondi**	**0.60**	**156**	*e*P	Pg	06 36 21.2	-0.9
PEIG				*e*S	Sg	06 36 29.2	-0.7
PNIG	**Pinotepa**	**0.72**	**258**	*e*P	Pg	06 36 21.3	-3.2
PNIG				*e*S	Sg	06 36 29.6	-4.3
TXIG	**Tlaxiaco**	**0.79**	**333**	*e*P	Pg	06 36 24.3	-1.6
TXIG				*e*S	Sg	06 36 34.6	-1.6
VHO	**Vista Hermosa**	**0.82**	**50**	*e*P	Pg	06 36 26.8	+0.3
HLIG	**Huajuapan de L**	**1.33**	**343**	*e*P	Pn	06 36 34.3	-1.3
HLIG				*e*S	Sb	06 36 51.6	-1.6
MGIG	**Malinaltepec**	**1.37**	**300**	*e*P	Pn	06 36 33.4	-2.6
MGIG				*e*S	Sb	06 36 49.8	-4.4
TLIG	**Tlapa**	**1.51**	**312**	*e*P	Pn	06 36 36.9	-1.0
TLIG				*e*S	Sn	06 36 54.1	-3.7
FTIG	**Fresnillo de T**	**1.53**	**333**	*e*P	Pn	06 36 37.3	-0.9
TOIG	**Toxpalan**	**1.57**	**12**	*e*P	Pn	06 36 39.3	+0.5
TOIG				*e*S	Sn	06 36 59.7	+0.2
CRIG	**Cruz Grande**	**1.67**	**277**	*e*P	Pn	06 36 39.4	-0.7
CRIG				*e*S	Sn	06 36 55.2	-6.5

*DSN **30** 06:46:19.4±7.1, 34°.88N×44°.90E, h10km, mb4.9/1, Error ellipse: s-maj=76.7km s-min=23.6km az=140.0*
*IDC **30** 06:46:31.6±1.2, 34°.10N×45°.55E, h0km, mb3.9/12, mbtmp4.0/16, ML3.9/4, MS2.8/1, Error ellipse: s-maj=25.8km s-min=19.9km az=178.0*
*TEH **30** 06:46:34.4, 34°.20N×45°.66E, h11km±17km, ML3.7*
*ISN **30** 06:46:34.1±0.3, 34°.22N×45°.65E, h14km±2km, ML3.7*
*OMAN **30** 06:46:40.2±1.3, 33°.67N×46°.11E, h10km, mb4.1/21, Error ellipse: s-maj=12.3km s-min=8.9km az=29.0*

ISC 30 06:46:33.2±0.5, 34°.16N±0°.03×45°.68E±0°.03, h10km, n100, σ2°.24/113, mb3.9/11, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.20**	**103**	**Pg**	**Pg**	**06 46 39.8**	**+2.4**
KGS1	**Ghasr-e-Shirin**	**0.35**	**348**	Pg	**Pg**	**06 46 40.7**	**+0.5**
ILBA	**Ilam Banvizeh**	**0.69**	**140**	Pg	**Pg**	**06 46 48.4**	**+1.8**
IGHG	**Ghaleghazi**	**0.76**	**77**	Pg	**Pb**	**06 46 50.1**	**+1.5**
IDHR	**Dehrash**	**0.80**	**47**	Pg	**Pg**	**06 46 49.2**	**+0.6**
IBDR	**Badra**	**1.07**	**169**	*e*Pg	**Pb**	**06 46 55.0**	**+1.3**
IBDR				*e*Sg	**Sb**	**06 47 10.2**	**+2.5**
IBDR				AML	AML	06 47 17.8	
	comp=E,1μm,0.5s						
KCHF	**Cheshme Sefid,**	**1.13**	**84**	Pg	**Pg**	**06 46 56.5**	**+1.5**
ILIN	**Lien**	**1.30**	**54**	Pg	**Pg**	**06 46 59.5**	**+1.3**
BHD	**Baghdad**	**1.40**	**231**	*e*Pn	**Pb**	**06 47 01.0**	**+1.6**
BHD				*e*Sn	**Sg**	**06 47 21.0**	**+2.8**
IKRK	**Kirkuk**	**1.66**	**319**	*e*Pn	**Pb**	**06 47 04.0**	**+0.2**
IKRK				*e*Sn	**Sb**	**06 47 25.5**	**+0.7**
IKRK				AML	AML	06 47 29.1	
	comp=N,2μm,0.3s						
IKRK				AML	AML	06 47 29.3	
	comp=E,2μm,0.9s						
SNQR	**Sonqor, Kerman**	**1.75**	**66**	Pg	**Pg**	**06 47 07.5**	**+0.7**
IBZA	**Bozab**	**1.83**	**80**	Pn	**Pb**	**06 47 07.8**	**+0.8**
IKFM	**Kafar-mosalman**	**1.91**	**109**	Pn	**Pb**	**06 47 09.6**	**+1.4**
SDS1	**Sardasht. Az.**	**1.99**	**355**	Pn	**Pb**	**06 47 09.9**	**+0.2**
IDOB	**Doab**	**2.11**	**99**	Pn	**Pb**	**06 47 12.1**	**+0.4**
HSAM	**Samen**	**2.42**	**88**	Pn	**Pn**	**06 47 16.3**	**+3.2**
RAFI	**Al-Rafai**	**2.46**	**171**	*e*Pn	**Pn**	**06 47 16.5**	**+3.2**
RAFI				*e*Sn	**Sn**	**06 47 47.5**	**+4.1**
RAFI				AML	AML	06 48 11.0	
	comp=E,391nm,0.5s						
RAFI				AML	AML	06 48 11.9	
	comp=N,361nm,0.4s						
MAHB	**Mahabad**	**2.60**	**0**	Pn	**Pn**	**06 47 18.2**	**+2.7**
HAGD	**Aghdareh**	**2.93**	**76**	Pn	**Pn**	**06 47 23.3**	**+3.2**
IHSH	**Hashtrud**	**3.39**	**22**	Pn	**Pn**	**06 47 29.1**	**+2.6**
QABG	**Abgarm-Qazvin**	**3.56**	**63**	Pn	**Pn**	**06 47 31.5**	**+2.8**
IQOM	**Qom**	**4.50**	**80**	Pn	**Pn**	**06 47 43.9**	**+2.2**
IPIR	**Pirpir**	**4.60**	**107**	Pn	**Pn**	**06 47 45.2**	**+2.1**
JHBN	**Jahan bin**	**4.60**	**113**	Pn	**Pn**	**06 47 45.4**	**+2.3**
QAMS	**Qamsar**	**4.77**	**93**	Pn	**Pn**	**06 47 48.4**	**+3.0**
IKLH	**Kolahrood**	**4.99**	**98**	Pn	**Pn**	**06 47 50.8**	**+2.4**
IVRN	**Varamin**	**5.06**	**79**	Pn	**Pn**	**06 47 51.8**	**+2.6**
KRSH	**Karshahi**	**5.36**	**90**	Pn	**Pn**	**06 47 56.2**	**+2.8**
IDMV	**Damavand**	**5.41**	**73**	Pn	**Pn**	**06 47 57.1**	**+2.9**
ISFB	**Sefidab**	**5.44**	**86**	Pn	**Pn**	**06 47 56.5**	**+2.1**
IZEF	**Zefreh**	**5.70**	**101**	Pn	**Pn**	**06 48 00.5**	**+2.4**
ASF	**Jabal al Asfar**	**7.62**	**257**	Pn	**Pn**	**06 48 22.5**	**-1.9**
	comp=N,0.4nm,0.3s,baz=58,slow=0.1,SNR=2.1						
	comp=N,1.0nm,0.3s						
ASF	**Jabal al Asfar**	**7.62**	**257**	P	Pg	06 49 06.1	+6.9
HSUJ	**Al Zarqa**	**8.22**	**258**	P	**Pg**	**06 49 12.7**	**+2.2**
NATI	**Neve Ativ**	**8.33**	**267**	P	**Pg**	**06 49 13.4**	**+0.7**
GEM	**Giv'at Ha'Em**	**8.40**	**266**	P	**Pg**	**06 49 14.2**	**+0.2**
SHMJ	**Saham**	**8.41**	**263**	P	**Pg**	**06 49 15.8**	**+1.6**
MMAI	**Mount Meron Ar**	**8.65**	**265**	Lg	Lg	06 50 55.5	
	comp=N,0.8nm,0.3s,baz=95,slow=32,SNR=2.0						
QRNJ	**Al-Qirein**	**8.66**	**261**	P	**Pg**	**06 49 19.1**	**+0.2**
HMDT	**Nahal Hemdat**	**8.72**	**260**	P	**Pg**	**06 49 19.4**	**-0.7**
HNTI	**Hanita**	**8.83**	**266**	P	**Pg**	**06 49 20.5**	**-1.7**
UJAP	**Al Uja**	**8.85**	**258**	P	**Pg**	**06 49 22.5**	**-0.2**
GHAJ	**Ghor Haditha**	**8.98**	**254**	P	**Pg**	**06 49 25.4**	**+0.3**
SHMA	**Al-Shehemyia**	**9.46**	**150**	P	**Pn**	**06 48 51.9**	**+2.5**
SHMA				S	**Sn**	**06 50 32.4**	**-3.5**
EIL	**Elat**	**10.15**	**247**	LR	LR	06 54 01.8	
	comp=N,48nm,18.8s,baz=68,slow=45						
SMRA	**Abu-Samra**	**10.39**	**153**	P	**Pn**	**06 49 03.2**	**+0.8**
SMRA				S	**Sn**	**06 50 54.4**	**-4.5**
TRNA	**Turayna**	**10.55**	**151**	P	**Pn**	**06 49 05.1**	**+0.6**
	SNR=7.7						
TRNA				S	**Sn**	**06 50 57.9**	**-4.9**
RAYN	**Ar Rayn**	**10.60**	**181**	P	**Pn**	**06 49 05.4**	**+0.1**
RAYN				S	**Sn**	**06 50 59.8**	**-4.2**
SLWR	**Sila**	**11.34**	**151**	P	**Pn**	**06 49 15.5**	**+0.2**
SLWR				S	**Sn**	**06 51 16.9**	**-5.2**
SHME	**Shamm**	**12.13**	**129**	*i* P	**Pn**	**06 49 25.0**	**-1.1**
	SNR=6.7						
SHME	**Shamm**	**12.13**	**129**	P	**Pn**	**06 49 25.3**	**-0.9**
	SNR=7.1						
SHME				S	**Sn**	**06 51 36.2**	**-5.3**
BANOM	**Banah**	**12.32**	**129**	*i* P	**Pn**	**06 49 28.1**	**-0.7**
	SNR=48						
BANOM	**Banah**	**12.32**	**129**	P	**Pn**	**06 49 28.1**	**-0.7**
BANOM				S	**Sn**	**06 51 41.0**	**-5.2**
AJN	**Ajban**	**12.54**	**137**	P	**Pn**	**06 49 32.2**	**+0.5**
AJN				S	**Sn**	**06 51 47.3**	**-4.1**
NAZ	**Nazwa, Dubai**	**12.60**	**134**	*i* P	**Pn**	**06 49 32.6**	**+0.1**
	SNR=6.2						
NAZ	**Nazwa, Dubai**	**12.60**	**134**	P	**Pn**	**06 49 32.9**	**+0.3**
	SNR=6.2						
NAZ				S	**Sn**	**06 51 46.8**	**-6.2**
MASF	**Masafi**	**12.62**	**131**	P	**Pn**	**06 49 32.7**	**-0.2**
	SNR=17						
MASF				S	**Sn**	**06 51 47.8**	**-5.8**
MSFE	**Esma-Masafi**	**12.63**	**131**	*i* P	**Pn**	**06 49 32.5**	**-0.6**
	SNR=9.8						
ASUD	**Al Ashush, Dub**	**12.68**	**136**	P	**Pn**	**06 49 34.0**	**+0.4**
FAQ	**Al Faqa, Dubai**	**12.74**	**135**	P	**Pn**	**06 49 34.9**	**+0.4**
MDH	**Madha**	**12.76**	**131**	*i* P	**Pn**	**06 49 33.8**	**-0.9**
	SNR=14						
MDH	**Madha**	**12.76**	**131**	P	**Pn**	**06 49 34.0**	**-0.8**
	SNR=14						
MDH				S	Sn	06 51 49.7	-7.3
UOSS	**Minazif**	**12.96**	**132**	*i* P	**Pn**	**06 49 36.8**	**-0.6**
	SNR=8.0						
UOSS	**Minazif**	**12.96**	**132**	P	**Pn**	**06 49 36.9**	**-0.6**
UOSS				S	Sn	06 51 53.4	-8.4
HATD	**Hatta, Dubai**	**13.01**	**133**	*i* P	**Pn**	**06 49 38.3**	**+0.2**
	SNR=7.8						
HATD	**Hatta, Dubai**	**13.01**	**133**	P	**Pn**	**06 49 38.3**	**+0.2**
	SNR=7.9						
HATD				S	Sn	06 51 55.7	-7.2
MZR	**Muzera**	**13.05**	**146**	*i* P	**Pn**	**06 49 38.5**	**-0.2**
	SNR=5.7						
MZR	**Muzera**	**13.05**	**146**	P	**Pn**	**06 49 38.7**	**-0.1**
	SNR=5.7						
MZR				S	Sn	06 51 56.2	-7.8
ASHO	**Ashiyiah**	**13.07**	**134**	*i* P	**Pn**	**06 49 38.4**	**-0.5**
	SNR=13						
ASHO	**Ashiyiah**	**13.07**	**134**	P	**Pn**	**06 49 38.7**	**-0.3**
	SNR=11						
ASHO				S	Sn	06 51 56.9	-7.5
ALNE	**Al Ain**	**13.36**	**136**	*i* P	**Pn**	**06 49 42.4**	**-0.6**
	SNR=7.8						
ALNE	**Al Ain**	**13.36**	**136**	P	**Pn**	**06 49 42.3**	**-0.6**
	SNR=7.8						
ALNE				S	Sn	06 52 03.6	-8.1
SOHO	**SOHO**	**13.76**	**134**	*i* P	**Pn**	**06 49 47.4**	**-1.0**
	SNR=8.1						
SOHO	**SOHO**	**13.76**	**134**	P	**Pn**	**06 49 47.5**	**-0.9**
SOHO				S	**Sn**	**06 52 15.5**	**-5.9**
UMZA	**Um Al Zommool**	**14.12**	**141**	P	**Pn**	**06 49 52.5**	**-0.8**
UMZA				S	Sn	06 52 23.2	-6.8
ARQ	**Araqi**	**14.37**	**136**	P	**Pn**	**06 49 56.2**	**-0.5**
ARQ				S	Sn	06 52 29.0	-7.1
BSY	**Bisya**	**15.22**	**135**	P	**Pn**	**06 50 06.7**	**-1.5**
	SNR=5.7						
SMDO	**Samad**	**15.49**	**132**	P	**Pn**	**06 50 10.6**	**-1.2**
	SNR=7.1						
WSAR	**Wadi Sarin**	**15.71**	**130**	Pn	**Pn**	**06 50 12.8**	**-1.9**
	comp=N,1.8nm,0.3s,baz=330,slow=9.3,SNR=30						
WSAR				Sn	Sn	06 52 57.9	-11
	comp=N,0.2nm,0.3s,baz=131,slow=18,SNR=2.0						
	comp=N,5.0nm,0.3s						
NGCH	**Negor - Chabah**	**16.02**	**119**	P	**Pn**	**06 50 17.1**	**-1.5**
MHTO	**MHTO**	**17.03**	**137**	P	**Pn**	**06 50 29.4**	**-2.1**
	SNR=8.3						
MHTO				P	**P**	**06 50 29.7**	**-3.6**
DOK	**Doka**	**17.22**	**152**	P	**Pn**	**06 50 31.4**	**-2.4**
	SNR=11						
WHFO	**Wadi Hawf**	**17.72**	**154**	P	**Pn**	**06 50 38.1**	**-2.1**
	SNR=20						
ABTO	**Aybut**	**18.07**	**156**	P	**Pn**	**06 50 41.5**	**-3.0**
RBK	**Rabkut**	**18.26**	**153**	P	**Pn**	**06 50 44.4**	**-2.4**
BELG	**Belogornoye**	**18.28**	**4**	P	**Pn**	**06 50 46.5**	**-0.3**
	comp=N,1.2nm,0.3s,baz=209,slow=19,SNR=2.4						
	comp=N,7.7nm,0.7s						
DMTO	**DMTO**	**18.36**	**151**	P	**P**	**06 50 46.0**	**-2.0**
	SNR=9.3						
AKTO	**Aktyubinsk**	**18.61**	**25**	P	**P**	**06 50 50.9**	**+0.3**
	comp=N,0.1nm,0.3s,baz=237,slow=6.3,SNR=3.6						
	comp=N,0.9nm,0.4s						
AKASG	**Malin Array Be**	**20.44**	**329**	P	**P**	**06 51 09.3**	**-1.2**
	comp=N,1.0nm,0.7s,baz=133,slow=10.0,SNR=6.7						
	comp=N,1.0nm,0.7s						

comp=N,22nm,1.1s
CMAR Chiang Mai Arr 49.71 94 P **P 06 55 26.0 +0.2**
comp=N,1.1nm,0.3s,baz=298,slow=8.0,SNR=1.6
comp=N,1.1nm,0.3s
ILAR Eielson Array 80.90 5 P **P 06 58 47.9 +0.6**
comp=N,0.3nm,0.8s,baz=347,slow=7.5,SNR=4.3
comp=N,0.3nm,0.8s

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*MDD **30** 06:48:01.0±0.5, 30°.74N×16°.16W, h30km, Mb4.4/28, M_mb3.9/30, Error ellipse: s-maj=4.3km s-min=3.7km az=93.0*
*INMG **30** 06:48:01.5±1.3, 30°.81N×16°.13W, h49km±31km, ML2.7, Error ellipse: s-maj=4.3km s-min=2.2km az=91.0*
ISC 30 06:47:50.6±0.9, 30°.78N±0°.02×16°.11W±0°.04, h10km, n41, σ1§41/75, 28C, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMOZ	**Porto Moniz, M**	**2.23**	**336**	*e*P	**Pg**	**06 48 33.6**	**+0.2**
PMOZ				*e*S	**Sn**	**06 48 56.4**	**+0.9**
EBAJ	**Bajamar**	**2.25**	**185**	P	**Pg**	**06 48 34.5**	**+0.9**
EBAJ				⇑*i*Vmb_V		06 48 39.8	
	448nm,SNR=1.3						
EBAJ				S	**Sb**	**06 48 58.1**	**-0.9**
PMPS	**Porto Santo**	**2.27**	**355**	*e*P	**Pb**	**06 48 32.2**	**+0.5**
PMPS				*e*S	**Sn**	**06 48 55.0**	**-1.3**
PMPS				A	A	06 48 57.1	
	20nm,0.2s						
PMPST	**Porto Santo, M**	**2.30**	**355**	*e*P	**Pg**	**06 48 34.1**	**-0.5**
PMPST				*e*S	**Sn**	**06 48 57.4**	**+0.5**
CGUI	**Guimar, Teneri**	**2.47**	**187**	P	**Pg**	**06 48 36.5**	**-1.4**
CGUI				⇑*i*Vmb_V		06 48 40.5	
	555nm,SNR=1.5						
CGUI				S	**Sn**	**06 49 02.9**	**+1.7**
CFOR	**Fortaleza, Los**	**2.50**	**190**	P	**Pg**	**06 48 37.5**	**-0.9**
CFOR				⇑*i*Vmb_V		06 48 39.2	
	389nm,SNR=1.5						
CFOR				S	**Sb**	**06 49 04.6**	**-1.9**
CNOR	**Icod de los Vi**	**2.51**	**191**	P	**Pg**	**06 48 37.4**	**-1.3**
CNOR				S	**Sb**	**06 49 05.4**	**-1.3**
CDIE	**La Orotava (Te**	**2.52**	**189**	P	**Pb**	**06 48 37.2**	**+1.1**
CDIE				S	**Sn**	**06 49 04.1**	**+1.4**
CROM	**Garafia, La Pa**	**2.54**	**218**	P	**Pn**	**06 48 34.0**	**+2.0**
CROM				⇑*i*Vmb_V		06 48 35.0	
	1μm,SNR=0.9						
CROM				S	**Sn**	**06 49 04.1**	**+0.9**
CBOL	**Buenavista del**	**2.54**	**194**	P	**Pb**	**06 48 37.1**	**+0.8**
CBOL				⇑*i*Vmb_V		06 48 39.5	
	375nm,SNR=1.4						
CBOL				S	**Sn**	**06 49 04.2**	**+1.1**
CDOS	**Garachico, Isl**	**2.54**	**193**	P	**Pb**	**06 48 37.5**	**+1.2**
CDOS				⇑*i*Vmb_V		06 48 41.3	
	1μm,SNR=1.7						
CDOS				S	**Sn**	**06 49 04.5**	**+1.4**
CRAJ	**Montana Rajada**	**2.54**	**190**	P	**Pg**	**06 48 38.4**	**-1.0**
CRAJ				⇑*i*Vmb_V		06 48 39.9	
	556nm,SNR=1.8						
CRAJ				S	**Sb**	**06 49 06.0**	**-2.0**
MACI	**Morro de la Ar**	**2.55**	**188**	P	**Pg**	**06 48 38.2**	**-1.2**
MACI				⇑*i*Vmb_V		06 48 40.6	
	460nm,SNR=1.4						
MACI				S	**Sn**	**06 49 05.5**	**+2.1**
CPVI	**La Orotava (Te**	**2.56**	**191**	P	**Pg**	**06 48 39.1**	**-0.5**
CPVI				S	**Sb**	**06 49 06.6**	**-1.9**
CMIR	**El Paso, La Pa**	**2.58**	**217**	P	**Pb**	**06 48 37.4**	**+0.4**
CMIR				⇑*i*Vmb_V		06 48 38.6	
	3μm,SNR=17						
CMIR				S	**Sn**	**06 49 03.8**	**-0.2**
GUIA	**Guia de Isora,**	**2.58**	**192**	P	**Pg**	**06 48 38.5**	**-1.6**
GUIA				⇑*i*Vmb_V		06 48 41.0	
	743nm,SNR=1.7						
GUIA				S	**Sn**	**06 49 05.9**	**+1.7**
CGOR	**Puntagorda, La**	**2.58**	**220**	P	**Pb**	**06 48 37.7**	**+0.7**
CGOR				⇑*i*Vmb_V		06 48 40.7	
	3μm,SNR=3.5						
CGOR				S	**Sn**	**06 49 05.3**	**+1.4**
CCAN	**Las Canadas**	**2.59**	**190**	P	**Pb**	**06 48 37.9**	**+0.7**
CCAN				⇑*i*Vmb_V		06 48 40.1	
	220nm,SNR=1.2						
CCAN				S	**Sn**	**06 49 04.4**	**0.0**
CCHO	**La Orotava (Te**	**2.60**	**191**	P	**Pb**	**06 48 38.0**	**+0.6**
CCHO				⇑*i*Vmb_V		06 48 40.1	
	460nm,SNR=2.9						
CCHO				S	**Sn**	**06 49 05.8**	**+1.3**
CBRE	**Brena Baja,La**	**2.60**	**215**	P	**Pb**	**06 48 35.8**	**-1.5**
CBRE				⇑*i*Vmb_V		06 48 37.4	
	2μm,SNR=2.7						
CBRE				S	**Sn**	**06 49 06.3**	**+1.9**
TBT	**Taburiente**	**2.62**	**217**	P	**Pb**	**06 48 37.9**	**+0.3**
TBT				⇑*i*Vmb_V		06 48 39.8	
	726nm,SNR=2.6						
TBT				S	**Sn**	**06 49 04.7**	**-0.1**
CENR	**El Paso, La Pa**	**2.63**	**216**	P	**Pb**	**06 48 38.5**	**+0.7**
CENR				S	**Sn**	**06 49 06.8**	**+1.6**
EXILP	**La Palma**	**2.63**	**217**	P	**Pb**	**06 48 39.2**	**+1.4**
EXILP				S	**Sn**	**06 49 07.2**	**+2.1**
CVIE	**Villa de Mazo,**	**2.64**	**215**	P	**Pb**	**06 48 39.1**	**+0.9**
CVIE				S	**Sn**	**06 49 07.5**	**+1.9**
CVIL	**Vilaflor**	**2.66**	**190**	P	**Pb**	**06 48 39.0**	**+0.7**
CVIL				⇑*i*Vmb_V		06 48 41.3	
	619nm,SNR=1.7						
CVIL				S	**Sn**	**06 49 07.7**	**+1.8**
CLLA	**Los LLanos de**	**2.67**	**216**	P	**Pb**	**06 48 39.3**	**+0.9**
CLLA				S	**Sn**	**06 49 07.6**	**+1.6**
CADE	**Adeje, Tenerif**	**2.67**	**192**	⇑*i*Vmb_V		06 48 42.8	
	542nm,SNR=1.6						
CADE				S	**Sn**	**06 49 07.7**	**+1.5**
CJED	**Jedey, El Paso**	**2.68**	**215**	P	**Pb**	**06 48 39.3**	**+0.6**
CJED				⇑*i*Vmb_V		06 48 40.6	
	4μm,SNR=2.8						
CJED				S	**Sn**	**06 49 08.3**	**+1.9**
GGC	**Guia, Gran Can**	**2.69**	**171**	⇑*i*Vmb_V		06 48 41.0	
	424nm,SNR=1.0						
GGC				S	**Sn**	**06 49 08.6**	**+2.1**
CGRA	**Granadilla de**	**2.69**	**188**	⇑*i*Vmb_V		06 48 41.1	
	851nm,SNR=1.7						
CGRA				S	**Sb**	**06 49 09.5**	**-2.5**
CBLAA	**Tinajo**	**2.72**	**129**	P	**Pg**	**06 48 42.1**	**-0.7**
EOSO	**Osorio**	**2.75**	**170**	P	**Pb**	**06 48 41.1**	**+1.3**
EOSO				⇑*i*Vmb_V		06 48 42.9	
	282nm,SNR=1.0						
EOSO				S	**Sn**	**06 49 09.2**	**+1.2**
EGOM	**La Gomera**	**2.79**	**200**	P	**Pb**	**06 48 39.8**	**-0.7**
EGOM				⇑*i*Vmb_V		06 48 41.5	
	957nm,SNR=3.8						
EGOM				S	**Sn**	**06 49 09.8**	**+1.0**
CFUE	**Fuerteventura**	**2.85**	**138**	P	**Pb**	**06 48 42.4**	**+0.9**
CFUE				⇑*i*Vmb_V		06 48 42.5	
	2μm,SNR=11						
CFUE				S	**Sn**	**06 49 11.6**	**+1.1**
CFTV	**Fuerteventura**	**2.95**	**143**	S	**Sg**	**06 49 23.0**	**-2.3**
CLUM	**San Bartolome**	**2.98**	**172**	P	**Pb**	**06 48 44.6**	**+0.8**
CLUM				⇑*i*Vmb_V		06 48 45.4	
	396nm,SNR=1.3						
CLUM				S	**Sn**	**06 49 16.6**	**+2.7**
CGIN	**Giniginamar, F**	**3.12**	**145**	P	**Pb**	**06 48 46.2**	**+0.1**
CGIN				⇑*i*Vmb_V		06 48 46.3	
	869nm,SNR=3.8						
CGIN				S	**Sn**	**06 49 17.8**	**+0.7**
CTIG	**El Hierro**	**3.38**	**208**	P	**Pb**	**06 48 48.3**	**-2.3**
CTIG				⇑*i*Vmb_V		06 48 48.5	
	862nm,SNR=1.4						
CTIG				S	**Sn**	**06 49 24.5**	**+1.0**
EXROQ	**Roquillos**	**3.40**	**209**	P	**Pb**	**06 48 49.3**	**-1.5**
CMCL	**Mercadel, El H**	**3.48**	**209**	P	**Pb**	**06 48 50.2**	**-2.2**
CMCL				⇑*i*Vmb_V		06 48 53.2	
	1μm,SNR=1.8						
CMCL				S	**Sn**	**06 49 28.4**	**+2.0**
CJUL	**El Julan, El H**	**3.50**	**210**	⇑*i*Vmb_V		06 48 54.2	
	2μm,SNR=1.7						
CJUL				S	**Sn**	**06 49 28.6**	**+2.0**

IDC 30 07:05:42.6±7.4, 6°.38S×146°.74E, h75km±69km, mb3.1/2, mbtmp3.4/4, ML3.3/1, MS3.2/1, Error ellipse: s-maj=61.5km s-min=52.5km az=132.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.03**	**172**	P	Pn	07 06 28.8	+0.5
	10nm,0.3s,baz=0.0,slow=7.1,SNR=6.9						
PMG				S	Sn	07 07 03.9	+0.3
	14nm,0.3s,baz=189,slow=21,SNR=4.6						
WRA	**Warramunga Arr**	**18.08**	**221**	P	Pn	07 09 48.8	-0.1
	0.1nm,0.3s,baz=43,slow=12,SNR=6.3						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**21.16**	**214**	P	P	07 10 22.6	+0.8
	0.4nm,0.6s,baz=55,slow=9.1,SNR=10.0						
	0.4nm,0.6s						
BATI	**Baumata**	**23.15**	**259**	LR	LR	07 21 34.8	
	comp=Z,53nm,18.2s,baz=292,slow=41						
FITZ	**Fitzroy Crossi**	**23.65**	**239**	P	P	07 10 46.6	-0.8
	1.6nm,0.6s,baz=67,slow=11,SNR=2.8						
	1.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**144.93**	**284**	PKP	PKPab	07 25 11.4	-0.2
	0.6nm,0.6s,baz=91,slow=2.3,SNR=4.0						

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*AEIC **30** 07:17:54.4±1.8, 52°.9N±0°.1×168°.7W±0°.1, h62km±6km, Error ellipse: s-maj=18.9km s-min=6.5km az=152.0*
NEIC 30 07:17:54.9±1.6, 52°.9N±0°.1×168°.7W±0°.1, h67km±7km, mb3.7/16, ML3.8/6, ML3.4(AEIC), Error ellipse: s-maj=23.6km s-min=6.4km az=153.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.14**	**312**		Pn	07 18 04.2	-0.7
NIKH					Sn	07 18 11.9	-0.2
OKCE	**Okmok Cone E**	**0.63**	**29**		Pn	07 18 08.6	-0.3
CLCO	**Concord Point,**	**0.64**	**262**		Pn	07 18 07.9	-1.0
CLCO					Sn	07 18 18.6	-0.6
OKNC	**Okmok New Cone**	**0.67**	**30**		Pn	07 18 09.2	-0.1
OKFG	**Magazine Ridge**	**0.71**	**40**		Pn	07 18 09.6	0.0
OKFG					Sn	07 18 21.8	+1.2
MAPS	**Pakushin South**	**1.40**	**47**		Pn	07 18 18.2	-0.2
MAPS					Sn	07 18 36.2	+0.1
MGOD	**Makushin Gods**	**1.42**	**49**		Pn	07 18 18.5	-0.2
MGOD					Sn	07 18 36.8	+0.1
MSW	**Makushin Switc**	**1.54**	**47**		Pn	07 18 20.2	-0.1
MSW					Sn	07 18 39.4	0.0
MTBL	**Makushin Table**	**1.62**	**47**		Pn	07 18 21.6	+0.1
UNV	**Unalaska Valle**	**1.62**	**52**		Pn	07 18 21.5	+0.1
UNV					Sn	07 18 41.8	+0.4
AKRB	**Akutan Reef Bi**	**2.00**	**50**		Pn	07 18 26.8	+0.3
AKMO	**Akutan Morgan**	**2.01**	**52**		Pn	07 18 26.9	+0.4
LVA	**Lava Point**	**2.04**	**50**	Pn	Pn	07 18 27.2	+0.3
LVA				IAML		07 18 54.1	
	comp=N,701nm,0.7s						
LVA				IAML		07 18 56.2	
	comp=E,638nm,0.4s						
AKBBA	**Akutan Broad B**	**2.05**	**52**		Pn	07 18 27.6	+0.5
AKV	**Akutan Volcano**	**2.05**	**51**		Pn	07 18 27.5	+0.3
AKGG	**Akutan Green G**	**2.08**	**49**		Pn	07 18 27.9	+0.3
AKSA	**Akutan Strait**	**2.18**	**53**		Pn	07 18 29.1	+0.2
KOSE	**Korovin Southe**	**3.32**	**263**		Pn	07 18 45.0	+0.6
KOFP	**Korovin Flat P**	**3.36**	**262**		Pn	07 18 45.5	+0.5
ATKA	**Atka Island**	**3.44**	**261**		Pn	07 18 45.6	-0.3
ATKA	**Atka Island**	**3.44**	**261**	IAML		07 19 35.0	
	comp=N,93nm,0.5s						
ISLZ	**Isanotski Laza**	**3.48**	**56**		Pn	07 18 46.7	+0.1
SPIA	**Saint Paul Isl**	**4.40**	**349**		Pn	07 18 58.5	-0.6
GSTR	**Great Sitkin T**	**4.58**	**263**	Pn	Pn	07 19 02.4	+0.8
GSMY	**Great Sitkin M**	**4.59**	**262**		Pn	07 19 01.8	+0.1
ADK	**Adak**	**5.00**	**262**		Pn	07 19 07.1	-0.3
ADK	**Adak**	**5.00**	**262**	IAML		07 20 17.0	
	comp=N,72nm,1.5s						
KIWB	**Kanaga Island**	**5.29**	**262**	Pn	Pn	07 19 10.9	-0.4
CHGN	**Chignik**	**6.88**	**56**		Pn	07 19 33.2	+0.3
O14K	**Tigyukauivet M**	**7.62**	**30**	Pn	Pn	07 19 42.4	-0.7
M11K	**Mekoryuk**	**7.65**	**9**		Pn	07 19 44.0	+0.6
O15K	**Ungalikthiuk R**	**8.02**	**35**		Pn	07 19 50.1	+1.5
PLK4	**Peulik 4**	**8.49**	**51**	Pn	Pn	07 19 56.8	+1.7
O16K	**Kokwok River B**	**8.94**	**37**		Pn	07 20 02.4	+1.3
O17K	**Koliganek Bris**	**9.43**	**38**		Pn	07 20 09.2	+1.4
L15K	**Ungalak Mounta**	**9.64**	**21**		Pn	07 20 12.7	+2.0
M16K	**Timber Creek**	**9.73**	**29**	Pn	Pn	07 20 12.4	+0.6
OHAK	**Old Harbor**	**9.84**	**58**	Pn	Pn	07 20 10.9	-2.5
P18K	**Big Mountain,**	**9.94**	**44**	Pn	Pn	07 20 14.1	-0.6
O18K	**Koktuh Hills**	**10.22**	**42**	Pn	Pn	07 20 20.4	+1.8
KDAK	**Kodiak Island**	**10.39**	**55**	Pn	Pn	07 20 19.6	-1.4
M17K	**Holitna River**	**10.49**	**31**	Pn	Pn	07 20 23.5	+1.3
N18K	**Kilae Creek**	**10.49**	**37**	Pn	Pn	07 20 22.1	-0.1
N19K	**Bonanza Creek**	**11.10**	**39**	Pn	Pn	07 20 30.4	-0.2
K17K	**Iditarod**	**11.29**	**25**	Pn	Pn	07 20 33.1	-0.1
M19K	**Big River Lodg**	**11.86**	**35**	Pn	Pn	07 20 42.0	+1.1
L19K	**White Mountain**	**11.89**	**33**	Pn	Pn	07 20 42.1	+0.6
M20K	**Styx River**	**12.29**	**37**	Pn	Pn	07 20 48.0	+1.2
J19K	**Poorman**	**13.04**	**26**	Pn	Pn	07 20 56.8	-0.1
M24K	**Tolsona, Glenn**	**15.14**	**44**	Pn	Pn	07 21 23.2	-1.5
MLY	**Manley**	**15.22**	**30**	Pn	Pn	07 21 26.2	+0.6
G21K	**Allakaket**	**15.60**	**23**	Pn	Pn	07 21 30.4	-0.1
G21K				IAmb	IAmb	07 22 14.3	
	comp=Z,6.7nm,1.4s						
N25K	**Chitina, Valde**	**15.61**	**46**	Pn	Pn	07 21 28.5	-2.1
N25K				IAmb	IAmb	07 21 47.1	
	comp=Z,8.8nm,1.5s						
I23K	**Minto, Yukon-K**	**15.72**	**31**	Pn	Pn	07 21 31.4	-0.5
I23K				IAmb	IAmb	07 22 02.1	
	comp=Z,6.8nm,1.4s						
CRQM	**Cirque**	**15.97**	**50**	Pn	Pn	07 21 34.5	-0.8
ISLE	**Juniper Island**	**16.30**	**51**	Pn	Pn	07 21 37.8	-1.6
ISLE				IAmb	IAmb	07 22 21.8	
	comp=Z,7.7nm,1.0s						
MESA	**MESA**	**16.37**	**53**	Pn	Pn	07 21 40.4	0.0
L26K	**Log Cabin Wild**	**16.73**	**43**	Pn	Pn	07 21 43.6	-1.0
L26K				IAmb	IAmb	07 21 55.3	
	comp=Z,4.7nm,1.4s						
SCRK	**Sand Creek**	**16.92**	**39**	Pn	Pn	07 21 45.9	-1.1
J26L	**Joseph Creek**	**17.34**	**38**	P	Pn	07 21 50.5	-1.7
J26L				IAmb	IAmb	07 21 53.3	
	comp=Z,3.0nm,0.6s						
BCAR	**Beaver Creek A**	**17.39**	**44**	P	Pn	07 21 51.5	-1.3
O29M	**Mount Kennedy**	**18.04**	**54**	P	P	07 21 59.2	-1.2
O29M				IAmb	IAmb	07 22 42.9	
	comp=Z,7.3nm,1.2s						
M29M	**Somme Creek**	**18.61**	**47**	P	P	07 22 05.2	-1.5
M29M				IAmb	IAmb	07 22 29.5	
	comp=Z,7.4nm,1.5s						
N30M	**Aishikik Lake**	**18.98**	**51**	P	P	07 22 09.4	-1.3
G27K	**Doyon Strip**	**19.23**	**33**	P	P	07 22 10.7	-2.7
SKAG	**Skagway**	**19.54**	**57**	P	P	07 22 16.0	-0.7

IDC 30 07:21:56.0±3.2, 7°.66S×114°.90E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=141.9km s-min=28.3km az=59.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.45**	**125**	P	P	07 26 57.3	+0.4
	0.9nm,0.5s,baz=300,slow=11,SNR=15						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**24.20**	**133**	P	P	07 27 14.4	-0.1
	0.4nm,0.4s,baz=313,slow=8.9,SNR=11						
	0.4nm,0.4s						
STKA	**Stephens Creek**	**34.62**	**138**	P	P	07 28 46.7	-0.4
	0.8nm,0.5s,baz=315,slow=13,SNR=3.5						
	0.8nm,0.5s						
SONM	**Songino Array**	**55.76**	**353**	P	P	07 31 34.7	-0.1
	0.5nm,0.4s,baz=180,slow=5.8,SNR=2.9						
	0.5nm,0.4s						

IDC 30 07:25:53.8±2.3, 2°.95N×126°.73E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=196.2km s-min=26.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.95**	**162**	P	P	07 31 10.0	0.0
	0.3nm,0.4s,baz=341,slow=10,SNR=12						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**27.37**	**166**	P	P	07 31 41.1	+0.1
	0.3nm,0.8s,baz=350,slow=8.1,SNR=2.1						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**58.19**	**326**	P	P	07 35 49.6	-0.1
	0.4nm,0.5s,baz=115,slow=8.4,SNR=5.7						
	0.4nm,0.5s						

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*IDC **30** 07:30:29.8±2.1, 13°.14N×81°.04W, h0km, mb3.6/5, mbtmp3.6/6, ML1.9/1, MS3.5/19, Error ellipse: s-maj=49.0km s-min=27.9km az=104.0*
*RSNC **30** 07:30:30.8±0.0, 13°N±1°×8°1W±°, h5km±2km, M4.2, mb4.5, mB5.8, ML3.5, Mw(mB)5.4*
*CATAC **30** 07:30:30.4±0.3, 13°.27N×81°.07W, h9km±3km, mb5.2, MB5.6, ML4.6*
*UPA **30** 07:30:33.4±2.2, 13°.12N×80°.94W, h35km±506km, MW5.2*
ISC 30 07:30:30.3±1.1, 13°21N±0°.03×81°01W±0°.03, h13km±7km, n92, σ1§94/111, mb3.6/5, MS3.5/14, 1C, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.38**	**296**	P	**Pg**	**07 30 37.0**	**-1.0**
PRVC				S	**Sg**	**07 30 42.2**	**-0.9**
PRVC	**Isla de Provid**	**0.38**	**296**	*i* P	**Pg**	**07 30 37.2**	**-0.8**
PRVC				*i* S	**Sg**	**07 30 42.4**	**-0.7**
PRVC				IAML		07 30 49.7	
	comp=Z,35μm,1.0s						
SAIC	**Isla e San And**	**0.96**	**226**	P	**Pg**	**07 30 48.7**	**-0.1**
SAIC				S	**Sn**	**07 31 02.8**	**-0.2**
SAIC	**Isla e San And**	**0.96**	**226**	*i* P	**Pg**	**07 30 48.6**	**-0.2**
SAIC				*i* S	**Sn**	**07 31 02.9**	**-0.1**
SAIC				IAML		07 31 08.8	
	comp=Z,11μm,1.0s						
RNCC	**Cayo Roncador,**	**0.97**	**68**	P	**Pb**	**07 30 48.8**	**-0.2**
RNCC				S	**Sn**	**07 31 03.4**	**+0.2**
RNCC	**Cayo Roncador,**	**0.97**	**68**	*i* P	**Pg**	**07 30 49.0**	**0.0**
RNCC				*i* S	**Sn**	**07 31 03.5**	**+0.2**
RNCC				IAML		07 31 20.3	
	comp=Z,7μm,1.0s						
SERC	**Banco Serrana,**	**1.24**	**30**	P	**Pn**	**07 30 52.8**	**-0.6**
SERC				S	**Sb**	**07 31 09.2**	**-0.4**
SERC	**Banco Serrana,**	**1.24**	**30**	*i* P	**Pn**	**07 30 52.8**	**-0.6**
SERC				IAML		07 30 53.6	
	comp=Z,5μm,1.0s						
SERC				*i* S	**Sb**	**07 31 09.8**	**+0.2**
BLUN	**Bluefields**	**2.95**	**246**	P	**Pn**	**07 31 16.7**	**-0.2**
BLUN				S	**Sn**	**07 31 48.4**	**-3.9**
BLUN	**Bluefields**	**2.95**	**246**	*i* P	**Pn**	**07 31 16.8**	**-0.2**
BLUN				IAML		07 32 10.1	
	comp=Z,550nm,1.0s						
ESPN	**Las Esperanzas**	**3.36**	**253**	P	**Pn**	**07 31 22.0**	**-0.7**
ESPN	**Las Esperanzas**	**3.36**	**253**	*i* P	**Pn**	**07 31 22.4**	**-0.3**
ESPN				IAML		07 32 26.1	
	comp=Z,970nm,1.0s						
TRT2	**Tortugero**	**3.75**	**226**	*i* P	**Pn**	**07 31 28.5**	**+0.5**
TRT2				IAML		07 32 20.2	
	comp=Z,270nm,1.0s						
CNI2	**El Empalme, Bo**	**4.03**	**201**	*e*S	**Sn**	**07 32 18.7**	**-0.2**
COVE	**Coope Vega, Sa**	**4.14**	**234**	*i* P	**Pn**	**07 31 34.0**	**+0.7**
COVE				IAML		07 33 03.0	
	comp=Z,650nm,1.0s						
FRIJ	**El Hiral**	**4.16**	**162**	*e*S	**Sn**	**07 32 19.5**	**-2.7**
BCIP	**Isla Barro Col**	**4.18**	**164**	P	**Pn**	**07 31 31.9**	**-2.0**
BCIP				S	**Sn**	**07 32 19.9**	**-2.8**
BCIP	**Isla Barro Col**	**4.18**	**164**	*i* P	**Pn**	**07 31 34.8**	**+0.9**
BCIP				IAML		07 32 24.0	
	comp=Z,170nm,1.0s						
BCIP	**Isla Barro Col**	**4.18**	**164**	*e*S	**Sn**	**07 32 20.0**	**-2.7**
RAFA	**San Farael, Vo**	**4.24**	**221**	*i* P	**Pn**	**07 31 36.5**	**+1.5**
RAFA				IAML		07 32 47.3	
	comp=Z,520nm,1.0s						
ACON	**Acoyapa**	**4.25**	**254**	P	**Pn**	**07 31 35.0**	**+0.2**
ACON				S	**Sn**	**07 32 21.9**	**-2.4**
ACON	**Acoyapa**	**4.25**	**254**	*i* P	**Pn**	**07 31 35.4**	**+0.6**
ACON				IAML		07 33 12.2	
	comp=Z,640nm,1.0s						
CHPO	**Chepo, Panama**	**4.43**	**155**	*e*S	**Sn**	**07 32 25.9**	**-2.8**
SOCE	**Pocosol**	**4.51**	**232**	*i* P	**Pn**	**07 31 39.8**	**+1.3**
SOCE				IAML		07 32 56.2	
	comp=Z,220nm,1.0s						
BRU2	**Volcan**	**4.69**	**201**	*e*P	**Pn**	**07 31 40.7**	**-0.4**
BRU2				*e*S	**Sn**	**07 32 34.2**	**-1.2**
BCO2	**Palmira**	**4.71**	**199**	*e*P	**Pn**	**07 31 41.5**	**+0.2**
BCO2				*e*S	**Sn**	**07 32 34.7**	**-1.2**
JTS	**Las Juntas de**	**4.83**	**233**	Pn	**Pn**	**07 31 43.7**	**+0.9**
	comp=Z,21nm,0.4s,baz=137,slow=15,SNR=44						
JTS				Sn	**Sn**	**07 32 39.2**	**+0.5**
	comp=Z,6.9nm,0.3s,baz=240,slow=22,SNR=8.7						
JTS				LR	LR	07 33 40.5	
	comp=Z,253nm,18.1s,baz=206,slow=40						
JTS	**Las Juntas de**	**4.83**	**233**	P	**Pn**	**07 31 43.6**	**+0.8**
JTS				S	**Sn**	**07 32 39.5**	**+0.8**
JTS	**Las Juntas de**	**4.83**	**233**	*e*P	**Pn**	**07 31 43.7**	**+0.9**
CALO3	**Calobre, Verag**	**4.86**	**178**	*e*S	**Sn**	**07 32 37.5**	**-2.1**
CRIS3	**El Cristo, Coc**	**4.94**	**175**	*e*S	**Sn**	**07 32 39.4**	**-2.1**
DVD	**David**	**4.95**	**197**	*e*S	**Sn**	**07 32 41.3**	**-0.4**
RCPN	**Sur Rio San Ju**	**4.96**	**274**	*i* P	**Pn**	**07 31 44.7**	**0.0**
RCPN				IAML		07 31 45.7	
	comp=Z,3.4nm,1.0s						
CDITO	**Canoas**	**4.96**	**202**	*i* P	**Pn**	**07 31 45.6**	**+1.0**
CDITO				IAML		07 32 49.5	
	comp=Z,330nm,1.0s						
RCVN	**Varillal2**	**5.06**	**275**	*i* P	**Pn**	**07 31 46.0**	**-0.1**
RCVN				IAML		07 32 44.1	
	comp=Z,6μm,1.0s						
NANN	**Nandasmo**	**5.15**	**256**	*i* P	**Pn**	**07 31 47.6**	**+0.4**
NANN				IAmb	IAmb	07 32 14.9	
	comp=Z,2μm,0.9s						
NANN				IVmB_BB		07 32 34.7	
	comp=Z,27μm,1.0s						
NANN				IAML		07 33 37.6	

comp=Z,143nm,0.8s
CRIN San Cristobal 5.91 266 *i* P **Pn 07 31 57.7 0.0**
CRIN IAmb IAmb 07 32 25.6
comp=Z,170nm,1.2s
CRIN IAML 07 34 06.5
comp=Z,310nm,1.0s
MTDJ Mount Denham 6.01 33 P **Pn 07 31 58.2 -0.9**
comp=Z,58nm,1.1s
TGUH Tegucigalpa,Un 6.14 279 P **Pn 07 32 01.0 0.0**
comp=Z,101nm,0.8s,comp=Z,1μm
TGUH S **Sn 07 33 07.7 -3.6**
comp=Z,101nm,0.8s,comp=Z,1μm
LCBC Los crdobas, 6.29 133 P **Pn 07 32 05.9 +3.1**
comp=Z,77nm,0.8s
LCBC S **Sn 07 33 14.7 +0.1**
comp=Z,77nm,0.8s
STH Stony Hill 6.31 39⇑ *i* P **Pn 07 32 04.3 +1.1**
SJCC San Jacinto, C 6.60 119 P **Pn 07 32 07.1 -0.1**
comp=Z,23nm,0.8s
SJCC S **Sn 07 33 19.7 -2.7**
comp=Z,23nm,0.8s
APAC Apartado, Choc 6.84 140 P **Pn 07 32 12.0 +1.5**
comp=Z,18nm,0.8s
APAC S **Sn 07 33 28.4 0.0**
comp=Z,18nm,0.8s
ARGC Ariguani, Magd 7.42 116 P **Pn 07 32 20.3 +1.8**
comp=Z,19nm,0.9s
ARGC S **Sn 07 33 37.5 -5.1**
comp=Z,19nm,0.9s
UREC San Jos de Ur 7.64 135 P **Pn 07 32 22.4 +0.8**
comp=Z,20nm,0.7s
UREC S **Sn 07 33 45.4 -2.8**
comp=Z,20nm,0.7s
CRJC Cerrejon, Guaj 8.24 104 P **Pn 07 32 28.0 -1.8**
comp=Z,14nm,0.7s,comp=Z,10μm
CRJC S **Sn 07 33 58.1 -4.9**
comp=Z,14nm,0.7s,comp=Z,10μm
ZARC Zaragoza, Cauc 8.30 133 P **Pn 07 32 31.1 +0.5**
comp=Z,11nm,1.5s
ZARC S **Sn 07 34 01.6 -2.7**
comp=Z,11nm,1.5s
GTBY Guantanamo Bay 8.75 39 P **Pn 07 32 37.5 +0.8**
comp=Z,43nm,1.2s
URIC Uribia, Colomb 8.94 99 P **Pn 07 32 36.5 -2.8**
comp=Z,13nm,1.2s
URIC S **Sn 07 34 13.5 -6.4**
comp=Z,13nm,1.2s
OCAC Ocana 9.03 122 P **Pn 07 32 44.3 +3.6**
comp=Z,13nm,0.6s
OCAC S **Sn 07 34 18.4 -4.0**
comp=Z,13nm,0.6s
PTBC PUERTO BERRIO, 9.25 135 P **Pn 07 32 42.9 -0.7**
comp=Z,6.0nm,1.0s
PTBC S **Sn 07 34 25.5 -2.2**
comp=Z,6.0nm,1.0s
TEIG Tepich 9.85 316 Pn **Pn 07 32 51.6 -0.2**
baz=107,slow=19,SNR=18
TEIG Sn **Sn 07 34 37.4 -4.9**
baz=226,slow=24,SNR=1.4
TEIG Tepich 9.85 316 P **Pn 07 32 51.5 -0.3**
comp=Z,70nm,1.7s
TEIG S **Sn 07 34 35.9 -6.4**
comp=Z,70nm,1.7s
PAMC Pamplona, Colo 10.04 125 P **Pn 07 32 54.3 -0.6**
PAMC S **Sn 07 34 45.7 -2.1**
ROSC El Rosal 10.62 141 LR LR 07 37 51.4
comp=Z,220nm,19.9s,baz=338,slow=42
SDV Santo Domingo 11.05 112 LR LR 07 38 07.7
comp=Z,131nm,18.8s,baz=257,slow=41
CMIG Matias Romero 13.94 288 LR LR 07 39 43.7
comp=Z,211nm,18.4s,baz=109,slow=40
SJG San Juan 15.12 69 LR LR 07 38 46.1
comp=Z,100nm,20.8s,baz=246,slow=33
ATAH Atahualpa 20.38 173 LR LR 07 44 11.8
comp=Z,82nm,19.0s,baz=358,slow=40
TKL Tuckaleechee C 22.49 354 LR LR 07 44 30.6
comp=Z,119nm,18.5s,baz=150,slow=37
TXAR Lajitas Array 26.44 311 P **P 07 36 08.6 +1.4**
comp=Z,2.8nm,0.9s,baz=132,slow=8.9,SNR=26
comp=Z,2.8nm,0.9s
MDP Montagnes des 29.12 103 LR LR 07 49 52.7
comp=Z,56nm,19.7s,baz=274,slow=40
LPIG La Paz 29.73 296 LR LR 07 50 59.7
comp=Z,63nm,20.4s,baz=190,slow=41
SADO Sadowa 31.49 3 LR LR 07 49 51.0
comp=Z,162nm,18.2s,baz=264,slow=37
ANMO Albuquerque 31.58 318 LR LR 07 51 31.5
comp=Z,52nm,18.5s,baz=289,slow=40
PDAR Pinedale Array 38.41 325 P **P 07 37 53.7 +1.8**
comp=Z,0.6nm,0.9s,baz=142,slow=13,SNR=2.7
comp=Z,0.6nm,0.9s
NVAR Mina Array Bea 41.49 314 P **P 07 38 19.9 +2.3**
comp=Z,1.2nm,0.9s,baz=125,slow=9.5,SNR=4.8
NVAR LR LR 07 59 15.3
comp=Z,110nm,18.3s,baz=123,slow=42
comp=Z,1.2nm,0.9s
CPUP Villa Florida 45.56 150 LR LR 07 58 53.8
comp=Z,40nm,18.0s,baz=340,slow=37
YBH Yreka Blue Hor 45.98 316 LR LR 08 01 28.7
comp=Z,78nm,18.7s,baz=124,slow=40
RPN Rapa Nui 48.62 214 LR LR 07 55 59.2
comp=Z,52nm,18.0s,baz=31,slow=32
RCBR Riachuelo 48.63 110 LR LR 08 00 18.7
comp=Z,23nm,18.2s,baz=254,slow=37
FRB Frobisher Bay 51.22 7 LR LR 08 02 59.1
comp=Z,58nm,19.1s,baz=124,slow=38
YKA Yellowknife Ar 54.71 342 P **P 07 40 00.2 +1.1**
comp=Z,0.3nm,0.9s,baz=134,slow=8.0,SNR=2.3
comp=Z,0.3nm,0.9s
RES Resolute Bay 61.95 356 LR LR 08 07 52.6
comp=Z,68nm,18.2s,baz=16,slow=36
ILAR Eielson Array 67.93 335 P **P 07 41 31.2 +2.6**
comp=Z,0.4nm,0.8s,baz=106,slow=4.9,SNR=2.5
comp=Z,0.4nm,0.8s
GERES GERESS Array B 83.25 42 LR LR 08 15 01.9
comp=Z,89nm,20.3s,baz=318,slow=32
ASAR Alice Springs 145.37 247 PKPbc **PKPab 07 50 09.0 0.0**
comp=Z,0.3nm,0.5s,baz=109,slow=3.2,SNR=6.4
WRA Warramunga Arr 145.51 254 PKPbc **PKPab 07 50 09.6 0.0**
comp=Z,1.0nm,0.8s,baz=91,slow=3.5,SNR=7.5

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*IDC **30** 07:43:09.5±1.0, 6°71N×73°01W, h165km±12km, mb3.3/3, mbtmp3.8/6, Error ellipse: s-maj=34.0km s-min=13.4km az=130.0*
*RSNC **30** 07:43:10.6±0.0, 7°N±1°×7°3W±°, h145km±1km, M3.6, ML3.4*
ISC 30 07:43:08.8±0.8, 6°87N±0°03×73°10W±0°04, h155km±5km, n49, σ1°60/93, mb3.6/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.29**	**197**	P		**Pn**		**07 43 30.3**	**0.0**
BARC				S		**Sn**		**07 43 45.8**	**-0.8**
PAMC	**Pamplona, Colo**	**0.61**	**40**	P		**Pn**		**07 43 33.1**	**+1.2**
PAMC				S		**Sn**		**07 43 49.8**	**+0.3**
BRJC	**Barrancabermej**	**0.65**	**279**	P		**Pn**		**07 43 32.0**	**+0.5**
BRJC				S		**Sn**		**07 43 48.4**	**-0.4**
RUSC	**La Rusia**	**0.97**	**179**	P		**Pn**		**07 43 34.2**	**-0.2**
RUSC				S		**Sn**		**07 43 52.9**	**-1.0**
TAMC	**Tame, Arauca**	**1.37**	**108**	P		**Pn**		**07 43 38.7**	**+1.2**
TAMC				S		**Sn**		**07 44 00.2**	**+0.8**
OCAC	**Ocana**	**1.38**	**351**	P		**Pn**		**07 43 38.5**	**+0.8**
OCAC				S		**Sn**		**07 44 00.3**	**+0.3**
PTBC	**PUERTO BERRIO,**	**1.39**	**256**	P		**Pn**		**07 43 36.6**	**-1.0**
PTBC				S		**Sn**		**07 43 57.9**	**-1.8**
SPBC	**San Pablo de B**	**1.55**	**219**	P		**Pn**		**07 43 39.0**	**-0.4**
SPBC				S		**Sn**		**07 44 01.6**	**-1.2**
ZARC	**Zaragoza, Cauc**	**1.85**	**290**	P		**Pn**		**07 43 42.5**	**-0.1**
ZARC				S		**Sn**		**07 44 07.8**	**-0.7**
NORC	**Norcasia**	**2.19**	**234**	P		**Pn**		**07 43 46.2**	**-0.3**
NORC				S		**Sn**		**07 44 14.7**	**-0.8**
CHIC	**Chingaza**	**2.31**	**196**	P		**Pn**		**07 43 48.3**	**-0.1**
CHIC				S		**Sn**		**07 44 17.8**	**-1.0**
ROSC	**El Rosal**	**2.35**	**211**	P		**Pn**		**07 43 50.0**	**+1.2**
ROSC	163nm,0.3s,baz=304,slow=12,SNR=160			S		**Sn**		**07 44 19.8**	**+0.1**
	466nm,0.3s,baz=0.0,slow=19,SNR=8.4								
ROSC	**El Rosal**	**2.35**	**211**	P		**Pn**		**07 43 49.9**	**+1.1**
ROSC				S		**Sn**		**07 44 19.6**	**0.0**
CVER	**Cruz Verde, Cu**	**2.52**	**203**	P		**Pn**		**07 43 51.8**	**+0.8**
CVER				S		**Sn**		**07 44 23.0**	**-0.5**
MEDEC	**Medelln, Ant**	**2.54**	**257**	P		**Pn**		**07 43 53.1**	**+2.2**
MEDEC				S		**Sn**		**07 44 22.8**	**-0.6**
UREC	**San Jos de Ur**	**2.57**	**290**	P		**Pn**		**07 43 50.9**	**-0.2**
UREC				S		**Sn**		**07 44 24.6**	**+0.9**
GUY2C	**Guyana, Caldas**	**2.78**	**234**	P		**Pn**		**07 43 55.2**	**+1.0**
GUY2C				S		**Sn**		**07 44 28.2**	**-0.9**
VILC	**Villavicencio,**	**2.80**	**192**	P		**Pn**		**07 43 53.9**	**-0.2**
VILC				S		**Sn**		**07 44 27.7**	**-1.4**
RECRC	**Villamaria, Ca**	**2.94**	**230**	P		**Pn**		**07 43 58.3**	**+2.2**
RECRC				S		**Sn**		**07 44 34.3**	**+1.7**
NIZA	**Niza - Manizal**	**2.97**	**233**	P		**Pn**		**07 43 59.2**	**+2.9**
NIZA				S		**Sn**		**07 44 33.9**	**+1.0**
CMAN1	**Manizales, Cal**	**3.00**	**234**	P		**Pn**		**07 43 59.5**	**+2.8**
CMAN1				S		**Sn**		**07 44 34.7**	**+1.0**
CBOC	**Ciudad Bolivar**	**3.06**	**251**	P		**Pn**		**07 43 57.9**	**+0.5**
CBOC				S		**Sn**		**07 44 34.0**	**-0.9**
DBBC	**Dabeiba**	**3.09**	**273**	P		**Pn**		**07 43 57.5**	**-0.1**
DBBC				S		**Sn**		**07 44 33.4**	**-2.0**
SDV	**Santo Domingo**	**3.16**	**50**	P		**Pn**		**07 44 00.1**	**+1.5**
SDV	14nm,0.3s,baz=226,slow=11,SNR=13			S		**Sn**		**07 44 35.7**	**-1.5**
	66nm,0.5s,baz=250,slow=23,SNR=38								
SDV	**Santo Domingo**	**3.16**	**50**	P		**Pn**		**07 44 00.3**	**+1.7**
SDV				S		**Sn**		**07 44 37.7**	**+0.5**
ARGC	**Ariguani, Magd**	**3.18**	**339**	P		**Pn**		**07 44 00.2**	**+1.5**
ARGC				S		**Sn**		**07 44 39.4**	**+2.0**
ANIL	**Santa Ana**	**3.29**	**224**	P		**Pn**		**07 44 01.4**	**+1.0**
ANIL				S		**Sn**		**07 44 41.1**	**+0.8**
APAC	**Apartado, Choc**	**3.60**	**287**	P		**Pn**		**07 44 04.1**	**0.0**
APAC				S		**Sn**		**07 44 45.7**	**-1.3**
PRAC	**Prado**	**3.60**	**210**	P		**Pn**		**07 44 04.3**	**+0.1**
PRAC				S		**Sn**		**07 44 45.4**	**-1.7**
ORTC	**Ortega, Tolima**	**3.63**	**216**	P		**Pn**		**07 44 04.6**	**0.0**
ORTC				S		**Sn**		**07 44 47.6**	**-0.3**
SJCC	**San Jacinto, C**	**3.65**	**326**	P		**Pn**		**07 44 03.8**	**-0.9**
SJCC				S		**Sn**		**07 44 45.5**	**-2.6**
LCBC	**Los crdobas,**	**3.79**	**302**	P		**Pn**		**07 44 05.4**	**-1.2**
LCBC				S		**Sn**		**07 44 52.7**	**+1.3**
URMC	**La Uribe, Meta**	**3.82**	**200**	P		**Pn**		**07 44 07.5**	**+0.5**
URMC				S		**Sn**		**07 44 50.2**	**-1.9**
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	P		**Pn**		**07 44 10.4**	**-0.7**
CRJC				S		**Sn**		**07 44 57.4**	**-2.1**
YOTC	**Yotoco, Valle**	**4.32**	**229**	P		**Pn**		**07 44 12.9**	**-0.6**
YOTC				S		**Sn**		**07 45 03.4**	**-0.5**
GUVC	**San Jose del G**	**4.32**	**174**	P		**Pn**		**07 44 13.0**	**-0.5**
GUVC				S		**Sn**		**07 45 00.8**	**-3.0**
SOLC	**Bahia Solano**	**4.33**	**262**	P		**Pn**		**07 44 15.0**	**+1.5**
SOLC				S		**Sn**		**07 45 03.3**	**-0.6**
CAPC	**Capurgana**	**4.56**	**293**	P		**Pn**		**07 44 16.2**	**-0.4**
CAPC				S		**Sn**		**07 45 05.4**	**-4.1**
PTAC	**Punta Ardita,**	**4.68**	**274**	P		**Pn**		**07 44 17.2**	**-1.0**
PTAC				S		**Sn**		**07 45 06.9**	**-5.3**
MACC	**Macarena, Meta**	**4.75**	**189**	P		**Pn**		**07 44 17.2**	**-1.9**
MACC				S		**Sn**		**07 45 08.6**	**-5.4**
URIC	**Uribia, Colomb**	**4.93**	**13**	P		**Pn**		**07 44 20.8**	**-0.6**
URIC				S		**Sn**		**07 44 15.0**	**-4.1**
JAMC	**Jamundi, Valle**	**5.08**	**225**	P		**Pn**		**07 44 24.1**	**+0.4**
JAMC				S		**Sn**		**07 45 21.4**	**-0.7**
POPC	**Popayan, Colom**	**5.58**	**220**	P		**Pn**		**07 44 29.8**	**-0.5**
POPC				S		**Sn**		**07 45 31.1**	**-2.9**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P		**Pn**		**07 45 15.3**	**-0.3**
PCRV	12nm,1.0s,baz=201,slow=11,SNR=2.8			S		**Sn**		**07 46 52.7**	**-2.8**
	7.0nm,0.8s,baz=63,slow=18,SNR=1.7								
TXAR	**Lajitas Array**	**36.45**	**312**	P		**P**		**07 49 59.9**	**+0.9**
	0.2nm,0.6s,baz=131,slow=9.7,SNR=3.4								
	0.2nm,0.6s								
SCHQ	**Schefferville**	**48.09**	**5**	P		**P**		**07 51 34.1**	**+1.4**
	3.0nm,0.6s,baz=201,slow=7.8,SNR=5.6								
	3.0nm,0.6s								
YKA	**Yellowknife Ar**	**63.23**	**340**	P		**P**		**07 53 20.8**	**+0.4**
	0.6nm,0.8s,baz=136,slow=6.0,SNR=12								
	0.6nm,0.8s								
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc		**PKPbc**		**08 02 38.9**	**-1.0**
	0.6nm,0.7s,baz=119,slow=3.4,SNR=9.2								
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc		**PKPbc**		**08 02 42.0**	**-0.9**
	0.4nm,0.4s,baz=110,slow=2.4,SNR=15								

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*IDC **30** 07:46:42.0±0.9, 6°76N×73°03W, h162km±12km, mb3.4/8, mbtmp3.9/11, Error ellipse: s-maj=20.5km s-min=13.6km az=130.0*
*RSNC **30** 07:46:42.8±0.0, 7°N±1°×7°3W±°, h149km±1km, M3.9, ML3.7*
ISC 30 07:46:41.4±0.7, 6°86N±0°03×73°11W±0°03, h157km±5km, n53, σ1°53/95, mb3.5/8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**195**	P		**Pn**		**07 47 02.8**	**-0.2**
BARC				S		**Sn**		**07 47 18.1**	**-1.4**
PAMC	**Pamplona, Colo**	**0.63**	**41**	P		**Pn**		**07 47 05.5**	**+0.7**
PAMC				S		**Sn**		**07 47 22.7**	**+0.1**
BRJC	**Barrancabermej**	**0.64**	**280**	P		**Pn**		**07 47 04.4**	**+0.2**
BRJC				S		**Sn**		**07 47 21.6**	**0.0**
RUSC	**La Rusia**	**0.96**	**178**	P		**Pn**		**07 47 06.7**	**-0.4**
RUSC				S		**Sn**		**07 47 25.6**	**-1.1**
PTBC	**PUERTO BERRIO,**	**1.37**	**257**	P		**Pn**		**07 47 09.1**	**-1.1**
PTBC				S		**Sn**		**07 47 30.9**	**-1.4**
TAMC	**Tame, Arauca**	**1.38**	**108**	P		**Pn**		**07 47 11.1**	**+0.8**
TAMC				S		**Sn**		**07 47 32.9**	**+0.5**
OCAC	**Ocana**	**1.39**	**352**	P		**Pn**		**07 47 10.9**	**+0.4**
OCAC				S		**Sn**		**07 47 36.6**	**-0.3**
SPBC	**San Pablo de B**	**1.53**	**219**	P		**Pn**		**07 47 11.6**	**-0.3**
SPBC				S		**Sn**		**07 47 34.2**	**-1.1**
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	P		**Pn**		**07 47 15.1**	**0.0**
ZARC				S		**Sn**		**07 47 40.5**	**-0.6**
NORC	**Norcasia**	**2.17**	**234**	P		**Pn**		**07 47 18.3**	**-0.6**
NORC				S		**Sn**		**07 47 46.6**	**-1.3**
CHIC	**Chingaza**	**2.30**	**196**	P		**Pn**		**07 47 20.7**	**-0.1**
CHIC				S		**Sn**		**07 47 50.1**	**-1.2**
ROSC	**El Rosal**	**2.34**	**211**	P		**Pn**		**07 47 22.5**	**+1.3**
ROSC	386nm,0.3s,baz=264,slow=2.7,SNR=149			S		**Sn**		**07 47 52.6**	**+0.5**
	2μm,0.3s,baz=147,slow=20,SNR=20								
ROSC	**El Rosal**	**2.34**	**211**	P		**Pn**		**07 47 22.4**	**+1.1**
ROSC				S		**Sn**		**07 47 52.4**	**+0.4**
CVER	**Cruz Verde, Cu**	**2.51**	**202**	P		**Pn**		**07 47 24.1**	**+0.7**
CVER				S		**Sn**		**07 47 55.7**	**-0.2**
MEDEC	**Medelln, Ant**	**2.53**	**257**	P		**Pn**		**07 47 23.3**	**0.0**
MEDEC				S		**Sn**		**07 47 53.0**	**-2.7**
UREC	**San Jos de Ur**	**2.56**	**290**	P		**Pn**		**07 47 22.5**	**-1.1**
UREC				S		**Sn**		**07 47 53.3**	**-2.9**
GUY2C	**Guyana, Caldas**	**2.77**	**234**	P		**Pn**		**07 47 27.1**	**+0.5**
GUY2C				S		**Sn**		**07 48 00.6**	**-0.9**
VILC	**Villavicencio,**	**2.79**	**192**	P		**Pn**		**07 47 26.3**	**-0.2**
VILC				S		**Sn**		**07 48 00.3**	**-1.2**
RECRC	**Villamaria, Ca**	**2.92**	**230**	P		**Pn**		**07 47 30.7**	**+2.2**
RECRC				S		**Sn**		**07 48 06.9**	**+1.9**
NIZA	**Niza - Manizal**	**2.95**	**233**	P		**Pn**		**07 47 29.9**	**+1.2**
NIZA				S		**Sn**		**07 48 06.4**	**+1.2**
CMAN1	**Manizales, Cal**	**2.98**	**234**	P		**Pn**		**07 47 30.4**	**+1.3**
CMAN1				S		**Sn**		**07 48 07.8**	**+1.8**
CBOC	**Ciudad Bolivar**	**3.05**	**251**	P		**Pn**		**07 47 30.4**	**+0.6**
CBOC				S		**Sn**		**07 48 05.7**	**-1.5**
DBBC	**Dabeiba**	**3.08**	**273**	P		**Pn**		**07 47 30.0**	**-0.1**
DBBC				S		**Sn**		**07 48 04.8**	**-3.0**
SDV	**Santo Domingo**	**3.18**	**50**	P		**Pn**		**07 47 32.2**	**+0.8**
SDV	75nm,0.3s,baz=230,slow=4.5,SNR=25			S		**Sn**		**07 48 08.9**	**-1.3**
	160nm,0.4s,baz=104,slow=22,SNR=27								
SDV	**Santo Domingo**	**3.18**	**50**	P		**Pn**		**07 47 32.2**	**+0.8**
SDV				S		**Sn**		**07 48 09.5**	**-0.7**
ARGC	**Ariguani, Magd**	**3.19**	**339**	P		**Pn**		**07 47 32.5**	**+1.1**
ARGC				S		**Sn**		**07 48 11.7**	**+1.5**
ANIL	**Santa Ana**	**3.27**	**224**	P		**Pn**		**07 47 33.9**	**+1.1**
ANIL				S		**Sn**		**07 48 13.7**	**+1.1**
PRAC	**Prado**	**3.59**	**210**	P		**Pn**		**07 47 36.5**	**-0.1**
PRAC				S		**Sn**		**07 48 18.4**	**-1.1**
APAC	**Apartado, Choc**	**3.59**	**287**	P		**Pn**		**07 47 36.4**	**-0.1**
APAC				S		**Sn**		**07 48 17.7**	**-1.7**
ORTC	**Ortega, Tolima**	**3.62**	**216**	P		**Pn**		**07 47 36.9**	**0.0**
ORTC				S		**Sn**		**07 48 20.0**	**-0.1**
SJCC	**San Jacinto, C**	**3.65**	**326**	P		**Pn**		**07 47 36.2**	**-1.1**
SJCC				S		**Sn**		**07 48 19.8**	**-1.0**
LCBC	**Los crdobas,**	**3.79**	**302**	P		**Pn**		**07 47 38.6**	**-0.5**
LCBC				S		**Sn**		**07 48 24.6**	**+0.7**
URMC	**La Uribe, Meta**	**3.80**	**199**	P		**Pn**		**07 47 39.7**	**+0.3**
URMC				S		**Sn**		**07 48 22.9**	**-1.6**
CRJC	**Cerrejon, Guaj**	**4.14**	**3**	P		**Pn**		**07 47 43.1**	**-0.7**
CRJC				S		**Sn**		**07 48 31.0**	**-1.4**
YOTC	**Yotoco, Valle**	**4.30**	**229**	P		**Pn**		**07 47 45.1**	**-0.8**
YOTC				S		**Sn**		**07 48 34.9**	**-1.2**
GUVC	**San Jose del G**	**4.31**	**174**	P		**Pn**		**07 47 45.0**	**-0.9**
GUVC				S		**Sn**		**07 48 34.0**	**-2.3**
SOLC	**Bahia Solano**	**4.31**	**262**	P		**Pn**		**07 47 48.7**	**+2.8**
SOLC				S		**Sn**		**07 48 35.1**	**-1.1**
CAPC	**Capurgana**	**4.56**	**293**	P		**Pn**		**07 47 48.5**	**-0.6**
CAPC				S		**Sn**		**07 48 38.0**	**-3.9**
PIZC	**Pizarro, Choco**	**4.62**	**246**	P		**Pn**		**07 47 51.3**	**+1.3**
PIZC				S		**Sn**		**07 48 43.1**	**-0.4**
PTAC	**Punta Ardita,**	**4.67**	**274**	P		**Pn**		**07 47 49.9**	**-0.7**
PTAC				S		**Sn**		**07 48 39.4**	**-5.2**
MACC	**Macarena, Meta**	**4.74**	**189**	P		**Pn**		**07 47 49.9**	**-1.6**
MACC				S		**Sn**		**07 48 41.0**	**-5.3**
PCRV	**Puerto La Cruz**	**9.01**	**68**	P		**Pn**		**07 48 49.0**	**+0.8**
PCRV	4.1nm,0.8s,baz=345,slow=18,SNR=1.6			S		**Sn**		**07 50 25.6**	**-2.8**
	12nm,1.0s,baz=94,slow=19,SNR=3.0								
STH	**Stony Hill**	**11.72**	**342**	*i* P		**Pn**		**07 49 27.0**	**+3.2**
MTDJ	**Mount Denham**	**12.09**	**340**	*i* P		**P**		**07 49 32.1**	**-2.9**
LPAZ	**La Paz**	**23.52**	**168**	P		**P**		**07 51 38.0**	**-0.1**
	0.4nm,0.5s,baz=336,slow=10.0,SNR=1.7								
	0.4nm,0.5s								
TXAR	**Lajitas Array**	**36.44**	**312**	P		**P**		**07 53 32.5**	**+1.1**
	0.7nm,0.6s,baz=120,slow=8.7,SNR=11								
	0.7nm,0.6s								
ULM	**Lac du Bonnet**	**47.25**	**340**	P		**P**		**07 54 59.8**	**+1.2**
	1.2nm,0.5s,baz=121,slow=5.9,SNR=2.4								
	1.2nm,0.5s								
PDAR	**Pinedale Array**	**48.05**	**324**	P		**P**		**07 55 06.2**	**+1.1**
	0.2nm,0.5s,baz=128,slow=8.5,SNR=2.3								
	0.2nm,0.5s								
SCHQ	**Schefferville**	**48.10**	**5**	P		**P**		**07 55 06.6**	**+1.5**
	5.1nm,0.5s,baz=194,slow=6.4,SNR=13								
	5.1nm,0.5s								
YKA	**Yellowknife Ar**	**63.23**	**340**	P		**P**		**07 56 52.8**	**0.0**
	0.4nm,0.6s,baz=135,slow=6.5,SNR=8.5								
	0.4nm,0.6s								
TORD	**Torodi Ar. Bea**	**73.72**	**78**	P		**P**		**07 57 57.3**	**-1.5**
	0.1nm,0.3s,baz=262,slow=6.0,SNR=1.8								
	0.1nm,0.3s								
ARCES	**ARCESS Array B**	**86.63**	**20**	P		**P**		**07 59 07.1**	**+0.3**
	3.9nm,0.9s,baz=267,slow=3.6,SNR=2.6								
	3.9nm,0.9s								
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc		**PKPbc**		**08 06 11.9**	**-0.2**
	0.7nm,0.5s,baz=127,slow=2.8,SNR=2.3								

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*BJI **30** 07:57:36.9, 45°25N×124°70E, h9km, mb4.2/5, ML4.3/17, Ms4.2/8, Ms7 4.0/7*
*IDC **30** 07:57:36.6±0.9, 45°10N×124°64E, h0km, mb3.8/7, mbtmp3.7/10, ML3.3/3, MS3.4/12, Error ellipse: s-maj=21.1km s-min=16.7km az=47.0*
*KEA **30** 07:57:37.7, 44°92N×125°02E, h3km, ML4.0/3*
ISC 30 07:57:38.3±0.5, 45°24N±0°03×124°63E±0°04, h10km, n37, σ2°85/43, mb4.0/7, MS3.4/6, 1C-1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CN2	**Changchun**	**1.55**	**157**	Pn		**Pn**		**07 58 04.3**	**-1.7**
CN2				Pg		**Pb**		**07 58 06.0**	**-1.1**
CN2				smax		smax			
	comp=N,4μm,0.9s								
BNX	**BinXian**	**2.02**	**75**	Pn		**Pn**		**07 58 09.3**	**-3.1**
BNX				⇓Pg		**Pb**		**07 58 13.5**	**-1.5**
BNX				Sg		**Sb**		**07 58 39.5**	**-0.7**
BNX				smax		smax			
	comp=N,5μm,0.8s								
BNX				smax		smax			
	comp=E,2μm,0.7s								
SNY	**Shenyang**	**3.49**	**193**	⇑Pg		**Pb**		**07 58 42.8**	**+2.6**
SNY				Sg		**Sb**		**07 59 23.0**	**+0.4**
SNY				smax		smax			
	comp=N,220nm,0.7s								
SNY				smax		smax			
	comp=E,430nm,0.8s								
MDJ	**Mudanjiang**	**3.58**	**98**	Pn		**Pn**		**07 58 33.0**	**-0.9**
MDJ				Pg		**Pb**		**07 58 44.5**	**+2.8**
MDJ				Sg		**Sg**		**07 59 32.8**	**-0.5**
MDJ				smax		smax			
	comp=N,570nm,0.8s								
MDJ				smax		smax			
	comp=E,680nm,0.9s								
KGE	**Kanggye**	**4.53**	**161**	Pg		**Pb**		**07 58 57.9**	**0.0**
KGE				Sg		**Sb**		**07 59 57.1**	**+4.6**
KGE				AML		AML			
	comp=N,433nm,0.9s								
KGE				AML		AML			
	comp=E,386nm,0.7s								
KGE				AML		AML			
	comp=Z,366nm,1.0s								
CHJN	**Chongjin**	**5.09**	**131**	Sg		**Sb**		**08 00 13.4**	**+4.8**
SUJ	**Sinuiju**	**5.13**	**181**	Pg		**Pb**		**07 59 10.4**	**+2.3**
SUJ				Sg		**Sg**		**08 00 18.3**	**-4.7**
SUJ				AML		AML			
	comp=N,228nm,0.6s								
SUJ				AML		AML			
	comp=E,402nm,0.9s								
SUJ				AML		AML			
	comp=Z,235nm,0.7s								
USRK	**Ussuriysk Ar.**	**5.35**	**99**	Pn		**Pn**		**07 58 56.8**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=279,slow=12,SNR=14								
USRK				Pg		**Pb**		**07 59 13.6**	**+1.8**
	comp=Z,3.5nm,0.3s,baz=287,slow=17,SNR=13								
USRK				Lg		Lg		08 00 19.3	
	comp=Z,4.9nm,0.3s,baz=283,slow=26,SNR=5.4								
	comp=Z,4.8nm,0.6s								
HEH	**HeiHe**	**5.36**	**20**	Pn		**Pn**		**07 58 58.0**	**-0.2**
HEH				S

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XAN                                  S    Sn    08 04 33.0 +1.4
XAN                                  pmax pmax
     comp=Z,7.0nm,0.9s
XAN                                  LR   LR
     comp=Z,570nm,11.3s
XAN                                  LR   LR
     comp=Z,490nm,12.7s
YAK  Yakutsk          17.08  8 LR   LR   08 08 32.2
     comp=Z,228nm,18.4s,baz=248,slow=38
LZH  Lanzhou          18.18 247 eP   Pn   08 01 48.5 -2.4
LZH                                  sP   sP   08 01 56.3 +0.9
LZH                                  pmax pmax
     comp=Z,16nm,1.0s
LZH                                  LR   LR
     comp=Z,380nm,11.0s
LZH                                  LR   LR
     comp=Z,380nm,10.8s
LZH                                  LR   LR
     comp=Z,320nm,12.7s
JOW  Kunigami         18.60 170 LR   LR   08 08 51.5
     comp=Z,93nm,19.6s,baz=330,slow=37
PETK Petropavlovsk-   22.85  58 LR   LR   08 13 04.8
     comp=Z,69nm,19.1s,baz=91,slow=40
WMQ  Urumqi           26.22 280 eP   P    08 03 15.3 +2.0
TIXI Tiksi            26.57   3 LR   LR   08 15 07.0
     comp=Z,218nm,18.9s,baz=198,slow=39
ZALV Zalesovo Beam    26.92 303 LR   LR   08 14 23.2
     comp=Z,70nm,20.3s,baz=16,slow=37
QIZ  Qiongzhong       28.88 210 P    P    08 03 37.5 +0.4
QIZ                                  S    S    08 08 28.3 +0.9
QIZ                                  LR   LR
     comp=Z,260nm,14.2s
QIZ                                  LR   LR
     comp=Z,220nm,12.0s
KURBB Kurchatov Arra  30.95 297 P    P    08 03 55.6 +0.4
     comp=Z,0.7nm,0.3s,baz=86,slow=8.6,SNR=4.8
KURBB                                LR   LR   08 16 50.9
     comp=Z,117nm,18.7s,baz=178,slow=37
     comp=Z,0.7nm,0.3s
CMAR Chiang Mai Arr   34.20 227 LR   LR   08 18 08.4
     comp=Z,25nm,20.4s,baz=265,slow=36
ILAR Eielson Array    49.66  34 P    P    08 06 30.6 +1.0
     comp=Z,0.3nm,0.6s,baz=288,slow=7.4,SNR=4.4
     comp=Z,0.3nm,0.6s
FINES FINESS Array B  55.24 325 P    P    08 07 12.2 +1.2
     comp=Z,3.7nm,0.9s,baz=56,slow=8.5,SNR=4.3
     comp=Z,3.7nm,0.9s
AKASG Malin Array Be  59.74 313 P    P    08 07 42.8 -0.1
     comp=Z,1.3nm,0.6s,baz=50,slow=7.4,SNR=9.3
     comp=Z,1.3nm,0.6s
YKA  Yellowknife Ar   62.68  27 P    P    08 08 02.7 +0.1
     comp=Z,0.4nm,0.9s,baz=330,slow=6.0,SNR=4.3
     comp=Z,0.4nm,0.9s
BRTR Keskin Array B   63.83 301 P    P    08 08 12.2 +1.3
     comp=Z,0.9nm,0.8s,baz=15,slow=6.0,SNR=2.3
     comp=Z,0.9nm,0.8s
WRA  Warramunga Arr   65.47 170 P    P    08 08 19.7 -1.7
     comp=Z,0.6nm,0.9s,baz=348,slow=7.5,SNR=3.2
     comp=Z,0.6nm,0.9s
```

*IDC **30** 08:02:42.7±4.5, 26°.03S×131°.13E, h0km, mbtmp3.2/3, ML3.0/3, Error ellipse: s-maj=41.0km s-min=29.2km az=89.0*
*AUST **30** 08:02:43.7±0.3, 26°.5±3°×13°.1E±°, h10km, mb3.8/4, ML3.0/7, Error ellipse: s-maj=5.9km s-min=4.8km az=5.7*

ISC 30 08:02:42.9±1.0, 26°.10S±0°.05×131°.06E±0°.06, h10km, n21, σ1§89/25, South Australia

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Code Station Name     Δ°   AZ°   Phase ID      Time     Res
                                Op    ISC     h m s    ISC
WRKA Warakurna        2.71 292  P     Pn      08 03 27.2 +0.7
WRKA Warakurna        2.71 292  S     Sn      08 04 01.8 +2.4
ASAR Alice Springs    3.54  47  Pn    Pn      08 03 38.5 +0.5
     0.2nm,0.3s,baz=229,slow=12,SNR=19
ASAR                            Pg    Pb      08 03 45.7  0.0
     0.8nm,0.3s,baz=228,slow=16,SNR=16
ASAR                            Sn    Sn      08 04 21.3 +1.3
     1.1nm,0.3s,baz=235,slow=22,SNR=5.3
ASAR                            Lg    Lg      08 04 31.1
     3.7nm,0.3s,baz=228,slow=27,SNR=23
     0.9nm,0.6s
AS31 Alice Springs    3.54  47  P     Pn      08 03 39.6 +1.6
AS31 Alice Springs    3.54  47  S     Sn      08 04 22.3 +2.2
OOD  Oodnadatta       4.46 113  P     Pn      08 03 52.9 +2.2
OOD  Oodnadatta       4.46 113  S     Sn      08 04 45.1 +2.4
MULG Mulgathing       4.94 148  P     Pn      08 03 59.4 +2.3
MULG Mulgathing       4.94 148  S     Sn      08 04 56.5 +2.2
FORT Forrest          5.36 209  P     Pn      08 04 02.5  -0.4
     comp=Z,31nm,1.4s,comp=Z,0.1nm
FORT Forrest          5.36 209  S     Sn      08 05 03.3  -1.4
WRA  Warramunga Arr   6.83  27  Pn    Pn      08 04 23.6 +0.4
     comp=Z,0.5nm,0.3s,baz=205,slow=14,SNR=52
WRA                             Sn    Sn      08 05 37.3  -3.8
     comp=Z,0.6nm,0.3s,baz=205,slow=24,SNR=8.5
WRA                             Lg    Lg      08 06 10.3
     comp=Z,0.3nm,0.3s,baz=208,slow=26,SNR=2.8
     comp=Z,1.5nm,0.3s
LCRK Leigh Creek      7.65 126  P     Pn      08 04 35.9 +1.5
     comp=Z,6.9nm,2.2s,comp=Z,0.1nm
LCRK Leigh Creek      7.65 126  S     Sn      08 06 01.3  0.0
BBOO Buckleboo        7.98 148  P     Pn      08 04 39.2 +0.2
     comp=Z,14nm,0.7s,comp=Z,0.1nm
BBOO Buckleboo        7.98 148  S     Sn      08 06 05.9  -3.5
YAPP Yappala Statio   8.56 134  P     Pn      08 04 47.2 +0.3
YAPP                            S     Sn      08 06 21.3  -2.4
INKA Innaminka        8.80 103  P     Pn      08 04 52.0 +1.8
INKA Innaminka        8.80 103  S     Sn      08 06 28.2  -1.3
QIS  Mount Isa        9.60  57  P     Pn      08 05 01.8 +0.7
     comp=Z,3.1nm,2.0s,comp=Z,0.0nm
STKA Stephens Creek  10.87 124  Pn    Pn      08 05 18.1  -0.5
     comp=Z,0.1nm,0.3s,baz=303,slow=18,SNR=3.7
     comp=Z,0.4nm,0.3s
```

*IDC **30** 08:15:02.4±1.4, 37°.51N×20°.69E, h0km, mb3.8/8, mbtmp3.9/8, MS3.2/2, Error ellipse: s-maj=36.2km s-min=25.7km az=119.0*
*TIR **30** 08:15:04.1, 37°.60N×19°.77E, h18km±31km, Md3.8, Ml3.6*
*ATH **30** 08:15:04.9, 37°.40N×20°.49E, h10km±3km, ML3.4/4, Error ellipse: s-maj=4.1km s-min=1.4km az=26.0*
*THE **30** 08:15:05.3, 37°.40N×20°.54E, h10km, ML3.5/13, Error ellipse: s-maj=1.3km s-min=0.6km az=51.0*
*BEO **30** 08:15:12.2±0.8, 37°.79N×20°.51E, h30km±7km, ML3.4/8*

ISC 30 08:15:05.3±0.9, 37°.44N±0°.05×20°.50E±0°.05, h21km±3km, n60, σ1§87/79, mb3.8/8, Ionian Sea

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Code Station Name     Δ°   AZ°   Phase ID      Time     Res
                                Op    ISC     h m s    ISC
KRI1 kERI             0.34  48  P     Pb      08 15 12.2 -0.3
KRI1                            S     Sb      08 15 17.0 -0.4
     49µm,0.2s
LTHK Lithakia         0.38  45  P     Pb      08 15 12.9 -0.3
LTHK                            S     Sb      08 15 18.2 -0.4
     27µm,0.1s
LTHK Lithakia         0.38  45  P     Pb      08 15 12.9 -0.3
LTHK                            S     Sb      08 15 18.2 -0.4
RTZL Ratzakli, Kefa   0.67  19  P     Pb      08 15 18.3 -0.1
RTZL                            S     Sn      08 15 28.8 -0.6
VLS  Valsamata        0.74   5  P     Pb      08 15 19.7 +0.2
VLS                             S     Sn      08 15 31.8 +0.6
     4µm,0.4s
VLS  Valsamata        0.74   5  P     Pb      08 15 19.6 +0.1
VLS                             AML   AML     08 15 35.1
     comp=N,10082µm,0.5s
VLS                             AML   AML     08 15 37.1
     comp=E,5950µm,0.3s
LXR1 Lixouri, Cepha   0.76 356  P     Pn      08 15 20.6  -0.2
LXR1                            S     Sn      08 15 32.6 +0.9
     comp=E,17µm,0.5s
DMLN Damoulianata-K   0.80 353  P     Pb      08 15 21.0 +0.4
DMLN                            S     Sn      08 15 34.4 +1.6
     comp=E,9µm,0.6s
DMLN Damoulianata-K   0.80 353  P     Pb      08 15 20.8 +0.2
SMHA Samh             0.82   8  P     Pb      08 15 20.8  0.0
AMT  Artemida-Makis   0.96  84  P     Pb      08 15 23.1  -0.2
AMT                             AML   AML     08 15 41.1
     comp=N,9080µm,0.7s
AMT                             AML   AML     08 15 41.7
     comp=E,9055µm,0.6s
RLS  Riolos of Patr   0.98  51  P     Pb      08 15 23.7 +0.1
RLS                             S     Sn      08 15 37.9 +0.8
     comp=E,1µm,0.5s
RLS  Riolos of Patr   0.98  51  P     Pb      08 15 23.3  -0.3
RLS                             AML   AML     08 15 43.6
     comp=N,2052µm,0.7s
RLS                             AML   AML     08 15 45.2
     comp=E,2024µm,0.6s
FSK  Fiskardo         1.02   3  P     Pb      08 15 24.7 +0.5
FSK                             S     Sn      08 15 41.4 +3.3
     comp=E,2µm,0.3s
FSK  Fiskardo         1.02   3  P     Pb      08 15 24.7 +0.5
DRO  Drossia          1.09  62  P     Pn      08 15 25.4 +0.1
DRO                             S     Sn      08 15 42.3 +2.5
     comp=E,2µm,0.4s
DRO  Drossia          1.09  62  P     Pn      08 15 25.4 +0.1
PYL  PYLOS            1.13 118  P     Pn      08 15 25.7  -0.2
PYL                             S     Sn      08 15 41.9 +1.1
     comp=E,925nm,0.6s
PYL  PYLOS            1.13 118  P     Pn      08 15 25.5  -0.4
ITM  Ithomi           1.17 102  P     Pn      08 15 26.6 +0.2
ITM                             S     Sn      08 15 42.5 +0.8
     comp=E,940nm,0.6s
ITM  Ithomi           1.17 102  P     Pn      08 15 26.5 +0.2
ITM                             AML   AML     08 15 49.4
     comp=N,1598µm,0.5s
ITM                             AML   AML     08 15 55.5
     comp=E,2158µm,0.7s
EVGI Lefkada island   1.19   6  P     Pb      08 15 27.8 +0.7
EVGI                            S     Sb      08 15 45.5 +3.5
     comp=E,2µm,0.2s
EVGI Lefkada island   1.19   6  P     Pb      08 15 27.2 +0.1
NYDR Nydri-Lefkada    1.28   7  P     Pb      08 15 29.2 +0.5
NYDR                            S     Sb      08 15 47.4 +2.7
     comp=E,935nm,0.5s
LKD2 Lefkada island   1.35   5  P     Pb      08 15 30.6 +0.6
LKD2                            AMP
     comp=N,3.4nm,3.1s,baz=30
LKD2 Lefkada island   1.35   5  P     Pb      08 15 30.6 +0.6
LKD2                            S     Sb      08 15 49.2 +2.4
     comp=N,2µm,0.8s
KLV  Kalavryta, Ach   1.44  65  P     Pb      08 15 31.0  -0.4
GUR  Goura            1.54  71  P     Pn      08 15 32.5 +0.8
SRN  Sarande          2.47 351  P     Pn      08 15 45.1 +0.8
SRN                             AMP
     comp=E,0.5nm,0.9s,baz=4.0
LSK  Leskovik         2.71   2  AMP
     comp=N,1.7nm,1.1s,baz=14
SCTE Santa Cesarea    3.07 329  P     Pn      08 15 50.4  -2.2
SCTE                            AMP
     comp=N,0.6nm,1.0s,baz=339
FNA  Florina          3.41  11  P     Pn      08 16 00.6 +3.3
FNA                             AMP
     comp=N,0.1nm,0.5s,baz=21
FNA  Florina          3.41  11  ePn   Pn      08 15 59.5 +2.2
FNA                             eSn   Sn      08 16 34.4  -2.7
OHR  Ohrid            3.67   4  ePn   Pn      08 16 02.9 +2.0
OHR                             eSn   Sn      08 16 39.7  -4.0
OHR  Ohrid            3.67   4  i Pn  Pn      08 16 04.1 +3.2
VAY  Valandovo        4.20  22  i Pn  Pn      08 16 10.3 +2.3
SRS  Serrai           4.39  32  ePn   Pn      08 16 11.8 +1.1
SRS                             eSn   Sn      08 16 58.7  -2.4
PEHC Pehcevo          4.71  22  i Pn  Pn      08 16 16.9 +1.7
BOSS Bosilegrad       5.27  16  ePn   Pn      08 16 24.1 +1.2
BARS Barje            5.46  10  ePn   Pn      08 16 26.6 +1.1
BARS                            eSn   Sn      08 17 21.5  -6.2
VTS  Vitosha          5.58  21  ePn   Pn      08 16 28.5 +1.3
VTS                             eSn   Sn      08 17 24.6  -6.2
SELS Selova           5.79   4  ePn   Pn      08 16 30.8 +0.8
SELS                            eSn   Sn      08 17 32.1  -3.7
SJES Sjenica          5.83 356  ePn   Pn      08 16 31.7 +1.1
SJES                            eSn   Sn      08 17 30.3  -6.5
ZAPS Zavoj            6.05  15  ePn   Pn      08 16 34.7 +1.1
IVAS Ivanjica         6.14 358  ePn   Pn      08 16 35.9 +1.1
BOVS Bovan            6.26   8  ePn   Pn      08 16 36.3  0.0
GRUS Gruza            6.45   1  ePn   Pn      08 16 39.6 +0.7
BBLS Lazi&#263i       6.47 353  ePn   Pn      08 16 39.7 +0.3
BBLS                            eSn   Sn      08 17 47.5  -5.1
ZAGS Zajecar          6.50  11  ePn   Pn      08 16 41.0 +1.3
DIVS Divibare         6.66 357  ePn   Pn      08 16 42.5 +0.5
DIVS                            eSn   Sn      08 17 51.0  -6.3
MLR  Muntele Rosu     9.02  25  LR    LR      08 20 54.1
     comp=N,115nm,18.4s,baz=292,slow=40
AKASG Malin Array Be 14.65  22  LR    LR      08 25 29.1
     comp=N,100nm,20.6s,baz=323,slow=43
HFS  Hagfors         23.13 351  P     P       08 20 09.2  -0.5
     comp=N,6.3nm,0.9s,baz=162,slow=11,SNR=6.1
     comp=N,6.3nm,0.9s
FINES FINESS Array B 24.28   7  P     P       08 20 19.9  -0.9
     comp=N,13nm,1.1s,baz=172,slow=11,SNR=4.9
     comp=N,13nm,1.1s
NOA  NORSAR Array B  24.34 349  P     P       08 20 21.7 +0.3
     comp=N,1.5nm,0.9s,baz=157,slow=8.8,SNR=3.7
     comp=N,1.5nm,0.9s
TORD Torodi Ar. Bea  29.45 220  P     P       08 21 09.2 +1.5
     comp=N,0.7nm,0.7s,baz=26,slow=8.5,SNR=4.4
     comp=N,0.7nm,0.7s
ARCES ARCESS Array B 32.27   3  P     P       08 21 31.7  -0.4
     comp=N,1.0nm,0.8s,baz=185,slow=9.9,SNR=1.1
     comp=N,1.0nm,0.8s
KURBB Kurchatov Arra 42.68  53  P     P       08 22 59.4  -1.0
     comp=N,0.3nm,0.3s,baz=278,slow=8.8,SNR=1.8
     comp=N,0.3nm,0.3s
MKAR Makanchi Array  45.70  58  P     P       08 23 23.5  -1.2
     comp=N,0.7nm,0.5s,baz=274,slow=7.1,SNR=5.8
     comp=N,0.7nm,0.5s
ZALV Zalesovo Beam   46.20  48  P     P       08 23 27.5  -0.9
     comp=N,0.9nm,0.6s,baz=263,slow=9.6,SNR=2.7
     comp=N,0.9nm,0.6s
```

NNC 30 08:24:34.7±3.9, 54°.28N×86°.29E, h0km, mb3.8, mpv2.8, 2C-2D, Error ellipse: s-maj=24.3km s-min=13.3km az=68.0, Suspected Mining explosion., Southwestern Siberia

```
Code Station Name     Δ°   AZ°   Phase ID      Time     Res
                                Op    ISC     h m s    ISC
ZAA0 Zalesovo Array   0.92 250  ⇑P    Pg      08 24 52.3  -0.1
     0.2nm,0.2s,baz=63,slow=17
ZAA0                            ⇑S    Sb      08 25 05.4  -1.0
     1.5nm,0.4s,baz=71,slow=30
KURK Kurchatov        5.88 236  ⇓Pn    Pn      08 26 03.9 +0.9
     4.1nm,1.1s
KURBB Kurchatov Arra  5.99 235  ⇓Pn    Pn      08 26 05.7 +1.3
     1.1nm,0.3s,baz=52,slow=13
```

*ISN **30** 08:28:18.7±0.6, 34°.21N×45°.54E, h8km±3km, ML3.6*
*TEH **30** 08:28:19.2, 34°.21N×45°.54E, h12km±51km, ML3.6*

ISC 30 08:28:19.5±0.9, 34°.20N±0°.03×45°.56E±0°.04, h10km, n31, σ1§09/35, Iran-Iraq border region

```
Code Station Name     Δ°   AZ°   Phase ID      Time     Res
                                Op    ISC     h m s    ISC
GLG1 Gilan-e-Gharb    0.31 106  Pg    Pg      08 28 25.9 +0.2
KGS1 Ghasr-e-Shirin   0.31   5  Pg    Pb      08 28 26.2  -0.9
ILBA Ilam Banvizeh    0.79 136  Pg    Pg      08 28 34.5  -0.2
IGHG Ghaleghazi       0.85  81  Pg    Pb      08 28 36.4  0.0
IDHR Dehrash          0.85  54  Pg    Pg      08 28 35.1  -0.9
IBDR Badra            1.13 164  ePg   Pb      08 28 41.0  -0.1
IBDR                            eSg   Sg      08 28 56.5 +0.7
KCHF Cheshme Sefid,   1.23  86  Pg    Pn      08 28 42.6  -0.4
BHD  Baghdad          1.35 227  ePg   Pb      08 28 44.5  -0.3
BHD                             eSg   Sg      08 29 03.0 +0.2
BHD                             AML   AML     08 29 09.8
     comp=E,2µm,0.9s
ILIN Lien             1.37  58  Pg    Pb      08 28 44.9  -0.4
IKRK Kirkuk           1.56 321  ePn   Pb      08 28 48.0  -0.5
IKRK                            eSn   Sg      08 29 10.0 +0.3
IKRK                            AML   AML     08 29 14.3
     comp=N,1µm,0.3s
IKRK                            AML   AML     08 29 14.8
     comp=E,538nm,0.4s
SNQR Sonqor, Kerman   1.83  68  Pn    Pb      08 28 53.6 +0.3
IBZA Bozab            1.93  81  Pn    Pb      08 28 53.8  -1.1
SDS1 Sardasht. Az.    1.95 358  Pn    Pn      08 28 53.3 +0.5
IKFM Kafar-mosalman   2.02 109  Pn    Pb      08 28 55.6  -0.7
IDOB Doab             2.22 100  Pn    Pn      08 28 57.7 +1.2
RAFI Al-Rafai         2.51 169  ePn   Pn      08 29 02.0 +1.6
RAFI                            eSn   Sb      08 29 33.5  -2.1
HSAM Samen            2.52  89  Pn    Pn      08 29 02.2 +1.4
MAHB Mahabad          2.57   3  Pn    Pn      08 29 02.9 +1.6
BDRS Dareh Seyedi     2.77  94  Pn    Pn      08 29 05.8 +1.6
HAGD Aghdareh         3.02  77  Pn    Pn      08 29 09.8 +2.1
QABG Abgarm-Qazvin    3.63  64  Pn    Pn      08 29 18.0 +2.0
ISHB Shabestar        4.08   1  Pn    Pn      08 29 22.8 +0.6
IPIR Pirpir           4.71 107  Pn    Pn      08 29 31.2 +0.3
JHBN Jahan bin        4.71 113  Pn    Pn      08 29 32.1 +1.2
QAMS Qamsar           4.88  94  Pn    Pn      08 29 34.3 +1.2
ZNGN Zangian          4.90 114  Pn    Pn      08 29 33.9 +0.3
IKLH Kolahrood        5.09  98  Pn    Pn      08 29 37.6 +1.5
KRSH Karshahi         5.46  91  Pn    Pn      08 29 42.7 +1.6
KLNJ Kolanjah         6.00 120  Pn    Pn      08 29 49.0 +0.3
IRAM Ramesheh         6.21 111  Pn    Pn      08 29 51.9 +0.5
DSBU Dashti - Bushe   7.59 138  Pn    Pn      08 30 10.2  -0.1
```

*HEL **30** 08:29:40.1±0.1, 63°.96N×28°.12E, h0km, ML1.8, Explosion*
*UPP **30** 08:29:40.2±2.3, 63°.85N×27°.91E, h0km, ML1.6*
*IDC **30** 08:29:40.2±1.9, 63°.92N×28°.59E, h0km, mbtmp2.9/3, ML2.1/3, Error ellipse: s-maj=34.0km s-min=10.2km az=98.0*

ISC 30 08:29:39.1±0.8, 63°.97N±0°.03×28°.09E±0°.04, h0km, n23, σ1§20/31, Finland

```
Code Station Name     Δ°   AZ°   Phase ID      Time     Res
                                Op    ISC     h m s    ISC
NIF  Nilsia           0.59 192  eP    Pg      08 29 50.4  0.0
NIF                             eS    Sg      08 29 58.2 +0.2
PUF  PUOLANKA         0.70 359  eP    Pg      08 29 52.6 +0.1
PUF                             eS    Sg      08 30 01.8 +0.2
RMF  Romuvaara        0.85  72  eP    Pg      08 29 55.2  -0.1
RMF                             eS    Sg      08 30 05.8  -0.4
OUL  Oulu             1.47 321  eP    Pn      08 30 06.9 +0.1
OUL                             eS    Sg      08 30 24.9  -1.3
OUF  Merijarvi        1.53 287  eP    Pn      08 30 07.5  -0.1
OUF                             eS    Sn      08 30 27.5  -0.5
OBF4 Vikkela, Lumij   1.55 305  eP    Pn      08 30 07.9  0.0
OBF4                            eS    Sn      08 30 28.5  -0.2
OBF0 Syolatti, Pyha   1.77 289  MSG           08 30 38.6
     comp=Z,5.2nm,0.1s
JOF  Joensuu          1.79 125  eP    Pb      08 30 12.1  -0.6
JOF  Joensuu          1.79 125  MSG           08 30 39.4
     comp=Z,7.0nm,0.1s
KAF  Kangasniemi      2.03 204  MSG           08 30 47.0
     comp=Z,6.6nm,0.1s
KEF  Keuruu           2.33 221  eP    Pb      08 30 21.2  -0.7
VAF  Ylistaro         2.60 252  eP    Pb      08 30 25.4  -1.1
FINES FINESS Array B  2.70 201  Pn    Pb      08 30 27.1  -1.1
     comp=Z,0.7nm,0.3s,baz=27,slow=15,SNR=20
FINES                           Sn    Sb      08 31 00.8  -0.9
     comp=Z,0.9nm,0.3s,baz=22,slow=27,SNR=19
     comp=Z,1.5nm,0.3s
KALU Kalix            2.77 315  P     Pn      08 30 26.3 +1.6
KALU                            S     Sn      08 31 00.0 +1.3
SJUU Sjulsmark        3.18 302  P     Pn      08 30 31.8 +1.4
SJUU                            S     Sn      08 31 09.8 +0.9
ODEU Stanfors         3.26 281  P     Pn      08 30 31.3  0.0
ERTU Ertsjaerv        3.59 319  P     Pn      08 30 37.0 +1.1
ERTU                            S     Sn      08 31 21.2 +2.2
PAJU Pajala           3.70 328  P     Pn      08 30 39.3 +1.8
HARU Harads           3.73 309  P     Pn      08 30 39.1 +1.2
SVAU Svanoeiden       3.76 282  P     Pn      08 30 38.8 +0.6
RAF  Rauma            4.16 228  eP    Pn      08 30 45.8 +2.0
ARCES ARCESS Array B  5.69 351  Pn    Pn      08 31 06.3 +1.6
     baz=160,slow=13,SNR=5.4
ARCES                           Sn    Sn      08 32 08.2  -2.3
     comp=Z,0.1nm,0.3s,baz=173,slow=22,SNR=1.4
     comp=Z,1.0nm,0.8s
NOA  NORSAR Array B   8.34 257  Pn    Pn      08 31 42.9 +1.8
     baz=64,slow=11,SNR=1.2
     comp=Z,0.7nm,0.8s
```

*JMA **30** 08:39:42.7±0.7, 32°N±5°×13°8E±°, h375km, MV2.9/20, NEAR TORISHIMA IS*
*IDC **30** 08:39:45.0±2.5, 31°.82N×138°.20E, h376km±27km, mb3.1/7, mbtmp3.8/8, Error ellipse: s-maj=62.8km s-min=24.5km az=74.0*

ISC 30 08:39:46.5±1.2, 32°.1N±0°.1×138°.4E±0°.1, h400km, n15, σ1§78/17, mb3.2/7, Southeast of Honshu

```
Code Station Name     Δ°   AZ°   Phase ID      Time     Res
                                Op    ISC     h m s    ISC
JIE  Ise              2.72 329  eP    Pn      08 40 46.0  -1.3
JOD2 Odawara 2        3.25  10  eP    Pn      08 40 51.0  -0.6
BSO3 Boso 3           3.26  32  eS    S       08 41 43.0  -1.1
JAI  Aioi             3.73 299  eP    Pn      08 40 52.8  -3.1
JRY  Ryogami san      3.97   6  P     Pn      08 40 58.3 +0.1
JAG  Ashikaga         4.44  11  P     Pn      08 41 01.3  -1.4
JAG                             eS    S       08 42 01.7  -3.0
MJAR Matsushiro Arr   4.47 358  P     Pn      08 41 02.6  -0.5
     3.1nm,0.5s,baz=175,slow=11,SNR=7.6
JHO  Hitachi          4.88  21  P     Pn      08 41 06.0  -1.1
JHO                             S     S       08 42 10.1  -2.7
SONM Songino Array   28.89 312  P     P       08 45 10.9 +0.4
     0.2nm,0.4s,baz=120,slow=8.5,SNR=1.6
     0.2nm,0.4s
MKAR Makanchi Array  44.83 306  P     P       08 47 23.2 +0.6
     0.7nm,0.6s,baz=78,slow=9.0,SNR=4.1
     0.7nm,0.6s
WRA  Warramunga Arr  51.85 185  P     P       08 48 14.3  -1.4
     0.7nm,1.2s,baz=8.8,slow=7.6,SNR=2.5
     0.7nm,1.2s
BVAR Borovoye Array  52.18 315  P     P       08 48 18.9 +1.1
     0.6nm,0.5s,baz=95,slow=8.8,SNR=2.7
     0.6nm,0.5s
ARCES ARCESS Array B 67.76 340  P     P       08 50 04.0 +1.9
     2.3nm,0.9s,baz=53,slow=8.0,SNR=1.6
     2.3nm,0.9s
FINES FINESS Array B 72.03 332  P     P       08 50 29.4 +1.6
     2.8nm,0.8s,baz=77,slow=6.0,SNR=6.3
     2.8nm,0.8s
AKASG Malin Array Be 76.67 322  P     P       08 50 55.8 +1.4
     0.3nm,0.3s,baz=52,slow=5.9,SNR=3.8
     0.3nm,0.3s
```

*IDC **30** 08:44:41.9±1.1, 8°.85S×108°.58W, h0km, mb3.6/8, mbtmp3.6/8, MS3.8/34, Error ellipse: s-maj=44.2km s-min=22.3km az=63.0*

ISC 30 08:44:44.3±1.1, 8°.8S±0°.2×108°.6W±0°.3, h15km, n45, σ0§56/9, mb3.5/8, MS3.9/33, Central East Pacific Rise

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Code Station Name     Δ°   AZ°   Phase ID      Time     Res
                                Op    ISC     h m s    ISC
RPN  Rapa Nui        18.20 182  LR    LR      08 53 48.5
     comp=Z,292nm,20.3s,baz=24,slow=30
CMIG Matias Romero   29.10  28  LR    LR      08 58 16.2
     comp=Z,81nm,18.1s,baz=206,slow=28
ATAH Atahualpa       29.91  89  LR    LR      09 00 11.6
     comp=Z,129nm,18.8s,baz=259,slow=31
JTS  Las Juntas de   30.22  52  LR    LR      08 59 55.7
     comp=Z,307nm,20.3s,baz=264,slow=30
LPIG La Paz          32.79 357  LR    LR      09 01 24.4
     comp=Z,188nm,18.5s,baz=182,slow=31
H03N2 Juan Fernandez 36.67 136  T     T       09 30 30.8
     baz=308,slow=77,SNR=9.6
H03N1 Juan Fernandez 36.68 136  T     T       09 30 34.2
     baz=308,slow=77,SNR=21
H03N3 Juan Fernandez 36.68 136  T     T       09 30 34.1
     baz=308,slow=77,SNR=15
TXAR Lajitas Array   38.25   7  P     P       08 52 04.3 +0.2
     0.1nm,0.3s,baz=174,slow=10.0,SNR=1.6
     0.1nm,0.3s
LPAZ La Paz          40.09 105  P     P       08 52 21.0 +0.7
     1.3nm,0.7s,baz=238,slow=8.4,SNR=6.7
LPAZ                            LR    LR      09 05 21.7
     comp=Z,135nm,19.0s,baz=270,slow=31
     1.3nm,0.7s
PPT  Papeete         40.79 253  LR    LR      09 03 16.7
     comp=Z,42nm,19.6s,baz=59,slow=27
SDV  Santo Domingo   41.67  66  LR    LR      09 06 26.8
     comp=Z,76nm,21.1s,baz=279,slow=31
PFO  Pinyon Flats O  42.88 350  LR    LR      09 06 13.8
     comp=Z,176nm,20.1s,baz=159,slow=30
PLCA Paso Flores     46.29 140  LR    LR      09 07 44.2
     comp=Z,202nm,19.0s,baz=316,slow=30
PCRV Puerto La Cruz  47.62  68  LR    LR      09 10 07.0
     comp=Z,88nm,20.8s,slow=32
NVAR Mina Array Bea  47.90 350  P     P       08 53 22.5 +0.3
     0.3nm,0.6s,baz=174,slow=11,SNR=1.5
NVAR                            LR    LR      09 08 58.4
     comp=Z,175nm,19.5s,baz=178,slow=30
     0.3nm,0.6s
SJG  San Juan        49.70  57  LR    LR      09 11 56.0
     comp=Z,41nm,18.8s,baz=242,slow=33
RAR  Rarotonga       50.76 250  LR    LR      09 07 39.3
     comp=Z,24nm,21.8s,baz=152,slow=27
PDAR Pinedale Array  51.37 359  P     P       08 53 48.5  -0.1
     0.2nm,0.7s,baz=185,slow=7.2,SNR=2.1
PDAR                            LR    LR      09 12 13.6
     comp=Z,62nm,18.3s,baz=168,slow=32
```

0.2nm,0.7s
CPUP Villa Florida 51.48 117 P **P 08 53 48.6 -0.9**
1.2nm,0.6s,baz=300,slow=11,SNR=3.6
CPUP LR LR 09 11 33.7
comp=Z,134nm,21.2s,baz=277,slow=31
1.2nm,0.6s
YBH Yreka Blue Hor 51.98 347 LR LR 09 11 02.2
comp=Z,158nm,19.2s,baz=162,slow=30
NEW Newport 57.36 353 LR LR 09 14 37.1
comp=Z,69nm,21.2s,baz=197,slow=31
MDP Montagnes des 57.44 78 LR LR 09 16 57.1
comp=Z,76nm,18.7s,baz=242,slow=34
BDFB Brasilia 59.39 103 LR LR 09 17 37.7
comp=Z,47nm,20.5s,baz=319,slow=33
SADO Sadowa 59.60 24 LR LR 09 20 01.9
comp=Z,49nm,18.0s,baz=214,slow=36
BBB Bella Bella 63.06 347 LR LR 09 17 33.0
comp=Z,74nm,19.5s,baz=174,slow=31
RAO Raoul Island 67.75 242 LR LR 09 17 55.6
comp=Z,99nm,19.2s,baz=18,slow=29
DLBC Dease Lake 69.28 348 LR LR 09 22 32.0
comp=Z,76nm,19.0s,baz=286,slow=33
YKA Yellowknife Ar 71.28 357 P **P 08 56 02.3 -0.4**
0.4nm,0.9s,baz=172,slow=5.6,SNR=5.4
YKA LR LR 09 23 11.7
comp=Z,52nm,19.3s,baz=294,slow=32
0.4nm,0.9s
MSVF Nonsavu 71.61 254 LR LR 09 22 57.2
comp=Z,61nm,19.2s,baz=37,slow=32
RCBR Riachuelo 72.03 93 LR LR 09 27 06.7
comp=Z,20nm,18.2s,baz=236,slow=35
URZ Urewera 72.29 233 LR LR 09 22 26.1
comp=Z,63nm,19.2s,baz=152,slow=31
KDAK Kodiak Island 75.42 337 LR LR 09 22 18.1
comp=Z,157nm,18.2s,baz=334,slow=30
ILAR Eielson Array 78.80 344 P **P 08 56 46.2 0.0**
0.5nm,0.9s,baz=158,slow=6.7,SNR=1.8
ILAR LR LR 09 24 46.1
comp=Z,75nm,18.6s,baz=92,slow=30
0.5nm,0.9s
INK Inuvik 78.97 351 LR LR 09 28 11.6
comp=Z,104nm,20.2s,baz=238,slow=33
QSPA South Pole Qui 81.24 180 P **P 08 56 60.0 +0.4**
2.5nm,1.0s,baz=123,slow=3.2,SNR=5.2
QSPA LR LR 09 25 45.6
comp=Z,77nm,19.1s,baz=72,slow=30
2.5nm,1.0s
SFJD Kangerlussuaq 86.23 19 LR LR 09 33 56.7
comp=Z,113nm,19.1s,baz=104,slow=34
H11S2 WAKE ISLAND Hy 87.83 289 T T 10 34 35.8
baz=100,slow=75,SNR=109
H11S1 WAKE ISLAND Hy 87.84 289 T T 10 34 35.6
baz=100,slow=75,SNR=44
H11S3 WAKE ISLAND Hy 87.85 289 T T 10 34 43.6
baz=100,slow=75,SNR=56
H11N3 WAKE ISLAND Hy 87.85 290 T T 10 34 44.2
baz=100,slow=74
H11N2 WAKE ISLAND Hy 87.87 290 T T 10 34 39.0
baz=100,slow=74
H11N1 WAKE ISLAND Hy 87.87 290 T T 10 34 39.4
baz=100
SHEM Shemya Is, Ala 89.40 324 LR LR 09 29 06.6
comp=Z,99nm,20.8s,baz=292,slow=30
CMAR Chiang Mai Arr 151.66 293 PKPbc **PKiKP 09 04 39.3 -0.3**
1.4nm,0.4s,baz=32,slow=0.5,SNR=1.9

IDC 30 08:58:05.9±5.7, 22°.12S×179°.58W, h614km±40km, mb3.1/4, mbtmp4.1/5, Error ellipse: s-maj=127.4km s-min=41.6km az=141.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.90**	**332**	P	P	08 59 39.2	0.0
	8.9nm,0.4s,baz=153,slow=14,SNR=18						
STKA	**Stephens Creek**	**35.78**	**246**	P	P	09 04 14.8	-0.6
	0.6nm,0.3s,baz=85,slow=11,SNR=3.0						
	0.6nm,0.3s						
ASAR	**Alice Springs**	**42.74**	**259**	P	P	09 05 10.9	-0.4
	2.3nm,0.6s,baz=93,slow=8.2,SNR=30						
	2.3nm,0.6s						
WRA	**Warramunga Arr**	**42.95**	**264**	P	P	09 05 12.6	-0.3
	0.8nm,0.3s,baz=96,slow=8.3,SNR=90						
	0.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**51.38**	**264**	P	P	09 06 16.6	+0.8
	1.2nm,0.3s,baz=92,slow=7.0,SNR=9.3						
	1.2nm,0.3s						
AKASG	**Malin Array Be**	**143.68**	**329**	PKP	PKPbc	09 16 31.0	-0.1
	0.3nm,0.2s,baz=41,slow=2.5,SNR=5.7						

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*VIE **30** 09:14:07.0±0.4, 49°.73N×18°.60E, h0km, mb2.5/2, ml1.9/1, Error ellipse: s-maj=6.0km s-min=2.2km az=164.0, Suspected Mining induced.*
*IPEC **30** 09:14:08.0±0.3, 49°.81N×18°.56E, h1km, ML1.5/4, Error ellipse: s-maj=2.1km s-min=1.7km az=72.0*
*PRU **30** 09:14:08.1, 49°.83N×18°.59E, h0km, Mining Induced Event Csm, E=8.0e+04*

ISC 30 09:14:07.6±0.8, 49°.82N±0°.04×18°.53E±0°.02, h0km, n17, σ0s85/30, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.24**	**273**	*e*PG	**Pg**	**09 14 13.6**	**+1.3**
OKC				*e*SG	**Sg**	**09 14 17.2**	**+1.8**
	comp=Z,86nm,0.6s						
MORC	**Moravsky Berou**	**0.64**	**266**	*e*Pg	**Pb**	**09 14 20.9**	**-0.7**
	baz=87						
MORC				*e*Sg	**Sg**	**09 14 28.5**	**+0.4**
	14nm,0.4s,baz=87						
OJC	**Ojcow**	**0.91**	**64**	*e*Pg	**Pg**	**09 14 24.9**	**-0.2**
OJC				*e*Sg	**Sg**	**09 14 37.0**	**+0.1**
JAVC	**Velka Javorina**	**1.12**	**210**	*e*Pg	**Pb**	**09 14 29.5**	**-0.3**
	baz=31						
KRLC	**Kraliky**	**1.15**	**283**	*e*PG	**Pg**	**09 14 28.9**	**-0.8**
KRLC				*e*SG	**Sb**	**09 14 45.5**	**-0.5**
NIE	**Niedzica**	**1.22**	**109**	*e*Pg	**Pn**	**09 14 31.8**	**-0.2**
NIE				*e*Sg	**Sn**	**09 14 49.9**	**+0.7**
VYHS	**Vyhne**	**1.35**	**171**	*e*PG	**Pg**	**09 14 33.0**	**-0.4**
VYHS				*e*SG	**Sb**	**09 14 51.6**	**+0.1**
VRAC	**Vranov**	**1.36**	**248**	*e*Pg	**Pn**	**09 14 33.7**	**-0.1**
	baz=68						
VRAC				*e*Sg	**Sg**	**09 14 51.0**	**-0.2**
	5.6nm,0.3s,baz=68						
DPC	**Dobruska-Polom**	**1.51**	**291**	*e*PG	**Pn**	**09 14 35.7**	**-0.3**
DPC				*e*SG	**Sn**	**09 14 57.2**	**+0.8**
KRUC	**Moravsky**	**1.59**	**242**	*e*Pg	**Pn**	**09 14 37.0**	**+0.1**
	baz=61						
KRUC				*e*Sg	**Sn**	**09 14 58.1**	**0.0**
	3.8nm,0.2s,baz=61						
KRUC	**Moravsky**	**1.59**	**242**	*e*PG	**Pn**	**09 14 37.1**	**+0.1**
KRUC				*e*SG	**Sb**	**09 14 58.2**	**-0.1**
OSTC	**Ostas**	**1.66**	**297**	*e*PG	**Pb**	**09 14 38.4**	**-0.6**
OSTC				*e*SG	**Sg**	**09 15 01.6**	**+0.9**
CHVC	**Chvalec**	**1.76**	**297**	*e*PG	**Pb**	**09 14 39.9**	**-0.9**
STHS	**Stebnicka Huta**	**1.81**	**102**	*e*PN	**Pb**	**09 14 41.3**	**-0.4**
STHS				*e*SG	**Sg**	**09 15 07.9**	**+2.1**
STHS				*e*LG	Lg	09 15 11.1	
CONA	**Conrad Observa**	**2.59**	**224**	*e*Pn	**Pn**	**09 14 49.7**	**-1.1**
	1.3nm,0.4s						
CONA				*e*Sn	**Sn**	**09 15 22.2**	**-0.8**
	1.8nm,0.4s						
CKRC	**Cesky Krumlov**	**2.94**	**252**	*e*SG	**Sg**	**09 15 43.4**	**+1.6**
KHC	**Kasperske Hory**	**3.30**	**260**	*e*SG	**Sg**	**09 15 54.5**	**+1.0**

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*UPP **30** 09:33:24.8±0.1, 59°.73N×18°.64E, h0km, ML1.5, Unknown*
*HEL **30** 09:33:25.3±0.1, 59°.72N×18°.67E, h0km, ML1.4, Explosion*
*IDC **30** 09:33:26.8±1.6, 59°.76N×18°.52E, h0km, mbtmp3.5/2, ML1.7/3, Error ellipse: s-maj=21.3km s-min=6.9km az=172.0*

ISC 30 09:33:23.8±0.8, 59°.78N±0°.02×18°.55E±0°.03, h0km, n22, σ1s45/34, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRTU	**Norrtaelje**	**0.11**	**158**	P	**Pg**	**09 33 26.1**	**+0.3**
NRTU				S	**Sg**	**09 33 26.9**	**-0.4**
NRTU	**Norrtaelje**	**0.11**	**158**	*e*P	**Pg**	**09 33 26.1**	**+0.3**
NRTU				*e*S	**Sg**	**09 33 26.8**	**-0.4**
UPP	**Uppsala**	**0.47**	**280**	P	**Pb**	**09 33 34.9**	**-0.2**
GRAU	**Graesoe**	**0.56**	**359**	P	**Pb**	**09 33 36.5**	**0.0**
FORU	**Forsmark**	**0.64**	**343**	P	**Pb**	**09 33 38.2**	**+0.4**
FORU				S	**Sb**	**09 33 47.4**	**+0.1**
BACU	**Backbrunna**	**0.73**	**277**	P	**Pb**	**09 33 39.6**	**+0.2**
NYNU	**Nynaeshamn**	**0.82**	**200**	P	**Pg**	**09 33 39.9**	**+0.3**
AAL	**Aland**	**0.83**	**60**	P	**Pg**	**09 33 39.9**	**+0.2**
AAL	**Aland**	**0.83**	**60**	*e*P	**Pg**	**09 33 39.9**	**+0.2**
AAL				*e*S	**Sg**	**09 33 49.8**	**-0.6**
OSTU	**Oestervaala**	**0.84**	**303**	P	**Pb**	**09 33 41.7**	**+0.4**
ESKU	**Eskilstuna**	**1.23**	**244**	P	**Pb**	**09 33 48.0**	**+0.1**
IGGU	**Iggoen**	**1.26**	**331**	P	**Pn**	**09 33 49.4**	**+0.8**
FALU	**Falun**	**1.54**	**299**	P	**Pg**	**09 33 54.0**	**+0.8**
VIKU	**Vikbolandet**	**1.60**	**218**	P	**Pg**	**09 33 54.2**	**-0.1**
ARNU	**Arnoeviken**	**2.01**	**344**	*e*P	**Pb**	**09 34 01.4**	**+0.3**
ARNU				*e*SB	**Sg**	**09 34 28.3**	**+0.1**
RAF	**Rauma**	**2.03**	**51**	*e*P	**Pn**	**09 34 00.2**	**+1.1**
RAF				*e*SG	**Sb**	**09 34 27.5**	**+0.3**
RAF				MSG		09 34 29.2	
	comp=Z,2.6nm,0.1s						
GOTU	**Gotland**	**2.10**	**180**	*e*PG	**Pb**	**09 34 02.1**	**-0.6**
GOTU				*e*SG	**Sb**	**09 34 28.4**	**-0.8**
HFS	**Hagfors**	**2.47**	**280**	Pn	**Pb**	**09 34 08.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=98,slow=16,SNR=11						
HFS				Lg	Lg	09 34 41.3	
	comp=Z,1.2nm,0.3s,baz=98,slow=32,SNR=16						
KPF	**Kankaanpaa**	**2.69**	**38**	*e*PB	**Pb**	**09 34 12.0**	**-0.8**
KPF				*e*SB	**Sb**	**09 34 45.7**	**-0.6**
KPF				MSG		09 34 46.3	
	comp=Z,0.7nm,0.1s						
NOA	**NORSAR Array B**	**3.85**	**292**	Pg	**Pb**	**09 34 35.3**	**+2.7**
	baz=106,slow=16,SNR=4.3						
NOA				Sn	**Sn**	**09 35 12.2**	**+2.0**
	baz=111,slow=20,SNR=1.3						
NOA				Lg	Lg	09 35 24.9	
	baz=113,slow=20,SNR=3.6						
FINES	**FINESS Array B**	**4.07**	**63**	Pn	**Pn**	**09 34 30.6**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=240,slow=13,SNR=1.2						
FINES				Pg	**Pb**	**09 34 37.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=253,slow=16,SNR=1.9						
FINES				Sn	**Sn**	**09 35 16.2**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=249,slow=24,SNR=6.2						
FINES				Lg	Lg	09 35 30.2	
	comp=Z,0.3nm,0.3s,baz=252,slow=24,SNR=2.5						
	comp=Z,4.3nm,1.0s						
ARCES	**ARCESS Array B**	**10.23**	**14**	Pn	**Pn**	**09 35 51.6**	**-0.1**
	baz=195,slow=14,SNR=2.4						
ARCES				Sn	**Sn**	**09 37 41.0**	**-5.9**
	baz=194,slow=22,SNR=2.1						
	comp=Z,5.6nm,1.2s						

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*IDC **30** 09:35:30.9±11.0, 2°.73N×128°.46E, h220km±103km, mb3.0/5, mbtmp3.6/5, MS3.3/1, Error ellipse: s-maj=165.2km s-min=22.0km az=65.0*
*DJA **30** 09:35:33.9±0.6, 3°N±5°×12°8E±°, h191km±5km, M4.2/10, mb4.4/4, mB5.1/1, MLv4.2/10, Mw(mB)4.5/1*

ISC 30 09:35:28.7±1.3, 2°.9N±0°.1×128°.7E±0°.2, h200km, n9, σ0s95/9, mb3.4/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.31**	**285**	P	**Pn**	**09 36 22.9**	**+0.8**
SANI	**Sanana**	**5.59**	**209**	P	**Pn**	**09 36 49.6**	**-1.1**
	103nm,0.7s,4μm0.6nm						
NLAI	**Namlea**	**6.26**	**195**	P	**Pn**	**09 37 01.1**	**+1.7**
WRA	**Warramunga Arr**	**23.31**	**167**	P	**P**	**09 40 19.0**	**+0.1**
	0.5nm,0.5s,baz=346,slow=10,SNR=2.8						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**26.83**	**169**	P	**P**	**09 40 50.5**	**-0.3**
	0.3nm,0.4s,baz=353,slow=7.4,SNR=13						
ASAR				PcP	**PcP**	**09 44 07.5**	**-0.7**
	0.3nm,0.4s,baz=356,slow=2.5,SNR=7.2						
	0.3nm,0.4s						
CTA	**Charters Tower**	**28.55**	**144**	LR	LR	09 53 47.2	
	comp=Z,52nm,18.6s,baz=338,slow=38						
STKA	**Stephens Creek**	**36.63**	**162**	P	**P**	**09 42 16.2**	**+0.2**
	0.6nm,0.4s,baz=353,slow=7.6,SNR=3.5						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**59.42**	**325**	P	**P**	**09 45 10.1**	**-0.2**
	0.2nm,0.5s,baz=110,slow=7.8,SNR=1.4						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**63.56**	**327**	P	**P**	**09 45 37.6**	**-0.3**
	0.5nm,0.5s,baz=131,slow=5.8,SNR=3.7						
	0.5nm,0.5s						

NNC 30 09:45:09.1±1.2, 54°.29N×86°.25E, h0km, mb3.7, mpv2.9, 4C-3D, Error ellipse: s-maj=6.5km s-min=4.7km az=62.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.91**	**248**	⇑P	Pg	09 45 26.5	-0.1
	0.3nm,0.3s,baz=67,slow=17						
ZAA0				⇑S	Sb	09 45 39.5	-1.0
	1.8nm,0.3s,baz=68,slow=28						
KURK	**Kurchatov**	**5.88**	**236**	⇑Pn	Pn	09 46 37.7	+0.3
	2.0nm,0.8s						
KURK				⇑Lg	Lg	09 48 16.2	
	1.4nm,0.4s						
KURBB	**Kurchatov Arra**	**5.98**	**235**	⇓Pn	Pn	09 46 39.1	+0.3
	1.6nm,0.3s						
KURBB				⇓Lg	Lg	09 48 20.0	
	5.7nm,0.6s						
MK31	**Makanchi Array**	**7.92**	**200**	⇓Pn	Pn	09 47 07.5	+2.0
	0.5nm,0.3s						

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*NNC **30** 10:12:22.6±0.5, 51°.72N×75°.44E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=12.7km s-min=3.3km az=24.0, Suspected Mining explosion.*
*IDC **30** 10:12:25.1±1.4, 51°.73N×75°.68E, h0km, mbtmp2.8/3, ML1.9/3, Error ellipse: s-maj=32.8km s-min=10.6km az=32.0*

ISC 30 10:12:24.3±1.1, 51°.7N±0°.1×75°.49E±0°.06, h0km, n12, σ1s31/9, 5C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.19**	**118**	⇓Pg	**Pb**	**10 13 03.9**	**-0.8**
	3.2nm,0.5s						
KURBB				⇑Lg	Lg	10 13 34.2	
	29nm,0.6s						
KURBB	**Kurchatov Arra**	**2.19**	**118**	Pg	**Pn**	**10 13 02.6**	**+0.8**
	0.4nm,0.3s,baz=304,slow=19,SNR=23						
KURBB				Lg	Lg	10 13 31.9	
	0.6nm,0.3s,baz=307,slow=31,SNR=6.5						
KURK	**Kurchatov**	**2.19**	**115**	⇑Pg	**Pn**	**10 13 02.9**	**+1.0**
	1.6nm,0.5s						
KURK				⇓Lg	Lg	10 13 33.4	
	15nm,0.7s						
BVA0	**Borovoye Array**	**3.41**	**295**	Pg	**Pb**	**10 13 24.6**	**-0.9**
	3.1nm,0.8s,baz=112,slow=16,SNR=11						
BVA0				⇓Lg	Lg	10 14 09.2	
	7.9nm,0.6s,baz=118,slow=26,SNR=9.3						
BVAR	**Borovoye Array**	**3.41**	**295**	Pn	**Pn**	**10 13 20.1**	**+1.5**
	baz=108,slow=8.0,SNR=3.9						
BVAR				Lg	Lg	10 14 07.7	
	0.5nm,0.3s,baz=118,slow=25,SNR=13						
	2.6nm,0.7s						
BRVK	**Borovoye**	**3.48**	**295**	⇑Pg	**Pb**	**10 13 24.9**	**-1.7**
	3.5nm,0.9s						
BRVK				⇓Lg	Lg	10 14 11.5	
	9.7nm,0.6s						
OTUK	**Ortayu**	**3.99**	**212**	⇓Lg	Lg	10 14 30.3	
	9.4nm,0.9s						
ZALV	**Zalesovo Beam**	**6.10**	**64**	Pn	**Pn**	**10 13 56.5**	**+0.9**
	0.3nm,0.3s,baz=254,slow=14,SNR=4.3						
	0.9nm,0.4s						
I46RU	**ZALESOVO INFRA**	**6.10**	**64**	I	I	10 46 30.0	
	baz=248,slow=310,SNR=4.6						
MAKZ	**Makanchi**	**6.46**	**136**	⇑Lg	Lg	10 15 51.0	
	8.9nm,1.1s						
MK31	**Makanchi Array**	**6.61**	**135**	⇑Lg	Lg	10 15 51.6	
	10nm,0.9s						
MKAR	**Makanchi Array**	**6.61**	**135**	Pn	**Pn**	**10 14 03.3**	**+0.7**
	baz=321,slow=13,SNR=1.9						
MKAR				Sn	**Sn**	**10 15 17.8**	**-0.9**
	0.2nm,0.3s,baz=315,slow=24,SNR=3.3						
MKAR				Lg	Lg	10 15 51.4	
	0.3nm,0.3s,baz=320,slow=26,SNR=8.6						
	0.6nm,0.9s						

IDC 30 10:14:08.0±2.3, 8°.11S×129°.75E, h0km, mb3.3/1, mbtmp3.2/4, ML3.2/3, MS3.2/1, Error ellipse: s-maj=82.3km s-min=30.5km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.70**	**202**	Pn	Pn	10 16 42.1	-0.6
	0.2nm,0.3s,baz=15,slow=9.5,SNR=9.7						
FITZ				Sn	Sn	10 18 33.5	-10
	0.2nm,0.3s,baz=319,slow=14,SNR=1.7						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**12.58**	**160**	Pn	Pn	10 17 08.6	+0.2
	0.2nm,0.3s,baz=343,slow=13,SNR=15						
WRA				Sn	Sn	10 19 19.6	-10
	0.2nm,0.3s,baz=334,slow=23,SNR=3.2						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**15.97**	**166**	Pn	Pn	10 17 54.8	+0.5
	baz=347,slow=11,SNR=3.0						
ASAR				Sn	Sn	10 20 41.9	-10
	baz=327,slow=10,SNR=1.2						
	0.1nm,0.5s						
PMG	**Port Moresby**	**17.26**	**96**	LR	LR	10 25 59.1	
	comp=Z,73nm,18.6s,baz=164,slow=41						
MKAR	**Makanchi Array**	**69.01**	**327**	P	P	10 25 15.6	+0.1
	0.1nm,0.4s,baz=126,slow=7.3,SNR=1.2						
	0.1nm,0.4s						

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*TEH **30** 10:24:51.3, 34°.51N×45°.71E, h6km, ML2.6*
*ISN **30** 10:24:51.4±0.5, 34°.53N×45°.72E, h8km±999km, ML2.6*

ISC 30 10:24:51.8±1.2, 34°.49N±0°.06×45°.69E±0°.04, h8km±10km, n7, σ0s49/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.08**	**281**	Pg	**Pg**	**10 24 54.1**	**+0.1**
IDHR	**Dehrash**	**0.61**	**70**	Pg	**Pg**	**10 25 04.0**	**+0.3**
IGHG	**Ghaleghazi**	**0.74**	**102**	Pg	**Pb**	**10 25 06.7**	**-0.5**
IBDR	**Badra**	**1.39**	**172**	*e*Pg	**Pn**	**10 25 17.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**10 25 36.0**	**+0.1**
IKRK	**Kirkuk**	**1.43**	**310**	*e*Pn	**Pn**	**10 25 18.0**	**-0.1**
IKRK				*e*Sn	**Sn**	**10 25 37.0**	**-0.1**
BHD	**Baghdad**	**1.63**	**222**	*e*Pn	**Pn**	**10 25 21.5**	**+0.7**
BHD				*e*Sn	**Sb**	**10 25 43.0**	**+0.1**
SNQR	**Sonqor, Kerman**	**1.64**	**77**	Pg	**Pg**	**10 25 23.9**	**+0.6**

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*IDC **30** 10:29:10.7±1.3, 8°.66S×124°.29E, h0km, mb4.0/3, mbtmp4.0/6, ML4.1/3, MS3.6/1, Error ellipse: s-maj=44.0km s-min=17.4km az=87.0*
*DJA **30** 10:29:22.3±0.5, 9°S±4°×12°4E±°, h72km±10km, M4.0/9, mb4.3/3, MLv3.9/9*

ISC 30 10:29:20.2±0.8, 9°.30S±0°.06×123°.68E±0°.07, h75km, n27, σ2s38/28, mb4.0/3, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.73**	**128**	P	**Pn**	**10 29 38.9**	**+2.8**
SOEI	**Soe**	**0.73**	**128**	P	**Pn**	**10 29 39.5**	**+3.4**
BATI	**Baumata**	**0.90**	**181**	Pg	**Pn**	**10 29 41.5**	**+3.6**
	392nm,0.3s,baz=278,slow=1.4,SNR=230						
BATI				Lg	Lg	10 29 56.0	
	156nm,0.3s,baz=343,slow=21,SNR=92						
BATI				LR	LR	10 30 25.7	
	comp=Z,132nm,20.9s,baz=32,slow=45						
MMRI	**Maumere**	**1.57**	**295**	P	**Pn**	**10 29 47.7**	**+1.4**
MMRI	**Maumere**	**1.57**	**295**	P	**Pn**	**10 29 48.1**	**+1.8**
MMRI				S	**Sn**	**10 30 07.5**	**+1.4**
BASI	**Baing, Sumba**	**3.19**	**253**	P	**Pn**	**10 30 10.1**	**+2.0**
BBSI	**Bau Bau**	**3.94**	**344**	P	**Pn**	**10 30 20.0**	**+1.6**
BSSI	**Bau Bau, Buton**	**4.45**	**315**	P	**Pn**	**10 30 27.3**	**+1.9**
BKSI	**Bulukumba**	**5.30**	**318**	P	**Pn**	**10 30 38.2**	**+1.3**
	22nm,0.6s,0.1nm						
KDI	**Kendari**	**5.41**	**349**	P	**Pn**	**10 30 40.5**	**+2.0**
PLAI	**Plampang**	**5.85**	**274**	P	**Pn**	**10 30 45.9**	**+1.5**
DRS	**Darwin Rock St**	**7.74**	**114**	P	**Pn**	**10 31 12.1**	**+1.8**
MTN	**Manton Dam**	**8.12**	**116**	P	**Pn**	**10 31 16.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**8.95**	**168**	Pn	**Pn**	**10 31 26.4**	**-0.4**
	3.1nm,0.3s,baz=353,slow=8.4,SNR=71						
FITZ				Sn	**Sn**	**10 32 59.0**	**-7.0**
	7.4nm,0.3s,baz=307,slow=18,SNR=16						
	8.0nm,0.3s						
KDU	**Kakadu**	**9.27**	**112**	P	**Pn**	**10 31 31.2**	**+0.1**
WRA	**Warramunga Arr**	**14.77**	**137**	Pn	**Pn**	**10 32 42.1**	**-3.1**
	0.6nm,0.3s,baz=314,slow=12,SNR=36						
WRA				Sn	Sn	10 35 16.2	-12
	1.5nm,0.3s,baz=302,slow=24,SNR=15						
	0.6nm,0.3s						
WRKA	**Warakurna**	**16.26**	**165**	P	**Pn**	**10 33 05.2**	**+1.1**
ASAR	**Alice Springs**	**17.31**	**147**	P	**Pn**	**10 33 17.8**	**+0.6**
	0.6nm,0.3s,baz=319,slow=12,SNR=43						
ASAR				S	Sn	10 36 19.1	-10
	1.5nm,0.4s,baz=311,slow=21,SNR=12						
	2.7nm,0.7s						
AS01	**Alice Springs**	**17.34**	**147**	P	**Pn**	**10 33 18.7**	**+1.2**
	5.0nm,0.8s						
MEEK	**Meekatharra**	**17.90**	**195**	P	**P**	**10 33 24.1**	**+0.1**
QIS	**Mount Isa**	**19.01**	**128**	P	**Pn**	**10 33 38.5**	**+0.9**
OOD	**Oodnadatta**	**21.60**	**150**	P	**P**	**10 34 06.4**	**+2.3**
FORT	**Forrest**	**21.76**	**170**	P	**P**	**10 34 07.4**	**+1.7**
MKAR	**Makanchi Array**	**66.91**	**330**	P	**P**	**10 40 03.9**	**-0.8**
	1.3nm,0.5s,baz=134,slow=7.2,SNR=8.0						
	1.3nm,0.5s						
ZALV	**Zalesovo Beam**	**71.05**	**337**	P	**P**	**10 40 27.6**	**-2.4**
	0.9nm,0.5s,baz=141,slow=5.5,SNR=4.5						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**71.36**	**332**	P	**P**	**10 40 30.6**	**-1.5**
	0.4nm,0.4s,baz=136,slow=6.1,SNR=4.2						
	0.4nm,0.4s						
BRTR	**Keskin Array B**	**95.90**	**309**	LR	LR	11 32 25.1	
	comp=Z,23nm,18.3s,baz=310,slow=40						

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*IDC **30** 10:29:20.5±0.6, 20°.10S×173°.95W, h0km, mb4.4/17, mbtmp4.4/19, ML4.4/2, MS3.8/23, Error ellipse: s-maj=19.1km s-min=15.7km az=126.0*
*NEIC **30** 10:29:20.2±1.9, 20°.05S±0°.1×173°.6W±0°.1, h10km±1km, mb4.9/30, Error ellipse: s-maj=18.7km s-min=16.9km az=180.0*

ISC 30 10:29:24.8±0.5, 20°.09S±0°.10×173°.97W±0°.10, h31km, n90, σ1s41/73, mb4.7/35, MS3.8/21, 5C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.94**	**76**	Pn	Pn	10 30 13.8	-9.4
AFI	**Afiamalu**	**6.49**	**19**	Pn	Pn	10 30 52.4	-6.0
MSVF	**Nonsavu**	**7.91**	**286**	Pn	Pn	10 31 27.8	+10
MSVF	**Nonsavu**	**7.91**	**286**	Pn	Pn	10 31 26.8	+8.9
	0.9nm,0.3s,baz=118,slow=15,SNR=14						
MSVF				LR	LR	10 34 16.7	
	comp=Z,1μm,18.1s,baz=135,slow=37						
RAR	**Rarotonga**	**13.34**	**97**	Pn	Pn	10 32 18.7	-13
	4.0nm,0.3s,baz=253,slow=7.3,SNR=13						
RAR				LR	LR	10 38 13.3	
	comp=Z,398nm,18.2s,baz=270,slow=40						
DZM	**Mont D

STKA	Stephens Creek	41.38 244	P	P	10 37 07.6	-0.7
STKA	Stephens Creek	41.38 244	P	P	10 37 07.6	-0.7
	comp=Z,5.7nm,0.7s,baz=100,slow=11,SNR=10					
STKA			LR	LR	10 52 36.0	
	comp=Z,90nm,18.9s,baz=29,slow=34					
	comp=Z,5.7nm,0.7s					
BBOO	Buckleboo	46.12 243	P	P	10 37 46.7	+0.2
JAY	Jayapura	47.54 286	P	P	10 37 57.5	-0.4
	comp=Z,70nm,0.8s,baz=127,slow=5.2,SNR=19					
JAY			LR	LR	10 57 32.7	
	comp=Z,47nm,18.3s,baz=254,slow=36					
ASAR	Alice Springs	48.29 256	P	P	10 38 02.9	-0.7
	comp=Z,6.0nm,0.8s,baz=87,slow=8.8,SNR=11					
ASAR			PcP	PcP	10 39 31.4	+1.2
	comp=Z,2.8nm,0.7s,baz=111,slow=3.8,SNR=6.3					
ASAR			LR	LR	10 58 00.8	
	comp=Z,80nm,18.4s,baz=98,slow=36					
	comp=Z,6.0nm,0.8s					
WB0	Warramunga Arr	48.38 261	P	P	10 38 03.8	-0.5
WB0			IAmb	IAmb	10 38 07.8	
	comp=Z,5.3nm,0.8s					
WB2	Warramunga Arr	48.40 261	P	P	10 38 03.5	-0.8
WB2			IAmb	IAmb	10 38 07.8	
	comp=Z,5.7nm,0.8s					
WRAB	Tennant Creek	48.40 261	P	P	10 38 03.2	-1.2
WRA	Warramunga Arr	48.41 261	P	P	10 38 03.4	-1.0
WRA	Warramunga Arr	48.41 261	P	P	10 38 03.4	-1.0
	comp=Z,4.1nm,0.8s,baz=97,slow=6.6,SNR=7.1					
WRA			PcP	PcP	10 39 31.8	+1.1
	comp=Z,2.4nm,0.8s,baz=97,slow=3.4,SNR=5.3					
WRA			LR	LR	10 57 36.9	
	comp=Z,111nm,18.1s,baz=290,slow=35					
	comp=Z,4.1nm,0.8s					
FORT	Forrest	52.93 246	P	P	10 38 37.8	-0.6
FORT			IAmb	IAmb	10 38 40.2	
	comp=Z,25nm,0.8s					
MTN	Manton Dam	52.95 269	P	P	10 38 38.6	-0.2
MTN			IAmb	IAmb	10 38 39.4	
	comp=Z,7.6nm,0.8s					
KNRA	Kununurra	54.47 265	P	P	10 38 50.1	+0.2
KNRA			IAmb	IAmb	10 40 05.6	
	comp=Z,20nm,1.6s					
FITZ	Fitzroy Crossi	56.83 261	P	P	10 39 06.1	-0.7
FITZ	Fitzroy Crossi	56.83 261	LR	LR	11 03 25.4	
	comp=Z,105nm,18.3s,baz=108,slow=36					
SBA	Scott Base	58.56 185	P	P	10 39 17.2	-0.9
SBA			IAmb	IAmb	10 39 22.9	
	comp=Z,13nm,0.9s					
VNDA	Vanda	58.69 186	P	P	10 39 19.2	+0.2
VNDA	Vanda	58.69 186	P	P	10 39 20.7	+1.8
	comp=Z,4.1nm,0.9s,baz=29,slow=4.5,SNR=12					
	comp=Z,4.1nm,0.9s					
RPN	Rapa Nui	59.09 110	LR	LR	11 00 18.3	
	comp=Z,123nm,18.0s,baz=280,slow=32					
SOEI	Soe	60.28 270	P	P	10 39 31.0	-0.1
BATI	Baumata	60.71 269	LR	LR	11 06 05.8	
	comp=Z,52nm,18.2s,baz=159,slow=36					
TNTI	Ternate	61.04 283	P	P	10 39 36.5	+0.3
PSA00	Pilbara Seismi	61.44 256	P	P	10 39 38.9	+0.1
MBWA	Marble Bar	61.63 256	P	P	10 39 40.0	0.0
MORW	Morawa	63.48 247	P	P	10 39 52.0	-0.3
DAV	Davao City (W)	65.28 288	LR	LR	11 08 21.4	
	comp=Z,29nm,18.3s,baz=48,slow=36					
KAPI	Kappang	66.03 273	LR	LR	11 09 44.8	
	comp=Z,24nm,18.0s,baz=97,slow=37					
TOLI2	Tolitoli	67.24 280	P	P	10 40 16.7	-0.2
TOLI2			IAmb	IAmb	10 40 18.9	
	comp=Z,17nm,1.0s					
QSPA	South Pole Qui	69.98 180	P	P	10 40 34.0	+0.8
QSPA			IAmb	IAmb	10 40 37.0	
	comp=Z,7.6nm,0.9s					
QSPA	South Pole Qui	69.98 180	P	P	10 40 34.4	+1.2
	comp=Z,6.4nm,0.9s,baz=47,slow=2.7,SNR=13					
	comp=Z,6.4nm,0.9s					
MJAR	Matsushiro Arr	72.19 321	P	P	10 40 48.7	+1.8
	comp=Z,6.0nm,0.9s,baz=155,slow=5.7,SNR=11					
	comp=Z,6.0nm,0.9s					
MAJO	Matsushiro	72.19 321	P	P	10 40 45.3	-1.5
MAJO			IAmb	IAmb	10 41 31.5	
	comp=Z,41nm,1.6s					
MJB9	Matsu-Tunnel	72.20 321	P	P	10 40 45.2	-1.7
MJB9			IAmb	IAmb	10 40 57.8	
	comp=Z,19nm,1.4s					
JOW	Kunigami	72.86 308	LR	LR	11 10 43.4	
	comp=Z,47nm,18.5s,baz=104,slow=34					
LPIG	La Paz	75.97 58	LR	LR	11 07 57.9	
	comp=Z,68nm,20.0s,baz=201,slow=30					
PETK	Petropavlovsk-	76.92 343	P	P	10 41 14.2	+0.3
	comp=Z,4.4nm,0.9s,baz=97,slow=3.5,SNR=1.6					
	comp=Z,4.4nm,0.9s					
NVAR	Mina Array Bea	78.17 41	P	P	10 41 19.5	-2.0
NVAR	Mina Array Bea	78.17 41	P	P	10 41 22.4	+0.8
	comp=Z,2.8nm,0.8s,baz=222,slow=7.7,SNR=10					
	comp=Z,2.8nm,0.8s					
NV11	Mina Array Sit	78.26 42	P	P	10 41 20.1	-1.9
NV11			IAmb	IAmb	10 43 22.2	
	comp=Z,24nm,1.9s					
KSRS	Korea Array	79.14 317	P	P	10 41 29.0	+2.4
	comp=Z,3.2nm,0.9s,baz=134,slow=6.7,SNR=9.9					
	comp=Z,3.2nm,0.9s					
BELA	Belgrano 2	79.46 172	P	P	10 41 28.0	+0.2
MAW	Mawson	83.20 199	P	P	10 41 47.3	-0.5
	comp=Z,2.1nm,0.8s,baz=168,slow=6.7,SNR=5.3					
	comp=Z,2.1nm,0.8s					
TXAR	Lajitas Array	83.67 56	P	P	10 41 50.8	-0.2
	comp=Z,0.6nm,0.7s,baz=213,slow=7.9,SNR=7.6					
	comp=Z,0.6nm,0.7s					
BNX	BinXian	84.32 323	⇓P	P	10 41 56.3	+2.6
BNX			pmax	pmax		
	comp=Z,12nm,1.2s					
CN2	Changchun	84.33 321	*e*P	P	10 41 50.3	-3.5
CN2			*es*P	PcP	10 41 59.3	+1.8
CMIG	Matias Romero	85.95 70	LR	LR	11 14 22.3	
	comp=Z,79nm,18.1s,baz=251,slow=31					
PDAR	Pinedale Array	86.10 42	P	P	10 42 03.2	+0.2
	comp=Z,0.6nm,0.9s,baz=186,slow=1.5,SNR=4.7					
	comp=Z,0.6nm,0.9s					
PLCA	Paso Flores	86.78 132	LR	LR	11 14 47.0	
	comp=Z,52nm,18.2s,baz=200,slow=31					
ILAR	Eielson Array	87.12 11	P	P	10 42 07.1	-0.1
	comp=Z,0.5nm,0.7s,baz=242,slow=5.7,SNR=8.1					
	comp=Z,0.5nm,0.7s					
TROLL	Troll, Antarti	88.11 179	⇑P	P	10 42 14.7	+2.5
	comp=Z,86nm,1.1s					
PSI	Prapat	88.24 274	LR	LR	11 22 22.1	
	comp=Z,48nm,18.6s,baz=184,slow=36					
VNA3	Neumayer Olymp	88.26 175	⇑P	P	10 42 13.2	+0.4
	comp=Z,2.1nm,0.8s					
SNAA	Sanae	88.28 177	⇑P	P	10 42 14.4	+1.4
	comp=Z,35nm,1.0s					
SNAA	Sanae	88.28 177	P	P	10 42 13.3	+0.3
	comp=Z,1.5nm,0.9s,baz=203,slow=4.2,SNR=4.0					
	comp=Z,1.5nm,0.9s					
VNA2	Neumayer--Watz	88.75 176	⇑P	P	10 42 16.0	+0.9
	comp=Z,1.5nm,0.7s,baz=174,slow=3.7					
VNA1	Neumayer--Stat	88.95 175	⇑P	P	10 42 17.8	+1.8
	comp=Z,5.7nm,1.0s					
XAN	Xi'an	90.92 306	P	P	10 42 29.3	+3.4
XAN			pP	sP	10 42 39.0	+0.4
XAN			pmax	pmax		
	comp=Z,11nm,1.0s					
NNA	Nana	92.50 104	LR	LR	11 16 56.5	
	comp=Z,50nm,18.1s,baz=311,slow=31					
JTS	Las Juntas de	92.56 80	LR	LR	11 16 42.8	
	comp=Z,34nm,18.5s,baz=306,slow=31					
ATAH	Atahualpa	92.78 99	LR	LR	11 14 16.9	
	comp=Z,49nm,20.1s,baz=273,slow=29					
CMAR	Chiang Mai Arr	93.56 288	P	P	10 42 40.6	+2.1
	comp=Z,2.8nm,0.9s,baz=123,slow=2.9,SNR=14					
	comp=Z,2.8nm,0.9s					
YKA	Yellowknife Ar	94.59 24	P	P	10 42 42.0	0.0
	comp=Z,0.3nm,0.8s,baz=237,slow=4.9,SNR=3.5					
	comp=Z,0.3nm,0.8s					
BVAR	Borovoye Array	121.19 320	PKP	PKiKP	10 48 15.0	+0.4
	comp=Z,1.1nm,0.6s,baz=45,slow=2.3,SNR=5.0					
AKASG	Malin Array Be	144.38 335	PKPdf	PKPab	10 48 55.5	-0.4
AKASG	Malin Array Be	144.38 335	PKP	PKPdf	10 48 56.9	-0.9
	comp=Z,7.2nm,0.8s,baz=42,slow=4.3,SNR=34					
AKBB	Malin Array Si	144.38 335		PKPab	10 48 54.9	-1.0
KIEV	Kiev	144.39 335		PKPab	10 48 54.8	-1.2
AK05	Malin Array Si	144.45 334	PKPdf	PKPab	10 48 56.0	-0.2
STHS	Stebnicka Huta	148.31 341	*e*PKP	PKPab	10 49 15.2	+4.2
CLL	Collm	148.36 352	*e*PKPdf	PKPdf	10 49 02.0	-2.5
CLL			*e*PKPbc	PKPbc	10 49 05.0	-3.0
CLL			*e*(PKPab)	PKPab	10 49 11.0	-0.1
BRTR	Keskin Array B	149.28 316	PKPbc	PKPbc	10 49 09.8	-1.1
	comp=Z,1.1nm,0.8s,baz=127,slow=3.3,SNR=4.1					
MODS	Modra-Piesok	150.35 345	*e*PKP	PKPab	10 49 17.0	-2.4

*IDC **30** 10:31:46.2±0.9, 6°.93S×154°.34E, h0km, mb4.2/12, mbtmp4.2/14, ML2.8/2, MS3.1/4, Error ellipse: s-maj=27.5km s-min=18.8km az=125.0*

ISC 30 10:31:51.9±0.8, 7°.0S±0°.1×154°.3E±0°.1, h39km, n17, σ0.90/17, mb4.2/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.07	114	LR	LR	10 35 55.1	
	comp=Z,79nm,19.3s,baz=258,slow=41						
PMG	Port Moresby	7.51	251	Pn	Pn	10 33 39.2	+0.3
	4.3nm,0.3s,baz=62,slow=8.0,SNR=20						
PMG				Sn	Sn	10 35 03.0	+0.1
	0.2nm,0.3s,baz=57,slow=19,SNR=3.3						
PMG				LR	LR	10 36 33.3	
	comp=Z,143nm,20.4s,baz=77,slow=38						
	39nm,0.7s						
CTA	Charters Tower	15.22	210	LR	LR	10 40 53.2	
	comp=Z,90nm,18.0s,baz=82,slow=36						
DZM	Mont Dzumac	19.03	143	P	P	10 36 10.7	-0.1
	0.1nm,0.3s,baz=243,slow=22,SNR=1.2						
	2.7nm,0.8s						
WRA	Warramunga Arr	23.30	234	P	P	10 36 54.9	-1.7
	4.6nm,0.7s,baz=56,slow=9.5,SNR=6.5						
WRA				PcP	PcP	10 40 45.0	+1.8
	0.4nm,0.8s,baz=64,slow=2.9,SNR=1.4						
	4.6nm,0.7s						
ASAR	Alice Springs	25.71	228	P	P	10 37 18.7	-0.1
	3.8nm,0.8s,baz=62,slow=9.2,SNR=17						
	3.8nm,0.8s						
FITZ	Fitzroy Crossi	30.07	246	P	P	10 37 56.9	-0.9
	8.4nm,1.0s,baz=109,slow=6.2,SNR=6.4						
FITZ				LR	LR	10 50 39.0	
	comp=Z,58nm,19.1s,baz=104,slow=38						
	8.4nm,1.0s						
KSRS	Korea Array	50.61	333	P	P	10 40 46.0	-1.0
	1.8nm,0.9s,baz=157,slow=9.8,SNR=6.6						
	1.8nm,0.9s						
CMAR	Chiang Mai Arr	60.19	296	P	P	10 41 57.0	+0.6
	0.6nm,0.4s,baz=110,slow=5.0,SNR=4.1						
	0.6nm,0.4s						
SONM	Songino Array	68.96	328	P	P	10 42 54.2	+0.9
	3.5nm,0.9s,baz=131,slow=5.5,SNR=13						
	3.5nm,0.9s						
MKAR	Makanchi Array	82.95	319	P	P	10 44 13.8	+0.9
	1.5nm,0.6s,baz=102,slow=5.5,SNR=10						
	1.5nm,0.6s						
ILAR	Eielson Array	83.58	22	P	P	10 44 14.8	-0.9
	0.5nm,0.6s,baz=248,slow=5.8,SNR=4.5						
	0.5nm,0.6s						
ZALV	Zalesovo Beam	83.79	326	P	P	10 44 16.9	-0.2
	1.8nm,0.6s,baz=113,slow=3.9,SNR=8.8						
	1.8nm,0.6s						
KURBB	Kurchatov Arra	86.44	322	P	P	10 44 30.3	-0.1
	0.5nm,0.6s,baz=100,slow=3.8,SNR=5.1						
	0.5nm,0.6s						
BVAR	Borovoye Array	91.88	323	P	P	10 44 55.3	-0.7
	1.3nm,0.7s,baz=96,slow=7.9,SNR=6.1						
	1.3nm,0.7s						
NVAR	Mina Array Bea	92.21	52	P	P	10 44 58.7	+0.5
	1.4nm,0.9s,baz=270,slow=7.2,SNR=3.8						
	1.4nm,0.9s						
TORD	Torodi Ar. Bea	152.39	285	PKPbc	PKiKP	10 51 45.1	-0.1
	1.2nm,0.7s,baz=70,slow=2.1,SNR=6.6						

*IDC **30** 10:35:02.2±0.9, 9°.05S×108°.32W, h0km, mb3.9/12, mbtmp3.9/12, MS3.8/29, Error ellipse: s-maj=39.7km s-min=18.0km az=64.0*

ISC 30 10:35:04.3±0.8, 9°.1S±0°.1×108°.3W±0°.2, h15km, n51, σ1.79/18, mb4.2/15, MS3.9/28, 5C, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	17.98	183	LR	LR	10 43 58.2	
	comp=Z,162nm,19.1s,baz=10.0,slow=30						
CMIG	Matias Romero	29.20	27	LR	LR	10 50 11.4	
	comp=Z,235nm,20.8s,baz=204,slow=31						
ATAH	Atahualpa	29.70	89	LR	LR	10 50 05.1	
	comp=Z,134nm,19.6s,baz=278,slow=30						
JTS	Las Juntas de	30.19	51	LR	LR	10 50 16.3	
	comp=Z,338nm,20.3s,baz=238,slow=30						
LPIG	La Paz	33.03	357	LR	LR	10 52 33.4	
	comp=Z,125nm,18.1s,baz=198,slow=32						
H03N2	Juan Fernandez	36.35	136	T	T	11 20 53.8	
	baz=308,slow=77,SNR=27						
H03N1	Juan Fernandez	36.36	136	T	T	11 20 55.3	
	baz=308,slow=77,SNR=42						
H03N3	Juan Fernandez	36.36	136	T	T	11 20 57.5	
	baz=308,slow=77,SNR=31						
ROSC	El Rosal	36.61	69	LR	LR	10 53 35.0	
	comp=Z,113nm,21.0s,baz=328,slow=30						
LPAZ	La Paz	39.81	104	P	P	10 42 37.7	-0.4
	2.2nm,0.8s,baz=274,slow=6.7,SNR=6.3						
LPAZ				LR	LR	10 55 31.2	
	comp=Z,152nm,19.6s,baz=266,slow=31						
	2.2nm,0.8s						
PPT	Papeete	40.94	254	LR	LR	10 54 48.3	
	comp=Z,181nm,21.4s,baz=64,slow=29						
SDV	Santo Domingo	41.57	66	LR	LR	10 56 58.3	
	comp=Z,73nm,19.1s,baz=258,slow=32						
PFO	Pinyon Flats O	43.15	350	LR	LR	10 56 33.1	
	comp=Z,149nm,19.7s,baz=179,slow=30						
PLCA	Paso Flores	45.97	140	P	P	10 43 27.6	+0.5
	3.3nm,1.0s,baz=306,slow=11,SNR=3.4						
PLCA				LR	LR	10 57 44.8	
	comp=Z,255nm,20.2s,baz=307,slow=30						
	3.3nm,1.0s						
SIV	San Ignacio	46.56	103	LR	LR	11 00 13.1	
	comp=Z,82nm,19.3s,baz=276,slow=32						
PCRV	Puerto La Cruz	47.51	67	LR	LR	11 01 58.9	
	comp=Z,65nm,18.2s,slow=34						
NVAR	Mina Array Bea	48.17	349	P	P	10 43 44.2	-0.1
	0.2nm,0.5s,baz=174,slow=9.5,SNR=3.6						
NVAR				LR	LR	11 00 06.7	
	comp=Z,145nm,18.1s,baz=178,slow=31						
	0.2nm,0.5s						
SJG	San Juan	49.64	57	LR	LR	11 00 54.3	
	comp=Z,33nm,21.0s,baz=224,slow=31						
TKL	Tuckaleechee C	50.16	26	P	P	10 43 59.1	-0.3
	1.3nm,0.7s,baz=224,slow=6.8,SNR=2.2						
	1.3nm,0.7s						
CPUP	Villa Florida	51.18	116	P	P	10 44 08.6	+1.3
	2.6nm,0.9s,baz=274,slow=8.3,SNR=6.1						
CPUP				LR	LR	11 01 53.7	
	comp=Z,151nm,21.3s,baz=276,slow=32						
	2.6nm,0.9s						
PDAR	Pinedale Array	51.60	359	P	P	10 44 10.0	-0.4
	0.4nm,0.7s,baz=182,slow=6.1,SNR=2.0						
	0.4nm,0.7s						
YBH	Yreka Blue Hor	52.26	346	LR	LR	11 01 22.0	
	comp=Z,142nm,19.2s,baz=175,slow=30						
MDP	Montagnes des	57.27	78	LR	LR	11 06 03.0	
	comp=Z,62nm,19.7s,baz=295,slow=32						
BDFB	Brasilia	59.12	103	LR	LR	11 08 35.9	
	comp=Z,66nm,19.6s,baz=50,slow=34						
PMSA	Palmer Station	63.60	160	LR	LR	11 06 14.8	
	comp=Z,70nm,21.5s,baz=122,slow=29						
DLBC	Dease Lake	69.55	348	P	P	10 46 14.2	+1.8
	1.4nm,0.9s,baz=172,slow=5.5,SNR=3.8						
	1.4nm,0.9s						
YKA	Yellowknife Ar	71.52	357	P	P	10 46 22.5	-1.7
	0.3nm,0.8s,baz=174,slow=5.8,SNR=4.7						
YKA				LR	LR	11 14 48.2	
	comp=Z,63nm,18.0s,baz=5.5,slow=33						
	0.3nm,0.8s						
MSVF	Nonsavu	71.77	254	LR	LR	11 09 31.5	
	comp=Z,105nm,18.8s,baz=40,slow=29						
RCBR	Riachuelo	71.79	93	LR	LR	11 15 39.9	
	comp=Z,19nm,20.7s,baz=166,slow=34						
URZ	Urewera	72.32	233	LR	LR	11 12 48.0	
	comp=Z,97nm,18.7s,baz=162,slow=31						
SCHQ	Schefferville	72.53	24	LR	LR	11 17 25.6	
	comp=Z,88nm,18.2s,baz=282,slow=35						
FRB	Frobisher Bay	78.63	17	LR	LR	11 19 02.8	
	comp=Z,78nm,19.0s,baz=128,slow=34						
ILAR	Eielson Array	79.08	344	P	P	10 47 07.7	-0.1
	0.9nm,0.9s,baz=162,slow=4.6,SNR=5.0						
	0.9nm,0.9s						
INK	Inuvik	79.24	351	P	P	10 47 09.8	+1.4
	1.9nm,0.7s,baz=141,slow=5.5,SNR=6.2						
	1.9nm,0.7s						
QSPA	South Pole Qui	81.00	180	P	P	10 47 19.6	+1.2
	2.8nm,1.0s,baz=107,slow=3.5,SNR=4.9						
	2.8nm,1.0s						
VNA3	Neumayer Olymp	84.25	161	⇑P	P	10 47 35.5	+0.4
	comp=Z,4.8nm,0.8s						
VNA1	Neumayer--Stat	84.82	161	⇑P	P	10 47 33.6	-4.3
	comp=Z,4.5nm,0.8s						
VNA2	Neumayer--Watz	85.04	161	⇑P	P	10 47 39.7	+0.6
	comp=Z,1.2nm,0.8s,baz=296,slow=2.3						
SNAA	Sanae	86.26	162	⇑P	P	10 47 43.9	-1.3
	comp=Z,31nm,1.0s						
SNAA	Sanae	86.26	162	P	P	10 47 43.9	-1.3
	comp=Z,1.9nm,1.1s,baz=245,slow=4.7,SNR=3.0						
	comp=Z,1.9nm,1.1s						
SFJD	Kangerlussuaq	86.38	19	LR	LR	11 24 42.9	
	comp=Z,75nm,19.4s,baz=119,slow=34						
TROLL	Troll, Antarti	87.72	163	⇑P	P	10 47 48.7	-3.7
	comp=Z,53nm,1.1s						
H11S2	WAKE ISLAND Hy	88.12	289	T	T	12 25 00.3	
	baz=100,slow=74,SNR=51						
H11S1	WAKE ISLAND Hy	88.12	289	T	T	12 25 00.8	
	baz=100,slow=74,SNR=15						
H11S3	WAKE ISLAND Hy	88.13	289	T	T	12 25 01.4	
	baz=100,slow=74,SNR=19						
H11N3	WAKE ISLAND Hy	88.14	290	T	T	12 25 02.1	
	baz=101,slow=74,SNR=15						
H11N2	WAKE ISLAND Hy	88.16	290	T	T	12 25 01.4	
	baz=101,slow=74,SNR=18						
H11N1	WAKE ISLAND Hy	88.16	290	T	T	12 25 01.4	
	baz=101,slow=74,SNR=7.5						
SHEM	Shemya Is, Ala	89.72	324	LR	LR	11 19 28.1	
	comp=Z,87nm,20.3s,baz=214,slow=30						
PETK	Petropavlovsk-	99.57	322	LR	LR	11 24 09.1	
	comp=Z,80nm,21.1s,baz=83,slow=30						
CMAR	Chiang Mai Arr	151.95	292	PKPbc	PKPbc	10 54 59.8	-0.1
	comp=Z,0.7nm,0.3s,baz=54,slow=1.6,SNR=1.9						

JMA 30 10:38:27.1±0.2, 24°N±1°×123°.3E±0°.5, h25km±3km, MV1.3/9, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.45	326	*e*P	Pb	10 38 36.4	-0.2
HATJ	Hateruma jima	0.47	93	*e*P	Pb	10 38 36.7	-0.3
IRIF	Iriomote-Funau	0.48	58	*e*P	Pb	10 38 36.7	-0.2
IRIF				*e*S	Sb	10 38 43.7	0.0
JYNG	Yonagunijimaku	0.48	320	*e*P	Pb	10 38 36.9	-0.2
JYNG				*e*S	Sb	10 38 44.6	+0.9
JKRS	Kuro-shima	0.68	77	P	Pb	10 38 40.2	-0.1
JKRS				*e*S	Sb	10 38 49.7	+0.4
JIJ	Ishigaki jima	0.83	70	*e*P	Pb	10 38 42.4	-0.6
JISG	Ishigakijimahi	1.06	62	*e*P	Pn	10 38 46.3	-0.2
JISG				*e*S	Sb	10 39 00.3	0.0

TAP 30 10:38:32.1, 24°.12N×121°.38E, h66km, ML2.0, 2C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LXIB	Xiulin Townshi	0.10	162	*i*P	Pn	10 38 42.8	+0.7
LXIB				S	Sn	10 38 50.3	+1.1
WHF	Hehuan Shan	0.11	286	⇑*i*P	Pn	10 38 43.4	+1.0
WHF				*i*S	Sn	10 38 50.8	+0.9
ETLH	Xiulin Townshi	0.13	45	*i*P	Pn	10 38 42.9	+0.8
ETLH				*i*S	Sn	10 38 49.9	+0.5
ETM	Tongmen	0.18	145	*e*P	Pn	10 38 42.1	-0.1
ETM				S	Sn	10 38 49.4	0.0
FUSS	Fushou	0.18	317	*i*P	Pn	10 38 43.5	+1.0
FUSS				*i*S	Sn	10 38 51.3	+1.3
TWD	Chiawan	0.20	100	*e*P	Pn	10 38 41.9	-0.3
TWD				*e*S	Sn	10 38 49.3	-0.3
NACB	Ninganchiao	0.20	73	*i*P	Pn	10 38 42.2	-0.1
NACB				*i*S	Sn	10 38 49.3	-0.3
TWT	Tachien	0.23	306	*i*P	Pn	10 38 43.4	+0.7
TWT				*i*S	Sn	10 38 52.1	+1.9
TDCB	Techi	0.24	304	P	Pn	10 38 43.1	+0.4
TDCB				S	Sn	10 38 51.8	+1.4
OWD	Renai	0.25	229	*i*P	Pn	10 38 43.4	+0.8
OWD				*i*S	Sn	10 38 50.8	+0.5
WUSB	Renai	0.27	243	⇑*i*P	Pn	10 38 43.6	+0.8
WUSB				*i*S	Sn	10 38 51.5	+0.9
ESL	Shilin	0.30	171	*i*P	Pn	10 38 42.9	0.0
ESL				*i*S	Sn	10 38 51.4	+0.7
NNSB	Datong	0.31	0	*i*P	Pn	10 38 44.0	+0.9
NNSB				*i*S	Sn	10 38 52.6	+1.5
NNSH	Datong	0.31	0	*i*P	Pn	10 38 43.7	+0.6
NNSH				*i*S	Sn	10 38 52.3	+1.3
NNS	Nan Shan	0.32	359	*i*P	Pn	10 38 44.0	+0.8
NNS				*i*S	Sn	10 38 53.0	+1.7
SHUL	Shoufeng	0.37	153	P	Pn	10 38 44.2	+0.9
SHUL				S	Sn	10 38 52.0	+0.5
WARBT	Fenglin Townsh	0.40	179	*i*P	Pn	10 38 43.0	-0.6
WARBT				*e*S	Sn	10 38 52.1	+0.1
VWDT	VWDT	0.42	211	*i*P	Pn	10 38 45.1	+1.3
VWDT				*i*S	Sn	10 38 54.4	+2.1
WHP	Taichung City	0.43	292	*i*P	Pn	10 38 45.2	+1.2
WHP				*i*S	Sn	10 38 52.7	0.0
WCS	Beigang Elemen	0.43	262	P	Pn	10 38 43.8	-0.1
WCS				S	Sn	10 38 53.9	+1.4
EGFH	Guangfu	0.45	174	*e*P	Pn	10 38 45.6	+1.5
EGFH				S	Sn	10 38 54.5	+1.8
ENA	Nanau	0.45	47	*i*P	Pn	10 38 42.8	-1.3
ENA				*e*S	Sn	10 38 54.0	+1.1
EWUT	Wuta	0.49	48	*e*P	Pn	10 38 43.2	-1.3
EWUT				*e*S	Sn	10 38 55.0	+1.5
SMLT	Sun Moon Lake	0.50	242	*i*P	Pn	10

TPUB	**Ta-pu**	**1.06 220**	*i* P	Pn	10 38 51.9	+0.6
TPUB			S	Sn	10 39 08.7	+3.2
STYH	**Taoyuan**	**1.09 211**	*i* P	Pn	10 38 53.4	+1.8
STYH			*i* S	Sn	10 39 08.6	+2.5
WTP	**Ta-pu**	**1.11 219**	*e*P	Pn	10 38 53.7	+1.7
WTP			S	Sn	10 39 10.1	+3.4

*CATAC **30** 10:42:03.3±0.6, 12°.73N×88°.89W, h21km±5km, ML3.8*
*SNET **30** 10:42:05.0±1.4, 12°.82N×88°.91W, h23km, ML3.8*
*GCG **30** 10:42:19.5±0.3, 15°.81N×90°.80W, h108km, MD3.8*
ISC 30 10:42:01.7±1.4, 12°.65N±0°.06×88°.98W±0°.04, h22km±5km, n50, σ0°78/80, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.90**	**338**	*e*P	**Pn**	**10 42 19.5**	**+0.4**
LALI				*e*S	**Sb**	**10 42 30.7**	**+0.5**
LALI	**Alcalda de L**	**0.90**	**338**	*i* P	**Pn**	**10 42 19.6**	**+0.5**
LALI				*i* S	**Sn**	**10 42 31.3**	**-0.1**
LALI				IAML		10 42 34.5	
	comp=Z,590nm,1.0s						
TECO	**Alcaldia de Te**	**0.90**	**12**	*i* P	**Pn**	**10 42 19.3**	**+0.1**
TECO				*i* S	**Sb**	**10 42 30.5**	**+0.2**
TECO				IAML		10 42 32.4	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**0.97**	**6**	*e*P	**Pn**	**10 42 20.1**	**-0.1**
COEG	**Centro de Oper**	**0.97**	**6**	*i* P	**Pn**	**10 42 20.2**	**+0.1**
COEG				IAML		10 42 37.3	
	comp=Z,1μm,1.0s						
LFRS	**El Faro**	**0.97**	**355**	*e*P	**Pn**	**10 42 20.5**	**+0.3**
UESV	**Universidad de**	**1.00**	**11**	*i* P	**Pn**	**10 42 20.7**	**+0.2**
UESV				*i* S	**Sb**	**10 42 33.1**	**0.0**
UESV				IAML		10 42 36.4	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**1.00**	**349**	*e*P	**Pn**	**10 42 21.0**	**+0.3**
LOMA				*e*S	**Sn**	**10 42 34.3**	**0.0**
LOMA	**Loma Larga**	**1.00**	**349**	*i* P	**Pn**	**10 42 21.1**	**+0.3**
LOMA				*i* S	**Sn**	**10 42 34.5**	**+0.2**
LOMA				IAML		10 42 35.5	
	comp=Z,3μm,1.0s						
RANC	**El Ranchito**	**1.03**	**41**	*i* P	**Pn**	**10 42 21.4**	**+0.4**
RANC				IAML		10 42 42.9	
	comp=Z,1μm,1.0s						
PACA	**Pacayal**	**1.03**	**38**	*e*P	**Pn**	**10 42 21.3**	**+0.2**
PACA	**Pacayal**	**1.03**	**38**	*i* P	**Pn**	**10 42 21.6**	**+0.5**
PACA				IAML		10 42 40.5	
	comp=Z,11μm,1.0s						
PQSS	**Presa 15 de Se**	**1.05**	**23**	*i* P	**Pn**	**10 42 21.3**	**+0.1**
PQSS				*i* S	**Sn**	**10 42 35.5**	**+0.3**
PQSS				IAML		10 42 37.1	
	comp=Z,3μm,1.0s						
PAVA	**Las Pavas**	**1.06**	**2**	*e*P	**Pn**	**10 42 21.6**	**+0.2**
PAVA				*e*S	**Sn**	**10 42 35.4**	**-0.1**
PAVA	**Las Pavas**	**1.06**	**2**	*i* P	**Pn**	**10 42 21.6**	**+0.2**
PAVA				*i* S	**Sb**	**10 42 31.2**	**-3.7**
PAVA				IAML		10 42 36.9	
	comp=Z,5μm,1.0s						
SNET	**Serv Nac Est T**	**1.06**	**346**	*i* P	**Pn**	**10 42 21.8**	**+0.4**
SNET				*i* S	**Sn**	**10 42 35.7**	**+0.1**
SNET				IAML		10 42 39.3	
	comp=Z,5μm,1.0s						
BLLM	**Bellamira**	**1.07**	**42**	*e*P	**Pn**	**10 42 21.6**	**+0.2**
UTEC	**Universidad Te**	**1.07**	**348**	*i* P	**Pn**	**10 42 22.3**	**+0.8**
UTEC				*i* S	**Sn**	**10 42 35.8**	**+0.1**
UTEC				IAML		10 42 44.0	
	comp=Z,2μm,1.0s						
SCLA	**Alcaldia de Sa**	**1.07**	**13**	*i* P	**Pb**	**10 42 22.1**	**+0.5**
SCLA				*i* S	**Sn**	**10 42 35.8**	**0.0**
SCLA				IAML		10 42 38.0	
	comp=Z,1μm,1.0s						
UDBS	**Universidad Do**	**1.07**	**351**	*i* P	**Pb**	**10 42 21.7**	**0.0**
UDBS				*i* S	**Sn**	**10 42 35.7**	**-0.1**
UDBS				IAML		10 42 40.1	
	comp=Z,3μm,1.0s						
IGN	**Direccin Gen**	**1.07**	**350**	*i* P	**Pb**	**10 42 21.9**	**+0.2**
IGN				*i* S	**Sn**	**10 42 35.9**	**0.0**
IGN				IAML		10 42 36.6	
	comp=Z,8μm,1.0s						
UEES	**Universidad Ev**	**1.09**	**346**	*i* P	**Pb**	**10 42 22.5**	**+0.5**
UEES				IAML		10 42 42.2	
	comp=Z,2μm,1.0s						
JAYA	**Jayaque - finc**	**1.10**	**335**	*e*P	**Pb**	**10 42 22.5**	**+0.3**
JAYA				*e*S	**Sn**	**10 42 36.5**	**-0.1**
JAYA	**Jayaque - finc**	**1.10**	**335**	*i* P	**Pb**	**10 42 22.7**	**+0.5**
JAYA				*i* S	**Sn**	**10 42 37.0**	**+0.4**
JAYA				IAML		10 42 37.7	
	comp=Z,14μm,1.0s						
PMON	**Piamonte**	**1.10**	**343**	*i* P	**Pb**	**10 42 23.0**	**+0.8**
PMON				*i* S	**Sb**	**10 42 36.5**	**+0.2**
PMON				IAML		10 42 39.8	
	comp=Z,5μm,1.0s						
BOQS	**Boqueron**	**1.12**	**345**	*e*P	**Pb**	**10 42 23.1**	**+0.5**
BOQS				*e*S	**Sn**	**10 42 37.4**	**+0.3**
LCND	**La Caada**	**1.24**	**58**	*e*P	**Pn**	**10 42 24.0**	**+0.1**
LCND				*e*S	**Sb**	**10 42 40.5**	**+0.3**
LCND	**La Caada**	**1.24**	**58**	*i* P	**Pn**	**10 42 23.9**	**0.0**
LCND				*i* S	**Sn**	**10 42 39.7**	**-0.3**
LCND				IAML		10 42 41.8	
	comp=Z,1μm,1.0s						
CNCH	**Conchagua**	**1.27**	**61**	*e*P	**Pn**	**10 42 24.4**	**0.0**
CNCH				*e*S	**Sb**	**10 42 42.5**	**+1.4**
CNCH	**Conchagua**	**1.27**	**61**	*i* P	**Pn**	**10 42 24.4**	**0.0**
CNCH				IAML		10 42 45.1	
	comp=Z,3μm,1.0s						
CEVE	**Cerro Verde**	**1.33**	**332**	*e*P	**Pb**	**10 42 26.9**	**+0.7**
CEVE				*e*S	**Sb**	**10 42 43.5**	**+0.6**
CEVE	**Cerro Verde**	**1.33**	**332**	*i* P	**Pb**	**10 42 26.0**	**-0.1**
CEVE				IAML		10 42 53.3	
	comp=Z,4μm,1.0s						
CSGN	**Cosiguina Volc**	**1.42**	**77**	*i* P	**Pn**	**10 42 25.3**	**-1.1**
CSGN				IAML		10 42 53.7	
	comp=Z,230nm,1.0s						
UNIC	**Universidad Ca**	**1.44**	**337**	*i* P	**Pb**	**10 42 28.2**	**+0.3**
UNIC				*i* S	**Sb**	**10 42 45.9**	**+0.2**
UNIC				IAML		10 42 47.1	
	comp=Z,990nm,1.0s						
NUBE	**Las Nubes**	**1.47**	**328**	*e*P	**Pb**	**10 42 27.9**	**-0.5**
NUBE				*e*S	**Sn**	**10 42 46.0**	**+0.3**
NUBE	**Las Nubes**	**1.47**	**328**	*i* P	**Pb**	**10 42 28.0**	**-0.5**
NUBE				*i* S	**Sn**	**10 42 46.3**	**+0.5**
NUBE				IAML		10 42 48.9	
	comp=Z,3μm,1.0s						
LLGN	**La Laguna**	**1.50**	**1**	*e*P	**Pb**	**10 42 28.9**	**-0.2**
LLGN	**La Laguna**	**1.50**	**1**	*i* P	**Pb**	**10 42 28.5**	**-0.5**
LLGN				*i* S	**Sb**	**10 42 48.6**	**+0.9**
LLGN				IAML		10 42 53.4	
	comp=Z,820nm,1.0s						
MTO3	**Montecristo**	**1.78**	**348**	*i* P	**Pb**	**10 42 32.6**	**-1.2**
MTO3				*i* S	**Sn**	**10 42 54.0**	**+0.5**
MTO3				IAML		10 42 57.8	
	comp=Z,380nm,1.0s						
CRIN	**San Cristobal**	**1.88**	**88**	*i* P	**Pn**	**10 42 33.2**	**+0.5**
CRIN				IAML		10 43 07.9	
	comp=Z,2μm,1.0s						
ESQI	**Esquipulas**	**1.93**	**349**	*i* P	**Pb**	**10 42 35.9**	**-0.4**
ESQI				IAML		10 43 09.6	
	comp=Z,670nm,1.0s						
PKGN	**Cerro Pekin**	**1.95**	**89**	*i* P	**Pn**	**10 42 34.3**	**+0.7**
PKGN				*i* S	**Sn**	**10 42 57.0**	**-0.5**
PKGN				IAML		10 43 03.3	
	comp=Z,1μm,1.0s						
PACN	**Al O del Volca**	**2.14**	**94**	*i* P	**Pn**	**10 42 36.0**	**-0.2**
PACN				*i* S	**Sn**	**10 43 02.1**	**0.0**
PACN				IAML		10 43 11.2	
	comp=Z,380nm,1.0s						
MACN	**El Madrono**	**2.25**	**94**	*i* P	**Pn**	**10 42 38.5**	**+0.7**
MACN				IAML		10 43 12.2	
	comp=Z,170nm,1.0s						
NBG	**Las Nubes**	**2.34**	**325**	*i* P	**Pb**	**10 42 44.9**	**+1.5**
MOMN	**Momotombo**	**2.39**	**96**	*i* P	**Pn**	**10 42 40.4**	**+0.7**
MOMN				IAML		10 43 14.7	
	comp=Z,11nm,1.0s						
MRL	**Marmol**	**2.51**	**344**	*i* P	**Pb**	**10 42 44.8**	**-1.5**
FUG	**Fuego 3**	**2.55**	**315**	*i* P	**Pb**	**10 42 45.3**	**-1.6**
FUG				*i* S	**Sn**	**10 43 09.3**	**-3.1**
LIMN	**Finca el Limon**	**2.58**	**81**	*i* P	**Pn**	**10 42 41.8**	**-0.5**
LIMN				IAML		10 43 20.7	
	comp=Z,190nm,1.0s						
STG3	**Santiaguito 3,**	**3.25**	**309**	*i* P	**Sn**	**10 43 30.9**	**+1.2**

*NEIC **30** 10:46:39.7±1.1, 61°.003N±0°.010×151°.11W±0°.02,*
h3km±11km, Error ellipse: s-maj=1.9km s-min=0.5km
az=221.0
*AEIC **30** 10:46:39.5±1.1, 61°.01N±0°.01×151°.12W±0°.03, h4km,*
ML3.1, ML3.2/180(NEIC), Error ellipse: s-maj=2.0km
s-min=1.8km az=197.0
*IDC **30** 10:46:42.9±1.2, 60°.81N×150°.59W, h0km, mb3.3/1,*
mbtmp3.2/4, ML3.1/3, Error ellipse: s-maj=43.6km
s-min=10.0km az=110.0
ISC 30 10:46:40.4±1.0, 61°.01N±0°.02×151°.11W±0°.02, h10km±8km, n240, σ0°92/259, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPN	**Captain Cook N**	**0.25**	**185**		**Pg**	**10 46 47.8**	**+2.4**
SUA	**Susitna One**	**0.48**	**21**		**Pg**	**10 46 49.4**	**-0.5**
SUA				Sg	**Sg**	**10 46 55.2**	**-1.0**
SUA	**Susitna One**	**0.48**	**21**	P	**Pg**	**10 46 49.3**	**-0.5**
	baz=202						
SPCG	**Spurr Capps Gl**	**0.52**	**303**		**Pg**	**10 46 50.2**	**-0.4**
SPCG					**Sg**	**10 46 57.9**	**+0.4**
N20K	**Mount Spurr**	**0.57**	**290**	P	**Pg**	**10 46 50.6**	**-0.8**
	baz=109						
N20K				S	**Sg**	**10 46 58.5**	**-0.4**
	baz=109						
SPCR	**Spurr Chakacha**	**0.57**	**290**		**Pg**	**10 46 50.6**	**-0.8**
SPCR					**Sg**	**10 46 58.5**	**-0.4**
SPCR	**Spurr Chakacha**	**0.57**	**290**		**Pg**	**10 46 50.6**	**-0.8**
SPCR					**Sg**	**10 46 58.7**	**-0.1**
SPCR	**Spurr Chakacha**	**0.57**	**290**	P	**Pg**	**10 46 50.6**	**-0.8**
	baz=109						
SPCR				S	**Sg**	**10 46 58.7**	**-0.1**
	baz=109						
STLK	**Strandline Lak**	**0.60**	**324**		**Pg**	**10 46 51.3**	**-0.8**
STLK					**Sg**	**10 46 59.5**	**-0.4**
SLKM	**Skilak Lake**	**0.67**	**139**		**Pg**	**10 46 52.6**	**-0.6**
SLKM					**Sg**	**10 47 02.0**	**0.0**
RC01	**Rabbit Creek A**	**0.67**	**83**	Pg	**Pg**	**10 46 52.5**	**-0.8**
RC01				Sg	**Sg**	**10 47 01.9**	**-0.2**
RC01				IAML		10 47 02.5	
	comp=N,2μm,0.4s						
RC01				IAML		10 47 06.4	
	comp=E,935nm,0.6s						
RC01	**Rabbit Creek A**	**0.67**	**83**	P	**Pg**	**10 46 52.6**	**-0.8**
	baz=264						
RC01				S	**Sg**	**10 47 01.9**	**-0.2**
	baz=264						
RDT	**Redoubt**	**0.78**	**236**		**Pg**	**10 46 54.2**	**-1.1**
RDT					**Sb**	**10 47 05.5**	**-1.1**
O22K	**Cooper Landing**	**0.86**	**128**		**Pg**	**10 46 56.2**	**-0.7**
O22K				Sg	**Sg**	**10 47 07.8**	**-0.4**
O22K	**Cooper Landing**	**0.86**	**128**	P	**Pg**	**10 46 56.2**	**-0.7**
	baz=308						
O22K				S	**Sg**	**10 47 08.0**	**-0.2**
	baz=308						
M22K	**Willow**	**0.88**	**32**		**Pg**	**10 46 55.6**	**-1.7**
M22K				Sg	**Sg**	**10 47 07.9**	**-0.8**
M22K				IAML		10 47 21.6	
	comp=N,1μm,0.6s						
M22K	**Willow**	**0.88**	**32**	P	**Pg**	**10 46 55.7**	**-1.7**
	baz=213						
RDJH	**Redoubt Jeurge**	**0.93**	**244**		**Pg**	**10 46 56.9**	**-1.4**
RDJH					**Sg**	**10 47 09.8**	**-0.7**
SKT	**Skwentna**	**0.99**	**348**	Pg	**Pg**	**10 46 57.9**	**-1.5**
SKT	**Skwentna**	**0.99**	**348**	P	**Pg**	**10 46 57.9**	**-1.5**
	baz=168						
RDWB	**Redoubt West**	**1.00**	**239**		**Pg**	**10 46 58.0**	**-1.6**
RDWB					**Sg**	**10 47 11.8**	**-0.9**
RED	**Redoubt Volcan**	**1.01**	**235**		**Pg**	**10 46 58.3**	**-1.5**
RED					**Sg**	**10 47 12.3**	**-0.7**
PMR	**Palmer**	**1.12**	**58**	P	**Pg**	**10 46 59.4**	**-2.4**
	baz=240						
O20K	**Slope Mountain**	**1.20**	**219**		**Pg**	**10 47 02.3**	**-1.1**
O20K	**Slope Mountain**	**1.20**	**219**	P	**Pg**	**10 47 02.3**	**-1.1**
	baz=38						
SEW	**Seward**	**1.23**	**137**		**Pg**	**10 47 02.4**	**-1.5**
SEW	**Seward**	**1.23**	**137**	P	**Pg**	**10 47 02.0**	**-1.8**
	baz=319						
BRLK	**Bradley Lake**	**1.26**	**175**	Pg	**Pg**	**10 47 02.8**	**-1.7**
BRSE	**Bradley Lake S**	**1.29**	**172**		**Pg**	**10 47 03.2**	**-1.9**
BRSE	**Bradley Lake S**	**1.29**	**172**	P	**Pg**	**10 47 03.2**	**-1.9**
	baz=352						
GHO	**Glory Hole Cre**	**1.30**	**53**		**Pg**	**10 47 02.8**	**-2.5**
M20K	**Styx River**	**1.31**	**313**		**Pg**	**10 47 03.8**	**-1.6**
M20K	**Styx River**	**1.31**	**313**	P	**Pg**	**10 47 03.6**	**-1.8**
	baz=131						
KNK	**Knik Glacier**	**1.34**	**71**		**Pn**	**10 47 04.4**	**-0.8**
KNK				IAML		10 47 25.4	
	comp=N,544nm,0.6s						
KNK	**Knik Glacier**	**1.34**	**71**	P	**Pn**	**10 47 04.2**	**-1.0**
	baz=254						
PWL	**Port Wells**	**1.36**	**95**		**Pn**	**10 47 04.5**	**-1.0**
PWL	**Port Wells**	**1.36**	**95**	P	**Pn**	**10 47 04.5**	**-1.0**
	baz=278						
IVE	**Iliamna Volcan**	**1.38**	**224**		**Pn**	**10 47 04.4**	**-1.4**
HOM	**Homer**	**1.39**	**191**		**Pn**	**10 47 05.6**	**-0.2**
HOM	**Homer**	**1.39**	**191**	P	**Pn**	**10 47 05.6**	**-0.2**
	baz=11						
ILS	**Iliamna Low So**	**1.44**	**223**		**Pn**	**10 47 05.5**	**-1.1**
ILSW	**Iliamna Southw**	**1.44**	**225**		**Pn**	**10 47 05.5**	**-1.3**
CNPM	**China Poot**	**1.50**	**183**	Pn	**Pn**	**10 47 06.4**	**-0.9**
CNPM				IAML		10 47 27.3	
	comp=E,406nm,0.6s						
CNPM				IAML		10 47 32.2	
	comp=N,288nm,0.4s						
SML	**Sawmill**	**1.55**	**58**		**Pn**	**10 47 07.1**	**-1.1**
SML				IAML		10 47 33.2	
	comp=E,369nm,0.8s						
SML				IAML		10 47 34.2	
	comp=N,325nm,1.0s						
SML	**Sawmill**	**1.55**	**58**	P	**Pn**	**10 47 06.8**	**-1.3**
	baz=240						
N19K	**Bonanza Creek**	**1.66**	**265**		**Pn**	**10 47 09.6**	**-0.1**
N19K	**Bonanza Creek**	**1.66**	**265**	P	**Pn**	**10 47 09.5**	**-0.2**
	baz=82						
P19K	**Oil Pt**	**1.73**	**219**		**Pn**	**10 47 10.8**	**+0.3**
P19K	**Oil Pt**	**1.73**	**219**	P	**Pn**	**10 47 10.8**	**+0.3**
	baz=37						
O19K	**Port Alsworth**	**1.79**	**244**		**Pn**	**10 47 11.5**	**+0.2**
O19K	**Port Alsworth**	**1.79**	**244**	P	**Pn**	**10 47 11.5**	**+0.2**
	baz=61						
M23K	**Glacier View**	**1.80**	**63**		**Pn**	**10 47 11.2**	**-0.4**
M23K	**Glacier View**	**1.80**	**63**	P	**Pn**	**10 47 11.2**	**-0.4**
	baz=246						
M19K	**Big River Lodg**	**1.81**	**301**		**Pn**	**10 47 11.7**	**0.0**
M19K				IAML		10 47 38.6	
	comp=N,177nm,0.9s						
M19K	**Big River Lodg**	**1.81**	**301**	P	**Pn**	**10 47 11.9**	**+0.2**
	baz=118						
PPLA	**Purkeypile**	**1.96**	**345**		**Pn**	**10 47 13.7**	**-0.1**
PPLA	**Purkeypile**	**1.96**	**345**	P	**Pn**	**10 47 13.7**	**-0.1**
	baz=164						
GLI	**Glacier Island**	**1.96**	**92**		**Pn**	**10 47 13.8**	**0.0**
GLI	**Glacier Island**	**1.96**	**92**	P	**Pn**	**10 47 13.7**	**0.0**
	baz=276						
L20K	**Farewell, AK**	**1.98**	**319**		**Pn**	**10 47 13.6**	**-0.4**
L20K	**Farewell, AK**	**1.98**	**319**	P	**Pn**	**10 47 13.6**	**-0.4**
	baz=137						
SCM	**Sheep Creek Mo**	**1.99**	**64**		**Pn**	**10 47 14.5**	**+0.3**
SCM				IAML		10 47 47.4	
	comp=E,226nm,0.7s						
SCM				IAML		10 47 56.4	
	comp=N,252nm,0.9s						
SCM	**Sheep Creek Mo**	**1.99**	**64**	P	**Pn**	**10 47 14.5**	**+0.3**
	baz=247						
AU22	**Augustine Moun**	**2.00**	**215**		**Pn**	**10 47 14.0**	**-0.1**
AUL	**Augustine Lava**	**2.01**	**216**		**Pn**	**10 47 15.0**	**+0.6**
AUCH	**Augustine Cone**	**2.03**	**216**		**Pn**	**10 47 15.1**	**+0.4**
P23K	**Montague Islan**	**2.10**	**117**		**Pn**	**10 47 15.8**	**+0.3**
P23K	**Montague Islan**	**2.10**	**117**	P	**Pn**	**10 47 15.8**	**+0.3**
	baz=301						
WAT7	**Susitna Watana**	**2.12**	**29**		**Pn**	**10 47 15.7**	**-0.2**
L19K	**White Mountain**	**2.14**	**305**		**Pn**	**10 47 16.6**	**+0.4**
L19K				IAML		10 47 48.5	
	comp=N,171nm,0.9s						
L19K				IAML		10 47 51.5	
	comp=E,168nm,1.1s						
L19K	**White Mountain**	**2.14**	**305**	P	**Pn**	**10 47 16.4**	**+0.2**
	baz=122						
SVW2	**Sparrevohn**	**2.18**	**274**		**Pn**	**10 47 16.8**	**+0.1**
SVW2				IAML		10 47 52.4	
	comp=E,122nm,0.7s						
WAT1	**Susitna Watana**	**2.19**	**32**		**Pn**	**10 47 17.3**	**+0.4**
WAT1	**Susitna Watana**	**2.19**	**32**	P	**Pn**	**10 47 17.3**	**+0.4**
	baz=215						
WAT6	**Susitna Watana**	**2.24**	**44**		**Pn**	**10 47 18.0**	**+0.3**
WAT6	**Susitna Watana**	**2.24**	**44**	P	**Pn**	**10 47 18.0**	**+0.3**
	baz=227						
FID	**Port Fidalgo**	**2.28**	**95**		**Pn**	**10 47 17.4**	**-0.6**
FID				IAML		10 47 50.8	
	comp=N,212nm,0.4s						
FID				IAML		10 47 58.6	
	comp=E,163nm,0.9s						
M18K	**Stony River**	**2.33**	**284**		**Pn**	**10 47 18.6**	**-0.1**
M18K	**Stony River**	**2.33**	**284**	P	**Pn**	**10 47 18.6**	**-0.1**
	baz=100						
O18K	**Koktuh Hills**	**2.34**	**242**		**Pn**	**10 47 18.9**	**-0.1**
O18K				IAML		10 47 53.5	
	comp=E,117nm,0.5s						
O18K				IAML		10 47 56.6	
	comp=N,174nm,0.7s						
O18K	**Koktuh Hills**	**2.34**	**242**	P	**Pn**	**10 47 18.9**	**0.0**
	baz=58						
HIN	**Hinchinbrook I**	**2.35**	**103**		**Pn**	**10 47 18.7**	**-0.4**
HIN				IAML		10 48 02.8	
	comp=E,156nm,0.7s						
N18K	**Kilae Creek**	**2.37**	**264**		**Pn**	**10 47 19.1**	**-0.2**
N18K	**Kilae Creek**	**2.37**	**264**	P	**Pn**	**10 47 19.1**	**-0.2**
	baz=80						
Q19K	**Cape Douglas,**	**2.45**	**212**		**Pn**	**10 47 20.9**	**+0.5**
Q19K	**Cape Douglas,**	**2.45**	**212**	P	**Pn**	**10 47 21.0**	**+0.5**
	baz=30						
CAST	**Castle Rocks**	**2.46**	**350**		**Pn**	**10 47 20.8**	**+0.2**
CAST	**Castle Rocks**	**2.46**	**350**	P	**Pn**	**10 47 20.2**	**-0.3**
	baz=169						
TRF	**Thorofare Moun**	**2.48**	**9**		**Pn**	**10 47 21.2**	**+0.3**
TRF				IAML		10 47 57.3	
	comp=E,133nm,0.9s						
TRF	**Thorofare Moun**	**2.48**	**9**	P	**Pn**	**10 47 21.2**	**+0.3**
	baz=189						
Q20K	**Shuyak Island**	**2.50**	**196**	P	**Pn**	**10 47 22.7**	**+1.7**
	baz=14						
SYI	**Shuyak Island**	**2.50**	**196**		**Pn**	**10 47 22.8**	**+1.7**
SYI				IAML		10 48 09.1	
	comp=E,105nm,0.7s						
KTH	**Kantishna Hill**	**2.55**	**2**		**Pn**	**10 47 22.6**	**+0.7**
KTH				IAML		10 48 04.0	
	comp=E,104nm,0.8s						
KTH				IAML		10 48 12.0	
	comp=N,111nm,1.0s						
KLU	**Klutina**	**2.55**	**77**		**Pn**	**10 47 22.5**	**+0.6**
KLU				IAML		10 48 02.5	
	comp=N,171nm,0.7s						
KLU				IAML		10 48 03.1	
	comp=E,91nm,0.7s						
KLU	**Klutina**	**2.55**	**77**	P	**Pn**	**10 47 22.5**	**+0.6**
	baz=261						
DIV	**Divide**	**2.60**	**85**		**Pn**	**10 47 22.6**	**+0.1**
M24K	**Tolsona, Glenn**	**2.60**	**63**		**Pn**	**10 47 23.9**	**+1.3**
M24K	**Tolsona, Glenn**	**2.60**	**63**	P	**Pn**	**10 47 24.2**	**+1.7**
	baz=247						
RND	**Reindeer**	**2.62**	**23**		**Pn**	**10 47 23.6**	**+0.7**
RND				IAML		10 48 09.1	
	comp=N,88nm,0.7s						
RND				IAML		10 48 10.6	
	comp=E,90nm,0.8s						
P18K	**Big Mountain,**	**2.62**	**233**		**Pn**	**10 47 23.2**	**+0.3**
P18K				IAML		10 48 00.7	
	comp=E,88nm,0.8s						
P18K				IAML		10 48 00.7	
	comp=N,90nm,0.7s						
P18K	**Big Mountain,**	**2.62**	**233**	P	**Pn**	**10 47 23.7**	**+0.9**
	baz=50						
EYAK	**Cordova Ski Ar**	**2.67**	**98**		**Pn**	**10 47 23.3**	**-0.1**
EYAK	**Cordova Ski Ar**	**2.67**	**98**	P	**Pn**	**10 47 23.5**	**+0.2**
	baz=282						
DHY	**Denali Highway**	**2.71**	**39**		**Pn**	**10 47 25.6**	**+1.4**
DHY				IAML		10 48 07.5	
	comp=N,80nm,0.9s						
DHY				IAML		10 48 12.9	
	comp=E,106nm,0.9s						
DHY	**Denali Highway**	**2.71**	**39**	P	**Pn**	**10 47 25.1**	**+0.9**
	baz=222						
K20K	**Telida**	**2.73**	**331**		**Pn**	**10 47 24.3**	**0.0**
K20K	**Telida**	**2.73**	**331**	P	**Pn**	**10 47 24.2**	**-0.1**
	baz=148						
MCK	**McKinley**	**2.91**	**19**		**Pn**	**10 47 27.8**	**+1.0**
MCK	**McKinley**	**2.91**	**19**	P	**Pn**	**10 47 28.3**	**+1.6**
	baz=201						
L18K	**Granite Mounta**	**2.93**	**297**		**Pn**	**10 47 27.5**	**+0.5**
L18K				IAML		10 48 13.4	
	comp=N,70nm,0.9s						
L18K				IAML		10 48 19.8	
	comp=E,63nm,1.4s						
L18K	**Granite Mounta**	**2.93**	**297**	P	**Pn**	**10 47 27.3**	**+0.4**
	baz=112						
CHUM	**Lake Minchumin**	**2.93**	**349**		**Pn**	**10 47 27.5**	**+0.4**
CHUM	**Lake Minchumin**	**2.93**	**349**	P	**Pn**	**10 47 27.5**	**+0.4**
	baz=168						
TTA	**Tatalina**	**3.01**	**312**		**Pn**	**10 47 28.0**	**-0.2**
TTA	**Tatalina**	**3.01**	**312**	IAML		10 48 23.6	
	comp=N,70nm,0.8s						
TTA	**Tatalina**	**3.01**	**312**	P	**Pn**	**10 47 28.0**	**-0.2**
	baz=128						
N17K	**Nushagak Hills**	**3.02**	**263**		**Pn**	**10 47 28.3**	**0.0**
N17K				IAML		10 48 18.8	
	comp=E,86nm,0.5s						
N17K				IAML		10 48 18.8	
	comp=N,83nm,1.1s						
N17K	**Nushagak Hills**	**3.02**	**263**	P	**Pn**	**10 47 28.5**	**+0.2**
	baz=78						
KAHG	**Katmai Hook Gl**	**3.07**	**216**		**Pn**	**10 47 29.5**	**+0.5**
KAHC	**Katmai Hardscr**	**3.08**	**221**		**Pn**	**10 47 29.3**	**+0.1**
Q18K	**Katmai Hardscr**	**3.08**	**221**	P	**Pn**	**10 47 29.3**	**+0.1**
	baz=38						
M17K	**Holitna River**	**3.09**	**280**		**Pn**	**10 47 29.7**	**+0.5**
M17K	**Holitna River**	**3.09**	**280**	P	**Pn**	**10 47 29.5**	**+0.

baz=291
GLB Gilahina Butte 3.55 80 Pn 10 47 35.8 +0.2
GLB IAML 10 48 31.8
comp=E,36nm,0.9s
GLB IAML 10 48 31.9
comp=N,63nm,0.8s
J18K Innoko River 3.60 316 Pn 10 47 35.9 -0.3
J18K Innoko River 3.60 316 P **Pn 10 47 36.4 +0.2**
baz=131
ANCK Angle Creek 3.60 220 Pn 10 47 37.4 +1.1
NICHA Nichawak Mount 3.60 99 Pn 10 47 35.3 -1.0
J19K Poorman 3.65 327 Pn 10 47 37.0 +0.1
J19K IAML 10 48 40.8
comp=E,45nm,0.9s
J19K Poorman 3.65 327 P **Pn 10 47 37.1 +0.2**
baz=143
BERG Berg Lake 3.69 96 Pn **Pn 10 47 36.5 -1.0**
NEA2 Nenana 3.71 14 Pn 10 47 37.6 -0.2
NEA2 Nenana 3.71 14 P **Pn 10 47 38.0 +0.2**
baz=196
VRDI Verde Repeater 3.72 83 Pn **Pn 10 47 38.4 +0.4**
VRDI IAML 10 48 35.8
comp=N,33nm,1.0s
WRH Wood River Hil 3.74 20 Pn 10 47 38.4 +0.3
SUCK Suckling Hills 3.74 101 Pn 10 47 37.6 -0.5
SUCK IAML 10 48 47.8
comp=N,38nm,0.7s
O16K Kokwok River B 3.76 251 Pn 10 47 38.3 0.0
O16K IAML 10 48 41.9
comp=N,41nm,0.9s
O16K IAML 10 48 44.6
comp=E,49nm,0.7s
O16K Kokwok River B 3.76 251 P **Pn 10 47 38.9 +0.5**
baz=65
N16K Nishlik Lake 3.80 265 Pn 10 47 39.0 +0.1
N16K Nishlik Lake 3.80 265 P **Pn 10 47 39.0 +0.1**
baz=78
K17K Iditarod 3.81 300 Pn **Pn 10 47 39.7 +0.6**
K17K Iditarod 3.81 300 P **Pn 10 47 39.1 0.0**
baz=114
M16K Timber Creek 3.82 274 Pn 10 47 39.4 +0.1
M16K IAML 10 48 44.0
comp=E,54nm,0.7s
M16K IAML 10 48 45.1
comp=N,56nm,0.9s
M16K Timber Creek 3.82 274 P **Pn 10 47 39.5 +0.3**
baz=87
CRQM Cirque 3.90 90 Pn 10 47 40.8 +0.3
CRQM IAML 10 48 53.4
comp=N,54nm,1.4s
GRIN Grindle Hills 3.90 97 Pn 10 47 39.4 -1.1
MCARA McCarthy VSAT 3.93 81 Pn **Pn 10 47 39.6 -1.1**
CCB Clear Creek Bu 3.95 21 Pn 10 47 41.6 +0.6
CCB IAML 10 48 51.8
comp=E,34nm,1.0s
OHAK Old Harbor 3.97 197 Pn 10 47 42.0 +0.8
OHAK IAML 10 49 04.7
comp=E,28nm,1.0s
OHAK Old Harbor 3.97 197 P **Pn 10 47 41.8 +0.6**
baz=16
P16K Nushagak River 3.99 243 Pn 10 47 42.2 +0.7
P16K Nushagak River 3.99 243 P **Pn 10 47 42.2 +0.7**
baz=57
MLY Manley 4.04 2 Pn 10 47 42.3 0.0
MLY Manley 4.04 2 P **Pn 10 47 42.2 0.0**
baz=183
TGL Tana Glacier 4.05 90 Pn 10 47 42.4 -0.2
TGL IAML 10 48 55.4
comp=E,41nm,0.9s
TGL IAML 10 49 01.5
comp=N,43nm,0.7s
L16K Owhat River 4.09 283 Pn 10 47 42.3 -0.6
L16K IAML 10 48 53.8
comp=N,41nm,1.4s
L16K IAML 10 48 53.9
comp=E,33nm,1.3s
WAX Waxell Ridge 4.09 94 Pn 10 47 42.3 -0.7
WAX IAML 10 49 04.3
comp=E,47nm,1.0s
I20K Naaghedeneel 4.10 339 Pn 10 47 42.4 -0.6
I20K Naaghedeneel 4.10 339 P **Pn 10 47 42.7 -0.3**
baz=156
M26K Nabesna, AK 4.10 67 Pn **Pn 10 47 44.0 +0.9**
M26K IAML 10 49 09.7
comp=N,26nm,0.8s
COLA College 4.15 20 Pn **Pn 10 47 44.2 +0.5**
SNH Sunshine Point 4.16 98 Pn **Pn 10 47 43.9 -0.1**
SNH IAML 10 49 04.2
comp=E,28nm,1.3s
SNH IAML 10 49 05.5
comp=N,26nm,1.3s
L26K Log Cabin Wild 4.17 58 Pn **Pn 10 47 44.1 0.0**
L26K IAML 10 49 01.1
comp=E,44nm,0.6s
PTPK Patty Peak 4.20 84 Pn 10 47 44.8 +0.2
I21K Tanana 4.20 355 Pn 10 47 44.8 +0.4
I21K IAML 10 48 59.2
comp=N,29nm,0.8s
I21K IAML 10 49 12.7
comp=E,25nm,1.2s
I21K Tanana 4.20 355 P **Pn 10 47 44.3 -0.1**
baz=174
I23K Minto, Yukon-K 4.22 10 Pn 10 47 44.9 +0.1
I23K IAML 10 49 03.2
comp=E,21nm,1.4s
I23K IAML 10 49 10.5
comp=N,31nm,1.4s
I23K Minto, Yukon-K 4.22 10 P **Pn 10 47 45.1 +0.3**
baz=192
IL31 4.24 25 Pn 10 47 45.6 +0.7
ILAR Eielson Array 4.24 25 Pn 10 47 45.7 +0.7
ILAR Eielson Array 4.24 25 Pn **Pn 10 47 46.2 +1.3**
comp=N,1.7nm,0.3s,baz=211,slow=14,SNR=120
ILAR Sn **Sn 10 48 37.9 +3.5**
comp=N,0.9nm,0.3s,baz=216,slow=24,SNR=5.2
comp=N,5.8nm,0.5s
KIAG Kiagna River 4.26 87 Pn 10 47 45.4 -0.1
BARK Barkley Ridge 4.28 94 Pn 10 47 45.1 -0.5
ISLE Juniper Island 4.32 92 Pn **Pn 10 47 46.4 +0.2**
ISLE IAML 10 48 56.7
comp=N,39nm,1.0s
J17K VABM Dome 4.43 306 Pn 10 47 47.4 -0.2
J17K IAML 10 49 09.6
comp=E,21nm,0.6s
J17K IAML 10 49 19.1
comp=N,23nm,0.9s
SCRK Sand Creek 4.44 45 Pn **Pn 10 47 47.8 -0.1**
SCRK IAML 10 49 02.2
comp=E,25nm,0.6s
SCRK IAML 10 49 08.7
comp=N,22nm,1.3s
POKR Poker Plat Res 4.44 20 Pn 10 47 47.8 0.0
POKR IAML 10 49 12.6
comp=E,20nm,0.8s
POKR Poker Plat Res 4.44 20 P **Pn 10 47 48.2 +0.4**
baz=204
H21K Melozitna Rive 4.72 351 Pn 10 47 49.3 -2.3
H21K IAML 10 49 09.5
comp=E,19nm,1.0s
L27K Beaver Creek, 4.83 61 Pn **Pn 10 47 50.9 -2.2**
BCAR Beaver Creek A 4.85 61 Pn 10 47 51.5 -1.9
H23K Yukon River 4.88 8 Pn 10 47 51.9 -1.9
H23K IAML 10 49 23.8
comp=E,14nm,0.9s
J26L Joseph Creek 4.92 41 Pn 10 47 54.7 +0.2
J26L IAML 10 48 59.3
comp=E,26nm,0.5s
J26L IAML 10 49 15.1
comp=N,23nm,0.9s
TABL Table Mountain 4.93 92 Pn **Pn 10 47 53.8 -0.9**
TABL IAML 10 49 40.2
comp=N,20nm,1.1s
TABL IAML 10 49 46.9
comp=E,16nm,1.3s
LOGN Logan Glacier 4.94 88 Pn **Pn 10 47 53.2 -1.5**
LOGN IAML 10 49 11.2
comp=E,20nm,0.9s
LOGN IAML 10 49 11.8
comp=N,14nm,1.2s
H24K Noodor Dome 5.05 15 Pn 10 47 56.3 +0.1
H24K IAML 10 49 44.9
comp=E,12nm,0.9s
IMAR Indian Mountai 5.13 348 Pn 10 47 57.2 0.0
H19K Roundabout Mou 5.13 334 Pn **Pn 10 47 57.0 -0.2**
H19K IAML 10 49 26.2
comp=E,19nm,1.1s
H19K IAML 10 49 32.0
comp=N,20nm,1.4s
K27K Chicken 5.16 50 Pn **Pn 10 47 57.3 -0.3**
K27K IAML 10 49 31.1
comp=N,14nm,1.1s
PRP Porcupine Dome 5.17 27 Pn 10 47 59.6 +1.6
PRP IAML 10 49 23.8
comp=E,15nm,0.9s
PRP IAML 10 49 31.6
comp=N,18nm,0.8s
PRP Porcupine Dome 5.17 27 P **Pn 10 47 59.5 +1.6**
baz=212
H18K Honhosa River 5.30 325 Pn 10 47 59.7 +0.1
H18K IAML 10 49 39.8
comp=N,13nm,1.2s
O28M Mount Upton 5.34 88 Pn 10 48 01.0 +0.7
O28M Mount Upton 5.34 88 P **Pn 10 48 01.0 +0.7**
baz=277
G21K Allakaket 5.62 350 Pn 10 48 06.6 +2.6
G23K Bananza Creek 5.74 4 Pn **Pn 10 48 06.8 +1.2**
EGAK Eagle 5.91 46 Pn **Pn 10 48 10.4 +2.5**
G24K Hadweenzic Riv 5.93 14 Pn 10 48 07.8 -0.4
FYU Fort Yukon 6.15 22 Pn 10 48 13.0 +1.8
G25K Bearman Lake 6.18 19 Pn 10 48 12.2 +0.6
G25K Bearman Lake 6.18 19 P **Pn 10 48 12.2 +0.6**
baz=203
F21K Alatna River 6.32 352 Pn 10 48 15.6 +2.0
F20K Avaraart Lake 6.39 344 Pn **Pn 10 48 16.0 +1.6**
F24K Squaw Lake 6.68 11 Pn **Pn 10 48 17.6 -0.9**
BMAR Burnt Mountain 7.04 21 Pn **Pn 10 48 24.8 +1.4**
G27K Doyon Strip 7.15 32 Pn **Pn 10 48 26.6 +1.7**
E24K Your Creek 7.18 8 Pn **Pn 10 48 25.9 +0.6**
J30M Hart River 7.65 56 Pn **Pn 10 48 31.9 0.0**
TOLK Toolik Lake Re 7.69 4 Pn 10 48 31.9 -0.4
TOLK Toolik Lake Re 7.69 4 P **Pn 10 48 32.8 +0.5**
baz=186
I30M Mount Dempster 7.89 51 Pn **Pn 10 48 35.7 +0.5**
WHY Whitehorse 7.94 85 Pn **Pn 10 48 35.4 -0.4**
E27K Coleen River 8.27 25 Pn **Pn 10 48 41.8 +1.6**
C27K Jago River 9.17 16 Pn **Pn 10 48 54.5 +1.9**
D27M Malcolm River 9.28 23 Pn **Pn 10 48 55.6 +1.4**
YKA Yellowknife Ar 17.20 69 P **P 10 50 42.8 +0.9**
comp=N,0.1nm,0.3s,baz=281,slow=10,SNR=5.6
comp=N,0.3nm,0.7s
NVAR Mina Array Bea 30.44 123 P **P 10 52 53.3 +0.2**
comp=N,0.2nm,0.4s,baz=320,slow=8.3,SNR=2.2
comp=N,0.2nm,0.4s

NEIC 30 10:53:19.7±0.4, 36°.104N±0°.010×97°.84W±0°.01, h3km±3km, mb_Lg2.6/23, ML2.8/69, Error ellipse: s-maj=1.5km s-min=1.3km az=164.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.42**	**344**			10 53 28.2	+0.5
CROK				Sg	Sg	10 53 34.1	+1.0
OK029	**Liberty Lake**	**0.44**	**134**	Pg	Pg	10 53 28.8	+0.7
OK029				Sg	Sg	10 53 35.1	+1.4
OK029				IAML		10 53 35.4	
597nm,0.3s							
OK029				IAML		10 53 35.4	
690nm,0.4s							
ADOK	**Arcadia Dam**	**0.59**	**140**	Pg	Pg	10 53 31.4	+0.4
GC02	**Grant County #**	**0.75**	**359**		Pg	10 53 34.1	+0.1
OKCSW	**OKLAHOMA CITY**	**0.77**	**155**	Pg	Pg	10 53 34.0	-0.4
OKCSW				Sg	Sg	10 53 45.3	+0.9
OK048	**Pawnee Station**	**0.79**	**66**		Pg	10 53 34.9	+0.2
OK048				Sg	Sg	10 53 45.6	+0.6
OK048				IAML		10 53 46.1	
248nm,0.3s							
OK048				IAML		10 53 49.4	
242nm,0.1s							
OK031	**S. Brethren Rd**	**0.82**	**100**		Pg	10 53 35.7	+0.3
BLOK	**Blackwell**	**0.83**	**37**		Pg	10 53 35.5	0.0
BLOK				IAML		10 53 54.5	
comp=E,386nm,0.2s							
CSTR	**Hydro, Custer**	**0.83**	**237**		Pg	10 53 35.6	0.0
OK052	**Battle Ridge R**	**0.85**	**97**	Pg	Pg	10 53 36.2	+0.3
KAN14	**Manchester OK**	**0.86**	**353**		Pg	10 53 36.0	-0.1
KAN14				IAML		10 53 50.5	
comp=N,335nm,0.1s							
KAN14				IAML		10 53 53.7	
comp=E,330nm,0.1s							
OK051	**E0350 and S346**	**0.90**	**63**		Pg	10 53 36.9	-0.1
FNO	**Franklin**	**0.92**	**157**	Pg	Pg	10 53 36.8	-0.5
FNO				IAML		10 53 53.0	
comp=N,202nm,0.5s							
FNO				IAML		10 53 53.0	
comp=E,407nm,0.5s							
QUOK	**Quay**	**0.92**	**85**	Pg	Pg	10 53 37.4	+0.2
QUOK				IAML		10 53 52.2	
comp=E,270nm,0.2s							
QUOK				IAML		10 53 52.3	
comp=N,365nm,0.3s							
KAN17	**Caldwell West**	**0.94**	**4**		Pg	10 53 37.6	-0.1
KAN17				IAML		10 53 52.6	
comp=E,306nm,0.2s							
KAN17				IAML		10 53 54.5	
comp=N,238nm,0.2s							
KAN13	**South Haven SW**	**0.95**	**18**		Pg	10 53 37.9	-0.1
KAN13				IAML		10 53 53.5	
comp=N,359nm,0.2s							
KAN13				IAML		10 53 54.1	
comp=E,331nm,0.3s							
NOKA	**Waynoka**	**1.03**	**301**		Pg	10 53 39.0	-0.4
NOKA				IAML		10 54 03.7	
comp=E,266nm,0.4s							
NOKA				IAML		10 54 07.5	
comp=N,258nm,0.3s							
KAN09	**Caldwell North**	**1.04**	**10**		Pg	10 53 39.5	-0.2
KAN01	**Argonia South**	**1.05**	**4**		Pg	10 53 39.6	-0.2
KAN01				IAML		10 53 54.8	
comp=E,196nm,0.1s							
KAN01				IAML		10 53 54.9	
comp=N,173nm,0.1s							
DEOK	**Depew**	**1.12**	**103**		Pg	10 53 40.7	-0.4
DEOK				IAML		10 54 00.9	
comp=N,154nm,0.3s							
DEOK				IAML		10 54 01.6	
comp=E,140nm,0.2s							
KAN08	**Anthony NE Sta**	**1.13**	**355**		Pg	10 53 41.0	-0.3
KAN08				IAML		10 54 00.7	
comp=E,136nm,0.3s							
KS20	**Mayfield South**	**1.15**	**11**		Pg	10 53 41.4	-0.3
KAN12	**Harper NE Stat**	**1.20**	**354**	Pg	Pg	10 53 42.2	-0.4
W35A	**Tecumseh**	**1.23**	**140**	Pg	Pg	10 53 42.8	-0.5
W35A				IAML		10 54 06.9	
comp=N,176nm,0.4s							
ELIS	**Ellis County**	**1.28**	**269**	Pg	Pg	10 53 43.9	-0.3
ELIS				IAML		10 54 05.9	
comp=E,192nm,0.3s							
T35A	**Sooner Cattle**	**1.34**	**52**		Pn	10 53 45.0	-0.4
X34A	**Smith Ranch, M**	**1.50**	**180**		Pb	10 53 48.0	-0.2
WMOK	**Wichita Mounta**	**1.56**	**210**	Pn	Pn	10 53 48.3	-0.1
WMOK	**Wichita Mounta**	**1.56**	**210**		Pn	10 53 48.0	-0.4
TUL3	**Leonard**	**1.67**	**96**	Pg	Pn	10 53 50.0	+0.1
TUL3				IAmb_Lg		10 54 14.0	
comp=Z,33nm,0.8s							
LOOK	**Love County**	**2.17**	**165**		Pn	10 53 55.7	-1.0
SMWD	**Samnorwood**	**2.20**	**244**	Pn	Pn	10 53 55.5	-1.6
SMWD				IAmb_Lg		10 54 34.5	
comp=Z,22nm,0.8s							
RLO	**Rose Lookout**	**2.28**	**88**		Pn	10 53 56.7	-1.5
WTFS	**Witchita Falls**	**2.39**	**193**	Pn	Pn	10 53 58.5	-1.2
R32A	**Long Quarter,**	**2.42**	**344**	Pn	Pn	10 53 58.8	-1.3
R32A				IAmb_Lg		10 54 34.2	
comp=Z,22nm,1.2s							
U38A	**Gravette**	**2.81**	**82**		Pn	10 54 04.6	-0.9
CBKS	**Cedar Bluff**	**3.10**	**331**	Pn	Pn	10 54 08.8	-0.7
CBKS				IAmb_Lg		10 54 55.1	
comp=Z,11nm,1.2s							
FW06	**Azle**	**3.13**	**176**	Pn	Pn	10 54 08.8	-1.1
PLPT	**Palo Pinto**	**3.31**	**187**	Pn	Pn	10 54 09.1	-3.3
AMTX	**Amarillo**	**3.36**	**250**	Pn	Pn	10 54 11.2	-2.0
DKNS	**Dickens**	**3.51**	**227**	IAmb_Lg		10 55 15.7	
comp=Z,17nm,0.8s							
MIAR	**Mount Ida**	**3.82**	**113**		Pn	10 54 20.6	+1.3
S39A	**Bolivar**	**3.95**	**65**	IAmb_Lg		10 55 28.9	
comp=Z,12nm,0.7s							
RTBA	**Rita Blanca**	**3.97**	**276**		Pn	10 54 21.8	+0.2
R40A	**Maddies Statio**	**4.95**	**62**	IAmb_Lg		10 55 56.1	
comp=Z,11nm,0.9s							
T42A	**Van Buren**	**5.51**	**78**	IAmb_Lg		10 56 17.2	
comp=Z,9.9nm,0.9s							
CCM	**Cathedral Cave**	**5.62**	**68**	IAmb_Lg		10 56 20.9	
comp=Z,13nm,0.8s							
PBMO	**Poplar Bluff**	**6.01**	**81**	IAmb_Lg		10 56 35.8	
comp=Z,10nm,0.8s							
N41A	**Harden Midland**	**7.15**	**48**	IAmb_Lg		10 57 10.8	
comp=Z,9.5nm,0.8s							
RSSD	**Black Hills**	**9.30**	**331**	IAmb_Lg		10 58 23.0	
comp=Z,4.0nm,0.8s							

*BEO **30** 10:59:44.0±5.4, 36°.60N×20°.43E, h93km±8km, ML3.4/3*
*THE **30** 10:59:49.2, 37°.31N×20°.62E, h0km±2km, ML3.3/12, Error ellipse: s-maj=3.3km s-min=0.8km az=226.0*
*ATH **30** 10:59:50.4, 37°.37N×20°.64E, h7km±2km, ML3.3/10, Manual Solution by A.Papageorgiou First location: 2018/11/30 11:00:47, This location: 2019/02/05 15:57:59 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 4 km*
*IDC **30** 10:59:52.0±12.0, 37°.99N×21°.22E, h0km, mb3.6/5, mbtmp3.7/5, MS3.8/2, Error ellipse: s-maj=235.4km s-min=38.8km az=35.0*

ISC 30 10:59:49.4±1.4, 37°.33N±0°.04×20°.59E±0°.04, h15km±7km, n57, σ1°.30/93, mb3.6/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.37**	**28**	P	**Pg**	**10 59 56.8**	**-0.2**
KRI1				S	**Sb**	**11 00 02.6**	**-0.8**
20μm,0.3s							
LTHK	**Lithakia**	**0.42**	**27**	P	**Pg**	**10 59 57.6**	**-0.3**
LTHK				S	**Sg**	**11 00 03.9**	**+0.3**
26μm,0.3s							
LTHK	**Lithakia**	**0.42**	**27**	P	**Pg**	**10 59 57.6**	**-0.3**
LTHK				S	**Sg**	**11 00 03.0**	**-0.6**
RTZL	**Ratzakli, Kefa**	**0.76**	**11**	P	**Pg**	**11 00 03.7**	**-0.4**
RTZL				S	**Sb**	**11 00 15.2**	**+0.8**
PSDA	**Pessada-Kefalo**	**0.78**	**359**	P	**Pg**	**11 00 04.2**	**-0.4**
PSDA				S	**Sb**	**11 00 17.0**	**+1.9**
3μm,0.3s							
PSDA	**Pessada-Kefalo**	**0.78**	**359**	P	**Pg**	**11 00 04.4**	**-0.2**
PSDA				S	**Sg**	**11 00 14.5**	**-0.3**
VLS	**Valsamata**	**0.84**	**360**	P	**Pg**	**11 00 05.2**	**-0.6**
VLS				S	**Sb**	**11 00 19.0**	**+2.1**
2μm,0.4s							
VLS	**Valsamata**	**0.84**	**360**	P	**Pg**	**11 00 05.4**	**-0.4**
VLS				S	**Sg**	**11 00 16.7**	**-0.2**
ZARO	**Zacharo**	**0.85**	**79**	P	**Pb**	**11 00 06.5**	**+0.6**
ZARO				S	**Sg**	**11 00 16.9**	**-0.3**
AMT	**Artemida-Makis**	**0.91**	**77**	P	**Pg**	**11 00 07.1**	**+0.1**
AMT				S	**Sg**	**11 00 18.4**	**-0.6**
SMHA	**Samh**	**0.92**	**3**	P	**Pg**	**11 00 07.7**	**+0.5**
SMHA				S	**Sg**	**11 00 19.2**	**0.0**
DMLN	**Damoulianata-K**	**0.92**	**349**	P	**Pg**	**11 00 07.0**	**-0.2**
DMLN				S	**Sn**	**11 00 21.9**	**+1.0**
4μm,0.5s							
DMLN	**Damoulianata-K**	**0.92**	**349**	P	**Pb**	**11 00 08.5**	**+1.4**
DMLN				S	**Sb**	**11 00 20.1**	**+0.9**
RLS	**Riolos of Patr**	**1.00**	**43**	P	**Pg**	**11 00 07.6**	**-1.2**
RLS				S	**Sb**	**11 00 22.5**	**+1.0**
1μm,0.7s							
RLS	**Riolos of Patr**	**1.00**	**43**	P	**Pg**	**11 00 08.2**	**-0.6**
RLS				S	**Sg**	**11 00 21.1**	**-0.8**
PYL	**PYLOS**	**1.02**	**115**	P	**Pg**	**11 00 08.6**	**-0.4**
PYL				S	**Sg**	**11 00 22.9**	**+0.6**
550nm,0.6s							
PYL	**PYLOS**	**1.02**	**115**	P	**Pg**	**11 00 09.6**	**+0.6**
PYL				S	**Sb**	**11 00 23.0**	**+1.1**
ITM	**Ithomi**	**1.07**	**98**	P	**Pg**	**11 00 09.4**	**-0.7**
ITM				S	**Sb**	**11 00 24.5**	**+0.9**
515nm,0.4s							
ITM	**Ithomi**	**1.07**	**98**	P	**Pg**	**11 00 10.2**	**0.0**
ITM				S	**Sg**	**11 00 24.3**	**+0.1**
DRO	**Drossia**	**1.08**	**55**	P	**Pg**	**11 00 09.2**	**-1.1**
DRO				S	**Sn**	**11 00 25.4**	**+0.6**
2μm,0.5s							
DRO	**Drossia**	**1.08**	**55**	P	**Pg**	**11 00 10.1**	**-0.2**
DRO				S	**Sg**	**11 00 23.7**	**-0.7**
FSK	**Fiskardo**	**1.12**	**359**	P	**Pg**	**11 00 09.9**	**-1.2**
FSK				S	**Sn**	**11 00 28.1**	**+2.3**
1μm,1.0s							
FSK	**Fiskardo**	**1.12**	**359**	P	**Pg**	**11 00 11.3**	**+0.2**
FSK				S	**Sb**	**11 00 25.9**	**+0.9**
EVGI	**Lefkada island**	**1.29**	**2**	P	**Pn**	**11 00 12.8**	**-0.1**
EVGI				S	**Sn**	**11 00 33.2**	**+3.3**
852nm,0.5s							
EVGI	**Lefkada island**	**1.29**	**2**	P	**Pn**	**11 00 14.3**	**+1.4**
EVGI				S	**Sb**	**11 00 30.8**	**+1.1**
DRAG	**Dragano-Lefkad**	**1.35**	**359**	P	**Pb**	**11 00 15.4**	**+1.0**
DRAG				S	**Sn**	**11 00 33.1**	**+1.7**
NYDR	**Nydri-Lefkada**	**1.38**	**3**	P	**Pn**	**11 00 15.0**	**+0.9**
NYDR				S	**Sn**	**11 00 36.9**	**+4.8**
580nm,0.5s							
KLV	**Kalavryta, Ach**	**1.43**	**60**	P	**Pn**	**11 00 16.1**	**+1.3**
KLV				S	**Sg**	**11 00 35.0**	**-0.3**
LKD2	**Lefkada island**	**1.46**	**2**	P	**Pb**	**11 00 17.3**	**+1.1**
LKD2				S	**Sg**	**11 00 36.4**	**+0.1**
PVO	**Paravola**	**1.48**	**30**	P	**Pn**	**11 00 16.8**	**+1.3**
PVO				S	**Sn**	**11 00 36.0**	**+1.4**
TSLK	**Tsoukalades, L**	**1.49**	**2**	P	**Pb**	**11 00 17.6**	**+0.9**
TSLK				S	**Sg**	**11 00 37.4**	**-0.1**
EFP	**Efpalio**	**1.51**	**43**	P	**Pb**	**11 00 17.6**	**+0.5**
EFP				S	**Sn**	**11 00 36.3**	**+1.1**
GUR	**Goura**	**1.51**	**66**	P	**Pb**	**11 00 17.9**	**+0.7**
GUR				S	**Sn**	**11 00 36.6**	**+1.1**
KALE	**Kalithea**	**1.62**	**49**	P	**Pb**	**11 00 19.3**	**+0.3**
KALE				S	**Sb**	**11 00 39.8**	**+0.5**
ANX	**Ano Chora**	**1.64**	**39**	P	**Pb**	**11 00 20.0**	**+0.6**
ANX				S	**Sn**	**11 00 39.7**	**+1.1**
EVR	**Evrytania**	**1.85**	**31**	P	**Pn**	**11 00 22.6**	**+1.9**
FNA	**Florina**	**3.50**	**10**	*e*Pn	**Pn**	**11 00 45.0**	**+1.7**
OHR	**Ohrid**	**3.78**	**2**	*e*Pn	**Pn**	**11 00 49.6**	**+2.5**
OHR	**Ohrid**	**3.78**	**2**	*i* Pn	**Pn**	**11 00 50.4**	**+3.3**
BOSS	**Bosilegrad**	**5.36**	**15**	*e*Pn	**Pn**	**11 01 09.7**	**+0.9**
BARS	**Barje**	**5.56**	**9**	*e*Pn	**Pn**	**11 01 12.1**	**+0.6**
SELS	**Selova**	**5.89**	**4**	*e*Pn	**Pn**	**11 01 16.5**	**+0.3**
SELS				*e*Sn	**Sn**	**11 02 20.9**	**-2.6**
SJES	**Sjenica**	**5.94**	**356**	*e*Pn	**Pn**	**11 01 18.5**	**+1.6**
SJES				*e*Sn	**Sn**	**11 02 22.9**	**-1.9**
STON	**Ston**	**5.96**	**339**	*e*Pn	**Pn**	**11 01 16.2**	**-0.8**
ZAPS	**Zavoj**	**6.14**	**14**	*e*Pn	**Pn**	**11 01 20.5**	**+1.0**
IVAS	**Ivanjica**	**6.25**	**357**	*e*Pn	**Pn**	**11 01 21.1**	**0.0**
BOVS	**Bovan**	**6.35**	**7**	*e*Pn	**Pn**	**11 01 22.1**	**-0.3**
GRUS	**Gruza**	**6.55**	**1**	*e*Pn	**Pn**	**11 01 25.1**	**-0.1**
DIVS	**Divibare**	**6.77**	**356**	*e*Pn	**Pn**	**11 01 27.6**	**-0.7**
DIVS				*e*Sn	**Sn**	**11 02 41.6**	**-3.6**
AKASG	**Malin Array Be**	**14.72**	**22**	Pn	**Pn**	**11 03 15.3**	**-1.6**
0.7nm,0.3s,baz=212,slow=9.0,SNR=3.5							
HFS	**Hagfors**	**23.24**	**351**	P	**P**	**11 04 54.1**	**-1.7**
3.6nm,0.8s,baz=165,slow=12,SNR=5.7							
3.6nm,0.8s							
FINES	**FINESS Array B**	**24.38**	**6**	P	**P**	**11 05 05.4**	**-1.3**
3.8nm,0.8s,baz=180,slow=11,SNR=3.8							
3.8nm,0.8s							
NOA	**NORSAR Array B**	**24.46**	**349**	P	**P**	**11 05 07.6**	**+0.1**
0.8nm,0.9s,baz=173,slow=9.9,SNR=2.6							
0.8nm,0.9s							
KURBB	**Kurchatov Arra**	**42.69**	**53**	P	**P**	**11 07 43.5**	**-1.9**
0.4nm,0.3s,baz=276,slow=8.7,SNR=2.5							
0.4nm,0.3s							
MKAR	**Makanchi Array**	**45.70**	**58**	P	**P**	**11 08 08.3**	**-1.3**
0.4nm,0.5s,baz=276,slow=7.2,SNR=5.0							
0.4nm,0.5s							
TSUM	**Tsumeb**	**56.30**	**183**	LR	LR	11 36 08.5	
comp=Z,74nm,18.8s,baz=329,slow=38							
LBTB	**Lobatse**	**62.19**	**175**	LR	LR	11 39 12.7	
comp=Z,83nm,18.1s,baz=210,slow=38							

IDC 30 11:09:02.2±19.0, 11°.15N×83°.89W, h0km, mb3.3/1, mbtmp3.3/1, Error ellipse: s-maj=1610.0km s-min=86.0km az=58.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**25.84**	**317**	P	P	11 14 35.6	0.0
0.5nm,0.9s,baz=134,slow=9.1,SNR=4.7							
0.5nm,0.9s							
ASAR	**Alice Springs**	**141.97**	**246**	PKP	PKPdf	11 28 36.4	-0.7
0.2nm,0.6s,baz=110,slow=3.9,SNR=1.9							
WRA	**Warramunga Arr**	**142.22**	**252**	PKP	PKPdf	11 28 37.0	-0.6
0.4nm,0.8s,baz=92,slow=2.8,SNR=5.0							

*IDC **30** 11:12:10.6±0.9, 10.°75S×78.°71W, h53km±7km, mb3.6/5, mbtmp3.9/9, MS3.1/1, Error ellipse: s-maj=19.3km s-min=8.9km az=55.0*
*VAO **30** 11:12:23.8±2.2, 10.°41S×77.°61W, h105km±12km, mb4.3*
ISC 30 11:12:10.8±0.8, 10.71S±0.08×78.6W±0.1, h52km, n29, σ1§41/31, mb3.7/6, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.14**	**127**	P	**Pn**	**11 12 44.7**	**+0.5**
	69nm,0.3s,baz=295,slow=12,SNR=39						
NNA				S	**Sn**	**11 13 12.2**	**+2.5**
	109nm,0.4s,baz=345,slow=17,SNR=5.7						
ATAH	**Atahualpa**	**3.56**	**3**	P	**Pn**	**11 13 05.2**	**+1.4**
	70nm,0.4s,baz=111,slow=3.0,SNR=66						
ATAH				S	**Sn**	**11 13 46.6**	**+1.7**
	57nm,0.5s,baz=143,slow=6.4,SNR=4.0						
CZSB	**Cruzeiro do Su**	**6.53**	**64**	*e*P	**Pn**	**11 13 43.4**	**-0.9**
TBTG	**Tabatinga, AM**	**10.78**	**54**	*e*P	**Pn**	**11 14 42.1**	**-0.4**
LPAZ	**La Paz**	**11.59**	**120**	P	**Pn**	**11 14 54.4**	**+0.2**
	0.6nm,0.5s,baz=34,slow=3.3,SNR=2.3						
LPAZ	**La Paz**	**11.59**	**120**	*e*P	**Pn**	**11 14 57.0**	**+2.8**
ETMB	**Extrema**	**12.22**	**87**	*e*P	**Pn**	**11 15 01.2**	**-1.0**
SIV	**San Ignacio**	**17.84**	**109**	P	**P**	**11 16 15.4**	**-0.2**
	0.9nm,0.3s,baz=286,slow=13,SNR=9.5						
BBSD	**Serra de San D**	**18.61**	**112**	*e*P	**Pn**	**11 16 24.6**	**-0.2**
MACA	**Manacapuru-AM**	**19.29**	**68**	*e*P	**P**	**11 16 29.1**	**-2.4**
PTLB	**Pontes e Lacer**	**19.53**	**106**	*e*P	**Pn**	**11 16 34.8**	**-1.0**
SDV	**Santo Domingo**	**21.02**	**22**	*e*P	**P**	**11 16 52.9**	**+2.4**
PDRB	**Porto dos Gac**	**21.48**	**94**	*e*P	**P**	**11 16 54.4**	**-0.8**
H03N2	**Juan Fernandez**	**22.63**	**181**	T	T	11 41 02.6	
	baz=0.8,slow=75,SNR=31						
H03N1	**Juan Fernandez**	**22.63**	**181**	T	T	11 41 02.6	
	baz=0.8,slow=75,SNR=38						
H03N3	**Juan Fernandez**	**22.64**	**181**	T	T	11 41 07.5	
	baz=0.8,slow=75,SNR=32						
ITTB	**Itaituba**	**23.52**	**76**	*e*P	**P**	**11 17 15.0**	**-1.4**
CPUP	**Villa Florida**	**25.40**	**131**	P	**P**	**11 17 34.5**	**+1.1**
	2.4nm,0.8s,baz=328,slow=11,SNR=6.3						
	2.4nm,0.8s						
CPUP	**Villa Florida**	**25.40**	**131**	*e*P	**P**	**11 17 36.6**	**+3.2**
AMBA	**Amambai (Brazi**	**25.61**	**121**	*e*P	**P**	**11 17 36.9**	**+1.4**
MDP	**Montagnes des**	**30.25**	**60**	LR	LR	11 30 11.5	
	comp=Z,36nm,18.9s,baz=280,slow=36						
NBAN	**Anadia - AL**	**41.65**	**93**	*e*P	**P**	**11 19 53.7**	**-0.8**
TXAR	**Lajitas Array**	**46.58**	**329**	P	**P**	**11 20 32.9**	**-0.9**
	0.3nm,0.9s,baz=161,slow=5.7,SNR=2.5						
TXAR				pP	**pP**	**11 20 48.0**	**+0.5**
	0.2nm,0.8s,baz=107,slow=5.8,SNR=2.3						
	0.3nm,0.9s						
NVAR	**Mina Array Bea**	**61.34**	**325**	pP	pP	11 22 37.8	+2.0
	0.4nm,0.7s,baz=133,slow=6.6,SNR=3.7						
DBIC	**Dimbokro**	**75.41**	**80**	P	**P**	**11 23 48.8**	**-0.9**
	4.7nm,0.8s,baz=209,slow=3.4,SNR=4.1						
	4.7nm,0.8s						
SNAA	**Sanae**	**75.43**	**162**	P	**P**	**11 23 47.4**	**-1.4**
	1.0nm,1.0s,baz=26,slow=21,SNR=2.6						
SNAA				pP	**pP**	**11 24 03.4**	**0.0**
	0.8nm,0.8s,baz=245,slow=8.2,SNR=2.3						
	1.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**83.13**	**75**	P	**P**	**11 24 32.3**	**+0.4**
	0.8nm,0.9s,baz=217,slow=5.2,SNR=3.0						
TORD				pP	**pP**	**11 24 46.6**	**-0.1**
	0.7nm,0.9s,baz=224,slow=6.0,SNR=2.9						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**133.33**	**223**	PKP	**PKiKP**	**11 31 22.5**	**-0.7**
	0.2nm,0.6s,baz=135,slow=1.3,SNR=5.0						
ASAR				pPKP	**pPKPdf**	**11 31 36.8**	**-0.6**
	0.2nm,0.7s,baz=149,slow=1.9,SNR=1.9						
WRA	**Warramunga Arr**	**135.51**	**227**	PKP	**PKiKP**	**11 31 27.2**	**-0.4**
	0.3nm,0.6s,baz=125,slow=2.0,SNR=6.3						
WRA				pPKP	**pPKPdf**	**11 31 41.2**	**-0.3**
	0.5nm,0.6s,baz=125,slow=2.1,SNR=4.0						

MEX 30 11:14:58.5±0.6, 15.°64N×95.°53W, h25km±19km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.57**	**283**	*e*P	Pb	11 15 08.3	-1.7
HUIG				*e*S	Sb	11 15 15.6	-2.2
CMIG	**Matias Romero**	**1.57**	**23**	*e*P	Pn	11 15 21.0	-3.8
CMIG				*e*S	Sn	11 15 39.2	-5.2
PEIG	**Puerto Escondi**	**1.60**	**283**	*e*P	Pn	11 15 22.1	-3.1
PEIG				*i* S	Sn	11 15 40.5	-4.5
CARR	**Arriaga**	**1.67**	**69**	*e*P	Pn	11 15 21.1	-5.1
CARR				*i* S	Sn	11 15 40.4	-6.4
VHO	**Vista Hermosa**	**1.83**	**321**	*e*P	Pn	11 15 26.2	-2.4
VHO				*i* S	Sn	11 15 47.6	-3.6
NEUV	**Arroyo Zacate**	**2.08**	**353**	*e*P	Pn	11 15 29.5	-2.3
NEUV				*i* S	Sn	11 15 54.3	-2.5
UXUV	**UXUV**	**2.13**	**38**	*e*P	Pn	11 15 29.9	-2.6
UXUV				*e*S	Sn	11 15 55.5	-2.7
PCIG		**2.23**	**88**	*e*P	Pn	11 15 32.2	-1.6
PCIG				*e*S	Sn	11 15 56.9	-3.7
YOIG	**Yosondua**	**2.28**	**302**	*e*P	Pn	11 15 34.0	-0.8
YOIG				*i* S	Sn	11 16 00.6	-1.7
TGIG		**2.58**	**64**	*e*P	Pn	11 15 37.8	-0.9
TGIG				*i* S	Sn	11 16 09.3	0.0
PNIG	**Pinotepa**	**2.61**	**287**	*e*P	Pn	11 15 36.9	-2.1
PNIG				*e*S	Sn	11 16 03.9	-6.1
TXIG	**Tlaxiaco**	**2.68**	**307**	*e*P	Pn	11 15 39.4	-1.0
TXIG				*e*S	Sn	11 16 07.1	-5.0
TOIG	**Toxpalan**	**2.85**	**329**	*e*P	Pn	11 15 43.4	+0.9
TOIG				*e*S	Sn	11 16 16.8	+0.7
HLIG	**Huajuapan de L**	**3.08**	**315**	*e*P	Pn	11 15 47.1	+1.3
HLIG				*e*S	Sn	11 16 22.8	+0.9
TPIG	**Tehuac#an**	**3.27**	**328**	*e*P	Pn	11 15 51.1	+2.7
TPIG				*e*S	Sn	11 16 23.0	-3.7
CCIG	**Comitan**	**3.33**	**78**	*e*P	Pn	11 15 48.5	-0.6
CCIG				*i* S	Sn	11 16 21.5	-6.5
CHUJ	**Union Juarez**	**3.35**	**99**	*e*P	Pn	11 15 46.5	-2.9
CHUJ				*e*S	Sn	11 16 22.0	-6.5
FTIG	**Fresnillo de T**	**3.36**	**313**	*e*P	Pn	11 15 48.7	-0.8
FTIG				*i* S	Sn	11 16 23.4	-5.4
MGIG	**Malinaltepec**	**3.37**	**298**	*e*P	Pn	11 15 50.8	+1.1
MGIG				*e*S	Sn	11 16 23.3	-5.8
TLIG	**Tlapa**	**3.48**	**304**	*e*P	Pn	11 15 52.8	+1.5
TLIG				*e*S	Sn	11 16 26.2	-5.6
JAUV	**Jalcomulco**	**3.90**	**342**	*e*P	Pn	11 15 55.9	-1.0
JAUV				*e*S	Sn	11 16 39.8	-2.2
PBCV	**Popocatepetl**	**4.41**	**319**	*e*P	Pn	11 16 03.5	-0.6
PBCV				*i* S	Sn	11 16 49.3	-5.6
PBXN	**Popocatepetl**	**4.49**	**319**	*e*P	Pn	11 16 01.1	-4.3
PBXN				*e*S	Sn	11 16 52.4	-4.7
YAIG	**Yautepec**	**4.66**	**314**	*e*P	Pn	11 16 12.7	+5.3
YAIG				*e*S	Sn	11 17 05.7	+4.9
PLIG	**Platanillo**	**4.68**	**306**	*e*P	Pb	11 16 16.7	-3.3
PLIG				*e*S	Sn	11 17 05.0	+3.7
CXUV	**Coxquihui**	**4.92**	**337**	*e*P	Pn	11 16 10.8	-0.1
CXUV				*e*S	Sn	11 17 09.3	+2.4
ARIG	**Puente Sto Nin**	**5.30**	**300**	*e*P	Pn	11 16 16.8	+0.6
ARIG				*e*S	Sn	11 17 12.0	-4.6

*JMA **30** 11:30:44.4±0.3, 32.°N±2.°×13.°8E±.°, h416km, MV3.9/56, FAR S OFF TOKAI DISTRICT*
*IDC **30** 11:30:46.4±1.2, 32.°39N×137.°80E, h390km±11km, mb3.2/16, mbtmp4.0/20, Error ellipse: s-maj=14.2km s-min=11.5km az=98.0*
ISC 30 11:30:46.1±0.6, 32.°34N±0.°06×138.°02E±0.°07, h400km, n47, σ1§86/59, mb3.5/16, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**1.67**	**64**	*e*P	**Pn**	**11 31 41.1**	**+1.1**
JHJ2	**Mitsune**	**1.70**	**63**	P	**Pn**	**11 31 41.6**	**+1.4**
JHJ2	**Mitsune**	**1.70**	**63**	P	**Pn**	**11 31 41.1**	**+0.9**
HMMJ	**Hamamatsu 2**	**2.52**	**354**	P	**Pn**	**11 31 46.1**	**+0.7**
JNY	**Yasuok**	**3.01**	**358**	P	**Pn**	**11 31 50.1**	**+0.7**
JOD2	**Odawara 2**	**3.05**	**17**	P	**Pn**	**11 31 49.7**	**+0.2**
JOD2				*e*S	**S**	**11 32 39.9**	**-1.2**
JYN	**Shimob**	**3.18**	**8**	P	**Pn**	**11 31 51.5**	**+0.8**
BSO3	**Boso 3**	**3.22**	**40**	P	**Pn**	**11 31 50.2**	**-0.5**
BSO3				*e*S	**S**	**11 32 40.9**	**-2.2**
JGF	**Kuroka**	**3.30**	**351**	P	**Pn**	**11 31 52.1**	**+0.4**
JAI	**Aioi**	**3.33**	**297**	P	**Pn**	**11 31 51.4**	**-0.6**
BSO1	**Boso 1**	**3.38**	**46**	P	**Pn**	**11 31 51.2**	**-0.5**
BSO1				*e*S	**S**	**11 32 44.0**	**-1.1**
JYTA	**Yamagatataniai**	**3.42**	**342**	*e*P	**Pn**	**11 31 53.6**	**+1.0**
JRY	**Ryogami san**	**3.74**	**11**	P	**Pn**	**11 31 56.0**	**+0.3**
JRY				*e*S	**S**	**11 32 51.0**	**-1.1**
JMN	**Monobe**	**3.74**	**293**	P	**Pn**	**11 31 55.4**	**-0.3**
MJAR	**Matsushiro Arr**	**4.20**	**2**	P	**Pn**	**11 31 59.5**	**-0.4**
	12nm,0.7s,baz=179,slow=9.8,SNR=27						
MJAR				S	**S**	**11 32 57.3**	**-2.7**
	2.0nm,0.4s,baz=150,slow=40,SNR=2.7						
MAJO	**Matsushiro**	**4.20**	**2**	P	**Pn**	**11 31 59.7**	**-0.2**
JAG	**Ashikaga**	**4.24**	**16**	P	**Pn**	**11 31 59.3**	**-1.1**
JAG				*e*S	**S**	**11 32 55.8**	**-4.9**
JYT	**Yasato**	**4.28**	**24**	P	**Pn**	**11 31 60.0**	**-0.7**
JYT				*e*S	**S**	**11 32 55.7**	**-5.6**
JTO	**Tosashimizu**	**4.43**	**278**	P	**Pn**	**11 32 01.6**	**-0.7**
JHO	**Hitachi**	**4.75**	**26**	P	**Pn**	**11 32 04.6**	**-0.8**
JHO				*e*S	**S**	**11 33 05.2**	**-4.8**
JHS	**Saijyo**	**4.87**	**304**	*e*P	**Pn**	**11 32 07.0**	**+0.2**
JFK	**Kawauchi**	**5.54**	**24**	P	**Pn**	**11 32 13.3**	**-0.3**
JFK				*e*S	**S**	**11 33 19.6**	**-5.4**
JSD	**Sado**	**5.69**	**2**	P	**Pn**	**11 32 14.7**	**-0.5**
JMM	**Marumori**	**5.96**	**22**	P	**Pn**	**11 32 17.7**	**-0.4**
JNU	**Nakatsue**	**6.07**	**279**	P	**Pn**	**11 32 17.7**	**-1.8**
	4.0nm,0.9s,baz=209,slow=16,SNR=2.0						
CBIJ	**Chichi jima**	**6.36**	**144**	*e*P	**Pn**	**11 32 21.5**	**-1.2**
CBIJ				*e*S	**S**	**11 33 36.3**	**-5.1**
JCJ	**Chichijima**	**6.36**	**144**	P	**Pn**	**11 32 21.5**	**-1.2**
JTU	**Tsushima**	**7.53**	**289**	P	**P**	**11 32 34.9**	**-1.2**
JTM	**Tenmabayashi**	**8.78**	**15**	P	**P**	**11 32 50.2**	**+0.3**
KSRS	**Korea Array**	**9.73**	**304**	P	**Pn**	**11 33 00.2**	**-0.6**
	3.4nm,0.7s,baz=120,slow=11,SNR=20						
ASAJ	**Asahikawa**	**12.29**	**16**	P	**Pn**	**11 33 31.3**	**+0.8**
	6.7nm,0.4s,baz=234,slow=10.0,SNR=27						
PETK	**Petropavlovsk-**	**25.14**	**29**	P	**P**	**11 35 38.2**	**+1.5**
	3.5nm,1.0s,baz=224,slow=6.0,SNR=6.2						
	3.5nm,1.0s						
SONM	**Songino Array**	**28.47**	**312**	P	**P**	**11 36 06.5**	**+0.1**
	0.7nm,0.4s,baz=128,slow=9.3,SNR=4.6						
	0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**37.69**	**258**	P	**P**	**11 37 25.4**	**0.0**
	0.5nm,0.3s,baz=47,slow=7.9,SNR=6.4						
	0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**43.19**	**316**	P	**P**	**11 38 08.7**	**-0.6**
	0.9nm,0.4s,baz=86,slow=9.3,SNR=4.5						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**44.41**	**306**	P	**P**	**11 38 18.8**	**-0.2**
	2.0nm,0.6s,baz=85,slow=9.5,SNR=17						
	2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**46.83**	**311**	P	**P**	**11 38 36.9**	**-0.7**
	1.7nm,0.2s,baz=92,slow=6.9,SNR=9.0						
	1.7nm,0.2s						
BVAR	**Borovoye Array**	**51.77**	**315**	P	**P**	**11 39 14.4**	**0.0**
	1.5nm,0.5s,baz=105,slow=7.2,SNR=7.7						
BVAR				PcP	**PcP**	**11 40 21.9**	**+0.7**
	0.6nm,0.6s,baz=64,slow=3.4,SNR=2.1						
	1.5nm,0.5s						
WRA	**Warramunga Arr**	**52.10**	**184**	P	**P**	**11 39 18.0**	**+0.8**
	0.2nm,0.3s,baz=0.1,slow=7.7,SNR=17						
WRA				PcP	**PcP**	**11 40 24.5**	**+1.6**
	0.4nm,0.8s,baz=357,slow=4.6,SNR=2.8						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**54.95**	**30**	P	**P**	**11 39 38.5**	**+1.5**
	0.6nm,0.6s,baz=270,slow=6.1,SNR=11						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**55.83**	**185**	P	**P**	**11 39 45.2**	**+1.4**
	0.2nm,0.6s,baz=14,slow=10,SNR=8.1						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**69.26**	**28**	P	**P**	**11 41 12.4**	**+1.5**
	0.3nm,0.6s,baz=305,slow=6.9,SNR=6.9						
	0.3nm,0.6s						
FINES	**FINESS Array B**	**71.65**	**332**	P	**P**	**11 41 24.8**	**-0.3**
	6.9nm,1.1s,baz=90,slow=1.9,SNR=8.6						
	6.9nm,1.1s						
KBZ	**Khabaz**	**71.83**	**311**	P	**P**	**11 41 26.6**	**+0.1**
	4.1nm,0.9s,baz=22,slow=2.3,SNR=4.9						
	4.1nm,0.9s						
AKASG	**Malin Array Be**	**76.27**	**322**	P	**P**	**11 41 51.6**	**-0.2**
	0.6nm,0.3s,baz=51,slow=6.3,SNR=5.6						
	0.6nm,0.3s						
BRTR	**Keskin Array B**	**79.82**	**311**	P	**P**	**11 42 12.2**	**+0.7**
	1.1nm,0.7s,baz=69,slow=4.0,SNR=2.7						
	1.1nm,0.7s						
TXAR	**Lajitas Array**	**95.23**	**51**	P	**P**	**11 43 29.0**	**+3.2**
	0.2nm,0.6s,baz=312,slow=4.5,SNR=2.6						
	0.2nm,0.6s						

*ISK **30** 11:32:13.3, 41.°02N×43.°91E, h8km, ML2.7/12*
*NORS **30** 11:32:13.8, 41.°00N×44.°13E, h2km, MPVA4.3*
*AFAD **30** 11:32:13.3±0.0, 41.°07N×43.°89E, h7km±1km, MW3.3*
*MOS **30** 11:32:13.3, 40.°94N×43.°77E, h1km, MPVA4.0*
*TIF **30** 11:32:13.3, 41.°05N×43.°88E, h11km*
*AZER **30** 11:32:14.3, 41.°00N×44.°10E, h8km, ml2.8*
ISC 30 11:32:13.5±1.0, 41.°02N±0.°01×43.°91E±0.°01, h7km±9km, n68, σ1§00/129, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAK	**Akyaka**	**0.40**	**214**	P	**Pg**	**11 32 21.3**	**0.0**
EAK				S	**Sg**	**11 32 27.6**	**+0.9**
EAK				*i* AML	AML	11 32 33.0	
	comp=N,884nm,0.5s						
EAK				*i* AML	AML	11 32 35.0	
	comp=E,1μm,0.5s						
AKH	**Akhalkalaki**	**0.50**	**321**	Pg	**Pg**	**11 32 23.5**	**+0.3**
AKH				Sg	**Sg**	**11 32 30.7**	**+1.0**
AKH	**Akhalkalaki**	**0.50**	**321**	P	**Pg**	**11 32 23.4**	**+0.3**
AKH				S	**Sg**	**11 32 30.3**	**+0.6**
AKH	**Akhalkalaki**	**0.50**	**321**	*e*Pg	**Pg**	**11 32 23.2**	**0.0**
AKH				*e*Sg	**Sg**	**11 32 30.3**	**+0.6**
KZRT	**Kazreti**	**0.52**	**45**	P	**Pg**	**11 32 24.0**	**+0.5**
KZRT				S	**Sb**	**11 32 31.5**	**-1.3**
TRLG	**Trialeti**	**0.54**	**16**	P	**Pg**	**11 32 24.3**	**+0.4**
TRLG				S	**Sg**	**11 32 31.9**	**+0.9**
KARS	**Kars**	**0.74**	**238**	Pg	**Pb**	**11 32 28.1**	**-0.7**
KARS				Sg	**Sb**	**11 32 38.8**	**-0.4**
BOZK	**Kars-Merkez-Bo**	**0.83**	**239**	P	**Pg**	**11 32 29.3**	**0.0**
BOZK				S	**Sg**	**11 32 40.5**	**+0.4**
BOZK				*i* AML	AML	11 32 43.0	
	comp=N,147nm,0.4s						
BOZK				*i* AML	AML	11 32 43.0	
	comp=E,208nm,0.5s						
TBLG	**Delisi**	**0.95**	**41**	Pg	**Pb**	**11 32 32.3**	**+0.1**
TBLG				Sg	**Sb**	**11 32 45.4**	**+0.4**
TBLG	**Delisi**	**0.95**	**41**	P	**Pg**	**11 32 31.6**	**0.0**
TBLG				S	**Sb**	**11 32 45.0**	**0.0**
AHAN	**Ardahan-Merkez**	**0.98**	**279**	P	**Pg**	**11 32 32.1**	**-0.1**
AHAN				S	**Sb**	**11 32 45.7**	**-0.4**
AHAN				*i* AML	AML	11 32 47.0	
	comp=N,156nm,0.5s						
AHAN				*i* AML	AML	11 32 55.0	
	comp=E,189nm,0.5s						
SEAG	**Tbilisi Sea**	**1.00**	**42**	P	**Pb**	**11 32 32.9**	**-0.4**
SEAG				S	**Sb**	**11 32 47.2**	**+0.6**
GOLE	**Ardahan-G¶le**	**1.01**	**260**	P	**Pg**	**11 32 32.8**	**-0.1**
GOLE				S	**Sb**	**11 32 47.4**	**+0.4**
GOLE				*i* AML	AML	11 32 50.0	
	comp=N,170nm,0.5s						
GOLE				*i* AML	AML	11 32 58.0	
	comp=E,112nm,0.9s						
EPOS	**Posof**	**1.01**	**299**	P	**Pg**	**11 32 32.5**	**-0.4**
EPOS				S	**Sg**	**11 32 46.2**	**+0.2**
EPOS				*i* AML	AML	11 32 47.0	
	comp=E,146nm,0.3s						
EPOS				*i* AML	AML	11 32 48.0	
	comp=N,140nm,0.3s						
TASB	**TASBURUN-IGDIR**	**1.07**	**166**	Pg	**Pg**	**11 32 33.8**	**-0.1**
TASB				Sg	**Sb**	**11 32 48.8**	**+0.4**
GNI	**Garni**	**1.08**	**144**	Pg	**Pb**	**11 32 34.5**	**0.0**
GNI				Sg	**Sn**	**11 32 49.8**	**-0.6**
GNI	**Garni**	**1.08**	**144**	*e*Pg	**Pn**	**11 32 35.0**	**-0.1**
GNI				*e*Sg	**Sn**	**11 32 50.0**	**-0.4**
ALIG	**Mtskhetisjvari**	**1.10**	**350**	P	**Pg**	**11 32 34.3**	**-0.3**
ALIG				S	**Sb**	**11 32 49.2**	**-0.3**
QZX	**Qazax, Azerbai**	**1.11**	**88**	P	**Pb**	**11 32 34.8**	**-0.2**
QZX				S	**Sb**	**11 32 49.6**	**-0.1**
IGDI	**IGDIR**	**1.16**	**173**	P	**Pg**	**11 32 34.9**	**-0.8**
IGDI				S	**Sg**	**11 32 50.6**	**-0.1**
IGDI				*i* AML	AML	11 32 51.0	
	comp=N,230nm,0.2s						
IGDI				*i* AML	AML	11 32 51.0	
	comp=E,233nm,0.3s						
SENK	**Senkaya-Erzuru**	**1.27**	**249**	Pn	**Pg**	**11 32 37.8**	**0.0**
SENK				Sn	**Sn**	**11 32 55.5**	**+0.3**
KOTA	**Agri, Merkez-K**	**1.33**	**204**	P	**Pg**	**11 32 39.4**	**+0.4**
KOTA				S	**Sn**	**11 33 01.7**	**+5.1**
GHRG	**Ghorjomi**	**1.38**	**302**	P	**Pn**	**11 32 39.0**	**-0.4**
GHRG				S	**Sn**	**11 32 57.6**	**-0.3**
GDB	**GEDABAY**	**1.43**	**101**	P	**Pb**	**11 32 40.1**	**-0.5**
GDB				S	**Sg**	**11 32 59.1**	**-0.4**
HYR	**Heyderabad**	**1.49**	**151**	P	**Pg**	**11 32 43.1**	**+1.1**
HYR				S	**Sg**	**11 33 03.0**	**+1.8**
TKB	**Tkibuli**	**1.50**	**333**	P	**Pb**	**11 32 41.6**	**0.0**
TKB				S	**Sg**	**11 33 01.6**	**+0.1**
GUDG	**Gudauri**	**1.50**	**16**	P	**Pb**	**11 32 41.7**	**-0.1**
GUDG				S	**Sg**	**11 33 01.7**	**-0.2**
GUDG	**Gudauri**	**1.50**	**16**	*e*Pg	**Pb**	**11 32 41.8**	**-0.1**
GUDG				*e*Sg	**Sg**	**11 33 02.2**	**+0.4**
DAGI	**Agillar**	**1.51**	**273**	P	**Pn**	**11 32 41.0**	**0.0**
DAGI				S	**Sb**	**11 33 01.0**	**-0.2**
DAGI				*i* AML	AML	11 33 05.0	
	comp=N,48nm,0.5s						
DAGI				*i* AML	AML	11 33 06.0	
	comp=E,47nm,0.7s						
CHRG	**Chargali**	**1.51**	**30**	P	**Pb**	**11 32 41.8**	**-0.2**
CHRG				S	**Sg**	**11 33 02.0**	**-0.1**
AGRB	**Hanur-Agry**	**1.60**	**206**	Pn	**Pb**	**11 32 43.5**	**0.0**
DDEM	**Demirkent**	**1.64**	**266**	P	**Pn**	**11 32 43.0**	**+0.2**
DDEM				S	**Sg**	**11 33 05.8**	**-0.3**
DDEM				*i* AML	AML	11 33 11.0	
	comp=N,112nm,0.3s						
DDEM				*i* AML	AML	11 33 12.0	
	comp=E,112nm,0.4s						
DBAD	**Bademkaya**	**1.67**	**271**	P	**Pb**	**11 32 43.9**	**-0.7**
DBAD				S	**Sb**	**11 33 05.5**	**-0.5**
DBAD				*i* AML	AML	11 33 08.0	
	comp=N,51nm,0.3s						
DBAD				*i* AML	AML	11 33 12.0	
	comp=E,51nm,0.5s						
DBOC	**Borcka**	**1.72**	**282**	P	**Pb**	**11 32 44.8**	**-0.7**
DBOC				S	**Sb**	**11 33 06.6**	**-0.7**
DBOC				*i* AML	AML	11 33 11.0	
	comp=E,35nm,0.5s						
MTEO	**Meteo**	**1.72**	**16**	P	**Pb**	**11 32 45.9**	**+0.1**
MTEO				S	**Sg**	**11 33 09.4**	**+0.5**
BATM	**Batumi**	**1.77**	**290**	Pn	**Pn**	**11 32 44.9**	**+0.4**
BATM	**Batumi**	**1.77**	**290**	P	**Pb**	**11 32 45.6**	**-0.6**
BATM				S	**Sg**	**11 33 09.5**	**-0.7**
BCA	**Borcka**	**1.77**	**285**	Pn	**Pb**	**11 32 45.6**	**-0.7**
LACR	**Lac**	**1.83**	**9**	*e*Pg	**Pb**	**11 32 47.6**	**+0.3**
LACR				*e*Sg	**Sg**	**11 33 12.4**	**+0.2**
KOPR	**Koprukoy-ERZUR**	**1.87**	**237**	Pn	**Pb**	**11 32 46.9**	**-1.2**
CLDR	**Caldiran**	**1.88**	**180**	Pn	**Pn**	**11 32 46.5**	**+0.3**
HOPA	**Hopa-Artvin**	**1.89**	**282**	Pn	**Pb**	**11 32 47.3**	**-1.0**
DIGR	**Digorskoe uzhe**	**1.89**	**353**	*e*Pg	**Pb**	**11 32 48.8**	**+0.3**
DIGR				*e*Sg	**Sg**	**11 33 15.1**	**+0.8**
VSHL	**Vashlovani**	**1.90**	**83**	P	**Pg**	**11 32 49.4**	**-0.4**
VSHL				S	**Sg**	**11 33 17.5**	**+3.1**
LGD	**Lagodekhi**	**1.94**	**64**	P	**Pb**	**11 32 48.7**	**-0.4**
LGD				S	**Sg**	**11 33 15.8**	**+0.1**
SBZ	**Shahbuz**	**2.05**	**142**	P	**Pg**	**11 32 51.8**	**-1.0**
SBZ				S	**Sg**	**11 33 20.0**	**+0.5**
ZKTA	**Zakatala**	**2.14**	**72**	P	**Pb**	**11 32 52.1**	**-0.4**
ZKTA				S	**Sg**	**11 33 21.8**	**-0.2**
ARNR	**Ardon**	**2.18**	**7**	*e*Pn	**Pg**	**11 32 54.4**	**-0.8**
ARNR				*e*Sn	**Sb**	**11 33 20.3**	**-0.1**
NAX	**Nakhchivan**	**2.21**	**146**	S	**Sg**	**11 33 23.2**	**-1.3**
LSNR	**Lesken**	**2.26**	**359**	*e*Pn	**Pg**	**11 32 55.6**	**-1.1**
LSNR				*e*Sn	**Sg**	**11 33 25.1**	**-0.9**
BTLR	**Botlikh**	**2.38**	**46**	*e*Pn	**Pb**	**11 32 56.9**	**+0.1**
BTLR				*e*Sn	**Sb**	**11 33 27.9**	**+1.5**
BTKR	**Batakoyurt**	**2.40**	**11**	*e*Pn	**Pg**	**11 32 59.2**	**-0.2**
BTKR				*e*Sn	**Sg**	**11 33 30.9**	**+0.5**
MNGR	**Mingechevir, A**	**2.42**	**95**	P	**Pb**	**11 32 57.0**	**-0.4**
MNGR				S	**Sg**	**11 33 32.4**	**+1.1**
SEKA

CTYL	**Yalikoy Yolu**	**1.01 329**	Pg	**Pn**	**11 39 52.0**	**-0.1**
GEYV	**SAKARYA_Geyve**	**1.01 97**	P	**Pg**	**11 39 51.2**	**-0.3**
GEYV			S	**Sb**	**11 40 04.6**	**-0.2**
SAUV	**Serdivan-Sakar**	**1.03 82**	Pg	**Pb**	**11 39 52.0**	**+0.1**
KAND	**Kocaeli-Kandir**	**1.04 62**	P	**Pg**	**11 39 51.6**	**-0.4**
KAND			S	**Sn**	**11 40 06.3**	**-0.6**
DST	**Dursunbey**	**1.04 196**	Pg	**Pn**	**11 39 52.4**	**-0.2**
GPA	**Golpazari**	**1.06 107**	Pg	**Pn**	**11 39 53.6**	**+0.7**
AUBOZ	**BOŽOYUK**	**1.07 131**	P	**Pn**	**11 39 53.0**	**0.0**
AUBOZ			S	**Sn**	**11 40 07.7**	**-0.1**
BLKS	**Balkesir-Sus**	**1.07 227**	S	**Sb**	**11 40 06.9**	**+0.4**
CRLT	**Corlu**	**1.08 299**	Pn	**Pb**	**11 39 52.9**	**+0.3**
DURS	**Dursunbey**	**1.08 201**	P	**Pb**	**11 39 52.8**	**+0.1**
DURS			S	**Sn**	**11 40 07.7**	**-0.5**
KAYN	**Sakarya, Kayna**	**1.09 71**	P	**Pb**	**11 39 52.4**	**-0.5**
KAYN			S	**Sn**	**11 40 07.8**	**-0.5**
GONE	**Gonen-Balikesi**	**1.14 241**	Pn	**Pn**	**11 39 54.2**	**+0.3**
TKR	**Tekirdag**	**1.16 289**	Pn	**Pg**	**11 39 55.3**	**+1.0**
GULT	**Gulveren**	**1.18 98**	Pn	**Pg**	**11 39 54.9**	**+0.1**
BKES	**Balkesir-Mer**	**1.19 223**	P	**Pb**	**11 39 53.9**	**-0.7**
BKES			S	**Sn**	**11 40 11.1**	**+0.3**
TVSB	**Tavsanli**	**1.22 162**	Pn	**Pn**	**11 39 55.1**	**0.0**
EMET	**Ktahya-Emet**	**1.26 168**	P	**Pg**	**11 39 57.0**	**+0.8**
EMET			S	**Sn**	**11 40 12.7**	**+0.1**
VIZE	**Kirklareli, Vi**	**1.29 319**	P	**Pn**	**11 39 56.3**	**+0.3**
VIZE			S	**Sb**	**11 40 12.2**	**-0.8**
KRBG	**Karabiga-Canak**	**1.30 261**	Pn	**Pb**	**11 39 56.6**	**+0.1**
ANDZ	**Kutahya, Merke**	**1.31 147**	P	**Pn**	**11 39 56.3**	**0.0**
ANDZ			S	**Sg**	**11 40 14.1**	**-0.1**
BORA	**Eskisehir**	**1.34 122**	P	**Pg**	**11 39 57.6**	**-0.2**
BORA			S	**Sg**	**11 40 15.5**	**+0.2**
BALY	**Balya**	**1.36 231**	P	**Pn**	**11 39 56.0**	**-1.0**
BALY			S	**Sn**	**11 40 15.4**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.37 274**	Pn	**Pb**	**11 39 58.1**	**+0.4**
SRCK	**Saricakaya, Es**	**1.38 114**	Pn	**Pg**	**11 39 58.2**	**-0.3**
SUSU	**Bolu-G¶ynk-**	**1.45 100**	P	**Pg**	**11 39 59.4**	**-0.4**
SUSU			S	**Sg**	**11 40 20.0**	**+1.4**
YENI	**Yenice-Canakka**	**1.49 244**	Pn	**Pb**	**11 39 59.9**	**+0.2**
SIMA	**Simav-Kutahya**	**1.53 180**	Pn	**Pg**	**11 40 01.1**	**-0.2**
BTAS	**Taskesti**	**1.54 91**	P	**Pg**	**11 40 00.9**	**-0.7**
BTAS			S	**Sg**	**11 40 22.2**	**+0.7**
STEP	**BALIKESIR_Sava**	**1.57 219**	P	**Pn**	**11 40 00.4**	**+0.6**
STEP			S	**Sn**	**11 40 20.2**	**+0.1**
CANM	**Can-anakkale**	**1.59 248**	Pn	**Pb**	**11 40 01.6**	**+0.2**
SHAP	**Saphane-Kutahy**	**1.60 173**	Pn	**Pb**	**11 40 01.6**	**0.0**
GEDZ	**Gediz**	**1.60 168**	Pn	**Pb**	**11 40 01.5**	**-0.1**
MDUB	**Mudurnu**	**1.69 94**	Pn	**Pb**	**11 40 03.1**	**-0.2**
LPK	**Lapseki**	**1.71 263**	Pn	**Pb**	**11 40 03.5**	**+0.1**
ARMN	**Kirklareli, Me**	**1.71 317**	P	**Pn**	**11 40 01.3**	**-0.5**
ARMN			S	**Sb**	**11 40 26.0**	**+1.0**
GORD	**Gordes-Manisa**	**1.81 200**	Pn	**Pb**	**11 40 04.9**	**-0.3**
BUHA	**Balikesir, Bur**	**1.83 233**	P	**Pb**	**11 40 05.0**	**-0.5**
BUHA			S	**Sb**	**11 40 29.8**	**+1.2**
UKOP	**Uzunkopru-Edir**	**1.85 287**	Pn	**Pb**	**11 40 06.0**	**+0.1**
ERIK	**Erikli-Kesan**	**1.88 273**	Pn	**Pb**	**11 40 05.6**	**-0.7**
USAK	**Uak-Merkez**	**1.90 179**	P	**Pb**	**11 40 06.9**	**+0.3**
USAK			S	**Sg**	**11 40 32.8**	**-0.2**
GELI	**Tayfur-Gelibol**	**1.92 264**	Pn	**Pb**	**11 40 06.9**	**-0.2**
AKS	**Akhisar**	**1.95 208**	Pn	**Pb**	**11 40 06.9**	**-0.7**
COMU	**Canakkale**	**1.98 256**	Pn	**Pb**	**11 40 07.3**	**-0.8**
KDZE	**Karadeniz Ereo**	**1.99 69**	Pn	**Pb**	**11 40 07.2**	**-1.1**
CIFT	**Cifteler, Eski**	**2.03 127**	Pn	**Pb**	**11 40 08.5**	**-0.4**
BNAZ	**Uak-Banaz**	**2.05 160**	P	**Pg**	**11 40 12.0**	**+0.7**
BNAZ			S	**Sg**	**11 40 38.2**	**+0.3**
AUMIH	**MIHALICIK**	**2.06 110**	P	**Pn**	**11 40 06.8**	**+0.2**
AUMIH			S	**Sg**	**11 40 38.7**	**+0.7**
GOMA	**Golmarmara-Man**	**2.07 204**	Pn	**Pb**	**11 40 08.7**	**-0.9**
YUVA	**Yuva-Kibriscik**	**2.08 95**	Pn	**Pb**	**11 40 08.9**	**-0.8**
KULA	**Kula-Manisa**	**2.11 187**	Pn	**Pn**	**11 40 08.5**	**+1.2**
ENEZ	**Enez**	**2.15 274**	Pn	**Pb**	**11 40 10.6**	**-0.4**
EZN	**Ezine**	**2.18 250**	Pn	**Pb**	**11 40 10.6**	**-0.8**
KIBS	**BOLU**	**2.20 94**	P	**Pb**	**11 40 12.5**	**+0.7**
KIBS			S	**Sg**	**11 40 45.0**	**+2.3**
ALN	**Alexandroupoli**	**2.25 278**	Pn	**Pb**	**11 40 11.8**	**-0.8**
BYAT	**Afyon-Bayat**	**2.27 136**	P	**Pg**	**11 40 17.5**	**+1.9**
BYAT			S	**Sg**	**11 40 44.9**	**0.0**
SVRH	**Sivrihisar-ESK**	**2.27 120**	Pn	**Pb**	**11 40 11.6**	**-1.5**
PASA	**Karahalli, USA**	**2.29 170**	P	**Pn**	**11 40 09.6**	**-0.2**
PASA			S	**Sg**	**11 40 44.4**	**-1.3**
DEVR	**Zonguldak/Devr**	**2.33 76**	P	**Pn**	**11 40 10.6**	**+0.4**
DEVR			S	**Sb**	**11 40 41.2**	**-1.6**
BCAM	**Yenicaga**	**2.35 84**	P	**Pn**	**11 40 11.6**	**+0.9**
BCAM			S	**Sb**	**11 40 42.8**	**-0.8**
GADA	**Gvkgeada**	**2.39 261**	Pn	**Pb**	**11 40 13.7**	**-1.3**
KURO	**Afyon-Bolvadin**	**2.41 141**	P	**Pg**	**11 40 19.1**	**+0.9**
KURO			S	**Sg**	**11 40 48.7**	**-0.7**

*LVSN **30** 11:49:27.7±3.3, 58°.44N×25°.56E, h0km±57km, ML1.5*
EST 30 11:49:21.7±0.1, 59°.23N×27°.89E, h0km, ML1.3(HEL),
Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE04	**Vaivara Sinima**	**0.15**	**357**	*e*P	Pg	11 49 24.2	-0.3
EE04				*e*S	Sg	11 49 26.5	0.0
EE03	**Tooma soojaam,**	**0.91**	**248**	*e*P	Pg	11 49 37.7	-1.4
EE03				*e*S	Sg	11 49 49.8	-1.0
VSU	**Vasula**	**0.97**	**219**	*e*P	Pg	11 49 39.1	-1.2
VSU				AML	AML	11 49 56.0	
	comp=E,20nm,0.4s						
VSU				AML	AML	11 49 58.0	
	comp=N,26nm,0.4s						
VSU				AML	AML	11 50 13.7	
	comp=Z,11nm,0.8s						
VSU	**Vasula**	**0.97**	**219**	*e*P	Pg	11 49 39.1	-1.2
VSU				*e*S	Sg	11 49 51.4	-1.5
VJF	**Virojoki**	**1.33**	**353**	*e*P	Pg	11 49 45.1	-2.1
VJF				*e*S	Sg	11 50 03.0	-1.4
VJF				MSG		11 50 07.7	
	comp=Z,1.5nm,0.1s						
EE07	**Piusa Caves, O**	**1.41**	**189**	*e*P	Pn	11 49 47.0	-1.5
EE07				*e*S	Sg	11 50 05.1	-1.7
EE08	**Sarghaua, Vand**	**1.49**	**249**	*e*P	Pn	11 49 48.1	-1.5
EE08				*e*S	Sg	11 50 07.0	-2.4
EE02	**Kiisa, Saku**	**1.64**	**270**	*e*P	Pn	11 49 50.9	-0.8
PVF	**Pernaja**	**1.67**	**323**	*e*PG	Pn	11 49 51.9	-0.3
PVF				*e*SG	Sn	11 50 13.4	-0.9
PVF				MSG		11 50 14.9	
	comp=Z,1.1nm,0.1s						
MEF	**Metsahovi**	**2.03**	**301**	*e*P	Pn	11 49 58.2	+1.1
MEF				AML	AML	11 50 11.2	
	comp=Z,6.6nm,0.8s						
MEF				*e*S	Sn	11 50 23.7	+0.6
MEF				AML	AML	11 50 25.0	
	comp=N,8.5nm,0.1s						
MEF				AML	AML	11 50 39.7	
	comp=E,5.2nm,0.7s						
MEF	**Metsahovi**	**2.03**	**301**	*e*PG	Pb	11 49 58.4	-1.0
MEF				*e*SB	Sn	11 50 23.1	0.0
MEF				MSG		11 50 24.3	
	comp=Z,2.1nm,0.1s						
NUR	**Nurmijarvi**	**2.08**	**310**	*e*PG	Pn	11 49 58.9	+1.1
NUR				*e*SB	Sn	11 50 25.0	+0.6
NUR				MSG		11 50 26.6	
	comp=Z,1.4nm,0.1s						
EE01	**Perakula, Nova**	**2.19**	**271**	*e*PB	Pn	11 49 60.0	+0.7
EE01				*e*SB	Sn	11 50 28.4	+1.3
RUF	**Ruokolahti**	**2.27**	**13**	*e*PB	Pn	11 50 01.4	+1.0
RUF				*e*SG	Sb	11 50 31.4	-0.6
RUF				MSG		11 50 32.7	
	comp=Z,1.1nm,0.1s						
FIA0	**FINESS Array S**	**2.40**	**339**	*e*P	Pn	11 50 02.3	+0.1
FIA0				*e*PB	Pb	11 50 03.3	-2.5
FIA0				*e*SG	Sb	11 50 35.2	-0.6
FIA1	**FINESS Array S**	**2.40**	**339**	*e*P	Pn	11 50 02.3	+0.1
FIA1				*e*PB	Pb	11 50 03.3	-2.4
FIA1				*e*SG	Sb	11 50 35.3	-0.6
RAF	**Rauma**	**3.56**	**303**	*e*P	Pn	11 50 19.1	+1.0
RAF				AML	AML	11 50 49.8	
	comp=E,4.4nm,0.6s						
RAF				AML	AML	11 50 50.0	
	comp=Z,9.2nm,0.7s						
RAF				*e*S	Sn	11 50 56.2	-4.5
RAF				AML	AML	11 51 09.9	
	comp=N,4.9nm,0.8s						
RAF	**Rauma**	**3.56**	**303**	*e*P	Pn	11 50 19.1	+1.0
KPF	**Kankaanpaa**	**3.89**	**315**	*e*P	Pn	11 50 23.5	+0.9
JOF	**Joensuu**	**4.06**	**23**	*e*P	Pn	11 50 25.2	+0.2

IDC 30 12:04:25.8±2.0, 18°.59S×178°.25W, h545km±20km,
mb3.0/4, mbtmp3.9/5, Error ellipse: s-maj=31.5km
s-min=28.9km az=14.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.62**	**283**	P	P	12 05 44.7	-0.1
	18nm,0.7s,baz=131,slow=7.9,SNR=17						
URZ	**Urewera**	**20.01**	**191**	P	P	12 08 22.1	0.0
	7.3nm,0.9s,baz=338,slow=3.1,SNR=6.7						
	7.3nm,0.9s						
WRA	**Warramunga Arr**	**44.66**	**260**	P	P	12 11 50.1	-0.5
	0.4nm,0.3s,baz=97,slow=6.8,SNR=23						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**44.76**	**255**	P	P	12 11 51.5	+0.1
	3.9nm,0.6s,baz=89,slow=8.2,SNR=96						
ASAR				PcP	PcP	12 13 21.6	-0.2
	0.1nm,0.5s,baz=94,slow=4.6,SNR=1.2						
	3.9nm,0.6s						
TXAR	**Lajitas Array**	**86.23**	**58**	P	P	12 16 10.1	-0.2
	0.2nm,0.7s,baz=198,slow=5.7,SNR=2.2						
	0.2nm,0.7s						

*IDC **30** 12:18:14.0±2.3, 7°.09S×156°.07E, h57km±19km, mb3.7/13, mbtmp4.0/14, ML4.0/1, MS3.3/8, Error ellipse: s-maj=27.2km s-min=17.0km az=86.0*
ISC 30 12:18:14.6±0.7, 7°.0S±0°.1×156°.11E±0°.08, h62km, n27,
σ1§44/22, mb3.9/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.53**	**123**	P	**Pn**	**12 19 20.5**	**-0.2**
	7.3nm,0.3s,baz=212,slow=9.1,SNR=1.4						
HNR				S	**Sn**	**12 20 15.7**	**+3.6**
	211nm,1.0s,baz=257,slow=8.8,SNR=3.7						
HNR				LR	LR	12 21 18.1	
	comp=Z,301nm,18.4s,baz=226,slow=41						
	36nm,0.4s						
PMG	**Port Moresby**	**9.19**	**254**	P	**Pn**	**12 20 26.7**	**+2.2**
	19nm,0.8s,baz=22,slow=11,SNR=11						
PMG				S	**Sn**	**12 22 07.6**	**+1.1**
	9.9nm,0.7s,baz=356,slow=12,SNR=3.2						
PMG				LR	LR	12 23 28.6	
	comp=Z,108nm,20.1s,baz=1.5,slow=34						
CTA	**Charters Tower**	**16.18**	**215**	LR	LR	12 26 49.8	
	comp=Z,89nm,19.2s,baz=50,slow=32						
DZM	**Mont Dzumac**	**18.04**	**147**	LR	LR	12 28 00.3	
	comp=Z,100nm,20.9s,baz=324,slow=33						
WRA	**Warramunga Arr**	**24.76**	**236**	P	**P**	**12 23 29.5**	**-1.2**
	2.7nm,0.8s,baz=62,slow=9.2,SNR=25						
WRA				PcP	**PcP**	**12 27 04.5**	**-1.8**
	0.4nm,0.7s,baz=61,slow=2.1,SNR=3.4						
WRA				ScP	**ScP**	**12 30 40.9**	**+0.9**
	0.7nm,0.9s,baz=60,slow=3.0,SNR=6.6						
	2.7nm,0.8s						
ASAR	**Alice Springs**	**27.04**	**230**	P	**P**	**12 23 49.4**	**-2.0**
	0.8nm,0.7s,baz=63,slow=8.8,SNR=13						
ASAR				PcP	**PcP**	**12 27 10.6**	**-0.9**
	0.2nm,0.5s,baz=66,slow=3.2,SNR=2.1						
ASAR				ScP	**ScP**	**12 30 46.1**	**-0.6**
	0.6nm,0.9s,baz=41,slow=3.1,SNR=4.8						
	0.8nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**27.36**	**22**	T	T	12 52 26.6	
	baz=200,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**27.36**	**22**	T	T	12 52 25.6	
	baz=200,slow=76,SNR=41						
H11S1	**WAKE ISLAND Hy**	**27.37**	**22**	T	T	12 52 30.7	
	baz=200,slow=76,SNR=18						
STKA	**Stephens Creek**	**28.26**	**207**	P	**P**	**12 24 02.0**	**0.0**
	1.5nm,0.7s,baz=13,slow=6.9,SNR=4.1						
STKA				LR	LR	12 34 53.6	
	comp=Z,75nm,18.1s,baz=25,slow=36						
	1.5nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**28.55**	**22**	T	T	12 54 02.0	
	baz=212,slow=78,SNR=9.8						
H11N3	**WAKE ISLAND Hy**	**28.56**	**22**	T	T	12 54 04.0	
	baz=212,slow=78,SNR=20						
H11N2	**WAKE ISLAND Hy**	**28.56**	**22**	T	T	12 54 01.3	
	baz=212,slow=78,SNR=7.7						
FITZ	**Fitzroy Crossi**	**31.68**	**247**	LR	LR	12 37 37.7	
	comp=Z,29nm,18.9s,baz=44,slow=37						
URZ	**Urewera**	**36.51**	**152**	LR	LR	12 38 19.5	
	comp=Z,45nm,19.8s,baz=70,slow=33						
MJAR	**Matsushiro Arr**	**46.41**	**340**	P	**P**	**12 26 35.1**	**0.0**
	0.8nm,0.6s,baz=156,slow=6.2,SNR=2.3						
	0.8nm,0.6s						
JNU	**Nakatsue**	**46.51**	**330**	LR	LR	12 46 52.1	
	comp=Z,38nm,18.5s,baz=346,slow=37						
KSRS	**Korea Array**	**51.42**	**331**	P	**P**	**12 27 13.7**	**+0.2**
	1.0nm,0.8s,baz=169,slow=9.3,SNR=3.6						
	1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**61.77**	**295**	P	**P**	**12 28 27.9**	**+0.5**
	0.6nm,0.3s,baz=128,slow=5.3,SNR=2.1						
	0.6nm,0.3s						
SONM	**Songjino Array**	**69.90**	**327**	P	**P**	**12 29 20.9**	**+1.6**
	1.8nm,0.5s,baz=141,slow=6.4,SNR=18						
	1.8nm,0.5s						
VNDA	**Vanda**	**70.59**	**179**	P	**P**	**12 29 20.9**	**-2.0**
	0.5nm,0.4s,baz=74,slow=5.0,SNR=2.2						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**84.11**	**318**	P	**P**	**12 30 39.8**	**+0.8**
	1.4nm,0.6s,baz=98,slow=5.9,SNR=12						
	1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**84.77**	**326**	P	**P**	**12 30 41.5**	**-0.5**
	0.8nm,0.5s,baz=106,slow=5.9,SNR=4.2						
	0.8nm,0.5s						
MAW	**Mawson**	**84.86**	**203**	P	**P**	**12 30 41.6**	**-0.7**
	1.3nm,0.7s,baz=236,slow=6.9,SNR=4.2						
	1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**87.52**	**321**	P	**P**	**12 30 55.6**	**-0.1**
	0.4nm,0.4s,baz=94,slow=4.9,SNR=2.0						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**92.93**	**323**	P	**P**	**12 31 19.8**	**-1.2**
	0.8nm,0.5s,baz=103,slow=4.7,SNR=4.1						
	0.8nm,0.5s						
BDFB	**Brasilia**	**147.21**	**133**	PKPbc	**PKPbc**	**12 37 51.2**	**-0.9**
	5.1nm,0.7s,baz=140,slow=4.4,SNR=7.5						

*NNC **30** 12:28:29.6±6.4, 37°.54N×71°.58E, h69km±118km, mb3.6, mpv4.3, Error ellipse: s-maj=109.7km s-min=45.3km az=78.0*
*IDC **30** 12:28:42.2±17.0, 38°.50N×72°.03E, h186km±100km, mb3.7/2, mbtmp3.9/7, MS3.7/1, Error ellipse: s-maj=182.2km s-min=48.3km az=180.0*
ISC 30 12:28:27.7±2.3, 37°.5N±0°.2×71°.8E±0°.1, h100km, n12,
σ1§62/13, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.64**	**351**	⇑P	**Pn**	**12 29 50.1**	**+1.1**
	12nm,0.3s,baz=165,slow=11,SNR=199						
KK31				S	**Sn**	**12 30 54.8**	**+2.4**
	3.9nm,0.3s,baz=166,slow=18,SNR=9.4						
MKAR	**Makanchi Array**	**12.09**	**37**	P	**Pn**	**12 31 17.5**	**+1.0**
	0.7nm,0.9s,baz=212,slow=13,SNR=2.2						
KURBB	**Kurchatov Arra**	**13.95**	**18**	P	**Pn**	**12 31 39.1**	**-1.6**
	0.8nm,0.7s,baz=207,slow=11,SNR=1.8						
AB31	**Akbulak array**	**14.50**	**328**	⇑P	**P**	**12 31 52.5**	**+0.8**
	1.7nm,0.8s,baz=134,slow=12,SNR=7.5						
AB31				S	**Sn**	**12 34 25.1**	**-2.5**
	0.3nm,0.3s,baz=154,slow=21,SNR=5.9						
BVA0	**Borovoye Array**	**15.52**	**357**	P	**P**	**12 32 02.5**	**-0.5**
	0.1nm,0.4s,baz=158,slow=11,SNR=9.0						
BVAR	**Borovoye Array**	**15.52**	**357**	P	**Pn**	**12 31 59.1**	**-1.6**
	1.1nm,0.4s,baz=159,slow=12,SNR=5.1						
AKTO	**Aktyubinsk**	**16.21**	**327**	⇓P	**P**	**12 32 11.9**	**+1.3**
	2.2nm,0.6s						
AKTO	**Aktyubinsk**	**16.21**	**327**	P	**P**	**12 32 11.7**	**+1.0**
	2.4nm,0.3s,baz=135,slow=12,SNR=10.0						
ZALV	**Zalesovo Beam**	**18.72**	**25**	P	**P**	**12 32 36.3**	**-1.8**
	1.0nm,0.5s,baz=225,slow=10,SNR=6.1						
FINES	**FINESS Array B**	**36.97**	**325**	P	**P**	**12 35 27.2**	**+0.3**
	6.9nm,1.1s,baz=113,slow=13,SNR=3.8						
	6.9nm,1.1s						
ARCES	**ARCESS Array B**	**40.42**	**337**	P	**P**	**12 35 55.3**	**-0.3**
	1.5nm,0.8s,baz=108,slow=7.7,SNR=0.9						
	1.5nm,0.8s						
ASAJ	**Asahikawa**	**52.49**	**59**	LR	LR	13 02 07.5	
	comp=Z,65nm,19.2s,baz=352,slow=39						

*HEL **30** 12:36:22.9±0.2, 61°.09N×29°.94E, h0km, ML1.7, Explosion*
*IDC **30** 12:36:25.2±2.5, 61°.09N×29°.72E, h0km, mbtmp3.7/2, ML2.4/1, Error ellipse: s-maj=21.3km s-min=11.0km az=158.0*

ISC 30 12:36:21.9±1.9, 61°.10N±0°.09×29°.92E±0°.08, h0km, n12,
σ1§52/17, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.57**	**305**	*e*P	**Pg**	**12 36 33.6**	**+0.7**
RUF				*e*S	**Sg**	**12 36 40.6**	**+0.3**
VJF	**Virojoki**	**1.29**	**245**	*e*P	**Pn**	**12 36 46.3**	**-0.9**
VJF				*e*S	**Sn**	**12 37 03.6**	**-1.4**
FIA1	**FINESS Array S**	**1.89**	**282**	*e*PG	**Pb**	**12 36 56.8**	**-0.4**
FIA1				*e*SG	**Sb**	**12 37 21.4**	**+0.1**
FIA1				MSG		12 37 25.3	
	comp=Z,3.9nm,0.1s						
FIA0	**FINESS Array S**	**1.89**	**282**	*e*PG	**Pb**	**12 36 56.8**	**-0.4**
FIA0				*e*SG	**Sb**	**12 37 21.4**	**+0.1**
FIA0				MSG		12 37 24.2	
	comp=Z,3.2nm,0.1s						
FINES	**FINESS Array B**	**1.89**	**282**	Pg	**Pb**	**12 36 56.8**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=105,slow=16,SNR=30						
FINES				Lg	Lg	12 37 21.8	
	comp=Z,3.1nm,0.3s,baz=97,slow=25,SNR=28						
JOF	**Joensuu**	**1.94**	**19**	*e*P	**Pb**	**12 36 57.8**	**-0.4**
KAF	**Kangasniemi**	**2.01**	**302**	*e*PG	**Pb**	**12 36 59.2**	**-0.1**
KAF				*e*SB	**Sb**	**12 37 24.4**	**-0.4**
KAF				MSG		12 37 28.5	
	comp=Z,7.4nm,0.2s						
VAF	**Ylistaro**	**3.93**	**303**	*e*P	**Pn**	**12 37 26.3**	**+2.9**
RAF	**Rauma**	**3.97**	**273**	*e*P	**Pn**	**12 37 26.0**	**+2.1**
I43RU	**DUBNA INFRASON**	**5.79**	**136**	I	I	13 08 50.0	
	baz=324,slow=327,SNR=24						
HFS	**Hagfors**	**8.04**	**270**	Pn	**Pn**	**12 38 20.2**	**+0.4**
	comp=Z,6.7nm,1.1s,baz=80,slow=11,SNR=1.9						
HFS				Lg	Lg	12 40 34.0	
	comp=Z,0.1nm,0.3s,baz=76,slow=29,SNR=1.4						
ARCES	**ARCESS Array B**	**8.67**	**350**	Pn	**Pn**	**12 38 29.3**	**+0.9**
	baz=170,slow=11,SNR=5.2						
ARCES				Sn	**Sn**	**12 40 03.0**	**-3.8**
	baz=170,slow=26,SNR=1.2						
	comp=Z,4.4nm,1.1s						

TEH 30 12:53:59.1, 32°.41N×50°.98E, h10km, ML1.4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHBN	**Jahan bin**	**0.32**	**236**	Pg	Pg	12 54 05.9	+0.3
IKLH	**Kolahrood**	**1.03**	**29**	Pg	Pb	12 54 19.2	0.0
IKLH				Sg	Sn	12 54 34.4	-0.2
IZEF	**Zefreh**	**1.24**	**67**	Pg	Pg	12 54 22.9	0.0

*KRNET **30** 13:16:49.7±0.1, 41°.32N×69°.04E, mb2.7*
*SOME **30** 13:16:50.6, 41°.37N×68°.90E, h15km*
*ISU **30** 13:16:58.3, 41°.36N×68°.93E, h13km*
ISC 30 13:16:49.3±1.7, 41°.48N±0°.04×68°.72E±0°.08, h10km, n16,
σ2§15/31, 10C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YNGY	**Yangiyul**	**0.44**	**147**	P	**Pn**	**13 17 04.2**	**+2.5**
YNGY				S	**Sb**	**13 17 08.6**	**+2.7**
TAS	**Tashkent**	**0.46**	**109**	P	**Pn**	**13 17 04.4**	**+2.4**
TAS				S	**Sb**	**13 17 09.0**	**+2.6**
TGS	**TashGRES**	**0.61**	**95**	P	**Pn**	**13 17 05.1**	**+1.1**
TGS				S	**Sb**	**13 17 10.3**	**-0.3**
IUG	**Iuzhnay**	**1.19**	**55**	*e*P	**Pb**	**13 17 12.0**	**0.0**
	19nm,0.1s						
IUG				*e*S	**Sg**	**13 17 27.4**	**-0.2**
	176nm,0.2s						
BRLS	**Borolday**	**1.76**	**28**	*e*P	**Pn**	**13 17 18.7**	**-1.2**
	4.3nm,0.1s						
BRLS				*e*S	**Sn**	**13 17 38.9**	**-3.5**
	114nm,0.3s						
TRKS	**Terek-Say**	**1.82**	**88**	⇑*i*P	**Pn**	**13 17 19.5**	**-1.4**
TRKS				⇑*i*S	**Sn**	**13 17 41.1**	**-3.0**
KK31	**Karatay Array**	**2.10**	**39**	Pg	**Pb**	**13 17 28.4**	**+0.9**
	1.1nm,0.2s,baz=222,slow=16,SNR=38						
KK31				Lg	Lg	13 17 56.1	
	4.3nm,0.2s,baz=221,slow=28,SNR=14						
KKAR	**Karatay Array**	**2.10**	**39**	⇑*i*P	**Pn**	**13 17 26.8**	**+2.2**
KKAR				⇑*i*S	**Sb**	**13 17 53.9**	**+0.3**
BTK	**Batken**	**2.13**	**131**	⇑*i*P	**Pn**	**13 17 23.3**	**-1.8**
BTK				⇑*i*S	**Sn**	**13 17 48.2**	**-3.5**
ARK	**Arkit**	**2.45**	**81**	⇓*i*P	**Pn**	**13 17 29.2**	**-0.3**
ARK				⇓*e*S	**Sn**	**13 17 58.1**	**-1.5**
FRG	**Fergana**	**2.57**	**114**	P	**Pg**	**13 17 40.2**	**+1.6**

HORT				AML	AML	13 19 02.3	
	comp=E,945μm,0.1s						
HORT				AML	AML	13 19 02.4	
	comp=N,1259μm,0.1s						
THE	**Thessaloniki**	**0.55**	**224**	P	**Pg**	**13 18 54.3**	**-0.4**
THE				S	**Sg**	**13 19 02.1**	**+0.1**
	comp=N,560nm,0.2s						
THE	**Thessaloniki**	**0.55**	**224**	P	**Pg**	**13 18 54.2**	**-0.5**
THE				S	**Sg**	**13 19 01.5**	**-0.5**
THE				AML	AML	13 19 02.5	
	comp=E,1170μm,0.2s						
THE				AML	AML	13 19 03.4	
	comp=N,1037μm,0.2s						
MMB	**Musomishta**	**0.56**	**22⇑**	*i*Pg	**Pg**	**13 18 54.8**	**0.0**
MMB				Sg	**Sg**	**13 19 02.5**	**+0.4**
MMB	**Musomishta**	**0.56**	**22⇑**	*e*Pg	**Pg**	**13 18 54.8**	**0.0**
MMB				*i* Sg	**Sg**	**13 19 02.7**	**+0.5**
PLG	**Polygyros**	**0.66**	**182**	P	**Pg**	**13 18 56.0**	**-0.7**
PLG	**Polygyros**	**0.66**	**182**	P	**Pg**	**13 18 56.0**	**-0.7**
PLG				S	**Sg**	**13 19 05.7**	**+0.5**
PLG				AML	AML	13 19 07.7	
	comp=E,589μm,0.2s						
PLG				AML	AML	13 19 10.9	
	comp=N,1014μm,0.6s						
KVLA	**Kavala**	**0.70**	**97**	P	**Pg**	**13 18 57.4**	**-0.1**
KVLA				S	**Sg**	**13 19 06.5**	**-0.1**
VAY	**Valandovo**	**0.74**	**293**	*i* Pg	**Pg**	**13 18 58.0**	**-0.2**
VAY				*i* Sg	**Sg**	**13 19 08.4**	**+0.5**
VAY				*e*Lg	Lg	13 19 08.7	
	comp=E,97nm,0.3s						
VAY				*e*Lg	Lg	13 19 09.4	
	comp=N,99nm,0.2s						
KAVA	**Kavala**	**0.79**	**92**	P	**Pg**	**13 18 58.9**	**-0.3**
KAVA	**Kavala**	**0.79**	**92**	P	**Pg**	**13 18 58.8**	**-0.4**
OUR	**Ouranopolis**	**0.80**	**151**	P	**Pg**	**13 18 59.2**	**-0.1**
OUR	**Ouranopolis**	**0.80**	**151**	P	**Pg**	**13 18 59.0**	**-0.3**
OUR				S	**Sg**	**13 19 10.3**	**+0.6**
OUR				AML	AML	13 19 14.0	
	comp=N,3080μm,0.4s						
OUR				AML	AML	13 19 14.5	
	comp=E,1448μm,0.4s						
KKB	**Krupnik**	**0.85**	**342⇑**	*i*Pg	**Pg**	**13 18 59.8**	**-0.5**
KKB				Sg	**Sg**	**13 19 11.2**	**-0.3**
KKB	**Krupnik**	**0.85**	**342⇑**	*i*Pg	**Pg**	**13 18 59.9**	**-0.5**
KKB				*i* Sg	**Sg**	**13 19 11.1**	**-0.4**
PEHC	**Pehcevo**	**0.86**	**330⇑**	*i*Pg	**Pg**	**13 19 00.2**	**-0.4**
PEHC				*i* Sg	**Sg**	**13 19 12.4**	**+0.5**
PEHC				*e*Lg	Lg	13 19 15.1	
	comp=E,146nm,0.3s						
PEHC				*e*Lg	Lg	13 19 15.3	
	comp=N,195nm,0.5s						
THAS	**Thassos island**	**1.04**	**114**	P	**Pg**	**13 19 03.4**	**-0.5**
THAS	**Thassos island**	**1.04**	**114**	P	**Pg**	**13 19 03.6**	**-0.3**
RZN	**Rozhen**	**1.16**	**55**	*i* P	**Pb**	**13 19 06.8**	**+0.5**
RZN				Sg	**Sg**	**13 19 21.0**	**-0.4**
LIT	**Litokhoron**	**1.19**	**219**	*i* Pn	**Pg**	**13 19 06.5**	**-0.3**
PLNA	**Plana**	**1.45**	**359**	P	**Pb**	**13 19 11.6**	**+0.5**
PLNA				Sg	**Sg**	**13 19 31.3**	**+0.8**
PLD	**Plovdiv**	**1.47**	**40**	P	**Pn**	**13 19 11.1**	**+0.5**
PLD				Sg	**Sg**	**13 19 32.4**	**+1.1**
KDZ	**Kurdzhali**	**1.53**	**66**	P	**Pn**	**13 19 12.2**	**+0.7**
KDZ				S	**Sb**	**13 19 32.4**	**+0.4**
RDO	**Rodhopi**	**1.57**	**85**	P	**Pn**	**13 19 11.6**	**-0.3**
RDO	**Rodhopi**	**1.57**	**85**	P	**Pn**	**13 19 11.3**	**-0.7**
PGB	**Panagyurishte**	**1.57**	**19**	*i* P	**Pg**	**13 19 13.9**	**-0.3**
PGB				Sg	**Sg**	**13 19 35.3**	**+0.7**
VTS	**Vitosha**	**1.60**	**354**	P	**Pn**	**13 19 12.9**	**+0.4**
VTS				S	**Sb**	**13 19 34.4**	**+0.3**
FNA	**Florina**	**1.61**	**262**	*i* Pn	**Pb**	**13 19 14.4**	**+0.6**
FNA	**Florina**	**1.61**	**262**	P	**Pn**	**13 19 13.7**	**+1.1**
SMTH	**Samothraki Isl**	**1.66**	**109**	P	**Pn**	**13 19 12.6**	**-0.7**
ALN	**Alexandroupoli**	**1.95**	**93**	P	**Pn**	**13 19 17.2**	**-0.1**
BARS	**Barje**	**2.17**	**326**	*i* Pn	**Pn**	**13 19 20.9**	**+0.6**
BARS				*e*Sg	**Sg**	**13 19 52.5**	**-1.3**
MPEP	**Malo Peshtene**	**2.33**	**5**	P	**Pb**	**13 19 26.0**	**-0.2**

*NEIC **30** 13:27:31.1±1.0, 35°.4S±0°.1×58°.5W±0°.2, h10km±2km, mb_Lg3.0/3, Error ellipse: s-maj=31.6km s-min=14.2km az=121.0*
*SJA **30** 13:27:38.5±0.6, 34°.90S×58°.48W, h25km, ML3.8, MW3.5*
*VAO **30** 13:27:43.9±1.1, 34°.45S×58°.19W, h0km, mb3.8*
ISC 30 13:27:41.5±1.5, 34°.83S±0°.10×58°.37W±0°.07, h35km, n13, σ1§69/22, Northeastern Argentina

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIUBA	**FACULTAD INGEN**	**0.26**	**338**	*e*P	**Pn**	**13 27 46.4**	**-2.5**
FIUBA				*e*S	**Sn**	**13 27 51.5**	**-2.5**
FIUBA				IAML		13 27 51.6	
	comp=Z,10μm,0.1s						
PSAL	**Palomas, Salto**	**3.79**	**10**	*e*P	**Pn**	**13 28 37.7**	**+0.3**
PSAL				*e*S	**Sn**	**13 29 19.5**	**-1.3**
TRQA	**Tornquist**	**4.34**	**221**	Pg	**Pn**	**13 28 45.0**	**+0.1**
PLTB	**Pedras Altas**	**5.03**	**54**	Pn	**Pn**	**13 28 51.7**	**-2.7**
PLTB				IAmb_Lg		13 30 28.6	
	comp=Z,21nm,0.7s						
PLTB	**Pedras Altas**	**5.03**	**54**	*e*P	**Pn**	**13 28 55.7**	**+1.3**
PLTB				*e*S	**Sn**	**13 29 51.6**	**+0.3**
ITQB	**Itaqui**	**5.35**	**16**	Pn	**Pn**	**13 28 58.4**	**-0.5**
ITQB				IAmb_Lg		13 30 46.5	
	comp=Z,79nm,1.0s						
ITQB	**Itaqui**	**5.35**	**16**	*e*P	**Pn**	**13 28 59.5**	**+0.6**
ITQB				*e*S	**Sn**	**13 29 57.9**	**-1.4**
CPSB	**Cacapava Do Su**	**6.06**	**45**	*e*P	**Pn**	**13 29 09.4**	**+0.8**
CPSB				*e*S	**Sn**	**13 30 16.0**	**-0.8**
MRA	**San Martin**	**6.59**	**289**	*e*P	**Pn**	**13 29 15.9**	**0.0**
MRA				*i* S	**Sn**	**13 30 30.0**	**+0.1**
CNLB	**Canela**	**8.42**	**51**	*e*P	**Pn**	**13 29 42.2**	**+1.2**
CNLB				*e*S	**Sn**	**13 31 14.8**	**-0.1**
CPUP	**Villa Florida**	**8.52**	**6**	Pn	**Pn**	**13 29 41.5**	**-0.8**
CPUP				Sn	**Sn**	**13 31 22.1**	**+4.8**
CPUP				IAmb_Lg		13 32 22.2	
	comp=Z,10.0nm,0.9s						
CPUP	**Villa Florida**	**8.52**	**6**	*e*P	**Pn**	**13 29 43.0**	**+0.6**
CPUP				*e*S	**Sn**	**13 31 16.4**	**-0.9**
ITAB	**Concordia**	**9.27**	**37**	Pn	**Pn**	**13 29 51.8**	**-0.8**

*NEIC **30** 13:41:30.6±1.9, 24°.3S±0°.1×178°.5W±0°.2, h454km±16km, mb4.3/21, Error ellipse: s-maj=21.9km s-min=16.9km az=97.0*
*IDC **30** 13:41:51.8±7.7, 23°.67S×178°.98E, h520km±27km, mb3.2/3, mbtmp4.1/4, Error ellipse: s-maj=156.3km s-min=37.4km az=127.0*
ISC 30 13:41:30.2±0.8, 24°.28S±0°.10×178°.5W±0°.1, h450km, n34, σ1§11/34, mb4.2/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.98**	**174**	P	**P**	**13 42 54.6**	**+0.4**
MSVF	**Nonsavu**	**7.26**	**333**	P	P	13 43 29.3	+11
MSVF	**Nonsavu**	**7.26**	**333**	P	P	13 43 28.8	+11
	4.2nm,0.5s,baz=261,slow=23,SNR=10						
NIUE	**Niue**	**9.50**	**59**	P	**P**	**13 43 42.0**	**0.0**
FUTU	**Fugatoga**	**9.92**	**2**	P	**P**	**13 43 47.5**	**+0.9**
AFI	**Afiamalu**	**12.11**	**33**	P	**P**	**13 44 10.1**	**-0.4**
PINNC	**Pines Island,**	**13.01**	**274**	P	**P**	**13 44 22.2**	**+2.2**
ONTNC	**Ouen Toro**	**13.97**	**275**	P	**P**	**13 44 31.1**	**+0.8**
DZM	**Mont Dzumac**	**14.02**	**276**	P	**P**	**13 44 32.5**	**+1.5**
DZM	**Mont Dzumac**	**14.02**	**276**	P	**P**	**13 44 32.4**	**+1.4**
	2.7nm,0.6s,baz=186,slow=22,SNR=6.2						
HIZ	**Hauiti**	**15.28**	**200**	P	**P**	**13 44 45.4**	**+1.3**
FUNA	**Funafuti**	**15.82**	**352**	P	**P**	**13 44 51.0**	**+0.9**
QRZ	**Quartz Range**	**18.13**	**202**	P	**P**	**13 45 11.6**	**-2.5**
HNR	**Honiara**	**25.31**	**302**	P	**P**	**13 46 18.8**	**-0.7**
ARMA	**Armidale**	**27.18**	**250**	P	**P**	**13 46 35.6**	**-0.4**
ARMA				IAmb	IAmb	13 47 13.9	
	comp=Z,20nm,1.4s						
CAN	**Canberra**	**30.15**	**241**	P	**P**	**13 47 03.5**	**+1.5**
CAN				IAmb	IAmb	13 47 19.4	
	comp=Z,27nm,1.4s						
CTAO	**Charters Tower**	**32.85**	**270**	P	**P**	**13 47 25.2**	**-0.1**
CTAO				IAmb	IAmb	13 47 25.6	
	comp=Z,13nm,0.5s						
STKA	**Stephens Creek**	**35.86**	**249**	P	**P**	**13 47 51.1**	**+0.5**
STKA	**Stephens Creek**	**35.86**	**249**	P	**P**	**13 47 50.9**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=100,slow=8.2,SNR=5.9						
	comp=Z,1.6nm,0.5s						
PMG	**Port Moresby**	**35.91**	**288**	P	**P**	**13 47 49.8**	**-1.4**
PMG				IAmb	IAmb	13 47 52.2	
	comp=Z,7.6nm,0.8s						

COEN	**Coen**	**37.53**	**279**	P	**P**	**13 48 04.8**	**+0.2**
COEN				IAmb	IAmb	13 48 28.8	
	comp=Z,11nm,1.2s						
BBOO	**Buckleboo**	**40.56**	**247**	P	**P**	**13 48 28.2**	**-0.9**
BBOO				IAmb	IAmb	13 48 33.1	
	comp=Z,25nm,1.5s						
AS31	**Alice Springs**	**43.33**	**261**	P	**P**	**13 48 50.7**	**-0.5**
ASAR	**Alice Springs**	**43.33**	**261**	P	**P**	**13 48 50.8**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=96,slow=6.9,SNR=59						
ASAR				ScP	**ScP**	**13 53 36.6**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=111,slow=5.1,SNR=2.6						
	comp=Z,1.0nm,0.4s						
WR0	**Warramunga Arr**	**43.56**	**266**	P	**P**	**13 48 52.1**	**-1.0**
WB2	**Warramunga Arr**	**43.74**	**266**	P	**P**	**13 48 53.3**	**-1.2**
WB2				IAmb	IAmb	13 48 54.2	
	comp=Z,6.6nm,1.1s						
WRAB	**Tennant Creek**	**43.74**	**266**	P	**P**	**13 48 53.2**	**-1.3**
WRAB				IAmb	IAmb	13 48 53.8	
	comp=Z,9.3nm,1.4s						
WB0	**Warramunga Arr**	**43.75**	**266**	P	**P**	**13 48 53.7**	**-0.8**
WB0				IAmb	IAmb	13 48 54.3	
	comp=Z,5.2nm,0.7s						
WRA	**Warramunga Arr**	**43.75**	**266**	P	**P**	**13 48 53.6**	**-1.0**
	comp=Z,3.0nm,0.4s,baz=97,slow=8.4,SNR=117						
WRA				ScP	**ScP**	**13 53 39.9**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=106,slow=3.8,SNR=5.6						
	comp=Z,3.0nm,0.4s						
FORT	**Forrest**	**47.47**	**250**	P	**P**	**13 49 21.9**	**-1.1**
FORT				IAmb	IAmb	13 49 32.0	
	comp=Z,31nm,1.1s						
MTN	**Manton Dam**	**48.85**	**274**	P	**P**	**13 49 32.3**	**-1.3**
MTN				IAmb	IAmb	13 49 59.9	
	comp=Z,11nm,1.2s						
KNRA	**Kununurra**	**50.06**	**270**	P	**P**	**13 49 42.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.17**	**265**	P	**P**	**13 49 57.4**	**-0.5**
QSPA	**South Pole Qui**	**65.81**	**180**	P	**P**	**13 51 30.2**	**+0.8**

*GUC **30** 13:58:40.4±0.8, 17°.53S×69°.52W, h168km±6km, ML3.1*
*SCB **30** 13:58:41.2±1.4, 17°.52S×69°.39W, h142km±24km, ML2.3/2, MW2.8, Error ellipse: s-maj=12.6km s-min=11.4km az=1.0*
ISC 30 13:58:39.0±2.6, 17°.43S±0°.09×69°.5W±0°.1, h173km±17km, n16, σ1§09/22, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB18	**Visviri**	**0.16**	**190**	*e*P	**Pn**	**13 59 03.6**	**+0.9**
PB18				*e*S	**Sn**	**13 59 20.9**	**0.0**
BBOD	**La Paz, Gloria**	**1.14**	**46**	Pg	**Pn**	**13 59 08.3**	**+0.6**
AP01	**Chacalluta**	**1.26**	**222**	*e*P	**Pn**	**13 59 08.7**	**+0.6**
AP01				*e*S	**Sn**	**13 59 29.6**	**-1.1**
AP01				IAML		13 59 30.1	
	comp=N,596nm,0.3s						
SOEJ	**Jacaque**	**1.29**	**69**	Pg	**Pn**	**13 59 09.8**	**+0.8**
LPAZ	**La Paz**	**1.70**	**48**	Pg	**Pn**	**13 59 13.7**	**+0.6**
LPAZ				Sg	**Sn**	**13 59 37.8**	**-1.5**
LPAZ				IAML		13 59 38.2	
	comp=N,7.6nm,0.5s						
SOEO	**Opoqueri**	**1.86**	**127**	Pg	**Pn**	**13 59 15.2**	**+0.6**
GO01	**Chusmiza**	**2.24**	**174**	*e*P	**Pn**	**13 59 20.1**	**+1.4**
GO01				*e*S	**Sn**	**13 59 49.4**	**-0.2**
GO01	**Chusmiza**	**2.24**	**174**	Pg	**Pn**	**13 59 19.0**	**+0.3**
PB08	**IPOC Station P**	**2.71**	**174**	*e*P	**Pn**	**13 59 25.6**	**+1.4**
PB08				*e*S	**Sn**	**13 59 58.9**	**-0.4**
PB08				IAML		14 00 06.0	
	comp=E,22nm,0.1s						
HMBC	**Humberstone**	**2.86**	**188**	*e*P	**Pn**	**13 59 26.4**	**+0.6**
PATCX	**Punta Patache**	**3.43**	**191**	*e*P	**Pn**	**13 59 33.4**	**+0.6**
SOET	**ToroToro**	**3.53**	**102**	Pg	**Pn**	**13 59 34.8**	**+0.5**
PB01	**IPOC Station P**	**3.59**	**181**	*e*P	**Pn**	**13 59 35.5**	**+0.8**
PB01				IAML		14 00 16.4	
	comp=N,37nm,0.2s						
PB01	**IPOC Station P**	**3.59**	**181**	Pg	**Pn**	**13 59 35.2**	**+0.4**
PB01				Sg	**Sn**	**14 00 15.7**	**-2.7**
PB01				IAML		14 00 16.6	
	comp=N,14nm,0.4s						
AOEA	**Aiquile**	**4.09**	**101**	Pg	**Pn**	**13 59 42.2**	**+0.9**
PB09	**IPOC Station P**	**4.34**	**177**	Pg	**Pn**	**13 59 45.5**	**+1.0**

*ATH **30** 14:10:26.9, 37°.66N×20°.36E, h11km±1km, ML2.9/11, Error ellipse: s-maj=3.1km s-min=1.1km az=47.0*
*TIR **30** 14:10:29.0, 37°.93N×20°.05E, h18km±4km, Md3.7, Ml3.4*
ISC 30 14:10:27.1±1.8, 37°.75N±0°.06×20°.39E±0°.07, h15km±10km, n31, σ1§04/37, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.35**	**96**	P	**Pg**	**14 10 34.4**	**+0.1**
LTHK				S	**Sg**	**14 10 39.3**	**+0.1**
LTHK				AML	AML	14 10 40.6	
	comp=E,15059μm,0.3s						
LTHK				AML	AML	14 10 41.7	
	comp=N,8735μm,0.1s						
PSDA	**Pessada-Kefalo**	**0.40**	**22**	P	**Pb**	**14 10 36.5**	**+0.7**
PSDA				S	**Sb**	**14 10 42.7**	**+0.9**
VLS	**Valsamata**	**0.46**	**20**	P	**Pb**	**14 10 37.5**	**+0.6**
VLS				S	**Sb**	**14 10 45.1**	**+1.5**
VLS				AML	AML	14 10 49.9	
	comp=N,2194μm,0.3s						
VLS				AML	AML	14 10 52.5	
	comp=E,3032μm,0.4s						
DMLN	**Damoulianata-K**	**0.49**	**358**	P	**Pb**	**14 10 38.3**	**+0.8**
DMLN				S	**Sn**	**14 10 46.7**	**-1.3**
SMHA	**Samh**	**0.54**	**22**	P	**Pb**	**14 10 38.2**	**-0.1**
SMHA				S	**Sn**	**14 10 47.1**	**-2.0**
FSK	**Fiskardo**	**0.73**	**11**	P	**Pn**	**14 10 42.0**	**-0.8**
FSK				S	**Sn**	**14 10 54.2**	**+0.5**
FSK				AML	AML	14 11 00.8	
	comp=N,2097μm,0.5s						
FSK				AML	AML	14 11 01.5	
	comp=E,1660μm,0.4s						
EVGI	**Lefkada island**	**0.90**	**13**	P	**Pn**	**14 10 45.5**	**+0.2**
RLS	**Riolos of Patr**	**0.90**	**69**	P	**Pn**	**14 10 45.3**	**0.0**
RLS				S	**Sn**	**14 10 58.9**	**+0.9**
RLS				AML	AML	14 11 06.0	
	comp=N,860μm,0.9s						
RLS				AML	AML	14 11 09.1	
	comp=E,646μm,0.4s						
NYDR	**Nydri-Lefkada**	**1.00**	**14**	P	**Pn**	**14 10 47.1**	**+0.5**
DRO	**Drossia**	**1.06**	**78**	P	**Pb**	**14 10 47.5**	**+0.3**
DRO				AML	AML	14 11 11.9	
	comp=N,1210μm,0.3s						
DRO				AML	AML	14 11 16.9	
	comp=E,850μm,0.5s						
LKD2	**Lefkada island**	**1.06**	**11**	P	**Pn**	**14 10 48.3**	**+0.8**
LKD2				AMP			
	comp=N,3.1nm,0.5s,baz=28						
LKD2	**Lefkada island**	**1.06**	**11**	P	**Pn**	**14 10 48.3**	**+0.8**
AMT	**Artemida-Makis**	**1.06**	**101**	P	**Pb**	**14 10 46.7**	**-0.6**
AMT				AML	AML	14 11 07.0	
	comp=N,2510μm,0.3s						
AMT				AML	AML	14 11 12.4	
	comp=E,3509μm,0.6s						
TSLK	**Tsoukalades, L**	**1.10**	**11**	P	**Pn**	**14 10 49.8**	**+1.8**
ITM	**Ithomi**	**1.34**	**114**	P	**Pn**	**14 10 51.4**	**+0.1**
ITM				AML	AML	14 11 23.4	
	comp=E,480μm,0.8s						
ITM				AML	AML	14 11 25.5	
	comp=N,340μm,1.0s						
PYL	**PYLOS**	**1.37**	**128**	P	**Pn**	**14 10 51.4**	**-0.3**
EFP	**Efpalio**	**1.37**	**60**	P	**Pg**	**14 10 53.5**	**0.0**
EFP				AML	AML	14 11 21.9	
	comp=N,602μm,0.6s						
EFP				AML	AML	14 11 27.5	
	comp=E,496μm,0.7s						
KLV	**Kalavryta, Ach**	**1.42**	**77**	P	**Pb**	**14 10 53.6**	**+0.3**
KLV				AML	AML	14 11 21.4	
	comp=E,304μm,1.0s						
KLV				AML	AML	14 11 27.5	
	comp=N,520μm,0.8s						
ANX	**Ano Chora**	**1.47**	**54**	P	**Pg**	**14 10 55.3**	**-0.2**
ANX				AML	AML	14 11 24.8	
	comp=N,1115μm,0.6s						
ANX				AML	AML	14 11 24.9	
	comp=E,1302μm,0.7s						
KALE	**Kalithea**	**1.52**	**64**	P	**Pg**	**14 10 55.9**	**-0.5**
GUR	**Goura**	**1.55**	**82**	P	**Pb**	**14 10 55.8**	**+0.2**
GUR				AML	AML	14 11 27.8	
	comp=E,510μm,0.4s						
GUR				AML	AML	14 11 30.8	
	comp=N,568μm,0.6s						
EVR	**Evrytania**	**1.61**	**43**	P	**Pg**	**14 10 59.8**	**+1.7**
MAKR	**Makrakomi, Fth**	**1.86**	**47**	P	**Pg**	**14 11 02.6**	**-0.3**

AXAR	**Agios Charalam**	**2.05**	**60**	P	**Pb**	**14 11 04.0**	**-0.1**
LTK	**Loutraki**	**2.06**	**81**	P	**Pb**	**14 11 03.6**	**-0.6**
THL	**Klokotos Trika**	**2.22**	**34**	P	**Pg**	**14 11 07.1**	**-2.5**
KPRO	**Kipourio**	**2.33**	**19**	P	**Pg**	**14 11 10.3**	**-1.5**
LSK	**Leskovik**	**2.41**	**4**	AMP			
	comp=E,0.6nm,0.7s,baz=10.0						
TYRN	**Tyrnavos**	**2.43**	**36**	P	**Pb**	**14 11 09.7**	**-0.8**
SCTE	**Santa Cesarea**	**2.77**	**328**	P	**Pn**	**14 11 12.2**	**+1.3**
SCTE				AMP			
	comp=E,0.8nm,0.6s,baz=331						
FNA	**Florina**	**3.13**	**14**	P	**Pb**	**14 11 20.6**	**-1.8**
FNA				AMP			
	comp=N,0.1nm,0.7s,baz=19						

*IDC **30** 14:19:04.3±1.2, 63°.56N×148°.35W, h75km±9km, mb3.7/8, mbtmp3.9/12, Error ellipse: s-maj=19.1km s-min=9.7km az=101.0*
*AEIC **30** 14:19:05.8±1.2, 63°.64N±0°.02×148°.20W±0°.07, h86km±5km, ML3.6, ML3.7/240(NEIC), Error ellipse: s-maj=5.1km s-min=3.1km az=110.0*
*NEIC **30** 14:19:05.7±1.2, 63°.64N±0°.03×148°.19W±0°.07, h93km±7km, Error ellipse: s-maj=4.8km s-min=4.4km az=114.0*
ISC 30 14:19:05.7±0.7, 63°.65N±0°.03×148°.19W±0°.04, h87km±6km, n384, σ0§75/387, mb4.0/8, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCK	**McKinley**	**0.34**	**285**		**Pn**	**14 19 19.5**	**+0.5**
MCK					**Sn**	**14 19 29.7**	**+0.8**
MCK	**McKinley**	**0.34**	**285**	P	**Pn**	**14 19 19.5**	**+0.5**
	baz=105						
MCK				S	**Sn**	**14 19 29.7**	**+0.8**
	baz=105						
RND	**Reindeer**	**0.38**	**231**		**Pn**	**14 19 19.7**	**+0.4**
RND				IAML		14 19 31.0	
	comp=N,2μm,0.7s						
RND	**Reindeer**	**0.38**	**231**		**Sn**	**14 19 30.7**	**+1.3**
DHY	**Denali Highway**	**0.68**	**147**		**Pn**	**14 19 22.3**	**+0.4**
DHY				IAML		14 19 36.7	
	comp=N,2μm,0.6s						
DHY	**Denali Highway**	**0.68**	**147**	P	**Pn**	**14 19 22.2**	**+0.4**
	baz=328						
BWN	**Browne**	**0.77**	**314**	Pn	**Pn**	**14 19 22.8**	**+0.2**
BWN	**Browne**	**0.77**	**314**		**Sn**	**14 19 35.2**	**-0.1**
WRH	**Wood River Hil**	**0.83**	**3**		**Pn**	**14 19 23.7**	**+0.5**
WRH				IAML		14 19 37.5	
	comp=E,1μm,0.5s						
WRH				IAML		14 19 37.6	
	comp=N,2μm,0.9s						
WRH	**Wood River Hil**	**0.83**	**3**		**Sn**	**14 19 36.8**	**+0.5**
WAT1	**Susitna Watana**	**0.84**	**191**		**Pn**	**14 19 23.4**	**+0.1**
WAT1					**Sn**	**14 19 36.9**	**+0.4**
WAT1	**Susitna Watana**	**0.84**	**191**	P	**Pn**	**14 19 23.4**	**+0.1**
	baz=11						
WAT1				S	**Sn**	**14 19 36.9**	**+0.4**
	baz=11						
WAT7	**Susitna Watana**	**0.87**	**200**		**Pn**	**14 19 23.8**	**0.0**
WAT7					**Sn**	**14 19 37.5**	**+0.2**
HDA	**Harding Lake**	**0.94**	**35**		**Pn**	**14 19 24.9**	**+0.5**
HDA	**Harding Lake**	**0.94**	**35**		**Sn**	**14 19 39.1**	**+0.6**
HDA	**Harding Lake**	**0.94**	**35**	IAML		14 19 39.8	
	comp=E,5μm,0.5s						
HDA				IAML		14 19 40.2	
	comp=N,4μm,0.5s						
HDA	**Harding Lake**	**0.94**	**35**	P	**Pn**	**14 19 25.0**	**+0.5**
	baz=216						
HDA				S	**Sn**	**14 19 39.1**	**+0.6**
	baz=216						
TRF	**Thorofare Moun**	**0.96**	**259**		**Pn**	**14 19 25.2**	**+0.4**
TRF					**Sn**	**14 19 39.8**	**+0.6**
TRF	**Thorofare Moun**	**0.96**	**259**	IAML		14 19 40.8	
	comp=N,3μm,0.6s						
TRF				IAML		14 19 41.1	
	comp=E,3μm,0.7s						
TRF	**Thorofare Moun**	**0.96**	**259**	P	**Pn**	**14 19 25.2**	**+0.4**
	baz=77						
TRF				S	**Sn**	**14 19 39.8**	**+0.6**
	baz=77						
CCB	**Clear Creek Bu**	**1.02**	**9**		**Pn**	**14 19 25.5**	**+0.2**
CCB				IAML		14 19 40.5	
	comp=E,883nm,0.7s						
CCB				IAML		14 19 40.9	
	comp=N,1μm,0.4s						
NEA2	**Nenana**	**1.02**	**338**		**Pn**	**14 19 25.3**	**-0.1**
NEA2	**Nenana**	**1.02**	**338**		**Sn**	**14 19 40.1**	**-0.1**
NEA2	**Nenana**	**1.02**	**338**	IAML		14 19 40.8	
	comp=N,972nm,0.7s						
NEA2				IAML		14 19 41.0	
	comp=E,1μm,0.7s						
NEA2	**Nenana**	**1.02**	**338**	P	**Pn**	**14 19 25.5**	**+0.1**
	baz=158						
NEA2				S	**Sn**	**14 19 40.1**	**-0.1**
	baz=158						
K24K	**Donnelly Dome**	**1.09**	**81**		**Pn**	**14 19 26.6**	**+0.5**
K24K	**Donnelly Dome**	**1.09**	**81**	P	**Pn**	**14 19 26.6**	**+0.5**
	baz=263						
WAT6	**Susitna Watana**	**1.09**	**169**		**Pn**	**14 19 26.6**	**+0.2**
WAT6	**Susitna Watana**	**1.09**	**169**	P	**Pn**	**14 19 26.6**	**+0.2**
	baz=349						
KTH	**Kantishna Hill**	**1.22**	**267**		**Pn**	**14 19 28.0**	**+0.1**
KTH				IAML		14 19 46.0	
	comp=N,860nm,1.0s						
KTH				IAML		14 19 46.1	
	comp=E,1μm,0.9s						
COLA	**College**	**1.24**	**7**		**Pn**	**14 19 28.2**	**+0.3**
COLA				IAML		14 19 45.4	
	comp=E,1μm,0.7s						
COLA				IAML		14 20 05.4	
	comp

SML IAML 14 20 04.7
comp=N,865nm,0.5s
SML Sawmill 1.85 182 P Pn 14 19 36.0 +0.2
baz=1.9
SCM Sheep Creek Mo 1.86 167 Pn 14 19 36.2 +0.2
SCM IAML 14 20 05.2
comp=N,1µm,0.6s
SCM Sheep Creek Mo 1.86 167 P Pn 14 19 36.3 +0.2
baz=348
HARP HAARP 1.87 131 Pn 14 19 36.4 +0.4
HARP HAARP 1.87 131 P Pn 14 19 36.4 +0.4
baz=313
M23K Glacier View 1.87 173 Pn 14 19 36.4 +0.3
M23K Glacier View 1.87 173 P Pn 14 19 36.4 +0.3
baz=354
SCRK Sand Creek 1.90 78 Pn Pn 14 19 36.4 -0.1
SCRK IAML 14 20 00.2
comp=E,468nm,0.6s
SCRK Sand Creek 1.90 78 P Pn 14 19 36.4 -0.1
baz=262
GHO Glory Hole Cre 1.91 190 Pn 14 19 37.0 +0.3
GHO IAML 14 20 05.1
comp=E,889nm,0.5s
GHO IAML 14 20 08.6
comp=N,809nm,0.5s
PPLA Purkeypile 1.96 249 Pn 14 19 37.5 +0.2
PPLA Purkeypile 1.96 249 P Pn 14 19 37.5 +0.2
baz=66
M22K Willow 2.10 206 Pn 14 19 39.3 +0.3
M22K Willow 2.10 206 P Pn 14 19 39.2 +0.3
baz=24
PMR Palmer 2.11 192 Pn Pn 14 19 39.3 +0.2
PMR IAML 14 20 12.7
comp=N,412nm,0.6s
PMR IAML 14 20 15.7
comp=E,620nm,0.5s
PMR Palmer 2.11 192 P Pn 14 19 39.4 +0.3
baz=11
PMR Palmer 2.11 192 P Pn 14 19 39.9 +0.8
MENT Mentasta 2.14 107 Pn 14 19 40.0 +0.3
MENT Mentasta 2.14 107 IAML 14 20 10.6
comp=E,757nm,0.6s
MENT IAML 14 20 11.6
comp=N,513nm,0.7s
MENT Mentasta 2.14 107 P Pn 14 19 40.1 +0.5
PRP Porcupine Dome 2.20 30 Pn Pn 14 19 40.6 +0.1
PRP IAML 14 20 09.4
comp=E,327nm,0.4s
PRP IAML 14 20 11.1
comp=N,577nm,0.5s
PRP Porcupine Dome 2.20 30 P Pn 14 19 40.8 +0.2
baz=213
H24K Noodor Dome 2.20 3 Pn 14 19 40.9 +0.4
J26L Joseph Creek 2.21 65 Pn 14 19 41.2 +0.7
KNK Knik Glacier 2.25 183 Pn 14 19 41.4 +0.5
KNK Knik Glacier 2.25 183 P Pn 14 19 41.5 +0.5
baz=3.0
I21K Tanana 2.25 315 Pn 14 19 41.1 +0.1
I21K IAML 14 20 08.3
comp=E,359nm,0.9s
I21K IAML 14 20 08.3
comp=N,301nm,0.8s
I21K Tanana 2.25 315 P Pn 14 19 41.3 +0.3
baz=132
H23K Yukon River 2.26 346 Pn 14 19 41.3 +0.1
H23K Yukon River 2.26 346 P Pn 14 19 41.6 +0.4
baz=165
SKT Skwentna 2.27 224 Pn Pn 14 19 41.0 -0.3
SKT Skwentna 2.27 224 P Pn 14 19 41.1 -0.2
baz=41
L26K Log Cabin Wild 2.27 104 Pn 14 19 41.4 0.0
L26K Log Cabin Wild 2.27 104 IAML 14 20 11.7
comp=E,670nm,0.5s
KLU Klutina 2.40 153 Pn 14 19 42.8 -0.4
KLU IAML 14 20 15.0
comp=N,483nm,0.3s
KLU IAML 14 20 16.0
comp=E,409nm,0.5s
KLU Klutina 2.40 153 P Pn 14 19 42.8 -0.4
baz=335
WACK Wrangell Chich 2.43 131 Pn 14 19 43.7 0.0
SUA Susitna One 2.49 210 Pn Pn 14 19 45.8 +1.4
SUA Susitna One 2.49 210 P Pn 14 19 45.4 +1.1
baz=27
WASW Wrangell South 2.53 131 Pn 14 19 45.1 +0.2
H22K Ishtalitna Cre 2.64 330 Pn 14 19 46.6 +0.4
N25K Chitina, Valde 2.64 139 Pn Pn 14 19 45.9 -0.4
N25K IAML 14 20 34.2
comp=E,288nm,1.1s
N25K IAML 14 20 36.9
comp=N,195nm,0.6s
N25K Chitina, Valde 2.64 139 P Pn 14 19 46.5 +0.2
baz=322
K20K Telida 2.65 266 Pn 14 19 46.2 -0.2
RC01 Rabbit Creek A 2.67 196 Pn 14 19 47.7 +1.2
RC01 Rabbit Creek A 2.67 196 P Pn 14 19 47.2 +0.6
baz=15
M26K Nabesna, AK 2.68 115 Pn 14 19 47.0 +0.2
M26K Nabesna, AK 2.68 115 IAML 14 20 36.6
comp=N,304nm,0.8s
M26K IAML 14 20 37.2
comp=E,248nm,0.4s
J20K Nowinta River 2.69 284 Pn 14 19 46.8 0.0
J20K Nowinta River 2.69 284 IAML 14 20 18.5
comp=E,196nm,0.8s
J20K IAML 14 20 20.1
comp=N,169nm,0.8s
STLK Strandline Lak 2.74 220 Pn 14 19 48.1 +0.5
DIV Divide 2.77 155 Pn 14 19 47.5 -0.5
PWL Port Wells 2.80 181 Pn 14 19 47.9 -0.5
PWL Port Wells 2.80 181 P Pn 14 19 48.3 -0.1
baz=1.3
H25L Birch Creek 2.82 20 Pn 14 19 49.4 +0.8
GLI Glacier Island 2.83 169 Pn 14 19 48.1 -0.7
GLI Glacier Island 2.83 169 P Pn 14 19 48.1 -0.7
baz=350
H21K Melozitna Rive 2.83 318 Pn 14 19 48.9 +0.1
H21K Melozitna Rive 2.83 318 IAML 14 20 40.5
comp=N,147nm,0.8s
H21K IAML 14 20 42.5
comp=E,149nm,0.9s
L20K Farewell, AK 2.84 248 Pn 14 19 48.6 -0.3
M20K Styx River 2.88 234 Pn Pn 14 19 49.4 -0.2
L27K Beaver Creek, 2.93 99 Pn 14 19 49.7 -0.5
BCAR Beaver Creek A 2.95 99 Pn Pn 14 19 49.7 -0.7
SPCG Spurr Capps Gl 2.96 219 Pn 14 19 51.8 +1.2
I20K Naaghedeneel 2.98 296 Pn 14 19 51.0 +0.3
GLB Gilahina Butte 3.00 135 Pn Pn 14 19 51.8 +0.6
GLB IAML 14 20 43.7
comp=E,160nm,0.7s
GLB IAML 14 20 46.9
comp=N,175nm,0.8s
SPCP Crater Peak Br 3.02 219 Pn 14 19 52.2 +0.8
FID Port Fidalgo 3.02 164 Pn Pn 14 19 51.0 -0.3
FID IAML 14 20 45.1
comp=N,318nm,0.6s
G24K Hadweenzic Riv 3.08 5 Pn 14 19 52.5 +0.4
G24K Hadweenzic Riv 3.08 5 IAML 14 20 58.0
comp=N,125nm,1.0s
N20K Mount Spurr 3.08 219 P Pn 14 19 53.8 +1.5
baz=36
SPCR Spurr Chakacha 3.08 219 Pn 14 19 53.2 +1.0
CKL Chakachamna La 3.12 220 Pn 14 19 53.5 +0.7
M27K Edge Creek, AK 3.16 111 Pn 14 19 53.4 0.0
M27K IAML 14 20 52.0
comp=N,111nm,0.8s
M27K Edge Creek, AK 3.16 111 P Pn 14 19 53.3 0.0
baz=297
BMRM Bremner River 3.17 146 Pn 14 19 52.8 -0.6
BMRM Bremner River 3.17 146 P Pn 14 19 52.8 -0.6
baz=330
G23K Bananza Creek 3.17 347 Pn 14 19 54.0 +0.5
FYU Fort Yukon 3.19 22 Pn 14 19 54.1 +0.6
FYU IAML 14 20 30.8
comp=E,177nm,0.6s
FYU IAML 14 20 32.3
comp=N,186nm,0.6s
G25K Bearman Lake 3.25 15 Pn 14 19 54.8 +0.4
O22K Cooper Landing 3.26 193 Pn 14 19 55.3 +0.8
O22K Cooper Landing 3.26 193 P Pn 14 19 55.4 +0.8
baz=12
EGAK Eagle 3.28 67 Pn Pn 14 19 54.6 -0.2
EGAK Eagle 3.28 67 P Pn 14 19 54.6 -0.2
baz=253
VRDI Verde Repeater 3.28 136 Pn Pn 14 19 55.5 +0.5

VRDI IAML 14 20 55.2
comp=E,115nm,1.0s
VRDI IAML 14 21 02.7
comp=N,118nm,1.1s
SLKM Skilak Lake 3.29 198 Pn 14 19 55.5 +0.5
MCARA McCarthy VSAT 3.30 131 Pn 14 19 56.6 +1.4
MCARA IAML 14 20 55.5
comp=N,293nm,1.1s
MCARA IAML 14 21 00.8
comp=E,272nm,0.6s
MCARA McCarthy VSAT 3.30 131 P Pn 14 19 56.5 +1.4
baz=316
J19K Poorman 3.31 279 Pn 14 19 55.1 -0.2
EYAK Cordova Ski Ar 3.31 159 Pn 14 19 54.6 -0.7
EYAK Cordova Ski Ar 3.31 159 P Pn 14 19 54.6 -0.7
baz=341
EYAK Cordova Ski Ar 3.31 159 P Pn 14 19 54.7 -0.6
IMAR Indian Mountai 3.34 317 Pn 14 19 55.8 +0.2
M19K Big River Lodg 3.34 241 Pn 14 19 55.3 -0.4
M19K Big River Lodg 3.34 241 IAML 14 20 45.1
comp=N,190nm,0.5s
M19K IAML 14 20 45.9
comp=E,233nm,0.5s
HIN Hinchinbrook I 3.36 166 Pn 14 19 55.4 -0.5
HIN IAML 14 20 45.9
comp=N,294nm,0.9s
L19K White Mountain 3.38 247 Pn 14 19 55.9 -0.4
L19K White Mountain 3.38 247 IAML 14 20 44.3
comp=N,122nm,0.9s
L19K IAML 14 20 47.5
comp=E,132nm,0.7s
H20K Anotleneega Mo 3.43 306 Pn 14 19 57.1 +0.3
I27K Kandik River 3.45 52 Pn 14 19 57.2 +0.1
GOAT Goat Mountain 3.48 151 Pn 14 19 56.8 -0.8
BVCY Beaver Creek 3.56 107 Pn 14 19 58.0 -0.7
BVCY Beaver Creek 3.56 107 P Pn 14 19 58.0 -0.7
baz=294
G22K Bettles 3.57 339 Pn 14 19 59.1 +0.4
TTA Tatalina 3.60 262 Pn Pn 14 19 58.8 -0.4
SEW Seward 3.60 190 Pn 14 19 59.5 +0.3
SEW Seward 3.60 190 P Pn 14 19 59.5 +0.3
baz=9.0
PTPK Patty Peak 3.63 130 Pn 14 19 60.0 +0.2
G21K Allakaket 3.65 324 Pn Pn 14 20 00.3 +0.4
G21K IAML 14 20 43.5
comp=N,113nm,0.8s
G21K Allakaket 3.65 324 P Pn 14 20 00.2 +0.4
baz=140
RDT Redoubt 3.66 215 Pn 14 20 01.0 +0.9
RAGM Ragged Mountai 3.67 152 Pn Pn 14 19 59.6 -0.6
P23K Montague Islan 3.68 174 Pn 14 20 00.2 0.0
P23K Montague Islan 3.68 174 P Pn 14 20 00.2 0.0
baz=354
COLD Coldfoot 3.69 348 Pn 14 20 01.0 +0.6
COLD Coldfoot 3.69 348 P Pn 14 20 01.0 +0.6
baz=166
CRQM Cirque 3.74 139 Pn Pn 14 20 00.8 -0.5
CRQM IAML 14 21 05.1
comp=E,247nm,1.2s
RDJH Redoubt Jeurge 3.75 217 Pn 14 20 02.8 +1.4
BALM Baldy 3.78 131 Pn 14 20 01.7 0.0
G26K Porcupine Rive 3.80 27 Pn 14 20 01.5 -0.2
HMT Hamilton 3.80 149 Pn 14 20 01.1 -0.9
NCT North Crescent 3.81 218 Pn 14 20 03.3 +1.1
REF Redoubt East F 3.81 216 Pn 14 20 03.1 +0.8
J18K Innoko River 3.82 271 Pn 14 20 01.9 -0.2
TGL Tana Glacier 3.84 137 Pn Pn 14 20 01.7 -0.8
TGL IAML 14 21 14.8
comp=E,189nm,0.8s
TGL IAML 14 21 17.7
comp=N,186nm,1.1s
H27K Steamboat Moun 3.84 45 Pn 14 20 02.5 0.0
H27K Steamboat Moun 3.84 45 P Pn 14 20 02.5 0.0
baz=231
RDWB Redoubt West 3.85 217 Pn 14 20 03.6 +0.9
KIAG Kiagna River 3.86 132 Pn 14 20 02.3 -0.5
YUK2 White River 3.87 116 Pn 14 20 03.1 +0.3
BERG Berg Lake 3.89 145 Pn 14 20 02.6 -0.5
F24K Squaw Lake 3.89 2 Pn Pn 14 20 02.9 -0.2
F24K Squaw Lake 3.89 2 P Pn 14 20 03.5 +0.4
baz=182
RED Redoubt Volcan 3.89 216 Pn 14 20 04.1 +0.9
DAWY Dawson 3.92 80 Pn Pn 14 20 03.0 -0.5
DAWY Dawson 3.92 80 P Pn 14 20 03.1 -0.5
baz=268
GCSA Galena City Sc 3.96 290 Pn 14 20 04.0 +0.1
GCSA Galena City Sc 3.96 290 P Pn 14 20 04.0 +0.1
baz=102
NICHA Nichawak Mount 3.96 148 Pn 14 20 03.5 -0.6
I28M Miner Creek 4.00 59 Pn 14 20 04.7 +0.1
I28M IAML 14 20 54.1
comp=N,193nm,0.8s
YUK3 Moose Creek 4.03 114 Pn 14 20 05.3 +0.1
YUK3 Moose Creek 4.03 114 P Pn 14 20 05.3 +0.1
baz=301
H19K Roundabout Mou 4.03 302 Pn 14 20 04.4 -0.5
WAX Waxell Ridge 4.08 140 Pn 14 20 05.9 +0.3
BMAR Burnt Mountain 4.08 20 Pn Pn 14 20 05.4 -0.4
N19K Bonanza Creek 4.09 229 Pn Pn 14 20 06.4 +0.4
N19K IAML 14 21 09.0
comp=N,134nm,0.8s
N19K IAML 14 21 10.6
comp=E,101nm,0.6s
BRLK Bradley Lake 4.10 199 Pn 14 20 06.3 +0.3
BRLK IAML 14 21 11.3
comp=N,175nm,0.7s
F25K Christian Rive 4.10 14 Pn 14 20 05.5 -0.5
BRSE Bradley Lake S 4.10 198 Pn 14 20 06.0 0.0
BRSE Bradley Lake S 4.10 198 P Pn 14 20 06.0 0.0
baz=16
ISLE Juniper Island 4.11 135 Pn 14 20 05.9 -0.3
ISLE IAML 14 21 14.1
comp=E,89nm,1.1s
ISLE IAML 14 21 21.6
comp=N,154nm,1.0s
L18K Granite Mounta 4.14 254 Pn Pn 14 20 05.9 -0.6
L18K IAML 14 20 56.0
comp=E,73nm,0.8s
L18K IAML 14 20 57.8
comp=N,56nm,0.9s
KAIM Kayak Island 4.14 153 Pn Pn 14 20 05.8 -0.7
KAIM IAML 14 20 58.6
comp=E,132nm,0.6s
O20K Slope Mountain 4.15 212 Pn 14 20 07.5 +0.9
O20K Slope Mountain 4.15 212 P Pn 14 20 07.8 +1.1
baz=28
SUCK Suckling Hills 4.15 148 Pn 14 20 05.8 -0.8
SUCK IAML 14 21 25.2
comp=E,146nm,1.2s
CTGM Chitina Glacie 4.18 127 Pn Pn 14 20 08.3 +1.1
CTGM IAML 14 21 22.6
comp=N,58nm,1.3s
G27K Doyon Strip 4.20 38 Pn 14 20 07.0 -0.3
G27K IAML 14 20 56.1
comp=E,101nm,0.9s
G27K IAML 14 20 57.2
comp=N,52nm,0.7s
GRNC Granite Creek 4.20 131 Pn Pn 14 20 09.1 +1.5
GRNC IAML 14 21 23.6
comp=N,72nm,0.7s
F21K Alatna River 4.21 331 Pn Pn 14 20 07.8 +0.3
F21K IAML 14 20 58.1
comp=N,82nm,1.0s
F21K Alatna River 4.21 331 P Pn 14 20 08.1 +0.6
baz=146
BARK Barkley Ridge 4.22 138 Pn 14 20 07.8 +0.1
SVW2 Sparrevohn 4.29 237 Pn Pn 14 20 08.5 0.0
SVW2 IAML 14 21 03.8
comp=N,47nm,0.5s
SVW2 IAML 14 21 27.6
comp=E,70nm,0.6s
SVW2 Sparrevohn 4.29 237 P Pn 14 20 08.2 -0.3
IVE Iliamna Volcan 4.30 214 Pn 14 20 09.1 +0.3
SNH Sunshine Point 4.30 142 Pn 14 20 08.7 -0.1
SNH IAML 14 21 01.0
comp=E,98nm,0.7s
SNH IAML 14 21 27.2
comp=N,118nm,1.2s
Q23K Middleton Isla 4.32 167 Pn Pn 14 20 08.4 -0.5
Q23K IAML 14 21 27.0
comp=E,161nm,1.3s
HOM Homer 4.33 204 Pn 14 20 10.1 +1.1
HOM Homer 4.33 204 P Pn 14 20 10.1 +1.1
baz=21
ILSW Iliamna Southw 4.36 215 Pn Pn 14 20 10.4 +0.8

ILSW IAML 14 21 11.6
comp=N,140nm,1.2s
ILS Iliamna Low So 4.37 214 Pn 14 20 10.1 +0.5
CNPM China Poot 4.38 201 Pn Pn 14 20 10.0 +0.1
F26K Sheenjek River 4.40 21 Pn 14 20 10.2 +0.2
F26K IAML 14 21 00.6
comp=E,44nm,0.8s
E24K Your Creek 4.45 359 Pn 14 20 11.2 +0.5
E23K Chandalar 4.47 353 Pn 14 20 11.8 +0.8
O19K Port Alsworth 4.51 223 Pn 14 20 12.5 +1.0
O19K Port Alsworth 4.51 223 P Pn 14 20 12.5 +1.0
baz=37
G19K Purcell Mounta 4.54 307 Pn 14 20 11.8 -0.1
L29M L29M 4.56 92 Pn Pn 14 20 11.7 -0.5
L29M IAML 14 21 37.5
comp=E,106nm,0.5s
L29M IAML 14 21 44.3
comp=N,102nm,0.7s
MESA MESA 4.56 137 Pn 14 20 13.0 +0.6
MESA IAML 14 21 33.1
comp=E,125nm,0.9s
MESA IAML 14 21 34.1
comp=N,119nm,0.6s
M29M Somme Creek 4.59 101 Pn 14 20 12.4 -0.3
M29M IAML 14 21 42.1
comp=N,39nm,0.7s
M29M IAML 14 21 46.0
comp=E,45nm,0.7s
F20K Avaraart Lake 4.65 321 Pn 14 20 14.1 +0.8
H18K Honhosa River 4.66 293 Pn Pn 14 20 13.8 +0.2
H18K Honhosa River 4.66 293 P Pn 14 20 13.7 +0.1
baz=104
P19K Oil Pt 4.67 213 Pn 14 20 14.6 +0.8
P19K Oil Pt 4.67 213 P Pn 14 20 14.5 +0.8
baz=29
K17K Iditarod 4.67 263 Pn 14 20 13.7 0.0
K17K IAML 14 21 47.7
comp=E,46nm,0.9s
K17K IAML 14 21 54.6
comp=N,43nm,0.9s
N18K Kilae Creek 4.68 234 Pn Pn 14 20 13.5 -0.3
N18K IAML 14 21 23.1
comp=N,68nm,1.3s
N18K IAML 14 21 34.2
comp=E,65nm,0.6s
N18K Kilae Creek 4.68 234 P Pn 14 20 13.4 -0.3
baz=47
K29M Barlow Dome 4.75 83 Pn 14 20 14.2 -0.6
K29M IAML 14 21 37.1
comp=N,64nm,0.7s
M17K Holitna River 4.84 246 Pn 14 20 15.9 0.0
M17K IAML 14 21 32.2
comp=N,100nm,1.0s
M17K IAML 14 21 34.2
comp=E,92nm,1.0s
M17K Holitna River 4.84 246 P Pn 14 20 16.0 0.0
baz=58
J17K VABM Dome 4.88 272 Pn Pn 14 20 16.1 -0.4
J17K IAML 14 21 29.0
comp=N,40nm,3.1s
J17K VABM Dome 4.88 272 P Pn 14 20 16.1 -0.4
baz=82
H29M Whitestone 4.91 54 Pn 14 20 17.1 +0.2
H29M IAML 14 21 33.5
comp=N,79nm,1.3s
H29M IAML 14 21 39.3
comp=E,107nm,0.9s
AU22 Augustine Moun 4.95 212 Pn 14 20 18.1 +0.7
AUL Augustine Lava 4.96 213 Pn 14 20 18.4 +0.8
AUCH Augustine Cone 4.98 213 Pn 14 20 18.4 +0.5
YUK4 Talbot Arm 4.99 113 P Pn 14 20 17.7 -0.6
baz=301
G18K Tagagawik 5.01 301 Pn Pn 14 20 18.4 +0.1
TOLK Toolik Lake Re 5.05 354 Pn Pn 14 20 19.3 +0.5
TOLK Toolik Lake Re 5.05 354 P Pn 14 20 20.1 +1.3
baz=173
O18K Koktuh Hills 5.06 224 Pn Pn 14 20 19.7 +0.8
O18K IAML 14 21 39.3
comp=N,68nm,0.9s
O18K IAML 14 21 48.1
comp=E,56nm,0.7s
O18K Koktuh Hills 5.06 224 P Pn 14 20 19.9 +0.9
baz=38
F19K Shaleruckik Mo 5.14 313 Pn 14 20 20.1 +0.1
N17K Nushagak Hills 5.26 238 Pn 14 20 21.3 -0.4
N17K IAML 14 21 58.5
comp=E,43nm,0.6s
N17K IAML 14 22 06.3
comp=N,44nm,1.1s
F28M Old Crow 5.26 37 Pn Pn 14 20 22.0 +0.3
F28M IAML 14 21 23.0
comp=E,34nm,1.1s
F28M IAML 14 21 32.9
comp=N,35nm,1.6s
F28M Old Crow 5.26 37 P Pn 14 20 21.9 +0.1
baz=225
H17K Granite Mounta 5.26 289 Pn Pn 14 20 22.0 +0.2
H17K IAML 14 21 28.1
comp=E,32nm,0.7s
H17K Granite Mounta 5.26 289 P Pn 14 20 22.4 +0.7
baz=99
J30M Hart River 5.28 75 Pn Pn 14 20 22.0 -0.1
J30M IAML 14 21 24.6
comp=N,64nm,0.9s
J30M IAML 14 21 26.7
comp=E,44nm,0.7s
J30M Hart River 5.28 75 P Pn 14 20 22.0 -0.1
baz=265
M30M Minto, Yukon 5.29 97 Pn Pn 14 20 21.3 -0.8
M30M IAML 14 22 08.6
comp=N,33nm,1.1s
M30M Minto, Yukon 5.29 97 P Pn 14 20 21.5 -0.6
baz=287
E27K Coleen River 5.30 28 Pn Pn 14 20 22.0 -0.1
E27K Coleen River 5.30 28 P Pn 14 20 22.1 -0.1
baz=214
YUK6 Outpost Mounta 5.33 116 Pn 14 20 22.3 -0.5
E19K Redstone River 5.36 320 Pn 14 20 24.2 +1.2
E19K IAML 14 21 50.0
comp=E,25nm,0.9s
E19K IAML 14 22 10.2
comp=N,24nm,1.0s
I30M Mount Dempster 5.36 68 Pn Pn 14 20 22.5 -0.6
I30M IAML 14 21 24.1
comp=N,73nm,0.7s
I30M IAML 14 21 25.3
comp=E,52nm,0.7s
E21K Killik River 5.36 337 Pn 14 20 24.9 +1.9
E21K IAML 14 21 28.1
comp=E,26nm,0.7s
G29M Pine Creek 5.38 48 Pn 14 20 24.0 +0.7
Q19K Cape Douglas, 5.41 211 Pn 14 20 23.8 -0.1
Q19K Cape Douglas, 5.41 211 P Pn 14 20 23.7 -0.1
baz=27
YUK5 Granite Creek 5.43 113 Pn 14 20 24.4 +0.3
P18K Big Mountain, 5.43 221 Pn Pn 14 20 24.2 +0.1
P18K Big Mountain, 5.43 221 P Pn 14 20 24.6 +0.5
baz=35
D23K Nanushuk River 5.44 350 Pn 14 20 25.6 +1.6
SYI Shuyak Island 5.45 204 Pn Pn 14 20 24.2 0.0
Q20K Shuyak Island 5.45 204 P Pn 14 20 24.6 +0.4
baz=20
MAYO Mayo, Yukon 5.49 85 Pn Pn 14 20 24.5 -0.3
BCPM Bancas Point 5.49 129 Pn Pn 14 20 25.7 +0.8
D24K Happy Valley 5.54 358 Pn 14 20 26.7 +1.3
L16K Owhat River 5.55 255 Pn Pn 14 20 25.3 -0.3
L16K Owhat River 5.55 255 P Pn 14 20 25.4 -0.3
baz=65
I17K Unalakleet 5.55 278 Pn 14 20 25.7 +0.1
I17K Unalakleet 5.55 278 P Pn 14 20 26.1 +0.4
baz=87
D22K Ayikyak River 5.56 343 Pn 14 20 26.9 +1.2
EPYK Eagle Plains 5.58 56 Pn Pn 14 20 25.5 -0.6
J16K Anvik River 5.58 272 Pn 14 20 25.6 -0.4
N30M Aishikik Lake 5.58 108 Pn 14 20 25.6 -0.6
O29M Mount Kennedy 5.64 122 Pn 14 20 29.2 +2.2
M16K Timber Creek 5.66 247 Pn Pn 14 20 27.1 -0.1
HYT Haines Junctio 5.74 115 Pn Pn 14 20 29.1 +0.7
O17K Koliganek Bris 5.74 231 Pn 14 20 28.3 +0.1
O17K Koliganek Bris 5.74 231 P Pn 14 20 28.3 +0.1
baz=44
D25K Kavik River 5.75 6 Pn 14 20 29.6 +1.3
PNL Peninsula 5.78 130 P Pn 14 20 31.0 +2.1
P17K Kvichak River 5.96 225 Pn 14 20 30.7 -0.5
P17K Kvichak River 5.96 225 P Pn 14 20 32.9 +1.7

baz=38
KAHC Katmai Hardscr 6.00 216 Pn 14 20 31.7 -0.2
Q18K Katmai Hardscr 6.00 216 P Pn 14 20 31.7 -0.2
baz=30
KAHG Katmai Hook Gl 6.02 214 Pn 14 20 32.2 +0.1
G30M tAoh Zraii Nji 6.03 51 Pn Pn 14 20 31.1 -1.0
G30M tAoh Zraii Nji 6.03 51 P Pn 14 20 31.6 -0.5
baz=242
E28M Babbage River 6.09 31 Pn 14 20 33.0 0.0
C24K Franklin Bluff 6.10 358 Pn 14 20 34.0 +0.9
N31M Braeburn, Yuko 6.13 105 Pn 14 20 33.0 -0.6
N31M Braeburn, Yuko 6.13 105 P Pn 14 20 33.3 -0.3
baz=296
F17K Baldwin Pennin 6.19 303 Pn 14 20 34.8 +0.5
O16K Kokwok River B 6.23 234 Pn Pn 14 20 35.0 +0.1
K15K Wolf Creek Mou 6.23 263 Pn Pn 14 20 34.7 -0.2
K15K Wolf Creek Mou 6.23 263 P Pn 14 20 35.0 +0.2
baz=72
C27K Jago River 6.26 15 Pn 14 20 36.5 +1.2
KDAK Kodiak Island 6.26 202 Pn Pn 14 20 34.2 -1.1
KDAK Kodiak Island 6.26 202 P Pn 14 20 33.9 -1.4
comp=E,3.6nm,0.3s,baz=329,slow=13,SNR=91
KDAK S Sn 14 21 39.6 -5.8
comp=E,12nm,0.2s,baz=114,slow=19,SNR=9.3
C23K Itkillik River 6.29 352 Pn Pn 14 20 36.6 +1.0
H31M Peel River 6.31 64 Pn 14 20 35.2 -0.9
D19K Kuna River 6.32 325 Pn 14 20 37.5 +1.4
D19K Kuna River 6.32 325 P Pn 14 20 37.8 +1.7
baz=136
D27M Malcolm River 6.32 24 Pn 14 20 36.4 +0.3
D27M Malcolm River 6.32 24 P Pn 14 20 36.6 +0.5
baz=211
E29M Blow River 6.34 37 Pn Pn 14 20 36.8 +0.5
O30N Mendenhall 6.35 112 Pn 14 20 36.2 -0.4
O30N Mendenhall 6.35 112 P Pn 14 20 37.0 +0.4
baz=302
G16K Koyuk River 6.36 292 Pn Pn 14 20 36.8 +0.2
E18K Tukpahlearik C 6.39 312 Pn 14 20 38.5 +1.5
P29M Windy Craggy 6.40 124 Pn 14 20 38.6 +1.3
ACHA Angle Creek He 6.46 216 Pn Pn 14 20 38.0 -0.1
M31M Drury Creek, Y 6.47 97 Pn 14 20 37.8 -0.3
M31M Drury Creek, Y 6.47 97 P Pn 14 20 38.2 0.0
baz=289
B21K Ikpikpuk River 6.52 340 Pn Pn 14 20 39.9 +1.2
N15K Kwethluk River 6.61 244 Pn Pn 14 20 40.9 +0.8
E17K Hotham Inlet 6.66 307 Pn 14 20 40.5 -0.1
E17K Hotham Inlet 6.66 307 P Pn 14 20 41.4 +0.8
baz=115
G31M Satah River 6.69 54 Pn Pn 14 20 40.2 -1.0
G31M Satah River 6.69 54 P Pn 14 20 40.9 -0.3
baz=247
WHY Whitehorse 6.92 110 Pn Pn 14 20 44.0 -0.4
OHAK Old Harbor 6.92 204 Pn Pn 14 20 44.9 +0.6
OHAK Old Harbor 6.92 204 P Pn 14 20 42.8 -1.5
FARO Faro, Yukon 6.92 95 P Pn 14 20 44.1 -0.2
B22K Teshekpuk Lake 7.03 345 Pn 14 20 46.6 +1.0
M14K Bethel 7.06 252 Pn Pn 14 20 46.5 +0.3
M14K Bethel 7.06 252 P Pn 14 20 46.7 +0.6
baz=60
F31M Tsiigehtchic 7.10 51 Pn Pn 14 20 46.0 -0.7
F31M Tsiigehtchic 7.10 51 P Pn 14 20 45.9 -0.7
baz=244
L14K Kuka Creek 7.10 258 Pn 14 20 47.1 +0.5
C19K Lookout Ridge 7.13 325 Pn 14 20 46.9 -0.2
C19K Lookout Ridge 7.13 325 P Pn 14 20 48.5 +1.4
baz=135
PLK4 Peulik 4 7.24 217 Pn Pn 14 20 48.6 -0.1
C18K Utukok River 7.27 319 Pn Pn 14 20 50.1 +1.1
B20K Meade River 7.29 335 Pn Pn 14 20 50.1 +0.8
F15K North Star Dit 7.35 294 Pn Pn 14 20 50.1 0.0
SKAG Skagway 7.43 119 Pn Pn 14 20 53.7 +2.4
N32M Quiet Lake 7.45 103 Pn 14 20 52.4 +0.8
INK Inuvik 7.58 46 Pn Pn 14 20 53.6 +0.4
INK Inuvik 7.58 46 P Pn 14 20 53.4 +0.2
comp=E,4.3nm,0.5s,baz=242,slow=15,SNR=23
INK S Sn 14 22 15.0 -2.4
comp=E,13nm,1.0s,baz=198,slow=20,SNR=6.7
SII Sitkinak Islan 7.71 206 P Pn 14 20 55.1 0.0
B18K Kokolik River 7.89 323 Pn 14 20 57.3 -0.1
B18K Kokolik River 7.89 323 P Pn 14 20 58.3 +0.9
baz=130
P33M Teslin, Yukon 8.02 108 Pn 14 21 00.1 +0.7
JIS Juneau Island 8.60 122 P Pn 14 21 08.3 +1.2
CHGN Chignik 8.96 219 Pn Pn 14 21 10.5 -1.6
SIT Sitka 9.17 130 P Pn 14 21 16.9 +2.0
R33M Jennings River 9.25 110 Pn 14 21 16.9 +0.7
DLBC Dease Lake 10.22 112 P Pn 14 21 28.8 -0.4
comp=E,1.2nm,0.6s,baz=313,slow=12,SNR=7.1
DLBC S Sn 14 23 20.0 -1.9
comp=E,0.9nm,0.6s,baz=0.0,slow=20,SNR=1.2
C36M Paulatuk 11.13 49 Pn Pn 14 21 39.6 -1.9
C36M Paulatuk 11.13 49 P Pn 14 21 40.2 -1.3
baz=251
A36M Sachs Harbour 11.95 36 Pn Pn 14 21 51.8 -0.8
A36M Sachs Harbour 11.95 36 P Pn 14 21 52.2 -0.3
baz=237
YKA Yellowknife Ar 15.16 79 P Pn 14 22 33.3 -1.3
comp=E,0.4nm,0.6s,baz=297,slow=14,SNR=11
YKA S Sn 14 25 21.1 -0.4
comp=E,0.3nm,0.7s,baz=306,slow=23,SNR=3.6
PDAR Pinedale Array 30.44 115 P P 14 25 10.7 +0.8
comp=E,0.6nm,0.7s,baz=329,slow=5.9,SNR=6.5
comp=E,0.6nm,0.7s
NVAR Mina Array Bea 30.93 130 P P 14 25 15.5 +1.3
comp=E,0.3nm,0.6s,baz=327,slow=7.8,SNR=2.2
comp=E,0.3nm,0.6s
ARCES ARCESS Array B 47.02 3 P P 14 27 27.6 +0.1
comp=E,2.0nm,0.9s,baz=356,slow=3.8,SNR=4.4
comp=E,2.0nm,0.9s
NOA NORSAR Array B 54.66 12 P P 14 28 25.7 +0.8
comp=E,0.7nm,0.9s,baz=351,slow=5.9,SNR=1.3
comp=E,0.7nm,0.9s
FINES FINESS Array B 55.15 3 P P 14 28 29.0 +0.6
comp=E,1.4nm,0.4s,baz=350,slow=7.9,SNR=15
comp=E,1.4nm,0.4s
HFS Hagfors 55.78 11 P P 14 28 33.7 +0.8
comp=E,14nm,1.2s,baz=66,slow=3.7,SNR=4.1
comp=E,14nm,1.2s
EKA Eskdalemuir Ar 58.30 23 P P 14 28 51.9 +1.1
comp=E,1.1nm,0.4s,baz=333,slow=5.5,SNR=8.3
comp=E,1.1nm,0.4s
AKASG Malin Array Be 65.98 2 P P 14 29 40.5 -1.5
comp=E,0.6nm,0.4s,baz=1.6,slow=6.7,SNR=5.4
comp=E,0.6nm,0.4s

*KRSC **30** 14:40:01.2±0.7, 55°.33N×162°.45E, h80km±21km, Ml4.0*
*MOS **30** 14:40:02.2±0.9, 55°.40N×162°.42E, h85km, mb4.3/4, Error ellipse: s-maj=8.6km s-min=4.8km az=73.6*
*IDC **30** 14:40:04.1±2.8, 55°.50N×162°.24E, h83km±23km, mb3.6/11, mbtmp3.9/14, MS2.4/1, Error ellipse: s-maj=28.3km s-min=14.1km az=106.0*
*NEIC **30** 14:40:05.6±1.2, 55°.4N±0°.1×162°.1E±0°.2, h98km±7km, mb4.1/40, Error ellipse: s-maj=22.3km s-min=12.4km az=145.0*

ISC 30 14:40:03.5±0.7, 55°.35N±0°.03×162°.44E±0°.03, h80km±7km, n152, σ1§16/197, mb4.1/30, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.89	14	eP	Pn	14 40 20.3	-1.0
KBTR				eS	Sn	14 40 33.5	-1.0
KBTR	Krutoberegovo	0.89	14	PN	Pn	14 40 20.2	-1.0
KBTR				S	Sn	14 40 33.4	-1.0
KBG	Krutoberegovo	0.92	9	eP	Pn	14 40 20.6	-1.0
KBG				eS	Sn	14 40 34.6	-0.6
KBG	Krutoberegovo	0.92	9	PN	Pn	14 40 20.6	-1.0
KBG				S	Sn	14 40 34.5	-0.6
ZLN	Zelenaya	1.15	307	eP	Pn	14 40 24.0	-0.4
ZLN				eS	Sn	14 40 40.5	+0.4
ZLN	Zelenaya	1.15	307	PN	Pn	14 40 24.0	-0.4
ZLN				S	Sn	14 40 40.4	+0.4
BZGR	Bezymyannyi-Gr	1.16	302	eP	Pn	14 40 23.8	-0.7
BZGR				eS	Sn	14 40 39.8	-0.5
BZGR	Bezymyannyi-Gr	1.16	302	PN	Pn	14 40 23.8	-0.7
BZGR				S	Sn	14 40 39.7	-0.5
BZP	Bezymyannyi-Pe	1.22	299	eP	Pn	14 40 24.3	-1.1
CIRR	Tsirk	1.23	310	eP	Pn	14 40 25.1	-0.4
CIRR				eS	Sn	14 40 42.2	+0.2
CIRR	Tsirk	1.23	310	PN	Pn	14 40 25.0	-0.4
CIRR				S	Sn	14 40 42.2	+0.2
BZMR	Bezymyannaya	1.25	299	eP	Pn	14 40 25.0	-0.8
BZMR	Bezymyannaya	1.25	299	PN	Pn	14 40 24.9	-0.8
BZWR	Bezymyannyi-We	1.27	300	eS	Sn	14 40 44.3	+1.5
TUMR	Tumrok	1.31	268	eP	Pn	14 40 26.3	-0.2
TUMR				eS	Sn	14 40 43.3	-0.5
TUMR	Tumrok	1.31	268	PN	Pn	14 40 26.3	-0.2
TUMR				S	Sn	14 40 43.3	-0.5
KMNR	Kamenistaya	1.32	289	eP	Pn	14 40 26.1	-0.5
KMNR				eS	Sn	14 40 43.1	-0.9
KMNR	Kamenistaya	1.32	289	PN	Pn	14 40 26.0	-0.5
KMNR				S	Sn	14 40 43.0	-0.9
KIRR	Kirishev	1.34	298	eP	Pn	14 40 26.5	-0.3
KIRR				eS	Sn	14 40 44.4	0.0
KIRR	Kirishev	1.34	298	PN	Pn	14 40 26.5	-0.3
KIRR				S	Sn	14 40 44.3	0.0
SMKR	Semkarok	1.35	337	eP	Pn	14 40 26.3	-0.7
SMKR				eS	Sn	14 40 44.3	-0.4
SMKR	Semkarok	1.35	337	PN	Pn	14 40 26.3	-0.7
SMKR				S	Sn	14 40 44.3	-0.4
KRSR	Krestovskiy	1.37	310	eP	Pn	14 40 26.5	-0.8
KRSR				eS	Sn	14 40 44.3	-0.8
KRSR	Krestovskiy	1.37	310	PN	Pn	14 40 26.4	-0.8
KRSR				S	Sn	14 40 44.3	-0.8
KLY	Klyuchi	1.40	315	eP	Pn	14 40 25.8	-1.6
KLY				eS	Sn	14 40 43.1	-2.4
KLY	Klyuchi	1.40	315	PN	Pn	14 40 25.8	-1.6
KLY				S	Sn	14 40 43.1	-2.4
KPT	Kopyto	1.40	297	eP	Pn	14 40 27.0	-0.6
KPT				eS	Sn	14 40 45.1	-0.8
KPT	Kopyto	1.40	297	PN	Pn	14 40 27.0	-0.6
KPT				S	Sn	14 40 45.0	-0.8
BDR	Baidarnaya	1.41	331	eS	Sn	14 40 45.7	-0.2
SRKR	Sorokina	1.49	332	eS	Sn	14 40 48.3	+0.5
KOZ	Kozyrevsk	1.62	297	eP	Pn	14 40 30.4	+0.1
KOZ				eS	Sn	14 40 51.4	+0.7
KOZ	Kozyrevsk	1.62	297	PN	Pn	14 40 30.4	+0.1
KOZ				S	Sn	14 40 51.4	+0.7
SRDR	Sredinnyy	1.82	303	eP	Pn	14 40 32.6	-0.5
SRDR				eS	Sn	14 40 55.1	-0.4
SRDR	Sredinnyy	1.82	303	PN	Pn	14 40 32.5	-0.5
SRDR				S	Sn	14 40 55.0	-0.4
BKI	Bering	2.02	93	eP	Pn	14 40 35.6	-0.1
BKI				eS	Sn	14 40 59.3	-0.9
BKI	Bering	2.02	93	PN	Pn	14 40 35.5	-0.1
BKI				S	Sn	14 40 59.2	-0.9
SPN	Mys Shipunski	2.66	213	eP	Pn	14 40 42.9	-1.3
SPN				eS	Sn	14 41 12.3	-3.2
SPN	Mys Shipunski	2.66	213	PN	Pn	14 40 42.9	-1.3
SPN				S	Sn	14 41 12.2	-3.2
NLC	Nalytchevo	2.84	221	eP	Pn	14 40 46.5	0.0
NLC				eS	Sn	14 41 18.7	-1.0
NLC	Nalytchevo	2.84	221	PN	Pn	14 40 46.5	0.0
NLC				S	Sn	14 41 18.6	-1.0
SDLR	Sedlovina	2.94	227	eP	Pn	14 40 48.6	+0.5
SDLR	Sedlovina	2.94	227	PN	Pn	14 40 48.5	+0.5
KRER	Koryakskii	2.98	228	eP	Pn	14 40 49.5	+0.9
KRER	Koryakskii	2.98	228	PN	Pn	14 40 49.5	+0.9
KRX	Arik	2.98	230	eP	Pn	14 40 49.1	+0.4
KRX	Arik	2.98	230	PN	Pn	14 40 49.0	+0.4
SMAR	Somma	2.98	227	eP	Pn	14 40 49.3	+0.5
SMAR	Somma	2.98	227	PN	Pn	14 40 49.2	+0.5
AVH	Avacha	3.01	228	eP	Pn	14 40 49.6	+0.6
AVH	Avacha	3.01	228	PN	Pn	14 40 49.5	+0.6
UGLR	Uglovaya	3.01	226	eP	Pn	14 40 49.5	+0.5
UGLR	Uglovaya	3.01	226	PN	Pn	14 40 49.5	+0.5
KOK	Koryaka	3.03	229	eP	Pn	14 40 50.0	+0.7
KOK	Koryaka	3.03	229	PN	Pn	14 40 50.0	+0.7
DALK	Dalny	3.17	225	eP	Pn	14 40 51.2	0.0
DALK				eS	Sn	14 41 26.3	-1.6
DALK	Dalny	3.17	225	PN	Pn	14 40 51.1	0.0
DALK				S	Sn	14 41 26.2	-1.6
TIGL	Tigil	3.20	321	eP	Pn	14 40 51.5	0.0
INSR	Institute	3.21	226	eP	Pn	14 40 52.1	+0.5
INSR				eS	Sn	14 41 29.4	+0.7
INSR	Institute	3.21	226	PN	Pn	14 40 52.1	+0.5
INSR				S	Sn	14 41 29.4	+0.7
PET	Petropavlovsk	3.22	225		Pn	14 40 52.3	+0.5
PET				Sn	Sn	14 41 28.0	-0.9
PET	Petropavlovsk	3.22	225	eP	Pn	14 40 52.0	+0.3
PET				eS	Sn	14 41 28.9	-0.1
PET	Petropavlovsk	3.22	225	PN	Pn	14 40 52.0	+0.3
PET				S	Sn	14 41 28.8	-0.1
PEA0B	Petropavlovsk-	3.57	233	Pn	Pn	14 40 57.6	+1.0
PEA0B	Petropavlovsk-	3.57	233	PN	Pn	14 40 57.3	+0.7
PETK	Petropavlovsk-	3.57	233	P	Pn	14 40 56.6	0.0
	15nm,0.5s,baz=69,slow=18,SNR=94						
PETK				S	Sn	14 41 39.0	+1.4
	5.7nm,0.5s,baz=71,slow=20,SNR=1.4						
PETK				LR	LR	14 42 20.9	
	comp=Z,52nm,20.5s,baz=65,slow=38						
KRMR	Karymshinskiy	3.58	227	eP	Pn	14 40 57.2	+0.6
KRMR				eS	Sn	14 41 38.5	+0.8
KRMR	Karymshinskiy	3.58	227	PN	Pn	14 40 57.2	+0.6
KRMR				S	Sn	14 41 38.4	+0.8
RUS	Russkaya	3.73	220	eP	Pn	14 40 58.6	0.0
RUS				eS	Sn	14 41 38.8	-2.6
RUS	Russkaya	3.73	220	PN	Pn	14 40 58.6	0.0
RUS				S	Sn	14 41 38.8	-2.6
GRL	Gorelyy	3.81	224	eP	Pn	14 41 00.7	+0.9
GRL	Gorelyy	3.81	224	PN	Pn	14 41 00.7	+0.9
MTVR	Mutnovka	3.82	223	eP	Pn	14 41 00.4	+0.4
MTVR	Mutnovka	3.82	223	PN	Pn	14 41 00.4	+0.4
OSSR	Ossora	3.93	5	eP	Pn	14 41 00.7	-0.7
OSSR	Ossora	3.93	5	PN	Pn	14 41 00.6	-0.7
APC	Apacha	3.94	234	eP	Pn	14 41 03.3	+1.8
APC	Apacha	3.94	234	PN	Pn	14 41 03.3	+1.8
ASAK	Asacha	4.00	224	eP	Pn	14 41 03.5	+1.0
ASAK				eS	Sn	14 41 48.2	-0.1
ASAK	Asacha	4.00	224	PN	Pn	14 41 03.5	+1.0
ASAK				S	Sn	14 41 48.1	-0.1
KDTR	Khodutka, Kamc	4.39	218	eP	Pn	14 41 07.6	-0.2
KDTR	Khodutka, Kamc	4.39	218	PN	Pn	14 41 07.5	-0.2
SHEM	Shemya Is, Ala	7.35	106	S	Sn	14 43 07.5	-2.1
	93nm,1.0s,baz=249,slow=19,SNR=2.8						
SEY	Seymchan	9.19	330	P	Pn	14 42 11.4	-1.5
	0.8nm,0.3s,baz=58,slow=23,SNR=6.1						
KIWB	Kanaga Island	12.60	98	Pn	Pn	14 43 02.8	+3.4
JKA	Kamikawa-asahi	16.98	237	P	Pn	14 43 55.8	+0.1
ASAJ	Asahikawa	16.98	237	P	P	14 43 57.9	+1.5
	5.3nm,0.7s,baz=109,slow=4.6,SNR=7.1						
ERM	Erimo	18.36	231	P	P	14 44 10.3	-1.1
ERM	Erimo	18.36	231	P	P	14 44 10.3	-1.1
ERM				pmax	pmax		
	comp=Z,63nm,1.3s						
M14K	Bethel	19.42	59	P	Pn	14 44 26.4	+1.5
K15K	Wolf Creek Mou	19.69	55	P	Pn	14 44 28.7	+0.8
K15K				IAmb	IAmb	14 44 52.7	
	comp=Z,19nm,1.4s						
N15K	Kwethluk River	20.36	61	P	P	14 44 34.4	+1.2
H18K	Honhosa River	21.41	47	P	P	14 44 46.2	+1.9
TIXI	Tiksi	21.68	332	P	P	14 44 47.2	+0.1
TIXI				IAmb	IAmb	14 44 49.1	
	comp=Z,7.4nm,0.8s						
TIXI	Tiksi	21.68	332	P	P	14 44 46.7	-0.4
	comp=Z,3.7nm,0.4s,baz=120,slow=10,SNR=6.9						
	comp=Z,3.7nm,0.4s						
TIXI	Tiksi	21.68	332	P	P	14 44 47.2	+0.1
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
C19K	Lookout Ridge	21.92	36	P	P	14 44 51.6	+1.8
C19K				IAmb	IAmb	14 45 35.4	
	comp=Z,16nm,1.5s						
F19K	Shaleruckik Mo	21.95	43	P	P	14 44 51.8	+1.8
F20K	Avaraart Lake	22.79	42	P	P	14 45 00.6	+1.7
B20K	Meade River	23.02	35	P	P	14 45 02.0	+0.8
B20K				IAmb	IAmb	14 45 05.7	
	comp=Z,19nm,1.4s						
IMAR	Indian Mountai	23.42	45	P	P	14 45 06.3	+1.3
G21K	Allakaket	23.58	44	P	P	14 45 08.0	+1.5
F21K	Alatna River	23.68	42	P	P	14 45 08.3	+0.9
B21K	Ikpikpuk River	23.76	36	P	P	14 45 09.7	+1.7
B21K				IAmb	IAmb	14 45 13.1	
	comp=Z,13nm,1.5s						
CAST	Castle Rocks	24.04	52	P	P	14 45 12.7	+2.0
D22K	Ayikyak River	24.26	38	P	P	14 45 13.2	+0.7
D22K				IAmb	IAmb	14 45 27.3	
	comp=Z,10nm,1.4s						
B22K	Teshekpuk Lake	24.34	35	P	P	14 45 13.9	+0.7
B22K				IAmb	IAmb	14 45 16.2	
	comp=Z,3.7nm,0.8s						
CNPM	China Poot	24.87	61	P	P	14 45 19.9	+1.6
CNPM				IAmb	IAmb	14 46 03.6	
	comp=Z,9.0nm,1.1s						
MJB9	Matsu-Tunnel	25.03	231	P	P	14 45 19.4	-0.5
MJB9				IAmb	IAmb	14 45 20.8	
	comp=Z,9.1nm,1.1s						
MAJO	Matsushiro	25.03	231	P	P	14 45 19.6	-0.3
MAJO				IAmb	IAmb	14 45 20.9	
	comp=Z,9.4nm,1.1s						
MAJO	Matsushiro	25.03	231	P	P	14 45 19.6	-0.3
MAJO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MJAR	Matsushiro Arr	25.03	231	P	P	14 45 19.7	-0.2
	comp=Z,1.4nm,0.6s,baz=31,slow=9.0,SNR=4.2						
	comp=Z,1.4nm,0.6s						
H23K	Yukon River	25.13	46	P	P	14 45 21.7	+1.2
H23K				IAmb	IAmb	14 45 26.7	
	comp=Z,6.6nm,1.2s						
C23K	Itkillik River	25.16	37	P	P	14 45 20.2	-0.6
C23K				IAmb	IAmb	14 45 51.8	
	comp=Z,6.7nm,1.4s						
I23K	Minto, Yukon-K	25.20	48	P	P	14 45 22.4	+1.2
E23K	Chandalar	25.25	41	P	P	14 45 23.3	+1.6
E23K				IAmb	IAmb	14 45 25.3	
	comp=Z,6.0nm,1.4s						
TOLK	Toolik Lake Re	25.34	39	P	P	14 45 23.8	+1.4
TOLK				IAmb	IAmb	14 45 41.6	
	comp=Z,5.6nm,1.3s						
E24K	Your Creek	25.68	41	P	P	14 45 27.0	+1.5
E24K				IAmb	IAmb	14 45 43.2	
	comp=Z,5.7nm,1.5s						
F24K	Squaw Lake	25.86	42	P	P	14 45 28.9	+1.7
CCB	Clear Creek Bu	25.88	49	P	P	14 45 28.7	+1.5
G24K	Hadweenzic Riv	25.99	44	P	P	14 45 30.3	+2.0
G24K				IAmb	IAmb	14 45 41.3	
	comp=Z,5.5nm,1.4s						
PWL	Port Wells	26.06	58	P	P	14 45 30.2	+1.2
ILAR	Eielson Array	26.27	49	P	P	14 45 30.4	-0.4
	comp=Z,0.4nm,0.9s,baz=276,slow=9.0,SNR=4.2						
	comp=Z,0.4nm,0.9s						
SCM	Sheep Creek Mo	26.38	55	P	P	14 45 34.1	+2.2
SCM				IAmb	IAmb	14 46 18.2	
	comp=Z,8.7nm,1.2s						
SCM	Sheep Creek Mo	26.38	55	P	P	14 45 34.1	+2.2
SCM				pmax	pmax		
	comp=Z,9.0nm,1.2s						
D25K	Kavik River	26.56	38	P	P	14 45 34.9	+1.4
FID	Port Fidalgo	26.97	57	P	P	14 45 38.1	+1.0
BMAR	Burnt Mountain	27.13	43	P	P	14 45 40.5	+1.9
EGAK	Eagle	28.71	48	P	P	14 45 53.7	+1.1
BCAR	Beaver Creek A	28.71	52	P	P	14 45 54.8	+2.2
M27K	Edge Creek, AK	28.80	53	P	P	14 45 56.3	+2.7
M27K				IAmb	IAmb	14 46 25.5	
	comp=Z,10.0nm,1.5s						
LOGN	Logan Glacier	29.57	56	P	P	14 46 03.2	+2.8
LOGN				IAmb	IAmb	14 46 13.6	
	comp=Z,6.4nm,1.2s						
S31K	Pelican	32.80	60	P	P	14 46 28.4	-0.2
H11N2	WAKE ISLAND Hy	35.72	173	T	T	15 24 23.3	
	baz=355,slow=76,SNR=16						
H11N3	WAKE ISLAND Hy	35.73	173	T	T	15 24 29.7	
	baz=355,slow=76,SNR=17						
H11N1	WAKE ISLAND Hy	35.73	173	T	T	15 24 22.5	
	baz=355,slow=76,SNR=16						
ZALV	Zalesovo Beam	42.74	302	PcP	PcP	14 49 41.7	-0.6
	comp=Z,0.4nm,0.4s,baz=27,slow=6.6,SNR=2.0						
KURK	Kurchatov	47.73	301	P	P	14 48 30.5	-1.3
KURBB	Kurchatov Arra	47.83	301	P	P	14 48 30.5	-2.1
	comp=Z,0.9nm,0.2s,baz=56,slow=8.0,SNR=2.1						
	comp=Z,0.9nm,0.2s						
MK31	Makanchi Array	48.43	295	P	P	14 48 35.8	-1.5
MK31	Makanchi Array	48.43	295	P	P	14 48 35.8	-1.5
MKAR	Makanchi Array	48.43	295	P	P	14 48 36.0	-1.3
	comp=Z,0.5nm,0.5s,baz=55,slow=10,SNR=4.3						
	comp=Z,0.5nm,0.5s						
MKAR	Makanchi Array	48.43	295	P	P	14 48 36.0	-1.3
BVAR	Borovoye Array	50.08	308	P	P	14 48 47.9	-1.8
	comp=Z,0.7nm,0.4s,baz=49,slow=9.1,SNR=3.6						
	comp=Z,0.7nm,0.4s						
BRVK	Borovoye	50.10	308	P	P	14 48 48.7	-1.2
BRVK	Borovoye	50.10	308	P	P	14 48 48.7	-1.2
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	ARCESS Array B	51.57	342	P	P	14 48 58.7	-2.0
	comp=Z,2.9nm,0.9s,baz=9.7,slow=6.4,SNR=1.1						
	comp=Z,2.9nm,0.9s						
ABKAR	Akbulak array	57.38	311	P	P	14 49 41.9	-1.1
ABKAR				IAmb	IAmb	14 50 18.5	
	comp=Z,3.4nm,1.3s						
FIA1	FINESS Array S	58.59	337	P	P	14 49 50.5	-0.8
FINES	FINESS Array B	58.59	337	P	P	14 49 50.7	-0.6
	comp=Z,1.9nm,0.4s,baz=34,slow=7.8,SNR=27						
	comp=Z,1.9nm,0.4s						
BRTR	Keskin Array B	75.73	322	P	P	14 51 39.5	-0.7
	comp=Z,0.4nm,0.4s,baz=18,slow=6.2,SNR=1.5						
	comp=Z,0.4nm,0.4s						
WRA	Warramunga Arr	78.71	207	P	P	14 51 57.6	+0.9
	comp=Z,0.4nm,0.7s,baz=16,slow=6.0,SNR=7.2						
	comp=Z,0.4nm,0.7s						
ASAR	Alice Springs	82.39	206	P	P	14 52 17.9	+1.5
	comp=Z,0.5nm,0.6s,baz=13,slow=5.9,SNR=12						
	comp=Z,0.5nm,0.6s						

*BJI **30** 14:49:29.4, 3°.18S×101°.00E, h55km, mb5.2/67, mB5.2/23, Ms4.6/29, Ms7 4.4/30*
*MOS **30** 14:49:31.3±0.9, 2°.68S×101°.19E, h39km, mb5.6/58, Error ellipse: s-maj=8.3km s-min=3.9km az=117.2*
*NEIC **30** 14:49:31.8, 2°.98S×100°.95E, h29km*
*NEIC **30** 14:49:31.8, 2°.98S×100°.95E, h40km, Moment Tensor Solution. Duration: 1s3 Moment tensor: Scale 10^16Nm; Mrr1.41; Mθθ-0.60; Mφφ-0.80; Mrθ1.22; Mθφ1.47; Mφr-0.54; Fault plane solution: M0 2.28000×10^16 NP1: φs117.58000°, δ65.51000°, λ67.50000°. NP2: φs342.57000°, δ32.78000°, λ130.04000°. Principal axes: T 1.9918, Plg63.0000°, Azm352.0000°; N 0.5720, Plg20.0000°, Azm127.0000°; P -2.5638, Plg18.0000°, Azm224.0000°;*
*NEIC **30** 14:49:31.8, 2°.98S×100°.95E, h40km*
*NEIC **30** 14:49:32.7±2.5, 2°.97S±0°.06×100°.96E±0°.07, h35km±3km, mb5.4/87, Mwr4.8/13, Mww4.8/9, Error ellipse: s-maj=11.2km s-min=7.5km az=55.0, Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr0.75; Mθθ-0.31; Mφφ-0.44; Mrθ1.37; Mθφ0.24; Mφr-0.87; Fault plane solution: M0 1.77000×10^16 NP1: φs124.35000°, δ78.97000°, λ85.04000°. NP2: φs328.75000°, δ12.08000°, λ113.92000°. Principal axes: T 1.8491, Plg56.0000°, Azm28.0000°; N -0.1775, Plg5.0000°, Azm125.0000°; P -1.6716, Plg

BKNI	Bangkinang	3.24	0		Pn	14 50 23.1	+1.6
BKNI	Bangkinang	3.24	0	P	Pn	14 50 23.7	+2.2
BKNI	Bangkinang	3.24	0	P	Pn	14 50 23.0	+1.5
MDSI	Maura Dua	3.50	116	P	Pn	14 50 27.8	+2.6
LWLI	Liwa	3.67	124	P	Pn	14 50 29.9	+2.4
PMBI	Palembang	3.74	90	P	Pn	14 50 31.8	+3.3
PMBI	Palembang	3.74	90	P	Pn	14 50 29.5	+1.0
PBSI	Pulau Batu	3.96	316	P	Pn	14 50 30.9	-0.6
MNSI	Mandailing Nat	3.98	339	P	Pn	14 50 31.9	+0.2
KASI	Kota Agung	4.31	127	P	Pn	14 50 37.9	+1.6
BLSI	Bandar Lampung	4.86	120	P	Pn	14 50 44.5	+0.8
BTDF	Bukit Timah Da	5.08	33	P	Pn	14 50 48.1	+1.3
PPBI	Pangkal Pinang	5.17	82	P	Pn	14 50 49.9	+1.9
TPRI	Tanjung Pinang	5.19	43	P	Pn	14 50 49.7	+1.4
GSI	Gunungsitoli	5.44	321	Pn	Pn	14 50 51.0	-0.8
GSI	Gunungsitoli	5.44	321	P	Pn	14 50 51.0	-0.8
GSI	Gunungsitoli	5.44	321	P	Pn	14 50 51.0	-0.8
MYKOM	Kota Tinggi	5.48	31	Pn	Pn	14 50 54.0	+1.7
MYKOM	Kota Tinggi	5.48	31	P	Pn	14 50 53.8	+1.5
RPSI	Rantau Prapat	5.97	339	Pn	Pn	14 50 58.8	-0.2
PSI	Prapat	6.07	340	P	Pn	14 50 59.0	-1.6
	20nm,0.3s,baz=174,slow=7.5,SNR=25						
PSI				LR	LR	14 53 42.8	
	comp=Z,3μm,20.5s,baz=148,slow=42						
	41nm,0.4s						
PSI	Prapat	6.07	340	P	Pn	14 50 58.9	-1.6
PSI	Prapat	6.07	340	P	Pn	14 50 59.0	-1.6
TPI	Tanjungpandan	6.62	89	P	Pn	14 51 09.4	+1.4
	56nm,0.7s,2μm0.7nm						
SKJI	Sukabumi	6.84	126	P	Pn	14 51 10.3	-0.6
	290nm,0.6s,4μm2.2nm						
TSI	Tuntungan	6.85	339	P	Pn	14 51 12.3	+1.2
SNSI	Sinabang, Aceh	7.09	318	P	Pn	14 51 13.3	-1.1
KCSI	Kotacane, Aceh	7.19	333	P	Pn	14 51 16.2	+0.4
	86nm,0.5s,6μm1.5nm						
IPM	Ipoh	7.36	0	Pn	Pn	14 51 20.4	+2.2
IPM	Ipoh	7.36	0	P	Pn	14 51 21.1	+2.9
CNJI	Cibinong	7.47	126	P	Pn	14 51 18.2	-1.5
	83nm,0.9s,0.4nm						
LEM	Lembang	7.62	121	P	Pn	14 51 23.8	+1.9
	8.3nm,0.3s,baz=339,slow=22,SNR=6.7						
LEM				LR	LR	14 54 43.4	
	comp=Z,980nm,19.9s,baz=267,slow=41						
	23nm,0.7s						
LEM	Lembang	7.62	121	P	Pn	14 51 22.7	+0.8
	136nm,1.2s,2μm0.5nm						
BBJI	Bungbulang	7.99	125	P	Pn	14 51 26.4	-0.4
KULM	Kulim	8.18	357	Pn	Pn	14 51 29.4	0.0
KULM	Kulim	8.18	357	P	Pn	14 51 31.8	+2.5
MLSI	Meulaboh, Aceh	8.51	327	P	Pn	14 51 33.1	-0.8
CMJI	Cimerak	8.82	123	P	Pn	14 51 36.7	-1.5
	183nm,0.6s,2μm						
KPJI	Karang Pucung	9.01	119	P	Pn	14 51 41.1	+0.4
	102nm,0.6s,1μm						
LHMI	Lhok Sumawe	9.07	333	P	Pn	14 51 42.2	+0.6
	62nm,0.5s						
COCO	West Island	10.09	204		Pn	14 51 53.2	-2.3
COCO	West Island	10.09	204	P	Pn	14 51 53.1	-2.3
COCO	West Island	10.09	204	P	Pn	14 51 53.2	-2.3
BSI	Banda Aceh	10.14	326	P	Pn	14 51 53.8	-2.5
	126nm,0.5s,2μm						
SMRI	Semarang	10.23	114	P	Pn	14 52 00.9	+3.4
SMRI	Semarang	10.23	114	P	Pn	14 52 00.5	+3.0
	144nm,0.7s						
KSM	Kuching	10.26	65	P	Pn	14 52 01.1	+3.2
UWJI	Ujung Watu	10.48	110	P	Pn	14 52 02.2	+1.4
	139nm,1.1s,1μm						
UGM	Wanagama	10.67	118	P	Pn	14 52 03.5	0.0
	160nm,1.4s						
STKI	Sintang	10.87	74	P	Pn	14 52 08.1	+1.9
	57nm,0.9s						
NGJI	Ngawi	11.29	113	P	Pn	14 52 14.0	+2.1
	98nm,1.2s						
PCJI	Pacitan	11.37	118	P	Pn	14 52 11.5	-1.6
	82nm,0.5s						
SRIT	Nakonsritamara	11.54	353	P	Pn	14 52 18.7	+3.3
PWJI	Pagerwojo	11.86	116	P	Pn	14 52 19.8	+0.1
	32nm,0.6s						
SBUM	Sibu	12.40	65	Pn	Pn	14 52 26.4	-0.7
SBUM	Sibu	12.40	65	P	Pn	14 52 32.0	+4.8
BLJI	Banyuglugur	13.39	111	P	Pn	14 52 42.3	+1.6
	78nm,0.7s						
GMJI	Gumukmas	13.45	114	P	Pn	14 52 41.9	+0.5
	39nm,0.8s						
KMMI	Kalianget	13.53	108	P	Pn	14 52 43.0	+0.5
	81nm,1.2s						
MTKI	Muara Teweh, K	14.00	82	P	Pn	14 52 51.9	+2.9
	137nm,0.9s						
ABJI	Asem Bagus	14.01	111	P	Pn	14 52 50.2	+1.1
JAGI	Jajag, Banyuwa	14.17	113	Pn	Pn	14 52 48.9	-2.3
JAGI	Jajag, Banyuwa	14.17	113	P	Pn	14 52 50.6	-0.7
JAGI	Jajag, Banyuwa	14.17	113	P	Pn	14 52 49.6	-1.7
	101nm,0.7s,1μm						
SRBI	Singaraja	15.02	110	P	Pn	14 53 01.7	-0.7
	54nm,0.6s						
BKB	Balikpapan	15.95	84	P	P	14 53 17.3	0.0
DLV	Lat	16.54	27		P	14 53 23.4	-0.7
DLV	Lat	16.54	27	P	P	14 53 23.3	-0.7
KKM	Kota Kinabalu	17.60	60	P	P	14 53 36.8	+1.2
PLAI	Plampang	17.66	110	P	Pn	14 53 34.2	-1.6
PLAI	Plampang	17.66	110	P	Pn	14 53 33.6	-2.2
	72nm,0.7s,901nm						
UBPT	Khong Chiam	18.62	14	P	P	14 53 45.2	-1.6
UBPT	Khong Chiam	18.62	14	P	P	14 53 45.0	-1.8
SPSI	Sidrap Palu	18.74	94	P	P	14 53 48.0	-0.1
	56nm,1.0s						
TTSI	Tana Toraja	18.77	91	P	P	14 53 48.6	+0.1
	100nm,0.8s,2μm						
KAPI	Kappang	18.80	97	P	P	14 53 48.6	-0.1
	8.6nm,0.3s,baz=269,slow=9.9,SNR=14						
	154nm,0.9s						
KAPI	Kappang	18.80	97	P	Pn	14 53 50.6	+1.0
PCI	Palu	18.91	84	P	P	14 53 50.0	0.0
	117nm,1.2s,2μm						
BKSI	Bulukumba	19.20	98	P	P	14 53 52.8	-0.3
	175nm,1.1s,1μm						
MYLDM	Lahad Datu	19.23	65	P	Pn	14 53 54.9	0.0
MYLDM				IAmb	IAmb	14 54 03.6	
	comp=Z,101nm,0.9s						
MYLDM	Lahad Datu	19.23	65	P	Pn	14 53 56.6	+1.8
WBSI	Waikabubak, Su	19.43	111	P	P	14 53 53.5	-2.2
BSSI	Bau Bau, Buton	19.66	100	P	P	14 53 58.8	+0.6
	comp=Z,82nm,0.8s						
TOLI2	Tolitoli	20.16	79	P	P	14 54 04.8	+1.2
TOLI2				IAmb	IAmb	14 54 09.5	
	comp=Z,104nm,0.8s						
TOLI2	Tolitoli	20.16	79	P	P	14 54 04.8	+1.2
WSI	Waingapu	20.28	110	P	P	14 54 04.2	-0.8
	comp=Z,152nm,0.8s,comp=Z,2μm						
APSI	Ampana	20.71	85	P	P	14 54 11.2	+1.6
	comp=Z,325nm,1.1s,comp=Z,3μm						
BASI	Baing, Sumba	20.72	111	P	P	14 54 09.5	-0.2
MRSI	Marisa	21.18	81	P	P	14 54 16.0	+1.3
	comp=Z,94nm,0.7s,comp=Z,976nm						
PHRA	Phrae	21.31	358	P	P	14 54 13.8	-2.2
CM31	Chiang Mai Arr	21.36	355	P	P	14 54 13.7	-2.8
CMAR	Chiang Mai Arr	21.36	355	P	P	14 54 13.9	-2.5
	comp=Z,16nm,0.8s,baz=185,slow=10.0,SNR=73						
CMAR				PcP	PcP	14 58 19.4	+0.1
	comp=Z,4.7nm,0.8s,baz=212,slow=3.0,SNR=11						
CMAR				ScP	ScP	15 01 53.2	+0.8
	comp=Z,0.9nm,0.4s,baz=205,slow=4.0,SNR=4.3						
CMAR				LR	LR	15 03 02.7	
	comp=Z,284nm,18.5s,baz=175,slow=38						
	comp=Z,16nm,0.8s						
CMAR	Chiang Mai Arr	21.36	355	*i* P	P	14 54 14.0	-2.5
CMAR				pmax	pmax		
	comp=Z,19nm,0.8s						
KDI	Kendari	21.58	93	P	P	14 54 20.9	+1.9
BBSI	Bau Bau	21.64	97	P	P	14 54 21.4	+1.8
	comp=Z,111nm,1.1s						
CHTO	Chiang Mai	21.71	355	P	P	14 54 18.1	-2.1
CHTO	Chiang Mai	21.71	355	P	P	14 54 18.2	-2.1
CHTO				pmax	pmax		
	comp=Z,15nm,0.7s						
LUWI	Luwuk	21.82	85	P	P	14 54 21.7	+0.2
LUWI				IAmb	IAmb	14 54 37.2	
	comp=Z,77nm,0.8s						
LUWI	Luwuk	21.82	85	P	P	14 54 22.5	+1.0
LUWI	Luwuk	21.82	85	P	P	14 54 22.2	+0.7
	comp=Z,124nm,1.1s,comp=Z,2μm						
QIZ	Qiongzhong	23.49	21	P	P	14 54 39.8	+1.1
QIZ				S	S	14 58 50.8	+1.8
QIZ				LR	LR		
	comp=Z,430nm,16.9s						
QIZ				LR	LR		
	comp=Z,320nm,18.8s						
QIZ				LR	LR		
	comp=Z,460nm,20.4s						
SOEI	Soe	24.06	107	P	P	14 54 41.1	-3.2
SOEI	Soe	24.06	107	P	P	14 54 41.8	-2.5
SOEI	Soe	24.06	107	P	P	14 54 40.9	-3.4
	comp=Z,43nm,0.9s						
SLVN	Son La	24.28	7	P	P	14 54 44.6	-1.5
SLVN	Son La	24.28	7	P	P	14 54 44.8	-1.3
SANI	Sanana	24.96	89	P	P	14 54 51.4	-0.9
SANI	Sanana	24.96	89	P	P	14 54 52.0	-0.3
	comp=Z,35nm,0.8s						
MBWA	Marble Bar	25.69	136	P	P	14 54 59.0	+0.2
PSAC1	Pilbara Seismi	25.99	137	P	P	14 55 04.5	+2.9
	comp=Z,50nm,0.9s						
TGY	Tagaytay City	26.01	49	LR	LR	15 06 17.4	
	comp=Z,271nm,21.0s,baz=147,slow=39						
DAV	Davao City (W)	26.45	68	LR	LR	15 06 31.5	
	comp=Z,316nm,21.2s,baz=282,slow=39						
TNTI	Ternate	26.59	82	P	P	14 55 07.6	+0.5
TNCH	TengChong	27.90	355	⇑P	P	14 55 18.0	-0.9
TNCH				sP	sP	14 55 38.5	+1.3
TNCH				S	S	14 59 54.5	-4.9
TNCH				sS	sS	15 00 19.3	-1.3
TNCH				SS	SnSn	15 01 27.3	+10
TNCH				pmax	pmax		
	comp=Z,17nm,0.4s						
TNCH				pmax	pmax		
	comp=Z,89nm,4.8s						
TNCH				LR	LR		
	comp=Z,330nm,13.7s						
TNCH				LR	LR		
	comp=Z,230nm,10.8s						
TNCH				LR	LR		
	comp=Z,500nm,14.4s						
FITZ	Fitzroy Crossi	28.45	124	P	P	14 55 23.4	-0.2
FITZ	Fitzroy Crossi	28.45	124	P	P	14 55 23.6	-0.1
	comp=Z,7.4nm,0.8s						
FITZ	Fitzroy Crossi	28.45	124	LR	LR	15 07 57.9	
	comp=Z,108nm,22.0s,baz=306,slow=39						
FITZ	Fitzroy Crossi	28.45	124	P	P	14 55 23.4	-0.2
H08S2	Diego Garcia H	28.78	260	T	T	15 24 41.1	
	baz=82,slow=75,SNR=1784						
H08S3	Diego Garcia H	28.79	260	T	T	15 24 41.6	
	baz=82,slow=75,SNR=6573						
H08S1	Diego Garcia H	28.80	260	T	T	15 24 42.5	
	baz=82,slow=75,SNR=3806						
PZH	PanZhiHua	29.27	1	P	P	14 55 35.3	+4.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,180nm,5.2s						
SHL	Shillong	29.68	343	P	P	14 55 33.8	-0.9
SHL				IAmb	IAmb	14 55 34.9	
	comp=Z,67nm,0.6s						
SHL	Shillong	29.68	343	P	P	14 55 33.8	-0.9
SHL				pmax	pmax		
	comp=Z,67nm,0.6s						
KNRA	Kununurra	30.10	117	P	P	14 55 36.9	-1.5
KNRA	Kununurra	30.10	117	P	P	14 55 36.9	-1.5
	comp=Z,19nm,0.7s						
SWI	Sorong	30.29	87	P	P	14 55 39.5	-0.6
	comp=Z,47nm,1.0s						
FAKI	Fak Fak	31.18	91	P	P	14 55 46.4	-1.6
FAKI				IAmb	IAmb	14 55 47.9	
	comp=Z,28nm,0.8s						
FAKI	Fak Fak	31.18	91	P	P	14 55 47.4	-0.6
FAKI	Fak Fak	31.18	91	P	P	14 55 46.9	-1.1
	comp=Z,39nm,0.8s						
MTN	Manton Dam	31.37	110	P	P	14 55 47.8	-1.8
TPUB	Ta-pu	32.33	35	P	P	14 55 57.4	-0.6
TPUB				IAmb	IAmb	14 56 14.7	
	comp=Z,45nm,1.0s						
KDU	Kakadu	32.59	109	P	P	14 55 57.1	-3.1
YULB	Yu-li	32.79	36	P	P	14 56 03.0	+1.0
NWAO	Narrogin (SRO)	33.48	155	LR	LR	15 08 14.7	
	comp=Z,280nm,21.5s,baz=244,slow=33						
NACB	Ninganchiao	33.56	35	P	P	14 56 10.1	+1.5
CD2	Chengdu	33.76	4	P	P	14 56 08.8	-1.5
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				LR	LR		
	comp=Z,450nm,19.7s						
CD2				LR	LR		
	comp=Z,370nm,17.1s						
CD2				LR	LR		
	comp=Z,730nm,18.4s						
LSA	Lhasa	33.80	344	P	P	14 56 11.7	+0.5
LSA	Lhasa	33.80	344	P	P	14 56 11.7	+0.5
ENH	Enshi	34.00	13	P	P	14 56 10.7	-1.7
H01W3	Cape Leeuwin H	34.05	161	T	T	15 32 01.3	
	baz=336,slow=76,SNR=53						
H01W2	Cape Leeuwin H	34.06	161	T	T	15 32 02.3	
	baz=336,slow=76,SNR=19						
H01W1	Cape Leeuwin H	34.06	161	T	T	15 32 22.2	
	baz=336,slow=76,SNR=18						
WHN	Wuhan	35.64	20	⇓P	P	14 56 26.8	+0.3
WHN				pP	pP	14 56 37.5	-1.9
WHN				pmax	pmax		
	comp=Z,70nm,0.8s						
WB0	Warramunga Arr	36.62	120	P	P	14 56 34.4	-0.7
WB0				IAmb	IAmb	14 56 35.9	
	comp=Z,40nm,0.8s						
WRA	Warramunga Arr	36.64	120	P	P	14 56 34.8	-0.5
	comp=Z,31nm,0.6s,baz=304,slow=9.0,SNR=476						
WRA				PcP	PcP	14 58 57.8	+0.1
	comp=Z,6.0nm,0.8s,baz=307,slow=2.4,SNR=5.2						
WRA				S	S	15 02 10.8	-4.5
	comp=Z,2.2nm,0.8s,baz=294,slow=15,SNR=6.3						
WRA				LR	LR	15 13 39.7	
	comp=Z,76nm,20.1s,baz=272,slow=40						
	comp=Z,31nm,0.6s						
WRAB	Tennant Creek	36.65	120	P	P	14 56 35.0	-0.3
WRAB				IAmb	IAmb	14 56 35.8	
	comp=Z,40nm,0.7s						
WRAB	Tennant Creek	36.65	120	P	P	14 56 35.0	-0.3
WRAB				pmax	pmax		
	comp=Z,40nm,0.7s						
WB2	Warramunga Arr	36.65	120	P	P	14 56 34.9	-0.5
WB2				IAmb	IAmb	14 56 35.8	
	comp=Z,42nm,0.7s						
WR0	Warramunga Arr	36.82	120	P	P	14 56 36.5	-0.3
WR0				IAmb	IAmb	14 56 37.4	
	comp=Z,67nm,0.9s						
XAN	Xi'an	37.52	11	⇑P	P	14 56 41.0	-1.6
XAN				pP	pP	14 56 55.5	+0.1
XAN				pmax	pmax		
	comp=Z,190nm,0.6s						
XAN				pmax	pmax		
	comp=Z,110nm,4.3s						
XAN				LR	LR		
	comp=Z,380nm,16.3s						
XAN				LR	LR		
	comp=Z,360nm,15.1s						
XAN				LR	LR		
	comp=Z,800nm,17.2s						
XAN	Xi'an	37.52	11	P	P	14 56 41.2	-1.3
AS31	Alice Springs	37.88	126	P	P	14 56 45.9	+0.1
AS31	Alice Springs	37.88	126	P	P	14 56 45.8	+0.1
	comp=Z,9.9nm,0.6s						
ASAR	Alice Springs	37.88	126	P	P	14 56 45.7	-0.1
	comp=Z,10nm,0.7s,baz=299,slow=8.0,SNR=209						
ASAR				PcP	PcP	14 59 02.0	+0.7
	comp=Z,9.1nm,0.8s,baz=306,slow=2.9,SNR=10						
ASAR				S	S	15 02 31.4	-2.6
	comp=Z,3.9nm,0.8s,baz=294,slow=16,SNR=12						
ASAR				LR	LR	15 15 23.2	
	comp=Z,116nm,19.3s,baz=300,slow=41						
	comp=Z,10nm,0.7s						
AS01	Alice Springs	37.92	126	P	P	14 56 46.5	+0.4
NJ2	Nanjing	38.70	25	*eP*	P	14 56 54.8	+2.4
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
NJ2				LR	LR		
	comp=Z,520nm,21.6s						
LYN	LuoYang	38.81	15	⇓P	P	14 56 54.0	+0.7
LYN				pP	pP	14 57 06.8	+0.4
LYN				pmax	pmax		
	comp=Z,240nm,6.0s						
LYN				LR	LR		
	comp=Z,590nm,20.3s						
LYN				LR	LR		
	comp=Z,290nm,14.4s						
LYN				LR	LR		
	comp=Z,740nm,15.5s						
LZH	Lanzhou	38.91	4	P	P	14 56 53.8	-0.5
LZH				pP	pP	14 57 08.5	+1.2
LZH				PcP	PcP	14 59 05.5	+1.1
LZH				LR	LR		
	comp=Z,530nm,17.5s						
LZH				LR	LR		
	comp=Z,340nm,16.0s						
LZH				LR	LR		
	comp=Z,780nm,18.0s						
GOMU	GeErMu	39.36	352	P	P	14 56 57.3	-1.1
GOMU				S	S	15 03 03.8	+7.2
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GOMU				LR	LR		
	comp=Z,330nm,13.6s						
GOMU				LR	LR		
	comp=Z,220nm,13.3s						
GOMU				LR	LR		
	comp=Z,410nm,13.2s						
JOW	Kunigami	39.60	40	LR	LR	15 13 48.2	
	comp=Z,51nm,18.8s,baz=2.5,slow=37						
OOD	Oodnadatta	41.30	130	P	P	14 57 14.0	-0.1
MULG	Mulgathing	41.43	135	P	P	14 57 15.8	+0.6
QIS	Mount Isa	41.47	118	P	P	14 57 14.6	-1.1
	comp=Z,53nm,0.8s						
QIS	Mount Isa	41.47	118	P	P	14 57 14.9	-0.7
TIA	Tai'an	41.75	20	P	P	14 57 17.5	-0.1
TIA				sP	sP	14 57 34.0	-2.5
TIA				PcP	PcP	14 59 13.5	+0.1
TIA				ScP	ScP	15 03 00.0	+0.3
TIA				pmax	pmax		
	comp=Z,11nm,0.7s						
TIA				LR	LR		
	comp=Z,320nm,16.6s						
TIA				LR	LR		
	comp=Z,260nm,18.0s						
TIA				LR	LR		
	comp=Z,450nm,14.2s						
HNS	HongShan	42.09	16	⇑P	P	14 57 20.3	-0.1
HNS				pmax	pmax		
	comp=Z,26nm,1.1s						
HNS				LR	LR		
	comp=Z,420nm,17.1s						
HNS				LR	LR		
	comp=Z,220nm,17.5s						
HNS				LR	LR		
	comp=Z,460nm,17.5s						
GTA	Gaotai	42.15	359	*eP*	P	14 57 20.5	-0.5
GTA				PcP	PcP	14 59 15.0	+0.2
GTA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GTA				LR	LR		
	comp=Z,160nm,13.5s						
GTA				LR	LR		
	comp=Z,140nm,13.5s						
GTA				LR	LR		
	comp=Z,180nm,13.8s						
BTO	Baotou	44.11	10	*eP*	P	14 57 37.8	+1.0
BTO				pP	sP	14 57 53.0	-2.5
BTO				sP	pP	14 58 00.3	+10
BTO				S	S	15 04 07.0	+0.8
BTO				sS	sS	15 04 34.3	+6.3
BTO				SS	SS	15 07 19.5	-5.7
BTO				pmax	pmax		
	comp=Z,22nm,1.1s						
BTO				pmax	pmax		
	comp=Z,350nm,5.0s						
BTO				LR	LR		
	comp=Z,970nm,22.8s						
BTO				LR	LR		
	comp=Z,590nm,12.5s						
BTO				LR	LR		
	comp=Z,950nm,22.2s						
BBOO	Buckleboo	44.27	136	P	P	14 57 38.9	+0.7
LCRK	Leigh Creek	44.55	132	P	P	14 57 41.1	+0.7
HHC	Hu-ho-hao-te	44.63	11	*eP*	P	14 57 43.0	+2.1
HHC				pmax	pmax		
	comp=Z,25nm,0.8s						
HHC				pmax	pmax		
	comp=Z,200nm,4.5s						
HHC				LR	LR		
	comp=Z,190nm,17.8s						
HHC				LR	LR		
	comp=Z,350nm,12.6s						
HHC				LR	LR		
	comp=Z,260nm,14.9s						
NIL	Nilore	44.84	327	P	P	14 57 42.8	+0.1
NIL	Nilore	44.84	327	P	P	14 57 42.8	+0.1
NIL				pmax	pmax		
	comp=Z,150nm,0.7s						
NIL	Nilore	44.84	327	P	P	14 57 42.8	+0.1
NIL				pP	pP	14 57 56.2	+0.5
NIL				sP	sP	14 58 01.1	-0.1
BJT	Baijiatuau	44.95	16	P	P	14 57 43.6	+0.2
BJI	Beijing	44.97	16	P	P	14 57 43.5	0.0
BJI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BJI				pmax	pmax		
	comp=Z,71nm,4.9s						
MTSU	Mount Surprise	45.01	113	P	P	14 57 43.3	-1.0
	comp=Z,8.9nm,0.6s						
MTSU	Mount Surprise	45.01	113	P	P	14 57 43.6	-0.7
INKA	Innaminka	45.22	127	P	P	14 57 46.5	+0.7
JNU	Nakatsue	45.63	36	P	P	14 57 49.6	+0.6
JNU				IAmb	IAmb	14 57 51.0	
	comp=Z,51nm,0.9s						
JNU	Nakatsue	45.63	36	LR	LR	15 17 27.2	
	comp=Z,122nm,20.9s,baz=235,slow=37						
JNU	Nakatsue	45.63	36	P	P	14 57 49.2	+0.2
PMG	Port Moresby	46.28	100	P	P	14 57 52.6	-1.8
PMG	Port Moresby	46.28	100	LR	LR	15 19 21.4	
	comp=Z,52nm,18.2s,baz=274,slow=39						
PMG	Port Moresby	46.28	100	P	P	14 57 53.1	-1.3
PMG	Port Moresby	46.28	100	P	P	14 57 53.0	-1.3
PMG	Port Moresby	46.28	100	*ceP*	P	14 57 53.1	-1.3
PMG				pmax	pmax		
	comp=Z,12nm,0.8s						
GUMO	Guam	46.49	68	LR	LR	15 20 00.1	
	comp=Z,17nm,18.4s,baz=203,slow=39						
HTT	Hallett	46.61	135	P	P	14 57 57.3	+0.5
CTA	Charters Tower	47.28	115	LR	LR	15 19 37.1	
	comp=Z,90nm,20.1s,baz=291,slow=38						
CTAO	Charters Tower	47.28	115	P	P	14 58 01.9	-0.2
CTAO				IAmb	IAmb	14 58 02.9	
	comp=Z,36nm,0.8s						
CTAO	Charters Tower	47.28	115	P	P	14 58 01.4	-0.7
CTAO	Charters Tower	47.28	115	P	P	14 58 01.9	-0.2
CTAO				pmax	pmax		
	comp=Z,36nm,0.8s						
CTAO	Charters Tower	47.28	115	P	P	14 58 01.8	-0.2
CTAO				pP	pP	14 58 15.6	+0.2
CTAO				sP	sP	14 58 20.0	-1.0
KSRS	Korea Array	47.31	29	P	P	14 58 01.2	-0.8
	comp=Z,6.5nm,0.5s,baz=224,slow=7.8,SNR=31						
KSRS				PcP	PcP	14 59 32.0	-0.4
	comp=Z,1.5nm,0.9s,baz=191,slow=4.1,SNR=2.0						
KSRS				LR	LR	15 20 32.0	
	comp=Z,77nm,18.0s,baz=220,slow=40						
	comp=Z,6.5nm,0.5s						
QLP	Quilpie	47.59	124	P	P	14 58 04.9	+0.5
STKA	Stephens Creek	47.77	132	P	P	14 58 06.4	+0.7
STKA	Stephens Creek	47.77	132	P	P	14 58 06.5	+0.7
	comp=Z,22nm,0.6s,baz=309,slow=7.4,SNR=83						
STKA				LR	LR	15 18 51.0	
	comp=Z,146nm,21.9s,baz=317

KSH pmax pmax
comp=Z,66nm,0.7s
XLT XiLinHaoTe 48.55 15 *e*P **P 14 58 11.0 -0.6**
XLT pP pP 14 58 26.5 +1.7
XLT pmax pmax
comp=Z,16nm,1.0s
XLT pmax pmax
comp=Z,220nm,6.2s
ALOT Alotau 49.60 101 P **P 14 58 21.8 +1.7**
PRZ Przheval'sk 49.63 338 P **P 14 58 21.7 +1.7**
PRZ Przheval'sk 49.63 338 P **P 14 58 21.7 +1.7**
PRZ pmax pmax
comp=Z,83nm,0.4s
NRN Naryn 49.69 335 P **P 14 58 21.2 +0.5**
NRN IAmb IAmb 14 58 22.2
comp=Z,50nm,1.0s
NRN Naryn 49.69 335 P **P 14 58 21.2 +0.5**
NRN pmax pmax
comp=Z,50nm,1.0s
KDJ Kajisay 49.80 337 P **P 14 58 22.4 +1.1**
KDJ Kajisay 49.80 337 P **P 14 58 22.4 +1.1**
KDJ pmax pmax
comp=Z,82nm,0.8s
SHLS Shalkode 49.83 339 *e*P **P 14 58 20.3 -1.2**
comp=Z,20nm,0.5s
SHLS Shalkode 49.83 339 *e*P **P 14 58 20.2 -1.2**
SHLS pmax pmax
comp=Z,20nm,0.5s
PDGK Podgornoye 49.97 340 P **P 14 58 22.8 +0.2**
UZB Uzynbulak 49.98 339 *e*P **P 14 58 22.3 -0.4**
comp=Z,19nm,0.5s
UZB Uzynbulak 49.98 339 *e*P **P 14 58 22.2 -0.4**
UZB pmax pmax
comp=Z,19nm,0.5s
SATY Saty 50.13 338 *e*P **P 14 58 23.5 -0.2**
comp=Z,11nm,0.5s
SATY *e*S **S 15 05 31.5 -0.4**
SATY Saty 50.13 338 *e*P **P 14 58 23.5 -0.2**
SATY *e*S **S 15 05 31.5 -0.4**
SATY pmax pmax
comp=Z,11nm,0.5s
ZHN Zhinishke 50.21 339 *e*P **P 14 58 24.1 -0.3**
ZHN Zhinishke 50.21 339 *e*P **P 14 58 24.0 -0.3**
GAR Garm 50.42 329 P **P 14 58 25.4 -0.5**
TNSS Tian-Shan 50.66 337 *e*P **P 14 58 27.3 -0.7**
TNSS Tian-Shan 50.66 337 *e*P **P 14 58 27.3 -0.7**
MDOK Medeo 50.73 337 *e*P **P 14 58 28.0 -0.3**
MDOK *e*S **S 15 05 39.7 -0.6**
MDOK Medeo 50.73 337 *e*P **P 14 58 27.9 -0.3**
MDOK *e*S **S 15 05 39.7 -0.6**
CMSA Cobar Meteorol 50.73 129 P **P 14 58 28.9 +0.5**
SONM Songino Array 50.78 5 P **P 14 58 28.9 +0.4**
comp=Z,94nm,0.8s,baz=186,slow=9.4,SNR=240
SONM PcP **PcP 14 59 44.8 -0.1**
comp=Z,7.0nm,0.4s,baz=187,slow=4.3,SNR=10
SONM LR LR 15 22 14.5
comp=Z,178nm,20.4s,baz=182,slow=39
comp=Z,94nm,0.8s
AAA Alma-Ata 50.81 337 *e*P **P 14 58 28.8 0.0**
comp=Z,24nm,0.6s
AAA Alma-Ata 50.81 337 *e*P **P 14 58 28.8 0.0**
AAA pmax pmax
comp=Z,24nm,0.6s
SIMJ Simiganj 50.85 328 P **P 14 58 28.2 -1.1**
SIMJ IAmb IAmb 14 58 29.9
comp=Z,44nm,0.9s
SIMJ Simiganj 50.85 328 P **P 14 58 28.1 -1.2**
SIMJ PcP **PcP 14 59 46.8 +1.3**
INU Inuyama 50.86 38 P **P 14 58 28.8 -0.4**
INU IAmb IAmb 14 58 34.2
comp=Z,97nm,2.0s
ULN Ulaanbaatar 50.86 5*ce*P **P 14 58 29.5 +0.3**
ULN pmax pmax
comp=Z,41nm,0.9s
ARSB Arslanbob 50.92 333 P **P 14 58 30.6 +0.9**
ARSB IAmb IAmb 14 58 31.5
comp=Z,29nm,0.7s
ARSB Arslanbob 50.92 333 P **P 14 58 30.6 +0.9**
ARSB pmax pmax
comp=Z,29nm,0.7s
SOHO SOHO 50.93 304 *i* P **P 14 58 30.8 +0.8**
SNR=13
UCH Uchtor 50.97 335 P **P 14 58 31.4 +0.9**
SNR=7.6
TKM2 Tokmak 2 51.09 336 P **P 14 58 31.7 +0.6**
SNR=46
TKM2 Tokmak 2 51.09 336 *i* P **P 14 58 31.4 +0.3**
TKM2 pmax pmax
comp=Z,50nm,0.6s
KBK Karagaybulak 51.14 335 P **P 14 58 32.7 +1.2**
SNR=17
JGF Kuroka 51.23 38 P **P 14 58 31.6 -0.5**
JGF IAmb IAmb 14 58 44.9
comp=Z,96nm,1.9s
AML Almayashu 51.25 334 P **P 14 58 33.3 +0.8**
SNR=9.2
AAK Ala-Archa 51.31 335 P **P 14 58 32.4 -0.4**
AAK IAmb IAmb 14 58 34.5
comp=Z,17nm,0.7s
AAK Ala-Archa 51.31 335 *i* P **P 14 58 33.5 +0.8**
SNR=33
AAK Ala-Archa 51.31 335 LR LR 15 23 27.4
comp=Z,109nm,20.4s,baz=140,slow=40
AAK Ala-Archa 51.31 335*ce*P **P 14 58 33.5 +0.8**
AAK pmax pmax
comp=Z,20nm,0.8s
AAK Ala-Archa 51.31 335 P **P 14 58 33.5 +0.8**
AAK PcP **PcP 14 59 48.5 +1.4**
CN2 Changchun 51.44 23 *e*P **P 14 58 31.8 -1.6**
CN2 *ep*P pP 14 58 45.0 -1.9
CN2 PcP **PcP 14 59 47.0 -0.3**
CN2 pmax pmax
comp=Z,30nm,0.8s
CHMS Chumysh 51.50 335 P **P 14 58 34.4 +0.4**
SNR=19
ALNE Al Ain 51.55 304 *i* P **P 14 58 35.8 +1.2**
SNR=32
UOSS Minazif 51.55 305 P **P 14 58 34.5 -0.1**
UOSS Minazif 51.55 305 P **P 14 58 35.2 +0.5**
UOSS Minazif 51.55 305 P **P 14 58 35.1 +0.5**
UOSS PcP **PcP 14 59 48.1 0.0**
ASHO Ashiyiah 51.56 305 *i* P **P 14 58 35.7 +1.0**
SNR=11
HATD Hatta, Dubai 51.56 305 *i* P **P 14 58 35.6 +0.9**
SNR=9.1
MDH Madha 51.63 306 *i* P **P 14 58 35.0 -0.2**
SNR=8.3
EKS2 Erkin-Say 51.64 334 P **P 14 58 36.2 +1.1**
SNR=145
AULRC Lightning Ridg 51.72 126 P **P 14 58 36.6 +0.8**
MSFE Esma-Masafi 51.77 306 *i* P **P 14 58 37.6 +1.3**
SNR=5.5
TDK Taldyqorghan 51.81 340 *e*P **P 14 58 36.0 -0.2**
comp=Z,30nm,0.7s
TDK Taldyqorghan 51.81 340 *e*P **P 14 58 36.0 -0.2**
TDK pmax pmax
comp=Z,30nm,0.7s
USP Ospenovka 51.83 335 P **P 14 58 36.8 +0.4**
SNR=25
FAQ Al Faqa, Dubai 51.97 305 *i* P **P 14 58 38.8 +1.1**
SNR=6.6
NAZ Nazwa, Dubai 52.02 305 P **P 14 58 39.5 +1.4**
SHME Shamm 52.09 306 P **P 14 58 39.5 +0.9**
ASUD Al Ashush, Dub 52.13 304 P **P 14 58 40.8 +1.8**
ZSN Zaisan 52.14 346 *e*P **P 14 58 38.4 -0.2**
comp=Z,27nm,0.5s
ZSN Zaisan 52.14 346 *e*P **P 14 58 38.4 -0.2**
ZSN pmax pmax
comp=Z,27nm,0.5s
MK31 Makanchi Array 52.20 344 P **P 14 58 39.3 +0.2**
MK31 IAmb IAmb 14 58 40.0
comp=Z,42nm,0.6s
MK31 Makanchi Array 52.20 344*ce*P **P 14 58 39.3 +0.2**
MKAR Makanchi Array 52.20 344 P **P 14 58 39.0 -0.1**
comp=Z,44nm,0.5s,baz=158,slow=8.6,SNR=479
MKAR LR LR 15 25 35.9
comp=Z,143nm,19.1s,baz=144,slow=42
comp=Z,44nm,0.5s
MAJO Matsushiro 52.37 38 P **P 14 58 40.5 0.0**
MAJO IAmb IAmb 14 58 57.9
comp=Z,39nm,1.6s
MAJO Matsushiro 52.37 38 P **P 14 58 40.5 0.0**
MAJO pmax pmax
comp=Z,39nm,1.6s
MJB9 Matsu-Tunnel 52.37 38 P **P 14 58 40.7 +0.2**
MJB9 IAmb IAmb 14 58 57.9
comp=Z,37nm,1.6s
MJAR Matsushiro Arr 52.37 38 P **P 14 58 39.6 -0.9**
comp=Z,7.8nm,0.7s,baz=204,slow=7.9,SNR=25
MJAR PcP **PcP 14 59 51.4 +0.4**
comp=Z,1.6nm,0.6s,baz=209,slow=2.8,SNR=2.3
MJAR LR LR 15 20 26.4
comp=Z,69nm,22.0s,baz=210,slow=36
comp=Z,7.8nm,0.7s
AJN Ajban 52.39 304 P **P 14 58 41.7 +0.8**
GD1S Gladstone Soft 52.66 118 P **P 14 58 43.5 +0.6**
DZA Taraz 52.91 333 *e*P **P 14 58 44.2 -0.3**
comp=Z,20nm,0.6s
DZA Taraz 52.91 333 *e*P **P 14 58 44.1 -0.3**
DZA pmax pmax
comp=Z,20nm,0.6s
IUG Iuzhnay 52.94 331 *e*P **P 14 58 44.6 -0.2**
comp=Z,41nm,0.9s
IUG Iuzhnay 52.94 331 *e*P **P 14 58 44.5 -0.2**
IUG pmax pmax
comp=Z,41nm,0.9s
MZR Muzera 53.03 302 *i* P **P 14 58 46.9 +1.3**
SNR=15
ZAK Zakamensk 53.14 2 *e*P **P 14 58 45.6 -0.5**
ZAK pmax pmax
comp=Z,15nm,1.0s
CHM Chimkent 53.27 331 *e*P **P 14 58 47.0 -0.2**
CHM Chimkent 53.27 331 *e*P **P 14 58 46.9 -0.2**
AUDCS Dubbo College 53.30 129 P **P 14 58 47.9 +0.4**
JSD Sado 53.37 37 P **P 14 58 46.8 -1.1**
JSD IAmb IAmb 14 58 48.2
comp=Z,17nm,0.6s
KK31 Karatay Array 53.45 332 *i* P **P 14 58 47.8 -0.6**
KKAR Karatay Array 53.45 332 P **P 14 58 48.1 -0.3**
KKAR Karatay Array 53.45 332 P **P 14 58 48.1 -0.3**
KKAR pmax pmax
comp=Z,9.0nm,0.6s
BTLS Baital 53.48 336 *e*P **P 14 58 48.1 -0.4**
BTLS Baital 53.48 336 *e*P **P 14 58 48.1 -0.4**
BRLS Borolday 53.71 332 *e*P **P 14 58 49.1 -1.1**
BRLS Borolday 53.71 332 *e*P **P 14 58 49.1 -1.1**
BNX BinXian 53.82 23 ⇑P **P 14 58 50.3 -0.7**
BNX pmax pmax
comp=Z,61nm,0.6s
YNG Young 53.95 131 P **P 14 58 52.9 +0.7**
MOY Mondy 54.39 360 *e*P **P 14 58 55.1 -0.1**
MOY pmax pmax
comp=Z,26nm,1.9s
USA0B Ussuriysk Arra 54.51 27 P **P 14 58 56.3 +0.3**
USA0B IAmb IAmb 14 58 57.4
comp=Z,40nm,0.7s
USA0B Ussuriysk Arra 54.51 27 P **P 14 58 56.3 +0.3**
USA0B pmax pmax
comp=Z,40nm,0.7s
USRK Ussuriysk Ar. 54.51 27 P **P 14 58 55.9 -0.1**
comp=Z,42nm,0.6s,baz=223,slow=5.0,SNR=73
USRK LR LR 15 25 20.2
comp=Z,162nm,18.8s,baz=222,slow=40
comp=Z,42nm,0.6s
JMM Marumori 54.80 38 P **P 14 58 57.4 -0.8**
CAN Canberra 54.83 132 P **P 14 58 59.7 +1.0**
CAN pP **pP 14 59 13.1 +0.9**
CAN sP **sP 14 59 18.3 +0.4**
ARMA Armidale 55.03 125 P **P 14 59 01.9 +1.7**
ARMA IAmb IAmb 14 59 22.4
comp=Z,17nm,0.9s
SEM Semipalatinsk 56.05 344 *e*P **P 14 59 06.7 -0.6**
comp=Z,19nm,0.5s
SEM Semipalatinsk 56.05 344 *e*P **P 14 59 06.7 -0.6**
SEM pmax pmax
comp=Z,19nm,0.5s
KURBB Kurchatov Arra 56.73 343 P **P 14 59 11.6 -0.2**
comp=Z,22nm,0.6s,baz=163,slow=7.1,SNR=206
KURBB PcP **PcP 15 00 07.8 +0.5**
comp=Z,2.2nm,0.6s,baz=153,slow=6.4,SNR=4.3
KURBB LR LR 15 26 37.2
comp=Z,156nm,19.4s,baz=175,slow=39
KURBB PKP2bc 15 29 17.2
comp=Z,0.5nm,0.7s,baz=334,slow=2.6,SNR=4.5
comp=Z,22nm,0.6s
KURBB Kurchatov Arra 56.73 343 P **P 14 59 11.3 -0.5**
OTUK Ortayu 56.78 337 P **P 14 59 11.9 -0.4**
KURK Kurchatov 56.79 343 P **P 14 59 12.4 +0.2**
KURK IAmb IAmb 14 59 13.0
comp=Z,44nm,0.7s
KURK Kurchatov 56.79 343 P **P 14 59 11.6 -0.6**
KURK 15 00 07.8
KURK Kurchatov 56.79 343 P **P 14 59 12.0 -0.2**
KURK sP **sP 14 59 29.9 -1.4**
KURK PcP **PcP 15 00 07.9 +0.3**
JTM Tenmabayashi 56.81 36 P **P 14 59 12.4 -0.1**
JTM IAmb IAmb 14 59 58.6
comp=Z,92nm,1.4s
HEH HeiHe 57.63 20 *e*P **P 14 59 17.5 -0.7**
HEH pmax pmax
comp=Z,29nm,0.5s
ZAA0 Zalesovo Array 58.27 349 P **P 14 59 21.5 -1.1**
ZALV Zalesovo Beam 58.27 349 P **P 14 59 22.3 -0.3**
comp=Z,160nm,0.7s,baz=172,slow=5.4,SNR=497
ZALV LR LR 15 25 46.7
comp=Z,147nm,19.3s,baz=177,slow=37
comp=Z,160nm,0.7s
KLR Kul'dur 58.37 23 P **P 14 59 23.1 -0.3**
comp=Z,17nm,0.6s,baz=233,slow=6.2,SNR=58
KLR LR LR 15 26 35.7
comp=Z,257nm,18.2s,baz=225,slow=38
comp=Z,17nm,0.6s
HNR Honiara 58.88 99 P **P 14 59 27.2 -0.3**
comp=Z,52nm,0.8s,baz=189,slow=2.4,SNR=4.4
HNR LR LR 15 27 09.0
comp=Z,28nm,19.4s,baz=272,slow=38
comp=Z,52nm,0.8s
ASAJ Asahikawa 59.81 34 P **P 14 59 33.5 0.0**
comp=Z,19nm,0.4s,baz=242,slow=7.4,SNR=76
ASAJ LR LR 15 28 48.2
comp=Z,40nm,18.3s,baz=308,slow=40
comp=Z,19nm,0.4s
RAYN Ar Rayn 60.08 299 P **P 14 59 36.3 +0.5**
RAYN Ar Rayn 60.08 299 *i* P **P 14 59 36.3 +0.5**
SNR=6.9
RAYN Ar Rayn 60.08 299 P **P 14 59 36.5 +0.7**
ZEA Zeya 60.57 18 *e*P **P 14 59 38.4 -0.1**
ZEA pmax pmax
comp=Z,20nm,0.6s
H04N2 CROZET ISLANDS 60.66 217 T T 16 04 47.1
baz=60,slow=75
H04N1 CROZET ISLANDS 60.68 217 T T 16 04 47.5
baz=60,slow=75
H04N3 CROZET ISLANDS 60.68 217 T T 16 04 46.1
baz=60,slow=75,SNR=1535
H04S1 CROZET ISLANDS 60.94 216 T T 16 05 08.9
baz=59,slow=75,SNR=841
H04S3 CROZET ISLANDS 60.95 216 T T 16 05 04.9
baz=59,slow=75,SNR=1049
H04S2 CROZET ISLANDS 60.96 216 T T 16 05 08.9
baz=59,slow=75,SNR=761
BVA0 Borovoye Array 61.41 339 *i* P **P 14 59 43.3 -0.9**
BVAR Borovoye Array 61.41 339 P **P 14 59 43.4 -0.8**
comp=Z,35nm,0.6s,baz=143,slow=8.9,SNR=196
comp=Z,35nm,0.6s
BRVK Borovoye 61.47 339 P **P 14 59 43.4 -1.2**
BRVK IAmb IAmb 14 59 44.7
comp=Z,28nm,0.6s
BRVK Borovoye 61.47 339*ce*P **P 14 59 43.8 -0.8**
BRVK pmax pmax
comp=Z,20nm,0.6s
BRVK Borovoye 61.47 339 P **P 14 59 43.9 -0.8**
BRVK sP **sP 15 00 01.8 -2.0**
YSS Yuzh-Sakhalins 61.74 31 P **P 14 59 47.0 +0.5**
YSS Yuzh-Sakhalins 61.74 31 P **P 14 59 46.5 0.0**
YSS Yuzh-Sakhalins 61.74 31*ce*P **P 14 59 45.5 -1.0**
YSS pmax pmax
comp=Z,45nm,0.8s
AB31 Akbulak array 62.95 331 *i* P **P 14 59 54.2 -0.4**
ABKAR Akbulak array 62.95 331 P **P 14 59 54.0 -0.5**
KMBO Kilima Mbogo 63.75 270 P **P 15 00 03.0 +2.0**
KMBO Kilima Mbogo 63.75 270 P **P 15 00 02.8 +1.9**
comp=Z,3.3nm,0.6s,baz=64,slow=7.8,SNR=9.6
KMBO LR LR 15 22 11.4
comp=Z,92nm,22.0s,baz=94,slow=31
comp=Z,3.3nm,0.6s
KOUNC Koumac, New Ca 63.97 111 P **P 15 00 02.4 +0.5**
KOUNC IAmb IAmb 15 00 21.9
comp=Z,41nm,1.1s
AKTO Aktyubinsk 64.66 331 P **P 15 00 05.0 -0.9**
AKT Akhty 65.48 319 *e*P **P 15 00 11.8 +0.3**
AKT *e**SP **sP 15 00 31.9 +1.3**
AKT *e* 15 00 43.4
AKT pmax pmax
comp=Z,25nm,0.6s
NOUC Port Laguerre 66.02 113 P **P 15 00 15.2 -0.1**
NOUC pP **pP 15 00 28.7 -0.4**
DZM Mont Dzumac 66.15 113 P **P 15 00 16.5 +0.3**
DZM IAmb IAmb 15 00 36.2
comp=Z,24nm,1.0s
DZM Mont Dzumac 66.15 113 *e*LR LR 15 20 07.9
comp=Z,153nm,24.5s
MAK Makhachkala 66.34 320 *e*P **P 15 00 15.9 -0.9**
MAK *e**PP **pP 15 00 28.9 -1.5**
MAK *e**SP **sP 15 00 35.0 -0.9**
MAK *e* 15 02 41.6
MAK *e*PPP PPP 15 04 16.8
MAK *e*S **S 15 09 02.2 -0.8**
MAK *e**SS **sS 15 09 25.3 -0.4**
MAK *e*SS **SS 15 13 19.0 -1.3**
MAK pmax pmax
comp=Z,643nm,1.4s
VLAKA Lakatoro 66.52 106 P **P 15 00 18.6 +0.1**
YATNC Mamie plateau, 66.56 113 P **P 15 00 19.3 +0.6**
GNI Garni 66.90 316 P **P 15 00 21.3 +0.6**
SVE Sverdlovsk 67.93 337*de*P **P 15 00 26.6 0.0**
SVE pmax pmax
comp=Z,77nm,0.9s
GURO Guroymak-BITLI 68.17 314 P **P 15 00 29.6 +0.8**
GURO IAmb IAmb 15 00 30.2
comp=Z,13nm,0.7s
KARS Kars 68.26 316 P **P 15 00 30.2 +1.0**
KARS Kars 68.26 316 P **P 15 00 30.2 +1.0**
KARS pmax pmax
comp=Z,98nm,0.6s
YAK Yakutsk 68.39 14 P **P 15 00 28.2 -1.2**
YAK Yakutsk 68.39 14 P **P 15 00 28.1 -1.2**
comp=Z,107nm,0.7s,baz=157,slow=9.5,SNR=67
YAK LR LR 15 33 57.8
comp=Z,283nm,18.6s,baz=256,slow=39
comp=Z,107nm,0.7s
YAK Yakutsk 68.39 14*c i* P **P 15 00 27.1 -2.3**
YAK *e**PP **pP 15 00 39.3 -3.8**
YAK *e* 15 00 51.9
YAK *e* 15 02 55.9
YAK *e*S **S 15 09 25.1 -1.8**
YAK *e**SS **sS 15 09 52.6 +2.3**
YAK *e* 15 10 21.3
YAK *e*SS **SS 15 13 51.8 +0.5**
YAK pmax pmax
comp=Z,124nm,0.9s
YAK pmax pmax
comp=N,28nm,1.1s
YAK pmax pmax
comp=E,14nm,1.1s
YAK pmax pmax
comp=Z,231nm,3.3s
YAK pmax pmax
comp=N,184nm,3.0s
YAK pmax pmax
comp=E,176nm,3.2s
YAK smax smax
comp=N,399nm,4.2s
YAK smax smax
comp=E,258nm,3.5s
ARTI Arti 68.51 336 P **P 15 00 29.8 -0.5**
ARTI Arti 68.51 336 P **P 15 00 29.8 -0.5**
comp=E,52nm,0.6s,baz=137,slow=3.8,SNR=67
comp=E,52nm,0.6s
ARTI Arti 68.51 336*c i* P **P 15 00 29.7 -0.6**
ARTI *PP **pP 15 00 43.9 -0.1**
ARTI S **S 15 09 29.9 +1.3**
ARTI SS **SS 15 13 47.2 -6.3**
ARTI pmax pmax
comp=Z,58nm,0.8s
ARTI Arti 68.51 336 P **P 15 00 29.8 -0.5**
ARTI pP **pP 15 00 43.8 -0.3**
ARTI PcP **PcP 15 00 55.4 +0.3**
BCA Borcka 69.59 316 ⇑P **P 15 00 37.7 +0.3**
BATM Batumi 69.61 317 ⇑P **P 15 00 38.5 +1.1**
BATM Batumi 69.61 317 P **P 15 00 38.5 +1.1**
MAW Mawson 69.64 195 P **P 15 00 39.1 +2.0**
comp=Z,1.7nm,0.8s,baz=36,slow=7.1,SNR=5.9
MAW LR LR 15 25 04.1
comp=Z,128nm,21.3s,baz=46,slow=30
KBZ Khabaz 69.68 319 P **P 15 00 38.4 +0.6**
comp=Z,34nm,0.8s,baz=120,slow=4.1,SNR=60
comp=Z,34nm,0.8s
KBZ Khabaz 69.68 319*ce*P **P 15 00 38.6 +0.8**
KBZ pmax pmax
comp=Z,30nm,0.9s
SHA1 Shidzhatmaz 69.84 319 *i* P **P 15 00 39.8 +0.7**
KIV Kislovodsk 69.91 319 P **P 15 00 40.1 +0.7**
KIV Kislovodsk 69.91 319 ⇑P **P 15 00 40.4 +1.0**
KIV Kislovodsk 69.91 319 P **P 15 00 40.4 +1.0**
KIV Kislovodsk 69.91 319 P **P 15 00 39.6 +0.2**
comp=Z,34nm,0.8s
MBAR Mbarara 70.28 270*ce*P **P 15 00 44.8 +2.5**
MBAR pmax pmax
comp=Z,8.0nm,1.3s
MBAR Mbarara 70.28 270 P **P 15 00 44.4 +2.1**
MBAR pP **pP 15 00 58.7 +2.7**
BELG Belogornoye 71.05 329 *i* P **P 15 00 45.5 -0.4**
BELG pmax pmax
comp=Z,9.0nm,0.8s
MMAI Mount Meron Ar 71.41 306 P **P 15 00 50.5 +1.8**
comp=Z,19nm,0.6s,baz=92,slow=9.2,SNR=36
comp=Z,19nm,0.6s
SOC Sochi 71.73 318 *e*P **P 15 00 48.8 -1.5**
SOC *e* 15 03 28.5
SOC *e*S **S 15 10 06.1 -0.7**
SOC *e*SS **SS 15 14 48.5 +5.0**
SOC *e*SSS SSS 15 17 58.1
SOC pmax pmax
comp=Z,43nm,0.6s
NRIK Noril'sk 72.71 355 P **P 15 00 54.9 -0.8**
NRIK IAmb IAmb 15 00 55.9
comp=Z,66nm,1.2s
NRIK Noril'sk 72.71 355 P **P 15 00 54.8 -0.8**
comp=Z,24nm,0.5s,baz=144,slow=6.4,SNR=25
comp=Z,24nm,0.5s
NRIK Noril'sk 72.71 355*ce*P **P 15 00 54.9 -0.8**
NRIK pmax pmax
comp=Z,32nm,0.6s
PEA0B Petropavlovsk- 73.13 32 P **P 15 00 58.1 -0.3**
PEA0B Petropavlovsk- 73.13 32 P **P 15 00 58.1 -0.3**
PEA0B pmax pmax
comp=Z,225nm,1.8s
PETK Petropavlovsk- 73.13 32 P **P 15 00 57.2 -1.3**
comp=Z,14nm,0.7s,baz=272,slow=1.8,SNR=44
PETK LR LR 15 33 02.4
comp=Z,51nm,20.7s,baz=219,slow=36
comp=Z,14nm,0.7s
MA2 Magadan 73.46 24 LR LR 15 35 27.5
comp=Z,87nm,18.1s,baz=260,slow=38
MA2 Magadan 73.46 24 P **P 15 01 00.4 +0.2**
MA2 Magadan 73.46 24*ce*P **P 15 00 59.4 -0.8**
MA2 pmax pmax
comp=Z,51nm,0.8s
MA2 Magadan 73.46 24 P **P 15 01 00.5 +0.2**
comp=Z,74nm,0.8s
PET Petropavlovsk 73.59 32*ce*P **P 15 01 01.0 -0.1**
PET pmax pmax
comp=Z,66nm,1.7s
PET Petropavlovsk 73.59 32 P **P 15 01 00.8 -0.3**
comp=Z,112nm,1.2s
CSS Mathiatis 73.60 308 P **P 15 01 02.1 +0.5**
comp=Z,42nm,2.2s
RPZ Rata Peaks 73.60 135 P **P 15 01 02.1 +0.7**
comp=Z,10nm,0.8s,baz=338,slow=3.6,SNR=5.6
comp=Z,10nm,0.8s
KIRV Kirov 73.65 335 P **P 15 01 01.4 +0.1**
comp=Z,93nm,0.7s,baz=122,slow=1.0,SNR=34
comp=Z,93nm,0.7s
VRH Novokhopyorsk 73.67 326 ⇑*i* P **P 15 01 01.3 -0.3**
VRH pmax pmax
comp=Z,95nm,0.6s
KIRS Kirsehir-Merke 74.32 312 ⇓P **P 15 01 05.9 +0.1**
BR104 Keskin Array S 74.70 312 P **P 15 01 07.7 -0.4**
comp=Z,27nm,0.7s,comp=Z,250nm
BR131 Keskin Array S 74.70 312 P **P 15 01 07.7 -0.4**
BR131 IAmb IAmb 15 01 08.5
comp=Z,27nm,0.7s
BR131 Keskin Array S 74.70 312 *i* P **P 15 01 07.0 -1.1**
BRTR Keskin Array B 74.70 312 P **P 15 01 07.7 -0.4**
comp=Z,18nm,0.6s,baz=136,slow=7.2,SNR=105

comp=Z,18nm,0.6s
BR105 Keskin Array S 74.72 312 P **P 15 01 07.8 -0.4**
comp=Z,28nm,0.8s,comp=Z,251nm
BR106 Keskin Array S 74.72 312 P **P 15 01 07.8 -0.4**
comp=Z,26nm,0.8s,comp=Z,213nm
VORD Divnogorie 74.95 325 *e*P **P 15 01 07.7 -1.3**
VORD pmax pmax
comp=Z,30nm,0.7s
VSR Storozhevoye 75.12 325 *e*P **P 15 01 08.6 -1.5**
VSR pmax pmax
comp=Z,60nm,0.6s
VORR Voronezh 75.29 325 *e*P **P 15 01 11.0 0.0**
VORR pmax pmax
comp=Z,62nm,0.6s
ANTO Ankara 75.37 312 ⇑P **P 15 01 11.4 -0.4**
ANTO Ankara 75.37 312 P **P 15 01 11.4 -0.4**
LBTB Lobatse 75.56 245 LR LR 15 29 08.5
comp=Z,102nm,20.3s,baz=36,slow=31
LPSR Galich'ya Gora 75.83 326 ⇑*i*P **P 15 01 13.9 -0.2**
LPSR pmax pmax
comp=Z,48nm,1.0s
SIM Simferopol' 75.97 318 *e*P **P 15 01 15.9 +0.8**
SIM pmax pmax
comp=Z,39nm,0.9s
BOSA Boshof 76.11 241 P **P 15 01 17.8 +1.4**
comp=Z,7.3nm,0.8s,baz=78,slow=4.3,SNR=6.5
BOSA LR LR 15 31 34.4
comp=Z,62nm,18.2s,baz=28,slow=33
comp=Z,7.3nm,0.8s
SEY Seymchan 76.11 22 P **P 15 01 15.5 0.0**
comp=Z,24nm,0.6s,baz=245,slow=5.6,SNR=88
comp=Z,24nm,0.6s
ISP Isparta 76.53 310 *ce*P **P 15 01 20.3 +1.7**
ISP pmax pmax
comp=Z,9.0nm,0.6s
TIXI Tiksi 76.61 9 P **P 15 01 16.9 -1.3**
TIXI IAmb IAmb 15 01 18.3
comp=Z,31nm,0.7s
TIXI Tiksi 76.61 9 P **P 15 01 16.8 -1.3**
comp=Z,33nm,0.6s,baz=221,slow=2.8,SNR=117
TIXI LR LR 15 39 16.6
comp=Z,251nm,18.7s,baz=198,slow=39
comp=Z,33nm,0.6s
TIXI Tiksi 76.61 9 *i* P **P 15 01 16.9 -1.3**
TIXI pmax pmax
comp=Z,64nm,1.3s
ELL Elmali 76.74 309 P **P 15 01 19.8 0.0**
ELL IAmb IAmb 15 01 21.3
comp=Z,43nm,0.6s
ELL Elmali 76.74 309 P **P 15 01 19.8 0.0**
ELL pmax pmax
comp=Z,43nm,0.6s
MSVF Nonsavu 76.76 107 P **P 15 01 20.7 +0.5**
MSVF IAmb IAmb 15 01 41.6
comp=Z,100nm,1.9s
MSVF Nonsavu 76.76 107 P **P 15 01 18.5 -1.7**
comp=Z,6.2nm,0.7s,baz=11,slow=5.2,SNR=4.2
comp=Z,6.2nm,0.7s
MSVF Nonsavu 76.76 107 P **P 15 01 20.7 +0.5**
MSVF pmax pmax
comp=Z,100nm,2.0s
BKZ Black Stump Fm 76.89 129 P **P 15 01 21.1 +0.6**
BKZ IAmb IAmb 15 01 41.0
comp=Z,59nm,1.2s
URZ Urewera 77.27 128 P **P 15 01 22.2 -0.4**
comp=Z,9.9nm,0.8s,baz=3.5,slow=3.5,SNR=2.3
URZ LR LR 15 35 39.0
comp=Z,74nm,21.1s,baz=14,slow=36
comp=Z,9.9nm,0.8s
MOS Moscow 77.82 329 *e*P **P 15 01 24.6 -0.6**
MOS pmax pmax
comp=Z,60nm,0.7s
OBN Obninsk 78.12 328 ⇑P **P 15 01 27.2 +0.3**
OBN Obninsk 78.12 328 *c i*P **P 15 01 27.0 +0.2**
OBN *i* 15 01 37.2
OBN *e**SP **sP 15 01 46.2 -0.1**
OBN S **S 15 11 13.0 -4.4**
OBN pmax pmax
comp=Z,38nm,0.6s
OBN MLR MLR
comp=Z,132nm,18.0s
OBN Obninsk 78.12 328 P **P 15 01 27.1 +0.2**
comp=Z,70nm,0.7s
KARP Karpathos 78.64 307 P **P 15 01 30.6 +0.3**
KLMR Klimovskoe 79.11 334 *e*P **P 15 01 29.3 -2.9**
KLMR *e**PP **pP 15 01 44.8 -1.4**
KLMR pmax pmax
comp=Z,64nm,1.5s
TLCR 79.64 317 ⇑P **P 15 01 36.4 +0.9**
TLCR 79.64 317 P **P 15 01 36.3 +0.9**
MILM Milestii Mici 80.09 319 ⇓P **P 15 01 38.1 +0.3**
MILM Milestii Mici 80.09 319 P **P 15 01 38.1 +0.3**
CFR Carcaliu 80.10 317 ⇓P **P 15 01 38.3 +0.3**
CFR Carcaliu 80.10 317 P **P 15 01 38.2 +0.3**
HARR Harsova 80.12 316 ⇑P **P 15 01 39.1 +1.0**
HARR Harsova 80.12 316 P **P 15 01 39.1 +1.0**
SUR Sutherland 80.17 238 LR LR 15 33 11.3
comp=Z,136nm,18.2s,baz=82,slow=33
SORM Soroca 80.71 320 ⇑P **P 15 01 41.3 +0.1**
SORM Soroca 80.71 320 P **P 15 01 41.2 +0.1**
SORM Soroca 80.71 320 P **P 15 01 41.2 +0.1**
comp=Z,61nm,1.1s
RAO Raoul Island 80.77 119 LR LR 15 38 16.2
comp=Z,94nm,19.2s,baz=330,slow=36
AK09 Malin Array Si 80.78 322 P **P 15 01 41.3 -0.2**
AK10 Malin Array Si 80.80 322 P **P 15 01 41.4 -0.2**
AK08 Malin Array Si 80.81 322 P **P 15 01 41.4 -0.2**
AK07 Malin Array Si 80.81 322 P **P 15 01 41.5 -0.2**
AK06 Malin Array Si 80.83 322 P **P 15 01 41.5 -0.2**
AK05 Malin Array Si 80.83 322 P **P 15 01 41.2 -0.6**
AK02 Malin Array Si 80.84 322 P **P 15 01 41.4 -0.4**
AKASG Malin Array Be 80.84 322 P **P 15 01 41.0 -0.8**
AKASG PP **PP 15 04 45.9 -0.8**
comp=Z,2.3nm,0.6s,baz=89,slow=4.9,SNR=25
comp=Z,1.7nm,0.8s,baz=92,slow=6.6,SNR=4.2
comp=Z,2.3nm,0.6s
AKBB Malin Array Si 80.84 322 P **P 15 01 40.9 -0.9**
AKBB IAmb IAmb 15 01 42.2
comp=Z,42nm,1.5s
AKBB Malin Array Si 80.84 322 P **P 15 01 40.9 -0.9**
AKBB pmax pmax
comp=Z,42nm,1.5s
AKBB Malin Array Si 80.84 322 P **P 15 01 41.5 -0.3**
AK01 Malin Array Si 80.85 322 P **P 15 01 41.3 -0.5**
AK03 Malin Array Si 80.85 322 P **P 15 01 41.1 -0.8**
KIEV Kiev 80.85 322 P **P 15 01 41.4 -0.5**
KIEV IAmb IAmb 15 01 42.3
comp=Z,38nm,1.5s
KIEV Kiev 80.85 322 P **P 15 01 41.3 -0.5**
KIEV Kiev 80.85 322 ⇑P **P 15 01 41.5 -0.4**
KIEV Kiev 80.85 322 P **P 15 01 41.4 -0.5**
KIEV pmax pmax
comp=Z,38nm,1.5s
KIEV Kiev 80.85 322 P **P 15 01 41.5 -0.4**
AK12 Malin Array Si 80.87 322 P **P 15 01 41.4 -0.6**
AK11 Malin Array Si 80.87 322 P **P 15 01 41.4 -0.6**
AK04 Malin Array Si 80.89 322 P **P 15 01 41.5 -0.5**
AK14 Malin Array Si 80.90 322 P **P 15 01 41.5 -0.6**
AK15 Malin Array Si 80.90 322 P **P 15 01 41.6 -0.5**
AK16 Malin Array Si 80.91 322 P **P 15 01 41.7 -0.5**
AK13 Malin Array Si 80.92 322 P **P 15 01 41.7 -0.5**
AK23 Malin Array Si 80.92 322 P **P 15 01 41.6 -0.6**
AK17 Malin Array Si 80.94 322 P **P 15 01 41.7 -0.7**
AK18 Malin Array Si 80.94 322 P **P 15 01 41.9 -0.5**
AK22 Malin Array Si 80.95 322 P **P 15 01 42.0 -0.4**
AK21 Malin Array Si 80.98 322 P **P 15 01 41.9 -0.6**
AK19 Malin Array Si 80.98 322 P **P 15 01 42.0 -0.6**
AK20 Malin Array Si 80.99 322 P **P 15 01 42.0 -0.6**
VNDA Vanda 81.05 169 P **P 15 01 43.2 +0.7**
VNDA Vanda 81.05 169 P **P 15 01 43.0 +0.6**
comp=Z,1.0nm,0.6s,baz=360,slow=24,SNR=5.6
VNDA LR LR 15 32 24.9
comp=Z,54nm,20.9s,baz=12,slow=32
VNDA Vanda 81.05 169 P **P 15 01 43.2 +0.7**
VNDA pmax pmax
comp=Z,16nm,1.2s
ELND Elena 81.17 314 ⇑P **P 15 01 43.6 -0.2**
ISR Istrita 81.18 316 P **P 15 01 45.1 +1.2**
VRI Vrincioaia 81.23 317 ⇓P **P 15 01 45.1 +1.0**
VRI Vrincioaia 81.23 317 P **P 15 01 45.0 +1.0**
VRI Vrincioaia 81.23 317 P **P 15 01 45.1 +1.0**
comp=Z,33nm,0.9s
PLOR Plostina 81.28 317 ⇑P **P 15 01 45.7 +1.4**
PLOR Plostina 81.28 317 P **P 15 01 45.7 +1.4**
PLOR3 Plostina Array 81.28 317 P **P 15 01 45.4 +1.0**
comp=Z,15nm,1.6s
TESR Tescani 81.43 318 ⇑P **P 15 01 45.7 +0.6**
TESR Tescani 81.43 318 P **P 15 01 45.6 +0.5**
comp=Z,47nm,1.1s
NDNU Novodnistrovsk 81.46 320 P **P 15 01 45.2 0.0**
LUBAR Lubar, Ukraine 81.54 321 P **P 15 01 45.0 -0.6**
ONER Baraj Valea Uz 81.56 318 ⇑P **P 15 01 46.8 +1.0**
MI29 MI29, Kamyanyy 81.61 322 P **P 15 01 45.7 -0.2**
comp=Z,172nm,0.8s
MLR Muntele Rosu 81.68 317 ⇓P **P 15 01 47.9 +1.3**
MLR Muntele Rosu 81.68 317 P **P 15 01 47.9 +1.3**
MLR Muntele Rosu 81.68 317 P **P 15 01 47.3 +0.7**
comp=Z,29nm,1.2s
KMPD K-Podol'skiy 82.03 320 P **P 15 01 47.6 -0.6**
comp=Z,5μm,1.0s
ARR Arges 82.55 316 ⇑P **P 15 01 51.3 +0.2**
BURAR Bucovina Array 82.63 319 ⇑P **P 15 01 52.8 +1.3**
BURAR Bucovina Array 82.63 319 P **P 15 01 52.8 +1.3**
BUR08 Bucovina Ar. S 82.65 319 P **P 15 01 52.9 +1.3**
BUR08 IAmb IAmb 15 01 53.9
comp=Z,24nm,1.0s
MNK Minsk 82.67 326 *i* P **P 15 01 52.1 +0.8**
comp=E,43nm,1.2s
MNK *i* P **P 15 01 52.1 +0.8**
comp=N,58nm,0.8s
MNK *i* P **P 15 01 52.1 +0.8**
comp=Z,63nm,0.9s,baz=106
MNK *i* PP **PP 15 05 01.8 +0.2**
MNK *i* PPP PPP 15 06 53.2
MNK *i* S **SKSac 15 12 06.8 -1.7**
MNK *i* SS **SS 15 17 31.1 +3.1**
MNK *i* SSS SSS 15 20 60.0
MNK *i* LQ LQ 15 33 18.6
MNK *i* LR LR 15 37 27.2
MNK Minsk 82.67 326 *e*P **P 15 01 52.1 +0.8**
TSUM Tsumeb 82.85 251 LR LR 15 35 22.6
comp=Z,120nm,19.1s,baz=337,slow=33
RNPP9 Sopachiv 83.06 322 P **P 15 01 53.1 -0.4**
STNU Starunia 83.33 320 P **P 15 01 55.3 +0.3**
NACGM Naroch 83.39 326 *e*P **P 15 01 52.9 -2.2**
comp=Z,88nm,0.9s,baz=105
CJR Cluj-Napoca 83.53 317 ⇑P **P 15 01 57.0 +0.9**
CJR Cluj-Napoca 83.53 317 P **P 15 01 56.9 +0.9**
BLKB Belogradchik 83.60 314 ⇑P **P 15 01 56.9 +0.4**
BILL Bilibino 83.67 20 P **P 15 01 56.3 0.0**
MORS Morshin 83.81 320 P **P 15 01 56.0 -1.4**
GZR Gura Zlata 83.84 316 ⇓P **P 15 01 57.9 +0.2**
GZR Gura Zlata 83.84 316 P **P 15 01 57.9 +0.2**
DEV Deva 83.84 317 ⇑P **P 15 01 59.1 +1.4**
DEV Deva 83.84 317 P **P 15 01 59.0 +1.4**
MARR Marisel-Cluj 83.84 317 ⇑P **P 15 01 58.7 +1.0**
HERR Herculane 84.00 316 ⇑P **P 15 01 58.9 +0.4**
LVZ Lovozero 84.01 340 P **P 15 01 58.2 +0.2**
LVZ Lovozero 84.01 340 P **P 15 01 57.9 -0.1**
KORU Korolevo 84.11 319 P **P 15 02 00.1 +1.2**
DRGR 84.14 317 ⇓P **P 15 01 59.8 +0.6**
DRGR 84.14 317 P **P 15 01 59.8 +0.6**
BOVS Bovan 84.29 314 ⇑P **P 15 01 59.8 -0.2**
VSU Vasula 84.33 329 *ce*P **P 15 01 59.9 +0.2**
VSU pmax pmax
comp=Z,63nm,1.7s
BZS Buzias 84.69 316 ⇑P **P 15 02 02.5 +0.6**
BZS Buzias 84.69 316 P **P 15 02 02.5 +0.6**
SIRR Siria 84.76 317 ⇓P **P 15 02 03.3 +1.0**
KOLS Kolonicke sedl 84.82 320 *e*P **P 15 02 04.2 +1.7**
KOLS pmax pmax
comp=Z,56nm,0.8s
KOLS Kolonicke sedl 84.82 320 *e*P **P 15 02 04.2 +1.7**
PABE Paberze 85.10 326 P **P 15 02 04.3 +0.6**
FIA1 FINESS Array S 85.41 332 P **P 15 02 05.6 +0.5**
FINES FINESS Array B 85.41 332 P **P 15 02 05.3 +0.2**
comp=Z,32nm,1.1s,baz=113,slow=5.8,SNR=58
FINES PKiKP **PKiKP 15 07 15.0 -0.5**
comp=Z,3.9nm,0.9s,baz=134,slow=8.2,SNR=3.7
comp=Z,32nm,1.1s
STHS Stebnicka Huta 85.57 320 *e*P **P 15 02 06.9 +0.6**
STHS pmax pmax
comp=Z,14nm,0.8s
STHS Stebnicka Huta 85.57 320 *e*P **P 15 02 06.9 +0.6**
PDG Podgorica 85.89 313 ⇓P **P 15 02 08.4 +0.4**
KECS Kecovo 85.91 319 *e*P **P 15 02 07.9 -0.1**
KECS Kecovo 85.91 319 *e*P **P 15 02 07.9 -0.1**
PSZ Piszkesteto 86.22 318 ⇓P **P 15 02 10.2 +0.6**
PSZ Piszkesteto 86.22 318 P **P 15 02 10.2 +0.6**
VADS Vadso 86.58 341 *e*P **P 15 02 11.1 +0.4**
MORH Mrgy, Hungar 86.83 316 ⇑P **P 15 02 13.1 +0.6**
VYHS Vyhne 87.00 319 *e*P **P 15 02 13.9 +0.6**
VYHS pmax pmax
comp=Z,9.0nm,1.2s
VYHS Vyhne 87.00 319 *e*P **P 15 02 13.9 +0.6**
QSPA South Pole Qui 87.03 180 P **P 15 02 14.2 +1.0**
QSPA South Pole Qui 87.03 180 P **P 15 02 14.5 +1.2**
comp=Z,2.2nm,0.8s,baz=295,slow=1.0,SNR=6.5
QSPA LR LR 15 36 46.3
comp=Z,86nm,21.1s,baz=322,slow=32
comp=Z,2.2nm,0.8s
KEV Kevo 87.25 340 P **P 15 02 13.3 -0.7**
KEV Kevo 87.25 340 P **P 15 02 13.3 -0.7**
KEV pmax pmax
comp=Z,136nm,1.7s
TIP Timpagrande 87.39 309 ⇑P **P 15 02 16.2 +0.7**
MATE Matera 87.58 311 ⇓P **P 15 02 17.2 +1.0**
ARA0 ARCESS Array S 87.69 340 *e*P **P 15 02 16.5 +0.3**
ARCES ARCESS Array B 87.69 340 P **P 15 02 16.5 +0.3**
comp=Z,10nm,0.6s,baz=101,slow=5.7,SNR=68
ARCES LR LR 15 46 00.5
comp=Z,104nm,18.6s,baz=222,slow=39
comp=Z,10nm,0.6s
MORC Moravsky Berou 88.01 320 P **P 15 02 19.2 +1.0**
MORC IAmb IAmb 15 02 20.1
comp=Z,8.8nm,0.7s
MORC Moravsky Berou 88.01 320 ⇓P **P 15 02 19.1 +1.0**
MORC Moravsky Berou 88.01 320 P **P 15 02 19.2 +1.0**
MORC pmax pmax
comp=Z,9.0nm,0.7s
MODS Modra-Piesok 88.02 318 *e*P **P 15 02 19.2 +1.0**
MODS pmax pmax
comp=Z,25nm,1.1s
MODS Modra-Piesok 88.02 318 *e*P **P 15 02 19.2 +1.0**
KTK1 Kautokeino 88.36 339 *e*P **P 15 02 19.4 0.0**
KRLC Kraliky 88.53 320 *e*P **P 15 02 21.8 +1.2**
KRLC Kraliky 88.53 320 *e*P **P 15 02 21.8 +1.2**
HAMF Hammerfest 88.56 341 *e*P **P 15 02 20.5 +0.2**
RONA Rosalia, Austr 88.60 318 *i* PcP **PcP 15 02 22.4 -0.2**
comp=Z,5.8nm,1.2s
DPC Dobruska-Polom 88.85 320 *e*P **P 15 02 23.8 +1.6**
DPC Dobruska-Polom 88.85 320 *e*P **P 15 02 23.8 +1.6**
GOLS Golise 88.89 316 *i* P **P 15 02 23.2 +0.8**
CONA Conrad Observa 88.91 318 *i* PcP **P 15 02 23.6 +1.1**
comp=Z,9.9nm,1.3s
OSTC Ostas 88.94 321 *e*P **P 15 02 24.0 +1.5**
OSTC Ostas 88.94 321 *e*P **P 15 02 24.0 +1.5**
GROS Grobnik 89.02 316 *i* P **P 15 02 23.9 +0.8**
CHVC Chvalec 89.05 321 *e*P **P 15 02 24.4 +1.4**
CHVC Chvalec 89.05 321 *e*P **P 15 02 24.4 +1.4**
ARSA Arzberg 89.07 317 *i* PcP **P 15 02 24.1 +0.9**
comp=Z,10.0nm,1.0s
SOKA Soboth 89.36 317 *i* PcP **P 15 02 25.7 +1.0**
comp=Z,17nm,0.9s
JETT Jettan, Norway 89.45 340 *e*P **P 15 02 25.0 +0.5**
LJU Ljubljana 89.66 316 *i* P **P 15 02 27.1 +1.1**
OBKA Obir 89.68 316 *i* PcP **P 15 02 26.7 +0.5**
comp=Z,9.4nm,0.8s
MOA Molln 89.97 318 *i* PcP **P 15 02 27.7 +0.2**
comp=Z,6.7nm,0.8s
TRO Tromso 89.97 340 *e*P **P 15 02 27.0 +0.1**
CKRC Cesky Krumlov 90.02 319 *e*P **P 15 02 30.0 +2.4**
CKRC Cesky Krumlov 90.02 319 *e*P **P 15 02 30.0 +2.4**
MYKA Terra Mystica 90.31 316 *e*PcP **P 15 02 29.7 +0.6**
comp=Z,10nm,0.9s
ROBS Robic 90.38 316 *i* P **P 15 02 29.8 +0.5**
BIOA Bad Ischl, Aus 90.38 318 *i* PcP **P 15 02 29.5 +0.1**
comp=Z,7.6nm,0.7s
BRG Berggiesshubel 90.41 321 *i* P **P 15 02 30.8 +1.4**
BRG Amp 15 02 31.1
comp=Z,9.3nm,0.8s
BRG pP **pP 15 02 44.6 +1.0**
BRG Amp 15 02 49.0
comp=Z,5.8nm,0.8s
BRG Berggiesshubel 90.41 321 *i* P **P 15 02 30.7 +1.4**
BRG 15 02 44.6
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG pmax pmax
comp=Z,6.0nm,0.8s
GEC2 GERESS Array S 90.42 319 P **P 15 02 30.3 +0.7**
GEC2 IAmb IAmb 15 02 31.5
comp=Z,51nm,1.6s
GERES GERESS Array B 90.42 319 P **P 15 02 30.3 +0.7**
comp=Z,6.5nm,0.7s,baz=73,slow=4.5,SNR=21
comp=Z,6.5nm,0.7s
KHC Kasperske Hory 90.52 319 *e*P **P 15 02 30.8 +0.8**
KHC Kasperske Hory 90.52 319 *e*P **P 15 02 30.8 +0.8**
KBA Koelnbreinsper 90.54 317 *i* P **P 15 02 29.9 -0.4**
comp=Z,9.2nm,1.1s
LESA Schwarzleotal 91.02 317 *i* PcP **P 15 02 32.5 +0.1**
comp=Z,8.8nm,0.5s
CLL Collm 91.03 321 *i* P **P 15 02 32.7 +0.5**
CLL pmax pmax
comp=Z,11nm,1.0s
CLL Collm 91.03 321 *i* P **P 15 02 32.7 +0.5**
comp=Z,11nm,1.0s
FAUS Fauske 91.04 337 *e*P **P 15 02 32.3 +0.4**
ABTA Abfaltersbach 91.09 317 *i* PcP **P 15 02 33.5 +0.8**
comp=Z,5.4nm,0.7s
STEI Steigen 91.11 338 *e*P **P 15 02 32.5 +0.4**
HFS Hagfors 91.19 330 P **P 15 02 33.4 +0.6**
comp=Z,16nm,0.7s,baz=83,slow=4.6,SNR=17
comp=Z,16nm,0.7s
MOR8 Moi Rana 91.28 336 *e*P **P 15 02 32.9 -0.2**
SNAA Sanae 91.57 198 P **P 15 02 36.2 +1.7**
comp=Z,1.3nm,0.9s,baz=98,slow=7.1,SNR=2.6
comp=Z,1.3nm,0.9s
WTTA Wattenberg 91.72 317 *i* PcP **P 15 02 35.7 -0.1**
comp=Z,13nm,0.7s
SPITS Spitsbergen Ar 91.75 348 P **P 15 02 34.2 -0.9**
comp=Z,7.1nm,0.6s,baz=91,slow=8.8,SNR=7.1
SPITS LR LR 15 53 10.5
comp=Z,95nm,20.5s,baz=119,slow=42
comp=Z,7.1nm,0.6s
WATA Walderalm 91.76 317 *i* PcP **P 15 02 35.9 0.0**
comp=Z,10nm,0.8s
LEIR Leirfjorden 91.81 336 *e*P **P 15 02 35.8 +0.3**
SQTA Sankt Quirin 92.01 317 *e*PcP **P 15 02 37.3 +0.2**
comp=Z,14nm,0.6s,SNR=5.2
MOTA Moosalm 92.08 317 *i* PcP **P 15 02 37.6 +0.2**
comp=Z,9.5nm,0.7s
NSS Namsos 92.22 334 *e*P **P 15 02 38.0 +0.6**
NC602 NORSAR Array S 92.28 331 *e*P **P 15 02 37.8 0.0**
RETA Reutte 92.32 317 *i* PcP **P 15 02 38.8 +0.4**
comp=Z,12nm,0.7s
FETA Feichten 92.33 317 *i* PcP **P 15 02 39.1 +0.5**
comp=Z,7.8nm,0.8s
NB2 NORSAR Subarra 92.45 331 P **P 15 02 38.5 -0.2**
comp=Z,3.4nm,0.7s,baz=94,slow=5.3
NOA NORSAR Array B 92.45 331 P **P 15 02 38.5 -0.2**
comp=Z,6.2nm,0.8s,baz=93,slow=4.7,SNR=15
NOA LR LR 15 48 23.9
comp=Z,76nm,19.7s,baz=110,slow=38
comp=Z,6.2nm,0.8s
DAVA Damuels 92.91 317 *i* PcP **PcP 15 02 42.0 +0.1**
comp=Z,15nm,0.9s
KEST Kesra 93.06 305 P **P 15 02 44.0 +1.9**
comp=Z,8.3nm,0.9s,baz=98,slow=2.8,SNR=6.3
comp=Z,8.3nm,0.9s
VNA2 Neumayer--Watz 93.19 198 ⇑P P 15 02 56.7 +15
baz=307,slow=4.5
KONO Kongsberg 93.23 329 *e*P **P 15 02 42.1 -0.1**
KONO Kongsberg 93.23 329 P **P 15 02 43.0 +0.8**
VNA3 Neumayer Olymp 93.79 198 ⇑P P 15 02 54.0 +9.4
SKAR Skarslia 93.88 330 *e*P **P 15 02 45.9 +0.6**
NOR Nord 96.81 352 *i* P **P 15 02 56.9 -1.3**
DAG Danmarks Havn 99.40 348 *i* P **Pdif 15 03 07.0 -2.9**
TORD Torodi Ar. Bea 99.74 283 P **Pdif 15 03 13.0 +0.3**
comp=Z,0.8nm,0.8s,baz=75,slow=6.4,SNR=5.8
TORD PKKPbc **PKKPbc 15 19 33.2 -0.2**
comp=Z,0.4nm,0.4s,baz=308,slow=4.6,SNR=5.4
comp=Z,0.8nm,0.8s
ILAR Eielson Array 101.94 24 P **Pdif 15 03 19.5 -1.9**
comp=Z,0.4nm,0.8s,baz=282,slow=3.9,SNR=4.4
ILAR PP **PP 15 07 29.9 -3.0**
comp=Z,0.4nm,0.6s,baz=304,slow=6.6,SNR=4.7
ILAR PKKPbc **PKKPbc 15 19 26.8 -2.0**
comp=Z,0.7nm,0.8s,baz=151,slow=1.6,SNR=5.5
ESDC Sonseca Array 103.39 310 PKiKP **PKiKP 15 07 45.8 -1.6**
comp=Z,1.2nm,0.9s,baz=51,slow=7.5,SNR=4.7
TBI Tubuai 106.65 115 *e*LR LR 15 39 01.2
comp=Z,417nm,28.2s
YKA Yellowknife Ar 114.96 17 PKP **PKiKP 15 08 07.4 -0.9**
comp=Z,0.8nm,0.8s,baz=321,slow=2.1,SNR=9.1
YKA PP **PP 15 09 06.6 -0.7**
comp=Z,0.2nm,0.7s,baz=300,slow=5.5,SNR=3.6
B08A Colville Reser 123.06 31 PKPdf **PKPdf 15 08 23.5 -0.9**
FCC Fort Churchill 123.08 9 PKPdf **PKPdf 15 08 23.1 -1.0**
FCC Fort Churchill 123.08 9 PKIKP **PKPdf 15 08 23.1 -1.0**
D08A Wollman Farm, 124.10 32 PKPdf **PKPdf 15 08 26.6 +0.2**
J04A Umpqua Nationa 124.56 37 PKPdf **PKPdf 15 08 28.4 +0.7**
PINE Pine Mountain 124.95 36 PKPdf **PKPdf 15 08 28.6 +0.1**
J05D Fort Rock, OR 125.07 37 PKPdf **PKiKP 15 08 29.5 +0.5**
FFC Flin Flon 125.08 16 PKPdf **PKPdf 15 08 27.7 -0.4**
FFC Flin Flon 125.08 16 PKIKP **PKPdf 15 08 27.7 -0.4**
F10A Beach Ranch, E 125.69 32 PKPdf **PKPdf 15 08 29.4 -0.3**
PLID Pearl Lake 126.92 32 PKPdf **PKPdf 15 08 32.1 -0.1**
SCHQ Schefferville 127.33 351 PKP **PKPdf 15 08 32.8 +0.4**
comp=Z,3.4nm,0.6s,baz=48,slow=6.7,SNR=5.4
YHL Hebgen Lake 129.56 29 PKPdf **PKiKP 15 08 38.4 +0.3**
NVAR Mina Array Bea 129.66 40 PKP **PKPdf 15 08 38.5 +0.9**
comp=Z,2.7nm,0.6s,baz=286,slow=2.2,SNR=13
ELK Elko 130.16 36 PKPdf **PKPdf 15 08 39.3 +0.8**
ELK Elko 130.16 36 PKIKP **PKPdf 15 08 39.3 +0.8**
ULM Lac du Bonnet 130.73 14 PKPdf **PKPdf 15 08 38.8 -0.2**
ULM Lac du Bonnet 130.73 14 PKP **PKPdf 15 08 38.4 -0.6**
comp=Z,8.9nm,0.6s,baz=359,slow=2.9,SNR=9.2
ULM Lac du Bonnet 130.73 14 PKIKP **PKPdf 15 08 38.8 -0.2**
R11B Troy Canyon, C 131.43 39 PKPdf **PKiKP 15 08 42.3 +0.4**
SPR3 Spring Creek 3 131.80 37 PKPdf **PKiKP 15 08 43.0 +0.2**
MDND Maddock 131.85 19 PKPdf **PKPdf 15 08 41.7 +0.5**
PD31 Pinedale Array 131.88 30 PKPdf **PKPdf 15 08 41.5 -0.2**
PDAR Pinedale Array 131.88 30 PKP **PKPdf 15 08 41.4 -0.4**
comp=Z,1.4nm,0.6s,baz=150,slow=1.4,SNR=18
PDAR SKPbc **SKPbc 15 12 01.4 -2.3**
comp=Z,0.6nm,0.6s,baz=117,slow=1.7,SNR=4.3
DUG Dugway, Tooele 131.92 35 PKPdf **PKiKP 15 08 42.9 +0.1**
DUG Dugway, Tooele 131.92 35 PKIKP **PKiKP 15 08 42.9 +0.1**
RSSD Black Hills 133.38 25 PKPdf **PKPdf 15 08 44.2 -0.3**
RSSD Black Hills 133.38 25 PKIKP **PKPdf 15 08 44.2 -0.3**
O20A White River Ci 134.47 32 PKPdf **PKPdf 15 08 47.2 +0.6**
W13A Hualapai Mount 134.48 41 PKPdf **PKPdf 15 08 48.0 +1.1**
PLCA Paso Flores 135.87 189 PKP **PKiKP 15 08 50.6 -0.1**
comp=Z,2.4nm,0.8s,baz=254,slow=7.4,SNR=4.5
ECSD EROS Data Cent 136.46 19 PKPdf **PKPdf 15 08 49.9 -0.1**
CPUP Villa Florida 144.16 214 PKPdf PKPbc 15 09 03.6 +1.1
CPUP Villa Florida 144.16 214 PKP PKPbc 15 09 03.9 +1.4
comp=Z,6.0nm,0.9s,baz=128,slow=3.3,SNR=12
SSFO Shawnee State 144.20 6 PKPdf **PKPab 15 09 01.9 0.0**
BDFB Brasilia 144.24 238 PKPdf **PKPdf 15 09 04.8 -0.1**
BDFB Brasilia 144.24 238 PKP PKPbc 15 09 04.4 +1.3
comp=Z,12nm,0.5s,baz=137,slow=3.8,SNR=15
BDFB Brasilia 144.24 238 PKIKP **PKPdf 15 09 04.8 -0.1**
WCI Wyandotte Cave 144.24 10 PKPdf **PKPab 15 09 01.9 -0.1**
WCI Wyandotte Cave 144.24 10 PKIKP **PKPab 15 09 01.9 -0.1**
PBMO Poplar Bluff 144.71 16 PKPdf **PKPab 15 09 02.7 -1.1**
TX31 Lajitas Ar. Si 144.80 39 PKPdf PKPbc 15 09 05.1 +0.5
TXAR Lajitas Array 144.80 39 PKP **PKPab 15 09 05.0 +0.5**
comp=Z,23nm,0.6s,baz=288,slow=1.3,SNR=153
TXAR SKP 15 12 35.3
comp=Z,0.4nm,0.3s,baz=248,slow=1.0,SNR=1.8
FCAR Ozark Folk Cen 145.02 19 PKPbc **PKPab 15 09 04.0 -1.0**
LCAR Lake Charles 145.16 17 **PKPbc 15 09 04.7 -0.7**
OZNA Ozona 145.18 35 **PKPbc 15 09 05.2 -0.5**
PLPT Palo Pinto 145.18 29 **PKPbc 15 09 05.0 -0.6**
S51A Beattyville 145.20 6 **PKPbc 15 09 04.6 -0.9**
SAND Sanderson 145.31 37 **PKPbc 15 09 06.3 +0.2**
CO03 El Pedregal 145.50 193 **PKPdf 15 09 07.3 +0.6**
WHAR Wooly Hollow 145.52 19 PKPdf **PKPdf 15 09 05.7 -0.8**
MIAR Mount Ida 145.74 22 PKPdf **PKPdf 15 09 07.4 +0.5**
MIAR Mount Ida 145.74 22 PKIKP **PKPdf 15 09 07.4 +0.5**
WVT Waverly 145.97 13 PKPdf **PKPdf 15 09 07.5 +0.3**
WVT Waverly 145.97 13 PKP2 **PKPdf 15 09 07.5 +0.3**
RPRD Ribas do Rio P 146.00 226 *e*P **PKPab 15 09 10.3 +1.2**
U49A Red Boiling Sp 146.00 10 PKPdf **PKPdf 15 09 07.3 +0.1**
X40A Basin Creek Fa 146.06 21 PKPdf **PKPdf 15 09 07.1 -0.3**
BRDY Brady 146.06 32 PKPdf **PKPdf 15 09 07.8 +0.2**
T57A Hurt 146.10 0 PKPdf **PKPdf 15 09 07.9 +0.5**
T59A Double "B" Far 146.10 358 PKPdf **PKPdf 15 09 08.0 +0.6**
JCT Junction City 146.25 34 PKPdf **PKPdf 15 09 08.3 +0.3**
JCT Junction City 146.25 34 PKP2 **PKPdf 15 09 08.3 +0.3**
PAPY Pozo Azul 146.40 216 *e*P **PKPab 15 09 10.9 +0.4**

U54A	Nelsons Funny	146.47	4	PKPdf	PKPdf	15 09 08.6	+0.4
SMTB	Santa Maria do	146.59	249	*e*P	PKPab	15 09 12.3	+0.8
PLAL	Pickwick Lake	147.01	14	PKPdf	PKPdf	15 09 09.8	+0.8
TKL	Tuckaleechee C	147.14	7		PKPdf	15 09 10.4	+1.1
TKL	Tuckaleechee C	147.14	7	PKP2	PKPdf	15 09 10.4	+1.1
V55A	Taylorsville	147.18	3	PKPdf	PKPdf	15 09 09.8	+0.5
SWET	Sewanee	147.24	11	PKPdf	PKPdf	15 09 09.9	+0.4
W50A	Signal Mountai	147.36	10		PKPdf	15 09 11.0	+1.3
ARAG	Araguaiana, MT	147.36	235	*e*P	PKPbc	15 09 13.8	+1.2
AQDB	Aquidauana	147.40	223	*e*P	PKPbc	15 09 13.4	+0.8
X48A	Hartselle	147.75	13		PKPdf	15 09 11.6	+1.4
MURT	Porto Murtinho	147.84	220	*e*P	PKPbc	15 09 13.8	+0.1
SNDB	Serra Nova Dou	148.75	241	*e*P	PKPbc	15 09 15.4	-0.8
PRPB	Parauapebas	149.51	253	*e*P	PKPdf	15 09 16.1	+2.3
SALV	Santo Antonio	150.33	230	*e*P	PKPdf	15 09 18.1	+3.2
BBSD	Serra de San D	153.01	222	*e*P	PKPdf	15 09 20.4	+1.5
PTLB	Pontes e Lacer	153.18	227	*e*P	PKPdf	15 09 23.5	+4.4
NPGB	Novo Progresso	154.43	247	*e*P	PKPdf	15 09 24.4	+3.3
LPAZ	La Paz	158.10	209	PKP	PKPdf	15 09 27.4	+0.9
	comp=Z,1.4nm,0.5s,baz=180,slow=1.0,SNR=6.1						
LPAZ	La Paz	158.10	209	*e*P	PKPdf	15 09 28.5	+2.0
ETMB	Extrema	162.05	225	*e*P	PKPdf	15 09 32.6	+2.4

HLW ***30*** *15:04:33.2, 34˚57N×26˚28E, h14km±6km, Md4.3, Ml4.5*
MOS ***30*** *15:04:35.7±1.3, 34˚23N×26˚09E, h15km, mb4.9/20, Error ellipse: s-maj=6.8km s-min=3.8km az=77.8*
IDC ***30*** *15:04:35.2±0.5, 34˚30N×26˚10E, h0km, mb4.5/27, mbtmp4.5/41, ML4.1/13, MS3.6/19, Error ellipse: s-maj=12.0km s-min=10.7km az=156.0*
NEIC ***30*** *15:04:35.6±2.7, 34˚07N±0˚07×26˚07E±0˚07, h10km±1km, mb4.6/51, Error ellipse: s-maj=11.7km s-min=10.2km az=187.0*
ISK ***30*** *15:04:35.5, 34˚17N×26˚17E, h7km, ML4.2/21*
MCSM ***30*** *15:04:36.7±0.4, 34˚N±3˚×2˚6E±˚, h8km±2km, mB4.3, mb4.3, MLv4.5, Mw(mB)3.4*
GII ***30*** *15:04:40.1±0.5, 33˚95N±0˚03×26˚48E±0˚01, h14km, Mws4.4, confirmed*
THE ***30*** *15:04:42.0, 34˚49N×26˚02E, h3km±2km, ML4.0/3, Error ellipse: s-maj=4.7km s-min=1.0km az=161.0*
AFAD ***30*** *15:04:44.0±0.0, 34˚77N×26˚61E, h14km, MW4.2*
ISC 30 15:04:36.0±0.6, 34˚18N±0˚03×26˚13E±0˚03, h9km±3km, h9km:pP-P, n417, s1˚77/441, mb4.6/69, MS3.7/13, 7C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.94	4	Pg	Pg	15 04 53.9	-0.1
ZKR				Sg	Sb	15 05 07.6	+0.7
ZKR	Zakros	0.94	4	P	Pb	15 04 54.5	+0.2
ZKR				S	Sg	15 05 04.1	-2.1
KARP	Karpathos	1.60	31	Pn	Pg	15 05 06.7	-0.1
KARP				Sn	Sb	15 05 26.4	+0.3
KARP	Karpathos	1.60	31	Pn	Pg	15 05 07.1	+0.4
KARP				Sn	Sg	15 05 28.5	+1.0
KARP	Karpathos	1.60	31	P	Pg	15 05 07.1	+0.4
KARP				S	Sg	15 05 26.9	-0.7
	6µm,0.8s						
KARP	Karpathos	1.60	31	P	Pg	15 05 07.4	+0.6
KARP	Karpathos	1.60	31	P	Pg	15 05 07.3	+0.5
GVD	Gavdhos	1.81	292	Pn	Pb	15 05 08.5	-0.8
GVD	Gavdhos	1.81	292	P	Pg	15 05 10.0	-0.8
GVD				S	Sb	15 05 31.7	-0.4
	2µm,0.6s						
IMMV	Iera Moni Meta	2.18	306	Pn	Pb	15 05 13.9	-1.7
IMMV	Iera Moni Meta	2.18	306	P	Pb	15 05 15.1	-0.5
KNDR	Palaiochora Ch	2.27	298	Pn	Pb	15 05 15.6	-1.6
ARG	Arkhangelos	2.61	38	Pn	Pn	15 05 19.3	+1.0
ARG	Arkhangelos	2.61	38		Pn	15 05 19.2	+1.0
ARG	Arkhangelos	2.61	38	P	Pb	15 05 21.1	-1.7
ARG				S	Sn	15 05 51.4	+1.4
	2µm,1.5s						
ARG	Arkhangelos	2.61	38	P	Pn	15 05 19.2	+1.0
YAZI	Mula-Dat§a-	2.72	23	P	Pn	15 05 21.2	+1.4
SLUM	Salum	2.79	196	P	Pn	15 05 22.6	+1.9
SLUM				S	Sn	15 05 55.0	+0.5
DAT	Datca	2.80	24	Pn	Pn	15 05 22.1	+1.1
DAT	Datca	2.80	24	P	Pn	15 05 22.5	+1.5
APE	Apeiranthos	2.92	350	Pn	Pn	15 05 23.8	+1.1
APE	Apeiranthos	2.92	350	*i* P	Pn	15 05 23.6	+0.9
APE	Apeiranthos	2.92	350	P	Pn	15 05 23.3	+0.6
MATC	Matruh	2.97	162	P	Pn	15 05 24.9	+1.7
BODT	Bodrum	3.03	18	Pn	Pn	15 05 25.4	+1.3
TURN	Turunc	3.11	33	P	Pn	15 05 26.5	+1.4
TURN	Turunc	3.11	33	Pn	Pn	15 05 26.5	+1.4
DALY	Dalyan (Mula)	3.34	37	Pn	Pn	15 05 29.7	+1.4
IZZE	Mula-Seydike	3.39	47	P	Pn	15 05 30.4	+1.4
IZZE				S	Sn	15 06 05.5	-3.7
IZZE				*i* AML	AML	15 06 15.0	
	comp=N,494nm,0.3s						
YER	Yerkesik	3.43	30	P	Pn	15 05 30.8	+1.2
YER	Yerkesik	3.43	30	Pn	Pn	15 05 31.0	+1.4
YER	Yerkesik	3.43	30	P	Pn	15 05 31.7	+2.1
FETY	Fethiye	3.44	44	Pn	Pn	15 05 31.0	+1.3
AKAS	Kas	3.50	53	P	Pn	15 05 33.2	+2.5
AKAS				S	Sn	15 06 11.2	-1.1
AKAS				*i* AML	AML	15 06 17.0	
	comp=E,722nm,0.5s						
AKAS	Kas	3.50	53	Pn	Pn	15 05 31.9	+1.2
AKAS	Kas	3.50	53	Pn	Pn	15 05 32.7	+2.0
SABU	Mula-Dalaman	3.51	40	P	Pn	15 05 32.4	+1.7
MULA	Mugla, Merkez-	3.55	29	P	Pn	15 05 33.8	+2.5
VLI	Velial	3.64	315	P	Pn	15 05 34.0	+1.6
DB3	El Dabaa	3.74	146	P	Pn	15 05 35.4	+1.6
DB3				S	Sn	15 06 17.5	-0.4
CAME	Cameli-Denizli	3.78	42	Pn	Pn	15 05 35.9	+1.4
KNIK	Mula-Seydike	3.87	46	P	Pn	15 05 37.3	+1.7
KNIK				S	Sn	15 06 21.7	+0.5
KNIK				*i* AML	AML	15 06 25.0	
	comp=E,156nm,0.7s						
TAVA	DENIZLI_Tavas	3.98	34	P	Pn	15 05 38.8	+1.6
ELL	Elmali	4.01	49	P	Pn	15 05 39.8	+2.2
ELL				S	Sn	15 06 23.2	-1.6
ELL				*i* AML	AML	15 06 29.0	
	comp=N,302nm,1.0s						
ELL	Elmali	4.01	49	Pn	Pn	15 05 39.2	+1.6
ELL	Elmali	4.01	49	Pn	Pn	15 05 39.8	+2.2
ELL	Elmali	4.01	49	P	Pn	15 05 39.8	+2.2
AKUM	Antalya-Kumluc	4.05	57	P	Pn	15 05 39.8	+1.6
AKUM				S	Sn	15 06 20.5	-5.1
AKUM				*i* AML	AML	15 06 28.0	
	comp=E,369nm,0.9s						
NAZL	Nazilli-Aydin	4.16	24	Pn	Pn	15 05 41.4	+1.8
DNIZ	Denizli-Tavas-	4.17	34	P	Pn	15 05 42.2	+2.4
APMY	Acipayam-Deniz	4.17	37	Pn	Pn	15 05 41.3	+1.4
BLCB	Balcova	4.26	10	Pn	Pn	15 05 42.8	+1.8
KORT	Korkueli	4.44	49	P	Pn	15 05 46.9	+3.3
KORT				S	Sn	15 06 36.2	+0.7
KORT				*i* AML	AML	15 06 46.0	
	comp=E,306nm,0.6s						
KORT	Korkueli	4.44	49	Pn	Pn	15 05 45.3	+1.7
INCE	Denizli-Bozkur	4.49	37	P	Pn	15 05 45.5	+1.3
ITM	Ithomi	4.55	312		Pn	15 05 46.5	+1.6
BRDR	BURDUR-Merkez	4.74	41	P	Pn	15 05 50.2	+2.6
BUCA	Burdur, Bucak-	4.78	48	P	Pn	15 05 50.3	+2.2
BUCA				S	Sn	15 06 41.9	-1.7
BUCA				*i* AML	AML	15 06 56.0	
	comp=N,132nm,0.9s						
KULA	Kula-Manisa	4.78	25	Pn	Pn	15 05 50.0	+1.8
BASM	Basmaki-Afyon	4.90	39	Pn	Pn	15 05 51.6	+1.8
SWA2		4.96	187	P	Pn	15 05 52.5	+2.0
SWA2				S	Sn	15 06 47.5	-0.5
GORD	Gordes-Manisa	5.00	19	Pn	Pn	15 05 53.1	+1.9
ISP	Isparta	5.09	43	*i* P	Pn	15 05 54.8	+2.4
ISP	Isparta	5.09	43	P	Pn	15 05 56.1	+3.6
CSS	Mathiatis	5.99	80	Pn	Pn	15 06 04.9	+0.2
CSS	Mathiatis	5.99	80	P	Pn	15 06 04.5	-0.2
CSS	Mathiatis	5.99	80	P	Pn	15 06 04.7	0.0
CSS	Mathiatis	5.99	80	S	Sn	15 07 10.9	-2.5
AKKU	Akkuyu-Mersin	6.39	70	Pn	Pn	15 06 12.3	+2.1
KOT	Kottamia	6.43	130	P	Pn	15 06 11.5	+0.7
KOT				S	Sn	15 07 20.8	-3.6
LIT	Litokhoron	6.59	335		Pn	15 06 12.9	0.0
LIT	Litokhoron	6.59	335	P	Pn	15 06 12.9	0.0
KEBE	Keben-Mersin	6.60	68	Pn	Pn	15 06 14.8	+1.7
NBNS	Bani Suef	7.08	140	P	Pn	15 06 19.6	-0.1
NBNS				S	Sn	15 07 37.8	-2.5
HFRF	Wahat Farafira	7.25	164	P	Pn	15 06 23.6	+1.5
HFRF				S	Sn	15 07 39.9	-4.7
ZAF	Zafarana	7.33	130	P	Pn	15 06 22.3	-0.8
ZAF				S	Sn	15 07 42.0	-4.4
ZNM	Zenema	7.47	128	P	Pn	15 06 25.7	+0.6
KEK	Kerkira	7.50	319	Pn	Pn	15 06 25.8	+0.4
OFRI	`Ofer	7.56	99	S	Sn	15 07 48.3	-4.0
OFRI	`Ofer	7.56	99	P	Pn	15 06 25.9	-0.4
FNA	Florina	7.60	332	Pn	Pn	15 06 30.2	+3.3
FNA	Florina	7.60	332	P	Pn	15 06 30.2	+3.3
HNTI	Hanita	7.62	96	S	Sn	15 07 49.7	-3.9
HNTI	Hanita	7.62	96	P	Pn	15 06 26.5	-0.6
TAMRE	El Minia	7.67	146	P	Pn	15 06 28.9	+1.1
KZIT	Kziot	7.70	113	P	Pn	15 06 28.3	0.0
KZIT	Kziot	7.70	113	S	Sn	15 07 50.5	-5.1
KZIT	Kziot	7.70	113	P	Pn	15 06 27.5	-0.8
BLGI	Bet Lehem HaGe	7.71	98	P	Pn	15 06 27.6	-0.7
BLGI	Bet Lehem HaGe	7.71	98	S	Sn	15 07 51.9	-3.7
SLTI	Sal'it	7.71	102	P	Pn	15 06 26.1	-2.3
SLTI	Sal'it	7.71	102	S	Sn	15 07 51.7	-4.1
SLTI	Sal'it	7.71	102	P	Pn	15 06 27.8	-0.6
MMC7	Mount Meron ar	7.81	96	P	Pn	15 06 29.4	-0.4
MMA0B	Mount Meron ar	7.82	96	P	Pn	15 06 29.6	-0.4
MMA0B	Mount Meron ar	7.82	96	S	Sn	15 07 55.0	-3.7
MMAI	Mount Meron Ar	7.82	96	Pn	Pn	15 06 29.2	-0.7
	8.7nm,0.3s,baz=285,slow=10,SNR=51						
MMAI				Sn	Sn	15 07 52.9	-5.7
	10nm,0.3s,baz=271,slow=20,SNR=2.5						
	5.9nm,0.3s						
AMAZ	Amatzia	7.84	107	P	Pn	15 06 29.2	-1.0
AMAZ	Amatzia	7.84	107	S	Sn	15 07 53.2	-6.0
MMLI	Mount Malkishu	7.97	100	S	Sn	15 07 57.9	-4.2
MMLI	Mount Malkishu	7.97	100	P	Pn	15 06 31.3	-0.6
QRWL	Qaraoun	7.97	92	*e*P	Pn	15 06 31.1	-0.8
GEM	Giv'at Ha'Em	8.00	94	S	Sn	15 07 59.5	-3.5
GEM	Giv'at Ha'Em	8.00	94	P	Pn	15 06 31.6	-0.8
PEHC	Pehcevo	8.00	342	*e*Pn	Pn	15 06 38.6	+6.2
SHBL	Chebaa	8.04	93	*e*P	Pn	15 06 32.3	-0.8
NATI	Neve Ativ	8.05	94	P	Pn	15 06 31.8	-1.2
NATI	Neve Ativ	8.05	94	S	Sn	15 08 01.5	-2.7
NATI	Neve Ativ	8.05	94	P	Pn	15 06 32.9	-0.2
YTIR	Yattir	8.07	108	P	Pn	15 06 33.6	+0.2
YTIR	Yattir	8.07	108	S	Sn	15 07 60.0	-4.8
YTIR	Yattir	8.07	108	P	Pn	15 06 32.6	-0.7
RCY	Rachaya	8.10	92	*e*P	Pn	15 06 32.8	-1.0
HMDT	Nahal Hemdat	8.10	101	P	Pn	15 06 33.3	-0.4
HMDT	Nahal Hemdat	8.10	101	S	Sn	15 08 01.7	-3.7
HMDT	Nahal Hemdat	8.10	101	P	Pn	15 06 32.9	-0.8
OHR	Ohrid	8.11	330	*e*Pn	Pn	15 06 37.2	+3.3
QRNJ	Al-Qirein	8.12	100	P	Pn	15 06 33.4	-0.5
HWQ	Hawqa	8.13	87	*e*P	Pn	15 06 34.5	+0.3
UJAP	Al Uja	8.14	103	P	Pn	15 06 33.8	-0.4
UJAP	Al Uja	8.14	103	P	Pn	15 06 33.6	-0.6
UJAP	Al Uja	8.14	103	S	Sn	15 08 01.9	-4.4
BR105	Keskin Array S	8.15	45	P	Pn	15 06 37.8	+3.3
	11nm,0.8s,111nm						
BR104	Keskin Array S	8.16	45	P	Pn	15 06 36.3	+1.7
	12nm,0.9s,89nm						
BR106	Keskin Array S	8.16	45	P	Pn	15 06 37.1	+2.5
	13nm,0.8s,89nm						
KSHT	Keshet	8.16	96	S	Sn	15 08 03.5	-3.5
KSHT	Keshet	8.16	96	P	Pn	15 06 34.3	-0.3
BR131	Keskin Array S	8.17	45	Pn	Pn	15 06 36.7	+2.0
BR131	Keskin Array S	8.17	45	P	Pn	15 06 36.7	+2.0
BRTR	Keskin Array B	8.17	45	Pn	Pn	15 06 36.3	+1.6
BRTR	Keskin Array B	8.17	45	Pn	Pn	15 06 36.1	+1.4
	0.4nm,0.3s,baz=221,slow=12,SNR=28						
BRTR				Sn	Sn	15 08 06.0	-1.2
	0.9nm,0.3s,baz=216,slow=24,SNR=8.0						
	7.3nm,0.8s						
SHMJ	Saham	8.18	98	P	Pn	15 06 34.5	-0.3
DSI	Dead Sea	8.20	106	P	Pn	15 06 34.7	-0.4
DSI	Dead Sea	8.20	106	P	Pn	15 06 34.1	-1.0
DSI	Dead Sea	8.20	106	S	Sn	15 08 03.5	-4.4
BALJ	Balqa	8.24	102	Pn	Pn	15 06 35.9	+0.2
MDBI	Mazsada	8.28	108	P	Pn	15 06 34.4	-1.7
MDBI	Mazsada	8.28	108	S	Sn	15 08 04.5	-5.2
MSBI	Mazada	8.28	108	P	Pn	15 06 35.6	-0.5
MSBI	Mazada	8.28	108	P	Pn	15 06 35.0	-1.1
MSBI	Mazada	8.28	108	S	Sn	15 08 05.0	-4.7
BEIL	Beino	8.32	85	*e*P	Pn	15 06 36.3	-0.4
KRMI	Paran Flat	8.33	117	S	Sn	15 08 04.5	-6.7
KRMI	Paran Flat	8.33	117	P	Pn	15 06 36.3	-0.7
LISJ	El Lisan	8.40	108	P	Pn	15 06 37.6	-0.2
PRNI	Paran	8.42	115	P	Pn	15 06 38.5	+0.3
PRNI	Paran	8.42	115	S	Sn	15 08 08.7	-4.7
PRNI	Paran	8.42	115	P	Pn	15 06 36.9	-1.3
GHAJ	Ghor Haditha	8.45	107	Pn	Pn	15 06 39.2	+0.7
GHAJ	Ghor Haditha	8.45	107	P	Pn	15 06 39.0	+0.5
GHAJ	Ghor Haditha	8.45	107	P	Pn	15 06 39.0	+0.5
GHAJ	Ghor Haditha	8.45	107	S	Sn	15 08 09.2	-4.7
ZFRI	Zfri	8.46	113	P	Pn	15 06 37.3	-1.3
ZFRI	Zfri	8.46	113	S	Sn	15 08 07.5	-6.7
ZFRI	Zfri	8.46	113	P	Pn	15 06 37.4	-1.2
SCTE	Santa Cesarea	8.49	316	Pn	Pn	15 06 39.4	+0.4
FKH	Fakeheh	8.51	87	*e*P	Pn	15 06 39.6	+0.1
HRFI	Mount Harif	8.61	116	S	Sn	15 08 13.2	-4.7
HRFI	Mount Harif	8.61	116	P	Pn	15 06 40.6	-0.1
MBRI	Mt Berech	8.64	118	P	Pn	15 06 41.1	-0.2
MBRI	Mt Berech	8.64	118	P	Pn	15 06 41.0	-0.2
MBRI	Mt Berech	8.64	118	S	Sn	15 08 14.2	-4.6
HSUJ	Al Zarqa	8.69	101	P	Pn	15 06 41.0	-0.8
EIL	Elat	8.74	119	Pn	Pn	15 06 42.8	+0.3
	7.3nm,0.3s,baz=311,slow=6.3,SNR=62						
EIL				Sn	Sn	15 08 11.7	-9.3
	5.6nm,0.3s,baz=282,slow=9.3,SNR=4.4						
	23nm,0.4s						
EIL	Elat	8.74	119	P	Pn	15 06 42.0	-0.5
EIL	Elat	8.74	119	S	Sn	15 08 16.0	-5.1
EIL	Elat	8.74	119	P	Pn	15 06 41.5	-1.0
HKAT	Jabal Katrina	8.77	128	P	Pn	15 06 42.2	-0.9
AQBJ	Aqaba	8.78	118	P	Pn	15 06 43.5	+0.5
HBST	Basata	8.84	122	⇑P	Pn	15 06 44.6	+0.8
SWQJ	Swaqa	8.86	107	P	Pn	15 06 43.2	-1.0
TIP	Timpagrande	9.03	306	Pn	Pn	15 06 46.5	-0.1
HDHB	Dhahab	9.06	125	P	Pn	15 06 46.4	-0.4
HDK1	Dakhla	9.06	161	P	Pn	15 06 49.2	+2.3
BNN	Bunyan	9.10	56	Pn	Pn	15 06 50.3	+2.7
ASF	Jabal al Asfar	9.24	100	Pn	Pn	15 06 49.3	-0.2
	1.9nm,0.3s,baz=197,slow=0.0,SNR=10						
ASF				Sn	Sn	15 08 33.7	+0.1
	2.0nm,0.3s,baz=216,slow=0.0,SNR=7.7						
	5.6nm,0.4s						
PUK	Puka	9.26	330		Pn	15 06 49.2	-0.4
HHRG	Al Ghardaqah	9.44	135	P	Pn	15 06 54.3	+2.2
AKRG	Al Kharijah	9.44	155	P	Pn	15 06 53.8	+1.7
GTR	Jabal at Tayr	9.45	155	P	Pn	15 06 53.8	+1.5
GAZ	Gaziantep	9.49	69	Pn	Pn	15 06 53.2	+0.3
RAFF	Raffo Rosso	10.04	291	Pn	Pn	15 07 01.1	+0.8
VAE	Valguarnera	10.07	292	Pn	Pn	15 07 01.6	+0.9
	23nm,0.5s,baz=26,slow=9.7,SNR=5.4						
VAE				Sn	Sn	15 08 47.2	-6.6
	3.1nm,0.3s,baz=124,slow=18,SNR=2.1						
VAE				LR	LR	15 12 21.4	
	comp=Z,254nm,19.1s,baz=106,slow=46						
CUC	Castrocucco	10.08	308		Pn	15 07 01.4	+0.5
MLR	Muntele Rosu	11.30	359	Pn	Pn	15 07 16.7	-0.9
	0.2nm,0.3s,baz=171,slow=10,SNR=2.6						
MLR				LR	LR	15 11 25.2	
	comp=Z,253nm,19.7s,baz=190,slow=37						
	3.5nm,0.8s						
ANN	Anapa	13.72	36	*e*P	Pn	15 07 51.4	+0.9
ANN				pmax	pmax		
	comp=Z,86nm,1.3s						
KEST	Kesra	13.86	281	Pn	Pn	15 07 53.0	+0.3
	comp=Z,0.2nm,0.3s,baz=166,slow=8.3,SNR=2.1						
KEST				Sn	Sn	15 10 20.6	-6.0
	baz=110,slow=23,SNR=1.7						
KEST				LR	LR	15 14 16.8	
	comp=Z,155nm,21.2s,baz=26,slow=42						
	comp=Z,1.8nm,0.6s						
SOC	Sochi	14.13	44	*e*P	Pn	15 07 56.2	0.0
SOC				*e*		15 10 34.7	
SOC				pmax	pmax		
	comp=Z,29nm,1.0s						
SOC				MLR	MLR		
	comp=Z,205nm,16.0s						
KORU	Korolevo	14.14	352	P	Pn	15 07 58.2	+1.9
SOKA	Soboth	15.06	329	*e*Pn	Pn	15 08 10.9	+2.0
	comp=Z,10nm,1.1s						
SOKA				*i* P	sP	15 08 17.0	0.0
	comp=Z,10nm,1.1s						
OBKA	Obir	15.13	328	*e*Pn	Pn	15 08 12.2	+2.3
	comp=Z,16nm,1.0s						
VYHS	Vyhne	15.30	341	*e*P	P	15 08 15.4	-1.5
VYHS	Vyhne	15.30	341	*e*PN	P	15 08 15.4	-1.5
VYHS	Vyhne	15.30	341	*e*P	P	15 08 21.0	+4.1
RONA	Rosalia, Austr	15.40	334	*e*Pn	Pn	15 08 15.0	+1.7
	comp=Z,6.3nm,1.0s						
STHS	Stebnicka Huta	15.65	348	*e*P	P	15 08 20.1	-0.7
STHS	Stebnicka Huta	15.65	348	*e*PN	P	15 08 20.1	-0.7
ERBR	Yeremizino-Bor	15.90	39	*e*P	P	15 08 21.8	-1.8
ERBR				pmax	pmax		
	comp=Z,69nm,0.6s						
GNI	Garni	15.97	63	Pn	P	15 08 24.6	0.0
	comp=Z,0.4nm,0.3s,baz=330,slow=18,SNR=3.2						
GNI				LR	LR	15 16 02.0	
	comp=Z,326nm,18.1s,baz=277,slow=43						
	comp=Z,7.5nm,0.7s						
GNI	Garni	15.97	63	P	P	15 08 23.9	-0.7
	comp=Z,20nm,1.6s						
SHA1	Shidzhatmaz	15.98	48	*i* P	P	15 08 23.1	-1.6
KBA	Koelnbreinsper	16.10	327	*e*Pn	P	15 08 24.6	-1.4
	comp=Z,6.5nm,0.7s						
KIV	Kislovodsk	16.11	48	P	P	15 08 26.3	+0.3
KIV	Kislovodsk	16.11	48	*e*P	P	15 08 25.2	-0.8
KIV				pmax	pmax		
	comp=Z,58nm,1.0s						
KIV				MLR	MLR		
	comp=Z,44nm,14.0s						
KIV	Kislovodsk	16.11	48	P	P	15 08 25.9	-0.1
	comp=Z,59nm,1.1s						
KVAR	Kislovodsk Arr	16.12	48	Pn	P	15 08 27.4	+1.3
	baz=165,slow=12						
	comp=Z,13nm,0.9s						
KBZ	Khabaz	16.13	49	Pn	P	15 08 26.3	+0.3
	comp=Z,0.3nm,0.3s,baz=221,slow=3.7,SNR=14						
	comp=Z,22nm,1.0s						
CTI	Castel Tesino	16.20	321	P	P	15 08 26.6	-0.3
CTI	Castel Tesino	16.20	321	P	P	15 08 26.6	-0.3
CTI				pmax	pmax		
	comp=Z,16nm,0.8s						
ABTA	Abfaltersbach	16.25	325	*i* P	P	15 08 29.3	+1.8
	comp=Z,18nm,1.0s						
MOA	Molln	16.30	330	*i* Pn	P	15 08 27.5	-0.5
	comp=Z,7.4nm,0.9s						
BIOA	Bad Ischl, Aus	16.44	329	*e*Pn	P	15 08 28.1	-1.5
	comp=Z,4.7nm,0.8s						
NCK	Nalchik	16.45	50	*i* P	P	15 08 30.5	+0.8
NCK				pmax	pmax		
	comp=Z,81nm,1.0s						
AK07	Malin Array Si	16.52	7	P	P	15 08 29.6	-0.7
KRUC	Moravsky	16.53	337	*e*PN	Pn	15 08 28.9	+1.0
AK06	Malin Array Si	16.55	7	P	P	15 08 30.0	-0.7
AK13	Malin Array Si	16.56	7	P	P	15 08 30.1	-0.7
AK10	Malin Array Si	16.57	7	P	P	15 08 30.2	-0.7
AK05	Malin Array Si	16.58	7	P	P	15 08 30.5	-0.5
AK14	Malin Array Si	16.58	7	P	P	15 08 30.4	-0.7
AK09	Malin Array Si	16.59	7	P	P	15 08 30.4	-0.7
AK08	Malin Array Si	16.60	7	P	P	15 08 30.6	-0.6
AK12	Malin Array Si	16.60	7	P	P	15 08 30.6	-0.6
AK02	Malin Array Si	16.62	7	P	P	15 08 30.8	-0.7
AK16	Malin Array Si	16.62	7	P	P	15 08 30.8	-0.7
AK17	Malin Array Si	16.63	7	P	P	15 08 30.8	-0.8
AK11	Malin Array Si	16.64	7	P	P	15 08 30.8	-0.8
AK15	Malin Array Si	16.65	7	P	P	15 08 31.0	-0.8
AK01	Malin Array Si	16.65	7	P	P	15 08 31.0	-0.8
KIEV	Kiev	16.66	7	Pn	Pn	15 08 28.2	-1.2
KIEV				IAmb	IAmb	15 08 33.4	
	comp=Z,16nm,0.7s						
KIEV	Kiev	16.66	7	P	Pn	15 08 28.9	-0.5
KIEV	Kiev	16.66	7	P	Pn	15 08 28.2	-1.2
KIEV				pmax	pmax		
	comp=Z,16nm,0.7s						
KIEV	Kiev	16.66	7	P	P	15 08 31.7	-0.2
	comp=Z,117nm,1.3s	

VORD pmax pmax
comp=Z,30nm,0.8s
BFO Black Forest 19.40 322 P Pn 15 09 04.2 +0.9
BFO lAmb lAmb 15 09 05.4
comp=Z,39nm,1.5s
BFO Black Forest 19.40 322 P Pn 15 09 04.2 +0.9
BFO pmax pmax
comp=Z,39nm,1.5s
VSR Storozhevoye 19.48 25 *e*P **P 15 09 01.8 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.9s
CLL Collm 19.59 335 *e*P **P 15 09 04.0 -0.2**
CLL *e*PP **PnPn 15 09 21.0 +2.0**
VORR Voronezh 19.88 24 P **P 15 09 08.0 +0.7**
VORR pmax pmax
comp=Z,44nm,1.6s
ECH Echery 19.94 320 P **P 15 09 07.6 -0.5**
ECH Echery 19.94 320 P **P 15 09 07.6 -0.5**
ECH pmax pmax
comp=Z,13nm,1.1s
RAYN Ar Rayn 19.98 117 P 15 09 09.5 +0.8
RAYN Ar Rayn 19.98 117 P **P 15 09 09.5 +0.8**
RAYN pmax pmax
comp=Z,10.0nm,1.1s
MNK Minsk 20.36 3 *i* P **P 15 09 12.0 -0.5**
MNK *i* P **P 15 09 12.0 -0.5**
comp=N,6.0nm,0.4s
MNK *i* P **P 15 09 12.0 -0.5**
comp=Z,25nm,0.7s,baz=184
MNK *i* PP **PnPn 15 09 28.3 -1.0**
MNK *i* S **S 15 12 59.2 -1.2**
MNK *i* SS **SnSn 15 13 17.6 -0.8**
MNK *i* LQ LQ 15 15 17.8
MNK *i* LR LR 15 16 49.9
MNK *i* LRM MLR 15 17 53.2
comp=E,175nm,14.7s
MNK *i* LRM MLR 15 17 55.4
comp=Z,131nm,13.6s
MNK *i* LRM MLR 15 17 59.1
comp=N,124nm,16.2s
MNK Minsk 20.36 3 *e*P **P 15 09 12.0 -0.5**
VRH Novokhopyorsk 20.44 29 *e*P Pn 15 09 14.4 -1.1
VRH pmax pmax
comp=Z,139nm,1.5s
LPSR Galich'ya Gora 20.57 23 *e*P **P 15 09 14.6 -0.2**
LPSR pmax pmax
comp=Z,93nm,1.6s
NACGM Naroch 20.73 1 *e*P **P 15 09 15.8 -0.6**
comp=Z,33nm,0.9s,baz=182
PABE Paberze 21.38 357 P **P 15 09 22.2 -1.3**
OBN Obninsk 22.16 16⇓*e*P **P 15 09 31.1 -0.8**
OBN *e**PP **pP 15 09 33.7 -0.1**
OBN *SP **pwP 15 09 36.0 -1.3**
OBN 15 09 56.0
OBN PPP PPP 15 10 04.0
OBN *i* SS Sn 15 14 12.0 +25
OBN SSS SSS 15 14 21.0
OBN pmax pmax
comp=Z,101nm,2.3s
OBN MLR MLR
comp=Z,285nm,15.0s
MOS Moscow 22.98 17 *e*P **P 15 09 38.4 -2.2**
MOS *e* 15 10 03.0
MOS pmax pmax
comp=Z,43nm,0.6s
BELG Belogornoye 23.85 34 LR LR 15 21 22.2
comp=Z,75nm,21.1s,baz=245,slow=42
BELG Belogornoye 23.85 34 *i* P **P 15 09 50.7 +1.4**
BELG pmax pmax
comp=Z,5.0nm,0.9s
ESBB Sonseca Array 24.61 292 P **P 15 09 54.5 -2.1**
ESBB lAmb lAmb 15 09 57.8
comp=Z,14nm,1.0s
ESDC Sonseca Array 24.61 292 P **P 15 09 57.0 +0.4**
comp=Z,6.9nm,0.9s,baz=81,slow=8.8,SNR=28
ESDC LR LR 15 20 23.4
comp=Z,111nm,18.5s,baz=78,slow=39
comp=Z,6.9nm,0.9s
PAB San Pablo 24.90 291 P **P 15 09 59.0 -0.2**
PAB lAmb lAmb 15 10 13.5
comp=Z,17nm,1.4s
PAB San Pablo 24.90 291 P **P 15 09 59.0 -0.2**
PAB pmax pmax
comp=Z,17nm,1.4s
MDT Midelt 25.63 276 LR LR 15 22 00.6
comp=Z,65nm,19.5s,baz=150,slow=41
PBAR Barrancos 26.99 288 *e*P **P 15 10 18.6 +0.6**
MVO Moncorvo 27.05 295 *e*P **P 15 10 19.1 +0.5**
HFS Hagfors 27.21 346 P **P 15 10 18.1 -1.7**
comp=Z,4.0nm,0.6s,baz=144,slow=9.4,SNR=17
HFS LR LR 15 23 10.3
comp=Z,190nm,19.4s,baz=26,slow=41
comp=Z,4.0nm,0.6s
PMRV Marv??o 27.25 291 *e*P **P 15 10 20.4 0.0**
FINES FINESS Array B 27.28 360 P **P 15 10 17.8 -2.5**
FINES FINESS Array B 27.28 360 P **P 15 10 18.9 -1.4**
comp=Z,4.8nm,0.6s,baz=168,slow=10,SNR=5.6
FINES LR LR 15 22 03.3
comp=Z,204nm,18.1s,baz=204,slow=39
comp=Z,4.8nm,0.6s
FINES FINESS Array B 27.28 360 *i* P **P 15 10 19.3 -1.1**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FIA1 FINESS Array S 27.28 360 P **P 15 10 17.8 -2.5**
BANOM Banah 27.30 99 P **P 15 10 22.3 +1.4**
MSFE Esma-Masafi 27.43 101 P **P 15 10 23.5 +1.4**
MDH Madha 27.57 101 P **P 15 10 24.7 +1.4**
HATD Hatta, Dubai 27.64 102 P **P 15 10 25.3 +1.3**
UOSS Minazif 27.64 101 P **P 15 10 22.8 -1.2**
UOSS lAmb lAmb 15 10 40.7
comp=Z,19nm,1.5s
UOSS Minazif 27.64 101 P **P 15 10 25.3 +1.3**
ALNE Al Ain 27.68 103 P **P 15 10 25.9 +1.5**
KLMR Klimovskoe 28.06 14 *e*P **P 15 10 26.3 -1.1**
KLMR pmax pmax
comp=Z,34nm,1.1s
SOHO SOHO 28.28 103 P **P 15 10 30.0 +0.3**
NB2 NORSAR Subarra 28.55 345 P **P 15 10 30.9 -0.9**
comp=Z,4.1nm,1.0s,baz=162,slow=10
NOA NORSAR Array B 28.55 345 P **P 15 10 30.6 -1.2**
comp=Z,1.2nm,0.7s,baz=151,slow=9.8,SNR=5.1
NOA LR LR 15 23 13.4
comp=Z,56nm,18.2s,baz=165,slow=39
comp=Z,1.2nm,0.7s
KIRV Kirov 28.93 25 P **P 15 10 34.6 -0.4**
comp=Z,6.2nm,0.6s,baz=212,slow=11,SNR=2.6
KIRV LR LR 15 22 32.0
comp=Z,117nm,18.7s,baz=240,slow=37
comp=Z,6.2nm,0.6s
AB31 Akbulak array 29.10 49 P **P 15 10 37.3 +0.6**
ABKAR Akbulak array 29.10 49 P **P 15 10 37.1 +0.3**
ABKAR Akbulak array 29.10 49 lAmb lAmb 15 10 39.2
comp=Z,3.8nm,0.8s
EKA Eskdalemuir Ar 29.30 325 P **P 15 10 37.9 -0.5**
comp=Z,4.4nm,0.7s,baz=121,slow=9.8,SNR=6.3
comp=Z,4.4nm,0.7s
TORD Torodi Ar. Bea 30.50 233 P **P 15 10 50.6 +1.1**
comp=Z,8.6nm,0.8s,baz=30,slow=11,SNR=42
TORD PcP **PcP 15 13 49.3 +0.7**
comp=Z,1.1nm,0.8s,baz=22,slow=3.3,SNR=4.2
TORD LR LR 15 25 01.0
comp=Z,301nm,20.1s,baz=17,slow=40
comp=Z,8.6nm,0.8s
ARTI Arti 31.28 35 P **P 15 10 55.5 -0.4**
ARTI lAmb lAmb 15 10 57.0
comp=Z,9.7nm,1.1s
ARTI Arti 31.28 35 P **P 15 10 55.9 0.0**
comp=Z,3.1nm,0.4s,baz=241,slow=8.8,SNR=6.6
comp=Z,3.1nm,0.4s
ARTI Arti 31.28 35 *d i*P **P 15 10 55.7 -0.2**
ARTI S **S 15 16 03.3 +0.9**
ARTI pmax pmax
comp=Z,24nm,2.5s
LVZ Lovozero 34.12 6 P **P 15 11 18.1 -2.6**
LVZ Lovozero 34.12 6 P **P 15 11 18.1 -2.6**
LVZ pmax pmax
comp=Z,26nm,1.2s
ARCES ARCESS Array B 35.41 360 P **P 15 11 30.3 -1.5**
comp=Z,4.1nm,0.5s,baz=176,slow=8.9,SNR=42
comp=Z,4.1nm,0.5s
ARCES ARCESS Array B 35.41 360 P **P 15 11 30.5 -1.3**
ARCES pmax pmax
comp=Z,19nm,1.1s
KK31 Karatay Array 35.44 62 *e*P **P 15 11 32.8 +0.4**
KKAR Karatay Array 35.44 62 P **P 15 11 32.8 +0.4**
KKAR Karatay Array 35.44 62 P **P 15 11 32.8 +0.4**
comp=Z,6.2nm,0.8s
KKAR Karatay Array 35.44 62 P **P 15 11 32.8 +0.4**
GAR Garm 35.54 69 lAmb lAmb 15 11 36.3
comp=Z,10nm,1.0s
KEV Kevo 35.63 1 P **P 15 11 31.6 -2.1**
KEV lAmb lAmb 15 11 37.9
comp=Z,11nm,0.9s
KEV Kevo 35.63 1 P **P 15 11 31.6 -2.1**
KEV pmax pmax
comp=Z,11nm,0.9s
BRVK Borovoye 36.40 45 *ce*P **P 15 11 42.5 +2.0**
BRVK pmax pmax
comp=Z,15nm,0.8s
BVA0 Borovoye Array 36.45 45 *i* P **P 15 11 41.8 +0.9**
BVAR Borovoye Array 36.45 45 P **P 15 11 41.2 +0.3**
comp=Z,10.0nm,0.8s,baz=256,slow=6.0,SNR=35
comp=Z,10.0nm,0.8s
KMBO Kilima Mbogo 36.64 161 P **P 15 11 45.8 +2.7**
comp=Z,0.9nm,0.4s,baz=7.1,slow=8.8,SNR=1.5
comp=Z,0.9nm,0.4s
AAK Ala-Archa 38.38 63 P **P 15 11 57.7 +0.1**
AAK lAmb lAmb 15 12 02.6
comp=Z,7.6nm,0.9s
AAK Ala-Archa 38.38 63 P **P 15 11 58.7 +1.1**
AAK Ala-Archa 38.38 63 *ce*P **P 15 11 59.9 +2.3**
AAK pmax pmax
comp=Z,17nm,1.7s
NIL Nilore 38.83 77 P **P 15 12 02.6 +1.3**
NIL Nilore 38.83 77 P **P 15 12 02.6 +1.3**
NIL pmax pmax
comp=Z,35nm,1.1s
NRN Naryn 39.60 64 lAmb lAmb 15 12 11.5
comp=Z,14nm,1.0s
DBIC Dimbokro 39.60 233 P **P 15 12 08.9 +1.0**
comp=Z,4.1nm,0.8s,baz=35,slow=9.3,SNR=4.7
DBIC LR LR 15 30 44.8
comp=Z,244nm,18.5s,baz=34,slow=40
comp=Z,4.1nm,0.8s
KSH Kashi 39.83 67 P **P 15 12 09.3 -0.4**
KSH sP pwP 15 12 17.0 +1.8
KSH pmax pmax
comp=Z,5.0nm,1.0s
KURBB Kurchatov Arra 41.12 50 P **P 15 12 21.1 +1.0**
comp=Z,23nm,0.8s,baz=276,slow=8.8,SNR=117
KURBB PcP **PcP 15 14 21.0 +1.6**
comp=Z,0.2nm,0.3s,baz=270,slow=4.5,SNR=4.2
comp=Z,23nm,0.8s
KURK Kurchatov 41.18 50 P **P 15 12 21.3 +0.7**
KURK Kurchatov 41.18 50 P **P 15 12 21.1 +0.5**
KURK 15 14 21.0
WUS Wushi 42.04 64 lAmb lAmb 15 12 30.5
comp=Z,11nm,0.9s
MK31 Makanchi Array 43.65 56 lAmb lAmb 15 12 43.5
comp=Z,11nm,0.8s
MK31 Makanchi Array 43.65 56 *ce*P **P 15 12 41.7 +0.9**
MKAR Makanchi Array 43.65 56 P **P 15 12 41.8 +1.0**
comp=Z,13nm,0.7s,baz=269,slow=6.6,SNR=68
MKAR PcP **PcP 15 14 28.8 +0.9**
comp=Z,1.5nm,0.7s,baz=259,slow=5.4,SNR=2.0
comp=Z,13nm,0.7s
SPITS Spitsbergen Ar 44.30 357 P **P 15 12 45.1 -0.5**
comp=Z,18nm,0.9s,baz=114,slow=12,SNR=4.3
comp=Z,18nm,0.9s
SCO Scoresbysund 44.54 339 *i* P **P 15 12 48.3 +0.8**
ZAA0 Zalesovo Array 45.11 45 P **P 15 12 52.1 -0.2**
ZALV Zalesovo Beam 45.11 45 P **P 15 12 52.3 0.0**
ZALV Zalesovo Beam 45.11 45 P **P 15 12 52.5 +0.2**
comp=Z,8.1nm,0.4s,baz=266,slow=8.7,SNR=39
comp=Z,8.1nm,0.4s
KBS Kingsbay 45.25 356 P **P 15 12 52.3 -0.8**
KBS Kingsbay 45.25 356 P **P 15 12 52.3 -0.8**
KBS pmax pmax
comp=Z,47nm,1.2s
SOEG Soedalen 46.76 334 *i* P P 15 12 60.0 -5.1
DAG Danmarks Havn 47.18 347 *i* P **P 15 13 07.5 -0.8**
DAG lAmb lAmb 15 13 08.6
comp=Z,3.2nm,0.6s
NRIK Noril'sk 48.43 25 *i* P **P 15 13 18.6 +0.5**
NRIK pmax pmax
comp=Z,2.0nm,0.4s
NOR Nord 50.02 353 *i* P **P 15 13 29.0 -1.1**
SUMG Summit 50.18 339 P **P 15 13 31.0 -0.9**
SUMG Summit 50.18 339 P **P 15 13 31.0 -0.9**
SUMG pmax pmax
comp=Z,23nm,1.4s
SUMG Summit 50.18 339 *i* P **P 15 13 31.6 -0.3**
DY2G Dye2 52.21 331 *i* P **P 15 13 47.1 +0.1**
DY2G lAmb lAmb 15 13 48.8
comp=Z,7.7nm,0.8s
SFJD Kangerlussuaq 53.92 332 *i* P P 15 13 53.6 -5.7
NEEM North Greenlan 54.14 345 *i* P **P 15 14 01.2 +0.1**
NEEM lAmb lAmb 15 14 03.8
comp=Z,3.2nm,0.9s
MOY Mondy 55.08 47 *e*P **P 15 14 09.5 +1.3**
ZAK Zakamensk 56.79 48 *e*P **P 15 14 21.5 +1.1**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
GTA Gaotai 57.72 62 *e*P **P 15 14 28.3 +1.1**
GTA pP pwP 15 14 38.0 +5.2
GTA pmax pmax
comp=Z,4.0nm,1.0s
SONM Songino Array 59.49 50 P **P 15 14 40.8 +1.4**
comp=Z,4.1nm,0.7s,baz=284,slow=8.0,SNR=18
comp=Z,4.1nm,0.7s
ULN Ulaanbaatar 59.90 50 *ce*P **P 15 14 43.8 +1.6**
ULN pmax pmax
comp=Z,4.0nm,0.9s
TIXI Tiksi 61.80 21 *ce*P **P 15 14 54.4 -0.2**
TIXI pmax pmax
comp=Z,3.0nm,0.9s
BOSA Boshof 62.46 181 P **P 15 15 01.2 +1.6**
comp=Z,2.8nm,0.8s,baz=352,slow=6.3,SNR=3.8
comp=Z,2.8nm,0.8s
SCHQ Schefferville 64.45 320 P **P 15 15 12.6 +0.1**
comp=Z,8.3nm,0.7s,baz=56,slow=7.1,SNR=7.9
comp=Z,8.3nm,0.7s
CMAR Chiang Mai Arr 65.89 83 P **P 15 15 22.8 +0.4**
comp=Z,2.8nm,0.8s,baz=298,slow=8.3,SNR=23
comp=Z,2.8nm,0.8s
YAK Yakutsk 66.32 30 *ce*P **P 15 15 24.6 +0.2**
YAK pmax pmax
comp=Z,31nm,2.5s
HEH HeiHe 71.05 42 *e*P **P 15 15 54.8 +0.7**
HEH pmax pmax
comp=Z,15nm,0.8s
KLR Kul'dur 73.98 41 *e*P **P 16 12 1.1 +0.5**
KLR pmax pmax
comp=Z,7.0nm,1.3s
C36M Paulatuk 74.48 349 lAmb lAmb 15 16 35.8
comp=Z,8.1nm,1.4s
USRK Ussuriysk Ar. 76.96 45 P **P 15 16 29.1 +0.3**
comp=Z,7.5nm,0.9s,baz=296,slow=4.0,SNR=12
comp=Z,7.5nm,0.9s
E29M Blow River 77.05 354 P **P 15 16 29.3 +0.4**
E29M lAmb lAmb 15 16 30.8
comp=Z,7.3nm,1.2s
D23K Nanushuk River 77.14 359 P **P 15 16 29.0 -0.4**
D23K lAmb lAmb 15 16 47.1
comp=Z,11nm,1.5s
D22K Ayikyak River 77.25 360 P **P 15 16 30.0 0.0**
D22K lAmb lAmb 15 16 32.1
comp=Z,12nm,1.4s
D19K Kuna River 77.59 2 P **P 15 16 31.5 -0.5**
E24K Your Creek 77.98 358 P **P 15 16 33.8 -0.4**
E24K lAmb lAmb 15 16 41.3
comp=Z,5.9nm,1.2s
G31M Satah River 78.11 352 P **P 15 16 34.0 -0.8**
G31M lAmb lAmb 15 16 41.1
comp=Z,2.9nm,1.0s
KSRS Korea Array 78.24 53 P **P 15 16 36.6 +0.5**
comp=Z,2.3nm,0.7s,baz=299,slow=4.3,SNR=11
KSRS LR LR 15 55 21.7
comp=Z,36nm,18.2s,baz=135,slow=39
comp=Z,2.3nm,0.7s
F25K Christian Rive 78.35 357 P **P 16 36.4 +0.2**
F25K lAmb lAmb 15 16 57.5
comp=Z,3.5nm,1.1s
YKA Yellowknife Ar 78.62 343 P **P 15 16 37.9 +0.1**
comp=Z,1.8nm,0.8s,baz=32,slow=5.5,SNR=26
comp=Z,1.8nm,0.8s
H29M Whitestone 79.21 354 P **P 15 16 40.4 -0.6**
J30M Hart River 80.61 352 lAmb lAmb 15 16 51.4
comp=Z,8.2nm,1.2s
ILAR Eielson Array 81.22 357 P **P 15 16 53.0 +1.2**
comp=Z,0.9nm,0.9s,baz=357,slow=3.6,SNR=9.0
comp=Z,0.9nm,0.9s
WRH Wood River Hil 81.57 357 lAmb lAmb 15 17 13.6
comp=Z,5.4nm,1.0s
HDA Harding Lake 81.59 357 lAmb lAmb 15 16 55.1
comp=Z,5.6nm,1.0s
M29M Somme Creek 82.92 353 lAmb lAmb 15 17 03.4
comp=Z,5.6nm,0.8s
R33M Jennings River 84.85 348 lAmb lAmb 15 17 39.9
comp=Z,7.6nm,1.2s
MJAR Matsushiro Arr 85.38 48 P **P 15 17 14.3 +0.6**
comp=Z,4.0nm,0.8s,baz=306,slow=5.7,SNR=8.7
MJAR LR LR 16 00 04.4
comp=Z,49nm,18.2s,baz=210,slow=39
comp=Z,4.0nm,0.8s
BDFB Brasilia 86.08 248 P **P 15 17 19.7 +2.1**
comp=Z,4.4nm,0.8s,baz=338,slow=4.5,SNR=5.9
comp=Z,4.4nm,0.8s
PDAR Pinedale Array 93.36 329 P **P 15 17 51.7 0.0**
comp=Z,0.3nm,0.4s,baz=20,slow=2.9,SNR=2.8
comp=Z,0.3nm,0.4s
WRA Warramunga Arr 115.67 97 PKP **PKPdf 15 23 18.6 -0.5**
comp=Z,0.5nm,0.6s,baz=310,slow=1.8,SNR=9.0
ASAR Alice Springs 117.08 101 PKP **PKPdf 15 23 21.4 -0.3**
comp=Z,0.6nm,0.6s,baz=296,slow=1.6,SNR=16
QSPA South Pole Qui 124.04 180 PKP **PKPdf 15 23 33.6 -0.2**
comp=Z,1.8nm,0.8s,baz=251,slow=1.6,SNR=5.2

NOU 30 15:07:23.0, 16°.91S×167°.71E, h3km, MLv3.7/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLAKA	Lakatoro	0.85	341	P	Pg	15 07 39.4	+0.2
DVP	Devils Point	0.93	151	P	Pb	15 07 41.4	-0.4
KOUNC	Koumac, New Ca	4.86	221	P	Pn	15 08 36.8	-0.3
YATNC	Mamie plateau,	5.18	188	P	Pn	15 08 40.1	-1.4
NOUC	Port Laguerre	5.33	194	P	Pn	15 08 43.2	-0.3
OUENC	Ouen Island, N	5.54	188	P	Pn	15 08 47.3	+0.9

*CNRM **30** 15:18:23.6, 36°.52N×7°.54W, h44km, ML3.6*
*MDD **30** 15:18:25.9±0.8, 36°.65N×7°.44W, h53km±17km, Mb3.3/7, Error ellipse: s-maj=7.0km s-min=4.1km az=11.0*
*INMG **30** 15:18:26.6±1.3, 36°.63N×7°.38W, h34km, ML1.9, Error ellipse: s-maj=4.2km s-min=3.1km az=18.0*
*SFS **30** 15:18:26.0, 36°.65N×7°.36W, h40km, ML2.1/13, ML2.6/11, MLv1.8/13*
*IGIL **30** 15:18:26.2, 36°.64N×7°.40W, h25km, ML1.7*
ISC 30 15:18:22.3±1.0, 36°.62N±0°.03×7°.35W±0°.02, h20km±7km, n53, σ1°.36/87, 8C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	Barranco-do-Ve	0.78	323	⇓*i*P	Pn	15 18 39.6	+1.5
PBDV				*e*S	Sn	15 18 49.5	+0.2
PBDV				A	A	15 18 51.1	
	16nm,0.2s						
PVAQ	Vaqueiros	0.84	339	⇓*i*P	Pn	15 18 40.5	+1.5
PVAQ				*e*S	Sn	15 18 51.1	+0.4
PVAQ				A	A	15 18 51.9	
	21nm,0.2s						
PVAQ	Vaqueiros	0.84	339	Pn	Pn	15 18 40.5	+1.5
PVAQ				Sn	Sn	15 18 50.5	-0.2
PVAQ	Vaqueiros	0.84	339	P	Pn	15 18 40.4	+1.5
EGRO	El Granado	0.92	353	Pn	Pn	15 18 41.8	+1.7
EGRO				Sn	Sn	15 18 53.0	+0.3
EGRO	El Granado	0.92	353	Pn	Pn	15 18 41.7	+1.7
EGRO				⇑*i*Vmb_V		15 18 42.0	
	700nm,SNR=7.5						
EGRO				Sn	Sn	15 18 53.3	+0.6
PCVE	Castro Verde	1.15	332	*e*P	Pb	15 18 45.0	+1.5
PCVE				*e*S	Sn	15 18 59.2	+0.8
PCVE				A	A	15 18 59.8	
	15nm,0.3s						
PCVE	Castro Verde	1.15	332	Pn	Pb	15 18 44.9	+1.5
PCVE				Sn	Sn	15 18 58.6	+0.1
ESPR	Espera	1.22	78	Pn	Pb	15 18 45.9	+1.3
ESPR				Sn	Sn	15 19 01.0	+0.9
ESPR	Espera	1.22	78	Pn	Pb	15 18 47.2	+2.5
ESPR				⇑*i*Vmb_V		15 18 49.9	
	199nm,SNR=1.6						
ESPR				Sn	Sn	15 19 01.0	+0.9
MORF	Marmelete	1.25	304	*e*P	Pb	15 18 45.8	+0.6
MORF				*e*S	Sn	15 19 00.9	0.0
MORF				A	A	15 19 02.5	
	9.8nm,0.3s						
MORF	Marmelete	1.25	304	*e*P	Pb	15 18 45.8	+0.6
MORF				*e*S	Sb	15 19 00.4	-0.5
MORF				IAML		15 19 01.1	
	comp=E,14nm,0.2s						
EMIN	Mina Concepcio	1.27	25	Pn	Pb	15 18 46.1	+0.7
EMIN				Sn	Sn	15 19 00.9	-0.3
EMIN	Mina Concepcio	1.27	25	Pn	Pb	15 18 46.4	+1.0
EMIN				⇑*i*Vmb_V		15 18 48.6	
	comp=E,137nm,SNR=1.7						
EMIN				Sn	Sb	15 19 03.2	+1.9
PFVI	Vila Bisbo	1.29	294	*e*P	Pb	15 18 47.2	+1.3
PFVI				*e*S	Sb	15 19 01.6	-0.4
PFVI				A	A	15 19 08.9	
	comp=E,9.2nm,0.5s						
PFVI	Vila Bisbo	1.29	294	Pn	Pb	15 18 45.8	-0.1
PFVI	Vila Bisbo	1.29	294	P	Pn	15 18 43.9	-1.3
PFVI	Vila Bisbo	1.29	294	S	Sn	15 18 59.6	-2.3
MESJ	Messejana	1.40	330	⇓*e*P	Pb	15 18 48.4	+0.6
MESJ				*e*S	Sb	15 19 04.9	-0.4
MESJ				A	A	15 19 10.8	
	comp=E,4.8nm,0.2s						
MESJ	Messejana	1.40	330	*e*P	Pb	15 18 48.3	+0.6
MESJ				*e*S	Sn	15 19 04.3	-0.3
MESJ				IAML		15 19 06.2	
	comp=E,7.7nm,0.3s						
PTEO	Sao Teotonio	1.44	310	*e*P	Pb	15 18 48.9	+0.5
PTEO				*e*S	Sb	15 19 05.9	-0.3
PTEO				A	A	15 19 06.5	
	comp=E,9.9nm,0.4s						
PBEJ	Beja	1.47	344	⇑*e*P	Pb	15 18 49.2	+0.4
PBEJ				*e*S	Sb	15 19 06.5	-0.5
PBEJ				A	A	15 19 06.6	
	comp=E,5.7nm,0.3s						
EJIF	Jimena Fronter	1.52	96	Sn	Sb	15 19 10.8	+2.1
PBAR	Barrancos	1.57	9	*e*P	Pb	15 18 50.7	0.0
PBAR				*e*S	Sb	15 19 09.4	-0.7
PBAR				A	A	15 19 16.1	
	comp=E,5.0nm,0.2s						
PBAR	Barrancos	1.57	9	Pn	Pb	15 18 50.4	-0.3
PBAR				Sn	Sn	15 19 08.3	-0.5
EVO	Evora	1.98	345	*e*P	Pb	15 18 56.5	-1.1
EVO				*e*S	Sn	15 19 18.7	-0.2
EVO				A	A	15 19 19.9	
	comp=E,10.0nm,0.1s						
EVO	Evora	1.98	345	Pn	Pb	15 18 56.5	-1.1
EVO				Sn	Sn	15 19 18.0	-0.9
ECAB	El Cabril	2.12	46	Pn	Pb	15 18 58.3	-1.6
ECAB				Sn	Sn	15 19 20.5	-1.7
ECAB	El Cabril	2.12	46	Pn	Pb	15 18 58.7	-1.2
ECAB				⇑*i*Vmb_V		15 19 04.5	
	comp=E,72nm,SNR=1.1						
ECAB				Sn	Sn	15 19 20.7	-1.5
EBAD	Badajoz	2.15	7	Pn	Pb	15 18 58.3	-2.1
EBAD				Sn	Sn	15 19 22.3	-0.7
EBAD	Badajoz	2.15	7	Pn	Pb	15 18 58.4	-2.1
EBAD				⇑*i*Vmb_V		15 19 00.2	
	comp=E,143nm,SNR=1.6						
EBAD				Sn	Sn	15 19 22.0	-1.0
PESTR	Estremoz	2.25	355	*e*P	Pn	15 18 59.8	+1.4
PESTR				*e*S	Sn	15 19 25.8	+0.2
PESTR	Estremoz	2.25	355	Pn	Pn	15 18 59.7	+1.4
PESTR	Estremoz	2.25	355	P	Pb	15 18 60.0	-2.3
PESTR	Estremoz	2.25	355	S	Sb	15 19 27.6	-2.1
PMTG	Montargil	2.54	344	*e*P	Pn	15 19 04.0	+1.6
PMTG				*e*S	Sn	15 19 32.9	+0.2
PMTG				A	A	15 19 34.7	
	comp=E,4.9nm,0.3s						
EADA	Adamuz	2.69	54	Pn	Pb	15 19 06.7	-3.1
EADA	Adamuz	2.69	54	Pn	Pb	15 19 07.6	-2.1
EADA				⇑*i*Vmb_V		15 19 08.6	
	comp=E,95nm,SNR=1.1						
EADA				Sn	Sn	15 19 36.8	+0.3
PMAFR	Mafra	2.79	327	Pn	Pn	15 19 06.8	+1.0
PMRV	Marv??o	2.81	359	*e*P	Pn	15 19 07.5	+1.5
PMRV				*e*S	Sn	15 19 39.2	0.0
PMRV				A	A	15 19 40.9	
	comp=E,3.7nm,0.2s						

PSBE	**So Bento**	**3.11**	**339**	*eP*	**Pn**	**15 19 12.3**	**+2.1**
PSBE				*eS*	**Sn**	**15 19 44.1**	**-2.6**
ZHG	**ZHG**	**3.22**	**169**	P	**Pn**	**15 19 12.3**	**+0.6**
ZHG	**ZHG**	**3.22**	**169**	S	**Sn**	**15 19 50.3**	**+0.9**
PCBR	**Castelo Branco**	**3.22**	**358**	*eP*	**Pn**	**15 19 13.6**	**+2.0**
AKLM	**AKL**	**3.53**	**126**	P	**Pn**	**15 19 15.1**	**-1.0**
AKLM	**AKL**	**3.53**	**126**	S	**Sn**	**15 19 55.5**	**-1.8**
EPLA	**Plasencia**	**3.58**	**16**	Pn	**Pn**	**15 19 18.3**	**+1.6**
EPLA				⇑*iVmb_V*		15 19 21.1	
	comp=E,128nm,SNR=1.4						
EPLA				Sn	**Sn**	**15 19 56.6**	**-1.8**
MD31	**MD31**	**4.31**	**150**	P	**Pn**	**15 19 27.2**	**+0.5**
MD31	**MD31**	**4.31**	**150**	S	**Sn**	**15 20 16.3**	**0.0**
MVO	**Moncorvo**	**4.55**	**3**	*eP*	**Pn**	**15 19 30.1**	**+0.1**
MVO				*eS*	**Sn**	**15 20 20.2**	**-2.0**
MVO				A	A	15 20 21.3	
	comp=E,3.2nm,0.5s						
POLO	**Lamas de Olo**	**4.76**	**356**	*eP*	**Pn**	**15 19 34.8**	**+1.9**
POLO				*eS*	**Sn**	**15 20 25.4**	**-2.2**
TISM	**Timmit**	**4.94**	**171**	P	**Pn**	**15 19 34.2**	**-1.1**
TISM	**Timmit**	**4.94**	**171**	S	**Sn**	**15 20 30.4**	**-1.5**

KRSC 30 15:32:51.4±1.5, 52°.69N×160°.80E, h16km±17km, MI3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.62**	**311**	*eP*	Pg	15 33 03.3	-0.3
SPN				*eS*	Sg	15 33 10.9	-1.0
NLC	**Nalytchevo**	**1.00**	**299**	*eP*	Pb	15 33 10.4	+0.1
DALK	**Dalny**	**1.29**	**286**	*eP*	Pn	15 33 14.1	-0.5
DALK				*eS*	Sb	15 33 29.8	-1.6
SDLR	**Sedlovina**	**1.30**	**298**	*eP*	Pn	15 33 14.4	-0.5
SDLR				*eS*	Sg	15 33 33.3	-0.1
UGLR	**Uglovaya**	**1.30**	**294**	*eP*	Pb	15 33 15.4	-0.1
SMAR	**Somma**	**1.34**	**296**	*eP*	Pb	15 33 16.3	+0.1
PET	**Petropavlovsk**	**1.34**	**284**	*eP*	Pn	15 33 15.2	-0.1
AVH	**Avacha**	**1.37**	**296**	*eP*	Pb	15 33 16.6	0.0
AVH				*eS*	Sg	15 33 35.7	0.0
KRER	**Koryakskii**	**1.38**	**297**	*eP*	Pb	15 33 16.9	-0.1
KRER				*eS*	Sn	15 33 33.7	-0.5
RUS	**Russkaya**	**1.42**	**260**	*eP*	Pn	15 33 16.5	0.0
RUS				*eS*	Sn	15 33 34.0	-0.7
KOK	**Koryaka**	**1.44**	**296**	*eP*	Pn	15 33 16.9	+0.1
KOK				*eS*	Sb	15 33 36.6	+0.7
KRX	**Arik**	**1.46**	**298**	*eP*	Pn	15 33 16.9	-0.3
KRX				*eS*	Sn	15 33 36.2	+0.2
MTVR	**Mutnovka**	**1.61**	**264**	*eP*	Pn	15 33 19.5	+0.3
MTVR				*eS*	Sn	15 33 39.7	+0.1
KRMR	**Karymshinskiy**	**1.63**	**276**	*eP*	Pn	15 33 20.0	+0.7
GRL	**Gorelyy**	**1.67**	**266**	*eP*	Pn	15 33 20.7	+0.7
GRL				*eS*	Sb	15 33 43.1	+0.7
ASAK	**Asacha**	**1.80**	**261**	*eP*	Pb	15 33 23.4	-0.5
ASAK				*eS*	Sg	15 33 47.7	-1.5
KDTR	**Khodutka, Kamc**	**1.89**	**243**	*eP*	Pn	15 33 23.3	+0.4
KDTR				*eS*	Sb	15 33 49.0	+0.2
APC	**Apacha**	**2.22**	**278**	*eP*	Pb	15 33 29.8	-1.3
APC				*eS*	Sb	15 33 57.9	-0.4
TUMR	**Tumrok**	**2.63**	**352**	*eP*	Pn	15 33 35.4	+2.2
TUMR				*eS*	Sb	15 34 08.0	-2.1
KMNR	**Kamenistaya**	**3.09**	**354**	*eP*	Pb	15 33 43.1	-2.8
BZP	**Bezymyannyi-Pe**	**3.23**	**357**	*eP*	Pn	15 33 44.4	+2.9
BZMR	**Bezymyannaya**	**3.26**	**357**	*eP*	Pb	15 33 45.4	-3.4
BZGR	**Bezymyannyi-Gr**	**3.26**	**359**	*eP*	Pn	15 33 44.5	+2.7
KIRR	**Kirishev**	**3.28**	**356**	*eP*	Pb	15 33 45.8	-3.4
KRSR	**Krestovskiy**	**3.54**	**358**	*eP*	Pn	15 33 49.3	+3.7
KBTR	**Krutoberegovo**	**3.72**	**18**	*eP*	Pn	15 33 49.0	+1.0
SMKR	**Semkarok**	**3.92**	**5**	*eP*	Pn	15 33 54.4	+3.6

*IDC **30** 15:36:06.5±3.1, 11°.78N×141°.76E, h99km±35km, mb3.7/9, mbtmp4.0/10, MS3.5/21, Error ellipse: s-maj=30.6km s-min=15.5km az=97.0*

ISC 30 15:36:02.1±0.9, 11°.8N±0°.2×141°.5E±0°.1, h51km, n26, σ1ᵍ16/11, mb4.0/9, MS3.5/18, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.74**	**61**	P	**Pn**	**15 36 58.0**	**+0.6**
	67nm,0.4s,baz=180,slow=1.8,SNR=9.3						
GUMO				S	**Sn**	**15 37 41.0**	**+0.7**
	46nm,0.4s,baz=166,slow=22,SNR=5.8						
GUMO				LR	LR	15 38 32.3	
	comp=Z,960nm,18.9s,baz=218,slow=41						
DAV	**Davao City (W)**	**16.39**	**255**	LR	LR	15 44 51.0	
	comp=Z,214nm,21.6s,baz=52,slow=32						
JOW	**Kunigami**	**19.47**	**322**	LR	LR	15 46 19.1	
	comp=Z,85nm,21.2s,baz=163,slow=31						
JNU	**Nakatsue**	**23.37**	**337**	LR	LR	15 48 30.1	
	comp=Z,32nm,21.2s,baz=135,slow=32						
KAPI	**Kappang**	**27.32**	**234**	LR	LR	15 52 16.6	
	comp=Z,34nm,19.0s,baz=42,slow=35						
BATI	**Baumata**	**28.13**	**220**	LR	LR	15 52 03.0	
	comp=Z,124nm,21.9s,baz=32,slow=34						
WRA	**Warramunga Arr**	**32.30**	**193**	P	**P**	**15 42 26.3**	**-0.2**
	1.6nm,0.6s,baz=12,slow=9.6,SNR=20						
WRA				LR	LR	15 55 31.2	
	comp=Z,71nm,21.1s,baz=6.5,slow=36						
	1.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**33.56**	**208**	LR	LR	15 56 18.4	
	comp=Z,47nm,18.8s,baz=12,slow=36						
ASAR	**Alice Springs**	**36.00**	**192**	P	**P**	**15 42 59.0**	**+0.5**
	0.5nm,0.5s,baz=16,slow=12,SNR=25						
ASAR				LR	LR	15 57 46.5	
	comp=Z,69nm,20.6s,baz=43,slow=36						
	0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.55**	**285**	P	**P**	**15 43 46.1**	**+1.1**
	1.0nm,0.9s,baz=99,slow=6.5,SNR=8.7						
CMAR				LR	LR	15 59 57.4	
	comp=Z,32nm,20.0s,baz=295,slow=34						
	1.0nm,0.9s						
DZM	**Mont Dzumac**	**41.59**	**144**	LR	LR	15 59 53.2	
	comp=Z,31nm,19.7s,baz=69,slow=34						
PSI	**Prapat**	**43.11**	**261**	LR	LR	16 06 23.5	
	comp=Z,80nm,18.2s,baz=155,slow=42						
SONM	**Songino Array**	**46.40**	**328**	P	**P**	**15 44 24.6**	**+0.9**
	0.3nm,0.4s,baz=145,slow=6.3,SNR=4.0						
SONM				LR	LR	16 04 23.7	
	comp=Z,46nm,20.1s,baz=36,slow=36						
	0.3nm,0.4s						
MSVF	**Nonsavu**	**46.50**	**129**	LR	LR	16 03 07.3	
	comp=Z,72nm,20.2s,baz=349,slow=35						
YAK	**Yakutsk**	**50.90**	**353**	LR	LR	16 06 57.2	
	comp=Z,54nm,18.3s,baz=118,slow=36						
RAO	**Raoul Island**	**56.54**	**137**	LR	LR	16 08 15.7	
	comp=Z,85nm,19.4s,baz=32,slow=34						
MKAR	**Makanchi Array**	**60.55**	**317**	P	**P**	**15 46 07.9**	**+0.6**
	1.6nm,0.9s,baz=107,slow=4.8,SNR=4.4						
	1.6nm,0.9s						
KURBB	**Kurchatov Arra**	**63.91**	**321**	P	**P**	**15 46 30.1**	**+0.3**
	3.3nm,0.9s,baz=103,slow=6.7,SNR=20						
	3.3nm,0.9s						
BVAR	**Borovoye Array**	**69.33**	**322**	P	**P**	**15 47 04.4**	**+0.1**
	1.9nm,0.6s,baz=114,slow=6.7,SNR=11						
	1.9nm,0.6s						
ILAR	**Eielson Array**	**71.60**	**25**	P	**P**	**15 47 15.9**	**-1.9**
	0.3nm,0.8s,baz=252,slow=6.2,SNR=4.2						
	0.3nm,0.8s						
BBB	**Bella Bella**	**81.04**	**39**	LR	LR	16 20 33.5	
	comp=Z,35nm,19.1s,baz=286,slow=33						
YBH	**Yreka Blue Hor**	**86.52**	**48**	LR	LR	16 19 36.5	
	comp=Z,42nm,19.7s,baz=318,slow=30						
NEW	**Newport**	**88.75**	**41**	LR	LR	16 21 12.2	
	comp=Z,50nm,21.0s,baz=360,slow=30						
FINES	**FINESS Array B**	**91.39**	**334**	P	**P**	**15 49 00.6**	**-1.8**
	4.8nm,1.0s,baz=79,slow=4.1,SNR=6.2						
	4.8nm,1.0s						
ELK	**Elko**	**92.22**	**48**	LR	LR	16 23 45.5	
	comp=Z,37nm,19.5s,baz=285,slow=31						
AKASG	**Malin Array Be**	**94.56**	**324**	LR	LR	16 35 52.7	
	comp=Z,69nm,18.4s,baz=358,slow=38						

*IDC **30** 15:37:14.9±1.5, 37°.58N×20°.32E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=47.6km s-min=27.6km az=125.0*

*ATH **30** 15:37:16.4, 37°.58N×20°.32E, h8km±2km, ML3.3/9, Error ellipse: s-maj=3.0km s-min=0.9km az=20.0*

*THE **30** 15:37:16.9, 37°.61N×20°.38E, h0km±4km, ML3.4/9, Error ellipse: s-maj=4.8km s-min=0.8km az=227.0*

ISC 30 15:37:15.9±1.7, 37°.61N±0°.04×20°.38E±0°.05, h6km±11km, n40, σ0ᵍ73/61, mb3.9/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.35**	**82**	P	**Pb**	**15 37 24.0**	**-0.6**
KRI1				S	**Sb**	**15 37 28.9**	**-1.4**
	9μm,0.4s						
LTHK	**Lithakia**	**0.38**	**75**	P	**Pb**	**15 37 24.4**	**-0.6**
LTHK				S	**Sb**	**15 37 29.8**	**-1.2**
	11μm,0.2s						
LTHK	**Lithakia**	**0.38**	**75**	P	**Pb**	**15 37 24.4**	**-0.6**
LTHK				S	**Sb**	**15 37 30.6**	**-0.4**
LTHK				AML	AML	15 37 30.6	
	comp=E,26186μm,0.3s						
LTHK				AML	AML	15 37 31.0	
	comp=N,17710μm,0.2s						
PSDA	**Pessada-Kefalo**	**0.53**	**18**	P	**Pb**	**15 37 27.2**	**-0.4**
PSDA				S	**Sb**	**15 37 34.5**	**-0.9**
	comp=N,6μm,0.3s						
PSDA	**Pessada-Kefalo**	**0.53**	**18**	P	**Pb**	**15 37 27.2**	**-0.4**
PSDA				S	**Sb**	**15 37 35.1**	**-0.4**
RTZL	**Ratzakli, Kefa**	**0.56**	**34**	P	**Pb**	**15 37 27.6**	**-0.5**
RTZL				S	**Sb**	**15 37 35.7**	**-0.6**
	comp=N,2μm,0.4s						
VLS	**Valsamata**	**0.59**	**16**	P	**Pb**	**15 37 28.1**	**-0.5**
VLS				S	**Sb**	**15 37 36.7**	**-0.5**
	comp=N,3μm,0.4s						
VLS	**Valsamata**	**0.59**	**16**	P	**Pb**	**15 37 28.2**	**-0.5**
VLS				S	**Sb**	**15 37 36.8**	**-0.5**
VLS				AML	AML	15 37 38.2	
	comp=E,6214μm,0.3s						
VLS				AML	AML	15 37 41.0	
	comp=N,5636μm,0.3s						
DMLN	**Damoulianata-K**	**0.63**	**359**	P	**Pb**	**15 37 29.1**	**-0.2**
DMLN				S	**Sb**	**15 37 39.2**	**+0.9**
	comp=N,5μm,0.5s						
DMLN	**Damoulianata-K**	**0.63**	**359**	P	**Pb**	**15 37 29.1**	**-0.2**
DMLN				S	**Sb**	**15 37 38.3**	**0.0**
SMHA	**Samh**	**0.67**	**18**	P	**Pb**	**15 37 30.4**	**+0.3**
SMHA				S	**Sb**	**15 37 39.8**	**+0.2**
SMHA				AML	AML	15 37 48.4	
	comp=E,16200μm,0.4s						
SMHA				AML	AML	15 37 48.9	
	comp=N,23775μm,0.4s						
VSK1	**VASILIKIADES**	**0.81**	**10**	P	**Pb**	**15 37 32.1**	**-0.3**
FSK	**Fiskardo**	**0.86**	**10**	P	**Pb**	**15 37 33.1**	**-0.1**
FSK	**Fiskardo**	**0.86**	**10**	P	**Pb**	**15 37 33.0**	**-0.3**
FSK				S	**Sn**	**15 37 45.9**	**-1.6**
FSK				AML	AML	15 37 51.0	
	comp=N,3904μm,0.7s						
FSK				AML	AML	15 37 53.4	
	comp=E,4542μm,0.2s						
RLS	**Riolos of Patr**	**0.97**	**62**	P	**Pb**	**15 37 35.2**	**+0.1**
RLS	**Riolos of Patr**	**0.97**	**62**	P	**Pb**	**15 37 35.1**	**+0.1**
RLS				S	**Sn**	**15 37 49.9**	**-0.2**
RLS				AML	AML	15 37 54.4	
	comp=E,2257μm,0.8s						
RLS				AML	AML	15 37 58.3	
	comp=N,2191μm,1.1s						
EVGI	**Lefkada island**	**1.03**	**12**	P	**Pn**	**15 37 36.3**	**-0.6**
EVGI				S	**Sn**	**15 37 51.0**	**-0.7**
	comp=N,2μm,0.4s						
EVGI	**Lefkada island**	**1.03**	**12**	P	**Pn**	**15 37 36.3**	**-0.6**
EVGI				S	**Sn**	**15 37 51.5**	**-0.2**
AMT	**Artemida-Makis**	**1.06**	**94**	P	**Pn**	**15 37 37.0**	**-0.3**
AMT				S	**Sn**	**15 37 52.3**	**-0.1**
AMT				AML	AML	15 37 59.2	
	comp=N,4706μm,0.7s						
AMT				AML	AML	15 38 01.1	
	comp=E,4262μm,0.7s						
DRO	**Drossia**	**1.11**	**72**	P	**Pn**	**15 37 37.9**	**-0.1**
DRO	**Drossia**	**1.11**	**72**	P	**Pn**	**15 37 37.8**	**-0.1**
DRO				S	**Sn**	**15 37 53.7**	**+0.2**
DRO				AML	AML	15 38 04.7	
	comp=N,1930μm,0.5s						
DRO				AML	AML	15 38 09.8	
	comp=E,2368μm,0.4s						
NYDR	**Nydri-Lefkada**	**1.13**	**13**	P	**Pn**	**15 37 37.8**	**-0.4**
NYDR				S	**Sn**	**15 37 56.0**	**+1.9**
	comp=E,1μm,0.5s						
LKD2	**Lefkada island**	**1.20**	**10**	P	**Pn**	**15 37 38.9**	**-0.3**
TSLK	**Tsoukalades, L**	**1.23**	**10**	P	**Pn**	**15 37 40.0**	**+0.3**
TSLK				S	**Sn**	**15 37 58.1**	**+1.5**
	comp=E,2μm,0.5s						
UPR	**University Cam**	**1.30**	**58**	P	**Pg**	**15 37 42.5**	**+1.7**
PYL	**PYLOS**	**1.30**	**123**	P	**Pn**	**15 37 40.5**	**-0.1**
PYL	**PYLOS**	**1.30**	**123**	P	**Pg**	**15 37 41.3**	**+0.5**
PYL				S	**Sn**	**15 37 59.2**	**+0.9**
PYL				AML	AML	15 38 04.7	
	comp=E,547μm,0.4s						
PYL				AML	AML	15 38 09.0	
	comp=N,390μm,0.4s						
ITM	**Ithomi**	**1.30**	**109**	P	**Pg**	**15 37 41.4**	**+0.5**
ITM				S	**Sn**	**15 37 59.0**	**+0.5**
ITM				AML	AML	15 38 12.7	
	comp=N,531μm,0.5s						
ITM				AML	AML	15 38 15.1	
	comp=E,804μm,1.2s						
EFP	**Efpalio**	**1.45**	**55**	P	**Pg**	**15 37 43.8**	**0.0**
KLV	**Kalavryta, Ach**	**1.47**	**72**	P	**Pg**	**15 37 43.9**	**-0.1**
KLV	**Kalavryta, Ach**	**1.47**	**72**	P	**Pg**	**15 37 44.5**	**+0.4**
GUR	**Goura**	**1.59**	**78**	P	**Pg**	**15 37 46.1**	**-0.2**
GUR	**Goura**	**1.59**	**78**	P	**Pg**	**15 37 46.1**	**-0.2**
KEK	**Kerkira**	**2.15**	**348**	P	**Pb**	**15 37 53.4**	**-1.8**
HFS	**Hagfors**	**22.94**	**351**	P	**P**	**15 42 21.0**	**+0.4**
	comp=E,7.9nm,1.1s,baz=165,slow=12,SNR=1.8						
	comp=E,7.9nm,1.1s						
FINES	**FINESS Array B**	**24.12**	**7**	P	**P**	**15 42 32.2**	**0.0**
	comp=E,5.9nm,0.9s,baz=167,slow=9.6,SNR=3.5						
	comp=E,5.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**29.52**	**219**	P	**P**	**15 43 20.6**	**-0.6**
	comp=E,0.2nm,0.6s,baz=41,slow=8.3,SNR=1.6						
	comp=E,0.2nm,0.6s						
BVAR	**Borovoye Array**	**37.57**	**49**	P	**P**	**15 44 32.5**	**+1.6**
	comp=E,0.4nm,0.7s,baz=265,slow=7.2,SNR=1.7						
	comp=E,0.4nm,0.7s						
MKAR	**Makanchi Array**	**45.69**	**58**	P	**P**	**15 45 37.4**	**-0.1**
	comp=E,1.0nm,0.8s,baz=268,slow=7.3,SNR=1.9						
	comp=E,1.0nm,0.8s						
ZALV	**Zalesovo Beam**	**46.15**	**48**	P	**P**	**15 45 40.5**	**-0.5**
	comp=E,0.5nm,0.3s,baz=286,slow=8.3,SNR=2.3						
	comp=E,0.5nm,0.3s						

*NEIC **30** 15:53:10.3±2.5, 43°.96N±0°.09×128°.9W±0°.1, h10km±2km, mb4.1/22, ML3.5/42, Error ellipse: s-maj=18.7km s-min=12.0km az=228.0*

*IDC **30** 15:53:11.5±1.5, 44°.20N×128°.53W, h0km, mb3.7/7, mbtmp3.7/13, ML3.3/6, MS3.4/13, Error ellipse: s-maj=32.2km s-min=12.9km az=49.0*

ISC 30 15:53:11.4±0.8, 44°.11N±0°.08×128°.83W±0°.09, h10km, n99, σ1ᵍ39/83, mb4.2/16, MS3.6/9, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02E	**Swisshome, OR**	**3.59**	**88**	Pn	**Pn**	**15 54 06.7**	**-0.2**
I02E				IAML		15 55 30.6	
	comp=E,92nm,2.9s						
J01E	**Myrtle Point**	**3.68**	**103**	Pn	**Pn**	**15 54 05.7**	**-2.5**
K02D	**Willamette Mer**	**4.02**	**109**		**Pn**	**15 54 10.1**	**-2.9**
G03D	**McMinnville, O**	**4.12**	**73**		**Pn**	**15 54 13.8**	**-0.5**
G03D				IAML		15 55 08.1	
	comp=N,60nm,0.6s						
G03D				IAML		15 56 37.6	
	comp=E,56nm,4.4s						
F03A	**Seaside**	**4.16**	**62**		**Pn**	**15 54 14.6**	**-0.3**
DBO	**Dodson Butte**	**4.17**	**102**		**Pn**	**15 54 13.8**	**-1.4**
DBO				IAML		15 55 33.9	
	comp=E,49nm,4.5s						
BUCK	**Buck Mountain**	**4.20**	**87**	Pn	**Pn**	**15 54 16.5**	**+0.9**
BUCK				IAML		15 55 55.1	
	comp=N,51nm,4.7s						
BUCK				IAML		15 56 04.2	
	comp=E,54nm,3.8s						
RADR	**Rader Ridge**	**4.24**	**55**	Pn	**Pn**	**15 54 16.6**	**+0.6**
RADR				IAML		15 55 50.4	
	comp=N,55nm,2.0s						
RADR				IAML		15 56 53.7	
	comp=E,59nm,3.4s						
I04A	**Tendick Farm,**	**4.64**	**92**		**Pn**	**15 54 20.7**	**-0.9**
I04A				IAML		15 55 22.0	
	comp=E,44nm,4.7s						
WISH	**Wishkah**	**4.65**	**48**		**Pn**	**15 54 21.1**	**-0.5**
WISH				IAML		15 55 24.0	
	comp=E,42nm,3.8s						
NLWA	**Neilton Lookou**	**4.78**	**45**	Pn	**Pn**	**15 54 21.6**	**-1.8**
H04A	**Detroit Lake**	**4.79**	**81**		**Pn**	**15 54 23.1**	**-0.5**
H04A				IAML		15 55 24.9	
	comp=E,30nm,0.3s						
H04A				IAML		15 55 26.1	
	comp=N,32nm,0.7s						
C03A	**Quillayute Air**	**4.85**	**36**	Pn	**Pn**	**15 54 24.2**	**-0.1**
F04A	**Amboy**	**4.89**	**66**		**Pn**	**15 54 25.6**	**+0.6**
F04A				IAML		15 55 26.1	
	comp=N,36nm,2.7s						
J04A	**Umpqua Nationa**	**4.95**	**98**		**Pn**	**15 54 26.4**	**+0.5**
FL2	**Flat Top 2**	**5.03**	**63**		**Pn**	**15 54 28.1**	**+1.1**
YBH	**Yreka Blue Hor**	**5.08**	**116**	Pn	**Pn**	**15 54 26.9**	**-0.7**
	comp=N,1.0nm,0.3s,baz=326,slow=11,SNR=13						
YBH				Sn	**Sn**	**15 55 25.0**	**-1.4**
	comp=N,0.3nm,0.3s,baz=282,slow=9.8,SNR=1.7						
	comp=N,2.1nm,0.3s						
ERK	**Elk Rock**	**5.08**	**62**		**Pn**	**15 54 28.9**	**+1.2**
B201	**Coldwater, Mou**	**5.13**	**62**		**Pn**	**15 54 29.3**	**+1.0**
TDL	**Tradedollar La**	**5.18**	**62**		**Pn**	**15 54 30.1**	**+1.1**
B202	**Windy Ridge, M**	**5.19**	**63**		**Pn**	**15 54 30.2**	**+1.1**
CDFW	**Cedar Flats**	**5.20**	**65**		**Pn**	**15 54 30.7**	**+1.4**
KOSW	**Kosmos**	**5.24**	**61**		**Pn**	**15 54 30.7**	**+0.9**
HOOD	**Mount Hood Mea**	**5.25**	**74**		**Pn**	**15 54 31.2**	**+1.2**
HOOD				IAML		15 55 35.5	
	comp=E,32nm,0.5s						
HOOD				IAML		15 55 36.6	
	comp=N,29nm,0.8s						
K04D	**Chiloquin, OR**	**5.36**	**104**		**Pn**	**15 54 30.2**	**-1.3**
OZB	**Mount Ozzard**	**5.37**	**24**	Pn	**Pn**	**15 54 31.9**	**+0.4**
I05D	**Terrebonne, OR**	**5.38**	**85**		**Pn**	**15 54 30.9**	**-0.8**
AWST	**Adams West**	**5.39**	**65**		**Pn**	**15 54 33.0**	**+1.1**
B04A	**Port Angeles**	**5.41**	**41**		**Pn**	**15 54 30.2**	**-1.9**
GNW	**Green Mountain**	**5.43**	**48**		**Pn**	**15 54 31.5**	**-0.9**
G05A	**Wamic**	**5.47**	**75**		**Pn**	**15 54 32.8**	**-0.2**
J05D	**Fort Rock, OR**	**5.56**	**96**		**Pn**	**15 54 34.6**	**+0.3**
LON	**Longmire**	**5.60**	**59**		**Pn**	**15 54 35.3**	**+0.6**
D05A	**Enumclaw**	**5.70**	**55**		**Pn**	**15 54 36.0**	**0.0**
PINE	**Pine Mountain**	**5.70**	**90**		**Pn**	**15 54 35.9**	**-0.4**
PGC	**Sidney**	**5.87**	**37**	Pn	**Pn**	**15 54 37.0**	**-1.3**
G06A	**Carlson Farm,**	**5.95**	**76**		**Pn**	**15 54 40.0**	**+0.4**
CBB	**Campbell River**	**6.38**	**21**	Pn	**Pn**	**15 54 45.5**	**+0.2**
HAWA	**Hanford**	**6.95**	**68**	Pn	**Pn**	**15 54 53.6**	**+0.5**
ORV	**Oroville**	**7.11**	**127**	Pn	**Pn**	**15 54 56.5**	**+1.1**
LLLB	**Lillooet**	**8.03**	**33**	Pn	**Pn**	**15 55 08.1**	**0.0**
BBB	**Bella Bella**	**8.10**	**3**	Pn	**Pn**	**15 55 10.1**	**+1.3**
	comp=N,0.3nm,0.3s,baz=175,slow=4.9,SNR=7.1						
BBB				Sn	**Sn**	**15 56 37.6**	**-2.8**
	comp=N,0.2nm,0.3s,baz=240,slow=16,SNR=1.3						
	comp=N,4.7nm,0.8s						
F10A	**Beach Ranch, E**	**8.42**	**73**	Pn	**Pn**	**15 55 14.2**	**+0.7**
WAKR	**Walker**	**9.01**	**125**		**Pn**	**15 55 24.2**	**+2.6**
NEW	**Newport**	**9.12**	**59**	LR	LR	15 58 09.9	
	comp=N,133nm,21.5s,baz=274,slow=34						
LHV	**Little Huntoon**	**9.73**	**123**		**Pn**	**15 55 31.3**	**0.0**
NVAR	**Mina Array Bea**	**9.74**	**122**	Pn	**Pn**	**15 55 32.8**	**+1.2**
	comp=N,0.2nm,0.3s,baz=303,slow=12,SNR=4.9						
NVAR				LR	LR	15 58 27.3	
	comp=N,93nm,18.4s,baz=306,slow=33						
	comp=N,2.1nm,0.8s						
HLID	**Hailey**	**10.43**	**88**	Pn	**Pn**	**15 55 43.9**	**+2.8**
ELK	**Elko**	**10.59**	**104**	Pn	**Pn**	**15 55 46.6**	**+3.3**
ELK	**Elko**	**10.59**	**104**	Pn	**Pn**	**15 55 45.3**	**+2.0**
	baz=304,slow=10,SNR=12						
	comp=N,2.1nm,0.7s						
MSO	**Missoula**	**10.80**	**70**	Pn	**Pn**	**15 55 45.1**	**-1.0**
BPMT	**Black Pine Rid**	**11.09**	**72**	Pn	**Pn**	**15 55 48.0**	**-2.1**
GWY	**Greenwater Val**	**12.20**	**126**	Pn	**Pn**	**15 56 08.6**	**+3.3**
YHH	**Holmes Hill**	**12.87**	**81**	Pn	**Pn**	**15 56 15.4**	**+0.9**
PDAR	**Pinedale Array**	**14.07**	**89**	Pn	**Pn**	**15 56 33.0**	**+2.2**
	baz=279,slow=12,SNR=7.2						
PDAR				LR	LR	16 02 18.6	
	comp=N,77nm,20.9s,baz=294,slow=40						
	comp=N,1.3nm,1.0s						
PFO	**Pinyon Flats O**	**14.22**	**133**	LR	LR	16 01 04.0	
	comp=N,124nm,18.1s,baz=92,slow=33						
O20A	**White River Ci**	**15.77**	**97**	IAmb	IAmb	15 57 03.0	
	comp=Z,22nm,1.4s						
WUAZ	**Wupatki**	**15.90**	**117**	IAmb	IAmb	15 57 05.1	
	comp=Z,24nm,1.4s						
LAO	**LASA Array**	**16.08**	**73**	P	**P**	**15 57 01.6**	**+0.8**
MVCO	**Mesa Verde**	**16.87**	**107**	IAmb	IAmb	15 57 42.0	
	comp=Z,20nm,1.4s						
DGMT	**Dagmar**	**17.54**	**67**	P	**P**	**15 57 20.0**	**+3.0**
DGMT				IAmb	IAmb	15 57 22.8	
	comp=Z,11nm,0.8s						
ANMO	**Albuquerque**	**19.48**	**110**	P	**P**	**15 57 39.4**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=333,slow=14,SNR=3.3						
	comp=Z,2.8nm,1.0s						
T25A	**Trinidad**	**19.75**	**102**	IA

HHC pmax pmax
comp=Z,170nm,5.3s
LPAZ La Paz 81.65 122 P P 16 05 31.9 +1.4
comp=Z,1.5nm,0.7s,baz=1.1,slow=7.6,SNR=5.8
comp=Z,1.5nm,0.7s
KURBB Kurchatov Arra 82.69 343 P **P 16 05 33.9 -1.0**
comp=Z,0.2nm,0.3s,baz=17,slow=4.1,SNR=2.5
HNR Honiara 83.35 250 LR LR 16 34 46.3
comp=Z,30nm,21.3s,baz=40,slow=30
WMQ Urumqi 86.59 334 *eP* **P 16 05 52.3 -2.5**
WMQ pmax pmax
comp=Z,22nm,0.8s
PZH PanZhiHua 95.86 316 P **P 16 06 38.0 -0.4**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,5.2s

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*IDC **30** 15:58:47.8±1.1,2°.33S×138°.64E, h0km, mb3.7/4, mbtmp3.7/6, ML3.3/2, MS3.2/2, Error ellipse: s-maj=25.7km s-min=22.8km az=130.0*

ISC 30 15:58:52.5±1.1, 2°.4S±0°.2×138°.72E±0°.09, h32km, n7, σ0°40/7, mb3.7/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.99**	**93**	P	**Pn**	**15 59 24.2**	**+0.3**
	4.1nm,0.3s,baz=270,slow=12,SNR=22						
JAY				Sn	**Sb**	**15 59 52.2**	**-0.3**
	4.3nm,0.3s,baz=300,slow=20,SNR=2.3						
	15nm,0.5s						
WRA	**Warramunga Arr**	**17.94**	**193**	P	**Pn**	**16 02 59.8**	**+0.2**
	0.2nm,0.3s,baz=16,slow=12,SNR=8.3						
WRA				LR	LR	16 10 33.9	
	comp=Z,72nm,20.4s,baz=176,slow=39						
	0.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.18**	**219**	P	**P**	**16 03 24.0**	**-0.6**
	1.6nm,0.8s,baz=36,slow=14,SNR=1.8						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**21.63**	**192**	P	**P**	**16 03 40.4**	**+0.2**
	0.7nm,0.6s,baz=20,slow=9.2,SNR=16						
	0.7nm,0.6s						
USRK	**Ussuriysk Ar.**	**46.80**	**353**	LR	LR	16 25 27.6	
	comp=Z,35nm,19.2s,baz=113,slow=34						
BVAR	**Borovoye Array**	**79.08**	**325**	P	**P**	**16 10 53.8**	**+0.2**
	2.0nm,0.5s,baz=96,slow=7.2,SNR=14						
	2.0nm,0.5s						
ILAR	**Eielson Array**	**85.56**	**24**	P	**P**	**16 11 27.1**	**-0.2**
	0.4nm,0.7s,baz=256,slow=4.4,SNR=5.2						
	0.4nm,0.7s						

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*IDC **30** 16:02:21.9±1.1, 4°.28N×123°.31E, h565km±14km, mb2.9/8, mbtmp4.0/11, Error ellipse: s-maj=35.2km s-min=9.6km az=69.0*

ISC 30 16:02:20.8±0.7, 4°.19N±0°.08×123°.1E±0°.1, h550km, n17, σ1°04/21, mb3.3/8, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.77**	**41**	P	**P**	**16 03 41.7**	**+0.7**
	100nm,0.3s,baz=180,slow=5.1,SNR=4.3						
DAV				S	**S**	**16 04 46.9**	**+0.6**
	119nm,0.3s,baz=239,slow=5.9,SNR=1.6						
TOLI2	**Tolitoli**	**3.84**	**217**	P	**P**	**16 03 41.2**	**-0.3**
MYLDM	**Lahad Datu**	**4.70**	**282**	P	**P**	**16 03 49.2**	**+1.1**
LUWI	**Luwuk**	**5.21**	**184**	P	**P**	**16 03 52.5**	**+0.1**
SANI	**Sanana**	**6.83**	**155**	P	**P**	**16 04 05.6**	**-1.6**
KKM	**Kota Kinabalu**	**7.11**	**285**	P	**P**	**16 04 09.5**	**-0.4**
FAKI	**Fak Fak**	**11.54**	**128**	P	**P**	**16 04 54.6**	**-0.1**
BATI	**Baumata**	**14.31**	**178**	P	**P**	**16 05 24.6**	**+1.3**
	12nm,0.4s,baz=48,slow=22,SNR=3.1						
JAY	**Jayapura**	**18.80**	**110**	P	**P**	**16 06 06.5**	**+0.3**
	6.1nm,0.7s,baz=304,slow=15,SNR=1.7						
FITZ	**Fitzroy Crossi**	**22.28**	**174**	P	**P**	**16 06 38.5**	**+1.0**
	1.2nm,0.6s,baz=1.8,slow=9.8,SNR=1.7						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**26.40**	**156**	P	**P**	**16 07 14.5**	**+0.5**
	1.5nm,0.4s,baz=334,slow=10.0,SNR=36						
WRA				S	**S**	**16 11 06.8**	**-2.3**
	0.2nm,0.5s,baz=334,slow=16,SNR=5.4						
	1.5nm,0.4s						
ASAR	**Alice Springs**	**29.62**	**160**	P	**P**	**16 07 43.5**	**+1.4**
	0.7nm,0.3s,baz=339,slow=7.1,SNR=44						
ASAR				S	**S**	**16 11 59.0**	**-0.2**
	0.5nm,0.9s,baz=327,slow=12,SNR=6.0						
ASAR				ScP	**ScP**	**16 13 19.1**	**-0.4**
	0.2nm,0.5s,baz=343,slow=3.1,SNR=7.7						
	0.7nm,0.3s						
SONM	**Songino Array**	**45.80**	**344**	P	**P**	**16 09 53.7**	**+0.1**
	0.5nm,0.5s,baz=158,slow=10,SNR=1.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**55.16**	**327**	P	**P**	**16 11 01.8**	**+0.1**
	0.6nm,0.4s,baz=118,slow=8.7,SNR=8.4						
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**58.59**	**335**	P	**P**	**16 11 23.9**	**-1.1**
	0.4nm,0.3s,baz=151,slow=6.3,SNR=1.3						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**64.99**	**328**	P	**P**	**16 12 06.5**	**-0.2**
	0.4nm,0.4s,baz=142,slow=7.3,SNR=1.6						
	0.4nm,0.4s						
ILAR	**Eielson Array**	**86.25**	**25**	P	**P**	**16 14 02.4**	**-1.6**
	0.4nm,1.1s,baz=245,slow=5.8,SNR=2.1						
	0.4nm,1.1s						

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*IDC **30** 16:18:27.2±0.9, 2°.37S×140°.10E, h0km, mb3.7/7, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=15.2km s-min=8.4km az=7.0*

ISC 30 16:18:30.1±0.8, 2°.49S±0°.09×140°.4E±0°.1, h24km, n10, σ2°56/13, mb3.9/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**0.36**	**94**	Pg	**Pn**	**16 18 39.4**	**-0.4**
	428nm,0.3s,baz=263,slow=8.6,SNR=2414						
JAY				Lg	Lg	16 18 47.8	
	445nm,0.3s,baz=130,slow=19,SNR=14						
JAY				LR	LR	16 19 13.3	
	comp=Z,750nm,19.1s,baz=147,slow=74						
BATI	**Baumata**	**18.26**	**244**	P	**P**	**16 22 43.5**	**+1.4**
	12nm,0.9s,baz=61,slow=23,SNR=2.3						
WRA	**Warramunga Arr**	**18.31**	**198**	P	**Pn**	**16 22 43.7**	**+1.0**
	0.4nm,0.3s,baz=18,slow=12,SNR=24						
WRA				S	**Sn**	**16 26 00.7**	**-6.0**
	0.2nm,0.3s,baz=22,slow=23,SNR=5.1						
	4.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.18**	**222**	P	**P**	**16 23 13.9**	**-0.1**
	5.0nm,0.9s,baz=32,slow=8.2,SNR=7.4						
FITZ				S	**S**	**16 27 07.7**	**-0.8**
	2.1nm,0.7s,baz=56,slow=16,SNR=3.0						
	5.0nm,0.9s						
ASAR	**Alice Springs**	**21.96**	**196**	P	**P**	**16 23 23.2**	**+1.0**
	4.3nm,0.8s,baz=27,slow=9.9,SNR=54						
ASAR				S	**S**	**16 27 28.3**	**+4.6**
	0.7nm,0.9s,baz=16,slow=27,SNR=5.5						
	4.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.76**	**299**	P	**P**	**16 26 48.8**	**-1.3**
	0.4nm,0.8s,baz=102,slow=7.5,SNR=5.2						
	0.4nm,0.8s						
MKAR	**Makanchi Array**	**70.62**	**322**	P	**P**	**16 29 44.3**	**+0.6**
	1.1nm,0.9s,baz=100,slow=7.7,SNR=2.1						
	1.1nm,0.9s						
BVAR	**Borovoye Array**	**80.07**	**325**	P	**P**	**16 30 37.7**	**-0.1**
	0.4nm,0.5s,baz=120,slow=7.2,SNR=2.6						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**84.96**	**24**	P	**P**	**16 31 02.2**	**-0.8**
	0.3nm,0.8s,baz=273,slow=5.2,SNR=1.7						
	0.3nm,0.8s						
QSPA	**South Pole Qui**	**87.45**	**180**	P	**P**	**16 31 16.4**	**+0.9**
	1.4nm,1.1s,baz=9.0,slow=2.1,SNR=2.2						
	1.4nm,1.1s						

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*CATAC **30** 16:30:44.9±0.6, 13°.69N×90°.93W, h15km±4km, ML4.0*
*SNET **30** 16:30:45.9±1.2, 13°.88N×90°.87W, h74km±16km, ML3.9*
*GCG **30** 16:30:51.6±2.0, 14°.45N×90°.93W, h55km±30km, MD3.7*

ISC 30 16:30:44.6±1.7, 13°.77N±0°.06×90°.88W±0°.05, h7km±11km, n45, σ0°69/66, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.59**	**47**	*i* P	Pn	16 31 05.7	+6.1
ESSG	**Sabana Grande**	**0.62**	**5**	*i* P	**Pn**	**16 30 58.9**	**-1.0**
ESSG				*i* S	**Sn**	**16 31 09.4**	**-0.7**
ESSG				IAML		16 31 10.6	
	comp=Z,3μm,1.0s						
PCG	**Pacaya**	**0.68**	**23**	*i* P	**Pn**	**16 31 01.1**	**+0.2**
FUG	**Fuego 3**	**0.68**	**3**	*i* P	**Pn**	**16 31 00.9**	**+0.1**
SULM	**Suchitepequez,**	**0.85**	**309**	*i* P	**Pn**	**16 31 03.6**	**+0.6**
NBG	**Las Nubes**	**0.97**	**32**	*i* P	**Pn**	**16 31 05.2**	**+0.3**
CHTG	**Tecpan**	**0.99**	**354**	*i* P	**Pn**	**16 31 05.4**	**+0.1**
CHTG				*i* S	**Sn**	**16 31 19.0**	**-0.8**
CHTG				IAML		16 31 26.2	
	comp=Z,4μm,1.0s						
NUBE	**Las Nubes**	**1.08**	**83**	*eP*	**Pg**	**16 31 05.5**	**+0.2**
NUBE				*eS*	**Sb**	**16 31 20.7**	**+0.5**
NUBE	**Las Nubes**	**1.08**	**83**	*i* P	**Pg**	**16 31 05.3**	**-0.1**
NUBE				IAML		16 31 05.9	
	comp=Z,2μm,1.0s						
NUBE				*i* S	**Sb**	**16 31 20.7**	**+0.5**
LOAL	**Lomas de Alarc**	**1.10**	**78**	*eP*	**Pg**	**16 31 06.2**	**+0.5**
LOAL				*eS*	**Sb**	**16 31 21.3**	**+0.8**
LOAL	**Lomas de Alarc**	**1.10**	**78**	*i* P	**Pg**	**16 31 06.0**	**+0.3**
LOAL				IAML		16 31 06.3	
	comp=Z,8μm,1.0s						
LOAL				*i* S	**Sb**	**16 31 21.7**	**+1.2**
SLOZ	**Alcaldia de Sa**	**1.10**	**76**	*eP*	**Pg**	**16 31 06.2**	**+0.4**
SLOZ				*eS*	**Sb**	**16 31 21.9**	**+1.3**
STG3	**Santiaguito 3,**	**1.15**	**325**	*i* P	**Pb**	**16 31 06.8**	**-0.2**
SOKI	**Kika Raxquin**	**1.16**	**334**	*i* P	**Pb**	**16 31 07.4**	**+0.1**
SOKI				*i* S	**Sn**	**16 31 24.3**	**+0.2**
SOKI				IAML		16 31 27.2	
	comp=Z,2μm,1.0s						
RTR	**El Retiro**	**1.21**	**84**	*eP*	**Pg**	**16 31 07.5**	**-0.3**
CEVE	**Cerro Verde**	**1.23**	**87**	*i* P	**Pg**	**16 31 07.9**	**-0.3**
CEVE				*eS*	**Sn**	**16 31 26.1**	**+0.7**
CEVE				IAML		16 31 32.6	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**1.23**	**87**	IAML		16 31 08.2	
	comp=Z,2μm,1.0s						
CEVE				*i* P	**Pg**	**16 31 08.3**	**+0.1**
CEVE				*i* S	**Sb**	**16 31 25.5**	**+1.1**
SBLS	**San Blas**	**1.23**	**86**	*eP*	**Pg**	**16 31 07.5**	**-0.7**
JAYA	**Jayaque - finc**	**1.40**	**94**	*eP*	**Pn**	**16 31 09.9**	**-0.8**
JAYA				IAML		16 31 35.5	
	comp=Z,2μm,0.1s						
JAYA	**Jayaque - finc**	**1.40**	**94**	*i* P	**Pn**	**16 31 09.8**	**-0.9**
JAYA				*i* S	**Sb**	**16 31 29.2**	**-0.1**
JAYA				IAML		16 31 35.3	
	comp=Z,4μm,1.0s						
PMON	**Piamonte**	**1.53**	**92**	*eP*	**Pn**	**16 31 11.8**	**-0.7**
PMON				*eS*	**Sn**	**16 31 31.4**	**-1.3**
PMON	**Piamonte**	**1.53**	**92**	*i* P	**Pn**	**16 31 11.9**	**-0.5**
PMON				*i* S	**Sn**	**16 31 33.4**	**+0.8**
PMON				IAML		16 31 41.2	
	comp=Z,2μm,1.0s						
QUIS	**Sacapulas**	**1.53**	**352**	*i* P	**Pn**	**16 31 12.3**	**-0.2**
QUIS				*i* S	**Sg**	**16 31 33.8**	**-0.1**
QUIS				IAML		16 31 39.1	
	comp=Z,460nm,1.0s						
LALI	**Alcalda de L**	**1.54**	**100**	*eP*	**Pn**	**16 31 12.4**	**-0.2**
BOQS	**Boqueron**	**1.56**	**91**	*eP*	**Pn**	**16 31 12.7**	**-0.3**
PIC2	**El Picacho**	**1.58**	**91**	*eP*	**Pn**	**16 31 12.5**	**-0.8**
SMCA	**Catarina**	**1.58**	**313**	*i* P	**Pn**	**16 31 12.7**	**-0.4**
SMCA				*i* S	**Sn**	**16 31 33.0**	**-0.9**
SMCA				IAML		16 31 47.7	
	comp=Z,520nm,1.0s						
MTO3	**Montecristo**	**1.61**	**67**	||*i* P	**Pn**	**16 31 11.9**	**-1.7**
MTO3	**Montecristo**	**1.61**	**67**	*i* P	**Pn**	**16 31 13.0**	**-0.6**
MTO3				IAML		16 31 15.2	
	comp=Z,150nm,1.0s						
MTO3				*i* S	**Sn**	**16 31 34.7**	**-0.1**
LOMA	**Loma Larga**	**1.67**	**94**	*eP*	**Pn**	**16 31 14.3**	**-0.1**
ESQI	**Esquipulas**	**1.69**	**62**	*eP*	**Pn**	**16 31 13.3**	**-1.4**
MRL	**Marmol**	**1.75**	**42**	*i* P	**Pn**	**16 31 14.8**	**-0.8**
LFRS	**El Faro**	**1.78**	**94**	*eP*	**Pn**	**16 31 15.9**	**0.0**
PAVA	**Las Pavas**	**1.89**	**91**	*eP*	**Pn**	**16 31 17.1**	**-0.4**
PAVA	**Las Pavas**	**1.89**	**91**	*i* P	**Pn**	**16 31 16.4**	**-1.1**
PAVA				*i* S	**Sn**	**16 31 41.5**	**-0.2**
PAVA				IAML		16 31 55.3	
	comp=Z,740nm,1.0s						
COEG	**Centro de Oper**	**1.95**	**94**	*eP*	**Pn**	**16 31 17.9**	**-0.4**
COEG				IAML		16 31 49.3	
	comp=Z,414nm,0.4s						
COEG	**Centro de Oper**	**1.95**	**94**	*i* P	**Pn**	**16 31 17.9**	**-0.4**
COEG				IAML		16 31 19.9	
	comp=Z,530nm,1.0s						
COEG				*i* S	**Sn**	**16 31 43.4**	**+0.3**
SCLA	**Alcaldia de Sa**	**2.10**	**91**	*eP*	**Pn**	**16 31 19.5**	**-0.7**
TECA	**Tecapa**	**2.33**	**96**	*eP*	**Pn**	**16 31 22.8**	**-0.8**
PACA	**Pacayal**	**2.51**	**96**	*i* P	**Pn**	**16 31 26.2**	**+0.2**
PACA				*i* S	**Sn**	**16 31 57.9**	**+1.0**
PACA				IAML		16 32 11.6	
	comp=Z,3μm,1.0s						
RANC	**El Ranchito**	**2.54**	**97**	*i* P	**Pn**	**16 31 25.1**	**-1.4**
RANC				*i* S	**Sn**	**16 31 57.7**	**-0.1**
RANC				IAML		16 32 09.6	
	comp=Z,400nm,1.0s						
LCND	**La Caada**	**2.95**	**99**	*eP*	**Pn**	**16 31 31.0**	**-0.9**
CNCH	**Conchagua**	**3.01**	**99**	*eP*	**Pn**	**16 31 32.1**	**-0.7**
CNCH	**Conchagua**	**3.01**	**99**	*i* P	**Pn**	**16 31 32.6**	**-0.2**
CNCH				*i* S	**Sn**	**16 32 09.4**	**+0.2**
CNCH				IAML		16 32 25.7	
	comp=Z,920nm,1.0s						
PKGN	**Cerro Pekin**	**3.96**	**106**	*i* P	**Pn**	**16 31 45.6**	**-0.2**
PKGN				*i* S	**Sn**	**16 32 32.5**	**0.0**
PKGN				IAML		16 32 44.2	
	comp=Z,710nm,1.0s						

IDC 30 16:31:46.4±5.9, 24°.46S×175°.82W, h0km, mb3.8/3, mbtmp3.8/4, ML4.8/1, MS3.2/1, Error ellipse: s-maj=118.1km s-min=61.6km az=89.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.80**	**318**	Pn	Pn	16 33 55.6	+0.6
	0.4nm,0.3s,baz=134,slow=12,SNR=3.9						
MSVF				LR	LR	16 37 10.6	
	comp=Z,135nm,18.3s,baz=32,slow=37						
	7.3nm,0.9s						
ASAR	**Alice Springs**	**45.71**	**260**	P	P	16 40 09.6	0.0
	0.3nm,0.5s,baz=94,slow=7.2,SNR=13						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**46.17**	**265**	P	P	16 40 12.6	-0.7
	1.3nm,0.7s,baz=103,slow=8.0,SNR=10						
	1.3nm,0.7s						
H03S2	**Juan Fernandez**	**82.11**	**123**	T	T	18 14 04.8	
	baz=242,slow=74,SNR=10.0						
H03S1	**Juan Fernandez**	**82.13**	**123**	T	T	18 14 06.0	
	baz=242,slow=74,SNR=8.8						
H03S3	**Juan Fernandez**	**82.13**	**123**	T	T	18 14 04.8	
	baz=242,slow=74,SNR=8.7						
CMAR	**Chiang Mai Arr**	**93.31**	**289**	P	P	16 45 03.9	+0.2
	0.5nm,0.8s,baz=126,slow=2.3,SNR=4.5						
	0.5nm,0.8s						
H10N3	**ASCENSION HYDR**	**143.08**	**148**	T	T	19 30 21.5	
	baz=203,slow=75,SNR=5.7						
H10N1	**ASCENSION HYDR**	**143.09**	**148**	T	T	19 30 13.8	
	baz=203,slow=75,SNR=6.2						
H10N2	**ASCENSION HYDR**	**143.10**	**148**	T	T	19 30 25.5	
	baz=203,slow=75,SNR=6.0						

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*GUC **30** 16:34:34.2±0.7, 20°.03S×69°.21W, h94km±3km, ML3.8*
*IDC **30** 16:34:37.7±3.7, 20°.01S×68°.71W, h129km±28km, mb3.6/2, mbtmp4.0/5, Error ellipse: s-maj=37.9km s-min=21.7km az=48.0*

ISC 30 16:34:33.8±0.8, 20°.01S±0°.04×69°.13W±0°.06, h92km±7km, n22, σ2°19/32, 1C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.34**	**350**	||*i* P	**Pn**	**16 34 49.5**	**+1.2**
GO01				*eS*	**Sn**	**16 35 01.0**	**+2.0**
PX03	**IPOC Station P**	**0.61**	**230**	*eP*	**Pn**	**16 34 49.3**	**-0.5**
PX03				*eS*	**Sn**	**16 35 01.8**	**+0.1**
PX03				IAML		16 35 08.7	
	comp=N,4μm,0.3s						
HMBC	**Humberstone**	**0.76**	**249**	||*i* P	**Pn**	**16 34 51.4**	**+0.2**
HMBC				*eS*	**Sn**	**16 35 04.5**	**+0.4**
HMBC				IAML		16 35 07.5	
	comp=N,5μm,0.2s						
TA02	**Huaiquique**	**0.97**	**254**	*eP*	**Pn**	**16 34 53.9**	**+0.6**
TA02				*eS*	**Sn**	**16 35 09.0**	**+1.1**
TA02				IAML		16 35 13.2	
PB01	**IPOC Station P**	**1.08**	**198**	||*i* P	**Pn**	**16 34 55.1**	**+0.4**
PB01				*eS*	**Sn**	**16 35 11.0**	**+0.6**
PB01				IAML		16 35 11.8	
	comp=E,2μm,0.3s						
TA01	**Diego Aracena**	**1.13**	**240**	||*i* P	**Pn**	**16 34 55.1**	**0.0**
TA01				*eS*	**Sn**	**16 35 10.8**	**-0.3**
TA01				IAML		16 35 15.4	
	comp=E,4μm,0.2s						
PX02	**IPOC Station P**	**1.45**	**316**	*eP*	**Pn**	**16 34 59.2**	**+0.1**
PX02				*eS*	**Sn**	**16 35 18.6**	**+0.5**
PX02				IAML		16 35 23.7	
	comp=N,1μm,0.3s						
PB09	**IPOC Station P**	**1.78**	**183**	*i* P	**Pn**	**16 35 04.3**	**+0.9**
PB09				*eS*	**Sn**	**16 35 27.2**	**+1.3**
PB09				IAML		16 35 32.7	
	comp=E,855nm,0.3s						
AP01	**Chacalluta**	**1.99**	**325**	||*i* P	**Pn**	**16 35 06.8**	**+0.9**
AP01				*eS*	**Sn**	**16 35 31.1**	**+0.7**
PB18	**Visviri**	**2.43**	**352**	*eP*	**Pn**	**16 35 15.8**	**+3.6**
PB04	**IPOC Station P**	**2.50**	**202**	*eP*	**Pn**	**16 35 14.0**	**+1.2**
PB04				IAML		16 35 53.7	
	comp=N,919nm,0.3s						
LPAZ	**La Paz**	**3.82**	**15**	P	**Pn**	**16 35 34.5**	**+3.4**
	comp=N,33nm,0.5s,baz=188,slow=6.8,SNR=142						
LPAZ				S	**Sn**	**16 36 19.6**	**+4.4**
	comp=N,11nm,0.6s,baz=234,slow=8.2,SNR=1.6						
YJA	**Yavi**	**4.01**	**123**	*eP*	**Pn**	**16 35 36.5**	**+3.1**
YJA				*eS*	**Sn**	**16 36 24.6**	**+5.1**
PB14	**IPOC Station P**	**4.75**	**194**	*eP*	Pn	16 35 48.2	+4.9
PB14				*i* S	Sn	16 36 48.6	+11
SIV	**San Ignacio**	**8.65**	**64**	P	**Pn**	**16 36 34.9**	**-1.3**
	comp=N,5.6nm,0.5s,baz=250,slow=10,SNR=30						
SIV				S	**Sn**	**16 38 06.5**	**-5.6**
	comp=N,1.3nm,0.7s,baz=329,slow=21,SNR=1.6						
CPUP	**Villa Florida**	**12.54**	**122**	P	**Pn**	**16 37 27.8**	**-1.2**
	comp=N,3.3nm,0.8s,baz=305,slow=12,SNR=8.3						
TORD	**Torodi Ar. Bea**	**77.06**	**71**	P	**P**	**16 46 15.4**	**-2.0**
	comp=N,0.4nm,0.4s,baz=254,slow=5.0,SNR=7.6						
	comp=N,0.4nm,0.4s						
YKA	**Yellowknife Ar**	**89.72**	**341**	P	**P**	**16 47 20.9**	**-0.3**
	comp=N,1.1nm,0.8s,baz=139,slow=4.3,SNR=15						
	comp=N,1.1nm,0.8s						
ASAR	**Alice Springs**	**131.12**	**208**	PKP	**PKPdf**	**16 53 34.9**	**-0.9**
	comp=N,0.2nm,0.7s,baz=139,slow=1.7,SNR=5.5						
WRA	**Warramunga Arr**	**134.12**	**211**	PKP	**PKPdf**	**16 53 40.1**	**-1.4**
	comp=N,0.3nm,0.7s,baz=150,slow=1.9,SNR=2.3						
MKAR	**Makanchi Array**	**144.54**	**35**	PKP	PKPbc	16 53 57.8	-0.6
	comp=N,0.4nm,0.6s,baz=322,slow=2.7,SNR=5.2						
SONM	**Songino Array**	**152.00**	**6**	PKPbc	**PKPbc**	**16 54 17.9**	**-0.5**
	comp=N,0.4nm,0.4s,baz=3.8,slow=4.3,SNR=4.5						

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*NEIC **30** 16:34:36.9±1.4, 42°.68N±0°.01×111°.04W±0°.02, h5km±1km, ML3.1/84, ML3.2/14(UUSS), Error ellipse: s-maj=2.3km s-min=2.1km az=87.0*
*IDC **30** 16:34:36.6±0.9, 42°.64N×111°.03W, h0km, mb3.3/1, mbtmp3.0/5, ML2.8/4, Error ellipse: s-maj=18.3km s-min=6.0km az=162.0*
*UUSS **30** 16:34:37.7±0.9, 42°.68N±0°.01×111°.07W±0°.03, h7km±4km, Error ellipse: s-maj=2.7km s-min=1.7km az=97.0*

ISC 30 16:34:37.2±1.0, 42°.68N±0°.02×111°.02W±0°.03, h5km±8km, n57, σ0°84/55, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHID	**Auburn Hatcher**	**0.11**	**326**		**Pg**	**16 34 39.6**	**0.0**
AHID				Sg	**Sg**	**16 34 41.9**	**+0.7**
GRRI	**Grays Lake**	**0.39**	**312**		**Pg**	**16 34 44.7**	**-0.2**
L17A	**Cokeville**	**0.59**	**169**		**Pg**	**16 34 48.7**	**+0.3**
L17A					**Sg**	**16 34 57.2**	**+1.1**
BEI	**Bear River Ran**	**0.80**	**225**		**Pg**	**16 34 52.2**	**-0.3**
SNOW	**Snow King Moun**	**0.81**	**14**		**Pg**	**16 34 53.0**	**+0.3**
SNOW				IAML		16 35 06.9	
	786nm,0.5s						
SNOW				IAML		16 35 09.3	
	739nm,0.5s						
TPAW	**Teton Pass**	**0.81**	**4**		**Pg**	**16 34 52.4**	**-0.4**
TPAW				IAML		16 35 06.1	
	1μm,0.2s						
TPAW				IAML		16 35 07.7	
	764nm,0.4s						
FXWY	**Fox Creek**	**0.96**	**360**		**Pg**	**16 34 55.3**	**-0.3**
FXWY				Sg	**Sb**	**16 35 08.6**	**-1.0**
LOHW	**Long Hollow**	**0.98**	**18**		**Pb**	**16 34 56.2**	**-0.6**
LOHW				Sg	**Sb**	**16 35 09.3**	**-0.9**
LOHW				IAML		16 35 10.2	
	935nm,0.3s						
HDU	**Hyde Park**	**1.03**	**213**		**Pg**	**16 34 56.9**	**-0.1**
MLI	**Malad Range**	**1.05**	**232**		**Pg**	**16 34 56.9**	**-0.3**
PD31	**Pinedale Array**	**1.08**	**85**		**Pg**	**16 34 56.8**	**-1.2**
PDAR	**Pinedale Array**	**1.08**	**85**		**Pg**	**16 34 56.7**	**-1.2**
PDAR	**Pinedale Array**	**1.08**	**85**	Pg	**Pg**	**16 34 57.9**	**0.0**
	31nm,0.3s,baz=262,slow=14,SNR=447						
PDAR				Lg	Lg	16 35 11.7	
	22nm,0.3s,baz=262,slow=19,SNR=3.4						
MOOW	**Moose Ponds**	**1.09**	**11**		**Pg**	**16 34 57.6**	**-0.5**
HWUT	**Hardware Ranch**	**1.14**	**201**		**Pg**	**16 34 58.2**	**-0.9**
HWUT				IAML		16 35 22.2	
	316nm,0.7s						
PTU	**Portage**	**1.22**	**233**		**Pg**	**16 34 59.5**	**-1.1**
NPI	**North Pocatell**	**1.23**	**245**		**Pg**	**16 34 59.6**	**-1.2**
MCU	**Monte Cristo P**	**1.27**	**197**		**Pg**	**16 35 01.0**	**-0.5**
WVUT	**Wellsville**	**1.27**	**214**		**Pg**	**16 35 01.2**	**-0.3**
LTU	**Little Mountai**	**1.42**	**220**		**Pn**	**16 35 03.1**	**-0.6**
FLWY	**Flagg Ranch**	**1.42**	**9**		**Pn**	**16 35 03.5**	**-0.4**
FLWY				IAML		16 35 29.1	
	264nm,0.8s						
FLWY				IAML	

	comp=E,41nm,1.1s					
DLMT	**Dillon**	**2.92 338**		**Pn**	**16 35 23.2**	**-1.1**
DLMT			IAML		16 36 10.8	
	comp=E,38nm,0.9s					
DLMT			IAML		16 36 13.5	
	comp=E,52nm,1.2s					
BOZ	**Bozeman (W)**	**2.95 352**	IAML		16 36 10.2	
	comp=E,31nm,1.1s					
P18A	**Preston Nutter**	**3.10 169**	IAML		16 36 07.5	
	comp=E,69nm,0.7s					
P18A			IAML		16 36 13.4	
	comp=N,67nm,1.1s					
O20A	**White River Ci**	**3.29 140**	Pn	**Pn**	**16 35 28.6**	**-0.8**
TMUT	**Trail Mountain**	**3.38 182**	IAML		16 36 34.5	
	comp=N,54nm,0.7s					
TMUT			IAML		16 36 41.5	
	comp=E,63nm,0.7s					
SRU	**San Rafael Swe**	**3.58 174**	IAML		16 36 48.6	
	comp=E,62nm,1.0s					
ELK	**Elko**	**3.70 240**		**Pn**	**16 35 35.2**	**0.0**
ELK	**Elko**	**3.70 240**	Pn	**Pn**	**16 35 35.5**	**+0.4**
	comp=E,0.4nm,0.3s,baz=59,slow=8.1,SNR=8.3					
ELK			Sn	**Sn**	**16 36 20.1**	**+0.8**
	comp=E,0.4nm,0.3s,baz=14,slow=19,SNR=1.1					
ELK			Lg	Lg	16 36 31.6	
	comp=E,1.4nm,0.3s,baz=108,slow=3.4,SNR=4.2					
	comp=E,1.5nm,0.5s					
N23A	**Red Feather La**	**4.19 113**		**Pn**	**16 35 43.3**	**+1.3**
SPR3	**Spring Creek 3**	**4.45 215**	IAML		16 37 34.1	
	comp=N,12nm,4.9s					
RSSD	**Black Hills**	**5.29 72**		**Pn**	**16 35 56.4**	**-0.6**
NVAR	**Mina Array Bea**	**6.98 235**	Pn	**Pn**	**16 36 21.2**	**+1.0**
	comp=N,0.3nm,0.3s,baz=50,slow=14,SNR=2.1					
NVAR			Lg	Lg	16 38 14.7	
	comp=N,0.1nm,0.3s,baz=51,slow=24,SNR=1.8					
	comp=N,0.3nm,0.3s					
NEW	**Newport**	**7.04 325**	Lg	Lg	16 38 15.1	
	comp=N,0.6nm,0.3s,baz=60,slow=15,SNR=4.5					
ANMO	**Albuquerque**	**8.50 154**	Pn	**Pn**	**16 36 42.3**	**+1.3**
	comp=N,0.1nm,0.3s,baz=294,slow=16,SNR=1.9					
ANMO			Lg	Lg	16 39 07.4	
	comp=N,0.1nm,0.3s,baz=56,slow=20,SNR=2.1					
	comp=N,0.5nm,0.4s					
YKA	**Yellowknife Ar**	**19.96 355**	P	**Pn**	**16 39 10.7**	**-0.8**
	baz=164,slow=12,SNR=1.9					
	comp=N,0.2nm,0.6s					
ILAR	**Eielson Array**	**29.96 330**	P	**P**	**16 40 47.9**	**+1.9**
	comp=N,0.2nm,0.5s,baz=129,slow=8.7,SNR=2.2					
	comp=N,0.2nm,0.5s					

*BER **30** 16:44:34.8±2.8, 80°.20N×0°.65W, h13km±24km, mb(Pn)3.6, ML2.1(DNK), Confirmed Earthquake*
*DNK **30** 16:44:35.1±2.3, 80°.20N×0°.06E, h35km±30km, ML2.1*
*FCIAR **30** 16:44:35.0, 80°.22N×1°.91E, h10km, station ZFI2 has station magnitude of 3.90*
*KOLA **30** 16:44:37.7, 80°.59N×3°.31E, h0km, ML2.2, Error ellipse: s-maj=127.4km s-min=43.4km az=30.0, Greenland sea*

ISC 30 16:44:28.9±0.9, 80°.17N±0°.07×0°.73E±0°.05, h18km, n24, σ2°.9 09/38, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**2.39**	**116**	P	**Pg**	**16 45 13.0**	**-1.7**
KBS				S	**Sb**	**16 45 41.4**	**+1.0**
KBS	**Kingsbay**	**2.39**	**116**	*e*P	**Pg**	**16 45 13.9**	**-0.7**
KBS				IAML		16 45 44.1	
	comp=Z,20nm,0.2s						
KBS	**Kingsbay**	**2.39**	**116**	*e*P	**Pb**	**16 45 12.0**	**+0.7**
KBS				*e*S	**Sb**	**16 45 39.6**	**-0.8**
KBS	**Kingsbay**	**2.39**	**116**	*i* P	**Pg**	**16 45 12.5**	**-2.1**
KBS				*i* S	**Sb**	**16 45 41.3**	**+0.9**
NOR	**Nord**	**3.11**	**306**	*i* P	**Pn**	**16 45 19.3**	**+2.4**
NOR				*i* S	**Sn**	**16 45 52.0**	**-1.5**
NOR				IAML		16 46 03.7	
	comp=Z,5.2nm,0.3s						
NOR	**Nord**	**3.11**	**306**	*i* P	**Pn**	**16 45 19.3**	**+2.4**
NOR				*i* S	**Sn**	**16 45 52.0**	**-1.5**
NOR				IAML		16 46 03.7	
	comp=Z,5.2nm,0.3s						
BRBB	**Barentsburg B**	**3.29**	**122**	P	**Pb**	**16 45 28.2**	**+1.7**
BRBB				S	**Sb**	**16 46 05.0**	**-1.1**
BRBB	**Barentsburg B**	**3.29**	**122**	*e*P	**Pb**	**16 45 28.2**	**+1.7**
BRBB				*e*S	**Sb**	**16 46 06.1**	**0.0**
BRBA	**Barentsburg A**	**3.31**	**123**	*e*P	**Pb**	**16 45 28.7**	**+1.7**
BRBA				*e*S	**Sb**	**16 46 06.1**	**-0.8**
BRBA				IAML		16 46 09.4	
	comp=Z,21nm,0.3s						
SPA0	**Spitsbergen Ar**	**3.55**	**116**	*e*P	**Pb**	**16 45 30.8**	**-0.2**
SPA0				*e*S	**Sb**	**16 46 10.9**	**-2.9**
SPA0				IAML		16 46 15.4	
	comp=Z,16nm,0.4s						
SPA0	**Spitsbergen Ar**	**3.55**	**116**	*e*P	**Pb**	**16 45 30.5**	**-0.6**
SPA0				*e*S	**Sb**	**16 46 09.9**	**-3.9**
SPITS	**Spitsbergen Ar**	**3.55**	**116**	P	**Pb**	**16 45 30.8**	**-0.2**
SPITS				S	**Sb**	**16 46 10.8**	**-2.9**
HSPB	**Hornsund (broa**	**4.32**	**130**	*e*P	**Pb**	**16 45 41.4**	**-2.7**
HSPB				*e*S	**Sb**	**16 46 31.1**	**-4.6**
HSPB				IAML		16 46 32.0	
	comp=Z,16nm,0.3s						
DAG	**Danmarks Havn**	**5.14**	**239**	*e*	**Pn**	**16 45 45.3**	**+0.6**
	baz=48,slow=14						
DAG				*i* P	**Pn**	**16 45 46.5**	**+1.8**
DAG				*i*		16 46 38.2	
DAG				IAML		16 46 43.9	
	comp=Z,13nm,0.3s						
DAG	**Danmarks Havn**	**5.14**	**239**	*e*	**Pn**	**16 45 45.3**	**+0.6**
	baz=48,slow=14						
DAG				*i* P	**Pn**	**16 45 46.5**	**+1.8**
DAG				*i*		16 46 38.2	
DAG				IAML		16 46 43.9	
	comp=Z,13nm,0.3s						
HOPEN	**Hopen**	**6.08**	**114**	*e*S	**Sn**	**16 47 12.9**	**+6.3**
DBG	**Daneborg**	**7.42**	**229**	*i* P	**Pn**	**16 46 17.7**	**+1.7**
DBG				IAML		16 47 36.4	
	comp=Z,12nm,0.3s						
DBG	**Daneborg**	**7.42**	**229**	*i* P	**Pn**	**16 46 17.7**	**+1.7**
DBG				IAML		16 47 36.4	
	comp=Z,12nm,0.3s						
ZFI2	**Zemlya Franca-**	**7.62**	**62**	*e*P	Pn	16 46 26.2	+7.5
ZFI2				*e*S	**Sn**	**16 47 46.0**	**+1.7**
	comp=Z,36nm,2.8s						
OMEGA	**Omega**	**7.64**	**63**	*e*P	Pn	16 46 26.4	+7.4
OMEGA				S	**Sn**	**16 47 45.7**	**+0.9**
NEEM	**North Greenlan**	**10.10**	**281**	*i* P	**Pn**	**16 46 53.3**	**+0.4**
NEEM				IAML		16 48 42.8	
	comp=Z,3.0nm,0.4s						
NEEM	**North Greenlan**	**10.10**	**281**	*i* P	**Pn**	**16 46 53.3**	**+0.4**
NEEM				IAML		16 48 42.8	
	comp=Z,3.0nm,0.4s						
SUMG	**Summit**	**11.63**	**251**	*i* P	**Pn**	**16 47 13.9**	**0.0**
SUMG	**Summit**	**11.63**	**251**	*i* P	**Pn**	**16 47 13.9**	**0.0**

RSNC 30 16:54:07.3±0.0, 13°N±1°×8°1W±°, h0km±1km, M3.4, mb4.3, ML3.4, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.23**	**304**	P	Pg	16 54 13.3	+1.6
PRVC				S	Sg	16 54 17.6	+3.0
SAIC	**Isla e San And**	**0.88**	**217**	P	Pg	16 54 24.7	+0.4
SAIC				S	Sb	16 54 38.3	+0.4
RNCC	**Cayo Roncador,**	**1.10**	**73**	P	Pg	16 54 27.9	-0.5
RNCC				S	Sb	16 54 43.5	-0.6
SERC	**Banco Serrana,**	**1.29**	**37**	P	Pg	16 54 30.9	-1.2
SERC				S	Sg	16 54 48.9	0.0
ACON	**Acoyapa**	**4.11**	**252**	P	Pn	16 55 10.9	-0.5
BCIP	**Isla Barro Col**	**4.26**	**162**	P	Pn	16 55 09.2	-4.3
BCIP				S	Sn	16 55 58.2	-5.8
JTS	**Las Juntas de**	**4.73**	**232**	P	Pn	16 55 19.9	-0.1
TGUH	**Tegucigalpa,Un**	**5.99**	**278**	P	Pn	16 55 36.5	-0.9
	47nm,0.7s						
LCBC	**Los crdobas,**	**6.42**	**132**	P	Pn	16 55 42.7	-0.5
	73nm,1.6s						
LCBC				S	Sn	16 56 55.5	-1.9
	73nm,1.6s						
SJCC	**San Jacinto, C**	**6.75**	**119**	P	Pn	16 55 44.5	-3.3
	9.7nm,1.3s						
SJCC				S	Sn	16 56 57.1	-8.4
	9.7nm,1.3s						
APAC	**Apartado, Choc**	**6.97**	**139**	P	Pn	16 55 50.0	-0.8
ZARC	**Zaragoza, Cauc**	**8.44**	**132**	P	Pn	16 56 09.2	-1.8

*TEH **30** 17:02:56.8, 38°.92N×48°.73E, h19km±30km, ML3.1*
*AZER **30** 17:02:58.8, 38°.91N×48°.63E, h20km, ml3.1*
*TIF **30** 17:02:59.5, 39°.02N×48°.60E, h14km±2km*

ISC 30 17:02:59.5±0.9, 38°.92N±0°.02×48°.61E±0°.03, h15km±7km, n44, σ1°.47/76, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKRN	**Lenkeran, Azer**	**0.25**	**147**	P	**Pg**	**17 03 06.6**	**+1.6**
LKRN				S	**Sg**	**17 03 11.9**	**+3.2**
YRD	**Yardimli**	**0.29**	**270**	P	**Pb**	**17 03 07.8**	**+1.3**
YRD				S	**Sb**	**17 03 13.7**	**+2.6**
LRK	**Lerik**	**0.35**	**217**	P	**Pb**	**17 03 08.6**	**+1.1**
LRK				S	**Sb**	**17 03 15.4**	**+2.6**
GLBA	**Clilabad**	**0.36**	**333**	Pg	**Pg**	**17 03 05.5**	**-1.5**
GLBA	**Clilabad**	**0.36**	**333**	P	**Pb**	**17 03 08.5**	**+0.8**
GLBA				S	**Sb**	**17 03 15.6**	**+2.4**
ASTR	**Astara**	**0.39**	**158**	P	**Pb**	**17 03 08.3**	**+0.2**
ASTR				S	**Sb**	**17 03 14.9**	**+1.2**
GAS1	**Astara - Iran**	**0.56**	**161**	Pg	**Pg**	**17 03 07.8**	**-2.8**
GRMI	**Germi**	**0.57**	**259**	Pg	**Pg**	**17 03 08.7**	**-2.1**
SAAT	**Saatly**	**0.95**	**351**	P	**Pb**	**17 03 17.9**	**+0.2**
SAAT				S	**Sn**	**17 03 32.6**	**+1.1**
ALIB	**&AumIli-Bayram**	**1.08**	**16**	P	**Pn**	**17 03 21.1**	**+1.0**
ALIB				S	**Sn**	**17 03 36.8**	**+2.0**
QRD	**Qoradiz**	**1.14**	**299**	P	**Pg**	**17 03 20.1**	**-1.4**
QRD				S	**Sg**	**17 03 35.6**	**-0.8**
BLQ	**Beylaqan**	**1.14**	**315**	P	**Pg**	**17 03 20.1**	**-1.5**
BLQ				S	**Sb**	**17 03 36.1**	**+0.5**
ISRB	**Sarab**	**1.32**	**214**	Pg	**Pg**	**17 03 22.9**	**-2.1**
CSN1	**Caspian**	**1.41**	**164**	Pg	**Pn**	**17 03 22.7**	**-1.8**
KDMR	**Kurdemir**	**1.49**	**347**	Pn	**Pn**	**17 03 25.6**	**-0.2**
KDMR				Sn	**Sn**	**17 03 45.5**	**+0.6**
ZRD	**Zardab**	**1.53**	**333**	Pn	**Pn**	**17 03 26.5**	**+0.2**
ZRD				Sn	**Sg**	**17 03 48.3**	**-0.7**
GBS	**Qobustan**	**1.63**	**9**	Pg	**Pb**	**17 03 29.5**	**+0.1**
GBS				Sn	**Sg**	**17 03 51.6**	**-0.6**
AGDM	**Agdam**	**1.66**	**316**	Pn	**Pn**	**17 03 28.5**	**+0.4**
AGDM				Sn	**Sb**	**17 03 51.0**	**+0.4**
BRDA	**Brd**	**1.74**	**321**	Pn	**Pb**	**17 03 30.4**	**-0.7**
BRDA				Sn	**Sg**	**17 03 54.2**	**-1.3**
PQL	**Pirkuli**	**1.87**	**360**	Pn	**Pb**	**17 03 32.7**	**-0.7**
PQL				Sn	**Sb**	**17 03 57.5**	**+0.9**
IML	**Ismayilli**	**1.90**	**350**	Pn	**Pb**	**17 03 32.5**	**+0.8**
IML				Sn	**Sb**	**17 03 58.3**	**+0.8**
IHSH	**Hashtrud**	**1.93**	**214**	Pn	**Pn**	**17 03 32.5**	**+0.4**
ATGJ	**Altiaghaj**	**1.96**	**7**	Pn	**Pn**	**17 03 33.5**	**+1.2**
ATGJ				Sn	**Sg**	**17 04 01.1**	**-1.5**
ORD	**Ordubad**	**2.04**	**271**	Pn	**Pn**	**17 03 34.0**	**+0.7**
ORD				Sn	**Sb**	**17 04 01.6**	**+0.1**
QBL	**Gabala**	**2.11**	**344**	Pn	**Pn**	**17 03 34.6**	**+0.3**
QBL				Sn	**Sn**	**17 04 01.3**	**+1.1**
SIZA	**Siyzn**	**2.17**	**6**	Pg	**Pb**	**17 03 38.2**	**-0.3**
SIZA				Sg	**Sg**	**17 04 07.4**	**-1.9**
MNGR	**Mingechevir, A**	**2.19**	**328**	Pg	**Pb**	**17 03 38.6**	**-0.2**
MNGR				Sn	**Sb**	**17 04 05.3**	**-0.5**
IMRD	**Marand**	**2.28**	**266**	Pn	**Pn**	**17 03 37.7**	**+1.0**
XNQ	**Khinaliq**	**2.28**	**351**	Pn	**Pn**	**17 03 36.9**	**+0.2**
XNQ				Sn	**Sn**	**17 04 07.4**	**+2.7**
JIR1	**Jirandeh**	**2.40**	**156**	Pn	**Pn**	**17 03 36.2**	**-2.2**
SBZ	**Shahbuz**	**2.42**	**282**	Pg	**Pb**	**17 03 42.6**	**-0.3**
SBZ				Sn	**Sb**	**17 04 12.7**	**+0.1**
QUBA	**Quba, Azerbaij**	**2.44**	**358**	Pn	**Pb**	**17 03 38.7**	**-0.1**
QUBA				Sg	**Sb**	**17 04 14.9**	**+2.0**
NAX	**Nakhchivan**	**2.44**	**277**	Pn	**Pn**	**17 03 40.1**	**+1.3**
NAX				Sn	**Sb**	**17 04 12.0**	**-0.9**
SEKA	**Sheki**	**2.53**	**335**	Pn	**Pn**	**17 03 39.8**	**-0.3**
SEKA				Sn	**Sn**	**17 04 11.5**	**+0.9**
QSAR	**Qusar**	**2.61**	**354**	Pn	**Pn**	**17 03 39.7**	**-1.4**
QSAR				Sn	**Sn**	**17 04 14.6**	**+2.1**
GDB	**GEDABAY**	**2.84**	**310**	Pn	**Pn**	**17 03 45.1**	**+0.7**
GDB				Sn	**Sn**	**17 04 21.6**	**+3.2**
VSHL	**Vashlovani**	**2.86**	**324**	P	**Pn**	**17 03 45.6**	**+1.0**
VSHL				S	**Sn**	**17 04 21.3**	**+2.4**
HYR	**Heyderabad**	**3.02**	**287**	Pg	**Pb**	**17 03 52.9**	**-0.1**
HYR				Sg	**Sg**	**17 04 33.8**	**-2.8**
KLST	**Kelardasht - M**	**3.09**	**140**	Pn	**Pn**	**17 03 45.9**	**-2.1**
ZKTA	**Zakatala**	**3.11**	**331**	Pn	**Pn**	**17 03 48.5**	**+0.5**
ZKTA				Sn	**Sn**	**17 04 24.7**	**-0.3**
QZX	**Qazax, Azerbai**	**3.28**	**312**	Pn	**Pn**	**17 03 50.3**	**0.0**
QZX				Sn	**Sn**	**17 04 30.9**	**+1.9**
QABG	**Abgarm-Qazvin**	**3.30**	**166**	Pn	**Pn**	**17 03 49.5**	**-1.3**
IPRN	**Peran**	**3.99**	**131**	Pn	**Pn**	**17 03 58.0**	**-2.2**
MTEO	**Meteo**	**4.87**	**322**	P	**Pn**	**17 04 13.5**	**+0.9**

*KRNET **30** 17:13:58.5±0.1, 39°.25N×77°.42E, mb4.1*
*SOME **30** 17:13:58.7, 39°.43N×77°.42E, h10km, MS3.1*
*IDC **30** 17:13:59.3±1.2, 39°.44N×77°.62E, h0km, mb3.6/7, mbtmp3.5/12, ML2.9/5, MS2.6/1, Error ellipse: s-maj=19.5km s-min=16.5km az=76.0*
*NNC **30** 17:14:02.2±0.8, 39°.56N×77°.40E, h0km, mb4.7, mpv4.3, Error ellipse: s-maj=5.7km s-min=4.5km az=141.0*

ISC 30 17:14:03.2±0.9, 39°.48N±0°.05×77°.42E±0°.04, h17km, n80, σ2°.60/112, mb3.6/7, 26C-19D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**2.23**	**331**	*e*P	**Pn**	**17 14 41.6**	**+1.9**
NRN				⇓*i*S	**Sb**	**17 15 13.4**	**+2.7**
KDJ	**Kajisay**	**2.65**	**356**	⇑*i*P	**Pn**	**17 14 47.9**	**+2.5**
KDJ				⇑*i*S	**Sb**	**17 15 23.8**	**+1.1**
ULHL	**Ulahol**	**2.90**	**343**	P	**Pb**	**17 14 54.2**	**-0.4**
	SNR=6.5						
ULHL	**Ulahol**	**2.90**	**343**	⇑*i*P	**Pn**	**17 14 51.3**	**+2.5**
ULHL				⇑*i*S	**Sb**	**17 15 29.8**	**-0.1**
SFK	**Sufi-Kurgan**	**3.06**	**281**	⇑*e*P	**Pn**	**17 14 51.5**	**+0.4**
SFK				⇑*e*S	**Sn**	**17 15 29.8**	**+2.4**
SALK	**Salom-Alik**	**3.09**	**298**	⇓*e*P	**Pn**	**17 14 52.2**	**+0.8**
SALK				⇓*e*S	**Sn**	**17 15 31.7**	**+3.7**
PRZ	**Przheval'sk**	**3.09**	**14**	⇑*e*P	**Pn**	**17 14 54.1**	**+2.7**
PRZ				⇑*i*S	**Sb**	**17 15 34.7**	**-0.6**
BOOM	**Boomskoye usch**	**3.21**	**340**	⇓*e*P	**Pn**	**17 14 55.3**	**+2.3**
BOOM				⇓*e*S	**Sb**	**17 15 36.7**	**-1.9**
ANVS	**Anan'yevo**	**3.30**	**3**	⇑*e*P	**Pn**	**17 14 56.8**	**+2.5**
ANVS				⇑*e*S	**Sb**	**17 15 39.4**	**-2.1**
ARLS	**Aral**	**3.34**	**316**	⇑*e*P	**Pn**	**17 14 56.6**	**+1.7**
ARLS				⇑*i*S	**Sn**	**17 15 39.2**	**+5.0**
UCH	**Uchtor**	**3.52**	**322**	P	**Pn**	**17 14 59.5**	**+2.0**
	SNR=6.7						
TNSS	**Tian-Shan**	**3.57**	**354**	Pg	**Pb**	**17 15 05.5**	**-0.6**
	135nm,0.5s						
TNSS				Lg	Lg	17 15 54.4	
	147nm,1.0s						
TNSS	**Tian-Shan**	**3.57**	**354**	*e*P	**Pb**	**17 15 05.5**	**-0.6**
	135nm,0.5s						
TNSS				*e*S	**Sb**	**17 15 53.8**	**+4.5**
	150nm,0.6s						
SATY	**Saty**	**3.65**	**11**	Pg	**Pb**	**17 15 07.6**	**+0.3**
	138nm,0.6s						
SATY				Lg	Lg	17 15 57.7	
	182nm,0.5s						
SATY	**Saty**	**3.65**	**11**	*e*P	**Pb**	**17 15 07.6**	**+0.3**
	138nm,0.6s						
SATY				*e*S	**Sg**	**17 15 57.7**	**-2.8**
	182nm,0.5s						
KBK	**Karagaybulak**	**3.68**	**330**	P	**Pb**	**17 15 08.2**	**+0.4**
	SNR=20						
KBK	**Karagaybulak**	**3.68**	**330**	⇓*i*P	**Pn**	**17 15 01.8**	**+2.3**
KBK				⇓*i*S	**Sn**	**17 15 48.0**	**+5.5**
MDOK	**Medeo**	**3.69**	**356**	Pg	**Pb**	**17 15 07.8**	**-0.2**
	213nm,0.4s						
MDOK				Lg	Lg	17 15 57.5	
	136nm,0.5s						
MDOK	**Medeo**	**3.69**	**356**	*e*P	**Pb**	**17 15 07.8**	**-0.2**
	213nm,0.4s						
MDOK				*e*S	**Sg**	**17 15 57.5**	**-4.1**
	324nm,0.5s						
TKM2	**Tokmak 2**	**3.70**	**339**	P	**Pn**	**17 15 02.2**	**+2.4**
	SNR=16						
TKM2	**Tokmak 2**	**3.70**	**339**	⇓Pn	**Pn**	**17 14 60.0**	**+0.2**
	5.2nm,0.3s						
TKM2				⇑Pg	**Pb**	**17 15 08.7**	**+0.4**
	22nm,0.5s						
TKM2				⇑Lg	Lg	17 15 56.9	
	276nm,0.8s						
TKM2	**Tokmak 2**	**3.70**	**339**	⇑*i*P	**Pn**	**17 15 02.0**	**+2.2**
TKM2				⇑*i*S	**Sn**	**17 15 48.7**	**+5.6**
OHH	**Osh**	**3.71**	**288**	⇓*e*P	**Pn**	**17 15 00.7**	**+0.9**
OHH				⇓*e*S	**Sn**	**17 15 45.5**	**+2.4**

MTBS	**Maitube**	**3.72**	**349**	Pg	**Pb**	**17 15 08.5**	**0.0**
	36nm,0.3s					
MTBS				Lg	Lg	17 15 58.8	
	93nm,0.4s					
MTBS	**Maitube**	**3.72**	**349**	*e*P	**Pb**	**17 15 08.5**	**0.0**
	36nm,0.3s					
MTBS				*e*S	**Sg**	**17 15 58.8**	**-3.8**
	93nm,0.4s					
KST	**Kastek**	**3.72**	**343**	Pg	**Pb**	**17 15 07.7**	**-0.9**
	24nm,0.6s					
KST				Lg	Lg	17 15 57.4	
	227nm,0.4s					
KST	**Kastek**	**3.72**	**343**	*e*P	**Pb**	**17 15 07.7**	**-0.9**
	19nm,0.4s					
KST				*e*S	**Sb**	**17 15 57.4**	**+3.9**
	227nm,0.4s					
AAA	**Alma-Ata**	**3.74**	**354**	Pg	**Pb**	**17 15 09.6**	**+0.7**
	285nm,0.3s					
AAA				Lg	Lg	17 16 00.7	
	235nm,0.8s					
AAA	**Alma-Ata**	**3.74**	**354**	*e*P	**Pb**	**17 15 09.6**	**+0.7**
	285nm,0.3s					
AAA				*e*S	**Sg**	**17 16 00.7**	**-2.7**
	235nm,0.8s					
KNDC	**Almaty**	**3.75**	**355**	⇓Pn	**Pn**	**17 15 01.1**	**+0.8**
	8.8nm,0.3s					
KNDC				⇑Pg	**Pb**	**17 15 09.3**	**+0.4**
	165nm,0.5s					
KNDC				⇑Lg	Lg	17 15 58.6	
	1μm,0.7s					
ZHN	**Zhinishke**	**3.76**	**11**	Pg	**Pb**	**17 15 09.4**	**+0.2**
	68nm,0.4s					
ZHN				Lg	Lg	17 16 00.6	
	86nm,0.3s					
ZHN	**Zhinishke**	**3.76**	**11**	*e*P	**Pb**	**17 15 09.4**	**+0.2**
	68nm,0.4s					
ZHN				*e*S	**Sg**	**17 16 00.6**	**-3.4**
	166nm,0.3s					
KASK	**Kaskelen**	**3.78**	**351**	⇑Lg	Lg	17 15 59.2	
	320nm,0.8s					
AAK	**Ala-Archa**	**3.85**	**326**	P	**Pb**	**17 15 11.4**	**+0.7**
	SNR=7.8					
AAK	**Ala-Archa**	**3.85**	**326**	Pn	**Pn**	**17 15 04.2**	**+2.4**
	1.9nm,0.3s,baz=152,slow=7.8,SNR=16					
AAK				Lg	Lg	17 16 03.8	
	30nm,0.3s,baz=180,slow=20,SNR=16					
	6.3nm,0.5s					
UZB	**Uzynbulak**	**3.86**	**18**	Pg	**Pb**	**17 15 10.7**	**-0.2**
	38nm,0.5s					
UZB				Lg	Lg	17 16 02.8	
	112nm,1.0s					
UZB	**Uzynbulak**	**3.86**	**18**	*e*P	**Pb**	**17 15 10.7**	**-0.2**
	38nm,0.5s					
UZB				*e*S	**Sg**	**17 16 02.8**	**-4.3**
	106nm,0.4s					
AML	**Almayashu**	**3.87**	**314**	P	**Pn**	**17 15 04.7**	**+2.4**
	SNR=13					
FRU1	**Bishkek**	**3.93**	**329**	⇑*i*P	**Pn**	**17 15 05.6**	**+2.7**
FRU1				⇑*i*S	**Sn**	**17 15 54.5**	**+5.8**
DGS	**Degeres**	**3.95**	**342**	Pg	**Pb**	**17 15 12.7**	**+0.2**
	52nm,0.4s					
DGS				Lg	Lg	17 16 05.9	
	256nm,0.7s					
DGS	**Degeres**	**3.95**	**342**	*e*P	**Pb**	**17 15 12.7**	**+0.2**
	52nm,0.4s					
DGS				*e*S	**Sg**	**17 16 05.9**	**-4.3**
	256nm,0.7s					
SHLS	**Shalkode**	**3.98**	**22**	Pg	**Pb**	**17 15 15.7**	**+2.7**
	81nm,0.5s					
SHLS				Lg	Lg	17 16 11.3	
	345nm,0.6s					
SHLS	**Shalkode**	**3.98**	**22**	*e*P	**Pb**	**17 15 15.7**	**+2.7**
	81nm,0.5s					
SHLS				*e*S	**Sg**	**17 16 11.3**	**+0.2**
	345nm,0.6s					
KURS	**Kuram**	**4.04**	**8**	*e*P	**Pb**	**17 15 14.5**	**+0.5**
	37nm,0.3s					
KURS				*e*S	**Sg**	**17 16 08.9**	**-4.1**
	100nm,0.6s					
CHMS	**Chumysh**	**4.05**	**331**	P	**Pb**	**17 15 12.0**	**-2.0**
	SNR=8.8					
CHMS	**Chumysh**	**4.05**	**331**	⇓Lg	Lg	17 16 06.7	
	126nm,0.6s					
EKS2	**Erkin-Say**	**4.20**	**320**	P	**Pn**	**17 15 08.6**	**+2.0**
	SNR=8.0					
DRK	**Karamyk**	**4.34**	**272**	⇓*e*P	**Pn**	**17 15 08.7**	**-0.1**
DRK				⇓*e*S	**Sn**	**17 16 00.1**	**+0.9**
USP	**Ospenovka**	**4.37**	**331**	P	**Pb**	**17 15 20.0**	**+0.4**
	SNR=16						
KUU	**Kurty**	**4.48**	**350**	Pg	**Pb**	**17 15 21.7**	**+0.2**
	24nm,0.6s						
KUU				Lg	Lg	17 16 21.8	
	142nm,0.6s						
KUU	**Kurty**	**4.48**	**350**	*e*P	**Pb**	**17 15 21.7**	**+0.2**
	4.8nm,0.0s						
KUU				*e*S	**Sg**	**17 16 21.8**	**-5.2**
	142nm,0.6s						
MRKS	**Merke**	**4.54**	**317**	Pg	**Pb**	**17 15 23.2**	**+0.7**
	10.0nm,0.4s						
MRKS				Lg	Lg	17 16 24.7	
	134nm,0.5s						
MRKS	**Merke**	**4.54**	**317**	*e*P	**Pb**	**17 15 23.2**	**+0.7**
	10.0nm,0.4s						
MRKS				*e*S	**Sg**	**17 16 24.3**	**-4.7**
	134nm,0.5s						
ARXS	**Arharly**	**4.74**	**4**	Pg	**Pb**	**17 15 26.4**	**+0.6**
	33

comp=Z,0.3nm,0.5s
KURK Kurchatov 11.27 4 ⇑Lg Lg 17 19 58.4
31nm,1.3s
BVAR Borovoye Array 14.38 343 Pn Pn 17 17 24.4 -1.5
baz=152,slow=9.5,SNR=2.0
BVAR Lg Lg 17 21 34.4
baz=151,slow=28,SNR=9.1
0.3nm,0.4s
ZALV Zalesovo Beam 15.32 17 Pn Pn 17 17 35.0 -3.5
0.2nm,0.3s,baz=199,slow=9.4,SNR=1.6
0.3nm,0.3s
GTA Gaotai 17.30 83 *e*P **Pn 17 18 03.5 -0.5**
GTA pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 22.46 59 P P 17 18 58.9 -2.7
comp=Z,0.4nm,0.5s,baz=252,slow=10,SNR=4.2
comp=Z,0.4nm,0.5s
CMAR Chiang Mai Arr 28.04 132 P P 17 19 50.4 -3.2
comp=Z,0.4nm,0.7s,baz=316,slow=10,SNR=1.3
comp=Z,0.4nm,0.7s
BRTR Keskin Array B 33.48 285 P P 17 20 43.4 +1.8
comp=Z,0.3nm,0.5s,baz=89,slow=5.2,SNR=1.1
comp=Z,0.3nm,0.5s
FINES FINESS Array B 38.03 322 P P 17 21 18.5 -1.7
comp=Z,2.3nm,0.8s,baz=110,slow=12,SNR=4.4
comp=Z,2.3nm,0.8s
ARCES ARCESS Array B 40.47 335 P P 17 21 39.6 -0.9
comp=Z,2.0nm,0.9s,baz=103,slow=7.9,SNR=6.1
comp=Z,2.0nm,0.9s
ESDC Sonseca Array 60.51 299 P P 17 24 12.4 0.0
comp=Z,0.3nm,0.5s,baz=63,slow=5.9,SNR=3.4
comp=Z,0.3nm,0.5s
TORD Torodi Ar. Bea 70.79 271 P P 17 25 18.8 -0.2
comp=Z,0.2nm,0.4s,baz=57,slow=5.5,SNR=2.4
comp=Z,0.2nm,0.4s

*TEH **30** 17:17:34.7, 34.29N×45.66E, h8km±39km, ML2.5*
ISC 30 17:17:35.7±1.0, 34.32N±0.04×45.69E±0.05, h10km, n9, σ1§41/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.20**	**336**	Pg	**Pg**	**17 17 39.5**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.28**	**138**	Pg	**Pg**	**17 17 40.6**	**-0.8**
IDHR	**Dehrash**	**0.69**	**57**	Pg	**Pg**	**17 17 48.6**	**-0.5**
IGHG	**Ghaleghazi**	**0.73**	**89**	Pg	**Pb**	**17 17 49.9**	**-0.7**
ILBA	**Ilam Banvizeh**	**0.82**	**148**	Pg	**Pg**	**17 17 50.1**	**-1.4**
ILIN	**Lien**	**1.21**	**60**	Pg	**Pg**	**17 17 58.7**	**-0.2**
IBDR	**Badra**	**1.23**	**170**	*e*Pg	**Pg**	**17 17 59.0**	**-0.3**
IBDR				*e*Pn	**Pn**	**17 18 02.0**	**+3.1**
IBDR				*e*Sg	**Sn**	**17 18 14.0**	**-1.5**
IBDR				*e*Sn	Sg	17 18 23.0	+7.8
IKRK	**Kirkuk**	**1.54**	**315**	*e*Pn	**Pg**	**17 18 04.0**	**-1.2**
IKRK				*e*Sn	**Sg**	**17 18 25.0**	**-0.3**
IKFM	**Kafar-mosalman**	**1.97**	**113**	Pn	**Pb**	**17 18 10.7**	**-0.9**

*DJA **30** 17:17:37.6±0.3, 8°S±3°×12°9E±°, h204km±11km, M4.4/15, mb4.5/12, mB4.9/7, MLv4.6/15, Mw(mB)4.1/7*
*IDC **30** 17:17:38.9±3.8, 7.43S×128.53E, h157km±33km, mb3.7/11, mbtmp4.2/13, MS2.9/1, Error ellipse: s-maj=32.7km s-min=11.8km az=68.0*
*NEIC **30** 17:17:39±3.1, 7.40S±0.07×128.66E±0.06, h166km±7km, mb4.2/25, Error ellipse: s-maj=10.3km s-min=8.5km az=158.0*
ISC 30 17:17:37.5±0.4, 7.51S±0.04×128.63E±0.04, h151km, n100, σ1§95/110, mb4.1/19, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.69**	**100**		**Pn**	**17 18 22.9**	**+1.9**
SAUI				Sn	**Sn**	**17 18 53.6**	**-0.9**
SAUI	**Saumlaki**	**2.69**	**100**	P	**Pn**	**17 18 22.9**	**+1.9**
SAUI	**Saumlaki**	**2.69**	**100**	P	**Pn**	**17 18 24.0**	**+3.0**
BNDI	**Bandanaira**	**3.23**	**23**	P	**Pn**	**17 18 30.5**	**+2.6**
BNDI	**Bandanaira**	**3.23**	**23**	P	**Pn**	**17 18 28.9**	**+1.0**
AAI	**Ambon**	**3.83**	**353**	P	**Pn**	**17 18 38.5**	**+2.9**
MSAI	**Masohi**	**4.15**	**4**	P	**Pn**	**17 18 42.3**	**+2.5**
SOEI	**Soe**	**4.86**	**242**		**Pn**	**17 18 50.9**	**+1.7**
SOEI				Sn	**Sn**	**17 19 45.9**	**+0.9**
SOEI	**Soe**	**4.86**	**242**	P	**Pn**	**17 18 51.7**	**+2.5**
SOEI	**Soe**	**4.86**	**242**	P	**Pn**	**17 18 51.3**	**+2.1**
DRS	**Darwin Rock St**	**5.37**	**156**	P	**Pn**	**17 18 57.7**	**+1.8**
BATI	**Baumata**	**5.59**	**241**	P	**Pn**	**17 19 00.3**	**+1.5**
144nm,0.4s,baz=129,slow=6.5,SNR=78							
BATI				S	**Sn**	**17 20 03.1**	**+0.7**
190nm,0.5s,baz=275,slow=22,SNR=9.5							
BATI	**Baumata**	**5.59**	**241**	P	**Pn**	**17 18 59.8**	**+1.0**
FAKI	**Fak Fak**	**5.81**	**38**		**Pn**	**17 19 00.4**	**-1.4**
FAKI				Sn	**Sn**	**17 20 02.7**	**-5.1**
FAKI	**Fak Fak**	**5.81**	**38**	P	**Pn**	**17 19 01.2**	**-0.6**
MTN	**Manton Dam**	**5.84**	**155**		**Pn**	**17 19 02.8**	**+0.6**
MTN				Sn	**Sn**	**17 20 04.3**	**-4.1**
MTN	**Manton Dam**	**5.84**	**155**	P	**Pn**	**17 19 03.6**	**+1.4**
SANI	**Sanana**	**6.03**	**334**	P	**Pn**	**17 19 07.8**	**+3.1**
SANI	**Sanana**	**6.03**	**334**	P	**Pn**	**17 19 06.7**	**+2.0**
KMPI	**Kaimana, Papua**	**6.34**	**53**	P	**Pn**	**17 19 07.7**	**-1.1**
54nm,0.6s,2μm0.7nm							
KDU	**Kakadu**	**6.38**	**144**	P	**Pn**	**17 19 10.7**	**+1.3**
MMRI	**Maumere**	**6.43**	**260**		**Pn**	**17 19 10.4**	**+0.4**
MMRI				Sn	**Sn**	**17 20 20.1**	**-2.3**
MMRI	**Maumere**	**6.43**	**260**	P	**Pn**	**17 19 12.2**	**+2.2**
MMRI	**Maumere**	**6.43**	**260**	P	**Pn**	**17 19 10.4**	**+0.4**
28nm,0.4s,0.2nm							
SWI	**Sorong**	**7.11**	**22**	P	**Pn**	**17 19 19.0**	**-0.1**
22nm,0.5s,1μm0.2nm							
KNRA	**Kununurra**	**8.11**	**179**		**Pn**	**17 19 32.8**	**+0.3**
KNRA				Sn	**Sn**	**17 20 57.3**	**-5.7**
RKPI	**Ransiki, Papua**	**8.13**	**43**	P	**Pn**	**17 19 31.4**	**-1.3**
61nm,0.5s,1μm							
BASI	**Baing, Sumba**	**8.40**	**251**	P	**Pn**	**17 19 35.2**	**-1.1**
62nm,0.6s							
WSI	**Waingapu**	**8.51**	**255**	P	**Pn**	**17 19 37.1**	**-0.7**
101nm,0.7s,2μm							
LUWI	**Luwuk**	**8.69**	**317**	Pn	**Pn**	**17 19 38.1**	**-2.0**
WBSI	**Waikabubak, Su**	**9.38**	**256**	P	**Pn**	**17 19 50.0**	**+0.6**
PLAI	**Plampang**	**10.82**	**262**	P	**Pn**	**17 20 11.1**	**+2.6**
24nm,0.9s							
FITZ	**Fitzroy Crossi**	**10.92**	**195**		**Pn**	**17 20 07.8**	**-1.8**
FITZ	**Fitzroy Crossi**	**10.92**	**195**	P	**Pn**	**17 20 07.7**	**-1.9**
9.5nm,0.3s,baz=26,slow=9.0,SNR=112							
FITZ				S	**Sn**	**17 22 06.2**	**-4.2**
9.4nm,0.3s,baz=252,slow=15,SNR=4.9							
FITZ				LR	LR	17 25 26.6	
comp=Z,63nm,20.6s,baz=346,slow=43							
WB0	**Warramunga Arr**	**13.40**	**156**		**Pn**	**17 20 40.1**	**-1.8**
WRAB	**Tennant Creek**	**13.54**	**156**		**Pn**	**17 20 42.0**	**-1.5**
WRA	**Warramunga Arr**	**13.54**	**156**	P	**Pn**	**17 20 41.9**	**-1.7**
2.8nm,0.3s,baz=344,slow=13,SNR=52							
WRA				S	Sn	17 23 03.7	-10
7.9nm,0.6s,baz=332,slow=22,SNR=11							
COEN	**Coen**	**15.65**	**115**		**P**	**17 21 12.2**	**+1.1**
COEN				IAmb	IAmb	17 21 16.4	
comp=Z,11nm,1.2s							
COEN	**Coen**	**15.65**	**115**	P	**P**	**17 21 13.3**	**+2.3**
MBWA	**Marble Bar**	**16.06**	**211**		**P**	**17 21 15.3**	**-0.2**
MBWA				IAmb	IAmb	17 21 52.2	
comp=Z,15nm,1.1s							
MBWA	**Marble Bar**	**16.06**	**211**	P	**P**	**17 21 17.5**	**+2.0**
PSA00	**Pilbara Seismi**	**16.35**	**210**		**P**	**17 21 19.5**	**+0.8**
PSA00				IAmb	IAmb	17 21 36.3	
comp=Z,11nm,0.6s							
PSA00	**Pilbara Seismi**	**16.35**	**210**	P	**P**	**17 21 20.7**	**+2.0**
QIS	**Mount Isa**	**16.76**	**142**	P	**Pn**	**17 21 25.3**	**+1.7**
AS31	**Alice Springs**	**16.84**	**163**	P	**Pn**	**17 21 25.3**	**+0.8**
AS31				IAmb	IAmb	17 21 35.3	
comp=Z,3.1nm,0.4s							
ASAR	**Alice Springs**	**16.84**	**163**	P	**Pn**	**17 21 24.6**	**+0.1**
comp=Z,3.1nm,0.5s,baz=331,slow=9.8,SNR=132							
ASAR				S	**S**	**17 24 25.1**	**-6.8**
comp=Z,2.6nm,0.6s,baz=348,slow=26,SNR=8.9							
AS01	**Alice Springs**	**16.85**	**163**	P	**Pn**	**17 21 25.8**	**+1.1**
WRKA	**Warakurna**	**17.43**	**181**	P	**Pn**	**17 21 32.8**	**+1.2**
KKM	**Kota Kinabalu**	**18.30**	**317**	P	**Pn**	**17 21 41.1**	**-0.9**
PMG	**Port Moresby**	**18.42**	**97**	P	**Pn**	**17 21 43.3**	**-0.2**
PMG				IAmb	IAmb	17 21 57.7	
comp=Z,9.2nm,1.0s							
PMG	**Port Moresby**	**18.42**	**97**	P	**Pn**	**17 21 47.7**	**+4.3**
comp=Z,4.1nm,0.6s,baz=252,slow=16,SNR=3.5							
MTSU	**Mount Surprise**	**18.57**	**126**	P	**Pn**	**17 21 45.6**	**+0.5**
SBUM	**Sibu**	**19.13**	**301**	P	**Pn**	**17 21 50.6**	**-1.1**
MANU	**Manus Island**	**19.44**	**75**	P	**P**	**17 21 53.7**	**+1.1**
MANU				IAmb	IAmb	17 22 25.4	
comp=Z,25nm,1.4s							
KSM	**Kuching**	**20.34**	**295**	P	**P**	**17 22 02.9**	**+0.7**
KSM				IAmb	IAmb	17 22 08.7	
comp=Z,15nm,0.8s							
CTAO	**Charters Tower**	**21.16**	**128**	P	**P**	**17 22 11.1**	**+0.1**
CTAO				IAmb	IAmb	17 22 18.5	
comp=Z,15nm,1.4s							
OOD	**Oodnadatta**	**21.25**	**163**	P	**P**	**17 22 14.7**	**+2.9**
INKA	**Innaminka**	**23.16**	**152**	P	**P**	**17 22 33.1**	**+2.4**
MULG	**Mulgathing**	**23.22**	**168**	P	**P**	**17 22 33.5**	**+2.3**
QLP	**Quilpie**	**24.08**	**144**	P	**P**	**17 22 41.9**	**+2.8**
MORW	**Morawa**	**24.50**	**207**	P	**P**	**17 22 43.9**	**+1.0**
LCRK	**Leigh Creek**	**24.52**	**160**	P	**P**	**17 22 45.6**	**+2.5**
BBOO	**Buckleboo**	**26.10**	**166**	P	**P**	**17 22 58.3**	**+1.0**
BBOO	**Buckleboo**	**26.10**	**166**	P	**P**	**17 22 58.8**	**+1.5**
STKA	**Stephens Creek**	**27.09**	**155**	P	**P**	**17 23 06.1**	**-0.1**
STKA	**Stephens Creek**	**27.09**	**155**	P	**P**	**17 23 08.1**	**+1.9**
comp=Z,5.0nm,0.7s,baz=324,slow=7.6,SNR=7.8							
comp=Z,5.0nm,0.7s							
NWAO	**Narrogin (SRO)**	**27.41**	**201**	P	**P**	**17 23 07.7**	**-1.4**
HTT	**Hallett**	**27.50**	**161**	P	**P**	**17 23 12.3**	**+2.4**
CMSA	**Cobar Meteorol**	**28.72**	**149**	P	**P**	**17 23 23.3**	**+2.6**
ARPS	**Mount Arapiles**	**31.51**	**159**	P	**P**	**17 23 48.1**	**+2.9**
YNG	**Young**	**32.29**	**148**	P	**P**	**17 23 54.6**	**+2.5**
comp=Z,10nm,1.5s							
CAN	**Canberra**	**33.40**	**149**	P	**P**	**17 24 02.8**	**+1.0**
CAN				IAmb	IAmb	17 24 31.4	
comp=Z,14nm,1.4s							
TOO	**Toolangi**	**33.61**	**155**	P	**P**	**17 24 04.4**	**+0.8**
TOO				IAmb	IAmb	17 24 07.6	
comp=Z,6.6nm,1.5s							
CMAR	**Chiang Mai Arr**	**39.04**	**312**	P	**P**	**17 24 50.2**	**+0.4**
comp=Z,0.8nm,0.6s,baz=140,slow=6.4,SNR=11							
comp=Z,0.8nm,0.6s							
KSAR	**Wonju Array Be**	**44.73**	**359**	P	**P**	**17 25 33.9**	**-1.8**
XAN	**Xi'an**	**45.35**	**337**	P	**P**	**17 25 40.3**	**-0.5**
XAN				pmax	pmax		
comp=Z,10.0nm,0.7s							
LZH	**Lanzhou**	**49.23**	**333**	*e*P	**P**	**17 26 12.3**	**+1.4**
LZH				pmax	pmax		
comp=Z,18nm,1.3s							
BKZ	**Black Stump Fm**	**53.21**	**134**	P	**P**	**17 26 40.9**	**+0.4**
GTA	**Gaotai**	**53.78**	**332**	*e*P	**P**	**17 26 45.0**	**+0.4**
GTA				pmax	pmax		
comp=Z,4.0nm,0.8s							
SONM	**Songino Array**	**58.51**	**343**	P	**P**	**17 27 18.4**	**+0.4**
comp=Z,0.9nm,0.6s,baz=167,slow=5.6,SNR=5.7							
comp=Z,0.9nm,0.6s							
PETK	**Petropavlovsk-**	**65.24**	**19**	P	**P**	**17 28 02.8**	**+0.1**
comp=Z,2.7nm,0.8s,baz=185,slow=6.9,SNR=1.2							
comp=Z,2.7nm,0.8s							
MK31	**Makanchi Array**	**67.92**	**328**	P	**P**	**17 28 20.4**	**+0.5**
MKAR	**Makanchi Array**	**67.92**	**328**	P	**P**	**17 28 20.2**	**+0.3**
comp=Z,1.5nm,0.5s,baz=116,slow=8.3,SNR=14							
comp=Z,1.5nm,0.5s							
ZAA0	**Zalesovo Array**	**71.45**	**334**	P	**P**	**17 28 39.3**	**-2.0**
ZALV	**Zalesovo Beam**	**71.45**	**334**	P	**P**	**17 28 39.9**	**-1.4**
ZALV	**Zalesovo Beam**	**71.45**	**334**	P	**P**	**17 28 40.5**	**-0.8**
comp=Z,1.5nm,0.5s,baz=126,slow=6.9,SNR=7.7							
comp=Z,1.5nm,0.5s							
VNDA	**Vanda**	**72.11**	**173**	P	**P**	**17 28 46.1**	**+1.1**
VNDA	**Vanda**	**72.11**	**173**	P	**P**	**17 28 46.2**	**+1.2**
comp=Z,0.5nm,0.5s,baz=326,slow=6.7,SNR=7.2							
comp=Z,0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**72.24**	**329**	P	**P**	**17 28 46.2**	**+0.1**
comp=Z,1.2nm,0.5s,baz=126,slow=4.9,SNR=20							
comp=Z,1.2nm,0.5s							
KURK	**Kurchatov**	**72.25**	**329**	P	**P**	**17 28 45.9**	**-0.3**
KURK				IAmb	IAmb	17 28 46.9	
comp=Z,2.4nm,0.7s							
KKAR	**Karatay Array**	**72.84**	**319**	P	**P**	**17 28 50.3**	**+0.4**
MAW	**Mawson**	**73.98**	**201**	P	**P**	**17 28 56.3**	**+0.3**
comp=Z,1.3nm,0.9s,baz=0.0,slow=0.0,SNR=3.1							
comp=Z,1.3nm,0.9s							
BVAR	**Borovoye Array**	**77.78**	**328**	P	**P**	**17 29 16.6**	**-1.3**
comp=Z,0.8nm,0.5s,baz=124,slow=9.3,SNR=5.7							
comp=Z,0.8nm,0.5s							
ABKAR	**Akbulak array**	**82.07**	**322**	P	**P**	**17 29 40.0**	**-1.0**
ABKAR	**Akbulak array**	**82.07**	**322**	P	**P**	**17 29 40.1**	**-0.8**
ABKAR				IAmb	IAmb	17 29 43.7	
comp=Z,2.9nm,1.1s							
QSPA	**South Pole Qui**	**82.47**	**180**	P	**P**	**17 29 43.7**	**+0.7**
QSPA				IAmb	IAmb	17 29 44.6	
comp=Z,2.3nm,0.8s							
QSPA	**South Pole Qui**	**82.47**	**180**	P	**P**	**17 29 43.8**	**+0.9**
comp=Z,2.1nm,0.7s,baz=353,slow=1.7,SNR=15							
comp=Z,2.1nm,0.7s							
S12K	**Black Hills**	**84.77**	**32**	P	**P**	**17 29 52.5**	**-2.1**
CPUP	**Villa Florida**	**145.86**	**170**	PKPbc	**PKPab**	**17 37 01.0**	**+0.5**
comp=Z,2.3nm,0.8s,baz=136,slow=2.9,SNR=4.3							
LPAZ	**La Paz**	**151.11**	**145**	PKPbc	**PKiKP**	**17 37 15.1**	**0.0**
comp=Z,0.9nm,0.4s,baz=35,slow=5.9,SNR=4.6							
LPAZ				PKPab	**PKPab**	**17 37 24.7**	**+2.1**
comp=Z,1.9nm,0.6s,baz=199,slow=1.1,SNR=8.5							

*ATH **30** 17:24:40.6, 37.57N×20.61E, h12km±2km, ML2.9/10, Manual Solution by K.Orfanogiannaki First location: 2018/11/30 17:25:00, This location: 2019/02/04 08:51:42 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 3 km*
*THE **30** 17:24:41.5, 37.61N×20.65E, h10km±1km, ML2.9/8, Error ellipse: s-maj=2.1km s-min=0.7km az=47.0*
ISC 30 17:24:40.3±1.9, 37.57N±0.08×20.65E±0.05, h12km±8km, n31, σ0§60/48, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.16**	**56**	P	**Pb**	**17 24 45.0**	**-0.3**
KRI1				S	**Sg**	**17 24 47.0**	**+0.3**
15μm,0.5s							
LTHK	**Lithakia**	**0.21**	**48**	P	**Pb**	**17 24 45.5**	**-0.5**
LTHK				S	**Sg**	**17 24 47.8**	**+0.1**
20μm,0.5s							
LTHK	**Lithakia**	**0.21**	**48**	P	**Pb**	**17 24 45.5**	**-0.5**
LTHK				S	**Sg**	**17 24 48.1**	**+0.3**
RTZL	**Ratzakli, Kefa**	**0.51**	**11**	P	**Pb**	**17 24 50.8**	**-0.5**
RTZL				S	**Sg**	**17 24 58.2**	**+1.0**
1μm,0.2s							
PSDA	**Pessada-Kefalo**	**0.54**	**355**	P	**Pb**	**17 24 51.6**	**-0.2**
PSDA				S	**Sg**	**17 24 58.8**	**+0.7**
2μm,0.5s							
PSDA	**Pessada-Kefalo**	**0.54**	**355**	P	**Pb**	**17 24 51.3**	**-0.4**
PSDA				S	**Sg**	**17 24 59.2**	**+1.1**
VLS	**Valsamata**	**0.61**	**356**	P	**Pb**	**17 24 52.5**	**-0.4**
VLS	**Valsamata**	**0.61**	**356**	P	**Pg**	**17 24 52.0**	**-0.1**
VLS				S	**Sg**	**17 25 01.0**	**+0.9**
SMHA	**Samh**	**0.68**	**0**	P	**Pg**	**17 24 53.0**	**-0.5**
SMHA				S	**Sg**	**17 25 02.9**	**+0.5**
DMLN	**Damoulianata-K**	**0.70**	**342**	P	**Pb**	**17 24 54.3**	**-0.1**
DMLN				S	**Sb**	**17 25 04.4**	**+0.3**
2μm,0.4s							
DMLN	**Damoulianata-K**	**0.70**	**342**	P	**Pg**	**17 24 53.4**	**-0.5**
DMLN				S	**Sg**	**17 25 03.9**	**+0.8**
RLS	**Riolos of Patr**	**0.81**	**53**	P	**Pn**	**17 24 56.4**	**-1.2**
RLS				S	**Sb**	**17 25 07.8**	**+0.5**
475nm,0.7s							
RLS	**Riolos of Patr**	**0.81**	**53**	P	**Pb**	**17 24 56.0**	**-0.3**
RLS				S	**Sb**	**17 25 08.2**	**+1.0**
VSK1	**VASILIKIADES**	**0.84**	**356**	P	**Pg**	**17 24 55.9**	**-0.6**
VSK1				S	**Sg**	**17 25 08.4**	**+0.9**
1μm,0.6s							
AXS	**Araxos**	**0.85**	**43**	P	**Pb**	**17 24 56.5**	**-0.5**
AXS				S	**Sg**	**17 25 08.8**	**+1.0**
FSK	**Fiskardo**	**0.89**	**356**	P	**Pb**	**17 24 57.2**	**-0.5**
FSK				S	**Sg**	**17 25 10.1**	**+1.0**
622nm,0.6s							
FSK	**Fiskardo**	**0.89**	**356**	P	**Pb**	**17 24 57.0**	**-0.6**
FSK				S	**Sg**	**17 25 09.9**	**+0.8**
DRO	**Drossia**	**0.93**	**65**	P	**Pn**	**17 24 59.0**	**-0.2**
DRO	**Drossia**	**0.93**	**65**	P	**Pn**	**17 24 58.8**	**-0.4**
DRO				S	**Sn**	**17 25 12.1**	**-0.3**
EVGI	**Lefkada island**	**1.05**	**0**	P	**Pb**	**17 24 59.9**	**-0.4**
EVGI	**Lefkada island**	**1.05**	**0**	P	**Pb**	**17 24 60.0**	**-0.4**
ITM	**Ithomi**	**1.09**	**111**	P	**Pn**	**17 25 02.0**	**+0.6**
NYDR	**Nydri-Lefkada**	**1.14**	**2**	P	**Pb**	**17 25 01.6**	**-0.3**
LKD2	**Lefkada island**	**1.22**	**0**	P	**Pb**	**17 25 03.1**	**-0.1**
LKD2	**Lefkada island**	**1.22**	**0**	P	**Pb**	**17 25 02.8**	**-0.4**
TSLK	**Tsoukalades, L**	**1.25**	**0**	P	**Pg**	**17 25 03.9**	**-0.4**
TSLK	**Tsoukalades, L**	**1.25**	**0**	P	**Pb**	**17 25 03.6**	**-0.3**
PVO	**Paravola**	**1.25**	**33**	P	**Pg**	**17 25 04.2**	**-0.2**
EFP	**Efpalio**	**1.31**	**49**	P	**Pb**	**17 25 04.3**	**-0.5**
GUR	**Goura**	**1.39**	**74**	P	**Pg**	**17 25 07.0**	**-0.1**
ANX	**Ano Chora**	**1.43**	**44**	P	**Pb**	**17 25 06.8**	**-0.2**

*MOS **30** 17:29:26.5±0.9, 61.39N×150.13W, h52km, mb7.0/92, MS6.9/84, Error ellipse: s-maj=8.4km s-min=3.4km az=94.2 Broadband fault plane solution: P waves. M0 5.20000×10^19 NP1:φs180.00000°, δ71.00000°, λ-90.00000°. NP2:φs0.00000°, δ19.00000°, λ-90.0000°. Principal axes: T Plg26.0000°, Azm270.0000°; N Plg0.0000°, Azm180.0000°; P Plg64.0000°, Azm90.0000°;*
*BJI **30** 17:29:26.0, 61.33N×150.05W, h40km, mb6.6/86, mB7.0/74, Ms7.4/99, Ms7 7.3/97*
*IDC **30** 17:29:27.4±0.7, 61.41N×150.16W, h47km±6km, mb6.2/43, mbtmp6.4/49, MS6.9/92, Error ellipse: s-maj=6.8km s-min=6.3km az=149.0*
*IPGP **30** 17:29:28.0, 61.33N×149.93W, h63km, Mw7.0, Fault plane solution: NP1:φs189.00000°, δ63.00000°, λ-89.00000°. NP2:φs7.00000°, δ27.00000°, λ-92.00000°.*
*NEIC **30** 17:29:28.3, 61.33N×149.93W, h57km*
*NEIC **30** 17:29:28.2±1.8, 61.32N±0.03×149.93W±0.06, h54km±1km, Error ellipse: s-maj=4.5km s-min=3.4km az=112.0, Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr=3.06; Mθθ=0.14; Mφφ=2.91; Mrθ=0.15; Mθφ=-0.14; Mφr=2.10; Fault plane solution: M0 3.65000×10^19 NP1: φs353.77000°, δ27.63000°, λ-96.39000°. NP2: φs180.98000°, δ62.56000°, λ-86.67000°. Principal axes: T 3.5784, Plg17.0000°, Azm269.0000°; N 0.1482, Plg3.0000°, Azm359.0000°; P -3.7266, Plg72.0000°, Azm99.0000°;*
*AEIC **30** 17:29:29.3±2.6, 61.35N±0.03×149.96W±0.06, h47km±2km, ML6.8, mb6.9/677(NEIC), ML6.9/220(NEIC), Ms_20 7.0/824(NEIC), Mwb7.0/97(NEIC), Mwc7.0/124(NEIC), Mww7.0/194(NEIC) Error ellipse: s-maj=4.4km s-min=4.3km az=154.0*
*NEIC **30** 17:29:29.2, 61.32N×149.92W, h44km*
*NEIC **30** 17:29:29.2, 61.32N×149.92W, h46km*
*NEIC **30** 17:29:29.2, 61.52N×149.92W, h46km, Moment Tensor Solution. Duration: 17s3 Moment tensor: Scale 10^19Nm; Mrr=3.64; Mθθ=0.37; Mφφ=4.01; Mrθ=0.47; Mθφ=0.62; Mφr=2.60; Fault plane solution: M0 4.69000×10^19 NP1: φs189.39000°, δ62.21000°, λ-88.49000°. NP2:φs6.16000°, δ27.83000°, λ-92.86000°. Principal axes: T 4.9131, Plg17.0000°, Azm278.0000°; N -0.4539, Plg1.0000°, Azm9.0000°; P -4.4592, Plg73.0000°, Azm103.0000°;*
*BGR **30** 17:29:31.1, 61.92N×150.10W, h33km, mb7.6, Ms6.6*
*GCMT **30** 17:29:34.3±0.1, 61.49N±0.01×150.02W±0.01, h48km, MW7.0/182, Moment Tensor Solution. s182, c514; s182, c864; Duration: 8s2 Moment tensor: Scale 10^19 Nm; Mrr=3.58±.01; Mθθ=0.40±.01; Mφφ=3.98±.01; Mrθ=0.46±.03; Mφφ=0.64±.01; Mφr=2.86±.03; Best double couple: M0 4.79800×10^19 NP1:φs189.00000°, δ64.00000°, λ-89.00000°. NP2:φs7.00000°, δ26.00000°, λ-91.00000°. Principal axes: T 5.0430, Plg19.0000°, Azm278.0000°; N -0.4930, Plg1.0000°, Azm8.0000°; P -4.5530, Plg71.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 17:29:50.5, 61.66N×149.98W, h42km, Moment Tensor Solution. Duration: 18s3 Moment tensor: Scale 10^19Nm; Mrr=3.72; Mθθ=0.17; Mφφ=3.89; Mrθ=0.21; Mθφ=0.53; Mφr=2.38; Fault plane solution: M0 4.52000×10^19 NP1: φs186.12000°, δ60.93000°, λ-91.25000°. NP2:φs8.70000°, δ29.09000°, λ-87.74000°. Principal axes: T 4.6347, Plg16.0000°, Azm277.0000°; N -0.2319, Plg1.0000°, Azm187.0000°; P -4.4028, Plg74.0000°, Azm93.0000°;*
ISC 30 17:29:27.7±0.2, 61.31N±0.02×150.03W±0.02, h50km±1km, h50km:pP-P, n3182, σ1§64/3171, mb6.9/642, MS7.0/602, 112C-302D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.26**	**147**		**Pn**	**17 29 37.0**	**+0.4**
RC01	**Rabbit Creek A**	**0.26**	**147**	P	**Pn**	**17 29 37.3**	**+0.7**
baz=339,SNR=1000							
SUA	**Susitna One**	**0.38**	**294**		**Pn**	**17 29 38.6**	**+0.8**
SUA	**Susitna One**	**0.38**	**294**	P	**Pn**	**17 29 38.8**	**+1.0**
baz=107,SNR=1000							
M22K	**Willow**	**0.45**	**354**		**Pn**	**17 29 38.3**	**-0.1**
M22K	**Willow**	**0.45**	**354**	P	**Pn**	**17 29 38.5**	**+0.1**
baz=168,SNR=1000							
PMR	**Palmer**	**0.52**	**56**		**Pn**	**17 29 38.9**	**-0.2**
PMR	**Palmer**	**0.52**	**56**	P	**Pn**	**17 29 39.1**	**0.0**
baz=237,SNR=1000							
PMR	**Palmer**	**0.52**	**56**	P	**Pn**	**17 29 39.5**	**+0.3**
PMR	**Palmer**	**0.52**	**56**	P	**Pn**	**17 29 38.9**	**-0.2**
GHO	**Glory Hole Cre**	**0.70**	**48**		**Pn**	**17 29 41.2**	**-0.4**
GHO	**Glory Hole Cre**	**0.70**	**48**		**Sn**	**17 29 53.4**	**+1.7**
GHO	**Glory Hole Cre**	**0.70**	**48**	IAML		17 29 54.8	
comp=E,1130μm,1.3s							
GHO				IAML	

baz=250,SNR=1000
GLI Glacier Island 1.49 106 Pn 17 29 52.2 +0.2
GLI IAML 17 30 14.1
comp=E,1449μm,0.9s
GLI Glacier Island 1.49 106 P **Pn 17 29 52.3 +0.2**
baz=290,SNR=1000
RDSO Redoubt South 1.58 238 Pn 17 29 55.2 +1.7
M20K Styx River 1.59 293 Pn 17 29 55.4 +1.8
M20K **Sn 17 30 16.0 +3.0**
M20K IAML 17 30 22.5
comp=N,1008μm,1.4s
M20K Styx River 1.59 293 P **Pn 17 29 55.1 +1.5**
baz=108
BRLK Bradley Lake 1.61 196 Pn 17 29 54.7 +1.0
BRLK Bradley Lake 1.61 196 Sn 17 30 16.3 +3.0
BRSE Bradley Lake S 1.61 193 Pn 17 29 54.8 +1.1
BRSE Bradley Lake S 1.61 193 P **Pn 17 29 54.8 +1.1**
baz=14,SNR=1000
WAT7 Susitna Watana 1.63 19 Pn 17 29 54.8 +0.8
WAT6 Susitna Watana 1.67 39 Pn 17 29 55.4 +0.7
WAT6 Susitna Watana 1.67 39 P **Pn 17 29 55.0 +0.3**
baz=221,SNR=1000
WAT1 Susitna Watana 1.68 24 Pn 17 29 55.2 +0.6
WAT1 Susitna Watana 1.68 24 P **Pn 17 29 55.1 +0.5**
baz=204
O20K Slope Mountain 1.77 227 Pn 17 29 58.4 +2.3
O20K Slope Mountain 1.77 227 P **Pn 17 29 58.2 +2.2**
baz=45,SNR=1000
FID Port Fidalgo 1.82 106 Sn 17 30 18.8 +0.4
FID Port Fidalgo 1.82 106 Pn 17 29 55.8 -0.7
FID Port Fidalgo 1.82 106 IAML 17 30 22.4
comp=N,1037μm,1.2s
FID IAML 17 30 22.4
comp=E,1203μm,0.7s
HOM Homer 1.84 206 Pn 17 29 58.5 +1.6
HOM Homer 1.84 206 P **Pn 17 29 58.6 +1.8**
baz=26,SNR=1000
P23K Montague Islan 1.84 134 Pn 17 29 56.9 0.0
P23K Montague Islan 1.84 134 P **Pn 17 29 56.7 -0.2**
baz=318,SNR=1000
CNPM China Poot 1.89 199 Pn 17 29 58.7 +1.2
CNPM **Sn 17 30 22.9 +2.8**
PPLA Purkeypile 1.89 328 Pn 17 29 58.8 +1.2
PPLA Purkeypile 1.89 328 P **Pn 17 29 58.6 +0.9**
baz=145,SNR=1000
HIN Hinchinbrook I 1.95 116 Pn 17 29 57.9 -0.5
HIN **Sn 17 30 17.9 -3.8**
IVE Iliamna Volcan 1.96 230 Pn 17 30 00.5 +1.8
KLU Klutina 1.98 83 Pn 17 29 58.6 -0.3
KLU IAML 17 30 34.2
comp=N,765μm,1.3s
KLU IAML 17 30 39.8
comp=E,735μm,1.5s
KLU Klutina 1.98 83 P **Pn 17 29 59.1 +0.3**
baz=267,SNR=1000
M24K Tolsona, Glenn 2.00 65 Pn 17 29 59.6 +0.5
M24K **Sn 17 30 26.7 +3.7**
M24K Tolsona, Glenn 2.00 65 P **Pn 17 30 00.3 +1.2**
baz=248,SNR=1000
ILSW Iliamna Southw 2.03 230 Pn **Pn 17 30 01.7 +2.1**
DIV Divide 2.07 93 Pn 17 29 60.0 0.0
TRF Thorofare Moun 2.15 357 Pn 17 30 02.0 +0.7
TRF IAML 17 30 43.7
comp=E,999μm,1.4s
TRF IAML 17 30 50.0
comp=N,981μm,1.3s
TRF Thorofare Moun 2.15 357 P **Pn 17 30 02.0 +0.7**
baz=175,SNR=1000
DHY Denali Highway 2.16 34 Pn 17 30 01.2 -0.2
DHY IAML 17 30 37.4
comp=E,832μm,1.3s
DHY Denali Highway 2.16 34 P **Pn 17 30 01.9 +0.5**
baz=216
L20K Farewell, AK 2.17 304 Pn 17 30 02.7 +1.4
L20K Farewell, AK 2.17 304 P **Pn 17 30 02.8 +1.4**
baz=120,SNR=1000
M19K Big River Lodg 2.17 288 Pn 17 30 03.0 +1.7
M19K Big River Lodg 2.17 288 P **Pn 17 30 03.0 +1.7**
baz=103
RND Reindeer 2.17 14 Pn 17 30 01.6 +0.1
RND IAML 17 30 44.4
comp=E,878μm,2.2s
RND IAML 17 30 46.9
comp=N,750μm,1.2s
RND Reindeer 2.17 14 P **Pn 17 30 01.6 +0.1**
EYAK Cordova Ski Ar 2.22 108 Pn 17 30 02.1 0.0
EYAK Cordova Ski Ar 2.22 108 P **Pn 17 30 02.0 0.0**
baz=293,SNR=1000
EYAK Cordova Ski Ar 2.22 108 P **Pn 17 30 02.7 +0.6**
N19K Bonanza Creek 2.22 259 P **Pn 17 30 04.0 +1.8**
baz=74,SNR=1000
KTH Kantishna Hill 2.29 350 Pn 17 30 03.0 -0.1
KTH IAML 17 30 38.2
comp=E,867μm,2.0s
KTH IAML 17 30 38.6
comp=N,969μm,1.3s
P19K Oil Pt 2.30 225 Pn 17 30 04.9 +1.8
P19K Oil Pt 2.30 225 P **Pn 17 30 05.1 +2.0**
baz=42,SNR=1000
CAST Castle Rocks 2.32 337 Pn 17 30 03.6 +0.1
CAST IAML 17 30 50.2
comp=N,528μm,1.6s
CAST IAML 17 30 53.5
comp=E,791μm,2.3s
CAST Castle Rocks 2.32 337 P **Pn 17 30 04.1 +0.6**
baz=153,SNR=1000
O19K Port Alsworth 2.39 244 Pn 17 30 05.3 +1.0
O19K IAML 17 30 50.8
comp=E,516μm,0.5s
O19K IAML 17 30 52.6
comp=N,530μm,0.5s
O19K Port Alsworth 2.39 244 P **Pn 17 30 05.8 +1.5**
baz=60,SNR=1000
L19K White Mountain 2.46 293 Pn 17 30 07.0 +1.6
L19K IAML 17 30 57.2
comp=E,576μm,1.9s
L19K White Mountain 2.46 293 P **Pn 17 30 06.9 +1.6**
baz=108,SNR=1000
MCK McKinley 2.48 11 Pn 17 30 06.5 +0.9
MCK McKinley 2.48 11 P **Pn 17 30 06.4 +0.7**
baz=191,SNR=1000
MCK McKinley 2.48 11 P **Pn 17 30 06.6 +0.9**
HARP HAARP 2.55 63 P **Pn 17 30 07.9 +1.2**
baz=247,SNR=1000
AU22 Augustine Moun 2.56 222 Pn 17 30 08.6 +2.0
AUCH Augustine Cone 2.59 223 Pn 17 30 09.3 +2.2
N25K Chitina, Valde 2.62 81 Pn 17 30 07.3 -0.3
N25K IAML 17 30 59.6
comp=N,423μm,1.4s
N25K Chitina, Valde 2.62 81 P **Pn 17 30 07.6 -0.1**
baz=266,SNR=1000
Q23K Middleton Isla 2.63 134 Pn 17 30 07.1 -0.4
Q23K IAML 17 31 07.4
comp=N,715μm,1.3s
Q23K IAML 17 31 24.6
comp=E,447μm,1.1s
Q23K Middleton Isla 2.63 134 P **Pn 17 30 07.0 -0.5**
baz=319,SNR=264
BMRM Bremner River 2.65 95 Pn 17 30 08.1 +0.1
BMRM Bremner River 2.65 95 P **Pn 17 30 07.7 -0.3**
baz=281,SNR=1000
GOAT Goat Mountain 2.69 103 Pn 17 30 08.5 0.0
SVW2 Sparrevohn 2.70 268 Pn **Pn 17 30 09.8 +1.2**
SVW2 Sparrevohn 2.70 268 P **Pn 17 30 10.6 +2.0**
PAX Paxson 2.71 50 Pn 17 30 09.2 +0.3
PAX Paxson 2.71 50 P **Pn 17 30 09.5 +0.6**
baz=234,SNR=1000
PAX Paxson 2.71 50 P **Pn 17 30 09.2 +0.3**
RAGM Ragged Mountai 2.78 107 Pn 17 30 09.1 -0.7
K20K Telida 2.79 319 Pn 17 30 10.9 +1.1
K20K IAML 17 30 56.6
comp=N,419μm,1.6s
K20K IAML 17 30 58.2
comp=E,391μm,0.8s
K20K Telida 2.79 319 P **Pn 17 30 10.9 +1.1**
baz=135,SNR=1000
CHUM Lake Minchumin 2.79 339 Pn 17 30 10.4 +0.6
CHUM Lake Minchumin 2.79 339 P **Pn 17 30 10.5 +0.6**
baz=156,SNR=1000
M18K Stony River 2.79 276 P **Pn 17 30 11.6 +1.7**
baz=90,SNR=1000
WACK Wrangell Chich 2.80 73 Pn 17 30 10.5 +0.3
BPAW Bear Paw Mtn. 2.83 351 Pn 17 30 10.4 -0.1
BPAW IAML 17 31 04.7
comp=E,457μm,2.1s
BPAW IAML 17 31 04.7
comp=N,307μm,1.3s
BPAW Bear Paw Mtn. 2.83 351 P **Pn 17 30 10.9 +0.4**
baz=170,SNR=1000
BWN Browne 2.88 5 Pn 17 30 11.5 +0.4
N18K Kilae Creek 2.92 260 Pn 17 30 12.9 +1.2
N18K IAML 17 31 08.0
comp=N,287μm,1.1s
N18K Kilae Creek 2.92 260 P **Pn 17 30 13.2 +1.5**
baz=74,SNR=1000
O18K Koktuh Hills 2.94 243 Pn 17 30 12.7 +0.8
O18K IAML 17 31 09.8
comp=N,272μm,1.0s
O18K Koktuh Hills 2.94 243 P **Pn 17 30 13.2 +1.2**
baz=58,SNR=1000
SYI Shuyak Island 2.96 205 Pn 17 30 12.7 +0.6
Q20K Shuyak Island 2.96 205 P **Pn 17 30 13.5 +1.3**
baz=23,SNR=1000
HMT Hamilton 2.99 107 Pn 17 30 11.9 -0.7
GLB Gilahina Butte 3.00 85 Pn 17 30 11.9 -0.8
GLB IAML 17 31 12.5
comp=N,479μm,1.5s
GLB IAML 17 31 12.9
comp=E,314μm,1.6s
Q19K Cape Douglas, 3.00 219 Pn 17 30 14.2 +1.5
Q19K Cape Douglas, 3.00 219 P **Pn 17 30 14.4 +1.7**
baz=36,SNR=1000
KAIM Kayak Island 3.09 114 Pn 17 30 12.2 -1.8
KAIM IAML 17 31 13.2
comp=N,373μm,1.1s
KAIM IAML 17 31 14.9
comp=E,350μm,1.2s
KAIM Kayak Island 3.09 114 P **Pn 17 30 13.8 -0.2**
baz=300,SNR=138
VRDI Verde Repeater 3.18 89 Pn 17 30 14.4 -0.9
VRDI IAML 17 31 10.9
comp=N,478μm,2.2s
K24K Donnelly Dome 3.18 36 Pn 17 30 17.7 +2.5
K24K Donnelly Dome 3.18 36 P **Pn 17 30 17.8 +2.5**
baz=220,SNR=1000
P18K Big Mountain, 3.22 236 Pn 17 30 16.4 +0.6
P18K Big Mountain, 3.22 236 P **Pn 17 30 16.9 +1.1**
baz=51,SNR=546
BERG Berg Lake 3.23 104 Pn 17 30 14.8 -1.0
TTA Tatalina 3.25 303 Pn **Pn 17 30 17.0 +0.8**
TTA IAML 17 31 23.5
comp=N,244μm,1.3s
TTA IAML 17 31 27.3
comp=E,266μm,1.4s
TTA Tatalina 3.25 303 P **Pn 17 30 17.3 +1.1**
baz=116
TTA Tatalina 3.25 303 P **Pn 17 30 17.0 +0.8**
L18K Granite Mounta 3.29 289 Pn 17 30 17.7 +1.0
L18K IAML 17 31 20.7
comp=E,225μm,1.9s
L18K IAML 17 31 37.3
comp=N,237μm,1.6s
L18K Granite Mounta 3.29 289 P **Pn 17 30 18.2 +1.4**
baz=102,SNR=1000
WRH Wood River Hil 3.29 15 Pn 17 30 16.6 -0.2
WRH IAML 17 31 20.2
comp=N,220μm,1.6s
WRH IAML 17 31 22.3
comp=E,292μm,2.0s
SUCK Suckling Hills 3.31 109 Pn 17 30 16.0 -1.0
SUCK Suckling Hills 3.31 109 IAML 17 31 29.1
comp=N,246μm,1.3s
SUCK IAML 17 31 44.8
comp=E,264μm,2.2s
NEA2 Nenana 3.33 7 Pn 17 30 17.3 +0.1
NEA2 Nenana 3.33 7 IAML 17 31 22.9
comp=E,238μm,2.3s
NEA2 Nenana 3.33 7 P **Pn 17 30 17.1 -0.1**
baz=187,SNR=1000
MCARA McCarthy VSAT 3.38 86 Pn 17 30 17.9 0.0
MCARA McCarthy VSAT 3.38 86 P **Pn 17 30 17.9 0.0**
baz=272,SNR=1000
MENT Mentasta 3.38 58 Pn 17 30 17.8 -0.2
MENT Mentasta 3.38 58 P **Pn 17 30 16.4 -1.6**
CRQM Cirque 3.40 96 Pn 17 30 17.9 -0.4
HDA Harding Lake 3.42 23 Pn 17 30 18.6 +0.2
HDA IAML 17 31 18.9
comp=N,240μm,1.1s
HDA IAML 17 31 20.2
comp=E,335μm,1.5s
HDA Harding Lake 3.42 23 P **Pn 17 30 18.9 +0.5**
baz=205,SNR=1000
CRQE Cirque 3.42 96 P **Pn 17 30 18.5 -0.1**
baz=283,SNR=1000
RIDG Independent Ri 3.42 42 Pn 17 30 19.5 +0.9
RIDG Independent Ri 3.42 42 P **Pn 17 30 19.7 +1.2**
baz=227,SNR=1000
J20K Nowinta River 3.44 328 Pn 17 30 19.7 +0.9
J20K Nowinta River 3.44 328 IAML 17 31 31.5
comp=E,315μm,1.3s
J20K IAML 17 31 40.5
comp=N,390μm,2.2s
J20K Nowinta River 3.44 328 P **Pn 17 30 19.4 +0.7**
baz=144,SNR=1000
CCB Clear Creek Bu 3.50 16 Pn 17 30 19.1 -0.4
CCB IAML 17 31 25.9
comp=E,289μm,1.6s
M26K Nabesna, AK 3.51 69 Pn 17 30 18.9 -0.8
M26K IAML 17 31 24.4
comp=E,184μm,1.6s
M26K IAML 17 31 33.7
comp=N,247μm,1.4s
M26K Nabesna, AK 3.51 69 P **Pn 17 30 20.0 +0.3**
baz=255
TGL Tana Glacier 3.54 96 Pn 17 30 19.7 -0.6
TGL IAML 17 31 28.9
comp=E,284μm,0.7s
M17K Holitna River 3.57 275 Pn **Pn 17 30 21.9 +1.4**
M17K Holitna River 3.57 275 P **Pn 17 30 22.3 +1.7**
baz=88,SNR=1000
L26K Log Cabin Wild 3.57 58 Pn 17 30 21.1 +0.5
L26K IAML 17 31 25.0
comp=N,365μm,1.1s
L26K IAML 17 31 28.3
comp=E,288μm,1.1s
L26K Log Cabin Wild 3.57 58 P **Pn 17 30 21.6 +1.0**
baz=244,SNR=1000
N17K Nushagak Hills 3.58 260 Pn 17 30 22.2 +1.5
N17K IAML 17 31 38.5
comp=E,172μm,1.7s
N17K IAML 17 31 38.5
comp=N,216μm,1.4s
N17K Nushagak Hills 3.58 260 P **Pn 17 30 22.3 +1.6**
baz=74,SNR=1000
WAX Waxell Ridge 3.61 101 Pn 17 30 20.8 -0.4
Q18K Katmai Hardscr 3.66 225 P **Pn 17 30 23.2 +1.3**
baz=41,SNR=1000
SNH Sunshine Point 3.71 105 Pn 17 30 21.9 -0.5
SNH Sunshine Point 3.71 105 IAML 17 31 46.3
comp=E,284μm,2.8s
SNH IAML 17 31 58.9
comp=N,315μm,3.0s
COLA College 3.71 14 Pn 17 30 22.5 +0.1
COLA IAML 17 31 18.6
comp=N,283μm,0.6s
COLA College 3.71 14 P **Pn 17 30 22.7 +0.3**
baz=196
COLA College 3.71 14 P **Pn 17 30 20.3 -2.1**
COLA College 3.71 14 ⇓P **Pn 17 30 22.5 +0.1**
COLA College 3.71 14 P **Pn 17 30 22.5 +0.1**
I53US FAIRBANKS INFR 3.71 14 P **Pn 17 30 25.0 +2.6**
baz=200,slow=17,SNR=2.0
I53US I I 17 43 50.0
comp=N,0.6nm,0.9s,baz=213,slow=321,SNR=4.6
BALM Baldy 3.73 91 Pn 17 30 22.7 -0.2
J19K Poorman 3.73 319 Pn 17 30 23.8 +1.1
J19K Poorman 3.73 319 IAML 17 31 30.8
comp=N,262μm,1.2s
J19K IAML 17 31 42.8
comp=E,217μm,1.8s
J19K Poorman 3.73 319 P **Pn 17 30 23.9 +1.2**
baz=133,SNR=1000
KIAG Kiagna River 3.74 93 Pn 17 30 22.8 -0.2
MLY Manley 3.75 355 Pn 17 30 22.1 -0.9
MLY IAML 17 31 39.4
comp=E,157μm,2.0s
MLY Manley 3.75 355 P **Pn 17 30 23.1 +0.1**
baz=174,SNR=1000
IL31 3.76 21 Pn 17 30 23.0 0.0
ILAR Eielson Array 3.76 21 P **Pn 17 30 23.1 0.0**
comp=E,2μm,0.6s,baz=206,slow=14,SNR=535
KDAK Kodiak Island 3.77 201 Pn 17 30 23.0 -0.3
KDAK IAML 17 31 37.5
comp=E,139μm,0.9s
KDAK Kodiak Island 3.77 201 P **Pn 17 30 22.9 -0.3**
comp=E,746nm,0.4s,baz=250,slow=3.8,SNR=318
KDAK S **Sn 17 31 07.6 +1.3**
comp=E,42μm,0.7s,baz=186,slow=12,SNR=6.5
KDAK Kodiak Island 3.77 201 P **Pn 17 30 23.8 +0.6**
baz=20
KDAK Kodiak Island 3.77 201 ⇓P **Pn 17 30 23.1 -0.1**
J18K Innoko River 3.79 308 Pn 17 30 24.9 +1.4
J18K Innoko River 3.79 308 IAML 17 31 33.6
comp=E,154μm,1.4s
J18K IAML 17 31 38.1
comp=N,158μm,2.5s
J18K Innoko River 3.79 308 P **Pn 17 30 24.9 +1.4**
baz=121,SNR=1000
BARK Barkley Ridge 3.80 101 Pn 17 30 23.5 -0.3
ISLE Juniper Island 3.82 97 Pn 17 30 23.0 -1.1
O17K Koliganek Bris 3.82 249 P **Pn 17 30 25.5 +1.6**
baz=63,SNR=1000
P17K Kvichak River 3.83 239 P **Pn 17 30 25.9 +1.8**
baz=54,SNR=1000
SCRK Sand Creek 3.86 44 IAML 17 31 33.7
comp=E,191μm,1.1s
SCRK IAML 17 31 39.7
comp=N,210μm,1.8s
SCRK Sand Creek 3.86 44 P **Pn 17 30 24.9 +0.2**
baz=229,SNR=1000
I23K Minto, Yukon-K 3.87 4 Pn 17 30 24.2 -0.3
I23K IAML 17 31 39.6
comp=N,266μm,1.1s
I23K IAML 17 31 55.3
comp=E,196μm,1.6s
I23K Minto, Yukon-K 3.87 4 P **Pn 17 30 24.9 +0.4**
baz=184,SNR=1000
CYK Cape Yakataga 3.91 105 Pn 17 30 24.6 -0.5
J25K Salcha River, 3.94 31 Pn 17 30 26.0 +0.4
J25K IAML 17 31 25.4
comp=E,221μm,1.1s
J25K IAML 17 31 40.6
comp=N,223μm,3.2s
J25K Salcha River, 3.94 31 P **Pn 17 30 26.3 +0.7**
baz=214,SNR=1000
BAGL Bagley Icefiel 3.96 98 Pn 17 30 25.9 0.0
I21K Tanana 3.98 348 Pn 17 30 25.9 -0.3
I21K IAML 17 31 36.0
comp=N,222μm,1.6s
I21K Tanana 3.98 348 P **Pn 17 30 26.6 +0.5**
baz=166,SNR=1000
POKR Poker Plat Res 4.00 16 Pn 17 30 26.6 +0.2
POKR IAML 17 31 42.6
comp=N,157μm,2.7s
POKR IAML 17 31 46.0
comp=E,187μm,2.1s
POKR Poker Plat Res 4.00 16 P **Pn 17 30 26.8 +0.4**
baz=198,SNR=1000
M27K Edge Creek, AK 4.00 71 Pn 17 30 27.0 +0.4
M27K IAML 17 31 38.6
comp=N,172μm,2.2s
M27K IAML 17 31 48.5
comp=E,170μm,2.4s
M27K Edge Creek, AK 4.00 71 P **Pn 17 30 27.4 +0.8**
baz=259,SNR=1000
L17K Donlin 4.02 285 P **Pn 17 30 28.2 +1.5**
baz=98,SNR=1000
I20K Naaghedeneel 4.04 332 Pn **Pn 17 30 27.3 +0.4**
I20K Naaghedeneel 4.04 332 P **Pn 17 30 27.5 +0.6**
baz=147,SNR=1000
GRNC Granite Creek 4.07 95 Pn 17 30 27.4 -0.2
GRNC Granite Creek 4.07 95 IAML 17 31 35.7
comp=N,160μm,2.1s
GRNC IAML 17 31 38.3
comp=E,140μm,0.9s
KELA Mount Kelaz 4.07 228 Pn 17 30 29.0 +1.5
ACHA Angle Creek He 4.10 223 Pn 17 30 28.8 +0.9
MESA MESA 4.12 102 Pn 17 30 27.7 -0.6
MESA IAML 17 31 50.7
comp=N,238μm,2.2s
MESA MESA 4.12 102 P **Pn 17 30 28.8 +0.5**
baz=290
K17K Iditarod 4.15 293 Pn **Pn 17 30 29.4 +0.9**
K17K Iditarod 4.15 293 P **Pn 17 30 30.0 +1.6**
baz=106,SNR=1000
L27K Beaver Creek, 4.22 62 Pn 17 30 30.0 +0.5
L27K Beaver Creek, 4.22 62 IAML 17 31 43.2
comp=E,144μm,3.0s
L27K IAML 17 31 47.1
comp=N,178μm,1.6s
L27K Beaver Creek, 4.22 62 P **Pn 17 30 30.1 +0.5**
baz=249,SNR=1000
CTG Chitna Glacier 4.23 91 P **Pn 17 30 29.9 +0.2**
baz=279,SNR=1000
CTGM Chitina Glacie 4.23 91 IAML 17 31 40.2
comp=N,220μm,2.6s
CTGM IAML 17 31 45.5
comp=E,129μm,1.5s
BCAR Beaver Creek A 4.24 62 Pn 17 30 29.9 +0.1
Q16K King Salmon 4.25 234 P **Pn 17 30 31.7 +1.9**
baz=49,SNR=1000
CNTC Contact Creek 4.25 227 Pn 17 30 31.6 +1.6
Q17K Contact Creek 4.25 227 P **Pn 17 30 31.6 +1.6**
baz=42
M16K Timber Creek 4.34 270 Pn 17 30 32.4 +1.4
M16K IAML 17 31 55.3
comp=N,147μm,2.9s
M16K IAML 17 32 01.2
comp=E,109μm,1.8s
M16K Timber Creek 4.34 270 P **Pn 17 30 32.9 +1.9**
baz=82,SNR=1000
O16K Kokwok River B 4.35 250 Pn 17 30 32.4 +1.2
O16K IAML 17 31 59.2
comp=E,115μm,1.6s
O16K IAML 17 32 10.0
comp=N,185μm,2.6s
O16K Kokwok River B 4.35 250 P **Pn 17 30 32.8 +1.6**
baz=63,SNR=1000
N16K Nishlik Lake 4.35 263 P **Pn 17 30 33.1 +1.8**
baz=75,SNR=1000
J26L Joseph Creek 4.36 40 Pn 17 30 32.1 +0.7
J26L Joseph Creek 4.36 40 IAML 17 31 39.4
comp=E,149μm,1.1s
J26L IAML 17 31 42.4
comp=N,160μm,0.9s
J26L Joseph Creek 4.36 40 P **Pn 17 30 32.0 +0.7**
baz=225,SNR=1000
R18K Karluk 4.38 213 Pn 17 30 32.5 +0.9
R18K Karluk 4.38 213 IAML 17 31 51.2
comp=E,101μm,0.6s
R18K IAML 17 31 51.8
comp=N,131μm,0.7s
R18K Karluk 4.38 213 P **Pn 17 30 32.1 +0.5**
baz=29
LOGN Logan Glacier 4.41 92 Pn 17 30 32.3 +0.1
LOGN Logan Glacier 4.41 92 IAML 17 31 57.4
comp=E,145μm,1.8s
LOGN IAML 17 32 08.7
comp=N,126μm,2.6s
YUK2 White River 4.42 80 Pn 17 30 32.4 +0.2
OHAK Old Harbor 4.43 204 Pn 17 30 31.8 -0.5
OHAK IAML 17 32 01.3
comp=E,93μm,1.3s
OHAK Old Harbor 4.43 204 P **Pn 17 30 32.2 -0.1**
baz=21,SNR=311
OHAK Old Harbor 4.43 204 P **Pn 17 30 35.4 +3.1**
TABL Table Mountain 4.43 97 Pn 17 30 32.4 -0.1
TABL Table Mountain 4.43 97 IAML 17 32 04.9
comp=E,182μm,1.9s
TABL IAML 17 32 12.7
comp=N,137μm,2.7s
BVCY Beaver Creek 4.48 72 P **Pn 17 30 33.8 +0.8**
baz=260,SNR=1000
H21K Melozitna Rive 4.54 345 Pn 17 30 33.5 -0.3
H21K IAML 17 31 52.4
comp=N,114μm,1.6s
H21K Melozitna Rive 4.54 345 P **Pn 17 30 33.9 +0.1**
baz=162,SNR=1000
H23K Yukon River 4.54 3 Pn 17 30 34.2 +0.4
H23K Yukon River 4.54 3 IAML 17 31 57.1
comp=E,154μm,2.2s
H23K IAML 17 32 05.6
comp=N,84μm,2.1s
H23K Yukon River 4.54 3 P **Pn 17 30 33.8 0.0**
baz=182
L16K Owhat River 4.54 279 Pn 17 30 35.0 +1.1
L16K IAML 17 32 03.7
comp=E,145μm,1.9s

L16K IAML 17 32 11.5
comp=N,155µm,2.0s
L16K Owhat River 4.54 279 P Pn 17 30 35.3 +1.4
baz=90,SNR=1000
P16K Nushagak River 4.59 244 P Pn 17 30 36.4 +1.9
baz=57,SNR=293
YUK3 Moose Creek 4.60 80 P Pn 17 30 34.8 -0.1
baz=269,SNR=1000
H22K Ishtalitna Cre 4.64 353 Pn 17 30 35.7 +0.5
H22K Ishtalitna Cre 4.64 353 P Pn 17 30 35.4 +0.2
baz=171,SNR=1000
H24K Noodor Dome 4.64 11 Pn 17 30 35.9 +0.6
H24K Noodor Dome 4.64 11 IAML 17 32 05.7
comp=N,113µm,2.0s
H24K IAML 17 32 05.8
comp=E,139µm,2.2s
H24K Noodor Dome 4.64 11 P Pn 17 30 35.6 +0.3
baz=192,SNR=1000
GCSA Galena City Sc 4.65 321 P Pn 17 30 36.4 +1.1
baz=134,SNR=1000
PRP Porcupine Dome IAML 17 32 02.0
comp=N,146µm,1.8s
PRP Porcupine Dome 4.68 24 P Pn 17 30 36.4 +0.6
baz=207,SNR=1000
J17K VABM Dome 4.71 300 Pn **Pn 17 30 36.7 +0.6**
J17K IAML 17 32 05.3
comp=N,151µm,2.0s
J17K IAML 17 32 19.5
comp=E,110µm,1.7s
J17K VABM Dome 4.71 300 P Pn 17 30 37.1 +1.0
baz=112,SNR=1000
H20K Anotleneega Mo 4.73 335 Pn 17 30 37.2 +0.8
H20K Anotleneega Mo 4.73 335 P Pn 17 30 37.2 +0.8
baz=150,SNR=1000
PLK5 Peulik 5 4.81 229 Pn 17 30 39.3 +1.9
O28M Mount Upton 4.81 92 Pn 17 30 38.2 +0.4
O28M Mount Upton 4.81 92 P Pn 17 30 38.4 +0.6
baz=281,SNR=1000
PLK3 Peulik 3 4.83 224 Pn 17 30 39.4 +1.6
PLK4 Peulik 4 4.90 224 Pn 17 30 40.2 +1.4
PLK4 IAML 17 32 26.3
comp=N,116µm,1.3s
R17L Mt. Peulik Vol 4.90 224 P Pn 17 30 40.8 +2.0
baz=39,SNR=1000
YUK8 Steele Glacier 4.95 86 Pn 17 30 40.0 +0.3
YUK8 Steele Glacier 4.95 86 P Pn 17 30 39.9 +0.3
baz=275,SNR=1000
PCA Pinnacle 4.95 100 Pn 17 30 39.0 -0.6
PINM Pinnacle 4.95 100 P Pn 17 30 39.5 0.0
baz=289,SNR=1000
IMAR Indian Mountai 4.98 342 Pn 17 30 40.0 +0.2
N15K Kwethluk River 5.07 261 P Pn 17 30 43.0 +2.0
baz=72,SNR=1000
H19K Roundabout Mou 5.12 329 Pn 17 30 42.6 +1.0
H19K Roundabout Mou 5.12 329 P Pn 17 30 42.7 +1.0
baz=142
M15K Kasigluk River 5.23 268 P Pn 17 30 44.7 +1.5
baz=78,SNR=1000
SII Sitkinak Islan 5.23 206 Pn 17 30 44.1 +0.8
SII Sitkinak Islan 5.23 206 P Pn 17 30 44.6 +1.4
baz=23,SNR=192
SII Sitkinak Islan 5.23 206 P Pn 17 30 46.5 +3.2
BCPM Bancas Point 5.29 100 Pn 17 30 43.2 -0.9
H25L Birch Creek 5.31 19 Pn 17 30 45.3 +1.0
H25L Birch Creek 5.31 19 P Pn 17 30 45.3 +1.0
baz=202
J16K Anvik River 5.32 296 Pn **Pn 17 30 45.2 +0.8**
J16K IAML 17 32 22.9
comp=N,83µm,1.5s
J16K IAML 17 32 39.9
comp=E,59µm,1.6s
J16K Anvik River 5.32 296 P Pn 17 30 45.6 +1.1
baz=107,SNR=1000
EGAK Eagle 5.33 45 Pn 17 30 44.0 -0.6
EGAK Eagle 5.33 45 P Pn 17 30 45.1 +0.5
baz=233,SNR=1000
EGAK Eagle 5.33 45 ⇓P **Pn 17 30 45.0 +0.4**
O15K Ungalikthiuk R 5.33 251 P Pn 17 30 46.6 +2.0
baz=62,SNR=1000
R16K Pilot Point 5.38 229 Pn 17 30 47.1 +1.9
R16K Pilot Point 5.38 229 P Pn 17 30 46.9 +1.7
baz=43,SNR=131
H18K Honhosa River 5.39 319 Pn 17 30 46.8 +1.3
H18K Honhosa River 5.39 319 P Pn 17 30 46.7 +1.3
baz=131,SNR=1000
G23K Bananza Creek 5.42 0 Pn 17 30 46.4 +0.5
G23K Bananza Creek 5.42 0 IAML 17 32 31.8
comp=E,50µm,2.5s
G23K Bananza Creek 5.42 0 P Pn 17 30 46.2 +0.3
baz=180,SNR=1000
YKU2 Yakutat 5.44 105 Pn 17 30 46.5 +0.4
YKU2 Yakutat 5.44 105 P Pn 17 30 48.4 +2.3
G21K Allakaket 5.45 345 Pn 17 30 46.6 +0.4
G21K Allakaket 5.45 345 P Pn 17 30 46.5 +0.4
baz=162,SNR=1000
YUK4 Talbot Arm 5.48 85 P Pn 17 30 47.1 +0.2
baz=274,SNR=1000
L15K Ungalak Mounta 5.50 279 P Pn 17 30 48.3 +1.3
baz=88,SNR=1000
PNL Peninsula 5.51 103 Pn 17 30 46.1 -1.0
PNL Peninsula 5.51 103 P Pn 17 30 47.2 +0.1
baz=292,SNR=1000
PNL Peninsula 5.51 103 P Pn 17 30 48.0 +0.9
G24K Hadweenzic Riv 5.53 11 Pn 17 30 48.1 +0.8
G24K Hadweenzic Riv 5.53 11 P Pn 17 30 47.6 +0.3
baz=192,SNR=1000
K15K Wolf Creek Mou 5.54 285 Pn 17 30 49.2 +1.6
K15K Wolf Creek Mou 5.54 285 P Pn 17 30 49.3 +1.8
baz=95,SNR=1000
I17K Unalakleet 5.56 302 Pn 17 30 48.6 +0.9
I17K Unalakleet 5.56 302 P Pn 17 30 49.4 +1.6
baz=112,SNR=1000
M29M Somme Creek 5.59 73 P Pn 17 30 48.8 +0.5
baz=264,SNR=1000
DAWY Dawson 5.62 56 P Pn 17 30 49.2 +0.5
baz=245,SNR=1000
YUK6 Outpost Mounta 5.67 89 P Pn 17 30 49.8 +0.3
baz=279,SNR=1000
G22K Bettles 5.67 354 Pn 17 30 49.7 +0.4
G22K Bettles 5.67 354 P Pn 17 30 49.6 +0.4
baz=172
FYU Fort Yukon 5.68 20 Pn 17 30 50.2 +0.7
O29M Mount Kennedy 5.70 95 Pn 17 30 50.2 +0.4
O29M Mount Kennedy 5.70 95 P Pn 17 30 49.9 +0.2
baz=286,SNR=1000
I27K Kandik River 5.72 38 P Pn 17 30 50.7 +0.6
baz=225,SNR=1000
G25K Bearman Lake 5.74 16 Pn 17 30 51.0 +0.7
G25K Bearman Lake 5.74 16 P Pn 17 30 50.9 +0.6
baz=199,SNR=1000
H17K Granite Mounta 5.77 313 Pn 17 30 51.9 +1.2
H17K Granite Mounta 5.77 313 P Pn 17 30 52.0 +1.3
baz=124,SNR=1000
G19K Purcell Mounta 5.77 330 Pn 17 30 51.2 +0.5
G19K Purcell Mounta 5.77 330 P Pn 17 30 51.2 +0.5
baz=143
M14K Bethel 5.83 270 Pn 17 30 52.5 +1.1
M14K Bethel 5.83 270 P Pn 17 30 53.4 +2.0
baz=79,SNR=1000
L29M L29M 5.85 67 P Pn 17 30 52.7 +0.9
baz=258,SNR=1000
N14K Kuskokwak Cree 5.91 262 P Pn 17 30 54.7 +2.2
baz=71,SNR=934
COLD Coldfoot 5.94 359 P Pn 17 30 53.3 +0.3
baz=179,SNR=1000
O14K Tigyukauivet M 5.96 255 P Pn 17 30 55.2 +2.0
baz=65,SNR=400
G18K Tagagawik 6.00 324 P Pn 17 30 54.8 +1.1
baz=136,SNR=1000
L14K Kuka Creek 6.09 276 Pn **Pn 17 30 56.7 +1.6**
L14K Kuka Creek 6.09 276 P Pn 17 30 57.2 +2.2
baz=84
HYT Haines Junctio 6.10 89 P Pn 17 30 55.5 +0.2
baz=280,SNR=1000
F21K Alatna River 6.12 347 Pn 17 30 56.2 +0.7
F21K Alatna River 6.12 347 P Pn 17 30 56.0 +0.5
baz=164,SNR=1000
I28M Miner Creek 6.15 43 Pn 17 30 56.5 +0.6
I28M Miner Creek 6.15 43 P Pn 17 30 56.5 +0.6
baz=232,SNR=1000
H27K Steamboat Moun 6.21 34 Pn 17 30 56.8 +0.1
H27K Steamboat Moun 6.21 34 P Pn 17 30 56.6 0.0
baz=221,SNR=1000
N30M Aishikik Lake 6.22 83 P Pn 17 30 56.7 -0.2
baz=274,SNR=1000
CHIR Chirikof Islan 6.23 210 P Pn 17 30 58.2 +1.2
baz=26,SNR=57
CHIR Chirikof Islan 6.23 210 P Pn 17 30 59.7 +2.7
J29N Klondike Camp 6.25 55 Pn 17 30 58.2 +0.9
J29N Klondike Camp 6.25 55 P Pn 17 30 58.2 +0.9
baz=245
F20K Avaraart Lake 6.27 339 Pn 17 30 58.3 +0.8
F20K Avaraart Lake 6.27 339 P Pn 17 30 58.1 +0.6
baz=154
G26K Porcupine Rive 6.28 23 P Pn 17 30 57.9 +0.2
baz=208,SNR=1000
F22K John River 6.29 352 Pn 17 30 58.5 +0.7
F22K John River 6.29 352 P Pn 17 30 58.1 +0.3
baz=170
F24K Squaw Lake 6.30 8 Pn **Pn 17 30 57.4 -0.6**
F24K Squaw Lake 6.30 8 P Pn 17 30 58.3 +0.3
baz=189,SNR=1000
P29M Windy Craggy 6.31 100 Pn 17 30 58.5 +0.5
P29M Windy Craggy 6.31 100 P Pn 17 30 58.4 +0.4
baz=291,SNR=1000
K29M Barlow Dome 6.31 61 Pn 17 30 58.8 +0.6
K29M Barlow Dome 6.31 61 P Pn 17 30 58.7 +0.6
baz=252,SNR=1000
G17K Kiwalik Mounta 6.36 316 P Pn 17 30 59.5 +0.9
baz=126,SNR=878
M30M Minto, Yukon 6.37 73 Pn 17 30 58.9 0.0
M30M Minto, Yukon 6.37 73 P Pn 17 30 58.8 -0.2
baz=264,SNR=1000
H16K Elim 6.49 306 P Pn 17 31 01.4 +1.0
baz=115,SNR=1000
F19K Shaleruckik Mo 6.50 332 Pn 17 31 01.3 +0.7
F19K Shaleruckik Mo 6.50 332 P Pn 17 31 01.3 +0.7
baz=144
P30M Million Dollar 6.52 95 Pn 17 31 00.7 -0.4
P30M Million Dollar 6.52 95 P Pn 17 31 01.0 -0.1
baz=286,SNR=1000
J14K Nanvaranak Lak 6.53 289 Pn 17 31 02.2 +1.2
J14K Nanvaranak Lak 6.53 289 P Pn 17 31 02.6 +1.6
baz=96,SNR=850
M13K Dall Lake 6.57 268 Pn 17 31 03.7 +2.1
M13K Dall Lake 6.57 268 P Pn 17 31 04.1 +2.5
baz=76,SNR=1000
BMAR Burnt Mountain 6.58 19 Pn 17 31 01.6 -0.1
F25K Christian Rive 6.59 15 Pn 17 31 02.4 +0.5
F25K Christian Rive 6.59 15 P Pn 17 31 02.1 +0.2
baz=198,SNR=1000
G27K Doyon Strip 6.62 30 P Pn 17 31 02.3 -0.1
baz=217,SNR=1000
CHGN Chignik 6.64 225 Pn 17 31 03.3 +0.7
CHGN Chignik 6.64 225 P Pn 17 31 03.3 +0.7
baz=38,SNR=151
E23K Chandalar 6.78 1 Pn 17 31 05.1 +0.6
E23K Chandalar 6.78 1 P Pn 17 31 05.1 +0.6
baz=181,SNR=1000
F18K Selawik 6.79 326 P Pn 17 31 05.6 +1.1
baz=136,SNR=912
O30N Mendenhall 6.79 88 P Pn 17 31 04.3 -0.4
baz=281,SNR=1000
E24K Your Creek 6.83 5 Pn 17 31 05.6 +0.5
E24K Your Creek 6.83 5 P Pn 17 31 05.7 +0.5
baz=186
N31M Braeburn, Yuko 6.84 82 P Pn 17 31 05.3 -0.1
baz=275,SNR=1000
G16K Koyuk River 6.89 312 Pn 17 31 07.0 +1.1
G16K Koyuk River 6.89 312 P Pn 17 31 06.8 +0.9
baz=120,SNR=806
F26K Sheenjek River 6.89 19 Pn 17 31 05.8 -0.2
F26K Sheenjek River 6.89 19 P Pn 17 31 06.2 +0.2
baz=204,SNR=1000
E19K Redstone River 6.91 336 Pn 17 31 07.2 +0.9
E19K Redstone River 6.91 336 P Pn 17 31 07.1 +0.8
baz=149,SNR=1000
MAYO Mayo, Yukon 6.94 65 P Pn 17 31 07.7 +0.9
baz=257,SNR=209
K13K Kusilvak Mount 7.00 282 Pn 17 31 09.2 +1.7
K13K Kusilvak Mount 7.00 282 P Pn 17 31 09.2 +1.7
baz=88
PLBC Pleasant Camp 7.02 99 P Pn 17 31 08.0 +0.2
baz=292,SNR=1000
J30M Hart River 7.05 56 Pn 17 31 09.5 +1.2
J30M Hart River 7.05 56 P Pn 17 31 09.4 +1.2
baz=249,SNR=1000
H29M Whitestone 7.13 41 Pn 17 31 08.9 -0.4
H29M Whitestone 7.13 41 P Pn 17 31 09.4 +0.1
baz=232,SNR=755
F17K Baldwin Pennin 7.14 321 Pn 17 31 10.5 +1.1
F17K Baldwin Pennin 7.14 321 P Pn 17 31 10.6 +1.3
baz=130,SNR=1000
I30M Mount Dempster 7.29 52 Pn 17 31 12.2 +0.5
I30M Mount Dempster 7.29 52 P Pn 17 31 12.1 +0.5
baz=244,SNR=1000
G15K Niukluk 7.34 306 Pn 17 31 13.1 +1.0
G15K Niukluk 7.34 306 P Pn 17 31 13.1 +1.0
baz=113,SNR=492
E21K Killik River 7.35 349 Pn 17 31 14.7 +2.4
E21K Killik River 7.35 349 P Pn 17 31 13.1 +0.7
baz=165
TOLK Toolik Lake Re 7.37 1 P Pn 17 31 13.7 +1.2
baz=181,SNR=1000
WHY Whitehorse 7.40 88 Pn 17 31 12.5 -0.5
WHY Whitehorse 7.40 88 P Pn 17 31 12.5 -0.5
baz=282,SNR=1000
E20K Nigu River 7.45 342 Pn 17 31 15.0 +1.2
E20K Nigu River 7.45 342 P Pn 17 31 14.9 +1.2
baz=156,SNR=1000
M31M Drury Creek, Y 7.47 76 Pn 17 31 14.2 +0.2
M31M Drury Creek, Y 7.47 76 P Pn 17 31 13.9 -0.1
baz=270,SNR=1000
SKAG Skagway 7.51 98 Pn 17 31 14.6 +0.1
SKAG Skagway 7.51 98 P Pn 17 31 14.8 +0.3
baz=291,SNR=1000
SKAG Skagway 7.51 98 P Pn 17 31 16.0 +1.5
SKAG Skagway 7.51 98 ⇑P **Pn 17 31 14.3 -0.2**
E18K Tukpahlearik C 7.65 328 Pn 17 31 17.7 +1.3
E18K Tukpahlearik C 7.65 328 P Pn 17 31 17.6 +1.3
baz=138,SNR=659
G29M Pine Creek 7.68 38 Pn 17 31 16.7 -0.2
G29M Pine Creek 7.68 38 P Pn 17 31 16.0 -0.8
baz=228,SNR=433
D22K Ayikyak River 7.68 353 Pn 17 31 18.4 +1.6
D22K Ayikyak River 7.68 353 P Pn 17 31 18.0 +1.1
baz=170
F28M Old Crow 7.69 30 P Pn 17 31 17.2 +0.2
baz=219,SNR=1000
D23K Nanushuk River 7.69 358 Pn 17 31 17.6 +0.7
D23K Nanushuk River 7.69 358 P Pn 17 31 17.9 +0.9
baz=177
ANM Nome 7.72 302 Pn 17 31 17.9 +0.6
ANM Nome 7.72 302 P Pn 17 31 17.8 +0.5
baz=108,SNR=99
ANM Nome 7.72 302 P Pn 17 31 17.9 +0.6
E17K Hotham Inlet 7.74 324 P Pn 17 31 18.6 +1.1
baz=132,SNR=1000
S31K Pelican 7.75 110 P Pn 17 31 16.8 -1.0
baz=302,SNR=738
R31K City Hall, Gus 7.75 106 Pn 17 31 17.7 0.0
R31K City Hall, Gus 7.75 106 P Pn 17 31 17.5 -0.2
baz=298,SNR=449
EPYK Eagle Plains 7.76 43 Pn 17 31 17.4 -0.4
EPYK Eagle Plains 7.76 43 P Pn 17 31 17.1 -0.8
baz=235,SNR=347
E27K Coleen River 7.78 24 P Pn 17 31 18.4 +0.2
baz=211,SNR=1000
F15K North Star Dit 7.88 310 Pn 17 31 20.3 +0.9
F15K North Star Dit 7.88 310 P Pn 17 31 20.8 +1.3
baz=117,SNR=848
D24K Happy Valley 7.89 3 Pn 17 31 20.9 +1.2
D24K Happy Valley 7.89 3 P Pn 17 31 20.4 +0.7
baz=184
D20K Etivluk River 7.93 342 P Pn 17 31 21.0 +0.7
baz=156,SNR=1000
M11K Mekoryuk 7.95 270 Pn 17 31 22.3 +1.8
M11K Mekoryuk 7.95 270 P Pn 17 31 22.8 +2.3
baz=76,SNR=624
FARO Faro, Yukon 7.96 76 P Pn 17 31 20.4 -0.3
baz=271,SNR=1000
D19K Kuna River 7.98 338 Pn 17 31 21.7 +0.8
D19K Kuna River 7.98 338 P Pn 17 31 21.8 +0.8
baz=150,SNR=1000
C21K Knifeblade Rid 8.13 348 Pn 17 31 23.8 +1.0
C21K Knifeblade Rid 8.13 348 P Pn 17 31 23.9 +1.0
baz=163,SNR=1000
N32M Quiet Lake 8.18 84 Pn 17 31 23.4 -0.2
N32M Quiet Lake 8.18 84 P Pn 17 31 23.9 +0.3
baz=279,SNR=991
D25K Kavik River 8.19 9 P Pn 17 31 24.7 +1.0
baz=192,SNR=1000
CHNA Chernabura Isl 8.23 222 P Pn 17 31 23.6 -0.7
baz=34,SNR=31
CHNA Chernabura Isl 8.23 222 P Pn 17 31 27.8 +3.4
CNBA Chernabura Isl 8.24 222 Pn 17 31 24.1 -0.4
P32M Atlin 8.24 95 Pn 17 31 24.6 0.0
P32M Atlin 8.24 95 P Pn 17 31 24.2 -0.4
baz=289,SNR=1000
G30M tAoh Zraii Nji 8.28 41 Pn 17 31 24.3 -0.7
G30M tAoh Zraii Nji 8.28 41 P Pn 17 31 24.4 -0.6
baz=233
H31M Peel River 8.31 50 Pn 17 31 25.3 -0.2
H31M Peel River 8.31 50 P Pn 17 31 25.1 -0.4
baz=244,SNR=1000
R32K Eaglecrest 8.39 104 Pn 17 31 27.0 +0.5
R32K Eaglecrest 8.39 104 P Pn 17 31 25.8 -0.8
baz=298,SNR=573
F14K Arctic Creek 8.41 307 Pn 17 31 28.0 +1.2
F14K Arctic Creek 8.41 307 P Pn 17 31 27.6 +0.8
baz=112,SNR=844
S12K Black Hills 8.44 234 Pn 17 31 29.0 +1.9
S12K Black Hills 8.44 234 P Pn 17 31 28.6 +1.5
baz=43,SNR=79
JIS Juneau Island 8.45 104 P Pn 17 31 27.9 +0.6
C24K Franklin Bluff 8.46 3 Pn 17 31 27.4 -0.1
C24K Franklin Bluff 8.46 3 P Pn 17 31 28.4 +0.9
baz=184,SNR=1000
P33M Teslin, Yukon 8.49 90 Pn 17 31 26.7 -1.4
P33M Teslin, Yukon 8.49 90 P Pn 17 31 27.4 -0.7
baz=285,SNR=1000
D17K Noatak River 8.52 324 Pn 17 31 29.4 +1.2
D17K Noatak River 8.52 324 P Pn 17 31 29.1 +1.0
baz=132,SNR=235
PS1A Pavlof South-1 8.52 231 Pn 17 31 30.1 +1.8
E28M Babbage River 8.55 27 Pn 17 31 29.0 +0.3
E28M Babbage River 8.55 27 P Pn 17 31 28.2 -0.5
baz=216,SNR=1000
B21K Ikpikpuk River 8.56 349 Pn 17 31 29.2 +0.4
B21K Ikpikpuk River 8.56 349 P Pn 17 31 29.1 +0.4
baz=165,SNR=1000
C23K Itkillik River 8.57 359 Pn 17 31 29.9 +1.0
C23K Itkillik River 8.57 359 P Pn 17 31 29.9 +1.0
baz=178,SNR=1000
PN7A Pavlof North-7 8.61 232 Pn 17 31 32.1 +2.5
PS4A Pavlof South-4 8.62 231 Pn 17 31 31.8 +2.0
SIT Sitka 8.66 113 Pn 17 31 27.7 -2.5
SIT Sitka 8.66 113 P Pn 17 31 29.0 -1.2
baz=306,SNR=203
SIT Sitka 8.66 113 P Pn 17 31 30.1 -0.1
SIT Sitka 8.66 113 P Pn 17 31 27.7 -2.5
RDOG Red Dog Mine 8.71 326 Pn 17 31 32.1 +1.2
RDOG Red Dog Mine 8.71 326 P Pn 17 31 31.1 +0.2
baz=134,SNR=271
C18K Utukok River 8.74 332 Pn 17 31 32.3 +1.0
C18K Utukok River 8.74 332 P Pn 17 31 32.0 +0.7
baz=142,SNR=351
C27K Jago River 8.75 15 Pn 17 31 31.9 +0.5
C27K Jago River 8.75 15 P Pn 17 31 31.7 +0.4
baz=200
E29M Blow River 8.77 31 Pn 17 31 31.6 0.0
E29M Blow River 8.77 31 P Pn 17 31 31.8 +0.2
baz=222
S32K Killisnoo 8.77 109 P Pn 17 31 31.3 -0.4
baz=303,SNR=1000
C19K Lookout Ridge 8.78 337 Pn 17 31 32.4 +0.5
C19K Lookout Ridge 8.78 337 P Pn 17 31 33.3 +1.4
baz=148
F30M Barrier River 8.80 38 P Pn 17 31 31.5 -0.6
baz=231,SNR=911
D27M Malcolm River 8.81 22 Pn 17 31 33.1 +0.8
D27M Malcolm River 8.81 22 P Pn 17 31 33.0 +0.7
baz=210
G31M Satah River 8.88 44 P Pn 17 31 32.0 -1.1
baz=238,SNR=1000
C26K Camden Bay 8.89 11 Pn 17 31 33.5 +0.1
C26K Camden Bay 8.89 11 P Pn 17 31 33.1 -0.3
baz=196,SNR=1000
TNA Tin City 9.06 306 Pn 17 31 37.2 +1.5
TNA Tin City 9.06 306 P Pn 17 31 36.1 +0.4
baz=109,SNR=334
TNA Tin City 9.06 306 ⇑P **Pn 17 31 37.2 +1.5**
C17K DeLong Mountai 9.09 328 Pn 17 31 37.4 +1.4
C17K DeLong Mountai 9.09 328 P Pn 17 31 37.2 +1.2
baz=136,SNR=258
Q32M Nakina River 9.16 97 P Pn 17 31 36.9 -0.4
baz=293,SNR=1000
B22K Teshekpuk Lake 9.17 353 Pn 17 31 37.1 0.0
B22K Teshekpuk Lake 9.17 353 P Pn 17 31 36.7 -0.4
baz=169,SNR=827
B20K Meade River 9.21 345 Pn 17 31 38.2 +0.6
B20K Meade River 9.21 345 P Pn 17 31 37.4 -0.2
baz=158
D28M Stokes Point 9.31 25 P Pn 17 31 38.9 -0.1
baz=216,SNR=1000
F31M Tsiigehtchic 9.33 42 Pn 17 31 37.8 -1.5
F31M Tsiigehtchic 9.33 42 P Pn 17 31 38.0 -1.3
baz=236,SNR=807
B18K Kokolik River 9.44 334 Pn 17 31 42.0 +1.2
B18K Kokolik River 9.44 334 P Pn 17 31 41.2 +0.4
baz=143,SNR=245
C16K Lisburne Hills 9.54 324 Pn 17 31 43.6 +1.5
C16K Lisburne Hills 9.54 324 P Pn 17 31 42.6 +0.5
baz=129,SNR=78
FALS False Pass 9.59 234 P Pn 17 31 44.4 +1.6
baz=42,SNR=5.3
FALS False Pass 9.59 234 P Pn 17 31 47.1 +4.3
R33M Jennings River 9.63 93 Pn 17 31 44.2 +0.5
R33M Jennings River 9.63 93 P Pn 17 31 43.3 -0.4
baz=290,SNR=1000
ISLZ Isanotski Laza 9.80 234 Pn 17 31 46.3 +0.5
T33K Petersburg 9.87 110 Pn 17 31 47.7 +1.0
T33K Petersburg 9.87 110 P Pn 17 31 47.6 +1.0
baz=304
INK Inuvik 9.90 38 P Pn 17 31 46.0 -1.1
comp=E,237nm,0.6s,baz=244,slow=14,SNR=241
INK S Sn 17 33 37.2 +0.5
comp=E,2µm,0.8s,baz=80,slow=30,SNR=1.6
INK LR LR 17 35 57.6
comp=E,2109µm,18.5s,baz=225,slow=40
INK Inuvik 9.90 38 P Pn 17 31 46.4 -0.7
baz=233,SNR=659
INK Inuvik 9.90 38 ⇓P **Pn 17 31 46.0 -1.1**
A22K Sinclair Lake 9.94 351 Pn 17 31 46.8 -0.7
A22K Sinclair Lake 9.94 351 P Pn 17 31 46.9 -0.7
baz=166
A19K Wainwright 9.99 338 Pn 17 31 49.2 +0.9
A19K Wainwright 9.99 338 P Pn 17 31 48.6 +0.2
baz=148
S34M Telegraph Cree 10.15 101 Pn 17 31 50.5 0.0
S34M Telegraph Cree 10.15 101 P Pn 17 31 50.0 -0.6
baz=298,SNR=1000
U33K Whale Pass 10.20 113 Pn 17 31 50.7 -0.6
U33K Whale Pass 10.20 113 P Pn 17 31 50.7 -0.6
baz=308,SNR=303
GAMB Gambell 10.29 293 Pn **Pn 17 31 53.5 +1.0**
GAMB Gambell 10.29 293 P Pn 17 31 53.3 +0.8
baz=94,SNR=109
GAMB Gambell 10.29 293 ⇑P **Pn 17 31 54.1 +1.6**
WRAK Wrangell Islan 10.37 110 P Pn 17 31 52.8 -0.8
baz=306,SNR=261
WRAK Wrangell Islan 10.37 110 ⇑P **Pn 17 31 52.8 -0.8**
A21K Barrow 10.39 348 Pn 17 31 54.9 +1.2
A21K Barrow 10.39 348 P Pn 17 31 53.4 -0.3
baz=162,SNR=40
DLBC Dease Lake 10.45 97 P Pn 17 31 54.1 -0.6
comp=E,2µm,1.0s,baz=290,slow=12,SNR=406
DLBC LR LR 17 36 25.2
comp=E,2169µm,21.9s,baz=304,slow=40
DLBC Dease Lake 10.45 97 P Pn 17 31 54.2 -0.5
baz=295,SNR=1000
WTLY Watson Lake, Y 10.46 87 P Pn 17 31 55.1 +0.3
baz=286
CRAG Craig 10.61 116 Pn 17 31 55.3 -1.5
CRAG Craig 10.61 116 P Pn 17 31 57.0 +0.2
baz=311,SNR=119
CRAG Craig 10.61 116 P Pn 17 31 57.3 +0.5
CRAG Craig 10.61 116 ⇓P **Pn 17 31 55.4 -1.5**
AKSA Akutan Strait 11.02 236 Pn 17 32 04.6 +2.2
T35M Bob Quinn 11.02 104 P Pn 17 32 02.5 -0.1
baz=302,SNR=1000
P08K Saint George I 11.11 254 Pn 17 32 04.1 +0.5
P08K Saint George I 11.11 254 P Pn 17 32 05.2 +1.6
baz=57,SNR=14
SPIA Saint Paul Isl 11.13 257 P Pn 17 32 05.5 +1.5
baz=60,SNR=77
SPIA Saint Paul Isl 11.13 257 P Pn 17 32 07.3 +3.3

LVA	Lava Point	11.13	237	Pn	Pn	17 32 04.2	+0.2
V35K	Ketchikan	11.36	114		Pn	17 32 07.0	-0.1
V35K	Ketchikan	11.36	114	P	Pn	17 32 07.0	-0.1
baz=310,SNR=138							
UNV	Unalaska Valle	11.55	237	P	Pn	17 32 10.7	+1.0
baz=43,SNR=37							
UNV	Unalaska Valle	11.55	237	P	Pn	17 32 11.1	+1.3
U35K	Hyder	11.72	109		Pn	17 32 13.2	+1.2
U35K	Hyder	11.72	109	P	Pn	17 32 13.1	+1.1
baz=306,SNR=319							
LIRD	Liard River Hi	11.98	89	P	Pn	17 32 15.6	+0.1
baz=290,SNR=1000							
DIB	Dawson Inlet,	12.46	123		Pn	17 32 21.4	-0.7
WRGLY	Wrigley	12.48	70	P	Pn	17 32 23.9	+1.5
baz=273,SNR=72							
TOAD	Toad River Com	12.59	90	P	Pn	17 32 24.3	+0.4
baz=292,SNR=1000							
KOTAN	Kotaneelee Air	12.74	84	P	Pn	17 32 26.7	+0.8
baz=287,SNR=1000							
NIKH	Nikolski High	13.15	239	P	Pn	17 32 31.4	-0.2
baz=43,SNR=11							
NIKH	Nikolski High	13.15	239	P	Pn	17 32 35.6	+4.0
C36M	Paulatuk	13.39	42		Pn	17 32 30.9	-3.8
C36M	Paulatuk	13.39	42	P	Pn	17 32 31.5	-3.1
baz=246,SNR=823							
A36M	Sachs Harbour	14.37	32		Pn	17 32 44.7	-3.2
A36M	Sachs Harbour	14.37	32	P	Pn	17 32 45.4	-2.5
baz=234,SNR=646							
BBB	Bella Bella	15.03	118	P	Pn	17 32 57.4	+0.8
comp=E,759nm,1.1s,baz=310,slow=13,SNR=89							
BBB				S	Sn	17 35 44.4	+2.8
comp=E,197nm,0.7s,baz=97,slow=17,SNR=8.1							
BBB				LR	LR	17 38 38.9	
comp=E,333μm,20.8s,baz=324,slow=36							
BBB	Bella Bella	15.03	118	⇑P	Pn	17 32 56.0	-0.6
ATKA	Atka Island	15.99	246	P	Pn	17 33 06.8	-2.2
ATKA	Atka Island	15.99	246	P	P	17 33 11.2	-0.5
ATKA	Atka Island	15.99	246	⇑P	Pn	17 33 09.0	0.0
HOLB	Holberg	16.16	121	P	Pn	17 33 10.2	-1.0
YKA	Yellowknife Ar	16.60	70	P	Pn	17 33 15.2	-1.5
comp=E,576nm,1.1s,baz=282,slow=11,SNR=345							
YKA				LR	LR	17 40 02.3	
comp=E,742μm,19.9s,baz=276,slow=38							
GSTR	Great Sitkin T	16.90	249	P	Pn	17 33 20.5	+0.1
ADK	Adak	17.32	249	P	Pn	17 33 24.6	-1.0
ADK	Adak	17.32	249	P	P	17 33 27.2	+0.7
ADK	Adak	17.32	249	P	Pn	17 33 24.6	-1.0
ADK				pmax	pmax		
comp=Z,2μm,1.2s							
CBB	Campbell River	17.78	118	P	Pn	17 33 31.3	-0.1
OZB	Mount Ozzard	18.55	121	P	P	17 33 39.7	-0.4
CLRS	Cowichan Lake	19.23	119	IAmb	IAmb	17 34 00.3	
comp=Z,16μm,2.0s							
BILL	Biiibino	19.48	309	P	P	17 33 48.9	-1.1
BILL	Biiibino	19.48	309	P	P	17 33 49.4	-0.6
PGC	Sidney	19.65	118	P	P	17 33 52.4	+0.4
PGC				IAmb	IAmb	17 34 04.5	
comp=Z,9μm,1.6s							
B04A	Port Angeles	20.09	119	IAms_20	IAms_20	17 40 50.5	
comp=Z,496μm,22.0s							
NLWA	Neilton Lookou	20.46	121	P	P	17 34 01.1	+0.3
NLWA				IAmb	IAmb	17 34 14.5	
comp=Z,7μm,1.2s							
NLWA	Neilton Lookou	20.46	121	⇓P	Pn	17 34 03.6	+0.3
SHEM	Shemya Is, Ala	21.08	262	P	P	17 34 07.5	+0.1
comp=Z,651nm,0.9s,baz=343,slow=4.5,SNR=14							
SHEM				S	S	17 37 57.5	-1.4
comp=Z,107nm,0.8s,baz=211,slow=22,SNR=1.4							
SHEM				PcP	PcP	17 38 13.6	+1.8
comp=Z,309nm,0.9s,baz=70,slow=5.6,SNR=3.7							
SHEM				LR	LR	17 42 14.3	
comp=Z,456μm,20.1s,baz=74,slow=36							
comp=Z,651nm,0.9s							
RADR	Rader Ridge	21.26	123	P	P	17 34 10.6	+1.1
RADR				IAmb	IAmb	17 34 27.1	
comp=Z,5μm,1.1s							
D05A	Enumclaw	21.41	119	P	P	17 34 12.7	+1.7
B08A	Colville Reser	21.66	113	IAmb	IAmb	17 34 25.8	
comp=Z,8μm,1.5s							
F03A	Seaside	21.76	123	P	P	17 34 16.3	+1.6
LTY	Liberty	21.91	117	P	P	17 34 18.2	+1.7
F04A	Amboy	22.22	121	IAmb	IAmb	17 34 26.9	
comp=Z,4μm,1.0s							
G03D	McMinnville, O	22.47	124	P	P	17 34 24.1	+1.8
G03D				IAmb	IAmb	17 34 36.6	
comp=Z,7μm,1.2s							
MXC	Moxie City	22.61	117	IAmb	IAmb	17 34 45.4	
comp=Z,8μm,1.6s							
I56US	NEWPORT INFRAS	22.73	110	P	P	17 34 28.5	+3.4
baz=302,slow=9.7,SNR=1.0							
I56US				I	I	19 33 00.0	
baz=316,slow=320,SNR=0.3							
NEW	Newport	22.73	110	IAmb	IAmb	17 34 37.2	
comp=Z,5μm,1.3s							
NEW	Newport	22.73	110	IAms_20	IAms_20	17 42 40.1	
comp=Z,401μm,21.0s							
NEW	Newport	22.73	110	P	P	17 34 26.8	+1.7
comp=Z,946nm,1.0s,baz=319,slow=7.8,SNR=170							
NEW				S	S	17 38 32.2	+2.3
comp=Z,68nm,1.0s,baz=326,slow=19,SNR=1.1							
NEW				LR	LR	17 43 02.5	
comp=Z,340μm,21.2s,baz=319,slow=36							
comp=Z,946nm,1.0s							
NEW	Newport	22.73	110	⇓P	P	17 34 26.6	+1.5
E07A	Sunnyside	22.81	117	IAmb	IAmb	17 34 38.0	
comp=Z,13μm,1.9s							
D08A	Wollman Farm,	22.83	114	P	P	17 34 27.4	+1.2
D08A				IAmb	IAmb	17 34 37.9	
comp=Z,8μm,1.4s							
COR	Corvallis	22.97	125	P	P	17 34 29.5	+1.9
COR	Corvallis	22.97	125	⇓P	P	17 34 30.0	+2.4
COR	Corvallis	22.97	125	P	P	17 34 29.5	+1.9
COR				pmax	pmax		
comp=Z,17μm,1.9s							
COR				MLR	MLR		
comp=Z,171μm,19.0s							
HAWA	Hanford	23.08	116	IAmb	IAmb	17 34 40.5	
comp=Z,7μm,1.7s							
HAWA	Hanford	23.08	116	⇓P	P	17 34 30.1	+1.4
H04A	Detroit Lake	23.34	123	P	P	17 34 32.4	+1.2
RES	Resolute Bay	23.41	33	P	P	17 34 30.4	-1.3
RES				IAmb	IAmb	17 34 35.6	
comp=Z,8μm,1.8s							
RES				IAms_20	IAms_20	17 44 04.3	
comp=Z,369μm,21.0s							
RES	Resolute Bay	23.41	33	P	P	17 34 30.8	-0.9
comp=Z,304nm,0.6s,baz=256,slow=12,SNR=296							
RES				S	S	17 38 41.2	+0.6
comp=Z,330nm,1.1s,baz=312,slow=8.0,SNR=1.7							
RES				LR	LR	17 44 04.5	
comp=Z,283μm,21.6s,baz=268,slow=38							
comp=Z,304nm,0.6s							
RES	Resolute Bay	23.41	33	⇓P	P	17 34 30.7	-0.9
G06A	Carlson Farm,	23.53	120	IAmb	IAmb	17 34 59.6	
comp=Z,14μm,1.9s							
E09A	Wood Farm, Sta	23.59	114	IAmb	IAmb	17 34 46.6	
comp=Z,6μm,1.5s							
I05D	Terrebonne, OR	23.96	122	P	P	17 34 38.8	+1.7
I05D				IAmb	IAmb	17 34 42.4	
comp=Z,2μm,0.8s							
F10A	Beach Ranch, E	24.41	114	IAmb	IAmb	17 34 52.2	
comp=Z,6μm,1.7s							
F10A	Beach Ranch, E	24.41	114	⇑P	P	17 34 42.3	+1.0
PINE	Pine Mountain	24.58	122	P	P	17 34 44.8	+1.9
PINE				IAmb	IAmb	17 34 56.7	
comp=Z,5μm,1.1s							
I07A	Izee	24.93	120	IAmb	IAmb	17 35 00.5	
comp=Z,3μm,1.0s							
I07A				IAms_20	IAms_20	17 43 35.8	
comp=Z,366μm,22.0s							
L02F	Cave Junction	24.95	128	IAms_20	IAms_20	17 42 32.4	
comp=Z,368μm,22.0s							
MSO	Missoula	25.24	108	P	P	17 34 49.3	+0.5
MSO				IAmb	IAmb	17 35 15.6	
comp=Z,3μm,1.1s							
MSO				IAms_20	IAms_20	17 44 23.6	
comp=Z,354μm,22.0s							
MSO	Missoula	25.24	108	⇓P	P	17 34 49.6	+0.8
BMO	Blue Mountains	25.25	116	⇓P	P	17 34 50.5	+1.6
YBH	Yreka Blue Hor	25.61	127	LR	LR	17 43 30.2	
comp=Z,182μm,21.6s,baz=328,slow=33							
PLID	Pearl Lake	25.64	114	P	P	17 34 52.9	+0.3
FFC	Flin Flon	25.77	83	P	P	17 34 53.5	+0.1
FFC				IAmb	IAmb	17 34 58.8	
comp=Z,5μm,1.6s							
FFC	Flin Flon	25.77	83	⇓P	P	17 34 53.8	+0.4
FFC	Flin Flon	25.77	83	P	P	17 34 53.5	+0.1
FFC				pmax	pmax		
comp=Z,5μm,1.6s							
FFC				MLR	MLR		
comp=Z,1162μm,19.0s							
J08A	Circle Bar Ran	25.96	119	P	P	17 34 57.0	+1.7
J08A				IAmb	IAmb	17 35 22.8	
comp=Z,8μm,2.0s							
SEY	Seymchan	26.21	299	LR	LR	17 45 50.5	
comp=Z,449μm,21.6s,baz=73,slow=38							
SEY				P3KPbc		18 07 43.8	
comp=Z,25nm,0.8s,baz=243,slow=5.9,SNR=14							
SEY	Seymchan	26.21	299	*c i* P	P	17 34 58.8	+1.5
SEY				pmax	pmax		
comp=Z,369nm,1.7s							
SEY				MLR	MLR		
comp=Z,372μm,16.0s							
EGMT	Eagleton	26.32	102	P	P	17 34 58.8	+0.3
EGMT				IAms_20	IAms_20	17 46 05.9	
comp=Z,747μm,20.0s							
EGMT	Eagleton	26.32	102	⇓P	P	17 34 59.4	+0.8
KMRM	Mail Ridge	26.55	131	IAms_20	IAms_20	17 43 21.2	
comp=Z,331μm,22.0s							
WVOR	Wild Horse Val	26.65	121	⇓P	P	17 35 03.9	+2.3
HATC	Hat Creek Radi	26.88	127	P	P	17 35 06.0	+2.4
HATC				IAmb	IAmb	17 35 22.5	
comp=Z,4μm,1.3s							
DLMT	Dillon	26.96	109	IAmb	IAmb	17 35 27.5	
comp=Z,4μm,1.1s							
DLMT				IAms_20	IAms_20	17 46 38.1	
comp=Z,345μm,18.0s							
KCPM	Cahto Peak	27.07	131	IAms_20	IAms_20	17 43 22.5	
comp=Z,413μm,22.0s							
BOZ	Bozeman (W)	27.23	108	P	P	17 35 07.6	+0.8
BOZ				IAms_20	IAms_20	17 47 03.1	
comp=Z,338μm,19.0s							
BOZ	Bozeman (W)	27.23	108	⇓P	P	17 35 07.8	+1.1
BOZ	Bozeman (W)	27.23	108	P	P	17 35 07.6	+0.8
BOZ				pmax	pmax		
comp=Z,676nm,0.9s							
BOZ				MLR	MLR		
comp=Z,338μm,19.0s							
FCC	Fort Churchill	27.33	70	P	P	17 35 07.5	+0.2
FCC				IAmb	IAmb	17 35 10.9	
comp=Z,2μm,1.0s							
FCC	Fort Churchill	27.33	70	P	P	17 35 07.5	+0.2
FCC				pmax	pmax		
comp=Z,2μm,1.0s							
FCC				MLR	MLR		
comp=Z,945μm,19.0s							
HLID	Hailey	27.55	114	IAms_20	IAms_20	17 47 14.7	
comp=Z,239μm,18.0s							
HLID	Hailey	27.55	114	⇓P	P	17 35 11.0	+1.3
HOPS	Hopland Field	27.86	131	IAms_20	IAms_20	17 43 47.6	
comp=Z,337μm,22.0s							
ORV	Oroville	27.96	128	P	P	17 35 14.0	+0.9
ORV	Oroville	27.96	128	P	P	17 35 14.0	+0.9
ORV				MLR	MLR		
comp=Z,96μm,21.0s							
YHL	Hebgen Lake	28.00	108	IAms_20	IAms_20	17 47 28.5	
comp=Z,383μm,18.0s							
YHB	Horse Butte	28.07	108	IAms_20	IAms_20	17 47 31.4	
comp=Z,373μm,18.0s							
YMR	Madison River	28.24	108	IAms_20	IAms_20	17 47 36.8	
comp=Z,383μm,20.0s							
YNM	Yellowstone No	28.31	108	IAms_20	IAms_20	17 47 47.8	
comp=Z,518μm,18.0s							
YNR	Norris Junctio	28.33	108	IAms_20	IAms_20	17 47 48.4	
comp=Z,536μm,18.0s							
PET	Petropavlovsk	28.34	277	P	P	17 35 15.9	-0.4
PET				IAms_20	IAms_20	17 45 52.2	
comp=Z,507μm,22.0s							
PET	Petropavlovsk	28.34	277	P	P	17 35 17.9	+1.5
PET	Petropavlovsk	28.34	277	⇑P	P	17 35 16.6	+0.3
PET	Petropavlovsk	28.34	277	*c i* P	P	17 35 17.0	+0.6
PET				pmax	pmax		
comp=Z,1μm,1.9s							
PET				MLR	MLR		
comp=Z,636μm,23.0s							
PET	Petropavlovsk	28.34	277	P	P	17 35 17.3	+0.9
comp=Z,513nm,2.0s,comp=Z,29μm							
MA2	Magadan	28.40	293	P	P	17 35 17.1	+0.3
MA2				IAms_20	IAms_20	17 47 56.3	
comp=Z,679μm,18.0s							
MA2	Magadan	28.40	293	LR	LR	17 48 06.4	
comp=Z,604μm,18.3s,baz=81,slow=40							
MA2	Magadan	28.40	293	P	P	17 35 17.8	+0.9
MA2	Magadan	28.40	293	⇑P	P	17 35 15.7	-1.2
MA2	Magadan	28.40	293	*c i* P	P	17 35 18.5	+1.6
MA2				pmax	pmax		
comp=Z,704nm,1.3s							
MA2				MLR	MLR		
comp=Z,556μm,17.0s							
MA2	Magadan	28.40	293	P	P	17 35 17.4	+0.5
comp=Z,512nm,1.3s,comp=Z,24μm							
YNE	Yellowstone No	28.42	107	IAms_20	IAms_20	17 46 27.6	
comp=Z,285μm,22.0s							
YFT	Old Faithful	28.46	108	IAms_20	IAms_20	17 48 14.8	
comp=Z,728μm,19.0s							
LKWY	Lake	28.58	108	P	P	17 35 21.8	+2.9
LKWY				IAmb	IAmb	17 35 46.1	
comp=Z,4μm,1.4s							
LKWY				IAms_20	IAms_20	17 48 06.8	
comp=Z,480μm,20.0s							
LKWY	Lake	28.58	108	⇓P	P	17 35 21.9	+3.0
LKWY	Lake	28.58	108	P	P	17 35 21.8	+2.9
LKWY				pmax	pmax		
comp=Z,4μm,1.5s							
LKWY				MLR	MLR		
comp=Z,480μm,20.0s							
H17A	Grant Village	28.62	108	IAms_20	IAms_20	17 47 50.1	
comp=Z,594μm,19.0s							
DGMT	Dagmar	28.66	96	P	P	17 35 19.6	+0.2
DGMT				IAmb	IAmb	17 36 23.8	
comp=Z,4μm,1.4s							
DGMT	Dagmar	28.66	96	IAms_20	IAms_20	17 47 28.6	
comp=Z,883μm,22.0s							
DGMT	Dagmar	28.66	96	⇓P	P	17 35 20.4	+1.1
RLMT	Red Lodge	28.68	106	IAms_20	IAms_20	17 47 52.4	
comp=Z,312μm,19.0s							
RLMT	Red Lodge	28.68	106	⇑P	P	17 35 20.3	+0.5
MCCM	Marconi Confer	28.68	131	IAms_20	IAms_20	17 44 07.3	
comp=Z,325μm,21.0s							
AFDM	Forest Hills D	28.68	128	P	P	17 35 20.2	+0.5
PEA0B	Petropavlovsk-	28.74	277	P	P	17 35 19.5	-0.5
PEA0B	Petropavlovsk-	28.74	277	*c i* P	P	17 35 21.4	+1.4
PETK	Petropavlovsk-	28.74	277	P	P	17 35 19.5	-0.5
comp=Z,251nm,0.8s,baz=67,slow=13,SNR=85							
PETK				PP	PnPn	17 36 12.4	-0.1
comp=Z,436nm,0.9s,baz=74,slow=16,SNR=5.1							
PETK				PcP	PcP	17 38 30.3	+1.5
comp=Z,174nm,0.9s,baz=104,slow=6.1,SNR=3.9							
PETK				ScP	ScP	17 42 05.9	+0.4
comp=Z,159nm,1.0s,baz=64,slow=9.8,SNR=6.9							
PETK				PKiKP	PKiKP	17 46 03.4	+0.6
comp=Z,27nm,0.9s,baz=43,slow=5.1,SNR=5.4							
PETK				LR	LR	17 46 42.5	
comp=Z,343μm,21.8s,baz=35,slow=36							
PETK				P3KPbc		18 07 33.2	
comp=Z,28nm,1.0s,baz=228,slow=3.0,SNR=8.4							
comp=Z,251nm,0.8s							
FLWY	Flagg Ranch	28.81	109	IAms_20	IAms_20	17 47 57.0	
comp=Z,278μm,19.0s							
LAO	LASA Array	28.95	100	⇓P	P	17 35 23.7	+1.7
FXWY	Fox Creek	29.00	110	IAms_20	IAms_20	17 47 55.2	
comp=Z,269μm,21.0s							
MOOW	Moose Ponds	29.05	109	P	P	17 35 23.7	+0.6
MOOW				IAms_20	IAms_20	17 48 04.3	
comp=Z,286μm,21.0s							
PNTR	Pine Nut	29.09	126	IAms_20	IAms_20	17 45 12.0	
comp=Z,307μm,21.0s							
TPAW	Teton Pass	29.16	110	IAms_20	IAms_20	17 48 00.1	
comp=Z,255μm,22.0s							
LOHW	Long Hollow	29.22	109	P	P	17 35 26.0	+1.4
LOHW				IAms_20	IAms_20	17 48 11.8	
comp=Z,267μm,20.0s							
SNOW	Snow King Moun	29.27	109	IAms_20	IAms_20	17 48 03.2	
comp=Z,280μm,20.0s							
YERR	Yerington	29.32	125	IAms_20	IAms_20	17 45 20.1	
comp=Z,312μm,21.0s							
I18DK	QAANAAQ INFRAS	29.34	26	I	I	20 30 00.0	
baz=279,slow=336,SNR=2.1							
ELK	Elko	29.48	118	P	P	17 35 29.1	+2.2
ELK	Elko	29.48	118	LR	LR	17 46 42.6	
comp=Z,206μm,21.9s,baz=335,slow=35							
ELK				P3KPbc		18 07 31.1	
comp=Z,8.2nm,0.9s,baz=165,slow=3.1,SNR=5.0							
ELK	Elko	29.48	118	P	P	17 35 29.1	+2.2
ELK				pmax	pmax		
comp=Z,1μm,0.9s							
ELK				MLR	MLR		
comp=Z,178μm,21.0s							
TULEG	Thule	29.68	28	⇓P	P	17 35 28.3	+0.2
TULEG	Thule	29.68	28	*i* P	P	17 35 29.0	+0.9
TULEG				IAmb	IAmb	17 35 32.9	
comp=Z,6μm,2.1s							
CMB	Columbia Colle	29.70	128	P	P	17 35 29.9	+1.2
CMB	Columbia Colle	29.70	128	P	P	17 35 29.9	+1.2
CMB				pmax	pmax		
comp=Z,2μm,1.5s							
CMB				MLR	MLR		
comp=Z,134μm,22.0s							
RYN	Ryan	29.91	125	IAms_20	IAms_20	17 45 29.7	
comp=Z,298μm,22.0s							
NVAR	Mina Array Bea	30.17	125	P	P	17 35 35.4	+2.4
comp=Z,468nm,0.8s,baz=312,slow=8.1,SNR=359							
NVAR				PcP	PcP	17 38 34.9	+1.8
comp=Z,55nm,0.6s,baz=305,slow=2.5,SNR=7.7							
NVAR				LR	LR	17 46 13.7	
comp=Z,267μm,21.0s,baz=320,slow=33							
comp=Z,468nm,0.8s							
LHV	Little Huntoon	30.25	125	IAms_20	IAms_20	17 45 39.5	
comp=Z,321μm,22.0s							
PD31	Pinedale Array	30.36	109	IAmb	IAmb	17 35 40.0	
comp=Z,5μm,2.0s							
PDAR	Pinedale Array	30.36	109	P	P	17 35 36.1	+1.5
comp=Z,280nm,0.6s,baz=308,slow=4.7,SNR=381							
PDAR				PcP	PcP	17 38 32.6	-0.9
comp=Z,111nm,0.9s,baz=109,slow=1.1,SNR=4.0							
PDAR				LR	LR	17 49 09.2	
comp=Z,153μm,19.2s,baz=336,slow=39							
comp=Z,280nm,0.6s							
HWUT	Hardware Ranch	30.37	113	IAms_20	IAms_20	17 48 56.5	
comp=Z,305μm,18.0s							
HWUT	Hardware Ranch	30.37	113	⇓P	P	17 35 36.4	+1.6
SAO	San Andreas Ge	30.43	131	⇓P	P	17 35 37.2	+2.1
BBGB	Big Mountain B	30.74	130	IAms_20	IAms_20	17 45 23.8	
comp=Z,227μm,20.0s							
TCUT	Toone Canyon	30.84	113	IAms_20	IAms_20	17 49 20.8	
comp=Z,347μm,19.0s							
DUG	Dugway, Tooele	30.97	116	⇓P	P	17 35 41.8	+1.8
CTU	Camp Tracy	31.03	114	P	P	17 35 41.8	+1.2
CTU				IAms_20	IAms_20	17 49 25.9	
comp=Z,195μm,18.0s							
SKR	Severo-Kuril's	31.04	275	*e* P	P	17 35 39.7	-0.6
SKR				*e*		17 36 47.2	
SKR				*e* S	S	17 40 40.7	-0.7
SKR				pmax	pmax		
comp=Z,13μm,5.3s							
SKR				MLR	MLR		
comp=Z,124μm,18.0s							
Q12A	Willow Creek R	31.07	120	IAms_20	IAms_20	17 47 22.2	
comp=Z,285μm,22.0s							
DSP	Deep Springs	31.22	125	IAms_20	IAms_20	17 46 22.3	
comp=Z,241μm,22.0s							
JLU	Jordanelle	31.24	114	IAms_20	IAms_20	17 49 34.4	
comp=Z,254μm,19.0s							
MDND	Maddock	31.30	92	IAms_20	IAms_20	17 48 55.5	
comp=Z,443μm,20.0s							
TIXI	Tiksi	31.31	323	P	P	17 35 41.0	-1.5
TIXI	Tiksi	31.31	323	IAms_20	IAms_20	17 49 07.5	
comp=Z,361μm,22.0s							
TIXI	Tiksi	31.31	323	LR	LR	17 51 09.9	
comp=Z,311μm,18.1s,baz=91,slow=42							
TIXI				P3KPbc		18 07 21.3	
comp=Z,81nm,0.9s,baz=0.5,slow=1,1,SNR=35							
TIXI	Tiksi	31.31	323	⇑P	P	17 35 41.6	-0.9
TIXI	Tiksi	31.31	323	P	P	17 35 41.9	-0.5
SPR3	Spring Creek 3	31.32	119	IAms_20	IAms_20	17 47 31.6	
comp=Z,254μm,22.0s							
R11B	Troy Canyon, C	31.34	121	P	P	17 35 44.7	+1.4
R11B	Troy Canyon, C	31.34	121	P	P	17 35 45.2	+1.8
baz=329,SNR=1000							
I10CA	LAC DU BONNET	31.42	86	P	P	17 35 45.0	+1.3
baz=337,slow=10,SNR=1.9							
I10CA				I	I	20 36 40.0	
baz=305,slow=289,SNR=0.9							
ULM	Lac du Bonnet	31.46	86	IAmb	IAmb	17 35 47.9	
comp=Z,3μm,0.8s							
ULM	Lac du Bonnet	31.46	86	P	P	17 35 45.0	+0.8
comp=Z,3μm,0.8s,baz=311,slow=9.1,SNR=421							
ULM				PcP	PcP	17 38 35.4	-0.5
comp=Z,529nm,0.9s,baz=322,slow=4.0,SNR=4.9							
ULM				LR	LR	17 49 11.6	
comp=Z,779μm,18.3s,baz=320,slow=38							
ULM				P3KPbc		18 07 22.0	
comp=Z,23nm,0.9s,baz=103,slow=3.9,SNR=6.3							
comp=Z,3μm,0.8s							
ULM	Lac du Bonnet	31.46	86	⇑P	P	17 35 44.9	+0.8
BSUT	Blindstream Ca	31.59	113	IAms_20	IAms_20	17 49 55.8	
comp=Z,294μm,19.0s							
E28A	Huff	31.68	95	IAms_20	IAms_20	17 49 12.5	
comp=Z,721μm,22.0s							
GRAC	Grapevine Rang	31.78	125	IAms_20	IAms_20	17 48 21.2	
comp=Z,189μm,19.0s							
K22A	Casper	31.84	106	IAmb	IAmb	17 35 52.4	
comp=Z,1μm,0.9s							
RSSD	Black Hills	31.89	101	P	P	17 35 48.5	+0.4
RSSD				IAmb	IAmb	17 35 53.5	
comp=Z,1μm,0.7s							
RSSD	Black Hills	31.89	101	⇓P	P	17 35 49.5	+1.4
RSSD	Black Hills	31.89	101	P	P	17 35 48.5	+0.4
RSSD				pmax	pmax		
comp=Z,1μm,0.7s							
RSSD				MLR	MLR		
comp=Z,838μm,21.0s							
PSUT	Pine Spring	31.91	119	IAms_20	IAms_20	17 47 58.3	
comp=Z,268μm,22.0s							
TPNV	Topopah Spring	32.27	123	IAms_20	IAms_20	17 47 20.0	
comp=Z,236μm,21.0s							
TPNV	Topopah Spring	32.27	123	⇓P	P	17 35 53.5	+2.0
PRN	Pahroc Range	32.36	121	⇓P	P	17 35 54.0	+1.8
ISA	Isabella, Lake	32.52	128	IAms_20	IAms_20	17 46 50.7	
comp=Z,219μm,22.0s							
P18A	Preston Nutter	32.56	113	IAms_20	IAms_20	17 50 27.5	
comp=Z,276μm,19.0s							
MVU	Marysvale	32.63

SNCC	**San Nicolas Is**	**34.27**	**131**	P	**P**	**17 36 11.4**	**+2.6**
SNCC				IAMs_20	IAMs_20	17 47 18.3	
	comp=Z,195μm,21.0s						
F33A	**5 Mile Ranch,**	**34.33**	**92**	IAmb	IAmb	17 36 13.6	
	comp=Z,2μm,1.2s						
F33A				IAMs_20	IAMs_20	17 50 37.5	
	comp=Z,417μm,20.0s						
ISCO	**Idaho Springs**	**34.52**	**108**	IAMs_20	IAMs_20	17 50 19.0	
	comp=Z,187μm,18.0s						
ELS	**Elsinore Mount**	**34.70**	**128**	IAMs_20	IAMs_20	17 47 53.4	
	comp=Z,245μm,22.0s						
PFO	**Pinyon Flats O**	**35.10**	**127**	P	**P**	**17 36 17.2**	**+1.2**
PFO	**Pinyon Flats O**	**35.10**	**127**	IAMs_20	IAMs_20	17 48 58.2	
	comp=Z,218μm,20.0s						
PFO	**Pinyon Flats O**	**35.10**	**127**	LR	LR	17 49 01.6	
	comp=Z,198μm,19.1s,baz=328,slow=33						
PFO	**Pinyon Flats O**	**35.10**	**127**	*d* iP	**P**	**17 36 17.9**	**+1.9**
PFO				pmax	pmax		
	comp=Z,2μm,0.9s						
EYMN	**Ely**	**35.14**	**85**	⇓P	**P**	**17 36 16.9**	**+0.8**
NOR	**Nord**	**35.15**	**11**	*i* P	**P**	**17 36 15.3**	**-0.6**
NOR				IAmb	IAmb	17 36 19.5	
	comp=Z,3μm,1.9s						
OGNE	**Ogallala**	**35.27**	**103**	IAMs_20	IAMs_20	17 51 41.9	
	comp=Z,538μm,20.0s						
OGNE	**Ogallala**	**35.27**	**103**	⇓P	**P**	**17 36 18.5**	**+1.1**
FRB	**Frobisher Bay**	**35.29**	**50**	LR	LR	17 50 59.3	
	comp=Z,550μm,19.0s,baz=302,slow=37						
FRB	**Frobisher Bay**	**35.29**	**50**	⇓P	**P**	**17 36 17.5**	**+0.4**
MVCO	**Mesa Verde**	**35.33**	**114**	IAMs_20	IAMs_20	17 52 15.0	
	comp=Z,218μm,20.0s						
Q24A	**Divide**	**35.40**	**108**	P	**P**	**17 36 20.1**	**+1.3**
	baz=324,SNR=577						
WUAZ	**Wupatki**	**35.51**	**119**	IAMs_20	IAMs_20	17 50 03.7	
	comp=Z,236μm,22.0s						
WUAZ	**Wupatki**	**35.51**	**119**	⇓P	**P**	**17 36 21.8**	**+2.2**
S22A	**4UR Ranch, Cre**	**35.63**	**111**	P	**P**	**17 36 22.7**	**+2.0**
	baz=326						
NUUG	**Nuugaatsiaq**	**35.71**	**33**	⇓P	**P**	**17 36 21.2**	**+0.5**
NUUG	**Nuugaatsiaq**	**35.71**	**33**	*i* P	**P**	**17 36 21.2**	**+0.5**
NUUG				IAmb	IAmb	17 36 24.9	
	comp=Z,6μm,1.7s						
ECSD	**EROS Data Cent**	**35.72**	**95**	P	**P**	**17 36 21.3**	**+0.1**
ECSD	**EROS Data Cent**	**35.72**	**95**	IAMs_20	IAMs_20	17 51 36.5	
	comp=Z,472μm,22.0s						
ECSD	**EROS Data Cent**	**35.72**	**95**	⇓P	**P**	**17 36 21.4**	**+0.2**
BLYC	**Blythe**	**35.74**	**124**	IAMs_20	IAMs_20	17 49 19.0	
	comp=Z,198μm,22.0s						
YAK	**Yakutsk**	**35.83**	**307**	P	**P**	**17 36 20.9**	**-1.0**
YAK	**Yakutsk**	**35.83**	**307**	LR	LR	17 52 37.0	
	comp=Z,633μm,18.0s,baz=50,slow=39						
YAK	**Yakutsk**	**35.83**	**307**	⇓P	**P**	**17 36 20.8**	**-1.0**
YAK	**Yakutsk**	**35.83**	**307**	*c i* P	**P**	**17 36 21.0**	**-0.8**
YAK				pmax	pmax		
	comp=Z,5μm,1.3s						
YAK				MLR	MLR		
	comp=Z,565μm,17.0s						
E38A	**The Farm, Brul**	**36.06**	**87**	IAmb	IAmb	17 36 28.1	
	comp=Z,2μm,1.1s						
YUH	**Yuha Desert**	**36.16**	**127**	IAMs_20	IAMs_20	17 49 20.2	
	comp=Z,205μm,20.0s						
SDCO	**Great Sand Dun**	**36.23**	**110**	IAMs_20	IAMs_20	17 52 54.5	
	comp=Z,285μm,18.0s						
SDCO	**Great Sand Dun**	**36.23**	**110**	⇓P	**P**	**17 36 27.8**	**+1.9**
X16A	**Lo Mia Camp, P**	**36.42**	**120**	IAMs_20	IAMs_20	17 50 23.9	
	comp=Z,173μm,22.0s						
UMMG	**Uummannaq**	**36.50**	**34**	*i* P	**P**	**17 36 28.4**	**+0.9**
UMMG				IAmb	IAmb	17 36 33.3	
	comp=Z,3μm,1.0s						
KSCO	**Kaye Shedlock'**	**36.53**	**106**	P	**P**	**17 36 29.2**	**+1.0**
KSCO				IAmb	IAmb	17 36 32.7	
	comp=Z,1μm,0.8s						
KSCO				IAMs_20	IAMs_20	17 52 18.2	
	comp=Z,162μm,20.0s						
CPBX	**Cerro Prieto**	**36.60**	**126**	IAMs_20	IAMs_20	17 49 08.8	
	comp=Z,162μm,20.0s						
NKL	**Nikolayevsk**	**36.68**	**289**	*e*P	**P**	**17 36 29.6**	**+0.4**
NKL				*e*S	**S**	**17 42 08.2**	**-0.4**
NKL				pmax	pmax		
	comp=N,950nm,1.0s						
NKL				pmax	pmax		
	comp=E,282nm,1.1s						
NKL				pmax	pmax		
	comp=Z,3μm,1.1s						
NKL				smax	smax		
	comp=E,25μm,3.2s						
NKL				smax	smax		
	comp=N,24μm,3.8s						
NKL				MLR	MLR		
	comp=E,166μm,15.0s						
NKL				MLR	MLR		
	comp=N,865μm,22.0s						
NKL				MLR	MLR		
	comp=Z,1202μm,25.0s						
ESJX	**Sierra Juarez**	**36.72**	**127**	IAMs_20	IAMs_20	17 49 04.0	
	comp=Z,177μm,21.0s						
BGNE	**Belgrade**	**36.75**	**99**	P	**P**	**17 36 30.2**	**+0.2**
X18A	**Snowflake**	**36.96**	**118**	IAMs_20	IAMs_20	17 51 12.0	
	comp=Z,238μm,22.0s						
T25A	**Trinidad**	**37.22**	**109**	IAMs_20	IAMs_20	17 52 39.7	
	comp=Z,188μm,22.0s						
T25A	**Trinidad**	**37.22**	**109**	P	**P**	**17 36 35.6**	**+1.3**
	baz=325,SNR=347						
TYV	**Tymovskoe**	**37.30**	**285**	*e*P	**P**	**17 36 36.2**	**+1.7**
TYV				*e*S	**S**	**17 42 19.9**	**+1.8**
TYV				pmax	pmax		
	comp=Z,558nm,0.9s						
TYV				pmax	pmax		
	comp=Z,15μm,7.1s						
TYV				smax	smax		
	comp=N,272nm,2.6s						
TYV				smax	smax		
	comp=E,379nm,2.6s						
TYV				smax	smax		
	comp=N,20μm,8.9s						
TYV				smax	smax		
	comp=E,54μm,8.9s						
ILULI	**Ilulissat**	**37.68**	**35**	IAMs_20	IAMs_20	17 52 46.8	
	comp=Z,151μm,20.0s						
ILULI	**Ilulissat**	**37.68**	**35**	⇑P	**P**	**17 36 37.8**	**+0.4**
ILULI	**Ilulissat**	**37.68**	**35**	*i* P	**P**	**17 36 39.2**	**+1.7**
ILULI				IAmb	IAmb	17 36 41.2	
	comp=Z,2μm,1.4s						
G40A	**Rib Lake**	**37.68**	**87**	P	**P**	**17 36 37.4**	**-0.4**
MIDW	**Midway**	**37.79**	**221**	P	**P**	**17 36 39.9**	**+1.1**
MIDW				IAMs_20	IAMs_20	17 49 02.4	
	comp=Z,184μm,22.0s						
MIDW	**Midway**	**37.79**	**221**	P	**P**	**17 36 42.4**	**+3.6**
MIDW	**Midway**	**37.79**	**221**	⇓P	**P**	**17 36 40.2**	**+1.4**
CBKS	**Cedar Bluff**	**38.04**	**103**	IAmb	IAmb	17 36 50.3	
	comp=Z,3μm,1.1s						
CBKS	**Cedar Bluff**	**38.04**	**103**	⇓P	**P**	**17 36 42.1**	**+1.2**
PIX	**Pinacate**	**38.09**	**124**	IAMs_20	IAMs_20	17 50 02.0	
	comp=Z,205μm,22.0s						
ANMO	**Albuquerque**	**38.13**	**113**	P	**P**	**17 36 42.9**	**+1.1**
ANMO	**Albuquerque**	**38.13**	**113**	IAMs_20	IAMs_20	17 53 58.7	
	comp=Z,190μm,21.0s						
ANMO	**Albuquerque**	**38.13**	**113**	LR	LR	17 54 19.6	
	comp=Z,152μm,19.9s,baz=136,slow=39						
ANMO	**Albuquerque**	**38.13**	**113**	*d i* P	**P**	**17 36 43.5**	**+1.6**
ANMO				pmax	pmax		
	comp=Z,646nm,1.7s						
ANMO				MLR	MLR		
	comp=Z,89μm,19.0s						
I40A	**Norwalk**	**38.50**	**89**	IAmb	IAmb	17 36 48.4	
	comp=Z,1μm,0.9s						
TUC	**Tucson**	**38.52**	**121**	P	**P**	**17 36 47.2**	**+2.1**
TUC				IAmb	IAmb	17 36 51.4	
	comp=Z,2μm,1.7s						
TUC	**Tucson**	**38.52**	**121**	⇓P	**P**	**17 36 47.3**	**+2.2**
TUC	**Tucson**	**38.52**	**121**	P	**P**	**17 36 47.2**	**+2.1**
TUC				pmax	pmax		
	comp=Z,2μm,1.7s						
TUC				MLR	MLR		
	comp=Z,85μm,19.0s						
TUC	**Tucson**	**38.52**	**121**	P	**P**	**17 36 47.7**	**+2.6**
TUC				PcP	**PcP**	**17 39 00.3**	**+3.4**
RTBA	**Rita Blanca**	**38.56**	**108**	IAmb	IAmb	17 36 57.4	
	comp=Z,2μm,1.3s						
SUMG	**Summit**	**38.58**	**27**	IAMs_20	IAMs_20	17 54 16.8	
	comp=Z,225μm,20.0s						
SUMG	**Summit**	**38.58**	**27**	S	**S**	**17 42 39.2**	**+1.4**
SUMG				P	**P**	**17 36 45.9**	**+0.4**
SUMG	**Summit**	**38.58**	**27**	⇓P	**P**	**17 36 46.0**	**+0.6**
SUMG	**Summit**	**38.58**	**27**	*i* P	**P**	**17 36 46.4**	**+0.9**
SUMG				IAmb	IAmb	17 36 50.5	
	comp=Z,4μm,1.0s						
Y22D	**IRIS PASSCAL I**	**38.66**	**115**	P	**P**	**17 36 48.5**	**+2.3**
	baz=328,SNR=13						
SCIA	**State Center**	**38.74**	**93**	IAmb	IAmb	17 36 52.3	
	comp=Z,3μm,1.3s						
SCIA				IAMs_20	IAMs_20	17 53 17.4	
	comp=Z,431μm,22.0s						
SCIA	**State Center**	**38.74**	**93**	⇓P	**P**	**17 36 47.5**	**+0.8**
KUR	**Kuril'sk**	**38.80**	**275**	*c i* P	**P**	**17 36 48.7**	**+1.5**
KUR						17 38 56.2	
KUR				*e*S	**S**	**17 42 42.1**	**+1.2**
KUR				*e*		17 46 55.6	
KUR				pmax	pmax		
	comp=Z,27μm,10.7s						
KUR				pmax	pmax		
	comp=Z,3μm,2.2s						
KUR				MLR	MLR		
	comp=N,127μm,18.0s						
KUR				MLR	MLR		
	comp=Z,150μm,18.0s						
KUR				MLR	MLR		
	comp=E,116μm,17.0s						
UGL	**Uglegorsk**	**38.81**	**284**	*e*P	**P**	**17 36 46.9**	**-0.3**
UGL				*e*		17 38 22.0	
UGL				*e*S	**S**	**17 42 36.4**	**-4.5**
UGL				pmax	pmax		
	comp=Z,12μm,3.8s						
UGL				pmax	pmax		
	comp=Z,700nm,1.1s						
DAG	**Danmarks Havn**	**38.84**	**16**	P	**P**	**17 36 47.9**	**+0.8**
DAG	**Danmarks Havn**	**38.84**	**16**	⇓P	**P**	**17 36 46.6**	**-0.5**
DAG	**Danmarks Havn**	**38.84**	**16**	*i* P	**P**	**17 36 47.1**	**0.0**
DAG				IAmb	IAmb	17 36 50.2	
	comp=Z,1μm,0.9s						
DUN6	**Lazy B Ranch**	**39.02**	**118**	IAMs_20	IAMs_20	17 52 17.6	
	comp=Z,426μm,22.0s						
SFJD	**Kangerlussuaq**	**39.25**	**38**	P	**P**	**17 36 51.2**	**+0.6**
SFJD	**Kangerlussuaq**	**39.25**	**38**	IAMs_20	IAMs_20	17 52 44.4	
	comp=Z,167μm,22.0s						
SFJD	**Kangerlussuaq**	**39.25**	**38**	LR	LR	17 53 05.8	
	comp=Z,162μm,20.9s,baz=311,slow=36						
SFJD	**Kangerlussuaq**	**39.25**	**38**	⇓P	**P**	**17 36 51.6**	**+0.9**
SFJD	**Kangerlussuaq**	**39.25**	**38**	P	**P**	**17 36 51.2**	**+0.6**
SFJD				pmax	pmax		
	comp=Z,4μm,1.1s						
SFJD				MLR	MLR		
	comp=Z,168μm,22.0s						
SFJD	**Kangerlussuaq**	**39.25**	**38**	*i* P	**P**	**17 36 52.3**	**+1.7**
SFJD				IAmb	IAmb	17 36 56.5	
	comp=Z,4μm,1.1s						
KSU1	**Kansas State U**	**39.29**	**99**	IAmb	IAmb	17 37 01.4	
	comp=Z,2μm,0.8s						
KSU1	**Kansas State U**	**39.29**	**99**	⇓P	**P**	**17 36 51.3**	**-0.1**
I42A	**Draeger Farm,**	**39.32**	**88**	IAmb	IAmb	17 37 02.4	
	comp=Z,2μm,1.1s						
JFWS	**Jewell Farm**	**39.41**	**90**	IAmb	IAmb	17 36 55.3	
	comp=Z,1μm,0.8s						
JFWS	**Jewell Farm**	**39.41**	**90**	⇓P	**P**	**17 36 52.5**	**+0.2**
H43A	**Windswept, Lux**	**39.44**	**86**	IAmb	IAmb	17 36 56.1	
	comp=Z,2μm,0.9s						
N38A	**Joes South For**	**39.59**	**95**	IAMs_20	IAMs_20	17 53 47.9	
	comp=Z,196μm,22.0s						
KBS	**Kingsbay**	**39.59**	**5**	P	**P**	**17 36 53.4**	**0.0**
KBS	**Kingsbay**	**39.59**	**5**	IAMs_20	IAMs_20	17 52 57.0	
	comp=Z,148μm,21.0s						
KBS	**Kingsbay**	**39.59**	**5**	⇓*i* P	**P**	**17 36 56.0**	**+2.6**
KBS				IVmB_BB		17 36 57.1	
	comp=Z,23μm,2.6s						
KBS				*e*PP	**PnPn**	**17 38 28.0**	**0.0**
KBS				*e*S	**S**	**17 42 53.6**	**+1.6**
KBS				*e*SS	**SnSn**	**17 45 53.0**	**+1.3**
KBS				IVMs_BB	IVMs_BB	17 49 49.1	
	comp=Z,47μm,26.6s						
KBS	**Kingsbay**	**39.59**	**5**	⇓P	**P**	**17 36 54.1**	**+0.7**
KBS	**Kingsbay**	**39.59**	**5**	*d i* P	**P**	**17 36 53.7**	**+0.3**
KBS				pmax	pmax		
	comp=Z,801nm,1.2s						
KBS	**Kingsbay**	**39.59**	**5**	*i* P	**P**	**17 36 54.1**	**+0.7**
121A	**Cookes Peak, D**	**39.60**	**117**	P	**P**	**17 36 56.4**	**+2.3**
	baz=330,SNR=347						
E46A	**Sault Ste Mari**	**39.71**	**81**	IAmb	IAmb	17 36 58.1	
	comp=Z,2μm,0.8s						
KEKH	**Kekaha**	**39.87**	**194**	P	**P**	**17 36 57.2**	**+0.9**
YSS	**Yuzh-Sakhalins**	**40.00**	**281**	P	**P**	**17 36 56.5**	**-0.6**
YSS				IAmb	IAmb	17 37 03.8	
	comp=Z,5μm,1.8s						
YSS				IAMs_20	IAMs_20	17 53 08.9	
	comp=Z,482μm,21.0s						
YSS	**Yuzh-Sakhalins**	**40.00**	**281**	P	**P**	**17 36 59.1**	**+2.0**
YSS	**Yuzh-Sakhalins**	**40.00**	**281**	⇑P	**P**	**17 36 57.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**40.00**	**281**	*d i* P	**P**	**17 36 58.8**	**+1.7**
YSS				pmax	pmax		
	comp=Z,2μm,1.3s						
YSS				MLR	MLR		
	comp=Z,499μm,21.0s						
KAN08	**Anthony NE Sta**	**40.14**	**102**	IAmb	IAmb	17 37 02.7	
	comp=Z,3μm,1.4s						
NOKA	**Waynoka**	**40.17**	**104**	IAmb	IAmb	17 37 02.5	
	comp=Z,2μm,0.8s						
NOKA				IAMs_20	IAMs_20	17 54 49.5	
	comp=Z,311μm,19.0s						
GRNR	**Gornyy**	**40.24**	**289**	⇑*i* P	**P**	**17 36 58.6**	**-0.5**
GRNR				*e*		17 38 32.7	
GRNR				*e*S	**S**	**17 43 04.4**	**+2.1**
GRNR				pmax	pmax		
	comp=N,120nm,0.9s						
GRNR				pmax	pmax		
	comp=E,120nm,0.9s						
GRNR				pmax	pmax		
	comp=Z,310nm,1.0s						
GRNR				smax	smax		
	comp=N,50nm,0.9s						
GRNR				MLR	MLR		
	comp=E,110μm,17.0s						
GRNR				MLR	MLR		
	comp=N,99μm,14.0s						
GRNR				MLR	MLR		
	comp=Z,204μm,15.0s						
KIP	**Kipapa**	**40.24**	**192**	P	**P**	**17 37 03.0**	**+3.6**
KIP	**Kipapa**	**40.24**	**192**	P	**P**	**17 37 02.9**	**+3.6**
KIP	**Kipapa**	**40.24**	**192**	*ce*P	**P**	**17 37 03.0**	**+3.6**
KIP				pmax	pmax		
	comp=Z,1μm,2.5s						
KAN01	**Argonia South**	**40.30**	**102**	IAmb	IAmb	17 37 08.5	
	comp=Z,3μm,1.2s						
AMTX	**Amarillo**	**40.33**	**108**	⇓P	**P**	**17 37 01.3**	**+1.2**
KS20	**Mayfield South**	**40.34**	**102**	IAmb	IAmb	17 37 04.2	
	comp=Z,3μm,1.3s						
KAN14	**Manchester OK**	**40.36**	**103**	IAmb	IAmb	17 37 04.5	
	comp=Z,2μm,1.4s						
L42A	**Oliver, Polo**	**40.38**	**90**	IAmb	IAmb	17 37 06.7	
	comp=Z,3μm,1.2s						
KAN09	**Caldwell North**	**40.38**	**102**	IAmb	IAmb	17 37 04.6	
	comp=Z,3μm,1.2s						
KAN17	**Caldwell West**	**40.39**	**102**	IAmb	IAmb	17 37 09.2	
	comp=Z,3μm,1.2s						
ELIS	**Ellis County**	**40.41**	**105**	P	**P**	**17 37 01.4**	**+0.7**
ELIS				IAmb	IAmb	17 37 05.7	
	comp=Z,3μm,1.4s						
ELIS				IAMs_20	IAMs_20	17 54 58.8	
	comp=Z,255μm,20.0s						
K43A	**Burlington**	**40.49**	**88**	IAmb	IAmb	17 37 11.6	
	comp=Z,2μm,0.9s						
SPA0	**Spitsbergen Ar**	**40.51**	**4**	⇑*i* P	**P**	**17 37 01.1**	**+0.1**
SPA0				IVmB_BB		17 37 03.1	
	comp=Z,22μm,2.0s						
SPA0				*e*S	**S**	**17 43 05.4**	**-0.4**
SPA0				*e*SS	**SnSn**	**17 46 11.9**	**-1.8**
SPA0				IVMs_BB	IVMs_BB	17 51 41.7	
	comp=Z,51μm,24.6s						
SPITS	**Spitsbergen Ar**	**40.51**	**4**	P	**P**	**17 37 00.0**	**-1.0**
	comp=Z,162nm,0.5s,baz=27,slow=5.6,SNR=373						
SPITS				PcP	**PcP**	**17 39 02.3**	**-0.1**
	comp=Z,259nm,0.9s,baz=132,slow=2.1,SNR=2.5						
SPITS				LR	LR	17 53 36.4	
	comp=Z,101μm,19.5s,baz=320,slow=36						
	comp=Z,162nm,0.5s						
SPB2	**Spitsbergen Ar**	**40.51**	**4**	P	**P**	**17 36 59.9**	**-1.1**
SPB2				IAmb	IAmb	17 37 16.4	
	comp=Z,1μm,0.9s						
KAN13	**South Haven SW**	**40.55**	**102**	IAmb	IAmb	17 37 05.9	
	comp=Z,4μm,1.3s						
MSTX	**Muleshoe**	**40.59**	**110**	IAMs_20	IAMs_20	17 55 25.0	
	comp=Z,173μm,19.0s						
DBG	**Daneborg**	**40.65**	**19**	*i* P	**P**	**17 37 02.4**	**+0.3**
DBG				IAmb	IAmb	17 37 08.4	
	comp=Z,1μm,0.9s						
YUK	**Yuzh-Kuril'sk**	**40.65**	**275**	*d i* P	**P**	**17 37 03.1**	**+0.6**
YUK				*e*		17 38 35.0	
YUK				*e*PPP	PPP	17 39 03.4	
YUK				*i* S	**S**	**17 43 10.2**	**+1.6**
YUK				*e*SSS	SSS	17 46 37.2	
YUK				pmax	pmax		
	comp=Z,6μm,3.1s						
YUK				pmax	pmax		
	comp=Z,5μm,1.2s						
YUK				pmax	pmax		
	comp=E,2μm,0.9s						
YUK				pmax	pmax		
	comp=N,3μm,1.4s						
CROK	**Carrier**	**40.72**	**103**	IAmb	IAmb	17 37 08.5	
	comp=Z,3μm,1.5s						
ICESG	**Greenland Ices**	**40.79**	**31**	*i* P	**P**	**17 37 05.4**	**+1.6**
N41A	**Harden Midland**	**40.80**	**92**	IAmb	IAmb	17 37 07.5	
	comp=Z,2μm,1.1s						
N41A				IAMs_20	IAMs_20	17 54 28.9	
	comp=Z,359μm,21.0s						
NUUK	**Nuuk**	**40.81**	**42**	⇓P	**P**	**17 37 04.8**	**+1.2**
NUUK	**Nuuk**	**40.81**	**42**	*i* P	**P**	**17 37 06.1**	**+2.6**
BLOK	**Blackwell**	**40.87**	**102**	IAmb	IAmb	17 37 08.6	
	comp=Z,4μm,1.3s						
DY2G	**Dye2**	**40.88**	**37**	⇓P	**P**	**17 37 04.3**	**-0.1**
DY2G	**Dye2**	**40.88**	**37**	*i* P	**P**	**17 37 06.1**	**+1.7**
T35A	**Sooner Cattle**	**41.08**	**101**	IAmb	IAmb	17 37 09.5	
	comp=Z,2μm,0.8s						
L44A	**Lake County Fo**	**41.09**	**88**	P	**P**	**17 37 06.1**	**-0.1**
L44A				IAmb	IAmb	17 37 16.6	
	comp=Z,2μm,1.0s						
L44A	**Lake County Fo**	**41.09**	**88**	P	**P**	**17 37 06.7**	**+0.5**
	baz=320,SNR=75						
P40A	**Paris**	**41.14**	**95**	IAmb	IAmb	17 37 11.5	
	comp=Z,2μm,1.2s						
P40A				IAMs_20	IAMs_20	17 55 43.0	
	comp=Z,275μm,19.0s						
OK051	**E0350 and S346**	**41.26**	**102**	IAmb	IAmb	17 37 11.6	
	comp=Z,3μm,1.2s						
HSIG		**41.34**	**123**	⇓P	**P**	**17 37 10.3**	**+1.9**
MNTX	**Cornudas Mount**	**41.35**	**115**	⇑P	**P**	**17 37 10.2**	**+1.7**
OK029	**Liberty Lake**	**41.54**	**103**	IAmb	IAmb	17 37 14.1	
	comp=Z,5μm,1.6s						
OK029				IAMs_20	IAMs_20	17 55 39.9	
	comp=Z,429μm,20.0s						
SCHQ	**Schefferville**	**41.63**	**60**	P	**P**	**17 37 10.3**	**-0.1**
	comp=Z,333nm,0.8s,baz=317,slow=8.2,SNR=162						
SCHQ				S	**S**	**17 43 18.4**	**-4.5**
	comp=Z,114nm,1.0s,baz=184,slow=14,SNR=2.4						
SCHQ				LR	LR	17 54 55.1	
	comp=Z,313μm,19.1s,baz=316,slow=37						
	comp=Z,333nm,0.8s						
SCHQ	**Schefferville**	**41.63**	**60**	⇓P	**P**	**17 37 10.1**	**-0.4**
M44A	**Midewin, Midew**	**41.63**	**89**	IAmb	IAmb	17 37 14.5	
	comp=Z,3μm,1.2s						
HSPB	**Hornsund (broa**	**41.64**	**5**	*e*P	**P**	**17 37 11.5**	**+1.2**
HSPB				*e*S	**S**	**17 43 25.1**	**+2.6**
HSPB				*e*L	L	17 52 28.9	
	comp=Z,196μm,23.2s						
HDIL	**Hopedale**	**41.67**	**91**	IAmb	IAmb	17 37 22.2	
	comp=Z,2μm,0.8s						
HDIL	**Hopedale**	**41.67**	**91**	⇓P	**P**	**17 37 11.0**	**+0.1**
VLDQ	**Val d'Or**	**41.67**	**74**	P	**P**	**17 37 09.2**	**-1.6**
VLDQ				IAmb	IAmb	17 37 13.3	
	comp=Z,5μm,1.7s						
VLDQ				IAMs_20	IAMs_20	17 54 29.5	
	comp=Z,437μm,20.0s						
DKNS	**Dickens**	**41.69**	**109**	IAmb	IAmb	17 37 20.4	
	comp=Z,4μm,1.8s						
POHA	**Pohakuloa**	**41.69**	**188**		**P**	**17 37 12.1**	**+0.5**
POHA	**Pohakuloa**	**41.69**	**188**	P	**P**	**17 37 13.8**	**+2.2**
OK031	**S. Brethren Rd**	**41.70**	**102**	IAmb	IAmb	17 37 15.1	
	comp=Z,5μm,1.5s						
WMOK	**Wichita Mounta**	**41.79**	**105**	IAmb	IAmb	17 37 16.6	
	comp=Z,3μm,1.4s						
WMOK	**Wichita Mounta**	**41.79**	**105**	⇑P	**P**	**17 37 11.6**	**-0.4**
JMP	**Maruseppu**	**41.88**	**277**	P	**P**	**17 37 13.4**	**+0.8**
POST	**Post**	**41.93**	**110**	P	**P**	**17 37 13.6**	**+0.3**
POST				IAmb	IAmb	17 37 40.6	
	comp=Z,2μm,0.8s						
DEOK	**Depew**	**41.95**	**102**	IAmb	IAmb	17 37 17.2	
	comp=Z,3μm,1.4s						
L46A	**Eue Claire**	**42.00**	**87**	IAmb	IAmb	17 37 17.0	
	comp=Z,2μm,0.8s						
FNO	**Franklin**	**42.01**	**104**	P	**P**	**17 37 13.9**	**+0.1**
FNO				IAmb	IAmb	17 37 18.0	
	comp=Z,3μm,1.3s						
FNO				IAMs_20	IAMs_20	17 55 55.2	
	comp=Z,392μm,20.0s						
STCH	**Steam Cracks**	**42.04**	**187**	P	**P**	**17 37 15.8**	**+1.6**
PUH	**Pauahi**	**42.05**	**187**	IAmb	IAmb	17 37 26.6	
	comp=Z,2μm,1.0s						
JKA	**Kamikawa-asahi**	**42.16**	**278**	IAMs_20	IAMs_20	17 54 23.3	
	comp=Z,210μm,21.0s						
ASAJ	**Asahikawa**	**42.16**	**278**	LR	LR	17 54 34.8	
	comp=Z,202μm,21.4s,baz=27,slow=36						
SN07	**Snyder 07**	**42.19**	**109**	IAmb	IAmb	17 37 19.8	
	comp=Z,3μm,1.6s						
ZEA	**Zeya**	**42.19**	**299**	*e*P	**P**	**17 37 14.8**	**-0.3**
ZEA				*e*		17 39 04.3	
ZEA				*e*S	**S**	**17 43 26.4**	**-4.8**
ZEA				*e*		17 47 04.3	
ZEA				pmax	pmax		
	comp=E,260nm,0.7s						
ZEA				pmax	pmax		
	comp=Z,1μm,1.1s						
ZEA				pmax	pmax		
	comp=Z,7μm,5.4s						
ZEA				smax	smax		
	comp=N,22μm,17.3s						
ZEA				smax	smax		
	comp=E,34μm,12.8s						
ZEA				MLR	MLR		
	comp=E,205μm,18.0s						
ZEA				MLR	MLR		
	comp=N,174μm,17.0s						
TUL3	**Leonard**	**42.23**	**101**	P	**P**	**17 37 15.2**	**-0.3**
TUL3				IAm

LOOK Love County 43.15 104 IAMs_20 IAMs_20 17 56 45.5
comp=Z,338μm,19.0s
N47A Urbana 43.15 88 IAmb IAmb 17 37 25.7
comp=Z,3μm,0.8s
K50A Casco 43.18 83 IAmb IAmb 17 37 26.8
comp=Z,1μm,0.9s
ALPN Alpine 43.25 114 P **P** **17 37 25.1 +1.0**
SADO Sadowa 43.34 79 IAmb IAmb 17 37 27.9
comp=Z,6μm,1.9s
SADO IAMs_20 IAMs_20 17 55 48.9
comp=Z,233μm,20.0s
SADO Sadowa 43.34 79 LR LR 17 55 59.1
comp=Z,197μm,19.6s,baz=330,slow=37
SADO Sadowa 43.34 79 ⇓P **P** **17 37 24.3 -0.1**
NRIK Noril'sk 43.36 334 P **P** **17 37 23.6 -0.7**
NRIK Noril'sk 43.36 334 P **P** **17 37 23.9 -0.4**
comp=Z,348nm,0.6s,baz=48,slow=7.0,SNR=346
NRIK S **S** **17 43 46.0 -2.0**
comp=Z,40nm,0.5s,baz=55,slow=5.2,SNR=5.7
NRIK LR LR 17 58 21.9
comp=Z,264μm,21.2s,baz=45,slow=40
comp=Z,348nm,0.6s
P46A Rosedale 43.40 90 IAmb IAmb 17 37 28.2
comp=Z,2μm,0.8s
SOEG Soedalen 43.44 28 *i* P **P** **17 37 27.0 +2.1**
KLR Kul'dur 43.45 291 LR LR 17 56 10.9
comp=Z,277μm,21.7s,baz=48,slow=37
KLR Kul'dur 43.45 291*c i* P **P** **17 37 24.8 -0.5**
KLR pmax pmax
comp=Z,1μm,1.0s
KLR MLR MLR
comp=Z,314μm,24.0s
ERM Erimo 43.48 275 P **P** **17 37 24.9 -0.7**
ERM Erimo 43.48 275 P **P** **17 37 27.0 +1.4**
ERM Erimo 43.48 275 ⇑P **P** **17 37 25.5 0.0**
ERM Erimo 43.48 275*c i* P **P** **17 37 27.4 +1.8**
ERM pmax pmax
comp=Z,1μm,1.3s
FW03 Perrin-Whitt E 43.53 106 IAmb IAmb 17 37 30.4
comp=Z,4μm,1.5s
SCO Scoresbysund 43.54 23 P **P** **17 37 25.7 0.0**
SCO IAmb IAmb 17 37 29.9
comp=Z,8μm,2.0s
SCO IAMs_20 IAMs_20 17 57 01.8
comp=Z,194μm,21.0s
SCO Scoresbysund 43.54 23 ⇑P **P** **17 37 26.1 +0.3**
SCO Scoresbysund 43.54 23 P **P** **17 37 25.7 0.0**
SCO pmax pmax
comp=Z,8μm,2.0s
SCO MLR MLR
comp=Z,194μm,21.0s
SCO Scoresbysund 43.54 23 *i* P **P** **17 37 27.0 +1.3**
SCO IAmb IAmb 17 37 30.4
comp=Z,8μm,1.9s
ISOG Isortoq, Green 43.59 34 ⇓P **P** **17 37 25.9 -0.3**
ISOG Isortoq, Green 43.59 34 *i* P **P** **17 37 26.8 +0.6**
ISOG IAmb IAmb 17 37 29.4
comp=Z,7μm,1.6s
Z35A Perchaven, San 43.66 105 IAmb IAmb 17 37 31.4
comp=Z,2μm,1.2s
Z35A IAMs_20 IAMs_20 17 57 03.1
comp=Z,359μm,18.0s
OLIL Olney 43.66 92 IAmb IAmb 17 37 30.2
comp=Z,2μm,0.8s
FW06 Azle 43.82 106 IAmb IAmb 17 37 37.5
comp=Z,3μm,1.6s
N49A Columbus Grove 43.85 86 IAmb IAmb 17 37 31.6
comp=Z,2μm,0.8s
O48B Farmland 43.90 88 P **P** **17 37 28.0 -1.0**
O48B IAmb IAmb 17 37 31.3
comp=Z,3μm,0.8s
O48B Farmland 43.90 88 P **P** **17 37 28.6 -0.4**
baz=321,SNR=746
ANGG Ammassalik, Gr 43.90 34 ⇓P **P** **17 37 28.1 -0.5**
ANGG Ammassalik, Gr 43.90 34 *i* P **P** **17 37 28.0 -0.6**
ANGG IAmb IAmb 17 37 31.6
comp=Z,14μm,2.0s
S44A Carbondale 43.93 94 IAmb IAmb 17 37 34.1
comp=Z,2μm,1.2s
SIUC Southern Illin 43.93 94 IAmb IAmb 17 37 32.2
comp=Z,1μm,0.8s
FW07 Weatherford 43.94 106 IAmb IAmb 17 37 38.3
comp=Z,3μm,1.6s
IVI Ivigtut 44.08 43 IAmb IAmb 17 37 34.7
comp=Z,7μm,1.8s
BLO Bloomington 44.08 90 P **P** **17 37 30.0 -0.5**
BLO IAmb IAmb 17 37 33.3
comp=Z,2μm,0.8s
BLO Bloomington 44.08 90 P **P** **17 37 30.0 -0.5**
BLO pmax pmax
comp=Z,2μm,0.9s
BLO MLR MLR
comp=Z,864μm,19.0s
TXAR Lajitas Array 44.14 115 P **P** **17 37 32.8 +1.7**
comp=Z,358nm,0.8s,baz=332,slow=7.0,SNR=220
TXAR PcP **PcP** **17 39 17.2 +1.9**
comp=Z,165nm,0.9s,baz=335,slow=4.0,SNR=2.2
TXAR LR LR 17 58 47.6
comp=Z,83μm,18.2s,baz=334,slow=40
comp=Z,358nm,0.8s
DELO Deloro Mine 44.25 78 IAMs_20 IAMs_20 17 56 16.9
comp=Z,281μm,21.0s
BJO1 Bjornoya 44.26 4⇓*i* P **P** **17 37 33.7 +2.3**
BJO1 IVmB_BB 17 37 35.6
comp=Z,32μm,3.8s
BJO1 *e*S **S** **17 44 01.3 +0.5**
BJO1 *e*SS **ScS** **17 47 25.7 +1.6**
BJO1 IVMs_BB IVMs_BB 17 55 28.1
comp=Z,41μm,19.7s
TEY Ternei 44.31 283⇑*e* P **P** **17 37 30.8 -1.4**
TEY pmax pmax
comp=E,20nm,1.2s
TEY pmax pmax
comp=N,40nm,1.3s
TEY pmax pmax
comp=E,300nm,16.3s
TEY pmax pmax
comp=N,300nm,16.6s
O49A Covington 44.34 87 IAmb IAmb 17 37 35.1
comp=Z,1μm,0.7s
MIAR Mount Ida 44.39 100 ⇓P **P** **17 37 33.1 +0.1**
TRQ Mont Tremblant 44.41 74 P **P** **17 37 32.2 -0.8**
TRQ IAmb IAmb 17 37 36.8
comp=Z,4μm,1.2s
FW14 Alvarado 44.47 106 IAmb IAmb 17 37 37.3
comp=Z,1μm,0.8s
FW14 IAMs_20 IAMs_20 17 57 45.4
comp=Z,212μm,18.0s
USIN University of 44.48 92 IAmb IAmb 17 37 41.6
comp=Z,2μm,0.8s
PARMO Parma 44.51 95 IAmb IAmb 17 37 37.8
PARMO comp=Z,3μm,0.8s
PARMO IAMs_20 IAMs_20 17 57 47.2
comp=Z,348μm,19.0s
BOD Bodaibo 44.52 311 *e*P **P** **17 37 32.9 -0.8**
BOD pmax pmax
comp=Z,2μm,1.5s
FW16 Waxahatchie 44.53 105 IAmb IAmb 17 37 45.1
comp=Z,2μm,1.2s
BRDY Brady 44.56 108 IAmb IAmb 17 37 38.8
comp=Z,3μm,1.8s
HEH HeiHe 44.63 295 *e*P **P** **17 37 33.3 -1.4**
HEH pP **pP** **17 37 43.5 -4.6**
HEH S **S** **17 44 05.0 -1.8**
HEH sS **sS** **17 44 23.8 -5.5**
HEH ScS **SS** **17 47 27.5 -0.3**
HEH pmax pmax
comp=Z,870nm,1.7s
HEH pmax pmax
comp=Z,21μm,10.4s
HEH LR LR
comp=Z,116μm,19.4s
HEH LR LR
comp=Z,224μm,17.3s
HEH LR LR
comp=Z,403μm,18.0s
LDAQ Lac Daran 44.63 70 P **P** **17 37 34.5 -0.4**
WHTX Lake Whitney, 44.68 106 IAmb IAmb 17 37 39.7
comp=Z,3μm,1.6s
TREL Terrell 44.70 104 IAmb IAmb 17 37 39.0
comp=Z,2μm,0.8s
N51A Ashland 44.72 85 IAmb IAmb 17 37 39.2
comp=Z,3μm,1.2s
M52A Chesterland 44.73 84 IAmb IAmb 17 37 39.1
comp=Z,2μm,0.8s
Z38A Mt. Pleasant 44.78 103 IAmb IAmb 17 37 44.8
comp=Z,3μm,1.6s

X40A Basin Creek Fa 44.79 100 P **P** **17 37 35.0 -1.2**
HICK Hickman 44.86 95 IAmb IAmb 17 39 21.2
comp=Z,3μm,1.1s
HICK IAMs_20 IAMs_20 17 57 58.5
comp=Z,289μm,19.0s
JCT Junction City 44.88 110 IAmb IAmb 17 37 41.9
comp=Z,3μm,0.8s
JCT IAMs_20 IAMs_20 17 58 31.5
comp=Z,141μm,18.0s
JCT Junction City 44.88 110 ⇓P **P** **17 37 38.0 +1.0**
PEBM Pemiscott Bayo 44.90 96 IAmb IAmb 17 37 40.6
comp=Z,4μm,1.4s
WCI Wyandotte Cave 44.93 91 P **P** **17 37 36.5 -0.7**
WCI IAmb IAmb 17 37 40.1
comp=Z,1μm,0.9s
WCI Wyandotte Cave 44.93 91 ⇑P **P** **17 37 37.0 -0.2**
WCI Wyandotte Cave 44.93 91 P **P** **17 37 36.5 -0.7**
WCI pmax pmax
comp=Z,1μm,0.9s
WCI Wyandotte Cave 44.93 91 P **P** **17 37 37.4 +0.1**
WCI PcP **PcP** **17 39 19.6 +1.8**
GNAR Gosnell 44.94 96 IAmb IAmb 17 37 40.4
comp=Z,2μm,0.9s
ERPA Erie 44.94 82 IAmb IAmb 17 37 40.7
comp=Z,2μm,0.8s
ERPA Erie 44.94 82 ⇓P **P** **17 37 38.0 +0.7**
ACSO Alum Creek Sta 44.96 86 IAmb IAmb 17 37 40.5
comp=Z,1μm,0.8s
ACSO Alum Creek Sta 44.96 86 ⇓P **P** **17 37 37.6 +0.1**
HBAR Harrisburg 44.97 97 IAmb IAmb 17 39 21.9
comp=Z,3μm,1.5s
NRS Narsarsuaq 45.01 42 IAmb IAmb 17 37 51.3
comp=Z,2μm,1.2s
NRS Narsarsuaq 45.01 42 ⇓P **P** **17 37 38.0 +0.4**
NRS Narsarsuaq 45.01 42 *i* P **P** **17 37 40.0 +2.4**
GLAT Glass 45.05 95 P **P** **17 37 38.1 -0.1**
GLAT IAmb IAmb 17 37 48.5
comp=Z,3μm,1.3s
LNXT Lenox 45.09 95 IAmb IAmb 17 39 23.9
comp=Z,1μm,1.0s
UTMT University of 45.20 95 IAmb IAmb 17 37 43.0
comp=Z,3μm,1.1s
JNW Jan Mayen West 45.25 17⇓*i* P **P** **17 37 42.0 +2.6**
JNW IVmB_BB 17 37 44.2
comp=Z,51μm,4.8s
JNW *e*S **S** **17 44 19.2 +3.9**
JNW *e*SS **SS** **17 47 43.2 +4.8**
JNW IVMs_BB IVMs_BB 17 56 25.1
comp=Z,39μm,26.7s
ICQ Pointe Anglais 45.25 66 IAmb IAmb 17 37 42.3
comp=Z,1μm,0.9s
JMIC Jan Mayen 45.28 17⇓*i* P **P** **17 37 42.7 +3.1**
JMIC IVmB_BB 17 37 44.2
comp=Z,49μm,4.8s
JMIC *e*S **S** **17 44 19.4 +3.6**
JMIC *e*SS **SS** **17 47 45.5 +6.6**
JMIC IVMs_BB IVMs_BB 17 56 25.4
comp=Z,31μm,25.9s
JMIC Jan Mayen 45.28 17 LR LR 17 59 05.3
comp=Z,52μm,21.2s,baz=332,slow=39
JMI Jan Mayen 45.30 17 *e*P **P** **17 37 42.5 +2.7**
JMI IVmB_BB 17 37 44.6
comp=Z,67μm,4.5s
JMI *e*S **S** **17 44 18.8 +2.8**
JMI *e*SS **SS** **17 47 45.3 +6.0**
JMI IVMs_BB IVMs_BB 17 58 30.2
comp=Z,25μm,15.0s
JNE Jan Mayen East 45.30 17⇓*i* P **P** **17 37 42.6 +2.9**
JNE IVmB_BB 17 37 44.6
comp=Z,64μm,4.4s
JNE *e*S **S** **17 44 20.1 +4.0**
JNE *e*SS **SS** **17 47 46.4 +7.1**
JNE IVMs_BB IVMs_BB 17 56 27.0
comp=Z,38μm,20.2s
HALT Halls 45.31 95 P **P** **17 37 39.8 -0.5**
HALT IAmb IAmb 17 37 43.2
comp=Z,1μm,0.9s
HALT IAMs_20 IAMs_20 17 58 00.5
comp=Z,373μm,20.0s
HPIG 45.36 119 IAMs_20 IAMs_20 17 55 49.5
comp=Z,250μm,21.0s
HPIG 45.36 119 ⇑P **P** **17 37 42.7 +1.7**
MNTQ Montreal, Queb 45.38 74 IAmb IAmb 17 37 42.9
comp=Z,1μm,0.8s
MNTQ IAMs_20 IAMs_20 17 56 11.7
comp=Z,398μm,22.0s
DRIO Del Rio 45.41 112 IAmb IAmb 17 37 45.4
comp=Z,2μm,1.1s
JTM Tenmabayashi 45.43 276 IAmb IAmb 17 37 49.5
comp=Z,2μm,1.0s
JTM Tenmabayashi 45.43 276 P **P** **17 37 41.0 -0.1**
JTM Tenmabayashi 45.43 276 ⇑P **P** **17 37 40.9 -0.3**
P51A Williamsport 45.51 87 IAmb IAmb 17 37 44.4
comp=Z,1μm,1.0s
T47A Sharon Grove 45.53 92 P **P** **17 37 41.4 -0.6**
T47A IAmb IAmb 17 37 46.0
comp=Z,1μm,0.8s
LONY Lake Ozonia 45.60 75 IAMs_20 IAMs_20 17 56 55.5
comp=Z,342μm,20.0s
LONY Lake Ozonia 45.60 75 ⇓P **P** **17 37 41.9 -0.6**
O52A Adamsville 45.60 85 IAmb IAmb 17 37 46.0
comp=Z,3μm,1.3s
435B Jarrell 45.64 107 P **P** **17 37 44.1 +1.1**
baz=328
O53A New Philadelph 45.80 85 P **P** **17 37 43.1 -1.0**
O53A IAmb IAmb 17 37 46.9
comp=Z,996nm,0.9s
P52A Corning 45.84 86 IAmb IAmb 17 37 46.9
comp=Z,1μm,0.9s
R50A Paris 45.84 89 IAmb IAmb 17 37 54.4
comp=Z,1μm,1.2s
J57A Williamstown 45.85 78 IAMs_20 IAMs_20 17 57 16.3
comp=Z,289μm,20.0s
WVT Waverly 45.86 94 P **P** **17 37 44.3 -0.3**
WVT Waverly 45.86 94 ⇓P **P** **17 37 44.7 +0.1**
WVT Waverly 45.86 94 P **P** **17 37 44.3 -0.3**
WVT pmax pmax
comp=Z,832nm,0.9s
FRNY Flat Rock 45.90 74 IAMs_20 IAMs_20 17 57 04.4
comp=Z,347μm,21.0s
LPIG La Paz 45.98 126 LR LR 17 54 25.8
comp=Z,92μm,21.0s,baz=325,slow=32
K57A Scipio Center 46.12 79 IAmb IAmb 17 37 49.5
comp=Z,1μm,1.0s
K57A IAMs_20 IAMs_20 17 57 25.6
comp=Z,219μm,19.0s
NATX Nacogdoches 46.18 104 IAMs_20 IAMs_20 17 58 48.7
comp=Z,305μm,19.0s
NATX Nacogdoches 46.18 104 ⇓P **P** **17 37 48.0 +0.8**
O54A Avella 46.25 84 P **P** **17 37 47.1 -0.6**
O54A IAmb IAmb 17 37 50.6
comp=Z,2μm,0.8s
NCB Newcomb 46.26 76 IAmb IAmb 17 37 52.4
comp=Z,4μm,1.8s
NCB IAMs_20 IAMs_20 17 57 16.0
comp=Z,349μm,19.0s
Q52A Bidwell 46.30 87 IAmb IAmb 17 37 50.5
comp=Z,2μm,0.8s
P53A Whipple 46.31 85 IAmb IAmb 17 37 50.8
comp=Z,2μm,0.7s
SLBS Sierra La Lagu 46.50 126 ⇓P **P** **17 37 51.6 +1.7**
J59A Piesco 46.51 76 IAMs_20 IAMs_20 17 57 33.8
comp=Z,319μm,19.0s
U49A Red Boiling Sp 46.54 92 IAmb IAmb 17 38 00.4
comp=Z,2μm,1.1s
T50A Nancy 46.59 90 P **P** **17 37 50.3 -0.1**
CLTN Cedars of Leba 46.62 92 IAmb IAmb 17 37 54.7
comp=Z,2μm,0.9s
HNVL Huntsville, TX 46.64 105 IAmb IAmb 17 37 55.1
comp=Z,1μm,0.9s
JOHN Johnston Islan 46.65 206 IAMs_20 IAMs_20 17 53 27.8
comp=Z,128μm,22.0s
JOHN Johnston Islan 46.65 206 P **P** **17 37 54.1 +3.2**
JOHN Johnston Islan 46.65 206 ⇓P **P** **17 37 52.8 +1.9**
V48A Smith Brothers 46.66 93 IAmb IAmb 17 37 54.2
comp=Z,1μm,0.9s
V48A IAMs_20 IAMs_20 17 58 02.2
comp=Z,294μm,20.0s
PLAL Pickwick Lake 46.67 95 IAmb IAmb 17 37 54.3
comp=Z,2μm,0.8s
PLAL IAMs_20 IAMs_20 17 58 53.4
comp=Z,268μm,19.0s
BINY Binghamton 46.78 79 P **P** **17 37 51.6 -0.2**
BINY IAMs_20 IAMs_20 17 57 46.0
comp=Z,185μm,20.0s
BINY Binghamton 46.78 79 ⇓P **P** **17 37 52.2 +0.3**

833A Chaparral WMA, 46.90 111 IAMs_20 IAMs_20 17 58 19.1
comp=Z,157μm,19.0s
833A Chaparral WMA, 46.90 111 P **P** **17 37 54.4 +1.5**
baz=330,SNR=102
M57A Sunshine Farm, 46.91 80 IAmb IAmb 17 37 56.0
comp=Z,1μm,0.9s
M57A IAMs_20 IAMs_20 17 58 03.4
comp=Z,167μm,20.0s
MCWV Mont Chateau 46.92 84 IAmb IAmb 17 37 55.9
comp=Z,1μm,0.8s
MCWV Mont Chateau 46.92 84 ⇓P **P** **17 37 53.1 +0.3**
ACCN Adirondack Com 46.96 76 P **P** **17 37 52.7 -0.5**
ACCN IAmb IAmb 17 37 57.0
comp=Z,4μm,1.8s
ACCN IAMs_20 IAMs_20 17 57 37.7
comp=Z,279μm,22.0s
Q54A Coxs Mills 46.97 85 IAmb IAmb 17 37 56.1
comp=Z,1μm,0.8s
SSPA Standing Stone 47.09 81 P **P** **17 37 53.5 -0.7**
SSPA Standing Stone 47.09 81 ⇓P **P** **17 37 54.5 +0.3**
USA0B Ussuriysk Arra 47.10 286 IAmb IAmb 17 38 00.4
comp=Z,2μm,1.9s
USA0B Ussuriysk Arra 47.10 286*c i* P **P** **17 37 58.3 +4.1**
USRK Ussuriysk Ar. 47.10 286 P **P** **17 37 53.7 -0.5**
comp=Z,267nm,0.7s,baz=51,slow=9.2,SNR=110
USRK PcP **PcP** **17 39 26.9 +1.6**
comp=Z,77nm,0.8s,baz=40,slow=4.7,SNR=1.7
USRK LR LR 18 00 02.2
comp=Z,395μm,19.7s,baz=40,slow=39
comp=Z,267nm,0.7s
LBNH Lisbon 47.12 74 IAmb IAmb 17 37 59.4
comp=Z,4μm,1.8s
LBNH Lisbon 47.12 74 ⇑P **P** **17 37 54.5 +0.1**
HKT Hockley 47.15 106 ⇓P **P** **17 37 56.0 +1.3**
HKT Hockley 47.15 106*d i* P **P** **17 37 56.0 +1.3**
HKT pmax pmax
comp=Z,1μm,1.3s
HKT MLR MLR
comp=Z,276μm,18.0s
HKT Hockley 47.15 106 P **P** **17 37 56.3 +1.6**
735A Kenedy 47.17 109 IAMs_20 IAMs_20 17 58 45.0
comp=Z,172μm,22.0s
H62A Milan 47.22 73 IAmb IAmb 17 38 00.1
comp=Z,4μm,1.8s
L59A Walton 47.24 78 IAMs_20 IAMs_20 17 57 59.0
comp=Z,296μm,22.0s
HNH Hanover 47.36 74 IAmb IAmb 17 38 01.3
comp=Z,3μm,1.7s
HNH IAMs_20 IAMs_20 17 57 35.2
comp=Z,290μm,22.0s
BATG Bathurst New B 47.47 67 IAmb IAmb 17 38 01.1
comp=Z,3μm,1.5s
N58A Sunbury 47.49 80 P **P** **17 37 56.4 -1.0**
N58A IAmb IAmb 17 38 00.5
comp=Z,2μm,0.9s
N58A IAMs_20 IAMs_20 17 57 57.8
comp=Z,210μm,22.0s
SWET Sewanee 47.51 93 IAmb IAmb 17 38 00.3
comp=Z,1μm,0.8s
J61A Chester 47.51 75 IAMs_20 IAMs_20 17 58 53.3
comp=Z,155μm,18.0s
PKME Peaks-Kenny Pk 47.55 71 IAmb IAmb 17 38 00.6
comp=Z,2μm,1.2s
PKME Peaks-Kenny Pk 47.55 71 ⇓P **P** **17 37 57.7 0.0**
X48A Hartselle 47.59 94 IAmb IAmb 17 38 01.2
comp=Z,1μm,0.8s
X48A IAMs_20 IAMs_20 17 59 32.9
comp=Z,214μm,18.0s
TZTN Tazewell 47.60 90 P **P** **17 37 57.6 -0.6**
TZTN IAmb IAmb 17 38 01.6
comp=Z,2μm,0.8s
TZTN Tazewell 47.60 90 ⇓P **P** **17 37 58.6 +0.4**
I62A Tamworth 47.67 74 IAMs_20 IAMs_20 17 57 42.5
comp=Z,350μm,22.0s
S54A Dingess, Beckl 47.68 87 IAmb IAmb 17 38 01.7
comp=Z,1μm,0.8s
441A DeRidder 47.71 103 IAMs_20 IAMs_20 17 59 00.3
comp=Z,287μm,20.0s
VBMS Vicksburg 47.76 99 P **P** **17 37 59.5 0.0**
VBMS Vicksburg 47.76 99 ⇓P **P** **17 38 00.6 +1.1**
W50A Signal Mountai 47.82 92 IAmb IAmb 17 38 05.1
comp=Z,2μm,1.3s
JMM Marumori 47.85 274 IAmb IAmb 17 38 08.6
comp=Z,2μm,0.9s
JMM Marumori 47.85 274 P **P** **17 37 59.9 -0.2**
JMM Marumori 47.85 274 ⇑P **P** **17 37 59.9 -0.2**
MDJ Mudanjiang 47.88 288 P **P** **17 37 59.4 -0.9**
MDJ IAmb IAmb 17 38 07.8
comp=Z,1μm,1.0s
MDJ pP **pP** **17 38 16.6 +2.8**
MDJ IAMs_20 IAMs_20 18 00 03.4
comp=Z,193μm,21.0s
MDJ Mudanjiang 47.88 288 P **P** **17 38 00.0 -0.3**
MDJ PP **PP** **17 39 52.5 +0.3**
MDJ S **S** **17 44 54.0 +0.4**
MDJ pmax pmax
comp=Z,440nm,1.4s
MDJ pmax pmax
comp=Z,9μm,3.6s
MDJ LR LR
comp=Z,118μm,23.4s
MDJ LR LR
comp=Z,144μm,24.0s
MDJ LR LR
comp=Z,320μm,24.0s
MDJ Mudanjiang 47.88 288 P **P** **17 38 00.2 -0.1**
I63A Otisfield 47.89 73 IAMs_20 IAMs_20 17 58 24.1
comp=Z,324μm,20.0s
WVL Waterville 47.92 72 IAmb IAmb 17 38 05.3
comp=Z,4μm,1.8s
P57A Homestead Farm 47.93 83 P **P** **17 38 00.0 -0.7**
VLA Vladivostok 47.98 285*d i* P **P** **17 38 01.3 +0.3**
VLA pmax pmax
comp=Z,953nm,1.0s
CPCT Cooper Cave 48.00 91 IAmb IAmb 17 38 04.4
comp=Z,865nm,0.8s
BNX BinXian 48.02 291 ⇑P **P** **17 38 01.0 -0.3**
BNX pP **pP** **17 38 10.0 -4.9**
BNX PP **PP** **17 39 51.5 -1.9**
BNX S **S** **17 44 54.5 -0.9**
BNX pmax pmax
comp=Z,330nm,1.4s
BNX pmax pmax
comp=Z,20μm,11.0s
BNX LR LR
comp=Z,170μm,22.8s
BNX LR LR
comp=Z,129μm,21.5s
BNX LR LR
comp=Z,296μm,24.9s
L61B Northampton 48.15 76 IAMs_20 IAMs_20 17 58 24.0
comp=Z,300μm,18.0s
L61B Northampton 48.15 76 P **P** **17 38 02.5 +0.2**
baz=321,SNR=62
K62A Royalston 48.19 75 IAMs_20 IAMs_20 17 58 25.1
comp=Z,306μm,19.0s
TKL Tuckaleechee C 48.20 91 IAmb IAmb 17 38 06.0
comp=Z,2μm,0.8s
TKL Tuckaleechee C 48.20 91 LR LR 17 59 18.3
comp=Z,902μm,19.6s,baz=336,slow=37
TKL P4KPbc 18 15 41.8
comp=Z,5.5nm,0.8s,baz=65,slow=1.9,SNR=6.0
FPAL Fort Paine 48.21 93 IAmb IAmb 17 38 06.2
comp=Z,1μm,0.8s
FPAL IAMs_20 IAMs_20 17 59 28.2
comp=Z,212μm,18.0s
KVTX Kingsville 48.25 110 ⇑P **P** **17 38 05.9 +2.7**
HAMF Hammerfest 48.26 3⇓*i* P **P** **17 38 03.5 +0.7**
HAMF IVmB_BB 17 38 05.9
comp=Z,26μm,3.0s
HAMF *e*S **S** **17 44 54.0 -4.3**
HAMF *e*ScS **ScS** **17 47 49.2 -1.0**
HAMF *e*SS **SS** **17 48 28.1 +1.0**
HAMF IVMs_BB IVMs_BB 17 59 47.2
comp=Z,34μm,18.9s
ODNJ Ogdensburg 48.30 78 IAMs_20 IAMs_20 17 58 42.2
comp=Z,227μm,21.0s
LUPA Lehigh Univers 48.32 79 P **P** **17 38 03.7 0.0**
LUPA IAMs_20 IAMs_20 17 59 42.6
comp=Z,207μm,20.0s
KSCT Kent School, K 48.33 77 IAMs_20 IAMs_20 17 58 38.9
comp=Z,89μm,18.0s
Y49A Blount Mountai 48.38 94 IAmb IAmb 17 38 07.4
comp=Z,1μm,1.0s
Y49A IAMs_20 IAMs_20 17 59 48.7
comp=Z,253μm,19.0s

TRNY	**Table Rock, Ra**	48.43	78	IAms_20	IAms_20	17 58 45.7		
	comp=Z,228μm,20.0s							
SDMD	**Soldier's Deli**	48.55	82	IAmb	IAmb	17 38 08.5		
	comp=Z,727nm,0.9s							
X51A	**Calhoun**	48.56	92	IAmb	IAmb	17 38 08.8		
	comp=Z,2μm,0.8s							
BORG	**Borgarnes**	48.56	27	LR	LR	18 00 58.1		
	comp=Z,97μm,20.1s,baz=332,slow=39							
BORG	**Borgarnes**	48.56	27	⇑P	**P**	**17 38 06.5**	**+1.3**	
BLA	**Blacksburg**	48.57	86	P	**P**	**17 38 05.0**	**-0.8**	
BLA	**Blacksburg**	48.57	86	⇓P	**P**	**17 38 06.0**	**+0.2**	
BLA	**Blacksburg**	48.57	86	P	**P**	**17 38 05.0**	**-0.8**	
BLA				pmax	pmax			
	comp=Z,2μm,0.9s							
W52A	**Murphy**	48.58	91	IAmb	IAmb	17 38 09.0		
	comp=Z,1μm,0.8s							
HRV	**Adam Dziewonsk**	48.63	75	P	**P**	**17 38 05.6**	**-0.4**	
HRV	**Adam Dziewonsk**	48.63	75	IAMs_20	IAMs_20	17 59 35.7		
	comp=Z,159μm,18.0s							
HRV	**Adam Dziewonsk**	48.63	75	⇓P	**P**	**17 38 06.2**	**+0.1**	
HRV	**Adam Dziewonsk**	48.63	75	P	**P**	**17 38 07.7**	**+1.6**	
BRNJ	**Basking Ridge**	48.63	79	IAMs_20	IAMs_20	17 58 53.0		
	comp=Z,297μm,20.0s							
HIA	**Hailar**	48.66	299	P	**P**	**17 38 06.5**	**+0.2**	
HIA				IAmb	IAmb	17 38 14.3		
	comp=Z,917nm,0.9s							
HIA	**Hailar**	48.66	299	P	**P**	**17 38 06.1**	**-0.2**	
HIA	**Hailar**	48.66	299	P	**P**	**17 38 06.5**	**+0.2**	
HIA				pmax	pmax			
	comp=Z,917nm,0.9s							
HIA				MLR	MLR			
	comp=Z,678μm,18.0s							
HIA	**Hailar**	48.66	299	P	**P**	**17 38 06.3**	**0.0**	
PAL	**Palisades**	48.69	78	IAmb	IAmb	17 38 09.5		
	comp=Z,1μm,0.9s							
PAL				IAMs_20	IAMs_20	17 58 54.5		
	comp=Z,283μm,22.0s							
MSHR	**Mys Shultsa**	48.73	285	*c*e*P*	**P**	**17 38 07.3**	**+0.5**	
MSHR				pmax	pmax			
	comp=Z,2μm,1.3s							
MSHR				MLR	MLR			
	comp=Z,392μm,19.0s							
GGN	**Saint George**	48.77	69	IAmb	IAmb	17 38 09.9		
	comp=Z,2μm,1.0s							
LRAL	**Lakeview Retre**	48.77	95	IAmb	IAmb	17 38 12.1		
	comp=Z,810nm,1.0s							
LRAL	**Lakeview Retre**	48.77	95	⇓P	**P**	**17 38 07.0**	**-0.2**	
EMMW	**East Machias**	48.81	70	IAmb	IAmb	17 38 10.2		
	comp=Z,1μm,0.9s							
WES	**Weston**	48.83	75	IAmb	IAmb	17 38 09.6		
	comp=Z,2μm,1.0s							
WES				IAMs_20	IAMs_20	17 58 17.1		
	comp=Z,249μm,22.0s							
CPNY	**Central Park**	48.84	78	P	**P**	**17 38 07.1**	**-0.6**	
CPNY				IAMs_20	IAMs_20	17 58 59.3		
	comp=Z,243μm,21.0s							
PSTR	**Posyet**	48.84	286	*d i*P	**P**	**17 38 07.8**	**+0.1**	
VADS	**Vadso**	48.85	0	*e*P	**P**	**17 38 07.5**	**+0.1**	
VADS				IVmB_BB		17 38 09.4		
	comp=Z,27μm,2.1s							
VADS				*e*S	**S**	**17 45 01.7**	**-4.9**	
VADS				*e*ScS	**ScS**	**17 47 52.8**	**-1.4**	
VADS				IVMs_BB	IVMs_BB	17 55 21.6		
	comp=Z,28μm,25.8s							
UCCT	**U. Connecticut**	48.87	76	IAMs_20	IAMs_20	17 58 46.1		
	comp=Z,302μm,20.0s							
JSD	**Sado**	48.93	276	P	**P**	**17 38 08.9**	**+0.5**	
JSD	**Sado**	48.93	276	⇑P	**P**	**17 38 08.8**	**+0.3**	
BCX	**Boston College**	48.94	75	IAMs_20	IAMs_20	17 58 21.0		
	comp=Z,241μm,22.0s							
N62A	**Caumsett State**	48.96	78	IAmb	IAmb	17 38 11.3		
	comp=Z,1μm,1.0s							
N62A				IAMs_20	IAMs_20	17 59 09.6		
	comp=Z,220μm,19.0s							
CIT	**Chita**	49.06	306	*e*P	**P**	**17 38 09.8**	**+0.5**	
CIT				*e*		17 39 29.8		
CIT				*e*		17 39 57.0		
CIT				*e*		17 40 54.0		
CIT				*e*S	**S**	**17 45 13.8**	**+3.7**	
CIT				*e*		17 47 57.2		
CIT				pmax	pmax			
	comp=Z,4μm,3.2s							
TRO	**Tromso**	49.11	5	⇓*i*P	**P**	**17 38 10.8**	**+1.4**	
TRO				IVmB_BB		17 38 12.1		
	comp=Z,30μm,2.3s							
TRO				*e*S	**S**	**17 45 08.3**	**-1.8**	
TRO				*e*ScS	**ScS**	**17 47 55.0**	**-0.9**	
TRO				IVMs_BB	IVMs_BB	17 56 42.6		
	comp=Z,56μm,24.2s							
BG3	**Lake Jocassee**	49.14	90	IAmb	IAmb	17 39 36.1		
	comp=Z,1μm,0.9s							
R58B	**Mineral**	49.20	84	IAmb	IAmb	17 38 14.0		
	comp=Z,1μm,1.0s							
KEV	**Kevo**	49.20	1	P	**P**	**17 38 08.9**	**-1.2**	
KEV				IAmb	IAmb	17 38 13.1		
	comp=Z,2μm,1.3s							
KEV	**Kevo**	49.20	1	⇓P	**P**	**17 38 08.9**	**-1.2**	
KEV	**Kevo**	49.20	1	P	**P**	**17 38 08.9**	**-1.2**	
KEV				pmax	pmax			
	comp=Z,2μm,1.3s							
KEV				MLR	MLR			
	comp=Z,77μm,20.0s							
JETT	**Jettan, Norway**	49.24	4	⇓*i*P	**P**	**17 38 12.0**	**+1.5**	
JETT				IVmB_BB		17 38 14.6		
	comp=Z,42μm,3.4s							
JETT				*e*S	**S**	**17 45 10.6**	**-1.7**	
JETT				*e*ScS	**ScS**	**17 47 55.2**	**-1.8**	
JETT				IVMs_BB	IVMs_BB	17 56 47.8		
	comp=Z,33μm,24.4s							
CBN	**Corbin Frederi**	49.25	83	⇓P	**P**	**17 38 11.3**	**+0.5**	
V55A	**Taylorsville**	49.28	88	IAmb	IAmb	17 38 16.3		
	comp=Z,1μm,1.0s							
T57A	**Hurt**	49.30	86	IAmb	IAmb	17 38 14.1		
	comp=Z,886nm,0.9s							
T57A				IAMs_20	IAMs_20	17 59 24.9		
	comp=Z,341μm,22.0s							
P61A	**Hammonton**	49.32	80	IAMs_20	IAMs_20	17 59 53.1		
	comp=Z,153μm,20.0s							
ARA0	**ARCESS Array S**	49.41	2	*e*P	**P**	**17 38 11.4**	**-0.3**	
ARA0				IVmB_BB		17 38 13.5		
	comp=Z,21μm,2.5s							
ARA0				*e*S	**S**	**17 45 11.3**	**-3.1**	
ARA0				*e*ScS	**ScS**	**17 47 55.3**	**-2.8**	
ARA0				IVMs_BB	IVMs_BB	18 00 35.0		
	comp=Z,35μm,23.3s							
ARCES	**ARCESS Array B**	49.41	2	P	**P**	**17 38 10.4**	**-1.3**	
	comp=Z,179nm,0.6s,baz=3.6,slow=6.7,SNR=328							
ARCES				PcP	**PcP**	**17 39 33.2**	**+0.1**	
	comp=Z,275nm,0.8s,baz=338,slow=3.9,SNR=6.6							
ARCES				LR	LR	18 00 47.7		
	comp=Z,78μm,19.9s,baz=351,slow=38							
ARCES				P4KPbc		18 15 44.1		
	comp=Z,17nm,1.0s,baz=355,slow=5.4,SNR=7.7							
	comp=Z,179nm,0.6s							
L64A	**Middleborough**	49.41	75	IAmb	IAmb	17 38 15.7		
	comp=Z,4μm,1.8s							
L64A				IAMs_20	IAMs_20	17 58 35.3		
	comp=Z,263μm,22.0s							
M65A	**Busby, Falmout**	49.79	75	IAMs_20	IAMs_20	17 59 23.4		
	comp=Z,255μm,20.0s							
M65A	**Busby, Falmout**	49.79	75	P	**P**	**17 38 15.0**	**+0.1**	
	baz=322,SNR=10							
PAULI	**Pauline**	49.82	89	IAmb	IAmb	17 38 18.3		
	comp=Z,2μm,0.8s							
KTK1	**Kautokeino**	49.88	3	*e*P	**P**	**17 38 15.5**	**+0.3**	
KTK1				IVmB_BB		17 38 17.1		
	comp=Z,22μm,2.4s							
KTK1				*e*S	**S**	**17 45 17.5**	**-3.5**	
KTK1				*e*ScS	**ScS**	**17 48 00.2**	**-1.0**	
KTK1				IVMs_BB	IVMs_BB	17 58 47.9		
	comp=Z,22μm,25.0s							
250A	**Grady**	49.99	96	IAmb	IAmb	17 38 19.4		
	comp=Z,2μm,0.8s							
250A				IAMs_20	IAMs_20	18 00 24.3		
	comp=Z,312μm,21.0s							
T59A	**Double "B" Far**	50.14	84	P	**P**	**17 38 17.4**	**-0.2**	
T59A				IAmb	IAmb	17 38 20.9		
	comp=Z,1μm,1.0s							
MJB9	**Matsu-Tunnel**	50.14	275	IAmb	IAmb	17 38 25.9		
	comp=Z,2μm,1.1s							
MAJO	**Matsushiro**	50.15	275	P	**P**	**17 38 17.1**	**-0.6**	
MAJO				IAmb	IAmb	17 38 25.9		
	comp=Z,2μm,1.1s							
MAJO	**Matsushiro**	50.15	275	IAMs_20	IAMs_20	18 00 08.8		
	comp=Z,135μm,22.0s							
MAJO	**Matsushiro**	50.15	275	P	**P**	**17 38 18.0**	**+0.2**	
MAJO	**Matsushiro**	50.15	275	⇑P	**P**	**17 38 17.6**	**-0.1**	
MAJO	**Matsushiro**	50.15	275	*c i*P	**P**	**17 38 18.5**	**+0.8**	
MAJO				pmax	pmax			
	comp=Z,2μm,1.1s							
MAJO				MLR	MLR			
	comp=Z,131μm,21.0s							
MAJO	**Matsushiro**	50.15	275	P	**P**	**17 38 17.9**	**+0.2**	
MAJO				PcP	**PcP**	**17 39 39.2**	**+2.8**	
MAJO				PP	**PP**	**17 40 14.4**	**+1.4**	
MAJO				ScP	**ScP**	**17 43 27.3**	**-0.3**	
MAT	**Matsushiro**	50.15	275	P	**P**	**17 38 17.6**	**-0.2**	
MJAR	**Matsushiro Arr**	50.15	275	P	**P**	**17 38 17.6**	**-0.1**	
	comp=Z,985nm,1.2s,baz=16,slow=6.2,SNR=200							
MJAR				ScP	**ScP**	**17 43 28.4**	**+0.8**	
	comp=Z,33nm,1.0s,baz=28,slow=4.3,SNR=6.1							
MJAR				LR	LR	18 00 42.6		
	comp=Z,131μm,21.6s,baz=46,slow=37							
MJAR				P4KPbc		18 15 50.8		
	comp=Z,5.3nm,0.9s,baz=9.8,slow=3.0,SNR=7.0							
	comp=Z,985nm,1.2s							
152A	**Waverly Hall**	50.17	94	IAmb	IAmb	17 38 20.7		
	comp=Z,2μm,0.9s							
152A				IAMs_20	IAMs_20	17 59 38.0		
	comp=Z,311μm,22.0s							
JRY	**Ryogami san**	50.23	274	P	**P**	**17 38 18.6**	**+0.2**	
BRAL	**Brewton**	50.28	97	⇑P	**P**	**17 38 18.7**	**-0.1**	
LOF	**Lofoten**	50.31	8	⇓*i*P	**P**	**17 38 19.4**	**+0.9**	
LOF				IVmB_BB		17 38 21.7		
	comp=Z,22μm,5.1s							
LOF				*e*S	**S**	**17 45 24.3**	**-2.6**	
LOF				*e*ScS	**ScS**	**17 48 04.2**	**+0.1**	
LOF				IVMs_BB	IVMs_BB	17 54 36.8		
	comp=Z,27μm,34.9s							
V58A	**Windy Hill, Pi**	50.34	86	IAmb	IAmb	17 38 22.2		
	comp=Z,1μm,1.0s							
V58A				IAMs_20	IAMs_20	18 00 55.2		
	comp=Z,97μm,19.0s							
ZAIG	**Zacatecas**	50.34	118	IAMs_20	IAMs_20	17 57 50.4		
	comp=Z,164μm,21.0s							
ZAIG	**Zacatecas**	50.34	118	⇓P	**P**	**17 38 21.1**	**+1.5**	
CN2	**Changchun**	50.40	291	*e*P	**P**	**17 38 18.8**	**-0.7**	
CN2				*e*pP	pP	17 38 28.5	-4.7	
CN2				*e*PP	**PP**	**17 40 15.0**	**-0.1**	
CN2				*e*S	**S**	**17 45 25.0**	**-3.8**	
CN2				*e*sS	sS	17 45 45.5	-6.2	
CN2				*e*SS	**SS**	**17 48 56.8**	**-5.6**	
CN2				pmax	pmax			
	comp=Z,2μm,1.0s							
CN2				LR	LR			
	comp=Z,42μm,17.0s							
CN2				LR	LR			
	comp=Z,45μm,17.0s							
CN2				LR	LR			
	comp=Z,68μm,20.0s							
W57A	**Gilead**	50.43	88	IAmb	IAmb	17 38 22.8		
	comp=Z,1μm,0.8s							
HAL	**Halifax**	50.60	67	IAmb	IAmb	17 38 23.7		
	comp=Z,1μm,0.8s							
BIRD	**Birdtown, Kers**	50.61	88	IAmb	IAmb	17 38 24.4		
	comp=Z,2μm,0.8s							
STEI	**Steigen**	50.61	7	⇓*i*P	**P**	**17 38 21.9**	**+1.1**	
STEI				IVmB_BB		17 38 22.9		
	comp=Z,26μm,2.5s							
STEI				*e*PP	**PP**	**17 40 19.3**	**+2.8**	
STEI				*e*S	**S**	**17 45 27.2**	**-4.0**	
STEI				*e*ScS	**ScS**	**17 48 05.1**	**-1.1**	
STEI				IVMs_BB	IVMs_BB	17 54 28.7		
	comp=Z,39μm,38.3s							
JGN	**Niukaw**	50.83	275	P	**P**	**17 38 22.9**	**-0.1**	
GBN	**Guysborough**	50.91	65	P	**P**	**17 38 23.9**	**+0.5**	
GBN				IAmb	IAmb	17 38 28.2		
	comp=Z,3μm,1.4s							
LVZ	**Lovozero**	51.04	358	P	**P**	**17 38 23.1**	**-1.0**	
LVZ				pP	**pP**	**17 38 38.2**	**+0.4**	
LVZ	**Lovozero**	51.04	358	⇓P	**P**	**17 38 23.5**	**-0.6**	
LVZ	**Lovozero**	51.04	358	*de*P	**P**	**17 38 23.5**	**-0.6**	
LVZ				pmax	pmax			
	comp=Z,4μm,1.7s							
LVZ	**Lovozero**	51.04	358	P	**P**	**17 38 23.3**	**-0.8**	
	comp=Z,2μm,1.5s,comp=Z,37μm							
Y57A	**Sumter**	51.16	89	IAmb	IAmb	17 38 28.4		
	comp=Z,2μm,0.8s							
FAUS	**Fauske**	51.16	7	*e*P	**P**	**17 38 25.1**	**+0.2**	
FAUS				IVmB_BB		17 38 27.1		
	comp=Z,22μm,2.5s							
FAUS				*e*S	**S**	**17 45 35.6**	**-3.1**	
FAUS				*e*ScS	**ScS**	**17 48 07.6**	**-2.4**	
FAUS				IVMs_BB	IVMs_BB	17 54 44.3		
	comp=Z,37μm,37.1s							
W59A	**Clinton**	51.16	86	IAMs_20	IAMs_20	18 00 33.1		
	comp=Z,263μm,21.0s							
JGF	**Kuroka**	51.31	275	IAmb	IAmb	17 38 35.0		
	comp=Z,1μm,0.8s							
JGF	**Kuroka**	51.31	275	P	**P**	**17 38 27.2**	**+0.7**	
JGF	**Kuroka**	51.31	275	⇑P	**P**	**17 38 26.5**	**0.0**	
JGF	**Kuroka**	51.31	275	P	**P**	**17 38 26.5**	**0.0**	
APA	**Apatity**	51.40	358	⇓*i*P	**P**	**17 38 25.2**	**-1.5**	
APA				*i*		17 39 42.0		
APA				*i* PPP	PPP	17 41 34.0		
APA				*i* S	**S**	**17 45 36.0**	**-6.0**	
APA				*i*		17 48 10.0		
APA				*i* SS	**SS**	**17 49 20.0**	**+2.7**	
APA				pmax	pmax			
	comp=Z,527nm,0.9s							
JSG	**Sagara**	51.66	273	P	**P**	**17 38 30.8**	**+1.7**	
JSG	**Sagara**	51.66	273	⇑P	**P**	**17 38 29.7**	**+0.6**	
WAKE	**Wake Island**	51.75	236	P	**P**	**17 38 30.0**	**+0.1**	
WAKE	**Wake Island**	51.75	236	P	**P**	**17 38 32.5**	**+2.6**	
WAKE	**Wake Island**	51.75	236	⇑P	**P**	**17 38 30.9**	**+1.0**	
NHSC	**New Hope**	52.00	89	⇓P	**P**	**17 38 32.5**	**+0.9**	
STOK	**Stokkvaagen**	52.05	9	⇓*i*P	**P**	**17 38 33.0**	**+1.5**	
STOK				IVmB_BB		17 38 33.9		
	comp=Z,29μm,2.5s							
STOK				*e*S	**S**	**17 45 52.5**	**+1.5**	
STOK				*e*ScS	**ScS**	**17 48 15.9**	**-0.2**	
STOK				IVMs_BB	IVMs_BB	18 01 14.8		
	comp=Z,29μm,23.6s							
JHJ2	**Mitsune**	52.14	271	IAmb	IAmb	17 38 41.7		
	comp=Z,987nm,1.1s							
Y60A	**Bolivia**	52.21	87	IAMs_20	IAMs_20	18 01 39.0		
	comp=Z,265μm,18.0s							
LEIR	**Leirfjorden**	52.27	9	*e*P	**P**	**17 38 34.4**	**+1.1**	
LEIR				IVmB_BB		17 38 35.4		
	comp=Z,29μm,2.5s							
LEIR				*e*S	**S**	**17 45 52.2**	**-1.8**	
LEIR				*e*ScS	**ScS**	**17 48 22.4**	**+4.6**	
LEIR				IVMs_BB	IVMs_BB	18 01 31.5		
	comp=Z,29μm,22.5s							
MOR8	**Moi Rana**	52.31	8	*e*P	**P**	**17 38 32.8**	**-0.7**	
MOR8				IVmB_BB		17 38 35.8		
	comp=Z,20μm,3.8s							
MOR8				*e*S	**S**	**17 45 51.9**	**-2.7**	
MOR8				*e*ScS	**ScS**	**17 48 16.4**	**-1.7**	
MOR8				IVMs_BB	IVMs_BB	17 55 33.2		
	comp=Z,36μm,31.7s							
553A	**Crawfordville**	52.35	95	IAmb	IAmb	17 38 37.0		
	comp=Z,1μm,0.9s							
IRK	**Irkutsk**	52.38	312	*e*P	**P**	**17 38 33.3**	**-1.0**	
IRK				*e*S	**S**	**17 45 58.5**	**+2.5**	
IRK				pmax	pmax			
	comp=Z,2μm,2.0s							
SNY	**Shenyang**	52.80	291	⇓P	**P**	**17 38 37.3**	**-0.1**	
SNY				S	**S**	**17 45 55.3**	**-6.6**	
SNY				pmax	pmax			
	comp=Z,410nm,0.7s							
SNY				pmax	pmax			
	comp=Z,9μm,3.5s							
SNY				LR	LR			
	comp=Z,100μm,23.3s							
SNY				LR	LR			
	comp=Z,94μm,20.0s							
SNY				LR	LR			
	comp=Z,212μm,23.3s							
JAD	**Aida**	53.38	277	P	**P**	**17 38 41.6**	**-0.2**	
MOIG	**Morelia**	53.67	118	IAMs_20	IAMs_20	18 03 28.8		
	comp=Z,131μm,22.0s							
NSS	**Namsos**	53.75	10	⇓*i*P	**P**	**17 38 45.1**	**+1.0**	
NSS				IVmB_BB		17 38 46.1		
	comp=Z,29μm,2.3s							
NSS				*e*S	**S**	**17 46 12.6**	**-1.5**	
NSS				*e*ScS	**ScS**	**17 48 25.8**	**-2.4**	
NSS				IVMs_BB	IVMs_BB	18 03 17.9		
	comp=Z,23μm,21.6s							
SUJ	**Sinuiju**	53.76	289	P	**P**	**17 38 44.7**	**+0.2**	
SUJ				S	**S**	**17 46 16.4**	**+1.4**	
SUJ				AmB				
	comp=Z,10μm,3.3s							
SUJ				AMS	AMS			
	comp=Z,214μm,18.4s							
JHS	**Saijyo**	53.83	278	P	**P**	**17 38 44.8**	**-0.4**	
656A	**Willston**	53.94	94	P	**P**	**17 38 45.6**	**-0.4**	
656A				IAmb	IAmb	17 38 53.9		
	comp=Z,1μm,1.0s							
656A				IAMs_20	IAMs_20	18 03 29.0		
	comp=Z,153μm,20.0s							
MOY	**Mondy**	54.02	313	*e*P	**P**	**17 38 46.4**	**0.0**	
MOY				*e*		17 46 23.6		
MOY				pmax	pmax			
	comp=Z,2μm,2.4s							
PYAG	**Pyongyang**	54.02	287	P	**P**	**17 38 46.7**	**+0.3**	
PYAG				S	**S**	**17 46 20.6**	**+2.1**	
PYAG				AmB				
	comp=Z,13μm,2.3s							
ZAK	**Zakamensk**	54.26	311	*e*P	**P**	**17 38 48.2**	**0.0**	
ZAK				pmax	pmax			
	comp=Z,328nm,1.1s							
KS19	**Wonju Array Si**	54.29	284	IAmb	IAmb	17 38 57.3		
	comp=Z,2μm,1.1s							
KSRS	**Korea Array**	54.30	284	P	**P**	**17 38 49.0**	**+0.5**	
	comp=Z,735nm,0.9s,baz=29,slow=7.1,SNR=329							
KSRS				ScP	**ScP**	**17 43 46.7**	**+1.2**	
	comp=Z,27nm,0.9s,baz=34,slow=4.3,SNR=5.7							
KSRS				LR	LR	18 03 09.0		
	comp=Z,134μm,20.3s,baz=35,slow=37							
KSRS				PKPPKP	**P'P'df**	**18 09 04.5**	**-0.3**	
	comp=Z,7.3nm,1.0s,baz=186,slow=3.4,SNR=4.1							
KSRS				P4KPbc		18 16 08.0		
	comp=Z,5.7nm,0.9s,baz=33,slow=2.9,SNR=11							
	comp=Z,735nm,0.9s							
KSRS	**Korea Array**	54.30	284	P	**P**	**17 38 49.0**	**+0.5**	
XLT	**XiLinHaoTe**	54.44	298	⇑*i*P	**P**	**17 38 49.5**	**-0.1**	
XLT				sP	sP	17 39 06.5	-2.6	
XLT				PcP	**PcP**	**17 39 53.0**	**+0.4**	
XLT				PP	PP	17 41 00.0	+8.3	
XLT				S	**S**	**17 46 23.8**	**-0.5**	
XLT				ScS	**ScS**	**17 48 31.0**	**-3.0**	
XLT				SS	**SS**	**17 50 06.3**	**-0.1**	
XLT				pmax	pmax			
	comp=Z,620nm,1.6s							
XLT				pmax	pmax			
	comp=Z,10μm,5.4s							
XLT				LR	LR			
	comp=Z,220μm,17.0s							
XLT				LR	LR			
	comp=Z,258μm,33.2s							
JMN	**Monobe**	54.50	276	IAmb	IAmb	17 38 58.8		
	comp=Z,2μm,1.1s							
JMN				IAMs_20	IAMs_20	18 02 39.0		
	comp=Z,127μm,21.0s							
JMN	**Monobe**	54.50	276	P	**P**	**17 38 51.2**	**+1.1**	
JMN	**Monobe**	54.50	276	⇑P	**P**	**17 38 50.5**	**+0.4**	
UNM	**Universidad Na**	54.84	116	IAMs_20	IAMs_20	18 04 44.4		
	comp=Z,181μm,19.0s							
TBLU	**Trondheim**	54.86	11	*e*P	**P**	**17 38 52.5**	**+0.3**	
TBLU				IVmB_BB		17 38 54.5		
	comp=Z,22μm,5.1s							
TBLU				*e*S	**S**	**17 46 25.4**	**-3.8**	
TBLU				*e*ScS	**ScS**	**17 48 34.5**	**-1.7**	
TBLU				IVMs_BB	IVMs_BB	17 57 31.4		
	comp=Z,20μm,21.9s							
INCN	**Inchon**	54.88	285	P	**P**	**17 38 52.4**	**-0.4**	
INCN	**Inchon**	54.88	285	IAMs_20	IAMs_20	18 01 33.1		
	comp=Z,258μm,22.0s							
INCN	**Inchon**	54.88	285	P	**P**	**17 38 53.4**	**+0.7**	
INCN				P	**P**	**17 38 53.4**	**+0.7**	
INCN				S	**S**	**17 46 33.7**	**+3.5**	
INCN				S	**S**	**17 46 33.7**	**+3.5**	
INCN	**Inchon**	54.88	285	P	**P**	**17 38 53.5**	**+0.7**	
INCN	**Inchon**	54.88	285	⇑P	**P**	**17 38 52.8**	**+0.1**	
INCN	**Inchon**	54.88	285	P	**P**	**17 38 52.4**	**-0.4**	
INCN				pmax	pmax			
	comp=Z,755nm,1.1s							
INCN				MLR	MLR			
	comp=Z,258μm,22.0s							
ULN	**Ulaanbaatar**	54.91	307	P	**P**	**17 38 52.7**	**-0.3**	
ULN				IAmb	IAmb	17 39 02.6		
	comp=Z,764nm,0.8s							
ULN	**Ulaanbaatar**	54.91	307	P	**P**	**17 38 54.5**	**+1.5**	
ULN				P	**P**	**17 38 54.5**	**+1.5**	
ULN				P	**P**	**17 38 54.5**	**+1.5**	
ULN				S	**S**	**17 46 33.0**	**+2.4**	
ULN				S	**S**	**17 46 33.0**	**+2.4**	
ULN				S	**S**	**17 46 33.0**	**+2.4**	
ULN	**Ulaanbaatar**	54.91	307	⇓P	**P**	**17 38 53.2**	**+0.2**	
ULN	**Ulaanbaatar**	54.91	307	P	**P**	**17 38 53.2**	**+0.2**	
SONM	**Songino Array**	55.19	307	P	**P**	**17 38 55.5**	**+0.6**	
	comp=Z,352nm,0.7s,baz=38,slow=4.5,SNR=195							
SONM				ScP	**ScP**	**17 43 50.1**	**+0.6**	
	comp=Z,63nm,1.0s,baz=49,slow=3.2,SNR=4.8							
SONM				LR	LR	18 04 09.5		
	comp=Z,368μm,19.0s,baz=30,slow=38							
SONM				PKP2bc		18 09 15.5		
	comp=Z,11nm,1.0s,baz=173,slow=2.3,SNR=5.0							
	comp=Z,352nm,0.7s							
MOL	**Molde**	55.27	12	*e*P	**P**	**17 38 56.0**	**+0.9**	
MOL				IVmB_BB		17 38 57.4		
	comp=Z,32μm,2.0s							
MOL				*e*S	**S**	**17 46 32.6**	**-2.0**	
MOL				*e*ScS	**ScS**	**17 48 38.5**	**-0.6**	
MOL				IVMs_BB	IVMs_BB	17 59 52.8		
	comp=Z,33μm,27.1s							
TJN	**Taejon**	55.44	284	P	**P**	**17 38 57.7**	**+1.0**	
TJN	**Taejon**	55.44	284	*c i*P	**P**	**17 38 57.6**	**+0.9**	
DWPF	**Disney Wildern**	55.52	94	P	**P**	**17 38 56.8**	**-0.6**	
DWPF				IAmb	IAmb	17 39 02.2		
	comp=Z,2μm,1.5s							
DWPF	**Disney Wildern**	55.52

JNU	**Nakatsue**	**56.43**	**279**	⇑P	**P**	**17 39 03.8**	**-0.2**
SUE	**Sulen**	**56.44**	**14**	*e*P	**P**	**17 39 03.2**	**-0.3**
SUE				IVmB_BB		17 39 05.7	
	comp=Z,29μm,3.9s						
SUE				*e*S	**S**	**17 46 49.2**	**-0.9**
SUE				IVMs_BB	IVMs_BB	17 57 15.1	
	comp=Z,22μm,35.0s						
HYA	**Hoyanger**	**56.49**	**14**	⇓*i*P	**P**	**17 39 06.8**	**+2.9**
HYA				IVmB_BB		17 39 08.9	
	comp=Z,18μm,4.4s						
HYA				*e*S	**S**	**17 46 52.0**	**+1.1**
HYA				*e*ScS	**ScS**	**17 48 52.9**	**+4.9**
HYA				IVMs_BB	IVMs_BB	17 58 52.3	
	comp=Z,29μm,28.9s						
LRW	**Lerwick**	**56.52**	**18**	*e*P	**P**	**17 39 04.2**	**0.0**
LRW				IAmb	IAmb	17 39 07.5	
	comp=Z,13μm,2.0s						
LRW				IAMs_20	IAMs_20	17 59 45.6	
	comp=Z,184μm,31.1s						
LRW	**Lerwick**	**56.52**	**18**	⇓P	**P**	**17 39 04.2**	**0.0**
TLIG	**Tlapa**	**56.67**	**117**	IAMs_20	IAMs_20	18 04 25.9	
	comp=Z,103μm,22.0s						
KEF	**Keuruu**	**56.78**	**3**	*e*P	**P**	**17 39 07.8**	**+1.8**
ASK	**Askoy**	**57.05**	**14**	*e*P	**P**	**17 39 07.8**	**0.0**
ASK				IVmB_BB		17 39 10.0	
	comp=Z,31μm,2.2s						
ASK				*e*S	**S**	**17 46 56.2**	**-2.0**
ASK				*e*ScS	**ScS**	**17 48 51.2**	**-0.8**
ASK				IVMs_BB	IVMs_BB	17 59 24.2	
	comp=Z,26μm,25.6s						
NB2	**NORSAR Subarra**	**57.13**	**11**	P	**P**	**17 39 07.6**	**-0.9**
	comp=Z,8μm,2.0s,baz=349,slow=7.4						
NB2				P'P'		18 09 02.9	
	comp=Z,381nm,2.0s,baz=151,slow=2.3						
NB2				P4KP		18 15 12.3	
	comp=Z,9.8nm,0.9s,baz=150,slow=2.1						
NB2	**NORSAR Subarra**	**57.13**	**11**	P	**P**	**17 39 07.6**	**-0.9**
	baz=349,slow=7.4						
NOA	**NORSAR Array B**	**57.13**	**11**	P	**P**	**17 39 07.5**	**-0.9**
	comp=Z,279nm,0.9s,baz=350,slow=7.1,SNR=268						
NOA				LR	LR	18 05 15.0	
	comp=Z,46μm,20.5s,baz=350,slow=38						
NOA				PKPPKP	P'P'df	18 08 53.7	-10
	comp=Z,5.8nm,0.9s,baz=191,slow=2.7,SNR=5.6						
NOA				P4KPbc		18 16 19.7	
	comp=Z,3.9nm,1.0s,baz=353,slow=5.1,SNR=5.0						
	comp=Z,279nm,0.9s						
BER	**Bergen**	**57.16**	**14**	*e*P	**P**	**17 39 08.6**	**0.0**
BER				IVmB_BB		17 39 11.0	
	comp=Z,24μm,2.2s						
BER				*e*S	**S**	**17 46 59.1**	**-0.6**
BER				IVMs_BB	IVMs_BB	17 59 27.5	
	comp=Z,21μm,25.8s						
ZALV	**Zalesovo Beam**	**57.16**	**325**	P	**P**	**17 39 07.7**	**-1.1**
	comp=Z,199nm,0.8s,baz=29,slow=7.1,SNR=318						
ZALV				ScP	**ScP**	**17 43 57.5**	**-0.4**
	comp=Z,60nm,1.0s,baz=29,slow=3.3,SNR=3.1						
ZALV				LR	LR	18 07 19.4	
	comp=Z,212μm,18.4s,baz=24,slow=40						
ZALV				P4KPbc		18 16 17.7	
	comp=Z,0.5nm,0.4s,baz=28,slow=3.7,SNR=0.8						
	comp=Z,199nm,0.8s						
SKAR	**Skarslia**	**57.20**	**12**	⇓*i*P	**P**	**17 39 09.9**	**+0.9**
SKAR				IVmB_BB		17 39 11.3	
	comp=Z,24μm,2.1s						
SKAR				*e*S	**S**	**17 46 58.9**	**-1.5**
SKAR				*e*ScS	**ScS**	**17 48 54.1**	**+0.8**
SKAR				IVMs_BB	IVMs_BB	18 03 17.3	
	comp=Z,37μm,24.3s						
NC602	**NORSAR Array S**	**57.46**	**11**	*e*P	**P**	**17 39 10.4**	**-0.3**
NC602				IVmB_BB		17 39 12.7	
	comp=Z,23μm,2.1s						
NC602				*e*S	**S**	**17 47 00.7**	**-3.0**
NC602				*e*ScS	**ScS**	**17 48 56.8**	**+1.8**
NC602				IVMs_BB	IVMs_BB	18 04 51.8	
	comp=Z,24μm,18.3s						
FIA1	**FINESS Array S**	**57.53**	**2**	P	**P**	**17 39 10.5**	**-0.7**
FINES	**FINESS Array B**	**57.53**	**2**	P	**P**	**17 39 10.3**	**-1.0**
	comp=Z,328nm,0.5s,baz=0.8,slow=7.3,SNR=674						
FINES				PKPPKP	**P'P'df**	**18 08 54.9**	**-7.7**
	comp=Z,19nm,0.8s,baz=158,slow=1.5,SNR=8.6						
	comp=Z,328nm,0.5s						
FINES	**FINESS Array B**	**57.53**	**2**	*i*P	**P**	**17 39 10.3**	**-1.0**
FINES				pmax	pmax		
	comp=Z,329nm,0.5s						
BJI	**Beijing**	**57.54**	**295**	P	**P**	**17 39 11.3**	**-0.3**
BJI				S	**S**	**17 47 06.0**	**+0.7**
BJI				pmax	pmax		
	comp=Z,4μm,3.6s						
BJI				LR	LR		
	comp=Z,58μm,19.0s						
BJI				LR	LR		
	comp=Z,37μm,18.7s						
BJI				LR	LR		
	comp=Z,59μm,17.4s						
BJT	**Baijiatuau**	**57.56**	**295**	P	**P**	**17 39 11.7**	**-0.1**
BJT	**Baijiatuau**	**57.56**	**295**	IAMs_20	IAMs_20	18 05 56.4	
	comp=Z,103μm,19.0s						
BJT	**Baijiatuau**	**57.56**	**295**	P	**P**	**17 39 12.6**	**+0.8**
BJT	**Baijiatuau**	**57.56**	**295**	P	**P**	**17 39 11.7**	**-0.1**
BJT				pmax	pmax		
	comp=Z,854nm,1.2s						
BJT				MLR	MLR		
	comp=Z,103μm,19.0s						
061Z	**Ochoppi**	**57.66**	**95**	IAMs_20	IAMs_20	18 04 49.4	
	comp=Z,264μm,22.0s						
BIGH	**Upper Bighouse**	**57.66**	**20**	*e*P	**P**	**17 39 12.0**	**-0.1**
BIGH				IAmb	IAmb	17 39 15.4	
	comp=Z,8μm,1.9s						
BIGH				IAMs_20	IAMs_20	18 05 35.5	
	comp=Z,149μm,17.0s						
LINV	**Loch Inver, As**	**57.77**	**21**	*e*P	**P**	**17 39 12.6**	**-0.3**
LINV				IAmb	IAmb	17 39 16.3	
	comp=Z,11μm,2.0s						
LINV				IAMs_20	IAMs_20	17 59 47.4	
	comp=Z,174μm,32.5s						
ODD1	**Odda**	**57.77**	**14**	*e*P	**P**	**17 39 13.8**	**+0.8**
ODD1				IVmB_BB		17 39 16.5	
	comp=Z,25μm,5.3s						
ODD1				*e*S	**S**	**17 47 09.3**	**+1.5**
ODD1				IVMs_BB	IVMs_BB	18 01 46.4	
	comp=Z,30μm,23.0s						
RAF	**Rauma**	**57.83**	**5**	*e*P	**P**	**17 39 13.6**	**+0.3**
KLMR	**Klimovskoe**	**57.94**	**355**	*d*iP	**P**	**17 39 13.9**	**-0.2**
KLMR				S	**S**	**17 47 09.6**	**-0.4**
KLMR						17 48 58.3	
KLMR				pmax	pmax		
	comp=Z,18μm,1.9s						
KLMR				pmax	pmax		
	comp=Z,7μm,1.2s						
OSL	**Oslo**	**58.17**	**11**	*e*P	**P**	**17 39 16.4**	**+0.7**
OSL				IVmB_BB		17 39 19.7	
	comp=Z,24μm,4.2s						
OSL				*e*S	**S**	**17 47 13.2**	**+0.3**
OSL				IVMs_BB	IVMs_BB	18 04 20.1	
	comp=Z,21μm,19.4s						
BLS5	**Blasjo**	**58.23**	**14**	*e*P	**P**	**17 39 17.2**	**+1.0**
BLS5				IVmB_BB		17 39 20.5	
	comp=Z,20μm,3.1s						
BLS5				*e*S	**S**	**17 47 11.3**	**-2.5**
BLS5				IVMsBB		18 01 56.8	
	comp=Z,27μm,30.1s						
HFS	**Hagfors**	**58.23**	**9**	P	**P**	**17 39 15.2**	**-1.0**
	comp=Z,392nm,0.9s,baz=32,slow=3.9,SNR=245						
HFS				PKPPKP	**P'P'df**	**18 08 56.6**	**-4.9**
	comp=Z,5.8nm,0.7s,baz=297,slow=6.3,SNR=6.0						
	comp=Z,392nm,0.9s						
KMY	**Karmoy**	**58.29**	**15**	*e*P	**P**	**17 39 17.9**	**+1.3**
KMY				IVmB_BB		17 39 18.9	
	comp=Z,17μm,3.1s						
KMY				*e*S	**S**	**17 47 14.0**	**-0.6**
KMY				IVMs_BB	IVMs_BB	17 59 42.3	
	comp=Z,20μm,39.2s						
KONO	**Kongsberg**	**58.34**	**12**	P	**P**	**17 39 16.2**	**-0.7**
KONO	**Kongsberg**	**58.34**	**12**	*e*P	**P**	**17 39 18.0**	**+1.0**
KONO				IVmB_BB		17 39 20.6	
	comp=Z,29μm,5.5s						
KONO				*e*S	**S**	**17 47 16.4**	**+1.1**
KONO				*e*ScS	**ScS**	**17 49 03.2**	**+1.6**
KONO				IVMs_BB	IVMs_BB	18 03 53.8	
	comp=Z,30μm,18.0s						
KONO	**Kongsberg**	**58.34**	**12**	⇓P	**P**	**17 39 16.6**	**-0.4**
KONO	**Kongsberg**	**58.34**	**12**	*d*iP	**P**	**17 39 17.1**	**+0.1**
KONO				pmax	pmax		
	comp=Z,3μm,1.7s						
KONO				MLR	MLR		
	comp=Z,109μm,23.0s						
KPL	**Plockton**	**58.45**	**22**	*e*P	**P**	**17 39 17.4**	**-0.3**
KPL				IAmb	IAmb	17 39 21.1	
	comp=Z,10μm,2.1s						
KPL				IAMs_20	IAMs_20	18 00 06.4	
	comp=Z,221μm,34.3s						
MCD	**Coleburn Disti**	**58.63**	**20**	*e*P	**P**	**17 39 19.4**	**+0.3**
MCD				IAmb	IAmb	17 39 22.4	
	comp=Z,15μm,2.1s						
MCD				IAMs_20	IAMs_20	17 59 53.3	
	comp=Z,158μm,30.5s						
CMIG	**Matias Romero**	**58.69**	**113**	LR	LR	18 07 44.6	
	comp=Z,33μm,18.2s,baz=334,slow=39						
CMIG				PKPPKP		18 08 52.5	
	comp=Z,4.7nm,0.8s,baz=152,slow=1.1,SNR=4.6						
MEF	**Metsahovi**	**58.73**	**3**	*e*P	**P**	**17 39 20.5**	**+0.9**
HHC	**Hu-ho-hao-te**	**58.86**	**299**	⇑*i*P	**P**	**17 39 21.3**	**+0.3**
HHC				pP	pP	17 39 33.0	-1.9
HHC				sP	sP	17 39 39.5	-1.1
HHC				PP	**PP**	**17 41 38.3**	**+7.2**
HHC				S	**S**	**17 47 18.5**	**-4.2**
HHC				ScS	**ScS**	**17 49 02.8**	**-3.4**
HHC				pmax	pmax		
	comp=Z,650nm,1.4s						
HHC				pmax	pmax		
	comp=Z,17μm,9.4s						
HHC				LR	LR		
	comp=Z,196μm,15.7s						
HHC				LR	LR		
	comp=Z,141μm,17.2s						
HHC				LR	LR		
	comp=Z,366μm,16.9s						
TEIG	**Tepich**	**58.97**	**105**	P	**P**	**17 39 20.5**	**-1.3**
TEIG				IAmb	IAmb	17 39 25.3	
	comp=Z,2μm,1.4s						
TEIG				IAMs_20	IAMs_20	18 09 20.5	
	comp=Z,182μm,20.0s						
TEIG	**Tepich**	**58.97**	**105**	⇓P	**P**	**17 39 21.5**	**-0.3**
TEIG	**Tepich**	**58.97**	**105**	P	**P**	**17 39 21.8**	**0.0**
PUL	**Pulkovo**	**59.25**	**360**	*d*iP	**P**	**17 39 23.0**	**-0.2**
PUL				pmax	pmax		
	comp=Z,5μm,1.7s						
SOR	**Soroa**	**59.25**	**99**	IAmb	IAmb	17 40 15.2	
	comp=Z,2μm,1.9s						
SNART	**Snartemo**	**59.38**	**14**	*e*P	**P**	**17 39 24.1**	**0.0**
DRUM	**Mains of Drumt**	**59.40**	**20**	*e*P	**P**	**17 39 24.0**	**-0.3**
DRUM				IAmb	IAmb	17 39 28.4	
	comp=Z,3μm,1.0s						
DRUM				IAMs_20	IAMs_20	18 01 56.5	
	comp=Z,139μm,27.8s						
KIRV	**Kirov**	**59.48**	**348**	LR	LR	18 07 35.3	
	comp=Z,44μm,20.1s,baz=15,slow=38						
KIRV	**Kirov**	**59.48**	**348**	*de*P	**P**	**17 39 24.4**	**-0.4**
LAWE	**Loch Awe, Argy**	**59.52**	**22**	*e*P	**P**	**17 39 25.0**	**-0.1**
LAWE				IAmb	IAmb	17 39 28.4	
	comp=Z,8μm,1.9s						
LAWE				IAMs_20	IAMs_20	18 00 38.6	
	comp=Z,233μm,31.2s						
ARBE	**Arbavere**	**59.55**	**2**	*e*P	**P**	**17 39 25.3**	**+0.1**
HOMB	**Homborsund**	**59.59**	**13**	*e*P	**P**	**17 39 25.8**	**+0.2**
HOMB				IVmB_BB		17 39 28.1	
	comp=Z,25μm,2.0s						
HOMB				*e*S	**S**	**17 47 31.4**	**0.0**
HOMB				IVMs_BB	IVMs_BB	18 02 24.2	
	comp=Z,26μm,29.0s						
INVG	**Invergeldie, C**	**59.60**	**21**	*e*P	**P**	**17 39 25.5**	**-0.2**
INVG				IAmb	IAmb	17 39 28.8	
	comp=Z,2μm,2.0s						
INVG				IAMs_20	IAMs_20	18 00 39.0	
	comp=Z,102μm,34.0s						
BTO	**Baotou**	**59.71**	**300**	⇑*i*P	**P**	**17 39 26.0**	**-0.9**
BTO				sP	**pP**	**17 39 40.0**	**-0.8**
BTO				PP	**PP**	**17 41 38.5**	**-0.1**
BTO				S	**S**	**17 47 33.0**	**-0.7**
BTO				SS	**SS**	**17 51 27.5**	**-1.8**
BTO				pmax	pmax		
	comp=Z,230nm,1.4s						
BTO				pmax	pmax		
	comp=Z,28μm,10.5s						
SVE	**Sverdlovsk**	**59.77**	**341**	*c*iP	**P**	**17 39 26.5**	**-0.4**
SVE				*i*S	**S**	**17 47 32.2**	**-1.6**
SVE				*e*		17 49 10.4	
SVE				*e*SS	**SS**	**17 51 33.5**	**+4.2**
SVE				pmax	pmax		
	comp=Z,2μm,1.5s						
SVE				pmax	pmax		
	comp=Z,17μm,16.4s						
SVE				MLR	MLR		
	comp=Z,164μm,22.0s						
SVE				MLR	MLR		
	comp=N,102μm,22.0s						
SVE				MLR	MLR		
	comp=E,134μm,22.0s						
BBSR	**BB Station**	**60.00**	**77**	P	**P**	**17 39 27.7**	**-1.1**
BBSR	**BB Station**	**60.00**	**77**	IAMs_20	IAMs_20	18 04 33.0	
	comp=Z,125μm,22.0s						
BBSR	**BB Station**	**60.00**	**77**	⇑P	**P**	**17 39 28.0**	**-0.8**
BBSR	**BB Station**	**60.00**	**77**	P	**P**	**17 39 28.0**	**-0.8**
PGBU	**Glenifferbraes**	**60.11**	**22**	*e*P	**P**	**17 39 29.1**	**-0.1**
PGBU				IAmb	IAmb	17 39 32.3	
	comp=Z,10μm,2.2s						
PGBU				IAMs_20	IAMs_20	18 00 55.1	
	comp=Z,232μm,31.3s						
MTSE	**Matsula**	**60.21**	**4**	*e*P	**P**	**17 39 30.2**	**+0.3**
EDI	**Edinburgh**	**60.23**	**21**	*e*P	**P**	**17 39 29.5**	**-0.5**
EDI				IAmb	IAmb	17 39 33.1	
	comp=Z,9μm,2.0s						
EDI				IAMs_20	IAMs_20	18 00 56.2	
	comp=Z,170μm,29.6s						
IDGL	**Inch Island, C**	**60.24**	**24**	P	**P**	**17 39 30.5**	**+0.4**
TIA	**Tai'an**	**60.28**	**292**	P	**P**	**17 39 30.0**	**-0.7**
TIA				pP	**pP**	**17 39 41.8**	**-2.8**
TIA				PP	**PP**	**17 41 48.0**	**+4.4**
TIA				S	**S**	**17 47 34.8**	**-6.1**
TIA				ScS	SKKSac	17 49 15.8	-0.7
TIA				pmax	pmax		
	comp=Z,220nm,1.4s						
TIA				pmax	pmax		
	comp=Z,8μm,5.0s						
TIA				LR	LR		
	comp=Z,182μm,22.6s						
TIA				LR	LR		
	comp=Z,167μm,20.8s						
TIA				LR	LR		
	comp=Z,248μm,21.2s						
ESY	**Stoneypath**	**60.33**	**20**	*e*P	**P**	**17 39 30.2**	**-0.5**
HNS	**HongShan**	**60.37**	**294**	⇓P	**P**	**17 39 31.3**	**+0.1**
HNS				sP	**sP**	**17 39 48.3**	**-2.6**
HNS				PP	**PP**	**17 41 52.0**	**+7.7**
HNS				S	**S**	**17 47 40.3**	**-1.6**
HNS				ScS	SKKSac	17 49 16.5	-0.6
HNS				SS	**SS**	**17 51 47.5**	**+8.0**
HNS				pmax	pmax		
	comp=Z,670nm,1.4s						
HNS				pmax	pmax		
	comp=Z,10μm,5.2s						
HNS				LR	LR		
	comp=Z,72μm,20.9s						
HNS				LR	LR		
	comp=Z,99μm,17.9s						
HNS				LR	LR		
	comp=Z,166μm,20.2s						
ARTI	**Arti**	**60.54**	**342**	P	**P**	**17 39 31.0**	**-1.1**
ARTI				pP	**pP**	**17 39 46.8**	**+0.7**
ARTI				IAMs_20	IAMs_20	18 06 42.0	
	comp=Z,183μm,21.0s						
ARTI	**Arti**	**60.54**	**342**	LR	LR	18 06 55.3	
	comp=Z,195μm,21.8s,baz=17,slow=37						
ARTI	**Arti**	**60.54**	**342**	*d*iP	**P**	**17 39 31.4**	**-0.7**
ARTI						17 40 16.7	
ARTI				S	**S**	**17 47 42.7**	**-0.9**
ARTI						17 49 17.6	
ARTI				SS	**SS**	**17 51 39.2**	**-2.1**
ARTI				SSS	SSS	17 54 12.0	
ARTI				pmax	pmax		
	comp=Z,2μm,1.0s						
ARTI				pmax	pmax		
	comp=Z,9μm,9.4s						
ARTI				MLR	MLR		
	comp=Z,217μm,22.0s						
VSU	**Vasula**	**60.54**	**2**	⇓P	**P**	**17 39 31.6**	**-0.5**
VSU	**Vasula**	**60.54**	**2**	*d*iP	**P**	**17 39 31.7**	**-0.3**
VSU				pmax	pmax		
	comp=Z,7μm,1.7s						
VSU				MLR	MLR		
	comp=Z,67μm,22.0s						
CCIG	**Comitan**	**60.63**	**111**	IAmb	IAmb	17 39 39.1	
	comp=Z,1μm,0.9s						
OVD	**Ostervraa, Den**	**60.70**	**12**	*i*P	**P**	**17 39 34.6**	**+1.4**
EKA	**Eskdalemuir Ar**	**60.80**	**21**	P	**P**	**17 39 33.7**	**-0.2**
	comp=Z,239nm,0.6s,baz=334,slow=5.8,SNR=257						
EKA				PKPPKP	**P'P'df**	**18 08 52.7**	**-4.6**
	comp=Z,36nm,0.9s,baz=149,slow=2.4,SNR=14						
	comp=Z,239nm,0.6s						
ESK	**Eskdalemuir**	**60.80**	**21**	P	**P**	**17 39 33.6**	**-0.3**
ESK				IAmb	IAmb	17 39 38.7	
	comp=Z,2μm,1.1s						
ESK	**Eskdalemuir**	**60.80**	**21**	IAMs_20	IAMs_20	18 07 36.2	
	comp=Z,79μm,19.0s						
ESK	**Eskdalemuir**	**60.80**	**21**	*e*P	**P**	**17 39 33.9**	**0.0**
ESK				IAmb	IAmb	17 39 37.2	
	comp=Z,14μm,2.3s						
ESK				IAMs_20	IAMs_20	18 01 13.1	
	comp=Z,200μm,30.6s						
ESK	**Eskdalemuir**	**60.80**	**21**	P	**P**	**17 39 33.6**	**-0.3**
ESK				pmax	pmax		
	comp=Z,2μm,1.1s						
ESK				MLR	MLR		
	comp=Z,79μm,19.0s						
NEWG	**New Galloway**	**60.81**	**22**	*e*P	**P**	**17 39 33.7**	**-0.3**
NEWG				IAmb	IAmb	17 39 37.1	
	comp=Z,7μm,2.1s						
NEWG				IAMs_20	IAMs_20	18 01 13.8	
	comp=Z,250μm,33.0s						
JAM	**Amami Oshima**	**60.94**	**277**	P	**P**	**17 39 35.4**	**+0.1**
GAL1	**Galloway**	**60.97**	**22**	*e*P	**P**	**17 39 34.8**	**-0.3**
GAL1				IAmb	IAmb	17 39 38.2	
	comp=Z,11μm,2.1s						
GAL1				IAMs_20	IAMs_20	18 01 17.9	
	comp=Z,269μm,34.7s						
TIY	**Taiyuan**	**61.10**	**296**	*e*P	**P**	**17 39 36.3**	**0.0**
TIY				S	**S**	**17 47 56.3**	**+4.8**
TIY				pmax	pmax		
	comp=Z,460nm,1.3s						
TIY				pmax	pmax		
	comp=Z,16μm,9.8s						
TIY				LR	LR		
	comp=Z,72μm,11.8s						
TIY				LR	LR		
	comp=Z,92μm,17.6s						
TIY				LR	LR		
	comp=Z,93μm,17.5s						
SLIT	**Slitere, Latvi**	**61.25**	**5**	*e*P	**P**	**17 39 37.4**	**+0.5**
SLIT	**Slitere, Latvi**	**61.25**	**5**	⇓P	**P**	**17 39 36.3**	**-0.6**
IGLA	**Glengowla, Co**	**61.42**	**26**	P	**P**	**17 39 38.0**	**-0.2**
IGLA	**Glengowla, Co**	**61.42**	**26**	*e*P	**P**	**17 39 37.9**	**-0.2**
IGLA				IAMs_20	IAMs_20	18 04 33.0	
	comp=Z,116μm,24.1s						
MUD	**Monsted U'grnd**	**61.44**	**13**	*i*P	**P**	**17 39 40.6**	**+2.4**
MUD				IAmb	IAmb	17 39 41.8	
	comp=Z,6μm,1.7s						
ILTH	**Belurgan, Co L**	**61.46**	**23**	P	**P**	**17 39 38.2**	**-0.2**
ILTH	**Belurgan, Co L**	**61.46**	**23**	*e*P	**P**	**17 39 38.0**	**-0.4**
EDMD	**Edmundbyers**	**61.48**	**20**	*e*P	**P**	**17 39 38.5**	**-0.1**
EDMD				IAmb	IAmb	17 39 41.8	
	comp=Z,9μm,2.2s						
EDMD				IAMs_20	IAMs_20	18 02 57.7	
	comp=Z,122μm,27.3s						
KESW	**Keswick, Cumbr**	**61.52**	**21**	*e*P	**P**	**17 39 38.7**	**-0.1**
KESW				IAmb	IAmb	17 39 41.9	
	comp=Z,13μm,2.3s						
KESW				IAMs_20	IAMs_20	18 01 33.4	
	comp=Z,212μm,31.6s						
BRVK	**Borovoye**	**61.56**	**334**	P	**P**	**17 39 37.7**	**-1.4**
BRVK				IAmb	IAmb	17 39 48.0	
	comp=Z,742nm,0.9s						
BRVK				pP	**pP**	**17 39 52.9**	**-0.2**
BRVK	**Borovoye**	**61.56**	**334**	P	**P**	**17 39 38.3**	**-0.9**
BRVK				P	**P**	**17 39 38.3**	**-0.9**
BRVK				P	**P**	**17 39 38.3**	**-0.9**
BRVK				S	**S**	**17 47 54.1**	**-2.7**
BRVK				S	**S**	**17 47 54.1**	**-2.7**
BRVK				S	**S**	**17 47 54.1**	**-2.7**
BRVK	**Borovoye**	**61.56**	**334**	P	**P**	**17 39 37.7**	**-1.4**
BRVK				*PP	**pP**	**17 39 52.9**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,742nm,0.9s						
BRVK				MLR	MLR		
	comp=Z,277μm,22.0s						
BVA0	**Borovoye Array**	**61.57**	**334**	*i*P	**P**	**17 39 37.6**	**-1.6**
BVAR	**Borovoye Array**	**61.57**	**334**	P	**P**	**17 39 38.1**	**-1.1**
	comp=Z,396nm,0.7s,baz=34,slow=7.0,SNR=499						
BVAR				PKPPKP	P'P'df	18 08 47.3	-8.7
	comp=Z,16nm,0.9s,baz=278,slow=1.0,SNR=6.3						
BVAR				LR	LR	18 09 28.4	
	comp=Z,250μm,21.9s,baz=27,slow=39						
	comp=Z,396nm,0.7s						
SEM	**Semipalatinsk**	**61.59**	**326**	*e*P	**P**	**17 39 38.1**	**-1.6**
SEM				LR	LR	18 08 43.6	
	comp=Z,52μm,15.3s						
SEM	**Semipalatinsk**	**61.59**	**326**	*e*P	**P**	**17 39 38.0**	**-1.6**
SEM				MLR	MLR		
	comp=Z,52μm,15.0s						
WIM	**Isle of Man**	**61.66**	**22**	*e*P	**P**	**17 39 39.5**	**-0.3**
KURK	**Kurchatov**	**61.74**	**327**	P	**P**	**17 39 39.2**	**-1.2**
KURK				pP	**pP**	**17 39 55.3**	**+0.9**
KURK	**Kurchatov**	**61.74**	**327**	P	**P**	**17 39 39.7**	**-0.7**
KURK				P	**P**	**17 39 39.7**	**-0.7**
KURK				S	**S**	**17 47 57.5**	**-1.6**
KURK				S	**S**	**17 47 57.5**	**-1.6**
KURK	**Kurchatov**	**61.74**	**327**	P	**P**	**17 39 40.0**	**-0.4**
KURK				S	**S**	**17 47 58.5**	**-0.6**
KURK	**Kurchatov**	**61.74**	**327**	P	**P**	**17 39 39.6**	**-0.7**
KURBB	**Kurchatov Arra**	**61.85**	**327**	P	**P**	**17 39 40.0**	**-1.1**
	comp=Z,320nm,0.8s,baz=30,slow=6.5,SNR=748						
KURBB				PP	**PP**	**17 41 57.5**	**+0.5**
	comp=Z,185nm,0.9s,baz=33,slow=9.6,SNR=4.8						
KURBB				PKiKP	**PKiKP**	**17 46 29.1**	**-5.7**
	comp=Z,17nm,0.8s,baz=24,slow=3.8,SNR=4.4						
KURBB				S	**S**	**17 47 58.5**	**-2.0**
	comp=Z,13nm,1.0s,baz=44,slow=7.0,SNR=4.5						
KURBB				SKKP		18 03 53.5	
	comp=Z,0.3nm,0.3s,baz=220,slow=5.7,SNR=4.1						
KURBB				PKPPKP	**P'P'df**	**18 08 51.1**	**-4.2**
	comp=Z,16nm,0.9s,baz=219,slow=3.3,SNR=9.8						
KURBB				LR	LR	18 08 53.8	
	comp=Z,94μm,21.2s,baz=22,slow=38						
KURBB				P4KPbc		18 16 40.3	
	comp=Z,4.2nm,0.9s,baz=25,slow=3.9,SNR=12						
	comp=Z,320nm,0.8s						
KURBB	**Kurchatov Arra**	**61.85**	**327**	P	**P**	**17 39 40.1**	**-1.0**
DSB	**Dublin**	**62.19**	**24**	P	**P**	**17 39 43.8**	**+0.4**
DSB	**Dublin**	**62.19**	**24**	IAMs_20	IAMs_20	18 07 39.0	
	comp=Z,118μm,20.0s						
DSB	**Dublin**	**62.19**	**24**	S	**S**	**17 48 06.1**	**+1.4**
DSB				P	**P**	**17 39 44.5**	**+1.1**
JMZ	**Minamidaito 2**	**62.34**	**274**	P	**P**	**17 39 47.4**	**+2.7**
JMZ	**

comp=Z,13µm,2.4s
LBWR IAMs_20 IAMs_20 18 03 53.4
comp=Z,169µm,28.7s
JOW Kunigami 62.90 277 IAMs_20 IAMs_20 18 05 50.5
comp=Z,92µm,22.0s
JOW Kunigami 62.90 277 LR LR 18 07 24.6
comp=Z,60µm,21.6s,baz=60,slow=36
JOW PKPPKP 18 08 48.9
comp=Z,47nm,0.9s,baz=9.3,slow=2.8,SNR=4.3
JOW Kunigami 62.90 277 P **P** **17 39 49.3 +0.8**
JOW Kunigami 62.90 277 *e*P **P** **17 39 48.7 +0.2**
IWEX Carrickbyrne, 62.94 24 P **P** **17 39 48.4 +0.1**
IWEX Carrickbyrne, 62.94 24 *e*P **P** **17 39 48.1 -0.2**
IWEX IAMs_20 IAMs_20 18 05 58.9
comp=Z,150µm,23.5s
ZSN Zaisan 62.94 321 *e*P **P** **17 39 47.7 -0.8**
comp=Z,646nm,0.8s
ZSN *e*S **S** **17 48 14.9 +0.6**
ZSN Zaisan 62.94 321 *e*P **P** **17 39 47.7 -0.8**
ZSN *e*S **S** **17 48 14.9 +0.6**
ZSN pmax pmax
comp=Z,646nm,0.8s
VSVD Vaisvydziai 62.95 4 *e*P **P** **17 39 48.8 +0.4**
NJ2 Nanjing 62.96 288⇓*i*P **P** **17 39 47.8 -1.0**
NJ2 sP **sP** **17 40 07.5 -1.0**
NJ2 S **S** **17 48 12.3 -2.6**
NJ2 ScS **ScS** **17 49 35.3 -1.6**
NJ2 SS **SS** **17 52 19.3 -1.0**
NJ2 pmax pmax
comp=Z,820nm,0.8s
NJ2 pmax pmax
comp=Z,16µm,6.7s
NJ2 LR LR
comp=Z,157µm,19.9s
NJ2 LR LR
comp=Z,101µm,19.9s
NJ2 LR LR
comp=Z,177µm,21.8s
LMK Market Rasen 63.07 20 *e*P **P** **17 39 49.2 0.0**
LMK IAmb IAmb 17 39 52.5
comp=Z,23µm,2.2s
LMK IAMs_20 IAMs_20 18 03 39.1
comp=Z,115µm,31.5s
STNC Stoke 63.11 21 *e*P **P** **17 39 49.8 +0.4**
STNC IAmb IAmb 17 39 52.9
comp=Z,12µm,2.3s
STNC IAMs_20 IAMs_20 18 04 13.8
comp=Z,188µm,29.0s
FOEL Foel Wylfa 63.13 22 *e*P **P** **17 39 49.4 -0.2**
FOEL IAmb IAmb 17 39 52.8
comp=Z,9µm,2.1s
FOEL IAMs_20 IAMs_20 18 02 35.1
comp=Z,229µm,32.7s
MOS Moscow 63.14 355 *e*P **P** **17 39 47.2 -2.4**
MOS *e* 17 40 25.4
MOS *e* 17 42 11.0
MOS *e*PPP PPP 17 43 43.2
MOS *i* S **S** **17 48 15.1 -1.3**
MOS *e* 17 49 36.2
MOS *e*SS **SS** **17 52 19.1 -2.7**
MOS *e*SSS SSS 17 55 05.6
MOS pmax pmax
comp=Z,23µm,2.4s
MOS pmax pmax
comp=Z,6µm,1.7s
MOS pmax pmax
comp=N,4µm,1.7s
MOS pmax pmax
comp=N,11µm,2.4s
MOS smax smax
comp=N,23µm,4.0s
MOS smax smax
comp=E,52µm,3.7s
MOS MLR MLR
comp=Z,64µm,20.0s
BSD Bornholm Skovb 63.31 10 *e*P **P** **17 39 50.8 +0.1**
BSD Bornholm Skovb 63.31 10⇓P **P** **17 39 50.3 -0.5**
BSD Bornholm Skovb 63.31 10 *i* P **P** **17 39 51.5 +0.8**
PABE Paberze 63.43 4 IAMs_20 IAMs_20 18 05 43.9
comp=Z,78µm,22.0s
PABE Paberze 63.43 4 *e*P **P** **17 39 52.2 +0.7**
HLG Helgoland 63.53 14⇓P **P** **17 39 52.7 +0.6**
HLG Helgoland 63.53 14 *e*P **P** **17 39 53.2 +1.1**
comp=Z,15µm,1.9s,baz=351,slow=6.3
HLM1 Long Mynd 63.54 22 *e*P **P** **17 39 52.0 -0.3**
HLM1 IAmb IAmb 17 39 55.7
comp=Z,8µm,2.2s
HLM1 IAMs_20 IAMs_20 18 02 30.1
comp=Z,230µm,32.9s
MTO3 Montecristo 63.54 109 IAmb IAmb 17 39 58.0
comp=Z,2µm,1.4s
CWF Charnwood Fore 63.60 21 *e*P **P** **17 39 52.4 -0.3**
CWF IAmb IAmb 17 39 56.1
comp=Z,5µm,1.8s
CWF IAMs_20 IAMs_20 18 04 14.2
comp=Z,167µm,27.9s
RGN Rugen 63.74 11⇑P **P** **17 39 54.1 +0.6**
RGN Rugen 63.74 11 *e*P **P** **17 39 54.7 +1.2**
comp=Z,14µm,1.8s,baz=351,slow=6.3
RSBS Rosebush, Pemb 63.74 23 *e*P **P** **17 39 53.5 -0.1**
RSBS IAmb IAmb 17 39 57.9
comp=Z,8µm,2.3s
RSBS IAMs_20 IAMs_20 18 02 54.3
comp=Z,221µm,34.2s
LYN LuoYang 63.74 294⇓P **P** **17 39 54.0 +0.1**
LYN S **S** **17 48 25.8 +1.2**
LYN SS **SS** **17 52 36.3 +4.0**
LYN pmax pmax
comp=Z,2µm,0.9s
LYN pmax pmax
comp=Z,18µm,4.1s
LYN LR LR
comp=Z,197µm,19.9s
LYN LR LR
comp=Z,157µm,22.7s
LYN LR LR
comp=Z,261µm,19.6s
OBN Obninsk 63.80 356 P **P** **17 39 53.0 -0.9**
OBN pP **pP** **17 40 08.0 0.0**
OBN Obninsk 63.80 356 LR LR 18 11 59.1
comp=Z,49µm,20.3s,baz=9.0,slow=40
OBN Obninsk 63.80 356⇓P **P** **17 39 54.0 +0.1**
OBN Obninsk 63.80 356*d i*P **P** **17 39 53.5 -0.4**
OBN *e**SP **pP** **17 40 06.7 -1.3**
OBN *i* 17 40 12.4
OBN *e* 17 40 30.9
OBN *i* 17 42 21.3
OBN *i* PPP PPP 17 43 51.6
OBN *i* S **S** **17 48 24.8 +0.1**
OBN *e*PS **PnS** **17 48 37.9 -9.2**
OBN *e*PPS PPS 17 48 48.5
OBN *i* 17 49 42.0
OBN *e*SS **SS** **17 52 35.7 +3.5**
OBN *i* SSS SSS 17 55 24.3
OBN pmax pmax
comp=Z,34µm,3.8s
OBN pmax pmax
comp=Z,8µm,1.6s
OBN MLR MLR
comp=Z,101µm,24.0s
OBN Obninsk 63.80 356 P **P** **17 39 53.7 -0.2**
comp=Z,4µm,1.4s,comp=Z,71µm
OBN Obninsk 63.80 356 P **P** **17 39 53.8 -0.1**
WACR West Acre 63.94 19 *e*P **P** **17 39 54.5 -0.3**
WACR IAmb IAmb 17 39 57.8
comp=Z,19µm,2.2s
WACR IAMs_20 IAMs_20 18 04 05.5
comp=Z,109µm,25.8s
MCH1 Michaelchurch 64.02 22 *e*P **P** **17 39 55.2 -0.3**
MCH1 IAmb IAmb 17 39 58.6
comp=Z,11µm,2.2s
MCH1 IAMs_20 IAMs_20 18 02 44.0
comp=Z,227µm,34.8s
BSEG Bad Segeberg 64.05 13 *e*P **P** **17 39 56.0 +0.4**
comp=Z,10µm,1.9s,baz=351,slow=6.3
NACGM Naroch 64.10 2⇓*i*P **P** **17 39 55.8 -0.2**
MONM Monmouth 64.20 22 *e*P **P** **17 39 56.3 -0.3**
MONM IAmb IAmb 17 40 00.0
comp=Z,9µm,2.1s
MONM IAMs_20 IAMs_20 18 02 49.5
comp=Z,231µm,34.7s
HLGC Holguin 64.21 94 *i* P **P** **17 39 57.1 0.0**
SNET Serv Nac Est T 64.23 110 IAMs_20 IAMs_20 18 12 40.0
comp=Z,104µm,20.0s
MK31 Makanchi Array 64.30 323 pP 17 40 15.0 +3.5
MK31 Makanchi Array 64.30 323*d i*P **P** **17 39 55.8 -1.6**
MKAR Makanchi Array 64.30 323 P **P** **17 39 56.0 -1.4**
comp=Z,219nm,0.6s,baz=39,slow=6.7,SNR=616
MKAR PP **PP** **17 42 17.7 -1.0**
comp=Z,170nm,0.9s,baz=26,slow=8.2,SNR=3.5
MKAR S **S** **17 48 33.3 +2.1**
comp=Z,13nm,0.8s,baz=21,slow=12,SNR=2.5
MKAR PKPPKP P'P'df 18 08 41.2 -10
comp=Z,19nm,0.9s,baz=152,slow=3.4,SNR=9.7
MKAR PKP2bc 18 08 52.6
comp=Z,77nm,1.1s,baz=240,slow=2.3,SNR=19
MKAR LR LR 18 10 51.8
comp=Z,140µm,18.8s,baz=14,slow=39
comp=Z,219nm,0.6s
MKAR Makanchi Array 64.30 323 *i* P **P** **17 39 56.0 -1.4**
MKAR pmax pmax
comp=Z,221nm,0.6s
MAKZ Makanchi 64.37 323 P **P** **17 39 56.5 -1.4**
MAKZ pP **pP** **17 40 11.9 -0.1**
MAKZ IAmb IAmb 17 40 49.3
comp=Z,1µm,1.1s
MAKZ IAMs_20 IAMs_20 18 11 57.3
comp=Z,149µm,19.0s
MAKZ Makanchi 64.37 323⇓P **P** **17 39 56.6 -1.3**
MAKZ Makanchi 64.37 323 P **P** **17 39 56.5 -1.4**
MAKZ MLR MLR
comp=Z,149µm,19.0s
STRD Stroud 64.38 22 *e*P **P** **17 39 58.0 +0.2**
STRD IAmb IAmb 17 40 01.2
comp=Z,19µm,2.2s
STRD IAMs_20 IAMs_20 18 02 54.3
comp=Z,223µm,33.3s
MNK Minsk 64.52 1 *i* P **P** **17 39 59.0 +0.3**
comp=E,4µm,1.2s
MNK *i* P **P** **17 39 59.0 +0.3**
comp=N,1µm,1.1s
MNK *i* P **P** **17 39 59.0 +0.3**
comp=Z,3µm,0.9s,baz=359
MNK *i* PP **PP** **17 42 20.8 +0.5**
MNK *i* PPP PPP 17 43 52.2
MNK *i* S **S** **17 48 33.1 -0.5**
MNK *i* SS **SS** **17 52 47.6 +4.2**
MNK *i* SSS SSS 17 55 49.8
MNK *i* LQ LQ 18 03 33.1
MNK *i* LR LR 18 08 27.4
MNK *i* LRM MLR 18 10 18.0
comp=E,35µm,20.7s
MNK *i* LRM MLR 18 10 24.6
comp=Z,37µm,20.0s
MNK *i* LRM MLR 18 11 09.0
comp=N,28µm,21.9s
MNK Minsk 64.52 1*d i*P **P** **17 39 58.9 +0.3**
ELMS Elmsett, Ipswi 64.60 19 *e*P **P** **17 39 58.9 -0.4**
ELMS IAmb IAmb 17 40 02.2
comp=Z,10µm,2.0s
ELMS IAMs_20 IAMs_20 18 11 01.9
comp=Z,91µm,20.0s
SWN1 Swindon 64.69 21 *e*P **P** **17 39 60.0 +0.1**
SWN1 IAmb IAmb 17 40 03.6
comp=Z,15µm,2.0s
SWN1 IAMs_20 IAMs_20 18 03 19.7
comp=Z,219µm,33.4s
HTL Hartland 64.70 23 *e*P **P** **17 39 59.9 0.0**
HTL IAmb IAmb 17 40 03.3
comp=Z,6µm,2.2s
HTL IAMs_20 IAMs_20 18 03 22.7
comp=Z,208µm,32.5s
TGUH Tegucigalpa,Un 64.80 108 IAmb IAmb 17 40 06.5
comp=Z,2µm,1.2s
TGUH Tegucigalpa,Un 64.80 108⇓P **P** **17 40 01.6 +0.4**
GTA Gaotai 64.85 307 P **P** **17 40 01.0 -0.3**
GTA sP sP 17 40 18.8 -2.3
GTA S **S** **17 48 38.8 +0.4**
GTA ScS **ScS** **17 49 51.5 0.0**
GTA SS **SS** **17 52 51.0 +1.4**
GTA pmax pmax
comp=Z,9µm,8.0s
GTA LR LR
comp=Z,237µm,20.7s
GTA LR LR
comp=Z,137µm,20.4s
GTA LR LR
comp=Z,388µm,20.7s
SUW Suwalki 64.90 4 *e*P **P** **17 40 00.4 -0.7**
SUW *e*S **S** **17 48 38.5 +0.2**
SUW Suwalki 64.90 4 *e*P **P** **17 40 01.2 0.0**
SUW Suwalki 64.90 4⇑P **P** **17 40 00.5 -0.7**
SUW ⇑P **P** **17 40 02.1 +1.0**
MOAC Moa 64.93 93 *i* P **P** **17 40 01.6 -0.2**
WOL Wolverton 64.99 21 *e*P **P** **17 40 01.9 +0.1**
NMDO Nuevo Mundo 65.01 93 IAmb IAmb 17 40 05.3
comp=Z,2µm,0.9s
NMDO Nuevo Mundo 65.01 93 *i* P **P** **17 40 02.6 +0.3**
MARVS Santiago de Cu 65.05 94 *i* P **P** **17 40 01.6 -1.0**
GORT1 Trebel 65.08 12 *e*P **P** **17 40 02.7 +0.4**
comp=Z,9µm,1.9s,baz=351,slow=6.3
RETH Rethem/Aller, 65.12 14 *e*P **P** **17 40 02.9 +0.3**
comp=Z,5µm,1.7s,baz=351,slow=6.3
RCC Rio Carpintero 65.15 94 *i* P **P** **17 40 03.0 -0.2**
WMQ Urumqi 65.30 318 P **P** **17 40 07.3 +3.2**
WMQ sP sP 17 40 27.3 +3.4
WMQ PcP **PcP** **17 40 39.0 +3.0**
WMQ S **S** **17 48 42.5 -1.3**
WMQ ScS **ScS** **17 49 57.5 +2.8**
WMQ pmax pmax
comp=Z,460nm,2.1s
WMQ pmax pmax
comp=Z,5µm,3.7s
WMQ LR LR
comp=Z,54µm,24.3s
WMQ LR LR
comp=Z,50µm,22.9s
WMQ LR LR
comp=Z,78µm,24.2s
GKP Gorka Klasztor 65.32 8 *e*P **P** **17 40 04.1 +0.2**
GKP *e*S **S** **17 48 44.7 +1.3**
GKP *e*L L 18 03 04.0
comp=Z,117µm,33.8s
GKP Gorka Klasztor 65.32 8 *e*P **P** **17 40 04.3 +0.4**
DYA Yadsworthy 65.34 23 *e*P **P** **17 40 03.8 -0.3**
DYA IAmb IAmb 17 40 07.1
comp=Z,9µm,2.3s
DYA IAMs_20 IAMs_20 18 07 56.7
comp=Z,105µm,23.0s
IBBN Ibbenburen 65.35 15⇓P **P** **17 40 04.4 +0.3**
IBBN Ibbenburen 65.35 15 *e*P **P** **17 40 04.5 +0.4**
comp=Z,11µm,1.9s,baz=351,slow=6.3
QMBU Quimbuelo 65.40 93 *i* P **P** **17 40 04.6 -0.3**
QMBU *i* P **P** **17 40 04.9 0.0**
NRDL Niedersach Rie 65.44 13 *e*P **P** **17 40 04.8 +0.1**
comp=Z,7µm,1.7s,baz=351,slow=6.3
GTBY Guantanamo Bay 65.49 93 IAmb IAmb 17 40 08.4
comp=Z,2µm,0.9s
GTBY Guantanamo Bay 65.49 93⇑*i*P **P** **17 40 05.8 +0.4**
GTBY Guantanamo Bay 65.49 93 *i* P **P** **17 40 05.2 -0.2**
GTBY IAMs_20 IAMs_20 17 44 47.1
comp=Z,34µm,17.9s
GTBY IAMs_20 IAMs_20 17 44 56.6
comp=Z,23µm,19.7s
GTBY Guantanamo Bay 65.49 93⇓P **P** **17 40 05.4 0.0**
ELSH Elham, Standar 65.54 19 *e*P **P** **17 40 05.4 0.0**
ELSH IAmb IAmb 17 40 08.7
comp=Z,12µm,2.0s
ELSH IAMs_20 IAMs_20 18 07 00.6
comp=Z,102µm,26.0s
OTUK Ortayu 65.60 330 P **P** **17 40 04.8 -1.1**
HMNX Herstmonceux 65.68 20 *e*P **P** **17 40 06.6 +0.3**
HMNX IAmb IAmb 17 40 09.8
comp=Z,11µm,2.0s
HMNX IAMs_20 IAMs_20 18 05 12.9
comp=Z,152µm,29.7s
MASC Masc 65.70 92 *i* P **P** **17 40 06.4 -0.4**
XAN Xi'an 65.72 297⇑P **P** **17 40 06.0 -0.9**
XAN pP pP 17 40 18.8 -2.2
XAN PcP **PcP** **17 40 34.3 -3.5**
XAN PP **PP** **17 42 33.5 +2.0**
XAN PcS 17 44 41.8
XAN S **S** **17 48 48.5 -0.5**
XAN ScS **ScS** **17 49 58.5 +0.3**
XAN SS **SS** **17 53 03.5 +0.3**
XAN pmax pmax
comp=Z,480nm,1.5s
XAN pmax pmax
comp=Z,11µm,4.5s
XAN LR LR
comp=Z,166µm,18.7s
XAN LR LR
comp=Z,206µm,21.5s
XAN LR LR
comp=Z,318µm,19.1s
FLTG Flechtingen 65.73 12⇓P **P** **17 40 06.0 -0.5**
FLTG Flechtingen 65.73 12 *e*P **P** **17 40 06.2 -0.3**
comp=Z,6µm,1.8s,baz=351,slow=6.3
BELG Belogornoye 65.77 348 LR LR 18 11 04.7
comp=Z,75µm,21.3s,baz=22,slow=38
BELG Belogornoye 65.77 348*d i*P **P** **17 40 06.1 -0.7**
BELG pmax pmax
comp=Z,859nm,1.1s
BELG MLR MLR
comp=Z,13µm,21.0s
MTDJ Mount Denham 65.78 96⇓*i*P **P** **17 40 08.2 +0.8**
MTDJ Mount Denham 65.78 96 *i* P **P** **17 40 07.7 +0.2**
MTDJ Mount Denham 65.78 96⇓P **P** **17 40 07.8 +0.4**
RUE Ruedersdorf 65.83 11 *e*P **P** **17 40 08.1 +0.9**
RUE Ruedersdorf 65.83 11⇓P **P** **17 40 07.3 +0.2**
RUE Ruedersdorf 65.83 11 *e*P **P** **17 40 07.6 +0.4**
comp=Z,7µm,1.3s,baz=351,slow=6.3
JMJ Miyako jima 2 66.03 278 P **P** **17 40 09.5 +0.6**
GRTK Grand Turk 66.06 89 IAmb IAmb 17 40 13.5
comp=Z,1µm,1.2s
GRTK Grand Turk 66.06 89⇑P **P** **17 40 08.8 -0.2**
CRIN San Cristobal 66.09 108 P **P** **17 40 09.2 -0.3**
CRIN IAmb IAmb 17 40 12.2
comp=Z,1µm,1.0s
LZH Lanzhou 66.11 302⇓P **P** **17 40 09.0 -0.5**
LZH pP pP 17 40 21.5 -2.1
LZH sP sP 17 40 27.5 -1.8
LZH PcP **PcP** **17 40 38.0 -1.5**
LZH S **S** **17 48 52.5 -1.4**
LZH SS **SS** **17 53 11.3 +1.9**
LZH pmax pmax
comp=Z,1µm,1.0s
LZH pmax pmax
comp=Z,23µm,5.5s
LZH LR LR
comp=Z,413µm,19.1s
LZH LR LR
comp=Z,172µm,19.1s
LZH LR LR
comp=Z,639µm,20.3s
CLZ Clausthal 66.11 13 *e*P **P** **17 40 09.6 +0.5**
comp=Z,9µm,1.7s,baz=351,slow=6.3
BUG Bochum--Univer 66.14 15 *e*P **P** **17 40 09.3 +0.1**
comp=Z,9µm,1.8s,baz=351,slow=6.3
LPSR Galich'ya Gora 66.21 354 *e*P **P** **17 40 09.0 -0.6**
LPSR *e*S **S** **17 48 50.5 -3.9**
LPSR *e*SS **SS** **17 53 06.7 -3.1**
LPSR *e*SSS SSS 17 56 14.3
LPSR pmax pmax
comp=Z,12µm,2.4s
LPSR pmax pmax
comp=Z,5µm,2.0s
LPSR smax smax
comp=E,57µm,13.0s
STH Stony Hill 66.25 96⇑*i*P **P** **17 40 11.0 +0.6**
WHN Wuhan 66.29 290 pmax pmax
comp=Z,720nm,1.3s
WHN Wuhan 66.29 290⇓P **P** **17 40 09.5 -1.0**
WHN sP **sP** **17 40 29.5 -0.8**
WHN PP **PP** **17 42 36.0 -0.5**
WHN S **S** **17 48 57.8 +1.9**
WHN ScS **SKSac** **17 49 59.5 -2.7**
WHN pmax pmax
comp=Z,14µm,2.0s
WHN pmax pmax
comp=Z,40µm,9.5s
WHN LR LR
comp=Z,404µm,21.1s
WHN LR LR
comp=Z,221µm,18.4s
WHN LR LR
comp=Z,412µm,20.2s
GUMO Guam 66.30 254 P **P** **17 40 10.2 -0.5**
GUMO pP **pP** **17 40 23.5 -1.3**
GUMO IAmb IAmb 17 41 10.4
comp=Z,1µm,1.4s
GUMO Guam 66.30 254 IAMs_20 IAMs_20 18 06 43.2
comp=Z,61µm,21.0s
GUMO Guam 66.30 254 LR LR 18 06 44.1
comp=Z,48µm,21.3s,baz=23,slow=34
GUMO Guam 66.30 254 P **P** **17 40 12.0 +1.3**
GUMO Guam 66.30 254 P **P** **17 40 10.2 -0.5**
GUMO MLR MLR
comp=Z,61µm,21.0s
HOJ Hope 66.35 96 *i* P **P** **17 40 13.3 +2.4**
AKTO Aktyubinsk 66.36 341 LR LR 18 12 34.0
comp=Z,47µm,21.0s,baz=14,slow=39
AKTO Aktyubinsk 66.36 341 P **P** **17 40 09.9 -0.8**
GTTG Gottingen 66.36 13 *e*P **P** **17 40 11.4 +0.7**
comp=Z,8µm,1.5s,baz=351,slow=6.3
PATS Pohnpei 66.37 238 pP pP 17 40 26.8 +1.6
PATS Pohnpei 66.37 238 P **P** **17 40 11.5 +0.4**
UCC Uccle 66.37 17 *d*P **P** **17 40 10.4 -0.3**
comp=Z,457nm,1.8s
UCC *d*S **S** **17 48 57.2 +0.8**
KASTN Kahler Asten 66.52 15 *e*P **P** **17 40 12.0 +0.3**
comp=Z,5µm,1.7s,baz=351,slow=6.3
BEBN Eben Emael 66.56 17 *d*P **P** **17 40 11.5 -0.4**
comp=Z,634nm,1.6s
BEBN *d*PP **PP** **17 42 36.6 -1.6**
BEBN *d*S **S** **17 48 59.3 +0.7**
BSTI Sart Tilman 66.75 17 *d*P **P** **17 40 13.3 +0.1**
comp=Z,209nm,1.7s
MEM Membach 66.79 16 *d*P **P** **17 40 13.3 -0.1**
comp=Z,14µm,3.6s
MEM *d*PP **PP** **17 42 41.7 +1.4**
MEM *d*S **S** **17 49 03.7 +2.3**
JLP Les Platons 66.82 22 *e*P **P** **17 40 12.9 -0.7**
BTNL Ternell 66.83 16 *d*P **P** **17 40 13.4 -0.3**
comp=Z,805nm,1.6s
BTNL *d*S **S** **17 49 04.3 +2.3**
JSA Saint Aubin 66.86 22 *e*P **P** **17 40 13.3 -0.5**
JSA IAmb IAmb 17 40 16.9
comp=Z,5µm,2.0s
JSA IAMs_20 IAMs_20 18 04 05.1
comp=Z,220µm,34.3s
BCLA Clavier 66.88 17 *d*P **P** **17 40 13.6 -0.3**
comp=Z,481nm,1.6s
BCLA *d*S **S** **17 49 04.5 +2.0**
BGES Gesves 66.88 17 *d*P **P** **17 40 13.7 -0.3**
comp=Z,384nm,1.7s
BGES *d*PP **PP** **17 42 41.9 +0.8**
NEUB Neuenburg 66.89 12 *e*P **P** **17 40 14.1 +0.1**
comp=Z,9µm,1.7s,baz=351,slow=6.3
CLL Collm 66.91 11⇓*i*P **P** **17 40 13.8 -0.4**
CLL *e*S **S** **17 49 07.0 +4.1**
CLL pmax pmax
comp=Z,6µm,1.8s
CLL Collm 66.91 11 *e*P **P** **17 40 14.1 -0.1**
comp=Z,5µm,1.7s,baz=351,slow=6.3
CLL Collm 66.91 11⇓*i*P **P** **17 40 13.8 -0.4**
comp=Z,264nm,1.1s
CLL ⇓*i*Pmax 17 40 16.1
comp=Z,6µm,1.8s
CLL *e*Plp 17 40 17.0
comp=Z,15µm,26.9s
CLL *e*Pmax 17 40 18.0
CLL *e*PP **PP** **17 42 43.0 +1.7**
CLL *e*PPP PPP 17 44 12.0
CLL *e*PPPP 17 45 06.0
CLL *e*S **S** **17 49 07.0 +4.1**
comp=N,11µm,25.5s
CLL *e*S **S** **17 49 07.0 +4.1**
comp=E,31µm,23.0s
CLL *e*x x 17 49 16.0
CLL *e*PS **PnS** **17 49 32.0 +2.3**
CLL *e*PPS PPS 17 49 42.0
CLL *e*SS **SS** **17 53 24.0 +3.3**
CLL *e*SSS SSS 17 56 36.0
CLL *e*SSSS 17 57 54.0
CLL AMS AMS 18 08 00.0
CLL *e*PKPPKP P'P'df 18 08 37.0 -10
comp=Z,54nm,1.3s
CLL *i* PKPPKPdf 18 08 44.9
comp=Z,112nm,1.2s
CLL *i* PKPPKPab **B'P'ab** **18 08 48.5 -3.8**
comp=Z,917nm,2.5s
CLL *e*SKPPKPdf 18 12 15.0
comp=Z,220nm,2.2s
CLL AMS AMS 18 14 00.0

comp=Z,41μm,20.8s
CLL R2 19 50 00.0
CLL R2 20 02 00.0
comp=Z,4μm,24.2s
CLL Collm 66.91 11 P **P 17 40 13.5 -0.7**
comp=Z,2μm,1.7s,comp=Z,35μm
BMRD Maredsous 66.92 17 *d*P **P 17 40 14.1 -0.1**
comp=Z,651nm,1.6s
BMRD *d*S **S 17 49 04.7 +1.7**
BEL Belsk 66.97 6 *e*P **P 17 40 14.9 +0.4**
BEL *e*S **S 17 49 03.3 -0.2**
BEL *e*L L 18 03 35.0
comp=Z,96μm,34.3s
TDK Taldyqorghan 67.04 325 *e*P **P 17 40 14.5 -0.7**
comp=Z,1μm,1.0s
TDK *e*S **S 17 49 05.5 +0.8**
TDK LR LR 18 12 05.2
comp=Z,104μm,15.7s
TDK Taldyqorghan 67.04 325 *e*P **P 17 40 14.4 -0.7**
TDK *e*S **S 17 49 05.4 +0.8**
TDK pmax pmax
comp=Z,1μm,1.0s
TDK MLR MLR
comp=Z,104μm,16.0s
BHOU Houvegnez 67.04 16 *d*P **P 17 40 15.1 +0.1**
comp=Z,299nm,1.9s
BHOU *d*PP **PP 17 42 42.7 +0.3**
UBBA Unterbreizbach 67.08 14 *e*P **P 17 40 15.3 +0.2**
comp=Z,6μm,1.7s,baz=351,slow=6.3
DOU Dourbes 67.09 17 *d*P **P 17 40 15.1 -0.2**
comp=Z,520nm,1.6s
DOU *d*S **S 17 49 00.8 -4.3**
RCHB Rochefort 67.12 17 *d*P **P 17 40 15.3 -0.2**
comp=Z,596nm,1.6s
RCHB *d*S **S 17 49 06.9 +1.5**
VORR Voronezh 67.13 354 *e*P **P 17 40 14.9 -0.6**
VORR *e*S **S 17 49 01.9 -3.5**
VORR pmax pmax
comp=Z,1μm,0.7s
VORR pmax pmax
comp=Z,6μm,1.8s
VORR smax smax
comp=E,3μm,4.0s
AB31 Akbulak array 67.18 339 *i* P **P 17 40 15.3 -0.6**
ABKAR Akbulak array 67.18 339 IAmb IAmb 17 40 35.8
comp=Z,2μm,1.4s
YOJ Yonaguni jima 67.42 280 IAmb IAmb 17 41 03.4
comp=Z,2μm,2.0s
YOJ IAMs_20 IAMs_20 18 11 18.9
comp=Z,80μm,20.0s
YOJ Yonaguni jima 67.42 280 P **P 17 40 17.4 -0.3**
MOX Moxa 67.43 13 *e*P **P 17 40 17.9 +0.4**
comp=Z,5μm,1.5s,baz=351,slow=6.3
MOX *e*L L 18 12 16.8
comp=Z,41μm,20.3s
BRG Berggiesshubel 67.43 11 *i* P **P 17 40 17.6 +0.1**
BRG Amp 17 40 18.5
comp=Z,229nm,1.0s
BRG Berggiesshubel 67.43 11 P **P 17 40 20.6 +3.1**
BRG Amp 17 40 22.3
comp=Z,2μm,1.2s
BRG Berggiesshubel 67.43 11 PP PP 17 42 52.0 +6.2
BRG Berggiesshubel 67.43 11 S **S 17 49 10.0 +0.8**
BRG Berggiesshubel 67.43 11 SS SS 17 53 35.0 +6.3
BRG Berggiesshubel 67.43 11 *i* P **P 17 40 17.5 +0.1**
BRG 17 40 40.2
BRG 17 42 52.0
BRG pmax pmax
comp=Z,229nm,1.0s
BRG Berggiesshubel 67.43 11 *e*P **P 17 40 17.7 +0.2**
comp=Z,6μm,1.6s,baz=351,slow=6.3
VRH Novokhopyorsk 67.44 352 *e*P **P 17 40 16.3 -1.2**
VRH *e*S **S 17 49 05.7 -3.5**
VRH *e*SS **SS 17 53 36.2 +7.4**
VRH *e*SSS SSS 17 56 34.3
VRH pmax pmax
comp=Z,9μm,2.5s
VRH pmax pmax
comp=Z,2μm,1.8s
VRH smax smax
comp=E,60μm,15.4s
VRH MLR MLR
comp=Z,91μm,22.0s
TNS Taunus Mts 67.48 15 *e*P **P 17 40 18.1 +0.2**
comp=Z,7μm,1.8s,baz=351,slow=6.3
RNPP9 Sopachiv 67.58 3 P **P 17 40 17.7 -0.7**
VSR Storozhevoye 67.58 354 *e*P **P 17 40 17.5 -0.9**
VSR *e*S **S 17 49 03.8 -7.1**
VSR *e*SS **SS 17 53 33.3 +2.3**
VSR pmax pmax
comp=Z,13μm,2.5s
VSR pmax pmax
comp=Z,4μm,2.0s
VSR smax smax
comp=N,21μm,14.3s
VSR MLR MLR
comp=Z,48μm,20.0s
ACON Acoyapa 67.60 107 IAmb IAmb 17 40 23.0
comp=Z,2μm,1.6s
PLN Plauen 67.64 12 *e*P **P 17 40 19.0 +0.2**
comp=Z,5μm,1.7s,baz=351,slow=6.3
HSKC Hora Svate Kat 67.65 11 *e*P **P 17 40 19.2 +0.3**
HSKC *e*S **S 17 49 11.7 -0.1**
HSKC AMS AMS 18 08 50.0
comp=Z,66μm,21.3s
RNPP8 Varash 67.66 3 P **P 17 40 18.1 -0.7**
KSP Ksiaz 67.66 9 *e*P **P 17 40 19.3 +0.4**
KSP *e*S **S 17 49 15.7 +3.7**
KSP *e*L L 18 07 31.1
comp=Z,79μm,26.3s
KSP Ksiaz 67.66 9 P **P 17 40 19.0 +0.1**
comp=Z,2μm,1.6s,comp=Z,40μm
RNPP2 Kostyukhnivka 67.67 3 P **P 17 40 19.0 +0.1**
TATO Taipei 67.71 281 IAMs_20 IAMs_20 18 08 20.5
comp=Z,91μm,22.0s
TATO Taipei 67.71 281 P **P 17 40 21.6 +2.1**
TATO P **P 17 40 21.6 +2.1**
TATO S **S 17 49 15.5 +2.4**
TATO S **S 17 49 15.5 +2.4**
TATO Taipei 67.71 281 P **P 17 40 20.8 +1.3**
TATO Taipei 67.71 281 P **P 17 40 21.0 +1.4**
WLF Walferdange 67.73 16 IAMs_20 IAMs_20 18 11 25.5
comp=Z,72μm,21.0s
WLF Walferdange 67.73 16 S **S 17 49 14.4 +1.6**
WLF P **P 17 40 19.7 +0.3**
WLF Walferdange 67.73 16 *e*P **P 17 40 19.9 +0.5**
comp=Z,9μm,1.8s,baz=351,slow=6.3
WLF Walferdange 67.73 16 *d*P **P 17 40 19.6 +0.3**
comp=Z,811nm,1.6s
WLF *d*S **S 17 49 18.5 +5.7**
TANN Tannenbergstha 67.74 12 *e*P **P 17 40 19.8 +0.3**
comp=Z,7μm,1.7s,baz=351,slow=6.3
RNPP5 Staryi Chortor 67.76 3 P **P 17 40 19.3 -0.2**
RICC Richard 67.77 11 *e*P **P 17 40 20.5 +0.9**
RICC *e*S **S 17 49 11.3 -1.9**
RICC AMS AMS 18 08 40.0
comp=Z,61μm,22.5s
ESPN Las Esperanzas 67.80 106 IAmb IAmb 17 40 24.8
comp=Z,3μm,1.6s
VORD Divnogorie 67.83 354 *e*P **P 17 40 19.6 -0.3**
VORD *e*S **S 17 49 11.4 -2.4**
VORD pmax pmax
comp=Z,2μm,1.2s
VORD pmax pmax
comp=Z,4μm,1.8s
VORD smax smax
comp=E,2μm,3.7s
PVCC Panska Ves 67.83 11 *e*P **P 17 40 20.5 +0.5**
PVCC *e*S **S 17 49 14.8 +0.9**
PVCC AMS AMS 18 08 50.0
comp=E,63μm,25.5s
PVCC Panska Ves 67.83 11 *e*P **P 17 40 20.5 +0.5**
PVCC *e*S **S 17 49 14.8 +0.9**
PVCC MLR MLR
comp=Z,63μm,25.5s
CHVC Chvalec 67.90 10 *e*P **P 17 40 20.8 +0.4**
CHVC *e*S **S 17 49 15.2 +0.4**
CHVC AMS AMS 18 06 50.0
comp=Z,81μm,27.7s
CHVC Chvalec 67.90 10 *e*P **P 17 40 20.8 +0.4**
NKC Novy Kostel 67.92 12 *e*P **P 17 40 20.7 +0.1**
NKC *e*S **S 17 49 15.9 +0.8**
NKC *e*PKPPKP **P'P'df 18 08 38.2 -7.3**
NKC AMS AMS 18 08 50.0
comp=Z,63μm,22.1s
NKC Novy Kostel 67.92 12 *e*P **P 17 40 20.7 +0.1**
NKC *e*S **S 17 49 15.9 +0.8**
ARXS Arharly 67.93 325 *e*P **P 17 40 19.8 -1.0**
OSTC Ostas 67.94 9 *e*P **P 17 40 20.8 +0.1**
OSTC AMS AMS 18 07 00.0
comp=Z,78μm,27.1s
OSTC *e*PKPPKP P'P'df 18 08 35.4 -10
OSTC Ostas 67.94 9 *e*P **P 17 40 20.8 +0.1**
UPC Upice 67.97 10 *e*P **P 17 40 21.2 +0.3**
UPC *e*S **S 17 49 16.2 +0.5**
UPC AMS AMS 18 07 00.0
comp=Z,89μm,27.5s
UPC *e*PKPPKP **P'P'df 18 08 39.7 -5.8**
UPC Upice 67.97 10 *e*P **P 17 40 21.2 +0.3**
YHNB Yeheng 68.02 281 P **P 17 40 20.7 -0.9**
YHNB IAMs_20 IAMs_20 18 08 42.9
comp=Z,81μm,21.0s
YHNB Yeheng 68.02 281 P **P 17 40 22.2 +0.6**
PAPH Port-au-Prince 68.04 92 *i* P **P 17 40 22.1 +0.4**
H07S1 FLORES T-PHASE 68.09 47 *e*P **P 17 40 23.9 +2.1**
comp=Z,5μm,1.7s
MI28 Mi28,Pidlybu 68.09 2 P **P 17 40 21.4 -0.2**
comp=Z,34μm,1.6s,comp=Z,499μm
MANZ Manzenberg 68.13 12 *e*P **P 17 40 22.0 +0.1**
comp=Z,1μm,1.8s,baz=351,slow=6.3
SDDR Presa de Saban 68.14 90 IAmb IAmb 17 40 25.1
comp=Z,1μm,0.9s
SDDR Presa de Saban 68.14 90 ⇓*i* P **P 17 40 22.6 +0.2**
SDDR Presa de Saban 68.14 90 ⇓P **P 17 40 22.1 -0.3**
PRVC Isla de Provid 68.15 102 ⇓*i* P **P 17 40 23.3 +0.9**
DPC Dobruska-Polom 68.15 9 *e*P **P 17 40 22.5 +0.5**
DPC *e*S **S 17 49 18.0 +0.1**
DPC AMS AMS 18 07 10.0
comp=Z,70μm,27.3s
DPC *e*PKPPKP **P'P'df 18 08 39.7 -5.5**
DPC Dobruska-Polom 68.15 9 *e*P **P 17 40 22.5 +0.5**
DPC Dobruska-Polom 68.15 9 P **P 17 40 22.6 +0.5**
comp=Z,4μm,1.5s,comp=Z,55μm
BTLS Baital 68.17 328 *e*P **P 17 40 21.2 -1.0**
comp=Z,742nm,1.6s
BTLS Baital 68.17 328 *e*P **P 17 40 21.2 -1.0**
BTLS pmax pmax
comp=Z,742nm,1.6s
AK21 Malin Array Si 68.26 1 P **P 17 40 21.9 -0.8**
PDGK Podgornoye 68.27 323 P **P 17 40 22.3 -0.7**
AK23 Malin Array Si 68.28 1 P **P 17 40 21.9 -0.8**
AK22 Malin Array Si 68.28 1 P **P 17 40 21.9 -0.9**
AK20 Malin Array Si 68.30 1 P **P 17 40 22.2 -0.7**
AK03 Malin Array Si 68.31 1 P **P 17 40 22.2 -0.8**
AK19 Malin Array Si 68.32 1 P **P 17 40 22.2 -0.8**
AK04 Malin Array Si 68.32 1 P **P 17 40 22.2 -0.8**
AK18 Malin Array Si 68.32 1 P **P 17 40 22.2 -0.8**
GRF Grafenberg Arr 68.33 13 *e*P **P 17 40 23.6 +0.5**
comp=Z,12μm,2.0s,baz=351,slow=6.3
GRF *e*L L 18 11 17.5
comp=Z,33μm,21.2s
GRFO Grafenberg 68.33 13 P **P 17 40 22.8 -0.4**
GRFO Grafenberg 68.33 13 P **P 17 40 22.8 -0.4**
GRFO pmax pmax
comp=Z,3μm,1.4s
GRFO MLR MLR
comp=Z,37μm,21.0s
NACB Ninganchiao 68.34 281 P **P 17 40 22.5 -1.0**
NACB **pP 17 40 39.2 +1.5**
NACB IAMs_20 IAMs_20 18 10 35.3
comp=Z,156μm,22.0s
NACB Ninganchiao 68.34 281 P **P 17 40 22.3 -1.2**
AKASG Malin Array Be 68.34 1 P **P 17 40 22.4 -0.8**
comp=Z,297nm,0.4s,baz=3.7,slow=6.3,SNR=331
AKASG PKP2bc 18 08 38.2
comp=Z,34nm,1.0s,baz=175,slow=3.2,SNR=15
AKASG LR LR 18 13 46.5
comp=Z,50μm,19.7s,baz=9.0,slow=39
AKASG P4KPbc 18 17 08.8
comp=Z,0.8nm,0.8s,baz=352,slow=4.0,SNR=6.3
comp=Z,297nm,0.4s
AKBB Malin Array Si 68.34 1 P **P 17 40 22.0 -1.1**
AKBB Malin Array Si 68.34 1*d* *i* P **P 17 40 22.2 -0.9**
AKBB pmax pmax
comp=Z,6μm,1.5s
AKBB MLR MLR
comp=Z,69μm,20.0s
AKBB Malin Array Si 68.34 1 P **P 17 40 22.3 -0.9**
AK15 Malin Array Si 68.34 1 P **P 17 40 22.4 -0.8**
KIEV Kiev 68.34 1 P **P 17 40 22.2 -0.9**
KIEV Kiev 68.34 1 IAMs_20 IAMs_20 18 13 26.8
comp=Z,62μm,20.0s
KIEV Kiev 68.34 1 *i* P **P 17 40 22.5 -0.6**
SNR=1207
KIEV Kiev 68.34 1 ⇓P **P 17 40 22.6 -0.6**
KIEV Kiev 68.34 1 ⇓P **P 17 40 22.4 -0.8**
KIEV Kiev 68.34 1 P **P 17 40 22.6 -0.6**
KIEV Kiev 68.34 1 P **P 17 40 22.3 -0.8**
comp=Z,13μm,1.6s,comp=Z,197μm
AK01 Malin Array Si 68.35 1 P **P 17 40 22.4 -0.8**
AK17 Malin Array Si 68.35 1 P **P 17 40 22.4 -0.8**
ROTZ Rotzenmuhle 68.36 12 *e*P **P 17 40 23.7 +0.4**
comp=Z,2μm,1.9s,baz=351,slow=6.3
AK11 Malin Array Si 68.36 1 P **P 17 40 22.5 -0.8**
PRU Pruhonice 68.36 11 *e*P **P 17 40 23.6 +0.3**
PRU *e*S **S 17 49 17.3 -3.0**
PRU AMS AMS 18 07 20.0
comp=Z,70μm,25.3s
PRU *e*PKPPKP **P'P'df 18 08 38.0 -6.8**
PRU Pruhonice 68.36 11 *e*P **P 17 40 23.6 +0.3**
PRU *e*S **S 17 49 17.3 -3.0**
PRU MLR MLR
comp=Z,70μm,25.3s
AK16 Malin Array Si 68.37 1 P **P 17 40 22.5 -0.8**
AK02 Malin Array Si 68.38 1 P **P 17 40 22.6 -0.8**
AK12 Malin Array Si 68.40 1 P **P 17 40 22.7 -0.8**
AK08 Malin Array Si 68.41 0 P **P 17 40 22.8 -0.7**
AK14 Malin Array Si 68.41 1 P **P 17 40 22.8 -0.8**
AK05 Malin Array Si 68.42 1 P **P 17 40 22.8 -0.8**
AK09 Malin Array Si 68.42 0 P **P 17 40 22.9 -0.8**
AK13 Malin Array Si 68.43 1 P **P 17 40 22.9 -0.8**
SHLS Shalkode 68.44 323 *e*P **P 17 40 22.3 -1.8**
comp=Z,568nm,0.9s
SHLS *e*S **S 17 49 20.5 -1.1**
SHLS Shalkode 68.44 323 *e*P **P 17 40 22.2 -1.8**
SHLS *e*S **S 17 49 20.5 -1.1**
SHLS pmax pmax
comp=Z,568nm,0.9s
AK10 Malin Array Si 68.44 0 P **P 17 40 23.0 -0.8**
AK06 Malin Array Si 68.45 1 P **P 17 40 23.1 -0.8**
GOPC GO Pecny, Ondr 68.46 10 *e*P **P 17 40 24.2 +0.2**
GOPC *e*S **S 17 49 21.8 +0.3**
GOPC *e*PKPPKP P'P'df 18 08 36.7 -7.9
GOPC AMS AMS 18 09 50.0
comp=Z,58μm,21.5s
GOPC GO Pecny, Ondr 68.46 10 *e*P **P 17 40 24.2 +0.2**
GOPC *e*S **S 17 49 21.8 +0.3**
KRLC Kraliky 68.46 9 *e*P **P 17 40 24.3 +0.3**
KRLC *e*S **S 17 49 21.3 -0.3**
KRLC AMS AMS 18 07 20.0
comp=Z,66μm,25.6s
KRLC *e*PKPPKP P'P'df 18 08 34.2 -10
KRLC Kraliky 68.46 9 *e*P **P 17 40 24.3 +0.3**
KRLC *e*S **S 17 49 21.3 -0.3**
KRLC MLR MLR
comp=Z,66μm,25.6s
AK07 Malin Array Si 68.49 1 P **P 17 40 23.3 -0.8**
OJC Ojcow 68.52 7 *e*P **P 17 40 24.4 +0.1**
OJC *e*S **S 17 49 24.3 +2.1**
OJC *e*L L 18 04 34.5
comp=Z,115μm,33.8s
OJC Ojcow 68.52 7 IAmb IAmb 17 40 29.1
comp=Z,1μm,0.9s
OJC Ojcow 68.52 7 P **P 17 40 24.4 +0.1**
comp=Z,2μm,1.6s,comp=Z,37μm
RAC Raciborz 68.56 8 *e*P **P 17 40 25.0 +0.5**
RAC *e*S **S 17 49 25.0 +2.4**
RAC AMS AMS 18 07 30.0
comp=Z,65nm,25.2s
RAC Raciborz 68.56 8 *e*P **P 17 40 25.0 +0.5**
RAC *e*S **S 17 49 25.0 +2.4**
RAC MLR MLR
comp=Z,65μm,25.2s
UZB Uzynbulak 68.57 324 *e*P **P 17 40 24.0 -0.9**
UZB Uzynbulak 68.57 324 *e*P **P 17 40 24.0 -0.9**
KUU Kurty 68.63 326 *e*P **P 17 40 24.3 -0.9**
KUU LR LR 18 13 03.6
comp=Z,77μm,17.9s
KUU Kurty 68.63 326 *e*P **P 17 40 24.2 -0.9**
KUU MLR MLR
comp=Z,77μm,18.0s
ENH Enshi 68.69 294 P **P 17 40 24.5 -1.2**
ENH pP **pP 17 40 40.3 +0.3**
ENH Enshi 68.69 294 P **P 17 40 25.1 -0.6**
ZHN Zhinishke 68.72 324 *e*P **P 17 40 25.1 -0.8**
ZHN Zhinishke 68.72 324 *e*P **P 17 40 25.0 -0.8**
CLF Chambon-Foret 68.75 20 P **P 17 40 26.3 +0.5**
CLF pP **pP 17 40 41.1 +1.1**
CLF IAMs_20 IAMs_20 18 12 59.4
comp=Z,103μm,19.0s
OKC Ostrava-Krasne 68.80 8 *e*P **P 17 40 26.3 +0.3**
OKC *e*S **S 17 49 26.2 +0.7**
OKC AMS AMS 18 08 50.0
comp=Z,47μm,19.5s
OKC Ostrava-Krasne 68.80 8 *e*P **P 17 40 26.3 +0.3**
OKC *e*S **S 17 49 26.2 +0.7**
OKC MLR MLR
comp=Z,47μm,19.5s
MORC Moravsky Berou 68.82 9 ⇓*i* P **P 17 40 26.3 +0.1**
MORC *e*S **S 17 49 27.5 +1.7**
MORC *e*PKPPKP **P'P'df 18 08 36.4 -7.7**
MORC Moravsky Berou 68.82 9 ⇓P **P 17 40 26.1 -0.1**
SATY Saty 68.83 324 *e*P **P 17 40 25.9 -0.7**
comp=Z,1μm,2.2s
SATY Saty 68.83 324 *e*P **P 17 40 25.8 -0.7**
SATY pmax pmax
comp=Z,1μm,2.2s
ZVC Zvikov 68.88 11 *e*P **P 17 40 26.8 +0.3**
ZVC *e*S **S 17 49 27.5 +1.1**
ZVC *e*PKPPKP P'P'df 18 08 35.3 -8.6
ZVC AMS AMS 18 09 40.0
comp=Z,64μm,24.0s
KHAM Kharkiv 68.93 356 P **P 17 40 26.5 -0.4**
CNSH ChangSha 68.94 290 P **P 17 40 27.0 -0.3**
CNSH S **S 17 49 25.8 -2.0**
CNSH pmax pmax
comp=Z,450nm,1.0s
CNSH LR LR
comp=Z,26μm,18.2s
CNSH LR LR
comp=Z,21μm,26.8s
CNSH LR LR
comp=Z,136μm,21.4s
SSLB Suanglung 68.97 281 IAMs_20 IAMs_20 18 10 34.1
comp=Z,98μm,20.0s
SSLB Suanglung 68.97 281 P **P 17 40 26.5 -1.0**
STU Stuttgart 69.00 15 *e*P **P 17 40 30.1 +2.8**
STU Stuttgart 69.00 15 *e*P **P 17 40 27.6 +0.2**
comp=Z,15μm,1.9s,baz=351,slow=6.3
WET Wettzell 69.04 12 *e*P **P 17 40 28.1 +0.5**
comp=Z,8μm,1.7s,baz=351,slow=6.3
QZH Quanzhou 69.10 284 ⇓*i* P **P 17 40 26.8 -1.4**
QZH sP **sP 17 40 45.5 -2.6**
QZH S **S 17 49 28.0 -1.6**
QZH sS **sS 17 49 54.3 +0.6**
QZH pmax pmax
comp=Z,670nm,1.0s
QZH pmax pmax
comp=Z,33μm,9.6s
QZH LR LR
comp=Z,85μm,16.5s
QZH LR LR
comp=Z,39μm,13.1s
QZH LR LR
comp=Z,197μm,37.4s
AAA Alma-Ata 69.11 325 *e*P **P 17 40 27.3 -0.9**
comp=Z,770nm,1.0s
AAA LR LR 18 13 19.5
comp=Z,81μm,16.9s
AAA Alma-Ata 69.11 325 *e*P **P 17 40 27.4 -0.8**
LUBAR Lubar, Ukraine 69.11 2 P **P 17 40 26.8 -1.1**
MDOK Medeo 69.11 325 *e*P **P 17 40 27.4 -1.0**
MDOK *e*S **S 17 49 30.0 +0.3**
MDOK LR LR 18 13 17.7
comp=Z,70μm,15.1s
MDOK Medeo 69.11 325 *e*P **P 17 40 27.3 -1.0**
MDOK *e*S **S 17 49 30.0 +0.3**
MDOK MLR MLR
comp=Z,70μm,15.0s
LVV L'vov 69.12 4 P **P 17 40 27.8 -0.2**
KHC Kasperske Hory 69.12 11 *e*P **P 17 40 28.6 +0.5**
KHC *e*pP **sP 17 40 46.0 -2.0**
KHC *e*S **S 17 49 28.3 -1.1**
KHC *e*PKPPKP P'P'df 18 08 35.3 -8.2
KHC AMS AMS 18 09 30.0
comp=Z,66μm,23.8s
KHC Kasperske Hory 69.12 11*d* *i* P **P 17 40 28.6 +0.5**
KHC pmax pmax
comp=Z,8μm,1.7s
KHC MLR MLR
comp=Z,122μm,21.0s
KHC Kasperske Hory 69.12 11 P **P 17 40 28.4 +0.3**
comp=Z,2μm,1.7s,comp=Z,46μm
TREC Trest 69.13 10 *e*P **P 17 40 27.3 -0.9**
TREC *e*S **S 17 49 29.2 -0.3**
TREC AMS AMS 18 07 40.0
comp=Z,79μm,28.2s
TREC *e*PKPPKP P'P'df 18 08 31.3 -12
TREC Trest 69.13 10 *e*P **P 17 40 27.3 -0.9**
YULB Yu-li 69.14 281 IAmb IAmb 17 41 01.7
comp=Z,2μm,1.6s
YULB IAMs_20 IAMs_20 18 11 11.7
comp=Z,100μm,22.0s
YULB Yu-li 69.14 281 P **P 17 40 29.6 +1.0**
JTS Las Juntas de 69.17 107 P **P 17 40 26.4 -2.4**
JTS Las Juntas de 69.17 107 LR LR 18 16 04.4
comp=Z,58μm,20.1s,baz=340,slow=40
JTS Las Juntas de 69.17 107 P **P 17 40 26.4 -2.4**
JTS pmax pmax
comp=Z,271nm,1.3s
JTS Las Juntas de 69.17 107 ⇓*i* P **P 17 40 26.3 -2.5**
VRAC Vranov 69.21 9 LR LR 18 12 34.9
comp=Z,28μm,20.6s,baz=352,slow=37
VRAC Vranov 69.21 9 ⇓*i* P **P 17 40 29.0 +0.3**
VRAC *e*S **S 17 49 31.6 +1.2**
VRAC *e*PKPPKP P'P'df 18 08 33.3 -10
VRAC Vranov 69.21 9 ⇓P **P 17 40 29.0 +0.3**
VRAC Vranov 69.21 9 P **P 17 40 28.9 +0.3**
SOCE Pocosol 69.24 107 IAmb IAmb 17 40 33.9
comp=Z,174nm,0.8s
MAUC Maruska 69.25 8 *e*P **P 17 40 29.2 +0.3**
MAUC *e*PKPPKP P'P'df 18 08 32.9 -10
TNSS Tian-Shan 69.26 325 *e*P **P 17 40 28.4 -1.2**
TNSS Tian-Shan 69.26 325 *e*P **P 17 40 28.3 -1.2**
KWP Kalwaria Pacla 69.26 5 *e*P **P 17 40 29.1 +0.2**
KWP *e*S **S 17 49 33.0 +2.1**
KWP *e*L L 18 08 17.0
comp=Z,106μm,26.4s
KWP Kalwaria Pacla 69.26 5 P **P 17 40 28.9 0.0**
KWP pP **pP 17 40 44.7 +1.6**
KWP Kalwaria Pacla 69.26 5 P **P 17 40 28.8 -0.1**
comp=Z,3μm,1.6s,comp=Z,56μm
ECH Echery 69.29 16 P **P 17 40 29.6 +0.5**
ECH IAmb IAmb 17 40 33.0
comp=Z,3μm,1.5s
ECH pP **pP 17 40 45.2 +1.9**
ECH IAMs_20 IAMs_20 18 11 30.7
comp=Z,77μm,21.0s
ECH Echery 69.29 16 P **P 17 40 29.2 +0.1**
BFO Black Forest 69.33 15 P **P 17 40 28.8 -0.6**
BFO IAmb IAmb 17 40 33.3
comp=Z,4μm,1.7s
BFO Black Forest 69.33 15 P **P 17 40 28.8 -0.6**
BFO pmax pmax
comp=Z,4μm,1.7s
BFO MLR MLR
comp=Z,46μm,20.0s
BFO Black Forest 69.33 15 *e*P **P 17 40 29.5 +0.1**
comp=Z,6μm,1.9s,baz=351,slow=6.3
NIE Niedzica 69.35 7 *e*P **P 17 40 30.0 +0.5**
NIE *e*S **S 17 49 36.7 +4.6**
NIE Niedzica 69.35 7 P **P 17 40 29.7 +0.2**
comp=Z,700nm,1.1s,comp=Z,16μm
PRZ Przheval'sk 69.36 324 P **P 17 40 29.5 -0.4**
PRZ pP **pP 17 40 45.5 +1.4**
PRZ Przheval'sk 69.36 324 P **P 17 40 29.5 -0.4**
PRZ *PP **pP 17 40 45.5 +1.4**
PRZ pmax pmax
comp=Z,748nm,0.9s
PLTM Poltava 69.38 357 P **P 17 40 29.5 -0.1**
STHS Stebnicka Huta 69.40 6 *e*P **P 17 40 29.5 -0.3**
STHS pmax pmax
comp=Z,2μm,0.7s

STHS	**Stebnicka Huta**	69.40	6	*eP*	P		17 40 29.5	-0.3
STHS				*eS*	S		17 49 34.6	+1.9
GEC2	**GERESS Array S**	69.42	11	P	P		17 40 30.3	+0.3
GEC2				IAmb	IAmb		17 40 35.1	
	comp=Z,1μm,1.2s							
GEC2					pP		17 40 45.1	+0.9
GEC2	**GERESS Array S**	69.42	11	*eP*	P		17 40 30.1	+0.1
	comp=Z,8μm,2.0s,baz=351,slow=6.3							
GERES	**GERESS Array B**	69.42	11	P	P		17 40 30.1	+0.1
	comp=Z,274nm,0.8s,baz=352,slow=4.6,SNR=196							
GERES				PKP2bc			18 08 33.7	
	comp=Z,45nm,1.0s,baz=147,slow=2.3,SNR=16							
GERES				LR	LR		18 14 48.2	
	comp=Z,17μm,18.3s,baz=356,slow=39							
	comp=Z,274nm,0.8s							
KRUC	**Moravsky**	69.44	9	⇓*iP*	P		17 40 30.0	0.0
KRUC				*eS*	S		17 49 35.0	+1.9
KRUC				*e*PKPPKP	P'P'df		18 08 32.3	-11
SRBC	**Serra Branca**	69.49	45	*eP*	P		17 40 32.4	+1.9
	comp=Z,5μm,1.7s							
CKRC	**Cesky Krumlov**	69.50	11	*eP*	P		17 40 31.4	+1.0
CKRC				*eS*	S		17 49 37.0	+3.1
CKRC				AMS	AMS		18 08 50.0	
	comp=Z,66μm,23.4s							
CKRC	**Cesky Krumlov**	69.50	11	*eP*	P		17 40 31.4	+1.0
CKRC				*eS*	S		17 49 37.0	+3.1
CKRC				MLR	MLR			
	comp=Z,66μm,23.4s							
PGRA	**Graciosa**	69.52	45	*eP*	P		17 40 43.4	+13
	comp=Z,3μm,1.6s							
PGRA	**Graciosa**	69.52	45	*e*LR	LR		18 01 35.2	
	comp=Z,61μm,18.0s							
TPUB	**Ta-pu**	69.54	281	IAMs_20	IAMs_20		18 09 43.1	
	comp=Z,122μm,22.0s							
TPUB	**Ta-pu**	69.54	281	P	P		17 40 30.5	-0.5
GOMU	**GeErMu**	69.57	309	P	P		17 40 31.0	-0.5
GOMU				S	S		17 49 34.0	-1.7
GOMU				pmax	pmax			
	comp=Z,100nm,0.8s							
GOMU				LR	LR			
	comp=Z,364μm,18.9s							
GOMU				LR	LR			
	comp=Z,203μm,19.4s							
GOMU				LR	LR			
	comp=Z,533μm,19.8s							
PCED	**Cedros**	69.63	46	*eP*	P		17 40 32.9	+1.5
	comp=Z,2μm,1.5s							
CALA	**Caldeira**	69.67	46	*eP*	P		17 40 33.4	+1.7
	comp=Z,3μm,1.4s							
CALA	**Caldeira**	69.67	46	*e*LR	LR		18 04 01.9	
	comp=Z,48μm,18.0s							
USP	**Ospenovka**	69.70	327	P	P		17 40 31.4	-0.4
	SNR=302							
ROSA	**Rosais**	69.71	45	*eP*	P		17 40 33.8	+1.9
	comp=Z,2μm,1.7s							
ROSA	**Rosais**	69.71	45	*e*LR	LR		18 01 48.4	
	comp=Z,64μm,20.0s							
TKM2	**Tokmak 2**	69.73	326	P	P		17 40 31.9	-0.3
	SNR=387							
TWGBT	**Beinan**	69.74	280	P	P		17 40 32.4	+0.2
JAVC	**Velka Javorina**	69.74	9	⇓*iP*	P		17 40 33.2	+1.3
JAVC				*eS*	S		17 49 41.2	+4.5
JAVC				*e*PKPPKP	P'P'df		18 08 33.4	-9.1
TWG	**Pinlang**	69.74	280	IAMs_20	IAMs_20		18 11 30.4	
	comp=Z,101μm,22.0s							
HOR	**Horta**	69.75	46	*eP*	P		17 40 34.5	+2.4
	comp=Z,2μm,1.4s							
HORU	**Horodok**	69.79	2	P	P		17 40 31.3	-0.9
HDC	**Heredia**	69.81	107	IAMs_20	IAMs_20		18 12 49.9	
	comp=Z,126μm,22.0s							
HDC	**Heredia**	69.81	107	*eP*	P		17 40 31.9	-1.0
PMAN	**Manadas**	69.84	45	*eP*	P		17 40 34.8	+2.2
	comp=Z,2μm,2.5s							
FUR	**Furstenfeldbru**	69.84	13	*eP*	P		17 40 32.9	+0.4
	comp=Z,4μm,1.4s,baz=351,slow=6.3							
PICO	**Pico**	69.84	45	*eP*	P		17 40 35.0	+2.2
	comp=Z,2μm,1.7s							
PICO	**Pico**	69.84	45	*e*LR	LR		18 02 10.0	
	comp=Z,62μm,20.0s							
PCAN	**Candelaria**	69.86	45	*eP*	P		17 40 34.7	+1.9
	comp=Z,1μm,2.0s							
CHMS	**Chumysh**	69.89	327	P	P		17 40 32.7	-0.2
	SNR=280							
PPNO	**Prainha do Nor**	69.92	45	*eP*	P		17 40 35.4	+2.1
	comp=Z,1μm,1.5s							
KOLS	**Kolonicke sedl**	69.94	5	*eP*	P		17 40 33.2	+0.1
KOLS				pmax	pmax			
	comp=Z,2μm,1.4s							
KOLS	**Kolonicke sedl**	69.94	5	*eP*	P		17 40 33.2	+0.1
PCDR	**Punta Cana, DR**	69.94	88	IAmb	IAmb		17 40 36.1	
	comp=Z,1μm,0.9s							
PSBA	**Serra de Santa**	69.98	44	*eP*	P		17 40 35.8	+2.3
	comp=Z,2μm,1.5s							
PID	**Ribeirinha**	70.00	45	*eP*	P		17 40 35.8	+2.1
	comp=Z,2μm,1.6s							
PAGU	**Agualva, Azore**	70.03	44	*eP*	P		17 40 36.1	+2.3
	comp=Z,1μm,1.6s							
PAGU	**Agualva, Azore**	70.03	44	*e*LR	LR		18 02 28.9	
	comp=Z,41μm,18.0s							
SMOL	**Smolenice**	70.06	9	*eP*	P		17 40 34.5	+0.6
SMOL				pmax	pmax			
	comp=Z,4μm,2.0s							
FRU1	**Bishkek**	70.09	327	IAmb	IAmb		17 40 44.2	
	comp=Z,1μm,0.8s							
PSCM	**Serra do Cume**	70.11	44	*eP*	P		17 40 36.6	+2.3
	comp=Z,1μm,2.5s							
ADH	**Angra Heroismo**	70.11	44	*eP*	P		17 40 34.7	+0.4
	comp=Z,2μm,1.8s							
KBK	**Karagaybulak**	70.15	326	P	P		17 40 34.6	-0.2
	SNR=336							
VYHS	**Vyhne**	70.18	8	*eP*	P		17 40 34.8	+0.2
VYHS				pmax	pmax			
	comp=Z,7μm,1.8s							
VYHS	**Vyhne**	70.18	8	*eP*	P		17 40 34.8	+0.2
VYHS				*eS*	S		17 49 44.0	+2.2
ULHL	**Ulahol**	70.18	325	P	P		17 40 35.1	+0.1
	SNR=33							
UBR	**Ueberruh**	70.19	14	*eP*	P		17 40 35.0	+0.3
	comp=Z,9μm,2.0s,baz=351,slow=6.3							
MODS	**Modra-Piesok**	70.19	9	*eP*	P		17 40 35.3	+0.6
MODS				pmax	pmax			
	comp=Z,18μm,1.9s							
MODS	**Modra-Piesok**	70.19	9	*eP*	P		17 40 35.3	+0.6
MODS				*eS*	S		17 49 44.7	+2.7
UZHM	**Uzhgorod**	70.24	5	P	P		17 40 34.7	-0.2
STNU	**Starunia**	70.24	4	P	P		17 40 34.7	-0.3
AAK	**Ala-Archa**	70.29	327	P	P		17 40 34.8	-0.8
AAK				IAmb	IAmb		17 40 45.3	
	comp=Z,825nm,0.8s							
AAK				pP	pP		17 40 50.8	+1.0
AAK	**Ala-Archa**	70.29	327	*i* P	P		17 40 35.1	-0.5
	SNR=392							
AAK	**Ala-Archa**	70.29	327	LR	LR		18 16 50.9	
	comp=Z,109μm,19.3s,baz=26,slow=40							
AAK	**Ala-Archa**	70.29	327	S	S		17 49 44.8	+1.2
AAK	**Ala-Archa**	70.29	327	*d iP*	P		17 40 35.2	-0.4
AAK				pmax	pmax			
	comp=Z,901nm,0.8s							
AAK				MLR	MLR			
	comp=Z,192μm,24.0s							
AAK	**Ala-Archa**	70.29	327	P	P		17 40 35.5	-0.1
KECS	**Kecovo**	70.29	7	*eP*	P		17 40 35.6	+0.3
KECS				pmax	pmax			
	comp=Z,2μm,0.9s							
KECS	**Kecovo**	70.29	7	*eP*	P		17 40 35.6	+0.3
KECS				*eS*	S		17 49 45.5	+2.4
WUS	**Wushi**	70.31	323	IAMs_20	IAMs_20		18 15 52.3	
	comp=Z,146μm,20.0s							
HOLU	**Holmets**	70.35	5	P	P		17 40 35.8	+0.2
TAOE	**Nuku Hiva Isla**	70.38	170	⇑*iP*	P		17 40 35.5	-0.7
	comp=Z,2μm,1.6s							
TAOE				*eS*	S		17 49 54.4	+10
	comp=Z,14μm,25.6s							
TAOE				*e*SS	SS		17 54 25.7	+9.1
	comp=Z,20μm,29.6s							
TAOE				*e*LQ	LQ		17 58 32.3	
	comp=Z,64μm,30.6s							
TAOE				*e*LR	LR		18 02 07.5	
	comp=Z,160μm,30.4s							
TAOE	**Nuku Hiva Isla**	70.38	170	P	P		17 40 38.0	+1.8
TAOE	**Nuku Hiva Isla**	70.38	170	P	P		17 40 36.3	+0.1
NDNU	**Novodnistrovsk**	70.43	2	P	P		17 40 35.2	-0.9
MUKU	**Mukachevo**	70.43	5	P	P		17 40 36.3	+0.2
KMPD	**K-Podol'skiy**	70.44	2	P	P		17 40 34.5	-1.7
	comp=Z,354μm,1.5s,comp=Z,4.4nm							
RETA	**Reutte**	70.45	14	*i* P	P		17 40 36.5	+0.1
	comp=Z,2μm,1.7s,SNR=493							
RETA				*i* PKiKP	PKiKP		17 46 44.7	-1.9
	comp=Z,70nm,1.2s							
RETA				*e*S	S		17 49 52.8	+7.6
	comp=Z,66nm,2.1s							
RETA				*i* P'P'			18 08 31.0	
	comp=Z,332nm,1.6s,SNR=16							
EKS2	**Erkin-Say**	70.46	327	P	P		17 40 36.4	-0.2
	SNR=521							
MOA	**Molln**	70.46	11	*i* P	P		17 40 36.3	0.0
	comp=Z,2μm,1.4s,SNR=442							
MOA				*e*S	S		17 49 51.0	+5.9
	comp=Z,109nm,1.7s							
MOA				*e*P'P'			18 08 31.4	
	comp=Z,183nm,1.7s,SNR=12							
CONA	**Conrad Observa**	70.52	10	*i* P	P		17 40 37.2	+0.4
	comp=Z,4μm,1.2s,SNR=1246							
CONA				*e*S	S		17 49 51.6	+5.7
	comp=Z,56nm,1.9s							
CONA				*e*P'P'			18 08 30.4	
	comp=Z,55nm,1.0s,SNR=6.7							
DAVA	**Damuels**	70.55	14	*i* P	P		17 40 37.2	+0.2
	comp=Z,2μm,1.9s,SNR=332							
DAVA				*i* PKiKP	PKiKP		17 46 45.2	-1.6
	comp=Z,63nm,0.9s							
DAVA				*e*S	S		17 49 52.0	+5.6
	comp=Z,108nm,1.6s							
DAVA				*e*P'P'			18 08 30.9	
	comp=Z,223nm,1.2s,SNR=8.8							
BIOA	**Bad Ischl, Aus**	70.56	12	*i* P	P		17 40 36.9	0.0
	comp=Z,2μm,1.4s,SNR=642							
BIOA				*i* PKiKP	PKiKP		17 46 45.3	-1.4
	comp=Z,102nm,1.0s							
BIOA				*e*S	S		17 49 52.0	+5.7
	comp=Z,82nm,2.2s							
BIOA				*e*P'P'			18 08 33.4	
	comp=Z,234nm,2.0s,SNR=13							
BRIU	**Brid**	70.56	5	P	P		17 40 37.1	+0.2
AGPR	**Aguadilla, PR**	70.59	87	IAMs_20	IAMs_20		18 10 54.8	
	comp=Z,149μm,22.0s							
CD2	**Chengdu**	70.62	299	P	P		17 40 36.8	-0.8
CD2				PP	PP		17 43 21.5	+7.5
CD2				S	S		17 49 47.3	-0.2
CD2				sS	sS		17 50 11.0	-0.6
CD2				ScS	ScS		17 50 38.0	+1.5
CD2				pmax	pmax			
	comp=Z,650nm,1.1s							
CD2				pmax	pmax			
	comp=Z,8μm,5.3s							
CD2				LR	LR			
	comp=Z,128μm,18.4s							
CD2				LR	LR			
	comp=Z,152μm,17.1s							
CD2				LR	LR			
	comp=Z,172μm,16.5s							
MOTA	**Moosalm**	70.63	13	*i* P	P		17 40 37.8	+0.2
	comp=Z,3μm,1.6s							
MOTA				*i* PKiKP	PKiKP		17 46 45.8	-1.2
	comp=Z,130nm,1.0s							
MOTA				*e*S	S		17 49 51.1	+3.6
	comp=Z,81nm,1.4s							
MOTA				*i* P'P'			18 08 31.0	
	comp=Z,204nm,1.0s							
BERU	**Beregovo**	70.65	5	P	P		17 40 37.7	+0.3
KSV	**Kosov**	70.66	3	P	P		17 40 35.8	-1.7
UCH	**Uchtor**	70.67	326	P	P		17 40 41.1	+2.8
	SNR=29							
WATA	**Walderalm**	70.69	13	*i* P	P		17 40 38.1	+0.2
	comp=Z,4μm,1.5s,SNR=1191							
WATA				*e*S	S		17 49 53.0	+4.9
	comp=Z,151nm,1.8s							
WATA				*e*P'P'			18 08 30.6	
	comp=Z,229nm,1.6s,SNR=10							
LESA	**Schwarzleotal**	70.72	12	*i* P	P		17 40 38.3	+0.2
	comp=Z,2μm,1.4s							
LESA				*i* PKiKP	PKiKP		17 46 46.3	-0.6
	comp=Z,131nm,0.9s							
LESA				*i* P'P'			18 08 30.3	
	comp=Z,152nm,1.9s							
KORU	**Korolevo**	70.75	5	P	P		17 40 38.2	+0.2
NSLU	**Nyzhne Selyshc**	70.76	4	P	P		17 40 38.1	0.0
SQTA	**Sankt Quirin**	70.77	13	*i* P	P		17 40 38.7	+0.4
	comp=Z,4μm,1.4s,SNR=1123							
SQTA				*e*S	S		17 49 54.5	+5.6
	comp=Z,153nm,2.4s							
SQTA				*i* P'P'			18 08 30.9	
	comp=Z,183nm,1.3s,SNR=13							
WTTA	**Wattenberg**	70.77	13	*i* P	P		17 40 38.8	+0.4
	comp=Z,5μm,1.4s,SNR=1072							
WTTA				*e*S	S		17 49 53.2	+4.1
	comp=Z,125nm,1.9s							
WTTA				*i* P'P'			18 08 30.8	
	comp=Z,258nm,2.0s,SNR=8.3							
RONA	**Rosalia, Austr**	70.78	10	*i* P	P		17 40 38.9	+0.6
	comp=Z,3μm,1.9s,SNR=530							
RONA				*i* PKiKP	PKiKP		17 46 47.1	+0.1
	comp=Z,91nm,0.9s							
RONA				*i* S	S		17 49 54.4	+5.5
	comp=Z,52nm,1.4s							
RONA				*e*P'P'			18 08 29.8	
	comp=Z,72nm,1.2s,SNR=6.2							
TRSU	**Trosnyk**	70.80	5	P	P		17 40 38.5	+0.2
DRBR	**Darabani**	70.80	2	⇓P	P		17 40 39.3	+0.9
PSZ	**Piszkesteto**	70.82	7	*eP*	P		17 40 40.1	+1.5
PSZ	**Piszkesteto**	70.82	7	⇓P	P		17 40 39.2	+0.5
PSZ	**Piszkesteto**	70.82	7	P	P		17 40 39.1	+0.5
SRO	**Srobarova**	70.82	8	*eP*	P		17 40 39.0	+0.5
SRO				pmax	pmax			
	comp=Z,4μm,1.7s							
SRO	**Srobarova**	70.82	8	*eP*	P		17 40 39.0	+0.5
SRO				*eS*	S		17 49 54.6	+5.4
DZA	**Taraz**	70.86	329	*eP*	P		17 40 38.2	-0.8
	comp=Z,1μm,1.7s							
DZA				*eS*	S		17 49 50.6	+0.6
DZA	**Taraz**	70.86	329	*eP*	P		17 40 38.1	-0.8
DZA				*eS*	S		17 49 50.6	+0.6
DZA				pmax	pmax			
	comp=Z,1μm,1.7s							
EMPR	**Esperanza - Ma**	70.87	86	IAmb	IAmb		17 40 41.2	
	comp=Z,1μm,0.9s							
EMPR				IAMs_20	IAMs_20		18 10 50.0	
	comp=Z,159μm,22.0s							
KK31	**Karatay Array**	70.87	330	*i* P	P		17 40 37.8	-1.1
AOPR	**Arecibo Observ**	70.87	87	IAMs_20	IAMs_20		18 10 50.1	
	comp=Z,114μm,22.0s							
SORM	**Soroca**	70.90	1	⇓P	P		17 40 38.2	-0.7
SORM	**Soroca**	70.90	1	P	P		17 40 38.2	-0.7
SORM	**Soroca**	70.90	1	P	P		17 40 38.0	-0.9
	comp=Z,3μm,1.7s,comp=Z,56μm							
FETA	**Feichten**	70.91	14	*i* P	P		17 40 39.8	+0.5
	comp=Z,1μm,1.3s,SNR=609							
FETA				*e*S	S		17 49 55.1	+4.5
	comp=Z,64nm,1.6s							
FETA				*e*P'P'			18 08 30.9	
	comp=Z,143nm,1.4s,SNR=15							
RAKU	**Rahkiv**	70.92	4	P	P		17 40 38.2	-0.9
UUPR	**Utuado, UPR, P**	70.97	87	IAMs_20	IAMs_20		18 14 04.7	
	comp=Z,78μm,19.0s							
AML	**Almayashu**	70.98	327	P	P		17 40 40.2	+0.1
	SNR=436							
CRPR	**Cabo Rojo, PR**	70.99	87	IAmb	IAmb		17 40 42.8	
	comp=Z,2μm,1.6s							
CRPR				IAMs_20	IAMs_20		18 15 26.3	
	comp=Z,67μm,20.0s							
DAVOX	**Davos/Dischmat**	71.05	14	LR	LR		18 15 40.2	
	comp=Z,44μm,19.2s,baz=352,slow=39							
MLPR	**Magueyes Islan**	71.05	87	IAmb	IAmb		17 40 43.2	
	comp=Z,1μm,1.2s							
MLPR				IAMs_20	IAMs_20		18 11 10.0	
	comp=Z,131μm,22.0s							
CNI2	**El Empalme, Bo**	71.08	105	*eP*	P		17 40 42.5	+2.0
BRLS	**Borolday**	71.10	330	*eP*	P		17 40 41.0	+0.6
BRLS	**Borolday**	71.10	330	*eP*	P		17 40 40.9	+0.6
BAL3X	**Bal3x, Balta**	71.11	0	P	P		17 40 39.3	-0.9
SENIN	**Lac Senin/Sane**	71.12	16	P	P		17 40 40.5	-0.1
KBA	**Koelnbreinsper**	71.13	12	*i* P	P		17 40 41.3	+0.6
	comp=Z,3μm,1.0s,SNR=1151							
KBA				*e*S	S		17 49 56.4	+3.1
	comp=Z,108nm,1.7s							
KBA				*e*P'P'			18 08 31.8	
	comp=Z,94nm,1.8s,SNR=10.0							
ARSA	**Arzberg**	71.17	10	*i* P	P		17 40 41.1	+0.5
	comp=Z,2μm,1.2s,SNR=730							
ARSA				*i* PKiKP	PKiKP		17 46 49.4	+1.9
	comp=Z,96nm,0.9s							
ARSA				*e*P'P'			18 08 30.7	
	comp=Z,69nm,1.1s							
CELP	**Cerrillos**	71.19	87	IAmb	IAmb		17 40 43.8	
	comp=Z,4μm,2.0s							
CELP				IAMs_20	IAMs_20		18 14 11.5	
	comp=Z,59μm,20.0s							
CEI	**Carei**	71.19	5	⇑P	P		17 40 41.6	+0.9
CEI	**Carei**	71.19	5	P	P		17 40 41.6	+0.9
OBIP	**Obispado Ponce**	71.20	87	IAMs_20	IAMs_20		18 14 10.9	
	comp=Z,71μm,21.0s							
GCPR	**Guaynabo City**	71.22	86	IAmb	IAmb		17 40 43.6	
	comp=Z,1μm,0.9s							
BMR	**Baia Mare**	71.25	5	⇓P	P		17 40 41.5	+0.5
BMR	**Baia Mare**	71.25	5	P	P		17 40 41.5	+0.5
TUE	**Stuetta**	71.28	15	IAmb	IAmb		17 40 50.0	
	comp=Z,2μm,1.1s							
TUE	**Stuetta**	71.28	15	P	P		17 40 42.0	+0.4
	comp=Z,6μm,1.0s,comp=Z,174μm							
BUR08	**Bucovina Ar. S**	71.33	3	IAmb	IAmb		17 40 45.6	
	comp=Z,5μm,1.9s							
BURAR	**Bucovina Array**	71.36	3	⇑P	P		17 40 42.2	+0.2
BURAR	**Bucovina Array**	71.36	3	P	P		17 40 42.1	+0.2
SJG	**San Juan**	71.36	86	P	P		17 40 40.2	-2.0
SJG	**San Juan**	71.36	86	LR	LR		18 13 44.7	
	comp=Z,204μm,19.9s,baz=325,slow=37							
SJG	**San Juan**	71.36	86	P	P		17 40 40.2	-2.0
SJG				pmax	pmax			
	comp=Z,731nm,0.9s							
SJG				MLR	MLR			
	comp=Z,236μm,21.0s							
SJG	**San Juan**	71.36	86	P	P		17 40 41.1	-1.0
SJG				PcP	PcP		17 41 01.7	+0.1
PSET	**Sete Cidades**	71.37	44	*eP*	P		17 40 44.5	+2.5
	comp=Z,3μm,1.9s							
PSET	**Sete Cidades**	71.37	44	*e*LR	LR		18 03 08.1	
	comp=Z,71μm,20.0s							
ABTA	**Abfaltersbach**	71.38	13	*i* P	P		17 40 42.0	0.0
	comp=Z,2μm,1.8s,SNR=398							
ABTA				*i* PKiKP	PKiKP		17 46 49.9	+2.0
	comp=Z,84nm,0.9s							
ABTA				*e*S	S		17 49 60.0	+4.1
	comp=Z,102nm,1.6s							
ABTA				*e*P'P'			18 08 29.2	
	comp=Z,158nm,2.2s,SNR=12							
MPLH	**Magyarpolny**	71.41	9	P	P		17 40 42.3	+0.2
	comp=Z,5μm,1.6s,comp=Z,104μm							
PDA	**Ponta Delgada**	71.46	44	*eP*	P		17 40 45.0	+2.5
	comp=Z,4μm,1.6s							
MLIR3	**Monte Lirio, C**	71.47	106	*eP*	P		17 40 46.0	+3.1
PCALD	**Caldeiras da R**	71.47	43	*eP*	P		17 40 44.7	+2.1
	comp=Z,2μm,2.0s							
CMLA	**Cha da Macela**	71.49	44	*eP*	P		17 40 44.3	+1.6
	comp=Z,4μm,1.9s							
CMLA	**Cha da Macela**	71.49	44	*e*LR	LR		18 03 15.3	
	comp=Z,71μm,20.0s							
CMLA	**Cha da Macela**	71.49	44	IAMs_20	IAMs_20		18 09 01.1	
	comp=Z,77μm,21.0s							
PDPR	**Patillas Dam,**	71.50	86	IAMs_20	IAMs_20		18 13 26.9	
	comp=Z,79μm,20.0s							
IGPR	**InterUniversit**	71.51	86	IAmb	IAmb		17 40 44.9	
	comp=Z,1μm,0.9s							
IGPR				IAMs_20	IAMs_20		18 13 25.0	
	comp=Z,165μm,20.0s							
BRU2	**Volcan**	71.53	106	IAmb	IAmb		17 40 46.9	
	comp=Z,2μm,1.6s							
BRU2	**Volcan**	71.53	106	⇓*iP*	P		17 40 43.0	-0.4
PGRON	**Lagoa das Cont**	71.53	43	*eP*	P		17 40 46.5	+3.5
	comp=Z,2μm,2.1s							
BART	**Pico Bartolome**	71.59	43	*eP*	P		17 40 45.5	+2.1
	comp=Z,3μm,1.7s							
MYKA	**Terra Mystica**	71.61	12	*i* P	P		17 40 43.1	-0.2
	comp=Z,2μm,2.1s,SNR=310							
MYKA				*i* PKiKP	PKiKP		17 46 51.3	+3.1
	comp=Z,106nm,0.9s							
MYKA				*e*S	S		17 50 00.3	+1.8
	comp=Z,86nm,1.4s							
MYKA				*i* P'P'			18 08 31.4	
	comp=Z,62nm,1.6s							
LNBQ3	**Los Naranjos,**	71.65	106	*eP*	P		17 40 45.7	+1.6
CHGR2	**Aguacate**	71.66	105	*eP*	P		17 40 45.6	+1.6
BCO2	**Palmira**	71.67	106	*eP*	P		17 40 45.9	+1.6
SOKA	**Soboth**	71.69	11	*i* P	P		17 40 44.0	+0.1
	comp=Z,3μm,1.4s,SNR=1037							
SOKA				*i* PKiKP	PKiKP		17 46 52.2	+3.8
	comp=Z,164nm,1.1s							
SOKA				*e*S	S		17 50 02.0	+2.5
	comp=Z,64nm,1.5s							
SOKA				*i* P'P'			18 08 29.5	
	comp=Z,49nm,1.0s							
PTAR3	**Potrerillos Ar**	71.71	106	*i* P	P		17 40 46.1	+1.7
PERS	**Pernice**	71.74	11	*i* P	P		17 40 44.0	-0.1
PERS				*e*			17 41 01.6	
PERS				*i* S	S		17 49 59.9	-0.1
PERS				*e*SS	SS		17 54 33.8	-1.5
MESR	**Meseseni**	71.75	5	⇓P	P		17 40 44.7	+0.6
BORR	**Bors**	71.75	6	⇑P	P		17 40 45.1	+1.0
PRED	**Cave del Predi**	71.78	12	IAmb	IAmb		17 40 51.6	
	comp=Z,2μm,1.3s							
PSOM3	**Paja de Sombre**	71.80	106	*eP*	P		17 40 46.1	+1.3
CIMO	**Cimolais**	71.80	13	P	P		17 40 43.4	-1.1
OBKA	**Obir**	71.81	11	*i* P	P		17 40 44.8	+0.2
	comp=Z,5μm,1.8s,SNR=985							
OBKA				*e*S	S		17 50 02.8	+1.8
	comp=Z,127nm,2.1s							
OBKA				*i* P'P'			18 08 29.4	
	comp=Z,51nm,2.1s							
OBKA	**Obir**	71.81	11	⇓*iP*	P		17 40 44.8	+0.2
IASR	**Iasi**	71.85	2	⇑P	P		17 40 44.7	0.0
ARC

PURM Purcari 72.52 0 P P 17 40 48.1 -0.6
comp=Z,2μm,1.3s,comp=Z,45μm
BCIP Isla Barro Col 72.54 103 IAmb IAmb 17 40 56.4
comp=Z,3μm,1.6s
BCIP IAMs_20 IAMs_20 18 15 39.9
comp=Z,67μm,21.0s
BCIP Isla Barro Col 72.54 103 ⇓*i*P P 17 40 48.2 -1.0
BCIP IAMs_20 IAMs_20 18 09 21.2
comp=Z,83μm,24.7s
FRIJ El Hiral 72.54 103 *i* P P 17 40 48.4 -0.8
CEY Cerknica 72.56 11 *i* P P 17 40 48.4 -0.6
CEY Cerknica 72.56 11 ⇓*i*P P 17 40 48.3 -0.7
SIRR Siria 72.57 6 ⇓P P 17 40 49.3 +0.3
CRES Cresnjevec Ost 72.57 11 ⇓*i*P P 17 40 48.4 -0.7
GULI GuiLin 72.59 291 P P 17 40 50.5 +1.1
GULI S S 17 50 09.3 -0.9
GULI pmax pmax
comp=Z,400nm,1.1s
GULI LR LR
comp=Z,69μm,20.7s
GULI LR LR
comp=Z,111μm,21.0s
ONER Baraj Valea Uz 72.67 3 ⇓P P 17 40 50.3 +0.6
BIR Birlad 72.76 2 ⇑P P 17 40 50.6 +0.5
BIR Birlad 72.76 2 P P 17 40 50.6 +0.5
PCAB Cabril 72.79 29 *e*P P 17 40 49.4 -1.1
PCAB A A 17 40 56.3
comp=Z,2μm,1.8s
PCAB Cabril 72.79 29 *e*PP PP 17 43 35.6 +3.4
PCAB Cabril 72.79 29 *e*LQ LQ 18 08 31.0
KSH Kashi 72.80 324 P P 17 40 53.0 +2.4
KSH PcP sP 17 41 10.0 -0.6
KSH PP PP 17 43 41.5 +9.1
KSH S SKiKP 17 50 16.5 -2.6
KSH pmax pmax
comp=Z,650nm,1.2s
KSH pmax pmax
comp=Z,17μm,11.3s
KSH LR LR
comp=Z,149μm,17.5s
KSH LR LR
comp=Z,147μm,16.8s
KSH LR LR
comp=Z,270μm,16.5s
ARRA3 Arraijan, Pana 72.80 103 *e*P P 17 40 51.3 +0.6
MESA3 La Mesa, Verag 72.80 105 *i* P P 17 40 51.0 +0.2
CALO3 Calobre, Verag 72.81 104 *e*P P 17 40 52.4 +1.6
ECAL Calabor 72.87 28 S S 17 50 15.0 +1.9
ECAL P P 17 40 50.9 -0.1
BOJS Bojanci 72.87 11 *i* P P 17 40 50.3 -0.5
BOJS *i* S S 17 50 09.6 -3.3
BOJS Bojanci 72.87 11 ⇓*i*P P 17 40 50.4 -0.4
SMRT St. Maarten 72.89 84 IAmb IAmb 17 40 52.7
comp=Z,877nm,0.8s
OZUR 72.89 3 ⇑P P 17 40 51.4 +0.4
PNME Penonome 72.90 104 ⇓*i*P P 17 40 51.9 +0.5
CNTA3 Canitas, Panam 72.94 102 *e*P P 17 40 49.9 -1.7
STIA3 Santiago, Vera 72.94 105 *e*P P 17 40 52.2 +0.6
TURR Turia 72.94 3 ⇓P P 17 40 51.7 +0.4
GHRR 72.96 2 ⇓P P 17 40 51.8 +0.4
GHRR 72.96 2 P P 17 40 51.5 +0.1
CRIS3 El Cristo, Coc 72.97 104 *i* P P 17 40 51.5 -0.3
ERBR Yeremizino-Bor 72.99 352 *e*P P 17 40 52.2 +0.7
ERBR *e*S S 17 50 14.4 +0.2
ERBR *e*SS SS 17 54 54.6 +0.4
ERBR pmax pmax
comp=E,42nm,0.8s
ERBR pmax pmax
comp=Z,4μm,1.8s
ERBR pmax pmax
comp=N,354nm,1.7s
ERBR smax smax
comp=N,16μm,5.0s
ERBR smax smax
comp=E,39μm,7.5s
ERBR MLR MLR
comp=Z,84μm,22.0s
ERBR MLR MLR
comp=N,122μm,24.0s
ERBR MLR MLR
comp=E,11μm,10.0s
PBRG Braganca 73.00 28 *e*P P 17 40 51.8 +0.1
PBRG A A 17 40 56.8
comp=E,2μm,1.6s
PBRG Braganca 73.00 28 *e*PP PP 17 43 37.4 +3.5
DEV Deva 73.01 5 ⇑P P 17 40 52.1 +0.4
DEV Deva 73.01 5 P P 17 40 52.0 +0.4
DOPR Dopca 73.01 3 ⇑P P 17 40 52.7 +1.0
TIM Timisoara 73.07 6 ⇓P P 17 40 52.6 +0.6
TIM Timisoara 73.07 6 P P 17 40 52.5 +0.6
PRMA PARMA 73.08 15 IAMs_20 IAMs_20 18 16 37.1
comp=Z,60μm,20.0s
SURR Surduc 73.10 6 ⇓P P 17 40 52.3 +0.1
GMAL Guarumal, Vera 73.11 105 ⇓*i*P P 17 40 53.0 +0.4
GZH Guangzhou 73.13 287 P P 17 40 49.0 -3.6
GZH PP PP 17 43 28.5 -7.1
GZH S S 17 50 09.0 -7.3
GZH pmax pmax
comp=Z,460nm,1.0s
GZH LR LR
comp=Z,145μm,22.1s
GZH LR LR
comp=Z,90μm,17.7s
GZH LR LR
comp=Z,243μm,22.6s
VARL Varlezi 73.13 2 ⇓P P 17 40 52.2 -0.1
VRI Vrincioaia 73.15 2 P P 17 40 52.5 +0.1
VRI Vrincioaia 73.15 2 ⇓P P 17 40 52.6 +0.1
VRI Vrincioaia 73.15 2 P P 17 40 52.5 +0.1
VRI Vrincioaia 73.15 2 P P 17 40 52.3 -0.2
comp=Z,1μm,1.7s,comp=Z,39μm
PANC Panciu 73.15 2 ⇑P P 17 40 52.7 +0.3
COVR Voineasa-Covas 73.16 3 ⇓P P 17 40 53.5 +0.9
PLOR3 Plostina Array 73.16 2 P P 17 40 52.4 -0.2
comp=Z,2μm,1.4s,comp=Z,38μm
PLOR Plostina 73.16 2 ⇓P P 17 40 52.6 0.0
PLOR Plostina 73.16 2 P P 17 40 52.7 +0.1
POLO Lamas de Olo 73.16 29 *e*P P 17 40 52.5 -0.3
POLO A A 17 40 57.6
comp=Z,793nm,1.6s
POLO Lamas de Olo 73.16 29 *e*PP PP 17 43 38.8 +3.4
POLO Lamas de Olo 73.16 29 *e*LQ LQ 18 08 29.5
COSR Cosmesti PH 73.17 2 ⇓P P 17 40 53.3 +0.7
SABA Saba 73.18 84 P P 17 40 51.6 -1.4
SABA IAmb IAmb 17 40 55.3
comp=Z,4μm,1.8s
VLDR Vladesti 73.19 1 ⇑P P 17 40 53.5 +0.9
BZS Buzias 73.21 6 P P 17 40 52.7 -0.1
BZS Buzias 73.21 6 ⇓P P 17 40 52.9 +0.1
BZS Buzias 73.21 6 P P 17 40 52.9 +0.1
GYA Guiyang 73.23 294 ⇓P P 17 40 52.8 -0.6
GYA PP PP 17 43 44.8 +8.3
GYA S S 17 50 16.0 -1.7
GYA SKS SKSac 17 50 51.0 -4.1
GYA pmax pmax
comp=Z,180nm,1.0s
GYA pmax pmax
comp=Z,9μm,4.4s
GYA LR LR
comp=Z,50μm,24.3s
GYA LR LR
comp=Z,93μm,23.3s
GYA LR LR
comp=Z,123μm,25.1s
ODBI Odobesti 73.25 2 ⇓P P 17 40 54.0 +1.0
ODBI Odobesti 73.25 2 P P 17 40 53.6 +0.5
comp=Z,714nm,0.8s,comp=Z,8μm
PVRL Vila Real 73.28 29 *e*P P 17 40 54.0 +0.7
PVRL A A 17 40 58.1
comp=Z,2μm,1.6s
PVRL Vila Real 73.28 29 *e*PP PP 17 43 40.5 +4.2
TNR Turnu Rosu 73.29 4 ⇓P P 17 40 54.4 +1.0
TNR Turnu Rosu 73.29 4 P P 17 40 54.3 +1.0
CHIT3 Chitre 73.32 104 *e*P P 17 40 54.1 +0.2
MARI3 Mariato, Verag 73.33 105 *e*P P 17 40 56.1 +2.3
SCTR Scanteiesti 73.36 1 ⇓P P 17 40 53.8 +0.1
SEUS St. Eustatius 73.42 84 IAmb IAmb 17 40 55.8
comp=Z,1μm,0.8s
BANR Banloc 73.42 6 ⇓P P 17 40 54.4 +0.4
TUDR 73.44 2 ⇓P P 17 40 54.1 0.0
TATR Tatarca 73.44 1 ⇓P P 17 40 54.2 +0.1
SLCR Slobozia Conac 73.44 2 ⇓P P 17 40 54.9 +0.8
GOF Gofitskoye 73.46 350 *ce*P P 17 40 53.3 -1.0
GOF *e*S S 17 50 19.1 -0.4

HKPS Hong Kong Po S 73.46 286 P P 17 40 55.1 +0.5
HKPS IAMs_20 IAMs_20 18 17 02.7
comp=Z,130μm,19.0s
HKPS Hong Kong Po S 73.46 286 P P 17 40 56.1 +1.5
TOTI Torti 73.46 102 *e*P P 17 40 54.4 -0.2
BISRR Bisoca 73.46 2 ⇑P P 17 40 55.2 +0.8
BISRR Bisoca 73.46 2 P P 17 40 54.8 +0.4
comp=Z,5μm,1.7s,comp=Z,122μm
IZVR Izvoarele 73.49 2 ⇓P P 17 40 54.6 +0.1
GZR Gura Zlata 73.49 5 ⇓P P 17 40 54.5 -0.1
GZR Gura Zlata 73.49 5 P P 17 40 54.5 -0.1
NEGRR Negrea 73.49 2 ⇓P P 17 40 54.7 +0.3
A051A Mrakovica 73.50 10 ⇓*i*P P 17 40 54.2 -0.5
MLR Muntele Rosu 73.50 3 P P 17 40 54.9 +0.2
MLR Muntele Rosu 73.50 3 IAMs_20 IAMs_20 18 15 54.4
comp=Z,77μm,21.0s
MLR Muntele Rosu 73.50 3 LR LR 18 12 29.0
comp=Z,62μm,21.9s,baz=8.5,slow=35
MLR Muntele Rosu 73.50 3 ⇓P P 17 40 55.4 +0.7
MLR Muntele Rosu 73.50 3 P P 17 40 55.4 +0.7
MLR Muntele Rosu 73.50 3 P P 17 40 55.0 +0.2
comp=Z,2μm,1.7s,comp=Z,42μm
SCHL Schela 73.53 2 ⇓P P 17 40 54.9 +0.3
AZU Azuero 73.53 104 ⇓*i*P P 17 40 53.5 -1.5
AZU *e*S S 17 50 22.1 +1.1
MVO Moncorvo 73.54 28 *e*P P 17 40 55.0 +0.1
MVO A A 17 40 59.9
comp=Z,2μm,1.6s
MVO Moncorvo 73.54 28 *e*PP PP 17 43 42.0 +3.4
MVO *e*S S 17 50 23.9 +3.2
MVO *e*SS SS 17 55 07.8 +4.8
MVO Moncorvo 73.54 28 *e*LQ LQ 18 08 29.6
GIUM Giurgiulesti 73.55 1 ⇑P P 17 40 55.2 +0.4
SCHLR Schela 73.56 2 ⇑P P 17 40 54.9 0.0
FRGS Fruska Gora 73.57 7 ⇓*i*P P 17 40 53.5 -1.5
ZCCA Zocca 73.57 14 IAmb IAmb 17 41 00.1
comp=Z,3μm,1.6s
NEHR Nehoiu 73.58 3 ⇓P P 17 40 56.2 +1.2
ARR Arges 73.59 4 ⇑P P 17 40 55.2 +0.1
GRER 73.64 2 ⇑P P 17 40 56.3 +1.0
FUNA Funafuti 73.68 212 IAMs_20 IAMs_20 18 06 59.2
comp=Z,136μm,22.0s
FUNA Funafuti 73.68 212 P P 17 40 58.3 +2.5
VLC Villacollemand 73.69 15 S S 17 50 23.6 +1.4
VLC P P 17 40 55.6 -0.2
PCRI3 Pocri, Los San 73.72 104 *i* P P 17 40 56.4 +0.2
MTUR Matau 73.74 4 ⇑P P 17 40 57.0 +0.9
MTUR Matau 73.74 4 P P 17 40 56.9 +0.9
PVIS Viseu 73.77 29 *e*P P 17 40 56.6 +0.4
PVIS Viseu 73.77 29 *e*PP PP 17 43 44.1 +3.6
PVIS Viseu 73.77 29 *e*LQ LQ 18 08 28.7
BLY Banja Luka 73.79 9 ⇓*i*P P 17 40 55.6 -0.6
TOSI3 Tonosi 73.79 105 *i* P P 17 40 58.0 +1.4
ANWB Willy Bob 73.84 83 IAMs_20 IAMs_20 18 12 17.6
comp=Z,126μm,22.0s
ANWB Willy Bob 73.84 83 *e*P P 17 40 55.1 -1.8
CEST Esterri de Car 73.85 22 IAmb IAmb 17 41 00.8
comp=Z,3μm,1.9s
CEST IAMs_20 IAMs_20 18 16 04.3
comp=Z,41μm,18.0s
TLCR 73.86 1 ⇓P P 17 40 56.2 -0.4
TLCR 73.86 1 P P 17 40 56.2 -0.4
CFR Carcaliu 73.86 1 ⇑P P 17 40 57.0 +0.4
CFR Carcaliu 73.86 1 P P 17 40 57.0 +0.4
PEDA3 Pedasi 73.88 104 *i* P P 17 40 57.7 +0.6
ISR Istrita 73.89 3 ⇓P P 17 40 56.5 -0.4
ISR Istrita 73.89 3 P P 17 40 56.5 -0.4
ISR Istrita 73.89 3 P P 17 40 56.4 -0.5
comp=Z,1μm,1.5s,comp=Z,26μm
ACHO3 Achotines, Los 73.91 104 ⇓*i*P P 17 40 58.6 +1.3
UPD2 Meteti 73.94 102 *i* P P 17 40 56.9 -0.5
UPD2 *e*S S 17 50 26.0 +0.4
HERR Herculane 73.99 6 ⇓P P 17 40 57.0 -0.4
A050A Klekovaca 74.00 10 ⇓*i*P P 17 40 57.2 -0.4
SIM Simferopol' 74.04 357 *e*P P 17 40 57.5 -0.2
SIM pmax pmax
comp=Z,3μm,4.2s
SIM pmax pmax
comp=Z,2μm,1.4s
LABN Labinsk 74.04 352 *e*P P 17 40 59.3 +1.6
LABN *e*S S 17 50 24.4 -1.7
LABN *e*SS SS 17 55 16.3 +6.0
LABN pmax pmax
comp=N,20nm,0.8s
LABN pmax pmax
comp=Z,2μm,1.5s
LABN pmax pmax
comp=E,70nm,0.9s
LABN smax smax
comp=E,24μm,8.7s
LABN smax smax
comp=N,40μm,10.2s
LABN MLR MLR
comp=N,104μm,22.0s
LABN MLR MLR
comp=E,95μm,21.0s
LABN MLR MLR
comp=Z,74μm,25.0s
MDVR Moldovita 74.05 6 ⇓P P 17 40 57.5 -0.3
ANN Anapa 74.07 354 *e*P P 17 40 57.1 -0.7
ANN *e*S S 17 50 24.4 -2.0
ANN pmax pmax
comp=Z,3μm,2.1s
ANN pmax pmax
comp=E,352nm,1.9s
ANN pmax pmax
comp=N,80nm,0.6s
ANN smax smax
comp=N,9μm,8.2s
ANN smax smax
comp=E,22μm,7.0s
ANN MLR MLR
comp=N,100μm,22.0s
ANN MLR MLR
comp=E,17μm,23.0s
ANN MLR MLR
comp=Z,59μm,22.0s
PLAR PLOIESTI 74.08 3 ⇓P P 17 40 57.9 0.0
STFAR Stefanesti-Arg 74.10 4 ⇑P P 17 40 59.1 +1.0
PGOR Pogoanele 74.11 2 ⇓P P 17 40 58.2 +0.2
COI Coimbra 74.13 30 IAMs_20 IAMs_20 18 12 10.7
comp=Z,94μm,22.0s
COI Coimbra 74.13 30 *e*P P 17 40 59.0 +0.7
COI A A 17 41 04.7
comp=Z,4μm,1.7s
COI Coimbra 74.13 30 *e*PP PP 17 43 47.0 +3.5
MTE Manteigas 74.15 29 IAmb IAmb 17 41 01.7
comp=Z,1μm,1.2s
MTE IAMs_20 IAMs_20 18 12 34.3
comp=Z,73μm,22.0s
MTE Manteigas 74.15 29 *e*P P 17 40 59.0 +0.5
MTE A A 17 41 03.4
comp=Z,2μm,1.6s
MTE Manteigas 74.15 29 *e*PP PP 17 43 47.5 +3.7
MTE *e*S S 17 50 31.0 +3.4
MTE *e*SS SS 17 55 19.4 +7.1
MTE Manteigas 74.15 29 *e*LQ LQ 18 08 27.5
MTE Manteigas 74.15 29 *e*P P 17 40 59.4 +0.9
TEKS Tekeris 74.16 8 ⇓*i*P P 17 40 57.9 -0.5
TPGR Topolog 74.18 1 ⇑P P 17 40 59.6 +1.1
DJES Djerdap 74.21 6 ⇑P P 17 40 59.7 +1.0
SRE Strehaia 74.24 5 ⇓P P 17 40 58.7 -0.2
SRE Strehaia 74.24 5 P P 17 40 58.7 -0.2
PCAS Casmilo, Conde 74.25 30 *e*P P 17 40 59.2 +0.2
PCAS A A 17 41 04.0
comp=Z,3μm,1.6s
PCAS Casmilo, Conde 74.25 30 *e*PP PP 17 43 45.3 +0.7
PCAS Casmilo, Conde 74.25 30 *e*LQ LQ 18 08 26.8
EJON La Jonquera 74.28 20 S S 17 50 31.9 +3.0
EJON P P 17 40 59.2 0.0
SULR 74.32 3 ⇓P P 17 40 58.7 -0.6
HARR Harsova 74.34 2 ⇑P P 17 40 59.6 +0.2
HARR Harsova 74.34 2 P P 17 40 59.6 +0.2
ANBD Bethesda, Anti 74.38 83 *e*P P 17 40 56.6 -3.4
AMRR Amara 74.41 2 ⇓P P 17 40 59.4 -0.5
AMRR Amara 74.41 2 P P 17 40 59.3 -0.5
HUMR Humele 74.44 4 ⇓P P 17 40 59.8 -0.2
LCBC Los crdobas, 74.45 100 ⇓*i*P P 17 41 00.2 -0.3
LEHL Lehliu 74.54 2 ⇓P P 17 41 00.4 -0.2
SZP Santa 74.55 278 P P 17 41 02.3 +1.3
HAPS Han Pijesak,Bl 74.58 8 ⇓*i*P P 17 41 01.1 +0.1
KVAR Kislovodsk Arr 74.58 351 LR LR 18 15 37.2
comp=Z,40μm,21.8s,baz=265,slow=37

KIV Kislovodsk 74.58 351 P P 17 41 01.3 +0.3
KIV Kislovodsk 74.58 351 P P 17 41 00.3 -0.7
KIV IAmb IAmb 17 41 25.7
comp=Z,2μm,1.0s
KIV IAMs_20 IAMs_20 18 19 19.2
comp=Z,59μm,21.0s
KIV Kislovodsk 74.58 351 *i* P P 17 41 00.7 -0.4
SNR=240
KIV Kislovodsk 74.58 351 P P 17 41 00.5 -0.5
KIV S S 17 50 32.5 +0.1
KIV Kislovodsk 74.58 351 *e*P P 17 41 00.6 -0.4
KIV *e* 17 43 46.8
KIV *e*S S 17 50 32.3 -0.1
KIV *e*SS SS 17 55 20.3 +1.6
KIV pmax pmax
comp=Z,2μm,4.1s
KIV pmax pmax
comp=Z,976nm,1.1s
KIV Kislovodsk 74.58 351 P P 17 41 00.5 -0.5
comp=Z,1μm,1.1s,comp=Z,20μm
PUNG Punghina 74.61 5 ⇑P P 17 41 00.3 -0.7
BUC1 Bucharest 74.65 3 ⇑P P 17 41 01.0 -0.2
BUC1 Bucharest 74.65 3 P P 17 41 01.0 -0.2
PSBE So Bento 74.69 30 *e*P P 17 41 01.8 +0.2
PSBE A A 17 41 06.5
comp=Z,2μm,1.6s
PCBR Castelo Branco 74.70 29 *e*P P 17 41 01.6 0.0
PCBR A A 17 41 07.0
comp=Z,2μm,1.8s
PCBR Castelo Branco 74.70 29 *e*PP PP 17 43 51.6 +3.3
PCBR Castelo Branco 74.70 29 *e*LQ LQ 18 08 26.7
CVDA Cernavoda 74.70 1 ⇑P P 17 41 02.2 +0.7
SGRR Singureni 74.77 3 ⇓P P 17 41 01.7 -0.3
GAR Garm 74.79 328 IAmb IAmb 17 41 12.3
comp=Z,2μm,1.0s
KBZ Khabaz 74.79 350 P P 17 41 02.0 0.0
comp=Z,412nm,0.8s,baz=351,slow=1.8,SNR=104
KBZ S S 17 50 34.9 +0.5
comp=Z,23nm,1.2s,baz=270,slow=23,SNR=1.1
KBZ PKKP PKKPdf 18 00 09.3 +1.5
comp=Z,8.7nm,0.9s,baz=135,slow=2.9,SNR=3.6
KBZ PKPPKP P'P'df 18 08 22.9 -10
comp=Z,12nm,1.0s,baz=119,slow=5.3,SNR=4.6
KBZ LR LR 18 15 50.0
comp=Z,48μm,21.5s,baz=5.5,slow=37
comp=Z,412nm,0.8s
SHA1 Shidzhatmaz 74.80 351 *d* *i*P P 17 41 02.4 0.0
BBLS Lazi&#263i 74.83 8 ⇓*i*P P 17 41 02.6 +0.2
ICOR Ion Corvin 74.91 2 ⇓P P 17 41 03.2 +0.4
EFOR EFORIE 74.96 1 ⇑P P 17 41 04.5 +1.5
NCK Nalchik 74.96 350 *d* *i*P P 17 41 03.2 +0.1
NCK pmax pmax
comp=Z,2μm,0.8s
NCK MLR MLR
comp=Z,52μm,20.0s
ABD La Joyeuse, An 75.01 83 IAMs_20 IAMs_20 18 14 51.7
comp=Z,143μm,22.0s
GDHS Morne Mazeau, 75.05 84 IAmb IAmb 17 41 06.1
comp=Z,2μm,1.1s
GDHS IAMs_20 IAMs_20 18 13 42.4
comp=Z,143μm,22.0s
RUDO Rudo 75.07 8 *e*P P 17 41 03.0 -0.7
PMAFR Mafra 75.10 31 S S 17 50 40.2 +2.0
PMAFR P P 17 41 03.9 -0.1
FDMO Fiordimonte 75.11 13 IAmb IAmb 17 41 11.9
comp=Z,2μm,1.2s
PMRV Marv??o 75.11 29 *e*P P 17 41 03.4 -0.6
PMRV A A 17 41 09.5
comp=Z,2μm,1.7s
PMRV *e*S S 17 50 41.9 +3.7
PMRV *e*SS SS 17 55 35.9 +9.1
PMRV Marv??o 75.11 29 *e*LQ LQ 18 08 25.4
MAK Makhachkala 75.11 347 *d* *i*P P 17 41 06.1 +2.2
MAK *i* 17 43 54.5
MAK *e*PPP PPP 17 45 35.9
MAK *e*SSS SSS 17 58 37.7
MAK pmax pmax
comp=Z,3μm,1.7s
MAK pmax pmax
comp=Z,13μm,2.3s
HATO Hato, Curacao 75.12 92 IAmb IAmb 17 41 07.2
comp=Z,2μm,0.9s
SOC Sochi 75.16 353 *e*P P 17 41 02.9 -1.3
SOC *e* 17 43 51.9
SOC *e*PPP PPP 17 45 41.9
SOC *e*S S 17 50 34.7 -3.9
SOC pmax pmax
comp=Z,918nm,0.9s
SOC MLR MLR
comp=Z,68μm,21.0s
UCM Universidad Co 75.19 26 S S 17 50 41.0 +1.9
UCM P P 17 41 04.8 +0.3
BOVS Bovan 75.19 6 ⇓P P 17 41 03.7 -0.7
VALD Valchedram 75.22 5 *e*P P 17 41 04.2 -0.3
MANR Mangalia 75.22 1 ⇓P P 17 41 04.9 +0.4
PMTG Montargil 75.25 30 *e*P P 17 41 04.1 -0.7
PMTG A A 17 41 09.0
comp=Z,2μm,1.5s
PMTG Montargil 75.25 30 *e*LQ LQ 18 08 26.1
BLKB Belogradchik 75.25 5 ⇓P P 17 41 04.2 -0.6
PTAC Punta Ardita, 75.26 102 ⇓*i*P P 17 41 02.3 -2.8
VSLR Vesyoloye 75.26 352 *i* P P 17 41 04.9 +0.1
VSLR pmax pmax
comp=Z,782nm,1.0s
VSLR MLR MLR
comp=Z,42μm,19.0s
CBE Ff, Capester 75.30 83 IAmb IAmb 17 41 07.1
comp=Z,1μm,0.9s
CBE IAMs_20 IAMs_20 18 16 30.4
comp=Z,156μm,22.0s
NRCA Norcia 75.31 13 P P 17 41 04.6 -0.6
NRCA IAmb IAmb 17 41 10.0
comp=Z,3μm,1.3s
PZH PanZhiHua 75.32 298 P P 17 41 04.3 -1.2
PZH sP pP 17 41 21.5 +1.6
PZH PP PP 17 43 57.3 +3.1
PZH S S 17 50 40.0 -1.1
PZH SKS SKKSac 17 51 11.8 +0.7
PZH SS SS 17 55 31.5 +0.6
PZH pmax pmax
comp=Z,880nm,1.1s
PZH pmax pmax
comp=Z,18μm,9.6s
PZH LR LR
comp=Z,108μm,18.6s
PZH LR LR
comp=Z,88μm,17.6s
PZH LR LR
comp=Z,173μm,18.6s
GDSD La Dsirade Is 75.35 83 IAmb IAmb 17 41 07.9
comp=Z,2μm,1.3s
GDSD IAMs_20 IAMs_20 18 14 51.7
comp=Z,117μm,22.0s
LIS Lisbon 75.36 31 *e*P P 17 41 05.2 -0.2
LIS A A 17 41 11.0
comp=Z,3μm,2.1s
LIS Lisbon 75.36 31 *e*P P 17 41 05.3 -0.1
LIS *e*S S 17 50 40.3 -0.6
LIS IAMs_20 IAMs_20 18 14 23.7
comp=Z,65μm,19.7s
LIS Lisbon 75.36 31 *e*P P 17 41 05.3 -0.1
LIS *e*S S 17 50 40.3 -0.6
PLE Pljevlja 75.36 8 ⇓*i*P P 17 41 05.9 +0.4
SIMJ Simiganj 75.44 329 P P 17 41 04.8 -1.2
SIMJ IAmb IAmb 17 41 15.9
comp=Z,1μm,0.8s
UPM Unac-Piva 75.45 8 ⇓*i*P P 17 41 05.6 -0.5
UPM Unac-Piva 75.45 8 ⇓*i*P P 17 41 05.6 -0.5
SJES Sjenica 75.47 8 ⇓*i*P P 17 41 06.2 +0.1
TBG Guadaloupe-3 75.47 84 *e*P P 17 41 03.7 -2.6
MPEP Malo Peshtene 75.57 5 *e*P P 17 41 05.8 -0.7
PESTR Estremoz 75.59 29 IAmb IAmb 17 41 10.5
comp=Z,4μm,1.9s
PESTR IAMs_20 IAMs_20 18 13 16.6
comp=Z,84μm,21.0s
PESTR Estremoz 75.59 29 *e*P P 17 41 06.6 -0.2
PESTR A A 17 41 11.3
comp=Z,2μm,1.7s
PESTR Estremoz 75.59 29 *e*PP PP 17 43 58.3 +2.3
PESTR Estremoz 75.59 29 *e*LQ LQ 18 08 25.1
PESTR Estremoz 75.59 29 S S 17 50 46.3 +2.7
PESTR P P 17 41 06.6 -0.2
CAMP Campotosto 75.64 13 IAMs_20 IAMs_20 18 19 44.6
comp=Z,49μm,19.0s

ESBB	**Sonseca Array**	**75.64**	**26**	IAmb	IAmb	17 41 12.2	
	comp=Z,1μm,1.1s						
ESDC	**Sonseca Array**	**75.64**	**26**	P	**P**	**17 41 07.3**	**+0.2**
	comp=Z,480nm,0.9s,baz=340,slow=5.1,SNR=526						
ESDC				PKKPbc	**PKKPbc**	**18 00 24.9**	**+3.1**
	comp=Z,7.1nm,0.9s,baz=168,slow=0.6,SNR=11						
ESDC				PKPPKP	**P'P'df**	**18 08 24.1**	**-7.7**
	comp=Z,15nm,0.9s,baz=181,slow=0.8,SNR=10						
ESDC				LR	LR	18 16 35.9	
	comp=Z,50μm,20.9s,baz=342,slow=37						
	comp=Z,480nm,0.9s						
PAB	**San Pablo**	**75.68**	**27**	P	**P**	**17 41 07.1**	**-0.3**
PAB	**San Pablo**	**75.68**	**27**	IAms_20	IAms_20	18 15 42.9	
	comp=Z,49μm,20.0s						
PAB	**San Pablo**	**75.68**	**27**	P	**P**	**17 41 07.7**	**+0.3**
STON	**Ston**	**75.69**	**9**	||*iP*	**P**	**17 41 06.3**	**-0.9**
BRY	**Bratogost**	**75.73**	**9**	||*iP*	**P**	**17 41 07.0**	**-0.7**
BRY	**Bratogost**	**75.73**	**9**	||*iP*	**P**	**17 41 06.9**	**-0.7**
SZH	**Strazhitsa**	**75.73**	**3**	*eP*	**P**	**17 41 06.7**	**-0.8**
NEF	**NEVSHA**	**75.76**	**2**	*eP*	**P**	**17 41 07.7**	**+0.1**
UREC	**San Jos de Ur**	**75.81**	**100**	||*iP*	**P**	**17 41 06.9**	**-1.3**
EVO	**Evora**	**75.81**	**30**	*eP*	**P**	**17 41 08.0**	**0.0**
EVO				A	A	17 41 12.6	
	comp=Z,2μm,1.6s						
EVO	**Evora**	**75.81**	**30**	*e*PP	**PP**	**17 44 00.8**	**+3.0**
EVO	**Evora**	**75.81**	**30**	*e*LQ	LQ	18 08 25.7	
EVO	**Evora**	**75.81**	**30**	S	**S**	**17 50 47.8**	**+1.8**
EVO				P	**P**	**17 41 08.0**	**0.0**
EBAD	**Badajoz**	**75.84**	**29**	S	**S**	**17 50 48.0**	**+1.7**
EBAD				P	**P**	**17 41 08.1**	**-0.1**
KOME	**Kolasin**	**75.85**	**8**	||*iP*	**P**	**17 41 07.7**	**-0.6**
IVA	**Berane**	**75.85**	**8**	||*iP*	**P**	**17 41 08.1**	**-0.2**
PVL	**Pavlikeni**	**75.85**	**4**	*eP*	**P**	**17 41 07.8**	**-0.3**
PRD	**Provadia**	**75.86**	**2**	*eP*	**P**	**17 41 08.4**	**+0.2**
NKME	**Niksic**	**75.89**	**8**	||*iP*	**P**	**17 41 07.8**	**-0.7**
TREB	**Trebinje**	**75.90**	**9**	*eP*	**P**	**17 41 07.8**	**-0.6**
DSLB	**Salisbury**	**75.94**	**84**	*eP*	**P**	**17 41 07.1**	**-2.0**
ELND	**Elena**	**76.06**	**3**	||P	**P**	**17 41 09.0**	**-0.4**
PMOR	**Pomariorio Ree**	**76.07**	**178**	*eP*	**P**	**17 41 10.9**	**+1.4**
	comp=Z,1μm,1.2s						
KMI	**Kunming**	**76.10**	**297**	||P	**P**	**17 41 08.8**	**-1.3**
KMI				PP	**PP**	**17 44 06.3**	**+5.4**
KMI				S	**S**	**17 50 46.0**	**-4.0**
KMI				pmax	pmax		
	comp=Z,250nm,1.3s						
KMI				pmax	pmax		
	comp=Z,19μm,12.8s						
KMI				LR	LR		
	comp=Z,55μm,22.3s						
KMI				LR	LR		
	comp=Z,96μm,18.6s						
KMI				LR	LR		
	comp=Z,148μm,33.2s						
CEME	**Cevo**	**76.11**	**8**	||*iP*	**P**	**17 41 09.0**	**-0.7**
PVY	**Plav**	**76.13**	**8**	||*iP*	**P**	**17 41 09.2**	**-0.7**
HCY	**Herceg Novi**	**76.18**	**9**	||*iP*	**P**	**17 41 08.9**	**-1.1**
HCY	**Herceg Novi**	**76.18**	**9**	||*iP*	**P**	**17 41 09.0**	**-1.1**
PDG	**Podgorica**	**76.25**	**8**	P	**P**	**17 41 10.2**	**-0.2**
PDG	**Podgorica**	**76.25**	**8**	IAmb	IAmb	17 41 13.5	
	comp=Z,2μm,1.2s						
PDG	**Podgorica**	**76.25**	**8**	||*iP*	**P**	**17 41 09.7**	**-0.7**
PDG	**Podgorica**	**76.25**	**8**	||*iP*	**P**	**17 41 09.9**	**-0.5**
VTS	**Vitosha**	**76.28**	**5**	*eP*	**P**	**17 41 10.7**	**-0.1**
VAH	**Vaihoa**	**76.31**	**178**	*eP*	**P**	**17 41 12.0**	**+1.1**
	comp=Z,2μm,1.0s						
PBEJ	**Beja**	**76.33**	**30**	*eP*	**P**	**17 41 10.7**	**-0.3**
PBEJ				A	A	17 41 15.5	
	comp=Z,1μm,1.6s						
PBEJ	**Beja**	**76.33**	**30**	*e*PP	**PP**	**17 44 05.7**	**+3.5**
PBEJ	**Beja**	**76.33**	**30**	*e*LQ	LQ	18 08 25.6	
ECHE	**Chera**	**76.34**	**24**	S	**S**	**17 50 54.1**	**+2.3**
ECHE				P	**P**	**17 41 11.3**	**+0.2**
BUM	**Brajici-Budva**	**76.35**	**8**	||*iP*	**P**	**17 41 10.2**	**-0.9**
PBAR	**Barrancos**	**76.39**	**29**	*eP*	**P**	**17 41 11.3**	**0.0**
PBAR				A	A	17 41 16.9	
	comp=Z,4μm,1.6s						
PBAR	**Barrancos**	**76.39**	**29**	*e*PP	**PP**	**17 44 05.8**	**+3.2**
PBAR	**Barrancos**	**76.39**	**29**	*e*LQ	LQ	18 08 25.1	
PBAR	**Barrancos**	**76.39**	**29**	S	**S**	**17 50 53.4**	**+1.1**
PBAR				P	**P**	**17 41 11.3**	**0.0**
MESJ	**Messejana**	**76.42**	**30**	IAms_20	IAms_20	18 13 06.5	
	comp=Z,99μm,21.0s						
MESJ	**Messejana**	**76.42**	**30**	*eP*	**P**	**17 41 11.2**	**-0.2**
MESJ				A	A	17 41 16.0	
	comp=Z,1μm,1.6s						
MESJ	**Messejana**	**76.42**	**30**	*e*PP	**PP**	**17 44 04.3**	**+1.4**
MESJ	**Messejana**	**76.42**	**30**	*e*LQ	LQ	18 08 21.4	
MESJ	**Messejana**	**76.42**	**30**	*eP*	**P**	**17 41 11.3**	**-0.2**
MESJ				*e*S	**S**	**17 50 52.2**	**-0.5**
MESJ				IAMs_20	IAMs_20	18 13 01.0	
	comp=Z,99μm,21.4s						
MESJ	**Messejana**	**76.42**	**30**	*eP*	**P**	**17 41 11.3**	**-0.2**
MESJ				*e*S	**S**	**17 50 52.2**	**-0.5**
PGB	**Panagyurishte**	**76.42**	**4**	*eP*	**P**	**17 41 11.4**	**-0.1**
DRME	**Dracevica, Mon**	**76.48**	**8**	||*iP*	**P**	**17 41 11.3**	**-0.5**
AKT	**Akhty**	**76.55**	**346**	*eP*	**P**	**17 41 11.9**	**-0.4**
AKT				*e*		17 41 30.8	
AKT				*e*		17 44 07.3	
AKT				*e*S	**S**	**17 50 52.2**	**-2.0**
AKT				*e*		17 51 33.7	
AKT				pmax	pmax		
	comp=Z,11μm,2.5s						
AKT				pmax	pmax		
	comp=Z,1μm,1.0s						
AKT				pmax	pmax		
	comp=N,378nm,0.8s						
AKT				pmax	pmax		
	comp=E,230nm,1.0s						
AKT				smax	smax		
	comp=N,4μm,3.8s						
AKT				smax	smax		
	comp=E,37μm,9.9s						
AKT				MLR	MLR		
	comp=Z,108μm,23.0s						
AKT				MLR	MLR		
	comp=N,85μm,22.0s						
AKT				MLR	MLR		
	comp=E,126μm,23.0s						
PTEO	**Sao Teotonio**	**76.58**	**31**	*eP*	**P**	**17 41 12.3**	**-0.1**
PTEO				A	A	17 41 17.8	
	comp=E,3μm,1.7s						
PTEO	**Sao Teotonio**	**76.58**	**31**	*e*PP	**PP**	**17 44 07.7**	**+3.5**
PTEO	**Sao Teotonio**	**76.58**	**31**	*e*LQ	LQ	18 08 23.1	
TBLG	**Delisi**	**76.61**	**349**	P	**P**	**17 41 12.6**	**+0.1**
FDF	**Fort de France**	**76.67**	**84**	IAmb	IAmb	17 41 15.7	
	comp=Z,1μm,1.1s						
FDF				IAMs_20	IAMs_20	18 14 33.8	
	comp=Z,153μm,22.0s						
PUK	**Puka**	**76.67**	**8**	IAmb	IAmb	17 41 17.5	
	comp=Z,2μm,1.2s						
ULC	**Ulcinj**	**76.71**	**8**	||*iP*	**P**	**17 41 12.3**	**-0.8**
LSA	**Lhasa**	**76.74**	**308**	P	**P**	**17 41 12.8**	**-1.2**
LSA				IAmb	IAmb	17 41 22.0	
	comp=Z,826nm,0.7s						
LSA				pP	**pP**	**17 41 28.5**	**+0.1**
LSA	**Lhasa**	**76.74**	**308**	P	**P**	**17 41 14.8**	**+0.8**
LSA	**Lhasa**	**76.74**	**308**	P	**P**	**17 41 14.8**	**+0.8**
LSA				LR	LR		
	comp=Z,248μm,17.6s						
LSA				LR	LR		
	comp=Z,900μm,46.7s						
ILAM	**Ilet Lapin Mar**	**76.77**	**84**	*eP*	**P**	**17 41 10.3**	**-3.4**
ILAM	**Ilet Lapin Mar**	**76.77**	**84**	*eP*	**P**	**17 41 11.7**	**-2.0**
PLD	**Plovdiv**	**76.81**	**4**	P	**P**	**17 41 13.5**	**-0.1**
MORF	**Marmelete**	**76.82**	**31**	P	**P**	**17 41 13.5**	**-0.3**
MORF				IAmb	IAmb	17 41 18.6	
	comp=Z,1μm,1.1s						
MORF	**Marmelete**	**76.82**	**31**	*eP*	**P**	**17 41 13.8**	**-0.1**
MORF				A	A	17 41 19.2	
	comp=Z,3μm,1.8s						
MORF	**Marmelete**	**76.82**	**31**	*e*PP	**PP**	**17 44 09.0**	**+2.6**
MORF	**Marmelete**	**76.82**	**31**	*e*LQ	LQ	18 08 26.7	
MORF	**Marmelete**	**76.82**	**31**	*eP*	**P**	**17 41 13.7**	**-0.1**
MORF				*e*S	**S**	**17 50 56.5**	**-0.7**
MORF				IAMs_20	IAMs_20	18 12 52.5	
	comp=E,57μm,19.3s						
MORF	**Marmelete**	**76.82**	**31**	*eP*	**P**	**17 41 13.7**	**-0.1**
MORF				*e*S	**S**	**17 50 56.5**	**-0.7**
ECAB	**El Cabril**	**76.85**	**28**	S	**S**	**17 51 00.3**	**+2.8**
ECAB				P	**P**	**17 41 14.1**	**+0.1**
EMIN	**Mina Concepcio**	**76.86**	**29**	S	**S**	**17 50 59.5**	**+2.0**
EMIN				P	**P**	**17 41 14.3**	**+0.3**
ETOS	**Mallorca**	**76.87**	**21**	S	**S**	**17 50 58.8**	**+1.2**
ETOS				P	**P**	**17 41 13.9**	**-0.1**
EGRO	**El Granado**	**76.89**	**30**	S	**S**	**17 50 59.8**	**+2.0**
EGRO				P	**P**	**17 41 14.4**	**+0.3**
BIM	**Bigot**	**76.90**	**84**	*eP*	**P**	**17 41 10.6**	**-3.9**
AFI	**Afiamalu**	**76.94**	**202**	P	**P**	**17 41 14.4**	**-0.1**
AFI	**Afiamalu**	**76.94**	**202**	IAMs_20	IAMs_20	18 07 49.5	
	comp=Z,65μm,22.0s						
AFI	**Afiamalu**	**76.94**	**202**	P	**P**	**17 41 16.8**	**+2.2**
AFI	**Afiamalu**	**76.94**	**202**	P	**P**	**17 41 14.4**	**-0.1**
AFI				pmax	pmax		
	comp=Z,641nm,0.9s						
AFI				MLR	MLR		
	comp=Z,65μm,22.0s						
PFVI	**Vila Bisbo**	**76.94**	**31**	IAmb	IAmb	17 41 19.3	
	comp=Z,982nm,1.0s						
PFVI	**Vila Bisbo**	**76.94**	**31**	*eP*	**P**	**17 41 14.4**	**-0.1**
PFVI				A	A	17 41 19.2	
	comp=Z,2μm,1.4s						
PFVI	**Vila Bisbo**	**76.94**	**31**	*e*PP	**PP**	**17 44 09.5**	**+2.2**
PFVI	**Vila Bisbo**	**76.94**	**31**	S	**S**	**17 50 59.8**	**+1.4**
PFVI				P	**P**	**17 41 14.4**	**-0.1**
EADA	**Adamuz**	**76.95**	**27**	S	**S**	**17 51 02.3**	**+3.7**
EADA				P	**P**	**17 41 15.0**	**+0.4**
PVAQ	**Vaqueiros**	**76.96**	**30**	IAmb	IAmb	17 41 19.6	
	comp=Z,933nm,1.1s						
PVAQ				IAMs_20	IAMs_20	18 13 33.6	
	comp=Z,91μm,22.0s						
PVAQ	**Vaqueiros**	**76.96**	**30**	*eP*	**P**	**17 41 14.8**	**+0.3**
PVAQ				A	A	17 41 20.3	
	comp=Z,3μm,1.8s						
PVAQ	**Vaqueiros**	**76.96**	**30**	*e*PP	**PP**	**17 44 10.6**	**+3.2**
PVAQ				*e*S	**S**	**17 51 02.7**	**+4.2**
PVAQ				*e*SS	SS	17 56 22.7	+28
PVAQ	**Vaqueiros**	**76.96**	**30**	*e*LQ	LQ	18 08 24.5	
PVAQ	**Vaqueiros**	**76.96**	**30**	S	**S**	**17 51 00.7**	**+2.1**
PVAQ				P	**P**	**17 41 14.8**	**+0.3**
MAHO	**Mahon**	**76.99**	**20**	IAmb	IAmb	17 41 18.6	
	comp=Z,4μm,1.9s						
MAHO				IAMs_20	IAMs_20	18 17 24.6	
	comp=Z,98μm,21.0s						
MAHO	**Mahon**	**76.99**	**20**	S	**S**	**17 50 59.9**	**+1.1**
MAHO				P	**P**	**17 41 14.5**	**-0.1**
BATM	**Batumi**	**77.00**	**351**	||P	**P**	**17 41 15.8**	**+1.1**
BATM	**Batumi**	**77.00**	**351**	P	**P**	**17 41 15.8**	**+1.1**
LKP	**Lekhapani**	**77.02**	**304**	*eP*	**P**	**17 41 14.9**	**-0.1**
LKP				*ex*	x	17 44 04.8	
LKP				*e*S	**S**	**17 50 59.5**	**0.0**
BZK	**Bozkurt**	**77.03**	**357**	P	**P**	**17 41 14.9**	**+0.1**
BZK	**Bozkurt**	**77.03**	**357**	IAmb	IAmb	17 41 47.9	
	comp=Z,2μm,0.8s						
BZK	**Bozkurt**	**77.03**	**357**	P	**P**	**17 41 14.4**	**-0.4**
	comp=Z,728nm,1.5s,comp=Z,22μm						
AKH	**Akhalkalaki**	**77.04**	**350**	P	**P**	**17 41 15.4**	**+0.2**
KKB	**Krupnik**	**77.05**	**5**	*eP*	**P**	**17 41 15.0**	**0.0**
PBDV	**Barranco-do-Ve**	**77.06**	**30**	*eP*	**P**	**17 41 15.7**	**+0.6**
PBDV				A	A	17 41 20.3	
	comp=Z,3μm,1.6s						
PBDV	**Barranco-do-Ve**	**77.06**	**30**	*e*PP	**PP**	**17 44 09.7**	**+1.4**
PBDV	**Barranco-do-Ve**	**77.06**	**30**	*e*LQ	LQ	18 08 24.4	
MPOM	**Morne Pois Mar**	**77.06**	**84**	IAmb	IAmb	17 41 16.9	
	comp=Z,1μm,1.1s						
MPOM				IAMs_20	IAMs_20	18 14 56.0	
	comp=Z,131μm,22.0s						
PEHC	**Pehcevo**	**77.10**	**5**	||*iP*	**P**	**17 41 15.4**	**0.0**
CIDE	**Kastamonu/Cide**	**77.13**	**358**	||P	**P**	**17 41 16.6**	**+1.2**
BCA	**Borcka**	**77.16**	**351**	P	**P**	**17 41 14.9**	**-0.7**
EDRB	**Edirne**	**77.16**	**2**	P	**P**	**17 41 15.7**	**+0.1**
EDRB	**Edirne**	**77.16**	**2**	P	**P**	**17 41 15.2**	**-0.4**
SDV	**Santo Domingo**	**77.16**	**95**	P	**P**	**17 41 16.1**	**-0.1**
SDV				IAmb	IAmb	17 41 19.2	
	comp=Z,1μm,1.0s						
SDV				IAMs_20	IAMs_20	18 16 19.3	
	comp=Z,147μm,22.0s						
SDV	**Santo Domingo**	**77.16**	**95**	LR	LR	18 18 33.9	
	comp=Z,82μm,19.3s,baz=344,slow=38						
SDV	**Santo Domingo**	**77.16**	**95**	*eP*	**P**	**17 41 16.2**	**0.0**
KURC	**Kurucasile-Bar**	**77.17**	**358**	P	**P**	**17 41 16.2**	**+0.6**
PAOL	**Paolisi**	**77.24**	**12**	IAmb	IAmb	17 41 24.9	
	comp=Z,3μm,1.6s						
TGY	**Tagaytay City**	**77.30**	**276**	LR	LR	18 17 55.0	
	comp=Z,27μm,19.7s,baz=10.0,slow=38						
DIKM	**Dikmen**	**77.30**	**356**	P	**P**	**17 41 17.6**	**+1.2**
DIKM	**Dikmen**	**77.30**	**356**	||P	**P**	**17 41 17.1**	**+0.7**
DIKM	**Dikmen**	**77.30**	**356**	P	**P**	**17 41 16.7**	**+0.3**
	comp=Z,2μm,0.8s,comp=Z,35μm						
EIBI	**Ibiza**	**77.33**	**22**	S	**S**	**17 51 05.0**	**+2.5**
EIBI				P	**P**	**17 41 17.2**	**+0.6**
KDZ	**Kurdzhali**	**77.34**	**4**	P	**P**	**17 41 16.9**	**+0.3**
TIR	**Tirane**	**77.36**	**8**	IAmb	IAmb	17 41 21.1	
	comp=Z,1μm,1.0s						
TIR				IAMs_20	IAMs_20	18 15 08.5	
	comp=Z,55μm,21.0s						
TIR	**Tirane**	**77.36**	**8**	P	**P**	**17 41 16.1**	**-0.6**
TIR	**Tirane**	**77.36**	**8**	⇑P	**P**	**17 41 17.0**	**+0.3**
TIR	**Tirane**	**77.36**	**8**	P	**P**	**17 41 17.0**	**+0.3**
TIR	**Tirane**	**77.36**	**8**	P	**P**	**17 41 16.2**	**-0.5**
	comp=Z,1μm,1.3s,comp=Z,30μm						
MMB	**Musomishta**	**77.37**	**5**	*eP*	**P**	**17 41 17.3**	**+0.5**
SLBI	**Saint Lucia, B**	**77.37**	**84**	*eP*	P	17 41 10.1	-7.0
PHSR	**Pinarhisar**	**77.39**	**2**	P	**P**	**17 41 17.3**	**+0.4**
ARNO	**Arenosillo**	**77.48**	**29**	S	**S**	**17 51 06.5**	**+2.3**
SLAC	**Saint Lucia, A**	**77.52**	**84**	*eP*	P	17 41 12.4	-5.5
VAY	**Valandovo**	**77.54**	**6**	||*iP*	**P**	**17 41 17.8**	**+0.1**
CTYL	**Yalikoy Yolu**	**77.56**	**1**	P	**P**	**17 41 18.2**	**+0.4**
CTYL	**Yalikoy Yolu**	**77.56**	**1**	P	**P**	**17 41 17.7**	**-0.1**
	comp=Z,2μm,1.6s,comp=Z,36μm						
CHOM	**Cayeli-Rize**	**77.57**	**352**	P	**P**	**17 41 17.7**	**-0.2**
NVR	**Nevrokopi**	**77.57**	**5**	P	**P**	**17 41 18.7**	**+0.7**
ZIRO	**ZIRO**	**77.64**	**305**	*eP*	**P**	**17 41 18.7**	**-0.1**
ZIRO				*e*S	**S**	**17 51 05.1**	**-1.5**
OHR	**Ohrid**	**77.66**	**7**	||*iP*	**P**	**17 41 18.5**	**+0.1**
KNT	**Kendrikon**	**77.72**	**5**	P	**P**	**17 41 19.1**	**+0.4**
KNT	**Kendrikon**	**77.72**	**5**	P	**P**	**17 41 18.5**	**-0.2**
KDZE	**Karadeniz Ereo**	**77.72**	**359**	P	**P**	**17 41 18.3**	**-0.4**
KDZE	**Karadeniz Ereo**	**77.72**	**359**	||P	**P**	**17 41 18.4**	**-0.4**
KTUT	**Trabzon**	**77.74**	**352**	P	**P**	**17 41 17.9**	**-1.0**
KLYT	**Kilyos**	**77.79**	**1**	P	**P**	**17 41 19.3**	**+0.2**
KLYT	**Kilyos**	**77.79**	**1**	P	**P**	**17 41 19.0**	**-0.1**
	comp=Z,3μm,1.4s,comp=Z,51μm						
SRS	**Serrai**	**77.79**	**5**	P	**P**	**17 41 19.1**	**-0.1**
SRS	**Serrai**	**77.79**	**5**	P	**P**	**17 41 18.7**	**-0.5**
CTKS	**Kestanelik-??a**	**77.80**	**1**	P	**P**	**17 41 19.5**	**+0.4**
SLVT	**Silivri**	**77.80**	**1**	P	**P**	**17 41 19.7**	**+0.5**
MATE	**Matera**	**77.82**	**10**	P	**P**	**17 41 19.2**	**-0.1**
MATE	**Matera**	**77.82**	**10**	*eP*	**P**	**17 41 20.0**	**+0.8**
RDO	**Rodhopi**	**77.83**	**3**	P	**P**	**17 41 20.1**	**+0.8**
RDO	**Rodhopi**	**77.83**	**3**	IAMs_20	IAMs_20	18 16 30.9	
	comp=Z,54μm,22.0s						
RDO	**Rodhopi**	**77.83**	**3**	P	**P**	**17 41 19.3**	**0.0**
KVT	**Kavak**	**77.84**	**355**	P	**P**	**17 41 20.0**	**+0.5**
KARS	**Kars**	**77.86**	**350**	P	**P**	**17 41 20.7**	**+1.0**
BGKT	**Bogazkoy**	**77.86**	**1**	P	**P**	**17 41 19.0**	**-0.5**
ESPY	**Espiye-Giresun**	**77.88**	**353**	P	**P**	**17 41 19.1**	**-0.5**
UKOP	**Uzunkopru-Edir**	**77.88**	**3**	P	**P**	**17 41 20.4**	**+0.8**
SVB	**Belmont**	**77.89**	**85**	*eP*	P	17 41 14.6	-5.5
SILT	**Sile**	**77.89**	**0**	P	**P**	**17 41 20.5**	**+0.8**
CRLT	**Corlu**	**77.90**	**2**	P	**P**	**17 41 20.7**	**+1.0**
ESPR	**Espera**	**77.91**	**29**	S	**S**	**17 51 11.9**	**+3.1**
ESPR				P	**P**	**17 41 20.6**	**+0.8**
KAVA	**Kavala**	**77.95**	**4**	P	**P**	**17 41 19.9**	**-0.1**
TNCH	**TengChong**	**77.97**	**300**	||*iP*	**P**	**17 41 20.0**	**-0.6**
TNCH				pP	PcP	17 41 30.0	-0.2
TNCH				S	**S**	**17 51 04.5**	**-5.7**
TNCH				SKS	**SKSac**	**17 51 30.3**	**-0.1**
TNCH				pmax	pmax		
	comp=Z,710nm,1.6s						
TNCH				pmax	pmax		
	comp=Z,5μm,2.8s						
TNCH				LR	LR		
	comp=Z,54μm,24.1s						
TNCH				LR	LR		
	comp=Z,39μm,27.4s						
TNCH				LR	LR		
	comp=Z,135μm,23.6s						
EMUR	**La Murta**	**77.97**	**25**	S	**S**	**17 51 10.6**	**+1.0**
EMUR				P	**P**	**17 41 20.5**	**+0.2**
ISK	**Istanbul-Kandi**	**77.97**	**1**	P	**P**	**17 41 20.2**	**+0.1**
ISK	**Istanbul-Kandi**	**77.97**	**1**	P	**P**	**17 41 19.7**	**-0.4**
LIJA	**Lijar**	**77.98**	**28**	P	**P**	**17 41 20.7**	**+0.3**
KAVV	**Kandilli-Istan**	**77.98**	**1**	P	**P**	**17 41 21.6**	**+1.5**
SVT	**Saint Vincent**	**77.98**	**85**	*eP*	**P**	**17 41 19.2**	**-1.3**
SENK	**Senkaya-Erzuru**	**77.98**	**350**	P	**P**	**17 41 20.8**	**+0.3**
FNA	**Florina**	**78.02**	**7**	P	**P**	**17 41 19.9**	**-0.6**
FNA	**Florina**	**78.02**	**7**	P	**P**	**17 41 19.8**	**-0.7**
TLOR	**Lorca, Murcia**	**78.06**	**25**	S	**S**	**17 51 12.9**	**+2.4**
TLOR				P	**P**	**17 41 21.5**	**+0.8**
EGOR	**Sierra Gorda,**	**78.07**	**27**	S	**S**	**17 51 13.5**	**+2.6**
EGOR				P	**P**	**17 41 21.7**	**+0.7**
SOH	**Sokhos**	**78.08**	**5**	P	**P**	**17 41 20.3**	**-0.5**
ALN	**Alexandroupoli**	**78.09**	**3**	P	**P**	**17 41 20.9**	**+0.1**
ALN	**Alexandroupoli**	**78.09**	**3**	IAMs_20	IAMs_20	18 19 17.2	
	comp=Z,53μm,21.0s						
ALN	**Alexandroupoli**	**78.09**	**3**	P	**P**	**17 41 20.5**	**-0.3**
KOKK	**Kokkinochori,**	**78.11**	**5**	P	**P**	**17 41 20.6**	**-0.3**
EQTA	**Presa de Quent**	**78.12**	**27**	S	**S**	**17 51 13.9**	**+2.5**
EQTA				P	**P**	**17 41 21.9**	**+0.7**
VSL	**Villasalto**	**78.15**	**16**	IAmb	IAmb	17 41 24.0	
	comp=Z,1μm,1.4s						
SRNI	**Srinagar**	**78.17**	**323**	*eP*	**P**	**17 41 23.4**	**+2.1**
GNI	**Garni**	**78.18**	**348**	P	**P**	**17 41 22.1**	**+0.6**
GNI	**Garni**	**78.18**	**348**	P	**P**	**17 41 21.6**	**0.0**
GNI	**Garni**	**78.18**	**348**	P	**P**	**17 41 22.1**	**+0.6**
GNI	**Garni**	**78.18**	**348**	LR	LR	18 19 12.1	
	comp=Z,36μm,20.2s,baz=30,slow=38						
GNI	**Garni**	**78.18**	**348**	P	**P**	**17 41 22.3**	**+0.7**
GNI				S	**S**	**17 51 14.1**	**+2.0**
GNI	**Garni**	**78.18**	**348***d*	||*iP*	**P**	**17 41 22.2**	**+0.7**
GNI				pmax	pmax		
	comp=Z,318nm,1.5s						
GNI				MLR	MLR		
	comp=Z,46μm,21.0s						
GNI	**Garni**	**78.18**	**348**	P	**P**	**17 41 22.0**	**+0.6**
	comp=Z,1μm,1.4s,comp=Z,30μm						
SFS	**San Fernando**	**78.21**	**29**	IAMs_20	IAMs_20	18 14 49.8	
	comp=Z,74μm,21.0s						
SFS	**San Fernando**	**78.21**	**29**	S	**S**	**17 51 16.1**	**+4.0**
SFS				P	**P**	**17 41 22.6**	**+1.1**
HRT	**Hereke**	**78.22**	**0**	P	**P**	**17 41 22.3**	**+0.7**
THE	**Thessaloniki**	**78.25**	**5**	P	**P**	**17 41 21.2**	**-0.4**
QIZ	**Qiongzhong**	**78.25**	**288**	pP	pP	17 41 37.9	+1.5
QIZ	**Qiongzhong**	**78.25**	**288**	IAMs_20	IAMs_20	18 20 15.7	
	comp=Z,123μm,19.0s						
QIZ	**Qiongzhong**	**78.25**	**288**	P	**P**	**17 41 22.5**	**+0.5**
QIZ				S	**S**	**17 51 14.0**	**+1.0**
QIZ				ScS	**ScS**	**17 51 36.3**	**-1.6**
QIZ				SS	**SS**	**17 56 17.5**	**+2.1**
QIZ				pmax	pmax		
	comp=Z,470nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,20μm,12.5s						
QIZ				LR	LR		
	comp=Z,58μm,22.4s						
QIZ				LR	LR		
	comp=Z,90μm,20.4s						
QIZ				LR	LR		
	comp=Z,139μm,23.7s						
QIZ	**Qiongzhong**	**78.25**	**288**	P	**P**	**17 41 22.9**	**+0.9**
ENEZ	**Enez**	**78.26**	**3**	P	**P**	**17 41 21.9**	**+0.2**
ENEZ	**Enez**	**78.26**	**3**	P	**P**	**17 41 21.6**	**-0.1**
CART	**Cartagena**	**78.27**	**25**	IAmb	IAmb	17 41 26.3	
	comp=Z,1μm,1.2s						
CART	**Cartagena**	**78.27**	**25**	S	**S**	**17 51 15.2**	**+2.6**
CART				P	**P**	**17 41 21.9**	**+0.1**
HORT	**Hortiatis**	**78.29**	**5**	P	**P**	**17 41 21.8**	**-0.2**
HORT	**Hortiatis**	**78.29**	**5**	P	**P**	**17 41 21.4**	**-0.6**
SAUV	**Serdivan-Sakar**	**78.30**	**360**	P	**P**	**17 41 21.8**	**-0.2**
CAVK	**Edirne/Enez-Ca**	**78.30**	**3**	||P	**P**	**17 41 22.2**	**+0.2**
BAYT	**Aydıntepe-Bayb**	**78.31**	**352**	P	**P**	**17 41 22.9**	**+0.6**
RKY	**Sarkoy-Tekirda**	**78.33**	**2**	P	**P**	**17 41 21.9**	**-0.3**
ERIK	**Erikli-Kesan**	**78.33**	**3**	P	**P**	**17 41 22.1**	**0.0**
EMAL	**Malaga-Limoner**	**78.33**	**28**	S	**S**	**17 51 16.1**	**+2.7**
EMAL				P	**P**	**17 41 23.0**	**+0.8**
THAS	**Thassos island**	**78.35**	**4**	P	**P**	**17 41 21.8**	**-0.4**
BAUV	**El Baul**	**78.

KPRO	Kipourio	78.84	7	P		P		17 41 24.5	-0.6
COMU	Canakkale	78.90	3	P		P		17 41 25.7	+0.4
AGRB	Hanur-Agry	78.91	350	P		P		17 41 26.1	+0.5
SLVN	Son La	78.92	294	IAmb		IAmb		17 41 29.5	
	comp=Z,988nm,1.0s								
SLVN				IAMs_20		IAMs_20		18 18 51.0	
	comp=Z,124μm,20.0s								
SLVN	Son La	78.92	294	P		P		17 41 26.1	+0.4
ROSC	El Rosal	78.92	100	P		P		17 41 26.2	+0.1
ROSC				IAmb		IAmb		17 41 30.2	
	comp=Z,2μm,1.2s								
ROSC	El Rosal	78.92	100	P		P		17 41 27.6	+1.4
	comp=Z,582nm,1.0s,baz=25,slow=3.2,SNR=82								
ROSC				LR		LR		18 20 13.8	
	comp=Z,103μm,19.7s,baz=359,slow=39								
	comp=Z,582nm,1.0s								
PCRV	Puerto La Cruz	78.94	89	LR		LR		18 17 09.1	
	comp=Z,92μm,21.4s,slow=36								
PCRV	Puerto La Cruz	78.94	89	*e*P		P		17 41 24.5	-1.3
FUL	Funchal	78.94	39	*e*P		P		17 41 27.1	+1.5
FUL				A		A		17 41 30.0	
	comp=Z,2μm,1.4s								
FUL	Funchal	78.94	39	*e*PP		PP		17 44 27.9	+3.8
CEU	Ceuta	78.95	29	P		P		17 41 26.6	+1.0
ECEU	Ceuta	78.95	29	S		S		17 51 22.5	+2.5
ECEU				P		P		17 41 26.5	+0.9
SVSK	Karacayir	78.96	355	P		P		17 41 26.5	+0.9
PAIG	Paliouri	78.98	5	P		P		17 41 25.2	-0.5
PAIG	Paliouri	78.98	5	P		P		17 41 24.7	-1.0
KEK	Kerkira	78.99	8	P		P		17 41 25.7	-0.1
KEK	Kerkira	78.99	8	IAmb		IAmb		17 41 30.9	
	comp=Z,2μm,1.2s								
KEK				IAMs_20		IAMs_20		18 17 08.4	
	comp=Z,75μm,22.0s								
KEK	Kerkira	78.99	8	P		P		17 41 25.5	-0.3
MANU	Manus Island	79.00	245	IAmb		IAmb		17 41 50.8	
	comp=Z,2μm,1.2s								
MANU				IAMs_20		IAMs_20		18 12 24.0	
	comp=Z,47μm,21.0s								
SRCK	Saricakaya, Es	79.00	359	P		P		17 41 25.9	+0.1
CANM	Can-anakkale	79.00	2	P		P		17 41 31.5	+5.7
NIL	Nilore	79.05	324	P		P		17 41 25.3	-0.9
NIL				IAmb		IAmb		17 41 37.5	
	comp=Z,1μm,1.1s								
NIL	Nilore	79.05	324	P		P		17 41 25.3	-0.9
NIL				pmax		pmax			
	comp=Z,1μm,1.2s								
LIA	Limnos Island	79.07	4	P		P		17 41 26.1	-0.1
LIA	Limnos Island	79.07	4	P		P		17 41 25.6	-0.6
JAN	Janina	79.11	7	P		P		17 41 26.2	-0.3
LOD	Lodumlu	79.13	358	P		P		17 41 27.3	+0.7
TYRN	Tyrnavos	79.13	6	P		P		17 41 25.6	-0.9
ERZN	Erzincan	79.14	352	P		P		17 41 29.4	+2.6
ANTO	Ankara	79.15	358	P		P		17 41 27.3	+0.5
ANTO	Ankara	79.15	358	P		P		17 41 26.3	-0.4
ANTO				IAmb		IAmb		17 41 53.9	
	comp=Z,2μm,1.1s								
ANTO	Ankara	79.15	358	P		P		17 41 26.9	+0.2
ANTO				S		S		17 51 22.7	+0.5
ANTO	Ankara	79.15	358	||P	P		17 41 27.3	+0.5
ANTO	Ankara	79.15	358	P		P		17 41 27.2	+0.5
ANTO	Ankara	79.15	358	P		P		17 41 26.9	+0.2
	comp=Z,974nm,1.6s,comp=Z,18μm								
KOHI	KOHIMA	79.16	304	*e*P		P		17 41 26.4	-0.7
KOHI				IAmb		IAmb		17 41 34.8	
	comp=Z,788nm,1.1s								
KOHI				*ex*		x		17 44 30.8	
KOHI				*e*S		S		17 51 20.8	-2.1
KOHI				IAMs_20		IAMs_20		17 56 37.5	
	comp=Z,20μm,19.7s								
EZN	Ezine	79.17	3	P		P		17 41 25.4	-1.3
EZN	Ezine	79.17	3	P		P		17 41 25.2	-1.5
EZN	Ezine	79.17	3	P		P		17 41 25.1	-1.6
	comp=Z,1μm,1.2s,comp=Z,23μm								
BR231	Keskin MP Arra	79.17	358	IAmb		IAmb		17 41 54.0	
	comp=Z,2μm,1.1s								
CLDR	Caldiran	79.25	349	P		P		17 41 28.9	+1.4
BR106	Keskin Array S	79.26	357	P		P		17 41 27.0	-0.4
	comp=Z,702nm,1.3s,comp=Z,6μm								
THL	Klokotos Trika	79.27	6	P		P		17 41 26.2	-1.1
BR131	Keskin Array S	79.27	357	P		P		17 41 27.3	-0.2
BR131	Keskin Array S	79.27	357	IAmb		IAmb		17 41 54.1	
	comp=Z,2μm,1.4s								
BR131	Keskin Array S	79.27	357	*i* P		P		17 41 25.9	-1.6
BRTR	Keskin Array B	79.27	357	P		P		17 41 26.9	-0.7
	comp=Z,249nm,0.8s,baz=1.4,slow=3.4,SNR=144								
BRTR				PKKPbc		PKKPbc		18 00 15.8	+1.5
	comp=Z,40nm,0.8s,baz=174,slow=5.0,SNR=35								
BRTR				PKPPKP		P'P'df		18 08 12.8	-13
	comp=Z,8.7nm,0.8s,baz=151,slow=5.0,SNR=8.8								
BRTR				LR		LR		18 19 01.1	
	comp=Z,34μm,21.1s,baz=14,slow=38								
	comp=Z,249nm,0.8s								
BR105	Keskin Array S	79.28	357	P		P		17 41 27.3	-0.2
	comp=Z,618nm,0.7s,comp=Z,7μm								
TIP	Timpagrande	79.28	10	IAMs_20		IAMs_20		18 19 38.2	
	comp=Z,58μm,22.0s								
TIP	Timpagrande	79.28	10	P		P		17 41 26.7	-0.8
	comp=Z,822nm,1.6s,comp=Z,21μm								
BR104	Keskin Array S	79.29	357	P		P		17 41 27.3	-0.3
	comp=Z,671nm,1.2s,comp=Z,6μm								
YOZ	Yozgat	79.31	356	P		P		17 41 28.2	+0.5
KARO	Karliova-Bingo	79.33	351	P		P		17 41 28.7	+0.8
KBL	Kabul	79.33	328	P		P		17 41 25.8	-2.2
KBL	Kabul	79.33	328	P		P		17 41 25.8	-2.2
	SNR=314								
KBL				P		P		17 41 25.8	-2.2
	SNR=314								
KBL				S		S		17 51 19.5	-5.2
KBL				S		S		17 51 19.5	-5.2
KBL	Kabul	79.33	328	P		P		17 41 25.8	-2.2
KBL				pmax		pmax			
	comp=Z,360nm,1.0s								
MLAZ	Malazgirt-MUS	79.38	350	P		P		17 41 29.6	+1.5
EALB	Alboran	79.43	27	S		S		17 51 26.3	+1.2
EALB				P		P		17 41 27.5	-0.7
VRTB	Varto-Mus	79.44	351	P		P		17 41 29.3	+0.8
DHRM	DHARAMSHALA	79.47	321	*e*P		P		17 41 28.0	-0.8
DHRM				*i* pP		sP		17 41 47.9	-1.0
XOR	Xorichti	79.52	5	P		P		17 41 28.0	-0.7
KLP	Kalpa	79.54	320	*e*P		P		17 41 28.7	-0.6
AFSR	Afar-Bala (An	79.56	358	P		P		17 41 28.1	-0.9
NEO	Neokhori	79.58	5	P		P		17 41 27.7	-1.3
SVRH	Sivrihisar-ESK	79.59	359	P		P		17 41 29.1	0.0
TVSB	Tavsanli	79.59	0	P		P		17 41 29.1	-0.1
KAMT	Kaman	79.63	357	P		P		17 41 29.3	-0.1
LUES	Luesalemba Tem	79.64	224	P		P		17 41 31.3	+1.9
BNGB	Bingl	79.67	352	P		P		17 41 30.3	+0.7
CIFT	Cifteler, Eski	79.68	359	P		P		17 41 29.5	-0.1
GUWA	GUWAHATI	79.68	306	*e*P		P		17 41 29.2	-0.6
GUWA				IAmb		IAmb		17 41 36.1	
	comp=Z,855nm,0.8s								
GUWA				*ex*		x		17 44 32.2	
GUWA				*e*S		S		17 51 25.1	-2.9
TATA	Tatamba Isabel	79.69	231	P		P		17 41 31.1	+1.3
ALEG	Aligegeo Malai	79.70	230	P		P		17 41 30.6	+0.8
AOS	Alonnisos	79.75	5	P		P		17 41 30.6	+0.7
PRK	Paraskevi	79.75	3	P		P		17 41 27.9	-2.0
KOZK	Kozakli-Nevseh	79.75	356	P		P		17 41 32.1	+2.0
SIGR	SIGRI	79.77	3	P		P		17 41 29.7	-0.3
SIGR	SIGRI	79.77	3	P		P		17 41 30.8	+0.8
MAKR	Makrakomi, Fth	79.82	6	P		P		17 41 29.8	-0.6
GTK	Tadong	79.84	309	*e*P		P		17 41 31.5	+0.7
GTK				IAmb		IAmb		17 41 39.6	
	comp=Z,5μm,1.4s								
GTK				*ex*		x		17 44 41.8	
GTK				*e*S		S		17 51 30.9	+0.9
GTK				IAMs_20		IAMs_20		17 56 48.2	
	comp=Z,26μm,18.6s								
VANB	Van	79.84	349	P		P		17 41 32.1	+1.5
PTK	Pertek	79.85	353	P		P		17 41 31.6	+0.9
EVR	Evrytania	79.90	6	P		P		17 41 31.6	+0.7
TSLK	Tsoukalades, L	79.93	7	P		P		17 41 30.1	-0.8
DKL	Dikili	79.94	2	P		P		17 41 30.8	-0.1
TOSP	Speyside	79.94	85	*e*P		P		17 41 27.1	-4.1
SIMA	Simav-Kutahya	79.95	1	P		P		17 41 30.9	-0.2
LKD2	Lefkada island	79.96	7	P		P		17 41 30.6	-0.5
LKD2	Lefkada island	79.96	7	P		P		17 41 30.4	-0.7
KULU	Kulu	79.97	358	P		P		17 41 31.5	+0.3
GEDZ	Gediz	80.00	0	P		P		17 41 31.3	0.0
GURO	Guroymak-BITLI	80.00	350	P		P		17 41 32.0	+0.5
IMP	Imphal	80.02	304	*e*P		P		17 41 30.9	-0.8
IMP				*e*S		S		17 51 27.2	-4.5
IMP				IAMs_20		IAMs_20		17 58 05.9	
	comp=Z,19μm,20.7s								
NYDR	Nydri-Lefkada	80.04	7	P		P		17 41 30.2	-1.2
WMELI	Melilla	80.05	27	S		S		17 51 33.0	+1.3
WMELI				P		P		17 41 32.0	+0.4
SERE	Sereflikochisa	80.05	357	P		P		17 41 31.8	+0.1
EMLI	Melilla	80.06	27	S		S		17 51 33.1	+1.3
EMLI				P		P		17 41 32.5	+0.9
BNN	Bunyan	80.07	355	P		P		17 41 32.3	+0.5
TRN	Trinidad (W)	80.08	86	*e*P		P		17 41 28.6	-3.5
AXAR	Agios Charalam	80.09	6	P		P		17 41 30.6	-1.2
GORD	Gordes-Manisa	80.12	1	P		P		17 41 31.8	-0.2
EVGI	Lefkada island	80.13	7	P		P		17 41 31.4	-0.6
AKDM	Akdamar-Van	80.14	350	P		P		17 41 32.9	+0.6
KIZT	Kizilcal	80.15	358	P		P		17 41 32.1	-0.1
SHL	Shillong	80.17	306	P		P		17 41 33.5	+0.9
SHL				S		S		17 51 30.7	-2.9
SHL	Shillong	80.17	306	*e*P		P		17 41 32.3	-0.3
SHL				IAmb		IAmb		17 41 35.3	
	comp=Z,520nm,1.2s								
SHL				*i* x		x		17 51 29.1	
BHK	Bhakra	80.21	321	*e*P		P		17 41 32.0	-0.5
ANX	Ano Chora	80.23	6	P		P		17 41 32.2	-0.4
SMLA	Simla	80.25	320	*e*P		P		17 41 32.0	-0.7
SMLA				IAmb		IAmb		17 41 35.6	
	comp=Z,749nm,0.7s								
SMLA				*i* x		x		17 51 31.1	
DARE	Darende-Malaty	80.28	354	P		P		17 41 34.3	+1.4
FSK	Fiskardo	80.28	7	P		P		17 41 31.6	-1.2
CHAS	Isla Isabel II	80.29	26	S		S		17 51 34.7	+0.5
CHAS				P		P		17 41 33.8	+1.0
KYMI	Kymi, Euboea I	80.29	5	P		P		17 41 32.0	-0.8
SVRC	Sivrice-ELAZID	80.37	353	P		P		17 41 34.7	+1.2
EFP	Efpalio	80.39	6	P		P		17 41 33.4	0.0
RTC	Rabat Centre	80.42	30	P		P		17 41 34.2	+0.6
KALE	Kalithea	80.44	6	P		P		17 41 33.2	-0.5
CAEH	'Ain El Ouahch	80.45	19	P		P		17 41 32.0	-1.8
SHUT	Suhut-Afyon	80.49	360	P		P		17 41 34.3	+0.3
DMLN	Damoulianata-K	80.49	8	P		P		17 41 32.9	-1.0
SARI	SarD1z-Kayseri	80.49	355	P		P		17 41 34.7	+0.5
JPG	JALPAIGURI	80.50	309	*e*P		P		17 41 36.1	+2.0
KULA	Kula-Manisa	80.52	1	P		P		17 41 33.9	-0.3
KULA	Kula-Manisa	80.52	1	P		P		17 41 33.4	-0.8
DFRA	Djebel Bou Aff	80.53	19	P		P		17 41 34.4	+0.1
VLS	Valsamata	80.57	7	P		P		17 41 33.6	-0.7
AXS	Araxos	80.59	7	P		P		17 41 33.8	-0.7
HNR	Honiara	80.60	230	P		P		17 41 34.8	+0.1
HNR				IAmb		IAmb		17 42 01.3	
	comp=Z,3μm,1.1s								
HNR				IAMs_20		IAMs_20		18 16 56.9	
	comp=Z,43μm,20.0s								
HNR	Honiara	80.60	230	P		P		17 41 37.0	+2.3
HNR	Honiara	80.60	230	P		P		17 41 34.8	+0.1
HNR				pmax		pmax			
	comp=Z,3μm,1.2s								
HNR				MLR		MLR			
	comp=Z,43μm,20.0s								
BLCB	Balcova	80.63	2	P		P		17 41 34.3	-0.3
BLCB	Balcova	80.63	2	P		P		17 41 33.8	-0.8
PSDA	Pessada-Kefalo	80.63	7	P		P		17 41 33.8	-0.8
GULA	Gulagac	80.63	357	P		P		17 41 35.1	+0.3
RTZL	Ratzakli, Kefa	80.68	7	P		P		17 41 34.2	-0.7
CMAH	Djebel Manchou	80.69	18	P		P		17 41 34.6	-0.5
DDI	Dehra Dun	80.72	319	*e*P		P		17 41 35.0	-0.3
DDI				IAmb		IAmb		17 41 40.2	
	comp=Z,3μm,1.2s								
DDI				*i* x		x		17 51 37.2	
VILL	Villia	80.73	5	P		P		17 41 34.1	-1.1
DYBB	Diyarbakir	80.74	352	P		P		17 41 36.1	+0.8
RLS	Riolos of Patr	80.74	7	P		P		17 41 35.1	-0.1
VAE	Valguarnera	80.74	12	LR		LR		18 18 49.2	
	comp=Z,38μm,21.2s,baz=342,slow=37								
SET	Setif	80.79	20	P		P		17 41 36.0	+0.3
KLV	Kalavryta, Ach	80.79	6	P		P		17 41 34.9	-0.7
SULT	Sultanhani-AKS	80.80	357	P		P		17 41 35.8	+0.1
CKFL	Kef-Lekhel	80.81	19	P		P		17 41 35.2	-0.6
LADK	Ladik-KONYA	80.82	358	P		P		17 41 35.6	-0.2
LGTI	Lohaghat	80.83	317	*e*P		P		17 41 35.7	-0.1
LGTI				IAMs_20		IAMs_20		17 56 55.2	
	comp=Z,17μm,15.3s								
DION	Dionisos Attik	80.84	5	P		P		17 41 34.0	-1.8
HURO	Huro Makira	80.85	228	P		P		17 41 38.2	+2.3
DRO	Drossia	80.86	7	P		P		17 41 36.0	+0.1
PTL	Penteli	80.86	5	P		P		17 41 34.8	-1.2
BULU	Kimbe	80.87	240	P		P		17 41 37.1	+1.0
	comp=Z,18μm,1.0s								
KARY	Karystos	80.90	4	P		P		17 41 35.1	-1.0
CASM	Ain Smara	80.91	19	P		P		17 41 35.0	-1.2
GUR	Goura	80.91	6	P		P		17 41 35.5	-0.8
ATH	Athens Observa	80.94	5	P		P		17 41 35.0	-1.3
AVE	Averroes	80.94	31	IAmb		IAmb		17 41 39.3	
	comp=Z,2μm,1.2s								
AVE	Averroes	80.94	31	S		S		17 51 42.9	+1.8
AVE				P		P		17 41 36.6	+0.2
ATHU	Athens Univers	80.94	5	P		P		17 41 34.9	-1.5
OTAV	Otavalo	81.02	106	IAMs_20		IAMs_20		18 19 03.9	
	comp=Z,75μm,22.0s								
ABSA	Djebel Ababsia	81.05	18	P		P		17 41 36.6	-0.4
LTHK	Lithakia	81.05	7	P		P		17 41 35.5	-1.4
VLY	Voula,Athens	81.06	5	P		P		17 41 35.3	-1.7
NAZL	Nazilli-Aydin	81.06	1	P		P		17 41 37.0	0.0
KONT	Konya--Tatoy	81.07	358	P		P		17 41 37.0	-0.1
HRA	Herat	81.08	333	P		P		17 41 37.5	+0.1
HRA				IAmb		IAmb		17 41 42.6	
	comp=Z,2μm,1.6s								
BASM	Basmaki-Afyon	81.12	360	P		P		17 41 36.6	-0.8
DAV	Davao City (W)	81.15	268	LR		LR		18 13 47.3	
	comp=Z,22μm,20.8s,baz=50,slow=33								
DAV	Davao City (W)	81.15	268	P		P		17 41 38.7	+1.0
DAV				P		P		17 41 38.7	+1.0
DAV				S		SKSac		17 51 47.7	-4.8
DAV				S		SKSac		17 51 47.7	-4.8
DAV	Davao City (W)	81.15	268	P		P		17 41 39.4	+1.7
DAV	Davao City (W)	81.15	268	P		P		17 41 33.0	-4.7
CUKT	Cukurca	81.16	349	P		P		17 41 37.7	0.0
MAZI	Mazidag	81.21	352	P		P		17 41 38.1	+0.2
YESY	Yesilyurt	81.21	357	P		P		17 41 37.8	-0.1
ISP	Isparta	81.22	360	P		P		17 41 37.6	-0.3
ISP	Isparta	81.22	360	*e*P		P		17 41 38.6	+0.7
IFR	Ifrane	81.28	29	S		S		17 51 46.3	+1.3
IFR				P		P		17 41 39.0	+0.6
CMRD	Camardi-Nigde	81.29	356	P		P		17 41 38.6	+0.2
SMG	Samos	81.30	3	P		P		17 41 37.1	-1.1
GCAM	G?zelcaml?	81.31	2	P		P		17 41 37.6	-0.7
URFA	Urfa	81.33	353	P		P		17 41 39.6	+1.1
KMRS	Kahramanmaras	81.37	354	P		P		17 41 38.9	+0.2
KOZT	Kozan	81.44	355	P		P		17 41 39.2	+0.2
AZL	Aizawl	81.50	305	*e*P		P		17 41 39.4	-0.2
AZL				IAmb		IAmb		17 41 46.4	
	comp=Z,1μm,1.1s								
AZL				*i* x		x		17 45 03.9	
AZL				*e*S		S		17 51 45.0	-2.3
APMY	Acipayam-Deniz	81.56	1	P		P		17 41 39.7	-0.1
BCK	Bucak	81.58	360	P		P		17 41 39.3	-0.5
SEYD	Seydisehir-KON	81.62	358	P		P		17 41 39.6	-0.5
ITM	Ithomi	81.64	6	P		P		17 41 39.5	-0.6
ITM	Ithomi	81.64	6	P		P		17 41 39.4	-0.6
ITM				IAmb		IAmb		17 42 03.6	
	comp=Z,2μm,1.2s								
ITM	Ithomi	81.64	6	P		P		17 41 39.0	-1.1
NIUE	Niue	81.69	199	IAMs_20		IAMs_20		18 10 27.3	
	comp=Z,51μm,21.0s								
NIUE	Niue	81.69	199	P		P		17 41 42.3	+2.0
GAZ	Gaziantep	81.69	354	P		P		17 41 41.1	+0.7
GAZ	Gaziantep	81.69	354	IAmb		IAmb		17 42 07.1	
	comp=Z,1μm,1.2s								
KRMN	Karaman	81.83	357	P		P		17 41 40.9	-0.3
KEST	Kesra	81.85	17	P		P		17 41 41.2	-0.1
	comp=Z,726nm,0.8s,baz=298,slow=1.0,SNR=146								
KEST				S		S		17 51 50.5	0.0
	comp=Z,5.8nm,1.0s,baz=230,slow=22,SNR=10								
KEST				PKKPbc		PKKPbc		18 00 10.1	+1.7
	comp=Z,29nm,0.9s,baz=278,slow=1.9,SNR=11								
KEST				PKPPKP		P'P'df		18 08 17.3	-3.3
	comp=Z,36nm,1.0s,baz=240,slow=2.4,SNR=14								
KEST				LR		LR		18 20 21.8	
	comp=Z,56μm,21.6s,baz=347,slow=37								
	comp=Z,726nm,0.8s								
YER	Yerkesik	81.89	1	P		P		17 41 41.5	0.0
YER	Yerkesik	81.89	1	P		P		17 41 40.9	-0.6
YER	Yerkesik	81.89	1	P		P		17 41 34.1	-7.4
YER				pmax		pmax			
	comp=Z,125nm,1.1s								
APE	Apeiranthos	81.90	4	P		P		17 41 39.5	-2.0
APE	Apeiranthos	81.90	4	*e*P		P		17 41 40.7	-0.8
PYL	PYLOS	81.91	7	P		P		17 41 40.1	-1.4
CEYT	Ceyhan	81.91	355	P		P		17 41 42.1	+0.6
BODT	Bodrum	81.95	2	P		P		17 41 40.6	-1.1
BODT	Bodrum	81.95	2	P		P		17 41 40.1	-1.6
KORT	Korkueli	82.04	360	P		P		17 41 41.5	-0.8
HDMB	Hadim	82.05	358	P		P		17 41 41.9	-0.6
MDT	Midelt	82.08	29	P		P		17 41 43.0	+0.5
	comp=Z,740nm,1.1s,baz=356,slow=4.9,SNR=152								
MDT				S		SKSac		17 51 54.9	-3.7
	comp=Z,7.5nm,1.1s,baz=266,slow=22,SNR=1.9								
MDT				LR		LR		18 18 07.9	
	comp=Z,33μm,21.5s,baz=352,slow=36								
	comp=Z,740nm,1.1s								
CAME	Cameli-Denizli	82.09	1	P		P		17 41 42.3	-0.3
BRCI	Bahraich	82.12	315	*e*P		P		17 41 44.2	+1.6
ANTB	Antalya	82.14	359	P		P		17 41 41.8	-0.8
VLI	Veliai	82.15	6	P		P		17 41 41.0	-1.7
GNR	GANAUR	82.15	320	*e*P		P		17 41 44.1	+1.3
GNR				IAMs_20		IAMs_20		17 57 11.6	
	comp=Z,18μm,15.3s								
DALY	Dalyan (Mula)	82.21	1	P		P		17 41 42.9	-0.1
MHLO	Agia Marina, M	82.24	5	P		P		17 41 43.2	0.0
TURN	Turunc	82.25	1	P		P		17 41 42.6	-0.6
DAT	Datca	82.29	2	P		P		17 41 42.0	-1.6
DAT	Datca	82.29	2	P		P		17 41 41.6	-2.0
ELL	Elmali	82.29	0	P		P		17 41 42.9	-0.7
SRGN	SRI GANGA NAGA	82.36	323	*e*P		P		17 41 43.6	-0.3
JAY	Jayapura	82.39	251	P		P		17 41 43.9	-0.3
	comp=Z,354nm,1.0s,baz=352,slow=3.3,SNR=59								
JAY				S		SKSac		17 51 58.0	-2.8
	comp=Z,9.6nm,0.9s,baz=222,slow=23,SNR=9.3								
JAY				LR		LR		18 13 31.5	
	comp=Z,91μm,21.9s,baz=28,slow=32								
	comp=Z,354nm,1.0s								
FETY	Fethiye	82.40	1	P		P		17 41 43.3	-0.8
KIZK	Mersin	82.50	357	P		P		17 41 43.7	-0.8
NDI	New Delhi	82.51	319	*e*P		P		17 41 43.7	-1.0
NGOA	Tingoa Renbel	82.52	229	P		P		17 41 46.7	+2.0
SAP3	Santorini-Thir	82.53	4	P		P		17 41 44.0	-0.7
TAHT	Tahtakopru-Hat	82.53	355	P		P		17 41 44.8	+0.1
KEBE	Keben-Mersin	82.54	357	P		P		17 41 43.7	-1.2
BISR	Bishrakh	82.54	319	*e*P		P		17 41 44.3	-0.6
BISR				IAMs_20		IAMs_20		17 57 15.4	
	comp=Z,18μm,17.7s								
NPLP	NPLP New Delhi	82.57	319	*e*P		P		17 41 43.9	-1.1
JMIU	JAMIA UNIVERSI	82.59	319	*e*P		P		17 41 45.8	+0.6
RAR	Rarotonga	82.61	189	P		P		17 41 44.8	-0.2
RAR	Rarotonga	82.61	189	LR		LR		18 11 13.5	
	comp=Z,23μm,21.8s,baz=352,slow=30								
RAR	Rarotonga	82.61	189	P		P		17 41 47.4	+2.4
RAR	Rarotonga	82.61	189	P		P		17 41 44.8	-0.2
RAR				pmax		pmax			
	comp=Z,901nm,1.2s								
SILI	Silifke-Mersin	82.62	357	P		P		17 41 44.5	-0.6
GENI	Genyem	82.70	251	P		P		17 41 47.5	+1.7
IKL	Isikli	82.75	357	P		P		17 41 45.4	-0.4
GAZI	Gazipasa	82.78	358	P		P		17 41 44.4	-1.7
AKAS	Kas	82.80	0	P		P		17 41 45.5	-0.8
ARG	Arkhangelos	82.81	2	P		P		17 41 44.9	-1.3
MSVF	Nonsavu	82.81	211	P		P		17 41 46.6	+0.3
MSVF				IAmb		IAmb		17 41 51.7	
	comp=Z,909nm,1.0s								
MSVF	Nonsavu	82.81	211	IAMs_20		IAMs_20		18 12 10.4	
	comp=Z,82μm,21.0s								
MSVF	Nonsavu	82.81	211	S		SKSac

JHNI			*i* pP	**sP**	**17 42 15.6**	**-2.5**
JHNI			*e*PP	**PP**	**17 45 14.8**	**0.0**
JHNI			*e*S	**SKSac**	**17 52 12.8**	**-5.4**
AJM	**Ajmer**	**85.36 321**	*e*P	**P**	**17 41 58.1**	**-1.3**
AJM			IAmb	IAmb	17 42 02.1	
	comp=Z,468nm,1.0s					
AJM			IAMs_20	IAMs_20	17 57 53.1	
	comp=Z,19μm,16.0s					
DVP	**Devils Point**	**85.53 220**	P	**P**	**17 42 02.1**	**+2.1**
PMG	**Port Moresby**	**85.68 242**	P	**P**	**17 41 59.4**	**-1.5**
PMG			IAmb	IAmb	17 42 26.1	
	comp=Z,2μm,1.4s					
PMG	**Port Moresby**	**85.68 242**	IAMs_20	IAMs_20	18 15 01.2	
	comp=Z,102μm,22.0s					
PMG	**Port Moresby**	**85.68 242**	P	**P**	**17 41 59.9**	**-0.9**
	comp=Z,232nm,1.0s,baz=29,slow=6.9,SNR=50					
PMG			S	**SKSac**	**17 52 20.7**	**-1.2**
	comp=Z,3.3nm,0.8s,baz=207,slow=19,SNR=0.9					
PMG			PKKPbc	**PKKPbc**	**18 00 01.7**	**+1.4**
	comp=Z,46nm,0.9s,baz=233,slow=4.5,SNR=15					
PMG			LR	LR	18 15 24.2	
	comp=Z,95μm,21.8s,baz=62,slow=32					
	comp=Z,232nm,1.0s					
PMG	**Port Moresby**	**85.68 242**	P	**P**	**17 42 02.2**	**+1.3**
PMG	**Port Moresby**	**85.68 242**	P	**P**	**17 42 02.1**	**+1.2**
TNTI	**Ternate**	**85.77 264**	IAmb	IAmb	17 42 23.6	
	comp=Z,786nm,1.3s					
TNTI	**Ternate**	**85.77 264**	P	**P**	**17 42 02.9**	**+1.5**
MMAI	**Mount Meron Ar**	**85.91 355**	P	**P**	**17 42 01.4**	**-0.6**
	comp=Z,45nm,0.6s,baz=6.5,slow=3.7,SNR=66					
MMAI			PKKPbc	**PKKPbc**	**18 00 01.8**	**+2.7**
	comp=Z,13nm,0.9s,baz=124,slow=2.1,SNR=8.7					
MMAI			PKPPKP	**P'P'df**	**18 08 06.3**	**-6.8**
	comp=Z,5.1nm,0.8s,baz=186,slow=2.6,SNR=3.9					
MMAI			LR	LR	18 26 01.0	
	comp=Z,12μm,20.3s,baz=304,slow=40					
	comp=Z,45nm,0.6s					
JASL	**Jaisalmer**	**86.04 324**	*e*P	**P**	**17 42 01.3**	**-1.4**
MYLDM	**Lahad Datu**	**86.20 274**	IAmb	IAmb	17 42 55.3	
	comp=Z,1μm,1.2s					
MYLDM			IAMs_20	IAMs_20	18 21 07.2	
	comp=Z,73μm,22.0s					
MYLDM	**Lahad Datu**	**86.20 274**	P	**P**	**17 42 04.9**	**+1.3**
GUNA	**GUNA**	**86.23 318**	*e*P	**P**	**17 42 01.3**	**-2.4**
GUNA			*i* x	x	17 45 21.6	
MMLI	**Mount Malkishu**	**86.48 355**	P	**P**	**17 42 05.0**	**+0.2**
KKM	**Kota Kinabalu**	**86.55 276**	IAmb	IAmb	17 42 09.3	
	comp=Z,1μm,1.2s					
KKM			IAMs_20	IAMs_20	18 20 25.2	
	comp=Z,49μm,22.0s					
KKM	**Kota Kinabalu**	**86.55 276**	P	**P**	**17 42 05.8**	**+0.4**
FAKI	**Fak Fak**	**86.67 258**	P	**P**	**17 42 05.9**	**+0.1**
JHSG	**JHARSUGUGA**	**86.68 311**	*e*P	**P**	**17 42 04.4**	**-1.4**
ASF	**Jabal al Asfar**	**86.68 354**	LR	LR	18 26 11.0	
	comp=Z,15μm,21.7s,baz=306,slow=39					
BALJ	**Balqa**	**86.82 355**	IAmb	IAmb	17 42 11.6	
	comp=Z,2μm,2.0s					
UJAP	**Al Uja**	**86.97 355**	P	**P**	**17 42 06.9**	**-0.1**
SRDT	**SRDT**	**87.18 295**	P	**P**	**17 42 07.8**	**-0.5**
BHPL	**Bhopal**	**87.51 317**	*e*P	**P**	**17 42 08.2**	**-1.7**
BHPL			IAmb	IAmb	17 42 13.4	
	comp=Z,431nm,1.0s					
BHPL			*i* PP	**PP**	**17 45 35.7**	**+1.2**
BHPL			*e*S	**SKSac**	**17 52 28.1**	**-5.3**
ATAH	**Atahualpa**	**87.55 109**	P	**P**	**17 42 11.2**	**+0.7**
	comp=Z,846nm,0.9s,baz=348,slow=3.8,SNR=138					
ATAH			S	**SKSac**	**17 52 35.6**	**+1.3**
	comp=Z,10nm,1.1s,baz=129,slow=6.6,SNR=1.4					
ATAH			LR	LR	18 24 13.6	
	comp=Z,38μm,21.9s,baz=6.1,slow=38					
	comp=Z,846nm,0.9s					
PTCN	**Pitcairn Islan**	**87.58 162**	P	**P**	**17 42 12.7**	**+2.9**
BOAV	**Boa Vista**	**87.68 89**	*e*P	**P**	**17 42 09.9**	**-0.8**
NRDN	**NARMADA NAGAR**	**88.08 317**	*e*P	**P**	**17 42 13.5**	**+0.9**
TOLI2	**Tolitoli**	**88.64 270**	P	**P**	**17 42 15.5**	**+0.2**
SANI	**Sanana**	**88.89 264**	P	**P**	**17 42 15.3**	**-1.1**
SANI	**Sanana**	**88.89 264**	P	**P**	**17 42 16.3**	**-0.1**
NGP	**Nagpur**	**88.91 315**	*e*P	**P**	**17 42 14.2**	**-2.4**
TBTG	**Tabatinga, AM**	**88.91 101**	*e*P	**P**	**17 42 15.3**	**-1.2**
MDP	**Montagnes des**	**89.11 81**	P	**P**	**17 42 16.5**	**-1.0**
	comp=Z,644nm,0.9s,baz=322,slow=6.0,SNR=76					
MDP			PP	**PP**	**17 45 49.2**	**+1.4**
	comp=Z,103nm,1.1s,baz=336,slow=9.6,SNR=4.9					
MDP			S	**SKSac**	**17 52 44.0**	**+1.0**
	comp=Z,14nm,1.1s,baz=78,slow=12,SNR=1.3					
	comp=Z,644nm,0.9s					
MARNC	**Mare, Loyalty**	**89.12 219**	P	**P**	**17 42 20.1**	**+2.9**
	comp=Z,3.9nm,0.9s					
BNDI	**Bandanaira**	**89.18 259**	P	**P**	**17 42 19.3**	**+1.6**
EIL	**Elat**	**89.26 356**	P	**P**	**17 42 18.4**	**+0.4**
EIL	**Elat**	**89.26 356**	LR	LR	18 26 22.5	
	comp=Z,18μm,21.8s,baz=18,slow=38					
KOUNC	**Koumac, New Ca**	**89.41 222**	P	**P**	**17 42 20.7**	**+2.1**
LUWI	**Luwuk**	**89.56 267**	P	**P**	**17 42 18.4**	**-1.2**
LUWI	**Luwuk**	**89.56 267**	P	**P**	**17 42 19.6**	**0.0**
AKL	**Akola**	**90.00 317**	*e*P	**P**	**17 42 21.9**	**+0.2**
AKL			IAmb	IAmb	17 42 25.0	
	comp=Z,127nm,0.9s					
AKL			IAMs_20	IAMs_20	17 55 15.8	
	comp=Z,19μm,17.5s					
YATNC	**Mamie plateau,**	**90.00 219**	P	**P**	**17 42 23.9**	**+2.5**
NGCH	**Negor - Chabah**	**90.03 332**	P	**P**	**17 42 22.7**	**+1.0**
	SNR=63					
NGCH			S	**SKSac**	**17 52 47.5**	**-0.7**
DZM	**Mont Dzumac**	**90.15 220**	P	**P**	**17 42 21.4**	**-0.8**
DZM			IAMs_20	IAMs_20	18 15 11.9	
	comp=Z,60μm,21.0s					
DZM	**Mont Dzumac**	**90.15 220**	*e*P	**P**	**17 42 24.0**	**+1.8**
	comp=Z,590nm,1.2s					
DZM	**Mont Dzumac**	**90.15 220**	*e*PP	PP	17 45 47.7	-8.9
	comp=Z,6μm,31.7s					
DZM			*e*S	**S**	**17 53 11.6**	**0.0**
	comp=Z,46μm,29.2s					
DZM			*e*SS	**SS**	**17 59 04.8**	**-7.3**
	comp=Z,38μm,29.3s					
DZM			*e*LQ	LQ	18 07 17.0	
	comp=Z,67μm,32.6s					
DZM			*e*LR	LR	18 11 02.8	
	comp=Z,174μm,27.7s					
DZM	**Mont Dzumac**	**90.15 220**	S	**SKSac**	**17 52 48.9**	**+0.2**
	comp=Z,8.0nm,1.0s,baz=110,slow=22,SNR=1.8					
DZM			LR	LR	18 16 06.8	
	comp=Z,48μm,21.7s,baz=20,slow=31					
DZM	**Mont Dzumac**	**90.15 220**	P	**P**	**17 42 24.7**	**+2.5**
NOUC	**Port Laguerre**	**90.22 220**	P	**P**	**17 42 24.7**	**+2.3**
JASK	**Jask - Hormozg**	**90.24 335**	P	**P**	**17 42 22.4**	**-0.3**
	SNR=139					
JASK			S	**SKSac**	**17 52 49.8**	**+0.3**
OUENC	**Ouen Island, N**	**90.36 219**	P	**P**	**17 42 25.0**	**+2.0**
ONTNC	**Ouen Toro**	**90.37 220**	IAMs_20	IAMs_20	18 15 50.7	
	comp=Z,68μm,22.0s					
ONTNC	**Ouen Toro**	**90.37 220**	P	**P**	**17 42 25.8**	**+2.8**
SHME	**Shamm**	**90.40 337**	*i* P	**P**	**17 42 22.1**	**-1.3**
	SNR=97					
SHME	**Shamm**	**90.40 337**	P	**P**	**17 42 22.7**	**-0.8**
	SNR=57					
SHME			S	**SKSac**	**17 52 47.8**	**-2.6**
BANOM	**Banah**	**90.50 336**	*i* P	**P**	**17 42 22.9**	**-1.1**
	SNR=81					
BANOM	**Banah**	**90.50 336**	P	**P**	**17 42 23.2**	**-0.7**
BANOM			S	**SKSac**	**17 52 48.9**	**-2.1**
CZSB	**Cruzeiro do Su**	**90.69 105**	*e*P	**P**	**17 42 24.5**	**-0.3**
DGPR	**DIGLIPUR**	**90.88 300**	*e*P	**P**	**17 42 25.7**	**0.0**
DGPR			IAmb	IAmb	17 42 29.2	
	comp=Z,4μm,1.7s					
DGPR			*i* x	x	17 52 50.0	
UMQ	**Umm Al-Quwin**	**91.00 337**	*i* P	**P**	**17 42 26.1**	**-0.1**
	SNR=13					
UMQ	**Umm Al-Quwin**	**91.00 337**	P	**P**	**17 42 27.1**	**+0.9**
	SNR=7.4					
UMQ			P	**P**	**17 42 27.1**	**+0.9**
	SNR=7.4					
UMQ			S	**SKSac**	**17 52 53.3**	**-0.5**
UMQ			S	**SKSac**	**17 52 53.3**	**-0.5**
MASF	**Masafi**	**91.06 336**	P	**P**	**17 42 27.1**	**+0.5**
	SNR=79					
MASF			S	**SKSac**	**17 52 52.9**	**-1.4**
MSFE	**Esma-Masafi**	**91.07 336**	*i* P	**P**	**17 42 25.5**	**-1.1**
	SNR=69					
MDH	**Madha**	**91.10 336**	*i* P	**P**	**17 42 25.0**	**-1.8**
	SNR=71					
MDH	**Madha**	**91.10 336**	P	**P**	**17 42 27.0**	**+0.2**
	SNR=57					
MDH			S	**SKSac**	**17 52 51.5**	**-3.0**
SAKB	**Bahrain**	**91.44 342**	P	**P**	**17 42 28.8**	**+0.6**
SAKB			S	**SKSac**	**17 52 51.2**	**-5.1**
COEN	**Coen**	**91.45 243**	IAmb	IAmb	17 42 53.0	
	comp=Z,1μm,1.7s					
COEN			IAMs_20	IAMs_20	18 19 08.2	
	comp=Z,37μm,21.0s					
COEN	**Coen**	**91.45 243**	P	**P**	**17 42 28.9**	**+0.6**
UOSS	**Minazif**	**91.47 336**	P	**P**	**17 42 26.0**	**-2.4**
UOSS			IAmb	IAmb	17 42 34.4	
	comp=Z,1μm,1.9s					
UOSS			pP	**pP**	**17 42 43.4**	**+0.2**
UOSS	**Minazif**	**91.47 336**	IAMs_20	IAMs_20	18 28 36.8	
	comp=Z,38μm,22.0s					
UOSS	**Minazif**	**91.47 336**	*i* P	**P**	**17 42 26.5**	**-1.9**
	SNR=107					
UOSS	**Minazif**	**91.47 336**	P	**P**	**17 42 28.4**	**0.0**
UOSS			S	**SKSac**	**17 52 54.8**	**-1.8**
SHMA	**Al-Shehemyia**	**91.49 341**	P	**P**	**17 42 29.0**	**+0.6**
	SNR=28					
SHMA			S	**SKSac**	**17 52 51.4**	**-5.2**
NAZ	**Nazwa, Dubai**	**91.53 337**	*i* P	**P**	**17 42 26.9**	**-1.8**
	SNR=30					
NAZ	**Nazwa, Dubai**	**91.53 337**	P	**P**	**17 42 29.7**	**+1.0**
	SNR=39					
NAZ			S	**SKSac**	**17 52 53.0**	**-3.9**
SAUI	**Saumlaki**	**91.55 256**	IAMs_20	IAMs_20	18 20 18.3	
	comp=Z,70μm,22.0s					
SAUI	**Saumlaki**	**91.55 256**	P	**P**	**17 42 30.2**	**+1.4**
HATD	**Hatta, Dubai**	**91.60 336**	*i* P	**P**	**17 42 26.8**	**-2.2**
	SNR=92					
HATD	**Hatta, Dubai**	**91.60 336**	P	**P**	**17 42 29.0**	**0.0**
	SNR=114					
HATD			S	**SKSac**	**17 52 53.3**	**-4.0**
SBUM	**Sibu**	**91.60 278**	P	**P**	**17 42 29.3**	**+0.2**
ASHO	**Ashiyiah**	**91.75 336**	*i* P	**P**	**17 42 27.9**	**-1.9**
	SNR=103					
ASHO	**Ashiyiah**	**91.75 336**	P	**P**	**17 42 30.0**	**+0.2**
	SNR=74					
ASHO			S	**SKSac**	**17 52 56.6**	**-1.6**
FAQ	**Al Faqa, Dubai**	**91.78 337**	*i* P	**P**	**17 42 28.0**	**-1.8**
	SNR=34					
FAQ	**Al Faqa, Dubai**	**91.78 337**	P	**P**	**17 42 30.4**	**+0.5**
	SNR=40					
FAQ			S	**SKSac**	**17 52 54.2**	**-4.1**
ASUD	**Al Ashush, Dub**	**91.94 337**	P	**P**	**17 42 29.9**	**-0.7**
ASUD	**Al Ashush, Dub**	**91.94 337**	P	**P**	**17 42 31.2**	**+0.6**
	SNR=38					
ASUD			P	**P**	**17 42 31.2**	**+0.6**
	SNR=38					
ASUD			S	**SKSac**	**17 52 57.0**	**-2.2**
ASUD			S	**SKSac**	**17 52 57.0**	**-2.2**
SRIT	**Nakonsritamara**	**92.07 292**	IAMs_20	IAMs_20	18 27 23.5	
	comp=Z,81μm,20.0s					
SRIT	**Nakonsritamara**	**92.07 292**	P	**P**	**17 42 31.1**	**-0.2**
AJN	**Ajban**	**92.07 337**	*i* P	**P**	**17 42 29.6**	**-1.6**
	SNR=12					
AJN	**Ajban**	**92.07 337**	P	**P**	**17 42 31.8**	**+0.6**
	SNR=17					
AJN			P	**P**	**17 42 31.8**	**+0.6**
	SNR=17					
AJN			S	**SKSac**	**17 52 55.5**	**-4.4**
AJN			S	**SKSac**	**17 52 55.5**	**-4.4**
JRN	**Qarnain Island**	**92.08 339**	P	**P**	**17 42 31.5**	**+0.3**
	SNR=9.4					
JRN			P	**P**	**17 42 31.5**	**+0.3**
	SNR=9.4					
JRN			S	**SKSac**	**17 52 54.9**	**-5.1**
JRN			S	**SKSac**	**17 52 54.9**	**-5.1**
SOHO	**SOHO**	**92.19 336**	*i* P	**P**	**17 42 29.7**	**-2.0**
	SNR=66					
SOHO	**SOHO**	**92.19 336**	P	**P**	**17 42 30.8**	**-0.9**
SOHO			S	**SKSac**	**17 52 58.4**	**-2.2**
PBA	**Port Blair**	**92.32 299**	P	**P**	**17 42 33.9**	**+1.5**
	SNR=14					
PBA			S	**SKSac**	**17 53 01.8**	**+0.3**
PBA	**Port Blair**	**92.32 299**	*e*P	**P**	**17 42 31.6**	**-0.8**
PBA			IAmb	IAmb	17 42 35.6	
	comp=Z,2μm,1.7s					
PBA			*i* x	x	17 52 58.1	
ALNE	**Al Ain**	**92.42 337**	*i* P	**P**	**17 42 31.4**	**-1.5**
	SNR=79					
ALNE	**Al Ain**	**92.42 337**	P	**P**	**17 42 33.7**	**+0.8**
	SNR=82					
ALNE			S	**SKSac**	**17 52 58.5**	**-3.4**
MACA	**Manacapuru-AM**	**92.43 92**	*e*P	**P**	**17 42 31.7**	**-1.2**
BIDO	**Bidbid**	**92.46 334**	P	**P**	**17 42 34.0**	**+1.0**
	SNR=78					
BIDO			P	**P**	**17 42 34.0**	**+1.0**
	SNR=78					
BIDO			S	**SKSac**	**17 52 59.4**	**-2.7**
BIDO			S	**SKSac**	**17 52 59.4**	**-2.7**
NNA	**Nana**	**92.53 110**	P	**P**	**17 42 31.5**	**-1.9**
NNA			IAmb	IAmb	17 42 35.9	
	comp=Z,658nm,1.0s					
NNA	**Nana**	**92.53 110**	P	**P**	**17 42 32.2**	**-1.2**
	comp=Z,443nm,0.9s,baz=337,slow=6.0,SNR=83					
NNA			S	**SKSac**	**17 53 03.2**	**+0.7**
	comp=Z,4.4nm,0.4s,baz=257,slow=19,SNR=1.5					
	comp=Z,443nm,0.9s					
HYB	**Hyderabad**	**92.53 314**	*e*P	**P**	**17 42 33.0**	**-0.5**
HYB			IVmB_BB		17 42 34.9	
	comp=Z,6μm,2.3s					
HYB			IVMs_BB	IVMs_BB	18 30 28.1	
	comp=Z,35μm,18.0s					
TRNA	**Turayna**	**92.55 341**	P	**P**	**17 42 33.8**	**+0.5**
	SNR=28					
TRNA			S	**SKSac**	**17 52 58.4**	**-4.2**
HOQ	**Hoqain**	**92.57 335**	P	**P**	**17 42 34.1**	**+0.5**
	SNR=50					
HOQ			S	**SKSac**	**17 53 01.9**	**-0.9**
BKB	**Balikpapan**	**92.58 272**	IAmb	IAmb	17 42 36.8	
	comp=Z,824nm,1.2s					
BKB	**Balikpapan**	**92.58 272**	P	**P**	**17 42 34.5**	**+0.9**
SMRA	**Abu-Samra**	**92.60 341**	P	**P**	**17 42 34.1**	**+0.5**
	SNR=33					
SMRA			S	**SKSac**	**17 53 00.3**	**-2.6**
WSAR	**Wadi Sarin**	**92.63 334**	LR	LR	18 33 07.2	
	comp=Z,28μm,18.2s,baz=46,slow=41					
SMDO	**Samad**	**92.93 334**	P	**P**	**17 42 36.0**	**+0.7**
	SNR=59					
SMDO			S	**SKSac**	**17 53 04.3**	**-0.7**
ARQ	**Araqi**	**92.97 336**	P	**P**	**17 42 35.0**	**-0.4**
	SNR=140					
ARQ			S	**SKSac**	**17 53 02.4**	**-2.6**
SACV	**Santiago Islan**	**92.98 51**	P	**P**	**17 42 34.0**	**-1.6**
SACV	**Santiago Islan**	**92.98 51**	IAMs_20	IAMs_20	18 22 56.6	
	comp=Z,52μm,20.0s					
GHWR	**Ruwais**	**93.03 339**	P	**P**	**17 42 36.3**	**+0.7**
GHWR			P	**P**	**17 42 36.3**	**+0.7**
GHWR			S	**SKSac**	**17 53 02.7**	**-2.6**
GHWR			S	**SKSac**	**17 53 02.7**	**-2.6**
RAO	**Raoul Island**	**93.04 204**	IAMs_20	IAMs_20	18 17 40.1	
	comp=Z,36μm,21.0s					
RAO	**Raoul Island**	**93.04 204**	P	**P**	**17 42 36.8**	**+1.6**
	comp=Z,284nm,0.3s,baz=49,slow=16,SNR=3.6					
RAO			LR	LR	18 18 01.2	
	comp=Z,33μm,21.1s,baz=16,slow=31					
	comp=Z,284nm,0.3s					
MZWR	**Madinat Zayed**	**93.05 338**	P	**P**	**17 42 36.5**	**+0.7**
MZWR			S	**SKSac**	**17 53 03.5**	**-1.9**
POO	**Poona**	**93.06 319**	*e*P	**P**	**17 42 34.2**	**-1.7**
POO			IAmb	IAmb	17 42 38.3	
	comp=Z,269nm,1.0s					
SLWR	**Sila**	**93.13 340**	P	**P**	**17 42 36.8**	**+0.7**
SLWR			P	**P**	**17 42 36.8**	**+0.7**
SLWR			S	**SKSac**	**17 53 01.7**	**-4.1**
SLWR			S	**SKSac**	**17 53 01.7**	**-4.1**
WBK	**Wadi Bani Khal**	**93.17 333**	P	**P**	**17 42 37.1**	**+0.8**
	SNR=38					
WBK			P	**P**	**17 42 37.1**	**+0.8**
	SNR=38					
WBK			S	**SKSac**	**17 53 03.4**	**-2.8**
WBK			S	**SKSac**	**17 53 03.4**	**-2.8**
KSM	**Kuching**	**93.36 279**	IAmb	IAmb	17 42 40.8	
	comp=Z,438nm,1.0s					
KSM	**Kuching**	**93.36 279**	P	**P**	**17 42 37.9**	**+0.7**
BSY	**Bisya**	**93.41 335**	P	**P**	**17 42 37.0**	**-0.5**
	SNR=125					
BSY			S	**SKSac**	**17 53 03.8**	**-3.7**
JLN	**Jalan Bani Buh**	**93.51 333**	P	**P**	**17 42 38.7**	**+0.9**
	SNR=53					
JLN			P	**P**	**17 42 38.7**	**+0.9**
	SNR=53					
JLN			S	**SKSac**	**17 53 05.7**	**-2.3**
JLN			S	**SKSac**	**17 53 05.7**	**-2.3**
JMDO	**Jabal Madar**	**93.58 334**	P	**P**	**17 42 39.0**	**+0.8**
	SNR=72					
JMDO			S	**SKSac**	**17 53 06.0**	**-2.4**
UMZA	**Um Al Zommool**	**93.84 337**	P	**P**	**17 42 39.8**	**+0.5**
UMZA			P	**P**	**17 42 39.8**	**+0.5**
UMZA			S	**SKSac**	**17 53 06.4**	**-3.3**
UMZA			S	**SKSac**	**17 53 06.4**	**-3.3**
MZR	**Muzera**	**93.87 338**	*i* P	**P**	**17 42 37.9**	**-1.6**
	SNR=58					
MZR	**Muzera**	**93.87 338**	P	**P**	**17 42 39.3**	**-0.2**
	SNR=54					
MZR			P	**P**	**17 42 39.3**	**-0.2**
	SNR=54					
MZR			S	**SKSac**	**17 53 09.2**	**-0.7**
MZR			S	**SKSac**	**17 53 09.2**	**-0.7**
TAM	**Tamanrasset**	**93.90 23**	P	**P**	**17 42 38.1**	**-1.7**
TAM			IAmb	IAmb	17 42 42.9	
	comp=Z,736nm,2.0s					
TAM	**Tamanrasset**	**93.90 23**	P	**P**	**17 42 38.2**	**-1.7**
TAM			pmax	pmax		
	comp=Z,736nm,2.0s					
TAM			MLR	MLR		
	comp=Z,32μm,21.0s					
RPN	**Rapa Nui**	**94.08 144**	IAMs_20	IAMs_20	18 15 34.3	
	comp=Z,59μm,22.0s					
RPN	**Rapa Nui**	**94.08 144**	LR	LR	18 15 48.2	
	comp=Z,55μm,21.4s,baz=348,slow=30					
VA02	**Isla de Pascua**	**94.08 144**	IAMs_20	IAMs_20	18 15 36.4	
	comp=Z,60μm,22.0s					
KAD	**Karad**	**94.10 318**	*e*P	**P**	**17 42 38.3**	**-2.4**
KAD			IAMs_20	IAMs_20	17 55 21.8	
	comp=Z,19μm,14.2s					
KAPI	**Kappang**	**94.47 268**	P	**P**	**17 42 41.2**	**-1.1**
KAPI			pP	**pP**	**17 42 57.0**	**0.0**
KAPI			IAmb	IAmb	17 43 06.3	
	comp=Z,970nm,1.9s					
KAPI	**Kappang**	**94.47 268**	P	**P**	**17 42 40.9**	**-1.4**
	comp=Z,107nm,1.1s,baz=22,slow=1.7,SNR=28					
KAPI			S	**SKSac**	**17 53 10.6**	**-2.6**
	comp=Z,10nm,0.8s,baz=88,slow=4.4,SNR=3.6					
KAPI			LR	LR	18 23 15.9	
	comp=Z,14μm,21.3s,baz=50,slow=34					
	comp=Z,107nm,1.1s					
KAPI	**Kappang**	**94.47 268**	P	**P**	**17 42 43.0**	**+0.7**
KAPI			S	**SKSac**	**17 53 15.1**	**+2.0**
KAPI	**Kappang**	**94.47 268**	P	**P**	**17 42 41.7**	**-0.6**
KAPI	**Kappang**	**94.47 268**	P	**P**	**17 42 41.2**	**-1.1**
KAPI			MLR	MLR		
	comp=Z,11μm,21.0s					
KULM	**Kulim**	**94.52 290**	IAMs_20	IAMs_20	18 27 21.6	
	comp=Z,77μm,20.0s					
KULM	**Kulim**	**94.52 290**	P	**P**	**17 42 43.1**	**+0.5**
RAYN	**Ar Rayn**	**94.54 346**	P	**P**	**17 42 41.6**	**-1.1**
RAYN			IAmb	IAmb	17 42 46.1	
	comp=Z,598nm,1.1s					
RAYN	**Ar Rayn**	**94.54 346**	*i* P	**P**	**17 42 41.8**	**-0.9**
	SNR=383					
RAYN	**Ar Rayn**	**94.54 346**	P	**P**	**17 42 42.4**	**-0.3**
RAYN			S	**SKSac**	**17 53 12.2**	**-1.5**
RAYN	**Ar Rayn**	**94.54 346**	P	**P**	**17 42 41.6**	**-1.1**
RAYN			pmax	pmax		
	comp=Z,598nm,1.1s					
RAYN			MLR	MLR		
	comp=Z,30μm,20.0s					
MAL2	**Monte Alegre,**	**94.58 86**	IAmb	IAmb	17 42 44.9	
	comp=Z,1μm,1.7s					
TV1H	**Townsville Har**	**94.67 238**	P	**P**	**17 42 44.7**	**+1.7**
MTSU	**Mount Surprise**	**94.69 240**	P	**P**	**17 42 43.0**	**-0.2**
AUAYR	**Ayr State High**	**94.71 237**	P	**P**	**17 42 45.4**	**+2.3**
	comp=Z,725nm,1.6s					
MHTO	**MHTO**	**94.95 334**	P	**P**	**17 42 44.9**	**+0.4**
	SNR=55					
MHTO			S	**SKSac**	**17 53 14.6**	**-1.2**
IPM	**Ipoh**	**95.06 289**	P	**P**	**17 42 44.6**	**-0.5**
KDU	**Kakadu**	**95.12 253**	P	**P**	**17 42 45.7**	**+0.6**
ETMB	**Extrema**	**95.57 100**	*e*P	**P**	**17 42 45.7**	**-1.6**
DRS	**Darwin Rock St**	**95.62 255**	P	**P**	**17 42 47.9**	**+0.4**
CTA	**Charters Tower**	**95.64 238**	LR	LR	18 21 18.4	
	comp=Z,31μm,21.9s,baz=14,slow=32					
CTAO	**Charters Tower**	**95.64 238**	P	**P**	**17 42 46.9**	**-0.5**
CTAO			IAmb	IAmb	17 43 13.1	
	comp=Z,748nm,1.4s					
CTAO	**Charters Tower**	**95.64 238**	IAMs_20	IAMs_20	18 21 49.1	
	comp=Z,36μm,22.0s					
CTAO	**Charters Tower**	**95.64 238**	P	**P**	**17 42 48.3**	**+0.9**
CTAO	**Charters Tower**	**95.64 238**	P	**P**	**17 42 46.9**	**-0.5**
CTAO			pmax	pmax		
	comp=Z,748nm,1.4s					
CTAO			MLR	MLR		
	comp=Z,36μm,22.0s					
BBTS	**Babate**	**95.81 45**	S	**SKSac**	**17 53 23.5**	**+3.1**
	comp=Z,12nm,0.4s,baz=198,slow=16,SNR=1.4					
BBTS			PKKPbc	PKKPbc	17 59 36.8	+2.6
	comp=Z,46nm,0.9s,baz=300,slow=2.0,SNR=6.1					
BBTS			LR	LR	18 22 10.7	
	comp=Z,53μm,20.3s,baz=222,slow=33					
ITTB	**Itatuba**	**95.87 88**	*e*P	**P**	**17 42 47.6**	**-1.1**
MTN	**Manton Dam**	**95.88 254**	IAmb	IAmb	17 43 14.7	
	comp=Z,260nm,0.9s					
MTN			IAMs_20	IAMs_20	18 21 46.2	
	comp=Z,49μm,22.0s					
MTN	**Manton Dam**	**95.88 254**	P	**P**	**17 42 48.2**	**-0.4**
GOA	**Goa**	**95.91 318**	*e*P	**P**	**17 42 47.3**	**-1.6**
GOA			IAmb	IAmb	17 42 51.4	
	comp=Z,343nm,1.2s					
MDRS	**Chennai**	**95.95 311**	*e*P	**P**	**17 42 50.0**	**+0.9**
CMBY	**CAMPBELL BAY**	**95.98 296**	*e*P	**P**	**17 42 48.3**	**-0.9**
MYKOM	**Kota Tinggi**	**96.13 285**	IAMs_20	IAMs_20	18 27 57.5	
	comp=Z,56μm,20.0s					
MYKOM	**Kota Tinggi**	**96.13 285**	P	**P**	**17 42 52.2**	**+2.3**
LHMI	**Lhok Sumawe**	**96.24 293**	IAMs_20	IAMs_20	18 30 25.0	
	comp=Z,69μm,20.0s					
LHMI	**Lhok Sumawe**	**96.24 293**	P	**P**	**17 42 52.2**	**+1.8**

SNR=28
RBK S **SKSac** **17 53 36.7 -0.7**
ABTO Aybut 99.41 337 P **Pdif** **17 43 05.5 +0.8**
SNR=28
ABTO P **Pdif** **17 43 05.5 +0.8**
SNR=28
ABTO S **SKSac** **17 53 37.1 -1.9**
ABTO S **SKSac** **17 53 37.1 -1.9**
GSI Gunungsitoli 99.44 290 IAMs_20 IAMs_20 18 28 37.0
comp=Z,85μm,22.0s
GSI Gunungsitoli 99.44 290 P **Pdif** **17 43 05.8 +1.0**
KNRA Kununurra 99.45 255 IAMs_20 IAMs_20 18 23 03.8
comp=Z,44μm,22.0s
AUWSH Wavell State H 99.61 229 P **Pdif** **17 43 07.3 +2.2**
PMBI Palembang 99.83 282 IAMs_20 IAMs_20 18 30 16.3
comp=Z,42μm,20.0s
GC1S Gold Coast 1 S 100.13 228 P **Pdif** **17 43 09.3 +1.9**
TW1H Toowoomba 1 Ha 100.13 230 P **Pdif** **17 43 09.8 +2.3**
MALK Mahakanadarawa 100.15 309 P **Pdif** **17 43 07.9 -0.1**
JAGI Jajag, Banyuwa 100.17 271 **Pdif** **17 43 04.2 -3.8**
JAGI Jajag, Banyuwa 100.17 271 P **Pdif** **17 43 07.6 -0.4**
PRPB Paraua pebas 100.29 84 *e*P **Pdif** **17 43 07.6 -1.0**
LPAZ La Paz 100.30 105 P **Pdif** **17 43 07.4 -1.8**
comp=Z,45nm,0.8s,baz=340,slow=3.7,SNR=104
LPAZ PP **PP** **17 47 19.9 +4.0**
comp=Z,46nm,1.0s,baz=334,slow=12,SNR=6.0
LPAZ PKKPbc **PKKPbc** **17 59 24.9 +1.9**
comp=Z,13nm,0.8s,baz=126,slow=2.7,SNR=4.4
LPAZ PKPPKP **P'P'df** **18 07 41.3 -1.1**
comp=Z,1.6nm,0.4s,baz=56,slow=6.3,SNR=5.6
LPAZ La Paz 100.30 105 *e*P **Pdif** **17 43 06.9 -2.3**
WRAB Tennant Creek 100.61 248 IAMs_20 IAMs_20 18 24 00.6
comp=Z,104μm,22.0s
WRA Warramunga Arr 100.62 248 P **Pdif** **17 43 07.9 -1.9**
comp=Z,26nm,0.9s,baz=37,slow=5.4,SNR=93
WRA PP **PP** **17 47 18.0 +0.3**
comp=Z,18nm,1.0s,baz=26,slow=6.7,SNR=5.0
WRA PKiKP **PKiKP** **17 47 36.0 +0.1**
comp=Z,18nm,0.7s,baz=16,slow=1.7,SNR=15
WRA S **SKSac** **17 53 42.8 -1.5**
comp=Z,10nm,1.0s,baz=51,slow=4.2,SNR=6.6
WRA PKKP **PKKPdf** **17 59 24.8 -2.2**
comp=Z,10nm,1.0s,baz=214,slow=3.0,SNR=9.0
WRA PKPPKP **P'P'df** **18 07 38.4 -2.1**
comp=Z,1.9nm,0.9s,baz=203,slow=1.7,SNR=5.5
SMRI Semarang 100.72 275 P **Pdif** **17 43 11.8 +1.3**
VILB Vilhena 101.17 96 *e*P **Pdif** **17 43 12.2 -0.2**
LHI Lord Howe Isla 101.29 223 IAMs_20 IAMs_20 18 21 37.9
comp=Z,61μm,22.0s
TRD Trivandrum 101.36 312 *e*P **Pdif** **17 43 14.1 +0.8**
TRD *i* x x 17 53 42.6
CLDB Colider 101.48 92 *e*P **Pdif** **17 43 13.1 -0.7**
PDRB Porto dos Gac 101.67 93 *e*P **Pdif** **17 43 13.6 -1.1**
MXZ Matakaoa Point 101.85 205 IAMs_20 IAMs_20 18 23 26.4
comp=Z,77μm,22.0s
QLP Quilpie 102.25 237 P **Pdif** **17 43 19.7 +2.8**
TORD Torodi Ar. Bea 102.47 28 P **Pdif** **17 43 16.4 -1.9**
comp=Z,8.6nm,1.0s,baz=337,slow=6.4,SNR=20
TORD PP **PP** **17 47 27.6 -3.1**
comp=Z,46nm,1.1s,baz=350,slow=7.6,SNR=6.3
TORD PKKPbc **PKKPbc** **17 59 14.4 -1.3**
comp=Z,55nm,0.9s,baz=176,slow=1.9,SNR=10
TORD PKKP **PKKPdf** **17 59 19.2 -2.5**
comp=Z,55nm,0.9s,baz=139,slow=0.7,SNR=21
TOZ Tahuroa Road 102.61 207 IAMs_20 IAMs_20 18 22 44.6
comp=Z,48μm,21.0s
URZ Urewera 102.77 206 P **Pdif** **17 43 22.7 +3.9**
comp=Z,13nm,0.7s,baz=127,slow=4.8,SNR=6.0
URZ PKiKP **PKiKP** **17 47 37.1 -2.0**
comp=Z,18nm,0.6s,baz=220,slow=1.8,SNR=6.5
TA02 Huaiquique 102.84 109 IAMs_20 IAMs_20 18 36 24.2
comp=Z,41μm,20.0s
ARMA Armidale 102.85 229 IAMs_20 IAMs_20 18 22 30.3
comp=Z,72μm,22.0s
ARMA Armidale 102.85 229 P **Pdif** **17 43 21.4 +1.8**
HMBC Humberstone 102.95 108 IAMs_20 IAMs_20 18 35 18.3
comp=Z,56μm,21.0s
FITZ Fitzroy Crossi 103.01 256 P **Pdif** **17 43 19.0 -1.4**
comp=Z,50nm,1.0s,baz=20,slow=3.0,SNR=34
FITZ PKiKP **PKiKP** **17 47 39.7 -0.5**
comp=Z,42nm,1.0s,baz=87,slow=5.3,SNR=4.1
FITZ Fitzroy Crossi 103.01 256 P **Pdif** **17 43 21.3 +0.9**
TA01 Diego Aracena 103.07 109 IAMs_20 IAMs_20 18 37 10.4
comp=Z,43μm,20.0s
RTZ Ruatahuna 103.14 206 IAMs_20 IAMs_20 18 22 27.5
comp=Z,47μm,22.0s
PB08 IPOC Station P 103.17 108 **Pdif** **17 43 19.8 -1.8**
PB08 IPOC Station P 103.17 108 P **Pdif** **17 43 22.0 +0.4**
AULRC Lightning Ridg 103.33 232 P **Pdif** **17 43 23.8 +2.2**
SIV San Ignacio 103.38 99 Pdiff **Pdif** **17 43 21.7 -0.5**
comp=Z,33nm,0.8s,baz=320,slow=3.2,SNR=65
SIV PKiKP **PKiKP** **17 47 40.2 -0.7**
comp=Z,87nm,0.9s,baz=352,slow=6.4,SNR=5.1
SIV PKKP **PKKPdf** **17 59 17.8 -3.8**
comp=Z,22nm,0.9s,baz=132,slow=4.8,SNR=10.0
HIZ Hauiti 103.50 208 IAMs_20 IAMs_20 18 25 32.2
comp=Z,35μm,20.0s
SMTB Santa Maria do 103.69 83 *e*P **Pdif** **17 43 24.5 +0.8**
AUPHS Peel High Scho 103.74 229 P **Pdif** **17 43 25.9 +2.5**
BKZ Black Stump Fm 103.77 206 IAMs_20 IAMs_20 18 22 59.3
comp=Z,66μm,22.0s
PB01 IPOC Station P 103.80 108 **Pdif** **17 43 21.9 -2.1**
PTLB Pontes e Lacer 103.83 97 *e*P **Pdif** **17 43 24.7 +0.6**
ASO1 Alice Springs 104.05 247 P **Pdif** **17 43 26.9 +1.9**
ASAR Alice Springs 104.07 247 Pdiff **Pdif** **17 43 24.3 -0.8**
comp=Z,3.3nm,0.7s,baz=25,slow=4.2,SNR=34
ASAR PKiKP **PKiKP** **17 47 41.2 -0.9**
comp=Z,22nm,0.9s,baz=41,slow=4.3,SNR=4.6
ASAR PKKPbc **PKKPbc** **17 59 11.6 +0.1**
comp=Z,9.7nm,0.8s,baz=200,slow=2.7,SNR=11
ASAR PKPPKP **P'P'df** **18 07 31.6 -2.3**
comp=Z,5.4nm,0.9s,baz=203,slow=2.2,SNR=8.5
PB04 IPOC Station P 104.62 110 IAMs_20 IAMs_20 18 38 30.4
comp=Z,43μm,19.0s
INKA Innaminka 104.71 239 P **Pdif** **17 43 29.9 +2.1**
BFZ Birch Farm 105.28 206 IAMs_20 IAMs_20 18 24 42.1
comp=Z,49μm,22.0s
MRZ Mangatainoka R 105.40 206 IAMs_20 IAMs_20 18 23 31.4
comp=Z,53μm,22.0s
MGCD Mangrove Creek 105.56 228 P **Pdif** **17 43 34.6 +3.2**
AUDCS Dubbo College 105.59 231 P **Pdif** **17 43 33.8 +2.2**
XMIS Christmas Isla 106.00 278 Pdif **Pdif** **17 43 35.1 +1.2**
CMSA Cobar Meteorol 106.09 233 P **Pdif** **17 43 37.0 +3.2**
SNZO South Karori 106.21 207 IAMs_20 IAMs_20 18 26 17.9
comp=Z,59μm,22.0s
QRZ Quartz Range 106.24 209 IAMs_20 IAMs_20 18 24 49.7
comp=Z,42μm,22.0s
NNZ Nelson 106.42 208 IAMs_20 IAMs_20 18 27 32.4
comp=Z,33μm,21.0s
PB14 IPOC Station P 106.49 111 **Pdif** **17 43 34.8 -1.4**
RCBR Riachuelo 106.53 71 Pdif **Pdif** **17 43 34.9 -1.4**
RCBR Riachuelo 106.53 71 IAMs_20 IAMs_20 18 27 55.6
comp=Z,55μm,22.0s
RCBR Riachuelo 106.53 71 PKiKP **PKiKP** **17 47 47.5 +0.6**
comp=Z,12nm,1.2s,baz=5.3,slow=14,SNR=3.9
RCBR Riachuelo 106.53 71 P **Pdif** **17 43 34.9 -1.4**
RCBR MLR MLR
comp=Z,55μm,22.0s
ATD Arta Tunnel 106.69 347 IAMs_20 IAMs_20 18 39 41.6
comp=Z,31μm,22.0s
CTZ Chatham Island 106.89 200 IAMs_20 IAMs_20 18 23 01.8
comp=Z,37μm,22.0s
DBIC Dimbokro 107.00 36 Pdiff **Pdif** **17 43 38.8 +0.3**
comp=Z,8.2nm,1.2s,baz=334,slow=7.1,SNR=5.4
DBIC PKiKP **PKiKP** **17 47 46.1 -1.6**
comp=Z,20nm,1.0s,baz=353,slow=5.6,SNR=4.7
DBIC PKKPbc **PKKPbc** **17 59 04.1 +2.0**
comp=Z,25nm,0.8s,baz=143,slow=3.1,SNR=8.6
THZ Tophouse 107.05 208 IAMs_20 IAMs_20 18 26 48.0
comp=Z,37μm,21.0s
DSZ Denniston Nort 107.28 209 IAMs_20 IAMs_20 18 29 04.3
comp=Z,31μm,20.0s
KHZ Kahutara 107.53 207 IAMs_20 IAMs_20 18 27 38.7
comp=Z,57μm,21.0s
AC01 Pan de Azucar 107.72 112 **Pdif** **17 43 39.5 -1.7**
STKA Stephens Creek 108.00 236 Pdiff **Pdif** **17 43 44.1 +1.8**
comp=Z,4.7nm,0.8s,baz=339,slow=9.3,SNR=7.3
STKA PKiKP **PKiKP** **17 47 49.5 +0.5**
comp=Z,43nm,1.0s,baz=352,slow=3.9,SNR=8.5
STKA PKKPbc **PKKPbc** **17 59 01.2 +1.6**
comp=Z,3.1nm,0.5s,baz=294,slow=3.6,SNR=4.4
LTZ Lake Taylor 108.16 208 IAMs_20 IAMs_20 18 26 00.5
comp=Z,63μm,22.0s
GVZ Greta Valley S 108.16 208 IAMs_20 IAMs_20 18 28 18.5
comp=Z,37μm,21.0s
CAN Canberra 108.22 229 IAMs_20 IAMs_20 18 28 12.3
comp=Z,72μm,22.0s
INZ Inchbonnie 108.30 209 IAMs_20 IAMs_20 18 25 39.1
comp=Z,44μm,21.0s
MBWA Marble Bar 108.43 260 IAMs_20 IAMs_20 18 28 57.8
comp=Z,35μm,22.0s
OXZ Oxford 108.73 208 IAMs_20 IAMs_20 18 28 08.5
comp=Z,58μm,21.0s
MQZ McQueen's Vall 108.95 208 IAMs_20 IAMs_20 18 29 15.4
comp=Z,31μm,21.0s
ACRG Accra 109.25 32 IAMs_20 IAMs_20 18 33 56.0
comp=Z,51μm,20.0s
RPZ Rata Peaks 109.32 209 IAMs_20 IAMs_20 18 30 34.3
comp=Z,36μm,20.0s
RPZ Rata Peaks 109.32 209 PKiKP **PKiKP** **17 47 50.8 -0.3**
comp=Z,26nm,0.7s,baz=299,slow=1.8,SNR=8.1
BDFB Brasilia 109.36 87 Pdiff **Pdif** **17 43 49.4 +0.5**
comp=Z,6.7nm,0.9s,baz=295,slow=4.5,SNR=8.5
BDFB PKiKP **PKiKP** **17 47 51.4 -0.7**
comp=Z,32nm,1.1s,baz=354,slow=4.9,SNR=5.5
BDFB PKKPbc **PKKPbc** **17 58 59.8 +4.8**
comp=Z,6.3nm,0.5s,baz=190,slow=7.0,SNR=5.4
FURI Furi 109.68 351 IAMs_20 IAMs_20 18 43 24.8
comp=Z,45μm,20.0s
AQDB Aquidauana 109.80 96 **Pdif** **17 43 50.5 -0.1**
LCO Las Campanas 110.14 114 IAMs_20 IAMs_20 18 41 45.8
comp=Z,35μm,22.0s
LBZ Lake Benmore 110.16 209 IAMs_20 IAMs_20 18 28 42.5
comp=Z,45μm,20.0s
KAAM Kaadhehdhoo 110.20 313 IAMs_20 IAMs_20 18 39 38.7
comp=Z,73μm,20.0s
ODZ Otahua Downs 110.68 209 IAMs_20 IAMs_20 18 29 06.1
comp=Z,46μm,22.0s
WKZ Wanaka 110.86 210 IAMs_20 IAMs_20 18 30 23.9
comp=Z,57μm,22.0s
BBOO Buckleboo 111.08 240 IAMs_20 IAMs_20 18 34 51.3
comp=Z,48μm,21.0s
GO04 Tololo Observa 111.09 114 **Pdif** **17 43 55.4 -1.1**
GO04 IAMs_20 IAMs_20 18 43 57.1
comp=Z,29μm,22.0s
CO01 Juntas del Tor 111.24 114 IAMs_20 IAMs_20 18 43 28.9
comp=Z,29μm,20.0s
TOO Toolangi 111.51 230 IAMs_20 IAMs_20 18 28 03.4
comp=Z,33μm,22.0s
MLZ Mavora Lakes 111.58 210 IAMs_20 IAMs_20 18 28 32.1
comp=Z,50μm,21.0s
CO03 El Pedregal 111.71 115 **Pdif** **17 43 56.4 -2.6**
CO03 IAMs_20 IAMs_20 18 43 49.5
comp=Z,27μm,21.0s
DCZ Deep Cove 111.91 211 IAMs_20 IAMs_20 18 27 42.8
comp=Z,65μm,21.0s
WHZ Wether Hill Ro 112.12 210 IAMs_20 IAMs_20 18 29 09.2
comp=Z,26μm,21.0s
VA01 Torpederas 113.17 116 IAMs_20 IAMs_20 18 46 37.1
comp=Z,27μm,21.0s
VA03 San Esteban 113.42 115 **Pdif** **17 44 04.7 -1.8**
VA03 IAMs_20 IAMs_20 18 46 45.7
comp=Z,34μm,21.0s
MT02 Curacav 113.59 116 IAMs_20 IAMs_20 18 46 58.2
comp=Z,31μm,21.0s
PEL Peldehue 113.69 116 IAMs_20 IAMs_20 18 47 07.9
comp=Z,29μm,21.0s
VA05 Santo Domingo 113.72 117 IAMs_20 IAMs_20 18 47 03.8
comp=Z,30μm,20.0s
MT05 Renca 113.88 116 IAMs_20 IAMs_20 18 47 14.8
comp=Z,27μm,20.0s
MT16 CCHEN 114.00 116 IAMs_20 IAMs_20 18 46 32.1
comp=Z,26μm,20.0s
CPUP Villa Florida 114.00 101 Pdiff **Pdif** **17 44 10.4 +1.2**
comp=Z,7.1nm,0.9s,baz=338,slow=5.3,SNR=10
CPUP PKP PKPdf 17 47 59.9 -0.6
comp=Z,29nm,1.1s,baz=343,slow=3.2,SNR=7.3
CPUP PKKPab **PKKPbc** **17 58 41.6 +1.8**
comp=Z,14nm,0.8s,baz=143,slow=1.5,SNR=8.6
MT01 Popeta 114.06 117 IAMs_20 IAMs_20 18 45 03.6
comp=Z,23μm,19.0s
MT03 Universidad Ad 114.06 116 IAMs_20 IAMs_20 18 46 33.7
comp=Z,26μm,21.0s
MT09 Talagante 114.09 116 IAMs_20 IAMs_20 18 47 38.6
comp=Z,27μm,21.0s
MT08 Bocatoma Ro 114.23 115 **Pdif** **17 44 09.5 -0.9**
MT13 San Alfonso 114.37 116 IAMs_20 IAMs_20 18 46 38.9
comp=Z,37μm,22.0s
BO04 La Punta 114.44 116 IAMs_20 IAMs_20 18 45 57.7
comp=Z,31μm,22.0s
LMEL Las Melosas 114.50 116 IAMs_20 IAMs_20 18 46 40.1
comp=Z,40μm,21.0s
BO01 Tunca 114.58 117 IAMs_20 IAMs_20 18 46 56.4
comp=Z,26μm,20.0s
GO05 Hualane 114.74 118 IAMs_20 IAMs_20 18 46 52.8
comp=Z,24μm,20.0s
BO02 Sierra Bellavi 115.05 117 IAMs_20 IAMs_20 18 46 10.9
comp=Z,55μm,22.0s
LODK Lodwar 115.32 354 IAMs_20 IAMs_20 18 47 54.1
comp=Z,28μm,20.0s
LODK Lodwar 115.32 354 P **PKPdf** **17 48 05.1 +1.5**
SNR=9.9
TAU Tasmania Unive 115.55 226 **PKiKP** **17 48 03.8 +0.9**
TAU Tasmania Unive 115.55 226 IAMs_20 IAMs_20 18 28 33.4
comp=Z,42μm,22.0s
TAU Tasmania Unive 115.55 226 PKIKP **PKiKP** **17 48 03.8 +0.9**
TAU MLR MLR
comp=Z,42μm,22.0s
ML02 Panimavida 115.60 118 IAMs_20 IAMs_20 18 48 20.5
comp=Z,39μm,21.0s
VAO Valinhos 116.16 90 IAMs_20 IAMs_20 18 43 59.4
comp=Z,42μm,20.0s
BI02 San Fabin de 116.43 118 IAMs_20 IAMs_20 18 49 04.4
comp=Z,35μm,21.0s
SPB Sao Paulo 116.43 91 **PKPdf** **17 48 04.6 -0.7**
SPB IAMs_20 IAMs_20 18 41 31.7
comp=Z,71μm,21.0s
MORW Morawa 116.89 258 **PKPdf** **17 48 04.8 -1.3**
MORW IAMs_20 IAMs_20 18 35 20.9
comp=Z,38μm,21.0s
ITQB Itaqui 117.15 102 **PKPdf** **17 48 06.3 -0.2**
ASCN Ascension 117.52 51 IAMs_20 IAMs_20 18 33 51.8
comp=Z,39μm,21.0s
LR04 Corral 118.25 122 IAMs_20 IAMs_20 18 50 15.7
comp=Z,25μm,20.0s
LR03 Panguipulli 118.49 121 IAMs_20 IAMs_20 18 47 41.9
comp=Z,25μm,22.0s
GO06 Curarrehue 118.81 120 **PKPdf** **17 48 08.8 -0.7**
GO06 IAMs_20 IAMs_20 18 50 30.5
comp=Z,40μm,21.0s
LR05 Currie 119.13 121 IAMs_20 IAMs_20 18 49 52.0
comp=Z,37μm,22.0s
MBAR Mbarara 119.45 359 **PKPdf** **17 48 10.5 -1.2**
MBAR Mbarara 119.45 359 P **PKiKP** **17 48 12.4 +0.6**
MBAR Mbarara 119.45 359 PKIKP **PKPdf** **17 48 10.5 -1.2**
LL04 Puerto Octay 119.53 122 IAMs_20 IAMs_20 18 48 21.7
comp=Z,39μm,22.0s
NWAO Narrogin (SRO) 119.55 255 **PKPdf** **17 48 09.8 -1.2**
NWAO Narrogin (SRO) 119.55 255 IAMs_20 IAMs_20 18 40 38.3
comp=Z,28μm,22.0s
NWAO Narrogin (SRO) 119.55 255 PKIKP **PKPdf** **17 48 09.8 -1.2**
NWAO MLR MLR
comp=Z,28μm,22.0s
KMBO Kilima Mbogo 119.72 352 **PKPdf** **17 48 11.8 -0.4**
KMBO Kilima Mbogo 119.72 352 *i* P **PKPdf** **17 48 11.9 -0.4**
SNR=112
KMBO Kilima Mbogo 119.72 352 PKP **PKPdf** **17 48 12.1 -0.2**
comp=Z,82nm,0.8s,baz=3.1,slow=3.3,SNR=57
KMBO PKKPab **PKKPab** **17 58 24.8 -1.5**
comp=Z,12nm,0.8s,baz=132,slow=1.1,SNR=11
KMBO Kilima Mbogo 119.72 352 P **PKiKP** **17 48 13.2 +0.8**
LL03 Petrohue 119.73 122 IAMs_20 IAMs_20 18 50 31.8
comp=Z,39μm,21.0s
PLCA Paso Flores 120.16 120 **PKPdf** **17 48 11.6 -0.4**
PLCA Paso Flores 120.16 120 PKP **PKPdf** **17 48 11.8 -0.2**
comp=Z,109nm,1.0s,baz=313,slow=2.6,SNR=40
PLCA PKKPbc **PKKPab** **17 58 19.4 -0.1**
comp=Z,19nm,0.8s,baz=157,slow=3.4,SNR=13
PLCA PKKP **PKKPdf** **17 58 48.2 -2.8**
comp=Z,11nm,0.8s,baz=221,slow=3.8,SNR=4.5
PLCA Paso Flores 120.16 120 *e*P **PKPdf** **17 48 11.7 -0.4**
PLTB Pedras Altas 120.32 101 *e*P **PKPdf** **17 48 12.3 -0.2**
MSEY Mahe Island 120.33 330 PKPdf **PKPdf** **17 48 13.0 -0.2**
MSEY pPKPdf **pPKPdf** **17 48 30.5 +2.1**
MSEY Mahe Island 120.33 330 *i* P **PKiKP** **17 48 14.4 +1.1**
SNR=13
MSEY Mahe Island 120.33 330 P **PKiKP** **17 48 15.2 +1.9**
MSEY Mahe Island 120.33 330 PKIKP **PKPdf** **17 48 13.0 -0.2**
LL01 San Ignacio de 120.76 123 IAMs_20 IAMs_20 18 49 28.2
comp=Z,32μm,22.0s
KIBK Kibwezi 120.86 351 **PKPdf** **17 48 12.8 -1.5**
KIBK IAMs_20 IAMs_20 18 50 12.6
comp=Z,34μm,20.0s
KIBK Kibwezi 120.86 351 PKP **PKiKP** **17 48 16.1 +1.7**
KIBK Kibwezi 120.86 351 P **PKiKP** **17 48 14.6 +0.2**
SNR=50
GO07 Milladeo Hill, 120.87 124 IAMs_20 IAMs_20 18 45 38.2
comp=Z,28μm,22.0s
TRQA Tornquist 121.65 112 IAMs_20 IAMs_20 18 48 00.2
comp=Z,57μm,21.0s
LL02 Futaleuf 121.67 123 IAMs_20 IAMs_20 18 52 28.2
comp=Z,36μm,22.0s
MCQ Macquarie Isla 122.30 212 IAMs_20 IAMs_20 18 33 12.6
comp=Z,30μm,22.0s
H01W1 Cape Leeuwin H 122.61 256 PKhKP PKPpre 17 48 11.5
baz=308,slow=1.5,SNR=7.8
H01W3 Cape Leeuwin H 122.61 256 PKhKP PKPpre 17 48 05.1
baz=308,slow=1.5,SNR=4.9
H01W2 Cape Leeuwin H 122.63 256 PKP **PKiKP** **17 48 18.8 +2.0**
baz=308,slow=1.5,SNR=9.7
COYC Coyhaique 123.55 124 **PKPdf** **17 48 16.8 -1.5**
DODT Dodoma, Tanzan 124.83 353 *i* P **PKiKP** **17 48 23.0 +0.7**
DODT *i* S **PP** **17 50 08.1 -1.3**
GO08 Villa O'Higgin 125.73 127 IAMs_20 IAMs_20 18 53 29.8
comp=Z,25μm,20.0s
SHEL Horse Pasture 128.04 45 IAMs_20 IAMs_20 18 39 51.5
comp=Z,32μm,21.0s
MG04 Isla Riesco 129.64 130 IAMs_20 IAMs_20 18 56 42.1
comp=Z,38μm,21.0s
GO10 Punta Arenas 130.06 129 **PKPdf** **17 48 29.7 -0.8**
GO10 IAMs_20 IAMs_20 18 54 59.4
comp=Z,24μm,21.0s
SBV Sambava 130.08 334 P **PKiKP** **17 48 34.3 +1.8**
SNR=40
ROCAM Rodrigues Isla 132.36 315 **PKiKP** **17 48 36.9 0.0**
ROCAM IAMs_20 IAMs_20 18 50 13.7
comp=Z,29μm,20.0s
LSZ Lusaka 134.01 2 PKPpre 17 48 26.4
LSZ Lusaka 134.01 2 IAMs_20 IAMs_20 18 57 38.4
comp=Z,56μm,22.0s
LSZ Lusaka 134.01 2 P **PKiKP** **17 48 40.9 +0.3**
LSZ Lusaka 134.01 2 PKHKP PKPpre 17 48 26.4
LSZ MLR MLR
comp=Z,56μm,22.0s
EFI East Falkland 134.08 120 **PKPdf** **17 48 37.2 -0.9**
EFI pPKPdf **sPKPdf** **17 48 56.6 -2.1**
ABPO Ambohimpanom 136.03 336 PKPpre 17 48 31.9
ABPO PKPdf **PKPdf** **17 48 39.8 -3.3**
ABPO Ambohimpanom 136.03 336 PKHKP PKPpre 17 48 31.9
ABPO 17 48 39.8
RER Riviere de l'E 136.05 324 IAMs_20 IAMs_20 18 51 27.3
comp=Z,26μm,21.0s
KSANE Kasane 136.41 7 *i* P PKPpre 17 48 34.3
QNGWA Qangwa 137.80 12 *i* P PKPpre 17 48 40.9
VOI Vohitsoka 138.93 336 PKPpre 17 48 40.9
VOI IAMs_20 IAMs_20 18 57 35.5
comp=Z,31μm,22.0s
SOOWA Sowa 139.20 5 *i* P PKPpre 17 48 40.9
GRTLG Ghanzi 139.62 13 *i* P PKPpre 17 48 42.3
BROLN Tlhalogang 139.78 4 *i* P PKPpre 17 48 41.2
CKGRV CKGRV 139.89 9 *i* P PKPpre 17 48 42.5
WIN Windhoek 140.27 19 IAMs_20 IAMs_20 18 52 32.0
comp=Z,53μm,21.0s
PMSA Palmer Station 140.97 137 PKPpre 17 48 44.7
PMSA PKPdf **PKPdf** **17 48 50.6 +0.3**
PMSA Palmer Station 140.97 137 IAMs_20 IAMs_20 18 44 52.9
comp=Z,20μm,21.0s
PMSA Palmer Station 140.97 137 PKhKP PKPpre 17 48 45.5
comp=Z,204nm,1.0s,baz=138,slow=1.8,SNR=7.8
PMSA Palmer Station 140.97 137 *e*P **PKPdf** **17 48 50.1 -0.3**
KOOLE Kule 141.11 14 *i* P PKPpre 17 48 45.8
KGCAE Kacgae 141.19 11 *i* P PKPpre 17 48 46.0
MREMI Moremi 141.25 4 *i* P PKPpre 17 48 45.7
SBA Scott Base 141.40 193 PKPpre 17 48 45.0
SBA Scott Base 141.40 193 IAMs_20 IAMs_20 18 42 51.8
comp=Z,23μm,21.0s
SBA Scott Base 141.40 193 PKHKP PKPpre 17 48 45.0
SBA MLR MLR
comp=Z,23μm,21.0s
VNDA Vanda 141.70 195 PKPpre 17 48 45.9
VNDA Vanda 141.70 195 PKhKP PKPpre 17 48 48.2
comp=Z,67nm,1.0s,baz=348,slow=3.8,SNR=65
VNDA Vanda 141.70 195 PKHKP PKPpre 17 48 45.9
FOMA Nahampoana Res 141.87 335 PKPpre 17 48 45.6
FOMA PKPdf **PKPdf** **17 48 52.9 -0.3**
FOMA IAMs_20 IAMs_20 18 55 37.5
comp=Z,27μm,22.0s
KDWAN Kaudwane 141.92 8 *i* P PKPpre 17 48 47.8
LPHEP Lephephe 141.97 6 *i* P PKPpre 17 48 48.1
SMAI San Martin Ant 142.17 143 PKPpre 17 48 48.6
SMAI IAMs_20 IAMs_20 18 39 10.4
comp=Z,26μm,22.0s
AIS Amsterdam Isla 142.40 287 IAMs_20 IAMs_20 18 55 10.4
comp=Z,32μm,22.0s
LBTB Lobatse 143.60 7 pPKPdf pPKPdf 17 49 12.8 +1.1
TRIS Tristan da Cun 144.22 67 PKPbc 17 48 55.6 +0.3
TRIS IAMs_20 IAMs_20 18 50 33.7
comp=Z,26μm,21.0s
HOPE Hope Point 145.34 109 **PKPbc** **17 48 57.6 -0.7**
HOPE Hope Point 145.34 109 PKIKP **PKPbc** **17 48 57.6 -0.7**
POGA Pongola 146.02 357 **PKPdf** **17 48 59.6 -0.8**
CASY Casey 146.41 226 **PKPdf** **17 49 00.4 +0.6**
CASY **sPKPdf** **17 49 19.8 -0.7**
CASY Casey 146.41 226 IAMs_20 IAMs_20 18 46 24.4
comp=Z,26μm,21.0s
BOSA Boshof 147.15 8 PKPbc **PKPbc** **17 49 04.3 -0.5**
comp=Z,627nm,1.0s,baz=355,slow=2.4,SNR=72
SUR Sutherland 150.45 16 **PKPdf** **17 49 07.0 -0.9**
SUR Sutherland 150.45 16 P **PKPdf** **17 49 08.7 +0.8**
QSPA South Pole Qui 151.12 180 IAMs_20 IAMs_20 18 49 31.3
comp=Z,39μm,22.0s
QSPA South Pole Qui 151.12 180 PKP **PKPdf** **17 49 05.2 -2.4**
comp=Z,191nm,0.9s,baz=342,slow=0.8,SNR=82
QSPA PKPbc **PKPbc** **17 49 13.5 0.0**
comp=Z,2μm,0.9s,baz=9.5,slow=0.9,SNR=85
BELA Belgrano 2 154.13 154 PKPpre 17 49 06.5
BELA IAMs_20 IAMs_20 19 12 07.7
comp=Z,32μm,22.0s
CRZF Crozet Islands 160.44 310 PKPdf **PKPdf** **17 49 18.9 -1.5**
CRZF **PKPab** **17 50 01.8 0.0**
VNA3 Neumayer Olymp 161.62 139 ⇑PKPab **PKPab** **17 50 07.1 +0.6**
comp=Z,925nm,0.8s
VNA3 ⇑PKPdf **PKPdf** **17 49 18.2 -2.8**
comp=Z,131nm,0.8s
VNA3 ⇑SKSdf **SKSdf** **17 56 13.2 -7.6**
comp=Z,113nm,0.7s
VNA1 Neumayer-Stat 162.20 138 ⇑PKPab **PKPab** **17 50 09.0 +0.1**
comp=Z,770nm,0.9s
VNA1 ⇑PKPdf **PKPdf** **17 49 17.7 -3.9**
comp=Z,88nm,1.0s
VNA1 ⇑SKSdf **SKSdf** **17 56 16.5 -4.7**
comp=Z,72nm,0.9s
VNA2 Neumayer-Watz 162.41 139 ⇑PKPab **PKPab** **17 50 10.1 +0.1**
comp=Z,452nm,0.7s,baz=255,slow=3.2
VNA2 ⇑PKPdf **PKPdf** **17 49 19.2 -2.6**
comp=Z,98nm,0.8s,baz=322,slow=2.6
VNA2 ⇑SKSdf **SKSdf** **17 56 16.1 -5.4**
comp=Z,64nm,0.7s,baz=246,slow=2.5
SNAA Sanae 163.57 143 **PKPdf** **17 49 17.9 -5.1**
SNAA pPKPdf **pPKPdf** **17 49 38.4 +0.1**
SNAA PKPab **PKPab** **17 50 14.9 -0.2**
SNAA Sanae 163.57 143 ⇑PKPab **PKPab** **17 50 14.6 -0.5**
comp=Z,5μm,0.9s
SNAA ⇑PKPdf **PKPdf** **17 49 19.7 -3.3**
comp=Z,2μm,1.0s
SNAA ⇑SKSdf **SKSdf** **17 56 21.1 -1.4**
comp=Z,390nm,0.8s
SNAA Sanae 163.57 143 PKP **PKPdf** **17 49 18.3 -4.7**
comp=Z,85nm,1.0s,baz=218,slow=0.7,SNR=82
SNAA PKPab **PKPab** **17 50 14.6 -0.5**
comp=Z,263nm,0.9s,baz=231,slow=4.3,SNR=18
MAW Mawson 164.64 232 PKP **PKPdf** **17 49 22.7 -1.2**
comp=Z,64nm,1.0s,baz=72,slow=0.6,SNR=85
MAW PKPab **PKPab** **17 50 19.5 -0.2**
comp=Z,368nm,1.0s,baz=74,slow=4.2,SNR=20
TROLL Troll, Antarti 164.92 147 ⇑PKPab **PKPab** **17 50 21.8 +0.6**
comp=Z,17μm,0.8s
TROLL ⇑PKPdf **PKPdf** **17 49 21.1 -3.2**
comp=Z,4μm,1.0s
TROLL ⇑SKSdf **SKSdf** **17 56 27.4 +3.9**
comp=Z,2μm,0.7s
NVL N'lazarevskaya 168.05 150 *e*PKIKP **PKPdf** **17 49 22.8 -3.7**
NVL *e* 17 56 18.3
NVL pmax pmax
comp=Z,256nm,1.5s
ELIB Princess Elisa 169.01 169 *d*PKPdf **PKPdf** **17 49 23.4 -3.9**
ELIB *d*PKP **PKPab** **17 50 40.9 +1.8**

*NEIC **30** 17:32:27.3±1.1, 61°.38N±0°.04×150°.02W±0°.06, h48km±4km, Error ellipse: s-maj=5.8km s-min=3.2km az=212.0*
AEIC 30 17:32:27.6±0.9, 61°.40N±0°.03×150°.00W±0°.07, h47km±5km, ML4.5, Error ellipse: s-maj=5.1km s-min=4.5km az=80.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.33**	**158**	Pn	Pn	17 32 36.1	-0.7
RC01	**Rabbit Creek A**	**0.33**	**158**		Sn	17 32 43.0	-0.3
M22K	**Willow**	**0.36**	**351**		Pn	17 32 36.4	-0.7
SUA	**Susitna One**	**0.37**	**281**		Pn	17 32 36.4	-0.8
SUA					Sn	17 32 45.5	+1.4
PMR	**Palmer**	**0.46**	**64**	Pn	Pn	17 32 37.7	-0.4
GHO	**Glory Hole Cre**	**0.64**	**53**	Pn	Pn	17 32 40.1	-0.4
KNK	**Knik Glacier**	**0.74**	**88**	Pn	Pn	17 32 41.9	+0.1
CAPN	**Captain Cook N**	**0.84**	**222**	Pn	Pn	17 32 43.2	+0.1
STLK	**Strandline Lak**	**0.89**	**277**		Pn	17 32 43.3	-0.5
STLK					Sn	17 32 55.3	-0.3
SML	**Sawmill**	**0.90**	**62**	Pn	Pn	17 32 43.7	-0.2
SLKM	**Skilak Lake**	**0.90**	**187**		Pn	17 32 43.6	-0.3
SLKM					Sn	17 32 56.2	+0.4
O22K	**Cooper Landing**	**0.93**	**172**	Pn	Pn	17 32 44.0	-0.2
SKT	**Skwentna**	**0.94**	**309**	Pn	Pn	17 32 44.2	-0.2
PWL	**Port Wells**	**0.97**	**123**	Pn	Pn	17 32 45.4	+0.5
SPCR	**Spurr Chakacha**	**1.09**	**260**		Pn	17 32 45.9	-0.6
SPCR					Sn	17 33 00.3	-0.1
SPCR	**Spurr Chakacha**	**1.09**	**260**		Pn	17 32 45.8	-0.6
SCM	**Sheep Creek Mo**	**1.35**	**70**	Pn	Pn	17 32 50.9	+0.8
M20K	**Styx River**	**1.57**	**289**	Pn	Pn	17 32 53.4	+0.3
BRLK	**Bradley Lake**	**1.70**	**195**	Pn	Pn	17 32 54.2	-0.5
FID	**Port Fidalgo**	**1.83**	**109**	Pn	Pn	17 32 55.3	-1.3
HOM	**Homer**	**1.93**	**206**	Pn	Pn	17 32 57.7	-0.2
CNPM	**China Poot**	**1.98**	**199**	Pn	Pn	17 32 58.1	-0.5
M19K	**Big River Lodg**	**2.16**	**286**	Pn	Pn	17 33 01.3	+0.2
N19K	**Bonanza Creek**	**2.26**	**257**	Pn	Pn	17 33 02.5	0.0
L19K	**White Mountain**	**2.44**	**291**	Pn	Pn	17 33 05.4	+0.5
SVW2	**Sparrevohn**	**2.71**	**266**	Pn	Pn	17 33 08.4	-0.3
N18K	**Kilae Creek**	**2.96**	**258**	Pn	Pn	17 33 11.7	-0.3

*NEIC **30** 17:32:36.4±1.1, 61°.49N±0°.02×149°.90W±0°.05, h38km±8km, Error ellipse: s-maj=3.5km s-min=3.0km az=203.0*
AEIC 30 17:32:37.0±1.3, 61°.48N±0°.02×149°.92W±0°.05, h37km±7km, ML4.6, ML4.7/17(NEIC), **Error ellipse: s-maj=3.3km s-min=3.0km az=46.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.29**	**341**		Pn	17 32 44.0	-1.2
M22K					Sn	17 32 50.9	-1.4
M22K	**Willow**	**0.29**	**341**	IAML		17 32 52.6	
	comp=N,99μm,1.1s						
PMR	**Palmer**	**0.40**	**73**		Pn	17 32 45.2	-0.7
PMR	**Palmer**	**0.40**	**73**		Sn	17 32 52.6	-0.1
PMR	**Palmer**	**0.40**	**73**	IAML		17 32 52.7	
	comp=E,23μm,0.2s						
PMR				IAML		17 32 52.8	
	comp=N,26μm,1.4s						
SUA	**Susitna One**	**0.40**	**268**		Sn	17 32 53.4	+0.5
SUA	**Susitna One**	**0.40**	**268**	Pn	Pn	17 32 46.0	0.0
SUA	**Susitna One**	**0.40**	**268**	IAML		17 32 53.6	
	comp=N,23μm,0.9s						
SUA				IAML		17 32 53.6	
	comp=E,40μm,0.9s						
RC01	**Rabbit Creek A**	**0.40**	**167**		Sn	17 32 52.9	+0.2
GHO	**Glory Hole Cre**	**0.56**	**58**		Pn	17 32 47.7	-1.0
GHO					Sn	17 32 56.8	+0.1
GHO	**Glory Hole Cre**	**0.56**	**58**	IAML		17 32 57.1	
	comp=E,37μm,1.1s						
GHO				IAML		17 32 57.9	
	comp=N,37μm,1.2s						
KNK	**Knik Glacier**	**0.71**	**95**		Pn	17 32 49.5	-0.9
KNK				IAML		17 33 13.8	
	comp=E,23μm,1.4s						
KNK	**Knik Glacier**	**0.71**	**95**		Sn	17 33 01.1	+1.0
KNK	**Knik Glacier**	**0.71**	**95**	IAML		17 32 55.8	
	comp=N,23μm,1.1s						
SML	**Sawmill**	**0.83**	**66**		Pn	17 32 51.1	-1.0
SML	**Sawmill**	**0.83**	**66**	IAML		17 32 57.7	
	comp=E,30μm,1.2s						
SML				IAML		17 33 02.6	
	comp=N,27μm,1.0s						
SKT	**Skwentna**	**0.92**	**304**		Pn	17 32 52.4	-0.9
SKT	**Skwentna**	**0.92**	**304**		Sn	17 33 04.9	-0.4
SKT	**Skwentna**	**0.92**	**304**	IAML		17 33 00.3	
	comp=E,31μm,1.5s						
SKT				IAML		17 33 00.9	
	comp=N,24μm,1.2s						
STLK	**Strandline Lak**	**0.92**	**272**		Pn	17 32 52.6	-0.7
STLK					Sn	17 33 05.4	0.0
CAPN	**Captain Cook N**	**0.93**	**221**	Pn	Pn	17 32 54.1	+0.7
M23K	**Glacier View**	**1.09**	**72**		Pn	17 32 55.2	-0.6
SPCR	**Spurr Chakacha**	**1.14**	**257**		Pn	17 32 55.8	-0.6
SCM	**Sheep Creek Mo**	**1.29**	**73**		Pn	17 32 58.0	-0.4
SEW	**Seward**	**1.40**	**170**	Pn	Pn	17 33 00.4	+0.5
WAT7	**Susitna Watana**	**1.45**	**20**		Pn	17 33 00.5	-0.2
GLI	**Glacier Island**	**1.50**	**112**		Pn	17 33 00.6	-0.6
WAT6	**Susitna Watana**	**1.51**	**42**		Pn	17 33 01.2	-0.4
RDT	**Redoubt**	**1.51**	**234**		Pn	17 33 00.9	-0.5
M24K	**Tolsona, Glenn**	**1.89**	**69**	Pn	Pn	17 33 07.1	+0.4
KLU	**Klutina**	**1.92**	**88**		Pn	17 33 06.8	-0.3
DHY	**Denali Highway**	**2.00**	**36**	Pn	Pn	17 33 08.6	+0.3
RND	**Reindeer**	**2.00**	**14**	Pn	Pn	17 33 07.3	-0.8
MCK	**McKinley**	**2.31**	**11**	Pn	Pn	17 33 11.6	-0.8
L19K	**White Mountain**	**2.44**	**289**	Pn	Pn	17 33 13.6	-0.7
O19K	**Port Alsworth**	**2.51**	**241**	Pn	Pn	17 33 15.6	+0.5
K20K	**Telida**	**2.70**	**316**	Pn	Pn	17 33 16.8	-0.9
RAGM	**Ragged Mountai**	**2.79**	**111**	Pn	Pn	17 33 18.8	-0.2
NEA2	**Nenana**	**3.15**	**7**	Pn	Pn	17 33 23.8	-0.1
Q19K	**Cape Douglas,**	**3.16**	**218**	Pn	Pn	17 33 23.7	-0.4
BERG	**Berg Lake**	**3.23**	**107**	Pn	Pn	17 33 23.8	-1.1
HDA	**Harding Lake**	**3.24**	**24**	Pn	Pn	17 33 23.3	-1.9
MENT	**Mentasta**	**3.25**	**61**	Pn	Pn	17 33 24.3	-1.0
SUCK	**Suckling Hills**	**3.33**	**112**	Pn	Pn	17 33 25.9	-0.5

*NEIC **30** 17:33:51.9±0.8, 61°.35N±0°.03×149°.84W±0°.07, h45km±5km, Error ellipse: s-maj=5.1km s-min=4.2km az=73.0*
AEIC 30 17:33:53.0±1.2, 61°.34N±0°.02×149°.91W±0°.06, h39km±3km, ML4.3, ML4.5/53(NEIC), **Error ellipse: s-maj=5.0km s-min=2.5km az=55.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.26**	**161**	Pn	Pn	17 34 00.0	-0.9
RC01				Sn	Sn	17 34 06.2	-0.8
SUA	**Susitna One**	**0.42**	**288**		Pn	17 34 01.9	-0.7
SUA	**Susitna One**	**0.42**	**288**	IAML		17 34 08.2	
	comp=N,2μm,1.1s						
SUA				IAML		17 34 08.2	
	comp=E,3μm,1.1s						
SUA				Sn	Sn	17 34 09.8	+0.1
M22K	**Willow**	**0.43**	**347**	Pn	Pn	17 34 01.5	-1.1
M22K				Sn	Sn	17 34 09.2	-0.4
PMR	**Palmer**	**0.45**	**55**	Pn	Pn	17 34 00.9	-2.0
PMR				Sn	Sn	17 34 09.4	-0.6
GHO	**Glory Hole Cre**	**0.64**	**47**	Pn	Pn	17 34 04.4	-1.3
GHO	**Glory Hole Cre**	**0.64**	**47**		Sn	17 34 14.6	-0.2
KNK	**Knik Glacier**	**0.70**	**83**	Pn	Pn	17 34 05.1	-1.4
KNK				IAML		17 34 18.4	
	comp=N,17μm,0.9s						
KNK	**Knik Glacier**	**0.70**	**83**		Sn	17 34 16.8	+0.6
CAPN	**Captain Cook N**	**0.83**	**227**	Pn	Pn	17 34 07.8	-0.3
CAPN				IAML		17 34 13.3	
	comp=E,24μm,1.0s						
SLKM	**Skilak Lake**	**0.84**	**190**		Pn	17 34 07.6	-0.8
O22K	**Cooper Landing**	**0.86**	**174**	Pn	Pn	17 34 07.3	-1.2
O22K	**Cooper Landing**	**0.86**	**174**		Sn	17 34 20.1	+0.2
SML	**Sawmill**	**0.89**	**57**	Pn	Pn	17 34 07.9	-1.2
SML				IAML		17 34 16.4	
	comp=N,10μm,1.2s						
SML				IAML		17 34 27.7	
	comp=E,15μm,1.3s						
PWL	**Port Wells**	**0.90**	**121**	Pn	Pn	17 34 08.2	-1.0
PWL	**Port Wells**	**0.90**	**121**		Sn	17 34 21.2	+0.3
STLK	**Strandline Lak**	**0.94**	**281**		Pn	17 34 09.3	-0.4
SKT	**Skwentna**	**1.01**	**311**	Pn	Pn	17 34 09.6	-1.0
SKT				IAML		17 34 25.0	
	comp=E,18μm,0.9s						
SKT	**Skwentna**	**1.01**	**311**		Sn	17 34 23.7	+0.1
SPCG	**Spurr Capps Gl**	**1.02**	**268**		Pn	17 34 10.2	-0.6
SPCG					Sn	17 34 24.4	+0.5
SPCP	**Crater Peak Br**	**1.08**	**267**		Pn	17 34 11.3	-0.5
CUT	**Chulitna**	**1.09**	**351**	Pn	Pn	17 34 10.4	-1.2
CUT				IAML		17 34 41.2	
	comp=E,12μm,1.2s						
CUT	**Chulitna**	**1.09**	**351**		Sn	17 34 26.3	+0.9
SPCR	**Spurr Chakacha**	**1.12**	**264**		Pn	17 34 11.4	-0.8
SPCR	**Spurr Chakacha**	**1.12**	**264**		Pn	17 34 11.4	-0.7
M23K	**Glacier View**	**1.14**	**65**		Pn	17 34 12.0	-0.4
M23K					Sn	17 34 27.8	+1.0
SCM	**Sheep Creek Mo**	**1.33**	**67**	Pn	Pn	17 34 14.6	-0.5
SCM				IAML		17 34 35.5	
	comp=N,10μm,1.2s						
SCM				IAML		17 35 04.3	
	comp=E,9μm,1.3s						
RDT	**Redoubt**	**1.44**	**239**		Pn	17 34 15.9	-0.6
GLI	**Glacier Island**	**1.44**	**107**	Pn	Pn	17 34 15.2	-1.3
GLI				IAML		17 34 36.1	
	comp=N,8μm,1.1s						
GLI				IAML		17 34 37.5	
	comp=E,6μm,0.7s						
RDJH	**Redoubt Jeurge**	**1.60**	**243**		Pn	17 34 18.2	-0.5
M20K	**Styx River**	**1.63**	**291**	Pn	Pn	17 34 19.1	-0.1
M20K				IAML		17 34 39.9	
	comp=E,4μm,1.1s						
M20K				IAML		17 34 51.5	
	comp=N,4μm,1.3s						
BRLK	**Bradley Lake**	**1.65**	**197**	Pn	Pn	17 34 18.4	-1.0
RDWB	**Redoubt West**	**1.67**	**241**		Pn	17 34 19.3	-0.4
RED	**Redoubt Volcan**	**1.68**	**238**		Pn	17 34 19.4	-0.4
FID	**Port Fidalgo**	**1.77**	**108**	Pn	Pn	17 34 19.0	-2.0
FID				IAML		17 34 32.3	
	comp=E,4μm,1.1s						
FID				IAML		17 34 50.0	
	comp=N,4μm,1.0s						
HIN	**Hinchinbrook I**	**1.92**	**118**	Pn	Pn	17 34 21.6	-1.4
HIN				IAML		17 34 39.1	
	comp=E,5μm,1.1s						
HIN				IAML		17 35 23.1	
	comp=N,4μm,1.1s						
KLU	**Klutina**	**1.92**	**84**	Pn	Pn	17 34 22.1	-1.1
KLU				IAML		17 34 38.3	
	comp=E,4μm,1.1s						
KLU				IAML		17 34 47.3	
	comp=N,3μm,1.1s						
CNPM	**China Poot**	**1.93**	**200**	Pn	Pn	17 34 22.4	-0.8
CNPM				IAML		17 35 22.2	
	comp=E,3μm,1.1s						
M24K	**Tolsona, Glenn**	**1.94**	**65**	Pn	Pn	17 34 23.4	-0.1
DHY	**Denali Highway**	**2.11**	**33**	Pn	Pn	17 34 25.8	-0.1
DHY				IAML		17 34 46.8	
	comp=E,4μm,1.1s						
DHY				IAML		17 35 06.3	
	comp=N,5μm,1.2s						
M19K	**Big River Lodg**	**2.21**	**287**	Pn	Pn	17 34 27.1	0.0
M19K				IAML		17 34 54.4	
	comp=E,3μm,0.9s						
M19K				IAML		17 35 06.8	
	comp=N,3μm,1.3s						
KTH	**Kantishna Hill**	**2.27**	**349**	Pn	Pn	17 34 28.3	+0.3
CAST	**Castle Rocks**	**2.32**	**335**	Pn	Pn	17 34 28.1	-0.6
CAST				IAML		17 35 06.8	
	comp=N,3μm,1.2s						
CAST				IAML		17 35 17.8	
	comp=E,3μm,1.3s						
L19K	**White Mountain**	**2.50**	**292**	Pn	Pn	17 34 30.5	-0.5
L19K				IAML		17 35 19.2	
	comp=N,2μm,1.1s						
L19K				IAML		17 35 42.9	
	comp=E,3μm,1.3s						
MID	**Middleton Isla**	**2.61**	**136**	Pn	Pn	17 34 32.2	-0.3
SVW2	**Sparrevohn**	**2.75**	**267**	Pn	Pn	17 34 33.8	-0.7
K20K	**Telida**	**2.81**	**318**	Pn	Pn	17 34 34.8	-0.5
TTA	**Tatalina**	**3.28**	**302**	Pn	Pn	17 34 41.2	-0.6
CRQM	**Cirque**	**3.34**	**97**	Pn	Pn	17 34 41.5	-1.3
TGL	**Tana Glacier**	**3.49**	**96**	Pn	Pn	17 34 43.0	-1.8
M17K	**Holitna River**	**3.62**	**274**	Pn	Pn	17 34 45.9	-0.6
N17K	**Nushagak Hills**	**3.64**	**260**	Pn	Pn	17 34 46.0	-0.7
ILAR	**Eielson Array**	**3.71**	**20**	Pn	Pn	17 34 49.2	+1.5
MLY	**Manley**	**3.73**	**355**	Pn	Pn	17 34 48.1	+0.1
K17K	**Iditarod**	**4.19**	**293**	Pn	Pn	17 34 53.7	-0.5
M16K	**Timber Creek**	**4.39**	**270**	Pn	Pn	17 34 56.8	-0.2
L16K	**Owhat River**	**4.59**	**279**	Pn	Pn	17 34 59.0	-0.8

*MOS **30** 17:35:34.7±1.0, 61°.24N×150°.17W, h57km, mb6.2/54, Error ellipse: s-maj=13.0km s-min=7.1km az=95.2*
*BJI **30** 17:35:34.0, 61°.30N×149°.90W, h40km, mb5.7/47*
*IDC **30** 17:35:35.8±1.3, 61°.35N×150°.20W, h52km±11km, mb5.4/39, mbtmp5.6/44, Error ellipse: s-maj=10.3km s-min=9.3km az=28.0*
*NEIC **30** 17:35:36.3±1.6, 61°.28N±0°.03×149°.94W±0°.06, h50km±2km, Error ellipse: s-maj=4.1km s-min=3.7km az=68.0*
*NEIC **30** 17:35:37.4, 61°.26N×149°.92W, h50km*
*NEIC **30** 17:35:37.4, 61°.26N×149°.92W, h50km, Moment Tensor Solution. Duration: 3s9 Moment tensor: Scale 10^{17}Nm; M_{rr}=5.99; $M_{\theta\theta}$=0.18; $M_{\phi\phi}$=6.17; $M_{r\theta}$=0.01; $M_{\theta\phi}$=0.98; $M_{r\phi}$=1.49; Fault plane solution: M_0=6.34000×10^{17} NP1: ϕ_s=186.57000°, δ51.77000°, λ-92.58000°. NP2:ϕ_s=10.73000°, δ38.30000°, λ-86.73000°. Principal axes: T 6.4958, Plg7.0000°, Azm278.0000°; N -0.3197, Plg2.0000°, Azm188.0000°; P -6.1761, Plg83.0000°, Azm82.0000°;*
*AEIC **30** 17:35:37.2±2.2, 61°.28N±0°.02×149°.96W±0°.06, h41km±2km, ML5.7, mb5.9/199(NEIC), ML6.0/198(NEIC), Mww5.8/25(NEIC) Error ellipse: s-maj=4.0km s-min=3.6km az=77.0*
*BGR **30** 17:35:39.2, 61°.89N×149°.91W, h33km, mb6.3, Ms6.6*
ISC 30 17:35:35.5±0.3, 61°.28N±0°.02×149°.97W±0°.02, h51km±2km, h51km:pP-P, n937, σ1°**07**/996, **mb5.9**/262, **MS6.6**/4, **47C-45D, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.22**	**149**	Pn	**Pn**	**17 35 44.3**	**+0.2**
RC01				Sn	**Sn**	**17 35 50.1**	**-0.1**
RC01	**Rabbit Creek A**	**0.22**	**149**	P	**Pn**	**17 35 44.4**	**+0.2**
	baz=332						
RC01				S	**Sn**	**17 35 50.3**	**+0.1**
	baz=332						
SUA	**Susitna One**	**0.42**	**297**	Pn	**Pn**	**17 35 46.3**	**+0.3**
SUA				Sn	**Sn**	**17 35 54.3**	**+0.7**
SUA				IAML		17 35 55.0	
	comp=E,682μm,1.3s						
SUA	**Susitna One**	**0.42**	**297**	P	**Pn**	**17 35 46.5**	**+0.4**
	baz=115						
SUA				S	**Sn**	**17 35 54.1**	**+0.6**
	baz=115						
M22K	**Willow**	**0.48**	**351**	Pn	**Pn**	**17 35 46.3**	**-0.3**
M22K				Sn	**Sn**	**17 35 54.5**	**0.0**
M22K	**Willow**	**0.48**	**351**	P	**Pn**	**17 35 46.4**	**-0.2**
	baz=170						
PMR	**Palmer**	**0.51**	**52**	Pn	**Pn**	**17 35 46.6**	**-0.3**
PMR				Sn	**Sn**	**17 35 54.8**	**-0.3**
PMR				IAML		17 35 56.8	
	comp=E,672μm,0.9s						
PMR	**Palmer**	**0.51**	**52**	P	**Pn**	**17 35 46.9**	**0.0**
	baz=232						
PMR				S	**Sn**	**17 35 55.2**	**0.0**
	baz=232						
GHO	**Glory Hole Cre**	**0.71**	**45**	Pn	**Pn**	**17 35 49.3**	**-0.2**
GHO				IAML		17 36 04.5	
	comp=N,494μm,0.9s						
GHO	**Glory Hole Cre**	**0.71**	**45**		**Sn**	**17 36 00.3**	**+0.7**
KNK	**Knik Glacier**	**0.74**	**79**	Pn	**Pn**	**17 35 50.2**	**+0.3**
KNK				IAML		17 36 04.0	
	comp=N,592μm,0.5s						
KNK				IAML		17 36 05.0	
	comp=E,399μm,0.6s						
KNK	**Knik Glacier**	**0.74**	**79**		**Sn**	**17 36 01.5**	**+1.2**
CAPN	**Captain Cook N**	**0.77**	**229**	Pn	**Pn**	**17 35 52.1**	**+1.9**
CAPN	**Captain Cook N**	**0.77**	**229**	P	**Pn**	**17 35 52.4**	**+2.2**
	baz=48						
SLKM	**Skilak Lake**	**0.78**	**189**		**Pn**	**17 35 51.2**	**+0.8**
SLKM					**Sn**	**17 36 02.6**	**+1.4**
O22K	**Cooper Landing**	**0.81**	**171**	Pn	**Pn**	**17 35 51.0**	**+0.4**
O22K					**Sn**	**17 36 03.1**	**+1.4**
O22K	**Cooper Landing**	**0.81**	**171**	P	**Pn**	**17 35 51.6**	**+0.9**
	baz=352						
O22K				S	**Sn**	**17 36 03.3**	**+1.6**
	baz=352						
PWL	**Port Wells**	**0.90**	**117**	Pn	**Pn**	**17 35 52.5**	**+0.6**
PWL				Sn	**Sn**	**17 36 04.6**	**+0.7**
PWL				IAML		17 36 06.8	
	comp=E,525μm,1.1s						
PWL				IAML		17 36 09.2	
	comp=N,561μm,1.0s						
PWL	**Port Wells**	**0.90**	**117**	P	**Pn**	**17 35 52.6**	**+0.7**
	baz=299						
STLK	**Strandline Lak**	**0.92**	**285**		**Pn**	**17 35 53.5**	**+1.2**
STLK					**Sn**	**17 36 05.8**	**+1.2**
SML	**Sawmill**	**0.95**	**55**	Pn	**Pn**	**17 35 52.8**	**+0.2**
SML					**Sn**	**17 36 06.4**	**+1.2**
SML	**Sawmill**	**0.95**	**55**	P	**Pn**	**17 35 52.8**	**+0.2**
	baz=237						
SML				S	**Sn**	**17 36 06.4**	**+1.2**
	baz=237						
SPCG	**Spurr Capps Gl**	**0.99**	**272**		**Pn**	**17 35 54.1**	**+0.8**
SKT	**Skwentna**	**1.03**	**314**	Pn	**Pn**	**17 35 54.2**	**+0.6**
SKT				Sn	**Sn**	**17 36 08.1**	**+1.1**
SKT				IAML		17 36 10.5	
	comp=N,424μm,0.6s						
SKT				IAML		17 36 11.1	
	comp=E,307μm,0.6s						
SKT	**Skwentna**	**1.03**	**314**	P	**Pn**	**17 35 54.2**	**+0.6**
	baz=132						
SPCP	**Crater Peak Br**	**1.05**	**270**		**Pn**	**17 35 55.2**	**+1.1**
N20K	**Mount Spurr**	**1.09**	**267**	P	**Pn**	**17 35 55.1**	**+0.6**
	baz=85						
CUT	**Chulitna**	**1.14**	**353**	Pn	**Pn**	**17 35 55.8**	**+0.7**
CUT				IAML		17 36 13.0	
	comp=N,410μm,0.9s						
M23K	**Glacier View**	**1.19**	**63**	P	**Pn**	**17 35 56.6**	**+0.8**
	baz=245						
SEW	**Seward**	**1.20**	**168**		**Pn**	**17 35 56.4**	**+0.4**
SEW	**Seward**	**1.20**	**168**	P	**Pn**	**17 35 56.9**	**+0.9**
	baz=348						
SCM	**Sheep Creek Mo**	**1.38**	**65**	Pn	**Pn**	**17 35 59.2**	**+0.8**
SCM				Sn	**Sn**	**17 36 16.9**	**+1.2**
SCM				IAML		17 36 20.0	
	comp=E,295μm,0.9s						
SCM	**Sheep Creek Mo**	**1.38**	**65**	P	**Pn**	**17 35 59.5**	**+1.0**
	baz=247						
SCM	**Sheep Creek Mo**	**1.38**	**65**	P	**Pn**	**17 35 59.3**	**+0.8**
SCM						17 36 16.9	
GLI	**Glacier Island**	**1.45**	**105**	Pn	**Pn**	**17 35 59.6**	**+0.3**
GLI				IAML		17 36 24.2	
	comp=N,211μm,0.8s						
GLI	**Glacier Island**	**1.45**	**105**	P	**Pn**	**17 35 59.6**	**+0.3**
	baz=288						
BRLK	**Bradley Lake**	**1.58**	**197**	Pn	**Pn**	**17 36 01.9**	**+0.7**
BRSE	**Bradley Lake S**	**1.59**	**194**	P	**Pn**	**17 36 01.9**	**+0.7**
	baz=14						
RED	**Redoubt Volcan**	**1.62**	**239**		**Pn**	**17 36 02.8**	**+1.1**
M20K	**Styx River**	**1.63**	**293**	Pn	**Pn**	**17 36 02.9**	**+1.1**
M20K				IAML		17 36 27.3	
	comp=N,150μm,1.0s						
WAT6	**Susitna Watana**	**1.68**	**38**		**Pn**	**17 36 04.0**	**+1.4**
WAT6	**Susitna Watana**	**1.68**	**38**	P	**Pn**	**17 36 04.0**	**+1.4**
	baz=220						
WAT1	**Susitna Watana**	**1.69**	**23**	P	**Pn**	**17 36 03.9**	**+1.2**
	baz=204						
O20K	**Slope Mountain**	**1.77**	**229**		**Pn**	**17 36 05.3**	**+1.5**
O20K	**Slope Mountain**	**1.77**	**229**	P	**Pn**	**17 36 05.8**	**+2.0**
	baz=46						
FID	**Port Fidalgo**	**1.78**	**106**	Pn	**Pn**	**17 36 03.8**	**0.0**
FID				IAML		17 36 27.7	
	comp=E,123μm,0.9s						
FID				IAML		17 36 27.9	
	comp=N,141μm,0.7s						
P23K	**Montague Islan**	**1.80**	**134**		**Sn**	**17 36 27.2**	**+1.5**
P23K	**Montague Islan**	**1.80**	**134**	P	**Pn**	**17 36 04.2**	**0.0**
	baz=317						
HOM	**Homer**	**1.82**	**208**	Pn	**Pn**	**17 36 05.7**	**+1.3**
HOM	**Homer**	**1.82**	**208**	P	**Pn**	**17 36 05.9**	**+1.5**
	baz=26						
CNPM	**China Poot**	**1.87**	**200**	Pn	**Pn**	**17 36 05.6**	**+0.6**
CNPM				IAML		17 36 33.6	
	comp=E,88μm,1.0s						
CNPM				IAML		17 36 37.1	
	comp=N,95μm,0.6s						
HIN	**Hinchinbrook I**	**1.91**	**116**	Pn	**Pn**	**17 36 06.0**	**+0.3**
HIN				IAML		17 36 45.1	
	comp=N,157μm,0.8s						
PPLA	**Purkeypile**	**1.93**	**328**		**Pn**	**17 36 07.8**	**+1.7**
PPLA	**Purkeypile**	**1.93**	**328**	P	**Pn**	**17 36 08.5**	**+2.5**
	baz=146						
KLU	**Klutina**	**1.96**	**82**	Pn	**Pn**	**17 36 06.8**	**+0.5**
KLU				IAML		17 36 40.6	
	comp=N,100μm,1.0s						
KLU	**Klutina**	**1.96**	**82**	P	**Pn**	**17 36 06.9**	**+0.5**
	baz=266						
M24K	**Tolsona, Glenn**	**1.99**	**64**	Pn	**Pn**	**17 36 08.1**	**+1.3**
M24K	**Tolsona, Glenn**	**1.99**	**64**	P	**Pn**	**17 36 08.7**	**+2.0**
	baz=247						
ILSW	**Iliamna Southw**	**2.03**	**232**		**Pn**	**17 36 08.5**	**+1.1**
ILSW				IAML		17 36 39.5	
	comp=E,71μm,1.1s						
DIV	**Divide**	**2.04**	**92**		**Pn**	**17 36 07.9**	**+0.5**
DHY	**Denali Highway**	**2.18**	**33**	Pn	**Pn**	**17 36 10.9**	**+1.5**
DHY				IAML		17 36 41.1	
	comp=N,68μm,1.0s						
DHY				IAML		17 36 51.0	
	comp=E,87μm,1.0s						
DHY	**Denali Highway**	**2.18**	**33**	P	**Pn**	**17 36 11.6**	**+2.2**
	baz=215						
TRF	**Thorofare Moun**	**2.19**	**356**		**Pn**	**17 36 11.6**	**+2.0**
TRF				IAML		17 36 56.9	
	comp=N,65μm,0.9s						
TRF	**Thorofare Moun**	**2.19**	**356**	P	**Pn**	**17 36 12.0**	**+2.5**
	baz=176						
EYAK	**Cordova Ski Ar**	**2.19**	**108**		**Pn**	**17 36 09.7**	**+0.4**
**EY

M18K	Stony River	2.83 277	P	Pn	17 36 19.5 +1.4
	baz=92				
CHUM	Lake Minchumin	2.83 338		Pn	17 36 19.4 +1.3
K20K	Telida	2.83 319	Pn	Pn	17 36 19.2 +1.0
K20K			IAML		17 37 01.2
	comp=E,46µm,0.7s				
K20K			IAML		17 37 01.7
	comp=N,51µm,1.1s				
WASW	Wrangell South	2.85 74		Pn	17 36 20.3 +1.7
BPAW	Bear Paw Mtn.	2.87 351	Pn	Pn	17 36 19.7 +0.9
BPAW	Bear Paw Mtn.	2.87 351	P	Pn	17 36 21.6 +2.9
	baz=170				
BWN	Browne	2.92 4	Pn	Pn	17 36 20.6 +1.2
SYI	Shuyak Island	2.94 206	Pn	Pn	17 36 20.5 +0.9
SYI			IAML		17 37 08.9
	comp=N,33µm,0.8s				
Q20K	Shuyak Island	2.94 206	P	Pn	17 36 20.8 +1.1
	baz=24				
N18K	Kilae Creek	2.95 261	Pn	Pn	17 36 20.6 +0.8
HMT	Hamilton	2.95 106	Pn	Pn	17 36 19.6 -0.2
O18K	Koktuh Hills	2.95 243	Pn	Pn	17 36 20.7 +0.8
O18K			IAML		17 37 05.2
	comp=E,35µm,1.1s				
O18K			IAML		17 37 11.7
	comp=N,33µm,1.2s				
GLB	Gilahina Butte	2.97 84	Pn	Pn	17 36 20.4 +0.3
GLB			IAML		17 37 08.5
	comp=E,30µm,1.0s				
GLB			IAML		17 37 10.3
	comp=N,40µm,1.2s				
Q19K	Cape Douglas,	2.99 220	Pn	Pn	17 36 20.4 0.0
Q19K	Cape Douglas,	2.99 220	P	Pn	17 36 21.9 +1.5
	baz=36				
KAIM	Kayak Island	3.05 114	Pn	Pn	17 36 20.5 -0.8
KAIM			IAML		17 37 21.5
	comp=E,38µm,1.0s				
KAIM			IAML		17 37 24.3
	comp=N,37µm,1.1s				
VRDI	Verde Repeater	3.15 88	Pn	Pn	17 36 21.5 -1.2
VRDI			IAML		17 37 23.6
	comp=E,30µm,1.0s				
VRDI			IAML		17 37 25.8
	comp=N,28µm,1.1s				
K24K	Donnelly Dome	3.19 36		Pn	17 36 24.2 +1.0
BERG	Berg Lake	3.19 103	Pn	Pn	17 36 22.5 -0.7
P18K	Big Mountain,	3.23 236	Pn	Pn	17 36 23.4 -0.3
SUCK	Suckling Hills	3.28 109	Pn	Pn	17 36 23.7 -0.6
SUCK			IAML		17 37 18.0
	comp=N,29µm,0.8s				
SUCK			IAML		17 37 37.7
	comp=E,27µm,1.2s				
TTA	Tatalina	3.29 303	Pn	Pn	17 36 24.8 +0.3
TTA			IAML		17 37 29.9
	comp=N,29µm,1.2s				
TTA			IAML		17 37 37.0
	comp=E,24µm,1.1s				
TTA	Tatalina	3.29 303	P	Pn	17 36 24.8 +0.3
WRH	Wood River Hil	3.32 14	Pn	Pn	17 36 25.4 +0.6
WRH			IAML		17 37 21.2
	comp=E,35µm,1.1s				
L18K	Granite Mounta	3.33 289	Pn	Pn	17 36 25.6 +0.6
L18K			IAML		17 37 22.0
	comp=N,26µm,1.1s				
MCARA	McCarthy VSAT	3.35 85	Pn	Pn	17 36 25.2 -0.1
NEA2	Nenana	3.35 7	Pn	Pn	17 36 25.8 +0.4
CRQM	Cirque	3.37 96	Pn	Pn	17 36 26.1 +0.4
MENT	Mentasta	3.38 58	Pn	Pn	17 36 26.0 +0.3
RIDG	Independent Ri	3.43 42	Pn	Pn	17 36 26.8 +0.3
RIDG			IAML		17 37 18.5
	comp=E,43µm,0.9s				
HDA	Harding Lake	3.44 22	Pn	Pn	17 36 26.5 +0.1
HDA			IAML		17 37 25.6
	comp=E,34µm,1.3s				
J20K	Nowinta River	3.49 328	Pn	Pn	17 36 27.6 +0.4
J20K			IAML		17 37 10.1
	comp=N,33µm,0.8s				
J20K			IAML		17 37 35.4
	comp=E,28µm,1.1s				
M26K	Nabesna, AK	3.49 68	Pn	Pn	17 36 27.1 -0.2
M26K			IAML		17 37 26.4
	comp=N,21µm,0.9s				
TGL	Tana Glacier	3.52 95	Pn	Pn	17 36 27.4 -0.3
TGL			IAML		17 37 24.7
	comp=N,40µm,1.6s				
TGL			IAML		17 37 27.4
	comp=E,33µm,1.2s				
CCB	Clear Creek Bu	3.52 15	Pn	Pn	17 36 27.5 -0.1
L26K	Log Cabin Wild	3.57 58	Pn	Pn	17 36 28.5 +0.2
L26K			IAML		17 37 26.7
	comp=N,24µm,1.9s				
L26K			IAML		17 37 28.2
	comp=E,27µm,0.6s				
WAX	Waxell Ridge	3.58 100	Pn	Pn	17 36 27.9 -0.6
M17K	Holitna River	3.60 275	Pn	Pn	17 36 29.8 +1.0
N17K	Nushagak Hills	3.60 261	Pn	Pn	17 36 28.8 0.0
N17K			IAML		17 37 12.0
	comp=E,18µm,0.9s				
N17K			IAML		17 37 29.3
	comp=N,24µm,1.1s				
N17K	Nushagak Hills	3.60 261	P	Pn	17 36 30.0 +1.2
	baz=75				
KAHG	Katmai Hook Gl	3.62 222		Pn	17 36 30.6 +1.6
PTPK	Patty Peak	3.63 88		Pn	17 36 30.7 +1.4
KAHC	Katmai Hardscr	3.66 226		Pn	17 36 30.9 +1.3
KAHC	Katmai Hardscr	3.66 226		Pn	17 36 30.9 +1.3
KARR	Katmai Rainbow	3.67 223		Pn	17 36 31.2 +1.5
SNH	Sunshine Point	3.67 104	Pn	Pn	17 36 29.7 0.0
SNH			IAML		17 37 41.6
	comp=E,20µm,2.0s				
SNH			IAML		17 37 46.7
	comp=N,20µm,1.8s				
BALM	Baldy	3.70 90		Pn	17 36 31.7 +1.5
KIAG	Kiagna River	3.71 92		Pn	17 36 31.5 +1.1
COLA	College	3.74 14	Pn	Pn	17 36 29.8 -0.7
COLA			IAML		17 37 40.4
	comp=N,34µm,0.7s				
COLA			IAML		17 37 45.3
	comp=N,26µm,1.1s				
COLA	College	3.74 14	*i* P	Pn	17 36 33.4 +2.9
KDAK	Kodiak Island	3.75 202	Pn	Pn	17 36 30.4 -0.4
KDAK			IAML		17 37 32.2
	comp=N,18µm,0.8s				
KDAK			IAML		17 37 36.7
	comp=N,21µm,0.8s				
KDAK	Kodiak Island	3.75 202	P	Pn	17 36 30.4 -0.4
	comp=N,210nm,0.3s,baz=250,slow=4.4,SNR=7.3				
BARK	Barkley Ridge	3.76 100		Pn	17 36 32.4 +1.3
J19K	Poorman	3.77 319		Pn	17 36 32.0 +0.9
J19K	Poorman	3.77 319	IAML		17 37 35.7
	comp=N,30µm,1.1s				
J19K			IAML		17 37 36.3
	comp=E,21µm,1.0s				
IL31		3.78 20	Pn	Pn	17 36 30.6 -0.5
ILAR	Eielson Array	3.78 20	Pn	Pn	17 36 31.3 +0.2
ILAR	Eielson Array	3.78 20	P	Pn	17 36 31.7 +0.5
	comp=E,257nm,0.6s,baz=212,slow=15,SNR=1.9				
IL03	Eielson Array	3.78 21	Pn	Pn	17 36 32.1 +0.9
ISLE	Juniper Island	3.78 97	Pn	Pn	17 36 31.3 -0.1
ISLE			IAML		17 37 36.7
	comp=E,31µm,0.8s				
MLY	Manley	3.79 355	Pn	Pn	17 36 31.1 -0.2
KAWH	Katmai	3.79 222		Pn	17 36 33.0 +1.6
O17K	Koliganek Bris	3.83 250		Pn	17 36 33.4 +1.5
J18K	Innoko River	3.83 308	Pn	Pn	17 36 32.1 +0.2
J18K			IAML		17 37 47.6
	comp=N,19µm,1.3s				
P17K	Kvichak River	3.84 240		Pn	17 36 33.4 +1.4
SCRK	Sand Creek	3.87 43	Pn	Pn	17 36 32.7 +0.2
SCRK			IAML		17 37 35.1
	comp=N,29µm,0.8s				
SCRK			IAML		17 37 38.4
	comp=E,17µm,0.9s				
I23K	Minto, Yukon-K	3.90 4	Pn	Pn	17 36 33.5 +0.7
I23K			IAML		17 37 44.0
	comp=E,22µm,1.3s				
I23K			IAML		17 37 44.1
	comp=N,18µm,1.1s				
BAGL	Bagley Icefiel	3.93 98		Pn	17 36 34.8 +1.6
J25K	Salcha River,	3.95 30		Pn	17 36 34.7 +1.1
J25K	Salcha River,	3.95 30	IAML		17 37 31.4
	comp=E,16µm,0.7s				
J25K			IAML		17 37 46.5
	comp=N,19µm,0.9s				
M27K	Edge Creek, AK	3.99 71	Pn	Pn	17 36 35.0 +0.9
POKR	Poker Plat Res	4.02 15	Pn	Pn	17 36 35.2 +0.7
POKR			IAML		17 37 59.9
	comp=E,14µm,1.2s				
I21K	Tanana	4.02 348	Pn	Pn	17 36 35.5 +1.0
I21K			IAML		17 38 04.2
	comp=E,13µm,1.2s				
KCE	Katmai Mt Cerb	4.03 223		Pn	17 36 36.2 +1.6
GRNC	Granite Creek	4.04 94	Pn	Pn	17 36 35.9 +1.0
GRNC			IAML		17 37 42.3
	comp=N,18µm,1.8s				
L17K	Donlin	4.06 286		Pn	17 36 36.1 +1.2
MESA	MESA	4.09 102		Pn	17 36 36.9 +1.3
MESA	MESA	4.09 102	IAML		17 37 57.3
	comp=E,22µm,2.0s				
MESA			IAML		17 37 57.4
	comp=N,20µm,2.6s				
ACHA	Angle Creek He	4.10 224	Pn	Pn	17 36 36.5 +0.9
K17K	Iditarod	4.19 294		Pn	17 36 37.9 +1.2
CTGM	Chitina Glacie	4.20 90	Pn	Pn	17 36 37.9 +0.8
CTGM			IAML		17 38 00.5
	comp=E,12µm,1.7s				
CTGM			IAML		17 38 02.4
	comp=N,13µm,1.7s				
BCAR	Beaver Creek A	4.24 61	Pn	Pn	17 36 38.5 +1.0
CNTC	Contact Creek	4.25 227		Pn	17 36 39.2 +1.4
M16K	Timber Creek	4.36 271		Pn	17 36 40.5 +1.3
M16K	Timber Creek	4.36 271	IAML		17 38 06.7
	comp=N,14µm,1.2s				
M16K			IAML		17 38 14.8
	comp=E,12µm,1.6s				
O16K	Kokwok River B	4.37 251	Pn	Pn	17 36 40.1 +0.9
O16K			IAML		17 37 55.1
	comp=N,16µm,1.5s				
O16K			IAML		17 38 06.5
	comp=E,12µm,1.3s				
R18K	Karluk	4.37 214		Pn	17 36 40.6 +1.4
R18K	Karluk	4.37 214	IAML		17 37 40.1
	comp=E,16µm,0.6s				
R18K			IAML		17 37 43.9
	comp=N,20µm,0.6s				
N16K	Nishlik Lake	4.38 263		Pn	17 36 40.6 +1.2
LOGN	Logan Glacier	4.38 92	Pn	Pn	17 36 40.2 +0.6
LOGN			IAML		17 37 52.9
	comp=E,13µm,1.0s				
LOGN			IAML		17 38 15.6
	comp=N,11µm,1.0s				
YUK2	White River	4.40 79		Pn	17 36 41.6 +1.9
OHAK	Old Harbor	4.41 204	Pn	Pn	17 36 38.5 -1.3
H21K	Melozitna Rive	4.58 345		Pn	17 36 43.2 +1.1
H21K	Melozitna Rive	4.58 345	IAML		17 38 12.5
	comp=N,9µm,1.0s				
L16K	Owhat River	4.58 280	Pn	Pn	17 36 42.9 +0.8
L16K			IAML		17 38 10.6
	comp=N,9µm,1.2s				
L16K			IAML		17 38 16.0
	comp=E,12µm,1.1s				
P16K	Nushagak River	4.60 244		Pn	17 36 43.9 +1.5
GCSA	Galena City Sc	4.69 321		Pn	17 36 44.7 +1.1
PRP	Porcupine Dome	4.70 23	Pn	Pn	17 36 44.9 +1.0
PRP			IAML		17 37 54.5
	comp=N,14µm,1.1s				
PRP			IAML		17 38 09.7
	comp=E,13µm,1.0s				
J17K	VABM Dome	4.75 301		Pn	17 36 45.5 +1.0
J17K	VABM Dome	4.75 301	IAML		17 38 08.4
	comp=E,11µm,1.4s				
J17K			IAML		17 38 19.7
	comp=N,11µm,1.2s				
O28M	Mount Upton	4.78 92		Pn	17 36 46.5 +1.3
PLK5	Peulik 5	4.81 230		Pn	17 36 46.8 +1.5
PLK3	Peulik 3	4.82 225		Pn	17 36 47.1 +1.6
PLK4	Peulik 4	4.90 225		Pn	17 36 48.2 +1.6
PCA	Pinnacle	4.92 100		Pn	17 36 47.7 +0.8
PLBL	Peulik Blue Cr	5.00 227		Pn	17 36 49.5 +1.5
H19K	Roundabout Mou	5.16 329	Pn	Pn	17 36 51.2 +1.1
M15K	Kasigluk River	5.25 268		Pn	17 36 52.5 +1.1
BCPM	Bancas Point	5.26 100		Pn	17 36 52.7 +1.2
BCPM	Bancas Point	5.26 100	IAML		17 38 15.1
	comp=E,10µm,2.9s				
BCPM			IAML		17 38 27.6
	comp=N,10µm,2.2s				
O15K	Ungalikthiuk R	5.34 251		Pn	17 36 54.0 +1.4
J16K	Anvik River	5.36 297		Pn	17 36 53.8 +1.1
J16K	Anvik River	5.36 297	IAML		17 38 36.3
	comp=E,6µm,1.3s				
YKU2	Yakutat	5.41 105	Pn	Pn	17 36 54.6 +1.2
H18K	Honhosa River	5.43 319		Pn	17 36 54.8 +1.0
PNL	Peninsula	5.47 102		Pn	17 36 55.9 +1.5
G21K	Allakaket	5.49 345		Pn	17 36 55.5 +1.0
L15K	Ungalak Mounta	5.54 279		Pn	17 36 56.4 +1.2
K15K	Wolf Creek Mou	5.58 286		Pn	17 36 57.1 +1.2
I17K	Unalakleet	5.60 302		Pn	17 36 57.3 +1.1
DAWY	Dawson	5.62 56		Pn	17 36 57.6 +1.2
O29M	Mount Kennedy	5.67 95	Pn	Pn	17 36 57.8 +0.6
M14K	Bethel	5.86 270	Pn	Pn	17 37 00.8 +1.2
P29M	Windy Craggy	6.27 100	Pn	Pn	17 37 06.5 +1.1
CHGN	Chignik	6.64 225	Pn	Pn	17 37 11.1 +0.8
N31M	Braeburn, Yuko	6.82 82	Pn	Pn	17 37 14.3 +1.4
MAYO	Mayo, Yukon	6.93 64	Pn	Pn	17 37 15.3 +1.0
WHY	Whitehorse	7.37 88	Pn	Pn	17 37 21.3 +0.8
E18K	Tukpahlearik C	7.69 328	Pn	Pn	17 37 27.3 +2.6
F15K	North Star Dit	7.92 310	Pn	Pn	17 37 29.9 +2.0
P32M	Atlin	8.21 95	Pn	Pn	17 37 31.7 -0.2
R32K	Eaglecrest	8.35 104	Pn	Pn	17 37 33.7 -0.1
S32K	Killisnoo	8.73 109	Pn	Pn	17 37 39.1 +0.2
TNA	Tin City	9.11 306	Pn	Pn	17 37 45.7 +1.7
Q32M	Nakina River	9.13 97	Pn	Pn	17 37 45.2 +0.5
INK	Inuvik	9.91 38	P	Pn	17 37 56.6 +1.6
	comp=E,848nm,1.1s,baz=22,slow=4.1,SNR=1.7				
INK			S	Sn	17 39 47.3 +2.7
	comp=E,470nm,1.0s,baz=155,slow=14,SNR=2.2				
S34M	Telegraph Cree	10.12 101	Pn	Pn	17 37 58.7 +0.8
U33K	Whale Pass	10.16 113	Pn	Pn	17 37 59.5 +1.0
GAMB	Gambell	10.33 293	Pn	Pn	17 38 02.7 +1.9
DLBC	Dease Lake	10.41 97	P	Pn	17 38 03.5 +1.5
	comp=E,3µm,1.2s,baz=348,slow=5.9,SNR=1.7				
CRAG	Craig	10.57 116	Pn	Pn	17 38 04.3 +0.2
UNV	Unalaska Valle	11.56 237	Pn	Pn	17 38 16.4 -1.2
DIB	Dawson Inlet,	12.42 123	Pn	Pn	17 38 28.1 -1.3
BBB	Bella Bella	14.99 118	Pn	Pn	17 39 04.4 +0.6
BBB	Bella Bella	14.99 118	P	Pn	17 39 05.0 +1.2
	comp=E,260nm,1.2s,baz=270,slow=16,SNR=1.5				
BBB			S	Sn	17 41 44.2 -4.2
	comp=E,44nm,0.8s,baz=65,slow=18,SNR=12				
YKA	Yellowknife Ar	16.59 70	P	P	17 39 26.8 +0.8
	comp=E,92nm,0.9s,baz=284,slow=10,SNR=4.8				
KIWB	Kanaga Island	17.57 250	P	P	17 39 36.9 0.0
CBB	Campbell River	17.74 118	P	P	17 39 39.2 +0.3
BILL	Bilibino	19.52 309	P	P	17 39 57.0 -1.1
BILL	Bilibino	19.52 309	*i* P	P	17 39 56.2 -2.0
BILL			pmax	pmax	
	comp=Z,2µm,1.6s				
PGC	Sidney	19.61 118	P	P	17 39 57.7 -1.6
C03A	Quillayute Air	19.69 121	P	P	17 39 59.4 -0.7
C03A			IAmb	IAmb	17 40 12.6
	comp=Z,1µm,1.8s				
B04A	Port Angeles	20.05 119	P	P	17 40 03.9 -0.1
NLWA	Neilton Lookou	20.42 121	P	P	17 40 07.8 -0.3
WISH	Wishkah	20.68 121	P	P	17 40 11.4 +0.5
GNW	Green Mountain	20.72 119	P	P	17 40 11.8 +0.5
SHEM	Shemya Is, Ala	21.10 262	P	P	17 40 16.0 +0.7
	comp=Z,255nm,1.0s,baz=22,slow=5.4,SNR=3.2				
	comp=Z,255nm,1.0s				
RADR	Rader Ridge	21.22 123	P	P	17 40 17.1 +0.3
RADR			IAmb	IAmb	17 40 25.1
	comp=Z,581nm,1.3s				
D05A	Enumclaw	21.36 119	P	P	17 40 19.9 +1.6
B08A	Colville Reser	21.63 113	P	P	17 40 22.0 +0.9
B08A			IAmb	IAmb	17 40 40.8
	comp=Z,438nm,1.1s				
F03A	Seaside	21.72 123	P	P	17 40 22.6 +0.6
LON	Longmire	21.79 119	P	P	17 40 23.4 +0.6
LON	Longmire	21.79 119	P	P	17 40 23.4 +0.6
LON			pmax	pmax	
	comp=Z,206nm,1.2s				
F04D	Rainier, OR	21.82 122	P	P	17 40 23.4 +0.3
F04D			IAmb	IAmb	17 40 46.2
	comp=Z,579nm,1.1s				
F04A	Amboy	22.18 121	P	P	17 40 27.5 +0.5
F04A			IAmb	IAmb	17 40 51.6
	comp=Z,399nm,0.9s				
HEBO	Mount Hebo	22.23 124	P	P	17 40 28.5 +0.9
HEBO			IAmb	IAmb	17 40 52.0
	comp=Z,488nm,1.0s				
G03D	McMinnville, O	22.43 124	P	P	17 40 31.3 +1.6
G03D			IAmb	IAmb	17 40 54.2
	comp=Z,374nm,1.1s				
MXC	Moxie City	22.57 117	P	P	17 40 32.6 +1.4
MXC			IAmb	IAmb	17 40 55.1
	comp=Z,332nm,1.0s				
NEW	Newport	22.69 110	P	P	17 40 33.1 +0.6
NEW	Newport	22.69 110	P	P	17 40 34.9 +2.4
	comp=Z,94nm,1.0s,baz=296,slow=13,SNR=2.6				
	comp=Z,94nm,1.0s				
E07A	Sunnyside	22.77 117	P	P	17 40 34.0 +0.7
E07A			IAmb	IAmb	17 40 51.9
	comp=Z,508nm,1.3s				
D08A	Wollman Farm,	22.79 114	P	P	17 40 35.1 +1.6
D08A			IAmb	IAmb	17 40 56.2
	comp=Z,325nm,1.0s				
COR	Corvallis	22.93 125	P	P	17 40 36.3 +1.4
COR			IAmb	IAmb	17 40 58.3
	comp=Z,368nm,1.1s				
COR	Corvallis	22.93 125	P	P	17 40 36.3 +1.4
COR			pmax	pmax	
	comp=Z,368nm,1.1s				
HOOD	Mount Hood Mea	22.99 121	P	P	17 40 37.1 +1.4
HOOD			IAmb	IAmb	17 41 03.1
	comp=Z,428nm,0.9s				
HAWA	Hanford	23.04 116	P	P	17 40 36.1 +0.1
I02E	Swisshome, OR	23.11 126	P	P	17 40 36.9 +0.1
G05A	Wamic	23.20 121	P	P	17 40 38.9 +1.3
G05A			IAmb	IAmb	17 41 02.5
	comp=Z,981nm,1.5s				
F07A	Phinny Hill Vi	23.26 118	P	P	17 40 39.2 +1.0
F07A			IAmb	IAmb	17 41 00.5
	comp=Z,386nm,1.1s				
H04A	Detroit Lake	23.30 123	P	P	17 40 38.8 +0.2
H04A			IAmb	IAmb	17 41 05.9
	comp=Z,394nm,1.3s				
BUCK	Buck Mountain	23.38 125	P	P	17 40 40.5 +1.1
BUCK			IAmb	IAmb	17 41 04.0
	comp=Z,640nm,1.3s				
RES	Resolute Bay	23.42 33	P	P	17 40 41.0 +1.5
RES	Resolute Bay	23.42 33	P	P	17 40 40.0 +0.5
	comp=Z,303nm,0.9s,baz=143,slow=17,SNR=2.0				
	comp=Z,303nm,0.9s				
RES	Resolute Bay	23.42 33	P	P	17 40 41.0 +1.5
RES			pmax	pmax	
	comp=Z,2µm,1.6s				
G06A	Carlson Farm,	23.49 120	P	P	17 40 41.6 +1.2
G06A			IAmb	IAmb	17 40 44.4
	comp=Z,914nm,1.9s				
E09A	Wood Farm, Sta	23.55 114	P	P	17 40 42.4 +1.4
E09A			IAmb	IAmb	17 41 05.2
	comp=Z,1µm,1.9s				
J01E	Myrtle Point	23.88 127	P	P	17 40 44.1 +0.1
I05D	Terrebonne, OR	23.92 122	P	P	17 40 44.9 +0.4
I05D			IAmb	IAmb	17 40 47.9
	comp=Z,258nm,0.8s				
I04A	Tendick Farm,	23.94 124	P	P	17 40 45.4 +0.8
G08A	Pilot Rock	24.15 117	P	P	17 40 47.7 +1.0
G08A			IAmb	IAmb	17 41 14.6
	comp=Z,532nm,1.9s				
DBO	Dodson Butte	24.18 126	P	P	17 40 47.8 +0.9
DBO			IAmb	IAmb	17 41 11.1
	comp=Z,339nm,1.1s				
F10A	Beach Ranch, E	24.37 114	P	P	17 40 48.9 +0.3
F10A			IAmb	IAmb	17 41 12.3
	comp=Z,890nm,1.9s				
J04A	Umpqua Nationa	24.52 125	P	P	17 40 50.8 +0.6
PINE	Pine Mountain	24.54 122	P	P	17 40 51.5 +1.2
PINE			IAmb	IAmb	17 40 54.2
	comp=Z,344nm,1.1s				
KBO	Bosley Butte	24.58 129	P	P	17 40 49.8 -0.8
KBO			IAmb	IAmb	17 41 14.7
	comp=Z,333nm,1.1s				
J05D	Fort Rock, OR	24.84 123	P	P	17 40 53.5 +0.5
J05D			IAmb	IAmb	17 41 16.8
	comp=Z,461nm,1.1s				
I07A	Izee	24.89 120	P	P	17 40 55.0 +1.6
L02F	Cave Junction	24.91 128	P	P	17 40 55.4 +2.0
K04D	Chiloquin, OR	25.18 125	P	P	17 40 58.0 +2.0
K04D			IAmb	IAmb	17 41 18.1
	comp=Z,327nm,1.0s				
MSO	Missoula	25.20 108	P	P	17 40 57.1 +0.9
BMO	Blue Mountains	25.22 116	P	P	17 40 57.2 +0.9
BMO	Blue Mountains	25.22 116	P	P	17 40 57.2 +0.9
BMO			pmax	pmax	
	comp=Z,229nm,1.0s				
L04D	Klamath Falls	25.31 126	P	P	17 40 59.3 +2.1
L04D			IAmb	IAmb	17 41 22.5
	comp=Z,366nm,1.1s				
OVMT	Ovando	25.46 107	P	P	17 40 59.2 +0.6
YBH	Yreka Blue Hor	25.57 127	P	P	17 41 01.1 +1.6
YBH	Yreka Blue Hor	25.57 127	P	P	17 41 01.1 +1.6
YBH			pmax	pmax	
	comp=Z,149nm,1.0s				
KRPM	Rodgers	25.57 130	P	P	17 40 59.8 +0.3
KRPM			IAmb	IAmb	17 41 30.6
	comp=Z,255nm,1.0s				
PLID	Pearl Lake	25.60 114	P	P	17 40 60.0 0.0
BPMT	Black Pine Rid	25.72 108	P	P	17 41 00.8 -0.3
LYMT	Lyon Mountain	25.86 106	P	P	17 41 03.9 +1.6
JCC	Jacoby Creek,	25.87 130	P	P	17 41 04.6 +2.5
J08A	Circle Bar Ran	25.92 119	P	P	17 41 04.5 +1.9
J08A			IAmb	IAmb	17 41 35.5
	comp=Z,474nm,1.7s				
KHMM	Horse Mountain	25.93 130	P	P	17 41 04.7 +1.9
KHMM			IAmb	IAmb	17 41 27.2
	comp=Z,518nm,1.3s				
KMPM	Mount Pierce	26.18 131	P	P	17 41 06.2 +1.1
KMPM			pP	sP	17 41 22.0 -2.3
EGMT	Eagleton	26.29 102	P	P	17 41 06.9 +1.0
KMRM	Mail Ridge	26.51 131	P	P	17 41 10.4 +2.4
KMRM			pP	pP	17 41 23.7 +2.6
KMRM			IAmb	IAmb	17 41 31.9
	comp=Z,290nm,1.1s				
WVOR	Wild Horse Val	26.61 121	P	P	17 41 10.4 +1.5
WVOR			IAmb	IAmb	17 41 32.5
	comp=Z,259nm,1.1s				
WVOR	Wild Horse Val	26.61 121	P	P	17 41 10.4 +1.5
WVOR			pmax	pmax	
	comp=Z,259nm,1.2s				
HATC	Hat Creek Radi	26.84 127	P	P	17 41 12.8 +1.9
HATC			IAmb	IAmb	17 41 46.9
	comp=Z,512nm,1.2s				
O02D	Mt. Diablo Mer	26.89 129	P	P	17 41 12.9 +1.5
DLMT	Dillon	26.92 109	P	P	17 41 13.5 +1.7
DLMT			IAmb	IAmb	17 41 33.4
	comp=Z,351nm,1.1s				
MFID	Camas Ranch	27.00 116	P	P	17 41 13.3 +0.8
KCPM	Cahto Peak	27.02 131	P	P	17 41 13.4 +0.7
BOZ	Bozeman (W)	27.19 108	P	P	17 41 14.6 +0.5
BOZ	Bozeman (W)	27.19 108	P	P	17 41 14.6 +0.5
BOZ			pmax	pmax	
	comp=Z,137nm,1.3s				
FCC	Fort Churchill	27.32 70	P	P	17 41 15.4 +0.5
FCC	Fort Churchill	27.32 70	P	P	17 41 15.4 +0.5
FCC			pmax	pmax	
	comp=Z,1µm,1.8s				
HLID	Hailey	27.51 114	P	P	17 41 17.8 +0.8
HOPS	Hopland Field	27.82 131	P	P	17 41 20.8 +1.1
HOPS			IAmb	IAmb	17 41 58.5
	comp=Z,296nm,1.5s				
ORV	Oroville	27.91 128	P	P	17 41 21.2 +0.7
ORV	Oroville	27.91 128	P	P	17 41 21.2 +0.7
ORV			pmax	pmax	
	comp=Z,41nm,0.8s				
YHL	Hebgen Lake	27.96 108	P	P	17 41 21.7 +0.4
YHL			IAmb	IAmb	17 42 09.4
	comp=Z,376nm,1.4s				
YHB	Horse Butte	28.03 108	P	P	17 41 22.0 +0.3
YHB			IAmb	IAmb	17 42 10.8
	comp=Z,250nm,1.3s				
YHH	Holmes Hill	28.16 108	P	P	17 41 22.4 -0.6
YMR	Madison River	28.20 108	P	P	17 41 23.4 +0.1
YNM	Yellowstone No	28.28 108	P	P	17 41 25.2 +1.2
YNM			IAmb	IAmb	17 42 15.4
	comp=Z,332nm,1.5s				
YNR	Norris Junctio	28.30 108	P	P	17 41 25.1 +1.0
PET	Petropavlovsk	28.37 277	P	P	17 41 24.9 +0.5
PET			IAmb	IAmb	17 42 20.3

MA2 IAmb IAmb 17 42 06.2
comp=Z,387nm,1.1s
MA2 Magadan 28.43 293 *i* P **P 17 41 25.9 +1.0**
YMP Mirror Lake Pl 28.52 107 P **P 17 41 28.1 +1.9**
YMP IAmb IAmb 17 42 08.7
comp=Z,642nm,1.5s
LKWY Lake 28.54 108 P **P 17 41 27.7 +1.4**
LKWY IAmb IAmb 17 42 03.8
comp=Z,369nm,1.4s
LKWY Lake 28.54 108 P **P 17 41 27.7 +1.4**
LKWY pmax pmax
comp=Z,369nm,1.4s
H17A Grant Village 28.59 108 P **P 17 41 27.4 +0.6**
H17A IAmb IAmb 17 42 13.7
comp=Z,372nm,1.5s
PAHR Pah Rah Range 28.60 125 P **P 17 41 27.3 +0.5**
DGMT Dagmar 28.63 95 P **P 17 41 27.0 +0.2**
MCCM Marconi Confer 28.64 131 P **P 17 41 27.2 +0.3**
MCCM IAmb IAmb 17 42 13.8
comp=Z,381nm,1.5s
RLMT Red Lodge 28.64 106 P **P 17 41 27.0 -0.2**
AFDM Forest Hills D 28.64 128 P **P 17 41 27.6 +0.6**
FLWY Flagg Ranch 28.77 109 P **P 17 41 29.9 +1.5**
PEA0B Petropavlovsk- 28.77 277 P **P 17 41 29.2 +1.2**
PEA0B Petropavlovsk- 28.77 277 P **P 17 41 29.2 +1.2**
PEA0B pmax pmax
comp=Z,650nm,1.4s
PETK Petropavlovsk- 28.77 277 P **P 17 41 29.0 +1.0**
PETK Petropavlovsk- 28.77 277 P **P 17 41 27.4 -0.7**
comp=Z,14nm,0.8s,baz=74,slow=12,SNR=1.7
PETK PcP **PcP 17 44 36.8 +0.2**
comp=Z,33nm,1.0s,baz=91,slow=7.2,SNR=3.5
PETK ScP **ScP 17 48 13.3 0.0**
comp=Z,11nm,0.9s,baz=72,slow=9.3,SNR=2.3
comp=Z,14nm,0.8s
BMN Battle Mountai 28.86 121 P **P 17 41 29.1 -0.1**
BMN IAmb IAmb 17 42 24.4
comp=Z,508nm,1.8s
BMN Battle Mountai 28.86 121 P **P 17 41 29.1 -0.1**
BMN pmax pmax
comp=Z,508nm,1.8s
LAO LASA Array 28.92 100 P **P 17 41 30.2 +0.7**
LAO IAmb IAmb 17 42 14.3
comp=Z,376nm,1.2s
EMB Emerald Bay 28.95 127 P **P 17 41 32.1 +2.1**
EMB IAmb IAmb 17 42 17.1
comp=Z,294nm,1.3s
FXWY Fox Creek 28.97 110 P **P 17 41 32.2 +2.1**
PNTR Pine Nut 29.05 126 P **P 17 41 32.7 +1.8**
TPAW Teton Pass 29.12 110 P **P 17 41 33.0 +1.6**
LOHW Long Hollow 29.18 109 P **P 17 41 33.5 +1.5**
LOHW IAmb IAmb 17 42 31.2
comp=Z,336nm,1.5s
SNOW Snow King Moun 29.23 109 P **P 17 41 34.2 +1.7**
SNOW IAmb IAmb 17 41 53.8
comp=Z,360nm,1.5s
YERR Yerington 29.28 125 P **P 17 41 34.1 +1.2**
ELK Elko 29.43 118 P **P 17 41 35.9 +1.6**
ELK Elko 29.43 118 P3KPbc 18 13 36.8
comp=Z,2.3nm,1.0s,baz=175,slow=3.0,SNR=4.3
ELK Elko 29.43 118 P **P 17 41 35.9 +1.6**
ELK pmax pmax
comp=Z,129nm,0.8s
AHID Auburn Hatcher 29.62 111 P **P 17 41 37.0 +1.2**
WAKR Walker 29.62 126 P **P 17 41 37.0 +1.1**
WAKR IAmb IAmb 17 41 41.0
comp=Z,350nm,1.6s
HVU Hansel Valley 29.66 114 P **P 17 41 37.1 +0.9**
HVU IAmb IAmb 17 41 59.4
comp=Z,187nm,1.1s
HVU Hansel Valley 29.66 114 P **P 17 41 37.1 +0.9**
HVU pmax pmax
comp=Z,187nm,1.1s
CMB Columbia Colle 29.66 128 P **P 17 41 36.8 +0.7**
CMB Columbia Colle 29.66 128 P **P 17 41 36.8 +0.7**
CMB pmax pmax
comp=Z,174nm,1.5s
KVN Kaiserville 29.68 124 P **P 17 41 37.3 +0.9**
KVN IAmb IAmb 17 42 16.1
comp=Z,602nm,2.0s
KVN Kaiserville 29.68 124 P **P 17 41 37.3 +0.9**
KVN pmax pmax
comp=Z,602nm,2.0s
TULEG Thule 29.70 28 P **P 17 41 37.5 +1.6**
RYN Ryan 29.87 125 P **P 17 41 39.1 +1.0**
RYN IAmb IAmb 17 42 18.3
comp=Z,593nm,1.9s
NVAR Mina Array Bea 30.13 125 P **P 17 41 41.5 +1.1**
NVAR Mina Array Bea 30.13 125 P **P 17 41 42.5 +2.1**
comp=Z,64nm,0.7s,baz=314,slow=9.2,SNR=14
NVAR PcP **PcP 17 44 41.9 +1.3**
comp=Z,13nm,0.6s,baz=308,slow=2.2,SNR=9.8
NVAR ScP **ScP 17 48 19.6 +1.5**
comp=Z,11nm,1.0s,baz=270,slow=0.9,SNR=2.3
comp=Z,64nm,0.7s
SPUT South Promonto 30.18 114 P **P 17 41 41.0 +0.2**
NV11 Mina Array Sit 30.19 125 P **P 17 41 42.3 +1.4**
LHV Little Huntoon 30.20 125 P **P 17 41 42.3 +1.5**
LHV IAmb IAmb 17 42 21.5
comp=Z,457nm,1.3s
Q09A Carvers 30.23 123 P **P 17 41 42.0 +0.8**
BGU Big Grassy Mou 30.24 115 P **P 17 41 41.8 +0.5**
BGU IAmb IAmb 17 42 31.1
comp=Z,413nm,1.8s
PD31 Pinedale Array 30.32 109 P **P 17 41 43.4 +1.4**
PD31 IAmb IAmb 17 42 44.2
comp=Z,234nm,1.4s
PDAR Pinedale Array 30.32 109 P **P 17 41 43.5 +1.4**
PDAR Pinedale Array 30.32 109 P **P 17 41 44.0 +1.9**
comp=Z,22nm,0.6s,baz=318,slow=4.3,SNR=8.2
PDAR ScP **ScP 17 48 19.2 +0.4**
comp=Z,5.9nm,0.9s,baz=166,slow=0.4,SNR=2.2
comp=Z,22nm,0.6s
HWUT Hardware Ranch 30.33 113 P **P 17 41 42.3 +0.2**
HWUT IAmb IAmb 17 41 47.2
comp=Z,335nm,1.6s
SAO San Andreas Ge 30.39 131 P **P 17 41 43.0 +0.6**
SAO San Andreas Ge 30.39 131 P **P 17 41 43.0 +0.6**
SAO pmax pmax
comp=Z,84nm,1.1s
BBGB Big Mountain B 30.70 130 P **P 17 41 45.6 +0.2**
BBGB IAmb IAmb 17 42 25.9
comp=Z,329nm,1.1s
TCUT Toone Canyon 30.80 113 P **P 17 41 46.5 +0.2**
TCUT IAmb IAmb 17 42 23.2
comp=Z,293nm,1.1s
TPH Tonopah 30.87 124 P **P 17 41 47.8 +0.9**
TPH Tonopah 30.87 124 P **P 17 41 47.8 +0.9**
TPH pmax pmax
comp=Z,944nm,1.1s
DUG Dugway, Tooele 30.93 116 P **P 17 41 48.6 +1.2**
DUG IAmb IAmb 17 42 33.2
comp=Z,570nm,1.9s
DUG Dugway, Tooele 30.93 116 P **P 17 41 48.6 +1.2**
DUG pmax pmax
comp=Z,570nm,1.9s
CTU Camp Tracy 30.99 114 P **P 17 41 48.2 +0.3**
Q12A Willow Creek R 31.03 120 P **P 17 41 48.1 -0.2**
Q12A IAmb IAmb 17 42 23.1
comp=Z,470nm,1.3s
PMPB Monarch Peak 31.11 130 P **P 17 41 49.7 +0.8**
PMPB IAmb IAmb 17 42 51.8
comp=Z,412nm,1.4s
MZP Montezuma Peak 31.12 124 P **P 17 41 49.7 +0.4**
DSP Deep Springs 31.18 125 P **P 17 41 49.0 -0.3**
JLU Jordanelle 31.20 114 P **P 17 41 50.2 +0.3**
JLU IAmb IAmb 17 42 52.1
comp=Z,431nm,1.8s
MDND Maddock 31.27 92 P **P 17 41 51.6 +1.5**
SPR3 Spring Creek 3 31.27 119 P **P 17 41 51.4 +0.7**
R11B Troy Canyon, C 31.30 121 P **P 17 41 51.6 +0.9**
TIXI Tiksi 31.35 323 P **P 17 41 51.6 +1.0**
TIXI Tiksi 31.35 323 P3KPbc 18 13 27.2
comp=Z,7.6nm,0.7s,baz=322,slow=2.0,SNR=9.5
TIXI Tiksi 31.35 323 P **P 17 41 51.6 +1.0**
TIXI pmax pmax
comp=Z,383nm,1.1s
ULM Lac du Bonnet 31.44 86 P **P 17 41 52.5 +0.9**
ULM IAmb IAmb 17 41 53.9
comp=Z,238nm,0.8s
ULM Lac du Bonnet 31.44 86 P **P 17 41 52.5 +0.9**
comp=Z,215nm,0.8s,baz=306,slow=9.0,SNR=6.1
ULM PcP **PcP 17 44 43.4 -0.2**
comp=Z,107nm,0.7s,baz=321,slow=5.0,SNR=5.1
comp=Z,215nm,0.8s

GMN Gold Mountain 31.52 124 P **P 17 41 53.0 +0.3**
BSUT Blindstream Ca 31.56 113 P **P 17 41 53.3 +0.2**
E28A Huff 31.65 95 P **P 17 41 52.8 -0.7**
K22A Casper 31.81 106 P **P 17 41 56.7 +1.6**
K22A IAmb IAmb 17 42 36.0
comp=Z,284nm,1.1s
S11A Rachel 31.83 122 P **P 17 41 56.8 +1.4**
PFO Pinyon Flats O 35.06 127 *i* P **P 17 42 25.6 +2.2**
PFO pmax pmax
comp=Z,870nm,3.8s
YAK Yakutsk 35.87 308 *e*P **P 17 42 29.4 -0.4**
YAK pmax pmax
comp=Z,303nm,1.0s
YAK pmax pmax
comp=N,110nm,1.2s
YAK pmax pmax
comp=E,284nm,1.5s
YAK Yakutsk 35.87 308 P **P 17 42 29.5 -0.4**
YAK pP **pP 17 42 43.0 -0.1**
YAK PcP **PcP 17 44 55.0 -0.9**
CBX Cerro Bola 36.13 128 P **P 17 42 33.2 +0.6**
SFX San Felipe 37.97 127 P **P 17 42 48.1 +0.2**
SFX IAmb IAmb 17 43 11.8
comp=Z,140nm,1.1s
SFJD Kangerlussuaq 39.26 38 P **P 17 42 59.5 +1.1**
SFJD PcP **PcP 17 45 05.9 -0.3**
YSS Yuzh-Sakhalins 40.03 281 *i* P **P 17 43 06.8 +1.7**
YSS pmax pmax
comp=Z,34nm,0.8s
KIP Kipapa 40.22 192 *i* P **P 17 43 08.5 +1.7**
KIP pmax pmax
comp=Z,273nm,2.4s
KIP Kipapa 40.22 192 P **P 17 43 08.6 +1.7**
SPA0 Spitsbergen Ar 40.54 4 *e*P **P 17 43 09.1 +0.1**
SPA0 IAmb IAmb 17 43 10.9
comp=Z,166nm,0.8s
SPITS Spitsbergen Ar 40.54 4 P **P 17 43 08.9 -0.1**
comp=Z,96nm,0.6s,baz=15,slow=6.0,SNR=18
SPITS PcP **PcP 17 45 09.8 -0.4**
comp=Z,33nm,0.7s,baz=60,slow=3.5,SNR=3.1
comp=Z,96nm,0.6s
HSPB Hornsund (broa 41.67 5 *e*P **P 17 43 18.5 +0.3**
PUH Pauahi 42.02 187 P **P 17 43 22.0 +0.2**
PUH IAmb IAmb 17 43 23.8
comp=Z,244nm,0.7s
KHU Kahuku 42.18 188 P **P 17 43 22.8 -0.4**
KHU Kahuku 42.18 188 P **P 17 43 22.8 -0.4**
KHU pmax pmax
comp=Z,491nm,1.1s
HOPEN Hopen 42.43 2 *e*P **P 17 43 25.8 +1.5**
HOPEN IAmb IAmb 17 43 26.0
comp=Z,281nm,0.9s
NRIK Noril'sk 43.40 334 P **P 17 43 32.1 -0.3**
comp=Z,80nm,0.8s,baz=43,slow=6.9,SNR=9.9
comp=Z,80nm,0.8s
IVI Ivigtut 44.09 43 P **P 17 43 39.8 +1.9**
IVI pP **pP 17 43 53.6 +2.2**
TXAR Lajitas Array 44.10 115 P **P 17 43 39.9 +1.3**
comp=Z,27nm,0.7s,baz=336,slow=6.5,SNR=4.8
TXAR PcP **PcP 17 45 23.6 +0.7**
comp=Z,13nm,0.7s,baz=166,slow=2.2,SNR=2.2
TXAR ScP **ScP 17 49 09.7 -0.4**
comp=Z,2.9nm,0.8s,baz=113,slow=2.1,SNR=1.3
TXAR PKPPKP **P'P'df 18 15 21.1 -2.3**
comp=Z,0.6nm,0.4s,baz=42,slow=4.1,SNR=4.2
comp=Z,27nm,0.7s
BJO1 Bjornoya 44.29 4 *e*P **P 17 43 41.0 +1.6**
BJO1 IAmb IAmb 17 43 41.9
comp=Z,216nm,0.8s
L56A Greenwood 46.06 80 P **P 17 43 54.6 +0.6**
JOHN Johnston Islan 46.63 206 P **P 17 43 58.8 +0.3**
JOHN sP **sP 17 44 18.2 +0.2**
USRK Ussuriysk Ar. 47.13 286 P **P 17 44 00.8 -1.4**
comp=Z,13nm,0.5s,baz=51,slow=8.8,SNR=10.0
USRK PcP **PcP 17 45 33.1 0.0**
comp=Z,11nm,0.7s,baz=348,slow=1.0,SNR=2.3
comp=Z,13nm,0.5s
HAMF Hammerfest 48.29 3 *e*P **P 17 44 10.9 +0.1**
HAMF IAmb IAmb 17 44 12.2
comp=Z,190nm,1.3s
BORG Borgarnes 48.58 27 P **P 17 44 14.1 +1.0**
BORG Borgarnes 48.58 27 P **P 17 44 14.1 +1.0**
BORG pmax pmax
comp=Z,209nm,1.0s
HIA Hailar 48.70 299 *i* P **P 17 44 13.5 -0.8**
HIA pmax pmax
comp=Z,148nm,1.2s
HIA Hailar 48.70 299 P **P 17 44 14.1 -0.2**
HIA pP **pP 17 44 28.9 +0.9**
MSHR Mys Shultsa 48.77 285 *i* P **P 17 44 14.7 -0.1**
MSHR pmax pmax
comp=Z,76nm,1.0s
PSTR Posyet 48.88 286 *i* P **P 17 44 16.0 +0.3**
VADS Vadso 48.89 0 *e*P **P 17 44 15.7 +0.3**
VADS IAmb IAmb 17 44 16.5
comp=Z,135nm,0.8s
TRO Tromso 49.14 5 *e*P **P 17 44 18.1 +0.8**
TRO IAmb IAmb 17 44 26.0
comp=Z,597nm,2.0s
JETT Jettan, Norway 49.28 4 *e*P **P 17 44 20.0 +1.5**
JETT IAmb IAmb 17 44 21.9
comp=Z,558nm,1.6s
ARA0 ARCESS Array S 49.44 2 *e*P **P 17 44 18.9 -0.7**
ARA0 IAmb IAmb 17 45 22.5
comp=Z,8μm,4.6s
ARCES ARCESS Array B 49.44 2 P **P 17 44 19.4 -0.3**
comp=Z,30nm,0.7s,baz=1.8,slow=6.9,SNR=9.3
ARCES PcP **PcP 17 45 40.8 -0.2**
comp=Z,72nm,0.8s,baz=347,slow=3.7,SNR=8.4
ARCES SKKP 18 09 49.0
comp=Z,15nm,1.0s,baz=200,slow=3.2,SNR=4.1
comp=Z,30nm,0.7s
KTK1 Kautokeino 49.91 3 *e*P **P 17 44 24.1 +0.9**
KTK1 IAmb IAmb 17 44 39.8
comp=Z,257nm,1.4s
MJA0 Matsu Arr-Jizo 50.16 275 *e*P **P 17 44 26.6 +1.0**
MJA0 pmax pmax
comp=Z,32nm,0.9s
MAJO Matsushiro 50.18 275 *i* P **P 17 44 26.0 +0.3**
MAJO pmax pmax
comp=Z,66nm,0.9s
MJAR Matsushiro Arr 50.18 275 P **P 17 44 25.0 -0.7**
comp=Z,44nm,0.9s,baz=50,slow=6.2,SNR=8.2
MJAR PcP **PcP 17 45 44.0 -0.3**
comp=Z,27nm,0.9s,baz=34,slow=2.8,SNR=4.0
comp=Z,44nm,0.9s
LOF Lofoten 50.34 8 *e*P **P 17 44 27.1 +0.7**
LOF IAmb IAmb 17 44 28.2
comp=Z,104nm,0.8s
CN2 Changchun 50.44 291 *e*P **P 17 44 26.5 -1.0**
CN2 *e*pP pP 17 44 38.8 -2.5
CN2 pmax pmax
comp=Z,160nm,1.0s
HAL Halifax 50.59 67 P **P 17 44 28.6 0.0**
HAL IAmb IAmb 17 44 29.5
comp=Z,105nm,0.7s
HAL Halifax 50.59 67 P **P 17 44 28.6 0.0**
HAL pmax pmax
comp=Z,105nm,0.7s
STEI Steigen 50.64 7 *e*P **P 17 44 29.0 +0.3**
STEI IAmb IAmb 17 44 29.8
comp=Z,132nm,0.9s
LVZ Lovozero 51.08 358 *i* P **P 17 44 31.9 -0.2**
LVZ Lovozero 51.08 358 P **P 17 44 31.8 -0.2**
LVZ pP **pP 17 44 46.2 +0.3**
FAUS Fauske 51.19 7 *e*P **P 17 44 31.9 -1.0**
FAUS IAmb IAmb 17 44 33.8
comp=Z,104nm,0.8s
APA Apatity 51.43 358 ⇓ *i* P **P 17 44 33.3 -1.4**
APA *i* 17 45 54.0
APA *i* PPP PPP 17 47 42.0
APA pmax pmax
comp=Z,140nm,0.8s
APA MLR MLR
comp=Z,62μm,22.0s
NHSC New Hope 51.97 89 P **P 17 44 39.2 0.0**
LEIR Leirfjorden 52.30 9 *e*P **P 17 44 40.9 -0.3**
LEIR IAmb IAmb 17 44 41.2
comp=Z,92nm,1.0s
MOR8 Moi Rana 52.34 8 *e*P **P 17 44 40.1 -1.4**
MOR8 IAmb IAmb 17 44 42.1
comp=Z,1μm,2.6s
JRQG Juriquilla Cam 53.04 117 P **P 17 44 47.1 -0.4**
KSRS Korea Array 54.34 284 P **P 17 44 57.0 +0.5**
comp=Z,94nm,0.8s,baz=31,slow=7.1,SNR=22

KSRS ScP **ScP 17 49 54.1 +0.7**
comp=Z,7.7nm,0.9s,baz=43,slow=3.5,SNR=4.7
comp=Z,94nm,0.8s
KSRS Korea Array 54.34 284 P **P 17 44 57.0 +0.5**
XLT XiLinHaoTe 54.48 298 *e*P **P 17 44 58.5 +0.9**
XLT pP pP 17 45 11.3 -0.2
XLT pmax pmax
comp=Z,38nm,0.7s
INCN Inchon 54.92 285 P **P 17 45 00.5 -0.2**
INCN IAmb IAmb 17 45 17.9
comp=Z,161nm,1.1s
INCN Inchon 54.92 285 P **P 17 45 00.5 -0.2**
INCN pmax pmax
comp=Z,161nm,1.1s
INCN Inchon 54.92 285 P **P 17 45 00.6 -0.2**
INCN pP **pP 17 45 14.7 0.0**
SONM Songino Array 55.23 307 P **P 17 45 03.5 +0.5**
comp=Z,52nm,0.7s,baz=58,slow=6.9,SNR=16
SONM ScP **ScP 17 49 56.3 -1.0**
comp=Z,7.7nm,1.0s,baz=90,slow=1.4,SNR=2.6
comp=Z,52nm,0.7s
MOL Molde 55.30 12 *e*P **P 17 45 02.3 -0.8**
TJN Taejon 55.47 284 *i* P **P 17 45 05.1 +0.4**
TJN pmax pmax
comp=Z,6.0nm,0.9s
AKN Aaknes 55.62 13 *e*P **P 17 45 06.1 +0.6**
AKN IAmb IAmb 17 45 06.8
comp=Z,214nm,0.9s
DOMB Dombas 55.97 12 *e*P **P 17 45 09.4 +1.4**
DL2 Dalian 56.07 290 P **P 17 45 09.0 +0.1**
DL2 sP **pP 17 45 23.0 +0.1**
DL2 pmax pmax
comp=Z,150nm,0.9s
JOF Joensuu 56.12 359 *e*P **P 17 45 09.4 +0.4**
SUE Sulen 56.46 14 *e*P **P 17 45 12.0 +0.6**
SUE IAmb IAmb 17 45 13.2
comp=Z,218nm,1.3s
HYA Hoyanger 56.52 14 *e*P **P 17 45 11.6 -0.2**
HYA IAmb IAmb 17 45 15.5
comp=Z,75nm,0.5s
TLIG Tlapa 56.63 117 P **P 17 45 13.7 +0.4**
TLIG IAmb IAmb 17 45 16.4
comp=Z,127nm,0.9s
ASK Askoy 57.07 14 *e*P **P 17 45 15.7 0.0**
ASK IAmb IAmb 17 45 16.7
comp=Z,137nm,0.8s
NB2 NORSAR Subarra 57.16 11 P **P 17 45 16.2 -0.2**
comp=Z,35nm,0.8s,baz=350,slow=7.4
NB2 NORSAR Subarra 57.16 11 P **P 17 45 16.2 -0.2**
baz=350,slow=7.4
NOA NORSAR Array B 57.16 11 P **P 17 45 15.6 -0.8**
comp=Z,63nm,0.8s,baz=350,slow=7.0,SNR=14
NOA PKP2bc 18 15 12.4
comp=Z,4.5nm,0.8s,baz=148,slow=2.3,SNR=7.0
comp=Z,63nm,0.8s
NOA NORSAR Array B 57.16 11 *e*P **P 17 45 15.8 -0.6**
NOA pmax pmax
comp=Z,63nm,0.8s
BER Bergen 57.18 14 *e*P **P 17 45 16.5 0.0**
BER IAmb IAmb 17 45 18.5
comp=Z,224nm,1.2s
ZALV Zalesovo Beam 57.21 325 P **P 17 45 15.8 -1.0**
comp=Z,32nm,0.5s,baz=37,slow=6.9,SNR=20
ZALV PKiKP **PKiKP 17 52 36.0 -0.7**
comp=Z,1.1nm,0.3s,baz=40,slow=4.7,SNR=4.8
comp=Z,32nm,0.5s
ZALV Zalesovo Beam 57.21 325 *e*P **P 17 45 15.8 -1.0**
ZALV pmax pmax
comp=Z,33nm,0.5s
FINES FINESS Array B 57.57 2 P **P 17 45 18.6 -0.7**
comp=Z,72nm,0.5s,baz=0.1,slow=8.1,SNR=30
FINES PKP2bc 18 15 13.1
comp=Z,25nm,0.9s,baz=163,slow=2.0,SNR=10
comp=Z,72nm,0.5s
ODD1 Odda 57.80 14 *e*P **P 17 45 20.7 -0.2**
ODD1 IAmb IAmb 17 45 24.0
comp=Z,167nm,1.4s
RAF Rauma 57.86 5 *e*P **P 17 45 21.2 0.0**
KLMR Klimovskoe 57.98 355 *e*P **P 17 45 20.9 -1.2**
KLMR *e**PP **pP 17 45 32.6 -3.5**
KLMR pmax pmax
comp=Z,553nm,0.9s
BLS5 Blasjo 58.25 14 *e*P **P 17 45 23.6 -0.5**
BLS5 IAmb IAmb 17 45 24.7
comp=Z,109nm,0.9s
HFS Hagfors 58.26 10 P **P 17 45 23.7 -0.5**
comp=Z,185nm,0.8s,baz=19,slow=5.2,SNR=24
comp=Z,185nm,0.8s
KONO Kongsberg 58.37 12 P **P 17 45 24.9 0.0**
KONO IAmb IAmb 17 45 25.9
comp=Z,123nm,0.9s
KONO Kongsberg 58.37 12 *e*P **P 17 45 25.0 +0.1**
KONO Kongsberg 58.37 12 *i* P **P 17 45 25.2 +0.3**
KONO pmax pmax
comp=Z,140nm,1.0s
KONO Kongsberg 58.37 12 P **P 17 45 24.9 0.0**
KONO pP **pP 17 45 38.8 -0.1**
MEF Metsahovi 58.76 3 *e*P **P 17 45 27.9 +0.4**
HHC Hu-ho-hao-te 58.90 299 *e*P **P 17 45 32.0 +3.0**
HHC pmax pmax
comp=Z,28nm,0.9s
PUL Pulkovo 59.28 360 *i* P **P 17 45 31.2 +0.1**
SNART Snartemo 59.40 14 *e*P **P 17 45 32.1 +0.1**
KIRV Kirov 59.52 348 *i* P **P 17 45 32.4 -0.4**
ARBE Arbavere 59.58 2 *e*P **P 17 45 34.0 +0.8**
HOMB Homborsund 59.61 13 *e*P **P 17 45 33.5 +0.1**
SVE Sverdlovsk 59.81 341 *e*P **P 17 45 34.9 0.0**
SVE pmax pmax
comp=Z,232nm,0.9s
BBSR BB Station 59.98 77 P **P 17 45 36.0 -0.4**
BBSR BB Station 59.98 77 P **P 17 45 36.0 -0.4**
BBSR pP **pP 17 45 50.1 -0.6**
MTSE Matsula 60.24 4 *e*P **P 17 45 37.6 -0.1**
HNS HongShan 60.41 294 ⇓ P **P 17 45 39.3 +0.1**
HNS pmax pmax
comp=Z,86nm,1.3s
VSU Vasula 60.57 2 *i* P **P 17 45 40.4 +0.4**
VSU pmax pmax
comp=Z,627nm,0.8s
ARTI Arti 60.58 342 *d i* P **P 17 45 39.7 -0.4**
ARTI 17 46 22.8
ARTI 17 47 54.7
ARTI S **S 17 53 53.0 +1.2**
ARTI pmax pmax
comp=Z,296nm,0.8s
EKA Eskdalemuir Ar 60.82 21 P **P 17 45 41.8 0.0**
comp=Z,130nm,0.9s,baz=332,slow=4.8,SNR=26
EKA PKP2bc 18 15 07.5
comp=Z,4.7nm,0.8s,baz=302,slow=6.6,SNR=4.7
comp=Z,130nm,0.9s
ESK Eskdalemuir 60.83 21 P **P 17 45 41.6 -0.2**
ESK IAmb IAmb 17 45 43.9
comp=Z,152nm,0.9s
ESK Eskdalemuir 60.83 21 P **P 17 45 41.6 -0.2**
ESK pmax pmax
comp=Z,151nm,1.0s
ESK Eskdalemuir 60.83 21 P **P 17 45 42.1 +0.3**
ESK pP **pP 17 45 57.3 +1.4**
PETF Flores 61.07 109 P **P 17 45 44.0 0.0**
SLIT Slitere, Latvi 61.28 5 *e*P **P 17 45 45.2 +0.4**
BRVK Borovoye 61.60 334 *i* P **P 17 45 46.5 -0.6**
BRVK pmax pmax
comp=Z,123nm,0.8s
BVA0 Borovoye Array 61.61 334 *i* P **P 17 45 44.7 -2.5**
BVAR Borovoye Array 61.61 334 P **P 17 45 46.2 -1.0**
comp=Z,136nm,0.8s,baz=48,slow=7.3,SNR=18
BVAR PKKP **PKKPdf 18 06 28.8 -5.3**
comp=Z,13nm,0.9s,baz=222,slow=1.9,SNR=12
BVAR PKPPKP **P'P'df 18 14 59.2 -4.3**
comp=Z,2.7nm,0.7s,baz=222,slow=1.9,SNR=3.6
comp=Z,136nm,0.8s
SEM Semipalatinsk 61.63 326 *e*P **P 17 45 46.1 -1.6**
comp=Z,45nm,0.9s
SEM *e*S **S 17 54 05.4 -0.5**
SEM Semipalatinsk 61.63 326 *e*P **P 17 45 46.1 -1.6**
SEM *e*S **S 17 54 05.4 -0.5**
SEM pmax pmax
comp=Z,45nm,0.9s
KURK Kurchatov 61.79 327 P **P 17 45 48.1 -0.3**
KURBB Kurchatov Arra 61.90 327 P **P 17 45 48.0 -1.1**
comp=Z,70nm,0.8s,baz=30,slow=6.6,SNR=24
KURBB PKKP **PKKPdf 18 06 29.1 -4.7**
comp=Z,2.4nm,1.0s,baz=215,slow=2.6,SNR=4.1
KURBB PKP2bc 18 15 01.4
comp=Z,2.7nm,0.8s,baz=217,slow=2.4,SNR=4.7

KURBB P4KPbc 18 22 47.7
comp=Z,1.8nm,1.1s,baz=19,slow=3.7,SNR=4.8
comp=Z,70nm,0.8s
PBUR Paburge 62.87 5 *e*P **P 17 45 56.2 +0.8**
JOW Kunigami 62.94 277 P **P 17 45 56.2 -0.2**
JOW pP **pP 17 46 11.0 +0.4**
ZSN Zaisan 62.98 321 *e*P **P 17 45 55.4 -1.2**
comp=Z,28nm,0.7s
ZSN *e*S **S 17 54 22.4 -0.2**
ZSN Zaisan 62.98 321 *e*P **P 17 45 55.3 -1.2**
ZSN *e*S **S 17 54 22.3 -0.2**
ZSN pmax pmax
comp=Z,28nm,0.7s
NJ2 Nanjing 63.00 288⇑*i*P **P 17 45 56.5 -0.2**
NJ2 pmax pmax
comp=Z,100nm,1.0s
MOS Moscow 63.17 355 *e*P **P 17 45 57.1 -0.4**
MOS *e* 17 46 12.2
BSD Bornholm Skovb 63.34 10 *e*P **P 17 45 59.5 +0.9**
PABE Paberze 63.46 4 *e*P **P 17 46 00.0 +0.6**
HLG Helgoland 63.55 14 *e*P **P 17 46 01.8 +1.8**
comp=Z,713nm,1.2s,baz=350,slow=6.3
RGN Rugen 63.76 11 P **P 17 46 02.2 +0.8**
RGN Rugen 63.76 11 *e*P **P 17 46 02.3 +0.9**
comp=Z,453nm,1.0s,baz=350,slow=6.3
LYN LuoYang 63.78 294 P P 17 46 07.5 +5.6
LYN pP pP 17 46 17.5 +1.4
OBN Obninsk 63.84 356⇓P **P 17 46 01.9 0.0**
OBN Obninsk 63.84 356*d i*P **P 17 46 01.5 -0.4**
OBN *i* *SP **pP 17 46 16.4 +0.3**
OBN *e* 17 46 37.9
OBN *i* 17 48 25.5
OBN *e*S **S 17 54 34.5 +1.7**
OBN *i* 17 55 42.0
OBN pmax pmax
comp=Z,406nm,1.0s
OBN MLR MLR
comp=Z,46μm,18.0s
OBN Obninsk 63.84 356 P **P 17 46 01.8 -0.1**
OBN pP **pP 17 46 16.5 +0.3**
BSEG Bad Segeberg 64.07 13 *e*P **P 17 46 04.1 +0.6**
comp=Z,203nm,0.9s,baz=350,slow=6.3
NACGM Naroch 64.13 2⇑*i*P **P 17 46 04.2 +0.3**
comp=Z,838nm,1.0s,baz=358
MK31 Makanchi Array 64.34 323 *i* P **P 17 46 04.7 -0.7**
MKAR Makanchi Array 64.34 323 P **P 17 46 03.9 -1.5**
comp=Z,54nm,0.8s,baz=37,slow=6.7,SNR=12
MKAR PKKP PKKPdf 18 06 22.4 -8.4
comp=Z,8.3nm,0.9s,baz=172,slow=2.7,SNR=9.1
MKAR PKP2bc 18 14 57.6
comp=Z,6.7nm,1.0s,baz=241,slow=2.5,SNR=4.5
comp=Z,54nm,0.8s
MKAR Makanchi Array 64.34 323 *e*P **P 17 46 04.2 -1.2**
MKAR pmax pmax
comp=Z,55nm,0.8s
MNK Minsk 64.55 1 *i* P **P 17 46 06.3 -0.3**
comp=E,366nm,0.9s
MNK *i* P **P 17 46 06.3 -0.3**
comp=N,141nm,0.8s
MNK *i* P **P 17 46 06.3 -0.3**
comp=Z,849nm,0.8s,baz=359
MNK *i* PP **PP 17 48 28.9 +0.5**
MNK *i* PPP PPP 17 50 00.9
MNK *i* S **S 17 54 42.5 +0.9**
MNK *i* SS **SS 17 58 57.6 +6.0**
MNK *i* SSS SSS 18 02 01.1
MNK *i* LQ LQ 18 09 47.9
MNK *i* LR LR 18 13 31.4
MNK *i* LRM MLR 18 17 20.4
comp=E,30μm,20.1s
MNK *i* LRM MLR 18 19 24.3
comp=Z,24μm,16.7s
MNK *i* LRM MLR 18 21 03.7
comp=N,36μm,18.0s
MNK Minsk 64.55 1*d i*P **P 17 46 06.3 -0.3**
GTA Gaotai 64.89 307 *e*P **P 17 46 08.5 -0.8**
GTA pmax pmax
comp=N,64nm,1.0s
SUW Suwalki 64.93 4 *e*P **P 17 46 08.6 -0.5**
SUW Suwalki 64.93 4 *e*P **P 17 46 09.1 0.0**
GKP Gorka Klasztor 65.35 8 *e*P **P 17 46 12.2 +0.4**
GKP Gorka Klasztor 65.35 8 *e*P **P 17 46 12.5 +0.7**
WMQ Urumqi 65.35 318 *e*P P 17 46 17.5 +5.4
WMQ pmax pmax
comp=N,140nm,1.7s
IBBN Ibbenburen 65.38 15 *e*P **P 17 46 12.0 0.0**
comp=N,214nm,1.1s,baz=350,slow=6.3
NRDL Niedersach Rie 65.47 13 *e*P **P 17 46 13.0 +0.4**
comp=N,152nm,0.9s,baz=350,slow=6.3
MTDJ Mount Denham 65.75 96 P **P 17 46 14.5 -0.5**
FLTG Flechtingen 65.75 13 *e*P **P 17 46 14.2 -0.2**
comp=N,113nm,0.9s,baz=350,slow=6.3
BELG Belogornoye 65.81 348 *i* P **P 17 46 14.6 -0.2**
BELG pmax pmax
comp=Z,118nm,0.9s
RUE Ruedersdorf 65.85 11 *e*P **P 17 46 15.8 +0.8**
RUE Ruedersdorf 65.85 11 *e*P **P 17 46 15.7 +0.6**
comp=Z,488nm,0.9s,baz=350,slow=6.3
CLZ Clausthal 66.14 13 *e*P **P 17 46 17.8 +0.8**
comp=Z,255nm,1.0s,baz=350,slow=6.3
LZH Lanzhou 66.15 302 P **P 17 46 17.3 -0.2**
LZH pP pP 17 46 28.8 -2.9
LZH sP sP 17 46 33.0 -4.5
LZH pmax pmax
comp=Z,120nm,1.0s
BUG Bochum--Univer 66.17 15 *e*P **P 17 46 17.4 +0.3**
comp=Z,156nm,1.0s,baz=350,slow=6.3
LPSR Galich'ya Gora 66.25 354 *e*P **P 17 46 16.5 -1.1**
LPSR *e* *SP **pP 17 46 30.9 -1.0**
LPSR pmax pmax
comp=Z,280nm,0.9s
WHN Wuhan 66.33 290⇑P pP 17 46 34.0 +1.3
PATS Pohnpei 66.38 238 P **P 17 46 19.7 +0.8**
comp=Z,188nm,1.6s
GTTG Gottingen 66.39 14 *e*P **P 17 46 19.5 +1.0**
comp=Z,344nm,0.9s,baz=350,slow=6.3
UCC Uccle 66.40 17 *d*P **P 17 46 18.9 +0.3**
AKTO Aktyubinsk 66.40 341 P **P 17 46 17.2 -1.4**
KASTN Kahler Asten 66.54 15 *e*P **P 17 46 20.0 +0.4**
comp=Z,87nm,1.1s,baz=350,slow=6.3
BSTI Sart Tilman 66.78 17 *d*P **P 17 46 21.3 +0.3**
comp=Z,26nm,0.9s
MEM Membach 66.81 16 *d*P **P 17 46 21.5 +0.3**
comp=Z,88nm,1.1s
BTNL Ternell 66.85 16 *d*P **P 17 46 21.8 +0.3**
comp=Z,65nm,1.1s
BGES Gesves 66.91 17 *d*P **P 17 46 20.7 -1.2**
comp=Z,42nm,0.9s
NEUB Neuenburg 66.92 12 *e*P **P 17 46 22.4 +0.5**
comp=Z,254nm,0.9s,baz=350,slow=6.3
BMRD Maredsous 66.94 17 *d*P **P 17 46 21.9 -0.1**
CLL Collm 66.94 12 *i* P **P 17 46 22.2 +0.2**
CLL *e* *SP **sP 17 46 41.0 -1.1**
CLL pmax pmax
comp=Z,195nm,1.0s
CLL Collm 66.94 12 *e*P **P 17 46 22.2 +0.2**
comp=Z,170nm,1.0s,baz=350,slow=6.3
CLL Collm 66.94 12 *i* P **P 17 46 22.2 +0.2**
comp=Z,195nm,1.0s
CLL *e*pP **pP 17 46 37.0 +0.7**
CLL *e*sP **sP 17 46 41.0 -1.1**
CLL *e*x x 17 46 50.0
BEL Belsk 67.00 6 *e*P **P 17 46 23.2 +0.8**
TDK Taldyqorghan 67.08 325 *e*P **P 17 46 22.2 -0.9**
comp=Z,53nm,0.7s
TDK Taldyqorghan 67.08 325 *e*P **P 17 46 22.2 -0.9**
TDK pmax pmax
comp=Z,53nm,0.7s
DOU Dourbes 67.12 17 *d*P **P 17 46 23.6 +0.5**
comp=Z,53nm,1.1s
RCHB Rochefort 67.15 17 *d*P **P 17 46 23.3 0.0**
comp=Z,74nm,0.9s
VORR Voronezh 67.16 354 *e*P **P 17 46 21.7 -1.7**
VORR *e* *SP **pP 17 46 36.3 -1.4**
VORR pmax pmax
comp=Z,200nm,0.9s
AB31 Akbulak array 67.22 339 *i* P **P 17 46 22.2 -1.7**
MOX Moxa 67.46 13 *e*P **P 17 46 25.9 +0.5**
comp=Z,235nm,0.9s,baz=350,slow=6.3
BRG Berggiesshubel 67.46 11 *i* P **P 17 46 26.0 +0.7**
BRG Amp 17 46 26.9
comp=Z,172nm,0.9s
BRG Berggiesshubel 67.46 11 *i* P **P 17 46 26.0 +0.7**
BRG pmax pmax
comp=Z,172nm,0.9s
BRG Berggiesshubel 67.46 11 *e*P **P 17 46 25.8 +0.4**
comp=Z,171nm,0.9s,baz=350,slow=6.3
VRH Novokhopyorsk 67.48 352 *e*P **P 17 46 23.5 -1.9**
VRH *e* *SP **pP 17 46 38.7 -1.0**
VRH pmax pmax
comp=Z,170nm,0.9s
VSR Storozhevoye 67.62 354 *e*P **P 17 46 24.3 -2.0**
VSR *e* *SP **pP 17 46 39.1 -1.5**
VSR pmax pmax
comp=Z,140nm,0.8s
PLN Plauen 67.67 12 *e*P **P 17 46 27.2 +0.5**
comp=Z,154nm,0.9s,baz=350,slow=6.3
HSKC Hora Svate Kat 67.67 11 *e*P **P 17 46 27.1 +0.3**
KSP Ksiaz 67.69 9 *e*P **P 17 46 27.3 +0.5**
WLF Walferdange 67.76 17 *d*P **P 17 46 27.5 +0.3**
comp=Z,80nm,1.0s
TANN Tannenbergstha 67.77 12 *e*P **P 17 46 27.8 +0.4**
comp=Z,130nm,1.0s,baz=350,slow=6.3
RICC Richard 67.80 11 *e*P **P 17 46 28.4 +0.9**
PVCC Panska Ves 67.86 11 *e*P **P 17 46 28.5 +0.6**
PVCC Panska Ves 67.86 11 *e*P **P 17 46 28.5 +0.6**
VORD Divnogorie 67.86 354 *e*P **P 17 46 25.7 -2.1**
VORD *e* *SP **pP 17 46 41.1 -1.1**
VORD pmax pmax
comp=Z,210nm,0.8s
CHVC Chvalec 67.92 10 *e*P **P 17 46 28.7 +0.4**
CHVC Chvalec 67.92 10 *e*P **P 17 46 28.7 +0.4**
NKC Novy Kostel 67.95 12 *e*P **P 17 46 29.0 +0.5**
NKC Novy Kostel 67.95 12 *e*P **P 17 46 29.0 +0.5**
OSTC Ostas 67.97 9 *e*P **P 17 46 29.3 +0.7**
OSTC Ostas 67.97 9 *e*P **P 17 46 29.3 +0.7**
UPC Upice 68.00 10 *e*P **P 17 46 29.3 +0.5**
UPC Upice 68.00 10 *e*P **P 17 46 29.3 +0.5**
DPC Dobruska-Polom 68.18 9 *e*P **P 17 46 30.9 +0.9**
DPC Dobruska-Polom 68.18 9 *e*P **P 17 46 30.9 +0.9**
BTLS Baital 68.21 328 *e*P **P 17 46 29.3 -0.9**
comp=Z,48nm,0.9s
BTLS Baital 68.21 328 *e*P **P 17 46 29.2 -0.9**
BTLS pmax pmax
comp=Z,48nm,0.9s
GRF Grafenberg Arr 68.35 13 *e*P **P 17 46 31.8 +0.7**
comp=Z,143nm,0.9s,baz=350,slow=6.3
AKASG Malin Array Be 68.37 1 P **P 17 46 30.3 -0.8**
comp=Z,75nm,0.5s,baz=360,slow=6.4,SNR=32
comp=Z,75nm,0.5s
AKASG Malin Array Be 68.37 1 *e*P **P 17 46 30.5 -0.6**
AKASG pmax pmax
comp=Z,154nm,0.8s
AKBB Malin Array Si 68.37 1 *i* P **P 17 46 30.1 -1.0**
AKBB pmax pmax
comp=Z,302nm,0.9s
NACB Ninganchiao 68.37 281 P **P 17 46 30.6 -0.9**
NACB IAmb IAmb 17 46 48.1
comp=Z,179nm,1.0s
KIEV Kiev 68.38 1⇓P **P 17 46 30.9 -0.2**
KIEV Kiev 68.38 1 P **P 17 46 30.8 -0.2**
KIEV Kiev 68.38 1 P **P 17 46 30.5 -0.6**
KIEV pP **pP 17 46 45.1 -0.4**
KIEV sP **sP 17 46 51.0 -0.2**
ROTZ Rotzenmuhle 68.39 12 *e*P **P 17 46 31.8 +0.6**
comp=Z,38nm,0.9s,baz=350,slow=6.3
PRU Pruhonice 68.39 11 *e*P **P 17 46 31.4 +0.2**
PRU Pruhonice 68.39 11 *e*P **P 17 46 31.4 +0.2**
SHLS Shalkode 68.48 323 *e*P **P 17 46 30.1 -1.9**
comp=Z,28nm,0.7s
SHLS Shalkode 68.48 323 *e*P **P 17 46 30.1 -1.9**
SHLS pmax pmax
comp=Z,28nm,0.7s
GOPC GO Pecny, Ondr 68.49 11 *e*P **P 17 46 32.1 +0.3**
GOPC GO Pecny, Ondr 68.49 11 *e*P **P 17 46 32.1 +0.3**
KRLC Kraliky 68.49 9 *e*P **P 17 46 32.3 +0.4**
KRLC Kraliky 68.49 9 *e*P **P 17 46 32.3 +0.4**
OJC Ojcow 68.55 7 *e*P **P 17 46 32.4 +0.1**
UZB Uzynbulak 68.61 324 *e*P **P 17 46 31.8 -1.1**
UZB Uzynbulak 68.61 324 *e*P **P 17 46 31.8 -1.1**
ZHN Zhinishke 68.76 324 *e*P **P 17 46 32.5 -1.3**
comp=Z,43nm,0.8s
ZHN Zhinishke 68.76 324 *e*P **P 17 46 32.5 -1.3**
ZHN pmax pmax
comp=Z,43nm,0.8s
CLF Chambon-Foret 68.77 20 P **P 17 46 33.8 +0.2**
OKC Ostrava-Krasne 68.83 8 *e*P **P 17 46 34.3 +0.4**
OKC Ostrava-Krasne 68.83 8 *e*P **P 17 46 34.3 +0.4**
MORC Moravsky Berou 68.84 9 *e*P **P 17 46 34.2 +0.1**
MORC Moravsky Berou 68.84 9⇑P **P 17 46 34.8 +0.7**
MORC Moravsky Berou 68.84 9 P **P 17 46 34.8 +0.7**
SATY Saty 68.87 324 *e*P **P 17 46 33.4 -1.1**
comp=Z,32nm,0.9s
SATY Saty 68.87 324 *e*P **P 17 46 33.4 -1.1**
SATY pmax pmax
comp=Z,32nm,0.9s
ZVC Zvikov 68.90 11 *e*P **P 17 46 35.0 +0.6**
SSLB Suanglung 69.00 281 P **P 17 46 34.5 -1.0**
STU Stuttgart 69.03 15 *e*P **P 17 46 36.4 +1.2**
AAA Alma-Ata 69.15 325 *e*P **P 17 46 35.2 -1.0**
comp=Z,92nm,1.0s
AAA Alma-Ata 69.15 325 *e*P **P 17 46 35.1 -1.0**
AAA pmax pmax
comp=Z,92nm,1.0s
KHC Kasperske Hory 69.15 11 *e*P **P 17 46 36.4 +0.4**
KHC Kasperske Hory 69.15 11 *i* P **P 17 46 37.6 +1.6**
KHC pmax pmax
comp=Z,353nm,0.9s
MDOK Medeo 69.15 325 *e*P **P 17 46 35.3 -1.0**
MDOK Medeo 69.15 325 *e*P **P 17 46 35.2 -1.0**
TREC Trest 69.16 10 *e*P **P 17 46 35.5 -0.6**
TREC Trest 69.16 10 *e*P **P 17 46 35.5 -0.6**
VRAC Vranov 69.24 9 *e*P **P 17 46 37.0 +0.5**
VRAC Vranov 69.24 9⇓P **P 17 46 36.4 -0.1**
VRAC Vranov 69.24 9 P **P 17 46 36.4 -0.1**
KWP Kalwaria Pacla 69.29 5 *e*P **P 17 46 37.1 +0.3**
TNSS Tian-Shan 69.30 325 *e*P **P 17 46 35.9 -1.7**
TNSS Tian-Shan 69.30 325 *e*P **P 17 46 35.8 -1.7**
ECH Echery 69.31 16 P **P 17 46 37.4 +0.4**
STHS Stebnicka Huta 69.43 6 *e*P **P 17 46 38.2 +0.5**
STHS pmax pmax
comp=Z,330nm,0.9s
STHS Stebnicka Huta 69.43 6 *e*P **P 17 46 38.2 +0.5**
GEC2 GERESS Array S 69.44 11 *e*P **P 17 46 38.2 +0.3**
comp=Z,86nm,0.9s,baz=350,slow=6.3
GERES GERESS Array B 69.44 11 P **P 17 46 38.1 +0.2**
comp=Z,67nm,0.8s,baz=349,slow=4.1,SNR=19
GERES PKKP **PKKPdf 18 06 21.4 -2.2**
comp=Z,0.9nm,0.6s,baz=134,slow=4.2,SNR=3.5
GERES PKPPKP P'P'df 18 14 41.2 -10
comp=Z,4.6nm,1.0s,baz=111,slow=2.2,SNR=5.0
comp=Z,67nm,0.8s
GERES GERESS Array B 69.44 11 *e*P **P 17 46 38.5 +0.6**
GERES pmax pmax
comp=Z,68nm,0.8s
KRUC Moravsky 69.47 10 *e*P **P 17 46 38.3 +0.4**
CKRC Cesky Krumlov 69.53 11 *e*P **P 17 46 39.7 +1.4**
CKRC Cesky Krumlov 69.53 11 *e*P **P 17 46 39.7 +1.4**
USP Ospenovka 69.75 327 P **P 17 46 40.0 +0.2**
SNR=5.7
JAVC Velka Javorina 69.77 9 *e*P **P 17 46 41.0 +1.2**
TKM2 Tokmak 2 69.78 326 P **P 17 46 40.4 +0.2**
SNR=5.9
FUR Furstenfeldbru 69.87 13 *e*P **P 17 46 41.1 +0.7**
comp=Z,339nm,0.9s,baz=350,slow=6.3
CHMS Chumysh 69.93 327 P **P 17 46 40.9 0.0**
SNR=9.6
KOLS Kolonicke sedl 69.97 5 *e*P **P 17 46 41.9 +0.9**
KOLS pmax pmax
comp=Z,230nm,0.8s
KOLS Kolonicke sedl 69.97 5 *e*P **P 17 46 41.9 +0.9**
KDJ Kajisay 70.07 325 P **P 17 46 41.5 -0.5**
KDJ IAmb IAmb 17 46 43.0
comp=Z,154nm,0.8s
KDJ Kajisay 70.07 325 P **P 17 46 41.5 -0.5**
KDJ pmax pmax
comp=Z,154nm,0.8s
SMOL Smolenice 70.09 9 *e*P **P 17 46 42.8 +1.0**
SMOL pmax pmax
comp=Z,62nm,0.9s
FRU1 Bishkek 70.14 327 P **P 17 46 41.1 -1.1**
FRU1 Bishkek 70.14 327 P **P 17 46 41.1 -1.1**
FRU1 pmax pmax
comp=Z,209nm,0.8s
KBK Karagaybulak 70.20 326 P **P 17 46 42.6 -0.1**
SNR=11
UBR Ueberruh 70.21 14 *e*P **P 17 46 43.1 +0.5**
comp=Z,148nm,0.9s,baz=350,slow=6.3
VYHS Vyhne 70.21 8 *e*P **P 17 46 42.9 +0.4**
VYHS pmax pmax
comp=Z,188nm,1.0s
VYHS Vyhne 70.21 8 *e*P **P 17 46 42.9 +0.4**
MODS Modra-Piesok 70.22 9 *e*P **P 17 46 43.7 +1.1**
MODS pmax pmax
comp=Z,402nm,0.9s
MODS Modra-Piesok 70.22 9 *e*P **P 17 46 43.7 +1.1**
KECS Kecovo 70.32 7 *e*P **P 17 46 43.7 +0.5**
KECS pmax pmax
comp=Z,274nm,0.8s
KECS Kecovo 70.32 7 *e*P **P 17 46 43.7 +0.5**
AAK Ala-Archa 70.33 327 P **P 17 46 43.4 -0.2**
SNR=6.3
AAK Ala-Archa 70.33 327 *i* P **P 17 46 43.2 -0.4**
AAK pmax pmax
comp=Z,130nm,0.8s
AAK Ala-Archa 70.33 327 P **P 17 46 43.3 -0.2**
EKS2 Erkin-Say 70.50 327 P **P 17 46 44.5 -0.1**
SNR=20
CONA Conrad Observa 70.55 10 *i* P **P 17 46 45.5 +0.8**
comp=Z,179nm,0.9s,SNR=7.1
CONA Conrad Observa 70.55 10 *i* PKiKP **P 17 46 45.5 +0.8**
comp=Z,179nm,0.9s,SNR=7.1
CD2 Chengdu 70.66 299 P **P 17 46 44.8 -0.7**
CD2 pmax pmax
comp=Z,80nm,0.8s
WATA Walderalm 70.72 13 *i* P **P 17 46 46.1 +0.3**
comp=Z,244nm,1.0s,SNR=9.7
WATA Walderalm 70.72 13 *i* PKiKP **P 17 46 46.1 +0.3**
comp=Z,244nm,1.0s,SNR=9.7
SQTA Sankt Quirin 70.79 13 *i* P **P 17 46 47.0 +0.8**
comp=Z,263nm,0.9s,SNR=11
SQTA Sankt Quirin 70.79 13 *i* PKiKP **P 17 46 47.0 +0.8**
comp=Z,263nm,0.9s,SNR=11
WTTA Wattenberg 70.80 13 *i* P **P 17 46 47.0 +0.7**
comp=Z,286nm,0.9s,SNR=7.2
WTTA Wattenberg 70.80 13 *i* PKiKP **P 17 46 47.0 +0.7**
comp=Z,286nm,0.9s,SNR=7.2
PSZ Piszkesteto 70.85 7 *e*P **P 17 46 47.6 +1.1**
PSZ Piszkesteto 70.85 7⇑P **P 17 46 46.2 -0.3**
PSZ Piszkesteto 70.85 7 P **P 17 46 46.2 -0.3**
SRO Srobarova 70.85 8 *e*P **P 17 46 47.8 +1.4**
SRO Srobarova 70.85 8 *e*P **P 17 46 47.8 +1.4**
DZA Taraz 70.91 329 *e*P **P 17 46 45.9 -1.0**
comp=Z,28nm,0.8s
DZA Taraz 70.91 329 *e*P **P 17 46 45.8 -1.0**
DZA pmax pmax
comp=Z,28nm,0.8s
KK31 Karatay Array 70.91 330 *i* P **P 17 46 45.5 -1.4**
SORM Soroca 70.93 1⇑P **P 17 46 46.7 -0.1**
SORM Soroca 70.93 1 P **P 17 46 46.7 -0.1**
FETA Feichten 70.93 14 *i* P **P 17 46 47.8 +0.7**
comp=Z,183nm,0.9s,SNR=5.2
FETA Feichten 70.93 14 *i* PKiKP **P 17 46 47.8 +0.7**
comp=Z,183nm,0.9s,SNR=5.2
AML Almayashu 71.02 327 P **P 17 46 47.7 -0.3**
SNR=5.8
BRLS Borolday 71.14 330 *e*P **P 17 46 48.8 +0.5**
BRLS Borolday 71.14 330 *e*P **P 17 46 48.8 +0.5**
KBA Koelnbreinsper 71.16 12 *e*P **P 17 46 49.2 +0.7**
comp=Z,343nm,0.8s,SNR=12
KBA Koelnbreinsper 71.16 12 *e*PKiKP **P 17 46 49.2 +0.7**
comp=Z,343nm,0.8s,SNR=12
BMR Baia Mare 71.28 5⇓P **P 17 46 49.7 +0.7**
BMR Baia Mare 71.28 5 P **P 17 46 49.6 +0.7**
BURAR Bucovina Array 71.39 3⇑P **P 17 46 50.1 +0.2**
BURAR Bucovina Array 71.39 3 P **P 17 46 50.0 +0.2**
PERS Pernice 71.77 11 *i* P **P 17 46 52.2 +0.1**
MESR Meseseni 71.78 5⇓P **P 17 46 52.8 +0.8**
OBKA Obir 71.84 11 *i* P **P 17 46 52.9 +0.4**
comp=Z,590nm,0.8s,SNR=22
OBKA Obir 71.84 11 *i* PKiKP **P 17 46 52.9 +0.4**
comp=Z,590nm,0.8s,SNR=22
IASR Iasi 71.88 2⇓P **P 17 46 52.7 +0.1**
ARCR ARCALIA 71.89 4⇑P **P 17 46 53.7 +1.0**
IUG Iuzhnay 71.93 330 *e*P **P 17 46 52.1 -1.0**
comp=Z,38nm,0.7s
IUG Iuzhnay 71.93 330 *e*P **P 17 46 52.1 -1.0**
IUG pmax pmax
comp=Z,38nm,0.7s
DRGR 72.12 5⇑P **P 17 46 54.1 -0.1**
DRGR 72.12 5 P **P 17 46 54.1 -0.1**
MILM Milestii Mici 72.15 1⇑P **P 17 46 53.6 -0.7**
MILM Milestii Mici 72.15 1 P **P 17 46 53.5 -0.7**
CBBR Cluj-Babes-Bol 72.18 5⇑P **P 17 46 54.8 +0.3**
CJR Cluj-Napoca 72.24 5⇑P **P 17 46 54.7 -0.2**
CJR Cluj-Napoca 72.24 5 P **P 17 46 54.6 -0.2**
MARR Marisel-Cluj 72.26 5⇑P **P 17 46 55.3 +0.3**
SABO M.te Sabotino 72.27 12 P **P 17 46 54.6 -0.4**
SABO IAmb IAmb 17 46 55.7
comp=Z,184nm,0.9s
LJU Ljubljana 72.30 11 *i* P **P 17 46 54.9 -0.2**
MORH Mrgy, Hungar 72.47 8⇓P **P 17 46 55.8 -0.3**
PGAV Gavieira, Arco 72.51 29 *e*P **P 17 46 57.2 +0.6**
SIRR Siria 72.60 6⇑P **P 17 46 57.6 +0.7**
TEOL Teolo 72.68 13 P **P 17 46 56.9 -0.5**
ONER Baraj Valea Uz 72.70 3⇓P **P 17 46 58.1 +0.6**
KSH Kashi 72.84 324 P **P 17 47 01.5 +2.9**
KSH pmax pmax
comp=Z,140nm,0.8s
OZUR 72.93 3⇑P **P 17 46 59.3 +0.4**
TURR Turia 72.97 3⇑P **P 17 47 00.1 +0.9**
GHRR 73.00 2⇓P **P 17 46 59.8 +0.5**
PBRG Braganca 73.01 28 *e*P **P 17 47 00.0 +0.5**
DOPR Dopca 73.04 3⇑P **P 17 47 00.7 +1.1**
TIM Timisoara 73.10 6⇑P **P 17 47 00.3 +0.4**
TIM Timisoara 73.10 6 P **P 17 47 00.3 +0.4**
SURR Surduc 73.13 6⇑P **P 17 47 00.5 +0.5**
VRI Vrincioaia 73.18 2⇑P **P 17 47 00.6 +0.2**
VRI Vrincioaia 73.18 2 P **P 17 47 00.6 +0.2**
POLO Lamas de Olo 73.18 29 *e*P **P 17 47 01.3 +0.7**
PANC Panciu 73.18 2⇓P **P 17 47 00.9 +0.5**
COVR Voineasa-Covas 73.19 3⇑P **P 17 47 00.0 -0.4**
PLOR Plostina 73.19 2⇑P **P 17 47 00.6 +0.1**
PLOR Plostina 73.19 2 P **P 17 47 00.5 +0.1**
COSR Cosmesti PH 73.20 2⇓P **P 17 47 00.5 +0.1**
PTO Porto 73.21 30 *e*P **P 17 47 00.8 +0.2**
VLDR Vladesti 73.22 1⇑P **P 17 47 01.0 +0.4**
BZS Buzias 73.24 6⇓P **P 17 47 00.7 0.0**
BZS Buzias 73.24 6 P **P 17 47 00.7 0.0**
GYA Guiyang 73.27 294 P **P 17 47 02.0 +0.7**
GYA pP PcP 17 47 17.3 -0.2
GYA pmax pmax
comp=Z,87nm,0.8s
ODBI Odobesti 73.29 2⇓P **P 17 47 01.4 +0.4**
PVRL Vila Real 73.29 29 *e*P **P 17 47 02.1 +0.9**
TNR Turnu Rosu 73.32 4⇑P **P 17 47 01.5 +0.3**
TNR Turnu Rosu 73.32 4 P **P 17 47 01.5 +0.3**
BANR Banloc 73.45 7⇑P **P 17 47 02.4 +0.4**
MSSA Maissana 73.45 15 P **P 17 47 01.4 -0.7**
MSSA IAmb IAmb 17 47 03.4
comp=Z,206nm,1.3s
TUDR 73.47 2⇓P **P 17 47 02.1 +0.1**
SLCR Slobozia Conac 73.47 2⇑P **P 17 47 02.6 +0.6**
GOF Gofitskoye 73.50 350 *c* **P 17 46 59.5 -2.7**
BISRR Bisoca 73.50 2⇑P **P 17 47 02.6 +0.3**
IZVR Izvoarele 73.52 2⇑P **P 17 47 02.8 +0.5**
GZR Gura Zlata 73.52 5⇓P **P 17 47 02.6 +0.1**
GZR Gura Zlata 73.52 5 P **P 17 47 02.6 +0.1**
NEGRR Negrea 73.53 2⇓P **P 17 47 02.6 +0.2**
MLR Muntele Rosu 73.53 3⇓P **P 17 47 03.1 +0.4**
MLR Muntele Rosu 73.53 3 P **P 17 47 03.0 +0.4**
MVO Moncorvo 73.56 28 *e*P **P 17 47 03.4 +0.7**
SCHLR Schela 73.59 2⇓P **P 17 47 02.9 +0.1**
ARR Arges 73.62 4⇑P **P 17 47 03.8 +0.7**
PVIS Viseu 73.78 29 *e*P **P 17 47 04.5 +0.4**
TLCR 73.89 1⇓P **P 17 47 05.0 +0.5**
TLCR 73.89 1 P **P 17 47 05.0 +0.5**
CFR Carcaliu 73.89 1⇑P **P 17 47 04.5 -0.1**
CFR Carcaliu 73.89 1 P **P 17 47 04.4 -0.1**
HERR Herculane 74.02 6⇑P **P 17 47 04.5 -0.7**
MDVR Moldovita 74.08 6⇑P **P 17 47 05.9 +0.2**
ANN Anapa 74.11 355 *e*P **P 17 47 04.8 -1.0**
ANN pmax pmax
comp=Z,208nm,1.0s
STFAR Stefanesti-Arg 74.14 4⇑P **P 17 47 06.3 +0.3**
COI Coimbra 74.14 30 *e*P **P 17 47 08.0 +1.9**
PGOR Pogoanele 74.14 2⇑P **P 17 47 06.5 +0.5**
MTE Manteigas 74.16 29 P **P 17 47 05.7 -0.6**
MTE IAmb IAmb 17 47 07.9
comp=Z,120nm,0.9s
MTE Manteigas 74.16 29 *e*P **P 17 47 06.9 +0.6**
MTE Manteigas 74.16 29 *e*P **P 17 47 07.1 +0.8**

TPGR Topolog 74.21 1 ⇓P P 17 47 06.7 +0.2
DJES Djerdap 74.24 6 ⇑P P 17 47 06.3 -0.3
PCAS Casmilo, Conde 74.27 30 *eP* **P 17 47 07.5 +0.7**
SRE Strehaia 74.27 5 ⇓P P 17 47 06.9 +0.1
SRE Strehaia 74.27 5 P **P 17 47 06.8 +0.1**
SULR 74.36 3 ⇑P P 17 47 06.8 -0.4
HARR Harsova 74.37 2 ⇑P P 17 47 07.8 +0.4
HARR Harsova 74.37 2 P **P 17 47 07.7 +0.4**
HUMR Humele 74.47 4 ⇓P P 17 47 07.3 -0.6
LEHL Lehliu 74.57 2 ⇓P P 17 47 08.4 0.0
KIV Kislovodsk 74.62 351 ⇑P P 17 47 08.5 -0.4
KIV Kislovodsk 74.62 351 *eP* **P 17 47 09.1 +0.2**
KIV pmax pmax
comp=Z,207nm,1.1s
PSBE So Bento 74.71 30 *eP* **P 17 47 10.2 +0.8**
PCBR Castelo Branco 74.71 29 *eP* **P 17 47 09.8 +0.4**
KBZ Khabaz 74.83 350 P **P 17 47 10.0 0.0**
comp=Z,116nm,0.9s,baz=338,slow=4.0,SNR=6.1
comp=Z,116nm,0.9s
KBZ Khabaz 74.83 350 *eP* **P 17 47 10.5 +0.5**
KBZ pmax pmax
comp=Z,124nm,0.9s
MFTR Murfatlar 74.89 1 ⇑P P 17 47 10.6 +0.3
ICOR Ion Corvin 74.94 2 ⇑P P 17 47 10.1 -0.5
NCK Nalchik 75.00 350 *i P* **P 17 47 11.9 +0.8**
NCK pmax pmax
comp=Z,258nm,0.9s
CASP Castiglione de 75.12 14 P **P 17 47 10.9 -0.8**
CASP IAmb IAmb 17 47 12.1
comp=Z,80nm,0.8s
GUMA Gualdo di Mace 75.13 13 P **P 17 47 11.8 0.0**
GUMA IAmb IAmb 17 47 13.4
comp=Z,240nm,1.1s
MAK Makhachkala 75.15 347 *eP* **P 17 47 10.2 -1.6**
MAK pmax pmax
comp=Z,1μm,1.4s
SOC Sochi 75.20 353 *eP* **P 17 47 11.0 -1.1**
SOC *e* 17 50 02.6
SOC *e*PPP PPP 17 51 44.0
SOC *e*S **S 17 56 46.7 0.0**
SOC *e*SSS SSS 18 05 00.1
SOC pmax pmax
comp=Z,198nm,1.1s
SOC MLR MLR
comp=Z,27μm,16.0s
BOVS Bovan 75.22 6 ⇓P P 17 47 11.8 -0.5
PMTG Montargil 75.27 30 *eP* **P 17 47 12.6 0.0**
BLKB Belogradchik 75.28 6 ⇑P P 17 47 12.5 -0.2
PZH PanZhiHua 75.36 298 P **P 17 47 17.0 +3.5**
PZH pmax pmax
comp=Z,70nm,0.8s
LIS Lisbon 75.37 31 *eP* **P 17 47 14.3 +1.1**
LIS Lisbon 75.37 31 *eP* **P 17 47 13.7 +0.5**
LIS IAmb IAmb 17 47 15.0
comp=Z,143nm,0.5s
LIS Lisbon 75.37 31 *eP* **P 17 47 13.7 +0.5**
PESTR Estremoz 75.61 29 *eP* **P 17 47 15.0 +0.4**
CAMP Campotosto 75.66 13 P **P 17 47 14.9 -0.1**
CAMP IAmb IAmb 17 47 17.7
comp=Z,153nm,1.0s
ESDC Sonseca Array 75.66 26 P **P 17 47 15.2 +0.2**
comp=Z,76nm,0.8s,baz=341,slow=5.5,SNR=27
comp=Z,76nm,0.8s
PAB San Pablo 75.70 27 P **P 17 47 15.3 +0.1**
EVO Evora 75.83 30 *eP* **P 17 47 16.1 +0.3**
ELND Elena 76.09 3 ⇑P P 17 47 17.2 -0.1
PDG Podgorica 76.28 8 ⇓P P 17 47 17.9 -0.4
PBEJ Beja 76.34 30 *eP* **P 17 47 19.2 +0.4**
PBAR Barrancos 76.40 29 *eP* **P 17 47 19.6 +0.5**
MESJ Messejana 76.44 30 *eP* **P 17 47 19.7 +0.4**
MESJ Messejana 76.44 30 *eP* **P 17 47 19.7 +0.4**
MESJ IAmb IAmb 17 47 22.2
comp=Z,36nm,0.9s
MESJ Messejana 76.44 30 *eP* **P 17 47 19.7 +0.4**
AKT Akhty 76.59 346 *eP* **P 17 47 19.6 -0.6**
AKT *e* 17 47 31.5
AKT pmax pmax
comp=Z,126nm,0.9s
PTEO Sao Teotonio 76.59 31 *eP* **P 17 47 20.6 +0.4**
MORF Marmelete 76.84 31 *eP* **P 17 47 21.9 +0.3**
MORF Marmelete 76.84 31 *eP* **P 17 47 21.9 +0.3**
MORF IAmb IAmb 17 47 22.4
comp=Z,70nm,0.9s
MORF Marmelete 76.84 31 *eP* **P 17 47 21.9 +0.3**
PFVI Vila Bisbo 76.96 31 P **P 17 47 21.4 -0.9**
PFVI IAmb IAmb 17 47 23.6
comp=Z,90nm,0.8s
PFVI Vila Bisbo 76.96 31 *eP* **P 17 47 22.8 +0.6**
PVAQ Vaqueiros 76.97 30 *eP* **P 17 47 22.9 +0.6**
PBDV Barranco-do-Ve 77.07 30 *eP* **P 17 47 23.9 +1.0**
PEHC Pehcevo 77.13 5 *i P* **P 17 47 23.5 +0.2**
PAOL Paolisi 77.27 12 P **P 17 47 22.5 -1.5**
TGY Tagaytay City 77.33 276 PKPPKP 18 14 31.6
comp=Z,353nm,0.4s,baz=127,slow=12,SNR=7.7
DIKM Dikmen 77.34 356 ⇓P P 17 47 24.3 0.0
TIR Tirane 77.39 8 P **P 17 47 23.7 -1.0**
TIR Tirane 77.39 8 ⇓P P 17 47 24.3 -0.4
TIR Tirane 77.39 8 P **P 17 47 24.2 -0.4**
VAY Valandovo 77.57 6 *i P* **P 17 47 26.0 +0.4**
OHR Ohrid 77.69 7 *i P* **P 17 47 27.0 +0.7**
KDZE Karadeniz Ereo 77.76 359 ⇑P P 17 47 26.6 0.0
KTUT Trabzon 77.78 352 ⇓P P 17 47 26.3 -0.4
MATE Matera 77.85 10 *eP* **P 17 47 27.5 +0.4**
MATE Matera 77.85 10 ⇑P P 17 47 27.6 +0.5
RDO Rodhopi 77.86 3 P **P 17 47 26.5 -0.8**
RDO IAmb IAmb 17 47 29.2
comp=Z,147nm,0.9s
TNCH TengChong 78.01 300 *eP* **P 17 47 32.5 +4.0**
TNCH S **S 17 57 12.8 -5.5**
TNCH sS SKKSac 17 57 40.8 +1.5
TNCH pmax pmax
comp=Z,110nm,0.5s
TNCH pmax pmax
comp=Z,720nm,3.2s
FNA Florina 78.05 7 P **P 17 47 27.0 -1.3**
FNA Florina 78.05 7 P **P 17 47 27.0 -1.3**
FNA pmax pmax
comp=Z,297nm,1.1s
ALN Alexandroupoli 78.13 3 P **P 17 47 27.9 -0.8**
ALN Alexandroupoli 78.13 3 P **P 17 47 27.9 -0.8**
ALN pmax pmax
comp=Z,295nm,1.1s
CAVK Edirne/Enez-Ca 78.33 3 ⇓P P 17 47 30.1 +0.3
CUC Castrocucco 78.42 11 P **P 17 47 29.0 -1.4**
SCTE Santa Cesarea 78.56 9 P **P 17 47 29.8 -1.3**
FUTU Fugatoga 78.59 208 P **P 17 47 30.2 -1.1**
FUTU IAmb IAmb 17 47 52.1
comp=Z,219nm,1.3s
MDUB Mudurnu 78.60 359 P **P 17 47 30.9 -0.6**
BAND Balkesir-Ban 78.71 2 ⇑P P 17 47 32.3 +0.4
PMPST Porto Santo, M 78.71 38 *eP* **P 17 47 32.3 +0.2**
PMPS Porto Santo 78.73 38 *eP* **P 17 47 31.5 -0.6**
LIT Litokhoron 78.79 6 P **P 17 47 31.4 -1.0**
LIT IAmb IAmb 17 47 33.2
comp=Z,175nm,0.9s
LIT Litokhoron 78.79 6 P **P 17 47 31.4 -1.0**
LIT pmax pmax
comp=Z,175nm,0.9s
RABL Rabaul 78.89 239 P **P 17 47 32.6 -0.6**
MANU Manus Island 79.01 245 P **P 17 47 32.9 -1.0**
MANU IAmb IAmb 17 47 35.3
comp=Z,245nm,1.6s
KEK Kerkira 79.02 8 P **P 17 47 32.9 -0.8**
KEK IAmb IAmb 17 47 35.6
comp=Z,159nm,1.0s
ANTO Ankara 79.18 358 P **P 17 47 33.5 -1.2**
ANTO Ankara 79.18 358 ⇓P P 17 47 35.4 +0.7
ANTO Ankara 79.18 358 P **P 17 47 35.3 +0.7**
BR231 Keskin MP Arra 79.21 358 P **P 17 47 33.9 -0.9**
BR231 **pP 17 47 50.2 +0.8**
BR231 IAmb IAmb 17 47 52.2
comp=Z,220nm,1.1s
BRTR Keskin Array B 79.31 357 P **P 17 47 35.2 -0.2**
comp=Z,45nm,0.8s,baz=21,slow=2.6,SNR=8.7
BRTR PKKPbc **PKKPbc 18 06 22.0 +0.1**
comp=Z,4.5nm,0.7s,baz=175,slow=5.3,SNR=14
comp=Z,45nm,0.8s
BRTR Keskin Array B 79.31 357 *eP* **P 17 47 35.6 +0.2**
BRTR pmax pmax
comp=Z,46nm,0.8s
TIP Timpagrande 79.31 10 P **P 17 47 34.1 -1.2**
TIP IAmb IAmb 17 47 36.0
comp=Z,92nm,0.9s
TIP Timpagrande 79.31 10 ⇓P P 17 47 35.2 -0.1
KIRS Kirsehir-Merke 79.89 357 ⇑P P 17 47 38.8 +0.3
HNR Honiara 80.60 230 P **P 17 47 42.6 +0.2**
comp=Z,48nm,0.7s,baz=43,slow=12,SNR=2.4
comp=Z,48nm,0.7s
ISP Isparta 81.25 360 P **P 17 47 44.9 -0.9**
ISP IAmb IAmb 17 48 02.4
comp=Z,201nm,1.0s
ISP Isparta 81.25 360 P **P 17 47 44.9 -0.9**
ISP pmax pmax
comp=Z,201nm,1.0s
ITM Ithomi 81.67 7 P **P 17 47 47.4 -0.6**
ITM IAmb IAmb 17 47 48.4
comp=Z,135nm,0.9s
KEST Kesra 81.87 17 P **P 17 47 49.2 +0.1**
comp=Z,163nm,0.9s,baz=195,slow=0.6,SNR=24
comp=Z,163nm,0.9s
MDT Midelt 82.09 29 P **P 17 47 51.0 +0.7**
comp=Z,73nm,0.8s,baz=343,slow=5.0,SNR=15
comp=Z,73nm,0.8s
JAY Jayapura 82.40 251 P **P 17 47 51.3 -0.8**
comp=Z,40nm,0.9s,baz=346,slow=3.3,SNR=5.0
comp=Z,40nm,0.9s
MSVF Nonsavu 82.79 211 P **P 17 47 53.1 -0.8**
MSVF IAmb IAmb 17 47 57.3
comp=Z,75nm,0.9s
MSVF Nonsavu 82.79 211 P **P 17 47 54.6 +0.7**
comp=Z,71nm,1.0s,baz=216,slow=1.0,SNR=12
comp=Z,71nm,1.0s
ARG Arkhangelos 82.84 2 P **P 17 47 52.9 -1.2**
ARG Arkhangelos 82.84 2 P **P 17 47 52.9 -1.2**
ARG pmax pmax
comp=Z,270nm,0.8s
CMAR Chiang Mai Arr 83.65 297 P **P 17 47 57.7 -0.8**
comp=Z,102nm,0.9s,baz=5.9,slow=6.4,SNR=21
CMAR PKKPbc **PKKPbc 18 06 14.8 +2.9**
comp=Z,1.9nm,0.9s,baz=234,slow=3.7,SNR=4.4
comp=Z,102nm,0.9s
CMAR Chiang Mai Arr 83.65 297 *eP* **P 17 47 57.7 -0.8**
CMAR pmax pmax
comp=Z,106nm,0.9s
PMG Port Moresby 85.69 242 P **P 17 48 08.4 -0.2**
comp=Z,22nm,0.8s,baz=275,slow=11,SNR=2.5
comp=Z,22nm,0.8s
MMAI Mount Meron Ar 85.94 355 P **P 17 48 09.5 -0.4**
comp=Z,22nm,0.9s,baz=35,slow=7.5,SNR=7.6
comp=Z,22nm,0.9s
ATAH Atahualpa 87.51 110 P **P 17 48 19.0 +0.9**
comp=Z,77nm,0.8s,baz=22,slow=3.6,SNR=8.4
comp=Z,77nm,0.8s
MDP Montagnes des 89.08 81 P **P 17 48 24.9 -0.2**
comp=Z,51nm,0.8s,baz=332,slow=7.1,SNR=7.0
comp=Z,51nm,0.8s
SRIT Nakonsritamara 92.11 292 P **P 17 48 38.6 -0.5**
SRIT IAmb IAmb 17 48 39.8
comp=Z,44nm,0.8s
PBA Port Blair 92.36 299 P **P 17 48 39.6 -0.8**
NNA Nana 92.49 110 P **P 17 48 39.9 -1.0**
comp=Z,39nm,0.9s,baz=330,slow=3.5,SNR=5.3
comp=Z,39nm,0.9s
KSM Kuching 93.39 279 P **P 17 48 43.7 -1.4**
KSM IAmb IAmb 17 48 46.7
comp=Z,77nm,1.1s
WRA Warramunga Arr 100.64 248 PKKPbc PKKPbc 18 05 29.6 +0.4
comp=Z,1.0nm,0.6s,baz=214,slow=2.9,SNR=7.5
TORD Torodi Ar. Bea 102.49 28 PKKPbc PKKPbc 18 05 24.2 +0.8
comp=Z,4.0nm,0.7s,baz=90,slow=1.4,SNR=6.5
ASAR Alice Springs 104.08 247 PKKPbc PKKPbc 18 05 19.8 +0.6
comp=Z,3.8nm,0.9s,baz=200,slow=2.2,SNR=14
DBIC Dimbokro 107.01 36 PKKP 18 05 26.6
comp=Z,8.9nm,0.9s,baz=104,slow=7.1,SNR=4.9
STKA Stephens Creek 108.00 236 PKKPbc PKKPbc 18 05 07.8 +0.5
comp=Z,2.5nm,0.7s,baz=254,slow=4.2,SNR=3.2
CPUP Villa Florida 113.97 101 PKKPbc PKKPbc 18 04 48.7 +1.1
comp=Z,3.3nm,0.8s,baz=95,slow=2.8,SNR=3.4
KMBO Kilima Mbogo 119.75 352 PKP **PKPdf 17 54 19.9 -0.2**
comp=Z,16nm,0.9s,baz=12,slow=4.5,SNR=7.2
PLCA Paso Flores 120.11 120 PKP **PKPdf 17 54 19.5 -0.2**
comp=Z,20nm,0.7s,baz=312,slow=1.7,SNR=14
LL01 San Ignacio de 120.72 123 PKPdf 17 54 20.0 -0.6
COYC Coyhaique 123.51 125 PKPdf 17 54 25.5 -0.4
MATP Matopo 139.17 2 PKP **PKPdf 17 54 57.1 +0.7**
comp=Z,11nm,0.9s,baz=311,slow=3.4,SNR=5.0
VNDA Vanda 141.68 195 PKhKP PKPpre 17 54 54.1
comp=Z,8.2nm,0.7s,baz=134,slow=6.8,SNR=1.1
LBTB Lobatse 143.63 7 PKP PKPbc 17 55 01.6 -0.2
comp=Z,54nm,1.0s,baz=307,slow=1.4,SNR=8.5
HOPE Hope Point 145.30 109 PKPbc 17 55 05.6 -0.3
HOPE Hope Point 145.30 109 PKIKP **PKPbc 17 55 05.6 -0.3**
BOSA Boshof 147.18 8 PKPbc **PKPdf 17 55 11.3 +1.1**
comp=Z,170nm,0.8s,baz=9.2,slow=1.8,SNR=15
SUR Sutherland 150.47 16 PKPdf 17 55 14.1 -1.4
SUR Sutherland 150.47 16 PKPbc **PKPbc 17 55 20.2 -0.7**
comp=Z,76nm,0.8s,baz=50,slow=1.5,SNR=11
QSPA South Pole Qui 151.08 180 PKPbc **PKPbc 17 55 21.2 +0.1**
comp=Z,249nm,0.8s,baz=112,slow=0.3,SNR=19
GRHM Grahamstown, E 151.89 7 PKPdf 17 55 16.4 -1.1
SNAA Sanae 163.53 143 PKPab **PKPab 17 56 22.1 -0.5**
comp=Z,22nm,1.0s,baz=273,slow=9.5,SNR=1.8
MAW Mawson 164.64 232 PKPab **PKPab 17 56 26.5 -1.0**
comp=Z,32nm,0.9s,baz=81,slow=5.2,SNR=2.6

*NEIC **30** 17:36:37.0±1.1, 61°.33N±0°.04×149°.93W±0°.03, h49km±4km, Error ellipse: s-maj=5.4km s-min=2.1km az=170.0*
*AEIC **30** 17:36:37.8±0.4, 61°.28N±0°.04×149°.91W±0°.04, h46km±4km, ML4.9, ML5.2/24(NEIC), Error ellipse: s-maj=5.6km s-min=2.2km az=163.0*
ISC 30 17:36:36.3±0.7, 61°.29N±0°.03×149°.93W±0°.03, h42km, n35, σ1§57/36, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.22**	**155**	Pn	**Pn**	**17 36 45.3**	**+1.3**
RC01	**Rabbit Creek A**	**0.22**	**155**		**Sn**	**17 36 51.7**	**+2.4**
SUA	**Susitna One**	**0.43**	**294**		**Pn**	**17 36 47.5**	**+1.2**
M22K	**Willow**	**0.47**	**349**	Pn	**Pn**	**17 36 46.8**	**0.0**
M22K				IAML		17 36 52.8	
	comp=N,130μm,1.2s						
M22K				IAML		17 37 00.7	
	comp=E,113μm,1.1s						
PMR	**Palmer**	**0.49**	**51**	Pn	**Pn**	**17 36 47.7**	**+0.8**
PMR	**Palmer**	**0.49**	**51**		**Sn**	**17 36 56.3**	**+1.8**
GHO	**Glory Hole Cre**	**0.68**	**45**	Pn	**Pn**	**17 36 51.6**	**+1.9**
GHO				IAML		17 37 07.6	
	comp=E,80μm,0.6s						
GHO	**Glory Hole Cre**	**0.68**	**45**		**Sn**	**17 37 01.2**	**+2.0**
KNK	**Knik Glacier**	**0.72**	**79**	Pn	**Pn**	**17 36 51.6**	**+1.6**
KNK				IAML		17 37 04.1	
	comp=N,58μm,0.9s						
KNK				IAML		17 37 04.6	
	comp=E,54μm,0.5s						
KNK	**Knik Glacier**	**0.72**	**79**		**Sn**	**17 37 02.3**	**+2.3**
CAPN	**Captain Cook N**	**0.79**	**229**	Pn	**Pn**	**17 36 53.7**	**+2.7**
SLKM	**Skilak Lake**	**0.80**	**190**		**Pn**	**17 36 51.8**	**+0.7**
SLKM					**Sn**	**17 37 03.0**	**+1.1**
O22K	**Cooper Landing**	**0.82**	**173**		**Pn**	**17 36 52.0**	**+0.7**
O22K	**Cooper Landing**	**0.82**	**173**		**Sn**	**17 37 04.1**	**+1.8**
PWL	**Port Wells**	**0.89**	**118**	Pn	**Pn**	**17 36 53.5**	**+1.1**
PWL				IAML		17 37 06.5	
	comp=N,72μm,0.9s						
PWL				IAML		17 37 08.0	
	comp=E,99μm,0.7s						
PWL	**Port Wells**	**0.89**	**118**		**Sn**	**17 37 06.4**	**+2.3**
SML	**Sawmill**	**0.93**	**55**		**Pn**	**17 36 53.8**	**+0.9**
SML	**Sawmill**	**0.93**	**55**	IAML		17 37 08.2	
	comp=E,45μm,1.0s						
STLK	**Strandline Lak**	**0.94**	**284**		**Pn**	**17 36 54.5**	**+1.4**
STLK					**Sn**	**17 37 07.5**	**+2.1**
SPCG	**Spurr Capps Gl**	**1.01**	**271**		**Pn**	**17 36 55.3**	**+1.2**
SKT	**Skwentna**	**1.03**	**313**		**Pn**	**17 36 55.6**	**+1.3**
SKT					**Sn**	**17 37 10.3**	**+2.7**
SKT	**Skwentna**	**1.03**	**313**	IAML		17 37 13.8	
	comp=E,40μm,0.8s						
SKT				IAML		17 37 13.8	
	comp=N,48μm,0.7s						
SPCR	**Spurr Chakacha**	**1.10**	**266**		**Pn**	**17 36 56.4**	**+1.0**
SPCR	**Spurr Chakacha**	**1.10**	**266**		**Pn**	**17 36 56.2**	**+0.8**
M23K	**Glacier View**	**1.17**	**64**		**Pn**	**17 36 57.3**	**+1.0**
SEW	**Seward**	**1.21**	**169**		**Pn**	**17 36 57.8**	**+1.1**
RDT	**Redoubt**	**1.41**	**240**		**Pn**	**17 37 00.3**	**+0.8**
GLI	**Glacier Island**	**1.44**	**105**	Pn	**Pn**	**17 37 00.6**	**+0.8**
GLI				IAML		17 37 19.8	
	comp=E,36μm,0.7s						
GLI				IAML		17 37 26.6	
	comp=N,41μm,0.8s						
RDWB	**Redoubt West**	**1.63**	**242**		**Pn**	**17 37 03.8**	**+1.1**
MIDW	**Midway**	**37.81**	**222**	P	**P**	**17 43 47.6**	**-0.7**
KBS	**Kingsbay**	**39.60**	**5**	P	**P**	**17 44 04.0**	**+1.1**
SLBS	**Sierra La Lagu**	**46.45**	**126**	P	**P**	**17 44 57.4**	**-1.5**
MAJO	**Matsushiro**	**50.19**	**275**	P	**P**	**17 45 27.0**	**-0.6**
ULN	**Ulaanbaatar**	**54.96**	**307**	P	**P**	**17 46 01.1**	**-1.7**
ESK	**Eskdalemuir**	**60.81**	**21**	P	**P**	**17 46 41.9**	**-1.5**

*NEIC **30** 17:37:44.5±1.4, 61°.44N±0°.02×150°.01W±0°.05, h47km±4km, Error ellipse: s-maj=3.6km s-min=3.1km az=111.0*
AEIC 30 17:37:45.2±1.3, 61°.43N±0°.02×150°.01W±0°.05, h41km±3km, ML4.0, ML4.4/26(NEIC), Error ellipse: s-maj=3.6km s-min=3.3km az=131.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.33**	**350**		Pn	17 37 53.2	-0.6
M22K				IAML		17 38 02.9	
	comp=N,36μm,0.8s						
M22K	**Willow**	**0.33**	**350**		Sn	17 38 00.2	+0.3
M22K	**Willow**	**0.33**	**350**	IAML		17 37 57.9	
	comp=E,29μm,1.2s						
SUA	**Susitna One**	**0.36**	**276**		Pn	17 37 53.7	-0.6
RC01	**Rabbit Creek A**	**0.37**	**159**		Pn	17 37 53.5	-0.8
RC01					Sn	17 38 00.7	0.0
RC01	**Rabbit Creek A**	**0.37**	**159**	IAML		17 38 01.8	
	comp=N,19μm,0.3s						
PMR	**Palmer**	**0.45**	**69**		Pn	17 37 54.3	-1.0
PMR	**Palmer**	**0.45**	**69**		Sn	17 38 02.5	+0.1
PMR	**Palmer**	**0.45**	**69**	IAML		17 38 00.2	
	comp=E,7μm,1.1s						
GHO	**Glory Hole Cre**	**0.62**	**56**		Pn	17 37 56.9	-0.8
GHO					Sn	17 38 07.1	+0.6
GHO	**Glory Hole Cre**	**0.62**	**56**	IAML		17 38 07.6	
	comp=E,15μm,0.4s						
GHO				IAML		17 38 16.6	
	comp=N,10μm,1.0s						
KNK	**Knik Glacier**	**0.74**	**91**		Pn	17 37 58.6	-0.7
KNK					Sn	17 38 09.7	+0.3
KNK	**Knik Glacier**	**0.74**	**91**	IAML		17 38 11.8	
	comp=E,11μm,0.7s						
KNK				IAML		17 38 11.9	
	comp=N,10μm,0.7s						
CAPN	**Captain Cook N**	**0.87**	**220**	Pn	Pn	17 38 01.4	+0.4
STLK	**Strandline Lak**	**0.88**	**275**		Sn	17 38 12.8	0.0
SML	**Sawmill**	**0.88**	**64**		Sn	17 38 13.2	+0.3
SML	**Sawmill**	**0.88**	**64**	Pn	Pn	17 38 00.2	-1.0
SML				IAML		17 38 07.0	
	comp=N,12μm,1.0s						
SML				IAML		17 38 14.8	
	comp=E,8μm,1.1s						
SKT	**Skwentna**	**0.91**	**308**	Pn	Pn	17 38 01.4	-0.2
SKT				IAML		17 38 13.2	
	comp=E,8μm,1.2s						
SLKM	**Skilak Lake**	**0.93**	**187**		Pn	17 38 01.3	-0.6
SLKM					Sn	17 38 14.2	+0.1
O22K	**Cooper Landing**	**0.96**	**172**	Pn	Pn	17 38 02.2	0.0
SPCG	**Spurr Capps Gl**	**0.98**	**263**		Pn	17 38 02.2	-0.5
CUT	**Chulitna**	**0.98**	**353**	Pn	Pn	17 38 02.6	0.0
PWL	**Port Wells**	**0.99**	**125**		Sn	17 38 15.7	+0.1
PWL	**Port Wells**	**0.99**	**125**	Pn	Pn	17 38 02.2	-0.5
PWL	**Port Wells**	**0.99**	**125**	IAML		17 38 17.0	
	comp=N,9μm,0.7s						
PWL				IAML		17 38 18.7	
	comp=E,8μm,1.2s						
SPCR	**Spurr Chakacha**	**1.09**	**259**		Pn	17 38 03.3	-0.8
SPCR	**Spurr Chakacha**	**1.09**	**259**		Pn	17 38 03.4	-0.7
SPCR					Sn	17 38 18.1	+0.1
SCM	**Sheep Creek Mo**	**1.34**	**71**	Pn	Pn	17 38 07.1	-0.5
SCM				IAML		17 38 16.4	
	comp=N,10μm,1.2s						
SCM				IAML		17 38 34.4	
	comp=E,9μm,1.1s						
KTH	**Kantishna Hill**	**2.17**	**349**	Pn	Pn	17 38 17.2	-1.7
O19K	**Port Alsworth**	**2.45**	**241**	Pn	Pn	17 38 21.4	-1.3

ATH 30 17:39:07.1, 37°.19N×20°.58E, h8km±2km, ML3.0/12, Manual Solution by E.Daskalaki First location: 2018/11/30 17:39:32, This location: 2019/02/05 08:06:31 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 5 km, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTHK	**Lithakia**	**0.56**	**21**	P	Pg	17 39 18.2	+0.3
LTHK				S	Sb	17 39 26.3	-0.9
PSDA	**Pessada-Kefalo**	**0.92**	**0**	P	Pg	17 39 24.4	-0.4
PSDA				S	Sg	17 39 36.6	-0.1
PYL1	**Pylos**	**0.93**	**107**	P	Pg	17 39 25.1	+0.1
PYL2	**Kinigos**	**0.96**	**107**	P	Pg	17 39 25.3	-0.2
PYL2				S	Sb	17 39 38.5	-0.3
PYL4	**Kinigos solar**	**0.96**	**107**	P	Pg	17 39 25.3	-0.2
AMT	**Artemida-Makis**	**0.96**	**69**	P	Pb	17 39 25.9	-0.1
AMT				S	Sb	17 39 38.5	-0.4
PYL	**PYLOS**	**0.97**	**107**	P	Pg	17 39 25.2	-0.7
PYL				S	Sb	17 39 39.3	+0.1
VLS	**Valsamata**	**0.98**	**0**	P	Pg	17 39 25.5	-0.5
VLS				S	Sb	17 39 39.4	-0.1
DMLN	**Damoulianata-K**	**1.06**	**351**	P	Pg	17 39 27.4	0.0
DMLN				S	Sb	17 39 42.2	+0.5
ITM	**Ithomi**	**1.07**	**90**	P	Pg	17 39 27.0	-0.7
ITM				S	Sb	17 39 42.4	+0.3
RLS	**Riolos of Patr**	**1.11**	**39**	P	Pg	17 39 27.8	-0.7
DRO	**Drossia**	**1.18**	**49**	P	Pg	17 39 28.9	-0.7
AXS	**Araxos**	**1.18**	**32**	P	Pb	17 39 29.0	-0.8
AXS				S	Sb	17 39 45.3	0.0
FSK	**Fiskardo**	**1.27**	**359**	P	Pn	17 39 30.5	-0.6
EVGI	**Lefkada island**	**1.43**	**2**	P	Pb	17 39 33.7	-0.2
KLV	**Kalavryta, Ach**	**1.51**	**55**	P	Pn	17 39 34.4	-0.1
GUR	**Goura**	**1.58**	**62**	P	Pn	17 39 35.7	+0.1
LKD2	**Lefkada island**	**1.59**	**2**	P	Pn	17 39 36.2	+0.5
PVO	**Paravola**	**1.61**	**27**	P	Pn	17 39 35.7	-0.1
EFP	**Efpalio**	**1.62**	**40**	P	Pn	17 39 36.1	+0.1
TSLK	**Tsoukalades, L**	**1.63**	**2**	P	Pn	17 39 36.6	+0.5
ANX	**Ano Chora**	**1.75**	**37**	P	Pn	17 39 38.6	+0.7
VLI	**Veliai**	**1.95**	**103**	P	Pn	17 39 41.4	+1.0
LTK	**Loutraki**	**2.07**	**66**	P	Pn	17 39 42.6	+0.4
VIL2	**Platees**	**2.36**	**64**	P	Pn	17 39 45.8	-0.4

ROM 30 17:39:14.6±0.2, 43°.012N±0°.004×13°.011E±0°.007, h7km±1km, ML1.4/6, 1C, Error ellipse: s-maj=0.6km s-min=0.1km az=55.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.06**	**151**	P	Pg	17 39 16.4	0.0
FEMA				S	Sg	17 39 17.7	0.0
FDMO	**Fiordimonte**	**0.06**	**67**	P	Pg	17 39 16.6	+0.2
FDMO				S	Sg	17 39 17.9	+0.3
FDMO				AML	AML		
	comp=E,511μm,0.2s						
FDMO				AML	AML		
	comp=N,420μm,0.3s						
CESI	**CESI - Serrava**	**0.08**	**265**	⇑P	Pg	17 39 17.0	+0.3
CESI				S	Sg	17 39 18.5	+0.5
CESI				AML	AML		
	comp=N,660μm,0.3s						
CESI				AML	AML		
	comp=E,513μm,0.5s						
MC2	**Monte Cornacci**	**0.17**	**127**	P	Pg	17 39 18.5	+0.4
MC2				S	Sg	17 39 22.1	+1.7
NRCA	**Norcia**	**0.19**	**157**	P	Pg	17 39 19.1	+0.5
NRCA				S	Sg	17 39 22.6	+1.4
NRCA				AML	AML		
	comp=E,178μm,0.1s						
NRCA				AML	AML		
	comp=N,222μm,0.2s						
SNTG	**Esanatoglia**	**0.25**	**348**	P	Pg	17 39 20.1	+0.6
SNTG				S	Sg	17 39 24.7	+1.8
MMO1	**Montemonaco**	**0.26**	**116**	P	Pg	17 39 20.2	+0.5

*NEIC **30** 17:39:37.2±1.9, 61°.49N±0°.02×150°.09W±0°.05, h36km±5km, Error ellipse: s-maj=3.5km s-min=3.2km az=172.0*
AEIC 30 17:39:37.6±1.2, 61°.45N±0°.03×150°.09W±0°.05, h34km±2km, ML3.6, ML3.8/32(NEIC), Error ellipse: s-maj=4.1km

s-min=3.1km az=168.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.30**	**357**		Pb	17 39 44.2	-1.2
M22K	**Willow**	**0.30**	**357**		Sb	17 39 50.9	+0.2
M22K	**Willow**	**0.30**	**357**	IAML		17 39 51.2	
	comp=E,15μm,0.6s						
M22K				IAML		17 39 52.9	
	comp=N,9μm,1.1s						
SUA	**Susitna One**	**0.32**	**272**		Pb	17 39 44.5	-1.3
SUA					Sb	17 39 52.0	+0.7
SUA	**Susitna One**	**0.32**	**272**	IAML		17 39 52.4	
	comp=N,2μm,0.6s						
SUA				IAML		17 39 52.4	
	comp=E,4μm,0.6s						
RC01	**Rabbit Creek A**	**0.40**	**155**		Pb	17 39 45.3	-1.5
RC01				IAML		17 39 53.5	
	comp=N,4μm,0.9s						
PMR	**Palmer**	**0.48**	**73**		Pb	17 39 46.2	-1.7
PMR					Sb	17 39 53.8	-1.1
PMR	**Palmer**	**0.48**	**73**	IAML		17 39 54.1	
	comp=E,1μm,0.5s						
PMR				IAML		17 39 55.4	
	comp=N,2μm,0.2s						
GHO	**Glory Hole Cre**	**0.64**	**60**		Sn	17 39 59.1	-0.2
GHO	**Glory Hole Cre**	**0.64**	**60**	Pn	Pn	17 39 48.4	-1.9
GHO	**Glory Hole Cre**	**0.64**	**60**	IAML		17 40 03.0	
	comp=E,2μm,1.1s						
GHO				IAML		17 40 16.8	
	comp=N,2μm,0.2s						
KNK	**Knik Glacier**	**0.79**	**92**	Pn	Pn	17 39 51.0	-1.2
KNK				IAML		17 40 05.7	
	comp=E,4μm,0.4s						
KNK				IAML		17 40 05.7	
	comp=N,3μm,0.2s						
STLK	**Strandline Lak**	**0.84**	**274**		Pn	17 39 52.1	-0.9
STLK					Sn	17 40 03.6	-0.5
CAPN	**Captain Cook N**	**0.86**	**217**		Pn	17 39 53.1	-0.1
SKT	**Skwentna**	**0.87**	**308**	Pn	Pn	17 39 51.8	-1.6
SKT				IAML		17 40 04.1	
	comp=E,2μm,0.5s						
SKT				IAML		17 40 04.4	
	comp=N,4μm,0.8s						
SML	**Sawmill**	**0.91**	**66**		Pn	17 39 52.1	-2.0
SML				IAML		17 40 07.4	
	comp=N,2μm,0.9s						
SLKM	**Skilak Lake**	**0.95**	**184**		Pn	17 39 53.7	-0.8
CUT	**Chulitna**	**0.96**	**355**		Pn	17 39 52.9	-1.7
O22K	**Cooper Landing**	**0.99**	**169**		Pn	17 39 53.9	-1.2
O22K	**Cooper Landing**	**0.99**	**169**		Sb	17 40 09.0	0.0
O22K	**Cooper Landing**	**0.99**	**169**	IAML		17 40 14.7	
	comp=E,6μm,1.0s						
O22K				IAML		17 40 24.4	
	comp=N,7μm,1.0s						
PWL	**Port Wells**	**1.04**	**124**		Pn	17 39 55.0	-0.8
PWL				IAML		17 40 24.6	
	comp=N,3μm,0.4s						
PWL				IAML		17 40 25.5	
	comp=E,3μm,0.7s						
SPCR	**Spurr Chakacha**	**1.05**	**257**		Pn	17 39 55.0	-1.0
SPCR					Sn	17 40 09.3	-0.3
M23K	**Glacier View**	**1.18**	**72**		Pn	17 39 56.8	-0.9
M23K					Sn	17 40 13.2	+0.7
SCM	**Sheep Creek Mo**	**1.37**	**73**		Pn	17 39 59.8	-0.6
SCM					Sn	17 40 18.2	+0.8
SCM	**Sheep Creek Mo**	**1.37**	**73**	IAML		17 40 26.1	
	comp=N,2μm,1.3s						
SEW	**Seward**	**1.39**	**167**		Pn	17 39 59.5	-1.0
RDT	**Redoubt**	**1.43**	**233**		Pn	17 40 01.0	-0.3
WAT7	**Susitna Watana**	**1.50**	**22**		Pn	17 40 01.7	-0.5
WAT7					Sn	17 40 21.1	+0.5
M20K	**Styx River**	**1.51**	**288**		Pn	17 40 01.8	-0.5
M20K				IAML		17 40 16.0	
	comp=N,664nm,1.1s						
M20K				IAML		17 40 29.0	
	comp=E,645nm,1.1s						
WAT1	**Susitna Watana**	**1.56**	**27**		Pn	17 40 02.5	-0.4
GLI	**Glacier Island**	**1.56**	**110**		Pn	17 40 01.7	-1.2
GLI				IAML		17 40 24.0	
	comp=N,931nm,1.0s						
GLI				IAML		17 40 25.3	
	comp=E,1μm,1.1s						
WAT6	**Susitna Watana**	**1.58**	**43**		Pn	17 40 02.7	-0.7
BRLK	**Bradley Lake**	**1.74**	**193**		Pn	17 40 04.5	-0.9
BRLK				IAML		17 40 32.1	
	comp=N,880nm,1.1s						
BRLK				IAML		17 40 34.5	
	comp=E,712nm,0.9s						
BRSE	**Bradley Lake S**	**1.75**	**191**		Pn	17 40 04.7	-0.8
FID	**Port Fidalgo**	**1.89**	**110**		Pn	17 40 05.9	-1.6
HOM	**Homer**	**1.96**	**204**	Pn	Pn	17 40 08.4	+0.1
M24K	**Tolsona, Glenn**	**1.97**	**69**		Pn	17 40 09.1	+0.4
TRF	**Thorofare Moun**	**2.01**	**357**		Pn	17 40 08.7	-0.5
CNPM	**China Poot**	**2.02**	**197**		Pn	17 40 08.7	-0.5
RND	**Reindeer**	**2.04**	**16**	Pn	Pn	17 40 09.1	-0.5
HIN	**Hinchinbrook I**	**2.05**	**120**	Pn	Pn	17 40 08.6	-1.0
DHY	**Denali Highway**	**2.06**	**37**		Pn	17 40 09.2	-0.8
M19K	**Big River Lodg**	**2.10**	**284**	Pn	Pn	17 40 10.4	+0.1
KTH	**Kantishna Hill**	**2.14**	**350**		Pn	17 40 10.8	-0.2
CAST	**Castle Rocks**	**2.18**	**336**		Pn	17 40 11.3	-0.1
MCK	**McKinley**	**2.35**	**13**		Pn	17 40 13.8	+0.1
L19K	**White Mountain**	**2.38**	**290**		Pn	17 40 14.1	0.0
K20K	**Telida**	**2.66**	**318**	Pn	Pn	17 40 17.5	-0.5
BPAW	**Bear Paw Mtn.**	**2.69**	**352**	Pn	Pn	17 40 17.4	-1.1
Q23K	**Middleton Isla**	**2.75**	**136**	Pn	Pn	17 40 19.8	+0.6
TTA	**Tatalina**	**3.15**	**301**	Pn	Pn	17 40 24.2	-0.5
WRH	**Wood River Hil**	**3.16**	**16**		Pn	17 40 24.5	-0.4
NEA2	**Nenana**	**3.19**	**8**	Pn	Pn	17 40 23.4	-1.8
HDA	**Harding Lake**	**3.30**	**24**		Pn	17 40 25.6	-1.2
J20K	**Nowinta River**	**3.31**	**328**		Pn	17 40 25.6	-1.2
RIDG	**Independent Ri**	**3.34**	**44**	Pn	Pn	17 40 26.6	-0.8
CCB	**Clear Creek Bu**	**3.37**	**17**	Pn	Pn	17 40 26.9	-0.8
MCARA	**McCarthy VSAT**	**3.40**	**88**	Pn	Pn	17 40 26.8	-1.3
CRQM	**Cirque**	**3.45**	**99**		Pn	17 40 28.0	-1.0
COLA	**College**	**3.58**	**15**	Pn	Pn	17 40 29.8	-0.8
J19K	**Poorman**	**3.60**	**317**	Pn	Pn	17 40 30.0	-0.9
MLY	**Manley**	**3.60**	**356**	Pn	Pn	17 40 30.0	-1.0
I23K	**Minto, Yukon-K**	**3.72**	**5**		Pn	17 40 32.1	-0.5
SNH	**Sunshine Point**	**3.77**	**107**		Pn	17 40 31.8	-1.6
J25K	**Salcha River,**	**3.83**	**32**		Pn	17 40 33.2	-0.9
I21K	**Tanana**	**3.84**	**348**		Pn	17 40 33.8	-0.4
POKR	**Poker Plat Res**	**3.87**	**17**		Pn	17 40 33.8	-0.8
I20K	**Naaghedeneel**	**3.90**	**331**		Pn	17 40 34.5	-0.5
J26L	**Joseph Creek**	**4.27**	**41**		Pn	17 40 40.7	+0.5
PRP	**Porcupine Dome**	**4.56**	**25**	Pn	Pn	17 40 43.9	-0.3

*IDC **30** 17:41:52.4±2.2, 61°.89N×150°.36W, h0km, mb4.3/5, mbtmp4.2/6, Error ellipse: s-maj=71.6km s-min=25.0km az=97.0*
*AEIC **30** 17:41:58.7±0.9, 61°.421N±0°.008×149°.96W±0°.05, h43km±4km, ML4.0, ML4.3/32(NEIC), Error ellipse: s-maj=3.5km s-min=1.1km az=83.0*
*NEIC **30** 17:41:58±0.9, 61°.419N±0°.010×149°.95W±0°.05, h47km±4km, Error ellipse: s-maj=3.6km s-min=1.4km az=86.0*

ISC 30 17:41:57.3±0.8, 61°.42N±0°.02×149°.96W±0°.02, h49km±6km, n134, σ1$08/148, mb4.3/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.34**	**162**		**Sn**	**17 42 14.6**	**+1.1**
RC01	**Rabbit Creek A**	**0.34**	**162**	Pn	**Pn**	**17 42 05.8**	**-0.9**
RC01	**Rabbit Creek A**	**0.34**	**162**	IAML		17 42 15.3	
	comp=N,12μm,0.3s						
RC01				IAML		17 42 15.4	
	comp=E,7μm,0.2s						
RC01	**Rabbit Creek A**	**0.34**	**162**	P	**Pn**	**17 42 07.3**	**+0.6**
	baz=342						
RC01				S	**Sn**	**17 42 14.2**	**+0.7**
	baz=342						
M22K	**Willow**	**0.35**	**347**		**Sn**	**17 42 14.5**	**+1.1**
M22K	**Willow**	**0.35**	**347**		**Pn**	**17 42 06.8**	**0.0**
M22K	**Willow**	**0.35**	**347**	IAML		17 42 15.0	
	comp=E,10μm,0.3s						
M22K				IAML		17 42 15.6	
	comp=N,10μm,0.8s						
M22K	**Willow**	**0.35**	**347**	P	**Pn**	**17 42 07.0**	**+0.2**
	baz=167						
M22K				S	**Sn**	**17 42 14.6**	**+1.1**
	baz=167						
SUA	**Susitna One**	**0.38**	**278**		**Pn**	**17 42 07.8**	**+0.6**
SUA					**Sn**	**17 42 15.4**	**+1.0**
SUA	**Susitna One**	**0.38**	**278**	P	**Pn**	**17 42 07.7**	**+0.5**
	baz=96						
SUA				S	**Sn**	**17 42 15.2**	**+0.9**
	baz=96						
PMR	**Palmer**	**0.44**	**66**		**Sn**	**17 42 15.7**	**+0.6**
PMR	**Palmer**	**0.44**	**66**		**Pn**	**17 42 07.9**	**+0.2**
PMR	**Palmer**	**0.44**	**66**	P	**Pn**	**17 42 08.9**	**+1.2**
	baz=247						
PMR				S	**Sn**	**17 42 15.6**	**+0.4**
	baz=247						
GHO	**Glory Hole Cre**	**0.61**	**54**		**Pn**	**17 42 10.3**	**+0.3**
GHO					**Sn**	**17 42 20.5**	**+1.5**
GHO	**Glory Hole Cre**	**0.61**	**54**	IAML		17 42 21.2	
	comp=E,14μm,0.5s						
KNK	**Knik Glacier**	**0.72**	**90**		**Pn**	**17 42 11.9**	**+0.6**
KNK					**Sn**	**17 42 23.2**	**+1.7**
KNK	**Knik Glacier**	**0.72**	**90**	P	**Pn**	**17 42 11.8**	**+0.5**
	baz=271						
CAPN	**Captain Cook N**	**0.87**	**222**		**Sn**	**17 42 26.8**	**+2.0**
CAPN				IAML		17 42 30.1	
	comp=N,10μm,0.7s						
CAPN	**Captain Cook N**	**0.87**	**222**		**Pn**	**17 42 15.0**	**+1.8**
CAPN	**Captain Cook N**	**0.87**	**222**	P	**Pn**	**17 42 15.0**	**+1.8**
	baz=41						
SML	**Sawmill**	**0.87**	**63**		**Pn**	**17 42 13.6**	**+0.3**
SML					**Sn**	**17 42 26.2**	**+1.1**
SML	**Sawmill**	**0.87**	**63**	P	**Pn**	**17 42 13.6**	**+0.3**
	baz=244						
SML				S	**Sn**	**17 42 26.0**	**+1.0**
	baz=244						
STLK	**Strandline Lak**	**0.90**	**276**		**Pn**	**17 42 14.5**	**+0.8**
STLK					**Sn**	**17 42 26.8**	**+1.0**
SLKM	**Skilak Lake**	**0.92**	**188**		**Pn**	**17 42 14.4**	**+0.5**
SLKM					**Sn**	**17 42 27.4**	**+1.3**
SKT	**Skwentna**	**0.94**	**308**		**Pn**	**17 42 14.5**	**+0.4**
SKT	**Skwentna**	**0.94**	**308**	P	**Pn**	**17 42 14.5**	**+0.4**
	baz=126						
SKT				S	**Sn**	**17 42 27.6**	**+1.1**
	baz=126						
O22K	**Cooper Landing**	**0.94**	**173**		**Pn**	**17 42 14.7**	**+0.5**
O22K					**Sn**	**17 42 27.4**	**+0.8**
O22K	**Cooper Landing**	**0.94**	**173**	P	**Pn**	**17 42 14.5**	**+0.3**
	baz=353						
O22K				S	**Sn**	**17 42 27.4**	**+0.8**
	baz=353						
PWL	**Port Wells**	**0.97**	**125**		**Pn**	**17 42 15.1**	**+0.6**
PWL	**Port Wells**	**0.97**	**125**	P	**Pn**	**17 42 15.1**	**+0.6**
	baz=306						
CUT	**Chulitna**	**1.00**	**352**		**Pn**	**17 42 15.9**	**+0.9**
CUT					**Sn**	**17 42 29.4**	**+1.4**
CUT	**Chulitna**	**1.00**	**352**	P	**Pn**	**17 42 15.9**	**+0.9**
	baz=172						
CUT				S	**Sn**	**17 42 29.4**	**+1.4**
	baz=172						
SPCP	**Crater Peak Br**	**1.07**	**263**		**Pn**	**17 42 16.9**	**+0.9**
N20K	**Mount Spurr**	**1.11**	**260**	P	**Pn**	**17 42 17.0**	**+0.6**
	baz=78						
N20K				S	**Sn**	**17 42 32.1**	**+1.5**
	baz=78						
SPCR	**Spurr Chakacha**	**1.11**	**260**		**Pn**	**17 42 17.0**	**+0.6**
M23K	**Glacier View**	**1.13**	**70**	P	**Pn**	**17 42 17.6**	**+0.8**
	baz=252						
M23K				S	**Sn**	**17 42 33.4**	**+2.1**
	baz=252						
SCM	**Sheep Creek Mo**	**1.33**	**70**		**Pn**	**17 42 20.2**	**+0.8**
SCM	**Sheep Creek Mo**	**1.33**	**70**	P	**Pn**	**17 42 20.5**	**+1.0**
	baz=253						
RDT	**Redoubt**	**1.46**	**236**		**Pn**	**17 42 21.8**	**+0.5**
GLI	**Glacier Island**	**1.49**	**110**	Pn	**Pn**	**17 42 21.5**	**-0.1**
GLI				IAML		17 43 07.1	
	comp=N,4μm,0.6s						
GLI				IAML		17 43 07.4	
	comp=E,3μm,0.7s						
WAT6	**Susitna Watana**	**1.57**	**41**		**Pn**	**17 42 24.0**	**+1.1**
WAT6	**Susitna Watana**	**1.57**	**41**	P	**Pn**	**17 42 24.1**	**+1.2**
	baz=223						
M20K	**Styx River**	**1.58**	**289**	Pn	**Pn**	**17 42 24.3**	**+1.4**
M20K				IAML		17 43 26.0	
	comp=E,6μm,0.8s						
M20K				IAML		17 43 27.8	
	comp=N,3μm,0.8s						
RDSO	**Redoubt South**	**1.67**	**236**		**Pn**	**17 42 24.9**	**+0.7**
RDWB	**Redoubt West**	**1.69**	**238**		**Pn**	**17 42 25.1**	**+0.7**
BRLK	**Bradley Lake**	**1.72**	**196**	Pn	**Pn**	**17 42 26.6**	**+1.8**
BRLK				IAML		17 43 13.7	
	comp=E,4μm,0.6s						
BRSE	**Bradley Lake S**	**1.72**	**193**		**Pn**	**17 42 25.8**	**+1.0**
PPLA	**Purkeypile**	**1.82**	**326**		**Pn**	**17 42 27.1**	**+0.8**
FID	**Port Fidalgo**	**1.82**	**110**		**Pn**	**17 42 26.3**	**+0.2**
FID	**Port Fidalgo**	**1.82**	**110**	IAML		17 43 16.1	
	comp=N,3μm,0.4s						
FID				IAML		17 43 16.3	
	comp=E,3μm,0.5s						
O20K	**Slope Mountain**	**1.87**	**225**		**Pn**	**17 42 28.3**	**+1.5**
P23K	**Montague Islan**	**1.90**	**137**		**Pn**	**17 42 28.4**	**+1.2**
M24K	**Tolsona, Glenn**	**1.93**	**67**		**Pn**	**17 42 29.2**	**+1.6**
M24K	**Tolsona, Glenn**	**1.93**	**67**	P	**Pn**	**17 42 30.4**	**+2.7**
	baz=251						
KLU	**Klutina**	**1.94**	**86**	Pn	**Pn**	**17 42 28.2**	**+0.3**
HOM	**Homer**	**1.95**	**206**	Pn	**Pn**	**17 42 28.5**	**+0.6**
HIN	**Hinchinbrook I**	**1.98**	**120**	Pn	**Pn**	**17 42 28.8**	**+0.5**
CNPM	**China Poot**	**2.00**	**199**	Pn	**Pn**	**17 42 29.6**	**+1.0**
IVE	**Iliamna Volcan**	**2.06**	**228**		**Pn**	**17 42 30.6**	**+1.2**
DHY	**Denali Highway**	**2.06**	**35**	Pn	**Pn**	**17 42 30.7**	**+1.1**
RND	**Reindeer**	**2.06**	**14**	Pn	**Pn**	**17 42 30.5**	**+1.0**
ILS	**Iliamna Low So**	**2.12**	**228**		**Pn**	**17 42 31.3**	**+1.0**
ILSW	**Iliamna Southw**	**2.12**	**229**	Pn	**Pn**	**17 42 30.8**	**+0.4**
M19K	**Big River Lodg**	**2.17**	**285**	Pn	**Pn**	**17 42 31.8**	**+0.9**
KTH	**Kantishna Hill**	**2.19**	**349**	Pn	**Pn**	**17 42 32.0**	**+0.8**
EYAK	**Cordova Ski Ar**	**2.23**	**111**		**Pn**	**17 42 32.7**	**+1.0**
CAST	**Castle Rocks**	**2.24**	**335**	Pn	**Pn**	**17 42 32.2**	**+0.3**
N19K	**Bonanza Creek**	**2.28**	**257**	Pn	**Pn**	**17 42 33.0**	**+0.5**
P19K	**Oil Pt**	**2.40**	**224**	Pn	**Pn**	**17 42 34.9**	**+0.9**
L19K	**White Mountain**	**2.45**	**290**	Pn	**Pn**	**17 42 35.6**	**+0.9**
O19K	**Port Alsworth**	**2.46**	**242**	Pn	**Pn**	**17 42 36.4**	**+1.5**
N25K	**Chitina, Valde**	**2.58**	**83**	Pn	**Pn**	**17 42 37.8**	**+1.2**
PAX	**Paxson**	**2.62**	**52**		**Pn**	**17 42 37.8**	**+0.6**
Q23K	**Middleton Isla**	**2.68**	**136**	Pn	**Pn**	**17 42 39.1**	**+1.3**
K20K	**Telida**	**2.73**	**317**	Pn	**Pn**	**17 42 39.2**	**+0.6**
SVW2	**Sparrevohn**	**2.73**	**266**	Pn	**Pn**	**17 42 39.0**	**+0.4**
BPAW	**Bear Paw Mtn.**	**2.73**	**351**	Pn	**Pn**	**17 42 39.3**	**+0.7**
RAGM	**Ragged Mountai**	**2.78**	**109**	Pn	**Pn**	**17 42 40.3**	**+0.9**
M18K	**Stony River**	**2.82**	**274**		**Pn**	**17 42 40.4**	**+0.6**
GLB	**Gilahina Butte**	**2.96**	**87**	Pn	**Pn**	**17 42 42.3**	**+0.6**
N18K	**Kilae Creek**	**2.98**	**258**	Pn	**Pn**	**17 42 42.4**	**+0.4**
HMT	**Hamilton**	**2.99**	**109**	Pn	**Pn**	**17 42 42.5**	**+0.3**
O18K	**Koktuh Hills**	**3.02**	**241**	Pn	**Pn**	**17 42 43.4**	**+0.8**
SYI	**Shuyak Island**	**3.07**	**204**	Pn	**Pn**	**17 42 44.4**	**+1.2**
VRDI	**Verde Repeater**	**3.14**	**91**		**Pn**	**17 42 45.1**	**+0.7**
WRH	**Wood River Hil**	**3.18**	**15**	Pn	**Pn**	**17 42 45.6**	**+0.8**
NEA2	**Nenana**	**3.21**	**7**	Pn	**Pn**	**17 42 46.0**	**+0.8**
TTA	**Tatalina**	**3.22**	**301**	Pn	**Pn**	**17 42 46.1**	**+0.8**
L18K	**Granite Mounta**	**3.29**	**287**	Pn	**Pn**	**17 42 46.9**	**+0.6**
P18K	**Big Mountain,**	**3.31**	**234**	Pn	**Pn**	**17 42 47.0**	**+0.4**
SUCK	**Suckling Hills**	**3.32**	**111**	Pn	**Pn**	**17 42 47.8**	**+1.1**
MCARA	**McCarthy VSAT**	**3.34**	**88**	Pn	**Pn**	**17 42 47.4**	**+0.5**
J20K	**Nowinta River**	**3.37**	**327**	Pn	**Pn**	**17 42 47.7**	**+0.3**
CRQM	**Cirque**	**3.38**	**98**	Pn	**Pn**	**17 42 48.1**	**+0.4**
CCB	**Clear Creek Bu**	**3.39**	**16**	Pn	**Pn**	**17 42 47.7**	**+0.1**
TGL	**Tana Glacier**	**3.53**	**98**	Pn	**Pn**	**17 42 49.9**	**+0.3**
M17K	**Holitna River**	**3.59**	**273**	Pn	**Pn**	**17 42 50.9**	**+0.5**
WAX	**Waxell Ridge**	**3.60**	**102**		**Pn**	**17 42 50.3**	**-0.3**
N17K	**Nushagak Hills**	**3.63**	**259**	Pn	**Pn**	**17 42 51.4**	**+0.4**
MLY	**Manley**	**3.65**	**355**	Pn	**Pn**	**17 42 52.5**	**+1.3**
SNH	**Sunshine Point**	**3.70**	**106**	Pn	**Pn**	**17 42 54.1**	**+2.1**
J18K	**Innoko River**	**3.75**	**306**	Pn	**Pn**	**17 42 53.8**	**+1.3**
ISLE	**Juniper Island**	**3.80**	**99**	Pn	**Pn**	**17 42 53.6**	**+0.3**
KDAK	**Kodiak Island**	**3.88**	**201**	Pn	**Pn**	**17 42 55.7**	**+1.4**
	comp=E,23nm,0.8s,baz=16,slow=11,SNR=0.7						
I21K	**Tanana**	**3.89**	**347**	Pn	**Pn**	**17 42 56.0**	**+1.6**
I20K	**Naaghedeneel**	**3.96**	**331**	Pn	**Pn**	**17 42 56.7**	**+1.2**
K17K	**Iditarod**	**4.13**	**292**	Pn	**Pn**	**17 42 58.7**	**+0.9**
ACHA	**Angle Creek He**	**4.20**	**222**	Pn	**Pn**	**17 42 59.5**	**+0.7**
M16K	**Timber Creek**	**4.37**	**269**	Pn	**Pn**	**17 43 01.5**	**+0.5**
LOGN	**Logan Glacier**	**4.39**	**94**	Pn	**Pn**	**17 43 02.1**	**+0.7**
H21K	**Melozitna Rive**	**4.44**	**345**	Pn	**Pn**	**17 43 02.9**	**+0.9**
L16K	**Owhat River**	**4.56**	**278**	Pn	**Pn**	**17 43 03.9**	**+0.3**
H19K	**Roundabout Mou**	**5.05**	**328**	Pn	**Pn**	**17 43 11.5**	**+1.3**
N15K	**Kwethluk River**	**5.12**	**260**	Pn	**Pn**	**17 43 12.0**	**+0.7**
BCPM	**Bancas Point**	**5.28**	**102**	Pn	**Pn**	**17 43 14.5**	**+1.0**
J16K	**Anvik River**	**5.30**	**295**	Pn	**Pn**	**17 43 14.3**	**+0.6**
H18K	**Honhosa River**	**5.33**	**318**	Pn	**Pn**	**17 43 15.4**	**+1.2**
G21K	**Allakaket**	**5.35**	**345**	Pn	**Pn**	**17 43 16.3**	**+1.8**
I17K	**Unalakleet**	**5.53**	**301**	Pn	**Pn**	**17 43 18.8**	**+1.9**
DAWY	**Dawson**	**5.54**	**57**	Pn	**Pn**	**17 43 17.8**	**+0.7**
K15K	**Wolf Creek Mou**	**5.55**	**284**	Pn	**Pn**	**17 43 18.1**	**+0.9**
H17K	**Granite Mounta**	**5.72**	**312**	Pn	**Pn**	**17 43 20.5**	**+1.0**
G18K	**Tagagawik**	**5.93**	**323**	Pn	**Pn**	**17 43 23.4**	**+1.0**
O14K	**Tigyukauivet M**	**6.02**	**254**	Pn	**Pn**	**17 43 24.9**	**+1.3**
F21K	**Alatna River**	**6.03**	**347**	Pn	**Pn**	**17 43 26.4**	**+2.7**
L14K	**Kuka Creek**	**6.12**	**275**	Pn	**Pn**	**17 43 26.7**	**+1.8**
F20K	**Avaraart Lake**	**6.19**	**339**	Pn	**Pn**	**17 43 28.1**	**+2.2**
J14K	**Nanvaranak Lak**	**6.52**	**288**		**Pn**	**17 43 32.1**	**+1.6**
F15K	**North Star Dit**	**7.83**	**310**	Pn	**Pn**	**17 43 50.8**	**+2.4**
KSRS	**Korea Array**	**54.31**	**284**	P	**P**	**17 51 17.8**	**-0.4**
	comp=E,0.9nm,0.6s,baz=39,slow=4.8,SNR=1.3						
	comp=E,0.9nm,0.6s						
BVAR	**Borovoye Array**	**61.49**	**334**	P	**P**	**17 52 07.4**	**-0.9**
	comp=E,7.3nm,1.0s,baz=38,slow=7.7,SNR=1.9						
	comp=E,7.3nm,1.0s						
KURBB	**Kurchatov Arra**	**61.78**	**327**	P	**P**	**17 52 08.9**	**-1.4**
	comp=E,1.1nm,0.4s,baz=31,slow=6.6,SNR=1.7						
	comp=E,1.1nm,0.4s						
MKAR	**Makanchi Array**	**64.23**	**323**	P	**P**	**17 52 25.1**	**-1.5**
	comp=E,8.8nm,1.1s,baz=41,slow=5.1,SNR=1.7						
	comp=E,8.8nm,1.1s						
AKASG	**Malin Array Be**	**68.23**	**1**	P	**P**	**17 52 51.0**	**-1.2**
	comp=E,0.5nm,0.3s,baz=0.6,slow=6.1,SNR=4.6						
	comp=E,0.5nm,0.3s						

*IDC **30** 17:42:11.8±1.5, 61°.36N×150°.19W, h0km, mb4.4/15, mbtmp4.4/16, ML3.7/1, Error ellipse: s-maj=38.4km s-min=21.7km az=141.0*
*NEIC **30** 17:42:19.9±1.2, 61°.43N±0°.02×149°.95W±0°.02, h42km±3km, Error ellipse: s-maj=3.2km s-min=1.4km az=191.0*
*AEIC **30** 17:42:20.6±1.2, 61°.43N±0°.02×149°.94W±0°.05, h37km±3km, ML4.0, ML4.5/34(NEIC), Error ellipse: s-maj=3.3km s-min=2.8km az=88.0*

ISC 30 17:42:18.7±0.7, 61°.42N±0°.03×149°.93W±0°.03, h45km±6km, n163, σ1$08/172, mb4.4/15, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.34**	**164**		**Pn**	**17 42 28.3**	**+0.5**
RC01					**Sn**	**17 42 35.2**	**+0.9**
RC01	**Rabbit Creek A**	**0.34**	**164**	P	**Pn**	**17 42 28.0**	**+0.1**
	baz=344						
RC01				S	**Sn**	**17 42 35.0**	**+0.7**
	baz=344						
M22K	**Willow**	**0.35**	**345**		**Pn**	**17 42 28.2**	**+0.3**
M22K					**Sn**	**17 42 35.4**	**+1.1**
M22K	**Willow**	**0.35**	**345**	IAML		17 42 35.7	
	comp=E,32μm,0.4s						
M22K				IAML		17 42 35.8	
	comp=N,61μm,0.5s						
M22K	**Willow**	**0.35**	**345**	P	**Pn**	**17 42 28.1**	**+0.2**
	baz=165						
M22K				S	**Sn**	**17 42 35.2**	**+1.0**
	baz=165						
SUA	**Susitna One**	**0.40**	**277**		**Pn**	**17 42 29.2**	**+0.6**
SUA					**Sn**	**17 42 36.5**	**+1.0**
SUA	**Susitna One**	**0.40**	**277**	IAML		17 42 37.2	
	comp=E,22μm,0.7s						
SUA	**Susitna One**	**0.40**	**277**	P	**Pn**	**17 42 29.1**	**+0.6**
	baz=95						
SUA				S	**Sn**	**17 42 36.6**	**+1.0**
	baz=95						
PMR	**Palmer**	**0.42**	**65**		**Pn**	**17 42 29.1**	**+0.4**
PMR					**Sn**	**17 42 36.4**	**+0.7**
PMR	**Palmer**	**0.42**	**65**	IAML		17 42 37.1	
	comp=N,13μm,0.5s						
PMR				IAML		17 42 37.5	
	comp=E,14μm,0.6s						
PMR	**Palmer**	**0.42**	**65**	P	**Pn**	**17 42 29.1**	**+0.4**
	baz=247						
PMR				S	**Sn**	**17 42 36.4**	**+0.7**
	baz=247						
GHO	**Glory Hole Cre**	**0.59**	**53**		**Pn**	**17 42 31.6**	**+0.6**
GHO					**Sn**	**17 42 41.1**	**+1.4**
GHO	**Glory Hole Cre**	**0.59**	**53**	IAML		17 42 42.0	
	comp=E,27μm,0.4s						
GHO				IAML	

n201,σ1$00/212,mb4.5/27,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLK				IAML		17 43 12.6	
	comp=N,3μm,0.9s						
BRSE	**Bradley Lake S**	**1.73**	**194**		**Pn**	**17 42 48.5**	**+2.1**
BRSE	**Bradley Lake S**	**1.73**	**194**	P	**Pn**	**17 42 48.5**	**+2.1**
	baz=13						
FID	**Port Fidalgo**	**1.81**	**110**	Pn	**Pn**	**17 42 48.0**	**+0.6**
PPLA	**Purkeypile**	**1.82**	**325**	Pn	**Pn**	**17 42 49.4**	**+1.7**
M24K	**Tolsona, Glenn**	**1.91**	**67**	Pn	**Pn**	**17 42 50.7**	**+1.9**
KLU	**Klutina**	**1.92**	**86**	Pn	**Pn**	**17 42 50.3**	**+1.3**
HOM	**Homer**	**1.96**	**206**		**Pn**	**17 42 50.7**	**+1.2**
HIN	**Hinchinbrook I**	**1.96**	**120**	Pn	**Pn**	**17 42 51.5**	**+1.9**
CNPM	**China Poot**	**2.01**	**199**	Pn	**Pn**	**17 42 51.2**	**+1.0**
DIV	**Divide**	**2.03**	**96**	Pn	**Pn**	**17 42 51.5**	**+1.0**
DHY	**Denali Highway**	**2.04**	**35**	Pn	**Pn**	**17 42 53.0**	**+2.2**
RND	**Reindeer**	**2.05**	**14**	Pn	**Pn**	**17 42 52.5**	**+1.7**
ILSW	**Iliamna Southw**	**2.14**	**229**		**Pn**	**17 42 53.6**	**+1.6**
M19K	**Big River Lodg**	**2.18**	**285**	Pn	**Pn**	**17 42 54.2**	**+1.6**
KTH	**Kantishna Hill**	**2.19**	**348**	Pn	**Pn**	**17 42 54.5**	**+1.8**
EYAK	**Cordova Ski Ar**	**2.22**	**111**	Pn	**Pn**	**17 42 55.3**	**+2.3**
CAST	**Castle Rocks**	**2.24**	**334**	Pn	**Pn**	**17 42 54.5**	**+1.1**
N19K	**Bonanza Creek**	**2.29**	**257**	Pn	**Pn**	**17 42 55.0**	**+0.8**
MCK	**McKinley**	**2.37**	**11**	Pn	**Pn**	**17 42 56.0**	**+1.0**
P19K	**Oil Pt**	**2.41**	**224**		**Pn**	**17 42 57.0**	**+1.3**
L19K	**White Mountain**	**2.46**	**290**	Pn	**Pn**	**17 42 57.6**	**+1.2**
O19K	**Port Alsworth**	**2.48**	**242**	Pn	**Pn**	**17 42 58.0**	**+1.5**
N25K	**Chitina, Valde**	**2.56**	**84**	Pn	**Pn**	**17 43 00.2**	**+2.4**
PAX	**Paxson**	**2.60**	**51**	Pn	**Pn**	**17 43 00.3**	**+1.9**
BMRM	**Bremner River**	**2.62**	**98**	Pn	**Pn**	**17 43 01.0**	**+2.4**
Q23K	**Middleton Isla**	**2.67**	**137**	Pn	**Pn**	**17 43 02.5**	**+3.3**
BPAW	**Bear Paw Mtn.**	**2.73**	**350**	Pn	**Pn**	**17 43 00.8**	**+0.7**
K20K	**Telida**	**2.74**	**317**	Pn	**Pn**	**17 43 01.4**	**+1.2**
SVW2	**Sparrevohn**	**2.75**	**266**	Pn	**Pn**	**17 43 01.6**	**+1.2**
RAGM	**Ragged Mountai**	**2.77**	**110**	Pn	**Pn**	**17 43 01.7**	**+1.2**
BWN	**Browne**	**2.77**	**4**	Pn	**Pn**	**17 43 02.0**	**+1.4**
GLB	**Gilahina Butte**	**2.94**	**87**	Pn	**Pn**	**17 43 05.0**	**+2.0**
HMT	**Hamilton**	**2.98**	**109**	Pn	**Pn**	**17 43 05.6**	**+2.2**
N18K	**Kilae Creek**	**2.99**	**258**	Pn	**Pn**	**17 43 04.7**	**+1.0**
O18K	**Koktuh Hills**	**3.04**	**241**	Pn	**Pn**	**17 43 05.3**	**+1.0**
SYI	**Shuyak Island**	**3.08**	**205**		**Pn**	**17 43 06.3**	**+1.5**
KAIM	**Kayak Island**	**3.10**	**117**	Pn	**Pn**	**17 43 07.0**	**+2.0**
Q19K	**Cape Douglas,**	**3.12**	**218**	Pn	**Pn**	**17 43 06.8**	**+1.5**
VRDI	**Verde Repeater**	**3.13**	**91**	Pn	**Pn**	**17 43 07.6**	**+2.0**
WRH	**Wood River Hil**	**3.17**	**15**	Pn	**Pn**	**17 43 07.3**	**+1.2**
NEA2	**Nenana**	**3.21**	**7**	Pn	**Pn**	**17 43 07.8**	**+1.2**
BERG	**Berg Lake**	**3.21**	**106**	Pn	**Pn**	**17 43 08.3**	**+1.7**
TTA	**Tatalina**	**3.23**	**301**	Pn	**Pn**	**17 43 07.6**	**+0.7**
MENT	**Mentasta**	**3.28**	**60**		**Pn**	**17 43 09.4**	**+1.7**
HDA	**Harding Lake**	**3.29**	**23**	Pn	**Pn**	**17 43 09.5**	**+1.8**
L18K	**Granite Mounta**	**3.31**	**287**	Pn	**Pn**	**17 43 08.9**	**+1.0**
RIDG	**Independent Ri**	**3.31**	**43**	Pn	**Pn**	**17 43 09.1**	**+1.1**
SUCK	**Suckling Hills**	**3.31**	**111**	Pn	**Pn**	**17 43 09.7**	**+1.8**
MCARA	**McCarthy VSAT**	**3.32**	**88**	Pn	**Pn**	**17 43 09.0**	**+0.9**
P18K	**Big Mountain,**	**3.33**	**235**	Pn	**Pn**	**17 43 08.7**	**+0.5**
CRQM	**Cirque**	**3.36**	**98**	Pn	**Pn**	**17 43 10.6**	**+1.7**
J20K	**Nowinta River**	**3.38**	**327**	Pn	**Pn**	**17 43 10.3**	**+1.4**
CCB	**Clear Creek Bu**	**3.38**	**16**	Pn	**Pn**	**17 43 09.9**	**+1.0**
WAX	**Waxell Ridge**	**3.59**	**103**	Pn	**Pn**	**17 43 13.2**	**+1.4**
COLA	**College**	**3.59**	**14**	Pn	**Pn**	**17 43 13.3**	**+1.5**
M17K	**Holitna River**	**3.61**	**273**	Pn	**Pn**	**17 43 12.6**	**+0.5**
ILAR	**Eielson Array**	**3.64**	**21**	Pn	**Pn**	**17 43 14.8**	**+2.4**
ILAR	**Eielson Array**	**3.64**	**21**	Pn	**Pn**	**17 43 09.2**	**-3.3**
	comp=N,5.2nm,0.3s,baz=201,slow=13,SNR=2.6						
	comp=N,23nm,0.6s						
MLY	**Manley**	**3.64**	**355**	Pn	**Pn**	**17 43 14.3**	**+1.7**
N17K	**Nushagak Hills**	**3.65**	**259**	Pn	**Pn**	**17 43 13.1**	**+0.4**
I23K	**Minto, Yukon-K**	**3.75**	**4**	Pn	**Pn**	**17 43 16.6**	**+2.6**
SCRK	**Sand Creek**	**3.75**	**44**	Pn	**Pn**	**17 43 17.0**	**+2.9**
J18K	**Innoko River**	**3.76**	**306**	Pn	**Pn**	**17 43 15.3**	**+1.1**
POKR	**Poker Plat Res**	**3.88**	**16**	Pn	**Pn**	**17 43 16.1**	**+0.3**
I21K	**Tanana**	**3.89**	**347**	Pn	**Pn**	**17 43 17.1**	**+1.2**
M27K	**Edge Creek, AK**	**3.92**	**73**	Pn	**Pn**	**17 43 18.3**	**+1.8**
I20K	**Naaghedeneel**	**3.97**	**331**	Pn	**Pn**	**17 43 17.1**	**+0.1**
K17K	**Iditarod**	**4.15**	**292**	Pn	**Pn**	**17 43 20.7**	**+1.3**
BCAR	**Beaver Creek A**	**4.15**	**63**	Pn	**Pn**	**17 43 21.6**	**+2.0**
M16K	**Timber Creek**	**4.39**	**269**	Pn	**Pn**	**17 43 24.1**	**+1.4**
O16K	**Kokwok River B**	**4.43**	**249**	Pn	**Pn**	**17 43 24.3**	**+0.9**
H21K	**Melozitna Rive**	**4.44**	**344**	Pn	**Pn**	**17 43 24.8**	**+1.3**
OHAK	**Old Harbor**	**4.55**	**204**	Pn	**Pn**	**17 43 26.1**	**+1.2**
L16K	**Owhat River**	**4.58**	**278**	Pn	**Pn**	**17 43 25.9**	**+0.6**
J17K	**VABM Dome**	**4.69**	**299**		**Pn**	**17 43 28.0**	**+1.0**
PLK4	**Peulik 4**	**5.01**	**224**	Pn	**Pn**	**17 43 31.3**	**-0.1**
J16K	**Anvik River**	**5.31**	**295**	Pn	**Pn**	**17 43 36.1**	**+0.7**
H18K	**Honhosa River**	**5.34**	**318**	Pn	**Pn**	**17 43 37.0**	**+1.2**
G21K	**Allakaket**	**5.35**	**344**	Pn	**Pn**	**17 43 37.8**	**+1.8**
FYU	**Fort Yukon**	**5.56**	**20**	Pn	**Pn**	**17 43 40.2**	**+1.5**
K15K	**Wolf Creek Mou**	**5.56**	**284**	Pn	**Pn**	**17 43 39.6**	**+0.7**
H17K	**Granite Mounta**	**5.73**	**312**	Pn	**Pn**	**17 43 42.1**	**+1.0**
M14K	**Bethel**	**5.88**	**269**	Pn	**Pn**	**17 43 44.7**	**+1.6**
G18K	**Tagagawik**	**5.93**	**323**	Pn	**Pn**	**17 43 45.7**	**+1.7**
O14K	**Tigyukauivet M**	**6.03**	**254**	Pn	**Pn**	**17 43 46.9**	**+1.6**
L14K	**Kuka Creek**	**6.13**	**275**	Pn	**Pn**	**17 43 48.7**	**+2.1**
J29N	**Klondike Camp**	**6.15**	**55**	Pn	**Pn**	**17 43 50.1**	**+3.1**
F20K	**Avaraart Lake**	**6.19**	**338**	Pn	**Pn**	**17 43 49.9**	**+2.5**
CHIR	**Chirikof Islan**	**6.35**	**210**	Pn	**Pn**	**17 43 51.2**	**+1.5**
CHGN	**Chignik**	**6.76**	**224**	Pn	**Pn**	**17 43 58.3**	**+3.1**
F17K	**Baldwin Pennin**	**7.08**	**324**	Pn	**Pn**	**17 44 01.3**	**+1.7**
E18K	**Tukpahlearik C**	**7.58**	**327**	Pn	**Pn**	**17 44 09.5**	**+3.1**
EPYK	**Eagle Plains**	**7.64**	**44**	Pn	**Pn**	**17 44 11.5**	**+4.1**
F15K	**North Star Dit**	**7.84**	**310**	Pn	**Pn**	**17 44 12.3**	**+2.3**
M11K	**Mekoryuk**	**8.00**	**270**	Pn	**Pn**	**17 44 14.4**	**+2.1**
TNA	**Tin City**	**9.04**	**305**	Pn	**Pn**	**17 44 28.0**	**+1.6**
F31M	**Tsiigehtchic**	**9.22**	**42**	Pn	**Pn**	**17 44 31.9**	**+3.1**
SPITS	**Spitsbergen Ar**	**40.39**	**4**	P	**P**	**17 49 51.1**	**-0.6**
	comp=N,27nm,1.0s,baz=27,slow=4.8,SNR=6.2						
	comp=N,27nm,1.0s						
NRIK	**Noril'sk**	**43.28**	**334**	P	**P**	**17 50 14.5**	**-0.7**
	comp=N,13nm,0.7s,baz=56,slow=11,SNR=2.2						
	comp=N,13nm,0.7s						
ARCES	**ARCESS Array B**	**49.29**	**2**	P	**P**	**17 51 02.1**	**-0.3**
	comp=N,1.7nm,0.7s,baz=1.4,slow=7.2,SNR=0.8						
	comp=N,1.7nm,0.7s						
KSRS	**Korea Array**	**54.32**	**284**	P	**P**	**17 51 39.4**	**-0.8**
	comp=N,1.7nm,0.5s,baz=37,slow=7.4,SNR=6.9						
	comp=N,1.7nm,0.5s						
SONM	**Songino Array**	**55.16**	**307**	P	**P**	**17 51 47.1**	**+0.7**
	comp=N,3.6nm,0.8s,baz=32,slow=9.0,SNR=2.3						
	comp=N,3.6nm,0.8s						
ZALV	**Zalesovo Beam**	**57.10**	**325**	P	**P**	**17 51 59.2**	**-0.7**
	comp=N,1.8nm,0.5s,baz=42,slow=4.5,SNR=1.4						
	comp=N,1.8nm,0.5s						
FINES	**FINESS Array B**	**57.42**	**2**	P	**P**	**17 52 01.6**	**-0.5**
	comp=N,2.2nm,0.4s,baz=0.0,slow=7.1,SNR=5.5						
	comp=N,2.2nm,0.4s						
HFS	**Hagfors**	**58.12**	**10**	P	**P**	**17 52 06.9**	**-0.1**
	comp=N,2.7nm,0.7s,baz=4.2,slow=7.8,SNR=1.1						
	comp=N,2.7nm,0.7s						
EKA	**Eskdalemuir Ar**	**60.67**	**21**	P	**P**	**17 52 24.4**	**-0.3**
	comp=N,0.5nm,0.3s,baz=330,slow=5.8,SNR=7.2						
	comp=N,0.5nm,0.3s						
BVAR	**Borovoye Array**	**61.49**	**334**	P	**P**	**17 52 29.4**	**-0.9**
	comp=N,2.8nm,0.6s,baz=34,slow=8.7,SNR=4.3						
	comp=N,2.8nm,0.6s						
KURBB	**Kurchatov Arra**	**61.78**	**327**	P	**P**	**17 52 31.0**	**-1.3**
	comp=N,3.2nm,0.5s,baz=30,slow=6.7,SNR=8.7						
	comp=N,3.2nm,0.5s						
MKAR	**Makanchi Array**	**64.24**	**323**	P	**P**	**17 52 46.6**	**-2.1**
	comp=N,1.8nm,0.4s,baz=31,slow=6.7,SNR=9.5						
	comp=N,1.8nm,0.4s						
AKASG	**Malin Array Be**	**68.23**	**1**	P	**P**	**17 53 13.5**	**-0.6**
	comp=N,5.4nm,0.5s,baz=1.5,slow=6.6,SNR=17						
	comp=N,5.4nm,0.5s						
ESDC	**Sonseca Array**	**75.52**	**26**	P	**P**	**17 53 58.0**	**-0.1**
	comp=N,2.4nm,0.9s,baz=340,slow=7.2,SNR=2.8						
	comp=N,2.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**83.61**	**297**	P	**P**	**17 54 41.7**	**-0.5**
	comp=N,1.0nm,0.4s,baz=5.5,slow=5.9,SNR=2.6						
	comp=N,1.0nm,0.4s						
BOSA	**Boshof**	**147.04**	**8**	PKPbc	**PKPbc**	**18 01 56.0**	**-0.1**
	comp=N,8.7nm,1.0s,baz=346,slow=3.8,SNR=2.3						
QSPA	**South Pole Qui**	**151.23**	**180**	PKPbc	**PKPbc**	**18 02 05.3**	**-0.1**
	comp=N,12nm,1.1s,baz=90,slow=1.0,SNR=1.1						

IDC ***30*** *17:42:51.5±0.8, 61°.59N×150°.15W, h0km, mb4.4/18, mbtmp4.4/18, Error ellipse: s-maj=27.3km s-min=16.7km az=34.0*

NEIC ***30*** *17:42:59.0±1.2, 61°.52N±0°.02×149°.95W±0°.05, h41km±3km, Error ellipse: s-maj=3.3km s-min=2.6km az=64.0*

AEIC ***30*** *17:42:59.9±1.4, 61°.54N±0°.02×149°.95W±0°.05, h43km±4km, ML4.5, mb4.6/21(NEIC), ML4.7/62(NEIC), Error ellipse: s-maj=3.4km s-min=3.2km az=161.0*

ISC 30 17:42:58.4±0.7, 61°.53N±0°.03×149°.93W±0°.02, h45km±5km,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.25**	**339**		**Sn**	**17 43 13.7**	**+1.4**
M22K	**Willow**	**0.25**	**339**		**Pn**	**17 43 06.5**	**-0.1**
M22K	**Willow**	**0.25**	**339**	IAML		17 43 14.0	
	comp=E,67μm,0.6s						
M22K				IAML		17 43 16.2	
	comp=N,66μm,0.5s						
M22K	**Willow**	**0.25**	**339**	P	**Pn**	**17 43 06.8**	**+0.2**
	baz=159						
M22K				S	**Sn**	**17 43 13.1**	**+0.8**
	baz=159						
PMR	**Palmer**	**0.39**	**80**		**Pn**	**17 43 08.0**	**0.0**
PMR					**Sn**	**17 43 15.6**	**+0.8**
PMR	**Palmer**	**0.39**	**80**	IAML		17 43 15.9	
	comp=N,54μm,0.4s						
PMR				IAML		17 43 15.9	
	comp=E,49μm,0.6s						
PMR	**Palmer**	**0.39**	**80**	P	**Pn**	**17 43 08.0**	**0.0**
	baz=262						
PMR				S	**Sn**	**17 43 15.3**	**+0.5**
	baz=262						
SUA	**Susitna One**	**0.40**	**261**		**Pn**	**17 43 08.6**	**+0.3**
SUA					**Sn**	**17 43 16.3**	**+1.1**
SUA	**Susitna One**	**0.40**	**261**	IAML		17 43 16.7	
	comp=E,49μm,0.9s						
SUA				IAML		17 43 16.8	
	comp=N,28μm,0.9s						
SUA	**Susitna One**	**0.40**	**261**	P	**Pn**	**17 43 08.5**	**+0.3**
	baz=79						
SUA				S	**Sn**	**17 43 16.3**	**+1.1**
	baz=79						
RC01	**Rabbit Creek A**	**0.45**	**168**		**Pn**	**17 43 08.8**	**+0.1**
RC01					**Sn**	**17 43 16.2**	**+0.2**
RC01	**Rabbit Creek A**	**0.45**	**168**	IAML		17 43 16.5	
	comp=E,39μm,0.7s						
RC01				IAML		17 43 17.2	
	comp=N,46μm,0.5s						
RC01	**Rabbit Creek A**	**0.45**	**168**	P	**Pn**	**17 43 08.6**	**-0.1**
	baz=347						
RC01				S	**Sn**	**17 43 16.2**	**+0.2**
	baz=347						
GHO	**Glory Hole Cre**	**0.54**	**62**		**Pn**	**17 43 10.2**	**+0.2**
GHO					**Sn**	**17 43 19.2**	**+1.0**
GHO	**Glory Hole Cre**	**0.54**	**62**	IAML		17 43 19.8	
	comp=E,56μm,0.5s						
GHO				IAML		17 43 20.1	
	comp=N,52μm,0.7s						
KNK	**Knik Glacier**	**0.72**	**98**		**Pn**	**17 43 12.3**	**+0.1**
KNK	**Knik Glacier**	**0.72**	**98**		**Sn**	**17 43 24.0**	**+1.8**
KNK	**Knik Glacier**	**0.72**	**98**	IAML		17 43 25.9	
	comp=N,65μm,0.6s						
KNK				IAML		17 43 26.0	
	comp=E,43μm,0.5s						
KNK	**Knik Glacier**	**0.72**	**98**	P	**Pn**	**17 43 12.5**	**+0.3**
	baz=280						
SML	**Sawmill**	**0.81**	**69**		**Pn**	**17 43 13.7**	**+0.2**
SML					**Sn**	**17 43 25.3**	**+0.8**
SML	**Sawmill**	**0.81**	**69**	IAML		17 43 28.1	
	comp=E,29μm,0.8s						
SML				IAML		17 43 28.8	
	comp=N,20μm,0.7s						
SML	**Sawmill**	**0.81**	**69**	P	**Pn**	**17 43 13.7**	**+0.2**
	baz=251						
SML				S	**Sn**	**17 43 25.4**	**+0.8**
	baz=251						
SKT	**Skwentna**	**0.89**	**302**		**Pn**	**17 43 14.8**	**+0.3**
SKT					**Sn**	**17 43 27.3**	**+1.0**
SKT	**Skwentna**	**0.89**	**302**	IAML		17 43 28.6	
	comp=N,34μm,0.3s						
SKT	**Skwentna**	**0.89**	**302**	P	**Pn**	**17 43 14.8**	**+0.3**
	baz=120						
SKT				S	**Sn**	**17 43 27.3**	**+1.0**
	baz=120						
CUT	**Chulitna**	**0.90**	**350**		**Pn**	**17 43 15.2**	**+0.6**
STLK	**Strandline Lak**	**0.91**	**269**		**Pn**	**17 43 15.3**	**+0.5**
STLK					**Sn**	**17 43 27.9**	**+1.0**
CAPN	**Captain Cook N**	**0.96**	**218**	Pn	**Pn**	**17 43 16.9**	**+1.4**
PWL	**Port Wells**	**1.02**	**130**		**Pn**	**17 43 16.6**	**+0.3**
PWL					**Sn**	**17 43 30.9**	**+1.4**
PWL	**Port Wells**	**1.02**	**130**	P	**Pn**	**17 43 16.7**	**+0.3**
	baz=312						
PWL				S	**Sn**	**17 43 30.6**	**+1.0**
	baz=312						
SLKM	**Skilak Lake**	**1.03**	**188**		**Pn**	**17 43 16.6**	**+0.2**
SLKM					**Sn**	**17 43 30.4**	**+0.6**
SPCG	**Spurr Capps Gl**	**1.03**	**258**		**Pn**	**17 43 17.0**	**+0.4**
SPCG					**Sn**	**17 43 31.4**	**+1.5**
O22K	**Cooper Landing**	**1.05**	**174**		**Sn**	**17 43 31.7**	**+1.5**
O22K	**Cooper Landing**	**1.05**	**174**	Pn	**Pn**	**17 43 16.9**	**+0.2**
O22K	**Cooper Landing**	**1.05**	**174**	IAML		17 43 34.5	
	comp=E,59μm,0.8s						
O22K				IAML		17 43 36.4	
	comp=N,39μm,0.8s						
O22K	**Cooper Landing**	**1.05**	**174**	S	**Sn**	**17 43 31.7**	**+1.5**
	baz=354						
M23K	**Glacier View**	**1.09**	**75**		**Pn**	**17 43 17.8**	**+0.6**
M23K					**Sn**	**17 43 33.1**	**+2.0**
M23K	**Glacier View**	**1.09**	**75**	P	**Pn**	**17 43 17.8**	**+0.6**
	baz=257						
M23K				S	**Sn**	**17 43 33.3**	**+2.2**
	baz=257						
SPCP	**Crater Peak Br**	**1.10**	**257**		**Pn**	**17 43 18.3**	**+0.8**
N20K	**Mount Spurr**	**1.14**	**254**	P	**Pn**	**17 43 19.5**	**+1.5**
	baz=72						
N20K				S	**Sn**	**17 43 33.7**	**+1.1**
	baz=72						
SPCR	**Spurr Chakacha**	**1.14**	**254**		**Pn**	**17 43 18.8**	**+0.7**
SPCR					**Sn**	**17 43 33.9**	**+1.2**
SCM	**Sheep Creek Mo**	**1.28**	**75**	Pn	**Pn**	**17 43 20.6**	**+0.7**
SCM				IAML		17 43 44.2	
	comp=N,19μm,0.9s						
WAT7	**Susitna Watana**	**1.41**	**21**		**Sn**	**17 43 41.0**	**+1.9**
SEW	**Seward**	**1.45**	**170**		**Pn**	**17 43 23.6**	**+1.6**
WAT1	**Susitna Watana**	**1.46**	**26**		**Pn**	**17 43 23.5**	**+1.2**
GLI	**Glacier Island**	**1.52**	**114**	Pn	**Pn**	**17 43 23.1**	**0.0**
GLI				IAML		17 43 45.6	
	comp=N,12μm,0.4s						
GLI				IAML		17 43 47.8	
	comp=E,13μm,0.6s						
RDT	**Redoubt**	**1.54**	**233**		**Pn**	**17 43 23.7**	**+0.3**
M20K	**Styx River**	**1.57**	**285**		**Pn**	**17 43 25.2**	**+1.3**
RDJH	**Redoubt Jeurge**	**1.68**	**237**		**Pn**	**17 43 26.1**	**+0.6**
RDWB	**Redoubt West**	**1.76**	**235**		**Pn**	**17 43 27.1**	**+0.6**
BRLK	**Bradley Lake**	**1.83**	**195**	Pn	**Pn**	**17 43 27.2**	**-0.2**
BRLK				IAML		17 43 54.3	
	comp=E,4μm,0.7s						
BRSE	**Bradley Lake S**	**1.83**	**193**		**Pn**	**17 43 28.9**	**+1.5**
FID	**Port Fidalgo**	**1.85**	**113**	Pn	**Pn**	**17 43 27.5**	**-0.2**
FID				IAML		17 43 58.3	
	comp=N,7μm,0.7s						
FID				IAML		17 43 58.4	
	comp=E,6μm,0.7s						
M24K	**Tolsona, Glenn**	**1.88**	**70**	Pn	**Pn**	**17 43 29.4**	**+1.3**
M24K				IAML		17 43 57.4	
	comp=N,8μm,1.1s						
KLU	**Klutina**	**1.92**	**89**	Pn	**Pn**	**17 43 29.9**	**+1.2**
KLU				IAML		17 43 59.8	
	comp=E,4μm,0.5s						
KLU				IAML		17 44 01.1	
	comp=N,5μm,0.4s						
HIN	**Hinchinbrook I**	**2.02**	**123**		**Pn**	**17 43 30.3**	**+0.3**
KTH	**Kantishna Hill**	**2.09**	**348**	Pn	**Pn**	**17 43 32.1**	**+1.2**
KTH				IAML		17 43 59.2	
	comp=E,6μm,0.5s						
KTH				IAML		17 44 02.5	
	comp=N,4μm,0.6s						
L20K	**Farewell, AK**	**2.09**	**299**		**Pn**	**17 43 31.8**	**+0.8**
L20K	**Farewell, AK**	**2.09**	**299**	P	**Pn**	**17 43 32.2**	**+1.2**
	baz=115						
CNPM	**China Poot**	**2.11**	**198**	Pn	**Pn**	**17 43 32.0**	**+0.9**
CNPM				IAML		17 44 00.8	
	comp=E,3μm,1.0s						
CAST	**Castle Rocks**	**2.15**	**333**	Pn	**Pn**	**17 43 32.9**	**+1.1**
CAST				IAML		17 44 14.9	
	comp=E,3μm,0.5s						
M19K	**Big River Lodg**	**2.16**	**282**	Pn	**Pn**	**17 43 32.6**	**+0.8**
ILSW	**Iliamna Southw**	**2.21**	**227**	Pn	**Pn**	**17 43 32.8**	**+0.1**
N19K	**Bonanza Creek**	**2.32**	**254**	Pn	**Pn**	**17 43 34.5**	**+0.3**
L19K	**White Mountain**	**2.42**	**288**	Pn	**Pn**	**17 43 36.0**	**+0.4**
N25K	**Chitina, Valde**	**2.55**	**86**	Pn	**Pn**	**17 43 36.7**	**-0.7**
N25K				IAML		17 44 17.1	
	comp=N,3μm,0.5s						
N25K				IAML		17 44 18.5	
	comp=E,2μm,0.4s						
BPAW	**Bear Paw Mtn.**	**2.63**	**350**	Pn	**Pn**	**17 43 38.5**	**+0.1**
K20K	**Telida**	**2.66**	**316**		**Pn**	**17 43 39.2**	**+0.5**
K20K				IAML		17 44 19.0	
	comp=E,2μm,0.7s						
K20K	**Telida**	**2.66**	**316**	P	**Pn**	**17 43 39.6**	**+0.9**
	baz=132						
BWN	**Browne**	**2.67**	**4**	Pn	**Pn**	**17 43 39.2**	**+0.4**
BWN				IAML		17 44 30.8	
	comp=E,4μm,1.0s						
BWN				IAML		17 44 36.4	
	comp=N,4μm,1.1s						
Q23K	**Middleton Isla**	**2.75**	**138**	Pn	**Pn**	**17 43 39.9**	**-0.1**
SVW2	**Sparrevohn**	**2.76**	**264**	Pn	**Pn**	**17 43 40.6**	**+0.5**
RAGM	**Ragged Mountai**	**2.81**	**112**	Pn	**Pn**	**17 43 40.2**	**-0.6**
GLB	**Gilahina Butte**	**2.94**	**89**	Pn	**Pn**	**17 43 42.0**	**-0.6**
N18K	**Kilae Creek**	**3.01**	**256**	Pn	**Pn**	**17 43 43.9**	**+0.2**
VRDI	**Verde Repeater**	**3.13**	**93**	Pn	**Pn**	**17 43 45.0**	**-0.4**
SYI	**Shuyak Island**	**3.17**	**204**	Pn	**Pn**	**17 43 45.5**	**-0.3**
TTA	**Tatalina**	**3.18**	**299**	Pn	**Pn**	**17 43 45.3**	**-0.6**
TTA	**Tatalina**	**3.18**	**299**	P	**Pn**	**17 43 46.5**	**+0.6**
	baz=114						
Q19K	**Cape Douglas,**	**3.20**	**217**	Pn	**Pn**	**17 43 45.2**	**-0.9**
BERG	**Berg Lake**	**3.24**	**108**	Pn	**Pn**	**17 43 46.8**	**0.0**
L18K	**Granite Mounta**	**3.27**	**285**	Pn	**Pn**	**17 43 47.2**	**+0.1**
CCB	**Clear Creek Bu**	**3.28**	**16**	Pn	**Pn**	**17 43 48.4**	**+1.2**
J20K	**Nowinta River**	**3.29**	**326**	Pn	**Pn**	**17 43 48.2**	**+0.8**
CRQM	**Cirque**	**3.38**	**100**	Pn	**Pn**	**17 43 49.8**	**+1.0**
MLY	**Manley**	**3.54**	**354**	Pn	**Pn**	**17 43 51.5**	**+0.7**
ILAR	**Eielson Array**	**3.54**	**22**	Pn	**Pn**	**17 43 52.0**	**+1.2**
J19K	**Poorman**	**3.60**	**316**	Pn	**Pn**	**17 43 52.2**	**+0.6**
M17K	**Holitna River**	**3.60**	**271**	Pn	**Pn**	**17 43 51.7**	**0.0**
I23K	**Minto, Yukon-K**	**3.65**	**4**	Pn	**Pn**	**17 43 52.8**	**+0.6**
N17K	**Nushagak Hills**	**3.67**	**257**	Pn	**Pn**	**17 43 53.0**	**+0.4**
J18K	**Innoko River**	**3.70**	**305**	Pn	**Pn**	**17 43 53.6**	**+0.6**
SNH	**Sunshine Point**	**3.72**	**108**	Pn	**Pn**	**17 43 53.2**	**-0.1**
POKR	**Poker Plat Res**	**3.78**	**16**	Pn	**Pn**	**17 43 54.0**	**-0.1**
I21K	**Tanana**	**3.78**	**347**	Pn	**Pn**	**17 43 55.2**	**+1.1**
I20K	**Naaghedeneel**	**3.88**	**330**	Pn	**Pn**	**17 43 55.9**	**+0.5**
L17K	**Donlin**	**4.01**	**282**		**Pn**	**17 43 57.8**	**+0.5**
L17K	**Donlin**	**4.01**	**282**	P	**Pn**	**17 43 57.8**	**+0.5**
	baz=95						
BCAR	**Beaver Creek A**	**4.11**	**64**	Pn	**Pn**	**17 43 58.4**	**-0.3**
K17K	**Iditarod**	**4.11**	**291**	Pn	**Pn**	**17 43 59.0**	**+0.5**
H21K	**Melozitna Rive**	**4.34**	**344**	Pn	**Pn**	**17 44 02.4**	**+0.6**
M16K	**Timber Creek**	**4.39**	**267**	Pn	**Pn**	**17 44 03.2**	**+0.8**
L16K	**Owhat River**	**4.56**	**277**	Pn	**Pn**	**17 44 04.8**	**+0.1**
J17K	**VABM Dome**	**4.64**	**298**	Pn	**Pn**	**17 44 06.1**	**+0.2**
IMAR	**Indian Mountai

comp=Z,5.0nm,0.9s,baz=20,slow=4.6,SNR=1.3
comp=Z,5.0nm,0.9s
HHC Hu-ho-hao-te 58.80 299 *eP* **P 17 52 54.8 +3.0**
HHC pmax pmax
comp=Z,25nm,2.0s
HHC pmax pmax
comp=Z,3μm,5.5s
EKA Eskdalemuir Ar 60.58 21 P **P 17 53 02.8 -0.9**
comp=Z,0.7nm,0.3s,baz=327,slow=6.1,SNR=4.6
comp=Z,0.7nm,0.3s
BVAR Borovoye Array 61.40 334 P **P 17 53 07.0 -2.3**
comp=Z,2.8nm,0.7s,baz=14,slow=6.5,SNR=1.6
comp=Z,2.8nm,0.7s
KURBB Kurchatov Arra 61.70 327 P **P 17 53 09.1 -2.3**
comp=Z,1.0nm,0.5s,baz=29,slow=6.8,SNR=1.1
comp=Z,1.0nm,0.5s
NJ2 Nanjing 62.94 288 *eP* **P 17 53 21.3 +1.4**
MKAR Makanchi Array 64.15 323 P **P 17 53 25.2 -2.5**
comp=Z,2.5nm,0.7s,baz=38,slow=5.9,SNR=1.9
comp=Z,2.5nm,0.7s
WMQ Urumqi 65.17 318 *eP* P 17 53 39.8 +5.3
WMQ LR LR
comp=N,25μm,16.1s
WMQ LR LR
comp=E,20μm,16.1s
WMQ LR LR
comp=Z,25μm,22.5s
AKASG Malin Array Be 68.12 1 P **P 17 53 51.7 -1.4**
comp=Z,2.5nm,0.5s,baz=2.6,slow=6.3,SNR=6.0
comp=Z,2.5nm,0.5s
GERES GERESS Array B 69.20 11 P **P 17 53 59.5 -0.5**
comp=Z,2.9nm,0.9s,baz=19,slow=9.3,SNR=2.2
comp=Z,2.9nm,0.9s
PZH PanZhiHua 75.25 298 P **P 17 54 38.0 +1.5**
PZH pmax pmax
comp=Z,20nm,2.0s
PZH pmax pmax
comp=Z,10.0nm,1.7s
ESDC Sonseca Array 75.43 27 P **P 17 54 36.4 -0.8**
comp=Z,2.9nm,0.8s,baz=342,slow=6.3,SNR=4.7
comp=Z,2.9nm,0.8s
BRTR Keskin Array B 79.06 357 P **P 17 54 58.7 +1.0**
comp=Z,2.3nm,1.0s,baz=329,slow=3.4,SNR=1.9
comp=Z,2.3nm,1.0s
KEST Kesra 81.63 17 P **P 17 55 10.3 -1.1**
comp=Z,8.4nm,0.9s,baz=0.0,slow=17,SNR=3.1
comp=Z,8.4nm,0.9s
BOSA Boshof 146.93 8 PKPbc **PKPdf 18 02 34.5 +1.0**
comp=Z,4.3nm,0.9s,baz=333,slow=4.5,SNR=1.6
QSPA South Pole Qui 151.33 180 PKPbc **PKPbc 18 02 43.9 -1.4**
comp=Z,13nm,0.8s,baz=60,slow=0.8,SNR=2.7

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*NEIC **30** 17:44:07.8±1.1,61°.51N±0°.02×149°.90W±0°.05,h38km±3km, Error ellipse: s-maj=3.2km s-min=3.1km az=115.0*
*AEIC **30** 17:44:08.3±0.9,61°.51N±0°.02×149°.92W±0°.04,h37km±6km, ML3.7,ML4.0/32(NEIC),Error ellipse: s-maj=3.4km s-min=2.6km az=165.0*
ISC 30 17:44:08.0±1.0,61°.51N±0°.03×149°.90W±0°.02,h33km±3km, n69,σ0=65/72,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.26**	**337**		**Pn**	**17 44 15.1**	**-0.2**
M22K					**Sb**	**17 44 21.4**	**+1.2**
M22K	**Willow**	**0.26**	**337**	P	**Pn**	**17 44 15.1**	**-0.2**
M22K	baz=158			S	**Sb**	**17 44 21.4**	**+1.2**
	baz=158						
PMR	**Palmer**	**0.38**	**77**		**Pb**	**17 44 16.4**	**-0.4**
PMR					**Sn**	**17 44 23.6**	**+0.4**
PMR	**Palmer**	**0.38**	**77**	IAML		17 44 24.1	
	comp=E,10μm,0.6s						
PMR	**Palmer**	**0.38**	**77**	P	**Pb**	**17 44 16.4**	**-0.4**
PMR	baz=258			S	**Sn**	**17 44 23.6**	**+0.4**
	baz=258						
SUA	**Susitna One**	**0.41**	**264**		**Pb**	**17 44 17.1**	**-0.2**
SUA					**Sb**	**17 44 24.6**	**+0.9**
SUA	**Susitna One**	**0.41**	**264**	IAML		17 44 25.2	
	comp=E,10μm,0.8s						
SUA	**Susitna One**	**0.41**	**264**	P	**Pb**	**17 44 17.1**	**-0.2**
SUA	baz=83			S	**Sb**	**17 44 24.6**	**+0.9**
	baz=83						
RC01	**Rabbit Creek A**	**0.43**	**169**		**Pb**	**17 44 16.8**	**-0.8**
RC01	**Rabbit Creek A**	**0.43**	**169**		**Sb**	**17 44 24.5**	**+0.4**
RC01	**Rabbit Creek A**	**0.43**	**169**	IAML		17 44 25.6	
	comp=E,8μm,0.3s						
RC01				IAML		17 44 25.6	
	comp=N,9μm,0.5s						
RC01	**Rabbit Creek A**	**0.43**	**169**	P	**Pb**	**17 44 17.0**	**-0.6**
RC01	baz=349			S	**Sb**	**17 44 24.5**	**+0.4**
	baz=349						
GHO	**Glory Hole Cre**	**0.54**	**60**		**Pn**	**17 44 18.4**	**-0.9**
GHO					**Sn**	**17 44 27.4**	**+0.2**
GHO	**Glory Hole Cre**	**0.54**	**60**	IAML		17 44 28.0	
	comp=E,8μm,0.4s						
GHO				IAML		17 44 28.5	
	comp=N,12μm,0.4s						
KNK	**Knik Glacier**	**0.70**	**98**		**Pn**	**17 44 20.9**	**-0.6**
KNK	**Knik Glacier**	**0.70**	**98**		**Sn**	**17 44 31.1**	**-0.2**
KNK				IAML		17 44 34.2	
	comp=E,6μm,0.3s						
KNK				IAML		17 44 34.5	
	comp=N,8μm,0.6s						
KNK	**Knik Glacier**	**0.70**	**98**	P	**Pn**	**17 44 20.9**	**-0.6**
KNK	baz=279			S	**Sn**	**17 44 32.1**	**+0.8**
	baz=279						
SML	**Sawmill**	**0.81**	**68**		**Pn**	**17 44 22.1**	**-1.0**
SML	**Sawmill**	**0.81**	**68**	IAML		17 44 36.1	
	comp=N,5μm,0.8s						
SML	**Sawmill**	**0.81**	**68**	P	**Pn**	**17 44 22.1**	**-1.0**
SKT	baz=249 **Skwentna**	**0.91**	**302**		**Pn**	**17 44 23.0**	**-1.5**
SKT				IAML		17 44 36.2	
	comp=E,5μm,0.4s						
SKT				IAML		17 44 36.3	
	comp=N,5μm,0.2s						
SKT	**Skwentna**	**0.91**	**302**	P	**Pn**	**17 44 23.3**	**-1.1**
CUT	baz=121 **Chulitna**	**0.91**	**349**		**Pn**	**17 44 23.4**	**-1.0**
CUT	**Chulitna**	**0.91**	**349**		**Sn**	**17 44 36.2**	**-0.2**
CUT	**Chulitna**	**0.91**	**349**	IAML		17 44 36.9	
	comp=E,11μm,0.8s						
CUT				IAML		17 44 38.7	
	comp=N,7μm,0.3s						
CUT	**Chulitna**	**0.91**	**349**	P	**Pn**	**17 44 23.8**	**-0.7**
CUT	baz=170			S	**Sn**	**17 44 36.2**	**-0.2**
	baz=170						
STLK	**Strandline Lak**	**0.93**	**270**		**Pn**	**17 44 23.9**	**-0.9**
STLK					**Sn**	**17 44 36.7**	**-0.2**
CAPN	**Captain Cook N**	**0.96**	**220**	Pn	**Pn**	**17 44 25.1**	**-0.1**
PWL	**Port Wells**	**1.00**	**130**		**Pn**	**17 44 24.9**	**-0.8**
PWL	**Port Wells**	**1.00**	**130**		**Sn**	**17 44 39.2**	**+0.5**
PWL	**Port Wells**	**1.00**	**130**	IAML		17 44 41.4	
	comp=N,8μm,0.3s						
PWL				IAML		17 44 42.8	
	comp=E,5μm,0.5s						
PWL	**Port Wells**	**1.00**	**130**	P	**Pn**	**17 44 25.2**	**-0.6**
PWL	baz=311			S	**Sn**	**17 44 39.3**	**+0.5**
	baz=311						
SLKM	**Skilak Lake**	**1.02**	**189**		**Pn**	**17 44 25.3**	**-0.7**
O22K	**Cooper Landing**	**1.04**	**175**		**Pn**	**17 44 25.0**	**-1.2**
O22K	**Cooper Landing**	**1.04**	**175**	P	**Pn**	**17 44 26.0**	**-0.1**
	baz=355						
SPCG	**Spurr Capps Gl**	**1.04**	**259**		**Pn**	**17 44 25.9**	**-0.5**
M23K	**Glacier View**	**1.08**	**74**		**Pn**	**17 44 26.3**	**-0.5**
M23K	**Glacier View**	**1.08**	**74**	P	**Pn**	**17 44 26.3**	**-0.5**
	baz=256						
N20K	**Mount Spurr**	**1.16**	**255**	P	**Pn**	**17 44 27.4**	**-0.5**
	baz=73						
SPCR	**Spurr Chakacha**	**1.16**	**255**		**Pn**	**17 44 27.4**	**-0.5**
SPCR	**Spurr Chakacha**	**1.16**	**255**		**Pn**	**17 44 27.4**	**-0.5**
SPCR	**Spurr Chakacha**	**1.16**	**255**	P	**Pn**	**17 44 27.4**	**-0.5**
	baz=73						
SCM	**Sheep Creek Mo**	**1.27**	**74**		**Pn**	**17 44 29.3**	**-0.2**
SCM	**Sheep Creek Mo**	**1.27**	**74**	IAML		17 44 49.2	
	comp=N,3μm,1.0s						
SCM	**Sheep Creek Mo**	**1.27**	**74**	P	**Pn**	**17 44 29.3**	**-0.2**
	baz=256						
GLI	**Glacier Island**	**1.50**	**114**		**Pn**	**17 44 31.8**	**-0.8**
GLI	**Glacier Island**	**1.50**	**114**	IAML		17 44 51.7	
	comp=E,2μm,0.6s						
GLI				IAML		17 44 52.6	
	comp=N,2μm,0.5s						
GLI	**Glacier Island**	**1.50**	**114**	P	**Pn**	**17 44 31.7**	**-0.8**
	baz=296						
M20K	**Styx River**	**1.58**	**285**	Pn	**Pn**	**17 44 33.5**	**-0.3**
BRLK	**Bradley Lake**	**1.82**	**196**	Pn	**Pn**	**17 44 38.1**	**+1.1**
FID	**Port Fidalgo**	**1.83**	**113**		**Pn**	**17 44 36.2**	**-0.9**
FID				IAML		17 44 59.8	
	comp=E,1μm,0.6s						
FID				IAML		17 45 07.0	
	comp=N,1μm,1.1s						
M24K	**Tolsona, Glenn**	**1.87**	**70**	Pn	**Pn**	**17 44 38.6**	**+0.9**
KLU	**Klutina**	**1.91**	**89**		**Pn**	**17 44 38.3**	**0.0**
KLU	**Klutina**	**1.91**	**89**	P	**Pn**	**17 44 38.3**	**0.0**
	baz=272						
DHY	**Denali Highway**	**1.96**	**36**	Pn	**Pn**	**17 44 38.7**	**-0.4**
HIN	**Hinchinbrook I**	**2.00**	**123**	Pn	**Pn**	**17 44 40.1**	**+0.6**
HOM	**Homer**	**2.05**	**206**	Pn	**Pn**	**17 44 39.7**	**-0.4**
CNPM	**China Poot**	**2.10**	**199**	Pn	**Pn**	**17 44 41.1**	**+0.3**
KTH	**Kantishna Hill**	**2.10**	**347**	Pn	**Pn**	**17 44 40.8**	**-0.1**
CAST	**Castle Rocks**	**2.17**	**333**	Pn	**Pn**	**17 44 41.6**	**-0.1**
M19K	**Big River Lodg**	**2.17**	**282**	Pn	**Pn**	**17 44 41.5**	**-0.3**
L19K	**White Mountain**	**2.44**	**288**	Pn	**Pn**	**17 44 45.0**	**-0.5**
K20K	**Telida**	**2.68**	**316**	Pn	**Pn**	**17 44 48.6**	**-0.2**
TTA	**Tatalina**	**3.19**	**299**	Pn	**Pn**	**17 44 55.5**	**-0.4**
WAX	**Waxell Ridge**	**3.60**	**104**	Pn	**Pn**	**17 45 00.6**	**-0.9**
M17K	**Holitna River**	**3.62**	**272**	Pn	**Pn**	**17 45 01.3**	**-0.4**
J18K	**Innoko River**	**3.72**	**305**	Pn	**Pn**	**17 45 02.8**	**-0.2**
J16K	**Anvik River**	**5.28**	**294**	Pn	**Pn**	**17 45 24.1**	**-0.4**
K15K	**Wolf Creek Mou**	**5.55**	**283**	Pn	**Pn**	**17 45 28.1**	**-0.1**

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*NEIC **30** 17:44:36.8±0.8,61°.44N±0°.03×149°.99W±0°.04,h33km±9km, Error ellipse: s-maj=4.6km s-min=2.4km az=170.0*
AEIC 30 17:44:37.7±0.9,61°.43N±0°.03×149°.98W±0°.04,h32km±7km, ML3.3,ML3.6/28(NEIC),Error ellipse: s-maj=4.6km s-min=2.8km az=179.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.33**	**348**		Pb	17 44 44.3	-1.5
M22K				IAML		17 44 54.7	
	comp=E,6μm,1.3s						
M22K				IAML		17 44 59.9	
	comp=N,4μm,0.8s						
M22K	**Willow**	**0.33**	**348**		Sn	17 44 51.5	-0.3
RC01	**Rabbit Creek A**	**0.36**	**161**		Pb	17 44 44.9	-1.4
RC01				IAML		17 44 52.6	
	comp=N,4μm,0.3s						
SUA	**Susitna One**	**0.37**	**275**		Pb	17 44 45.7	-0.7
SUA					Sb	17 44 52.7	+0.3
SUA	**Susitna One**	**0.37**	**275**	IAML		17 44 53.4	
	comp=E,1μm,0.3s						
SUA				IAML		17 44 53.4	
	comp=N,671nm,0.3s						
PMR	**Palmer**	**0.44**	**68**		Pb	17 44 46.2	-1.1
PMR					Sb	17 44 53.7	-0.1
PMR	**Palmer**	**0.44**	**68**	IAML		17 44 54.1	
	comp=E,1μm,1.2s						
PMR				IAML		17 44 54.2	
	comp=N,2μm,0.6s						
GHO	**Glory Hole Cre**	**0.61**	**56**		Pb	17 44 48.9	-1.2
GHO					Sb	17 44 58.5	0.0
GHO	**Glory Hole Cre**	**0.61**	**56**	IAML		17 44 59.2	
	comp=E,3μm,0.4s						
KNK	**Knik Glacier**	**0.73**	**91**		Pn	17 44 50.6	-1.2
KNK					Sb	17 45 01.5	-0.3
KNK	**Knik Glacier**	**0.73**	**91**	IAML		17 45 05.2	
	comp=E,1μm,0.3s						
SML	**Sawmill**	**0.87**	**64**		Pn	17 44 52.8	-0.9
SML					Sn	17 45 05.0	-0.4
SML	**Sawmill**	**0.87**	**64**	IAML		17 45 06.4	
	comp=E,1μm,0.8s						
SML				IAML		17 45 08.8	
	comp=N,2μm,1.1s						
CAPN	**Captain Cook N**	**0.88**	**221**		Pn	17 44 53.3	-0.5
STLK	**Strandline Lak**	**0.89**	**275**		Pn	17 44 53.2	-0.8
STLK					Sn	17 45 05.0	-0.8
SKT	**Skwentna**	**0.92**	**307**		Pn	17 44 53.2	-1.2
SKT					Sn	17 45 06.1	-0.4
SKT	**Skwentna**	**0.92**	**307**	IAML		17 45 06.9	
	comp=N,3μm,0.5s						
SKT				IAML		17 45 07.5	
	comp=E,1μm,0.6s						
SLKM	**Skilak Lake**	**0.94**	**187**		Pn	17 44 53.4	-1.2
O22K	**Cooper Landing**	**0.96**	**172**	Pn	Pn	17 44 53.6	-1.3
PWL	**Port Wells**	**0.98**	**125**		Pn	17 44 54.3	-0.9
PWL	**Port Wells**	**0.98**	**125**	IAML		17 45 10.0	
	comp=E,2μm,0.4s						
CUT	**Chulitna**	**0.98**	**352**		Pn	17 44 54.2	-1.0
CUT	**Chulitna**	**0.98**	**352**	IAML		17 45 09.0	
	comp=E,3μm,0.9s						
SPCG	**Spurr Capps Gl**	**0.99**	**263**		Pn	17 44 54.4	-1.1
SPCP	**Crater Peak Br**	**1.06**	**262**		Pn	17 44 55.4	-1.1
SPCR	**Spurr Chakacha**	**1.10**	**259**		Pn	17 44 55.7	-1.2
SPCR	**Spurr Chakacha**	**1.10**	**259**		Pn	17 44 55.8	-1.1
SCM	**Sheep Creek Mo**	**1.33**	**71**	Pn	Pn	17 44 59.0	-1.0
SCM				IAML		17 45 19.3	
	comp=N,1μm,0.6s						
GLI	**Glacier Island**	**1.50**	**110**	Pn	Pn	17 45 01.1	-1.3
GLI				IAML		17 45 22.4	
	comp=N,1μm,0.2s						
GLI				IAML		17 45 22.5	
	comp=E,1μm,0.5s						
CNPM	**China Poot**	**2.01**	**199**	Pn	Pn	17 45 07.5	-1.9
N19K	**Bonanza Creek**	**2.27**	**256**	Pn	Pn	17 45 12.0	-1.0
L19K	**White Mountain**	**2.43**	**290**	Pn	Pn	17 45 14.5	-0.6
O19K	**Port Alsworth**	**2.46**	**242**	Pn	Pn	17 45 14.9	-0.6
SVW2	**Sparrevohn**	**2.73**	**265**	Pn	Pn	17 45 18.2	-1.0
N18K	**Kilae Creek**	**2.97**	**258**	Pn	Pn	17 45 21.7	-0.9
O18K	**Koktuh Hills**	**3.02**	**241**	Pn	Pn	17 45 22.1	-1.1
M17K	**Holitna River**	**3.58**	**273**	Pn	Pn	17 45 30.3	-0.7
N17K	**Nushagak Hills**	**3.63**	**259**	Pn	Pn	17 45 30.7	-0.9
I21K	**Tanana**	**3.87**	**347**	Pn	Pn	17 45 34.9	+0.1

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*NEIC **30** 17:48:20.2±0.9,61°.35N±0°.02×150°.01W±0°.05,h40km±8km, Error ellipse: s-maj=4.4km s-min=2.4km az=53.0*
*AEIC **30** 17:48:21.2±1.0,61°.36N±0°.03×150°.06W±0°.05,h31km±7km, ML3.5,ML3.8/66(NEIC),Error ellipse: s-maj=3.8km s-min=3.3km az=208.0*
ISC 30 17:48:20.8±1.2,61°.36N±0°.03×150°.01W±0°.03,h42km, n116,σ0=74/114,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.30**	**154**		**Sn**	**17 48 35.3**	**+0.2**
RC01	**Rabbit Creek A**	**0.30**	**154**		**Pn**	**17 48 27.9**	**-1.3**
RC01				IAML		17 48 36.5	
	comp=N,4μm,0.4s						
RC01				IAML		17 48 39.5	
	comp=E,2μm,0.2s						
RC01	**Rabbit Creek A**	**0.30**	**154**	S	**Sn**	**17 48 35.3**	**+0.2**
	baz=331						
SUA	**Susitna One**	**0.37**	**286**		**Pn**	**17 48 29.6**	**-0.5**
SUA	**Susitna One**	**0.37**	**286**	IAML		17 48 37.4	
	comp=N,2μm,0.7s						
SUA				IAML		17 48 37.4	
	comp=E,4μm,0.7s						
M22K	**Willow**	**0.40**	**352**		**Pn**	**17 48 29.3**	**-0.9**
M22K	**Willow**	**0.40**	**352**	IAML		17 48 38.0	
	comp=E,3μm,0.4s						
M22K				IAML		17 48 40.1	
	comp=N,3μm,0.5s						
M22K	**Willow**	**0.40**	**352**	P	**Pn**	**17 48 29.3**	**-0.9**
	baz=175						
PMR	**Palmer**	**0.48**	**61**	Pn	**Pn**	**17 48 30.1**	**-1.2**
PMR				IAML		17 48 39.3	
	comp=N,3μm,0.2s						
PMR	**Palmer**	**0.48**	**61**		**Sn**	**17 48 38.4**	**-0.3**
GHO	**Glory Hole Cre**	**0.66**	**51**	Pn	**Pn**	**17 48 32.5**	**-1.4**
GHO				IAML		17 48 44.4	
	comp=N,3μm,0.3s						
GHO				IAML		17 48 44.4	
	comp=E,4μm,0.4s						
KNK	**Knik Glacier**	**0.75**	**85**	Pn	**Pn**	**17 48 34.1**	**-0.8**
CAPN	**Captain Cook N**	**0.82**	**224**	Pn	**Pn**	**17 48 35.3**	**-0.5**
CAPN				IAML		17 48 50.7	
	comp=N,5μm,0.4s						
SLKM	**Skilak Lake**	**0.86**	**187**		**Pn**	**17 48 36.1**	**-0.4**
O22K	**Cooper Landing**	**0.90**	**171**		**Pn**	**17 48 36.0**	**-0.9**
O22K	**Cooper Landing**	**0.90**	**171**	IAML		17 48 54.2	
	comp=E,3μm,0.3s						
O22K				IAML		17 48 54.5	
	comp=N,3μm,0.3s						
O22K	**Cooper Landing**	**0.90**	**171**	P	**Pn**	**17 48 36.0**	**-0.9**
	baz=350						
SML	**Sawmill**	**0.92**	**60**		**Pn**	**17 48 36.6**	**-0.6**
SML					**Sn**	**17 48 49.8**	**+0.5**
SML	**Sawmill**	**0.92**	**60**	IAML		17 48 50.7	
	comp=E,1μm,0.7s						
SML	**Sawmill**	**0.92**	**60**	P	**Pn**	**17 48 36.6**	**-0.6**
	baz=242						
SML				S	**Sn**	**17 48 49.8**	**+0.5**
	baz=242						
PWL	**Port Wells**	**0.96**	**121**		**Pn**	**17 48 37.5**	**-0.3**
PWL					**Sn**	**17 48 51.5**	**+1.3**
PWL	**Port Wells**	**0.96**	**121**	IAML		17 48 51.9	
	comp=N,4μm,0.4s						
PWL				IAML		17 48 52.4	
	comp=E,4μm,0.5s						
PWL	**Port Wells**	**0.96**	**121**	P	**Pn**	**17 48 37.5**	**-0.3**
	baz=302						
PWL				S	**Sn**	**17 48 51.5**	**+1.3**
	baz=302						
SKT	**Skwentna**	**0.96**	**311**		**Sn**	**17 48 50.4**	**+0.2**
SKT	**Skwentna**	**0.96**	**311**	Pn	**Pn**	**17 48 36.7**	**-1.0**
SKT				IAML		17 48 50.8	
	comp=N,4μm,0.5s						
SKT				IAML		17 48 50.8	
	comp=E,4μm,0.6s						
SKT	**Skwentna**	**0.96**	**311**	S	**Sn**	**17 48 50.4**	**+0.2**
	baz=131						
SPCG	**Spurr Capps Gl**	**0.97**	**267**		**Pn**	**17 48 37.6**	**-0.5**
CUT	**Chulitna**	**1.05**	**353**	Pn	**Pn**	**17 48 38.4**	**-0.7**
N20K	**Mount Spurr**	**1.08**	**262**	P	**Pn**	**17 48 38.9**	**-0.6**
	baz=80						
SPCR	**Spurr Chakacha**	**1.08**	**262**		**Pn**	**17 48 38.9**	**-0.6**
M23K	**Glacier View**	**1.17**	**67**		**Pn**	**17 48 40.6**	**-0.1**
M23K	**Glacier View**	**1.17**	**67**	P	**Pn**	**17 48 40.6**	**-0.1**
	baz=250						
SEW	**Seward**	**1.29**	**168**		**Pn**	**17 48 41.3**	**-1.0**
SEW	**Seward**	**1.29**	**168**	P	**Pn**	**17 48 43.5**	**+1.2**
	baz=347						
SCM	**Sheep Creek Mo**	**1.36**	**69**		**Pn**	**17 48 43.0**	**-0.4**
SCM	**Sheep Creek Mo**	**1.36**	**69**	P	**Pn**	**17 48 43.5**	**+0.1**
	baz=251						
RDT	**Redoubt**	**1.41**	**237**		**Pn**	**17 48 43.3**	**-0.7**
GLI	**Glacier Island**	**1.49**	**108**		**Pn**	**17 48 44.2**	**-0.8**
GLI	**Glacier Island**	**1.49**	**108**	IAML		17 49 33.0	
	comp=N,2μm,0.5s						
GLI	**Glacier Island**	**1.49**	**108**	P	**Pn**	**17 48 44.2**	**-0.8**
	baz=290						
M20K	**Styx River**	**1.58**	**291**	Pn	**Pn**	**17 48 46.3**	**-0.1**
M20K				IAML		17 49 36.8	
	comp=E,883nm,0.8s						
M20K				IAML		17 49 37.2	
	comp=N,739nm,0.6s						
RDWB	**Redoubt West**	**1.64**	**239**		**Pn**	**17 48 46.8**	**-0.4**
BRLK	**Bradley Lake**	**1.66**	**196**		**Pn**	**17 48 46.7**	**-0.7**
BRLK				IAML		17 49 41.1	
	comp=E,1μm,0.4s						
BRLK				IAML		17 49 42.1	
	comp=N,1μm,0.5s						
FID	**Port Fidalgo**	**1.82**	**108**	Pn	**Pn**	**17 48 48.2**	**-1.4**
FID				IAML		17 49 42.8	
	comp=E,1μm,0.4s						
HOM	**Homer**	**1.89**	**206**	Pn	**Pn**	**17 48 49.9**	**-0.6**
CNPM	**China Poot**	**1.94**	**199**	Pn	**Pn**	**17 48 50.4**	**-0.8**
CNPM				IAML		17 49 49.3	
	comp=E,1μm,0.8s						
CNPM				IAML		17 49 50.2	
	comp=N,803nm,0.4s						
KLU	**Klutina**	**1.97**	**84**	Pn	**Pn**	**17 48 50.8**	**-0.8**
KLU				IAML		17 49 43.5	
	comp=N,1μm,0.5s						
KLU				IAML		17 49 44.9	
	comp=E,732nm,0.6s						
HIN	**Hinchinbrook I**	**1.97**	**118**	Pn	**Pn**	**17 48 50.9**	**-0.7**
M24K	**Tolsona, Glenn**	**1.97**	**66**	Pn	**Pn**	**17 48 51.5**	**-0.1**
ILSW	**Iliamna Southw**	**2.07**	**229**	Pn	**Pn**	**17 48 52.6**	**-0.5**
ILSW				IAML		17 50 08.9	
	comp=N,364nm,0.8s						
DHY	**Denali Highway**	**2.12**	**34**	Pn	**Pn**	**17 48 53.6**	**-0.1**
DHY				IAML		17 49 49.5	
	comp=N,748nm,0.3s						
DHY				IAML		17 49 50.1	
	comp=E,864nm,0.8s						
RND	**Reindeer**	**2.12**	**14**	Pn	**Pn**	**17 48 53.3**	**-0.4**
RND				IAML		17 49 56.3	
	comp=N,448nm,0.7s						
RND				IAML		17 49 58.2	
	comp=E,400nm,0.6s						
M19K	**Big River Lodg**	**2.16**	**286**	Pn	**Pn**	**17 48 53.8**	**-0.4**
M19K				IAML		17 50 02.5	
	comp=E,388nm,1.1s						
EYAK	**Cordova Ski Ar**	**2.23**	**110**		**Pn**	**17 48 56.2**	**+1.0**
KTH	**Kantishna Hill**	**2.24**	**349**	Pn	**Pn**	**17 48 55.5**	**+0.1**
KTH				IAML		17 49 50.9	
	comp=N,787nm,0.6s						
KTH				IAML		17 49 52.1	
	comp=E,595nm,0.6s						
N19K	**Bonanza Creek**	**2.24**	**258**	Pn	**Pn**	**17 48 55.1**	**-0.4**
CAST	**Castle Rocks**	**2.28**	**336**	Pn	**Pn**	**17 48 55.3**	**-0.6**
P19K	**Oil Pt**	**2.34**	**224**	Pn	**Pn**	**17 48 55.9**	**-0.8**
O19K	**Port Alsworth**	**2.42**	**243**	Pn	**Pn**	**17 48 56.5**	**-1.2**
O19K				IAML		17 50 06.3	
	comp=N,740nm,0.5s						
L19K	**White Mountain**	**2.45**	**292**	Pn	**Pn**	**17 48 58.2**	**0.0**
L19K				IAML		17 50 10.0	
	comp=E,335nm,1.1s						
L19K				IAML		17 50 13.2	
	comp=N,260nm,0.8s						
HARP	**HAARP**	**2.52**	**64**	S	**Sn**	**17 49 27.9**	**-0.7**
	baz=250						
N25K	**Chitina, Valde**	**2.61**	**82**	Pn	**Pn**	**17 49 00.4**	**0.0**
N25K				IAML		17 50 05.2	
	comp=E,349nm,0.3s						
N25K				IAML		17 50 07.9	
	comp=N,560nm,0.6s						
N25K	**Chitina, Valde**	**2.61**	**82**	S	**Sn**	**17 49 30.6**	**-0.2**
	baz=269						
SVW2	**Sparrevohn**	**2.71**	**267**	Pn	**Pn**	**17 49 01.2**	**-0.5**
K20K	**Telida**	**2.76**	**318**	Pn	**Pn**	**17 49 02.3**	**-0.1**
BPAW	**Bear Paw Mtn.**	**2.79**	**351**	Pn	**Pn**	**17 49 02.2**	**-0.6**
RAGM	**Ragged Mountai**	**2.79**	**108**	Pn	**Pn**	**17 49 02.9**	**0.0**
N18K	**Kilae Creek**	**2.94**	**259**	Pn	**Pn**	**17 49 04.5**	**-0.5**
O18K	**Koktuh Hills**	**2.98**	**242**	Pn	**Pn**	**17 49 04.7**	**-0.8**
GLB	**Gilahina Butte**	**2.98**	**86**	Pn	**Pn**	**17 49 04.3**	**-1.2**
HMT	**Hamilton**	**2.99**	**108**	Pn	**Pn**	**17 49 04.9**	**-0.8**
SYI	**Shuyak Island**	**3.01**	**204**	Pn	**Pn**	**17 49 05.3**	**-0.5**
Q19K	**Cape Douglas,**	**3.04**	**218**	Pn	**Pn**	**17 49 05.7**	**-0.7**
VRDI	**Verde Repeater**	**3.17**	**90**	Pn	**Pn**	**17 49 07.6**	**-0.6**
**T

I17K	**Unalakleet**	**5.54**	**302**	Pn	**Pn**	**17 49 40.6**	**0.0**
H17K	**Granite Mounta**	**5.74**	**313**	Pn	**Pn**	**17 49 42.9**	**-0.4**
M14K	**Bethel**	**5.84**	**269**	Pn	**Pn**	**17 49 44.5**	**-0.1**
L14K	**Kuka Creek**	**6.10**	**275**	Pn	**Pn**	**17 49 48.5**	**+0.3**
P29M	**Windy Craggy**	**6.31**	**101**	Pn	**Pn**	**17 49 50.9**	**-0.2**
J14K	**Nanvaranak Lak**	**6.52**	**288**	Pn	**Pn**	**17 49 53.5**	**-0.5**
M13K	**Dall Lake**	**6.58**	**268**	Pn	**Pn**	**17 49 55.5**	**+0.7**
TOLK	**Toolik Lake Re**	**7.31**	**1**	Pn	**Pn**	**17 50 08.0**	**+3.1**
E18K	**Tukpahlearik C**	**7.61**	**328**	Pn	**Pn**	**17 50 10.0**	**+1.1**
ANM	**Nome**	**7.70**	**301**	Pn	**Pn**	**17 50 10.8**	**+0.6**

*IDC **30** 17:48:40.9±1.2, 61°.65N×150°.10W, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=54.8km s-min=25.8km az=31.0*

ISC 30 17:48:46.9±0.8, 61°.49N±0°.06×149°.97W±0°.04, h42km, n22, σ1°09/21, mb4.0/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.27**	**344**	S	**Sn**	**17 49 02.2**	**+1.6**
	baz=164						
M22K	**Willow**	**0.27**	**344**	P	**Pn**	**17 48 55.6**	**+0.7**
	baz=164						
PMR	**Palmer**	**0.41**	**76**	S	**Sn**	**17 49 03.9**	**+0.6**
	baz=253						
PMR	**Palmer**	**0.41**	**76**	P	**Pn**	**17 48 56.5**	**0.0**
	baz=253						
RC01	**Rabbit Creek A**	**0.42**	**165**	S	**Sn**	**17 49 03.8**	**+0.3**
	baz=345						
KNK	**Knik Glacier**	**0.73**	**96**	S	**Sn**	**17 49 11.8**	**+1.1**
	baz=275						
KNK	**Knik Glacier**	**0.73**	**96**	P	**Pn**	**17 49 00.8**	**+0.1**
	baz=275						
SML	**Sawmill**	**0.84**	**67**	S	**Sn**	**17 49 14.5**	**+1.0**
	baz=247						
SML	**Sawmill**	**0.84**	**67**	P	**Pn**	**17 49 02.5**	**+0.2**
	baz=247						
SKT	**Skwentna**	**0.89**	**304**	P	**Pn**	**17 49 03.8**	**+0.9**
	baz=124						
CUT	**Chulitna**	**0.93**	**351**	P	Pn	17 49 04.4	+1.0
	baz=171						
PWL	**Port Wells**	**1.01**	**128**	S	**Sn**	**17 49 18.9**	**+1.2**
	baz=309						
PWL	**Port Wells**	**1.01**	**128**	P	**Pn**	**17 49 05.1**	**+0.5**
	baz=309						
N20K	**Mount Spurr**	**1.12**	**256**	P	**Pn**	**17 49 07.0**	**+0.9**
	baz=75						
SCM	**Sheep Creek Mo**	**1.30**	**74**	P	**Pn**	**17 49 09.7**	**+1.0**
	baz=255						
PDAR	**Pinedale Array**	**30.39**	**109**	P	**P**	**17 54 56.2**	**+1.3**
	1.3nm,0.8s,baz=328,slow=3.2,SNR=6.1 1.3nm,0.8s						
KSRS	**Korea Array**	**54.29**	**284**	P	**P**	**17 58 08.3**	**-0.1**
	1.5nm,0.8s,baz=32,slow=6.6,SNR=4.4 1.5nm,0.8s						
SONM	**Songino Array**	**55.10**	**307**	P	**P**	**17 58 14.8**	**+0.4**
	1.1nm,0.8s,baz=40,slow=4.7,SNR=3.1 1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**57.03**	**325**	P	**P**	**17 58 26.6**	**-1.3**
	0.5nm,0.3s,baz=39,slow=8.8,SNR=2.2 0.5nm,0.3s						
MKAR	**Makanchi Array**	**64.17**	**323**	P	**P**	**17 59 14.1**	**-2.6**
	2.5nm,0.9s,baz=19,slow=5.2,SNR=2.9 2.5nm,0.9s						
AKASG	**Malin Array Be**	**68.16**	**1**	P	**P**	**17 59 41.4**	**-0.6**
	0.5nm,0.4s,baz=1.7,slow=6.4,SNR=3.4 0.5nm,0.4s						
QSPA	**South Pole Qui**	**151.30**	**180**	PKPbc	**PKiKP**	**18 08 33.6**	**-1.0**
	1.7nm,0.8s,baz=127,slow=5.1,SNR=1.2						

*NEIC **30** 17:49:42.4±0.9, 61°.44N±0°.03×149°.92W±0°.03, h49km±4km, Error ellipse: s-maj=3.8km s-min=1.8km az=188.0*
*AEIC **30** 17:49:43.1±0.8, 61°.43N±0°.03×149°.90W±0°.05, h43km±4km, ML3.4, ML3.6/32(NEIC), Error ellipse: s-maj=3.7km s-min=3.1km az=161.0*

ISC 30 17:49:42.4±1.3, 61°.44N±0°.03×149°.90W±0°.03, h48km±8km, n54, σ0°65/58, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.33**	**342**		**Pn**	**17 49 51.3**	**-0.3**
M22K					**Sn**	**17 49 58.8**	**+0.6**
M22K	**Willow**	**0.33**	**342**	IAML		17 49 59.2	
	comp=E,10μm,0.5s						
M22K				IAML		17 49 59.2	
	comp=N,12μm,0.8s						
M22K	**Willow**	**0.33**	**342**	P	**Pn**	**17 49 51.2**	**-0.4**
	baz=162						
M22K				S	**Sn**	**17 49 58.8**	**+0.6**
	baz=162						
RC01	**Rabbit Creek A**	**0.36**	**167**		**Pn**	**17 49 51.5**	**-0.4**
RC01					**Sn**	**17 49 59.0**	**+0.4**
RC01	**Rabbit Creek A**	**0.36**	**167**	IAML		17 49 59.3	
	comp=N,3μm,0.4s						
RC01				IAML		17 49 59.5	
	comp=E,4μm,0.2s						
RC01	**Rabbit Creek A**	**0.36**	**167**	P	**Pn**	**17 49 51.5**	**-0.4**
	baz=348						
RC01				S	**Sn**	**17 49 59.0**	**+0.4**
	baz=348						
PMR	**Palmer**	**0.40**	**67**		**Pn**	**17 49 51.9**	**-0.4**
PMR					**Sn**	**17 49 59.4**	**+0.1**
PMR	**Palmer**	**0.40**	**67**	IAML		17 50 00.2	
	comp=E,2μm,0.5s						
PMR				IAML		17 50 00.5	
	comp=N,2μm,0.4s						
PMR	**Palmer**	**0.40**	**67**	P	**Pn**	**17 49 51.9**	**-0.4**
	baz=246						
PMR				S	**Sn**	**17 49 59.4**	**+0.1**
	baz=246						
SUA	**Susitna One**	**0.41**	**274**		**Pn**	**17 49 52.4**	**-0.1**
SUA					**Sn**	**17 50 00.4**	**+0.6**
SUA	**Susitna One**	**0.41**	**274**	IAML		17 50 00.8	
	comp=E,4μm,0.7s						
SUA	**Susitna One**	**0.41**	**274**	P	**Pn**	**17 49 52.3**	**-0.3**
	baz=94						
SUA				S	**Sn**	**17 50 00.5**	**+0.6**
	baz=94						
GHO	**Glory Hole Cre**	**0.57**	**54**		**Pn**	**17 49 54.3**	**-0.2**
GHO					**Sn**	**17 50 04.0**	**+0.8**
GHO	**Glory Hole Cre**	**0.57**	**54**	IAML		17 50 05.1	
	comp=E,3μm,0.3s						
KNK	**Knik Glacier**	**0.69**	**91**		**Pn**	**17 49 55.8**	**-0.1**
KNK					**Sn**	**17 50 07.2**	**+1.4**
KNK	**Knik Glacier**	**0.69**	**91**	IAML		17 50 09.5	
	comp=E,3μm,0.5s						
KNK	**Knik Glacier**	**0.69**	**91**	P	**Pn**	**17 49 56.0**	**0.0**
	baz=272						
KNK				S	**Sn**	**17 50 07.3**	**+1.4**
	baz=272						
SML	**Sawmill**	**0.83**	**63**	Pn	**Pn**	**17 49 57.8**	**-0.1**
SML	**Sawmill**	**0.83**	**63**		**Sn**	**17 50 10.2**	**+1.0**
SML	**Sawmill**	**0.83**	**63**	IAML		17 50 10.6	
	comp=N,1μm,0.6s						
SML				IAML		17 50 12.0	
	comp=E,2μm,0.8s						
CAPN	**Captain Cook N**	**0.91**	**223**		**Pn**	**17 49 59.1**	**+0.3**
CAPN	**Captain Cook N**	**0.91**	**223**	P	**Pn**	**17 49 59.7**	**+0.9**
	baz=42						
STLK	**Strandline Lak**	**0.93**	**275**		**Pn**	**17 49 59.2**	**0.0**
STLK					**Sn**	**17 50 12.0**	**+0.5**
SLKM	**Skilak Lake**	**0.95**	**190**		**Pn**	**17 49 59.0**	**-0.3**
SLKM					**Sn**	**17 50 11.8**	**0.0**
SKT	**Skwentna**	**0.95**	**306**		**Pn**	**17 49 59.2**	**-0.1**
SKT					**Sn**	**17 50 12.3**	**+0.4**
SKT	**Skwentna**	**0.95**	**306**	IAML		17 50 14.0	
	comp=E,1μm,0.6s						
PWL	**Port Wells**	**0.95**	**127**	Pn	**Pn**	**17 49 59.2**	**-0.2**
PWL	**Port Wells**	**0.95**	**127**		**Sn**	**17 50 12.8**	**+0.9**
PWL	**Port Wells**	**0.95**	**127**	IAML		17 50 13.4	
	comp=E,3μm,0.5s						
PWL				IAML		17 50 14.2	
	comp=N,4μm,0.4s						
O22K	**Cooper Landing**	**0.96**	**175**	Pn	**Pn**	**17 49 59.9**	**+0.4**
O22K				IAML		17 50 19.8	
	comp=E,2μm,0.3s						
O22K				IAML		17 50 22.1	
	comp=N,2μm,0.6s						
CUT	**Chulitna**	**0.99**	**350**		**Pn**	**17 50 00.0**	**+0.2**
CUT	**Chulitna**	**0.99**	**350**	IAML		17 50 14.4	
	comp=E,2μm,0.3s						
CUT				IAML		17 50 15.4	
	comp=N,2μm,1.0s						
SPCG	**Spurr Capps Gl**	**1.03**	**263**		**Pn**	**17 50 00.7**	**+0.1**
M23K	**Glacier View**	**1.10**	**70**		**Pn**	**17 50 01.4**	**0.0**
SPCP	**Crater Peak Br**	**1.10**	**262**		**Pn**	**17 50 01.6**	**+0.1**
SPCR	**Spurr Chakacha**	**1.14**	**259**		**Pn**	**17 50 01.7**	**-0.2**
SPCR	**Spurr Chakacha**	**1.14**	**259**		**Pn**	**17 50 01.8**	**-0.2**
SCM	**Sheep Creek Mo**	**1.29**	**71**	Pn	**Pn**	**17 50 04.3**	**+0.2**
SCM				IAML		17 50 22.8	
	comp=E,1μm,0.8s						
GLI	**Glacier Island**	**1.47**	**111**	Pn	**Pn**	**17 50 06.8**	**+0.4**
GLI				IAML		17 50 32.3	
	comp=E,1μm,0.3s						
M20K	**Styx River**	**1.61**	**288**	Pn	**Pn**	**17 50 08.7**	**+0.3**
FID	**Port Fidalgo**	**1.80**	**111**	Pn	**Pn**	**17 50 10.1**	**-0.8**
FID				IAML		17 50 43.0	
	comp=E,458nm,0.5s						
M24K	**Tolsona, Glenn**	**1.89**	**68**	Pn	**Pn**	**17 50 12.5**	**+0.2**
DHY	**Denali Highway**	**2.02**	**35**	Pn	**Pn**	**17 50 14.1**	**-0.1**
CNPM	**China Poot**	**2.03**	**200**	Pn	**Pn**	**17 50 14.2**	**+0.1**
M19K	**Big River Lodg**	**2.19**	**284**	Pn	**Pn**	**17 50 16.0**	**-0.3**
N19K	**Bonanza Creek**	**2.31**	**256**	Pn	**Pn**	**17 50 17.7**	**-0.3**
L19K	**White Mountain**	**2.47**	**290**	Pn	**Pn**	**17 50 19.8**	**-0.3**
N18K	**Kilae Creek**	**3.01**	**258**	Pn	**Pn**	**17 50 26.4**	**-1.2**
M17K	**Holitna River**	**3.62**	**273**	Pn	**Pn**	**17 50 35.5**	**-0.4**
N17K	**Nushagak Hills**	**3.67**	**259**	Pn	**Pn**	**17 50 36.0**	**-0.5**
J26L	**Joseph Creek**	**4.22**	**40**	Pn	**Pn**	**17 50 43.3**	**-0.9**
LOGN	**Logan Glacier**	**4.36**	**94**	Pn	**Pn**	**17 50 43.9**	**-2.3**
M16K	**Timber Creek**	**4.40**	**269**	Pn	**Pn**	**17 50 46.2**	**-0.3**
O16K	**Kokwok River B**	**4.45**	**249**	Pn	**Pn**	**17 50 45.8**	**-1.5**

*NEIC **30** 17:51:34.8±0.7, 61°.52N±0°.04×149°.94W±0°.05, h50km±3km, Error ellipse: s-maj=5.3km s-min=3.1km az=172.0*
*AEIC **30** 17:51:35.7±0.6, 61°.52N±0°.03×149°.92W±0°.04, h37km±7km, ML3.2, ML3.3/140(NEIC), Error ellipse: s-maj=4.6km s-min=2.7km az=200.0*

ISC 30 17:51:35.2±1.2, 61°.53N±0°.03×149°.93W±0°.02, h42km±8km, n130, σ0°57/133, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.25**	**338**		**Pn**	**17 51 42.4**	**-0.6**
M22K	**Willow**	**0.25**	**338**		**Sn**	**17 51 49.2**	**+0.8**
M22K	**Willow**	**0.25**	**338**	IAML		17 51 49.6	
	comp=N,9μm,0.5s						
M22K				IAML		17 51 49.6	
	comp=E,10μm,0.7s						
M22K	**Willow**	**0.25**	**338**	P	**Pn**	**17 51 42.5**	**-0.5**
	baz=158						
M22K				S	**Sn**	**17 51 49.2**	**+0.8**
	baz=158						
PMR	**Palmer**	**0.39**	**80**		**Pn**	**17 51 43.8**	**-0.7**
PMR	**Palmer**	**0.39**	**80**		**Sn**	**17 51 51.4**	**+0.4**
PMR	**Palmer**	**0.39**	**80**	IAML		17 51 52.0	
	comp=N,4μm,0.2s						
PMR				IAML		17 51 52.1	
	comp=E,6μm,0.3s						
PMR	**Palmer**	**0.39**	**80**	P	**Pn**	**17 51 44.0**	**-0.5**
	baz=260						
PMR				S	**Sn**	**17 51 51.4**	**+0.4**
	baz=260						
SUA	**Susitna One**	**0.40**	**261**		**Pn**	**17 51 44.5**	**-0.3**
SUA					**Sn**	**17 51 52.3**	**+0.7**
SUA	**Susitna One**	**0.40**	**261**	IAML		17 51 53.0	
	comp=E,3μm,0.9s						
SUA				IAML		17 51 53.0	
	comp=N,2μm,0.9s						
SUA	**Susitna One**	**0.40**	**261**	P	**Pn**	**17 51 44.5**	**-0.3**
	baz=81						
SUA				S	**Sn**	**17 51 52.3**	**+0.7**
	baz=81						
RC01	**Rabbit Creek A**	**0.45**	**168**		**Pn**	**17 51 44.6**	**-0.7**
RC01				IAML		17 51 53.8	
	comp=E,3μm,0.2s						
RC01				IAML		17 51 54.3	
	comp=N,3μm,0.2s						
RC01	**Rabbit Creek A**	**0.45**	**168**	P	**Pn**	**17 51 44.8**	**-0.4**
	baz=349						
RC01				S	**Sn**	**17 51 53.0**	**+0.6**
	baz=349						
GHO	**Glory Hole Cre**	**0.54**	**62**		**Sn**	**17 51 55.4**	**+0.8**
GHO	**Glory Hole Cre**	**0.54**	**62**	Pn	**Pn**	**17 51 46.0**	**-0.6**
GHO	**Glory Hole Cre**	**0.54**	**62**	IAML		17 51 55.5	
	comp=E,2μm,0.4s						
GHO				IAML		17 51 56.0	
	comp=N,2μm,0.4s						
KNK	**Knik Glacier**	**0.71**	**98**	Pn	**Pn**	**17 51 48.5**	**-0.3**
KNK				IAML		17 52 02.6	
	comp=E,2μm,0.3s						
KNK	**Knik Glacier**	**0.71**	**98**	P	**Pn**	**17 51 48.7**	**-0.2**
	baz=280						
SML	**Sawmill**	**0.81**	**69**		**Pn**	**17 51 49.4**	**-0.8**
SML				IAML		17 52 04.3	
	comp=E,661nm,0.4s						
SML				IAML		17 52 04.3	
	comp=N,1μm,0.2s						
SML	**Sawmill**	**0.81**	**69**	P	**Pn**	**17 51 49.5**	**-0.8**
	baz=250						
SML				S	**Sn**	**17 52 02.3**	**+1.2**
	baz=250						
SKT	**Skwentna**	**0.89**	**302**	Pn	**Pn**	**17 51 50.4**	**-0.9**
SKT				IAML		17 52 04.4	
	comp=E,2μm,0.5s						
SKT	**Skwentna**	**0.89**	**302**		**Sn**	**17 52 02.6**	**-0.4**
SKT	**Skwentna**	**0.89**	**302**	P	**Pn**	**17 51 51.1**	**-0.1**
	baz=120						
SKT				S	**Sn**	**17 52 02.6**	**-0.4**
	baz=120						
CUT	**Chulitna**	**0.90**	**350**		**Pn**	**17 51 50.8**	**-0.5**
CUT	**Chulitna**	**0.90**	**350**	P	**Pn**	**17 51 50.8**	**-0.5**
	baz=170						
STLK	**Strandline Lak**	**0.92**	**269**		**Pn**	**17 51 51.2**	**-0.4**
STLK					**Sn**	**17 52 03.8**	**+0.1**
CAPN	**Captain Cook N**	**0.97**	**219**	Pn	**Pn**	**17 51 52.5**	**+0.3**
PWL	**Port Wells**	**1.02**	**130**		**Pn**	**17 51 52.9**	**-0.1**
PWL	**Port Wells**	**1.02**	**130**	P	**Pn**	**17 51 52.9**	**-0.1**
	baz=312						
SLKM	**Skilak Lake**	**1.03**	**188**		**Pn**	**17 51 53.1**	**-0.1**
SPCG	**Spurr Capps Gl**	**1.03**	**258**		**Pn**	**17 51 53.3**	**0.0**
O22K	**Cooper Landing**	**1.05**	**175**	Pn	**Pn**	**17 51 53.0**	**-0.4**
O22K	**Cooper Landing**	**1.05**	**175**	P	**Pn**	**17 51 53.2**	**-0.2**
	baz=355						
M23K	**Glacier View**	**1.08**	**75**		**Pn**	**17 51 53.6**	**-0.2**
M23K	**Glacier View**	**1.08**	**75**	P	**Pn**	**17 51 53.6**	**-0.2**
	baz=256						
SPCP	**Crater Peak Br**	**1.10**	**257**		**Pn**	**17 51 54.1**	**-0.1**
N20K	**Mount Spurr**	**1.15**	**254**	P	**Pn**	**17 51 54.6**	**-0.2**
	baz=73						
SPCR	**Spurr Chakacha**	**1.15**	**254**		**Pn**	**17 51 54.6**	**-0.2**
SCM	**Sheep Creek Mo**	**1.28**	**75**		**Pn**	**17 51 56.2**	**-0.4**
SCM	**Sheep Creek Mo**	**1.28**	**75**	P	**Pn**	**17 51 56.6**	**+0.1**
	baz=257						
WAT7	**Susitna Watana**	**1.41**	**21**		**Pn**	**17 51 58.5**	**+0.1**
SEW	**Seward**	**1.45**	**171**		**Pn**	**17 51 58.9**	**+0.1**
SEW	**Seward**	**1.45**	**171**	P	**Pn**	**17 51 58.9**	**+0.1**
	baz=351						
WAT1	**Susitna Watana**	**1.46**	**26**		**Pn**	**17 51 59.1**	**+0.1**
WAT1	**Susitna Watana**	**1.46**	**26**	P	**Pn**	**17 51 59.1**	**+0.1**
	baz=207						
WAT6	**Susitna Watana**	**1.48**	**43**		**Pn**	**17 51 59.4**	**0.0**
WAT6	**Susitna Watana**	**1.48**	**43**	P	**Pn**	**17 51 59.4**	**0.0**
	baz=225						
GLI	**Glacier Island**	**1.52**	**114**	Pn	**Pn**	**17 51 59.1**	**-0.6**
GLI				IAML		17 52 23.7	
	comp=E,602nm,0.4s						
GLI				IAML		17 52 23.7	
	comp=N,738nm,0.6s						
GLI	**Glacier Island**	**1.52**	**114**	P	**Pn**	**17 51 59.3**	**-0.5**
	baz=296						
RDT	**Redoubt**	**1.54**	**233**		**Pn**	**17 51 59.9**	**-0.3**
M20K	**Styx River**	**1.57**	**285**		**Pn**	**17 52 00.9**	**+0.3**
M20K	**Styx River**	**1.57**	**285**	IAML		17 52 22.6	
	comp=N,229nm,1.0s						
M20K				IAML		17 53 04.6	
	comp=E,383nm,0.7s						
M20K	**Styx River**	**1.57**	**285**	P	**Pn**	**17 52 00.9**	**+0.3**
	baz=102						
RDJH	**Redoubt Jeurge**	**1.69**	**237**		**Pn**	**17 52 02.2**	**0.0**
PPLA	**Purkeypile**	**1.74**	**323**		**Pn**	**17 52 02.7**	**-0.2**
PPLA	**Purkeypile**	**1.74**	**323**	P	**Pn**	**17 52 02.7**	**-0.2**
	baz=141						
RDWB	**Redoubt West**	**1.76**	**235**		**Pn**	**17 52 03.1**	**-0.2**
RED	**Redoubt Volcan**	**1.78**	**233**		**Pn**	**17 52 03.1**	**-0.4**
BRLK	**Bradley Lake**	**1.83**	**195**		**Pn**	**17 52 03.6**	**-0.5**
BRLK				IAML		17 52 31.6	
	comp=N,324nm,0.5s						
BRLK				IAML		17 52 31.8	
	comp=E,329nm,0.6s						
BRSE	**Bradley Lake S**	**1.83**	**193**		**Pn**	**17 52 04.2**	**0.0**
BRSE	**Bradley Lake S**	**1.83**	**193**	P	**Pn**	**17 52 04.2**	**0.0**
	baz=12						
FID	**Port Fidalgo**	**1.84**	**113**	Pn	**Pn**	**17 52 03.1**	**-1.2**
FID				IAML		17 52 35.6	
	comp=N,381nm,0.4s						
FID				IAML		17 52 36.4	
	comp=E,425nm,0.6s						
M24K	**Tolsona, Glenn**	**1.87**	**70**		**Pn**	**17 52 04.4**	**-0.4**
M24K				IAML		17 52 37.3	
	comp=N,440nm,0.6s						
KLU	**Klutina**	**1.92**	**89**		**Pn**	**17 52 05.4**	**0.0**
KLU				IAML		17 52 36.9	
	comp=N,327nm,0.5s						
KLU				IAML		17 52 37.1	
	comp=E,252nm,0.4s						
KLU	**Klutina**	**1.92**	**89**	P	**Pn**	**17 52 05.3**	**-0.1**
	baz=273						
RND	**Reindeer**	**1.95**	**14**	Pn	**Pn**	**17 52 05.3**	**-0.5**
RND				IAML		17 52 31.5	
	comp=N,157nm,0.9s						
RND				IAML		17 52 32.3	
	comp=E,144nm,0.4s						
DHY	**Denali Highway**	**1.96**	**36**	Pn	**Pn**	**17 52 05.7**	**-0.3**
DHY				IAML		17 52 34.8	
	comp=E,223nm,0.3s						
DHY				IAML		17 52 36.1	
	comp=N,283nm,0.9s						
DHY	**Denali Highway**	**1.96**	**36**	P	**Pn**	**17 52 05.7**	**-0.3**
	baz=218						
HIN	**Hinchinbrook I**	**2.02**	**123**	Pn	**Pn**	**17 52 06.3**	**-0.4**
HIN				IAML		17 52 41.8	
	comp=N,340nm,0.8s						
HIN				IAML		17 52 45.5	
	comp=E,378nm,0.9s						
HOM	**Homer**	**2.06**	**205**	Pn	**Pn**	**17 52 06.8**	**-0.4**
KTH	**Kantishna Hill**	**2.09**	**348**	Pn	**Pn**	**17 52 07.1**	**-0.6**
KTH				IAML		17 53 18.9	
	comp=E,209nm,0.5s						
KTH				IAML		17 53 19.3	
	comp=N,304nm,0.5s						
L20K	**Farewell, AK**	**2.10**	**299**		**Pn**	**17 52 07.7**	**-0.1**
L20K	**Farewell, AK**	**2.10**	**299**	P	**Pn**	**17 52 07.7**	**-0.1**
	baz=116						
CNPM	**China Poot**	**2.11**	**198**	Pn	**Pn**	**17 52 07.1**	**-0.8**
CNPM				IAML		17 52 38.5	
	comp=E,320nm,0.5s						
CNPM				IAML		17 52 39.2	
	comp=N,309nm,0.5s						
IVE	**Iliamna Volcan**	**2.14**	**226**		**Pn**	**17 52 08.3**	**-0.2**
CAST	**Castle Rocks**	**2.15**	**333**	Pn	**Pn**	**17 52 07.7**	**-0.8**
CAST				IAML		17 53 19.4	
	comp=E,144nm,0.8s						
CAST				IAML		17 53 21.2	
	comp=N,131nm,0.5s						
CAST	**Castle Rocks**	**2.15**	**333**	P	**Pn**	**17 52 08.4**	**-0.1**
	baz=151						
M19K	**Big River Lodg**	**2.16**	**282**	Pn	**Pn**	**17 52 08.5**	**-0.1**
M19K				IAML		17 52 51.7	
	comp=N,132nm,0.7s						
M19K				IAML		17 53 18.5	
	comp=E,134nm,0.8s						
M19K	**Big River Lodg**	**2.16**	**282**	P	**Pn**	**17 52 08.5**	**-0.1**
	baz=98						
ILS	**Iliamna Low So**	**2.20**	**226**		**Pn**	**17 52 09.2**	**-0.1**
ILSW	**Iliamna Southw**	**2.21**	**227**	Pn	**Pn**	**17 52 08.8**	**-0.6**
ILSW				IAML		17 52 56.8	
	comp=E,110nm,0.7s						
EYAK	**Cordova Ski Ar**	**2.26**	**114**		**Pn**	**17 52 09.7**	**-0.2**
EYAK	**Cordova Ski Ar**	**2.26**	**114**	P	**Pn**	**17 52 09.7**	**-0.2**
	baz=298						
MCK	**McKinley**	**2.26**	**11**		**Pn**	**17 52 10.0**	**-0.1**
MCK	**McKinley**	**2.26**	**11**	P	**Pn**	**17 52 10.5**	**+0.5**
	baz=192						
N19K	**Bonanza Creek**	**2.32**	**254**	Pn	**Pn**	**17 52 10.5**	**-0.5**
N19K	**Bonanza Creek**	**2.32**	**254**	P	**Pn**	**17 52 10.8**	**-0.1**
	baz=70						
L19K	**White Mountain**	**2.43**	**288**	Pn	**Pn**	**17 52 12.1**	**-0.2**
L19K				IAML		17 53 25.8	
	comp=E,97nm,0.7s						
P19K	**Oil Pt**	**2.49**	**222**	Pn	**Pn**	**17 52 12.3**	**-0.8**
P19K				IAML		17 53 25.6	
	comp=E,231nm,1.1s						
O19K	**Port Alsworth**	**2.53**	**240**	Pn	**Pn**	**17 52 13.4**	**-0.2**
O19K				IAML		17 53 02.5	
	comp=N,232nm,0.4s						
N25K	**Chitina, Valde**	**2.55**	**86**	Pn	**Pn**	**17 52 13.8**	**-0.2**
N25K				IAML		17 52 54.1	
	comp=N,216nm,0.5s						
N25K				IAML		17 52 54.6	
	comp=E,139nm,0.6s						
BPAW	**Bear Paw Mtn.**	**2.63**	**350**	Pn	**Pn**	**17 52 15.2**	**+0.1**
K20K	**Telida**	**2.66**	**315**	Pn	**Pn**	**17 52 15.2**	**-0.3**
BWN	**Browne**	**2.67**	**4**	Pn	**Pn**	**17 52 15.8**	**+0.3**
SVW2	**Sparrevohn**	**2.76**	**264**	Pn	**Pn**	**17 52 16.5**	**-0.4**
N18K	**Kilae Creek**	**3.02**	**256**	Pn	**Pn**	**17 52 20.2**	**-0.2**
WRH	**Wood River Hil**	**3.07**	**15**	Pn	**Pn**	**17 52 21.8**	**+0.7**
WRH				IAML		17 53 57.9	
	comp=N,51nm,0.6s						
O18K	**Koktuh Hills**	**3.09**	**239**	Pn	**Pn**	**17 52 20.4**	**-1.0**
O18K				IAML		17 54 04.0	
	comp=N,54nm,0.9s						
NEA2	**Nenana**	**3.10**	**7**	Pn	**Pn**	**17 52 21.8**	**+0.2**
VRDI	**Verde Repeater**	**3.13**	**93**	Pn	**Pn**	**17 52 21.3**	**-0.8**
KAIM	**Kayak Island**	**3.15**	**118**	Pn	**Pn**	**17 52 22.2**	**+0.1**
KAIM				IAML		17 53 15.1	
	comp=N,57nm,1.0s						
SYI	**Shuyak Island**	**3.17**	**204**	Pn	**Pn**	**17 52 22.6**	**+0.1**
HDA	**Harding Lake**	**3.20**	**24**	Pn	**Pn**	**17 52 21.2**	**-1.6**
HDA				IAML		17 53 16.4	
	comp=E,100nm,0.9s						
HDA				IAML		17 53 51.1	
	comp=N,145nm,0.9s						
Q19K	**Cape Douglas,**	**3.20**	**217**	Pn	**Pn**	**17 52 22.4**	**-0.5**
RIDG	**Independent Ri**	**3.23**	**44**	Pn	**Pn**	**17 52 21.4**	**-1.9**
RIDG				IAML		17 53 16.4	
	comp=N,122nm,0.6s						
MENT	**Mentasta**	**3.23**	**61**	Pn	**Pn**	**17 52 21.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J18K				IAML		17 54 14.5	
	comp=N,31nm,0.5s						
J25K	**Salcha River,**	**3.73**	**32**	Pn	**Pn**	**17 52 30.6**	**+0.5**
J25K				IAML		17 53 20.4	
	comp=E,96nm,0.7s						
J25K				IAML		17 53 21.2	
	comp=N,85nm,0.5s						
POKR	**Poker Plat Res**	**3.78**	**16**	Pn	**Pn**	**17 52 30.8**	**0.0**
I21K	**Tanana**	**3.78**	**347**	Pn	**Pn**	**17 52 30.7**	**-0.2**
I21K				IAML		17 54 16.3	
	comp=E,29nm,0.9s						
KDAK	**Kodiak Island**	**3.99**	**201**	Pn	**Pn**	**17 52 32.9**	**-0.8**
KDAK				IAML		17 54 17.4	
	comp=E,33nm,1.0s						
K17K	**Iditarod**	**4.11**	**291**	Pn	**Pn**	**17 52 34.8**	**-0.6**

*IDC **30** 17:55:00.0±1.4, 61°.79N×150°.68W, h0km, mb3.9/8, mbtmp3.8/10, ML2.8/2, Error ellipse: s-maj=40.0km s-min=19.4km az=117.0*
*NEIC **30** 17:55:04.5±1.1, 61°.40N±0°.03×149°.95W±0°.06, h47km±7km, Error ellipse: s-maj=4.5km s-min=3.7km az=120.0*
*AEIC **30** 17:55:05.9±1.1, 61°.41N±0°.03×149°.96W±0°.06, h35km±7km, ML3.8/30(NEIC), Error ellipse: s-maj=4.1km s-min=3.6km az=139.0*

ISC 30 17:55:04.0±0.8, **61°.40N**±0°.04×**150°.00W**±0°.03, **h46**km±6km, **n219**, σ1s**29**/230, **mb4.0**/8, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.34**	**158**		**Pn**	**17 55 13.4**	**+0.3**
RC01				Sn	**Sn**	**17 55 20.7**	**+1.1**
RC01	**Rabbit Creek A**	**0.34**	**158**	P	**Pn**	**17 55 13.5**	**+0.4**
	baz=342						
RC01				S	**Sn**	**17 55 20.7**	**+1.1**
	baz=342						
M22K	**Willow**	**0.36**	**350**		**Pn**	**17 55 13.6**	**+0.2**
M22K				Sn	**Sn**	**17 55 20.3**	**+0.4**
M22K				IAML		17 55 23.1	
	comp=N,6μm,0.4s						
M22K	**Willow**	**0.36**	**350**	P	**Pn**	**17 55 13.5**	**+0.2**
	baz=167						
M22K				S	**Sn**	**17 55 20.6**	**+0.7**
	baz=167						
SUA	**Susitna One**	**0.37**	**280**	Sn	**Sn**	**17 55 20.2**	**-0.2**
SUA	**Susitna One**	**0.37**	**280**	P	**Pn**	**17 55 14.3**	**+0.8**
	baz=98						
SUA				S	**Sn**	**17 55 21.9**	**+1.6**
	baz=98						
PMR	**Palmer**	**0.46**	**65**		**Pn**	**17 55 14.2**	**-0.2**
PMR	**Palmer**	**0.46**	**65**	P	**Pn**	**17 55 14.4**	**-0.1**
	baz=245						
PMR				S	**Sn**	**17 55 21.9**	**0.0**
	baz=245						
GHO	**Glory Hole Cre**	**0.63**	**53**		**Pn**	**17 55 17.1**	**+0.3**
GHO				Sn	**Sn**	**17 55 26.3**	**+0.4**
GHO				IAML		17 55 27.3	
	comp=E,5μm,0.5s						
KNK	**Knik Glacier**	**0.74**	**88**		**Pn**	**17 55 18.5**	**+0.4**
KNK				IAML		17 55 31.0	
	comp=E,3μm,0.3s						
KNK				IAML		17 55 31.6	
	comp=N,5μm,0.4s						
KNK	**Knik Glacier**	**0.74**	**88**	P	**Pn**	**17 55 18.7**	**+0.6**
	baz=270						
KNK				S	**Sn**	**17 55 30.0**	**+1.7**
	baz=270						
CAPN	**Captain Cook N**	**0.85**	**222**	Pn	**Pn**	**17 55 21.4**	**+1.9**
CAPN				IAML		17 55 36.7	
	comp=E,3μm,0.5s						
CAPN				IAML		17 55 37.5	
	comp=N,3μm,0.7s						
SML	**Sawmill**	**0.89**	**62**		**Pn**	**17 55 20.4**	**+0.2**
SML				IAML		17 55 34.0	
	comp=E,2μm,0.7s						
SML	**Sawmill**	**0.89**	**62**	P	**Pn**	**17 55 20.6**	**+0.4**
	baz=243						
SML				S	**Sn**	**17 55 33.5**	**+1.5**
	baz=243						
O22K	**Cooper Landing**	**0.93**	**172**		**Pn**	**17 55 21.5**	**+0.9**
O22K				IAML		17 55 49.6	
	comp=E,4μm,0.9s						
O22K	**Cooper Landing**	**0.93**	**172**	P	**Pn**	**17 55 21.6**	**+0.9**
	baz=353						
O22K				S	**Sn**	**17 55 35.0**	**+2.1**
	baz=353						
SKT	**Skwentna**	**0.94**	**309**		**Pn**	**17 55 21.3**	**+0.6**
SKT				Sn	**Sn**	**17 55 34.2**	**+1.2**
SKT				IAML		17 55 34.8	
	comp=N,3μm,0.2s						
SKT	**Skwentna**	**0.94**	**309**	P	**Pn**	**17 55 21.4**	**+0.7**
	baz=127						
SKT				S	**Sn**	**17 55 34.5**	**+1.5**
	baz=127						
PWL	**Port Wells**	**0.97**	**123**		**Pn**	**17 55 21.9**	**+0.7**
PWL				IAML		17 55 38.1	
	comp=E,3μm,0.6s						
PWL	**Port Wells**	**0.97**	**123**	P	**Pn**	**17 55 22.1**	**+0.9**
	baz=306						
PWL				S	**Sn**	**17 55 35.7**	**+1.8**
	baz=306						
CUT	**Chulitna**	**1.02**	**353**		**Pn**	**17 55 22.4**	**+0.6**
CUT				IAML		17 55 38.9	
	comp=N,3μm,0.5s						
N20K	**Mount Spurr**	**1.09**	**260**	P	**Pn**	**17 55 24.0**	**+1.2**
	baz=78						
M23K	**Glacier View**	**1.15**	**69**	P	**Pn**	**17 55 24.5**	**+0.8**
	baz=251						
SEW	**Seward**	**1.33**	**168**	Pn	**Pn**	**17 55 26.6**	**+0.6**
SEW	**Seward**	**1.33**	**168**	P	**Pn**	**17 55 27.5**	**+1.5**
	baz=350						
SCM	**Sheep Creek Mo**	**1.35**	**70**		**Pn**	**17 55 26.9**	**+0.6**
SCM				IAML		17 55 45.9	
	comp=N,983nm,0.5s						
SCM	**Sheep Creek Mo**	**1.35**	**70**	P	**Pn**	**17 55 27.5**	**+1.1**
	baz=252						
GLI	**Glacier Island**	**1.50**	**109**		**Pn**	**17 55 28.8**	**+0.4**
GLI				IAML		17 55 53.9	
	comp=E,975nm,0.4s						
GLI	**Glacier Island**	**1.50**	**109**	P	**Pn**	**17 55 29.0**	**+0.6**
	baz=292						
M20K	**Styx River**	**1.57**	**289**		**Pn**	**17 55 30.9**	**+1.4**
WAT1	**Susitna Watana**	**1.59**	**25**	P	**Pn**	**17 55 31.4**	**+1.8**
	baz=205						
WAT6	**Susitna Watana**	**1.59**	**41**	P	**Pn**	**17 55 31.0**	**+1.2**
	baz=222						
BRLK	**Bradley Lake**	**1.70**	**195**		**Pn**	**17 55 32.2**	**+1.0**
BRSE	**Bradley Lake S**	**1.71**	**193**	P	**Pn**	**17 55 33.6**	**+2.3**
	baz=13						
PPLA	**Purkeypile**	**1.82**	**326**	Pn	**Pn**	**17 55 34.9**	**+2.0**
PPLA	**Purkeypile**	**1.82**	**326**	P	**Pn**	**17 55 34.6**	**+1.7**
	baz=144						
FID	**Port Fidalgo**	**1.83**	**109**		**Pn**	**17 55 33.0**	**+0.1**
P23K	**Montague Islan**	**1.90**	**137**	P	**Pn**	**17 55 33.7**	**-0.1**
	baz=320						
HOM	**Homer**	**1.93**	**206**	Pn	**Pn**	**17 55 36.1**	**+1.9**
M24K	**Tolsona, Glenn**	**1.95**	**67**		**Pn**	**17 55 36.3**	**+1.8**
M24K	**Tolsona, Glenn**	**1.95**	**67**	P	**Pn**	**17 55 36.4**	**+1.8**
	baz=250						
KLU	**Klutina**	**1.96**	**86**		**Pn**	**17 55 35.3**	**+0.5**
KLU	**Klutina**	**1.96**	**86**	P	**Pn**	**17 55 35.5**	**+0.7**
	baz=269						
CNPM	**China Poot**	**1.98**	**199**	Pn	**Pn**	**17 55 36.0**	**+1.0**
HIN	**Hinchinbrook I**	**1.98**	**119**		**Pn**	**17 55 35.7**	**+0.6**
DIV	**Divide**	**2.06**	**96**	Pn	**Pn**	**17 55 36.3**	**+0.2**
TRF	**Thorofare Moun**	**2.06**	**356**	P	**Pn**	**17 55 39.5**	**+3.2**
	baz=176						
DHY	**Denali Highway**	**2.08**	**35**	Pn	**Pn**	**17 55 37.6**	**+1.1**
RND	**Reindeer**	**2.08**	**14**	Pn	**Pn**	**17 55 37.6**	**+1.2**
ILSW	**Iliamna Southw**	**2.10**	**229**	Pn	**Pn**	**17 55 38.4**	**+1.6**
M19K	**Big River Lodg**	**2.16**	**285**		**Pn**	**17 55 38.5**	**+1.0**
KTH	**Kantishna Hill**	**2.20**	**349**		**Pn**	**17 55 39.1**	**+1.0**
EYAK	**Cordova Ski Ar**	**2.24**	**111**	Pn	**Pn**	**17 55 38.8**	**+0.3**
EYAK	**Cordova Ski Ar**	**2.24**	**111**	P	**Pn**	**17 55 41.5**	**+3.0**
	baz=295						
CAST	**Castle Rocks**	**2.25**	**335**		**Pn**	**17 55 39.8**	**+1.2**
CAST	**Castle Rocks**	**2.25**	**335**	P	**Pn**	**17 55 40.7**	**+2.1**
	baz=153						
N19K	**Bonanza Creek**	**2.26**	**257**		**Pn**	**17 55 39.4**	**+0.5**
P19K	**Oil Pt**	**2.38**	**224**	Pn	**Pn**	**17 55 41.8**	**+1.4**
MCK	**McKinley**	**2.39**	**11**	Pn	**Pn**	**17 55 41.0**	**+0.4**
MCK	**McKinley**	**2.39**	**11**	P	**Pn**	**17 55 43.9**	**+3.3**
	baz=192						
L19K	**White Mountain**	**2.44**	**291**		**Pn**	**17 55 41.6**	**+0.3**
O19K	**Port Alsworth**	**2.44**	**242**	Pn	**Pn**	**17 55 42.1**	**+0.8**
N25K	**Chitina, Valde**	**2.59**	**83**		**Pn**	**17 55 43.8**	**+0.3**
N25K	**Chitina, Valde**	**2.59**	**83**	P	**Pn**	**17 55 46.0**	**+2.5**
	baz=268						
PAX	**Paxson**	**2.64**	**51**	Pn	**Pn**	**17 55 44.9**	**+0.8**
BMRM	**Bremner River**	**2.65**	**97**	Pn	**Pn**	**17 55 44.4**	**+0.2**
BMRM	**Bremner River**	**2.65**	**97**	P	**Pn**	**17 55 46.5**	**+2.3**
	baz=282						
Q23K	**Middleton Isla**	**2.68**	**136**	Pn	**Pn**	**17 55 45.7**	**+1.2**
SVW2	**Sparrevohn**	**2.72**	**266**	Pn	**Pn**	**17 55 46.5**	**+1.5**
K20K	**Telida**	**2.73**	**318**		**Pn**	**17 55 46.1**	**+0.9**
BPAW	**Bear Paw Mtn.**	**2.75**	**351**	Pn	**Pn**	**17 55 46.4**	**+0.9**
BPAW	**Bear Paw Mtn.**	**2.75**	**351**	P	**Pn**	**17 55 47.7**	**+2.2**
	baz=170						
BWN	**Browne**	**2.79**	**5**	Pn	**Pn**	**17 55 47.3**	**+1.2**
RAGM	**Ragged Mountai**	**2.79**	**109**	Pn	**Pn**	**17 55 46.5**	**+0.4**
N18K	**Kilae Creek**	**2.96**	**258**	Pn	**Pn**	**17 55 48.8**	**+0.4**
GLB	**Gilahina Butte**	**2.97**	**86**	Pn	**Pn**	**17 55 50.1**	**+1.5**
HMT	**Hamilton**	**3.00**	**108**		**Pn**	**17 55 48.9**	**-0.1**
O18K	**Koktuh Hills**	**3.00**	**241**	Pn	**Pn**	**17 55 49.8**	**+0.9**
SYI	**Shuyak Island**	**3.05**	**204**	Pn	**Pn**	**17 55 50.3**	**+0.7**
Q19K	**Cape Douglas,**	**3.08**	**218**	Pn	**Pn**	**17 55 50.4**	**+0.4**
KAIM	**Kayak Island**	**3.12**	**116**	Pn	**Pn**	**17 55 50.0**	**-0.5**
VRDI	**Verde Repeater**	**3.16**	**90**		**Pn**	**17 55 51.2**	**-0.1**
WRH	**Wood River Hil**	**3.20**	**15**	Pn	**Pn**	**17 55 52.6**	**+0.9**
TTA	**Tatalina**	**3.21**	**301**	Pn	**Pn**	**17 55 53.0**	**+1.1**
NEA2	**Nenana**	**3.23**	**7**	Pn	**Pn**	**17 55 52.7**	**+0.6**
BERG	**Berg Lake**	**3.24**	**105**	Pn	**Pn**	**17 55 51.7**	**-0.5**
L18K	**Granite Mounta**	**3.28**	**287**	Pn	**Pn**	**17 55 53.2**	**+0.4**
P18K	**Big Mountain,**	**3.29**	**234**	Pn	**Pn**	**17 55 52.7**	**-0.2**
MENT	**Mentasta**	**3.32**	**60**	Pn	**Pn**	**17 55 53.4**	**0.0**
HDA	**Harding Lake**	**3.33**	**23**	Pn	**Pn**	**17 55 53.3**	**-0.1**
SUCK	**Suckling Hills**	**3.33**	**111**		**Pn**	**17 55 53.4**	**-0.1**
RIDG	**Independent Ri**	**3.34**	**43**	Pn	**Pn**	**17 55 54.2**	**+0.5**
MCARA	**McCarthy VSAT**	**3.35**	**87**	Pn	**Pn**	**17 55 54.5**	**+0.7**
MCARA	**McCarthy VSAT**	**3.35**	**87**	P	Pn	17 55 59.1	+5.3
	baz=273						
J20K	**Nowinta River**	**3.38**	**327**		**Pn**	**17 55 55.0**	**+0.9**
J20K	**Nowinta River**	**3.38**	**327**	P	**Pn**	**17 55 55.3**	**+1.2**
	baz=143						
CRQM	**Cirque**	**3.39**	**98**	Pn	**Pn**	**17 55 54.8**	**+0.2**
CCB	**Clear Creek Bu**	**3.41**	**16**	Pn	**Pn**	**17 55 54.7**	**+0.2**
M26K	**Nabesna, AK**	**3.46**	**70**	Pn	**Pn**	**17 55 55.7**	**+0.4**
L26K	**Log Cabin Wild**	**3.51**	**59**		**Pn**	**17 55 57.2**	**+1.2**
TGL	**Tana Glacier**	**3.54**	**97**		**Pn**	**17 55 57.3**	**+0.9**
M17K	**Holitna River**	**3.58**	**273**	Pn	**Pn**	**17 55 58.1**	**+1.2**
N17K	**Nushagak Hills**	**3.62**	**259**	Pn	**Pn**	**17 55 58.5**	**+1.2**
WAX	**Waxell Ridge**	**3.62**	**102**		**Pn**	**17 55 57.4**	**0.0**
COLA	**College**	**3.62**	**15**		**Pn**	**17 55 57.1**	**-0.2**
MLY	**Manley**	**3.66**	**355**		**Pn**	**17 55 58.5**	**+0.5**
MLY	**Manley**	**3.66**	**355**	P	**Pn**	**17 55 60.0**	**+2.0**
	baz=174						
IL31		**3.67**	**21**	Pn	**Pn**	**17 55 59.0**	**+1.0**
ILAR	**Eielson Array**	**3.67**	**21**	Pn	**Pn**	**17 55 58.2**	**+0.1**
ILAR	**Eielson Array**	**3.67**	**21**	Pn	Pn	17 55 53.1	-5.0
	comp=E,0.9nm,0.3s,baz=206,slow=14,SNR=1.3						
	comp=E,1.4nm,0.6s						
J19K	**Poorman**	**3.67**	**318**	Pn	**Pn**	**17 55 58.8**	**+0.6**
SNH	**Sunshine Point**	**3.72**	**106**	Pn	**Pn**	**17 55 57.7**	**-1.1**
J18K	**Innoko River**	**3.75**	**306**	Pn	**Pn**	**17 55 58.2**	**-1.0**
J18K	**Innoko River**	**3.75**	**306**	P	**Pn**	**17 56 01.1**	**+1.9**
	baz=120						
I23K	**Minto, Yukon-K**	**3.77**	**4**		**Pn**	**17 55 58.0**	**-1.5**
I23K	**Minto, Yukon-K**	**3.77**	**4**	P	**Pn**	**17 56 02.4**	**+2.9**
	baz=184						
SCRK	**Sand Creek**	**3.79**	**44**	Pn	**Pn**	**17 55 58.4**	**-1.5**
ISLE	**Juniper Island**	**3.81**	**99**		**Pn**	**17 56 01.0**	**+0.7**
J25K	**Salcha River,**	**3.85**	**31**	Pn	**Pn**	**17 56 00.3**	**-0.3**
KDAK	**Kodiak Island**	**3.86**	**201**	Pn	**Pn**	**17 56 00.9**	**+0.1**
KDAK	**Kodiak Island**	**3.86**	**201**	Pn	**Pn**	**17 56 01.7**	**+1.0**
	comp=E,0.5nm,0.3s,baz=0.0,slow=20,SNR=1.2						
	comp=E,9.1nm,1.0s						
I21K	**Tanana**	**3.90**	**348**	Pn	**Pn**	**17 56 00.8**	**-0.4**
POKR	**Poker Plat Res**	**3.91**	**16**	Pn	**Pn**	**17 56 01.7**	**+0.3**
M27K	**Edge Creek, AK**	**3.96**	**72**	Pn	**Pn**	**17 56 00.7**	**-1.5**
I20K	**Naaghedeneel**	**3.97**	**331**	Pn	**Pn**	**17 56 00.7**	**-1.5**
GRNC	**Granite Creek**	**4.06**	**96**	Pn	**Pn**	**17 56 03.8**	**+0.1**
K17K	**Iditarod**	**4.13**	**292**	Pn	**Pn**	**17 56 04.2**	**-0.1**
MESA	**MESA**	**4.13**	**104**		**Pn**	**17 56 05.1**	**+0.5**
L27K	**Beaver Creek,**	**4.17**	**63**	Pn	**Pn**	**17 56 04.1**	**-0.9**
ACHA	**Angle Creek He**	**4.18**	**222**	Pn	**Pn**	**17 56 03.8**	**-1.4**
BCAR	**Beaver Creek A**	**4.19**	**63**	Pn	**Pn**	**17 56 05.9**	**+0.2**
CTGM	**Chitina Glacie**	**4.22**	**92**	Pn	**Pn**	**17 56 06.3**	**-0.4**
J26L	**Joseph Creek**	**4.28**	**41**	Pn	**Pn**	**17 56 04.8**	**-1.8**
M16K	**Timber Creek**	**4.35**	**269**	Pn	**Pn**	**17 56 07.4**	**-0.1**
O16K	**Kokwok River B**	**4.40**	**249**	Pn	**Pn**	**17 56 07.7**	**-0.4**
LOGN	**Logan Glacier**	**4.40**	**94**	Pn	**Pn**	**17 56 07.7**	**-0.6**
TABL	**Table Mountain**	**4.43**	**99**		**Pn**	**17 56 09.6**	**+0.9**
H23K	**Yukon River**	**4.45**	**2**	Pn	**Pn**	**17 56 09.3**	**+0.5**
H21K	**Melozitna Rive**	**4.45**	**345**	Pn	**Pn**	**17 56 09.3**	**+0.4**
OHAK	**Old Harbor**	**4.52**	**203**	Pn	**Pn**	**17 56 09.7**	**0.0**
L16K	**Owhat River**	**4.54**	**278**	Pn	**Pn**	**17 56 11.0**	**+0.9**
H24K	**Noodor Dome**	**4.55**	**11**	Pn	**Pn**	**17 56 10.8**	**+0.5**
PRP	**Porcupine Dome**	**4.59**	**24**	Pn	**Pn**	**17 56 13.2**	**+2.3**
J17K	**VABM Dome**	**4.67**	**299**	Pn	**Pn**	**17 56 12.4**	**+0.5**
O28M	**Mount Upton**	**4.80**	**93**	P	**Pn**	**17 56 15.5**	**+1.6**
	baz=282						
IMAR	**Indian Mountai**	**4.89**	**342**		**Pn**	**17 56 15.4**	**+0.5**
H19K	**Roundabout Mou**	**5.05**	**328**	Pn	**Pn**	**17 56 17.9**	**+0.9**
N15K	**Kwethluk River**	**5.10**	**260**	Pn	**Pn**	**17 56 19.8**	**+2.0**
EGAK	**Eagle**	**5.25**	**46**	Pn	**Pn**	**17 56 21.1**	**+1.4**
J16K	**Anvik River**	**5.29**	**296**	Pn	**Pn**	**17 56 20.9**	**+0.5**
BCPM	**Bancas Point**	**5.30**	**101**	Pn	**Pn**	**17 56 21.5**	**+1.1**
SII	**Sitkinak Islan**	**5.32**	**206**	Pn	**Pn**	**17 56 21.1**	**+0.3**
H18K	**Honhosa River**	**5.33**	**319**	Pn	**Pn**	**17 56 22.0**	**+1.1**
G23K	**Bananza Creek**	**5.33**	**360**	Pn	**Pn**	**17 56 21.2**	**+0.2**
G21K	**Allakaket**	**5.36**	**345**	Pn	**Pn**	**17 56 22.8**	**+1.5**
G24K	**Hadweenzic Riv**	**5.43**	**11**	Pn	**Pn**	**17 56 24.1**	**+1.8**
I17K	**Unalakleet**	**5.53**	**301**	Pn	**Pn**	**17 56 24.3**	**+0.8**
K15K	**Wolf Creek Mou**	**5.54**	**284**	Pn	**Pn**	**17 56 24.5**	**+0.8**
M29M	**Somme Creek**	**5.55**	**74**	Pn	**Pn**	**17 56 24.1**	**+0.1**
DAWY	**Dawson**	**5.56**	**57**	Pn	**Pn**	**17 56 24.3**	**+0.3**
FYU	**Fort Yukon**	**5.59**	**20**	Pn	**Pn**	**17 56 24.4**	**0.0**
O29M	**Mount Kennedy**	**5.69**	**96**	Pn	**Pn**	**17 56 26.2**	**+0.2**
G19K	**Purcell Mounta**	**5.70**	**330**	Pn	**Pn**	**17 56 27.0**	**+1.0**
H17K	**Granite Mounta**	**5.72**	**313**	Pn	**Pn**	**17 56 27.9**	**+1.7**
L29M	**L29M**	**5.80**	**68**	Pn	**Pn**	**17 56 27.6**	**+0.2**
M14K	**Bethel**	**5.84**	**269**	Pn	**Pn**	**17 56 29.5**	**+1.6**
COLD	**Coldfoot**	**5.85**	**359**	P	**Pn**	**17 56 32.4**	**+4.4**
	baz=179						
G18K	**Tagagawik**	**5.93**	**323**		**Pn**	**17 56 30.6**	**+1.5**
O14K	**Tigyukauivet M**	**6.00**	**254**		**Pn**	**17 56 32.0**	**+2.0**
F21K	**Alatna River**	**6.04**	**347**		**Pn**	**17 56 32.1**	**+1.6**
I28M	**Miner Creek**	**6.07**	**44**	Pn	**Pn**	**17 56 33.1**	**+2.0**
HYT	**Haines Junctio**	**6.08**	**90**		**Pn**	**17 56 32.8**	**+1.4**
L14K	**Kuka Creek**	**6.10**	**275**	Pn	**Pn**	**17 56 33.5**	**+2.1**
J29N	**Klondike Camp**	**6.19**	**55**	Pn	**Pn**	**17 56 33.5**	**+0.8**
F20K	**Avaraart Lake**	**6.19**	**339**	Pn	**Pn**	**17 56 34.6**	**+1.9**
N30M	**Aishikik Lake**	**6.19**	**84**	Pn	**Pn**	**17 56 32.9**	**+0.1**
F24K	**Squaw Lake**	**6.21**	**8**	Pn	**Pn**	**17 56 33.4**	**+0.5**
K29M	**Barlow Dome**	**6.25**	**62**	Pn	**Pn**	**17 56 33.6**	**0.0**
P29M	**Windy Craggy**	**6.31**	**101**	Pn	**Pn**	**17 56 35.6**	**+1.3**
M30M	**Minto, Yukon**	**6.33**	**74**	Pn	**Pn**	**17 56 34.9**	**+0.3**
F19K	**Shaleruckik Mo**	**6.42**	**331**	Pn	**Pn**	**17 56 37.2**	**+1.3**
BMAR	**Burnt Mountain**	**6.49**	**19**	Pn	**Pn**	**17 56 38.4**	**+1.6**
F25K	**Christian Rive**	**6.49**	**15**	Pn	**Pn**	**17 56 39.0**	**+2.2**
J14K	**Nanvaranak Lak**	**6.51**	**288**	Pn	**Pn**	**17 56 38.0**	**+1.0**
G27K	**Doyon Strip**	**6.54**	**30**	Pn	**Pn**	**17 56 39.1**	**+1.7**
M13K	**Dall Lake**	**6.59**	**267**	Pn	**Pn**	**17 56 40.7**	**+2.6**
E23K	**Chandalar**	**6.69**	**1**	Pn	**Pn**	**17 56 42.1**	**+2.6**
E24K	**Your Creek**	**6.73**	**5**	Pn	**Pn**	**17 56 43.1**	**+3.0**
O30N	**Mendenhall**	**6.77**	**89**	Pn	**Pn**	**17 56 40.6**	**-0.1**
F26K	**Sheenjek River**	**6.80**	**19**	Pn	**Pn**	**17 56 43.0**	**+2.0**
N31M	**Braeburn, Yuko**	**6.82**	**83**	Pn	**Pn**	**17 56 42.2**	**+0.9**
E19K	**Redstone River**	**6.83**	**336**	Pn	**Pn**	**17 56 43.6**	**+2.1**
G16K	**Koyuk River**	**6.84**	**311**	Pn	**Pn**	**17 56 43.8**	**+2.3**
J30M	**Hart River**	**6.99**	**57**	Pn	**Pn**	**17 56 44.8**	**+1.1**
K13K	**Kusilvak Mount**	**7.00**	**281**	Pn	**Pn**	**17 56 45.2**	**+1.5**
H29M	**Whitestone**	**7.05**	**42**	Pn	**Pn**	**17 56 45.2**	**+0.8**
F17K	**Baldwin Pennin**	**7.08**	**320**	Pn	**Pn**	**17 56 46.4**	**+1.6**
E21K	**Killik River**	**7.27**	**348**	Pn	**Pn**	**17 56 49.2**	**+1.7**
TOLK	**Toolik Lake Re**	**7.27**	**1**	Pn	**Pn**	**17 56 48.3**	**+0.8**
WHY	**Whitehorse**	**7.38**	**89**	Pn	**Pn**	**17 56 48.7**	**-0.4**
E18K	**Tukpahlearik C**	**7.58**	**327**	Pn	**Pn**	**17 56 54.2**	**+2.5**
E17K	**Hotham Inlet**	**7.67**	**323**	P	**Pn**	**17 56 55.2**	**+2.3**
	baz=132						
E27K	**Coleen River**	**7.69**	**24**	Pn	**Pn**	**17 56 54.2**	**+1.0**
D19K	**Kuna River**	**7.90**	**338**	Pn	**Pn**	**17 56 58.0**	**+1.9**
C23K	**Itkillik River**	**8.48**	**359**	Pn	**Pn**	**17 57 05.8**	**+1.9**
C18K	**Utukok River**	**8.66**	**332**	Pn	**Pn**	**17 57 08.7**	**+2.1**
S32K	**Killisnoo**	**8.78**	**110**	Pn	**Pn**	**17 57 08.3**	**+0.2**
G31M	**Satah River**	**8.80**	**44**	Pn	**Pn**	**17 57 10.9**	**+2.5**
B22K	**Teshekpuk Lake**	**9.09**	**353**	Pn	**Pn**	**17 57 14.1**	**+1.8**
Q32M	**Nakina River**	**9.16**	**98**	Pn	**Pn**	**17 57 13.6**	**+0.1**
R33M	**Jennings River**	**9.62**	**94**	Pn	**Pn**	**17 57 20.1**	**+0.3**
ARCES	**ARCESS Array B**	**49.31**	**2**	P	**P**	**18 03 47.5**	**-0.1**
	comp=E,2.6nm,0.9s,baz=1.5,slow=10,SNR=0.9						
	comp=E,2.6nm,0.9s						
KSRS	**Korea Array**	**54.30**	**284**	P	**P**	**18 04 25.5**	**+0.4**
	comp=E,0.5nm,0.5s,baz=38,slow=6.2,SNR=1.5						
	comp=E,0.5nm,0.5s						
SONM	**Songino Array**	**55.14**	**307**	P	**P**	**18 04 31.8**	**+0.4**
	comp=E,0.2nm,0.4s,baz=40,slow=5.6,SNR=1.6						
	comp=E,0.2nm,0.4s						
FINES	**FINESS Array B**	**57.44**	**2**	P	**P**	**18 04 46.9**	**-0.4**
	comp=E,5.2nm,1.0s,baz=9.9,slow=8.9,SNR=2.0						
	comp=E,5.2nm,1.0s						
BVAR	**Borovoye Array**	**61.49**	**334**	P	**P**	**18 05 13.7**	**-1.7**
	comp=E,1.5nm,0.8s,baz=43,slow=2.9,SNR=2.3						
	comp=E,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**61.78**	**327**	P	**P**	**18 05 16.3**	**-1.1**
	comp=E,0.6nm,0.4s,baz=28,slow=6.7,SNR=4.1						
	comp=E,0.6nm,0.4s						
MKAR	**Makanchi Array**	**64.23**	**323**	P	**P**	**18 05 32.3**	**-1.4**
	comp=E,0.6nm,0.5s,baz=36,slow=7.5,SNR=5.8						
	comp=E,0.6nm,0.5s						
AKASG	**Malin Array Be**	**68.25**	**1**	P	**P**	**18 05 58.6**	**-0.7**
	comp=E,0.5nm,0.4s,baz=1.6,slow=6.5,SNR=4.1						
	comp=E,0.5nm,0.4s						

SJA 30 17:55:30.6±0.7, **28°.50S**×**68°.86W**, **h153**km±13km, **ML2.4, MW3.0**, **La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.62**	**112**	*i* P	Pn	17 55 40.0	-13
VCA	**Vinchina**	**0.62**	**112**	*e*P	Pn	17 55 53.2	+0.1
VCA				*e*S	Sn	17 55 53.8	-16
VCA				IAML		17 55 55.9	
	comp=Z,60nm,0.3s						
GO03	**Copiapo**	**1.52**	**306**	*e*P	Pn	17 55 45.9	-15
GO03	**Copiapo**	**1.52**	**306**	*e*P	Pn	17 56 01.5	+0.9
GO03				*e*S	Sn	17 56 34.2	+11
AC06	**Mina Casimiro**	**1.75**	**310**	*e*P	Pn	17 55 49.4	-14
ACLC	**CERRO LA CRUZ**	**1.91**	**119**	*e*P	Pn	17 56 03.2	-1.8
ACLC				*e*S	Sn	17 56 33.5	+2.0
ACLC				IAML		17 56 37.9	
	comp=Z,13nm,1.3s						
GO04	**Tololo Observa**	**2.38**	**225**	*e*P	Pn	17 56 11.0	+0.4
AVFE	**Valle Fertil**	**2.47**	**151**	*e*P	Pn	17 56 12.6	+1.0
AVFE				*e*S

HIN IAML 17 56 57.0
comp=N,1μm,0.8s
HOM Homer 2.04 205 Pn **Pn 17 56 19.8 +0.6**
KTH Kantishna Hill 2.09 348 Pn **Pn 17 56 20.9 +1.0**
KTH IAML 17 56 48.3
comp=E,1μm,0.6s
KTH IAML 17 56 49.7
comp=N,1μm,0.6s
CNPM China Poot 2.10 198 Pn **Pn 17 56 20.6 +0.7**
CNPM IAML 17 56 50.1
comp=E,972nm,0.7s
CNPM IAML 17 56 53.3
comp=N,773nm,0.4s
M19K Big River Lodg 2.15 282 Pn **Pn 17 56 21.3 +0.7**
M19K IAML 17 56 50.5
comp=N,504nm,0.5s
L19K White Mountain 2.41 288 Pn **Pn 17 56 25.1 +0.8**
N25K Chitina, Valde 2.57 86 Pn **Pn 17 56 26.2 -0.2**
N25K IAML 17 57 07.4
comp=N,681nm,0.4s
N25K IAML 17 57 08.2
comp=E,481nm,0.3s
BPAW Bear Paw Mtn. 2.63 350 Pn **Pn 17 56 27.0 -0.3**
BPAW IAML 17 57 16.4
comp=E,387nm,0.9s
K20K Telida 2.66 316 **Pn 17 56 27.3 -0.3**
K20K IAML 17 57 12.9
comp=E,316nm,0.8s
SVW2 Sparrevohn 2.74 264 **Pn 17 56 28.8 0.0**
RAGM Ragged Mountai 2.82 111 Pn **Pn 17 56 28.8 -1.0**
GLB Gilahina Butte 2.95 89 Pn **Pn 17 56 30.6 -1.1**
GLB IAML 17 57 17.8
comp=N,692nm,0.4s
GLB IAML 17 57 23.9
comp=E,394nm,0.6s
N18K Kilae Creek 3.00 256 Pn **Pn 17 56 31.7 -0.5**
HMT Hamilton 3.02 111 Pn **Pn 17 56 31.4 -1.2**
NEA2 Nenana 3.11 7 **Pn 17 56 34.3 +0.5**
VRDI Verde Repeater 3.15 92 Pn **Pn 17 56 34.0 -0.4**
VRDI IAML 17 57 24.7
comp=N,351nm,0.5s
VRDI IAML 17 57 28.6
comp=E,245nm,1.3s
KAIM Kayak Island 3.16 118 Pn **Pn 17 56 33.6 -0.8**
KAIM IAML 17 57 46.2
comp=N,229nm,1.2s
KAIM IAML 17 57 58.4
comp=E,244nm,1.1s
SYI Shuyak Island 3.16 204 Pn **Pn 17 56 34.2 -0.2**
TTA Tatalina 3.17 299 **Pn 17 56 34.1 -0.6**
TTA IAML 17 57 26.5
comp=N,262nm,1.1s
TTA Tatalina 3.17 299 P **Pn 17 56 35.1 +0.4**
baz=114
Q19K Cape Douglas, 3.18 217 **Pn 17 56 34.4 -0.4**
HDA Harding Lake 3.21 24 **Pn 17 56 35.4 +0.2**
HDA IAML 17 57 30.7
comp=E,329nm,0.5s
HDA IAML 17 57 31.7
comp=N,405nm,0.6s
RIDG Independent Ri 3.25 44 Pn **Pn 17 56 35.6 -0.2**
RIDG IAML 17 57 34.4
comp=E,511nm,0.7s
RIDG IAML 17 57 34.5
comp=N,389nm,0.9s
MENT Mentasta 3.25 61 Pn **Pn 17 56 35.8 0.0**
BERG Berg Lake 3.25 108 Pn **Pn 17 56 35.2 -0.6**
L18K Granite Mounta 3.26 285 **Pn 17 56 36.2 +0.4**
L18K IAML 17 57 33.7
comp=E,182nm,0.8s
L18K IAML 17 57 35.6
comp=N,196nm,1.1s
J20K Nowinta River 3.29 326 Pn **Pn 17 56 35.3 -0.8**
CCB Clear Creek Bu 3.29 16 Pn **Pn 17 56 36.0 -0.2**
CCB IAML 17 57 31.6
comp=E,184nm,1.0s
MCARA McCarthy VSAT 3.33 89 **Pn 17 56 37.7 +0.8**
SUCK Suckling Hills 3.36 113 Pn **Pn 17 56 37.1 -0.1**
SUCK IAML 17 57 39.8
comp=N,444nm,1.0s
SUCK IAML 17 57 46.9
comp=E,210nm,1.2s
P18K Big Mountain, 3.37 233 Pn **Pn 17 56 37.7 +0.4**
CRQM Cirque 3.40 100 **Pn 17 56 39.2 +1.3**
M26K Nabesna, AK 3.41 72 Pn **Pn 17 56 39.2 +1.3**
M26K IAML 17 57 37.1
comp=E,299nm,0.6s
M26K IAML 17 57 38.1
comp=N,369nm,0.7s
L26K Log Cabin Wild 3.44 61 Pn **Pn 17 56 39.4 +1.0**
COLA College 3.50 15 Pn **Pn 17 56 39.6 +0.5**
TGL Tana Glacier 3.54 99 Pn **Pn 17 56 39.4 -0.4**
TGL IAML 17 57 41.1
comp=E,425nm,0.8s
MLY Manley 3.54 355 Pn **Pn 17 56 39.7 0.0**
IL31 3.55 22 **Pn 17 56 39.9 +0.1**
ILAR Eielson Array 3.55 22 Pn **Pn 17 56 40.3 +0.5**
ILAR Eielson Array 3.55 22 Pn **Pn 17 56 37.2 -2.6**
comp=E,5.3nm,0.3s,baz=205,slow=15,SNR=3.7
comp=E,9.1nm,0.3s
M17K Holitna River 3.59 271 Pn **Pn 17 56 40.5 +0.2**
M17K IAML 17 57 50.9
comp=E,257nm,0.8s
M17K IAML 17 57 52.4
comp=N,337nm,0.9s
J19K Poorman 3.60 316 Pn **Pn 17 56 40.4 -0.1**
J19K IAML 17 57 40.5
comp=E,196nm,1.0s
J19K IAML 17 57 43.8
comp=N,241nm,0.8s
WAX Waxell Ridge 3.63 104 Pn **Pn 17 56 40.3 -0.6**
N17K Nushagak Hills 3.65 257 **Pn 17 56 38.9 -2.3**
I23K Minto, Yukon-K 3.66 4 Pn **Pn 17 56 41.4 +0.2**
I23K IAML 17 57 50.9
comp=N,207nm,0.8s
I23K Minto, Yukon-K 3.66 4 P **Pn 17 56 43.0 +1.8**
baz=184
J18K Innoko River 3.69 305 **Pn 17 56 42.6 +0.8**
J18K Innoko River 3.69 305 P **Pn 17 56 42.8 +1.0**
baz=119
SCRK Sand Creek 3.69 45 Pn **Pn 17 56 42.4 +0.5**
SCRK IAML 17 57 42.9
comp=E,152nm,0.7s
SCRK IAML 17 57 45.8
comp=N,129nm,0.7s
SNH Sunshine Point 3.73 108 Pn **Pn 17 56 42.6 +0.2**
SNH IAML 17 57 43.0
comp=N,181nm,1.3s
SNH IAML 17 57 49.4
comp=E,256nm,0.9s
J25K Salcha River, 3.74 32 Pn **Pn 17 56 42.9 +0.3**
J25K IAML 17 57 37.5
comp=E,231nm,0.5s
J25K IAML 17 57 40.1
comp=N,174nm,0.8s
I21K Tanana 3.79 347 **Pn 17 56 43.3 +0.2**
I21K IAML 17 57 56.7
comp=E,124nm,1.0s
I21K IAML 17 58 12.9
comp=N,149nm,1.0s
POKR Poker Plat Res 3.79 16 **Pn 17 56 43.8 +0.7**
POKR IAML 17 57 52.2
comp=N,122nm,0.6s
POKR Poker Plat Res 3.79 16 P **Pn 17 56 44.7 +1.6**
baz=199
ISLE Juniper Island 3.82 101 **Pn 17 56 44.1 +0.5**
I20K Naaghedeneel 3.88 330 Pn **Pn 17 56 44.0 -0.2**
M27K Edge Creek, AK 3.91 74 Pn **Pn 17 56 44.3 -0.6**
M27K IAML 17 54.0
comp=N,136nm,0.8s
GRNC Granite Creek 4.06 98 Pn **Pn 17 56 46.6 -0.4**
GRNC IAML 17 53.3
comp=N,208nm,0.6s
GRNC IAML 17 55.9
comp=E,157nm,0.7s
K17K Iditarod 4.10 291 Pn **Pn 17 56 47.4 +0.1**
K17K IAML 17 58 07.5
comp=E,166nm,0.9s
K17K IAML 17 58 09.3
comp=N,133nm,1.0s
L27K Beaver Creek, 4.10 64 Pn **Pn 17 56 47.9 +0.5**
BCAR Beaver Creek A 4.12 64 Pn **Pn 17 56 47.8 +0.2**
MESA MESA 4.14 105 **Pn 17 56 48.2 +0.1**
MESA MESA 4.14 105 IAML 17 58 03.7
comp=E,252nm,0.9s
J26L Joseph Creek 4.18 41 Pn **Pn 17 56 48.4 -0.1**
J26L IAML 17 57 46.0
comp=N,175nm,0.7s
J26L IAML 17 57 56.6
comp=E,140nm,1.1s
CTGM Chitina Glacie 4.21 94 Pn **Pn 17 56 48.7 -0.2**
CTGM IAML 17 57 59.1
comp=E,116nm,0.7s
CTGM IAML 17 58 01.6
comp=N,182nm,1.1s
ACHA Angle Creek He 4.28 222 Pn **Pn 17 56 49.6 -0.2**
H23K Yukon River 4.33 2 Pn **Pn 17 56 51.1 +0.6**
H21K Melozitna Rive 4.34 344 Pn **Pn 17 56 51.6 +0.9**
H21K IAML 17 57 58.4
comp=E,101nm,0.7s
M16K Timber Creek 4.37 267 Pn **Pn 17 56 51.4 +0.3**
LOGN Logan Glacier 4.39 95 Pn **Pn 17 56 51.7 +0.2**
LOGN IAML 17 58 02.7
comp=E,122nm,0.8s
LOGN IAML 17 58 08.2
comp=N,144nm,1.0s
TABL Table Mountain 4.43 100 Pn **Pn 17 56 51.6 -0.5**
TABL IAML 17 58 02.2
comp=N,96nm,1.1s
TABL IAML 17 58 13.5
comp=E,108nm,0.7s
H24K Noodor Dome 4.43 11 Pn **Pn 17 56 52.0 0.0**
H24K IAML 17 58 09.6
comp=E,74nm,0.7s
O16K Kokwok River B 4.45 248 Pn **Pn 17 56 51.5 -0.6**
PRP Porcupine Dome 4.48 24 Pn **Pn 17 56 52.7 0.0**
PRP IAML 17 58 06.7
comp=E,91nm,0.8s
PRP IAML 17 58 10.8
comp=N,116nm,0.7s
L16K Owhat River 4.55 277 Pn **Pn 17 56 53.3 -0.1**
L16K IAML 17 58 19.6
comp=N,72nm,0.9s
L16K Owhat River 4.55 277 P **Pn 17 56 54.0 +0.6**
baz=88
OHAK Old Harbor 4.63 203 Pn **Pn 17 56 53.5 -1.1**
J17K VABM Dome 4.63 298 Pn **Pn 17 56 53.3 -1.3**
J17K IAML 17 58 20.4
comp=N,68nm,0.8s
IMAR Indian Mountai 4.79 341 **Pn 17 56 56.4 -0.3**
H19K Roundabout Mou 4.96 327 **Pn 17 56 58.6 -0.4**
H19K IAML 17 58 31.5
comp=N,76nm,1.2s
H19K IAML 17 58 32.1
comp=E,72nm,1.2s
PLK4 Peulik 4 5.07 223 Pn **Pn 17 56 59.2 -1.6**
PLK4 IAML 17 58 39.7
comp=E,61nm,0.8s
PLK4 IAML 17 58 57.7
comp=N,68nm,1.2s
N15K Kwethluk River 5.14 259 Pn **Pn 17 57 01.4 -0.1**
N15K IAML 17 58 36.5
comp=E,91nm,1.2s
N15K IAML 17 58 40.1
comp=N,63nm,1.2s
EGAK Eagle 5.16 47 Pn **Pn 17 57 01.2 -0.6**
G23K Bananza Creek 5.21 360 Pn **Pn 17 57 02.2 -0.4**
G21K Allakaket 5.25 344 Pn **Pn 17 57 03.1 -0.1**
G21K IAML 17 58 05.9
comp=E,62nm,0.7s
H18K Honhosa River 5.25 318 **Pn 17 57 03.0 -0.1**
H18K IAML 17 58 34.0
comp=N,50nm,1.0s
J16K Anvik River 5.26 294 Pn **Pn 17 57 03.1 0.0**
J16K IAML 17 58 34.5
comp=N,48nm,1.1s
BCPM Bancas Point 5.30 103 Pn **Pn 17 57 03.6 -0.3**
BCPM IAML 17 58 30.9
comp=E,90nm,0.9s
BCPM IAML 17 58 41.8
comp=N,66nm,1.2s
G24K Hadweenzic Riv 5.32 11 Pn **Pn 17 57 04.1 +0.1**
G24K IAML 17 58 42.3
comp=E,46nm,0.8s
G24K IAML 17 58 47.2
comp=N,41nm,1.0s
FYU Fort Yukon 5.48 20 Pn **Pn 17 57 06.2 +0.1**
I17K Unalakleet 5.48 300 **Pn 17 57 06.9 +0.7**
I17K Unalakleet 5.48 300 P **Pn 17 57 07.4 +1.2**
baz=111
DAWY Dawson 5.48 58 Pn **Pn 17 57 06.2 -0.1**
M29M Somme Creek 5.50 75 Pn **Pn 17 57 07.3 +0.6**
K15K Wolf Creek Mou 5.52 283 Pn **Pn 17 57 06.9 +0.1**
G19K Purcell Mounta 5.61 329 Pn **Pn 17 57 08.5 +0.5**
H17K Granite Mounta 5.66 312 Pn **Pn 17 57 08.6 -0.1**
O29M Mount Kennedy 5.69 97 Pn **Pn 17 57 09.6 +0.4**
G18K Tagagawik 5.85 322 **Pn 17 57 11.4 +0.2**
M14K Bethel 5.86 268 **Pn 17 57 12.3 +0.8**
M14K Bethel 5.86 268 P **Pn 17 57 12.3 +0.8**
baz=77
F21K Alatna River 5.93 347 Pn **Pn 17 57 13.9 +1.5**
I28M Miner Creek 5.97 44 Pn **Pn 17 57 14.5 +1.4**
O14K Tigyukauivet M 6.05 253 Pn **Pn 17 57 14.4 +0.5**
HYT Haines Junctio 6.07 91 Pn **Pn 17 57 14.3 -0.2**
F20K Avaraart Lake 6.09 338 Pn **Pn 17 57 16.3 +1.7**
F24K Squaw Lake 6.09 8 Pn **Pn 17 57 16.4 +1.7**
L14K Kuka Creek 6.11 274 Pn **Pn 17 57 16.2 +1.4**
N30M Aishikik Lake 6.17 85 Pn **Pn 17 57 15.2 -0.5**
K29M Barlow Dome 6.18 62 Pn **Pn 17 57 15.4 -0.6**
M30M Minto, Yukon 6.28 75 Pn **Pn 17 57 17.2 -0.1**
P29M Windy Craggy 6.32 102 **Pn 17 57 17.6 -0.1**
F19K Shaleruckik Mo 6.33 331 Pn **Pn 17 57 18.0 +0.2**
BMAR Burnt Mountain 6.37 19 Pn **Pn 17 57 19.1 +0.6**
F25K Christian Rive 6.38 15 Pn **Pn 17 57 19.3 +0.7**
H16K Elim 6.39 305 P **Pn 17 57 20.5 +1.8**
baz=114
J14K Nanvaranak Lak 6.49 287 Pn **Pn 17 57 20.5 +0.5**
M13K Dall Lake 6.61 266 Pn **Pn 17 57 22.1 +0.4**
F26K Sheenjek River 6.68 19 Pn **Pn 17 57 24.1 +1.3**
E19K Redstone River 6.73 335 Pn **Pn 17 57 23.9 +0.5**
Q30N Mendenhall 6.76 90 Pn **Pn 17 57 23.4 -0.4**
G16K Koyuk River 6.78 310 Pn **Pn 17 57 24.0 +0.1**
N31M Braeburn, Yuko 6.79 84 Pn **Pn 17 57 24.0 -0.2**
K13K Kusilvak Mount 6.99 280 Pn **Pn 17 57 26.7 -0.3**
F17K Baldwin Pennin 7.00 320 **Pn 17 57 27.2 +0.2**
E21K Killik River 7.16 348 Pn **Pn 17 57 31.7 +2.5**
WHY Whitehorse 7.36 90 Pn **Pn 17 57 31.7 -0.5**
E18K Tukpahlearik C 7.49 327 **Pn 17 57 35.9 +2.1**
F28M Old Crow 7.49 31 Pn **Pn 17 57 35.1 +1.3**
SKAG Skagway 7.51 99 Pn **Pn 17 57 34.4 +0.3**
E27K Coleen River 7.58 24 Pn **Pn 17 57 35.5 +0.5**
ANM Nome 7.64 300 Pn **Pn 17 57 37.1 +1.4**
D24K Happy Valley 7.68 3 Pn **Pn 17 57 38.4 +2.1**
F15K North Star Dit 7.77 309 Pn **Pn 17 57 39.5 +2.0**
S31K Pelican 7.79 111 Pn **Pn 17 57 39.0 +1.1**
D19K Kuna River 7.80 337 Pn **Pn 17 57 40.6 +2.6**
M11K Mekoryuk 7.99 269 Pn **Pn 17 57 41.5 +1.0**
BESE Bessie Mountai 8.11 105 Pn **Pn 17 57 41.6 -0.7**
N32M Quiet Lake 8.12 85 Pn **Pn 17 57 42.0 -0.5**
P32M Atlin 8.23 96 Pn **Pn 17 57 43.6 -0.4**
C24K Franklin Bluff 8.26 3 Pn **Pn 17 57 45.9 +1.7**
R32K Eaglecrest 8.41 106 Pn **Pn 17 57 45.6 -0.8**
P33M Teslin, Yukon 8.47 91 Pn **Pn 17 57 46.3 -0.9**
G31M Satah River 8.71 45 Pn **Pn 17 57 50.8 +0.4**
S32K Killisnoo 8.81 111 Pn **Pn 17 57 51.4 -0.4**
TNA Tin City 8.97 305 Pn **Pn 17 57 55.7 +1.8**
Q32M Nakina River 9.16 98 Pn **Pn 17 57 56.5 -0.3**
R33M Jennings River 9.61 94 Pn **Pn 17 58 01.9 -1.1**
INK Inuvik 9.72 39 Pn **Pn 17 58 03.2 -1.0**
comp=N,0.1nm,0.3s,baz=229,slow=9.3,SNR=1.5
comp=N,3.7nm,0.8s
DLBC Dease Lake 10.44 98 Pn **Pn 17 58 13.3 -0.9**
comp=N,0.2nm,0.3s,baz=345,slow=20,SNR=1.6
comp=N,2.0nm,0.6s
T35M Bob Quinn 11.05 105 Pn **Pn 17 58 21.1 -1.4**
DIB Dawson Inlet, 12.55 124 Pn **Pn 17 58 43.2 +0.3**
YKA Yellowknife Ar 16.50 71 Pn **Pn 17 59 35.4 +0.4**
comp=N,0.2nm,0.3s,baz=284,slow=11,SNR=5.5
comp=N,2.1nm,0.9s
NVAR Mina Array Bea 30.27 125 P **P 18 01 54.2 +0.6**
comp=N,0.9nm,0.5s,baz=315,slow=8.7,SNR=2.8
comp=N,0.9nm,0.5s
PDAR Pinedale Array 30.39 109 P **P 18 01 55.5 +0.7**
comp=N,1.1nm,0.5s,baz=328,slow=4.3,SNR=8.2
comp=N,1.1nm,0.5s
KSRS Korea Array 54.28 284 P **P 18 05 07.7 -0.4**
comp=N,1.7nm,0.6s,baz=35,slow=7.6,SNR=6.4
comp=N,1.7nm,0.6s
SONM Songino Array 55.09 307 P **P 18 05 14.4 +0.4**
comp=N,1.9nm,0.8s,baz=39,slow=8.0,SNR=6.4
comp=N,1.9nm,0.8s
FINES FINESS Array B 57.33 2 P **P 18 05 29.6 +0.1**
comp=N,10nm,1.2s,baz=26,slow=9.8,SNR=1.7
comp=N,10nm,1.2s
BVAR Borovoye Array 61.40 334 P **P 18 05 56.6 -1.1**
comp=N,0.8nm,0.5s,baz=40,slow=0.5,SNR=2.7
comp=N,0.8nm,0.5s
KURBB Kurchatov Arra 61.69 327 P **P 18 05 58.1 -1.7**
comp=N,0.5nm,0.5s,baz=29,slow=6.7,SNR=3.4
comp=N,0.5nm,0.5s
AKASG Malin Array Be 68.13 1 P **P 18 06 40.8 -0.8**
comp=N,0.8nm,0.5s,baz=1.7,slow=6.5,SNR=7.6
comp=N,0.8nm,0.5s
QSPA South Pole Qui 151.32 180 PKPbc **PKPbc 18 15 33.1 -0.6**
comp=N,0.9nm,0.6s,baz=117,slow=4.5,SNR=7.2

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*NEIC **30** 17:57:19.1±1.2,61°.41N±0°.03×150°.05W±0°.06,h46km±5km,*
Error ellipse: s-maj=4.4km s-min=4.0km az=92.0
AEIC 30 17:57:19.8±1.1,61°.41N±0°.02×150°.13W±0°.06,h40km±4km,
ML3.2,ML3.5/76(NEIC),Error ellipse: s-maj=4.4km
s-min=3.2km az=115.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.30**	**281**		Pn	17 57 27.0	-1.2
SUA					Sn	17 57 33.5	-0.5
M22K	**Willow**	**0.35**	**1**		Pn	17 57 27.8	-0.8
RC01	**Rabbit Creek A**	**0.37**	**149**		Pn	17 57 27.9	-1.0
PMR	**Palmer**	**0.51**	**68**		Sn	17 57 37.1	-1.2
PMR	**Palmer**	**0.51**	**68**	Pn	Pn	17 57 29.2	-1.4
PMR	**Palmer**	**0.51**	**68**	IAML		17 57 37.5	
PMR	comp=E,2μm,0.3s			IAML		17 57 37.7	
	comp=N,1μm,0.3s						
GHO	**Glory Hole Cre**	**0.68**	**57**		Pn	17 57 32.0	-1.0
GHO					Sn	17 57 42.0	-0.6
KNK	**Knik Glacier**	**0.81**	**89**		Pn	17 57 33.2	-1.4
CAPN	**Captain Cook N**	**0.81**	**218**	Pn	Pn	17 57 34.4	-0.3
SKT	**Skwentna**	**0.88**	**311**		Pn	17 57 35.1	-0.5
SLKM	**Skilak Lake**	**0.90**	**183**		Pn	17 57 35.3	-0.7
SML	**Sawmill**	**0.95**	**64**		Pn	17 57 35.5	-1.1
O22K	**Cooper Landing**	**0.95**	**168**		Pn	17 57 35.3	-1.3
CUT	**Chulitna**	**1.00**	**356**		Pn	17 57 36.5	-0.8
CUT	**Chulitna**	**1.00**	**356**		Sn	17 57 50.6	+0.4
CUT	**Chulitna**	**1.00**	**356**	IAML		17 57 52.0	
CUT	comp=N,3μm,0.3s			IAML		17 58 09.3	
	comp=E,2μm,0.2s						
PWL	**Port Wells**	**1.03**	**121**		Pn	17 57 37.1	-0.7
M23K	**Glacier View**	**1.21**	**70**		Pn	17 57 39.7	-0.5
SEW	**Seward**	**1.35**	**165**		Pn	17 57 41.5	-0.6
RDT	**Redoubt**	**1.39**	**234**		Pn	17 57 42.0	-0.7
SCM	**Sheep Creek Mo**	**1.41**	**71**	Pn	Pn	17 57 42.1	-0.8
SCM				IAML		17 58 20.4	
	comp=N,1μm,0.7s						
M20K	**Styx River**	**1.51**	**290**	Pn	Pn	17 57 44.5	+0.2
M20K				IAML		17 58 24.7	
	comp=N,442nm,0.9s						
M20K				IAML		17 58 24.8	
	comp=E,465nm,0.8s						
GLI	**Glacier Island**	**1.56**	**108**		Pn	17 57 43.3	-1.7
GLI				IAML		17 58 29.4	
	comp=N,763nm,0.5s						
BRLK	**Bradley Lake**	**1.69**	**193**		Pn	17 57 46.3	-0.5
BRSE	**Bradley Lake S**	**1.70**	**190**		Pn	17 57 46.2	-0.7
FID	**Port Fidalgo**	**1.89**	**109**		Pn	17 57 48.4	-1.2
HOM	**Homer**	**1.91**	**204**	Pn	Pn	17 57 49.9	+0.2
CNPM	**China Poot**	**1.97**	**197**		Pn	17 57 50.0	-0.6
M24K	**Tolsona, Glenn**	**2.01**	**68**	Pn	Pn	17 57 51.5	+0.3
KLU	**Klutina**	**2.02**	**86**	Pn	Pn	17 57 51.3	-0.1
HIN	**Hinchinbrook I**	**2.04**	**118**	Pn	Pn	17 57 52.7	+1.1
ILSW	**Iliamna Southw**	**2.06**	**227**	Pn	Pn	17 57 52.2	+0.3
RND	**Reindeer**	**2.09**	**16**	Pn	Pn	17 57 53.1	+0.8
M19K	**Big River Lodg**	**2.09**	**286**	Pn	Pn	17 57 52.8	+0.5
M19K				IAML		17 58 53.2	
	comp=N,182nm,0.7s						
DHY	**Denali Highway**	**2.11**	**36**	Pn	Pn	17 57 53.1	+0.4
DHY				IAML		17 58 57.5	
	comp=N,218nm,0.8s						
KTH	**Kantishna Hill**	**2.18**	**351**	Pn	Pn	17 57 53.9	+0.2
CAST	**Castle Rocks**	**2.21**	**337**	Pn	Pn	17 57 53.8	-0.1
P19K	**Oil Pt**	**2.33**	**222**	Pn	Pn	17 57 55.8	+0.2
L19K	**White Mountain**	**2.37**	**291**	Pn	Pn	17 57 56.5	+0.3
L19K				IAML		17 58 58.6	
	comp=E,148nm,1.1s						
SVW2	**Sparrevohn**	**2.65**	**266**	Pn	Pn	17 57 59.8	-0.2
K20K	**Telida**	**2.68**	**319**	Pn	Pn	17 58 00.8	+0.4
BPAW	**Bear Paw Mtn.**	**2.73**	**352**	Pn	Pn	17 58 00.6	-0.5
BPAW				IAML		17 59 08.2	
	comp=E,103nm,0.8s						
N18K	**Kilae Creek**	**2.90**	**258**	Pn	Pn	17 58 03.2	-0.1
SYI	**Shuyak Island**	**3.03**	**203**	Pn	Pn	17 58 03.9	-1.2
SYI				IAML		17 59 02.9	
	comp=N,90nm,0.6s						
GLB	**Gilahina Butte**	**3.04**	**87**	Pn	Pn	17 58 03.6	-1.7
GLB				IAML		17 59 23.1	
	comp=E,75nm,0.8s						
GLB				IAML		17 59 24.4	
	comp=N,164nm,0.8s						
KAIM	**Kayak Island**	**3.18**	**115**	Pn	Pn	17 58 06.4	-0.8
KAIM				IAML		17 59 18.8	
	comp=E,79nm,1.1s						
L18K	**Granite Mounta**	**3.22**	**288**	Pn	Pn	17 58 06.8	-0.9

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*NEIC **30** 17:57:36.6±1.1,61°.39N±0°.02×150°.02W±0°.05,h47km±3km,*
Error ellipse: s-maj=3.4km s-min=2.9km az=220.0
*AEIC **30** 17:57:37.2±0.9,61°.39N±0°.02×150°.05W±0°.05,h42km±3km,*
ML3.4,ML3.6/92(NEIC),Error ellipse: s-maj=3.4km
s-min=3.2km az=94.0
ISC 30 17:57:37.1±1.8,61°.38N±0°.03×150°.04W±0°.02,h37km±1km,
n89,σ0°70/98,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.33**	**154**	Pn	**Pn**	**17 57 45.1**	**-0.3**
RC01				Sn	**Sn**	**17 57 50.5**	**-1.8**
RC01				IAML		17 57 55.7	
	comp=E,6μm,0.2s						
RC01				IAML		17 57 56.0	
	comp=N,8μm,0.2s						
SUA	**Susitna One**	**0.35**	**284**		**Pn**	**17 57 45.5**	**-0.2**
SUA					**Sn**	**17 57 53.1**	**+0.4**
SUA	**Susitna One**	**0.35**	**284**	IAML		17 57 53.4	
	comp=E,3μm,0.6s						
SUA	**Susitna One**	**0.35**	**284**	P	**Pn**	**17 57 45.5**	**-0.2**
	baz=102						
SUA				S	**Sn**	**17 57 53.1**	**+0.4**
	baz=102						
M22K	**Willow**	**0.38**	**354**		**Sn**	**17 57 53.1**	**+0.5**
M22K	**Willow**	**0.38**	**354**		**Pn**	**17 57 45.3**	**-0.5**
M22K	**Willow**	**0.38**	**354**	IAML		17 57 53.4	
	comp=E,8μm,0.6s						
M22K				IAML		17 57 57.2	
	comp=N,6μm,0.6s						
M22K	**Willow**	**0.38**	**354**	P	**Pn**	**17 57 45.4**	**-0.4**
	baz=175						
M22K				S	**Sn**	**17 57 53.1**	**+0.5**
	baz=175						
PMR	**Palmer**	**0.48**	**64**		**Pn**	**17 57 46.8**	**-0.7**
PMR					**Sn**	**17 57 55.1**	**+0.4**
PMR	**Palmer**	**0.48**	**64**	IAML		17 57 55.9	
	comp=N,3μm,0.1s						
PMR				IAML		17 58 10.0	
	comp=E,3μm,0.4s						
PMR	**Palmer**	**0.48**	**64**	P	**Pn**	**17 57 46.7**	**-0.7**
	baz=246						
PMR				S	**Sn**	**17 57 55.1**	**+0.4**
	baz=246						
GHO	**Glory Hole Cre**	**0.66**	**53**		**Pn**	**17 57 49.5**	**-0.6**
GHO					**Sn**	**17 57 59.6**	**+0.3**
GHO	**Glory Hole Cre**	**0.66**	**53**	IAML		17 58 01.4	
	comp=E,4μm,0.3s						
GHO				IAML		17 58 02.2	
	comp=N,3μm,0.3s						
KNK	**Knik Glacier**	**0.76**	**87**	Pn	**Pn**	**17 57 50.6**	**-0.7**
KNK				Sn	**Sn**	**17 58 02.4**	**+0.9**
KNK				IAML		17 58 04.0	
	comp=N,3μm,0.3s						
KNK				IAML		17 58 06.6	
	comp=E,2μm,0.3s						
CAPN	**Captain Cook N**	**0.82**	**222**	Pn	**Pn**	**17 57 50.7**	**-1.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.87**	**279**		**Pn**	**17 57 52.4**	**-0.5**
STLK					**Sn**	**17 58 04.5**	**0.0**
SLKM	**Skilak Lake**	**0.88**	**186**		**Sn**	**17 58 05.5**	**+1.0**
O22K	**Cooper Landing**	**0.92**	**170**	Pn	**Pn**	**17 57 51.7**	**-1.7**
O22K					**Sn**	**17 58 06.0**	**+0.7**
SML	**Sawmill**	**0.92**	**62**	Pn	**Pn**	**17 57 51.8**	**-1.7**
SML				Sn	**Sn**	**17 58 04.7**	**-0.9**
SML	comp=N,1μm,0.2s			IAML		17 58 07.2	
SML	comp=E,2μm,0.9s			IAML		17 58 08.1	
SML	**Sawmill** baz=244	**0.92**	**62**	P	**Pn**	**17 57 52.7**	**-0.8**
SKT	**Skwentna**	**0.93**	**311**		**Pn**	**17 57 52.8**	**-0.9**
SKT	**Skwentna**	**0.93**	**311**	IAML		17 58 06.0	
SKT	**Skwentna** baz=129 comp=N,3μm,0.3s	**0.93**	**311**	P	**Pn**	**17 57 52.8**	**-0.9**
SPCG	**Spurr Capps Gl**	**0.96**	**266**		**Pn**	**17 57 53.6**	**-0.6**
PWL	**Port Wells**	**0.98**	**122**	Pn	**Pn**	**17 57 54.0**	**-0.2**
PWL				Sn	**Sn**	**17 58 07.1**	**+0.2**
SPCP	**Crater Peak Br**	**1.03**	**265**		**Pn**	**17 57 54.7**	**-0.4**
N20K	**Mount Spurr** baz=79	**1.06**	**261**	P	**Pn**	**17 57 55.3**	**-0.2**
SPCR	**Spurr Chakacha**	**1.06**	**261**		**Pn**	**17 57 55.3**	**-0.3**
SPCR					**Sn**	**17 58 09.5**	**+0.4**
SPCR	**Spurr Chakacha**	**1.06**	**261**		**Pn**	**17 57 55.2**	**-0.3**
M23K	**Glacier View**	**1.18**	**68**		**Pn**	**17 57 56.8**	**-0.3**
M23K	**Glacier View** baz=251	**1.18**	**68**	P	**Pn**	**17 57 55.8**	**-1.2**
SEW	**Seward**	**1.31**	**167**		**Pn**	**17 57 58.9**	**+0.1**
SCM	**Sheep Creek Mo**	**1.37**	**69**		**Pn**	**17 57 59.8**	**0.0**
SCM	**Sheep Creek Mo** baz=252	**1.37**	**69**	P	**Pn**	**17 57 59.8**	**0.0**
RDT	**Redoubt**	**1.41**	**236**		**Pn**	**17 57 59.6**	**-0.6**
GLI	**Glacier Island**	**1.51**	**108**		**Pn**	**17 58 00.8**	**-0.8**
GLI	**Glacier Island** baz=291	**1.51**	**108**	P	**Pn**	**17 58 00.8**	**-0.8**
WAT7	**Susitna Watana**	**1.56**	**20**		**Pn**	**17 58 02.1**	**-0.3**
M20K	**Styx River**	**1.56**	**290**		**Pn**	**17 58 02.1**	**-0.2**
RDJH	**Redoubt Jeurge**	**1.56**	**241**		**Pn**	**17 58 01.9**	**-0.6**
RDJH					**Sn**	**17 58 22.0**	**+0.5**
WAT1	**Susitna Watana**	**1.61**	**25**		**Pn**	**17 58 02.5**	**-0.5**
RDSO	**Redoubt South**	**1.62**	**236**		**Pn**	**17 58 02.6**	**-0.5**
RDWB	**Redoubt West**	**1.64**	**238**		**Pn**	**17 58 02.9**	**-0.5**
RDWB					**Sn**	**17 58 23.8**	**+0.5**
RED	**Redoubt Volcan**	**1.65**	**235**		**Pn**	**17 58 03.1**	**-0.5**
BRLK	**Bradley Lake**	**1.68**	**195**	Pn	**Pn**	**17 58 03.0**	**-0.8**
BRLK	comp=E,484nm,0.5s			IAML		17 58 27.6	
BRLK	comp=N,421nm,0.4s			IAML		17 58 41.4	
O20K	**Slope Mountain**	**1.82**	**225**		**Pn**	**17 58 05.6**	**-0.3**
PPLA	**Purkeypile**	**1.83**	**327**		**Pn**	**17 58 05.6**	**-0.5**
FID	**Port Fidalgo**	**1.84**	**109**	Pn	**Pn**	**17 58 04.7**	**-1.5**
FID	comp=E,813nm,0.7s			IAML		17 58 29.5	
FID	comp=N,857nm,0.4s			IAML		17 58 37.3	
HOM	**Homer**	**1.90**	**205**	Pn	**Pn**	**17 58 06.5**	**-0.4**
CNPM	**China Poot**	**1.95**	**198**	Pn	**Pn**	**17 58 07.0**	**-0.6**
CNPM	comp=E,566nm,0.5s			IAML		17 58 34.8	
CNPM	comp=N,389nm,0.5s			IAML		17 58 50.3	
M24K	**Tolsona, Glenn**	**1.98**	**67**	Pn	**Pn**	**17 58 08.5**	**+0.5**
M24K	comp=E,529nm,0.8s			IAML		17 58 39.3	
M24K	comp=N,408nm,1.0s			IAML		17 58 51.9	
KLU	**Klutina**	**1.98**	**85**	Pn	**Pn**	**17 58 07.9**	**-0.1**
KLU	comp=E,331nm,0.5s			IAML		17 58 40.7	
KLU	comp=N,427nm,0.4s			IAML		17 58 44.2	
HIN	**Hinchinbrook I**	**1.99**	**118**	Pn	**Pn**	**17 58 07.4**	**-0.7**
HIN	comp=N,734nm,0.9s			IAML		17 58 42.0	
HIN	comp=E,570nm,0.6s			IAML		17 58 43.7	
IVE	**Iliamna Volcan**	**2.00**	**228**		**Pn**	**17 58 08.4**	**-0.1**
ILS	**Iliamna Low So**	**2.07**	**228**		**Pn**	**17 58 09.2**	**-0.1**
ILSW	**Iliamna Southw**	**2.07**	**229**	Pn	**Pn**	**17 58 08.8**	**-0.7**
ILSW	comp=E,254nm,0.8s			IAML		17 58 38.4	
TRF	**Thorofare Moun**	**2.08**	**357**		**Pn**	**17 58 09.1**	**-0.4**
TRF	**Thorofare Moun** comp=E,225nm,0.6s	**2.08**	**357**	IAML		17 58 52.3	
TRF	comp=N,320nm,0.6s			IAML		17 58 60.0	
RND	**Reindeer**	**2.11**	**15**	Pn	**Pn**	**17 58 09.7**	**-0.1**
RND	comp=N,236nm,0.7s			IAML		17 58 47.6	
DHY	**Denali Highway**	**2.11**	**35**	Pn	**Pn**	**17 58 09.9**	**0.0**
DHY	comp=E,298nm,0.5s			IAML		17 58 42.3	
L20K	**Farewell, AK**	**2.13**	**303**		**Pn**	**17 58 09.8**	**-0.3**
M19K	**Big River Lodg**	**2.15**	**286**	Pn	**Pn**	**17 58 09.7**	**-0.6**
KTH	**Kantishna Hill**	**2.22**	**350**	Pn	**Pn**	**17 58 11.4**	**+0.1**
KTH	comp=E,267nm,0.6s			IAML		17 58 54.7	
KTH	comp=N,210nm,0.8s			IAML		17 58 58.9	
N19K	**Bonanza Creek**	**2.23**	**257**	Pn	**Pn**	**17 58 11.3**	**-0.3**
EYAK	**Cordova Ski Ar**	**2.25**	**110**		**Pn**	**17 58 11.7**	**0.0**
CAST	**Castle Rocks**	**2.26**	**336**		**Pn**	**17 58 11.4**	**-0.5**
P19K	**Oil Pt**	**2.35**	**224**	Pn	**Pn**	**17 58 11.6**	**-1.5**
P19K	comp=E,474nm,0.6s			IAML		17 58 46.2	
P19K	comp=N,513nm,0.5s			IAML		17 59 04.4	
O19K	**Port Alsworth**	**2.41**	**242**		**Pn**	**17 58 13.9**	**0.0**
L19K	**White Mountain**	**2.43**	**291**	Pn	**Pn**	**17 58 14.0**	**-0.2**
N25K	**Chitina, Valde**	**2.62**	**83**	Pn	**Pn**	**17 58 17.4**	**+0.6**
N25K	comp=N,170nm,0.7s			IAML		17 59 09.4	
SVW2	**Sparrevohn**	**2.70**	**266**	Pn	**Pn**	**17 58 17.2**	**-0.6**
K20K	**Telida**	**2.73**	**318**	Pn	**Pn**	**17 58 18.0**	**-0.4**
K20K	comp=E,155nm,0.6s			IAML		17 58 57.7	
M18K	**Stony River**	**2.78**	**275**		**Pn**	**17 58 18.5**	**-0.5**
N18K	**Kilae Creek**	**2.93**	**259**	Pn	**Pn**	**17 58 19.8**	**-1.4**
N18K	comp=N,104nm,1.1s			IAML		17 59 19.9	
HMT	**Hamilton**	**3.01**	**108**	Pn	**Pn**	**17 58 22.2**	**0.0**
SYI	**Shuyak Island**	**3.02**	**204**	Pn	**Pn**	**17 58 22.2**	**-0.1**
SYI	comp=E,94nm,0.9s			IAML		17 59 10.5	
TTA	**Tatalina**	**3.21**	**302**	Pn	**Pn**	**17 58 24.0**	**-0.9**
L18K	**Granite Mounta**	**3.27**	**288**	Pn	**Pn**	**17 58 24.7**	**-1.0**
L18K	comp=E,89nm,1.1s			IAML		17 59 23.7	
M17K	**Holitna River**	**3.56**	**274**	Pn	**Pn**	**17 58 28.5**	**-1.2**
M17K	comp=N,162nm,0.8s			IAML		17 59 42.0	
M17K	comp=E,136nm,0.7s			IAML		17 59 42.4	
N17K	**Nushagak Hills**	**3.59**	**259**	Pn	**Pn**	**17 58 29.4**	**-0.7**
J18K	**Innoko River**	**3.75**	**307**	Pn	**Pn**	**17 58 31.2**	**-1.0**
I21K	**Tanana**	**3.91**	**348**	Pn	**Pn**	**17 58 34.0**	**-0.6**
K17K	**Iditarod**	**4.12**	**293**	Pn	**Pn**	**17 58 36.9**	**-0.4**
M16K	**Timber Creek**	**4.33**	**269**	Pn	**Pn**	**17 58 40.0**	**-0.3**
I17K	**Unalakleet**	**5.52**	**302**	Pn	**Pn**	**17 58 56.2**	**-0.4**
M14K	**Bethel**	**5.83**	**269**	Pn	**Pn**	**17 59 00.7**	**-0.1**
O14K	**Tigyukauivet M**	**5.97**	**254**	Pn	**Pn**	**17 59 02.2**	**-0.6**
L14K	**Kuka Creek**	**6.08**	**275**	Pn	**Pn**	**17 59 04.8**	**+0.5**
M30M	**Minto, Yukon**	**6.36**	**73**	Pn	**Pn**	**17 59 06.8**	**-1.4**
M22K	**Willow**	**0.28**	**346**		**Pn**	**18 00 13.8**	**-0.7**
M22K				Sn	**Sn**	**18 00 20.6**	**-0.4**
M22K	**Willow** baz=163,SNR=248	**0.28**	**346**	P	**Pn**	**18 00 13.9**	**-0.7**
SUA	**Susitna One**	**0.37**	**267**		**Sn**	**18 00 22.8**	**+0.1**
RC01	**Rabbit Creek A**	**0.41**	**163**		**Pn**	**18 00 15.2**	**-0.6**
RC01					**Sn**	**18 00 22.7**	**-0.5**
RC01	comp=N,141μm,0.4s			IAML		18 00 24.0	
RC01	comp=E,101μm,0.5s			IAML		18 00 24.1	
RC01	**Rabbit Creek A** baz=346,SNR=71	**0.41**	**163**	P	**Pn**	**18 00 15.2**	**-0.6**
PMR	**Palmer**	**0.42**	**74**		**Pn**	**18 00 15.1**	**-0.8**
PMR					**Sn**	**18 00 22.6**	**-0.8**
PMR	comp=N,111μm,0.4s			IAML		18 00 23.4	
PMR	**Palmer** baz=251,SNR=98	**0.42**	**74**	P	**Pn**	**18 00 15.2**	**-0.6**
PMR	**Palmer**	**0.42**	**74**	P	**Pn**	**18 00 16.4**	**+0.5**
GHO	**Glory Hole Cre**	**0.58**	**60**		**Pn**	**18 00 17.4**	**-0.5**
GHO					**Sn**	**18 00 26.5**	**-0.3**
GHO	comp=N,111μm,0.8s			IAML		18 00 27.9	
KNK	**Knik Glacier**	**0.73**	**95**		**Pn**	**18 00 19.6**	**-0.1**
KNK					**Sn**	**18 00 30.1**	**0.0**
KNK	comp=N,57μm,0.5s			IAML		18 00 32.1	
KNK	comp=E,42μm,0.6s			IAML		18 00 33.5	
KNK	**Knik Glacier** baz=274	**0.73**	**95**	P	**Pn**	**18 00 19.6**	**-0.1**
SML	**Sawmill**	**0.85**	**67**		**Pn**	**18 00 20.9**	**-0.3**
SML				Sn	**Sn**	**18 00 32.3**	**-0.6**
SML	comp=E,50μm,0.6s			IAML		18 00 34.3	
SML	comp=N,58μm,0.7s			IAML		18 00 35.7	
SML	**Sawmill** baz=246,SNR=90	**0.85**	**67**	P	**Pn**	**18 00 20.9**	**-0.3**
STLK	**Strandline Lak**	**0.89**	**272**		**Pn**	**18 00 22.2**	**+0.4**
STLK					**Sn**	**18 00 34.4**	**+0.6**
SKT	**Skwentna**	**0.89**	**305**	Pn	**Pn**	**18 00 21.5**	**-0.2**
SKT					**Sn**	**18 00 33.9**	**+0.2**
SKT	comp=E,63μm,0.5s			IAML		18 00 34.7	
SKT	**Skwentna** baz=124,SNR=96	**0.89**	**305**	P	**Pn**	**18 00 21.6**	**-0.2**
CAPN	**Captain Cook N**	**0.92**	**219**		**Pn**	**18 00 23.3**	**+1.4**
CAPN	comp=E,69μm,0.6s			IAML		18 00 43.3	
CAPN	**Captain Cook N** baz=40,SNR=20	**0.92**	**219**	P	**Pn**	**18 00 23.4**	**+1.4**
CUT	**Chulitna**	**0.94**	**352**		**Pn**	**18 00 22.2**	**0.0**
CUT	**Chulitna**	**0.94**	**352**		**Sn**	**18 00 35.7**	**+1.0**
CUT	**Chulitna** comp=N,135μm,0.3s	**0.94**	**352**	IAML		18 00 37.2	
CUT	comp=E,203μm,0.6s			IAML		18 00 37.8	
CUT	**Chulitna** baz=171	**0.94**	**352**	P	**Pn**	**18 00 22.3**	**0.0**
SLKM	**Skilak Lake**	**0.98**	**187**		**Pn**	**18 00 22.8**	**-0.2**
SPCG	**Spurr Capps Gl**	**1.00**	**260**		**Pn**	**18 00 23.8**	**+0.5**
O22K	**Cooper Landing**	**1.01**	**173**		**Pn**	**18 00 23.2**	**-0.1**
O22K	**Cooper Landing**	**1.01**	**173**		**Sn**	**18 00 37.8**	**+1.3**
O22K	**Cooper Landing** baz=354,SNR=112	**1.01**	**173**	P	**Pn**	**18 00 23.3**	**-0.1**
PWL	**Port Wells**	**1.01**	**127**		**Pn**	**18 00 23.3**	**-0.1**
PWL	comp=N,58μm,0.7s			IAML		18 00 39.2	
PWL	**Port Wells**	**1.01**	**127**		**Sn**	**18 00 37.6**	**+1.0**
PWL	**Port Wells** baz=308,SNR=60	**1.01**	**127**	P	**Pn**	**18 00 23.5**	**+0.2**
SPCP	**Crater Peak Br**	**1.07**	**259**		**Pn**	**18 00 25.0**	**+0.8**
SPCP					**Sn**	**18 00 39.7**	**+1.5**
N20K	**Mount Spurr** baz=76,SNR=53	**1.11**	**256**	P	**Pn**	**18 00 25.1**	**+0.3**
SPCR	**Spurr Chakacha**	**1.11**	**256**		**Pn**	**18 00 25.2**	**+0.4**
SPCR					**Sn**	**18 00 40.1**	**+1.1**
SPCR	**Spurr Chakacha**	**1.11**	**256**		**Pn**	**18 00 25.2**	**+0.4**
SPCR	**Spurr Chakacha** baz=76,SNR=52	**1.11**	**256**	P	**Pn**	**18 00 25.1**	**+0.4**
M23K	**Glacier View**	**1.12**	**73**		**Pn**	**18 00 25.1**	**+0.3**
M23K	**Glacier View** baz=253,SNR=45	**1.12**	**73**	P	**Pn**	**18 00 25.0**	**+0.2**
SCM	**Sheep Creek Mo**	**1.31**	**73**		**Pn**	**18 00 27.7**	**+0.3**
SCM	comp=E,29μm,0.8s			IAML		18 00 46.9	
SCM	comp=N,27μm,1.0s			IAML		18 00 46.9	
SCM	**Sheep Creek Mo** baz=254,SNR=77	**1.31**	**73**	P	**Pn**	**18 00 27.8**	**+0.3**
SEW	**Seward**	**1.41**	**169**		**Pn**	**18 00 28.4**	**-0.2**
SEW	**Seward** baz=350,SNR=80	**1.41**	**169**	P	**Pn**	**18 00 28.1**	**-0.5**
WAT7	**Susitna Watana**	**1.46**	**21**		**Pn**	**18 00 30.1**	**+0.7**
RDT	**Redoubt**	**1.49**	**233**		**Pn**	**18 00 30.2**	**+0.3**
WAT1	**Susitna Watana**	**1.51**	**26**		**Pn**	**18 00 30.7**	**+0.6**
WAT1	**Susitna Watana** baz=206	**1.51**	**26**	P	**Pn**	**18 00 30.7**	**+0.6**
GLI	**Glacier Island**	**1.52**	**112**		**Pn**	**18 00 30.0**	**-0.2**
GLI	comp=N,18μm,0.6s			IAML		18 01 01.8	
GLI	comp=E,20μm,0.5s			IAML		18 01 03.3	
GLI	**Glacier Island** baz=294,SNR=59	**1.52**	**112**	P	**Pn**	**18 00 30.0**	**-0.2**
WAT6	**Susitna Watana** baz=224,SNR=87	**1.53**	**43**	P	**Pn**	**18 00 30.8**	**+0.3**
M20K	**Styx River**	**1.56**	**286**		**Pn**	**18 00 31.9**	**+1.1**
M20K	comp=E,14μm,0.8s			IAML		18 00 54.3	
M20K	**Styx River** baz=104	**1.56**	**286**	P	**Pn**	**18 00 31.9**	**+1.1**
RDJH	**Redoubt Jeurge**	**1.64**	**238**		**Pn**	**18 00 32.5**	**+0.6**
PPLA	**Purkeypile**	**1.76**	**325**		**Pn**	**18 00 34.4**	**+0.9**
PPLA	**Purkeypile** baz=143,SNR=51	**1.76**	**325**	P	**Pn**	**18 00 34.2**	**+0.6**
BRLK	**Bradley Lake**	**1.78**	**195**		**Pn**	**18 00 33.8**	**0.0**
BRLK	comp=E,15μm,0.7s			IAML		18 00 60.0	
BRLK	comp=N,14μm,0.6s			IAML		18 01 00.5	
BRSE	**Bradley Lake S** baz=13,SNR=147	**1.79**	**192**	P	**Pn**	**18 00 33.5**	**-0.3**
FID	**Port Fidalgo**	**1.85**	**112**		**Pn**	**18 00 34.3**	**-0.4**
FID	comp=E,13μm,0.5s			IAML		18 01 11.3	
M24K	**Tolsona, Glenn**	**1.91**	**69**		**Pn**	**18 00 36.7**	**+1.1**
M24K	comp=N,16μm,1.3s			IAML		18 01 14.4	
M24K	**Tolsona, Glenn** baz=252,SNR=86	**1.91**	**69**	P	**Pn**	**18 00 36.8**	**+1.2**
O20K	**Slope Mountain** baz=42,SNR=28	**1.91**	**224**	P	**Pn**	**18 00 36.6**	**+1.0**
KLU	**Klutina**	**1.95**	**88**		**Pn**	**18 00 36.4**	**+0.3**
KLU	comp=N,10μm,0.6s			IAML		18 01 07.4	
KLU	comp=E,9μm,0.6s			IAML		18 01 10.6	
KLU	**Klutina** baz=271,SNR=39	**1.95**	**88**	P	**Pn**	**18 00 36.1**	**0.0**
P23K	**Montague Islan**	**1.95**	**139**		**Pn**	**18 00 35.1**	**-0.9**
P23K	**Montague Islan** baz=321,SNR=84	**1.95**	**139**	P	**Pn**	**18 00 35.2**	**-0.9**
TRF	**Thorofare Moun**	**1.98**	**356**		**Pn**	**18 00 37.4**	**+0.8**
TRF	comp=N,18μm,0.8s			IAML		18 01 06.2	
TRF	**Thorofare Moun** baz=175,SNR=124	**1.98**	**356**	P	**Pn**	**18 00 37.4**	**+0.8**
RND	**Reindeer**	**2.00**	**15**		**Pn**	**18 00 37.5**	**+0.7**
RND	comp=E,9μm,0.6s			IAML		18 01 06.6	
RND	comp=N,12μm,0.7s			IAML		18 01 09.8	
HOM	**Homer**	**2.01**	**205**		**Pn**	**18 00 37.3**	**+0.5**
HOM	**Homer** baz=24,SNR=96	**2.01**	**205**	P	**Pn**	**18 00 37.3**	**+0.5**
DHY	**Denali Highway**	**2.01**	**36**		**Pn**	**18 00 37.8**	**+0.7**
DHY	comp=N,12μm,0.9s			IAML		18 01 09.5	
DHY	comp=E,12μm,0.6s			IAML		18 01 10.9	
DHY	**Denali Highway** baz=218,SNR=139	**2.01**	**36**	P	**Pn**	**18 00 37.7**	**+0.7**
HIN	**Hinchinbrook I**	**2.02**	**121**		**Pn**	**18 00 36.7**	**-0.3**
HIN	comp=N,17μm,0.7s			IAML		18 01 12.9	
CNPM	**China Poot**	**2.06**	**198**		**Pn**	**18 00 37.5**	**-0.1**
CNPM	comp=E,12μm,0.5s			IAML		18 01 07.1	
CNPM	comp=N,13μm,0.7s			IAML		18 01 08.0	
DIV	**Divide**	**2.06**	**98**		**Pn**	**18 00 37.5**	**-0.1**
L20K	**Farewell, AK**	**2.10**	**300**		**Pn**	**18 00 38.9**	**+0.8**
L20K	**Farewell, AK** baz=117,SNR=31	**2.10**	**300**	P	**Pn**	**18 00 38.8**	**+0.8**
KTH	**Kantishna Hill**	**2.12**	**349**		**Pn**	**18 00 39.5**	**+1.0**
M19K	**Big River Lodg**	**2.15**	**283**		**Pn**	**18 00 39.6**	**+0.9**
M19K	comp=N,7μm,1.0s			IAML		18 01 19.8	
M19K	comp=E,7μm,0.8s			IAML		18 01 20.9	
M19K	**Big River Lodg** baz=100,SNR=23	**2.15**	**283**	P	**Pn**	**18 00 39.4**	**+0.6**
ILSW	**Iliamna Southw**	**2.16**	**227**		**Pn**	**18 00 39.6**	**+0.5**
ILSW	comp=E,7μm,0.8s			IAML		18 01 32.2	
CAST	**Castle Rocks**	**2.18**	**334**		**Pn**	**18 00 39.8**	**+0.6**
CAST	comp=E,10μm,0.6s			IAML		18 01 08.0	
CAST	comp=N,7μm,0.6s			IAML		18 01 10.1	
CAST	**Castle Rocks** baz=152,SNR=68	**2.18**	**334**	P	**Pn**	**18 00 39.5**	**+0.4**
EYAK	**Cordova Ski Ar** baz=296,SNR=42	**2.26**	**113**	P	**Pn**	**18 00 39.8**	**-0.5**
EYAK	**Cordova Ski Ar**	**2.26**	**113**	P	**Pn**	**18 00 41.8**	**+1.5**
N19K	**Bonanza Creek**	**2.29**	**255**		**Pn**	**18 00 41.4**	**+0.7**
N19K	**Bonanza Creek** baz=72,SNR=33	**2.29**	**255**	P	**Pn**	**18 00 41.5**	**+0.8**
MCK	**McKinley** baz=192,SNR=153	**2.31**	**12**	P	**Pn**	**18 00 42.3**	**+1.3**
L19K	**White Mountain**	**2.42**	**289**		**Pn**	**18 00 43.5**	**+1.0**
L19K	**White Mountain** comp=N,6μm,1.1s	**2.42**	**289**	IAML		18 01 31.9	
L19K	**White Mountain** baz=105,SNR=122	**2.42**	**289**	P	**Pn**	**18 00 43.5**	**+1.0**
P19K	**Oil Pt**	**2.44**	**223**		**Pn**	**18 00 43.6**	**+0.8**
P19K	**Oil Pt** baz=40,SNR=37	**2.44**	**223**	P	**Pn**	**18 00 43.5**	**+0.8**
HARP	**HAARP**	**2.46**	**66**		**Pn**	**18 00 44.9**	**+1.9**
HARP	**HAARP** baz=250,SNR=63	**2.46**	**66**	P	**Pn**	**18 00 43.7**	**+0.6**
O19K	**Port Alsworth**	**2.49**	**241**		**Pn**	**18 00 43.7**	**+0.3**
O19K	comp=N,9μm,0.5s			IAML		18 01 14.2	
O19K	comp=E,11μm,0.5s			IAML		18 01 19.4	
O19K	**Port Alsworth** baz=58,SNR=39	**2.49**	**241**	P	**Pn**	**18 00 43.5**	**+0.2**
N25K	**Chitina, Valde**	**2.58**	**85**		**Pn**	**18 00 45.6**	**+0.9**
N25K	**Chitina, Valde** comp=N,5μm,0.9s	**2.58**	**85**	IAML		18 01 25.0	
N25K	**Chitina, Valde** baz=269,SNR=62	**2.58**	**85**	P	**Pn**	**18 00 45.4**	**+0.6**
PAX	**Paxson**	**2.59**	**53**		**Pn**	**18 00 46.5**	**+1.7**
PAX	**Paxson** baz=236,SNR=58	**2.59**	**53**	P	**Pn**	**18 00 45.8**	**+1.0**
CHUM	**Lake Minchumin**	**2.64**	**337**		**Pn**	**18 00 46.3**	**+0.9**
CHUM	**Lake Minchumin** baz=155,SNR=49	**2.64**	**337**	P	**Pn**	**18 00 46.0**	**+0.5**
BMRM	**Bremner River**	**2.65**	**99**		**Pn**	**18 00 46.6**	**+0.9**
BMRM	**Bremner River** baz=283,SNR=35	**2.65**	**99**	P	**Pn**	**18 00 46.0**	**+0.3**
BPAW	**Bear Paw Mtn.**	**2.67**	**350**		**Pn**	**18 00 46.1**	**+0.3**
BPAW	comp=N,5μm,0.6s			IAML		18 01 31.3	
BPAW	comp=E,6μm,1.2s			IAML		18 01 32.9	
BPAW	**Bear Paw Mtn.** baz=169,SNR=69	**2.67**	**350**	P	**Pn**	**18 00 46.2**	**+0.3**
K20K	**Telida**	**2.68**	**316**		**Pn**	**18 00 46.5**	**+0.5**
K20K	**Telida** comp=E,6μm,0.6s	**2.68**	**316**	IAML		18 01 24.7	
K20K	**Telida** baz=133	**2.68**	**316**	P	**Pn**	**18 00 46.5**	**+0.5**
AU22	**Augustine Moun**	**2.70**	**220**		**Pn**	**18 00 47.2**	**+0.9**
BWN	**Browne**	**2.71**	**5**		**Pn**	**18 00 47.6**	**+1.1**
GOAT	**Goat Mountain**	**2.71**	**107**		**Pn**	**18 00 46.2**	**-0.3**
SVW2	**Sparrevohn**	**2.73**	**264**		**Pn**	**18 00 47.1**	**+0.3**
Q23K	**Middleton Isla**	**2.73**	**137**		**Pn**	**18 00 46.0**	**-0.7**
Q23K	comp=N,7μm,0.7s			IAML		18 01 38.0	
Q23K	comp=E,6μm,0.8s			IAML		18 01 50.2	
Q23K	**Middleton Isla** baz=320,SNR=8.6	**2.73**	**137**	P	**Pn**	**18 00 47.2**	**+0.5**
WACK	**Wrangell Chich**	**2.74**	**77**		**Pn**	**18 00 47.7**	**+0.7**
WASW	**Wrangell South**	**2.80**	**78**		**Pn**	**18 00 48.7**	**+0.7**
M18K	**Stony River**	**2.80**	**273**		**Pn**	**18 00 48.8**	**+1.0**
M18K	**Stony River** baz=88,SNR=16	**2.80**	**273**	P	**Pn**	**18 00 48.4**	**+0.7**
N18K	**Kilae Creek**	**2.98**	**257**		**Pn**	**18 00 50.9**	**+0.7**
N18K	**Kilae Creek** baz=72,SNR=16	**2.98**	**257**	P	**Pn**	**18 00 50.8**	**+0.6**
K24K	**Donnelly Dome** baz=221,SNR=105	**3.03**	**38**	P	Pn	18 00 55.5	+4.6
O18K	**Koktuh Hills** baz=56,SNR=34	**3.05**	**240**	P	**Pn**	**18 00 51.1**	**0.0**
WRH	**Wood River Hil**	**3.12**	**15**		**Pn**	**18 00 52.6**	**+0.5**
WRH	comp=N,4μm,1.1s			IAML		18 01 49.9	
SYI	**Shuyak Island**	**3.12**	**204**		**Pn**	**18 00 52.1**	**0.0**
SYI	comp=E,4μm,0.9s			IAML		18 01 40.1	
Q20K	**Shuyak Island** baz=22,SNR=70	**3.13**	**204**	P	**Pn**	**18 00 52.1**	**0.0**
KAIM	**Kayak Island** baz=302	**3.15**	**117**	P	**Pn**	**18 00 53.2**	**+0.8**
Q19K	**Cape Douglas,**	**3.15**	**217**		**Pn**	**18 00 53.4**	**+0.9**
Q19K	**Cape Douglas,** baz=34,SNR=64	**3.15**	**217**	P	**Pn**	**18 00 52.6**	**+0.1**
NEA2	**Nenana**	**3.15**	**7**		**Pn**	**18 00 52.9**	**+0.4**
NEA2	**Nenana** comp=N,4μm,0.6s	**3.15**	**7**	IAML		18 01 46.4	
NEA2	**Nenana** baz=188,SNR=81	**3.15**	**7**	P	**Pn**	**18 00 52.3**	**-0.2**
TTA	**Tatalina**	**3.18**	**300**		**Pn**	**18 00 53.3**	**+0.3**
TTA	comp=N,3μm,1.1s			IAML		18 01 45.0	
TTA	**Tatalina** baz=115,SNR=39	**3.18**	**300**	P	**Pn**	**18 00 53.4**	**+0.5**
HDA	**Harding Lake**	**3.25**	**24**		**Pn**	**18 00 55.2**	**+1.4**
HDA	**Harding Lake** baz=206,SNR=37	**3.25**	**24**	P	**Pn**	**18 00 55.5**	**+1.7**
L18K	**Granite Mounta**	**3.27**	**286**		**Pn**	**18 00 54.7**	**+0.7**
L18K	**Granite Mounta** baz=100	**3.27**	**286**	P	**Pn**	**18 00 54.6**	**+0.5**
RIDG	**Independent Ri** baz=228,SNR=49	**3.28**	**44**	P	**Pn**	**18 00 55.5**	**+1.2**
J20K	**Nowinta River** baz=143,SNR=46	**3.31**	**327**	P	**Pn**	**18 00 55.1**	**+0.4**
CCB	**Clear Creek Bu**	**3.33**	**16**		**Pn**	**18 00 55.0**	**+0.2**
CCB	comp=N,2μm,0.8s			IAML		18 01 51.1	
CCB	comp=E,3μm,0.9s			IAML		18 01 52.2	
P18K	**Big Mountain,**	**3.34**	**233**		**Pn**	**18 00 55.3**	**+0.1**
P18K	**Big Mountain,** baz=49,SNR=9.9	**3.34**	**233**	P	**Pn**	**18 00 55.0**	**-0.1**
MCARA	**McCarthy VSAT**	**3.34**	**89**		**Pn**	**18 00 58.0**	**+2.9**
MCARA	**McCarthy VSAT** baz=274,SNR=19	**3.34**	**89**	P	**Pn**	**18 00 56.1**	**+1.0**
SUCK	**Suckling Hills**	**3.35**	**112**		**Pn**	**18 00 55.2**	**0.0**
SUCK	**Suckling Hills** comp=N,3μm,0.5s	**3.35**	**112**	IAML		18 01 54.4	
SUCK	comp=E,3μm,1.2s			IAML		18 02 14.9	
CRQM	**Cirque**	**3.40**	**99**		**Pn**	**18 00 56.2**	**+0.2**
CRQM	comp=N,4μm,0.6s			IAML		18 01 54.4	
CRQE	**

COLA	College	3.54	15	P	Pn	18 00 58.4 +0.7
	baz=196					
COLA	College	3.54	15	P	Pn	18 00 59.3 +1.6
MLY	Manley	3.58	355		Pn	18 00 58.7 +0.3
MLY	Manley	3.58	355	P	Pn	18 00 58.6 +0.3
	baz=174,SNR=136					
M17K	Holitna River	3.58	272		Pn	18 00 59.5 +1.1
M17K				IAML		18 02 00.8
	comp=E,3μm,0.8s					
M17K				IAML		18 02 11.7
	comp=N,4μm,0.7s					
M17K	Holitna River	3.58	272	P	Pn	18 00 59.1 +0.7
	baz=86,SNR=21					
ILAR	Eielson Array	3.59	22		Pn	18 00 58.6 +0.1
ILAR	Eielson Array	3.59	22	P	Pn	18 00 58.1 -0.3
	comp=N,130nm,0.3s,baz=205,slow=14,SNR=48					
ILAR				S	Sn	18 01 38.0 -1.5
	comp=N,369nm,0.6s,baz=202,slow=15,SNR=1.9					
J19K	Poorman	3.62	317	P	Pn	18 00 59.1 +0.2
	baz=132,SNR=43					
N17K	Nushagak Hills	3.64	258		Pn	18 00 59.9 +0.7
N17K	Nushagak Hills	3.64	258	P	Pn	18 00 59.7 +0.6
	baz=72					
I23K	Minto, Yukon-K	3.69	4	IAML		18 02 03.8
	comp=N,3μm,0.9s					
I23K				IAML		18 02 09.7
	comp=E,2μm,1.2s					
I23K	Minto, Yukon-K	3.69	4	P	Pn	18 01 00.1 +0.3
	baz=184,SNR=147					
J18K	Innoko River	3.71	305	P	Pn	18 01 01.1 +1.0
	baz=120					
SCRK	Sand Creek	3.72	45	P	Pn	18 01 01.7 +1.3
	baz=230,SNR=19					
KIAG	Kiagna River	3.73	95		Pn	18 01 00.6 +0.1
SNH	Sunshine Point	3.73	107		Pn	18 01 00.6 +0.2
J25K	Salcha River,	3.78	32		Pn	18 01 02.7 +1.6
J25K	Salcha River,	3.78	32	P	Pn	18 01 02.8 +1.6
	baz=215,SNR=55					
Q18K	Katmai Hardscr	3.80	224	P	Pn	18 01 01.9 +0.4
	baz=40,SNR=6.0					
I21K	Tanana	3.82	347		Pn	18 01 02.6 +1.0
I21K	Tanana	3.82	347	IAML		18 02 11.7
	comp=N,2μm,1.4s					
I21K				IAML		18 02 18.7
	comp=E,2μm,0.8s					
I21K	Tanana	3.82	347	P	Pn	18 01 02.8 +1.2
	baz=165,SNR=82					
POKR	Poker Plat Res	3.83	16		Pn	18 01 02.9 +1.2
POKR	Poker Plat Res	3.83	16	IAML		18 02 07.4
	comp=N,3μm,0.8s					
POKR				IAML		18 02 14.5
	comp=E,2μm,1.8s					
POKR	Poker Plat Res	3.83	16	P	Pn	18 01 02.6 +0.9
	baz=198,SNR=57					
O17K	Koliganek Bris	3.90	247	P	Pn	18 01 03.5 +0.8
	baz=61,SNR=12					
I20K	Naaghedeneel	3.90	330		Pn	18 01 04.1 +1.4
I20K	Naaghedeneel	3.90	330	P	Pn	18 01 03.5 +0.8
	baz=146,SNR=24					
M27K	Edge Creek, AK	3.93	74		Pn	18 01 04.5 +1.2
M27K				IAML		18 02 18.2
	comp=N,2μm,0.8s					
M27K	Edge Creek, AK	3.93	74	P	Pn	18 01 03.7 +0.5
	baz=260					
KDAK	Kodiak Island	3.94	201		Pn	18 01 01.8 -1.5
KDAK				IAML		18 02 07.3
	comp=N,2μm,0.8s					
KDAK				IAML		18 02 31.1
	comp=N,2μm,1.1s					
KDAK	Kodiak Island	3.94	201	P	Pn	18 01 01.9 -1.4
	comp=N,23nm,0.3s,baz=263,slow=4.3,SNR=12					
KDAK				S	Sn	18 01 45.4 -2.7
	comp=N,478nm,0.6s,baz=185,slow=6.3,SNR=1.1					
	comp=N,93nm,0.5s					
KDAK	Kodiak Island	3.94	201	P	Pn	18 01 02.4 -0.9
	baz=19					
P17K	Kvichak River	3.95	237	P	Pn	18 01 04.0 +0.7
	baz=52,SNR=6.0					
L17K	Donlin	4.00	283		Pn	18 01 04.6 +0.5
L17K	Donlin	4.00	283	P	Pn	18 01 04.5 +0.5
	baz=96,SNR=27					
GRNC	Granite Creek	4.06	97		Pn	18 01 05.3 +0.1
GRNC				IAML		18 02 12.3
	comp=N,2μm,1.0s					
K17K	Iditarod	4.10	291		Pn	18 01 06.1 +0.6
K17K				IAML		18 02 21.0
	comp=E,2μm,0.9s					
K17K				IAML		18 02 27.6
	comp=N,2μm,1.0s					
K17K	Iditarod	4.10	291	P	Pn	18 01 06.2 +0.7
	baz=104,SNR=38					
L27K	Beaver Creek,	4.12	64		Pn	18 01 06.5 +0.7
L27K	Beaver Creek,	4.12	64	P	Pn	18 01 06.4 +0.5
	baz=251					
MESA	MESA	4.14	105	P	Pn	18 01 06.2 0.0
	baz=292					
BCAR	Beaver Creek A	4.14	64	Pn	Pn	18 01 06.3 +0.1
KABR	Katmai Barrier	4.20	219		Pn	18 01 07.4 +0.4
CTG	Chitna Glacier	4.21	93	P	Pn	18 01 08.1 +1.0
	baz=281					
J26L	Joseph Creek	4.21	41	P	Pn	18 01 08.8 +1.8
	baz=226,SNR=37					
ACHA	Angle Creek He	4.25	222		Pn	18 01 07.9 +0.4
M16K	Timber Creek	4.36	268		Pn	18 01 09.9 +0.9
M16K	Timber Creek	4.36	268	P	Pn	18 01 10.1 +1.0
	baz=80,SNR=8.1					
H23K	Yukon River	4.37	2	P	Pn	18 01 10.8 +1.7
	baz=182					
Q16K	King Salmon	4.37	233	P	Pn	18 01 10.0 +0.9
	baz=47					
YUK2	White River	4.37	82		Pn	18 01 10.0 +0.7
H21K	Melozitna Rive	4.38	344		Pn	18 01 10.1 +0.8
H21K				IAML		18 02 17.2
	comp=E,1μm,0.7s					
H21K				IAML		18 02 21.5
	comp=N,1μm,0.7s					
H21K	Melozitna Rive	4.38	344	P	Pn	18 01 10.5 +1.2
	baz=162,SNR=56					
CNTC	Contact Creek	4.39	225		Pn	18 01 10.0 +0.5
Q17K	Contact Creek	4.39	225	P	Pn	18 01 10.4 +0.9
	baz=40					
LOGN	Logan Glacier	4.40	95		Pn	18 01 10.2 +0.4
LOGN				IAML		18 02 22.2
	comp=E,1μm,0.8s					
N16K	Nishlik Lake	4.40	261		Pn	18 01 10.5 +0.9
N16K	Nishlik Lake	4.40	261	P	Pn	18 01 10.8 +1.1
	baz=73,SNR=9.1					
BVCY	Beaver Creek	4.41	74	P	Pn	18 01 10.5 +0.7
	baz=261,SNR=6.4					
Q16K	Kokwok River B	4.43	248		Pn	18 01 10.8 +0.8
Q16K	Kokwok River B	4.43	248	P	Pn	18 01 10.6 +0.6
	baz=62,SNR=18					
KJL	Kejulik	4.45	222		Pn	18 01 11.0 +0.7
H24K	Noodor Dome	4.47	11		Pn	18 01 11.4 +0.8
H24K				IAML		18 02 31.4
	comp=N,1μm,0.7s					
H24K				IAML		18 02 42.5
	comp=E,2μm,1.2s					
H24K	Noodor Dome	4.47	11	P	Pn	18 01 12.6 +2.0
	baz=193,SNR=66					
H22K	Ishtalitna Cre	4.47	353		Pn	18 01 11.4 +0.8
H22K	Ishtalitna Cre	4.47	353	P	Pn	18 01 11.7 +1.1
	baz=171,SNR=95					
PRP	Porcupine Dome	4.51	24		Pn	18 01 12.1 +0.8
PRP	Porcupine Dome	4.51	24	IAML		18 02 28.1
	comp=E,2μm,0.6s					
PRP	Porcupine Dome	4.51	24	P	Pn	18 01 13.2 +1.9
	baz=208,SNR=38					
GCSA	Galena City Sc	4.53	319	P	Pn	18 01 12.3 +0.9
	baz=133,SNR=47					
R18K	Karluk	4.54	212		Pn	18 01 11.4 -0.1
R18K	Karluk	4.54	212	IAML		18 02 18.5
	comp=E,2μm,0.6s					
R18K	Karluk	4.54	212	P	Pn	18 01 11.2 -0.2
	baz=28					
L16K	Owhat River	4.54	277	Pn	Pn	18 01 12.0 +0.5
L16K	Owhat River	4.54	277	P	Pn	18 01 12.1 +0.5
	baz=89,SNR=13					
YUK3	Moose Creek	4.55	82		Pn	18 01 12.3 +0.4
YUK3	Moose Creek	4.55	82	P	Pn	18 01 12.8 +0.9
	baz=270,SNR=11					
H20K	Anotleneega Mo	4.58	334	P	Pn	18 01 12.8 +0.7
	baz=149,SNR=27					
OHAK	Old Harbor	4.60	203		Pn	18 01 12.0 -0.3
OHAK	Old Harbor	4.60	203	P	Pn	18 01 13.1 +0.9
	baz=20,SNR=9.9					
OHAK	Old Harbor	4.60	203	P	Pn	18 01 13.2 +0.9
J17K	VABM Dome	4.64	298		Pn	18 01 13.1 +0.2
J17K	VABM Dome	4.64	298	IAML		18 02 36.9
	comp=N,1μm,0.9s					
J17K				IAML		18 02 47.9
	comp=E,983nm,0.9s					
J17K	VABM Dome	4.64	298	P	Pn	18 01 13.2 +0.3
	baz=110,SNR=22					
P16K	Nushagak River	4.69	242		Pn	18 01 13.9 +0.4
P16K	Nushagak River	4.69	242	P	Pn	18 01 14.6 +1.1
	baz=55					
O28M	Mount Upton	4.80	94	P	Pn	18 01 14.8 -0.5
	baz=283					
IMAR	Indian Mountai	4.82	341		Pn	18 01 15.3 0.0
YUK8	Steele Glacier	4.92	88	P	Pn	18 01 16.7 -0.2
	baz=276					
PLK5	Peulik 5	4.94	228		Pn	18 01 16.6 -0.3
PINM	Pinnacle	4.96	102	P	Pn	18 01 18.3 +0.9
	baz=290,SNR=9.1					
H19K	Roundabout Mou	4.99	327	P	Pn	18 01 18.2 +0.6
	baz=142					
PLK1	Peulik 1	4.99	225		Pn	18 01 18.1 +0.4
PLK4	Peulik 4	5.04	223		Pn	18 01 19.2 +0.7
PLK4	Peulik 4	5.04	223	IAML		18 03 06.1
	comp=E,1μm,1.2s					
R17L	Mt. Peulik Vol	5.04	223	P	Pn	18 01 19.4 +1.0
	baz=38,SNR=19					
N15K	Kwethluk River	5.12	260	P	Pn	18 01 20.7 +1.2
	baz=71					
H25L	Birch Creek	5.14	19	P	Pn	18 01 21.9 +2.2
	baz=202					
PLBL	Peulik Blue Cr	5.14	226		Pn	18 01 20.4 +0.6
EGAK	Eagle	5.19	47		Pn	18 01 21.7 +1.4
EGAK	Eagle	5.19	47	P	Pn	18 01 21.8 +1.4
	baz=234,SNR=14					
G23K	Bananza Creek	5.25	360	Pn	Pn	18 01 22.5 +1.2
G23K	Bananza Creek	5.25	360	P	Pn	18 01 23.0 +1.8
	baz=180,SNR=77					
M15K	Kasigluk River	5.26	266	P	Pn	18 01 22.0 +0.7
	baz=77					
J16K	Anvik River	5.26	295	Pn	Pn	18 01 21.6 +0.2
J16K				IAML		18 02 53.0
	comp=N,739nm,0.9s					
J16K				IAML		18 03 11.1
	comp=E,601nm,0.9s					
J16K	Anvik River	5.26	295	P	Pn	18 01 21.8 +0.4
	baz=106,SNR=28					
H18K	Honhosa River	5.28	318		Pn	18 01 22.0 +0.4
H18K	Honhosa River	5.28	318	IAML		18 02 52.1
	comp=N,832nm,1.4s					
H18K				IAML		18 03 06.8
	comp=E,898nm,1.1s					
H18K	Honhosa River	5.28	318	P	Pn	18 01 22.5 +1.0
	baz=130,SNR=62					
G21K	Allakaket	5.29	344		Pn	18 01 22.9 +1.1
G21K	Allakaket	5.29	344	IAML		18 02 50.1
	comp=E,1μm,0.8s					
G21K				IAML		18 02 52.5
	comp=N,751nm,0.8s					
G21K	Allakaket	5.29	344	P	Pn	18 01 22.8 +1.1
	baz=161					
BCPM	Bancas Point	5.30	102		Pn	18 01 21.9 -0.1
BCPM				IAML		18 02 56.9
	comp=E,610nm,1.3s					
G24K	Hadweenzic Riv	5.35	11	Pn	Pn	18 01 24.0 +1.4
G24K				IAML		18 03 05.0
	comp=N,950nm,1.0s					
G24K	Hadweenzic Riv	5.35	11	P	Pn	18 01 24.8 +2.2
	baz=193,SNR=47					
SII	Sitkinak Islan	5.39	206		Pn	18 01 23.6 +0.4
SII				IAML		18 03 00.4
	comp=E,1μm,0.7s					
SII	Sitkinak Islan	5.39	206	P	Pn	18 01 24.1 +0.8
	baz=22					
SII	Sitkinak Islan	5.39	206	P	Pn	18 01 23.9 +0.7
O15K	Ungalikthiuk R	5.41	249		Pn	18 01 24.3 +0.9
O15K	Ungalikthiuk R	5.41	249	P	Pn	18 01 24.5 +1.1
	baz=61,SNR=15					
YUK4	Talbot Arm	5.45	86	P	Pn	18 01 25.9 +1.8
	baz=275					
I17K	Unalakleet	5.49	301		Pn	18 01 25.1 +0.6
I17K	Unalakleet	5.49	301	P	Pn	18 01 25.6 +1.1
	baz=111,SNR=47					
G22K	Bettles	5.50	354	P	Pn	18 01 25.7 +1.1
	baz=172					
L15K	Ungalak Mounta	5.50	277		Pn	18 01 25.3 +0.6
L15K	Ungalak Mounta	5.50	277	P	Pn	18 01 25.3 +0.6
	baz=87					
DAWY	Dawson	5.51	57	P	Pn	18 01 25.5 +0.7
	baz=246,SNR=14					
R16K	Pilot Point	5.51	228		Pn	18 01 24.9 +0.2
R16K	Pilot Point	5.51	228	P	Pn	18 01 25.2 +0.4
	baz=42					
FYU	Fort Yukon	5.51	20		Pn	18 01 26.3 +1.5
M29M	Somme Creek	5.52	75		Pn	18 01 25.9 +0.8
M29M	Somme Creek	5.52	75	P	Pn	18 01 25.8 +0.8
	baz=265,SNR=12					
K15K	Wolf Creek Mou	5.53	284		Pn	18 01 25.6 +0.7
K15K	Wolf Creek Mou	5.53	284	P	Pn	18 01 26.0 +1.1
	baz=94					
PNL	Peninsula	5.53	105		Pn	18 01 25.4 +0.3
PNL	Peninsula	5.53	105	P	Pn	18 01 25.6 +0.5
	baz=294					
G25K	Bearman Lake	5.57	16		Pn	18 01 26.7 +1.2
G25K	Bearman Lake	5.57	16	P	Pn	18 01 27.7 +2.2
	baz=199,SNR=35					
I27K	Kandik River	5.57	38	P	Pn	18 01 27.2 +1.5
	baz=226,SNR=27					
G19K	Purcell Mounta	5.64	329		Pn	18 01 26.6 +0.1
G19K	Purcell Mounta	5.64	329	P	Pn	18 01 26.9 +0.4
	baz=143					
YUK6	Outpost Mounta	5.64	90	P	Pn	18 01 27.0 +0.2
	baz=280					
H17K	Granite Mounta	5.67	312		Pn	18 01 27.8 +0.8
H17K	Granite Mounta	5.67	312	P	Pn	18 01 28.2 +1.2
	baz=123					
O29M	Mount Kennedy	5.69	97	P	Pn	18 01 28.2 +0.8
	baz=287					
L29M	L29M	5.76	68	P	Pn	18 01 28.9 +0.6
	baz=259					
COLD	Coldfoot	5.77	359	P	Pn	18 01 29.5 +1.2
	baz=179,SNR=66					
M14K	Bethel	5.86	268	Pn	Pn	18 01 30.5 +1.0
M14K	Bethel	5.86	268	P	Pn	18 01 30.2 +0.7
	baz=78,SNR=5.9					
G18K	Tagagawik	5.87	323		Pn	18 01 30.4 +0.7
G18K	Tagagawik	5.87	323	P	Pn	18 01 30.4 +0.7
	baz=135,SNR=44					
N14K	Kuskokwak Cree	5.96	260	P	Pn	18 01 32.2 +1.4
	baz=70					
F21K	Alatna River	5.96	347	P	Pn	18 01 31.9 +0.9
	baz=164,SNR=47					
I28M	Miner Creek	6.00	44	P	Pn	18 01 32.3 +0.7
	baz=233,SNR=23					
O14K	Tigyukauivet M	6.03	253		Pn	18 01 32.6 +0.8
O14K	Tigyukauivet M	6.03	253	P	Pn	18 01 32.6 +0.8
	baz=64					
H27K	Steamboat Moun	6.05	34	P	Pn	18 01 33.6 +1.4
	baz=222,SNR=14					
HYT	Haines Junctio	6.08	91		Pn	18 01 33.0 +0.3
HYT	Haines Junctio	6.08	91	P	Pn	18 01 33.5 +0.8
	baz=282					
L14K	Kuka Creek	6.10	274		Pn	18 01 34.3 +1.5
L14K	Kuka Creek	6.10	274	P	Pn	18 01 34.4 +1.5
	baz=83,SNR=31					
G26K	Porcupine Rive	6.12	24		Pn	18 01 34.4 +1.4
G26K	Porcupine Rive	6.12	24	P	Pn	18 01 34.6 +1.6
	baz=209,SNR=32					
F20K	Avaraart Lake	6.12	338		Pn	18 01 34.0 +0.9
F20K	Avaraart Lake	6.12	338	P	Pn	18 01 34.2 +1.1
	baz=153					
F22K	John River	6.12	352	P	Pn	18 01 34.6 +1.4
	baz=170					
F24K	Squaw Lake	6.13	8	P	Pn	18 01 35.1 +1.8
	baz=189					
J29N	Klondike Camp	6.13	56	P	Pn	18 01 34.7 +1.3
	baz=246					
N30M	Aishikik Lake	6.18	85	P	Pn	18 01 35.0 +1.0
	baz=276,SNR=5.3					
K29M	Barlow Dome	6.21	62	Pn	Pn	18 01 35.5 +1.1
K29M	Barlow Dome	6.21	62	P	Pn	18 01 35.6 +1.2
	baz=253					
G17K	Kiwalik Mounta	6.25	315		Pn	18 01 35.5 +0.6
G17K	Kiwalik Mounta	6.25	315	P	Pn	18 01 36.1 +1.2
	baz=125,SNR=14					
M30M	Minto, Yukon	6.30	74	Pn	Pn	18 01 36.2 +0.5
M30M	Minto, Yukon	6.30	74	P	Pn	18 01 36.4 +0.8
	baz=266					
P29M	Windy Craggy	6.32	102		Pn	18 01 35.8 0.0
P29M	Windy Craggy	6.32	102	P	Pn	18 01 36.4 +0.5
	baz=292,SNR=14					
F19K	Shaleruckik Mo	6.36	331	P	Pn	18 01 36.6 +0.3
	baz=144,SNR=18					
CHIR	Chirikof Islan	6.39	210	P	Pn	18 01 37.8 +0.9
	baz=25					
CHIR	Chirikof Islan	6.39	210	P	Pn	18 01 37.5 +0.6
H16K	Elim	6.41	305	P	Pn	18 01 38.5 +1.5
	baz=114,SNR=13					
BMAR	Burnt Mountain	6.41	19	Pn	Pn	18 01 38.4 +1.3
F25K	Christian Rive	6.41	15		Pn	18 01 38.0 +0.8
F25K	Christian Rive	6.41	15	P	Pn	18 01 39.0 +1.8
	baz=199,SNR=35					
G27K	Doyon Strip	6.46	31	P	Pn	18 01 39.0 +1.1
	baz=218,SNR=21					
J14K	Nanvaranak Lak	6.50	287		Pn	18 01 39.0 +0.8
J14K	Nanvaranak Lak	6.50	287	P	Pn	18 01 39.0 +0.8
	baz=95,SNR=13					
P30M	Million Dollar	6.52	96	P	Pn	18 01 39.4 +0.7
	baz=288					
M13K	Dall Lake	6.60	267	P	Pn	18 01 41.2 +1.5
	baz=75					
E23K	Chandalar	6.61	1	P	Pn	18 01 41.1 +1.2
	baz=181,SNR=41					
E24K	Your Creek	6.65	5	P	Pn	18 01 42.5 +2.1
	baz=186					
F18K	Selawik	6.66	325	P	Pn	18 01 41.4 +1.0
	baz=136,SNR=17					
F26K	Sheenjek River	6.72	19		Pn	18 01 42.8 +1.4
F26K	Sheenjek River	6.72	19	P	Pn	18 01 42.8 +1.4
	baz=204,SNR=45					
E19K	Redstone River	6.76	336		Pn	18 01 42.6 +0.7
E19K	Redstone River	6.76	336	P	Pn	18 01 42.7 +0.8
	baz=149,SNR=34					
O30N	Mendenhall	6.76	90	P	Pn	18 01 43.2 +1.1
	baz=282					
CHGN	Chignik	6.79	224		Pn	18 01 41.6 -0.7
CHGN	Chignik	6.79	224	P	Pn	18 01 43.3 +1.1
	baz=37,SNR=6.8					
G16K	Koyuk River	6.79	311	Pn	Pn	18 01 42.9 +0.6
G16K	Koyuk River	6.79	311	P	Pn	18 01 44.2 +2.0
	baz=120,SNR=9.6					
N31M	Braeburn, Yuko	6.80	84	P	Pn	18 01 44.3 +1.8
	baz=276					
MAYO	Mayo, Yukon	6.85	66	P	Pn	18 01 44.8 +1.6
	baz=258					
J30M	Hart River	6.94	58	Pn	Pn	18 01 45.6 +1.2
J30M	Hart River	6.94	58	P	Pn	18 01 46.2 +1.8
	baz=249,SNR=12					
H29M	Whitestone	6.99	42	P	Pn	18 01 47.3 +2.3
	baz=232,SNR=9.2					
K13K	Kusilvak Mount	6.99	280		Pn	18 01 45.7 +0.6
K13K	Kusilvak Mount	6.99	280	P	Pn	18 01 46.2 +1.1
	baz=87					
F17K	Baldwin Pennin	7.02	320		Pn	18 01 46.1 +0.7
F17K	Baldwin Pennin	7.02	320	P	Pn	18 01 46.5 +1.1
	baz=130,SNR=37					
PLBC	Pleasant Camp	7.03	101	P	Pn	18 01 46.2 +0.7
	baz=292,SNR=6.3					
I30M	Mount Dempster	7.17	53	P	Pn	18 01 49.8 +2.2
	baz=244					
E21K	Killik River	7.19	348		Pn	18 01 48.8 +1.0
E21K	Killik River	7.19	348	P	Pn	18 01 50.3 +2.5
	baz=164					
TOLK	Toolik Lake Re	7.19	1	Pn	Pn	18 01 49.9 +2.1
TOLK	Toolik Lake Re	7.19	1	P	Pn	18 01 50.3 +2.5
	baz=181,SNR=27					
G15K	Niukluk	7.25	305		Pn	18 01 49.6 +0.9
G15K	Niukluk	7.25	305	P	Pn	18 01 50.4 +1.8
	baz=113,SNR=19					
E20K	Nigu River	7.29	341		Pn	18 01 50.1 +0.9
E20K	Nigu River	7.29	341	P	Pn	18 01 50.4 +1.2
	baz=156,SNR=26					
WHY	Whitehorse	7.37	90		Pn	18 01 50.6 +0.2
WHY	Whitehorse	7.37	90	P	Pn	18 01 50.7 +0.4
	baz=283					
M31M	Drury Creek, Y	7.41	78	P	Pn	18 01 51.6 +0.7
	baz=271					
D22K	Ayikyak River	7.51	352	P	Pn	18 01 54.7 +2.5
	baz=170					
E18K	Tukpahlearik C	7.51	327		Pn	18 01 52.9 +0.7
E18K	Tukpahlearik C	7.51	327	P	Pn	18 01 54.5 +2.3
	baz=137					
SKAG	Skagway	7.52	99	P	Pn	18 01 53.3 +1.1
	baz=292					
SKAG	Skagway	7.52	99	P	Pn	18 01 53.7 +1.5
D23K	Nanushuk River	7.52	358	P	Pn	18 01 55.4 +3.1
	baz=177					
F28M	Old Crow	7.53	31	Pn	Pn	18 01 53.4 +1.0
F28M	Old Crow	7.53	31	P	Pn	18 01 53.6 +1.2
	baz=220,SNR=18					
G29M	Pine Creek	7.53	39	P	Pn	18 01 54.7 +2.3
	baz=229					
E27K	Coleen River	7.61	24		Pn	18 01 54.2 +0.7
E27K	Coleen River	7.61	24	P	Pn	18 01 54.7 +1.2
	baz=212,SNR=30					
E17K	Hotham Inlet	7.61	323		Pn	18 01 54.3 +0.8
E17K	Hotham Inlet	7.61	323	P	Pn	18 01 55.6 +2.0
	baz=132,SNR=60					
EPYK	Eagle Plains	7.62	44	Pn	Pn	18 01 56.4 +2.8
EPYK	Eagle Plains	7.62	44	P	Pn	18 01 55.9 +2.3
	baz=236					
ANM	Nome	7.65	301		Pn	18 01 55.1 +1.1
ANM	Nome	7.65	301	P	Pn	18 01 56.1 +2.0
	baz=107					
D24K	Happy Valley	7.72	3		Pn	18 01 57.3 +2.3
D24K	Happy Valley	7.72	3	P	Pn	18 01 57.6 +2.6
	baz=184,SNR=18					
D20K	Etivluk River	7.78	342	P	Pn	18 01 56.6 +0.8
	baz=156,SNR=29					
R31K	City Hall, Gus	7.78	107	P	Pn	18 01 56.0 +0.2
	baz=299					
F15K	North Star Dit	7.78	309		Pn	18 01 57.3 +1.4
F15K	North Star Dit	7.78	309	P	Pn	18 01 57.5 +1.6
	baz=116,SNR=24					
S31K	Pelican	7.79	111	Pn	Pn	18 01 54.8 -1.2
S31K	Pelican	7.79	111	P	Pn	18 01 55.3 -0.7
	baz=303,SNR=5.3					
D19K	Kuna River	7.83	337	Pn	Pn	18 01 58.1 +1.6
D19K	Kuna River	7.83	337	P	Pn	18 01 58.0 +1.5
	baz=150,SNR=15					
FARO	Faro, Yukon	7.90	77		Pn	18 01 57.2 -0.3
FARO	Faro, Yukon	7.90	77	P	Pn	18 01 58.5 +1.0
	baz=272					
C21K	Knifeblade Rid	7.96	347	P	Pn	18 02 00.2 +1.9
	baz=163,SNR=61					
M11K	Mekoryuk	7.98	269	P	Pn	18 02 01.0 +2.5
	baz=75					
D25K	Kavik River	8.01	9	P	Pn	18 02 01.1 +2.1
	baz=192					
BESE	Bessie Mountai	8.11	104		Pn	18 02 00.4 0.0
G30M	tAoh Zraii Nji	8.13	41		Pn	18 02 01.7 +1.0
G30M	tAoh Zraii Nji	8.13	41	P	Pn	18 02 01.1 +0.4
	baz=234					
H31M	Peel River	8.19	51	P	Pn	18 02 01.5 +0.1
	baz=245					
P32M	Atlin	8.24	96		Pn	18 02 02.6 +0.5
P32M	Atlin	8.24	96	P	Pn	18 02 01.8 -0.4
	baz=290					
C24K	Franklin Bluff	8.29	3		Pn	18 02 04.1 +1.3
C24K	Franklin Bluff	8.29	3	P	Pn	18 02 04.5 +1.8
	baz=184,SNR=26					
F14K	Arctic Creek	8.33

baz=286
S12K Black Hills 8.56 233 P Pn 18 02 07.9 +1.4
baz=43
C27K Jago River 8.57 15 P Pn 18 02 08.6 +1.9
baz=200,SNR=32
RDOG Red Dog Mine 8.58 326 Pn 18 02 07.8 +0.9
RDOG Red Dog Mine 8.58 326 P Pn 18 02 08.9 +2.1
baz=134,SNR=12
C18K Utukok River 8.60 332 P Pn 18 02 08.1 +1.1
baz=141,SNR=7.5
E29M Blow River 8.61 31 Pn Pn 18 02 08.1 +1.0
E29M Blow River 8.61 31 P Pn 18 02 08.5 +1.4
baz=222,SNR=19
C19K Lookout Ridge 8.63 336 P Pn 18 02 09.0 +1.5
baz=148,SNR=10.0
D27M Malcolm River 8.64 22 P Pn 18 02 09.0 +1.3
baz=210
F30M Barrier River 8.65 39 P Pn 18 02 09.3 +1.5
baz=231
SIT Sitka 8.71 114 P Pn 18 02 09.0 +0.4
baz=307
SIT Sitka 8.71 114 P Pn 18 02 07.8 -0.7
C26K Camden Bay 8.72 12 P Pn 18 02 10.4 +1.7
baz=196,SNR=47
G31M Satah River 8.74 45 Pn Pn 18 02 10.2 +1.3
G31M Satah River 8.74 45 P Pn 18 02 09.9 +1.0
baz=239
S32K Kiliisnoo 8.80 110 Pn Pn 18 02 09.4 -0.4
S32K Kiliisnoo 8.80 110 P Pn 18 02 09.9 0.0
baz=304
C17K DeLong Mountai 8.95 327 P Pn 18 02 13.2 +1.4
baz=135
TNA Tin City 8.98 305 P Pn 18 02 14.1 +1.9
baz=109,SNR=12
B22K Teshekpuk Lake 9.01 353 Pn Pn 18 02 13.3 +0.7
B22K Teshekpuk Lake 9.01 353 P Pn 18 02 13.2 +0.7
baz=169
B20K Meade River 9.05 344 P Pn 18 02 14.0 +0.9
baz=158
D28M Stokes Point 9.15 26 P Pn 18 02 16.6 +2.2
baz=216,SNR=22
Q32M Nakina River 9.16 98 Pn 18 02 14.5 -0.4
Q32M Nakina River 9.16 98 P Pn 18 02 15.2 +0.2
baz=294
F31M Tsiigehtchic 9.19 42 Pn 18 02 16.0 +0.9
F31M Tsiigehtchic 9.19 42 P Pn 18 02 15.9 +0.9
baz=237
B18K Kokolik River 9.30 333 P Pn 18 02 17.3 +0.7
baz=142
C16K Lisburne Hills 9.41 323 P Pn 18 02 19.8 +1.7
baz=129
R33M Jennings River 9.62 94 Pn Pn 18 02 21.5 +0.4
R33M Jennings River 9.62 94 P Pn 18 02 21.8 +0.7
baz=291
INK Inuvik 9.75 38 Pn Pn 18 02 23.5 +0.8
INK Inuvik 9.75 38 P Pn 18 02 21.9 -0.8
comp=E,4.3nm,0.3s,baz=237,slow=16,SNR=21
INK S Sn 18 04 13.7 +3.1
comp=E,38nm,0.5s,baz=260,slow=9.4,SNR=1.6
comp=E,33nm,0.7s
INK Inuvik 9.75 38 P Pn 18 02 23.6 +0.8
baz=233,SNR=5.7
A22K Sinclair Lake 9.77 350 P Pn 18 02 23.1 +0.2
baz=166
A19K Wainwright 9.84 337 P Pn 18 02 25.0 +1.0
baz=147
S34M Telegraph Cree 10.16 102 P Pn 18 02 28.7 +0.3
baz=298
A21K Barrow 10.22 348 P Pn 18 02 31.3 +2.1
baz=162
GAMB Gambell 10.25 292 P Pn 18 02 31.0 +1.5
baz=93
U33K Whale Pass 10.25 114 Pn Pn 18 02 29.2 -0.5
U33K Whale Pass 10.25 114 P Pn 18 02 29.4 -0.2
baz=308
WRAK Wrangell Islan 10.41 111 P Pn 18 02 32.0 +0.2
baz=306
DLBC Dease Lake 10.45 98 P Pn 18 02 33.7 +1.3
comp=E,0.9nm,0.3s,baz=270,slow=15,SNR=4.2
DLBC S Sn 18 04 30.4 +2.6
comp=E,7.9nm,0.5s,baz=332,slow=7.3,SNR=1.5
comp=E,6.4nm,0.8s
DLBC Dease Lake 10.45 98 P Pn 18 02 33.2 +0.8
baz=295
CRAG Craig 10.66 117 P Pn 18 02 35.7 +0.4
baz=311
T35M Bob Quinn 11.05 105 Pn Pn 18 02 40.5 0.0
T35M Bob Quinn 11.05 105 P Pn 18 02 41.0 +0.5
baz=302
P08K Saint George I 11.18 253 P Pn 18 02 44.1 +1.8
baz=56
V35K Ketchikan 11.41 114 P Pn 18 02 47.0 +1.6
baz=310
UNV Unalaska Valle 11.67 236 P Pn 18 02 50.4 +1.4
baz=42
UNV Unalaska Valle 11.67 236 P Pn 18 02 49.8 +0.8
WRGLY Wrigley 12.40 70 P Pn 18 02 59.8 +0.9
baz=274
TOAD Toad River Com 12.57 91 P Pn 18 02 57.6 -3.7
baz=293
KOTAN Kotaneelee Air 12.70 85 P Pn 18 03 01.0 -2.0
baz=287
C36M Paulatuk 13.24 43 P Pn 18 03 09.1 -1.3
baz=246
A36M Sachs Harbour 14.21 32 P Pn 18 03 22.5 -0.9
baz=235,SNR=6.7
BBB Bella Bella 15.09 118 Pn Pn 18 03 35.0 +0.1
BBB Bella Bella 15.09 118 P Pn 18 03 35.8 +0.8
comp=E,0.2nm,0.3s,baz=317,slow=10,SNR=3.1
comp=E,9.2nm,0.9s
ATKA Atka Island 16.09 246 Pn Pn 18 03 46.1 -1.6
YKA Yellowknife Ar 16.52 71 P Pn 18 03 52.6 -0.7
comp=E,0.8nm,0.3s,baz=283,slow=11,SNR=16
comp=E,6.4nm,0.7s
BILL Billbino 19.39 308 P P 18 04 25.3 -1.3
NLWA Neilton Lookou 20.53 121 P P 18 04 40.1 +1.0
B08A Colville Reser 21.71 113 P P 18 04 53.6 +1.8
NEW Newport 22.77 110 P P 18 05 03.5 +0.3
comp=E,13nm,1.0s,baz=307,slow=4.0,SNR=6.4
comp=E,13nm,1.0s
RES Resolute Bay 23.25 34 P P 18 05 06.5 -1.2
RES IAmb IAmb 18 05 31.8
comp=Z,157nm,1.8s
J05D Fort Rock, OR 24.95 124 P P 18 05 24.6 +0.8
J05D IAmb IAmb 18 05 55.2
comp=Z,111nm,1.8s
L04D Klamath Falls 25.44 127 P P 18 05 28.6 +0.5
EUNU Eureka 25.70 21 P P 18 05 31.6 +1.5
EUNU IAmb IAmb 18 05 40.5
comp=Z,148nm,1.6s
YBH Yreka Blue Hor 25.70 128 P P 18 05 31.5 +1.0
comp=Z,5.0nm,0.8s,baz=305,slow=7.2,SNR=7.3
comp=Z,5.0nm,0.8s
LYMT Lyon Mountain 25.92 107 P P 18 05 33.2 +0.6
SEY Seymchan 26.15 299 P P 18 05 34.0 -0.3
comp=Z,4.4nm,0.7s,baz=61,slow=12,SNR=7.2
comp=Z,4.4nm,0.7s
FCC Fort Churchill 27.25 70 P P 18 05 44.8 +0.6
YHH Holmes Hill 28.23 108 P P 18 05 54.8 +1.4
RLMT Red Lodge 28.70 106 P P 18 05 59.0 +1.5
RLMT IAmb IAmb 18 06 44.6
comp=Z,94nm,1.9s
PETK Petropavlovsk- 28.74 277 P P 18 05 57.2 -0.4
comp=Z,3.9nm,0.9s,baz=67,slow=11,SNR=6.1
comp=Z,3.9nm,0.9s
TPAW Teton Pass 29.19 110 P P 18 06 03.9 +1.9
ELK Elko 29.54 119 P P 18 06 06.8 +1.8
ELK Elko 29.54 119 P P 18 06 06.1 +1.1
comp=Z,3.7nm,0.9s,baz=326,slow=6.5,SNR=6.7
comp=Z,3.7nm,0.9s
NVAR Mina Array Bea 30.25 125 P P 18 06 12.7 +1.4
comp=Z,3.9nm,0.8s,baz=310,slow=9.7,SNR=12
comp=Z,3.9nm,0.8s
PDAR Pinedale Array 30.39 109 P P 18 06 13.8 +1.2
PDAR Pinedale Array 30.39 109 P P 18 06 14.1 +1.6
comp=Z,1.6nm,0.6s,baz=329,slow=4.0,SNR=13
comp=Z,1.6nm,0.6s
TIXI Tiksi 31.18 323 P P 18 06 18.0 -0.9
comp=Z,7.3nm,0.8s,baz=51,slow=4.0,SNR=6.6
comp=Z,7.3nm,0.8s
R11B Troy Canyon, C 31.41 122 P P 18 06 21.4 -0.1
R11B IAmb IAmb 18 07 02.6
comp=Z,60nm,2.0s
R11B Troy Canyon, C 31.41 122 P P 18 06 21.3 -0.2
baz=329
ULM Lac du Bonnet 31.43 86 P P 18 06 21.8 +0.5
ULM IAmb IAmb 18 07 25.3
comp=Z,98nm,1.7s
ULM Lac du Bonnet 31.43 86 P P 18 06 22.0 +0.7
comp=Z,22nm,0.7s,baz=308,slow=7.8,SNR=17
comp=Z,22nm,0.7s
NEEM North Greenlan 32.88 23 *i* P P 18 06 34.3 +0.2
NEEM IAmb IAmb 18 06 35.1
comp=Z,42nm,0.7s
KULLO Kullorsuaq 32.95 29 *i* P P 18 06 34.7 +0.3
ECSD EROS Data Cent 35.71 95 P P 18 06 58.7 +0.1
ECSD IAmb IAmb 18 07 11.1
comp=Z,42nm,1.1s
YAK Yakutsk 35.74 307 P P 18 06 57.2 -1.4
comp=Z,45nm,0.7s,baz=194,slow=0.6,SNR=27
comp=Z,45nm,0.7s
YAK Yakutsk 35.74 307 P P 18 06 57.0 -1.6
UMMG Uummannaq 36.35 34 *i* P P 18 07 04.0 +0.3
T25A Trinidad 37.26 110 P P 18 07 11.5 -0.6
baz=326
SUMG Summit 38.42 27 P P 18 07 22.1 +0.5
SUMG IAmb IAmb 18 08 45.7
comp=Z,53nm,1.4s
DAG Danmarks Havn 38.67 16 *i* P P 18 07 22.1 -1.2
DAG IAmb IAmb 18 07 23.3
comp=Z,21nm,0.8s
SFJD Kangerlussuaq 39.10 38 P P 18 07 27.8 +0.9
SFJD Kangerlussuaq 39.10 38 *i* P P 18 07 27.4 +0.5
SFJD Kangerlussuaq 39.10 38 P P 18 07 27.9 +0.9
121A Cookes Peak, D 39.66 117 P P 18 07 30.5 -1.7
baz=330
SPITS Spitsbergen Ar 40.33 4 P P 18 07 36.5 -0.6
comp=Z,12nm,0.5s,baz=10,slow=5.1,SNR=21
comp=Z,12nm,0.5s
DBG Daneborg 40.48 19 *i* P P 18 07 37.5 -0.8
ICESG Greenland Ices 40.62 31 *i* P P 18 07 40.2 +0.2
ICESG IAmb IAmb 18 07 41.7
comp=Z,38nm,0.9s
DY2G Dye2 40.72 37 *i* P P 18 07 40.6 -0.1
DY2G IAmb IAmb 18 07 42.5
comp=Z,25nm,0.6s
SCHQ Schefferville 41.52 60 P P 18 07 47.1 -0.1
comp=Z,7.9nm,0.7s,baz=316,slow=8.5,SNR=6.7
comp=Z,7.9nm,0.7s
NRIK Noril'sk 43.22 334 P P 18 07 59.5 -1.2
comp=Z,22nm,0.6s,baz=54,slow=6.1,SNR=30
comp=Z,22nm,0.6s
SOEG Soedalen 43.28 29 *i* P P 18 08 01.0 -0.2
KLR Kul'dur 43.41 291 P P 18 08 01.4 -1.1
comp=Z,6.1nm,0.9s,baz=8.7,slow=4.1,SNR=8.4
comp=Z,6.1nm,0.9s
O48B Farmland 43.87 88 P P 18 08 05.5 -0.8
baz=321
IVI Ivigtut 43.94 43 P P 18 08 07.8 +1.3
IVI pP pP 18 08 21.8 +1.4
TXAR Lajitas Array 44.19 115 P P 18 08 10.6 +1.5
comp=Z,1.7nm,0.7s,baz=313,slow=3.7,SNR=4.6
comp=Z,1.7nm,0.7s
WVT Waverly 45.85 94 P P 18 08 22.3 +0.2
JOHN Johnston Islan 46.81 206 P P 18 08 30.6 +0.8
JOHN pP sP 18 08 45.9 -3.6
833A Chaparral WMA, 46.94 111 P P 18 08 30.6 -0.2
baz=330
USRK Ussuriysk Ar. 47.07 286 P P 18 08 29.7 -1.8
comp=Z,2.3nm,0.7s,baz=41,slow=8.5,SNR=1.9
comp=Z,2.3nm,0.7s
BNX BinXian 47.98 291 ⇑P P 18 08 37.0 -1.5
BNX pmax pmax
comp=Z,13nm,1.4s
L61B Northampton 48.08 76 P P 18 08 38.3 -1.1
baz=321
TKL Tuckaleechee C 48.18 91 P P 18 08 40.1 -0.1
comp=Z,9.4nm,0.6s,baz=272,slow=3.4,SNR=9.6
comp=Z,9.4nm,0.6s
HIA Hailar 48.60 299 P P 18 08 42.4 -0.9
HIA IAmb IAmb 18 08 42.9
comp=Z,24nm,0.8s
HIA Hailar 48.60 299 P P 18 08 42.3 -1.1
HIA pP pP 18 08 57.4 +0.2
ARCES ARCESS Array B 49.23 2 P P 18 08 46.2 -1.7
comp=Z,7.7nm,0.7s,baz=2.4,slow=7.5,SNR=14
comp=Z,7.7nm,0.7s
MJB9 Matsu-Tunnel 50.15 275 P P 18 08 53.9 -1.5
MAJO Matsushiro 50.15 275 P P 18 08 53.8 -1.5
MJAR Matsushiro Arr 50.15 275 P P 18 08 54.3 -1.1
comp=Z,8.4nm,1.1s,baz=207,slow=2.5,SNR=4.2
comp=Z,8.4nm,1.1s
CN2 Changchun 50.36 291 *e*P P 18 08 54.5 -2.3
CN2 *e*pP pP 18 09 12.3 +1.6
CN2 pmax pmax
comp=Z,30nm,1.0s
KSRS Korea Array 54.28 284 P P 18 09 25.9 0.0
comp=Z,12nm,0.7s,baz=31,slow=7.0,SNR=42
comp=Z,12nm,0.7s
ULN Ulaanbaatar 54.82 307 P P 18 09 30.0 +0.1
SONM Songino Array 55.10 307 P P 18 09 31.8 -0.1
comp=Z,25nm,0.8s,baz=43,slow=4.3,SNR=16
comp=Z,25nm,0.8s
JNU Nakatsue 56.43 278 P P 18 09 40.6 -0.9
comp=Z,12nm,0.8s,baz=0.0,slow=7.1,SNR=4.6
comp=Z,12nm,0.8s
NOA NORSAR Array B 56.95 11 P P 18 09 43.8 -1.0
comp=Z,7.3nm,0.7s,baz=149,slow=2.3,SNR=7.7
comp=Z,7.3nm,0.7s
HFS Hagfors 58.06 10 P P 18 09 51.3 -1.3
comp=Z,16nm,0.9s,baz=0.3,slow=2.7,SNR=11
comp=Z,16nm,0.9s
HHC Hu-ho-hao-te 58.80 299 *e*P P 18 10 02.8 +4.7
ARTI Arti 60.38 342 P P 18 10 07.6 -1.0
ARTI pP pP 18 10 23.8 +0.9
EKA Eskdalemuir Ar 60.63 21 P P 18 10 09.9 -0.4
comp=Z,21nm,0.7s,baz=331,slow=5.6,SNR=15
comp=Z,21nm,0.7s
BVAR Borovoye Array 61.42 334 P P 18 10 14.6 -1.2
comp=Z,28nm,0.7s,baz=54,slow=8.4,SNR=15
comp=Z,28nm,0.7s
KURK Kurchatov 61.61 327 P P 18 10 15.7 -1.4
KURK pP pP 18 10 32.7 +1.4
KURBB Kurchatov Arra 61.72 327 P P 18 10 16.4 -1.3
comp=Z,13nm,0.7s,baz=30,slow=6.6,SNR=18
comp=Z,13nm,0.7s
NJ2 Nanjing 62.93 288 *e*P P 18 10 29.3 +3.2
OBN Obninsk 63.63 356 P P 18 10 29.7 -0.7
comp=Z,187nm,1.0s
OBN Obninsk 63.63 356 P P 18 10 30.2 -0.2
MKAR Makanchi Array 64.17 323 P P 18 10 32.5 -1.6
comp=Z,8.4nm,0.5s,baz=44,slow=6.7,SNR=24
comp=Z,8.4nm,0.5s
WMQ Urumqi 65.19 318 *e*P P 18 10 42.8 +1.9
WMQ pmax pmax
comp=Z,75nm,2.3s
CLL Collm 66.74 12 *e*P P 18 10 50.0 -0.6
comp=Z,29nm,1.0s
ABKAR Akbulak array 67.03 339 P P 18 10 51.6 -0.8
ABKAR IAmb IAmb 18 10 52.4
comp=Z,23nm,0.7s
BRG Berggiesshubel 67.26 11 *i* P P 18 10 54.0 +0.1
BRG Amp 18 10 54.9
comp=Z,36nm,1.1s
RNPP9 Sopachiv 67.41 3 P P 18 10 54.1 -0.7
HSKC Hora Svate Kat 67.47 11 *e*P P 18 10 55.3 0.0
RNPP8 Varash 67.48 3 P P 18 10 54.6 -0.7
KSP Ksiaz 67.49 9 P P 18 10 54.9 -0.4
comp=Z,61nm,0.8s
PVCC Panska Ves 67.66 11 *e*P P 18 10 56.4 0.0
CHVC Chvalec 67.72 10 *e*P P 18 10 57.3 +0.4
NKC Novy Kostel 67.75 12 *e*P P 18 10 57.1 +0.1
OSTC Ostas 67.77 9 *e*P P 18 10 57.0 -0.1
UPC Upice 67.80 10 *e*P P 18 10 57.6 +0.3
MI28 Mi28,Pidlybu 67.92 2 P P 18 10 57.8 -0.2
comp=Z,999nm,0.8s
DPC Dobruska-Polom 67.98 9 *e*P P 18 10 59.0 +0.5
DPC Dobruska-Polom 67.98 9 P P 18 10 58.4 -0.1
comp=Z,78nm,0.8s
AK21 Malin Array Si 68.09 1 P P 18 10 58.2 -0.9
AK23 Malin Array Si 68.10 1 P P 18 10 58.3 -0.9
AK22 Malin Array Si 68.11 1 P P 18 10 58.1 -1.1
AK20 Malin Array Si 68.12 1 P P 18 10 58.4 -0.9
AK19 Malin Array Si 68.14 1 P P 18 10 58.6 -0.8
AK04 Malin Array Si 68.14 1 P P 18 10 58.4 -1.0
AK18 Malin Array Si 68.14 1 P P 18 10 58.6 -0.8
AKASG Malin Array Be 68.17 1 P P 18 10 58.6 -0.9
comp=Z,48nm,0.7s,baz=3.0,slow=6.3,SNR=121
comp=Z,48nm,0.7s
AKBB Malin Array Si 68.17 1 P P 18 10 58.1 -1.5
AK15 Malin Array Si 68.17 1 P P 18 10 58.6 -1.0
KIEV Kiev 68.17 1 ⇑P P 18 10 59.1 -0.5
KIEV Kiev 68.17 1 P P 18 10 58.6 -1.0
PRU Pruhonice 68.19 11 *e*P P 18 11 00.0 +0.2
KRLC Kraliky 68.29 9 *e*P P 18 11 00.8 +0.4
OJC Ojcow 68.35 7 P P 18 10 59.7 -1.1
comp=Z,28nm,0.7s
OKC Ostrava-Krasne 68.62 8 *e*P P 18 11 02.8 +0.3
MORC Moravsky Berou 68.64 9 *e*P P 18 11 02.2 -0.5
MORC Moravsky Berou 68.64 9 ⇑P P 18 11 03.0 +0.3
ZVC Zvikov 68.70 11 *e*P P 18 11 03.3 +0.3
LUBAR Lubar, Ukraine 68.93 2 P P 18 11 02.7 -1.7
LVV L'vov 68.95 4 P P 18 11 04.0 -0.5
KHC Kasperske Hory 68.95 11 *e*P P 18 11 05.1 +0.5
KHC Kasperske Hory 68.95 11 P P 18 11 05.0 +0.5
comp=Z,33nm,1.3s
VRAC Vranov 69.04 9 *e*P P 18 11 04.7 -0.4
VRAC Vranov 69.04 9 ⇑P P 18 11 05.7 +0.6
NIE Niedzica 69.18 7 P P 18 11 06.0 0.0
comp=Z,16nm,1.2s
STHS Stebnicka Huta 69.23 6 *e*P P 18 11 06.1 -0.2
GERES GERESS Array B 69.25 11 P P 18 11 06.7 +0.2
comp=Z,8.9nm,0.8s,baz=345,slow=4.1,SNR=5.5
comp=Z,8.9nm,0.8s
KRUC Moravsky 69.27 10 *e*P P 18 11 06.4 -0.1
JAVC Velka Javorina 69.56 9 *e*P P 18 11 09.2 +0.8
TKM2 Tokmak 2 69.60 326 P P 18 11 08.6 -0.3
SNR=8.7
HORU Horodok 69.62 3 P P 18 11 07.7 -0.9
CHMS Chumysh 69.76 327 P P 18 11 09.2 -0.4
SNR=9.6
KOLS Kolonicke sedl 69.76 5 *e*P P 18 11 10.0 +0.5
VYHS Vyhne 70.01 8 *e*P P 18 11 11.2 +0.1
MODS Modra-Piesok 70.02 9 *e*P P 18 11 11.9 +0.8
KBK Karagaybulak 70.02 326 P P 18 11 11.1 -0.4
SNR=8.8
STNU Starunia 70.07 4 P P 18 11 11.3 -0.1
KECS Kecovo 70.12 7 *e*P P 18 11 12.0 +0.3
WUS Wushi 70.18 323 P P 18 11 11.8 -0.6
MOA Molin 70.28 11 *i* P P 18 11 14.1 +1.4
comp=Z,28nm,1.2s
EKS2 Erkin-Say 70.33 327 P P 18 11 12.9 -0.3
SNR=6.6
CONA Conrad Observa 70.35 10 *i* P P 18 11 13.8 +0.6
comp=Z,31nm,0.8s,SNR=12
BIOA Bad Ischl, Aus 70.38 12 *i* P P 18 11 13.6 +0.3
comp=Z,24nm,1.0s,SNR=5.1
MOTA Moosalm 70.46 14 *i* P P 18 11 14.4 +0.4
comp=Z,26nm,1.1s
KSV Kosov 70.48 4 P P 18 11 13.4 -0.6
WATA Walderalm 70.52 13 *i* P P 18 11 14.8 +0.5
comp=Z,41nm,1.0s,SNR=9.7
LESA Schwarzleotal 70.55 12 *i* P P 18 11 14.9 +0.4
comp=Z,23nm,0.9s
KORU Korolevo 70.57 5 P P 18 11 14.7 +0.2
SQTA Sankt Quirin 70.59 13 *e*P P 18 11 15.4 +0.6
comp=Z,48nm,0.9s,SNR=10
WTTA Wattenberg 70.60 13 *i* P P 18 11 15.6 +0.7
comp=Z,64nm,1.0s,SNR=11
RONA Rosalia, Austr 70.61 10 *i* P P 18 11 15.5 +0.7
comp=Z,17nm,1.0s
TRSU Trosnyk 70.63 5 P P 18 11 15.5 +0.7
PSZ Piszkesteto 70.65 7 P P 18 11 14.9 -0.2
PSZ IAmb IAmb 18 11 16.5
comp=Z,42nm,0.9s
PSZ Piszkesteto 70.65 7 ⇑P P 18 11 16.0 +0.9
SORM Soroca 70.73 1 ⇑P P 18 11 14.7 -0.7
SORM Soroca 70.73 1 P P 18 11 14.3 -1.1
comp=Z,61nm,0.9s
KKAR Karatay Array 70.73 330 P P 18 11 14.3 -1.2
FETA Feichten 70.73 14 *i* P P 18 11 16.3 +0.6
comp=Z,25nm,1.0s,SNR=5.5
AML Almayashu 70.84 327 P P 18 11 16.7 -0.1
SNR=9.5
BAL3X Bal3x, Balta 70.94 0 P P 18 11 14.7 -2.0
KBA Koelnbreinsper 70.96 12 *i* P P 18 11 18.0 +0.9
comp=Z,49nm,0.7s,SNR=16
ARSA Arzberg 70.99 10 *i* P P 18 11 17.9 +0.8
comp=Z,12nm,0.8s,SNR=5.7
BMR Baia Mare 71.07 5 ⇑P P 18 11 17.9 +0.3
BUR08 Bucovina Ar. S 71.16 3 P P 18 11 18.0 -0.2
BUR08 IAmb IAmb 18 11 18.9
comp=Z,19nm,0.7s
BURAR Bucovina Array 71.19 3 P P 18 11 17.8 -0.5
BURAR IAmb IAmb 18 11 19.1
comp=Z,28nm,0.6s
BURAR Bucovina Array 71.19 3 ⇑P P 18 11 18.4 0.0
ABTA Abfaltersbach 71.20 13 *i* P P 18 11 18.5 +0.1
comp=Z,17nm,1.3s
MPLH Magyarpolny 71.23 9 P P 18 11 18.9 +0.4
comp=Z,110nm,0.8s
MYKA Terra Mystica 71.43 12 *i* P P 18 11 19.7 -0.1
comp=Z,24nm,1.0s,SNR=5.0
PRAR RASCA 71.47 3 ⇑P P 18 11 19.3 -0.6
SOKA Soboth 71.52 11 *e*P P 18 11 21.3 +1.0
comp=Z,20nm,1.0s,SNR=9.2
MESR Meseseni 71.57 5 ⇑P P 18 11 21.4 +0.9
OBKA Obir 71.64 11 *e*P P 18 11 21.6 +0.5
comp=Z,81nm,0.7s,SNR=31
ARCR ARCALIA 71.69 4 ⇑P P 18 11 21.9 +0.6
DRGR 71.92 5 ⇑P P 18 11 22.8 0.0
MILM Milestii Mici 71.95 1 ⇓P P 18 11 21.8 -1.0
CJR Cluj-Napoca 72.03 5 ⇑P P 18 11 23.8 +0.4
MARR Marisel-Cluj 72.05 5 ⇓P P 18 11 23.1 -0.4
TGMR Targu Mures 72.25 4 ⇑P P 18 11 25.3 +0.6
MORH Mrgy, Hungar 72.26 8 ⇓P P 18 11 24.4 -0.3
MORH Mrgy, Hungar 72.26 8 P P 18 11 23.6 -1.1
TESR Tescani 72.33 2 ⇑P P 18 11 24.7 -0.4
TESR Tescani 72.33 2 P P 18 11 24.0 -1.1
PGAV Gavieira, Arco 72.33 29 *e*P P 18 11 25.5 +0.2
PURM Purcari 72.34 0 ⇑P P 18 11 24.8 -0.4
SIRR Siria 72.39 6 ⇑P P 18 11 24.8 -0.7
ONER Baraj Valea Uz 72.50 3 ⇑P P 18 11 25.9 -0.2
KSH Kashi 72.67 324 P P 18 11 29.5 +2.1
KSH pmax pmax
comp=Z,28nm,0.7s
OZUR 72.72 3 ⇑P P 18 11 27.9 +0.4
TURR Turia 72.77 3 ⇑P P 18 11 28.4 +0.6
GHRR 72.79 2 ⇑P P 18 11 28.2 +0.4
DOPR Dopca 72.84 3 ⇑P P 18 11 28.7 +0.5
SURR Surduc 72.93 6 ⇑P P 18 11 28.9 +0.2
VRI Vrincioaia 72.97 2 ⇑P P 18 11 29.1 +0.2
COVR Voineasa-Covas 72.98 3 ⇑P P 18 11 29.9 +0.8
PLOR Plostina 72.99 2 ⇓P P 18 11 28.9 -0.2
POLO Lamas de Olo 73.00 29 *e*P P 18 11 30.1 +0.8
BZS Buzias 73.04 6 ⇓P P 18 11 29.2 -0.1
BISRR Bisoca 73.29 2 ⇑P P 18 11 31.3 +0.4
GZR Gura Zlata 73.32 5 ⇑P P 18 11 31.3 +0.2
MLR Muntele Rosu 73.33 3 ⇑P P 18 11 30.3 -0.9
MVO Moncorvo 73.38 28 *e*P P 18 11 32.1 +0.6
NEHR Nehoiu 73.40 3 ⇓P P 18 11 31.4 -0.1
ARR Arges 73.42 4 ⇑P P 18 11 31.9 +0.3
PVIS Viseu 73.60 29 *e*P P 18 11 33.4 +0.6
TLCR 73.68 1 ⇑P P 18 11 32.9 -0.1
CFR Carcaliu 73.68 1 ⇓P P 18 11 32.6 -0.5
HERR Herculane 73.81 6 ⇑P P 18 11 33.6 -0.3
MDVR Moldovita 73.88 6 ⇓P P 18 11 34.0 -0.4
MTE Manteigas 73.99 29 *e*P P 18 11 35.5 +0.4
TPGR Topolog 74.01 1 ⇑P P 18 11 35.1 0.0
PCAS Casmilo, Conde 74.09 30 *e*P P 18 11 36.1 +0.5
HARR Harsova 74.17 2 ⇑P P 18 11 35.8 -0.1
LEHL Lehliu 74.37 2 ⇑P P 18 11 36.5 -0.6
KIV Kislovodsk 74.42 351 ⇑P P 18 11 37.3 -0.3
PCBR Castelo Branco 74.53 29 *e*P P 18 11 38.2 0.0
KBZ Khabaz 74.62 350 P P 18 11 38.6 +0.1
comp=Z,15nm,0.8s,baz=346,slow=1.2,SNR=17
comp=Z,15nm,0.8s
GAR Garm 74.65 328 P P 18 11 38.2 -0.9
IOR Ion Corvin 74.74 2 ⇑P P 18 11 39.8 +0.6
FDMO Fiordimonte 74.93 13 P P 18 11 40.6 +0.2
FDMO IAmb IAmb 18 11 41.4
comp=Z,25nm,0.9s
BOVS Bovan 75.02 6 ⇓P P 18 11 40.0 -0.9
BLKB Belogradchik 75.08 6 ⇑P P 18 11 40.0 -1.4
PMTG Montargil 75.09 30 *e*P P 18 11 41.1 -0.3
NRCA Norcia 75.14 13 P P 18 11 41.5 -0.2
NRCA IAmb IAmb 18 12 06.4
comp=Z,52nm,1.4s
PZH PanZhiHua 75.25 298 P P 18 11 45.0 +2.3
SIMJ Simiganj 75.30 329 P P 18 11 41.9 -0.9
SIMJ IAmb IAmb 18 11 42.8
comp=Z,42nm,0.8s
ESDC Sonseca Array 75.48 26 P P 18 11 43.6 -0.1
ESDC Sonseca Array 75.48 26 P P 18 11 43.9 +0.2
comp=Z,9.2nm,0.7s,baz=341,slow=5.5,SNR=37
comp=Z,9.2nm,0.7s

PAB	**San Pablo**	**75.52**	**27**	P	**P**	**18 11 43.8**	**-0.1**
EVO	**Evora**	**75.65**	**30**	*e*P	**P**	**18 11 44.5**	**-0.1**
ELND	**Elena**	**75.89**	**3**	⇑P	**P**	**18 11 45.3**	**-0.6**
PDG	**Podgorica**	**76.07**	**8**	P	**P**	**18 11 46.2**	**-0.7**
PDG				IAmb	IAmb	18 11 46.7	
	comp=Z,30nm,0.7s						
PDG	**Podgorica**	**76.07**	**8**	⇑P	**P**	**18 11 46.5**	**-0.4**
PBAR	**Barrancos**	**76.22**	**29**	*e*P	**P**	**18 11 48.4**	**+0.5**
LSA	**Lhasa**	**76.65**	**308**	P	**P**	**18 11 51.6**	**+0.6**
MORF	**Marmelete**	**76.66**	**31**	*e*P	**P**	**18 11 50.2**	**-0.2**
PFVI	**Vila Bisbo**	**76.78**	**31**	*e*P	**P**	**18 11 51.5**	**+0.4**
PVAQ	**Vaqueiros**	**76.80**	**30**	*e*P	**P**	**18 11 51.4**	**+0.3**
PBDV	**Barranco-do-Ve**	**76.90**	**30**	*e*P	**P**	**18 11 52.4**	**+0.6**
DIKM	**Dikmen**	**77.13**	**356**	⇓P	**P**	**18 11 53.5**	**+0.5**
MATE	**Matera**	**77.64**	**10**	⇑P	**P**	**18 11 55.8**	**0.0**
RDO	**Rodhopi**	**77.66**	**3**	P	**P**	**18 11 55.9**	**0.0**
RDO				IAmb	IAmb	18 11 57.0	
	comp=Z,35nm,0.9s						
FNA	**Florina**	**77.84**	**7**	P	**P**	**18 11 56.5**	**-0.6**
TNCH	**TengChong**	**77.90**	**300**	*e*P	**P**	**18 11 58.8**	**+1.1**
TNCH				pmax	pmax		
	comp=Z,59nm,2.9s						
ANTO	**Ankara**	**78.97**	**358**	⇑P	**P**	**18 12 03.4**	**+0.1**
BR131	**Keskin Array S**	**79.10**	**357**	P	**P**	**18 12 03.6**	**-0.5**
BR131				IAmb	IAmb	18 12 04.1	
	comp=Z,61nm,1.8s						
BRTR	**Keskin Array B**	**79.10**	**357**	P	**P**	**18 12 03.9**	**-0.2**
	comp=Z,5.7nm,0.8s,baz=349,slow=2.2,SNR=10.0						
	comp=Z,5.7nm,0.8s						
KIRS	**Kirsehir-Merke**	**79.69**	**357**	⇑P	**P**	**18 12 07.3**	**+0.1**
BNN	**Bunyan**	**79.90**	**355**	P	**P**	**18 12 08.5**	**0.0**
SHL	**Shillong**	**80.09**	**306**	P	**P**	**18 12 08.0**	**-1.7**
KEST	**Kesra**	**81.68**	**17**	P	**P**	**18 12 17.3**	**-0.6**
	comp=Z,20nm,0.8s,baz=325,slow=1.1,SNR=14						
	comp=Z,20nm,0.8s						
CMAR	**Chiang Mai Arr**	**83.56**	**297**	P	**P**	**18 12 26.9**	**-0.9**
	comp=Z,7.8nm,0.8s,baz=5.1,slow=6.1,SNR=46						
	comp=Z,7.8nm,0.8s						
MMAI	**Mount Meron Ar**	**85.74**	**355**	P	**P**	**18 12 38.2**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=16,slow=9.5,SNR=5.0						
	comp=Z,1.1nm,0.5s						
RAYN	**Ar Rayn**	**94.38**	**346**	P	**P**	**18 13 18.8**	**-0.7**
RAYN				IAmb	IAmb	18 13 19.8	
	comp=Z,6.8nm,0.8s						
KMBO	**Kilima Mbogo**	**119.55**	**352**	PKP	**PKPdf**	**18 18 48.9**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=41,slow=10,SNR=4.2						
BOSA	**Boshof**	**146.98**	**8**	PKPbc	**PKPdf**	**18 19 41.1**	**+1.4**
	comp=Z,14nm,0.9s,baz=336,slow=1.7,SNR=13						
QSPA	**South Pole Qui**	**151.29**	**180**		**PKPdf**	**18 19 50.8**	**+5.5**
QSPA	**South Pole Qui**	**151.29**	**180**	PKPbc	**PKPbc**	**18 19 51.3**	**-0.1**
	comp=Z,14nm,1.0s,baz=73,slow=10,SNR=30						
SNAA	**Sanae**	**163.70**	**142**	PKPab	**PKPab**	**18 20 52.3**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=245,slow=14,SNR=2.5						
MAW	**Mawson**	**164.76**	**232**	PKPab	**PKPab**	**18 20 55.7**	**-2.1**
	comp=Z,2.4nm,1.0s,baz=149,slow=5.9,SNR=3.8						

*NEIC **30** 18:01:35.5±0.8, 61°.48N±0°.02×149°.98W±0°.05, h45km±5km, Error ellipse: s-maj=4.1km s-min=3.2km az=50.0*
*AEIC **30** 18:01:36.3±0.6, 61°.47N±0°.02×149°.98W±0°.04, h43km±5km, ML3.8, ML4.2/36(NEIC), Error ellipse: s-maj=3.0km s-min=2.5km az=123.0*
ISC 30 18:01:36.2±1.3, 61°.47N±0°.03×149°.96W±0°.03, h40km±10km, n39, σ0=63/50, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.29**	**345**		**Pn**	**18 01 43.8**	**-0.5**
M22K					**Sn**	**18 01 50.9**	**+0.8**
M22K	**Willow**	**0.29**	**345**	P	**Pn**	**18 01 43.9**	**-0.5**
	baz=167						
M22K				S	**Sn**	**18 01 51.0**	**+1.0**
	baz=167						
SUA	**Susitna One**	**0.38**	**269**		**Pn**	**18 01 45.1**	**-0.5**
SUA					**Sn**	**18 01 52.5**	**+0.5**
SUA	**Susitna One**	**0.38**	**269**	P	**Pn**	**18 01 45.2**	**-0.3**
	baz=89						
SUA				S	**Sn**	**18 01 52.6**	**+0.5**
	baz=89						
RC01	**Rabbit Creek A**	**0.40**	**164**		**Pn**	**18 01 44.9**	**-0.7**
RC01	**Rabbit Creek A**	**0.40**	**164**	P	**Pn**	**18 01 44.9**	**-0.7**
	baz=343						
PMR	**Palmer**	**0.41**	**73**		**Pn**	**18 01 45.2**	**-0.7**
PMR					**Sn**	**18 01 52.6**	**+0.1**
PMR	**Palmer**	**0.41**	**73**	P	**Pn**	**18 01 45.1**	**-0.7**
	baz=253						
PMR				S	**Sn**	**18 01 52.6**	**+0.1**
	baz=253						
GHO	**Glory Hole Cre**	**0.58**	**58**		**Pn**	**18 01 47.4**	**-0.7**
GHO					**Sn**	**18 01 57.0**	**+0.4**
GHO				IAML		18 01 57.8	
	comp=E,12μm,0.8s						
GHO				IAML		18 01 57.8	
	comp=N,8μm,0.4s						
KNK	**Knik Glacier**	**0.72**	**94**		**Pn**	**18 01 49.6**	**-0.3**
KNK					**Sn**	**18 02 00.9**	**+1.0**
KNK				IAML		18 02 03.2	
	comp=N,9μm,0.4s						
KNK				IAML		18 02 03.5	
	comp=E,6μm,0.2s						
KNK	**Knik Glacier**	**0.72**	**94**	P	**Pn**	**18 01 49.4**	**-0.6**
	baz=275						
KNK				S	**Sn**	**18 02 01.2**	**+1.3**
	baz=275						
SML	**Sawmill**	**0.85**	**66**	Pn	**Pn**	**18 01 51.4**	**-0.3**
SML				IAML		18 02 04.4	
	comp=E,4μm,1.1s						
SML				IAML		18 02 05.0	
	comp=N,5μm,0.9s						
STLK	**Strandline Lak**	**0.90**	**273**		**Pn**	**18 01 51.6**	**-0.8**
SKT	**Skwentna**	**0.91**	**305**		**Pn**	**18 01 51.5**	**-1.0**
SKT				IAML		18 02 04.6	
	comp=N,7μm,0.4s						
SKT				IAML		18 02 04.6	
	comp=E,6μm,0.5s						
SKT	**Skwentna**	**0.91**	**305**	P	**Pn**	**18 01 51.8**	**-0.7**
	baz=124						
CUT	**Chulitna**	**0.95**	**351**		**Pn**	**18 01 52.4**	**-0.6**
CUT					**Sn**	**18 02 05.2**	**-0.1**
CUT	**Chulitna**	**0.95**	**351**	P	**Pn**	**18 01 52.4**	**-0.6**
	baz=172						
CUT				S	**Sn**	**18 02 05.6**	**+0.3**
	baz=172						
SLKM	**Skilak Lake**	**0.98**	**188**		**Pn**	**18 01 52.9**	**-0.6**
PWL	**Port Wells**	**1.00**	**127**		**Pn**	**18 01 53.7**	**-0.1**
PWL				IAML		18 02 08.7	
	comp=N,10μm,0.4s						
PWL	**Port Wells**	**1.00**	**127**	P	**Pn**	**18 01 53.6**	**-0.1**
	baz=308						
O22K	**Cooper Landing**	**1.00**	**173**	Pn	**Pn**	**18 01 53.0**	**-0.7**
SPCG	**Spurr Capps Gl**	**1.01**	**261**		**Pn**	**18 01 53.1**	**-0.9**
M23K	**Glacier View**	**1.11**	**72**		**Pn**	**18 01 55.1**	**-0.2**
M23K	**Glacier View**	**1.11**	**72**	P	**Pn**	**18 01 55.1**	**-0.2**
	baz=254						
N20K	**Mount Spurr**	**1.12**	**257**	P	**Pn**	**18 01 54.9**	**-0.5**
	baz=75						
SPCR	**Spurr Chakacha**	**1.12**	**257**		**Pn**	**18 01 54.9**	**-0.5**
SPCR	**Spurr Chakacha**	**1.12**	**257**	P	**Pn**	**18 01 54.9**	**-0.5**
	baz=75						
SCM	**Sheep Creek Mo**	**1.31**	**73**		**Pn**	**18 01 58.0**	**-0.1**
SCM				IAML		18 02 17.1	
	comp=N,5μm,0.9s						
SCM	**Sheep Creek Mo**	**1.31**	**73**	P	**Pn**	**18 01 57.7**	**-0.3**
	baz=255						
WAT7	**Susitna Watana**	**1.46**	**20**		**Pn**	**18 01 59.8**	**-0.4**
GLI	**Glacier Island**	**1.51**	**112**		**Pn**	**18 01 60.0**	**-0.8**
GLI				IAML		18 02 24.4	
	comp=E,4μm,0.5s						
GLI				IAML		18 02 25.2	
	comp=N,3μm,0.4s						
GLI	**Glacier Island**	**1.51**	**112**	P	**Pn**	**18 02 00.1**	**-0.6**
	baz=294						
WAT1	**Susitna Watana**	**1.52**	**25**		**Pn**	**18 02 00.3**	**-0.6**
WAT1	**Susitna Watana**	**1.52**	**25**	P	**Pn**	**18 02 00.3**	**-0.6**
	baz=207						
M20K	**Styx River**	**1.57**	**287**	Pn	**Pn**	**18 02 01.9**	**+0.3**
M20K				IAML		18 02 24.1	
	comp=N,2μm,0.8s						
M20K				IAML		18 02 24.3	
	comp=E,3μm,0.8s						
BRLK	**Bradley Lake**	**1.77**	**195**	Pn	**Pn**	**18 02 04.7**	**+0.3**
BRLK				IAML		18 02 30.3	
	comp=E,1μm,0.6s						
FID	**Port Fidalgo**	**1.84**	**112**	Pn	**Pn**	**18 02 04.1**	**-1.1**
FID				IAML		18 02 33.5	
	comp=E,2μm,0.5s						
FID				IAML		18 02 36.4	
	comp=N,2μm,0.4s						
KLU	**Klutina**	**1.94**	**88**	Pn	**Pn**	**18 02 06.1**	**-0.6**
KTH	**Kantishna Hill**	**2.14**	**348**	Pn	**Pn**	**18 02 09.6**	**+0.2**
KTH				IAML		18 02 42.8	
	comp=E,2μm,0.7s						

*NEIC **30** 18:02:18.9±0.9, 61°.46N±0°.03×149°.92W±0°.04, h43km±5km, Error ellipse: s-maj=4.3km s-min=2.5km az=179.0*
*AEIC **30** 18:02:19.8±0.8, 61°.44N±0°.03×149°.94W±0°.05, h38km±6km, ML3.4, ML3.7/26(NEIC), Error ellipse: s-maj=4.3km s-min=3.3km az=153.0*
ISC 30 18:02:19.7±1.9, 61°.45N±0°.03×149°.94W±0°.03, h36km±1km, n37, σ0=61/57, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.32**	**344**		**Sn**	**18 02 34.4**	**-0.2**
M22K	**Willow**	**0.32**	**344**	S	**Sn**	**18 02 34.4**	**-0.2**
	baz=164						
RC01	**Rabbit Creek A**	**0.37**	**165**		**Pn**	**18 02 27.8**	**-0.5**
RC01					**Sn**	**18 02 35.2**	**+0.3**
RC01				IAML		18 02 36.0	
	comp=N,6μm,0.2s						
RC01				IAML		18 02 36.1	
	comp=E,5μm,0.2s						
RC01	**Rabbit Creek A**	**0.37**	**165**	P	**Pn**	**18 02 27.9**	**-0.4**
	baz=345						
RC01				S	**Sn**	**18 02 35.3**	**+0.3**
	baz=345						
SUA	**Susitna One**	**0.39**	**273**	Pn	**Pn**	**18 02 28.4**	**-0.3**
SUA					**Sn**	**18 02 36.0**	**+0.5**
SUA	**Susitna One**	**0.39**	**273**	P	**Pn**	**18 02 28.2**	**-0.4**
	baz=93						
SUA				S	**Sn**	**18 02 36.2**	**+0.7**
	baz=93						
PMR	**Palmer**	**0.41**	**69**		**Pn**	**18 02 28.2**	**-0.6**
PMR					**Sn**	**18 02 35.4**	**-0.2**
PMR	**Palmer**	**0.41**	**69**	P	**Pn**	**18 02 28.2**	**-0.6**
	baz=248						
PMR				S	**Sn**	**18 02 35.6**	**+0.1**
	baz=248						
GHO	**Glory Hole Cre**	**0.58**	**56**		**Pn**	**18 02 30.6**	**-1.0**
GHO					**Sn**	**18 02 39.7**	**-0.2**
GHO				IAML		18 02 41.0	
	comp=N,2μm,0.6s						
KNK	**Knik Glacier**	**0.71**	**92**		**Pn**	**18 02 32.5**	**-0.7**
KNK					**Sn**	**18 02 43.7**	**+0.8**
KNK				IAML		18 02 45.8	
	comp=N,4μm,0.4s						
KNK				IAML		18 02 45.8	
	comp=E,3μm,0.4s						
KNK	**Knik Glacier**	**0.71**	**92**	P	**Pn**	**18 02 32.5**	**-0.7**
	baz=273						
KNK				S	**Sn**	**18 02 43.7**	**+0.8**
	baz=273						
SML	**Sawmill**	**0.85**	**64**		**Pn**	**18 02 34.1**	**-1.0**
SML				Sn	**Sn**	**18 02 46.1**	**-0.2**
SML				IAML		18 02 47.2	
	comp=N,2μm,1.0s						
SML				IAML		18 02 49.3	
	comp=E,2μm,0.7s						
SML	**Sawmill**	**0.85**	**64**	P	**Pn**	**18 02 34.3**	**-0.8**
	baz=245						
STLK	**Strandline Lak**	**0.91**	**274**		**Pn**	**18 02 35.5**	**-0.5**
STLK					**Sn**	**18 02 48.0**	**+0.1**
SKT	**Skwentna**	**0.93**	**306**		**Pn**	**18 02 35.3**	**-0.8**
SKT					**Sn**	**18 02 48.1**	**-0.2**
SKT				IAML		18 02 48.7	
	comp=N,2μm,0.4s						
SKT	**Skwentna**	**0.93**	**306**	P	**Pn**	**18 02 35.4**	**-0.8**
	baz=125						
SKT				S	**Sn**	**18 02 48.2**	**-0.1**
	baz=125						
SLKM	**Skilak Lake**	**0.95**	**188**		**Pn**	**18 02 35.8**	**-0.7**
SLKM					**Sn**	**18 02 49.2**	**+0.3**
CUT	**Chulitna**	**0.97**	**351**		**Pn**	**18 02 36.1**	**-0.6**
CUT				IAML		18 02 44.9	
	comp=N,3μm,1.1s						
CUT					**Sn**	**18 02 49.6**	**+0.4**
CUT	**Chulitna**	**0.97**	**351**	P	**Pn**	**18 02 36.2**	**-0.6**
	baz=171						
CUT				S	**Sn**	**18 02 50.9**	**+1.6**
	baz=171						
O22K	**Cooper Landing**	**0.97**	**174**	Pn	**Pn**	**18 02 35.7**	**-1.0**
PWL	**Port Wells**	**0.98**	**127**		**Pn**	**18 02 36.3**	**-0.4**
PWL	**Port Wells**	**0.98**	**127**	P	**Pn**	**18 02 36.4**	**-0.4**
	baz=308						
SPCG	**Spurr Capps Gl**	**1.02**	**262**		**Pn**	**18 02 36.9**	**-0.5**
M23K	**Glacier View**	**1.11**	**71**		**Pn**	**18 02 38.3**	**-0.4**
M23K					**Sn**	**18 02 53.9**	**+1.2**
M23K	**Glacier View**	**1.11**	**71**	P	**Pn**	**18 02 38.3**	**-0.4**
	baz=252						
M23K				S	**Sn**	**18 02 53.9**	**+1.2**
	baz=252						
N20K	**Mount Spurr**	**1.12**	**258**	P	**Pn**	**18 02 38.5**	**-0.4**
	baz=77						
N20K				S	**Sn**	**18 02 53.4**	**+0.3**
	baz=77						
SPCR	**Spurr Chakacha**	**1.12**	**258**		**Pn**	**18 02 38.5**	**-0.4**
SPCR					**Sn**	**18 02 53.4**	**+0.3**
SPCR	**Spurr Chakacha**	**1.12**	**258**		**Pn**	**18 02 38.5**	**-0.4**
SPCR	**Spurr Chakacha**	**1.12**	**258**	P	**Pn**	**18 02 38.5**	**-0.4**
	baz=77						
SCM	**Sheep Creek Mo**	**1.30**	**72**		**Pn**	**18 02 40.8**	**-0.5**
SCM				IAML		18 03 00.8	
	comp=N,2μm,0.7s						
SCM	**Sheep Creek Mo**	**1.30**	**72**	P	**Pn**	**18 02 41.2**	**-0.2**
	baz=254						
WAT7	**Susitna Watana**	**1.48**	**20**		**Pn**	**18 02 43.9**	**0.0**
RDT	**Redoubt**	**1.49**	**235**		**Pn**	**18 02 43.5**	**-0.4**
GLI	**Glacier Island**	**1.49**	**111**	Pn	**Pn**	**18 02 43.1**	**-0.8**
GLI				IAML		18 03 00.8	
	comp=N,739nm,0.7s						
GLI				IAML		18 03 09.7	
	comp=E,874nm,0.7s						
RDJH	**Redoubt Jeurge**	**1.64**	**240**		**Pn**	**18 02 45.8**	**-0.2**
RDSO	**Redoubt South**	**1.69**	**235**		**Pn**	**18 02 46.4**	**-0.4**
BRLK	**Bradley Lake**	**1.75**	**196**	Pn	**Pn**	**18 02 47.7**	**+0.2**
BRLK				IAML		18 03 11.7	
	comp=N,577nm,1.0s						
BRLK				IAML		18 03 12.0	
	comp=E,488nm,0.5s						

*NEIC **30** 18:04:15.1±0.8, 61°.37N±0°.03×149°.96W±0°.06, h46km±7km, Error ellipse: s-maj=4.4km s-min=3.9km az=176.0*
AEIC 30 18:04:15.8±1.3, 61°.36N±0°.03×149°.99W±0°.05, h45km±5km, ML2.8, ML3.1/14(NEIC), Error ellipse: s-maj=4.9km s-min=2.5km az=151.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.30**	**156**		**Pn**	18 04 25.0	+0.5
RC01	**Rabbit Creek A**	**0.30**	**156**		Sn	18 04 30.6	-0.1
RC01	**Rabbit Creek A**	**0.30**	**156**	IAML		18 04 31.6	
	comp=N,1μm,0.2s						
RC01				IAML		18 04 31.6	
	comp=E,958nm,0.1s						
SUA	**Susitna One**	**0.38**	**286**		Sn	18 04 32.2	0.0
PMR	**Palmer**	**0.47**	**61**	Pn	Pn	18 04 24.4	-2.0
PMR				IAML		18 04 41.8	
	comp=N,862nm,0.6s						
GHO	**Glory Hole Cre**	**0.66**	**51**		Pn	18 04 27.9	-0.9
GHO					Sn	18 04 38.4	+0.2
GHO				IAML		18 04 39.0	
	comp=E,661nm,0.3s						
KNK	**Knik Glacier**	**0.74**	**86**		Pn	18 04 28.9	-1.0
KNK				IAML		18 04 41.9	
	comp=E,660nm,0.4s						
KNK				IAML		18 04 42.8	
	comp=N,601nm,0.3s						
STLK	**Strandline Lak**	**0.89**	**279**		Pn	18 04 31.5	-0.5
PWL	**Port Wells**	**0.95**	**121**		Pn	18 04 32.0	-0.8
SPCG	**Spurr Capps Gl**	**0.98**	**267**		Pn	18 04 32.6	-0.6
M20K	**Styx River**	**1.59**	**290**	Pn	Pn	18 04 41.1	-0.3
M20K				IAML		18 05 39.0	
	comp=N,226nm,0.8s						
M20K				IAML		18 05 39.2	
	comp=E,253nm,0.8s						
BRLK	**Bradley Lake**	**1.67**	**196**	Pn	Pn	18 04 41.7	-0.8

*RSNC **30** 18:05:09.0±0.0, 10°.5N±5°.6×6°.9W±°., h184km±8km, M3.2, ML3.2*
*FUNV **30** 18:05:10.2, 10°.16N×69°.21W, h5km, MW3.5*
ISC 30 18:05:12.0±2.0, 10°.28N±0°.06×69°.26W±0°.04, h34km±4km, n11, σ0=31/17, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACV	**Jacura**	**0.91**	**28**	*e*S	**Sb**	**18 05 42.3**	**+0.9**
TURV	**Turiamo**	**1.41**	**83**	*e*S	**Sb**	**18 05 53.8**	**-1.7**
BENV	**Beln**	**1.67**	**101**	*e*P	**Pn**	**18 05 39.3**	**+0.4**
BENV				*e*S	**Sn**	**18 05 59.8**	**+0.6**
BAUV	**El Baul**	**1.79**	**138**	*e*P	**Pn**	**18 05 40.2**	**-0.3**
BAUV				*e*S	**Sn**	**18 06 01.4**	**-0.7**
SDV	**Santo Domingo**	**1.93**	**224**	P	**Pn**	**18 05 42.9**	**+0.2**
SDV				S	**Sb**	**18 06 10.5**	**-0.1**
TACV	**Tcata**	**2.21**	**93**	*e*P	**Pn**	**18 05 46.2**	**-0.1**
TACV				*e*S	**Sn**	**18 06 12.4**	**-0.1**
SOCV	**Socops**	**2.53**	**219**	*e*P	**Pn**	**18 05 50.5**	**-0.2**
SOCV				*e*S	**Sn**	**18 06 19.9**	**-0.4**
URIC	**Uribia, Colomb**	**3.03**	**298**	P	**Pn**	**18 05 57.7**	**+0.1**
MERV	**Las Mercedes**	**3.10**	**109**	*e*P	**Pn**	**18 05 58.1**	**-0.4**
MERV				*e*S	**Sn**	**18 06 33.0**	**-1.4**
CRJC	**Cerrejon, Guaj**	**3.63**	**282**	P	**Pn**	**18 06 06.4**	**+0.4**
CACV	**CAICARA DEL OR**	**3.81**	**135**	*e*P	**Pn**	**18 06 12.1**	**+3.8**

*NEIC **30** 18:06:26.5±1.0, 61°.49N±0°.03×149°.94W±0°.05, h46km±6km, Error ellipse: s-maj=3.9km s-min=3.2km az=161.0*
AEIC 30 18:06:27.0±1.2, 61°.51N±0°.03×149°.92W±0°.05, h38km±6km, ML3.1, ML3.2/62(NEIC), Error ellipse: s-maj=4.3km s-min=3.3km az=180.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.26**	**339**		Pn	18 06 34.1	-1.1
M22K					Sn	18 06 41.0	-1.2
M22K				IAML		18 06 41.4	
	comp=N,4μm,0.6s						
M22K	**Willow**	**0.26**	**339**	P	Pn	18 06 34.0	-1.2
	baz=158						
M22K				S	Sn	18 06 40.8	-1.4
	baz=158						
PMR	**Palmer**	**0.39**	**78**		Pn	18 06 35.2	-0.7
PMR					Sn	18 06 42.6	-0.1
PMR				IAML		18 06 43.4	
	comp=N,1μm,0.1s						
PMR	**Palmer**	**0.39**	**78**	P	Pn	18 06 35.2	-0.8
	baz=258						
PMR				S	Sn	18 06 42.5	-0.2
	baz=258						
SUA	**Susitna One**	**0.40**	**263**		Pn	18 06 35.9	-0.4
SUA					Sn	18 06 43.6	+0.4
SUA				IAML		18 06 44.1	
	comp=N,1μm,0.3s						
SUA				IAML		18 06 44.1	
	comp=E,2μm,0.3s						
SUA	**Susitna One**	**0.40**	**263**	P	Pn	18 06 35.9	-0.4
	baz=83						
SUA				S	Sn	18 06 43.5	+0.4
	baz=83						
RC01	**Rabbit Creek A**	**0.43**	**168**		Pn	18 06 36.1	-0.6
RC01					Sn	18 06 43.4	-0.2
RC01				IAML		18 06 44.6	
	comp=N,1μm,0.1s						
RC01				IAML		18 06 44.7	
	comp=E,2μm,0.1s						
RC01	**Rabbit Creek A**	**0.43**	**168**	P	Pn	18 06 36.0	-0.7
	baz=348						
RC01				S	Sn	18 06 43.5	-0.1
	baz=348						
GHO	**Glory Hole Cre**	**0.54**	**61**		Pn	18 06 37.6	-0.8
GHO					Sn	18 06 46.9	+0.5
GHO				IAML		18 06 47.4	
	comp=N,1μm,0.4s						
GHO				IAML		18 06 47.6	
	comp=E,1μm,0.3s						
KNK	**Knik Glacier**	**0.71**	**97**		Pn	18 06 40.2	-0.4
KNK					Sn	18 06 50.4	+0.1
KNK				IAML		18 06 52.9	
	comp=E,2μm,0.3s						
KNK	**Knik Glacier**	**0.71**	**97**	P	Pn	18 06 39.6	-1.0
	baz=279						
SML	**Sawmill**	**0.81**	**68**		Pn	18 06 40.9	-1.1
SML					Sn	18 06 53.0	0.0
SML				IAML		18 06 54.6	
	comp=N,757nm,0.4s						
SML	**Sawmill**	**0.81**	**68**	P	Pn	18 06 40.9	-1.1
	baz=249						
SML				S	Sn	18 06 54.2	+1.3
	baz=249						
SKT	**Skwentna**	**0.90**	**302**		Pn	18 06 42.2	-1.0
SKT					Sn	18 06 54.8	-0.1
SKT				IAML		18 06 55.1	
	comp=E,806nm,0.3s						
SKT				IAML		18 06 55.2	
	comp=N,1μm,0.2s						
SKT	**Skwentna**	**0.90**	**302**	P	Pn	18 06 42.2	-1.0
	baz=121						
SKT				S	Sn	18 06 54.9	0.0
	baz=121						
CUT	**Chulitna**	**0.91**	**350**		Pn	18 06 42.6	-0.7
CUT	**Chulitna**	**0.91**	**350**	P	Pn	18 06 42.5	-0.8
	baz=170						
STLK	**Strandline Lak**	**0.92**	**270**		Pn	18 06 42.6	-0.8
STLK					Sn	18 06 55.5	0.0
CAPN	**Captain Cook N**	**0.96**	**219**	Pn	Pn	18 06 44.2	+0.4
PWL	**Port Wells**	**1.01**	**130**		Pn	18 06 44.0	-0.7
PWL				IAML		18 07 14.0	
	comp=E,952nm,0.3s						
PWL	**Port Wells**	**1.01**	**130**	P	Pn	18 06 43.9	-0.7
	baz=311						
SLKM	**Skilak Lake**	**1.02**	**188**		Pn	18 06 43.8	-1.0
SLKM					Sn	18 06 58.1	+0.2
SPCG	**Spurr Capps Gl**	**1.03**	**259**		Pn	18 06 44.8	-0.3
O22K	**Cooper Landing**	**1.04**	**175**		Pn	18 06 44.3	-0.7
M23K	**Glacier View**	**1.08**	**74**		Pn	18 06 45.2	-0.5
SPCP	**Crater Peak Br**	**1.10**	**258**		Pn	18 06 45.7	-0.4
N20K	**Mount Spurr**	**1.15**	**255**	P	Pn	18 06 46.0	-0.5
	baz=73						
SPCR	**Spurr Chakacha**	**1.15**	**255**		Pn	18 06 46.0	-0.5
SCM	**Sheep Creek Mo**	**1.28**	**74**		Pn	18 06 47.9	-0.5
WAT7	**Susitna Watana**	**1.42**	**20**		Pn	18 06 50.1	-0.2
WAT1	**Susitna Watana**	**1.47**	**25**		Pn	18 06 51.0	0.0
GLI	**Glacier Island**	**1.51**	**114**		Pn	18 06 50.5	-1.0
GLI				IAML		18 07 14.1	
	comp=E,389nm,0.4s						
GLI				IAML		18 07 14.2	
	comp=N,326nm,0.4s						
RDT	**Redoubt**	**1.53**	**233**		Pn	18 06 51.2	-0.7
M20K	**Styx River**	**1.57**	**285**		Pn	18 06 52.8	+0.3
M20K				IAML		18 07 15.5	

CNPM	**China Poot**	**2.10 199**	Pn	Pn	18 06 57.3	-2.3
CNPM			IAML		18 07 29.4	
	comp=E,170nm,0.5s					
CNPM			IAML		18 07 43.4	
	comp=N,223nm,0.4s					
L20K	**Farewell, AK**	**2.10 299**		Pn	18 06 59.7	0.0
CAST	**Castle Rocks**	**2.16 333**	Pn	Pn	18 07 00.6	+0.2
ILSW	**Iliamna Southw**	**2.20 227**	Pn	Pn	18 07 00.5	-0.6
N19K	**Bonanza Creek**	**2.32 254**	Pn	Pn	18 07 02.5	-0.2
L19K	**White Mountain**	**2.43 288**	Pn	Pn	18 07 04.0	-0.2
L19K			IAML		18 07 50.9	
	comp=E,75nm,1.0s					
P19K	**Oil Pt**	**2.48 223**	Pn	Pn	18 07 05.3	+0.4
P19K			IAML		18 07 52.9	
	comp=E,187nm,0.6s					
O19K	**Port Alsworth**	**2.53 240**	Pn	Pn	18 07 04.6	-0.8
BPAW	**Bear Paw Mtn.**	**2.64 350**	Pn	Pn	18 07 06.9	-0.2
K20K	**Telida**	**2.67 316**	Pn	Pn	18 07 07.1	-0.4
N18K	**Kilae Creek**	**3.02 257**	Pn	Pn	18 07 11.3	-0.9

*NEIC **30** 18:07:46.6±1.3, 61°.42N±0°.01×150°.00W±0°.05, h42km±7km, Error ellipse: s-maj=3.4km s-min=0.8km az=64.0*

AEIC 30 18:07:47.7±1.8, 61°.41N±0°.01×150°.06W±0°.04, h32km±7km, ML3.3, ML3.4/136(NEIC), Error ellipse: s-maj=3.0km s-min=1.0km az=56.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.33 280**			Pb	18 07 55.6	-0.3
SUA					Sn	18 08 02.9	+0.8
SUA				IAML		18 08 03.3	
	comp=E,4μm,0.8s						
SUA				IAML		18 08 03.3	
	comp=N,2μm,0.8s						
SUA	**Susitna One**	**0.33 280**		P	Pb	18 07 55.7	-0.2
	baz=100						
SUA				S	Sn	18 08 02.8	+0.6
	baz=100						
M22K	**Willow**	**0.35 355**			Pb	18 07 55.4	-0.5
M22K				IAML		18 08 03.5	
	comp=N,3μm,0.5s						
M22K				IAML		18 08 05.6	
	comp=E,3μm,0.3s						
M22K	**Willow**	**0.35 355**			Sn	18 08 02.4	0.0
M22K	**Willow**	**0.35 355**		P	Pb	18 07 55.4	-0.6
	baz=175						
M22K				S	Sn	18 08 02.4	0.0
	baz=175						
RC01	**Rabbit Creek A**	**0.35 154**			Pb	18 07 55.2	-0.9
RC01					Sb	18 08 02.0	+0.2
RC01				IAML		18 08 02.5	
	comp=N,4μm,0.3s						
RC01				IAML		18 08 07.1	
	comp=E,2μm,0.2s						
RC01	**Rabbit Creek A**	**0.35 154**		P	Pb	18 07 55.4	-0.6
	baz=334						
RC01				S	Sn	18 08 02.3	-0.2
	baz=334						
PMR	**Palmer**	**0.48 67**			Pb	18 07 56.7	-1.3
PMR					Sb	18 08 04.9	-0.1
PMR				IAML		18 08 05.3	
	comp=E,3μm,0.4s						
PMR				IAML		18 08 05.4	
	comp=N,4μm,0.4s						
PMR	**Palmer**	**0.48 67**		P	Pb	18 07 56.9	-1.0
	baz=248						
PMR				S	Sb	18 08 04.8	-0.2
	baz=248						
GHO	**Glory Hole Cre**	**0.66 55**			Pn	18 07 59.6	-1.2
GHO				Sn	Sb	18 08 09.5	-0.3
GHO				IAML		18 08 10.1	
	comp=N,2μm,0.6s						
GHO				IAML		18 08 10.3	
	comp=E,3μm,0.5s						
KNK	**Knik Glacier**	**0.77 89**			Pn	18 08 00.7	-1.6
KNK				Sn	Sn	18 08 12.0	-0.9
KNK				IAML		18 08 14.3	
	comp=E,1μm,0.5s						
KNK				IAML		18 08 15.3	
	comp=N,2μm,0.5s						
KNK	**Knik Glacier**	**0.77 89**		P	Pn	18 08 01.3	-1.1
	baz=270						
CAPN	**Captain Cook N**	**0.83 220**		Pn	Pn	18 08 02.6	-0.5
CAPN				Sn	Sb	18 08 17.0	+2.5
CAPN	**Captain Cook N**	**0.83 220**		P	Pn	18 08 02.2	-0.9
	baz=39						
STLK	**Strandline Lak**	**0.86 277**			Pn	18 08 02.7	-0.8
STLK					Sn	18 08 14.6	-0.4
SLKM	**Skilak Lake**	**0.91 185**			Pn	18 08 03.3	-0.9
SLKM					Sn	18 08 16.1	0.0
SKT	**Skwentna**	**0.91 310**			Pn	18 08 03.0	-1.2
SKT				Sn	Sn	18 08 15.9	-0.3
SKT	**Skwentna**	**0.91 310**		P	Pn	18 08 03.0	-1.2
	baz=129						
SKT				S	Sn	18 08 15.9	-0.3
	baz=129						
SML	**Sawmill**	**0.92 63**			Pn	18 08 02.8	-1.6
SML				Sn	Sn	18 08 15.8	-0.8
SML				IAML		18 08 17.2	
	comp=E,1μm,0.7s						
SML				IAML		18 08 19.1	
	comp=N,941nm,0.6s						
SML	**Sawmill**	**0.92 63**		P	Pn	18 08 03.0	-1.4
	baz=245						
SML				S	Sn	18 08 16.8	+0.3
	baz=245						
O22K	**Cooper Landing**	**0.94 170**			Pn	18 08 02.6	-2.0
O22K				Sn	Sn	18 08 15.8	-1.1
O22K	**Cooper Landing**	**0.94 170**		P	Pn	18 08 03.3	-1.3
	baz=350						
O22K				S	Sn	18 08 16.6	-0.3
	baz=350						
SPCG	**Spurr Capps Gl**	**0.95 264**			Pn	18 08 04.0	-0.9
PWL	**Port Wells**	**1.00 122**			Pn	18 08 04.1	-1.4
PWL				Sn	Sn	18 08 17.7	-0.8
PWL	**Port Wells**	**1.00 122**		P	Pn	18 08 04.5	-1.0
	baz=304						
PWL				S	Sb	18 08 19.2	-0.2
	baz=304						
CUT	**Chulitna**	**1.01 355**			Pn	18 08 04.5	-1.0
CUT	**Chulitna**	**1.01 355**		P	Pn	18 08 04.5	-1.0
	baz=174						
SPCP	**Crater Peak Br**	**1.02 263**			Pn	18 08 05.1	-0.7
N20K	**Mount Spurr**	**1.06 260**		P	Pn	18 08 05.2	-1.1
	baz=78						
SPCR	**Spurr Chakacha**	**1.06 260**			Pn	18 08 05.2	-1.1
SPCR	**Spurr Chakacha**	**1.06 260**			Pn	18 08 05.1	-1.2
SPCR	**Spurr Chakacha**	**1.06 260**		P	Pn	18 08 05.1	-1.2
	baz=78						
M23K	**Glacier View**	**1.18 70**			Pn	18 08 07.4	-0.6
M23K	**Glacier View**	**1.18 70**		P	Pn	18 08 07.4	-0.6
	baz=252						
SCM	**Sheep Creek Mo**	**1.38 71**			Pn	18 08 09.6	-1.1
SCM				IAML		18 08 30.2	
	comp=N,900nm,0.6s						
SCM	**Sheep Creek Mo**	**1.38 71**		P	Pn	18 08 10.1	-0.6
	baz=253						
RDT	**Redoubt**	**1.42 235**			Pn	18 08 10.1	-1.1
GLI	**Glacier Island**	**1.53 109**			Pn	18 08 11.0	-1.8
GLI				IAML		18 08 32.3	
	comp=N,455nm,0.7s						
GLI				IAML		18 08 40.0	
	comp=E,534nm,0.6s						
M20K	**Styx River**	**1.54 289**			Pn	18 08 13.0	+0.1
M20K	**Styx River**	**1.54 289**		IAML		18 08 35.6	
	comp=N,366nm,0.8s						
M20K				IAML		18 08 35.7	
	comp=E,352nm,1.0s						
M20K	**Styx River**	**1.54 289**		P	Pn	18 08 13.0	+0.1
	baz=107						
RDJH	**Redoubt Jeurge**	**1.57 240**			Pn	18 08 12.6	-0.8
RDSO	**Redoubt South**	**1.62 235**			Pn	18 08 13.1	-1.0
RDWB	**Redoubt West**	**1.64 237**			Pn	18 08 13.4	-0.9
RED	**Redoubt Volcan**	**1.65 234**			Pn	18 08 13.5	-1.0
BRLK	**Bradley Lake**	**1.70 194**	Pn	Pn	18 08 13.9	-1.2
BRLK			IAML		18 08 39.2	
	comp=E,313nm,0.4s					
BRLK			IAML		18 08 39.2	
	comp=N,360nm,0.4s					
FID	**Port Fidalgo**	**1.86 109**	Pn	Pn	18 08 15.6	-1.7
FID			IAML		18 08 40.2	
	comp=N,275nm,0.7s					
FID			IAML		18 08 43.1	
	comp=E,324nm,0.4s					
HOM	**Homer**	**1.92 205**			Pn	18 08 16.8	-1.3
CNPM	**China Poot**	**1.97 198**			Pn	18 08 16.9	-2.0
CNPM			IAML		18 08 46.7	
	comp=N,387nm,0.4s					
CNPM			IAML		18 08 46.9	
	comp=E,395nm,0.4s					
M24K	**Tolsona, Glenn**	**1.98 67**			Pn	18 08 17.2	-1.7
M24K			IAML		18 08 52.6	
	comp=N,504nm,1.1s					
M24K	**Tolsona, Glenn**	**1.98 67**	P		Pn	18 08 18.0	-1.0
	baz=251						
HIN	**Hinchinbrook I**	**2.01 119**			Pn	18 08 16.9	-2.5
ILSW	**Iliamna Southw**	**2.08 228**	Pn		Pn	18 08 18.4	-2.0
ILSW			IAML		18 08 52.4	
	comp=E,192nm,0.9s					
RND	**Reindeer**	**2.08 15**	Pn		Pn	18 08 17.8	-2.6
DHY	**Denali Highway**	**2.10 36**	Pn		Pn	18 08 18.4	-2.3
DHY			IAML		18 08 52.0	
	comp=N,220nm,0.7s					
DHY			IAML		18 08 53.4	
	comp=E,225nm,1.0s					
M19K	**Big River Lodg**	**2.12 285**	Pn		Pn	18 08 20.2	-0.7
KTH	**Kantishna Hill**	**2.19 350**			Pn	18 08 20.1	-1.8
KTH			IAML		18 08 51.4	
	comp=E,162nm,0.6s					
N19K	**Bonanza Creek**	**2.23 256**	Pn		Pn	18 08 19.9	-2.5
CAST	**Castle Rocks**	**2.23 336**	Pn		Pn	18 08 20.0	-2.3
P19K	**Oil Pt**	**2.36 223**	Pn		Pn	18 08 21.6	-2.5
P19K			IAML		18 09 03.5	
	comp=E,377nm,0.5s					
L19K	**White Mountain**	**2.41 291**	Pn		Pn	18 08 22.3	-2.5
L19K	**White Mountain**	**2.41 291**	P		Pn	18 08 24.7	-0.1
	baz=107						
O19K	**Port Alsworth**	**2.42 242**	Pn		Pn	18 08 22.4	-2.5
N25K	**Chitina, Valde**	**2.63 83**	Pn		Pn	18 08 25.8	-2.1
N25K			IAML		18 10 13.6	
	comp=N,190nm,0.6s					
SVW2	**Sparrevohn**	**2.69 266**	Pn		Pn	18 08 26.7	-1.9
K20K	**Telida**	**2.71 318**	Pn		Pn	18 08 27.8	-1.1
K20K			IAML		18 10 12.9	
	comp=N,105nm,0.5s					
BPAW	**Bear Paw Mtn.**	**2.74 351**	Pn		Pn	18 08 29.4	+0.1
BPAW			IAML		18 10 18.9	
	comp=N,97nm,0.6s					
RAGM	**Ragged Mountai**	**2.82 109**	Pn		Pn	18 08 31.9	+1.3
N18K	**Kilae Creek**	**2.93 258**	Pn		Pn	18 08 30.2	-1.8
N18K			IAML		18 09 05.6	
	comp=N,88nm,0.6s					
N18K	**Kilae Creek**	**2.93 258**	IAML			18 09 05.6	
	comp=N,88nm,0.6s					
N18K	**Kilae Creek**	**2.93 258**	IAML			18 09 05.9	
	comp=E,69nm,0.8s					
GLB	**Gilahina Butte**	**3.00 87**	Pn		Pn	18 08 32.6	-0.5
GLB			IAML		18 10 31.4	
	comp=E,114nm,1.3s					
SYI	**Shuyak Island**	**3.04 204**	Pn		Pn	18 08 32.3	-1.2
SYI			IAML		18 09 16.3	
	comp=N,90nm,0.7s					
SYI			IAML		18 09 16.7	
	comp=E,125nm,0.7s					
Q19K	**Cape Douglas,**	**3.06 217**	Pn		Pn	18 08 33.1	-0.8
TTA	**Tatalina**	**3.18 301**	Pn		Pn	18 08 33.9	-1.6
TTA			IAML		18 10 28.5	
	comp=N,97nm,0.9s					
VRDI	**Verde Repeater**	**3.19 90**	Pn		Pn	18 08 34.3	-1.5
VRDI			IAML		18 10 36.9	
	comp=N,101nm,0.8s					
L18K	**Granite Mounta**	**3.25 287**	Pn		Pn	18 08 35.9	-0.4
L18K			IAML		18 10 39.5	
	comp=N,70nm,0.8s					
P18K	**Big Mountain,**	**3.26 234**	Pn		Pn	18 08 36.2	-0.4
BERG	**Berg Lake**	**3.27 105**	Pn		Pn	18 08 36.3	-0.3
MENT	**Mentasta**	**3.35 60**	Pn		Pn	18 08 38.1	+0.3
J20K	**Nowinta River**	**3.35 328**	Pn		Pn	18 08 37.5	-0.2
CCB	**Clear Creek Bu**	**3.41 17**	Pn		Pn	18 08 39.1	+0.5
M17K	**Holitna River**	**3.55 273**	Pn		Pn	18 08 39.9	-0.5
M17K			IAML		18 09 48.9	
	comp=E,100nm,1.2s					
N17K	**Nushagak Hills**	**3.58 259**	Pn		Pn	18 08 40.1	-0.8
N17K			IAML		18 09 22.3	
	comp=E,76nm,0.7s					
N17K			IAML		18 09 42.0	
	comp=N,47nm,0.8s					
MLY	**Manley**	**3.65 355**	Pn		Pn	18 08 41.4	-0.5
J18K	**Innoko River**	**3.72 307**	Pn		Pn	18 08 42.1	-0.7
I23K	**Minto, Yukon-K**	**3.77 5**	Pn		Pn	18 08 43.8	+0.4
I23K			IAML		18 10 54.6	
	comp=N,43nm,0.8s					
I21K	**Tanana**	**3.89 348**	Pn		Pn	18 08 45.1	0.0
I21K			IAML		18 11 05.6	
	comp=N,39nm,1.0s					
POKR	**Poker Plat Res**	**3.91 17**	Pn		Pn	18 08 46.0	+0.6
POKR			IAML		18 10 56.9	
	comp=E,45nm,0.7s					
POKR			IAML		18 11 05.6	
	comp=N,44nm,0.9s					
K17K	**Iditarod**	**4.09 292**	Pn		Pn	18 08 47.3	-0.6
K17K			IAML		18 11 06.3	
	comp=N,40nm,1.2s					
K17K			IAML		18 11 18.4	
	comp=E,74nm,1.0s					
ACHA	**Angle Creek He**	**4.16 222**	Pn		Pn	18 08 49.9	+1.0
M16K	**Timber Creek**	**4.32 269**	Pn		Pn	18 08 50.3	-0.7
M16K			IAML		18 11 41.3	
	comp=E,29nm,0.7s					
H21K	**Melozitna Rive**	**4.44 345**	Pn		Pn	18 08 52.8	+0.1
H21K			IAML		18 11 14.9	
	comp=E,30nm,0.8s					
L16K	**Owhat River**	**4.51 278**	Pn		Pn	18 08 53.0	-0.7
J17K	**VABM Dome**	**4.64 299**	Pn		Pn	18 08 54.4	-1.1
J17K			IAML		18 11 55.2	
	comp=E,36nm,1.2s					
J17K			IAML		18 12 03.4	
	comp=N,39nm,0.8s					
IMAR	**Indian Mountai**	**4.88 342**	Pn		Pn	18 08 57.5	-1.3
H19K	**Roundabout Mou**	**5.03 328**	Pn		Pn	18 08 60.0	-0.8
H19K			IAML		18 11 04.0	
	comp=E,31nm,0.8s					
H19K			IAML		18 12 06.8	
	comp=N,19nm,0.8s					
N15K	**Kwethluk River**	**5.07 260**	Pn		Pn	18 09 00.3	-1.0
N15K			IAML		18 10 40.6	
	comp=N,33nm,1.2s					
N15K			IAML		18 11 55.4	
	comp=E,42nm,1.1s					
J16K	**Anvik River**	**5.26 296**	Pn		Pn	18 09 03.3	-0.7
J16K			IAML		18 12 04.8	
	comp=E,23nm,0.6s					
J16K			IAML		18 12 36.2	
	comp=N,18nm,0.9s					
EGAK	**Eagle**	**5.27 46**	Pn		Pn	18 09 01.8	-2.3
H18K	**Honhosa River**	**5.30 319**	Pn		Pn	18 09 03.3	-1.3
H18K			IAML		18 11 53.5	
	comp=E,35nm,0.7s					
H18K			IAML		18 11 57.1	
	comp=N,22nm,0.8s					
SII	**Sitkinak Islan**	**5.31 205**	Pn		Pn	18 09 02.4	-2.2
G21K	**Allakaket**	**5.35 345**	Pn		Pn	18 09 05.3	+0.2
G21K			IAML		18 11 12.7	
	comp=E,19nm,0.7s					
G21K			IAML		18 12 00.5	
	comp=N,23nm,0.8s					
I17K	**Unalakleet**	**5.50 302**	Pn		Pn	18 09 06.9	-0.3
K15K	**Wolf Creek Mou**	**5.50 284**	Pn		Pn	18 09 05.6	-1.6
H17K	**Granite Mounta**	**5.69 313**	Pn		Pn	18 09 09.7	-0.2
M14K	**Bethel**	**5.81 269**	Pn		Pn	18 09 11.0	-0.5
G18K	**Tagagawik**	**5.91 323**	Pn		Pn	18 09 11.7	-1.1
O14K	**Tigyukauivet M**	**5.97 254**	Pn		Pn	18 09 12.4	-1.2
L14K	**Kuka Creek**	**6.07 275**	Pn		Pn	18 09 14.5	-0.5
F19K	**Shaleruckik Mo**	**6.40 332**	Pn		Pn	18 09 18.5	-1.1
J14K	**Nanvaranak Lak**	**6.48 288**	Pn		Pn	18 09 20.2	-0.5
M13K	**Dall Lake**	**6.56 267**	Pn		Pn	18 09 21.9	+0.2
F26K	**Sheenjek River**	**6.81 19**	Pn		Pn	18 09 24.0	-1.2
G16K	**Koyuk River**	**6.81 311**	Pn		Pn	18 09 25.4	+0.3
K13K	**Kusilvak Mount**	**6.97 281**	Pn		Pn	18 09 25.7	-1.6
E18K	**Tukpahlearik C**	**7.56 328**	Pn		Pn	18 09 35.6	+0.2
ANM	**Nome**	**7.65 301**	Pn		Pn	18 09 36.3	-0.4
F15K	**North Star Dit**	**7.80 310**	Pn		Pn	18 09 38.8	0.0
M11K	**Mekoryuk**	**7.94 270**	Pn		Pn	18 09 40.7	+0.1
C18K	**Utukok River**	**8.64 332**	Pn		Pn	18 09 50.9	+0.5

*NEIC **30** 18:08:50.8±1.3, 61°.52N±0°.02×150°.00W±0°.05, h48km±7km, ML3.6/126, ML3.4(AEIC), Error ellipse: s-maj=3.8km*

s-min=3.1km az=219.0

ISC 30 18:08:52.1±1.0, 61°.49N±0°.03×149°.94W±0°.03, h50km±7km, n98, σ1.31/112, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.28 342**			**Pn**	**18 09 00.9**	**-0.1**
M22K				Sn	**Sn**	**18 09 06.8**	**-0.6**
M22K	**Willow**	**0.28 342**		P	**Pn**	**18 09 01.0**	**-0.1**
	baz=158						
M22K				S	**Sn**	**18 09 08.1**	**+0.7**
	baz=158						
SUA	**Susitna One**	**0.39 266**		P	**Pn**	**18 09 02.5**	**+0.2**
	baz=86						
SUA				S	**Sn**	**18 09 09.2**	**-0.3**
	baz=86						
PMR	**Palmer**	**0.40 75**			**Pn**	**18 09 02.1**	**-0.1**
PMR				Sn	**Sn**	**18 09 08.3**	**-1.2**
PMR				IAML		18 09 10.2	
	comp=E,3μm,0.4s						
PMR				IAML		18 09 11.6	
	comp=N,3μm,0.3s						
PMR	**Palmer**	**0.40 75**		P	**Pn**	**18 09 02.1**	**-0.1**
	baz=255						
RC01	**Rabbit Creek A**	**0.41 166**			**Pn**	**18 09 00.5**	**-1.9**
RC01				Sn	**Sn**	**18 09 09.9**	**+0.1**
RC01				IAML		18 09 10.0	
	comp=E,5μm,0.4s						
RC01	**Rabbit Creek A**	**0.41 166**		S	**Sn**	**18 09 09.2**	**-0.5**
	baz=349						
GHO	**Glory Hole Cre**	**0.56 59**			**Pn**	**18 09 01.9**	**-2.4**
GHO				Sn	**Sn**	**18 09 12.5**	**-0.4**
GHO				IAML		18 09 14.5	
	comp=N,4μm,0.4s						
GHO				IAML		18 09 14.7	
	comp=E,3μm,0.4s						
KNK	**Knik Glacier**	**0.71 96**			**Pn**	**18 09 04.7**	**-1.4**
KNK				Sn	**Sn**	**18 09 17.1**	**+0.8**
KNK	**Knik Glacier**	**0.71 96**		P	**Pn**	**18 09 06.5**	**+0.4**
	baz=277						
KNK				S	**Sn**	**18 09 17.0**	**+0.8**
	baz=277						
SML	**Sawmill**	**0.83 67**			**Pn**	**18 09 05.7**	**-2.0**
SML				IAML		18 09 21.6	
	comp=E,1μm,1.0s						
SML				IAML		18 09 22.0	
	comp=N,1μm,0.3s						
SKT	**Skwentna**	**0.90 304**			**Pn**	**18 09 06.1**	**-2.5**
SKT				Sn	**Sn**	**18 09 19.4**	**-1.3**
SKT	**Skwentna**	**0.90 304**		P	**Pn**	**18 09 10.0**	**+1.4**
	baz=122						
SKT				S	**Sn**	**18 09 21.7**	**+1.1**
	baz=122						
CUT	**Chulitna**	**0.93 350**		Pn	**Pn**	**18 09 07.4**	**-1.5**
CUT				Sn	**Sn**	**18 09 19.7**	**-1.5**
CUT	**Chulitna**	**0.93 350**		P	**Pn**	**18 09 09.8**	**+0.9**
	baz=169						
CUT				S	**Sn**	**18 09 22.7**	**+1.5**
	baz=169						
CAPN	**Captain Cook N**	**0.94 220**		Pn	**Pn**	**18 09 06.8**	**-2.1**
PWL	**Port Wells**	**1.00 129**			**Pn**	**18 09 09.2**	**-0.7**
PWL	**Port Wells**	**1.00 129**		P	**Pn**	**18 09 10.8**	**+1.0**
	baz=311						
PWL				S	**Sn**	**18 09 24.5**	**+1.5**
	baz=311						
O22K	**Cooper Landing**	**1.02 174**			**Pn**	**18 09 08.8**	**-1.3**
O22K	**Cooper Landing**	**1.02 174**		S	**Sn**	**18 09 24.8**	**+1.5**
	baz=355						
M23K	**Glacier View**	**1.10 73**		P	**Pn**	**18 09 12.4**	**+1.2**
	baz=255						
M23K				S	**Sn**	**18 09 27.0**	**+1.7**
	baz=255						
N20K	**Mount Spurr**	**1.13 256**		S	**Sn**	**18 09 27.8**	**+1.6**
	baz=74						
SPCR	**Spurr Chakacha**	**1.13 256**		S	**Sn**	**18 09 27.8**	**+1.6**
	baz=74						
SCM	**Sheep Creek Mo**	**1.29 73**			**Pn**	**18 09 12.3**	**-1.6**
SCM				IAML		18 09 33.6	
	comp=N,1μm,0.6s						
GLI	**Glacier Island**	**1.51 113**			**Pn**	**18 09 15.7**	**-1.1**
GLI				IAML		18 09 41.8	
	comp=E,1μm,0.3s						
M20K	**Styx River**	**1.57 286**		Pn	**Pn**	**18 09 15.9**	**-1.8**
M20K				IAML		18 09 41.7	
	comp=N,417nm,0.8s						
M20K				IAML		18 09 41.9	
	comp=E,651nm,0.9s						
M20K	**Styx River**	**1.57 286**		P	**Pn**	**18 09 19.5**	**+1.8**
	baz=103						
BRLK	**Bradley Lake**	**1.79 196**		Pn	**Pn**	**18 09 19.8**	**-0.9**
BRLK				IAML		18 09 49.3	
	comp=E,636nm,0.6s						
BRLK				IAML		18 09 49.8	
	comp=N,560nm,0.6s						
FID	**Port Fidalgo**	**1.84 112**		Pn	**Pn**	**18 09 19.3**	**-1.9**
FID				IAML		18 09 50.0	
	comp=N,562nm,0.3s						
FID				IAML		18 09 52.2	
	comp=E,597nm,0.3s						
M24K	**Tolsona, Glenn**	**1.89 69**		Pn	**Pn**	**18 09 21.7**	**-0.3**
M24K				IAML		18 09 54.2	
	comp=N,572nm,0.6s						
KLU	**Klutina**	**1.93 88**		Pn	**Pn**	**18 09 21.2**	**-1.3**
KLU				IAML		18 09 57.6	
	comp=E,308nm,0.6s						
KLU				IAML		18 09 59.6	
	comp=N,413nm,0.4s						
RND	**Reindeer**	**1.99 14**		Pn	**Pn**	**18 09 21.5**	**-1.9**
DHY	**Denali Highway**	**1.99 36**		Pn	**Pn**	**18 09 22.4**	**-1.1**
DHY				IAML		18 09 57.3	
	comp=E,246nm,0.3s						
HIN	**Hinchinbrook I**	**2.00 122**		Pn	**Pn**	**18 09 22.5**	**-1.0**
HIN				IAML		18 09 56.5	
	comp=E,620nm,0.6s						
HIN				IAML		18 10 00.2	
	comp=N,461nm,0.8s						
HOM	**Homer**	**2.02 205**		Pn	**Pn**	**18 09 22.3**	**-1.4**
CNPM	**China Poot**	**2.07 199**		Pn	**Pn**	**18 09 22.9**	**-1.5**
CNPM				IAML		18 09 54.6	
	comp=N,407nm,0.4s						
CNPM				IAML		18 09 56.4	
	comp=E,410nm,0.5s						
KTH	**Kantishna Hill**	**2.12 348**		Pn	**Pn**	**18 09 22.2**	**-2.9**
KTH				IAML		18 09 54.2	
	comp=E,325nm,0.8s						
KTH				IAML		18 09 55.4	
	comp=N,309nm,0.7s						
M19K	**Big River Lodg**	**2.16 283**		Pn	**Pn**	**18 09 23.2**	**-2.4**
CAST	**Castle Rocks**	**2.18 334**		Pn	**Pn**	**18 09 24.0**	**-1.9**
ILSW	**Iliamna Southw**	**2.18 228**		Pn	**Pn**	**18 09 24.3**	**-1.8**
N19K	**Bonanza Creek**	**2.31 255**		Pn	**Pn**	**18 09 26.0**	**-1.8**
L19K	**White Mountain**	**2.43 289**		Pn	**Pn**	**18 09 27.7**	**-1.7**
L19K				IAML		18 10 02.0	
	comp=E,172nm,0.5s						
P19K	**Oil Pt**	**2.46 223**		Pn	**Pn**	**18 09 28.4**	**-1.4**
P19K				IAML		18 10 21.2	
	comp=E,325nm,0.5s						
O19K	**Port Alsworth**	**2.51 241**		Pn	**Pn**	**18 09 29.2**	**-1.1**
O19K				IAML		18 10 01.5	
	comp=N,334nm,0.4s						
O19K				IAML		18 10 22.7	
	comp=E,354nm,0.4s						
N25K	**Chitina, Valde**	**2.56 85**		Pn	**Pn**	**18 09 30.2**	**-1.0**
N25K				IAML		18 10 12.6	
	comp=E,153nm,0.4s						
N25K				IAML		18 10 14.6	
	comp=N,212nm,0.7s						
BPAW	**Bear Paw Mtn.**	**2.66 350**		Pn	**Pn**	**18 09 31.5**	**-1.1**
K20K	**Telida**	**2.68

TTA	**Tatalina**	**3.19 300**	Pn	**Pn**	**18 09 37.3**	**-2.5**
TTA			IAML		18 11 23.6	
	comp=N,90nm,0.6s					
TTA			IAML		18 11 23.7	
	comp=E,108nm,0.7s					
BERG	**Berg Lake**	**3.24 107**	Pn	**Pn**	**18 09 39.1**	**-1.3**
J20K	**Nowinta River**	**3.32 326**	Pn	**Pn**	**18 09 39.0**	**-2.5**
J20K			IAML		18 10 22.7	
	comp=E,159nm,0.6s					
CRQM	**Cirque**	**3.38 100**	Pn	**Pn**	**18 09 42.6**	**+0.1**
CRQM			IAML		18 10 36.5	
	comp=E,176nm,1.3s					
MLY	**Manley**	**3.57 355**	Pn	**Pn**	**18 09 44.1**	**-0.9**
J19K	**Poorman**	**3.63 316**	Pn	**Pn**	**18 09 44.6**	**-1.1**
J19K			IAML		18 11 59.5	
	comp=N,83nm,1.1s					
J19K			IAML		18 12 10.0	
	comp=E,71nm,0.3s					
N17K	**Nushagak Hills**	**3.66 258**	Pn	**Pn**	**18 09 45.2**	**-0.9**
I23K	**Minto, Yukon-K**	**3.68 4**	Pn	**Pn**	**18 09 45.8**	**-0.7**
J18K	**Innoko River**	**3.72 305**	Pn	**Pn**	**18 09 46.3**	**-0.7**
J18K			IAML		18 11 31.1	
	comp=E,94nm,0.7s					
J18K			IAML		18 12 14.2	
	comp=N,85nm,0.7s					
I21K	**Tanana**	**3.82 347**	Pn	**Pn**	**18 09 47.5**	**-0.8**
I21K			IAML		18 12 17.2	
	comp=E,91nm,0.9s					
I21K			IAML		18 12 19.3	
	comp=N,103nm,0.7s					
I20K	**Naaghedeneel**	**3.91 330**	Pn	**Pn**	**18 09 48.9**	**-0.6**
K17K	**Iditarod**	**4.12 291**	Pn	**Pn**	**18 09 53.0**	**+0.5**
K17K			IAML		18 12 28.1	
	comp=E,94nm,0.8s					
K17K			IAML		18 12 38.0	
	comp=N,60nm,0.7s					
H21K	**Melozitna Rive**	**4.38 344**	Pn	**Pn**	**18 09 55.5**	**-0.5**
H21K			IAML		18 12 51.8	
	comp=E,66nm,0.8s					
H21K			IAML		18 12 52.1	
	comp=N,40nm,1.1s					
LOGN	**Logan Glacier**	**4.38 95**	Pn	**Pn**	**18 09 54.7**	**-1.5**
LOGN			IAML		18 12 40.9	
	comp=E,56nm,0.7s					
LOGN			IAML		18 12 54.5	
	comp=N,62nm,0.7s					
O16K	**Kokwok River B**	**4.45 248**	Pn	**Pn**	**18 09 54.9**	**-2.2**
PRP	**Porcupine Dome**	**4.50 24**	Pn	**Pn**	**18 09 56.0**	**-1.8**
PRP			IAML		18 12 49.0	
	comp=E,55nm,1.0s					
PRP			IAML		18 12 55.4	
	comp=N,67nm,0.8s					
L16K	**Owhat River**	**4.56 277**	Pn	**Pn**	**18 09 58.7**	**+0.2**
L16K			IAML		18 13 02.7	
	comp=E,31nm,0.8s					
J17K	**VABM Dome**	**4.66 298**	Pn	**Pn**	**18 09 59.5**	**-0.3**
J17K			IAML		18 13 05.6	
	comp=E,60nm,1.1s					
J17K			IAML		18 13 06.4	
	comp=N,78nm,1.2s					
H19K	**Roundabout Mou**	**4.99 327**	Pn	**Pn**	**18 10 03.8**	**-0.6**
H19K			IAML		18 13 12.7	
	comp=E,54nm,1.3s					
H19K			IAML		18 13 25.7	
	comp=N,49nm,1.0s					
J16K	**Anvik River**	**5.28 295**	Pn	**Pn**	**18 10 08.1**	**-0.2**
J16K			IAML		18 13 10.1	
	comp=E,28nm,1.2s					
J16K			IAML		18 13 37.7	
	comp=N,41nm,1.2s					
G21K	**Allakaket**	**5.28 344**	Pn	**Pn**	**18 10 06.2**	**-2.2**
G21K			IAML		18 13 20.4	
	comp=E,48nm,0.8s					
G21K			IAML		18 13 33.8	
	comp=N,39nm,1.2s					
BCPM	**Bancas Point**	**5.29 102**	Pn	**Pn**	**18 10 07.6**	**-0.9**
M29M	**Somme Creek**	**5.50 75**	Pn	**Pn**	**18 10 11.8**	**+0.4**
I17K	**Unalakleet**	**5.50 301**	Pn	**Pn**	**18 10 10.0**	**-1.4**
K15K	**Wolf Creek Mou**	**5.54 283**	Pn	**Pn**	**18 10 12.4**	**+0.4**
O29M	**Mount Kennedy**	**5.67 97**	Pn	**Pn**	**18 10 13.8**	**-0.1**
H17K	**Granite Mounta**	**5.68 312**	Pn	**Pn**	**18 10 13.3**	**-0.5**
G18K	**Tagagawik**	**5.88 323**	Pn	**Pn**	**18 10 15.9**	**-0.6**
F21K	**Alatna River**	**5.96 347**	Pn	**Pn**	**18 10 17.6**	**0.0**
O14K	**Tigyukauivet M**	**6.05 253**	Pn	**Pn**	**18 10 18.6**	**-0.3**
L14K	**Kuka Creek**	**6.12 274**	Pn	**Pn**	**18 10 20.0**	**+0.2**
P29M	**Windy Craggy**	**6.30 102**	Pn	**Pn**	**18 10 23.7**	**+1.3**
F19K	**Shaleruckik Mo**	**6.36 331**	Pn	**Pn**	**18 10 23.4**	**+0.3**
F25K	**Christian Rive**	**6.40 15**	Pn	**Pn**	**18 10 25.5**	**+1.8**
J14K	**Nanvaranak Lak**	**6.51 287**	Pn	**Pn**	**18 10 26.0**	**+0.8**
E19K	**Redstone River**	**6.76 335**	Pn	**Pn**	**18 10 29.4**	**+0.7**
G16K	**Koyuk River**	**6.80 311**	Pn	**Pn**	**18 10 30.1**	**+1.0**
F17K	**Baldwin Pennin**	**7.03 320**	Pn	**Pn**	**18 10 33.0**	**+0.8**
ANM	**Nome**	**7.66 300**	Pn	**Pn**	**18 10 41.6**	**+0.6**
F15K	**North Star Dit**	**7.79 309**	Pn	**Pn**	**18 10 42.5**	**-0.3**
R32K	**Eaglecrest**	**8.39 106**	Pn	**Pn**	**18 10 48.7**	**-2.3**
Q32M	**Nakina River**	**9.14 98**	Pn	**Pn**	**18 11 01.1**	**-0.4**
S34M	**Telegraph Cree**	**10.14 102**	Pn	**Pn**	**18 11 14.9**	**-0.1**
BBB	**Bella Bella**	**15.07 118**	Pn	**Pn**	**18 12 22.7**	**+1.1**

*NEIC **30** 18:10:35.6±0.7, 61°.57N±0°.03×149°.83W±0°.05, h56km±5km, Error ellipse: s-maj=4.0km s-min=2.8km az=210.0*
*IDC **30** 18:10:35.1±1.5, 61°.55N×150°.14W, h61km±16km, mb3.7/14, mbtmp3.9/17, Error ellipse: s-maj=16.3km s-min=10.0km az=109.0*
*AEIC **30** 18:10:36.5±0.8, 61°.59N±0°.02×149°.84W±0°.06, h50km±5km, ML3.8, ML3.9/68(NEIC), Error ellipse: s-maj=4.2km s-min=2.8km az=92.0*

ISC 30 18:10:35.1±0.7, 61°.57N±0°.03×149°.85W±0°.03, h58km±5km, n95, σ0.82/114, mb4.2/14, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.23 326**			**Pn**	**18 10 44.6**	**0.0**
M22K				Sn	**Sn**	**18 10 51.9**	**+0.6**
M22K	**Willow**	**0.23 326**		P	**Pn**	**18 10 44.5**	**0.0**
	baz=141						
M22K				S	**Sn**	**18 10 51.8**	**+0.5**
	baz=141						
PMR	**Palmer**	**0.34 85**			**Pn**	**18 10 45.2**	**-0.1**
PMR				Sn	**Sn**	**18 10 52.6**	**-0.2**
PMR				IAML		18 10 53.3	
	comp=E,11μm,0.6s						
PMR				IAML		18 10 53.4	
	comp=N,7μm,0.5s						
PMR	**Palmer**	**0.34 85**		P	**Pn**	**18 10 45.3**	**-0.1**
	baz=269						
PMR				S	**Sn**	**18 10 52.6**	**-0.2**
	baz=269						
SUA	**Susitna One**	**0.44 257**		Sn	**Sn**	**18 10 55.4**	**+0.7**
SUA	**Susitna One**	**0.44 257**		P	**Pn**	**18 10 47.0**	**+0.6**
	baz=74						
SUA				S	**Sn**	**18 10 55.4**	**+0.7**
	baz=74						
RC01	**Rabbit Creek A**	**0.48 174**			**Pn**	**18 10 47.1**	**+0.4**
RC01				Sn	**Sn**	**18 10 56.0**	**+0.9**
RC01	**Rabbit Creek A**	**0.48 174**		P	**Pn**	**18 10 47.2**	**+0.4**
	baz=355						
RC01				S	**Sn**	**18 10 56.1**	**+1.0**
	baz=355						
GHO	**Glory Hole Cre**	**0.49 64**			**Pn**	**18 10 46.9**	**0.0**
GHO				Sn	**Sn**	**18 10 55.7**	**+0.3**
KNK	**Knik Glacier**	**0.68 102**			**Pn**	**18 10 49.6**	**+0.6**
KNK				Sn	**Sn**	**18 11 00.2**	**+0.9**
KNK				IAML		18 11 01.7	
	comp=N,6μm,0.4s						
KNK	**Knik Glacier**	**0.68 102**		P	**Pn**	**18 10 49.7**	**+0.6**
	baz=285						
KNK				S	**Sn**	**18 11 00.1**	**+0.9**
	baz=285						
SML	**Sawmill**	**0.76 71**			**Pn**	**18 10 50.1**	**0.0**
SML				Sn	**Sn**	**18 11 01.0**	**0.0**
SML				IAML		18 11 02.4	
	comp=E,5μm,0.7s						
SML				IAML		18 11 02.6	
	comp=N,4μm,0.6s						
SML	**Sawmill**	**0.76 71**		P	**Pn**	**18 10 50.1**	**0.0**
	baz=253						
SML				S	**Sn**	**18 11 01.4**	**+0.4**
	baz=253						
CUT	**Chulitna**	**0.87 347**		Pn	**Pn**	**18 10 51.6**	**+0.3**
CUT				Sn	**Sn**	**18 11 03.9**	**+0.7**
CUT	**Chulitna**	**0.87 347**		P	**Pn**	**18 10 51.7**	**+0.3**
	baz=166						
SKT	**Skwentna**	**0.90 298**			**Pn**	**18 10 52.2**	**+0.4**
SKT				Sn	**Sn**	**18 11 04.7**	**+0.5**
SKT	**Skwentna**	**0.90 298**		P	**Pn**	**18 10 52.2**	**+0.4**
	baz=116						
SKT				S	**Sn**	**18 11 04.8**	**+0.7**
	baz=116						
STLK	**Strandline Lak**	**0.95 267**			**Pn**	**18 10 53.4**	**+0.9**
STLK					**Sn**	**18 11 06.6**	**+1.2**
PWL	**Port Wells**	**1.02 133**			**Pn**	**18 10 54.0**	**+0.7**
PWL				Sn	**Sn**	**18 11 07.5**	**+0.7**
PWL	**Port Wells**	**1.02 133**		P	**Pn**	**18 10 54.0**	**+0.7**
	baz=316						
PWL				S	**Sn**	**18 11 07.3**	**+0.5**
	baz=316						
M23K	**Glacier View**	**1.04 76**			**Pn**	**18 10 53.7**	**+0.2**
M23K					**Sn**	**18 11 08.1**	**+0.9**
M23K	**Glacier View**	**1.04 76**		P	**Pn**	**18 10 54.0**	**+0.4**
	baz=259						
M23K				S	**Sn**	**18 11 08.1**	**+0.9**
	baz=259						
SLKM	**Skilak Lake**	**1.08 190**			**Pn**	**18 10 54.6**	**+0.5**
SLKM					**Sn**	**18 11 09.0**	**+0.8**
SPCG	**Spurr Capps Gl**	**1.08 256**			**Pn**	**18 10 55.3**	**+1.0**
O22K	**Cooper Landing**	**1.09 177**		Pn	**Pn**	**18 10 54.6**	**+0.4**
O22K	**Cooper Landing**	**1.09 177**		P	**Pn**	**18 10 54.5**	**+0.3**
	baz=357						
SPCP	**Crater Peak Br**	**1.15 256**			**Pn**	**18 10 56.4**	**+1.2**
N20K	**Mount Spurr**	**1.19 253**		P	**Pn**	**18 10 56.5**	**+0.8**
	baz=70						
SPCR	**Spurr Chakacha**	**1.19 253**			**Pn**	**18 10 56.5**	**+0.8**
SCM	**Sheep Creek Mo**	**1.23 76**			**Pn**	**18 10 56.7**	**+0.5**
SCM				IAML		18 11 14.2	
	comp=N,2μm,1.0s						
SCM				IAML		18 11 14.9	
	comp=E,4μm,0.6s						
SCM	**Sheep Creek Mo**	**1.23 76**		P	**Pn**	**18 10 56.7**	**+0.5**
	baz=259						
WAT7	**Susitna Watana**	**1.36 20**			**Pn**	**18 10 58.6**	**+0.7**
WAT1	**Susitna Watana**	**1.41 25**			**Pn**	**18 10 59.3**	**+0.8**
WAT6	**Susitna Watana**	**1.42 43**			**Pn**	**18 10 59.5**	**+0.6**
SEW	**Seward**	**1.48 172**			**Pn**	**18 11 00.3**	**+0.9**
GLI	**Glacier Island**	**1.50 116**			**Pn**	**18 10 59.9**	**+0.2**
GLI				IAML		18 11 19.6	
	comp=E,2μm,0.7s						
GLI				IAML		18 11 20.2	
	comp=N,2μm,0.3s						
GLI	**Glacier Island**	**1.50 116**		P	**Pn**	**18 10 59.9**	**+0.2**
	baz=299						
RDT	**Redoubt**	**1.59 232**			**Pn**	**18 11 01.7**	**+0.6**
M20K	**Styx River**	**1.60 283**			**Pn**	**18 11 02.1**	**+1.0**
M20K	**Styx River**	**1.60 283**		IAML		18 11 24.7	
	comp=E,797nm,0.7s						
PPLA	**Purkeypile**	**1.73 322**			**Pn**	**18 11 03.3**	**+0.3**
RDJH	**Redoubt Jeurge**	**1.74 237**			**Pn**	**18 11 03.9**	**+0.9**
RDWB	**Redoubt West**	**1.81 235**			**Pn**	**18 11 05.0**	**+0.9**
M24K	**Tolsona, Glenn**	**1.82 71**			**Pn**	**18 11 05.5**	**+1.3**
M24K				IAML		18 11 30.2	
	comp=N,1μm,0.5s						
M24K	**Tolsona, Glenn**	**1.82 71**		P	**Pn**	**18 11 05.7**	**+1.5**
	baz=255						
FID	**Port Fidalgo**	**1.83 115**			**Pn**	**18 11 04.4**	**+0.3**
FID				IAML		18 11 28.7	
	comp=E,2μm,0.6s						
RED	**Redoubt Volcan**	**1.83 232**			**Pn**	**18 11 05.0**	**+0.7**
KLU	**Klutina**	**1.88 90**		Pn	**Pn**	**18 11 05.3**	**+0.4**
KLU				IAML		18 11 35.7	
	comp=E,751nm,0.6s						
KLU				IAML		18 11 37.4	
	comp=N,832nm,0.6s						
P23K	**Montague Islan**	**1.98 142**			**Pn**	**18 11 07.5**	**+1.3**
HIN	**Hinchinbrook I**	**2.01 124**			**Pn**	**18 11 06.3**	**-0.3**
HIN				IAML		18 11 40.7	
	comp=N,1μm,0.6s						
HIN				IAML		18 11 44.6	
	comp=E,1μm,0.9s						
KTH	**Kantishna Hill**	**2.06 346**		Pn	**Pn**	**18 11 07.5**	**+0.1**
KTH				IAML		18 11 33.8	
	comp=E,674nm,0.6s						
KTH				IAML		18 11 34.6	
	comp=N,822nm,0.6s						
L20K	**Farewell, AK**	**2.11 298**			**Pn**	**18 11 08.5**	**+0.5**
M19K	**Big River Lodg**	**2.19 281**			**Pn**	**18 11 09.2**	**+0.1**
M19K				IAML		18 11 40.2	
	comp=E,576nm,0.6s						
M19K				IAML		18 11 57.8	
	comp=N,437nm,0.5s						
EYAK	**Cordova Ski Ar**	**2.24 115**			**Pn**	**18 11 11.3**	**+1.6**
L19K	**White Mountain**	**2.45 287**			**Pn**	**18 11 13.5**	**+0.8**
L19K				IAML		18 12 01.9	
	comp=E,369nm,0.8s						
N25K	**Chitina, Valde**	**2.51 87**			**Pn**	**18 11 13.8**	**+0.3**
N25K				IAML		18 11 53.7	
	comp=N,475nm,0.3s						
SVW2	**Sparrevohn**	**2.80 263**		Pn	**Pn**	**18 11 17.7**	**+0.3**
N18K	**Kilae Creek**	**3.06 256**			**Pn**	**18 11 21.6**	**+0.6**
N18K				IAML		18 12 17.8	
	comp=N,238nm,0.7s						
TTA	**Tatalina**	**3.19 298**			**Pn**	**18 11 23.0**	**+0.2**
TTA				IAML		18 12 27.5	
	comp=N,200nm,1.0s						
SYI	**Shuyak Island**	**3.23 204**		Pn	**Pn**	**18 11 24.8**	**+1.5**
L18K	**Granite Mounta**	**3.30 284**		Pn	**Pn**	**18 11 24.8**	**+0.5**
L18K				IAML		18 12 40.6	
	comp=N,148nm,1.1s						
ILAR	**Eielson Array**	**3.49 21**		P	**Pn**	**18 11 27.0**	**+0.3**
	comp=N,5.1nm,0.5s,baz=211,slow=15,SNR=2.3						
ILAR				S	**Sn**	**18 12 09.8**	**+3.0**
	comp=N,24nm,0.8s,baz=191,slow=20,SNR=4.5						
MLY	**Manley**	**3.50 354**			**Pn**	**18 11 27.7**	**+0.7**
J19K	**Poorman**	**3.60 315**		IAML		18 12 31.2	
	comp=E,176nm,0.7s						
J19K				IAML		18 12 31.3	
	comp=N,161nm,0.7s						
I23K	**Minto, Yukon-K**	**3.60 3**			**Pn**	**18 11 28.1**	**-0.2**
I23K	**Minto, Yukon-K**	**3.60 3**		IAML		18 12 38.0	
	comp=N,133nm,0.8s						
M17K	**Holitna River**	**3.64 271**			**Pn**	**18 11 29.2**	**+0.3**
M17K				IAML		18 12 41.5	
	comp=N,339nm,1.0s						
M17K				IAML		18 12 44.3	
	comp=E,358nm,1.1s						
J18K	**Innoko River**	**3.71 304**		Pn	**Pn**	**18 11 30.5**	**+0.6**
KDAK	**Kodiak Island**	**4.04 201**		P	**Pn**	**18 11 34.2**	**-0.1**
	comp=E,9.3nm,0.5s,baz=331,slow=22,SNR=1.0						
KDAK				S	**Sn**	**18 12 18.3**	**-2.0**
	comp=E,28nm,0.5s,baz=126,slow=18,SNR=2.2						
K17K	**Iditarod**	**4.13 290**		IAML		18 12 52.7	
	comp=N,124nm,1.4s						
K17K				IAML		18 12 59.3	
	comp=E,180nm,1.3s						
M16K	**Timber Creek**	**4.43 267**		Pn	**Pn**	**18 11 40.3**	**+0.6**
M16K				IAML		18 13 10.7	
	comp=N,68nm,1.1s						
IMAR	**Indian Mountai**	**4.76 340**			**Pn**	**18 11 44.9**	**+0.7**
H18K	**Honhosa River**	**5.26 317**			**Pn**	**18 11 51.4**	**+0.5**
H18K				IAML		18 13 39.8	
	comp=N,42nm,1.3s						
K15K	**Wolf Creek Mou**	**5.57 283**			**Pn**	**18 11 55.8**	**+0.6**
H16K	**Elim**	**6.41 304**			**Pn**	**18 12 05.5**	**-1.2**
B20K	**Meade River**	**8.98 344**		Pn	**Pn**	**18 12 41.8**	**-0.1**
Q32M	**Nakina River**	**9.11 99**		Pn	**Pn**	**18 12 43.6**	**-0.3**
YKA	**Yellowknife Ar**	**16.44 71**		P	**Pn**	**18 14 21.7**	**+0.2**
	comp=N,0.3nm,0.5s,baz=284,slow=11,SNR=2.1						
PLID	**Pearl Lake**	**25.67 114**		P	**P**	**18 15 59.9**	**+0.5**
LYMT	**Lyon Mountain**	**25.89 107**		P	**P**	**18 16 01.6**	**+0.2**
NVAR	**Mina Array Bea**	**30.25 125**		P	**P**	**18 16 42.1**	**+1.8**
	comp=N,1.1nm,0.7s,baz=311,slow=9.5,SNR=3.6						
	comp=N,1.1nm,0.7s						
PDAR	**Pinedale Array**	**30.36 110**		P	**P**	**18 16 42.6**	**+1.3**
PDAR	**Pinedale Array**	**30.36 110**		P	**P**	**18 16 43.0**	**+1.6**
	comp=N,0.6nm,0.8s,baz=317,slow=6.3,SNR=2.2						
	comp=N,0.6nm,0.8s						
KLR	**Kul'dur**	**43.44 291**		P	**P**	**18 18 30.6**	**-1.1**
	comp=N,1.7nm,0.5s,baz=50,slow=6.6,SNR=6.1						
	comp=N,1.7nm,0.5s						
TXAR	**Lajitas Array**	**44.17 115**		P	**P**	**18 18 38.7**	**+0.8**
	comp=N,0.7nm,0.8s,baz=297,slow=5.0,SNR=1.3						
	comp=N,0.7nm,0.8s						
KSRS	**Korea Array**	**54.33 284**		P	**P**	**18 19 55.6**	**+0.4**
	comp=N,1.4nm,0.5s,baz=31,slow=6.6,SNR=7.1						
	comp=N,1.4nm,0.5s						
SONM	**Songino Array**	**55.10 307**		P	**P**	**18 20 01.4**	**+0.6**
	comp=N,2.0nm,0.7s,baz=34,slow=8.5,SNR=7.3						
	comp=N,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**57.00 325**		P	**P**	**18 20 13.2**	**-1.0**
	comp=N,1.0nm,0.5s,baz=30,slow=6.3,SNR=2.9						
	comp=N,1.0nm,0.5s						
HFS	**Hagfors**	**57.97 10**		P	**P**	**18 20 20.0**	**-0.9**
	comp=N,3.9nm,1.0s,baz=23,slow=7.8,SNR=0.9						
	comp=N,3.9nm,1.0s						
EKA	**Eskdalemuir Ar**	**60.53 21**		P	**P**	**18 20 37.9**	**-0.7**
	comp=N,2.4nm,0.8s,baz=332,slow=6.8,SNR=2.3						
	comp=N,2.4nm,0.8s						
BVAR	**Borovoye Array**	**61.38 334**		P	**P**	**18 20 43.4**	**-1.0**
	comp=N,1.8nm,0.6s,baz=58,slow=8.1,SNR=7.0						
	comp=N,1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**61.68 327**		P	**P**	**18 20 45.1**	**-1.4**
	comp=N,0.9nm,0.5s,baz=29,slow=6.7,SNR=8.9						
	comp=N,0.9nm,0.5s						
MKAR	**Makanchi Array**	**64.14 323**		P	**P**	**18 21 01.0**	**-1.9**
	comp=N,0.6nm,0.5s,baz=36,slow=6.1,SNR=6.5						
	comp=N,0.6nm,0.5s						
AKASG	**Malin Array Be**	**68.08 1**		P	**P**	**18 21 27.6**	**-0.4**
	comp=N,1.3nm,0.3s,baz=2.2,slow=6.2,SNR=15						
	comp=N,1.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**83.57 297**		P	**P**	**18 22 56.4**	**-0.4**
	comp=N,0.5nm,0.6s,baz=10,slow=6.7,SNR=4.8						
	comp=N,0.5nm,0.6s						

*NEIC **30** 18:12:31.9±0.9, 61°.41N±0°.02×150°.02W±0°.02, h40km±5km, Error ellipse: s-maj=3.1km s-min=1.7km az=182.0*

AEIC 30 18:12:32.6±1.0, 61°.41N±0°.02×150°.02W±0°.05, h42km±2km, ML2.9, ML3.2/28(NEIC), Error ellipse: s-maj=3.5km s-min=3.1km az=62.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.35 157**		Pn	Pn	18 12 40.7	-0.9
RC01					Sn	18 12 47.2	-0.7
RC01				IAML		18 12 47.3	
	comp=N,999nm,0.3s						
M22K	**Willow**	**0.35 352**			Pn	18 12 40.3	-1.2
M22K					Sn	18 12 47.6	-0.3
M22K				IAML		18 12 48.3	
	comp=E,2μm,0.3s						
M22K				IAML		18 12 52.3	
	comp=N,2μm,0.3s						
SUA	**Susitna One**	**0.35 279**			Sn	18 12 47.8	-0.4
PMR	**Palmer**	**0.46 66**			Pn	18 12 41.7	-1.3
PMR					Sn	18 12 49.2	-1.0
GHO	**Glory Hole Cre**	**0.64 55**			Pn	18 12 44.5	-0.8
GHO					Sn	18 12 53.9	-0.6
GHO				IAML		18 12 56.1	
	comp=N,539nm,0.4s						
KNK	**Knik Glacier**	**0.75 89**			Pn	18 12 45.9	-0.9
CAPN	**Captain Cook N**	**0.85 221**			Pn	18 12 47.8	-0.2
CAPN				IAML		18 13 08.6	
	comp=N,975nm,0.8s						
STLK	**Strandline Lak**	**0.88 277**			Pn	18 12 47.7	-0.8
STLK					Sn	18 12 59.7	-0.5
SML	**Sawmill**	**0.90 63**			Pn	18 12 48.2	-0.7
SLKM	**Skilak Lake**	**0.91 186**			Pn	18 12 48.5	-0.5
SKT	**Skwentna**	**0.92 309**			Pn	18 12 47.9	-1.3
SKT					Sn	18 13 00.8	-0.4
SKT				IAML		18 13 01.4	
	comp=E,821nm,0.4s						
O22K	**Cooper Landing**	**0.94 171**			Pn	18 12 48.5	-0.8
O22K				IAML		18 13 03.5	
	comp=E,840nm,0.6s						
SPCG	**Spurr Capps Gl**	**0.97 264**			Pn	18 12 49.2	-0.7
PWL	**Port Wells**	**0.98 123**			Pn	18 12 49.2	-0.8
PWL					Sn	18 13 03.3	+0.5
CUT	**Chulitna**	**1.01 353**			Pn	18 12 50.0	-0.2
CUT				IAML		18 13 04.8	
	comp=N,748nm,0.4s						
SPCP	**Crater Peak Br**	**1.04 263**			Pn	18 12 50.2	-0.6
SPCR	**Spurr Chakacha**	**1.08 260**			Pn	18 12 50.2	-1.1
SPCR	**Spurr Chakacha**	**1.08 260**			Pn	18 12 50.2	-1.1
SCM	**Sheep Creek Mo**	**1.35 70**		Pn	Pn	18 12 54.6	-0.5
SCM				IAML		18 13 15.1	
	comp=N,368nm,0.7s						
RDT	**Redoubt**	**1.43 235**			Pn	18 12 55.0	-1.1
GLI	**Glacier Island**	**1.51 109**			Pn	18 12 56.1	-1.1
GLI				IAML		18 13 18.9	
	comp=E,297nm,0.6s						
GLI				IAML		18 13 34.7	
	comp=N,213nm,0.3s						
M20K	**Styx River**	**1.56 289**		Pn	Pn	18 12 57.6	-0.3
M20K				IAML		18 13 55.3	
	comp=E,335nm,0.5s						

*NEIC **30** 18:19:44.6±1.0, 61°.42N±0°.02×150°.09W±0°.04, h42km±9km, Error ellipse: s-maj=3.7km s-min=2.8km az=155.0*

AEIC 30 18:19:45.1±1.1, 61°.42N±0°.03×150°.08W±0°.04, h37km±8km, ML3.2, ML3.3/148(NEIC), Error ellipse: s-maj=3.7km s-min=2.8km az=162.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.34 357**			Pn	18 19 52.5	-0.8
M22K				Sn	Sn	18 19 60.0	-0.2
M22K				IAML		18 20 00.6	
	comp=E,2μm,0.5s						
M22K				IAML		18 20 00.7	
	comp=N,3μm,0.7s						
M22K	**Willow**	**0.34 357**		P	Pn	18 19 52.7	-0.6
	baz=177						
M22K				S	Sn	18 20 00.0	-0.2
	baz=177						
RC01	**Rabbit Creek A**	**0.37 153**			Pn	18 19 52.4	-1.4
RC01				Sn	Sn	18 19 60.0	-0.5
RC01	**Rabbit Creek A**	**0.37 153**		P	Pn	18 19 53.5	-0.2
	baz=334						
RC01				S	Sn	18 20 00.1	-0.4
	baz=334						
PMR	**Palmer**	**0.49 69**			Pn	18 19 54.2	-1.3
PMR				Sn	Sn	18 20 02.3	-0.4
PMR	**Palmer**	**0.49 69**		P	Pn	18 19 54.3	-1.1
	baz=250						
PMR				S	Sn	18 20 02.4	-0.3
	baz=250						
GHO	**Glory Hole Cre**	**0.66 57**			Pn	18 19 56.8	-1.3
GHO				Sn	Sn	18 20 06.9	-0.2
GHO				IAML		18 20 25.3	
	comp=E,2μm,0.7s						
GHO				IAML		18 20 25.3	
	comp=N,2μm,0.4s						
KNK	**Knik Glacier**	**0.78 90**	

baz=77
SPCR Spurr Chakacha 1.05 259 Pn 18 20 02.6 -0.6
SPCR Spurr Chakacha 1.05 259 Pn 18 20 02.6 -0.6
SPCR Spurr Chakacha 1.05 259 P Pn 18 20 02.6 -0.6
baz=77
M23K Glacier View 1.19 71 Pn 18 20 04.7 -0.4
M23K Glacier View 1.19 71 P Pn 18 20 04.7 -0.4
baz=253
SEW Seward 1.35 167 Pn 18 20 07.1 -0.3
SEW Seward 1.35 167 P Pn 18 20 07.1 -0.3
baz=347
SCM Sheep Creek Mo 1.38 71 Pn Pn 18 20 07.4 -0.4
SCM Sheep Creek Mo 1.38 71 P Pn 18 20 07.5 -0.3
baz=254
RDT Redoubt 1.42 234 Pn 18 20 07.7 -0.6
M20K Styx River 1.53 289 Pn 18 20 09.8 0.0
M20K Sn Sn 18 20 30.0 +1.5
M20K IAML 18 20 52.2
comp=E,459nm,0.7s
M20K IAML 18 20 52.9
comp=N,342nm,0.7s
M20K Styx River 1.53 289 P Pn 18 20 09.7 -0.2
baz=106
WAT7 Susitna Watana 1.53 22 Pn 18 20 09.5 -0.5
GLI Glacier Island 1.55 109 Pn Pn 18 20 09.1 -0.9
GLI Sn Sn 18 20 28.6 -0.2
GLI IAML 18 20 55.6
comp=N,569nm,0.6s
GLI Glacier Island 1.55 109 P Pn 18 20 09.0 -1.0
baz=292
RDJH Redoubt Jeurge 1.56 239 Pn 18 20 09.9 -0.5
RDSO Redoubt South 1.62 234 Pn 18 20 10.6 -0.6
RDWB Redoubt West 1.64 236 Pn 18 20 11.0 -0.4
RED Redoubt Volcan 1.65 234 Pn 18 20 11.1 -0.4
BRLK Bradley Lake 1.71 194 Pn Pn 18 20 11.9 -0.3
BRLK Sn Sn 18 20 32.2 -0.6
BRLK IAML 18 20 58.6
comp=E,323nm,0.4s
BRSE Bradley Lake S 1.71 191 Pn 18 20 11.6 -0.8
BRSE Bradley Lake S 1.71 191 P Pn 18 20 11.6 -0.8
baz=11
PPLA Purkeypile 1.78 327 Pn 18 20 12.7 -0.7
PPLA Purkeypile 1.78 327 P Pn 18 20 12.7 -0.7
baz=145
O20K Slope Mountain 1.83 224 Pn 18 20 13.7 -0.3
O20K Slope Mountain 1.83 224 P Pn 18 20 13.7 -0.3
baz=42
FID Port Fidalgo 1.88 109 Pn Pn 18 20 13.5 -1.1
FID IAML 18 20 58.4
comp=N,313nm,0.2s
FID IAML 18 21 03.3
comp=E,328nm,0.4s
HOM Homer 1.93 204 Pn Pn 18 20 13.8 -1.4
M24K Tolsona, Glenn 1.98 68 Pn Pn 18 20 16.2 +0.2
M24K IAML 18 21 01.9
comp=N,379nm,1.0s
M24K Tolsona, Glenn 1.98 68 P Pn 18 20 15.6 -0.4
baz=251
CNPM China Poot 1.98 197 Pn Pn 18 20 15.2 -0.8
CNPM IAML 18 21 07.7
comp=E,327nm,0.5s
CNPM IAML 18 21 07.7
comp=N,222nm,0.5s
KLU Klutina 2.00 86 Pn Pn 18 20 16.0 -0.3
KLU IAML 18 21 06.0
comp=E,248nm,0.8s
KLU IAML 18 21 06.2
comp=N,203nm,0.6s
KLU Klutina 2.00 86 P Pn 18 20 15.7 -0.6
baz=270
HIN Hinchinbrook I 2.03 119 Pn Pn 18 20 16.6 -0.1
HIN IAML 18 21 09.1
comp=N,311nm,0.7s
RND Reindeer 2.08 15 Pn Pn 18 20 17.4 +0.1
RND IAML 18 21 07.1
comp=N,148nm,0.6s
ILSW Iliamna Southw 2.08 228 Pn Pn 18 20 17.2 -0.3
DHY Denali Highway 2.09 36 Pn Pn 18 20 17.4 -0.2
DHY IAML 18 21 38.7
comp=N,150nm,0.6s
M19K Big River Lodg 2.11 285 Pn Pn 18 20 17.5 -0.3
M19K IAML 18 21 09.0
comp=E,146nm,0.5s
M19K IAML 18 21 09.0
comp=N,142nm,0.5s
KTH Kantishna Hill 2.18 350 Pn Pn 18 20 19.3 +0.5
KTH IAML 18 21 05.8
comp=E,305nm,0.3s
CAST Castle Rocks 2.21 336 Pn Pn 18 20 19.4 +0.2
CAST IAML 18 21 08.8
comp=E,128nm,0.4s
N19K Bonanza Creek 2.22 256 Pn Pn 18 20 19.2 -0.1
P19K Oil Pt 2.36 223 Pn 18 20 21.2 0.0
P19K IAML 18 21 32.4
comp=N,233nm,0.8s
P19K IAML 18 21 32.7
comp=E,237nm,0.6s
L19K White Mountain 2.39 291 Pn Pn 18 20 22.0 +0.3
L19K IAML 18 21 13.3
comp=E,117nm,0.6s
O19K Port Alsworth 2.41 241 Pn Pn 18 20 22.2 +0.3
O19K IAML 18 21 13.2
comp=N,247nm,0.4s
O19K IAML 18 21 43.3
comp=E,267nm,0.4s
N25K Chitina, Valde 2.63 84 Pn Pn 18 20 25.6 +0.6
N25K IAML 18 21 22.4
comp=N,132nm,0.7s
N25K IAML 18 21 24.1
comp=E,127nm,0.5s
SVW2 Sparrevohn 2.68 265 Pn Pn 18 20 24.9 -0.6
K20K Telida 2.69 318 Pn Pn 18 20 25.5 -0.2
K20K IAML 18 21 22.4
comp=N,92nm,0.6s
K20K IAML 18 21 22.9
comp=E,124nm,0.7s
Q23K Middleton Isla 2.72 136 Pn Pn 18 20 26.0 -0.1
Q23K IAML 18 21 32.8
comp=E,121nm,0.7s
Q23K IAML 18 21 58.3
comp=N,127nm,1.1s
BPAW Bear Paw Mtn. 2.72 352 Pn Pn 18 20 26.6 +0.4
BPAW IAML 18 21 29.4
comp=E,112nm,0.6s
BPAW IAML 18 21 29.5
comp=N,102nm,0.7s
MID Middleton Isla 2.73 135 Pn 18 20 26.2 0.0
BWN Browne 2.78 6 Pn Pn 18 20 28.1 +1.2
RAGM Ragged Mountai 2.84 109 Pn Pn 18 20 28.1 +0.3
N18K Kilae Creek 2.92 258 Pn Pn 18 20 28.4 -0.5
O18K Koktuh Hills 2.97 240 Pn Pn 18 20 29.0 -0.6
GLB Gilahina Butte 3.01 87 Pn Pn 18 20 30.1 -0.1
GLB IAML 18 21 36.1
comp=E,66nm,0.4s
GLB IAML 18 21 37.5
comp=N,89nm,0.5s
SYI Shuyak Island 3.05 203 Pn Pn 18 20 29.4 -1.2
Q19K Cape Douglas, 3.07 217 Pn Pn 18 20 30.4 -0.5
Q19K IAML 18 22 02.1
comp=N,146nm,1.1s
WRH Wood River Hil 3.20 16 Pn Pn 18 20 33.0 +0.3
WRH IAML 18 21 43.2
comp=N,59nm,0.6s
VRDI Verde Repeater 3.20 91 Pn Pn 18 20 32.1 -0.8
VRDI IAML 18 22 33.9
comp=E,65nm,0.5s
L18K Granite Mounta 3.24 287 Pn Pn 18 20 33.1 -0.1
BERG Berg Lake 3.28 105 Pn Pn 18 20 34.8 +1.0
HDA Harding Lake 3.33 24 Pn Pn 18 20 35.0 +0.6
HDA IAML 18 21 46.3
comp=E,78nm,0.9s
HDA IAML 18 21 49.0
comp=N,91nm,0.5s
J20K Nowinta River 3.34 328 Pn 18 20 34.6 0.0
MCARA McCarthy VSAT 3.39 88 Pn Pn 18 20 35.3 -0.1
CCB Clear Creek Bu 3.40 17 Pn 18 20 36.2 +0.7
M17K Holitna River 3.54 273 Pn Pn 18 20 37.0 -0.4
M17K IAML 18 22 34.7
comp=E,103nm,0.6s
M17K IAML 18 22 36.8
comp=N,71nm,0.5s
N17K Nushagak Hills 3.58 259 Pn Pn 18 20 37.3 -0.6
N17K IAML 18 22 07.2
comp=E,41nm,0.8s
COLA College 3.61 15 Pn Pn 18 20 38.1 -0.3

J19K Poorman 3.63 318 Pn Pn 18 20 38.6 -0.1
J19K IAML 18 21 59.0
comp=E,70nm,0.8s
J19K IAML 18 22 02.1
comp=N,72nm,0.9s
MLY Manley 3.64 356 Pn Pn 18 20 39.2 +0.4
ILAR Eielson Array 3.67 22 Pn Pn 18 20 40.6 +1.5
J16K Innoko River 3.70 307 Pn Pn 18 20 39.8 +0.1
J18K IAML 18 21 42.4
comp=N,57nm,0.5s
J18K IAML 18 22 37.1
comp=E,38nm,0.5s
I23K Minto, Yukon-K 3.76 5 Pn Pn 18 20 40.7 +0.4
I23K IAML 18 21 59.0
comp=N,39nm,1.0s
KDAK Kodiak Island 3.86 200 Pn Pn 18 20 42.0 +0.2
KDAK IAML 18 23 14.7
comp=N,38nm,1.2s
I21K Tanana 3.87 348 Pn Pn 18 20 42.0 +0.1
I21K IAML 18 22 00.8
comp=E,35nm,0.9s
POKR Poker Plat Res 3.90 17 IAML 18 22 18.5
comp=N,30nm,1.0s
POKR Poker Plat Res 3.90 17 Pn Pn 18 20 42.8 +0.5
K17K Iditarod 4.08 292 Pn Pn 18 20 44.3 -0.5
K17K IAML 18 22 19.0
comp=E,38nm,0.8s
K17K IAML 18 22 19.2
comp=N,52nm,0.9s
MESA MESA 4.17 104 Pn Pn 18 20 46.5 +0.2
MESA IAML 18 22 12.7
comp=E,54nm,0.5s
M16K Timber Creek 4.31 269 Pn Pn 18 20 47.3 -0.6
M16K IAML 18 23 34.2
comp=N,29nm,0.7s
M16K IAML 18 23 44.1
comp=E,28nm,1.1s
O16K Kokwok River B 4.36 249 Pn Pn 18 20 48.3 -0.3
O16K IAML 18 23 34.5
comp=E,24nm,1.1s
H21K Melozitna Rive 4.42 345 Pn Pn 18 20 49.6 +0.1
LOGN Logan Glacier 4.44 94 Pn Pn 18 20 51.7 +1.8
LOGN IAML 18 23 52.2
comp=E,49nm,0.5s
L16K Owhat River 4.50 278 Pn Pn 18 20 50.0 -0.6
L16K IAML 18 23 37.4
comp=N,38nm,1.2s
L16K IAML 18 23 37.5
comp=E,37nm,0.6s
PRP Porcupine Dome 4.59 24 Pn Pn 18 20 53.1 +1.1
J17K VABM Dome 4.63 299 Pn Pn 18 20 51.6 -0.7
J17K IAML 18 23 40.9
comp=N,34nm,0.7s
J17K IAML 18 23 42.8
comp=E,32nm,1.0s
IMAR Indian Mountai 4.86 342 Pn Pn 18 20 56.5 +0.9
J16K Anvik River 5.25 295 Pn Pn 18 21 00.3 -0.5
H18K Honhosa River 5.29 319 Pn Pn 18 21 01.5 +0.1
H18K IAML 18 23 01.6
comp=E,19nm,1.1s
H18K IAML 18 24 16.5
comp=N,16nm,1.0s
G21K Allakaket 5.33 345 Pn Pn 18 21 01.2 -0.8
G21K IAML 18 24 00.2
comp=N,24nm,0.7s
G21K IAML 18 24 29.3
comp=E,27nm,0.8s
I17K Unalakleet 5.48 301 Pn Pn 18 21 04.3 +0.3
K15K Wolf Creek Mou 5.49 284 Pn Pn 18 21 04.1 0.0
M14K Bethel 5.80 269 Pn Pn 18 21 08.6 +0.2
G18K Tagagawik 5.89 323 Pn Pn 18 21 09.5 -0.1
F21K Alatna River 6.01 347 Pn Pn 18 21 11.6 +0.3
L14K Kuka Creek 6.06 275 Pn Pn 18 21 12.1 +0.2
F20K Avaraart Lake 6.16 339 Pn Pn 18 21 14.4 +1.1
F19K Shaleruckik Mo 6.39 332 Pn Pn 18 21 16.8 +0.3
J14K Nanvaranak Lak 6.47 288 Pn Pn 18 21 17.9 +0.4
M13K Dall Lake 6.55 267 Pn Pn 18 21 18.8 +0.2
F26K Sheenjek River 6.80 19 Pn Pn 18 21 23.9 +1.9
E19K Redstone River 6.80 336 Pn Pn 18 21 21.9 -0.2
K13K Kusilvak Mount 6.96 281 Pn Pn 18 21 24.4 +0.2
E18K Tukpahlearik C 7.54 328 Pn Pn 18 21 33.7 +1.5
F15K North Star Dit 7.79 310 Pn Pn 18 21 36.0 +0.4
D27M Malcolm River 8.72 22 Pn Pn 18 21 48.0 -0.5

*IDC **30** 18:19:54.4±2.7,61°.03N×150°.06W,h0km,mb3.8/2, mbtmp3.7/3,ML3.3/1, Error ellipse: s-maj=51.0km s-min=22.7km az=129.0*
*NEIC **30** 18:20:04.1±1.0,61°.50N±0°.02×149°.95W±0°.05,h43km±6km, Error ellipse: s-maj=3.5km s-min=3.3km az=140.0*
*AEIC **30** 18:20:04.4±1.0,61°.50N±0°.02×149°.93W±0°.05,h46km±3km, ML3.2,ML3.4/74(NEIC), Error ellipse: s-maj=3.9km s-min=3.2km az=123.0*
ISC 30 18:20:03.6±1.0,61°.49N±0°.03×149°.94W±0°.03,h44km±7km, n84,σ0°78/91,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.28**	**343**	Pn	**Pn**	**18 20 11.9**	**-0.2**
M22K				Sn	**Sn**	**18 20 18.7**	**+0.8**
M22K	**Willow**	**0.28**	**343**	P	**Pn**	**18 20 12.0**	**0.0**
baz=160							
M22K				S	**Sn**	**18 20 18.9**	**+0.9**
baz=160							
PMR	**Palmer**	**0.40**	**74**	Pn	**Pn**	**18 20 13.1**	**-0.2**
PMR				Sn	**Sn**	**18 20 20.5**	**+0.3**
PMR				IAML		18 20 21.1	
comp=E,4μm,0.4s							
PMR				IAML		18 20 21.3	
comp=N,3μm,0.2s							
PMR	**Palmer**	**0.40**	**74**	P	**Pn**	**18 20 13.2**	**-0.2**
baz=257							
PMR				S	**Sn**	**18 20 20.7**	**+0.5**
baz=257							
RC01	**Rabbit Creek A**	**0.41**	**166**	Pn	**Pn**	**18 20 13.5**	**+0.1**
RC01				Sn	**Sn**	**18 20 21.0**	**+0.7**
RC01				IAML		18 20 22.4	
comp=E,3μm,0.2s							
RC01	**Rabbit Creek A**	**0.41**	**166**	P	**Pn**	**18 20 13.5**	**+0.1**
baz=348							
GHO	**Glory Hole Cre**	**0.56**	**59**	Pn	**Pn**	**18 20 15.4**	**0.0**
GHO	**Glory Hole Cre**	**0.56**	**59**		**Sn**	**18 20 24.6**	**+0.6**
KNK	**Knik Glacier**	**0.72**	**95**	Pn	**Pn**	**18 20 17.8**	**+0.4**
KNK	**Knik Glacier**	**0.72**	**95**		**Sn**	**18 20 28.2**	**+0.9**
KNK	**Knik Glacier**	**0.72**	**95**	IAML		18 20 29.8	
comp=N,3μm,0.6s							
KNK				IAML		18 20 31.0	
comp=E,2μm,0.2s							
KNK	**Knik Glacier**	**0.72**	**95**	P	**Pn**	**18 20 17.4**	**0.0**
baz=278							
KNK				S	**Sn**	**18 20 28.2**	**+0.9**
baz=278							
SML	**Sawmill**	**0.83**	**66**		**Sn**	**18 20 30.7**	**+0.5**
SML	**Sawmill**	**0.83**	**66**	P	**Pn**	**18 20 19.1**	**+0.1**
baz=249							
SML				S	**Sn**	**18 20 30.7**	**+0.5**
baz=249							
SKT	**Skwentna**	**0.91**	**304**	Pn	**Pn**	**18 20 19.9**	**-0.1**
SKT	**Skwentna**	**0.91**	**304**		**Sn**	**18 20 32.4**	**+0.5**
SKT	**Skwentna**	**0.91**	**304**	IAML		18 20 32.8	
comp=E,1μm,0.4s							
SKT				IAML		18 20 33.0	
comp=N,1μm,0.2s							
SKT	**Skwentna**	**0.91**	**304**	P	**Pn**	**18 20 19.9**	**-0.1**
baz=121							
SKT				S	**Sn**	**18 20 32.4**	**+0.5**
baz=121							
STLK	**Strandline Lak**	**0.91**	**272**		**Pn**	**18 20 20.5**	**+0.4**
STLK					**Sn**	**18 20 33.1**	**+1.1**
CAPN	**Captain Cook N**	**0.93**	**220**	Pn	**Pn**	**18 20 22.0**	**+1.8**
CUT	**Chulitna**	**0.94**	**351**	Pn	**Pn**	**18 20 20.5**	**+0.1**
CUT	**Chulitna**	**0.94**	**351**	P	**Pn**	**18 20 20.4**	**+0.1**
baz=170							
SLKM	**Skilak Lake**	**0.99**	**188**		**Pn**	**18 20 21.7**	**+0.6**
PWL	**Port Wells**	**1.00**	**128**	Pn	**Pn**	**18 20 21.8**	**+0.6**
PWL	**Port Wells**	**1.00**	**128**	P	**Pn**	**18 20 21.9**	**+0.6**
baz=311							
O22K	**Cooper Landing**	**1.01**	**174**		**Pn**	**18 20 21.9**	**+0.5**
O22K	**Cooper Landing**	**1.01**	**174**	P	**Pn**	**18 20 21.9**	**+0.5**
baz=354							
SPCG	**Spurr Capps Gl**	**1.02**	**260**		**Pn**	**18 20 22.0**	**+0.4**
SCM	**Sheep Creek Mo**	**1.30**	**73**	P	**Pn**	**18 20 25.4**	**+0.1**
baz=256							
SEW	**Seward**	**1.41**	**170**		**Pn**	**18 20 26.9**	**+0.2**

SEW Seward 1.41 170 P **Pn 18 20 26.9 +0.2**
baz=351
WAT7 Susitna Watana 1.45 20 **Pn 18 20 27.4 0.0**
WAT6 Susitna Watana 1.51 42 **Pn 18 20 28.2 -0.1**
WAT6 Susitna Watana 1.51 42 P **Pn 18 20 28.2 -0.1**
baz=225
RDJH Redoubt Jeurge 1.66 238 **Pn 18 20 30.4 +0.1**
RDSO Redoubt South 1.71 234 **Pn 18 20 31.3 +0.2**
RDWB Redoubt West 1.73 236 **Pn 18 20 31.8 +0.4**
RED Redoubt Volcan 1.75 233 **Pn 18 20 31.9 +0.3**
PPLA Purkeypile 1.77 324 **Pn 18 20 31.8 -0.1**
PPLA Purkeypile 1.77 324 P **Pn 18 20 31.8 -0.1**
baz=142
BRSE Bradley Lake S 1.79 193 **Pn 18 20 32.6 +0.5**
BRSE Bradley Lake S 1.79 193 P **Pn 18 20 32.6 +0.5**
baz=12
M24K Tolsona, Glenn 1.90 69 **Pn 18 20 35.2 +1.7**
M24K Tolsona, Glenn 1.90 69 P **Pn 18 20 33.5 0.0**
baz=253
O20K Slope Mountain 1.93 224 **Pn 18 20 34.4 +0.4**
O20K Slope Mountain 1.93 224 P **Pn 18 20 34.4 +0.4**
baz=42
KLU Klutina 1.93 88 Pn **Pn 18 20 34.4 +0.4**
KLU Klutina 1.93 88 P **Pn 18 20 34.1 +0.1**
baz=272
P23K Montague Islan 1.94 139 **Pn 18 20 34.5 +0.4**
P23K Montague Islan 1.94 139 P **Pn 18 20 34.5 +0.4**
baz=322
TRF Thorofare Moun 1.98 355 **Pn 18 20 34.7 -0.1**
TRF Thorofare Moun 1.98 355 IAML 18 21 03.1
comp=E,355nm,0.7s
TRF IAML 18 21 04.0
comp=N,470nm,0.5s
TRF Thorofare Moun 1.98 355 P **Pn 18 20 34.7 -0.1**
baz=175
RND Reindeer 1.99 14 **Pn 18 20 35.9 +1.1**
DHY Denali Highway 2.00 36 **Pn 18 20 36.9 +1.9**
DHY Denali Highway 2.00 36 P **Pn 18 20 35.0 0.0**
baz=218
HIN Hinchinbrook I 2.00 122 **Pn 18 20 34.8 -0.2**
HIN IAML 18 21 09.9
comp=E,448nm,0.4s
DIV Divide 2.04 98 **Pn 18 20 35.7 +0.1**
L20K Farewell, AK 2.11 300 **Pn 18 20 36.6 +0.2**
L20K Farewell, AK 2.11 300 P **Pn 18 20 36.6 +0.2**
baz=116
KTH Kantishna Hill 2.12 348 **Pn 18 20 37.8 +1.1**
M19K Big River Lodg 2.16 283 Pn **Pn 18 20 37.6 +0.4**
CAST Castle Rocks 2.18 334 **Pn 18 20 39.0 +1.6**
L19K White Mountain 2.43 289 **Pn 18 20 41.4 +0.6**
BPAW Bear Paw Mtn. 2.67 350 **Pn 18 20 45.3 +1.2**
K20K Telida 2.69 316 **Pn 18 20 44.9 +0.5**
BWN Browne 2.71 4 Pn **Pn 18 20 46.6 +2.1**
GLB Gilahina Butte 2.94 88 Pn **Pn 18 20 49.4 +1.5**
GLB IAML 18 22 39.8
comp=E,92nm,0.4s
N18K Kilae Creek 3.00 257 Pn **Pn 18 20 49.0 +0.4**
WRH Wood River Hil 3.12 15 Pn **Pn 18 20 50.9 +0.8**
SYI Shuyak Island 3.13 204 Pn **Pn 18 20 50.8 +0.3**
VRDI Verde Repeater 3.14 92 Pn **Pn 18 20 51.4 +0.7**
NEA2 Nenana 3.15 7 Pn **Pn 18 20 51.4 +0.8**
TTA Tatalina 3.19 300 Pn **Pn 18 20 50.7 -0.6**
TTA IAML 18 21 29.4
comp=N,57nm,0.8s
HDA Harding Lake 3.24 24 Pn **Pn 18 20 52.4 +0.5**
L18K Granite Mounta 3.28 286 Pn **Pn 18 20 52.8 +0.3**
L18K IAML 18 22 46.7
comp=E,72nm,0.7s
J20K Nowinta River 3.32 326 **Pn 18 20 53.3 +0.3**
CCB Clear Creek Bu 3.32 16 Pn **Pn 18 20 55.7 +2.7**
CCB IAML 18 23 02.6
comp=N,51nm,0.5s
CRQM Cirque 3.38 99 Pn **Pn 18 20 54.6 +0.6**
CRQM IAML 18 22 59.4
comp=E,101nm,1.1s
ILAR Eielson Array 3.58 21 Pn **Pn 18 20 56.2 -0.3**
comp=E,1.8nm,0.3s,baz=196,slow=15,SNR=3.3
ILAR Sn **Sn 18 21 39.6 +2.1**
comp=E,4.4nm,0.3s,baz=204,slow=28,SNR=6.8
comp=E,3.4nm,0.4s
J19K Poorman 3.63 316 Pn **Pn 18 20 57.9 +0.7**
J18K Innoko River 3.72 305 Pn **Pn 18 20 59.2 +0.7**
SONM Songino Array 55.11 307 P **P 18 29 30.4 -0.6**
comp=E,0.7nm,0.7s,baz=34,slow=8.7,SNR=3.7
comp=E,0.7nm,0.7s
AKASG Malin Array Be 68.16 1 P **P 18 30 56.9 -1.7**
comp=E,0.9nm,0.5s,baz=5.5,slow=6.7,SNR=4.5
comp=E,0.9nm,0.5s

*IDC **30** 18:21:39.7±1.4,61°.40N×149°.90W,h61km±15km,mb3.7/12, mbtmp3.8/17, Error ellipse: s-maj=18.2km s-min=9.8km az=114.0*
*NEIC **30** 18:21:40.8±1.0,61°.42N±0°.02×150°.05W±0°.05,h46km±4km, Error ellipse: s-maj=3.4km s-min=3.1km az=78.0*
*AEIC **30** 18:21:41.7±1.1,61°.40N±0°.02×150°.06W±0°.05,h39km±3km, ML3.6,ML3.7/190(NEIC), Error ellipse: s-maj=3.3km s-min=3.2km az=75.0*
ISC 30 18:21:39.4±0.7,61°.42N±0°.03×150°.05W±0°.03,h51km±6km, n198,σ1°58/204,mb4.0/12,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.34**	**354**		**Pn**	**18 21 49.3**	**+0.4**
M22K					**Sn**	**18 21 56.9**	**+1.2**
M22K	**Willow**	**0.34**	**354**	IAML		18 21 57.1	
comp=N,14μm,0.4s							
M22K				IAML		18 21 57.1	
comp=E,15μm,0.6s							
M22K	**Willow**	**0.34**	**354**	P	**Pn**	**18 21 49.3**	**+0.4**
baz=175							
M22K				S	**Sn**	**18 21 56.7**	**+1.0**
baz=175							
SUA	**Susitna One**	**0.34**	**278**		**Sn**	**18 21 56.7**	**+0.7**
SUA	**Susitna One**	**0.34**	**278**		**Pn**	**18 21 49.4**	**+0.3**
SUA	**Susitna One**	**0.34**	**278**	IAML		18 21 57.6	
comp=N,3μm,0.6s							
SUA				IAML		18 21 58.2	
comp=E,3μm,0.2s							
SUA	**Susitna One**	**0.34**	**278**	P	**Pn**	**18 21 49.7**	**+0.6**
baz=101							
SUA				S	**Sn**	**18 21 55.9**	**-0.1**
baz=101							
RC01	**Rabbit Creek A**	**0.37**	**155**		**Sn**	**18 21 56.8**	**+0.5**
RC01	**Rabbit Creek A**	**0.37**	**155**		**Pn**	**18 21 49.6**	**+0.4**
RC01	**Rabbit Creek A**	**0.37**	**155**	IAML		18 22 00.0	
comp=N,7μm,0.2s							
RC01				IAML		18 22 00.2	
comp=E,5μm,0.3s							
RC01	**Rabbit Creek A**	**0.37**	**155**	P	**Pn**	**18 21 50.1**	**+0.8**
baz=334							
RC01				S	**Sn**	**18 21 56.8**	**+0.5**
baz=334							
PMR	**Palmer**	**0.47**	**68**		**Pn**	**18 21 50.7**	**+0.4**
PMR					**Sn**	**18 21 58.9**	**+0.6**
PMR	**Palmer**	**0.47**	**68**	IAML		18 21 59.2	
comp=N,7μm,0.2s							
PMR				IAML		18 22 00.2	
comp=E,5μm,0.3s							
PMR	**Palmer**	**0.47**	**68**	P	**Pn**	**18 21 50.7**	**+0.4**
baz=247							
PMR				S	**Sn**	**18 21 58.7**	**+0.5**
baz=247							
GHO	**Glory Hole Cre**	**0.64**	**56**		**Sn**	**18 22 03.5**	**+1.4**
GHO	**Glory Hole Cre**	**0.64**	**56**		**Pn**	**18 21 53.4**	**+0.9**
GHO	**Glory Hole Cre**	**0.64**	**56**	IAML		18 22 04.5	
comp=E,5μm,0.4s							
GHO				IAML		18 22 05.5	
comp=N,5μm,0.3s							
KNK	**Knik Glacier**	**0.77**	**90**		**Pn**	**18 21 55.0**	**+1.0**
KNK	**Knik Glacier**	**0.77**	**90**		**Sn**	**18 22 06.6**	**+1.9**
KNK	**Knik Glacier**	**0.77**	**90**	P	**Pn**	**18 21 55.1**	**+1.0**
baz=270							
KNK				S	**Sn**	**18 22 06.2**	**+1.5**
baz=270							
CAPN	**Captain Cook N**	**0.85**	**220**		**Pn**	**18 21 57.2**	**+2.1**
CAPN	**Captain Cook N**	**0.85**	**220**	P	**Pn**	**18 21 57.2**	**+2.1**
baz=40							
STLK	**Strandline Lak**	**0.86**	**276**		**Pn**	**18 21 56.5**	**+1.2**
STLK					**Sn**	**18 22 08.8**	**+1.8**
SKT	**Skwentna**	**0.90**	**309**		**Pn**	**18 21 56.8**	**+0.9**
SKT					**Sn**	**18 22 09.5**	**+1.6**
SKT	**Skwentna**	**0.90**	**309**	P	**Pn**	**18 21 56.7**	**+0.9**
baz=129							

SKT S **Sn** **18 22 09.3 +1.3**
baz=129
SML Sawmill 0.91 64 Sn 18 22 09.4 +1.3
SML Sawmill 0.91 64 Pn 18 21 57.0 +1.0
SML Sawmill 0.91 64 IAML 18 22 11.3
comp=E,4μm,0.9s
SML IAML 18 22 12.9
comp=N,3μm,0.6s
SML Sawmill 0.91 64 P **Pn** **18 21 57.5 +1.5**
baz=244
SML S **Sn** **18 22 09.4 +1.3**
baz=244
SLKM Skilak Lake 0.92 185 Pn 18 21 56.9 +0.7
O22K Cooper Landing 0.96 170 Pn 18 21 57.1 +0.6
O22K Cooper Landing 0.96 170 Sn 18 22 10.9 +1.8
O22K Cooper Landing 0.96 170 IAML 18 22 12.3
comp=E,6μm,0.5s
O22K IAML 18 22 18.4
comp=N,9μm,0.6s
O22K Cooper Landing 0.96 170 P **Pn** **18 21 57.3 +0.7**
baz=350
SPCG Spurr Capps Gl 0.96 263 Pn 18 21 58.0 +1.3
CUT Chulitna 0.99 354 Pn 18 21 58.5 +1.4
CUT Chulitna 0.99 354 P **Pn** **18 21 58.1 +1.1**
baz=174
PWL Port Wells 1.00 123 Sn 18 22 12.1 +1.7
PWL Port Wells 1.00 123 Pn 18 21 58.1 +0.9
PWL Port Wells 1.00 123 IAML 18 22 12.9
comp=N,7μm,0.5s
PWL IAML 18 22 14.2
comp=E,7μm,0.3s
PWL Port Wells 1.00 123 P **Pn** **18 21 58.5 +1.2**
baz=304
PWL S **Sn** **18 22 12.1 +1.7**
baz=304
SPCP Crater Peak Br 1.02 262 Pn 18 21 59.0 +1.4
N20K Mount Spurr 1.06 259 P **Pn** **18 21 59.1 +1.0**
baz=78
N20K S **Sn** **18 22 13.3 +1.5**
baz=78
SPCR Spurr Chakacha 1.06 259 Pn 18 21 59.3 +1.2
SPCR **Sn** **18 22 13.3 +1.5**
SPCR Spurr Chakacha 1.06 259 Pn 18 21 59.4 +1.3
M23K Glacier View 1.17 70 Pn 18 22 00.9 +1.4
M23K Glacier View 1.17 70 P **Pn** **18 22 00.9 +1.4**
baz=251
SEW Seward 1.35 167 Pn 18 22 03.3 +1.4
SEW Seward 1.35 167 P **Pn** **18 22 03.7 +1.8**
baz=347
SCM Sheep Creek Mo 1.36 71 Pn 18 22 03.5 +1.4
SCM IAML 18 22 24.0
comp=N,2μm,0.6s
SCM Sheep Creek Mo 1.36 71 P **Pn** **18 22 03.7 +1.5**
baz=253
RDT Redoubt 1.43 234 Pn 18 22 04.1 +1.1
WAT7 Susitna Watana 1.53 21 Pn 18 22 06.5 +2.1
GLI Glacier Island 1.53 109 Pn 18 22 05.1 +0.7
GLI Glacier Island 1.53 109 IAML 18 22 29.3
comp=N,2μm,0.5s
GLI IAML 18 22 29.6
comp=E,2μm,0.5s
M20K Styx River 1.54 289 Pn 18 22 06.4 +1.9
M20K IAML 18 22 28.5
comp=N,880nm,0.9s
M20K IAML 18 22 29.1
comp=E,964nm,0.7s
M20K Styx River 1.54 289 P **Pn** **18 22 06.7 +2.1**
baz=107
RDJH Redoubt Jeurge 1.58 239 Pn 18 22 06.4 +1.3
RDSO Redoubt South 1.63 235 Pn 18 22 07.2 +1.3
RDWB Redoubt West 1.65 237 Pn 18 22 07.7 +1.6
RED Redoubt Volcan 1.67 234 Pn 18 22 07.7 +1.4
BRLK Bradley Lake 1.71 194 Pn 18 22 08.1 +1.2
BRLK IAML 18 22 33.6
comp=N,580nm,0.5s
BRLK IAML 18 22 34.1
comp=E,888nm,0.6s
BRSE Bradley Lake S 1.72 192 Pn 18 22 08.7 +1.8
PPLA Purkeypile 1.79 327 Pn 18 22 09.6 +1.6
PPLA Purkeypile 1.79 327 P **Pn** **18 22 10.5 +2.5**
baz=145
O20K Slope Mountain 1.84 224 Pn 18 22 10.2 +1.5
FID Port Fidalgo 1.86 110 Pn 18 22 09.1 +0.2
FID IAML 18 22 40.2
comp=E,1μm,0.4s
FID IAML 18 22 41.2
comp=N,1μm,0.4s
P23K Montague Islan 1.93 136 Pn 18 22 11.7 +1.9
HOM Homer 1.94 205 Pn **Pn** **18 22 11.1 +1.2**
M24K Tolsona, Glenn 1.97 68 Pn **Pn** **18 22 11.7 +1.3**
M24K IAML 18 22 41.2
comp=E,1μm,1.1s
M24K IAML 18 22 42.5
comp=N,746nm,0.7s
KLU Klutina 1.98 86 Pn **Pn** **18 22 11.2 +0.6**
KLU IAML 18 22 43.4
comp=N,981nm,0.5s
KLU IAML 18 22 45.8
comp=E,633nm,0.3s
CNPM China Poot 1.99 198 Pn 18 22 11.3 +0.7
CNPM IAML 18 22 39.3
comp=E,792nm,0.8s
CNPM IAML 18 22 42.8
comp=N,674nm,0.4s
HIN Hinchinbrook I 2.02 119 Pn 18 22 11.5 +0.5
HIN IAML 18 22 45.0
comp=N,994nm,0.5s
TRF Thorofare Moun 2.04 357 Pn 18 22 13.9 +2.4
TRF Thorofare Moun 2.04 357 IAML 18 22 43.1
comp=N,560nm,0.5s
TRF IAML 18 22 48.8
comp=E,385nm,0.9s
RND Reindeer 2.07 15 Pn 18 22 13.1 +1.3
RND IAML 18 22 44.8
comp=N,362nm,0.5s
DHY Denali Highway 2.08 36 Pn 18 22 13.3 +1.3
DHY IAML 18 22 45.3
comp=E,482nm,0.6s
DHY IAML 18 22 46.1
comp=N,588nm,0.5s
ILSW Iliamna Southw 2.10 228 Pn 18 22 12.6 +0.5
M19K Big River Lodg 2.13 285 Pn 18 22 14.0 +1.5
KTH Kantishna Hill 2.18 350 Pn **Pn** **18 22 15.5 +2.2**
KTH IAML 18 22 54.3
comp=N,349nm,0.7s
KTH IAML 18 22 56.2
comp=E,384nm,0.6s
CAST Castle Rocks 2.22 336 Pn **Pn** **18 22 15.2 +1.4**
CAST IAML 18 22 58.3
comp=E,316nm,0.6s
N19K Bonanza Creek 2.24 256 Pn **Pn** **18 22 15.6 +1.5**
P19K Oil Pt 2.37 223 Pn **Pn** **18 22 17.1 +1.2**
P19K IAML 18 22 51.9
comp=E,695nm,0.4s
MCK McKinley 2.38 12 Pn 18 22 18.7 +2.8
L19K White Mountain 2.41 291 Pn 18 22 17.6 +1.3
L19K IAML 18 23 02.5
comp=E,286nm,1.0s
O19K Port Alsworth 2.43 241 Pn 18 22 18.0 +1.4
N25K Chitina, Valde 2.62 84 Pn **Pn** **18 22 21.0 +1.7**
N25K IAML 18 23 01.6
comp=N,400nm,0.5s
N25K IAML 18 23 02.3
comp=E,342nm,0.3s
SVW2 Sparrevohn 2.69 265 Pn **Pn** **18 22 21.5 +1.3**
K20K Telida 2.70 318 Pn 18 22 21.6 +1.3
K20K IAML 18 23 01.0
comp=E,219nm,0.5s
Q23K Middleton Isla 2.71 136 Pn **Pn** **18 22 22.2 +1.7**
Q23K IAML 18 23 12.8
comp=N,285nm,0.8s
Q23K IAML 18 23 22.4
comp=E,360nm,0.9s
BPAW Bear Paw Mtn. 2.72 351 Pn **Pn** **18 22 21.9 +1.2**
BPAW IAML 18 23 11.2
comp=E,198nm,0.6s
BPAW IAML 18 23 12.0
comp=N,185nm,1.0s
BWN Browne 2.77 5 Pn **Pn** **18 22 23.4 +2.1**
RAGM Ragged Mountai 2.82 109 Pn **Pn** **18 22 23.6 +1.5**
N18K Kilae Creek 2.94 258 Pn **Pn** **18 22 24.5 +0.9**
N18K IAML 18 23 19.4
comp=E,167nm,0.8s
O18K Koktuh Hills 2.99 241 Pn 18 22 25.0 +0.8
O18K IAML 18 23 28.1
comp=E,225nm,1.1s
O18K IAML 18 23 29.1
comp=N,278nm,0.9s
GLB Gilahina Butte 3.00 87 Pn **Pn** **18 22 26.1 +1.6**
GLB IAML 18 23 13.9
comp=N,355nm,0.6s
GLB IAML 18 23 15.1
comp=E,228nm,0.4s
SYI Shuyak Island 3.06 204 Pn **Pn** **18 22 26.2 +1.1**
Q19K Cape Douglas, 3.08 217 Pn **Pn** **18 22 26.4 +0.9**
KAIM Kayak Island 3.15 116 Pn **Pn** **18 22 26.4 -0.1**
KAIM IAML 18 23 26.5
comp=E,176nm,1.4s
KAIM IAML 18 23 29.3
comp=N,144nm,1.0s
TTA Tatalina 3.18 301 Pn **Pn** **18 22 28.1 +1.2**
TTA IAML 18 23 30.1
comp=N,132nm,0.7s
VRDI Verde Repeater 3.19 91 Pn **Pn** **18 22 29.3 +2.1**
VRDI IAML 18 23 17.2
comp=N,193nm,0.4s
WRH Wood River Hil 3.19 15 Pn **Pn** **18 22 28.3 +1.3**
WRH IAML 18 23 21.8
comp=E,246nm,0.8s
WRH IAML 18 23 27.0
comp=N,157nm,0.9s
NEA2 Nenana 3.21 8 Pn **Pn** **18 22 28.9 +1.5**
NEA2 IAML 18 23 25.2
comp=N,137nm,1.0s
NEA2 IAML 18 23 25.3
comp=E,120nm,1.0s
L18K Granite Mounta 3.25 287 Pn **Pn** **18 22 29.3 +1.4**
L18K IAML 18 23 26.9
comp=N,144nm,1.2s
BERG Berg Lake 3.27 106 Pn **Pn** **18 22 28.9 +0.7**
P18K Big Mountain, 3.28 234 Pn **Pn** **18 22 29.8 +1.6**
HDA Harding Lake 3.32 24 Pn **Pn** **18 22 32.1 +3.3**
HDA IAML 18 23 26.7
comp=N,210nm,0.8s
HDA IAML 18 23 27.7
comp=E,285nm,0.6s
MENT Mentasta 3.34 60 Pn **Pn** **18 22 30.1 +1.0**
J20K Nowinta River 3.34 328 Pn 18 22 30.8 +1.6
J20K IAML 18 23 10.8
comp=N,314nm,0.5s
J20K IAML 18 23 10.9
comp=E,269nm,0.4s
RIDG Independent Ri 3.35 44 Pn **Pn** **18 22 31.4 +2.2**
RIDG IAML 18 23 22.0
comp=N,277nm,0.7s
RIDG IAML 18 23 24.6
comp=E,224nm,1.3s
SUCK Suckling Hills 3.36 111 Pn **Pn** **18 22 31.6 +2.2**
SUCK IAML 18 23 33.8
comp=N,238nm,0.6s
SUCK IAML 18 23 38.4
comp=E,138nm,1.2s
MCARA McCarthy VSAT 3.38 88 Pn **Pn** **18 22 31.4 +1.7**
CCB Clear Creek Bu 3.40 17 Pn **Pn** **18 22 32.1 +2.3**
CCB IAML 18 23 32.0
comp=E,142nm,0.6s
CRQM Cirque 3.42 98 Pn **Pn** **18 22 32.2 +1.8**
M26K Nabesna, AK 3.48 70 Pn **Pn** **18 22 32.1 +1.0**
M26K IAML 18 23 32.1
comp=N,184nm,0.6s
M26K IAML 18 23 33.3
comp=E,140nm,0.5s
L26K Log Cabin Wild 3.53 60 Pn **Pn** **18 22 34.0 +2.4**
L26K IAML 18 23 32.0
comp=E,216nm,0.5s
L26K IAML 18 23 37.4
comp=N,224nm,0.5s
M17K Holitna River 3.55 273 Pn **Pn** **18 22 33.4 +1.5**
M17K IAML 18 23 35.3
comp=E,256nm,0.8s
M17K IAML 18 23 39.7
comp=N,176nm,0.6s
TGL Tana Glacier 3.57 98 Pn **Pn** **18 22 34.2 +1.8**
N17K Nushagak Hills 3.59 259 Pn **Pn** **18 22 33.3 +0.8**
N17K IAML 18 23 34.5
comp=N,98nm,0.6s
COLA College 3.61 15 Pn **Pn** **18 22 33.7 +1.0**
MLY Manley 3.64 355 Pn **Pn** **18 22 35.2 +2.0**
J19K Poorman 3.64 318 Pn **Pn** **18 22 34.8 +1.6**
J19K IAML 18 23 34.0
comp=N,97nm,0.7s
WAX Waxell Ridge 3.65 102 Pn **Pn** **18 22 34.1 +0.7**
IL31 3.66 22 Pn **Pn** **18 22 35.9 +2.5**
ILAR Eielson Array 3.66 22 Pn **Pn** **18 22 35.9 +2.4**
ILAR Eielson Array 3.66 22 P **Pn** **18 22 35.1 +1.7**
comp=N,3.4nm,0.3s,baz=208,slow=34,SNR=1.6
ILAR S **Sn** **18 23 15.6 +0.3**
comp=N,17nm,0.6s,baz=210,slow=22,SNR=5.2
J18K Innoko River 3.71 306 Pn **Pn** **18 22 35.8 +1.5**
SNH Sunshine Point 3.75 106 Pn **Pn** **18 22 37.2 +2.5**
SNH IAML 18 23 42.4
comp=N,89nm,0.6s
SNH IAML 18 23 46.4
comp=E,114nm,0.7s
I23K Minto, Yukon-K 3.75 4 Pn 18 22 36.7 +2.0
I23K IAML 18 23 41.1
comp=E,104nm,0.6s
I23K IAML 18 23 47.9
comp=N,111nm,0.9s
SCRK Sand Creek 3.79 45 Pn **Pn** **18 22 37.5 +2.1**
SCRK IAML 18 23 39.3
comp=E,112nm,0.9s
SCRK IAML 18 23 41.5
comp=N,77nm,0.5s
J25K Salcha River, 3.85 32 Pn **Pn** **18 22 38.0 +1.9**
J25K IAML 18 23 31.5
comp=N,128nm,0.6s
KDAK Kodiak Island 3.87 201 Pn **Pn** **18 22 38.7 +2.4**
KDAK Kodiak Island 3.87 201 P **Pn** **18 22 37.0 +0.6**
comp=N,15nm,0.6s,baz=55,slow=23,SNR=1.4
KDAK S **Sn** **18 23 21.3 +0.8**
comp=N,11nm,0.3s,baz=141,slow=23,SNR=1.2
I21K Tanana 3.87 348 Pn **Pn** **18 22 38.1 +1.7**
POKR Poker Plat Res 3.89 17 IAML 18 23 53.0
comp=N,71nm,0.9s
POKR IAML 18 23 54.5
comp=E,75nm,1.1s
POKR Poker Plat Res 3.89 17 Pn **Pn** **18 22 39.2 +2.5**
I20K Naaghedeneel 3.94 331 Pn **Pn** **18 22 39.5 +2.2**
M27K Edge Creek, AK 3.98 73 Pn **Pn** **18 22 40.1 +2.1**
GRNC Granite Creek 4.09 96 Pn **Pn** **18 22 41.1 +1.5**
GRNC IAML 18 23 46.6
comp=E,71nm,0.6s
GRNC IAML 18 23 49.1
comp=N,165nm,0.7s
K17K Iditarod 4.09 292 Pn **Pn** **18 22 40.9 +1.5**
K17K IAML 18 24 01.9
comp=N,103nm,1.3s
K17K IAML 18 24 03.7
comp=E,91nm,0.8s
MESA MESA 4.16 104 Pn **Pn** **18 22 41.1 +0.6**
L27K Beaver Creek, 4.18 63 Pn **Pn** **18 22 42.6 +1.9**
CTGM Chitina Glacie 4.24 92 Pn **Pn** **18 22 43.2 +1.6**
CTGM IAML 18 23 52.4
comp=N,78nm,0.6s
J26L Joseph Creek 4.28 41 Pn 18 22 45.6 +3.6
J26L IAML 18 23 42.8
comp=E,96nm,0.6s
J26L IAML 18 23 43.0
comp=N,100nm,0.5s
M16K Timber Creek 4.33 269 Pn **Pn** **18 22 43.8 +1.2**
M16K IAML 18 24 10.1
comp=E,53nm,1.5s
O16K Kokwok River B 4.38 249 Pn **Pn** **18 22 44.2 +0.9**
O16K IAML 18 24 14.3
comp=E,61nm,1.4s
O16K IAML 18 24 14.3
comp=N,72nm,1.1s
H21K Melozitna Rive 4.43 345 Pn **Pn** **18 22 45.9 +2.0**
H21K IAML 18 24 00.3
comp=N,48nm,1.2s
L16K Owhat River 4.52 278 Pn **Pn** **18 22 46.2 +1.1**
L16K IAML 18 24 09.4
comp=N,50nm,1.1s
OHAK Old Harbor 4.53 203 Pn **Pn** **18 22 46.4 +1.1**
J17K VABM Dome 4.64 299 Pn **Pn** **18 22 47.6 +0.7**
J17K IAML 18 24 23.1
comp=N,47nm,1.1s
IMAR Indian Mountai 4.87 342 Pn **Pn** **18 22 51.7 +1.7**
H19K Roundabout Mou 5.02 328 Pn **Pn** **18 22 54.0 +2.0**
H19K IAML 18 24 32.1
comp=E,36nm,0.8s
H19K IAML 18 24 37.7
comp=N,41nm,1.1s
J16K Anvik River 5.26 295 Pn 18 22 56.4 +1.1
J16K IAML 18 24 28.3
comp=N,40nm,1.3s
H18K Honhosa River 5.30 319 Pn 18 22 57.2 +1.3
G24K Hadweenzic Riv 5.42 11 Pn **Pn** **18 22 59.7 +2.1**
I17K Unalakleet 5.49 301 Pn 18 23 00.1 +1.5
K15K Wolf Creek Mou 5.50 284 Pn **Pn** **18 23 00.1 +1.4**
H17K Granite Mounta 5.69 313 Pn 18 23 03.1 +1.9
M14K Bethel 5.82 269 Pn **Pn** **18 23 04.7 +1.7**
G18K Tagagawik 5.90 323 Pn 18 23 05.7 +1.6
O14K Tigyukauivet M 5.98 254 Pn **Pn** **18 23 06.9 +1.7**
L14K Kuka Creek 6.07 275 Pn **Pn** **18 23 08.6 +2.1**
F20K Avaraart Lake 6.17 339 Pn 18 23 10.1 +2.3
P29M Windy Craggy 6.34 101 Pn **Pn** **18 23 11.8 +1.6**
F19K Shaleruckik Mo 6.39 331 Pn **Pn** **18 23 12.7 +1.8**
J14K Nanvaranak Lak 6.48 288 Pn **Pn** **18 23 13.0 +1.0**
M13K Dall Lake 6.56 267 Pn **Pn** **18 23 15.1 +1.8**
E19K Redstone River 6.80 336 Pn **Pn** **18 23 19.3 +2.8**
K13K Kusilvak Mount 6.97 281 Pn **Pn** **18 23 20.1 +1.3**
F17K Baldwin Pennin 7.04 320 Pn 18 23 21.8 +2.1
E21K Killik River 7.24 348 Pn **Pn** **18 23 26.4 +3.8**
WHY Whitehorse 7.41 89 Pn **Pn** **18 23 25.4 +0.5**
E18K Tukpahlearik C 7.55 327 Pn **Pn** **18 23 30.0 +3.3**
ANM Nome 7.65 301 Pn **Pn** **18 23 30.8 +2.7**
F15K North Star Dit 7.79 310 Pn **Pn** **18 23 33.2 +3.1**
D19K Kuna River 7.88 338 Pn **Pn** **18 23 34.8 +3.6**
P32M Atlin 8.27 96 Pn **Pn** **18 23 37.0 +0.5**
C18K Utukok River 8.63 332 Pn **Pn** **18 23 43.2 +1.6**
S32K Killisnoo 8.81 110 Pn **Pn** **18 23 44.1 +0.1**
B20K Meade River 9.10 344 Pn **Pn** **18 23 48.9 +1.1**
C16K Lisburne Hills 9.44 323 Pn **Pn** **18 23 54.9 +2.4**
R33M Jennings River 9.65 94 Pn **Pn** **18 23 56.6 +1.1**
INK Inuvik 9.82 38 P **Pn** **18 23 57.2 -0.5**
comp=N,0.9nm,0.4s,baz=205,slow=17,SNR=1.5
INK S **Sn** **18 25 46.8 +0.4**
comp=N,1.0nm,0.4s,baz=87,slow=28,SNR=2.0
DLBC Dease Lake 10.47 98 P **Pn** **18 24 04.5 -2.2**
comp=N,0.9nm,0.6s,baz=124,slow=4.1,SNR=1.8
T35M Bob Quinn 11.06 105 Pn **Pn** **18 24 15.6 +0.7**
YKA Yellowknife Ar 16.57 71 P **Pn** **18 25 28.2 +0.2**
comp=N,0.3nm,0.4s,baz=282,slow=11,SNR=8.1
PDAR Pinedale Array 30.40 109 P **P** **18 27 46.0 -0.8**
comp=N,0.3nm,0.6s,baz=314,slow=5.3,SNR=3.9
comp=N,0.3nm,0.6s
ULM Lac du Bonnet 31.47 86 P **P** **18 27 53.8 -2.0**
comp=N,2.7nm,0.7s,baz=301,slow=8.4,SNR=4.4
comp=N,2.7nm,0.7s
SPITS Spitsbergen Ar 40.40 4 P **P** **18 29 11.8 +0.1**
comp=N,5.1nm,0.8s,baz=12,slow=12,SNR=1.3
comp=N,5.1nm,0.8s
ARCES ARCESS Array B 49.29 2 P **P** **18 30 22.4 -0.1**
comp=N,3.4nm,0.9s,baz=13,slow=8.4,SNR=1.7
comp=N,3.4nm,0.9s
KSRS Korea Array 54.27 284 P **P** **18 31 00.1 +0.1**
comp=N,1.0nm,0.6s,baz=33,slow=6.7,SNR=5.8
comp=N,1.0nm,0.6s
SONM Songino Array 55.11 307 P **P** **18 31 06.4 +0.2**
comp=N,0.8nm,0.7s,baz=48,slow=4.2,SNR=4.8
comp=N,0.8nm,0.7s
ZALV Zalesovo Beam 57.07 325 P **P** **18 31 19.1 -0.7**
comp=N,0.7nm,0.4s,baz=38,slow=7.5,SNR=3.9
comp=N,0.7nm,0.4s
BVAR Borovoye Array 61.46 334 P **P** **18 31 49.6 -0.6**
comp=N,1.0nm,0.6s,baz=46,slow=7.7,SNR=5.4
comp=N,1.0nm,0.6s
KURBB Kurchatov Arra 61.75 327 P **P** **18 31 51.5 -0.6**
comp=N,0.7nm,0.4s,baz=29,slow=6.7,SNR=8.1
comp=N,0.7nm,0.4s
MKAR Makanchi Array 64.20 323 P **P** **18 32 07.2 -1.2**
comp=N,0.9nm,0.5s,baz=33,slow=7.1,SNR=11
comp=N,0.9nm,0.5s
AKASG Malin Array Be 68.23 0 P **P** **18 32 33.0 -1.1**
comp=N,0.3nm,0.3s,baz=0.7,slow=6.5,SNR=3.0
comp=N,0.3nm,0.3s
CMAR Chiang Mai Arr 83.55 297 P **P** **18 34 00.9 -1.0**
comp=N,0.2nm,0.3s,baz=4.3,slow=6.0,SNR=4.6
comp=N,0.2nm,0.3s

IDC 30 18:23:08.4±2.9,2°.86S×139°.18E,h0km,mb2.8/1,
mbtmp3.1/2,ML3.2/1,Error ellipse: s-maj=61.0km
s-min=16.0km az=153.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.56**	**77**	Pg	Pn	18 23 36.0	-1.4
	1.3nm,0.3s,baz=238,slow=13,SNR=7.9						
JAY				Lg	Lg	18 23 58.4	
	1.8nm,0.3s,baz=20,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**17.63**	**195**	P	Pn	18 27 14.6	-1.0
	0.1nm,0.3s,baz=17,slow=13,SNR=5.2						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**21.31**	**193**	P	P	18 27 57.5	+0.6
	0.4nm,0.8s,baz=15,slow=10,SNR=7.5						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**136.75**	**286**	PKP	PKPdf	18 42 33.7	-0.2
	3.3nm,0.9s,baz=126,slow=2.5,SNR=10						

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*NEIC **30** 18:24:02.7±1.2,61°.42N±0°.03×150°.11W±0°.05,*
h40km±14km,Error ellipse: s-maj=4.0km s-min=3.5km
az=188.0

AEIC 30 18:24:03.6±1.2,61°.43N±0°.02×150°.10W±0°.03,h33km±7km,
ML2.3,ML2.6/48(NEIC),Error ellipse: s-maj=3.2km
s-min=1.5km az=139.0,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.31**	**276**		Pb	18 24 11.0	-0.6
M22K	**Willow**	**0.32**	**358**		Pb	18 24 11.1	-0.6
M22K	**Willow**	**0.32**	**358**	IAML		18 24 18.9	
	comp=E,369nm,0.5s						
M22K				IAML		18 24 19.0	
	comp=N,397nm,0.6s						
RC01	**Rabbit Creek A**	**0.39**	**153**		Sb	18 24 18.2	-0.3
RC01	**Rabbit Creek A**	**0.39**	**153**		Pb	18 24 11.3	-1.2
RC01				IAML		18 24 18.6	
	comp=N,287nm,0.2s						
RC01				IAML		18 24 23.7	
	comp=E,218nm,0.2s						
PMR	**Palmer**	**0.49**	**70**		Pb	18 24 12.9	-1.1
PMR					Sb	18 24 21.1	-0.1
PMR	**Palmer**	**0.49**	**70**	IAML		18 24 21.6	
	comp=N,326nm,0.2s						
PMR				IAML		18 24 21.9	
	comp=E,215nm,0.3s						
GHO	**Glory Hole Cre**	**0.66**	**58**		Pn	18 24 15.4	-1.4
GHO				IAML		18 24 26.8	
	comp=E,316nm,0.4s						
GHO				IAML		18 24 27.9	
	comp=N,226nm,0.3s						
GHO	**Glory Hole Cre**	**0.66**	**58**		Sn	18 24 26.1	+0.1
KNK	**Knik Glacier**	**0.79**	**91**		Pn	18 24 17.4	-1.1
KNK					Sb	18 24 29.5	+0.1
KNK	**Knik Glacier**	**0.79**	**91**	IAML		18 24 31.2	
	comp=N,174nm,0.5s						
STLK	**Strandline Lak**	**0.83**	**275**		Pn	18 24 17.9	-1.3
STLK					Sn	18 24 29.6	-0.8
CAPN	**Captain Cook N**	**0.84**	**218**		Pn	18 24 18.2	-0.9
SKT	**Skwentna**	**0.88**	**310**		Pn	18 24 18.4	-1.3
SKT					Sn	18 24 30.7	-0.6
SML	**Sawmill**	**0.93**	**65**		Pn	18 24 19.1	-1.3
SLKM	**Skilak Lake**	**0.93**	**184**		Pn	18 24 19.1	-1.3
SLKM					Sn	18 24 32.2	-0.3
SPCG	**Spurr Capps Gl**	**0.94**	**262**		Pn	18 24 19.4	-1.2
O22K	**Cooper Landing**	**0.97**	**169**		Pn	18 24 19.6	-1.3
O22K	**Cooper Landing**	**0.97**	**169**	IAML		18 24 46.7	
	comp=E,194nm,1.0s						
O22K				IAML		18 24 57.3	
	comp=N,254nm,0.2s						
CUT	**Chulitna**	**0.98**	**355**		Sb	18 24 34.4	-0.3
SPCP	**Crater Peak Br**	**1.00**	**261**		Pn	18 24 20.6	-1.0
SPCP					Sn	18 24 34.4	-0.2
PWL	**Port Wells**	**1.03**	**123**		Pn	18 24 20.6	-1.2
PWL					Sn	18 24 35.3	+0.2
SPCR	**Spurr Chakacha**	**1.04**	**258**		Pn	18 24 20.7	-1.3
SPCR					Sn	18 24 34.6	-0.9
SCM	**Sheep Creek Mo**	**1.38**	**72**	Pn	Pn	18 24 26.1	-0.6
SCM				IAML		18 25 05.1	
	comp=E,107nm,0.5s						
SCM				IAML		18 25 06.1	

comp=N,84nm,1.2s
M20K Styx River 1.52 289 Pn Pn 18 24 28.3 -0.3
GLI Glacier Island 1.56 109 Pn Pn 18 24 27.6 -1.4
BRLK Bradley Lake 1.72 193 Pn Pn 18 24 30.0 -1.3
FID Port Fidalgo 1.89 110 Pn Pn 18 24 32.1 -1.5
FID IAML 18 25 42.6
comp=E,68nm,0.5s
HOM Homer 1.94 204 Pn Pn 18 24 32.4 -1.8
M24K Tolsona, Glenn 1.99 68 Pn Pn 18 24 35.5 +0.6
M24K IAML 18 25 08.8
comp=E,59nm,0.8s
M24K IAML 18 25 53.3
comp=N,50nm,0.6s
CNPM China Poot 1.99 197 Pn Pn 18 24 32.9 -2.2
CNPM IAML 18 25 02.1
comp=E,46nm,0.5s
CNPM IAML 18 25 03.8
comp=N,44nm,0.5s
HIN Hinchinbrook I 2.04 119 Pn Pn 18 24 33.5 -2.2
N19K Bonanza Creek 2.22 256 Pn Pn 18 24 36.6 -1.5
P19K Oil Pt 2.36 222 Pn Pn 18 24 39.4 -0.8
L19K White Mountain 2.38 291 Pn Pn 18 24 39.2 -1.2
N25K Chitina, Valde 2.64 84 Pn Pn 18 24 41.9 -2.2
N25K IAML 18 26 06.2
comp=E,19nm,0.7s
N25K IAML 18 26 15.6
comp=N,18nm,0.7s
PAX Paxson 2.66 53 Pn Pn 18 24 41.1 -3.2

*NEIC **30** 18:24:24.6±0.7, 61°.45N±0°.03×149°.94W±0°.02, h34km±9km, Error ellipse: s-maj=4.5km s-min=0.9km az=187.0*
AEIC 30 18:24:25.4±0.6, 61°.45N±0°.02×149°.93W±0°.04, h33km±7km, ML2.3, ML2.5/46(NEIC), Error ellipse: s-maj=3.3km s-min=1.2km az=125.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.32**	**343**		Pb	18 24 32.8	-0.5
RC01	**Rabbit Creek A**	**0.38**	**166**		Pb	18 24 33.5	-0.6
RC01					Sb	18 24 40.1	0.0
RC01	**Rabbit Creek A**	**0.38**	**166**	IAML		18 24 40.8	
comp=E,359nm,0.1s							
RC01				IAML		18 24 41.0	
comp=N,477nm,0.2s							
PMR	**Palmer**	**0.41**	**69**		Pb	18 24 33.5	-1.0
PMR					Sb	18 24 40.7	-0.1
PMR	**Palmer**	**0.41**	**69**	IAML		18 24 40.9	
comp=N,323nm,0.2s							
PMR				IAML		18 24 41.1	
comp=E,187nm,0.2s							
GHO	**Glory Hole Cre**	**0.58**	**56**		Pb	18 24 36.2	-1.0
GHO					Sb	18 24 45.0	-0.4
GHO	**Glory Hole Cre**	**0.58**	**56**	IAML		18 24 45.8	
comp=N,210nm,0.6s							
GHO				IAML		18 24 46.1	
comp=E,216nm,0.4s							
KNK	**Knik Glacier**	**0.71**	**93**		Pn	18 24 38.0	-1.0
KNK					Sn	18 24 48.5	-0.3
KNK	**Knik Glacier**	**0.71**	**93**	IAML		18 24 49.7	
comp=E,168nm,0.5s							
STLK	**Strandline Lak**	**0.92**	**274**		Pn	18 24 41.0	-1.0
STLK					Sn	18 24 53.2	-0.8
SKT	**Skwentna**	**0.93**	**305**		Pn	18 24 41.0	-1.2
SKT					Sn	18 24 53.9	-0.5
SKT	**Skwentna**	**0.93**	**305**	IAML		18 24 54.2	
comp=N,243nm,0.5s							
SKT				IAML		18 24 54.7	
comp=E,164nm,0.3s							
CUT	**Chulitna**	**0.97**	**350**		Pn	18 24 41.8	-0.8
PWL	**Port Wells**	**0.97**	**127**		Pn	18 24 41.7	-1.0
SPCG	**Spurr Capps Gl**	**1.02**	**262**		Pn	18 24 42.5	-1.0
SPCR	**Spurr Chakacha**	**1.13**	**258**		Pn	18 24 44.0	-0.9
SCM	**Sheep Creek Mo**	**1.30**	**72**	Pn	Pn	18 24 45.3	-1.9
SCM				IAML		18 25 31.8	
comp=E,122nm,0.5s							
GLI	**Glacier Island**	**1.49**	**111**	Pn	Pn	18 24 47.5	-2.2
M20K	**Styx River**	**1.59**	**287**	Pn	Pn	18 24 49.3	-2.0
M20K				IAML		18 25 40.2	
comp=E,47nm,0.8s							
BRLK	**Bradley Lake**	**1.76**	**196**	Pn	Pn	18 24 52.5	-1.0
KLU	**Klutina**	**1.92**	**87**	Pn	Pn	18 24 54.7	-1.1
KLU				IAML		18 25 50.1	
comp=N,67nm,0.8s							
KLU				IAML		18 25 50.9	
comp=E,38nm,0.7s							
HIN	**Hinchinbrook I**	**1.98**	**121**	Pn	Pn	18 24 55.3	-1.2
CNPM	**China Poot**	**2.04**	**199**	Pn	Pn	18 24 56.0	-1.4
CNPM				IAML		18 25 47.6	
comp=N,41nm,1.1s							
CNPM				IAML		18 25 54.5	
comp=E,40nm,0.7s							
M19K	**Big River Lodg**	**2.18**	**284**	Pn	Pn	18 24 58.4	-0.8
M19K				IAML		18 25 58.0	
comp=N,25nm,0.6s							
L19K	**White Mountain**	**2.45**	**290**	Pn	Pn	18 25 03.0	-0.1
K20K	**Telida**	**2.72**	**317**	Pn	Pn	18 25 05.8	-0.9
SVW2	**Sparrevohn**	**2.75**	**265**	Pn	Pn	18 25 06.3	-0.9
N18K	**Kilae Creek**	**3.00**	**258**	Pn	Pn	18 25 09.6	-0.9
L18K	**Granite Mounta**	**3.30**	**286**	Pn	Pn	18 25 13.9	-0.7
L18K				IAML		18 26 35.1	
comp=E,11nm,1.0s							
L18K				IAML		18 26 46.0	
comp=N,8.8nm,0.9s							
M17K	**Holitna River**	**3.61**	**272**	Pn	Pn	18 25 18.4	-0.5
J19K	**Poorman**	**3.66**	**317**	Pn	Pn	18 25 19.7	+0.1
J19K				IAML		18 26 49.4	
comp=E,7.8nm,0.9s							
J19K				IAML		18 27 32.3	
comp=N,6.9nm,1.0s							

RSNC 30 18:26:08.5±0.0, 13°N±1°×8°1W±°, h0km±1km, M3.0, mb3.9, ML3.0, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRVC	**Isla de Provid**	**0.28**	**299**	P	Pb	18 26 15.6	-0.9
PRVC				S	Sb	18 26 20.6	-1.1
SAIC	**Isla e San And**	**0.91**	**220**	P	Pb	18 26 27.1	-0.1
SAIC				S	Sb	18 26 40.8	+0.9
RNCC	**Cayo Roncador,**	**1.05**	**71**	P	Pg	18 26 28.6	0.0
RNCC				S	Sb	18 26 43.8	0.0
SERC	**Banco Serrana,**	**1.27**	**35**	P	Pg	18 26 32.0	-0.8
SERC				S	Sb	18 26 49.9	-0.2
AZU	**Azuero**	**5.48**	**171**	P	Pn	18 27 30.1	-1.3
AZU				S	Sn	18 28 31.8	-3.4
SJCC	**San Jacinto, C**	**6.69**	**119**	P	Pn	18 27 45.9	-2.3
SJCC				S	Sn	18 28 59.9	-5.4

*NEIC **30** 18:26:13.3±1.4, 61°.40N±0°.02×150°.02W±0°.03, h34km±9km, Error ellipse: s-maj=3.0km s-min=1.7km az=149.0*
AEIC 30 18:26:13.8±1.1, 61°.38N±0°.02×150°.04W±0°.03, h35km±7km, ML2.8, ML3.0/136(NEIC), Error ellipse: s-maj=3.0km s-min=2.2km az=194.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.32**	**153**		Pn	18 26 21.4	-0.7
RC01					Sb	18 26 28.2	+0.5
RC01				IAML		18 26 29.8	
comp=E,1μm,0.1s							
RC01				IAML		18 26 29.9	
comp=N,2μm,0.3s							
SUA	**Susitna One**	**0.35**	**285**		Pb	18 26 22.0	-0.5
SUA					Sb	18 26 29.3	+0.9
SUA				IAML		18 26 30.4	
comp=E,2μm,0.8s							
M22K	**Willow**	**0.38**	**355**		Pb	18 26 21.8	-1.0
M22K					Sb	18 26 29.4	+0.4
M22K				IAML		18 26 29.8	
comp=E,1μm,0.3s							
M22K				IAML		18 26 29.9	
comp=N,1μm,0.5s							
PMR	**Palmer**	**0.49**	**63**		Pn	18 26 23.1	-1.3
PMR					Sn	18 26 31.1	-0.5
PMR				IAML		18 26 31.9	
comp=N,652nm,0.6s							
PMR				IAML		18 26 33.2	
comp=E,616nm,0.4s							
GHO	**Glory Hole Cre**	**0.67**	**53**		Pn	18 26 25.7	-1.2
GHO					Sn	18 26 35.7	-0.4
GHO				IAML		18 26 37.4	
comp=E,917nm,0.2s							
GHO				IAML		18 26 38.5	
comp=N,708nm,0.2s							
KNK	**Knik Glacier**	**0.76**	**87**		Pn	18 26 27.2	-0.9
KNK					Sn	18 26 39.6	+0.6
KNK				IAML		18 26 41.5	
comp=N,703nm,0.4s							
KNK				IAML		18 26 41.7	
comp=E,507nm,0.6s							
CAPN	**Captain Cook N**	**0.81**	**222**	Pn	Pb	18 26 29.5	-0.2
CAPN				Sn	Sb	18 26 43.0	+2.7
STLK	**Strandline Lak**	**0.87**	**279**		Pn	18 26 29.0	-0.6
STLK					Sn	18 26 41.2	+0.1
SLKM	**Skilak Lake**	**0.88**	**186**		Pn	18 26 28.7	-1.0
O22K	**Cooper Landing**	**0.91**	**170**	Pn	Pn	18 26 29.0	-1.2
O22K				Sn	Sn	18 26 42.2	+0.2
SML	**Sawmill**	**0.93**	**61**		Pn	18 26 29.1	-1.3
SML				Sn	Sn	18 26 42.2	-0.3
SML				IAML		18 26 44.4	
comp=N,380nm,0.4s							
SML				IAML		18 26 44.6	
comp=E,395nm,0.7s							
SKT	**Skwentna**	**0.93**	**311**		Pn	18 26 29.1	-1.3
SKT				Sn	Sn	18 26 42.1	-0.5
SPCG	**Spurr Capps Gl**	**0.96**	**266**		Pn	18 26 30.3	-0.6
PWL	**Port Wells**	**0.98**	**121**		Pn	18 26 30.3	-0.8
PWL				Sn	Sn	18 26 43.8	+0.1
SPCP	**Crater Peak Br**	**1.02**	**265**		Pn	18 26 31.2	-0.7
CUT	**Chulitna**	**1.04**	**354**	Pn	Pn	18 26 30.9	-1.0
CUT				Sn	Sn	18 26 44.9	-0.3
SPCR	**Spurr Chakacha**	**1.06**	**261**		Pn	18 26 31.5	-0.8
SPCR	**Spurr Chakacha**	**1.06**	**261**		Pn	18 26 31.5	-0.7
M23K	**Glacier View**	**1.19**	**68**		Pn	18 26 33.4	-0.6
SEW	**Seward**	**1.31**	**167**		Pn	18 26 35.5	0.0
SCM	**Sheep Creek Mo**	**1.38**	**69**		Pn	18 26 36.0	-0.6
SCM				Sn	Sn	18 26 53.9	+0.3
SCM				IAML		18 26 55.5	
comp=E,304nm,0.4s							
SCM				IAML		18 26 56.4	
comp=N,315nm,0.6s							
RDT	**Redoubt**	**1.41**	**236**		Pn	18 26 36.1	-0.9
GLI	**Glacier Island**	**1.52**	**108**		Pn	18 26 37.2	-1.3
RDJH	**Redoubt Jeurge**	**1.56**	**241**		Pn	18 26 38.6	-0.6
M20K	**Styx River**	**1.56**	**290**		Pn	18 26 38.9	-0.2
M20K				IAML		18 27 01.9	
comp=E,127nm,0.7s							
WAT7	**Susitna Watana**	**1.57**	**21**		Pn	18 26 39.0	-0.3
WAT1	**Susitna Watana**	**1.62**	**25**		Pn	18 26 39.9	0.0
WAT6	**Susitna Watana**	**1.63**	**41**		Pn	18 26 39.8	-0.3
RDWB	**Redoubt West**	**1.63**	**238**		Pn	18 26 39.5	-0.6
RED	**Redoubt Volcan**	**1.64**	**235**		Pn	18 26 39.6	-0.7
BRLK	**Bradley Lake**	**1.67**	**195**		Pn	18 26 39.6	-1.0
BRLK				IAML		18 27 04.8	
comp=E,120nm,0.3s							
BRSE	**Bradley Lake S**	**1.68**	**192**		Pn	18 26 39.5	-1.1
O20K	**Slope Mountain**	**1.81**	**225**		Pn	18 26 42.1	-0.5
PPLA	**Purkeypile**	**1.83**	**327**		Pn	18 26 41.8	-1.1
FID	**Port Fidalgo**	**1.84**	**108**		Pn	18 26 41.7	-1.3
FID				IAML		18 27 05.9	
comp=E,207nm,0.7s							
FID				IAML		18 27 12.9	
comp=N,191nm,0.7s							
HOM	**Homer**	**1.90**	**205**	Pn	Pn	18 26 42.7	-0.9
P23K	**Montague Islan**	**1.90**	**136**		Pn	18 26 43.3	-0.4
CNPM	**China Poot**	**1.95**	**198**	Pn	Pn	18 26 43.4	-1.1
CNPM				IAML		18 27 11.6	
comp=E,95nm,0.5s							
CNPM				IAML		18 27 13.3	
comp=N,140nm,0.4s							
M24K	**Tolsona, Glenn**	**1.98**	**67**		Pn	18 26 44.0	-0.9
M24K				IAML		18 27 15.4	
comp=E,163nm,0.8s							
M24K				IAML		18 27 15.5	
comp=N,160nm,0.5s							
KLU	**Klutina**	**1.98**	**85**	Pn	Pn	18 26 44.1	-0.9
KLU				IAML		18 27 16.4	
comp=N,104nm,0.6s							
HIN	**Hinchinbrook I**	**1.99**	**118**		Pn	18 26 44.3	-0.7
HIN				IAML		18 27 15.7	
comp=N,107nm,0.9s							
HIN				IAML		18 27 19.3	
comp=E,136nm,0.7s							
IVE	**Iliamna Volcan**	**2.00**	**228**		Pn	18 26 45.0	-0.1
ILS	**Iliamna Low So**	**2.06**	**228**		Pn	18 26 45.9	-0.1
ILSW	**Iliamna Southw**	**2.07**	**229**	Pn	Pn	18 26 45.6	-0.5
DIV	**Divide**	**2.08**	**95**		Pn	18 26 45.5	-0.8
TRF	**Thorofare Moun**	**2.08**	**357**		Pn	18 26 45.9	-0.5
TRF	**Thorofare Moun**	**2.08**	**357**	IAML		18 28 05.3	
comp=N,90nm,0.6s							
RND	**Reindeer**	**2.11**	**15**	Pn	Pn	18 26 46.2	-0.5
DHY	**Denali Highway**	**2.11**	**35**	Pn	Pn	18 26 46.9	+0.1
L20K	**Farewell, AK**	**2.12**	**303**		Pn	18 26 46.5	-0.4
M19K	**Big River Lodg**	**2.14**	**286**	Pn	Pn	18 26 46.4	-0.7
KTH	**Kantishna Hill**	**2.22**	**350**	Pn	Pn	18 26 47.7	-0.5
KTH				IAML		18 27 17.3	
comp=N,65nm,1.0s							
KTH				IAML		18 28 14.0	
comp=E,62nm,0.7s							
N19K	**Bonanza Creek**	**2.23**	**257**	Pn	Pn	18 26 47.7	-0.6
EYAK	**Cordova Ski Ar**	**2.25**	**110**		Pn	18 26 48.6	+0.1
CAST	**Castle Rocks**	**2.26**	**336**	Pn	Pn	18 26 47.8	-0.9
CAST				IAML		18 28 16.6	
comp=N,61nm,0.7s							
P19K	**Oil Pt**	**2.34**	**224**	Pn	Pn	18 26 49.7	-0.1
O19K	**Port Alsworth**	**2.41**	**242**	Pn	Pn	18 26 49.9	-0.8
MCK	**McKinley**	**2.42**	**12**		Pn	18 26 50.6	-0.3
L19K	**White Mountain**	**2.42**	**292**	Pn	Pn	18 26 50.5	-0.4
HARP	**HAARP**	**2.53**	**64**		Pn	18 26 52.3	-0.1
N25K	**Chitina, Valde**	**2.62**	**83**	Pn	Pn	18 26 54.0	+0.2
N25K				IAML		18 28 35.9	
comp=N,75nm,0.6s							
BMRM	**Bremner River**	**2.67**	**96**		Pn	18 26 54.1	-0.2
PAX	**Paxson**	**2.68**	**51**		Pn	18 26 54.1	-0.3
SVW2	**Sparrevohn**	**2.69**	**266**	Pn	Pn	18 26 53.7	-0.9
SVW2				IAML		18 27 26.1	
comp=N,43nm,1.1s							
CHUM	**Lake Minchumin**	**2.73**	**338**		Pn	18 26 54.9	-0.2
K20K	**Telida**	**2.73**	**318**	Pn	Pn	18 26 54.2	-1.0
K20K				IAML		18 28 41.2	
comp=E,44nm,0.8s							
BPAW	**Bear Paw Mtn.**	**2.77**	**351**	Pn	Pn	18 26 55.5	-0.2
BPAW				IAML		18 28 42.6	
comp=E,37nm,0.4s							
BPAW				IAML		18 28 42.6	
comp=N,43nm,0.4s							
M18K	**Stony River**	**2.78**	**275**		Pn	18 26 55.4	-0.4
WACK	**Wrangell Chich**	**2.79**	**75**		Pn	18 26 56.4	+0.1
RAGM	**Ragged Mountai**	**2.81**	**108**	Pn	Pn	18 26 57.0	+0.8
N18K	**Kilae Creek**	**2.93**	**259**	Pn	Pn	18 26 56.9	-1.0
O18K	**Koktuh Hills**	**2.97**	**241**		Pn	18 26 57.3	-1.1
GLB	**Gilahina Butte**	**3.00**	**86**	Pn	Pn	18 26 59.3	+0.4
GLB				IAML		18 28 47.9	
comp=N,64nm,0.8s							
GLB				IAML		18 29 00.2	
comp=E,34nm,0.5s							
SYI	**Shuyak Island**	**3.02**	**204**	Pn	Pn	18 26 58.3	-0.8
Q19K	**Cape Douglas,**	**3.04**	**218**	Pn	Pn	18 26 59.1	-0.4
VRDI	**Verde Repeater**	**3.18**	**90**	Pn	Pn	18 27 02.2	+0.7
VRDI				IAML		18 29 09.5	
comp=N,28nm,0.9s							
BERG	**Berg Lake**	**3.25**	**105**	Pn	Pn	18 27 03.1	+0.8
NEA2	**Nenana**	**3.26**	**7**	Pn	Pn	18 27 02.0	-0.5
NEA2				IAML		18 29 09.4	
comp=N,27nm,0.6s							
L18K	**Granite Mounta**	**3.27**	**288**	Pn	Pn	18 27 01.7	-0.8
MENT	**Mentasta**	**3.36**	**59**	Pn	Pn	18 27 04.8	+1.1
MCARA	**McCarthy VSAT**	**3.38**	**87**	Pn	Pn	18 27 05.8	+1.7
RIDG	**Independent Ri**	**3.38**	**43**	Pn	Pn	18 27 05.4	+1.3
RIDG				IAML		18 27 54.5	
comp=N,47nm,0.7s							
J20K	**Nowinta River**	**3.38**	**328**	Pn	Pn	18 27 03.9	-0.2
J20K				IAML		18 29 08.4	
comp=N,45nm,0.9s							
J20K				IAML		18 29 16.2	
comp=E,41nm,0.7s							
CRQM	**Cirque**	**3.41**	**97**	Pn	Pn	18 27 05.6	+0.9
CCB	**Clear Creek Bu**	**3.44**	**16**	Pn	Pn	18 27 05.5	+0.6
CCB				IAML		18 29 16.4	
comp=E,33nm,1.2s							
M26K	**Nabesna, AK**	**3.49**	**70**	Pn	Pn	18 27 06.4	+0.7
N17K	**Nushagak Hills**	**3.59**	**259**	Pn	Pn	18 27 06.0	-0.9
N17K				IAML		18 27 47.5	
comp=E,22nm,0.7s							
J19K	**Poorman**	**3.67**	**318**	Pn	Pn	18 27 07.3	-0.8
J19K				IAML		18 29 24.4	
comp=N,28nm,0.7s							
J19K				IAML		18 29 25.6	
comp=E,29nm,0.8s							
MLY	**Manley**	**3.68**	**355**	Pn	Pn	18 27 08.9	+0.7
IL31		**3.70**	**21**	Pn	Pn	18 27 08.1	-0.3
J18K	**Innoko River**	**3.74**	**307**	Pn	Pn	18 27 08.7	-0.4
O17K	**Koliganek Bris**	**3.83**	**248**		Pn	18 27 09.8	-0.5
I21K	**Tanana**	**3.92**	**348**	Pn	Pn	18 27 11.6	+0.2
I21K				IAML		18 29 28.7	
comp=N,17nm,0.8s							
I21K				IAML		18 29 39.2	
comp=E,15nm,0.9s							
GRNC	**Granite Creek**	**4.08**	**95**	Pn	Pn	18 27 14.9	+1.0
GRNC				IAML		18 29 25.1	
comp=N,22nm,0.6s							
GRNC				IAML		18 29 32.7	
comp=E,16nm,1.2s							
K17K	**Iditarod**	**4.11**	**293**	Pn	Pn	18 27 13.0	-1.1
M16K	**Timber Creek**	**4.33**	**269**	Pn	Pn	18 27 16.2	-0.8
M16K				IAML		18 29 53.5	
comp=N,11nm,0.8s							
O16K	**Kokwok River B**	**4.37**	**249**	Pn	Pn	18 27 16.7	-0.9
O16K				IAML		18 28 34.8	
comp=E,12nm,1.1s							
O16K				IAML		18 28 38.0	
comp=N,14nm,0.9s							
L16K	**Owhat River**	**4.53**	**278**	Pn	Pn	18 27 18.7	-1.1
L16K				IAML		18 29 49.8	
comp=N,9.6nm,0.8s							
J16K	**Anvik River**	**5.28**	**296**	Pn	Pn	18 27 28.8	-1.3
J16K				IAML		18 30 01.3	
comp=E,6.6nm,1.1s							
BCPM	**Bancas Point**	**5.31**	**101**	Pn	Pn	18 27 29.6	-1.0
BCPM				IAML		18 29 53.4	
comp=N,9.8nm,1.1s							
H18K	**Honhosa River**	**5.33**	**319**	Pn	Pn	18 27 30.2	-0.6
H18K				IAML		18 30 35.9	
comp=E,6.3nm,1.1s							
K15K	**Wolf Creek Mou**	**5.52**	**285**	Pn	Pn	18 27 32.6	-0.8
H17K	**Granite Mounta**	**5.72**	**313**	Pn	Pn	18 27 35.8	-0.4
M14K	**Bethel**	**5.82**	**269**	Pn	Pn	18 27 37.2	-0.3
L14K	**Kuka Creek**	**6.08**	**275**	Pn	Pn	18 27 40.8	-0.3
F20K	**Avaraart Lake**	**6.21**	**339**	Pn	Pn	18 27 43.1	+0.3
N30M	**Aishikik Lake**	**6.22**	**84**	Pn	Pn	18 27 43.2	+0.1
P29M	**Windy Craggy**	**6.33**	**101**	Pn	Pn	18 27 45.6	+1.0
G16K	**Koyuk River**	**6.84**	**311**	Pn	Pn	18 27 50.5	-1.0
H29M	**Whitestone**	**7.09**	**42**	Pn	Pn	18 27 54.6	-0.3
E18K	**Tukpahlearik C**	**7.59**	**328**	Pn	Pn	18 28 02.5	+0.7
F15K	**North Star Dit**	**7.83**	**310**	Pn	Pn	18 28 05.8	+0.7

*NEIC **30** 18:27:29.0±0.8, 61°.49N±0°.03×149°.91W±0°.05, h59km±2km, Error ellipse: s-maj=4.0km s-min=3.3km az=141.0*
AEIC 30 18:27:29.9±1.4, 61°.49N±0°.03×149°.91W±0°.05, h55km±3km, ML3.0, ML3.1/28(NEIC), Error ellipse: s-maj=4.2km s-min=3.6km az=179.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.29**	**340**		Sn	18 27 46.1	0.0
PMR	**Palmer**	**0.39**	**74**		Pn	18 27 39.4	-0.8
PMR					Sn	18 27 47.2	-0.5
PMR	**Palmer**	**0.39**	**74**	IAML		18 27 47.8	
comp=N,2μm,0.1s							
PMR				IAML		18 27 47.9	
comp=E,2μm,0.3s							
SUA	**Susitna One**	**0.40**	**267**		Pn	18 27 40.0	-0.6
SUA					Sn	18 27 48.2	0.0
SUA	**Susitna One**	**0.40**	**267**	IAML		18 27 48.6	
comp=E,823nm,0.7s							
SUA				IAML		18 27 49.0	
comp=N,1μm,0.8s							
RC01	**Rabbit Creek A**	**0.41**	**168**		Sn	18 27 48.2	+0.1
RC01	**Rabbit Creek A**	**0.41**	**168**	Pn	Pn	18 27 39.9	-0.5
RC01				IAML		18 27 48.4	
comp=N,2μm,0.2s							
RC01				IAML		18 27 48.5	
comp=E,2μm,0.2s							
GHO	**Glory Hole Cre**	**0.55**	**58**		Pn	18 27 41.4	-0.7
GHO				IAML		18 27 51.9	
comp=N,892nm,0.2s							
GHO	**Glory Hole Cre**	**0.55**	**58**		Sn	18 27 51.0	0.0
GHO	**Glory Hole Cre**	**0.55**	**58**	IAML		18 27 47.0	
comp=E,738nm,0.5s							
KNK	**Knik Glacier**	**0.70**	**95**		Sn	18 27 54.6	+0.5
SML	**Sawmill**	**0.82**	**66**		Sn	18 27 57.0	+0.2
SML	**Sawmill**	**0.82**	**66**	Pn	Pn	18 27 44.7	-0.8
SKT	**Skwentna**	**0.92**	**303**		Sn	18 27 58.7	-0.3
STLK	**Strandline Lak**	**0.92**	**272**		Sn	18 27 59.4	+0.2
CUT	**Chulitna**	**0.94**	**350**		Sn	18 27 59.6	+0.2
SLKM	**Skilak Lake**	**0.99**	**189**		Sn	18 28 00.4	-0.4
SCM	**Sheep Creek Mo**	**1.28**	**73**	Pn	Pn	18 27 50.3	-1.2
SCM				IAML		18 28 09.2	
comp=N,286nm,0.6s							
GLI	**Glacier Island**	**1.49**	**113**	Pn	Pn	18 27 53.2	-1.1
GLI				IAML		18 28 05.2	
comp=N,241nm,0.3s							
FID	**Port Fidalgo**	**1.82**	**112**	Pn	Pn	18 27 56.9	-1.9
FID				IAML		18 28 15.2	
comp=N,202nm,0.4s							
FID				IAML		18 28 21.5	
comp=E,184nm,0.3s							
HIN	**Hinchinbrook I**	**1.99**	**122**	Pn	Pn	18 28 00.2	-0.9
N19K	**Bonanza Creek**	**2.32**	**255**	Pn	Pn	18 28 05.0	-0.7
K20K	**Telida**	**2.70**	**316**	Pn	Pn	18 28 09.7	-1.0
SVW2	**Sparrevohn**	**2.76**	**264**	Pn	Pn	18 28 10.9	-0.8
N18K	**Kilae Creek**	**3.02**	**257**	Pn	Pn	18 28 14.3	-0.8
TTA	**Tatalina**	**3.20**	**300**	Pn	Pn	18 28 16.7	-1.1
TTA				IAML		18 29 13.5	
comp=E,33nm,1.0s							

*GUC **30** 18:27:32.9±0.8, 31°.70S×70°.53W, h7km±4km, ML2.5*
*SJA **30** 18:27:34.0, 31°.67S×70°.71W, h10km, ML3.0*
ISC 30 18:27:32.8±1.2, 31°.70S±0°.02×70°.58W±0°.04, h7km±13km, n28, σ0°99/36, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO04	**Los Peladeros**	**0.47**	**224**	*e*P	**Pg**	**18 27 43.0**	**+1.0**
CO04				*e*S	**Sb**	**18 27 51.5**	**+0.5**
CO03	**El Pedregal**	**0.87**	**354**	*e*P	**Pg**	**18 27 49.4**	**0.0**
CO03				*i* S	**Sg**	**18 28 01.4**	**+0.7**
CO03	**El Pedregal**	**0.87**	**354**	*i* P	**Pg**	**18 27 48.6**	**-0.8**
VA03	**San Esteban**	**1.06**	**178**	*e*P	**Pg**	**18 27 52.4**	**-0.7**
VA03				*i* S	**Sg**	**18 28 06.5**	**-0.4**
VA03				IAML		18 28 10.8	
comp=E,287nm,0.1s							
CO06	**

comp=N,59nm,0.3s
MT01 Popeta 2.23 194 *i* P **Pn 18 28 12.0 +1.8**
MT01 IAML 18 28 50.1
comp=E,40nm,0.5s
BO04 La Punta 2.28 181⇑ *eP* **Pn 18 28 12.7 +1.8**
BO04 *eS* **Sb 18 28 44.1 +1.4**
BO04 IAML 18 28 47.6
comp=E,51nm,0.4s
LCO Las Campanas 2.68 358 *i* P **Pb 18 28 19.8 -1.5**
BO01 Tunca 2.71 189 *i* P **Pb 18 28 19.9 -1.8**
AVFE Valle Fertil 2.88 70 *i* P **Pb 18 28 23.9 -0.5**
BO02 Sierra Bellavi 3.09 183 *eP* **Pb 18 28 25.8 -2.2**

*NEIC **30** 18:27:54.6±0.8, 61°.49N±0°.02×149°.95W±0°.03, h52km±4km, Error ellipse: s-maj=3.6km s-min=2.1km az=200.0*
AEIC 30 18:27:55.2±0.9, 61°.49N±0°.02×149°.95W±0°.03, h50km±4km, ML2.8, ML3.1/26(NEIC), Error ellipse: s-maj=3.5km s-min=2.1km az=201.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.28**	**343**		Pn	18 28 03.7	-0.5
M22K					Sn	18 28 10.6	+0.1
M22K	**Willow**	**0.28**	**343**	IAML		18 28 10.9	
	comp=N,2μm,0.6s						
M22K				IAML		18 28 12.0	
	comp=E,1μm,0.5s						
SUA	**Susitna One**	**0.38**	**267**		Pn	18 28 04.7	-0.6
SUA					Sn	18 28 12.5	0.0
PMR	**Palmer**	**0.41**	**74**		Pn	18 28 04.4	-1.0
PMR	**Palmer**	**0.41**	**74**		Sn	18 28 12.2	-0.4
PMR	**Palmer**	**0.41**	**74**	IAML		18 28 12.8	
	comp=E,968nm,0.3s						
PMR				IAML		18 28 12.9	
	comp=N,745nm,0.3s						
RC01	**Rabbit Creek A**	**0.41**	**166**		Pn	18 28 04.8	-0.6
RC01					Sn	18 28 13.1	+0.4
RC01	**Rabbit Creek A**	**0.41**	**166**	IAML		18 28 13.9	
	comp=N,865nm,0.3s						
RC01				IAML		18 28 14.4	
	comp=E,993nm,0.1s						
GHO	**Glory Hole Cre**	**0.57**	**59**		Pn	18 28 06.5	-0.8
GHO					Sn	18 28 16.0	-0.1
GHO	**Glory Hole Cre**	**0.57**	**59**	IAML		18 28 17.1	
	comp=N,676nm,0.6s						
KNK	**Knik Glacier**	**0.72**	**95**		Pn	18 28 08.8	-0.4
KNK					Sn	18 28 20.0	+0.6
KNK	**Knik Glacier**	**0.72**	**95**	IAML		18 28 21.6	
	comp=N,524nm,0.4s						
SML	**Sawmill**	**0.84**	**67**		Pn	18 28 10.0	-0.8
SKT	**Skwentna**	**0.90**	**304**		Pn	18 28 10.9	-0.7
SKT					Sn	18 28 23.6	0.0
SKT	**Skwentna**	**0.90**	**304**	IAML		18 28 26.5	
	comp=N,424nm,0.3s						
STLK	**Strandline Lak**	**0.91**	**272**		Pn	18 28 11.1	-0.6
CUT	**Chulitna**	**0.94**	**351**		Sn	18 28 24.5	+0.2
SLKM	**Skilak Lake**	**0.99**	**188**		Sn	18 28 26.3	+0.6
PWL	**Port Wells**	**1.00**	**128**		Pn	18 28 12.4	-0.5
O22K	**Cooper Landing**	**1.01**	**174**		Pn	18 28 11.8	-1.2
O22K				IAML		18 28 20.2	
	comp=N,511nm,0.9s						
O22K				IAML		18 28 29.1	
	comp=E,562nm,0.8s						
SCM	**Sheep Creek Mo**	**1.30**	**73**	Pn	Pn	18 28 16.7	-0.3
SCM				IAML		18 29 01.4	
	comp=N,339nm,0.8s						
GLI	**Glacier Island**	**1.51**	**113**	Pn	Pn	18 28 19.3	-0.5
HOM	**Homer**	**2.02**	**205**	Pn	Pn	18 28 26.0	-0.7

*NEIC **30** 18:29:10.9±0.6, 61°.49N±0°.02×149°.94W±0°.05, h43km±5km, Error ellipse: s-maj=3.5km s-min=2.5km az=67.0*
AEIC 30 18:29:11.8±0.5, 61°.49N±0°.01×149°.93W±0°.05, h38km±5km, ML3.1, ML3.4/104(NEIC), Error ellipse: s-maj=3.4km s-min=0.8km az=65.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.28**	**341**		Pn	18 29 18.9	-1.0
M22K					Sn	18 29 25.9	-1.2
M22K	**Willow**	**0.28**	**341**	IAML		18 29 26.6	
	comp=N,5μm,0.7s						
M22K				IAML		18 29 26.7	
	comp=E,4μm,0.7s						
SUA	**Susitna One**	**0.39**	**267**		Pn	18 29 20.6	-0.3
SUA					Sn	18 29 28.0	+0.3
SUA	**Susitna One**	**0.39**	**267**	IAML		18 29 28.8	
	comp=N,5μm,0.5s						
SUA				IAML		18 29 29.0	
	comp=E,5μm,0.7s						
PMR	**Palmer**	**0.40**	**74**		Pn	18 29 20.0	-0.7
PMR					Sn	18 29 27.4	-0.1
PMR	**Palmer**	**0.40**	**74**	IAML		18 29 28.1	
	comp=E,871nm,0.5s						
PMR				IAML		18 29 28.3	
	comp=N,916nm,0.5s						
RC01	**Rabbit Creek A**	**0.41**	**167**		Pn	18 29 20.2	-0.7
RC01					Sn	18 29 27.9	+0.2
RC01	**Rabbit Creek A**	**0.41**	**167**	IAML		18 29 28.9	
	comp=N,3μm,0.3s						
RC01				IAML		18 29 29.0	
	comp=E,2μm,0.5s						
GHO	**Glory Hole Cre**	**0.56**	**59**		Pn	18 29 22.4	-1.0
GHO					Sn	18 29 31.7	+0.2
KNK	**Knik Glacier**	**0.71**	**95**		Pn	18 29 24.5	-0.8
KNK	**Knik Glacier**	**0.71**	**95**	IAML		18 29 37.8	
	comp=N,2μm,0.5s						
KNK				IAML		18 29 38.4	
	comp=E,842nm,0.5s						
SML	**Sawmill**	**0.83**	**66**		Pn	18 29 26.1	-0.9
SML					Sn	18 29 38.2	+0.3
SKT	**Skwentna**	**0.91**	**304**		Pn	18 29 26.9	-1.1
SKT					Sn	18 29 39.5	-0.4
SKT	**Skwentna**	**0.91**	**304**	IAML		18 29 41.5	
	comp=E,989nm,0.4s						
SKT				IAML		18 29 41.5	
	comp=N,858nm,0.5s						
STLK	**Strandline Lak**	**0.91**	**272**		Pn	18 29 27.2	-0.9
STLK					Sn	18 29 40.0	-0.1
CAPN	**Captain Cook N**	**0.93**	**220**		Pn	18 29 28.8	+0.6
CAPN				IAML		18 29 58.5	
	comp=E,1μm,1.0s						
CAPN				IAML		18 30 03.0	
	comp=N,1μm,0.7s						
CUT	**Chulitna**	**0.94**	**350**		Pn	18 29 27.5	-0.9
SLKM	**Skilak Lake**	**0.99**	**188**		Pn	18 29 28.3	-0.8
SLKM					Sn	18 29 42.2	+0.3
PWL	**Port Wells**	**0.99**	**128**		Pn	18 29 28.4	-0.7
PWL	**Port Wells**	**0.99**	**128**	IAML		18 29 44.0	
	comp=E,843nm,0.4s						
PWL				IAML		18 29 44.6	
	comp=N,1μm,0.3s						
O22K	**Cooper Landing**	**1.01**	**174**		Pn	18 29 28.6	-0.8
SPCP	**Crater Peak Br**	**1.09**	**259**		Pn	18 29 30.2	-0.4
M23K	**Glacier View**	**1.09**	**73**		Pn	18 29 30.3	-0.3
SPCR	**Spurr Chakacha**	**1.14**	**256**		Pn	18 29 30.3	-0.8
SPCR	**Spurr Chakacha**	**1.14**	**256**		Pn	18 29 30.5	-0.6
SCM	**Sheep Creek Mo**	**1.29**	**73**		Pn	18 29 32.8	-0.4
SCM	**Sheep Creek Mo**	**1.29**	**73**	IAML		18 29 53.5	
	comp=N,611nm,0.7s						
SCM				IAML		18 30 07.2	
	comp=E,698nm,0.7s						
SEW	**Seward**	**1.41**	**170**		Pn	18 29 34.1	-0.7
GLI	**Glacier Island**	**1.50**	**113**		Pn	18 29 35.1	-0.9
GLI	**Glacier Island**	**1.50**	**113**	IAML		18 29 58.9	
	comp=E,339nm,0.4s						
GLI				IAML		18 30 02.4	
	comp=N,278nm,0.5s						
M20K	**Styx River**	**1.58**	**286**		Pn	18 29 36.9	-0.3
M20K				IAML		18 30 00.1	
	comp=E,484nm,0.9s						
RED	**Redoubt Volcan**	**1.75**	**234**		Pn	18 29 38.9	-0.7
PPLA	**Purkeypile**	**1.77**	**324**		Pn	18 29 39.4	-0.5
BRLK	**Bradley Lake**	**1.79**	**196**	Pn	Pn	18 29 39.4	-0.7
BRLK				IAML		18 30 49.2	
	comp=N,266nm,0.4s						
BRLK				IAML		18 30 49.4	
	comp=E,438nm,0.4s						
FID	**Port Fidalgo**	**1.83**	**112**	Pn	Pn	18 29 39.3	-1.3
FID				IAML		18 30 28.3	
	comp=E,243nm,0.4s						
FID				IAML		18 30 50.0	
	comp=N,226nm,0.6s						
M24K	**Tolsona, Glenn**	**1.89**	**69**	Pn	Pn	18 29 40.7	-0.8
M24K				IAML		18 30 55.8	
	comp=N,295nm,0.8s						
KLU	**Klutina**	**1.92**	**88**	Pn	Pn	18 29 40.9	-1.0
KLU				IAML		18 30 55.5	
	comp=N,246nm,0.5s						
KLU				IAML		18 30 58.2	
	comp=E,180nm,0.4s						
DHY	**Denali Highway**	**1.99**	**36**	Pn	Pn	18 29 42.3	-0.7
DHY				IAML		18 31 01.3	
	comp=E,215nm,0.5s						
DHY				IAML		18 31 01.9	
	comp=N,252nm,0.9s						
RND	**Reindeer**	**1.99**	**14**	Pn	Pn	18 29 42.1	-0.8
HIN	**Hinchinbrook I**	**2.00**	**122**	Pn	Pn	18 29 42.0	-0.9
HIN				IAML		18 30 59.8	
	comp=N,378nm,0.8s						
HIN				IAML		18 31 02.7	
	comp=E,371nm,0.7s						
HOM	**Homer**	**2.02**	**206**	Pn	Pn	18 29 42.5	-0.7
CNPM	**China Poot**	**2.07**	**199**	Pn	Pn	18 29 43.0	-0.9
CNPM				IAML		18 30 58.5	
	comp=N,364nm,0.5s						
CNPM				IAML		18 30 58.6	
	comp=E,337nm,0.4s						
KTH	**Kantishna Hill**	**2.13**	**348**	Pn	Pn	18 29 43.7	-1.0
KTH				IAML		18 30 12.5	
	comp=N,186nm,0.7s						
KTH				IAML		18 30 13.7	
	comp=E,207nm,0.5s						
M19K	**Big River Lodg**	**2.17**	**283**	Pn	Pn	18 29 44.3	-1.0
ILSW	**Iliamna Southw**	**2.18**	**228**	Pn	Pn	18 29 44.4	-1.1
ILSW				IAML		18 31 01.6	
	comp=E,143nm,0.7s						
CAST	**Castle Rocks**	**2.19**	**334**	Pn	Pn	18 29 44.3	-1.2
N19K	**Bonanza Creek**	**2.31**	**255**	Pn	Pn	18 29 46.5	-0.8
L19K	**White Mountain**	**2.44**	**289**	Pn	Pn	18 29 48.1	-0.9
P19K	**Oil Pt**	**2.46**	**223**	Pn	Pn	18 29 48.1	-1.1
O19K	**Port Alsworth**	**2.51**	**241**	Pn	Pn	18 29 49.0	-1.0
BPAW	**Bear Paw Mtn.**	**2.67**	**350**	Pn	Pn	18 29 51.0	-1.1
K20K	**Telida**	**2.69**	**316**	Pn	Pn	18 29 51.8	-0.7
K20K				IAML		18 30 30.0	
	comp=E,92nm,0.7s						
SVW2	**Sparrevohn**	**2.76**	**264**	Pn	Pn	18 29 52.7	-0.6
N18K	**Kilae Creek**	**3.01**	**257**	Pn	Pn	18 29 55.9	-0.9
Q19K	**Cape Douglas,**	**3.17**	**218**	Pn	Pn	18 29 59.7	+0.7
L18K	**Granite Mounta**	**3.29**	**286**	Pn	Pn	18 29 59.8	-0.8
L18K				IAML		18 32 14.3	
	comp=E,51nm,0.7s						
MCARA	**McCarthy VSAT**	**3.32**	**89**	Pn	Pn	18 30 00.2	-0.9
MCARA				IAML		18 31 06.4	
	comp=E,121nm,0.7s						
MCARA				IAML		18 32 01.5	
	comp=N,137nm,0.7s						
J20K	**Nowinta River**	**3.32**	**326**	Pn	Pn	18 30 00.2	-0.9
J20K				IAML		18 30 56.3	
	comp=E,104nm,0.7s						
J20K				IAML		18 31 42.9	
	comp=N,101nm,0.3s						
COLA	**College**	**3.53**	**15**	Pn	Pn	18 30 03.7	-0.2
MLY	**Manley**	**3.58**	**354**	Pn	Pn	18 30 03.6	-1.1
MLY				IAML		18 32 26.8	
	comp=N,70nm,0.4s						
MLY				IAML		18 32 27.1	
	comp=E,52nm,0.5s						
WAX	**Waxell Ridge**	**3.60**	**104**	Pn	Pn	18 30 03.1	-1.9
M17K	**Holitna River**	**3.61**	**272**	Pn	Pn	18 30 04.1	-0.9
J19K	**Poorman**	**3.63**	**316**	Pn	Pn	18 30 04.8	-0.5
J19K				IAML		18 31 06.1	
	comp=E,74nm,0.8s						
J19K				IAML		18 32 30.9	
	comp=N,68nm,0.8s						
N17K	**Nushagak Hills**	**3.66**	**258**	Pn	Pn	18 30 05.3	-0.5
N17K				IAML		18 32 27.2	
	comp=E,67nm,0.5s						
N17K				IAML		18 32 30.2	
	comp=N,69nm,0.5s						
I23K	**Minto, Yukon-K**	**3.69**	**4**	Pn	Pn	18 30 05.5	-0.6
I23K				IAML		18 32 31.0	
	comp=E,58nm,0.5s						
J18K	**Innoko River**	**3.73**	**305**	Pn	Pn	18 30 06.3	-0.3
J18K				IAML		18 32 29.2	
	comp=N,59nm,0.6s						
J18K				IAML		18 32 31.1	
	comp=E,81nm,0.7s						
J25K	**Salcha River,**	**3.76**	**31**	Pn	Pn	18 30 06.4	-0.8
POKR	**Poker Plat Res**	**3.82**	**16**	Pn	Pn	18 30 07.6	-0.3
POKR				IAML		18 32 36.9	
	comp=E,61nm,0.6s						
POKR				IAML		18 32 39.7	
	comp=N,85nm,0.9s						
I21K	**Tanana**	**3.82**	**347**	Pn	Pn	18 30 07.7	-0.2
I21K				IAML		18 32 38.2	
	comp=E,71nm,0.7s						
I20K	**Naaghedeneel**	**3.91**	**330**	Pn	Pn	18 30 09.8	+0.6

*NEIC **30** 18:29:56.2±0.8, 61°.45N±0°.03×150°.05W±0°.05, h45km±4km, Error ellipse: s-maj=4.3km s-min=3.3km az=164.0*
AEIC 30 18:29:57.2±1.0, 61°.42N±0°.02×150°.06W±0°.04, h35km±6km, ML3.3, ML3.6/32(NEIC), Error ellipse: s-maj=3.8km s-min=1.9km az=148.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.33**	**278**		Pn	18 30 05.0	-0.6
SUA					Sn	18 30 12.2	+0.5
SUA	**Susitna One**	**0.33**	**278**	IAML		18 30 12.6	
	comp=E,4μm,0.8s						
M22K	**Willow**	**0.34**	**355**		Pn	18 30 04.7	-0.8
M22K					Sn	18 30 11.9	+0.4
M22K	**Willow**	**0.34**	**355**	IAML		18 30 12.4	
	comp=E,3μm,0.3s						
M22K				IAML		18 30 12.5	
	comp=N,5μm,0.7s						
RC01	**Rabbit Creek A**	**0.37**	**154**		Pn	18 30 05.2	-0.8
RC01	**Rabbit Creek A**	**0.37**	**154**	IAML		18 30 13.7	
	comp=N,2μm,0.2s						
RC01				IAML		18 30 17.2	
	comp=E,2μm,0.2s						
PMR	**Palmer**	**0.48**	**69**	IAML		18 30 15.0	
	comp=E,4μm,0.2s						
PMR				IAML		18 30 15.1	
	comp=N,3μm,0.4s						
PMR	**Palmer**	**0.48**	**69**		Pn	18 30 06.3	-1.1
PMR					Sn	18 30 14.4	-0.3
GHO	**Glory Hole Cre**	**0.65**	**57**	IAML		18 30 21.1	
	comp=N,2μm,0.3s						
GHO				IAML		18 30 21.2	
	comp=E,2μm,0.3s						
GHO	**Glory Hole Cre**	**0.65**	**57**		Pn	18 30 08.8	-1.2
GHO					Sn	18 30 19.4	+0.4
KNK	**Knik Glacier**	**0.77**	**90**	IAML		18 30 24.0	
	comp=E,2μm,0.4s						
KNK				IAML		18 30 25.0	
	comp=N,2μm,0.6s						
KNK	**Knik Glacier**	**0.77**	**90**		Pn	18 30 10.7	-0.9
KNK					Sn	18 30 22.6	+0.7
STLK	**Strandline Lak**	**0.85**	**276**		Pn	18 30 12.0	-0.8
STLK					Sn	18 30 23.7	-0.4
SKT	**Skwentna**	**0.90**	**309**		Pn	18 30 12.0	-1.3
SKT					Sn	18 30 24.5	-0.6
SML	**Sawmill**	**0.91**	**64**		Pn	18 30 12.3	-1.2
SML	**Sawmill**	**0.91**	**64**	IAML		18 30 28.8	
	comp=E,1μm,0.7s						
SLKM	**Skilak Lake**	**0.92**	**185**		Pn	18 30 13.0	-0.6
SPCG	**Spurr Capps Gl**	**0.95**	**263**		Pn	18 30 13.4	-0.8
O22K	**Cooper Landing**	**0.96**	**170**		Pn	18 30 13.8	-0.3
CUT	**Chulitna**	**0.99**	**354**		Pn	18 30 13.7	-0.9
CUT	**Chulitna**	**0.99**	**354**	IAML		18 30 28.1	
	comp=E,2μm,0.3s						
PWL	**Port Wells**	**1.01**	**123**		Pn	18 30 14.2	-0.7
PWL	**Port Wells**	**1.01**	**123**	IAML		18 30 29.9	
	comp=E,2μm,0.8s						
SPCP	**Crater Peak Br**	**1.02**	**262**		Pn	18 30 14.6	-0.5
SPCR	**Spurr Chakacha**	**1.06**	**259**		Pn	18 30 14.7	-0.9
SPCR	**Spurr Chakacha**	**1.06**	**259**		Pn	18 30 14.7	-0.9
M23K	**Glacier View**	**1.18**	**70**		Pn	18 30 16.6	-0.5
SCM	**Sheep Creek Mo**	**1.37**	**71**		Pn	18 30 19.4	-0.4
SCM	**Sheep Creek Mo**	**1.37**	**71**	IAML		18 30 39.4	
	comp=N,880nm,0.6s						
SCM				IAML		18 30 39.9	
	comp=E,1μm,0.8s						
RDT	**Redoubt**	**1.42**	**234**		Pn	18 30 19.7	-0.8
M20K	**Styx River**	**1.54**	**289**		Pn	18 30 22.4	+0.2
M20K	**Styx River**	**1.54**	**289**	IAML		18 31 18.9	
	comp=E,574nm,0.7s						
GLI	**Glacier Island**	**1.54**	**109**		Pn	18 30 21.0	-1.1
GLI	**Glacier Island**	**1.54**	**109**	IAML		18 31 17.9	
	comp=E,614nm,0.4s						
GLI				IAML		18 31 23.3	
	comp=N,505nm,0.5s						
RDJH	**Redoubt Jeurge**	**1.57**	**239**		Pn	18 30 22.0	-0.7
WAT6	**Susitna Watana**	**1.60**	**42**		Pn	18 30 22.9	-0.2
RDSO	**Redoubt South**	**1.63**	**235**		Pn	18 30 22.7	-0.8
RDWB	**Redoubt West**	**1.65**	**237**		Pn	18 30 23.1	-0.7
M19K	**Big River Lodg**	**2.12**	**285**		Pn	18 30 29.9	-0.2

*AEIC **30** 18:30:52.7±0.9, 61°.50N±0°.02×149°.92W±0°.05, h36km±5km, ML3.7, ML3.9/96(NEIC), Error ellipse: s-maj=3.4km s-min=3.2km az=172.0*
*NEIC **30** 18:30:52.0±1.3, 61°.52N±0°.02×149°.92W±0°.05, h40km±6km, Error ellipse: s-maj=3.6km s-min=3.1km az=160.0*
ISC 30 18:30:51.8±1.0, 61°.50N±0°.02×149°.92W±0°.02, h30km±10km, n112, σ0°.57/122, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.27**	**340**		**Pb**	**18 30 59.2**	**+0.3**
M22K					**Sn**	**18 31 06.0**	**+1.1**
M22K				IAML		18 31 06.5	
	comp=E,16μm,0.5s						
M22K				IAML		18 31 06.8	
	comp=N,12μm,0.6s						
M22K	**Willow**	**0.27**	**340**	P	**Pn**	**18 30 59.5**	**-0.2**
	baz=160						
M22K				S	**Sn**	**18 31 06.2**	**+1.3**
	baz=160						
PMR	**Palmer**	**0.39**	**76**		**Pb**	**18 31 00.7**	**+0.2**
PMR	**Palmer**	**0.39**	**76**	Sn	**Sn**	**18 31 07.8**	**+0.1**
PMR				IAML		18 31 08.4	
	comp=N,8μm,0.2s						
PMR				IAML		18 31 08.4	
	comp=E,9μm,0.5s						
PMR	**Palmer**	**0.39**	**76**	P	**Pb**	**18 31 00.7**	**+0.2**
	baz=256						
PMR				S	**Sn**	**18 31 07.9**	**+0.1**
	baz=256						
SUA	**Susitna One**	**0.40**	**265**		**Pn**	**18 31 01.3**	**-0.3**
SUA				Sn	**Sn**	**18 31 09.1**	**+0.9**
SUA				IAML		18 31 09.4	
	comp=E,9μm,0.9s						
SUA				IAML		18 31 09.6	
	comp=N,8μm,0.7s						
SUA	**Susitna One**	**0.40**	**265**	P	**Pn**	**18 31 01.3**	**-0.3**
	baz=85						
SUA				S	**Sn**	**18 31 09.0**	**+0.8**
	baz=85						
RC01	**Rabbit Creek A**	**0.42**	**168**	Sn	**Sn**	**18 31 09.0**	**+0.4**
RC01	**Rabbit Creek A**	**0.42**	**168**	P	**Pn**	**18 31 01.3**	**-0.6**
	baz=348						
RC01				S	**Sn**	**18 31 09.0**	**+0.4**
	baz=348						
GHO	**Glory Hole Cre**	**0.55**	**60**		**Pb**	**18 31 03.0**	**-0.1**
GHO				Sn	**Sn**	**18 31 12.1**	**+0.2**
KNK	**Knik Glacier**	**0.71**	**96**		**Pb**	**18 31 05.3**	**-0.4**
KNK	**Knik Glacier**	**0.71**	**96**		**Sn**	**18 31 16.1**	**+0.3**
KNK	**Knik Glacier**	**0.71**	**96**	IAML		18 31 18.8	
	comp=N,8μm,0.5s						
KNK				IAML		18 31 19.0	
	comp=E,6μm,0.3s						
KNK	**Knik Glacier**	**0.71**	**96**	P	**Pb**	**18 31 05.2**	**-0.4**
	baz=277						
KNK				S	**Sn**	**18 31 16.1**	**+0.3**
	baz=277						
SML	**Sawmill**	**0.82**	**67**		**Pn**	**18 31 06.4**	**-1.0**
SML	**Sawmill**	**0.82**	**67**		**Sb**	**18 31 17.9**	**-0.4**
SML	**Sawmill**	**0.82**	**67**	IAML		18 31 19.0	
	comp=E,3μm,0.7s						
SML				IAML		18 31 20.4	
	comp=N,4μm,0.6s						
SML	**Sawmill**	**0.82**	**67**	P	**Pn**	**18 31 06.4**	**-1.0**
	baz=248						
SML				S	**Sb**	**18 31 17.9**	**-0.4**
	baz=248						
SKT	**Skwentna**	**0.91**	**303**		**Pn**	**18 31 07.5**	**-1.0**
SKT				IAML		18 31 20.4	
	comp=E,3μm,0.3s						
SKT				IAML		18 31 20.5	
	comp=N,3μm,0.2s						
SKT	**Skwentna**	**0.91**	**303**		**Sn**	**18 31 19.9**	**-0.7**
SKT	**Skwentna**	**0.91**	**303**	P	**Pn**	**18 31 07.5**	**-1.0**
	baz=122						
SKT				S	**Sn**	**18 31 19.9**	**-0.7**
	baz=122						
STLK	**Strandline Lak**	**0.92**	**271**		**Pn**	**18 31 08.2**	**-0.6**
STLK					**Sn**	**18 31 20.7**	**-0.2**
CUT	**Chulitna**	**0.92**	**350**		**Pn**	**18 31 07.8**	**-0.9**
CUT	**Chulitna**	**0.92**	**350**	P	**Pn**	**18 31 08.1**	**-0.6**
	baz=170						
CAPN	**Captain Cook N**	**0.95**	**220**		**Pb**	**18 31 09.9**	**+0.3**
CAPN				IAML		18 31 27.6	
	comp=N,5μm,0.7s						
CAPN				IAML		18 31 29.2	
	comp=E,4μm,0.6s						
PWL	**Port Wells**	**1.00**	**129**		**Pn**	**18 31 09.4**	**-0.5**
PWL	**Port Wells**	**1.00**	**129**	P	**Pn**	**18 31 09.4**	**-0.5**
	baz=310						
SLKM	**Skilak Lake**	**1.01**	**188**		**Pn**	**18 31 09.3**	**-0.7**
SLKM					**Sb**	**18 31 23.3**	**-0.3**
O22K	**Cooper Landing**	**1.03**	**175**	Pn	**Pn**	**18 31 09.4**	**-0.7**
SPCG	**Spurr Capps Gl**	**1.03**	**259**		**Pn**	**18 31 10.2**	**-0.1**
SPCG					**Sb**	**18 31 24.2**	**-0.2**
M23K	**Glacier View**	**1.09**	**73**		**Pn**	**18 31 10.8**	**-0.2**
M23K	**Glacier View**	**1.09**	**73**	P	**Pn**	**18 31 10.8**	**-0.2**
	baz=255						
SPCP	**Crater Peak Br**	**1.10**	**259**		**Pn**	**18 31 11.5**	**+0.2**
N20K	**Mount Spurr**	**1.14**	**256**	P	**Pn**	**18 31 11.6**	**-0.3**
	baz=74						
SPCR	**Spurr Chakacha**	**1.14**	**256**		**Pn**	**18 31 11.6**	**-0.3**
SPCR	**Spurr Chakacha**	**1.14**	**256**		**Pn**	**18 31 11.5**	**-0.3**
SPCR	**Spurr Chakacha**	**1.14**	**256**	P	**Pn**	**18 31 11.5**	**-0.3**
	baz=74						
SCM	**Sheep Creek Mo**	**1.28**	**74**		**Pn**	**18 31 13.4**	**-0.3**
SCM				IAML		18 31 32.5	
	comp=N,3μm,0.8s						
SCM	**Sheep Creek Mo**	**1.28**	**74**	P	**Pn**	**18 31 13.5**	**-0.3**
	baz=256						
SEW	**Seward**	**1.42**	**170**		**Pn**	**18 31 16.3**	**+0.8**
SEW	**Seward**	**1.42**	**170**	P	**Pn**	**18 31 16.3**	**+0.8**
	baz=351						
WAT7	**Susitna Watana**	**1.43**	**20**		**Pn**	**18 31 15.7**	**-0.1**
WAT1	**Susitna Watana**	**1.48**	**25**		**Pn**	**18 31 16.2**	**-0.3**
WAT1	**Susitna Watana**	**1.48**	**25**	P	**Pn**	**18 31 16.2**	**-0.3**
	baz=206						
WAT6	**Susitna Watana**	**1.49**	**43**		**Pn**	**18 31 16.6**	**-0.2**
WAT6	**Susitna Watana**	**1.49**	**43**	P	**Pn**	**18 31 16.6**	**-0.2**
	baz=224						
GLI	**Glacier Island**	**1.50**	**113**		**Pn**	**18 31 16.0**	**-0.7**
GLI				IAML		18 31 36.0	
	comp=E,1μm,0.6s						
GLI				IAML		18 31 40.8	
	comp=N,1μm,0.3s						
GLI	**Glacier Island**	**1.50**	**113**	P	**Pn**	**18 31 16

baz=272
O20K Slope Mountain 1.94 224 Pn 18 31 22.9 +0.1
O20K Slope Mountain 1.94 224 P **Pn 18 31 22.9 +0.1**
baz=42
P23K Montague Islan 1.95 140 Pn 18 31 23.9 +1.1
P23K Montague Islan 1.95 140 P **Pn 18 31 23.9 +1.1**
baz=322
TRF Thorofare Moun 1.96 355 Pn 18 31 23.1 -0.1
TRF Thorofare Moun 1.96 355 IAML 18 31 51.2
comp=N,829nm,0.4s
TRF Thorofare Moun 1.96 355 P **Pn 18 31 23.1 -0.1**
baz=175
RND Reindeer 1.98 14 Pn 18 31 22.9 -0.4
DHY Denali Highway 1.98 36 Pn 18 31 23.3 -0.1
DHY IAML 18 32 39.3
comp=N,936nm,0.5s
DHY IAML 18 32 39.8
comp=E,1000nm,0.4s
DHY Denali Highway 1.98 36 P **Pn 18 31 23.9 +0.5**
baz=218
HIN Hinchinbrook I 2.00 122 Pn **Pn 18 31 22.9 -0.7**
HOM Homer 2.03 205 Pn **Pn 18 31 24.0 0.0**
HOM Homer 2.03 205 P **Pn 18 31 24.1 0.0**
baz=24
DIV Divide 2.04 99 Pn 18 31 23.2 -0.9
L20K Farewell, AK 2.11 299 Pn 18 31 24.9 -0.2
L20K Farewell, AK 2.11 299 P **Pn 18 31 24.9 -0.2**
baz=116
KTH Kantishna Hill 2.11 348 Pn 18 31 25.2 +0.1
KTH IAML 18 31 52.4
comp=E,1μm,0.8s
KTH IAML 18 31 54.5
comp=N,917nm,0.6s
IVE Iliamna Volcan 2.13 227 Pn 18 31 25.1 -0.3
M19K Big River Lodg 2.17 283 Pn **Pn 18 31 25.9 +0.1**
M19K Big River Lodg 2.17 283 P **Pn 18 31 25.7 -0.1**
baz=99
CAST Castle Rocks 2.17 333 Pn 18 31 26.1 +0.1
CAST Castle Rocks 2.17 333 P **Pn 18 31 26.0 +0.1**
baz=152
ILS Iliamna Low So 2.19 226 Pn 18 31 25.8 -0.4
ILSW Iliamna Southw 2.19 228 Pn 18 31 26.9 +0.5
EYAK Cordova Ski Ar 2.24 113 Pn 18 31 27.4 +0.5
EYAK Cordova Ski Ar 2.24 113 P **Pn 18 31 27.4 +0.5**
baz=297
N19K Bonanza Creek 2.32 255 Pn **Pn 18 31 28.1 +0.1**
L19K White Mountain 2.44 288 Pn **Pn 18 31 29.4 -0.2**
N25K Chitina, Valde 2.55 85 Pn 18 31 31.1 -0.1
N25K IAML 18 32 53.2
comp=E,518nm,0.5s
N25K IAML 18 32 56.0
comp=N,833nm,0.5s
BPAW Bear Paw Mtn. 2.66 350 Pn **Pn 18 31 32.4 -0.2**
K20K Telida 2.68 316 Pn **Pn 18 31 32.5 -0.5**
BWN Browne 2.69 4 Pn **Pn 18 31 33.3 +0.3**
GLB Gilahina Butte 2.93 88 Pn **Pn 18 31 38.3 +1.8**
GLB IAML 18 32 22.0
comp=N,542nm,0.7s
GLB IAML 18 33 09.4
comp=E,368nm,0.7s
VRDI Verde Repeater 3.13 92 Pn **Pn 18 31 40.2 +1.0**
NEA2 Nenana 3.13 7 Pn **Pn 18 31 38.8 -0.2**
KAIM Kayak Island 3.13 118 Pn **Pn 18 31 40.1 +1.1**
KAIM IAML 18 33 16.8
comp=N,288nm,0.7s
KAIM IAML 18 33 21.8
comp=E,252nm,0.7s
SYI Shuyak Island 3.15 204 Pn **Pn 18 31 38.5 -0.9**
Q19K Cape Douglas, 3.18 217 Pn **Pn 18 31 39.6 -0.2**
TTA Tatalina 3.19 299 Pn **Pn 18 31 39.5 -0.5**
HDA Harding Lake 3.22 24 Pn **Pn 18 31 41.5 +1.2**
L18K Granite Mounta 3.29 286 Pn **Pn 18 31 40.7 -0.5**
CCB Clear Creek Bu 3.30 16 Pn 18 31 41.1 -0.3
J20K Nowinta River 3.31 326 Pn **Pn 18 31 41.1 -0.4**
J20K IAML 18 33 03.7
comp=N,380nm,0.6s
J20K IAML 18 33 05.1
comp=E,350nm,0.6s
CRQM Cirque 3.37 100 Pn **Pn 18 31 42.2 -0.4**
TGL Tana Glacier 3.52 99 Pn 18 31 44.0 -0.5
TGL IAML 18 32 42.8
comp=E,402nm,0.5s
TGL IAML 18 33 23.7
comp=N,405nm,0.8s
IL31 3.56 21 Pn **Pn 18 31 45.2 +0.3**
ILAR Eielson Array 3.56 21 Pn 18 31 45.4 +0.5
MLY Manley 3.56 354 Pn **Pn 18 31 44.4 -0.6**
POKR Poker Plat Res 3.80 16 Pn 18 31 48.7 +0.4
POKR IAML 18 33 38.0
comp=E,142nm,0.8s

*NEIC **30** 18:31:13.8±1.3, 61°.48N±0°.02×149°.98W±0°.05, h49km±5km, Error ellipse: s-maj=3.3km s-min=2.6km az=108.0*
AEIC 30 18:31:14.3±1.3, 61°.48N±0°.02×149°.98W±0°.05, h48km±4km, ML3.6, ML3.7/42(NEIC), Error ellipse: s-maj=3.2km s-min=2.4km az=109.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.28**	**346**		Pn	18 31 22.3	-0.8
M22K					Sn	18 31 29.4	+0.1
M22K	**Willow**	**0.28**	**346**	IAML		18 31 30.1	
comp=E,6μm,0.5s							
M22K				IAML		18 31 30.2	
comp=N,6μm,0.6s							
SUA	**Susitna One**	**0.37**	**268**		Pn	18 31 23.6	-0.5
SUA					Sn	18 31 31.3	+0.2
RC01	**Rabbit Creek A**	**0.41**	**163**		Pn	18 31 24.0	-0.4
RC01					Sn	18 31 31.4	-0.1
RC01	**Rabbit Creek A**	**0.41**	**163**	IAML		18 31 32.2	
comp=N,5μm,0.2s							
RC01				IAML		18 31 32.6	
comp=E,4μm,0.2s							
PMR	**Palmer**	**0.42**	**74**		Pn	18 31 23.6	-0.9
GHO	**Glory Hole Cre**	**0.58**	**59**		Pn	18 31 25.9	-0.7
GHO					Sn	18 31 35.5	+0.1
KNK	**Knik Glacier**	**0.73**	**94**		Pn	18 31 28.3	-0.1
KNK	**Knik Glacier**	**0.73**	**94**	IAML		18 32 01.4	
comp=E,3μm,0.2s							
SML	**Sawmill**	**0.85**	**66**	Pn	Pn	18 31 30.4	+0.4
STLK	**Strandline Lak**	**0.89**	**272**		Sn	18 31 42.7	+0.3
SKT	**Skwentna**	**0.90**	**305**		Sn	18 31 42.6	+0.1
SKT	**Skwentna**	**0.90**	**305**	Pn	Pn	18 31 29.2	-1.4
PWL	**Port Wells**	**1.01**	**127**		Sn	18 31 45.4	+0.3
M20K	**Styx River**	**1.56**	**286**		Pn	18 31 38.5	-1.1
FID	**Port Fidalgo**	**1.85**	**112**	Pn	Pn	18 31 42.0	-1.5
M19K	**Big River Lodg**	**2.15**	**283**	Pn	Pn	18 31 47.5	-0.1
M19K				IAML		18 32 47.2	
comp=E,590nm,0.8s							
ILSW	**Iliamna Southw**	**2.16**	**227**	Pn	Pn	18 31 48.0	+0.1
ILSW				IAML		18 32 36.0	
comp=E,571nm,0.9s							
ILSW				IAML		18 32 37.5	
comp=N,535nm,0.8s							
N19K	**Bonanza Creek**	**2.29**	**255**	Pn	Pn	18 31 48.8	-0.8
L19K	**White Mountain**	**2.42**	**289**	Pn	Pn	18 31 51.5	+0.2
L19K				IAML		18 32 41.7	
comp=E,452nm,0.5s							
L19K				IAML		18 32 56.9	
comp=N,357nm,0.8s							
SVW2	**Sparrevohn**	**2.73**	**264**	Pn	Pn	18 31 55.2	-0.4
SVW2				IAML		18 33 04.9	
comp=E,274nm,0.8s							
N18K	**Kilae Creek**	**2.98**	**257**	Pn	Pn	18 31 58.7	-0.3
N18K				IAML		18 33 09.4	
comp=N,256nm,0.8s							
N18K				IAML		18 33 12.2	
comp=E,267nm,0.8s							
L18K	**Granite Mounta**	**3.27**	**286**	Pn	Pn	18 32 01.9	-1.0
L18K				IAML		18 33 20.8	
comp=E,168nm,1.1s							
L18K				IAML		18 33 24.3	
comp=N,194nm,0.9s							
M17K	**Holitna River**	**3.58**	**272**	Pn	Pn	18 32 07.1	-0.2
N17K	**Nushagak Hills**	**3.64**	**258**	Pn	Pn	18 32 07.6	-0.4
N17K				IAML		18 33 37.4	
comp=E,143nm,0.8s							
J18K	**Innoko River**	**3.71**	**305**	Pn	Pn	18 32 09.1	+0.1
J18K				IAML		18 33 35.8	
comp=N,106nm,0.8s							
I21K	**Tanana**	**3.83**	**347**	Pn	Pn	18 32 10.9	+0.4
I21K				IAML		18 33 56.8	
comp=N,119nm,0.8s							

*IDC **30** 18:31:25.6±0.7, 61°.60N×150°.53W, h0km, mb3.9/10, mbtmp3.9/14, ML3.7/4, Error ellipse: s-maj=15.5km s-min=14.3km az=103.0*
*NEIC **30** 18:31:34.0±1.0, 61°.44N±0°.01×150°.07W±0°.05, h40km±5km, Error ellipse: s-maj=3.3km s-min=1.6km az=78.0*
*AEIC **30** 18:31:34.5±0.8, 61°.42N±0°.03×150°.07W±0°.03, h43km±4km, ML4.0, ML4.0/148(NEIC), Error ellipse: s-maj=3.9km s-min=1.8km az=169.0*
ISC 30 18:31:33.2±0.7, 61°.42N±0°.03×150°.06W±0°.02, h48km±5km, n141, σ1§17/151, mb3.8/11, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.33**	**278**	Pn	Pn	18 31 42.8	+0.2
SUA				Sn	Sn	18 31 49.8	+0.5
SUA				IAML		18 31 50.7	
comp=N,9μm,0.7s							
SUA				IAML		18 31 50.9	
comp=E,15μm,0.8s							
SUA	**Susitna One**	**0.33**	**278**	P	Pn	18 31 42.8	+0.2
baz=98							
SUA				S	Sn	18 31 49.8	+0.5
baz=98							
M22K	**Willow**	**0.34**	**355**	Pn	Pn	18 31 42.5	0.0
M22K				Sn	Sn	18 31 49.8	+0.7
M22K				IAML		18 31 50.3	
comp=E,18μm,0.6s							
M22K	**Willow**	**0.34**	**355**	P	Pn	18 31 42.6	+0.1
baz=176							
M22K				S	Sn	18 31 49.9	+0.8
baz=176							
RC01	**Rabbit Creek A**	**0.37**	**154**	Pn	Pn	18 31 43.0	+0.2
RC01				Sn	Sn	18 31 49.9	+0.3
RC01				IAML		18 31 53.9	
comp=E,10μm,0.2s							
RC01	**Rabbit Creek A**	**0.37**	**154**	P	Pn	18 31 43.3	+0.4
baz=334							
RC01				S	Sn	18 31 50.0	+0.3
baz=334							
PMR	**Palmer**	**0.48**	**68**	Pn	Pn	18 31 44.1	0.0
PMR				Sn	Sn	18 31 52.2	+0.4
PMR				IAML		18 31 52.8	
comp=E,8μm,0.2s							
PMR				IAML		18 31 53.1	
comp=N,9μm,0.4s							
PMR	**Palmer**	**0.48**	**68**	P	Pn	18 31 44.0	-0.1
baz=249							
PMR				S	Sn	18 31 52.2	+0.4
baz=249							
GHO	**Glory Hole Cre**	**0.65**	**56**	Pn	Pn	18 31 46.5	+0.2
GHO				Sn	Sn	18 31 57.1	+1.3
GHO				IAML		18 31 59.0	
comp=E,7μm,0.3s							
GHO				IAML		18 32 00.5	
comp=N,7μm,0.3s							
KNK	**Knik Glacier**	**0.77**	**90**	Pn	Pn	18 31 48.4	+0.6
KNK				Sn	Sn	18 32 00.2	+1.7
KNK	**Knik Glacier**	**0.77**	**90**	P	Pn	18 31 48.5	+0.6
baz=271							
CAPN	**Captain Cook N**	**0.84**	**220**	Pn	Pn	18 31 49.8	+1.1
CAPN				Sn	Sn	18 32 02.5	+2.5
STLK	**Strandline Lak**	**0.85**	**276**		Pn	18 31 49.5	+0.5
STLK					Sn	18 32 01.4	+0.9
SKT	**Skwentna**	**0.90**	**310**	Pn	Pn	18 31 49.8	+0.2
SKT				IAML		18 32 02.8	
comp=N,7μm,0.4s							
SKT				IAML		18 32 03.0	
comp=E,7μm,0.4s							
SKT	**Skwentna**	**0.90**	**310**		Sn	18 32 02.0	+0.5
SKT	**Skwentna**	**0.90**	**310**	P	Pn	18 31 49.9	+0.3
baz=128							
SKT				S	Sn	18 32 02.0	+0.5
baz=128							
SML	**Sawmill**	**0.92**	**64**	Pn	Pn	18 31 50.2	+0.4
SML	**Sawmill**	**0.92**	**64**		Sn	18 32 03.1	+1.1
SML	**Sawmill**	**0.92**	**64**	IAML		18 32 06.0	
comp=E,6μm,0.8s							
SML				IAML		18 32 06.2	
comp=N,6μm,0.6s							
SML	**Sawmill**	**0.92**	**64**	P	Pn	18 31 50.5	+0.7
baz=246							
SML				S	Sn	18 32 03.1	+1.1
baz=246							
SLKM	**Skilak Lake**	**0.92**	**185**		Pn	18 31 50.3	+0.5
SPCG	**Spurr Capps Gl**	**0.95**	**263**		Sn	18 32 04.0	+1.2
O22K	**Cooper Landing**	**0.95**	**170**	Pn	Pn	18 31 50.1	-0.1
CUT	**Chulitna**	**0.99**	**354**	Pn	Pn	18 31 51.6	+0.7
CUT				IAML		18 32 08.2	
comp=E,5μm,0.4s							
CUT	**Chulitna**	**0.99**	**354**	P	Pn	18 31 51.5	+0.7
baz=175							
PWL	**Port Wells**	**1.01**	**123**	Pn	Pn	18 31 51.5	+0.4
PWL				IAML		18 32 06.5	
comp=N,15μm,0.3s							
PWL				IAML		18 32 08.3	
comp=E,11μm,0.9s							
PWL	**Port Wells**	**1.01**	**123**	P	Pn	18 31 51.7	+0.6
baz=304							
SPCP	**Crater Peak Br**	**1.02**	**262**		Pn	18 31 51.7	+0.4
N20K	**Mount Spurr**	**1.06**	**259**	P	Pn	18 31 52.1	+0.4
baz=77							
SPCR	**Spurr Chakacha**	**1.06**	**259**		Pn	18 31 52.1	+0.4
SPCR	**Spurr Chakacha**	**1.06**	**259**		Pn	18 31 52.1	+0.4
SPCR	**Spurr Chakacha**	**1.06**	**259**	P	Pn	18 31 52.1	+0.4
baz=77							
M23K	**Glacier View**	**1.18**	**70**		Pn	18 31 54.1	+0.8
M23K	**Glacier View**	**1.18**	**70**	P	Pn	18 31 54.1	+0.8
baz=252							
SEW	**Seward**	**1.35**	**167**		Pn	18 31 56.4	+0.7
SEW	**Seward**	**1.35**	**167**	P	Pn	18 31 56.3	+0.7
baz=347							
SCM	**Sheep Creek Mo**	**1.37**	**71**	Pn	Pn	18 31 57.1	+1.1
RDT	**Redoubt**	**1.42**	**234**		Pn	18 31 57.0	+0.3
M20K	**Styx River**	**1.54**	**289**		Pn	18 31 58.7	+0.4
M20K	**Styx River**	**1.54**	**289**		Sn	18 32 20.3	+3.2
M20K				IAML		18 32 20.9	
comp=E,2μm,0.7s							
M20K				IAML		18 32 23.2	
comp=N,1μm,0.7s							
M20K	**Styx River**	**1.54**	**289**	P	Pn	18 31 58.7	+0.4
baz=106							
GLI	**Glacier Island**	**1.54**	**109**		Pn	18 31 58.5	+0.3
GLI	**Glacier Island**	**1.54**	**109**	IAML		18 32 18.6	
comp=N,3μm,0.5s							
GLI				IAML		18 32 24.3	
comp=E,3μm,0.4s							
GLI	**Glacier Island**	**1.54**	**109**	P	Pn	18 31 58.5	+0.3
baz=292							
WAT6	**Susitna Watana**	**1.60**	**42**		Pn	18 31 59.5	+0.3
WAT6	**Susitna Watana**	**1.60**	**42**	P	Pn	18 31 59.5	+0.3
baz=224							
RED	**Redoubt Volcan**	**1.66**	**234**		Pn	18 32 00.4	+0.5
BRLK	**Bradley Lake**	**1.71**	**194**		Sn	18 32 24.8	+3.6
FID	**Port Fidalgo**	**1.87**	**109**	Pn	Pn	18 32 03.0	+0.3
FID				IAML		18 32 27.3	
comp=E,2μm,0.5s							
FID				IAML		18 32 34.4	
comp=N,2μm,0.6s							
HOM	**Homer**	**1.93**	**205**	Pn	Pn	18 32 04.8	+1.3
M24K	**Tolsona, Glenn**	**1.97**	**68**	Pn	Pn	18 32 05.4	+1.2
CNPM	**China Poot**	**1.99**	**198**	Pn	Pn	18 32 05.4	+1.1
CNPM				IAML		18 32 33.9	
comp=E,2μm,0.6s							
CNPM				IAML		18 32 35.2	
comp=N,1μm,0.3s							
KLU	**Klutina**	**1.99**	**86**	Pn	Pn	18 32 05.8	+1.4
KLU				IAML		18 32 37.0	
comp=N,2μm,0.4s							
KLU				IAML		18 32 38.1	
comp=E,1μm,0.3s							
ILSW	**Iliamna Southw**	**2.09**	**228**	Pn	Pn	18 32 06.7	+0.9
M19K	**Big River Lodg**	**2.12**	**285**	Pn	Pn	18 32 06.9	+0.7
CAST	**Castle Rocks**	**2.22**	**336**	Pn	Pn	18 32 08.7	+1.1
N19K	**Bonanza Creek**	**2.23**	**256**	Pn	Pn	18 32 08.6	+0.8
N19K				IAML		18 32 51.0	
comp=N,583nm,0.8s							
P19K	**Oil Pt**	**2.36**	**223**	Pn	Pn	18 32 10.7	+1.2
L19K	**White Mountain**	**2.40**	**291**		Pn	18 32 11.1	+1.0
O19K	**Port Alsworth**	**2.42**	**241**	Pn	Pn	18 32 10.8	+0.6
O19K				IAML		18 32 43.0	
comp=N,1μm,0.4s							
SVW2	**Sparrevohn**	**2.69**	**266**	Pn	Pn	18 32 14.3	+0.4
K20K	**Telida**	**2.69**	**318**	Pn	Pn	18 32 14.6	+0.6
K20K				IAML		18 32 52.1	
comp=N,351nm,0.5s							
K20K				IAML		18 32 54.4	
comp=E,372nm,0.7s							
RAGM	**Ragged Mountai**	**2.83**	**109**	Pn	Pn	18 32 16.4	+0.5
N18K	**Kilae Creek**	**2.93**	**258**	Pn	Pn	18 32 17.7	+0.5
O18K	**Koktuh Hills**	**2.98**	**240**	Pn	Pn	18 32 18.4	+0.4
O18K				IAML		18 33 21.9	
comp=E,298nm,1.2s							
O18K				IAML		18 33 22.2	
comp=N,427nm,0.9s							
SYI	**Shuyak Island**	**3.05**	**204**		Pn	18 32 19.2	+0.4
SYI				IAML		18 33 04.1	
comp=N,344nm,0.6s							
SYI				IAML		18 33 06.1	
comp=E,393nm,0.8s							
Q19K	**Cape Douglas,**	**3.07**	**217**		Pn	18 32 20.1	+0.9
TTA	**Tatalina**	**3.17**	**301**	Pn	Pn	18 32 21.3	+0.7
VRDI	**Verde Repeater**	**3.19**	**91**	Pn	Pn	18 32 21.6	+0.6
VRDI				IAML		18 33 10.4	
comp=N,331nm,0.4s							
VRDI				IAML		18 33 11.9	
comp=E,235nm,0.7s							
L18K	**Granite Mounta**	**3.24**	**287**	Pn	Pn	18 32 21.7	+0.2
P18K	**Big Mountain,**	**3.27**	**234**	Pn	Pn	18 32 22.4	+0.4
HDA	**Harding Lake**	**3.32**	**24**	Pn	Pn	18 32 22.1	-0.6
HDA				IAML		18 33 21.0	
comp=E,413nm,0.7s							
HDA				IAML		18 33 21.4	
comp=N,475nm,0.5s							
MENT	**Mentasta**	**3.34**	**60**		Pn	18 32 23.6	+0.7
RIDG	**Independent Ri**	**3.35**	**44**		Pn	18 32 24.1	+1.0
RIDG				IAML		18 33 14.2	
comp=N,604nm,0.8s							
RIDG				IAML		18 33 14.2	
comp=E,784nm,0.7s							
SUCK	**Suckling Hills**	**3.37**	**111**	Pn	Pn	18 32 24.1	+0.8
SUCK				IAML		18 33 25.5	
comp=N,338nm,0.4s							
SUCK				IAML		18 33 37.5	
comp=E,212nm,1.1s							
MCARA	**McCarthy VSAT**	**3.39**	**88**		Pn	18 32 24.3	+0.8
CCB	**Clear Creek Bu**	**3.40**	**17**	Pn	Pn	18 32 24.1	+0.5
CCB				IAML		18 33 21.3	
comp=E,242nm,0.9s							
CRQM	**Cirque**	**3.43**	**98**	Pn	Pn	18 32 24.8	+0.5
L26K	**Log Cabin Wild**	**3.53**	**60**	Pn	Pn	18 32 26.4	+0.9
M17K	**Holitna River**	**3.54**	**273**		Pn	18 32 26.5	+0.8
M17K				IAML		18 33 37.4	
comp=N,356nm,1.0s							
M17K				IAML		18 33 43.1	
comp=E,348nm,0.8s							
N17K	**Nushagak Hills**	**3.58**	**259**	Pn	Pn	18 32 26.6	+0.3
N17K				IAML		18 33 29.2	
comp=N,200nm,0.8s							
J19K	**Poorman**	**3.64**	**318**	Pn	Pn	18 32 27.7	+0.7
J19K				IAML		18 33 27.0	
comp=N,178nm,0.8s							
J19K				IAML		18 33 28.8	
comp=E,174nm,0.8s							
MLY	**Manley**	**3.64**	**355**	Pn	Pn	18 32 28.5	+1.5
IL31		**3.66**	**22**	Pn	Pn	18 32 28.1	+0.9
ILAR	**Eielson Array**	**3.66**	**22**	Pn	Pn	18 32 20.1	-7.2
comp=E,6.0nm,0.3s,baz=248,slow=17,SNR=4.7							
comp=E,22nm,0.6s							
J18K	**Innoko River**	**3.71**	**307**	Pn	Pn	18 32 28.6	+0.6
I23K	**Minto, Yukon-K**	**3.76**	**5**	Pn	Pn	18 32 29.3	+0.7
I23K				IAML		18 33 40.5	
comp=N,159nm,0.9s							
J25K	**Salcha River,**	**3.85**	**32**	Pn	Pn	18 32 31.2	+1.2
J25K				IAML		18 33 24.0	
comp=E,384nm,0.5s							
J25K				IAML		18 33 24.0	
comp=N,245nm,0.7s							
KDAK	**Kodiak Island**	**3.87**	**200**	Pn	Pn	18 32 31.6	+1.5
KDAK				IAML		18 33 31.5	
comp=N,176nm,0.7s							
KDAK				IAML		18 33 32.8	
comp=N,185nm,0.9s							
KDAK	**Kodiak Island**	**3.87**	**200**	Pn	Pn	18 32 26.5	-3.5
comp=N,6.1nm,0.3s,baz=214,slow=13,SNR=1.8							
KDAK				Sn	Sn	18 33 10.8	-3.4
comp=N,3.9nm,0.3s,baz=226,slow=8.7,SNR=1.5							
comp=N,15nm,0.4s							
I21K	**Tanana**	**3.87**	**348**	Pn	Pn	18 32 31.2	+1.0
I21K				IAML		18 33 32.5	
comp=E,132nm,0.8s							
I20K	**Naaghedeneel**	**3.94**	**331**	Pn	Pn	18 32 32.1	+1.1
M27K	**Edge Creek, AK**	**3.99**	**73**	Pn	Pn	18 32 32.4	+0.5
M27K				IAML		18 33 41.6	
comp=N,142nm,0.8s							
M27K				IAML		18 33 43.0	
comp=E,144nm,0.8s							
K17K	**Iditarod**	**4.09**	**292**	Pn	Pn	18 32 33.1	0.0
K17K				IAML		18 33 54.4	
comp=N,184nm,1.3s							
K17K				IAML		18 33 56.6	
comp=E,203nm,0.8s							
L27K	**Beaver Creek,**	**4.19**	**63**	Pn	Pn	18 32 34.8	+0.3
L27K				IAML		18 33 45.7	
comp=N,126nm,1.2s							
CTGM	**Chitina Glacie**	**4.25**	**92**	Pn	Pn	18 32 35.3	-0.2
CTGM				IAML		18 33 44.5	
comp=N,122nm,0.7s							
M16K	**Timber Creek**	**4.32**	**269**	Pn	Pn	18 32 37.1	+0.8
M16K				IAML		18 33 56.6	
comp=N,101nm,1.1s							
M16K				IAML		18 34 01.7	
comp=E,99nm,1.3s							
O16K	**Kokwok River B**	**4.37**	**249**		Pn	18 32 37.5	+0.5
O16K				IAML		18 34 09.0	
comp=N,132nm,1.3s							
H21K	**Melozitna Rive**	**4.43**	**345**	Pn	Pn	18 32 39.8	+2.0
LOGN	**Logan Glacier**	**4.43**	**94**	Pn	Pn	18 32 38.8	+0.8
LOGN				IAML		18 33 53.3	
comp=E,97nm,0.7s							
LOGN				IAML		18 33 56.8	
comp=N,121nm,0.7s							
TABL	**Table Mountain**	**4.46**	**99**	Pn	Pn	18 32 38.5	0.0
TABL				IAML		18 34 06.3	
comp=E,114nm,1.0s							
TABL				IAML		18 34 07.7	
comp=N,127nm,1.0s							
L16K	**Owhat River**	**4.51**	**278**	Pn	Pn	18 32 39.4	+0.5
L16K				IAML		18 34 04.6	
comp=N,126nm,0.8s							
OHAK	**Old Harbor**	**4.52**	**203**	Pn	Pn	18 32 38.6	-0.4
OHAK				IAML		18 33 49.4	
comp=E,87nm,0.9s							
OHAK				IAML		18 33 49.6	
comp=N,91nm,0.9s							
J17K	**VABM Dome**	**4.64**	**299**	Pn	Pn	18 32 41.1	+0.4
J17K				IAML		18 33 28.5	
comp=N,78nm,0.8s							
H19K	**Roundabout Mou**	**5.02**	**328**	Pn	Pn	18 32 46.6	+0.8
H19K				IAML		18 33 36.9	
comp=N,74nm,1.3s							
H19K				IAML		18 33 46.0	
comp=E,64nm,1.2s							
N15K	**Kwethluk River**	**5.07**	**260**		Pn	18 32 47.2	+0.7
N15K				IAML		18 34 17.1	
comp=N,101nm,0.9s							
N15K				IAML		18 34 21.8	
comp=E,115nm,1.2s							
J16K	**Anvik River**	**5.25**	**295**	Pn	Pn	18 32 49.3	+0.2
J16K				IAML		18 34 25.6	
comp=N,57nm,0.7s							
H18K	**Honhosa River**	**5.30**	**319**	Pn	Pn	18 32 50.5	+0.9
BCPM	**Bancas Point**	**5.33**	**101**	Pn	Pn	18 32 51.7	+1.6
BCPM				IAML		18 34 18.7	
comp=E,96nm,0.7s							
BCPM				IAML		18 34 22.3	
comp=N,108nm,0.8s							
G21K	**Allakaket**	**5.34**	**345**	Pn	Pn	18 32 52.0	+1.8
G21K				IAML		18 33 53.3	
comp=N,98nm,0.7s							
G21K				IAML		18 33 54.4	
comp=E,60nm,0.6s							
R16K	**Pilot Point**	**5.43**	**228**	Pn	Pn	18 32 53.7	+2.1
I17K	**Unalakleet**	**5.49**	**301**	Pn	Pn	18 32 53.7	+1.4
K15K	**Wolf Creek Mou**	**5.50**	**284**		Pn	18 32 53.5	+1.0
G19K	**Purcell Mounta**	**5.67**	**330**	Pn	Pn	18 32 55.5	+0.7
M14K	**Bethel**	**5.81**	**269**		Pn	18 32 57.5	+0.8
O14K	**Tigyukauivet M**	**5.97**	**254**	Pn	Pn	18 32 59.8	+0.9
L14K	**Kuka Creek**	**6.07**	**275**		Pn	18 33 01.3	+1.1

F20K	Avaraart Lake	6.17	339	Pn	Pn	18 33 03.4	+1.8
J14K	Nanvaranak Lak	6.47	288	Pn	Pn	18 33 06.8	+1.0
G16K	Koyuk River	6.80	311	Pn	Pn	18 33 11.9	+1.7
F17K	Baldwin Pennin	7.04	321	Pn	Pn	18 33 15.9	+2.4
E18K	Tukpahlearik C	7.55	327	Pn	Pn	18 33 23.3	+2.8
F15K	North Star Dit	7.79	310	Pn	Pn	18 33 25.7	+1.8
C16K	Lisburne Hills	9.44	323	Pn	Pn	18 33 49.6	+3.2
DLBC	Dease Lake	10.48	98	Pn	Pn	18 33 59.9	-0.8
	comp=E,0.2nm,0.3s,baz=257,slow=20,SNR=1.6 comp=E,1.5nm,0.7s						
YKA	Yellowknife Ar	16.58	71	Pn	Pn	18 35 23.3	+1.3
YKA	Yellowknife Ar	16.58	71	Pn	Pn	18 35 20.8	-1.2
	comp=E,0.5nm,0.3s,baz=283,slow=10,SNR=6.7 comp=E,0.7nm,0.7s						
KIWB	Kanaga Island	17.58	249	Pn	Pn	18 35 34.1	-0.3
NVAR	Mina Array Bea	30.25	125	P	P	18 37 41.3	+1.9
	comp=E,0.7nm,0.6s,baz=302,slow=9.4,SNR=5.1 comp=E,0.7nm,0.6s						
PDAR	Pinedale Array	30.41	109	P	P	18 37 41.8	+0.9
	comp=E,0.5nm,0.5s,baz=304,slow=5.0,SNR=7.0 comp=E,0.5nm,0.5s						
ULM	Lac du Bonnet	31.47	86	P	P	18 37 50.8	+0.9
	comp=E,5.7nm,0.8s,baz=302,slow=8.9,SNR=7.2 comp=E,5.7nm,0.8s						
KSRS	Korea Array	54.26	284	P	P	18 40 50.9	-3.1
	comp=E,1.2nm,0.6s,baz=28,slow=7.2,SNR=5.4 comp=E,1.2nm,0.6s						
SONM	Songino Array	55.11	307	P	P	18 40 56.8	-3.3
	comp=E,0.5nm,0.7s,baz=87,slow=8.2,SNR=2.4 comp=E,0.5nm,0.7s						
FINES	FINESS Array B	57.43	2	P	P	18 41 14.4	-1.8
	comp=E,3.8nm,0.9s,baz=350,slow=7.1,SNR=3.5 comp=E,3.8nm,0.9s						
HHC	Hu-ho-hao-te	58.79	299	eP	P	18 41 28.8	+2.5
EKA	Eskdalemuir Ar	60.70	21	P	P	18 41 38.3	-0.7
	comp=E,2.6nm,0.8s,baz=328,slow=5.7,SNR=3.9 comp=E,2.6nm,0.8s						
MKAR	Makanchi Array	64.20	323	P	P	18 41 58.9	-3.7
	comp=E,0.4nm,0.5s,baz=17,slow=8.9,SNR=4.0 comp=E,0.4nm,0.5s						
AKASG	Malin Array Be	68.23	0	P	P	18 42 25.8	-2.5
	comp=E,0.3nm,0.3s,baz=2.0,slow=6.3,SNR=5.0 comp=E,0.3nm,0.3s						
PZH	PanZhiHua	75.25	298	P	P	18 43 11.5	+0.6
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ESDC	Sonseca Array	75.55	26	P	P	18 43 11.7	-0.7
	comp=Z,0.6nm,0.7s,baz=337,slow=4.8,SNR=2.8 comp=Z,0.6nm,0.7s						
QSPA	South Pole Qui	151.23	180	PKPbc	PKPbc	18 51 18.9	-0.6
	comp=Z,1.4nm,0.6s,baz=94,slow=0.8,SNR=7.1						

*NEIC **30** 18:32:57.4±0.9, 61°.49N±0°.03×150°.09W±0°.05, h49km±1km, Error ellipse: s-maj=3.8km s-min=3.3km az=199.0*
*AEIC **30** 18:32:58.3±0.7, 61°.49N±0°.02×150°.07W±0°.05, h42km±5km, ML3.4, ML3.5/74(NEIC), Error ellipse: s-maj=3.5km s-min=2.6km az=124.0*

ISC 30 18:32:57.9±1.2, 61°.49N±0°.03×150°.07W±0°.02, h43km±8km, n71, σ0°56/81, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.27	355		Pn	18 33 05.5	-0.5
M22K					Sn	18 33 12.7	+1.0
M22K	Willow	0.27	355	P	Pn	18 33 05.5	-0.5
	baz=175						
M22K				S	Sn	18 33 12.7	+1.0
	baz=175						
SUA	Susitna One	0.33	266		Pn	18 33 06.5	-0.3
SUA					Sn	18 33 13.8	+0.8
SUA	Susitna One	0.33	266	IAML		18 33 14.2	
	comp=N,3μm,0.5s						
SUA				IAML		18 33 14.6	
	comp=E,4μm,0.6s						
SUA	Susitna One	0.33	266	P	Pn	18 33 06.5	-0.3
	baz=86						
SUA				S	Sn	18 33 13.8	+0.8
	baz=86						
RC01	Rabbit Creek A	0.43	158		Pn	18 33 07.2	-0.7
RC01					Sn	18 33 15.1	+0.1
RC01	Rabbit Creek A	0.43	158	IAML		18 33 15.8	
	comp=E,3μm,0.2s						
RC01				IAML		18 33 16.5	
	comp=N,3μm,0.2s						
RC01	Rabbit Creek A	0.43	158	P	Pn	18 33 07.2	-0.7
	baz=338						
RC01				S	Sn	18 33 15.1	+0.1
	baz=338						
PMR	Palmer	0.46	77		Pn	18 33 07.5	-0.8
PMR					Sn	18 33 15.5	0.0
PMR	Palmer	0.46	77	IAML		18 33 15.9	
	comp=N,3μm,0.2s						
PMR				IAML		18 33 17.4	
	comp=E,3μm,0.3s						
PMR	Palmer	0.46	77	P	Pn	18 33 07.5	-0.8
	baz=257						
PMR				S	Sn	18 33 15.5	0.0
	baz=257						
GHO	Glory Hole Cre	0.62	62		Pn	18 33 09.9	-0.5
GHO					Sn	18 33 19.7	+0.4
GHO	Glory Hole Cre	0.62	62	IAML		18 33 20.6	
	comp=N,2μm,0.4s						
GHO				IAML		18 33 21.3	
	comp=E,3μm,0.3s						
KNK	Knik Glacier	0.78	95		Pn	18 33 12.0	-0.5
KNK					Sn	18 33 24.3	+1.3
KNK	Knik Glacier	0.78	95	P	Pn	18 33 12.0	-0.5
	baz=276						
KNK				S	Sn	18 33 24.3	+1.3
	baz=276						
STLK	Strandline Lak	0.84	271		Pn	18 33 13.2	-0.3
STLK					Sn	18 33 24.7	0.0
SKT	Skwentna	0.85	306	IAML		18 33 24.8	
	comp=E,2μm,0.3s						
SKT	Skwentna	0.85	306		Pn	18 33 12.6	-0.9
SKT					Sn	18 33 24.5	-0.3
SKT	Skwentna	0.85	306	P	Pn	18 33 12.6	-0.9
	baz=125						
SKT				S	Sn	18 33 24.5	-0.3
	baz=125						
SML	Sawmill	0.89	68		Pn	18 33 13.3	-0.7
SML					Sn	18 33 25.8	0.0
SML	Sawmill	0.89	68	IAML		18 33 27.8	
	comp=E,2μm,0.9s						
SML				IAML		18 33 29.1	
	comp=N,1μm,0.6s						
SML	Sawmill	0.89	68	P	Pn	18 33 13.3	-0.7
	baz=250						
SML				S	Sn	18 33 25.8	0.0
	baz=250						
CAPN	Captain Cook N	0.89	216	Pn	Pn	18 33 14.6	+0.6
CAPN				IAML		18 33 32.6	
	comp=E,2μm,1.0s						
CAPN				IAML		18 33 39.8	
	comp=N,2μm,0.7s						
CUT	Chulitna	0.92	354		Pn	18 33 14.0	-0.4
CUT	Chulitna	0.92	354	P	Pn	18 33 14.0	-0.4
	baz=174						
SPCG	Spurr Capps Gl	0.96	259		Pn	18 33 14.9	-0.1
SPCG					Sn	18 33 28.0	+0.5
SLKM	Skilak Lake	0.99	184		Pn	18 33 14.9	-0.4
O22K	Cooper Landing	1.02	170		Pn	18 33 15.4	-0.4
O22K	Cooper Landing	1.02	170	P	Pn	18 33 15.4	-0.4
	baz=351						
SPCP	Crater Peak Br	1.03	258		Pn	18 33 15.8	-0.1
PWL	Port Wells	1.05	126		Pn	18 33 16.0	-0.2
PWL	Port Wells	1.05	126	P	Pn	18 33 16.0	-0.2
	baz=308						
N20K	Mount Spurr	1.07	255	P	Pn	18 33 16.1	-0.4
	baz=74						
SPCR	Spurr Chakacha	1.07	255		Pn	18 33 16.1	-0.4
SPCR	Spurr Chakacha	1.07	255		Pn	18 33 16.1	-0.4
SPCR	Spurr Chakacha	1.07	255	P	Pn	18 33 16.1	-0.4
	baz=74						
M23K	Glacier View	1.16	74		Pn	18 33 17.6	-0.1
M23K	Glacier View	1.16	74	P	Pn	18 33 17.6	-0.1
	baz=256						
SCM	Sheep Creek Mo	1.35	74		Pn	18 33 20.2	-0.1
SCM	Sheep Creek Mo	1.35	74	P	Pn	18 33 20.2	-0.1
	baz=256						
RDT	Redoubt	1.46	232		Pn	18 33 21.5	-0.3
M20K	Styx River	1.51	286		Pn	18 33 22.7	+0.2
M20K	Styx River	1.51	286	IAML		18 33 43.1	
	comp=N,522nm,0.9s						
M20K				IAML		18 33 44.1	
	comp=E,710nm,0.8s						
M20K	Styx River	1.51	286	P	Pn	18 33 22.7	+0.2
	baz=104						
WAT6	Susitna Watana	1.55	44		Pn	18 33 23.4	+0.2
WAT6	Susitna Watana	1.55	44	P	Pn	18 33 23.4	+0.2
	baz=226						
GLI	Glacier Island	1.57	112	Pn	Pn	18 33 22.3	-0.9
GLI				IAML		18 33 47.7	
	comp=N,787nm,0.5s						
PPLA	Purkeypile	1.73	326		Pn	18 33 25.5	0.0
PPLA	Purkeypile	1.73	326	P	Pn	18 33 25.5	0.0
	baz=144						
BRLK	Bradley Lake	1.78	193	Pn	Pn	18 33 25.9	-0.3
FID	Port Fidalgo	1.90	111	Pn	Pn	18 33 26.4	-1.4
FID				IAML		18 33 58.5	
	comp=E,653nm,0.4s						
FID				IAML		18 34 01.3	
	comp=N,651nm,0.6s						
M24K	Tolsona, Glenn	1.95	70	Pn	Pn	18 33 27.9	-0.7
M24K				IAML		18 34 02.3	
	comp=N,573nm,0.8s						
KLU	Klutina	1.99	88	Pn	Pn	18 33 28.1	-0.9
KLU				IAML		18 34 01.6	
	comp=E,410nm,0.5s						
RND	Reindeer	2.01	16	Pn	Pn	18 33 29.3	0.0
DHY	Denali Highway	2.03	37	Pn	Pn	18 33 29.3	-0.4
DHY				IAML		18 34 00.6	
	comp=N,211nm,0.5s						
HIN	Hinchinbrook I	2.06	121	Pn	Pn	18 33 29.4	-0.5
HIN				IAML		18 34 03.1	
	comp=N,412nm,0.4s						
HIN				IAML		18 34 03.8	
	comp=E,397nm,0.5s						
M19K	Big River Lodg	2.10	283	Pn	Pn	18 33 30.2	-0.3
M19K				IAML		18 33 59.4	
	comp=N,326nm,0.6s						
KTH	Kantishna Hill	2.11	350	Pn	Pn	18 33 30.6	-0.1
KTH				IAML		18 33 59.1	
	comp=E,305nm,0.6s						
CAST	Castle Rocks	2.15	335	Pn	Pn	18 33 30.9	-0.4
CAST				IAML		18 34 03.3	
	comp=N,192nm,0.5s						
N19K	Bonanza Creek	2.24	254	Pn	Pn	18 33 32.3	-0.3
N19K				IAML		18 34 04.0	
	comp=N,180nm,0.9s						
L19K	White Mountain	2.37	289	Pn	Pn	18 33 34.3	0.0
L19K				IAML		18 34 04.8	
	comp=E,185nm,0.5s						
N25K	Chitina, Valde	2.62	85	Pn	Pn	18 33 38.4	+0.6
N25K				IAML		18 34 19.8	
	comp=E,159nm,0.6s						
K20K	Telida	2.64	317	Pn	Pn	18 33 37.4	-0.5
K20K				IAML		18 34 29.9	
	comp=E,146nm,0.6s						
BPAW	Bear Paw Mtn.	2.65	351	Pn	Pn	18 33 37.6	-0.5
BPAW				IAML		18 34 09.8	
	comp=E,131nm,0.6s						
BPAW				IAML		18 34 12.3	
	comp=N,126nm,0.7s						
SVW2	Sparrevohn	2.69	264	Pn	Pn	18 33 37.8	-0.8
N18K	Kilae Creek	2.94	257	Pn	Pn	18 33 41.6	-0.4
GLB	Gilahina Butte	3.01	88	Pn	Pn	18 33 44.0	+1.0
GLB				IAML		18 34 29.5	
	comp=E,91nm,0.7s						
GLB				IAML		18 34 29.9	
	comp=N,198nm,0.7s						
WRH	Wood River Hil	3.13	16	Pn	Pn	18 33 44.2	-0.4
TTA	Tatalina	3.14	300	Pn	Pn	18 33 44.0	-0.8
TTA				IAML		18 34 41.2	
	comp=E,102nm,0.8s						
L18K	Granite Mounta	3.22	286	Pn	Pn	18 33 45.4	-0.5
L18K				IAML		18 34 50.3	
	comp=N,79nm,1.0s						
J20K	Nowinta River	3.28	327	Pn	Pn	18 33 46.4	-0.3
J20K				IAML		18 34 24.9	
	comp=N,140nm,0.8s						
J20K				IAML		18 34 26.6	
	comp=E,146nm,0.8s						

*NEIC **30** 18:35:15.5±1.1, 61°.39N±0°.03×150°.06W±0°.05, h49km±4km, Error ellipse: s-maj=3.7km s-min=3.4km az=166.0*
*AEIC **30** 18:35:16.3±1.1, 61°.39N±0°.02×150°.04W±0°.05, h43km±4km, ML3.6, ML3.9/188(NEIC), Error ellipse: s-maj=3.6km s-min=3.3km az=223.0*

ISC 30 18:35:16.0±1.2, 61°.39N±0°.03×150°.03W±0°.02, h43km±8km, n181, σ0°70/185, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	Rabbit Creek A	0.33	154		Pn	18 35 24.4	-0.3
RC01				IAML		18 35 35.1	
	comp=N,6μm,0.3s						
RC01	Rabbit Creek A	0.33	154		Sn	18 35 31.6	+0.7
RC01	Rabbit Creek A	0.33	154	P	Pn	18 35 24.5	-0.3
	baz=334						
RC01				S	Sn	18 35 31.7	+0.7
	baz=334						
SUA	Susitna One	0.35	283		Pn	18 35 24.7	-0.4
SUA	Susitna One	0.35	283		Sn	18 35 32.2	+0.6
SUA	Susitna One	0.35	283	IAML		18 35 33.0	
	comp=N,2μm,0.6s						
SUA				IAML		18 35 33.0	
	comp=E,3μm,0.8s						
SUA	Susitna One	0.35	283	P	Pn	18 35 24.8	-0.4
	baz=102						
SUA				S	Sn	18 35 32.2	+0.6
	baz=102						
M22K	Willow	0.37	353		Pn	18 35 24.4	-0.7
M22K	Willow	0.37	353		Sn	18 35 32.0	+0.4
M22K	Willow	0.37	353	IAML		18 35 32.4	
	comp=E,9μm,0.6s						
M22K				IAML		18 35 36.2	
	comp=N,6μm,0.6s						
M22K	Willow	0.37	353	P	Pn	18 35 24.5	-0.7
	baz=174						
M22K				S	Sn	18 35 32.0	+0.4
	baz=174						
PMR	Palmer	0.48	64		Pn	18 35 25.8	-0.7
PMR	Palmer	0.48	64		Sn	18 35 34.1	+0.1
PMR	Palmer	0.48	64	IAML		18 35 34.9	
	comp=N,2μm,0.4s						
PMR				IAML		18 35 35.9	
	comp=E,2μm,0.2s						
PMR	Palmer	0.48	64	P	Pn	18 35 25.8	-0.7
	baz=245						
PMR				S	Sn	18 35 34.1	+0.1
	baz=245						
GHO	Glory Hole Cre	0.66	53		Pn	18 35 28.4	-0.5
GHO					Sn	18 35 38.5	+0.3
KNK	Knik Glacier	0.76	87		Pn	18 35 30.2	-0.1
KNK					Sn	18 35 42.1	+1.6
KNK	Knik Glacier	0.76	87	IAML		18 35 43.2	
	comp=N,3μm,0.3s						
KNK	Knik Glacier	0.76	87	P	Pn	18 35 30.2	-0.1
	baz=269						
KNK				S	Sn	18 35 42.1	+1.6
	baz=269						
CAPN	Captain Cook N	0.83	222	Pn	Pn	18 35 31.8	+0.6
CAPN				IAML		18 35 46.5	
	comp=E,4μm,0.5s						
CAPN				IAML		18 35 47.1	
	comp=N,5μm,0.7s						
STLK	Strandline Lak	0.87	278		Pn	18 35 31.5	-0.4
STLK					Sn	18 35 43.6	+0.2
SLKM	Skilak Lake	0.89	186		Pn	18 35 32.0	0.0
SML	Sawmill	0.92	62	Pn	Pn	18 35 31.8	-0.6
SML	Sawmill	0.92	62		Sn	18 35 45.0	+0.5
SML	Sawmill	0.92	62	IAML		18 35 47.2	
	comp=E,2μm,0.9s						
SML				IAML		18 35 47.7	
	comp=N,1μm,0.6s						
SML	Sawmill	0.92	62	P	Pn	18 35 31.8	-0.6
	baz=243						
SML				S	Sn	18 35 45.0	+0.5
	baz=243						
O22K	Cooper Landing	0.92	171		Pn	18 35 32.0	-0.5
O22K				IAML		18 35 47.4	
	comp=N,4μm,0.4s						
O22K				IAML		18 35 53.2	
	comp=E,3μm,0.6s						
O22K	Cooper Landing	0.92	171	P	Pn	18 35 32.2	-0.3
	baz=351						
SKT	Skwentna	0.93	310		Pn	18 35 31.8	-0.8
SKT	Skwentna	0.93	310		Sn	18 35 44.6	-0.1
SKT	Skwentna	0.93	310	IAML		18 35 45.1	
	comp=N,3μm,0.2s						
SKT				IAML		18 35 45.2	
	comp=E,3μm,0.4s						
SKT	Skwentna	0.93	310	P	Pn	18 35 32.0	-0.6
	baz=129						
SKT				S	Sn	18 35 44.7	-0.1
	baz=129						
SPCG	Spurr Capps Gl	0.96	265		Pn	18 35 33.0	-0.2
PWL	Port Wells	0.98	122		Pn	18 35 32.6	-0.6
PWL	Port Wells	0.98	122		Sn	18 35 47.0	+1.0
PWL	Port Wells	0.98	122	IAML		18 35 47.7	
	comp=E,4μm,0.3s						
PWL				IAML		18 35 48.1	
	comp=N,8μm,0.3s						
PWL	Port Wells	0.98	122	P	Pn	18 35 33.4	+0.1
	baz=303						
PWL				S	Sn	18 35 47.0	+1.0
	baz=303						
CUT	Chulitna	1.03	354		Sn	18 35 46.7	-0.3
CUT				IAML		18 35 48.4	
	comp=E,3μm,0.3s						
CUT				IAML		18 35 48.9	
	comp=N,2μm,0.4s						
CUT	Chulitna	1.03	354		Pn	18 35 33.5	-0.4
CUT	Chulitna	1.03	354	P	Pn	18 35 33.5	-0.4
	baz=174						
SPCP	Crater Peak Br	1.03	264		Pn	18 35 33.8	-0.3
N20K	Mount Spurr	1.07	261	P	Pn	18 35 34.1	-0.4
	baz=79						
SPCR	Spurr Chakacha	1.07	261		Pn	18 35 34.1	-0.4
SPCR	Spurr Chakacha	1.07	261		Pn	18 35 34.1	-0.4
SPCR	Spurr Chakacha	1.07	261	P	Pn	18 35 34.1	-0.4
	baz=79						
M23K	Glacier View	1.18	69		Pn	18 35 36.0	+0.1
M23K	Glacier View	1.18	69	P	Pn	18 35 36.0	+0.1
	baz=251						
SEW	Seward	1.32	167	Pn	Pn	18 35 37.2	-0.6
SEW	Seward	1.32	167	P	Pn	18 35 37.8	0.0
	baz=348						
SCM	Sheep Creek Mo	1.37	70		Pn	18 35 37.9	-0.8
SCM				IAML		18 35 58.6	
	comp=E,2μm,0.7s						
SCM				IAML		18 35 59.1	
	comp=N,2μm,0.7s						
SCM	Sheep Creek Mo	1.37	70	P	Pn	18 35 38.6	0.0
	baz=252						
RDT	Redoubt	1.42	236		Pn	18 35 38.9	-0.4
GLI	Glacier Island	1.51	108		Pn	18 35 39.7	-0.8
GLI	Glacier Island	1.51	108	P	Pn	18 35 40.0	-0.5
	baz=291						
WAT7	Susitna Watana	1.55	20		Pn	18 35 41.2	0.0
M20K	Styx River	1.56	290		Pn	18 35 41.5	+0.2
M20K	Styx River	1.56	290	P	Pn	18 35 41.5	+0.2
	baz=107						
RDJH	Redoubt Jeurge	1.57	241		Pn	18 35 41.1	-0.3
WAT6	Susitna Watana	1.61	41		Pn	18 35 42.2	+0.1
WAT6	Susitna Watana	1.61	41	P	Pn	18 35 42.2	+0.1
	baz=223						
RDWB	Redoubt West	1.64	238		Pn	18 35 42.1	-0.3
RED	Redoubt Volcan	1.66	235		Pn	18 35 42.3	-0.3
BRLK	Bradley Lake	1.68	195	Pn	Pn	18 35 42.5	-0.4
BRSE	Bradley Lake S	1.69	192		Pn	18 35 42.5	-0.5
BRSE	Bradley Lake S	1.69	192	P	Pn	18 35 42.5	-0.5
	baz=12						
PPLA	Purkeypile	1.82	327	Pn	Pn	18 35 45.3	+0.4
PPLA	Purkeypile	1.82	327	P	Pn	18 35 44.6	-0.3
	baz=145						
O20K	Slope Mountain	1.83	225		Pn	18 35 45.1	+0.2
O20K	Slope Mountain	1.83	225	P	Pn	18 35 45.1	+0.2
	baz=43						
FID	Port Fidalgo	1.84	109		Pn	18 35 43.5	-1.6
FID				IAML		18 36 55.4	
	comp=N,1μm,0.5s						
FID				IAML		18 36 56.8	
	comp=E,928nm,0.5s						
P23K	Montague Islan	1.90	136		Pn	18 35 44.6	-1.2
P23K	Montague Islan	1.90	136	P	Pn	18 35 44.6	-1.2
	baz=318						
HOM	Homer	1.91	205	Pn	Pn	18 35 45.5	-0.4
HOM	Homer	1.91	205	P	Pn	18 35 46.1	+0.1
	baz=24						
CNPM	China Poot	1.96	198	Pn	Pn	18 35 46.1	-0.6
CNPM				IAML		18 37 03.1	
	comp=N,1μm,0.4s						
M24K	Tolsona, Glenn	1.97	67		Pn	18 35 46.3	-0.6
KLU	Klutina	1.98	85	Pn	Pn	18 35 45.8	-1.2
KLU	Klutina	1.98	85	P	Pn	18 35 46.7	-0.3
	baz=269						
HIN	Hinchinbrook I	1.99	118	Pn	Pn	18 35 45.9	-1.3
ILS	Iliamna Low So	2.07	228		Pn	18 35 48.1	-0.2
DIV	Divide	2.08	95	Pn	Pn	18 35 47.3	-1.0
ILSW	Iliamna Southw	2.08	229	Pn	Pn	18 35 48.4	0.0
RND	Reindeer	2.10	15	Pn	Pn	18 35 48.0	-0.6
DHY	Denali Highway	2.10	35	Pn	Pn	18 35 48.2	-0.6
DHY				IAML		18 37 01.4	
	comp=N,733nm,0.6s						
DHY				IAML		18 37 02.5	
	comp=E,888nm,0.6s						
DHY	Denali Highway	2.10	35	P	Pn	18 35 49.5	+0.8
	baz=218						
L20K	Farewell, AK	2.12	303		Pn	18 35 48.8	-0.2
L20K	Farewell, AK	2.12	303	P	Pn	18 35 48.8	-0.2
	baz=119						
M19K	Big River Lodg	2.15	286	Pn	Pn	18 35 49.0	-0.2
M19K	Big River Lodg	2.15	286	P	Pn	18 35 49.1	-0.2
	baz=102						
KTH	Kantishna Hill	2.21	350	Pn	Pn	18 35 50.8	+0.6
N19K	Bonanza Creek	2.24	257	Pn	Pn	18 35 50.2	-0.3
N19K	Bonanza Creek	2.24	257	P	Pn	18 35 50.5	-0.1
	baz=73						
EYAK	Cordova Ski Ar	2.25	110	Pn	Pn	18 35 49.7	-0.9
CAST	Castle Rocks	2.25	336	Pn	Pn	18 35 50.2	-0.5
CAST	Castle Rocks	2.25	336	P	Pn	18 35 50.9	+0.2
	baz=154						
P19K	Oil Pt	2.35	224	Pn	Pn	18 35 52.2	+0.1
MCK	McKinley	2.41	12	Pn	Pn	18 35 52.0	-0.8
O19K	Port Alsworth	2.42	242	Pn	Pn	18 35 52.6	-0.3
O19K	Port Alsworth	2.42	242	P	Pn	18 35 52.9	0.0
	baz=58						
L19K	White Mountain	2.43	291	Pn	Pn	18 35 52.9	-0.1
L19K	White Mountain	2.43	291	P	Pn	18 35 53.1	+0.1
	baz=107						
N25K	Chitina, Valde	2.61	83	Pn	Pn	18 35 54.6	-1.1
N25K				IAML		18 37 18.1	
	comp=N,528nm,0.6s						
N25K				IAML		18 37 28.7	
	comp=E,343nm,0.7s						
BMRM	Bremner River	2.66	97	Pn	Pn	18 35 55.0	-1.4
PAX	Paxson	2.66	51	Pn	Pn	18 35 55.9	-0.5
Q23K	Middleton Isla	2.68	135	Pn	Pn	18 35 55.5	-1.0
SVW2	Sparrevohn	2.70	266	Pn	Pn	18 35 56.3	-0.5
K20K	Telida	2.73	318	Pn	Pn	18 35 56.5	-0.7
BPAW	Bear Paw Mtn.	2.76	351	Pn	Pn	18 35 56.3	-1.3
RAGM	Ragged Mountai	2.80	109	Pn	Pn	18 35 57.0	-1.3
BWN	Browne	2.81	5	Pn	Pn	18 35 58.9	+0.6
N18K	Kilae Creek	2.94	259	Pn	Pn	18 35 59.2	-0.9
O18K	Koktuh Hills	2.98	241	Pn	Pn	18 35 59.8	-0.8
O18K				IAML		18 37 29.3	
	comp=E,388nm,1.0s						
O18K				IAML		18 37 31.4	
	comp=N,361nm,0.8s						
GLB	Gilahina Butte	2.99	86	Pn	Pn	18 36 00.4	-0.5
SYI	Shuyak Island	3.03	204	Pn	Pn	18 36 00.9	-0.4
Q19K	Cape Douglas,	3.06	218	Pn	Pn	18 36 01.7	0.0
KAIM	Kayak Island	3.13	115	Pn	Pn	18 36 00.7	-2.0
KAIM				IAML		18 37 46.3	
	comp=E,360nm,1.0s						
KAIM				IAML		18 37 46.4

CRQM	**Cirque**	**3.41**	**98**	Pn	**Pn**	**18 36 05.7**	**-1.0**
CCB	**Clear Creek Bu**	**3.42**	**16**	Pn	**Pn**	**18 36 06.5**	**-0.3**
M26K	**Nabesna, AK**	**3.48**	**70**	Pn	**Pn**	**18 36 07.3**	**-0.2**
TGL	**Tana Glacier**	**3.56**	**97**	Pn	**Pn**	**18 36 08.0**	**-0.6**
TGL				IAML		18 37 49.7	
	comp=N,339nm,0.7s						
TGL				IAML		18 38 31.2	
	comp=E,278nm,0.4s						
M17K	**Holitna River**	**3.56**	**273**		**Pn**	**18 36 08.3**	**-0.4**
N17K	**Nushagak Hills**	**3.59**	**259**	Pn	**Pn**	**18 36 08.3**	**-0.7**
WAX	**Waxell Ridge**	**3.63**	**102**	Pn	**Pn**	**18 36 08.4**	**-1.3**
WAX				IAML		18 38 28.6	
	comp=E,319nm,0.4s						
COLA	**College**	**3.64**	**15**	Pn	**Pn**	**18 36 09.2**	**-0.4**
J19K	**Poorman**	**3.67**	**318**	Pn	**Pn**	**18 36 09.9**	**-0.2**
MLY	**Manley**	**3.67**	**355**	Pn	**Pn**	**18 36 09.8**	**-0.4**
IL31		**3.69**	**21**	Pn	**Pn**	**18 36 11.7**	**+1.4**
J18K	**Innoko River**	**3.74**	**307**	Pn	**Pn**	**18 36 10.7**	**-0.4**
I23K	**Minto, Yukon-K**	**3.79**	**4**	Pn	**Pn**	**18 36 10.5**	**-1.2**
KDAK	**Kodiak Island**	**3.84**	**201**	Pn	**Pn**	**18 36 10.7**	**-1.8**
J25K	**Salcha River,**	**3.87**	**31**	Pn	**Pn**	**18 36 13.9**	**+0.9**
I21K	**Tanana**	**3.91**	**348**	Pn	**Pn**	**18 36 13.9**	**+0.6**
POKR	**Poker Plat Res**	**3.92**	**16**	Pn	**Pn**	**18 36 13.5**	**-0.1**
I20K	**Naaghedeneel**	**3.97**	**331**	Pn	**Pn**	**18 36 14.4**	**+0.1**
M27K	**Edge Creek, AK**	**3.98**	**72**	Pn	**Pn**	**18 36 14.9**	**+0.4**
M27K				IAML		18 38 05.6	
	comp=E,115nm,0.9s						
M27K				IAML		18 38 11.7	
	comp=N,114nm,1.1s						
GRNC	**Granite Creek**	**4.08**	**96**	Pn	**Pn**	**18 36 15.1**	**-0.8**
K17K	**Iditarod**	**4.12**	**293**	Pn	**Pn**	**18 36 15.6**	**-0.6**
MESA	**MESA**	**4.14**	**103**	Pn	**Pn**	**18 36 15.8**	**-1.0**
BCAR	**Beaver Creek A**	**4.21**	**63**	Pn	**Pn**	**18 36 16.6**	**-1.0**
CTGM	**Chitina Glacie**	**4.23**	**92**	Pn	**Pn**	**18 36 17.6**	**-0.4**
M16K	**Timber Creek**	**4.33**	**269**	Pn	**Pn**	**18 36 19.1**	**-0.2**
O16K	**Kokwok River B**	**4.38**	**249**	Pn	**Pn**	**18 36 19.4**	**-0.4**
LOGN	**Logan Glacier**	**4.42**	**93**	Pn	**Pn**	**18 36 20.1**	**-0.4**
LOGN				IAML		18 38 22.1	
	comp=N,94nm,0.9s						
LOGN				IAML		18 38 33.3	
	comp=E,78nm,0.9s						
TABL	**Table Mountain**	**4.44**	**98**	Pn	**Pn**	**18 36 20.1**	**-0.9**
H23K	**Yukon River**	**4.46**	**3**	Pn	**Pn**	**18 36 21.8**	**+0.8**
H21K	**Melozitna Rive**	**4.46**	**345**	Pn	**Pn**	**18 36 20.8**	**-0.2**
H21K				IAML		18 38 15.5	
	comp=E,83nm,0.9s						
OHAK	**Old Harbor**	**4.50**	**203**	Pn	**Pn**	**18 36 19.9**	**-1.5**
L16K	**Owhat River**	**4.53**	**278**	Pn	**Pn**	**18 36 21.1**	**-0.8**
H24K	**Noodor Dome**	**4.57**	**11**	Pn	**Pn**	**18 36 22.5**	**0.0**
PRP	**Porcupine Dome**	**4.61**	**24**	Pn	**Pn**	**18 36 22.2**	**-1.0**
J17K	**VABM Dome**	**4.67**	**300**	Pn	**Pn**	**18 36 22.8**	**-0.9**
H19K	**Roundabout Mou**	**5.05**	**328**	Pn	**Pn**	**18 36 28.7**	**-0.4**
N15K	**Kwethluk River**	**5.08**	**261**	Pn	**Pn**	**18 36 29.2**	**-0.2**
H18K	**Honhosa River**	**5.33**	**319**	Pn	**Pn**	**18 36 32.6**	**-0.3**
H18K				IAML		18 38 16.4	
	comp=N,89nm,0.6s						
G21K	**Allakaket**	**5.37**	**345**	Pn	**Pn**	**18 36 33.9**	**+0.5**
I17K	**Unalakleet**	**5.52**	**302**	Pn	**Pn**	**18 36 35.5**	**+0.1**
K15K	**Wolf Creek Mou**	**5.52**	**284**	Pn	**Pn**	**18 36 35.2**	**-0.3**
H17K	**Granite Mounta**	**5.72**	**313**	Pn	**Pn**	**18 36 38.6**	**+0.4**
M14K	**Bethel**	**5.83**	**269**	Pn	**Pn**	**18 36 39.5**	**-0.2**
G18K	**Tagagawik**	**5.93**	**323**	Pn	**Pn**	**18 36 40.8**	**-0.3**
O14K	**Tigyukauivet M**	**5.98**	**254**	Pn	**Pn**	**18 36 41.5**	**-0.2**
L14K	**Kuka Creek**	**6.08**	**275**	Pn	**Pn**	**18 36 43.8**	**+0.6**
F20K	**Avaraart Lake**	**6.20**	**339**	Pn	**Pn**	**18 36 45.4**	**+0.6**
P29M	**Windy Craggy**	**6.32**	**101**	Pn	**Pn**	**18 36 46.0**	**-0.5**
F19K	**Shaleruckik Mo**	**6.43**	**332**	Pn	**Pn**	**18 36 48.3**	**+0.4**
J14K	**Nanvaranak Lak**	**6.50**	**288**	Pn	**Pn**	**18 36 48.6**	**-0.3**
M13K	**Dall Lake**	**6.57**	**267**	Pn	**Pn**	**18 36 58.3**	**+0.4**
G16K	**Koyuk River**	**6.83**	**311**	Pn	**Pn**	**18 36 54.3**	**+0.8**
K13K	**Kusilvak Mount**	**6.99**	**281**	Pn	**Pn**	**18 36 55.3**	**-0.2**

*NEIC **30** 18:35:42.0±1.1, 61°.42N±0°.03×150°.03W±0°.05, h46km±4km, Error ellipse: s-maj=4.2km s-min=3.1km az=130.0*

AEIC 30 18:35:42.7±0.9, 61°.41N±0°.02×150°.04W±0°.06, h42km±5km, ML3.6, ML3.9/78(NEIC), Error ellipse: s-maj=5.0km s-min=2.1km az=123.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.34**	**280**		Pn	18 35 51.0	-0.8
SUA					Sn	18 35 58.3	+0.2
SUA	**Susitna One**	**0.34**	**280**	IAML		18 35 59.1	
	comp=E,2μm,0.7s						
SUA				IAML		18 35 59.8	
	comp=N,2μm,0.4s						
RC01	**Rabbit Creek A**	**0.35**	**155**		Pn	18 35 50.6	-1.1
RC01	**Rabbit Creek A**	**0.35**	**155**		Sn	18 35 57.8	-0.1
RC01	**Rabbit Creek A**	**0.35**	**155**	IAML		18 35 59.3	
	comp=N,3μm,0.3s						
RC01				IAML		18 36 01.6	
	comp=E,3μm,0.3s						
M22K	**Willow**	**0.35**	**354**		Pn	18 35 50.6	-1.0
M22K					Sn	18 35 58.1	+0.2
M22K	**Willow**	**0.35**	**354**	IAML		18 35 58.5	
	comp=E,8μm,0.6s						
M22K				IAML		18 36 02.2	
	comp=N,5μm,0.6s						
PMR	**Palmer**	**0.47**	**66**		Pn	18 35 52.1	-1.0
PMR					Sn	18 36 00.2	-0.3
GHO	**Glory Hole Cre**	**0.65**	**55**		Pn	18 35 54.6	-1.0
GHO					Sn	18 36 05.2	+0.4
KNK	**Knik Glacier**	**0.76**	**89**		Pn	18 35 56.4	-0.6
CAPN	**Captain Cook N**	**0.84**	**221**	Pn	Pn	18 35 59.2	+1.1
CAPN				IAML		18 36 33.1	
	comp=N,6μm,0.4s						
STLK	**Strandline Lak**	**0.87**	**277**		Pn	18 35 57.8	-0.8
STLK					Sn	18 36 09.9	-0.1
SLKM	**Skilak Lake**	**0.91**	**186**		Pn	18 35 58.1	-0.9
SML	**Sawmill**	**0.91**	**63**		Pn	18 35 58.6	-0.5
SKT	**Skwentna**	**0.92**	**310**	Pn	Pn	18 35 58.3	-0.9
O22K	**Cooper Landing**	**0.94**	**170**	Pn	Pn	18 35 58.7	-0.8
SPCG	**Spurr Capps Gl**	**0.96**	**264**		Pn	18 35 59.4	-0.5
SPCG					Sn	18 36 12.4	0.0
PWL	**Port Wells**	**0.99**	**123**		Pn	18 35 59.5	-0.7
CUT	**Chulitna**	**1.01**	**354**		Pn	18 35 59.6	-0.8
SPCR	**Spurr Chakacha**	**1.07**	**260**		Pn	18 36 00.5	-0.8
M20K	**Styx River**	**1.55**	**289**	Pn	Pn	18 36 08.1	+0.2
M20K				IAML		18 36 26.8	
	comp=E,2μm,0.7s						
M20K				IAML		18 36 46.7	
	comp=N,851nm,1.0s						
ILSW	**Iliamna Southw**	**2.09**	**228**	Pn	Pn	18 36 14.8	-0.6
M19K	**Big River Lodg**	**2.14**	**285**	Pn	Pn	18 36 15.4	-0.5
N19K	**Bonanza Creek**	**2.24**	**257**	Pn	Pn	18 36 17.6	+0.3
N19K				IAML		18 37 09.4	
	comp=E,395nm,0.7s						
P19K	**Oil Pt**	**2.36**	**223**	Pn	Pn	18 36 19.9	+0.9
L19K	**White Mountain**	**2.42**	**291**	Pn	Pn	18 36 19.5	-0.2
SVW2	**Sparrevohn**	**2.70**	**266**	Pn	Pn	18 36 22.7	-0.9
Q23K	**Middleton Isla**	**2.70**	**136**	Pn	Pn	18 36 23.3	-0.2
K20K	**Telida**	**2.71**	**318**	Pn	Pn	18 36 23.2	-0.6
N18K	**Kilae Creek**	**2.94**	**258**	Pn	Pn	18 36 26.3	-0.6
SYI	**Shuyak Island**	**3.04**	**204**	Pn	Pn	18 36 28.1	-0.2
TTA	**Tatalina**	**3.19**	**301**	Pn	Pn	18 36 29.7	-0.7
L18K	**Granite Mounta**	**3.26**	**287**	Pn	Pn	18 36 29.9	-1.4
M17K	**Holitna River**	**3.56**	**273**	Pn	Pn	18 36 34.6	-0.7
N17K	**Nushagak Hills**	**3.59**	**259**	Pn	Pn	18 36 35.0	-0.9
J19K	**Poorman**	**3.66**	**318**	Pn	Pn	18 36 36.5	-0.2
J18K	**Innoko River**	**3.73**	**307**	Pn	Pn	18 36 37.2	-0.5
I21K	**Tanana**	**3.89**	**348**	Pn	Pn	18 36 39.9	0.0
I20K	**Naaghedeneel**	**3.96**	**331**	Pn	Pn	18 36 40.9	+0.1
K17K	**Iditarod**	**4.11**	**292**	Pn	Pn	18 36 41.9	-1.0
MESA	**MESA**	**4.15**	**104**	Pn	Pn	18 36 42.4	-1.2
MESA				IAML		18 38 27.7	
	comp=E,185nm,0.6s						
MESA				IAML		18 38 44.5	
	comp=N,191nm,0.5s						
M16K	**Timber Creek**	**4.33**	**269**	Pn	Pn	18 36 45.5	-0.4
O16K	**Kokwok River B**	**4.38**	**249**	Pn	Pn	18 36 46.2	-0.4
TABL	**Table Mountain**	**4.45**	**99**	Pn	Pn	18 36 49.0	+1.3
TABL				IAML		18 38 25.4	
	comp=N,73nm,0.8s						
TABL				IAML		18 38 25.8	
	comp=E,103nm,0.8s						
L16K	**Owhat River**	**4.52**	**278**	Pn	Pn	18 36 47.5	-1.1
J16K	**Anvik River**	**5.27**	**296**	Pn	Pn	18 36 57.7	-1.1
BCPM	**Bancas Point**	**5.32**	**101**	Pn	Pn	18 36 58.7	-0.8
BCPM				IAML		18 38 40.5	
	comp=N,57nm,1.1s						
BCPM				IAML		18 38 50.4	
	comp=E,55nm,0.6s						

*NEIC **30** 18:35:59.6±1.0, 61°.49N±0°.02×149°.96W±0°.05, h44km±5km, Error ellipse: s-maj=3.5km s-min=2.5km az=118.0*
*AEIC **30** 18:36:00.5±0.8, 61°.48N±0°.02×149°.93W±0°.05, h39km±4km, ML3.8, ML3.9/170(NEIC), Error ellipse: s-maj=3.3km s-min=3.2km az=117.0*
*IDC **30** 18:36:04.3±1.2, 61°.72N×150°.01W, h102km±18km, mb3.5/5, mbtmp3.9/10, Error ellipse: s-maj=29.8km s-min=9.8km az=115.0*

ISC 30 18:35:59.3±0.7, 61°.47N±0°.03×149°.98W±0°.03, h42km, n141, σ1§02/142, mb4.0/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.29**	**346**		Pn	**18 36 07.9**	**+0.2**
M22K					Sn	**18 36 14.7**	**+1.2**
M22K	**Willow**	**0.29**	**346**	IAML		18 36 15.2	
	comp=N,13μm,0.6s						
M22K				IAML		18 36 19.1	
	comp=E,12μm,0.5s						
SUA	**Susitna One**	**0.37**	**270**	Pn	Pn	**18 36 09.1**	**+0.4**
SUA				Sn	Sn	**18 36 16.8**	**+1.6**
SUA				IAML		18 36 17.2	
	comp=N,11μm,0.7s						
SUA				IAML		18 36 17.4	
	comp=E,11μm,0.8s						
RC01	**Rabbit Creek A**	**0.40**	**163**	Pn	Pn	**18 36 08.3**	**-0.5**
RC01	**Rabbit Creek A**	**0.40**	**163**		Sn	**18 36 16.7**	**+1.2**
RC01	**Rabbit Creek A**	**0.40**	**163**	IAML		18 36 17.7	
	comp=N,12μm,0.3s						
RC01				IAML		18 36 18.0	
	comp=E,9μm,0.2s						
PMR	**Palmer**	**0.42**	**72**	Pn	Pn	**18 36 08.5**	**-0.6**
PMR				Sn	Sn	**18 36 16.3**	**+0.3**
PMR				IAML		18 36 16.9	
	comp=N,7μm,0.4s						
PMR				IAML		18 36 16.9	
	comp=E,6μm,0.6s						
GHO	**Glory Hole Cre**	**0.59**	**58**		Pn	**18 36 10.9**	**-0.5**
GHO	**Glory Hole Cre**	**0.59**	**58**		Sn	**18 36 20.3**	**+0.4**
KNK	**Knik Glacier**	**0.73**	**94**		Sn	**18 36 24.7**	**+1.4**
KNK	**Knik Glacier**	**0.73**	**94**	Pn	Pn	**18 36 13.1**	**-0.1**
KNK	**Knik Glacier**	**0.73**	**94**	IAML		18 36 26.8	
	comp=N,8μm,0.6s						
KNK				IAML		18 36 26.8	
	comp=E,5μm,0.5s						
SML	**Sawmill**	**0.86**	**66**	Pn	Pn	**18 36 15.0**	**+0.1**
SML				IAML		18 36 29.3	
	comp=N,6μm,0.8s						
SML				IAML		18 36 29.5	
	comp=E,5μm,0.8s						
STLK	**Strandline Lak**	**0.89**	**273**		Pn	**18 36 16.0**	**+0.6**
STLK					Sn	**18 36 28.3**	**+1.1**
SKT	**Skwentna**	**0.90**	**305**	Pn	Pn	**18 36 15.5**	**0.0**
CAPN	**Captain Cook N**	**0.91**	**220**		Pn	**18 36 16.9**	**+1.4**
CUT	**Chulitna**	**0.95**	**352**		Pn	**18 36 15.3**	**-0.8**
SLKM	**Skilak Lake**	**0.97**	**187**		Pn	**18 36 16.9**	**+0.5**
O22K	**Cooper Landing**	**1.00**	**173**	Pn	Pn	**18 36 17.1**	**+0.3**
SPCG	**Spurr Capps Gl**	**1.00**	**261**		Pn	**18 36 17.8**	**+0.8**
PWL	**Port Wells**	**1.00**	**127**	Pn	Pn	**18 36 16.5**	**-0.4**
SPCR	**Spurr Chakacha**	**1.11**	**257**		Pn	**18 36 19.2**	**+0.8**
M23K	**Glacier View**	**1.12**	**72**		Pn	**18 36 18.7**	**+0.1**
SCM	**Sheep Creek Mo**	**1.32**	**73**	Pn	Pn	**18 36 21.4**	**+0.1**
SEW	**Seward**	**1.39**	**169**		Pn	**18 36 22.5**	**+0.3**
WAT7	**Susitna Watana**	**1.47**	**21**		Pn	**18 36 23.9**	**+0.5**
RDT	**Redoubt**	**1.48**	**234**		Pn	**18 36 24.4**	**+0.9**
GLI	**Glacier Island**	**1.52**	**112**	Pn	Pn	**18 36 23.6**	**-0.3**
GLI				IAML		18 37 24.8	
	comp=N,2μm,0.3s						
WAT1	**Susitna Watana**	**1.52**	**25**		Pn	**18 36 24.3**	**+0.2**
M20K	**Styx River**	**1.56**	**287**		Pn	**18 36 25.6**	**+0.9**
RDJH	**Redoubt Jeurge**	**1.63**	**239**		Pn	**18 36 26.4**	**+0.7**
RED	**Redoubt Volcan**	**1.72**	**234**		Pn	**18 36 27.7**	**+0.8**
BRLK	**Bradley Lake**	**1.77**	**195**	Pn	Pn	**18 36 27.9**	**+0.5**
BRLK				IAML		18 36 55.1	
	comp=E,2μm,0.5s						
BRSE	**Bradley Lake S**	**1.77**	**193**		Pn	**18 36 28.4**	**+1.0**
M24K	**Tolsona, Glenn**	**1.92**	**69**	Pn	Pn	**18 36 29.7**	**+0.2**
KLU	**Klutina**	**1.94**	**87**	Pn	Pn	**18 36 30.1**	**+0.3**
KLU				IAML		18 37 04.6	
	comp=E,669nm,0.6s						
KLU				IAML		18 37 06.8	
	comp=N,970nm,0.5s						
HOM	**Homer**	**1.99**	**205**	Pn	Pn	**18 36 31.2**	**+0.8**
RND	**Reindeer**	**2.02**	**15**	Pn	Pn	**18 36 31.1**	**+0.3**
DHY	**Denali Highway**	**2.02**	**36**	Pn	Pn	**18 36 31.6**	**+0.6**
DHY				IAML		18 37 43.5	
	comp=E,944nm,0.5s						
DHY				IAML		18 37 44.0	
	comp=N,841nm,0.7s						
CNPM	**China Poot**	**2.05**	**198**	Pn	Pn	**18 36 31.5**	**+0.3**
CNPM				IAML		18 37 38.6	
	comp=N,1μm,0.4s						
KTH	**Kantishna Hill**	**2.14**	**349**	Pn	Pn	**18 36 32.6**	**+0.1**
KTH				IAML		18 37 00.0	
	comp=E,733nm,0.6s						
KTH				IAML		18 37 00.6	
	comp=N,1μm,0.5s						
M19K	**Big River Lodg**	**2.15**	**284**	Pn	Pn	**18 36 33.2**	**+0.6**
ILSW	**Iliamna Southw**	**2.15**	**228**	Pn	Pn	**18 36 33.9**	**+1.1**
ILSW				IAML		18 37 02.2	
	comp=E,706nm,0.7s						
CAST	**Castle Rocks**	**2.19**	**334**	Pn	Pn	**18 36 34.1**	**+0.9**
CAST				IAML		18 37 05.3	
	comp=N,548nm,0.6s						
CAST				IAML		18 37 15.2	
	comp=E,552nm,0.6s						
N19K	**Bonanza Creek**	**2.28**	**255**	Pn	Pn	**18 36 34.9**	**+0.4**
L19K	**White Mountain**	**2.42**	**289**	Pn	Pn	**18 36 37.0**	**+0.5**
BPAW	**Bear Paw Mtn.**	**2.68**	**350**		Pn	**18 36 40.0**	**+0.1**
BPAW				IAML		18 37 31.2	
	comp=E,328nm,0.6s						
K20K	**Telida**	**2.69**	**317**	Pn	Pn	**18 36 40.3**	**+0.3**
K20K				IAML		18 37 19.6	
	comp=N,408nm,0.6s						
Q23K	**Middleton Isla**	**2.72**	**137**	Pn	Pn	**18 36 40.0**	**-0.4**
Q23K				IAML		18 37 34.4	
	comp=E,494nm,0.8s						
Q23K				IAML		18 37 36.3	
	comp=N,584nm,0.7s						
BWN	**Browne**	**2.73**	**5**		Pn	**18 36 39.7**	**-0.8**
SVW2	**Sparrevohn**	**2.73**	**265**		Pn	**18 36 40.7**	**+0.1**
GLB	**Gilahina Butte**	**2.96**	**88**	Pn	Pn	**18 36 43.6**	**-0.2**
GLB				IAML		18 37 30.4	
	comp=N,422nm,0.6s						
N18K	**Kilae Creek**	**2.98**	**257**	Pn	Pn	**18 36 44.1**	**0.0**
SYI	**Shuyak Island**	**3.11**	**204**		Pn	**18 36 46.9**	**+1.1**
SYI				IAML		18 37 35.3	
	comp=N,382nm,0.7s						
WRH	**Wood River Hil**	**3.14**	**15**		Pn	**18 36 46.0**	**-0.1**
WRH				IAML		18 37 38.6	
	comp=E,245nm,0.9s						
WRH				IAML		18 37 40.4	
	comp=N,255nm,0.7s						
VRDI	**Verde Repeater**	**3.15**	**92**		Pn	**18 36 47.1**	**+0.6**
NEA2	**Nenana**	**3.17**	**7**		Pn	**18 36 45.6**	**-0.9**
TTA	**Tatalina**	**3.19**	**300**	Pn	Pn	**18 36 46.9**	**0.0**
TTA				IAML		18 37 37.6	
	comp=N,249nm,1.3s						
BERG	**Berg Lake**	**3.25**	**107**		Pn	**18 36 47.9**	**+0.2**
HDA	**Harding Lake**	**3.26**	**24**		Pn	**18 36 48.6**	**+0.7**
HDA				IAML		18 37 37.8	
	comp=N,349nm,0.4s						
HDA				IAML		18 37 47.8	
	comp=E,274nm,0.6s						
L18K	**Granite Mounta**	**3.27**	**286**	Pn	Pn	**18 36 48.0**	**0.0**
MENT	**Mentasta**	**3.28**	**61**		Pn	**18 36 49.0**	**+0.8**
RIDG	**Independent Ri**	**3.29**	**44**		Pn	**18 36 49.0**	**+0.7**
J20K	**Nowinta River**	**3.33**	**327**	Pn	Pn	**18 36 49.9**	**+1.2**
J20K				IAML		18 37 29.7	
	comp=E,429nm,0.4s						
P18K	**Big Mountain,**	**3.33**	**234**	Pn	Pn	**18 36 48.7**	**-0.2**
CCB	**Clear Creek Bu**	**3.34**	**16**		Pn	**18 36 49.5**	**+0.6**
CCB				IAML		18 37 44.1	
	comp=E,209nm,0.9s						
MCARA	**McCarthy VSAT**	**3.34**	**88**		Pn	**18 36 49.0**	**+0.1**
SUCK	**Suckling Hills**	**3.35**	**112**	Pn	Pn	**18 36 50.3**	**+1.2**
SUCK				IAML		18 37 45.8	
	comp=N,343nm,0.7s						
M26K	**Nabesna, AK**	**3.43**	**71**		Pn	**18 36 51.8**	**+1.6**
M26K				IAML		18 37 47.3	
	comp=N,392nm,0.5s						
M26K				IAML		18 37 48.2	
	comp=E,364nm,0.6s						
COLA	**College**	**3.55**	**15**	Pn	Pn	**18 36 52.5**	**+0.7**
M17K	**Holitna River**	**3.59**	**272**	Pn	Pn	**18 36 52.1**	**-0.2**
M17K				IAML		18 37 58.6	
	comp=N,376nm,0.8s						
MLY	**Manley**	**3.59**	**355**		Pn	**18 36 52.5**	**0.0**
IL31		**3.60**	**22**		Pn	**18 36 53.3**	**+0.8**
ILAR	**Eielson Array**	**3.60**	**22**		Pn	**18 36 53.6**	**+1.1**
ILAR	**Eielson Array**	**3.60**	**22**	P	Pn	**18 36 53.8**	**+1.2**
	comp=N,23nm,0.3s,baz=194,slow=14,SNR=9.4						
ILAR				S	Sn	**18 37 35.0**	**+1.2**
	comp=N,57nm,0.7s,baz=206,slow=22,SNR=4.2						
J19K	**Poorman**	**3.63**	**317**	Pn	Pn	**18 36 51.6**	**-1.3**
J19K				IAML		18 37 51.3	
	comp=N,275nm,0.6s						
N17K	**Nushagak Hills**	**3.64**	**258**	Pn	Pn	**18 36 53.2**	**+0.2**
N17K				IAML		18 37 55.4	
	comp=N,155nm,0.8s						
I23K	**Minto, Yukon-K**	**3.71**	**4**		Pn	**18 36 54.3**	**+0.4**
J18K	**Innoko River**	**3.72**	**306**	Pn	Pn	**18 36 54.2**	**0.0**
J18K				IAML		18 37 38.1	
	comp=N,291nm,0.7s						
SCRK	**Sand Creek**	**3.73**	**45**		Pn	**18 36 53.7**	**-0.8**
SCRK				IAML		18 37 53.3	
	comp=N,184nm,0.8s						
SCRK				IAML		18 38 38.4	
	comp=E,226nm,0.6s						
J25K	**Salcha River,**	**3.79**	**32**	Pn	Pn	**18 36 56.6**	**+1.5**
J25K				IAML		18 37 47.3	
	comp=E,307nm,0.6s						
J25K				IAML		18 37 48.2	
	comp=N,225nm,0.6s						
I21K	**Tanana**	**3.84**	**347**		Pn	**18 36 56.1**	**+0.4**
I21K				IAML		18 37 56.8	
	comp=E,141nm,0.7s						
POKR	**Poker Plat Res**	**3.84**	**16**		Pn	**18 36 55.9**	**+0.1**
POKR				IAML		18 38 00.4	
	comp=E,175nm,0.8s						
I20K	**Naaghedeneel**	**3.92**	**331**	Pn	Pn	**18 36 57.6**	**+0.8**
KDAK	**Kodiak Island**	**3.93**	**201**		Pn	**18 36 57.4**	**+0.4**
KDAK				IAML		18 38 00.1	
	comp=E,197nm,0.8s						
KDAK	**Kodiak Island**	**3.93**	**201**	P	Pn	18 37 04.3	+7.3
	comp=E,34nm,0.3s,baz=256,slow=12,SNR=6.0						
KDAK				S	Sn	18 37 54.4	+13
	comp=E,100nm,0.5s,baz=125,slow=14,SNR=3.7						
GRNC	**Granite Creek**	**4.06**	**97**	Pn	Pn	**18 36 59.0**	**0.0**
GRNC				IAML		18 38 14.4	
	comp=E,110nm,0.8s						
K17K	**Iditarod**	**4.11**	**291**	Pn	Pn	**18 36 59.8**	**+0.3**
K17K				IAML		18 38 07.6	
	comp=N,183nm,0.7s						
CTGM	**Chitina Glacie**	**4.21**	**93**		Pn	**18 37 00.9**	**-0.1**
J26L	**Joseph Creek**	**4.22**	**41**		Pn	**18 37 00.9**	**-0.2**
J26L				IAML		18 37 56.4	
	comp=E,191nm,0.6s						
M16K	**Timber Creek**	**4.36**	**268**	Pn	Pn	**18 37 03.2**	**+0.3**
M16K				IAML		18 38 59.9	
	comp=N,89nm,1.5s						
H23K	**Yukon River**	**4.38**	**2**	Pn	Pn	**18 37 03.2**	**0.0**
H21K	**Melozitna Rive**	**4.39**	**345**	Pn	Pn	**18 37 03.1**	**-0.3**
O16K	**Kokwok River B**	**4.43**	**248**	Pn	Pn	**18 37 04.0**	**+0.2**
O16K				IAML		18 38 17.7	
	comp=E,86nm,0.9s						
H24K	**Noodor Dome**	**4.49**	**11**		Pn	**18 37 05.5**	**+0.8**
PRP	**Porcupine Dome**	**4.53**	**24**	Pn	Pn	**18 37 05.0**	**-0.4**
PRP				IAML		18 38 06.2	
	comp=N,167nm,0.5s						
PRP				IAML		18 38 06.7	
	comp=E,105nm,0.5s						
L16K	**Owhat River**	**4.55**	**277**	Pn	Pn	**18 37 05.6**	**+0.1**
OHAK	**Old Harbor**	**4.58**	**203**	Pn	Pn	**18 37 05.9**	**-0.1**
OHAK				IAML		18 38 17.3	
	comp=E,115nm,1.0s						
J17K	**VABM Dome**	**4.65**	**299**	Pn	Pn	**18 37 06.8**	**-0.1**
J17K				IAML		18 38 27.1	
	comp=N,94nm,1.1s						
IMAR	**Indian Mountai**	**4.83**	**341**		Pn	**18 37 09.4**	**0.0**
H19K	**Roundabout Mou**	**5.00**	**327**	Pn	Pn	**18 37 12.1**	**+0.5**
H19K				IAML		18 38 42.6	
	comp=E,95nm,1.5s						
PLK4	**Peulik 4**	**5.03**	**223**	Pn	Pn	**18 37 14.1**	**+1.8**
PLK4				IAML		18 38 59.6	
	comp=N,113nm,1.0s						
N15K	**Kwethluk River**	**5.12**	**260**	Pn	Pn	**18 37 13.8**	**+0.4**
EGAK	**Eagle**	**5.20**	**46**	Pn	Pn	**18 37 14.2**	**-0.2**
G23K	**Bananza Creek**	**5.26**	**360**		Pn	**18 37 15.2**	**-0.1**
J16K	**Anvik River**	**5.27**	**295**	Pn	Pn	**18 37 15.0**	**-0.4**
G21K	**Allakaket**	**5.30**	**345**	Pn	Pn	**18 37 16.5

NNA	**Nana**	**2.78**	**260**	Pn	**Pn**	**18 37 12.8**	**+3.8**
	66nm,0.3s,baz=73,slow=12,SNR=44						
NNA				Lg	Lg	18 37 51.8	
	43nm,0.3s,baz=214,slow=16,SNR=6.4						
	238nm,0.6s						
CZSB	**Cruzeiro do Su**	**3.97**	**20**		**Pn**	**18 37 26.0**	**+0.6**
CZSB				Sn	**Sn**	**18 38 13.8**	**+1.7**
CZSB	**Cruzeiro do Su**	**3.97**	**20**	*eP*	**Pn**	**18 37 26.5**	**+1.1**
CZSB				*eS*	**Sn**	**18 38 13.6**	**+1.5**
ATAH	**Atahualpa**	**6.10**	**315**	Pn	**Pn**	**18 37 57.2**	**+2.2**
	3.4nm,0.3s,baz=134,slow=13,SNR=19						
ATAH				Sn	**Sn**	**18 39 08.3**	**+3.2**
	baz=285,slow=21						
	46nm,0.7s						
LPAZ	**La Paz**	**7.46**	**130**	Pn	**Pn**	**18 38 13.2**	**-0.6**
LPAZ	**La Paz**	**7.46**	**130**	Pn	**Pn**	**18 38 11.2**	**-2.7**
	0.1nm,0.3s,baz=337,slow=8.2,SNR=1.7						
LPAZ				Lg	Lg	18 40 16.1	
	1.3nm,0.3s,baz=130,slow=8.4,SNR=4.8						
	0.9nm,0.5s						
LPAZ	**La Paz**	**7.46**	**130**	*eP*	**Pn**	**18 38 14.7**	**+0.9**
LPAZ				*eS*	**Sn**	**18 39 42.0**	**+3.1**
ETMB	**Extrema**	**7.88**	**78**	Pn	**Pn**	**18 38 18.1**	**-1.0**
ETMB	**Extrema**	**7.88**	**78**	*eP*	**Pn**	**18 38 20.0**	**+0.9**
ETMB				*eS*	**Sn**	**18 39 50.3**	**+1.9**
TBTG	**Tabatinga, AM**	**8.34**	**30**		**Pn**	**18 38 26.6**	**+1.1**
TBTG	**Tabatinga, AM**	**8.34**	**30**	*eP*	**Pn**	**18 38 25.2**	**-0.2**
TBTG				*eS*	**Sn**	**18 39 57.9**	**-1.9**
COHC	**Cochancay**	**10.36**	**330**		**Pn**	**18 38 53.4**	**+0.3**
SAML	**Samuel**	**10.99**	**78**		**Pn**	**18 38 59.2**	**-2.6**
SIV	**San Ignacio**	**13.37**	**111**	Pn	Pn	18 39 30.1	-4.2
	baz=299,slow=15,SNR=5.4						
SIV				Sn	Sn	18 41 52.1	-11
	baz=242,slow=18,SNR=2.1						
SIV				Lg	Lg	18 43 20.7	
	0.1nm,0.3s,baz=15,slow=18,SNR=4.9						
	1.1nm,0.4s						
VILB	**Vilhena**	**13.61**	**98**	*eP*	**Pn**	**18 39 38.9**	**+1.3**
VILB				*eS*	**Sn**	**18 42 09.6**	**+0.5**
BBSD	**Serra de San D**	**14.19**	**115**	*eP*	**Pn**	**18 39 48.1**	**+2.6**
BBSD				*eS*	**Sn**	**18 42 25.5**	**+2.3**
PTLB	**Pontes e Lacer**	**15.02**	**107**		**Pn**	**18 39 54.5**	**-2.3**
MACA	**Manacapuru-AM**	**15.62**	**59**	*eP*	**Pn**	**18 40 04.5**	**-0.3**
ROSC	**El Rosal**	**16.24**	**359**	Lg	Lg	18 44 58.1	
	1.1nm,0.3s,baz=264,slow=23,SNR=1.3						
NPGB	**Novo Progresso**	**18.96**	**78**	*eP*	**P**	**18 40 46.7**	**+0.7**
NPGB				*eS*	**Sn**	**18 44 21.2**	**+2.0**
BOAV	**Boa Vista**	**19.27**	**45**	P	**P**	**18 40 47.2**	**-2.1**
BOAV	**Boa Vista**	**19.27**	**45**	*eP*	**P**	**18 40 49.8**	**+0.4**
BOAV				*eS*	**Sn**	**18 44 26.6**	**-0.1**
BAUV	**El Baul**	**21.17**	**17**	P	**P**	**18 41 10.8**	**+0.8**
BAUV				IAmb	IAmb	18 41 33.6	
	comp=Z,22nm,1.2s						
CPUP	**Villa Florida**	**21.59**	**135**	P	**P**	**18 41 13.2**	**-1.1**
	comp=Z,1.8nm,0.7s,baz=313,slow=12,SNR=3.3						
	comp=Z,1.8nm,0.7s						
PEL	**Peldehue**	**21.76**	**172**	P	**P**	**18 41 15.8**	**-0.5**
PEL				IAmb	IAmb	18 41 18.3	
	comp=Z,20nm,1.1s						
BRU2	**Volcan**	**21.92**	**337**	P	**P**	**18 41 19.0**	**+0.8**
MT08	**Bocatoma Ro**	**22.15**	**171**	P	**P**	**18 41 18.9**	**-1.7**
MT08				IAmb	IAmb	18 41 23.9	
	comp=Z,15nm,1.1s						
LMEL	**Las Melosas**	**22.52**	**172**	P	**P**	**18 41 24.8**	**+0.3**
LMEL				IAmb	IAmb	18 41 27.0	
	comp=Z,19nm,1.3s						
BDFB	**Brasilia**	**25.63**	**102**	P	**P**	**18 41 53.0**	**-1.4**
BDFB	**Brasilia**	**25.63**	**102**	P	**P**	**18 41 53.6**	**-0.8**
	comp=Z,3.5nm,0.6s,baz=267,slow=13,SNR=5.9						
BDFB				Lg	Lg	18 49 50.3	
	comp=Z,0.3nm,0.3s,baz=3.1,slow=14,SNR=3.6						
AOPR	**Arecibo Observ**	**30.52**	**14**	P	**P**	**18 42 37.1**	**-0.8**
TXAR	**Lajitas Array**	**49.65**	**326**	P	**P**	**18 45 15.4**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=165,slow=6.5,SNR=3.9						
	comp=Z,0.7nm,0.5s						
DUG	**Dugway, Tooele**	**62.74**	**327**	P	**P**	**18 46 49.8**	**-0.1**
DUG				IAmb	IAmb	18 46 52.0	
	comp=Z,4.2nm,1.0s						
PDAR	**Pinedale Array**	**63.03**	**331**	P	**P**	**18 46 51.4**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=114,slow=10,SNR=1.7						
	comp=Z,0.2nm,0.5s						
ULM	**Lac du Bonnet**	**64.39**	**345**	P	**P**	**18 46 59.1**	**-1.3**
	comp=Z,2.3nm,0.5s,baz=126,slow=3.4,SNR=4.0						
	comp=Z,2.3nm,0.5s						
NVAR	**Mina Array Bea**	**64.61**	**323**	P	**P**	**18 47 02.1**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=96,slow=6.4,SNR=2.4						
	comp=Z,0.7nm,0.8s						
YNE	**Yellowstone No**	**64.97**	**333**	P	**P**	**18 47 04.6**	**0.0**
YNE				IAmb	IAmb	18 47 05.9	
	comp=Z,4.6nm,1.1s						
YHL	**Hebgen Lake**	**65.38**	**332**	P	**P**	**18 47 07.1**	**-0.3**
MFID	**Camas Ranch**	**66.61**	**328**	P	**P**	**18 47 14.9**	**-0.2**
MFID				IAmb	IAmb	18 47 17.2	
	comp=Z,4.1nm,0.8s						
SNAA	**Sanae**	**73.27**	**162**	P	**P**	**18 47 53.7**	**-1.9**
	comp=Z,3.0nm,1.0s,baz=323,slow=4.1,SNR=7.0						
	comp=Z,3.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**79.02**	**74**	P	P	18 48 26.4	-2.9
	comp=Z,4.7nm,0.9s,baz=277,slow=5.3,SNR=21						
	comp=Z,4.7nm,0.9s						
YKA	**Yellowknife Ar**	**80.19**	**342**	P	**P**	**18 48 34.2**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=140,slow=5.4,SNR=19						
	comp=Z,1.9nm,0.8s						
ISOG	**Isortoq, Green**	**81.15**	**14**	*i* P	**P**	**18 48 41.0**	**+1.3**
ISOG				IAmb	IAmb	18 48 42.7	
	comp=Z,79nm,1.0s						
ICESG	**Greenland Ices**	**83.95**	**12**	*i* P	**P**	**18 48 53.6**	**-1.1**
SUMG	**Summit**	**87.06**	**10**	P	**P**	**18 49 09.1**	**-1.1**
SUMG	**Summit**	**87.06**	**10**	*i* P	**P**	**18 49 09.0**	**-1.2**
NEEM	**North Greenlan**	**89.77**	**5**	*i* P	**P**	**18 49 22.6**	**-0.2**
KSRS	**Korea Array**	**147.50**	**326**	PKPbc	**PKPdf**	**18 56 07.4**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=22,slow=1.3,SNR=5.6						

*NEIC **30** 18:36:37.7±1.1, 61°.44N±0°.03×150°.09W±0°.04, h42km±4km, Error ellipse: s-maj=4.2km s-min=2.6km az=154.0*
*AEIC **30** 18:36:38.4±1.1, 61°.41N±0°.02×150°.09W±0°.05, h39km±1km, ML3.8, ML3.8/92(NEIC), Error ellipse: s-maj=3.5km s-min=2.7km az=89.0*

ISC 30 18:36:38.2±1.7, 61°.41N±0°.03×150°.09W±0°.02, h36km±1km, n90, σ0^{s}63/97, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.32**	**280**		**Pn**	**18 36 46.3**	**-0.3**
SUA					**Sn**	**18 36 53.3**	**-0.1**
SUA	**Susitna One**	**0.32**	**280**	IAML		18 36 53.7	
	comp=E,17μm,0.7s						
SUA				IAML		18 36 54.2	
	comp=N,10μm,0.8s						
SUA	**Susitna One**	**0.32**	**280**	P	**Pn**	**18 36 46.3**	**-0.3**
	baz=100						
SUA				S	**Sn**	**18 36 53.3**	**-0.1**
	baz=100						
M22K	**Willow**	**0.34**	**357**		**Pn**	**18 36 46.1**	**-0.5**
M22K					**Sn**	**18 36 53.6**	**+0.4**
M22K	**Willow**	**0.34**	**357**	P	**Pn**	**18 36 46.1**	**-0.5**
	baz=178						
M22K				S	**Sn**	**18 36 53.6**	**+0.4**
	baz=178						
RC01	**Rabbit Creek A**	**0.36**	**152**		**Pn**	**18 36 46.2**	**-0.6**
RC01					**Sn**	**18 36 53.2**	**-0.2**
RC01	**Rabbit Creek A**	**0.36**	**152**	IAML		18 36 53.5	
	comp=N,10μm,0.3s						
RC01				IAML		18 36 58.3	
	comp=E,7μm,0.2s						
RC01	**Rabbit Creek A**	**0.36**	**152**	P	**Pn**	**18 36 46.2**	**-0.6**
	baz=332						
RC01				S	**Sn**	**18 36 53.2**	**-0.2**
	baz=332						
PMR	**Palmer**	**0.49**	**68**		**Pn**	**18 36 47.9**	**-0.7**
PMR					**Sn**	**18 36 56.2**	**+0.2**
PMR	**Palmer**	**0.49**	**68**	IAML		18 36 56.7	
	comp=N,9μm,0.5s						
PMR				IAML		18 36 57.1	
	comp=E,7μm,0.5s						
PMR	**Palmer**	**0.49**	**68**	P	**Pn**	**18 36 47.9**	**-0.7**
	baz=249						
PMR				S	**Sn**	**18 36 56.2**	**+0.2**
	baz=249						
GHO	**Glory Hole Cre**	**0.66**	**56**		**Pn**	**18 36 50.5**	**-0.8**
GHO					**Sn**	**18 37 00.8**	**+0.4**
KNK	**Knik Glacier**	**0.78**	**89**		**Pn**	**18 36 52.1**	**-0.6**
KNK	**Knik Glacier**	**0.78**	**89**	IAML		18 37 07.8	
	comp=E,3μm,0.3s						
KNK				IAML		18 37 07.9	
	comp=N,4μm,0.3s						
KNK	**Knik Glacier**	**0.78**	**89**	P	**Pn**	**18 36 52.1**	**-0.6**
	baz=270						
CAPN	**Captain Cook N**	**0.83**	**219**	Pn	**Pn**	**18 36 53.5**	**+0.2**
STLK	**Strandline Lak**	**0.84**	**277**		**Pn**	**18 36 53.3**	**-0.3**
STLK					**Sn**	**18 37 05.0**	**+0.2**
SKT	**Skwentna**	**0.90**	**310**		**Sn**	**18 37 06.2**	**+0.2**
SKT	**Skwentna**	**0.90**	**310**	Pn	**Pn**	**18 36 53.4**	**-0.9**
SKT	**Skwentna**	**0.90**	**310**	IAML		18 37 06.9	
	comp=E,4μm,0.6s						
SKT				IAML		18 37 07.3	
	comp=N,7μm,0.4s						
SKT	**Skwentna**	**0.90**	**310**	S	**Sn**	**18 37 06.2**	**+0.2**
	baz=129						
SLKM	**Skilak Lake**	**0.91**	**184**		**Pn**	**18 36 53.9**	**-0.5**
SML	**Sawmill**	**0.93**	**64**		**Pn**	**18 36 53.9**	**-0.9**
SML	**Sawmill**	**0.93**	**64**	IAML		18 37 09.7	
	comp=N,2μm,0.6s						
SML				IAML		18 37 10.8	
	comp=E,3μm,0.7s						
SML	**Sawmill**	**0.93**	**64**	P	**Pn**	**18 36 53.9**	**-0.9**
	baz=245						
SPCG	**Spurr Capps Gl**	**0.94**	**264**		**Pn**	**18 36 54.5**	**-0.5**
SPCG					**Sn**	**18 37 07.6**	**+0.3**
O22K	**Cooper Landing**	**0.95**	**169**	Pn	**Pn**	**18 36 54.2**	**-0.7**
CUT	**Chulitna**	**1.00**	**355**	Pn	**Pn**	**18 36 55.4**	**-0.3**
CUT				IAML		18 37 11.4	
	comp=N,4μm,0.7s						
CUT				IAML		18 37 21.6	
	comp=E,3μm,0.6s						
SPCP	**Crater Peak Br**	**1.01**	**263**		**Pn**	**18 36 55.6**	**-0.3**
SPCP					**Sn**	**18 37 09.6**	**+0.7**
PWL	**Port Wells**	**1.01**	**122**		**Pn**	**18 36 55.4**	**-0.4**
PWL	**Port Wells**	**1.01**	**122**	P	**Pn**	**18 36 55.4**	**-0.4**
	baz=304						
N20K	**Mount Spurr**	**1.05**	**259**	P	**Pn**	**18 36 55.6**	**-0.8**
	baz=78						
N20K				S	**Sn**	**18 37 09.7**	**-0.1**
	baz=78						
SPCR	**Spurr Chakacha**	**1.05**	**259**		**Pn**	**18 36 55.5**	**-0.9**
SPCR					**Sn**	**18 37 09.7**	**-0.1**
SPCR	**Spurr Chakacha**	**1.05**	**259**		**Pn**	**18 36 55.5**	**-0.9**
SPCR	**Spurr Chakacha**	**1.05**	**259**	P	**Pn**	**18 36 55.5**	**-0.9**
	baz=78						
M23K	**Glacier View**	**1.19**	**70**		**Pn**	**18 36 58.4**	**0.0**
M23K	**Glacier View**	**1.19**	**70**	P	**Pn**	**18 36 58.4**	**0.0**
	baz=252						
SEW	**Seward**	**1.35**	**166**		**Pn**	**18 37 01.1**	**+0.7**
SEW	**Seward**	**1.35**	**166**	P	**Pn**	**18 37 01.1**	**+0.7**
	baz=347						
SCM	**Sheep Creek Mo**	**1.39**	**71**		**Pn**	**18 37 01.2**	**+0.1**
SCM	**Sheep Creek Mo**	**1.39**	**71**	IAML		18 37 21.2	
	comp=N,2μm,0.8s						
SCM	**Sheep Creek Mo**	**1.39**	**71**	P	**Pn**	**18 37 01.2**	**+0.1**
	baz=253						
RDT	**Redoubt**	**1.41**	**234**		**Pn**	**18 37 00.6**	**-0.8**
M20K	**Styx River**	**1.53**	**289**	Pn	**Pn**	**18 37 03.6**	**+0.5**
M20K				IAML		18 37 25.1	
	comp=N,1μm,0.8s						
M20K				IAML		18 37 27.4	
	comp=E,938nm,0.6s						
GLI	**Glacier Island**	**1.54**	**109**		**Pn**	**18 37 02.5**	**-0.6**
GLI	**Glacier Island**	**1.54**	**109**	P	**Pn**	**18 37 02.5**	**-0.6**
	baz=291						
RDJH	**Redoubt Jeurge**	**1.56**	**239**		**Pn**	**18 37 02.9**	**-0.6**
RED	**Redoubt Volcan**	**1.65**	**234**		**Pn**	**18 37 04.0**	**-0.7**
BRLK	**Bradley Lake**	**1.70**	**194**	Pn	**Pn**	**18 37 04.5**	**-0.7**
BRLK				IAML		18 37 30.5	
	comp=N,1μm,0.5s						
BRLK				IAML		18 37 30.7	
	comp=E,1μm,0.4s						
FID	**Port Fidalgo**	**1.87**	**109**	Pn	**Pn**	**18 37 07.3**	**-0.4**
FID				IAML		18 37 37.3	
	comp=E,1μm,0.4s						
FID				IAML		18 37 38.3	
	comp=N,1μm,0.6s						
KLU	**Klutina**	**2.00**	**86**	Pn	**Pn**	**18 37 09.6**	**+0.1**
KLU				IAML		18 37 41.0	
	comp=E,632nm,0.6s						
KLU				IAML		18 37 41.8	
	comp=N,866nm,0.6s						
M19K	**Big River Lodg**	**2.11**	**285**	Pn	**Pn**	**18 37 10.2**	**-0.7**
N19K	**Bonanza Creek**	**2.22**	**256**	Pn	**Pn**	**18 37 12.2**	**-0.3**
L19K	**White Mountain**	**2.39**	**291**	Pn	**Pn**	**18 37 15.1**	**+0.2**
N25K	**Chitina, Valde**	**2.64**	**83**	Pn	**Pn**	**18 37 16.3**	**-1.9**
N25K				IAML		18 38 00.2	
	comp=N,406nm,0.5s						
N25K				IAML		18 38 02.6	
	comp=E,273nm,0.4s						
SVW2	**Sparrevohn**	**2.67**	**266**	Pn	**Pn**	**18 37 18.1**	**-0.6**
K20K	**Telida**	**2.69**	**318**	Pn	**Pn**	**18 37 17.1**	**-1.9**
N18K	**Kilae Creek**	**2.92**	**258**	Pn	**Pn**	**18 37 21.4**	**-0.7**
N18K				IAML		18 37 56.0	
	comp=E,206nm,0.6s						
SYI	**Shuyak Island**	**3.04**	**203**	Pn	**Pn**	**18 37 22.9**	**-0.8**
SYI				IAML		18 38 06.6	
	comp=N,288nm,0.7s						
SYI				IAML		18 38 08.0	
	comp=E,365nm,0.8s						
Q19K	**Cape Douglas,**	**3.06**	**217**	Pn	**Pn**	**18 37 23.9**	**0.0**
TTA	**Tatalina**	**3.17**	**301**	Pn	**Pn**	**18 37 25.0**	**-0.6**
L18K	**Granite Mounta**	**3.24**	**287**	Pn	**Pn**	**18 37 26.0**	**-0.4**
P18K	**Big Mountain,**	**3.26**	**234**	Pn	**Pn**	**18 37 26.4**	**-0.3**
J20K	**Nowinta River**	**3.34**	**328**	Pn	**Pn**	**18 37 26.4**	**-1.5**
J20K				IAML		18 37 57.5	
	comp=N,252nm,0.8s						
SUCK	**Suckling Hills**	**3.38**	**111**	Pn	**Pn**	**18 37 27.2**	**-1.1**
SUCK				IAML		18 37 54.7	
	comp=E,223nm,0.9s						
SUCK				IAML		18 38 27.9	
	comp=N,222nm,0.6s						
MCARA	**McCarthy VSAT**	**3.40**	**87**	Pn	**Pn**	**18 37 28.2**	**-0.4**
CCB	**Clear Creek Bu**	**3.41**	**17**	Pn	**Pn**	**18 37 28.2**	**-0.6**
M17K	**Holitna River**	**3.54**	**273**	Pn	**Pn**	**18 37 30.4**	**-0.1**
N17K	**Nushagak Hills**	**3.57**	**259**	Pn	**Pn**	**18 37 30.6**	**-0.4**
N17K				IAML		18 38 12.5	
	comp=E,198nm,0.7s						
N17K				IAML		18 38 35.7	
	comp=N,121nm,1.2s						
MLY	**Manley**	**3.65**	**356**	Pn	**Pn**	**18 37 32.2**	**+0.2**
WAX	**Waxell Ridge**	**3.66**	**102**	Pn	**Pn**	**18 37 32.3**	**0.0**
J18K	**Innoko River**	**3.71**	**307**		**Pn**	**18 37 33.0**	**+0.1**
J18K				IAML		18 38 07.5	
	comp=N,137nm,0.9s						
SNH	**Sunshine Point**	**3.76**	**106**	Pn	**Pn**	**18 37 33.4**	**-0.2**
SNH				IAML		18 38 18.5	
	comp=N,160nm,1.0s						
SNH				IAML		18 38 34.5	
	comp=E,171nm,0.8s						
I21K	**Tanana**	**3.88**	**348**	Pn	**Pn**	**18 37 36.1**	**+0.9**
I21K				IAML		18 38 08.8	
	comp=E,120nm,1.2s						
I21K				IAML		18 38 09.5	
	comp=N,106nm,0.8s						
K17K	**Iditarod**	**4.08**	**292**	Pn	**Pn**	**18 37 37.6**	**-0.4**
K17K				IAML		18 38 15.9	
	comp=E,176nm,1.1s						
K17K				IAML		18 38 19.1	
	comp=N,155nm,1.2s						
CTGM	**Chitina Glacie**	**4.26**	**92**	Pn	**Pn**	**18 37 40.0**	**-0.6**
CTGM				IAML		18 38 40.4	
	comp=N,81nm,1.2s						
M16K	**Timber Creek**	**4.31**	**269**	Pn	**Pn**	**18 37 41.0**	**-0.2**
M16K				IAML		18 38 25.9	
	comp=N,84nm,0.9s						
M16K				IAML		18 38 33.2	
	comp=E,66nm,1.2s						
L16K	**Owhat River**	**4.50**	**278**	Pn	**Pn**	**18 37 43.1**	**-0.6**
L16K				IAML		18 38 27.7	
	comp=N,84nm,1.1s						
N15K	**Kwethluk River**	**5.06**	**260**	Pn	**Pn**	**18 37 51.7**	**+0.3**
N15K				IAML		18 38 49.5	
	comp=N,99nm,0.8s						
J16K	**Anvik River**	**5.25**	**296**	Pn	**Pn**	**18 37 53.9**	**-0.1**
J16K				IAML		18 38 51.2	
	comp=E,60nm,0.8s						
J16K				IAML		18 38 52.8	
	comp=N,64nm,1.0s						
I17K	**Unalakleet**	**5.49**	**302**	Pn	**Pn**	**18 37 57.4**	**+0.2**
K15K	**Wolf Creek Mou**	**5.49**	**284**	Pn	**Pn**	**18 37 56.8**	**-0.5**
M14K	**Bethel**	**5.80**	**269**	Pn	**Pn**	**18 38 01.3**	**-0.2**
O14K	**Tigyukauivet M**	**5.96**	**254**	Pn	**Pn**	**18 38 03.6**	**-0.1**
L14K	**Kuka Creek**	**6.06**	**275**	Pn	**Pn**	**18 38 05.4**	**+0.3**
HYT	**Haines Junctio**	**6.13**	**90**	Pn	**Pn**	**18 38 06.1**	**-0.1**
J14K	**Nanvaranak Lak**	**6.47**	**288**	Pn	**Pn**	**18 38 10.9**	**+0.3**
M13K	**Dall Lake**	**6.55**	**267**	Pn	**Pn**	**18 38 12.3**	**+0.6**
K13K	**Kusilvak Mount**	**6.96**	**281**	Pn	**Pn**	**18 38 17.4**	**0.0**
E18K	**Tukpahlearik C**	**7.55**	**328**	Pn	**Pn**	**18 38 27.5**	**+2.0**

*NEIC **30** 18:39:50.3±0.8, 61°.44N±0°.03×149°.93W±0°.05, h34km±9km, Error ellipse: s-maj=3.7km s-min=3.0km az=167.0*
*AEIC **30** 18:39:50.9±0.8, 61°.435N±0°.010×149°.92W±0°.04, h34km±7km, ML3.8, ML3.9/204(NEIC), Error ellipse: s-maj=3.1km s-min=1.4km az=77.0*
*IDC **30** 18:39:51.8±1.3, 61°.52N×149°.91W, h77km±13km, mb3.5/15, mbtmp3.8/20, Error ellipse: s-maj=14.0km s-min=9.3km az=105.0*

ISC 30 18:39:48.8±0.6, 61°.45N±0°.02×149°.91W±0°.02, h42km, n232, σ1^{s}79/241, mb3.8/15, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.32**	**341**		**Pn**	**18 39 58.1**	**+0.7**
M22K	**Willow**	**0.32**	**341**		**Sn**	**18 40 05.1**	**+1.6**
M22K	**Willow**	**0.32**	**341**	P	**Pn**	**18 39 58.0**	**+0.7**
	baz=164						
M22K				S	**Sn**	**18 40 05.1**	**+1.6**
	baz=164						
RC01	**Rabbit Creek A**	**0.37**	**167**		**Pn**	**18 39 58.6**	**+0.6**
RC01				IAML		18 40 06.7	
	comp=N,16μm,0.4s						
RC01				IAML		18 40 06.8	
	comp=E,11μm,0.4s						
RC01	**Rabbit Creek A**	**0.37**	**167**		**Sn**	**18 40 05.5**	**+1.1**
RC01	**Rabbit Creek A**	**0.37**	**167**	P	**Pn**	**18 39 58.5**	**+0.6**
	baz=346						
RC01				S	**Sn**	**18 40 05.5**	**+1.1**
	baz=346						
PMR	**Palmer**	**0.40**	**69**		**Pn**	**18 39 59.0**	**+0.8**
PMR				IAML		18 40 06.8	
	comp=E,8μm,0.7s						
PMR				IAML		18 40 06.9	
	comp=N,11μm,0.6s						
PMR	**Palmer**	**0.40**	**69**		**Sn**	**18 40 06.1**	**+1.1**
PMR	**Palmer**	**0.40**	**69**	P	**Pn**	**18 39 59.1**	**+0.8**
	baz=248						
PMR				S	**Sn**	**18 40 06.1**	**+1.1**
	baz=248						
SUA	**Susitna One**	**0.40**	**272**	Pn	**Pn**	**18 39 59.4**	**+0.9**
SUA	**Susitna One**	**0.40**	**272**		**Sn**	**18 40 07.1**	**+1.8**
SUA	**Susitna One**	**0.40**	**272**	P	**Pn**	**18 39 59.4**	**+0.9**
	baz=94						
SUA				S	**Sn**	**18 40 07.1**	**+1.8**
	baz=94						
GHO	**Glory Hole Cre**	**0.57**	**55**		**Pn**	**18 40 01.6**	**+1.0**
GHO				IAML		18 40 11.7	
	comp=N,9μm,0.4s						
GHO	**Glory Hole Cre**	**0.57**	**55**		**Sn**	**18 40 11.2**	**+2.2**
KNK	**Knik Glacier**	**0.70**	**92**		**Pn**	**18 40 03.3**	**+1.1**
KNK	**Knik Glacier**	**0.70**	**92**	IAML		18 40 15.6	
	comp=E,6μm,0.5s						
KNK	**Knik Glacier**	**0.70**	**92**	P	**Pn**	**18 40 03.3**	**+1.1**
	baz=272						
SML	**Sawmill**	**0.83**	**64**	Pn	**Pn**	**18 40 05.1**	**+0.9**
SML				IAML		18 40 19.9	
	comp=E,4μm,0.8s						
SML				IAML		18 40 20.4	
	comp=N,4μm,0.7s						
SML	**Sawmill**	**0.83**	**64**	P	**Pn**	**18 40 05.0**	**+0.9**
	baz=244						
CAPN	**Captain Cook N**	**0.91**	**222**		**Pn**	**18 40 07.5**	**+2.4**
STLK	**Strandline Lak**	**0.93**	**274**		**Pn**	**18 40 06.5**	**+1.1**
STLK					**Sn**	**18 40 19.3**	**+1.7**
SKT	**Skwentna**	**0.94**	**305**		**Pn**	**18 40 06.4**	**+0.9**
SKT	**Skwentna**	**0.94**	**305**		**Sn**	**18 40 19.3**	**+1.5**
SKT	**Skwentna**	**0.94**	**305**	IAML		18 40 19.6	
	comp=N,7μm,0.5s						
SKT				IAML		18 40 20.1	
	comp=E,5μm,0.3s						
SKT	**Skwentna**	**0.94**	**305**	P	**Pn**	**18 40 06.3**	**+0.8**
	baz=125						
SKT				S	**Sn**	**18 40 19.3**	**+1.5**
	baz=125						
SLKM	**Skilak Lake**	**0.96**	**189**		**Pn**	**18 40 07.0**	**+1.3**
PWL	**Port Wells**	**0.96**	**127**	Pn	**Pn**	**18 40 07.3**	**+1.5**
PWL	**Port Wells**	**0.96**	**127**	P	**Pn**	**18 40 07.3**	**+1.5**
	baz=308						
CUT	**Chulitna**	**0.97**	**350**		**Pn**	**18 40 07.3**	**+1.3**
CUT					**Sn**	**18 40 20.6**	**+2.0**
CUT	**Chulitna**	**0.97**	**350**	P	**Pn**	**18 40 07.3**	**+1.3**
	baz=170						
CUT				S	**Sn**	**18 40 20.6**	**+2.0**
	baz=170						
O22K	**Cooper Landing**	**0.97**	**175**	Pn	**Pn**	**18 40 07.3**	**+1.3**
O22K	**Cooper Landing**	**0.97**	**175**	P	**Pn**	**18 40 07.2**	**+1.3**
	baz=354						
SPCG	**Spurr Capps Gl**	**1.03**	**262**		**Pn**	**18 40 08.2**	**+1.3**
SPCG					**Sn**	**18 40 22.4**	**+2.3**
M23K	**Glacier View**	**1.10**	**71**		**Pn**	**18 40 09.3**	**+1.6**
M23K	**Glacier View**	**1.10**	**71**	P	**Pn**	**18 40 09.3**	**+1.6**
	baz=252						
SPCP	**Crater Peak Br**	**1.10**	**261**		**Pn**	**18 40 09.2**	**+1.4**
N20K	**Mount Spurr**	**1.14**	**258**	P	**Pn**	**18 40 09.3**	**+1.0**
	baz=77						
SPCR	**Spurr Chakacha**	**1.14**	**258**		**Pn**	**18 40 09.3**	**+1.0**
SPCR

O20K Slope Mountain 1.91 225 Pn Pn 18 40 20.8 +1.9
O20K Slope Mountain 1.91 225 P **Pn 18 40 20.8 +1.9**
baz=43
HIN Hinchinbrook I 1.97 121 Pn 18 40 21.2 +1.6
HOM Homer 1.99 206 Pn 18 40 21.3 +1.4
HOM Homer 1.99 206 P **Pn 18 40 21.1 +1.2**
baz=25
DHY Denali Highway 2.02 35 Pn 18 40 22.4 +2.0
DHY IAML 18 40 53.6
comp=E,1μm,0.5s
DHY IAML 18 40 53.7
comp=N,859nm,0.8s
DHY Denali Highway 2.02 35 P **Pn 18 40 22.7 +2.3**
baz=217
TRF Thorofare Moun 2.02 355 Pn 18 40 22.0 +1.6
TRF Thorofare Moun 2.02 355 IAML 18 40 51.5
comp=N,701nm,0.7s
TRF IAML 18 40 59.1
comp=E,628nm,0.8s
TRF Thorofare Moun 2.02 355 P **Pn 18 40 22.0 +1.6**
baz=175
DIV Divide 2.02 97 Pn 18 40 21.7 +1.3
RND Reindeer 2.02 14 Pn 18 40 22.4 +1.9
CNPM China Poot 2.04 199 Pn 18 40 22.2 +1.6
CNPM IAML 18 40 51.6
comp=N,1μm,0.4s
CNPM IAML 18 40 54.2
comp=E,781nm,0.5s
L20K Farewell, AK 2.14 301 Pn 18 40 23.5 +1.4
L20K Farewell, AK 2.14 301 P **Pn 18 40 23.5 +1.4**
baz=118
KTH Kantishna Hill 2.16 348 Pn 18 40 24.6 +2.3
KTH IAML 18 40 53.1
comp=E,705nm,0.6s
KTH IAML 18 40 54.8
comp=N,671nm,0.6s
ILSW Iliamna Southw 2.17 229 Pn 18 40 24.3 +1.8
ILSW IAML 18 41 14.1
comp=E,570nm,0.9s
M19K Big River Lodg 2.19 284 Pn 18 40 24.3 +1.7
M19K IAML 18 41 04.5
comp=N,581nm,0.6s
M19K Big River Lodg 2.19 284 P **Pn 18 40 24.4 +1.7**
baz=100
EYAK Cordova Ski Ar 2.22 112 Pn 18 40 25.1 +2.1
EYAK Cordova Ski Ar 2.22 112 P **Pn 18 40 25.1 +2.1**
baz=296
CAST Castle Rocks 2.22 334 Pn 18 40 25.2 +2.1
CAST Castle Rocks 2.22 334 P **Pn 18 40 25.1 +2.0**
baz=152
N19K Bonanza Creek 2.31 256 Pn **Pn 18 40 26.0 +1.6**
N19K IAML 18 41 00.6
comp=N,492nm,0.6s
N19K Bonanza Creek 2.31 256 P **Pn 18 40 25.9 +1.6**
baz=72
MCK McKinley 2.34 11 Pn 18 40 26.6 +2.0
MCK McKinley 2.34 11 P **Pn 18 40 26.6 +2.0**
baz=192
P19K Oil Pt 2.44 224 Pn 18 40 28.4 +2.3
P19K Oil Pt 2.44 224 P **Pn 18 40 27.8 +1.7**
baz=41
L19K White Mountain 2.46 290 Pn 18 40 28.1 +1.8
L19K White Mountain 2.46 290 P **Pn 18 40 28.0 +1.6**
baz=106
O19K Port Alsworth 2.50 242 Pn 18 40 28.4 +1.5
O19K Port Alsworth 2.50 242 P **Pn 18 40 28.4 +1.5**
baz=58
N25K Chitina, Valde 2.55 84 Pn **Pn 18 40 29.6 +2.0**
N25K IAML 18 41 08.6
comp=N,524nm,0.6s
N25K IAML 18 41 11.3
comp=E,405nm,0.7s
N25K Chitina, Valde 2.55 84 P **Pn 18 40 29.4 +1.8**
baz=268
PAX Paxson 2.58 52 Pn 18 40 29.9 +1.9
PAX Paxson 2.58 52 P **Pn 18 40 29.9 +1.9**
baz=236
BMRM Bremner River 2.61 98 Pn 18 40 30.3 +1.9
BMRM Bremner River 2.61 98 P **Pn 18 40 30.3 +1.9**
baz=283
CHUM Lake Minchumin 2.68 337 Pn 18 40 31.2 +1.8
CHUM Lake Minchumin 2.68 337 P **Pn 18 40 31.2 +1.8**
baz=155
Q23K Middleton Isla 2.69 137 Pn **Pn 18 40 31.6 +2.2**
Q23K IAML 18 41 20.4
comp=N,461nm,1.0s
Q23K IAML 18 41 54.7
comp=E,367nm,0.9s
BPAW Bear Paw Mtn. 2.71 350 Pn 18 40 31.5 +1.7
BPAW IAML 18 41 21.3
comp=E,356nm,0.6s
WACK Wrangell Chich 2.71 76 Pn 18 40 31.9 +1.9
K20K Telida 2.73 316 Pn 18 40 31.8 +1.7
K20K IAML 18 41 11.7
comp=N,416nm,0.6s
K20K Telida 2.73 316 P **Pn 18 40 31.7 +1.7**
baz=133
BWN Browne 2.74 4 Pn **Pn 18 40 32.6 +2.4**
SVW2 Sparrevohn 2.76 265 Pn **Pn 18 40 31.8 +1.3**
RAGM Ragged Mountai 2.77 110 Pn 18 40 31.6 +0.9
M18K Stony River 2.84 273 Pn 18 40 33.0 +1.4
M18K Stony River 2.84 273 P **Pn 18 40 33.0 +1.4**
baz=88
GLB Gilahina Butte 2.93 87 Pn **Pn 18 40 35.4 +2.6**
GLB IAML 18 41 19.8
comp=E,390nm,0.7s
GLB IAML 18 41 20.6
comp=N,402nm,0.8s
N18K Kilae Creek 3.01 258 Pn 18 40 35.1 +1.2
N18K IAML 18 41 31.5
comp=N,251nm,0.9s
N18K Kilae Creek 3.01 258 P **Pn 18 40 35.3 +1.4**
baz=73
O18K Koktuh Hills 3.06 241 Pn 18 40 35.7 +1.1
O18K IAML 18 41 28.6
comp=N,301nm,0.7s
KAIM Kayak Island 3.10 117 Pn **Pn 18 40 36.6 +1.5**
KAIM IAML 18 41 36.6
comp=E,285nm,0.9s
SYI Shuyak Island 3.11 205 Pn 18 40 36.5 +1.3
SYI IAML 18 41 27.1
comp=E,250nm,0.6s
SYI IAML 18 41 27.6
comp=N,252nm,0.5s
VRDI Verde Repeater 3.12 91 Pn **Pn 18 40 37.0 +1.5**
VRDI IAML 18 41 25.6
comp=N,278nm,0.6s
Q19K Cape Douglas, 3.14 218 Pn 18 40 37.1 +1.4
WRH Wood River Hil 3.15 14 Pn **Pn 18 40 37.8 +2.1**
WRH IAML 18 41 29.9
comp=E,223nm,1.0s
NEA2 Nenana 3.18 7 Pn 18 40 38.2 +2.0
BERG Berg Lake 3.21 107 Pn **Pn 18 40 37.1 +0.5**
TTA Tatalina 3.23 300 Pn **Pn 18 40 38.4 +1.5**
TTA Tatalina 3.23 300 P **Pn 18 40 38.3 +1.5**
baz=115
MENT Mentasta 3.26 60 Pn **Pn 18 40 39.5 +2.1**
HDA Harding Lake 3.26 23 Pn **Pn 18 40 39.4 +2.0**
HDA IAML 18 41 34.3
comp=N,387nm,1.0s
HDA IAML 18 41 38.2
comp=E,242nm,0.5s
RIDG Independent Ri 3.28 43 Pn **Pn 18 40 39.4 +1.7**
L18K Granite Mounta 3.31 286 Pn 18 40 39.5 +1.5
L18K Granite Mounta 3.31 286 P **Pn 18 40 39.6 +1.6**
baz=101
MCARA McCarthy VSAT 3.31 88 Pn 18 40 40.0 +2.0
SUCK Suckling Hills 3.31 112 Pn **Pn 18 40 39.6 +1.6**
SUCK IAML 18 41 31.3
comp=N,284nm,0.5s
CCB Clear Creek Bu 3.35 16 Pn **Pn 18 40 39.8 +1.3**
P18K Big Mountain, 3.35 234 Pn **Pn 18 40 39.5 +0.9**
P18K Big Mountain, 3.35 234 P **Pn 18 40 40.0 +1.4**
baz=50
CRQM Cirque 3.36 99 Pn 18 40 40.3 +1.5
J20K Nowinta River 3.36 326 Pn 18 40 40.0 +1.4
J20K IAML 18 41 36.6
comp=N,298nm,0.5s
J20K IAML 18 41 42.6
comp=E,278nm,0.7s
J20K Nowinta River 3.36 326 P **Pn 18 40 40.4 +1.8**
baz=143
M26K Nabesna, AK 3.40 71 Pn 18 40 41.6 +2.3
M26K IAML 18 41 36.8
comp=N,228nm,0.6s
M26K IAML 18 41 39.4
comp=E,211nm,0.5s
TGL Tana Glacier 3.50 98 Pn 18 40 42.6 +1.8
COLA College 3.56 14 Pn 18 40 44.0 +2.6
COLA IAML 18 41 31.0
comp=E,336nm,0.4s
IL31 3.61 21 Pn **Pn 18 40 44.0 +2.0**
ILAR Eielson Array 3.61 21 Pn **Pn 18 40 44.6 +2.6**
ILAR Eielson Array 3.61 21 P **Pn 18 40 46.0 +4.0**
comp=E,14nm,0.5s,baz=201,slow=13,SNR=8.2
ILAR S **Sn 18 41 25.8 +2.4**
comp=E,30nm,0.6s,baz=207,slow=24,SNR=5.3
MLY Manley 3.62 354 Pn 18 40 44.1 +1.8
M17K Holitna River 3.62 273 Pn 18 40 43.6 +1.3
M17K IAML 18 41 55.2
comp=N,361nm,1.1s
M17K IAML 18 42 02.1
comp=E,356nm,0.9s
N17K Nushagak Hills 3.67 259 Pn 18 40 43.8 +0.9
N17K IAML 18 41 27.5
comp=E,154nm,0.4s
N17K IAML 18 41 59.5
comp=N,151nm,1.1s
J19K Poorman 3.67 317 Pn 18 40 44.0 +1.1
J19K IAML 18 41 44.8
comp=N,260nm,0.7s
J19K IAML 18 41 47.2
comp=E,180nm,0.6s
SNH Sunshine Point 3.69 107 Pn **Pn 18 40 44.7 +1.5**
SNH IAML 18 41 53.1
comp=N,161nm,1.0s
I23K Minto, Yukon-K 3.72 4 Pn 18 40 45.3 +1.7
I23K IAML 18 41 49.4
comp=N,190nm,0.8s
SCRK Sand Creek 3.72 44 Pn **Pn 18 40 45.4 +1.6**
SCRK IAML 18 41 46.4
comp=E,211nm,0.7s
SCRK IAML 18 41 48.5
comp=N,214nm,1.1s
J18K Innoko River 3.75 306 Pn 18 40 46.1 +2.0
J25K Salcha River, 3.79 31 Pn **Pn 18 40 46.9 +2.3**
J25K IAML 18 41 51.2
comp=E,190nm,0.7s
POKR Poker Plat Res 3.85 16 Pn **Pn 18 40 48.1 +2.7**
POKR IAML 18 41 58.9
comp=E,119nm,0.8s
I21K Tanana 3.86 347 Pn **Pn 18 40 47.4 +1.9**
I21K IAML 18 42 04.9
comp=E,138nm,0.8s
M27K Edge Creek, AK 3.91 73 Pn **Pn 18 40 48.7 +2.4**
KDAK Kodiak Island 3.92 201 Pn **Pn 18 40 47.3 +0.9**
KDAK IAML 18 41 51.4
comp=E,118nm,0.8s
KDAK IAML 18 41 51.4
comp=E,162nm,1.0s
KDAK Kodiak Island 3.92 201 P **Pn 18 40 48.5 +2.1**
comp=E,10nm,0.5s,baz=231,slow=6.9,SNR=2.4
KDAK S **Sn 18 41 37.4 +6.4**
comp=E,32nm,0.4s,baz=335,slow=11,SNR=1.9
I20K Naaghedeneel 3.95 330 Pn 18 40 48.9 +2.2
GRNC Granite Creek 4.02 97 Pn **Pn 18 40 49.7 +1.7**
GRNC IAML 18 41 57.5
comp=N,159nm,1.0s
GRNC IAML 18 42 09.1
comp=E,110nm,0.9s
MESA MESA 4.10 105 Pn **Pn 18 40 50.4 +1.3**
MESA IAML 18 41 57.2
comp=E,199nm,0.6s
L27K Beaver Creek, 4.11 63 Pn **Pn 18 40 49.8 +0.8**
BCAR Beaver Creek A 4.13 63 Pn 18 40 52.2 +2.9
K17K Iditarod 4.15 292 Pn 18 40 51.1 +1.6
K17K IAML 18 42 06.0
comp=E,198nm,0.7s
K17K IAML 18 42 19.3
comp=N,153nm,0.9s
CTGM Chitina Glacie 4.18 93 Pn **Pn 18 40 52.5 +2.5**
CTGM IAML 18 42 00.2
comp=E,119nm,0.7s
CTGM IAML 18 42 02.5
comp=N,108nm,0.6s
J26L Joseph Creek 4.21 41 Pn **Pn 18 40 53.2 +2.8**
J26L IAML 18 41 48.7
comp=E,196nm,0.6s
LOGN Logan Glacier 4.36 94 Pn **Pn 18 40 53.7 +1.1**
LOGN IAML 18 42 05.5
comp=E,99nm,0.9s
LOGN IAML 18 42 07.6
comp=N,118nm,0.8s
TABL Table Mountain 4.39 99 Pn **Pn 18 40 54.5 +1.5**
TABL IAML 18 42 08.2
comp=E,116nm,0.7s
TABL IAML 18 42 11.1
comp=N,95nm,1.2s
H23K Yukon River 4.40 2 Pn **Pn 18 40 55.4 +2.5**
M16K Timber Creek 4.40 268 Pn 18 40 54.1 +1.2
H21K Melozitna Rive 4.42 344 Pn 18 40 55.2 +2.0
O16K Kokwok River B 4.45 249 Pn **Pn 18 40 54.6 +1.0**
O16K IAML 18 42 06.3
comp=N,142nm,0.9s
O16K IAML 18 42 18.3
comp=E,92nm,1.1s
H24K Noodor Dome 4.50 11 Pn **Pn 18 40 56.4 +2.1**
H24K IAML 18 42 17.9
comp=E,81nm,1.1s
PRP Porcupine Dome 4.53 24 Pn **Pn 18 40 56.8 +1.9**
PRP IAML 18 42 11.4
comp=N,121nm,0.8s
PRP IAML 18 42 12.3
comp=E,120nm,0.6s
OHAK Old Harbor 4.58 204 Pn **Pn 18 40 56.6 +1.2**
OHAK IAML 18 42 07.3
comp=N,79nm,1.0s
L16K Owhat River 4.58 277 Pn **Pn 18 40 56.6 +1.2**
L16K IAML 18 42 20.4
comp=E,71nm,1.2s
L16K IAML 18 42 27.2
comp=N,79nm,1.2s
J17K VABM Dome 4.69 299 Pn **Pn 18 40 58.7 +1.8**
J17K IAML 18 42 36.5
comp=E,67nm,1.0s
J17K IAML 18 42 38.2
comp=N,80nm,1.1s
IMAR Indian Mountai 4.86 341 Pn 18 41 00.9 +1.6
H19K Roundabout Mou 5.03 327 Pn **Pn 18 41 03.2 +1.6**
H19K IAML 18 42 37.0
comp=N,66nm,1.1s
H19K IAML 18 42 40.0
comp=E,86nm,1.2s
PLK4 Peulik 4 5.04 223 Pn 18 41 03.2 +1.4
PLK4 IAML 18 42 47.0
comp=E,110nm,0.9s
PLK4 IAML 18 42 52.0
comp=N,125nm,1.1s
N15K Kwethluk River 5.15 260 Pn **Pn 18 41 05.0 +1.8**
N15K IAML 18 42 32.5
comp=E,100nm,0.8s
BCPM Bancas Point 5.26 102 Pn 18 41 05.7 +0.9
BCPM IAML 18 42 33.6
comp=E,78nm,0.9s
BCPM IAML 18 42 38.4
comp=N,64nm,1.0s
J16K Anvik River 5.31 295 Pn **Pn 18 41 06.8 +1.4**
H18K Honhosa River 5.32 318 Pn 18 41 07.5 +1.9
H18K IAML 18 42 09.2
comp=E,55nm,0.6s
H18K IAML 18 42 57.3
comp=N,42nm,1.1s
G21K Allakaket 5.33 344 Pn **Pn 18 41 08.4 +2.8**
G21K IAML 18 42 09.6
comp=N,80nm,0.8s
G21K IAML 18 42 10.4
comp=E,45nm,0.7s
M29M Somme Creek 5.49 75 Pn **Pn 18 41 10.3 +2.2**
I17K Unalakleet 5.54 301 Pn 18 41 10.6 +2.1
K15K Wolf Creek Mou 5.57 284 Pn **Pn 18 41 10.4 +1.5**
G19K Purcell Mounta 5.68 329 Pn **Pn 18 41 12.1 +1.5**
H17K Granite Mounta 5.72 312 Pn 18 41 12.9 +1.9
M14K Bethel 5.89 268 Pn **Pn 18 41 14.9 +1.6**
G18K Tagagawik 5.92 323 Pn 18 41 15.5 +1.8
F21K Alatna River 6.00 347 Pn **Pn 18 41 18.3 +3.4**
O14K Tigyukauivet M 6.05 254 Pn **Pn 18 41 17.2 +1.7**
L14K Kuka Creek 6.14 275 Pn 18 41 18.7 +1.9
N30M Aishikik Lake 6.15 84 Pn **Pn 18 41 18.6 +1.6**
F20K Avaraart Lake 6.17 338 Pn 18 41 19.4 +2.3
P29M Windy Craggy 6.28 102 Pn 18 41 20.4 +1.7
F19K Shaleruckik Mo 6.40 331 Pn **Pn 18 41 22.2 +1.9**
J14K Nanvaranak Lak 6.54 287 Pn **Pn 18 41 24.1 +1.8**
M13K Dall Lake 6.63 267 Pn **Pn 18 41 25.6 +2.1**
E19K Redstone River 6.81 335 Pn **Pn 18 41 28.8 +2.9**
G16K Koyuk River 6.84 311 Pn **Pn 18 41 28.4 +2.0**
K13K Kusilvak Mount 7.03 280 Pn **Pn 18 41 30.8 +1.8**
F17K Baldwin Pennin 7.07 320 Pn **Pn 18 41 32.4 +2.9**
E18K Tukpahlearik C 7.56 327 Pn **Pn 18 41 39.7 +3.5**
INK Inuvik 9.76 38 P **Pn 18 42 07.2 +0.9**
comp=E,5.6nm,0.9s,baz=210,slow=8.1,SNR=1.6
INK S **Sn 18 43 57.8 +3.5**
comp=E,3.6nm,0.6s,baz=118,slow=30,SNR=3.9
DLBC Dease Lake 10.41 98 P **Pn 18 42 16.6 +1.3**
comp=E,4.2nm,0.9s,baz=194,slow=22,SNR=2.6
C36M Paulatuk 13.25 42 Pn **Pn 18 42 56.2 +2.3**
YKA Yellowknife Ar 16.50 71 P **Pn 18 43 37.2 +0.4**
comp=E,0.3nm,0.7s,baz=309,slow=4.5,SNR=4.3
RES Resolute Bay 23.26 33 P **P 18 44 50.7 -1.2**
comp=E,0.8nm,0.6s,baz=258,slow=16,SNR=1.9
comp=E,0.8nm,0.6s
ELK Elko 29.49 119 P **P 18 45 48.5 -0.4**
comp=E,1.3nm,0.7s,baz=310,slow=9.0,SNR=6.5
comp=E,1.3nm,0.7s
NVAR Mina Array Bea 30.20 125 P **P 18 45 54.2 -1.0**
comp=E,0.5nm,0.5s,baz=310,slow=7.7,SNR=4.0
comp=E,0.5nm,0.5s
PDAR Pinedale Array 30.35 109 P **P 18 45 56.8 +0.4**
comp=E,0.7nm,0.6s,baz=322,slow=4.7,SNR=8.6
comp=E,0.7nm,0.6s
ULM Lac du Bonnet 31.39 86 P **P 18 46 05.4 +0.1**
comp=E,2.7nm,0.6s,baz=300,slow=10,SNR=4.7
comp=E,2.7nm,0.6s
KSRS Korea Array 54.33 284 P **P 18 49 09.7 -0.9**
comp=E,1.0nm,0.8s,baz=28,slow=6.0,SNR=3.2
comp=E,1.0nm,0.8s
SONM Songino Array 55.15 307 P **P 18 49 16.1 -0.6**
comp=E,0.7nm,0.8s,baz=38,slow=9.7,SNR=4.3
comp=E,0.7nm,0.8s
ZALV Zalesovo Beam 57.08 325 P **P 18 49 27.5 -2.6**
comp=E,0.3nm,0.3s,baz=63,slow=6.6,SNR=1.8
comp=E,0.3nm,0.3s
FINES FINESS Array B 57.39 2 P **P 18 49 29.8 -2.4**
comp=E,3.4nm,1.1s,baz=336,slow=4.2,SNR=4.0
comp=E,3.4nm,1.1s
EKA Eskdalemuir Ar 60.65 21 P **P 18 49 53.6 -1.2**
comp=E,0.6nm,0.4s,baz=328,slow=6.0,SNR=4.2
comp=E,0.6nm,0.4s
BVAR Borovoye Array 61.47 334 P **P 18 50 00.3 -0.1**
comp=E,0.7nm,0.6s,baz=32,slow=5.8,SNR=3.6
comp=E,0.7nm,0.6s
KURBB Kurchatov Arra 61.77 327 P **P 18 50 00.9 -1.5**
comp=E,0.5nm,0.5s,baz=28,slow=6.6,SNR=5.6
comp=E,0.5nm,0.5s
MKAR Makanchi Array 64.22 323 P **P 18 50 17.0 -1.9**
comp=E,0.8nm,0.8s,baz=32,slow=7.1,SNR=5.0
comp=E,0.8nm,0.8s
AKASG Malin Array Be 68.20 1 P **P 18 50 43.5 -0.7**
comp=E,1.6nm,0.4s,baz=3.6,slow=6.4,SNR=12
comp=E,1.6nm,0.4s
ESDC Sonseca Array 75.49 27 P **P 18 51 27.6 -0.7**
comp=E,0.6nm,0.6s,baz=343,slow=6.5,SNR=4.1
comp=E,0.6nm,0.6s
QSPA South Pole Qui 151.26 180 PKPbc **PKPbc 18 59 35.9 +0.1**
comp=E,3.5nm,0.6s,baz=9.1,slow=1.2,SNR=9.3

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*NEIC **30** 18:42:04.5±1.1,61°.49N±0°.03×149°.91W±0°.04,h50km±5km, Error ellipse: s-maj=4.2km s-min=2.2km az=201.0*

AEIC 30 18:42:05.6±1.1,61°.49N±0°.03×149°.92W±0°.05,h42km±5km, ML2.7,ML2.9/72(NEIC)**, Error ellipse: s-maj=4.8km s-min=3.0km az=171.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
M22K	**Willow**	**0.28**	**340**		Pn		18 42 12.8	-0.9
M22K					Sn		18 42 19.7	+0.3
M22K	**Willow**	**0.28**	**340**	IAML			18 42 20.1	
M22K	comp=E,809nm,0.2s			IAML			18 42 20.4	
M22K	comp=N,902nm,0.6s			IAML			18 42 22.1	
PMR	**Palmer**	**0.39**	**75**		Pn		18 42 14.1	-0.9
PMR					Sn		18 42 21.6	+0.1
PMR	**Palmer**	**0.39**	**75**	IAML			18 42 21.8	
PMR	comp=N,768nm,0.4s			IAML			18 42 22.1	
PMR	comp=E,750nm,0.4s			IAML			18 42 23.2	
SUA	**Susitna One**	**0.40**	**266**		Pn		18 42 14.6	-0.6
SUA					Sn		18 42 22.4	+0.4
SUA	**Susitna One**	**0.40**	**266**	IAML			18 42 23.0	
SUA	comp=N,1μm,0.7s			IAML			18 42 23.2	
RC01	**Rabbit Creek A**	**0.41**	**168**		Pn		18 42 14.9	-0.3
RC01	**Rabbit Creek A**	**0.41**	**168**	IAML			18 42 23.5	
RC01	comp=E,583nm,0.1s			IAML			18 42 23.5	
GHO	**Glory Hole Cre**	**0.55**	**59**		Pn		18 42 16.3	-0.8
GHO					Sn		18 42 25.4	+0.1
GHO	**Glory Hole Cre**	**0.55**	**59**	IAML			18 42 25.7	
GHO	comp=E,888nm,0.5s			IAML			18 42 26.2	
KNK	**Knik Glacier**	**0.70**	**96**		Pn		18 42 18.4	-0.7
KNK	**Knik Glacier**	**0.70**	**96**	IAML			18 42 31.6	
KNK	comp=N,661nm,0.4s			IAML			18 42 31.8	
SML	**Sawmill**	**0.82**	**67**		Pn		18 42 19.7	-1.0
SKT	**Skwentna**	**0.91**	**303**		Pn		18 42 21.3	-0.6
SKT					Sn		18 42 33.3	-0.6
STLK	**Strandline Lak**	**0.92**	**271**		Pn		18 42 21.3	-0.7
STLK					Sn		18 42 34.1	0.0
CUT	**Chulitna**	**0.93**	**350**		Sn		18 42 34.2	0.0
CUT	**Chulitna**	**0.93**	**350**	Pn	Pn		18 42 20.9	-1.2
CAPN	**Captain Cook N**	**0.94**	**220**	Pn	Pn		18 42 21.2	-1.1
PWL	**Port Wells**	**1.00**	**129**		Pn		18 42 22.6	-0.5
SLKM	**Skilak Lake**	**1.00**	**189**		Pn		18 42 22.2	-0.9
O22K	**Cooper Landing**	**1.02**	**175**		Pn		18 42 22.4	-1.0
SCM	**Sheep Creek Mo**	**1.28**	**73**		Pn		18 42 26.6	-0.4
GLI	**Glacier Island**	**1.50**	**113**	Pn	Pn		18 42 28.9	-1.0
GLI				IAML			18 42 51.6	
GLI	comp=N,127nm,0.4s			IAML			18 42 54.0	
M20K	**Styx River**	**1.58**	**286**	Pn	Pn		18 42 31.4	+0.3
FID	**Port Fidalgo**	**1.83**	**113**	Pn	Pn		18 42 33.5	-1.0
FID	comp=N,75nm,0.3s			IAML			18 42 59.2	
FID	comp=E,84nm,0.6s			IAML			18 43 32.1	
M24K	**Tolsona, Glenn**	**1.88**	**69**	Pn	Pn		18 42 34.1	-1.1
M24K				IAML			18 43 12.9	
M24K	comp=E,107nm,0.9s			IAML			18 43 29.4	
M24K	comp=N,90nm,1.2s			IAML			18 43 29.4	
KLU	**Klutina**	**1.92**	**88**	Pn	Pn		18 42 34.0	-1.7
DHY	**Denali Highway**	**1.98**	**36**	Pn	Pn		18 42 34.2	-2.5
RND	**Reindeer**	**1.98**	**14**	Pn	Pn		18 42 34.4	-2.3
HIN	**Hinchinbrook I**	**2.00**	**122**	Pn	Pn		18 42 34.7	-2.1
HIN				IAML			18 43 12.6	
HIN	comp=E,84nm,0.9s			IAML			18 43 13.5	
HIN	comp=N,80nm,0.7s			IAML			18 43 13.5	
HOM	**Homer**	**2.03**	**206**	Pn	Pn		18 42 35.0	-2.2
CNPM	**China Poot**	**2.08**	**199**	Pn	Pn		18 42 35.4	-2.5
KTH	**Kantishna Hill**	**2.12**	**348**	Pn	Pn		18 42 37.2	-1.3
KTH				IAML			18 43 05.2	
KTH	comp=N,67nm,0.9s			IAML			18 43 07.6	
KTH	comp=E,73nm,0.8s			IAML			18 43 07.6	
M19K	**Big River Lodg**	**2.17**	**283**	Pn	Pn		18 42 38.6	-0.6
M19K				IAML			18 43 56.9	
M19K	comp=N,58nm,0.3s			IAML			18 43 56.9	
L19K	**White Mountain**	**2.44**	**289**	Pn	Pn		18 42 42.6	-0.3
L19K				IAML			18 44 04.0	
L19K	comp=E,54nm,0.6s			IAML			18 44 04.0	
K20K	**Telida**	**2.69**	**316**	Pn	Pn		18 42 45.4	-0.9
K20K				IAML			18 44 18.6	
K20K	comp=E,39nm,0.5s			IAML			18 44 18.6	
SVW2	**Sparrevohn**	**2.76**	**264**	Pn	Pn		18 42 46.2	-1.1
SVW2				IAML			18 43 37.5	
SVW2	comp=E,49nm,0.2s			IAML			18 43 40.0	
SVW2	comp=N,51nm,1.1s			IAML			18 43 40.0	
N18K	**Kilae Creek**	**3.01**	**257**	Pn	Pn		18 42 49.9	-0.8

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N18K                                IAML                18 44 15.3
      comp=N,28nm,0.7s
N18K                                IAML                18 44 33.1
      comp=E,31nm,0.8s
L18K  Granite Mounta      3.29 286  Pn        Pn        18 42 53.6 -0.9
L18K                                IAML                18 44 40.9
      comp=E,20nm,0.8s
L18K                                IAML                18 44 46.8
      comp=N,22nm,1.0s
MLY   Manley              3.57 354  Pn        Pn        18 42 58.2 -0.2
M17K  Holitna River       3.61 272  Pn        Pn        18 42 58.1 -0.8
J19K  Poorman             3.63 316  Pn        Pn        18 42 58.6 -0.5
J19K                                IAML                18 44 45.9
      comp=E,18nm,0.8s
J19K                                IAML                18 44 51.0
      comp=N,20nm,1.0s
I23K  Minto, Yukon-K      3.68   4  Pn        Pn        18 42 59.2 -0.6
I23K                                IAML                18 45 07.0
      comp=N,21nm,1.1s
I23K                                IAML                18 45 09.6
      comp=E,18nm,1.1s
J18K  Innoko River        3.73 305  Pn        Pn        18 42 60.0 -0.5
POKR  Poker Plat Res      3.81  16  Pn        Pn        18 43 00.6 -1.0
```

SNET ***30*** *18:44:28.6±1.2, 12.°64N×90.°55W, h30km±129km, ML3.7*
CATAC ***30*** *18:44:29.7±0.5, 12.°64N×90.°50W, h28km±6km, ML3.8*
GCG ***30*** *18:44:39.1±1.7, 13.°47N×90.°92W, h0km±503km, MD4.3*
ISC 30 18:44:29.7±2.2, 12.°64N±0.°07×90.°51W±0.°05, h26km±17km, n61, g0 52/107, Off coast of central America

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Code  Station Name        Δ°   AZ°  Phase ID                Time       Res
                                    Op        ISC           h m s      ISC
LALI  Alcalda de L        1.43   54  i P       Pn            18 44 53.6 -0.3
LALI                                i S       Sn            18 45 12.2 +0.4
LALI                                IAML                    18 45 53.3
      comp=Z,240nm,1.0s
NUBE  Las Nubes           1.44   29  i P       Pn            18 44 53.4 -0.8
NUBE                                i S       Sn            18 45 13.0 +0.7
NUBE                                IAML                    18 45 55.9
      comp=Z,690nm,1.0s
JAYA  Jayaque - finc      1.44   45  eP        Pn            18 44 53.6 -0.6
JAYA                                eS        Sn            18 45 13.0 +0.6
JAYA  Jayaque - finc      1.44   45  i P       Pn            18 44 54.1 -0.1
JAYA                                i S       Sn            18 45 12.4  0.0
JAYA                                IAML                    18 45 45.8
      comp=Z,2µm,1.0s
CEVE  Cerro Verde         1.46   36  eP        Pn            18 44 53.9 -0.7
CEVE                                eS        Sb            18 45 14.4 -0.1
CEVE                                IAML                    18 45 47.9
      comp=Z,917nm,0.4s
CEVE  Cerro Verde         1.46   36  i P       Pn            18 44 54.1 -0.5
CEVE                                i S       Sn            18 45 12.8 -0.2
CEVE                                IAML                    18 45 49.1
      comp=Z,970nm,1.0s
SBLS  San Blas            1.47   36  eP        Pn            18 44 54.1 -0.6
SNJE  San Jose            1.50   36  eP        Pn            18 44 54.4 -0.7
SNJE                                eP        Pn            18 44 54.4 -0.7
SNJE                                eS        Sn            18 45 14.0  0.0
RTR   El Retiro           1.50   34  eP        Pn            18 44 54.7 -0.4
LOAL  Lomas de Alarc      1.52   28  i P       Pn            18 44 55.1 -0.2
LOAL                                i S       Sn            18 45 14.2 -0.1
LOAL                                IAML                    18 46 08.5
      comp=Z,2µm,1.0s
SLOZ  Alcaldia de Sa      1.54   27  eP        Pn            18 44 54.7 -0.9
PMON  Piamonte            1.57   47  eP        Pn            18 44 55.3 -0.8
PMON  Piamonte            1.57   47  i P       Pn            18 44 56.0  0.0
PMON                                i S       Sn            18 45 15.0 -0.6
PMON                                IAML                    18 46 01.4
      comp=Z,970nm,1.0s
ITCA  Escuela Especi      1.57   49  i P       Pn            18 44 55.4 -0.6
ITCA                                i S       Sn            18 45 15.8 +0.2
ITCA                                IAML                    18 45 50.1
      comp=Z,4µm,1.0s
CEDA  San Andres          1.58   43  i P       Pn            18 44 56.2 +0.1
CEDA                                i S       Sn            18 45 15.5 -0.2
CEDA                                IAML                    18 45 31.6
      comp=Z,3µm,1.0s
PANCS Alcalda de          1.61   53  i P       Pn            18 44 55.9 -0.6
PANCS                               i S       Sn            18 45 16.2 -0.3
PANCS                               IAML                    18 45 49.9
      comp=Z,2µm,1.0s
BOQS  Boqueron            1.61   48  eP        Pn            18 44 55.9 -0.8
SNET  Serv Nac Est T      1.62   50  i P       Pn            18 44 56.6  0.0
SNET                                i S       Sn            18 45 17.5 +0.8
SNET                                IAML                    18 45 53.4
      comp=Z,2µm,1.0s
UNIC  Universidad Ca      1.62   35  i P       Pn            18 44 56.4 -0.3
UNIC                                i S       Sn            18 45 17.6 +0.8
UNIC                                IAML                    18 46 08.8
      comp=Z,250nm,1.0s
UEES  Universidad Ev      1.63   49  i P       Pn            18 44 56.8  0.0
UEES                                i S       Sn            18 45 17.4 +0.4
UEES                                IAML                    18 45 22.5
      comp=Z,430nm,1.0s
LOMA  Loma Larga          1.64   52  eP        Pn            18 44 56.1 -0.9
LOMA                                eS        Sn            18 45 17.6 +0.3
LOMA  Loma Larga          1.64   52  i P       Pn            18 44 56.2 -0.7
LOMA                                i S       Sn            18 45 17.4 +0.2
LOMA                                IAML                    18 45 53.1
      comp=Z,1µm,1.0s
IGN   Direccin Gen        1.68   51  i P       Pn            18 44 56.8 -0.7
IGN                                 i S       Sn            18 45 18.5 +0.3
IGN                                 IAML                    18 46 07.8
      comp=Z,5µm,1.0s
UDBS  Universidad Do      1.69   51  i P       Pn            18 44 57.0 -0.6
UDBS                                i S       Sn            18 45 18.7 +0.2
UDBS                                IAML                    18 45 35.5
      comp=Z,730nm,1.0s
ESSG  Sabana Grande       1.76  350  i P       Pn            18 44 57.9 -0.7
ESSG                                i S       Sn            18 45 20.9 +0.7
ESSG                                IAML                    18 45 54.8
      comp=Z,960nm,1.0s
FUG   Fuego 3             1.82  350  i P       Pn            18 44 59.6 +0.1
COEG  Centro de Oper      1.86   58  eP        Pn            18 44 58.7 -1.2
COEG                                eS        Sn            18 45 22.9 +0.3
COEG                                IAML                    18 45 27.0
      comp=Z,656nm,0.3s
COEG  Centro de Oper      1.86   58  i P       Pn            18 44 59.5 -0.4
COEG                                i S       Sn            18 45 23.2 +0.6
COEG                                IAML                    18 45 25.5
      comp=Z,720nm,1.0s
PAVA  Las Pavas           1.86   55  eP        Pn            18 44 59.9 -0.1
PAVA  Las Pavas           1.86   55  i P       Pn            18 45 00.4 +0.4
PAVA                                i S       Sn            18 45 22.2 -0.5
PAVA                                IAML                    18 45 33.9
      comp=Z,1µm,1.0s
TECO  Alcaldia de Te      1.90   62  i P       Pn            18 45 00.7 +0.2
TECO                                i S       Sn            18 45 23.7 +0.1
TECO                                IAML                    18 45 30.6
      comp=Z,200nm,1.0s
NBG   Las Nubes           1.94    5  i P       Pn            18 45 02.4 +1.1
UESV  Universidad de      1.94   59  i P       Pn            18 45 00.3 -0.7
UESV                                i S       Sn            18 45 24.9 +0.3
UESV                                IAML                    18 46 03.4
      comp=Z,380nm,1.0s
SCLA  Alcaldia de Sa      2.03   58  eP        Pn            18 45 01.8 -0.3
SCLA  Alcaldia de Sa      2.03   58  i P       Pn            18 45 01.9 -0.3
SCLA                                i S       Sn            18 45 26.7  0.0
SCLA                                IAML                    18 46 07.5
      comp=Z,250nm,1.0s
MTO3  Montecristo         2.07   32  eP        Pn            18 45 02.6 -0.3
MTO3  Montecristo         2.07   32  i P       Pn            18 45 02.4 -0.6
MTO3                                i S       Sn            18 45 28.1  0.0
MTO3                                IAML                    18 45 41.2
      comp=Z,350nm,1.0s
TECA  Tecapa              2.13   66  eP        Pn            18 45 02.9 -0.8
LLGN  La Laguna           2.14   45  i P       Pn            18 45 04.0 +0.1
LLGN                                i S       Sn            18 45 30.0 +0.3
LLGN                                IAML                    18 45 31.5
      comp=Z,630nm,1.0s
RTAL  Retalhuleu          2.20  328  i P       Pn            18 45 04.2 -0.4
RTAL                                i S       Sn            18 45 31.5 +0.5
RTAL                                IAML                    18 46 15.2
      comp=Z,400nm,1.0s
ESQI  Esquipulas          2.22   31  i P       Pn            18 45 05.4 +0.5
ESQI                                i S       Sn            18 45 32.6 +1.1
ESQI                                IAML                    18 46 03.2
      comp=Z,770nm,1.0s
PACA  Pacayal             2.28   69  eP        Pn            18 45 06.0 +0.2
PACA  Pacayal             2.28   69  i P       Pn            18 45 05.5 -0.3
PACA                                i S       Sn            18 45 33.2 +0.1
PACA                                IAML                    18 46 12.0
      comp=Z,3µm,1.0s
RANC  El Ranchito         2.30   70  i P       Pn            18 45 06.2 +0.2
RANC                                IAML                    18 45 40.6
      comp=Z,310nm,1.0s
STG3  Santiaguito 3,      2.30  333  i P       Pn            18 45 05.2 -1.0
SOKI  Kika Raxquin        2.34  338  i P       Pn            18 45 06.3 -0.5
SOKI                                i S       Sn            18 45 34.8 -0.1
SOKI                                IAML                    18 46 33.2
      comp=Z,450nm,1.0s
MRL   Marmol              2.55   18  i P       Pb            18 45 15.2 +0.3
LCND  La Caada            2.63   75  i P       Pn            18 45 11.0 +0.5
LCND                                i S       Sn            18 45 42.0 +0.4
LCND                                IAML                    18 45 45.3
      comp=Z,500nm,1.0s
CNCH  Conchagua           2.68   76  eP        Pn            18 45 10.9 -0.4
CNCH  Conchagua           2.68   76  i P       Pn            18 45 10.4 -0.9
CNCH                                i S       Sn            18 45 43.2 +0.3
CNCH                                IAML                    18 46 28.5
      comp=Z,540nm,1.0s
QUIS  Sacapulas           2.69  348  i P       Pn            18 45 10.9 -0.6
QUIS                                i S       Sn            18 45 43.6 +0.2
QUIS                                IAML                    18 46 04.9
      comp=Z,410nm,1.0s
HUEH  Huehuetenango       2.83  340  i P       Pn            18 45 13.2 -0.3
HUEH                                IAML                    18 45 39.5
      comp=Z,860nm,1.0s
HUEH                                i S       Sn            18 45 47.1 +0.2
CSGN  Cosiguina Volc      2.89   83  i P       Pn            18 45 13.5 -0.7
CSGN                                i S       Sn            18 45 48.3 +0.1
CSGN                                IAML                    18 46 00.9
      comp=Z,53nm,1.0s
POTN  Potosi Cosigui      2.95   83  i P       Pn            18 45 15.0 +0.2
POTN                                i S       Sn            18 45 49.4 +0.1
POTN                                IAML                    18 46 32.0
      comp=Z,110nm,1.0s
CHIHN Chmisales           3.26   40  i P       Pn            18 45 18.5 -0.9
CHIHN                               i S       Sn            18 45 56.9 -0.6
CRIN  San Cristobal       3.37   89  i P       Pn            18 45 20.6 -0.1
CRIN                                i S       Sn            18 46 00.0  0.0
CRIN                                IAML                    18 46 52.0
      comp=Z,660nm,1.0s
PKGN  Cerro Pekin         3.44   89  i P       Pn            18 45 21.4 -0.2
PKGN                                i S       Sn            18 46 01.7 +0.1
PKGN                                IAML                    18 46 42.3
      comp=Z,440nm,1.0s
CNGA  Al SSO del Vol      3.72   92  i P       Pn            18 45 24.5 -1.0
CNGA                                i S       Sn            18 46 08.8 +0.4
CNGA                                IAML                    18 46 15.8
      comp=Z,130nm,1.0s
MACN  El Madrono          3.74   92  i P       Pn            18 45 26.0 +0.2
MACN                                i S       Sn            18 46 09.2 +0.1
MACN                                IAML                    18 46 19.5
      comp=Z,53nm,1.0s
YUSH  Yuscaran            3.80   69  i P       Pn            18 45 26.4 -0.2
YUSH                                i S       Sn            18 46 10.7 +0.2
MOMN  Momotombo           3.88   93  i P       Pn            18 45 27.6 -0.1
MOMN                                IAML                    18 46 00.7
      comp=Z,5.1nm,1.0s
MOMN                                i S       Sn            18 46 13.4 +0.9
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NEIC ***30*** *18:45:01.6±0.7, 61.°46N±0.°03×149.°74W±0.°05, h57km±4km, Error ellipse: s-maj=4.2km s-min=3.6km az=185.0*
AEIC 30 18:45:02.3±0.8, 61.°46N±0.°02×149.°76W±0.°06, h53km±5km, ML3.1, ML3.2/154(NEIC), **Error ellipse: s-maj=3.9km s-min=2.3km az=94.0, Southern Alaska**

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Code  Station Name        Δ°   AZ°  Phase ID                Time       Res
                                    Op        ISC           h m s      ISC
PMR   Palmer              0.33   66            Pn            18 45 11.1 -0.8
PMR                                             Sn            18 45 18.5 -0.3
PMR   Palmer              0.33   66  P         Pn            18 45 11.1 -0.8
      baz=246
PMR                                 S         Sn            18 45 18.5 -0.3
      baz=246
M22K  Willow              0.34  329  IAML                    18 45 19.5
      comp=N,1µm,0.5s
M22K                                IAML                    18 45 28.9
      comp=E,1µm,0.7s
M22K  Willow              0.34  329            Pn            18 45 11.1 -1.0
M22K                                             Sn            18 45 19.1 +0.1
M22K  Willow              0.34  329  P         Pn            18 45 11.1 -1.0
      baz=149
M22K                                S         Sn            18 45 19.1  0.0
      baz=149
RC01  Rabbit Creek A      0.37  179            Pn            18 45 12.0 -0.4
RC01                                             Sn            18 45 19.8 +0.3
RC01  Rabbit Creek A      0.37  179  P         Pn            18 45 12.0 -0.4
      baz=359
RC01                                S         Sn            18 45 19.8 +0.3
      baz=359
SUA   Susitna One         0.48  271            Pn            18 45 13.1 -0.5
SUA                                              Sn            18 45 22.0 +0.3
SUA   Susitna One         0.48  271  IAML                    18 45 22.5
      comp=E,1µm,0.7s
SUA                                 IAML                    18 45 22.6
      comp=N,1µm,0.6s
SUA   Susitna One         0.48  271  P         Pn            18 45 13.1 -0.5
      baz=90
SUA                                 S         Sn            18 45 22.0 +0.3
      baz=90
GHO   Glory Hole Cre      0.51   51            Pn            18 45 13.3 -0.6
GHO                                              Sn            18 45 22.4 +0.2
GHO   Glory Hole Cre      0.51   51  IAML                    18 45 22.6
      comp=E,1µm,0.6s
GHO                                 IAML                    18 45 22.8
      comp=N,1µm,0.4s
KNK   Knik Glacier        0.62   94            Pn            18 45 14.9 -0.3
KNK                                              Sn            18 45 25.1 +0.5
KNK   Knik Glacier        0.62   94  P         Pn            18 45 14.9 -0.3
      baz=275
KNK                                 S         Sn            18 45 25.1 +0.5
      baz=275
SML   Sawmill             0.76   62            Pn            18 45 16.3 -0.8
SML                                              Sn            18 45 27.8  0.0
SML   Sawmill             0.76   62  P         Pn            18 45 16.3 -0.8
      baz=243
SML                                 S         Sn            18 45 27.8  0.0
      baz=243
PWL   Port Wells          0.92  131            Pn            18 45 18.6 -0.3
PWL                                              Sn            18 45 31.0 -0.2
PWL   Port Wells          0.92  131  P         Pn            18 45 18.7 -0.3
      baz=312
PWL                                 S         Sn            18 45 31.0 -0.2
      baz=312
CAPN  Captain Cook N      0.97  225  Pn        Pn            18 45 20.2 +0.5
CUT   Chulitna            0.98  346            Pn            18 45 19.0 -0.7
CUT                                              Sn            18 45 32.8 +0.1
CUT   Chulitna            0.98  346  IAML                    18 45 33.0
      comp=E,816nm,0.7s
CUT                                 IAML                    18 45 51.6
      comp=N,875nm,0.4s
CUT   Chulitna            0.98  346  P         Pn            18 45 19.0 -0.7
      baz=166
CUT                                 S         Sn            18 45 32.8 +0.1
      baz=166
O22K  Cooper Landing      0.98  179            Pn            18 45 19.1 -0.7
O22K  Cooper Landing      0.98  179  P         Pn            18 45 19.1 -0.7
      baz=359
SLKM  Skilak Lake         0.98  194            Pn            18 45 19.0 -0.8
SKT   Skwentna            0.99  302            Pn            18 45 19.3 -0.7
SKT   Skwentna            0.99  302  P         Pn            18 45 19.3 -0.7
      baz=121
STLK  Strandline Lak      1.00  273            Pn            18 45 19.6 -0.5
STLK                                             Sn            18 45 32.9 -0.3
M23K  Glacier View        1.02   70            Pn            18 45 19.9 -0.6
M23K  Glacier View        1.02   70  P         Pn            18 45 19.9 -0.6
      baz=252
SPCG  Spurr Capps Gl      1.10  262            Pn            18 45 21.2 -0.3
N20K  Mount Spurr         1.21  259  P         Pn            18 45 22.2 -0.7
      baz=76
SPCR  Spurr Chakacha      1.21  259            Pn            18 45 22.2 -0.7
SPCR  Spurr Chakacha      1.21  259            Pn            18 45 22.3 -0.7
SPCR  Spurr Chakacha      1.21  259  P         Pn            18 45 22.3 -0.7
      baz=76
SCM   Sheep Creek Mo      1.22   71            Sn            18 45 39.1 +0.6
SCM                                 IAML                    18 46 00.9
      comp=E,466nm,0.3s
SCM                                 IAML                    18 46 01.4
      comp=N,589nm,0.7s
SCM   Sheep Creek Mo      1.22   71            Pn            18 45 22.5 -0.5
SCM   Sheep Creek Mo      1.22   71  P         Pn            18 45 22.5 -0.5
      baz=253
GLI   Glacier Island      1.41  113            Sn            18 45 41.3 -1.9
GLI                                 IAML                    18 46 03.8
      comp=N,361nm,0.3s
GLI   Glacier Island      1.41  113            Pn            18 45 24.5 -1.2
GLI   Glacier Island      1.41  113  P         Pn            18 45 24.5 -1.2
      baz=296
RDT   Redoubt             1.57  237            Pn            18 45 26.9 -0.9
M20K  Styx River          1.67  286  Pn        Pn            18 45 28.7 -0.4
FID   Port Fidalgo        1.74  113  Pn        Pn            18 45 29.1 -1.1
FID                                             Sn            18 45 48.2 -3.0
FID                                 IAML                    18 46 13.9
      comp=N,254nm,0.4s
FID                                 IAML                    18 46 14.5
      comp=E,221nm,0.4s
BRLK  Bradley Lake        1.79  199  Pn        Pn            18 45 29.9 -0.9
RDWB  Redoubt West        1.79  238            Pn            18 45 30.4 -0.5
RED   Redoubt Volcan      1.81  236            Pn            18 45 30.5 -0.5
M24K  Tolsona, Glenn      1.82   68            Pn            18 45 31.3 +0.1
M24K  Tolsona, Glenn      1.82   68  IAML                    18 46 22.5
      comp=E,182nm,0.6s
M24K  Tolsona, Glenn      1.82   68  P         Pn            18 45 31.3 +0.1
      baz=251
PPLA  Purkeypile          1.84  323            Pn            18 45 30.8 -0.7
PPLA  Purkeypile          1.84  323  P         Pn            18 45 30.8 -0.7
      baz=141
KLU   Klutina             1.84   87            Pn            18 45 30.5 -1.0
KLU   Klutina             1.84   87  IAML                    18 46 20.4
      comp=N,164nm,0.4s
KLU   Klutina             1.84   87  P         Pn            18 45 30.5 -1.0
      baz=271
HIN   Hinchinbrook I      1.91  122            Pn            18 45 31.6 -0.8
DIV   Divide              1.95   98            Pn            18 45 32.0 -1.0
DHY   Denali Highway      1.97   33  Pn        Pn            18 45 32.6 -0.7
RND   Reindeer            2.00   12  Pn        Pn            18 45 33.0 -0.7
HOM   Homer               2.03  208  Pn        Pn            18 45 33.6 -0.5
CNPM  China Poot          2.07  201  Pn        Pn            18 45 33.9 -0.8
KTH   Kantishna Hill      2.17  346  Pn        Pn            18 45 35.7 -0.3
ILSW  Iliamna Southw      2.23  230  Pn        Pn            18 45 36.3 -0.6
CAST  Castle Rocks        2.25  332  Pn        Pn            18 45 36.0 -1.0
M19K  Big River Lodg      2.25  283  Pn        Pn            18 45 36.4 -0.7
N19K  Bonanza Creek       2.38  256  Pn        Pn            18 45 38.3 -0.6
N19K                                IAML                    18 46 56.5
      comp=N,97nm,0.6s
N25K  Chitina, Valde      2.47   84  Pn        Pn            18 45 39.7 -0.5
P19K  Oil Pt              2.50  225  Pn        Pn            18 45 40.6 +0.2
L19K  White Mountain      2.53  289  Pn        Pn            18 45 40.2 -0.6
RAGM  Ragged Mountai      2.70  111  Pn        Pn            18 45 42.2 -1.1
BPAW  Bear Paw Mtn.       2.71  348  Pn        Pn            18 45 42.4 -0.9
K20K  Telida              2.77  315  Pn        Pn            18 45 43.1 -1.0
SVW2  Sparrevohn          2.84  265  Pn        Pn            18 45 44.1 -1.0
GLB   Gilahina Butte      2.85   88  Pn        Pn            18 45 44.0 -1.3
KAIM  Kayak Island        3.04  118  Pn        Pn            18 45 45.6 -2.2
KAIM                                IAML                    18 47 29.9
      comp=N,54nm,1.0s
VRDI  Verde Repeater      3.05   92  Pn        Pn            18 45 46.2 -1.9
N18K  Kilae Creek         3.08  258  Pn        Pn            18 45 47.6 -0.9
WRH   Wood River Hil      3.12   13  Pn        Pn            18 45 47.7 -1.2
O18K  Koktuh Hills        3.13  241  Pn        Pn            18 45 47.6 -1.5
BERG  Berg Lake           3.14  107  Pn        Pn            18 45 47.3 -2.0
SYI   Shuyak Island       3.15  206  Pn        Pn            18 45 48.9 -0.4
MENT  Mentasta            3.19   60  Pn        Pn            18 45 48.9 -1.1
Q19K  Cape Douglas,       3.20  219  Pn        Pn            18 45 50.0  0.0
MCARA McCarthy VSAT       3.24   88  Pn        Pn            18 45 50.5  0.0
SUCK  Suckling Hills      3.25  113  Pn        Pn            18 45 51.3 +0.6
TTA   Tatalina            3.28  299  Pn        Pn            18 45 52.8 +1.5
TTA                                 IAML                    18 47 01.8
      comp=E,62nm,0.8s
CRQM  Cirque              3.29   99  Pn        Pn            18 45 50.2 -1.2
M26K  Nabesna, AK         3.33   71  Pn        Pn            18 45 51.1 -0.8
M26K                                IAML                    18 47 15.6
      comp=N,51nm,0.6s
M26K                                IAML                    18 47 50.7
      comp=E,48nm,0.6s
L18K  Granite Mounta      3.38  286  Pn        Pn            18 45 51.5 -1.0
J20K  Nowinta River       3.39  325  Pn        Pn            18 45 51.5 -1.1
P18K  Big Mountain,       3.42  235  Pn        Pn            18 45 52.0 -1.0
TGL   Tana Glacier        3.44   99  Pn        Pn            18 45 52.1 -1.2
TGL                                 IAML                    18 47 38.4
      comp=N,75nm,0.5s
MLY   Manley              3.61  353  Pn        Pn            18 45 54.7 -1.0
SNH   Sunshine Point      3.62  108  Pn        Pn            18 45 55.3 -0.6
SNH                                 IAML                    18 47 49.8
      comp=E,41nm,1.1s
SNH                                 IAML                    18 47 52.6
      comp=N,36nm,1.1s
SCRK  Sand Creek          3.67   44  Pn        Pn            18 45 56.4 -0.1
SCRK                                IAML                    18 47 49.4
      comp=N,37nm,0.9s
SCRK                                IAML                    18 47 51.5
      comp=E,37nm,0.8s
M17K  Holitna River       3.69  272  Pn        Pn            18 45 55.9 -0.8
J19K  Poorman             3.71  316  Pn        Pn            18 45 56.2 -0.8
N17K  Nushagak Hills      3.74  259  Pn        Pn            18 45 56.4 -1.0
J18K  Innoko River        3.81  305  Pn        Pn            18 45 57.6 -0.7
GRNC  Granite Creek       3.95   97  Pn        Pn            18 45 59.2 -1.4
GRNC                                IAML                    18 48 08.3
      comp=N,33nm,0.9s
KDAK  Kodiak Island       3.96  203  Pn        Pn            18 45 58.8 -1.6
MESA  MESA                4.03  105  Pn        Pn            18 46 00.3 -1.3
MESA                                IAML                    18 48 05.4
      comp=E,42nm,1.0s
CTGM  Chitina Glacie      4.10   93  Pn        Pn            18 46 01.7 -0.8
K17K  Iditarod            4.21  291  Pn        Pn            18 46 02.8 -1.0
LOGN  Logan Glacier       4.29   95  Pn        Pn            18 46 03.8 -1.3
LOGN                                IAML                    18 48 11.3
      comp=E,24nm,0.9s
TABL  Table Mountain      4.32  100  Pn        Pn            18 46 04.3 -1.3
TABL                                IAML                    18 48 06.8
      comp=N,24nm,1.0s
TABL                                IAML                    18 48 12.3
      comp=E,25nm,0.8s
M16K  Timber Creek        4.47  268  Pn        Pn            18 46 06.7 -0.7
O16K  Kokwok River B      4.52  249  Pn        Pn            18 46 07.3 -0.9
L16K  Owhat River         4.65  277  Pn        Pn            18 46 08.4 -1.5
J17K  VABM Dome           4.75  298  Pn        Pn            18 46 10.3 -0.9
J17K                                IAML                    18 48 35.7
      comp=E,16nm,1.1s
BCPM  Bancas Point        5.20  102  Pn        Pn            18 46 16.3 -1.0
N15K  Kwethluk River      5.22  260  Pn        Pn            18 46 17.0 -0.7
H18K  Honhosa River       5.36  317  Pn        Pn            18 46 19.1 -0.5
H18K                                IAML                    18 49 14.8
      comp=N,9.6nm,0.9s
H18K                                IAML                    18 49 58.5
      comp=E,9.8nm,1.2s
J16K  Anvik River         5.37  295  Pn        Pn            18 46 18.4 -1.3
K15K  Wolf Creek Mou      5.63  284  Pn        Pn            18 46 22.4 -1.0
H17K  Granite Mounta      5.77  312  Pn        Pn            18 46 24.7 -0.5
O14K  Tigyukauivet M      6.12  254  Pn        Pn            18 46 29.5 -0.5
P29M  Windy Craggy        6.21  102  Pn        Pn            18 46 30.6 -0.6
```

NEIC ***30*** *18:45:17.1±1.2, 61.°38N±0.°03×150.°09W±0.°04, h44km±5km, Error ellipse: s-maj=4.8km s-min=2.6km az=161.0*
AEIC 30 18:45:17.9±0.8, 61.°36N±0.°03×150.°10W±0.°06, h41km±4km, ML3.0, ML3.2/104(NEIC), **Error ellipse: s-maj=5.0km s-min=3.5km az=145.0, Southern Alaska**

```
Code  Station Name        Δ°   AZ°  Phase ID                Time       Res
                                    Op        ISC           h m s      ISC
RC01  Rabbit Creek A      0.32  147            Pn            18 45 25.6 -0.8
RC01                                             Sn            18 45 32.5 +0.1
RC01  Rabbit Creek A      0.32  147  IAML                    18 45 32.8
      comp=E,2µm,0.3s
RC01                                IAML                    18 45 33.6
      comp=N,2µm,0.3s
SUA   Susitna One         0.33  290            Pn            18 45 26.2 -0.5
SUA                                              Sn            18 45 33.6 +0.8
SUA   Susitna One         0.33  290  IAML                    18 45 33.8
      comp=N,897nm,0.6s
SUA                                 IAML                    18 45 33.8
      comp=E,838nm,0.5s
M22K  Willow              0.40  358            Pn            18 45 26.5 -0.8
M22K  Willow              0.40  358  IAML                    18 45 35.4
      comp=N,2µm,0.3s
M22K                                IAML                    18 45 35.5
      comp=E,2µm,0.6s
PMR   Palmer              0.52   62            Pn            18 45 27.8 -1.1
PMR                                              Sn            18 45 36.2 -0.5
PMR   Palmer              0.52   62  IAML                    18 45 36.6
      comp=E,761nm,0.7s
PMR                                 IAML                    18 45 36.8
      comp=N,1µm,0.7s
GHO   Glory Hole Cre      0.70   53            Pn            18 45 30.5 -0.9
GHO                                              Sn            18 45 41.0 -0.1
```

GHO	**Glory Hole Cre**	**0.70 53**	IAML		18 45 41.5		
	comp=N,1μm,0.4s						
CAPN	**Captain Cook N**	**0.78 222**	Pn	Pn	18 45 33.0	+0.6	
KNK	**Knik Glacier**	**0.79 85**		Pn	18 45 32.0	-0.6	
KNK				Sn	18 45 44.0	+0.8	
KNK	**Knik Glacier**	**0.79 85**	IAML		18 45 46.0		
	comp=E,1μm,0.6s						
SLKM	**Skilak Lake**	**0.85 184**		Pn	18 45 32.6	-0.8	
O22K	**Cooper Landing**	**0.90 168**		Pn	18 45 33.1	-0.9	
O22K	**Cooper Landing**	**0.90 168**	IAML		18 45 52.5		
	comp=N,2μm,0.7s						
O22K			IAML		18 45 52.6		
	comp=E,2μm,0.4s						
SKT	**Skwentna**	**0.93 313**	Pn	Pn	18 45 33.0	-1.5	
SKT			IAML		18 45 47.4		
	comp=N,810nm,0.6s						
SKT			IAML		18 45 49.1		
	comp=E,753nm,0.3s						
SML	**Sawmill**	**0.96 61**		Sn	18 45 47.3	0.0	
SML	**Sawmill**	**0.96 61**	Pn	Pn	18 45 33.8	-1.1	
SML	**Sawmill**	**0.96 61**	IAML		18 45 49.0		
	comp=N,694nm,0.3s						
SML			IAML		18 45 49.6		
	comp=E,516nm,0.8s						
PWL	**Port Wells**	**0.99 119**		Sn	18 45 48.3	+0.3	
SPCP	**Crater Peak Br**	**1.00 266**		Pn	18 45 34.9	-0.6	
SPCR	**Spurr Chakacha**	**1.03 262**		Pn	18 45 35.1	-0.8	
M20K	**Styx River**	**1.54 291**		Pn	18 45 43.3	+0.4	
BRLK	**Bradley Lake**	**1.64 194**		Pn	18 45 43.5	-0.8	
FID	**Port Fidalgo**	**1.86 107**	Pn	Pn	18 45 45.8	-1.4	
HOM	**Homer**	**1.87 205**	Pn	Pn	18 45 46.4	-0.8	
CNPM	**China Poot**	**1.92 198**		Pn	18 45 47.0	-1.1	
HIN	**Hinchinbrook I**	**2.00 117**		Pn	18 45 48.5	-0.7	
HIN			IAML		18 46 24.0		
	comp=N,238nm,0.8s						
KLU	**Klutina**	**2.01 84**	Pn	Pn	18 45 48.6	-0.7	
KLU			IAML		18 46 50.9		
	comp=E,192nm,0.4s						
M24K	**Tolsona, Glenn**	**2.01 66**		Pn	18 45 48.3	-1.1	
ILSW	**Iliamna Southw**	**2.04 229**	Pn	Pn	18 45 48.8	-0.9	
M19K	**Big River Lodg**	**2.12 287**	Pn	Pn	18 45 50.8	0.0	
RND	**Reindeer**	**2.14 15**	Pn	Pn	18 45 50.8	-0.3	
N19K	**Bonanza Creek**	**2.20 258**	Pn	Pn	18 45 51.6	-0.4	
CAST	**Castle Rocks**	**2.27 337**	Pn	Pn	18 45 52.4	-0.5	
P19K	**Oil Pt**	**2.31 224**	Pn	Pn	18 45 53.5	+0.2	
L19K	**White Mountain**	**2.41 292**	Pn	Pn	18 45 54.8	+0.1	
SVW2	**Sparrevohn**	**2.67 267**		Pn	18 45 57.6	-0.6	
K20K	**Telida**	**2.73 319**	Pn	Pn	18 45 59.1	-0.1	
N18K	**Kilae Creek**	**2.90 259**	Pn	Pn	18 46 00.8	-0.7	
O18K	**Koktuh Hills**	**2.94 241**	Pn	Pn	18 46 01.3	-0.7	
O18K			IAML		18 47 35.6		
	comp=N,82nm,1.0s						
SYI	**Shuyak Island**	**2.99 204**	Pn	Pn	18 46 02.0	-0.6	
GLB	**Gilahina Butte**	**3.02 86**	Pn	Pn	18 46 01.5	-1.7	
GLB			IAML		18 47 22.5		
	comp=E,58nm,0.5s						
P18K	**Big Mountain,**	**3.22 235**	Pn	Pn	18 46 04.9	-1.0	
L18K	**Granite Mounta**	**3.25 288**	Pn	Pn	18 46 06.0	-0.3	
J20K	**Nowinta River**	**3.39 328**	Pn	Pn	18 46 08.2	0.0	
M17K	**Holitna River**	**3.53 274**		Pn	18 46 09.8	-0.4	
N17K	**Nushagak Hills**	**3.56 260**	Pn	Pn	18 46 09.7	-0.7	
J19K	**Poorman**	**3.67 319**	Pn	Pn	18 46 12.2	+0.2	
J19K			IAML		18 47 13.3		
	comp=E,35nm,1.0s						
MLY	**Manley**	**3.70 356**	Pn	Pn	18 46 12.7	+0.2	
MLY			IAML		18 47 55.2		
	comp=E,31nm,0.7s						
J18K	**Innoko River**	**3.74 307**	Pn	Pn	18 46 12.7	-0.3	
I23K	**Minto, Yukon-K**	**3.82 5**	Pn	Pn	18 46 14.5	+0.4	
I21K	**Tanana**	**3.93 348**	Pn	Pn	18 46 15.5	-0.1	
I21K			IAML		18 47 52.3		
	comp=E,28nm,1.1s						
K17K	**Iditarod**	**4.10 293**	Pn	Pn	18 46 17.4	-0.5	
CTGM	**Chitina Glacie**	**4.26 91**	Pn	Pn	18 46 19.5	-0.8	
CTGM			IAML		18 48 00.1		
	comp=N,24nm,0.6s						
M16K	**Timber Creek**	**4.30 269**	Pn	Pn	18 46 20.7	0.0	
O16K	**Kokwok River B**	**4.33 249**	Pn	Pn	18 46 20.6	-0.5	
O16K			IAML		18 48 22.7		
	comp=N,25nm,1.0s						
LOGN	**Logan Glacier**	**4.45 93**	Pn	Pn	18 46 22.2	-0.6	
LOGN			IAML		18 49 21.6		
	comp=E,26nm,1.2s						
H21K	**Melozitna Rive**	**4.49 345**	Pn	Pn	18 46 23.6	+0.4	
L16K	**Owhat River**	**4.50 279**	Pn	Pn	18 46 23.0	-0.5	
L16K			IAML		18 49 27.0		
	comp=N,17nm,0.7s						
H24K	**Noodor Dome**	**4.61 11**	Pn	Pn	18 46 25.9	+1.0	
H24K			IAML		18 48 14.4		
	comp=E,23nm,0.9s						
H24K			IAML		18 48 18.2		
	comp=N,18nm,0.8s						
N15K	**Kwethluk River**	**5.04 261**	Pn	Pn	18 46 30.8	-0.1	
J16K	**Anvik River**	**5.27 296**	Pn	Pn	18 46 33.4	-0.5	
G21K	**Allakaket**	**5.39 345**	Pn	Pn	18 46 36.2	+0.6	
G21K			IAML		18 48 51.1		
	comp=E,17nm,0.9s						

NEIC ***30*** *18:45:49.7±1.2, 61°.35N±0°.03×150°.08W±0°.05, h38km±5km, Error ellipse: s-maj=3.9km s-min=3.2km az=194.0*

AEIC 30 18:45:50.3±1.3, 61°.35N±0°.03×150°.08W±0°.03, h33km±7km, ML3.3, ML3.3/156(NEIC)**, Error ellipse: s-maj=4.5km s-min=2.0km az=196.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.31**	**147**		Pb	18 45 57.5	-0.7
RC01					Sb	18 46 04.0	+0.4
RC01	**Rabbit Creek A**	**0.31**	**147**	IAML		18 46 04.7	
	comp=E,3μm,0.3s						
RC01	**Rabbit Creek A**	**0.31**	**147**	P	Pb	18 45 57.5	-0.7
	baz=328						
RC01				S	Sb	18 46 04.0	+0.4
	baz=328						
SUA	**Susitna One**	**0.34**	**290**		Pb	18 45 58.2	-0.5
SUA					Sb	18 46 05.4	+0.9
SUA	**Susitna One**	**0.34**	**290**	IAML		18 46 05.7	
	comp=E,4μm,0.8s						
SUA				IAML		18 46 05.7	
	comp=N,3μm,0.6s						
SUA	**Susitna One**	**0.34**	**290**	P	Pb	18 45 58.2	-0.5
	baz=109						
SUA				S	Sb	18 46 05.4	+0.9
	baz=109						
M22K	**Willow**	**0.41**	**357**		Pb	18 45 58.5	-1.0
M22K	**Willow**	**0.41**	**357**	IAML		18 46 07.1	
	comp=N,4μm,0.4s						
M22K				IAML		18 46 11.4	
	comp=E,2μm,0.5s						
M22K	**Willow**	**0.41**	**357**	P	Pb	18 45 58.5	-1.0
	baz=177						
PMR	**Palmer**	**0.52**	**62**		Pb	18 45 59.9	-1.3
PMR	**Palmer**	**0.52**	**62**		Sb	18 46 08.0	-0.6
PMR	**Palmer**	**0.52**	**62**	IAML		18 46 08.6	
	comp=E,2μm,0.4s						
PMR				IAML		18 46 08.7	
	comp=N,3μm,0.3s						
PMR	**Palmer**	**0.52**	**62**	P	Pb	18 45 59.9	-1.2
	baz=242						
PMR				S	Sb	18 46 08.0	-0.6
	baz=242						
GHO	**Glory Hole Cre**	**0.70**	**52**		Pn	18 46 02.5	-1.4
GHO					Sn	18 46 12.9	-0.6
GHO	**Glory Hole Cre**	**0.70**	**52**	IAML		18 46 15.1	
	comp=N,2μm,0.5s						
CAPN	**Captain Cook N**	**0.78**	**222**	Pn	Pn	18 46 04.7	-0.3
KNK	**Knik Glacier**	**0.78**	**85**		Pn	18 46 04.1	-1.0
KNK					Sb	18 46 15.9	-0.1
KNK	**Knik Glacier**	**0.78**	**85**	IAML		18 46 18.4	
	comp=N,2μm,0.2s						
KNK				IAML		18 46 18.5	
	comp=E,2μm,0.4s						
KNK	**Knik Glacier**	**0.78**	**85**	P	Pn	18 46 04.1	-1.0
	baz=266						
KNK				S	Sb	18 46 15.9	-0.1
	baz=266						
SLKM	**Skilak Lake**	**0.85**	**185**		Pn	18 46 04.4	-1.5
STLK	**Strandline Lak**	**0.85**	**281**		Pn	18 46 05.1	-0.9
STLK					Sn	18 46 17.2	-0.2
O22K	**Cooper Landing**	**0.89**	**169**	Pn	Pn	18 46 04.9	-1.5
SKT	**Skwentna**	**0.94**	**313**		Pn	18 46 06.3	-0.8
SKT					Sn	18 46 19.1	-0.3
SKT	**Skwentna**	**0.94**	**313**	IAML		18 46 20.2	
	comp=E,773nm,0.4s						
SKT				IAML		18 46 22.0	
	comp=N,1μm,0.3s						
SKT	**Skwentna**	**0.94**	**313**	P	Pn	18 46 06.3	-0.8
	baz=132						
SKT				S	Sn	18 46 19.1	-0.3
	baz=132						
SPCG	**Spurr Capps Gl**	**0.94**	**267**		Pn	18 46 06.2	-1.0
SPCG					Sn	18 46 19.4	-0.2
SML	**Sawmill**	**0.95**	**61**		Pn	18 46 06.0	-1.4
SML				IAML		18 46 21.8	
	comp=E,786nm,0.6s						
SML				IAML		18 46 22.4	
	comp=N,1μm,0.7s						
SML	**Sawmill**	**0.95**	**61**	P	Pn	18 46 06.4	-1.1
	baz=242						
PWL	**Port Wells**	**0.98**	**119**		Pn	18 46 07.0	-0.7
PWL	**Port Wells**	**0.98**	**119**	P	Pn	18 46 07.1	-0.6
	baz=301						
SPCP	**Crater Peak Br**	**1.00**	**266**		Pn	18 46 07.2	-0.9
N20K	**Mount Spurr**	**1.04**	**263**	P	Pn	18 46 07.4	-1.2
	baz=81						
SPCR	**Spurr Chakacha**	**1.04**	**263**		Pn	18 46 07.4	-1.2
SPCR	**Spurr Chakacha**	**1.04**	**263**		Pn	18 46 07.5	-1.1
SPCR	**Spurr Chakacha**	**1.04**	**263**	P	Pn	18 46 07.5	-1.1
	baz=81						
CUT	**Chulitna**	**1.06**	**355**		Pn	18 46 08.0	-0.9
CUT	**Chulitna**	**1.06**	**355**	P	Pn	18 46 08.0	-0.9
	baz=175						
M23K	**Glacier View**	**1.21**	**67**		Pn	18 46 10.2	-0.7
M23K	**Glacier View**	**1.21**	**67**	P	Pn	18 46 10.2	-0.7
	baz=250						
RDT	**Redoubt**	**1.38**	**237**		Pn	18 46 12.2	-1.1
SCM	**Sheep Creek Mo**	**1.40**	**69**		Pn	18 46 12.8	-0.8
SCM	**Sheep Creek Mo**	**1.40**	**69**	IAML		18 46 33.9	
	comp=E,738nm,0.7s						
SCM				IAML		18 46 39.9	
	comp=N,496nm,0.8s						
SCM	**Sheep Creek Mo**	**1.40**	**69**	P	Pn	18 46 12.8	-0.8
	baz=251						
GLI	**Glacier Island**	**1.52**	**107**		Pn	18 46 13.8	-1.4
GLI	**Glacier Island**	**1.52**	**107**	IAML		18 46 35.5	
	comp=E,455nm,0.4s						
GLI				IAML		18 46 38.0	
	comp=N,546nm,0.3s						
GLI	**Glacier Island**	**1.52**	**107**	P	Pn	18 46 13.9	-1.4
	baz=289						
M20K	**Styx River**	**1.55**	**291**	Pn	Pn	18 46 15.6	0.0
RDWB	**Redoubt West**	**1.60**	**239**		Pn	18 46 15.5	-0.9
BRLK	**Bradley Lake**	**1.64**	**194**		Pn	18 46 16.4	-0.4
BRLK				IAML		18 46 39.7	
	comp=N,511nm,0.5s						
BRSE	**Bradley Lake S**	**1.65**	**192**		Pn	18 46 16.7	-0.2
BRSE	**Bradley Lake S**	**1.65**	**192**	P	Pn	18 46 16.7	-0.2
	baz=11						
WAT1	**Susitna Watana**	**1.65**	**25**		Pn	18 46 16.6	-0.3
WAT1	**Susitna Watana**	**1.65**	**25**	P	Pn	18 46 16.6	-0.3
	baz=206						
CNPM	**China Poot**	**1.92**	**198**	Pn	Pn	18 46 20.3	-0.3
M24K	**Tolsona, Glenn**	**2.01**	**66**	Pn	Pn	18 46 21.4	-0.5
M24K				IAML		18 46 50.7	
	comp=N,392nm,0.5s						
M24K				IAML		18 46 50.8	
	comp=E,455nm,0.6s						
ILSW	**Iliamna Southw**	**2.04**	**229**		Pn	18 46 22.4	+0.1
ILSW				IAML		18 46 51.5	
	comp=E,201nm,0.7s						
M19K	**Big River Lodg**	**2.13**	**287**		Pn	18 46 23.2	-0.3
RND	**Reindeer**	**2.14**	**15**		Pn	18 46 23.1	-0.7
RND				IAML		18 47 01.5	
	comp=N,160nm,0.9s						
RND				IAML		18 47 02.0	
	comp=E,178nm,0.7s						
DHY	**Denali Highway**	**2.15**	**35**		Pn	18 46 23.1	-0.8
DHY				IAML		18 46 54.7	
	comp=E,240nm,0.4s						
DHY				IAML		18 46 56.7	
	comp=N,264nm,0.8s						
N19K	**Bonanza Creek**	**2.21**	**258**	Pn	Pn	18 46 24.6	-0.1
KTH	**Kantishna Hill**	**2.25**	**350**		Pn	18 46 25.5	+0.3
KTH				IAML		18 46 56.2	
	comp=E,197nm,0.5s						
KTH				IAML		18 47 34.2	
	comp=N,255nm,0.3s						
CAST	**Castle Rocks**	**2.28**	**337**		Pn	18 46 25.6	0.0
CAST				IAML		18 47 08.9	
	comp=E,135nm,1.1s						
P19K	**Oil Pt**	**2.31**	**224**		Pn	18 46 21.6	-4.4
L19K	**White Mountain**	**2.42**	**292**	Pn	Pn	18 46 26.1	-1.4
N25K	**Chitina, Valde**	**2.64**	**82**		Pn	18 46 29.2	-1.5
N25K				IAML		18 47 11.4	
	comp=N,160nm,0.5s						
N25K				IAML		18 48 09.4	
	comp=E,102nm,0.4s						
SVW2	**Sparrevohn**	**2.67**	**267**	Pn	Pn	18 46 30.0	-1.0
K20K	**Telida**	**2.74**	**319**		Pn	18 46 31.4	-0.5
BPAW	**Bear Paw Mtn.**	**2.79**	**352**		Pn	18 46 31.9	-0.7
BPAW				IAML		18 47 19.2	
	comp=E,80nm,0.7s						
BPAW				IAML		18 47 20.2	
	comp=N,74nm,0.6s						
RAGM	**Ragged Mountai**	**2.82**	**108**	Pn	Pn	18 46 32.2	-0.7
BWN	**Browne**	**2.85**	**5**	Pn	Pn	18 46 32.9	-0.5
N18K	**Kilae Creek**	**2.91**	**259**	Pn	Pn	18 46 33.6	-0.7
O18K	**Koktuh Hills**	**2.94**	**242**	Pn	Pn	18 46 33.4	-1.2
SYI	**Shuyak Island**	**2.98**	**204**		Pn	18 46 34.0	-1.2
SYI				IAML		18 47 18.0	
	comp=E,107nm,0.7s						
SYI				IAML		18 47 20.1	
	comp=N,97nm,0.6s						
Q19K	**Cape Douglas,**	**3.01**	**218**		Pn	18 46 34.6	-1.0
GLB	**Gilahina Butte**	**3.02**	**86**	Pn	Pn	18 46 34.4	-1.4
GLB				IAML		18 47 23.8	
	comp=N,97nm,0.8s						
GLB				IAML		18 48 23.8	
	comp=E,111nm,0.6s						
KAIM	**Kayak Island**	**3.13**	**115**	Pn	Pn	18 46 36.4	-0.9
KAIM				IAML		18 47 17.6	
	comp=E,67nm,1.0s						
VRDI	**Verde Repeater**	**3.20**	**89**	Pn	Pn	18 46 36.9	-1.5
VRDI				IAML		18 47 31.7	
	comp=N,63nm,0.9s						
TTA	**Tatalina**	**3.20**	**302**	Pn	Pn	18 46 36.6	-1.7
P18K	**Big Mountain,**	**3.22**	**235**	Pn	Pn	18 46 36.8	-1.8
L18K	**Granite Mounta**	**3.26**	**288**	Pn	Pn	18 46 38.3	-0.7
WRH	**Wood River Hil**	**3.26**	**15**	Pn	Pn	18 46 38.0	-1.1
WRH				IAML		18 47 32.7	
	comp=E,79nm,1.1s						
WRH				IAML		18 47 37.9	
	comp=N,68nm,1.1s						
BERG	**Berg Lake**	**3.26**	**104**	Pn	Pn	18 46 37.4	-1.7
NEA2	**Nenana**	**3.29**	**8**		Pn	18 46 38.0	-1.5
NEA2				IAML		18 47 35.0	
	comp=N,53nm,0.9s						
SUCK	**Suckling Hills**	**3.35**	**110**	Pn	Pn	18 46 38.7	-1.6
MENT	**Mentasta**	**3.38**	**59**	Pn	Pn	18 46 39.2	-1.5
J20K	**Nowinta River**	**3.40**	**328**		Pn	18 46 39.9	-1.0
RIDG	**Independent Ri**	**3.41**	**43**		Pn	18 46 39.8	-1.4
RIDG				IAML		18 47 31.1	
	comp=N,105nm,0.6s						
CCB	**Clear Creek Bu**	**3.47**	**16**	Pn	Pn	18 46 42.1	+0.2
CCB				IAML		18 47 40.0	
	comp=E,65nm,0.7s						
M17K	**Holitna River**	**3.54**	**274**	Pn	Pn	18 46 42.2	-0.7
M17K				IAML		18 47 42.5	
	comp=E,71nm,0.7s						
M17K				IAML		18 47 53.9	
	comp=N,70nm,0.7s						
N17K	**Nushagak Hills**	**3.56**	**260**	Pn	Pn	18 46 42.5	-0.7
N17K				IAML		18 47 23.8	
	comp=N,41nm,0.8s						
N17K				IAML		18 47 24.6	
	comp=E,48nm,1.1s						
COLA	**College**	**3.68**	**15**		Pn	18 46 45.0	+0.3
J19K	**Poorman**	**3.68**	**319**	Pn	Pn	18 46 44.5	-0.3
MLY	**Manley**	**3.71**	**356**	Pn	Pn	18 46 44.5	-0.7
IL31		**3.73**	**22**	Pn	Pn	18 46 44.7	-0.7
J18K	**Innoko River**	**3.75**	**307**	Pn	Pn	18 46 45.5	-0.2
J18K				IAML		18 48 23.0	
	comp=E,45nm,0.7s						
KDAK	**Kodiak Island**	**3.80**	**201**	Pn	Pn	18 46 45.4	-1.0
KDAK				IAML		18 47 46.2	
	comp=E,54nm,0.9s						
KDAK				IAML		18 47 47.6	
	comp=E,46nm,0.6s						
I23K	**Minto, Yukon-K**	**3.83 5**		Pn	18 46 46.0	-0.8	
I23K			IAML		18 47 57.5		
	comp=N,44nm,0.7s						
I23K			IAML		18 48 00.3		
	comp=E,53nm,0.9s						
SCRK	**Sand Creek**	**3.85 44**	Pn	Pn	18 46 46.8	-0.5	
J25K	**Salcha River,**	**3.92 31**		Pn	18 46 47.3	-0.8	
J25K			IAML		18 49 14.1		
	comp=N,60nm,0.7s						
I21K	**Tanana**	**3.94 348**	Pn	Pn	18 46 47.6	-0.7	
I21K			IAML		18 48 03.0		
	comp=N,32nm,0.8s						
POKR	**Poker Plat Res**	**3.97 16**	Pn	Pn	18 46 48.3	-0.5	
POKR			IAML		18 49 27.1		
	comp=E,34nm,0.8s						
POKR			IAML		18 49 29.0		
	comp=N,36nm,0.8s						
I20K	**Naaghedeneel**	**4.00 332**	Pn	Pn	18 46 48.7	-0.4	
GRNC	**Granite Creek**	**4.10 95**	Pn	Pn	18 46 49.9	-0.8	
CTGM	**Chitina Glacie**	**4.26 91**	Pn	Pn	18 46 52.3	-0.5	
CTGM			IAML		18 49 33.3		
	comp=N,45nm,0.7s						
CTGM			IAML		18 49 36.5		
	comp=E,27nm,0.6s						
M16K	**Timber Creek**	**4.31 270**	Pn	Pn	18 46 53.0	-0.4	
O16K	**Kokwok River B**	**4.34 250**	Pn	Pn	18 46 53.1	-0.8	
J26L	**Joseph Creek**	**4.34 40**		Pn	18 46 52.6	-1.4	
LOGN	**Logan Glacier**	**4.44 93**	Pn	Pn	18 46 54.4	-1.0	
LOGN			IAML		18 49 50.8		
	comp=E,35nm,1.1s						
H21K	**Melozitna Rive**	**4.49 345**	Pn	Pn	18 46 55.6	-0.4	
H21K			IAML		18 48 15.9		
	comp=E,22nm,1.0s						
H23K	**Yukon River**	**4.50 3**	Pn	Pn	18 46 56.2	+0.2	
L16K	**Owhat River**	**4.51 279**	Pn	Pn	18 46 55.7	-0.5	
H24K	**Noodor Dome**	**4.61 11**	Pn	Pn	18 46 57.4	-0.3	
H24K			IAML		18 49 49.6		
	comp=E,33nm,1.1s						
H24K			IAML		18 49 58.6		
	comp=N,26nm,1.0s						
PRP	**Porcupine Dome**	**4.66 24**	Pn	Pn	18 46 57.4	-0.9	
PRP			IAML		18 48 01.8		
	comp=N,43nm,0.7s						
H19K	**Roundabout Mou**	**5.07 328**	Pn	Pn	18 47 03.0	-0.8	
H19K			IAML		18 48 51.0		
	comp=E,21nm,1.2s						
H19K			IAML		18 50 18.1		
	comp=N,14nm,1.2s						
J16K	**Anvik River**	**5.28 296**	Pn	Pn	18 47 06.3	-0.4	
J16K			IAML		18 50 17.0		
	comp=N,13nm,1.2s						
H18K	**Honhosa River**	**5.34 319**	Pn	Pn	18 47 07.8	+0.2	
H18K			IAML		18 50 27.8		
	comp=N,10nm,1.1s						
H18K			IAML		18 50 34.6		
	comp=E,13nm,1.1s						
G21K	**Allakaket**	**5.40 345**	Pn	Pn	18 47 08.2	-0.2	
G24K	**Hadweenzic Riv**	**5.49 11**		Pn	18 47 10.1	+0.5	
K15K	**Wolf Creek Mou**	**5.51 285**	Pn	Pn	18 47 09.8	-0.1	
H17K	**Granite Mounta**	**5.72 313**	Pn	Pn	18 47 12.5	-0.4	
O14K	**Tigyukauivet M**	**5.94 254**	Pn	Pn	18 47 15.5	-0.4	
G18K	**Tagagawik**	**5.95 324**	Pn	Pn	18 47 15.5	-0.4	
L14K	**Kuka Creek**	**6.07 275**	Pn	Pn	18 47 16.9	-0.6	
F21K	**Alatna River**	**6.08 347**	Pn	Pn	18 47 17.3	-0.4	
HYT	**Haines Junctio**	**6.12 89**	Pn	Pn	18 47 17.8	-0.7	
F20K	**Avaraart Lake**	**6.23 339**	Pn	Pn	18 47 19.8	+0.1	
P29M	**Windy Craggy**	**6.34 100**	Pn	Pn	18 47 20.7	-0.6	
F19K	**Shaleruckik Mo**	**6.45 332**	Pn	Pn	18 47 22.7	-0.1	
BMAR	**Burnt Mountain**	**6.55 19**	Pn	Pn	18 47 25.2	+1.0	
G16K	**Koyuk River**	**6.84 312**	Pn	Pn	18 47 28.7	+0.5	
F26K	**Sheenjek River**	**6.86 19**	Pn	Pn	18 47 29.0	+0.5	
E19K	**Redstone River**	**6.86 336**	Pn	Pn	18 47 28.6	+0.2	
WHY	**Whitehorse**	**7.42 89**	Pn	Pn	18 47 34.5	-1.8	
E18K	**Tukpahlearik C**	**7.60 328**	Pn	Pn	18 47 39.1	+0.6	
F15K	**North Star Dit**	**7.83 310**	Pn	Pn	18 47 42.1	+0.4	

NEIC ***30*** *18:46:29.5±0.9, 61°.49N±0°.02×149°.94W±0°.04, h44km±4km, Error ellipse: s-maj=3.4km s-min=2.5km az=138.0*

AEIC 30 18:46:29.8±1.0, 61°.51N±0°.03×149°.95W±0°.05, h46km±4km, ML2.7, ML3.1/32(NEIC)**, Error ellipse: s-maj=3.9km s-min=3.1km az=165.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.26**	**342**		Pn	18 46 38.0	-0.2
M22K	**Willow**	**0.26**	**342**	IAML		18 46 44.6	
	comp=E,896nm,0.6s						
M22K				IAML		18 46 45.2	
	comp=N,864nm,0.8s						
SUA	**Susitna One**	**0.38**	**264**		Pn	18 46 38.8	-0.8
SUA					Sn	18 46 46.6	0.0
SUA	**Susitna One**	**0.38**	**264**	IAML		18 46 46.9	
	comp=N,567nm,0.7s						
SUA				IAML		18 46 47.2	
	comp=E,532nm,0.7s						
PMR	**Palmer**	**0.40**	**77**		Sn	18 46 46.4	-0.2
PMR	**Palmer**	**0.40**	**77**	Pn	Pn	18 46 38.5	-1.1
PMR				IAML		18 46 47.0	
	comp=E,394nm,0.4s						
PMR				IAML		18 46 48.7	
	comp=N,357nm,0.2s						
RC01	**Rabbit Creek A**	**0.43**	**166**		Pn	18 46 39.2	-0.8
RC01					Sn	18 46 46.7	-0.5
RC01	**Rabbit Creek A**	**0.43**	**166**	IAML		18 46 47.6	
	comp=N,1μm,0.2s						
RC01				IAML		18 46 47.7	
	comp=E,1μm,0.2s						
GHO	**Glory Hole Cre**	**0.56**	**61**		Pn	18 46 41.0	-0.7
GHO					Sn	18 46 50.3	+0.2
GHO	**Glory Hole Cre**	**0.56**	**61**	IAML		18 46 50.6	
	comp=E,864nm,0.5s						
GHO				IAML		18 46 51.2	
	comp=N,642nm,0.5s						
KNK	**Knik Glacier**	**0.72**	**97**		Pn	18 46 43.0	-0.8
KNK					Sn	18 46 54.2	+0.4
KNK	**Knik Glacier**	**0.72**	**97**	IAML		18 46 55.8	
	comp=E,799nm,0.3s						
KNK				IAML		18 46 56.2	
	comp=N,752nm,0.5s						
SML	**Sawmill**	**0.83**	**68**		Pn	18 46 44.4	-0.8
SML	**

M22K					Sn	18 47 41.0	+0.6
M22K	**Willow**	**0.30**	**339**	IAML		18 47 41.2	
	comp=E,13μm,0.5s						
M22K				IAML		18 47 41.4	
	comp=N,11μm,0.6s						
M22K	**Willow**	**0.30**	**339**	P	**Pb**	**18 47 34.2**	**-0.4**
	baz=159						
M22K				S	**Sn**	**18 47 41.0**	**+0.6**
	baz=159						
PMR	**Palmer**	**0.39**	**72**		**Pb**	**18 47 35.1**	**-0.6**
PMR					**Sb**	**18 47 42.4**	**+0.6**
PMR	**Palmer**	**0.39**	**72**	IAML		18 47 42.6	
	comp=N,2μm,0.4s						
PMR				IAML		18 47 42.8	
	comp=E,2μm,0.8s						
PMR	**Palmer**	**0.39**	**72**	P	**Pb**	**18 47 35.1**	**-0.6**
	baz=253						
PMR				S	**Sb**	**18 47 42.4**	**+0.6**
	baz=253						
RC01	**Rabbit Creek A**	**0.40**	**169**		**Pb**	**18 47 35.5**	**-0.5**
RC01					**Sb**	**18 47 42.1**	**+0.1**
RC01				IAML		18 47 43.1	
	comp=E,4μm,0.3s						
RC01				IAML		18 47 43.8	
	comp=N,3μm,0.3s						
RC01	**Rabbit Creek A**	**0.40**	**169**	P	**Pb**	**18 47 36.6**	**+0.7**
	baz=349						
SUA	**Susitna One**	**0.41**	**269**		**Pb**	**18 47 35.7**	**-0.5**
SUA					**Sn**	**18 47 43.5**	**+0.2**
SUA	**Susitna One**	**0.41**	**269**	IAML		18 47 43.8	
	comp=E,6μm,0.8s						
SUA				IAML		18 47 44.2	
	comp=N,4μm,0.8s						
SUA	**Susitna One**	**0.41**	**269**	P	**Pb**	**18 47 35.7**	**-0.5**
	baz=88						
SUA				S	**Sn**	**18 47 43.5**	**+0.2**
	baz=88						
GHO	**Glory Hole Cre**	**0.55**	**57**		**Pb**	**18 47 37.7**	**-0.7**
GHO					**Sb**	**18 47 46.5**	**+0.3**
GHO	**Glory Hole Cre**	**0.55**	**57**	IAML		18 47 47.4	
	comp=N,3μm,0.4s						
GHO				IAML		18 47 47.4	
	comp=E,3μm,0.3s						
KNK	**Knik Glacier**	**0.69**	**95**		**Pn**	**18 47 39.8**	**-0.8**
KNK					**Sb**	**18 47 50.4**	**+0.4**
KNK	**Knik Glacier**	**0.69**	**95**	IAML		18 47 53.2	
	comp=E,2μm,0.4s						
KNK				IAML		18 47 54.6	
	comp=N,2μm,0.5s						
KNK	**Knik Glacier**	**0.69**	**95**	P	**Pn**	**18 47 39.8**	**-0.8**
	baz=276						
KNK				S	**Sb**	**18 47 50.4**	**+0.4**
	baz=276						
SML	**Sawmill**	**0.82**	**65**		**Pn**	**18 47 41.4**	**-0.8**
SML	**Sawmill**	**0.82**	**65**	P	**Pn**	**18 47 41.4**	**-0.8**
	baz=247						
SKT	**Skwentna**	**0.93**	**304**		**Pn**	**18 47 42.4**	**-1.3**
SKT				IAML		18 47 56.9	
	comp=E,2μm,0.6s						
SKT	**Skwentna**	**0.93**	**304**		**Sn**	**18 47 55.5**	**-0.5**
SKT	**Skwentna**	**0.93**	**304**	S	**Sn**	**18 47 55.5**	**-0.5**
	baz=122						
STLK	**Strandline Lak**	**0.93**	**272**		**Pn**	**18 47 43.2**	**-0.6**
STLK					**Sn**	**18 47 56.0**	**-0.1**
CAPN	**Captain Cook N**	**0.94**	**221**	Pn	**Pn**	**18 47 44.2**	**+0.4**
CUT	**Chulitna**	**0.95**	**350**	Pn	**Pn**	**18 47 44.3**	**+0.3**
CUT				IAML		18 47 58.6	
	comp=E,2μm,0.3s						
CUT				IAML		18 48 00.1	
	comp=N,1μm,0.3s						
PWL	**Port Wells**	**0.98**	**129**		**Pn**	**18 47 44.2**	**-0.2**
PWL	**Port Wells**	**0.98**	**129**	P	**Pn**	**18 47 44.2**	**-0.2**
	baz=310						
SLKM	**Skilak Lake**	**0.98**	**189**		**Pn**	**18 47 43.9**	**-0.7**
O22K	**Cooper Landing**	**1.00**	**175**		**Sn**	**18 47 58.2**	**+0.5**
O22K	**Cooper Landing**	**1.00**	**175**	Pn	**Pn**	**18 47 44.3**	**-0.4**
O22K	**Cooper Landing**	**1.00**	**175**	S	**Sn**	**18 47 58.2**	**+0.5**
	baz=355						
SPCG	**Spurr Capps Gl**	**1.04**	**261**		**Pn**	**18 47 44.9**	**-0.5**
SPCP	**Crater Peak Br**	**1.11**	**260**		**Pn**	**18 47 46.0**	**-0.3**
N20K	**Mount Spurr**	**1.15**	**257**	P	**Pn**	**18 47 46.1**	**-0.7**
	baz=75						
N20K				S	**Sn**	**18 48 01.5**	**0.0**
	baz=75						
SPCR	**Spurr Chakacha**	**1.15**	**257**		**Pn**	**18 47 46.1**	**-0.7**
SPCR					**Sn**	**18 48 01.5**	**0.0**
SPCR	**Spurr Chakacha**	**1.15**	**257**		**Pn**	**18 47 46.1**	**-0.7**
SPCR	**Spurr Chakacha**	**1.15**	**257**	P	**Pn**	**18 47 46.1**	**-0.7**
	baz=75						
SCM	**Sheep Creek Mo**	**1.28**	**73**		**Pn**	**18 47 48.1**	**-0.5**
SCM	**Sheep Creek Mo**	**1.28**	**73**	IAML		18 48 06.7	
	comp=E,1μm,0.8s						
SCM	**Sheep Creek Mo**	**1.28**	**73**	P	**Pn**	**18 47 48.1**	**-0.5**
	baz=255						
WAT7	**Susitna Watana**	**1.45**	**19**		**Pn**	**18 47 51.2**	**+0.2**
GLI	**Glacier Island**	**1.48**	**113**		**Pn**	**18 47 50.4**	**-0.9**
GLI				IAML		18 48 11.5	
	comp=N,1μm,0.5s						
GLI	**Glacier Island**	**1.48**	**113**	P	**Pn**	**18 47 50.7**	**-0.7**
	baz=295						
WAT1	**Susitna Watana**	**1.50**	**24**		**Pn**	**18 47 51.6**	**0.0**
WAT1	**Susitna Watana**	**1.50**	**24**	P	**Pn**	**18 47 51.6**	**0.0**
	baz=206						
WAT6	**Susitna Watana**	**1.50**	**42**		**Pn**	**18 47 51.6**	**-0.2**
WAT6	**Susitna Watana**	**1.50**	**42**	P	**Pn**	**18 47 51.6**	**-0.2**
	baz=224						
RDT	**Redoubt**	**1.52**	**235**		**Pn**	**18 47 51.5**	**-0.4**
M20K	**Styx River**	**1.59**	**286**		**Pn**	**18 47 53.4**	**+0.4**
M20K	**Styx River**	**1.59**	**286**		**Sn**	**18 48 14.3**	**+1.8**
M20K				IAML		18 48 15.8	
	comp=E,532nm,0.8s						
M20K	**Styx River**	**1.59**	**286**	P	**Pn**	**18 47 53.4**	**+0.4**
	baz=103						
RDJH	**Redoubt Jeurge**	**1.67**	**239**		**Pn**	**18 47 53.7**	**-0.3**
RDSO	**Redoubt South**	**1.73**	**235**		**Pn**	**18 47 54.5**	**-0.4**
RDWB	**Redoubt West**	**1.74**	**237**		**Pn**	**18 47 54.7**	**-0.4**
RED	**Redoubt Volcan**	**1.76**	**234**		**Pn**	**18 47 54.8**	**-0.4**
BRLK	**Bradley Lake**	**1.79**	**196**	Pn	**Pn**	**18 47 55.0**	**-0.6**
BRLK				IAML		18 48 20.0	
	comp=E,891nm,0.4s						
BRLK				IAML		18 48 21.0	
	comp=N,752nm,0.4s						
FID	**Port Fidalgo**	**1.81**	**112**		**Pn**	**18 47 55.0**	**-0.9**
FID				IAML		18 48 19.1	
	comp=E,802nm,0.4s						
FID				IAML		18 48 19.3	
	comp=N,802nm,0.5s						
M24K	**Tolsona, Glenn**	**1.88**	**69**		**Pn**	**18 47 56.8**	**-0.1**
KLU	**Klutina**	**1.91**	**88**	Pn	**Pn**	**18 47 57.1**	**-0.1**
KLU				IAML		18 48 21.9	
	comp=N,464nm,0.5s						
KLU				IAML		18 48 24.9	
	comp=E,339nm,0.7s						
O20K	**Slope Mountain**	**1.94**	**225**		**Pn**	**18 47 57.8**	**+0.2**
O20K	**Slope Mountain**	**1.94**	**225**	P	**Pn**	**18 47 57.8**	**+0.2**
	baz=42						
HIN	**Hinchinbrook I**	**1.98**	**122**		**Pn**	**18 47 57.5**	**-0.7**
HIN				IAML		18 48 28.9	
	comp=N,615nm,0.8s						
DHY	**Denali Highway**	**1.99**	**35**	Pn	**Pn**	**18 47 58.0**	**-0.5**
DHY				IAML		18 48 26.9	
	comp=E,404nm,0.8s						
DHY				IAML		18 48 27.6	
	comp=N,363nm,0.9s						
RND	**Reindeer**	**2.00**	**14**	Pn	**Pn**	**18 47 57.8**	**-0.7**
HOM	**Homer**	**2.02**	**206**		**Pn**	**18 47 58.6**	**0.0**
HOM	**Homer**	**2.02**	**206**	P	**Pn**	**18 47 58.6**	**0.0**
	baz=25						
CNPM	**China Poot**	**2.06**	**199**	Pn	**Pn**	**18 47 58.9**	**-0.5**
CNPM				IAML		18 48 29.1	
	comp=N,550nm,0.5s						
L20K	**Farewell, AK**	**2.13**	**300**		**Pn**	**18 47 60.0**	**-0.4**
L20K	**Farewell, AK**	**2.13**	**300**	P	**Pn**	**18 47 59.9**	**-0.4**
	baz=116						
KTH	**Kantishna Hill**	**2.14**	**348**	Pn	**Pn**	**18 48 00.1**	**-0.3**
KTH				IAML		18 48 28.8	
	comp=E,233nm,0.7s						
KTH				IAML		18 48 32.4	
	comp=N,230nm,0.7s						
M19K	**Big River Lodg**	**2.19**	**283**		**Pn**	**18 48 00.8**	**-0.3**
M19K	**Big River Lodg**	**2.19**	**283**	P	**Pn**	**18 48 00.8**	**-0.3**
	baz=99						
ILSW	**Iliamna Southw**	**2.19**	**228**		**Pn**	**18 48 00.9**	**-0.2**
ILSW				IAML		18 48 47.9	
	comp=N,207nm,0.8s						

CAST	**Castle Rocks**	**2.20**	**333**	Pn	**Pn**	**18 48 01.3**	**+0.1**
N19K	**Bonanza Creek**	**2.32**	**255**		**Pn**	**18 48 02.8**	**-0.2**
N19K	**Bonanza Creek**	**2.32**	**255**	P	**Pn**	**18 48 02.8**	**-0.2**
	baz=71						
L19K	**White Mountain**	**2.46**	**289**		**Pn**	**18 48 04.8**	**0.0**
L19K	**White Mountain**	**2.46**	**289**	IAML		18 48 47.5	
	comp=E,199nm,0.8s						
L19K	**White Mountain**	**2.46**	**289**	P	**Pn**	**18 48 04.8**	**0.0**
	baz=105						
P19K	**Oil Pt**	**2.46**	**223**	Pn	**Pn**	**18 48 04.7**	**-0.1**
O19K	**Port Alsworth**	**2.52**	**241**	Pn	**Pn**	**18 48 05.0**	**-0.6**
O19K				IAML		18 48 35.8	
	comp=E,425nm,0.5s						
N25K	**Chitina, Valde**	**2.54**	**85**	Pn	**Pn**	**18 48 05.6**	**-0.4**
N25K				IAML		18 48 45.5	
	comp=N,245nm,0.4s						
N25K				IAML		18 48 49.7	
	comp=E,156nm,0.8s						
BPAW	**Bear Paw Mtn.**	**2.68**	**350**	Pn	**Pn**	**18 48 07.7**	**-0.1**
K20K	**Telida**	**2.71**	**316**	Pn	**Pn**	**18 48 07.8**	**-0.4**
SVW2	**Sparrevohn**	**2.77**	**265**	Pn	**Pn**	**18 48 08.4**	**-0.6**
RAGM	**Ragged Mountai**	**2.77**	**111**	Pn	**Pn**	**18 48 10.2**	**+1.1**
GLB	**Gilahina Butte**	**2.92**	**88**	Pn	**Pn**	**18 48 11.8**	**+0.7**
GLB				IAML		18 48 56.0	
	comp=E,144nm,0.6s						
GLB				IAML		18 48 56.2	
	comp=N,213nm,1.0s						
N18K	**Kilae Creek**	**3.02**	**257**	Pn	**Pn**	**18 48 11.5**	**-1.0**
O18K	**Koktuh Hills**	**3.08**	**240**	Pn	**Pn**	**18 48 12.6**	**-0.7**
O18K				IAML		18 49 02.8	
	comp=N,91nm,0.8s						
VRDI	**Verde Repeater**	**3.12**	**92**	Pn	**Pn**	**18 48 13.0**	**-1.0**
VRDI				IAML		18 49 04.7	
	comp=E,83nm,0.6s						
VRDI				IAML		18 49 08.8	
	comp=N,105nm,0.9s						
SYI	**Shuyak Island**	**3.13**	**205**	Pn	**Pn**	**18 48 13.9**	**-0.1**
SYI				IAML		18 48 58.8	
	comp=E,129nm,0.7s						
SYI				IAML		18 48 59.1	
	comp=N,115nm,0.7s						
Q19K	**Cape Douglas,**	**3.17**	**218**	Pn	**Pn**	**18 48 14.6**	**0.0**
BERG	**Berg Lake**	**3.21**	**107**	Pn	**Pn**	**18 48 14.5**	**-0.6**
TTA	**Tatalina**	**3.21**	**300**	Pn	**Pn**	**18 48 14.9**	**-0.3**
MENT	**Mentasta**	**3.25**	**60**	Pn	**Pn**	**18 48 15.2**	**-0.4**
RIDG	**Independent Ri**	**3.26**	**44**	Pn	**Pn**	**18 48 15.3**	**-0.5**
MCARA	**McCarthy VSAT**	**3.30**	**89**	Pn	**Pn**	**18 48 16.3**	**-0.1**
L18K	**Granite Mounta**	**3.31**	**286**	Pn	**Pn**	**18 48 15.8**	**-0.5**
L18K				IAML		18 49 16.2	
	comp=N,73nm,0.9s						
SUCK	**Suckling Hills**	**3.32**	**112**	Pn	**Pn**	**18 48 16.6**	**+0.1**
SUCK				IAML		18 49 13.8	
	comp=E,93nm,0.9s						
SUCK				IAML		18 49 17.5	
	comp=N,108nm,1.2s						
J20K	**Nowinta River**	**3.34**	**326**	Pn	**Pn**	**18 48 16.9**	**+0.1**
J20K				IAML		18 48 57.0	
	comp=N,110nm,0.6s						
J20K				IAML		18 48 58.2	
	comp=E,99nm,0.5s						
CRQM	**Cirque**	**3.36**	**99**	Pn	**Pn**	**18 48 16.7**	**-0.6**
M26K	**Nabesna, AK**	**3.39**	**71**	Pn	**Pn**	**18 48 17.4**	**-0.2**
M26K				IAML		18 49 19.1	
	comp=E,100nm,0.8s						
M26K				IAML		18 49 22.0	
	comp=N,104nm,0.6s						
TGL	**Tana Glacier**	**3.50**	**99**	Pn	**Pn**	**18 48 19.4**	**+0.2**
TGL				IAML		18 49 11.8	
	comp=N,183nm,0.5s						
COLA	**College**	**3.54**	**14**	Pn	**Pn**	**18 48 20.2**	**+0.7**
COLA				IAML		18 49 11.6	
	comp=N,163nm,0.4s						
COLA				IAML		18 49 24.1	
	comp=N,180nm,0.6s						
MLY	**Manley**	**3.59**	**354**	Pn	**Pn**	**18 48 20.9**	**+0.6**
M17K	**Holitna River**	**3.62**	**272**	Pn	**Pn**	**18 48 20.6**	**-0.1**
M17K				IAML		18 49 31.0	
	comp=N,120nm,1.1s						
M17K				IAML		18 49 31.6	
	comp=E,172nm,1.1s						
J19K	**Poorman**	**3.65**	**316**	Pn	**Pn**	**18 48 21.2**	**+0.1**
J19K				IAML		18 49 20.6	
	comp=E,67nm,1.1s						
J19K				IAML		18 49 22.2	
	comp=N,56nm,0.7s						
N17K	**Nushagak Hills**	**3.67**	**258**	Pn	**Pn**	**18 48 20.7**	**-0.8**
N17K				IAML		18 49 27.7	
	comp=N,57nm,1.2s						
SNH	**Sunshine Point**	**3.69**	**107**	Pn	**Pn**	**18 48 20.9**	**-0.8**
SNH				IAML		18 49 23.9	
	comp=N,81nm,1.0s						
SNH				IAML		18 49 28.2	
	comp=E,78nm,0.6s						
I23K	**Minto, Yukon-K**	**3.69**	**4**	Pn	**Pn**	**18 48 21.5**	**-0.2**
I23K				IAML		18 49 30.7	
	comp=E,51nm,1.1s						
SCRK	**Sand Creek**	**3.70**	**45**	Pn	**Pn**	**18 48 22.2**	**+0.3**
SCRK				IAML		18 49 22.1	
	comp=N,71nm,0.9s						
SCRK				IAML		18 49 22.0	
	comp=E,76nm,1.0s						
J18K	**Innoko River**	**3.74**	**305**	Pn	**Pn**	**18 48 21.8**	**-0.6**
J18K				IAML		18 49 06.5	
	comp=N,60nm,0.7s						
I21K	**Tanana**	**3.84**	**347**	Pn	**Pn**	**18 48 23.5**	**-0.2**
KDAK	**Kodiak Island**	**3.95**	**201**	Pn	**Pn**	**18 48 25.8**	**+0.7**
KDAK				IAML		18 49 27.3	
	comp=N,76nm,1.1s						
KDAK				IAML		18 49 29.2	
	comp=N,77nm,0.9s						
GRNC	**Granite Creek**	**4.02**	**97**	Pn	**Pn**	**18 48 26.2**	**-0.2**
GRNC				IAML		18 49 27.2	
	comp=N,102nm,0.7s						
GRNC				IAML		18 49 29.7	
	comp=E,41nm,0.7s						
MESA	**MESA**	**4.10**	**105**	Pn	**Pn**	**18 48 26.8**	**-0.8**
MESA				IAML		18 49 17.0	
	comp=N,101nm,0.5s						
MESA				IAML		18 49 33.7	
	comp=E,105nm,0.4s						
K17K	**Iditarod**	**4.14**	**291**	Pn	**Pn**	**18 48 27.7**	**-0.2**
K17K				IAML		18 49 47.7	
	comp=E,71nm,0.8s						
K17K				IAML		18 49 53.9	
	comp=N,67nm,1.1s						
LOGN	**Logan Glacier**	**4.36**	**95**	Pn	**Pn**	**18 48 31.4**	**+0.4**
TABL	**Table Mountain**	**4.39**	**100**	Pn	**Pn**	**18 48 31.1**	**-0.4**
TABL				IAML		18 49 44.4	
	comp=E,52nm,0.6s						
TABL				IAML		18 49 53.5	
	comp=N,56nm,0.9s						
H21K	**Melozitna Rive**	**4.39**	**344**	Pn	**Pn**	**18 48 31.7**	**+0.3**
O16K	**Kokwok River B**	**4.47**	**249**	Pn	**Pn**	**18 48 31.7**	**-0.6**
O16K				IAML		18 50 06.2	
	comp=N,30nm,1.1s						

NEIC ***30*** *18:49:46.4±0.5, 61°.51N±0°.03×149°.97W±0°.03, h54km±6km, Error ellipse: s-maj=4.4km s-min=1.6km az=155.0*

AEIC 30 18:49:47.1±0.6,**61°.50N**±0°.02×**149°.97W**±0°.05,**h51**km±5km, **ML3.1, ML3.2**/100(NEIC), **Error ellipse: s-maj=3.9km s-min=2.1km az=126.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.26**	**344**			Pn	18 49 55.2	-0.8
M22K						Sn	18 50 02.9	+0.7
M22K	**Willow**	**0.26**	**344**	IAML			18 50 03.1	
	comp=E,2μm,0.5s							
M22K				IAML			18 50 03.3	
	comp=N,2μm,0.6s							
M22K	**Willow**	**0.26**	**344**	P		Pn	18 49 55.2	-0.8
	baz=164							
M22K				S		Sn	18 50 02.9	+0.7
	baz=164							
SUA	**Susitna One**	**0.38**	**264**			Pn	18 49 56.6	-0.5
SUA						Sn	18 50 04.6	+0.3
SUA	**Susitna One**	**0.38**	**264**	IAML			18 50 04.9	
	comp=E,4μm,0.7s							
SUA				IAML			18 50 05.0	
	comp=N,3μm,0.5s							
SUA	**Susitna One**	**0.38**	**264**	P		Pn	18 49 56.6	-0.5
	baz=84							
SUA				S		Sn	18 50 04.6	+0.3
	baz=84							

PMR	**Palmer**	**0.41**	**77**		Pn	18 49 56.5	-0.9
PMR					Sn	18 50 04.5	-0.2
PMR	**Palmer**	**0.41**	**77**	IAML		18 50 05.0	
	comp=N,3μm,0.4s						
PMR				IAML		18 50 05.1	
	comp=E,3μm,0.6s						
PMR	**Palmer**	**0.41**	**77**	P	Pn	18 49 56.5	-0.9
	baz=258						
PMR				S	Sn	18 50 04.5	-0.2
	baz=258						
RC01	**Rabbit Creek A**	**0.43**	**165**		Pn	18 49 57.0	-0.6
RC01					Sn	18 50 05.0	-0.1
RC01	**Rabbit Creek A**	**0.43**	**165**	IAML		18 50 05.7	
	comp=N,3μm,0.3s						
RC01				IAML		18 50 05.9	
	comp=E,3μm,0.3s						
RC01	**Rabbit Creek A**	**0.43**	**165**	P	Pn	18 49 57.0	-0.6
	baz=345						
RC01				S	Sn	18 50 05.0	-0.1
	baz=345						
GHO	**Glory Hole Cre**	**0.57**	**61**		Pn	18 49 58.7	-0.6
GHO					Sn	18 50 08.2	+0.1
KNK	**Knik Glacier**	**0.73**	**96**		Pn	18 50 00.8	-0.5
KNK					Sn	18 50 12.0	+0.4
KNK	**Knik Glacier**	**0.73**	**96**	IAML		18 50 16.0	
	comp=E,903nm,0.4s						
KNK	**Knik Glacier**	**0.73**	**96**	P	Pn	18 50 00.8	-0.5
	baz=278						
KNK				S	Sn	18 50 12.0	+0.4
	baz=278						
SML	**Sawmill**	**0.84**	**68**		Pn	18 50 02.0	-0.8
SML					Sn	18 50 14.3	+0.1
SML	**Sawmill**	**0.84**	**68**	IAML		18 50 15.3	
	comp=N,728nm,0.5s						
SML	**Sawmill**	**0.84**	**68**	P	Pn	18 50 02.0	-0.8
	baz=249						
SML				S	Sn	18 50 14.3	+0.1
	baz=249						
SKT	**Skwentna**	**0.88**	**304**		Pn	18 50 02.5	-0.8
SKT	**Skwentna**	**0.88**	**304**	P	Pn	18 50 02.5	-0.8
	baz=122						
STLK	**Strandline Lak**	**0.89**	**271**		Pn	18 50 02.9	-0.6
STLK					Sn	18 50 15.5	+0.1
CUT	**Chulitna**	**0.92**	**351**		Pn	18 50 03.2	-0.5
CUT	**Chulitna**	**0.92**	**351**	P	Pn	18 50 03.2	-0.5
	baz=171						
CAPN	**Captain Cook N**	**0.93**	**218**	Pn	Pn	18 50 04.0	+0.1
SLKM	**Skilak Lake**	**1.00**	**187**		Pn	18 50 04.2	-0.7
SPCG	**Spurr Capps Gl**	**1.01**	**259**		Pn	18 50 04.5	-0.5
PWL	**Port Wells**	**1.02**	**128**		Pn	18 50 04.6	-0.5
PWL	**Port Wells**	**1.02**	**128**	P	Pn	18 50 04.6	-0.5
	baz=310						
O22K	**Cooper Landing**	**1.03**	**173**		Pn	18 50 04.7	-0.5
O22K	**Cooper Landing**	**1.03**	**173**	P	Pn	18 50 04.7	-0.5
	baz=353						
SPCP	**Crater Peak Br**	**1.08**	**258**		Pn	18 50 05.5	-0.5
M23K	**Glacier View**	**1.11**	**74**		Pn	18 50 05.7	-0.6
M23K	**Glacier View**	**1.11**	**74**	P	Pn	18 50 05.7	-0.6
	baz=256						
N20K	**Mount Spurr**	**1.12**	**255**	P	Pn	18 50 05.8	-0.7
	baz=73						
SPCR	**Spurr Chakacha**	**1.12**	**255**		Pn	18 50 05.8	-0.7
SPCR	**Spurr Chakacha**	**1.12**	**255**		Pn	18 50 05.8	-0.8
SPCR	**Spurr Chakacha**	**1.12**	**255**	P	Pn	18 50 05.8	-0.8
	baz=73						
SCM	**Sheep Creek Mo**	**1.30**	**74**		Pn	18 50 08.5	-0.5
SCM	**Sheep Creek Mo**	**1.30**	**74**	P	Pn	18 50 08.5	-0.5
	baz=256						
SEW	**Seward**	**1.43**	**170**		Pn	18 50 09.9	-0.6
SEW	**Seward**	**1.43**	**170**	P	Pn	18 50 09.9	-0.6
	baz=350						
WAT7	**Susitna Watana**	**1.44**	**21**		Pn	18 50 10.1	-0.7
RDT	**Redoubt**	**1.51**	**233**		Pn	18 50 10.8	-0.9
GLI	**Glacier Island**	**1.53**	**113**		Pn	18 50 10.8	-1.1
GLI	**Glacier Island**	**1.53**	**113**	IAML		18 50 35.5	
	comp=N,215nm,0.4s						
GLI				IAML		18 50 37.0	
	comp=E,282nm,0.4s						
GLI	**Glacier Island**	**1.53**	**113**	P	Pn	18 50 10.8	-1.1
	baz=296						
M20K	**Styx River**	**1.55**	**286**		Pn	18 50 12.0	-0.4
M20K	**Styx River**	**1.55**	**286**	P	Pn	18 50 12.0	-0.4
	baz=103						
FID	**Port Fidalgo**	**1.85**	**112**	Pn	Pn	18 50 15.4	-1.0
FID				IAML		18 50 48.6	
	comp=E,282nm,0.3s						
M24K	**Tolsona, Glenn**	**1.90**	**70**	Pn	Pn	18 50 17.6	+0.5
M24K				IAML		18 50 49.9	
	comp=N,248nm,1.1s						
KLU	**Klutina**	**1.94**	**89**	Pn	Pn	18 50 16.7	-1.0
KLU				IAML		18 50 49.1	
	comp=N,198nm,0.5s						
HIN	**Hinchinbrook I**	**2.02**	**122**	Pn	Pn	18 50 17.9	-0.8
KTH	**Kantishna Hill**	**2.11**	**348**	Pn	Pn	18 50 18.5	-1.4
KTH				IAML		18 50 51.3	
	comp=N,167nm,0.6s						
M19K	**Big River Lodg**	**2.15**	**283**	Pn	Pn	18 50 19.7	-0.7
M19K				IAML		18 50 49.4	
	comp=N,187nm,0.5s						
M19K				IAML		18 50 50.0	
	comp=E,113nm,0.5s						
N19K	**Bonanza Creek**	**2.29**	**254**	Pn	Pn	18 50 22.2	-0.3
L19K	**White Mountain**	**2.42**	**289**	Pn	Pn	18 50 23.6	-0.5
K20K	**Telida**	**2.67**	**316**	Pn	Pn	18 50 26.7	-0.8
SVW2	**Sparrevohn**	**2.74**	**264**	Pn	Pn	18 50 27.6	-0.9
N18K	**Kilae Creek**	**2.99**	**257**	Pn	Pn	18 50 31.0	-1.0
TTA	**Tatalina**	**3.17**	**300**	Pn	Pn	18 50 33.4	-1.2
L18K	**Granite Mounta**	**3.26**	**286**	Pn	Pn	18 50 34.8	-0.9
J20K	**Nowinta River**	**3.30**	**326**	Pn	Pn	18 50 35.4	-0.8
TGL	**Tana Glacier**	**3.54**	**99**	Pn	Pn	18 50 39.0	-0.7
TGL				IAML		18 51 40.1	
	comp=E,60nm,0.6s						
TGL				IAML		18 51 40.4	
	comp=N,60nm,1.2s						
MLY	**Manley**	**3.56**	**355**	Pn	Pn	18 50 38.6	-1.2
M17K	**Holitna River**	**3.59**	**272**	Pn	Pn	18 50 39.4	-0.7
M17K				IAML		18 51 40.2	
	comp=N,56nm,1.1s						
M17K				IAML		18 53 03.6	
	comp=E,48nm,1.0s						
J19K	**Poorman**	**3.61**	**316**	Pn	Pn	18 50 39.4	-1.0
J19K				IAML		18 53 03.7	
	comp=E,63nm,0.6s						
N17K	**Nushagak Hills**	**3.65**	**258**	Pn	Pn	18 50 40.0	-1.0
N17K				IAML		18 52 58.5	
	comp=N,33nm,0.8s						
I23K	**Minto,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
L16K	**Owhat River**	**4.54**	**277**	Pn	Pn	18 50 52.1	-1.1
L16K				IAML		18 53 48.9	
	comp=E,15nm,1.2s						
L16K				IAML		18 53 52.8	
	comp=N,23nm,1.1s						
J17K	**VABM Dome**	**4.64**	**298**	Pn	Pn	18 50 53.6	-0.9
J17K				IAML		18 53 49.4	
	comp=E,18nm,0.8s						
J17K				IAML		18 53 53.0	
	comp=N,27nm,1.2s						
H19K	**Roundabout Mou**	**4.97**	**327**	Pn	Pn	18 50 58.5	-0.6
H19K				IAML		18 53 58.5	
	comp=E,17nm,0.8s						
H19K				IAML		18 54 15.3	
	comp=N,16nm,0.9s						
N15K	**Kwethluk River**	**5.13**	**259**	Pn	Pn	18 51 01.0	-0.3
H18K	**Honhosa River**	**5.26**	**318**	Pn	Pn	18 51 02.7	-0.4
H18K				IAML		18 54 11.1	
	comp=N,12nm,0.9s						
H18K				IAML		18 54 12.4	
	comp=E,15nm,0.8s						

TEH ***30*** *18:54:35.6,34˚.27N×45˚.63E,h10km±61km,ML2.9*
ISN ***30*** *18:54:35.8±0.7,34˚.29N×45˚.65E,h14km±5km,ML2.9*
ISC 30 18:54:36.2±1.0,34˚27N±0˚.04×45˚.66E±0˚.04,h18km,n11,
σ1$06/14,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.24**	**346**	Pg	**Pg**	**18 54 40.9**	**-1.0**
GLG1	**Gilan-e-Gharb**	**0.26**	**128**	Pg	**Pg**	**18 54 41.5**	**-0.7**
IDHR	**Dehrash**	**0.73**	**54**	Pg	**Pb**	**18 54 50.0**	**-0.6**
IGHG	**Ghaleghazi**	**0.75**	**85**	Pg	**Pb**	**18 54 50.9**	**0.0**
KCHF	**Cheshme Sefid,**	**1.14**	**90**	Pg	**Pb**	**18 54 58.2**	**+0.6**
IBDR	**Badra**	**1.18**	**169**	*e*Pg	**Pn**	**18 54 58.0**	**+0.2**
IBDR				*e*Sg	**Sg**	**18 55 14.5**	**0.0**
ILIN	**Lien**	**1.25**	**59**	Pg	**Pb**	**18 55 00.1**	**+0.7**
BHD	**Baghdad**	**1.46**	**227**	*e*Pn	**Pb**	**18 55 03.0**	**+0.1**
BHD				*e*Sn	**Sg**	**18 55 24.0**	**+0.5**
IKRK	**Kirkuk**	**1.56**	**316**	*e*Pn	**Pb**	**18 55 05.0**	**+0.4**
SNQR	**Sonqor, Kerman**	**1.73**	**70**	Pg	**Pb**	**18 55 08.5**	**+0.9**
RAFI	**Al-Rafai**	**2.57**	**171**	*e*Pn	**Pn**	**18 55 19.0**	**+2.0**
RAFI				*e*Sn	**Sb**	**18 55 51.0**	**-2.1**

NEIC ***30*** *19:06:39.8±1.1,61˚.41N±0˚.03×150˚.03W±0˚.05,h44km±4km,*
Error ellipse: s-maj=4.7km s-min=3.8km az=177.0
AEIC ***30*** *19:06:40.7±1.1,61˚.41N±0˚.03×150˚.03W±0˚.05,h38km±4km,*
ML3.6,ML3.7/156(NEIC),Error ellipse: s-maj=4.6km
s-min=3.8km az=176.0
IDC ***30*** *19:06:42.1±7.8,61˚.68N×150˚.10W,h75km±71km,mb3.3/6,*
mbtmp3.4/8,ML2.9/2,Error ellipse: s-maj=64.2km
s-min=24.2km az=51.0
ISC 30 19:06:39.5±0.8,61˚41N±0˚.03×150˚03W±0˚.02,h45km±6km,
n141,σ1$04/157,mb3.7/6,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.35**	**353**		**Pn**	**19 06 48.3**	**-0.3**
M22K					**Sn**	**19 06 55.5**	**+0.4**
M22K				IAML		19 06 56.5	
	comp=E,5μm,0.7s						
M22K				IAML		19 06 59.2	
	comp=N,5μm,0.5s						
M22K	**Willow**	**0.35**	**353**	P	**Pn**	**19 06 48.3**	**-0.3**
	baz=173						
M22K				S	**Sn**	**19 06 55.6**	**+0.5**
	baz=173						
SUA	**Susitna One**	**0.35**	**280**		**Pn**	**19 06 48.8**	**0.0**
SUA					**Sn**	**19 06 55.6**	**+0.2**
SUA				IAML		19 06 56.8	
	comp=E,8μm,0.9s						
SUA				IAML		19 06 56.8	
	comp=N,7μm,0.7s						
SUA	**Susitna One**	**0.35**	**280**	P	**Pn**	**19 06 48.9**	**+0.1**
	baz=98						
SUA				S	**Sn**	**19 06 56.0**	**+0.7**
	baz=98						
RC01	**Rabbit Creek A**	**0.35**	**156**		**Pn**	**19 06 48.5**	**-0.1**
RC01	**Rabbit Creek A**	**0.35**	**156**	P	**Pn**	**19 06 48.9**	**+0.2**
	baz=337						
GHO	**Glory Hole Cre**	**0.64**	**55**		**Pn**	**19 06 52.4**	**0.0**
GHO					**Sn**	**19 07 02.5**	**+0.9**
GHO				IAML		19 07 02.9	
	comp=N,4μm,0.6s						
GHO				IAML		19 07 03.1	
	comp=E,4μm,0.5s						
KNK	**Knik Glacier**	**0.76**	**89**		**Pn**	**19 06 53.8**	**0.0**
KNK				IAML		19 07 07.0	
	comp=E,3μm,0.4s						
KNK				IAML		19 07 07.9	
	comp=N,3μm,0.5s						
KNK	**Knik Glacier**	**0.76**	**89**	P	**Pn**	**19 06 54.1**	**+0.3**
	baz=271						
CAPN	**Captain Cook N**	**0.84**	**221**	Pn	**Pn**	**19 06 56.4**	**+1.5**
STLK	**Strandline Lak**	**0.87**	**277**		**Pn**	**19 06 55.7**	**+0.3**
STLK					**Sn**	**19 07 07.7**	**+0.7**
SML	**Sawmill**	**0.91**	**63**	Pn	**Pn**	**19 06 55.9**	**0.0**
SML				IAML		19 07 10.0	
	comp=E,2μm,0.7s						
SML				IAML		19 07 12.0	
	comp=N,2μm,0.6s						
SML	**Sawmill**	**0.91**	**63**	P	**Pn**	**19 06 56.1**	**+0.3**
	baz=245						
SLKM	**Skilak Lake**	**0.91**	**186**		**Pn**	**19 06 56.4**	**+0.5**
SLKM					**Sn**	**19 07 09.2**	**+1.3**
SKT	**Skwentna**	**0.92**	**309**	Pn	**Pn**	**19 06 56.0**	**0.0**
SKT					**Sn**	**19 07 08.8**	**+0.8**
SKT	**Skwentna**	**0.92**	**309**	P	**Pn**	**19 06 56.0**	**0.0**
	baz=128						
SKT				S	**Sn**	**19 07 08.8**	**+0.8**
	baz=128						
O22K	**Cooper Landing**	**0.94**	**171**		**Pn**	**19 06 56.3**	**+0.1**
O22K	**Cooper Landing**	**0.94**	**171**	P	**Pn**	**19 06 56.5**	**+0.2**
	baz=351						
SPCG	**Spurr Capps Gl**	**0.97**	**264**		**Pn**	**19 06 57.1**	**+0.4**
PWL	**Port Wells**	**0.99**	**123**	Pn	**Pn**	**19 06 57.2**	**+0.2**
PWL	**Port Wells**	**0.99**	**123**	P	**Pn**	**19 06 57.5**	**+0.5**
	baz=305						
CUT	**Chulitna**	**1.01**	**354**		**Pn**	**19 06 57.4**	**+0.2**
CUT					**Sn**	**19 07 11.0**	**+0.8**
CUT	**Chulitna**	**1.01**	**354**	P	**Pn**	**19 06 57.6**	**+0.4**
	baz=174						
CUT				S	**Sn**	**19 07 11.2**	**+1.1**
	baz=174						
SPCP	**Crater Peak Br**	**1.03**	**263**		**Pn**	**19 06 58.1**	**+0.5**
N20K	**Mount Spurr**	**1.07**	**260**	P	**Pn**	**19 06 58.4**	**+0.3**
	baz=78						
SPCR	**Spurr Chakacha**	**1.07**	**260**		**Pn**	**19 06 58.4**	**+0.3**
SPCR	**Spurr Chakacha**	**1.07**	**260**		**Pn**	**19 06 58.4**	**+0.3**
SPCR					**Sn**	**19 07 13.1**	**+1.2**
SPCR	**Spurr Chakacha**	**1.07**	**260**	P	**Pn**	**19 06 58.4**	**+0.3**
	baz=78						
SPCR				S	**Sn**	**19 07 13.1**	**+1.2**
	baz=78						
M23K	**Glacier View**	**1.17**	**70**		**Pn**	**19 07 00.1**	**+0.7**
M23K					**Sn**	**19 07 15.7**	**+1.5**
M23K	**Glacier View**	**1.17**	**70**	P	**Pn**	**19 07 00.1**	**+0.7**
	baz=252						
M23K				S	**Sn**	**19 07 15.7**	**+1.5**
	baz=252						
SEW	**Seward**	**1.34**	**168**		**Pn**	**19 07 01.6**	**-0.1**
SEW	**Seward**	**1.34**	**168**	P	**Pn**	**19 07 02.7**	**+1.0**
	baz=348						
SCM	**Sheep Creek Mo**	**1.36**	**71**		**Pn**	**19 07 01.5**	**-0.5**
SCM				IAML		19 07 22.9	
	comp=N,2μm,0.7s						
SCM	**Sheep Creek Mo**	**1.36**	**71**	P	**Pn**	**19 07 02.7**	**+0.6**
	baz=253						
RDT	**Redoubt**	**1.43**	**235**		**Pn**	**19 07 03.6**	**+0.6**
RDT					**Sn**	**19 07 22.0**	**+1.4**
GLI	**Glacier Island**	**1.52**	**109**		**Pn**	**19 07 03.9**	**-0.3**
GLI				IAML		19 07 57.9	
	comp=N,1μm,0.6s						
GLI	**Glacier Island**	**1.52**	**109**	P	**Pn**	**19 07 04.3**	**+0.1**
	baz=292						
M20K	**Styx River**	**1.56**	**289**		**Pn**	**19 07 03.9**	**-0.9**
M20K				IAML		19 07 56.2	
	comp=N,717nm,1.1s						
M20K				IAML		19 07 56.4	
	comp=E,902nm,0.8s						
M20K	**Styx River**	**1.56**	**289**	P	**Pn**	**19 07 05.7**	**+1.0**
	baz=106						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDJH	**Redoubt Jeurge**	**1.58**	**240**		**Pn**	**19 07 05.8**	**+0.6**
WAT1	**Susitna Watana**	**1.59**	**25**		**Pn**	**19 07 06.0**	**+0.8**
WAT1	**Susitna Watana**	**1.59**	**25**	P	**Pn**	**19 07 06.0**	**+0.8**
	baz=207						
RDWB	**Redoubt West**	**1.65**	**237**		**Pn**	**19 07 06.8**	**+0.6**
BRLK	**Bradley Lake**	**1.70**	**195**		**Pn**	**19 07 07.1**	**+0.4**
BRLK				IAML		19 08 02.1	
	comp=N,1μm,0.6s						
FID	**Port Fidalgo**	**1.85**	**109**		**Pn**	**19 07 08.3**	**-0.4**
FID				IAML		19 08 08.7	
	comp=E,1μm,0.5s						
HOM	**Homer**	**1.93**	**205**		**Pn**	**19 07 10.4**	**+0.7**
M24K	**Tolsona, Glenn**	**1.96**	**67**	Pn	**Pn**	**19 07 11.3**	**+1.0**
M24K				IAML		19 07 43.1	
	comp=N,732nm,0.7s						
M24K				IAML		19 07 44.1	
	comp=E,852nm,0.6s						
KLU	**Klutina**	**1.98**	**86**		**Pn**	**19 07 10.8**	**+0.3**
KLU				IAML		19 07 42.8	
	comp=E,453nm,0.5s						
KLU				IAML		19 08 12.7	
	comp=N,651nm,0.3s						
CNPM	**China Poot**	**1.98**	**198**	Pn	**Pn**	**19 07 10.7**	**+0.2**
CNPM				IAML		19 08 08.9	
	comp=N,868nm,0.5s						
HIN	**Hinchinbrook I**	**2.00**	**119**		**Pn**	**19 07 11.0**	**+0.3**
RND	**Reindeer**	**2.08**	**15**	Pn	**Pn**	**19 07 13.8**	**+1.9**
RND				IAML		19 08 09.3	
	comp=E,386nm,1.0s						
RND				IAML		19 08 11.4	
	comp=N,379nm,0.5s						
DHY	**Denali Highway**	**2.08**	**35**	Pn	**Pn**	**19 07 14.0**	**+1.9**
DHY				IAML		19 08 12.8	
	comp=N,431nm,0.9s						
DHY				IAML		19 08 13.8	
	comp=E,526nm,0.6s						
ILSW	**Iliamna Southw**	**2.09**	**228**		**Pn**	**19 07 12.9**	**+0.8**
M19K	**Big River Lodg**	**2.14**	**285**		**Pn**	**19 07 13.3**	**+0.7**
KTH	**Kantishna Hill**	**2.19**	**350**	Pn	**Pn**	**19 07 15.0**	**+1.6**
KTH				IAML		19 07 43.0	
	comp=E,462nm,0.7s						
KTH				IAML		19 08 13.0	
	comp=N,410nm,0.5s						
CAST	**Castle Rocks**	**2.23**	**336**	Pn	**Pn**	**19 07 15.0**	**+1.0**
CAST				IAML		19 07 56.9	
	comp=E,372nm,0.8s						
N19K	**Bonanza Creek**	**2.24**	**257**		**Pn**	**19 07 15.1**	**+0.9**
P19K	**Oil Pt**	**2.37**	**223**		**Pn**	**19 07 16.7**	**+0.9**
L19K	**White Mountain**	**2.42**	**291**	Pn	**Pn**	**19 07 17.5**	**+1.0**
O19K	**Port Alsworth**	**2.43**	**242**	Pn	**Pn**	**19 07 18.2**	**+1.6**
N25K	**Chitina, Valde**	**2.61**	**83**	Pn	**Pn**	**19 07 20.1**	**+0.9**
N25K				IAML		19 08 28.1	
	comp=N,303nm,0.4s						
N25K				IAML		19 08 28.2	
	comp=E,297nm,0.4s						
Q23K	**Middleton Isla**	**2.70**	**136**	Pn	**Pn**	**19 07 22.3**	**+2.0**
Q23K				IAML		19 08 45.1	
	comp=N,273nm,1.1s						
Q23K				IAML		19 08 47.1	
	comp=E,301nm,0.9s						
SVW2	**Sparrevohn**	**2.70**	**266**	Pn	**Pn**	**19 07 20.8**	**+0.4**
K20K	**Telida**	**2.71**	**318**		**Pn**	**19 07 21.0**	**+0.5**
N18K	**Kilae Creek**	**2.94**	**258**	Pn	**Pn**	**19 07 24.1**	**+0.4**
O18K	**Koktuh Hills**	**2.99**	**241**		**Pn**	**19 07 24.4**	**+0.1**
O18K				IAML		19 08 57.6	
	comp=N,182nm,1.2s						
GLB	**Gilahina Butte**	**2.99**	**87**	Pn	**Pn**	**19 07 26.4**	**+2.0**
GLB				IAML		19 08 38.4	
	comp=E,225nm,0.5s						
GLB				IAML		19 08 41.4	
	comp=N,264nm,0.5s						
SYI	**Shuyak Island**	**3.05**	**204**	Pn	**Pn**	**19 07 25.3**	**+0.3**
SYI				IAML		19 08 41.2	
	comp=E,253nm,0.8s						
SYI				IAML		19 08 42.0	
	comp=N,181nm,0.5s						
Q19K	**Cape Douglas,**	**3.07**	**218**		**Pn**	**19 07 26.4**	**+0.9**
KAIM	**Kayak Island**	**3.14**	**116**	Pn	**Pn**	**19 07 27.0**	**+0.7**
KAIM				IAML		19 08 46.9	
	comp=E,230nm,1.1s						
KAIM				IAML		19 08 53.0	
	comp=N,189nm,1.3s						
VRDI	**Verde Repeater**	**3.18**	**90**	Pn	**Pn**	**19 07 29.8**	**+2.7**
VRDI				IAML		19 08 45.2	
	comp=N,209nm,0.5s						
TTA	**Tatalina**	**3.19**	**301**	Pn	**Pn**	**19 07 27.4**	**+0.2**
L18K	**Granite Mounta**	**3.26**	**287**	Pn	**Pn**	**19 07 28.7**	**+0.6**
L18K				IAML		19 08 55.4	
	comp=N,142nm,0.8s						
P18K	**Big Mountain,**	**3.28**	**234**	Pn	**Pn**	**19 07 28.1**	**-0.2**
CRQM	**Cirque**	**3.41**	**98**	Pn	**Pn**	**19 07 31.2**	**+0.9**
M26K	**Nabesna, AK**	**3.47**	**70**	Pn	**Pn**	**19 07 31.6**	**+0.6**
M26K				IAML		19 09 01.4	
	comp=E,102nm,0.4s						
M26K				IAML		19 09 06.6	
	comp=N,132nm,0.6s						
TGL	**Tana Glacier**	**3.56**	**97**		**Pn**	**19 07 32.5**	**+0.3**
M17K	**Holitna River**	**3.56**	**273**	Pn	**Pn**	**19 07 32.7**	**+0.6**
N17K	**Nushagak Hills**	**3.60**	**259**	Pn	**Pn**	**19 07 33.0**	**+0.4**
N17K				IAML		19 08 15.4	
	comp=E,132nm,0.7s						
N17K				IAML		19 09 04.3	
	comp=N,107nm,1.1s						
COLA	**College**	**3.62**	**15**		**Pn**	**19 07 33.3**	**+0.4**
MLY	**Manley**	**3.65**	**355**	Pn	**Pn**	**19 07 34.6**	**+1.2**
J19K	**Poorman**	**3.66**	**318**	Pn	**Pn**	**19 07 34.6**	**+1.1**
J19K				IAML		19 08 50.5	
	comp=N,110nm,0.8s						
J19K				IAML		19 08 58.5	
	comp=E,106nm,0.8s						
ILAR	**Eielson Array**	**3.67**	**22**		**Pn**	**19 07 33.8**	**+0.2**
ILAR	**Eielson Array**	**3.67**	**22**	P	**Pn**	**19 07 32.8**	**-0.8**
	comp=E,1.1nm,0.3s,baz=230,slow=18,SNR=4.1						
ILAR				S	**Sn**	**19 08 13.2**	**-2.3**
	comp=E,14nm,0.5s,baz=205,slow=14,SNR=2.6						
	comp=E,2.4nm,0.4s						
J18K	**Innoko River**	**3.73**	**307**		**Pn**	**19 07 35.0**	**+0.5**
SNH	**Sunshine Point**	**3.73**	**106**	Pn	**Pn**	**19 07 34.1**	**-0.5**
SNH				IAML		19 09 03.2	
	comp=E,128nm,0.5s						
SNH				IAML		19 09 10.6	
	comp=N,154nm,1.0s						
I23K	**Minto, Yukon-K**	**3.77**	**4**	Pn	**Pn**	**19 07 36.1**	**+1.2**
I23K				IAML		19 09 06.2	
	comp=E,105nm,1.4s						
I23K				IAML		19 09 16.2	
	comp=N,175nm,0.8s						
SCRK	**Sand Creek**	**3.79**	**45**	Pn	**Pn**	**19 07 36.2**	**+0.8**
SCRK				IAML		19 08 41.2	
	comp=N,104nm,0.7s						
SCRK				IAML		19 09 07.9	
	comp=E,132nm,0.8s						
KDAK	**Kodiak Island**	**3.86**	**201**	Pn	**Pn**	**19 07 34.9**	**-1.4**
KDAK				IAML		19 09 07.7	
	comp=E,130nm,0.6s						
KDAK				IAML		19 09 08.4	
	comp=E,156nm,1.1s						
I21K	**Tanana**	**3.89**	**348**	Pn	**Pn**	**19 07 37.9**	**+1.3**
I21K				IAML		19 08 55.4	
	comp=E,74nm,0.9s						
I20K	**Naaghedeneel**	**3.96**	**331**		**Pn**	**19 07 38.5**	**+1.0**
GRNC	**Granite Creek**	**4.08**	**96**	Pn	**Pn**	**19 07 40.0**	**+0.5**
K17K	**Iditarod**	**4.11**	**292**	Pn	**Pn**	**19 07 40.2**	**+0.6**
K17K				IAML		19 08 56.1	
	comp=E,112nm,1.1s						
K17K				IAML		19 09 25.9	
	comp=N,97nm,1.0s						
MESA	**MESA**	**4.15**	**104**	Pn	**Pn**	**19 07 40.6**	**+0.2**
CTGM	**Chitina Glacie**	**4.23**	**92**		**Pn**	**19 07 42.3**	**+0.8**
CTGM				IAML		19 08 51.7	
	comp=N,88nm,0.6s						
J26L	**Joseph Creek**	**4.28**	**41**	Pn	**Pn**	**19 07 41.9**	**-0.2**
J26L				IAML		19 08 42.6	
	comp=N,114nm,0.5s						
M16K	**Timber Creek**	**4.33**	**269**		**Pn**	**19 07 43.4**	**+0.7**
O16K	**Kokwok River B**	**4.38**	**249**	Pn	**Pn**	**19 07 43.7**	**+0.3**
O16K				IAML		19 08 54.5	
	comp=N,62nm,1.0s						
LOGN	**Logan Glacier**	**4.42**	**94**		**Pn**	**19 07 44.7**	**+0.6**
LOGN				IAML		19 09 21.9	
	comp=N,80nm,0.6s						
LOGN				IAML		19 09 30.6	
	comp=E,79nm,0.7s						
H23K	**Yukon River**	**4.44**	**3**		**Pn**	**19 07 45.5**	**+1.3**
H23K				IAML		19 09 37.6	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=N,50nm,1.0s						
H21K	**Melozitna Rive**	**4.44**	**345**		**Pn**	**19 07 45.7**	**+1.5**
L16K	**Owhat River**	**4.53**	**278**	Pn	**Pn**	**19 07 45.9**	**+0.5**
L16K				IAML		19 09 06.7	
	comp=E,51nm,1.3s						
L16K				IAML		19 09 38.6	
	comp=N,56nm,1.8s						
J17K	**VABM Dome**	**4.66**	**299**	Pn	**Pn**	**19 07 46.8**	**-0.4**
J17K				IAML		19 09 13.9	
	comp=N,57nm,0.7s						
J17K				IAML		19 09 46.6	
	comp=E,43nm,0.9s						
IMAR	**Indian Mountai**	**4.88**	**342**	Pn	**Pn**	**19 07 51.4**	**+1.2**
H19K	**Roundabout Mou**	**5.04**	**328**		**Pn**	**19 07 53.1**	**+0.8**
H19K				IAML		19 09 25.4	
	comp=E,39nm,1.1s						
H19K				IAML		19 10 00.1	
	comp=N,40nm,2.9s						
N15K	**Kwethluk River**	**5.08**	**260**	Pn	**Pn**	**19 07 54.3**	**+1.2**
N15K				IAML		19 09 24.1	
	comp=N,67nm,1.4s						
N15K				IAML		19 09 52.6	
	comp=E,70nm,1.4s						
J16K	**Anvik River**	**5.27**	**296**	Pn	**Pn**	**19 07 55.8**	**+0.2**
J16K				IAML		19 09 26.3	
	comp=N,35nm,3.6s						
J16K				IAML		19 09 39.3	
	comp=E,29nm,1.4s						
H18K	**Honhosa River**	**5.31**	**319**		**Pn**	**19 07 57.4**	**+1.2**
H18K				IAML		19 09 26.4	
	comp=E,39nm,3.2s						
H18K				IAML		19 09 44.2	
	comp=N,38nm,1.8s						
G23K	**Bananza Creek**	**5.33**	**0**	Pn	**Pn**	**19 07 58.7**	**+2.3**
G21K	**Allakaket**	**5.35**	**345**	Pn	**Pn**	**19 07 58.1**	**+1.5**
G21K				IAML		19 08 59.2	
	comp=N,40nm,0.6s						
G21K				IAML		19 10 02.8	
	comp=E,32nm,1.9s						
G24K	**Hadweenzic Riv**	**5.43**	**11**	Pn	**Pn**	**19 07 59.9**	**+2.2**
I17K	**Unalakleet**	**5.51**	**301**		**Pn**	**19 07 59.5**	**+0.7**
K15K	**Wolf Creek Mou**	**5.52**	**284**	Pn	**Pn**	**19 07 59.6**	**+0.7**
M29M	**Somme Creek**	**5.56**	**74**		**Pn**	**19 08 00.4**	**+0.7**
G19K	**Purcell Mounta**	**5.69**	**330**		**Pn**	**19 08 02.3**	**+1.1**
H17K	**Granite Mounta**	**5.70**	**313**	Pn	**Pn**	**19 08 02.6**	**+1.1**
O29M	**Mount Kennedy**	**5.71**	**96**	Pn	**Pn**	**19 08 03.3**	**+1.6**
M14K	**Bethel**	**5.83**	**269**	Pn	**Pn**	**19 08 03.8**	**+0.6**
O14K	**Tigyukauivet M**	**5.98**	**254**	Pn	**Pn**	**19 08 06.4**	**+1.0**
F21K	**Alatna River**	**6.03**	**347**	Pn	**Pn**	**19 08 07.9**	**+2.0**
L14K	**Kuka Creek**	**6.08**	**275**	Pn	**Pn**	**19 08 07.8**	**+1.1**
HYT	**Haines Junctio**	**6.10**	**90**	Pn	**Pn**	**19 08 07.6**	**+0.5**
F20K	**Avaraart Lake**	**6.18**	**339**		**Pn**	**19 08 09.4**	**+1.3**
N30M	**Aishikik Lake**	**6.21**	**84**	Pn	**Pn**	**19 08 09.0**	**+0.5**
P29M	**Windy Craggy**	**6.33**	**101**		**Pn**	**19 08 10.7**	**+0.6**
F19K	**Shaleruckik Mo**	**6.41**	**331**	Pn	**Pn**	**19 08 12.6**	**+1.4**
BMAR	**Burnt Mountain**	**6.49**	**19**	Pn	**Pn**	**19 08 15.1**	**+2.8**
J14K	**Nanvaranak Lak**	**6.49**	**288**	Pn	**Pn**	**19 08 13.2**	**+0.9**
M13K	**Dall Lake**	**6.57**	**267**	Pn	**Pn**	**19 08 14.6**	**+1.2**
F26K	**Sheenjek River**	**6.80**	**19**		**Pn**	**19 08 18.2**	**+1.7**
E19K	**Redstone River**	**6.82**	**336**	Pn	**Pn**	**19 08 18.4**	**+1.6**
K13K	**Kusilvak Mount**	**6.98**	**281**	Pn	**Pn**	**19 08 19.7**	**+0.7**
E18K	**Tukpahlearik C**	**7.56**	**327**	Pn	**Pn**	**19 08 29.2**	**+2.3**
B22K	**Teshekpuk Lake**	**9.08**	**353**	Pn	**Pn**	**19 08 48.7**	**+1.1**
YKA	**Yellowknife Ar**	**16.57**	**71**	P	**Pn**	**19 10 29.9**	**+1.6**
	comp=E,0.1nm,0.3s,baz=282,slow=10.0,SNR=2.3						
	comp=E,0.1nm,0.3s						
NVAR	**Mina Array Bea**	**30.23**	**125**	P	**P**	**19 12 46.9**	**+1.1**
	comp=E,0.3nm,0.5s,baz=323,slow=8.3,SNR=2.1						
	comp=E,0.3nm,0.5s						
SONM	**Songino Array**	**55.13**	**307**	P	**P**	**19 16 06.1**	**-0.8**
	comp=E,0.8nm,0.9s,baz=38,slow=6.1,SNR=4.2						
	comp=E,0.8nm,0.9s						
ZALV	**Zalesovo Beam**	**57.08**	**325**	P	P	19 16 16.3	-4.3
	comp=E,0.4nm,0.3s,baz=35,slow=5.3,SNR=1.9						
	comp=E,0.4nm,0.3s						
BVAR	**Borovoye Array**	**61.48**	**334**	P	**P**	**19 16 49.1**	**-1.8**
	comp=E,0.4nm,0.6s,baz=32,slow=8.7,SNR=2.3						
	comp=E,0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**61.77**	**327**	P	**P**	**19 16 50.7**	**-2.2**
	comp=E,0.2nm,0.4s,baz=30,slow=6.5,SNR=4.2						
	comp=E,0.2nm,0.4s						
MKAR	**Makanchi Array**	**64.22**	**323**	P	**P**	**19 17 06.9**	**-2.4**
	comp=E,0.3nm,0.5s,baz=47,slow=8.8,SNR=1.4						
	comp=E,0.3nm,0.5s						

NEIC ***30*** *19:07:09.1±1.3,61˚.43N±0˚.03×150˚.04W±0˚.05,h46km±4km,*
Error ellipse: s-maj=3.7km s-min=3.5km az=138.0
AEIC ***30*** *19:07:09.8±0.9,61˚.41N±0˚.03×150˚.03W±0˚.05,h41km±4km,*
ML3.5,Error ellipse: s-maj=4.6km s-min=3.3km az=212.0
ISC 30 19:07:09.7±1.3,61˚41N±0˚.03×150˚03W±0˚.03,h40km±7km,
n46,σ0$59/60,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.34**	**353**		**Pn**	**19 07 17.9**	**-0.6**
M22K					**Sn**	**19 07 25.1**	**+0.5**
M22K	**Willow**	**0.34**	**353**	P	**Pn**	**19 07 17.8**	**-0.6**
	baz=173						
M22K				S	**Sn**	**19 07 25.1**	**+0.5**
	baz=173						
SUA	**Susitna One**	**0.35**	**279**		**Pn**	**19 07 18.2**	**-0.5**
SUA					**Sn**	**19 07 25.5**	**+0.5**
SUA	**Susitna One**	**0.35**	**279**	P	**Pn**	**19 07 18.1**	**-0.6**
	baz=98						
SUA				S	**Sn**	**19 07 25.7**	**+0.7**
	baz=98						
RC01	**Rabbit Creek A**	**0.35**	**156**		**Pn**	**19 07 17.9**	**-0.6**
RC01	**Rabbit Creek A**	**0.35**	**156**	P	**Pn**	**19 07 18.0**	**-0.6**
	baz=337						
GHO	**Glory Hole Cre**	**0.64**	**55**		**Pn**	**19 07 21.6**	**-0.9**
GHO		

TGL	Tana Glacier	3.56	98	Pn	Pn	19 08 02.3 -0.2
N17K	Nushagak Hills	3.60	259	Pn	Pn	19 08 02.3 -0.6
MLY	Manley	3.65	355	Pn	Pn	19 08 02.9 -0.7
J19K	Poorman	3.65	318	Pn	Pn	19 08 03.4 -0.2
J18K	Innoko River	3.73	306	Pn	Pn	19 08 04.4 -0.3
I23K	Minto, Yukon-K	3.76	4	Pn	Pn	19 08 05.4 +0.2
I21K	Tanana	3.88	348	Pn	Pn	19 08 07.0 +0.2
I20K	Naaghedeneel	3.95	331	Pn	Pn	19 08 08.2 +0.4
H21K	Melozitna Rive	4.44	345	Pn	Pn	19 08 14.6 +0.1

*NEIC **30** 19:09:52.3±0.7, 61°.42N±0°.04×150°.02W±0°.05, h60km±4km, Error ellipse: s-maj=5.1km s-min=3.7km az=181.0*
AEIC 30 19:09:53.2±0.8, 61°.41N±0°.04×150°.03W±0°.02, h54km±4km, ML2.4, ML2.6/36(NEIC), Error ellipse: s-maj=5.0km s-min=1.5km az=178.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.34**	**352**		Pn	19 10 02.2	-0.9
M22K					Sn	19 10 10.2	0.0
SUA	**Susitna One**	**0.35**	**279**		Pn	19 10 02.8	-0.6
SUA					Sn	19 10 11.0	+0.4
SUA				IAML		19 10 11.7	
	comp=E,322nm,0.9s						
RC01	**Rabbit Creek A**	**0.35**	**157**		Pn	19 10 02.7	-0.6
RC01					Sn	19 10 10.5	+0.1
RC01				IAML		19 10 11.1	
	comp=N,456nm,0.2s						
GHO	**Glory Hole Cre**	**0.64**	**55**		Pn	19 10 05.7	-0.8
GHO					Sn	19 10 15.9	-0.1
KNK	**Knik Glacier**	**0.75**	**89**		Pn	19 10 07.3	-0.5
KNK					Sn	19 10 19.1	+0.6
KNK				IAML		19 10 19.3	
	comp=N,154nm,0.5s						
KNK				IAML		19 10 19.6	
	comp=E,126nm,0.5s						
CAPN	**Captain Cook N**	**0.85**	**221**	Pn	Pn	19 10 09.6	+0.6
STLK	**Strandline Lak**	**0.87**	**276**		Pn	19 10 09.0	-0.4
STLK					Sn	19 10 21.8	+0.5
SML	**Sawmill**	**0.90**	**63**		Pn	19 10 09.0	-0.8
SML					Sn	19 10 21.8	-0.1
SKT	**Skwentna**	**0.92**	**309**		Pn	19 10 08.0	-1.9
SKT					Sn	19 10 22.2	-0.1
SKT				IAML		19 10 22.7	
	comp=E,175nm,0.4s						
SKT				IAML		19 10 22.8	
	comp=N,170nm,0.2s						
SPCG	**Spurr Capps Gl**	**0.97**	**264**		Pn	19 10 10.3	-0.4
PWL	**Port Wells**	**0.99**	**123**	Pn	Pn	19 10 10.1	-0.8
PWL				IAML		19 10 25.5	
	comp=N,137nm,0.5s						
CUT	**Chulitna**	**1.00**	**353**		Sn	19 10 24.7	+0.5
SPCP	**Crater Peak Br**	**1.04**	**263**		Pn	19 10 11.4	-0.3
SPCR	**Spurr Chakacha**	**1.08**	**259**		Pn	19 10 11.4	-0.7
M23K	**Glacier View**	**1.16**	**70**		Pn	19 10 12.5	-0.7
SCM	**Sheep Creek Mo**	**1.35**	**71**		Pn	19 10 15.2	-0.7
SCM				IAML		19 10 33.7	
	comp=N,68nm,0.6s						
SCM				IAML		19 11 10.8	
	comp=E,90nm,0.7s						
RDT	**Redoubt**	**1.43**	**235**		Pn	19 10 16.1	-0.9
GLI	**Glacier Island**	**1.52**	**109**	Pn	Pn	19 10 16.4	-1.6
GLI					Sn	19 10 35.7	-1.0
GLI				IAML		19 10 36.4	
	comp=N,48nm,0.2s						
GLI				IAML		19 10 37.1	
	comp=E,56nm,0.6s						
M20K	**Styx River**	**1.56**	**289**	Pn	Pn	19 10 18.2	-0.4
RDJH	**Redoubt Jeurge**	**1.59**	**240**		Pn	19 10 18.3	-0.7
RDWB	**Redoubt West**	**1.66**	**237**		Pn	19 10 19.4	-0.7
RED	**Redoubt Volcan**	**1.67**	**235**		Pn	19 10 19.6	-0.6
FID	**Port Fidalgo**	**1.85**	**110**		Pn	19 10 21.0	-1.5
O20K	**Slope Mountain**	**1.85**	**225**		Pn	19 10 21.7	-0.8
M24K	**Tolsona, Glenn**	**1.96**	**68**	Pn	Pn	19 10 24.1	0.0
M24K				IAML		19 11 35.3	
	comp=N,55nm,0.9s						
KLU	**Klutina**	**1.97**	**86**	Pn	Pn	19 10 23.0	-1.2
KLU				IAML		19 10 47.9	
	comp=N,44nm,0.4s						
KLU				IAML		19 11 42.7	
	comp=E,31nm,0.2s						
N19K	**Bonanza Creek**	**2.25**	**256**	Pn	Pn	19 10 27.2	-0.8
SVW2	**Sparrevohn**	**2.70**	**266**	Pn	Pn	19 10 33.0	-1.1
N18K	**Kilae Creek**	**2.95**	**258**	Pn	Pn	19 10 36.6	-0.9

*NEIC **30** 19:12:03.4±1.7, 61°.43N±0°.03×150°.09W±0°.05, h37km±7km, Error ellipse: s-maj=4.1km s-min=3.4km az=189.0*
AEIC 30 19:12:04.2±1.4, 61°.42N±0°.03×150°.10W±0°.05, h38km±5km, ML2.9, ML2.7/18(NEIC), Error ellipse: s-maj=4.4km s-min=3.3km az=187.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.31**	**278**		Pn	19 12 11.9	-0.7
SUA					Sn	19 12 18.8	-0.6
SUA				IAML		19 12 19.2	
	comp=E,494nm,0.8s						
M22K	**Willow**	**0.33**	**359**		Pn	19 12 11.8	-0.8
M22K					Sn	19 12 17.8	-1.3
RC01	**Rabbit Creek A**	**0.38**	**152**	Pn	Pn	19 12 11.8	-1.2
RC01					Sn	19 12 19.0	-0.7
RC01				IAML		19 12 19.1	
	comp=N,294nm,0.3s						
GHO	**Glory Hole Cre**	**0.66**	**58**		Pn	19 12 16.2	-1.0
GHO					Sn	19 12 26.2	-0.2
GHO				IAML		19 12 27.2	
	comp=E,301nm,0.5s						
GHO				IAML		19 12 28.1	
	comp=N,289nm,0.3s						
KNK	**Knik Glacier**	**0.79**	**90**		Pn	19 12 17.7	-1.1
KNK					Sn	19 12 29.2	-0.2
KNK				IAML		19 12 46.0	
	comp=E,433nm,0.2s						
KNK				IAML		19 12 49.1	
	comp=N,268nm,0.4s						
CAPN	**Captain Cook N**	**0.83**	**218**	Pn	Pn	19 12 18.4	-0.9
STLK	**Strandline Lak**	**0.83**	**276**		Pn	19 12 18.7	-0.7
STLK					Sn	19 12 30.7	+0.1
SKT	**Skwentna**	**0.88**	**310**		Pn	19 12 18.5	-1.5
SKT					Sn	19 12 31.5	-0.1
SKT				IAML		19 12 32.2	
	comp=E,273nm,0.3s						
SKT				IAML		19 12 32.2	
	comp=N,232nm,0.4s						
SLKM	**Skilak Lake**	**0.92**	**184**		Pn	19 12 19.9	-0.6
SML	**Sawmill**	**0.93**	**65**		Pn	19 12 19.8	-1.0
SML					Sn	19 12 32.6	-0.3
SML				IAML		19 12 48.0	
	comp=E,111nm,0.8s						
SPCG	**Spurr Capps Gl**	**0.93**	**263**		Pn	19 12 20.2	-0.6
O22K	**Cooper Landing**	**0.96**	**169**		Pn	19 12 20.3	-0.8
O22K				Sn	Sn	19 12 34.3	+0.8
SPCP	**Crater Peak Br**	**1.00**	**262**		Pn	19 12 21.3	-0.4
PWL	**Port Wells**	**1.03**	**123**		Pn	19 12 21.2	-0.8
PWL					Sn	19 12 35.8	+0.6
SPCR	**Spurr Chakacha**	**1.04**	**259**		Pn	19 12 21.4	-0.8
SPCR	**Spurr Chakacha**	**1.04**	**259**		Pn	19 12 21.5	-0.7
M23K	**Glacier View**	**1.20**	**71**		Pn	19 12 23.9	-0.4
SCM	**Sheep Creek Mo**	**1.39**	**71**		Pn	19 12 26.6	-0.4
M20K	**Styx River**	**1.52**	**289**	Pn	Pn	19 12 29.3	+0.5
GLI	**Glacier Island**	**1.56**	**109**		Pn	19 12 28.0	-1.3
RDJH	**Redoubt Jeurge**	**1.56**	**239**		Pn	19 12 28.5	-0.9
BRLK	**Bradley Lake**	**1.71**	**193**	Pn	Pn	19 12 30.0	-1.4
FID	**Port Fidalgo**	**1.89**	**109**	Pn	Pn	19 12 32.3	-1.5
CNPM	**China Poot**	**1.98**	**197**	Pn	Pn	19 12 33.6	-1.5
M24K	**Tolsona, Glenn**	**1.99**	**68**	Pn	Pn	19 12 35.1	-0.2
KLU	**Klutina**	**2.01**	**86**	Pn	Pn	19 12 34.0	-1.6
HIN	**Hinchinbrook I**	**2.04**	**119**	Pn	Pn	19 12 34.8	-1.1
M19K	**Big River Lodg**	**2.10**	**285**	Pn	Pn	19 12 36.4	-0.4
KTH	**Kantishna Hill**	**2.17**	**350**	Pn	Pn	19 12 37.8	0.0
N19K	**Bonanza Creek**	**2.21**	**256**	Pn	Pn	19 12 37.3	-1.1
P19K	**Oil Pt**	**2.35**	**222**	Pn	Pn	19 12 41.0	+0.7
L19K	**White Mountain**	**2.38**	**291**	Pn	Pn	19 12 40.6	0.0

*NEIC **30** 19:12:54.0±0.9, 61°.39N±0°.02×150°.00W±0°.04, h47km±4km, Error ellipse: s-maj=3.3km s-min=2.8km az=139.0*
AEIC 30 19:12:54.3±1.0, 61°.38N±0°.02×150°.01W±0°.01, h47km±4km, ML3.1, ML3.1/40(NEIC), Error ellipse: s-maj=3.4km s-min=0.7km az=177.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.32**	**155**		Pn	19 13 02.7	-0.7
RC01					Sn	19 13 09.6	-0.2
RC01				IAML		19 13 10.7	
	comp=N,2μm,0.3s						
RC01				IAML		19 13 12.8	
	comp=E,2μm,0.3s						
SUA	**Susitna One**	**0.36**	**284**		Pn	19 13 03.4	-0.6
SUA					Sn	19 13 10.9	+0.1
SUA				IAML		19 13 11.9	
	comp=E,1μm,0.8s						
M22K	**Willow**	**0.38**	**352**		Pn	19 13 03.3	-0.6
M22K					Sn	19 13 10.8	0.0
GHO	**Glory Hole Cre**	**0.65**	**52**		Pn	19 13 06.6	-0.9
GHO					Sn	19 13 16.9	+0.1
GHO				IAML		19 13 27.4	
	comp=E,984nm,0.6s						
GHO				IAML		19 13 27.5	
	comp=N,1μm,0.3s						
KNK	**Knik Glacier**	**0.75**	**87**		Pn	19 13 08.0	-0.6
KNK					Sn	19 13 18.8	-0.2
SLKM	**Skilak Lake**	**0.88**	**187**		Sn	19 13 22.4	+0.3
STLK	**Strandline Lak**	**0.88**	**279**		Sn	19 13 22.7	+0.5
SML	**Sawmill**	**0.91**	**61**		Pn	19 13 09.9	-1.0
SML					Sn	19 13 23.2	+0.3
SML				IAML		19 13 24.1	
	comp=N,437nm,0.5s						
SKT	**Skwentna**	**0.94**	**310**		Pn	19 13 10.1	-1.1
SKT					Sn	19 13 23.5	-0.1
SKT				IAML		19 13 24.2	
	comp=E,651nm,0.4s						
SKT				IAML		19 13 24.9	
	comp=N,618nm,0.3s						
PWL	**Port Wells**	**0.97**	**122**		Pn	19 13 11.1	-0.4
M20K	**Styx River**	**1.57**	**290**	Pn	Pn	19 13 19.7	-0.1
HOM	**Homer**	**1.91**	**206**	Pn	Pn	19 13 24.1	-0.1
L19K	**White Mountain**	**2.44**	**291**	Pn	Pn	19 13 31.7	+0.1
SVW2	**Sparrevohn**	**2.71**	**266**	Pn	Pn	19 13 34.8	-0.5
K20K	**Telida**	**2.74**	**318**	Pn	Pn	19 13 35.5	-0.3
N18K	**Kilae Creek**	**2.94**	**259**	Pn	Pn	19 13 38.2	-0.4
TTA	**Tatalina**	**3.22**	**302**	Pn	Pn	19 13 41.9	-0.4
TTA				IAML		19 14 14.0	
	comp=N,30nm,1.5s						
L18K	**Granite Mounta**	**3.28**	**288**	Pn	Pn	19 13 42.7	-0.4
M26K	**Nabesna, AK**	**3.48**	**70**	Pn	Pn	19 13 46.4	+0.5
M17K	**Holitna River**	**3.57**	**274**	Pn	Pn	19 13 46.9	-0.2
N17K	**Nushagak Hills**	**3.60**	**259**	Pn	Pn	19 13 47.3	-0.3
N17K				IAML		19 14 44.6	
	comp=N,25nm,2.5s						
J19K	**Poorman**	**3.68**	**318**	Pn	Pn	19 13 48.3	-0.4
J19K				IAML		19 14 26.2	
	comp=N,28nm,1.9s						

*NEIC **30** 19:14:23.8±1.1, 51°.10N±0°.09×178°.13W±0°.07, h34km±10km, mb4.2/5, ML3.4(AEIC), Error ellipse: s-maj=12.8km s-min=5.9km az=190.0*
*AEIC **30** 19:14:24.4±1.4, 51°.17N±0°.04×178°.12W±0°.06, h26km±6km, Error ellipse: s-maj=7.4km s-min=2.8km az=141.0*
*IDC **30** 19:14:30.3±3.3, 51°.35N×178°.22W, h87km±27km, mb3.5/16, mbtmp3.9/20, Error ellipse: s-maj=24.5km s-min=14.9km az=163.0*
ISC 30 19:14:26.4±1.6, 51°.3N±0°.1×178°.09W±0°.04, h52km±12km, n53, σ1°38/50, mb3.8/19, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**0.55**	**3**		Pn	19 14 37.6	-0.8
TAFP	**Tanaga Falls P**	**0.62**	**6**		Pn	19 14 38.4	-0.9
TAFP					Sn	19 14 49.4	+0.9
TANO	**Tanaga North**	**0.63**	**358**		Pn	19 14 38.8	-0.6
GALAA	**Gareloi Lava P**	**0.64**	**318**		Pn	19 14 38.2	-1.3
GAEA	**Gareloi East**	**0.65**	**321**		Pn	19 14 38.4	-1.2
GASW	**Gareloi Southw**	**0.69**	**316**		Pn	19 14 38.5	-1.6
KIMD	**Kanaga Island**	**0.71**	**48**		Pn	19 14 39.0	-1.3
KIWB	**Kanaga Island**	**0.81**	**45**		Pn	19 14 40.5	-1.2
KIWB					Sn	19 14 53.1	+0.2
KIKV	**Kanaga Island**	**0.82**	**44**		Pn	19 14 41.0	-0.9
KICM	**Kanaga Island**	**0.84**	**41**		Pn	19 14 41.5	-0.6
KICM					Sn	19 14 54.7	+1.2
KIRH	**Kanaga Island**	**0.87**	**45**		Pn	19 14 41.7	-0.7
KINC	**Kanaga Island**	**0.88**	**42**		Pn	19 14 41.8	-0.7
ADK	**Adak**	**1.06**	**55**		Pn	19 14 43.7	-1.2
ADK					Sn	19 14 58.4	-0.3
GSTD	**Great Sitkin T**	**1.43**	**57**		Sn	19 15 09.1	+1.3
GSMY	**Great Sitkin M**	**1.47**	**58**		Pn	19 14 50.6	+0.1
GSTR	**Great Sitkin T**	**1.50**	**57**	Pn	Pn	19 14 50.9	0.0
ATKA	**Atka Island**	**2.59**	**68**		Pn	19 15 05.9	+0.2
ATKA					Sn	19 15 38.8	+2.9
SHEM	**Shemya Is, Ala**	**5.04**	**290**	P	Pn	19 15 40.7	+1.4
	60nm,0.8s,baz=107,slow=18,SNR=1.9						
SHEM				S	Sn	19 16 38.4	+2.2
	58nm,0.8s,baz=108,slow=20,SNR=1.7						
PETK	**Petropavlovsk-**	**14.94**	**286**	P	Pn	19 17 55.0	+0.8
	3.4nm,0.9s,baz=125,slow=18,SNR=1.4						
MA2	**Magadan**	**19.36**	**307**	P	Pn	19 18 49.0	+0.2
	21nm,1.1s,baz=155,slow=21,SNR=2.6						
SEY	**Seymchan**	**19.61**	**318**	P	Pn	19 18 51.4	-0.4
	1.4nm,0.6s,baz=180,slow=20,SNR=2.0						
B21K	**Ikpikpuk River**	**21.46**	**22**	P	P	19 19 11.5	+1.7
B21K				IAmb	IAmb	19 19 14.1	
	comp=Z,9.7nm,0.8s						
D23K	**Nanushuk River**	**22.03**	**26**	P	P	19 19 19.4	+3.4
D23K				IAmb	IAmb	19 19 21.8	
	comp=Z,5.5nm,0.7s						
C23K	**Itkillik River**	**22.61**	**25**		P	19 19 22.7	+0.5
C23K				IAmb	IAmb	19 19 26.0	
	comp=Z,7.5nm,0.7s						
D25K	**Kavik River**	**23.47**	**28**	P	P	19 19 33.6	+2.7
INK	**Inuvik**	**27.28**	**35**	P	P	19 20 04.0	-1.3
	comp=Z,0.9nm,0.8s,baz=195,slow=12,SNR=2.0						
	comp=Z,0.9nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**33.64**	**206**	T	T	19 56 44.1	
	baz=17,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**33.65**	**206**	T	T	19 56 44.1	
	baz=17,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**33.66**	**206**	T	T	19 56 51.9	
	baz=17,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**34.86**	**206**	T	T	19 58 20.6	
	baz=17,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**34.87**	**206**	T	T	19 58 17.7	
	baz=17,slow=76,SNR=9.3						
H11S3	**WAKE ISLAND Hy**	**34.87**	**206**	T	T	19 58 24.0	
	baz=17,slow=76,SNR=12						
YKA	**Yellowknife Ar**	**34.97**	**46**	P	P	19 21 15.5	+2.5
	comp=Z,0.7nm,0.7s,baz=287,slow=9.1,SNR=7.5						
	comp=Z,0.7nm,0.7s						
KSRS	**Korea Array**	**40.09**	**271**	P	P	19 21 57.1	+0.6
	comp=Z,0.9nm,0.7s,baz=49,slow=13,SNR=3.0						
	comp=Z,0.9nm,0.7s						
PDAR	**Pinedale Array**	**45.91**	**73**	P	P	19 22 44.8	+1.0
	comp=Z,1.0nm,0.7s,baz=312,slow=3.0,SNR=13						
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**47.09**	**297**	P	P	19 22 53.9	+1.0
	comp=Z,1.2nm,0.9s,baz=66,slow=7.3,SNR=5.2						
	comp=Z,1.2nm,0.9s						
RSSD	**Black Hills**	**48.38**	**68**	P	P	19 22 59.8	-3.2
ARCES	**ARCESS Array B**	**58.26**	**350**	P	P	19 24 13.7	-1.1
	comp=Z,3.6nm,1.0s,baz=16,slow=9.0,SNR=1.9						
	comp=Z,3.6nm,1.0s						
KURBB	**Kurchatov Arra**	**59.51**	**314**	P	P	19 24 22.9	-0.9
	comp=Z,0.3nm,0.5s,baz=42,slow=6.7,SNR=2.4						
	comp=Z,0.3nm,0.5s						
MKAR	**Makanchi Array**	**60.44**	**309**	P	P	19 24 29.3	-1.0
	comp=Z,0.3nm,0.4s,baz=47,slow=7.5,SNR=5.6						
	comp=Z,0.3nm,0.4s						
BVAR	**Borovoye Array**	**61.25**	**320**	P	P	19 24 35.0	-0.6
	comp=Z,0.9nm,0.4s,baz=51,slow=5.4,SNR=7.2						
	comp=Z,0.9nm,0.4s						
FINES	**FINESS Array B**	**65.97**	**348**	P	P	19 25 05.9	-0.7
	comp=Z,4.4nm,0.9s,baz=83,slow=4.3,SNR=3.4						
	comp=Z,4.4nm,0.9s						
NOA	**NORSAR Array B**	**67.78**	**355**	P	P	19 25 16.1	-2.0
	comp=Z,0.8nm,0.8s,baz=357,slow=6.7,SNR=3.4						
	comp=Z,0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**71.47**	**276**	P	P	19 25 41.0	-0.5
	comp=Z,0.5nm,0.7s,baz=28,slow=6.9,SNR=5.7						
	comp=Z,0.5nm,0.7s						
AKASG	**Malin Array Be**	**75.77**	**342**	P	P	19 26 05.8	-0.3
	comp=Z,0.2nm,0.3s,baz=27,slow=5.0,SNR=3.5						
	comp=Z,0.2nm,0.3s						
WRA	**Warramunga Arr**	**82.26**	**224**	P	P	19 26 41.0	-0.9
	comp=Z,0.3nm,0.6s,baz=32,slow=5.7,SNR=2.2						
	comp=Z,0.3nm,0.6s						
BRTR	**Keskin Array B**	**85.21**	**336**	P	P	19 26 56.5	-0.6
	comp=Z,0.7nm,0.7s,baz=30,slow=3.4,SNR=3.8						
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**85.72**	**223**	P	P	19 26 58.9	-0.7
	comp=Z,0.4nm,0.6s,baz=24,slow=5.8,SNR=7.8						
	comp=Z,0.4nm,0.6s						
H03N2	**Juan Fernandez**	**120.69**	**106**	T	T	21 45 18.9	
	baz=319						
H03N1	**Juan Fernandez**	**120.70**	**106**	T	T	21 45 42.5	
	baz=319						
H03N3	**Juan Fernandez**	**120.70**	**106**	T	T	21 45 41.1	
	baz=319						
MAW	**Mawson**	**146.68**	**218**	PKPbc	PKPbc	19 34 00.2	-0.5
	comp=Z,1.0nm,0.8s,baz=140,slow=12,SNR=2.2						
BOSA	**Boshof**	**151.37**	**313**	PKPbc	PKPbc	19 34 14.3	+0.2
	comp=Z,1.9nm,0.6s,baz=327,slow=2.0,SNR=5.4						

*NEIC **30** 19:16:56.4±0.6, 61°.44N±0°.03×150°.07W±0°.05, h43km±4km, Error ellipse: s-maj=3.8km s-min=3.4km az=183.0*
AEIC 30 19:16:57.1±0.7, 61°.44N±0°.03×150°.08W±0°.05, h40km±4km, ML2.7, ML3.0/40(NEIC), Error ellipse: s-maj=3.7km s-min=3.2km az=200.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.32**	**356**		Pn	19 17 04.5	-1.0
M22K					Sn	19 17 11.8	+0.3
M22K	**Willow**	**0.32**	**356**	IAML		19 17 12.5	
	comp=N,1μm,0.4s						
M22K				IAML		19 17 12.6	
	comp=E,2μm,0.6s						
SUA	**Susitna One**	**0.32**	**275**	IAML		19 17 12.7	
	comp=E,922nm,0.8s						
SUA	**Susitna One**	**0.32**	**275**		Pn	19 17 05.2	-0.6
SUA					Sn	19 17 12.4	+0.5
RC01	**Rabbit Creek A**	**0.39**	**155**		Pn	19 17 05.7	-0.7
RC01					Sn	19 17 12.4	-0.5
RC01	**Rabbit Creek A**	**0.39**	**155**	IAML		19 17 12.6	
	comp=N,422nm,0.3s						
RC01				IAML		19 17 13.8	
	comp=E,450nm,0.3s						
GHO	**Glory Hole Cre**	**0.64**	**58**		Pn	19 17 09.0	-0.8
GHO					Sn	19 17 18.9	-0.1
GHO	**Glory Hole Cre**	**0.64**	**58**	IAML		19 17 19.9	
	comp=E,622nm,0.7s						
GHO				IAML		19 17 36.8	
	comp=N,494nm,0.4s						
KNK	**Knik Glacier**	**0.78**	**91**		Pn	19 17 10.8	-0.8
KNK	**Knik Glacier**	**0.78**	**91**	IAML		19 17 23.6	
	comp=E,501nm,0.4s						
STLK	**Strandline Lak**	**0.85**	**275**		Pn	19 17 11.9	-0.7
STLK					Sn	19 17 23.9	0.0
SKT	**Skwentna**	**0.88**	**309**		Pn	19 17 12.0	-1.0
SKT					Sn	19 17 24.5	-0.1
SKT	**Skwentna**	**0.88**	**309**	IAML		19 17 24.9	
	comp=N,447nm,0.6s						
SML	**Sawmill**	**0.91**	**65**		Pn	19 17 12.7	-0.8
SML					Sn	19 17 25.4	0.0
SML	**Sawmill**	**0.91**	**65**	IAML		19 17 26.3	
	comp=E,324nm,0.8s						
SLKM	**Skilak Lake**	**0.94**	**184**		Pn	19 17 13.0	-0.8
SPCG	**Spurr Capps Gl**	**0.95**	**262**		Pn	19 17 13.4	-0.6
SPCG					Sn	19 17 26.6	+0.2
CUT	**Chulitna**	**0.97**	**355**		Pn	19 17 13.7	-0.5
CUT					Sn	19 17 27.3	+0.5
O22K	**Cooper Landing**	**0.98**	**170**		Pn	19 17 13.7	-0.6
SPCP	**Crater Peak Br**	**1.02**	**261**		Pn	19 17 14.4	-0.6
PWL	**Port Wells**	**1.02**	**124**		Pn	19 17 14.3	-0.7
PWL					Sn	19 17 28.3	+0.2
PWL	**Port Wells**	**1.02**	**124**	IAML		19 17 48.4	
	comp=E,316nm,0.3s						
PWL				IAML		19 17 49.1	
	comp=N,431nm,0.4s						
SPCR	**Spurr Chakacha**	**1.06**	**258**		Pn	19 17 14.7	-0.8
SPCR	**Spurr Chakacha**	**1.06**	**258**		Pn	19 17 14.7	-0.8
SCM	**Sheep Creek Mo**	**1.37**	**72**		Pn	19 17 19.2	-0.6
SCM	**Sheep Creek Mo**	**1.37**	**72**	IAML		19 17 38.9	
	comp=N,200nm,0.8s						
SCM				IAML		19 17 39.2	
	comp=E,223nm,0.7s						
RDT	**Redoubt**	**1.43**	**234**		Pn	19 17 19.9	-0.7
WAT7	**Susitna Watana**	**1.51**	**22**		Pn	19 17 21.0	-0.8
M20K	**Styx River**	**1.52**	**288**	Pn	Pn	19 17 22.2	+0.3
M20K				IAML		19 18 13.5	
	comp=E,225nm,0.7s						
GLI	**Glacier Island**	**1.55**	**110**	Pn	Pn	19 17 20.4	-1.8
GLI				IAML		19 18 15.1	
	comp=E,139nm,0.2s						
BRLK	**Bradley Lake**	**1.73**	**194**	Pn	Pn	19 17 23.7	-1.0
BRLK				IAML		19 17 48.3	
	comp=E,119nm,0.5s						
FID	**Port Fidalgo**	**1.88**	**110**	Pn	Pn	19 17 24.9	-1.8
FID				IAML		19 18 40.3	
	comp=N,136nm,0.5s						
KLU	**Klutina**	**1.99**	**87**	Pn	Pn	19 17 27.8	-0.6
CNPM	**China Poot**	**2.00**	**197**	Pn	Pn	19 17 29.5	+1.0
CNPM				IAML		19 18 49.1	
	comp=E,152nm,0.5s						
L19K	**White Mountain**	**2.39**	**290**	Pn	Pn	19 17 33.6	-0.1
J20K	**Nowinta River**	**3.32**	**328**	Pn	Pn	19 17 46.0	-0.5
J20K				IAML		19 18 38.4	
	comp=N,44nm,0.4s						
M17K	**Holitna River**	**3.54**	**273**	Pn	Pn	19 17 48.8	-0.7

*NEIC **30** 19:17:15.2±1.3, 61°.50N±0°.02×149°.97W±0°.05, h50km±5km, Error ellipse: s-maj=3.5km s-min=3.3km az=175.0*
AEIC 30 19:17:15.4±1.2, 61°.50N±0°.03×149°.96W±0°.05, h48km±4km, ML2.6, ML2.9/36(NEIC), Error ellipse: s-maj=4.1km s-min=3.0km az=202.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.27**	**343**		Pn	19 17 23.2	-0.8
M22K					Sn	19 17 30.2	+0.1
M22K	**Willow**	**0.27**	**343**	IAML		19 17 30.6	
	comp=E,658nm,0.7s						
M22K				IAML		19 17 30.8	
	comp=N,814

MLY	**Manley**	**3.56**	**355**	Pn	Pn	19 18 07.8	-0.3
I21K	**Tanana**	**3.80**	**347**	Pn	Pn	19 18 10.9	-0.4
I21K				IAML		19 19 45.6	
	comp=E,18nm,1.1s						
I21K				IAML		19 19 49.9	
	comp=N,14nm,0.8s						

*IDC **30** 19:20:18.5±2.3, 61°.55N×150°.47W, h53km±23km, mb3.7/17, mbtmp3.9/22, ML3.4/4, Error ellipse: s-maj=23.3km s-min=18.2km az=139.0*

*NEIC **30** 19:20:19.9±1.0, 61°.46N±0°.02×149°.95W±0°.05, h43km±4km, Error ellipse: s-maj=3.7km s-min=2.7km az=70.0*

*AEIC **30** 19:20:20.6±1.1, 61°.47N±0°.02×149°.96W±0°.05, h40km±4km, ML3.7, ML3.8/144(NEIC), Error ellipse: s-maj=3.5km s-min=2.6km az=131.0*

ISC 30 19:20:18.6±0.7, 61°.43N±0°.03×150°.06W±0°.03, h54km±6km, n161, σ1$56/170, mb4.0/17, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.32**	**355**	Pn	**Pn**	**19 20 25.6**	**-2.7**
M22K					**Sn**	**19 20 34.8**	**-0.5**
M22K	**Willow**	**0.32**	**355**	P	**Pn**	**19 20 28.4**	**+0.1**
	baz=165						
M22K				S	**Sn**	**19 20 34.8**	**-0.5**
	baz=165						
SUA	**Susitna One**	**0.33**	**276**		**Pn**	**19 20 27.4**	**-1.2**
SUA					**Sn**	**19 20 37.0**	**+1.2**
SUA	**Susitna One**	**0.33**	**276**	P	**Pn**	**19 20 29.4**	**+0.8**
	baz=89						
SUA				S	**Sn**	**19 20 37.0**	**+1.2**
	baz=89						
RC01	**Rabbit Creek A**	**0.38**	**156**		**Pn**	**19 20 25.9**	**-3.0**
RC01				Sn	**Sn**	**19 20 36.6**	**+0.3**
RC01				IAML		19 20 37.6	
	comp=N,9μm,0.4s						
RC01				IAML		19 20 37.8	
	comp=E,6μm,0.2s						
RC01	**Rabbit Creek A**	**0.38**	**156**	S	**Sn**	**19 20 36.6**	**+0.3**
	baz=344						
GHO	**Glory Hole Cre**	**0.64**	**57**		**Sn**	**19 20 41.2**	**-0.4**
GHO	**Glory Hole Cre**	**0.64**	**57**	Pn	**Pn**	**19 20 31.1**	**-0.8**
GHO	**Glory Hole Cre**	**0.64**	**57**	IAML		19 20 41.9	
	comp=N,5μm,0.4s						
GHO				IAML		19 20 41.9	
	comp=E,7μm,0.5s						
KNK	**Knik Glacier**	**0.77**	**91**		**Pn**	**19 20 33.5**	**0.0**
KNK					**Sn**	**19 20 44.7**	**+0.4**
KNK	**Knik Glacier**	**0.77**	**91**	P	**Pn**	**19 20 33.4**	**0.0**
	baz=275						
KNK				S	**Sn**	**19 20 44.7**	**+0.4**
	baz=275						
CAPN	**Captain Cook N**	**0.85**	**219**	Pn	**Pn**	**19 20 37.2**	**+2.7**
STLK	**Strandline Lak**	**0.85**	**275**		**Pn**	**19 20 35.9**	**+1.3**
SKT	**Skwentna**	**0.89**	**309**		**Pn**	**19 20 35.7**	**+0.6**
SKT	**Skwentna**	**0.89**	**309**		**Sn**	**19 20 48.2**	**+1.1**
SKT	**Skwentna**	**0.89**	**309**	IAML		19 20 48.8	
	comp=N,4μm,0.3s						
SKT				IAML		19 20 48.8	
	comp=E,3μm,0.4s						
SKT	**Skwentna**	**0.89**	**309**	P	**Pn**	**19 20 35.9**	**+0.8**
	baz=124						
SKT				S	**Sn**	**19 20 48.2**	**+1.1**
	baz=124						
SML	**Sawmill**	**0.91**	**65**		**Pn**	**19 20 34.8**	**-0.5**
SML				Sn	**Sn**	**19 20 47.5**	**0.0**
SML				IAML		19 20 49.1	
	comp=E,3μm,0.6s						
SML				IAML		19 20 49.8	
	comp=N,4μm,0.6s						
SML	**Sawmill**	**0.91**	**65**	P	**Pn**	**19 20 34.8**	**-0.5**
	baz=247						
SLKM	**Skilak Lake**	**0.93**	**185**		**Pn**	**19 20 37.0**	**+1.4**
SPCG	**Spurr Capps Gl**	**0.96**	**262**		**Pn**	**19 20 37.8**	**+1.8**
O22K	**Cooper Landing**	**0.97**	**170**		**Pn**	**19 20 37.2**	**+1.2**
O22K				Sn	**Sn**	**19 20 51.8**	**+3.0**
O22K	**Cooper Landing**	**0.97**	**170**	P	**Pn**	**19 20 37.6**	**+1.6**
	baz=354						
CUT	**Chulitna**	**0.98**	**354**		**Pn**	**19 20 36.8**	**+0.6**
CUT					**Sn**	**19 20 49.6**	**+0.5**
CUT	**Chulitna**	**0.98**	**354**	P	**Pn**	**19 20 36.8**	**+0.6**
	baz=171						
CUT				S	**Sn**	**19 20 49.6**	**+0.5**
	baz=171						
PWL	**Port Wells**	**1.01**	**124**	Pn	**Pn**	**19 20 37.4**	**+0.7**
PWL				Sn	**Sn**	**19 20 50.9**	**+1.0**
PWL	**Port Wells**	**1.01**	**124**	P	**Pn**	**19 20 37.6**	**+0.9**
	baz=308						
SPCP	**Crater Peak Br**	**1.02**	**262**		**Pn**	**19 20 39.0**	**+2.1**
N20K	**Mount Spurr**	**1.06**	**258**	P	**Pn**	**19 20 39.2**	**+1.9**
	baz=75						
SPCR	**Spurr Chakacha**	**1.06**	**258**		**Pn**	**19 20 39.2**	**+1.8**
SPCR	**Spurr Chakacha**	**1.06**	**258**		**Pn**	**19 20 39.2**	**+1.8**
SPCR	**Spurr Chakacha**	**1.06**	**258**	P	**Pn**	**19 20 39.2**	**+1.8**
	baz=75						
M23K	**Glacier View**	**1.17**	**71**		**Pn**	**19 20 39.1**	**+0.4**
M23K	**Glacier View**	**1.17**	**71**	P	**Pn**	**19 20 39.1**	**+0.4**
	baz=254						
SCM	**Sheep Creek Mo**	**1.36**	**72**		**Pn**	**19 20 41.4**	**0.0**
SCM	**Sheep Creek Mo**	**1.36**	**72**	P	**Pn**	**19 20 41.7**	**+0.3**
	baz=255						
RDT	**Redoubt**	**1.43**	**234**		**Pn**	**19 20 44.2**	**+1.9**
M20K	**Styx River**	**1.54**	**288**		**Pn**	**19 20 46.4**	**+2.6**
M20K				IAML		19 21 07.5	
	comp=N,775nm,1.1s						
M20K				IAML		19 21 07.7	
	comp=E,850nm,0.9s						
M20K	**Styx River**	**1.54**	**288**	P	**Pn**	**19 20 45.3**	**+1.6**
	baz=104						
GLI	**Glacier Island**	**1.54**	**110**	Pn	**Pn**	**19 20 44.3**	**+0.5**
GLI				IAML		19 21 08.4	
	comp=E,2μm,0.5s						
GLI	**Glacier Island**	**1.54**	**110**	P	**Pn**	**19 20 44.2**	**+0.5**
	baz=294						
RDJH	**Redoubt Jeurge**	**1.58**	**239**		**Pn**	**19 20 46.5**	**+2.1**
RED	**Redoubt Volcan**	**1.67**	**234**		**Pn**	**19 20 47.6**	**+2.0**
BRLK	**Bradley Lake**	**1.72**	**194**	Pn	**Pn**	**19 20 49.0**	**+2.8**
BRLK				IAML		19 21 14.2	
	comp=N,1μm,0.6s						
PPLA	**Purkeypile**	**1.78**	**327**	Pn	**Pn**	**19 20 48.6**	**+1.6**
PPLA	**Purkeypile**	**1.78**	**327**	P	**Pn**	**19 20 47.8**	**+0.7**
	baz=143						
O20K	**Slope Mountain**	**1.85**	**224**		**Pn**	**19 20 50.1**	**+2.1**
O20K	**Slope Mountain**	**1.85**	**224**	P	**Pn**	**19 20 50.1**	**+2.1**
	baz=42						
HOM	**Homer**	**1.94**	**204**		**Pn**	**19 20 51.4**	**+2.1**
M24K	**Tolsona, Glenn**	**1.97**	**68**	Pn	**Pn**	**19 20 51.2**	**+1.6**
M24K				IAML		19 21 19.2	
	comp=N,1μm,0.6s						
M24K	**Tolsona, Glenn**	**1.97**	**68**	P	**Pn**	**19 20 51.0**	**+1.4**
	baz=252						
KLU	**Klutina**	**1.99**	**86**		**Pn**	**19 20 50.6**	**+0.8**
KLU				IAML		19 21 14.9	
	comp=E,574nm,0.5s						
KLU				IAML		19 21 15.0	
	comp=N,788nm,0.6s						
KLU	**Klutina**	**1.99**	**86**	P	**Pn**	**19 20 50.5**	**+0.7**
	baz=271						
CNPM	**China Poot**	**2.00**	**197**	Pn	**Pn**	**19 20 51.5**	**+1.5**
CNPM				IAML		19 21 22.0	
	comp=N,1μm,0.4s						
HIN	**Hinchinbrook I**	**2.02**	**119**	Pn	**Pn**	**19 20 49.5**	**-0.8**
HIN				IAML		19 21 23.3	
	comp=E,944nm,0.7s						
HIN				IAML		19 21 26.2	
	comp=N,657nm,0.5s						
RND	**Reindeer**	**2.06**	**15**		**Pn**	**19 20 50.8**	**0.0**
RND				IAML		19 21 20.0	
	comp=E,434nm,0.4s						
RND				IAML		19 21 23.8	
	comp=N,479nm,0.7s						
DHY	**Denali Highway**	**2.07**	**36**		**Pn**	**19 20 52.2**	**+1.1**
DHY				IAML		19 21 20.1	
	comp=E,714nm,0.4s						
DHY				IAML		19 21 23.8	
	comp=N,602nm,0.6s						
ILSW	**Iliamna Southw**	**2.10**	**228**		**Pn**	**19 20 53.3**	**+1.8**
M19K	**Big River Lodg**	**2.12**	**285**	Pn	**Pn**	**19 20 53.5**	**+1.9**
M19K				IAML		19 21 24.8	
	comp=N,360nm,0.6s						
KTH	**Kantishna Hill**	**2.17**	**350**	Pn	**Pn**	**19 20 53.9**	**+1.5**
KTH				IAML		19 21 21.9	
	comp=E,461nm,0.5s						
KTH				IAML		19 21 22.5	
	comp=N,770nm,0.6s						
CAST	**Castle Rocks**	**2.21**	**336**	Pn	**Pn**	**19 20 54.4**	**+1.6**
N19K	**Bonanza Creek**	**2.24**	**256**	Pn	**Pn**	**19 20 55.5**	**+2.2**
N19K				IAML		19 21 37.3	
	comp=E,246nm,0.7s						
N19K				IAML		19 21 39.5	
	comp=N,192nm,0.8s						
MCK	**McKinley**	**2.37**	**12**	Pn	**Pn**	**19 20 56.2**	**+1.2**
P19K	**Oil Pt**	**2.38**	**223**	Pn	**Pn**	**19 20 57.9**	**+2.7**
L19K	**White Mountain**	**2.40**	**290**	Pn	**Pn**	**19 20 57.7**	**+2.2**
L19K				IAML		19 21 28.2	
	comp=E,327nm,0.6s						
O19K	**Port Alsworth**	**2.43**	**241**		**Pn**	**19 20 56.9**	**+1.1**
O19K				IAML		19 21 32.5	
	comp=E,669nm,0.5s						
N25K	**Chitina, Valde**	**2.62**	**84**	Pn	**Pn**	**19 21 00.3**	**+1.7**
N25K				IAML		19 21 39.3	
	comp=N,353nm,0.7s						
N25K				IAML		19 21 42.7	
	comp=E,250nm,0.7s						
SVW2	**Sparrevohn**	**2.69**	**265**	Pn	**Pn**	**19 21 01.2**	**+1.8**
BPAW	**Bear Paw Mtn.**	**2.71**	**351**		**Pn**	**19 21 00.2**	**+0.5**
BPAW				IAML		19 21 49.5	
	comp=E,281nm,0.7s						
N18K	**Kilae Creek**	**2.94**	**258**	Pn	**Pn**	**19 21 04.6**	**+1.8**
O18K	**Koktuh Hills**	**2.99**	**240**	Pn	**Pn**	**19 21 05.0**	**+1.5**
O18K				IAML		19 22 09.1	
	comp=E,174nm,1.0s						
O18K				IAML		19 22 09.5	
	comp=N,200nm,0.8s						
GLB	**Gilahina Butte**	**3.00**	**87**	Pn	Pn	19 21 07.9	+4.2
GLB				IAML		19 21 47.9	
	comp=N,262nm,0.5s						
GLB				IAML		19 21 48.9	
	comp=E,232nm,0.4s						
SYI	**Shuyak Island**	**3.06**	**204**	Pn	**Pn**	**19 21 04.4**	**-0.1**
SYI				IAML		19 21 52.9	
	comp=E,302nm,0.6s						
SYI				IAML		19 21 55.1	
	comp=N,198nm,0.8s						
Q19K	**Cape Douglas,**	**3.08**	**217**	Pn	Pn	19 21 09.9	+5.0
TTA	**Tatalina**	**3.17**	**301**	Pn	**Pn**	**19 21 07.2**	**+1.2**
TTA				IAML		19 21 58.6	
	comp=E,154nm,0.8s						
TTA				IAML		19 22 04.1	
	comp=N,220nm,0.6s						
WRH	**Wood River Hil**	**3.18**	**16**		**Pn**	**19 21 07.8**	**+1.7**
WRH				IAML		19 22 02.1	
	comp=N,145nm,1.0s						
WRH				IAML		19 22 07.7	
	comp=E,155nm,1.2s						
VRDI	**Verde Repeater**	**3.19**	**91**	Pn	**Pn**	**19 21 09.9**	**+3.5**
VRDI				IAML		19 22 00.7	
	comp=N,145nm,0.7s						
NEA2	**Nenana**	**3.21**	**8**		**Pn**	**19 21 07.1**	**+0.7**
NEA2				IAML		19 22 01.8	
	comp=N,145nm,1.0s						
L18K	**Granite Mounta**	**3.24**	**287**	Pn	**Pn**	**19 21 08.4**	**+1.5**
P18K	**Big Mountain,**	**3.28**	**234**	Pn	**Pn**	**19 21 09.3**	**+1.7**
HDA	**Harding Lake**	**3.31**	**24**	Pn	**Pn**	**19 21 08.8**	**+1.0**
HDA				IAML		19 21 53.7	
	comp=E,322nm,0.3s						
HDA				IAML		19 21 55.9	
	comp=N,309nm,0.3s						
J20K	**Nowinta River**	**3.33**	**328**	Pn	**Pn**	**19 21 09.3**	**+1.2**
J20K				IAML		19 21 49.7	
	comp=N,200nm,0.8s						
J20K				IAML		19 22 00.7	
	comp=E,192nm,0.4s						
MENT	**Mentasta**	**3.33**	**60**	Pn	**Pn**	**19 21 11.7**	**+3.5**
RIDG	**Independent Ri**	**3.34**	**44**	Pn	**Pn**	**19 21 08.5**	**+0.2**
RIDG				IAML		19 21 55.9	
	comp=N,321nm,0.8s						
CCB	**Clear Creek Bu**	**3.39**	**17**	Pn	**Pn**	**19 21 12.1**	**+3.3**
M17K	**Holitna River**	**3.55**	**273**	Pn	**Pn**	**19 21 12.8**	**+1.6**
M17K				IAML		19 22 15.7	
	comp=N,184nm,0.8s						
M17K				IAML		19 22 25.2	
	comp=E,274nm,0.9s						
N17K	**Nushagak Hills**	**3.59**	**258**	Pn	**Pn**	**19 21 13.0**	**+1.3**
COLA	**College**	**3.60**	**15**	Pn	**Pn**	**19 21 11.3**	**-0.5**
MLY	**Manley**	**3.63**	**355**	Pn	**Pn**	**19 21 12.5**	**+0.3**
J19K	**Poorman**	**3.63**	**318**	Pn	**Pn**	**19 21 14.2**	**+2.0**
J19K				IAML		19 22 09.2	
	comp=N,163nm,0.6s						
J19K				IAML		19 22 09.2	
	comp=E,183nm,0.5s						
IL31		**3.65**	**22**	Pn	**Pn**	**19 21 11.1**	**-1.4**
ILAR	**Eielson Array**	**3.65**	**22**		**Pn**	**19 21 13.4**	**+0.9**
ILAR	**Eielson Array**	**3.65**	**22**	P	**Pn**	**19 21 13.6**	**+1.1**
	comp=E,6.3nm,0.3s,baz=200,slow=13,SNR=15						
ILAR				S	**Sn**	**19 21 51.5**	**-2.7**
	comp=E,21nm,0.6s,baz=198,slow=16,SNR=2.5						
	comp=E,10nm,0.4s						
J18K	**Innoko River**	**3.71**	**306**	Pn	**Pn**	**19 21 15.2**	**+1.9**
J18K				IAML		19 21 58.6	
	comp=N,129nm,0.7s						
I23K	**Minto, Yukon-K**	**3.74**	**5**		**Pn**	**19 21 14.3**	**+0.6**
I23K				IAML		19 22 23.6	
	comp=N,127nm,1.0s						
I23K				IAML		19 22 29.6	
	comp=E,101nm,0.8s						
J25K	**Salcha River,**	**3.84**	**32**		**Pn**	**19 21 16.1**	**+0.9**
J25K				IAML		19 22 07.1	
	comp=N,171nm,0.5s						
I21K	**Tanana**	**3.86**	**348**		**Pn**	**19 21 16.8**	**+1.4**
KDAK	**Kodiak Island**	**3.88**	**200**	Pn	**Pn**	**19 21 17.4**	**+1.7**
KDAK				IAML		19 22 20.0	
	comp=N,118nm,0.6s						
KDAK				IAML		19 22 23.1	
	comp=N,138nm,0.7s						
KDAK	**Kodiak Island**	**3.88**	**200**	P	**Pn**	**19 21 16.4**	**+0.8**
	comp=N,3.7nm,0.3s,baz=331,slow=19,SNR=7.2						
KDAK				S	**Sn**	**19 21 54.5**	**-5.3**
	comp=N,18nm,0.3s,baz=335,slow=19,SNR=1.9						
	comp=N,5.6nm,0.3s						
POKR	**Poker Plat Res**	**3.88**	**17**		**Pn**	**19 21 17.7**	**+1.9**
POKR				IAML		19 22 21.1	
	comp=E,92nm,0.8s						
POKR				IAML		19 22 23.3	
	comp=N,101nm,0.8s						
I20K	**Naaghedeneel**	**3.93**	**331**	Pn	**Pn**	**19 21 17.0**	**+0.7**
MESA	**MESA**	**4.17**	**104**		**Pn**	**19 21 20.6**	**+0.8**
MESA				IAML		19 22 32.9	
	comp=E,145nm,1.1s						
MESA				IAML		19 22 33.4	
	comp=N,165nm,0.9s						
L27K	**Beaver Creek,**	**4.18**	**63**		**Pn**	**19 21 20.1**	**+0.2**
L27K				IAML		19 22 33.9	
	comp=N,99nm,1.0s						
M16K	**Timber Creek**	**4.32**	**268**	Pn	**Pn**	**19 21 22.3**	**+0.5**
O16K	**Kokwok River B**	**4.38**	**249**	Pn	**Pn**	**19 21 24.1**	**+1.6**
O16K				IAML		19 22 45.1	
	comp=E,57nm,0.7s						
H21K	**Melozitna Rive**	**4.42**	**345**		**Pn**	**19 21 23.4**	**+0.3**
L16K	**Owhat River**	**4.51**	**278**	Pn	**Pn**	**19 21 26.8**	**+2.5**
L16K				IAML		19 22 51.8	
	comp=N,54nm,0.9s						
H24K	**Noodor Dome**	**4.53**	**11**		**Pn**	**19 21 25.9**	**+1.3**
H24K				IAML		19 22 31.7	
	comp=E,58nm,0.8s						
OHAK	**Old Harbor**	**4.54**	**203**	Pn	**Pn**	**19 21 25.4**	**+0.8**
OHAK				IAML		19 22 37.4	
	comp=N,62nm,0.9s						
OHAK				IAML		19 22 37.6	
	comp=E,59nm,0.9s						
PRP	**Porcupine Dome**	**4.58**	**24**	Pn	**Pn**	**19 21 26.3**	**+1.0**
PRP				IAML		19 22 23.6	
	comp=E,77nm,0.8s						
IMAR	**Indian Mountai**	**4.85**	**342**	Pn	**Pn**	**19 21 29.5**	**+0.5**
H19K	**Roundabout Mou**	**5.01**	**328**	Pn	**Pn**	**19 21 32.0**	**+0.9**
H19K				IAML		19 23 02.2	
	comp=E,39nm,1.1s						
H19K				IAML		19 23 06.3	
	comp=N,37nm,0.8s						
N15K	**Kwethluk River**	**5.08**	**260**	Pn	**Pn**	**19 21 33.9**	**+1.8**
N15K				IAML		19 23 08.5	
	comp=N,51nm,0.8s						
N15K				IAML		19 23 10.0	
	comp=E,55nm,0.7s						
K15K	**Wolf Creek Mou**	**5.50**	**284**	Pn	**Pn**	**19 21 39.2**	**+1.4**
M29M	**Somme Creek**	**5.57**	**74**		**Pn**	**19 21 40.8**	**+1.9**
FYU	**Fort Yukon**	**5.57**	**20**	Pn	**Pn**	**19 21 40.8**	**+2.0**
H17K	**Granite Mounta**	**5.68**	**313**	Pn	**Pn**	**19 21 42.2**	**+1.9**
G18K	**Tagagawik**	**5.89**	**323**		**Pn**	**19 21 44.2**	**+1.1**
O14K	**Tigyukauivet M**	**5.98**	**254**	Pn	**Pn**	**19 21 46.5**	**+2.1**
F21K	**Alatna River**	**6.00**	**347**	Pn	**Pn**	**19 21 46.5**	**+1.8**
I28M	**Miner Creek**	**6.07**	**44**		**Pn**	**19 21 46.2**	**+0.6**
F20K	**Avaraart Lake**	**6.15**	**339**		**Pn**	**19 21 48.4**	**+1.7**
F24K	**Squaw Lake**	**6.18**	**8**	Pn	**Pn**	**19 21 49.2**	**+2.0**
F19K	**Shaleruckik Mo**	**6.38**	**331**	Pn	**Pn**	**19 21 48.1**	**-1.8**
BMAR	**Burnt Mountain**	**6.47**	**19**	Pn	**Pn**	**19 21 51.5**	**+0.3**
F25K	**Christian Rive**	**6.47**	**15**	Pn	**Pn**	**19 21 52.8**	**+1.6**
J14K	**Nanvaranak Lak**	**6.47**	**288**	Pn	**Pn**	**19 21 52.9**	**+1.7**
G27K	**Doyon Strip**	**6.53**	**31**	Pn	**Pn**	**19 21 52.8**	**+0.8**
M13K	**Dall Lake**	**6.56**	**267**	Pn	**Pn**	**19 21 52.5**	**+0.1**
E24K	**Your Creek**	**6.70**	**5**	Pn	**Pn**	**19 21 56.5**	**+2.1**
F26K	**Sheenjek River**	**6.78**	**19**	Pn	**Pn**	**19 21 57.0**	**+1.6**
E19K	**Redstone River**	**6.79**	**336**	Pn	**Pn**	**19 21 54.7**	**-0.8**
F28M	**Old Crow**	**7.59**	**31**	Pn	**Pn**	**19 22 07.5**	**+1.0**
E27K	**Coleen River**	**7.67**	**24**	Pn	**Pn**	**19 22 09.1**	**+1.5**
D19K	**Kuna River**	**7.86**	**338**	Pn	**Pn**	**19 22 12.3**	**+2.1**
G30M	**tAoh Zraii Nji**	**8.19**	**41**		**Pn**	**19 22 18.0**	**+3.3**
C23K	**Itkillik River**	**8.44**	**359**	Pn	**Pn**	**19 22 20.9**	**+2.8**
P33M	**Teslin, Yukon**	**8.51**	**91**	Pn	**Pn**	**19 22 20.1**	**+1.0**
E29M	**Blow River**	**8.67**	**31**	Pn	**Pn**	**19 22 22.1**	**+1.0**
D27M	**Malcolm River**	**8.70**	**22**		**Pn**	**19 22 23.5**	**+1.9**
INK	**Inuvik**	**9.81**	**38**	P	**Pn**	**19 22 36.9**	**+0.1**
	comp=E,0.1nm,0.3s,baz=216,slow=15,SNR=4.1						
INK				S	**Sn**	**19 24 26.1**	**+0.8**
	comp=E,2.0nm,0.6s,baz=308,slow=15,SNR=2.1						
	comp=E,1.6nm,0.7s						
DLBC	**Dease Lake**	**10.48**	**98**	P	**Pn**	**19 22 47.5**	**+1.5**
	comp=E,0.7nm,0.5s,baz=34,slow=26,SNR=1.2						
C36M	**Paulatuk**	**13.31**	**42**	Pn	**Pn**	**19 23 26.2**	**+1.8**
YKA	**Yellowknife Ar**	**16.57**	**71**	P	**Pn**	**19 24 08.1**	**+1.1**
	comp=E,0.1nm,0.3s,baz=284,slow=10,SNR=5.7						
	comp=E,0.3nm,0.5s						
RES	**Resolute Bay**	**23.31**	**33**	P	**P**	**19 25 21.1**	**-0.2**
	comp=E,1.0nm,0.8s,baz=275,slow=15,SNR=4.4						
	comp=E,1.0nm,0.8s						
PDAR	**Pinedale Array**	**30.41**	**109**	P	**P**	**19 26 27.4**	**+1.8**
	comp=E,0.2nm,0.5s,baz=336,slow=4.9,SNR=2.9						
	comp=E,0.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**40.38**	**4**	P	**P**	**19 27 49.1**	**-1.4**
	comp=E,7.4nm,0.9s,baz=64,slow=13,SNR=1.2						
	comp=E,7.4nm,0.9s						
NRIK	**Noril'sk**	**43.24**	**334**	P	P	19 28 10.2	-3.7
	comp=E,1.8nm,0.5s,baz=89,slow=5.0,SNR=2.0						
	comp=E,1.8nm,0.5s						
ARCES	**ARCESS Array B**	**49.28**	**2**	P	**P**	**19 29 00.5**	**-0.8**
	comp=E,7.8nm,1.1s,baz=12,slow=9.2,SNR=2.6						
	comp=E,7.8nm,1.1s						
KSRS	**Korea Array**	**54.26**	**284**	P	**P**	**19 29 38.1**	**-0.6**
	comp=E,0.5nm,0.5s,baz=35,slow=8.3,SNR=2.0						
	comp=E,0.5nm,0.5s						
SONM	**Songino Array**	**55.10**	**307**	P	P	19 29 42.5	-2.3
	comp=E,0.6nm,0.7s,baz=42,slow=8.2,SNR=3.4						
	comp=E,0.6nm,0.7s						
NOA	**NORSAR Array B**	**57.01**	**11**	P	**P**	**19 29 57.3**	**-0.8**
	comp=E,0.8nm,0.7s,baz=350,slow=7.2,SNR=1.7						
	comp=E,0.8nm,0.7s						
ZALV	**Zalesovo Beam**	**57.05**	**325**	P	P	19 29 55.7	-2.8
	comp=E,0.3nm,0.3s,baz=28,slow=8.2,SNR=1.7						
	comp=E,0.3nm,0.3s						
FINES	**FINESS Array B**	**57.41**	**2**	P	**P**	**19 30 00.3**	**-0.6**
	comp=E,2.5nm,0.8s,baz=353,slow=8.1,SNR=3.7						
	comp=E,2.5nm,0.8s						
HFS	**Hagfors**	**58.12**	**9**	P	**P**	**19 30 06.4**	**+0.5**
	comp=E,6.0nm,1.2s,baz=29,slow=3.3,SNR=1.1						
	comp=E,6.0nm,1.2s						
EKA	**Eskdalemuir Ar**	**60.69**	**21**	P	**P**	**19 30 22.4**	**-1.3**
	comp=E,2.2nm,0.8s,baz=327,slow=6.2,SNR=4.5						
	comp=E,2.2nm,0.8s						
BVAR	**Borovoye Array**	**61.45**	**334**	P	**P**	**19 30 28.3**	**-0.5**
	comp=E,0.7nm,0.4s,baz=32,slow=8.7,SNR=5.3						
	comp=E,0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**61.74**	**327**	P	**P**	**19 30 28.9**	**-1.9**
	comp=E,0.7nm,0.3s,baz=28,slow=6.6,SNR=2.0						
	comp=E,0.7nm,0.3s						
MKAR	**Makanchi Array**	**64.19**	**323**	P	**P**	**19 30 46.0**	**-1.2**
	comp=E,0.4nm,0.7s,baz=358,slow=4.0,SNR=1.0						
	comp=E,0.4nm,0.7s						
AKASG	**Malin Array Be**	**68.22**	**0**	P	**P**	**19 31 12.6**	**-0.2**
	comp=E,1.3nm,0.4s,baz=2.7,slow=6.4,SNR=9.7						
	comp=E,1.3nm,0.4s						
ESDC	**Sonseca Array**	**75.54**	**26**	P	**P**	**19 31 57.9**	**+0.9**
	comp=E,0.7nm,0.7s,baz=334,slow=7.5,SNR=3.1						
	comp=E,0.7nm,0.7s						

*NEIC **30** 19:25:06.3±0.6, 61°.43N±0°.02×150°.04W±0°.05, h45km±5km, Error ellipse: s-maj=3.7km s-min=3.0km az=163.0*

AEIC 30 19:25:07.0±0.7, 61°.45N±0°.03×150°.05W±0°.01, h39km±5km, ML3.1, ML3.3/12(NEIC), Error ellipse: s-maj=3.7km s-min=0.9km az=184.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.31**	**354**	IAML		19 25 24.0	
	comp=N,2μm,0.5s						
M22K	**Willow**	**0.31**	**354**		Pn	19 25 14.7	-0.7
M22K					Sn	19 25 21.5	-0.1
SUA	**Susitna One**	**0.34**	**274**		Pn	19 25 15.2	-0.5
SUA					Sn	19 25 22.2	0.0
RC01	**Rabbit Creek A**	**0.39**	**157**		Pn	19 25 15.4	-0.8
RC01					Sn	19 25 22.6	-0.1
GHO	**Glory Hole Cre**	**0.63**	**58**		Pn	19 25 18.5	-1.1
GHO					Sn	19 25 28.4	-0.2
KNK	**Knik Glacier**	**0.77**	**92**		Pn	19 25 20.5	-0.8
KNK	**Knik Glacier**	**0.77**	**92**

ISC 30 19:26:27.9±0.4,61°34N±0°03×150°04W±0°03,h51km±3km, h50km:pP-P,n988,σ1°23/897,mb4.9/249,MS5.4/5, 34C-17D,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.29**	**149**	P	**Pn**	**19 26 37.1**	**+0.1**
	baz=336,SNR=315						
SUA	**Susitna One**	**0.36**	**290**		**Sn**	**19 26 45.5**	**+0.6**
SUA	**Susitna One**	**0.36**	**290**	Pn	**Pn**	**19 26 38.0**	**+0.2**
SUA	**Susitna One**	**0.36**	**290**	IAML		19 26 46.4	
	comp=E,236μm,0.9s						
SUA				IAML		19 26 46.5	
	comp=N,121μm,0.9s						
SUA	**Susitna One**	**0.36**	**290**	P	**Pn**	**19 26 38.0**	**+0.2**
	baz=104,SNR=536						
M22K	**Willow**	**0.42**	**355**		**Pn**	**19 26 37.6**	**-0.6**
M22K				IAML		19 26 46.1	
	comp=E,95μm,0.5s						
M22K				IAML		19 26 48.9	
	comp=N,88μm,0.6s						
M22K	**Willow**	**0.42**	**355**	P	**Pn**	**19 26 37.7**	**-0.6**
	baz=172,SNR=173						
GHO	**Glory Hole Cre**	**0.69**	**51**		**Sn**	**19 26 51.3**	**-0.2**
KNK	**Knik Glacier**	**0.77**	**84**	Pn	**Pn**	**19 26 42.8**	**+0.2**
KNK	**Knik Glacier**	**0.77**	**84**		**Sn**	**19 26 53.5**	**+0.3**
KNK	**Knik Glacier**	**0.77**	**84**	IAML		19 26 56.9	
	comp=N,63μm,0.5s						
KNK				IAML		19 26 57.0	
	comp=E,31μm,0.5s						
KNK	**Knik Glacier**	**0.77**	**84**	P	**Pn**	**19 26 42.7**	**+0.2**
	baz=267						
CAPN	**Captain Cook N**	**0.79**	**224**		**Pn**	**19 26 45.0**	**+2.2**
CAPN	**Captain Cook N**	**0.79**	**224**	P	**Pn**	**19 26 45.0**	**+2.2**
	baz=42,SNR=16						
SLKM	**Skilak Lake**	**0.84**	**186**		**Pn**	**19 26 44.3**	**+0.8**
STLK	**Strandline Lak**	**0.88**	**281**		**Pn**	**19 26 45.0**	**+0.9**
STLK					**Sn**	**19 26 57.4**	**+1.5**
O22K	**Cooper Landing**	**0.88**	**170**		**Pn**	**19 26 44.6**	**+0.7**
O22K	**Cooper Landing**	**0.88**	**170**		**Sn**	**19 26 57.7**	**+2.0**
O22K	**Cooper Landing**	**0.88**	**170**	P	**Pn**	**19 26 44.6**	**+0.7**
	baz=351,SNR=21						
SML	**Sawmill**	**0.94**	**60**		**Pn**	**19 26 44.8**	**-0.1**
SML					**Sn**	**19 26 57.3**	**-0.2**
SML				IAML		19 26 58.5	
	comp=N,36μm,0.7s						
SML				IAML		19 26 59.2	
	comp=E,42μm,0.6s						
SML	**Sawmill**	**0.94**	**60**	P	**Pn**	**19 26 44.9**	**-0.1**
	baz=242,SNR=195						
SPCG	**Spurr Capps Gl**	**0.95**	**268**		**Pn**	**19 26 46.1**	**+0.9**
SKT	**Skwentna**	**0.96**	**313**	Pn	**Pn**	**19 26 45.3**	**+0.2**
SKT	**Skwentna**	**0.96**	**313**		**Sn**	**19 26 58.7**	**+0.9**
SKT	**Skwentna**	**0.96**	**313**	P	**Pn**	**19 26 45.3**	**+0.2**
	baz=129,SNR=189						
PWL	**Port Wells**	**0.96**	**119**		**Sn**	**19 26 59.3**	**+1.5**
PWL	**Port Wells**	**0.96**	**119**		**Pn**	**19 26 45.7**	**+0.6**
PWL	**Port Wells**	**0.96**	**119**	IAML		19 27 00.8	
	comp=N,92μm,0.4s						
PWL				IAML		19 27 01.2	
	comp=E,157μm,0.9s						
PWL	**Port Wells**	**0.96**	**119**	P	**Pn**	**19 26 45.7**	**+0.6**
	baz=303,SNR=325						
SPCP	**Crater Peak Br**	**1.02**	**267**		**Pn**	**19 26 47.1**	**+1.1**
N20K	**Mount Spurr**	**1.06**	**263**	P	**Pn**	**19 26 47.2**	**+0.8**
	baz=80,SNR=480						
SPCR	**Spurr Chakacha**	**1.06**	**263**		**Pn**	**19 26 47.4**	**+0.9**
SPCR	**Spurr Chakacha**	**1.06**	**263**		**Pn**	**19 26 47.4**	**+0.9**
SPCR	**Spurr Chakacha**	**1.06**	**263**	P	**Pn**	**19 26 47.3**	**+0.8**
	baz=80,SNR=455						
CUT	**Chulitna**	**1.07**	**354**		**Pn**	**19 26 46.8**	**+0.2**
CUT	**Chulitna**	**1.07**	**354**	P	**Pn**	**19 26 46.8**	**+0.2**
	baz=173						
M23K	**Glacier View**	**1.20**	**67**		**Pn**	**19 26 48.8**	**+0.5**
M23K	**Glacier View**	**1.20**	**67**	P	**Pn**	**19 26 48.9**	**+0.5**
	baz=250,SNR=450						
SEW	**Seward**	**1.27**	**167**		**Pn**	**19 26 49.4**	**+0.1**
SEW	**Seward**	**1.27**	**167**	P	**Pn**	**19 26 49.5**	**+0.2**
	baz=348,SNR=26						
RDT	**Redoubt**	**1.39**	**237**		**Pn**	**19 26 51.9**	**+1.0**
SCM	**Sheep Creek Mo**	**1.39**	**68**		**Pn**	**19 26 51.5**	**+0.6**
SCM	**Sheep Creek Mo**	**1.39**	**68**	P	**Pn**	**19 26 51.6**	**+0.6**
	baz=251,SNR=149						
SCM	**Sheep Creek Mo**	**1.39**	**68**	P	**Pn**	**19 26 51.5**	**+0.6**
GLI	**Glacier Island**	**1.50**	**107**	P	**Pn**	**19 26 52.8**	**+0.3**
	baz=291,SNR=79						
RDJH	**Redoubt Jeurge**	**1.54**	**242**		**Pn**	**19 26 54.5**	**+1.4**
M20K	**Styx River**	**1.57**	**292**		**Pn**	**19 26 54.9**	**+1.4**
M20K				IAML		19 27 17.0	
	comp=N,15μm,1.5s						
M20K	**Styx River**	**1.57**	**292**	P	**Pn**	**19 26 55.2**	**+1.7**
	baz=108						
WAT7	**Susitna Watana**	**1.60**	**20**		**Pn**	**19 26 54.6**	**+0.7**
RDWB	**Redoubt West**	**1.61**	**239**		**Pn**	**19 26 55.6**	**+1.5**
RED	**Redoubt Volcan**	**1.62**	**236**		**Pn**	**19 26 55.6**	**+1.5**
BRLK	**Bradley Lake**	**1.64**	**195**	Pn	**Pn**	**19 26 55.2**	**+0.9**
BRLK				IAML		19 27 20.0	
	comp=E,11μm,0.6s						
BRSE	**Bradley Lake S**	**1.64**	**192**		**Pn**	**19 26 55.1**	**+0.7**
BRSE	**Bradley Lake S**	**1.64**	**192**	P	**Pn**	**19 26 55.0**	**+0.7**
	baz=12,SNR=29						
WAT1	**Susitna Watana**	**1.65**	**25**		**Pn**	**19 26 55.2**	**+0.7**
WAT1	**Susitna Watana**	**1.65**	**25**	P	**Pn**	**19 26 55.5**	**+1.0**
	baz=206						
WAT6	**Susitna Watana**	**1.65**	**40**		**Pn**	**19 26 55.3**	**+0.7**
WAT6	**Susitna Watana**	**1.65**	**40**	P	**Pn**	**19 26 55.5**	**+0.8**
	baz=222,SNR=58						
O20K	**Slope Mountain**	**1.79**	**226**		**Pn**	**19 26 58.4**	**+1.9**
O20K	**Slope Mountain**	**1.79**	**226**	P	**Pn**	**19 26 58.3**	**+1.9**
	baz=44,SNR=25						
FID	**Port Fidalgo**	**1.83**	**107**		**Pn**	**19 26 56.5**	**-0.5**
FID				IAML		19 27 21.5	
	comp=N,16μm,0.6s						
FID				IAML		19 27 21.6	
	comp=E,17μm,0.7s						
PPLA	**Purkeypile**	**1.86**	**328**		**Pn**	**19 26 58.0**	**+0.6**
PPLA	**Purkeypile**	**1.86**	**328**	P	**Pn**	**19 26 58.3**	**+0.9**
	baz=145,SNR=25						
HOM	**Homer**	**1.86**	**206**		**Pn**	**19 26 58.5**	**+1.1**
HOM	**Homer**	**1.86**	**206**	P	**Pn**	**19 26 58.8**	**+1.4**
	baz=25,SNR=16						
P23K	**Montague Islan**	**1.87**	**135**		**Pn**	**19 26 59.1**	**+1.6**
P23K	**Montague Islan**	**1.87**	**135**	P	**Pn**	**19 26 57.2**	**-0.2**
	baz=318,SNR=72						
CNPM	**China Poot**	**1.92**	**199**	Pn	**Pn**	**19 26 58.9**	**+0.8**
CNPM				IAML		19 27 27.1	
	comp=E,9μm,0.6s						
CNPM				IAML		19 27 30.1	
	comp=N,7μm,0.5s						
HIN	**Hinchinbrook I**	**1.97**	**117**		**Pn**	**19 26 59.5**	**+0.6**
KLU	**Klutina**	**1.99**	**84**	Pn	**Pn**	**19 26 59.4**	**+0.3**
KLU				IAML		19 27 34.1	
	comp=N,8μm,0.8s						
KLU	**Klutina**	**1.99**	**84**	P	**Pn**	**19 26 59.4**	**+0.3**
	baz=268,SNR=52						
M24K	**Tolsona, Glenn**	**2.00**	**66**		**Pn**	**19 27 00.6**	**+1.4**
M24K	**Tolsona, Glenn**	**2.00**	**66**	IAML		19 27 32.8	
	comp=N,13μm,0.9s						
M24K	**Tolsona, Glenn**	**2.00**	**66**	P	**Pn**	**19 27 00.5**	**+1.3**
	baz=250,SNR=57						
ILS	**Iliamna Low So**	**2.04**	**228**		**Pn**	**19 27 01.6**	**+1.7**
ILSW	**Iliamna Southw**	**2.05**	**230**		**Pn**	**19 27 01.5**	**+1.5**
ILSW				IAML		19 27 31.6	
	comp=E,7μm,1.0s						
DIV	**Divide**	**2.08**	**94**		**Pn**	**19 27 00.5**	**+0.2**
TRF	**Thorofare Moun**	**2.12**	**357**		**Pn**	**19 27 01.7**	**+0.7**
TRF	**Thorofare Moun**	**2.12**	**357**	IAML		19 27 41.8	
	comp=N,9μm,0.7s						
TRF				IAML		19 27 48.4	
	comp=E,7μm,0.7s						
TRF	**Thorofare Moun**	**2.12**	**357**	P	**Pn**	**19 27 02.0**	**+1.0**
	baz=176,SNR=25						
DHY	**Denali Highway**	**2.14**	**35**		**Pn**	**19 27 02.5**	**+1.2**
DHY				IAML		19 27 33.5	
	comp=N,8μm,0.7s						
DHY				IAML		19 27 34.3	
	comp=E,8μm,0.6s						
DHY	**Denali Highway**	**2.14**	**35**	P	**Pn**	**19 27 02.4**	**+1.1**
	baz=217,SNR=27						
L20K	**Farewell, AK**	**2.15**	**304**		**Pn**	**19 27 02.6**	**+1.3**
L20K	**Farewell, AK**	**2.15**	**304**	P	**Pn**	**19 27 02.4**	**+1.2**
	baz=120,SNR=82						
RND	**Reindeer**	**2.15**	**14**		**Pn**	**19 27 02.6**	**+1.3**
RND				IAML		19 27 40.4	
	comp=E,7μm,0.8s						
RND	**Reindeer**	**2.15**	**14**	P	**Pn**	**19 27 02.6**	**+1.3**
M19K	**Big River Lodg**	**2.15**	**287**	Pn	**Pn**	**19 27 02.5**	**+1.3**
M19K	**Big River Lodg**	**2.15**	**287**	P	**Pn**	**19 27 02.6**	**+1.3**
	baz=102						
N19K	**Bonanza Creek**	**2.22**	**258**	Pn	**Pn**	**19 27 03.9**	**+1.5**
N19K				IAML		19 27 34.4	
	comp=N,5μm,0.8s						
N19K	**Bonanza Creek**	**2.22**	**258**	P	**Pn**	**19 27 03.8**	**+1.5**
	baz=74,SNR=51						
EYAK	**Cordova Ski Ar**	**2.24**	**109**		**Pn**	**19 27 03.3**	**+0.8**
EYAK	**Cordova Ski Ar**	**2.24**	**109**	P	**Pn**	**19 27 02.7**	**+0.2**
	baz=294,SNR=51						
KTH	**Kantishna Hill**	**2.26**	**350**		**Pn**	**19 27 04.4**	**+1.5**
KTH				IAML		19 27 32.6	
	comp=E,6μm,0.7s						
KTH				IAML		19 27 36.7	
	comp=N,8μm,0.7s						
CAST	**Castle Rocks**	**2.29**	**336**	Pn	**Pn**	**19 27 04.4**	**+1.2**
CAST				IAML		19 27 48.3	
	comp=E,5μm,1.0s						
CAST	**Castle Rocks**	**2.29**	**336**	P	**Pn**	**19 27 04.3**	**+1.1**
	baz=154,SNR=20						
OPT	**Oil Point**	**2.31**	**224**		**Pn**	**19 27 05.6**	**+2.1**
P19K	**Oil Pt**	**2.31**	**224**		**Pn**	**19 27 05.2**	**+1.6**
P19K	**Oil Pt**	**2.31**	**224**	P	**Pn**	**19 27 05.2**	**+1.6**
	baz=41,SNR=25						
O19K	**Port Alsworth**	**2.39**	**243**	Pn	**Pn**	**19 27 05.5**	**+1.0**
O19K	**Port Alsworth**	**2.39**	**243**	P	**Pn**	**19 27 05.6**	**+1.0**
	baz=59,SNR=53						
L19K	**White Mountain**	**2.44**	**292**	Pn	**Pn**	**19 27 06.5**	**+1.2**
L19K				IAML		19 27 37.6	
	comp=E,5μm,0.7s						
L19K				IAML		19 27 52.0	
	comp=N,5μm,0.9s						
L19K	**White Mountain**	**2.44**	**292**	P	**Pn**	**19 27 06.7**	**+1.5**
	baz=107,SNR=140						
MCK	**McKinley**	**2.46**	**12**		**Pn**	**19 27 06.2**	**+0.8**
MCK	**McKinley**	**2.46**	**12**	P	**Pn**	**19 27 06.4**	**+1.0**
	baz=192,SNR=45						
MCK	**McKinley**	**2.46**	**12**	P	**Pn**	**19 27 06.3**	**+0.8**
HARP	**HAARP**	**2.55**	**63**		**Pn**	**19 27 07.6**	**+0.8**
HARP	**HAARP**	**2.55**	**63**	P	**Pn**	**19 27 07.9**	**+1.2**
	baz=248,SNR=32						
AU22	**Augustine Moun**	**2.57**	**221**		**Pn**	**19 27 09.0**	**+1.9**
AUL	**Augustine Lava**	**2.59**	**222**		**Pn**	**19 27 09.5**	**+2.2**
AUW	**Augustine West**	**2.61**	**222**		**Pn**	**19 27 09.8**	**+2.2**
N25K	**Chitina, Valde**	**2.63**	**82**		**Pn**	**19 27 08.8**	**+1.0**
N25K	**Chitina, Valde**	**2.63**	**82**	IAML		19 27 49.3	
	comp=N,4μm,0.5s						
N25K	**Chitina, Valde**	**2.63**	**82**	P	**Pn**	**19 27 08.3**	**+0.4**
	baz=267,SNR=35						
Q23K	**Middleton Isla**	**2.65**	**135**	Pn	**Pn**	**19 27 09.8**	**+1.7**
Q23K				IAML		19 28 08.4	
	comp=N,6μm,1.3s						
Q23K				IAML		19 28 11.7	
	comp=E,5μm,1.2s						
Q23K	**Middleton Isla**	**2.65**	**135**	P	**Pn**	**19 27 09.6**	**+1.5**
	baz=319,SNR=5.6						
BMRM	**Bremner River**	**2.66**	**96**	P	**Pn**	**19 27 08.2**	**-0.2**
	baz=281,SNR=84						
SVW2	**Sparrevohn**	**2.69**	**267**	Pn	**Pn**	**19 27 09.7**	**+1.0**
SVW2	**Sparrevohn**	**2.69**	**267**	P	**Pn**	**19 27 09.9**	**+1.2**
PAX	**Paxson**	**2.70**	**51**	P	**Pn**	**19 27 10.3**	**+1.4**
	baz=235,SNR=20						
CHUM	**Lake Minchumin**	**2.76**	**339**		**Pn**	**19 27 10.8**	**+1.2**
CHUM	**Lake Minchumin**	**2.76**	**339**	P	**Pn**	**19 27 10.8**	**+1.2**
	baz=156,SNR=27						
K20K	**Telida**	**2.76**	**319**		**Pn**	**19 27 10.5**	**+0.9**
K20K				IAML		19 27 59.8	
	comp=E,4μm,0.8s						
K20K	**Telida**	**2.76**	**319**	P	**Pn**	**19 27 10.5**	**+0.9**
	baz=135,SNR=34						
M18K	**Stony River**	**2.78**	**276**		**Pn**	**19 27 11.2**	**+1.3**
M18K	**Stony River**	**2.78**	**276**	P	**Pn**	**19 27 11.2**	**+1.3**
	baz=90,SNR=47						
BPAW	**Bear Paw Mtn.**	**2.80**	**351**	Pn	**Pn**	**19 27 10.9**	**+0.7**
BPAW	**Bear Paw Mtn.**	**2.80**	**351**	P	**Pn**	**19 27 11.0**	**+0.7**
	baz=170,SNR=12						
BWN	**Browne**	**2.85**	**5**		**Pn**	**19 27 12.7**	**+1.8**
N18K	**Kilae Creek**	**2.92**	**259**	Pn	**Pn**	**19 27 12.9**	**+1.1**
N18K				IAML		19 27 47.6	
	comp=N,4μm,0.7s						
N18K	**Kilae Creek**	**2.92**	**259**	P	**Pn**	**19 27 13.1**	**+1.2**
	baz=74,SNR=32						
O18K	**Koktuh Hills**	**2.95**	**242**	Pn	**Pn**	**19 27 13.2**	**+0.9**
O18K				IAML		19 28 05.1	
	comp=N,3μm,0.9s						
O18K				IAML		19 28 16.0	
	comp=E,3μm,1.2s						
O18K	**Koktuh Hills**	**2.95**	**242**	P	**Pn**	**19 27 13.3**	**+0.9**
	baz=57,SNR=24						
SYI	**Shuyak Island**	**2.98**	**204**	Pn	**Pn**	**19 27 13.7**	**+1.0**
SYI				IAML		19 27 58.0	
	comp=E,3μm,0.8s						
SYI				IAML		19 28 04.0	
	comp=N,3μm,0.7s						
Q20K	**Shuyak Island**	**2.98**	**204**	P	**Pn**	**19 27 13.7**	**+1.0**
	baz=22,SNR=17						
Q19K	**Cape Douglas,**	**3.02**	**218**	Pn	**Pn**	**19 27 13.8**	**+0.6**
Q19K	**Cape Douglas,**	**3.02**	**218**	P	**Pn**	**19 27 14.3**	**+1.2**
	baz=35,SNR=40						
KAIM	**Kayak Island**	**3.11**	**115**	P	**Pn**	**19 27 16.4**	**+2.0**
	baz=300,SNR=28						
K24K	**Donnelly Dome**	**3.16**	**37**	P	**Pn**	**19 27 18.5**	**+3.4**
	baz=220,SNR=17						
TTA	**Tatalina**	**3.23**	**302**	Pn	**Pn**	**19 27 16.6**	**+0.6**
TTA				IAML		19 28 21.7	
	comp=N,3μm,0.9s						
TTA	**Tatalina**	**3.23**	**302**	P	**Pn**	**19 27 16.9**	**+0.8**
	baz=116,SNR=36						
TTA	**Tatalina**	**3.23**	**302**	P	**Pn**	**19 27 16.9**	**+0.8**
TTA	**Tatalina**	**3.23**	**302**	P	**Pn**	**19 27 16.6**	**+0.6**
P18K	**Big Mountain,**	**3.23**	**235**	Pn	**Pn**	**19 27 17.5**	**+1.4**
P18K				IAML		19 28 10.6	
	comp=N,2μm,1.1s						
P18K	**Big Mountain,**	**3.23**	**235**	P	**Pn**	**19 27 17.4**	**+1.2**
	baz=50,SNR=6.4						
WRH	**Wood River Hil**	**3.27**	**15**	IAML		19 28 22.8	
	comp=E,2μm,1.5s						
L18K	**Granite Mounta**	**3.28**	**289**	Pn	**Pn**	**19 27 17.7**	**+1.0**
L18K				IAML		19 28 16.2	
	comp=E,2μm,0.8s						
L18K				IAML		19 28 24.9	
	comp=N,3μm,0.9s						
L18K	**Granite Mounta**	**3.28**	**289**	P	**Pn**	**19 27 17.8**	**+1.0**
	baz=102,SNR=43						
NEA2	**Nenana**	**3.29**	**7**	P	**Pn**	**19 27 17.9**	**+0.9**
	baz=188						
MCARA	**McCarthy VSAT**	**3.38**	**86**	P	**Pn**	**19 27 18.7**	**+0.6**
	baz=273						
HDA	**Harding Lake**	**3.39**	**23**		**Pn**	**19 27 20.4**	**+2.1**
HDA				IAML		19 28 15.1	
	comp=E,3μm,1.1s						
HDA				IAML		19 28 16.2	
	comp=N,3μm,0.5s						
HDA	**Harding Lake**	**3.39**	**23**	P	**Pn**	**19 27 19.2**	**+1.0**
	baz=206						
RIDG	**Independent Ri**	**3.40**	**43**	P	**Pn**	**19 27 19.1**	**+0.6**
	baz=227						
J20K	**Nowinta River**	**3.42**	**328**		**Pn**	**19 27 19.4**	**+0.8**
J20K				IAML		19 28 24.0	
	comp=N,3μm,0.9s						
J20K				IAML		19 28 29.2	
	comp=E,3μm,0.8s						
J20K	**Nowinta River**	**3.42**	**328**	P	**Pn**	**19 27 19.8**	**+1.2**
	baz=144,SNR=62						
CRQE	**Cirque**	**3.43**	**97**	P	**Pn**	**19 27 19.3**	**+0.4**
	baz=284						
CCB	**Clear Creek Bu**	**3.47**	**16**	Pn	**Pn**	**19 27 20.3**	**+1.0**
CCB				IAML		19 28 16.6	
	comp=E,2μm,1.0s						
M26K	**Nabesna, AK**	**3.50**	**69**	P	**Pn**	**19 27 20.9**	**+1.0**
	baz=256						
BGLC	**Bering Glacier**	**3.54**	**107**	P	**Pn**	**19 27 21.6**	**+1.4**
	baz=294						
M17K	**Holitna River**	**3.56**	**274**		**Pn**	**19 27 21.7**	**+1.2**
M17K	**Holitna River**	**3.56**	**274**	P	**Pn**	**19 27 21.8**	**+1.2**
	baz=87,SNR=122						
L26K	**Log Cabin Wild**	**3.56**	**59**	P	**Pn**	**19 27 21.8**	**+1.1**
	baz=245,SNR=17						
N17K	**Nushagak Hills**	**3.58**	**260**		**Pn**	**19 27 21.9**	**+1.1**
N17K				IAML		19 28 04.2	
	comp=E,3μm,0.8s						
N17K				IAML		19 28 20.7	
	comp=N,2μm,1.1s						
N17K	**Nushagak Hills**	**3.58**	**260**	P	**Pn**	**19 27 22.1**	**+1.3**
	baz=73,SNR=46						
Q18K	**Katmai Hardscr**	**3.68**	**225**	P	**Pn**	**19 27 23.3**	**+1.0**
	baz=40						
COLA	**College**	**3.68**	**15**	P	**Pn**	**19 27 23.9**	**+1.6**
	baz=196						
COLA	**College**	**3.68**	**15**	P	**Pn**	**19 27 24.3**	**+2.1**
COLA	**College**	**3.68**	**15**	*i* P	**Pn**	**19 27 23.4**	**+1.2**
I53US	**FAIRBANKS INFR**	**3.68**	**15**	I	I	19 47 40.0	
	baz=206,slow=333,SNR=1.2						
J19K	**Poorman**	**3.70**	**318**		**Pn**	**19 27 23.5**	**+1.0**
J19K	**Poorman**	**3.70**	**318**	IAML		19 28 24.9	
	comp=E,2μm,0.7s						
J19K				IAML		19 28 44.4	
	comp=N,2μm,1.1s						
J19K	**Poorman**	**3.70**	**318**	P	**Pn**	**19 27 22.9**	**+0.4**
	baz=133,SNR=22						
MLY	**Manley**	**3.72**	**355**		**Pn**	**19 27 23.7**	**+0.9**
MLY	**Manley**	**3.72**	**355**	P	**Pn**	**19 27 24.3**	**+1.5**
	baz=174,SNR=67						
IL31	**Eielson Array**	**3.73**	**21**		**Pn**	**19 27 23.7**	**+0.8**
ILAR	**Eielson Array**	**3.73**	**21**	P	**Pn**	**19 27 24.5**	**+1.6**
	comp=N,70nm,0.4s,baz=206,slow=14,SNR=23						
ILAR				S	**Sn**	**19 28 08.0**	**+2.4**
	comp=N,144nm,0.5s,baz=229,slow=11,SNR=1.8						
J18K	**Innoko River**	**3.77**	**307**		**Pn**	**19 27 24.1**	**+0.7**
J18K	**Innoko River**	**3.77**	**307**	P	**Pn**	**19 27 24.6**	**+1.1**
	baz=121,SNR=56						
KDAK	**Kodiak Island**	**3.80**	**201**	Pn	**Pn**	**19 27 23.4**	**-0.4**
KDAK				IAML		19 28 27.8	
	comp=N,2μm,1.1s						
KDAK				IAML		19 28 29.8	
	comp=N,2μm,0.8s						
KDAK	**Kodiak Island**	**3.80**	**201**	P	**Pn**	**19 27 23.6**	**-0.2**
	comp=N,66nm,0.5s,baz=9.5,slow=18,SNR=16						
KDAK				S	**Sn**	**19 28 04.4**	**-2.8**
	comp=N,617nm,0.7s,baz=324,slow=19,SNR=6.3						
KDAK	**Kodiak Island**	**3.80**	**201**	P	**Pn**	**19 27 23.3**	**-0.4**
	baz=19						
KDAK	**Kodiak Island**	**3.80**	**201**	P	**Pn**	**19 27 23.4**	**-0.4**
O17K	**Koliganek Bris**	**3.82**	**249**		**Pn**	**19 27 25.8**	**+1.7**
O17K	**Koliganek Bris**	**3.82**	**249**	P	**Pn**	**19 27 25.5**	**+1.4**
	baz=82,SNR=30						
I23K	**Minto, Yukon-K**	**3.83**	**4**		**Pn**	**19 27 25.7**	**+1.4**
I23K				IAML		19 28 33.8	
	comp=E,2μm,1.4s						
I23K				IAML		19 28 35.6	
	comp=N,2μm,0.9s						
I23K	**Minto, Yukon-K**	**3.83**	**4**	P	**Pn**	**19 27 26.1**	**+1.8**
	baz=185,SNR=44						
P17K	**Kvichak River**	**3.84**	**239**		**Pn**	**19 27 26.1**	**+1.7**
P17K	**Kvichak River**	**3.84**	**239**	P	**Pn**	**19 27 25.8**	**+1.4**
	baz=53,SNR=24						
SCRK	**Sand Creek**	**3.85**	**44**	P	**Pn**	**19 27 26.4**	**+1.8**
	baz=229						
J25K	**Salcha River,**	**3.92**	**31**	P	**Pn**	**19 27 27.4**	**+1.9**
	baz=215,SNR=9.4						
I21K	**Tanana**	**3.95**	**348**		**Pn**	**19 27 27.1**	**+1.2**
I21K				IAML		19 28 30.2	
	comp=N,1μm,0.8s						
I21K				IAML		19 28 36.5	
	comp=E,1μm,1.8s						
I21K	**Tanana**	**3.95**	**348**	P	**Pn**	**19 27 27.9**	**+1.9**
	baz=166,SNR=32						
POKR	**Poker Plat Res**	**3.97**	**16**	IAML		19 28 41.6	
	comp=N,1μm,1.0s						
POKR	**Poker Plat Res**	**3.97**	**16**	P	**Pn**	**19 27 27.2**	**+1.0**
	baz=198,SNR=13						
M27K	**Edge Creek, AK**	**4.00**	**72**	P	**Pn**	**19 27 27.8**	**+1.1**
	baz=259,SNR=18						
L17K	**Donlin**	**4.01**	**285**		**Pn**	**19 27 27.9**	**+1.2**
L17K	**Donlin**	**4.01**	**285**	P	**Pn**	**19 27 27.9**	**+1.2**
	baz=97,SNR=139						
I20K	**Naaghedeneel**	**4.01**	**332**		**Pn**	**19 27 27.9**	**+1.2**
I20K	**Naaghedeneel**	**4.01**	**332**	P	**Pn**	**19 27 27.9**	**+1.2**
	baz=147						
K17K	**Iditarod**	**4.13**	**293**		**Pn**	**19 27 29.4**	**+1.1**
K17K	**Iditarod**	**4.13**	**293**	IAML		19 28 42.3	
	comp=N,2μm,1.1s						
K17K	**Iditarod**	**4.13**	**293**	P	**Pn**	**19 27 29.6**	**+1.3**
	baz=105,SNR=87						
MESA	**MESA**	**4.14**	**103**		**Pn**	**19 27 29.2**	**+0.5**
MESA				IAML		19 28 47.0	
	comp=E,2μm,0.8s						
MESA				IAML		19 28 47.3	
	comp=N,2μm,0.8s						
MESA	**MESA**	**4.14**	**103**	P	**Pn**	**19 27 29.2**	**+0.5**
	baz=290						
L27K	**Beaver Creek,**	**4.22**	**62**	P	**Pn**	**19 27 30.6**	**+0.9**
	baz=250						
CTG	**Chitna Glacier**	**4.23**	**91**	P	**Pn**	**19 27 31.3**	**+1.4**
	baz=279,SNR=22						
BCAR	**Beaver Creek A**	**4.24**	**62**	Pn	**Pn**	**19 27 30.0**	**+0.1**
CTGM	**Chitina Glacie**	**4.24**	**91**	IAML		19 28 40.3	
	comp=N,1μm,0.7s						
Q16K	**King Salmon**	**4.26**	**234**	P	**Pn**	**19 27 32.4**	**+2.3**
	baz=48,SNR=18						
Q17K	**Contact Creek**	**4.27**	**226**	P	**Pn**	**19 27 31.4**	**+1.0**
	baz=41						
M16K	**Timber Creek**	**4.33**	**270**	IAML		19 28 52.1	
	comp=N,1μm,1.0s						

R17L	Mt. Peulik Vol	4.92 224	P	Pn	19 27 41.6 +2.3
	baz=38,SNR=56				
IMAR	Indian Mountai	4.94 342	Pn	Pn	19 27 39.3 -0.2
YUK8	Steele Glacier	4.96 86	P	Pn	19 27 41.2 +1.3
	baz=276,SNR=14				
PINM	Pinnacle	4.97 100	P	Pn	19 27 41.6 +1.6
	baz=289,SNR=16				
N15K	Kwethluk River	5.07 261	IAML		19 29 18.2
	comp=E,1μm,1.0s				
N15K	Kwethluk River	5.07 261	P	Pn	19 27 42.6 +1.4
	baz=72,SNR=62				
H19K	Roundabout Mou	5.09 328	IAML		19 29 16.1
	comp=E,893nm,1.6s				
H19K			IAML		19 29 19.6
	comp=N,1μm,1.2s				
H19K	Roundabout Mou	5.09 328	P	Pn	19 27 41.9 +0.4
	baz=142,SNR=30				
M15K	Kasigluk River	5.22 268	P	Pn	19 27 44.5 +1.2
	baz=78,SNR=59				
SII	Sitkinak Islan	5.25 206		Pn	19 27 45.0 +1.2
SII	Sitkinak Islan	5.25 206	P	Pn	19 27 46.8 +3.0
	baz=22				
SII	Sitkinak Islan	5.25 206	P	Pn	19 27 47.3 +3.5
H25L	Birch Creek	5.29 19	P	Pn	19 27 46.2 +2.0
	baz=203,SNR=16				
J16K	Anvik River	5.30 296	IAML		19 29 20.2
	comp=N,800nm,0.9s				
J16K			IAML		19 29 35.3
	comp=E,503nm,1.1s				
J16K	Anvik River	5.30 296	P	Pn	19 27 45.3 +0.9
	baz=106				
O15K	Ungalikthiuk R	5.33 250	P	Pn	19 27 46.4 +1.6
	baz=62,SNR=18				
H18K	Honhosa River	5.36 319	IAML		19 29 28.7
	comp=E,628nm,1.8s				
H18K			IAML		19 29 34.1
	comp=N,824nm,1.7s				
H18K	Honhosa River	5.36 319	P	Pn	19 27 45.6 +0.4
	baz=131,SNR=58				
R16K	Pilot Point	5.39 229	P	Pn	19 27 47.7 +2.0
	baz=42				
G23K	Bananza Creek	5.39 0	P	Pn	19 27 47.4 +1.7
	baz=180,SNR=48				
G21K	Allakaket	5.42 345	IAML		19 28 49.5
	comp=N,784nm,0.7s				
G21K			IAML		19 29 36.0
	comp=E,687nm,1.1s				
G21K	Allakaket	5.42 345	P	Pn	19 27 47.1 +1.1
	baz=162,SNR=24				
YUK4	Talbot Arm	5.49 85	P	Pn	19 27 49.5 +2.3
	baz=274,SNR=6.9				
L15K	Ungalak Mounta	5.49 279	P	Pn	19 27 48.0 +1.0
	baz=88,SNR=34				
G24K	Hadweenzic Riv	5.50 11	P	Pn	19 27 48.5 +1.4
	baz=193				
PNL	Peninsula	5.52 103	P	Pn	19 27 49.0 +1.5
	baz=293				
PNL	Peninsula	5.52 103	P	Pn	19 27 48.1 +0.6
K15K	Wolf Creek Mou	5.53 285	P	Pn	19 27 49.0 +1.4
	baz=94,SNR=109				
I17K	Unalakleet	5.54 302		Pn	19 27 48.7 +1.1
I17K	Unalakleet	5.54 302	P	Pn	19 27 48.9 +1.3
	baz=112,SNR=122				
M29M	Somme Creek	5.59 74	P	Pn	19 27 49.4 +0.9
	baz=264,SNR=50				
DAWY	Dawson	5.61 56	Pn	Pn	19 27 49.7 +1.0
DAWY	Dawson	5.61 56	P	Pn	19 27 49.8 +1.0
	baz=246,SNR=18				
G22K	Bettles	5.64 354	P	Pn	19 27 50.5 +1.4
	baz=173				
YUK6	Outpost Mounta	5.67 89	P	Pn	19 27 51.3 +1.5
	baz=279,SNR=12				
I27K	Kandik River	5.70 38	P	Pn	19 27 51.5 +1.5
	baz=225,SNR=20				
O29M	Mount Kennedy	5.71 95	P	Pn	19 27 51.1 +1.0
	baz=286				
G25K	Bearman Lake	5.71 16	P	Pn	19 27 52.5 +2.5
	baz=199,SNR=30				
G19K	Purcell Mounta	5.74 330	P	Pn	19 27 51.7 +1.3
	baz=144,SNR=15				
H17K	Granite Mounta	5.75 313	P	Pn	19 27 52.0 +1.5
	baz=124,SNR=93				
M14K	Bethel	5.82 269	Pn	Pn	19 27 52.9 +1.4
M14K	Bethel	5.82 269	P	Pn	19 27 53.1 +1.6
	baz=79,SNR=81				
L29M	L29M	5.85 67	P	Pn	19 27 52.0 0.0
	baz=258,SNR=9.0				
N14K	Kuskokwak Cree	5.90 261	P	Pn	19 27 54.5 +1.9
	baz=71,SNR=39				
COLD	Coldfoot	5.91 359	P	Pn	19 27 53.8 +1.0
	baz=179,SNR=64				
O14K	Tigyukauivet M	5.96 254	P	Pn	19 27 55.1 +1.7
	baz=64,SNR=10				
G18K	Tagagawik	5.96 324	P	Pn	19 27 54.6 +1.1
	baz=136,SNR=62				
L14K	Kuka Creek	6.08 276	P	Pn	19 27 56.3 +1.2
	baz=84,SNR=186				
F21K	Alatna River	6.09 347	P	Pn	19 27 57.5 +2.3
	baz=164,SNR=39				
HYT	Haines Junctio	6.11 89	Pn	Pn	19 27 56.2 +0.6
HYT	Haines Junctio	6.11 89	P	Pn	19 27 56.4 +0.8
	baz=281,SNR=17				
I28M	Miner Creek	6.13 43	P	Pn	19 27 57.3 +1.5
	baz=232,SNR=44				
H27K	Steamboat Moun	6.19 34	P	Pn	19 27 59.7 +3.1
	baz=222,SNR=19				
N30M	Aishikik Lake	6.22 83	P	Pn	19 27 57.8 +0.6
	baz=275,SNR=25				
J29N	Klondike Camp	6.24 55	P	Pn	19 27 59.2 +1.8
	baz=246				
F20K	Avaraart Lake	6.24 339	P	Pn	19 27 59.0 +1.7
	baz=154				
CHIR	Chirikof Islan	6.25 210	P	Pn	19 27 59.8 +2.3
	baz=25				
CHIR	Chirikof Islan	6.25 210	P	Pn	19 27 59.6 +2.1
G26K	Porcupine Rive	6.26 23	P	Pn	19 27 58.8 +1.3
	baz=209,SNR=27				
F22K	John River	6.26 352	P	Pn	19 27 59.8 +2.2
	baz=170				
F24K	Squaw Lake	6.27 8	P	Pn	19 27 59.7 +1.9
	baz=189,SNR=21				
K29M	Barlow Dome	6.30 61	P	Pn	19 27 59.0 +0.8
	baz=252,SNR=13				
P29M	Windy Craggy	6.32 100	P	Pn	19 27 59.7 +1.3
	baz=291,SNR=58				
G17K	Kiwalik Mounta	6.33 316	P	Pn	19 28 00.3 +1.9
	baz=126,SNR=18				
M30M	Minto, Yukon	6.37 73	Pn	Pn	19 27 59.8 +0.7
M30M	Minto, Yukon	6.37 73	P	Pn	19 27 59.8 +0.7
	baz=265,SNR=8.3				
H16K	Elim	6.46 306	P	Pn	19 28 01.7 +1.4
	baz=115,SNR=46				
F19K	Shaleruckik Mo	6.47 332	P	Pn	19 28 02.1 +1.7
	baz=145,SNR=23				
J14K	Nanvaranak Lak	6.51 288	P	Pn	19 28 02.3 +1.4
	baz=96,SNR=41				
P30M	Million Dollar	6.53 95	P	Pn	19 28 02.0 +0.6
	baz=287				
BMAR	Burnt Mountain	6.55 19	Pn	Pn	19 28 02.6 +1.0
F25K	Christian Rive	6.56 15	P	Pn	19 28 03.5 +1.8
	baz=199,SNR=47				
M13K	Dall Lake	6.56 268	P	Pn	19 28 03.9 +2.2
	baz=76,SNR=23				
G27K	Doyon Strip	6.60 30	P	Pn	19 28 03.4 +1.2
	baz=218,SNR=24				
CHGN	Chignik	6.66 224	P	Pn	19 28 04.9 +1.8
	baz=37,SNR=11				
E23K	Chandalar	6.75 1	P	Pn	19 28 06.4 +2.1
	baz=182,SNR=36				
F18K	Selawik	6.76 325	P	Pn	19 28 05.7 +1.4
	baz=137,SNR=15				
E24K	Your Creek	6.79 5	P	Pn	19 28 07.3 +2.3
	baz=186				
O30N	Mendenhall	6.80 89	P	Pn	19 28 05.6 +0.6
	baz=281				
N31M	Braeburn, Yuko	6.85 83		Pn	19 28 06.4 +0.8
N31M	Braeburn, Yuko	6.85 83	P	Pn	19 28 06.0 +0.3
	baz=275				
G16K	Koyuk River	6.86 312	P	Pn	19 28 07.7 +1.9
	baz=120,SNR=15				
F26K	Sheenjek River	6.87 19	P	Pn	19 28 06.7 +0.9
	baz=204				
E19K	Redstone River	6.88 336	P	Pn	19 28 07.9 +1.9
	baz=150				
MAYO	Mayo, Yukon	6.94 65	P	Pn	19 28 08.2 +1.3
	baz=258				
K13K	Kusilvak Mount	6.99 281	P	Pn	19 28 08.6 +1.1
	baz=88,SNR=18				
PLBC	Pleasant Camp	7.03 100	P	Pn	19 28 09.5 +1.3
	baz=292,SNR=27				
J30M	Hart River	7.04 57	Pn	Pn	19 28 09.2 +0.9
J30M	Hart River	7.04 57	P	Pn	19 28 10.1 +1.7
	baz=249,SNR=28				
F17K	Baldwin Pennin	7.11 321	P	Pn	19 28 10.5 +1.4
	baz=131,SNR=36				
H29M	Whitestone	7.11 42	P	Pn	19 28 10.7 +1.5
	baz=232				
I30M	Mount Dempster	7.28 52	P	Pn	19 28 12.8 +1.2
	baz=244,SNR=27				
G15K	Niukluk	7.31 306	P	Pn	19 28 13.6 +1.6
	baz=113				
E21K	Killik River	7.32 349	P	Pn	19 28 14.5 +2.4
	baz=165				
TOLK	Toolik Lake Re	7.33 1		Pn	19 28 13.7 +1.5
TOLK	Toolik Lake Re	7.33 1	P	Pn	19 28 14.7 +2.5
	baz=182,SNR=29				
WHY	Whitehorse	7.40 89	Pn	Pn	19 28 13.1 -0.2
WHY	Whitehorse	7.40 89	P	Pn	19 28 13.9 +0.6
	baz=282,SNR=24				
E20K	Nigu River	7.42 342	P	Pn	19 28 15.9 +2.4
	baz=156,SNR=35				
M31M	Drury Creek, Y	7.47 77	P	Pn	19 28 14.9 +0.7
	baz=270,SNR=15				
SKAG	Skagway	7.53 98	P	Pn	19 28 15.5 +0.7
	baz=291,SNR=35				
SKAG	Skagway	7.53 98	P	Pn	19 28 15.8 +0.9
E18K	Tukpahlearik C	7.62 328	P	Pn	19 28 18.1 +2.0
	baz=138,SNR=34				
D22K	Ayikyak River	7.65 353	P	Pn	19 28 18.2 +1.6
	baz=170,SNR=9.1				
D23K	Nanushuk River	7.66 358	P	Pn	19 28 19.2 +2.5
	baz=178,SNR=19				
G29M	Pine Creek	7.66 38	P	Pn	19 28 18.3 +1.5
	baz=229,SNR=15				
F28M	Old Crow	7.67 30	P	Pn	19 28 18.1 +1.3
	baz=220,SNR=19				
ANM	Nome	7.69 301		Pn	19 28 18.8 +1.6
ANM	Nome	7.69 301	P	Pn	19 28 18.8 +1.6
	baz=108				
ANM	Nome	7.69 301	P	Pn	19 28 18.8 +1.6
E17K	Hotham Inlet	7.71 323	P	Pn	19 28 19.0 +1.7
	baz=133,SNR=59				
EPYK	Eagle Plains	7.74 44	P	Pn	19 28 20.1 +2.2
	baz=236,SNR=20				
E27K	Coleen River	7.75 24	P	Pn	19 28 18.8 +0.8
	baz=212,SNR=31				
R31K	City Hall, Gus	7.77 106	P	Pn	19 28 19.0 +0.8
	baz=298				
S31K	Pelican	7.77 110		Pn	19 28 18.0 -0.2
S31K	Pelican	7.77 110	P	Pn	19 28 18.0 -0.2
	baz=302				
F15K	North Star Dit	7.85 310		Pn	19 28 20.8 +1.5
F15K	North Star Dit	7.85 310	P	Pn	19 28 21.3 +2.0
	baz=117				
D24K	Happy Valley	7.86 3	P	Pn	19 28 22.2 +2.7
	baz=184				
D20K	Etivluk River	7.90 342	P	Pn	19 28 22.1 +2.1
	baz=156,SNR=29				
M11K	Mekoryuk	7.95 270		Pn	19 28 22.5 +1.9
M11K	Mekoryuk	7.95 270	P	Pn	19 28 22.2 +1.6
	baz=76,SNR=8.3				
D19K	Kuna River	7.95 338	P	Pn	19 28 23.1 +2.4
	baz=150,SNR=13				
FARO	Faro, Yukon	7.96 76	P	Pn	19 28 21.6 +0.7
	baz=271,SNR=21				
C21K	Kniefblade Rid	8.09 348	P	Pn	19 28 24.2 +1.6
	baz=163,SNR=31				
D25K	Kavik River	8.16 9	P	Pn	19 28 25.1 +1.5
	baz=192				
N32M	Quiet Lake	8.18 84	P	Pn	19 28 24.8 +0.9
	baz=279				
P32M	Atlin	8.26 95	Pn	Pn	19 28 24.8 -0.1
P32M	Atlin	8.26 95	P	Pn	19 28 25.1 +0.1
	baz=290,SNR=13				
G30M	tAoh Zrail Nji	8.26 41	P	Pn	19 28 25.7 +0.8
	baz=233,SNR=19				
H31M	Peel River	8.30 51	P	Pn	19 28 27.2 +1.7
	baz=245,SNR=8.6				
F14K	Arctic Creek	8.39 307	P	Pn	19 28 28.5 +1.9
	baz=112,SNR=15				
R32K	Eaglecrest	8.40 105	P	Pn	19 28 27.7 +0.8
	baz=298				
C24K	Franklin Bluff	8.43 3	P	Pn	19 28 28.2 +1.0
	baz=184				
JIS	Juneau Island	8.46 104	P	Pn	19 28 28.2 +0.5
D17K	Noatak River	8.49 324	P	Pn	19 28 28.9 +1.0
	baz=132,SNR=5.5				
P33M	Teslin, Yukon	8.50 90	P	Pn	19 28 28.5 +0.2
	baz=285				
B21K	Ikpikpuk River	8.53 349	P	Pn	19 28 30.3 +1.8
	baz=165				
E28M	Babbage River	8.53 27	P	Pn	19 28 29.7 +1.1
	baz=216				
C23K	Itkillik River	8.54 359	P	Pn	19 28 31.2 +2.5
	baz=178,SNR=36				
SIT	Sitka	8.68 113	P	Pn	19 28 30.7 +0.1
	baz=306				
RDOG	Red Dog Mine	8.68 326	P	Pn	19 28 32.5 +1.8
	baz=134,SNR=15				
C18K	Utukok River	8.71 332	Pn	Pn	19 28 32.4 +1.3
C18K	Utukok River	8.71 332	P	Pn	19 28 32.0 +0.9
	baz=142,SNR=10				
C27K	Jago River	8.72 15	P	Pn	19 28 32.3 +1.1
	baz=200				
E29M	Blow River	8.74 31	P	Pn	19 28 32.7 +1.2
	baz=222,SNR=30				
C19K	Lookout Ridge	8.75 337	P	Pn	19 28 33.0 +1.4
	baz=148,SNR=5.7				
F30M	Barrier River	8.78 38	P	Pn	19 28 33.6 +1.6
	baz=231,SNR=8.1				
D27M	Malcolm River	8.79 22	P	Pn	19 28 34.1 +2.0
	baz=210				
S32K	Killisnoo	8.79 109	P	Pn	19 28 33.1 +1.0
	baz=303				
G31M	Satah River	8.86 44	P	Pn	19 28 34.2 +1.1
	baz=238,SNR=17				
C26K	Camden Bay	8.87 12	P	Pn	19 28 34.4 +1.3
	baz=196,SNR=27				
TNA	Tin City	9.04 306	P	Pn	19 28 37.5 +1.9
	baz=109,SNR=8.1				
C17K	DeLong Mountai	9.05 328	P	Pn	19 28 37.2 +1.4
	baz=136				
B22K	Teshekpuk Lake	9.14 353	P	Pn	19 28 38.2 +1.2
	baz=170,SNR=22				
Q32M	Nakina River	9.17 97	P	Pn	19 28 37.8 +0.2
	baz=293,SNR=27				
B20K	Meade River	9.18 345		Pn	19 28 38.6 +1.2
B20K	Meade River	9.18 345	P	Pn	19 28 38.2 +0.8
	baz=158				
D28M	Stokes Point	9.29 26	P	Pn	19 28 41.0 +2.1
	baz=216,SNR=56				
F31M	Tsiigehtchic	9.31 42	P	Pn	19 28 40.7 +1.4
	baz=237,SNR=18				
B18K	Kokolik River	9.41 334	P	Pn	19 28 41.8 +1.2
	baz=143				
C16K	Lisburne Hills	9.51 324	P	Pn	19 28 43.1 +1.2
	baz=130				
FALS	False Pass	9.60 233	P	Pn	19 28 45.4 +2.1
	baz=42				
R33M	Jennings River	9.64 93	P	Pn	19 28 44.9 +1.0
	baz=290,SNR=16				
INK	Inuvik	9.88 38	P	Pn	19 28 48.6 +1.6
	comp=E,9.4nm,0.5s,baz=231,slow=15,SNR=16				
INK			S	Sn	19 30 37.9 +1.6
	comp=E,32nm,0.7s,baz=208,slow=20,SNR=2.9				
INK	Inuvik	9.88 38	P	Pn	19 28 48.1 +1.1
	baz=233				
A22K	Sinclair Lake	9.90 351	P	Pn	19 28 47.7 +0.4
	baz=166				
S34M	Telegraph Cree	10.16 101	Pn	Pn	19 28 51.1 +0.2
S34M	Telegraph Cree	10.16 101	P	Pn	19 28 51.8 +0.8
	baz=298,SNR=15				
U33K	Whale Pass	10.22 113	P	Pn	19 28 52.8 +1.1
	baz=308				
GAMB	Gambell	10.27 293	P	Pn	19 28 53.3 +0.9
	baz=94				
WRAK	Wrangell Islan	10.39 110		Pn	19 28 53.6 -0.4
WRAK	Wrangell Islan	10.39 110	P	Pn	19 28 54.1 +0.1
	baz=306				
TGTN	Hyland Airport	10.42 79	P	Pn	19 28 54.5 0.0
	baz=279				
DLBC	Dease Lake	10.46 97	Pn	Pn	19 28 55.4 +0.4
DLBC	Dease Lake	10.46 97	P	Pn	19 28 55.9 +0.9
	comp=E,16nm,0.8s,baz=286,slow=14,SNR=11				
DLBC	Dease Lake	10.46 97	P	Pn	19 28 55.6 +0.5
	baz=295				
CRAG	Craig	10.63 116	P	Pn	19 28 58.7 +1.4
T35M	Bob Quinn	11.04 104	P	Pn	19 29 03.7 +0.7
	baz=302				
SPIA	Saint Paul Isl	11.13 257	P	Pn	19 29 06.5 +2.4
	baz=59				
SPIA	Saint Paul Isl	11.13 257	P	Pn	19 29 07.4 +3.2
V35K	Ketchikan	11.38 114	P	Pn	19 29 09.2 +1.7
	baz=310				
UNV	Unalaska Valle	11.56 237	P	Pn	19 29 13.0 +2.9
	baz=43				
UNV	Unalaska Valle	11.56 237	P	Pn	19 29 12.5 +2.4
U35K	Hyder	11.74 109	P	Pn	19 29 14.2 +1.8
	baz=306				
LIRD	Liard River Hi	11.98 89	P	Pn	19 29 17.0 +1.2
	baz=290				
WRGLY	Wrigley	12.48 70	Pn	Pn	19 29 22.8 +0.3
WRGLY	Wrigley	12.48 70	P	Pn	19 29 22.3 -0.2
	baz=273				
TOAD	Toad River Com	12.60 90	P	Pn	19 29 26.1 +1.9
	baz=292,SNR=23				
KOTAN	Kotaneelee Air	12.74 84	P	Pn	19 29 27.4 +1.2
	baz=287,SNR=12				
GRNB	Grenville Isla	13.08 116		Pn	19 29 30.1 -0.8
C36M	Paulatuk	13.37 42		Pn	19 29 32.0 -2.6
C36M	Paulatuk	13.37 42	P	Pn	19 29 32.6 -2.0
	baz=246,SNR=27				
A36M	Sachs Harbour	14.35 32		Pn	19 29 44.5 -3.3
A36M	Sachs Harbour	14.35 32	P	Pn	19 29 47.1 -0.7
	baz=235,SNR=7.8				
BBB	Bella Bella	15.05 118		Pn	19 29 57.5 +0.5
BBB	Bella Bella	15.05 118	P	P	19 30 01.2 -0.2
	comp=E,20nm,0.8s,baz=309,slow=12,SNR=8.4				
BBB			S	Sn	19 32 40.4 -2.0
	comp=E,4.6nm,0.7s,baz=284,slow=18,SNR=1.3				
YKA	Yellowknife Ar	16.60 70	Pn	Pn	19 30 15.8 -0.9
YKA	Yellowknife Ar	16.60 70	P	Pn	19 30 15.3 -1.5
	comp=E,6.1nm,0.7s,baz=294,slow=10,SNR=43				
YKA	Yellowknife Ar	16.60 70	*ce*P	Pn	19 30 17.1 +0.3
YKA			pmax	pmax	
	comp=Z,6.0nm,0.7s				
BILL	Bilibino	19.45 309	*i* P	P	19 30 48.7 -1.2
BILL			pmax	pmax	
	comp=Z,2.0nm,0.4s				
B04A	Port Angeles	20.11 119	P	Pn	19 30 58.9 -0.4
NLWA	Neilton Lookou	20.48 121	P	Pn	19 31 03.2 -0.6
B08A	Colville Reser	21.68 113	P	P	19 31 16.0 +1.9
F04A	Amboy	22.25 121	IAmb	IAmb	19 31 24.7
	comp=Z,56nm,1.2s				
NEW	Newport	22.75 110	P	P	19 31 27.6 +2.0
	comp=Z,12nm,0.8s,baz=315,slow=6.8,SNR=14				
	comp=Z,12nm,0.8s				
D08A	Wollman Farm,	22.85 114	P	P	19 31 28.2 +1.6
HOOD	Mount Hood Mea	23.06 121	IAmb	IAmb	19 31 32.2
	comp=Z,94nm,1.2s				
HAWA	Hanford	23.10 116	IAmb	IAmb	19 31 32.1
	comp=Z,65nm,1.9s				
E08A	Dider Farm, El	23.23 116	IAmb	IAmb	19 31 32.9
	comp=Z,53nm,1.5s				
G05A	Wamic	23.26 121	IAmb	IAmb	19 31 39.3
	comp=Z,38nm,0.9s				
F07A	Phinny Hill Vi	23.32 118	P	P	19 31 33.3 +2.1
F07A			IAmb	IAmb	19 31 34.5
	comp=Z,32nm,0.8s				
H04A	Detroit Lake	23.36 123	IAmb	IAmb	19 31 35.1
	comp=Z,66nm,1.6s				
RES	Resolute Bay	23.39 33	P	P	19 31 31.8 +0.2
RES	Resolute Bay	23.39 33	P	P	19 31 30.8 -0.8
	comp=Z,7.3nm,0.8s,baz=258,slow=12,SNR=16				
	comp=Z,7.3nm,0.8s				
RES	Resolute Bay	23.39 33	P	P	19 31 31.8 +0.2
RES			pmax	pmax	
	comp=Z,9.0nm,0.8s				
I05D	Terrebonne, OR	23.99 122	P	P	19 31 39.5 +1.9
I05D			IAmb	IAmb	19 31 40.7
	comp=Z,33nm,0.8s				
J04A	Umpqua Nationa	24.59 125	IAmb	IAmb	19 31 46.9
	comp=Z,40nm,0.8s				
PINE	Pine Mountain	24.60 122	IAmb	IAmb	19 31 47.6
	comp=Z,42nm,1.1s				
J05D	Fort Rock, OR	24.90 123	IAmb	IAmb	19 31 49.8
	comp=Z,40nm,1.1s				
I07A	Izee	24.96 120	P	P	19 31 48.1 +1.7
I07A			IAmb	IAmb	19 31 51.4
	comp=Z,24nm,0.8s				
L04D	Klamath Falls	25.38 126	IAmb	IAmb	19 31 53.9
	comp=Z,34nm,1.2s				
OVMT	Ovando	25.52 107	P	P	19 31 52.1 +0.6
FFC	Flin Flon	25.77 83	P	P	19 31 54.0 +0.4
FFC	Flin Flon	25.77 83	P	P	19 31 54.0 +0.4
FFC			pmax	pmax	
	comp=Z,31nm,1.6s				
EUNU	Eureka	25.84 21	P	P	19 31 55.6 +1.5
SEY	Seymchan	26.19 299	*i* P	P	19 31 57.9 +0.6
EGMT	Eagleton	26.33 102	IAmb	IAmb	19 32 00.8
	comp=Z,54nm,0.9s				
FCC	Fort Churchill	27.33 70	P	P	19 32 08.2 +0.7
FCC			IAmb	IAmb	19 32 09.4
	comp=Z,16nm,0.7s				
FCC	Fort Churchill	27.33 70	P	P	19 32 08.2 +0.7
FCC			pmax	pmax	
	comp=Z,16nm,0.7s				
HLID	Hailey	27.57 114	P	P	19 32 11.3 +1.3
ORV	Oroville	27.98 128	P	P	19 32 14.2 +0.7
ORV	Oroville	27.98 128	P	P	19 32 14.2 +0.7
ORV			pmax	pmax	
	comp=Z,7.0nm,0.7s				
YHL	Hebgen Lake	28.02 108	P	P	19 32 15.6 +1.4
YHB	Horse Butte	28.09 108	P	P	19 32 16.0 +1.3
YHH	Holmes Hill	28.21 108	P	P	19 32 17.4 +1.4
YMR	Madison River	28.25 108	IAmb	IAmb	19 32 19.3
	comp=Z,19nm,0.8s				
YNE	Yellowstone No	28.44 107	P	P	19 32 19.2 +1.3
YNE			IAmb	IAmb	19 32 20.8
	comp=Z,15nm,0.8s				
RLMT	Red Lodge	28.69 106	IAmb	IAmb	19 32 23.5
	comp=Z,27nm,0.8s				
PEA0B	Petropavlovsk-	28.73 277	*i* P	P	19 32 20.0 -0.1
PETK	Petropavlovsk-	28.73 277	P	P	19 32 18.9 -1.1
	comp=Z,3.2nm,0.7s,baz=68,slow=14,SNR=6.7				
	comp=Z,3.2nm,0.7s				
FLWY	Flagg Ranch	28.83 109	IAmb	IAmb	19 32 25.5
	comp=Z,67nm,2.0s				
LAO	LASA Array	28.96 100	P	P	19 32 23.8 +1.5
LAO			IAmb	IAmb	19 32 25.2
	comp=Z,53nm,1.3s				
TPAW	Teton Pass	29.17 110	IAmb	IAmb	19 32 27.9
	comp=Z,22nm,0.9s				
ELK	Elko	29.50 118	IAmb	IAmb	19 32 30.9
	comp=Z,18nm,0.8s				
TULEG	Thule	29.66 28	*i* P	P	19 32 29.3 +1.2
TULEG			IAmb	IAmb	19 32 31.0
	comp=Z,35nm,0.8s				
WAKR	Walker	29.69 126	IAmb	IAmb	19 32 32.5
	comp=Z,23nm,1.3s				
HVU	Hansel Valley	29.72 114	IAmb	IAmb	19 32 32.6
	comp=Z,20nm,1.0s				
NVAR	Mina Array Bea	30.20 125	P	P	19 32 35.7 +2.2
NVAR	Mina Array Bea	30.20 125	P	P	19 32 36.0 +2.5
	comp=Z,11nm,0.8s,baz=314,slow=9.2,SNR=31				
NVAR			PcP	PcP	19 35 34.3 +1.0
	comp=Z,3.7nm,0.6s,baz=307,slow=2.2,SNR=9.7				
	comp=Z,11nm,0.8s				
SPUT	South Promonto	30.24 114	IAmb	IAmb	19 32 37.1
	comp=Z,19nm,1.1s				
NV11	Mina Array Sit	30.25 125	IAmb	IAmb	19 32 37.4
	comp=Z,25nm,1.2s				
LHV	Little Huntoon	30.27 125	IAmb	IAmb	19 32 37.7
	comp=Z,22nm,1.1s				
PD31	Pinedale Array	30.37 109	IAmb	IAmb	19 33 39.5
	comp=Z,14nm,0.7s				
PDAR	Pinedale Array	30.37 109	P	P	19 32 36.3 +1.3
PDAR	Pinedale Array	30.37 109	P	P	19 32 36.7 +1.7
	comp=Z,4.7nm,0.6s,baz=320,slow=5.0,SNR=45				
	comp=Z,4.7nm,0.6s				
TCUT	Toone Canyon	30.86 113	IAmb	IAmb	19 32 42.5
	comp=Z,22nm,0.9s				
CTU	Camp Tracy	31.05 114	P	P	19 32 42.4 +1.5
CTU			IAmb	IAmb	19 32 43.7
	comp=Z,18nm,1.2s				
CTU			PcP	PcP	19 35 35.3 -0.1
DSP	Deep Springs	31.24 125	IAmb	IAmb	19 32 46.6
	comp=Z,20nm,1.2s				
TIXI	Tiksi	31.28 323	*ce*P	P	19 32 42.2 -0.2
TIXI			pmax	pmax	
	comp=Z,3.0nm,0.7s				
MDND	Maddock	31.31 92	P	P	19 32 44.2 +1.2

MDND IAmb IAmb 19 32 45.4
comp=Z,29nm,1.0s
R11B Troy Canyon, C 31.36 121 IAmb IAmb 19 32 46.8
comp=Z,18nm,1.0s
R11B Troy Canyon, C 31.36 121 P **P 19 32 45.8 +2.1**
baz=329,SNR=23
ULM Lac du Bonnet 31.47 86 P **P 19 32 45.1 +0.8**
ULM **PcP 19 35 35.8 -0.3**
ULM Lac du Bonnet 31.47 86 P **P 19 32 45.3 +1.0**
comp=Z,32nm,0.8s,baz=306,slow=8.6,SNR=52
ULM PcP **PcP 19 35 36.0 -0.2**
comp=Z,9.2nm,0.7s,baz=297,slow=2.8,SNR=6.8
comp=Z,32nm,0.8s
ULM Lac du Bonnet 31.47 86 P **P 19 32 45.1 +0.8**
ULM 19 35 35.8
ULM pmax pmax
comp=Z,34nm,0.8s
BSUT Blindstream Ca 31.61 113 IAmb IAmb 19 32 49.3
comp=Z,23nm,1.0s
RSSD Black Hills 31.90 101 P **P 19 32 49.7 +1.3**
RSSD Black Hills 31.90 101 P **P 19 32 49.7 +1.3**
RSSD pmax pmax
comp=Z,152nm,0.8s
RDMU Red Mountain 32.12 112 IAmb IAmb 19 33 58.4
comp=Z,18nm,0.7s
TPNV Topopah Spring 32.29 123 IAmb IAmb 19 33 01.0
comp=Z,13nm,0.8s
TCRU Three Creeks R 32.47 117 IAmb IAmb 19 32 57.5
comp=Z,19nm,1.0s
ISA Isabella, Lake 32.54 128 IAmb IAmb 19 32 56.9
comp=Z,15nm,0.8s
AGMN Agassiz Nation 32.80 88 P **P 19 32 56.3 +0.3**
SRU San Rafael Swe 32.88 114 IAmb IAmb 19 33 00.3
comp=Z,26nm,0.9s
NEEM North Greenlan 33.02 23 *i* P **P 19 32 57.5 -0.5**
NEEM IAmb IAmb 19 32 59.3
comp=Z,19nm,0.7s
O20A White River Ci 33.07 111 IAmb IAmb 19 34 10.8
comp=Z,38nm,1.2s
KULLO Kullorsuaq 33.09 29 *i* P **P 19 32 58.9 +0.7**
N23A Red Feather La 33.51 107 P **P 19 33 03.6 +1.1**
baz=323
V12A Nelson 33.91 123 IAmb IAmb 19 33 09.8
comp=Z,19nm,1.0s
K30B Basset 35.10 99 P **P 19 33 17.0 +1.0**
MVCO Mesa Verde 35.35 114 IAmb IAmb 19 33 20.9
comp=Z,19nm,1.2s
Q24A Divide 35.42 108 P **P 19 33 20.3 +1.1**
baz=324,SNR=7.0
S22A 4UR Ranch, Cre 35.65 111 IAmb IAmb 19 33 25.3
comp=Z,11nm,1.1s
S22A 4UR Ranch, Cre 35.65 111 P **P 19 33 23.0 +1.9**
baz=326
ECSD EROS Data Cent 35.73 95 IAmb IAmb 19 33 23.0
comp=Z,15nm,1.1s
BLYC Blythe 35.77 124 IAmb IAmb 19 33 25.2
comp=Z,22nm,0.8s
YAK Yakutsk 35.80 307 P **P 19 33 20.1 -1.7**
YAK Yakutsk 35.80 307 *eP* **P 19 33 20.9 -0.9**
YAK pmax pmax
comp=Z,18nm,0.8s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK Yakutsk 35.80 307 P **P 19 33 20.6 -1.1**
YAK pP **pP 19 33 34.0 -0.9**
E38A The Farm, Brul 36.07 87 IAmb IAmb 19 33 25.8
comp=Z,26nm,1.0s
SPMN Marine on St. 36.47 89 IAmb IAmb 19 33 29.4
comp=Z,13nm,0.8s
T25A Trinidad 37.24 109 P **P 19 33 36.1 +1.6**
baz=326
ILULI Ilulissat 37.66 35 *i* P **P 19 33 38.2 +0.8**
G40A Rib Lake 37.69 87 IAmb IAmb 19 33 39.7
comp=Z,12nm,0.6s
ANMO Albuquerque 38.15 114 P **P 19 33 43.4 +1.3**
ANMO Albuquerque 38.15 114 *ceP* **P 19 33 44.4 +2.2**
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 38.15 114 P **P 19 33 43.5 +1.3**
ANMO PcP **PcP 19 35 57.4 +1.4**
N35A Tabor 38.39 97 IAmb IAmb 19 33 46.1
comp=Z,27nm,0.8s
SUMG Summit 38.56 27 *i* P **P 19 33 45.0 -0.5**
SUMG IAmb IAmb 19 33 47.3
comp=Z,13nm,0.8s
DAG Danmarks Havn 38.81 16 *i* P **P 19 33 46.3 -0.8**
DAG IAmb IAmb 19 33 47.5
comp=Z,8.3nm,0.8s
R32A Long Quarter, 38.85 102 IAmb IAmb 19 33 50.0
comp=Z,35nm,1.0s
SFJD Kangerlussuaq 39.23 38 P **P 19 33 50.8 +0.2**
SFJD IAmb IAmb 19 33 52.8
comp=Z,25nm,0.8s
SFJD Kangerlussuaq 39.23 38 P **P 19 33 50.8 +0.2**
SFJD pmax pmax
comp=Z,25nm,0.9s
SFJD Kangerlussuaq 39.23 38 *i* P **P 19 33 50.8 +0.2**
SFJD Kangerlussuaq 39.23 38 P **P 19 33 51.9 +1.2**
SFJD pP **pP 19 34 05.0 +1.1**
JFWS Jewell Farm 39.41 90 IAmb IAmb 19 33 53.4
comp=Z,20nm,0.6s
H43A Windswept, Lux 39.44 86 IAmb IAmb 19 33 55.3
comp=Z,23nm,0.8s
L40A Anamosa 39.59 91 IAmb IAmb 19 33 55.2
comp=Z,28nm,0.8s
121A Cookes Peak, D 39.62 117 P **P 19 33 55.7 +1.1**
baz=330
E46A Sault Ste Mari 39.71 81 IAmb IAmb 19 33 56.5
comp=Z,22nm,0.8s
E46A **PcP 19 36 01.2 +0.7**
YSS Yuzh-Sakhalins 39.98 281 *eP* **P 19 33 57.3 +0.2**
YSS pmax pmax
comp=Z,10.0nm,1.2s
KAN01 Argonia South 40.31 102 IAmb IAmb 19 34 01.9
comp=Z,26nm,0.9s
KS20 Mayfield South 40.35 102 IAmb IAmb 19 34 02.2
comp=Z,21nm,1.1s
P38A Dawn 40.36 96 P **P 19 33 60.0 -0.4**
P38A IAmb IAmb 19 34 02.8
comp=Z,14nm,0.8s
KAN09 Caldwell North 40.40 102 IAmb IAmb 19 34 02.3
comp=Z,50nm,1.3s
KAN17 Caldwell West 40.40 102 IAmb IAmb 19 34 02.4
comp=Z,29nm,1.0s
SPITS Spitsbergen Ar 40.48 4 P **P 19 33 57.3 -3.6**
comp=Z,4.1nm,0.5s,baz=9.2,slow=6.8,SNR=10.0
KAN13 South Haven SW 40.56 102 IAmb IAmb 19 34 03.7
comp=Z,36nm,1.1s
MSTX Muleshoe 40.61 110 IAmb IAmb 19 34 24.9
comp=Z,24nm,0.9s
DBG Daneborg 40.62 19 *i* P **P 19 34 00.7 -1.5**
DBG IAmb IAmb 19 34 03.1
comp=Z,13nm,0.8s
ICESG Greenland Ices 40.76 31 *i* P **P 19 34 03.1 -0.6**
ICESG IAmb IAmb 19 34 05.5
comp=Z,24nm,0.9s
DY2G Dye2 40.86 37 *i* P **P 19 34 05.2 +0.8**
BLOK Blackwell 40.89 102 P **P 19 34 04.8 +0.1**
BLOK IAmb IAmb 19 34 06.5
comp=Z,43nm,1.2s
T35A Sooner Cattle 41.09 101 IAmb IAmb 19 34 08.0
comp=Z,25nm,0.9s
L44A Lake County Fo 41.10 88 P **P 19 34 07.6 +1.2**
baz=320
OK051 E0350 and S346 41.27 102 IAmb IAmb 19 34 10.0
comp=Z,35nm,1.2s
OK048 Pawnee Station 41.29 102 IAmb IAmb 19 34 09.6
comp=Z,22nm,1.1s
SCHQ Schefferville 41.62 60 P **P 19 34 10.3 -0.2**
comp=Z,5.0nm,0.8s,baz=321,slow=7.6,SNR=4.3
comp=Z,5.0nm,0.8s
HDIL Hopedale 41.68 91 IAmb IAmb 19 34 12.2
comp=Z,28nm,0.8s
POST Post 41.95 110 P **P 19 34 14.2 +0.6**
POST IAmb IAmb 19 34 36.3
comp=Z,18nm,0.7s
R40A Maddies Statio 42.02 96 P **P 19 34 13.4 -0.5**
VHRN Van Horn 42.33 115 IAmb IAmb 19 34 19.8
comp=Z,14nm,0.9s
W35A Tecumseh 42.35 103 IAmb IAmb 19 34 18.3
comp=Z,26nm,0.9s
RLO Rose Lookout 42.41 101 IAmb IAmb 19 34 18.3
comp=Z,26nm,0.9s
U38A Gravette 42.49 100 IAmb IAmb 19 34 18.5
comp=Z,20nm,0.8s

CCM Cathedral Cave 42.70 95 P **P 19 34 18.6 -0.9**
CCM Cathedral Cave 42.70 95 P **P 19 34 18.6 -0.9**
CCM pmax pmax
comp=Z,7.0nm,0.9s
SFIN Lafayette 42.87 89 IAmb IAmb 19 34 21.8
comp=Z,14nm,0.7s
MGMO Mountain Grove 42.92 97 IAmb IAmb 19 34 21.9
comp=Z,20nm,1.0s
L48A N Adams 42.95 86 P **P 19 34 21.9 +0.3**
Q44A Meyer Farm, Va 43.10 92 IAmb IAmb 19 34 23.8
comp=Z,19nm,0.8s
FVM French Village 43.15 95 IAmb IAmb 19 34 24.1
comp=Z,24nm,1.4s
N47A Urbana 43.16 88 IAmb IAmb 19 34 24.1
comp=Z,33nm,0.8s
NRIK Noril'sk 43.33 334 P **P 19 34 23.7 -0.5**
NRIK Noril'sk 43.33 334 P **P 19 34 23.1 -1.1**
comp=Z,5.0nm,0.6s,baz=55,slow=6.7,SNR=7.4
comp=Z,5.0nm,0.6s
NRIK Noril'sk 43.33 334 *ceP* **P 19 34 24.0 -0.2**
NRIK pmax pmax
comp=Z,6.0nm,0.8s
SOEG Soedalen 43.42 28 *i* P **P 19 34 23.5 -1.5**
KLR Kul'dur 43.43 291 *i* P **P 19 34 24.2 -1.1**
KLR pmax pmax
comp=Z,2.0nm,0.6s
T42A Van Buren 43.59 96 P **P 19 34 25.9 -0.8**
T42A **PcP 19 36 12.4 -1.0**
OLIL Olney 43.67 92 IAmb IAmb 19 34 28.6
comp=Z,30nm,0.8s
N49A Columbus Grove 43.86 86 IAmb IAmb 19 34 30.0
comp=Z,24nm,0.8s
O48B Farmland 43.90 88 P **P 19 34 29.1 -0.2**
baz=321,SNR=12
S44A Carbondale 43.94 94 IAmb IAmb 19 34 30.6
comp=Z,19nm,1.1s
SIUC Southern Illin 43.94 94 P **P 19 34 29.2 -0.3**
SIUC IAmb IAmb 19 34 30.6
comp=Z,20nm,0.9s
TXAR Lajitas Array 44.16 115 P **P 19 34 33.0 +1.5**
comp=Z,5.2nm,0.8s,baz=329,slow=6.6,SNR=18
comp=Z,5.2nm,0.8s
O49A Covington 44.35 87 IAmb IAmb 19 34 33.5
comp=Z,16nm,0.6s
TRQ Mont Tremblant 44.40 74 P **P 19 34 33.0 -0.2**
MIAR Mount Ida 44.41 100 IAmb IAmb 19 34 34.5
comp=Z,13nm,0.9s
HEH HeiHe 44.61 295 *eP* **P 19 34 33.5 -1.2**
HEH pmax pmax
comp=Z,9.0nm,0.7s
MEDO Medina 44.88 80 P **P 19 34 37.7 +0.7**
MEDO IAmb IAmb 19 34 38.9
comp=Z,12nm,0.8s
WCI Wyandotte Cave 44.94 91 P **P 19 34 37.9 +0.4**
WCI IAmb IAmb 19 36 18.8
comp=Z,13nm,0.7s
WCI Wyandotte Cave 44.94 91 P **P 19 34 37.9 +0.4**
WCI pmax pmax
comp=Z,13nm,0.7s
WCI Wyandotte Cave 44.94 91 P **P 19 34 38.2 +0.7**
WCI PcP **PcP 19 36 18.0 0.0**
ACSO Alum Creek Sta 44.97 86 IAmb IAmb 19 34 38.9
comp=Z,21nm,0.8s
DRIO Del Rio 45.43 112 P **P 19 34 41.6 +0.1**
DRIO IAmb IAmb 19 34 43.2
comp=Z,12nm,0.8s
R49A Shelbyville 45.43 90 IAmb IAmb 19 34 41.9
comp=Z,12nm,0.7s
P51A Williamsport 45.52 87 IAmb IAmb 19 35 05.5
comp=Z,18nm,1.2s
T47A Sharon Grove 45.53 92 IAmb IAmb 19 34 44.5
comp=Z,14nm,0.8s
O52A Adamsville 45.61 85 IAmb IAmb 19 34 43.8
comp=Z,13nm,0.7s
R50A Paris 45.85 89 IAmb IAmb 19 34 45.7
comp=Z,16nm,1.2s
WVT Waverly 45.87 94 P **P 19 34 44.5 -0.4**
WVT IAmb IAmb 19 36 22.3
comp=Z,10nm,0.9s
WVT Waverly 45.87 94 P **P 19 34 44.5 -0.4**
WVT pmax pmax
comp=Z,10.0nm,0.9s
WVT Waverly 45.87 94 P **P 19 34 45.4 +0.5**
WVT PcP **PcP 19 36 21.6 +0.3**
L56A Greenwood 46.09 80 P **P 19 34 46.8 +0.2**
CLTN Cedars of Leba 46.62 92 IAmb IAmb 19 34 52.6
comp=Z,18nm,0.8s
V48A Smith Brothers 46.67 93 IAmb IAmb 19 34 52.2
comp=Z,11nm,0.7s
PLAL Pickwick Lake 46.68 95 P **P 19 34 51.3 +0.1**
Q54A Coxs Mills 46.98 85 IAmb IAmb 19 34 54.4
comp=Z,16nm,0.7s
USRK Ussuriysk Ar. 47.08 286 P **P 19 34 53.3 -0.9**
comp=Z,2.7nm,0.8s,baz=45,slow=9.0,SNR=2.5
comp=Z,2.7nm,0.8s
SSPA Standing Stone 47.09 81 P **P 19 34 54.6 +0.2**
SSPA IAmb IAmb 19 34 55.5
comp=Z,12nm,0.7s
SSPA Standing Stone 47.09 81 P **P 19 34 55.0 +0.6**
SSPA pP **pP 19 35 08.0 0.0**
N58A Sunbury 47.49 80 IAmb IAmb 19 34 58.9
comp=Z,18nm,0.9s
SWET Sewanee 47.52 93 IAmb IAmb 19 34 58.7
comp=Z,14nm,0.6s
TZTN Tazewell 47.60 90 IAmb IAmb 19 34 59.5
comp=Z,15nm,0.7s
X48A Hartselle 47.60 94 IAmb IAmb 19 34 59.5
comp=Z,13nm,0.8s
JMM Marumori 47.84 274 P **P 19 35 00.6 +0.4**
CPCT Cooper Cave 48.01 91 IAmb IAmb 19 35 02.7
comp=Z,9.6nm,0.6s
L61B Northampton 48.15 76 P **P 19 35 01.2 -1.4**
baz=321
Y49A Blount Mountai 48.39 94 IAmb IAmb 19 35 05.9
comp=Z,25nm,1.2s
U54A Nelsons Funny 48.45 88 P **P 19 35 05.1 0.0**
LRAL Lakeview Retre 48.78 95 IAmb IAmb 19 35 08.0
comp=Z,11nm,0.9s
BG3 Lake Jocassee 49.15 90 **pP 19 35 23.9 -0.1**
BG3 IAmb IAmb 19 36 34.4
comp=Z,15nm,0.8s
V55A Taylorsville 49.28 88 IAmb IAmb 19 35 12.9
comp=Z,19nm,1.0s
ARCES ARCESS Array B 49.37 2 P **P 19 35 10.4 -1.3**
comp=Z,2.2nm,0.5s,baz=347,slow=5.0,SNR=12
ARCES PcP **PcP 19 36 32.9 -0.3**
comp=Z,8.6nm,0.8s,baz=358,slow=3.3,SNR=6.3
comp=Z,2.2nm,0.5s
MJAR Matsushiro Arr 50.13 275 P **P 19 35 17.0 -0.9**
comp=Z,2.0nm,0.9s,baz=3.0,slow=8.4,SNR=5.2
comp=Z,2.0nm,0.9s
152A Waverly Hall 50.18 94 P **P 19 35 17.6 -0.5**
152A IAmb IAmb 19 35 19.1
comp=Z,24nm,1.1s
CN2 Changchun 50.38 291 *eP* **P 19 35 17.8 -1.8**
CN2 *ep*P pP 19 35 27.3 -5.9
CN2 pmax pmax
comp=Z,10.0nm,0.8s
BIRD Birdtown, Kers 50.62 88 IAmb IAmb 19 35 22.8
comp=Z,18nm,0.8s
MOY Mondy 53.99 313 *eP* **P 19 35 50.6 +4.2**
MOY pmax pmax
comp=Z,17nm,1.7s
KS19 Wonju Array Si 54.28 284 IAmb IAmb 19 36 06.1
comp=Z,13nm,0.8s
KSRS Korea Array 54.29 284 P **P 19 35 49.0 +0.5**
comp=Z,7.4nm,0.7s,baz=28,slow=6.5,SNR=26
comp=Z,7.4nm,0.7s
KSAR Wonju Array Be 54.32 284 P **P 19 35 48.9 +0.1**
KSAR Wonju Array Be 54.32 284 P **P 19 35 48.9 +0.1**
ULN Ulaanbaatar 54.88 307 P **P 19 35 53.3 +0.3**
ULN IAmb IAmb 19 36 10.6
comp=Z,9.0nm,0.8s
ULN Ulaanbaatar 54.88 307 P **P 19 35 54.0 +1.0**
ULN Ulaanbaatar 54.88 307 P **P 19 35 54.0 +1.0**
ULN pP **pP 19 36 07.3 +0.5**
ULN PcP **PcP 19 36 55.4 +0.9**
SONM Songino Array 55.16 307 P **P 19 35 55.2 +0.2**
SONM IAmb IAmb 19 36 01.6
comp=Z,12nm,0.8s
SONM Songino Array 55.16 307 P **P 19 35 55.8 +0.8**
comp=Z,6.4nm,0.6s,baz=37,slow=6.7,SNR=26
comp=Z,6.4nm,0.6s
SONM Songino Array 55.16 307 P **P 19 35 55.2 +0.2**
SONM pmax pmax
comp=Z,12nm,0.8s

TJN Taejon 55.42 284 P **P 19 35 56.9 +0.1**
TJN Taejon 55.42 284 P **P 19 35 56.9 +0.1**
TJN pmax pmax
comp=Z,53nm,0.8s
TLIG Tlapa 56.69 117 IAmb IAmb 19 36 09.0
comp=Z,14nm,0.8s
NB2 NORSAR Subarra 57.10 11 P **P 19 36 07.5 -1.0**
comp=Z,5.6nm,0.9s,baz=350,slow=7.4
NOA NORSAR Array B 57.10 11 P **P 19 36 07.0 -1.4**
comp=Z,3.1nm,0.8s,baz=351,slow=7.0,SNR=8.0
comp=Z,3.1nm,0.8s
ZAA0 Zalesovo Array 57.13 325 P **P 19 36 07.6 -1.2**
ZAA0 IAmb IAmb 19 36 14.8
comp=Z,8.2nm,0.7s
ZALV Zalesovo Beam 57.13 325 P **P 19 36 07.8 -1.0**
comp=Z,2.7nm,0.5s,baz=32,slow=6.7,SNR=16
comp=Z,2.7nm,0.5s
ZALV Zalesovo Beam 57.13 325 *i* P **P 19 36 07.9 -0.8**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 57.50 2 P **P 19 36 10.2 -1.1**
comp=Z,5.1nm,0.4s,baz=357,slow=8.1,SNR=5.1
comp=Z,5.1nm,0.4s
KLMR Klimovskoe 57.91 354 *eP* **P 19 36 11.8 -2.3**
KLMR pmax pmax
comp=Z,67nm,1.3s
HFS Hagfors 58.21 9 P **P 19 36 15.2 -1.0**
comp=Z,10nm,0.9s,baz=46,slow=4.3,SNR=14
comp=Z,10nm,0.9s
HHC Hu-ho-hao-te 58.84 299 *eP* **P 19 36 24.8 +3.8**
KIRV Kirov 59.45 348 *ceP* **P 19 36 25.5 +0.7**
SVE Sverdlovsk 59.74 341 *eP* **P 19 36 26.5 -0.3**
SVE pmax pmax
comp=Z,20nm,1.1s
HNS HongShan 60.35 294 ⇑P **P 19 36 32.5 +1.2**
HNS pmax pmax
comp=Z,9.0nm,1.0s
ARTI Arti 60.51 342 P **P 19 36 30.7 -1.4**
ARTI Arti 60.51 342 *c i* P **P 19 36 31.7 -0.4**
ARTI S **S 19 44 45.4 +2.0**
ARTI SS **SS 19 48 37.5 -3.5**
ARTI pmax pmax
comp=Z,20nm,1.0s
ARTI Arti 60.51 342 P **P 19 36 31.5 -0.6**
ARTI pP **pP 19 36 44.7 -1.3**
ARTI PcP **PcP 19 37 16.2 -0.1**
VSU Vasula 60.51 2 *ceP* **P 19 36 32.8 +0.8**
VSU pmax pmax
comp=Z,93nm,2.5s
EKA Eskdalemuir Ar 60.77 21 P **P 19 36 33.5 -0.4**
comp=Z,2.8nm,0.4s,baz=328,slow=5.6,SNR=30
comp=Z,2.8nm,0.4s
BRVK Borovoye 61.53 334 *ceP* **P 19 36 38.3 -0.8**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 61.53 334 P **P 19 36 38.0 -1.1**
BRVK pP **pP 19 36 50.8 -2.3**
BVA0 Borovoye Array 61.54 334 *i* P **P 19 36 37.0 -2.2**
BVAR Borovoye Array 61.54 334 P **P 19 36 38.3 -0.9**
comp=Z,4.8nm,0.5s,baz=47,slow=6.8,SNR=30
comp=Z,4.8nm,0.5s
KURK Kurchatov 61.71 327 P **P 19 36 38.5 -1.8**
KURK IAmb IAmb 19 37 21.5
comp=Z,10.0nm,1.1s
KURK Kurchatov 61.71 327 *i* P **P 19 36 39.3 -1.0**
KURK pmax pmax
comp=Z,4.0nm,0.5s
KURK Kurchatov 61.71 327 P **P 19 36 39.3 -1.0**
KURK PcP **PcP 19 37 20.7 -0.6**
KURBB Kurchatov Arra 61.82 327 P **P 19 36 40.0 -1.1**
comp=Z,4.9nm,0.4s,baz=30,slow=6.6,SNR=43
comp=Z,4.9nm,0.4s
NJ2 Nanjing 62.95 288 *eP* **P 19 36 52.3 +3.5**
NJ2 pmax pmax
comp=Z,11nm,0.6s
MOS Moscow 63.11 355 *eP* **P 19 36 48.4 -1.1**
MOS *e* 19 37 29.7
MOS *e* 19 39 05.3
LYN LuoYang 63.72 294 P **P 19 36 55.0 +1.1**
LYN pmax pmax
comp=Z,37nm,0.5s
OBN Obninsk 63.77 356 P **P 19 36 53.5 -0.4**
OBN Obninsk 63.77 356 *d i* P **P 19 36 53.4 -0.5**
OBN *i* *SP **pP 19 37 08.8 +0.8**
OBN 19 37 34.0
OBN S **S 19 45 19.0 -5.5**
OBN pmax pmax
comp=Z,60nm,1.0s
OBN MLR MLR
comp=Z,2μm,21.0s
OBN Obninsk 63.77 356 P **P 19 36 53.5 -0.4**
comp=Z,59nm,1.0s
OBN Obninsk 63.77 356 P **P 19 36 53.8 -0.1**
NACGM Naroch 64.07 2 *eP* **P 19 36 56.0 0.0**
comp=Z,54nm,0.9s,baz=359
MKAR Makanchi Array 64.27 323 P **P 19 36 55.9 -1.5**
comp=Z,2.7nm,0.5s,baz=37,slow=6.8,SNR=34
comp=Z,2.7nm,0.5s
MKAR Makanchi Array 64.27 323 *ceP* **P 19 36 56.2 -1.2**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MNK Minsk 64.49 1 *i* P **P 19 36 58.6 -0.1**
comp=E,30nm,1.0s
MNK *i* P **P 19 36 58.6 -0.1**
comp=N,32nm,1.2s
MNK *i* P **P 19 36 58.6 -0.1**
comp=Z,54nm,0.9s,baz=2.9
MNK *i* PP **PP 19 39 21.5 +1.2**
MNK *i* PPP PPP 19 40 53.9
MNK *i* S **S 19 45 34.4 +0.9**
MNK *i* SS **SS 19 49 51.5 +8.3**
MNK *i* SSS SSS 19 52 55.7
MNK *i* LQ LQ 20 00 44.7
MNK *i* LR LR 20 04 30.4
MNK *i* LRM MLR 20 07 31.5
comp=N,2μm,20.6s
MNK *i* LRM MLR 20 10 52.9
comp=Z,3μm,22.3s
MNK *i* LRM MLR 20 11 07.5
comp=E,2μm,21.8s
MNK Minsk 64.49 1 *i* P **P 19 36 58.5 -0.1**
MNK *i* 19 39 21.4
MNK *i* PPP PPP 19 40 53.9
MNK *i* S **S 19 45 34.3 +0.9**
MNK *i* SS **SS 19 49 51.4 +8.3**
MNK pmax pmax
comp=Z,54nm,0.9s
MNK pmax pmax
comp=E,30nm,1.0s
MNK pmax pmax
comp=N,32nm,1.2s
MNK MLR MLR
comp=N,2μm,21.0s
GTA Gaotai 64.83 307 *eP* **P 19 37 01.5 +0.2**
GTA sP pP 19 37 15.3 -0.1
GTA pmax pmax
comp=N,6.0nm,0.9s
RETH Rethem/Aller, 65.09 14 *eP* **P 19 37 02.9 +0.4**
baz=351,slow=6.4
WMQ Urumqi 65.28 318 *eP* P 19 37 10.3 +6.2
WMQ LR LR
comp=N,2μm,19.1s
WMQ LR LR
comp=Z,2μm,20.7s
GKP Gorka Klasztor 65.29 8 *eP* **P 19 37 04.0 +0.2**
OTUK Ortayu 65.57 330 P **P 19 37 04.4 -1.4**
XAN Xi'an 65.70 297 P P 19 37 01.8 -5.1
XAN pmax pmax
comp=Z,6.0nm,0.8s
LZH Lanzhou 66.08 302 *eP* **P 19 37 09.5 0.0**
LZH pP pP 19 37 23.8 +0.1
LZH PcP **PcP 19 37 42.0 +2.4**
LZH pmax pmax
comp=Z,16nm,1.0s
CLZ Clausthal 66.09 13 *eP* **P 19 37 09.6 +0.5**
comp=Z,23nm,0.9s,baz=351,slow=6.4
LPSR Galich'ya Gora 66.18 354 *eP* **P 19 37 09.3 -0.3**
LPSR pmax pmax
comp=Z,22nm,1.0s
AKTO Aktyubinsk 66.33 341 P **P 19 37 09.7 -0.9**
CLL Collm 66.89 11 ||*i* P **P 19 37 14.0 -0.2**
CLL *e*SP **pP 19 37 27.0 -1.3**
CLL pmax pmax
comp=Z,14nm,0.9s
CLL Collm 66.89 11 *eP* **P 19 37 13.9 -0.2**

comp=Z,7.7nm,0.7s,baz=351,slow=6.4
CLL Collm 66.89 11 ⇓*i*P **P 19 37 14.0 -0.2**
comp=Z,14nm,0.9s
CLL *e*pP **pP 19 37 27.0 -1.3**
CLL Collm 66.89 11 P **P 19 37 13.9 -0.2**
comp=Z,18nm,1.2s
VORR Voronezh 67.09 354 P **P 19 37 15.4 -0.1**
VORR pmax pmax
comp=Z,8.0nm,0.6s
AB31 Akbulak array 67.15 339 P **P 19 37 14.9 -1.0**
ABKAR Akbulak array 67.15 339 P **P 19 37 14.7 -1.2**
ABKAR Akbulak array 67.15 339 IAmb IAmb 19 37 16.1
comp=Z,8.2nm,0.8s
MOX Moxa 67.40 13 *e*P **P 19 37 17.7 +0.2**
comp=Z,16nm,0.8s,baz=351,slow=6.4
MOX *e*L L 20 11 36.6
comp=Z,2μm,20.7s
BRG Berggiesshubel 67.40 11 *i*P **P 19 37 17.6 +0.1**
BRG Amp 19 37 18.7
comp=Z,17nm,0.9s
BRG Berggiesshubel 67.40 11 *i*P **P 19 37 17.5 +0.1**
BRG pmax pmax
comp=Z,17nm,0.9s
BRG MLR MLR
comp=E,2μm,19.6s
BRG MLR MLR
comp=N,2μm,18.5s
BRG MLR MLR
comp=Z,5μm,20.9s
BRG Berggiesshubel 67.40 11 *e*P **P 19 37 17.7 +0.2**
comp=Z,11nm,0.7s,baz=351,slow=6.4
VRH Novokhopyorsk 67.41 352 *e*P **P 19 37 16.4 -1.1**
VRH pmax pmax
comp=Z,9.0nm,1.0s
RNPP9 Sopachiv 67.55 3 P **P 19 37 18.0 -0.4**
HSKC Hora Svate Kat 67.62 11 *e*P **P 19 37 19.3 +0.4**
RNPP8 Varash 67.62 3 P **P 19 37 18.3 -0.5**
KSP Ksiaz 67.63 9 *e*P **P 19 37 18.9 0.0**
KSP Ksiaz 67.63 9 P **P 19 37 19.2 +0.3**
comp=Z,33nm,0.8s
TANN Tannenbergstha 67.72 12 *e*P **P 19 37 19.6 0.0**
comp=Z,3.7nm,0.5s,baz=351,slow=6.4
RNPP5 Staryi Chortor 67.73 3 P **P 19 37 19.1 -0.4**
PVCC Panska Ves 67.80 11 *e*P **P 19 37 20.3 +0.3**
PVCC Panska Ves 67.80 11 *e*P **P 19 37 20.3 +0.3**
CHVC Chvalec 67.87 10 *e*P **P 19 37 21.0 +0.6**
CHVC Chvalec 67.87 10 *e*P **P 19 37 21.0 +0.6**
NKC Novy Kostel 67.89 12 *e*P **P 19 37 21.1 +0.5**
NKC Novy Kostel 67.89 12 *e*P **P 19 37 21.1 +0.5**
OSTC Ostas 67.91 9 *e*P **P 19 37 21.1 +0.4**
OSTC Ostas 67.91 9 *e*P **P 19 37 21.1 +0.4**
UPC Upice 67.94 10 *e*P **P 19 37 21.2 +0.3**
UPC Upice 67.94 10 *e*P **P 19 37 21.2 +0.3**
MI28 MI28,Pidlybu 68.06 2 P **P 19 37 21.2 -0.4**
comp=Z,358nm,1.3s
DPC Dobruska-Polom 68.12 9 *e*P **P 19 37 22.4 +0.4**
DPC Dobruska-Polom 68.12 9 *e*P **P 19 37 22.4 +0.4**
DPC Dobruska-Polom 68.12 9 P **P 19 37 22.5 +0.4**
comp=Z,52nm,1.0s
AK21 Malin Array Si 68.23 1 P **P 19 37 21.9 -0.7**
AK23 Malin Array Si 68.25 1 P **P 19 37 22.0 -0.7**
AK22 Malin Array Si 68.25 1 P **P 19 37 22.1 -0.6**
AK20 Malin Array Si 68.27 1 P **P 19 37 22.2 -0.7**
AK03 Malin Array Si 68.28 1 P **P 19 37 22.3 -0.7**
AK19 Malin Array Si 68.28 1 P **P 19 37 22.3 -0.7**
AK04 Malin Array Si 68.29 1 P **P 19 37 22.3 -0.7**
AK18 Malin Array Si 68.29 1 P **P 19 37 22.3 -0.7**
GRF Grafenberg Arr 68.30 13 *e*L L 20 07 42.7
comp=Z,3μm,21.0s
AKASG Malin Array Be 68.31 1 P **P 19 37 21.8 -1.3**
AKASG IAmb IAmb 19 37 25.0
comp=Z,12nm,1.6s
AKASG Malin Array Be 68.31 1 P **P 19 37 22.5 -0.6**
comp=Z,5.1nm,0.4s,baz=2.1,slow=6.2,SNR=49
comp=Z,5.1nm,0.4s
AKASG Malin Array Be 68.31 1*ce*P **P 19 37 22.5 -0.6**
AKASG pmax pmax
comp=Z,10.0nm,0.5s
AKBB Malin Array Si 68.31 1*ce*P **P 19 37 22.6 -0.5**
AKBB Malin Array Si 68.31 1 P **P 19 37 22.0 -1.1**
AK15 Malin Array Si 68.31 1 P **P 19 37 22.5 -0.7**
KIEV Kiev 68.31 1 P **P 19 37 22.3 -0.9**
KIEV Kiev 68.31 1 P **P 19 37 22.3 -0.9**
KIEV pmax pmax
comp=Z,24nm,1.0s
KIEV Kiev 68.31 1 P **P 19 37 22.0 -1.2**
comp=Z,107nm,1.2s
KIEV Kiev 68.31 1 P **P 19 37 22.6 -0.6**
KIEV pP **pP 19 37 37.0 -0.4**
AK01 Malin Array Si 68.32 1 P **P 19 37 22.5 -0.7**
AK17 Malin Array Si 68.32 1 P **P 19 37 22.5 -0.7**
AK11 Malin Array Si 68.33 1 P **P 19 37 22.6 -0.7**
ROTZ Rotzenmuhle 68.33 12 *e*P **P 19 37 23.8 +0.4**
comp=Z,2.7nm,0.8s,baz=351,slow=6.4
PRU Pruhonice 68.33 11 *e*P **P 19 37 23.3 0.0**
PRU Pruhonice 68.33 11 *e*P **P 19 37 23.3 0.0**
AK16 Malin Array Si 68.34 1 P **P 19 37 22.6 -0.7**
AK02 Malin Array Si 68.35 1 P **P 19 37 22.7 -0.7**
AK12 Malin Array Si 68.36 1 P **P 19 37 22.8 -0.7**
AK08 Malin Array Si 68.38 0 P **P 19 37 22.9 -0.6**
AK14 Malin Array Si 68.38 1 P **P 19 37 22.9 -0.7**
AK05 Malin Array Si 68.39 1 P **P 19 37 22.9 -0.7**
AK09 Malin Array Si 68.39 0 P **P 19 37 23.0 -0.7**
AK13 Malin Array Si 68.40 1 P **P 19 37 22.9 -0.8**
AK10 Malin Array Si 68.41 0 P **P 19 37 23.0 -0.8**
AK06 Malin Array Si 68.42 1 P **P 19 37 23.1 -0.7**
KRLC Kraliky 68.43 9 *e*P **P 19 37 24.5 +0.5**
KRLC Kraliky 68.43 9 *e*P **P 19 37 24.5 +0.5**
AK07 Malin Array Si 68.46 1 P **P 19 37 23.3 -0.8**
OJC Ojcow 68.49 7 IAmb IAmb 19 37 25.2
comp=Z,9.7nm,0.7s
OJC Ojcow 68.49 7 P **P 19 37 24.0 -0.3**
comp=Z,18nm,0.7s
OKC Ostrava-Krasne 68.77 8 *e*P **P 19 37 26.1 +0.1**
OKC Ostrava-Krasne 68.77 8 *e*P **P 19 37 26.1 +0.1**
MORC Moravsky Berou 68.79 9 P **P 19 37 26.4 +0.2**
MORC IAmb IAmb 19 37 27.3
comp=Z,16nm,0.8s
MORC Moravsky Berou 68.79 9 *e*P **P 19 37 25.9 -0.3**
MORC Moravsky Berou 68.79 9 ⇓P **P 19 37 26.5 +0.3**
MORC Moravsky Berou 68.79 9 P **P 19 37 26.5 +0.3**
ZVC Zvikov 68.85 11 *e*P **P 19 37 27.0 +0.5**
WET Wettzell 69.01 12 *e*P **P 19 37 28.2 +0.6**
comp=Z,5.3nm,0.7s,baz=351,slow=6.4
LUBAR Lubar, Ukraine 69.08 2 P **P 19 37 26.7 -1.2**
LVV L'vov 69.09 4 P **P 19 37 27.9 -0.1**
KHC Kasperske Hory 69.09 11 IAmb IAmb 19 37 29.8
comp=Z,16nm,0.9s
KHC Kasperske Hory 69.09 11 *e*P **P 19 37 28.7 +0.6**
KHC Kasperske Hory 69.09 11*ce*P **P 19 37 29.0 +0.9**
KHC pmax pmax
comp=Z,39nm,0.8s
KHC Kasperske Hory 69.09 11 P **P 19 37 27.8 -0.3**
comp=Z,21nm,1.1s
TREC Trest 69.10 10 *e*P **P 19 37 27.4 -0.8**
TREC Trest 69.10 10 *e*P **P 19 37 27.4 -0.8**
VRAC Vranov 69.18 9 *e*P **P 19 37 28.7 +0.1**
VRAC Vranov 69.18 9 ⇑P **P 19 37 27.9 -0.8**
VRAC Vranov 69.18 9 P **P 19 37 27.8 -0.8**
MAUC Maruska 69.22 8 *e*P **P 19 37 29.2 +0.3**
KWP Kalwaria Pacla 69.23 5 P **P 19 37 29.0 +0.1**
comp=Z,34nm,1.3s
ECH Echery 69.26 16 IAmb IAmb 19 37 30.4
comp=Z,14nm,0.9s
ECH Echery 69.26 16 P **P 19 37 29.3 +0.1**
ECH pP **pP 19 37 43.7 +0.3**
BFO Black Forest 69.30 15 P **P 19 37 29.6 +0.2**
BFO IAmb IAmb 19 37 30.6
comp=Z,8.9nm,1.0s
BFO Black Forest 69.30 15 P **P 19 37 29.6 +0.2**
BFO pmax pmax
comp=Z,9.0nm,1.0s
NIE Niedzica 69.32 7 P **P 19 37 29.9 +0.4**
STHS Stebnicka Huta 69.37 6 *e*P **P 19 37 29.9 +0.1**
STHS *e* 19 37 44.9
STHS pmax pmax
comp=Z,28nm,0.7s
STHS Stebnicka Huta 69.37 6 *e*P **P 19 37 29.9 +0.1**
STHS Stebnicka Huta 69.37 6 *e* pP 19 37 44.9 +0.8
GEC2 GERESS Array S 69.39 11 IAmb IAmb 19 37 31.3
comp=Z,13nm,1.0s
GEC2 GERESS Array S 69.39 11 *e*P **P 19 37 30.4 +0.3**
comp=Z,6.0nm,0.7s,baz=351,slow=6.4
GERES GERESS Array B 69.39 11 P **P 19 37 30.1 +0.1**
comp=Z,6.1nm,0.8s,baz=356,slow=4.1,SNR=22
comp=Z,6.1nm,0.8s
KRUC Moravsky 69.41 9 *e*P **P 19 37 29.8 -0.2**
CKRC Cesky Krumlov 69.47 11 *e*P **P 19 37 31.4 +1.0**
CKRC Cesky Krumlov 69.47 11 *e*P **P 19 37 31.4 +1.0**
GOMU GeErMu 69.54 309 P **P 19 37 31.5 0.0**
GOMU pmax pmax
comp=Z,7.0nm,0.8s
JAVC Velka Javorina 69.71 9 *e*P **P 19 37 33.0 +1.1**
HORU Horodok 69.76 2 P **P 19 37 31.6 -0.6**
KOLS Kolonicke sedl 69.91 5 *e*P **P 19 37 33.7 +0.6**
KOLS pmax pmax
comp=Z,19nm,1.1s
KOLS Kolonicke sedl 69.91 5 *e*P **P 19 37 33.7 +0.6**
SMOL Smolenice 70.03 9 *e*P **P 19 37 34.9 +1.0**
SMOL pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 70.15 8 *e*P **P 19 37 34.9 +0.3**
VYHS *e* 19 37 50.3
VYHS pmax pmax
comp=Z,27nm,1.1s
VYHS Vyhne 70.15 8 *e*P **P 19 37 34.9 +0.3**
VYHS *e* 19 37 50.3
UBR Ueberruh 70.16 14 *e*P **P 19 37 35.2 +0.5**
comp=Z,16nm,0.8s,baz=351,slow=6.4
MODS Modra-Piesok 70.16 9 *e*P **P 19 37 35.6 +0.9**
MODS pmax pmax
comp=Z,44nm,1.0s
MODS Modra-Piesok 70.16 9 *e*P **P 19 37 35.6 +0.9**
UZHM Uzhgorod 70.21 5 P **P 19 37 35.1 +0.2**
STNU Starunia 70.21 4 P **P 19 37 35.1 +0.1**
AAK Ala-Archa 70.26 327 P **P 19 37 35.0 -0.6**
AAK IAmb IAmb 19 37 36.0
comp=Z,15nm,1.2s
AAK Ala-Archa 70.26 327*ce*P **P 19 37 35.9 +0.3**
AAK pmax pmax
comp=Z,5.0nm,0.6s
AAK Ala-Archa 70.26 327 P **P 19 37 35.3 -0.2**
KECS Kecovo 70.26 7 *e*P **P 19 37 35.5 +0.2**
KECS pmax pmax
comp=Z,29nm,0.9s
KECS Kecovo 70.26 7 *e*P **P 19 37 35.5 +0.2**
WUS Wushi 70.28 323 P **P 19 37 35.2 -0.4**
HOLU Holmets 70.32 5 P **P 19 37 35.8 +0.2**
NDNU Novodnistrovsk 70.40 2 P **P 19 37 35.4 -0.7**
MUKU Mukachevo 70.40 5 P **P 19 37 36.4 +0.3**
KMPD K-Podol'skiy 70.41 2 P **P 19 37 35.2 -1.0**
comp=Z,6μm,1.1s
RETA Reutte 70.42 14 *i*P **P 19 37 36.5 +0.1**
comp=Z,12nm,1.3s
MOA Molln 70.43 11 *i*P **P 19 37 36.4 +0.1**
comp=Z,8.5nm,1.0s
CONA Conrad Observa 70.49 10 *i*P **P 19 37 37.4 +0.6**
comp=Z,18nm,0.8s,SNR=7.3
BIOA Bad Ischl, Aus 70.53 12 *i*P **P 19 37 37.0 +0.1**
comp=Z,11nm,0.9s
BRIU Brid 70.53 5 P **P 19 37 37.4 +0.5**
MOTA Moosalm 70.60 13 *i*P **P 19 37 37.9 +0.3**
comp=Z,25nm,1.3s
BERU Beregovo 70.62 5 P **P 19 37 38.1 +0.7**
KSV Kosov 70.63 3 P **P 19 37 37.3 -0.2**
WATA Walderalm 70.67 13 *i*P **P 19 37 38.4 +0.5**
comp=Z,32nm,1.1s,SNR=6.6
LESA Schwarzleotal 70.69 12 *i*P **P 19 37 38.3 +0.3**
comp=Z,14nm,1.0s
NSLU Nyzhne Selyshc 70.72 4 P **P 19 37 38.2 +0.1**
SQTA Sankt Quirin 70.74 13 *i*P **P 19 37 38.9 +0.5**
comp=Z,34nm,1.0s,SNR=8.6
WTTA Wattenberg 70.74 13 *i*P **P 19 37 39.1 +0.6**
comp=Z,40nm,1.1s,SNR=7.6
RONA Rosalia, Austr 70.75 10 *i*P **P 19 37 38.9 +0.5**
comp=Z,8.9nm,0.7s
TRSU Trosnyk 70.77 5 P **P 19 37 39.0 +0.7**
PSZ Piszkesteto 70.79 7 ⇓P **P 19 37 37.8 -0.8**
PSZ Piszkesteto 70.79 7 P **P 19 37 37.8 -0.8**
KK31 Karatay Array 70.84 330 *i*P **P 19 37 37.9 -1.0**
KKAR Karatay Array 70.84 330 P **P 19 37 37.6 -1.3**
KKAR Karatay Array 70.84 330 IAmb IAmb 19 37 43.3
comp=Z,3.3nm,0.8s
KKAR Karatay Array 70.84 330 P **P 19 37 37.6 -1.3**
SORM Soroca 70.87 1 ⇓P **P 19 37 38.1 -0.8**
SORM Soroca 70.87 1 P **P 19 37 38.1 -0.8**
SORM Soroca 70.87 1 P **P 19 37 37.9 -1.0**
comp=Z,19nm,1.4s,comp=Z,4μm
FETA Feichten 70.88 14 *i*P **P 19 37 39.9 +0.7**
comp=Z,23nm,1.0s,SNR=5.5
RAKU Rahkiv 70.89 4 P **P 19 37 38.4 -0.7**
KBA Koelnbreinsper 71.10 12 *e*P **P 19 37 41.5 +0.9**
comp=Z,29nm,0.7s,SNR=11
ARSA Arzberg 71.14 10 *i*P **P 19 37 41.3 +0.7**
comp=Z,8.8nm,0.8s
FUORN Ofenpass-Fuorn 71.22 14 IAmb IAmb 19 37 43.2
comp=Z,14nm,0.9s
TUE Stuetta 71.26 15 P **P 19 37 41.9 +0.3**
comp=Z,118nm,0.8s
BUR08 Bucovina Ar. S 71.30 3 IAmb IAmb 19 37 42.9
comp=Z,15nm,1.1s
BURAR Bucovina Array 71.33 3 P **P 19 37 41.5 -0.4**
BURAR IAmb IAmb 19 37 42.7
comp=Z,9.8nm,0.6s
BURAR Bucovina Array 71.33 3 ⇑P **P 19 37 41.7 -0.2**
BURAR Bucovina Array 71.33 3 P **P 19 37 41.6 -0.4**
ABTA Abfaltersbach 71.35 13 *i*P **P 19 37 43.0 +1.0**
comp=Z,13nm,1.3s
MPLH Magyarpolny 71.38 9 P **P 19 37 42.6 +0.5**
comp=Z,50nm,1.1s
MYKA Terra Mystica 71.58 12 *i*P **P 19 37 43.3 -0.1**
comp=Z,11nm,0.9s
SOKA Soboth 71.66 11 *i*P **P 19 37 45.2 +1.3**
comp=Z,18nm,1.1s,SNR=6.8
MESR Meseseni 71.72 5 ⇓P **P 19 37 43.6 -0.5**
PRED Cave del Predi 71.75 12 IAmb IAmb 19 37 47.8
comp=Z,10.0nm,0.9s
OBKA Obir 71.78 11 *i*P **P 19 37 45.0 +0.3**
comp=Z,58nm,0.8s,SNR=22
OBKA Obir 71.78 11 *e*P **P 19 37 44.6 0.0**
DRGR 72.06 5 ⇓P **P 19 37 46.1 -0.2**
DRGR 72.06 5 P **P 19 37 46.0 -0.2**
MILM Milestii Mici 72.09 1 ⇓P **P 19 37 45.2 -1.1**
MILM Milestii Mici 72.09 1 P **P 19 37 45.2 -1.1**
CJR Cluj-Napoca 72.18 5 ⇑P **P 19 37 46.6 -0.4**
CJR Cluj-Napoca 72.18 5 P **P 19 37 46.5 -0.4**
MARR Marisel-Cluj 72.20 5 ⇑P **P 19 37 46.6 -0.5**
MORH Mrgy, Hungar 72.41 8 ⇑P **P 19 37 48.0 -0.2**
MORH Mrgy, Hungar 72.41 8 P **P 19 37 48.0 -0.2**
comp=Z,11nm,1.5s
PGAV Gavieira, Arco 72.47 29 *e*P **P 19 37 50.0 +1.2**
CEY Cerknica 72.54 11 *e*P **P 19 37 47.7 -1.4**
SIRR Siria 72.54 6 ⇓P **P 19 37 48.9 -0.1**
KSH Kashi 72.77 324 P **P 19 37 53.0 +2.3**
KSH sP PcP 19 38 07.0 -0.7
KSH pmax pmax
comp=Z,8.0nm,1.1s
BOJS Bojanci 72.84 11 *e*P **P 19 37 49.3 -1.5**
OZUR 72.86 3 ⇓P **P 19 37 51.0 0.0**
SURR Surduc 73.07 6 ⇑P **P 19 37 52.6 +0.5**
VRI Vrincioaia 73.12 2 ⇑P **P 19 37 52.7 +0.2**
VRI Vrincioaia 73.12 2 P **P 19 37 52.6 +0.2**
COVR Voineasa-Covas 73.12 3 ⇓P **P 19 37 51.9 -0.6**
PLOR Plostina 73.13 2 ⇓P **P 19 37 52.7 0.0**
PLOR Plostina 73.13 2 P **P 19 37 52.6 0.0**
BZS Buzias 73.18 6 ⇑P **P 19 37 52.6 -0.2**
BZS Buzias 73.18 6 P **P 19 37 52.6 -0.2**
PVRL Vila Real 73.25 29 *e*P **P 19 37 54.3 +0.9**
GZR Gura Zlata 73.46 5 ⇓P **P 19 37 54.4 -0.3**
GZR Gura Zlata 73.46 5 P **P 19 37 54.3 -0.3**
A051A Mrakovica 73.47 10 *e*P **P 19 37 53.8 -0.9**
MVO Moncorvo 73.52 28 *e*P **P 19 37 55.8 +0.8**
ARR Arges 73.56 4 ⇑P **P 19 37 55.2 0.0**
BLY Banja Luka 73.76 9 *e*P **P 19 37 57.9 +1.7**
CFR Carcaliu 73.83 1 ⇓P **P 19 37 56.1 -0.6**
CFR Carcaliu 73.83 1 P **P 19 37 56.0 -0.6**
DRK Karamyk 73.93 328 IAmb IAmb 19 37 59.9
comp=Z,14nm,1.0s
HERR Herculane 73.96 6 ⇑P **P 19 37 57.2 -0.2**
A050A Klekovaca 73.97 10 *e*P **P 19 37 56.4 -1.2**
MDVR Moldovita 74.02 6 ⇓P **P 19 37 57.4 -0.4**
MTE Manteigas 74.12 29 *e*P **P 19 37 58.7 +0.2**
TEKS Tekeris 74.13 8 *e*P **P 19 37 57.3 -1.1**
PCAS Casmilo, Conde 74.23 30 *e*P **P 19 37 59.6 +0.5**
HARR Harsova 74.31 2 ⇓P **P 19 37 58.9 -0.5**
HARR Harsova 74.31 2 P **P 19 37 58.9 -0.5**
HAPS Han Pijesak,Bl 74.55 8 *e*P **P 19 38 00.3 -0.7**
KIV Kislovodsk 74.55 350 *e*P **P 19 38 00.9 0.0**
KIV pmax pmax
comp=Z,19nm,1.1s
KIV Kislovodsk 74.55 350 P **P 19 38 01.0 0.0**
comp=Z,19nm,0.9s
PCBR Castelo Branco 74.67 29 *e*P **P 19 38 01.7 +0.1**
KBZ Khabaz 74.76 350 P **P 19 38 02.0 0.0**
comp=Z,10.0nm,0.9s,baz=294,slow=3.9,SNR=8.8
comp=Z,10.0nm,0.9s
KBZ Khabaz 74.76 350*ce*P **P 19 38 02.9 +0.9**
BBLS Lazi&#263i 74.80 8 *e*P **P 19 38 02.1 -0.3**
RUDO Rudo 75.04 8 *e*P **P 19 38 03.1 -0.6**
FDMO Fiordimonte 75.08 13 IAmb IAmb 19 38 05.0
comp=Z,23nm,1.1s
SOC Sochi 75.13 353 *e*P **P 19 38 02.4 -1.8**
SOC *e*PPP PPP 19 42 37.9
SOC *e*S **S 19 47 36.9 -1.5**
SOC *e*SS **SS 19 52 29.2 +2.3**
SOC pmax pmax
comp=Z,14nm,0.4s
SOC MLR MLR
comp=Z,781nm,21.0s
BOVS Bovan 75.16 6 ⇑P **P 19 38 03.7 -0.7**
BLKB Belogradchik 75.22 5 ⇑P **P 19 38 03.5 -1.3**
PMTG Montargil 75.23 30 *e*P **P 19 38 05.1 +0.2**
NRCA Norcia 75.28 13 IAmb IAmb 19 38 06.3
comp=Z,9.5nm,0.9s
PZH PanZhiHua 75.30 298 P **P 19 38 04.5 -1.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s
SIMJ Simiganj 75.41 329 P **P 19 38 05.0 -1.1**
SIMJ IAmb IAmb 19 38 11.6
comp=Z,12nm,0.8s
UPM Unac-Piva 75.42 8 *e*P **P 19 38 05.1 -1.1**
SJES Sjenica 75.44 8 *e*P **P 19 38 05.4 -0.7**
ESDC Sonseca Array 75.62 26 P **P 19 38 07.0 -0.2**
ESDC Sonseca Array 75.62 26 P **P 19 38 07.3 +0.2**
comp=Z,8.6nm,0.8s,baz=340,slow=5.7,SNR=39
comp=Z,8.6nm,0.8s
STON Ston 75.67 9 *e*P **P 19 38 06.4 -0.9**
BRY Bratogost 75.70 9 *e*P **P 19 38 07.1 -0.6**
EVO Evora 75.79 30 *e*P **P 19 38 08.3 +0.2**
TREB Trebinje 75.87 9 *e*P **P 19 38 07.2 -1.3**
PDG Podgorica 76.22 8 *e*P **P 19 38 09.4 -1.0**
PDG Podgorica 76.22 8 ⇑P **P 19 38 09.1 -1.3**
PBAR Barrancos 76.36 29 *e*P **P 19 38 11.8 +0.5**
AKT Akhty 76.52 346 *e*P **P 19 38 10.9 -1.4**
AKT pmax pmax
comp=Z,32nm,1.2s
MORF Marmelete 76.80 31 *e*P **P 19 38 14.7 +0.8**
PVAQ Vaqueiros 76.93 30 *e*P **P 19 38 15.4 +0.8**
TNCH TengChong 77.95 300 *e*P P 19 38 26.0 +5.3
TNCH pmax pmax
comp=Z,9.0nm,2.1s
BAUV El Baul 78.37 93 P **P 19 38 22.4 -0.4**
SLVN Son La 78.89 294 P **P 19 38 25.1 -0.7**
SLVN IAmb IAmb 19 38 27.0
comp=Z,7.9nm,0.8s
NIL Nilore 79.02 324 P **P 19 38 25.2 -1.0**
NIL IAmb IAmb 19 38 26.4
comp=Z,16nm,1.1s
NIL Nilore 79.02 324 P **P 19 38 25.2 -1.0**
NIL pmax pmax
comp=Z,16nm,1.2s
BR106 Keskin Array S 79.23 357 P **P 19 38 27.2 -0.3**
comp=Z,4.9nm,0.9s
BR131 Keskin Array S 79.24 357 IAmb IAmb 19 38 58.6
comp=Z,11nm,1.1s
BRTR Keskin Array B 79.24 357 P **P 19 38 26.9 -0.6**
BRTR Keskin Array B 79.24 357 P **P 19 38 27.3 -0.2**
comp=Z,3.3nm,0.8s,baz=2.9,slow=2.3,SNR=13
comp=Z,3.3nm,0.8s
BRTR Keskin Array B 79.24 357*ce*P **P 19 38 27.5 0.0**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BR105 Keskin Array S 79.25 357 P **P 19 38 27.5 -0.1**
comp=Z,6.4nm,0.9s
TIP Timpagrande 79.25 10 P **P 19 38 27.3 -0.2**
comp=Z,10nm,0.9s
BR104 Keskin Array S 79.26 357 P **P 19 38 27.5 -0.1**
comp=Z,6.2nm,1.0s
BNN Bunyan 80.04 355 P **P 19 38 32.5 +0.6**
OTAV Otavalo 81.03 106 P **P 19 38 37.4 -0.4**
OTAV IAmb IAmb 19 41 22.9
comp=Z,26nm,1.1s
OTAV Otavalo 81.03 106 P **P 19 38 37.4 -0.4**
OTAV pmax pmax
comp=Z,26nm,1.2s
KEST Kesra 81.82 17 P **P 19 38 41.4 0.0**
comp=Z,16nm,0.8s,baz=325,slow=1.3,SNR=16
comp=Z,16nm,0.8s
PHRA Phrae 83.00 296 P **P 19 38 46.7 -0.9**
COHC Cochancay 83.05 108 P **P 19 38 47.0 -0.8**
CM31 Chiang Mai Arr 83.59 297 P **P 19 38 49.7 -0.9**
CM31 IAmb IAmb 19 38 50.9
comp=Z,6.8nm,0.9s
CMAR Chiang Mai Arr 83.59 297 P **P 19 38 49.8 -0.8**
comp=Z,4.4nm,0.9s,baz=5.5,slow=5.9,SNR=38
comp=Z,4.4nm,0.9s
CMAR Chiang Mai Arr 83.59 297 P **P 19 38 49.9 -0.7**
MMAI Mount Meron Ar 85.88 355 P **P 19 39 01.8 -0.3**
comp=Z,1.3nm,0.6s,baz=30,slow=6.9,SNR=5.3
comp=Z,1.3nm,0.6s
WRA Warramunga Arr 100.63 248 P **Pdif 19 40 11.2 +1.2**
comp=Z,0.6nm,0.9s,baz=43,slow=5.6,SNR=4.9
TORD Torodi Ar. Bea 102.45 28 PKKPbc PKKPbc 19 56 16.9 +0.9
comp=Z,0.4nm,0.6s,baz=239,slow=0.8,SNR=3.5
ASAR Alice Springs 104.07 247 Pdiff **Pdif 19 40 26.7 +1.4**
comp=Z,0.2nm,0.7s,baz=31,slow=5.4,SNR=1.2
ASAR PKKPbc **PKKPbc 19 56 12.6 +0.9**
comp=Z,0.2nm,0.3s,baz=208,slow=1.9,SNR=5.4
PLCA Paso Flores 120.18 120 PKP **PKPdf 19 45 12.1 -0.1**
comp=Z,3.8nm,0.9s,baz=246,slow=2.6,SNR=4.2
VNDA Vanda 141.73 195 PKhKP PKPpre 19 45 48.2
comp=Z,0.6nm,0.7s,baz=4.7,slow=7.1,SNR=3.6
HOPE Hope Point 145.35 109 PKPdf **PKPdf 19 45 58.4 -0.2**
HOPE Hope Point 145.35 109 PKIKP **PKPdf 19 45 58.4 -0.2**
POGA Pongola 145.99 357 PKPdf **PKPdf 19 46 00.9 +0.3**
CASY Casey 146.42 226 PKPdf **PKPbc 19 46 01.5 0.0**
BOSA Boshof 147.12 8 **PKPdf 19 46 03.0 +0.4**
BOSA Boshof 147.12 8 **PKPbc 19 46 03.9 -0.9**
comp=Z,14nm,0.8s,baz=57,slow=1.8,SNR=17
BOSA Boshof 147.12 8 PKP2 **PKPdf 19 46 03.1 +0.4**
SUR Sutherland 150.42 16 PKPbc **PKPbc 19 46 13.1 -0.1**
QSPA South Pole Qui 151.15 180 PKPbc **PKPbc 19 46 13.9 +0.2**
comp=Z,33nm,0.8s,baz=354,slow=0.4,SNR=68
GRHM Grahamstown, E 151.83 6 PKPdf **PKPdf 19 46 11.6 +1.7**
GRHM PKPbc **PKPbc 19 46 16.0 -0.3**
BELA Belgrano 2 154.17 154 PKPdf **PKPbc 19 46 18.8 -1.3**
VNA3 Neumayer Olymp 161.65 139 ⇑PKPab **PKPab 19 47 06.6 -0.2**
comp=Z,13nm,0.8s
VNA1 Neumayer--Stat 162.23 138 ⇑PKPab **PKPab 19 47 09.3 0.0**
comp=Z,8.8nm,0.8s
VNA2 Neumayer--Watz 162.44 139 ⇑PKPab **PKPab 19 47 09.4 -0.9**
comp=Z,5.7nm,0.6s,baz=279,slow=3.9
SNAA Sanae 163.60 143 ⇑PKPab **PKPab 19 47 14.9 -0.6**
comp=Z,75nm,0.8s
SNAA Sanae 163.60 143 PKPab **PKPab 19 47 15.0 -0.5**
comp=Z,4.2nm,0.9s,baz=238,slow=6.1,SNR=11
MAW Mawson 164.65 232 PKPab **PKPab 19 47 19.2 -0.8**
comp=Z,3.1nm,0.9s,baz=76,slow=5.4,SNR=5.5
TROLL Troll, Antarti 164.96 147 ⇑PKPab **PKPab 19 47 21.2 -0.2**
comp=Z,275nm,0.8s

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*NEIC **30** 19:28:12.0±1.3,61°.38N±0°.02×149°.70W±0°.05,h38km±3km, Error ellipse: s-maj=3.5km s-min=3.2km az=130.0*
*AEIC **30** 19:28:12.7±1.1,61°.37N±0°.02×149°.71W±0°.05,h35km±3km, ML4.4,mb4.4/24(NEIC),ML4.5/105(NEIC), Error ellipse: s-maj=3.3km s-min=3.1km az=139.0*
*IDC **30** 19:28:13.7±2.1,61°.45N×149°.75W,h74km±18km,mb4.0/21, mbtmp4.3/23, Error ellipse: s-maj=17.1km s-min=14.5km az=93.0*

ISC 30 19:28:11.2±0.7,**61°.38N**±0°.02×**149°.72W**±0°.02,**h43**km±6km, **n179**,σ1§30/189,**mb4.4**/36,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.29**	**181**		**Pn**	**19 28 19.8**	**+0.2**
RC01				IAML		19 28 26.4	
comp=N,74μm,0.4s							
RC01	**Rabbit Creek A**	**0.29**	**181**		**Sn**	**19 28 26.3**	**+0.8**
RC01	**Rabbit Creek A**	**0.29**	**181**	P	**Pn**	**19 28 19.8**	**+0.2**
baz=2.8							
RC01				S	**Sn**	**19 28 26.3**	**+0.8**
baz=2.8							

M22K	Willow	0.42 333		Pn	Pn	19 28 21.0 +0.1
M22K	Willow	0.42 333		Sn	Sn	19 28 28.9 +0.9
M22K	Willow	0.42 333	IAML			19 28 29.1
	comp=E,73μm,0.8s					
M22K			IAML			19 28 29.4
	comp=N,78μm,0.7s					
M22K	Willow	0.42 333	P	Pn	Pn	19 28 21.1 +0.1
	baz=153					
M22K			S	Sn	Sn	19 28 28.9 +0.9
	baz=153					
SUA	Susitna One	0.50 280		Pn	Pn	19 28 22.3 +0.2
SUA	Susitna One	0.50 280		Sn	Sn	19 28 30.5 +0.6
SUA			IAML			19 28 31.1
	comp=E,17μm,0.9s					
SUA			IAML			19 28 31.6
	comp=N,28μm,0.7s					
SUA	Susitna One	0.50 280	P	Pn	Pn	19 28 22.3 +0.2
	baz=100					
SUA			S	Sn	Sn	19 28 30.7 +0.8
	baz=100					
GHO	Glory Hole Cre	0.55 44		Pn	Pn	19 28 22.8 0.0
GHO	Glory Hole Cre	0.55 44		Sn	Sn	19 28 31.7 +0.7
GHO			IAML			19 28 32.4
	comp=N,44μm,0.7s					
GHO			IAML			19 28 32.9
	comp=E,40μm,1.0s					
KNK	Knik Glacier	0.61 86		Pn	Pn	19 28 23.6 +0.1
KNK				Sn	Sn	19 28 33.0 +0.7
KNK			IAML			19 28 34.2
	comp=N,21μm,0.7s					
KNK			IAML			19 28 34.8
	comp=E,17μm,0.4s					
KNK	Knik Glacier	0.61 86	P	Pn	Pn	19 28 23.7 +0.2
	baz=267					
KNK			S	Sn	Sn	19 28 33.5 +1.2
	baz=267					
SML	Sawmill	0.79 57		Pn	Pn	19 28 26.0 +0.1
SML	Sawmill	0.79 57		Sn	Sn	19 28 37.0 +0.4
SML			IAML			19 28 38.6
	comp=N,19μm,1.0s					
SML			IAML			19 28 39.6
	comp=E,19μm,0.7s					
SML	Sawmill	0.79 57	P	Pn	Pn	19 28 26.0 +0.1
	baz=237					
SML			S	Sn	Sn	19 28 37.4 +0.8
	baz=237					
PWL	Port Wells	0.85 127		Pn	Pn	19 28 26.9 +0.2
PWL			Sn	Sn	Sn	19 28 38.7 +0.7
PWL			IAML			19 28 39.4
	comp=N,22μm,0.8s					
PWL	Port Wells	0.85 127	P	Pn	Pn	19 28 27.1 +0.3
	baz=308					
O22K	Cooper Landing	0.90 180	Pn	Pn	Pn	19 28 27.1 -0.2
O22K			Sn	Sn	Sn	19 28 40.5 +1.4
SLKM	Skilak Lake	0.91 196		Pn	Pn	19 28 27.9 +0.3
SLKM				Sn	Sn	19 28 40.5 +1.1
CAPN	Captain Cook N	0.93 229	Pn	Pn	Pn	19 28 29.5 +1.8
CAPN			Sn	Sn	Sn	19 28 43.8 +4.0
STLK	Strandline Lak	1.02 278		Pn	Pn	19 28 30.0 +0.9
STLK				Sn	Sn	19 28 44.1 +1.8
M23K	Glacier View	1.04 66		Pn	Pn	19 28 29.9 +0.6
M23K				Sn	Sn	19 28 44.7 +2.0
M23K	Glacier View	1.04 66	P	Pn	Pn	19 28 29.9 +0.6
	baz=247					
M23K			S	Sn	Sn	19 28 44.7 +2.0
	baz=247					
SKT	Skwentna	1.05 306		Pn	Pn	19 28 30.1 +0.6
SKT	Skwentna	1.05 306		Sn	Sn	19 28 44.5 +1.5
SKT	Skwentna	1.05 306	IAML			19 28 45.4
	comp=N,22μm,0.7s					
SKT			IAML			19 28 45.9
	comp=E,14μm,0.6s					
SKT	Skwentna	1.05 306	P	Pn	Pn	19 28 30.1 +0.6
	baz=124					
SKT			S	Sn	Sn	19 28 44.5 +1.5
	baz=124					
CUT	Chulitna	1.06 346		Pn	Pn	19 28 30.4 +0.9
CUT	Chulitna	1.06 346	IAML			19 28 46.6
	comp=N,15μm,0.7s					
CUT	Chulitna	1.06 346	P	Pn	Pn	19 28 30.5 +0.9
	baz=166					
SPCG	Spurr Capps Gl	1.11 266		Pn	Pn	19 28 31.4 +1.0
SPCG				Sn	Sn	19 28 46.4 +1.8
SPCP	Crater Peak Br	1.18 266		Pn	Pn	19 28 32.0 +0.7
N20K	Mount Spurr	1.22 263	P	Pn	Pn	19 28 32.4 +0.6
	baz=81					
SPCR	Spurr Chakacha	1.22 263		Pn	Pn	19 28 32.4 +0.6
SPCR	Spurr Chakacha	1.22 263		Pn	Pn	19 28 32.5 +0.8
SPCR	Spurr Chakacha	1.22 263	P	Pn	Pn	19 28 32.5 +0.8
	baz=81					
SCM	Sheep Creek Mo	1.23 67		Pn	Pn	19 28 32.7 +0.7
SCM				Sn	Sn	19 28 49.5 +2.1
SCM	Sheep Creek Mo	1.23 67	IAML			19 28 51.0
	comp=E,12μm,1.0s					
SCM			IAML			19 28 52.5
	comp=N,8μm,0.9s					
SCM	Sheep Creek Mo	1.23 67	P	Pn	Pn	19 28 32.7 +0.7
	baz=249					
SCM			S	Sn	Sn	19 28 49.5 +2.1
	baz=249					
SEW	Seward	1.29 174		Pn	Pn	19 28 32.9 +0.3
SEW	Seward	1.29 174	P	Pn	Pn	19 28 34.2 +1.5
	baz=354					
GLI	Glacier Island	1.37 110		Pn	Pn	19 28 34.0 +0.2
GLI			IAML			19 28 55.6
	comp=N,8μm,0.6s					
GLI	Glacier Island	1.37 110	P	Pn	Pn	19 28 34.1 +0.2
	baz=292					
WAT7	Susitna Watana	1.52 15		Pn	Pn	19 28 37.5 +1.6
WAT6	Susitna Watana	1.53 37		Pn	Pn	19 28 37.2 +1.1
WAT6	Susitna Watana	1.53 37	P	Pn	Pn	19 28 37.2 +1.1
	baz=218					
RDT	Redoubt	1.54 239		Pn	Pn	19 28 37.1 +1.0
WAT1	Susitna Watana	1.56 20		Pn	Pn	19 28 37.8 +1.4
WAT1	Susitna Watana	1.56 20	P	Pn	Pn	19 28 37.8 +1.4
	baz=201					
FID	Port Fidalgo	1.70 110		Pn	Pn	19 28 38.2 -0.1
FID			IAML			19 29 07.7
	comp=N,6μm,0.5s					
FID			IAML			19 29 08.5
	comp=E,6μm,0.5s					
RDJH	Redoubt Jeurge	1.70 244		Pn	Pn	19 28 39.4 +1.0
M20K	Styx River	1.71 289		Pn	Pn	19 28 39.6 +1.2
M20K	Styx River	1.71 289	IAML			19 29 04.0
	comp=N,6μm,1.2s					
M20K			IAML			19 29 04.8
	comp=E,8μm,0.7s					
M20K	Styx River	1.71 289	P	Pn	Pn	19 28 39.6 +1.2
	baz=106					
BRLK	Bradley Lake	1.72 200		Pn	Pn	19 28 39.4 +0.7
BRLK	Bradley Lake	1.72 200	IAML			19 29 04.9
	comp=N,7μm,0.5s					
BRLK			IAML			19 29 05.8
	comp=E,5μm,0.6s					
RDWB	Redoubt West	1.77 241		Pn	Pn	19 28 40.2 +0.9
RED	Redoubt Volcan	1.78 238		Pn	Pn	19 28 40.2 +0.8
P23K	Montague Islan	1.79 140		Pn	Pn	19 28 40.6 +1.0
P23K	Montague Islan	1.79 140	P	Pn	Pn	19 28 40.6 +1.0
	baz=322					
KLU	Klutina	1.83 85		Pn	Pn	19 28 40.6 +0.4
KLU	Klutina	1.83 85	P	Pn	Pn	19 28 40.6 +0.4
	baz=268					
M24K	Tolsona, Glenn	1.84 65		Pn	Pn	19 28 42.1 +1.8
M24K	Tolsona, Glenn	1.84 65	IAML			19 29 13.3
	comp=N,7μm,0.7s					
M24K	Tolsona, Glenn	1.84 65	P	Pn	Pn	19 28 42.1 +1.8
	baz=248					
HIN	Hinchinbrook I	1.86 121	Pn	Pn	Pn	19 28 41.2 +0.7
DIV	Divide	1.93 96		Pn	Pn	19 28 42.1 +0.6
HOM	Homer	1.97 210	Pn	Pn	Pn	19 28 42.7 +0.7
CNPM	China Poot	2.01 203	Pn	Pn	Pn	19 28 43.0 +0.5
CNPM			IAML			19 29 11.1
	comp=E,5μm,0.7s					
CNPM			IAML			19 29 14.2
	comp=N,6μm,0.4s					
DHY	Denali Highway	2.03 32	Pn	Pn	Pn	19 28 44.4 +1.5
DHY			IAML			19 29 12.5
	comp=E,3μm,1.0s					
DHY			IAML			19 29 12.7
	comp=N,3μm,1.1s					
RND	Reindeer	2.07 11	Pn	Pn	Pn	19 28 44.7 +1.2
ILSW	Iliamna Southw	2.19 232	Pn	Pn	Pn	19 28 46.7 +1.5
ILSW			IAML			19 29 15.6
	comp=E,3μm,0.7s					
ILSW			IAML			19 29 20.0
	comp=N,2μm,0.9s					
KTH	Kantishna Hill	2.25 346	Pn	Pn	Pn	19 28 47.4 +1.4
KTH			IAML			19 29 18.2
	comp=N,3μm,0.8s					
KTH			IAML			19 29 19.9
	comp=E,3μm,0.6s					
M19K	Big River Lodg	2.29 285	Pn	Pn	Pn	19 28 47.5 +1.1
M19K			IAML			19 29 30.2
	comp=N,2μm,0.7s					
CAST	Castle Rocks	2.32 333	Pn	Pn	Pn	19 28 48.2 +1.4
N19K	Bonanza Creek	2.38 258	Pn	Pn	Pn	19 28 49.1 +1.3
P19K	Oil Pt	2.45 227	Pn	Pn	Pn	19 28 50.1 +1.4
N25K	Chitina, Valde	2.47 82	Pn	Pn	Pn	19 28 49.4 +0.4
O19K	Port Alsworth	2.55 244	Pn	Pn	Pn	19 28 51.5 +1.6
L19K	White Mountain	2.57 291	Pn	Pn	Pn	19 28 51.8 +1.5
L19K			IAML			19 29 23.9
	comp=N,1μm,0.7s					
L19K			IAML			19 29 40.6
	comp=E,1μm,0.9s					
Q23K	Middleton Isla	2.57 138	Pn	Pn	Pn	19 28 51.6 +1.4
Q23K			IAML			19 29 41.5
	comp=N,3μm,1.0s					
Q23K			IAML			19 29 42.2
	comp=E,3μm,1.2s					
RAGM	Ragged Mountai	2.66 110	Pn	Pn	Pn	19 28 53.7 +2.2
BPAW	Bear Paw Mtn.	2.79 349	Pn	Pn	Pn	19 28 54.3 +1.0
K20K	Telida	2.84 316	Pn	Pn	Pn	19 28 55.0 +1.1
K20K			IAML			19 29 37.0
	comp=N,2μm,0.7s					
GLB	Gilahina Butte	2.84 86	Pn	Pn	Pn	19 28 54.5 +0.4
GLB			IAML			19 29 40.7
	comp=N,2μm,0.9s					
SVW2	Sparrevohn	2.85 267	Pn	Pn	Pn	19 28 55.0 +0.9
N18K	Kilae Creek	3.08 260	Pn	Pn	Pn	19 28 58.1 +0.8
N18K			IAML			19 29 52.3
	comp=E,905nm,1.0s					
TTA	Tatalina	3.34 301	Pn	Pn	Pn	19 29 01.7 +0.8
TTA			IAML			19 29 54.2
	comp=N,828nm,0.7s					
TTA			IAML			19 30 01.4
	comp=E,865nm,0.6s					
L18K	Granite Mounta	3.41 287	Pn	Pn	Pn	19 29 02.6 +0.8
L18K			IAML			19 30 06.1
	comp=N,905nm,0.8s					
ILAR	Eielson Array	3.64 19	P	Pn	Pn	19 29 07.7 +2.7
	comp=N,56nm,0.4s,baz=201,slow=13,SNR=0.6					
ILAR			S	Sn	Sn	19 29 48.1 +1.5
	comp=N,78nm,0.6s,baz=199,slow=22,SNR=0.9					
M17K	Holitna River	3.71 274	Pn	Pn	Pn	19 29 06.8 +0.9
N17K	Nushagak Hills	3.74 260	Pn	Pn	Pn	19 29 07.1 +0.8
N17K			IAML			19 30 11.0
	comp=E,558nm,0.8s					
N17K			IAML			19 30 14.8
	comp=N,655nm,0.8s					
J19K	Poorman	3.78 317	Pn	Pn	Pn	19 29 07.8 +1.0
J19K			IAML			19 30 10.6
	comp=N,1μm,0.8s					
J19K			IAML			19 30 11.3
	comp=E,1μm,0.9s					
I23K	Minto, Yukon-K	3.79 2	Pn	Pn	Pn	19 29 08.2 +1.3
I23K			IAML			19 30 26.6
	comp=N,647nm,0.9s					
J18K	Innoko River	3.87 306	Pn	Pn	Pn	19 29 09.2 +1.2
J18K			IAML			19 29 53.2
	comp=N,663nm,0.7s					
J18K			IAML			19 30 16.1
	comp=E,727nm,0.8s					
KDAK	Kodiak Island	3.89 203	P	Pn	Pn	19 29 11.9 +3.5
	comp=E,220nm,0.8s,baz=357,slow=18,SNR=0.6					
KDAK			S	Sn	Sn	19 29 51.1 -1.6
	comp=E,246nm,0.9s,baz=61,slow=2.2,SNR=0.9					
POKR	Poker Plat Res	3.89 14	Pn	Pn	Pn	19 29 10.4 +2.0
POKR			IAML			19 30 18.6
	comp=E,633nm,0.9s					
I21K	Tanana	3.95 346	Pn	Pn	Pn	19 29 11.2 +2.0
I21K			IAML			19 30 11.6
	comp=E,536nm,0.9s					
CTGM	Chitina Glacie	4.08 92	Pn	Pn	Pn	19 29 12.1 +1.0
K17K	Iditarod	4.26 292	Pn	Pn	Pn	19 29 14.5 +1.1
K17K			IAML			19 29 49.6
	comp=E,617nm,1.1s					
K17K			IAML			19 30 33.1
	comp=N,659nm,1.1s					
LOGN	Logan Glacier	4.27 94	Pn	Pn	Pn	19 29 14.8 +1.1
LOGN			IAML			19 30 25.5
	comp=E,416nm,1.2s					
TABL	Table Mountain	4.29 99	Pn	Pn	Pn	19 29 15.1 +1.0
TABL			IAML			19 30 24.6
	comp=E,407nm,1.1s					
TABL			IAML			19 30 31.5
	comp=N,420nm,0.9s					
OHAK	Old Harbor	4.55 205	Pn	Pn	Pn	19 29 17.6 +0.2
J16K	Anvik River	5.42 295	Pn	Pn	Pn	19 29 30.0 +0.7
H18K	Honhosa River	5.43 318	Pn	Pn	Pn	19 29 30.8 +1.3
I17K	Unalakleet	5.65 301	Pn	Pn	Pn	19 29 33.8 +1.3
K15K	Wolf Creek Mou	5.67 284	Pn	Pn	Pn	19 29 33.7 +1.0
H17K	Granite Mounta	5.83 312	Pn	Pn	Pn	19 29 36.6 +1.6
G18K	Tagagawik	6.03 323	Pn	Pn	Pn	19 29 39.1 +1.4
F20K	Avaraart Lake	6.26 338	Pn	Pn	Pn	19 29 42.8 +1.9
J14K	Nanvaranak Lak	6.64 288	Pn	Pn	Pn	19 29 46.8 +0.7
ANM	Nome	7.81 301	Pn	Pn	Pn	19 30 03.9 +1.9
F15K	North Star Dit	7.94 310	Pn	Pn	Pn	19 30 06.2 +2.4
M11K	Mekoryuk	8.10 270	Pn	Pn	Pn	19 30 08.2 +2.2
R33M	Jennings River	9.49 94	Pn	Pn	Pn	19 30 26.6 +1.4
CRAG	Craig	10.51 117	Pn	Pn	Pn	19 30 39.2 +0.2
E07A	Sunnyside	22.71 117	P	P	P	19 33 10.2 +1.2
E07A			IAmb	IAmb	IAmb	19 33 24.2
	comp=Z,12nm,0.9s					
HOOD	Mount Hood Mea	22.95 122	P	P	P	19 33 13.4 +1.9
HOOD			IAmb	IAmb	IAmb	19 33 46.0
	comp=Z,15nm,1.0s					
I07A	Izee	24.84 120	P	P	P	19 33 32.2 +2.9
I07A			IAmb	IAmb	IAmb	19 33 34.2
	comp=Z,7.9nm,0.9s					
YBH	Yreka Blue Hor	25.54 128	P	P	P	19 33 38.5 +2.9
LYMT	Lyon Mountain	25.77 107	P	P	P	19 33 38.7 +0.8
KMRM	Mail Ridge	26.48 131	P	P	P	19 33 46.5 +2.3
FCC	Fort Churchill	27.17 70	P	P	P	19 33 50.6 +0.6
ELK	Elko	29.38 119	P	P	P	19 34 12.2 +2.0
RYN	Ryan	29.83 125	P	P	P	19 34 14.6 +0.4
NVAR	Mina Array Bea	30.09 125	P	P	P	19 34 16.3 -0.2
	comp=Z,1.7nm,0.7s,baz=324,slow=9.0,SNR=2.5					
	comp=Z,1.7nm,0.7s					
SPUT	South Promonto	30.11 115	P	P	P	19 34 17.0 +0.4
SPUT			IAmb	IAmb	IAmb	19 34 28.1
	comp=Z,9.5nm,0.8s					
Q12A	Willow Creek R	30.98 120	P	P	P	19 34 25.5 +1.2
Q12A			IAmb	IAmb	IAmb	19 34 27.0
	comp=Z,5.5nm,0.9s					
R11B	Troy Canyon, C	31.25 122	P	P	P	19 34 28.1 +1.4
ULM	Lac du Bonnet	31.31 86	P	P	P	19 34 26.1 -0.8
ULM			IAmb	IAmb	IAmb	19 34 28.3
	comp=Z,7.9nm,0.7s					
ULM	Lac du Bonnet	31.31 86	P	P	P	19 34 25.0 -1.9
	comp=Z,7.6nm,0.7s,baz=298,slow=9.1,SNR=4.9					
	comp=Z,7.6nm,0.7s					
MSU	Marysvale	32.54 117	P	P	P	19 34 39.6 +1.5
GWY	Greenwater Val	32.68 125	P	P	P	19 34 39.8 +0.6
GWY			IAmb	IAmb	IAmb	19 34 43.1
	comp=Z,3.3nm,0.8s					
KNB	Kanab	33.53 120	P	P	P	19 34 49.1 +2.5
CBX	Cerro Bola	36.10 128	P	P	P	19 35 09.3 +0.5
SUMG	Summit	38.45 27	P	P	P	19 35 29.2 +0.6
SFJD	Kangerlussuaq	39.10 38	P	P	P	19 35 34.2 +0.6
SPITS	Spitsbergen Ar	40.43 4	P	P	P	19 35 43.5 -1.0
	comp=Z,2.2nm,0.4s					
	comp=Z,2.2nm,0.4s					
SPB2	Spitsbergen Ar	40.43 4	P	P	P	19 35 44.2 -0.3
WMOK	Wichita Mounta	41.67 106	P	P	P	19 35 56.6 +1.4
WMOK			IAmb	IAmb	IAmb	19 36 17.9
	comp=Z,6.3nm,1.0s					
MGMO	Mountain Grove	42.77 97	P	P	P	19 36 10.7 +6.5
MGMO			IAmb	IAmb	IAmb	19 36 11.4
	comp=Z,7.2nm,0.6s					
TXAR	Lajitas Array	44.03 115	P	P	P	19 36 15.2 +0.7
	comp=Z,1.2nm,0.7s,baz=0.0,slow=5.4,SNR=1.8					
	comp=Z,1.2nm,0.7s					
LCAR	Lake Charles	44.18 97	P	P	P	19 36 16.0 +0.6
LCAR			IAmb	IAmb	IAmb	19 36 16.9
	comp=Z,15nm,0.9s					
USRK	Ussuriysk Ar.	47.22 286	P	P	P	19 36 37.9 -1.5
	comp=Z,2.7nm,0.7s,baz=54,slow=7.3,SNR=2.6					
	comp=Z,2.7nm,0.7s					
ARCES	ARCESS Array B	49.33 2	P	P	P	19 36 54.2 -1.1
	comp=Z,4.9nm,0.8s,baz=4.7,slow=4.8,SNR=3.8					
	comp=Z,4.9nm,0.8s					
KSRS	Korea Array	54.43 284	P	P	P	19 37 33.2 -0.5
	comp=Z,1.9nm,0.6s,baz=34,slow=6.8,SNR=3.4					
	comp=Z,1.9nm,0.6s					
SONM	Songino Array	55.26 307	P	P	P	19 37 39.1 -0.7
	comp=Z,2.6nm,0.7s,baz=52,slow=6.8,SNR=2.3					
	comp=Z,2.6nm,0.7s					
NOA	NORSAR Array B	57.03 11	P	P	P	19 37 50.6 -1.4
	comp=Z,1.7nm,0.7s,baz=349,slow=7.1,SNR=3.4					
	comp=Z,1.7nm,0.7s					
ZALV	Zalesovo Beam	57.19 325	P	P	P	19 37 51.7 -1.5
	comp=Z,2.0nm,0.8s,baz=41,slow=8.4,SNR=1.6					
	comp=Z,2.0nm,0.8s					
FINES	FINESS Array B	57.46 2	P	P	P	19 37 54.2 -0.8
	comp=Z,4.6nm,0.8s,baz=18,slow=8.0,SNR=2.2					
	comp=Z,4.6nm,0.8s					
HFS	Hagfors	58.14 10	P	P	P	19 37 58.1 -1.7
	comp=Z,3.6nm,0.9s,baz=319,slow=6.3,SNR=1.5					
	comp=Z,3.6nm,0.9s					
EKA	Eskdalemuir Ar	60.68 21	P	P	P	19 38 16.4 -1.0
	comp=Z,1.8nm,0.5s,baz=332,slow=5.3,SNR=3.0					
	comp=Z,1.8nm,0.5s					
BVAR	Borovoye Array	61.57 334	P	P	P	19 38 22.1 -1.4
	comp=Z,4.2nm,0.7s,baz=45,slow=4.4,SNR=3.1					
	comp=Z,4.2nm,0.7s					
KURBB	Kurchatov Arra	61.87 327	P	P	P	19 38 23.9 -1.6
	comp=Z,1.7nm,0.6s,baz=28,slow=7.0,SNR=2.5					
	comp=Z,1.7nm,0.6s					
MKAR	Makanchi Array	64.33 323	P	P	P	19 38 39.5 -2.4
	comp=Z,2.6nm,0.7s,baz=48,slow=7.3,SNR=2.6					
	comp=Z,2.6nm,0.7s					
AKASG	Malin Array Be	68.27 1	P	P	P	19 39 05.8 -1.1
	comp=Z,16nm,0.6s,baz=3.1,slow=6.5,SNR=13					
	comp=Z,16nm,0.6s					
MORC	Moravsky Berou	68.72 9	eP	P	P	19 39 09.5 -0.4
VRAC	Vranov	69.12 10	eP	P	P	19 39 12.1 -0.2
STHS	Stebnicka Huta	69.32 6	e	P	P	19 39 13.1 -0.5
KRUC	Moravsky	69.35 10	eP	P	P	19 39 13.6 -0.1
JAVC	Velka Javorina	69.65 9	eP	P	P	19 39 16.4 +0.8
KOLS	Kolonicke sedl	69.85 6	e	P	P	19 39 19.7 +2.9
VYHS	Vyhne	70.09 8	e	P	P	19 39 18.3 0.0
MODS	Modra-Piesok	70.10 9	e	P	P	19 39 18.0 -0.4
WATA	Walderalm	70.59 13	i P	P	P	19 39 21.6 +0.1
	comp=Z,7.7nm,1.2s					
SQTA	Sankt Quirin	70.66 14	i P	P	P	19 39 22.1 +0.2
	comp=Z,5.4nm,0.9s					
WTTA	Wattenberg	70.67 13	i P	P	P	19 39 22.4 +0.3
	comp=Z,5.7nm,0.8s					
RONA	Rosalia, Austr	70.69 10	eP	P	P	19 39 22.4 +0.4
	comp=Z,4.0nm,0.7s					
FETA	Feichten	70.81 14	i P	P	P	19 39 23.2 +0.3
	comp=Z,6.0nm,1.1s					
KBA	Koelnbreinsper	71.03 12	i P	P	P	19 39 24.7 +0.4
	comp=Z,12nm,0.8s					
OBKA	Obir	71.72 11	i P	P	P	19 39 28.3 -0.1
	comp=Z,16nm,0.8s					
ESDC	Sonseca Array	75.52 27	P	P	P	19 39 50.1 -0.5
	comp=Z,2.6nm,0.8s,baz=339,slow=5.6,SNR=4.1					
	comp=Z,2.6nm,0.8s					
BRTR	Keskin Array B	79.21 357	P	P	P	19 40 09.3 -2.2
	comp=Z,1.6nm,0.9s,baz=334,slow=8.2,SNR=3.5					
	comp=Z,1.6nm,0.9s					
KEST	Kesra	81.74 17	P	P	P	19 40 24.1 -0.9
	comp=Z,4.5nm,0.9s,baz=279,slow=12,SNR=2.4					
	comp=Z,4.5nm,0.9s					
CMAR	Chiang Mai Arr	83.71 297	P	P	P	19 40 34.1 -1.2
	comp=Z,1.2nm,0.6s,baz=8.6,slow=6.0,SNR=2.6					
	comp=Z,1.2nm,0.6s					
BOSA	Boshof	147.06 8	PKPbc	PKPdf	PKPdf	19 47 46.7 0.0
	comp=Z,6.7nm,0.9s,baz=324,slow=8.7,SNR=3.3					
QSPA	South Pole Qui	151.19 180	PKPbc	PKPdf	PKPdf	19 47 56.8 +4.8
	comp=Z,7.0nm,0.7s,baz=87,slow=1.0,SNR=3.6					

*NEIC **30** 19:31:06.7±1.4, 61°48N±0°03×150°05W±0°05, h35km±9km, Error ellipse: s-maj=4.2km s-min=3.1km az=187.0*
*AEIC **30** 19:31:07.4±1.4, 61°48N±0°02×150°05W±0°05, h30km±7km, ML3.5, ML3.7/78(NEIC), Error ellipse: s-maj=3.8km s-min=2.5km az=60.0*

ISC 30 19:31:06.7±1.0, 61°48N±0°02×150°05W±0°02, h32km±9km, n127, σ0°64/128, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.28 353			Pb	19 31 13.9	-0.1
M22K					Sn	19 31 20.4	+0.8
M22K	Willow	0.28 353		P	Pb	19 31 13.9	-0.1
	baz=174						
M22K				S	Sn	19 31 20.4	+0.8
	baz=174						
SUA	Susitna One	0.34 267			Pb	19 31 15.0	0.0
SUA					Sn	19 31 21.9	+0.6
SUA	Susitna One	0.34 267		P	Pb	19 31 15.1	+0.2
	baz=87						
SUA				S	Sn	19 31 22.0	+0.7
	baz=87						
RC01	Rabbit Creek A	0.42 159			Pb	19 31 15.5	-0.5
RC01					Sn	19 31 23.1	0.0
RC01	Rabbit Creek A	0.42 159		IAML		19 31 23.5	
	comp=E,4μm,0.2s						
RC01	Rabbit Creek A	0.42 159		P	Pb	19 31 15.5	-0.5
	baz=339						
RC01				S	Sn	19 31 23.1	0.0
	baz=339						
GHO	Glory Hole Cre	0.61 61			Pb	19 31 18.1	-1.0
GHO	Glory Hole Cre	0.61 61			Sb	19 31 27.6	+0.1
GHO	Glory Hole Cre	0.61 61		IAML		19 31 28.5	
	comp=N,4μm,0.5s						
GHO				IAML		19 31 29.2	
	comp=E,3μm,0.5s						
KNK	Knik Glacier	0.77 94			Pn	19 31 20.6	-0.7
KNK					Sn	19 31 32.1	+0.3
KNK				IAML		19 31 34.8	
	comp=E,5μm,0.4s						
KNK	Knik Glacier	0.77 94		P	Pn	19 31 20.7	-0.7
	baz=276						
STLK	Strandline Lak	0.86 272			Pn	19 31 21.9	-0.7
STLK					Sn	19 31 33.9	-0.2
SKT	Skwentna	0.87 306			Pn	19 31 21.4	-1.2
SKT					Sn	19 31 33.4	-0.8
SKT				IAML		19 31 33.8	
	comp=E,3μm,0.4s						
SKT				IAML		19 31 33.8	
	comp=N,4μm,0.3s						
SKT	Skwentna	0.87 306		P	Pn	19 31 21.5	-1.2
	baz=125						
SKT				S	Sn	19 31 33.4	-0.8
	baz=125						
SML	Sawmill	0.88 67			Pn	19 31 21.7	-1.2
SML				Sn	Sn	19 31 34.3	-0.4
SML				IAML		19 31 37.5	
	comp=E,2μm,0.8s						
SML				IAML		19 31 38.1	
	comp=N,2μm,0.4s						
SML	Sawmill	0.88 67		P	Pn	19 31 21.8	-1.2
	baz=249						
CAPN	Captain Cook N	0.90 217		Pn	Pn	19 31 23.4	+0.4
CAPN				IAML		19 31 44.7	
	comp=E,3μm,0.6s						
CUT	Chulitna	0.93 354	

SPCR	**Spurr Chakacha**	**1.08 256**	P	**Pn**	**19 31 25.0**	**-0.7**
	baz=74					
M23K	**Glacier View**	**1.15 73**		**Pn**	**19 31 25.9**	**-0.7**
M23K	**Glacier View**	**1.15 73**	P	**Pn**	**19 31 25.9**	**-0.7**
	baz=255					
SCM	**Sheep Creek Mo**	**1.34 74**		**Pn**	**19 31 29.1**	**-0.2**
SCM	**Sheep Creek Mo**	**1.34 74**	P	**Pn**	**19 31 29.1**	**-0.2**
	baz=256					
RDT	**Redoubt**	**1.47 233**		**Pn**	**19 31 30.4**	**-0.6**
WAT7	**Susitna Watana**	**1.47 22**		**Pn**	**19 31 30.8**	**-0.3**
M20K	**Styx River**	**1.52 287**		**Pn**	**19 31 32.2**	**+0.4**
M20K	**Styx River**	**1.52 287**	IAML		19 31 53.9	
	comp=N,599nm,1.0s					
M20K			IAML		19 31 54.5	
	comp=E,793nm,0.7s					
M20K	**Styx River**	**1.52 287**	P	**Pn**	**19 31 32.2**	**+0.4**
	baz=104					
WAT1	**Susitna Watana**	**1.52 27**		**Pn**	**19 31 31.5**	**-0.2**
WAT1	**Susitna Watana**	**1.52 27**	P	**Pn**	**19 31 31.5**	**-0.2**
	baz=208					
WAT6	**Susitna Watana**	**1.55 44**		**Pn**	**19 31 32.1**	**-0.1**
WAT6	**Susitna Watana**	**1.55 44**	P	**Pn**	**19 31 32.1**	**-0.1**
	baz=226					
GLI	**Glacier Island**	**1.55 112**		**Pn**	**19 31 31.2**	**-0.9**
GLI			IAML		19 31 55.7	
	comp=N,953nm,0.8s					
GLI	**Glacier Island**	**1.55 112**	P	**Pn**	**19 31 31.3**	**-0.7**
	baz=294					
RDJH	**Redoubt Jeurge**	**1.61 238**		**Pn**	**19 31 32.6**	**-0.4**
RDSO	**Redoubt South**	**1.67 233**		**Pn**	**19 31 33.5**	**-0.3**
RDWB	**Redoubt West**	**1.69 235**		**Pn**	**19 31 33.7**	**-0.4**
RED	**Redoubt Volcan**	**1.71 232**		**Pn**	**19 31 33.8**	**-0.4**
PPLA	**Purkeypile**	**1.74 326**		**Pn**	**19 31 34.7**	**-0.1**
PPLA	**Purkeypile**	**1.74 326**	P	**Pn**	**19 31 35.0**	**+0.2**
	baz=144					
BRSE	**Bradley Lake S**	**1.78 191**		**Pn**	**19 31 34.6**	**-0.6**
BRSE	**Bradley Lake S**	**1.78 191**	P	**Pn**	**19 31 34.6**	**-0.6**
	baz=11					
FID	**Port Fidalgo**	**1.88 111**		**Pn**	**19 31 35.7**	**-0.9**
FID			IAML		19 32 03.0	
	comp=E,712nm,0.4s					
FID			IAML		19 32 07.4	
	comp=N,676nm,0.4s					
O20K	**Slope Mountain**	**1.89 223**		**Pn**	**19 31 37.2**	**+0.4**
O20K	**Slope Mountain**	**1.89 223**	P	**Pn**	**19 31 37.2**	**+0.4**
	baz=41					
M24K	**Tolsona, Glenn**	**1.94 69**		**Pn**	**19 31 38.4**	**+0.8**
M24K	**Tolsona, Glenn**	**1.94 69**	P	**Pn**	**19 31 38.3**	**+0.8**
	baz=253					
KLU	**Klutina**	**1.98 88**		**Pn**	**19 31 37.7**	**-0.3**
KLU	**Klutina**	**1.98 88**	IAML		19 32 06.0	
	comp=E,482nm,0.4s					
KLU	**Klutina**	**1.98 88**	P	**Pn**	**19 31 37.7**	**-0.3**
	baz=271					
TRF	**Thorofare Moun**	**1.98 357**		**Pn**	**19 31 38.3**	**+0.2**
TRF	**Thorofare Moun**	**1.98 357**	IAML		19 32 06.1	
	comp=E,459nm,0.3s					
TRF			IAML		19 32 14.9	
	comp=N,623nm,0.7s					
TRF	**Thorofare Moun**	**1.98 357**	P	**Pn**	**19 31 38.3**	**+0.2**
	baz=177					
RND	**Reindeer**	**2.01 15**		**Pn**	**19 31 38.7**	**+0.3**
RND			IAML		19 32 15.2	
	comp=N,376nm,0.7s					
RND			IAML		19 32 15.5	
	comp=E,313nm,0.5s					
DHY	**Denali Highway**	**2.03 37**		**Pn**	**19 31 38.9**	**+0.1**
DHY			IAML		19 32 07.5	
	comp=N,422nm,0.5s					
DHY			IAML		19 32 09.2	
	comp=E,649nm,0.5s					
DHY	**Denali Highway**	**2.03 37**	P	**Pn**	**19 31 39.0**	**+0.1**
	baz=219					
HIN	**Hinchinbrook I**	**2.04 121**		**Pn**	**19 31 38.1**	**-0.7**
HIN	**Hinchinbrook I**	**2.04 121**	IAML		19 32 13.7	
	comp=N,604nm,0.7s					
HIN			IAML		19 32 14.7	
	comp=E,799nm,0.6s					
CNPM	**China Poot**	**2.05 197**		**Pn**	**19 31 38.5**	**-0.4**
CNPM	**China Poot**	**2.05 197**	IAML		19 32 07.8	
	comp=E,927nm,0.6s					
CNPM			IAML		19 32 11.2	
	comp=N,786nm,0.4s					
L20K	**Farewell, AK**	**2.07 301**		**Pn**	**19 31 39.5**	**+0.3**
L20K	**Farewell, AK**	**2.07 301**	P	**Pn**	**19 31 39.5**	**+0.3**
	baz=117					
M19K	**Big River Lodg**	**2.11 283**		**Pn**	**19 31 39.8**	**0.0**
M19K	**Big River Lodg**	**2.11 283**	P	**Pn**	**19 31 39.8**	**0.0**
	baz=100					
KTH	**Kantishna Hill**	**2.12 349**		**Pn**	**19 31 40.4**	**+0.5**
KTH			IAML		19 32 08.2	
	comp=N,545nm,0.6s					
KTH			IAML		19 32 08.3	
	comp=E,555nm,0.6s					
ILS	**Iliamna Low So**	**2.13 226**		**Pn**	**19 31 40.2**	**+0.1**
ILSW	**Iliamna Southw**	**2.14 227**		**Pn**	**19 31 40.6**	**+0.4**
ILSW	**Iliamna Southw**	**2.14 227**	IAML		19 32 27.2	
	comp=N,319nm,0.9s					
CAST	**Castle Rocks**	**2.16 335**		**Pn**	**19 31 41.0**	**+0.5**
CAST	**Castle Rocks**	**2.16 335**	IAML		19 32 21.2	
	comp=E,348nm,0.8s					
CAST	**Castle Rocks**	**2.16 335**	P	**Pn**	**19 31 41.0**	**+0.5**
	baz=153					
N19K	**Bonanza Creek**	**2.25 255**		**Pn**	**19 31 41.8**	**0.0**
N19K	**Bonanza Creek**	**2.25 255**	P	**Pn**	**19 31 41.8**	**0.0**
	baz=71					
MCK	**McKinley**	**2.32 12**		**Pn**	**19 31 43.5**	**+0.9**
MCK	**McKinley**	**2.32 12**	P	**Pn**	**19 31 43.5**	**+0.9**
	baz=193					
L19K	**White Mountain**	**2.39 289**		**Pn**	**19 31 43.7**	**+0.1**
L19K	**White Mountain**	**2.39 289**	IAML		19 32 25.1	
	comp=N,218nm,0.7s					
L19K	**White Mountain**	**2.39 289**	P	**Pn**	**19 31 43.7**	**+0.1**
	baz=105					
OPT	**Oil Point**	**2.42 222**		**Pn**	**19 31 45.0**	**+1.0**
OPT	**Oil Point**	**2.42 222**	P	**Pn**	**19 31 45.0**	**+1.0**
	baz=39					
P19K	**Oil Pt**	**2.42 222**		**Pn**	**19 31 44.8**	**+0.9**
P19K	**Oil Pt**	**2.42 222**	P	**Pn**	**19 31 44.8**	**+0.9**
	baz=39					
HARP	**HAARP**	**2.49 66**		**Pn**	**19 31 46.3**	**+1.3**
HARP	**HAARP**	**2.49 66**	P	**Pn**	**19 31 46.3**	**+1.3**
	baz=250					
N25K	**Chitina, Valde**	**2.61 85**		**Pn**	**19 31 47.5**	**+0.8**
N25K	**Chitina, Valde**	**2.61 85**	IAML		19 32 27.0	
	comp=N,402nm,0.5s					
N25K			IAML		19 32 30.8	
	comp=E,271nm,0.5s					
N25K	**Chitina, Valde**	**2.61 85**	P	**Pn**	**19 31 47.5**	**+0.8**
	baz=270					
PAX	**Paxson**	**2.61 53**		**Pn**	**19 31 48.2**	**+1.5**
PAX	**Paxson**	**2.61 53**	P	**Pn**	**19 31 47.6**	**+0.8**
	baz=237					
CHUM	**Lake Minchumin**	**2.63 338**		**Pn**	**19 31 46.8**	**-0.1**
CHUM	**Lake Minchumin**	**2.63 338**	P	**Pn**	**19 31 46.8**	**-0.1**
	baz=156					
K20K	**Telida**	**2.66 317**		**Pn**	**19 31 47.1**	**-0.1**
K20K	**Telida**	**2.66 317**	P	**Pn**	**19 31 47.1**	**-0.1**
	baz=134					
BPAW	**Bear Paw Mtn.**	**2.66 351**		**Pn**	**19 31 47.0**	**-0.3**
BPAW			IAML		19 32 19.6	
	comp=E,198nm,0.5s					
BPAW			IAML		19 32 33.2	
	comp=N,179nm,0.7s					
BPAW	**Bear Paw Mtn.**	**2.66 351**	P	**Pn**	**19 31 47.2**	**-0.2**
	baz=170					
SVW2	**Sparrevohn**	**2.70 264**		**Pn**	**19 31 47.2**	**-0.7**
AUCH	**Augustine Cone**	**2.71 220**		**Pn**	**19 31 48.7**	**+0.6**
Q23K	**Middleton Isla**	**2.75 137**	Pn	**Pn**	**19 31 49.6**	**+1.1**
Q23K			IAML		19 32 40.1	
	comp=E,175nm,1.0s					
WACK	**Wrangell Chich**	**2.77 77**		**Pn**	**19 31 49.4**	**+0.4**
M18K	**Stony River**	**2.77 273**		**Pn**	**19 31 48.8**	**0.0**
M18K	**Stony River**	**2.77 273**	P	**Pn**	**19 31 48.8**	**0.0**
	baz=88					
N18K	**Kilae Creek**	**2.95 257**		**Pn**	**19 31 50.9**	**-0.4**
N18K	**Kilae Creek**	**2.95 257**	P	**Pn**	**19 31 50.9**	**-0.4**
	baz=72					
GLB	**Gilahina Butte**	**2.99 88**	Pn	**Pn**	**19 31 53.7**	**+1.7**
GLB			IAML		19 32 38.9	
	comp=E,172nm,0.6s					
TTA	**Tatalina**	**3.15 300**		**Pn**	**19 31 53.8**	**-0.3**
TTA	**Tatalina**	**3.15 300**	P	**Pn**	**19 31 53.8**	**-0.3**
	baz=115					
NEA2	**Nenana**	**3.15 8**		**Pn**	**19 31 53.9**	**-0.2**
NEA2	**Nenana**	**3.15 8**	IAML		19 32 48.1	
	comp=E,131nm,1.0s					
NEA2	**Nenana**	**3.15 8**	P	**Pn**	**19 31 53.9**	**-0.2**
	baz=189					
L18K	**Granite Mounta**	**3.23 286**		**Pn**	**19 31 55.1**	**-0.1**
L18K	**Granite Mounta**	**3.23 286**	IAML		19 32 54.7	
	comp=N,117nm,0.8s					
L18K	**Granite Mounta**	**3.23 286**	P	**Pn**	**19 31 55.1**	**-0.1**
	baz=100					

*NEIC **30** 19:32:31.4±1.6, 43°.54N±0°.06×105°.36W±0°.09, h0km±1km, ML3.4/68, Error ellipse: s-maj=13.9km s-min=4.0km az=228.0*
*IDC **30** 19:32:33.6±2.0, 43°.76N×105°.68W, h0km, mbtmp3.5/2, ML3.2/2, Error ellipse: s-maj=50.2km s-min=10.4km az=149.0*

ISC 30 19:32:31.5±1.2, 43°.57N±0°.06×105°.30W±0°.06, h0km, n45, σ1§16/44, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.07**	**58**	Pg	**Pn**	**19 32 53.5**	**-0.5**
RSSD				IAML		19 33 16.3	
	170nm,0.8s						
RSSD				IAML		19 33 16.4	
	183nm,0.8s						
K22A	**Casper**	**1.28**	**225**		**Pg**	**19 32 55.3**	**-0.8**
N23A	**Red Feather La**	**2.71**	**190**		**Pn**	**19 33 18.4**	**+1.7**
N23A				IAML		19 33 57.7	
	comp=N,147nm,0.8s						
N23A				IAML		19 34 03.9	
	comp=E,109nm,0.9s						
BRIGG	**Briggsdale**	**3.07**	**166**	Pn	**Pn**	**19 33 21.4**	**-0.1**
BRIGG				IAML		19 34 17.1	
	comp=N,104nm,1.7s						
BRIGG				IAML		19 35 22.7	
	comp=E,165nm,0.1s						
LAO	**LASA Array**	**3.19**	**348**		**Pn**	**19 33 23.7**	**+0.7**
PD31	**Pinedale Array**	**3.22**	**257**	Pn	**Pn**	**19 33 24.6**	**+1.1**
PDAR	**Pinedale Array**	**3.22**	**257**	Pn	**Pn**	**19 33 24.8**	**+1.2**
PDAR	**Pinedale Array**	**3.22**	**257**	Pn	**Pn**	**19 33 26.5**	**+2.9**
	comp=E,2.6nm,0.3s,baz=73,slow=18,SNR=21						
PDAR				Lg	Lg	19 34 06.5	
	comp=E,5.8nm,0.3s,baz=72,slow=35,SNR=4.3						
	comp=E,2.5nm,0.3s						
RLMT	**Red Lodge**	**3.25**	**300**	Pn	**Pn**	**19 33 25.5**	**+1.6**
OGNE	**Ogallala**	**3.57**	**136**	Pn	**Pn**	**19 33 30.4**	**+2.2**
OGNE				IAML		19 34 45.1	
	comp=E,107nm,0.8s						
YNE	**Yellowstone No**	**3.68**	**295**	Pn	**Pn**	**19 33 30.8**	**+0.9**
YNE				IAML		19 34 35.0	
	comp=E,47nm,0.7s						
YMP	**Mirror Lake Pl**	**3.69**	**290**	Pn	**Pn**	**19 33 31.0**	**+0.9**
YMP				IAML		19 34 32.6	
	comp=E,81nm,0.7s						
ISCO	**Idaho Springs**	**3.77**	**184**		**Pn**	**19 33 32.5**	**+1.2**
LKWY	**Lake**	**3.81**	**287**	Pn	**Pn**	**19 33 32.1**	**+0.4**
LKWY				IAML		19 34 50.6	
	comp=E,43nm,4.8s						
LKWY				IAML		19 34 59.6	
	comp=E,52nm,4.1s						
GCMT	**Greycliff**	**3.83**	**307**	Pn	**Pn**	**19 33 33.0**	**+1.2**
LOHW	**Long Hollow**	**3.85**	**273**	Pn	**Pn**	**19 33 33.1**	**+0.8**
H17A	**Grant Village**	**3.90**	**284**		**Pn**	**19 33 33.1**	**+0.2**
H17A				IAML		19 34 40.3	
	comp=N,48nm,2.4s						
FLWY	**Flagg Ranch**	**3.94**	**279**	Pn	**Pn**	**19 33 34.0**	**+0.5**
FLWY				IAML		19 34 47.4	
	comp=N,56nm,2.3s						
MOOW	**Moose Ponds**	**3.96**	**275**	Pn	**Pn**	**19 33 34.5**	**+0.8**
SNOW	**Snow King Moun**	**3.97**	**270**	Pn	**Pn**	**19 33 33.8**	**-0.2**
SNOW				IAML		19 34 43.8	
	comp=N,61nm,0.8s						
SNOW				IAML		19 34 55.1	
	comp=N,71nm,1.9s						
FXWY	**Fox Creek**	**4.16**	**273**	Pn	**Pn**	**19 33 38.8**	**+2.2**
YHH	**Holmes Hill**	**4.18**	**289**	Pn	**Pn**	**19 33 38.2**	**+1.4**
YMR	**Madison River**	**4.23**	**287**	Pn	**Pn**	**19 33 39.0**	**+1.6**
YMR				IAML		19 35 16.8	
	comp=E,62nm,0.9s						
YMR				IAML		19 35 26.0	
	comp=N,47nm,1.1s						
K30B	**Basset**	**4.26**	**100**	Pn	**Pn**	**19 33 38.4**	**+0.7**
AHID	**Auburn Hatcher**	**4.32**	**261**		**Pn**	**19 33 39.9**	**+1.2**
AHID				IAML		19 35 00.5	
	comp=N,38nm,1.8s						
RDMU	**Red Mountain**	**4.37**	**228**	Pn	**Pn**	**19 33 40.1**	**+0.8**
RDMU				IAML		19 34 57.6	
	comp=N,29nm,1.7s						
RDMU				IAML		19 35 24.2	
	comp=E,33nm,1.7s						
YHL	**Hebgen Lake**	**4.42**	**289**	Pn	**Pn**	**19 33 41.8**	**+1.6**
YHL				IAML		19 35 03.8	
	comp=N,46nm,1.4s						
YHL				IAML		19 35 05.9	
	comp=E,41nm,0.8s						
BOZ	**Bozeman (W)**	**4.96**	**296**		**Pn**	**19 33 46.9**	**-0.5**
BOZ				IAML		19 35 14.3	
	comp=E,27nm,3.6s						
BOZ				IAML		19 35 14.3	
	comp=E,26nm,4.3s						
DGMT	**Dagmar**	**4.96**	**9**	Pn	**Pn**	**19 33 47.5**	**+0.2**
KSCO	**Kaye Shedlock'**	**4.97**	**155**	Pn	**Pn**	**19 33 49.1**	**+1.5**
HWUT	**Hardware Ranch**	**5.02**	**249**		**Pn**	**19 33 48.8**	**+0.4**
HWUT				IAML		19 35 26.9	
	comp=E,30nm,3.4s						
HWUT				IAML		19 35 31.7	
	comp=E,28nm,0.9s						
BSUT	**Blindstream Ca**	**5.07**	**235**	Pn	**Pn**	**19 33 50.7**	**+1.6**
BSUT				IAML		19 35 22.6	
	comp=N,19nm,3.5s						
BSUT				IAML		19 35 44.9	
	comp=E,24nm,4.2s						
TCUT	**Toone Canyon**	**5.15**	**244**		**Pn**	**19 33 50.6**	**+0.6**
P18A	**Preston Nutter**	**5.41**	**225**	Pn	**Pn**	**19 33 54.8**	**+1.1**
JLU	**Jordanelle**	**5.45**	**239**	Pn	**Pn**	**19 33 54.5**	**+0.2**
JLU				IAML		19 35 42.6	
	comp=E,19nm,3.7s						
JLU				IAML		19 36 33.0	
	comp=N,21nm,5.0s						
CTU	**Camp Tracy**	**5.59**	**241**	Pn	**Pn**	**19 33 56.7**	**+0.5**
BGNE	**Belgrade**	**5.71**	**110**	Pn	**Pn**	**19 33 58.3**	**+0.7**
SPUT	**South Promonto**	**5.75**	**249**	Pn	**Pn**	**19 33 58.0**	**-0.3**
HVU	**Hansel Valley**	**5.79**	**255**	Pn	**Pn**	**19 33 58.3**	**-0.6**
MDND	**Maddock**	**5.85**	**41**		**Pn**	**19 33 59.9**	**+0.4**
PV10	**Paradox Valley**	**5.91**	**210**	Pn	**Pn**	**19 34 02.1**	**+1.6**
SRU	**San Rafael Swe**	**5.94**	**223**	Pn	**Pn**	**19 34 00.8**	**-0.1**
OVMT	**Ovando**	**6.46**	**305**	Pn	**Pn**	**19 34 08.0**	**0.0**
I10CA	**LAC DU BONNET**	**9.18**	**40**	I	I	20 28 20.0	
	baz=221,slow=333,SNR=1.0						
ULM	**Lac du Bonnet**	**9.28**	**41**	Pn	**Pn**	**19 34 46.1**	**-0.5**
	comp=N,0.5nm,0.3s,baz=231,slow=9.9,SNR=1.6						
ULM				Lg	Lg	19 37 23.2	
	comp=N,0.3nm,0.3s,baz=346,slow=4.8,SNR=4.4						
	comp=N,1.7nm,0.4s						

SKO 30 19:35:31.2, 41°.26N×22°.42E, h18km, ML0.7, 1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.13**	**62**	⇓*i*Pg	Pg	19 35 35.0	-0.1
VAY				*i* Sg	Sb	19 35 37.1	-0.1
VAY				*e*Lg	Lg	19 35 37.2	
	comp=E,79nm,0.4s						
VAY				*e*Lg	Lg	19 35 37.2	
	comp=N,36nm,0.5s						
KNT	**Kendrikon**	**0.37**	**105**	⇑*i*Pg	Pg	19 35 39.0	0.0
KNT				*i* Sg	Sg	19 35 43.8	-0.5
PEHC	**Pehcevo**	**0.63**	**35**	*e*Pg	Pb	19 35 43.7	0.0
PEHC				*i* Sg	Sb	19 35 52.7	+0.4
PEHC				*e*Lg	Lg	19 35 52.9	
	comp=E,2.6nm,0.4s						
PEHC				*e*Lg	Lg	19 35 54.0	
	comp=N,2.7nm,0.4s						
SOH	**Sokhos**	**0.83**	**121**	*e*Pg	Pb	19 35 47.2	+0.1
SOH				*i* Sg	Sg	19 35 58.2	-0.2

*IDC **30** 19:39:12.7±1.4, 61°.36N×150°.56W, h62km±14km, mb3.5/12, mbtmp3.7/17, Error ellipse: s-maj=17.6km s-min=9.7km az=107.0*
*NEIC **30** 19:39:13.5±1.2, 61°.37N±0°.04×150°.04W±0°.05, h42km±5km, Error ellipse: s-maj=5.5km s-min=3.1km az=196.0*
*AEIC **30** 19:39:14.2±1.5, 61°.39N±0°.04×150°.05W±0°.07, h39km±4km, ML3.5, ML3.6/158(NEIC), Error ellipse: s-maj=5.5km s-min=5.0km az=198.0*

ISC 30 19:39:12.6±0.7, 61°.38N±0°.02×150°.05W±0°.02, h48km±5km, n249, σ1§23/233, mb3.8/12, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.33 153**			**Pn**	**19 39 21.8**	**-0.1**
RC01	**Rabbit Creek A**	**0.33 153**			**Sn**	**19 39 29.1**	**+0.7**
RC01	**Rabbit Creek A**	**0.33 153**	IAML			19 39 29.3	
	comp=E,5μm,0.5s						
RC01			IAML			19 39 32.3	
	comp=N,6μm,0.3s						
RC01	**Rabbit Creek A**	**0.33 153**	P		**Pn**	**19 39 22.0**	**+0.2**
	baz=334						
RC01			S		**Sn**	**19 39 29.1**	**+0.7**
	baz=334						
SUA	**Susitna One**	**0.35 284**			**Pn**	**19 39 22.4**	**+0.2**
SUA					**Sn**	**19 39 29.9**	**+1.0**
SUA	**Susitna One**	**0.35 284**	IAML			19 39 30.5	
	comp=N,4μm,0.7s						
SUA			IAML			19 39 30.8	
	comp=E,10μm,0.8s						
SUA	**Susitna One**	**0.35 284**	P		**Pn**	**19 39 22.4**	**+0.2**
	baz=103						
SUA			S		**Sn**	**19 39 29.9**	**+1.0**
	baz=103						
M22K	**Willow**	**0.37 355**			**Pn**	**19 39 21.8**	**-0.4**
M22K	**Willow**	**0.37 355**			**Sn**	**19 39 29.6**	**+0.6**
M22K	**Willow**	**0.37 355**	IAML			19 39 30.0	
	comp=N,18μm,0.7s						
M22K			IAML			19 39 34.3	
	comp=E,10μm,0.4s						
M22K	**Willow**	**0.37 355**	P		**Pn**	**19 39 22.1**	**-0.2**
	baz=174						
M22K			S		**Sn**	**19 39 29.7**	**+0.6**
	baz=174						
PMR	**Palmer**	**0.49 64**			**Pn**	**19 39 23.2**	**-0.3**
PMR	**Palmer**	**0.49 64**			**Sn**	**19 39 31.3**	**0.0**
PMR	**Palmer**	**0.49 64**	IAML			19 39 31.7	
	comp=N,3μm,0.4s						
PMR			IAML			19 39 32.3	
	comp=E,5μm,0.4s						
PMR	**Palmer**	**0.49 64**	P		**Pn**	**19 39 23.2**	**-0.3**
	baz=245						
PMR			S		**Sn**	**19 39 31.3**	**0.0**
	baz=245						
PMR	**Palmer**	**0.49 64**	P		**Pn**	**19 39 23.2**	**-0.3**
GHO	**Glory Hole Cre**	**0.66 53**			**Pn**	**19 39 26.0**	**+0.1**
GHO					**Sn**	**19 39 36.0**	**+0.6**
GHO	**Glory Hole Cre**	**0.66 53**	IAML			19 39 36.8	
	comp=N,4μm,0.4s						
KNK	**Knik Glacier**	**0.76 87**			**Pn**	**19 39 27.4**	**+0.3**
KNK					**Sn**	**19 39 39.5**	**+1.8**
KNK	**Knik Glacier**	**0.76 87**	IAML			19 39 40.3	
	comp=E,3μm,0.4s						
KNK			IAML			19 39 40.4	
	comp=N,4μm,0.6s						
KNK	**Knik Glacier**	**0.76 87**	P		**Pn**	**19 39 27.4**	**+0.3**
	baz=269						
KNK			S		**Sn**	**19 39 39.4**	**+1.8**
	baz=269						
CAPN	**Captain Cook N**	**0.82 222**			**Pn**	**19 39 29.8**	**+2.0**
STLK	**Strandline Lak**	**0.87 278**			**Pn**	**19 39 29.3**	**+0.8**
STLK					**Sn**	**19 39 41.4**	**+1.3**
SLKM	**Skilak Lake**	**0.88 186**			**Pn**	**19 39 28.9**	**+0.1**
O22K	**Cooper Landing**	**0.92 170**			**Pn**	**19 39 29.7**	**+0.5**
O22K	**Cooper Landing**	**0.92 170**	P		**Pn**	**19 39 29.7**	**+0.5**
	baz=350						
SML	**Sawmill**	**0.92 62**	P		**Pn**	**19 39 29.3**	**0.0**
	baz=244						
SKT	**Skwentna**	**0.93 311**			**Sn**	**19 39 42.5**	**+0.9**
SKT	**Skwentna**	**0.93 311**			**Pn**	**19 39 29.4**	**+0.1**
SKT	**Skwentna**	**0.93 311**	IAML			19 39 42.8	
	comp=N,3μm,0.5s						
SKT			IAML			19 39 43.0	
	comp=E,3μm,0.4s						
SKT	**Skwentna**	**0.93 311**	P		**Pn**	**19 39 29.5**	**+0.1**
	baz=129						
SKT			S		**Sn**	**19 39 42.5**	**+0.9**
	baz=129						
SPCG	**Spurr Capps Gl**	**0.96 265**			**Pn**	**19 39 30.7**	**+0.9**
SPCG					**Sn**	**19 39 44.0**	**+1.6**
PWL	**Port Wells**	**0.98 122**			**Pn**	**19 39 30.5**	**+0.5**
PWL	**Port Wells**	**0.98 122**			**Sn**	**19 39 44.2**	**+1.3**
PWL	**Port Wells**	**0.98 122**	P		**Pn**	**19 39 30.5**	**+0.5**
	baz=303						
PWL			S		**Sn**	**19 39 44.2**	**+1.3**
	baz=303						
SPCP	**Crater Peak Br**	**1.02 264**			**Pn**	**19 39 31.5**	**+0.8**
CUT	**Chulitna**	**1.03 354**			**Pn**	**19 39 31.1**	**+0.4**
CUT	**Chulitna**	**1.03 354**	P		**Pn**	**19 39 31.1**	**+0.4**
	baz=174						
SPCN	**Chakachatna No**	**1.04 262**			**Pn**	**19 39 31.7**	**+0.8**
N20K	**Mount Spurr**	**1.06 261**	P		**Pn**	**19 39 31.7**	**+0.6**
	baz=79						
SPCR	**Spurr Chakacha**	**1.06 261**			**Pn**	**19 39 31.8**	**+0.6**
SPCR					**Sn**	**19 39 46.3**	**+1.5**
SPCR	**Spurr Chakacha**	**1.06 261**			**Pn**	**19 39 31.7**	**+0.6**
SPCR	**Spurr Chakacha**	**1.06 261**	P		**Pn**	**19 39 31.8**	**+0.6**
	baz=79						
SPCR			S		**Sn**	**19 39 46.3**	**+1.5**
	baz=79						
M23K	**Glacier View**	**1.18 69**			**Pn**	**19 39 33.3**	**+0.6**
M23K					**Sn**	**19 39 49.3**	**+1.6**
M23K	**Glacier View**	**1.18 69**	P		**Pn**	**19 39 33.3**	**+0.6**
	baz=251						
M23K			S		**Sn**	**19 39 49.3**	**+1.6**
	baz=251						
SCM	**Sheep Creek Mo**	**1.38 70**			**Pn**	**19 39 36.1**	**+0.6**
SCM	**Sheep Creek Mo**	**1.38 70**	P		**Pn**	**19 39 36.1**	**+0.6**
	baz=252						
RDT	**Redoubt**	**1.41 236**			**Pn**	**19 39 36.4**	**+0.5**
RDT					**Sn**	**19 39 55.1**	**+1.8**
GLI	**Glacier Island**	**1.52 108**			**Pn**	**19 39 37.2**	**-0.1**
GLI			IAML			19 39 57.2	
	comp=N,1μm,0.5s						
GLI	**Glacier Island**	**1.52 108**	P		**Pn**	**19 39 37.4**	**+0.1**
	baz=291						
M20K	**Styx River**	**1.56 290**			**Pn**	**19 39 39.4**	**+1.5**
M20K	**Styx River**	**1.56 290**	IAML			19 40 00.7	
	comp=E,872nm,0.8s						
M20K			IAML			19 40 01.0	
	comp=N,813nm,0.8s						
M20K	**Styx River**	**1.56 290**	P		**Pn**	**19 39 39.4**	**+1.5**
	baz=107						
WAT7	**Susitna

M24K	Tolsona, Glenn	1.98 67	P	Pn	19 39 45.2 +1.5
	baz=250				
KLU	Klutina	1.98 85		Pn	19 39 44.0 +0.3
KLU			IAML		19 40 18.8
	comp=N,644nm,0.4s				
KLU			IAML		19 40 19.8
	comp=E,357nm,0.5s				
KLU	Klutina	1.98 85	P	Pn	19 39 44.4 +0.6
	baz=269				
HIN	Hinchinbrook I	2.00 118		Pn	19 39 42.5 -1.3
HIN			IAML		19 40 16.6
	comp=N,788nm,0.5s				
IVE	Iliamna Volcan	2.00 228		Pn	19 39 45.1 +1.1
ILS	Iliamna Low So	2.06 227		Pn	19 39 45.8 +0.9
ILSW	Iliamna Southw	2.07 229		Pn	19 39 46.0 +1.0
ILSW			IAML		19 40 15.5
	comp=E,524nm,0.7s				
DIV	Divide	2.08 95		Pn	19 39 45.3 +0.2
RND	Reindeer	2.10 15		Pn	19 39 47.2 +1.8
RND			IAML		19 40 24.0
	comp=N,324nm,0.7s				
RND			IAML		19 40 24.9
	comp=E,380nm,0.9s				
DHY	Denali Highway	2.11 35		Pn	19 39 46.4 +0.9
DHY			IAML		19 40 15.5
	comp=E,544nm,0.7s				
DHY			IAML		19 40 18.3
	comp=N,512nm,0.6s				
DHY	Denali Highway	2.11 35	P	Pn	19 39 47.0 +1.5
	baz=218				
L20K	Farewell, AK	2.12 303		Pn	19 39 46.5 +1.0
L20K	Farewell, AK	2.12 303	P	Pn	19 39 46.5 +1.0
	baz=120				
M19K	Big River Lodg	2.14 286		Pn	19 39 46.8 +1.0
M19K	Big River Lodg	2.14 286	P	Pn	19 39 46.8 +1.0
	baz=102				
KTH	Kantishna Hill	2.22 350		Pn	19 39 48.6 +1.7
KTH			IAML		19 40 17.1
	comp=N,345nm,0.6s				
N19K	Bonanza Creek	2.23 257		Pn	19 39 48.1 +0.9
N19K	Bonanza Creek	2.23 257	IAML		19 40 31.8
	comp=N,270nm,0.7s				
N19K	Bonanza Creek	2.23 257	P	Pn	19 39 48.1 +0.9
	baz=73				
CAST	Castle Rocks	2.25 336		Pn	19 39 48.5 +1.1
CAST	Castle Rocks	2.25 336	P	Pn	19 39 48.2 +0.8
	baz=154				
EYAK	Cordova Ski Ar	2.26 110		Pn	19 39 49.7 +2.4
EYAK	Cordova Ski Ar	2.26 110	P	Pn	19 39 49.7 +2.4
	baz=294				
EYAK	Cordova Ski Ar	2.26 110	P	Pn	19 39 49.8 +2.4
OPT	Oil Point	2.34 224		Pn	19 39 50.4 +1.7
OPT	Oil Point	2.34 224	P	Pn	19 39 50.4 +1.7
	baz=41				
P19K	Oil Pt	2.34 224		Pn	19 39 49.9 +1.2
P19K	Oil Pt	2.34 224	P	Pn	19 39 50.5 +1.8
	baz=41				
MCK	McKinley	2.41 12		Pn	19 39 51.9 +2.3
MCK	McKinley	2.41 12	P	Pn	19 39 51.9 +2.3
	baz=193				
L19K	White Mountain	2.42 291		Pn	19 39 51.1 +1.4
L19K	White Mountain	2.42 291	IAML		19 40 21.3
	comp=E,320nm,0.5s				
L19K	White Mountain	2.42 291	P	Pn	19 39 51.1 +1.4
	baz=107				
HARP	HAARP	2.53 64		Pn	19 39 54.1 +3.0
HARP	HAARP	2.53 64	P	Pn	19 39 54.1 +3.0
	baz=248				
N25K	Chitina, Valde	2.62 83		Pn	19 39 54.5 +2.0
N25K	Chitina, Valde	2.62 83	IAML		19 40 32.3
	comp=E,211nm,0.6s				
N25K			IAML		19 40 36.5
	comp=N,299nm,0.7s				
N25K	Chitina, Valde	2.62 83	P	Pn	19 39 54.5 +2.0
	baz=268				
AUCH	Augustine Cone	2.64 221		Pn	19 39 54.8 +2.0
SVW2	Sparrevohn	2.69 266		Pn	19 39 53.6 +0.2
SVW2	Sparrevohn	2.69 266	P	Pn	19 39 54.1 +0.7
CHUM	Lake Minchumin	2.72 338		Pn	19 39 54.5 +0.7
CHUM	Lake Minchumin	2.72 338	P	Pn	19 39 54.5 +0.7
	baz=156				
K20K	Telida	2.73 318		Pn	19 39 54.7 +0.8
K20K	Telida	2.73 318	IAML		19 40 48.4
	comp=E,216nm,0.8s				
K20K	Telida	2.73 318	P	Pn	19 39 54.7 +0.8
	baz=135				
BPAW	Bear Paw Mtn.	2.76 351		Pn	19 39 55.0 +0.7
BPAW	Bear Paw Mtn.	2.76 351	IAML		19 40 43.6
	comp=E,181nm,0.4s				
BPAW	Bear Paw Mtn.	2.76 351	P	Pn	19 39 55.0 +0.7
	baz=171				
M18K	Stony River	2.78 275		Pn	19 39 55.5 +0.9
M18K	Stony River	2.78 275	P	Pn	19 39 55.5 +0.9
	baz=90				
N18K	Kilae Creek	2.93 259		Pn	19 39 57.2 +0.6
N18K	Kilae Creek	2.93 259	IAML		19 40 31.6
	comp=N,176nm,0.6s				
N18K	Kilae Creek	2.93 259	P	Pn	19 39 57.2 +0.6
	baz=73				
O18K	Koktuh Hills	2.97 241	P	Pn	19 39 57.8 +0.6
	baz=57				
GLB	Gilahina Butte	3.00 86		Pn	19 40 00.8 +3.2
GLB			IAML		19 40 45.8
	comp=N,210nm,0.6s				
GLB			IAML		19 40 50.4
	comp=E,141nm,0.5s				
SYI	Shuyak Island	3.02 204		Pn	19 39 59.4 +1.6
SYI	Shuyak Island	3.02 204	IAML		19 40 44.8
	comp=N,175nm,0.7s				
SYI			IAML		19 40 47.9
	comp=E,145nm,0.7s				
Q20K	Shuyak Island	3.02 204	P	Pn	19 39 59.4 +1.5
	baz=22				
VRDI	Verde Repeater	3.19 90		Pn	19 39 59.1 -1.2
TTA	Tatalina	3.20 302	Pn	Pn	19 40 00.5 0.0
TTA			IAML		19 41 02.7
	comp=N,117nm,0.6s				
TTA	Tatalina	3.20 302	P	Pn	19 40 01.0 +0.5
	baz=116				
WRH	Wood River Hil	3.23 15	IAML		19 40 54.5
	comp=E,171nm,1.1s				
WRH			IAML		19 40 59.9
	comp=N,126nm,1.1s				
NEA2	Nenana	3.25 7		Pn	19 40 02.8 +1.7
NEA2			IAML		19 40 56.8
	comp=N,119nm,0.8s				
P18K	Big Mountain,	3.26 234		Pn	19 40 01.8 +0.6
P18K	Big Mountain,	3.26 234	P	Pn	19 40 01.8 +0.6
	baz=50				
L18K	Granite Mounta	3.26 288		Pn	19 40 01.9 +0.7
L18K			IAML		19 41 00.7
	comp=E,130nm,0.9s				
L18K			IAML		19 41 00.7
	comp=N,154nm,0.9s				
L18K	Granite Mounta	3.26 288	P	Pn	19 40 01.8 +0.7
	baz=102				
HDA	Harding Lake	3.35 24	IAML		19 40 59.0
	comp=E,194nm,0.8s				
MENT	Mentasta	3.35 60		Pn	19 40 03.9 +1.4
J20K	Nowinta River	3.38 328	Pn	Pn	19 40 03.6 +0.9
J20K			IAML		19 40 57.8
	comp=N,125nm,0.9s				
J20K			IAML		19 41 09.2
	comp=E,130nm,0.6s				
J20K	Nowinta River	3.38 328	P	Pn	19 40 03.9 +1.2
	baz=144				
CCB	Clear Creek Bu	3.43 16	IAML		19 41 03.2
	comp=E,124nm,0.6s				
M17K	Holitna River	3.56 274		Pn	19 40 06.1 +0.8
M17K	Holitna River	3.56 274	IAML		19 40 48.2
	comp=E,184nm,0.9s				
M17K	Holitna River	3.56 274	P	Pn	19 40 06.1 +0.8
	baz=87				
N17K	Nushagak Hills	3.59 259		Pn	19 40 06.3 +0.6
N17K	Nushagak Hills	3.59 259	IAML		19 40 48.1
	comp=E,116nm,0.7s				
N17K			IAML		19 41 09.0
	comp=N,91nm,0.7s				
N17K	Nushagak Hills	3.59 259	P	Pn	19 40 06.3 +0.6
	baz=73				
COLA	College	3.64 15	P	Pn	19 40 08.6 +2.2
J19K	Poorman	3.67 318		Pn	19 40 07.5 +0.7
J19K	Poorman	3.67 318	IAML		19 41 04.9
	comp=E,88nm,0.9s				
J19K			IAML		19 41 08.3
	comp=N,96nm,0.9s				
J19K	Poorman	3.67 318	P	Pn	19 40 07.5 +0.7
	baz=133				
MLY	Manley	3.68 355		Pn	19 40 08.0 +1.1
MLY	Manley	3.68 355	P	Pn	19 40 08.0 +1.1
	baz=175				
ILAR	Eielson Array	3.69 22	P	Pn	19 40 08.8 +1.7
	comp=N,6.2nm,0.3s,baz=202,slow=14,SNR=14				
ILAR			S	Sn	19 40 53.7 +4.4
	comp=N,16nm,0.7s,baz=206,slow=23,SNR=7.3				
J18K	Innoko River	3.74 307		Pn	19 40 08.4 +0.6
J18K	Innoko River	3.74 307	P	Pn	19 40 08.4 +0.6
	baz=121				
SCRK	Sand Creek	3.82 44	Pn	Pn	19 40 10.7 +1.8
SCRK			IAML		19 41 12.1
	comp=N,119nm,0.7s				
O17K	Koliganek Bris	3.83 248		Pn	19 40 09.7 +0.7
O17K	Koliganek Bris	3.83 248	P	Pn	19 40 09.7 +0.7
	baz=62				
KDAK	Kodiak Island	3.83 201	Pn	Pn	19 40 07.2 -1.8
KDAK			IAML		19 41 11.0
	comp=N,129nm,0.7s				
KDAK			IAML		19 41 11.0
	comp=N,95nm,0.6s				
KDAK	Kodiak Island	3.83 201	P	Pn	19 40 07.9 -1.2
	comp=N,7.1nm,0.5s,baz=352,slow=12,SNR=11				
KDAK			S	Sn	19 40 50.9 -1.9
	comp=N,28nm,0.7s,baz=9.5,slow=6.1,SNR=1.7				
P17K	Kvichak River	3.87 238		Pn	19 40 10.2 +0.8
P17K	Kvichak River	3.87 238	P	Pn	19 40 10.2 +0.8
	baz=53				
I21K	Tanana	3.91 348		Pn	19 40 11.5 +1.5
I21K	Tanana	3.91 348	P	Pn	19 40 11.5 +1.5
	baz=166				
M27K	Edge Creek, AK	3.99 72	IAML		19 41 35.3
	comp=N,69nm,0.9s				
L17K	Donlin	3.99 284		Pn	19 40 11.8 +0.6
L17K	Donlin	3.99 284	P	Pn	19 40 11.8 +0.6
	baz=97				
GRNC	Granite Creek	4.08 96	IAML		19 41 31.4
	comp=N,87nm,0.7s				
K17K	Iditarod	4.11 293		Pn	19 40 13.6 +0.8
K17K	Iditarod	4.11 293	IAML		19 41 29.8
	comp=E,85nm,1.2s				
K17K			IAML		19 41 34.8
	comp=N,97nm,1.0s				
K17K	Iditarod	4.11 293	P	Pn	19 40 13.6 +0.8
	baz=105				
MESA	MESA	4.15 103	IAML		19 41 03.5
	comp=E,110nm,0.4s				
MESA			IAML		19 41 26.5
	comp=N,117nm,0.7s				
L27K	Beaver Creek,	4.20 63	IAML		19 41 25.5
	comp=N,61nm,0.9s				
BCAR	Beaver Creek A	4.22 63		Pn	19 40 16.6 +2.2
CTGM	Chitina Glacie	4.24 92		Pn	19 40 15.6 +0.9
CTGM			IAML		19 41 22.6
	comp=N,64nm,0.6s				
CNTC	Contact Creek	4.30 226		Pn	19 40 16.3 +0.8
Q17K	Contact Creek	4.30 226	P	Pn	19 40 16.3 +0.8
	baz=41				
M16K	Timber Creek	4.33 269		Pn	19 40 16.7 +0.9
M16K	Timber Creek	4.33 269	IAML		19 41 41.2
	comp=N,83nm,0.9s				
M16K	Timber Creek	4.33 269	P	Pn	19 40 16.7 +0.9
	baz=81				
N16K	Nishlik Lake	4.35 262		Pn	19 40 17.1 +0.9
N16K	Nishlik Lake	4.35 262	P	Pn	19 40 17.1 +0.9
	baz=74				
O16K	Kokwok River B	4.37 249		Pn	19 40 16.9 +0.6
O16K	Kokwok River B	4.37 249	IAML		19 41 38.4
	comp=N,61nm,1.0s				
O16K			IAML		19 41 49.8
	comp=E,58nm,1.1s				
O16K	Kokwok River B	4.37 249	P	Pn	19 40 17.0 +0.6
	baz=62				
LOGN	Logan Glacier	4.42 93	IAML		19 41 27.8
	comp=E,50nm,0.7s				
LOGN			IAML		19 41 36.4
	comp=N,55nm,0.8s				
OHAK	Old Harbor	4.49 203	P	Pn	19 40 18.2 +0.2
L16K	Owhat River	4.52 278		Pn	19 40 18.8 +0.3
L16K	Owhat River	4.52 278	IAML		19 41 44.1
	comp=N,53nm,0.8s				
L16K	Owhat River	4.52 278	P	Pn	19 40 18.8 +0.3
	baz=90				
H24K	Noodor Dome	4.58 11	IAML		19 41 39.5
	comp=N,46nm,0.8s				
H24K			IAML		19 41 42.8
	comp=E,40nm,1.1s				
P16K	Nushagak River	4.61 243		Pn	19 40 20.8 +1.1
P16K	Nushagak River	4.61 243	P	Pn	19 40 20.8 +1.1
	baz=56				
PRP	Porcupine Dome	4.62 24	IAML		19 41 21.6
	comp=N,83nm,0.7s				
PRP			IAML		19 41 38.1
	comp=E,71nm,0.8s				
J17K	VABM Dome	4.66 300		Pn	19 40 20.6 +0.3
J17K			IAML		19 41 54.6
	comp=N,38nm,0.9s				
J17K	VABM Dome	4.66 300	P	Pn	19 40 20.8 +0.4
	baz=112				
IMAR	Indian Mountai	4.90 342		Pn	19 40 24.9 +1.3
H19K	Roundabout Mou	5.05 328	P	Pn	19 40 26.4 +0.7
	baz=142				
N15K	Kwethluk River	5.07 261		Pn	19 40 27.1 +1.1
N15K	Kwethluk River	5.07 261	IAML		19 41 53.0
	comp=E,64nm,0.9s				
N15K			IAML		19 42 11.8
	comp=N,53nm,0.8s				
N15K	Kwethluk River	5.07 261	P	Pn	19 40 27.1 +1.1
	baz=72				
M15K	Kasigluk River	5.22 267		Pn	19 40 28.6 +0.6
M15K	Kasigluk River	5.22 267	P	Pn	19 40 28.6 +0.6
	baz=78				
J16K	Anvik River	5.28 296		Pn	19 40 29.3 +0.5
J16K	Anvik River	5.28 296	IAML		19 42 11.6
	comp=N,29nm,0.8s				
J16K			IAML		19 44 05.7
	comp=E,29nm,0.6s				
J16K	Anvik River	5.28 296	P	Pn	19 40 29.3 +0.5
	baz=106				
SII	Sitkinak Islan	5.29 206	P	Pn	19 40 30.2 +1.2
BCPM	Bancas Point	5.32 101	IAML		19 41 57.7
	comp=E,39nm,1.1s				
BCPM			IAML		19 41 57.8
	comp=N,41nm,1.2s				
H18K	Honhosa River	5.33 319		Pn	19 40 30.1 +0.6
H18K	Honhosa River	5.33 319	P	Pn	19 40 30.1 +0.6
	baz=131				
O15K	Ungalikthiuk R	5.34 250		Pn	19 40 30.6 +0.8
O15K	Ungalikthiuk R	5.34 250	P	Pn	19 40 30.6 +0.8
	baz=61				
L15K	Ungalak Mounta	5.48 278		Pn	19 40 32.3 +0.6
L15K	Ungalak Mounta	5.48 278	P	Pn	19 40 32.3 +0.6
	baz=88				
I17K	Unalakleet	5.52 302		Pn	19 40 33.0 +1.0
K15K	Wolf Creek Mou	5.52 285		Pn	19 40 32.5 +0.5
K15K	Wolf Creek Mou	5.52 285	P	Pn	19 40 32.5 +0.5
	baz=94				
PNL	Peninsula	5.53 103	P	Pn	19 40 34.5 +2.2
H17K	Granite Mounta	5.72 313		Pn	19 40 35.9 +1.1
H17K	Granite Mounta	5.72 313	P	Pn	19 40 35.9 +1.1
	baz=124				
M14K	Bethel	5.82 269		Pn	19 40 37.2 +1.0
M14K	Bethel	5.82 269	P	Pn	19 40 37.2 +1.0
	baz=78				
O14K	Tigyukauivet M	5.97 254	Pn	Pn	19 40 39.5 +1.2
BMAR	Burnt Mountain	6.51 19		Pn	19 40 46.9 +1.1
INK	Inuvik	9.85 38	P	Pn	19 41 32.0 +0.7
	comp=N,0.4nm,0.4s,baz=310,slow=3.5,SNR=1.7				
INK			S	Sn	19 43 20.9 +0.6
	comp=N,2.1nm,0.6s,baz=165,slow=20,SNR=4.3				
DLBC	Dease Lake	10.46 98	P	Pn	19 41 41.5 +1.6
	comp=N,0.9nm,0.5s,baz=15,slow=7.8,SNR=0.9				
YKA	Yellowknife Ar	16.59 71	P	Pn	19 43 03.6 +2.1
	comp=N,0.4nm,0.6s,baz=283,slow=11,SNR=5.9				
NVAR	Mina Array Bea	30.22 125	P	P	19 45 19.5 +0.8
	comp=N,0.5nm,0.7s,baz=332,slow=7.6,SNR=2.7				
	comp=N,0.5nm,0.7s				
PDAR	Pinedale Array	30.39 109	P	P	19 45 21.1 +1.0
	comp=N,0.4nm,0.7s,baz=330,slow=4.7,SNR=3.4				
	comp=N,0.4nm,0.7s				
ULM	Lac du Bonnet	31.47 86	P	P	19 45 29.6 +0.4
	comp=N,4.4nm,0.9s,baz=325,slow=7.0,SNR=4.5				
	comp=N,4.4nm,0.9s				
SONM	Songino Array	55.13 307	P	P	19 48 37.5 -2.2
	comp=N,0.1nm,0.5s,baz=46,slow=6.2,SNR=1.8				
	comp=N,0.1nm,0.5s				
ZALV	Zalesovo Beam	57.10 325	P	P	19 48 49.4 -4.0
	comp=N,0.3nm,0.3s,baz=27,slow=6.3,SNR=1.8				
	comp=N,0.3nm,0.3s				
FINES	FINESS Array B	57.46 2	P	P	19 48 54.6 -1.3
	comp=N,3.7nm,0.9s,baz=0.0,slow=1.9,SNR=3.7				
	comp=N,3.7nm,0.9s				
EKA	Eskdalemuir Ar	60.73 21	P	P	19 49 17.6 -1.1
	comp=N,0.5nm,0.5s,baz=334,slow=5.3,SNR=3.7				
	comp=N,0.5nm,0.5s				
BVAR	Borovoye Array	61.50 334	P	P	19 49 21.7 -2.2
	comp=N,0.6nm,0.5s,baz=60,slow=10,SNR=3.8				
	comp=N,0.6nm,0.5s				
KURBB	Kurchatov Arra	61.78 327	P	P	19 49 23.7 -2.1
	comp=N,0.4nm,0.4s,baz=32,slow=6.5,SNR=5.4				
	comp=N,0.4nm,0.4s				
MKAR	Makanchi Array	64.23 323	P	P	19 49 40.0 -2.2
	comp=N,0.3nm,0.4s,baz=54,slow=6.2,SNR=1.2				
	comp=N,0.3nm,0.4s				
AKASG	Malin Array Be	68.27 0	P	P	19 50 06.2 -1.6
	comp=N,0.6nm,0.4s,baz=11,slow=6.2,SNR=3.4				
	comp=N,0.6nm,0.4s				
ESDC	Sonseca Array	75.58 26	P	P	19 50 51.2 -0.8
	comp=N,0.5nm,0.7s,baz=27,slow=8.7,SNR=2.6				
	comp=N,0.5nm,0.7s				
BOSA	Boshof	147.08 8	PKPbc	PKPdf	19 58 47.5 -0.2
	comp=N,2.7nm,0.8s,baz=75,slow=16,SNR=2.2				
QSPA	South Pole Qui	151.19 180	PKPbc	PKPdf	19 58 57.3 +4.5
	comp=N,1.1nm,0.2s,baz=104,slow=3.5,SNR=4.8				

*IDC **30** 19:42:45.6±1.5, 61°.38N×150°.43W, h55km±14km, mb3.8/18, mbtmp4.0/23, Error ellipse: s-maj=14.8km s-min=9.5km az=109.0*

*NEIC **30** 19:42:46.2±1.7, 61°.40N±0°.03×150°.03W±0°.05, h46km±1km, Error ellipse: s-maj=3.8km s-min=3.4km az=177.0*

*AEIC **30** 19:42:47.0±1.5, 61°.37N±0°.02×150°.04W±0°.05, h41km±3km, ML3.9, mb4.3/11(NEIC), ML4.1/186(NEIC), Error ellipse: s-maj=3.6km s-min=3.4km az=169.0*

ISC 30 19:42:45.6±0.6, 61°.38N±0°.02×150°.04W±0°.03, h48km±5km, n237, σ1§14/239, mb4.3/39, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RC01	Rabbit Creek A	0.33 154			Pn	19 42 54.5	-0.3
RC01	Rabbit Creek A	0.33 154			Sn	19 43 01.7	+0.3
RC01	Rabbit Creek A	0.33 154		IAML		19 43 02.0	
	comp=E,13μm,0.6s						
RC01				IAML		19 43 03.0	
	comp=N,11μm,0.7s						
RC01	Rabbit Creek A	0.33 154		P	Pn	19 42 54.7	-0.2
	baz=333						
RC01				S	Sn	19 43 01.7	+0.3
	baz=333						
SUA	Susitna One	0.35 284			Pn	19 42 55.3	+0.1
SUA					Sn	19 43 02.3	+0.3
SUA	Susitna One	0.35 284		IAML		19 43 02.9	
	comp=E,22μm,0.8s						
SUA				IAML		19 43 03.1	
	comp=N,15μm,0.7s						
SUA	Susitna One	0.35 284		P	Pn	19 42 55.3	+0.1
	baz=105						
SUA				S	Sn	19 43 02.9	+0.9
	baz=105						
M22K	Willow	0.37 354			Pn	19 42 55.0	-0.2
M22K	Willow	0.37 354			Sn	19 43 02.7	+0.6
M22K	Willow	0.37 354		IAML		19 43 03.0	
	comp=E,18μm,0.3s						
M22K				IAML		19 43 03.1	
	comp=N,17μm,0.8s						
M22K	Willow	0.37 354		P	Pn	19 42 55.3	0.0
	baz=174						
M22K				S	Sn	19 43 02.7	+0.6
	baz=174						
PMR	Palmer	0.48 64			Pn	19 42 56.4	-0.1
PMR					Sn	19 43 04.6	+0.3
PMR				IAML		19 43 05.3	
	comp=N,12μm,0.6s						
PMR	Palmer	0.48 64		P	Pn	19 42 56.4	-0.1
	baz=243						
PMR				S	Sn	19 43 04.9	+0.7
	baz=243						
GHO	Glory Hole Cre	0.66 53			Pn	19 42 59.1	+0.2
GHO					Sn	19 43 09.2	+0.8
GHO	Glory Hole Cre	0.66 53		IAML		19 43 11.0	
	comp=E,12μm,0.6s						
GHO				IAML		19 43 12.1	
	comp=N,9μm,0.4s						
KNK	Knik Glacier	0.76 87			Pn	19 43 00.5	+0.4
KNK				Sn	Sn	19 43 12.6	+2.0
KNK				IAML		19 43 14.0	
	comp=E,7μm,0.5s						
KNK				IAML		19 43 14.5	
	comp=N,11μm,0.6s						
CAPN	Captain Cook N	0.82 222			Pn	19 43 02.2	+1.4
CAPN					Sn	19 43 15.9	+3.9
CAPN	Captain Cook N	0.82 222		P	Pn	19 43 02.4	+1.5
	baz=41						
CAPN				S	Sn	19 43 16.1	+4.2
	baz=41						
STLK	Strandline Lak	0.87 278			Pn	19 43 02.1	+0.5
STLK					Sn	19 43 14.1	+0.8
SLKM	Skilak Lake	0.88 186			Pn	19 43 01.6	-0.1
O22K	Cooper Landing	0.92 170		Pn	Pn	19 43 02.4	+0.2
O22K				Sn	Sn	19 43 15.0	+0.7
SML	Sawmill	0.92 62			Pn	19 43 02.6	+0.3
SML	Sawmill	0.92 62			Sn	19 43 15.7	+1.2
SML	Sawmill	0.92 62		IAML		19 43 17.0	
	comp=E,6μm,0.6s						
SML				IAML		19 43 18.6	
	comp=N,6μm,0.5s						
SML	Sawmill	0.92 62		P	Pn	19 43 02.7	+0.4
	baz=242						
SKT	Skwentna	0.93 311			Pn	19 43 02.6	+0.2
SKT	Skwentna	0.93 311			Sn	19 43 15.5	+0.9
SKT	Skwentna	0.93 311		IAML		19 43 16.2	
	comp=E,5μm,0.7s						
SKT				IAML		19 43 16.3	
	comp=N,9μm,0.7s						
SKT	Skwentna	0.93 311		P	Pn	19 43 02.6	+0.2
	baz=130						
SKT				S	Sn	19 43 15.5	+0.9
	baz=130						
SPCG	Spurr Capps Gl	0.96 265			Pn	19 43 03.3	+0.5
SPCG					Sn	19 43 16.5	+1.0
PWL	Port Wells	0.98 122			Pn	19 43 03.4	+0.3
PWL				Sn	Sn	19 43 17.2	+1.4
PWL	Port Wells	0.98 122		P	Pn	19 43 03.5	+0.4
	baz=303						
SPCP	Crater Peak Br	1.03 264			Pn	19 43 04.2	+0.4
CUT	Chulitna	1.03 354			Pn	19 43 04.2	+0.5
CUT				IAML		19 43 20.7	
	comp=N,6μm,0.3s						
CUT	Chulitna	1.03 354			Sn	19 43 18.3	+1.3
SPCN	Chakachatna No	1.05 262			Pn	19 43 04.5	+0.5
SPCR	Spurr Chakacha	1.06 261			Pn	19 43 04.6	+0.4
SPCR	Spurr Chakacha	1.06 261			Pn	19 43 04.5	+0.3
SPCR	Spurr Chakacha	1.06 261		P	Pn	19 43 04.6	+0.4
	baz=80						
M23K	Glacier View	1.18 69			Pn	19 43 06.7	+1.0
SPWE	Spurr West	1.22 266			Pn	19 43 06.9	+0.5
SEW	Seward	1.32 167			Pn	19 43 08.0	+0.5
SCM	Sheep Creek Mo	1.37 70			Pn	19 43 09.4	+1.0
SCM	Sheep Creek Mo	1.37 70		P	Pn	19 43 09.4	+1.0
	baz=252						
RDT	Redoubt	1.41 236			Pn	19 43 09.2	+0.3
GLI	Glacier Island	1.52 108			Pn	19 43 10.4	+0.1
GLI				IAML		19 43 32.1	
	comp=N,3μm,0.6s						
WAT7	Susitna Watana	1.56 21			Pn	19 43 11.9	+0.9
M20K	Styx River	1.56 290			Pn	19 43 12.3	+1.3
M20K	Styx River	1.56 290		IAML		19 43 34.9	
	comp=E,2μm,0.7s						
RDJH	Redoubt Jeurge	1.56 241			Pn	19 43 11.7	+0.6
WAT1	Susitna Watana	1.61 25			Pn	19 43 12.7	+1.1
RDWB	Redoubt West	1.64 238			Pn	19 43 12.6	+0.5
RED	Redoubt Volcan	1.65 235			Pn	19 43 12.7	+0.5
BRLK	Bradley Lake	1.68 195			Pn	19 43 13.0	+0.5
BRLK				IAML		19 43 38.3	
	comp=E,2μm,0.7s						
BRSE	Bradley Lake S	1.68 192			Pn	19 43 12.8	+0.2
O20K	Slope Mountain	1.82 225			Pn	19 43 15.7	+1.2
FID	Port Fidalgo	1.84 109			Pn	19 43 14.4	-0.3
FID				IAML		19 43 46.1	
	comp=E,2μm,0.5s						

FID				IAML			19 43 46.5
	comp=N,3μm,0.6s						
P23K	**Montague Islan**	**1.90**	**136**		**Pn**	**Pn**	**19 43 16.7 +1.1**
HOM	**Homer**	**1.91**	**205**		**Pn**	**Pn**	**19 43 15.2 -0.4**
CNPM	**China Poot**	**1.96**	**198**	Pn	**Pn**	**Pn**	**19 43 16.6 +0.3**
CNPM				IAML			19 43 46.0
	comp=N,2μm,0.4s						
CNPM				IAML			19 43 48.1
	comp=E,2μm,0.5s						
M24K	**Tolsona, Glenn**	**1.98**	**67**		**Pn**	**Pn**	**19 43 18.0 +1.3**
KLU	**Klutina**	**1.98**	**85**		**Pn**	**Pn**	**19 43 17.5 +0.8**
KLU				IAML			19 43 49.8
	comp=E,1μm,0.9s						
KLU				IAML			19 43 52.3
	comp=N,2μm,0.5s						
HIN	**Hinchinbrook I**	**1.99**	**118**	Pn	**Pn**	**Pn**	**19 43 16.9 +0.1**
IVE	**Iliamna Volcan**	**2.01**	**228**		**Pn**	**Pn**	**19 43 18.0 +0.9**
ILSW	**Iliamna Southw**	**2.08**	**229**		**Pn**	**Pn**	**19 43 18.4 +0.3**
ILSW				IAML			19 43 49.1
	comp=E,1μm,0.8s						
DIV	**Divide**	**2.08**	**95**		**Pn**	**Pn**	**19 43 18.9 +0.8**
TRF	**Thorofare Moun**	**2.08**	**357**		**Pn**	**Pn**	**19 43 19.1 +1.0**
TRF	**Thorofare Moun**	**2.08**	**357**	IAML			19 43 58.1
	comp=N,1μm,0.5s						
RND	**Reindeer**	**2.10**	**15**	Pn	**Pn**	**Pn**	**19 43 18.5 0.0**
RND				IAML			19 43 53.4
	comp=N,909nm,0.8s						
RND				IAML			19 43 59.4
	comp=E,862nm,0.7s						
DHY	**Denali Highway**	**2.11**	**35**	Pn	**Pn**	**Pn**	**19 43 18.9 +0.3**
DHY				IAML			19 43 49.7
	comp=E,1μm,0.6s						
DHY				IAML			19 43 50.2
	comp=N,1μm,0.5s						
L20K	**Farewell, AK**	**2.12**	**303**		**Pn**	**Pn**	**19 43 19.8 +1.2**
M19K	**Big River Lodg**	**2.14**	**286**		**Pn**	**Pn**	**19 43 19.9 +1.0**
KTH	**Kantishna Hill**	**2.22**	**350**		**Pn**	**Pn**	**19 43 20.1 +0.2**
KTH				IAML			19 43 52.7
	comp=N,1μm,0.7s						
KTH				IAML			19 43 53.5
	comp=E,832nm,0.7s						
N19K	**Bonanza Creek**	**2.23**	**257**		**Pn**	**Pn**	**19 43 21.2 +1.0**
CAST	**Castle Rocks**	**2.25**	**336**	Pn	**Pn**	**Pn**	**19 43 20.8 +0.4**
P19K	**Oil Pt**	**2.35**	**224**		**Pn**	**Pn**	**19 43 21.6 -0.2**
O19K	**Port Alsworth**	**2.42**	**242**		**Pn**	**Pn**	**19 43 22.4 -0.2**
O19K				IAML			19 43 53.8
	comp=N,1μm,0.4s						
O19K				IAML			19 44 00.3
	comp=E,2μm,0.5s						
L19K	**White Mountain**	**2.42**	**291**		**Pn**	**Pn**	**19 43 24.1 +1.3**
L19K	**White Mountain**	**2.42**	**291**	IAML			19 43 54.3
	comp=E,613nm,0.7s						
L19K				IAML			19 44 08.5
	comp=N,705nm,0.8s						
N25K	**Chitina, Valde**	**2.62**	**83**		**Pn**	**Pn**	**19 43 27.3 +1.8**
N25K				IAML			19 44 10.1
	comp=E,594nm,0.5s						
N25K				IAML			19 44 11.5
	comp=N,867nm,0.6s						
Q23K	**Middleton Isla**	**2.68**	**135**	Pn	**Pn**	**Pn**	**19 43 28.7 +2.5**
Q23K				IAML			19 44 17.4
	comp=N,719nm,0.9s						
Q23K				IAML			19 44 19.5
	comp=E,660nm,0.9s						
SVW2	**Sparrevohn**	**2.69**	**266**	Pn	**Pn**	**Pn**	**19 43 26.9 +0.5**
CHUM	**Lake Minchumin**	**2.72**	**338**		**Pn**	**Pn**	**19 43 27.9 +1.1**
K20K	**Telida**	**2.73**	**318**		**Pn**	**Pn**	**19 43 28.1 +1.1**
K20K	**Telida**	**2.73**	**318**	IAML			19 44 08.5
	comp=E,502nm,0.8s						
BPAW	**Bear Paw Mtn.**	**2.76**	**351**	Pn	**Pn**	**Pn**	**19 43 28.2 +0.8**
M18K	**Stony River**	**2.78**	**275**		**Pn**	**Pn**	**19 43 28.5 +0.9**
RAGM	**Ragged Mountai**	**2.81**	**109**		**Pn**	**Pn**	**19 43 29.6 +1.6**
BWN	**Browne**	**2.81**	**5**	Pn	**Pn**	**Pn**	**19 43 29.8 +1.8**
BWN				IAML			19 44 36.6
	comp=E,1μm,0.9s						
N18K	**Kilae Creek**	**2.93**	**259**		**Pn**	**Pn**	**19 43 30.4 +0.6**
N18K	**Kilae Creek**	**2.93**	**259**	IAML			19 44 05.0
	comp=N,444nm,0.7s						
O18K	**Koktuh Hills**	**2.98**	**241**	Pn	**Pn**	**Pn**	**19 43 30.0 -0.3**
O18K				IAML			19 44 30.8
	comp=N,384nm,1.1s						
O18K				IAML			19 44 33.6
	comp=E,387nm,1.0s						
GLB	**Gilahina Butte**	**3.00**	**86**	Pn	**Pn**	**Pn**	**19 43 32.5 +1.9**
GLB				IAML			19 44 18.7
	comp=E,428nm,0.5s						
GLB				IAML			19 44 21.4
	comp=N,772nm,0.7s						
SYI	**Shuyak Island**	**3.02**	**204**		**Pn**	**Pn**	**19 43 31.2 +0.3**
SYI				IAML			19 44 17.9
	comp=N,445nm,0.7s						
SYI				IAML			19 44 18.4
	comp=E,445nm,0.5s						
Q19K	**Cape Douglas,**	**3.05**	**218**	Pn	**Pn**	**Pn**	**19 43 32.1 +0.7**
KAIM	**Kayak Island**	**3.13**	**115**		**Pn**	**Pn**	**19 43 34.1 +1.8**
KAIM				IAML			19 44 29.2
	comp=N,406nm,0.9s						
KAIM				IAML			19 44 31.4
	comp=E,570nm,0.7s						
VRDI	**Verde Repeater**	**3.18**	**90**	Pn	**Pn**	**Pn**	**19 43 34.6 +1.4**
VRDI				IAML			19 44 28.0
	comp=N,495nm,0.9s						
TTA	**Tatalina**	**3.20**	**302**		**Pn**	**Pn**	**19 43 33.2 -0.3**
WRH	**Wood River Hil**	**3.23**	**15**	Pn	**Pn**	**Pn**	**19 43 34.5 +0.8**
WRH				IAML			19 44 29.0
	comp=E,437nm,1.1s						
WRH				IAML			19 44 32.4
	comp=N,304nm,1.0s						
NEA2	**Nenana**	**3.25**	**7**	Pn	**Pn**	**Pn**	**19 43 34.0 -0.1**
NEA2				IAML			19 44 31.2
	comp=N,316nm,0.9s						
BERG	**Berg Lake**	**3.25**	**105**		**Pn**	**Pn**	**19 43 36.6 +2.5**
P18K	**Big Mountain,**	**3.26**	**234**	Pn	**Pn**	**Pn**	**19 43 34.2 0.0**
L18K	**Granite Mounta**	**3.27**	**288**	Pn	**Pn**	**Pn**	**19 43 35.0 +0.7**
L18K				IAML			19 44 41.3
	comp=N,301nm,1.0s						
HDA	**Harding Lake**	**3.35**	**24**		**Pn**	**Pn**	**19 43 36.8 +1.4**
HDA				IAML			19 44 24.2
	comp=E,426nm,0.5s						
HDA				IAML			19 44 34.4
	comp=N,486nm,0.7s						
MENT	**Mentasta**	**3.35**	**59**		**Pn**	**Pn**	**19 43 36.8 +1.3**
RIDG	**Independent Ri**	**3.37**	**43**		**Pn**	**Pn**	**19 43 37.6 +1.8**
MCARA	**McCarthy VSAT**	**3.38**	**87**		**Pn**	**Pn**	**19 43 37.1 +1.4**
J20K	**Nowinta River**	**3.38**	**328**		**Pn**	**Pn**	**19 43 36.8 +1.0**
J20K	**Nowinta River**	**3.38**	**328**	IAML			19 44 17.5
	comp=E,636nm,0.5s						
CRQM	**Cirque**	**3.41**	**98**	Pn	**Pn**	**Pn**	**19 43 38.7 +2.2**
CCB	**Clear Creek Bu**	**3.43**	**16**	Pn	**Pn**	**Pn**	**19 43 37.8 +1.3**
L26K	**Log Cabin Wild**	**3.54**	**59**	Pn	**Pn**	**Pn**	**19 43 40.2 +2.1**
M17K	**Holitna River**	**3.56**	**274**		**Pn**	**Pn**	**19 43 39.2 +0.9**
M17K	**Holitna River**	**3.56**	**274**	IAML			19 44 50.8
	comp=N,579nm,0.9s						
M17K				IAML			19 44 52.2
	comp=E,519nm,0.8s						
TGL	**Tana Glacier**	**3.56**	**97**		**Pn**	**Pn**	**19 43 40.5 +2.2**
TGL				IAML			19 44 40.6
	comp=E,539nm,0.8s						
N17K	**Nushagak Hills**	**3.59**	**259**		**Pn**	**Pn**	**19 43 39.1 +0.4**
N17K				IAML			19 44 21.3
	comp=E,341nm,0.7s						
N17K				IAML			19 44 48.4
	comp=N,240nm,0.9s						
COLA	**College**	**3.64**	**15**		**Pn**	**Pn**	**19 43 40.4 +1.0**
J19K	**Poorman**	**3.67**	**318**		**Pn**	**Pn**	**19 43 41.0 +1.1**
J19K	**Poorman**	**3.67**	**318**	IAML			19 44 40.2
	comp=N,228nm,0.8s						
J19K				IAML			19 44 42.1
	comp=E,244nm,0.8s						
MLY	**Manley**	**3.67**	**355**	Pn	**Pn**	**Pn**	**19 43 40.7 +0.8**
IL31		**3.69**	**21**	Pn	**Pn**	**Pn**	**19 43 41.4 +1.4**
ILAR	**Eielson Array**	**3.69**	**21**	Pn	**Pn**	**Pn**	**19 43 41.4 +1.4**
ILAR	**Eielson Array**	**3.69**	**21**	P	**Pn**	**Pn**	**19 43 42.5 +2.4**
	comp=E,17nm,0.6s,baz=205,slow=14,SNR=6.3						
ILAR				S		**Sn**	**19 44 24.6 +2.4**
	comp=E,42nm,0.6s,baz=221,slow=6.9,SNR=2.4						
SNH	**Sunshine Point**	**3.73**	**106**		**Pn**	**Pn**	**19 43 41.5 +0.8**
SNH				IAML			19 44 42.7
	comp=E,237nm,0.7s						
SNH				IAML			19 44 47.5
	comp=N,212nm,1.2s						
I23K	**Minto, Yukon-K**	**3.79**	**4**	Pn	**Pn**	**Pn**	**19 43 42.7 +1.3**
I23K				IAML			19 44 47.6
	comp=E,194nm,0.7s						
I23K				IAML			19 44 48.0
	comp=N,253nm,0.8s						
SCRK	**Sand Creek**	**3.81**	**44**	Pn	**Pn**	**Pn**	**19 43 43.1 +1.2**
SCRK				IAML			19 44 43.9
	comp=E,431nm,0.6s						
SCRK				IAML			19 44 49.5
	comp=N,276nm,1.1s						
KDAK	**Kodiak Island**	**3.84**	**201**		**Pn**	**Pn**	**19 43 42.9 +0.8**
KDAK				IAML			19 44 39.5
	comp=N,220nm,0.9s						
KDAK				IAML			19 44 42.7
	comp=N,237nm,1.0s						
KDAK	**Kodiak Island**	**3.84**	**201**	P	**Pn**	**Pn**	**19 43 41.0 -1.1**
	comp=N,6.8nm,0.3s,baz=4.0,slow=22,SNR=3.4						
KDAK				S		**Sn**	**19 44 24.1 -1.8**
	comp=N,60nm,0.6s,baz=24,slow=12,SNR=1.4						
I21K	**Tanana**	**3.91**	**348**	Pn	**Pn**	**Pn**	**19 43 44.0 +0.9**
POKR	**Poker Plat Res**	**3.93**	**16**		**Pn**	**Pn**	**19 43 43.7 +0.4**
POKR				IAML			19 44 55.0
	comp=E,227nm,0.9s						
POKR				IAML			19 44 57.2
	comp=N,200nm,0.8s						
M27K	**Edge Creek, AK**	**3.99**	**72**	Pn	**Pn**	**Pn**	**19 43 45.5 +1.3**
M27K				IAML			19 45 01.8
	comp=N,251nm,0.9s						
M27K				IAML			19 45 08.1
	comp=E,176nm,1.0s						
GRNC	**Granite Creek**	**4.08**	**96**		**Pn**	**Pn**	**19 43 46.1 +0.5**
GRNC				IAML			19 44 48.4
	comp=N,246nm,0.9s						
ACHA	**Angle Creek He**	**4.16**	**222**		**Pn**	**Pn**	**19 43 46.5 -0.1**
BCAR	**Beaver Creek A**	**4.21**	**63**	Pn	**Pn**	**Pn**	**19 43 48.5 +1.2**
CTGM	**Chitina Glacie**	**4.24**	**92**	Pn	**Pn**	**Pn**	**19 43 49.5 +1.8**
CTGM				IAML			19 45 06.4
	comp=N,218nm,0.8s						
O16K	**Kokwok River B**	**4.37**	**249**		**Pn**	**Pn**	**19 43 48.9 -0.5**
O16K				IAML			19 45 20.6
	comp=N,184nm,0.9s						
LOGN	**Logan Glacier**	**4.42**	**93**		**Pn**	**Pn**	**19 43 50.9 +0.7**
LOGN				IAML			19 45 00.1
	comp=E,137nm,0.8s						
LOGN				IAML			19 45 10.0
	comp=N,149nm,1.1s						
H23K	**Yukon River**	**4.46**	**3**	Pn	**Pn**	**Pn**	**19 43 50.7 0.0**
OHAK	**Old Harbor**	**4.49**	**203**	Pn	**Pn**	**Pn**	**19 43 51.2 +0.1**
OHAK				IAML			19 45 01.1
	comp=N,134nm,1.1s						
OHAK				IAML			19 45 01.1
	comp=E,143nm,1.1s						
L16K	**Owhat River**	**4.53**	**278**		**Pn**	**Pn**	**19 43 50.5 -1.0**
PRP	**Porcupine Dome**	**4.62**	**24**	Pn	**Pn**	**Pn**	**19 43 52.7 -0.2**
PRP				IAML			19 44 56.8
	comp=N,274nm,0.7s						
PRP				IAML			19 45 02.4
	comp=E,154nm,0.9s						
J17K	**VABM Dome**	**4.67**	**300**	Pn	**Pn**	**Pn**	**19 43 52.5 -1.0**
IMAR	**Indian Mountai**	**4.90**	**342**		**Pn**	**Pn**	**19 43 56.4 -0.3**
PLK4	**Peulik 4**	**4.95**	**223**		**Pn**	**Pn**	**19 43 57.2 -0.3**
PLK4				IAML			19 45 01.7
	comp=N,156nm,1.1s						
PLK4				IAML			19 45 05.8
	comp=E,141nm,1.1s						
N15K	**Kwethluk River**	**5.08**	**261**		**Pn**	**Pn**	**19 43 58.2 -0.8**
N15K				IAML			19 45 31.6
	comp=N,126nm,0.9s						
N15K				IAML			19 45 33.1
	comp=E,166nm,0.8s						
EGAK	**Eagle**	**5.28**	**46**	Pn	**Pn**	**Pn**	**19 44 01.9 +0.1**
J16K	**Anvik River**	**5.28**	**296**	IAML			19 45 39.4
	comp=N,76nm,0.9s						
SII	**Sitkinak Islan**	**5.29**	**206**	Pn	**Pn**	**Pn**	**19 44 01.8 -0.3**
BCPM	**Bancas Point**	**5.31**	**101**		**Pn**	**Pn**	**19 44 02.9 +0.6**
BCPM				IAML			19 45 31.4
	comp=N,126nm,0.8s						
BCPM				IAML			19 45 32.8
	comp=E,113nm,0.9s						
YKU2	**Yakutat**	**5.46**	**106**	Pn	**Pn**	**Pn**	**19 44 06.5 +2.2**
I17K	**Unalakleet**	**5.52**	**302**		**Pn**	**Pn**	**19 44 05.0 -0.1**
DAWY	**Dawson**	**5.59**	**57**	Pn	**Pn**	**Pn**	**19 44 07.6 +1.5**
FYU	**Fort Yukon**	**5.62**	**20**	Pn	**Pn**	**Pn**	**19 44 06.9 +0.5**
M14K	**Bethel**	**5.82**	**269**		**Pn**	**Pn**	**19 44 09.2 -0.1**
L29M	**L29M**	**5.83**	**68**	Pn	**Pn**	**Pn**	**19 44 10.6 +1.1**
G18K	**Tagagawik**	**5.93**	**323**		**Pn**	**Pn**	**19 44 10.4 -0.4**
HYT	**Haines Junctio**	**6.10**	**90**		**Pn**	**Pn**	**19 44 13.8 +0.5**
N30M	**Aishikik Lake**	**6.22**	**84**		**Pn**	**Pn**	**19 44 14.8 0.0**
CHIR	**Chirikof Islan**	**6.29**	**210**	Pn	**Pn**	**Pn**	**19 44 15.8 +0.1**
M30M	**Minto, Yukon**	**6.36**	**73**	Pn	**Pn**	**Pn**	**19 44 17.6 +0.9**
BMAR	**Burnt Mountain**	**6.51**	**19**		**Pn**	**Pn**	**19 44 18.8 0.0**
G27K	**Doyon Strip**	**6.56**	**30**		**Pn**	**Pn**	**19 44 19.8 +0.3**
CHGN	**Chignik**	**6.70**	**224**	Pn	**Pn**	**Pn**	**19 44 20.9 -0.3**
O30N	**Mendenhall**	**6.79**	**89**	Pn	**Pn**	**Pn**	**19 44 23.4 +0.7**
N31M	**Braeburn, Yuko**	**6.84**	**83**	Pn	**Pn**	**Pn**	**19 44 24.2 +1.0**
MAYO	**Mayo, Yukon**	**6.92**	**65**	Pn	**Pn**	**Pn**	**19 44 25.4 +1.1**
TOLK	**Toolik Lake Re**	**7.29**	**1**	Pn	**Pn**	**Pn**	**19 44 29.7 +0.3**
WHY	**Whitehorse**	**7.40**	**89**	Pn	**Pn**	**Pn**	**19 44 31.4 +0.4**
M31M	**Drury Creek, Y**	**7.46**	**77**	Pn	**Pn**	**Pn**	**19 44 32.8 +1.1**
SKAG	**Skagway**	**7.53**	**98**		**Pn**	**Pn**	**19 44 33.6 +0.9**
F28M	**Old Crow**	**7.63**	**31**	Pn	**Pn**	**Pn**	**19 44 34.5 +0.4**
ANM	**Nome**	**7.67**	**301**	Pn	**Pn**	**Pn**	**19 44 33.5 -1.1**
EPYK	**Eagle Plains**	**7.71**	**44**	Pn	**Pn**	**Pn**	**19 44 35.9 +0.8**
S31K	**Pelican**	**7.78**	**110**	Pn	**Pn**	**Pn**	**19 44 37.3 +1.2**
M11K	**Mekoryuk**	**7.95**	**270**	Pn	**Pn**	**Pn**	**19 44 37.6 -0.7**
FARO	**Faro, Yukon**	**7.95**	**77**	Pn	**Pn**	**Pn**	**19 44 39.2 +0.8**
P32M	**Atlin**	**8.26**	**95**		**Pn**	**Pn**	**19 44 43.5 +0.8**
P33M	**Teslin, Yukon**	**8.50**	**90**	Pn	**Pn**	**Pn**	**19 44 45.6 -0.4**
S32K	**Killisnoo**	**8.80**	**110**	Pn	**Pn**	**Pn**	**19 44 49.7 -0.2**
Q32M	**Nakina River**	**9.18**	**97**	Pn	**Pn**	**Pn**	**19 44 55.3 -0.1**
INK	**Inuvik**	**9.85**	**38**	P	**Pn**	**Pn**	**19 45 06.1 +1.8**
	comp=E,4.7nm,0.7s,baz=195,slow=21,SNR=1.6						
INK				S		**Sn**	**19 46 57.2 +4.0**
	comp=E,7.3nm,0.5s,baz=168,slow=23,SNR=3.3						
U33K	**Whale Pass**	**10.24**	**114**	Pn	**Pn**	**Pn**	**19 45 09.5 -0.2**
DLBC	**Dease Lake**	**10.46**	**98**	P	**Pn**	**Pn**	**19 45 14.8 +2.0**
	comp=E,2.4nm,0.6s,baz=300,slow=16,SNR=4.8						
T35M	**Bob Quinn**	**11.05**	**105**	Pn	**Pn**	**Pn**	**19 45 20.9 +0.1**
C36M	**Paulatuk**	**13.34**	**42**		**Pn**	**Pn**	**19 45 50.0 -1.9**
YKA	**Yellowknife Ar**	**16.58**	**71**	Pn	**P**	**Pn**	**19 46 35.5 -0.8**
YKA	**Yellowknife Ar**	**16.58**	**71**	P	**Pn**	**Pn**	**19 46 34.2 -0.2**
	comp=E,0.9nm,0.6s,baz=284,slow=10,SNR=14						
RES	**Resolute Bay**	**23.35**	**33**	P	**P**	**P**	**19 47 49.2 0.0**
I07A	**Izee**	**24.98**	**120**	P	**P**	**P**	**19 48 05.2 +0.7**
I07A				IAmb	IAmb	IAmb	19 48 09.1
	comp=Z,3.5nm,0.8s						
WVOR	**Wild Horse Val**	**26.69**	**121**	P	**P**	**P**	**19 48 20.3 +0.2**
WVOR				IAmb	IAmb	IAmb	19 48 37.6
	comp=Z,5.5nm,0.7s						
RLMT	**Red Lodge**	**28.70**	**106**	P	**P**	**P**	**19 48 37.8 -0.4**
RLMT				IAmb	IAmb	IAmb	19 48 41.7
	comp=Z,4.1nm,0.8s						
ELK	**Elko**	**29.52**	**118**	P	**P**	**P**	**19 48 46.0 +0.6**
NVAR	**Mina Array Bea**	**30.22**	**125**	P	**P**	**P**	**19 48 53.1 +1.5**
	comp=Z,1.5nm,0.7s,baz=316,slow=9.8,SNR=6.7						
	comp=Z,1.5nm,0.7s						
PDAR	**Pinedale Array**	**30.39**	**109**	P	**P**	**P**	**19 48 54.6 +1.5**
	comp=Z,0.6nm,0.5s,baz=320,slow=4.5,SNR=8.5						
	comp=Z,0.6nm,0.5s						
ULM	**Lac du Bonnet**	**31.46**	**86**	P	**P**	**P**	**19 49 03.1 +0.9**
ULM	**Lac du Bonnet**	**31.46**	**86**	P	**P**	**P**	**19 49 02.7 +0.5**
	comp=Z,7.2nm,0.8s,baz=307,slow=8.2,SNR=9.8						
	comp=Z,7.2nm,0.8s						
BSUT	**Blindstream Ca**	**31.63**	**113**	P	**P**	**P**	**19 49 04.7 +0.4**
BSUT				IAmb	IAmb	IAmb	19 49 07.5
	comp=Z,8.5nm,1.2s						
MVU	**Marysvale**	**32.67**	**117**	P	**P**	**P**	**19 49 14.7 +1.5**
MVU				IAmb	IAmb	IAmb	19 49 29.4
	comp=Z,3.3nm,0.9s						
AGMN	**Agassiz Nation**	**32.80**	**88**	P	**P**	**P**	**19 49 14.6 +0.7**
AGMN				IAmb	IAmb	IAmb	19 49 15.6
	comp=Z,5.3nm,0.8s						
ESJX	**Sierra Juarez**	**36.77**	**127**	P	**P**	**P**	**19 49 49.2 +0.6**
SUMG	**Summit**	**38.52**	**27**	P	**P**	**P**	**19 50 02.8 -0.3**
SPITS	**Spitsbergen Ar**	**40.43**	**4**	P	**P**	**P**	**19 50 17.4 -1.2**
	comp=Z,12nm,0.9s,baz=18,slow=6.5,SNR=7.3						
	comp=Z,12nm,0.9s						
ARCES	**ARCESS Array B**	**49.33**	**2**	P	**P**	**P**	**19 51 28.0 -1.3**
	comp=Z,3.9nm,0.8s,baz=357,slow=6.3,SNR=3.7						
	comp=Z,3.9nm,0.8s						
KSRS	**Korea Array**	**54.28**	**284**	P	**P**	**P**	**19 52 06.2 -0.3**
	comp=Z,0.8nm,0.7s,baz=48,slow=6.1,SNR=2.8						
	comp=Z,0.8nm,0.7s						
SONM	**Songino Array**	**55.14**	**307**	P	**P**	**P**	**19 52 12.6 -0.2**
	comp=Z,0.4nm,0.7s,baz=46,slow=10,SNR=2.8						
	comp=Z,0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**57.10**	**325**	P	**P**	**P**	**19 52 23.1 -3.4**
	comp=Z,0.4nm,0.3s,baz=18,slow=9.7,SNR=2.1						
	comp=Z,0.4nm,0.3s						
FINES	**FINESS Array B**	**57.46**	**2**	P	**P**	**P**	**19 52 28.1 -0.8**
	comp=Z,3.1nm,0.8s,baz=349,slow=7.5,SNR=9.3						
	comp=Z,3.1nm,0.8s						
HFS	**Hagfors**	**58.16**	**9**	P	**P**	**P**	**19 52 32.5 -1.4**
	comp=Z,3.2nm,0.8s,baz=64,slow=3.4,SNR=5.7						
	comp=Z,3.2nm,0.8s						
HHC	**Hu-ho-hao-te**	**58.82**	**299**	*e*P	**P**	**P**	**19 52 43.3 +4.4**
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,340nm,5.5s						
EKA	**Eskdalemuir Ar**	**60.73**	**21**	P	**P**	**P**	**19 52 51.0 -0.6**
	comp=Z,0.5nm,0.3s,baz=330,slow=5.6,SNR=8.4						
	comp=Z,0.5nm,0.3s						
BVAR	**Borovoye Array**	**61.50**	**334**	P	**P**	**P**	**19 52 55.3 -1.6**
	comp=Z,1.4nm,0.5s,baz=57,slow=8.0,SNR=11						
	comp=Z,1.4nm,0.5s						
KURBB	**Kurchatov Arra**	**61.79**	**327**	P	**P**	**P**	**19 52 57.1 -1.7**
	comp=Z,0.8nm,0.5s,baz=29,slow=6.6,SNR=12						
	comp=Z,0.8nm,0.5s						
MKAR	**Makanchi Array**	**64.23**	**323**	P	**P**	**P**	**19 53 13.1 -2.2**
	comp=Z,0.5nm,0.4s,baz=21,slow=6.8,SNR=6.8						
	comp=Z,0.5nm,0.4s						
AKASG	**Malin Array Be**	**68.26**	**1**	P	**P**	**P**	**19 53 39.5 -1.4**
	comp=Z,0.8nm,0.3s,baz=358,slow=5.8,SNR=7.8						
	comp=Z,0.8nm,0.3s						
VRAC	**Vranov**	**69.14**	**9**	*e*P	**P**	**P**	**19 53 45.5 -0.9**
STHS	**Stebnicka Huta**	**69.33**	**6**	*e*	**P**	**P**	**19 53 47.4 -0.2**
GERES	**GERESS Array B**	**69.35**	**11**	P	**P**	**P**	**19 53 47.9 +0.1**
	comp=Z,1.2nm,0.7s,baz=32,slow=3.3,SNR=5.2						
	comp=Z,1.2nm,0.7s						
KOLS	**Kolonicke sedl**	**69.86**	**5**	*e*		P	19 53 56.2 +5.4
VYHS	**Vyhne**	**70.11**	**8**	*e*		**P**	**19 53 52.7 +0.3**
CONA	**Conrad Observa**	**70.45**	**10**	*i* P		**P**	**19 53 55.0 +0.5**
	comp=Z,5.6nm,0.9s						
DAVA	**Damuels**	**70.48**	**14**	*i* P		**P**	**19 53 54.9 +0.1**
	comp=Z,13nm,1.4s						
MOTA	**Moosalm**	**70.56**	**13**	*i* P		**P**	**19 53 55.4 +0.1**
	comp=Z,13nm,1.6s						
WATA	**Walderalm**	**70.62**	**13**	*i* P		**P**	**19 53 56.1 +0.4**
	comp=Z,2.9nm,0.7s						
SQTA	**Sankt Quirin**	**70.69**	**13**	*i* P		**P**	**19 53 56.8 +0.7**
	comp=Z,5.4nm,0.9s						
WTTA	**Wattenberg**	**70.70**	**13**	*i* P		**P**	**19 53 56.4 +0.2**
	comp=Z,3.1nm,0.6s						
RONA	**Rosalia, Austr**	**70.71**	**10**	*i* P		**P**	**19 53 56.8 +0.7**
	comp=Z,3.5nm,0.9s						
FETA	**Feichten**	**70.84**	**14**	*i* P		**P**	**19 53 57.8 +0.8**
	comp=Z,10nm,2.1s						
KBA	**Koelnbreinsper**	**71.06**	**12**	*i* P		**P**	**19 53 59.3 +0.9**
	comp=Z,8.0nm,0.9s						
ARSA	**Arzberg**	**71.09**	**10**	*i* P		**P**	**19 53 58.7 +0.3**
	comp=Z,4.6nm,1.4s						
ABTA	**Abfaltersbach**	**71.30**	**13**	*i* P		**P**	**19 54 00.9 +1.1**
	comp=Z,5.2nm,1.1s						
SOKA	**Soboth**	**71.62**	**11**	*i* P		**P**	**19 54 02.0 +0.4**
	comp=Z,4.8nm,1.1s						
OBKA	**Obir**	**71.74**	**11**	*i* P		**P**	**19 54 02.9 +0.5**
	comp=Z,8.3nm,0.6s						
PZH	**PanZhiHua**	**75.28**	**298**	P		**P**	**19 54 26.0 +2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ESDC	**Sonseca Array**	**75.58**	**26**	P		**P**	**19 54 24.9 0.0**
	comp=Z,1.2nm,0.7s,baz=343,slow=5.8,SNR=9.0						
	comp=Z,1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**83.57**	**297**	P		**P**	**19 55 07.6 -1.0**
	comp=Z,0.4nm,0.6s,baz=8.3,slow=6.4,SNR=4.8						
	comp=Z,0.4nm,0.6s						
BOSA	**Boshof**	**147.08**	**8**	PKPbc		**PKPdf**	**20 02 21

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=E,47nm,0.6s						
CNPM				IAML		19 49 35.7	
	comp=N,50nm,0.4s						
HIN	**Hinchinbrook I**	**2.02**	**119**		Pn	19 49 05.2	-0.7
TRF	**Thorofare Moun**	**2.03**	**357**		Pn	19 49 05.0	-1.2
DIV	**Divide**	**2.08**	**96**		Pn	19 49 06.4	-0.5
ILS	**Iliamna Low So**	**2.10**	**227**		Pn	19 49 06.7	-0.4
M19K	**Big River Lodg**	**2.13**	**285**		Pn	19 49 07.3	-0.2
N19K	**Bonanza Creek**	**2.24**	**256**		Pn	19 49 09.0	-0.1
N19K				IAML		19 50 36.4	
	comp=N,38nm,0.5s						
EYAK	**Cordova Ski Ar**	**2.27**	**111**		Pn	19 49 09.0	-0.4

*IDC **30** 19:49:54.5±1.5, 61°.31N×149°.86W, h42km±32km, mb3.2/1, mbtmp3.3/5, ML3.1/4, Error ellipse: s-maj=40.1km s-min=10.7km az=113.0*
*NEIC **30** 19:49:55.7±1.7, 61°.44N±0°.02×150°.10W±0°.05, h39km±6km, Error ellipse: s-maj=3.3km s-min=3.3km az=101.0*
*AEIC **30** 19:49:56.3±1.4, 61°.41N±0°.02×150°.09W±0°.04, h32km±7km, ML3.4, ML3.4/194(NEIC), Error ellipse: s-maj=3.4km s-min=1.7km az=50.0*

ISC 30 19:49:55.6±1.0, 61°.41N±0°.03×150°.09W±0°.02, h42km, n197, σ0°69/203, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.32**	**280**	Pg	**Pn**	**19 50 03.9**	**-0.5**
SUA				IAML		19 50 11.2	
	comp=E,5μm,0.8s						
SUA				IAML		19 50 11.6	
	comp=N,3μm,0.7s						
SUA	**Susitna One**	**0.32**	**280**		**Sn**	**19 50 10.7**	**+0.2**
SUA	**Susitna One**	**0.32**	**280**	P	**Pn**	**19 50 03.8**	**-0.5**
	baz=100						
SUA				S	**Sn**	**19 50 10.7**	**+0.2**
	baz=100						
M22K	**Willow**	**0.34**	**357**		**Pn**	**19 50 03.5**	**-0.9**
M22K				IAML		19 50 11.4	
	comp=N,6μm,0.7s						
M22K				IAML		19 50 11.5	
	comp=E,4μm,0.7s						
M22K	**Willow**	**0.34**	**357**		**Sn**	**19 50 10.6**	**-0.1**
M22K	**Willow**	**0.34**	**357**	P	**Pn**	**19 50 03.5**	**-0.9**
	baz=178						
M22K				S	**Sn**	**19 50 10.6**	**-0.1**
	baz=178						
RC01	**Rabbit Creek A**	**0.36**	**152**		**Pn**	**19 50 04.2**	**-0.5**
RC01				IAML		19 50 11.7	
	comp=E,4μm,0.5s						
RC01				IAML		19 50 11.7	
	comp=N,5μm,0.3s						
RC01	**Rabbit Creek A**	**0.36**	**152**		**Sn**	**19 50 11.3**	**+0.2**
RC01	**Rabbit Creek A**	**0.36**	**152**	P	**Pn**	**19 50 04.2**	**-0.5**
	baz=332						
RC01				S	**Sn**	**19 50 11.3**	**+0.2**
	baz=332						
PMR	**Palmer**	**0.49**	**68**	Pn	**Pn**	**19 50 05.3**	**-1.0**
PMR	**Palmer**	**0.49**	**68**		**Sn**	**19 50 13.6**	**-0.3**
PMR	**Palmer**	**0.49**	**68**	IAML		19 50 14.2	
	comp=N,4μm,0.2s						
PMR				IAML		19 50 14.2	
	comp=E,3μm,0.4s						
PMR	**Palmer**	**0.49**	**68**	P	**Pn**	**19 50 05.3**	**-1.0**
	baz=249						
PMR				S	**Sn**	**19 50 13.6**	**-0.3**
	baz=249						
GHO	**Glory Hole Cre**	**0.66**	**56**	Pn	**Pn**	**19 50 07.9**	**-0.7**
GHO				IAML		19 50 32.6	
	comp=N,2μm,0.5s						
GHO				IAML		19 50 32.6	
	comp=E,3μm,0.3s						
GHO	**Glory Hole Cre**	**0.66**	**56**		**Sn**	**19 50 18.5**	**+0.5**
KNK	**Knik Glacier**	**0.78**	**89**		**Pn**	**19 50 09.9**	**-0.3**
KNK					**Sn**	**19 50 21.9**	**+1.2**
KNK	**Knik Glacier**	**0.78**	**89**	P	**Pn**	**19 50 09.9**	**-0.3**
	baz=270						
KNK				S	**Sn**	**19 50 21.9**	**+1.2**
	baz=270						
CAPN	**Captain Cook N**	**0.83**	**219**		**Pn**	**19 50 11.5**	**+0.8**
STLK	**Strandline Lak**	**0.84**	**277**		**Pn**	**19 50 10.8**	**-0.2**
STLK					**Sn**	**19 50 22.3**	**0.0**
SKT	**Skwentna**	**0.90**	**310**		**Sn**	**19 50 23.2**	**-0.3**
SKT	**Skwentna**	**0.90**	**310**	P	**Pn**	**19 50 11.0**	**-0.8**
	baz=129						
SKT				S	**Sn**	**19 50 23.2**	**-0.3**
	baz=129						
SLKM	**Skilak Lake**	**0.91**	**184**		**Pn**	**19 50 12.1**	**+0.2**
SML	**Sawmill**	**0.93**	**64**		**Pn**	**19 50 11.4**	**-0.8**
SML				IAML		19 50 27.2	
	comp=N,2μm,0.4s						
SML				IAML		19 50 28.2	
	comp=E,1μm,0.6s						
SML	**Sawmill**	**0.93**	**64**	P	**Pn**	**19 50 11.6**	**-0.6**
	baz=245						
SPCG	**Spurr Capps Gl**	**0.94**	**264**		**Pn**	**19 50 12.2**	**-0.2**
O22K	**Cooper Landing**	**0.95**	**169**		**Pn**	**19 50 12.4**	**0.0**
O22K	**Cooper Landing**	**0.95**	**169**	P	**Pn**	**19 50 12.5**	**+0.1**
	baz=349						
CUT	**Chulitna**	**1.00**	**355**		**Pn**	**19 50 12.6**	**-0.6**
CUT	**Chulitna**	**1.00**	**355**	P	**Pn**	**19 50 12.5**	**-0.6**
	baz=175						
SPCP	**Crater Peak Br**	**1.01**	**263**		**Pn**	**19 50 13.3**	**0.0**
PWL	**Port Wells**	**1.01**	**122**		**Pn**	**19 50 12.8**	**-0.5**
PWL	**Port Wells**	**1.01**	**122**	P	**Pn**	**19 50 13.3**	**0.0**
	baz=304						
SPCN	**Chakachatna No**	**1.03**	**261**		**Pn**	**19 50 13.6**	**+0.1**
N20K	**Mount Spurr**	**1.05**	**259**	P	**Pn**	**19 50 13.5**	**-0.3**
	baz=78						
SPCR	**Spurr Chakacha**	**1.05**	**259**		**Pn**	**19 50 13.5**	**-0.3**
SPCR	**Spurr Chakacha**	**1.05**	**259**		**Pn**	**19 50 13.5**	**-0.3**
SPCR	**Spurr Chakacha**	**1.05**	**259**	P	**Pn**	**19 50 13.5**	**-0.3**
	baz=78						
CKL	**Chakachamna La**	**1.11**	**260**		**Pn**	**19 50 14.5**	**-0.2**
M23K	**Glacier View**	**1.19**	**70**		**Pn**	**19 50 15.8**	**0.0**
M23K	**Glacier View**	**1.19**	**70**	P	**Pn**	**19 50 15.8**	**0.0**
	baz=252						
SEW	**Seward**	**1.35**	**166**		**Pn**	**19 50 17.6**	**-0.3**
SEW	**Seward**	**1.35**	**166**	P	**Pn**	**19 50 17.6**	**-0.3**
	baz=347						
SCM	**Sheep Creek Mo**	**1.38**	**71**	P	**Pn**	**19 50 18.6**	**+0.1**
	baz=253						
RDT	**Redoubt**	**1.41**	**234**		**Pn**	**19 50 18.5**	**-0.2**
M20K	**Styx River**	**1.53**	**289**		**Pn**	**19 50 21.1**	**+0.6**
M20K	**Styx River**	**1.53**	**289**	IAML		19 50 42.8	
	comp=E,332nm,0.6s						
M20K				IAML		19 50 43.2	
	comp=N,378nm,0.8s						
M20K	**Styx River**	**1.53**	**289**	P	**Pn**	**19 50 21.1**	**+0.6**
	baz=107						
WAT7	**Susitna Watana**	**1.54**	**22**		**Pn**	**19 50 20.8**	**+0.2**
GLI	**Glacier Island**	**1.54**	**109**		**Pn**	**19 50 20.2**	**-0.3**
GLI				IAML		19 51 00.2	
	comp=N,747nm,0.5s						
GLI	**Glacier Island**	**1.54**	**109**	P	**Pn**	**19 50 20.3**	**-0.3**
	baz=292						
RDJH	**Redoubt Jeurge**	**1.56**	**239**		**Pn**	**19 50 20.7**	**-0.2**
WAT1	**Susitna Watana**	**1.60**	**26**		**Pn**	**19 50 21.6**	**+0.2**
WAT1	**Susitna Watana**	**1.60**	**26**	P	**Pn**	**19 50 21.6**	**+0.2**
	baz=208						
RDSO	**Redoubt South**	**1.61**	**235**		**Pn**	**19 50 21.5**	**-0.2**
WAT6	**Susitna Watana**	**1.61**	**42**		**Pn**	**19 50 21.8**	**+0.1**
WAT6	**Susitna Watana**	**1.61**	**42**	P	**Pn**	**19 50 21.8**	**+0.1**
	baz=224						
RDWB	**Redoubt West**	**1.63**	**237**		**Pn**	**19 50 21.8**	**-0.1**
RED	**Redoubt Volcan**	**1.65**	**234**		**Pn**	**19 50 21.9**	**-0.1**
BRLK	**Bradley Lake**	**1.70**	**194**		**Pn**	**19 50 22.7**	**0.0**
BRLK				IAML		19 50 50.8	
	comp=N,461nm,0.4s						
BRLK				IAML		19 51 05.2	
	comp=E,541nm,0.4s						
BRSE	**Bradley Lake S**	**1.71**	**191**		**Pn**	**19 50 22.4**	**-0.4**
BRSE	**Bradley Lake S**	**1.71**	**191**	P	**Pn**	**19 50 22.4**	**-0.4**
	baz=11						
PPLA	**Purkeypile**	**1.79**	**327**		**Pn**	**19 50 24.1**	**+0.1**
PPLA	**Purkeypile**	**1.79**	**327**	P	**Pn**	**19 50 24.1**	**+0.1**
	baz=146						
O20K	**Slope Mountain**	**1.82**	**224**		**Pn**	**19 50 25.1**	**+0.6**
O20K	**Slope Mountain**	**1.82**	**224**	P	**Pn**	**19 50 25.0**	**+0.6**
	baz=42						
FID	**Port Fidalgo**	**1.87**	**109**		**Pn**	**19 50 24.1**	**-0.9**
FID				IAML		19 51 06.2	
	comp=N,578nm,0.3s						
HOM	**Homer**	**1.92**	**204**	Pn	**Pn**	**19 50 25.9**	**+0.2**
HOM	**Homer**	**1.92**	**204**	P	**Pn**	**19 50 26.4**	**+0.7**
	baz=23						
CNPM	**China Poot**	**1.97**	**197**		**Pn**	**19 50 26.3**	**-0.2**
M24K	**Tolsona, Glenn**	**1.99**	**68**		**Pn**	**19 50 27.7**	**+1.0**
M24K	**Tolsona, Glenn**	**1.99**	**68**	P	**Pn**	**19 50 27.9**	**+1.2**
	baz=251						
KLU	**Klutina**	**2.00**	**86**		**Pn**	**19 50 26.8**	**-0.1**
KLU				IAML		19 51 06.7	
	comp=N,478nm,0.4s						
KLU				IAML		19 51 07.7	
	comp=E,264nm,0.3s						
KLU	**Klutina**	**2.00**	**86**	P	**Pn**	**19 50 26.8**	**-0.1**
	baz=269						
IVE	**Iliamna Volcan**	**2.01**	**227**		**Pn**	**19 50 27.8**	**+0.8**
HIN	**Hinchinbrook I**	**2.02**	**119**		**Pn**	**19 50 26.6**	**-0.6**
HIN				IAML		19 50 59.1	
	comp=N,492nm,0.9s						
TRF	**Thorofare Moun**	**2.05**	**357**		**Pn**	**19 50 27.8**	**+0.2**
TRF	**Thorofare Moun**	**2.05**	**357**	IAML		19 51 10.6	
	comp=N,261nm,0.7s						
TRF				IAML		19 51 10.8	
	comp=E,216nm,0.5s						
TRF	**Thorofare Moun**	**2.05**	**357**	P	**Pn**	**19 50 27.8**	**+0.2**
	baz=177						
ILS	**Iliamna Low So**	**2.07**	**227**		**Pn**	**19 50 28.4**	**+0.5**
ILSW	**Iliamna Southw**	**2.08**	**228**		**Pn**	**19 50 28.6**	**+0.6**
ILSW				IAML		19 50 59.2	
	comp=E,197nm,0.8s						
RND	**Reindeer**	**2.08**	**15**	Pn	**Pn**	**19 50 28.8**	**+0.8**
L20K	**Farewell, AK**	**2.09**	**303**		**Pn**	**19 50 28.1**	**0.0**
L20K	**Farewell, AK**	**2.09**	**303**	P	**Pn**	**19 50 28.1**	**0.0**
	baz=119						
DHY	**Denali Highway**	**2.10**	**36**	Pn	**Pn**	**19 50 28.9**	**+0.6**
DHY				IAML		19 51 00.9	
	comp=N,225nm,0.8s						
DHY				IAML		19 51 11.8	
	comp=E,345nm,0.5s						
DIV	**Divide**	**2.10**	**96**		**Pn**	**19 50 28.1**	**-0.2**
M19K	**Big River Lodg**	**2.11**	**285**		**Pn**	**19 50 28.6**	**+0.2**
M19K	**Big River Lodg**	**2.11**	**285**	P	**Pn**	**19 50 28.6**	**+0.2**
	baz=102						
KTH	**Kantishna Hill**	**2.19**	**350**		**Pn**	**19 50 30.4**	**+0.9**
KTH				IAML		19 51 12.5	
	comp=N,254nm,0.9s						
KTH				IAML		19 51 15.2	
	comp=E,259nm,0.8s						
N19K	**Bonanza Creek**	**2.22**	**256**	P	**Pn**	**19 50 30.1**	**+0.2**
	baz=72						
CAST	**Castle Rocks**	**2.22**	**336**	Pn	**Pn**	**19 50 30.4**	**+0.5**
CAST				IAML		19 51 13.4	
	comp=E,167nm,0.6s						
CAST	**Castle Rocks**	**2.22**	**336**	P	**Pn**	**19 50 30.1**	**+0.3**
	baz=154						
EYAK	**Cordova Ski Ar**	**2.28**	**110**		**Pn**	**19 50 30.9**	**+0.2**
EYAK	**Cordova Ski Ar**	**2.28**	**110**	P	**Pn**	**19 50 30.9**	**+0.2**
	baz=294						
P19K	**Oil Pt**	**2.35**	**223**		**Pn**	**19 50 33.0**	**+1.3**
P19K	**Oil Pt**	**2.35**	**223**	P	**Pn**	**19 50 32.7**	**+1.1**
	baz=40						
L19K	**White Mountain**	**2.39**	**291**	Pn	**Pn**	**19 50 32.6**	**+0.4**
L19K				IAML		19 51 32.5	
	comp=E,143nm,0.8s						
L19K	**White Mountain**	**2.39**	**291**	P	**Pn**	**19 50 32.8**	**+0.5**
	baz=107						
O19K	**Port Alsworth**	**2.41**	**241**		**Pn**	**19 50 32.5**	**+0.1**
HARP	**HAARP**	**2.54**	**65**		**Pn**	**19 50 35.0**	**+0.8**
HARP	**HAARP**	**2.54**	**65**	P	**Pn**	**19 50 35.0**	**+0.8**
	baz=249						
N25K	**Chitina, Valde**	**2.64**	**83**		**Pn**	**19 50 36.6**	**+0.9**
N25K				IAML		19 51 17.6	
	comp=N,215nm,0.5s						
N25K				IAML		19 51 19.4	
	comp=E,178nm,0.5s						
N25K	**Chitina, Valde**	**2.64**	**83**	P	**Pn**	**19 50 36.3**	**+0.7**
	baz=268						
SVW2	**Sparrevohn**	**2.67**	**266**	Pn	**Pn**	**19 50 36.0**	**-0.1**
CHUM	**Lake Minchumin**	**2.69**	**338**		**Pn**	**19 50 36.8**	**+0.6**
CHUM	**Lake Minchumin**	**2.69**	**338**	P	**Pn**	**19 50 36.8**	**+0.6**
	baz=156						
K20K	**Telida**	**2.69**	**318**		**Pn**	**19 50 36.5**	**+0.1**
Q23K	**Middleton Isla**	**2.72**	**135**	Pn	**Pn**	**19 50 37.8**	**+1.2**
Q23K				IAML		19 51 37.4	
	comp=N,194nm,0.9s						
BPAW	**Bear Paw Mtn.**	**2.73**	**352**	Pn	**Pn**	**19 50 37.0**	**+0.1**
BPAW				IAML		19 51 24.9	
	comp=E,124nm,0.5s						
BWN	**Browne**	**2.79**	**6**		**Pn**	**19 50 39.1**	**+1.5**
BWN				IAML		19 51 25.9	
	comp=E,230nm,1.1s						
RAGM	**Ragged Mountai**	**2.84**	**109**		**Pn**	**19 50 37.1**	**-1.2**
N18K	**Kilae Creek**	**2.92**	**258**		**Pn**	**19 50 39.4**	**-0.1**
O18K	**Koktuh Hills**	**2.97**	**241**		**Pn**	**19 50 39.9**	**-0.2**
O18K				IAML		19 51 33.3	
	comp=N,81nm,0.5s						
O18K				IAML		19 51 43.0	
	comp=E,83nm,1.1s						
GLB	**Gilahina Butte**	**3.02**	**87**		**Pn**	**19 50 41.5**	**+0.7**
GLB				IAML		19 51 27.7	
	comp=N,171nm,0.6s						
GLB				IAML		19 51 28.3	
	comp=E,85nm,0.7s						
SYI	**Shuyak Island**	**3.04**	**203**	Pn	**Pn**	**19 50 41.0**	**0.0**
SYI				IAML		19 51 26.9	
	comp=E,134nm,0.8s						
SYI				IAML		19 51 27.9	
	comp=N,104nm,0.7s						
Q19K	**Cape Douglas,**	**3.06**	**217**		**Pn**	**19 50 41.6**	**+0.2**
KAIM	**Kayak Island**	**3.16**	**116**	Pn	**Pn**	**19 50 43.6**	**+0.8**
KAIM				IAML		19 51 45.5	
	comp=E,92nm,1.1s						
KAIM				IAML		19 51 50.9	
	comp=N,104nm,1.1s						
TTA	**Tatalina**	**3.17**	**301**		**Pn**	**19 50 42.8**	**-0.1**
VRDI	**Verde Repeater**	**3.20**	**90**		**Pn**	**19 50 44.9**	**+1.3**
VRDI				IAML		19 51 32.5	
	comp=N,92nm,0.6s						
WRH	**Wood River Hil**	**3.21**	**16**		**Pn**	**19 50 44.1**	**+0.8**
NEA2	**Nenana**	**3.23**	**8**		**Pn**	**19 50 44.2**	**+0.6**
L18K	**Granite Mounta**	**3.24**	**287**		**Pn**	**19 50 43.8**	**0.0**
P18K	**Big Mountain,**	**3.26**	**234**	Pn	**Pn**	**19 50 43.4**	**-0.7**
BERG	**Berg Lake**	**3.28**	**105**		**Pn**	**19 50 43.7**	**-0.7**
HDA	**Harding Lake**	**3.34**	**24**		**Pn**	**19 50 45.7**	**+0.6**
HDA				IAML		19 51 47.4	
	comp=E,97nm,0.7s						
HDA				IAML		19 51 54.2	
	comp=N,126nm,0.7s						
J20K	**Nowinta River**	**3.34**	**328**		**Pn**	**19 50 45.2**	**-0.1**
J20K				IAML		19 51 25.1	
	comp=N,132nm,0.6s						
J20K				IAML		19 51 42.9	
	comp=E,114nm,0.5s						
RIDG	**Independent Ri**	**3.37**	**44**		**Pn**	**19 50 46.6**	**+1.0**
SUCK	**Suckling Hills**	**3.38**	**111**	IAML		19 51 53.6	
	comp=N,129nm,0.6s						
SUCK				IAML		19 52 01.4	
	comp=E,74nm,1.2s						
MCARA	**McCarthy VSAT**	**3.40**	**87**		**Pn**	**19 50 47.5**	**+1.5**
CCB	**Clear Creek Bu**	**3.41**	**17**	Pn	**Pn**	**19 50 47.0**	**+0.8**
CCB				IAML		19 51 46.0	
	comp=E,56nm,0.5s						
CRQM	**Cirque**	**3.44**	**98**		**Pn**	**19 50 46.1**	**-0.6**
M26K	**Nabesna, AK**	**3.50**	**70**		**Pn**	**19 50 47.7**	**+0.3**
M26K				IAML		19 51 45.7	
	comp=N,99nm,0.7s						
M26K				IAML		19 51 49.1	
	comp=E,94nm,0.5s						
M17K	**Holitna River**	**3.54**	**273**		**Pn**	**19 50 48.0**	**+0.1**
M17K				IAML		19 51 51.7	
	comp=E,104nm,0.7s						
L26K	**Log Cabin Wild**	**3.55**	**60**		**Pn**	**19 50 47.2**	**-0.9**
N17K	**Nushagak Hills**	**3.57**	**259**		**Pn**	**19 50 48.1**	**-0.3**
N17K				IAML		19 51 30.3	
	comp=E,51nm,0.9s						
N17K				IAML		19 51 49.0	
	comp=N,85nm,0.8s						
TGL	**Tana Glacier**	**3.58**	**97**		**Pn**	**19 50 50.0**	**+1.4**
TGL				IAML		19 52 02.3	
	comp=N,115nm,0.5s						
COLA	**College**	**3.62**	**15**		**Pn**	**19 50 50.1**	**+1.0**
J19K	**Poorman**	**3.64**	**318**	Pn	**Pn**	**19 50 49.3**	**+0.1**
J19K				IAML		19 51 45.3	
	comp=E,56nm,0.6s						
J19K				IAML		19 51 48.5	
	comp=N,52nm,0.7s						
MLY	**Manley**	**3.65**	**356**	Pn	**Pn**	**19 50 50.0**	**+0.5**
IL31		**3.67**	**22**		**Pn**	**19 50 51.2**	**+1.5**
ILAR	**Eielson Array**	**3.67**	**22**	Pn	**Pn**	**19 50 50.8**	**+1.0**
ILAR	**Eielson Array**	**3.67**	**22**	P	**Pn**	**19 50 51.1**	**+1.3**
	comp=N,1.7nm,0.3s,baz=197,slow=13,SNR=6.9						
ILAR				S	**Sn**	**19 51 31.8**	**0.0**
	comp=N,4.6nm,0.4s,baz=204,slow=28,SNR=2.0						
	comp=N,2.6nm,0.3s						
IL03	**Eielson Array**	**3.68**	**22**	Pn	**Pn**	**19 50 50.1**	**+0.2**
J18K	**Innoko River**	**3.71**	**307**	Pn	**Pn**	**19 50 50.4**	**+0.2**
J18K				IAML		19 51 51.3	
	comp=N,60nm,0.7s						
I23K	**Minto, Yukon-K**	**3.77**	**5**		**Pn**	**19 50 51.7**	**+0.6**
I23K				IAML		19 52 07.2	
	comp=N,52nm,0.7s						
I23K				IAML		19 52 09.8	
	comp=E,46nm,0.9s						
SCRK	**Sand Creek**	**3.81**	**45**	Pn	**Pn**	**19 50 52.8**	**+1.0**
SCRK				IAML		19 52 02.8	
	comp=N,51nm,0.8s						
SCRK				IAML		19 52 03.2	
	comp=E,64nm,0.6s						
KDAK	**Kodiak Island**	**3.85**	**200**	Pn	**Pn**	**19 50 52.2**	**0.0**
KDAK				IAML		19 52 12.4	
	comp=E,51nm,0.7s						
KDAK				IAML		19 52 12.9	
	comp=E,80nm,0.9s						
KDAK	**Kodiak Island**	**3.85**	**200**	P	**Pn**	**19 50 50.5**	**-1.7**
	comp=E,1.2nm,0.3s,baz=33,slow=17,SNR=10.0						
KDAK				S	**Sn**	**19 51 33.8**	**-2.4**
	comp=E,9.8nm,0.4s,baz=1.9,slow=10,SNR=2.0						
	comp=E,3.2nm,0.3s						
J25K	**Salcha River,**	**3.87**	**32**		**Pn**	**19 50 52.7**	**+0.2**
J25K				IAML		19 51 45.7	
	comp=E,97nm,0.6s						
J25K				IAML		19 52 01.6	
	comp=N,72nm,0.4s						
I21K	**Tanana**	**3.88**	**348**		**Pn**	**19 50 53.1**	**+0.5**
I21K				IAML		19 52 18.1	
	comp=N,38nm,1.1s						
POKR	**Poker Plat Res**	**3.91**	**17**	Pn	**Pn**	**19 50 53.5**	**+0.5**
POKR				IAML		19 52 11.9	
	comp=E,40nm,0.7s						
POKR				IAML		19 52 14.5	
	comp=N,38nm,0.7s						
I20K	**Naaghedeneel**	**3.94**	**332**	Pn	**Pn**	**19 50 53.1**	**-0.3**
M27K	**Edge Creek, AK**	**4.00**	**73**		**Pn**	**19 50 54.9**	**+0.5**
M27K				IAML		19 52 11.3	
	comp=N,36nm,1.1s						
M27K				IAML		19 52 17.8	
	comp=E,38nm,0.9s						
K17K	**Iditarod**	**4.08**	**292**	Pn	**Pn**	**19 50 55.5**	**+0.2**
K17K				IAML		19 52 17.1	
	comp=N,54nm,1.1s						
K17K				IAML		19 52 17.9	
	comp=E,80nm,1.0s						
GRNC	**Granite Creek**	**4.11**	**96**		**Pn**	**19 50 57.2**	**+1.3**
GRNC				IAML		19 52 09.1	
	comp=E,33nm,0.5s						
GRNC				IAML		19 52 18.7	
	comp=N,62nm,0.6s						
ACHA	**Angle Creek He**	**4.16**	**222**	Pn	**Pn**	**19 50 57.3**	**+0.8**
L27K	**Beaver Creek,**	**4.20**	**63**	Pn	**Pn**	**19 50 57.6**	**+0.5**
BCAR	**Beaver Creek A**	**4.22**	**63**	Pn	**Pn**	**19 50 57.6**	**+0.2**
CTGM	**Chitina Glacie**	**4.26**	**92**	Pn	**Pn**	**19 50 58.5**	**+0.5**
CTGM				IAML		19 52 08.1	
	comp=E,29nm,0.6s						
CTGM				IAML		19 52 11.2	
	comp=N,34nm,0.8s						
J26L	**Joseph Creek**	**4.30**	**41**	Pn	**Pn**	**19 51 00.5**	**+2.0**
M16K	**Timber Creek**	**4.31**	**269**		**Pn**	**19 50 58.1**	**-0.4**
M16K				IAML		19 52 21.3	
	comp=E,29nm,0.9s						
O16K	**Kokwok River B**	**4.36**	**249**	Pn	**Pn**	**19 50 59.2**	**+0.1**
O16K				IAML		19 52 33.2	
	comp=N,28nm,0.8s						
H21K	**Melozitna River**	**4.43**	**345**		**Pn**	**19 51 00.6**	**+0.4**
H23K	**Yukon River**	**4.44**	**3**		**Pn**	**19 51 00.9**	**+0.6**
LOGN	**Logan Glacier**	**4.45**	**94**	Pn	**Pn**	**19 51 01.5**	**+1.0**
LOGN				IAML		19 52 13.6	
	comp=E,40nm,1.1s						
LOGN				IAML		19 52 19.9	
	comp=N,32nm,0.4s						
L16K	**Owhat River**	**4.50**	**278**	Pn	**Pn**	**19 51 00.7**	**-0.4**
L16K				IAML		19 52 25.5	
	comp=N,29nm,0.9s						
OHAK	**Old Harbor**	**4.51**	**203**	Pn	**Pn**	**19 51 01.9**	**+0.7**
OHAK				IAML		19 52 30.4	
	comp=E,38nm,1.1s						
OHAK				IAML		19 52 36.8	
	comp=N,30nm,1.2s						
H24K	**Noodor Dome**	**4.55**	**12**		**Pn**	**19 51 03.2**	**+1.3**
H24K				IAML		19 52 34.4	
	comp=E,26nm,0.8s						
PRP	**Porcupine Dome**	**4.60**	**24**	Pn	**Pn**	**19 51 03.6**	**+0.9**
PRP				IAML		19 52 18.2	
	comp=E,41nm,0.5s						
PRP				IAML		19 52 22.7	
	comp=N,46nm,0.7s						
J17K	**VABM Dome**	**4.63**	**299**	Pn	**Pn**	**19 51 02.5**	**-0.5**
J17K				IAML		19 52 25.6	
	comp=N,25nm,0.8s						
IMAR	**Indian Mountai**	**4.87**	**342**	Pn	**Pn**	**19 51 07.0**	**+0.8**
H19K	**Roundabout Mou**	**5.02**	**328**		**Pn**	**19 51 08.1**	**-0.1**
H19K				IAML		19 52 53.1	
	comp=E,18nm,0.9s						
N15K	**Kwethluk River**	**5.06**	**260**	Pn	**Pn**	**19 51 08.9**	**+0.1**
N15K				IAML		19 52 43.0	
	comp=E,36nm,0.8s						
N15K				IAML		19 52 52.9	
	comp=N,33nm,1.1s						
J16K	**Anvik River**	**5.25**	**296**	Pn	**Pn**	**19 51 11.3**	**0.0**
J16K				IAML		19 52 48.4	
	comp=N,18nm,0.8s						
H18K	**Honhosa River**	**5.29**	**319**	Pn	**Pn**	**19 51 12.3**	**+0.3**
H18K				IAML		19 52 15.4	
	comp=E,16nm,0.8s						
G23K	**Bananza Creek**	**5.32**	**0**	Pn	**Pn**	**19 51 13.6**	**+1.2**
BCPM	**Bancas Point**	**5.34**	**101**	Pn	**Pn**	**19 51 12.2**	**-0.5**
BCPM				IAML		19 52 37.8	
	comp=E,30nm,0.8s						
BCPM				IAML		19 53 04.3	
	comp=N,26nm,1.0s						
G21K	**Allak

M22K	**Willow**	**0.27 337**		**Pn**	**19 50 19.3**	**-0.4**
M22K				**Sn**	**19 50 26.1**	**+0.7**
M22K	**Willow**	**0.27 337**	IAML		19 50 26.3	
	comp=E,4μm,0.6s					
M22K			IAML		19 50 26.6	
	comp=N,4μm,0.5s					
M22K	**Willow**	**0.27 337**	P	**Pn**	**19 50 19.3**	**-0.4**
	baz=156					
M22K			S	**Sn**	**19 50 26.1**	**+0.7**
	baz=156					
PMR	**Palmer**	**0.38 77**		**Pn**	**19 50 20.3**	**-0.6**
PMR				**Sn**	**19 50 27.4**	**0.0**
PMR	**Palmer**	**0.38 77**	IAML		19 50 27.9	
	comp=E,2μm,0.3s					
PMR			IAML		19 50 29.4	
	comp=N,2μm,0.3s					
PMR	**Palmer**	**0.38 77**	P	**Pn**	**19 50 20.3**	**-0.6**
	baz=258					
PMR			S	**Sn**	**19 50 27.4**	**0.0**
	baz=258					
SUA	**Susitna One**	**0.41 264**		**Pn**	**19 50 21.1**	**-0.4**
SUA				**Sn**	**19 50 28.6**	**+0.3**
SUA	**Susitna One**	**0.41 264**	P	**Pn**	**19 50 21.0**	**-0.4**
	baz=83					
SUA			S	**Sn**	**19 50 28.7**	**+0.3**
	baz=83					
RC01	**Rabbit Creek A**	**0.43 169**		**Pn**	**19 50 21.0**	**-0.6**
RC01			IAML		19 50 28.6	
	comp=E,4μm,0.3s					
RC01			IAML		19 50 29.1	
	comp=N,4μm,0.3s					
RC01	**Rabbit Creek A**	**0.43 169**		**Sn**	**19 50 28.2**	**-0.3**
RC01	**Rabbit Creek A**	**0.43 169**	P	**Pn**	**19 50 20.9**	**-0.6**
	baz=350					
RC01			S	**Sn**	**19 50 28.3**	**-0.3**
	baz=350					
GHO	**Glory Hole Cre**	**0.54 60**		**Sn**	**19 50 31.6**	**+0.5**
KNK	**Knik Glacier**	**0.70 97**		**Sn**	**19 50 36.2**	**+1.3**
KNK	**Knik Glacier**	**0.70 97**	S	**Sn**	**19 50 36.2**	**+1.3**
	baz=279					
SML	**Sawmill**	**0.81 68**		**Pn**	**19 50 25.8**	**-0.9**
SML	**Sawmill**	**0.81 68**	P	**Pn**	**19 50 25.8**	**-0.9**
	baz=249					
SKT	**Skwentna**	**0.91 302**		**Sn**	**19 50 40.4**	**+0.4**
SKT	**Skwentna**	**0.91 302**	S	**Sn**	**19 50 40.4**	**+0.4**
	baz=120					
STLK	**Strandline Lak**	**0.93 270**		**Pn**	**19 50 28.1**	**-0.1**
STLK				**Sn**	**19 50 40.9**	**+0.5**
PWL	**Port Wells**	**1.00 130**		**Sn**	**19 50 43.7**	**+1.5**
PWL	**Port Wells**	**1.00 130**	S	**Sn**	**19 50 43.7**	**+1.5**
	baz=312					

*NEIC **30** 19:51:31.2±0.5, 61°.50N±0°.03×149°.66W±0°.05, h58km±4km, Error ellipse: s-maj=4.0km s-min=3.2km az=168.0*
*AEIC **30** 19:51:32.0±0.7, 61°.50N±0°.01×149°.66W±0°.05, h54km±4km, ML3.2, ML3.6/36(NEIC), Error ellipse: s-maj=3.4km s-min=1.4km az=112.0*

ISC 30 19:51:31.5±1.3, 61°.50N±0°.03×149°.66W±0°.02, h55km±7km, n65, σ0°36/79, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMR	**Palmer**	**0.27**	**70**		**Pn**	**19 51 40.5**	**-0.4**
PMR					**Sn**	**19 51 47.7**	**+0.1**
PMR	**Palmer**	**0.27**	**70**	IAML		19 51 48.0	
	comp=N,3μm,0.2s						
PMR	**Palmer**	**0.27**	**70**	P	**Pn**	**19 51 40.5**	**-0.4**
	baz=250						
PMR				S	**Sn**	**19 51 47.7**	**+0.1**
	baz=250						
M22K	**Willow**	**0.33**	**319**		**Pn**	**19 51 40.9**	**-0.4**
M22K	**Willow**	**0.33**	**319**		**Sn**	**19 51 48.8**	**+0.3**
M22K	**Willow**	**0.33**	**319**	P	**Pn**	**19 51 40.8**	**-0.6**
	baz=139						
M22K				S	**Sn**	**19 51 48.8**	**+0.3**
	baz=139						
RC01	**Rabbit Creek A**	**0.42**	**185**		**Pn**	**19 51 42.1**	**-0.1**
RC01					**Sn**	**19 51 50.4**	**+0.5**
RC01	**Rabbit Creek A**	**0.42**	**185**	IAML		19 51 50.6	
	comp=E,9μm,0.1s						
RC01				IAML		19 51 50.6	
	comp=N,15μm,0.2s						
RC01	**Rabbit Creek A**	**0.42**	**185**	P	**Pn**	**19 51 42.1**	**-0.1**
	baz=5.2						
RC01				S	**Sn**	**19 51 50.4**	**+0.5**
	baz=5.2						
GHO	**Glory Hole Cre**	**0.44**	**52**		**Pn**	**19 51 42.3**	**-0.3**
GHO					**Sn**	**19 51 50.9**	**+0.3**
GHO				IAML		19 51 52.0	
	comp=N,4μm,0.4s						
SUA	**Susitna One**	**0.52**	**266**		**Pn**	**19 51 43.1**	**-0.3**
SUA					**Sn**	**19 51 52.4**	**+0.2**
SUA	**Susitna One**	**0.52**	**266**	IAML		19 51 53.3	
	comp=E,4μm,0.8s						
SUA				IAML		19 51 53.4	
	comp=N,3μm,0.7s						
SUA	**Susitna One**	**0.52**	**266**	P	**Pn**	**19 51 43.1**	**-0.3**
	baz=85						
SUA				S	**Sn**	**19 51 52.4**	**+0.2**
	baz=85						
KNK	**Knik Glacier**	**0.58**	**98**		**Pn**	**19 51 44.1**	**0.0**
KNK					**Sn**	**19 51 53.7**	**+0.5**
KNK				IAML		19 51 54.8	
	comp=N,2μm,0.4s						
KNK				IAML		19 51 55.4	
	comp=E,2μm,0.2s						
KNK	**Knik Glacier**	**0.58**	**98**	P	**Pn**	**19 51 44.1**	**0.0**
	baz=279						
KNK				S	**Sn**	**19 51 54.1**	**+0.8**
	baz=279						
SML	**Sawmill**	**0.70**	**64**		**Pn**	**19 51 45.3**	**-0.3**
SML	**Sawmill**	**0.70**	**64**		**Sn**	**19 51 56.0**	**+0.2**
SML				IAML		19 51 57.0	
	comp=N,3μm,0.7s						
SML				IAML		19 51 57.7	
	comp=E,2μm,0.7s						
SML	**Sawmill**	**0.70**	**64**	P	**Pn**	**19 51 45.3**	**-0.3**
	baz=245						
SML				S	**Sn**	**19 51 56.3**	**+0.5**
	baz=245						
PWL	**Port Wells**	**0.91**	**135**		**Pn**	**19 51 48.0**	**-0.2**
PWL					**Sn**	**19 52 00.6**	**+0.1**
PWL				IAML		19 52 01.5	
	comp=E,2μm,0.3s						
PWL				IAML		19 52 01.6	
	comp=N,2μm,0.3s						
PWL	**Port Wells**	**0.91**	**135**	P	**Pn**	**19 51 48.1**	**-0.1**
	baz=316						
PWL				S	**Sn**	**19 52 00.8**	**+0.3**
	baz=316						
CUT	**Chulitna**	**0.95**	**343**		**Pn**	**19 51 48.3**	**-0.3**
CUT	**Chulitna**	**0.95**	**343**	Sn	**Sn**	**19 52 01.8**	**+0.5**
CUT				IAML		19 52 04.2	
	comp=N,2μm,0.3s						
CUT	**Chulitna**	**0.95**	**343**	P	**Pn**	**19 51 48.3**	**-0.3**
	baz=162						
M23K	**Glacier View**	**0.97**	**72**		**Pn**	**19 51 48.8**	**-0.1**
M23K					**Sn**	**19 52 02.3**	**+0.5**
M23K	**Glacier View**	**0.97**	**72**	P	**Pn**	**19 51 48.8**	**-0.1**
	baz=253						
M23K				S	**Sn**	**19 52 02.3**	**+0.5**
	baz=253						
SKT	**Skwentna**	**1.01**	**299**		**Pn**	**19 51 49.1**	**-0.4**
SKT				IAML		19 52 03.5	
	comp=E,989nm,0.5s						
SKT	**Skwentna**	**1.01**	**299**		**Sn**	**19 52 02.9**	**+0.1**
SKT	**Skwentna**	**1.01**	**299**	P	**Pn**	**19 51 49.2**	**-0.4**
	baz=118						
SKT				S	**Sn**	**19 52 02.9**	**+0.1**
	baz=118						
O22K	**Cooper Landing**	**1.02**	**182**		**Pn**	**19 51 49.4**	**-0.2**
O22K	**Cooper Landing**	**1.02**	**182**	P	**Pn**	**19 51 49.8**	**+0.1**
	baz=1.7						
SLKM	**Skilak Lake**	**1.03**	**195**		**Pn**	**19 51 49.8**	**0.0**
STLK	**Strandline Lak**	**1.04**	**271**		**Pn**	**19 51 49.9**	**0.0**
STLK					**Sn**	**19 52 04.1**	**+0.5**
SPCG	**Spurr Capps Gl**	**1.15**	**260**		**Pn**	**19 51 51.5**	**0.0**
SCM	**Sheep Creek Mo**	**1.16**	**72**		**Pn**	**19 51 51.5**	**-0.1**
SCM				IAML		19 52 09.2	
	comp=N,895nm,0.6s						
SCM				IAML		19 52 09.6	
	comp=E,2μm,0.7s						
SCM	**Sheep Creek Mo**	**1.16**	**72**	P	**Pn**	**19 51 51.6**	**-0.1**
	baz=254						
SPCP	**Crater Peak Br**	**1.22**	**260**		**Pn**	**19 51 52.6**	**+0.1**
N20K	**Mount Spurr**	**1.26**	**257**	P	**Pn**	**19 51 52.7**	**-0.2**
	baz=75						
SPCR	**Spurr Chakacha**	**1.26**	**257**		**Pn**	**19 51 52.7**	**-0.2**
SPCR	**Spurr Chakacha**	**1.26**	**257**		**Pn**	**19 51 52.7**	**-0.2**
SPCR	**Spurr Chakacha**	**1.26**	**257**	P	**Pn**	**19 51 52.7**	**-0.2**
	baz=75						
WAT7	**Susitna Watana**	**1.39**	**16**		**Pn**	**19 51 54.6**	**-0.1**
GLI	**Glacier Island**	**1.39**	**116**		**Pn**	**19 51 54.0**	**-0.5**
GLI				IAML		19 52 12.6	
	comp=E,657nm,0.7s						
GLI				IAML		19 52 13.3	
	comp=N,663nm,0.3s						
GLI	**Glacier Island**	**1.39**	**116**	P	**Pn**	**19 51 54.1**	**-0.5**
	baz=298						
WAT1	**Susitna Watana**	**1.43**	**21**		**Pn**	**19 51 55.1**	**0.0**
WAT1	**Susitna Watana**	**1.43**	**21**	P	**Pn**	**19 51 55.1**	**0.0**
	baz=202						
SPNN	**North Nagishla**	**1.47**	**266**		**Pn**	**19 51 55.8**	**0.0**
RDT	**Redoubt**	**1.63**	**236**		**Pn**	**19 51 57.6**	**-0.3**
M20K	**Styx River**	**1.70**	**284**		**Pn**	**19 51 59.1**	**+0.3**
M20K	**Styx River**	**1.70**	**284**	P	**Pn**	**19 51 59.2**	**+0.4**
	baz=102						
FID	**Port Fidalgo**	**1.72**	**115**		**Pn**	**19 51 58.2**	**-0.9**
FID				IAML		19 52 20.7	
	comp=E,679nm,0.4s						
FID				IAML		19 52 21.1	
	comp=N,498nm,0.4s						
RDJH	**Redoubt Jeurge**	**1.78**	**240**		**Pn**	**19 51 59.8**	**-0.2**
KLU	**Klutina**	**1.79**	**89**		**Pn**	**19 51 59.7**	**-0.4**
KLU	**Klutina**	**1.79**	**89**	P	**Pn**	**19 51 59.7**	**-0.4**
	baz=272						
PPLA	**Purkeypile**	**1.83**	**321**		**Pn**	**19 52 00.3**	**-0.4**
PPLA	**Purkeypile**	**1.83**	**321**	P	**Pn**	**19 52 00.3**	**-0.4**
	baz=139						
RDSO	**Redoubt South**	**1.83**	**236**		**Pn**	**19 52 00.4**	**-0.4**
BRSE	**Bradley Lake S**	**1.84**	**197**		**Pn**	**19 52 00.1**	**-0.6**
BRSE	**Bradley Lake S**	**1.84**	**197**	P	**Pn**	**19 52 00.1**	**-0.6**
	baz=16						
BRLK	**Bradley Lake**	**1.85**	**200**		**Pn**	**19 52 00.3**	**-0.5**
RDWB	**Redoubt West**	**1.85**	**238**		**Pn**	**19 52 00.9**	**-0.1**
RED	**Redoubt Volcan**	**1.87**	**236**		**Pn**	**19 52 01.0**	**-0.1**
HIN	**Hinchinbrook I**	**1.90**	**124**		**Pn**	**19 52 01.1**	**-0.4**
DIV	**Divide**	**1.91**	**100**		**Pn**	**19 52 01.2**	**-0.6**
L20K	**Farewell, AK**	**2.22**	**298**		**Pn**	**19 52 05.3**	**-0.6**
L20K	**Farewell, AK**	**2.22**	**298**	P	**Pn**	**19 52 05.3**	**-0.6**
	baz=114						

*NOU **30** 19:52:14.4, 10°.44S×161°.58E, h16km, mb4.9/12, Solomon Islands*
*IDC **30** 19:52:16.7±3.0, 10°.43S×161°.54E, h77km±21km, mb3.7/10, mbtmp4.0/11, Error ellipse: s-maj=29.8km s-min=16.3km az=76.0*

ISC 30 19:52:14.9±0.7, 10°.46S±0°.08×161°.62E±0°.09, h61km, n22, σ1°80/23, mb3.9/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HURO	**Huro Makira**	**0.28**	**91**	P	Pn	19 52 22.4	-2.5
NGOA	**Tingoa Renbel**	**1.88**	**234**	P	**Pn**	**19 52 44.2**	**-0.5**
ALEG	**Aligegeo Malai**	**1.93**	**332**	P	**Pn**	**19 52 45.2**	**-0.2**
HNR	**Honiara**	**1.94**	**302**	P	**Pn**	**19 52 46.0**	**+0.5**
	123nm,0.3s,baz=133,slow=4.1,SNR=19						
HNR				S	**Sn**	**19 53 09.9**	**+1.0**
	447nm,0.3s,baz=166,slow=23,SNR=14						
HNR	**Honiara**	**1.94**	**302**	P	**Pn**	**19 52 47.5**	**+1.9**
TATA	**Tatamba Isabel**	**2.73**	**319**	P	**Pn**	**19 52 57.4**	**+1.0**
LUES	**Luesalemba Tem**	**4.22**	**93**	P	**Pn**	**19 53 17.4**	**+0.6**
VLAKA	**Lakatoro**	**7.96**	**135**	P	**Pn**	**19 54 10.7**	**+2.8**
DVP	**Devils Point**	**9.63**	**139**	P	**Pn**	**19 54 33.2**	**+2.5**
KOUNC	**Koumac, New Ca**	**10.35**	**166**	P	**Pn**	**19 54 41.4**	**+0.7**
DZM	**Mont Dzumac**	**12.44**	**159**	P	**Pn**	**19 55 12.1**	**+2.9**
	6.4nm,1.0s,baz=18,slow=16,SNR=36						
DZM				S	**Sn**	**19 57 22.3**	**-3.9**
	5.8nm,1.0s,baz=45,slow=20,SNR=1.7						
DZM	**Mont Dzumac**	**12.44**	**159**	P	**Pn**	**19 55 12.4**	**+3.2**
WRA	**Warramunga Arr**	**27.93**	**247**	P	**P**	**19 57 59.3**	**-0.3**
	1.4nm,0.6s,baz=77,slow=9.0,SNR=12						
	1.4nm,0.6s						
STKA	**Stephens Creek**	**28.23**	**218**	P	**P**	**19 58 02.5**	**+0.3**
	0.3nm,0.3s,baz=45,slow=20,SNR=7.3						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**29.50**	**240**	P	**P**	**19 58 13.1**	**-0.5**
	0.7nm,0.7s,baz=64,slow=10.0,SNR=7.3						
	0.7nm,0.7s						
MJAR	**Matsushiro Arr**	**51.69**	**336**	P	**P**	**20 01 14.2**	**-1.6**
	1.4nm,0.6s,baz=173,slow=8.1,SNR=4.6						
	1.4nm,0.6s						
USRK	**Ussuriysk Ar.**	**60.69**	**336**	P	**P**	**20 02 20.0**	**+0.2**
	3.1nm,0.7s,baz=92,slow=4.8,SNR=4.2						
	3.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**68.18**	**295**	P	**P**	**20 03 09.4**	**+0.1**
	0.3nm,0.3s,baz=128,slow=5.4,SNR=4.3						
	0.3nm,0.3s						
SONM	**Songino Array**	**75.84**	**325**	P	**P**	**20 03 54.9**	**+0.2**
	1.9nm,0.6s,baz=144,slow=5.8,SNR=15						
	1.9nm,0.6s						
MKAR	**Makanchi Array**	**90.34**	**318**	P	**P**	**20 05 09.0**	**-0.4**
	0.5nm,0.4s,baz=90,slow=6.5,SNR=6.7						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**93.65**	**321**	P	**P**	**20 05 22.4**	**-2.2**
	0.3nm,0.6s,baz=114,slow=2.4,SNR=4.2						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**99.01**	**322**	P	**Pdif**	**20 05 50.1**	**+1.2**
	0.7nm,0.9s,baz=22,slow=1.6,SNR=2.5						
	0.7nm,0.9s						

*NEIC **30** 19:55:29.6±1.2, 61°.40N±0°.02×150°.02W±0°.05, h45km±3km, Error ellipse: s-maj=3.5km s-min=3.0km az=115.0*
*AEIC **30** 19:55:30.4±1.3, 61°.40N±0°.02×150°.07W±0°.05, h39km±3km, ML3.4, ML3.5/92(NEIC), Error ellipse: s-maj=3.4km s-min=3.1km az=106.0*

ISC 30 19:55:30.4±1.6, 61°.39N±0°.03×150°.05W±0°.02, h36km±1km, n101, σ0°79/126, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.34**	**153**		**Pn**	**19 55 38.2**	**-0.6**
RC01				IAML		19 55 45.5	
	comp=N,4μm,0.3s						
RC01				IAML		19 55 50.0	
	comp=E,4μm,0.2s						
RC01	**Rabbit Creek A**	**0.34**	**153**		**Sn**	**19 55 45.3**	**+0.1**
RC01	**Rabbit Creek A**	**0.34**	**153**	P	**Pn**	**19 55 38.8**	**0.0**
	baz=333						
RC01				S	**Sn**	**19 55 45.3**	**+0.1**
	baz=333						
SUA	**Susitna One**	**0.34**	**282**		**Pn**	**19 55 38.4**	**-0.6**
SUA					**Sn**	**19 55 45.5**	**0.0**
SUA				IAML		19 55 46.5	
	comp=N,5μm,0.8s						
SUA	**Susitna One**	**0.34**	**282**	P	**Pn**	**19 55 38.4**	**-0.6**
	baz=102						
SUA				S	**Sn**	**19 55 45.4**	**-0.2**
	baz=102						
M22K	**Willow**	**0.36**	**355**		**Pn**	**19 55 38.2**	**-0.9**
M22K					**Sn**	**19 55 45.4**	**-0.1**
M22K				IAML		19 55 46.2	
	comp=E,4μm,0.5s						
M22K				IAML		19 55 46.3	
	comp=N,4μm,0.7s						
M22K	**Willow**	**0.36**	**355**	P	**Pn**	**19 55 38.1**	**-0.9**
	baz=176						
M22K				S	**Sn**	**19 55 45.6**	**+0.2**
	baz=176						
PMR	**Palmer**	**0.48**	**65**	Pn	**Pn**	**19 55 39.6**	**-1.1**
PMR					**Sn**	**19 55 47.6**	**-0.4**
PMR				IAML		19 55 48.3	
	comp=N,4μm,0.5s						
PMR				IAML		19 55 48.4	
	comp=E,3μm,0.4s						
PMR	**Palmer**	**0.48**	**65**	P	**Pn**	**19 55 39.7**	**-1.1**
	baz=246						
PMR				S	**Sn**	**19 55 47.7**	**-0.2**
	baz=246						
GHO	**Glory Hole Cre**	**0.66**	**54**	Pn	**Pn**	**19 55 42.1**	**-1.2**
GHO					**Sn**	**19 55 52.3**	**-0.3**
GHO				IAML		19 55 54.7	
	comp=N,3μm,0.3s						
KNK	**Knik Glacier**	**0.77**	**88**	Pn	**Pn**	**19 55 43.8**	**-0.9**
KNK					**Sn**	**19 55 54.9**	**-0.1**
KNK				IAML		19 55 57.9	
	comp=E,2μm,0.4s						
KNK	**Knik Glacier**	**0.77**	**88**	P	**Pn**	**19 55 44.0**	**-0.7**
	baz=269						
CAPN	**Captain Cook N**	**0.82**	**221**		**Pn**	**19 55 45.9**	**+0.4**
CAPN					**Sn**	**19 55 59.3**	**+2.9**
STLK	**Strandline Lak**	**0.86**	**278**		**Pn**	**19 55 45.3**	**-0.8**
STLK					**Sn**	**19 55 57.4**	**-0.2**
SLKM	**Skilak Lake**	**0.89**	**186**		**Pn**	**19 55 45.4**	**-1.0**
SLKM					**Sn**	**19 55 58.1**	**-0.1**
SML	**Sawmill**	**0.92**	**62**	Pn	**Pn**	**19 55 45.7**	**-1.2**
SML				Sn	**Sn**	**19 55 59.4**	**+0.5**
SML				IAML		19 56 00.4	
	comp=E,1μm,1.0s						
SML				IAML		19 56 03.5	
	comp=N,971nm,0.7s						
SML	**Sawmill**	**0.92**	**62**	P	**Pn**	**19 55 45.8**	**-1.1**
	baz=244						
SML				S	**Sn**	**19 55 59.5**	**+0.5**
	baz=244						
SKT	**Skwentna**	**0.92**	**310**	Pn	**Pn**	**19 55 45.6**	**-1.2**
SKT				Sn	**Sn**	**19 55 58.4**	**-0.5**
SKT	**Skwentna**	**0.92**	**310**	P	**Pn**	**19 55 45.6**	**-1.2**
	baz=129						
SKT				S	**Sn**	**19 55 58.2**	**-0.7**
	baz=129						
O22K	**Cooper Landing**	**0.93**	**170**		**Pn**	**19 55 46.0**	**-0.9**
O22K					**Sn**	**19 55 59.5**	**+0.5**
O22K	**Cooper Landing**	**0.93**	**170**	P	**Pn**	**19 55 46.0**	**-0.9**
	baz=350						
PWL	**Port Wells**	**0.99**	**122**		**Pn**	**19 55 47.0**	**-0.8**
PWL				Sn	**Sn**	**19 56 00.8**	**+0.3**
PWL	**Port Wells**	**0.99**	**122**	P	**Pn**	**19 55 47.3**	**-0.5**
	baz=303						
PWL				S	**Sn**	**19 56 01.1**	**+0.6**
	baz=303						
CUT	**Chulitna**	**1.02**	**354**	Pn	**Pn**	**19 55 47.2**	**-1.0**
CUT				Sn	**Sn**	**19 56 01.3**	**+0.1**
CUT	**Chulitna**	**1.02**	**354**	P	**Pn**	**19 55 47.4**	**-0.8**
	baz=175						
SPCP	**Crater Peak Br**	**1.02**	**264**		**Pn**	**19 55 47.6**	**-0.7**
N20K	**Mount Spurr**	**1.06**	**260**	P	**Pn**	**19 55 47.8**	**-1.0**
	baz=78						
SPCR	**Spurr Chakacha**	**1.06**	**261**		**Pn**	**19 55 47.8**	**-1.0**
SPCR	**Spurr Chakacha**	**1.06**	**261**		**Pn**	**19 55 47.8**	**-1.0**
SPCR	**Spurr Chakacha**	**1.06**	**261**	P	**Pn**	**19 55 47.8**	**-1.0**
	baz=78						
M23K	**Glacier View**	**1.18**	**69**		**Pn**	**19 55 50.0**	**-0.4**
M23K	**Glacier View**	**1.18**	**69**	P	**Pn**	**19 55 50.0**	**-0.4**
	baz=251						
SCM	**Sheep Creek Mo**	**1.37**	**70**		**Pn**	**19 55 52.6**	**-0.5**
SCM				Sn	**Sn**	**19 56 11.1**	**+1.1**
SCM				IAML		19 56 12.3	
	comp=E,942nm,0.4s						
SCM				IAML		19 56 13.6	
	comp=N,784nm,0.7s						
SCM	**Sheep Creek Mo**	**1.37**	**70**	P	**Pn**	**19 55 52.6**	**-0.5**
	baz=253						
RDT	**Redoubt**	**1.41**	**236**		**Pn**	**19 55 52.8**	**-0.8**
GLI	**Glacier Island**	**1.52**	**108**	Pn	**Pn**	**19 55 54.1**	**-1.0**
GLI				Sn	**Sn**	**19 56 13.5**	**-0.1**
GLI				IAML		19 56 19.0	
	comp=N,871nm,0.3s						
GLI	**Glacier Island**	**1.52**	**108**	P	**Pn**	**19 55 54.1**	**-1.0**
	baz=291						
M20K	**Styx River**	**1.55**	**290**	Pn	**Pn**	**19 55 55.6**	**0.0**
M20K				Sn	**Sn**	**19 56 15.8**	**+1.3**
M20K				IAML		19 56 18.1	
	comp=E,346nm,0.6s						
M20K	**Styx River**	**1.55**	**290**	P	**Pn**	**19 55 55.6**	**0.0**
	baz=107						
WAT7	**Susitna Watana**	**1.55**	**21**		**Pn**	**19 55 55.1**	**-0.5**
WAT1	**Susitna Watana**	**1.60**	**25**		**Pn**	**19 55 55.9**	**-0.4**
WAT1	**Susitna Watana**	**1.60**	**25**	P	**Pn**	**19 55 55.9**	**-0.4**
	baz=207						
WAT6	**Susitna Watana**	**1.62**	**41**		**Pn**	**19 55 56.2**	**-0.3**
WAT6	**Susitna Watana**	**1.62**	**41**	P	**Pn**	**19 55 56.2**	**-0.3**
	baz=224						
RDSO	**Redoubt South**	**1.62**	**236**		**Pn**	**19 55 55.7**	**-0.8**
RDWB	**Redoubt West**	**1.64**	**238**		**Pn**	**19 55 56.0**	**-0.8**
RED	**Redoubt Volcan**	**1.65**	**235**		**Pn**	**19 55 56.1**	**-0.9**
BRLK	**Bradley Lake**	**1.69**	**195**		**Pn**	**19 55 56.6**	**-0.8**
BRLK				Sn	**Sn**	**19 56 17.6**	**0.0**
BRLK				IAML		19 56 21.9	
	comp=N,680nm,0.3s						
BRSE	**Bradley Lake S**	**1.69**	**192**		**Pn**	**19 55 56.4**	**-1.0**
BRSE	**Bradley Lake S**	**1.69**	**192**	P	**Pn**	**19 55 56.4**	**-1.0**
	baz=11						
O20K	**Slope Mountain**	**1.82**	**225**		**Pn**	**19 55 58.8**	**-0.5**
O20K	**Slope Mountain**	**1.82**	**225**	P	**Pn**	**19 55 59.2**	**-0.1**
	baz=42						
FID	**Port Fidalgo**	**1.85**	**109**		**Pn**	**19 55 57.9**	**-1.7**
FID				Sn	**Sn**	**19 56 20.4**	**-1.3**
FID				IAML		19 56 30.1	
	comp=E,428nm,0.4s						
FID				IAML		19 56 30.2	
	comp=N,394nm,0.5s						
HOM	**Homer**	**1.91**	**205**	Pn	**Pn**	**19 56 00.2**	**-0.1**
HOM	**Homer**	**1.91**	**205**	P	**Pn**	**19 56 00.3**	**-0.1**
	baz=24						
CNPM	**China Poot**	**1.96**	**198**	Pn	**Pn**	**19 56 00.2**	**-1.0**
CNPM				IAML		19 56 28.3	
	comp=N,435nm,0.3s						
CNPM				IAML		19 56 29.1	
	comp=E,549nm,0.6s						
M24K	**Tolsona, Glenn**	**1.98**	**67**		**Pn**	**19 56 01.9**	**+0.5**
M24K				IAML		19 56 33.6	
	comp=N,394nm,0.9s						
M24K				IAML		19 56 35.7	
	comp=E,520nm,0.7s						
KLU	**Klutina**	**1.98**	**85**	Pn	**Pn**	**19 56 00.7**	**-0.8**
KLU				IAML		19 56 29.5	
	comp=N,322nm,0.3s						
KLU				IAML		19 56 34.9	
	comp=E,235nm,0.4s						
KLU	**Klutina**	**1.98**	**85**	P	**Pn**	**19 56 00.7**	**-0.8**
	baz=269						
HIN	**Hinchinbrook I**	**2.00**	**118**	Pn	**Pn**	**19 56 00.6**	**-1.0**
HIN				IAML		19 56 32.6	
	comp=N,550nm,0.9s						
IVE	**Iliamna Volcan**	**2.01**	**228**		**Pn**	**19 56 01.4**	**-0.5**
ILSW	**Iliamna Southw**	**2.08**	**228**		**Pn**	**19 56 02.4**	**-0.4**
ILSW				IAML		19 56 34.6	
	comp=E,194nm,0.7s						
ILSW				IAML		19 56 49.4	
	comp=N,187nm,0.8s						
DIV	**Divide**	**2.08**	**95**		**Pn**	**19 56 01.9**	**-0.9**
RND	**Reindeer**	**2.10**	**15**	Pn	**Pn**	**19 56 03.0**	**0.0**
RND				IAML		19 56 41.0	
	comp=E,267nm,0.9s						
DHY	**Denali Highway**	**2.10**	**35**	Pn	**Pn**	**19 56 03.4**	**+0.2**
DHY				IAML		19 56 35.6	
	comp=

SVW2	Sparrevohn	2.69	266	Pn	Pn	19 56 10.3	-0.9
K20K	Telida	2.72	318	Pn	Pn	19 56 10.9	-0.6
K20K				IAML		19 57 47.0	
	comp=E,203nm,0.6s						
BPAW	Bear Paw Mtn.	2.75	351	Pn	Pn	19 56 11.4	-0.6
M18K	Stony River	2.78	275		Pn	19 56 11.7	-0.6
M18K	Stony River	2.78	275	P	Pn	19 56 11.7	-0.6
	baz=90						
BWN	Browne	2.80	5	Pn	Pn	19 56 14.0	+1.4
N18K	Kilae Creek	2.93	258	Pn	Pn	19 56 13.6	-0.8
N18K	Kilae Creek	2.93	258	P	Pn	19 56 13.6	-0.8
	baz=73						
O18K	Koktuh Hills	2.97	241		Pn	19 56 14.1	-0.9
O18K				IAML		19 57 16.6	
	comp=N,131nm,1.0s						
O18K				IAML		19 57 17.3	
	comp=E,76nm,1.1s						
O18K	Koktuh Hills	2.97	241	P	Pn	19 56 14.3	-0.8
	baz=56						
GLB	Gilahina Butte	3.00	86		Pn	19 56 16.1	+0.7
GLB				IAML		19 57 01.4	
	comp=N,119nm,0.6s						
GLB				IAML		19 57 54.2	
	comp=E,82nm,0.7s						
SYI	Shuyak Island	3.03	204	Pn	Pn	19 56 15.1	-0.6
SYI				IAML		19 57 01.2	
	comp=E,142nm,0.8s						
SYI				IAML		19 57 01.7	
	comp=N,98nm,0.8s						
Q19K	Cape Douglas,	3.06	218		Pn	19 56 15.9	-0.2
KAIM	Kayak Island	3.14	115	Pn	Pn	19 56 17.8	+0.6
KAIM				IAML		19 57 14.1	
	comp=E,90nm,1.0s						
KAIM				IAML		19 57 24.4	
	comp=N,89nm,1.1s						
WRH	Wood River Hil	3.22	15	Pn	Pn	19 56 18.0	-0.3
WRH				IAML		19 58 05.0	
	comp=E,62nm,0.8s						
NEA2	Nenana	3.24	7	Pn	Pn	19 56 18.4	-0.3
NEA2				IAML		19 57 13.8	
	comp=N,78nm,0.8s						
L18K	Granite Mounta	3.26	288	Pn	Pn	19 56 18.1	-0.8
L18K				IAML		19 57 24.8	
	comp=N,64nm,0.9s						
P18K	Big Mountain,	3.26	234	Pn	Pn	19 56 17.9	-1.1
I28M	Miner Creek	6.09	44		Pn	19 57 00.2	+2.3

*NEIC **30** 19:56:24.9±1.1,61°.46N±0°.02×149°.83W±0°.05,h38km±5km, Error ellipse: s-maj=3.8km s-min=3.0km az=103.0*
*AEIC **30** 19:56:25.5±0.8,61°.456N±0°.006×149°.89W±0°.06, h36km±4km,ML3.4,ML3.6/50(NEIC), Error ellipse: s-maj=3.9km s-min=0.9km az=94.0*
ISC 30 19:56:25.3±1.4,61°.45N±0°.03×149°.88W±0°.02,h35km±7km, n56,σ0°53/62,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.32	340		Pn	19 56 33.0	-0.5
M22K					Sn	19 56 39.8	+0.6
M22K	Willow	0.32	340	IAML		19 56 40.2	
	comp=N,10μm,0.8s						
M22K				IAML		19 56 40.3	
	comp=E,7μm,0.4s						
M22K	Willow	0.32	340	P	Pn	19 56 33.0	-0.5
	baz=160						
M22K				S	Sn	19 56 39.8	+0.6
	baz=160						
RC01	Rabbit Creek A	0.37	169		Pn	19 56 33.6	-0.5
RC01					Sn	19 56 40.4	+0.1
RC01	Rabbit Creek A	0.37	169	IAML		19 56 41.2	
	comp=E,4μm,0.5s						
RC01				IAML		19 56 41.4	
	comp=N,4μm,0.3s						
RC01	Rabbit Creek A	0.37	169	P	Pn	19 56 33.6	-0.5
	baz=349						
RC01				S	Sn	19 56 40.4	+0.1
	baz=349						
PMR	Palmer	0.39	68		Pn	19 56 33.7	-0.7
PMR	Palmer	0.39	68		Sn	19 56 40.6	0.0
PMR				IAML		19 56 41.5	
	comp=N,3μm,0.4s						
PMR				IAML		19 56 41.5	
	comp=E,3μm,0.3s						
PMR	Palmer	0.39	68	P	Pn	19 56 33.7	-0.7
	baz=250						
PMR				S	Sn	19 56 40.9	+0.3
	baz=250						
SUA	Susitna One	0.41	272		Pn	19 56 34.3	-0.6
SUA	Susitna One	0.41	272		Sn	19 56 41.9	+0.4
SUA	Susitna One	0.41	272	IAML		19 56 42.7	
	comp=E,4μm,0.8s						
SUA				IAML		19 56 42.8	
	comp=N,3μm,0.7s						
SUA	Susitna One	0.41	272	P	Pn	19 56 34.2	-0.7
	baz=91						
SUA				S	Sn	19 56 41.9	+0.4
	baz=91						
GHO	Glory Hole Cre	0.56	55		Pn	19 56 36.1	-0.8
GHO					Sn	19 56 44.9	-0.1
KNK	Knik Glacier	0.69	93		Pn	19 56 38.0	-0.6
KNK					Sn	19 56 48.3	+0.3
KNK				IAML		19 56 49.7	
	comp=N,3μm,0.5s						
KNK				IAML		19 56 49.9	
	comp=E,2μm,0.4s						
KNK	Knik Glacier	0.69	93	P	Pn	19 56 38.1	-0.5
	baz=274						
KNK				S	Sn	19 56 48.6	+0.6
	baz=274						
SML	Sawmill	0.82	64	Pn	Pn	19 56 39.4	-1.0
SML				Sn	Sn	19 56 51.1	-0.3
SML				IAML		19 56 52.7	
	comp=E,1μm,0.7s						
STLK	Strandline Lak	0.94	274		Pn	19 56 41.6	-0.4
STLK					Sn	19 56 54.1	-0.1
SKT	Skwentna	0.95	305		Sn	19 56 54.3	-0.2
SKT	Skwentna	0.95	305		Pn	19 56 41.4	-0.7
SKT				IAML		19 56 55.6	
	comp=E,1μm,0.3s						
SKT	Skwentna	0.95	305	P	Pn	19 56 41.3	-0.8
	baz=123						
SKT				S	Sn	19 56 54.3	-0.2
	baz=123						
PWL	Port Wells	0.96	128		Pn	19 56 41.7	-0.5
PWL	Port Wells	0.96	128	Sn	Sn	19 56 55.3	+0.6
PWL	Port Wells	0.96	128	P	Pn	19 56 41.7	-0.5
	baz=309						
SLKM	Skilak Lake	0.96	190		Pn	19 56 41.5	-0.9
SLKM					Sn	19 56 55.2	+0.4
CUT	Chulitna	0.97	349		Pn	19 56 42.4	-0.1
CUT				Sn	Sn	19 56 55.3	+0.3
CUT				IAML		19 56 58.2	
	comp=N,2μm,0.4s						
CUT	Chulitna	0.97	349	P	Pn	19 56 41.8	-0.7
	baz=169						
O22K	Cooper Landing	0.98	175	Pn	Pn	19 56 42.2	-0.3
O22K				Sn	Sn	19 56 55.5	+0.5
SPCG	Spurr Capps Gl	1.04	262		Pn	19 56 43.0	-0.5
M23K	Glacier View	1.09	71		Pn	19 56 43.7	-0.3
M23K	Glacier View	1.09	71	P	Pn	19 56 43.7	-0.3
	baz=253						
SPCP	Crater Peak Br	1.11	261		Pn	19 56 44.0	-0.4
N20K	Mount Spurr	1.15	258	P	Pn	19 56 44.3	-0.7
	baz=76						
SPCR	Spurr Chakacha	1.15	258		Pn	19 56 44.3	-0.7
SPCR	Spurr Chakacha	1.15	258		Pn	19 56 44.5	-0.5
SPCR	Spurr Chakacha	1.15	258	P	Pn	19 56 44.5	-0.5
	baz=76						
SCM	Sheep Creek Mo	1.28	71		Pn	19 56 46.7	-0.1
SCM				IAML		19 57 05.9	
	comp=N,922nm,0.9s						
SCM	Sheep Creek Mo	1.28	71	P	Pn	19 56 46.3	-0.5
	baz=254						
GLI	Glacier Island	1.47	112		Pn	19 56 48.8	-0.4
GLI	Glacier Island	1.47	112	IAML		19 57 09.4	
	comp=N,781nm,0.7s						
GLI	Glacier Island	1.47	112	P	Pn	19 56 48.8	-0.4
	baz=294						
RDT	Redoubt	1.51	235		Pn	19 56 49.6	-0.4
M20K	Styx River	1.61	287	Pn	Pn	19 56 52.0	+0.8
RDSO	Redoubt South	1.72	236		Pn	19 56 52.5	-0.3
RDWB	Redoubt West	1.74	237		Pn	19 56 52.9	-0.2
BRLK	Bradley Lake	1.76	197	Pn	Pn	19 56 53.0	-0.3
BRLK				IAML		19 57 18.9	
	comp=N,473nm,0.5s						
BRLK				IAML		19 57 19.7	
	comp=E,545nm,0.5s						
M24K	Tolsona, Glenn	1.88	68	Pn	Pn	19 56 56.0	+1.1
M24K				IAML		19 57 23.6	
	comp=N,584nm,0.5s						
M24K				IAML		19 57 25.4	
	comp=E,589nm,0.8s						
KLU	Klutina	1.90	87	Pn	Pn	19 56 55.2	-0.1
DIV	Divide	2.01	97	Pn	Pn	19 56 56.5	-0.3
L19K	White Mountain	2.47	289	Pn	Pn	19 57 03.6	+0.5
SVW2	Sparrevohn	2.77	265	Pn	Pn	19 57 07.1	-0.1
RIDG	Independent Ri	3.27	43	IAML		19 58 01.6	
	comp=N,154nm,0.7s						
RIDG				IAML		19 58 05.0	
	comp=E,128nm,0.7s						
CRQM	Cirque	3.35	99	IAML		19 58 09.7	
	comp=N,158nm,0.8s						
CRQM				IAML		19 58 11.9	
	comp=E,159nm,0.8s						
TGL	Tana Glacier	3.49	98	IAML		19 58 11.3	
	comp=N,120nm,0.7s						
TGL				IAML		19 58 11.9	
	comp=E,113nm,0.6s						
J25K	Salcha River,	3.78	31	IAML		19 58 11.6	
	comp=E,90nm,0.6s						
J25K				IAML		19 58 12.7	
	comp=N,64nm,0.6s						
J26L	Joseph Creek	4.20	41	IAML		19 58 21.4	
	comp=N,60nm,0.6s						
J26L				IAML		19 58 24.2	
	comp=E,57nm,0.3s						

*NEIC **30** 19:58:04.5±2.3,51°.65N±0°.07×175°.80W±0°.05,h45km±5km, mb4.5/56,ML4.3(AEIC), Error ellipse: s-maj=11.0km s-min=4.8km az=174.0*
*AEIC **30** 19:58:04±2.8,51°.56N±0°.07×175°.82W±0°.06,h26km±4km, Error ellipse: s-maj=10.4km s-min=4.9km az=161.0*
*IDC **30** 19:58:09.4±2.4,51°.89N×175°.97W,h92km±21km,mb3.8/26, mbtmp4.2/30, Error ellipse: s-maj=16.6km s-min=9.7km az=170.0*
ISC 30 19:58:02.8±0.4,51°.57N±0°.06×175°.82W±0°.03,h35km, n130,σ1s74/124,mb4.4/45,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	Igitkin Island	0.42	351		Sn	19 58 21.1	+2.2
GSCK	Great Sitkin C	0.49	334		Pn	19 58 14.8	+1.5
GSMY	Great Sitkin M	0.49	343		Pn	19 58 14.8	+1.4
GSTD	Great Sitkin T	0.52	338		Pn	19 58 15.4	+1.5
ADK	Adak	0.62	300		Pn	19 58 16.3	+1.1
ADK					Sn	19 58 25.2	+1.3
KIRH	Kanaga Island	0.86	293		Pn	19 58 19.9	+1.6
KIWB	Kanaga Island	0.87	289		Pn	19 58 19.9	+1.3
KINC	Kanaga Island	0.89	294		Pn	19 58 20.2	+1.4
KIKV	Kanaga Island	0.89	291		Pn	19 58 20.3	+1.4
KIMD	Kanaga Island	0.90	283		Pn	19 58 20.5	+1.5
KICM	Kanaga Island	0.92	293		Pn	19 58 20.8	+1.5
ATKA	Atka Island	1.19	57		Pn	19 58 24.0	+1.1
ATKA	Atka Island	1.19	57		Sn	19 58 38.2	+0.4
TAPA	Tanaga Point A	1.26	282		Pn	19 58 25.9	+1.9
TAFP	Tanaga Falls P	1.38	285		Pn	19 58 27.6	+2.0
TAFP					Sn	19 58 45.9	+3.2
TASE	Tanaga Southea	1.40	282		Pn	19 58 27.9	+2.0
TANO	Tanaga North	1.47	284		Pn	19 58 29.1	+2.2
GAEA	Gareloi East	1.83	278		Pn	19 58 34.2	+2.4
GALAA	Gareloi Lava P	1.85	277		Pn	19 58 34.4	+2.4
GANO	Gareloi North	1.87	279		Pn	19 58 34.3	+2.0
GASW	Gareloi Southw	1.90	277		Pn	19 58 35.2	+2.4
MAPS	Pakushin South	5.85	64		Pn	19 59 30.2	+3.3
MAPS					Sn	20 00 39.6	+7.0
MGOD	Makushin Gods	5.88	64		Pn	19 59 30.2	+2.8
UNV	Unalaska Valle	6.10	64		Pn	19 59 33.6	+3.1
P08K	Saint George I	6.24	34		Pn	19 59 34.4	+2.1
SHEM	Shemya Is, Ala	6.31	285	P	Pn	19 59 36.7	+3.4
	40nm,0.3s,baz=70,slow=1.5,SNR=8.1						
SHEM				S	Sn	20 00 48.0	+4.0
	48nm,0.8s,baz=94,slow=16,SNR=1.4						
SPIA	Saint Paul Isl	6.49	28		Pn	19 59 39.4	+3.7
M11K	Mekoryuk	10.33	28	Pn	Pn	20 00 31.8	+3.5
M13K	Dall Lake	11.26	33	Pn	Pn	20 00 46.1	+5.1
O14K	Tigyukauivet M	11.28	41	Pn	Pn	20 00 44.9	+3.6
KDAK	Kodiak Island	14.76	56	P	Pn	20 01 30.9	+2.2
	14nm,0.4s,baz=263,slow=2.2,SNR=12						
BRLK	Bradley Lake	16.20	50	P	Pn	20 01 48.8	+1.3
PETK	Petropavlovsk-	16.23	286	P	Pn	20 01 50.2	+2.4
	1.5nm,0.6s,baz=93,slow=14,SNR=6.3						
RC01	Rabbit Creek A	17.20	46	P	P	20 02 04.0	+2.7
M22K	Willow	17.29	44	P	Pn	20 02 02.3	+1.1
E19K	Redstone River	18.37	23	P	Pn	20 02 16.1	+1.7
C18K	Utukok River	18.52	17		P	20 02 17.2	+1.3
BILL	Bilibino	18.68	339	P	Pn	20 02 19.2	+1.1
BILL				IAmb	IAmb	20 02 20.4	
	comp=Z,26nm,1.3s						
ILAR	Eielson Array	19.94	37	P	P	20 02 31.8	+0.4
	comp=Z,3.1nm,0.6s,baz=215,slow=11,SNR=4.7						
MA2	Magadan	20.33	306	P	Pn	20 02 38.0	+0.2
	comp=Z,9.7nm,0.9s,baz=139,slow=19,SNR=2.0						
SEY	Seymchan	20.37	316	P	P	20 02 36.6	+0.5
	comp=Z,1.7nm,0.3s,baz=176,slow=21,SNR=3.2						
	comp=Z,1.7nm,0.3s						
D22K	Ayikyak River	20.57	24		P	20 02 39.1	+0.8
D22K				IAmb	IAmb	20 02 57.7	
	comp=Z,26nm,1.4s						
B21K	Ikpikpuk River	20.66	21	P	P	20 02 39.6	+0.5
B21K				IAmb	IAmb	20 02 57.4	
	comp=Z,13nm,0.8s						
D23K	Nanushuk River	21.15	25	P	P	20 02 45.4	+0.9
D23K				IAmb	IAmb	20 03 03.8	
	comp=Z,15nm,0.9s						
C23K	Itkillik River	21.77	23		P	20 02 51.5	+0.4
D24K	Happy Valley	21.78	26	P	P	20 02 52.0	+0.9
D24K				IAmb	IAmb	20 03 10.2	
	comp=Z,26nm,1.3s						
F25K	Christian Rive	21.80	31	P	P	20 02 51.8	+0.4
C24K	Franklin Bluff	22.18	25	P	P	20 02 55.5	+0.1
C24K				IAmb	IAmb	20 03 14.1	
	comp=Z,28nm,1.1s						
D25K	Kavik River	22.57	27	P	P	20 02 59.2	-0.4
K29M	Barlow Dome	23.44	44		P	20 03 07.8	-0.8
K29M				IAmb	IAmb	20 03 10.1	
	comp=Z,7.7nm,0.7s						
F28M	Old Crow	23.75	34		P	20 03 10.7	-0.8
H29M	Whitestone	23.77	38	IAmb	IAmb	20 03 12.1	
	comp=Z,8.2nm,0.8s						
I30M	Mount Dempster	24.26	41		P	20 03 15.4	-1.0
I30M				IAmb	IAmb	20 03 17.0	
	comp=Z,9.2nm,0.9s						
E28M	Babbage River	24.29	32		P	20 03 16.0	-0.5
INK	Inuvik	26.24	34	PcP	PcP	20 06 59.3	-0.4
	comp=Z,3.0nm,0.5s,baz=237,slow=1.3,SNR=8.5						
YKA	Yellowknife Ar	33.74	47	P	P	20 04 40.0	-0.5
	comp=Z,0.8nm,0.6s,baz=289,slow=8.2,SNR=12						
YKA				PcP	PcP	20 07 19.5	+0.3
	comp=Z,2.3nm,0.6s,baz=289,slow=3.2,SNR=27						
	comp=Z,0.8nm,0.6s						
H11N2	WAKE ISLAND Hy	34.56	210	T	T	20 41 20.6	
	baz=18,slow=76,SNR=358						
H11N3	WAKE ISLAND Hy	34.56	210	T	T	20 41 22.6	
	baz=18,slow=76,SNR=312						
H11N1	WAKE ISLAND Hy	34.58	210	T	T	20 41 23.4	
	baz=18,slow=76,SNR=213						
USRK	Ussuriysk Ar.	35.11	279	P	P	20 04 52.0	-0.6
	comp=Z,1.3nm,0.4s,baz=56,slow=11,SNR=6.6						
	comp=Z,1.3nm,0.4s						
MJAR	Matsushiro Ar	35.66	263	P	P	20 04 57.8	+0.4
	comp=Z,1.4nm,0.8s,baz=46,slow=6.7,SNR=4.7						
	comp=Z,1.4nm,0.8s						
H11S1	WAKE ISLAND Hy	35.77	209	T	T	20 42 53.0	
	baz=17,slow=76,SNR=166						
H11S2	WAKE ISLAND Hy	35.78	209	T	T	20 42 54.4	
	baz=17,slow=76,SNR=121						
H11S3	WAKE ISLAND Hy	35.78	209	T	T	20 42 54.4	
	baz=17,slow=76,SNR=66						
NEW	Newport	37.06	71		P	20 05 10.3	+1.0
NEW				IAmb	IAmb	20 05 15.2	
	comp=Z,14nm,1.4s						
NEW	Newport	37.06	71	P	P	20 05 10.7	+1.4
	comp=Z,2.9nm,0.5s,baz=309,slow=5.9,SNR=7.3						
	comp=Z,2.9nm,0.5s						
LYMT	Lyon Mountain	40.55	71	P	P	20 05 38.5	-0.2
KSRS	Korea Array	41.49	273	P	P	20 05 47.4	+1.1
	comp=Z,3.9nm,0.9s,baz=53,slow=8.0,SNR=8.1						
	comp=Z,3.9nm,0.9s						
BOZ	Bozeman (W)	41.66	72	P	P	20 05 46.9	-0.8
NVAR	Mina Array Bea	41.68	85	P	P	20 05 50.5	+2.4
	comp=Z,0.8nm,0.7s,baz=308,slow=5.7,SNR=2.6						
NVAR				PcP	PcP	20 07 44.7	+0.4
	comp=Z,1.2nm,0.8s,baz=229,slow=1.5,SNR=3.6						
	comp=Z,0.8nm,0.7s						
ELK	Elko	42.19	80	P	P	20 05 52.4	+0.1
ELK				IAmb	IAmb	20 06 07.2	
	comp=Z,3.7nm,0.7s						
HVU	Hansel Valley	43.09	77	P	P	20 06 00.7	+1.1
RLMT	Red Lodge	43.31	71	P	P	20 06 01.2	0.0
DUG	Dugway, Tooele	44.01	79		P	20 06 08.1	+1.3
DUG				IAmb	IAmb	20 06 21.7	
	comp=Z,10nm,1.2s						
PD31	Pinedale Array	44.47	74	IAmb	IAmb	20 06 24.9	
	comp=Z,4.8nm,0.8s						
PDAR	Pinedale Array	44.47	74	P	P	20 06 10.9	+0.3
PDAR	Pinedale Array	44.47	74	P	P	20 06 11.2	+0.6
	comp=Z,1.3nm,0.5s,baz=300,slow=4.2,SNR=19						
	comp=Z,1.3nm,0.5s						
RDMU	Red Mountain	45.76	77	P	P	20 06 21.5	+0.6
RDMU				IAmb	IAmb	20 06 36.0	
	comp=Z,9.1nm,1.2s						
SRU	San Rafael Swe	46.07	79	IAmb	IAmb	20 06 38.3	
	comp=Z,6.1nm,0.7s						
O20A	White River Ci	46.83	76	P	P	20 06 29.6	+0.4
SONM	Songino Array	48.21	298	P	P	20 06 38.8	-1.0
	comp=Z,0.6nm,0.7s,baz=48,slow=6.4,SNR=4.7						
SONM				PcP	PcP	20 08 05.7	-0.8
	comp=Z,1.2nm,0.6s,baz=71,slow=3.0,SNR=8.1						
	comp=Z,0.6nm,0.7s						
SPITS	Spitsbergen Ar	50.30	357	P	P	20 06 52.7	-2.5
	comp=Z,6.4nm,0.7s,baz=77,slow=7.6,SNR=1.8						
	comp=Z,6.4nm,0.7s						
ZALV	Zalesovo Beam	55.23	315	P	P	20 07 30.4	-1.5
	comp=Z,0.4nm,0.3s,baz=53,slow=8.7,SNR=2.3						
ZALV				PcP	PcP	20 08 31.8	-0.7
	comp=Z,0.7nm,0.4s,baz=39,slow=3.9,SNR=2.5						
	comp=Z,0.4nm,0.3s						
P38A	Dawn	55.88	68	P	P	20 07 35.9	-0.9
P38A				IAmb	IAmb	20 07 36.5	
	comp=Z,7.8nm,1.0s						
TXAR	Lajitas Array	56.78	83	P	P	20 07 43.7	+0.2
	comp=Z,0.8nm,0.4s,baz=328,slow=4.5,SNR=4.8						
	comp=Z,0.8nm,0.4s						
R40A	Maddies Statio	57.50	68	P	P	20 07 46.5	-1.8
ARCES	ARCESS Array B	58.20	351	P	P	20 07 50.9	-1.8
	comp=Z,2.8nm,0.9s,baz=327,slow=8.7,SNR=1.5						
	comp=Z,2.8nm,0.9s						
SCHQ	Schefferville	58.68	40	P	P	20 07 55.6	-0.7
	comp=Z,6.5nm,1.0s,baz=264,slow=9.2,SNR=2.4						
	comp=Z,6.5nm,1.0s						
KURBB	Kurchatov Array	60.32	315	P	P	20 08 06.0	-1.7
	comp=Z,1.9nm,0.5s,baz=43,slow=6.6,SNR=39						
	comp=Z,1.9nm,0.5s						
MKAR	Makanchi Array	61.35	310	P	P	20 08 12.7	-2.2
	comp=Z,1.0nm,0.4s,baz=48,slow=6.2,SNR=20						
	comp=Z,1.0nm,0.4s						
BVAR	Borovoye Array	61.92	321	P	P	20 08 16.7	-1.8
	comp=Z,1.8nm,0.5s,baz=51,slow=7.5,SNR=18						
	comp=Z,1.8nm,0.5s						
SSFO	Shawnee State	62.35	62	P	P	20 08 21.5	0.0
FPAL	Fort Paine	63.95	67	P	P	20 08 31.5	-0.8
FPAL				IAmb	IAmb	20 08 32.2	
	comp=Z,5.8nm,0.8s						
FINES	FINESS Array B	65.98	349	P	P	20 08 43.1	-1.9
	comp=Z,5.8nm,1.0s,baz=54,slow=2.4,SNR=2.0						
	comp=Z,5.8nm,1.0s						
HFS	Hagfors	68.38	355	P	P	20 08 58.3	-1.9
	comp=Z,2.2nm,0.8s,baz=20,slow=4.7,SNR=7.7						
	comp=Z,2.2nm,0.8s						
KKAR	Karatay Array	69.60	314	P	P	20 09 06.2	-1.9
KKAR	Karatay Array	69.60	314		P	20 09 06.4	-1.8
KKAR				IAmb	IAmb	20 09 07.8	
	comp=Z,2.0nm,0.5s						
PHRA	Phrae	72.01	277	P	P	20 09 23.4	+0.3
CMAR	Chiang Mai Arr	72.84	278	P	P	20 09 27.7	-0.3
CMAR	Chiang Mai Arr	72.84	278	P	P	20 09 28.2	+0.2
	comp=Z,4.4nm,0.7s,baz=26,slow=7.1,SNR=35						
	comp=Z,4.4nm,0.7s						
GAR	Garm	72.96	312		P	20 09 27.3	-1.3
GAR				IAmb	IAmb	20 09 29.3	
	comp=Z,6.1nm,0.7s						
SIMJ	Simiganj	73.84	312	P	P	20 09 32.1	-1.8
SIMJ				IAmb	IAmb	20 09 36.5	
	comp=Z,6.2nm,1.4s						
AKASG	Malin Array Be	75.91	344	P	P	20 09 42.3	-3.1
	comp=Z,0.2nm,0.3s,baz=20,slow=5.9,SNR=3.2						
	comp=Z,0.2nm,0.3s						
CTAO	Charters Tower	78.70	216	P	P	20 10 01.2	-0.1
CTAO				IAmb	IAmb	20 10 03.3	
	comp=Z,6.3nm,1.0s						
MTN	Manton Dam	78.85	233	P	P	20 10 02.8	+0.5
BUR08	Bucovina Ar. S	79.53	346	P	P	20 10 04.4	-1.3
BUR08				IAmb	IAmb	20 10 21.3	
	comp=Z,7.8nm,1.4s						
BURAR	Bucovina Array	79.56	346	P	P	20 10 03.9	-2.0
SOEI	Soe	79.81	240	P	P	20 10 06.9	-0.8
KULM	Kulim	81.86	268	P	P	20 10 18.4	-0.2
KULM				IAmb	IAmb	20 10 20.3	
	comp=Z,9.4nm,1.0s						
PBA	Port Blair	81.86	278	P	P	20 10 18.0	-0.5
WB0	Warramunga Arr	83.29	226	P	P	20 10 25.3	-0.5
WB0				IAmb	IAmb	20 10 25.9	
	comp=Z,3.2nm,0.8s						
WB2	Warramunga Arr	83.47	226	P	P	20 10 26.0	-0.6
WB2				IAmb	IAmb	20 10 39.0	
	comp=Z,7.6nm,1.4s						
WRA	Warramunga Arr	83.47	226	P	P	20 10 26.5	-0.2
	comp=Z,1.2nm,0.5s,baz=31,slow=5.7,SNR=8.2						
	comp=Z,1.2nm,0.5s						
BRTR	Keskin Array B	85.51	338	P	P	20 10 33.8	-3.3
	comp=Z,0.4nm,0.5s,baz=50,slow=3.7,SNR=1.7						
	comp=Z,0.4nm,0.5s						
FITZ	Fitzroy Crossi	86.07	234	P	P	20 10 40.3	+0.5
FITZ	Fitzroy Crossi	86.07	234	P	P	20 10 39.9	+0.1
	comp=Z,4.3nm,0.8s,baz=88,slow=14,SNR=5.2						
	comp=Z,4.3nm,0.8s						
ARMA	Armidale	86.52	208	P	P	20 10 42.8	+0.9
ASAR	Alice Springs	86.92	225	P	P	20 10 44.1	+0.3
	comp=Z,1.5nm,0.7s,baz=31,slow=4.2,SNR=16						
	comp=Z,1.5nm,0.7s						
ST

comp=E,1μm,0.4s
GHO Glory Hole Cre 0.59 58 Sn 20 02 08.5 0.0
GHO IAML 20 02 09.3
comp=E,2μm,0.5s
GHO IAML 20 02 09.3
comp=N,2μm,0.5s
GHO Glory Hole Cre 0.59 58 Pn 20 01 58.9 -1.0
KNK Knik Glacier 0.73 94 Sn 20 02 12.5 +0.7
KNK IAML 20 02 14.1
comp=E,1μm,0.2s
KNK IAML 20 02 14.3
comp=N,1μm,0.2s
KNK Knik Glacier 0.73 94 Pn 20 02 01.0 -0.8
SML Sawmill 0.86 66 Pn 20 02 02.7 -0.8
SML Sn 20 02 14.4 -0.5
STLK Strandline Lak 0.89 273 Sn 20 02 15.5 -0.1
SKT Skwentna 0.90 306 Pn 20 02 03.0 -1.1
SKT Skwentna 0.90 306 Sn Sn 20 02 15.5 -0.3
SKT IAML 20 02 16.0
comp=N,1μm,0.3s
SKT IAML 20 02 16.0
comp=E,1μm,0.4s
CUT Chulitna 0.95 352 Pn 20 02 03.9 -0.8
SLKM Skilak Lake 0.97 187 Pn 20 02 04.0 -1.0
SPCG Spurr Capps Gl 1.00 261 Pn 20 02 05.2 -0.3
PWL Port Wells 1.01 127 Sn Sn 20 02 18.9 +0.5
PWL Port Wells 1.01 127 Pn 20 02 04.9 -0.6
SPCR Spurr Chakacha 1.11 257 Sn 20 02 21.0 0.0
M23K Glacier View 1.13 72 Sn 20 02 21.9 +0.5
SCM Sheep Creek Mo 1.32 73 Sn 20 02 27.1 +0.9
RDT Redoubt 1.48 234 Sn 20 02 30.5 +0.2

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*NEIC **30** 20:02:09.8±0.6, 5°.8S±0°.2×154°.83E±0°.07, h131km±14km, mb4.0/10, Error ellipse: s-maj=28.0km s-min=5.7km az=197.0*
*IDC **30** 20:02:18.9±3.4, 6°.03S×154°.76E, h229km±32km, mb3.3/12, mbtmp3.9/14, Error ellipse: s-maj=23.2km s-min=15.3km az=35.0*
ISC 30 20:02:10.1±0.7, **5°.75S**±0°.09×**154°.95E**±0°.09, **h150**km, **n29**, σ1§57/29, **mb3.8**/14, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.18**	**299**	Pn	**Pn**	**20 02 57.5**	**-2.3**
PMG	**Port Moresby**	**8.54**	**244**	P	Pn	20 04 15.5	+4.8
	7.0nm,0.8s,baz=37,slow=9.9,SNR=3.5						
PMG				S	**Sn**	**20 05 50.5**	**+4.9**
	4.9nm,0.7s,baz=270,slow=24,SNR=2.0						
COEN	**Coen**	**14.18**	**234**	P	**P**	**20 05 26.3**	**-1.0**
CTAO	**Charters Tower**	**16.57**	**210**		**P**	**20 05 53.4**	**-0.5**
CTAO				IAmb	IAmb	20 05 55.5	
	comp=Z,6.0nm,1.1s						
DZM	**Mont Dzumac**	**19.67**	**147**	P	**P**	**20 06 28.4**	**+0.7**
DZM				IAmb	IAmb	20 06 43.5	
	comp=Z,22nm,1.2s						
DZM	**Mont Dzumac**	**19.67**	**147**	P	**Pn**	**20 06 29.3**	**-1.4**
	comp=Z,9.8nm,0.5s,baz=267,slow=8.4,SNR=24						
ONTNC	**Ouen Toro**	**19.87**	**147**	P	**P**	**20 06 29.9**	**+0.2**
WRAB	**Tennant Creek**	**24.50**	**233**	P	**P**	**20 07 14.7**	**-1.0**
WRAB				IAmb	IAmb	20 07 31.9	
	comp=Z,4.5nm,1.1s						
WB2	**Warramunga Arr**	**24.50**	**233**	P	**P**	**20 07 14.5**	**-1.1**
WB2				IAmb	IAmb	20 07 54.8	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**24.51**	**233**	P	**P**	**20 07 15.1**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=58,slow=9.7,SNR=9.4						
	comp=Z,0.8nm,0.5s						
ASAR	**Alice Springs**	**26.98**	**227**	P	**P**	**20 07 36.2**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=49,slow=9.9,SNR=4.2						
	comp=Z,0.4nm,0.7s						
STKA	**Stephens Creek**	**28.85**	**204**	P	**P**	**20 07 55.6**	**+1.2**
FITZ	**Fitzroy Crossi**	**31.13**	**244**	P	**P**	**20 08 13.5**	**-1.3**
FITZ	**Fitzroy Crossi**	**31.13**	**244**	P	**P**	**20 08 12.8**	**-2.1**
	comp=Z,1.5nm,0.8s,baz=63,slow=12,SNR=1.6						
	comp=Z,1.5nm,0.8s						
BBOO	**Buckleboo**	**32.17**	**211**	P	**P**	**20 08 23.4**	**-0.4**
BKZ	**Black Stump Fm**	**38.55**	**153**	P	**P**	**20 09 18.9**	**+0.7**
MRNZ	**Matariki Terra**	**38.90**	**159**	P	**P**	**20 09 21.9**	**+0.8**
TCW	**Tory Channel**	**39.31**	**157**	P	**P**	**20 09 25.4**	**+0.9**
TPUB	**Ta-pu**	**44.24**	**312**	P	**P**	**20 10 05.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**60.21**	**295**	P	**P**	**20 12 04.2**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=124,slow=5.3,SNR=5.7						
	comp=Z,0.6nm,0.5s						
SONM	**Songino Array**	**68.27**	**327**	P	**P**	**20 12 56.3**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=136,slow=4.6,SNR=4.4						
	comp=Z,0.5nm,0.5s						
VNDA	**Vanda**	**71.82**	**178**	P	**P**	**20 13 15.0**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=321,slow=5.5,SNR=1.8						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**82.44**	**319**	P	**P**	**20 14 16.4**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=85,slow=7.3,SNR=5.6						
	comp=Z,1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**83.13**	**326**	P	**P**	**20 14 18.3**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=108,slow=4.8,SNR=5.1						
	comp=Z,1.1nm,0.7s						
MAW	**Mawson**	**85.53**	**203**	P	**P**	**20 14 29.9**	**-1.0**
	comp=Z,1.8nm,0.6s,baz=120,slow=6.9,SNR=6.9						
	comp=Z,1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**85.86**	**322**	P	**P**	**20 14 32.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=102,slow=4.7,SNR=4.4						
	comp=Z,0.3nm,0.5s						
NVAR	**Mina Array Bea**	**90.99**	**52**	P	**P**	**20 15 00.5**	**+2.8**
	comp=Z,0.8nm,0.8s,baz=249,slow=6.2,SNR=3.8						
	comp=Z,0.8nm,0.8s						
BVAR	**Borovoye Array**	**91.28**	**323**	P	**P**	**20 14 58.0**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=106,slow=4.8,SNR=4.1						
	comp=Z,0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**152.63**	**288**	PKPbc	**PKPbc**	**20 21 48.5**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=54,slow=2.0,SNR=3.2						

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*NEIC **30** 20:02:20.0±0.6, 61°.44N±0°.03×150°.04W±0°.02, h43km±4km, Error ellipse: s-maj=5.1km s-min=0.9km az=195.0*
AEIC 30 20:02:20.7±0.6, **61°.45N**±0°.03×**150°.02W**±0°.05, **h41**km±4km, **ML2.6**, **ML2.9**/20(NEIC), **Error ellipse: s-maj=5.0km s-min=2.8km az=197.0**, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.31**	**352**		Pn	20 02 28.4	-0.7
M22K					Sn	20 02 35.4	+0.3
M22K	**Willow**	**0.31**	**352**	IAML		20 02 36.1	
	comp=E,883nm,0.6s						
M22K				IAML		20 02 38.2	
	comp=N,825nm,0.7s						
SUA	**Susitna One**	**0.35**	**273**		Pn	20 02 29.1	-0.6
SUA					Sn	20 02 36.4	+0.4
RC01	**Rabbit Creek A**	**0.38**	**159**		Pn	20 02 29.4	-0.6
RC01	**Rabbit Creek A**	**0.38**	**159**	Sn	Sn	20 02 36.1	-0.4
RC01				IAML		20 02 37.3	
	comp=N,873nm,0.2s						
RC01				IAML		20 02 37.6	
	comp=E,439nm,0.3s						
PMR	**Palmer**	**0.45**	**71**		Pn	20 02 29.8	-1.0
PMR					Sn	20 02 37.8	-0.1
GHO	**Glory Hole Cre**	**0.62**	**58**		Pn	20 02 32.5	-0.7
GHO	**Glory Hole Cre**	**0.62**	**58**	Sn	Sn	20 02 42.9	+0.9
GHO				IAML		20 02 43.1	
	comp=E,286nm,0.4s						
KNK	**Knik Glacier**	**0.75**	**92**		Pn	20 02 34.8	-0.1
KNK	**Knik Glacier**	**0.75**	**92**		Sn	20 02 45.2	+0.1
KNK	**Knik Glacier**	**0.75**	**92**	IAML		20 03 06.5	
	comp=N,610nm,0.8s						
KNK				IAML		20 03 06.7	
	comp=E,261nm,0.4s						
STLK	**Strandline Lak**	**0.87**	**274**		Pn	20 02 35.8	-0.7
STLK					Sn	20 02 47.9	-0.1
SML	**Sawmill**	**0.89**	**65**		Pn	20 02 36.0	-0.7
SKT	**Skwentna**	**0.90**	**307**		Pn	20 02 36.1	-0.8
SKT	**Skwentna**	**0.90**	**307**	Sn	Sn	20 02 48.8	+0.2
SKT				IAML		20 03 10.9	
	comp=E,951nm,0.5s						
CUT	**Chulitna**	**0.97**	**353**		Pn	20 02 37.1	-0.6
PWL	**Port Wells**	**1.01**	**125**		Pn	20 02 37.6	-0.7
PWL	**Port Wells**	**1.01**	**125**	Sn	Sn	20 02 52.0	+0.7
SPCR	**Spurr Chakacha**	**1.08**	**258**		Pn	20 02 38.6	-0.8

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*NEIC **30** 20:04:13.6±1.0, 61°.36N±0°.03×150°.02W±0°.05, h46km±5km, Error ellipse: s-maj=3.9km s-min=3.2km az=182.0*
AEIC 30 20:04:14.4±1.2, **61°.35N**±0°.03×**150°.03W**±0°.02, **h39**km±5km, **ML2.8**, **ML3.0**/32(NEIC), **Error ellipse: s-maj=4.0km s-min=1.5km az=184.0**, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.29**	**151**		Pn	20 04 22.0	-0.6
RC01					Sn	20 04 28.7	-0.2
RC01	**Rabbit Creek A**	**0.29**	**151**	IAML		20 04 28.9	
	comp=E,2μm,0.2s						
RC01				IAML		20 04 28.9	
	comp=N,2μm,0.1s						
SUA	**Susitna One**	**0.36**	**289**		Pn	20 04 22.9	-0.5
SUA	**Susitna One**	**0.36**	**289**		Sn	20 04 30.4	+0.4
SUA				IAML		20 04 31.0	
	comp=N,818nm,0.5s						
SUA				IAML		20 04 31.1	
	comp=E,1μm,0.8s						
M22K	**Willow**	**0.41**	**354**		Pn	20 04 23.0	-0.8
M22K					Sn	20 04 30.8	+0.2
M22K	**Willow**	**0.41**	**354**	IAML		20 04 31.8	
	comp=E,602nm,0.3s						
M22K				IAML		20 04 33.7	
	comp=N,579nm,0.3s						
PMR	**Palmer**	**0.50**	**60**		Pn	20 04 23.8	-1.3
PMR	**Palmer**	**0.50**	**60**		Sn	20 04 32.3	-0.2
PMR				IAML		20 04 33.8	
	comp=N,490nm,0.2s						
PMR				IAML		20 04 35.3	
	comp=E,374nm,0.3s						
GHO	**Glory Hole Cre**	**0.68**	**51**		Pn	20 04 26.6	-1.0
GHO					Sn	20 04 36.8	-0.3
GHO				IAML		20 04 38.4	
	comp=E,763nm,0.3s						
GHO				IAML		20 04 39.6	
	comp=N,483nm,0.2s						
KNK	**Knik Glacier**	**0.76**	**84**		Pn	20 04 27.8	-0.8
KNK				Sn	Sn	20 04 39.7	+0.8
KNK				IAML		20 04 42.0	
	comp=E,713nm,0.5s						
SLKM	**Skilak Lake**	**0.85**	**186**		Pn	20 04 28.5	-1.4
STLK	**Strandline Lak**	**0.88**	**281**		Pn	20 04 29.8	-0.6
STLK					Sn	20 04 42.1	+0.1
O22K	**Cooper Landing**	**0.88**	**170**		Sn	20 04 41.4	-0.5
SML	**Sawmill**	**0.93**	**60**		Pn	20 04 30.1	-1.0
SML					Sn	20 04 43.2	-0.1
SML				IAML		20 04 44.7	
	comp=N,333nm,0.5s						
SML				IAML		20 04 46.1	
	comp=E,303nm,0.7s						
PWL	**Port Wells**	**0.96**	**120**		Pn	20 04 30.6	-0.7
PWL				Sn	Sn	20 04 43.9	+0.1
SKT	**Skwentna**	**0.96**	**312**		Sn	20 04 43.6	-0.2
SKT				IAML		20 04 47.4	
	comp=E,324nm,0.3s						
SKT	**Skwentna**	**0.96**	**312**		Pn	20 04 30.3	-1.1
SPCG	**Spurr Capps Gl**	**0.96**	**268**		Pn	20 04 30.9	-0.6
SPU	**Mount Spurr**	**0.99**	**261**		Pn	20 04 30.8	-1.1
SPCP	**Crater Peak Br**	**1.03**	**266**		Pn	20 04 31.8	-0.7
SPCR	**Spurr Chakacha**	**1.06**	**263**		Pn	20 04 32.0	-0.8
SPCR					Sn	20 04 46.0	-0.5
SPCR	**Spurr Chakacha**	**1.06**	**263**		Pn	20 04 32.0	-0.9
SPCR					Sn	20 04 46.3	-0.2
CUT	**Chulitna**	**1.07**	**354**		Pn	20 04 32.3	-0.5
M23K	**Glacier View**	**1.19**	**67**		Pn	20 04 34.2	-0.3
SEW	**Seward**	**1.28**	**167**		Pn	20 04 36.0	+0.3
SCM	**Sheep Creek Mo**	**1.38**	**68**		Pn	20 04 36.7	-0.5
SCM	**Sheep Creek Mo**	**1.38**	**68**	IAML		20 04 56.1	
	comp=E,298nm,0.3s						
RDT	**Redoubt**	**1.40**	**237**		Pn	20 04 36.6	-0.9
GLI	**Glacier Island**	**1.50**	**107**		Pn	20 04 37.7	-1.1
GLI	**Glacier Island**	**1.50**	**107**	IAML		20 05 37.3	
	comp=E,254nm,0.5s						
GLI				IAML		20 05 39.4	
	comp=N,208nm,0.3s						
RDJH	**Redoubt Jeurge**	**1.55**	**242**		Pn	20 04 39.0	-0.6
M20K	**Styx River**	**1.58**	**291**		Pn	20 04 39.9	-0.1
M20K	**Styx River**	**1.58**	**291**	IAML		20 05 39.4	
	comp=N,114nm,0.8s						
RDSO	**Redoubt South**	**1.60**	**237**		Pn	20 04 39.5	-0.9
RDWB	**Redoubt West**	**1.62**	**239**		Pn	20 04 39.8	-0.8
RED	**Redoubt Volcan**	**1.63**	**236**		Pn	20 04 39.9	-0.8
O20K	**Slope Mountain**	**1.80**	**226**		Pn	20 04 42.8	-0.2
IVE	**Iliamna Volcan**	**1.99**	**229**		Pn	20 04 45.1	-0.5
ILS	**Iliamna Low So**	**2.05**	**228**		Pn	20 04 46.3	-0.1
M19K	**Big River Lodg**	**2.16**	**287**		Pn	20 04 47.4	-0.4
N19K	**Bonanza Creek**	**2.23**	**258**		Pn	20 04 48.4	-0.5
L19K	**White Mountain**	**2.44**	**292**		Pn	20 04 51.6	-0.2

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*IDC **30** 20:07:05.9±2.4, 61°.37N×149°.93W, h41km±21km, mb4.0/11, mbtmp4.0/16, ML3.4/4, Error ellipse: s-maj=25.2km s-min=15.6km az=111.0*
*NEIC **30** 20:07:08.5±0.9, 61°.45N±0°.03×149°.80W±0°.08, h58km±5km, Error ellipse: s-maj=5.2km s-min=3.5km az=95.0*
*AEIC **30** 20:07:09.9±0.8, 61°.43N±0°.02×149°.84W±0°.05, h50km±5km, ML3.8, ML3.8/74(NEIC), Error ellipse: s-maj=3.6km s-min=3.2km az=174.0*
ISC 30 20:07:08.2±0.7, **61°.44N**±0°.03×**149°.84W**±0°.02, **h56**km±5km, **n120**, σ1§18/119, **mb4.1**/11, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.34**	**337**	Pn	**Pn**	**20 07 18.5**	**+0.3**
M22K	**Willow**	**0.34**	**337**		**Sn**	**20 07 26.4**	**+0.8**
M22K	**Willow**	**0.34**	**337**	IAML		20 07 26.7	
	comp=E,20μm,0.6s						
M22K				IAML		20 07 27.0	
	comp=N,15μm,0.6s						
M22K	**Willow**	**0.34**	**337**	P	**Pn**	**20 07 18.6**	**+0.3**
	baz=158						
M22K				S	**Sn**	**20 07 26.4**	**+0.8**
	baz=158						
RC01	**Rabbit Creek A**	**0.35**	**172**	Pn	**Pn**	**20 07 18.8**	**+0.3**
RC01	**Rabbit Creek A**	**0.35**	**172**		**Sn**	**20 07 26.7**	**+0.9**
RC01	**Rabbit Creek A**	**0.35**	**172**	P	**Pn**	**20 07 19.0**	**+0.6**
	baz=352						
RC01				S	**Sn**	**20 07 26.7**	**+0.9**
	baz=352						
PMR	**Palmer**	**0.37**	**65**	Pn	**Pn**	**20 07 19.0**	**+0.5**
PMR	**Palmer**	**0.37**	**65**		**Sn**	**20 07 26.4**	**+0.4**
PMR	**Palmer**	**0.37**	**65**	IAML		20 07 26.9	
	comp=N,5μm,0.3s						
PMR				IAML		20 07 27.0	
	comp=E,7μm,0.4s						
PMR	**Palmer**	**0.37**	**65**	P	**Pn**	**20 07 19.1**	**+0.5**
	baz=244						
PMR				S	**Sn**	**20 07 26.5**	**+0.4**
	baz=244						
SUA	**Susitna One**	**0.44**	**274**		**Sn**	**20 07 28.5**	**+1.0**
SUA	**Susitna One**	**0.44**	**274**		**Pn**	**20 07 19.5**	**+0.1**
SUA				IAML		20 07 28.8	
	comp=E,21μm,0.7s						
SUA				IAML		20 07 29.0	
	comp=N,21μm,0.5s						
SUA	**Susitna One**	**0.44**	**274**	P	**Pn**	**20 07 19.8**	**+0.4**
	baz=94						
SUA				S	**Sn**	**20 07 28.5**	**+1.0**
	baz=94						
GHO	**Glory Hole Cre**	**0.55**	**52**		**Pn**	**20 07 21.2**	**+0.6**
GHO	**Glory Hole Cre**	**0.55**	**52**		**Sn**	**20 07 30.6**	**+1.1**
GHO	**Glory Hole Cre**	**0.55**	**52**	IAML		20 07 31.2	
	comp=N,8μm,0.4s						
KNK	**Knik Glacier**	**0.66**	**92**		**Pn**	**20 07 23.0**	**+1.1**
KNK					**Sn**	**20 07 33.5**	**+1.8**
KNK	**Knik Glacier**	**0.66**	**92**	P	**Pn**	**20 07 23.0**	**+1.1**
	baz=272						
KNK				S	**Sn**	**20 07 33.5**	**+1.8**
	baz=272						
SML	**Sawmill**	**0.81**	**62**	Pn	**Pn**	**20 07 24.0**	**+0.3**
SML	**Sawmill**	**0.81**	**62**		**Sn**	**20 07 36.5**	**+1.5**
SML	**Sawmill**	**0.81**	**62**	IAML		20 07 37.4	
	comp=E,7μm,0.5s						
SML				IAML		20 07 37.5	
	comp=N,6μm,0.7s						
SML	**Sawmill**	**0.81**	**62**	P	**Pn**	**20 07 24.5**	**+0.9**
	baz=243						
SML				S	**Sn**	**20 07 36.5**	**+1.5**
	baz=243						
PWL	**Port Wells**	**0.93**	**128**	Pn	**Pn**	**20 07 26.0**	**+0.7**
PWL	**Port Wells**	**0.93**	**128**		**Sn**	**20 07 39.4**	**+1.6**
PWL	**Port Wells**	**0.93**	**128**	IAML		20 07 39.8	
	comp=E,8μm,0.7s						
PWL				IAML		20 07 39.9	
	comp=N,9μm,0.8s						
PWL	**Port Wells**	**0.93**	**128**	P	**Pn**	**20 07 26.2**	**+1.0**
	baz=309						
PWL				S	**Sn**	**20 07 39.4**	**+1.6**
	baz=309						
SLKM	**Skilak Lake**	**0.95**	**192**		**Pn**	**20 07 26.2**	**+0.7**
STLK	**Strandline Lak**	**0.96**	**274**		**Pn**	**20 07 26.7**	**+1.0**
STLK					**Sn**	**20 07 39.8**	**+1.3**
SKT	**Skwentna**	**0.97**	**305**		**Pn**	**20 07 26.3**	**+0.5**
SKT	**Skwentna**	**0.97**	**305**	P	**Pn**	**20 07 26.4**	**+0.6**
	baz=124						
CUT	**Chulitna**	**0.99**	**348**		**Pn**	**20 07 26.7**	**+0.7**
CUT					**Sn**	**20 07 40.6**	**+1.5**
CUT	**Chulitna**	**0.99**	**348**	P	**Pn**	**20 07 26.7**	**+0.7**
	baz=168						
CUT				S	**Sn**	**20 07 40.6**	**+1.5**
	baz=168						
M23K	**Glacier View**	**1.07**	**70**		**Pn**	**20 07 28.0**	**+1.0**
M23K	**Glacier View**	**1.07**	**70**	P	**Pn**	**20 07 28.0**	**+1.0**
	baz=251						
SPCP	**Crater Peak Br**	**1.13**	**262**		**Pn**	**20 07 29.2**	**+1.2**
N20K	**Mount Spurr**	**1.17**	**259**	P	**Pn**	**20 07 29.1**	**+0.6**
	baz=78						
N20K				S	**Sn**	**20 07 45.0**	**+1.5**
	baz=78						
SPCR	**Spurr Chakacha**	**1.17**	**259**		**Pn**	**20 07 29.1**	**+0.6**
SPCR					**Sn**	**20 07 45.0**	**+1.5**
SPCR	**Spurr Chakacha**	**1.17**	**259**	P	**Pn**	**20 07 29.1**	**+0.6**
	baz=78						
SCM	**Sheep Creek Mo**	**1.26**	**71**	Pn	**Pn**	**20 07 30.0**	**+0.3**
SCM				IAML		20 07 49.8	
	comp=E,2μm,0.7s						
SCM				IAML		20 07 49.9	
	comp=N,2μm,0.9s						
SCM	**Sheep Creek Mo**	**1.26**	**71**	P	**Pn**	**20 07 30.5**	**+0.8**
	baz=252						
SEW	**Seward**	**1.35**	**172**		**Pn**	**20 07 31.9**	**+1.1**
SEW	**Seward**	**1.35**	**172**	P	**Pn**	**20 07 31.9**	**+1.1**
	baz=352						
GLI	**Glacier Island**	**1.44**	**112**	Pn	**Pn**	**20 07 31.7**	**-0.4**
GLI				IAML		20 07 57.0	
	comp=N,1μm,0.5s						
GLI				IAML		20 08 05.6	
	comp=E,1μm,0.6s						
GLI	**Glacier Island**	**1.44**	**112**	P	**Pn**	**20 07 32.4**	**+0.3**
	baz=294						
WAT7	**Susitna Watana**	**1.47**	**18**		**Pn**	**20 07 33.9**	**+1.3**
WAT7					**Sn**	**20 07 52.3**	**+1.5**
WAT1	**Susitna Watana**	**1.52**	**23**		**Pn**	**20 07 34.2**	**+1.0**
WAT1	**Susitna Watana**	**1.52**	**23**	P	**Pn**	**20 07 34.2**	**+1.0**
	baz=204						
RDT	**Redoubt**	**1.52**	**236**		**Pn**	**20 07 33.8**	**+0.6**
M20K	**Styx River**	**1.63**	**287**		**Pn**	**20 07 35.8**	**+1.1**
M20K	**Styx River**	**1.63**	**287**	IAML		20 07 57.1	
	comp=N,750nm,0.6s						
M20K				IAML		20 07 58.2	
	comp=E,824nm,0.6s						
M20K	**Styx River**	**1.63**	**287**	P	**Pn**	**20 07 35.8**	**+1.1**
	baz=105						
RDJH	**Redoubt Jeurge**	**1.68**	**241**		**Pn**	**20 07 35.9**	**+0.6**
RDJH					**Sn**	**20 07 57.1**	**+1.3**
RDWB	**Redoubt West**	**1.75**	**238**		**Pn**	**20 07 37.0**	**+0.7**
FID	**Port Fidalgo**	**1.77**	**112**		**Pn**	**20 07 36.5**	**0.0**
FID				IAML		20 08 08.0	
	comp=N,1μm,0.5s						
FID				IAML		20 08 09.9	
	comp=E,1μm,0.4s						
M24K	**Tolsona, Glenn**	**1.86**	**67**	Pn	**Pn**	**20 07 36.0**	**-1.9**
M24K				IAML		20 08 05.8	
	comp=E,2μm,0.8s						
M24K				IAML		20 08 11.7	
	comp=N,1μm,0.8s						
KLU	**Klutina**	**1.88**	**87**	Pn	**Pn**	**20 07 38.7**	**+0.6**
KLU				IAML		20 08 08.0	
	comp=N,1μm,0.3s						
KLU				IAML		20 08 10.1	
	comp=E,678nm,0.4s						
KLU	**Klutina**	**1.88**	**87**	P	**Pn**	**20 07 38.4**	**+0.4**
	baz=270						
HIN	**Hinchinbrook I**	**1.94**	**121**		**Pn**	**20 07 38.4**	**-0.3**
HIN	**Hinchinbrook I**	**1.94**	**121**		**Sn**	**20 08 03.4**	**+1.5**
HIN	**Hinchinbrook I**	**1.94**	**121**	IAML		20 08 14.8	
	comp=E,885nm,0.7s						
HIN				IAML		20 08 19.2	
	comp=N,706nm,1.0s						
DIV	**Divide**	**1.99**	**97**		**Sn**	**20 08 05.0**	**+1.8**
DHY	**Denali Highway**	**2.00**	**34**		**Pn**	**20 07 38.2**	**-1.6**
DHY	**Denali Highway**	**2.00**	**34**		**Sn**	**20 08 05.4**	**+1.6**
DHY	**Denali Highway**	**2.00**	**34**	IAML		20 08 07.8	
	comp=E,374nm,0.7s						
DHY				IAML		20 08 09.7	
	comp=N,465nm,0.7s						
DHY	**Denali Highway**	**2.00**	**34**	S	**Sn**	**20 08 05.4**	**+1.6**
	baz=216						
RND	**Reindeer**	**2.03**	**13**	Pn	**Pn**	**20 07 37.1**	**-2.9**
TRF	**Thorofare Moun**	**2.03**	**354**		**Sn**	**20 08 06.0**	**+1.5**
TRF	**Thorofare Moun**	**2.03**	**354**	S	**Sn**	**20 08 06.0**	**+1.5**
	baz=174						
L20K	**Farewell, AK**	**2.18**	**300**		**Sn**	**20 08 09.4**	**+1.5**
L20K	**Farewell, AK**	**2.18**	**300**	S	**Sn**	**20 08 09.4**	**+1.5**
	baz=117						
KTH	**Kantishna Hill**	**2.18**	**347**		**Sn**	**20 08 09.9**	**+1.9**
M19K	**Big River Lodg**	**2.22**	**284**		**Sn**	**20 08 10.6**	**+1.7**
M19K	**Big River Lodg**	**2.22**	**284**	IAML		20 08 14.3	
	comp=E,397nm,0.4s						
M19K				IAML		20 08 14.5	
	comp=N,606nm,0.7s						
M19K	**Big River Lodg**	**2.22**	**284**	S	**Sn**	**20 08 10.6**	**+1.7**
	baz=100						
MCK	**McKinley**	**2.34**	**10**		**Sn**	**20 08 13.6**	**+1.8**
MCK	**McKinley**	**2.34**	**10**	S	**Sn**	**20 08 13.6**	**+1.8**
	baz=191						
N19K	**Bonanza Creek**	**2.34**	**256**		**Sn**	**20 08 13.3**	**+1.3**
N19K	**Bonanza Creek**	**2.34**	**256**	S	**Sn**	**20 08 13.3**	**+1.3**
	baz=73						
L19K	**White Mountain**	**2.50**	**290**	Pn	**Pn**	**20 07 47.3**	**+0.9**
L19K	**White Mountain**	**2.50**	**290**		**Sn**	**20 08 17.2**	**+1.6**
L19K	**White Mountain**	**2.50**	**290**	IAML		20 08 36.7	
	comp=N,296nm,0.7s						
L19K	**White Mountain**	**2.50**	**290**	S	**Sn**	**20 08 17.2**	**+1.6**
	baz=105						
N25K	**Chitina, Valde**	**2.52**	**84**		**Pn**	**20 07 45.1**	**-1.6**
N25K				IAML		20 08 26.2	
	comp=E,350nm,0.4s						
N25K				IAML		20 08 29.2	
	comp=N,407nm,0.4s						
PAX	**Paxson**	**2.56**	**51**

PRP	**Porcupine Dome**	4.53	23	Pn	**Pn**	20 08 17.0 +2.8
PRP				IAML		20 09 36.7
	comp=N,67nm,0.7s					
G24K	**Hadweenzic Riv**	5.38	10	IAML		20 10 11.2
	comp=N,29nm,0.9s					
FYU	**Fort Yukon**	5.53	19	Pn	**Pn**	20 08 29.6 +1.8
H17K	**Granite Mounta**	5.75	312	Pn	**Pn**	20 08 31.5 +0.6
BMAR	**Burnt Mountain**	6.43	18		**Pn**	20 08 41.3 +1.2
P32M	**Atlin**	8.17	96	Pn	**Pn**	20 09 03.5 -0.4
INK	**Inuvik**	9.74	38	P	**Pn**	20 09 25.8 +0.4
	comp=N,0.2nm,0.3s,baz=257,slow=12,SNR=3.6					
	comp=N,1.3nm,0.6s					
DLBC	**Dease Lake**	10.37	98	P	**Pn**	20 09 33.4 -0.8
	comp=N,0.4nm,0.3s,baz=290,slow=15,SNR=2.6					
	comp=N,0.9nm,0.3s					
YKA	**Yellowknife Ar**	16.47	71	P	**Pn**	20 10 53.5 -1.7
	comp=N,0.1nm,0.3s,baz=287,slow=13,SNR=3.1					
	comp=N,0.9nm,0.8s					
SPITS	**Spitsbergen Ar**	40.37	4	P	**P**	20 14 39.9 +0.2
	comp=N,18nm,1.0s,baz=22,slow=4.8,SNR=9.3					
	comp=N,18nm,1.0s					
KSRS	**Korea Array**	54.36	284	P	**P**	20 16 28.9 +0.1
	comp=N,1.4nm,0.7s,baz=27,slow=8.0,SNR=4.4					
	comp=N,1.4nm,0.7s					
SONM	**Songino Array**	55.18	307	P	**P**	20 16 35.5 +0.7
	comp=N,1.7nm,0.9s,baz=29,slow=11,SNR=5.9					
	comp=N,1.7nm,0.9s					
ZALV	**Zalesovo Beam**	57.11	325	P	**P**	20 16 47.2 -1.1
	comp=N,0.9nm,0.7s,baz=37,slow=6.9,SNR=3.9					
	comp=N,0.9nm,0.7s					
FINES	**FINESS Array B**	57.40	2	P	**P**	20 16 50.0 -0.2
	comp=N,4.6nm,0.9s,baz=350,slow=8.3,SNR=8.7					
	comp=N,4.6nm,0.9s					
EKA	**Eskdalemuir Ar**	60.64	21	P	**P**	20 17 13.1 +0.4
	comp=N,0.8nm,0.5s,baz=328,slow=5.8,SNR=5.6					
	comp=N,0.8nm,0.5s					
BVAR	**Borovoye Array**	61.49	334	P	**P**	20 17 17.8 -0.7
	comp=N,1.5nm,0.5s,baz=65,slow=8.5,SNR=12					
	comp=N,1.5nm,0.5s					
KURBB	**Kurchatov Arra**	61.79	327	P	**P**	20 17 19.5 -1.0
	comp=N,1.1nm,0.5s,baz=30,slow=6.8,SNR=8.9					
	comp=N,1.1nm,0.5s					
MKAR	**Makanchi Array**	64.25	323	P	**P**	20 17 35.5 -1.4
	comp=N,1.3nm,0.6s,baz=46,slow=6.2,SNR=2.6					
	comp=N,1.3nm,0.6s					
AKASG	**Malin Array Be**	68.21	1	P	**P**	20 18 01.7 -0.5
	comp=N,4.0nm,0.5s,baz=2.3,slow=6.3,SNR=19					
	comp=N,4.0nm,0.5s					
ESDC	**Sonseca Array**	75.49	27	P	**P**	20 18 45.2 -0.8
	comp=N,1.0nm,0.9s,baz=316,slow=3.3,SNR=5.5					
	comp=N,1.0nm,0.9s					
QSPA	**South Pole Qui**	151.25	180	PKPbc	**PKPbc**	20 26 53.1 -0.4
	comp=N,1.4nm,0.4s,baz=139,slow=3.7,SNR=5.6					

*NEIC **30** 20:07:49.9±1.5, 2°.43N±0°.06×124°.03E±0°.06, h332km±6km, mb4.6/110, Error ellipse: s-maj=9.4km s-min=9.0km az=90.0*

*IDC **30** 20:07:50.8±0.9, 2°.45N×124°.07E, h347km±8km, mb3.9/20, mbtmp4.7/24, Error ellipse: s-maj=15.1km s-min=6.6km az=84.0*

*DJA **30** 20:07:51.8±0.2, 2°.N±3°×12°.4E±°, h319km±3km, M4.7/48, mB5.1/9, mb4.8/48, MLv5.1/23, Mw(mB)4.5/9*

ISC 30 20:07:51.2±0.3, 2°.41N±0°.03×124°.05E±0°.05, h351km, n267, σ1.9 30/283, mb4.5/88, 3D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KMSI	**Cibinong**	1.83	182	P	**Pn**	20 08 40.4	-1.1
SGSI	**Sangihe**	1.94	49	P	**Pn**	20 08 39.9	-2.4
MRSI	**Marisa**	2.85	228	P	**Pn**	20 08 49.1	-0.3
TOLI2	**Tolitoli**	3.51	248	Pn	**Pn**	20 08 54.3	-1.2
TOLI2				Sn	**S**	20 09 41.5	-5.7
TOLI2	**Tolitoli**	3.51	248	P	**Pn**	20 08 54.4	-1.1
TNTI	**Ternate**	3.69	116		**Pn**	20 08 55.9	-1.3
TNTI				Sn	**S**	20 09 45.6	-4.8
TNTI	**Ternate**	3.69	116	P	**Pn**	20 08 56.2	-1.0
TNTI	**Ternate**	3.69	116	P	**Pn**	20 08 55.8	-1.4
APSI	**Ampana**	4.08	216	P	**Pn**	20 09 00.2	-1.0
LBMI	**Labuha**	4.59	131	P	**Pn**	20 09 06.1	-0.4
SANI	**Sanana**	4.83	156	P	**Pn**	20 09 06.3	-2.8
SANI	**Sanana**	4.83	156	P	**Pn**	20 09 06.5	-2.6
DAV	**Davao City (W)**	4.87	18	Pn	Pn	20 09 06.2	-3.4
DAV				Sn	**S**	20 10 10.0	-2.8
DAV	**Davao City (W)**	4.87	18	P	**Pn**	20 09 08.4	-1.2
	123nm,0.5s,baz=199,slow=2.6,SNR=4.1					
DAV				S	**S**	20 10 12.1	-0.7
	309nm,0.6s,baz=207,slow=22,SNR=6.1					
PCI	**Palu**	5.35	232	P	**Pn**	20 09 13.3	-1.5
	102nm,1.0s,0.9nm					
MYLDM	**Lahad Datu**	6.18	297		**Pn**	20 09 22.4	-1.9
MYLDM	**Lahad Datu**	6.18	297	P	**Pn**	20 09 24.8	+0.6
NLAI	**Namlea**	6.39	151	P	**Pn**	20 09 26.3	-0.3
	175nm,0.7s,5μm1.8nm					
KDI	**Kendari**	6.49	193	P	**Pn**	20 09 25.8	-1.9
	126nm,0.8s,0.4nm					
TTSI	**Tana Toraja**	6.88	218	P	**Pn**	20 09 32.1	-0.1
	127nm,0.7s,0.4nm					
AAI	**Ambon**	7.34	146	P	**Pn**	20 09 39.1	+1.5
	114nm,0.6s,2μm0.6nm					
SMKI	**Samarinda**	7.41	248	P	**Pn**	20 09 40.0	+1.5
MSAI	**Masohi**	7.51	140	P	**Pn**	20 09 40.9	+1.2
	179nm,1.0s,1.3nm					
SPSI	**Sidrap Palu**	7.64	214	P	**Pn**	20 09 40.9	-0.3
	74nm,0.7s,2μm0.3nm					
SWI	**Sorong**	7.91	114	P	**Pn**	20 09 43.8	-0.5
BBSI	**Bau Bau**	7.98	191	P	**Pn**	20 09 45.6	+0.3
	112nm,1.0s					
BKB	**Balikpapan**	8.03	243	Pn	Pn	20 09 42.0	-3.8
KAPI	**Kappang**	8.54	210	Pn	**Pn**	20 09 49.9	-1.9
KAPI	**Kappang**	8.54	210	P	**Pn**	20 09 51.8	0.0
	20nm,0.8s,baz=40,slow=7.6,SNR=9.3					
KAPI				S	**S**	20 11 27.6	-2.7
	6.4nm,0.5s,baz=137,slow=21,SNR=5.8					
KAPI	**Kappang**	8.54	210	P	**Pn**	20 09 53.0	+1.2
KKM	**Kota Kinabalu**	8.61	295	Pn	**Pn**	20 09 50.2	-2.5
BKSI	**Bulukumba**	8.63	207	P	**Pn**	20 09 53.9	+1.0
BNDI	**Bandanaira**	9.04	140	P	**Pn**	20 09 59.5	+1.8
	172nm,1.1s					
MTKI	**Muara Teweh, K**	9.74	250	P	**Pn**	20 10 07.3	+1.1
FAKI	**Fak Fak**	9.76	123		**Pn**	20 10 06.0	-0.3
FAKI	**Fak Fak**	9.76	123	P	**Pn**	20 10 06.2	-0.2
RKPI	**Ransiki, Papua**	10.85	111	P	**P**	20 10 21.2	+1.1
	51nm,1.2s					
MMRI	**Maumere**	11.12	189		**Pn**	20 10 22.3	-0.3
MMRI	**Maumere**	11.12	189	P	**Pn**	20 10 23.4	+0.8
MMRI	**Maumere**	11.12	189	P	**P**	20 10 25.0	+1.8
	86nm,1.2s					
SBUM	**Sibu**	11.82	270	P	**P**	20 10 30.0	-1.0
SBUM	**Sibu**	11.82	270	P	**P**	20 10 31.8	+0.9
TGY	**Tagaytay City**	12.02	345	P	**P**	20 10 34.6	+1.5
	278nm,0.7s,baz=174,slow=3.0,SNR=7.4					
SOEI	**Soe**	12.09	179	P	**P**	20 10 33.8	-0.2
SOEI	**Soe**	12.09	179	P	**P**	20 10 34.7	+0.7
SOEI	**Soe**	12.09	179	P	**Pn**	20 10 37.1	+2.9
	72nm,0.8s					
BATI	**Baumata**	12.54	182	P	**P**	20 10 39.9	+1.0
	40nm,0.4s,baz=97,slow=6.8,SNR=13					
BATI				S	**S**	20 12 59.8	+2.0
	38nm,0.7s,baz=54,slow=22,SNR=7.0					
BATI	**Baumata**	12.54	182	P	**Pn**	20 10 42.5	+3.0
	67nm,0.7s					
WSI	**Waingapu**	12.57	197	P	**Pn**	20 10 41.6	+1.8
SAUI	**Saumlaki**	12.60	145	P	**P**	20 10 38.6	-1.0
SAUI	**Saumlaki**	12.60	145	P	**P**	20 10 40.2	+0.6
SAUI	**Saumlaki**	12.60	145	P	**P**	20 10 40.5	+0.9
	85nm,0.8s					
PLAI	**Plampang**	12.80	209	P	**P**	20 10 42.9	+1.2
PLAI	**Plampang**	12.80	209	P	**Pn**	20 10 43.7	+1.2
	54nm,0.9s					
WBSI	**Waikabubak, Su**	12.84	201	P	**Pn**	20 10 45.0	+2.0
	62nm,0.9s					
KSM	**Kuching**	13.77	266	P	**P**	20 10 51.4	-1.0
KSM	**Kuching**	13.77	266	P	**P**	20 10 54.3	+1.9
KMMI	**Kalianget**	13.77	227	P	**Pn**	20 10 56.7	+2.8
	86nm,0.8s					
BLJI	**Banyuglugur**	14.51	226	P	Pn	20 11 08.8	+6.3
JAGI	**Jajag, Banyuwa**	14.64	222	P	**P**	20 11 01.2	-0.8
JAGI	**Jajag, Banyuwa**	14.64	222	P	**Pn**	20 11 04.4	+0.4
JAGI	**Jajag, Banyuwa**	14.64	222	P	**Pn**	20 11 05.5	+1.5
	128nm,0.8s,2μm					
GRJI	**Gresik**	14.81	231	P	**P**	20 11 05.5	+1.7
	71nm,0.6s					
GMJI	**Gumukmas**	14.98	225	P	**Pn**	20 11 08.3	+0.3
	88nm,0.9s					
NGJI	**Ngawi**	15.88	232	P	**Pn**	20 11 19.2	+0.8
	83nm,0.8s					
PWJI	**Pagerwojo**	16.02	230	P	**P**	20 11 19.2	+2.2
	53nm,0.8s					
DRS	**Darwin Rock St**	16.24	155	P	**P**	20 11 20.2	+0.9
SMRI	**Semarang**	16.52	235	P	**P**	20 11 21.9	-0.6
SMRI	**Semarang**	16.52	235	P	**P**	20 11 24.0	+1.6
SMRI	**Semarang**	16.52	235	P	**P**	20 11 25.1	+2.7
	163nm,1.0s					
PCJI	**Pacitan**	16.61	231	P	**P**	20 11 26.0	+2.6
	117nm,0.8s					
MTN	**Manton Dam**	16.71	155	P	**P**	20 11 23.7	-0.7
MTN	**Manton Dam**	16.71	155	P	**P**	20 11 25.1	+0.7
UGM	**Wanagama**	16.95	233	P	**P**	20 11 26.8	-0.3
UGM	**Wanagama**	16.95	233	P	**Pn**	20 11 30.6	-0.2
	139nm,1.7s					
KDU	**Kakadu**	17.17	151	P	**P**	20 11 30.7	+1.3
TPI	**Tanjungpandan**	17.18	253	P	**P**	20 11 32.5	+3.0
	75nm,0.9s					
KPJI	**Karang Pucung**	17.93	237	P	**P**	20 11 40.4	+2.9
KNRA	**Kununurra**	18.57	166	P	**P**	20 11 43.7	-0.5
KNRA				IAmb	IAmb	20 11 47.4	
	comp=Z,18nm,0.9s						
LEM	**Lembang**	18.80	241	P	**P**	20 11 49.0	+2.1
	comp=Z,153nm,0.8s,baz=58,slow=8.0,SNR=40						
LEM	**Lembang**	18.80	241	P	**P**	20 11 49.2	+2.3
BBJI	**Bungbulang**	19.08	239	P	**P**	20 11 49.9	+0.1
CNJI	**Cibinong**	19.45	240	P	**P**	20 11 55.0	+1.3
TPRI	**Tanjung Pinang**	19.57	266	P	**P**	20 11 56.6	+1.6
SKJI	**Sukabumi**	19.81	242	P	**P**	20 11 57.6	+0.2
PMBI	**Palembang**	19.99	255	P	**P**	20 11 59.1	0.0
MYKOM	**Kota Tinggi**	20.20	269	P	**P**	20 12 00.2	-1.0
MYKOM	**Kota Tinggi**	20.20	269	P	**P**	20 12 02.6	+1.4
BTDF	**Bukit Timah Da**	20.29	267	P	**P**	20 12 02.0	-0.1
FITZ	**Fitzroy Crossi**	20.44	176	P	**P**	20 12 02.5	-0.8
FITZ	**Fitzroy Crossi**	20.44	176	P	**P**	20 12 01.9	-1.5
	comp=Z,29nm,0.3s,baz=355,slow=6.3,SNR=277						
FITZ				S	**S**	20 15 31.6	+2.2
	comp=Z,5.6nm,0.8s,baz=202,slow=16,SNR=4.0						
	comp=Z,29nm,0.3s						
FITZ	**Fitzroy Crossi**	20.44	176	P	**P**	20 12 03.9	+0.6
TWGBT	**Beinan**	20.49	352	P	**P**	20 12 04.3	+0.6
TWG	**Pinlang**	20.49	352	P	**P**	20 12 01.9	-1.9
YULB	**Yu-li**	21.03	353	P	**P**	20 12 06.8	-1.8
YULB	**Yu-li**	21.03	353	P	**P**	20 12 08.5	-0.1
TPUB	**Ta-pu**	21.03	351	P	**P**	20 12 07.1	-1.5
TPUB	**Ta-pu**	21.03	351	P	**P**	20 12 09.4	+0.8
SSLB	**Suanglung**	21.46	352	P	**P**	20 12 11.6	-1.0
SSLB	**Suanglung**	21.46	352	P	**P**	20 12 13.3	+0.8
QIZ	**Qiongzhong**	21.59	321	P	**P**	20 12 12.9	-0.9
QIZ				IAmb	IAmb	20 12 16.7	
	comp=Z,58nm,1.4s						
NACB	**Ninganchiao**	21.77	354	P	**P**	20 12 14.4	-0.9
NACB				IAmb	IAmb	20 12 20.2	
	comp=Z,20nm,0.8s						
NACB	**Ninganchiao**	21.77	354	P	**P**	20 12 16.8	+1.5
YOJ	**Yonaguni jima**	21.95	357	P	**P**	20 12 16.6	-0.3
YOJ	**Yonaguni jima**	21.95	357	P	**P**	20 12 18.7	+1.8
HKPS	**Hong Kong Po S**	21.97	335	P	**P**	20 12 18.4	+1.2
MNAI	**Manna**	22.13	252	P	**P**	20 12 19.2	+0.4
YHNB	**Yeheng**	22.28	354	P	**P**	20 12 18.9	-1.2
YHNB	**Yeheng**	22.28	354	P	**P**	20 12 21.0	+0.9
XMI	**Christmas Isla**	22.30	235	P	**P**	20 12 21.6	+1.3
XMIS	**Christmas Isla**	22.35	235	P	**P**	20 12 18.4	-2.3
XMIS	**Christmas Isla**	22.35	235	P	**P**	20 12 22.1	+1.4
TATO	**Taipei**	22.57	354	P	**P**	20 12 21.0	-1.5
IPM	**Ipoh**	23.07	276	P	**P**	20 12 26.2	-1.2
IPM				IAmb	IAmb	20 12 29.0	
	comp=Z,19nm,0.7s						
IPM	**Ipoh**	23.07	276	P	**P**	20 12 29.4	+2.0
BKNI	**Bangkinang**	23.10	265	P	**P**	20 12 26.9	-0.7
KULM	**Kulim**	23.52	278	P	**P**	20 12 30.0	-1.4
MBWA	**Marble Bar**	23.80	190	P	**P**	20 12 32.7	-1.1
MBWA				IAmb	IAmb	20 12 36.0	
	comp=Z,16nm,0.8s						
PSA00	**Pilbara Seismi**	24.19	190	P	**P**	20 12 36.4	-0.9
PSA00				IAmb	IAmb	20 12 37.9	
	comp=Z,23nm,0.6s						
PSA00	**Pilbara Seismi**	24.19	190	P	**P**	20 12 35.9	-1.4
PSA00	**Pilbara Seismi**	24.19	190	P	**P**	20 12 39.7	+2.4
WB0	**Warramunga Arr**	24.27	156	P	**P**	20 12 37.3	-0.7
WRAB	**Tennant Creek**	24.40	156	P	**P**	20 12 38.6	-0.6
WRAB				IAmb	IAmb	20 12 40.0	
	comp=Z,9.1nm,0.5s						
WRA	**Warramunga Arr**	24.40	156	P	**P**	20 12 37.5	-1.8
WRA	**Warramunga Arr**	24.40	156	P	**P**	20 12 38.5	-0.7
	comp=Z,3.9nm,0.3s,baz=337,slow=10,SNR=223						
WRA				S	**S**	20 16 29.7	-3.1
	comp=Z,3.2nm,0.9s,baz=332,slow=16,SNR=5.4						
WRA				ScP	**ScP**	20 19 13.4	+0.7
	comp=Z,1.4nm,0.6s,baz=345,slow=2.8,SNR=5.5						
	comp=Z,3.9nm,0.3s						
WB2	**Warramunga Arr**	24.41	156	P	**P**	20 12 38.5	-0.8
WR0	**Warramunga Arr**	24.50	156	P	**P**	20 12 39.5	-0.6
JOW	**Kunigami**	24.62	9	P	**P**	20 12 40.5	-0.6
JOW				IAmb	IAmb	20 12 44.9	
	comp=Z,28nm,0.7s						
COEN	**Coen**	24.98	131	P	**P**	20 12 42.7	-1.8
PSI	**Prapat**	25.10	271	P	**P**	20 12 47.2	+1.4
RPSI	**Rantau Prapat**	25.10	271	P	**P**	20 12 44.7	-0.9
RPSI				IAmb	IAmb	20 12 46.9	
	comp=Z,26nm,0.7s						
GSI	**Gunungsitoli**	26.48	268	P	**P**	20 12 56.8	-1.2
GSI	**Gunungsitoli**	26.48	268	P	**P**	20 12 59.5	+1.6
LHMI	**Lhok Sumawe**	27.19	277	P	**P**	20 13 02.9	-1.2
QIS	**Mount Isa**	27.45	147	P	**P**	20 13 07.5	+1.1
WRKA	**Warakurna**	27.59	172	P	**P**	20 13 08.5	+0.9
AS31	**Alice Springs**	27.64	160	P	**P**	20 13 07.6	-0.4
ASAR	**Alice Springs**	27.64	160	P	**P**	20 13 08.0	0.0
ASAR	**Alice Springs**	27.64	160	P	**P**	20 13 08.1	0.0
	comp=Z,2.2nm,0.3s,baz=339,slow=7.3,SNR=58						
ASAR				S	**S**	20 17 22.4	-1.3
	comp=Z,1.6nm,0.9s,baz=341,slow=14,SNR=5.5						
ASAR				ScP	**ScP**	20 19 22.4	+0.3
	comp=Z,1.3nm,0.7s,baz=348,slow=1.0,SNR=7.6						
	comp=Z,2.2nm,0.3s						
CMAR	**Chiang Mai Arr**	29.32	305	P	**P**	20 13 24.0	+1.1
	comp=Z,0.3nm,0.6s,baz=126,slow=8.1,SNR=4.7						
CMAR				ScP	**ScP**	20 19 28.6	+1.0
	comp=Z,3.5nm,0.9s,baz=153,slow=2.1,SNR=23						
WHN	**Wuhan**	29.45	343	P	**P**	20 13 25.8	+2.0
CHTO	**Chiang Mai**	29.50	305	P	**P**	20 13 24.4	0.0
JCJ	**Chichijima**	30.07	34	P	**P**	20 13 28.2	-1.1
ENH	**Enshi**	30.96	335	P	**P**	20 13 37.0	-0.1
ENH				IAmb	IAmb	20 13 39.0	
	comp=Z,40nm,0.8s						
ENH	**Enshi**	30.96	335	P	**P**	20 13 38.3	+1.2
JNU	**Nakatsue**	31.21	11	P	**P**	20 13 39.7	+0.4
JNU				IAmb	IAmb	20 13 41.6	
	comp=Z,20nm,1.0s						
MORW	**Morawa**	32.23	193	P	**P**	20 13 46.9	-1.2
MORW				IAmb	IAmb	20 13 48.8	
	comp=Z,43nm,1.3s						
JMN	**Monobe**	32.48	15	P	**P**	20 13 49.2	-1.0
JMN				IAmb	IAmb	20 13 51.2	
	comp=Z,35nm,0.8s						
JMN	**Monobe**	32.48	15	P	**P**	20 13 51.0	+0.7
FORT	**Forrest**	33.23	174	P	**P**	20 13 55.8	-0.8
FORT				IAmb	IAmb	20 13 57.5	
	comp=Z,42nm,0.8s						
FORT	**Forrest**	33.23	174	P	**P**	20 13 57.8	+1.2
TNCH	**TengChong**	33.34	315	*e*P	**P**	20 13 56.3	-1.6
TNCH				pP	pP	20 15 02.5	-0.4
TNCH				PP	**PP**	20 15 24.5	+2.3
TNCH				S	**S**	20 18 52.0	-0.5
TNCH				sS	sS	20 20 38.0	-13
TNCH				pmax	pmax		
	comp=Z,6.0nm,1.4s						
TNCH				pmax	pmax		
	comp=Z,990nm,20.3s						
TNCH				LR	LR		
	comp=N,660nm,17.2s						
TNCH				LR	LR		
	comp=E,400nm,17.5s						
TNCH				LR	LR		
	comp=Z,1μm,18.7s						
LYN	**LuoYang**	33.75	343	*e*P	**P**	20 14 01.8	+0.7
LYN				pmax	pmax		
	comp=Z,39nm,0.7s						
TIA	**Tai'an**	34.24	350	P	**P**	20 14 05.8	+0.6
TIA				pmax	pmax		
	comp=Z,33nm,0.9s						
XAN	**Xi'an**	34.49	337	⇓P	**P**	20 14 07.5	0.0
XAN				pmax	pmax		
	comp=Z,39nm,0.7s						
INU	**Inuyama**	34.91	19	P	**P**	20 14 10.8	-0.1
INU				IAmb	IAmb	20 14 11.5	
	comp=Z,35nm,1.0s						
INU	**Inuyama**	34.91	19	P	**P**	20 14 11.2	+0.2
KSRS	**Korea Array**	35.05	5	P	**P**	20 14 11.8	-0.2
	comp=Z,4.4nm,0.7s,baz=173,slow=10,SNR=16						
	comp=Z,4.4nm,0.7s						
KS19	**Wonju Array Si**	35.10	5	P	**P**	20 14 12.6	+0.1
JGF	**Kuroka**	35.26	19	P	**P**	20 14 12.7	-1.2
JGF				IAmb	IAmb	20 14 15.2	
	comp=Z,24nm,0.8s						
JGF	**Kuroka**	35.26	19	P	**P**	20 14 15.4	+1.5
NWAO	**Narrogin (SRO)**	35.73	190	P	**P**	20 14 17.5	-0.4
NWAO				IAmb	IAmb	20 14 51.9	
	comp=Z,56nm,1.4s						
HNS	**HongShan**	35.87	347	⇓P	**P**	20 14 18.5	-0.4
HNS				pmax	pmax		
	comp=Z,30nm,1.0s						
MAJO	**Matsushiro**	36.39	19	P	**P**	20 14 21.6	-1.8
MAJO				IAmb	IAmb	20 14 23.2	
	comp=Z,27nm,0.9s						
MAJO	**Matsushiro**	36.39	19	P	**P**	20 14 22.8	-0.6
MJAR	**Matsushiro Arr**	36.39	19	P	**P**	20 14 22.5	-0.9
	comp=Z,23nm,0.9s,baz=193,slow=9.0,SNR=35						
MJAR				ScP	**ScP**	20 19 52.6	+0.7
	comp=Z,3.7nm,1.0s,baz=188,slow=4.8,SNR=4.7						
	comp=Z,23nm,0.9s						
MJB9	**Matsu-Tunnel**	36.40	19	P	**P**	20 14 21.6	-1.9
MJB9				IAmb	IAmb	20 14 23.2	
	comp=Z,26nm,0.9s						
TIY	**Taiyuan**	36.72	345	*e*P	**P**	20 14 27.3	+1.1
TIY				pmax	pmax		
	comp=Z,35nm,0.7s						
BBOO	**Buckleboo**	36.83	163	P	**P**	20 14 26.9	-0.2
BBOO				IAmb	IAmb	20 15 07.6	
	comp=Z,38nm,1.4s						
JSD	**Sado**	37.77	18	P	**P**	20 14 33.8	-1.1
JSD				IAmb	IAmb	20 14 45.7	
	comp=Z,44nm,1.1s						
STKA	**Stephens Creek**	37.95	155	P	**P**	20 14 36.3	-0.1
STKA	**Stephens Creek**	37.95	155	P	**P**	20 14 37.5	+1.0
	comp=Z,11nm,0.3s,baz=328,slow=9.0,SNR=114						
	comp=Z,11nm,0.3s						
STKA	**Stephens Creek**	37.95	155	P	**P**	20 14 37.6	+1.1
BJT	**Baijiatuau**	38.11	350	P	**P**	20 14 37.5	-0.2
BJT				IAmb	IAmb	20 14 39.3	
	comp=Z,23nm,0.9s						
BJT	**Baijiatuau**	38.11	350	P	**P**	20 14 38.4	+0.7
BJI	**Beijing**	38.13	350	P	**P**	20 14 38.3	+0.5
BJI				pmax	pmax		
	comp=Z,13nm,0.9s						
HTT	**Hallett**	38.31	160	P	**P**	20 14 41.0	+1.5
LZH	**Lanzhou**	38.37	333	*e*P	**P**	20 14 42.0	+1.9
LZH				pP	pP	20 15 45.0	-1.8
LZH				sP	PP	20 16 20.0	+3.2
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
JMM	**Marumori**	38.48	21	P	**P**	20 14 40.6	-0.2
JMM				IAmb	IAmb	20 14 42.6	
	comp=Z,32nm,0.7s						
JMM	**Marumori**	38.48	21	P	**P**	20 14 40.0	-0.8
CMSA	**Cobar Meteorol**	39.53	150	P	**P**	20 14 50.5	+1.0
HHC	**Hu-ho-hao-te**	39.89	345	*e*P	**P**	20 14 54.0	+1.6
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,620nm,5.1s						
JTM	**Tenmabayashi**	41.18	20	P	**P**	20 15 03.0	+0.3
JTM				IAmb	IAmb	20 15 03.5	
	comp=Z,42nm,0.9s						
XLT	**XiLinHaoTe**	41.91	351	*e*P	**P**	20 15 09.3	+0.6
XLT				pP	pP	20 16 18.5	+1.9
XLT				pmax	pmax		
	comp=Z,28nm,1.0s						
ARMA	**Armidale**	41.93	143	P	**P**	20 15 11.1	+2.1
USA0B	**Ussuriysk Arra**	42.20	9	P	**P**	20 15 09.9	-0.9
USRK	**Ussuriysk Ar.**	42.20	9	P	**P**	20 15 10.5	-0.3
USRK	**Ussuriysk Ar.**	42.20	9	P	**P**	20 15 10.7	-0.2
	comp=Z,2.3nm,0.4s,baz=189,slow=7.0,SNR=18						
	comp=Z,2.3nm,0.4s						
MDJ	**Mudanjiang**	42.31	6	P	**P**	20 15 11.6	-

BRVK	Borovoye	67.06	328		P	20 18 06.8	-0.7
TIXI	Tiksi	69.21	2	P	P	20 18 19.3	-1.0
TIXI				IAmb	IAmb	20 18 20.0	
	comp=Z,8.1nm,0.8s						
CASY	Casey	69.22	186	P	P	20 18 20.6	0.0
CASY				IAmb	IAmb	20 18 50.5	
	comp=Z,19nm,1.1s						
NRIK	Noril'sk	71.09	347	P	P	20 18 31.1	-0.7
NRIK				IAmb	IAmb	20 18 33.5	
	comp=Z,6.2nm,0.7s						
NRIK	Noril'sk	71.09	347	P	P	20 18 30.6	-1.1
	comp=Z,3.6nm,0.4s,baz=131,slow=9.6,SNR=6.0						
	comp=Z,3.6nm,0.4s						
ATKA	Atka Island	71.10	35	P	P	20 18 32.0	-0.1
ABKAR	Akbulak array	71.49	322		P	20 18 33.6	-1.0
ARTI	Arti	74.71	328	P	P	20 18 53.1	0.0
ABPO	Ambohimpanom	78.35	250	P	P	20 19 13.6	-0.7
RAYN	Ar Rayn	78.54	293	P	P	20 19 15.2	0.0
VOI	Vohitsoka	79.10	247	P	P	20 19 17.8	-0.5
K13K	Kusilvak Mount	79.14	27	P	P	20 19 18.5	+1.1
K13K				IAmb	IAmb	20 19 48.2	
	comp=Z,26nm,1.4s						
G16K	Koyuk River	81.02	24	P	P	20 19 28.5	+1.1
G16K				IAmb	IAmb	20 19 32.9	
	comp=Z,14nm,1.1s						
MAW	Mawson	81.61	200	P	P	20 19 30.6	+0.3
	comp=Z,4.4nm,1.0s,baz=55,slow=9.7,SNR=5.5						
	comp=Z,4.4nm,1.0s						
H17K	Granite Mounta	81.92	25	P	P	20 19 34.2	+2.1
H17K				IAmb	IAmb	20 19 34.4	
	comp=Z,12nm,0.9s						
E18K	Tukpahlearik C	82.17	22	P	P	20 19 34.1	+0.8
E18K				IAmb	IAmb	20 19 35.6	
	comp=Z,13nm,0.9s						
C18K	Utukok River	82.24	21	P	P	20 19 34.7	+1.1
C18K				IAmb	IAmb	20 19 42.3	
	comp=Z,28nm,1.4s						
VNDA	Vanda	82.48	172	P	P	20 19 34.8	+0.1
VNDA	Vanda	82.48	172	P	P	20 19 34.9	+0.3
	comp=Z,1.3nm,0.6s,baz=308,slow=8.1,SNR=6.0						
	comp=Z,1.3nm,0.6s						
H18K	Honhosa River	82.61	25	P	P	20 19 36.5	+0.9
H18K				IAmb	IAmb	20 19 37.5	
	comp=Z,11nm,0.8s						
C19K	Lookout Ridge	82.90	21	P	P	20 19 37.8	+0.7
C19K				IAmb	IAmb	20 19 39.3	
	comp=Z,11nm,0.9s						
D19K	Kuna River	83.31	21	P	P	20 19 39.6	+0.5
D19K				IAmb	IAmb	20 19 41.0	
	comp=Z,15nm,0.9s						
E19K	Redstone River	83.46	22	P	P	20 19 39.8	-0.1
E19K				IAmb	IAmb	20 19 42.5	
	comp=Z,14nm,0.9s						
H19K	Roundabout Mou	83.46	24	P	P	20 19 40.3	+0.4
H19K				IAmb	IAmb	20 19 42.1	
	comp=Z,15nm,0.8s						
OHAK	Old Harbor	84.00	33	P	P	20 19 43.8	+1.0
B22K	Teshekpuk Lake	85.22	20	P	P	20 19 49.2	+0.7
B22K				IAmb	IAmb	20 19 50.2	
	comp=Z,9.7nm,0.7s						
D22K	Ayikyak River	85.33	21	P	P	20 19 50.1	+1.0
D22K				IAmb	IAmb	20 20 02.0	
	comp=Z,6.8nm,1.2s						
D23K	Nanushuk River	86.06	21	P	P	20 19 53.9	+1.2
D23K				IAmb	IAmb	20 19 55.5	
	comp=Z,14nm,1.4s						
KIBK	Kibwezi	86.11	268	P	P	20 19 53.8	-0.4
KIBK				IAmb	IAmb	20 19 55.9	
	comp=Z,9.7nm,1.5s						
C23K	Itkillik River	86.14	20	P	P	20 19 53.0	0.0
C23K				IAmb	IAmb	20 20 19.1	
	comp=Z,18nm,1.5s						
COLD	Coldfoot	86.14	23	P	P	20 19 53.7	+0.6
COLD				IAmb	IAmb	20 19 55.1	
	comp=Z,3.5nm,0.7s						
TOLK	Toolik Lake Re	86.44	21	P	P	20 19 55.5	+0.8
TOLK				IAmb	IAmb	20 19 57.0	
	comp=Z,7.2nm,1.1s						
KMBO	Kilima Mbogo	86.85	269	P	P	20 19 57.8	-0.2
	comp=Z,1.0nm,0.3s,baz=56,slow=12,SNR=5.0						
	comp=Z,1.0nm,0.3s						
BMAR	Burnt Mountain	88.32	23	P	P	20 20 04.3	+0.8
C27K	Jago River	88.54	20	P	P	20 20 04.9	+0.4
C27K				IAmb	IAmb	20 20 22.0	
	comp=Z,5.8nm,1.4s						
ARCES	ARCESS Array B	90.75	340	P	P	20 20 12.8	-1.9
	comp=Z,3.7nm,0.9s,baz=77,slow=4.1,SNR=5.9						
	comp=Z,3.7nm,0.9s						
FINES	FINESS Array B	91.72	332	P	P	20 20 19.4	+0.2
	comp=Z,2.0nm,0.8s,baz=46,slow=5.5,SNR=5.9						
	comp=Z,2.0nm,0.8s						
QSPA	South Pole Qui	92.33	180	P	P	20 20 22.4	+0.3
	comp=Z,1.0nm,0.2s,baz=275,slow=3.3,SNR=3.6						
	comp=Z,1.0nm,0.2s						
FARO	Faro, Yukon	93.74	27	P	P	20 20 29.1	+0.5
FARO				IAmb	IAmb	20 20 30.5	
	comp=Z,7.7nm,1.1s						
TORD	Torodi Ar. Bea	120.76	287	PKP	PKPdf	20 26 01.8	-1.2
	comp=Z,0.5nm,0.3s,baz=93,slow=2.1,SNR=11						
BO02	Sierra Bellavi	144.95	158	PKPdf	PKPbc	20 26 48.6	+0.9
MT02	Curacav	146.17	157		PKPdf	20 26 52.0	+2.3

*IDC **30** 20:10:37.5±3.0, 61°.33N×150°.58W, h41km±30km, mb3.6/5, mbtmp3.6/8, ML3.2/3, Error ellipse: s-maj=28.0km s-min=20.5km az=9.0*

*NEIC **30** 20:10:38.7±1.2, 61°.45N±0°.02×150°.02W±0°.06, h47km±5km, Error ellipse: s-maj=4.8km s-min=2.0km az=57.0*

*AEIC **30** 20:10:39.6±1.0, 61°.44N±0°.04×150°.07W±0°.06, h41km±6km, ML3.5, ML3.6/148(NEIC), Error ellipse: s-maj=5.6km s-min=3.9km az=167.0*

ISC 30 20:10:38.4±0.8, 61°.44N±0°.02×150°.11W±0°.02, h43km±6km, n165, σ1§16/165, mb3.7/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	Susitna One	0.31	275		Pn	20 10 47.4	+0.4
SUA				IAML		20 10 54.9	
	comp=E,4μm,0.9s						
SUA				IAML		20 10 54.9	
	comp=N,4μm,0.6s						
SUA	Susitna One	0.31	275	P	Pn	20 10 47.5	+0.4
	baz=94						
M22K	Willow	0.32	359		Pn	20 10 47.0	0.0
M22K	Willow	0.32	359		Sn	20 10 54.0	+1.0
M22K	Willow	0.32	359	IAML		20 10 54.6	
	comp=N,17μm,0.5s						
M22K				IAML		20 10 54.8	
	comp=E,19μm,0.6s						
M22K	Willow	0.32	359	P	Pn	20 10 46.8	-0.1
	baz=175						
M22K				S	Sn	20 10 54.0	+1.0
	baz=175						
RC01	Rabbit Creek A	0.39	153		Pn	20 10 47.9	0.0
RC01	Rabbit Creek A	0.39	153		Sn	20 10 55.5	+0.9
RC01	Rabbit Creek A	0.39	153	P	Pn	20 10 48.1	+0.2
	baz=336						
RC01				S	Sn	20 10 55.5	+0.9
	baz=336						
PMR	Palmer	0.49	71		Pn	20 10 48.8	-0.3
PMR	Palmer	0.49	71		Sn	20 10 57.0	+0.4
PMR	Palmer	0.49	71	IAML		20 10 58.1	
	comp=E,3μm,0.6s						
PMR				IAML		20 10 58.7	
	comp=N,3μm,0.3s						
PMR	Palmer	0.49	71	P	Pn	20 10 48.9	-0.1
	baz=252						
PMR				S	Sn	20 10 57.0	+0.4
	baz=252						
GHO	Glory Hole Cre	0.66	59		Pn	20 10 51.3	-0.1
GHO				IAML		20 11 02.6	
	comp=E,4μm,0.4s						
GHO				IAML		20 11 03.7	
	comp=N,4μm,0.4s						
GHO	Glory Hole Cre	0.66	59		Sn	20 11 01.4	+0.7
KNK	Knik Glacier	0.79	91		Pn	20 10 53.6	+0.5
KNK	Knik Glacier	0.79	91	P	Pn	20 10 53.6	+0.5
	baz=273						
STLK	Strandline Lak	0.83	275		Pn	20 10 54.4	+0.7
STLK					Sn	20 11 06.1	+1.3
CAPN	Captain Cook N	0.84	218		Pn	20 10 55.5	+1.7
SKT	Skwentna	0.87	309		Sn	20 11 06.3	+0.6
SKT	Skwentna	0.87	309	P	Pn	20 10 54.4	+0.2
	baz=127						
SKT				S	Sn	20 11 06.3	+0.6
	baz=127						
SML	Sawmill	0.93	66	P	Pn	20 10 55.0	0.0
	baz=247						
SPCG	Spurr Capps Gl	0.93	262		Pn	20 10 56.2	+1.1
SLKM	Skilak Lake	0.94	183		Pn	20 10 55.9	+0.9
CUT	Chulitna	0.97	356		Pn	20 10 55.8	+0.2
CUT					Sn	20 11 09.0	+0.8
CUT	Chulitna	0.97	356	IAML		20 11 10.8	
	comp=N,2μm,0.5s						
CUT				IAML		20 11 11.9	
	comp=E,2μm,0.4s						
CUT	Chulitna	0.97	356	P	Pn	20 10 55.8	+0.2
	baz=174						
CUT				S	Sn	20 11 09.0	+0.8
	baz=174						
O22K	Cooper Landing	0.98	169		Pn	20 10 56.1	+0.5
O22K	Cooper Landing	0.98	169		Sn	20 11 10.6	+2.4
O22K	Cooper Landing	0.98	169	IAML		20 11 12.2	
	comp=N,6μm,0.6s						
O22K				IAML		20 11 16.3	
	comp=E,6μm,0.4s						
O22K	Cooper Landing	0.98	169	P	Pn	20 10 56.2	+0.6
	baz=350						
O22K				S	Sn	20 11 10.6	+2.4
	baz=350						
SPCP	Crater Peak Br	1.00	261		Pn	20 10 57.3	+1.3
SPCP					Sn	20 11 11.2	+2.1
PWL	Port Wells	1.04	123		Sn	20 11 11.7	+1.9
PWL	Port Wells	1.04	123	P	Pn	20 10 57.2	+0.7
	baz=306						
PWL				S	Sn	20 11 11.7	+1.9
	baz=306						
N20K	Mount Spurr	1.04	258	P	Pn	20 10 57.2	+0.6
	baz=76						
SPCR	Spurr Chakacha	1.04	258		Pn	20 10 57.3	+0.7
SPCR	Spurr Chakacha	1.04	258		Pn	20 10 57.2	+0.6
SPCR	Spurr Chakacha	1.04	258	P	Pn	20 10 57.3	+0.7
	baz=76						
M23K	Glacier View	1.19	72		Pn	20 10 59.0	+0.5
M23K	Glacier View	1.19	72	P	Pn	20 10 59.0	+0.5
	baz=253						
SEW	Seward	1.38	166		Pn	20 11 02.2	+1.2
SEW	Seward	1.38	166	P	Pn	20 11 02.2	+1.2
	baz=348						
SCM	Sheep Creek Mo	1.39	72		Pn	20 11 02.0	+0.8
SCM	Sheep Creek Mo	1.39	72	P	Pn	20 11 01.8	+0.6
	baz=254						
RDT	Redoubt	1.42	233		Pn	20 11 02.4	+0.7
M20K	Styx River	1.51	289		Pn	20 11 04.3	+1.3
M20K	Styx River	1.51	289	IAML		20 11 25.9	
	comp=E,675nm,1.0s						
M20K				IAML		20 11 26.3	
	comp=N,503nm,0.9s						
M20K	Styx River	1.51	289	P	Pn	20 11 04.3	+1.3
	baz=106						
WAT7	Susitna Watana	1.52	22		Pn	20 11 04.2	+1.0
GLI	Glacier Island	1.56	110		Pn	20 11 03.6	-0.1
GLI				IAML		20 11 29.3	
	comp=N,976nm,0.5s						
GLI	Glacier Island	1.56	110	P	Pn	20 11 03.8	+0.2
	baz=293						
RDJH	Redoubt Jeurge	1.56	238		Pn	20 11 04.8	+1.0
WAT1	Susitna Watana	1.58	27		Pn	20 11 04.9	+1.0
WAT1	Susitna Watana	1.58	27	P	Pn	20 11 04.9	+1.0
	baz=208						
WAT6	Susitna Watana	1.60	43		Pn	20 11 04.9	+0.6
WAT6	Susitna Watana	1.60	43	P	Pn	20 11 04.9	+0.6
	baz=225						
RDWB	Redoubt West	1.64	236		Pn	20 11 05.6	+0.8
RED	Redoubt Volcan	1.66	233		Pn	20 11 05.7	+0.7
BRLK	Bradley Lake	1.72	193		Pn	20 11 06.3	+0.4
BRLK				IAML		20 11 31.7	
	comp=E,788nm,0.5s						
BRLK				IAML		20 11 32.7	
	comp=N,585nm,0.5s						
BRSE	Bradley Lake S	1.73	191		Pn	20 11 06.3	+0.4
BRSE	Bradley Lake S	1.73	191	P	Pn	20 11 06.4	+0.4
	baz=11						
PPLA	Purkeypile	1.76	327		Pn	20 11 07.2	+0.8
PPLA	Purkeypile	1.76	327	P	Pn	20 11 07.2	+0.8
	baz=145						
O20K	Slope Mountain	1.84	223		Pn	20 11 09.0	+1.6
O20K	Slope Mountain	1.84	223	P	Pn	20 11 09.0	+1.6
	baz=42						
FID	Port Fidalgo	1.89	110		Pn	20 11 07.9	-0.3
FID				IAML		20 11 38.5	
	comp=E,734nm,0.4s						
FID				IAML		20 11 40.4	
	comp=N,610nm,0.5s						
HOM	Homer	1.94	204		Pn	20 11 09.8	+1.0
HOM	Homer	1.94	204	P	Pn	20 11 09.7	+1.0
	baz=23						
P23K	Montague Islan	1.96	136		Pn	20 11 08.4	-0.6
P23K	Montague Islan	1.96	136	P	Pn	20 11 08.5	-0.6
	baz=319						
M24K	Tolsona, Glenn	1.99	69		Pn	20 11 10.9	+1.4
M24K	Tolsona, Glenn	1.99	69	P	Pn	20 11 10.9	+1.4
	baz=252						
CNPM	China Poot	2.00	197		Pn	20 11 10.1	+0.5
CNPM				IAML		20 11 38.7	
	comp=E,656nm,0.5s						
KLU	Klutina	2.01	87		Pn	20 11 10.0	+0.2
KLU				IAML		20 11 43.7	
	comp=E,452nm,0.3s						
KLU	Klutina	2.01	87	P	Pn	20 11 09.8	0.0
	baz=270						
TRF	Thorofare Moun	2.02	358		Pn	20 11 10.7	+0.6
TRF	Thorofare Moun	2.02	358	IAML		20 11 48.3	
	comp=N,360nm,0.8s						
TRF	Thorofare Moun	2.02	358	P	Pn	20 11 10.7	+0.6
	baz=177						
HIN	Hinchinbrook I	2.05	119		Pn	20 11 10.2	-0.1
RND	Reindeer	2.06	16		Pn	20 11 11.7	+1.2
RND				IAML		20 11 48.7	
	comp=E,247nm,0.9s						
L20K	Farewell, AK	2.07	302		Pn	20 11 11.4	+0.9
L20K	Farewell, AK	2.07	302	P	Pn	20 11 11.4	+0.9
	baz=118						
ILS	Iliamna Low So	2.08	226		Pn	20 11 11.9	+1.1
DHY	Denali Highway	2.08	37		Pn	20 11 12.3	+1.4
DHY				IAML		20 11 43.4	
	comp=E,420nm,0.5s						
DHY				IAML		20 11 51.2	
	comp=N,265nm,0.5s						
ILSW	Iliamna Southw	2.09	227		Pn	20 11 11.9	+1.0
ILSW				IAML		20 11 41.7	
	comp=E,447nm,0.8s						
M19K	Big River Lodg	2.10	285		Pn	20 11 12.0	+1.0
M19K	Big River Lodg	2.10	285	IAML		20 11 51.0	
	comp=E,249nm,0.8s						
M19K	Big River Lodg	2.10	285	P	Pn	20 11 12.0	+1.0
	baz=101						
DIV	Divide	2.12	97		Pn	20 11 11.2	-0.1
KTH	Kantishna Hill	2.16	350		Pn	20 11 13.3	+1.5
KTH	Kantishna Hill	2.16	350	IAML		20 11 41.7	
	comp=N,446nm,0.6s						
KTH				IAML		20 11 43.3	
	comp=E,433nm,0.7s						
CAST	Castle Rocks	2.19	336		Pn	20 11 13.2	+1.0
CAST				IAML		20 11 41.2	
	comp=E,234nm,0.5s						
CAST	Castle Rocks	2.19	336	P	Pn	20 11 13.0	+0.7
	baz=154						
N19K	Bonanza Creek	2.21	255		Pn	20 11 13.8	+1.1
N19K	Bonanza Creek	2.21	255	IAML		20 11 45.0	
	comp=N,214nm,0.6s						
N19K	Bonanza Creek	2.21	255	P	Pn	20 11 13.8	+1.1
	baz=72						
P19K	Oil Pt	2.37	222		Pn	20 11 16.0	+1.4
L19K	White Mountain	2.37	290	Pn	Pn	20 11 15.8	+1.0
L19K	White Mountain	2.37	290	P	Pn	20 11 16.1	+1.3
	baz=106						
N25K	Chitina, Valde	2.65	84		Pn	20 11 20.7	+2.2
N25K				IAML		20 12 02.4	
	comp=N,363nm,0.6s						
N25K				IAML		20 12 02.9	
	comp=E,300nm,0.5s						
N25K	Chitina, Valde	2.65	84	P	Pn	20 11 20.5	+2.0
	baz=269						
CHUM	Lake Minchumin	2.66	338		Pn	20 11 19.8	+1.2
CHUM	Lake Minchumin	2.66	338	P	Pn	20 11 19.8	+1.2
	baz=156						
SVW2	Sparrevohn	2.67	265		Pn	20 11 19.3	+0.6
K20K	Telida	2.67	318		Pn	20 11 19.7	+0.9
K20K	Telida	2.67	318	IAML		20 11 59.5	
	comp=E,147nm,0.7s						
K20K	Telida	2.67	318	P	Pn	20 11 19.7	+0.9
	baz=134						
BPAW	Bear Paw Mtn.	2.70	352		Pn	20 11 20.0	+0.7
BPAW	Bear Paw Mtn.	2.70	352	P	Pn	20 11 20.2	+0.9
	baz=171						
M18K	Stony River	2.75	274		Pn	20 11 20.7	+0.9
M18K	Stony River	2.75	274	P	Pn	20 11 20.7	+0.9
	baz=88						
RAGM	Ragged Mountai	2.85	109		Pn	20 11 21.2	-0.2
N18K	Kilae Creek	2.91	257	Pn	Pn	20 11 22.8	+0.6
N18K	Kilae Creek	2.91	257	P	Pn	20 11 22.8	+0.6
	baz=72						
O18K	Koktuh Hills	2.97	240		Pn	20 11 23.3	+0.3
O18K				IAML		20 12 27.1	
	comp=E,107nm,1.2s						
O18K				IAML		20 12 27.4	
	comp=N,162nm,1.1s						
O18K	Koktuh Hills	2.97	240	P	Pn	20 11 23.5	+0.6
	baz=56						
SYI	Shuyak Island	3.06	203		Pn	20 11 24.9	+0.7
SYI				IAML		20 12 09.6	
	comp=E,216nm,0.7s						
SYI				IAML		20 12 14.8	
	comp=N,148nm,0.8s						
TTA	Tatalina	3.15	301		Pn	20 11 26.0	+0.6
TTA	Tatalina	3.15	301	P	Pn	20 11 26.1	+0.6
	baz=116						
WRH	Wood River Hil	3.18	16		Pn	20 11 28.1	+2.3
WRH				IAML		20 12 21.1	
	comp=N,98nm,0.8s						
NEA2	Nenana	3.20	8		Pn	20 11 27.1	+1.0
L18K	Granite Mounta	3.22	287	Pn	Pn	20 11 26.9	+0.6
L18K				IAML		20 12 27.1	
	comp=N,100nm,0.8s						
L18K	Granite Mounta	3.22	287	P	Pn	20 11 27.0	+0.7
	baz=101						
P18K	Big Mountain,	3.27	233		Pn	20 11 27.8	+0.8
P18K	Big Mountain,	3.27	233	P	Pn	20 11 27.8	+0.8
	baz=49						
J20K	Nowinta River	3.32	328	Pn	Pn	20 11 28.4	+0.8
J20K				IAML		20 12 08.4	
	comp=N,131nm,0.5s						
J20K				IAML		20 12 32.1	
	comp=E,123nm,0.6s						
J20K	Nowinta River	3.32	328	P	Pn	20 11 28.6	+1.0
	baz=144						
CCB	Clear Creek Bu	3.39	17		Pn	20 11 30.2	+1.6
M26K	Nabesna, AK	3.50	71	Pn	Pn	20 11 32.1	+1.9
M26K				IAML		20 12 29.7	
	comp=E,125nm,0.7s						
M26K				IAML		20 12 33.8	
	comp=N,174nm,0.8s						
N17K	Nushagak Hills	3.57	258	Pn	Pn	20 11 32.0	+0.9
N17K				IAML		20 12 32.8	
	comp=N,81nm,0.7s						
N17K				IAML		20 12 39.2	
	comp=E,94nm,0.7s						
COLA	College	3.60	16	Pn	Pn	20 11 33.0	+1.5
TGL	Tana Glacier	3.60	98		Pn	20 11 33.9	+2.2
J19K	Poorman	3.61	318	Pn	Pn	20 11 32.4	+0.7
J19K				IAML		20 12 33.2	
	comp=E,81nm,0.6s						
J19K				IAML		20 12 51.7	
	comp=N,71nm,0.9s						
MLY	Manley	3.62	356	Pn	Pn	20 11 32.6	+0.7
ILAR	Eielson Array	3.65	22	P	Pn	20 11 34.4	+2.1
	comp=N,0.7nm,0.3s,baz=203,slow=14,SNR=3.5						
ILAR				S	Sn	20 12 12.4	-1.7
	comp=N,13nm,0.6s,baz=215,slow=19,SNR=4.5						
	comp=N,2.9nm,0.4s						
J18K	Innoko River	3.68	306	Pn	Pn	20 11 33.2	+0.5
J18K				IAML		20 12 43.3	
	comp=N,61nm,0.8s						
I23K	Minto, Yukon-K	3.74	5		Pn	20 11 34.1	+0.6
I23K				IAML		20 12 43.3	
	comp=N,74nm,0.9s						
I23K				IAML		20 12 43.9	
	comp=E,65nm,0.9s						
SCRK	Sand Creek	3.80	45		Pn	20 11 36.2	+1.8
SCRK				IAML		20 12 35.8	
	comp=N,67nm,1.1s						
SCRK				IAML		20 12 37.5	
	comp=E,83nm,0.9s						
J25K	Salcha River,	3.85	32		Pn	20 11 37.1	+2.1
J25K				IAML		20 12 30.4	
	comp=E,94nm,0.6s						
J25K				IAML		20 12 32.0	
	comp=N,99nm,0.6s						
I21K	Tanana	3.85	348	Pn	Pn	20 11 36.4	+1.4
KDAK	Kodiak Island	3.88	200	P	Pn	20 11 32.1	-3.2
	comp=N,0.6nm,0.3s,baz=130,slow=2.5,SNR=1.6						
KDAK				S	Sn	20 12 18.2	-1.3
	comp=N,15nm,0.5s,baz=224,slow=14,SNR=2.0						
	comp=N,2.0nm,0.3s						
I20K	Naaghedeneel	3.91	331	Pn	Pn	20 11 37.3	+1.5
M27K	Edge Creek, AK	4.00	73		Pn	20 11 39.5	+2.3
M27K				IAML		20 12 47.6	
	comp=N,50nm,0.8s						
M27K				IAML		20 12 56.3	
	comp=E,50nm,1.0s						
K17K	Iditarod	4.06	292	Pn	Pn	20 11 38.7	+0.9
K17K				IAML		20 12 52.3	
	comp=E,89nm,0.9s						
K17K				IAML		20 12 59.8	
	comp=N,72nm,1.1s						
GRNC	Granite Creek	4.12	96		Pn	20 11 40.2	+1.4
GRNC				IAML		20 12 41.3	
	comp=E,57nm,0.6s						
GRNC				IAML		20 12 54.4	
	comp=N,82nm,1.0s						
L27K	Beaver Creek,	4.20	64		Pn	20 11 42.1	+2.3
L27K				IAML		20 12 54.9	
	comp=N,40nm,1.1s						
BCAR	Beaver Creek A	4.22	64		Pn	20 11 42.4	+2.3
CTGM	Chitina Glacie	4.27	93	IAML		20 12 48.6	
	comp=N,67nm,0.6s						
CTGM				IAML		20 12 52.3	
	comp=E,46nm,1.1s						
M16K	Timber Creek	4.30	268	Pn	Pn	20 11 42.0	+0.9
M16K				IAML		20 12 59.9	
	comp=N,42nm,0.8s						
O16K	Kokwok River B	4.36	248	Pn	Pn	20 11 42.8	+0.9
O16K				IAML		20 13 03.1	
	comp=E,44nm,1.1s						
O16K				IAML		20 13 06.8	
	comp=N,44nm,0.9s						
LOGN	Logan Glacier	4.46	94	IAML		20 12 58.9	
	comp=N,72nm,0.7s						
LOGN				IAML		20 13 00.8	
	comp=E,46nm,0.7s						
L16K	Owhat River	4.49	278	Pn	Pn	20 11 44.5	+0.8
L16K				IAML		20 13 04.7	
	comp=N,36nm,0.7s						
J17K	VABM Dome	4.61	299	Pn	Pn	20 11 45.9	+0.5
J17K				IAML		20 12 37.3	
	comp=N,35nm,1.2s						
N15K	Kwethluk River	5.05	260	Pn	Pn	20 11 53.0	+1.5
N15K				IAML		20 13 28.8	
	comp=E,47nm,0.8s						
N15K				IAML		20 13 32.5	
	comp=N,57nm,1.0s						
J16K	Anvik River	5.23	295	Pn	Pn	20 11 54.5	+0.7
J16K				IAML		20 13 25.9	
	comp=N,19nm,1.0s						
H18K	Honhosa River	5.27	319	Pn	Pn	20 11 55.7	+1.3
H18K				IAML		20 12 56.6	
	comp=E,23nm,0.5s						
H18K				IAML		20 13 46.3	
	comp=N,26nm,1.1s						
G21K	Allakaket	5.31	345	Pn	Pn	20 11 56.8	+1.7
G21K				IAML		20 12 57.9	
	comp=N,34nm,1.0s						
G21K				IAML		20 12 59.3	
	comp=E,30nm,0.7s						
I17K	Unalak

ULM	**Lac du Bonnet**	**31.49**	**86**	P	**P**	**20 16 55.9**	**+0.2**
	comp=E,1.8nm,0.6s,baz=330,slow=6.7,SNR=3.3						
	comp=E,1.8nm,0.6s						
SONM	**Songino Array**	**55.08**	**307**	P	**P**	**20 20 05.1**	**-0.5**
	comp=E,0.5nm,0.7s,baz=44,slow=6.2,SNR=3.8						
	comp=E,0.5nm,0.7s						
QSPA	**South Pole Qui**	**151.25**	**180**	PKPbc	**PKPbc**	**20 30 24.3**	**-1.0**
	comp=E,0.8nm,0.3s,baz=188,slow=3.0,SNR=1.2						

*NEIC **30** 20:12:44.9±1.3, 61°.47N±0°.03×149°.92W±0°.04, h46km±6km, Error ellipse: s-maj=4.2km s-min=2.3km az=209.0*

AEIC 30 20:12:45.1±0.6, **61°.50N**±0°.03×**149°.96W**±0°.05, **h47**km±4km, **ML2.6, ML2.9**/8(NEIC), **Error ellipse: s-maj=4.7km s-min=3.1km az=194.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.26**	**344**		Pn	20 12 52.9	-0.7
M22K					Sn	20 13 00.3	+0.7
SUA	**Susitna One**	**0.38**	**265**		Pn	20 12 54.4	-0.4
SUA					Sn	20 13 02.4	+0.6
PMR	**Palmer**	**0.41**	**77**		Pn	20 12 54.1	-0.9
PMR					Sn	20 13 01.9	-0.2
RC01	**Rabbit Creek A**	**0.43**	**165**		Pn	20 12 54.6	-0.6
RC01					Sn	20 13 02.2	-0.3
GHO	**Glory Hole Cre**	**0.57**	**61**		Pn	20 12 56.4	-0.6
GHO					Sn	20 13 06.0	+0.3
KNK	**Knik Glacier**	**0.73**	**96**		Pn	20 12 58.5	-0.6
SML	**Sawmill**	**0.84**	**68**		Pn	20 13 00.1	-0.4
SKT	**Skwentna**	**0.89**	**303**		Pn	20 13 00.5	-0.7
PWL	**Port Wells**	**1.02**	**128**		Pn	20 13 02.6	-0.4

*NEIC **30** 20:13:17.9±1.3, 61°.47N±0°.02×149°.95W±0°.04, h41km±5km, Error ellipse: s-maj=3.5km s-min=2.9km az=167.0*

AEIC 30 20:13:18.9±1.4, **61°.48N**±0°.03×**149°.94W**±0°.04, **h34**km±7km, **ML2.6, ML2.8**/14(NEIC), **Error ellipse: s-maj=4.5km s-min=2.9km az=174.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.28**	**342**		Sb	20 13 32.6	+1.0
M22K	**Willow**	**0.28**	**342**		Pn	20 13 25.6	-0.8
SUA	**Susitna One**	**0.39**	**267**		Pb	20 13 27.2	-0.8
SUA				IAML		20 13 36.0	
	comp=E,573nm,0.6s						
SUA	**Susitna One**	**0.39**	**267**		Sn	20 13 34.6	+0.4
PMR	**Palmer**	**0.40**	**74**		Pb	20 13 27.0	-1.0
PMR	**Palmer**	**0.40**	**74**		Sb	20 13 34.1	-0.2
PMR				IAML		20 13 36.7	
	comp=E,302nm,0.2s						
PMR				IAML		20 13 37.2	
	comp=N,332nm,0.3s						
RC01	**Rabbit Creek A**	**0.41**	**166**		Pb	20 13 27.4	-0.7
RC01	**Rabbit Creek A**	**0.41**	**166**		Sb	20 13 34.1	-0.3
GHO	**Glory Hole Cre**	**0.56**	**59**		Pn	20 13 29.3	-1.2
GHO				IAML		20 13 39.4	
	comp=E,756nm,0.4s						
GHO				IAML		20 13 39.5	
	comp=N,381nm,0.4s						
GHO	**Glory Hole Cre**	**0.56**	**59**		Sn	20 13 38.8	+0.1
KNK	**Knik Glacier**	**0.71**	**95**		Pn	20 13 31.5	-1.0
KNK	**Knik Glacier**	**0.71**	**95**		Sb	20 13 42.8	+0.3
KNK				IAML		20 13 45.2	
	comp=E,464nm,0.1s						
SML	**Sawmill**	**0.83**	**66**		Pn	20 13 33.1	-1.1
SML	**Sawmill**	**0.83**	**66**	Sn	Sn	20 13 45.4	+0.1
SML				IAML		20 13 47.5	
	comp=N,229nm,0.6s						
SKT	**Skwentna**	**0.91**	**304**		Sn	20 13 46.3	-0.8
STLK	**Strandline Lak**	**0.91**	**272**		Pn	20 13 34.1	-1.2
STLK					Sn	20 13 46.6	-0.6
CUT	**Chulitna**	**0.94**	**351**		Sb	20 13 48.4	-0.4
SLKM	**Skilak Lake**	**0.99**	**188**		Sn	20 13 48.8	-0.3
PWL	**Port Wells**	**1.00**	**128**		Pn	20 13 35.3	-1.2
PWL	**Port Wells**	**1.00**	**128**	IAML		20 13 51.0	
	comp=N,360nm,0.4s						
PWL				IAML		20 13 51.0	
	comp=E,389nm,0.4s						
O22K	**Cooper Landing**	**1.01**	**174**		Sn	20 13 50.0	+0.4
M23K	**Glacier View**	**1.10**	**73**		Sb	20 13 52.8	-0.6
SPCR	**Spurr Chakacha**	**1.13**	**256**		Sn	20 13 52.0	-0.7
SPCR	**Spurr Chakacha**	**1.13**	**256**		Sn	20 13 52.1	-0.6

*NEIC **30** 20:14:51.4±1.0, 61°.53N±0°.02×149°.94W±0°.05, h44km±5km, Error ellipse: s-maj=3.6km s-min=2.9km az=147.0*

AEIC 30 20:14:52.3±1.1, **61°.54N**±0°.02×**149°.95W**±0°.05, **h35**km±7km, **ML2.6, ML2.8**/130(NEIC), **Error ellipse: s-maj=3.3km s-min=3.0km az=221.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.23**	**339**		Pn	20 14 58.9	-0.5
M22K					Sn	20 15 05.3	+1.1
SUA	**Susitna One**	**0.39**	**259**		Pn	20 15 01.0	-0.5
SUA					Sn	20 15 08.6	+0.7
SUA				IAML		20 15 09.0	
	comp=N,676nm,0.5s						
SUA				IAML		20 15 09.3	
	comp=E,692nm,0.7s						
PMR	**Palmer**	**0.40**	**82**		Pn	20 15 00.3	-1.2
PMR					Sn	20 15 07.3	-0.4
PMR				IAML		20 15 08.4	
	comp=N,862nm,0.2s						
PMR				IAML		20 15 08.5	
	comp=E,1μm,0.4s						
RC01	**Rabbit Creek A**	**0.46**	**167**		Pn	20 15 00.5	-1.9
RC01					Sn	20 15 09.0	-0.3
RC01				IAML		20 15 11.2	
	comp=N,331nm,0.3s						
GHO	**Glory Hole Cre**	**0.54**	**64**		Pn	20 15 02.3	-1.3
GHO					Sn	20 15 11.5	-0.1
GHO				IAML		20 15 12.4	
	comp=E,305nm,0.2s						
GHO				IAML		20 15 12.4	
	comp=N,445nm,0.4s						
KNK	**Knik Glacier**	**0.73**	**99**		Pn	20 15 05.0	-1.0
KNK					Sn	20 15 15.6	-0.4
SML	**Sawmill**	**0.82**	**70**		Pn	20 15 05.8	-1.6
SML					Sn	20 15 17.4	-0.9
SML				IAML		20 15 20.6	
	comp=E,233nm,0.5s						
SML				IAML		20 15 21.2	
	comp=N,318nm,0.3s						
SKT	**Skwentna**	**0.87**	**301**		Pn	20 15 06.5	-1.6
SKT					Sn	20 15 18.9	-0.8
SKT				IAML		20 15 21.2	
	comp=E,334nm,0.6s						
SKT				IAML		20 15 21.2	
	comp=N,453nm,0.4s						
CUT	**Chulitna**	**0.88**	**350**		Pn	20 15 06.8	-1.4
CUT					Sn	20 15 19.1	-0.7
STLK	**Strandline Lak**	**0.90**	**268**		Pn	20 15 07.4	-1.1
CAPN	**Captain Cook N**	**0.97**	**218**	Pn	Pn	20 15 09.7	+0.4
PWL	**Port Wells**	**1.04**	**130**		Pn	20 15 09.4	-0.9
PWL				Sn	Sn	20 15 23.7	+0.2
PWL				IAML		20 15 26.6	
	comp=N,329nm,0.5s						
O22K	**Cooper Landing**	**1.06**	**174**	Pn	Pn	20 15 08.7	-1.9
O22K				Sn	Sn	20 15 22.9	-1.3
SPCP	**Crater Peak Br**	**1.09**	**257**		Pn	20 15 10.9	-0.3
SPCR	**Spurr Chakacha**	**1.14**	**254**		Pn	20 15 11.2	-0.6
SPCR	**Spurr Chakacha**	**1.14**	**254**		Pn	20 15 11.3	-0.5
SCM	**Sheep Creek Mo**	**1.28**	**75**	Pn	Pn	20 15 12.9	-0.9
SCM				Sn	Sn	20 15 30.4	+0.6
WAT1	**Susitna Watana**	**1.45**	**26**		Pn	20 15 15.6	-0.5
SEW	**Seward**	**1.46**	**170**		Pn	20 15 15.6	-0.5
WAT6	**Susitna Watana**	**1.48**	**44**		Pn	20 15 15.7	-0.8
GLI	**Glacier Island**	**1.53**	**114**	Pn	Pn	20 15 16.0	-1.1
GLI				IAML		20 15 38.1	
	comp=E,117nm,0.3s						
GLI				IAML		20 15 40.4	
	comp=N,126nm,0.8s						
RDT	**Redoubt**	**1.54**	**232**		Pn	20 15 16.4	-0.8
M20K	**Styx River**	**1.56**	**284**	Pn	Pn	20 15 16.8	-0.7
RDJH	**Redoubt Jeurge**	**1.68**	**237**		Pn	20 15 18.9	-0.4
PPLA	**Purkeypile**	**1.72**	**323**		Pn	20 15 19.6	-0.3
BRLK	**Bradley Lake**	**1.84**	**195**	Pn	Pn	20 15 20.1	-1.3
BRLK				IAML		20 15 47.5	
	comp=N,91nm,0.4s						
BRLK				IAML		20 15 48.4	
	comp=E,125nm,0.6s						
BRSE	**Bradley Lake S**	**1.84**	**193**		Pn	20 15 20.9	-0.5
FID	**Port Fidalgo**	**1.86**	**114**	Pn	Pn	20 15 20.0	-1.6
FID				IAML		20 15 52.7	
	comp=E,93nm,0.4s						
FID				IAML		20 15 52.7	
	comp=N,93nm,0.3s						
M24K	**Tolsona, Glenn**	**1.88**	**71**	Pn	Pn	20 15 21.6	-0.3
KLU	**Klutina**	**1.93**	**90**	Pn	Pn	20 15 21.8	-0.9
KLU				IAML		20 15 49.7	
	comp=N,95nm,0.4s						
KLU				IAML		20 15 55.0	
	comp=E,64nm,0.3s						
RND	**Reindeer**	**1.94**	**15**	Pn	Pn	20 15 22.4	-0.4
RND				IAML		20 15 48.6	
	comp=N,56nm,0.6s						
RND				IAML		20 15 50.8	
	comp=E,48nm,0.6s						
DHY	**Denali Highway**	**1.96**	**37**	Pn	Pn	20 15 22.4	-0.7
DHY				IAML		20 15 51.4	
	comp=N,71nm,1.1s						
DHY				IAML		20 15 52.0	
	comp=E,69nm,0.8s						
O20K	**Slope Mountain**	**1.96**	**223**		Pn	20 15 22.8	-0.3
HIN	**Hinchinbrook I**	**2.03**	**123**	Pn	Pn	20 15 23.1	-1.0
HIN				IAML		20 15 57.3	
	comp=N,64nm,0.9s						
HIN				IAML		20 15 57.5	
	comp=E,82nm,0.7s						
HOM	**Homer**	**2.06**	**205**	Pn	Pn	20 15 23.8	-0.6
KTH	**Kantishna Hill**	**2.07**	**348**	Pn	Pn	20 15 23.9	-0.7
KTH				IAML		20 15 51.1	
	comp=E,40nm,0.9s						
KTH				IAML		20 15 51.8	
	comp=N,48nm,0.9s						
L20K	**Farewell, AK**	**2.08**	**299**		Pn	20 15 24.4	-0.3
CNPM	**China Poot**	**2.12**	**198**	Pn	Pn	20 15 24.0	-1.2
CNPM				IAML		20 15 55.6	
	comp=E,67nm,0.6s						
CNPM				IAML		20 15 55.9	
	comp=N,92nm,0.4s						
CAST	**Castle Rocks**	**2.13**	**333**	Pn	Pn	20 15 25.0	-0.4
M19K	**Big River Lodg**	**2.15**	**282**	Pn	Pn	20 15 24.5	-1.1
ILSW	**Iliamna Southw**	**2.21**	**227**	Pn	Pn	20 15 25.8	-0.8
MCK	**McKinley**	**2.25**	**12**		Pn	20 15 27.1	0.0
N19K	**Bonanza Creek**	**2.31**	**254**	Pn	Pn	20 15 26.6	-1.4
L19K	**White Mountain**	**2.41**	**288**	Pn	Pn	20 15 28.3	-1.0
HARP	**HAARP**	**2.42**	**67**		Pn	20 15 29.3	0.0
P19K	**Oil Pt**	**2.49**	**222**	Pn	Pn	20 15 30.0	-0.3
P19K				IAML		20 16 27.1	
	comp=E,76nm,0.7s						
PAX	**Paxson**	**2.54**	**54**		Pn	20 15 31.0	-0.1
N25K	**Chitina, Valde**	**2.56**	**86**	Pn	Pn	20 15 30.9	-0.4
N25K				IAML		20 16 08.4	
	comp=E,32nm,0.5s						
N25K				IAML		20 16 10.6	
	comp=N,54nm,0.5s						
BPAW	**Bear Paw Mtn.**	**2.62**	**350**	Pn	Pn	20 15 31.5	-0.5
BPAW				IAML		20 16 19.4	
	comp=E,26nm,0.4s						
K20K	**Telida**	**2.65**	**315**	Pn	Pn	20 15 31.6	-0.8
WACK	**Wrangell Chich**	**2.71**	**78**		Pn	20 15 33.3	-0.2
SVW2	**Sparrevohn**	**2.75**	**263**	Pn	Pn	20 15 33.0	-0.9
MID	**Middleton Isla**	**2.77**	**138**	Pn	Pn	20 15 33.5	-0.6
RAGM	**Ragged Mountai**	**2.82**	**112**	Pn	Pn	20 15 34.9	0.0
GLB	**Gilahina Butte**	**2.95**	**89**	Pn	Pn	20 15 36.4	-0.2
GLB				IAML		20 16 20.9	
	comp=N,34nm,0.7s						
GLB				IAML		20 16 21.1	
	comp=E,24nm,0.6s						
N18K	**Kilae Creek**	**3.01**	**256**	Pn	Pn	20 15 36.6	-0.8
N18K				IAML		20 16 33.5	
	comp=N,17nm,1.1s						
WRH	**Wood River Hil**	**3.06**	**15**	Pn	Pn	20 15 37.6	-0.5
WRH				IAML		20 16 30.3	
	comp=E,14nm,1.0s						
O18K	**Koktuh Hills**	**3.09**	**239**	Pn	Pn	20 15 37.6	-0.9
NEA2	**Nenana**	**3.09**	**7**	Pn	Pn	20 15 37.3	-1.3
VRDI	**Verde Repeater**	**3.14**	**93**	Pn	Pn	20 15 38.8	-0.6
VRDI				IAML		20 16 28.0	
	comp=E,13nm,0.5s						
VRDI				IAML		20 16 29.8	
	comp=N,16nm,0.7s						
TTA	**Tatalina**	**3.16**	**299**	Pn	Pn	20 15 39.0	-0.6
TTA				IAML		20 16 29.4	
	comp=N,15nm,0.6s						
SYI	**Shuyak Island**	**3.18**	**204**	Pn	Pn	20 15 38.8	-1.0
SYI				IAML		20 16 33.9	
	comp=E,14nm,1.2s						
SYI				IAML		20 16 56.6	
	comp=N,17nm,1.2s						
HDA	**Harding Lake**	**3.19**	**24**	Pn	Pn	20 15 39.1	-0.8
HDA				IAML		20 16 24.0	
	comp=N,41nm,0.5s						
HDA				IAML		20 16 33.4	
	comp=E,31nm,0.9s						
Q19K	**Cape Douglas,**	**3.20**	**217**	Pn	Pn	20 15 38.9	-1.2
BERG	**Berg Lake**	**3.25**	**108**	Pn	Pn	20 15 40.5	-0.3
L18K	**Granite Mounta**	**3.26**	**285**	Pn	Pn	20 15 39.6	-1.3
MCARA	**McCarthy VSAT**	**3.33**	**90**	Pn	Pn	20 15 42.3	+0.5
MCARA				IAML		20 16 34.2	
	comp=N,36nm,0.4s						
P18K	**Big Mountain,**	**3.39**	**233**	Pn	Pn	20 15 40.7	-1.9
COLA	**College**	**3.48**	**15**	Pn	Pn	20 15 43.5	-0.4
IL31		**3.53**	**22**	Pn	Pn	20 15 44.0	-0.5
M17K	**Holitna River**	**3.60**	**271**	Pn	Pn	20 15 44.5	-0.9
M17K				IAML		20 16 45.0	
	comp=N,18nm,0.9s						
M17K				IAML		20 16 55.1	
	comp=E,28nm,1.1s						
I23K	**Minto, Yukon-K**	**3.63**	**4**	Pn	Pn	20 15 46.2	+0.2
I23K				IAML		20 16 47.9	
	comp=N,11nm,0.8s						
J25K	**Salcha River,**	**3.72**	**32**	Pn	Pn	20 15 45.9	-1.4
J25K				IAML		20 16 37.7	
	comp=N,29nm,0.4s						
SNH	**Sunshine Point**	**3.73**	**108**	Pn	Pn	20 15 45.9	-1.6
SNH				IAML		20 16 46.3	
	comp=E,16nm,1.2s						
SNH				IAML		20 17 17.6	
	comp=N,16nm,1.2s						
POKR	**Poker Plat Res**	**3.77**	**16**	IAML		20 16 50.8	
	comp=E,8.4nm,0.7s						
POKR				IAML		20 16 56.0	
	comp=N,8.6nm,0.6s						
POKR	**Poker Plat Res**	**3.77**	**16**	Pn	Pn	20 15 47.5	-0.4
CTGM	**Chitina Glacie**	**4.20**	**94**	Pn	Pn	20 15 53.8	-0.2
CTGM				IAML		20 16 59.3	
	comp=E,5.8nm,0.6s						
CTGM				IAML		20 16 59.4	
	comp=N,11nm,0.7s						
H23K	**Yukon River**	**4.31**	**2**	Pn	Pn	20 15 55.0	-0.2
M16K	**Timber Creek**	**4.38**	**267**	Pn	Pn	20 15 55.9	-0.3
M16K				IAML		20 18 41.5	
	comp=N,5.6nm,1.0s						
PRP	**Porcupine Dome**	**4.46**	**24**	Pn	Pn	20 15 57.0	-0.4
PRP				IAML		20 16 56.3	
	comp=N,11nm,0.8s						
O16K	**Kokwok River B**	**4.47**	**248**	Pn	Pn	20 15 56.5	-0.9
O16K				IAML		20 17 10.3	
	comp=N,6.6nm,1.1s						
O16K				IAML		20 18 58.7	
	comp=E,6.1nm,1.1s						
L16K	**Owhat River**	**4.55**	**276**	Pn	Pn	20 15 57.3	-1.2
N15K	**Kwethluk River**	**5.15**	**259**	Pn	Pn	20 16 06.2	-0.6
N15K				IAML		20 17 26.6	
	comp=E,9.9nm,1.1s						
J16K	**Anvik River**	**5.25**	**294**	Pn	Pn	20 16 07.8	-0.4
J16K				IAML		20 19 02.8	
	comp=E,3.4nm,0.9s						
K15K	**Wolf Creek Mou**	**5.53**	**283**	Pn	Pn	20 16 10.8	-1.1
F20K	**Avaraart Lake**	**6.08**	**338**	Pn	Pn	20 16 18.8	-0.6
L14K	**Kuka Creek**	**6.11**	**274**	Pn	Pn	20 16 20.5	+0.5
N30M	**Aishikik Lake**	**6.16**	**85**	Pn	Pn	20 16 20.2	-0.5
J14K	**Nanvaranak Lak**	**6.49**	**287**	Pn	Pn	20 16 24.1	-1.0
F26K	**Sheenjek River**	**6.66**	**19**	Pn	Pn	20 16 27.0	-0.6

*NEIC **30** 20:17:22.1±1.3, 61°.42N±0°.05×150°.00W±0°.04, h53km±8km, Error ellipse: s-maj=7.1km s-min=1.5km az=198.0*

AEIC 30 20:17:23.1±0.9, **61°.45N**±0°.04×**149°.95W**±0°.05, **h46**km±6km, **ML2.6, ML2.8**/44(NEIC), **Error ellipse: s-maj=6.8km s-min=2.4km az=203.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.32**	**345**		Pn	20 17 31.2	-0.8
M22K				IAML		20 17 39.1	
	comp=E,628nm,0.7s						
M22K				IAML		20 17 39.4	
	comp=N,840nm,0.6s						
M22K	**Willow**	**0.32**	**345**		Sn	20 17 38.9	+0.5
RC01	**Rabbit Creek A**	**0.37**	**164**		Pn	20 17 31.9	-0.6
RC01				IAML		20 17 47.0	
	comp=E,771nm,0.2s						
SUA	**Susitna One**	**0.38**	**273**		Pn	20 17 32.3	-0.5
SUA				IAML		20 17 40.7	
	comp=E,455nm,1.0s						
PMR	**Palmer**	**0.42**	**69**		Pn	20 17 32.1	-0.9
PMR				IAML		20 17 46.1	
	comp=N,469nm,0.4s						
PMR				IAML		20 17 46.1	
	comp=E,417nm,0.3s						
GHO	**Glory Hole Cre**	**0.59**	**56**		Sn	20 17 44.3	+0.2
GHO	**Glory Hole Cre**	**0.59**	**56**	Pn	Pn	20 17 34.4	-0.9
GHO				IAML		20 17 50.3	
	comp=N,442nm,0.5s						
KNK	**Knik Glacier**	**0.72**	**92**		Pn	20 17 36.0	-0.9
KNK				IAML		20 17 49.6	
	comp=E,346nm,0.3s						
KNK				IAML		20 17 55.3	
	comp=N,445nm,0.5s						
KNK	**Knik Glacier**	**0.72**	**92**		Sn	20 17 47.5	+0.6
SML	**Sawmill**	**0.85**	**64**		Pn	20 17 37.8	-0.9
SML					Sn	20 17 50.3	+0.1
SML	**Sawmill**	**0.85**	**64**	IAML		20 17 56.7	
	comp=N,332nm,0.3s						
SML				IAML		20 17 57.8	
	comp=E,293nm,0.6s						
STLK	**Strandline Lak**	**0.91**	**274**		Pn	20 17 38.2	-1.3
SKT	**Skwentna**	**0.93**	**306**		Sn	20 17 51.8	0.0
SKT	**Skwentna**	**0.93**	**306**	Pn	Pn	20 17 39.0	-0.7
SKT	**Skwentna**	**0.93**	**306**	IAML		20 17 58.0	
	comp=N,301nm,0.5s						
SKT				IAML		20 17 58.5	
	comp=E,186nm,0.2s						
CUT	**Chulitna**	**0.97**	**351**	Pn	Pn	20 17 39.8	-0.5
PWL	**Port Wells**	**0.98**	**126**		Pn	20 17 39.7	-0.7
SPCG	**Spurr Capps Gl**	**1.01**	**262**		Pn	20 17 40.9	-0.1
SPCR	**Spurr Chakacha**	**1.12**	**258**		Pn	20 17 41.8	-0.5
SPCR	**Spurr Chakacha**	**1.12**	**258**		Pn	20 17 41.7	-0.6
SCM	**Sheep Creek Mo**	**1.31**	**72**		Pn	20 17 44.6	-0.3
GLI	**Glacier Island**	**1.50**	**111**	Pn	Pn	20 17 46.5	-0.9
GLI				IAML		20 18 17.1	
	comp=N,133nm,0.5s						
GLI				IAML		20 18 19.7	
	comp=E,92nm,0.3s						
M20K	**Styx River**	**1.58**	**287**	Pn	Pn	20 17 48.1	-0.6
M20K				IAML		20 18 38.5	
	comp=E,86nm,0.8s						
L19K	**White Mountain**	**2.44**	**290**	Pn	Pn	20 18 00.3	-0.1
K20K	**Telida**	**2.71**	**317**	Pn	Pn	20 18 03.6	-0.5
RAGM	**Ragged Mountai**	**2.79**	**110**	Pn	Pn	20 18 03.6	-1.5
GLB	**Gilahina Butte**	**2.95**	**87**	Pn	Pn	20 18 05.4	-2.0
GLB				IAML		20 19 22.5	
	comp=N,21nm,1.0s						
N18K	**Kilae Creek**	**2.99**	**258**	Pn	Pn	20 18 06.9	-1.0
O18K	**Koktuh Hills**	**3.04**	**241**	Pn	Pn	20 18 07.8	-0.8
O18K				IAML		20 18 35.7	
	comp=E,17nm,1.1s						
O18K				IAML		20 18 37.5	
	comp=N,25nm,0.9s						
SYI	**Shuyak Island**	**3.10**	**204**	Pn	Pn	20 18 06.3	-3.1
SYI				IAML		20 19 21.8	
	comp=E,17nm,1.1s						
BERG	**Berg Lake**	**3.23**	**106**	Pn	Pn	20 18 10.2	-0.9
BERG				IAML		20 18 37.2	
	comp=N,40nm,0.6s						
L18K	**Granite Mounta**	**3.29**	**287**	Pn	Pn	20 18 10.9	-1.1

*NEIC **30** 20:17:50.3±1.2, 61°.43N±0°.04×150°.04W±0°.05, h46km±9km, Error ellipse: s-maj=5.9km s-min=3.5km az=179.0*

AEIC 30 20:17:51.1±1.0, **61°.42N**±0°.03×**150°.03W**±0°.03, **h42**km±7km, **ML2.6, ML2.7**/56(NEIC), **Error ellipse: s-maj=4.6km s-min=1.6km az=194.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.34**	**353**		Pn	20 17 58.9	-1.0
M22K	**Willow**	**0.34**	**353**		Sn	20 18 06.6	+0.5
SUA	**Susitna One**	**0.35**	**278**		Pn	20 17 59.3	-0.9
SUA					Sn	20 18 06.7	+0.1
SUA	**Susitna One**	**0.35**	**278**	IAML		20 18 07.6	
	comp=E,884nm,0.8s						
SUA				IAML		20 18 07.7	
	comp=N,496nm,0.7s						
RC01	**Rabbit Creek A**	**0.36**	**156**		Sn	20 18 06.1	-0.5
RC01	**Rabbit Creek A**	**0.36**	**156**	Pn	Pn	20 17 59.0	-1.2
RC01	**Rabbit Creek A**	**0.36**	**156**	IAML		20 18 06.8	
	comp=N,606nm,0.1s						
RC01				IAML		20 18 08.4	
	comp=E,576nm,0.3s						
PMR	**Palmer**	**0.47**	**67**		Pn	20 18 00.3	-1.1
PMR	**Palmer**	**0.47**	**67**		Sn	20 18 08.4	-0.4
PMR	**Palmer**	**0.47**	**67**	IAML		20 18 08.9	
	comp=N,387nm,0.3s						
PMR				IAML		20 18 09.3	
	comp=E,483nm,0.3s						
GHO	**Glory Hole Cre**	**0.64**	**56**		Pn	20 18 02.8	-1.0
GHO	**Glory Hole Cre**	**0.64**	**56**		Sn	20 18 12.9	0.0
GHO	**Glory Hole Cre**	**0.64**	**56**	IAML		20 18 13.8	
	comp=E,686nm,0.4s						
GHO				IAML		20 18 14.0	
	comp=N,358nm,0.5s						
KNK	**Knik Glacier**	**0.76**	**90**		Pn	20 18 04.6	-0.8
KNK					Sn	20 18 16.3	+0.7
KNK	**Knik Glacier**	**0.76**	**90**	IAML		20 18 17.4	
	comp=E,302nm,0.4s						
STLK	**Strandline Lak**	**0.87**	**276**		Pn	20 18 06.2	-0.8
STLK					Sn	20 18 18.2	-0.2
SML	**Sawmill**	**0.90**	**64**		Pn	20 18 06.5	-0.8
SML	**Sawmill**	**0.90**	**64**	IAML		20 18 22.5	
	comp=N,234nm,0.7s						
SKT	**Skwentna**	**0.91**	**309**		Pn	20 18 06.4	-1.0
SKT				IAML		20 18 19.9	
	comp=N,244nm,0.7s						
SKT	**Skwentna**	**0.91**	**309**		Sn	20 18 19.4	-0.1
SLKM	**Skilak Lake**	**0.92**	**186**		Sn	20 18 19.8	+0.3
O22K	**Cooper Landing**	**0.95**	**171**		Sn	20 18 20.9	+0.6
SPCG	**Spurr Capps Gl**	**0.97**	**263**		Sn	20 18 21.2	+0.3
PWL	**Port Wells**	**0.99**	**123**		Pn	20 18 07.8	-0.8
SPU	**

comp=N,63nm,0.9s
HIN IAML 20 18 56.0
comp=E,58nm,0.7s
M19K Big River Lodg 2.14 285 Pn Pn 20 18 24.0 -0.3
L19K White Mountain 2.42 291 Pn Pn 20 18 27.6 -0.5
SVW2 Sparrevohn 2.70 266 Pn Pn 20 18 31.1 -0.9
K20K Telida 2.71 318 Pn Pn 20 18 31.5 -0.6
J20K Nowinta River 3.35 327 Pn Pn 20 18 40.8 -0.1
J20K IAML 20 19 10.2
comp=E,20nm,0.5s
M17K Holitna River 3.56 273 Pn Pn 20 18 43.2 -0.6
J19K Poorman 3.65 318 Pn Pn 20 18 45.0 +0.1
J19K IAML 20 19 17.1
comp=E,16nm,0.7s
J19K IAML 20 19 19.8
comp=N,16nm,0.6s
I21K Tanana 3.88 348 Pn Pn 20 18 48.3 +0.2
I20K Naaghedeneel 3.95 331 Pn Pn 20 18 49.6 +0.6
J16K Anvik River 5.27 295 Pn Pn 20 19 06.3 -0.9
J16K IAML 20 22 05.0
comp=E,4.2nm,1.1s
H18K Honhosa River 5.31 319 Pn Pn 20 19 07.8 +0.1
K15K Wolf Creek Mou 5.52 284 Pn Pn 20 19 10.8 +0.3

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*IDC **30** 20:25:05.7±1.3,61°.33N×149°.83W,h46km±19km,mb3.4/2, mbtmp3.5/5,ML3.3/3,Error ellipse: s-maj=26.3km s-min=10.2km az=112.0*
*NEIC **30** 20:25:05.7±1.0,61°.48N±0°.02×149°.90W±0°.05,h41km±5km, Error ellipse: s-maj=3.3km s-min=3.0km az=50.0*
*AEIC **30** 20:25:06.4±0.8,61°.47N±0°.02×149°.93W±0°.05,h37km±4km, ML4.2,mb4.1/3(NEIC),ML4.5/207(NEIC),Error ellipse: s-maj=3.7km s-min=2.8km az=60.0*
ISC 30 20:25:05.5±1.0,61°.46N±0°.03×149°.94W±0°.03,h38km±1km, n283,σ0°76/274,mb3.9/5,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.31**	**344**		**Pn**	**20 25 13.3**	**-0.4**
M22K	**Willow**	**0.31**	**344**		**Sn**	**20 25 20.2**	**-0.5**
M22K	**Willow**	**0.31**	**344**	IAML		20 25 20.8	
	comp=E,15μm,0.7s						
M22K				IAML		20 25 20.9	
	comp=N,14μm,0.7s						
M22K	**Willow**	**0.31**	**344**	P	**Pn**	**20 25 13.4**	**-0.4**
	baz=162						
M22K				S	**Sn**	**20 25 20.2**	**-0.5**
	baz=162						
RC01	**Rabbit Creek A**	**0.38**	**165**		**Pn**	**20 25 14.8**	**+0.4**
RC01	**Rabbit Creek A**	**0.38**	**165**		**Sn**	**20 25 22.2**	**+1.2**
RC01	**Rabbit Creek A**	**0.38**	**165**	IAML		20 25 23.4	
	comp=N,4μm,0.3s						
RC01				IAML		20 25 23.6	
	comp=E,3μm,0.3s						
RC01	**Rabbit Creek A**	**0.38**	**165**	P	**Pn**	**20 25 14.8**	**+0.4**
	baz=347						
RC01				S	**Sn**	**20 25 22.2**	**+1.2**
	baz=347						
SUA	**Susitna One**	**0.39**	**272**		**Sn**	**20 25 22.6**	**+1.1**
SUA	**Susitna One**	**0.39**	**272**		**Pn**	**20 25 14.9**	**+0.3**
SUA	**Susitna One**	**0.39**	**272**	IAML		20 25 23.1	
	comp=E,13μm,0.6s						
SUA				IAML		20 25 23.4	
	comp=N,11μm,0.8s						
SUA	**Susitna One**	**0.39**	**272**	P	**Pn**	**20 25 15.1**	**+0.5**
	baz=89						
SUA				S	**Sn**	**20 25 22.6**	**+1.1**
	baz=89						
PMR	**Palmer**	**0.41**	**70**		**Sn**	**20 25 22.0**	**+0.5**
PMR	**Palmer**	**0.41**	**70**		**Pn**	**20 25 14.5**	**-0.2**
PMR	**Palmer**	**0.41**	**70**	IAML		20 25 23.8	
	comp=N,3μm,0.4s						
PMR				IAML		20 25 26.4	
	comp=E,2μm,0.5s						
PMR	**Palmer**	**0.41**	**70**	P	**Pn**	**20 25 14.6**	**-0.2**
	baz=252						
PMR				S	**Sn**	**20 25 22.0**	**+0.5**
	baz=252						
PMR	**Palmer**	**0.41**	**70**	P	**Pn**	**20 25 14.5**	**-0.2**
GHO	**Glory Hole Cre**	**0.58**	**56**		**Pn**	**20 25 16.7**	**-0.8**
GHO	**Glory Hole Cre**	**0.58**	**56**		**Sn**	**20 25 26.1**	**+0.4**
KNK	**Knik Glacier**	**0.71**	**93**		**Pn**	**20 25 19.0**	**-0.1**
SML	**Sawmill**	**0.84**	**65**		**Pn**	**20 25 20.3**	**-0.6**
SML	**Sawmill**	**0.84**	**65**		**Sn**	**20 25 32.5**	**+0.3**
SML	**Sawmill**	**0.84**	**65**	P	**Pn**	**20 25 20.3**	**-0.6**
	baz=247						
SML				S	**Sn**	**20 25 32.5**	**+0.3**
	baz=247						
CAPN	**Captain Cook N**	**0.91**	**221**	Pn	**Pn**	**20 25 23.1**	**+1.4**
CAPN				IAML		20 25 40.2	
	comp=E,6μm,0.6s						
CAPN				IAML		20 25 40.2	
	comp=N,4μm,0.6s						
CAPN	**Captain Cook N**	**0.91**	**221**	P	**Pn**	**20 25 23.4**	**+1.7**
	baz=40						
STLK	**Strandline Lak**	**0.91**	**274**		**Pn**	**20 25 22.0**	**+0.1**
STLK					**Sn**	**20 25 34.7**	**+0.8**
SKT	**Skwentna**	**0.93**	**305**	Pn	**Pn**	**20 25 21.4**	**-0.5**
SKT	**Skwentna**	**0.93**	**305**		**Sn**	**20 25 34.3**	**+0.2**
SKT	**Skwentna**	**0.93**	**305**	IAML		20 25 34.6	
	comp=N,9μm,0.2s						
SKT				IAML		20 25 34.7	
	comp=E,3μm,0.4s						
SKT	**Skwentna**	**0.93**	**305**	P	**Pn**	**20 25 21.5**	**-0.5**
	baz=123						
SLKM	**Skilak Lake**	**0.96**	**188**		**Pn**	**20 25 22.9**	**+0.4**
SLKM					**Sn**	**20 25 36.7**	**+1.8**
CUT	**Chulitna**	**0.97**	**351**		**Pn**	**20 25 21.9**	**-0.6**
CUT				IAML		20 25 37.1	
	comp=N,4μm,0.4s						
CUT				IAML		20 25 37.6	
	comp=E,7μm,0.3s						
CUT	**Chulitna**	**0.97**	**351**		**Sn**	**20 25 35.1**	**+0.1**
PWL	**Port Wells**	**0.98**	**127**	Pn	**Pn**	**20 25 23.1**	**+0.4**
PWL				IAML		20 25 38.2	
	comp=N,5μm,0.6s						
PWL				IAML		20 25 39.7	
	comp=E,5μm,0.4s						
PWL	**Port Wells**	**0.98**	**127**	P	**Pn**	**20 25 23.2**	**+0.4**
	baz=309						
O22K	**Cooper Landing**	**0.98**	**174**		**Pn**	**20 25 23.0**	**+0.3**
O22K				IAML		20 25 41.4	
	comp=E,5μm,0.7s						
O22K				IAML		20 25 44.5	
	comp=N,7μm,0.7s						
O22K	**Cooper Landing**	**0.98**	**174**	P	**Pn**	**20 25 23.2**	**+0.5**
	baz=354						
SPCG	**Spurr Capps Gl**	**1.02**	**262**		**Sn**	**20 25 37.8**	**+1.4**
SPCP	**Crater Peak Br**	**1.08**	**261**		**Pn**	**20 25 24.7**	**+0.4**
M23K	**Glacier View**	**1.11**	**71**		**Sn**	**20 25 40.2**	**+1.7**
M23K	**Glacier View**	**1.11**	**71**	P	**Pn**	**20 25 24.6**	**+0.1**
	baz=254						
M23K				S	**Sn**	**20 25 40.2**	**+1.7**
	baz=254						
SPCR	**Spurr Chakacha**	**1.13**	**258**		**Pn**	**20 25 25.1**	**+0.3**
SPCR	**Spurr Chakacha**	**1.13**	**258**		**Pn**	**20 25 25.1**	**+0.3**
SPCR					**Sn**	**20 25 40.3**	**+1.2**
SPCR	**Spurr Chakacha**	**1.13**	**258**	P	**Pn**	**20 25 25.1**	**+0.3**
	baz=75						
SCM	**Sheep Creek Mo**	**1.30**	**72**		**Pn**	**20 25 27.4**	**+0.3**
SCM				IAML		20 25 46.2	
	comp=E,4μm,0.4s						
SCM				IAML		20 25 46.2	
	comp=N,4μm,0.8s						
SCM	**Sheep Creek Mo**	**1.30**	**72**		**Sn**	**20 25 45.0**	**+1.6**
SCM	**Sheep Creek Mo**	**1.30**	**72**	P	**Pn**	**20 25 27.5**	**+0.3**
	baz=255						
SEW	**Seward**	**1.38**	**170**		**Pn**	**20 25 28.4**	**+0.3**
SEW	**Seward**	**1.38**	**170**	P	**Pn**	**20 25 29.5**	**+1.4**
	baz=351						
WAT7	**Susitna Watana**	**1.47**	**20**		**Pn**	**20 25 29.9**	**+0.3**
GLI	**Glacier Island**	**1.49**	**112**		**Pn**	**20 25 29.8**	**+0.1**
GLI	**Glacier Island**	**1.49**	**112**		**Sn**	**20 25 49.6**	**+1.7**
GLI	**Glacier Island**	**1.49**	**112**	P	**Pn**	**20 25 29.8**	**+0.1**
	baz=295						
GLI				S	**Sn**	**20 25 49.6**	**+1.7**
	baz=295						
RDT	**Redoubt**	**1.49**	**235**		**Pn**	**20 25 30.3**	**+0.5**
WAT1	**Susitna Watana**	**1.52**	**25**		**Pn**	**20 25 30.5**	**+0.3**
WAT1	**Susitna Watana**	**1.52**	**25**	P	**Pn**	**20 25 30.5**	**+0.3**
	baz=206						
WAT6	**Susitna Watana**	**1.53**	**42**		**Sn**	**20 25 50.3**	**+1.2**
WAT6	**Susitna Watana**	**1.53**	**42**	P	**Pn**	**20 25 30.7**	**+0.2**
	baz=224						
WAT6				S	**Sn**	**20 25 50.3**	**+1.2**
	baz=224						
M20K	**Styx River**	**1.58**	**287**		**Pn**	**20 25 32.0**	**+0.9**
REF	**Redoubt East F**	**1.66**	**236**		**Pn**	**20 25 32.9**	**+0.6**
BRLK	**Bradley Lake**	**1.76**	**196**		**Pn**	**20 25 34.0**	**+0.5**
BRSE	**Bradley Lake S**	**1.77**	**193**		**Pn**	**20 25 34.2**	**+0.7**
BRSE	**Bradley Lake S**	**1.77**	**193**	P	**Pn**	**20 25 33.7**	**+0.2**
	baz=13						
PPLA	**Purkeypile**	**1.79**	**325**		**Pn**	**20 25 34.5**	**+0.5**
PPLA	**Purkeypile**	**1.79**	**325**	P	**Pn**	**20 25 34.5**	**+0.5**
	baz=142						
FID	**Port Fidalgo**	**1.82**	**111**		**Pn**	**20 25 34.0**	**-0.3**
FID				IAML		20 26 05.2	
	comp=E,1μm,0.4s						
M24K	**Tolsona, Glenn**	**1.90**	**68**	Pn	**Pn**	**20 25 36.3**	**+0.9**
M24K				IAML		20 26 04.0	
	comp=E,4μm,0.8s						
M24K	**Tolsona, Glenn**	**1.90**	**68**	P	**Pn**	**20 25 37.0**	**+1.6**
	baz=252						
O20K	**Slope Mountain**	**1.91**	**225**		**Pn**	**20 25 36.1**	**+0.6**
O20K	**Slope Mountain**	**1.91**	**225**	P	**Pn**	**20 25 36.8**	**+1.3**
	baz=42						
P23K	**Montague Islan**	**1.92**	**138**		**Pn**	**20 25 35.3**	**-0.3**
KLU	**Klutina**	**1.93**	**87**	Pn	**Pn**	**20 25 35.9**	**+0.1**
KLU	**Klutina**	**1.93**	**87**	P	**Pn**	**20 25 35.9**	**+0.1**
	baz=271						
HIN	**Hinchinbrook I**	**1.98**	**121**		**Pn**	**20 25 36.6**	**0.0**
HIN				IAML		20 26 12.3	
	comp=E,1μm,0.8s						
HOM	**Homer**	**1.99**	**206**		**Pn**	**20 25 37.6**	**+1.1**
HOM				IAML		20 26 06.6	
	comp=N,3μm,0.6s						
HOM				IAML		20 26 08.4	
	comp=E,3μm,0.5s						
HOM	**Homer**	**1.99**	**206**	P	**Pn**	**20 25 38.3**	**+1.7**
	baz=24						
TRF	**Thorofare Moun**	**2.01**	**355**		**Pn**	**20 25 37.3**	**+0.3**
TRF	**Thorofare Moun**	**2.01**	**355**	P	**Pn**	**20 25 37.5**	**+0.5**
	baz=175						
DHY	**Denali Highway**	**2.02**	**35**	Pn	**Pn**	**20 25 37.9**	**+0.8**
DHY	**Denali Highway**	**2.02**	**35**	P	**Pn**	**20 25 38.0**	**+0.8**
	baz=218						
RND	**Reindeer**	**2.02**	**14**		**Pn**	**20 25 37.8**	**+0.7**
DIV	**Divide**	**2.04**	**97**		**Pn**	**20 25 37.4**	**+0.2**
CNPM	**China Poot**	**2.04**	**199**		**Pn**	**20 25 37.6**	**+0.3**
CNPM				IAML		20 26 07.3	
	comp=E,1μm,1.0s						
L20K	**Farewell, AK**	**2.13**	**301**		**Pn**	**20 25 39.1**	**+0.6**
ILS	**Iliamna Low So**	**2.15**	**227**		**Pn**	**20 25 39.7**	**+0.8**
KTH	**Kantishna Hill**	**2.15**	**348**		**Pn**	**20 25 39.7**	**+0.8**
ILSW	**Iliamna Southw**	**2.16**	**228**		**Pn**	**20 25 40.1**	**+1.0**
M19K	**Big River Lodg**	**2.17**	**284**		**Pn**	**20 25 39.3**	**+0.2**
CAST	**Castle Rocks**	**2.21**	**334**		**Pn**	**20 25 40.0**	**+0.3**
CAST	**Castle Rocks**	**2.21**	**334**	P	**Pn**	**20 25 40.1**	**+0.4**
	baz=152						
EYAK	**Cordova Ski Ar**	**2.23**	**112**		**Pn**	**20 25 39.8**	**-0.1**
EYAK	**Cordova Ski Ar**	**2.23**	**112**	P	**Pn**	**20 25 40.5**	**+0.6**
	baz=296						
EYAK	**Cordova Ski Ar**	**2.23**	**112**	P	**Pn**	**20 25 40.9**	**+1.0**
N19K	**Bonanza Creek**	**2.30**	**256**		**Pn**	**20 25 41.5**	**+0.6**
MCK	**McKinley**	**2.33**	**11**		**Pn**	**20 25 42.4**	**+1.1**
MCK	**McKinley**	**2.33**	**11**	P	**Pn**	**20 25 42.8**	**+1.5**
	baz=192						
P19K	**Oil Pt**	**2.43**	**223**		**Pn**	**20 25 43.6**	**+0.9**
P19K	**Oil Pt**	**2.43**	**223**	IAML		20 26 19.5	
	comp=N,792nm,0.8s						
P19K				IAML		20 26 23.9	
	comp=E,668nm,0.7s						
P19K	**Oil Pt**	**2.43**	**223**	P	**Pn**	**20 25 44.0**	**+1.2**
	baz=40						
L19K	**White Mountain**	**2.45**	**289**		**Pn**	**20 25 43.5**	**+0.7**
HARP	**HAARP**	**2.45**	**65**		**Pn**	**20 25 43.8**	**+0.9**
O19K	**Port Alsworth**	**2.49**	**241**	Pn	**Pn**	**20 25 43.8**	**+0.3**
N25K	**Chitina, Valde**	**2.56**	**84**		**Pn**	**20 25 44.9**	**+0.4**
PAX	**Paxson**	**2.59**	**52**		**Pn**	**20 25 45.2**	**+0.3**
CHUM	**Lake Minchumin**	**2.67**	**337**		**Pn**	**20 25 46.3**	**+0.4**
GOAT	**Goat Mountain**	**2.68**	**107**		**Pn**	**20 25 45.8**	**-0.4**
BPAW	**Bear Paw Mtn.**	**2.70**	**350**		**Pn**	**20 25 46.6**	**+0.3**
K20K	**Telida**	**2.71**	**317**		**Pn**	**20 25 46.9**	**+0.4**
WACK	**Wrangell Chich**	**2.72**	**76**		**Pn**	**20 25 47.3**	**+0.5**
BWN	**Browne**	**2.73**	**4**		**Pn**	**20 25 47.7**	**+0.9**
BWN	**Browne**	**2.73**	**4**	IAML		20 26 36.6	
	comp=E,596nm,0.9s						
BWN				IAML		20 26 42.0	
	comp=N,620nm,1.0s						
SVW2	**Sparrevohn**	**2.75**	**265**		**Pn**	**20 25 47.1**	**+0.1**
SVW2				IAML		20 27 36.2	
	comp=E,1μm,0.3s						
SVW2	**Sparrevohn**	**2.75**	**265**	P	**Pn**	**20 25 47.5**	**+0.5**
RAGM	**Ragged Mountai**	**2.78**	**110**		**Pn**	**20 25 47.5**	**0.0**
RAGM				IAML		20 26 39.8	
	comp=E,1μm,0.5s						
RAGM				IAML		20 26 43.4	
	comp=N,2μm,0.6s						
WASW	**Wrangell South**	**2.79**	**78**		**Pn**	**20 25 48.0**	**+0.3**
M18K	**Stony River**	**2.83**	**273**		**Pn**	**20 25 48.4**	**+0.4**
GLB	**Gilahina Butte**	**2.94**	**88**		**Pn**	**20 25 49.9**	**+0.1**
GLB				IAML		20 27 46.5	
	comp=E,1μm,0.9s						
GLB				IAML		20 27 48.9	
	comp=N,875nm,0.5s						
N18K	**Kilae Creek**	**3.00**	**258**	Pn	**Pn**	**20 25 50.6**	**+0.2**
N18K				IAML		20 27 48.6	
	comp=N,882nm,1.1s						
N18K				IAML		20 27 48.7	
	comp=E,2μm,1.0s						
K24K	**Donnelly Dome**	**3.04**	**37**		**Pn**	**20 25 51.4**	**+0.4**
O18K	**Koktuh Hills**	**3.05**	**241**	Pn	**Pn**	**20 25 51.2**	**0.0**
O18K				IAML		20 27 54.7	
	comp=N,2μm,0.9s						
O18K				IAML		20 27 54.8	
	comp=E,3μm,0.9s						
SYI	**Shuyak Island**	**3.11**	**204**	Pn	**Pn**	**20 25 52.5**	**+0.6**
SYI				IAML		20 27 48.7	
	comp=N,1μm,1.1s						
SYI				IAML		20 27 59.5	
	comp=E,640nm,0.8s						
KAIM	**Kayak Island**	**3.12**	**117**	Pn	**Pn**	**20 25 51.1**	**-1.0**
KAIM				IAML		20 27 54.2	
	comp=E,1μm,0.5s						
KAIM				IAML		20 27 56.7	
	comp=N,2μm,0.7s						
VRDI	**Verde Repeater**	**3.13**	**91**	Pn	**Pn**	**20 25 51.7**	**-0.8**
VRDI				IAML		20 27 53.3	
	comp=E,2μm,1.2s						
VRDI				IAML		20 27 57.0	
	comp=N,959nm,1.1s						
Q19K	**Cape Douglas,**	**3.14**	**218**		**Pn**	**20 25 53.0**	**+0.6**
WRH	**Wood River Hil**	**3.14**	**15**		**Pn**	**20 25 52.9**	**+0.5**
WRH				IAML		20 27 59.9	
	comp=N,454nm,0.8s						
NEA2	**Nenana**	**3.17**	**7**		**Pn**	**20 25 52.9**	**0.0**
NEA2	**Nenana**	**3.17**	**7**	IAML		20 27 59.0	
	comp=N,651nm,0.9s						
TTA	**Tatalina**	**3.21**	**300**	Pn	**Pn**	**20 25 53.4**	**0.0**
TTA				IAML		20 28 00.8	
	comp=N,1μm,0.7s						
BERG	**Berg Lake**	**3.23**	**107**		**Pn**	**20 25 52.8**	**-0.7**
HDA	**Harding Lake**	**3.26**	**23**		**Pn**	**20 25 53.4**	**-0.7**
HDA				IAML		20 28 02.6	
	comp=N,886nm,0.9s						
HDA				IAML		20 28 06.8	
	comp=E,836nm,0.6s						
MENT	**Mentasta**	**3.27**	**60**		**Pn**	**20 25 54.3**	**+0.1**
MENT	**Mentasta**	**3.27**	**60**	P	**Pn**	**20 25 57.2**	**+3.0**
RIDG	**Independent Ri**	**3.29**	**44**	Pn	**Pn**	**20 25 54.5**	**+0.1**
RIDG				IAML		20 28 05.6	
	comp=N,2μm,0.8s						
RIDG				IAML		20 28 07.0	
	comp=E,2μm,1.2s						
L18K	**Granite Mounta**	**3.29**	**286**		**Pn**	**20 25 54.7**	**+0.3**
L18K				IAML		20 27 57.1	
	comp=E,2μm,0.8s						
L18K				IAML		20 28 07.4	
	comp=N,892nm,1.1s						
MCARA	**McCarthy VSAT**	**3.32**	**88**		**Pn**	**20 25 54.2**	**-0.7**
SUCK	**Suckling Hills**	**3.33**	**112**	Pn	**Pn**	**20 25 54.1**	**-0.8**
SUCK				IAML		20 28 00.8	
	comp=E,1μm,0.7s						
SUCK				IAML		20 28 08.6	
	comp=N,2μm,0.9s						
P18K	**Big Mountain,**	**3.34**	**234**		**Pn**	**20 25 55.2**	**0.0**
P18K	**Big Mountain,**	**3.34**	**234**	IAML		20 28 06.6	
	comp=E,625nm,0.9s						
P18K				IAML		20 28 06.7	
	comp=N,494nm,1.1s						
J20K	**Nowinta River**	**3.35**	**327**		**Pn**	**20 25 55.2**	**0.0**
J20K				IAML		20 27 49.0	
	comp=E,2μm,0.3s						
J20K				IAML		20 28 09.2	
	comp=N,2μm,1.0s						
CCB	**Clear Creek Bu**	**3.35**	**16**		**Pn**	**20 25 55.0**	**-0.2**
CCB				IAML		20 28 10.0	
	comp=N,1μm,0.9s						
CCB				IAML		20 28 10.2	
	comp=E,473nm,0.9s						
CRQM	**Cirque**	**3.37**	**99**		**Pn**	**20 25 55.5**	**-0.2**
CRQM				IAML		20 27 58.0	
	comp=N,2μm,1.0s						
M26K	**Nabesna, AK**	**3.42**	**71**		**Pn**	**20 25 56.2**	**0.0**
M26K				IAML		20 28 02.5	
	comp=E,1μm,0.8s						
M26K				IAML		20 28 06.5	
	comp=N,1μm,0.8s						
L26K	**Log Cabin Wild**	**3.46**	**60**	Pn	**Pn**	**20 25 57.3**	**+0.5**
L26K				IAML		20 28 00.1	
	comp=E,2μm,0.7s						
L26K				IAML		20 28 17.4	
	comp=N,1μm,0.4s						
DOT	**Dot Lake**	**3.50**	**48**		**Pn**	**20 25 57.6**	**+0.3**
TGL	**Tana Glacier**	**3.52**	**98**		**Pn**	**20 25 57.5**	**-0.2**
TGL				IAML		20 28 04.2	
	comp=N,2μm,0.8s						
COLA	**College**	**3.56**	**14**		**Pn**	**20 25 57.9**	**-0.2**
COLA				IAML		20 28 16.5	
	comp=N,1μm,0.5s						
COLA				IAML		20 28 21.1	
	comp=N,2μm,0.6s						
COLA	**College**	**3.56**	**14**	P	**Pn**	**20 25 59.2**	**+1.1**
IL31		**3.60**	**21**		**Pn**	**20 25 58.6**	**0.0**
ILAR	**Eielson Array**	**3.60**	**21**		**Pn**	**20 25 58.5**	**-0.3**
ILAR	**Eielson Array**	**3.60**	**21**	P	**Pn**	**20 25 59.7**	**+1.0**
	comp=N,4.3nm,0.3s,baz=208,slow=14,SNR=36						
ILAR				S	**Sn**	**20 26 43.0**	**+3.0**
	comp=N,15nm,0.5s,baz=188,slow=27,SNR=2.8						
	comp=N,6.7nm,0.3s						
M17K	**Holitna River**	**3.60**	**272**	Pn	**Pn**	**20 25 58.9**	**+0.2**
MLY	**Manley**	**3.61**	**355**	Pn	**Pn**	**20 25 58.8**	**0.0**
MLY				IAML		20 28 24.7	
	comp=E,496nm,0.8s						
MLY				IAML		20 28 25.5	
	comp=N,712nm,1.2s						
PTPK	**Patty Peak**	**3.61**	**91**		**Pn**	**20 25 59.3**	**+0.2**
J19K	**Poorman**	**3.65**	**317**		**Pn**	**20 25 59.7**	**+0.3**
J19K	**Poorman**	**3.65**	**317**	IAML		20 28 12.4	
	comp=E,913nm,0.8s						
J19K				IAML		20 28 23.7	
	comp=N,1μm,0.9s						
N17K	**Nushagak Hills**	**3.65**	**258**		**Pn**	**20 25 59.7**	**+0.3**
N17K	**Nushagak Hills**	**3.65**	**258**	IAML		20 28 15.0	
	comp=N,721nm,1.1s						
N17K				IAML		20 28 20.1	
	comp=E,1μm,0.8s						
BALM	**Baldy**	**3.69**	**93**		**Pn**	**20 26 00.3**	**+0.3**
SNH	**Sunshine Point**	**3.70**	**107**	Pn	**Pn**	**20 25 59.6**	**-0.5**
SNH				IAML		20 28 19.4	
	comp=N,1μm,1.0s						
SNH				IAML		20 28 24.3	
	comp=E,1μm,1.0s						
KIAG	**Kiagna River**	**3.71**	**95**		**Pn**	**20 26 00.1**	**-0.2**
I23K	**Minto, Yukon-K**	**3.72**	**4**		**Pn**	**20 26 00.4**	**+0.1**
I23K				IAML		20 28 20.8	
	comp=N,634nm,1.1s						
I23K				IAML		20 28 26.5	
	comp=E,442nm,0.8s						
SCRK	**Sand Creek**	**3.73**	**45**		**Pn**	**20 26 01.1**	**+0.6**
SCRK	**Sand Creek**	**3.73**	**45**	IAML		20 28 14.4	
	comp=E,866nm,0.8s						
SCRK				IAML		20 28 23.8	
	comp=N,678nm,0.9s						
J18K	**Innoko River**	**3.74**	**306**		**Pn**	**20 26 00.9**	**+0.3**
J18K	**Innoko River**	**3.74**	**306**	IAML		20 28 32.1	
	comp=N,2μm,0.8s						
KAHG	**Katmai Hook Gl**	**3.77**	**220**		**Pn**	**20 26 01.6**	**+0.6**
BARK	**Barkley Ridge**	**3.78**	**103**		**Pn**	**20 26 01.1**	**-0.1**
J25K	**Salcha River,**	**3.79**	**31**		**Pn**	**20 26 03.4**	**+2.1**
J25K				IAML		20 28 15.3	
	comp=N,1μm,1.0s						
J25K				IAML		20 28 22.2	
	comp=E,836nm,1.0s						
KAHC	**Katmai Hardscr**	**3.79**	**224**		**Pn**	**20 26 01.9**	**+0.4**
POKR	**Poker Plat Res**	**3.84**	**16**		**Pn**	**20 26 02.5**	**+0.4**
POKR	**Poker Plat Res**	**3.84**	**16**	IAML		20 28 32.0	
	comp=N,770nm,1.0s						
POKR				IAML		20 28 37.7	
	comp=E,633nm,0.9s						
I21K	**Tanana**	**3.85**	**347**		**Pn**	**20 26 02.6**	**+0.5**
I21K	**Tanana**	**3.85**	**347**	IAML		20 28 33.2	
	comp=E,860nm,0.8s						
O17K	**Koliganek Bris**	**3.91**	**248**		**Pn**	**20 26 03.4**	**+0.5**
M27K	**Edge Creek, AK**	**3.92**	**73**	IAML		20 28 17.3	
	comp=E,952nm,0.9s						
M27K				IAML		20 28 41.7	
	comp=N,922nm,1.1s						
KDAK	**Kodiak Island**	**3.92**	**201**	Pn	**Pn**	**20 26 02.1**	**-1.0**
KDAK				IAML		20 28 42.5	
	comp=N,936nm,0.6s						
KDAK				IAML		20 28 42.7	
	comp=N,1μm,0.8s						
KDAK	**Kodiak Island**	**3.92**	**201**	P	**Pn**	**20 26 02.0**	**-1.1**
	comp=N,1.8nm,0.3s,baz=224,slow=2.9,SNR=14						
KDAK				S	**Sn**	**20 26 45.9**	**-1.9**
	comp=N,14nm,0.4s,baz=336,slow=10.0,SNR=5.7						
	comp=N,3.8nm,0.4s						
I20K	**Naaghedeneel**	**3.94**	**330**		**Pn**	**20 26 03.7**	**+0.5**
BAGL	**Bagley Icefiel**	**3.94**	**101**		**Pn**	**20 26 03.4**	**0.0**
L17K	**Donlin**	**4.03**	**283**		**Pn**	**20 26 04.8**	**+0.3**
GRNC	**Granite Creek**	**4.04**	**97**		**Pn**	**20 26 04.7**	**-0.2**
MESA	**MESA**	**4.12**	**105**		**Pn**	**20 26 06.0**	**+0.1**
L27K	**Beaver Creek,**	**4.12**	**63**		**Pn**	**20 26 06.0**	**+0.1**
L27K				IAML		20 28 22.2	
	comp=N,435nm,0.9s						
L27K				IAML		20 28 49.5	
	comp=E,781nm,0.9s						
K17K	**Iditarod**	**4.13**	**291**		**Pn**	**20 26 06.4**	**+0.4**
BCAR	**Beaver Creek A**	**4.14**	**63**	Pn	**Pn**	**20 26 07.0**	**+0.9**
CTGM	**Chitina Glacie**	**4.19**	**93**		**Pn**	**20 26 07.3**	**+0.3**
CTGM				IAML		20 28 32.8	

OHAK	Old Harbor	4.58	203	P	Pn	20 26 12.5 +0.4
H20K	Anotleneega Mo	4.62	333		Pn	20 26 13.0 +0.3
J17K	VABM Dome	4.67	299	Pn	Pn	20 26 13.3 -0.1
SAMH	Samovar Hills	4.68	102		Pn	20 26 14.0 +0.4
P16K	Nushagak River	4.69	242		Pn	20 26 14.2 +0.5
O28M	Mount Upton	4.78	94		Pn	20 26 15.3 +0.2
IMAR	Indian Mountai	4.85	341	Pn	Pn	20 26 15.6 -0.2
PCA	Pinnacle	4.94	102		Pn	20 26 17.5 +0.4
H19K	Roundabout Mou	5.02	327		Pn	20 26 18.6 +0.5
N15K	Kwethluk River	5.14	260		Pn	20 26 20.4 +0.6
G23K	Bananza Creek	5.28	360		Pn	20 26 21.1 -0.6
G23K				IAML		20 29 16.9
	comp=N,327nm,0.8s					
G23K				IAML		20 29 49.6
	comp=E,559nm,1.1s					
BCPM	Bancas Point	5.28	102	Pn	Pn	20 26 21.2 -0.6
J16K	Anvik River	5.29	295		Pn	20 26 21.9 0.0
H18K	Honhosa River	5.31	318		Pn	20 26 22.8 +0.7
G21K	Allakaket	5.32	344		Pn	20 26 23.0 +0.7
G24K	Hadweenzic Riv	5.38	11	IAML		20 29 32.8
	comp=E,402nm,1.0s					
O15K	Ungalikthiuk R	5.42	249		Pn	20 26 24.2 +0.5
PNL	Peninsula	5.50	104		Pn	20 26 25.0 +0.3
PNL	Peninsula	5.50	104	P	Pn	20 26 25.5 +0.7
DAWY	Dawson	5.50	57		Pn	20 26 25.6 +0.8
M29M	Somme Creek	5.51	75		Pn	20 26 25.4 +0.5
I17K	Unalakleet	5.52	301		Pn	20 26 25.1 0.0
L15K	Ungalak Mounta	5.53	277		Pn	20 26 25.3 +0.2
FYU	Fort Yukon	5.53	20	Pn	Pn	20 26 25.2 +0.1
K15K	Wolf Creek Mou	5.55	284		Pn	20 26 25.7 +0.3
G19K	Purcell Mounta	5.67	329		Pn	20 26 27.3 +0.2
H17K	Granite Mounta	5.71	312		Pn	20 26 28.4 +0.8
COLD	Coldfoot	5.80	359		Pn	20 26 29.0 +0.2
M14K	Bethel	5.88	268	Pn	Pn	20 26 30.1 +0.3
G18K	Tagagawik	5.90	323		Pn	20 26 30.4 +0.1
N14K	Kuskokwak Cree	5.97	260		Pn	20 26 31.7 +0.5
F21K	Alatna River	5.99	347		Pn	20 26 31.8 +0.3
I28M	Miner Creek	6.01	44		Pn	20 26 33.0 +1.1
O14K	Tigyukauivet M	6.04	254		Pn	20 26 32.5 +0.3
HYT	Haines Junctio	6.05	91	Pn	Pn	20 26 32.3 -0.2
H27K	Steamboat Moun	6.06	34		Pn	20 26 32.9 +0.4
L14K	Kuka Creek	6.12	275		Pn	20 26 34.0 +0.7
F24K	Squaw Lake	6.15	7		Pn	20 26 33.8 +0.1
F20K	Avaraart Lake	6.15	338		Pn	20 26 34.7 +1.0
N30M	Aishikik Lake	6.16	84	Pn	Pn	20 26 33.0 -0.9
K29M	Barlow Dome	6.20	62	Pn	Pn	20 26 33.4 -1.1
G17K	Kiwalik Mounta	6.28	315		Pn	20 26 36.1 +0.7
P29M	Windy Craggy	6.29	102		Pn	20 26 36.4 +0.7
F19K	Shaleruckik Mo	6.39	331	Pn	Pn	20 26 36.9 0.0
BMAR	Burnt Mountain	6.43	19	Pn	Pn	20 26 39.2 +1.7
H16K	Elim	6.44	305		Pn	20 26 38.2 +0.7
J14K	Nanvaranak Lak	6.52	287	Pn	Pn	20 26 39.1 +0.4
F18K	Selawik	6.69	325		Pn	20 26 41.8 +0.7
E22K	Anaktuvuk Pass	6.75	354		Pn	20 26 43.5 +1.5
E19K	Redstone River	6.80	336		Pn	20 26 42.8 +0.2
G16K	Koyuk River	6.83	311		Pn	20 26 42.8 -0.1
K13K	Kusilvak Mount	7.02	280		Pn	20 26 45.6 +0.1
E20K	Nigu River	7.33	341		Pn	20 26 50.7 +0.9
WHY	Whitehorse	7.35	90	Pn	Pn	20 26 50.3 +0.1
SKAG	Skagway	7.49	99	Pn	Pn	20 26 52.1 +0.1
E18K	Tukpahlearik C	7.55	327	Pn	Pn	20 26 52.8 0.0
E17K	Hotham Inlet	7.65	323		Pn	20 26 54.8 +0.7
ANM	Nome	7.68	301	Pn	Pn	20 26 54.8 +0.1
F15K	North Star Dit	7.82	309	Pn	Pn	20 26 57.9 +1.4
R32K	Eaglecrest	8.38	106	Pn	Pn	20 27 04.0 -0.3
S12K	Black Hills	8.56	233	Pn	Pn	20 27 05.7 -1.0
C19K	Lookout Ridge	8.67	336	Pn	Pn	20 27 09.2 +1.1
S32K	Killisnoo	8.78	110	Pn	Pn	20 27 09.3 -0.3
INK	Inuvik	9.76	38	P	Pn	20 27 26.1 +3.0
	comp=E,0.1nm,0.3s,baz=242,slow=17,SNR=2.1					
	comp=E,0.6nm,0.4s					
S34M	Telegraph Cree	10.14	102	Pn	Pn	20 27 27.3 -1.0
LYMT	Lyon Mountain	25.89	107	P	P	20 30 32.9 -0.9
KMRM	Mail Ridge	26.61	131	P	P	20 30 39.2 -1.0
KMRM				IAmb	IAmb	20 30 50.6
	comp=Z,38nm,1.2s					
BOZ	Bozeman (W)	27.23	108	P	P	20 30 45.4 -0.4
BOZ				IAmb	IAmb	20 31 06.6
	comp=Z,3.6nm,1.5s					
FXWY	Fox Creek	29.01	110	P	P	20 30 59.8 -2.0
PDAR	Pinedale Array	30.36	109	P	P	20 31 13.1 -0.6
PDAR	Pinedale Array	30.36	109	P	P	20 31 13.9 +0.2
	comp=Z,0.3nm,0.5s,baz=331,slow=3.6,SNR=6.1					
	comp=Z,0.3nm,0.5s					
HWUT	Hardware Ranch	30.39	113	P	P	20 31 13.6 -0.3
HWUT				IAmb	IAmb	20 31 42.5
	comp=Z,3.2nm,1.2s					
SONM	Songino Array	55.13	307	P	P	20 34 32.5 -1.2
	comp=Z,1.1nm,0.8s,baz=49,slow=6.2,SNR=6.1					
	comp=Z,1.1nm,0.8s					

BJI ***30*** *20:26:45.1, 61°.36N × 149°.63W, h20km, mb4.8/56, mB5.4/12, Ms5.1/13, Ms7 5.0/12*

MOS ***30*** *20:26:53.2 ± 0.8, 61°.42N × 150°.26W, h58km, mb5.5/54, MS5.0/4, Error ellipse: s-maj=10.2km s-min=3.9km az=91.6*

IDC ***30*** *20:26:54.6 ± 1.6, 61°.47N × 150°.32W, h54km ± 14km, mb4.6/30, mbtmp4.9/35, Error ellipse: s-maj=12.0km s-min=9.4km az=36.0*

NEIC ***30*** *20:26:54.5 ± 1.8, 61°.41N ± 0°.03 × 150°.09W ± 0°.06, h48km ± 2km, Error ellipse: s-maj=4.9km s-min=3.6km az=52.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}=3.47; $M_{\theta\theta}$=0.43; $M_{\phi\phi}$=3.04; $M_{r\theta}$=1.16; $M_{\theta\phi}$=-0.26; $M_{\phi r}$=1.86; Fault plane solution: M_0=3.95000×10^{16} NP1: ϕ_s=192.21000°, δ=61.35000°, λ=-74.62000°. NP2: ϕ_s=342.37000°, δ=32.21000°, λ=-115.89000°. Principal axes: T 3.5325, Plg15.0000°, Azm271.0000°; N 0.7261, Plg13.0000°, Azm5.0000°; P -4.2587, Plg70.0000°, Azm135.0000°;*

NEIC ***30*** *20:26:55.6, 61°.39N × 150°.06W, h31km*

AEIC ***30*** *20:26:55.4 ± 2.2, 61°.38N ± 0°.03 × 150°.08W ± 0°.06, h38km ± 3km, ML5.0, mb5.3/496(NEIC), ML5.2/166(NEIC), Mwr5.0/82(NEIC), Error ellipse: s-maj=4.9km s-min=3.5km az=51.0*

BGR ***30*** *20:26:58.7, 62°.24N × 150°.55W, h33km, mb5.5, Ms4.8*

ISC 30 20:26:54.1 ± 0.3, **61°.42N** ± 0°.03 × **150°.12W** ± 0°.03, **h50**km ± 2km, **h50**km**:pP-P, n1327,** σ**1920**/1218, **mb5.2**/392, **MS5.0**/9, **57C-31D, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SUA	Susitna One	0.30	278			Sn	20 27 10.2	+0.2
SUA	Susitna One	0.30	278	Pn	Pn	Pn	20 27 03.3	-0.1
SUA					IAML		20 27 11.0	
	comp=E,438μm,0.9s							
SUA					IAML		20 27 11.6	
	comp=N,162μm,0.9s							
SUA	Susitna One	0.30	278	P	Pn	Pn	20 27 03.3	-0.1
	baz=108							
M22K	Willow	0.33	0	Pn	Pn	Pn	20 27 03.1	-0.4
M22K					IAML		20 27 11.1	
	comp=N,267μm,0.9s							
M22K	Willow	0.33	0			Sn	20 27 10.6	+0.4
M22K	Willow	0.33	0	P	Pn	Pn	20 27 03.2	-0.2
	baz=177,SNR=255							
RC01	Rabbit Creek A	0.38	151			Pn	20 27 03.6	-0.4
RC01						Sn	20 27 11.0	-0.1
RC01					IAML		20 27 11.3	
	comp=E,146μm,0.8s							
RC01	Rabbit Creek A	0.38	151	P	Pn	Pn	20 27 03.3	-0.7
	baz=329,SNR=476							
PMR	Palmer	0.51	70			Pn	20 27 04.8	-0.6
PMR	Palmer	0.51	70			Sn	20 27 13.1	-0.4
PMR	Palmer	0.51	70	IAML			20 27 14.0	
	comp=N,142μm,0.8s							
PMR					IAML		20 27 14.1	
	comp=E,101μm,0.9s							
PMR	Palmer	0.51	70	P	Pn	Pn	20 27 05.0	-0.4
	baz=243,SNR=481							
PMR	Palmer	0.51	70	P	Pn	Pn	20 27 05.1	-0.3
GHO	Glory Hole Cre	0.67	58			Pn	20 27 07.6	0.0
GHO						Sn	20 27 17.9	+0.7
GHO	Glory Hole Cre	0.67	58	IAML			20 27 19.2	
	comp=E,86μm,0.3s							
GHO					IAML		20 27 23.2	
	comp=N,84μm,0.7s							
KNK	Knik Glacier	0.80	90			Pn	20 27 09.4	+0.2
KNK						Sn	20 27 21.1	+0.9
KNK	Knik Glacier	0.80	90	IAML			20 27 25.1	
	comp=E,59μm,0.7s							
KNK	Knik Glacier	0.80	90	P	Pn		20 27 09.2	+0.1
	baz=267							
STLK	Strandline Lak	0.82	276		Pn		20 27 10.0	+0.5
CAPN	Captain Cook N	0.82	218		Pn		20 27 11.0	+1.6
CAPN	Captain Cook N	0.82	218	P	Pn		20 27 10.8	+1.4
	baz=41,SNR=32							
SKT	Skwentna	0.87	310	Pn	Pn		20 27 10.4	+0.3
SKT				IAML			20 27 23.5	
	comp=N,99μm,0.7s							
SKT				IAML			20 27 23.8	
	comp=E,72μm,0.7s							
SKT	Skwentna	0.87	310		Sn		20 27 23.3	+1.4
SKT	Skwentna	0.87	310	P	Pn		20 27 10.5	+0.4
	baz=131,SNR=271							
SLKM	Skilak Lake	0.92	183		Pn		20 27 10.3	-0.5
SPCG	Spurr Capps Gl	0.92	263		Pn		20 27 11.4	+0.5
SML	Sawmill	0.94	65	Pn	Pn		20 27 11.0	0.0
SML				IAML			20 27 27.7	
	comp=N,54μm,1.0s							
SML				IAML			20 27 27.9	
	comp=E,99μm,0.7s							
SML	Sawmill	0.94	65	P	Pn		20 27 11.0	0.0
	baz=242,SNR=425							
O22K	Cooper Landing	0.96	168		Pn		20 27 11.2	-0.1
O22K	Cooper Landing	0.96	168		Sn		20 27 25.0	+1.1
O22K	Cooper Landing	0.96	168	IAML			20 27 26.9	
	comp=E,249μm,0.8s							
O22K				IAML			20 27 30.7	
	comp=N,243μm,0.8s							
O22K	Cooper Landing	0.96	168	P	Pn		20 27 11.2	-0.1
	baz=349,SNR=77							
CUT	Chulitna	0.99	356		Pn		20 27 12.1	+0.5
CUT	Chulitna	0.99	356	IAML			20 27 27.7	
	comp=N,76μm,0.4s							
CUT				IAML			20 27 28.8	
	comp=E,65μm,0.6s							
CUT	Chulitna	0.99	356	P	Pn		20 27 12.3	+0.7
	baz=175							
SPCP	Crater Peak Br	0.99	262		Pn		20 27 12.7	+0.9
N20K	Mount Spurr	1.03	258	P	Pn		20 27 12.7	+0.4
	baz=80							
SPCR	Spurr Chakacha	1.03	258		Pn		20 27 12.8	+0.6
SPCR	Spurr Chakacha	1.03	258		Pn		20 27 12.7	+0.4
SPCR	Spurr Chakacha	1.03	258	P	Pn		20 27 12.5	+0.3
	baz=80,SNR=600							
PWL	Port Wells	1.04	122	Pn	Pn		20 27 12.3	+0.1
PWL	Port Wells	1.04	122	P	Pn		20 27 12.4	+0.2
	baz=302,SNR=716							
M23K	Glacier View	1.21	71		Pn		20 27 15.0	+0.5
M23K	Glacier View	1.21	71	P	Pn		20 27 15.1	+0.5
	baz=250,SNR=647							
SEW	Seward	1.36	166		Pn		20 27 16.5	-0.2
SEW	Seward	1.36	166	P	Pn		20 27 16.5	-0.2
	baz=347,SNR=71							
SCM	Sheep Creek Mo	1.40	72	Pn	Pn		20 27 18.0	+0.7
SCM	Sheep Creek Mo	1.40	72	P	Pn		20 27 18.0	+0.7
	baz=251,SNR=363							
SCM	Sheep Creek Mo	1.40	72	P	Pn		20 27 18.0	+0.7
RDT	Redoubt	1.40	234		Pn		20 27 17.5	+0.2
M20K	Styx River	1.51	289		Pn		20 27 20.2	+1.4
M20K	Styx River	1.51	289	IAML			20 27 42.5	
	comp=N,34μm,1.0s							
M20K				IAML			20 27 43.1	
	comp=E,23μm,1.0s							
M20K	Styx River	1.51	289	P	Pn		20 27 20.1	+1.4
	baz=108							
WAT7	Susitna Watana	1.54	22		Pn		20 27 20.3	+1.2
RDJH	Redoubt Jeurge	1.55	239		Pn		20 27 20.0	+0.7
GLI	Glacier Island	1.57	109	Pn	Pn		20 27 19.4	-0.1
GLI				IAML			20 27 40.4	
	comp=N,46μm,0.6s							
GLI	Glacier Island	1.57	109	P	Pn		20 27 19.5	+0.1
	baz=290,SNR=220							
REF	Redoubt East F	1.57	234		Pn		20 27 20.1	+0.4
WAT1	Susitna Watana	1.59	27		Pn		20 27 20.9	+1.1
WAT1	Susitna Watana	1.59	27	P	Pn		20 27 21.1	+1.2
	baz=207							
RDSO	Redoubt South	1.61	234		Pn		20 27 20.6	+0.4
WAT6	Susitna Watana	1.62	43		Pn		20 27 21.2	+0.9
WAT6	Susitna Watana	1.62	43	P	Pn		20 27 21.3	+1.0
	baz=223,SNR=110							
RDWB	Redoubt West	1.62	236		Pn		20 27 20.9	+0.5
RED	Redoubt Volcan	1.64	233		Pn		20 27 21.1	+0.6
BRLK	Bradley Lake	1.71	193	Pn	Pn		20 27 21.7	+0.3
BRLK				IAML			20 27 46.3	
	comp=E,18μm,0.8s							
BRSE	Bradley Lake S	1.71	191		Pn		20 27 21.6	+0.1
BRSE	Bradley Lake S	1.71	191	P	Pn		20 27 21.6	+0.1
	baz=11,SNR=123							
PPLA	Purkeypile	1.77	328		Pn		20 27 23.5	+1.2
PPLA	Purkeypile	1.77	328	P	Pn		20 27 23.7	+1.3
	baz=146,SNR=67							
O20K	Slope Mountain	1.82	223		Pn		20 27 24.2	+1.2
O20K	Slope Mountain	1.82	223	P	Pn		20 27 24.2	+1.2
	baz=43,SNR=111							
FID	Port Fidalgo	1.90	109	Pn	Pn		20 27 23.4	-0.6
FID				IAML			20 27 48.8	
	comp=N,25μm,0.6s							
HOM	Homer	1.92	204		Pn		20 27 25.1	+0.8
HOM	Homer	1.92	204	P	Pn		20 27 25.2	+0.9
	baz=24,SNR=67							
P23K	Montague Islan	1.96	136		Pn		20 27 24.1	-0.8
P23K	Montague Islan	1.96	136	P	Pn		20 27 24.0	-0.8
	baz=317,SNR=323							
CNPM	China Poot	1.98	197	Pn	Pn		20 27 25.4	+0.3
CNPM				IAML			20 27 53.9	
	comp=E,27μm,0.7s							
CNPM				IAML			20 27 56.8	
	comp=N,15μm,0.5s							
M24K	Tolsona, Glenn	2.00	68	Pn	Pn		20 27 27.0	+1.6
M24K	Tolsona, Glenn	2.00	68	P	Pn		20 27 27.3	+1.9
	baz=250,SNR=126							
IVE	Iliamna Volcan	2.00	226		Pn		20 27 26.4	+0.8
KLU	Klutina	2.02	86	Pn	Pn		20 27 26.0	+0.3
KLU				IAML			20 27 58.3	
	comp=E,14μm,0.8s							
KLU				IAML			20 28 00.2	
	comp=N,15μm,0.7s							
KLU	Klutina	2.02	86	P	Pn		20 27 26.1	+0.3
	baz=268,SNR=118							
TRF	Thorofare Moun	2.04	358		Pn		20 27 27.4	+1.3
TRF	Thorofare Moun	2.04	358	P	Pn		20 27 27.3	+1.3
	baz=177,SNR=38							
HIN	Hinchinbrook I	2.05	119	Pn	Pn		20 27 25.6	-0.4
ILS	Iliamna Low So	2.06	226		Pn		20 27 25.5	+1.1
L20K	Farewell, AK	2.07	302	P	Pn		20 27 27.7	+1.3
	baz=120							
ILSW	Iliamna Southw	2.07	227		Pn		20 27 27.5	+1.0
ILSW	Iliamna Southw	2.07	227	IAML			20 27 57.0	
	comp=E,16μm,0.8s							
RND	Reindeer	2.08	16	Pn	Pn		20 27 27.4	+0.9
RND	Reindeer	2.08	16	P	Pn		20 27 27.4	+0.9
M19K	Big River Lodg	2.09	285	P	Pn		20 27 27.9	+1.2
	baz=103							
DHY	Denali Highway	2.10	37	Pn	Pn		20 27 27.9	+1.1
DHY				IAML			20 28 01.1	
	comp=N,11μm,0.8s							
DHY	Denali Highway	2.10	37	P	Pn		20 27 27.9	+1.1
	baz=217,SNR=84							
DIV	Divide	2.12	96		Pn		20 27 27.2	+0.1
KTH	Kantishna Hill	2.17	351	Pn	Pn		20 27 29.2	+1.5
KTH				IAML			20 27 58.0	
	comp=E,12μm,0.8s							
KTH				IAML			20 27 58.4	
	comp=N,11μm,1.1s							
CAST	Castle Rocks	2.20	336	Pn	Pn		20 27 29.3	+1.2
CAST	Castle Rocks	2.20	336	P	Pn		20 27 29.7	+1.5
	baz=155,SNR=80							
N19K	Bonanza Creek	2.20	256		Pn		20 27 29.4	+1.1
N19K	Bonanza Creek	2.20	256	IAML			20 28 01.4	
	comp=N,10μm,0.8s							
N19K	Bonanza Creek	2.20	256	P	Pn		20 27 29.3	+1.1
	baz=74,SNR=68							
EYAK	Cordova Ski Ar	2.31	110		Pn		20 27 28.9	-0.6
EYAK	Cordova Ski Ar	2.31	110	P	Pn		20 27 29.3	-0.2
	baz=293,SNR=132							
P19K	Oil Pt	2.35	222	Pn	Pn		20 27 31.3	+1.1
P19K	Oil Pt	2.35	222	P	Pn		20 27 30.7	+0.5
	baz=41,SNR=86							
L19K	White Mountain	2.37	291	P	Pn		20 27 32.0	+1.5
	baz=108							
MCK	McKinley	2.38	13		Pn		20 27 32.4	+1.7
MCK	McKinley	2.38	13	P	Pn		20 27 32.3	+1.7
	baz=193							
MCK	McKinley	2.38	13	P	Pn		20 27 32.4	+1.7
O19K	Port Alsworth	2.40	241	Pn	Pn		20 27 31.5	+0.8
O19K				IAML			20 28 02.9	
	comp=E,19μm,0.5s							
O19K	Port Alsworth	2.40	241	P	Pn		20 27 31.6	+0.8
	baz=59,SNR=59							
HARP	HAARP	2.55	65		Pn		20 27 34.6	+1.7
HARP	HAARP	2.55	65	P	Pn		20 27 34.4	+1.6
	baz=248							
AU22	Augustine Moun	2.61	219		Pn		20 27 36.6	+2.9
AUL	Augustine Lava	2.62	220		Pn		20 27 38.0	+4.1
AUCH	Augustine Cone	2.64	220		Pn		20 27 35.4	+1.1
N25K	Chitina, Valde	2.66	84	Pn	Pn		20 27 34.6	+0.2
N25K				IAML			20 28 18.8	
	comp=N,11μm,1.3s							
N25K	Chitina, Valde	2.66	84	P	Pn		20 27 34.6	+0.2
	baz=267,SNR=127							
SVW2	Sparrevohn	2.66	265	Pn	Pn		20 27 35.2	+0.8
SVW2	Sparrevohn	2.66	265	P	Pn		20 27 35.3	+0.9
CHUM	Lake Minchumin	2.67	339	P	Pn		20 27 36.2	+1.7
	baz=157,SNR=87							
K20K	Telida	2.67	318		Pn		20 27 35.7	+1.1
K20K	Telida	2.67	318	P	Pn		20 27 35.9	+1.3
	baz=135,SNR=93							
PAX	Paxson	2.68	53		Pn		20 27 36.4	+1.7
PAX	Paxson	2.68	53	P	Pn		20 27 36.3	+1.6
	baz=235							
PAX	Paxson	2.68	53	P	Pn		20 27 36.4	+1.7
BMRM	Bremner River	2.71	97		Pn		20 27 34.7	-0.4
BMRM	Bremner River	2.71	97	P	Pn		20 27 34.8	-0.4
	baz=281							
BPAW	Bear Paw Mtn.	2.72	352	Pn	Pn		20 27 36.6	+1.4
BPAW	Bear Paw Mtn.	2.72	352	P	Pn		20 27 36.4	+1.2
	baz=171,SNR=24							
M18K	Stony River	2.74	274	P	Pn		20 27 36.6	+1.1
	baz=90							
Q23K	Middleton Isla	2.74	135	Pn	Pn		20 27 35.4	-0.1
Q23K				IAML			20 28 35.8	
	comp=N,12μm,1.2s							
Q23K				IAML			20 28 37.1	
	comp=E,10μm,1.1s							
Q23K	Middleton Isla	2.74	135	P	Pn		20 27 35.8	+0.4
	baz=318,SNR=29							
BWN	Browne	2.78	6	Pn	Pn		20 27 38.5	+2.5
WACK	Wrangell Chich	2.82	76		Pn		20 27 36.8	0.0
RAGM	Ragged Mountai	2.86	109	Pn	Pn		20 27 37.0	-0.2
N18K	Kilae Creek	2.90	258		Pn		20 27 38.5	+0.7
N18K	Kilae Creek	2.90	258	P	Pn		20 27 38.6	+0.9
	baz=74,SNR=66							
O18K	Koktuh Hills	2.96	240	Pn	Pn		20 27 39.4	+0.8
O18K				IAML			20 28 42.0	
	comp=E,11μm,1.2s							
O18K	Koktuh Hills	2.96	240	P	Pn		20 27 39.3	+0.8
	baz=57,SNR=40							
GLB	Gilahina Butte	3.03	87	Pn	Pn		20 27 40.0	+0.4
GLB				IAML			20 28 30.7	
	comp=N,9μm,0.7s							
Q20K	Shuyak Island	3.04	203	P	Pn		20 27 40.1	+0.5
	baz=22,SNR=56							
SYI	Shuyak Island	3.04	203	Pn	Pn		20 27 40.0	+0.4
SYI				IAML			20 28 24.7	
	comp=N,5μm,0.9s							
SYI				IAML			20 28 25.7	
	comp=E,8μm,0.9s							
Q19K	Cape Douglas,	3.06	217	Pn	Pn		20 27 40.9	+1.0
Q19K				IAML			20 28 24.7	
	comp=E,31μm,1.2s							
Q19K				IAML			20 28 46.6	
	comp=N,17μm,1.0s							
Q19K	Cape Douglas,	3.06	217	P	Pn		20 27 40.5	+0.6
	baz=35,SNR=71							
K24K	Donnelly Dome	3.12	38	P	Pn		20 27 43.7	+2.9
	baz=221,SNR=106							
TTA	Tatalina	3.15	301		Pn		20 27 42.3	+1.1
TTA				IAML			20 28 43.8	
	comp=N,4μm,1.0s							
TTA				IAML			20 28 46.3	
	comp=E,5μm,1.3s							
TTA	Tatalina	3.15	301	P	Pn		20 27 42.4	+1.3
	baz=117,SNR=107							
TTA	Tatalina	3.15	301	P	Pn		20 27 42.3	+1.1
TTA	Tatalina	3.15	301	P	Pn		20 27 42.3	+1.1
KAIM	Kayak Island	3.18	116	Pn	Pn		20 27 40.3	-1.3
KAIM				IAML			20 28 43.2	
	comp=E,9μm,1.0s							
KAIM				IAML			20 28 43.3	
	comp=N,7μm,1.1s							
KAIM	Kayak Island	3.18	116	P	Pn		20 27 42.0	+0.4
	baz=300,SNR=37							
WRH	Wood River Hil	3.20	16	Pn	Pn		20 27 43.9	+2.1
L18K	Granite Mounta	3.22	287	P	Pn		20 27 43.2	+1.2
	baz=102							
NEA2	Nenana	3.22	8	Pn	Pn		20 27 44.1	+2.1
NEA2	Nenana	3.22	8	P	Pn		20 27 43.1	+1.1
	baz=188							
VRDI	Verde Repeater	3.22	91	Pn	Pn		20 27 41.9	-0.4
VRDI				IAML			20 28 38.0	
	comp=N,7μm,1.4s							
P18K	Big Mountain,	3.25	233	Pn	Pn		20 27 43.0	+0.5
P18K	Big Mountain,	3.25	233	P	Pn		20 27 43.1	+0.5
	baz=50,SNR=15							
J20K	Nowinta River	3.33	328	P	Pn		20 27 45.0	+1.5
	baz=145							
HDA	Harding Lake	3.33	24	Pn	Pn		20 27 45.1	+1.5
HDA				IAML			20 28 42.1	
	comp=N,5μm,1.5s							
HDA				IAML			20 28 46.8	
	comp=E,6μm,1.3s							
HDA	Harding Lake	3.33	24	P	Pn		20 27 45.6	+

baz=175
IL31 3.67 22 Pn Pn 20 27 50.4 +2.2
ILAR Eielson Array 3.67 22 Pn Pn 20 27 49.6 +1.4
ILAR Eielson Array 3.67 22 P Pn 20 27 50.4 +2.1
comp=N,131nm,0.6s,baz=210,slow=14,SNR=21
ILAR S Sn 20 28 34.5 +4.3
comp=N,201nm,0.6s,baz=158,slow=15,SNR=1.9
KAHG Katmai Hook Gl 3.68 219 Pn 20 27 49.4 +0.8
J18K Innoko River 3.69 307 P Pn 20 27 49.9 +1.4
baz=121
PTPK Patty Peak 3.70 90 Pn 20 27 49.1 +0.3
KAHC Katmai Hardscr 3.71 224 Pn 20 27 49.4 +0.5
Q18K Katmai Hardscr 3.71 224 P Pn 20 27 49.6 +0.8
baz=40,SNR=18
I23K Minto, Yukon-K 3.76 5 Pn Pn 20 27 50.7 +1.3
I23K IAML 20 29 00.5
comp=E,3μm,1.2s
I23K IAML 20 29 09.2
comp=N,4μm,1.1s
I23K Minto, Yukon-K 3.76 5 P Pn 20 27 50.6 +1.2
baz=185
BALM Baldy 3.78 92 Pn 20 27 49.6 -0.2
SNH Sunshine Point 3.78 106 Pn Pn 20 27 49.2 -0.6
SNH IAML 20 28 52.1
comp=E,4μm,0.9s
SNH IAML 20 29 07.9
comp=N,4μm,1.5s
KIAG Kiagna River 3.79 94 Pn 20 27 49.5 -0.6
O17K Koliganek Bris 3.81 247 Pn 20 27 51.0 +0.9
O17K Koliganek Bris 3.81 247 P Pn 20 27 51.1 +0.9
baz=62,SNR=14
SCRK Sand Creek 3.82 45 Pn Pn 20 27 51.4 +1.0
SCRK IAML 20 28 57.1
comp=N,4μm,1.0s
SCRK IAML 20 29 01.4
comp=E,4μm,1.3s
SCRK Sand Creek 3.82 45 P Pn 20 27 51.8 +1.5
baz=230,SNR=15
P17K Kvichak River 3.85 237 Pn 20 27 52.0 +1.2
P17K Kvichak River 3.85 237 P Pn 20 27 52.0 +1.2
baz=53,SNR=13
KDAK Kodiak Island 3.86 200 Pn Pn 20 27 50.0 -0.8
KDAK IAML 20 28 57.4
comp=E,3μm,0.9s
KDAK IAML 20 28 58.9
comp=E,5μm,1.0s
KDAK Kodiak Island 3.86 200 P Pn 20 27 49.9 -1.0
comp=E,57nm,0.3s,baz=246,slow=3.3,SNR=14
KDAK S Sn 20 28 41.7 +6.8
comp=E,1μm,0.8s,baz=207,slow=0.4,SNR=6.2
KDAK Kodiak Island 3.86 200 P Pn 20 27 50.2 -0.6
baz=18
KDAK Kodiak Island 3.86 200 P Pn 20 27 50.0 -0.8
I21K Tanana 3.86 348 Pn Pn 20 27 52.5 +1.7
I21K Tanana 3.86 348 P Pn 20 27 52.6 +1.7
baz=166
J25K Salcha River, 3.87 32 Pn 20 27 53.0 +2.0
J25K Salcha River, 3.87 32 IAML 20 29 01.8
comp=E,3μm,1.0s
J25K Salcha River, 3.87 32 P Pn 20 27 53.0 +2.0
baz=215
POKR Poker Plat Res 3.90 17 Pn Pn 20 27 53.1 +1.6
POKR Poker Plat Res 3.90 17 P Pn 20 27 53.4 +2.0
baz=199
I20K Naaghedeneel 3.92 332 P Pn 20 27 53.4 +1.8
baz=148
L17K Donlin 3.95 284 P Pn 20 27 53.2 +1.1
baz=98
M27K Edge Creek, AK 4.01 73 Pn 20 27 54.4 +1.4
M27K Edge Creek, AK 4.01 73 IAML 20 29 01.7
comp=E,2μm,1.1s
M27K IAML 20 29 02.0
comp=N,3μm,1.1s
M27K Edge Creek, AK 4.01 73 P Pn 20 27 54.4 +1.4
baz=259,SNR=16
K17K Iditarod 4.06 292 P Pn 20 27 54.9 +1.3
baz=106
GRNC Granite Creek 4.12 96 Pn Pn 20 27 54.8 +0.1
GRNC IAML 20 29 03.4
comp=N,4μm,0.9s
GRNC IAML 20 29 11.2
comp=E,2μm,1.0s
MESA MESA 4.19 104 P Pn 20 27 55.5 -0.1
baz=290
L27K Beaver Creek, 4.21 63 Pn 20 27 56.8 +1.0
L27K Beaver Creek, 4.21 63 IAML 20 29 13.3
comp=N,3μm,1.4s
L27K Beaver Creek, 4.21 63 P Pn 20 27 56.9 +1.2
baz=250
ANCK Angle Creek 4.22 222 Pn 20 27 56.5 +0.7
BCAR Beaver Creek A 4.23 63 Pn Pn 20 27 56.8 +0.7
CTG Chitna Glacier 4.28 92 P Pn 20 27 57.5 +0.8
baz=279,SNR=18
Q16K King Salmon 4.28 233 Pn 20 27 58.0 +1.4
Q16K King Salmon 4.28 233 P Pn 20 27 58.2 +1.7
baz=48,SNR=13
CTGM Chitina Glacie 4.28 92 Pn 20 27 57.5 +0.7
CTGM Chitina Glacie 4.28 92 IAML 20 29 06.5
comp=N,3μm,0.7s
M16K Timber Creek 4.29 269 IAML 20 29 22.4
comp=E,2μm,1.1s
M16K IAML 20 29 37.5
comp=N,2μm,0.9s
M16K Timber Creek 4.29 269 P Pn 20 27 57.9 +1.1
baz=82,SNR=41
Q17K Contact Creek 4.30 225 P Pn 20 27 57.7 +0.7
baz=41
J26L Joseph Creek 4.30 41 P Pn 20 27 59.0 +2.1
baz=226
N16K Nishlik Lake 4.32 261 P Pn 20 27 58.3 +1.1
baz=74,SNR=21
O16K Kokwok River B 4.35 249 P Pn 20 27 58.3 +0.8
baz=62
H21K Melozitna River 4.42 345 P Pn 20 27 59.9 +1.5
baz=163
H23K Yukon River 4.43 3 P Pn 20 27 59.9 +1.3
baz=183
RKAV Rock Avalanche 4.44 101 Pn 20 27 59.4 +0.5
YUK2 White River 4.45 81 Pn 20 27 59.4 +0.4
R18K Karluk 4.45 212 P Pn 20 27 58.7 -0.2
baz=28
LOGN Logan Glacier 4.46 94 Pn Pn 20 27 59.4 +0.1
LOGN IAML 20 29 14.8
comp=E,3μm,0.8s
LOGN IAML 20 29 24.7
comp=N,3μm,1.0s
L16K Owhat River 4.48 278 IAML 20 29 22.4
comp=E,2μm,1.4s
L16K IAML 20 29 24.8
comp=N,2μm,1.7s
L16K Owhat River 4.48 278 P Pn 20 28 00.3 +1.0
baz=90,SNR=30
BVCY Beaver Creek 4.49 73 Pn 20 28 00.0 +0.5
BVCY Beaver Creek 4.49 73 P Pn 20 28 00.4 +0.9
baz=260,SNR=12
OHAK Old Harbor 4.51 202 Pn Pn 20 27 58.7 -1.1
OHAK IAML 20 29 10.2
comp=E,2μm,1.0s
OHAK IAML 20 29 11.9
comp=N,2μm,0.9s
OHAK Old Harbor 4.51 202 P Pn 20 27 59.0 -0.8
baz=20
OHAK Old Harbor 4.51 202 P Pn 20 28 01.2 +1.4
H22K Ishtalitna Cre 4.52 353 Pn 20 28 01.7 +1.8
H22K Ishtalitna Cre 4.52 353 P Pn 20 28 01.3 +1.4
baz=172
GCSA Galena City Sc 4.53 320 P Pn 20 28 01.5 +1.5
baz=135,SNR=20
H24K Noodor Dome 4.54 12 Pn 20 28 02.1 +1.8
H24K Noodor Dome 4.54 12 IAML 20 29 23.8
comp=E,1μm,1.1s
H24K Noodor Dome 4.54 12 P Pn 20 28 02.3 +2.1
baz=193
P16K Nushagak River 4.60 242 Pn 20 28 02.0 +1.1
P16K Nushagak River 4.60 242 P Pn 20 28 02.5 +1.5
baz=56,SNR=13
PRP Porcupine Dome 4.60 25 Pn Pn 20 28 03.6 +2.5
PRP IAML 20 29 24.7
comp=E,2μm,0.9s
PRP IAML 20 29 39.2
comp=N,2μm,1.0s
PRP Porcupine Dome 4.60 25 P Pn 20 28 03.0 +1.9
baz=208
H20K Anotleneega Mo 4.61 334 P Pn 20 28 02.5 +1.4
baz=150
J17K VABM Dome 4.61 299 Pn Pn 20 28 02.0 +0.9
J17K IAML 20 28 53.5
comp=N,2μm,1.0s
J17K IAML 20 29 37.8
comp=E,2μm,0.9s
J17K VABM Dome 4.61 299 P Pn 20 28 02.1 +0.9
baz=112,SNR=37
YUK3 Moose Creek 4.63 81 P Pn 20 28 02.6 +1.0
baz=269
SAMH Samovar Hills 4.76 102 Pn 20 28 04.2 +0.9
PLK2 Peulik 2 4.83 223 Pn 20 28 05.3 +1.1
IMAR Indian Mountai 4.85 342 Pn Pn 20 28 05.6 +1.2
O28M Mount Upton 4.87 93 P Pn 20 28 05.9 +1.0
baz=281
PLK1 Peulik 1 4.90 225 Pn 20 28 06.1 +1.0
PLK4 Peulik 4 4.95 223 Pn 20 28 06.7 +0.8
PLK4 Peulik 4 4.95 223 IAML 20 29 40.4
comp=E,2μm,1.4s
PLK4 IAML 20 29 41.9
comp=N,2μm,1.6s
R17L Mt. Peulik Vol 4.95 223 P Pn 20 28 06.9 +1.0
baz=38,SNR=52
YUK8 Steele Glacier 4.99 87 Pn 20 28 07.5 +0.9
YUK8 Steele Glacier 4.99 87 P Pn 20 28 07.0 +0.5
baz=275
H19K Roundabout Mou 5.00 328 P Pn 20 28 07.8 +1.4
baz=143
PCA Pinnacle 5.02 101 Pn 20 28 06.8 +0.1
PINM Pinnacle 5.02 101 P Pn 20 28 07.1 +0.2
baz=289,SNR=15
N15K Kwethluk River 5.04 260 IAML 20 29 38.5
comp=E,3μm,0.8s
N15K IAML 20 29 47.7
comp=N,4μm,1.4s
N15K Kwethluk River 5.04 260 P Pn 20 28 08.6 +1.5
baz=72
M15K Kasigluk River 5.18 267 P Pn 20 28 10.1 +1.1
baz=78,SNR=25
H25L Birch Creek 5.22 20 P Pn 20 28 11.1 +1.6
baz=203
J16K Anvik River 5.22 296 P Pn 20 28 10.7 +1.2
baz=107
H18K Honhosa River 5.27 319 P Pn 20 28 11.7 +1.5
baz=132
EGAK Eagle 5.28 47 P Pn 20 28 11.2 +0.9
baz=234
G23K Bananza Creek 5.31 0 P Pn 20 28 12.1 +1.4
baz=180
SII Sitkinak Islan 5.31 205 Pn Pn 20 28 11.4 +0.7
SII Sitkinak Islan 5.31 205 P Pn 20 28 11.7 +1.0
baz=22
SII Sitkinak Islan 5.31 205 P Pn 20 28 13.5 +2.8
O15K Ungalikthiuk R 5.32 249 P Pn 20 28 12.2 +1.3
baz=62,SNR=29
G21K Allakaket 5.33 345 P Pn 20 28 12.4 +1.5
baz=162
BCPM Bancas Point 5.36 101 Pn 20 28 11.5 +0.1
BCPM IAML 20 29 40.5
comp=E,2μm,1.1s
BCPM IAML 20 29 47.3
comp=N,2μm,2.0s
R16K Pilot Point 5.42 228 P Pn 20 28 12.6 +0.4
baz=42
G24K Hadweenzic Riv 5.42 11 P Pn 20 28 14.3 +2.0
baz=193
L15K Ungalak Mounta 5.44 278 P Pn 20 28 13.6 +1.1
baz=88,SNR=25
I17K Unalakleet 5.46 301 P Pn 20 28 14.4 +1.6
baz=113,SNR=156
K15K Wolf Creek Mou 5.47 284 P Pn 20 28 14.3 +1.4
baz=95
YUK4 Talbot Arm 5.52 86 P Pn 20 28 14.7 +0.9
baz=274
G22K Bettles 5.55 354 P Pn 20 28 15.4 +1.4
baz=173
PNL Peninsula 5.58 104 P Pn 20 28 14.5 +0.1
baz=292
PNL Peninsula 5.58 104 P Pn 20 28 15.5 +1.1
FYU Fort Yukon 5.59 20 Pn 20 28 16.6 +2.1
DAWY Dawson 5.60 57 Pn 20 28 16.6 +1.9
DAWY Dawson 5.60 57 P Pn 20 28 15.8 +1.1
baz=246
M29M Somme Creek 5.60 74 Pn 20 28 15.6 +0.8
M29M Somme Creek 5.60 74 P Pn 20 28 15.7 +0.8
baz=264,SNR=14
G25K Bearman Lake 5.65 16 P Pn 20 28 16.3 +1.0
baz=200
G19K Purcell Mounta 5.65 330 P Pn 20 28 16.5 +1.1
baz=144
H17K Granite Mounta 5.66 313 P Pn 20 28 17.2 +1.7
baz=124
I27K Kandik River 5.66 39 P Pn 20 28 16.3 +0.7
baz=226
YUK6 Outpost Mounta 5.71 90 Pn 20 28 17.3 +0.9
YUK6 Outpost Mounta 5.71 90 P Pn 20 28 16.8 +0.3
baz=279,SNR=7.5
O29M Mount Kennedy 5.75 96 P Pn 20 28 17.2 +0.2
baz=286
M14K Bethel 5.78 269 Pn 20 28 18.2 +1.1
M14K Bethel 5.78 269 P Pn 20 28 18.6 +1.4
baz=79,SNR=65
COLD Coldfoot 5.83 360 P Pn 20 28 19.5 +1.7
baz=179,SNR=11
L29M L29M 5.85 68 P Pn 20 28 18.7 +0.5
baz=258
G18K Tagagawik 5.88 323 P Pn 20 28 20.0 +1.5
baz=136
N14K Kuskokwak Cree 5.88 260 P Pn 20 28 19.8 +1.3
baz=71,SNR=48
YUK5 Granite Creek 5.92 87 Pn 20 28 19.9 +0.6
O14K Tigyukauivet M 5.94 253 P Pn 20 28 20.4 +1.1
baz=64
F21K Alatna River 6.00 347 P Pn 20 28 21.9 +1.7
baz=164
L14K Kuka Creek 6.04 275 P Pn 20 28 22.0 +1.4
baz=84,SNR=186
I28M Miner Creek 6.10 44 P Pn 20 28 22.8 +1.2
baz=233
H27K Steamboat Moun 6.14 35 P Pn 20 28 23.6 +1.5
baz=222
HYT Haines Junctio 6.14 90 Pn Pn 20 28 22.7 +0.4
HYT Haines Junctio 6.14 90 P Pn 20 28 23.0 +0.7
baz=280,SNR=12
F20K Avaraart Lake 6.15 339 P Pn 20 28 24.2 +2.0
baz=154
F22K John River 6.17 353 P Pn 20 28 24.6 +2.1
baz=171
F24K Squaw Lake 6.20 8 P Pn 20 28 24.7 +1.9
baz=190
G26K Porcupine Rive 6.20 24 P Pn 20 28 23.4 +0.6
baz=209
J29N Klondike Camp 6.22 56 P Pn 20 28 24.7 +1.4
baz=246
G17K Kiwalik Mounta 6.24 316 P Pn 20 28 25.0 +1.6
baz=126,SNR=14
N30M Aishikik Lake 6.25 84 P Pn 20 28 24.2 +0.5
baz=275
K29M Barlow Dome 6.30 62 P Pn 20 28 24.0 -0.3
baz=252
CHIR Chirikof Islan 6.31 209 Pn 20 28 25.8 +1.4
CHIR Chirikof Islan 6.31 209 P Pn 20 28 25.3 +0.9
baz=25
CHIR Chirikof Islan 6.31 209 P Pn 20 28 27.5 +3.1
P29M Windy Craggy 6.37 101 P Pn 20 28 26.1 +0.8
baz=291
F19K Shaleruckik Mo 6.38 332 Pn 20 28 26.5 +1.3
F19K Shaleruckik Mo 6.38 332 P Pn 20 28 26.3 +1.0
baz=145,SNR=32
H16K Elim 6.38 306 Pn 20 28 26.9 +1.5
H16K Elim 6.38 306 P Pn 20 28 26.7 +1.4
baz=115,SNR=37
M30M Minto, Yukon 6.38 74 P Pn 20 28 26.6 +1.1
baz=265
J14K Nanvaranak Lak 6.45 288 Pn 20 28 27.8 +1.5
J14K Nanvaranak Lak 6.45 288 P Pn 20 28 27.7 +1.5
baz=96,SNR=58
BMAR Burnt Mountain 6.49 19 Pn Pn 20 28 29.1 +2.2
F25K Christian Rive 6.49 15 P Pn 20 28 27.5 +0.6
baz=199
M13K Dall Lake 6.53 267 Pn 20 28 28.8 +1.4
M13K Dall Lake 6.53 267 P Pn 20 28 28.8 +1.4
baz=76,SNR=36
G27K Doyon Strip 6.55 31 P Pn 20 28 29.2 +1.5
baz=218
P30M Million Dollar 6.58 96 P Pn 20 28 28.7 +0.5
baz=287
F18K Selawik 6.67 325 Pn 20 28 30.7 +1.5
F18K Selawik 6.67 325 P Pn 20 28 30.5 +1.2
baz=137,SNR=37
E23K Chandalar 6.67 2 P Pn 20 28 31.4 +2.1
baz=182
CHGN Chignik 6.69 224 Pn 20 28 30.2 +0.5
CHGN Chignik 6.69 224 P Pn 20 28 30.2 +0.5
baz=37,SNR=23
E24K Your Creek 6.72 5 P Pn 20 28 32.1 +2.1
baz=186
G16K Koyuk River 6.78 311 P Pn 20 28 32.9 +2.2
baz=121
E22K Anaktuvuk Pass 6.78 355 P Pn 20 28 32.5 +1.7
baz=173
E19K Redstone River 6.79 336 P Pn 20 28 33.4 +2.4
baz=150
F26K Sheenjek River 6.80 20 P Pn 20 28 33.1 +2.0
baz=205
O30N Mendenhall 6.84 89 P Pn 20 28 31.7 +0.1
baz=281,SNR=8.0
N31M Braeburn, Yuko 6.88 83 P Pn 20 28 32.5 +0.3
baz=275,SNR=6.2
K13K Kusilvak Mount 6.94 281 P Pn 20 28 34.3 +1.3
baz=88,SNR=29
MAYO Mayo, Yukon 6.94 65 P Pn 20 28 34.5 +1.5
baz=258
F17K Baldwin Pennin 7.02 321 P Pn 20 28 36.5 +2.5
baz=131
J30M Hart River 7.03 57 P Pn 20 28 35.8 +1.5
baz=249
H29M Whitestone 7.08 42 P Pn 20 28 36.8 +1.9
baz=232
PLBC Pleasant Camp 7.09 100 P Pn 20 28 35.8 +0.8
baz=292,SNR=22
G15K Niukluk 7.23 306 P Pn 20 28 38.9 +1.9
baz=114
E21K Killik River 7.23 349 P Pn 20 28 39.6 +2.5
baz=165
TOLK Toolik Lake Re 7.25 2 P Pn 20 28 39.2 +1.9
baz=182
I30M Mount Dempster 7.26 52 P Pn 20 28 38.8 +1.2
baz=244
E20K Nigu River 7.33 342 P Pn 20 28 40.9 +2.5
baz=156
WHY Whitehorse 7.44 89 P Pn 20 28 40.6 +0.6
baz=282,SNR=24
M31M Drury Creek, Y 7.49 77 P Pn 20 28 41.6 +1.0
baz=270,SNR=8.3
E18K Tukpahlearik C 7.53 328 P Pn 20 28 43.2 +2.2
baz=138
D22K Ayikyak River 7.57 353 P Pn 20 28 43.4 +1.8
baz=170
SKAG Skagway 7.58 99 P Pn 20 28 41.7 0.0
baz=291,SNR=54
SKAG Skagway 7.58 99 P Pn 20 28 42.2 +0.5
D23K Nanushuk River 7.58 358 P Pn 20 28 43.5 +1.8
baz=178
F28M Old Crow 7.62 31 P Pn 20 28 42.9 +0.6
baz=220,SNR=14
ANM Nome 7.62 301 Pn 20 28 43.8 +1.5
ANM Nome 7.62 301 P Pn 20 28 44.6 +2.3
baz=108,SNR=10
ANM Nome 7.62 301 P Pn 20 28 43.8 +1.5
E17K Hotham Inlet 7.62 323 P Pn 20 28 42.9 +0.6
baz=133,SNR=84
G29M Pine Creek 7.62 39 P Pn 20 28 43.6 +1.3
baz=229
E27K Coleen River 7.70 24 Pn 20 28 43.9 +0.5
E27K Coleen River 7.70 24 P Pn 20 28 44.4 +1.0
baz=212,SNR=12
EPYK Eagle Plains 7.71 44 P Pn 20 28 44.8 +1.3
baz=236
F15K North Star Dit 7.77 310 P Pn 20 28 45.0 +0.7
baz=117
D24K Happy Valley 7.78 3 P Pn 20 28 46.6 +2.0
baz=184
D20K Etivluk River 7.81 342 Pn 20 28 47.1 +2.2
D20K Etivluk River 7.81 342 P Pn 20 28 47.9 +3.0
baz=156,SNR=28
R31K City Hall, Gus 7.83 106 P Pn 20 28 45.6 +0.4
baz=298
S31K Pelican 7.83 110 Pn 20 28 44.3 -0.9
S31K Pelican 7.83 110 P Pn 20 28 45.0 -0.2
baz=302,SNR=7.8
D19K Kuna River 7.86 338 Pn 20 28 47.5 +1.8
D19K Kuna River 7.86 338 P Pn 20 28 46.6 +1.0
baz=151,SNR=12
M11K Mekoryuk 7.91 270 Pn 20 28 47.1 +0.9
M11K Mekoryuk 7.91 270 P Pn 20 28 48.1 +1.9
baz=76,SNR=6.3
FARO Faro, Yukon 7.98 77 Pn 20 28 47.9 +0.6
FARO Faro, Yukon 7.98 77 P Pn 20 28 49.5 +2.2
baz=271,SNR=18
C21K Knifeblade Rid 8.01 348 P Pn 20 28 50.4 +2.8
baz=164
D25K Kavik River 8.08 10 P Pn 20 28 51.2 +2.5
baz=193
BESE Bessie Mountai 8.16 104 Pn 20 28 49.4 -0.4
N32M Quiet Lake 8.21 84 Pn 20 28 50.9 +0.4
N32M Quiet Lake 8.21 84 P Pn 20 28 50.7 +0.3
baz=279
G30M tAoh Zraii Nji 8.22 41 P Pn 20 28 52.4 +1.8
baz=233
H31M Peel River 8.28 51 P Pn 20 28 52.9 +1.5
baz=245
CHNA Chernabura Isl 8.29 221 P Pn 20 28 52.6 +1.1
baz=34
CHNA Chernabura Isl 8.29 221 P Pn 20 28 55.4 +4.0
P32M Atlin 8.30 96 Pn 20 28 51.3 -0.4
P32M Atlin 8.30 96 P Pn 20 28 52.5 +0.8
baz=289,SNR=23
F14K Arctic Creek 8.31 306 P Pn 20 28 53.7 +2.0
baz=112
C24K Franklin Bluff 8.35 3 P Pn 20 28 54.1 +1.8
baz=184
D17K Noatak River 8.40 324 Pn 20 28 54.7 +1.8
D17K Noatak River 8.40 324 P Pn 20 28 55.2 +2.3
baz=133,SNR=12
B21K Ikpikpuk River 8.44 349 Pn 20 28 54.9 +1.5
B21K Ikpikpuk River 8.44 349 P Pn 20 28 55.4 +1.9
baz=165
C23K Itkillik River 8.45 359 Pn 20 28 56.4 +2.7
C23K Itkillik River 8.45 359 P Pn 20 28 55.7 +2.1
baz=178,SNR=16
R32K Eaglecrest 8.46 105 P Pn 20 28 54.3 +0.5
baz=298,SNR=13
S12K Black Hills 8.46 233 P Pn 20 28 54.9 +0.9
baz=43
E28M Babbage River 8.47 27 Pn Pn 20 28 55.8 +1.8
E28M Babbage River 8.47 27 P Pn 20 28 55.4 +1.4
baz=216
JIS Juneau Island 8.52 105 P Pn 20 28 54.8 +0.1
P33M Teslin, Yukon 8.54 91 Pn 20 28 54.5 -0.6
P33M Teslin, Yukon 8.54 91 P Pn 20 28 55.1 +0.1
baz=285,SNR=12
RDOG Red Dog Mine 8.59 326 P Pn 20 28 58.4 +2.8
baz=135,SNR=26
C18K Utukok River 8.62 332 P Pn 20 28 58.1 +2.1
baz=142
C27K Jago River 8.65 15 P Pn 20 28 58.3 +1.9
baz=201
C19K Lookout Ridge 8.66 337 Pn 20 28 57.7 +1.1
C19K Lookout Ridge 8.66 337 P Pn 20 28 58.1 +1.5
baz=148,SNR=11
E29M Blow River 8.69 31 Pn Pn 20 28 57.9 +0.9
E29M Blow River 8.69 31 P Pn 20 28 58.8 +1.8
baz=222
D27M Malcolm River 8.72 22 P Pn 20 28 58.8 +1.4
baz=210
F30M Barrier River 8.74 39 P Pn 20 28 59.6 +2.0
baz=231
SIT Sitka 8.75 113 P Pn 20 28 58.2 +0.4
baz=306
SIT Sitka 8.75 113 P Pn 20 28 57.0 -0.8
C26K Camden Bay 8.79 12 Pn 20 28 59.0 +0.7
C26K Camden Bay 8.79 12 P Pn 20 29 00.7 +2.4
baz=196,SNR=25
G31M Satah River 8.83 45 P Pn 20 29 00.4 +1.6
baz=238
S32K Killisnoo 8.85 110 P Pn 20 28 59.2 +0.1
baz=303,SNR=16
TNA Tin City 8.96 305 Pn 20 29 02.4 +1.8
TNA Tin City 8.96 305 P Pn 20 29 02.8 +2.2
baz=110,SNR=15
C17K DeLong Mountai 8.96 328 P Pn 20 29 02.7 +2.0
baz=136
B22K Teshekpuk Lake 9.06 353 P Pn 20 29 03.4 +1.5
baz=170
B20K Meade River 9.09 345 P Pn 20 29 04.0 +1.7

baz=158
Q32M Nakina River 9.22 98 P Pn 20 29 04.8 +0.3
baz=293
D28M Stokes Point 9.23 26 P Pn 20 29 05.8 +1.5
baz=216,SNR=26
F31M Tsiigehtchic 9.28 42 Pn Pn 20 29 04.7 -0.3
F31M Tsiigehtchic 9.28 42 P Pn 20 29 06.4 +1.4
baz=237,SNR=18
B18K Kokolik River 9.32 334 P Pn 20 29 07.8 +2.3
baz=143,SNR=22
C16K Lisburne Hills 9.42 323 P Pn 20 29 09.5 +2.6
baz=130
FALS False Pass 9.62 233 P Pn 20 29 11.2 +1.6
baz=42
R33M Jennings River 9.69 94 P Pn 20 29 11.8 +1.1
baz=290
A22K Sinclair Lake 9.81 351 P Pn 20 29 13.1 +0.8
baz=166
INK Inuvik 9.84 38 P Pn 20 29 13.5 +0.8
comp=N,9.1nm,0.5s,baz=225,slow=9.9,SNR=16
INK S Sn 20 31 06.3 +4.8
comp=N,80nm,0.8s,baz=301,slow=14,SNR=5.1
INK Inuvik 9.84 38 P Pn 20 29 13.5 +0.8
baz=233,SNR=19
GAMB Gambell 10.21 293 P Pn 20 29 19.6 +2.0
baz=94
S34M Telegraph Cree 10.22 102 P Pn 20 29 18.4 +0.5
baz=298,SNR=33
A21K Barrow 10.27 348 P Pn 20 29 19.2 +0.8
baz=162
U33K Whale Pass 10.29 114 P Pn 20 29 19.4 +0.6
baz=308
TGTN Hyland Airport 10.44 80 P Pn 20 29 22.0 +1.0
baz=279,SNR=8.6
WRAK Wrangell Islan 10.45 111 P Pn 20 29 21.9 +0.9
baz=306
WTLY Watson Lake, Y 10.50 88 P Pn 20 29 21.8 0.0
baz=286
DLBC Dease Lake 10.51 98 Pn Pn 20 29 21.1 -0.8
DLBC Dease Lake 10.51 98 P Pn 20 29 22.1 +0.2
comp=N,26nm,0.9s,baz=288,slow=11,SNR=24
DLBC Dease Lake 10.51 98 P Pn 20 29 22.3 +0.4
baz=295,SNR=25
CRAG Craig 10.70 116 Pn 20 29 24.5 +0.1
CRAG Craig 10.70 116 P Pn 20 29 25.0 +0.6
baz=311
CRAG Craig 10.70 116 P Pn 20 29 25.1 +0.6
P08K Saint George I 11.10 253 P Pn 20 29 30.9 +1.0
baz=56
T35M Bob Quinn 11.10 105 P Pn 20 29 30.6 +0.7
baz=302,SNR=20
SPIA Saint Paul Isl 11.11 256 P Pn 20 29 30.9 +0.9
baz=59
SPIA Saint Paul Isl 11.11 256 P Pn 20 29 34.7 +4.6
V35K Ketchikan 11.45 114 Pn 20 29 34.0 -0.6
V35K Ketchikan 11.45 114 P Pn 20 29 35.1 +0.5
baz=310
UNV Unalaska Valle 11.58 236 P Pn 20 29 37.7 +1.2
baz=43
UNV Unalaska Valle 11.58 236 P Pn 20 29 39.5 +3.1
LIRD Liard River Hi 12.02 89 P Pn 20 29 43.1 +0.7
baz=290,SNR=20
WRGLY Wrigley 12.49 70 Pn 20 29 50.5 +1.7
WRGLY Wrigley 12.49 70 P Pn 20 29 50.5 +1.7
baz=273
DIB Dawson Inlet, 12.56 123 Pn 20 29 49.8 0.0
TOAD Toad River Com 12.64 91 P Pn 20 29 53.5 +2.6
baz=292,SNR=92
RUBB Prince Rupert 12.70 115 Pn 20 29 52.0 +0.3
KOTAN Kotaneelee Air 12.77 84 P Pn 20 29 54.5 +1.8
baz=287,SNR=50
NIKH Nikolski High 13.17 238 P Pn 20 30 00.1 +1.9
baz=43
C36M Paulatuk 13.34 42 Pn Pn 20 29 57.2 -3.1
C36M Paulatuk 13.34 42 P Pn 20 29 58.0 -2.4
baz=246,SNR=36
A36M Sachs Harbour 14.30 32 P Pn 20 30 13.5 +0.1
baz=235,SNR=7.1
BBB Bella Bella 15.12 118 P P 20 30 27.1 -1.3
comp=N,38nm,1.0s,baz=311,slow=11,SNR=10
ATKA Atka Island 16.00 246 P P 20 30 39.3 +1.1
YKA Yellowknife Ar 16.61 71 Pn 20 30 41.9 -1.2
YKA Yellowknife Ar 16.61 71 P Pn 20 30 41.7 -1.4
comp=N,19nm,0.7s,baz=287,slow=10,SNR=52
YKA Yellowknife Ar 16.61 71 *ce*P Pn 20 30 43.4 +0.3
YKA pmax pmax
comp=Z,19nm,0.7s
ADK Adak 17.32 249 P 20 30 53.3 +0.5
ADK Adak 17.32 249 P P 20 30 53.3 +0.5
ADK pmax pmax
comp=Z,36nm,0.9s
CLRS Cowichan Lake 19.33 119 P Pn 20 31 16.0 -0.3
BILL Bilibino 19.37 309 P P 20 31 14.9 -0.3
BILL Bilibino 19.37 309 *i* P P 20 31 14.9 -0.3
NLWA Neilton Lookou 20.55 121 P P 20 31 28.8 +0.6
GNW Green Mountain 20.85 119 P P 20 31 31.4 0.0
D05A Enumclaw 21.50 119 IAmb IAmb 20 31 44.1
comp=Z,128nm,1.0s
LTY Liberty 22.01 117 P P 20 31 44.4 +0.5
F04A Amboy 22.32 121 P P 20 31 48.5 +1.4
F04A IAmb IAmb 20 31 51.3
comp=Z,150nm,1.1s
G03D McMinnville, O 22.57 124 P P 20 31 51.0 +1.2
G03D IAmb IAmb 20 31 54.0
comp=Z,120nm,1.1s
MXC Moxie City 22.70 117 IAmb IAmb 20 32 07.5
comp=Z,72nm,1.0s
NEW Newport 22.81 110 P P 20 31 53.1 +0.8
NEW Newport 22.81 110 P P 20 31 53.2 +0.8
NEW pmax pmax
comp=Z,64nm,1.1s
D08A Wollman Farm, 22.92 115 P P 20 31 54.0 +0.5
HOOD Mount Hood Mea 23.13 121 IAmb IAmb 20 31 58.9
comp=Z,201nm,1.2s
G05A Wamic 23.34 121 P P 20 31 58.6 +1.0
G05A IAmb IAmb 20 32 05.8
comp=Z,66nm,0.9s
RES Resolute Bay 23.34 33 P P 20 31 56.6 -0.8
RES Resolute Bay 23.34 33 P P 20 31 56.6 -0.8
RES pmax pmax
comp=Z,107nm,1.9s
F07A Phinny Hill Vi 23.39 118 IAmb IAmb 20 32 01.1
comp=Z,62nm,0.8s
H04A Detroit Lake 23.44 123 IAmb IAmb 20 32 01.6
comp=Z,151nm,1.5s
I05D Terrebonne, OR 24.06 122 P P 20 32 05.8 +1.3
I05D IAmb IAmb 20 32 07.4
comp=Z,60nm,0.8s
I04A Tendick Farm, 24.09 124 IAmb IAmb 20 32 09.3
comp=Z,120nm,1.4s
G08A Pilot Rock 24.29 117 P P 20 32 06.7 +0.1
DBO Dodson Butte 24.33 127 IAmb IAmb 20 32 10.7
comp=Z,63nm,1.1s
J04A Umpqua Nationa 24.67 125 IAmb IAmb 20 32 13.5
comp=Z,91nm,0.9s
J04A PcP 20 35 45.8 -0.3
PINE Pine Mountain 24.68 122 IAmb IAmb 20 32 14.2
comp=Z,112nm,1.1s
J05D Fort Rock, OR 24.98 123 P P 20 32 14.0 +1.1
J05D IAmb IAmb 20 32 16.4
comp=Z,80nm,1.1s
J05D PcP PcP 20 35 47.1 +0.4
K04D Chiloquin, OR 25.33 125 IAmb IAmb 20 32 39.4
comp=Z,108nm,1.1s
L04D Klamath Falls 25.46 126 IAmb IAmb 20 32 20.5
comp=Z,79nm,1.2s
OVMT Ovando 25.58 107 P P 20 32 18.5 +0.2
FFC Flin Flon 25.80 83 P P 20 32 20.1 +0.1
FFC Flin Flon 25.80 83 P P 20 32 20.1 +0.1
FFC pmax pmax
comp=Z,50nm,1.3s
SEY Seymchan 26.12 299 *e*P P 20 32 25.7 +2.9
SEY pmax pmax
comp=Z,25nm,1.3s
EGMT Eagleton 26.39 102 P P 20 32 25.9 +0.4
EGMT IAmb IAmb 20 32 27.4
comp=Z,111nm,0.9s
KMRM Mail Ridge 26.66 131 IAmb IAmb 20 32 31.8
comp=Z,72nm,0.8s
HATC Hat Creek Radi 26.98 127 IAmb IAmb 20 33 08.7
comp=Z,47nm,1.0s
MFID Camas Ranch 27.14 116 P P 20 32 33.1 +0.8
KCPM Cahto Peak 27.17 131 IAmb IAmb 20 32 35.6
comp=Z,51nm,0.8s
FCC Fort Churchill 27.34 70 P P 20 32 33.9 +0.1
FCC IAmb IAmb 20 32 35.7
comp=Z,42nm,0.9s
FCC Fort Churchill 27.34 70 P P 20 32 33.9 +0.1
FCC pmax pmax
comp=Z,42nm,0.9s
YHL Hebgen Lake 28.08 108 IAmb IAmb 20 32 43.8
comp=Z,102nm,1.7s
YMR Madison River 28.32 108 P P 20 32 44.2 +1.2
YMR IAmb IAmb 20 32 45.9
comp=Z,41nm,0.8s
YNE Yellowstone No 28.50 107 P P 20 32 45.8 +1.2
PETK Petropavlovsk- 28.68 277 P P 20 32 46.0 +0.1
comp=Z,4.1nm,0.7s,baz=66,slow=15,SNR=9.7
comp=Z,4.1nm,0.7s
H17A Grant Village 28.70 108 P P 20 32 48.1 +1.7
RLMT Red Lodge 28.75 106 IAmb IAmb 20 32 50.5
comp=Z,70nm,0.9s
AFDM Forest Hills D 28.79 128 IAmb IAmb 20 32 49.8
comp=Z,75nm,1.8s
AFDM PcP 20 35 56.0 +0.4
FLWY Flagg Ranch 28.89 109 P P 20 32 49.7 +1.6
FLWY IAmb IAmb 20 32 53.7
comp=Z,88nm,1.8s
LAO LASA Array 29.02 100 IAmb IAmb 20 32 51.8
comp=Z,115nm,1.3s
EMB Emerald Bay 29.10 127 IAmb IAmb 20 32 52.8
comp=Z,74nm,1.4s
TPAW Teton Pass 29.24 110 P P 20 32 52.8 +1.6
TPAW IAmb IAmb 20 32 54.4
comp=Z,48nm,0.9s
LOHW Long Hollow 29.30 109 IAmb IAmb 20 32 55.1
comp=Z,75nm,1.6s
SNOW Snow King Moun 29.35 110 IAmb IAmb 20 32 55.5
comp=Z,39nm,1.0s
ELK Elko 29.57 118 P P 20 32 55.8 +1.6
ELK IAmb IAmb 20 32 57.4
comp=Z,39nm,0.9s
ELK Elko 29.57 118 P P 20 32 55.8 +1.6
ELK pmax pmax
comp=Z,39nm,0.9s
WAKR Walker 29.77 126 IAmb IAmb 20 32 59.1
comp=Z,50nm,1.3s
HVU Hansel Valley 29.79 114 IAmb IAmb 20 32 59.2
comp=Z,50nm,1.1s
KVN Kaiserville 29.82 124 IAmb IAmb 20 32 59.6
comp=Z,37nm,1.1s
RYN Ryan 30.02 125 P P 20 32 59.2 +1.2
NVAR Mina Array Bea 30.27 125 P P 20 33 01.6 +1.2
NVAR PcP 20 36 00.2 +0.6
NVAR Mina Array Bea 30.27 125 P P 20 33 02.5 +2.1
comp=Z,21nm,0.8s,baz=310,slow=9.0,SNR=89
NVAR PcP PcP 20 36 00.7 +1.0
comp=Z,8.3nm,0.6s,baz=296,slow=2.4,SNR=15
comp=Z,21nm,0.8s
SPUT South Promonto 30.31 114 IAmb IAmb 20 33 03.7
comp=Z,55nm,1.2s
NV11 Mina Array Sit 30.33 125 IAmb IAmb 20 33 04.1
comp=Z,54nm,1.1s
LHV Little Huntoon 30.35 125 P P 20 33 03.5 +2.8
LHV Little Huntoon 30.35 125 IAmb IAmb 20 33 04.3
comp=Z,50nm,1.1s
PDAR Pinedale Array 30.44 109 P P 20 33 02.6 +0.8
PDAR Pinedale Array 30.44 109 P P 20 33 03.1 +1.4
comp=Z,8.2nm,0.6s,baz=321,slow=5.0,SNR=66
PDAR PcP PcP 20 35 60.0 -0.1
comp=Z,2.3nm,0.6s,baz=134,slow=1.5,SNR=8.9
comp=Z,8.2nm,0.6s
TCUT Toone Canyon 30.92 113 IAmb IAmb 20 33 09.1
comp=Z,51nm,1.0s
CTU Camp Tracy 31.12 114 IAmb IAmb 20 33 10.3
comp=Z,36nm,1.1s
Q12A Willow Creek R 31.17 120 P P 20 33 10.6 +2.5
Q12A Willow Creek R 31.17 120 IAmb IAmb 20 33 11.4
comp=Z,43nm,0.9s
TIXI Tiksi 31.19 323 P P 20 33 08.6 +0.8
TIXI Tiksi 31.19 323 P P 20 33 08.6 +0.8
TIXI pmax pmax
comp=Z,7.0nm,0.8s
DSP Deep Springs 31.32 125 P P 20 33 12.4 +3.1
DSP Deep Springs 31.32 125 IAmb IAmb 20 33 13.2
comp=Z,37nm,1.1s
SPR3 Spring Creek 3 31.41 119 P P 20 33 11.6 +1.1
R11B Troy Canyon, C 31.44 121 IAmb IAmb 20 33 13.4
comp=Z,38nm,1.0s
R11B PcP PcP 20 36 03.4 +0.6
R11B Troy Canyon, C 31.44 121 P P 20 33 12.4 +1.8
baz=328,SNR=46
ULM Lac du Bonnet 31.50 86 PcP PcP 20 36 01.8 -0.7
ULM Lac du Bonnet 31.50 86 P P 20 33 11.7 +0.9
comp=Z,91nm,0.9s,baz=308,slow=8.7,SNR=113
ULM PcP PcP 20 36 02.2 -0.2
comp=Z,22nm,0.7s,baz=300,slow=3.5,SNR=11
comp=Z,91nm,0.9s
LCH Last Change Ra 31.57 125 P P 20 33 14.0 +2.3
GMN Gold Mountain 31.66 124 P P 20 33 14.1 +1.5
GMN PcP 20 36 04.4 +1.0
BSUT Blindstream Ca 31.68 113 IAmb IAmb 20 33 15.9
comp=Z,51nm,1.0s
K22A Casper 31.92 106 IAmb IAmb 20 33 16.9
comp=Z,35nm,0.9s
RSSD Black Hills 31.95 101 P P 20 33 15.7 +0.6
RSSD IAmb IAmb 20 33 17.6
comp=Z,99nm,1.5s
RSSD Black Hills 31.95 101 P P 20 33 15.7 +0.6
RSSD pmax pmax
comp=Z,99nm,1.5s
RSSD Black Hills 31.95 101 P P 20 33 16.5 +1.4
RSSD PcP PcP 20 36 04.3 +0.2
S11A Rachel 31.98 122 P P 20 33 16.6 +1.3
S11A IAmb IAmb 20 33 20.4
comp=Z,55nm,0.8s
PSUT Pine Spring 32.00 119 IAmb IAmb 20 33 18.6
comp=Z,30nm,1.1s
RDMU Red Mountain 32.18 112 IAmb IAmb 20 33 20.5
comp=Z,69nm,1.2s
WCT Wildcat Mounta 32.35 124 P P 20 33 19.3 +0.8
WCT IAmb IAmb 20 33 21.7
comp=Z,26nm,1.0s
WCT PcP 20 36 05.6 +0.5
TPNV Topopah Spring 32.37 123 IAmb IAmb 20 33 22.7
comp=Z,29nm,1.1s
PRN Pahroc Range 32.46 122 IAmb IAmb 20 33 23.4
comp=Z,23nm,0.9s
PRN PcP PcP 20 36 06.6 +1.1
TMUT Trail Mountain 32.50 115 PcP 20 36 05.7 -0.1
TCRU Three Creeks R 32.54 117 IAmb IAmb 20 33 23.6
comp=Z,30nm,0.9s
ISA Isabella, Lake 32.62 128 IAmb IAmb 20 33 23.5
comp=Z,34nm,0.9s
MVU Marysvale 32.73 117 P P 20 33 23.1 +1.1
MVU PcP 20 36 07.0 +0.7
MSU Marysvale 32.73 117 P P 20 33 23.4 +1.4
MSU PcP 20 36 07.7 +1.3
MSU Marysvale 32.73 117 P P 20 33 23.4 +1.4
Q16A Castle Valley 32.83 115 IAmb IAmb 20 33 26.0
comp=Z,74nm,1.2s
SRU San Rafael Swe 32.95 114 P P 20 33 24.7 +0.8
SRU IAmb IAmb 20 33 26.8
comp=Z,60nm,1.0s
SRU San Rafael Swe 32.95 114 P P 20 33 24.7 +0.8
SRU pmax pmax
comp=Z,60nm,1.0s
NEEM North Greenlan 32.96 23 *i* P P 20 33 24.1 +0.4
NEEM IAmb IAmb 20 33 25.1
comp=Z,46nm,0.7s
KULLO Kullorsuaq 33.03 29 *i* P P 20 33 25.1 +1.1
MTPU Mount Pierson 33.12 117 IAmb IAmb 20 33 29.2
comp=Z,85nm,1.9s
O20A White River Ci 33.13 111 P P 20 33 26.4 +1.0
O20A IAmb IAmb 20 33 27.8
comp=Z,32nm,1.0s
LCMT Little Creek M 33.55 120 P P 20 33 30.5 +1.5
LCMT IAmb IAmb 20 33 32.2
comp=Z,40nm,1.0s
LCMT PcP 20 36 08.9 +0.4
N23A Red Feather La 33.57 107 P P 20 33 29.6 +0.3
baz=323,SNR=6.6
PKCU Pink Cliffs 33.57 118 IAmb IAmb 20 33 33.1
comp=Z,65nm,1.5s
GSC Goldstone, Bar 33.58 126 IAmb IAmb 20 33 32.5
comp=Z,62nm,1.1s
V12A Nelson 33.99 123 IAmb IAmb 20 33 36.4
comp=Z,53nm,1.1s
PASC Pasadena Art C 34.05 128 IAmb IAmb 20 33 36.1
comp=Z,35nm,0.9s
F33A 5 Mile Ranch, 34.38 92 PcP 20 36 11.1 +0.5
W13A Hualapai Mount 34.93 122 IAmb IAmb 20 33 44.3
comp=Z,36nm,1.2s
K30B Basset 35.15 99 P P 20 33 43.2 +0.5
PFO Pinyon Flats O 35.21 127 *i* P P 20 33 44.5 +1.2
PFO pmax pmax
comp=Z,62nm,1.0s
PFO Pinyon Flats O 35.21 127 P P 20 33 44.9 +1.6
PFO PcP PcP 20 36 14.1 +0.8
OGNE Ogallala 35.34 103 IAmb IAmb 20 33 47.2
comp=Z,40nm,1.1s
Q24A Divide 35.48 108 P P 20 33 47.5 +1.7
baz=324,SNR=10
WUAZ Wupatki 35.61 119 P P 20 33 48.4 +1.6
S22A 4UR Ranch, Cre 35.72 111 P P 20 33 49.7 +1.8
baz=326
YAK Yakutsk 35.72 307 P P 20 33 46.2 -1.1
YAK IAmb IAmb 20 33 51.3
comp=Z,38nm,0.8s
YAK Yakutsk 35.72 307 *e*P P 20 33 46.2 -1.1
YAK *e**PP pP 20 33 58.3 -2.0
YAK *e* 20 35 06.6
YAK *e* 20 36 13.2
YAK *e*S S 20 39 19.8 -0.4
YAK *e**SS sS 20 39 41.4 -0.7
YAK *e*SS SnSn 20 41 44.9 -0.3
YAK pmax pmax
comp=Z,29nm,0.6s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,294nm,4.4s
YAK pmax pmax
comp=N,286nm,4.4s
YAK pmax pmax
comp=E,302nm,4.0s
YAK smax smax
comp=E,185nm,3.5s
YAK smax smax
comp=N,75nm,2.5s
ECSD EROS Data Cent 35.78 95 IAmb IAmb 20 33 49.5
comp=Z,34nm,1.1s
BLYC Blythe 35.84 124 IAmb IAmb 20 33 51.8
comp=Z,46nm,0.9s
E38A The Farm, Brul 36.10 87 IAmb IAmb 20 33 52.2
comp=Z,70nm,1.2s
Y14A Wickenburg 36.29 122 P P 20 33 53.4 +0.9
Y14A IAmb IAmb 20 33 55.9
comp=Z,41nm,1.3s
UMMG Uummannaq 36.44 34 *i* P P 20 33 54.3 +1.0
X16A Lo Mia Camp, P 36.52 120 IAmb IAmb 20 33 57.9
comp=Z,19nm,0.8s
KSCO Kaye Shedlock' 36.60 106 IAmb IAmb 20 33 57.7
comp=Z,31nm,0.9s
ESJX Sierra Juarez 36.83 127 IAmb IAmb 20 34 00.3
comp=Z,39nm,1.1s
113A Mohawk Valley, 37.01 124 IAmb IAmb 20 34 01.4
comp=Z,29nm,1.1s
X18A Snowflake 37.05 118 P P 20 34 00.3 +1.1
X18A IAmb IAmb 20 34 02.3
comp=Z,36nm,1.0s
L34A Svendsen Farm, 37.23 96 IAmb IAmb 20 34 01.5
comp=Z,41nm,0.9s
T25A Trinidad 37.31 109 PcP 20 36 20.1 +0.5
T25A Trinidad 37.31 109 P P 20 34 03.2 +1.9
baz=325,SNR=6.5
G40A Rib Lake 37.72 87 IAmb IAmb 20 34 06.2
comp=Z,38nm,0.7s
CBKS Cedar Bluff 38.11 103 IAmb IAmb 20 34 10.2
comp=Z,58nm,1.1s
ANMO Albuquerque 38.21 114 P P 20 34 09.6 +0.6
ANMO Albuquerque 38.21 114 *ce*P P 20 34 10.7 +1.7
ANMO pmax pmax
comp=Z,9.0nm,1.3s
ANMO Albuquerque 38.21 114 P P 20 34 10.4 +1.5
ANMO PcP PcP 20 36 23.5 +1.0
F42A Maple Grove Fa 38.35 85 IAmb IAmb 20 34 12.1
comp=Z,69nm,1.0s
SUMG Summit 38.50 27 IAmb IAmb 20 34 12.6
comp=Z,30nm,0.7s
SUMG Summit 38.50 27 *i* P P 20 34 12.0 +0.8
I40A Norwalk 38.54 89 IAmb IAmb 20 34 13.3
comp=Z,39nm,0.9s
TUC Tucson 38.62 121 P P 20 34 13.6 +1.3
TUC IAmb IAmb 20 34 15.6
comp=Z,50nm,1.6s
TUC Tucson 38.62 121 P P 20 34 13.6 +1.3
TUC pmax pmax
comp=Z,50nm,1.6s
RTBA Rita Blanca 38.64 108 IAmb IAmb 20 34 15.0
comp=Z,40nm,1.3s
DAG Danmarks Havn 38.75 16 *i* P P 20 34 12.0 -0.7
DAG IAmb IAmb 20 34 14.4
comp=Z,17nm,0.9s
Y22D IRIS PASSCAL I 38.75 115 P P 20 34 15.3 +1.9
baz=328
SCIA State Center 38.79 93 IAmb IAmb 20 34 15.3
comp=Z,98nm,1.4s
DUN6 Lazy B Ranch 39.12 119 IAmb IAmb 20 34 19.2
comp=Z,41nm,0.8s
SFJD Kangerlussuaq 39.19 38 P P 20 34 16.6 +0.1
SFJD IAmb IAmb 20 34 18.9
comp=Z,70nm,0.9s
SFJD Kangerlussuaq 39.19 38 P P 20 34 16.6 +0.1
SFJD pmax pmax
comp=Z,69nm,1.0s
SFJD Kangerlussuaq 39.19 38 *i* P P 20 34 17.1 +0.6
SFJD IAmb IAmb 20 34 18.9
comp=Z,41nm,0.8s
SFJD Kangerlussuaq 39.19 38 P P 20 34 17.8 +1.2
SFJD pP pP 20 34 30.0 +0.3
SFJD PcP PcP 20 36 24.1 -0.6
I42A Draeger Farm, 39.36 88 IAmb IAmb 20 34 20.1
comp=Z,31nm,1.0s
H43A Windswept, Lux 39.48 86 IAmb IAmb 20 34 21.0
comp=Z,62nm,0.9s
121A Cookes Peak, D 39.69 117 P P 20 34 23.5 +2.1
baz=330,SNR=11
E46A Sault Ste Mari 39.74 81 IAmb IAmb 20 34 22.9
comp=Z,47nm,0.8s
YSS Yuzh-Sakhalins 39.93 280 *i* P P 20 34 25.5 +2.6
YSS pmax pmax
comp=Z,4.0nm,0.3s
GRNR Gornyy 40.16 289 ⇑ *i* P P 20 34 24.8 0.0
GRNR pmax pmax
comp=Z,3.0nm,0.8s
GRNR MLR MLR
comp=E,710nm,23.0s
GRNR MLR MLR
comp=N,740nm,22.0s
GRNR MLR MLR
comp=Z,1μm,21.0s
NOKA Waynoka 40.24 104 IAmb IAmb 20 34 27.5
comp=Z,71nm,1.2s
KAN01 Argonia South 40.37 102 P P 20 34 27.0 +0.3
KAN01 IAmb IAmb 20 34 28.3
comp=Z,73nm,1.1s
SPITS Spitsbergen Ar 40.40 4 P P 20 34 26.3 -0.2
comp=Z,13nm,0.6s,baz=18,slow=6.3,SNR=17
comp=Z,13nm,0.6s
KS20 Mayfield South 40.41 102 IAmb IAmb 20 34 28.5
comp=Z,46nm,0.9s
P38A Dawn 40.41 96 IAmb IAmb 20 34 28.2
comp=Z,34nm,0.9s
AMTX Amarillo 40.41 108 IAmb IAmb 20 34 29.7
comp=Z,55nm,1.4s
L42A Oliver, Polo 40.42 90 IAmb IAmb 20 34 28.1
comp=Z,57nm,1.0s
KAN09 Caldwell North 40.45 102 P P 20 34 27.7 +0.3
KAN09 IAmb IAmb 20 34 29.0
comp=Z,74nm,1.1s
KAN17 Caldwell West 40.46 102 IAmb IAmb 20 34 29.0
comp=Z,68nm,1.0s
ELIS Ellis County 40.48 105 IAmb IAmb 20 34 30.0
comp=Z,124nm,1.8s
K43A Burlington 40.53 88 IAmb IAmb 20 34 29.2
comp=Z,52nm,0.7s
DBG Daneborg 40.56 19 *i* P P 20 34 27.7 -0.1
MSTX Muleshoe 40.68 110 P P 20 34 29.9 +0.5
MSTX IAmb IAmb 20 34 31.7
comp=Z,90nm,1.3s
NUUK Nuuk 40.75 42 *i* P P 20 34 30.6 +1.1
DY2G Dye2 40.81 37 *i* P P 20 34 30.3 0.0
DY2G IAmb IAmb 20 34 32.1
comp=Z,14nm,0.7s
N41A Harden Midland 40.85 92 IAmb IAmb 20 34 31.7

comp=Z,82nm,1.5s
BLOK Blackwell 40.94 102 IAmb IAmb 20 34 33.0
comp=Z,94nm,1.1s
L44A Lake County Fo 41.13 88 IAmb IAmb 20 34 34.4
comp=Z,84nm,1.1s
L44A Lake County Fo 41.13 88 P **P** **20 34 33.5 +0.6**
baz=320
T35A Sooner Cattle 41.15 101 P **P** **20 34 33.0 -0.2**
T35A IAmb IAmb 20 34 34.5
comp=Z,67nm,0.9s
P40A Paris 41.19 95 IAmb IAmb 20 34 34.4
comp=Z,27nm,0.7s
OK051 E0350 and S346 41.33 102 IAmb IAmb 20 34 36.0
comp=Z,61nm,1.0s
SCHQ Schefferville 41.61 60 P **P** **20 34 37.0 +0.3**
comp=Z,14nm,0.8s,baz=312,slow=7.9,SNR=12
comp=Z,14nm,0.8s
QUOK Quay 41.66 102 P **P** **20 34 37.4 +0.1**
M44A Midewin, Midew 41.68 89 IAmb IAmb 20 34 38.7
comp=Z,52nm,0.8s
VLDQ Val d'Or 41.69 74 IAmb IAmb 20 34 37.1
comp=Z,114nm,1.7s
OK052 Battle Ridge R 41.76 102 IAmb IAmb 20 34 39.3
comp=Z,43nm,1.0s
OK031 S. Brethren Rd 41.77 103 IAmb IAmb 20 34 39.5
comp=Z,62nm,1.1s
J47A Sunmer 41.81 85 IAmb IAmb 20 34 40.3
comp=Z,80nm,1.5s
WMOK Wichita Mounta 41.87 105 IAmb IAmb 20 34 40.9
comp=Z,48nm,1.2s
POST Post 42.01 110 IAmb IAmb 20 35 01.5
comp=Z,47nm,0.9s
DEOK Depew 42.02 102 IAmb IAmb 20 34 41.5
comp=Z,51nm,1.1s
L46A Eue Claire 42.04 87 IAmb IAmb 20 34 41.8
comp=Z,53nm,0.6s
R40A Maddies Statio 42.06 96 IAmb IAmb 20 34 41.3
comp=Z,44nm,1.1s
FNO Franklin 42.08 104 **P** **20 34 40.7 -0.1**
FNO IAmb IAmb 20 34 42.3
comp=Z,61nm,1.0s
ZEA Zeya 42.10 299 *e*P **P** **20 34 43.2 +2.5**
ZEA pmax pmax
comp=Z,10.0nm,1.1s
TUL3 Leonard 42.30 102 IAmb IAmb 20 34 43.8
comp=Z,37nm,0.9s
P43A Skaggs, Pawnee 42.32 92 IAmb IAmb 20 34 43.5
comp=Z,29nm,0.7s
VHRN Van Horn 42.40 115 IAmb IAmb 20 34 46.8
comp=Z,44nm,0.9s
W35A Tecumseh 42.41 103 **P** **20 34 43.5 +0.1**
W35A IAmb IAmb 20 34 44.8
comp=Z,56nm,1.0s
RLO Rose Lookout 42.46 101 IAmb IAmb 20 34 44.8
comp=Z,60nm,0.9s
U38A Gravette 42.54 100 IAmb IAmb 20 34 45.0
comp=Z,49nm,0.8s
CCM Cathedral Cave 42.74 95 P **P** **20 34 45.5 -0.6**
CCM Cathedral Cave 42.74 95 P **P** **20 34 45.5 -0.6**
CCM pmax pmax
comp=Z,20nm,0.9s
CCM Cathedral Cave 42.74 95 P **P** **20 34 45.5 -0.6**
CCM sP **sP** **20 35 03.6 -1.6**
CCM PcP **PcP** **20 36 36.6 -0.2**
SFIN Lafayette 42.91 89 IAmb IAmb 20 34 48.7
comp=Z,43nm,0.7s
MGMO Mountain Grove 42.97 97 IAmb IAmb 20 34 48.4
comp=Z,53nm,1.0s
Q44A Meyer Farm, Va 43.14 92 IAmb IAmb 20 34 50.3
comp=Z,49nm,0.9s
SGCY Sterling City 43.15 110 IAmb IAmb 20 35 10.5
comp=Z,31nm,0.8s
FVM French Village 43.19 95 IAmb IAmb 20 34 50.5
comp=Z,61nm,1.4s
N47A Urbana 43.20 88 P **P** **20 34 49.2 -0.5**
ABTX Abilene, Hawle 43.23 108 IAmb IAmb 20 34 51.8
comp=Z,57nm,1.5s
NRIK Noril'sk 43.24 334 P **P** **20 34 49.6 -0.2**
NRIK Noril'sk 43.24 334 P **P** **20 34 49.5 -0.2**
comp=Z,9.4nm,0.5s,baz=49,slow=5.2,SNR=17
comp=Z,9.4nm,0.5s
NRIK Noril'sk 43.24 334 P **P** **20 34 49.6 -0.2**
NRIK pmax pmax
comp=Z,13nm,0.7s
SOEG Soedalen 43.36 28 *i* P **P** **20 34 50.8 +0.1**
KLR Kul'dur 43.37 291 *i* P **P** **20 34 53.3 +2.3**
KLR pmax pmax
comp=Z,4.0nm,0.9s
P46A Rosedale 43.45 90 IAmb IAmb 20 34 53.1
comp=Z,72nm,0.9s
T42A Van Buren 43.63 96 P **P** **20 34 52.2 -1.1**
N49A Columbus Grove 43.89 86 IAmb IAmb 20 34 56.4
comp=Z,54nm,0.8s
O48B Farmland 43.94 88 P **P** **20 34 54.8 -0.9**
baz=321,SNR=24
S44A Carbondale 43.98 94 P **P** **20 34 56.0 -0.1**
S44A IAmb IAmb 20 34 57.0
comp=Z,65nm,1.1s
M50A Fremont 44.06 85 IAmb IAmb 20 34 58.0
comp=Z,34nm,1.0s
BLO Bloomington 44.13 90 IAmb IAmb 20 34 58.1
comp=Z,47nm,0.7s
TXAR Lajitas Array 44.23 115 P **P** **20 34 58.6 +0.4**
TXAR Lajitas Array 44.23 115 P **P** **20 34 59.8 +1.6**
comp=Z,13nm,0.8s,baz=339,slow=6.7,SNR=39
TXAR PcP **PcP** **20 36 43.2 +1.1**
comp=Z,2.4nm,0.6s,baz=87,slow=2.2,SNR=4.5
comp=Z,13nm,0.8s
O49A Covington 44.39 87 IAmb IAmb 20 34 59.9
comp=Z,37nm,0.6s
BOD Bodaibo 44.41 310 *e*P **P** **20 34 57.9 -1.3**
BOD pmax pmax
comp=Z,34nm,1.4s
TRQ Mont Tremblant 44.42 74 IAmb IAmb 20 35 33.7
comp=Z,66nm,1.3s
P48A Milroy 44.43 89 IAmb IAmb 20 34 59.9
comp=Z,40nm,1.1s
MIAR Mount Ida 44.46 100 P **P** **20 35 00.1 +0.1**
MIAR IAmb IAmb 20 35 01.1
comp=Z,28nm,0.9s
MIAR Mount Ida 44.46 100 P **P** **20 35 00.1 +0.1**
MIAR pmax pmax
comp=Z,28nm,0.9s
HEH HeiHe 44.54 295 *e*P **P** **20 34 58.5 -1.9**
HEH pmax pmax
comp=Z,12nm,0.9s
LDAQ Lac Daran 44.64 70 P **P** **20 35 01.5 +0.2**
LDAQ IAmb IAmb 20 35 02.8
comp=Z,38nm,1.1s
JCT Junction City 44.96 110 IAmb IAmb 20 35 06.9
comp=Z,54nm,0.8s
WCI Wyandotte Cave 44.98 91 P **P** **20 35 03.6 -0.4**
WCI IAmb IAmb 20 35 04.9
comp=Z,37nm,0.8s
WCI PcP **PcP** **20 36 43.0 -1.3**
WCI Wyandotte Cave 44.98 91 P **P** **20 35 03.6 -0.4**
WCI 20 36 43.1
WCI pmax pmax
comp=Z,37nm,0.9s
WCI Wyandotte Cave 44.98 91 P **P** **20 35 04.2 +0.2**
WCI PcP **PcP** **20 36 43.7 -0.7**
ACSO Alum Creek Sta 45.00 86 IAmb IAmb 20 35 05.3
comp=Z,42nm,0.8s
J55A Hilton 45.13 79 IAmb IAmb 20 35 05.9
comp=Z,22nm,0.8s
MNTQ Montreal, Queb 45.39 74 IAmb IAmb 20 35 07.6
comp=Z,26nm,0.8s
R49A Shelbyville 45.47 90 P **P** **20 35 07.7 -0.3**
R49A IAmb IAmb 20 35 08.4
comp=Z,27nm,0.7s
DRIO Del Rio 45.50 112 IAmb IAmb 20 35 09.8
comp=Z,41nm,1.0s
P51A Williamsport 45.55 87 IAmb IAmb 20 35 09.2
comp=Z,47nm,1.1s
T47A Sharon Grove 45.58 92 IAmb IAmb 20 35 10.4
comp=Z,25nm,0.7s
LONY Lake Ozonia 45.61 75 P **P** **20 35 08.0 -1.0**
LONY IAmb IAmb 20 35 29.1
comp=Z,87nm,2.0s
435B Jarrell 45.72 107 P **P** **20 35 11.3 +1.4**
baz=328
P52A Corning 45.88 86 IAmb IAmb 20 35 11.8
comp=Z,31nm,0.8s
R50A Paris 45.88 89 P **P** **20 35 10.7 -0.5**
R50A IAmb IAmb 20 35 12.2
comp=Z,52nm,1.3s
R50A PcP **PcP** **20 36 46.6 -0.9**

WVT Waverly 45.92 94 P **P** **20 35 10.9 -0.6**
WVT PcP **PcP** **20 36 47.7 0.0**
WVT IAmb IAmb 20 36 48.6
comp=Z,24nm,0.9s
WVT Waverly 45.92 94 P **P** **20 35 10.9 -0.6**
WVT pmax pmax
comp=Z,24nm,0.9s
HNDO Hondo 46.01 110 IAmb IAmb 20 35 14.0
comp=Z,24nm,1.0s
K57A Scipio Center 46.15 79 IAmb IAmb 20 35 42.8
comp=Z,36nm,1.2s
O54A Avella 46.29 84 P **P** **20 35 14.0 -0.4**
CLTN Cedars of Leba 46.67 92 P **P** **20 35 17.6 +0.2**
CLTN PcP **PcP** **20 36 50.0 -0.3**
V48A Smith Brothers 46.71 93 IAmb IAmb 20 35 18.6
comp=Z,27nm,0.7s
Y45A Yeager Farm, C 46.93 97 P **P** **20 35 19.6 +0.2**
M57A Sunshine Farm, 46.94 80 IAmb IAmb 20 35 20.8
comp=Z,49nm,1.1s
MCWV Mont Chateau 46.95 84 IAmb IAmb 20 35 20.2
comp=Z,28nm,0.8s
833A Chaparral WMA, 46.99 111 P **P** **20 35 21.1 +1.2**
baz=330
Q54A Coxs Mills 47.01 85 IAmb IAmb 20 35 20.9
comp=Z,38nm,0.8s
USRK Ussuriysk Ar. 47.02 286 P **P** **20 35 19.7 -0.3**
comp=Z,4.2nm,0.9s,baz=49,slow=7.6,SNR=6.8
comp=Z,4.2nm,0.9s
SSPA Standing Stone 47.12 81 P **P** **20 35 20.9 +0.1**
SSPA PcP **PcP** **20 36 51.7 -0.1**
SSPA Standing Stone 47.12 81 P **P** **20 35 21.2 +0.4**
SSPA pP **pP** **20 35 33.9 -0.4**
SSPA sP **sP** **20 35 39.8 -0.2**
SSPA PcP **PcP** **20 36 51.5 -0.3**
HKT Hockley 47.23 106 P **P** **20 35 22.5 +0.8**
HKT Hockley 47.23 106 P **P** **20 35 22.5 +0.8**
HKT pmax pmax
comp=Z,109nm,0.7s
L59A Walton 47.26 78 IAmb IAmb 20 35 23.2
comp=Z,31nm,1.1s
F64A Sherman 47.52 70 IAmb IAmb 20 35 24.5
comp=Z,30nm,0.8s
X48A Hartselle 47.65 94 P **P** **20 35 24.8 -0.2**
X48A IAmb IAmb 20 35 26.0
comp=Z,32nm,0.7s
X48A PcP **PcP** **20 36 53.0 -0.8**
Q56A Snyder Ridge, 47.75 84 IAmb IAmb 20 35 26.6
comp=Z,23nm,0.8s
BNX BinXian 47.93 291 ⇓P **P** **20 35 25.8 -1.3**
BNX pmax pmax
comp=Z,3.0nm,1.1s
P57A Homestead Farm 47.96 83 P **P** **20 35 27.2 -0.2**
CPCT Cooper Cave 48.05 91 IAmb IAmb 20 35 29.2
comp=Z,25nm,0.6s
L61B Northampton 48.16 76 P **P** **20 35 29.6 +0.7**
baz=321
K62A Royalston 48.20 75 IAmb IAmb 20 35 30.5
comp=Z,33nm,0.9s
TKL Tuckaleechee C 48.24 91 P **P** **20 35 29.7 +0.1**
TKL PcP **PcP** **20 36 55.3 -0.7**
TRNY Table Rock, Ra 48.46 78 IAmb IAmb 20 35 32.3
comp=Z,23nm,0.9s
U54A Nelsons Funny 48.49 88 P **P** **20 35 32.0 +0.4**
SDMD Soldier's Deli 48.58 82 IAmb IAmb 20 35 33.3
comp=Z,21nm,1.0s
HRV Adam Dziewonsk 48.64 75 P **P** **20 35 32.2 -0.4**
PAL Palisades 48.72 78 IAmb IAmb 20 35 34.2
comp=Z,30nm,1.1s
GGN Saint George 48.77 69 P **P** **20 35 33.6 +0.1**
EMMW East Machias 48.81 70 IAmb IAmb 20 35 34.9
comp=Z,48nm,1.1s
LRAL Lakeview Retre 48.83 95 IAmb IAmb 20 35 34.5
comp=Z,14nm,0.7s
WES Weston 48.85 75 IAmb IAmb 20 35 34.2
comp=Z,36nm,0.9s
S57A Dark Hollow, R 48.88 85 IAmb IAmb 20 35 36.2
comp=Z,30nm,1.3s
BG3 Lake Jocassee 49.19 90 IAmb IAmb 20 37 00.6
comp=Z,38nm,0.8s
R58B Mineral 49.23 84 IAmb IAmb 20 35 38.9
comp=Z,38nm,1.0s
ARCES ARCESS Array B 49.29 2 P **P** **20 35 36.4 -0.9**
comp=Z,3.1nm,0.5s,baz=1.8,slow=6.8,SNR=30
ARCES PcP **PcP** **20 36 59.0 -0.2**
comp=Z,12nm,0.8s,baz=347,slow=3.9,SNR=7.0
comp=Z,3.1nm,0.5s
V55A Taylorsville 49.32 88 P **P** **20 35 37.6 -0.3**
V55A IAmb IAmb 20 35 39.3
comp=Z,46nm,1.0s
V55A PcP **PcP** **20 36 59.2 -0.7**
T57A Hurt 49.34 86 IAmb IAmb 20 35 39.0
comp=Z,25nm,0.8s
KMSC Kings Mountain 49.84 89 IAmb IAmb 20 37 02.4
comp=Z,32nm,0.8s
MJB9 Matsu-Tunnel 50.09 275 IAmb IAmb 20 36 00.3
comp=Z,45nm,1.1s
MAJO Matsushiro 50.09 275 P **P** **20 35 43.8 +0.1**
MJAR Matsushiro Arr 50.09 275 P **P** **20 35 42.9 -0.8**
comp=Z,3.9nm,0.7s,baz=20,slow=6.8,SNR=7.6
MJAR PcP **PcP** **20 37 02.1 -0.5**
comp=Z,6.9nm,1.0s,baz=360,slow=5.3,SNR=4.4
comp=Z,3.9nm,0.7s
HODGE Hodges 50.13 90 P **P** **20 35 43.9 -0.1**
T59A Double "B" Far 50.18 84 IAmb IAmb 20 35 45.8
comp=Z,43nm,1.2s
CN2 Changchun 50.31 291 *e*P **P** **20 35 43.5 -1.8**
CN2 *ep*P pP 20 35 55.8 -3.0
CN2 *e*S **S** **20 42 49.8 -4.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
V58A Windy Hill, Pi 50.37 86 IAmb IAmb 20 35 47.1
comp=Z,28nm,1.1s
ZAIG Zacatecas 50.44 118 P **P** **20 35 47.0 +0.1**
ZAIG IAmb IAmb 20 35 49.3
comp=Z,27nm,1.3s
JGF Kuroka 51.25 275 P **P** **20 35 51.9 -0.6**
JGF IAmb IAmb 20 36 10.4
comp=Z,43nm,1.0s
APA Apatity 51.28 358 ⇓*i*P **P** **20 35 51.0 -1.2**
APA pmax pmax
comp=Z,13nm,0.7s
TIGA Tifton 51.77 94 IAmb IAmb 20 35 56.5
comp=Z,37nm,0.8s
JRQG Juriquilla Cam 53.17 117 IAmb IAmb 20 36 09.4
comp=Z,22nm,0.8s
MOY Mondy 53.91 313 *e*P **P** **20 36 13.1 +1.1**
MOY pmax pmax
comp=Z,5.0nm,1.3s
ZAK Zakamensk 54.15 311 *e*P **P** **20 36 13.7 -0.1**
ZAK pmax pmax
comp=Z,7.0nm,1.1s
KS19 Wonju Array Si 54.22 284 IAmb IAmb 20 36 15.2
comp=Z,13nm,0.7s
KSRS Korea Array 54.23 284 P **P** **20 36 14.7 +0.3**
comp=Z,13nm,0.7s,baz=31,slow=6.9,SNR=39
KSRS ScP **ScP** **20 41 11.8 0.0**
comp=Z,3.4nm,0.9s,baz=39,slow=4.9,SNR=7.4
comp=Z,13nm,0.7s
KSAR Wonju Array Be 54.26 284 P **P** **20 36 13.7 -0.9**
KSAR Wonju Array Be 54.26 284 P **P** **20 36 13.7 -0.9**
XLT XiLinHaoTe 54.35 297 *e*P **P** **20 36 18.5 +3.2**
XLT pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 54.80 307 P **P** **20 36 18.1 -0.6**
ULN IAmb IAmb 20 36 34.2
comp=Z,37nm,1.1s
ULN PcP **PcP** **20 37 20.1 -0.4**
ULN Ulaanbaatar 54.80 307 P **P** **20 36 19.1 +0.5**
ULN Ulaanbaatar 54.80 307 P **P** **20 36 19.0 +0.3**
ULN pP **pP** **20 36 32.7 +0.4**
SONM Songino Array 55.08 307 P **P** **20 36 20.3 -0.3**
SONM IAmb IAmb 20 36 36.8
comp=Z,51nm,1.2s
SONM Songino Array 55.08 307 P **P** **20 36 21.4 +0.8**
comp=Z,16nm,0.8s,baz=37,slow=7.4,SNR=55
SONM ScP **ScP** **20 41 13.9 -1.6**
comp=Z,1.5nm,0.9s,baz=11,slow=3.0,SNR=4.4
comp=Z,16nm,0.8s
TJN Taejon 55.37 283 *i* P **P** **20 36 24.9 +2.3**
TLIG Tlapa 56.76 117 IAmb IAmb 20 36 34.8
comp=Z,26nm,0.9s
NB2 NORSAR Subarra 57.03 11 P **P** **20 36 33.2 -1.0**
comp=Z,76nm,1.7s,baz=349,slow=7.4
NB2 NORSAR Subarra 57.03 11 P **P** **20 36 33.2 -1.0**
baz=349,slow=7.4
NOA NORSAR Array B 57.03 11 P **P** **20 36 33.4 -0.8**

comp=Z,6.9nm,1.0s,baz=350,slow=7.1,SNR=7.1
comp=Z,6.9nm,1.0s
ZALV Zalesovo Beam 57.05 325 P **P** **20 36 33.3 -1.0**
ZALV Zalesovo Beam 57.05 325 P **P** **20 36 33.5 -0.9**
comp=Z,6.4nm,0.7s,baz=29,slow=6.6,SNR=27
comp=Z,6.4nm,0.7s
FINES FINESS Array B 57.42 2 P **P** **20 36 35.7 -1.2**
comp=Z,12nm,0.9s,baz=348,slow=6.8,SNR=16
comp=Z,12nm,0.9s
KLMR Klimovskoe 57.83 354 *e*P **P** **20 36 37.1 -2.6**
KLMR pmax pmax
comp=Z,141nm,1.4s
HFS Hagfors 58.13 9 P **P** **20 36 41.8 -0.1**
comp=Z,6.8nm,0.6s,baz=44,slow=4.7,SNR=37
comp=Z,6.8nm,0.6s
HHC Hu-ho-hao-te 58.76 299 *e*P **P** **20 36 50.3 +3.6**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,380nm,7.7s
HHC LR LR
comp=Z,880nm,20.2s
HHC LR LR
comp=Z,280nm,17.7s
HHC LR LR
comp=Z,2μm,18.1s
PUL Pulkovo 59.13 360 *ce*P **P** **20 36 49.8 +1.0**
PUL pmax pmax
comp=Z,45nm,0.5s
KIRV Kirov 59.37 348 *ce*P **P** **20 36 50.4 0.0**
BTO Baotou 59.62 300 *e*P **P** **20 36 51.8 -0.8**
BTO PP **PP** **20 39 05.0 +0.9**
BTO pmax pmax
comp=Z,20nm,1.1s
BTO pmax pmax
comp=Z,3μm,9.7s
SVE Sverdlovsk 59.65 341 *de*P **P** **20 36 52.4 0.0**
SVE pmax pmax
comp=Z,47nm,1.3s
HNS HongShan 60.28 294 ⇑P **P** **20 36 57.0 0.0**
HNS pmax pmax
comp=Z,11nm,1.3s
ARTI Arti 60.41 342 P **P** **20 36 56.5 -1.2**
ARTI Arti 60.41 342 *d i* P **P** **20 36 57.1 -0.6**
ARTI 20 37 38.0
ARTI S **S** **20 45 10.8 +2.3**
ARTI SS **SS** **20 49 04.0 -1.8**
ARTI pmax pmax
comp=Z,50nm,1.0s
ARTI Arti 60.41 342 P **P** **20 36 57.1 -0.6**
ARTI pP **pP** **20 37 10.7 -0.8**
VSU Vasula 60.42 2 *ce*P **P** **20 36 58.3 +0.6**
VSU pmax pmax
comp=Z,102nm,1.3s
ONAU Onsala 60.69 11 *i* P **P** **20 36 59.0 -0.5**
EKA Eskdalemuir Ar 60.71 21 P **P** **20 36 59.8 +0.1**
comp=Z,21nm,0.8s,baz=330,slow=5.4,SNR=26
comp=Z,21nm,0.8s
CCIG Comitan 60.72 111 IAmb IAmb 20 37 02.1
comp=Z,24nm,1.0s
BRVK Borovoye 61.44 334 P **P** **20 37 03.9 -0.8**
BRVK IAmb IAmb 20 37 04.7
comp=Z,27nm,1.1s
BRVK Borovoye 61.44 334 *ce*P **P** **20 37 03.9 -0.8**
BRVK pmax pmax
comp=Z,39nm,1.7s
BRVK Borovoye 61.44 334 P **P** **20 37 03.6 -1.1**
BRVK pP **pP** **20 37 17.8 -0.8**
BVAR Borovoye Array 61.45 333 P **P** **20 37 03.7 -1.0**
comp=Z,15nm,0.6s,baz=36,slow=6.8,SNR=107
BVAR PKPPKP **P'P'df** **21 06 23.3 +0.8**
comp=Z,3.4nm,1.0s,baz=207,slow=2.7,SNR=5.8
comp=Z,15nm,0.6s
KURK Kurchatov 61.62 327 P **P** **20 37 05.0 -0.9**
KURK IAmb IAmb 20 37 06.0
comp=Z,40nm,1.4s
KURK Kurchatov 61.62 327 P **P** **20 37 05.5 -0.5**
KURBB Kurchatov Arra 61.73 327 P **P** **20 37 05.5 -1.2**
comp=Z,7.8nm,0.5s,baz=29,slow=6.7,SNR=67
KURBB PKPPKP **P'P'df** **21 06 24.0 +2.1**
comp=Z,0.2nm,0.3s,baz=242,slow=4.0,SNR=4.2
comp=Z,7.8nm,0.5s
DEL Delary 61.78 10 *i* P **P** **20 37 06.0 -0.9**
BLEU Blekinge 62.09 9 *i* P **P** **20 37 08.0 -1.0**
LUNU Lund 62.57 10 *i* P **P** **20 37 12.2 0.0**
ZSN Zaisan 62.82 321 *e*P **P** **20 37 13.7 -0.4**
comp=Z,14nm,0.6s
ZSN Zaisan 62.82 321 *e*P **P** **20 37 13.7 -0.4**
ZSN pmax pmax
comp=Z,14nm,0.6s
JOW Kunigami 62.84 277 P **P** **20 37 14.6 +0.1**
NJ2 Nanjing 62.88 287 *e*P **P** **20 37 18.0 +3.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
MOS Moscow 63.02 355 *e*P **P** **20 37 14.6 -0.6**
MOS *e* 20 37 54.7
MOS *e*S **S** **20 45 37.5 -3.9**
MOS pmax pmax
comp=N,34nm,0.6s
MOS pmax pmax
comp=Z,39nm,0.8s
PABE Paberze 63.32 4 P **P** **20 37 17.3 +0.1**
PABE Paberze 63.32 4 *e*P **P** **20 37 17.7 +0.5**
MTO3 Montecristo 63.63 109 P **P** **20 37 19.3 -0.7**
MTO3 IAmb IAmb 20 37 21.0
comp=Z,18nm,1.1s
LYN LuoYang 63.65 294 P **P** **20 37 19.5 -0.2**
LYN pmax pmax
comp=Z,42nm,0.9s
OBN Obninsk 63.69 356 P **P** **20 37 19.5 -0.1**
OBN Obninsk 63.69 356 ⇓P **P** **20 37 19.1 -0.5**
OBN Obninsk 63.69 356 *d i* P **P** **20 37 19.4 -0.1**
OBN *e**SP **pP** **20 37 33.7 +0.2**
OBN *i* 20 37 57.0
OBN S **S** **20 45 53.0 +3.3**
OBN *e*SS **SS** **20 50 05.3 +8.5**
OBN SSS SSS 20 52 54.0
OBN pmax pmax
comp=Z,159nm,1.7s
OBN MLR MLR
comp=Z,892nm,21.0s
OBN Obninsk 63.69 356 P **P** **20 37 19.5 -0.1**
comp=Z,98nm,1.4s
OBN Obninsk 63.69 356 P **P** **20 37 19.4 -0.1**
BSEG Bad Segeberg 63.95 13 *e*P **P** **20 37 22.0 +0.7**
comp=Z,18nm,0.8s,baz=351,slow=6.3
NACGM Naroch 63.99 2 *e*P **P** **20 37 21.9 +0.3**
comp=Z,82nm,0.9s,baz=358
MK31 Makanchi Array 64.18 323 P **P** **20 37 21.6 -1.5**
MK31 Makanchi Array 64.18 323 *ce*P **P** **20 37 22.7 -0.3**
MKAR Makanchi Array 64.18 323 P **P** **20 37 21.6 -1.4**
comp=Z,5.7nm,0.5s,baz=37,slow=6.6,SNR=84
MKAR PKPPKP **P'P'df** **21 06 16.2 -1.6**
comp=Z,2.2nm,1.0s,baz=262,slow=2.5,SNR=3.9
comp=Z,5.7nm,0.5s
MAKZ Makanchi 64.25 323 P **P** **20 37 22.3 -1.3**
MAKZ IAmb IAmb 20 37 53.0
comp=Z,38nm,1.4s
MAKZ Makanchi 64.25 323 P **P** **20 37 22.3 -1.3**
MAKZ pmax pmax
comp=Z,38nm,1.4s
MNK Minsk 64.41 1 *i* P **P** **20 37 24.9 +0.5**
comp=E,73nm,1.0s
MNK *i* P **P** **20 37 24.9 +0.5**
comp=N,25nm,0.9s
MNK *i* P **P** **20 37 24.9 +0.5**
comp=Z,105nm,0.9s,baz=359
MNK *i* PP **PP** **20 39 46.6 +0.8**
MNK *i* PPP PPP 20 41 17.9
MNK *i* S **S** **20 45 56.7 -2.0**
MNK *i* SS **SS** **20 50 12.9 +4.8**
MNK *i* SSS SSS 20 53 14.8
MNK *i* LQ LQ 21 00 57.3
MNK *i* LR LR 21 05 51.4
MNK *i* LRM MLR 21 10 28.7
comp=N,1μm,25.1s
MNK *i* LRM MLR 21 11 06.9
comp=Z,1μm,20.7s
MNK *i* LRM MLR 21 11 27.4
comp=E,691nm,20.6s
MNK Minsk 64.41 1 *e*P **P** **20 37 24.8 +0.5**
GTA Gaotai 64.75 306 *e*P **P** **20 37 26.5 -0.5**
GTA sP pP 20 37 38.5 -2.5
GTA S **S** **20 46 03.3 -0.3**
GTA pmax pmax

comp=E,10.0nm,1.2s
GTA LR LR
comp=E,720nm,20.0s
GTA LR LR
comp=E,440nm,18.9s
GTA LR LR
comp=E,980nm,18.5s
SUW Suwalki 64.79 4 *e*P **P 20 37 26.2 -0.6**
SUW Suwalki 64.79 4 P **P 20 37 26.4 -0.4**
SUW Suwalki 64.79 4 *e*P **P 20 37 26.3 -0.6**
SUW Suwalki 64.79 4 P **P 20 37 26.4 -0.4**
SUW pmax pmax
comp=Z,95nm,0.9s
GORT1 Trebel 64.98 12 *e*P **P 20 37 28.9 +0.8**
baz=351,slow=6.3
RETH Rethem/Aller, 65.02 14 *e*P **P 20 37 28.8 +0.5**
baz=351,slow=6.3
WMQ Urumqi 65.19 318 *e*P P 20 37 36.5 +6.8
GKP Gorka Klasztor 65.21 8 *e*P **P 20 37 29.8 +0.2**
GKP Gorka Klasztor 65.21 8 *e*P **P 20 37 29.8 +0.2**
IBBN Ibbenburen 65.25 15 *e*P **P 20 37 30.5 +0.6**
comp=Z,55nm,0.9s,baz=351,slow=6.3
NRDL Niedersach Rie 65.34 13 *e*P **P 20 37 31.0 +0.6**
comp=Z,33nm,1.0s,baz=351,slow=6.3
FLTG Flechtingen 65.62 12 *e*P **P 20 37 32.3 0.0**
comp=Z,13nm,0.7s,baz=351,slow=6.3
XAN Xi'an 65.63 296 P **P 20 37 31.3 -1.4**
XAN pP pP 20 37 41.3 -5.4
XAN pmax pmax
comp=Z,9.0nm,1.0s
XAN LR LR
comp=Z,1μm,22.3s
XAN LR LR
comp=Z,1μm,21.1s
XAN LR LR
comp=Z,2μm,24.4s
RUE Ruedersdorf 65.72 11 *e*P **P 20 37 33.6 +0.7**
RUE Ruedersdorf 65.72 11 *e*P **P 20 37 33.6 +0.7**
comp=Z,57nm,0.6s,baz=351,slow=6.3
MTDJ Mount Denham 65.84 96 P **P 20 37 34.7 +0.5**
LZH Lanzhou 66.01 302 P **P 20 37 35.0 -0.2**
LZH sP pP 20 37 49.0 -0.3
LZH pmax pmax
comp=Z,22nm,1.1s
CLZ Clausthal 66.02 13 *e*P **P 20 37 35.6 +0.7**
comp=Z,39nm,0.7s,baz=351,slow=6.3
BUG Bochum--Univer 66.05 15 *e*P **P 20 37 35.3 +0.3**
comp=Z,34nm,0.9s,baz=351,slow=6.3
LPSR Galich'ya Gora 66.09 354 ⇓*i*P **P 20 37 34.9 -0.4**
LPSR pmax pmax
comp=Z,70nm,1.2s
WHN Wuhan 66.21 290 P **P 20 37 35.8 -0.6**
GTTG Gottingen 66.26 13 *e*P **P 20 37 37.3 +0.9**
comp=Z,51nm,0.8s,baz=351,slow=6.3
KASTN Kahler Asten 66.42 15 *e*P **P 20 37 37.6 +0.1**
comp=Z,12nm,0.9s,baz=351,slow=6.3
BSTI Sart Tilman 66.66 17 *d*P **P 20 37 39.6 +0.7**
comp=Z,6.2nm,1.0s
MEM Membach 66.69 16 *d*P **P 20 37 39.6 +0.4**
comp=Z,24nm,1.3s
MEM *d*x x 20 37 53.6
BTNL Ternell 66.73 16 *d*P **P 20 37 39.6 +0.1**
comp=Z,16nm,1.4s
BCLA Clavier 66.78 17 *d*P **P 20 37 39.7 0.0**
comp=Z,11nm,1.3s
BGES Gesves 66.79 17 *d*P **P 20 37 39.9 +0.1**
comp=Z,9.2nm,1.2s
NEUB Neuenburg 66.79 12 *e*P **P 20 37 40.1 +0.4**
comp=Z,34nm,0.6s,baz=351,slow=6.3
CLL Collm 66.81 11 IAmb IAmb 20 37 40.9
comp=Z,37nm,1.0s
CLL Collm 66.81 11 ⇓*i*P **P 20 37 39.9 0.0**
CLL pmax pmax
comp=Z,55nm,1.3s
CLL Collm 66.81 11 *e*P **P 20 37 39.9 0.0**
comp=Z,22nm,0.7s,baz=351,slow=6.3
CLL Collm 66.81 11 ⇓*i*P **P 20 37 39.9 0.0**
comp=Z,55nm,1.3s
CLL *e*PKPPKPd **P'P'df 21 06 12.0 -1.8**
CLL Collm 66.81 11 P **P 20 37 39.7 -0.2**
comp=Z,43nm,1.0s
BMRD Maredsous 66.82 17 *d*P **P 20 37 40.4 +0.4**
comp=Z,18nm,1.3s
TDK Taldyqorghan 66.92 325 *e*P **P 20 37 40.4 -0.4**
comp=Z,13nm,0.6s
TDK Taldyqorghan 66.92 325 *e*P **P 20 37 40.3 -0.4**
TDK pmax pmax
comp=Z,13nm,0.6s
UBBA Unterbreizbach 66.98 14 *e*P **P 20 37 41.4 +0.5**
comp=Z,12nm,0.8s,baz=351,slow=6.3
DOU Dourbes 67.00 17 *d*P **P 20 37 41.1 0.0**
comp=Z,15nm,1.2s
VORR Voronezh 67.01 354 *e*P **P 20 37 40.5 -0.6**
VORR pmax pmax
comp=Z,43nm,0.4s
VRH Novokhopyorsk 67.33 352 ⇓*i*P **P 20 37 42.1 -1.1**
VRH pmax pmax
comp=Z,21nm,0.6s
BRG Berggiesshubel 67.33 11 *i*P **P 20 37 43.5 +0.2**
BRG Amp 20 37 44.6
comp=Z,35nm,0.9s
BRG Berggiesshubel 67.33 11 *i*P **P 20 37 43.4 +0.2**
BRG pmax pmax
comp=Z,35nm,0.9s
BRG MLR MLR
comp=N,838nm,17.1s
BRG MLR MLR
comp=Z,2μm,20.4s
BRG MLR MLR
comp=E,734nm,21.8s
BRG Berggiesshubel 67.33 11 *e*P **P 20 37 43.4 +0.2**
comp=E,31nm,0.8s,baz=351,slow=6.3
MOX Moxa 67.33 12 *e*P **P 20 37 43.5 +0.2**
comp=E,35nm,0.7s,baz=351,slow=6.3
MOX *e*L L 20 59 38.3
comp=E,705nm,19.6s
TNS Taunus Mts 67.39 15 *e*P **P 20 37 44.0 +0.3**
comp=E,12nm,0.7s,baz=351,slow=6.3
VSR Storozhevoye 67.47 354 *e*P **P 20 37 40.8 -3.2**
VSR pmax pmax
comp=Z,20nm,0.6s
RNPP9 Sopachiv 67.47 3 P **P 20 37 43.7 -0.4**
PLN Plauen 67.54 12 *e*P **P 20 37 44.7 +0.2**
baz=351,slow=6.3
RNPP8 Varash 67.55 3 P **P 20 37 44.3 -0.2**
HSKC Hora Svate Kat 67.55 11 *e*P **P 20 37 45.3 +0.7**
RNPP2 Kostyukhnivka 67.56 3 P **P 20 37 44.7 +0.1**
KSP Ksiaz 67.56 9 *e*P **P 20 37 45.0 +0.4**
KSP Ksiaz 67.56 9 P **P 20 37 45.0 +0.4**
comp=Z,81nm,1.6s
WLF Walferdange 67.64 16 *e*P **P 20 37 45.9 +0.8**
comp=Z,19nm,0.8s,baz=351,slow=6.3
WLF Walferdange 67.64 16 *d*P **P 20 37 46.0 +0.8**
comp=Z,26nm,1.2s
TANN Tannenbergstha 67.64 12 *e*P **P 20 37 45.6 +0.3**
comp=Z,54nm,1.3s,baz=351,slow=6.3
RNPP5 Staryi Chortor 67.65 3 P **P 20 37 44.9 -0.3**
VORD Divnogorie 67.71 354 *e*P **P 20 37 43.7 -1.9**
VORD pmax pmax
comp=Z,30nm,0.6s
PVCC Panska Ves 67.73 10 *e*P **P 20 37 46.2 +0.5**
PVCC Panska Ves 67.73 10 *e*P **P 20 37 46.2 +0.5**
CHVC Chvalec 67.79 9 *e*P **P 20 37 46.9 +0.7**
CHVC Chvalec 67.79 9 *e*P **P 20 37 46.9 +0.7**
NKC Novy Kostel 67.82 12 *e*P **P 20 37 47.0 +0.6**
NKC Novy Kostel 67.82 12 *e*P **P 20 37 47.0 +0.6**
OSTC Ostas 67.84 9 *e*P **P 20 37 47.1 +0.6**
OSTC Ostas 67.84 9 *e*P **P 20 37 47.1 +0.6**
UPC Upice 67.87 10 *e*P **P 20 37 47.2 +0.6**
UPC Upice 67.87 10 *e*P **P 20 37 47.2 +0.6**
MANZ Manzenberg 68.03 12 *e*P **P 20 37 47.8 +0.1**
comp=Z,8.8nm,1.2s,baz=351,slow=6.3
BTLS Baital 68.05 328 *e*P **P 20 37 47.1 -0.7**
comp=Z,6.7nm,0.4s
BTLS Baital 68.05 328 *e*P **P 20 37 47.1 -0.7**
BTLS pmax pmax
comp=Z,7.0nm,0.4s
DPC Dobruska-Polom 68.05 9 *e*P **P 20 37 48.6 +0.7**
DPC Dobruska-Polom 68.05 9 *e*P **P 20 37 48.6 +0.7**
DPC Dobruska-Polom 68.05 9 P **P 20 37 48.5 +0.7**
comp=Z,118nm,1.0s
AK21 Malin Array Si 68.15 1 P **P 20 37 47.6 -0.8**
AK23 Malin Array Si 68.16 1 P **P 20 37 47.8 -0.6**
AK22 Malin Array Si 68.17 1 P **P 20 37 47.8 -0.7**
AK20 Malin Array Si 68.18 1 P **P 20 37 48.1 -0.5**
AK03 Malin Array Si 68.20 0 P **P 20 37 48.0 -0.7**
AK04 Malin Array Si 68.20 0 P **P 20 37 48.1 -0.6**
AK18 Malin Array Si 68.20 1 P **P 20 37 48.1 -0.6**
AK19 Malin Array Si 68.20 1 P **P 20 37 48.0 -0.7**
AKASG Malin Array Be 68.23 0 P **P 20 37 47.6 -1.2**
AKASG Malin Array Be 68.23 0 P **P 20 37 48.2 -0.6**
comp=Z,22nm,0.6s,baz=2.0,slow=6.1,SNR=95
AKASG PKPPKP **P'P'df 21 06 08.1 -3.3**
comp=Z,0.1nm,0.2s,baz=200,slow=1.4,SNR=4.1
comp=Z,22nm,0.6s
AKASG Malin Array Be 68.23 0 *i*P **P 20 37 48.2 -0.6**
AKASG pmax pmax
comp=Z,23nm,0.6s
AKBB Malin Array Si 68.23 0 *ce*P **P 20 37 48.4 -0.4**
AKBB Malin Array Si 68.23 0 P **P 20 37 48.2 -0.6**
GRA1 Grafenberg Arr 68.23 13 IAmb IAmb 20 37 50.6
comp=Z,25nm,0.9s
GRF Grafenberg Arr 68.23 13 *e*P **P 20 37 49.6 +0.7**
comp=Z,21nm,0.8s,baz=351,slow=6.3
GRF *e*L L 20 57 12.8
comp=Z,559nm,21.4s
GRFO Grafenberg 68.23 13 P **P 20 37 48.8 -0.1**
GRFO IAmb IAmb 20 37 50.0
comp=Z,24nm,0.9s
GRFO Grafenberg 68.23 13 P **P 20 37 48.8 -0.1**
GRFO pmax pmax
comp=Z,24nm,0.9s
AK15 Malin Array Si 68.23 1 P **P 20 37 48.4 -0.5**
KIEV Kiev 68.23 0 P **P 20 37 47.9 -1.0**
KIEV Kiev 68.23 0 ⇓P **P 20 37 48.3 -0.6**
KIEV Kiev 68.23 0 P **P 20 37 48.3 -0.6**
KIEV Kiev 68.23 0 P **P 20 37 48.2 -0.6**
comp=Z,272nm,1.1s
KIEV Kiev 68.23 0 P **P 20 37 48.2 -0.6**
AK01 Malin Array Si 68.24 0 P **P 20 37 48.3 -0.6**
AK17 Malin Array Si 68.24 1 P **P 20 37 48.3 -0.6**
AK11 Malin Array Si 68.25 0 P **P 20 37 48.4 -0.6**
AK16 Malin Array Si 68.26 1 P **P 20 37 48.4 -0.6**
ROTZ Rotzenmuhle 68.26 12 *e*P **P 20 37 49.6 +0.5**
comp=Z,5.6nm,0.8s,baz=351,slow=6.3
PRU Pruhonice 68.26 11 *e*P **P 20 37 49.7 +0.6**
PRU Pruhonice 68.26 11 *e*P **P 20 37 49.7 +0.6**
AK02 Malin Array Si 68.27 0 P **P 20 37 48.5 -0.6**
AK12 Malin Array Si 68.28 0 P **P 20 37 48.6 -0.6**
AK08 Malin Array Si 68.29 0 P **P 20 37 48.7 -0.5**
AK14 Malin Array Si 68.30 1 P **P 20 37 48.7 -0.6**
AK05 Malin Array Si 68.31 0 P **P 20 37 48.8 -0.5**
AK09 Malin Array Si 68.31 0 P **P 20 37 48.8 -0.6**
AK13 Malin Array Si 68.31 1 P **P 20 37 48.8 -0.6**
SHLS Shalkode 68.32 323 *e*P **P 20 37 48.6 -1.1**
comp=Z,11nm,0.6s
SHLS Shalkode 68.32 323 *e*P **P 20 37 48.6 -1.1**
SHLS pmax pmax
comp=Z,11nm,0.6s
AK10 Malin Array Si 68.33 0 P **P 20 37 48.8 -0.7**
AK06 Malin Array Si 68.34 0 P **P 20 37 48.9 -0.7**
GOPC GO Pecny, Ondr 68.36 10 *e*P **P 20 37 50.2 +0.5**
GOPC GO Pecny, Ondr 68.36 10 *e*P **P 20 37 50.2 +0.5**
KRLC Kraliky 68.36 9 *e*P **P 20 37 50.5 +0.7**
KRLC Kraliky 68.36 9 *e*P **P 20 37 50.5 +0.7**
AK07 Malin Array Si 68.38 0 P **P 20 37 48.4 -1.4**
OJC Ojcow 68.42 7 *e*P **P 20 37 50.1 0.0**
OJC Ojcow 68.42 7 P **P 20 37 50.0 0.0**
comp=Z,35nm,1.3s
UZB Uzynbulak 68.45 323 *e*P **P 20 37 50.0 -0.7**
UZB Uzynbulak 68.45 323 *e*P **P 20 37 49.9 -0.7**
ZHN Zhinishke 68.60 324 *e*P **P 20 37 50.8 -0.8**
comp=Z,5.6nm,0.5s
ZHN Zhinishke 68.60 324 *e*P **P 20 37 50.7 -0.8**
ZHN pmax pmax
comp=Z,6.0nm,0.5s
OKC Ostrava-Krasne 68.69 8 *e*P **P 20 37 52.2 +0.4**
OKC Ostrava-Krasne 68.69 8 *e*P **P 20 37 52.2 +0.4**
SATY Saty 68.71 324 *e*P **P 20 37 51.7 -0.5**
SATY Saty 68.71 324 *e*P **P 20 37 51.6 -0.5**
MORC Moravsky Berou 68.71 9 P **P 20 37 51.5 -0.5**
MORC IAmb IAmb 20 37 53.2
comp=Z,32nm,0.8s
MORC Moravsky Berou 68.71 9 *e*P **P 20 37 52.0 0.0**
MORC Moravsky Berou 68.71 9 ⇑P **P 20 37 52.6 +0.6**
MORC Moravsky Berou 68.71 9 P **P 20 37 52.6 +0.6**
ZVC Zvikov 68.77 11 *e*P **P 20 37 52.9 +0.6**
WET Wettzell 68.94 12 *e*P **P 20 37 54.1 +0.7**
comp=Z,42nm,1.2s,baz=351,slow=6.3
MDOK Medeo 68.99 325 *e*P **P 20 37 53.2 -0.8**
MDOK Medeo 68.99 325 *e*P **P 20 37 53.2 -0.8**
LUBAR Lubar, Ukraine 69.00 1 P **P 20 37 52.6 -1.1**
LVV L'vov 69.01 4 P **P 20 37 54.0 +0.2**
KHC Kasperske Hory 69.02 11 *e*P **P 20 37 54.7 +0.8**
KHC Kasperske Hory 69.02 11 *ce*P **P 20 37 54.9 +1.0**
KHC pmax pmax
comp=Z,165nm,1.7s
KHC Kasperske Hory 69.02 11 P **P 20 37 54.6 +0.7**
comp=Z,55nm,1.1s
TREC Trest 69.03 10 *e*P **P 20 37 53.3 -0.6**
TREC Trest 69.03 10 *e*P **P 20 37 53.3 -0.6**
VRAC Vranov 69.11 9 *e*P **P 20 37 54.8 +0.4**
VRAC Vranov 69.11 9 ⇑P **P 20 37 54.9 +0.4**
VRAC Vranov 69.11 9 P **P 20 37 54.8 +0.4**
TNSS Tian-Shan 69.14 325 *e*P **P 20 37 54.1 -1.1**
TNSS Tian-Shan 69.14 325 *e*P **P 20 37 54.1 -1.1**
MAUC Maruska 69.14 8 *e*P **P 20 37 55.0 +0.4**
MAUC *e*P **P 20 37 55.1 +0.4**
KWP Kalwaria Pacla 69.15 5 *e*P **P 20 37 54.9 +0.3**
KWP Kalwaria Pacla 69.15 5 P **P 20 37 54.7 +0.1**
comp=Z,78nm,1.1s
ECH Echery 69.19 16 IAmb IAmb 20 37 56.3
comp=Z,40nm,1.0s
ECH Echery 69.19 16 P **P 20 37 55.0 0.0**
ECH pP **pP 20 38 09.6 +0.5**
BFO Black Forest 69.23 15 P **P 20 37 54.7 -0.5**
BFO IAmb IAmb 20 37 56.6
comp=Z,48nm,1.2s
BFO Black Forest 69.23 15 P **P 20 37 54.7 -0.5**
BFO pmax pmax
comp=Z,48nm,1.2s
BFO Black Forest 69.23 15 *e*P **P 20 37 55.5 +0.2**
comp=Z,20nm,1.0s,baz=351,slow=6.3
BFO Black Forest 69.23 15 P **P 20 37 55.4 +0.2**
BFO pP **pP 20 38 09.9 +0.6**
NIE Niedzica 69.24 7 *e*P **P 20 37 56.0 +0.7**
NIE Niedzica 69.24 7 P **P 20 37 55.7 +0.4**
comp=Z,19nm,1.1s
STHS Stebnicka Huta 69.30 6 *e*P **P 20 37 55.8 +0.2**
STHS pmax pmax
comp=Z,55nm,0.7s
STHS Stebnicka Huta 69.30 6 *e*P **P 20 37 55.8 +0.2**
GEC2 GERESS Array S 69.32 11 IAmb IAmb 20 37 57.2
comp=Z,40nm,1.2s
GEC2 GERESS Array S 69.32 11 *e*P **P 20 37 56.1 +0.3**
comp=Z,17nm,0.8s,baz=351,slow=6.3
GERES GERESS Array B 69.32 11 P **P 20 37 55.4 -0.5**
GERES GERESS Array B 69.32 11 P **P 20 37 56.1 +0.3**
comp=Z,13nm,0.8s,baz=352,slow=4.6,SNR=43
comp=Z,13nm,0.8s
KRUC Moravsky 69.34 9 *e*P **P 20 37 56.0 +0.2**
CKRC Cesky Krumlov 69.40 11 *e*P **P 20 37 57.5 +1.3**
CKRC Cesky Krumlov 69.40 11 *e*P **P 20 37 57.5 +1.3**
GOMU GeErMu 69.46 309 P **P 20 37 57.5 +0.3**
GOMU pmax pmax
comp=Z,10.0nm,1.0s
USP Ospenovka 69.58 327 P **P 20 37 57.2 -0.3**
SNR=10
TKM2 Tokmak 2 69.61 326 P **P 20 37 57.5 -0.3**
SNR=11
JAVC Velka Javorina 69.63 9 *e*P **P 20 37 58.9 +1.2**
HORU Horodok 69.68 2 P **P 20 37 57.6 -0.3**
FUR Furstenfeldbru 69.74 13 *e*P **P 20 37 58.9 +0.6**
comp=Z,54nm,0.8s,baz=351,slow=6.3
CHMS Chumysh 69.77 327 P **P 20 37 58.5 -0.1**
SNR=15
KOLS Kolonicke sedl 69.83 5 *e*P **P 20 37 59.5 +0.7**
KOLS pmax pmax
comp=Z,54nm,1.4s
KOLS Kolonicke sedl 69.83 5 *e*P **P 20 37 59.5 +0.7**
SMOL Smolenice 69.96 9 *e*P **P 20 38 00.7 +1.1**
SMOL pmax pmax
comp=Z,47nm,1.7s
KBK Karagaybulak 70.03 326 P **P 20 38 00.3 -0.2**
SNR=14
VYHS Vyhne 70.08 8 *e*P **P 20 38 00.9 +0.5**
VYHS pmax pmax
comp=Z,61nm,1.2s
VYHS Vyhne 70.08 8 *e*P **P 20 38 00.9 +0.5**
MODS Modra-Piesok 70.09 9 *e*P **P 20 38 01.3 +0.9**
MODS pmax pmax
comp=Z,157nm,1.3s
MODS Modra-Piesok 70.09 9 *e*P **P 20 38 01.3 +0.9**
UBR Ueberruh 70.09 14 *e*P **P 20 38 01.1 +0.6**
comp=Z,27nm,0.8s,baz=351,slow=6.3
UZHM Uzhgorod 70.13 5 P **P 20 38 00.9 +0.2**
STNU Starunia 70.14 4 P **P 20 38 00.9 +0.2**
AAK Ala-Archa 70.17 327 P **P 20 38 01.1 -0.1**
SNR=9.5
AAK Ala-Archa 70.17 327 P **P 20 38 00.7 -0.6**
AAK IAmb IAmb 20 38 01.8
comp=Z,32nm,1.1s
AAK Ala-Archa 70.17 327 *ce*P **P 20 38 01.2 -0.1**
AAK pmax pmax
comp=Z,42nm,1.7s
AAK Ala-Archa 70.17 327 P **P 20 38 00.9 -0.4**
KECS Kecovo 70.19 7 *e*P **P 20 38 01.7 +0.7**
KECS pmax pmax
comp=Z,51nm,0.8s
KECS Kecovo 70.19 7 *e*P **P 20 38 01.7 +0.7**
WUS Wushi 70.19 323 IAmb IAmb 20 38 01.8
comp=Z,18nm,0.8s
HOLU Holmets 70.24 5 P **P 20 38 01.5 +0.2**
NDNU Novodnistrovsk 70.32 2 P **P 20 38 00.9 -0.9**
MUKU Mukachevo 70.32 5 P **P 20 38 02.4 +0.6**
RJOB Jochberg 70.33 12 *e*P **P 20 38 02.5 +0.6**
comp=Z,29nm,0.7s,baz=351,slow=6.3
KMPD K-Podol'skiy 70.33 2 P **P 20 38 01.2 -0.7**
comp=Z,14μm,1.2s
EKS2 Erkin-Say 70.34 327 P **P 20 38 02.3 0.0**
SNR=8.9
RETA Reute 70.35 14 *i*P **P 20 38 02.5 +0.3**
comp=Z,36nm,1.3s,SNR=6.7
MOA Molln 70.36 11 *i*P **P 20 38 02.6 +0.5**
comp=Z,46nm,1.6s,SNR=9.5
CONA Conrad Observa 70.42 10 *i*P **P 20 38 03.1 +0.5**
comp=Z,39nm,0.9s,SNR=18
DAVA Damuels 70.45 14 *i*P **P 20 38 03.3 +0.4**
comp=Z,26nm,1.3s
BRIU Brid 70.45 5 P **P 20 38 03.0 +0.4**
BIOA Bad Ischl, Aus 70.45 12 *i*P **P 20 38 02.9 +0.2**
comp=Z,26nm,1.0s,SNR=11
CD2 Chengdu 70.52 299 P **P 20 38 02.8 -0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
MOTA Moosalm 70.53 13 *i*P **P 20 38 03.7 +0.4**
comp=Z,54nm,1.1s
BERU Beregovo 70.54 5 P **P 20 38 04.0 +0.8**
KSV Kosov 70.55 3 P **P 20 38 03.3 +0.1**
WATA Walderalm 70.59 13 *i*P **P 20 38 04.1 +0.3**
comp=Z,74nm,1.1s,SNR=13
LESA Schwarzleotal 70.62 12 *i*P **P 20 38 04.1 +0.3**
comp=Z,29nm,0.9s
KORU Korolevo 70.64 5 P **P 20 38 04.2 +0.4**
NSLU Nyzhne Selyshc 70.65 4 P **P 20 38 04.1 +0.3**
SQTA Sankt Quirin 70.67 13 *i*P **P 20 38 04.8 +0.6**
comp=Z,115nm,1.5s,SNR=33
WTTA Wattenberg 70.67 13 *i*P **P 20 38 04.7 +0.5**
comp=Z,115nm,1.3s,SNR=19
RONA Rosalia, Austr 70.68 10 *i*P **P 20 38 04.9 +0.7**
comp=Z,30nm,1.1s,SNR=10.0
TRSU Trosnyk 70.69 5 P **P 20 38 05.0 +0.9**
PSZ Piszkesteto 70.72 7 *e*P **P 20 38 05.1 +0.7**
PSZ Piszkesteto 70.72 7 ⇑P **P 20 38 04.4 0.0**
PSZ Piszkesteto 70.72 7 P **P 20 38 04.3 0.0**
SRO Srobarova 70.72 8 *e*P **P 20 38 05.4 +1.1**
SRO pmax pmax
comp=Z,53nm,1.5s
SRO Srobarova 70.72 8 *e*P **P 20 38 05.3 +1.0**
DZA Taraz 70.74 329 *e*P **P 20 38 03.9 -0.7**
DZA Taraz 70.74 329 *e*P **P 20 38 03.8 -0.7**
SORM Soroca 70.79 1 ⇑P **P 20 38 04.3 -0.3**
SORM Soroca 70.79 1 P **P 20 38 04.3 -0.3**
SORM Soroca 70.79 1 P **P 20 38 03.8 -0.9**
comp=Z,44nm,3.0s
RAKU Rahkiv 70.81 4 P **P 20 38 04.8 0.0**
FETA Feichten 70.81 14 *i*P **P 20 38 05.8 +0.7**
comp=Z,54nm,1.2s,SNR=16
AML Almayashu 70.86 327 P **P 20 38 05.8 +0.1**
SNR=17
NRN Naryn 70.89 325 IAmb IAmb 20 38 06.7
comp=Z,48nm,1.6s
BAL3X Bal3x, Balta 71.00 0 P **P 20 38 05.2 -0.7**
KBA Koelnbreinsper 71.03 12 *i*P **P 20 38 07.3 +0.9**
comp=Z,78nm,0.7s,SNR=8.5
ARSA Arzberg 71.06 10 *i*P **P 20 38 07.0 +0.6**
comp=Z,23nm,1.0s,SNR=13
BMR Baia Mare 71.14 5 ⇑P **P 20 38 07.4 +0.6**
BMR Baia Mare 71.14 5 P **P 20 38 07.4 +0.6**
FUORN Ofenpass-Fuorn 71.15 14 IAmb IAmb 20 38 09.2
comp=Z,47nm,1.2s
TUE Stuetta 71.19 15 P **P 20 38 07.9 +0.5**
TUE Stuetta 71.19 15 P **P 20 38 08.0 +0.5**
comp=Z,244nm,1.0s
BURAR Bucovina Array 71.25 3 P **P 20 38 07.2 -0.4**
BURAR IAmb IAmb 20 38 08.6
comp=Z,16nm,0.8s
BURAR Bucovina Array 71.25 3 ⇑P **P 20 38 07.8 +0.1**
BURAR Bucovina Array 71.25 3 P **P 20 38 07.7 +0.1**
ABTA Abfaltersbach 71.28 13 *i*P **P 20 38 07.8 +0.1**
comp=Z,29nm,1.2s,SNR=6.9
MPLH Magyarpolny 71.30 9 P **P 20 38 08.3 +0.5**
comp=Z,136nm,1.2s
MYKA Terra Mystica 71.50 12 *i*P **P 20 38 09.2 +0.1**
comp=Z,26nm,1.0s,SNR=7.3
PRAR RASCA 71.53 3 ⇑P **P 20 38 08.9 -0.3**
SOKA Soboth 71.59 11 *i*P **P 20 38 10.0 +0.3**
comp=Z,58nm,1.4s,SNR=15
MESR Meseseni 71.64 5 ⇑P **P 20 38 11.0 +1.1**
SSB Saint Sauveur 71.69 19 IAmb IAmb 20 38 11.7
comp=Z,41nm,1.5s
OBKA Obir 71.71 11 *i*P **P 20 38 10.9 +0.5**
comp=Z,95nm,0.7s,SNR=33
OBKA Obir 71.71 11 *e*P **P 20 38 10.6 +0.2**
ARCR ARCALIA 71.75 4 ⇓P **P 20 38 11.3 +0.7**
IUG Iuzhnay 71.77 330 *e*P **P 20 38 10.5 -0.4**
IUG Iuzhnay 71.77 330 *e*P **P 20 38 10.4 -0.4**
CTI Castel Tesino 71.87 13 IAmb IAmb 20 38 12.2
comp=Z,60nm,1.6s
KOGS Kog 71.92 10 *i*P **P 20 38 11.6 +0.1**
DRGR 71.98 5 ⇑P **P 20 38 12.3 +0.3**
DRGR 71.98 5 P **P 20 38 12.3 +0.3**
MILM Milestii Mici 72.01 1 ⇑P **P 20 38 11.6 -0.5**
MILM Milestii Mici 72.01 1 P **P 20 38 11.5 -0.5**
CJR Cluj-Napoca 72.10 5 ⇑P **P 20 38 13.3 +0.6**
CJR Cluj-Napoca 72.10 5 P **P 20 38 13.2 +0.6**
MARR Marisel-Cluj 72.12 5 ⇑P **P 20 38 13.2 +0.3**
BNI Bardonecchia 72.23 17 IAmb IAmb 20 38 16.0
comp=Z,51nm,1.2s
MORH Mrgy, Hungar 72.33 8 ⇑P **P 20 38 14.3 +0.3**
MORH Mrgy, Hungar 72.33 8 P **P 20 38 13.8 -0.2**
comp=Z,21nm,1.4s
SIRR Siria 72.46 6 ⇓P **P 20 38 15.4 +0.6**
CEY Cerknica 72.46 11 *e*P **P 20 38 13.5 -1.3**
CRES Cresnjevec Ost 72.47 11 *e*P **P 20 38 13.0 -1.9**
ONER Baraj Valea Uz 72.56 3 ⇑P **P 20 38 16.2 +0.8**
KSH Kashi 72.68 324 P **P 20 38 18.8 +2.5**
KSH pP pP 20 38 27.8 -2.7
KSH sP PcP 20 38 32.3 -1.2
KSH pmax pmax
comp=Z,22nm,0.8s
PCAB Cabril 72.71 29 *e*P **P 20 38 18.0 +1.6**
BOJS Bojanci 72.77 11 *i*P **P 20 38 16.2 -0.4**
BOJS Bojanci 72.77 11 *e*P **P 20 38 16.1 -0.5**
OZUR 72.78 3 ⇑P **P 20 38 17.6 +0.8**
TURR Turia 72.83 3 ⇓P **P 20 38 18.0 +0.9**
GHRR 72.85 2 ⇑P **P 20 38 17.9 +0.8**
GHRR 72.85 2 P **P 20 38 17.5 +0.4**
DOPR Dopca 72.90 3 ⇑P **P 20 38 18.3 +0.8**
PBRG Braganca 72.92 28 *e*P **P 20 38 18.3 +0.7**
SURR Surduc 72.99 6 ⇑P **P 20 38 18.4 +0.5**
VRI Vrincioaia 73.04 2 ⇑P **P 20 38 18.4 +0.2**
VRI Vrincioaia 73.04 2 P **P 20 38 18.4 +0.2**
VRI Vrincioaia 73.04 2 P **P 20 38 18.6 +0.4**
comp=Z,27nm,1.2s
COVR Voineasa-Covas 73.05 3 ⇑P **P 20 38 18.9 +0.6**
PLOR3 Plostina Array 73.05 2 P **P 20 38 18.3 0.0**
comp=Z,40nm,1.2s
PLOR Plostina 73.05 2 ⇑P **P 20 38 18.3 -0.1**
PLOR Plostina 73.05 2 P **P 20 38 18.2 -0.1**
VLDR Vladesti 73.08 1 ⇓P **P 20 38 18.6 +0.2**
POLO Lamas de Olo 73.09 29 *e*P **P 20 38 18.9 +0.2**
BZS Buzias 73.11 6 ⇑P **P 20 38 18.9 +0.3**
BZS Buzias 73.11 6 P **P 20 38 18.9 +0.3**

ODBI Odobesti 73.14 2 P **P 20 38 19.9 +1.1**
comp=Z,16nm,1.1s,comp=Z,466nm
SPBR Spulber 73.15 2 ⇑P **P 20 38 20.0 +1.0**
PVRL Vila Real 73.20 29 *e*P **P 20 38 20.2 +0.9**
GOF Gofitskoye 73.34 350 *ce*P **P 20 38 15.3 -4.7**
BISRR Bisoca 73.35 2 ⇓P **P 20 38 21.0 +0.8**
BISRR Bisoca 73.35 2 P **P 20 38 20.9 +0.8**
comp=Z,82nm,0.9s
GZR Gura Zlata 73.38 5 ⇑P **P 20 38 20.7 +0.4**
GZR Gura Zlata 73.38 5 P **P 20 38 20.7 +0.4**
MLR Muntele Rosu 73.39 3 IAmb IAmb 20 38 23.1
comp=Z,54nm,1.4s
MLR Muntele Rosu 73.39 3 ⇑P **P 20 38 20.9 +0.4**
MLR Muntele Rosu 73.39 3 P **P 20 38 20.8 +0.4**
MLR Muntele Rosu 73.39 3 P **P 20 38 21.1 +0.6**
comp=Z,26nm,1.6s
A051A Mrakovica 73.40 10 *e*P **P 20 38 20.8 +0.4**
FRGS Fruska Gora 73.46 7 *e*P **P 20 38 19.3 -1.4**
MVO Moncorvo 73.46 28 *e*P **P 20 38 21.8 +0.9**
ARR Arges 73.48 4 ⇑P **P 20 38 21.5 +0.6**
BLY Banja Luka 73.68 9 *e*P **P 20 38 20.9 -1.1**
PVIS Viseu 73.69 29 *e*P **P 20 38 23.0 +0.8**
TLCR 73.74 1 ⇑P **P 20 38 22.5 +0.1**
TLCR 73.74 1 P **P 20 38 22.4 +0.1**
CFR Carcaliu 73.75 1 ⇑P **P 20 38 22.5 +0.1**
CFR Carcaliu 73.75 1 P **P 20 38 22.4 +0.1**
DRK Karamyk 73.84 327 IAmb IAmb 20 38 24.1
comp=Z,28nm,0.8s
HERR Herculane 73.88 6 ⇑P **P 20 38 23.1 0.0**
A050A Klekovaca 73.90 10 *e*P **P 20 38 22.9 -0.5**
MDVR Moldovita 73.94 6 ⇓P **P 20 38 23.6 0.0**
TEKS Tekeris 74.05 8 *e*P **P 20 38 23.4 -0.8**
TPGR Topolog 74.07 1 ⇓P **P 20 38 24.5 +0.2**
MTE Manteigas 74.07 29 IAmb IAmb 20 38 25.9
comp=Z,24nm,0.9s
MTE Manteigas 74.07 29 *e*P **P 20 38 25.1 +0.6**
MTE Manteigas 74.07 29 *e*P **P 20 38 25.7 +1.3**
SRE Strehaia 74.13 5 ⇑P **P 20 38 25.2 +0.5**
SRE Strehaia 74.13 5 P **P 20 38 25.1 +0.5**
PCAS Casmilo, Conde 74.18 30 *e*P **P 20 38 25.6 +0.6**
KIV Kislovodsk 74.46 350 P **P 20 38 26.2 -0.5**
KIV IAmb IAmb 20 38 27.5
comp=Z,31nm,0.8s
KIV Kislovodsk 74.46 350 ⇑P **P 20 38 26.8 +0.1**
KIV Kislovodsk 74.46 350 P **P 20 38 26.8 +0.1**
KIV Kislovodsk 74.46 350 P **P 20 38 26.6 -0.1**
comp=Z,36nm,1.1s
HAPS Han Pijesak,BI 74.47 8 *e*P **P 20 38 26.8 0.0**
PSBE So Bento 74.62 30 *e*P **P 20 38 28.2 +0.6**
PCBR Castelo Branco 74.62 29 *e*P **P 20 38 27.8 +0.3**
KBZ Khabaz 74.67 350 P **P 20 38 28.2 +0.5**
comp=Z,18nm,0.9s,baz=307,slow=3.4,SNR=16
comp=Z,18nm,0.9s
BBLS Lazi&#263i 74.72 8 *e*P **P 20 38 27.3 -0.9**
ICOR Ion Corvin 74.80 2 ⇑P **P 20 38 29.0 +0.5**
RUDO Rudo 74.97 8 *e*P **P 20 38 28.9 -0.6**
FDMO Fiordimonte 75.00 13 IAmb IAmb 20 38 31.1
comp=Z,57nm,1.2s
PMRV Marv??o 75.03 29 *e*P **P 20 38 30.0 0.0**
SOC Sochi 75.04 353 *e*P **P 20 38 29.0 -0.9**
SOC *e* 20 41 13.9
SOC *e*PPP PPP 20 43 03.2
SOC *e*S **S 20 48 04.9 +1.1**
SOC *e*SS **SS 20 52 50.9 -1.0**
SOC *e*SSS SSS 20 56 11.1
SOC MLR MLR
comp=Z,834nm,19.0s
BOVS Bovan 75.09 6 ⇑P **P 20 38 29.8 -0.4**
BLKB Belogradchik 75.15 5 ⇑P **P 20 38 30.1 -0.5**
PMTG Montargil 75.18 30 *e*P **P 20 38 30.8 0.0**
NRCA Norcia 75.21 13 IAmb IAmb 20 38 32.4
comp=Z,65nm,1.3s
PZH PanZhiHua 75.22 298 P **P 20 38 30.0 -1.4**
PZH pmax pmax
comp=Z,20nm,0.9s
UPM Unac-Piva 75.35 8 *e*P **P 20 38 31.3 -0.6**
SJES Sjenica 75.36 7 *e*P **P 20 38 30.5 -1.4**
ESBB Sonseca Array 75.56 26 IAmb IAmb 20 38 34.5
comp=Z,20nm,0.9s
ESDC Sonseca Array 75.56 26 P **P 20 38 33.1 0.0**
ESDC IAmb IAmb 20 38 34.6
comp=Z,23nm,1.1s
ESDC Sonseca Array 75.56 26 P **P 20 38 33.4 +0.3**
comp=Z,17nm,0.9s,baz=340,slow=5.3,SNR=81
comp=Z,17nm,0.9s
STON Ston 75.59 9 *e*P P 20 38 26.9 -6.1
PAB San Pablo 75.60 27 P **P 20 38 33.5 +0.2**
PAB IAmb IAmb 20 38 34.8
comp=Z,26nm,1.2s
PAB San Pablo 75.60 27 P **P 20 38 33.5 +0.2**
PAB pmax pmax
comp=Z,26nm,1.2s
BRY Bratogost 75.62 9 *e*P **P 20 38 32.5 -1.0**
EVO Evora 75.74 30 *e*P **P 20 38 34.2 +0.2**
TREB Trebinje 75.79 9 *e*P **P 20 38 33.3 -1.0**
HCY Herceg Novi 76.07 9 *e*P **P 20 38 34.1 -1.7**
PDG Podgorica 76.14 8 *e*P **P 20 38 34.6 -1.6**
PDG Podgorica 76.14 8 ⇓P **P 20 38 36.0 -0.2**
PBEJ Beja 76.25 30 *e*P **P 20 38 37.4 +0.4**
PBAR Barrancos 76.31 29 *e*P **P 20 38 37.9 +0.6**
PBAR A A 20 38 38.7
comp=Z,52nm,1.1s
MESJ Messejana 76.35 30 *e*P **P 20 38 38.1 +0.6**
MESJ Messejana 76.35 30 *e*P **P 20 38 37.8 +0.3**
MESJ IAmb IAmb 20 38 38.3
comp=Z,23nm,1.3s
MESJ Messejana 76.35 30 *e*P **P 20 38 37.8 +0.3**
AKT Akhty 76.43 346 *e*P **P 20 38 36.7 -1.3**
AKT *e* 20 38 49.5
AKT pmax pmax
comp=Z,56nm,1.5s
PTEO Sao Teotonio 76.50 31 *e*P **P 20 38 38.7 +0.3**
MORF Marmelete 76.75 31 *e*P **P 20 38 39.9 +0.1**
MORF Marmelete 76.75 31 *e*P **P 20 38 40.2 +0.4**
MORF IAmb IAmb 20 38 41.2
comp=Z,15nm,0.7s
MORF Marmelete 76.75 31 *e*P **P 20 38 40.2 +0.4**
PVAQ Vaqueiros 76.88 30 *e*P **P 20 38 41.2 +0.7**
PBDV Barranco-do-Ve 76.98 30 *e*P **P 20 38 42.0 +0.9**
PEHC Pehcevo 77.00 5 *i*P **P 20 38 41.4 +0.2**
DIKM Dikmen 77.19 356 ⇓P **P 20 38 42.9 +0.8**
DIKM Dikmen 77.19 356 P **P 20 38 42.1 -0.1**
comp=Z,86nm,1.3s
SDV Santo Domingo 77.22 95 P **P 20 38 41.9 -1.0**
SDV IAmb IAmb 20 38 44.0
comp=Z,25nm,0.9s
SDV Santo Domingo 77.22 95 *e*P **P 20 38 43.3 +0.4**
TIR Tirane 77.26 8 ⇓P **P 20 38 42.6 0.0**
TIR Tirane 77.26 8 P **P 20 38 42.5 0.0**
TIR Tirane 77.26 8 P **P 20 38 42.4 -0.2**
comp=Z,44nm,0.9s
VAY Valandovo 77.44 6 *i*P **P 20 38 43.8 +0.3**
OHR Ohrid 77.55 7 *i*P **P 20 38 45.0 +0.7**
MATE Matera 77.72 10 *e*P **P 20 38 45.4 +0.3**
MATE Matera 77.72 10 ⇑P **P 20 38 45.5 +0.3**
RDO Rodhopi 77.72 3 IAmb IAmb 20 38 46.6
comp=Z,43nm,1.1s
TNCH TengChong 77.87 300 P **P 20 38 45.3 -1.2**
TNCH pP pP 20 38 58.5 -2.3
TNCH S **S 20 48 29.8 -5.8**
TNCH pmax pmax
comp=Z,13nm,1.3s
TNCH pmax pmax
comp=Z,120nm,3.7s
TNCH LR LR
comp=Z,200nm,23.0s
TNCH LR LR
comp=Z,200nm,21.9s
TNCH LR LR
comp=Z,740nm,30.0s
GNI Garni 78.06 348 P **P 20 38 47.4 +0.2**
GNI IAmb IAmb 20 38 49.2
comp=Z,35nm,1.2s
GNI Garni 78.06 348 *ce*P **P 20 38 48.9 +1.6**
GNI pmax pmax
comp=Z,30nm,1.3s
GNI Garni 78.06 348 P **P 20 38 47.9 +0.6**
comp=Z,25nm,1.4s
LIT Litokoron 78.65 6 IAmb IAmb 20 38 51.0
comp=Z,39nm,0.8s
NIL Nilore 78.93 324 P **P 20 38 51.0 -0.9**
NIL IAmb IAmb 20 38 52.3
comp=Z,55nm,1.3s
NIL Nilore 78.93 324 P **P 20 38 51.1 -0.9**
NIL pmax pmax
comp=Z,55nm,1.3s
ROSC El Rosal 78.99 100 P **P 20 38 53.3 +0.3**
comp=Z,15nm,0.6s,baz=181,slow=22,SNR=6.7
comp=Z,15nm,0.6s
ANTO Ankara 79.03 358 P **P 20 38 51.8 -0.7**
ANTO IAmb IAmb 20 38 54.0
comp=Z,31nm,0.8s
ANTO Ankara 79.03 358 P **P 20 38 51.8 -0.7**
ANTO pmax pmax
comp=Z,31nm,0.9s
BR106 Keskin Array S 79.15 357 P **P 20 38 52.3 -0.9**
comp=Z,12nm,1.1s,comp=Z,119nm
BRTR Keskin Array B 79.16 357 P **P 20 38 53.4 +0.1**
comp=Z,7.1nm,0.9s,baz=8.6,slow=3.2,SNR=24
BRTR PKKPbc **PKKPbc 20 57 41.0 +0.1**
comp=Z,0.7nm,0.5s,baz=174,slow=6.5,SNR=5.4
comp=Z,7.1nm,0.9s
BR105 Keskin Array S 79.16 357 P **P 20 38 53.3 0.0**
BR104 Keskin Array S 79.17 357 P **P 20 38 53.4 0.0**
comp=Z,13nm,1.0s,comp=Z,104nm
TIP Timpagrande 79.18 10 IAmb IAmb 20 38 53.9
comp=Z,20nm,0.8s
TIP Timpagrande 79.18 10 ⇑P **P 20 38 52.7 -0.6**
TIP Timpagrande 79.18 10 P **P 20 38 52.8 -0.6**
comp=Z,24nm,1.1s
KIRS Kirsehir-Merke 79.74 357 ⇓P **P 20 38 56.6 +0.2**
OTAV Otavalo 81.09 106 P **P 20 39 03.9 -0.5**
OTAV IAmb IAmb 20 39 06.1
comp=Z,78nm,2.0s
OTAV Otavalo 81.09 106 P **P 20 39 03.9 -0.5**
OTAV pmax pmax
comp=Z,78nm,2.0s
ISP Isparta 81.10 359 *ce*P **P 20 39 03.6 -0.1**
ISP pmax pmax
comp=Z,20nm,0.6s
GAZ Gaziantep 81.57 354 IAmb IAmb 20 39 56.6
comp=Z,36nm,1.4s
KEST Kesra 81.75 17 P **P 20 39 07.2 0.0**
comp=Z,38nm,0.9s,baz=340,slow=1.5,SNR=36
comp=Z,38nm,0.9s
MSVF Nonsavu 82.88 210 P **P 20 39 13.7 +0.7**
MSVF IAmb IAmb 20 39 15.1
comp=Z,25nm,1.1s
MSVF Nonsavu 82.88 210 P **P 20 39 13.7 +0.7**
MSVF pmax pmax
comp=Z,25nm,1.1s
CM31 Chiang Mai Arr 83.52 297 IAmb IAmb 20 39 16.6
comp=Z,16nm,0.9s
CMAR Chiang Mai Arr 83.52 297 P **P 20 39 15.4 -1.1**
comp=Z,8.5nm,0.8s,baz=6.7,slow=6.0,SNR=71
CMAR PKKPbc **PKKPbc 20 57 33.3 +2.4**
comp=Z,0.2nm,0.3s,baz=235,slow=4.7,SNR=4.6
comp=Z,8.5nm,0.8s
SWI Sorong 85.31 260 P **P 20 39 25.8 +0.3**
comp=Z,39nm,1.1s,comp=Z,626nm
MMAI Mount Meron Ar 85.79 355 P **P 20 39 27.9 0.0**
comp=Z,4.3nm,0.9s,baz=33,slow=6.9,SNR=5.2
comp=Z,4.3nm,0.9s
FAKI Fak Fak 86.64 258 P **P 20 39 30.9 -1.2**
BOAV Boa Vista 87.72 89 IAmb IAmb 20 39 38.3
comp=Z,24nm,1.1s
BOAV Boa Vista 87.72 89 *e*P **P 20 39 37.4 +0.1**
SANI Sanana 88.85 264 P **P 20 39 39.8 -2.9**
comp=Z,12nm,1.0s
NNA Nana 92.61 110 *ce*P **P 20 40 00.1 0.0**
NNA pmax pmax
comp=Z,38nm,1.2s
RAYN Ar Rayn 94.42 346 P **P 20 40 07.5 -1.1**
RAYN IAmb IAmb 20 40 09.2
comp=Z,11nm,0.9s
RAYN Ar Rayn 94.42 346 P **P 20 40 08.5 0.0**
SAML Samuel 96.32 97 P **P 20 40 15.4 -1.6**
SAML Samuel 96.32 97 P **P 20 40 15.5 -1.6**
SAML pmax pmax
comp=Z,33nm,1.7s
LPAZ La Paz 100.37 105 P **Pdif 20 40 34.8 -1.2**
comp=Z,2.0nm,0.7s,baz=6.3,slow=9.2,SNR=6.8
WRA Warramunga Arr 100.62 248 P **Pdif 20 40 34.0 -2.2**
comp=Z,1.0nm,0.8s,baz=37,slow=5.7,SNR=6.5
WRA Warramunga Arr 100.62 248 P **Pdif 20 40 34.0 -2.2**
TORD Torodi Ar. Bea 102.40 28 PKiKP **PKiKP 20 45 08.3 +2.6**
comp=Z,1.4nm,1.2s,baz=343,slow=4.6,SNR=3.8
TORD PKKPbc **PKKPbc 20 56 43.4 +1.1**
comp=Z,0.7nm,0.5s,baz=140,slow=1.1,SNR=5.9
SIV San Ignacio 103.44 99 Pdiff **Pdif 20 40 47.5 -1.4**
comp=Z,0.5nm,0.4s,baz=248,slow=6.0,SNR=4.6
SIV PKiKP **PP 20 45 05.5 +0.2**
comp=Z,1.8nm,0.8s,baz=336,slow=7.6,SNR=4.6
ASAR Alice Springs 104.07 246 Pdiff **Pdif 20 40 53.6 +2.1**
comp=Z,0.2nm,0.7s,baz=26,slow=5.2,SNR=4.6
ASAR PKiKP **PKiKP 20 45 07.5 -1.0**
comp=Z,1.0nm,1.0s,baz=15,slow=2.9,SNR=4.4
ASAR PKKPbc **PKKPdf 20 56 50.3 +3.1**
comp=Z,0.5nm,0.7s,baz=182,slow=1.1,SNR=5.0
KMBO Kilima Mbogo 119.60 352 **PKPdf 20 45 37.7 -0.8**
KMBO Kilima Mbogo 119.60 352 PKP **PKPdf 20 45 38.1 -0.4**
comp=Z,2.8nm,0.2s,baz=23,slow=9.5,SNR=5.0
PLCA Paso Flores 120.25 120 PKP **PKPdf 20 45 37.9 -0.7**
comp=Z,5.2nm,0.9s,baz=256,slow=1.1,SNR=8.0
VNDA Vanda 141.80 195 PKPpre 20 46 12.4
VNDA Vanda 141.80 195 PKhKP PKPpre 20 46 14.3
comp=Z,1.1nm,0.8s,baz=347,slow=3.9,SNR=5.8
VNDA Vanda 141.80 195 PKHKP PKPpre 20 46 12.4
POGA Pongola 145.91 357 PKPdf **PKPdf 20 46 26.5 -0.2**
BOSA Boshof 147.05 7 PKPbc **PKPbc 20 46 30.2 -0.7**
comp=Z,27nm,0.9s,baz=356,slow=3.6,SNR=26
QSPA South Pole Qui 151.23 180 PKPbc **PKPbc 20 46 40.1 0.0**
comp=Z,60nm,0.8s,baz=11,slow=0.3,SNR=103
VNA3 Neumayer Olymp 161.73 139 ⇑PKPab **PKPab 20 47 32.9 -0.5**
comp=Z,27nm,0.8s
VNA1 Neumayer--Stat 162.31 137 ⇑PKPab **PKPab 20 47 35.6 -0.3**
comp=Z,20nm,0.9s
VNA2 Neumayer--Watz 162.53 138 ⇑PKPab **PKPab 20 47 35.6 -1.3**
comp=Z,14nm,0.8s,baz=278,slow=4.3
SNAA Sanae 163.69 142 ⇑PKPab **PKPab 20 47 40.2 -1.8**
comp=Z,129nm,0.7s
SNAA Sanae 163.69 142 PKPab **PKPab 20 47 40.8 -1.2**
comp=Z,9.1nm,1.0s,baz=244,slow=5.9,SNR=16
MAW Mawson 164.67 232 PKPab **PKPab 20 47 45.2 -1.1**
comp=Z,6.7nm,1.1s,baz=46,slow=6.1,SNR=7.1
TROLL Troll, Antarti 165.04 146 ⇑PKPab **PKPab 20 47 47.7 -0.4**
comp=Z,383nm,0.7s

NEIC ***30*** *20:27:59.0±1.5, 61°.41N±0°.03×150°.08W±0°.05, h43km±3km, Error ellipse: s-maj=4.3km s-min=3.2km az=183.0*
AEIC ***30*** *20:27:59.6±1.1, 61°.39N±0°.03×150°.10W±0°.06, h37km±3km, ML4.5, mb4.7/27(NEIC), ML4.8/52(NEIC), Error ellipse: s-maj=4.7km s-min=4.1km az=135.0*
ISC 30 20:27:58.6±0.8, 61°.39N±0°.03×150°.08W±0°.03, h43km±6km, n104, σ0.85/111, mb4.7/13, 3D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.33**	**283**		**Pn**	**20 28 07.4**	**-0.2**
SUA	**Susitna One**	**0.33**	**283**		**Sn**	**20 28 14.7**	**+0.8**
SUA				IAML		20 28 15.3	
comp=N,62μm,0.8s							
SUA				IAML		20 28 15.0	
comp=E,80μm,0.7s							
SUA	**Susitna One**	**0.33**	**283**	P	**Pn**	**20 28 07.4**	**-0.2**
baz=103							
SUA				S	**Sn**	**20 28 14.5**	**+0.7**
baz=103							
RC01	**Rabbit Creek A**	**0.35**	**151**		**Pn**	**20 28 07.3**	**-0.3**
RC01					**Sn**	**20 28 14.5**	**+0.5**
RC01	**Rabbit Creek A**	**0.35**	**151**	P	**Pn**	**20 28 07.3**	**-0.3**
baz=330							
RC01				S	**Sn**	**20 28 14.5**	**+0.5**
baz=330							
M22K	**Willow**	**0.36**	**357**		**Pn**	**20 28 07.4**	**-0.3**
M22K					**Sn**	**20 28 14.7**	**+0.6**
M22K	**Willow**	**0.36**	**357**	IAML		20 28 15.1	
comp=E,110μm,0.7s							
M22K				IAML		20 28 18.6	
comp=N,110μm,0.7s							
M22K	**Willow**	**0.36**	**357**	P	**Pn**	**20 28 07.4**	**-0.3**
baz=178							
M22K				S	**Sn**	**20 28 14.7**	**+0.6**
baz=178							
PMR	**Palmer**	**0.50**	**66**		**Pn**	**20 28 08.9**	**-0.5**
PMR					**Sn**	**20 28 17.2**	**+0.2**
PMR				IAML		20 28 17.8	
comp=E,38μm,0.7s							
PMR				IAML		20 28 17.9	
comp=N,45μm,0.4s							
PMR	**Palmer**	**0.50**	**66**	P	**Pn**	**20 28 08.9**	**-0.5**
baz=247							
PMR				S	**Sn**	**20 28 17.2**	**+0.2**
baz=247							
GHO	**Glory Hole Cre**	**0.67**	**55**		**Pn**	**20 28 11.6**	**-0.2**
GHO					**Sn**	**20 28 22.3**	**+1.1**
GHO	**Glory Hole Cre**	**0.67**	**55**	IAML		20 28 23.9	
comp=N,45μm,0.3s							
GHO				IAML		20 28 23.9	
comp=E,44μm,0.3s							
KNK	**Knik Glacier**	**0.78**	**88**		**Pn**	**20 28 13.3**	**+0.1**
KNK					**Sn**	**20 28 24.9**	**+1.1**
KNK	**Knik Glacier**	**0.78**	**88**	IAML		20 28 26.8	
comp=N,35μm,0.5s							
KNK				IAML		20 28 27.4	
comp=E,26μm,0.5s							
KNK	**Knik Glacier**	**0.78**	**88**	P	**Pn**	**20 28 13.3**	**+0.1**
baz=269							
KNK				S	**Sn**	**20 28 24.9**	**+1.1**
baz=269							
CAPN	**Captain Cook N**	**0.82**	**220**	Pn	**Pn**	**20 28 14.4**	**+0.8**
STLK	**Strandline Lak**	**0.85**	**278**		**Pn**	**20 28 14.3**	**+0.2**
STLK					**Sn**	**20 28 26.2**	**+0.7**
SLKM	**Skilak Lake**	**0.89**	**184**		**Pn**	**20 28 14.3**	**-0.4**
SKT	**Skwentna**	**0.91**	**311**		**Pn**	**20 28 14.8**	**-0.1**
SKT					**Sn**	**20 28 27.1**	**+0.2**
SKT	**Skwentna**	**0.91**	**311**	IAML		20 28 27.9	
comp=N,29μm,0.5s							
SKT				IAML		20 28 29.1	
comp=E,21μm,0.7s							
SKT	**Skwentna**	**0.91**	**311**	P	**Pn**	**20 28 14.8**	**-0.1**
baz=130							
SKT				S	**Sn**	**20 28 27.1**	**+0.2**
baz=130							
O22K	**Cooper Landing**	**0.93**	**169**		**Pn**	**20 28 14.9**	**-0.3**
O22K	**Cooper Landing**	**0.93**	**169**	Sn	**Sn**	**20 28 28.7**	**+1.3**
O22K	**Cooper Landing**	**0.93**	**169**	P	**Pn**	**20 28 14.9**	**-0.3**
baz=349							
SML	**Sawmill**	**0.93**	**63**	Pn	**Pn**	**20 28 15.2**	**-0.1**
SML				Sn	**Sn**	**20 28 28.6**	**+1.1**
SML				IAML		20 28 30.9	
comp=E,29μm,0.8s							
SML				IAML		20 28 31.5	
comp=N,18μm,0.7s							
SPCG	**Spurr Capps Gl**	**0.94**	**265**		**Pn**	**20 28 15.7**	**+0.2**
PWL	**Port Wells**	**1.00**	**122**		**Pn**	**20 28 16.6**	**+0.4**
PWL	**Port Wells**	**1.00**	**122**	Sn	**Sn**	**20 28 30.5**	**+1.3**
PWL	**Port Wells**	**1.00**	**122**	P	**Pn**	**20 28 16.6**	**+0.4**
baz=303							
SPCP	**Crater Peak Br**	**1.01**	**264**		**Pn**	**20 28 16.8**	**+0.4**
CUT	**Chulitna**	**1.02**	**355**		**Pn**	**20 28 16.6**	**+0.2**
CUT	**Chulitna**	**1.02**	**355**	IAML		20 28 32.0	
comp=E,34μm,0.8s							
CUT	**Chulitna**	**1.02**	**355**	P	**Pn**	**20 28 16.6**	**+0.2**
baz=176							
N20K	**Mount Spurr**	**1.05**	**260**	P	**Pn**	**20 28 16.8**	**-0.1**
baz=78							
SPCR	**Spurr Chakacha**	**1.05**	**260**		**Pn**	**20 28 16.8**	**-0.1**
SPCR	**Spurr Chakacha**	**1.05**	**260**	P	**Pn**	**20 28 16.8**	**-0.1**
baz=79							
M23K	**Glacier View**	**1.19**	**69**		**Pn**	**20 28 19.4**	**+0.5**
M23K	**Glacier View**	**1.19**	**69**	P	**Pn**	**20 28 19.4**	**+0.5**
baz=251							
SEW	**Seward**	**1.33**	**166**		**Pn**	**20 28 20.7**	**+0.1**
SEW	**Seward**	**1.33**	**166**	P	**Pn**	**20 28 20.7**	**+0.1**
baz=346							
SCM	**Sheep Creek Mo**	**1.39**	**70**		**Pn**	**20 28 22.1**	**+0.5**
SCM	**Sheep Creek Mo**	**1.39**	**70**	IAML		20 28 42.8	
comp=N,21μm,0.7s							
SCM	**Sheep Creek Mo**	**1.39**	**70**	P	**Pn**	**20 28 22.1**	**+0.5**
baz=253							
RDT	**Redoubt**	**1.40**	**235**		**Pn**	**20 28 21.6**	**-0.1**
GLI	**Glacier Island**	**1.54**	**108**		**Pn**	**20 28 23.3**	**-0.2**
GLI	**Glacier Island**	**1.54**	**108**	IAML		20 28 45.5	
comp=N,12μm,0.6s							
GLI	**Glacier Island**	**1.54**	**108**	P	**Pn**	**20 28 23.3**	**-0.2**
baz=291							
M20K	**Styx River**	**1.54**	**290**	Pn	**Pn**	**20 28 23.8**	**+0.2**
RDJH	**Redoubt Jeurge**	**1.55**	**240**		**Pn**	**20 28 24.0**	**+0.2**
WAT6	**Susitna Watana**	**1.62**	**42**		**Pn**	**20 28 25.7**	**+0.8**
WAT6	**Susitna Watana**	**1.62**	**42**	P	**Pn**	**20 28 25.7**	**+0.8**
baz=224							
RDWB	**Redoubt West**	**1.63**	**237**		**Pn**	**20 28 25.0**	**+0.1**
BRLK	**Bradley Lake**	**1.68**	**194**		**Pn**	**20 28 25.8**	**+0.2**
BRLK				IAML		20 28 50.0	
comp=E,6μm,0.5s							
BRLK				IAML		20 28 51.1	
comp=N,7μm,0.6s							
FID	**Port Fidalgo**	**1.87**	**109**	Pn	**Pn**	**20 28 27.4**	**-0.6**
FID				IAML		20 28 57.5	
comp=E,7μm,0.6s							
FID				IAML		20 28 59.4	
comp=N,9μm,0.6s							
HOM	**Homer**	**1.91**	**205**	Pn	**Pn**	**20 28 29.2**	**+0.7**
CNPM	**China Poot**	**1.96**	**197**	Pn	**Pn**	**20 28 30.0**	**+0.7**
CNPM				IAML		20 28 58.3	
comp=E,7μm,0.6s							
CNPM				IAML		20 29 01.1	
comp=N,5μm,0.8s							
M24K	**Tolsona, Glenn**	**1.99**	**67**	Pn	**Pn**	**20 28 31.0**	**+1.2**
M24K				IAML		20 29 15.2	
comp=N,8μm,1.1s							
KLU	**Klutina**	**2.00**	**85**	Pn	**Pn**	**20 28 31.0**	**+1.0**
KLU				IAML		20 28 59.7	
comp=N,7μm,0.6s							
HIN	**Hinchinbrook I**	**2.02**	**118**	Pn	**Pn**	**20 28 31.1**	**+1.0**
HIN				IAML		20 29 02.4	
comp=E,9μm,0.8s							
ILSW	**Iliamna Southw**	**2.07**	**228**	Pn	**Pn**	**20 28 31.4**	**+0.5**
DHY	**Denali Highway**	**2.11**	**36**	Pn	**Pn**	**20 28 31.9**	**+0.4**
M19K	**Big River Lodg**	**2.12**	**286**	Pn	**Pn**	**20 28 31.7**	**+0.2**
L19K	**White Mountain**	**2.40**	**291**	Pn	**Pn**	**20 28 34.7**	**-0.7**
G19K	**Purcell Mounta**	**5.69**	**330**	Pn	**Pn**	**20 29 19.4**	**-1.0**
H17K	**Granite Mounta**	**5.70**	**313**	Pn	**Pn**	**20 29 19.3**	**-1.3**
O14K	**Tigyukauivet M**	**5.96**	**254**	Pn	**Pn**	**20 29 24.9**	**+0.8**
F20K	**Avaraart Lake**	**6.18**	**339**	Pn	**Pn**	**20 29 28.4**	**+1.2**
F19K	**Shaleruckik Mo**	**6.41**	**332**	Pn	**Pn**	**20 29 31.2**	**+1.0**
J14K	**Nanvaranak Lak**	**6.47**	**288**	Pn	**Pn**	**20 29 31.5**	**+0.4**
F17K	**Baldwin Pennin**	**7.06**	**321**	Pn	**Pn**	**20 29 41.1**	**+2.0**
E18K	**Tukpahlearik C**	**7.56**	**328**	Pn	**Pn**	**20 29 47.3**	**+1.2**
M11K	**Mekoryuk**	**7.93**	**270**	Pn	**Pn**	**20 29 51.8**	**+0.7**
RDOG	**Red Dog Mine**	**8.63**	**326**	Pn	**Pn**	**20 30 02.3**	**+1.6**
D05A	**Enumclaw**	**21.47**	**119**	P	**P**	**20 32 43.4**	**+0.3**
LON	**Longmire**	**21.89**	**119**	P	**P**	**20 32 48.4**	**+0.8**
HOOD	**Mount Hood Mea**	**23.10**	**121**	P	**P**	**20 33 00.9**	**+0.3**
F07A	**Phinny Hill Vi**	**23.36**	**118**	P	**P**	**20 33 03.5**	**+0.6**
F07A				IAmb	IAmb	20 33 05.3	
comp=Z,19nm,0.7s							
H04A	**Detroit Lake**	**23.40**	**123**	P	**P**	**20 33 04.0**	**+0.6**
H04A				IAmb	IAmb	20 33 08.2	
comp=Z,30nm,1.2s							
I05D	**Terrebonne, OR**	**24.03**	**122**	P	**P**	**20 33 10.0**	**+0.7**
I05D				IAmb	IAmb	20 33 13.8	
comp=Z,27nm,1.0s							
J05D	**Fort Rock, OR**	**24.95**	**123**	P	**P**	**20 33 18.6**	**+0.8**
J05D				IAmb	IAmb	20 33 19.5	
comp=Z,22nm,0.9s							
I07A	**Izee**	**25.00**	**120**	P	**P**	**20 33 18.7**	**+0.5**
BPMT	**Black Pine Rid**	**25.81**	**109**	P	**P**	**20 33 25.6**	**-0.1**
LYMT	**Lyon Mountain**	**25.94**	**106**	P	**P**	**20 33 26.0**	**-0.8**
KMRM	**Mail Ridge**	**26.62**	**131**	P	**P**	**20 33 34.4**	**+1.5**
KMRM				IAmb	IAmb	20 33 40.4	
comp=Z,25nm,1.0s							
WVOR	**Wild Horse Val**	**26.71**	**121**	P	**P**	**20 33 34.6**	**+0.9**
KCPM	**Cahto Peak**	**27.14**	**131**	P	**P**	**20 33 38.5**	**+1.0**
RLMT	**Red Lodge**	**28.72**	**106**	P	**P**	**20 33 52.3**	**+0.5**
RLMT				IAmb	IAmb	20 33 54.1	
comp=Z,13nm,0.8s							
AFDM	**Forest Hills D**	**28.76**	**128**	P	**P**	**20 33 52.5**	**+0.6**
FXWY	**Fox Creek**	**29.06**	**110**	P	**P**	**20 33 55.8**	**+1.0**
FXWY				IAmb	IAmb	20 34 05.7	
comp=Z,18nm,1.3s							
ELK	**Elko**	**29.54**	**118**	P	**P**	**20 34 00.2**	**+1.2**
KVN	**Kaiserville**	**29.79**	**124**	P	**P**	**20 34 02.2**	**+1.0**
KVN				IAmb	IAmb	20 34 03.0	
comp=Z,12nm,1.1s							
NVAR	**Mina Array Bea**	**30.24**	**125**	P	**P**	**20 34 06.5**	**+1.2**
PDAR	**Pinedale Array**	**30.41**	**109**	P	**P**	**20 34 06.9**	**+0.3**
PMPB	**Monarch Peak**	**31.23**	**130**	P	**P**	**20 34

ULM	**Lac du Bonnet**	**31.48**	**86**	P	**P**	**20 34 15.4**	**-0.3**
RSSD	**Black Hills**	**31.93**	**101**	P	**P**	**20 34 19.6**	**-0.4**
RSSD				IAmb	IAmb	20 34 21.1	
	comp=Z,11nm,0.8s						
TPNV	**Topopah Spring**	**32.34**	**124**	P	**P**	**20 34 24.3**	**+0.7**
TPNV				IAmb	IAmb	20 34 31.5	
	comp=Z,14nm,0.9s						
P18A	**Preston Nutter**	**32.62**	**113**	P	**P**	**20 34 27.8**	**+1.5**
P18A				IAmb	IAmb	20 34 35.9	
	comp=Z,14nm,1.1s						
KNB	**Kanab**	**33.69**	**119**	P	**P**	**20 34 35.1**	**-0.3**
G40A	**Rib Lake**	**37.70**	**87**	P	**P**	**20 35 08.7**	**-0.9**
G40A				IAmb	IAmb	20 35 09.7	
	comp=Z,7.2nm,0.6s						
VNA3	**Neumayer Olymp**	**161.70**	**139**	⇓P	**PKPab**	**20 48 36.2**	**-2.3**
VNA1	**Neumayer--Stat**	**162.28**	**137**	⇓P	**PKPab**	**20 48 38.8**	**-2.2**
VNA2	**Neumayer--Watz**	**162.50**	**139**	⇓P	**PKPab**	**20 48 38.9**	**-3.1**
	baz=277,slow=3.7						

*NEIC **30** 20:29:21.3±1.1, 61°.42N±0°.02×150°.08W±0°.05, h44km±3km, Error ellipse: s-maj=3.5km s-min=3.4km az=148.0*
*AEIC **30** 20:29:21.9±0.8, 61°.40N±0°.02×150°.06W±0°.04, h41km±2km, ML3.8, ML3.9/80(NEIC), Error ellipse: s-maj=3.6km s-min=2.8km az=212.0*
ISC 30 20:29:21.9±1.7, 61°.40N±0°.03×150°.07W±0°.02, h37km±1km, n76, σ0s59/85, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.33**	**281**		**Pn**	**20 29 30.0**	**-0.4**
SUA				IAML		20 29 38.0	
	comp=E,8μm,0.8s						
SUA	**Susitna One**	**0.33**	**281**		**Sn**	**20 29 37.2**	**-0.2**
SUA	**Susitna One**	**0.33**	**281**	P	**Pn**	**20 29 29.9**	**-0.5**
	baz=100						
SUA				S	**Sn**	**20 29 37.3**	**-0.2**
	baz=100						
RC01	**Rabbit Creek A**	**0.35**	**153**		**Pn**	**20 29 30.0**	**-0.4**
RC01					**Sn**	**20 29 37.2**	**0.0**
RC01	**Rabbit Creek A**	**0.35**	**153**	IAML		20 29 41.1	
	comp=N,8μm,0.2s						
RC01	**Rabbit Creek A**	**0.35**	**153**	P	**Pn**	**20 29 30.0**	**-0.4**
	baz=334						
RC01				S	**Sn**	**20 29 37.2**	**0.0**
	baz=334						
M22K	**Willow**	**0.35**	**356**		**Pn**	**20 29 29.8**	**-0.5**
M22K					**Sn**	**20 29 37.3**	**+0.2**
M22K	**Willow**	**0.35**	**356**	IAML		20 29 38.2	
	comp=N,12μm,0.6s						
M22K				IAML		20 29 45.0	
	comp=E,11μm,0.8s						
M22K	**Willow**	**0.35**	**356**	P	**Pn**	**20 29 29.8**	**-0.5**
	baz=175						
M22K				S	**Sn**	**20 29 37.3**	**+0.2**
	baz=175						
PMR	**Palmer**	**0.49**	**67**		**Pn**	**20 29 31.4**	**-0.9**
PMR	**Palmer**	**0.49**	**67**		**Sn**	**20 29 39.5**	**-0.1**
PMR				IAML		20 29 40.1	
	comp=E,5μm,0.4s						
PMR				IAML		20 29 40.2	
	comp=N,6μm,0.6s						
PMR	**Palmer**	**0.49**	**67**	P	**Pn**	**20 29 31.4**	**-0.9**
	baz=247						
PMR				S	**Sn**	**20 29 39.7**	**+0.1**
	baz=247						
GHO	**Glory Hole Cre**	**0.66**	**55**		**Sn**	**20 29 44.5**	**+0.3**
GHO	**Glory Hole Cre**	**0.66**	**55**	Pn	**Pn**	**20 29 34.1**	**-0.8**
GHO	**Glory Hole Cre**	**0.66**	**55**	IAML		20 29 46.6	
	comp=E,4μm,0.3s						
GHO				IAML		20 29 46.7	
	comp=N,4μm,0.3s						
KNK	**Knik Glacier**	**0.78**	**88**		**Pn**	**20 29 35.8**	**-0.5**
KNK				Sn	**Sn**	**20 29 48.0**	**+1.3**
KNK				IAML		20 29 49.2	
	comp=N,5μm,0.4s						
KNK				IAML		20 29 50.6	
	comp=E,3μm,0.4s						
KNK	**Knik Glacier**	**0.78**	**88**	P	**Pn**	**20 29 35.4**	**-0.9**
	baz=270						
STLK	**Strandline Lak**	**0.85**	**277**		**Pn**	**20 29 37.0**	**-0.4**
STLK					**Sn**	**20 29 48.8**	**0.0**
SLKM	**Skilak Lake**	**0.90**	**185**		**Pn**	**20 29 37.8**	**-0.2**
SKT	**Skwentna**	**0.91**	**310**	Pn	**Pn**	**20 29 37.1**	**-1.1**
SKT					**Sn**	**20 29 49.6**	**-0.4**
SKT				IAML		20 29 51.5	
	comp=N,4μm,0.6s						
SKT	**Skwentna**	**0.91**	**310**	S	**Sn**	**20 29 49.8**	**-0.3**
	baz=129						
SML	**Sawmill**	**0.93**	**63**	Pn	**Pn**	**20 29 37.3**	**-1.1**
SML				Sn	**Sn**	**20 29 50.6**	**+0.1**
SML				IAML		20 29 54.0	
	comp=N,3μm,0.5s						
O22K	**Cooper Landing**	**0.94**	**170**	Sn	**Sn**	**20 29 51.3**	**+0.6**
SPCG	**Spurr Capps Gl**	**0.95**	**264**		**Pn**	**20 29 38.5**	**-0.2**
SPCG					**Sn**	**20 29 51.5**	**+0.4**
PWL	**Port Wells**	**1.00**	**122**		**Pn**	**20 29 39.0**	**-0.4**
PWL					**Sn**	**20 29 53.2**	**+0.9**
PWL	**Port Wells**	**1.00**	**122**	P	**Pn**	**20 29 39.0**	**-0.4**
	baz=304						
PWL				S	**Sn**	**20 29 53.2**	**+0.9**
	baz=304						
CUT	**Chulitna**	**1.01**	**355**		**Sn**	**20 29 52.7**	**+0.2**
CUT	**Chulitna**	**1.01**	**355**	S	**Sn**	**20 29 52.7**	**+0.2**
	baz=174						
SPCP	**Crater Peak Br**	**1.01**	**263**		**Pn**	**20 29 39.2**	**-0.6**
N20K	**Mount Spurr**	**1.05**	**260**	P	**Pn**	**20 29 39.5**	**-0.7**
	baz=78						
SPCR	**Spurr Chakacha**	**1.05**	**260**		**Pn**	**20 29 39.5**	**-0.7**
SPCR	**Spurr Chakacha**	**1.05**	**260**		**Pn**	**20 29 39.5**	**-0.7**
SPCR	**Spurr Chakacha**	**1.05**	**260**	P	**Pn**	**20 29 39.5**	**-0.7**
	baz=78						
M23K	**Glacier View**	**1.19**	**70**		**Pn**	**20 29 41.7**	**-0.3**
M23K	**Glacier View**	**1.19**	**70**	P	**Pn**	**20 29 41.7**	**-0.3**
	baz=252						
SCM	**Sheep Creek Mo**	**1.38**	**71**		**Pn**	**20 29 44.2**	**-0.4**
SCM	**Sheep Creek Mo**	**1.38**	**71**	P	**Pn**	**20 29 44.3**	**-0.4**
	baz=253						
RDT	**Redoubt**	**1.41**	**235**		**Pn**	**20 29 44.3**	**-0.8**
GLI	**Glacier Island**	**1.54**	**109**		**Pn**	**20 29 45.7**	**-1.0**
GLI	**Glacier Island**	**1.54**	**109**	IAML		20 30 09.4	
	comp=E,2μm,0.5s						
GLI				IAML		20 30 10.5	
	comp=N,2μm,0.6s						
GLI	**Glacier Island**	**1.54**	**109**	P	**Pn**	**20 29 45.7**	**-1.0**
	baz=291						
M20K	**Styx River**	**1.54**	**290**		**Pn**	**20 29 47.0**	**+0.1**
M20K	**Styx River**	**1.54**	**290**	P	**Pn**	**20 29 47.1**	**+0.3**
	baz=107						
RDJH	**Redoubt Jeurge**	**1.56**	**240**		**Pn**	**20 29 46.8**	**-0.4**
RDWB	**Redoubt West**	**1.63**	**237**		**Pn**	**20 29 47.8**	**-0.4**
RED	**Redoubt Volcan**	**1.65**	**234**		**Pn**	**20 29 47.8**	**-0.6**
BRLK	**Bradley Lake**	**1.69**	**194**	Pn	**Pn**	**20 29 48.3**	**-0.6**
BRLK				IAML		20 30 13.3	
	comp=N,972nm,0.7s						
FID	**Port Fidalgo**	**1.86**	**109**	Pn	**Pn**	**20 29 50.3**	**-1.0**
FID				IAML		20 30 14.8	
	comp=E,1μm,0.5s						
FID				IAML		20 30 19.1	
	comp=N,1μm,0.7s						
KLU	**Klutina**	**1.99**	**86**	Pn	**Pn**	**20 29 52.5**	**-0.6**
KLU				IAML		20 30 24.4	
	comp=N,1μm,0.7s						
HIN	**Hinchinbrook I**	**2.01**	**118**	Pn	**Pn**	**20 29 53.1**	**-0.2**
HIN				IAML		20 30 26.5	
	comp=N,1μm,0.9s						
HIN				IAML		20 30 28.3	
	comp=E,1μm,0.9s						
ILSW	**Iliamna Southw**	**2.08**	**228**	Pn	**Pn**	**20 29 54.1**	**-0.2**
M19K	**Big River Lodg**	**2.12**	**286**	Pn	**Pn**	**20 29 54.4**	**-0.4**
N19K	**Bonanza Creek**	**2.22**	**257**	Pn	**Pn**	**20 29 55.7**	**-0.5**
N19K				IAML		20 30 34.3	
	comp=E,534nm,0.9s						
CAST	**Castle Rocks**	**2.23**	**336**	Pn	**Pn**	**20 29 55.9**	**-0.4**
CAST				IAML		20 30 25.8	
	comp=E,596nm,0.9s						
L19K	**White Mountain**	**2.40**	**291**	Pn	**Pn**	**20 29 58.6**	**-0.1**
L19K				IAML		20 30 31.4	
	comp=E,516nm,1.1s						
N25K	**Chitina, Valde**	**2.63**	**83**	Pn	**Pn**	**20 30 00.6**	**-1.3**
N25K				IAML		20 30 43.4	
	comp=N,540nm,0.5s						
SVW2	**Sparrevohn**	**2.68**	**266**	Pn	**Pn**	**20 30 01.4**	**-1.1**
SVW2				IAML		20 30 22.6	
	comp=E,480nm,0.9s						
K20K	**Telida**	**2.71**	**318**	Pn	**Pn**	**20 30 02.3**	**-0.6**
K20K				IAML		20 30 25.0	
	comp=E,480nm,0.9s						
K20K				IAML		20 30 35.8	
	comp=N,424nm,0.8s						
BPAW	**Bear Paw Mtn.**	**2.74**	**352**	Pn	**Pn**	**20 30 03.0**	**-0.3**
BPAW				IAML		20 30 30.9	
	comp=N,411nm,0.9s						
BPAW				IAML		20 30 33.2	
	comp=E,407nm,1.2s						
N18K	**Kilae Creek**	**2.92**	**258**	Pn	**Pn**	**20 30 05.3**	**-0.6**
N18K				IAML		20 30 28.9	
	comp=N,458nm,1.1s						
N18K				IAML		20 30 33.4	
	comp=E,519nm,0.9s						
O18K	**Koktuh Hills**	**2.97**	**241**	Pn	**Pn**	**20 30 05.8**	**-0.6**
O18K				IAML		20 30 53.4	
	comp=N,456nm,1.1s						
O18K				IAML		20 30 53.5	
	comp=E,358nm,1.1s						
SYI	**Shuyak Island**	**3.03**	**204**	Pn	**Pn**	**20 30 07.0**	**-0.3**
TTA	**Tatalina**	**3.18**	**301**	Pn	**Pn**	**20 30 08.9**	**-0.5**
TTA				IAML		20 30 38.5	
	comp=N,319nm,1.1s						
TTA				IAML		20 31 10.0	
	comp=E,268nm,1.2s						
L18K	**Granite Mounta**	**3.25**	**288**	Pn	**Pn**	**20 30 10.0**	**-0.2**
L18K				IAML		20 30 42.1	
	comp=E,388nm,1.2s						
L18K				IAML		20 30 51.5	
	comp=N,315nm,1.0s						
J20K	**Nowinta River**	**3.36**	**328**	Pn	**Pn**	**20 30 11.6**	**-0.1**
M17K	**Holitna River**	**3.54**	**273**	Pn	**Pn**	**20 30 13.8**	**-0.6**
N17K	**Nushagak Hills**	**3.58**	**259**	Pn	**Pn**	**20 30 14.2**	**-0.6**
N17K				IAML		20 30 42.1	
	comp=E,328nm,1.1s						
MLY	**Manley**	**3.66**	**356**	Pn	**Pn**	**20 30 16.2**	**+0.3**
MLY				IAML		20 30 48.7	
	comp=E,216nm,1.1s						
MLY				IAML		20 30 54.0	
	comp=N,222nm,1.0s						
J18K	**Innoko River**	**3.72**	**307**	Pn	**Pn**	**20 30 16.3**	**-0.5**
J18K				IAML		20 30 50.4	
	comp=E,237nm,1.0s						
I21K	**Tanana**	**3.89**	**348**	Pn	**Pn**	**20 30 19.2**	**+0.2**
I20K	**Naaghedeneel**	**3.95**	**331**	Pn	**Pn**	**20 30 20.2**	**+0.3**
L16K	**Owhat River**	**4.51**	**278**	Pn	**Pn**	**20 30 26.9**	**-0.7**
L16K				IAML		20 31 07.1	
	comp=E,167nm,1.2s						
J16K	**Anvik River**	**5.26**	**296**	Pn	**Pn**	**20 30 37.2**	**-0.6**
G21K	**Allakaket**	**5.35**	**345**	Pn	**Pn**	**20 30 40.0**	**+0.8**
I17K	**Unalakleet**	**5.50**	**302**	Pn	**Pn**	**20 30 40.7**	**-0.4**
H17K	**Granite Mounta**	**5.70**	**313**	Pn	**Pn**	**20 30 44.0**	**+0.2**

*NEIC **30** 20:32:28.9±0.9, 61°.41N±0°.02×150°.05W±0°.02, h32km±9km, Error ellipse: s-maj=3.1km s-min=0.9km az=155.0*
AEIC 30 20:32:29.8±0.9, 61°.40N±0°.02×150°.04W±0°.04, h33km±7km, ML2.5, ML2.7/60(NEIC), Error ellipse: s-maj=3.1km s-min=2.9km az=178.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.34**	**280**		Pb	20 32 37.8	-0.5
RC01	**Rabbit Creek A**	**0.35**	**155**		Pb	20 32 37.6	-0.5
RC01					Sn	20 32 44.9	+0.9
RC01	**Rabbit Creek A**	**0.35**	**155**	IAML		20 32 48.3	
	comp=N,411nm,0.2s						
M22K	**Willow**	**0.35**	**354**		Pb	20 32 37.5	-0.7
M22K					Sn	20 32 44.7	+0.5
M22K	**Willow**	**0.35**	**354**	IAML		20 32 49.3	
	comp=E,695nm,0.6s						
M22K				IAML		20 32 52.1	
	comp=N,791nm,1.1s						
PMR	**Palmer**	**0.48**	**66**		Pb	20 32 38.9	-1.1
PMR					Sb	20 32 47.0	0.0
GHO	**Glory Hole Cre**	**0.65**	**55**		Pn	20 32 41.6	-1.1
GHO					Sb	20 32 51.8	0.0
GHO	**Glory Hole Cre**	**0.65**	**55**	IAML		20 32 52.6	
	comp=E,268nm,0.4s						
GHO				IAML		20 32 53.7	
	comp=N,253nm,0.3s						
KNK	**Knik Glacier**	**0.76**	**89**		Pn	20 32 43.2	-1.0
KNK					Sb	20 32 55.0	+0.2
CAPN	**Captain Cook N**	**0.84**	**221**	Pn	Pn	20 32 44.8	-0.4
STLK	**Strandline Lak**	**0.87**	**277**		Pn	20 32 44.6	-1.1
STLK					Sn	20 32 56.8	-0.4
SLKM	**Skilak Lake**	**0.90**	**186**		Pn	20 32 45.1	-1.1
SML	**Sawmill**	**0.91**	**63**		Pn	20 32 45.1	-1.2
SML					Sn	20 32 58.4	0.0
SML	**Sawmill**	**0.91**	**63**	IAML		20 33 00.6	
	comp=N,188nm,0.6s						
SKT	**Skwentna**	**0.92**	**310**		Pn	20 32 45.0	-1.4
SKT					Sn	20 32 57.5	-0.8
SKT	**Skwentna**	**0.92**	**310**	IAML		20 32 58.4	
	comp=E,232nm,0.3s						
O22K	**Cooper Landing**	**0.94**	**170**		Sn	20 32 58.9	+0.1
O22K	**Cooper Landing**	**0.94**	**170**	Pn	Pn	20 32 46.1	-0.5
O22K	**Cooper Landing**	**0.94**	**170**	IAML		20 33 01.4	
	comp=E,517nm,0.8s						
O22K				IAML		20 33 04.9	
	comp=N,448nm,0.7s						
SPCG	**Spurr Capps Gl**	**0.96**	**264**		Pn	20 32 46.2	-0.9
PWL	**Port Wells**	**0.99**	**123**		Pn	20 32 46.5	-0.8
PWL					Sn	20 33 00.4	+0.2
CUT	**Chulitna**	**1.01**	**354**		Pn	20 32 46.8	-0.8
CUT					Sn	20 33 00.7	0.0
SPCP	**Crater Peak Br**	**1.03**	**263**		Pn	20 32 47.3	-0.7
SPCR	**Spurr Chakacha**	**1.07**	**260**		Pn	20 32 47.3	-1.1
SPCR	**Spurr Chakacha**	**1.07**	**260**		Pn	20 32 47.4	-1.1
M23K	**Glacier View**	**1.17**	**70**		Pn	20 32 49.0	-0.9
SEW	**Seward**	**1.33**	**167**		Pn	20 32 51.5	-0.5
SCM	**Sheep Creek Mo**	**1.37**	**70**		Pn	20 32 51.6	-1.0
SCM				IAML		20 33 12.1	
	comp=N,138nm,0.8s						
RDT	**Redoubt**	**1.42**	**235**		Pn	20 32 52.3	-1.0
GLI	**Glacier Island**	**1.52**	**109**		Pn	20 32 53.1	-1.5
GLI	**Glacier Island**	**1.52**	**109**	IAML		20 33 16.6	
	comp=N,83nm,1.2s						
GLI				IAML		20 33 20.7	
	comp=E,82nm,0.7s						
WAT7	**Susitna Watana**	**1.54**	**21**		Sn	20 33 14.5	+0.6
M20K	**Styx River**	**1.55**	**289**		Pn	20 32 54.6	-0.6
RDJH	**Redoubt Jeurge**	**1.57**	**240**		Pn	20 32 54.5	-1.0
RDSO	**Redoubt South**	**1.63**	**235**		Pn	20 32 55.1	-1.1
RDWB	**Redoubt West**	**1.65**	**237**		Pn	20 32 55.5	-1.0
RED	**Redoubt Volcan**	**1.66**	**235**		Pn	20 32 55.5	-1.1
BRLK	**Bradley Lake**	**1.70**	**195**	Pn	Pn	20 32 56.1	-1.0
BRLK				IAML		20 33 27.9	
	comp=N,65nm,1.2s						
BRLK				IAML		20 34 00.7	
	comp=E,68nm,1.2s						
FID	**Port Fidalgo**	**1.85**	**109**		Pn	20 32 57.3	-1.9
FID				IAML		20 34 09.6	
	comp=N,65nm,0.6s						
HOM	**Homer**	**1.92**	**205**	Pn	Pn	20 32 59.6	-0.6
M24K	**Tolsona, Glenn**	**1.97**	**67**	Pn	Pn	20 33 00.3	-0.5
M24K				IAML		20 34 16.6	
	comp=N,61nm,1.1s						
CNPM	**China Poot**	**1.98**	**198**	Pn	Pn	20 32 59.7	-1.2
CNPM				IAML		20 33 28.6	
	comp=E,46nm,0.7s						
CNPM				IAML		20 33 30.1	
	comp=N,42nm,0.4s						
KLU	**Klutina**	**1.98**	**86**	Pn	Pn	20 32 59.6	-1.4
KLU				IAML		20 33 31.8	
	comp=N,45nm,0.7s						
KLU				IAML		20 33 36.1	
	comp=E,39nm,0.9s						
HIN	**Hinchinbrook I**	**2.00**	**119**		Pn	20 32 60.0	-1.3
HIN	**Hinchinbrook I**	**2.00**	**119**	IAML		20 34 14.2	
	comp=E,70nm,1.0s						
HIN				IAML		20 34 14.8	
	comp=N,61nm,1.2s						
ILS	**Iliamna Low So**	**2.08**	**227**		Pn	20 33 01.8	-0.6
DIV	**Divide**	**2.08**	**96**		Pn	20 33 01.1	-1.3
ILSW	**Iliamna Southw**	**2.09**	**228**	Pn	Pn	20 33 01.7	-0.8
ILSW				IAML		20 33 24.7	
	comp=E,35nm,1.1s						
DHY	**Denali Highway**	**2.09**	**35**	Pn	Pn	20 33 01.8	-0.8
DHY				IAML		20 33 53.5	
	comp=N,43nm,1.1s						
DHY				IAML		20 34 16.5	
	comp=E,43nm,1.2s						
M19K	**Big River Lodg**	**2.14**	**285**		Pn	20 33 02.4	-0.7
M19K	**Big River Lodg**	**2.14**	**285**	IAML		20 33 20.2	
	comp=N,43nm,1.2s						
KTH	**Kantishna Hill**	**2.20**	**350**	Pn	Pn	20 33 03.5	-0.5
KTH				IAML		20 33 33.5	
	comp=E,53nm,1.1s						
KTH				IAML		20 33 43.1	
	comp=N,46nm,0.9s						
CAST	**Castle Rocks**	**2.23**	**336**	Pn	Pn	20 33 03.7	-0.8
N19K	**Bonanza Creek**	**2.24**	**257**	Pn	Pn	20 33 03.5	-1.1
N19K				IAML		20 33 55.4	
	comp=N,29nm,1.1s						
L19K	**White Mountain**	**2.42**	**291**		Pn	20 33 06.1	-0.8
L19K	**White Mountain**	**2.42**	**291**	IAML		20 33 56.1	
	comp=E,43nm,1.1s						
N25K	**Chitina, Valde**	**2.62**	**83**	Pn	Pn	20 33 09.8	0.0
N25K				IAML		20 33 55.6	
	comp=N,28nm,1.1s						
SVW2	**Sparrevohn**	**2.69**	**266**	Pn	Pn	20 33 09.5	-1.2
K20K	**Telida**	**2.71**	**318**	Pn	Pn	20 33 10.0	-1.0
N18K	**Kilae Creek**	**2.94**	**258**	Pn	Pn	20 33 12.9	-1.2
O18K	**Koktuh Hills**	**2.98**	**241**	Pn	Pn	20 33 13.3	-1.4
GLB	**Gilahina Butte**	**3.00**	**87**	Pn	Pn	20 33 13.4	-1.5
SYI	**Shuyak Island**	**3.04**	**204**	Pn	Pn	20 33 14.2	-1.3
Q19K	**Cape Douglas,**	**3.07**	**218**	Pn	Pn	20 33 14.1	-1.8
L18K	**Granite Mounta**	**3.26**	**287**	Pn	Pn	20 33 17.4	-1.1
MENT	**Mentasta**	**3.34**	**60**	Pn	Pn	20 33 18.7	-1.0
J20K	**Nowinta River**	**3.36**	**328**	Pn	Pn	20 33 19.3	-0.6
M26K	**Nabesna, AK**	**3.48**	**70**	Pn	Pn	20 33 20.6	-1.0
M17K	**Holitna River**	**3.56**	**273**	Pn	Pn	20 33 21.6	-1.0
N17K	**Nushagak Hills**	**3.59**	**259**	Pn	Pn	20 33 22.0	-1.1
MLY	**Manley**	**3.66**	**355**	Pn	Pn	20 33 23.7	-0.3
J19K	**Poorman**	**3.66**	**318**	Pn	Pn	20 33 23.2	-0.7
KDAK	**Kodiak Island**	**3.85**	**201**	Pn	Pn	20 33 25.5	-1.1
I21K	**Tanana**	**3.89**	**348**	Pn	Pn	20 33 26.8	-0.3
GRNC	**Granite Creek**	**4.08**	**96**	Pn	Pn	20 33 28.6	-1.4
K17K	**Iditarod**	**4.11**	**292**	Pn	Pn	20 33 29.0	-1.1
CTGM	**Chitina Glacie**	**4.24**	**92**	Pn	Pn	20 33 30.8	-1.3
M16K	**Timber Creek**	**4.33**	**269**	Pn	Pn	20 33 32.1	-1.1
LOGN	**Logan Glacier**	**4.42**	**94**	Pn	Pn	20 33 33.5	-1.1
L16K	**Owhat River**	**4.52**	**278**	Pn	Pn	20 33 33.9	-1.9

*NEIC **30** 20:33:10.2±1.1, 61°.38N±0°.04×150°.08W±0°.07, h44km±8km, Error ellipse: s-maj=5.6km s-min=4.6km az=160.0*
AEIC 30 20:33:10.5±1.4, 61°.39N±0°.04×150°.11W±0°.07, h46km±6km, ML2.4, ML2.8/38(NEIC), Error ellipse: s-maj=5.5km s-min=4.5km az=159.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.32**	**283**		Pn	20 33 18.9	-0.6
SUA					Sn	20 33 26.1	+0.2
SUA	**Susitna One**	**0.32**	**283**	IAML		20 33 28.4	
	comp=E,501nm,0.8s						
RC01	**Rabbit Creek A**	**0.35**	**149**		Pn	20 33 19.6	-0.3
RC01					Sn	20 33 25.9	-0.4
RC01	**Rabbit Creek A**	**0.35**	**149**	IAML		20 33 27.1	
	comp=N,519nm,0.2s						
RC01				IAML		20 33 27.1	
	comp=E,371nm,0.1s						
M22K	**Willow**	**0.36**	**359**		Pn	20 33 19.5	-0.3
M22K					Sn	20 33 26.3	-0.2
M22K	**Willow**	**0.36**	**359**	IAML		20 33 27.4	
	comp=E,612nm,1.0s						
M22K				IAML		20 33 28.0	
	comp=N,583nm,0.8s						
PMR	**Palmer**	**0.51**	**67**		Pn	20 33 20.6	-1.0
PMR					Sn	20 33 28.8	-0.6
GHO	**Glory Hole Cre**	**0.68**	**56**		Pn	20 33 23.2	-0.7
GHO					Sn	20 33 34.0	+0.4
GHO	**Glory Hole Cre**	**0.68**	**56**	IAML		20 33 34.3	
	comp=N,266nm,0.1s						
GHO				IAML		20 33 34.4	
	comp=E,427nm,0.3s						
KNK	**Knik Glacier**	**0.79**	**88**		Pn	20 33 24.7	-0.6
KNK	**Knik Glacier**	**0.79**	**88**	IAML		20 33 38.5	
	comp=N,223nm,0.3s						
CAPN	**Captain Cook N**	**0.81**	**219**	Pn	Pn	20 33 26.9	+1.4
SKT	**Skwentna**	**0.90**	**312**	Pn	Pn	20 33 27.3	+0.5
SKT				IAML		20 33 40.9	
	comp=E,223nm,0.4s						
SKT				IAML		20 33 41.2	
	comp=N,168nm,0.2s						
SML	**Sawmill**	**0.94**	**63**		Pn	20 33 26.8	-0.6
PWL	**Port Wells**	**1.01**	**121**		Pn	20 33 27.6	-0.7
PWL	**Port Wells**	**1.01**	**121**	IAML		20 33 43.7	
	comp=E,306nm,1.0s						
CUT	**Chulitna**	**1.02**	**356**	Pn	Pn	20 33 28.2	-0.1
CUT				IAML		20 33 43.3	
	comp=E,313nm,0.9s						
CUT				IAML		20 33 44.5	
	comp=N,234nm,1.0s						
SCM	**Sheep Creek Mo**	**1.40**	**70**	Pn	Pn	20 33 33.0	-0.7
M20K	**Styx River**	**1.52**	**290**	Pn	Pn	20 33 35.6	+0.3
M20K				IAML		20 34 30.5	
	comp=N,69nm,1.1s						
M20K				IAML		20 34 30.8	
	comp=E,89nm,0.6s						
GLI	**Glacier Island**	**1.55**	**108**	Pn	Pn	20 33 34.5	-1.1
BRLK	**Bradley Lake**	**1.68**	**194**	Pn	Pn	20 33 38.0	+0.6
BRLK				IAML		20 34 38.0	
	comp=N,107nm,0.5s						
M24K	**Tolsona, Glenn**	**2.00**	**67**	Pn	Pn	20 33 42.7	+0.9
M19K	**Big River Lodg**	**2.11**	**286**	Pn	Pn	20 33 43.4	+0.2
M19K				IAML		20 34 46.4	
	comp=N,33nm,0.8s						
DHY	**Denali Highway**	**2.12**	**36**	Pn	Pn	20 33 44.7	+1.2
DHY				IAML		20 34 42.9	
	comp=N,76nm,0.6s						
DHY				IAML		20 34 43.5	
	comp=E,62nm,0.5s						
N19K	**Bonanza Creek**	**2.20**	**257**	Pn	Pn	20 33 45.5	+0.9
L19K	**White Mountain**	**2.39**	**291**	Pn	Pn	20 33 47.1	0.0
SVW2	**Sparrevohn**	**2.66**	**266**	Pn	Pn	20 33 50.8	-0.1
**

SKT			IAML		20 34 12.8	
	comp=N,619nm,0.3s					
CUT	**Chulitna**	**0.91 349**	Pn	Pn	20 33 58.7	0.0
CUT			Sn	Sn	20 34 11.4	+0.7
STLK	**Strandline Lak**	**0.93 270**		Pn	20 33 59.3	+0.3
STLK				Sn	20 34 12.0	+0.7
CAPN	**Captain Cook N**	**0.97 220**	Pn	Pn	20 34 00.1	+0.6
PWL	**Port Wells**	**1.00 130**		Pn	20 33 59.8	-0.2
SLKM	**Skilak Lake**	**1.02 189**		Pn	20 34 00.4	+0.1
SLKM				Sn	20 34 14.7	+1.3
O22K	**Cooper Landing**	**1.04 175**	Pn	Pn	20 34 00.2	-0.2
SPCG	**Spurr Capps Gl**	**1.05 259**		Pn	20 34 01.2	+0.5
M23K	**Glacier View**	**1.07 74**		Pn	20 34 01.5	+0.6
SPCP	**Crater Peak Br**	**1.12 258**		Pn	20 34 02.2	+0.5
SPCR	**Spurr Chakacha**	**1.16 255**		Pn	20 34 02.5	+0.3
SPCR	**Spurr Chakacha**	**1.16 255**		Pn	20 34 02.5	+0.4
SCM	**Sheep Creek Mo**	**1.26 74**		Pn	20 34 04.0	+0.4
SCM			IAML		20 34 22.2	
	comp=E,370nm,0.5s					
SCM			IAML		20 34 22.6	
	comp=N,337nm,0.8s					
WAT7	**Susitna Watana**	**1.41 20**		Pn	20 34 06.4	+0.8
SEW	**Seward**	**1.43 171**		Pn	20 34 06.1	+0.3
WAT1	**Susitna Watana**	**1.46 25**		Pn	20 34 07.0	+0.7
GLI	**Glacier Island**	**1.50 114**		Pn	20 34 06.8	+0.1
GLI			IAML		20 34 27.1	
	comp=E,288nm,0.6s					
GLI			IAML		20 34 30.4	
	comp=N,254nm,0.5s					
M20K	**Styx River**	**1.59 285**	Pn	Pn	20 34 07.8	-0.3
M20K			IAML		20 35 02.7	
	comp=E,221nm,0.7s					
PPLA	**Purkeypile**	**1.76 323**		Pn	20 34 11.2	+0.8
RDWB	**Redoubt West**	**1.77 236**		Pn	20 34 11.1	+0.5
BRLK	**Bradley Lake**	**1.82 196**	Pn	Pn	20 34 10.9	-0.3
BRLK			IAML		20 34 39.1	
	comp=E,174nm,0.5s					
FID	**Port Fidalgo**	**1.82 113**	Pn	Pn	20 34 10.3	-0.9
FID			IAML		20 34 36.1	
	comp=N,169nm,0.2s					
FID			IAML		20 34 36.5	
	comp=E,187nm,0.3s					
M24K	**Tolsona, Glenn**	**1.86 70**	Pn	Pn	20 34 11.4	-0.4
M24K			IAML		20 34 41.0	
	comp=N,192nm,0.5s					
KLU	**Klutina**	**1.90 89**	Pn	Pn	20 34 11.8	-0.6
DHY	**Denali Highway**	**1.96 36**	Pn	Pn	20 34 12.5	-0.7
RND	**Reindeer**	**1.96 14**	Pn	Pn	20 34 12.5	-0.6
HIN	**Hinchinbrook I**	**2.00 123**	Pn	Pn	20 34 11.7	-1.9
HIN			IAML		20 34 45.8	
	comp=E,147nm,1.0s					
HIN			IAML		20 35 33.1	
	comp=N,126nm,0.5s					
CNPM	**China Poot**	**2.10 199**	Pn	Pn	20 34 13.8	-1.3
KTH	**Kantishna Hill**	**2.10 347**	Pn	Pn	20 34 14.2	-0.9
L20K	**Farewell, AK**	**2.12 299**		Pn	20 34 16.1	+0.8
CAST	**Castle Rocks**	**2.17 333**	Pn	Pn	20 34 15.1	-0.9
M19K	**Big River Lodg**	**2.18 282**	Pn	Pn	20 34 14.7	-1.4
ILSW	**Iliamna Southw**	**2.22 228**	Pn	Pn	20 34 16.0	-0.7
ILSW			IAML		20 35 38.4	
	comp=E,91nm,0.9s					
MCK	**McKinley**	**2.27 11**		Pn	20 34 18.8	+1.4
N19K	**Bonanza Creek**	**2.33 255**	Pn	Pn	20 34 18.1	-0.2
L19K	**White Mountain**	**2.45 288**	Pn	Pn	20 34 19.6	-0.2
L19K			IAML		20 35 14.4	
	comp=E,65nm,0.3s					
P19K	**Oil Pt**	**2.49 223**	Pn	Pn	20 34 20.1	-0.3
P19K			IAML		20 35 50.6	
	comp=N,162nm,1.0s					
N25K	**Chitina, Valde**	**2.53 86**	Pn	Pn	20 34 21.0	-0.1
CHUM	**Lake Minchumin**	**2.63 336**		Pn	20 34 22.9	+0.7
BPAW	**Bear Paw Mtn.**	**2.65 349**	Pn	Pn	20 34 23.1	+0.6
BWN	**Browne**	**2.68 4**	Pn	Pn	20 34 22.8	-0.1
BWN			IAML		20 36 08.3	
	comp=N,129nm,1.1s					
GOAT	**Goat Mountain**	**2.68 108**		Pn	20 34 22.9	-0.1
K20K	**Telida**	**2.68 315**	Pn	Pn	20 34 23.3	+0.2
Q23K	**Middleton Isla**	**2.73 138**	Pn	Pn	20 34 23.2	-0.3
Q23K			IAML		20 36 05.3	
	comp=E,126nm,1.4s					
SVW2	**Sparrevohn**	**2.78 264**	Pn	Pn	20 34 24.0	-0.3
RAGM	**Ragged Mountai**	**2.78 112**	Pn	Pn	20 34 24.1	-0.3
M18K	**Stony River**	**2.85 272**		Pn	20 34 25.6	+0.4
GLB	**Gilahina Butte**	**2.92 89**	Pn	Pn	20 34 25.6	-0.7
GLB			IAML		20 36 11.3	
	comp=N,99nm,0.6s					
N18K	**Kilae Creek**	**3.03 257**	Pn	Pn	20 34 28.4	+0.6
N18K			IAML		20 35 01.9	
	comp=E,41nm,3.0s					
WRH	**Wood River Hil**	**3.08 15**	Pn	Pn	20 34 29.8	+1.3
WRH			IAML		20 36 18.1	
	comp=E,50nm,1.3s					
WRH			IAML		20 36 20.1	
	comp=N,47nm,0.9s					
O18K	**Koktuh Hills**	**3.10 240**	Pn	Pn	20 34 29.6	+0.8
NEA2	**Nenana**	**3.11 7**	Pn	Pn	20 34 29.8	+0.9
SYI	**Shuyak Island**	**3.17 204**	Pn	Pn	20 34 30.1	+0.4
SYI			IAML		20 36 05.4	
	comp=N,45nm,1.4s					
SYI			IAML		20 36 08.0	
	comp=E,47nm,1.1s					
HDA	**Harding Lake**	**3.20 24**	Pn	Pn	20 34 29.5	-0.6
HDA			IAML		20 36 23.5	
	comp=E,57nm,0.8s					
HDA			IAML		20 36 23.9	
	comp=N,65nm,0.6s					
RIDG	**Independent Ri**	**3.23 44**	Pn	Pn	20 34 31.1	+0.6
RIDG			IAML		20 36 14.8	
	comp=N,74nm,0.8s					
RIDG			IAML		20 36 17.7	
	comp=E,73nm,0.7s					
CCB	**Clear Creek Bu**	**3.29 16**	Pn	Pn	20 34 31.8	+0.6
CCB			IAML		20 36 23.8	
	comp=E,40nm,0.8s					
L18K	**Granite Mounta**	**3.30 285**	Pn	Pn	20 34 31.2	-0.3
L18K			IAML		20 35 14.7	
	comp=N,46nm,2.3s					
L18K			IAML		20 35 32.5	
	comp=E,36nm,2.0s					
MCARA	**McCarthy VSAT**	**3.30 89**	Pn	Pn	20 34 31.2	-0.2
J20K	**Nowinta River**	**3.31 326**	Pn	Pn	20 34 32.0	+0.5
M26K	**Nabesna, AK**	**3.38 72**	Pn	Pn	20 34 33.0	+0.5
M26K			IAML		20 36 27.7	
	comp=E,49nm,0.5s					
M26K			IAML		20 36 28.4	
	comp=N,56nm,0.6s					
IL31		**3.54 21**	Pn	Pn	20 34 34.2	-0.5
MLY	**Manley**	**3.55 354**	Pn	Pn	20 34 35.0	0.0
J19K	**Poorman**	**3.62 316**	Pn	Pn	20 34 36.0	0.0
J19K			IAML		20 35 09.0	
	comp=N,36nm,2.2s					
M17K	**Holitna River**	**3.62 272**	Pn	Pn	20 34 36.3	+0.4
I23K	**Minto, Yukon-K**	**3.66 4**	Pn	Pn	20 34 36.7	+0.4
I23K			IAML		20 35 14.7	
	comp=E,32nm,3.8s					
I23K			IAML		20 35 39.0	
	comp=N,34nm,4.9s					
J25K	**Salcha River,**	**3.73 31**	Pn	Pn	20 34 38.4	+1.0
J25K			IAML		20 36 26.5	
	comp=E,44nm,0.4s					
J25K			IAML		20 36 28.6	
	comp=N,32nm,0.3s					
POKR	**Poker Plat Res**	**3.78 16**	IAML		20 35 08.6	
	comp=N,33nm,4.6s					
POKR			IAML		20 35 41.4	
	comp=E,31nm,3.4s					
POKR	**Poker Plat Res**	**3.78 16**	Pn	Pn	20 34 38.8	+0.7
I21K	**Tanana**	**3.80 347**	Pn	Pn	20 34 39.2	+0.9
I21K			IAML		20 35 27.5	
	comp=E,50nm,2.2s					
K17K	**Iditarod**	**4.13 291**	Pn	Pn	20 34 43.1	+0.3
H23K	**Yukon River**	**4.33 2**	Pn	Pn	20 34 46.2	+0.6
H23K			IAML		20 35 41.8	
	comp=N,33nm,3.9s					
H23K			IAML		20 36 18.1	
	comp=E,24nm,5.0s					
H21K	**Melozitna Rive**	**4.36 344**	Pn	Pn	20 34 46.4	+0.4
H21K			IAML		20 35 24.2	
	comp=E,25nm,2.1s					
H21K			IAML		20 35 51.6	
	comp=N,26nm,4.0s					
H24K	**Noodor Dome**	**4.43 11**	Pn	Pn	20 34 48.5	+1.4
H24K			IAML		20 35 50.2	
	comp=N,25nm,3.5s					

L16K	**Owhat River**	**4.58 277**	Pn	Pn	20 34 49.1	+0.1
J17K	**VABM Dome**	**4.67 298**	Pn	Pn	20 34 49.9	-0.3
J17K			IAML		20 36 20.8	
	comp=N,29nm,3.1s					
IMAR	**Indian Mountai**	**4.80 341**	Pn	Pn	20 34 51.6	-0.4
H19K	**Roundabout Mou**	**4.98 327**	Pn	Pn	20 34 54.8	+0.3
G23K	**Bananza Creek**	**5.22 359**	Pn	Pn	20 34 58.8	+1.0
G23K			IAML		20 37 47.6	
	comp=N,18nm,4.8s					
BCPM	**Bancas Point**	**5.27 103**	Pn	Pn	20 34 59.2	+0.7
H18K	**Honhosa River**	**5.28 317**	Pn	Pn	20 34 58.9	+0.2
I17K	**Unalakleet**	**5.51 300**	Pn	Pn	20 35 02.5	+0.7
K15K	**Wolf Creek Mou**	**5.56 283**	Pn	Pn	20 35 02.5	0.0
H17K	**Granite Mounta**	**5.68 312**	Pn	Pn	20 35 05.2	+1.1
F21K	**Alatna River**	**5.94 346**	Pn	Pn	20 35 08.8	+1.1
F20K	**Avaraart Lake**	**6.11 338**	Pn	Pn	20 35 11.5	+1.6
P29M	**Windy Craggy**	**6.28 102**	Pn	Pn	20 35 13.3	+1.0
E24K	**Your Creek**	**6.62 5**	Pn	Pn	20 35 18.6	+1.6
G16K	**Koyuk River**	**6.80 310**	Pn	Pn	20 35 20.6	+1.1

ROM 30 20:36:57.4±0.1, 42°.701N±0°.003×13°.236E±0°.004, h11km, ML0.7/15, Error ellipse: s-maj=0.3km s-min=0.3km az=63.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.10**	**134**	P	Pg	20 37 00.7	+0.5
SMA1				S	Sg	20 37 02.8	+0.6
SMA1				AML	AML		
	comp=E,24μm,0.5s						
SMA1				AML	AML		
	comp=N,22μm,0.1s						
MTRA	**Matera**	**0.13**	**65**	P	Pg	20 37 01.1	+0.5
MTRA				S	Sg	20 37 03.4	+0.6
MTRA				AML	AML		
	comp=N,24μm,0.3s						
MTRA				AML	AML		
	comp=E,28μm,0.4s						
MTRA				AML	AML		
	comp=E,74μm,0.7s						
NRCA	**Norcia**	**0.16**	**326**	P	Pg	20 37 01.5	+0.5
NRCA				S	Sg	20 37 04.2	+0.7
LNSS	**Leonessa**	**0.17**	**236**	P	Pg	20 37 01.8	+0.5
LNSS				S	Sg	20 37 04.9	+0.9
LNSS				AML	AML		
	comp=E,49μm,0.1s						
LNSS				AML	AML		
	comp=E,80μm,0.7s						
LNSS				AML	AML		
	comp=N,54μm,0.4s						
LNSS				AML	AML		
	comp=N,40μm,0.4s						
RM33	**Pellescritta (**	**0.19**	**185**	P	Pg	20 37 02.1	+0.6
RM33				S	Sg	20 37 05.5	+1.1
RM33				AML	AML		
	comp=N,16μm,1.0s						
RM33				AML	AML		
	comp=N,62μm,1.1s						
RM33				AML	AML		
	comp=E,85μm,1.1s						
RM33				AML	AML		
	comp=E,25μm,0.2s						
MMO1	**Montemonaco**	**0.21**	**19**	P	Pg	20 37 02.4	+0.6
MMO1				S	Sg	20 37 06.0	+1.1
MC2	**Monte Cornacci**	**0.21**	**351**	P	Pb	20 37 03.1	-0.3
GAVE	**Gavelli**	**0.25**	**268**	P	Pg	20 37 03.1	+0.5
GAVE				S	Sg	20 37 07.3	+1.2
GAVE				AML	AML		
	comp=E,29μm,1.6s						
GAVE				AML	AML		
	comp=N,30μm,0.7s						
GAVE				AML	AML		
	comp=E,19μm,0.6s						
GAVE				AML	AML		
	comp=N,29μm,0.2s						
TERO	**Teramo**	**0.28**	**106**	P	Pg	20 37 03.5	+0.4
TERO				S	Sg	20 37 07.8	+0.9
TERO				AML	AML		
	comp=N,13μm,0.5s						
TERO				AML	AML		
	comp=E,6μm,0.6s						

IDC 30 20:38:00.1±3.4, 3°.92S×151°.31E, h0km, mb3.8/2, mbtmp3.9/3, ML1.3/1, Error ellipse: s-maj=133.2km s-min=43.1km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.83**	**217**	Pn	Pn	20 39 41.6	-0.1
	0.3nm,0.3s,baz=8.0,slow=8.4,SNR=6.4						
	12nm,0.9s						
WRA	**Warramunga Arr**	**22.97**	**225**	P	P	20 43 07.6	+1.2
	2.6nm,0.3s,baz=50,slow=10,SNR=60						
	2.6nm,0.3s						
ASAR	**Alice Springs**	**25.84**	**219**	P	P	20 43 32.9	-0.7
	0.6nm,0.8s,baz=54,slow=9.3,SNR=12						
	0.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**148.62**	**289**	PKPbc	PKPbc	20 57 49.3	-1.0
	1.0nm,0.9s,baz=75,slow=1.7,SNR=2.3						

*IDC **30** 20:40:55.9±1.4, 61°.33N×150°.24W, h61km±14km, mb3.7/12, mbtmp3.9/16, Error ellipse: s-maj=18.0km s-min=9.7km az=114.0*

*NEIC **30** 20:40:56.3±0.9, 61°.425N±0°.010×149°.91W±0°.05, h48km±3km, Error ellipse: s-maj=3.4km s-min=1.5km az=89.0*

*AEIC **30** 20:40:57.0±1.4, 61°.39N±0°.02×149°.92W±0°.05, h41km±3km, ML3.7, ML3.9/198(NEIC), Error ellipse: s-maj=3.5km s-min=3.2km az=130.0*

ISC 30 20:40:55.7±0.7, 61°.40N±0°.03×149°.92W±0°.02, h52km±5km, n246, σ0.99/257, mb3.9/12, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.32**	**164**		**Pn**	**20 41 05.2**	**-0.1**
RC01				Sn	**Sn**	**20 41 12.2**	**+0.2**
RC01				IAML		20 41 13.3	
	comp=N,11μm,0.5s						
RC01				IAML		20 41 15.1	
	comp=E,7μm,0.4s						
RC01	**Rabbit Creek A**	**0.32**	**164**	P	**Pn**	**20 41 05.3**	**+0.1**
	baz=344						
RC01				S	**Sn**	**20 41 12.3**	**+0.3**
	baz=344						
M22K	**Willow**	**0.37**	**345**		**Pn**	**20 41 05.1**	**-0.6**
M22K				Sn	**Sn**	**20 41 12.3**	**-0.4**
M22K	**Willow**	**0.37**	**345**	P	**Pn**	**20 41 05.2**	**-0.4**
	baz=165						
M22K				S	**Sn**	**20 41 12.7**	**0.0**
	baz=165						
SUA	**Susitna One**	**0.40**	**280**		**Pn**	**20 41 06.2**	**0.0**
SUA					**Sn**	**20 41 14.3**	**+0.7**
SUA	**Susitna One**	**0.40**	**280**	IAML		20 41 14.8	
	comp=N,14μm,0.6s						
SUA				IAML		20 41 15.0	
	comp=E,18μm,0.9s						
SUA	**Susitna One**	**0.40**	**280**	P	**Pn**	**20 41 06.2**	**0.0**
	baz=101						
SUA				S	**Sn**	**20 41 14.0**	**+0.4**
	baz=101						
PMR	**Palmer**	**0.43**	**62**		**Pn**	**20 41 05.7**	**-0.5**
PMR				Sn	**Sn**	**20 41 13.2**	**-0.5**
PMR				IAML		20 41 14.7	
	comp=N,6μm,0.4s						
PMR				IAML		20 41 14.7	
	comp=E,8μm,0.6s						
PMR	**Palmer**	**0.43**	**62**	P	**Pn**	**20 41 05.9**	**-0.4**
	baz=242						
PMR				S	**Sn**	**20 41 13.6**	**-0.2**
	baz=242						
GHO	**Glory Hole Cre**	**0.61**	**51**		**Pn**	**20 41 08.4**	**-0.1**
GHO	**Glory Hole Cre**	**0.61**	**51**		**Sn**	**20 41 18.1**	**+0.5**
GHO	**Glory Hole Cre**	**0.61**	**51**	IAML		20 41 18.8	
	comp=N,9μm,0.6s						
GHO				IAML		20 41 19.2	
	comp=E,17μm,0.5s						
KNK	**Knik Glacier**	**0.70**	**88**		**Pn**	**20 41 09.9**	**+0.3**
KNK	**Knik Glacier**	**0.70**	**88**		**Sn**	**20 41 21.1**	**+1.4**
KNK	**Knik Glacier**	**0.70**	**88**	IAML		20 41 22.5	
	comp=N,12μm,0.3s						
KNK				IAML		20 41 22.9	
	comp=E,13μm,0.4s						

KNK	**Knik Glacier**	**0.70 88**	P	**Pn**	**20 41 10.0**	**+0.3**
	baz=268					
KNK			S	**Sn**	**20 41 20.7**	**+1.0**
	baz=268					
SML	**Sawmill**	**0.86 61**	Pn	**Pn**	**20 41 11.7**	**0.0**
SML			Sn	**Sn**	**20 41 23.3**	**-0.1**
SML			IAML		20 41 25.8	
	comp=E,4μm,0.8s					
SML			IAML		20 41 26.3	
	comp=N,4μm,0.6s					
SML	**Sawmill**	**0.86 61**	P	**Pn**	**20 41 11.9**	**+0.2**
	baz=242					
SML			S	**Sn**	**20 41 24.0**	**+0.5**
	baz=242					
CAPN	**Captain Cook N**	**0.87 224**		**Pn**	**20 41 13.6**	**+1.9**
CAPN			Sn	**Sn**	**20 41 28.1**	**+4.6**
CAPN	**Captain Cook N**	**0.87 224**	P	**Pn**	**20 41 13.7**	**+2.0**
	baz=43					
SLKM	**Skilak Lake**	**0.91 189**		**Pn**	**20 41 12.7**	**+0.5**
SLKM				**Sn**	**20 41 25.3**	**+0.9**
STLK	**Strandline Lak**	**0.92 277**		**Pn**	**20 41 13.1**	**+0.6**
STLK				**Sn**	**20 41 25.7**	**+0.8**
O22K	**Cooper Landing**	**0.93 174**		**Pn**	**20 41 12.3**	**-0.2**
O22K			Sn	**Sn**	**20 41 25.5**	**+0.8**
O22K	**Cooper Landing**	**0.93 174**	P	**Pn**	**20 41 12.9**	**+0.4**
	baz=354					
PWL	**Port Wells**	**0.94 124**		**Pn**	**20 41 13.2**	**+0.6**
PWL			Sn	**Sn**	**20 41 26.5**	**+1.3**
PWL	**Port Wells**	**0.94 124**	P	**Pn**	**20 41 13.3**	**+0.6**
	baz=305					
SKT	**Skwentna**	**0.96 308**		**Pn**	**20 41 12.8**	**-0.2**
SKT			Sn	**Sn**	**20 41 25.4**	**-0.4**
SKT			IAML		20 41 26.8	
	comp=N,4μm,0.3s					
SKT			IAML		20 41 27.7	
	comp=E,3μm,0.5s					
SKT	**Skwentna**	**0.96 308**	P	**Pn**	**20 41 12.9**	**-0.1**
	baz=127					
SKT			S	**Sn**	**20 41 25.9**	**+0.1**
	baz=127					
SPCG	**Spurr Capps Gl**	**1.02 265**		**Pn**	**20 41 14.5**	**+0.7**
CUT	**Chulitna**	**1.02 351**		**Pn**	**20 41 13.8**	**+0.1**
CUT				**Sn**	**20 41 27.7**	**+0.6**
CUT	**Chulitna**	**1.02 351**	P	**Pn**	**20 41 13.9**	**+0.1**
	baz=171					
SPCP	**Crater Peak Br**	**1.08 264**		**Pn**	**20 41 15.5**	**+0.8**
SPCP				**Sn**	**20 41 30.2**	**+1.4**
M23K	**Glacier View**	**1.12 68**		**Pn**	**20 41 15.7**	**+0.5**
M23K				**Sn**	**20 41 31.2**	**+1.7**
M23K	**Glacier View**	**1.12 68**	P	**Pn**	**20 41 15.7**	**+0.5**
	baz=250					
M23K			S	**Sn**	**20 41 31.1**	**+1.5**
	baz=250					
N20K	**Mount Spurr**	**1.12 261**	P	**Pn**	**20 41 15.6**	**+0.4**
	baz=79					
SPCR	**Spurr Chakacha**	**1.12 261**		**Pn**	**20 41 15.7**	**+0.5**
SPCR				**Sn**	**20 41 30.9**	**+1.3**
SCM	**Sheep Creek Mo**	**1.31 69**		**Pn**	**20 41 18.1**	**+0.3**
SCM	**Sheep Creek Mo**	**1.31 69**		**Sn**	**20 41 35.9**	**+1.7**
SCM	**Sheep Creek Mo**	**1.31 69**	IAML		20 41 37.1	
	comp=E,3μm,0.7s					
SCM			IAML		20 41 38.4	
	comp=N,5μm,0.7s					
SCM	**Sheep Creek Mo**	**1.31 69**	P	**Pn**	**20 41 18.4**	**+0.6**
	baz=251					
SEW	**Seward**	**1.32 170**		**Pn**	**20 41 17.7**	**0.0**
SEW	**Seward**	**1.32 170**	P	**Pn**	**20 41 17.5**	**-0.2**
	baz=350					
GLI	**Glacier Island**	**1.47 110**		**Pn**	**20 41 19.6**	**-0.2**
GLI			IAML		20 41 44.6	
	comp=E,2μm,0.6s					
GLI			IAML		20 41 46.8	
	comp=N,2μm,0.6s					
RDT	**Redoubt**	**1.47 237**		**Pn**	**20 41 20.3**	**+0.5**
WAT7	**Susitna Watana**	**1.53 19**		**Pn**	**20 41 21.5**	**+0.8**
WAT6	**Susitna Watana**	**1.57 40**		**Pn**	**20 41 21.6**	**+0.3**
WAT6	**Susitna Watana**	**1.57 40**	P	**Pn**	**20 41 21.6**	**+0.3**
	baz=222					
WAT1	**Susitna Watana**	**1.57 24**		**Pn**	**20 41 21.8**	**+0.5**
WAT1	**Susitna Watana**	**1.57 24**	P	**Pn**	**20 41 21.8**	**+0.5**
	baz=205					
M20K	**Styx River**	**1.61 289**		**Pn**	**20 41 22.6**	**+0.8**
M20K			IAML		20 41 45.6	
	comp=N,1μm,1.0s					
RDJH	**Redoubt Jeurge**	**1.62 241**		**Pn**	**20 41 22.7**	**+0.7**
RDWB	**Redoubt West**	**1.69 239**		**Pn**	**20 41 23.5**	**+0.6**
RED	**Redoubt Volcan**	**1.71 236**		**Pn**	**20 41 23.7**	**+0.6**
BRLK	**Bradley Lake**	**1.71 197**		**Pn**	**20 41 23.4**	**+0.3**
BRLK			IAML		20 41 48.9	
	comp=E,1μm,0.5s					
BRLK			IAML		20 41 50.4	
	comp=N,855nm,0.5s					
BRSE	**Bradley Lake S**	**1.71 194**		**Pn**	**20 41 23.1**	**0.0**
BRSE	**Bradley Lake S**	**1.71 194**	P	**Pn**	**20 41 23.1**	**0.0**
	baz=13					
FID	**Port Fidalgo**	**1.79 110**		**Pn**	**20 41 23.9**	**-0.3**
FID			IAML		20 41 57.3	
	comp=E,1μm,0.3s					
FID			IAML		20 41 57.6	
	comp=N,1μm,0.3s					
PPLA	**Purkeypile**	**1.84 326**		**Pn**	**20 41 25.6**	**+0.6**
PPLA	**Purkeypile**	**1.84 326**	P	**Pn**	**20 41 25.6**	**+0.6**
	baz=144					
O20K	**Slope Mountain**	**1.87 226**		**Pn**	**20 41 26.4**	**+1.1**
O20K	**Slope Mountain**	**1.87 226**	P	**Pn**	**20 41 26.6**	**+1.3**
	baz=44					
P23K	**Montague Islan**	**1.87 138**		**Pn**	**20 41 24.8**	**-0.4**
P23K	**Montague Islan**	**1.87 138**	P	**Pn**	**20 41 24.7**	**-0.6**
	baz=320					
M24K	**Tolsona, Glenn**	**1.92 67**		**Pn**	**20 41 27.2**	**+1.2**
M24K			IAML		20 42 00.0	
	comp=N,1μm,0.8s					
M24K			IAML		20 42 02.8	
	comp=E,1μm,0.9s					
M24K	**Tolsona, Glenn**	**1.92 67**	P	**Pn**	**20 41 27.4**	**+1.5**
	baz=250					
KLU	**Klutina**	**1.92 85**		**Pn**	**20 41 26.3**	**+0.2**
KLU			IAML		20 41 59.0	
	comp=N,1μm,0.6s					
KLU			IAML		20 42 00.8	
	comp=E,737nm,0.4s					
KLU	**Klutina**	**1.92 85**	P	**Pn**	**20 41 26.5**	**+0.4**
	baz=269					
HOM	**Homer**	**1.94 207**		**Pn**	**20 41 26.4**	**+0.2**
HOM			IAML		20 42 14.4	
	comp=N,1μm,0.5s					
HOM	**Homer**	**1.94 207**	P	**Pn**	**20 41 27.5**	**+1.3**
	baz=25					
HIN	**Hinchinbrook I**	**1.95 120**		**Pn**	**20 41 26.0**	**-0.4**
HIN			IAML		20 41 59.0	
	comp=N,986nm,0.9s					
HIN			IAML		20 42 01.6	
	comp=E,1μm,0.7s					
CNPM	**China Poot**	**1.99 200**		**Pn**	**20 41 27.1**	**+0.3**
CNPM			IAML		20 41 55.7	
	comp=E,1μm,0.5s					
CNPM			IAML		20 41 57.2	
	comp=N,676nm,0.5s					
DIV	**Divide**	**2.02 96**		**Pn**	**20 41 27.6**	**+0.1**
IVE	**Iliamna Volcan**	**2.06 229**		**Pn**	**20 41 28.6**	**+0.7**
DHY	**Denali Highway**	**2.06 34**		**Pn**	**20 41 28.4**	**+0.4**
DHY			IAML		20 42 00.6	
	comp=E,778nm,0.6s					
DHY			IAML		20 42 01.2	
	comp=N,542nm,0.4s					
TRF	**Thorofare Moun**	**2.07 355**		**Pn**	**20 41 28.8**	**+0.7**
TRF	**Thorofare Moun**	**2.07 355**	IAML		20 41 58.0	
	comp=E,678nm,0.6s					
TRF			IAML		20 41 58.0	
	comp=N,942nm,0.5s					
RND	**Reindeer**	**2.08 13**		**Pn**	**20 41 28.6**	**+0.5**
ILS	**Iliamna Low So**	**2.12 228**		**Pn**	**20 41 29.7**	**+0.9**
ILSW	**Iliamna Southw**	**2.13 230**		**Pn**	**20 41 29.6**	**+0.7**
**L20K

MCK	McKinley	2.39	11		Pn	20 41 33.8 +1.4
P19K	Oil Pt	2.40	225		Pn	20 41 33.8 +1.3
P19K				IAML		20 42 25.4
	comp=N,733nm,0.8s					
P19K				IAML		20 42 27.4
	comp=E,843nm,0.6s					
HARP	HAARP	2.47	64		Pn	20 41 34.9 +1.4
L19K	White Mountain	2.47	291		Pn	20 41 34.1 +0.6
Q19K	Port Alsworth	2.47	243		Pn	20 41 33.8 +0.3
O19K				IAML		20 42 09.4
	comp=N,878nm,0.5s					
N25K	Chitina, Valde	2.56	83		Pn	20 41 35.9 +1.1
N25K				IAML		20 42 15.6
	comp=N,574nm,0.6s					
N25K				IAML		20 42 16.9
	comp=E,526nm,0.6s					
BMRM	Bremner River	2.61	97		Pn	20 41 36.5 +1.1
PAX	Paxson	2.62	51		Pn	20 41 37.2 +1.6
Q23K	Middleton Isla	2.65	137	Pn	Pn	20 41 37.6 +1.7
Q23K				IAML		20 42 32.8
	comp=N,322nm,1.1s					
Q23K				IAML		20 42 35.7
	comp=E,326nm,1.1s					
CHUM	Lake Minchumin	2.73	337		Pn	20 41 37.6 +0.6
WACK	Wrangell Chich	2.73	75		Pn	20 41 38.1 +0.9
BPAW	Bear Paw Mtn.	2.76	350		Pn	20 41 37.5 +0.2
BPAW				IAML		20 42 26.9
	comp=E,312nm,0.9s					
K20K	Telida	2.76	317		Pn	20 41 37.4 0.0
K20K				IAML		20 42 17.2
	comp=N,390nm,0.7s					
K20K				IAML		20 42 17.4
	comp=E,588nm,0.6s					
RAGM	Ragged Mountai	2.76	109		Pn	20 41 37.3 -0.1
BWN	Browne	2.79	4		Pn	20 41 39.2 +1.4
BWN	Browne	2.79	4	IAML		20 42 34.4
	comp=E,707nm,1.2s					
M18K	Stony River	2.84	274		Pn	20 41 39.0 +0.6
GLB	Gilahina Butte	2.94	86		Pn	20 41 39.3 -0.6
GLB				IAML		20 42 32.8
	comp=E,308nm,0.6s					
N18K	Kilae Creek	2.99	259		Pn	20 41 40.9 +0.3
O18K	Koktuh Hills	3.03	242		Pn	20 41 40.9 -0.3
O18K				IAML		20 42 36.9
	comp=N,237nm,0.9s					
SYI	Shuyak Island	3.06	205		Pn	20 41 41.6 +0.1
KAIM	Kayak Island	3.08	116		Pn	20 41 41.5 -0.4
KAIM				IAML		20 42 47.2
	comp=N,281nm,1.1s					
Q19K	Cape Douglas,	3.10	219		Pn	20 41 41.6 -0.5
VRDI	Verde Repeater	3.12	90		Pn	20 41 42.1 -0.4
VRDI				IAML		20 42 28.5
	comp=N,226nm,0.7s					
VRDI				IAML		20 42 32.5
	comp=E,200nm,0.7s					
WRH	Wood River Hil	3.20	14		Pn	20 41 41.9 -1.5
WRH				IAML		20 42 41.6
	comp=N,194nm,0.7s					
BERG	Berg Lake	3.20	106		Pn	20 41 44.8 +1.3
NEA2	Nenana	3.23	7		Pn	20 41 43.4 -0.5
TTA	Tatalina	3.25	301		Pn	20 41 44.1 0.0
MENT	Mentasta	3.29	59	Pn	Pn	20 41 46.1 +1.4
HDA	Harding Lake	3.31	23		Pn	20 41 45.6 +0.6
HDA				IAML		20 42 40.9
	comp=E,236nm,1.3s					
HDA				IAML		20 42 44.6
	comp=N,251nm,0.6s					
P18K	Big Mountain,	3.31	235	Pn	Pn	20 41 45.1 0.0
L18K	Granite Mounta	3.32	287		Pn	20 41 45.3 +0.2
MCARA	McCarthy VSAT	3.32	87		Pn	20 41 45.0 -0.1
RIDG	Independent Ri	3.32	43		Pn	20 41 45.1 0.0
RIDG				IAML		20 42 34.9
	comp=E,437nm,0.7s					
RIDG				IAML		20 42 35.4
	comp=N,345nm,0.6s					
CRQM	Cirque	3.36	98		Pn	20 41 45.6 -0.2
J20K	Nowinta River	3.40	327		Pn	20 41 46.5 +0.4
J20K				IAML		20 42 50.1
	comp=N,275nm,0.6s					
J20K				IAML		20 42 50.9
	comp=E,290nm,0.6s					
CCB	Clear Creek Bu	3.40	16		Pn	20 41 46.0 -0.1
L26K	Log Cabin Wild	3.48	59		Pn	20 41 46.3 -1.1
L26K				IAML		20 42 44.8
	comp=N,269nm,0.6s					
TGL	Tana Glacier	3.50	97		Pn	20 41 47.0 -0.7
PTPK	Patty Peak	3.60	90		Pn	20 41 50.2 +1.1
COLA	College	3.61	14		Pn	20 41 50.1 +1.1
M17K	Holitna River	3.62	273		Pn	20 41 49.5 +0.4
M17K				IAML		20 42 56.4
	comp=N,333nm,0.8s					
M17K				IAML		20 43 03.0
	comp=E,348nm,0.9s					
N17K	Nushagak Hills	3.65	259		Pn	20 41 50.0 +0.4
N17K				IAML		20 42 32.3
	comp=E,142nm,0.7s					
N17K				IAML		20 42 55.0
	comp=N,147nm,0.8s					
IL31		3.66	21		Pn	20 41 50.3 +0.7
ILAR	Eielson Array	3.66	21		Pn	20 41 50.0 +0.3
ILAR	Eielson Array	3.66	21	P	Pn	20 41 51.5 +1.9
	comp=N,6.2nm,0.4s,baz=202,slow=14,SNR=20					
ILAR				S	Sn	20 42 36.5 +5.0
	comp=N,22nm,0.6s,baz=102,slow=26,SNR=1.6					
MLY	Manley	3.67	355		Pn	20 41 49.8 -0.1
SNH	Sunshine Point	3.68	106	Pn	Pn	20 41 48.8 -1.3
SNH				IAML		20 43 05.8
	comp=E,180nm,0.9s					
BALM	Baldy	3.68	92		Pn	20 41 50.4 +0.2
KIAG	Kiagna River	3.69	94		Pn	20 41 50.9 +0.5
J19K	Poorman	3.70	317		Pn	20 41 49.8 -0.4
J19K				IAML		20 42 50.8
	comp=N,222nm,0.9s					
J19K				IAML		20 42 51.2
	comp=E,189nm,0.9s					
KAHG	Katmai Hook Gl	3.73	221		Pn	20 41 51.5 +0.7
KAHC	Katmai Hardscr	3.76	225		Pn	20 41 51.7 +0.5
SCRK	Sand Creek	3.77	44		Pn	20 41 51.8 +0.5
SCRK				IAML		20 42 56.9
	comp=E,145nm,0.8s					
I23K	Minto, Yukon-K	3.77	4		Pn	20 41 51.4 +0.1
I23K				IAML		20 42 56.5
	comp=E,147nm,0.9s					
I23K				IAML		20 43 05.3
	comp=N,179nm,0.9s					
J18K	Innoko River	3.78	306		Pn	20 41 51.6 +0.3
J25K	Salcha River,	3.84	31		Pn	20 41 53.1 +0.9
J25K				IAML		20 42 44.8
	comp=N,114nm,0.5s					
J25K				IAML		20 42 46.4
	comp=E,148nm,0.6s					
KDAK	Kodiak Island	3.87	202	Pn	Pn	20 41 50.7 -2.0
KDAK	Kodiak Island	3.87	202	P	Pn	20 41 51.3 -1.3
	comp=E,2.9nm,0.2s,baz=244,slow=3.5,SNR=17					
KDAK				S	Sn	20 42 33.6 -3.2
	comp=E,18nm,0.4s,baz=191,slow=19,SNR=2.0					
O17K	Koliganek Bris	3.90	248		Pn	20 41 53.5 +0.6
POKR	Poker Plat Res	3.90	16		Pn	20 41 53.2 +0.2
POKR				IAML		20 43 04.7
	comp=E,109nm,1.0s					
I21K	Tanana	3.91	347		Pn	20 41 53.6 +0.5
I21K				IAML		20 42 57.5
	comp=N,111nm,0.8s					
I21K				IAML		20 43 07.3
	comp=E,110nm,0.9s					
M27K	Edge Creek, AK	3.93	72		Pn	20 41 54.8 +1.3
I20K	Naaghedeneel	3.99	331		Pn	20 41 55.5 +1.3
GRNC	Granite Creek	4.03	96		Pn	20 41 54.0 -0.9
GRNC				IAML		20 42 59.8
	comp=E,100nm,0.8s					
GRNC				IAML		20 43 00.1
	comp=N,249nm,0.5s					
L17K	Donlin	4.05	284		Pn	20 41 55.5 +0.5
MESA	MESA	4.09	104		Pn	20 41 55.3 -0.6
BCAR	Beaver Creek A	4.16	63		Pn	20 41 56.0 -0.6
K17K	Iditarod	4.16	292		Pn	20 41 57.1 +0.5
K17K	Iditarod	4.16	292	IAML		20 43 17.2
	comp=N,115nm,1.2s					
K17K				IAML		20 43 19.7
	comp=E,164nm,0.8s					
CTGM	Chitina Glacie	4.18	92		Pn	20 41 57.3 +0.3
CTGM				IAML		20 43 05.2
	comp=N,192nm,0.6s					
CTGM				IAML		20 43 14.8
	comp=E,93nm,0.8s					
RKAV	Rock Avalanche	4.34	101		Pn	20 42 00.4 +1.2
CNTC	Contact Creek	4.35	226		Pn	20 42 00.1 +0.8
YUK2	White River	4.36	81		Pn	20 42 00.6 +1.2
LOGN	Logan Glacier	4.37	94		Pn	20 41 59.6 +0.1
LOGN				IAML		20 43 15.9
	comp=E,98nm,0.9s					
LOGN				IAML		20 43 18.4
	comp=N,107nm,0.9s					
M16K	Timber Creek	4.39	269		Pn	20 42 00.5 +0.8
M16K	Timber Creek	4.39	269	IAML		20 43 23.9
	comp=N,80nm,1.1s					
N16K	Nishlik Lake	4.42	262		Pn	20 42 00.8 +0.7
O16K	Kokwok River B	4.43	249		Pn	20 42 00.9 +0.7
H21K	Melozitna Rive	4.47	344		Pn	20 42 01.9 +1.1
H21K	Melozitna Rive	4.47	344	IAML		20 43 21.7
	comp=N,78nm,0.9s					
H21K				IAML		20 43 23.4
	comp=E,78nm,0.9s					
OHAK	Old Harbor	4.53	204	Pn	Pn	20 42 00.7 -0.9
YUK3	Moose Creek	4.54	81		Pn	20 42 03.1 +1.1
H24K	Noodor Dome	4.55	11		Pn	20 42 03.4 +1.5
H24K	Noodor Dome	4.55	11	IAML		20 43 25.4
	comp=E,91nm,1.0s					
H22K	Ishtalitna Cre	4.56	352		Pn	20 42 03.5 +1.4
L16K	Owhat River	4.58	278		Pn	20 42 02.1 -0.2
L16K				IAML		20 43 28.5
	comp=N,101nm,0.8s					
PRP	Porcupine Dome	4.58	24		Pn	20 42 02.3 -0.2
PRP				IAML		20 43 06.0
	comp=N,106nm,0.7s					
PRP				IAML		20 43 22.2
	comp=E,92nm,0.9s					
P16K	Nushagak River	4.67	243		Pn	20 42 04.4 +0.8
H20K	Anotleneega Mo	4.67	334		Pn	20 42 04.8 +1.2
J17K	VABM Dome	4.71	299		Pn	20 42 03.7 -0.4
J17K				IAML		20 43 29.3
	comp=E,62nm,0.7s					
J17K				IAML		20 43 29.6
	comp=N,61nm,1.1s					
YUK8	Steele Glacier	4.89	87		Pn	20 42 08.1 +1.2
IMAR	Indian Mountai	4.91	341		Pn	20 42 06.5 -0.3
PLK4	Peulik 4	5.00	224	Pn	Pn	20 42 09.0 +0.8
PLK4				IAML		20 43 39.4
	comp=E,98nm,0.8s					
PLK4				IAML		20 44 02.2
	comp=N,77nm,1.2s					
H19K	Roundabout Mou	5.07	328		Pn	20 42 09.2 +0.2
H19K	Roundabout Mou	5.07	328	IAML		20 43 44.0
	comp=E,90nm,1.4s					
H19K				IAML		20 43 50.3
	comp=N,81nm,2.7s					
N15K	Kwethluk River	5.13	261		Pn	20 42 10.5 +0.6
N15K	Kwethluk River	5.13	261	IAML		20 43 40.9
	comp=E,88nm,1.3s					
EGAK	Eagle	5.23	46		Pn	20 42 10.5 -0.7
EGAK				IAML		20 43 48.6
	comp=E,101nm,0.7s					
BCPM	Bancas Point	5.26	101		Pn	20 42 11.2 -0.5
BCPM				IAML		20 43 30.8
	comp=N,98nm,1.0s					
M15K	Kasigluk River	5.28	267		Pn	20 42 12.3 +0.4
J16K	Anvik River	5.32	295		Pn	20 42 12.7 +0.2
J16K	Anvik River	5.32	295	IAML		20 43 44.2
	comp=N,44nm,1.2s					
SII	Sitkinak Islan	5.33	206	Pn	Pn	20 42 14.1 +1.4
G23K	Bananza Creek	5.33	360	Pn	Pn	20 42 13.9 +1.2
H18K	Honhosa River	5.36	318		Pn	20 42 13.3 +0.3
H18K				IAML		20 43 15.6
	comp=E,75nm,0.6s					
H18K				IAML		20 43 45.8
	comp=N,46nm,0.8s					
G21K	Allakaket	5.38	344		Pn	20 42 14.6 +1.4
G21K	Allakaket	5.38	344	IAML		20 43 40.4
	comp=E,52nm,0.7s					
G21K				IAML		20 43 47.0
	comp=N,69nm,0.8s					
O15K	Ungalikthiuk R	5.41	250		Pn	20 42 14.7 +1.0
YKU2	Yakutat	5.41	106		Pn	20 42 14.9 +1.2
G24K	Hadweenzic Riv	5.43	10		Pn	20 42 15.6 +1.6
PNL	Peninsula	5.48	104		Pn	20 42 15.5 +0.8
M29M	Somme Creek	5.51	74		Pn	20 42 16.4 +1.1
DAWY	Dawson	5.53	56		Pn	20 42 16.5 +1.1
I17K	Unalakleet	5.56	301		Pn	20 42 15.7 0.0
K15K	Wolf Creek Mou	5.57	284		Pn	20 42 16.1 +0.2
FYU	Fort Yukon	5.58	20		Pn	20 42 16.0 -0.1
G25K	Bearman Lake	5.64	16		Pn	20 42 18.6 +1.7
O29M	Mount Kennedy	5.66	96		Pn	20 42 18.0 +0.8
G19K	Purcell Mounta	5.72	329	Pn	Pn	20 42 18.5 +0.5
H17K	Granite Mounta	5.75	312		Pn	20 42 19.3 +0.9
YUK5	Granite Creek	5.83	87		Pn	20 42 20.7 +1.1
COLD	Coldfoot	5.86	359		Pn	20 42 20.5 +0.8
M14K	Bethel	5.88	269		Pn	20 42 19.9 -0.2
G18K	Tagagawik	5.95	323		Pn	20 42 21.8 +0.7
O14K	Tigyukauivet M	6.03	254		Pn	20 42 23.2 +1.0
I28M	Miner Creek	6.05	43	Pn	Pn	20 42 23.8 +1.3
HYT	Haines Junctio	6.05	90		Pn	20 42 22.6 +0.1
L14K	Kuka Creek	6.14	275		Pn	20 42 24.9 +1.3
J29N	Klondike Camp	6.16	55		Pn	20 42 23.2 -0.8
N30M	Aishikik Lake	6.16	84		Pn	20 42 23.8 -0.3
G26K	Porcupine Rive	6.18	23		Pn	20 42 25.9 +1.7
F20K	Avaraart Lake	6.21	338		Pn	20 42 26.2 +1.6
F22K	John River	6.21	352		Pn	20 42 26.4 +1.7
P29M	Windy Craggy	6.27	101		Pn	20 42 26.8 +1.2
H16K	Elim	6.48	305		Pn	20 42 29.2 +1.0
BMAR	Burnt Mountain	6.48	19		Pn	20 42 27.5 -0.8
G27K	Doyon Strip	6.52	30		Pn	20 42 29.7 +0.7
E19K	Redstone River	6.85	336	Pn	Pn	20 42 34.4 +1.0
TOLK	Toolik Lake Re	7.28	1		Pn	20 42 40.8 +1.6
F28M	Old Crow	7.59	30		Pn	20 42 43.7 +0.2
D19K	Kuna River	7.92	338		Pn	20 42 48.6 +0.5
E29M	Blow River	8.66	31	Pn	Pn	20 42 59.1 +0.9
INK	Inuvik	9.80	38	P	Pn	20 43 15.3 +1.6
	comp=N,0.9nm,0.6s,baz=239,slow=12,SNR=1.6					
INK				S	Sn	20 45 05.3 +3.3
	comp=N,2.3nm,0.5s,baz=9.6,slow=9.4,SNR=2.0					
A36M	Sachs Harbour	14.27	32	P	P	20 44 20.7 +0.3
YKA	Yellowknife Ar	16.52	71	P	P	20 44 45.4 0.0
	comp=N,0.3nm,0.4s,baz=283,slow=11,SNR=10					
PDAR	Pinedale Array	30.34	109	P	P	20 47 03.7 +1.4
	comp=N,0.5nm,0.5s,baz=328,slow=4.5,SNR=5.6					
	comp=N,0.5nm,0.5s					
ULM	Lac du Bonnet	31.41	86	P	P	20 47 12.1 +0.7
	comp=N,3.0nm,0.7s,baz=316,slow=7.5,SNR=4.6					
	comp=N,3.0nm,0.7s					
V55A	Taylorsville	49.22	88	P	P	20 49 39.0 +0.5
KSRS	Korea Array	54.33	284	P	P	20 50 16.6 +0.1
	comp=N,0.9nm,0.6s,baz=32,slow=6.6,SNR=2.6					
	comp=N,0.9nm,0.6s					
SONM	Songino Array	55.17	307	P	P	20 50 22.5 -0.1
	comp=N,0.8nm,0.8s,baz=43,slow=3.9,SNR=5.1					
	comp=N,0.8nm,0.8s					
ZALV	Zalesovo Beam	57.12	325	P	P	20 50 35.0 -1.3
	comp=N,0.5nm,0.5s,baz=23,slow=4.4,SNR=2.6					
	comp=N,0.5nm,0.5s					
FINES	FINESS Array B	57.44	2	P	P	20 50 38.1 -0.3
	comp=N,7.9nm,1.1s,baz=357,slow=8.4,SNR=9.3					
	comp=N,7.9nm,1.1s					
EKA	Eskdalemuir Ar	60.70	21	P	P	20 51 00.1 -1.0
	comp=N,4.1nm,1.0s,baz=327,slow=6.1,SNR=4.8					
	comp=N,4.1nm,1.0s					
BVAR	Borovoye Array	61.51	334	P	P	20 51 05.3 -1.3
	comp=N,1.4nm,0.7s,baz=26,slow=7.2,SNR=7.6					
	comp=N,1.4nm,0.7s					
MKAR	Makanchi Array	64.26	323	P	P	20 51 22.7 -2.3
	comp=N,0.5nm,0.5s,baz=36,slow=6.4,SNR=10					
	comp=N,0.5nm,0.5s					
AKASG	Malin Array De	68.25	1	P	P	20 51 49.4 -1.0
	comp=N,2.5nm,0.5s,baz=1.8,slow=6.2,SNR=12					
	comp=N,2.5nm,0.5s					
ESDC	Sonseca Array	75.54	26	P	P	20 52 33.4 -1.0
	comp=N,0.7nm,0.6s,baz=344,slow=6.1,SNR=6.3					
	comp=N,0.7nm,0.6s					
CMAR	Chiang Mai Arr	83.62	297	P	P	20 53 17.7 -0.7
	comp=N,0.3nm,0.4s,baz=8.2,slow=7.0,SNR=5.7					
	comp=N,0.3nm,0.4s					
QSPA	South Pole Qui	151.21	180	PKPbc	PKPbc	21 00 41.1 -0.3
	comp=N,2.7nm,0.6s,baz=210,slow=0.6,SNR=9.2					

*NEIC **30** 20:44:42.6±0.8, 61°.44N±0°.02×149°.97W±0°.04, h33km±9km, Error ellipse: s-maj=3.0km s-min=2.6km az=70.0*
AEIC 30 20:44:43.3±1.1, 61°.46N±0°.02×149°.98W±0°.04, h32km±7km, ML2.6, ML2.8/46(NEIC), Error ellipse: s-maj=3.5km s-min=2.8km az=160.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.31	347		Pb	20 44 49.9	-1.1
M22K				IAML		20 44 57.6	
	comp=E,524nm,0.5s						
M22K	Willow	0.31	347		Sn	20 44 57.2	+0.3
SUA	Susitna One	0.37	272		Pb	20 44 51.5	-0.5
SUA					Sn	20 44 58.3	-0.4
SUA	Susitna One	0.37	272	IAML		20 44 59.0	
	comp=N,442nm,0.4s						
RC01	Rabbit Creek A	0.39	162		Pb	20 44 50.6	-1.5
RC01				IAML		20 45 02.2	
	comp=N,449nm,0.2s						
RC01				IAML		20 45 02.4	
	comp=E,420nm,0.2s						
PMR	Palmer	0.43	71		Pb	20 44 51.6	-1.1
PMR	Palmer	0.43	71		Sb	20 44 59.0	-0.1
GHO	Glory Hole Cre	0.59	57		Pb	20 44 54.2	-1.2
GHO	Glory Hole Cre	0.59	57		Sn	20 45 04.0	-0.2
KNK	Knik Glacier	0.73	93		Pn	20 44 56.1	-1.3
SML	Sawmill	0.86	65		Sn	20 45 10.4	-0.3
SML	Sawmill	0.86	65	Pn	Pn	20 44 58.2	-1.0
SML	Sawmill	0.86	65	IAML		20 45 18.6	
	comp=E,72nm,0.4s						
SML				IAML		20 45 18.9	
	comp=N,98nm,0.5s						
STLK	Strandline Lak	0.89	274		Pn	20 44 58.6	-1.1
STLK					Sn	20 45 11.3	-0.2
CAPN	Captain Cook N	0.90	220	Pn	Pn	20 44 58.8	-0.8
SKT	Skwentna	0.91	306		Pn	20 44 58.4	-1.5
SKT	Skwentna	0.91	306		Sn	20 45 11.3	-0.6
SKT	Skwentna	0.91	306	IAML		20 45 11.9	
	comp=N,156nm,0.4s						
SLKM	Skilak Lake	0.96	187		Pn	20 44 59.5	-1.1
SLKM	Skilak Lake	0.96	187	IAML		20 45 17.4	
	comp=N,203nm,0.1s						
SLKM				IAML		20 45 34.5	
	comp=E,278nm,0.3s						
CUT	Chulitna	0.96	352		Pn	20 44 59.6	-1.0
CUT					Sb	20 45 13.9	0.0
CUT	Chulitna	0.96	352	IAML		20 45 23.6	
	comp=N,181nm,0.4s						
CUT				IAML		20 45 24.4	
	comp=E,217nm,0.5s						
O22K	Cooper Landing	0.98	173		Pn	20 44 59.5	-1.4
O22K	Cooper Landing	0.98	173	IAML		20 45 17.9	
	comp=E,386nm,0.5s						
O22K				IAML		20 45 34.5	
	comp=N,360nm,0.2s						
PWL	Port Wells	1.00	126		Pn	20 44 59.7	-1.3
PWL				IAML		20 45 36.4	
	comp=N,426nm,0.2s						
SPCG	Spurr Capps Gl	1.00	261		Pn	20 45 00.2	-1.0
SPCP	Crater Peak Br	1.06	261		Pn	20 45 01.3	-0.9
SPCR	Spurr Chakacha	1.11	258		Pn	20 45 01.5	-1.2
SCM	Sheep Creek Mo	1.32	72		Pn	20 45 04.9	-0.7
SCM				IAML		20 45 41.1	
	comp=N,241nm,0.1s						
SCM				IAML		20 45 41.1	
	comp=E,193nm,0.2s						
RDT	Redoubt	1.48	234		Pn	20 45 06.7	-1.1
GLI	Glacier Island	1.51	111		Pn	20 45 07.0	-1.1
M20K	Styx River	1.56	287		Pn	20 45 08.4	-0.6
M20K				IAML		20 45 45.0	
	comp=E,161nm,0.6s						
BRLK	Bradley Lake	1.75	195		Pn	20 45 10.4	-1.1
FID	Port Fidalgo	1.84	111	Pn	Pn	20 45 11.4	-1.3
M24K	Tolsona, Glenn	1.92	68	Pn	Pn	20 45 13.4	-0.4
KLU	Klutina	1.95	87	Pn	Pn	20 45 13.4	-0.8
CNPM	China Poot	2.03	198	Pn	Pn	20 45 14.0	-1.4
M19K	Big River Lodg	2.15	284	Pn	Pn	20 45 16.8	-0.2
M19K				IAML		20 46 30.2	
	comp=E,66nm,0.5s						
M19K				IAML		20 46 32.7	
	comp=N,51nm,0.8s						
CAST	Castle Rocks	2.20	334	Pn	Pn	20 45 17.2	-0.5
CAST				IAML		20 46 02.3	
	comp=N,72nm,0.5s						
CAST				IAML		20 46 23.2	
	comp=E,53nm,0.4s						
N19K	Bonanza Creek	2.28	256	Pn	Pn	20 45 18.2	-0.6
P19K	Oil Pt	2.42	223	Pn	Pn	20 45 19.9	-0.7
SVW2	Sparrevohn	2.73	265	Pn	Pn	20 45 23.8	-1.1
N18K	Kilae Creek	2.98	257	Pn	Pn	20 45 27.5	-0.8
BERG	Berg Lake	3.24	106	Pn	Pn	20 45 31.0	-1.0
HDA	Harding Lake	3.27	24	Pn	Pn	20 45 31.4	-0.9
L18K	Granite Mounta	3.27	286	Pn	Pn	20 45 31.8	-0.5
MCARA	McCarthy VSAT	3.34	88	Pn	Pn	20 45 31.4	-1.9
COLA	College	3.56	15	Pn	Pn	20 45 34.8	-1.5
M17K	Holitna River	3.58	272	Pn	Pn	20 45 36.3	-0.3
MLY	Manley	3.61	355	Pn	Pn	20 45 36.7	-0.2
IL31		3.61	22	Pn	Pn	20 45 36.3	-0.6
J19K	Poorman	3.64	317	Pn	Pn	20 45 37.4	0.0
SNH	Sunshine Point	3.72	107	Pn	Pn	20 45 38.2	-0.4
I21K	Tanana	3.85	347	Pn	Pn	20 45 40.4	+0.2
M16K	Timber Creek	4.36	268	Pn	Pn	20 45 47.1	-0.2
H21K	Melozitna Rive	4.40	345	Pn	Pn	20 45 48.3	+0.4
G21K	Allakaket	5.31	345	Pn	Pn	20 46 00.8	+0.5

*NEIC **30** 20:45:17.9±1.3, 61°.40N±0°.03×150°.01W±0°.05, h39km±10km, Error ellipse: s-maj=4.7km s-min=3.4km az=181.0*
AEIC 30 20:45:18.6±1.3, 61°.39N±0°.04×149°.99W±0°.06, h37km±7km, ML3.0, ML3.1/180(NEIC), Error ellipse: s-maj=5.1km s-min=3.8km az=170.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	Rabbit Creek A	0.32	158		Pn	20 45 26.3	-0.6
RC01					Sn	20 45 33.2	-0.6
RC01				IAML		20 45 36.4	
	comp=N,2μm,0.2s						
RC01				IAML		20 45 37.2	
	comp=E,1μm,0.3s						
SUA	Susitna One	0.37	282		Pn	20 45 27.1	-0.3
SUA					Sn	20 45 34.6	+0.4
SUA				IAML		20 45 35.1	
	comp=E,2μm,0.7s						
SUA				IAML		20 45 35.6	
	comp=N,2μm,0.8s						
M22K	Willow	0.37	350		Pn	20 45 26.7	-0.5
M22K					Sn	20 45 34.1	+0.2
M22K				IAML		20 45 35.0	
	comp=N,2μm,0.3s						
M22K				IAML		20 45 35.0	
	comp=E,2μm,0.4s						
PMR	Palmer	0.46	63		Pn	20 45 27.7	-0.8
PMR					Sn	20 45 35.6	+0.1
PMR				IAML		20 45 37.6	
	comp=E,1μm,0.1s						
PMR				IAML		20 45 38.6	
	comp=N,800nm,0.2s						
GHO	Glory Hole Cre	0.64	52		Pn

SPCP	Crater Peak Br	1.05	264		Pn	20 45 36.3	-0.6
SPCR	Spurr Chakacha	1.09	261		Pn	20 45 36.5	-0.8
SPCR	Spurr Chakacha	1.09	261		Pn	20 45 36.5	-0.8
M23K	Glacier View	1.16	68		Pn	20 45 37.5	-0.7
SCM	Sheep Creek Mo	1.35	69	Pn	Pn	20 45 40.3	-0.5
SCM				IAML		20 46 00.6	
	comp=N,414nm,0.7s						
SCM				IAML		20 46 01.4	
	comp=E,350nm,0.6s						
GLI	Glacier Island	1.49	109	Pn	Pn	20 45 41.6	-1.2
GLI				IAML		20 46 06.4	
	comp=N,353nm,0.5s						
M20K	Styx River	1.58	290		Pn	20 45 43.9	-0.2
M20K				IAML		20 46 06.1	
	comp=N,165nm,0.7s						
RED	Redoubt Volcan	1.67	236		Pn	20 45 44.7	-0.6
BRLK	Bradley Lake	1.69	196	Pn	Pn	20 45 45.6	+0.2
BRLK				IAML		20 46 09.0	
	comp=E,226nm,0.5s						
BRLK				IAML		20 46 09.1	
	comp=N,179nm,0.3s						
FID	Port Fidalgo	1.82	109	Pn	Pn	20 45 45.9	-1.4
FID				IAML		20 46 14.2	
	comp=N,251nm,0.4s						
HOM	Homer	1.92	206	Pn	Pn	20 45 48.2	-0.4
M24K	Tolsona, Glenn	1.95	67	Pn	Pn	20 45 49.3	+0.2
M24K				IAML		20 46 22.3	
	comp=E,166nm,0.5s						
M24K				IAML		20 46 22.4	
	comp=N,143nm,0.6s						
KLU	Klutina	1.96	85	Pn	Pn	20 45 48.2	-1.0
KLU				IAML		20 46 22.5	
	comp=E,103nm,0.3s						
KLU				IAML		20 46 22.7	
	comp=N,126nm,0.4s						
HIN	Hinchinbrook I	1.97	119		Pn	20 45 48.2	-1.2
HIN				IAML		20 46 21.7	
	comp=N,223nm,0.7s						
DHY	Denali Highway	2.09	35	Pn	Pn	20 45 49.9	-1.2
DHY				IAML		20 46 22.9	
	comp=E,103nm,0.7s						
DHY				IAML		20 46 23.4	
	comp=N,120nm,0.5s						
ILSW	Iliamna Southw	2.10	229	Pn	Pn	20 45 50.5	-0.7
ILSW				IAML		20 46 20.2	
	comp=E,91nm,0.7s						
RND	Reindeer	2.10	14	Pn	Pn	20 45 50.8	-0.3
L20K	Farewell, AK	2.14	302		Pn	20 45 51.3	-0.4
M19K	Big River Lodg	2.16	286		Pn	20 45 51.6	-0.4
KTH	Kantishna Hill	2.22	349	Pn	Pn	20 45 52.8	0.0
KTH				IAML		20 46 23.6	
	comp=N,123nm,0.5s						
KTH				IAML		20 46 23.7	
	comp=E,106nm,0.5s						
N19K	Bonanza Creek	2.26	257		Pn	20 45 52.6	-0.7
CAST	Castle Rocks	2.26	335	Pn	Pn	20 45 53.2	-0.1
P19K	Oil Pt	2.37	224	Pn	Pn	20 45 53.7	-1.1
L19K	White Mountain	2.44	291		Pn	20 45 55.6	-0.3
L19K				IAML		20 47 29.3	
	comp=N,70nm,0.7s						
L19K				IAML		20 47 30.2	
	comp=E,90nm,0.6s						
HARP	HAARP	2.50	64		Pn	20 45 56.8	+0.2
N25K	Chitina, Valde	2.59	83		Pn	20 45 56.5	-1.5
N25K				IAML		20 47 41.7	
	comp=N,103nm,0.4s						
N25K				IAML		20 47 41.9	
	comp=E,64nm,0.5s						
BMRM	Bremner River	2.64	97		Pn	20 45 57.1	-1.5
PAX	Paxson	2.65	51		Pn	20 45 57.9	-0.9
Q23K	Middleton Isla	2.67	136	Pn	Pn	20 45 58.8	-0.1
Q23K				IAML		20 46 51.7	
	comp=E,111nm,0.8s						
Q23K				IAML		20 47 11.8	
	comp=N,114nm,1.0s						
MID	Middleton Isla	2.67	136		Pn	20 45 58.6	-0.3
SVW2	Sparrevohn	2.72	266	Pn	Pn	20 45 58.7	-0.9
K20K	Telida	2.74	318	Pn	Pn	20 45 59.2	-0.7
K20K				IAML		20 47 42.7	
	comp=E,71nm,0.6s						
BPAW	Bear Paw Mtn.	2.76	351	Pn	Pn	20 45 59.6	-0.6
WACK	Wrangell Chich	2.77	75		Pn	20 46 00.9	+0.4
N18K	Kilae Creek	2.96	259	Pn	Pn	20 46 01.8	-1.1
N18K				IAML		20 46 36.4	
	comp=N,45nm,0.6s						
GLB	Gilahina Butte	2.97	86	Pn	Pn	20 46 02.7	-0.4
GLB				IAML		20 47 52.4	
	comp=N,80nm,0.7s						
Q18K	Koktuh Hills	3.00	241	Pn	Pn	20 46 02.4	-1.1
SYI	Shuyak Island	3.04	204	Pn	Pn	20 46 02.7	-1.2
SYI				IAML		20 47 55.8	
	comp=E,48nm,0.6s						
SYI				IAML		20 47 58.2	
	comp=N,42nm,0.7s						
Q19K	Cape Douglas,	3.07	218	Pn	Pn	20 46 03.7	-0.7
KAIM	Kayak Island	3.11	116	Pn	Pn	20 46 04.0	-1.0
KAIM				IAML		20 47 04.4	
	comp=E,51nm,1.0s						
KAIM				IAML		20 47 56.9	
	comp=N,52nm,1.1s						
VRDI	Verde Repeater	3.16	90	Pn	Pn	20 46 04.9	-1.0
VRDI				IAML		20 47 57.1	
	comp=N,40nm,0.8s						
WRH	Wood River Hil	3.22	15	Pn	Pn	20 46 05.1	-1.3
WRH				IAML		20 46 59.6	
	comp=E,39nm,0.9s						
WRH				IAML		20 48 02.6	
	comp=N,39nm,0.5s						
BERG	Berg Lake	3.23	105	Pn	Pn	20 46 04.5	-2.1
NEA2	Nenana	3.25	7	Pn	Pn	20 46 05.9	-0.9
P18K	Big Mountain,	3.28	235	Pn	Pn	20 46 05.8	-1.5
L18K	Granite Mounta	3.29	288	Pn	Pn	20 46 06.7	-0.7
SUCK	Suckling Hills	3.32	111	Pn	Pn	20 46 08.3	+0.4
SUCK				IAML		20 48 08.5	
	comp=N,49nm,1.1s						
SUCK				IAML		20 48 17.1	
	comp=E,34nm,1.1s						
MENT	Mentasta	3.33	59		Pn	20 46 08.2	+0.2
HDA	Harding Lake	3.34	23	Pn	Pn	20 46 08.2	+0.1
MCARA	McCarthy VSAT	3.35	87	Pn	Pn	20 46 08.2	-0.1
CRQM	Cirque	3.39	98	Pn	Pn	20 46 08.0	-1.0
J20K	Nowinta River	3.39	328	Pn	Pn	20 46 08.1	-0.7
J20K				IAML		20 46 48.2	
	comp=E,44nm,0.4s						
J20K				IAML		20 47 13.1	
	comp=N,50nm,0.5s						
CCB	Clear Creek Bu	3.42	16	Pn	Pn	20 46 08.7	-0.5
CCB				IAML		20 48 00.7	
	comp=E,31nm,0.4s						
M26K	Nabesna, AK	3.46	70	Pn	Pn	20 46 08.6	-1.3
M26K				IAML		20 48 09.7	
	comp=N,44nm,0.6s						
M26K				IAML		20 48 12.8	
	comp=E,40nm,0.4s						
TGL	Tana Glacier	3.54	97	Pn	Pn	20 46 09.8	-1.2
M17K	Holitna River	3.58	273		Pn	20 46 10.9	-0.5
M17K				IAML		20 47 12.4	
	comp=N,50nm,0.7s						
M17K				IAML		20 47 17.6	
	comp=E,54nm,0.8s						
N17K	Nushagak Hills	3.61	259	Pn	Pn	20 46 10.6	-1.3
N17K				IAML		20 46 52.6	
	comp=E,31nm,0.7s						
N17K				IAML		20 47 09.3	
	comp=N,23nm,0.7s						
COLA	College	3.63	15	Pn	Pn	20 46 11.9	-0.2
PTPK	Patty Peak	3.64	90		Pn	20 46 11.8	-0.6
MLY	Manley	3.67	355		Pn	20 46 12.4	-0.4
IL31		3.68	21	Pn	Pn	20 46 12.5	-0.2
ILAR	Eielson Array	3.68	21	Pn	Pn	20 46 12.1	-0.6
J19K	Poorman	3.69	318	Pn	Pn	20 46 12.0	-0.9
J19K				IAML		20 48 10.6	
	comp=N,31nm,0.7s						
J19K				IAML		20 48 11.2	
	comp=E,24nm,0.5s						
SNH	Sunshine Point	3.71	106	Pn	Pn	20 46 11.2	-2.0
SNH				IAML		20 48 16.6	
	comp=N,24nm,0.8s						
SNH				IAML		20 48 25.6	
	comp=E,33nm,0.9s						
J18K	Innoko River	3.76	307	Pn	Pn	20 46 12.8	-1.1
J18K				IAML		20 48 00.5	
	comp=N,29nm,0.4s						
SCRK	Sand Creek	3.80	44	Pn	Pn	20 46 14.3	-0.2
SCRK				IAML		20 47 14.8	
	comp=E,32nm,0.6s						
SCRK				IAML		20 48 08.4	
	comp=N,23nm,0.8s						
KDAK	Kodiak Island	3.85	201	Pn	Pn	20 46 13.6	-1.5
KDAK				IAML		20 47 19.4	
	comp=N,25nm,1.1s						
KDAK				IAML		20 48 20.3	
	comp=N,26nm,1.1s						
J25K	Salcha River,	3.86	31	Pn	Pn	20 46 14.8	-0.5
I21K	Tanana	3.91	348		Pn	20 46 15.7	-0.3
POKR	Poker Plat Res	3.92	16	Pn	Pn	20 46 16.9	+0.8
POKR				IAML		20 48 10.5	
	comp=N,22nm,0.9s						
POKR				IAML		20 48 22.9	
	comp=E,22nm,0.8s						
I20K	Naaghedeneel	3.98	331	Pn	Pn	20 46 16.1	-0.8
GRNC	Granite Creek	4.06	96	Pn	Pn	20 46 17.0	-1.2
GRNC				IAML		20 48 29.6	
	comp=N,29nm,0.9s						
MESA	MESA	4.12	104	Pn	Pn	20 46 17.7	-1.4
K17K	Iditarod	4.13	292	Pn	Pn	20 46 18.5	-0.5
K17K				IAML		20 47 39.1	
	comp=N,27nm,1.2s						
K17K				IAML		20 47 44.5	
	comp=E,27nm,0.8s						
L27K	Beaver Creek,	4.17	63	Pn	Pn	20 46 19.4	-0.2
CTGM	Chitina Glacie	4.21	92	Pn	Pn	20 46 19.3	-1.0
CTGM				IAML		20 48 33.4	
	comp=N,17nm,0.8s						
M16K	Timber Creek	4.36	269	Pn	Pn	20 46 21.5	-0.5
M16K				IAML		20 47 42.2	
	comp=N,13nm,1.1s						
O16K	Kokwok River B	4.39	249	Pn	Pn	20 46 21.5	-1.0
O16K				IAML		20 47 40.5	
	comp=N,16nm,0.9s						
O16K				IAML		20 47 42.0	
	comp=E,14nm,0.8s						
LOGN	Logan Glacier	4.40	93	Pn	Pn	20 46 22.2	-0.6
LOGN				IAML		20 48 40.9	
	comp=E,18nm,0.8s						
LOGN				IAML		20 48 42.6	
	comp=N,17nm,0.6s						
H23K	Yukon River	4.46	2	Pn	Pn	20 46 24.2	+0.7
H21K	Melozitna Rive	4.47	345	Pn	Pn	20 46 23.3	-0.3
L16K	Owhat River	4.55	278	Pn	Pn	20 46 23.9	-0.8
L16K				IAML		20 48 20.0	
	comp=N,15nm,0.6s						
H24K	Noodor Dome	4.57	11	Pn	Pn	20 46 26.2	+1.3
H24K				IAML		20 48 44.6	
	comp=N,11nm,0.7s						
H24K				IAML		20 48 49.9	
	comp=E,11nm,0.8s						
PRP	Porcupine Dome	4.60	24	Pn	Pn	20 46 25.3	-0.3
J17K	VABM Dome	4.68	299	Pn	Pn	20 46 25.0	-1.5
IMAR	Indian Mountai	4.91	342	Pn	Pn	20 46 29.8	+0.2
H19K	Roundabout Mou	5.06	328	Pn	Pn	20 46 30.4	-1.3
H19K				IAML		20 47 29.6	
	comp=N,8.6nm,0.8s						
H19K				IAML		20 47 53.8	
	comp=E,8.0nm,1.0s						
N15K	Kwethluk River	5.10	261	Pn	Pn	20 46 32.0	-0.3
N15K				IAML		20 49 14.7	
	comp=N,16nm,1.1s						
N15K				IAML		20 49 45.7	
	comp=E,15nm,1.1s						
J16K	Anvik River	5.30	296	Pn	Pn	20 46 34.0	-1.0
J16K				IAML		20 48 13.3	
	comp=N,7.3nm,0.9s						
H18K	Honhosa River	5.34	319		Pn	20 46 35.0	-0.6
H18K				IAML		20 48 39.7	
	comp=E,8.7nm,0.5s						
H18K				IAML		20 49 20.2	
	comp=N,8.1nm,1.1s						
G21K	Allakaket	5.38	345		Pn	20 46 36.7	+0.6
G21K				IAML		20 48 26.5	
	comp=N,6.5nm,0.8s						
G24K	Hadweenzic Riv	5.45	11		Pn	20 46 38.8	+1.7
K15K	Wolf Creek Mou	5.54	284		Pn	20 46 37.3	-1.1
H17K	Granite Mounta	5.73	313	Pn	Pn	20 46 39.5	-1.4
M14K	Bethel	5.85	269	Pn	Pn	20 46 42.0	-0.5
G18K	Tagagawik	5.94	323	Pn	Pn	20 46 43.2	-0.6
O14K	Tigyukauivet M	6.00	254	Pn	Pn	20 46 44.2	-0.4
L14K	Kuka Creek	6.11	275	Pn	Pn	20 46 46.1	+0.1
F20K	Avaraart Lake	6.21	339	Pn	Pn	20 46 47.8	+0.4
P29M	Windy Craggy	6.30	101	Pn	Pn	20 46 48.2	-0.6
F19K	Shaleruckik Mo	6.44	331	Pn	Pn	20 46 51.1	+0.5
BMAR	Burnt Mountain	6.50	19	Pn	Pn	20 46 51.7	+0.2

NEIC ***30*** *20:46:22.1±1.1, 61°.50N±0°.03×149°.92W±0°.03, h42km±6km,*
Error ellipse: s-maj=3.7km s-min=1.8km az=169.0
AEIC 30 20:46:22.9±1.1, 61°.49N±0°.03×149°.96W±0°.05, h36km±5km,
ML3.0, ML3.1/132(NEIC), Error ellipse: s-maj=3.7km
s-min=3.3km az=177.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.27	344		Pn	20 46 29.8	-1.2
M22K				Sn	Sn	20 46 36.6	-1.7
M22K				IAML		20 46 39.4	
	comp=N,2μm,0.5s						
M22K	Willow	0.27	344	P	Pn	20 46 30.1	-1.0
	baz=164						
M22K				S	Sn	20 46 36.9	-1.4
	baz=164						
SUA	Susitna One	0.38	266		Pn	20 46 31.6	-0.1
SUA				Sn	Sn	20 46 39.1	+0.5
SUA				IAML		20 46 39.8	
	comp=N,1μm,0.6s						
SUA				IAML		20 46 40.0	
	comp=E,2μm,0.7s						
SUA	Susitna One	0.38	266	P	Pn	20 46 31.6	-0.1
	baz=86						
SUA				S	Sn	20 46 39.2	+0.7
	baz=86						
PMR	Palmer	0.41	75		Pn	20 46 31.1	-0.9
PMR				Sn	Sn	20 46 38.4	-0.3
PMR				IAML		20 46 39.3	
	comp=E,1μm,0.2s						
PMR				IAML		20 46 39.6	
	comp=N,1μm,0.2s						
PMR	Palmer	0.41	75	P	Pn	20 46 31.2	-0.7
	baz=256						
PMR				S	Sn	20 46 38.6	-0.1
	baz=256						
RC01	Rabbit Creek A	0.42	165		Pn	20 46 31.4	-0.7
RC01				Sn	Sn	20 46 39.2	+0.3
RC01				IAML		20 46 40.3	
	comp=E,858nm,0.3s						
RC01				IAML		20 46 40.4	
	comp=N,1μm,0.3s						
RC01	Rabbit Creek A	0.42	165	P	Pn	20 46 31.5	-0.6
	baz=345						
RC01				S	Sn	20 46 39.4	+0.5
	baz=345						
GHO	Glory Hole Cre	0.57	60	Pn	Pn	20 46 33.5	-1.2
GHO				Sn	Sn	20 46 42.2	-0.6
GHO				IAML		20 46 43.9	
	comp=N,785nm,0.3s						
GHO				IAML		20 46 44.4	
	comp=E,906nm,0.4s						
KNK	Knik Glacier	0.73	95		Pn	20 46 35.5	-1.2
KNK				Sn	Sn	20 46 46.1	-0.4
KNK				IAML		20 46 49.0	
	comp=N,1μm,0.4s						
KNK				IAML		20 46 49.4	
	comp=E,716nm,0.4s						
KNK	Knik Glacier	0.73	95	P	Pn	20 46 35.8	-0.8
	baz=277						
KNK				S	Sn	20 46 46.7	+0.2
	baz=277						
SML	Sawmill	0.84	67	Pn	Pn	20 46 36.8	-1.5
SML				Sn	Sn	20 46 48.6	-0.8
SML				IAML		20 46 51.9	
	comp=N,605nm,0.7s						
SML	Sawmill	0.84	67	P	Pn	20 46 37.0	-1.2
	baz=248						
SML				S	Sn	20 46 49.9	+0.4
	baz=248						
SKT	Skwentna	0.89	304		Pn	20 46 37.7	-1.2
SKT				Sn	Sn	20 46 50.2	-0.5
SKT				IAML		20 46 52.3	
	comp=E,594nm,0.4s						
SKT	Skwentna	0.89	304	P	Pn	20 46 37.9	-1.0
	baz=123						
SKT				S	Sn	20 46 50.5	-0.1
	baz=123						
STLK	Strandline Lak	0.90	271		Pn	20 46 38.3	-0.6
STLK					Sn	20 46 51.2	+0.4
CAPN	Captain Cook N	0.93	219	Pn	Pn	20 46 39.6	+0.4
CUT	Chulitna	0.93	351	Pn	Pn	20 46 38.2	-1.1
CUT				Sn	Sn	20 46 51.1	-0.3
CUT	Chulitna	0.93	351	P	Pn	20 46 38.5	-0.8
	baz=171						
CUT				S	Sn	20 46 51.5	+0.1
	baz=171						
SLKM	Skilak Lake	0.99	187	Pn	Pn	20 46 39.4	-0.9
SLKM				Sn	Sn	20 46 52.9	-0.2
SLKM				IAML		20 46 53.8	
	comp=N,585nm,0.4s						
SPCG	Spurr Capps Gl	1.01	260		Pn	20 46 39.8	-0.7
PWL	Port Wells	1.01	128		Pn	20 46 39.4	-1.1
PWL				Sn	Sn	20 46 53.5	+0.1
PWL	Port Wells	1.01	128	P	Pn	20 46 39.8	-0.7
	baz=310						
PWL				S	Sn	20 46 53.8	+0.4
	baz=310						
O22K	Cooper Landing	1.02	173		Pn	20 46 39.6	-1.0
O22K				Sn	Sn	20 46 54.0	+0.5
O22K	Cooper Landing	1.02	173	P	Pn	20 46 39.8	-0.8
	baz=354						
O22K				S	Sn	20 46 54.6	+1.1
	baz=354						
SPCP	Crater Peak Br	1.08	259		Pn	20 46 41.2	-0.3
M23K	Glacier View	1.11	73		Pn	20 46 41.0	-0.8
M23K					Sn	20 46 56.7	+0.8
M23K	Glacier View	1.11	73	P	Pn	20 46 41.0	-0.8
	baz=255						
M23K				S	Sn	20 46 56.7	+0.8
	baz=255						
N20K	Mount Spurr	1.12	256	P	Pn	20 46 41.4	-0.6
	baz=74						
SPCR	Spurr Chakacha	1.12	256		Pn	20 46 41.4	-0.6
SPCR	Spurr Chakacha	1.12	256		Pn	20 46 41.5	-0.5
SPCR	Spurr Chakacha	1.12	256	P	Pn	20 46 41.5	-0.5
	baz=74						
SCM	Sheep Creek Mo	1.30	74		Pn	20 46 43.9	-0.6
SCM				Sn	Sn	20 47 01.3	+0.6
SCM	Sheep Creek Mo	1.30	74	P	Pn	20 46 44.0	-0.5
	baz=256						
WAT7	Susitna Watana	1.45	21		Pn	20 46 46.0	-0.5
WAT1	Susitna Watana	1.50	26		Pn	20 46 46.6	-0.6
WAT1	Susitna Watana	1.50	26	P	Pn	20 46 46.6	-0.6
	baz=207						
RDT	Redoubt	1.50	233		Pn	20 46 46.5	-0.7
WAT6	Susitna Watana	1.52	43		Pn	20 46 46.8	-0.7
WAT6	Susitna Watana	1.52	43	P	Pn	20 46 46.8	-0.7
	baz=225						
GLI	Glacier Island	1.52	113		Pn	20 46 45.9	-1.5
GLI				Sn	Sn	20 47 05.6	-0.3
GLI				IAML		20 47 09.4	
	comp=N,307nm,0.3s						
GLI				IAML		20 47 10.0	
	comp=E,336nm,0.5s						
GLI	Glacier Island	1.52	113	P	Pn	20 46 46.3	-1.1
	baz=295						
M20K	Styx River	1.56	286	Pn	Pn	20 46 47.9	-0.2
M20K				Sn	Sn	20 47 08.5	+1.4
M20K				IAML		20 47 09.4	
	comp=N,175nm,1.1s						
M20K				IAML		20 47 11.0	
	comp=E,220nm,0.9s						
RDJH	Redoubt Jeurge	1.65	238		Pn	20 46 49.0	-0.4
RDWB	Redoubt West	1.73	236		Pn	20 46 50.0	-0.4
RED	Redoubt Volcan	1.74	233		Pn	20 46 50.1	-0.5
PPLA	Purkeypile	1.75	324		Pn	20 46 50.6	-0.2
PPLA	Purkeypile	1.75	324	P	Pn	20 46 50.6	-0.2
	baz=143						
BRLK	Bradley Lake	1.79	195		Pn	20 46 51.3	+0.1
FID	Port Fidalgo	1.85	112	Pn	Pn	20 46 50.7	-1.2
FID				IAML		20 47 22.8	
	comp=N,264nm,0.5s						
FID				IAML		20 47 23.8	
	comp=E,188nm,0.4s						
M24K	Tolsona, Glenn	1.90	69		Pn	20 46 52.2	-0.6
M24K				IAML		20 47 20.9	
	comp=N,243nm,0.5s						
M24K	Tolsona, Glenn	1.90	69	P	Pn	20 46 52.9	+0.1
	baz=253						
KLU	Klutina	1.94	88		Pn	20 46 53.0	-0.3
KLU				IAML		20 47 24.3	
	comp=E,116nm,0.3s						
KLU				IAML		20 47 24.7	
	comp=N,218nm,0.3s						
KLU	Klutina	1.94	88	P	Pn	20 46 53.2	-0.1
	baz=272						
RND	Reindeer	1.99	15	Pn	Pn	20 46 52.9	-1.1
RND				IAML		20 47 20.9	
	comp=N,106nm,0.5s						
RND				IAML		20 47 21.9	
	comp=E,125nm,0.6s						
DHY	Denali Highway	2.00	36		Pn	20 46 53.1	-1.1
DHY				IAML		20 47 22.0	
	comp=E,176nm,0.5s						
DHY				IAML		20 47 24.2	
	comp=N,127nm,0.5s						
HIN	Hinchinbrook I	2.02	121		Pn	20 46 54.5	+0.2
HIN				IAML		20 47 29.9	
	comp=N,159nm,0.7s						
HOM	Homer	2.02	205		Pn	20 46 53.8	-0.4
CNPM	China Poot	2.07	198	Pn	Pn	20 46 54.3	-0.7
CNPM				IAML		20 47 25.1	
	comp=E,218nm,0.5s						
KTH	Kantishna Hill	2.12	348	Pn	Pn	20 46 54.7	-1.1
KTH				IAML		20 47 24.6	
	comp=E,107nm,0.8s						
KTH				IAML		20 47 30.4	
	comp=N,102nm,0.8s						
M19K	Big River Lodg	2.15	283	Pn	Pn	20 46 55.2	-0.9
CAST	Castle Rocks	2.17	334	Pn	Pn	20 46 55.4	-1.0
CAST				IAML		20 47 38.1	
	comp=E,72nm,0.8s						
ILSW	Iliamna Southw	2.17	227	Pn	Pn	20 46 56.2	-0.4
N19K	Bonanza Creek	2.29	255	Pn	Pn	20 46 57.9	-0.3
L19K	White Mountain	2.42	289	Pn	Pn	20 46 59.7	-0.2
P19K	Oil Pt	2.45	223	Pn	Pn	20 47 01.1	+0.8
N25K	Chitina, Valde	2.57	85	Pn	Pn	20 47 01.0	-1.0
BPAW	Bear Paw Mtn.	2.66	350	Pn	Pn	20 47 02.7	-0.5
K20K	Telida	2.67	316	Pn	Pn	20 47 02.7	-0.6
BWN	Browne	2.70	5	Pn	Pn	20 47 02.5	-1.2
SVW2	Sparrevohn	2.74	264	Pn	Pn	20 47 03.5	-0.7
RAGM	Ragged Mountai	2.81	111	Pn	Pn	20 47 04.7	-0.5
GLB	Gilahina Butte	2.95	88	Pn	Pn	20 47 06.7	-0.5
GLB				IAML		20 47 57.7	
	comp=E,36nm,0.7s						
N18K	Kilae Creek	2.99	257	Pn	Pn	20 47 06.7	-0.9
SYI	Shuyak Island	3.14	204	Pn	Pn	20 47 08.6	-1.1
L18K	Granite Mounta	3.27	286	Pn	Pn	20 47 11.0	-0.5
J20K	Nowinta River	3.31	326	Pn	Pn	20 47 11.8	-0.2
J20K				IAML		20 48 04.9	
	comp=N,34nm,0.4s						
J20K				IAML		20 48 15.1	
	comp=E,40nm,0.7s						
CRQM	Cirque	3.39	100		Pn	20 47 12.4	-0.9
COLA	College	3.53	15	Pn	Pn	20 47 14.8	-0.1
MLY	Manley	3.57	355	Pn	Pn	20 47 14.7	-0.9
IL31		3.58	22	Pn	Pn	20 47 14.3	-1.4
ILAR	Eielson Array	3.58	22		Pn	20 47 15.3	-0.4
M17K	Holitna River	3.59	272	Pn	Pn	20 47 15.1	-0.8
M17K				IAML		20 47 58.8	
	comp=E,51nm,0.5s						
M17K				IAML		20 48 17.7	
	comp=N,41nm,0.5s						
J19K	Poorman	3.62	316	Pn	Pn	20 47 15.6	-0.6
N17K	Nushagak Hills	3.65	258	Pn	Pn	20 47 15.7	-0.9
I23K	Minto, Yukon-K	3.68	4	Pn	Pn	20 47 16.4	-0.7
I23K				IAML		20 48 16.2	
	comp=N,28nm,0.9s						
I23K				IAML		20 48 18.3	
	comp=E,22nm,1.1s						
J18K	Innoko River	3.71	305	Pn

BCAR	Beaver Creek A	4.13	64	Pn	Pn	20 47 22.8	-0.6
H21K	Melozitna Rive	4.37	344	Pn	Pn	20 47 26.4	-0.2
LOGN	Logan Glacier	4.39	95	Pn	Pn	20 47 25.4	-1.7
O16K	Kokwok River B	4.44	248	Pn	Pn	20 47 25.4	-2.2
PRP	Porcupine Dome	4.50	24	Pn	Pn	20 47 25.4	-3.2
PRP				IAML		20 48 25.4	
	comp=E,26nm,0.9s						
L16K	Owhat River	4.55	277	Pn	Pn	20 47 28.1	-0.9
H19K	Roundabout Mou	4.98	327	Pn	Pn	20 47 34.8	-0.2
PLK4	Peulik 4	5.05	223	Pn	Pn	20 47 35.8	-0.3
N15K	Kwethluk River	5.13	259	Pn	Pn	20 47 36.9	-0.2
N15K				IAML		20 50 42.1	
	comp=E,17nm,0.9s						
J16K	Anvik River	5.27	295	Pn	Pn	20 47 37.6	-1.3
J16K				IAML		20 49 13.8	
	comp=E,6.4nm,0.8s						
H18K	Honhosa River	5.27	318	Pn	Pn	20 47 38.3	-0.7
G21K	Allakaket	5.28	344	Pn	Pn	20 47 37.8	-1.2
G21K				IAML		20 49 07.5	
	comp=E,6.2nm,0.7s						
FYU	Fort Yukon	5.50	20	Pn	Pn	20 47 40.7	-1.3
K15K	Wolf Creek Mou	5.53	283	Pn	Pn	20 47 41.4	-1.1
G18K	Tagagawik	5.87	323	Pn	Pn	20 47 45.4	-1.7
F21K	Alatna River	5.95	347	Pn	Pn	20 47 48.1	-0.2
O14K	Tigyukauivet M	6.04	253	Pn	Pn	20 47 48.7	-0.7
L14K	Kuka Creek	6.11	274	Pn	Pn	20 47 50.5	+0.1
F20K	Avaraart Lake	6.12	338	Pn	Pn	20 47 51.2	+0.7
BMAR	Burnt Mountain	6.40	19	Pn	Pn	20 47 54.2	-0.2
F25K	Christian Rive	6.40	15	Pn	Pn	20 47 54.9	+0.4
G27K	Doyon Strip	6.45	31	Pn	Pn	20 47 56.5	+1.3
F26K	Sheenjek River	6.71	19	Pn	Pn	20 47 58.7	0.0
E19K	Redstone River	6.76	336	Pn	Pn	20 47 59.0	-0.4
G16K	Koyuk River	6.79	311	Pn	Pn	20 47 60.0	+0.2
F17K	Baldwin Pennin	7.02	320	Pn	Pn	20 48 03.5	+0.6
E18K	Tukpahlearik C	7.51	327	Pn	Pn	20 48 09.6	0.0
E27K	Coleen River	7.60	24	Pn	Pn	20 48 11.3	+0.4
Q32M	Nakina River	9.16	98	Pn	Pn	20 48 31.2	-1.2

*NEIC **30** 20:47:37.7±0.9, 61°.39N±0°.02×150°.01W±0°.03, h43km±4km, Error ellipse: s-maj=3.8km s-min=1.0km az=155.0*

AEIC 30 20:47:38.4±0.9, 61°.39N±0°.02×150°.02W±0°.05, h42km±4km, ML2.6, ML2.8/24(NEIC), Error ellipse: s-maj=3.7km s-min=2.8km az=209.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	Rabbit Creek A	0.34	156		Pn	20 47 46.2	-1.0
RC01	Rabbit Creek A	0.34	156		Sn	20 47 53.5	+0.1
SUA	Susitna One	0.36	282		Pn	20 47 46.8	-0.7
SUA	Susitna One	0.36	282		Sn	20 47 54.6	+0.6
M22K	Willow	0.36	352	Pn	Pn	20 47 46.2	-1.3
M22K				IAML		20 47 54.7	
	comp=N,241nm,0.4s						
M22K				IAML		20 47 59.3	
	comp=E,210nm,0.7s						
PMR	Palmer	0.47	65		Pn	20 47 47.5	-1.3
PMR	Palmer	0.47	65		Sn	20 47 55.7	-0.5
PMR	Palmer	0.47	65	IAML		20 47 56.0	
	comp=N,112nm,0.2s						
GHO	Glory Hole Cre	0.65	54		Pn	20 47 50.3	-0.9
GHO					Sn	20 48 00.7	+0.3
GHO	Glory Hole Cre	0.65	54	IAML		20 48 01.3	
	comp=E,222nm,0.3s						
GHO				IAML		20 48 14.1	
	comp=N,143nm,0.5s						
KNK	Knik Glacier	0.75	88		Sn	20 48 03.9	+1.1
KNK	Knik Glacier	0.75	88	Pn	Pn	20 47 52.0	-0.5
STLK	Strandline Lak	0.88	278		Pn	20 47 53.8	-0.5
STLK					Sn	20 48 06.2	+0.2
SML	Sawmill	0.91	62		Pn	20 47 53.8	-0.9
SPCG	Spurr Capps Gl	0.97	265		Pn	20 47 55.3	-0.4
PWL	Port Wells	0.98	123		Sn	20 48 08.9	+0.6
PWL	Port Wells	0.98	123	Pn	Pn	20 47 54.8	-0.9
CUT	Chulitna	1.02	353	Pn	Pn	20 47 55.7	-0.5
SPCR	Spurr Chakacha	1.07	261		Pn	20 47 56.2	-0.8
SCM	Sheep Creek Mo	1.36	70		Pn	20 48 00.6	-0.4
RDT	Redoubt	1.43	236		Pn	20 48 00.9	-0.9
GLI	Glacier Island	1.51	109	Pn	Pn	20 48 01.7	-1.2
GLI				IAML		20 48 45.5	
	comp=E,238nm,0.6s						
RDJH	Redoubt Jeurge	1.58	241		Pn	20 48 03.3	-0.7
RDWB	Redoubt West	1.65	238		Pn	20 48 04.4	-0.6
RED	Redoubt Volcan	1.66	235		Pn	20 48 04.8	-0.3
HOM	Homer	1.92	205	Pn	Pn	20 48 06.5	-2.0

*NEIC **30** 20:49:28.0±1.1, 61°.43N±0°.02×149°.93W±0°.05, h46km±5km, Error ellipse: s-maj=3.4km s-min=3.3km az=120.0*

AEIC 30 20:49:29.0±1.1, 61°.411N±0°.010×149°.95W±0°.04, h33km±7km, ML2.9, ML3.1/98(NEIC), Error ellipse: s-maj=2.9km s-min=0.8km az=65.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	Rabbit Creek A	0.34	162		Pb	20 49 36.8	-0.5
RC01					Sn	20 49 43.6	+0.3
RC01				IAML		20 49 44.8	
	comp=N,2μm,0.2s						
M22K	Willow	0.35	346		Pb	20 49 36.3	-1.1
M22K					Sn	20 49 43.9	+0.2
M22K				IAML		20 49 44.8	
	comp=N,3μm,0.8s						
SUA	Susitna One	0.39	278		Pb	20 49 37.6	-0.4
SUA	Susitna One	0.39	278		Sn	20 49 45.3	+0.4
SUA				IAML		20 49 45.7	
	comp=E,2μm,0.8s						
SUA				IAML		20 49 45.9	
	comp=N,2μm,0.7s						
PMR	Palmer	0.43	65		Pb	20 49 37.5	-1.0
PMR					Sb	20 49 45.0	0.0
GHO	Glory Hole Cre	0.61	53		Pb	20 49 40.0	-1.4
GHO					Sn	20 49 49.7	-0.1
GHO				IAML		20 49 50.8	
	comp=E,1μm,0.7s						
KNK	Knik Glacier	0.71	89		Pn	20 49 41.5	-1.4
KNK				Sn	Sb	20 49 52.0	-0.8
KNK				IAML		20 49 54.0	
	comp=N,1μm,0.5s						
KNK				IAML		20 49 55.4	
	comp=E,990nm,0.5s						
SML	Sawmill	0.87	62		Pn	20 49 43.5	-1.6
SML				Sn	Sn	20 49 54.8	-1.7
SML				IAML		20 49 57.6	
	comp=E,454nm,1.0s						
CAPN	Captain Cook N	0.87	223	Pn	Pn	20 49 45.3	+0.3
CAPN				IAML		20 50 01.1	
	comp=E,787nm,1.1s						
CAPN				IAML		20 50 01.2	
	comp=N,829nm,0.8s						
STLK	Strandline Lak	0.91	276		Pn	20 49 44.6	-1.0
STLK					Sn	20 49 57.1	-0.6
SLKM	Skilak Lake	0.92	189	Pn	Pn	20 49 44.3	-1.4
SLKM				Sn	Sn	20 49 57.0	-0.7
SLKM				IAML		20 49 59.8	
	comp=N,485nm,0.2s						
O22K	Cooper Landing	0.94	173	Pn	Pn	20 49 44.5	-1.4
O22K				Sn	Sn	20 49 58.0	-0.2
SKT	Skwentna	0.95	308	Pn	Pn	20 49 44.4	-1.7
SKT				Sn	Sn	20 49 57.4	-1.1
PWL	Port Wells	0.96	125	Pn	Pn	20 49 45.1	-1.1
PWL				Sn	Sn	20 49 58.7	0.0
PWL				IAML		20 49 59.7	
	comp=N,679nm,0.4s						
PWL				IAML		20 50 01.2	
	comp=E,835nm,0.6s						
SPCG	Spurr Capps Gl	1.01	264		Pn	20 49 46.2	-0.8
CUT	Chulitna	1.01	351	Pn	Pn	20 49 45.4	-1.5
CUT				Sn	Sn	20 49 59.6	-0.3
SPCP	Crater Peak Br	1.07	263		Pn	20 49 47.2	-0.7
SPCR	Spurr Chakacha	1.11	260		Pn	20 49 47.4	-1.0
SPCR	Spurr Chakacha	1.11	260		Pn	20 49 47.5	-0.8
M23K	Glacier View	1.13	69		Pn	20 49 47.9	-0.7
SCM	Sheep Creek Mo	1.32	70	Pn	Pn	20 49 50.3	-1.0
SCM				Sn	Sn	20 50 08.5	+0.7
SCM				IAML		20 50 08.8	
	comp=E,401nm,0.5s						
SCM				IAML		20 50 12.3	
	comp=N,295nm,0.5s						
SEW	Seward	1.33	169		Pn	20 49 50.6	-0.7
RDT	Redoubt	1.46	236		Pn	20 49 52.3	-0.9
GLI	Glacier Island	1.48	110	Pn	Pn	20 49 51.8	-1.6
GLI					Sn	20 50 10.9	-0.8
GLI				IAML		20 50 17.6	
	comp=E,256nm,0.4s						
WAT7	Susitna Watana	1.52	19		Pn	20 49 53.0	-1.0
WAT6	Susitna Watana	1.57	41		Pn	20 49 53.7	-1.0
M20K	Styx River	1.59	289	Pn	Pn	20 49 54.0	-1.0
M20K				Sn	Sn	20 50 15.1	+0.6
M20K				IAML		20 50 17.5	
	comp=N,257nm,1.0s						
RDJH	Redoubt Jeurge	1.62	241		Pn	20 49 54.4	-0.9
RDWB	Redoubt West	1.69	238		Pn	20 49 55.4	-1.0
RED	Redoubt Volcan	1.70	235		Pn	20 49 55.6	-0.9
BRLK	Bradley Lake	1.72	196	Pn	Pn	20 49 55.7	-0.9
BRLK				IAML		20 50 19.6	
	comp=E,157nm,0.6s						
BRSE	Bradley Lake S	1.72	194		Pn	20 49 55.8	-0.9
FID	Port Fidalgo	1.81	110	Pn	Pn	20 49 56.1	-1.8
FID				Sn	Sn	20 50 17.9	-1.8
FID				IAML		20 50 25.0	
	comp=N,176nm,0.4s						
FID				IAML		20 51 06.3	
	comp=E,149nm,0.3s						
M24K	Tolsona, Glenn	1.93	67	Pn	Pn	20 49 57.7	-1.9
M24K				Sn	Sn	20 50 24.6	+1.9
M24K				IAML		20 51 10.2	
	comp=N,253nm,0.8s						
KLU	Klutina	1.93	86	Pn	Pn	20 49 58.0	-1.7
KLU				Sn	Sn	20 50 21.6	-1.3
KLU				IAML		20 51 13.8	
	comp=N,172nm,0.5s						
HOM	Homer	1.95	206	Pn	Pn	20 49 57.9	-1.8
HIN	Hinchinbrook I	1.97	120	Pn	Pn	20 49 58.1	-2.0
HIN				IAML		20 50 36.1	
	comp=E,192nm,0.6s						
CNPM	China Poot	2.00	199	Pn	Pn	20 49 58.5	-2.0
DHY	Denali Highway	2.06	35	Pn	Pn	20 49 59.1	-2.3
DHY				IAML		20 51 17.3	
	comp=N,112nm,0.6s						
RND	Reindeer	2.07	14	Pn	Pn	20 49 59.5	-2.0
MH96	Big River Lodg	2.18	285	Pn	Pn	20 50 02.0	-1.0
KTH	Kantishna Hill	2.20	349		Pn	20 50 02.1	-1.2
KTH				IAML		20 51 13.8	
	comp=E,167nm,0.6s						
CAST	Castle Rocks	2.25	335	Pn	Pn	20 50 02.1	-1.8
CAST				IAML		20 50 32.0	
	comp=E,108nm,0.6s						
N19K	Bonanza Creek	2.28	257	Pn	Pn	20 50 02.9	-1.6
L19K	White Mountain	2.46	291	Pn	Pn	20 50 05.6	-1.2
K20K	Telida	2.74	317	Pn	Pn	20 50 09.4	-1.2
K20K				IAML		20 51 58.7	
	comp=E,59nm,0.8s						
N18K	Kilae Creek	2.98	258	Pn	Pn	20 50 12.4	-1.7
N18K				IAML		20 52 07.3	
	comp=N,43nm,0.9s						
KAIM	Kayak Island	3.10	116	Pn	Pn	20 50 14.5	-1.2
KAIM				IAML		20 51 50.1	
	comp=E,44nm,1.2s						
KAIM				IAML		20 51 53.7	
	comp=N,56nm,0.9s						
NEA2	Nenana	3.22	7		Pn	20 50 15.5	-1.8
TTA	Tatalina	3.23	301	Pn	Pn	20 50 15.8	-1.6
TTA				IAML		20 52 11.7	
	comp=N,35nm,0.7s						
MENT	Mentasta	3.30	60	Pn	Pn	20 50 16.8	-1.6
L18K	Granite Mounta	3.30	287	Pn	Pn	20 50 16.4	-2.0
L18K				IAML		20 52 08.5	
	comp=N,33nm,0.8s						
L18K				IAML		20 52 10.3	
	comp=E,33nm,1.1s						
SUCK	Suckling Hills	3.31	111	Pn	Pn	20 50 16.0	-2.6
SUCK				IAML		20 51 56.9	
	comp=E,34nm,1.1s						
RIDG	Independent Ri	3.32	43	Pn	Pn	20 50 15.5	-3.2
CRQM	Cirque	3.37	98	Pn	Pn	20 50 18.7	-0.8
J20K	Nowinta River	3.38	327	Pn	Pn	20 50 19.0	-0.5
M17K	Holitna River	3.60	273	Pn	Pn	20 50 21.5	-1.0
MLY	Manley	3.65	355	Pn	Pn	20 50 22.9	-0.3
MLY				IAML		20 52 18.7	
	comp=N,24nm,0.6s						
I23K	Minto, Yukon-K	3.76	4	Pn	Pn	20 50 23.3	-1.3
I23K				IAML		20 52 20.0	
	comp=E,25nm,0.8s						
I21K	Tanana	3.89	347	Pn	Pn	20 50 23.6	-2.8
K17K	Iditarod	4.14	292	Pn	Pn	20 50 28.2	-1.7
H21K	Melozitna Rive	4.45	345	Pn	Pn	20 50 32.7	-1.5
H21K				IAML		20 52 36.4	
	comp=E,15nm,1.1s						
H21K				IAML		20 52 37.1	
	comp=N,18nm,1.0s						
L16K	Owhat River	4.57	278	Pn	Pn	20 50 34.6	-1.2
L16K				IAML		20 53 23.6	
	comp=E,12nm,1.1s						
G21K	Allakaket	5.36	345	Pn	Pn	20 50 44.4	-2.2
G21K				IAML		20 52 28.4	
	comp=E,10nm,1.0s						
G21K				IAML		20 52 30.6	
	comp=N,10nm,0.7s						
K15K	Wolf Creek Mou	5.56	284	Pn	Pn	20 50 49.2	-0.2
M14K	Bethel	5.87	269	Pn	Pn	20 50 53.0	-0.6
L14K	Kuka Creek	6.12	275	Pn	Pn	20 50 57.0	-0.1
F20K	Avaraart Lake	6.19	339	Pn	Pn	20 50 58.4	+0.4
E19K	Redstone River	6.83	336	Pn	Pn	20 51 06.3	-0.5
D19K	Kuna River	7.90	338	Pn	Pn	20 51 22.5	+1.0

*NEIC **30** 20:50:12.6±0.9, 61°.51N±0°.03×149°.94W±0°.05, h44km±3km, Error ellipse: s-maj=4.1km s-min=3.1km az=178.0*

AEIC 30 20:50:13.4±0.6, 61°.50N±0°.03×149°.92W±0°.05, h36km±7km, ML3.0, ML3.2/128(NEIC), Error ellipse: s-maj=4.3km s-min=3.0km az=161.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.27	339		Pn	20 50 20.4	-1.1
M22K					Sn	20 50 27.1	-1.8
M22K	Willow	0.27	339	IAML		20 50 27.9	
	comp=E,2μm,0.2s						
M22K				IAML		20 50 28.0	
	comp=N,2μm,0.4s						
M22K	Willow	0.27	339	P	Pn	20 50 20.4	-1.1
	baz=159						
M22K				S	Sn	20 50 27.1	-1.8
	baz=159						
PMR	Palmer	0.39	77		Pn	20 50 21.8	-0.4
PMR					Sn	20 50 29.2	+0.4
PMR	Palmer	0.39	77	IAML		20 50 29.5	
	comp=N,1μm,0.4s						
PMR				IAML		20 50 29.6	
	comp=E,2μm,0.3s						
PMR	Palmer	0.39	77	P	Pn	20 50 21.8	-0.4
	baz=257						
PMR				S	Sn	20 50 29.2	+0.4
	baz=257						
SUA	Susitna One	0.40	264		Pn	20 50 22.2	-0.3
SUA	Susitna One	0.40	264		Sn	20 50 30.1	+0.7
SUA	Susitna One	0.40	264	P	Pn	20 50 22.3	-0.2
	baz=84						
SUA				S	Sn	20 50 30.1	+0.7
	baz=84						
RC01	Rabbit Creek A	0.43	168		Sn	20 50 30.1	+0.5
RC01	Rabbit Creek A	0.43	168		Pn	20 50 22.1	-0.6
RC01				IAML		20 50 30.9	
	comp=N,1μm,0.2s						
RC01				IAML		20 50 31.0	
	comp=E,2μm,0.2s						
RC01	Rabbit Creek A	0.43	168	P	Pn	20 50 22.2	-0.6
	baz=348						
RC01				S	Sn	20 50 30.1	+0.5
	baz=348						
GHO	Glory Hole Cre	0.55	60		Sn	20 50 33.0	+0.3
GHO	Glory Hole Cre	0.55	60		Pn	20 50 23.9	-0.9
GHO				IAML		20 50 33.8	
	comp=N,3μm,0.4s						
GHO				IAML		20 50 34.0	
	comp=E,1μm,0.6s						
KNK	Knik Glacier	0.71	97		Pn	20 50 26.2	-0.7
KNK	Knik Glacier	0.71	97	P	Pn	20 50 26.2	-0.7
	baz=278						
SML	Sawmill	0.82	67		Pn	20 50 27.1	-1.2
SML				IAML		20 50 40.3	
	comp=E,625nm,0.6s						
SML				IAML		20 50 41.9	
	comp=N,574nm,0.5s						
SML	Sawmill	0.82	67	P	Pn	20 50 27.3	-1.1
	baz=249						
SKT	Skwentna	0.90	303		Pn	20 50 28.5	-1.1
SKT					Sn	20 50 40.9	-0.5
SKT	Skwentna	0.90	303	P	Pn	20 50 28.5	-1.1
	baz=121						
SKT				S	Sn	20 50 40.9	-0.5
	baz=121						
STLK	Strandline Lak	0.92	270		Pn	20 50 29.0	-0.7
STLK					Sn	20 50 41.8	0.0
CUT	Chulitna	0.92	350		Pn	20 50 28.8	-0.9
CUT	Chulitna	0.92	350	P	Pn	20 50 28.8	-0.9
	baz=170						
CAPN	Captain Cook N	0.95	220	Pn	Pn	20 50 30.5	+0.4
PWL	Port Wells	1.00	129		Pn	20 50 30.3	-0.6
PWL	Port Wells	1.00	129	P	Pn	20 50 30.5	-0.4
	baz=311						
SLKM	Skilak Lake	1.01	188		Pn	20 50 30.1	-0.8
O22K	Cooper Landing	1.03	175		Pn	20 50 30.1	-1.1
O22K	Cooper Landing	1.03	175	P	Pn	20 50 30.1	-1.1
	baz=355						
SPCG	Spurr Capps Gl	1.03	259		Pn	20 50 30.6	-0.8
M23K	Glacier View	1.09	74		Pn	20 50 31.3	-0.8
M23K	Glacier View	1.09	74	P	Pn	20 50 31.3	-0.8
	baz=256						
N20K	Mount Spurr	1.14	256	P	Pn	20 50 32.1	-0.7
	baz=74						
SPCR	Spurr Chakacha	1.14	256		Pn	20 50 32.1	-0.7
SPCR	Spurr Chakacha	1.14	256		Pn	20 50 32.2	-0.7
SPCR	Spurr Chakacha	1.14	256	P	Pn	20 50 32.2	-0.7
	baz=74						
SCM	Sheep Creek Mo	1.28	74		Pn	20 50 34.2	-0.5
SCM	Sheep Creek Mo	1.28	74	P	Pn	20 50 34.2	-0.5
	baz=256						
SEW	Seward	1.42	171		Pn	20 50 36.0	-0.6
SEW	Seward	1.42	171	P	Pn	20 50 36.0	-0.6
	baz=351						
WAT7	Susitna Watana	1.43	20		Pn	20 50 36.3	-0.4
WAT1	Susitna Watana	1.48	25		Pn	20 50 37.0	-0.4
WAT1	Susitna Watana	1.48	25	P	Pn	20 50 37.0	-0.4
	baz=206						
WAT6	Susitna Watana	1.49	43		Pn	20 50 37.2	-0.5
WAT6	Susitna Watana	1.49	43	P	Pn	20 50 37.2	-0.5
	baz=224						
GLI	Glacier Island	1.50	113		Pn	20 50 36.7	-1.1
GLI				IAML		20 51 01.8	
	comp=E,443nm,0.5s						
GLI	Glacier Island	1.50	113	P	Pn	20 50 36.7	-1.0
	baz=296						
RDT	Redoubt	1.53	233		Pn	20 50 37.4	-0.7
M20K	Styx River	1.58	285	Pn	Pn	20 50 38.9	+0.1
M20K				IAML		20 51 17.0	
	comp=E,204nm,0.6s						
RDWB	Redoubt West	1.75	236		Pn	20 50 40.6	-0.6
BRLK	Bradley Lake	1.81	196	Pn	Pn	20 50 42.3	+0.3
BRLK				IAML		20 51 07.2	
	comp=E,340nm,0.6s						
BRLK				IAML		20 51 12.2	
	comp=N,183nm,0.6s						
FID	Port Fidalgo	1.83	113		Pn	20 50 40.9	-1.4
M24K	Tolsona, Glenn	1.88	70	Pn	Pn	20 50 43.5	+0.5
KLU	Klutina	1.92	89	Pn	Pn	20 50 43.4	-0.1
KLU				IAML		20 51 41.5	
	comp=N,285nm,0.4s						
KLU				IAML		20 51 42.7	
	comp=E,260nm,0.3s						
RND	Reindeer	1.97	14	Pn	Pn	20 50 44.2	-0.1
DHY	Denali Highway	1.98	36	Pn	Pn	20 50 44.3	-0.1
DHY				IAML		20 51 14.0	
	comp=E,117nm,0.2s						
HIN	Hinchinbrook I	2.00	122	Pn	Pn	20 50 43.6	-1.0
HIN				IAML		20 51 18.6	
	comp=E,226nm,0.9s						
HIN				IAML		20 51 53.8	
	comp=N,226nm,0.7s						
HOM	Homer	2.04	205	Pn	Pn	20 50 44.8	-0.2
CNPM	China Poot	2.09	199	Pn	Pn	20 50 45.3	-0.5
CNPM				IAML		20 51 14.7	
	comp=E,216nm,0.6s						
KTH	Kantishna Hill	2.11	348	Pn	Pn	20 50 45.6	-0.5
KTH				IAML		20 51 45.1	
	comp=E,217nm,0.8s						
KTH				IAML		20 51 45.9	
	comp=N,219nm,0.4s						
M19K	Big River Lodg	2.17	283	Pn	Pn	20 50 46.4	-0.5
M19K				IAML		20 52 06.2	
	comp=E,110nm,0.5s						
CAST	Castle Rocks	2.17	333	Pn	Pn	20 50 46.3	-0.6
CAST				IAML		20 51 49.5	
	comp=E,124nm,0.3s						
CAST				IAML		20 51 50.1	
	comp=N,101nm,0.3s						
ILSW	Iliamna Southw	2.20	227	Pn	Pn	20 50 46.7	-0.7
EYAK	Cordova Ski Ar	2.25	113	Pn	Pn	20 50 47.4	-0.5
MCK	McKinley	2.28	11	Pn	Pn	20 50 47.6	-0.8
N19K	Bonanza Creek	2.32	255	Pn	Pn	20 50 48.5	-0.5
L19K	White Mountain	2.44	288	Pn	Pn	20 50 49.3	-1.3
L19K				IAML		20 51 25.6	
	comp=E,84nm,0.4s						
P19K	Oil Pt	2.48	223	Pn	Pn	20 50 50.3	-0.8
BPAW	Bear Paw Mtn.	2.65	350	Pn	Pn	20 50 52.2	-1.3
BPAW				IAML		20 51 56.6	
	comp=E,67nm,0.7s						
BPAW				IAML		20 52 13.6	
	comp=N,67nm,0.5s						
K20K	Telida	2.68	316	Pn	Pn	20 50 52.5	-1.4
SVW2	Sparrevohn	2.76	264	Pn	Pn	20 50 53.4	-1.7
N18K	Kilae Creek	3.02	257	Pn	Pn	20 50 57.6	-0.9
O18K	Koktuh Hills	3.08	240	Pn	Pn	20 50 58.0	-1.5
O18K				IAML		20 51 45.6	
	comp=N,43nm,1.0s						
WRH	Wood River Hil	3.09	15	Pn	Pn	20 50 57.9	-1.6
WRH				IAML		20 51 50.8	
	comp=E,51nm,1.0s						
WRH				IAML		20 51 51.9	
	comp=N,65nm,0.9s						
VRDI	Verde Repeater	3.13	92	Pn	Pn	20 50 58.4	-1.8
VRDI				IAML		20 52 19.9	
	comp=N,41nm,0.5s						
SYI	Shuyak Island	3.16	204	Pn	Pn	20 50 59.7	-0.7
SYI				IAML		20 51 45.5	
	comp=E,42nm,0.8s						
HDA	Harding Lake	3.22	24		Pn	20 51 00.0	-1.2
HDA				IAML		20 51 47.0	
	comp=E,55nm,0.3s						
HDA				IAML		20 51 57.4	
	comp=N,66nm,0.9s						
BERG	Berg Lake	3.23	107	Pn	Pn	20 50 59.7	-1.7
CCB	Clear Creek Bu	3.30	16	Pn	Pn	20 51 00.3	-2.0
CCB				IAML		20 52 00.6	
	comp=N,37nm,0.8s						
SUCK	Suckling Hills	3.34	113	Pn	Pn	20 51 01.4	-1.5
SUCK				IAML		20 52 33.0	
	comp=N,47nm,1.0s						
COLA	College	3.51	15	Pn	Pn	20 51 04.0	-1.3
IL31		3.56	21	Pn	Pn	20 51 04.6	-1.2
ILAR	Eielson Array	3.56	21	Pn	Pn	20 51 04.5	-1.4
MLY	Manley	3.56	354	Pn	Pn	20 51 04.1	-1.9
IL03	Eielson Array	3.56	22	Pn	Pn	20 51 05.5	-0.5
M17K	Holitna River	3.61	272	Pn	Pn	20 51 06.0	-0.

J26L				IAML		20 52 13.2	
	comp=E,28nm,0.6s						
J26L				IAML		20 52 15.8	
	comp=N,29nm,0.5s						
H23K	**Yukon River**	**4.34**	**2**	Pn	Pn	20 51 16.8	+0.1
H21K	**Melozitna Rive**	**4.36**	**344**	Pn	Pn	20 51 17.0	0.0
H24K	**Noodor Dome**	**4.44**	**11**	Pn	Pn	20 51 17.9	-0.3
H24K				IAML		20 52 12.4	
	comp=N,16nm,0.7s						
H24K				IAML		20 52 41.0	
	comp=E,17nm,0.9s						
PRP	**Porcupine Dome**	**4.48**	**24**	Pn	Pn	20 51 17.9	-0.8
PRP				IAML		20 52 17.9	
	comp=N,24nm,0.8s						
PRP				IAML		20 52 35.9	
	comp=E,16nm,1.0s						
OHAK	**Old Harbor**	**4.63**	**203**	Pn	Pn	20 51 20.5	-0.1
OHAK				IAML		20 52 22.9	
	comp=N,14nm,1.2s						
G24K	**Hadweenzic Riv**	**5.33**	**11**	Pn	Pn	20 51 30.1	-0.1
G24K				IAML		20 53 12.5	
	comp=N,8.4nm,1.0s						
FYU	**Fort Yukon**	**5.48**	**20**	Pn	Pn	20 51 33.3	+1.0
M29M	**Somme Creek**	**5.49**	**75**	Pn	Pn	20 51 32.8	+0.3
K15K	**Wolf Creek Mou**	**5.55**	**283**	Pn	Pn	20 51 32.2	-1.0
G18K	**Tagagawik**	**5.87**	**322**	Pn	Pn	20 51 36.9	-0.8
M14K	**Bethel**	**5.88**	**268**	Pn	Pn	20 51 37.1	-0.7
F21K	**Alatna River**	**5.95**	**346**	Pn	Pn	20 51 37.5	-1.1
I28M	**Miner Creek**	**5.97**	**44**	Pn	Pn	20 51 38.8	-0.3
F20K	**Avaraart Lake**	**6.11**	**338**	Pn	Pn	20 51 40.8	-0.1
L14K	**Kuka Creek**	**6.13**	**274**	Pn	Pn	20 51 40.3	-0.9
N30M	**Aishikik Lake**	**6.15**	**85**	Pn	Pn	20 51 41.2	-0.4
P29M	**Windy Craggy**	**6.29**	**102**	Pn	Pn	20 51 43.5	0.0
BMAR	**Burnt Mountain**	**6.38**	**19**	Pn	Pn	20 51 44.5	-0.2
F25K	**Christian Rive**	**6.38**	**15**	Pn	Pn	20 51 45.4	+0.6
G27K	**Doyon Strip**	**6.43**	**31**	Pn	Pn	20 51 44.6	-0.8
F26K	**Sheenjek River**	**6.69**	**19**	Pn	Pn	20 51 48.7	-0.2
J30M	**Hart River**	**6.90**	**58**	Pn	Pn	20 51 51.9	-0.1
H29M	**Whitestone**	**6.95**	**42**	Pn	Pn	20 51 52.1	-0.4
K13K	**Kusilvak Mount**	**7.02**	**280**	Pn	Pn	20 51 53.3	0.0
F17K	**Baldwin Pennin**	**7.02**	**320**	Pn	Pn	20 51 54.4	+1.1
I30M	**Mount Dempster**	**7.13**	**53**	Pn	Pn	20 51 54.9	-0.2
TOLK	**Toolik Lake Re**	**7.17**	**1**	Pn	Pn	20 51 57.5	+2.0
F28M	**Old Crow**	**7.50**	**31**	Pn	Pn	20 51 59.8	-0.2
E27K	**Coleen River**	**7.58**	**24**	Pn	Pn	20 52 01.3	+0.2

NEIC ***30*** *20:58:16.5±1.3, 61°.36N±0°.03×150°.02W±0°.02, h44km±5km, Error ellipse: s-maj=4.5km s-min=1.4km az=174.0*

AEIC 30 20:58:17.3±1.4, 61°.37N±0°.03×150°.02W±0°.02, h40km±4km, ML3.2, ML3.3/134(NEIC), **Error ellipse: s-maj=4.5km s-min=1.6km az=177.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.31**	**154**		Pn	20 58 25.1	-0.6
RC01					Sn	20 58 31.8	+0.2
RC01	**Rabbit Creek A**	**0.31**	**154**	IAML		20 58 32.1	
	comp=E,3μm,0.2s						
RC01				IAML		20 58 33.0	
	comp=N,5μm,0.2s						
RC01	**Rabbit Creek A**	**0.31**	**154**	P	Pn	20 58 25.1	-0.6
	baz=334						
RC01				S	Sn	20 58 31.8	+0.2
	baz=334						
SUA	**Susitna One**	**0.36**	**286**		Pn	20 58 25.5	-0.9
SUA	**Susitna One**	**0.36**	**286**		Sn	20 58 33.4	+0.7
SUA	**Susitna One**	**0.36**	**286**	IAML		20 58 33.6	
	comp=E,4μm,0.8s						
SUA				IAML		20 58 34.1	
	comp=N,2μm,0.4s						
SUA	**Susitna One**	**0.36**	**286**	P	Pn	20 58 25.7	-0.7
	baz=105						
SUA				S	Sn	20 58 33.4	+0.6
	baz=105						
M22K	**Willow**	**0.39**	**353**		Pn	20 58 25.6	-0.9
M22K					Sn	20 58 33.2	+0.1
M22K	**Willow**	**0.39**	**353**	IAML		20 58 33.5	
	comp=E,4μm,0.3s						
M22K				IAML		20 58 38.0	
	comp=N,4μm,0.3s						
M22K	**Willow**	**0.39**	**353**	P	Pn	20 58 25.6	-0.9
	baz=173						
M22K				S	Sn	20 58 33.2	+0.1
	baz=173						
PMR	**Palmer**	**0.48**	**62**		Pn	20 58 26.4	-1.3
PMR					Sn	20 58 34.9	-0.2
PMR	**Palmer**	**0.48**	**62**	IAML		20 58 35.3	
	comp=N,1μm,0.5s						
PMR				IAML		20 58 35.3	
	comp=E,1μm,0.4s						
PMR	**Palmer**	**0.48**	**62**	P	Pn	20 58 26.4	-1.3
	baz=243						
PMR				S	Sn	20 58 34.9	-0.2
	baz=243						
GHO	**Glory Hole Cre**	**0.66**	**52**		Pn	20 58 29.1	-1.2
GHO				IAML		20 58 40.3	
	comp=E,2μm,0.4s						
GHO				IAML		20 58 41.8	
	comp=N,1μm,0.2s						
GHO	**Glory Hole Cre**	**0.66**	**52**		Sn	20 58 39.8	+0.2
KNK	**Knik Glacier**	**0.75**	**86**		Pn	20 58 30.4	-1.0
KNK					Sn	20 58 41.4	-0.3
KNK				IAML		20 58 44.0	
	comp=N,2μm,0.5s						
KNK				IAML		20 58 44.7	
	comp=E,2μm,0.3s						
KNK	**Knik Glacier**	**0.75**	**86**	P	Pn	20 58 30.7	-0.7
	baz=267						
KNK				S	Sn	20 58 42.7	+1.0
	baz=267						
CAPN	**Captain Cook N**	**0.81**	**223**	Pn	Pn	20 58 32.6	+0.4
SLKM	**Skilak Lake**	**0.87**	**186**		Pn	20 58 31.7	-1.3
SLKM				IAML		20 58 46.9	
	comp=N,1μm,0.2s						
STLK	**Strandline Lak**	**0.88**	**279**		Pn	20 58 32.6	-0.6
STLK					Sn	20 58 44.9	+0.1
O22K	**Cooper Landing**	**0.90**	**171**		Pn	20 58 32.4	-1.0
O22K	**Cooper Landing**	**0.90**	**171**	P	Pn	20 58 33.6	+0.1
	baz=351						
SML	**Sawmill**	**0.92**	**61**		Pn	20 58 32.5	-1.3
SML	**Sawmill**	**0.92**	**61**	IAML		20 58 47.6	
	comp=N,940nm,0.2s						
SML				IAML		20 58 48.0	
	comp=E,1μm,0.6s						
SML	**Sawmill**	**0.92**	**61**	P	Pn	20 58 32.5	-1.3
	baz=242						
SKT	**Skwentna**	**0.95**	**311**		Pn	20 58 32.9	-1.1
SKT	**Skwentna**	**0.95**	**311**	IAML		20 58 47.5	
	comp=N,948nm,0.6s						
SKT				IAML		20 58 47.9	
	comp=E,944nm,0.5s						
SKT	**Skwentna**	**0.95**	**311**	P	Pn	20 58 32.9	-1.1
	baz=130						
PWL	**Port Wells**	**0.96**	**121**		Pn	20 58 33.4	-0.9
PWL	**Port Wells**	**0.96**	**121**	P	Pn	20 58 33.7	-0.7
	baz=303						
PWL				S	Sn	20 58 47.4	+0.5
	baz=303						
SPCG	**Spurr Capps Gl**	**0.97**	**266**		Pn	20 58 33.7	-0.7
SPCG					Sn	20 58 47.2	+0.2
SPCP	**Crater Peak Br**	**1.03**	**265**		Pn	20 58 34.6	-0.8
CUT	**Chulitna**	**1.05**	**354**		Pn	20 58 34.9	-0.5
CUT	**Chulitna**	**1.05**	**354**	P	Pn	20 58 34.9	-0.5
	baz=174						
N20K	**Mount Spurr**	**1.07**	**262**	P	Pn	20 58 34.9	-0.9
	baz=80						
SPCR	**Spurr Chakacha**	**1.07**	**262**		Pn	20 58 34.9	-0.9
SPCR	**Spurr Chakacha**	**1.07**	**262**		Pn	20 58 34.9	-1.0
SPCR	**Spurr Chakacha**	**1.07**	**262**	P	Pn	20 58 34.9	-1.0
	baz=80						
M23K	**Glacier View**	**1.18**	**68**		Pn	20 58 36.6	-0.7
M23K	**Glacier View**	**1.18**	**68**	P	Pn	20 58 36.6	-0.7
	baz=250						
SEW	**Seward**	**1.30**	**167**		Pn	20 58 38.8	0.0
SEW	**Seward**	**1.30**	**167**	P	Pn	20 58 39.7	+0.9
	baz=348						
SCM	**Sheep Creek Mo**	**1.37**	**69**		Pn	20 58 39.2	-0.7
SCM				IAML		20 58 58.3	
	comp=E,724nm,0.3s						
SCM	**Sheep Creek Mo**	**1.37**	**69**	P	Pn	20 58 39.5	-0.4
	baz=251						
RDT	**Redoubt**	**1.41**	**237**		Pn	20 58 39.6	-0.8
GLI	**Glacier Island**	**1.50**	**108**		Pn	20 58 40.3	-1.4
GLI	**Glacier Island**	**1.50**	**108**	IAML		20 59 05.3	
	comp=N,528nm,0.4s						
GLI	**Glacier Island**	**1.50**	**108**	P	Pn	20 58 40.3	-1.4
	baz=290						
RDJH	**Redoubt Jeurge**	**1.56**	**241**		Pn	20 58 42.0	-0.6
WAT7	**Susitna Watana**	**1.57**	**20**		Pn	20 58 42.5	-0.2
M20K	**Styx River**	**1.57**	**291**		Pn	20 58 42.3	-0.4
M20K				IAML		20 59 04.7	
	comp=N,288nm,0.8s						
M20K				IAML		20 59 08.4	
	comp=E,254nm,0.6s						
M20K	**Styx River**	**1.57**	**291**	P	Pn	20 58 42.8	+0.1
	baz=108						
RDSO	**Redoubt South**	**1.61**	**237**		Pn	20 58 42.5	-0.9
WAT1	**Susitna Watana**	**1.62**	**25**		Pn	20 58 43.0	-0.3
WAT1	**Susitna Watana**	**1.62**	**25**	P	Pn	20 58 43.0	-0.3
	baz=206						
WAT6	**Susitna Watana**	**1.63**	**41**		Pn	20 58 42.9	-0.6
WAT6	**Susitna Watana**	**1.63**	**41**	P	Pn	20 58 42.9	-0.6
	baz=222						
RDWB	**Redoubt West**	**1.64**	**239**		Pn	20 58 42.8	-0.8
RED	**Redoubt Volcan**	**1.65**	**236**		Pn	20 58 42.8	-1.0
BRLK	**Bradley Lake**	**1.67**	**195**		Pn	20 58 42.8	-1.1
BRLK				IAML		20 59 08.3	
	comp=N,250nm,0.4s						
BRLK				IAML		20 59 08.7	
	comp=E,289nm,0.4s						
BRSE	**Bradley Lake S**	**1.67**	**193**		Pn	20 58 42.9	-1.1
BRSE	**Bradley Lake S**	**1.67**	**193**	P	Pn	20 58 42.9	-1.1
	baz=12						
O20K	**Slope Mountain**	**1.82**	**226**		Pn	20 58 46.0	-0.1
O20K	**Slope Mountain**	**1.82**	**226**	P	Pn	20 58 46.0	-0.1
	baz=44						
FID	**Port Fidalgo**	**1.83**	**108**	Pn	Pn	20 58 44.3	-1.9
FID				IAML		20 59 12.8	
	comp=N,424nm,0.6s						
PPLA	**Purkeypile**	**1.84**	**327**	Pn	Pn	20 58 45.7	-0.7
HOM	**Homer**	**1.89**	**206**		Pn	20 58 46.1	-0.9
HOM	**Homer**	**1.89**	**206**	P	Pn	20 58 46.9	-0.2
	baz=24						
CNPM	**China Poot**	**1.94**	**199**		Pn	20 58 46.7	-1.1
CNPM	**China Poot**	**1.94**	**199**	IAML		20 59 14.6	
	comp=E,380nm,0.6s						
CNPM				IAML		20 59 17.8	
	comp=N,256nm,0.4s						
KLU	**Klutina**	**1.97**	**85**		Pn	20 58 47.0	-1.2
KLU	**Klutina**	**1.97**	**85**	IAML		20 59 20.0	
	comp=N,272nm,0.6s						
KLU				IAML		20 59 20.2	
	comp=E,162nm,0.4s						
KLU	**Klutina**	**1.97**	**85**	P	Pn	20 58 47.0	-1.2
	baz=268						
M24K	**Tolsona, Glenn**	**1.98**	**66**		Pn	20 58 48.1	-0.1
M24K				IAML		20 59 18.7	
	comp=E,361nm,0.9s						
M24K				IAML		20 59 21.6	
	comp=N,311nm,0.9s						
M24K	**Tolsona, Glenn**	**1.98**	**66**	P	Pn	20 58 48.6	+0.4
	baz=250						
HIN	**Hinchinbrook I**	**1.98**	**118**	Pn	Pn	20 58 46.9	-1.3
HIN				IAML		20 59 19.2	
	comp=E,346nm,0.7s						
HIN				IAML		20 59 24.6	
	comp=N,333nm,0.7s						
ILS	**Iliamna Low So**	**2.06**	**228**		Pn	20 58 49.1	-0.3
DIV	**Divide**	**2.07**	**95**		Pn	20 58 48.2	-1.3
ILSW	**Iliamna Southw**	**2.07**	**229**		Pn	20 58 49.4	-0.2
ILSW	**Iliamna Southw**	**2.07**	**229**	IAML		20 59 18.4	
	comp=E,141nm,0.8s						
DHY	**Denali Highway**	**2.12**	**35**		Pn	20 58 50.4	+0.1
DHY	**Denali Highway**	**2.12**	**35**	IAML		20 59 21.6	
	comp=N,164nm,0.7s						
DHY				IAML		20 59 23.2	
	comp=E,179nm,0.4s						
DHY	**Denali Highway**	**2.12**	**35**	P	Pn	20 58 50.4	+0.1
	baz=217						
RND	**Reindeer**	**2.12**	**14**	Pn	Pn	20 58 49.7	-0.4
L20K	**Farewell, AK**	**2.14**	**303**		Pn	20 58 50.0	-0.5
L20K	**Farewell, AK**	**2.14**	**303**	P	Pn	20 58 50.0	-0.5
	baz=120						
M19K	**Big River Lodg**	**2.15**	**286**		Pn	20 58 50.0	-0.6
M19K	**Big River Lodg**	**2.15**	**286**	P	Pn	20 58 50.0	-0.6
	baz=102						
KTH	**Kantishna Hill**	**2.23**	**350**	Pn	Pn	20 58 51.7	-0.1
N19K	**Bonanza Creek**	**2.24**	**258**		Pn	20 58 51.5	-0.4
N19K	**Bonanza Creek**	**2.24**	**258**	IAML		20 59 36.0	
	comp=N,136nm,0.7s						
N19K	**Bonanza Creek**	**2.24**	**258**	P	Pn	20 58 51.5	-0.4
	baz=74						
EYAK	**Cordova Ski Ar**	**2.24**	**110**	Pn	Pn	20 58 52.7	+0.9
CAST	**Castle Rocks**	**2.27**	**336**	Pn	Pn	20 58 52.2	-0.1
P19K	**Oil Pt**	**2.34**	**224**	Pn	Pn	20 58 53.3	+0.1
P19K				IAML		20 59 27.1	
	comp=N,227nm,0.7s						
MCK	**McKinley**	**2.43**	**12**	Pn	Pn	20 58 53.4	-1.0
L19K	**White Mountain**	**2.44**	**292**	Pn	Pn	20 58 53.4	-1.1
N25K	**Chitina, Valde**	**2.61**	**82**	Pn	Pn	20 58 56.8	-0.2
N25K				IAML		20 59 39.8	
	comp=N,122nm,0.6s						
BMRM	**Bremner River**	**2.66**	**96**	Pn	Pn	20 58 57.0	-0.6
PAX	**Paxson**	**2.67**	**51**	Pn	Pn	20 58 58.6	+0.8
SVW2	**Sparrevohn**	**2.70**	**267**	Pn	Pn	20 58 57.0	-1.1
K20K	**Telida**	**2.75**	**318**	Pn	Pn	20 58 57.5	-1.2
BPAW	**Bear Paw Mtn.**	**2.78**	**351**	Pn	Pn	20 58 59.6	+0.4
RAGM	**Ragged Mountai**	**2.79**	**108**	Pn	Pn	20 59 01.3	+1.9
N18K	**Kilae Creek**	**2.94**	**259**	Pn	Pn	20 59 00.3	-1.1
O18K	**Koktuh Hills**	**2.97**	**242**	Pn	Pn	20 59 00.4	-1.5
GLB	**Gilahina Butte**	**2.99**	**86**	Pn	Pn	20 59 01.0	-1.2
GLB				IAML		20 59 46.5	
	comp=N,72nm,0.6s						
GLB				IAML		20 59 48.2	
	comp=E,62nm,0.5s						
SYI	**Shuyak Island**	**3.01**	**204**	Pn	Pn	20 59 01.7	-0.7
Q19K	**Cape Douglas,**	**3.04**	**218**	Pn	Pn	20 59 02.5	-0.4
VRDI	**Verde Repeater**	**3.17**	**90**	Pn	Pn	20 59 03.0	-1.8
VRDI				IAML		20 59 57.3	
	comp=N,56nm,1.3s						
BERG	**Berg Lake**	**3.24**	**105**	Pn	Pn	20 59 05.1	-0.5
NEA2	**Nenana**	**3.27**	**7**	Pn	Pn	20 59 04.7	-1.2
NEA2				IAML		21 00 00.9	
	comp=N,53nm,0.7s						
L18K	**Granite Mounta**	**3.28**	**288**	Pn	Pn	20 59 04.8	-1.2
HDA	**Harding Lake**	**3.36**	**23**	Pn	Pn	20 59 06.2	-1.0
HDA				IAML		21 00 04.3	
	comp=E,78nm,0.5s						
HDA				IAML		21 00 05.2	
	comp=N,77nm,0.4s						
MCARA	**McCarthy VSAT**	**3.37**	**87**	Pn	Pn	20 59 09.6	+2.3
RIDG	**Independent Ri**	**3.38**	**43**	Pn	Pn	20 59 07.8	+0.4
RIDG				IAML		20 59 57.2	
	comp=N,93nm,0.6s						
J20K	**Nowinta River**	**3.40**	**328**	Pn	Pn	20 59 05.7	-1.9
J20K				IAML		21 00 11.8	
	comp=E,55nm,0.7s						
J20K				IAML		21 00 19.6	
	comp=N,54nm,0.8s						
CRQM	**Cirque**	**3.40**	**97**	Pn	Pn	20 59 09.6	+1.7
CRQM				IAML		21 00 07.8	
	comp=N,94nm,0.5s						
CCB	**Clear Creek Bu**	**3.44**	**16**	Pn	Pn	20 59 09.5	+1.2
CCB				IAML		21 00 04.5	
	comp=E,51nm,1.3s						
M26K	**Nabesna, AK**	**3.48**	**70**	Pn	Pn	20 59 09.8	+0.9
M26K				IAML		21 00 13.6	
	comp=N,67nm,0.6s						
M26K				IAML		21 00 13.8	
	comp=E,44nm,0.4s						
L26K	**Log Cabin Wild**	**3.54**	**59**	Pn	Pn	20 59 10.5	+0.8
L26K				IAML		21 00 06.7	
	comp=N,75nm,0.5s						
TGL	**Tana Glacier**	**3.55**	**97**	Pn	Pn	20 59 11.6	+1.7
TGL				IAML		21 00 04.5	
	comp=E,63nm,0.4s						
TGL				IAML		21 00 06.3	
	comp=N,82nm,0.5s						
M17K	**Holitna River**	**3.57**	**274**	Pn	Pn	20 59 08.8	-1.2
M17K				IAML		21 00 07.0	
	comp=N,67nm,1.1s						
M17K				IAML		21 00 22.7	
	comp=E,73nm,0.9s						
N17K	**Nushagak Hills**	**3.59**	**260**	Pn	Pn	20 59 09.2	-1.2
COLA	**College**	**3.66**	**15**	Pn	Pn	20 59 11.6	+0.4
MLY	**Manley**	**3.69**	**355**	Pn	Pn	20 59 12.5	+0.7
IL31		**3.70**	**21**	Pn	Pn	20 59 11.5	-0.3
ILAR	**Eielson Array**	**3.70**	**21**	Pn	Pn	20 59 11.5	-0.3
J18K	**Innoko River**	**3.76**	**307**	Pn	Pn	20 59 12.3	-0.3
I23K	**Minto, Yukon-K**	**3.81**	**4**	Pn	Pn	20 59 13.3	+0.1
I23K				IAML		21 00 17.3	
	comp=E,34nm,0.8s						
I23K				IAML		21 00 20.4	
	comp=N,37nm,0.8s						
KDAK	**Kodiak Island**	**3.83**	**201**	Pn	Pn	20 59 13.6	+0.1
KDAK				IAML		21 00 09.2	
	comp=N,42nm,3.6s						
KDAK				IAML		21 00 13.3	
	comp=N,44nm,0.8s						
POKR	**Poker Plat Res**	**3.94**	**16**	Pn	Pn	20 59 14.9	-0.2
M16K	**Timber Creek**	**4.34**	**269**	Pn	Pn	20 59 20.2	-0.4
M16K				IAML		21 00 07.7	
	comp=E,28nm,2.8s						
M16K				IAML		21 00 33.2	
	comp=N,30nm,3.4s						
OHAK	**Old Harbor**	**4.48**	**203**		Pn	20 59 18.5	-4.0
OHAK				IAML		21 00 07.9	
	comp=E,24nm,3.5s						
OHAK				IAML		21 00 52.8	
	comp=N,24nm,2.7s						
N15K	**Kwethluk River**	**5.08**	**261**	Pn	Pn	20 59 29.6	-1.2
J16K	**Anvik River**	**5.29**	**296**	Pn	Pn	20 59 32.5	-1.2
J16K				IAML		21 01 06.9	
	comp=N,25nm,3.2s						
J16K				IAML		21 02 50.9	
	comp=E,19nm,3.7s						
K15K	**Wolf Creek Mou**	**5.53**	**285**	Pn	Pn	20 59 36.4	-0.5
I17K	**Unalakleet**	**5.53**	**302**	Pn	Pn	20 59 37.3	+0.4
DAWY	**Dawson**	**5.59**	**56**	Pn	Pn	20 59 36.7	-1.1
FYU	**Fort Yukon**	**5.63**	**20**	Pn	Pn	20 59 37.9	-0.4
O29M	**Mount Kennedy**	**5.70**	**96**	Pn	Pn	20 59 37.7	-1.7
M14K	**Bethel**	**5.83**	**269**	Pn	Pn	20 59 40.5	-0.5
G18K	**Tagagawik**	**5.95**	**324**	Pn	Pn	20 59 42.1	-0.5
O14K	**Tigyukauivet M**	**5.97**	**254**	Pn	Pn	20 59 42.6	-0.4
L14K	**Kuka Creek**	**6.09**	**275**	Pn	Pn	20 59 44.2	-0.4
HYT	**Haines Junctio**	**6.10**	**90**	Pn	Pn	20 59 44.5	-0.3
J29N	**Klondike Camp**	**6.22**	**55**	Pn	Pn	20 59 46.3	-0.1
F20K	**Avaraart Lake**	**6.22**	**339**	Pn	Pn	20 59 46.5	+0.1
P29M	**Windy Craggy**	**6.31**	**101**	Pn	Pn	20 59 47.4	-0.3
J14K	**Nanvaranak Lak**	**6.51**	**288**	Pn	Pn	20 59 49.8	-0.5
BMAR	**Burnt Mountain**	**6.52**	**19**	Pn	Pn	20 59 50.0	-0.6
F25K	**Christian Rive**	**6.53**	**15**	Pn	Pn	20 59 50.5	-0.2
M13K	**Dall Lake**	**6.58**	**267**	Pn	Pn	20 59 51.1	-0.1
F26K	**Sheenjek River**	**6.83**	**19**	Pn	Pn	20 59 55.1	+0.2
K13K	**Kusilvak Mount**	**6.99**	**281**	Pn	Pn	20 59 57.0	0.0

NEIC ***30*** *21:03:50.2±1.4, 61°.41N±0°.04×149°.89W±0°.05, h40km±6km, Error ellipse: s-maj=5.3km s-min=3.0km az=162.0*

AEIC 30 21:03:50.8±1.6, 61°.44N±0°.02×149°.87W±0°.04, h36km±6km, ML2.3, ML2.5/42(NEIC), **Error ellipse: s-maj=3.0km s-min=2.0km az=128.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.34**	**340**		Pn	21 03 58.4	-0.7
M22K					Sn	21 04 05.3	-0.3
RC01	**Rabbit Creek A**	**0.35**	**169**		Sn	21 04 05.7	-0.2
PMR	**Palmer**	**0.39**	**66**		Pn	21 03 58.7	-0.9
PMR					Sn	21 04 06.1	-0.1
PMR	**Palmer**	**0.39**	**66**	IAML		21 04 06.5	
	comp=E,151nm,0.1s						
PMR				IAML		21 04 06.8	
	comp=N,203nm,0.3s						
SUA	**Susitna One**	**0.42**	**274**		Pn	21 03 59.6	-0.6
SUA					Sn	21 04 07.3	+0.2
SUA				IAML		21 04 07.9	
	comp=E,339nm,0.6s						
GHO	**Glory Hole Cre**	**0.56**	**53**		Pn	21 04 01.5	-1.0
GHO	**Glory Hole Cre**	**0.56**	**53**		Sn	21 04 10.5	-0.1
GHO				IAML		21 04 11.3	
	comp=E,261nm,0.3s						
GHO				IAML		21 04 14.7	
	comp=N,166nm,0.4s						
KNK	**Knik Glacier**	**0.68**	**91**		Pn	21 04 02.6	-1.4
KNK				IAML		21 04 16.5	
	comp=N,175nm,0.3s						
KNK				IAML		21 04 16.6	
	comp=E,147nm,0.1s						
SML	**Sawmill**	**0.82**	**63**		Pn	21 04 05.0	-0.9
SML	**Sawmill**	**0.82**	**63**		Sn	21 04 16.9	-0.1
SML	**Sawmill**	**0.82**	**63**	IAML		21 04 18.1	
	comp=E,68nm,0.5s						
SML				IAML		21 04 20.1	
	comp=N,89nm,0.2s						
CAPN	**Captain Cook N**	**0.92**	**223**	Pn	Pn	21 04 06.9	-0.2
STLK	**Strandline Lak**	**0.94**	**275**		Pn	21 04 06.9	-0.6
STLK					Sn	21 04 19.4	-0.5
PWL	**Port Wells**	**0.94**	**127**		Pn	21 04 07.0	-0.6
PWL				IAML		21 04 23.0	
	comp=N,188nm,0.2s						
SLKM	**Skilak Lake**	**0.95**	**190**		Pn	21 04 07.4	-0.2
SLKM				IAML		21 04 20.7	
	comp=E,123nm,0.4s						
SLKM				IAML		21 04 20.8	
	comp=N,143nm,0.1s						
SKT	**Skwentna**	**0.96**	**305**		Pn	21 04 06.9	-0.9
SKT	**Skwentna**	**0.96**	**305**	IAML		21 04 20.2	
	comp=N,220nm,0.2s						
SKT				IAML		21 04 28.5	
	comp=E,152nm,0.3s						
O22K	**Cooper Landing**	**0.96**	**176**	Pn	Pn	21 04 06.8	-0.9
CUT	**Chulitna**	**0.99**	**349**	Pn	Pn	21 04 08.1	0.0
CUT				IAML		21 04 32.1	
	comp=N,209nm,0.3s						
SPCG	**Spurr Capps Gl**	**1.04**	**263**		Pn	21 04 08.5	-0.5
SPCP	**Crater Peak Br**	**1.11**	**262**		Pn	21 04 09.4	-0.6
SPCR	**Spurr Chakacha**	**1.15**	**259**		Pn	21 04 09.6	-0.8
SPCR	**Spurr Chakacha**	**1.15**	**259**		Pn	21 04 09.8	-0.7
SCM	**Sheep Creek Mo**	**1.28**	**71**	Pn	Pn	21 04 12.0	-0.1
GLI	**Glacier Island**	**1.46**	**111**		Pn	21 04 13.7	-0.8
GLI	**Glacier Island**	**1.46**	**111**	IAML		21 04 37.4	
	comp=E,86nm,0.5

N23A			IAML		21 06 39.8	
	comp=N,68nm,0.6s					
LAO	**LASA Array**	**3.12 346**	Pn	**Pn**	**21 05 51.4**	**+0.6**
LAO			IAML		21 06 38.0	
	comp=N,118nm,0.3s					
LAO			IAML		21 06 45.9	
	comp=N,112nm,0.7s					
RLMT	**Red Lodge**	**3.31 298**		**Pn**	**21 05 53.9**	**+0.5**
RLMT			IAML		21 06 44.7	
	comp=N,72nm,0.3s					
RLMT			IAML		21 06 50.5	
	comp=N,63nm,0.3s					
PD31	**Pinedale Array**	**3.36 256**		**Pn**	**21 05 54.6**	**+0.4**
PDAR	**Pinedale Array**	**3.36 256**		**Pn**	**21 05 54.0**	**-0.1**
PDAR	**Pinedale Array**	**3.36 256**	Pn	**Pn**	**21 05 55.4**	**+1.3**
	comp=N,2.2nm,0.3s,baz=76,slow=16,SNR=38					
PDAR			Lg	Lg	21 06 40.3	
	comp=N,16nm,0.3s,baz=69,slow=29,SNR=11					
	comp=N,4.8nm,0.5s					
OGNE	**Ogallala**	**3.55 139**	Pn	**Pb**	**21 06 01.9**	**-2.0**
OGNE			IAML		21 07 14.8	
	comp=N,80nm,0.7s					
OGNE			IAML		21 07 29.9	
	comp=N,97nm,4.8s					
YNE	**Yellowstone No**	**3.75 293**		**Pn**	**21 05 59.9**	**+0.3**
YNE			IAML		21 06 58.1	
	comp=N,48nm,0.4s					
YNE			IAML		21 07 00.4	
	comp=E,75nm,0.3s					
YMP	**Mirror Lake Pl**	**3.78 288**		**Pn**	**21 05 59.6**	**-0.3**
YMP			IAML		21 07 03.7	
	comp=E,79nm,0.3s					
YMP			IAML		21 07 05.2	
	comp=N,74nm,0.6s					
LOHW	**Long Hollow**	**3.98 271**		**Pn**	**21 06 01.9**	**-0.6**
H17A	**Grant Village**	**4.00 282**		**Pn**	**21 06 02.1**	**-0.9**
FLWY	**Flagg Ranch**	**4.05 278**		**Pn**	**21 06 04.0**	**+0.4**
FLWY			IAML		21 07 21.1	
	comp=N,29nm,5.0s					
MOOW	**Moose Ponds**	**4.08 273**		**Pn**	**21 06 05.7**	**+1.8**
SNOW	**Snow King Moun**	**4.10 269**	Pn	**Pn**	**21 06 05.4**	**+1.1**
SNOW			IAML		21 07 22.3	
	comp=N,33nm,4.8s					
SNOW			IAML		21 08 38.9	
	comp=N,34nm,4.9s					
YNR	**Norris Junctio**	**4.13 287**		**Pn**	**21 06 05.1**	**+0.4**
YNR			IAML		21 07 14.7	
	comp=E,26nm,3.4s					
YFT	**Old Faithful**	**4.19 283**	Pn	**Pn**	**21 06 06.7**	**+1.1**
O20A	**White River Ci**	**4.22 214**		Pn	21 06 00.0	-5.9
O20A			IAML		21 07 21.0	
	comp=E,37nm,2.5s					
O20A			IAML		21 07 26.9	
	comp=N,36nm,2.5s					
TPAW	**Teton Pass**	**4.24 270**		**Pn**	**21 06 08.7**	**+2.5**
TPAW			IAML		21 08 38.6	
	comp=N,25nm,3.2s					
YHH	**Holmes Hill**	**4.27 287**		**Pn**	**21 06 07.0**	**+0.3**
YMR	**Madison River**	**4.32 285**	IAML		21 07 39.1	
	comp=N,32nm,4.3s					
YMR			IAML		21 07 40.5	
	comp=E,28nm,2.0s					
AHID	**Auburn Hatcher**	**4.46 260**	IAML		21 08 14.1	
	comp=E,33nm,0.4s					
AHID			IAML		21 08 25.5	
	comp=E,26nm,0.8s					
YHL	**Hebgen Lake**	**4.51 287**	IAML		21 07 32.9	
	comp=E,21nm,0.7s					
YHL			IAML		21 07 46.0	
	comp=N,20nm,3.7s					
RDMU	**Red Mountain**	**4.53 228**	IAML		21 07 27.3	
	comp=E,22nm,1.3s					
Q24A	**Divide**	**4.69 180**	IAML		21 07 42.6	
	comp=E,20nm,2.8s					
Q24A			IAML		21 09 16.8	
	comp=N,18nm,4.5s					
BOZ	**Bozeman (W)**	**5.03 295**	IAML		21 07 39.3	
	comp=N,16nm,2.6s					
HWUT	**Hardware Ranch**	**5.18 249**	IAML		21 08 03.3	
	comp=N,30nm,2.0s					
HWUT			IAML		21 08 04.9	
	comp=N,24nm,1.0s					
BSUT	**Blindstream Ca**	**5.23 235**	IAML		21 07 57.4	
	comp=N,11nm,2.5s					
BSUT			IAML		21 08 19.2	
	comp=E,16nm,3.3s					
I10CA	**LAC DU BONNET**	**9.02 40**	I	I	22 04 00.0	
	baz=220,slow=350,SNR=0.6					
ULM	**Lac du Bonnet**	**9.13 41**	Pn	**Pn**	**21 07 14.1**	**+1.0**
	comp=E,0.6nm,0.3s,baz=224,slow=13,SNR=2.8					
ULM			Lg	Lg	21 09 49.1	
	comp=E,0.5nm,0.3s,baz=316,slow=17,SNR=2.1					
	comp=E,1.1nm,0.3s					

*NEIC **30** 21:08:03.8±1.0,61°.412N±0°.005×150°.05W±0°.05, h49km±5km,ML3.6/129,Error ellipse: s-maj=3.7km s-min=0.7km az=85.0*

ISC 30 21:08:04.6±1.7,61°.41N±0°.04×150°.08W±0°.03,h37km±1km, n92,σ0°80/104,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.33**	**280**	Pn	**Pn**	**21 08 12.6**	**-0.5**
SUA				Sn	**Sn**	**21 08 20.2**	**+0.1**
SUA				IAML		21 08 20.7	
	comp=N,5μm,0.6s						
SUA	**Susitna One**	**0.33**	**280**	P	**Pn**	**21 08 12.8**	**-0.3**
	baz=98						
SUA				S	**Sn**	**21 08 20.2**	**+0.1**
	baz=98						
M22K	**Willow**	**0.34**	**357**		**Pn**	**21 08 12.5**	**-0.5**
M22K				Sn	**Sn**	**21 08 20.1**	**+0.3**
M22K	**Willow**	**0.34**	**357**	P	**Pn**	**21 08 12.4**	**-0.6**
	baz=175						
M22K				S	**Sn**	**21 08 19.9**	**+0.1**
	baz=175						
RC01	**Rabbit Creek A**	**0.36**	**153**		**Pn**	**21 08 12.8**	**-0.4**
RC01				Sn	**Sn**	**21 08 20.0**	**0.0**
RC01				IAML		21 08 20.3	
	comp=E,5μm,0.4s						
RC01	**Rabbit Creek A**	**0.36**	**153**	P	**Pn**	**21 08 12.8**	**-0.4**
	baz=335						
RC01				S	**Sn**	**21 08 19.9**	**0.0**
	baz=335						
PMR	**Palmer**	**0.49**	**68**		**Pn**	**21 08 13.9**	**-1.1**
PMR				Sn	**Sn**	**21 08 22.2**	**-0.2**
PMR				IAML		21 08 22.7	
	comp=N,4μm,0.5s						
PMR				IAML		21 08 22.8	
	comp=E,3μm,0.3s						
PMR	**Palmer**	**0.49**	**68**	P	**Pn**	**21 08 13.9**	**-1.1**
	baz=248						
PMR				S	**Sn**	**21 08 22.0**	**-0.4**
	baz=248						
GHO	**Glory Hole Cre**	**0.66**	**56**		**Pn**	**21 08 16.5**	**-1.1**
GHO				Sn	**Sn**	**21 08 26.4**	**-0.4**
GHO				IAML		21 08 27.6	
	comp=N,2μm,0.4s						
GHO				IAML		21 08 27.8	
	comp=E,3μm,0.7s						
KNK	**Knik Glacier**	**0.78**	**89**		**Pn**	**21 08 18.1**	**-0.9**
KNK				Sn	**Sn**	**21 08 29.1**	**-0.5**
KNK				IAML		21 08 31.7	
	comp=E,2μm,0.4s						
KNK				IAML		21 08 32.0	
	comp=N,3μm,0.4s						
KNK	**Knik Glacier**	**0.78**	**89**	P	**Pn**	**21 08 18.3**	**-0.8**
	baz=271						
KNK				S	**Sn**	**21 08 29.8**	**+0.2**
	baz=271						
CAPN	**Captain Cook N**	**0.83**	**219**		**Pn**	**21 08 19.8**	**0.0**
CAPN				Sn	**Sn**	**21 08 30.6**	**-0.2**
SKT	**Skwentna**	**0.90**	**310**		**Pn**	**21 08 19.8**	**-1.0**
SKT				IAML		21 08 34.1	
	comp=N,2μm,0.4s						
SKT				IAML		21 08 34.1	
	comp=E,2μm,0.6s						
SKT	**Skwentna**	**0.90**	**310**	P	**Pn**	**21 08 19.6**	**-1.2**
	baz=128						
SKT				S	**Sn**	**21 08 32.3**	**-0.2**
	baz=128						
SML	**Sawmill**	**0.93**	**64**		**Pn**	**21 08 20.3**	**-0.8**
SML				IAML		21 08 35.9	
	comp=E,2μm,0.7s						
SML				IAML		21 08 36.7	
	comp=N,1μm,0.7s						
SML	**Sawmill**	**0.93**	**64**	P	**Pn**	**21 08 20.2**	**-1.0**
	baz=245						
SML				S	**Sn**	**21 08 32.8**	**-0.4**
	baz=245						
O22K	**Cooper Landing**	**0.95**	**169**		**Pn**	**21 08 20.3**	**-1.1**
O22K	**Cooper Landing**	**0.95**	**169**	P	**Pn**	**21 08 20.4**	**-0.9**
	baz=350						
O22K				S	**Sn**	**21 08 34.3**	**+0.7**
	baz=350						
CUT	**Chulitna**	**1.00**	**355**		**Pn**	**21 08 21.1**	**-0.9**
CUT	**Chulitna**	**1.00**	**355**	P	**Pn**	**21 08 21.1**	**-0.9**
	baz=174						
PWL	**Port Wells**	**1.01**	**122**		**Pn**	**21 08 21.5**	**-0.8**
PWL	**Port Wells**	**1.01**	**122**	P	**Pn**	**21 08 21.4**	**-0.8**
	baz=304						
PWL				S	**Sn**	**21 08 35.8**	**+0.6**
	baz=304						
N20K	**Mount Spurr**	**1.05**	**259**	P	**Pn**	**21 08 22.4**	**-0.4**
	baz=77						
N20K				S	**Sn**	**21 08 36.3**	**+0.1**
	baz=77						
SPCR	**Spurr Chakacha**	**1.05**	**259**	P	**Pn**	**21 08 22.4**	**-0.4**
	baz=77						
SPCR				S	**Sn**	**21 08 36.3**	**+0.1**
	baz=77						
M23K	**Glacier View**	**1.19**	**70**	P	**Pn**	**21 08 24.2**	**-0.5**
	baz=252						
SEW	**Seward**	**1.35**	**167**	P	**Pn**	**21 08 26.8**	**0.0**
	baz=348						
SCM	**Sheep Creek Mo**	**1.38**	**71**		**Pn**	**21 08 26.4**	**-1.0**
SCM				IAML		21 08 47.2	
	comp=E,2μm,0.8s						
SCM				IAML		21 08 47.8	
	comp=N,1μm,0.7s						
SCM	**Sheep Creek Mo**	**1.38**	**71**	P	**Pn**	**21 08 26.9**	**-0.5**
	baz=253						
M20K	**Styx River**	**1.53**	**289**		**Pn**	**21 08 29.0**	**-0.4**
M20K				IAML		21 08 51.8	
	comp=N,939nm,0.9s						
M20K				IAML		21 08 52.1	
	comp=E,700nm,1.0s						
M20K	**Styx River**	**1.53**	**289**	P	**Pn**	**21 08 29.2**	**-0.2**
	baz=106						
GLI	**Glacier Island**	**1.54**	**109**	Pn	**Pn**	**21 08 28.2**	**-1.3**
GLI				IAML		21 08 53.3	
	comp=N,1μm,0.5s						
GLI				IAML		21 08 55.2	
	comp=E,1μm,0.5s						
GLI	**Glacier Island**	**1.54**	**109**	P	**Pn**	**21 08 28.3**	**-1.3**
	baz=292						
WAT1	**Susitna Watana**	**1.59**	**26**	P	**Pn**	**21 08 30.1**	**-0.2**
	baz=207						
BRLK	**Bradley Lake**	**1.70**	**194**		**Pn**	**21 08 30.3**	**-1.4**
BRLK				IAML		21 08 56.5	
	comp=N,922nm,0.8s						
BRLK				IAML		21 08 57.0	
	comp=E,1μm,0.5s						
BRSE	**Bradley Lake S**	**1.71**	**191**	P	**Pn**	**21 08 31.9**	**+0.1**
	baz=11						
PPLA	**Purkeypile**	**1.79**	**327**	P	**Pn**	**21 08 32.8**	**-0.3**
	baz=145						
FID	**Port Fidalgo**	**1.87**	**109**	Pn	**Pn**	**21 08 31.8**	**-2.2**
FID				IAML		21 08 57.2	
	comp=E,819nm,0.5s						
HOM	**Homer**	**1.92**	**204**	Pn	**Pn**	**21 08 34.2**	**-0.5**
CNPM	**China Poot**	**1.98**	**197**	Pn	**Pn**	**21 08 34.5**	**-1.0**
M24K	**Tolsona, Glenn**	**1.98**	**68**		**Pn**	**21 08 34.8**	**-0.8**
M24K				IAML		21 09 06.6	
	comp=E,723nm,0.8s						
M24K				IAML		21 09 07.8	
	comp=N,525nm,0.9s						
KLU	**Klutina**	**2.00**	**86**	Pn	**Pn**	**21 08 34.6**	**-1.2**
KLU				IAML		21 09 08.3	
	comp=E,347nm,0.4s						
KLU				IAML		21 09 10.3	
	comp=N,359nm,0.5s						
HIN	**Hinchinbrook I**	**2.02**	**119**		**Pn**	**21 08 35.1**	**-1.0**
ILSW	**Iliamna Southw**	**2.08**	**228**		**Pn**	**21 08 35.9**	**-1.1**
RND	**Reindeer**	**2.08**	**15**	Pn	**Pn**	**21 08 36.3**	**-0.7**
RND				IAML		21 09 15.1	
	comp=N,290nm,1.0s						
DHY	**Denali Highway**	**2.10**	**36**		**Pn**	**21 08 36.9**	**-0.4**
DHY				IAML		21 09 09.4	
	comp=N,362nm,0.4s						
DHY				IAML		21 09 10.5	
	comp=E,404nm,0.4s						
M19K	**Big River Lodg**	**2.12**	**285**		**Pn**	**21 08 36.7**	**-0.7**
KTH	**Kantishna Hill**	**2.19**	**350**		**Pn**	**21 08 37.9**	**-0.5**
KTH				IAML		21 09 21.2	
	comp=N,375nm,0.8s						
CAST	**Castle Rocks**	**2.22**	**336**	Pn	**Pn**	**21 08 38.7**	**-0.2**
CAST				IAML		21 09 22.4	
	comp=E,238nm,1.1s						
N19K	**Bonanza Creek**	**2.22**	**256**	Pn	**Pn**	**21 08 37.8**	**-1.2**
P19K	**Oil Pt**	**2.35**	**223**	Pn	**Pn**	**21 08 39.5**	**-1.2**
L19K	**White Mountain**	**2.40**	**291**	Pn	**Pn**	**21 08 41.3**	**0.0**
L19K				IAML		21 09 12.1	
	comp=E,237nm,0.5s						
N25K	**Chitina, Valde**	**2.63**	**83**	Pn	**Pn**	**21 08 43.8**	**-0.8**
N25K				IAML		21 09 23.4	
	comp=N,275nm,0.4s						
K20K	**Telida**	**2.70**	**318**		**Pn**	**21 08 45.1**	**-0.3**
K20K				IAML		21 09 41.8	
	comp=E,164nm,0.8s						
Q23K	**Middleton Isla**	**2.71**	**135**	Pn	**Pn**	**21 08 47.8**	**+2.2**
Q23K				IAML		21 09 40.8	
	comp=E,205nm,0.6s						
Q23K				IAML		21 09 45.5	
	comp=N,223nm,1.3s						
BPAW	**Bear Paw Mtn.**	**2.73**	**352**	Pn	**Pn**	**21 08 45.6**	**-0.3**
BPAW				IAML		21 09 34.6	
	comp=E,196nm,0.5s						
BWN	**Browne**	**2.79**	**6**	Pn	**Pn**	**21 08 46.2**	**-0.4**
RAGM	**Ragged Mountai**	**2.83**	**109**	Pn	**Pn**	**21 08 47.7**	**+0.4**
N18K	**Kilae Creek**	**2.92**	**258**	Pn	**Pn**	**21 08 48.3**	**-0.1**
O18K	**Koktuh Hills**	**2.97**	**241**	Pn	**Pn**	**21 08 51.0**	**+1.8**
O18K				IAML		21 09 51.7	
	comp=N,245nm,1.1s						
O18K				IAML		21 09 51.9	
	comp=E,162nm,1.2s						
GLB	**Gilahina Butte**	**3.01**	**87**	Pn	**Pn**	**21 08 50.6**	**+0.9**
GLB				IAML		21 09 36.7	
	comp=N,178nm,0.6s						
SYI	**Shuyak Island**	**3.04**	**203**	Pn	**Pn**	**21 08 49.5**	**-0.5**
SYI				IAML		21 09 36.2	
	comp=E,196nm,0.5s						
Q19K	**Cape Douglas,**	**3.06**	**217**		**Pn**	**21 08 50.6**	**+0.2**
NEA2	**Nenana**	**3.23**	**8**		**Pn**	**21 08 53.1**	**+0.4**
NEA2				IAML		21 09 47.3	
	comp=N,155nm,1.0s						
NEA2				IAML		21 09 48.4	
	comp=E,137nm,0.9s						
J20K	**Nowinta River**	**3.35**	**328**	IAML		21 09 34.0	
	comp=E,211nm,0.4s						
CCB	**Clear Creek Bu**	**3.41**	**17**	Pn	**Pn**	**21 08 54.5**	**-0.6**
CCB				IAML		21 09 50.9	
	comp=E,169nm,0.8s						
M17K	**Holitna River**	**3.54**	**273**		**Pn**	**21 08 56.1**	**-0.8**
M17K				IAML		21 09 39.7	
	comp=E,146nm,0.8s						
M17K				IAML		21 09 58.1	
	comp=N,189nm,0.8s						
COLA	**College**	**3.62**	**15**		**Pn**	**21 08 58.6**	**+0.6**
J19K	**Poorman**	**3.64**	**318**	IAML		21 09 58.8	
	comp=N,78nm,0.9s						
J19K				IAML		21 10 07.5	
	comp=E,94nm,0.7s						
MLY	**Manley**	**3.65**	**356**	Pn	**Pn**	**21 08 58.6**	**+0.2**
I23K	**Minto, Yukon-K**	**3.77**	**5**		**Pn**	**21 09 00.5**	**+0.4**
I23K				IAML		21 10 06.8	
	comp=E,88nm,1.1s						
I23K				IAML		21 10 12.9	
	comp=N,78nm,0.8s						
KDAK	**Kodiak Island**	**3.85**	**200**		**Pn**	**21 09 01.6**	**+0.3**
KDAK				IAML		21 10 01.6	
	comp=N,100nm,0.7s						
KDAK				IAML		21 10 01.7	
	comp=N,98nm,0.6s						
POKR	**Poker Plat Res**	**3.91**	**17**		**Pn**	**21 09 02.1**	**+0.1**
POKR				IAML		21 10 08.0	
	comp=E,105nm,0.7s						
POKR				IAML		21 10 08.6	
	comp=N,77nm,0.8s						
K17K	**Iditarod**	**4.08**	**292**	IAML		21 10 21.6	
	comp=E,70nm,0.8s						
L16K	**Owhat River**	**4.50**	**278**	Pn	**Pn**	**21 09 09.5**	**-0.7**
L16K				IAML		21 10 34.1	
	comp=E,39nm,1.1s						
L16K				IAML		21 10 34.6	
	comp=N,60nm,1.1s						
OHAK	**Old Harbor**	**4.51**	**203**	Pn	**Pn**	**21 09 10.4**	**+0.1**
H24K	**Noodor Dome**	**4.55**	**11**	IAML		21 10 31.4	
	comp=E,59nm,1.1s						
J17K	**VABM Dome**	**4.63**	**299**	IAML		21 10 46.9	
	comp=N,34nm,0.8s						
IMAR	**Indian Mountai**	**4.87**	**342**	Pn	**Pn**	**21 09 14.5**	**-0.7**
H19K	**Roundabout Mou**	**5.02**	**328**	IAML		21 10 50.2	
	comp=E,39nm,1.4s						
H19K				IAML		21 10 57.3	
	comp=N,51nm,1.1s						
J16K	**Anvik River**	**5.25**	**296**	Pn	**Pn**	**21 09 19.7**	**-0.7**
J16K				IAML		21 10 53.5	
	comp=N,28nm,1.4s						
J16K				IAML		21 12 36.7	
	comp=E,26nm,1.2s						
G21K	**Allakaket**	**5.34**	**345**	Pn	**Pn**	**21 09 22.3**	**+0.6**
G21K				IAML		21 11 04.5	
	comp=N,22nm,0.7s						
G21K				IAML		21 11 06.7	
	comp=E,28nm,1.1s						
I17K	**Unalakleet**	**5.49**	**302**		**Pn**	**21 09 23.4**	**-0.3**
K15K	**Wolf Creek Mou**	**5.50**	**284**	Pn	**Pn**	**21 09 23.4**	**-0.4**
P29M	**Windy Craggy**	**6.35**	**101**		**Pn**	**21 09 36.1**	**+0.6**
BMAR	**Burnt Mountain**	**6.49**	**19**	Pn	**Pn**	**21 09 39.0**	**+1.5**
F28M	**Old Crow**	**7.62**	**31**	Pn	**Pn**	**21 09 53.4**	**+0.5**
ANM	**Nome**	**7.64**	**301**	Pn	**Pn**	**21 09 54.0**	**+0.7**
F15K	**North Star Dit**	**7.79**	**310**	Pn	**Pn**	**21 09 56.2**	**+0.9**
RDOG	**Red Dog Mine**	**8.62**	**326**	Pn	**Pn**	**21 10 08.6**	**+2.1**
C18K	**Utukok River**	**8.64**	**332**	Pn	**Pn**	**21 10 07.3**	**+0.4**
G31M	**Satah River**	**8.82**	**44**	Pn	**Pn**	**21 10 09.9**	**+0.5**
B22K	**Teshekpuk Lake**	**9.07**	**353**	Pn	**Pn**	**21 10 13.5**	**+0.8**

*IDC **30** 21:11:14.8±1.2,61°.38N×150°.63W,h0km,mb3.7/3, mbtmp3.5/6,ML3.2/3,Error ellipse: s-maj=28.2km s-min=13.2km az=116.0*

*NEIC **30** 21:11:18.0±1.3,61°.36N±0°.03×150°.07W±0°.06, h33km±10km,ML3.6/142,Error ellipse: s-maj=4.5km s-min=3.8km az=185.0*

ISC 30 21:11:18.6±1.0,61°.37N±0°.03×150°.12W±0°.03,h36km±1km, n94,σ0°97/95,mb3.8/3,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.32**	**288**		**Pn**	**21 11 26.4**	**-0.5**
SUA				IAML		21 11 34.4	
	comp=N,5μm,0.6s						
SUA	**Susitna One**	**0.32**	**288**	P	**Pn**	**21 11 26.4**	**-0.5**
	baz=100						
SUA				S	**Sn**	**21 11 33.6**	**+0.1**
	baz=100						
RC01	**Rabbit Creek A**	**0.34**	**146**	Pg	**Pn**	**21 11 24.5**	**-2.4**
RC01				IAML		21 11 34.4	
	comp=E,5μm,0.3s						
RC01	**Rabbit Creek A**	**0.34**	**146**	P	**Pn**	**21 11 27.3**	**+0.5**
	baz=331						
RC01				S	**Sn**	**21 11 33.7**	**+0.3**
	baz=331						
M22K	**Willow**	**0.39**	**0**		**Pn**	**21 11 26.6**	**-0.9**
M22K				IAML		21 11 34.7	
	comp=E,5μm,0.4s						
M22K	**Willow**	**0.39**	**0**	P	**Pn**	**21 11 26.6**	**-0.9**
	baz=179						
M22K				S	**Sn**	**21 11 33.9**	**-0.2**
	baz=179						
PMR	**Palmer**	**0.53**	**64**		**Pn**	**21 11 28.1**	**-1.4**
PMR				IAML		21 11 36.8	
	comp=N,4μm,0.5s						
PMR				IAML		21 11 38.6	
	comp=E,3μm,0.3s						
PMR	**Palmer**	**0.53**	**64**	P	**Pn**	**21 11 28.4**	**-1.2**
	baz=249						
PMR				S	**Sn**	**21 11 36.6**	**-0.6**
	baz=249						
GHO	**Glory Hole Cre**	**0.70**	**54**		**Pn**	**21 11 30.7**	**-1.4**
GHO				IAML		21 11 42.4	
	comp=E,4μm,0.5s						
GHO				IAML		21 11 43.9	
	comp=N,3μm,0.3s						
CAPN	**Captain Cook N**	**0.78**	**220**	Pn	**Pn**	**21 11 31.9**	**-1.1**
CAPN				IAML		21 11 50.5	
	comp=E,4μm,0.3s						
KNK	**Knik Glacier**	**0.80**	**86**		**Pn**	**21 11 31.2**	**-2.2**
KNK				IAML		21 11 46.8	
	comp=N,3μm,0.7s						
KNK				IAML		21 11 47.0	
	comp=E,2μm,0.4s						
KNK	**Knik Glacier**	**0.80**	**86**	P	**Pn**	**21 11 32.8**	**-0.6**
	baz=270						
KNK				S	**Sn**	**21 11 45.0**	**+0.9**
	baz=270						
STLK	**Strandline Lak**	**0.83**	**280**	Pn	**Pn**	**21 11 33.1**	**-0.8**
STLK				IAML		21 11 45.4	
	comp=E,2μm,0.3s						
SLKM	**Skilak Lake**	**0.86**	**183**	Pn	**Pn**	**21 11 33.2**	**-1.0**
SLKM				IAML		21 11 47.7	
	comp=N,2μm,0.2s						
O22K	**Cooper Landing**	**0.91**	**167**		**Pn**	**21 11 34.3**	**-0.5**
O22K	**Cooper Landing**	**0.91**	**167**	P	**Pn**	**21 11 34.5**	**-0.2**
	baz=349						
SKT	**Skwentna**	**0.91**	**313**		**Pn**	**21 11 33.6**	**-1.3**
SKT				IAML		21 11 47.1	
	comp=E,3μm,0.4s						
SKT	**Skwentna**	**0.91**	**313**	P	**Pn**	**21 11 33.7**	**-1.3**
	baz=130						
SKT				S	**Sn**	**21 11 46.3**	**-0.5**
	baz=130						
SML	**Sawmill**	**0.96**	**62**		**Pn**	**21 11 34.4**	**-1.3**
SML				IAML		21 11 50.3	
	comp=N,2μm,0.4s						
SML				IAML		21 11 51.1	
	comp=E,2μm,0.7s						
SML	**Sawmill**	**0.96**	**62**	P	**Pn**	**21 11 34.6**	**-1.0**
	baz=245						
PWL	**Port Wells**	**1.01**	**120**		**Pn**	**21 11 35.7**	**-0.4**
PWL	**Port Wells**	**1.01**	**120**	P	**Pn**	**21 11 35.7**	**-0.4**
	baz=303						
N20K	**Mount Spurr**	**1.02**	**262**	P	**Pn**	**21 11 35.9**	**-0.5**
	baz=78						
SPCR	**Spurr Chakacha**	**1.02**	**262**	P	**Pn**	**21 11 35.9**	**-0.5**
	baz=78						
CUT	**Chulitna**	**1.04**	**356**		**Pn**	**21 11 35.6**	**-1.1**
CUT				IAML		21 11 50.5	
	comp=N,2μm,0.4s						
CUT				IAML		21 11 52.1	
	comp=E,2μm,0.4s						
M23K	**Glacier View**	**1.22**	**68**	P	**Pn**	**21 11 38.7**	**-0.5**
	baz=252						
SEW	**Seward**	**1.31**	**165**	P	**Pn**	**21 11 41.0**	**+0.7**
	baz=346						
SCM	**Sheep Creek Mo**	**1.42**	**69**		**Pn**	**21 11 41.2**	**-0.6**
SCM				IAML		21 12 06.8	
	comp=N,1μm,1.0s						
SCM	**Sheep Creek Mo**	**1.42**	**69**	P	**Pn**	**21 11 41.5**	**-0.3**
	baz=253						
M20K	**Styx River**	**1.53**	**291**		**Pn**	**21 11 43.3**	**0.0**
M20K				IAML		21 12 05.3	
	comp=N,974nm,0.8s						
M20K				IAML		21 12 05.9	
	comp=E,827nm,0.8s						
M20K	**Styx River**	**1.53**	**291**	P	**Pn**	**21 11 43.6**	**+0.2**
	baz=107						
GLI	**Glacier Island**	**1.55**	**107**		**Pn**	**21 11 42.5**	**-1.1**
GLI	**Glacier Island**	**1.55**	**107**	P	**Pn**	**21 11 42.6**	**-0.9**
	baz=291						
BRLK	**Bradley Lake**	**1.65**	**194**		**Pn**	**21 11 44.8**	**-0.2**
BRLK				IAML		21 12 10.5	
	comp=N,602nm,0.5s						
BRLK				IAML		21 12 10.7	
	comp=E,664nm,0.4s						
O20K	**Slope Mountain**	**1.78**	**225**	P	**Pn**	**21 11 47.6**	**+0.8**
	baz=42						
PPLA	**Purkeypile**	**1.82**	**329**	P	**Pn**	**21 11 46.8**	**-0.6**
	baz=146						
HOM	**Homer**	**1.87**	**204**	Pn	**Pn**	**21 11 48.3**	**+0.3**
HOM				Sn	**Sn**	**21 12

CNPM	**China Poot**	**1.93 197**		**Pn**	**21 11 48.6**	**-0.2**
CNPM			Sn	**Sn**	**21 12 11.9**	**+0.1**
CNPM			IAML		21 12 16.2	
	comp=E,661nm,0.6s					
CNPM			IAML		21 12 19.1	
	comp=N,631nm,0.4s					
HIN	**Hinchinbrook I**	**2.02 117**		**Pn**	**21 11 51.1**	**+1.0**
HIN			IAML		21 12 22.2	
	comp=N,791nm,0.6s					
M24K	**Tolsona, Glenn**	**2.02 67**		**Pn**	**21 11 49.6**	**-0.5**
M24K			IAML		21 12 19.4	
	comp=E,744nm,0.8s					
M24K			IAML		21 12 24.1	
	comp=N,753nm,1.0s					
KLU	**Klutina**	**2.02 85**		**Pn**	**21 11 50.5**	**+0.3**
KLU			IAML		21 12 21.4	
	comp=E,383nm,0.6s					
KLU			IAML		21 12 23.0	
	comp=N,760nm,0.4s					
ILSW	**Iliamna Southw**	**2.03 228**		**Pn**	**21 11 51.1**	**+0.8**
ILSW			IAML		21 12 21.7	
	comp=E,319nm,0.7s					
M19K	**Big River Lodg**	**2.11 287**		**Pn**	**21 11 51.0**	**-0.3**
RND	**Reindeer**	**2.13 16**		**Pn**	**21 11 52.1**	**+0.4**
DHY	**Denali Highway**	**2.14 36**		**Pn**	**21 11 53.1**	**+1.2**
DHY			IAML		21 12 23.6	
	comp=E,302nm,0.5s					
DHY			IAML		21 12 23.7	
	comp=N,310nm,0.7s					
N19K	**Bonanza Creek**	**2.19 257**		**Pn**	**21 11 52.4**	**-0.1**
KTH	**Kantishna Hill**	**2.23 351**		**Pn**	**21 11 53.1**	**+0.1**
KTH			IAML		21 12 21.5	
	comp=E,432nm,0.6s					
KTH			IAML		21 12 21.8	
	comp=N,515nm,0.6s					
CAST	**Castle Rocks**	**2.25 337**		**Pn**	**21 11 53.1**	**-0.2**
CAST			IAML		21 12 24.6	
	comp=E,253nm,0.7s					
P19K	**Oil Pt**	**2.31 223**	Pn	**Pn**	**21 11 53.8**	**-0.2**
O19K	**Port Alsworth**	**2.37 242**	Pn	**Pn**	**21 11 54.2**	**-0.6**
L19K	**White Mountain**	**2.39 292**		**Pn**	**21 11 55.1**	**-0.1**
SVW2	**Sparrevohn**	**2.65 267**		**Pn**	**21 11 58.2**	**-0.5**
N25K	**Chitina, Valde**	**2.66 82**		**Pn**	**21 11 58.7**	**-0.3**
N25K			IAML		21 12 40.4	
	comp=N,345nm,0.6s					
N25K			IAML		21 12 41.8	
	comp=E,202nm,0.4s					
Q23K	**Middleton Isla**	**2.70 134**	Pn	**Pn**	**21 11 58.6**	**-0.7**
Q23K			IAML		21 12 58.0	
	comp=N,291nm,1.1s					
Q23K			IAML		21 13 05.7	
	comp=E,218nm,1.0s					
K20K	**Telida**	**2.72 319**		**Pn**	**21 11 59.3**	**-0.3**
K20K			IAML		21 12 37.5	
	comp=E,208nm,0.6s					
BPAW	**Bear Paw Mtn.**	**2.77 352**		**Pn**	**21 12 00.2**	**-0.2**
RAGM	**Ragged Mountai**	**2.84 108**		Pn	21 12 05.7	+4.4
N18K	**Kilae Creek**	**2.89 259**		**Pn**	**21 12 01.6**	**-0.4**
N18K			IAML		21 12 36.2	
	comp=N,167nm,0.6s					
O18K	**Koktuh Hills**	**2.93 241**		**Pn**	**21 12 02.4**	**-0.2**
O18K			IAML		21 13 04.6	
	comp=E,171nm,1.2s					
O18K			IAML		21 13 05.6	
	comp=N,195nm,1.1s					
SYI	**Shuyak Island**	**2.99 203**		**Pn**	**21 12 03.5**	**+0.1**
SYI			IAML		21 12 48.3	
	comp=E,142nm,1.0s					
SYI			IAML		21 12 50.3	
	comp=N,141nm,0.4s					
P18K	**Big Mountain,**	**3.22 234**	Pn	**Pn**	**21 12 06.7**	**+0.2**
VRDI	**Verde Repeater**	**3.22 90**		**Pn**	**21 12 09.0**	**+2.3**
VRDI			IAML		21 13 01.8	
	comp=N,130nm,1.0s					
L18K	**Granite Mounta**	**3.23 288**	IAML		21 13 03.8	
	comp=E,132nm,0.7s					
HDA	**Harding Lake**	**3.38 24**		**Pn**	**21 12 11.1**	**+2.3**
HDA			IAML		21 13 05.6	
	comp=N,141nm,0.6s					
HDA			IAML		21 13 06.8	
	comp=E,106nm,0.7s					
RIDG	**Independent Ri**	**3.41 43**		Pn	21 12 12.2	+3.0
RIDG			IAML		21 12 58.3	
	comp=N,202nm,0.9s					
MCARA	**McCarthy VSAT**	**3.42 87**	Pn	**Pn**	**21 12 11.0**	**+1.8**
N17K	**Nushagak Hills**	**3.55 259**	IAML		21 12 52.4	
	comp=E,116nm,0.7s					
N17K			IAML		21 13 11.0	
	comp=N,90nm,1.0s					
J19K	**Poorman**	**3.66 319**		**Pn**	**21 12 11.8**	**-0.8**
J19K			IAML		21 13 11.3	
	comp=N,95nm,0.9s					
J19K			IAML		21 13 25.9	
	comp=E,94nm,1.1s					
J18K	**Innoko River**	**3.72 307**	IAML		21 12 55.4	
	comp=N,72nm,0.7s					
ILAR	**Eielson Array**	**3.72 22**		**Pn**	**21 12 13.9**	**+0.5**
ILAR	**Eielson Array**	**3.72 22**	Pn	**Pn**	**21 12 12.8**	**-0.6**
	comp=N,1.2nm,0.3s,baz=204,slow=14,SNR=4.0					
ILAR			Sn	**Sn**	**21 12 56.5**	**+0.6**
	comp=N,4.5nm,0.3s,baz=218,slow=21,SNR=4.1					
	comp=N,3.7nm,0.5s					
KDAK	**Kodiak Island**	**3.81 200**	Pn	**Pn**	**21 12 15.9**	**+1.3**
KDAK			IAML		21 13 21.1	
	comp=N,97nm,1.2s					
KDAK	**Kodiak Island**	**3.81 200**	Pn	**Pn**	**21 12 12.8**	**-1.8**
	comp=N,0.7nm,0.3s,baz=160,slow=19,SNR=1.3					
KDAK			Sn	**Sn**	**21 12 54.5**	**-3.5**
	comp=N,4.2nm,0.3s,baz=257,slow=12,SNR=2.4					
	comp=N,3.3nm,0.2s					
I21K	**Tanana**	**3.92 348**		**Pn**	**21 12 15.8**	**-0.3**
I21K			IAML		21 13 32.0	
	comp=N,64nm,0.7s					
I20K	**Naaghedeneel**	**3.97 332**	Pn	**Pn**	**21 12 15.8**	**-1.0**
K17K	**Iditarod**	**4.08 293**	IAML		21 13 37.6	
	comp=E,92nm,1.1s					
K17K			IAML		21 13 40.7	
	comp=N,83nm,1.2s					
GRNC	**Granite Creek**	**4.12 95**	IAML		21 13 26.4	
	comp=N,92nm,0.9s					
CTGM	**Chitina Glacie**	**4.28 92**	Pn	**Pn**	**21 12 21.4**	**+0.2**
CTGM			IAML		21 13 30.4	
	comp=N,66nm,0.6s					
M16K	**Timber Creek**	**4.29 269**	IAML		21 13 39.3	
	comp=N,53nm,1.9s					
M16K			IAML		21 14 13.1	
	comp=E,47nm,3.5s					
L16K	**Owhat River**	**4.49 279**		**Pn**	**21 12 23.1**	**-0.8**
L16K			IAML		21 13 47.8	
	comp=E,43nm,2.4s					
L16K			IAML		21 13 48.1	
	comp=N,47nm,2.5s					
J17K	**VABM Dome**	**4.64 300**		**Pn**	**21 12 25.5**	**-0.5**
J17K			IAML		21 13 16.3	
	comp=N,38nm,0.9s					
IMAR	**Indian Mountai**	**4.91 342**		**Pn**	**21 12 29.4**	**-0.2**
J16K	**Anvik River**	**5.25 296**	IAML		21 14 15.3	
	comp=N,32nm,1.9s					
H18K	**Honhosa River**	**5.32 319**	IAML		21 14 09.4	
	comp=E,28nm,2.9s					
H18K			IAML		21 14 21.9	
	comp=N,24nm,1.9s					
G21K	**Allakaket**	**5.38 345**	Pn	**Pn**	**21 12 36.4**	**+0.3**
G21K			IAML		21 13 37.1	
	comp=E,24nm,0.9s					
G21K			IAML		21 14 37.8	
	comp=N,25nm,4.5s					
M14K	**Bethel**	**5.78 269**	Pn	**Pn**	**21 12 41.7**	**+0.1**
K13K	**Kusilvak Mount**	**6.95 281**	Pn	**Pn**	**21 12 57.5**	**-0.2**
E18K	**Tukpahlearik C**	**7.58 328**	Pn	**Pn**	**21 13 07.3**	**+1.1**
V35K	**Ketchikan**	**11.43 114**		**Pn**	**21 14 00.3**	**+1.4**
YKA	**Yellowknife Ar**	**16.63 71**	Pn	**P**	**21 15 09.3**	**-1.3**
	comp=N,0.1nm,0.3s,baz=283,slow=11,SNR=5.9					
	comp=N,0.3nm,0.6s					
SONM	**Songino Array**	**55.12 307**	P	**P**	**21 20 46.3**	**-0.5**
	comp=N,0.8nm,0.9s,baz=38,slow=7.3,SNR=2.1					
	comp=N,0.8nm,0.9s					
ZALV	**Zalesovo Beam**	**57.09 325**	P	**P**	**21 21 00.8**	**+0.2**
	comp=N,0.7nm,0.5s,baz=21,slow=6.0,SNR=3.6					
	comp=N,0.7nm,0.5s					
MKAR	**Makanchi Array**	**64.22 323**	P	**P**	**21 21 49.6**	**+0.2**
	comp=N,0.6nm,0.8s,baz=32,slow=8.2,SNR=4.2					
	comp=N,0.6nm,0.8s					

*NEIC **30** 21:18:23.5±0.5, 61°.47N±0°.03×149°.83W±0°.05, h40km±10km, Error ellipse: s-maj=4.6km s-min=2.0km az=222.0*

AEIC 30 21:18:24.2±0.7, **61°.47N**±0°.02×**149°.86W**±0°.03, **h35**km±7km, **ML2.3, ML2.6**/32(NEIC), **Error ellipse: s-maj=3.4km s-min=1.6km az=196.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.31**	**336**		Pn	21 18 31.4	-0.9
M22K					Sn	21 18 38.0	-0.3
PMR	**Palmer**	**0.37**	**70**		Pn	21 18 32.1	-0.8
PMR					Sn	21 18 38.7	-0.5
RC01	**Rabbit Creek A**	**0.39**	**171**		Pn	21 18 32.6	-0.5
RC01					Sn	21 18 39.4	-0.2
SUA	**Susitna One**	**0.43**	**269**		Pn	21 18 33.0	-0.8
SUA					Sn	21 18 40.7	+0.1
GHO	**Glory Hole Cre**	**0.54**	**55**		Pn	21 18 34.6	-0.8
GHO	**Glory Hole Cre**	**0.54**	**55**	IAML		21 18 44.0	
	comp=E,167nm,0.3s						
GHO				IAML		21 18 44.1	
	comp=N,125nm,0.2s						
KNK	**Knik Glacier**	**0.68**	**94**		Pn	21 18 36.4	-0.9
KNK	**Knik Glacier**	**0.68**	**94**	IAML		21 19 05.1	
	comp=E,155nm,0.4s						
KNK				IAML		21 19 05.3	
	comp=N,141nm,0.3s						
SML	**Sawmill**	**0.80**	**65**		Pn	21 18 38.0	-1.0
SML	**Sawmill**	**0.80**	**65**	IAML		21 19 07.9	
	comp=E,151nm,0.7s						
SML				IAML		21 19 09.8	
	comp=N,142nm,0.7s						
SKT	**Skwentna**	**0.95**	**303**		Pn	21 18 40.1	-0.8
STLK	**Strandline Lak**	**0.95**	**273**		Pn	21 18 40.4	-0.6
STLK	**Strandline Lak**	**0.95**	**273**	IAML		21 19 06.1	
	comp=N,175nm,0.4s						
STLK				IAML		21 19 15.8	
	comp=E,156nm,0.3s						
PWL	**Port Wells**	**0.96**	**129**		Pn	21 18 40.4	-0.8
PWL	**Port Wells**	**0.96**	**129**	IAML		21 19 10.4	
	comp=E,335nm,0.3s						
O22K	**Cooper Landing**	**0.99**	**176**		Pn	21 18 41.1	-0.5
O22K				IAML		21 19 10.0	
	comp=E,274nm,0.2s						
O22K				IAML		21 19 18.4	
	comp=N,295nm,0.5s						
SCM	**Sheep Creek Mo**	**1.26**	**72**		Pn	21 18 45.0	-0.3
GLI	**Glacier Island**	**1.47**	**113**		Pn	21 18 47.4	-0.7
M20K	**Styx River**	**1.61**	**286**	Pn	Pn	21 18 51.1	+0.9
BRLK	**Bradley Lake**	**1.79**	**197**	Pn	Pn	21 18 52.1	-0.4
FID	**Port Fidalgo**	**1.79**	**112**	Pn	Pn	21 18 52.3	-0.2

*NEIC **30** 21:18:38.3±1.3, 61°.42N±0°.02×150°.06W±0°.05, h35km±6km, Error ellipse: s-maj=3.4km s-min=2.9km az=141.0*

AEIC 30 21:18:38.8±1.2, **61°.41N**±0°.02×**150°.05W**±0°.04, **h34**km±6km, **ML2.7, ML3.1**/84(NEIC), **Error ellipse: s-maj=3.0km s-min=2.4km az=58.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.34**	**280**		Pb	21 18 46.7	-0.5
SUA					Sn	21 18 52.6	0.0
M22K	**Willow**	**0.35**	**355**		Pb	21 18 46.2	-1.0
M22K					Sb	21 18 53.5	+0.5
RC01	**Rabbit Creek A**	**0.35**	**154**		Pb	21 18 46.4	-0.9
RC01					Sb	21 18 53.3	+0.2
PMR	**Palmer**	**0.48**	**67**		Pb	21 18 47.7	-1.3
PMR	**Palmer**	**0.48**	**67**		Sb	21 18 55.6	-0.6
PMR				IAML		21 18 56.2	
	comp=E,291nm,0.4s						
PMR				IAML		21 18 56.4	
	comp=N,419nm,0.4s						
GHO	**Glory Hole Cre**	**0.65**	**55**		Pn	21 18 50.5	-1.1
GHO					Sn	21 19 00.5	-0.3
GHO				IAML		21 19 01.0	
	comp=E,350nm,0.5s						
GHO				IAML		21 19 01.7	
	comp=N,197nm,0.2s						
KNK	**Knik Glacier**	**0.77**	**89**		Pn	21 18 52.1	-1.0
KNK					Sn	21 19 03.5	0.0
CAPN	**Captain Cook N**	**0.83**	**220**	Pn	Pn	21 18 54.3	+0.3
CAPN				IAML		21 19 08.6	
	comp=N,622nm,1.1s						
CAPN				IAML		21 19 12.2	
	comp=E,494nm,0.8s						
STLK	**Strandline Lak**	**0.86**	**277**		Pn	21 18 53.6	-0.9
STLK	**Strandline Lak**	**0.86**	**277**		Sn	21 19 05.5	-0.4
SLKM	**Skilak Lake**	**0.91**	**185**		Pn	21 18 53.9	-1.2
SLKM				IAML		21 19 29.0	
	comp=E,682nm,0.3s						
SLKM				IAML		21 19 29.6	
	comp=N,544nm,0.2s						
SKT	**Skwentna**	**0.91**	**310**		Sn	21 19 06.8	-0.2
SKT	**Skwentna**	**0.91**	**310**		Pn	21 18 53.3	-1.8
SML	**Sawmill**	**0.92**	**63**	Pn	Pn	21 18 54.0	-1.3
O22K	**Cooper Landing**	**0.94**	**170**		Pn	21 18 54.5	-1.0
O22K					Sn	21 19 08.0	+0.3
SPCG	**Spurr Capps Gl**	**0.95**	**264**		Pn	21 18 55.0	-0.9
PWL	**Port Wells**	**1.00**	**123**		Pn	21 18 55.5	-0.8
CUT	**Chulitna**	**1.01**	**354**	Pn	Pn	21 18 53.7	-2.7
CUT					Pb	21 18 53.9	-3.8
CUT					Sn	21 19 09.1	-0.3
SPCP	**Crater Peak Br**	**1.02**	**263**		Pn	21 18 56.1	-0.7
SPCR	**Spurr Chakacha**	**1.06**	**260**		Pn	21 18 56.4	-0.9
SPCR	**Spurr Chakacha**	**1.06**	**260**		Pn	21 18 56.2	-1.1
M23K	**Glacier View**	**1.18**	**70**		Pn	21 18 58.3	-0.5
SCM	**Sheep Creek Mo**	**1.37**	**71**		Pn	21 19 00.7	-0.8
RDT	**Redoubt**	**1.42**	**235**		Pn	21 19 01.1	-1.1
GLI	**Glacier Island**	**1.53**	**109**	Pn	Pn	21 19 02.5	-1.1
WAT7	**Susitna Watana**	**1.54**	**21**		Pn	21 19 03.5	-0.4
M20K	**Styx River**	**1.54**	**289**		Pn	21 19 03.8	-0.1
M20K				IAML		21 19 45.6	
	comp=E,180nm,0.9s						
RDJH	**Redoubt Jeurge**	**1.57**	**240**		Pn	21 19 03.5	-0.9
RDSO	**Redoubt South**	**1.62**	**235**		Pn	21 19 04.2	-0.9
RDWB	**Redoubt West**	**1.64**	**237**		Pn	21 19 04.6	-0.8
RED	**Redoubt Volcan**	**1.66**	**234**		Pn	21 19 04.5	-1.0
BRLK	**Bradley Lake**	**1.70**	**194**	Pn	Pn	21 19 05.1	-0.9
BRSE	**Bradley Lake S**	**1.71**	**192**		Pn	21 19 06.1	0.0
O20K	**Slope Mountain**	**1.83**	**225**		Pn	21 19 07.9	+0.1
FID	**Port Fidalgo**	**1.86**	**109**	Pn	Pn	21 19 06.6	-1.5
FID				IAML		21 19 56.0	
	comp=N,212nm,0.4s						
FID				IAML		21 19 59.0	
	comp=E,184nm,0.5s						
M24K	**Tolsona, Glenn**	**1.97**	**67**	Pn	Pn	21 19 09.7	-0.1
M24K				IAML		21 20 00.6	
	comp=E,230nm,0.7s						
M24K				IAML		21 20 01.7	
	comp=N,206nm,0.9s						
CNPM	**China Poot**	**1.98**	**198**	Pn	Pn	21 19 09.8	0.0
KLU	**Klutina**	**1.99**	**86**	Pn	Pn	21 19 09.6	-0.4
KLU				IAML		21 19 58.3	
	comp=E,94nm,0.5s						
KLU				IAML		21 20 02.0	
	comp=N,166nm,0.4s						
HIN	**Hinchinbrook I**	**2.01**	**119**	Pn	Pn	21 19 10.7	+0.4
HIN				IAML		21 20 01.5	
	comp=E,217nm,0.9s						
RND	**Reindeer**	**2.08**	**15**	Pn	Pn	21 19 10.7	-0.6
RND				IAML		21 20 08.4	
	comp=E,83nm,0.6s						
RND				IAML		21 20 08.6	
	comp=N,97nm,0.7s						
ILSW	**Iliamna Southw**	**2.09**	**228**	Pn	Pn	21 19 10.9	-0.5
ILSW				IAML		21 20 04.5	
	comp=E,78nm,0.7s						
DHY	**Denali Highway**	**2.09**	**36**	Pn	Pn	21 19 11.4	0.0
DHY				IAML		21 20 00.2	
	comp=E,94nm,0.9s						
DHY				IAML		21 20 04.2	
	comp=N,109nm,0.4s						
M19K	**Big River Lodg**	**2.13**	**285**	Pn	Pn	21 19 11.2	-0.7
KTH	**Kantishna Hill**	**2.19**	**350**	Pn	Pn	21 19 11.0	-1.8
KTH				IAML		21 20 03.9	
	comp=N,70nm,0.6s						
CAST	**Castle Rocks**	**2.23**	**336**	Pn	Pn	21 19 12.6	-0.7
N19K	**Bonanza Creek**	**2.23**	**256**	Pn	Pn	21 19 13.2	-0.2
P19K	**Oil Pt**	**2.36**	**223**	Pn	Pn	21 19 14.7	-0.4
N25K	**Chitina, Valde**	**2.62**	**83**	Pn	Pn	21 19 19.0	+0.3
N25K				IAML		21 21 00.6	
	comp=N,107nm,0.6s						
SVW2	**Sparrevohn**	**2.69**	**266**	Pn	Pn	21 19 18.8	-0.8
K20K	**Telida**	**2.71**	**318**	Pn	Pn	21 19 20.0	+0.1
K20K				IAML		21 20 57.6	
	comp=E,46nm,0.5s						
BPAW	**Bear Paw Mtn.**	**2.74**	**351**	Pn	Pn	21 19 19.6	-0.7
BPAW				IAML		21 21 06.3	
	comp=N,40nm,0.5s						
BPAW				IAML		21 21 11.4	
	comp=E,41nm,0.5s						
BWN	**Browne**	**2.79**	**5**	Pn	Pn	21 19 21.9	+1.0
BWN				IAML		21 21 12.8	
	comp=E,116nm,0.5s						
RAGM	**Ragged Mountai**	**2.82**	**109**	Pn	Pn	21 19 22.3	+0.9
N18K	**Kilae Creek**	**2.93**	**258**	Pn	Pn	21 19 22.2	-0.7
N18K				IAML		21 20 57.4	
	comp=E,97nm,0.7s						
N18K				IAML		21 21 10.8	
	comp=N,87nm,0.6s						
O18K	**Koktuh Hills**	**2.98**	**241**	Pn	Pn	21 19 23.3	-0.3
GLB	**Gilahina Butte**	**3.00**	**87**	Pn	Pn	21 19 23.1	-0.8
GLB				IAML		21 21 09.7	
	comp=N,80nm,0.4s						
SYI	**Shuyak Island**	**3.04**	**204**	Pn	Pn	21 19 25.0	+0.6
SYI				IAML		21 21 05.3	
	comp=N,95nm,0.6s						
SYI				IAML		21 21 19.5	
	comp=E,57nm,0.8s						
Q19K	**Cape Douglas,**	**3.07**	**217**	Pn	Pn	21 19 24.4	-0.4

*NEIC **30** 21:18:58.5±1.4, 61°.41N±0°.03×150°.04W±0°.05, h42km±3km, ML3.5/130, Error ellipse: s-maj=4.5km s-min=3.4km az=176.0*

ISC 30 21:18:59.2±1.7, **61°.41N**±0°.03×**150°.06W**±0°.03, **h36**km±1km, **n90, σ0.84**/106, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.34**	**280**	Pn	**Pn**	**21 19 07.3**	**-0.3**
SUA				Sn	**Sn**	**21 19 14.7**	**+0.2**
SUA				IAML		21 19 15.1	
	comp=E,2μm,0.8s						
SUA				IAML		21 19 15.5	
	comp=N,2μm,0.8s						
SUA	**Susitna One**	**0.34**	**280**	P	**Pn**	**21 19 07.5**	**-0.2**
	baz=100						
SUA				S	**Sn**	**21 19 14.7**	**+0.2**
	baz=100						
M22K	**Willow**	**0.35**	**355**	Pn	**Pn**	**21 19 06.9**	**-0.7**
M22K				Sn	**Sn**	**21 19 14.2**	**0.0**
M22K				IAML		21 19 14.6	
	comp=E,4μm,0.6s						
M22K				IAML		21 19 14.6	
	comp=N,3μm,0.4s						
M22K	**Willow**	**0.35**	**355**	P	**Pn**	**21 19 06.8**	**-0.7**
	baz=172						
M22K				S	**Sn**	**21 19 14.1**	**-0.1**
	baz=172						
RC01	**Rabbit Creek A**	**0.35**	**154**	Pn	**Pn**	**21 19 07.2**	**-0.4**
RC01				Sn	**Sn**	**21 19 14.0**	**-0.3**
RC01	**Rabbit Creek A**	**0.35**	**154**	P	**Pn**	**21 19 07.1**	**-0.5**
	baz=337						
RC01				S	**Sn**	**21 19 14.2**	**-0.1**
	baz=337						
PMR	**Palmer**	**0.48**	**67**	Pn	**Pn**	**21 19 08.2**	**-1.3**
PMR				Sn	**Sn**	**21 19 16.1**	**-0.6**
PMR	**Palmer**	**0.48**	**67**	P	**Pn**	**21 19 08.1**	**-1.3**
	baz=246						
PMR				S	**Sn**	**21 19 16.2**	**-0.4**
	baz=246						
GHO	**Glory Hole Cre**	**0.66**	**55**	Pn	**Pn**	**21 19 10.7**	**-1.4**
GHO				Sn	**Sn**	**21 19 20.9**	**-0.3**
GHO				IAML		21 19 21.9	
	comp=E,2μm,0.6s						
KNK	**Knik Glacier**	**0.77**	**89**	Pn	**Pn**	**21 19 12.3**	**-1.2**
KNK				Sn	**Sn**	**21 19 24.1**	**+0.2**
KNK				IAML		21 19 25.6	
	comp=N,2μm,0.4s						
KNK				IAML		21 19 25.9	
	comp=E,1μm,0.4s						
KNK	**Knik Glacier**	**0.77**	**89**	P	**Pn**	**21 19 12.5**	**-1.0**
	baz=270						
KNK				S	**Sn**	**21 19 23.9**	**0.0**
	baz=270						
CAPN	**Captain Cook N**	**0.83**	**220**	Pn	**Pn**	**21 19 14.8**	**+0.5**
CAPN				IAML		21 19 29.5	
	comp=E,2μm,0.7s						
CAPN				IAML		21 19 29.6	
	comp=N,2μm,0.9s						
STLK	**Strandline Lak**	**0.86**	**277**	Pn	**Pn**	**21 19 14.0**	**-0.7**
STLK				Sn	**Sn**	**21 19 26.2**	**+0.1**
STLK				IAML		21 19 27.2	
	comp=E,422nm,0.5s						
STLK				IAML		21 19 27.2	
	comp=N,1μm,0.2s						
SLKM	**Skilak Lake**	**0.90**	**185**	Pn	**Pn**	**21 19 14.7**	**-0.7**
SKT	**Skwentna**	**0.91**	**310**	Pn	**Pn**	**21 19 14.4**	**-1.0**
SKT				IAML		21 19 27.4	
	comp=E,873nm,0.4s						
SKT				IAML		21 19 27.4	
	comp=N,938nm,0.5s						
SKT	**Skwentna**	**0.91**	**310**	P	**Pn**	**21 19 14.4**	**-1.0**
	baz=128						
SKT				S	**Sn**	**21 19 27.2**	**-0.1**
	baz=128						
SML	**Sawmill**	**0.92**	**63**	Pn	**Pn**	**21 19 14.1**	**-1.5**
SML				IAML		21 19 29.0	
	comp=E,643nm,0.7s						
SML				IAML		21 19 30.4	
	comp=N,623nm,0.7s						
SML	**Sawmill**	**0.92**	**63**	P	**Pn**	**21 19 14.3**	**-1.3**
	baz=244						
O22K	**Cooper Landing**	**0.94**	**170**	Pn	**Pn**	**21 19 14.9**	**-0.9**
O22K				IAML		21 19 30.3	
	comp=N,1μm,0.4s						
O22K				IAML		21 19 35.4	
	comp=E,1μm,0.4s						
O22K	**Cooper Landing**	**0.94**	**170**	P	**Pn**	**21 19 15.0**	**-0.9**
	baz=351						
O22K				S	**Sn**	**21 19 28.7**	**+0.7**
	baz=351						
PWL	**Port Wells**	**1.00**	**122**	Pn	**Pn**	**21 19 16.0**	**-0.7**
PWL				IAML		21 19 31.8	
	comp=N,892nm,0.5s						
PWL				IAML		21 19 32.1	
	comp=E,843nm,0.6s						
PWL	**Port Wells**	**1.00**	**122**	P	**Pn**	**21 19 15.8**	**-0.9**
	baz=304						
PWL				S	**Sn**	**21 19 29.8**	**+0.3**
	baz=304						
CUT	**Chulitna**	**1.01**	**354**	Pn	**Pn**	**21 19 15.7**	**-0.9**
CUT				IAML		21 19 31.0	
	comp=N,1μm,0.5s						
CUT				IAML		21 19 31.1	
	comp=E,1μm,0.5s						
CUT	**Chulitna**	**1.01**	**354**	P	**Pn**	**21 19 15.8**	**-0.9**
	baz=173						
CUT				S	**Sn**	**21 19 29.7**	**0.0**
	baz=173						
N20K	**Mount Spurr**	**1.06**	**260**	P	**Pn**	**21 19 16.8**	**-0.7**
	baz=78						
SPCR	**Spurr Chakacha**	**1.06**	**260**	P	**Pn**	**21 19 16.8**	**-0.7**
	baz=78						
M23K	**Glacier View**	**1.18**	**70**	P	**Pn**	**21 19 18.4**	**-0.8**
	baz=251						
SCM	**Sheep Creek Mo**	**1.37**	**71**		**Pn**	**21 19 21.0**	**-0.8**
SCM				IAML		21 19 41.2	
	comp=E,581nm,0.6s						
SCM				IAML		21 19 41.7	
	comp=N,434nm,0.7s						
SCM	**Sheep Creek Mo**

	comp=E,254nm,0.5s						
BRSE	Bradley Lake S	1.70	192	P	Pn	21 19 25.2	-1.0
	baz=12						
O20K	Slope Mountain	1.83	225	P	Pn	21 19 27.8	-0.3
	baz=43						
FID	Port Fidalgo	1.86	109		Pn	21 19 26.7	-1.8
HOM	Homer	1.92	205	Pn	Pn	21 19 29.1	-0.1
HOM				IAML		21 19 57.0	
	comp=N,681nm,0.5s						
HOM				IAML		21 19 59.6	
	comp=E,625nm,0.5s						
CNPM	China Poot	1.97	198		Pn	21 19 29.1	-0.9
CNPM				IAML		21 19 57.5	
	comp=E,301nm,0.4s						
CNPM				IAML		21 20 48.0	
	comp=N,305nm,0.5s						
M24K	Tolsona, Glenn	1.98	67		Pn	21 19 30.5	+0.4
M24K				IAML		21 20 46.9	
	comp=N,312nm,0.4s						
M24K				IAML		21 20 49.1	
	comp=E,234nm,0.2s						
KLU	Klutina	1.99	86		Pn	21 19 30.0	-0.3
KLU				IAML		21 20 47.0	
	comp=E,249nm,0.2s						
KLU				IAML		21 20 49.6	
	comp=N,221nm,0.2s						
KLU	Klutina	1.99	86	P	Pn	21 19 29.6	-0.7
	baz=269						
HIN	Hinchinbrook I	2.01	119	Pn	Pn	21 19 28.8	-1.7
HIN				IAML		21 20 50.1	
	comp=E,225nm,0.5s						
HIN				IAML		21 20 50.5	
	comp=N,364nm,0.6s						
ILSW	Iliamna Southw	2.08	228	Pn	Pn	21 19 31.4	-0.2
ILSW				IAML		21 20 47.6	
	comp=N,333nm,0.6s						
ILSW				IAML		21 20 51.0	
	comp=E,190nm,0.6s						
RND	Reindeer	2.08	15		Pn	21 19 31.6	0.0
DHY	Denali Highway	2.09	36		Pn	21 19 31.2	-0.5
L20K	Farewell, AK	2.10	302	P	Pn	21 19 31.5	-0.3
	baz=119						
M19K	Big River Lodg	2.13	285		Pn	21 19 31.7	-0.4
M19K	Big River Lodg	2.13	285	P	Pn	21 19 31.8	-0.3
	baz=102						
KTH	Kantishna Hill	2.19	350		Pn	21 19 33.3	+0.2
N19K	Bonanza Creek	2.23	256		Pn	21 19 33.2	-0.4
N19K				IAML		21 20 58.0	
	comp=E,170nm,0.7s						
N19K	Bonanza Creek	2.23	256	P	Pn	21 19 33.3	-0.3
	baz=73						
CAST	Castle Rocks	2.23	336		Pn	21 19 33.3	-0.2
P19K	Oil Pt	2.36	223		Pn	21 19 35.6	+0.3
L19K	White Mountain	2.41	291		Pn	21 19 35.8	-0.2
O19K	Port Alsworth	2.42	242	Pn	Pn	21 19 35.4	-0.6
N25K	Chitina, Valde	2.63	83		Pn	21 19 39.0	0.0
N25K				IAML		21 21 25.4	
	comp=E,185nm,0.5s						
N25K				IAML		21 21 25.5	
	comp=N,135nm,0.4s						
SVW2	Sparrevohn	2.69	266	Pn	Pn	21 19 39.1	-0.7
SVW2				IAML		21 20 53.9	
	comp=N,130nm,0.5s						
K20K	Telida	2.71	318		Pn	21 19 39.3	-0.7
BPAW	Bear Paw Mtn.	2.74	351	Pn	Pn	21 19 39.9	-0.6
BPAW				IAML		21 21 22.7	
	comp=N,96nm,0.5s						
N18K	Kilae Creek	2.93	258		Pn	21 19 42.6	-0.5
N18K				IAML		21 21 31.6	
	comp=E,128nm,0.7s						
N18K				IAML		21 21 31.8	
	comp=N,218nm,0.7s						
O18K	Koktuh Hills	2.98	241		Pn	21 19 43.3	-0.5
O18K				IAML		21 21 12.0	
	comp=E,208nm,0.7s						
O18K				IAML		21 21 33.4	
	comp=N,129nm,0.6s						
GLB	Gilahina Butte	3.00	87		Pn	21 19 45.4	+1.2
SYI	Shuyak Island	3.04	204	Pn	Pn	21 19 45.1	+0.5
Q19K	Cape Douglas,	3.06	217		Pn	21 19 46.8	+1.8
VRDI	Verde Repeater	3.19	90		Pn	21 19 47.7	+0.8
VRDI				IAML		21 21 51.4	
	comp=E,119nm,0.9s						
WRH	Wood River Hil	3.21	15	Pn	Pn	21 19 46.7	-0.2
L18K	Granite Mounta	3.25	287		Pn	21 19 47.0	-0.5
P18K	Big Mountain,	3.27	234	Pn	Pn	21 19 47.1	-0.7
P18K				IAML		21 21 52.9	
	comp=E,79nm,0.7s						
P18K				IAML		21 21 53.8	
	comp=N,94nm,0.7s						
BERG	Berg Lake	3.27	105	Pn	Pn	21 19 47.9	+0.1
J20K	Nowinta River	3.36	328		Pn	21 19 48.6	-0.3
J20K				IAML		21 21 44.3	
	comp=N,169nm,0.6s						
J20K				IAML		21 21 45.3	
	comp=E,140nm,0.5s						
RIDG	Independent Ri	3.36	44		Pn	21 19 51.2	+2.1
MCARA	McCarthy VSAT	3.38	87		Pn	21 19 52.0	+2.6
CCB	Clear Creek Bu	3.41	17		Pn	21 19 50.2	+0.5
CCB				IAML		21 21 56.4	
	comp=E,82nm,0.7s						
CCB				IAML		21 22 06.7	
	comp=N,113nm,0.5s						
CRQM	Cirque	3.42	98		Pn	21 19 51.2	+1.1
M26K	Nabesna, AK	3.49	70		Pn	21 19 52.0	+1.1
M26K				IAML		21 22 09.8	
	comp=E,142nm,0.5s						
M17K	Holitna River	3.55	273		Pn	21 19 51.0	-0.6
N17K	Nushagak Hills	3.58	259	Pn	Pn	21 19 51.2	-0.9
COLA	College	3.62	15		Pn	21 19 53.6	+1.0
J19K	Poorman	3.65	318	Pn	Pn	21 19 52.8	-0.2
MLY	Manley	3.65	355	Pn	Pn	21 19 52.7	-0.4
MLY				IAML		21 22 15.6	
	comp=E,61nm,0.9s						
MLY				IAML		21 22 16.1	
	comp=N,64nm,0.7s						
IL31		3.67	22		Pn	21 19 53.8	+0.6
I23K	Minto, Yukon-K	3.77	4		Pn	21 19 55.2	+0.6
SCRK	Sand Creek	3.81	45		Pn	21 19 56.3	+1.0
J25K	Salcha River,	3.86	32		Pn	21 19 57.0	+1.0
I21K	Tanana	3.89	348	Pn	Pn	21 19 56.2	0.0
I21K				IAML		21 22 23.2	
	comp=E,82nm,0.9s						
I21K				IAML		21 22 25.2	
	comp=N,79nm,0.8s						
J26L	Joseph Creek	4.29	41		Pn	21 20 03.8	+1.9
M16K	Timber Creek	4.32	269	Pn	Pn	21 20 01.8	-0.4
M16K				IAML		21 22 38.6	
	comp=E,57nm,0.9s						
M16K				IAML		21 22 38.9	
	comp=N,56nm,0.8s						

*IDC **30** 21:20:13.5±1.4, 61°.34N×150°.37W, h65km±13km, mb3.7/17, mbtmp3.9/22, Error ellipse: s-maj=16.3km s-min=9.4km az=107.0*

*NEIC **30** 21:20:13.0±1.5, 61°.36N±0°.03×150°.06W±0°.06, h37km±7km, ML3.8/118, Error ellipse: s-maj=4.7km s-min=2.9km az=49.0*

ISC 30 21:20:12.2±0.7, 61°.33N±0°.04×150°.09W±0°.04, h47km±6km, n170, σ1$50/177, mb4.0/17, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	Rabbit Creek A	0.30	145	Pn	Pn	21 20 20.8	-0.3
RC01					Sn	21 20 27.1	-0.3
RC01	Rabbit Creek A	0.30	145	P	Pn	21 20 20.8	-0.3
	baz=328						
RC01				S	Sn	21 20 27.3	-0.1
	baz=328						
SUA	Susitna One	0.34	293		Pn	21 20 21.6	-0.1
SUA				Sn	Sn	21 20 28.6	+0.3
SUA				IAML		21 20 29.2	
	comp=E,11μm,0.7s						
SUA				IAML		21 20 29.6	
	comp=N,6μm,0.8s						
SUA	Susitna One	0.34	293	P	Pn	21 20 21.5	-0.1
	baz=112						
SUA				S	Sn	21 20 28.9	+0.5
	baz=112						
M22K	Willow	0.42	358		Pn	21 20 21.9	-0.4
M22K				Sn	Sn	21 20 28.4	-1.2
M22K				IAML		21 20 30.5	
	comp=E,8μm,0.7s						
M22K				IAML		21 20 30.8	
	comp=N,8μm,0.4s						
M22K	Willow	0.42	358	P	Pn	21 20 21.8	-0.6
	baz=175						
M22K				S	Sn	21 20 29.5	-0.1
	baz=175						
PMR	Palmer	0.53	60		Pn	21 20 23.1	-0.5
PMR				Sn	Sn	21 20 31.4	-0.5
PMR				IAML		21 20 32.0	
	comp=N,9μm,0.4s						
PMR				IAML		21 20 32.1	
	comp=E,5μm,0.4s						
PMR	Palmer	0.53	60	P	Pn	21 20 23.2	-0.5
	baz=239						
PMR				S	Sn	21 20 31.7	-0.2
	baz=239						
GHO	Glory Hole Cre	0.71	51		Pn	21 20 25.9	-0.2
GHO				Sn	Sn	21 20 36.1	0.0
GHO				IAML		21 20 37.4	
	comp=N,7μm,0.6s						
CAPN	Captain Cook N	0.77	223		Pn	21 20 28.6	+1.9
KNK	Knik Glacier	0.79	83		Pn	21 20 28.3	+1.2
KNK	Knik Glacier	0.79	83	P	Pn	21 20 27.3	+0.2
	baz=264						
O22K	Cooper Landing	0.87	168		Pn	21 20 28.8	+0.7
O22K	Cooper Landing	0.87	168	P	Pn	21 20 28.2	+0.1
	baz=350						
O22K				S	Sn	21 20 41.9	+2.2
	baz=350						
SKT	Skwentna	0.94	314		Pn	21 20 29.4	+0.3
SKT				IAML		21 20 43.0	
	comp=N,4μm,0.6s						
SKT				IAML		21 20 45.9	
	comp=E,3μm,0.5s						
SKT	Skwentna	0.94	314	P	Pn	21 20 29.6	+0.4
	baz=132						
SKT				S	Sn	21 20 42.7	+1.1
	baz=132						
SML	Sawmill	0.97	60		Pn	21 20 29.4	-0.1
SML				IAML		21 20 46.0	
	comp=E,3μm,0.6s						
SML				IAML		21 20 46.1	
	comp=N,3μm,0.3s						
SML	Sawmill	0.97	60	P	Pn	21 20 29.4	-0.1
	baz=240						
PWL	Port Wells	0.98	118		Pn	21 20 30.1	+0.5
PWL	Port Wells	0.98	118	P	Pn	21 20 29.9	+0.4
	baz=300						
PWL				S	Sn	21 20 43.6	+1.3
	baz=300						
N20K	Mount Spurr	1.03	264	P	Pn	21 20 30.7	+0.3
	baz=82						
SPCR	Spurr Chakacha	1.03	264	P	Pn	21 20 30.7	+0.3
	baz=82						
CUT	Chulitna	1.08	356	P	Pn	21 20 31.4	+0.5
	baz=175						
M23K	Glacier View	1.22	67	P	Pn	21 20 33.5	+0.5
	baz=248						
SEW	Seward	1.27	165	P	Pn	21 20 33.9	+0.4
	baz=347						
SCM	Sheep Creek Mo	1.41	68	P	Pn	21 20 36.3	+0.7
	baz=250						
GLI	Glacier Island	1.52	106	P	Pn	21 20 37.1	+0.1
	baz=289						
M20K	Styx River	1.55	292	P	Pn	21 20 39.2	+1.7
	baz=109						
BRLK	Bradley Lake	1.62	194		Pn	21 20 39.1	+0.8
BRLK				IAML		21 21 02.9	
	comp=E,2μm,0.4s						
BRLK				IAML		21 21 04.0	
	comp=N,1μm,0.5s						
BRSE	Bradley Lake S	1.63	192	P	Pn	21 20 38.9	+0.5
	baz=12						
WAT1	Susitna Watana	1.67	25	P	Pn	21 20 39.9	+0.9
	baz=206						
WAT6	Susitna Watana	1.68	41	P	Pn	21 20 40.2	+1.0
	baz=222						
O20K	Slope Mountain	1.77	226	P	Pn	21 20 41.9	+1.5
	baz=44						
HOM	Homer	1.85	205		Pn	21 20 43.1	+1.7
HOM	Homer	1.85	205	P	Pn	21 20 42.6	+1.2
	baz=25						
FID	Port Fidalgo	1.85	107		Pn	21 20 44.5	+3.0
PPLA	Purkeypile	1.85	329	P	Pn	21 20 42.9	+1.2
	baz=146						
CNPM	China Poot	1.90	198		Pn	21 20 43.9	+1.7
CNPM				IAML		21 21 10.1	
	comp=E,1μm,0.7s						
CNPM				IAML		21 21 10.1	
	comp=N,1μm,0.5s						
KLU	Klutina	2.01	84	P	Pn	21 20 44.1	+0.4
	baz=267						
M24K	Tolsona, Glenn	2.02	66	P	Pn	21 20 45.0	+1.2
	baz=249						
ILSW	Iliamna Southw	2.02	229		Pn	21 20 45.7	+1.8
TRF	Thorofare Moun	2.13	358	P	Pn	21 20 46.1	+0.7
	baz=177						
L20K	Farewell, AK	2.13	304	P	Pn	21 20 46.6	+1.3
	baz=121						
M19K	Big River Lodg	2.13	287	P	Pn	21 20 46.5	+1.2
	baz=104						
DHY	Denali Highway	2.16	35	P	Pn	21 20 47.6	+1.7
	baz=217						
N19K	Bonanza Creek	2.20	258	P	Pn	21 20 47.6	+1.3
	baz=75						
EYAK	Cordova Ski Ar	2.26	108	P	Pn	21 20 47.2	+0.2
	baz=292						
CAST	Castle Rocks	2.29	337	P	Pn	21 20 49.0	+1.5
	baz=155						
OPT	Oil Point	2.29	224	P	Pn	21 20 49.7	+2.2
	baz=42						
P19K	Oil Pt	2.29	224		Pn	21 20 49.6	+2.1
P19K	Oil Pt	2.29	224	P	Pn	21 20 48.5	+0.9
	baz=42						
O19K	Port Alsworth	2.37	243		Pn	21 20 49.6	+1.1
O19K				IAML		21 21 22.2	
	comp=N,955nm,0.4s						
L19K	White Mountain	2.42	293	P	Pn	21 20 50.8	+1.6
	baz=108						
K20K	Telida	2.75	319		Pn	21 20 55.5	+1.8
K20K	Telida	2.75	319	P	Pn	21 20 55.0	+1.2
	baz=136						
M18K	Stony River	2.76	276	P	Pn	21 20 55.0	+1.1
	baz=91						
BWN	Browne	2.86	6		Pn	21 20 57.7	+2.3
N18K	Kilae Creek	2.90	259	P	Pn	21 20 56.7	+0.9
	baz=75						
O18K	Koktuh Hills	2.93	242		Pn	21 20 56.8	+0.6
O18K				IAML		21 21 58.1	
	comp=N,216nm,1.0s						
O18K	Koktuh Hills	2.93	242	P	Pn	21 20 57.0	+0.8
	baz=58						
SYI	Shuyak Island	2.97	204	Pn	Pn	21 20 57.3	+0.6
SYI				IAML		21 21 41.8	
	comp=E,512nm,0.4s						
SYI				IAML		21 21 43.4	
	comp=N,299nm,0.7s						
Q19K	Cape Douglas,	3.00	218		Pn	21 20 58.9	+1.8
GLB	Gilahina Butte	3.02	85	Pn	Pn	21 20 58.4	+0.8
GLB				IAML		21 21 47.3	
	comp=N,410nm,0.7s						
GLB				IAML		21 21 49.2	
	comp=E,268nm,0.6s						
P18K	Big Mountain,	3.21	235	Pn	Pn	21 21 00.5	+0.4
L18K	Granite Mounta	3.26	289	IAML		21 22 01.0	
	comp=N,202nm,0.9s						
L18K	Granite Mounta	3.26	289	P	Pn	21 21 01.8	+1.1
	baz=103						
WRH	Wood River Hil	3.28	15	Pn	Pn	21 21 03.0	+2.0
WRH				IAML		21 21 56.7	
	comp=E,183nm,1.1s						
WRH				IAML		21 22 01.9	
	comp=N,238nm,0.9s						
NEA2	Nenana	3.31	8	Pn	Pn	21 21 02.9	+1.5
NEA2				IAML		21 21 58.5	
	comp=E,167nm,0.9s						
NEA2				IAML		21 21 58.8	
	comp=N,276nm,0.8s						
M17K	Holitna River	3.54	274	P	Pn	21 21 05.8	+1.3
	baz=88						
N17K	Nushagak Hills	3.56	260	IAML		21 21 48.0	
	comp=E,178nm,0.7s						
N17K				IAML		21 22 10.5	
	comp=N,146nm,1.2s						
N17K	Nushagak Hills	3.56	260	P	Pn	21 21 05.8	+1.0
	baz=74						
TGL	Tana Glacier	3.58	96		Pn	21 21 05.5	+0.2
J19K	Poorman	3.69	319	IAML		21 22 08.3	
	comp=E,120nm,0.8s						
COLA	College	3.70	15	Pn	Pn	21 21 09.0	+2.2
ILAR	Eielson Array	3.75	22		Pn	21 21 10.6	+3.2
ILAR	Eielson Array	3.75	22	P	Pn	21 21 09.8	+2.4
	comp=E,8.7nm,0.5s,baz=190,slow=27,SNR=5.5						
ILAR				S	Sn	21 21 53.5	+3.2
	comp=E,37nm,0.7s,baz=208,slow=22,SNR=7.2						
J18K	Innoko River	3.75	308	IAML		21 21 52.4	
	comp=N,137nm,0.7s						
KDAK	Kodiak Island	3.78	201		Pn	21 21 07.0	-0.9
KDAK				IAML		21 22 05.5	
	comp=N,182nm,0.9s						
KDAK				IAML		21 22 10.8	
	comp=N,182nm,0.7s						
KDAK	Kodiak Island	3.78	201	P	Pn	21 21 08.8	+0.9
	comp=N,14nm,0.3s,baz=254,slow=3.8,SNR=9.5						
KDAK				S	Sn	21 21 51.3	+0.3
	comp=N,31nm,0.4s,baz=39,slow=11,SNR=1.9						
O17K	Koliganek Bris	3.79	249	P	Pn	21 21 09.3	+1.3
	baz=63						
I23K	Minto, Yukon-K	3.84	5	Pn	Pn	21 21 10.4	+1.7
I23K				IAML		21 22 17.8	
	comp=N,154nm,0.8s						
I23K				IAML		21 22 19.0	
	comp=E,145nm,1.1s						
I21K	Tanana	3.96	348		Pn	21 21 11.8	+1.5
POKR	Poker Plat Res	3.98	16	Pn	Pn	21 21 12.5	+1.8
POKR				IAML		21 22 19.9	
	comp=E,119nm,0.7s						
POKR				IAML		21 22 21.0	
	comp=N,111nm,0.8s						
ACHA	Angle Creek He	4.10	222		Pn	21 21 14.1	+1.8
GRNC	Granite Creek	4.10	95	Pn	Pn	21 21 12.5	0.0
GRNC				IAML		21 22 22.9	
	comp=N,135nm,0.6s						
GRNC				IAML		21 22 28.1	
	comp=E,90nm,1.3s						
K17K	Iditarod	4.11	293		Pn	21 21 14.0	+1.6
K17K				IAML		21 22 30.8	
	comp=N,156nm,1.2s						
K17K				IAML		21 22 32.9	
	comp=E,170nm,1.1s						
CTGM	Chitina Glacie	4.26	91		Pn	21 21 15.0	+0.4
CTGM				IAML		21 22 29.6	
	comp=E,101nm,1.1s						
CTGM				IAML		21 22 30.2	
	comp=N,81nm,0.8s						
O16K	Kokwok River B	4.33	250	IAML		21 22 25.9	
	comp=N,77nm,1.0s						
O16K				IAML		21 22 48.2	
	comp=E,75nm,0.9s						
OHAK	Old Harbor	4.44	203		Pn	21 21 16.7	-0.2
OHAK				IAML		21 22 29.1	
	comp=E,96nm,1.2s						
OHAK				IAML		21 22 29.9	
	comp=N,73nm,1.0s						
LOGN	Logan Glacier	4.44	93		Pn	21 21 17.6	+0.5
LOGN				IAML		21 22 32.6	
	comp=E,83nm,1.2s						
LOGN				IAML		21 22 33.5	
	comp=N,130nm,0.7s						
H24K	Noodor Dome	4.63	11		Pn	21 21 21.1	+1.6
H24K				IAML		21 22 45.9	
	comp=N,60nm,0.7s						
J17K	VABM Dome	4.67	300	IAML		21 22 45.9	
	comp=N,58nm,0.9s						
PRP	Porcupine Dome	4.67	24	IAML		21 22 24.3	
	comp=N,151nm,0.6s						
PRP				IAML		21 22 25.8	
	comp=E,93nm,0.6s						
PLK4	Peulik 4	4.90	223		Pn	21 21 23.8	+0.5
PLK4				IAML		21 22 47.6	
	comp=N,87nm,1.4s						
PLK4				IAML		21 23 12.3	
	comp=E,96nm,1.2s						
IMAR	Indian Mountai	4.94	342	Pn	Pn	21 21 25.4	+1.5
N15K	Kwethluk River	5.04	261		Pn	21 21 26.3	+1.1
N15K				IAML		21 23 05.4	
	comp=N,105nm,1.3s						
H19K	Roundabout Mou	5.08	329		Pn	21 21 26.6	+0.9
H19K				IAML		21 23 11.3	
	comp=E,50nm,1.3s						
J16K	Anvik River	5.28	296		Pn	21 21 29.2	+0.8
J16K				IAML		21 23 01.7	
	comp=N,49nm,1.0s						
BCPM	Bancas Point	5.33	100		Pn	21 21 29.9	+0.8
BCPM				IAML		21 22 57.2	
	comp=E,68nm,0.6s						
BCPM				IAML		21 23 07.4	
	comp=N,58nm,0.9s						
EGAK	Eagle	5.33	46		Pn	21 21 30.7	+1.6
H18K	Honhosa River	5.35	319		Pn	21 21 30.7	+1.3
H18K				IAML		21 23 19.0	
	comp=N,42nm,1.0s						
G23K	Bananza Creek	5.40	0		Pn	21 21 32.5	+2.4
G21K	Allakaket	5.42	345	Pn	Pn	21 21 31.6	+1.3
K15K	Wolf Creek Mou	5.51	285		Pn	21 21 32.8	+1.2
G24K	Hadweenzic Riv	5.51	11		Pn	21 21 33.3	+1.7
M29M	Somme Creek	5.61	73		Pn	21 21 35.3	+2.2
L29M	L29M	5.87	67		Pn	21 21 39.5	+2.9
O14K	Tigyukauivet M	5.93	254	Pn	Pn	21 21 38.4	+1.0
I28M	Miner Creek	6.15	43	Pn	Pn	21 21 43.8	+3.3
F24K	Squaw Lake	6.28	8	Pn	Pn	21 21 45.5	+3.3
F19K	Shaleruckik Mo	6.46	332	Pn	Pn	21 21 47.3	+2.7
J14K	Nanvaranak Lak	6.49	289	Pn	Pn	21 21 46.6	+1.6
M13K	Dall Lake	6.54	268	Pn	Pn	21 21 47.5	+1.9
BMAR	Burnt Mountain	6.57	19		Pn	21 21 48.6	+2.5
G27K	Doyon Strip	6.62	30		Pn	21 21 47.9	+1.1
CHGN	Chignik	6.64	224	Pn	Pn	21 21 48.8	+1.7
N31M	Braeburn, Yuko	6.87	82	Pn	Pn	21 21 51.5	+1.2
K13K	Kusilvak Mount	6.97	281	Pn	Pn	21 21 52.9	+1.4
J30M	Hart River	7.06	57		Pn	21 21 54.9	+1.9
H29M	Whitestone	7.13	42		Pn	21 21 56.7	+2.8
I30M	Mount Dempster	7.30	52		Pn	21 21 59.1	+2.9
TOLK	Toolik Lake Re	7.34	1		Pn	21 22 00.4	+3.7
WHY	Whitehorse	7.43	89	Pn	Pn	21 21 57.6	-0.3
M31M	Drury Creek, Y	7.50	76	Pn	Pn	21 22 00.7	+1.9
ANM	Nome	7.68	302	Pn	Pn	21 22 03.3	+2.0
F28M	Old Crow	7.69	31		Pn	21 22 03.8	+2.4
EPYK	Eagle Plains	7.76	44		Pn	21 22 06.2	+3.7
E27K	Coleen River	7.77	24	Pn	Pn	21 22 03.5	+1.0
M11K	Mekoryuk	7.92	270	Pn	Pn	21 22 05.9	+1.3
BESE	Bessie Mountai	8.13	103	Pn	Pn	21 22 08.0	+0.4
G30M	tAoh Zraii Nji	8.28	41		Pn	21 22 12.0	+2.5
H31M	Peel River	8.32	51	Pn	Pn	21 22 12.6	+2.4
R32K	Eaglecrest	8.42	104	Pn	Pn	21 22 11.5	0.0
P33M	Teslin, Yukon	8.53	90	Pn	Pn	21 22 12.4	-0.5
C23K	Itkillik River	8.54	359	Pn	Pn	21 22 14.8	+1.7
E28M	Babbage River	8.55	27	Pn	Pn	21 22 14.8	+1.6
C27K	Jago River	8.73	15	Pn	Pn	21 22 18.6	+2.9
C19K	Lookout Ridge	8.75	337	Pn	Pn	21 22 17.8	+1.9
E29M	Blow River	8.76	31		Pn	21 22 17.9	+1.8
S32K	Killisnoo	8.80	109	Pn	Pn	21 22 16.3	-0.4
G31M	Satah River	8.88	44		Pn	21 22 20.2	+2.5
TNA	Tin City	9.03	306	Pn	Pn	21 22 21.9	+2.3
Q32M	Nakina River	9.20	97	Pn	Pn	21 22 22.4	+0.1
F31M	Tsiigehtchic	9.34	42		Pn	21 22 26.0	+2.1
R33M	Jennings River	9.66	93	Pn	Pn	21 22 29.3	+0.7
INK	Inuvik	9.90	38	P	Pn	21 22 35.1	+3.4
	comp=N,2.2nm,0.4s,baz=233,slow=16,SNR=9.1						
U33K	Whale Pass	10.24	113	Pn	Pn	21 22 36.5	+0.2
DLBC	Dease Lake	10.48	97		Pn	21 22 40.4	+0.7
DLBC	Dease Lake	10.48	97	P	Pn	21 22 42.0	+2.3
	comp=N,1.1nm,0.6s,baz=66,slow=5.0,SNR=2.4						
T35M	Bob Quinn	11.06	104	Pn	Pn	21 22 47.7	+0.2
C36M	Paulatuk	13.39	42		Pn	21 23 20.1	+0.9
YKA	Yellowknife Ar	16.62	70	P	Pn	21 24 03.4	+1.8
	comp=N,0.6nm,0.6s,baz=285,slow=10,SNR=14						
NVAR	Mina Array Bea	30.21	125	P	P	21 26 20.0	+1.9
	comp=N,0.7nm,0.6s,baz=325,slow=8.3,SNR=5.3						
	comp=N,0.7nm,0.6s						
PDAR	Pinedale Array	30.39	109	P	P	21 26 20.5	+0.8
	comp=N,0.4nm,0.5s,baz=303,slow=6.0,SNR=5.4

comp=N,0.4nm,0.5s,baz=22,slow=7.7,SNR=2.4
comp=N,0.4nm,0.5s
ZALV Zalesovo Beam 57.13 325 P P 21 29 51.6 -1.7
comp=N,0.5nm,0.3s,baz=21,slow=14,SNR=1.9
comp=N,0.5nm,0.3s
FINES FINESS Array B 57.51 2 P P 21 29 55.2 -0.7
comp=N,4.8nm,0.9s,baz=350,slow=7.7,SNR=9.7
comp=N,4.8nm,0.9s
HFS Hagfors 58.22 9 P P 21 29 59.8 -1.1
comp=N,5.9nm,1.1s,baz=0.5,slow=4.0,SNR=5.3
comp=N,5.9nm,1.1s
EKA Eskdalemuir Ar 60.79 21 P P 21 30 17.8 -0.8
comp=N,0.5nm,0.4s,baz=333,slow=5.5,SNR=5.8
comp=N,0.5nm,0.4s
BVAR Borovoye Array 61.53 334 P P 21 30 23.0 -0.8
comp=N,0.9nm,0.5s,baz=2.9,slow=8.7,SNR=4.5
comp=N,0.9nm,0.5s
KURBB Kurchatov Arra 61.81 327 P P 21 30 24.3 -1.4
comp=N,0.8nm,0.5s,baz=27,slow=6.3,SNR=2.2
comp=N,0.8nm,0.5s
MKAR Makanchi Array 64.26 323 P P 21 30 40.3 -1.7
comp=N,0.5nm,0.4s,baz=25,slow=5.8,SNR=6.3
comp=N,0.5nm,0.4s
AKASG Malin Array Be 68.32 0 P P 21 31 06.9 -0.9
comp=N,0.5nm,0.3s,baz=1.0,slow=6.4,SNR=5.3
comp=N,0.5nm,0.3s
GERES GERESS Array B 69.40 11 P P 21 31 14.3 -0.5
comp=N,0.3nm,0.4s,baz=3.5,slow=3.2,SNR=2.6
comp=N,0.3nm,0.4s
ESDC Sonseca Array 75.64 26 P P 21 31 51.2 -0.7
comp=N,0.4nm,0.6s,baz=337,slow=5.7,SNR=6.0
comp=N,0.4nm,0.6s
CMAR Chiang Mai Arr 83.57 297 P P 21 32 34.8 -0.4
comp=N,0.4nm,0.4s,baz=12,slow=4.5,SNR=4.1
comp=N,0.4nm,0.4s
QSPA South Pole Qui 151.14 180 PKPbc PKPbc 21 39 57.6 -0.8
comp=N,1.1nm,0.4s,baz=70,slow=3.5,SNR=4.6

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*NEIC **30** 21:33:44.3±1.4, 61.°40N±0.°03×150.°08W±0.°05, h39km±8km, Error ellipse: s-maj=3.7km s-min=3.4km az=190.0*

AEIC 30 21:33:44.9±1.4, 61.°40N±0.°02×150.°08W±0.°04, h34km±7km, ML2.7, ML2.8/90(NEIC), Error ellipse: s-maj=3.1km s-min=2.6km az=157.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.33**	**282**		Pb	21 33 52.7	-0.5
SUA					Sb	21 33 59.7	+0.9
SUA				IAML		21 34 00.6	
	comp=N,944nm,0.8s						
RC01	**Rabbit Creek A**	**0.35**	**152**		Pb	21 33 52.5	-0.8
RC01	**Rabbit Creek A**	**0.35**	**152**		Sb	21 33 59.4	+0.2
RC01				IAML		21 33 59.9	
	comp=N,866nm,0.3s						
RC01				IAML		21 33 60.0	
	comp=E,594nm,0.3s						
M22K	**Willow**	**0.36**	**357**		Pb	21 33 52.5	-0.9
M22K					Sb	21 33 59.6	+0.4
M22K				IAML		21 34 00.5	
	comp=N,966nm,0.5s						
M22K				IAML		21 34 03.7	
	comp=E,761nm,0.3s						
PMR	**Palmer**	**0.49**	**66**		Pb	21 33 54.1	-1.2
PMR					Sb	21 34 02.3	-0.3
PMR				IAML		21 34 05.1	
	comp=N,492nm,0.3s						
GHO	**Glory Hole Cre**	**0.67**	**55**		Pn	21 33 56.6	-1.3
GHO					Sn	21 34 07.2	-0.1
KNK	**Knik Glacier**	**0.78**	**88**	Pn	Pn	21 33 58.2	-1.2
KNK					Sn	21 34 10.0	0.0
KNK				IAML		21 34 12.2	
	comp=N,362nm,0.4s						
KNK				IAML		21 34 12.8	
	comp=E,510nm,0.2s						
CAPN	**Captain Cook N**	**0.82**	**220**	Pn	Pn	21 33 59.9	-0.1
STLK	**Strandline Lak**	**0.85**	**278**		Pn	21 33 59.5	-0.9
STLK					Sn	21 34 11.2	-0.5
SLKM	**Skilak Lake**	**0.90**	**185**		Pn	21 34 00.4	-0.7
SLKM	**Skilak Lake**	**0.90**	**185**		Sn	21 34 13.0	+0.1
SLKM				IAML		21 34 14.4	
	comp=E,466nm,0.5s						
SLKM				IAML		21 34 14.7	
	comp=N,382nm,0.1s						
SKT	**Skwentna**	**0.91**	**311**		Pn	21 33 59.8	-1.4
SKT	**Skwentna**	**0.91**	**311**	Sn	Sn	21 34 12.8	-0.3
SML	**Sawmill**	**0.93**	**63**	Pn	Pn	21 34 00.2	-1.4
SML				Sn	Sn	21 34 13.6	-0.1
SML				IAML		21 34 16.2	
	comp=N,227nm,0.6s						
SML				IAML		21 34 20.1	
	comp=E,272nm,0.6s						
O22K	**Cooper Landing**	**0.94**	**169**		Pn	21 34 00.4	-1.2
O22K				Sn	Sn	21 34 14.3	+0.5
SPCG	**Spurr Capps Gl**	**0.94**	**264**		Pn	21 34 00.7	-1.1
PWL	**Port Wells**	**1.00**	**122**		Pn	21 34 01.8	-0.8
PWL	**Port Wells**	**1.00**	**122**	Sn	Sn	21 34 15.7	+0.1
SPCP	**Crater Peak Br**	**1.01**	**263**		Pn	21 34 02.1	-0.7
CUT	**Chulitna**	**1.01**	**355**		Pn	21 34 01.8	-0.8
CUT	**Chulitna**	**1.01**	**355**	IAML		21 34 18.7	
	comp=N,302nm,0.5s						
CUT				IAML		21 34 19.1	
	comp=E,377nm,0.4s						
SPCR	**Spurr Chakacha**	**1.05**	**260**		Pn	21 34 02.0	-1.2
SPCR	**Spurr Chakacha**	**1.05**	**260**		Pn	21 34 02.1	-1.1
M23K	**Glacier View**	**1.19**	**70**		Pn	21 34 04.3	-0.8
SEW	**Seward**	**1.33**	**166**		Pn	21 34 06.9	-0.2
SCM	**Sheep Creek Mo**	**1.38**	**70**	Pn	Pn	21 34 06.9	-0.9
SCM				IAML		21 34 26.9	
	comp=E,156nm,0.3s						
SCM				IAML		21 34 27.4	
	comp=N,172nm,0.7s						
RDT	**Redoubt**	**1.41**	**235**		Pn	21 34 07.1	-1.1
M20K	**Styx River**	**1.54**	**290**		Pn	21 34 09.8	-0.1
M20K	**Styx River**	**1.54**	**290**	IAML		21 34 31.8	
	comp=N,98nm,0.8s						
GLI	**Glacier Island**	**1.54**	**109**		Pn	21 34 08.6	-1.3
GLI	**Glacier Island**	**1.54**	**109**	IAML		21 34 32.2	
	comp=N,176nm,0.5s						
GLI				IAML		21 34 36.0	
	comp=E,137nm,0.4s						
WAT7	**Susitna Watana**	**1.55**	**21**		Pn	21 34 09.9	-0.3
RDJH	**Redoubt Jeurge**	**1.56**	**240**		Pn	21 34 09.4	-0.9
WAT1	**Susitna Watana**	**1.60**	**26**		Pn	21 34 10.6	-0.2
RDSO	**Redoubt South**	**1.61**	**235**		Pn	21 34 10.1	-0.9
WAT6	**Susitna Watana**	**1.62**	**42**		Pn	21 34 10.5	-0.7
RDWB	**Redoubt West**	**1.63**	**237**		Pn	21 34 10.4	-0.9
BRLK	**Bradley Lake**	**1.69**	**194**	Pn	Pn	21 34 11.0	-1.0
BRLK				IAML		21 34 35.9	
	comp=E,108nm,0.3s						
BRLK				IAML		21 34 37.4	
	comp=N,102nm,0.6s						
FID	**Port Fidalgo**	**1.87**	**109**		Pn	21 34 12.8	-1.6
FID				IAML		21 34 45.3	
	comp=N,82nm,0.4s						
FID				IAML		21 34 46.2	
	comp=E,87nm,0.4s						
HOM	**Homer**	**1.91**	**205**	Pn	Pn	21 34 14.6	-0.3
CNPM	**China Poot**	**1.96**	**197**	Pn	Pn	21 34 14.7	-1.1
CNPM				IAML		21 34 43.5	
	comp=E,102nm,0.5s						
M24K	**Tolsona, Glenn**	**1.99**	**67**	Pn	Pn	21 34 16.7	+0.5
M24K				IAML		21 35 19.3	
	comp=N,108nm,0.9s						
KLU	**Klutina**	**2.00**	**85**	Pn	Pn	21 34 15.8	-0.5
KLU				IAML		21 35 20.7	
	comp=N,90nm,0.4s						
KLU				IAML		21 35 21.1	
	comp=E,50nm,0.5s						
HIN	**Hinchinbrook I**	**2.02**	**118**		Pn	21 34 16.4	-0.1
HIN				IAML		21 34 46.9	
	comp=N,104nm,0.7s						
HIN				IAML		21 34 47.1	
	comp=E,113nm,1.0s						
ILSW	**Iliamna Southw**	**2.07**	**228**	Pn	Pn	21 34 16.8	-0.6
ILSW				IAML		21 34 49.2	
	comp=E,44nm,0.6s						
RND	**Reindeer**	**2.09**	**15**		Pn	21 34 16.7	-0.9
DHY	**Denali Highway**	**2.10**	**36**		Pn	21 34 17.7	-0.1
DHY				IAML		21 34 50.4	
	comp=N,80nm,0.5s						
DHY				IAML		21 34 50.6	
	comp=E,55nm,0.7s						
M19K	**Big River Lodg**	**2.12**	**286**		Pn	21 34 17.2	-0.7
KTH	**Kantishna Hill**	**2.20**	**350**	Pn	Pn	21 34 18.4	-0.6
N19K	**Bonanza Creek**	**2.22**	**257**		Pn	21 34 18.7	-0.6
CAST	**Castle Rocks**	**2.23**	**336**	Pn	Pn	21 34 19.9	+0.5
P19K	**Oil Pt**	**2.35**	**223**	Pn	Pn	21 34 21.7	+0.7
P19K				IAML		21 34 53.9	
	comp=E,89nm,0.8s						
P19K				IAML		21 34 54.6	
	comp=N,84nm,1.3s						
L19K	**White Mountain**	**2.40**	**291**		Pn	21 34 21.7	-0.1
O19K	**Port Alsworth**	**2.41**	**242**	Pn	Pn	21 34 21.8	0.0
N25K	**Chitina, Valde**	**2.64**	**83**	Pn	Pn	21 34 25.1	+0.1
SVW2	**Sparrevohn**	**2.68**	**266**	Pn	Pn	21 34 24.4	-1.2
K20K	**Telida**	**2.71**	**318**		Pn	21 34 25.7	-0.2
BPAW	**Bear Paw Mtn.**	**2.74**	**352**		Pn	21 34 26.4	0.0
BWN	**Browne**	**2.80**	**6**	Pn	Pn	21 34 27.0	-0.2
BWN				IAML		21 35 17.4	
	comp=E,47nm,1.0s						
BWN				IAML		21 35 26.9	
	comp=N,48nm,1.0s						
RAGM	**Ragged Mountai**	**2.83**	**109**	Pn	Pn	21 34 29.2	+1.5
N18K	**Kilae Creek**	**2.92**	**258**	Pn	Pn	21 34 28.1	-0.7
N18K				IAML		21 35 03.2	
	comp=N,26nm,0.6s						
O18K	**Koktuh Hills**	**2.96**	**241**	Pn	Pn	21 34 28.8	-0.7
O18K				IAML		21 35 20.1	
	comp=E,20nm,1.5s						
O18K				IAML		21 35 22.5	
	comp=N,25nm,1.4s						
GLB	**Gilahina Butte**	**3.01**	**86**	Pn	Pn	21 34 31.6	+1.4
GLB				IAML		21 35 18.3	
	comp=N,25nm,0.8s						
GLB				IAML		21 36 31.2	
	comp=E,18nm,0.4s						
SYI	**Shuyak Island**	**3.03**	**204**	Pn	Pn	21 34 30.6	+0.2
SYI				IAML		21 35 15.2	
	comp=E,33nm,1.1s						
SYI				IAML		21 35 16.8	
	comp=N,26nm,1.1s						
J20K	**Nowinta River**	**3.36**	**328**	IAML		21 35 14.5	
	comp=N,31nm,0.6s						
J20K				IAML		21 35 14.5	
	comp=E,33nm,0.4s						

NEIC 30 21:35:40.9±1.6, 61.°40N±0.°02×149.°99W±0.°02, h39km±7km, ML3.2/110, Error ellipse: s-maj=3.6km s-min=0.9km az=163.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.33**	**159**	Pn	Pn	21 35 49.1	-0.3
RC01					Sn	21 35 55.7	-0.2
RC01				IAML		21 35 55.9	
	comp=N,2μm,0.1s						
RC01				IAML		21 35 59.8	
	comp=E,2μm,0.3s						
RC01	**Rabbit Creek A**	**0.33**	**159**	P	Pn	21 35 49.0	-0.4
	baz=337						
RC01				S	Sn	21 35 55.6	-0.3
	baz=337						
M22K	**Willow**	**0.36**	**350**		Pn	21 35 49.3	-0.3
M22K					Sn	21 35 56.9	+0.7
M22K				IAML		21 35 57.6	
	comp=N,2μm,0.3s						
M22K				IAML		21 35 57.7	
	comp=E,2μm,0.4s						
M22K	**Willow**	**0.36**	**350**	P	Pn	21 35 49.3	-0.4
	baz=171						
SUA	**Susitna One**	**0.37**	**280**		Pn	21 35 49.7	-0.2
SUA					Sn	21 35 57.1	+0.5
SUA				IAML		21 35 57.6	
	comp=E,2μm,0.8s						
SUA				IAML		21 35 58.0	
	comp=N,2μm,0.8s						
SUA	**Susitna One**	**0.37**	**280**	P	Pn	21 35 49.7	-0.2
	baz=104						
SUA				S	Sn	21 35 57.3	+0.6
	baz=104						
PMR	**Palmer**	**0.45**	**64**	Pn	Pn	21 35 50.4	-0.5
PMR					Sn	21 35 58.4	+0.5
PMR				IAML		21 35 58.9	
	comp=N,1μm,0.2s						
PMR	**Palmer**	**0.45**	**64**	P	Pn	21 35 50.4	-0.4
	baz=242						
PMR				S	Sn	21 35 58.5	+0.6
	baz=242						
GHO	**Glory Hole Cre**	**0.63**	**53**		Pn	21 35 53.0	-0.6
GHO					Sn	21 36 02.9	+0.5
GHO				IAML		21 36 04.2	
	comp=N,1μm,0.4s						
GHO				IAML		21 36 04.3	
	comp=E,2μm,0.3s						
KNK	**Knik Glacier**	**0.73**	**88**		Pn	21 35 54.4	-0.4
KNK					Sn	21 36 06.0	+1.3
KNK				IAML		21 36 07.7	
	comp=E,705nm,0.5s						
KNK				IAML		21 36 08.5	
	comp=N,1μm,0.5s						
KNK	**Knik Glacier**	**0.73**	**88**	P	Pn	21 35 54.5	-0.3
	baz=267						
CAPN	**Captain Cook N**	**0.85**	**222**	Pn	Pn	21 35 56.8	+0.5
CAPN				Sn	Sn	21 36 10.9	+3.4
CAPN	**Captain Cook N**	**0.85**	**222**	P	Pn	21 35 56.7	+0.4
	baz=43						
SML	**Sawmill**	**0.89**	**62**	Pn	Pn	21 35 56.5	-0.5
SML				Sn	Sn	21 36 09.6	+0.9
SML				IAML		21 36 11.4	
	comp=N,721nm,0.3s						
SML				IAML		21 36 11.6	
	comp=E,586nm,0.8s						
SML	**Sawmill**	**0.89**	**62**	P	Pn	21 35 56.5	-0.5
	baz=242						
STLK	**Strandline Lak**	**0.89**	**277**		Pn	21 35 56.7	-0.3
STLK					Sn	21 36 08.7	0.0
STLK				IAML		21 36 10.4	
	comp=E,839nm,0.4s						
SLKM	**Skilak Lake**	**0.90**	**187**	Pn	Pn	21 35 56.5	-0.6
SLKM				Sn	Sn	21 36 08.9	0.0
SLKM				IAML		21 36 10.0	
	comp=N,1μm,0.2s						
SLKM				IAML		21 36 10.8	
	comp=E,1μm,0.2s						
O22K	**Cooper Landing**	**0.93**	**172**		Pn	21 35 56.4	-1.0
O22K				Sn	Sn	21 36 09.6	+0.1
O22K				IAML		21 36 18.2	
	comp=E,1μm,0.5s						
O22K	**Cooper Landing**	**0.93**	**172**	P	Pn	21 35 56.4	-1.0
	baz=352						
SKT	**Skwentna**	**0.94**	**309**	Pn	Pn	21 35 56.9	-0.7
SKT				Sn	Sn	21 36 10.2	+0.4
SKT	**Skwentna**	**0.94**	**309**	P	Pn	21 35 57.0	-0.6
	baz=129						
SKT				S	Sn	21 36 10.1	+0.3
	baz=129						
PWL	**Port Wells**	**0.97**	**123**		Pn	21 35 57.7	-0.3
PWL				Sn	Sn	21 36 11.1	+0.7
PWL	**Port Wells**	**0.97**	**123**	P	Pn	21 35 57.5	-0.4
	baz=303						
CUT	**Chulitna**	**1.02**	**353**		Pn	21 35 58.4	-0.2
CUT				Sn	Sn	21 36 12.6	+1.0
CUT	**Chulitna**	**1.02**	**353**	P	Pn	21 35 58.3	-0.3
	baz=173						
N20K	**Mount Spurr**	**1.09**	**260**	P	Pn	21 35 58.9	-0.8
	baz=80						
SPCR	**Spurr Chakacha**	**1.09**	**260**	P	Pn	21 35 58.9	-0.8
	baz=80						
M23K	**Glacier View**	**1.15**	**69**	P	Pn	21 36 00.7	+0.2
	baz=250						
SCM	**Sheep Creek Mo**	**1.34**	**70**		Pn	21 36 03.2	0.0
SCM				IAML		21 36 23.4	
	comp=N,461nm,0.5s						
SCM	**Sheep Creek Mo**	**1.34**	**70**	P	Pn	21 36 03.2	0.0
	baz=251						
GLI	**Glacier Island**	**1.50**	**109**		Pn	21 36 04.4	-0.8
GLI				IAML		21 36 26.2	
	comp=N,457nm,0.3s						
GLI	**Glacier Island**	**1.50**	**109**	P	Pn	21 36 04.4	-0.8
	baz=291						
M20K	**Styx River**	**1.58**	**289**		Pn	21 36 06.9	+0.5
M20K				IAML		21 36 28.4	
	comp=E,197nm,0.9s						
M20K	**Styx River**	**1.58**	**289**	P	Pn	21 36 06.8	+0.4
	baz=108						
WAT6	**Susitna Watana**	**1.59**	**41**	P	Pn	21 36 07.0	+0.3
	baz=222						
BRLK	**Bradley Lake**	**1.70**	**196**		Pn	21 36 07.2	-0.8
BRLK				IAML		21 36 31.5	
	comp=E,311nm,0.5s						
BRLK				IAML		21 36 32.7	
	comp=N,210nm,0.3s						
FID	**Port Fidalgo**	**1.82**	**109**		Pn	21 36 08.5	-1.2
FID				IAML		21 36 39.3	
	comp=E,336nm,0.4s						
FID				IAML		21 36 41.5	
	comp=N,319nm,0.5s						
O20K	**Slope Mountain**	**1.85**	**226**	P	Pn	21 36 10.1	0.0
	baz=44						
P23K	**Montague Islan**	**1.90**	**137**	P	Pn	21 36 08.8	-1.8
	baz=318						
HOM	**Homer**	**1.93**	**206**	Pn	Pn	21 36 10.8	-0.3
M24K	**Tolsona, Glenn**	**1.95**	**67**	Pn	Pn	21 36 12.3	+0.9
M24K				IAML		21 36 42.4	
	comp=E,223nm,0.7s						
M24K				IAML		21 36 42.4	
	comp=N,215nm,0.5s						
KLU	**Klutina**	**1.96**	**85**		Pn	21 36 11.7	+0.1
KLU				IAML		21 36 45.3	
	comp=E,131nm,0.3s						
KLU				IAML		21 36 45.6	
	comp=N,154nm,0.5s						
HIN	**Hinchinbrook I**	**1.98**	**119**		Pn	21 36 10.9	-0.9
HIN				IAML		21 36 47.1	
	comp=N,251nm,0.9s						
CNPM	**China Poot**	**1.98**	**199**	Pn	Pn	21 36 11.2	-0.7
CNPM				IAML		21 36 38.6	
	comp=E,246nm,0.5s						
CNPM				IAML		21 36 40.6	
	comp=N,228nm,0.4s						
DHY	**Denali Highway**	**2.08**	**35**		Pn	21 36 13.8	+0.4
DHY				IAML		21 36 42.5	
	comp=E,127nm,0.8s						
RND	**Reindeer**	**2.08**	**14**	Pn	Pn	21 36 13.7	+0.3
ILSW	**Iliamna Southw**	**2.10**	**229**	Pn	Pn	21 36 13.4	-0.3
M19K	**Big River Lodg**	**2.16**	**285**		Pn	21 36 14.3	0.0
KTH	**Kantishna Hill**	**2.21**	**349**	Pn	Pn	21 36 15.7	+0.7
CAST	**Castle Rocks**	**2.25**	**335**	Pn	Pn	21 36 15.5	0.0
N19K	**Bonanza Creek**	**2.26**	**257**		Pn	21 36 15.4	-0.4
P19K	**Oil Pt**	**2.38**	**224**	Pn	Pn	21 36 17.7	+0.4
L19K	**White Mountain**	**2.44**	**291**		Pn	21 36 18.3	+0.1
N25K	**Chitina, Valde**	**2.59**	**83**	Pn	Pn	21 36 21.6	+1.3
Q23K	**Middleton Isla**	**2.67**	**136**	Pn	Pn	21 36 22.5	+1.1
Q23K				IAML		21 37 05.2	
	comp=N,99nm,0.9s						
Q23K				IAML		21 37 46.7	
	comp=E,95nm,1.0s						
SVW2	**Sparrevohn**	**2.72**	**266**	Pn	Pn	21 36 21.6	-0.4
K20K	**Telida**	**2.73**	**318**	Pn	Pn	21 36 22.1	-0.1
BPAW	**Bear Paw Mtn.**	**2.75**	**351**	Pn	Pn	21 36 23.0	+0.6
RAGM	**Ragged Mountai**	**2.79**	**109**		Pn	21 36 23.8	+0.9
BWN	**Browne**	**2.79**	**5**	Pn	Pn	21 36 24.6	+1.5
BWN				IAML		21 38 16.4	
	comp=E,136nm,0.5s						
BWN				IAML		21 38 17.6	
	comp=N,119nm,0.9s						
N18K	**Kilae Creek**	**2.96**	**258**		Pn	21 36 24.7	-0.6
GLB	**Gilahina Butte**	**2.97**	**86**	Pn	Pn	21 36 26.7	+1.2
O18K	**Koktuh Hills**	**3.00**	**241**		Pn	21 36 25.3	-0.6
O18K				IAML		21 38 17.9	
	comp=N,69nm,0.9s						
SYI	**Shuyak Island**	**3.05**	**204**	Pn	Pn	21 36 27.5	+1.1
Q19K	**Cape Douglas,**	**3.08**	**218**		Pn	21 36 27.1	+0.1
KAIM	**Kayak Island**	**3.11**	**116**	Pn	Pn	21 36 29.4	+2.1
KAIM				IAML		21 38 33.1	
	comp=E,64nm,1.0s						
KAIM				IAML		21 38 33.1	
	comp=N,54nm,1.1s						
VRDI	**Verde Repeater**	**3.16**	**90**	Pn	Pn	21 36 29.8	+1.6
VRDI				IAML		21 38 22.3	
	comp=N,47nm,0.7s						
WRH	**Wood River Hil**	**3.20**	**15**	Pn	Pn	21 36 30.6	+2.0
WRH				IAML		21 38 27.4	
	comp=N,44nm,0.7s						
WRH				IAML		21 38 34.6	
	comp=E,56nm,0.9s						
RIDG	**Independent Ri**	**3.34**	**43**	IAML		21 38 30.1	
	comp=N,97nm,0.7s						
J20K	**Nowinta River**	**3.38**	**327**	IAML		21 38 15.9	
	comp=N,62nm,0.6s						
J20K				IAML		21 38 16.6	
	comp=E,58nm,0.4s						
TGL	**Tana Glacier**	**3.54**	**97**	IAML		21 38 36.1	
	comp=E,68nm,0.5s						
M17K	**Holitna River**	**3.58**	**273**	IAML		21 38 39.8	
	comp=N,62nm,1.0s						
M17K				IAML		21 38 50.9	
	comp=E,74nm,0.8s						
M16K	**Timber Creek**	**4.36**	**269**	IAML		21 39 07.6	
	comp=N,19nm,0.9s						

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*NEIC **30** 21:40:05.8±1.1, 61.°46N±0.°03×149.°99W±0.°05, h42km±2km, Error ellipse: s-maj=3.7km s-min=3.3km az=175.0*

AEIC 30 21:40:06.2±1.2, 61.°45N±0.°01×149.°99W±0.°04, h37km±8km, ML2.9, ML2.9/84(NEIC), Error ellipse: s-maj=3.3km s-min=0.8km az=64.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.31**	**348**		Pn	21 40 13.4	-0.9
M22K				Sn	Sn	21 40 20.3	-1.1
SUA	**Susitna One**	**0.36**	**272**		Pn	21 40 14.5	-0.4
SUA				Sn	Sn	21 40 21.9	+0.1
RC01	**Rabbit Creek A**	**0.38**	**161**		Pn	21 40 14.6	-0.4
RC01	**Rabbit Creek A**	**0.38**	**161**		Sn	21 40 22.1	+0.4
RC01	**Rabbit Creek A**	**0.38**	**161**	IAML		21 40 23.0	
	comp=E,627nm,0.2s						
RC01				IAML		21 40 23.1	
	comp=N,934nm,0.2s						
PMR	**Palmer**	**0.43**	**71**		Pn	21 40 14.9	-0.8
PMR				Sn	Sn	21 40 22.5	-0.1
GHO	**Glory Hole Cre**	**0.60**	**57**		Pn	21 40 17.2	-1.2
GHO	**Glory Hole Cre**	**0.60**	**57**		Sn	21 40 26.9	0.0
GHO				IAML		21 40 27.6	
	comp=N,696nm,0.4s						
GHO				IAML		21 40 27.8	
	comp=E,807nm,0.6s						
KNK	**Knik Glacier**	**0.74**	**92**		Pn	21 40 19.3	-0.7
KNK	**Knik Glacier**	**0.74**	**92**		Sn	21 40 30.8	+0.8
KNK				IAML		21 40 32.6	
	comp=E,694nm,0.3s						
SML	**Sawmill**	**0.87**	**65**		Pn	21 40 20.7	-1.2
SML	**Sawmill**	**0.87**	**65**	Sn	Sn	21 40 33.3	-0.1
SML				IAML		21 40 34.6	
	comp=E,304nm,1.1s						
SML				IAML		21 40 36.2	
	comp=N,356nm,0.7s						
STLK	**Strandline Lak**	**0.89**	**274**		Pn	21 40 21.3	-0.8
STLK	**Strandline Lak**	**0.89**	**274**		Sn	21 40 33.7	-0.2
STLK				IAML		21 40 34.3	
	comp=E,328nm,0.5s						
CAPN	**Captain Cook N**	**0.89**	**220**	Pn	Pn	21 40 22.6	+0.5
CAPN				Sn	Sn	21 40 33.8	0.0
CAPN				IAML		21 40 38.8	
	comp=E,601nm,1.0s						
SKT	**Skwentna**	**0.91**	**306**		Sn	21 40 33.6	-0.7
SKT				IAML		21 40 34.1	
	comp=E,528nm,0.4s						
SKT				IAML		21 40 35.1	
	comp=N,562nm,0.4s						
SKT	**Skwentna**	**0.91**	**306**		Pn	21 40 21.0	-1.3
SLKM	**Skilak Lake**	**0.95**	**187**		Pn	21 40 22.4	-0.7
SLKM				Sn	Sn	21 40 35.5	+0.1
SLKM				IAML		21 40 37.6	
	comp=N,270nm,0.1s						
SLKM				IAML		21 40 38.1	
	comp=E,298nm,0.4s						
CUT	**Chulitna**	**0.96**	**352**		Pn	21 40 22.1	-1.0
CUT	**Chulitna**	**0.96**	**352**	Sn	Sn	21 40 35.3	-0.3
O22K	**Cooper Landing**	**0.98**	**172**		Pn	21 40 22.8	-0.6
O22K				Sn	Sn	21 40 36.0	0.0
SPCG	**Spurr Capps Gl**	**0.99**	**262**	

WAT6	**Susitna Watana**	**1.55 42**		Pn	21 40 31.0	-0.3
M20K	**Styx River**	**1.56 287**		Pn	21 40 31.3	-0.1
M20K			IAML		21 40 53.4	
comp=E,156nm,0.9s						
RDJH	**Redoubt Jeurge**	**1.62 239**		Pn	21 40 31.9	-0.4
RDSO	**Redoubt South**	**1.68 235**		Pn	21 40 32.3	-0.8
RDWB	**Redoubt West**	**1.69 236**		Pn	21 40 32.6	-0.6
RED	**Redoubt Volcan**	**1.71 234**		Pn	21 40 32.9	-0.6
BRLK	**Bradley Lake**	**1.75 195**	Pn	Pn	21 40 34.0	0.0
PPLA	**Purkeypile**	**1.78 326**		Pn	21 40 34.3	-0.2
FID	**Port Fidalgo**	**1.84 111**	Pn	Pn	21 40 33.6	-1.6
M24K	**Tolsona, Glenn**	**1.93 68**	Pn	Pn	21 40 35.9	-0.5
M24K				Sn	21 41 01.4	+2.0
KLU	**Klutina**	**1.95 87**		Pn	21 40 36.1	-0.7
KLU			IAML		21 41 06.7	
comp=E,67nm,0.3s						
HOM	**Homer**	**1.98 205**	Pn	Pn	21 40 37.3	+0.3
HIN	**Hinchinbrook I**	**2.00 120**	Pn	Pn	21 40 37.8	+0.3
CNPM	**China Poot**	**2.03 198**	Pn	Pn	21 40 37.6	-0.1
RND	**Reindeer**	**2.03 15**	Pn	Pn	21 40 38.0	+0.1
DHY	**Denali Highway**	**2.04 36**	Pn	Pn	21 40 37.8	-0.2
ILSW	**Iliamna Southw**	**2.14 228**	Pn	Pn	21 40 39.0	-0.4
M19K	**Big River Lodg**	**2.15 284**	Pn	Pn	21 40 39.3	-0.1
M19K			IAML		21 41 38.0	
comp=E,56nm,0.8s						
KTH	**Kantishna Hill**	**2.15 349**	Pn	Pn	21 40 39.8	+0.3
KTH			IAML		21 41 08.6	
comp=N,55nm,0.5s						
CAST	**Castle Rocks**	**2.20 335**	Pn	Pn	21 40 40.9	+0.8
N19K	**Bonanza Creek**	**2.27 256**	Pn	Pn	21 40 41.7	+0.5
P19K	**Oil Pt**	**2.41 223**	Pn	Pn	21 40 42.2	-0.9
L19K	**White Mountain**	**2.42 290**		Pn	21 40 42.9	-0.3
N25K	**Chitina, Valde**	**2.59 84**		Pn	21 40 45.5	0.0
K20K	**Telida**	**2.69 317**	Pn	Pn	21 40 46.4	-0.5
BPAW	**Bear Paw Mtn.**	**2.70 351**	Pn	Pn	21 40 46.2	-0.7
SVW2	**Sparrevohn**	**2.72 265**	Pn	Pn	21 40 46.6	-0.7
BWN	**Browne**	**2.74 5**	Pn	Pn	21 40 47.2	-0.3
BWN			IAML		21 42 03.9	
comp=E,64nm,1.1s						
BWN			IAML		21 42 11.8	
comp=N,72nm,0.9s						
GLB	**Gilahina Butte**	**2.97 87**	Pn	Pn	21 40 51.5	+0.8
GLB			IAML		21 41 35.7	
comp=N,41nm,0.5s						
N18K	**Kilae Creek**	**2.97 257**	Pn	Pn	21 40 49.6	-1.1
O18K	**Koktuh Hills**	**3.03 240**		Pn	21 40 52.7	+1.2
SYI	**Shuyak Island**	**3.10 204**	Pn	Pn	21 40 52.8	+0.4
SYI			IAML		21 41 42.5	
comp=N,33nm,1.5s						

*NEIC **30** 21:40:54.4±1.0, 61°.48N±0°.03×149°.93W±0°.04, h45km±3km, Error ellipse: s-maj=4.2km s-min=3.0km az=170.0*

AEIC 30 21:40:54.8±0.9, **61°.45N**±0°.03×**149°.94W**±0°.04, **h45**km±4km, **ML2.7, ML2.9**/58(NEIC), **Error ellipse: s-maj=4.2km s-min=2.8km az=160.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.32**	**345**		Pn	21 41 03.1	-0.6
M22K					IAML	21 41 07.8	
comp=E,698nm,0.5s							
M22K					IAML	21 41 11.7	
comp=N,897nm,0.8s							
RC01	**Rabbit Creek A**	**0.37**	**164**		Pn	21 41 03.8	-0.4
RC01					Sn	21 41 10.8	-0.1
RC01					IAML	21 41 11.4	
comp=E,1μm,0.2s							
RC01					IAML	21 41 12.5	
comp=N,870nm,0.3s							
SUA	**Susitna One**	**0.39**	**273**		Pn	21 41 04.1	-0.4
SUA					Sn	21 41 12.0	+0.6
PMR	**Palmer**	**0.42**	**69**		Pn	21 41 03.9	-0.8
PMR					IAML	21 41 12.1	
comp=E,630nm,0.2s							
PMR					IAML	21 41 12.8	
comp=N,840nm,0.2s							
PMR	**Palmer**	**0.42**	**69**		Sn	21 41 11.3	-0.4
GHO	**Glory Hole Cre**	**0.59**	**56**		Pn	21 41 06.2	-0.7
GHO					Sn	21 41 15.6	-0.1
GHO					IAML	21 41 16.2	
comp=E,859nm,0.6s							
KNK	**Knik Glacier**	**0.71**	**92**		Pn	21 41 08.1	-0.5
KNK					Sn	21 41 19.0	+0.5
KNK					IAML	21 41 21.3	
comp=E,690nm,0.4s							
SML	**Sawmill**	**0.85**	**64**	Pn	Pn	21 41 09.5	-0.9
SML					Sn	21 41 21.9	+0.1
STLK	**Strandline Lak**	**0.91**	**274**	Pn	Pn	21 41 10.7	-0.6
STLK					Sn	21 41 23.2	0.0
STLK					IAML	21 41 24.0	
comp=N,571nm,0.5s							
STLK					IAML	21 41 24.1	
comp=E,320nm,0.3s							
SKT	**Skwentna**	**0.93**	**306**		Sn	21 41 23.7	0.0
SKT	**Skwentna**	**0.93**	**306**	Pn	Pn	21 41 11.8	+0.4
SKT	**Skwentna**	**0.93**	**306**	IAML		21 41 24.3	
comp=N,939nm,0.3s							
SKT					IAML	21 41 25.2	
comp=E,435nm,0.3s							
SLKM	**Skilak Lake**	**0.95**	**188**	Pn	Pn	21 41 12.5	+0.7
PWL	**Port Wells**	**0.98**	**126**	Pn	Pn	21 41 11.5	-0.6
PWL					Sn	21 41 24.7	-0.1
PWL					IAML	21 41 25.3	
comp=E,1μm,0.5s							
PWL					IAML	21 41 25.5	
comp=N,1μm,0.4s							
SCM	**Sheep Creek Mo**	**1.31**	**72**	Pn	Pn	21 41 14.2	-2.5
SCM					IAML	21 41 34.6	
comp=E,267nm,0.8s							
GLI	**Glacier Island**	**1.49**	**111**		Pn	21 41 17.5	-1.6
GLI					IAML	21 41 44.2	
comp=E,191nm,0.2s							
GLI					IAML	21 41 44.2	
comp=N,134nm,0.4s							
M20K	**Styx River**	**1.58**	**287**	Pn	Pn	21 41 20.9	+0.4
BRLK	**Bradley Lake**	**1.75**	**196**	Pn	Pn	21 41 22.8	+0.1
BRLK					IAML	21 41 49.1	
comp=N,76nm,0.2s							
BRLK					IAML	21 41 52.2	
comp=E,77nm,0.3s							
FID	**Port Fidalgo**	**1.82**	**111**	Pn	Pn	21 41 23.0	-0.6
FID					IAML	21 41 36.0	
comp=E,139nm,0.4s							
FID					IAML	21 41 46.1	
comp=N,123nm,0.4s							
M24K	**Tolsona, Glenn**	**1.91**	**68**	Pn	Pn	21 41 25.2	+0.4
M24K					IAML	21 41 50.5	
comp=N,99nm,1.1s							
KLU	**Klutina**	**1.93**	**87**	Pn	Pn	21 41 24.7	-0.5
KLU					IAML	21 41 56.1	
comp=N,97nm,0.4s							
KLU					IAML	21 41 57.8	
comp=E,67nm,0.4s							
HIN	**Hinchinbrook I**	**1.98**	**121**	Pn	Pn	21 41 24.9	-1.0
HIN					IAML	21 41 41.9	
comp=N,113nm,0.8s							
CNPM	**China Poot**	**2.03**	**199**	Pn	Pn	21 41 26.7	+0.2
L19K	**White Mountain**	**2.45**	**290**	Pn	Pn	21 41 31.7	-0.5
L19K					IAML	21 41 59.4	
comp=E,37nm,0.8s							
O19K	**Port Alsworth**	**2.48**	**242**	Pn	Pn	21 41 33.4	+0.7
GLB	**Gilahina Butte**	**2.94**	**87**	Pn	Pn	21 41 37.1	-1.9
N18K	**Kilae Creek**	**2.99**	**258**	Pn	Pn	21 41 39.4	-0.3
VRDI	**Verde Repeater**	**3.13**	**91**	Pn	Pn	21 41 41.2	-0.6
WRH	**Wood River Hil**	**3.15**	**15**	Pn	Pn	21 41 41.8	-0.1
NEA2	**Nenana**	**3.18**	**7**	Pn	Pn	21 41 42.2	-0.1
TTA	**Tatalina**	**3.21**	**300**	Pn	Pn	21 41 42.2	-0.6
TTA					IAML	21 43 23.3	
comp=E,45nm,0.9s							
BERG	**Berg Lake**	**3.23**	**106**	Pn	Pn	21 41 43.0	+0.2

*NEIC **30** 21:45:00.5±1.0, 61°.48N±0°.02×149°.90W±0°.03, h39km±6km, Error ellipse: s-maj=3.7km s-min=1.4km az=158.0*

AEIC 30 21:45:01.2±0.6, **61°.50N**±0°.02×**149°.90W**±0°.03, **h36**km±5km, **ML3.0, ML3.1**/24(NEIC), **Error ellipse: s-maj=3.4km s-min=2.3km az=198.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.28**	**338**		Pn	21 45 08.1	-1.2
M22K					Sn	21 45 14.8	-1.5
PMR	**Palmer**	**0.38**	**75**		Pn	21 45 09.4	-0.6
PMR				Sn	Sn	21 45 16.4	-0.2
SUA	**Susitna One**	**0.41**	**266**		Pn	21 45 09.9	-0.6
SUA				Sn	Sn	21 45 17.2	-0.1
SUA				IAML		21 45 25.1	
comp=N,795nm,0.2s							
RC01	**Rabbit Creek A**	**0.42**	**169**		Pn	21 45 09.5	-1.0
RC01				Sn	Sn	21 45 17.0	-0.3
RC01				IAML		21 45 29.4	
comp=N,977nm,0.3s							
GHO	**Glory Hole Cre**	**0.54**	**59**		Pn	21 45 11.6	-1.0
GHO				Sn	Sn	21 45 20.6	+0.1
KNK	**Knik Glacier**	**0.70**	**96**		Pn	21 45 13.9	-0.8
SML	**Sawmill**	**0.81**	**67**		Pn	21 45 15.2	-1.0
SML				IAML		21 45 46.9	
comp=E,858nm,0.9s							
SML				IAML		21 45 47.7	
comp=N,687nm,0.6s							
SKT	**Skwentna**	**0.91**	**303**		Pn	21 45 16.4	-1.2
STLK	**Strandline Lak**	**0.93**	**271**		Pn	21 45 17.0	-0.8
SPCG	**Spurr Capps Gl**	**1.04**	**259**		Pn	21 45 18.7	-0.7
SPCP	**Crater Peak Br**	**1.11**	**259**		Pn	21 45 20.0	-0.4
SPCR	**Spurr Chakacha**	**1.15**	**256**		Pn	21 45 20.2	-0.7
SPCR	**Spurr Chakacha**	**1.15**	**256**		Pn	21 45 20.3	-0.5
SCM	**Sheep Creek Mo**	**1.27**	**74**		Pn	21 45 21.9	-0.6
GLI	**Glacier Island**	**1.50**	**113**		Pn	21 45 24.8	-0.7

*NEIC **30** 21:45:15.3±1.2, 61°.40N±0°.03×149°.96W±0°.04, h39km±7km, ML3.5/108, Error ellipse: s-maj=3.9km s-min=2.2km az=162.0*

ISC 30 21:45:14.9±1.1, **61°.40N**±0°.03×**150°.02W**±0°.03, **h42**km±8km, **n74**, σ1§**16**/85, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.34**	**156**		**Pn**	**21 45 23.9**	**+0.2**
RC01					**Sn**	**21 45 31.1**	**+1.2**
RC01				IAML		21 45 34.6	
comp=E,2μm,0.2s							
RC01				IAML		21 45 34.7	
comp=N,4μm,0.2s							
RC01	**Rabbit Creek A**	**0.34**	**156**	P	**Pn**	**21 45 24.5**	**+0.7**
baz=336							
RC01				S	**Sn**	**21 45 31.5**	**+1.5**
baz=336							
SUA	**Susitna One**	**0.35**	**281**		**Pn**	**21 45 23.8**	**-0.2**
SUA				IAML		21 45 32.2	
comp=E,2μm,0.7s							
SUA	**Susitna One**	**0.35**	**281**	P	**Pn**	**21 45 24.4**	**+0.3**
baz=100							
SUA				S	**Sn**	**21 45 31.4**	**+0.9**
baz=100							
M22K	**Willow**	**0.36**	**353**		**Pn**	**21 45 24.0**	**+0.1**
M22K					**Sn**	**21 45 31.6**	**+1.3**
M22K				IAML		21 45 32.2	
comp=E,3μm,0.6s							
M22K	**Willow**	**0.36**	**353**	P	**Pn**	**21 45 24.2**	**+0.2**
baz=173							
M22K				S	**Sn**	**21 45 31.8**	**+1.5**
baz=173							
PMR	**Palmer**	**0.47**	**65**	Pn	**Pn**	**21 45 25.6**	**+0.3**
PMR				Sn	**Sn**	**21 45 32.4**	**-0.3**
PMR	**Palmer**	**0.47**	**65**	P	**Pn**	**21 45 25.6**	**+0.3**
baz=246							
PMR				S	**Sn**	**21 45 33.9**	**+1.3**
baz=246							
GHO	**Glory Hole Cre**	**0.65**	**54**		**Pn**	**21 45 28.2**	**+0.5**
GHO				Sn	**Sn**	**21 45 36.3**	**-0.6**
GHO				IAML		21 45 40.3	
comp=E,1μm,0.3s							
KNK	**Knik Glacier**	**0.75**	**88**		**Pn**	**21 45 29.1**	**+0.1**
KNK				IAML		21 45 42.9	
comp=N,1μm,0.3s							
KNK	**Knik Glacier**	**0.75**	**88**	P	**Pn**	**21 45 29.7**	**+0.6**
baz=270							
KNK				S	**Sn**	**21 45 40.8**	**+1.4**
baz=270							
CAPN	**Captain Cook N**	**0.84**	**221**	Pn	**Pn**	**21 45 30.7**	**+0.6**
CAPN				Sn	**Sn**	**21 45 44.4**	**+3.1**
CAPN				IAML		21 45 46.2	
comp=E,1μm,0.8s							
CAPN				IAML		21 45 46.5	
comp=N,2μm,0.7s							
STLK	**Strandline Lak**	**0.88**	**277**		**Pn**	**21 45 31.3**	**+0.6**
STLK				Sn	**Sn**	**21 45 43.4**	**+1.0**
STLK				IAML		21 45 43.8	
comp=N,1μm,0.5s							
STLK				IAML		21 45 44.4	
comp=E,936nm,0.3s							
SLKM	**Skilak Lake**	**0.90**	**186**	Pn	**Pn**	**21 45 31.1**	**0.0**
SLKM					**Sn**	**21 45 43.3**	**+0.4**
SLKM				IAML		21 45 45.4	
comp=N,1μm,0.2s							
SLKM				IAML		21 45 45.8	
comp=E,1μm,0.4s							
SML	**Sawmill**	**0.91**	**62**	Pn	**Pn**	**21 45 29.9**	**-1.3**
SML	**Sawmill**	**0.91**	**62**	P	**Pn**	**21 45 31.7**	**+0.5**
baz=244							
SML				S	**Sn**	**21 45 44.6**	**+1.5**
baz=244							
SKT	**Skwentna**	**0.93**	**310**		**Pn**	**21 45 31.5**	**+0.1**
SKT				IAML		21 45 44.8	
comp=N,1μm,0.2s							
SKT				IAML		21 45 44.9	
comp=E,1μm,0.4s							
SKT	**Skwentna**	**0.93**	**310**	P	**Pn**	**21 45 31.9**	**+0.5**
baz=128							
O22K	**Cooper Landing**	**0.93**	**171**		**Pn**	**21 45 31.6**	**+0.1**
O22K				Sn	**Sn**	**21 45 44.8**	**+1.2**
O22K				IAML		21 45 50.4	
comp=E,2μm,0.6s							
O22K				IAML		21 45 52.2	
comp=N,2μm,0.7s							
O22K	**Cooper Landing**	**0.93**	**171**	P	**Pn**	**21 45 31.6**	**+0.1**
baz=351							
PWL	**Port Wells**	**0.98**	**123**		**Pn**	**21 45 32.9**	**+0.7**
PWL	**Port Wells**	**0.98**	**123**	P	**Pn**	**21 45 32.8**	**+0.7**
baz=304							
CUT	**Chulitna**	**1.02**	**354**		**Pn**	**21 45 33.2**	**+0.6**
CUT				IAML		21 45 48.1	
comp=E,1μm,0.2s							
CUT				IAML		21 45 48.6	
comp=N,1μm,0.5s							
CUT	**Chulitna**	**1.02**	**354**	P	**Pn**	**21 45 33.0**	**+0.4**
baz=174							
N20K	**Mount Spurr**	**1.07**	**260**	P	**Pn**	**21 45 33.2**	**-0.2**
baz=78							
SPCR	**Spurr Chakacha**	**1.07**	**260**	P	**Pn**	**21 45 33.2**	**-0.2**
baz=78							
M23K	**Glacier View**	**1.17**	**69**	P	**Pn**	**21 45 34.1**	**-0.6**
baz=251							
SCM	**Sheep Creek Mo**	**1.36**	**70**		**Pn**	**21 45 38.5**	**+1.1**
SCM				IAML		21 45 58.3	
comp=E,666nm,0.5s							
SCM				IAML		21 45 58.8	
comp=N,579nm,0.7s							
SCM	**Sheep Creek Mo**	**1.36**	**70**	P	**Pn**	**21 45 36.9**	**-0.5**
baz=252							
GLI	**Glacier Island**	**1.51**	**109**		**Pn**	**21 45 39.6**	**+0.2**
GLI				IAML		21 46 03.6	
comp=E,534nm,0.6s							
GLI	**Glacier Island**	**1.51**	**109**	P	**Pn**	**21 45 39.5**	**+0.1**
baz=291							
M20K	**Styx River**	**1.56**	**289**	P	**Pn**	**21 45 40.8**	**+0.7**
baz=107							
BRLK	**Bradley Lake**	**1.69**	**195**		**Pn**	**21 45 42.1**	**+0.2**
BRSE	**Bradley Lake S**	**1.70**	**192**	P	**Pn**	**21 45 41.8**	**-0.2**
baz=12							
PPLA	**Purkeypile**	**1.81**	**327**	P	**Pn**	**21 45 43.6**	**-0.1**
baz=145							
FID	**Port Fidalgo**	**1.84**	**109**		**Pn**	**21 45 43.9**	**-0.1**
FID				IAML		21 46 08.4	
comp=E,371nm,0.7s							
FID				IAML		21 46 16.1	
comp=N,351nm,0.4s							
HOM	**Homer**	**1.92**	**205**	Pn	**Pn**	**21 45 45.7**	**+0.7**
HOM				IAML		21 46 12.7	
comp=E,451nm,0.6s							
HOM	**Homer**	**1.92**	**205**	P	**Pn**	**21 45 45.4**	**+0.4**
baz=24							
M24K	**Tolsona, Glenn**	**1.96**	**67**		**Pn**	**21 45 48.2**	**+2.5**
M24K				IAML		21 46 59.1	
comp=E,332nm,0.7s							
M24K				IAML		21 47 01.1	
comp=N,384nm,0.6s							
M24K	**Tolsona, Glenn**	**1.96**	**67**	P	**Pn**	**21 45 46.1**	**+0.5**
baz=250							
CNPM	**China Poot**	**1.97**	**198**		**Pn**	**21 45 46.0**	**+0.2**
CNPM				IAML		21 46 13.7	
comp=E,280nm,0.5s							
KLU	**Klutina**	**1.97**	**85**		**Pn**	**21 45 45.8**	**0.0**
KLU	**Klutina**	**1.97**	**85**	P	**Pn**	**21 45 45.9**	**+0.1**
baz=269							
HIN	**Hinchinbrook I**	**1.99**	**119**		**Pn**	**21 45 46.5**	**+0.4**
HIN				IAML		21 46 21.1	
comp=N,279nm,0.5s							
HIN				IAML		21 46 22.6	
comp=E,316nm,0.5s							
RND	**Reindeer**	**2.09**	**15**		**Pn**	**21 45 49.8**	**+2.4**
DHY	**Denali Highway**	**2.09**	**35**		**Pn**	**21 45 49.2**	**+1.8**
ILSW	**Iliamna Southw**	**2.09**	**229**	Pn	**Pn**	**21 45 48.2**	**+0.7**
ILSW				IAML		21 47 10.0	
comp=N,262nm,0.8s							
M19K	**Big River Lodg**	**2.15**	**286**		**Pn**	**21 45 48.8**	**+0.7**
KTH	**Kantishna Hill**	**2.20**	**349**		**Pn**	**21 45 49.4**	**+0.4**
CAST	**Castle Rocks**	**2.24**	**336**		**Pn**	**21 45 50.1**	**+0.6**
CAST				IAML		21 47 10.0	
comp=N,283nm,0.4s							
CAST				IAML		21 47 10.9	
comp=E,196nm,0.5s							
N19K	**Bonanza Creek**	**2.24**	**257**		**Pn**	**21 45 50.3**	**+0.8**
P19K	**Oil Pt**	**2.36**	**224**	Pn	**Pn**	**21 45 52.4**	**+1.3**
L19K	**White Mountain**	**2.43**	**291**	Pn	**Pn**	**21 45 52.7**	**+0.8**
N25K	**Chitina, Valde**	**2.61**	**83**		**Pn**	**21 45 55.8**	**+1.3**
N25K				IAML		21 47 11.9	
comp=E,150nm,0.6s							
N25K				IAML		21 47 33.0	
comp=N,127nm,0.5s							
K20K	**Telida**	**2.72**	**318**		**Pn**	**21 45 56.4**	**+0.4**
K20K				IAML		21 47 44.4	
comp=N,121nm,0.7s							
K20K				IAML		21 47 45.1	
comp=E,213nm,0.7s							
BPAW	**Bear Paw Mtn.**	**2.75**	**351**		**Pn**	**21 45 59.4**	**+3.0**
BPAW				IAML		21 47 43.9	
comp=E,116nm,0.4s							
BPAW				IAML		21 47 45.4	
comp=N,130nm,0.4s							
N18K	**Kilae Creek**	**2.94**	**258**		**Pn**	**21 45 59.2**	**+0.2**
N18K				IAML		21 47 59.3	
comp=E,159nm,1.1s							
GLB	**Gilahina Butte**	**2.99**	**86**		**Pn**	**21 46 02.1**	**+2.4**
GLB				IAML		21 47 57.5	
comp=N,215nm,0.8s							
GLB				IAML		21 47 59.5	
comp=E,172nm,0.8s							
O18K	**Koktuh Hills**	**2.99**	**241**		**Pn**	**21 45 59.8**	**+0.1**
O18K				IAML		21 47 59.3	
comp=E,172nm,0.8s							
O18K				IAML		21 48 01.6	
comp=N,231nm,0.7s							
Q19K	**Cape Douglas,**	**3.07**	**218**		**Pn**	**21 46 01.7**	**+0.9**
VRDI	**Verde Repeater**	**3.17**	**90**		**Pn**	**21 46 05.2**	**+2.9**
VRDI				IAML		21 48 01.1	
comp=E,121nm,0.5s							
VRDI				IAML		21 48 06.6	
comp=N,201nm,1.1s							
L18K	**Granite Mounta**	**3.27**	**288**		**Pn**	**21 46 03.9**	**+0.4**
L18K				IAML		21 48 12.4	
comp=E,144nm,0.7s							
HDA	**Harding Lake**	**3.33**	**24**		Pn	21 46 09.5	+5.1
RIDG	**Independent Ri**	**3.36**	**43**		Pn	21 46 10.6	+5.9
M17K	**Holitna River**	**3.57**	**273**		**Pn**	**21 46 07.6**	**+0.1**
MLY	**Manley**	**3.66**	**355**		**Pn**	**21 46 08.9**	**-0.1**
MLY				IAML		21 48 23.0	
comp=N,70nm,0.5s							
MLY				IAML		21 48 29.7	
comp=E,94nm,1.1s							
J18K	**Innoko River**	**3.74**	**307**		**Pn**	**21 46 10.4**	**+0.4**
J18K				IAML		21 48 26.9	
comp=E,64nm,1.1s							
J18K				IAML		21 48 32.4	
comp=N,76nm,1.4s							
SCRK	**Sand Creek**	**3.80**	**44**		**Pn**	**21 46 13.7**	**+2.8**
BCAR	**Beaver Creek A**	**4.20**	**63**		**Pn**	**21 46 19.3**	**+2.9**
M16K	**Timber Creek**	**4.34**	**269**	IAML		21 48 43.2	
comp=E,75nm,0.8s							
H21K	**Melozitna River**	**4.45**	**345**		**Pn**	**21 46 20.8**	**+1.0**
H21K				IAML		21 48 54.8	
comp=E,63nm,0.6s							
H21K				IAML		21 48 56.0	
comp=N,61nm,0.9s							
L16K	**Owhat River**	**4.53**	**278**		**Pn**	**21 46 21.0**	**+0.2**
M13K	**Dall Lake**	**6.58**	**267**	Pn	**Pn**	**21 46 49.5**	**+0.6**
A36M	**Sachs Harbour**	**14.30**	**32**	Pn	**Pn**	**21 48 31.0**	**-3.2**

*NEIC **30** 21:46:05.6±0.9, 61°.51N±0°.03×149°.91W±0°.04, h39km±4km, Error ellipse: s-maj=4.8km s-min=2.8km az=191.0*

AEIC 30 21:46:06.3±1.0, **61°.51N**±0°.03×**149°.90W**±0°.04, **h36**km±4km, **ML3.1, ML3.2**/26(NEIC), **Error ellipse: s-maj=4.1km s-min=2.7km az=189.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.26**	**337**		Pn	21 46 12.9	-1.3
M22K					Sn	21 46 19.1	-1.6
M22K					IAML	21 46 20.2	
comp=N,772nm,0.7s							
PMR	**Palmer**	**0.38**	**78**		Pn	21 46 14.4	-0.7
PMR					Sn	21 46 21.6	0.0
SUA	**Susitna One**	**0.41**	**263**	Pn	Pn	21 46 14.8	-0.9
SUA					Sn	21 46 22.1	-0.2
SUA				IAML		21 46 34.9	
comp=E,851nm,0.3s							
SUA				IAML		21 46 35.0	
comp=N,1μm,0.3s							
RC01	**Rabbit Creek A**	**0.43**	**169**		Pn	21 46 15.1	-0.8
RC01					Sn	21 46 22.7	0.0
GHO	**Glory Hole Cre**	**0.54**	**61**		Pn	21 46 16.7	-0.9
GHO					Sn	21 46 25.4	0.0
KNK	**Knik Glacier**	**0.70**	**98**		Pn	21 46 19.1	-0.7
SKT	**Skwentna**	**0.91**	**302**	Pn	Pn	21 46 21.5	-1.0
SKT					Sn	21 46 33.2	-1.2
CUT	**Chulitna**	**0.91**	**349**		Sn	21 46 33.9	-0.5
CUT	**Chulitna**	**0.91**	**349**	Pn	Pn	21 46 22.1	-0.5
STLK	**Strandline Lak**	**0.93**	**270**		Pn	21 46 22.2	-0.6
STLK	**Strandline Lak**	**0.93**	**270**		Sn	21 46 34.0	-1.0
BWN	**Browne**	**2.68**	**4**		Pn	21 46 46.3	-0.5
WRH	**Wood River Hil**	**3.08**	**15**		Pn	21 46 53.7	+1.3
L26K	**Log Cabin Wild**	**3.42**	**61**		Pn	21 46 56.4	-0.7
J25K	**Salcha River,**	**3.73**	**32**		Pn	21 47 01.6	+0.3

*IDC **30** 21:46:25.4±1.4, 61°.37N×150°.56W, h68km±14km, mb3.7/11, mbtmp3.9/16, MS4.5/2, Error ellipse: s-maj=18.0km s-min=9.4km az=105.0*

*NEIC **30** 21:46:26.1±2.3, 61°.42N±0°.03×150°.01W±0°.05, h35km±9km, ML3.8/152, Error ellipse: s-maj=4.5km s-min=3.3km az=169.0*

ISC 30 21:46:24.4±0.7, **61°.39N**±0°.03×**150°.04W**±0°.03, **h49**km±6km, **n155**, σ1§**42**/159, **mb4.1**/11, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.33**	**154**		**Pn**	**21 46 33.5**	**-0.3**
RC01					**Sn**	**21 46 40.6**	**+0.2**
RC01				IAML		21

baz=171
PMR Palmer 0.48 64 Pn Pn 21 46 34.7 -0.7
PMR Sn **Sn 21 46 42.6 -0.6**
PMR IAML 21 46 43.3
comp=N,8μm,0.6s
PMR IAML 21 46 43.7
comp=E,7μm,0.6s
PMR Palmer 0.48 64 P Pn 21 46 35.0 -0.4
baz=244
PMR S **Sn 21 46 42.8 -0.4**
baz=244
GHO Glory Hole Cre 0.66 54 Pn Pn 21 46 37.4 -0.3
GHO Sn **Sn 21 46 47.2 -0.1**
GHO IAML 21 46 48.2
comp=N,7μm,0.5s
KNK Knik Glacier 0.76 87 Pn Pn 21 46 39.0 +0.1
KNK Sn **Sn 21 46 50.6 +1.1**
KNK IAML 21 46 51.1
comp=N,5μm,0.6s
KNK IAML 21 46 53.0
comp=E,5μm,0.5s
KNK Knik Glacier 0.76 87 P Pn 21 46 39.0 +0.1
baz=269
KNK S **Sn 21 46 50.8 +1.3**
baz=269
CAPN Captain Cook N 0.82 222 Pn 21 46 41.5 +1.8
STLK Strandline Lak 0.87 278 Pn **Pn 21 46 41.1 +0.7**
STLK Sn **Sn 21 46 53.4 +1.3**
STLK IAML 21 46 54.1
comp=N,6μm,0.5s
STLK IAML 21 46 54.3
comp=E,2μm,0.8s
SML Sawmill 0.92 62 Pn **Pn 21 46 40.8 -0.3**
SML IAML 21 46 57.3
comp=N,3μm,0.7s
SML Sawmill 0.92 62 P Pn 21 46 41.0 -0.1
baz=243
SKT Skwentna 0.93 311 P Pn 21 46 41.4 +0.3
baz=128
SKT S **Sn 21 46 54.5 +1.1**
baz=128
PWL Port Wells 0.98 122 P Pn 21 46 42.3 +0.4
baz=304
PWL S **Sn 21 46 55.9 +1.1**
baz=304
CUT Chulitna 1.03 354 P Pn 21 46 42.8 +0.4
baz=173
CUT S **Sn 21 46 56.8 +1.0**
baz=173
N20K Mount Spurr 1.06 261 P Pn 21 46 43.6 +0.6
baz=79
SPCR Spurr Chakacha 1.06 261 P Pn 21 46 43.6 +0.6
baz=79
M23K Glacier View 1.18 69 P Pn 21 46 44.9 +0.3
baz=250
SEW Seward 1.32 167 P Pn 21 46 47.2 +0.8
baz=348
SCM Sheep Creek Mo 1.37 70 P Pn 21 46 47.7 +0.5
baz=252
GLI Glacier Island 1.52 108 P Pn 21 46 49.0 -0.2
baz=291
M20K Styx River 1.56 290 P Pn 21 46 51.3 +1.5
baz=107
WAT1 Susitna Watana 1.61 25 P Pn 21 46 51.0 +0.6
baz=206
BRSE Bradley Lake S 1.69 192 P Pn 21 46 51.6 +0.1
baz=12
PPLA Purkeypile 1.82 327 P Pn 21 46 53.7 +0.3
baz=145
HOM Homer 1.91 205 Pn 21 46 55.8 +1.4
HOM Sn **Sn 21 47 20.8 +3.6**
HOM Homer 1.91 205 P **Pn 21 46 55.2 +0.8**
baz=24
CNPM China Poot 1.96 198 Pn **Pn 21 46 56.2 +1.1**
CNPM IAML 21 47 24.1
comp=E,1μm,0.7s
CNPM IAML 21 47 25.5
comp=N,901nm,0.5s
M24K Tolsona, Glenn 1.98 67 P Pn 21 46 56.3 +0.9
baz=250
KLU Klutina 1.98 85 Pn **Pn 21 46 56.1 +0.6**
KLU IAML 21 47 28.1
comp=N,790nm,0.5s
KLU Klutina 1.98 85 P Pn 21 46 55.9 +0.4
baz=269
ILSW Iliamna Southw 2.08 229 Pn 21 46 57.9 +1.0
ILSW IAML 21 47 27.7
comp=E,590nm,0.7s
DHY Denali Highway 2.10 35 Pn **Pn 21 46 58.6 +1.3**
DHY IAML 21 47 29.9
comp=E,1μm,0.6s
DHY IAML 21 47 30.3
comp=N,1μm,0.9s
DHY Denali Highway 2.10 35 P Pn 21 46 58.2 +1.0
baz=217
M19K Big River Lodg 2.14 286 Pn **Pn 21 46 58.6 +1.0**
M19K Big River Lodg 2.14 286 P **Pn 21 46 58.7 +1.0**
baz=102
N19K Bonanza Creek 2.23 257 Pn **Pn 21 47 00.2 +1.2**
N19K IAML 21 47 43.0
comp=N,461nm,0.9s
CAST Castle Rocks 2.25 336 Pn **Pn 21 47 00.5 +1.4**
CAST IAML 21 47 43.3
comp=E,436nm,1.1s
P19K Oil Pt 2.35 224 Pn 21 47 03.0 +2.4
O19K Port Alsworth 2.42 242 Pn 21 47 04.4 +3.0
L19K White Mountain 2.42 291 Pn **Pn 21 47 02.9 +1.4**
N25K Chitina, Valde 2.62 83 Pn **Pn 21 47 06.0 +1.8**
N25K IAML 21 47 48.0
comp=N,372nm,0.8s
BWN Browne 2.81 5 Pn 21 47 08.9 +2.1
RAGM Ragged Mountai 2.81 109 Pn Pn 21 47 11.2 +4.4
N18K Kilae Creek 2.93 259 Pn **Pn 21 47 09.1 +0.6**
N18K IAML 21 47 44.1
comp=N,272nm,0.6s
GLB Gilahina Butte 3.00 86 Pn **Pn 21 47 12.3 +2.9**
GLB IAML 21 48 04.0
comp=N,330nm,0.8s
SYI Shuyak Island 3.03 204 Pn 21 47 11.5 +1.8
SYI IAML 21 48 00.1
comp=E,231nm,0.8s
SYI IAML 21 48 00.5
comp=N,230nm,0.7s
Q19K Cape Douglas, 3.06 218 Pn 21 47 12.4 +2.2
KAIM Kayak Island 3.13 115 Pn Pn 21 47 14.4 +3.2
KAIM IAML 21 48 11.8
comp=E,234nm,0.7s
KAIM IAML 21 48 15.9
comp=N,258nm,0.9s
WRH Wood River Hil 3.22 15 Pn 21 47 15.3 +2.9
WRH IAML 21 48 07.0
comp=N,237nm,0.7s
WRH IAML 21 48 11.6
comp=E,289nm,0.8s
NEA2 Nenana 3.25 7 Pn 21 47 12.7 -0.2
BERG Berg Lake 3.25 105 Pn Pn 21 47 17.3 +4.4
P18K Big Mountain, 3.26 234 Pn 21 47 16.4 +3.4
HDA Harding Lake 3.35 24 Pn **Pn 21 47 17.1 +2.9**
HDA IAML 21 48 13.5
comp=E,316nm,0.8s
MENT Mentasta 3.35 60 Pn Pn 21 47 18.6 +4.4
J20K Nowinta River 3.38 328 Pn **Pn 21 47 15.2 +0.7**
J20K IAML 21 48 19.7
comp=E,237nm,0.7s
J20K IAML 21 48 19.8
comp=N,217nm,0.8s
MCARA McCarthy VSAT 3.38 87 Pn Pn 21 47 17.9 +3.3
CRQM Cirque 3.41 98 Pn Pn 21 47 19.5 +4.3
CRQM IAML 21 48 14.1
comp=E,351nm,1.3s
CCB Clear Creek Bu 3.43 16 Pn **Pn 21 47 15.8 +0.6**
CCB IAML 21 48 13.6
comp=E,169nm,0.5s
L26K Log Cabin Wild 3.54 59 Pn **Pn 21 47 19.6 +2.8**
L26K IAML 21 48 14.6
comp=N,300nm,0.6s
M17K Holitna River 3.56 273 Pn **Pn 21 47 17.8 +0.8**
TGL Tana Glacier 3.56 97 Pn 21 47 20.8 +3.6
TGL IAML 21 48 16.1
comp=E,262nm,0.6s
TGL IAML 21 48 17.9
comp=N,305nm,0.8s
COLA College 3.64 15 Pn 21 47 21.1 +3.0
J19K Poorman 3.67 318 Pn **Pn 21 47 19.6 +1.0**
J19K IAML 21 48 36.2
comp=N,144nm,0.8s
J19K IAML 21 48 38.0
comp=E,147nm,0.9s
MLY Manley 3.67 355 Pn **Pn 21 47 19.6 +1.0**
ILAR Eielson Array 3.69 22 Pn 21 47 19.2 +0.4
ILAR Eielson Array 3.69 22 P **Pn 21 47 21.2 +2.4**
comp=E,12nm,0.4s,baz=199,slow=14,SNR=7.2
ILAR S **Sn 21 48 06.3 +5.4**
comp=E,12nm,0.4s,baz=230,slow=16,SNR=5.2
IL03 Eielson Array 3.69 22 Pn **Pn 21 47 19.3 +0.4**
SNH Sunshine Point 3.73 106 Pn **Pn 21 47 21.4 +1.9**
SNH IAML 21 48 22.8
comp=E,129nm,0.6s
J18K Innoko River 3.74 307 Pn 21 47 20.4 +0.8
I23K Minto, Yukon-K 3.79 4 Pn **Pn 21 47 21.8 +1.6**
I23K IAML 21 48 28.9
comp=N,159nm,1.3s
I23K IAML 21 48 30.7
comp=E,134nm,1.1s
SCRK Sand Creek 3.81 44 Pn **Pn 21 47 23.0 +2.4**
SCRK IAML 21 48 29.2
comp=N,163nm,0.8s
KDAK Kodiak Island 3.84 201 Pn 21 47 23.6 +2.6
KDAK IAML 21 48 21.3
comp=N,142nm,1.1s
KDAK IAML 21 48 26.9
comp=N,132nm,0.9s
KDAK Kodiak Island 3.84 201 P **Pn 21 47 22.4 +1.5**
comp=N,6.6nm,0.3s,baz=51,slow=13,SNR=1.7
KDAK S **Sn 21 48 03.0 -1.7**
comp=N,45nm,0.6s,baz=174,slow=13,SNR=1.9
J25K Salcha River, 3.88 31 Pn Pn 21 47 24.5 +3.1
J25K IAML 21 48 16.6
comp=E,212nm,0.6s
J25K IAML 21 48 28.3
comp=N,167nm,0.8s
I21K Tanana 3.91 348 Pn 21 47 24.7 +2.9
I21K IAML 21 48 38.7
comp=E,109nm,0.9s
POKR Poker Plat Res 3.92 16 Pn 21 47 23.7 +1.6
POKR IAML 21 48 35.5
comp=E,146nm,0.8s
POKR IAML 21 48 37.2
comp=N,141nm,0.9s
I20K Naaghedeneel 3.97 331 Pn **Pn 21 47 24.5 +1.8**
M27K Edge Creek, AK 3.99 72 Pn **Pn 21 47 23.7 +0.6**
K17K Iditarod 4.11 293 Pn **Pn 21 47 24.5 -0.1**
K17K IAML 21 48 38.4
comp=E,147nm,0.8s
K17K IAML 21 48 39.9
comp=N,170nm,1.4s
ACHA Angle Creek He 4.16 222 Pn 21 47 26.9 +1.5
L27K Beaver Creek, 4.20 63 Pn **Pn 21 47 27.5 +1.7**
BCAR Beaver Creek A 4.21 63 Pn **Pn 21 47 27.2 +1.1**
J26L Joseph Creek 4.30 41 Pn **Pn 21 47 30.1 +2.8**
J26L IAML 21 48 38.3
comp=E,140nm,0.9s
M16K Timber Creek 4.33 269 Pn 21 47 28.4 +0.8
M16K IAML 21 48 53.3
comp=N,84nm,0.8s
O16K Kokwok River B 4.37 249 Pn 21 47 28.7 +0.6
O16K IAML 21 48 39.5
comp=N,115nm,1.2s
O16K IAML 21 48 50.4
comp=E,88nm,0.7s
LOGN Logan Glacier 4.42 93 Pn 21 47 28.7 -0.4
LOGN IAML 21 48 48.4
comp=E,74nm,1.1s
LOGN IAML 21 48 50.6
comp=N,90nm,0.9s
H21K Melozitna Rive 4.46 345 Pn **Pn 21 47 29.4 0.0**
OHAK Old Harbor 4.50 203 Pn 21 47 32.4 +2.5
OHAK IAML 21 48 44.0
comp=E,73nm,0.8s
OHAK IAML 21 48 54.9
comp=N,69nm,0.9s
L16K Owhat River 4.53 278 Pn **Pn 21 47 28.8 -1.5**
L16K IAML 21 48 53.1
comp=N,71nm,0.9s
L16K IAML 21 48 58.4
comp=E,66nm,1.1s
H24K Noodor Dome 4.57 11 IAML 21 48 57.0
comp=E,75nm,1.2s
PRP Porcupine Dome 4.61 24 Pn **Pn 21 47 33.0 +1.4**
PRP IAML 21 48 48.9
comp=E,104nm,0.7s
PRP IAML 21 48 57.4
comp=N,127nm,0.9s
J17K VABM Dome 4.66 300 Pn 21 47 30.9 -1.2
J17K IAML 21 49 05.4
comp=E,62nm,1.1s
J17K IAML 21 49 05.8
comp=N,66nm,0.8s
IMAR Indian Mountai 4.90 342 Pn **Pn 21 47 34.5 -0.9**
PLK4 Peulik 4 4.95 223 Pn 21 47 36.4 +0.1
PLK4 IAML 21 49 07.0
comp=N,108nm,1.4s
PLK4 IAML 21 49 19.9
comp=E,87nm,1.0s
H19K Roundabout Mou 5.05 328 Pn 21 47 38.3 +0.9
H19K IAML 21 49 13.5
comp=E,60nm,1.1s
H19K IAML 21 49 15.5
comp=N,68nm,1.2s
N15K Kwethluk River 5.08 260 Pn **Pn 21 47 38.3 +0.5**
N15K IAML 21 49 21.6
comp=E,98nm,1.3s
J16K Anvik River 5.28 296 Pn **Pn 21 47 41.0 +0.5**
J16K IAML 21 50 21.1
comp=N,46nm,1.4s
J16K IAML 21 50 23.3
comp=E,42nm,1.4s
BCPM Bancas Point 5.32 101 Pn **Pn 21 47 41.3 +0.2**
BCPM IAML 21 49 06.0
comp=N,55nm,0.9s
BCPM IAML 21 49 14.3
comp=E,70nm,1.2s
H18K Honhosa River 5.33 319 Pn 21 47 42.2 +0.9
H18K IAML 21 49 28.1
comp=N,39nm,1.1s
G23K Bananza Creek 5.34 0 Pn **Pn 21 47 42.0 +0.4**
G21K Allakaket 5.37 345 Pn **Pn 21 47 43.9 +2.0**
G21K IAML 21 49 22.6
comp=E,38nm,1.0s
G21K IAML 21 49 26.8
comp=N,47nm,0.7s
G24K Hadweenzic Riv 5.45 11 Pn **Pn 21 47 44.0 +1.0**
K15K Wolf Creek Mou 5.52 285 Pn **Pn 21 47 44.5 +0.6**
M29M Somme Creek 5.57 74 Pn 21 47 44.8 +0.1
FYU Fort Yukon 5.61 20 Pn **Pn 21 47 45.4 +0.3**
G18K Tagagawik 5.93 323 Pn 21 47 49.4 -0.2
HYT Haines Junctio 6.11 90 Pn 21 47 53.1 +1.0
F24K Squaw Lake 6.23 8 Pn **Pn 21 47 54.1 +0.4**
P29M Windy Craggy 6.33 101 Pn 21 47 55.8 +0.7
M30M Minto, Yukon 6.36 73 Pn **Pn 21 47 56.8 +1.4**
J14K Nanvaranak Lak 6.50 288 Pn **Pn 21 47 58.4 +1.2**
BMAR Burnt Mountain 6.51 19 Pn 21 47 58.1 +0.6
F25K Christian Rive 6.51 15 Pn 21 47 58.4 +0.9
E23K Chandalar 6.70 1 Pn 21 48 00.8 +0.7
O30N Mendenhall 6.80 89 Pn 21 48 02.4 +1.0
F26K Sheenjek River 6.82 19 Pn 21 48 02.8 +1.1
N31M Braeburn, Yuko 6.84 83 Pn **Pn 21 48 02.9 +0.9**
F17K Baldwin Pennin 7.07 321 Pn **Pn 21 48 05.9 +0.8**
H29M Whitestone 7.08 42 Pn 21 48 06.2 +1.0
I30M Mount Dempster 7.25 52 Pn **Pn 21 48 08.8 +1.0**
WHY Whitehorse 7.40 89 Pn **Pn 21 48 11.1 +1.3**
M31M Drury Creek, Y 7.46 77 Pn 21 48 09.9 -0.7
SKAG Skagway 7.53 98 Pn 21 48 11.6 +0.1
E18K Tukpahlearik C 7.58 328 Pn 21 48 12.8 +0.7
D22K Ayikyak River 7.61 353 Pn **Pn 21 48 14.7 +2.3**
D23K Nanushuk River 7.62 358 Pn 21 48 14.6 +2.0
EPYK Eagle Plains 7.71 44 Pn 21 48 15.0 +1.1
E27K Coleen River 7.71 24 Pn 21 48 14.6 +0.7
H31M Peel River 8.27 51 Pn **Pn 21 48 23.5 +1.9**
E28M Babbage River 8.49 27 Pn **Pn 21 48 27.3 +2.8**
C23K Itkillik River 8.49 359 Pn Pn 21 48 29.1 +4.6
G31M Satah River 8.83 44 Pn **Pn 21 48 30.0 +0.9**
F31M Tsiigehtchic 9.28 42 Pn 21 48 36.7 +1.4
INK Inuvik 9.85 38 P **Pn 21 48 45.8 +2.8**
comp=N,1.6nm,0.4s,baz=239,slow=16,SNR=7.9
INK S **Sn 21 50 34.9 +2.9**
comp=N,1.6nm,0.4s,baz=196,slow=31,SNR=2.2
DLBC Dease Lake 10.46 98 P Pn 21 48 55.7 +4.1
comp=N,0.6nm,0.4s,baz=311,slow=19,SNR=1.6
C36M Paulatuk 13.34 42 Pn **Pn 21 49 32.7 +2.0**
YKA Yellowknife Ar 16.58 71 P **P 21 50 14.3 -0.7**
comp=N,0.5nm,0.7s,baz=285,slow=10,SNR=8.7
ELK Elko 29.52 118 P **P 21 52 25.8 +1.7**
comp=N,0.5nm,0.4s,baz=314,slow=14,SNR=3.5
comp=N,0.5nm,0.4s
NVAR Mina Array Bea 30.22 125 P **P 21 52 31.6 +1.3**
comp=N,0.4nm,0.6s,baz=336,slow=11,SNR=2.1
comp=N,0.4nm,0.6s
PDAR Pinedale Array 30.39 109 P **P 21 52 32.9 +1.2**
comp=N,0.5nm,0.6s,baz=326,slow=5.2,SNR=5.9
comp=N,0.5nm,0.6s
JMIC Jan Mayen 45.20 17 LR LR 22 14 15.9
comp=N,462nm,22.0s,baz=265,slow=37
ARCES ARCESS Array B 49.33 2 P **P 21 55 06.9 -1.0**
comp=N,4.7nm,1.0s,baz=16,slow=6.9,SNR=1.9
comp=N,4.7nm,1.0s
FINES FINESS Array B 57.46 2 P **P 21 56 06.2 -1.3**
comp=N,4.6nm,1.0s,baz=11,slow=12,SNR=6.7
comp=N,4.6nm,1.0s
EKA Eskdalemuir Ar 60.73 21 P **P 21 56 29.4 -0.8**
comp=N,3.6nm,1.0s,baz=322,slow=5.6,SNR=4.0
comp=N,3.6nm,1.0s
BVAR Borovoye Array 61.50 334 P **P 21 56 33.8 -1.8**
comp=N,1.5nm,0.6s,baz=37,slow=7.9,SNR=7.4
comp=N,1.5nm,0.6s
KURBB Kurchatov Arra 61.78 327 P **P 21 56 35.8 -1.6**
comp=N,0.8nm,0.3s,baz=30,slow=6.5,SNR=2.8
comp=N,0.8nm,0.3s
MKAR Makanchi Array 64.23 323 P **P 21 56 51.8 -2.0**
comp=N,0.6nm,0.5s,baz=36,slow=6.8,SNR=7.8
comp=N,0.6nm,0.5s
AKASG Malin Array Be 68.26 1 P **P 21 57 18.0 -1.5**
comp=N,0.8nm,0.4s,baz=3.3,slow=6.1,SNR=6.9
comp=N,0.8nm,0.4s
KVAR Kislovodsk Arr 74.50 350 LR LR 22 32 27.6
comp=N,352nm,21.5s,baz=272,slow=37
ESDC Sonseca Array 75.58 26 P **P 21 58 02.8 -0.8**
comp=N,0.6nm,0.7s,baz=343,slow=3.2,SNR=5.3
comp=N,0.6nm,0.7s
QSPA South Pole Qui 151.19 180 PKPbc **PKiKP 22 06 09.6 -1.4**
comp=N,1.3nm,0.2s,baz=75,slow=0.5,SNR=8.2

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*BJI **30** 21:47:23.9, 60°.29N×177°.86W, h2km, mb4.7/50, mB5.1/15, Ms5.3/36, Ms7 4.9/36*
*NEIC **30** 21:47:27.9±2.2, 60°.39N±0°.06×177°.7W±0°.1, h10km±1km, mb4.6/201, Error ellipse: s-maj=11.1km s-min=8.8km az=220.0*
*NERS **30** 21:47:28.0, 60°.48N×177°.56W, h16km, MPV4.8*
*MOS **30** 21:47:30.2±1.0, 60°.53N×177°.62W, h33km, mb5.0/38, MS4.7/8, Error ellipse: s-maj=8.7km s-min=6.1km az=105.3*
*IDC **30** 21:47:32.5±2.2, 60°.47N×177°.61W, h39km±21km, mb4.0/32, mbtmp4.3/37, ML4.3/5, MS4.6/57, Error ellipse: s-maj=15.1km s-min=8.9km az=177.0*
ISC 30 21:47:28.5±0.3, 60°.37N±0°.05×177°.68W±0°.03, h10km, n626, σ1$38/574, mb4.7/147, MS4.8/76, 6C-6D, Bering Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAMB	**Gambell**	**4.42**	**37**	Pn	Pn	21 48 32.5	-3.0
GAMB	**Gambell**	**4.42**	**37**	P	**Pn**	**21 48 33.0**	**-2.5**
baz=222							
PVDR	**Provideniya**	**4.57**	**25**	*e*P	Pn	21 48 34.5	-3.1
PVDR				*e*Pg	**Pb**	**21 48 48.8**	**+0.1**
PVDR				Pgmax		21 48 48.8	
2μm,0.6s							
PVDR				*e*Sg	**Sb**	**21 49 47.9**	**+4.2**
PVDR				Sgmax		21 50 01.2	
4μm,0.9s							
PVDR				Sgmax		21 50 01.2	
2μm,0.8s							
PVDR	**Provideniya**	**4.57**	**25**	*e*PN	Pn	21 48 34.5	-3.1
ANDR	**Anadyr'**	**4.92**	**335**	*e*P	**Pn**	**21 48 41.9**	**-0.4**
ANDR				Pmax		21 48 46.8	
450nm,0.4s							
ANDR				*e*Sg	**Sb**	**21 49 58.0**	**+4.4**
ANDR				Sgmax		21 50 29.7	
1μm,1.1s							
ANDR	**Anadyr'**	**4.92**	**335**	*e*PN	**Pn**	**21 48 41.9**	**-0.4**
SPIA	**Saint Paul Isl**	**5.02**	**126**	Pn	Pn	21 48 41.3	-2.5
SPIA	**Saint Paul Isl**	**5.02**	**126**	P	Pn	21 48 40.9	-2.9
baz=313							
M11K	**Mekoryuk**	**5.69**	**85**	Pn	**Pn**	**21 48 51.6**	**-1.4**
M11K	**Mekoryuk**	**5.69**	**85**	P	**Pn**	**21 48 51.2**	**-1.8**
baz=275							
P08K	**Saint George I**	**5.70**	**128**	Pn	**Pn**	**21 48 52.4**	**-0.6**
K13K	**Kusilvak Mount**	**6.50**	**70**	Pn	**Pn**	**21 49 03.1**	**-0.9**
K13K	**Kusilvak Mount**	**6.50**	**70**	P	**Pn**	**21 49 03.1**	**-0.9**
baz=262							
TNA	**Tin City**	**6.84**	**36**	Pn	Pn	21 49 05.5	-3.2
TNA	**Tin City**	**6.84**	**36**	P	**Pn**	**21 49 06.7**	**-2.0**
baz=225							
ANM	**Nome**	**7.08**	**48**	Pn	Pn	21 49 08.6	-3.5
ANM	**Nome**	**7.08**	**48**	P	**Pn**	**21 49 10.5**	**-1.6**
baz=239							
ANM	**Nome**	**7.08**	**48**	PN	Pn	21 49 08.6	-3.4
M13K	**Dall Lake**	**7.10**	**83**	P	**Pn**	**21 49 10.7**	**-1.5**
baz=276							
J14K	**Nanvaranak Lak**	**7.15**	**64**		**Pn**	**21 49 11.1**	**-1.9**
J14K	**Nanvaranak Lak**	**7.15**	**64**	P	**Pn**	**21 49 11.5**	**-1.5**
baz=257							
F14K	**Arctic Creek**	**7.28**	**40**	P	**Pn**	**21 49 12.3**	**-2.4**
baz=231							
L14K	**Kuka Creek**	**7.39**	**76**	Pn	**Pn**	**21 49 14.8**	**-1.5**
L14K	**Kuka Creek**	**7.39**	**76**	P	Pn	21 49 13.6	-2.6
baz=269							
M14K	**Bethel**	**7.75**	**80**	Pn	**Pn**	**21 49 19.7**	**-1.5**
M14K	**Bethel**	**7.75**	**80**	P	**Pn**	**21 49 19.7**	**-1.5**
baz=274							
G15K	**Niukluk**	**7.79**	**48**	P	**Pn**	**21 49 19.3**	**-2.5**
baz=240							
L15K	**Ungalak Mounta**	**7.97**	**74**	P	**Pn**	**21 49 23.4**	**-0.9**
baz=268							
F15K	**North Star Dit**	**7.97**	**42**	Pn	**Pn**	**21 49 21.9**	**-2.3**
F15K	**North Star Dit**	**7.97**	**42**	P	**Pn**	**21 49 22.5**	**-1.7**
baz=234							
N14K	**Kuskokwak Cree**	**7.99**	**86**	P	**Pn**	**21 49 24.6**	**0.0**
baz=280							
K15K	**Wolf Creek Mou**	**8.00**	**69**	Pn	**Pn**	**21 49 23.4**	**-1.2**
K15K	**Wolf Creek Mou**	**8.00**	**69**	P	**Pn**	**21 49 23.8**	**-0.8**
baz=263							
H16K	**Elim**	**8.32**	**52**	P	**Pn**	**21 49 27.7**	**-1.2**
baz=246							
O14K	**Tigyukauivet M**	**8.35**	**91**	Pn	**Pn**	**21 49 32.5**	**+3.1**
O14K	**Tigyukauivet M**	**8.35**	**91**	P	**Pn**	**21 49 27.7**	**-1.7**
baz=285							
ATKA	**Atka Island**	**8.41**	**165**	Pn	Pn	21 49 26.6	-3.8
ADK	**Adak**	**8.53**	**176**	Pn	Pn	21 49 30.5	-1.3
ADK	**Adak**	**8.53**	**176**	PN	Pn	21 49 30.5	-1.4
KIWB	**Kanaga Island**	**8.54**	**178**	Pn	Pn	21 49 30.0	-2.1
G16K	**Koyuk River**	**8.61**	**48**	Pn	**Pn**	**21 49 31.4**	**-1.5**
G16K	**Koyuk River**	**8.61**	**48**	P	**Pn**	**21 49 31.7**	**-1.3**
baz=241							
I17K	**Unalakleet**	**8.69**	**59**	Pn	**Pn**	**21 49 34.6**	**+0.5**
SHEM	**Shemya Is, Ala**	**8.90**	**214**	Pn	**Pn**	**21 49 39.9**	**+3.0**
2.8nm,0.3s,baz=309,slow=22,SNR=1.8							
SHEM				Sn	**Sn**	**21 51 19.2**	**+2.0**
3.2nm,0.3s,baz=325,slow=23,SNR=1.5							
28nm,0.7s							
UNV	**Unalaska Valle**	**8.92**	**132**	Pn	**Pn**	**21 49 36.0**	**-1.3**
UNV	**Unalaska Valle**	**8.92**	**132**	P	**Pn**	**21 49 37.8**	**+0.5**
baz=322							
O15K	**Ungalikthiuk R**	**9.08**	**90**	P	**Pn**	**21 49 39.4**	**-0.1**
baz=285							
H17K	**Granite Mounta**	**9.35**	**53**	Pn	**Pn**	**21 49 41.0**	**-2.1**
S12K	**Black Hills**	**9.50**	**113**	Pn	Pn	21 49 38.8	-6.5
C16K	**Lisburne Hills**	**9.55**	**29**	Pn	Pn	21 49 42.2	-3.6
C16K	**Lisburne Hills**	**9.55**	**29**	P	**Pn**	**21 49 43.8**	**-2.0**
baz=220							
D17K	**Noatak River**	**9.72**	**35**	P	**Pn**	**21 49 45.6**	**-2.6**
baz=228							
RDOG	**Red Dog Mine**	**10.01**	**33**	Pn	**Pn**	**21 49 50.6**	**-1.5**
RDOG	**Red Dog Mine**	**10.01**	**33**	P	**Pn**	**21 49 50.0**	**-2.2**
baz=227							
H18K	**Honhosa River**	**10.04**	**53**	Pn	**Pn**	**21 49 51.7**	**-0.9**
C17K	**DeLong Mountai**	**10.23**	**31**	P	**Pn**	**21 49 53.5**	**-1.7**
baz=224							
BILL	**Bilibino**	**10.36**	**325**	Pn	Pn	21 49 54.3	-2.7
BILL	**Bilibino**	**10.36**	**325**	*e*P	**Pn**	**21 49 56.9**	**0.0**
BILL				Pmax		21 50 00.4	
BILL				*e*		21 53 13.6	
BILL	**Bilibino**	**10.36**	**325**	*e*PN	**Pn**	**21 49 56.9**	**0.0**
C18K	**Utukok River**	**10.88**	**33**	Pn	**Pn**	**21 50 02.6**	**-1.6**
C18K	**Utukok River**	**10.88**	**33**	P	**Pn**	**21 50 01.7**	**-2.4**

baz=228
CHGN Chignik 10.90 103 Pn 21 50 02.4 -1.9
CHGN Chignik 10.90 103 P Pn 21 50 02.9 -1.4
baz=300
L19K White Mountain 11.11 71 Pn **Pn 21 50 05.6 -1.7**
L19K White Mountain 11.11 71 P **Pn 21 50 05.3 -2.0**
baz=271
B18K Kokolik River 11.22 30 P **Pn 21 50 06.7 -2.0**
baz=224
EVEN Evensk 11.25 288 *e*P **Pn 21 50 09.9 +0.8**
EVEN Pmax 21 50 10.7
40nm,0.5s
M19K Big River Lodg 11.34 72 Pn **Pn 21 50 09.4 -1.0**
E19K Redstone River 11.41 43 Pn **Pn 21 50 09.5 -1.8**
K20K Telida 11.51 65 P **Pn 21 50 11.5 -1.2**
baz=266
L20K Farewell, AK 11.57 69 P **Pn 21 50 12.3 -1.2**
baz=270
C19K Lookout Ridge 11.62 34 Pn 21 50 12.3 -1.9
C19K Lookout Ridge 11.62 34 P Pn 21 50 11.3 -2.9
baz=230
Q18K Katmai Hardscr 11.63 89 P **Pn 21 50 12.8 -1.6**
baz=288
D19K Kuna River 11.68 38 Pn 21 50 14.6 -0.4
D19K Kuna River 11.68 38 P **Pn 21 50 14.8 -0.2**
baz=235
A19K Wainwright 12.01 28 P **Pn 21 50 18.1 -1.3**
baz=223
E20K Nigu River 12.15 40 P **Pn 21 50 20.2 -1.2**
baz=240
D20K Etivluk River 12.26 38 P **Pn 21 50 22.5 -0.3**
baz=237
G21K Allakaket 12.38 50 Pn **Pn 21 50 24.2 -0.4**
CHIR Chirikof Islan 12.50 102 Pn **Pn 21 50 26.0 -0.2**
F21K Alatna River 12.63 47 Pn **Pn 21 50 27.0 -0.9**
OMS Omsukchan 12.84 291 *e*P **Pn 21 50 32.0 +1.1**
OMS Pmax 21 50 33.1
20nm,0.3s
OMS Omsukchan 12.84 291 *e*PN **Pn 21 50 32.0 +1.1**
B20K Meade River 12.86 33 Pn **Pn 21 50 28.9 -2.1**
B20K Meade River 12.86 33 P **Pn 21 50 28.3 -2.7**
baz=232
BPAW Bear Paw Mtn. 12.94 62 Pn **Pn 21 50 32.4 +0.2**
BPAW Bear Paw Mtn. 12.94 62 P **Pn 21 50 32.0 -0.2**
baz=266
Q20K Shuyak Island 12.94 87 P **Pn 21 50 32.1 -0.1**
baz=289
OHAK Old Harbor 13.00 93 Pn **Pn 21 50 32.9 -0.1**
OHAK Old Harbor 13.00 93 P **Pn 21 50 34.7 +1.6**
baz=294
C21K Knifeblade Rid 13.05 38 P **Pn 21 50 33.1 -0.6**
baz=239
KDAK Kodiak Island 13.13 90 Pn **Pn 21 50 34.1 -0.7**
KDAK Kodiak Island 13.13 90 Pn **Pn 21 50 35.3 +0.5**
0.4nm,0.3s,baz=144,slow=15,SNR=3.6
KDAK LR LR 21 56 03.0
comp=Z,6μm,19.9s,baz=148,slow=39
12nm,0.7s
KDAK Kodiak Island 13.13 90 P **Pn 21 50 34.7 -0.1**
baz=292
MLY Manley 13.15 58 Pn **Pn 21 50 34.2 -0.9**
MLY Manley 13.15 58 P **Pn 21 50 35.3 +0.2**
baz=262
G22K Bettles 13.26 49 P **Pn 21 50 35.9 -0.6**
baz=253
B21K Ikpikpuk River 13.35 36 P **Pn 21 50 35.8 -2.0**
baz=238
E22K Anaktuvuk Pass 13.56 44 Pn **Pn 21 50 39.8 -1.0**
E22K Anaktuvuk Pass 13.56 44 P **Pn 21 50 38.9 -1.8**
baz=248
D22K Ayikyak River 13.58 41 Pn **Pn 21 50 39.5 -1.4**
D22K Ayikyak River 13.58 41 P **Pn 21 50 39.8 -1.2**
baz=243
I23K Minto, Yukon-K 13.74 58 P **Pn 21 50 43.0 -0.1**
baz=263
G23K Bananza Creek 13.77 51 Pn **Pn 21 50 43.0 -0.5**
G23K Bananza Creek 13.77 51 P **Pn 21 50 43.5 0.0**
baz=256
H23K Yukon River 13.77 55 Pn **Pn 21 50 42.2 -1.4**
NEA2 Nenana 13.81 60 Pn **Pn 21 50 42.6 -1.5**
COLD Coldfoot 13.84 49 Pn **Pn 21 50 43.3 -1.1**
RND Reindeer 13.86 65 Pn **Pn 21 50 44.7 -0.1**
RND Reindeer 13.86 65 P **Pn 21 50 44.7 -0.1**
SEW Seward 13.98 79 Pn **Pn 21 50 46.0 -0.3**
A22K Sinclair Lake 14.05 31 P **Pn 21 50 45.8 -1.5**
baz=232
B22K Teshekpuk Lake 14.09 35 Pn 21 50 45.6 -2.2
WRH Wood River Hil 14.22 61 Pn **Pn 21 50 47.5 -2.2**
D23K Nanushuk River 14.27 42 Pn Pn 21 50 47.1 -3.3
E23K Chandalar 14.31 46 Pn **Pn 21 50 48.7 -2.2**
COLA College 14.35 59 P Pn 21 50 56.5 +5.0
COLA College 14.35 59 P Pn 21 50 56.5 +5.0
CCB Clear Creek Bu 14.36 60 Pn **Pn 21 50 50.9 -0.6**
SEY Seymchan 14.38 293 *e*P **Pn 21 50 53.3 +1.4**
SEY Seymchan 14.38 293 Pn **Pn 21 50 53.2 +1.4**
0.4nm,0.3s,baz=91,slow=11,SNR=14
19nm,1.0s
H24K Noodor Dome 14.45 55 P Pn 21 50 58.3 +5.5
TOLK Toolik Lake Re 14.52 43 Pn **Pn 21 50 52.2 -1.6**
POKR Poker Plat Res 14.55 58 Pn **Pn 21 50 52.4 -1.8**
C23K Itkillik River 14.67 39 Pn Pn 21 50 52.4 -3.4
E24K Your Creek 14.71 46 Pn **Pn 21 50 56.2 -0.3**
HDA Harding Lake 14.72 61 Pn **Pn 21 50 56.3 -0.1**
HDA Harding Lake 14.72 61 P **Pn 21 50 56.4 0.0**
baz=268
G24K Hadweenzic Riv 14.76 52 P **Pn 21 50 56.4 -0.6**
baz=259
IL31 14.76 59 Pn **Pn 21 50 57.5 +0.5**
ILAR Eielson Array 14.76 59 Pn 21 50 56.6 -0.4
ILAR Eielson Array 14.76 59 LR LR 21 57 17.0
comp=Z,2μm,19.2s,baz=252,slow=40
ILAR Eielson Array 14.76 59 P **Pn 21 50 56.6 -0.4**
IL03 Eielson Array 14.77 59 Pn **Pn 21 50 57.2 0.0**
F24K Squaw Lake 14.78 48 Pn 21 50 56.6 -0.7
F24K Squaw Lake 14.78 48 P **Pn 21 50 58.0 +0.7**
baz=255
PET Petropavlovsk 14.87 251 Pn 21 50 57.3 -1.3
PET Petropavlovsk 14.87 251 *i* P **Pn 21 51 00.7 +2.1**
D24K Happy Valley 14.96 42 P **Pn 21 51 00.4 +0.7**
baz=248
M24K Tolsona, Glenn 15.18 70 Pn **Pn 21 51 02.2 -0.6**
C24K Franklin Bluff 15.22 40 Pn 21 51 01.6 -1.5
C24K Franklin Bluff 15.22 40 P **Pn 21 51 02.6 -0.5**
baz=246
PEA0B Petropavlovsk- 15.27 253 P **Pn 21 51 05.4 +1.5**
PEA0B Petropavlovsk- 15.27 253 P **Pn 21 51 05.4 +1.5**
PEA0B pmax pmax
comp=Z,143nm,1.2s
PETK Petropavlovsk- 15.27 253 P **Pn 21 51 07.1 +3.2**
PETK Petropavlovsk- 15.27 253 Pn **Pn 21 51 06.2 +2.3**
comp=Z,2.5nm,0.3s,baz=62,slow=20,SNR=36
PETK LR LR 21 57 42.5
comp=Z,881nm,19.5s,baz=55,slow=40
comp=Z,12nm,0.5s
PETK Petropavlovsk- 15.27 253 P **Pn 21 51 07.1 +3.2**
FID Port Fidalgo 15.27 75 P **Pn 21 51 07.2 +3.3**
PRP Porcupine Dome 15.38 57 Pn **Pn 21 51 04.0 -1.5**
PRP IAmb IAmb 21 51 14.4
comp=Z,36nm,1.1s
PRP Porcupine Dome 15.38 57 P **Pn 21 51 06.2 +0.8**
baz=266
J25K Salcha River, 15.40 60 Pn 21 51 06.1 +0.4
J25K Salcha River, 15.40 60 P **Pn 21 51 06.3 +0.6**
baz=269
FYU Fort Yukon 15.62 53 Pn **Pn 21 51 09.3 +1.0**
F25K Christian Rive 15.64 49 Pn **Pn 21 51 08.8 +0.1**
F25K Christian Rive 15.64 49 P **Pn 21 51 09.7 +1.0**
baz=258
MA2 Magadan 15.74 281 *e*P **Pn 21 51 11.1 +1.1**
MA2 Pmax 21 51 19.7
comp=Z,20nm,1.2s
MA2 Magadan 15.74 281 Pn **Pn 21 51 11.1 +1.1**
comp=Z,0.6nm,0.3s,baz=60,slow=14,SNR=3.0
MA2 LR LR 21 57 34.5
comp=Z,1μm,18.3s,baz=78,slow=38
comp=Z,18nm,1.0s
D25K Kavik River 15.84 43 Pn **Pn 21 51 10.3 -1.0**
D25K IAmb IAmb 21 51 20.1
comp=Z,48nm,1.0s
D25K Kavik River 15.84 43 P **Pn 21 51 12.1 +0.8**
baz=251
N25K Chitina, Valde 16.00 71 Pn **Pn 21 51 13.6 +0.1**
N25K IAmb IAmb 21 51 31.1
comp=Z,74nm,1.4s
N25K Chitina, Valde 16.00 71 P **Pn 21 51 15.4 +2.0**
baz=280
BMAR Burnt Mountain 16.00 50 Pn 21 51 13.7 +0.2
SCRK Sand Creek 16.02 62 Pn **Pn 21 51 12.7 -1.0**
SCRK Sand Creek 16.02 62 P **Pn 21 51 15.0 +1.4**
baz=272
BMRM Bremner River 16.12 73 P **Pn 21 51 16.5 +1.5**
baz=282
J26L Joseph Creek 16.18 61 Pn **Pn 21 51 15.5 -0.3**
J26L Joseph Creek 16.18 61 P **Pn 21 51 17.0 +1.3**
baz=271
MENT Mentasta 16.21 66 Pn **Pn 21 51 16.7 +0.6**
F26K Sheenjek River 16.22 49 Pn **Pn 21 51 14.9 -1.2**
F26K Sheenjek River 16.22 49 P **Pn 21 51 16.5 +0.3**
baz=259
RAGM Ragged Mountai 16.22 76 Pn **Pn 21 51 16.6 +0.4**
RAGM IAmb IAmb 21 51 44.9
comp=Z,47nm,1.0s
G26K Porcupine Rive 16.24 52 P **Pn 21 51 16.6 +0.3**
baz=262
SUUS Susuman 16.32 293 *e*P **Pn 21 51 18.8 +1.3**
SUUS Pmax 21 51 23.7
comp=Z,50nm,1.0s
SUUS Susuman 16.32 293 *e*P **Pn 21 51 18.8 +1.3**
L26K Log Cabin Wild 16.37 66 Pn **Pn 21 51 17.5 -0.6**
L26K Log Cabin Wild 16.37 66 P **Pn 21 51 18.5 +0.3**
baz=276
GLB Gilahina Butte 16.40 72 Pn **Pn 21 51 18.5 0.0**
KAIM Kayak Island 16.47 77 Pn **Pn 21 51 18.1 -1.2**
KAIM IAmb IAmb 21 51 49.1
comp=Z,55nm,1.0s
C26K Camden Bay 16.52 41 P **Pn 21 51 19.8 -0.1**
baz=251
VRDI Verde Repeater 16.61 72 Pn 21 51 20.4 -1.0
M26K Nabesna, AK 16.61 68 Pn **Pn 21 51 20.9 -0.3**
M26K Nabesna, AK 16.61 68 P **Pn 21 51 22.0 +0.7**
baz=279
BERG Berg Lake 16.69 75 Pn **Pn 21 51 21.1 -1.0**
BERG IAmb IAmb 21 51 49.9
comp=Z,52nm,1.2s
SUCK Suckling Hills 16.74 76 Pn **Pn 21 51 21.4 -1.4**
SUCK IAmb IAmb 21 51 39.5
comp=Z,55nm,1.2s
MCARA McCarthy VSAT 16.78 71 Pn 21 51 23.1 -0.3
MCARA McCarthy VSAT 16.78 71 P **Pn 21 51 24.8 +1.5**
baz=282
C27K Jago River 16.83 43 Pn **Pn 21 51 22.0 -1.8**
C27K IAmb IAmb 21 51 34.1
comp=Z,60nm,1.2s
C27K Jago River 16.83 43 P **Pn 21 51 23.7 -0.1**
baz=254
CRQM Cirque 16.87 74 P **Pn 21 51 24.6 0.0**
CRQM IAmb IAmb 21 51 45.8
comp=Z,90nm,1.1s
CRQE Cirque 16.89 74 P **Pn 21 51 25.4 +0.6**
baz=284
I27K Kandik River 17.01 57 P **Pn 21 51 25.8 -0.4**
baz=269
TGL Tana Glacier 17.02 73 P **Pn 21 51 25.8 -0.6**
TGL IAmb IAmb 21 51 34.0
comp=Z,67nm,1.1s
L27K Beaver Creek, 17.06 65 Pn 21 51 23.6 -3.2
L27K Beaver Creek, 17.06 65 P **Pn 21 51 26.5 -0.3**
baz=277
G27K Doyon Strip 17.06 53 P **Pn 21 51 25.7 -1.1**
G27K IAmb IAmb 21 51 38.5
comp=Z,50nm,1.3s
G27K Doyon Strip 17.06 53 P **Pn 21 51 26.5 -0.3**
baz=265
BCAR Beaver Creek A 17.07 65 Pn 21 51 26.1 -1.0
M27K Edge Creek, AK 17.14 68 Pn 21 51 26.3 -1.6
M27K Edge Creek, AK 17.14 68 P **Pn 21 51 27.6 -0.3**
baz=280
SNH Sunshine Point 17.16 75 Pn **Pn 21 51 27.3 -0.8**
SNH IAmb IAmb 21 51 50.0
comp=Z,74nm,1.3s
EGAK Eagle 17.21 60 Pn **Pn 21 51 27.6 -1.0**
E27K Coleen River 17.25 48 Pn **Pn 21 51 27.2 -2.0**
E27K Coleen River 17.25 48 P **Pn 21 51 29.0 -0.3**
baz=261
GRNC Granite Creek 17.53 73 Pn 21 51 31.2 -1.8
GRNC IAmb IAmb 21 51 40.0
comp=Z,79nm,1.2s
MESA MESA 17.59 75 Pn 21 51 32.9 -0.7
MESA IAmb IAmb 21 51 51.0
comp=Z,68nm,1.3s
MESA MESA 17.59 75 P **Pn 21 51 33.7 +0.2**
baz=286
BVCY Beaver Creek 17.59 67 P **Pn 21 51 33.9 +0.4**
baz=280
CTG Chitna Glacier 17.67 72 P **Pn 21 51 34.8 +0.3**
baz=284,SNR=8.4
D27M Malcolm River 17.67 45 Pn 21 51 32.7 -1.8
D27M IAmb IAmb 21 51 45.7
comp=Z,63nm,1.5s
D27M Malcolm River 17.67 45 P **Pn 21 51 34.8 +0.3**
baz=258
CTGM Chitina Glacie 17.68 72 P **Pn 21 51 33.7 -1.0**
CTGM IAmb IAmb 21 51 48.0
comp=Z,59nm,0.9s
I28M Miner Creek 17.71 57 Pn 21 51 35.0 0.0
I28M Miner Creek 17.71 57 P **Pn 21 51 36.1 +1.1**
baz=271
F28M Old Crow 17.82 50 Pn 21 51 35.8 -0.5
F28M IAmb IAmb 21 51 49.8
comp=Z,56nm,1.4s
F28M Old Crow 17.82 50 P **Pn 21 51 37.0 +0.7**
baz=264
LOGN Logan Glacier 17.87 73 P **Pn 21 51 36.3 -0.7**
LOGN IAmb IAmb 21 51 54.1
comp=Z,38nm,1.0s
YUK3 Moose Creek 17.90 69 P **Pn 21 51 38.5 +1.1**
baz=282
DAWY Dawson 18.03 62 Pn **Pn 21 51 38.1 -0.7**
DAWY Dawson 18.03 62 P **Pn 21 51 39.3 +0.4**
baz=276
E28M Babbage River 18.07 47 Pn 21 51 37.6 -1.7
E28M IAmb IAmb 21 52 16.0
comp=Z,51nm,1.4s
E28M Babbage River 18.07 47 P **Pn 21 51 38.9 -0.4**
baz=262
O28M Mount Upton 18.27 72 P **Pn 21 51 43.2 +1.2**
baz=285,SNR=6.2
YUK8 Steele Glacier 18.34 71 P **Pn 21 51 44.7 +1.8**
baz=284
H29M Whitestone 18.35 55 Pn 21 51 42.7 0.0
H29M IAmb IAmb 21 52 20.3
comp=Z,78nm,1.3s
H29M Whitestone 18.35 55 P **Pn 21 51 44.2 +1.4**
baz=270
PINM Pinnacle 18.43 74 P **Pn 21 51 45.6 +1.8**
baz=287
D28M Stokes Point 18.47 45 P **P 21 51 45.1 +1.0**
baz=260
G29M Pine Creek 18.50 52 P **P 21 51 45.4 +1.0**
baz=268
E29M Blow River 18.64 48 P **P 21 51 44.8 -1.2**
E29M IAmb IAmb 21 52 12.4
comp=Z,64nm,1.5s
E29M Blow River 18.64 48 P **P 21 51 46.9 +0.9**
baz=264
M29M Somme Creek 18.68 67 P **P 21 51 45.5 -1.1**
M29M Somme Creek 18.68 67 P **P 21 51 48.6 +2.0**
baz=281
L29M L29M 18.71 64 P **P 21 51 46.0 -0.9**
L29M IAmb IAmb 21 52 17.6
comp=Z,51nm,1.1s
L29M L29M 18.71 64 P **P 21 51 48.9 +2.0**
baz=280
BCPM Bancas Point 18.76 75 P **P 21 51 44.4 -3.0**
YUK4 Talbot Arm 18.84 70 P **Pn 21 51 52.1 +3.1**
baz=284
K29M Barlow Dome 18.87 62 P **P 21 51 48.3 -0.3**
K29M IAmb IAmb 21 51 53.9
comp=Z,42nm,1.4s
K29M Barlow Dome 18.87 62 P **P 21 51 51.1 +2.4**
baz=278
PNL Peninsula 18.97 75 P **P 21 51 51.8 +2.2**
baz=289
EPYK Eagle Plains 19.01 54 P **P 21 51 49.8 -0.3**
EPYK IAmb IAmb 21 52 29.8
comp=Z,38nm,1.0s
EPYK Eagle Plains 19.01 54 P **P 21 51 52.1 +2.0**
baz=271
YUK6 Outpost Mounta 19.08 71 P **P 21 51 53.3 +2.2**
baz=286
O29M Mount Kennedy 19.16 73 P **P 21 51 52.0 +0.1**
O29M Mount Kennedy 19.16 73 P **P 21 51 53.9 +2.0**
baz=287
G30M tAoh Zraii Nji 19.21 52 P **P 21 51 51.7 -0.5**
G30M IAmb IAmb 21 52 29.5
comp=Z,38nm,1.1s
G30M tAoh Zraii Nji 19.21 52 P **P 21 51 54.7 +2.5**
baz=270
J30M Hart River 19.30 60 P **P 21 51 51.7 -1.6**
J30M Hart River 19.30 60 P **P 21 51 56.1 +2.8**
baz=277
F30M Barrier River 19.39 50 P **P 21 51 55.4 +1.3**
baz=268
M30M Minto, Yukon 19.42 66 P **P 21 51 55.5 +1.0**
M30M IAmb IAmb 21 52 12.0
comp=Z,54nm,1.4s
HYT Haines Junctio 19.52 71 P 21 51 56.3 +0.5
HYT Haines Junctio 19.52 71 P **P 21 51 57.5 +1.7**
baz=286,SNR=17
N30M Aishikik Lake 19.54 69 P **P 21 51 56.3 +0.3**
N30M Aishikik Lake 19.54 69 P **P 21 51 58.1 +2.2**
baz=285
MAYO Mayo, Yukon 19.63 62 P **P 21 51 59.5 +2.7**
baz=280
P29M Windy Craggy 19.78 75 P **P 21 51 58.5 0.0**
P29M IAmb IAmb 21 52 04.6
comp=Z,45nm,0.8s
P29M Windy Craggy 19.78 75 P **P 21 52 00.2 +1.7**
baz=290
G31M Satah River 19.98 52 P **P 21 51 59.2 -1.3**
G31M Satah River 19.98 52 P **P 21 52 01.5 +1.0**
baz=272
P30M Million Dollar 19.99 73 P **P 21 52 02.5 +1.7**
baz=289
H31M Peel River 20.01 56 P **P 21 52 02.3 +1.3**
baz=275
N31M Braeburn, Yuko 20.14 69 P **P 21 52 02.5 0.0**
N31M IAmb IAmb 21 52 27.2
comp=Z,36nm,1.1s
F31M Tsiigehtchic 20.17 51 P **P 21 52 03.5 +0.9**
F31M IAmb IAmb 21 52 17.6
comp=Z,56nm,1.2s
F31M Tsiigehtchic 20.17 51 P **P 21 52 04.2 +1.6**
baz=271
O30N Mendenhall 20.20 71 P **P 21 52 03.4 +0.3**
O30N IAmb IAmb 21 52 14.2
comp=Z,35nm,1.2s
O30N Mendenhall 20.20 71 P **P 21 52 04.6 +1.5**
baz=287
INK Inuvik 20.26 48 P 21 52 02.2 -1.3
INK Inuvik 20.26 48 P **P 21 52 02.4 -1.2**
comp=Z,16nm,1.0s,baz=266,slow=12,SNR=9.1
comp=Z,16nm,1.0s
INK Inuvik 20.26 48 P **P 21 52 04.2 +0.6**
baz=269
PLBC Pleasant Camp 20.49 74 P **P 21 52 08.0 +1.8**
baz=290
M31M Drury Creek, Y 20.59 66 P **P 21 52 07.8 +0.4**
M31M IAmb IAmb 21 52 46.2
comp=Z,67nm,1.4s
M31M Drury Creek, Y 20.59 66 P **P 21 52 09.1 +1.7**
baz=284
WHY Whitehorse 20.80 70 P **P 21 52 09.4 -0.3**
WHY IAmb IAmb 21 52 34.8
comp=Z,55nm,1.4s
WHY Whitehorse 20.80 70 P **P 21 52 11.7 +2.0**
baz=288
SKAG Skagway 20.99 74 P **P 21 52 09.7 -1.8**
SKAG IAmb IAmb 21 52 46.9
comp=Z,38nm,1.2s
SKAG Skagway 20.99 74 P **P 21 52 12.4 +0.8**
baz=291
FARO Faro, Yukon 21.06 66 P **P 21 52 12.5 +0.1**
FARO IAmb IAmb 21 52 40.9
comp=Z,28nm,1.2s
FARO Faro, Yukon 21.06 66 P **P 21 52 14.1 +1.7**
baz=285
S31K Pelican 21.13 78 P **P 21 52 13.6 +0.5**
baz=294
N32M Quiet Lake 21.48 68 P **P 21 52 17.2 +0.2**
N32M IAmb IAmb 21 52 43.1
comp=Z,51nm,1.2s
N32M Quiet Lake 21.48 68 P **P 21 52 18.3 +1.3**
baz=288
P32M Atlin 21.71 73 P **P 21 52 18.4 -1.0**
P32M Atlin 21.71 73 P **P 21 52 20.1 +0.7**
baz=291
R32K Eaglecrest 21.83 76 P **P 21 52 19.6 -1.0**
R32K IAmb IAmb 21 53 02.4
comp=Z,16nm,0.7s
R32K Eaglecrest 21.83 76 P **P 21 52 21.7 +1.1**
baz=294
P33M Teslin, Yukon 21.91 71 P **P 21 52 20.9 -0.7**
P33M IAmb IAmb 21 52 52.6
comp=Z,23nm,1.2s
P33M Teslin, Yukon 21.91 71 P **P 21 52 22.1 +0.5**
baz=290
SIT Sitka 21.96 80 P **P 21 52 22.4 +0.4**
baz=297
S32K Killisnoo 22.14 78 P **P 21 52 23.5 -0.5**
baz=296
Q32M Nakina River 22.63 74 P **P 21 52 28.6 -0.9**
Q32M IAmb IAmb 21 52 48.7
comp=Z,44nm,1.3s
Q32M Nakina River 22.63 74 P **P 21 52 29.3 -0.2**
baz=293
R33M Jennings River 23.08 72 P **P 21 52 34.8 +0.7**
baz=293
A36M Sachs Harbour 23.22 39 P **P 21 52 33.6 -1.6**
A36M Sachs Harbour 23.22 39 P **P 21 52 34.9 -0.3**
baz=267
U33K Whale Pass 23.48 81 P **P 21 52 37.8 -0.1**
U33K IAmb IAmb 21 52 43.9
comp=Z,27nm,1.1s
TIXI Tiksi 23.53 320 P **P 21 52 37.3 -1.0**
TIXI IAmb IAmb 21 52 53.2
comp=Z,34nm,1.1s
TIXI Tiksi 23.53 320 P 21 52 38.1 -0.2
TIXI Tiksi 23.53 320 *e*P **P 21 52 38.4 +0.1**
TIXI Tiksi 23.53 320 P **P 21 52 37.8 -0.5**
comp=Z,5.9nm,0.5s,baz=108,slow=12,SNR=19
TIXI LR LR 22 02 03.8
comp=Z,2μm,20.4s,baz=114,slow=37
comp=Z,5.9nm,0.5s
TIXI Tiksi 23.53 320 *e*P **P 21 52 38.4 +0.1**
S34M Telegraph Cree 23.61 75 P **P 21 52 40.6 +1.3**
S34M IAmb IAmb 21 52 57.6
comp=Z,12nm,0.8s
S34M Telegraph Cree 23.61 75 P **P 21 52 39.1 -0.1**
baz=296
C36M Paulatuk 23.66 45 P **P 21 52 36.6 -3.0**
C36M IAmb IAmb 21 52 56.8
comp=Z,28nm,1.1s
C36M Paulatuk 23.66 45 P **P 21 52 39.3 -0.3**
baz=275
DLBC Dease Lake 23.92 74 P **P 21 52 43.3 +1.1**
DLBC IAmb IAmb 21 52 49.1
comp=Z,32nm,1.4s
DLBC Dease Lake 23.92 74 P **P 21 52 42.0 -0.3**
comp=Z,3.6nm,1.0s,baz=309,slow=14,SNR=3.7
DLBC LR LR 22 03 03.5
comp=Z,4μm,18.1s,baz=304,slow=39
comp=Z,3.6nm,1.0s
DLBC Dease Lake 23.92 74 P **P 21 52 42.5 +0.2**
baz=295
T35M Bob Quinn 24.46 77 P **P 21 52 47.4 +0.1**
T35M IAmb IAmb 21 53 13.2
comp=Z,11nm,0.8s
T35M Bob Quinn 24.46 77 P **P 21 52 47.5 +0.2**
baz=298
YAK Yakutsk 24.84 297 P **P 21 52 49.0 -1.6**
YAK Yakutsk 24.84 297 *e*P **P 21 52 49.9 -0.7**
YAK Yakutsk 24.84 297 P **P 21 52 50.1 -0.5**
comp=Z,120nm,1.0s,baz=73,slow=14,SNR=40
YAK LR LR 22 03 53.4
comp=Z,3μm,18.3s,baz=75,slow=40
YAK Yakutsk 24.84 297 *e*P **P 21 52 50.4 -0.2**
YAK *e**PP **sP 21 53 00.0 +5.2**
YAK *e* 21 53 23.1
YAK *e*S **S 21 57 11.7 -1.2**
YAK *e**SS sS 21 57 27.9 +10
YAK *e*SS **SnSn 21 58 02.9 +3.2**
YAK pmax pmax
comp=Z,224nm,1.4s
YAK pmax pmax
comp=N,46nm,1.3s
YAK pmax pmax

comp=E,139nm,1.2s
YAK pmax pmax
comp=Z,201nm,2.0s
YAK pmax pmax
comp=N,205nm,2.1s
YAK pmax pmax
comp=E,163nm,2.7s
YAK smax smax
comp=N,375nm,2.2s
YAK smax smax
comp=E,234nm,2.1s
YAK MLR MLR
comp=Z,3μm,18.0s
YAK MLR MLR
comp=N,944nm,20.0s
YAK MLR MLR
comp=E,1μm,17.0s
WRGLY Wrigley 25.14 60 P **P** 21 52 54.0 +0.8
WRGLY IAmb IAmb 21 53 32.9
comp=Z,22nm,1.1s
TOAD Toad River Com 26.00 70 P **P** 21 53 00.6 -0.5
baz=296
KOTAN Kotaneelee Air 26.00 67 P **P** 21 53 00.7 -0.4
baz=294
YSS Yuzh-Sakhalins 26.54 258 *e*P **P** 21 53 02.4 -3.7
YSS *e*S S 21 57 30.3 -10
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,900nm,16.0s
YSS MLR MLR
comp=N,2μm,18.0s
YSS MLR MLR
comp=E,1μm,18.0s
GRNR Gornyy 27.13 270 ⇓*i*P **P** 21 53 11.3 -0.1
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=E,580nm,15.0s
GRNR MLR MLR
comp=N,690nm,15.0s
GRNR MLR MLR
comp=Z,860nm,18.0s
BBB Bella Bella 28.08 85 LR LR 22 04 08.4
comp=Z,2μm,18.2s,baz=338,slow=36
YKA Yellowknife Ar 29.18 58 P **P** 21 53 31.3 +1.8
YKA Yellowknife Ar 29.18 58 P **P** 21 53 28.2 -1.3
comp=Z,0.7nm,0.7s,baz=297,slow=8.9,SNR=4.8
comp=Z,0.7nm,0.7s
YKA Yellowknife Ar 29.18 58 P **P** 21 53 31.3 +1.8
ZEA Zeya 29.88 282 *e*P **P** 21 53 35.5 -0.3
ZEA *e* 22 04 10.4
ZEA pmax pmax
comp=Z,20nm,1.6s
ZEA MLR MLR
comp=E,700nm,11.0s
ZEA MLR MLR
comp=N,700nm,14.0s
ZEA MLR MLR
comp=Z,1μm,12.0s
KLR Kul'dur 30.43 272 P **P** 21 53 40.9 +0.2
comp=Z,4.1nm,0.5s,baz=56,slow=7.9,SNR=17
KLR LR LR 22 05 59.6
comp=Z,817nm,21.8s,baz=23,slow=36
comp=Z,4.1nm,0.5s
RES Resolute Bay 31.44 30 LR LR 22 07 25.4
comp=Z,341nm,21.4s,baz=254,slow=38
HEH HeiHe 31.92 277 *e*P **P** 21 53 52.3 -1.5
HEH pmax pmax
comp=Z,12nm,1.3s
HEH pmax pmax
comp=Z,390nm,6.5s
HEH LR LR
comp=Z,1μm,16.7s
HEH LR LR
comp=Z,740nm,17.4s
HEH LR LR
comp=Z,2μm,16.9s
LLLB Lilloet 32.13 82 P **P** 21 53 55.3 -0.4
LLLB IAmb IAmb 21 54 31.5
comp=Z,9.7nm,1.1s
BOD Bodaibo 33.77 297 *e*P P 21 54 07.9 -2.0
BOD pmax pmax
comp=Z,29nm,1.1s
USRK Ussuriysk Ar. 33.80 265 LR LR 22 07 07.5
comp=Z,656nm,21.4s,baz=56,slow=35
B08A Colville Reser 34.86 83 P **P** 21 54 19.5 0.0
B08A IAmb IAmb 21 54 24.7
comp=Z,8.9nm,1.1s
LTY Liberty 34.95 86 P **P** 21 54 20.8 +0.4
LTY IAmb IAmb 21 54 40.7
comp=Z,21nm,1.5s
C09A Chrisman Ranch 35.76 83 P **P** 21 54 27.4 +0.1
D08A Wollman Farm, 35.95 85 P **P** 21 54 29.5 +0.6
D08A IAmb IAmb 21 54 50.1
comp=Z,11nm,1.4s
NEW Newport 36.01 82 P **P** 21 54 30.2 +0.7
NEW IAmb IAmb 21 54 34.4
comp=Z,8.8nm,0.9s
NEW Newport 36.01 82 P **P** 21 54 28.6 -0.8
comp=Z,2.1nm,0.6s,baz=298,slow=8.0,SNR=3.3
NEW LR LR 22 10 45.5
comp=Z,1μm,18.2s,baz=318,slow=39
comp=Z,2.1nm,0.6s
NEW Newport 36.01 82 P **P** 21 54 30.2 +0.7
NEW pmax pmax
comp=Z,9.0nm,0.9s
F07A Phinny Hill Vi 36.26 87 P **P** 21 54 32.5 +1.0
F07A IAmb IAmb 21 54 38.3
comp=Z,17nm,1.1s
E08A Dider Farm, El 36.28 85 P **P** 21 54 31.5 -0.1
E08A IAmb IAmb 21 55 09.9
comp=Z,8.8nm,1.1s
MAJO Matsushiro 36.70 250 *i*P **P** 21 54 35.9 +0.5
MJAR Matsushiro Arr 36.70 250 P **P** 21 54 35.4 0.0
comp=Z,1.2nm,0.6s,baz=25,slow=6.8,SNR=5.0
comp=Z,1.2nm,0.6s
NRIK Noril'sk 37.19 324 P **P** 21 54 38.1 -1.0
comp=Z,1.2nm,0.5s,baz=66,slow=9.4,SNR=1.7
comp=Z,1.2nm,0.5s
NRIK Noril'sk 37.19 324 *i*P **P** 21 54 38.6 -0.6
NRIK pmax pmax
comp=Z,13nm,1.1s
CN2 Changchun 37.33 270 *e*P **P** 21 54 39.5 -1.1
CN2 *e*PP **PP** 21 56 06.5 +1.0
CN2 *e*S **S** 22 00 25.3 -2.7
CN2 *e*sS pS 22 00 32.8 +1.4
CN2 *e*SS **SnSn** 22 02 56.0 -7.7
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 LR LR
comp=Z,480nm,15.0s
CN2 LR LR
comp=Z,330nm,15.0s
F10A Beach Ranch, E 37.55 85 P **P** 21 54 42.4 -0.2
F10A IAmb IAmb 21 54 48.8
comp=Z,6.6nm,0.8s
NOR Nord 37.88 4 *i*P **P** 21 54 48.5 +3.6
YBH Yreka Blue Hor 37.91 94 P **P** 21 54 45.4 -0.3
comp=Z,2.0nm,0.7s,baz=2.8,slow=12,SNR=2.6
YBH LR LR 22 07 48.5
comp=Z,686nm,21.8s,baz=328,slow=32
comp=Z,2.0nm,0.7s
NEEM North Greenlan 38.56 16 *i*P **P** 21 54 49.0 -2.0
NEEM IAmb IAmb 21 54 51.4
comp=Z,23nm,1.0s
MSO Missoula 38.57 81 P **P** 21 54 51.5 +0.3
PLID Pearl Lake 38.78 85 P **P** 21 54 53.4 +0.3
FFC Flin Flon 38.91 63 P **P** 21 54 53.3 -0.6
FFC Flin Flon 38.91 63 P **P** 21 54 53.3 -0.6
FFC pmax pmax
comp=Z,6.0nm,1.1s
BPMT Black Pine Rid 39.08 81 P **P** 21 54 54.4 -1.3
LYMT Lyon Mountain 39.28 80 P **P** 21 54 57.3 0.0
WVOR Wild Horse Val 39.41 90 P **P** 21 54 59.1 +0.8
WVOR IAmb IAmb 21 55 03.6
comp=Z,16nm,1.5s
WVOR Wild Horse Val 39.41 90 P **P** 21 54 59.1 +0.8
WVOR pmax pmax
comp=Z,16nm,1.5s
FCC Fort Churchill 39.69 54 P **P** 21 54 59.1 -1.1
FCC Fort Churchill 39.69 54 P **P** 21 54 59.1 -1.1
FCC pmax pmax
comp=Z,12nm,1.2s
EGMT Eagleton 39.77 77 P **P** 21 55 01.4 +0.2
EGMT IAmb IAmb 21 55 44.8
comp=Z,15nm,1.2s

MFID Camas Ranch 40.08 86 P **P** 21 55 03.6 -0.3
BOZ Bozeman (W) 40.57 81 P **P** 21 55 07.5 -0.4
BOZ Bozeman (W) 40.57 81 P **P** 21 55 07.6 -0.4
BOZ pmax pmax
comp=Z,4.0nm,1.1s
HLID Hailey 40.67 85 P **P** 21 55 07.9 -0.9
KSRS Korea Array 40.91 261 P **P** 21 55 10.5 -0.2
comp=Z,6.3nm,0.9s,baz=39,slow=8.1,SNR=14
KSRS LR LR 22 11 01.2
comp=Z,254nm,21.9s,baz=40,slow=34
comp=Z,6.3nm,0.9s
KSAR Wonju Array Be 40.94 261 P **P** 21 55 10.0 -0.9
KSAR Wonju Array Be 40.94 261 P **P** 21 55 10.0 -0.9
YHL Hebgen Lake 41.33 81 P **P** 21 55 14.8 +0.4
YHB Horse Butte 41.39 81 P **P** 21 55 14.6 -0.2
SPITS Spitsbergen Ar 41.43 356 P **P** 21 55 14.1 -0.4
comp=Z,21nm,0.9s,baz=298,slow=3.1,SNR=2.7
comp=Z,21nm,0.9s
YHH Holmes Hill 41.54 81 P **P** 21 55 15.9 -0.1
YMR Madison River 41.57 81 P **P** 21 55 16.1 -0.2
YMR IAmb IAmb 21 55 21.4
comp=Z,7.6nm,0.8s
BMN Battle Mountai 41.61 90 P **P** 21 55 17.1 +0.5
BMN IAmb IAmb 21 55 21.8
comp=Z,14nm,1.5s
BMN Battle Mountai 41.61 90 P **P** 21 55 17.1 +0.5
BMN pmax pmax
comp=Z,14nm,1.5s
IRK Irkutsk 41.62 295 *e*P P 21 55 14.2 -2.1
IRK pmax pmax
comp=Z,85nm,1.5s
YNR Norris Junctio 41.67 81 P **P** 21 55 18.0 +0.9
YERR Yerington 41.72 94 P **P** 21 55 16.5 -1.0
YERR IAmb IAmb 21 55 36.6
comp=Z,6.7nm,0.7s
YFT Old Faithful 41.79 81 P **P** 21 55 17.1 -1.0
YNE Yellowstone No 41.79 80 P **P** 21 55 18.1 -0.1
XLT XiLinHaoTe 41.90 278 ⇓*i*P **P** 21 55 18.3 -0.5
XLT sP pP 21 55 25.3 +3.5
XLT S **S** 22 01 40.3 +3.6
XLT pmax pmax
comp=Z,20nm,1.4s
XLT pmax pmax
comp=Z,150nm,4.7s
XLT LR LR
comp=Z,99nm,19.1s
XLT LR LR
comp=Z,810nm,16.6s
XLT LR LR
comp=Z,900nm,14.9s
YMP Mirror Lake Pl 41.91 80 P **P** 21 55 17.8 -1.4
FLWY Flagg Ranch 42.12 81 P **P** 21 55 21.3 +0.5
FLWY IAmb IAmb 21 55 26.7
comp=Z,11nm,0.8s
KVN Kaiserville 42.23 93 P **P** 21 55 21.6 -0.1
KVN Kaiserville 42.23 93 P **P** 21 55 21.6 -0.1
KVN pmax pmax
comp=Z,7.0nm,1.2s
FXWY Fox Creek 42.29 82 P **P** 21 55 22.2 0.0
MOOW Moose Ponds 42.35 82 P **P** 21 55 22.6 0.0
RYN Ryan 42.35 93 P **P** 21 55 22.2 -0.4
ELK Elko 42.36 88 P **P** 21 55 22.9 +0.1
ELK Elko 42.36 88 P **P** 21 55 22.9 +0.1
ELK pmax pmax
comp=Z,5.0nm,1.1s
LAO LASA Array 42.42 75 P **P** 21 55 23.6 +0.7
DAG Danmarks Havn 42.47 7 *i*P **P** 21 55 21.0 -1.9
LOHW Long Hollow 42.52 82 P **P** 21 55 24.4 +0.4
LOHW IAmb IAmb 21 55 29.4
comp=Z,11nm,0.8s
NVAR Mina Array Bea 42.61 93 P **P** 21 55 23.6 -1.2
NVAR Mina Array Bea 42.61 93 P **P** 21 55 24.1 -0.7
comp=Z,1.1nm,0.6s,baz=303,slow=7.3,SNR=11
NVAR LR LR 22 11 47.8
comp=Z,722nm,20.0s,baz=304,slow=34
comp=Z,1.1nm,0.6s
LHV Little Huntoon 42.65 94 P **P** 21 55 25.3 +0.5
LHV IAmb IAmb 21 56 05.8
comp=Z,18nm,1.4s
NV11 Mina Array Sit 42.68 93 P **P** 21 55 24.2 -1.1
JNU Nakatsue 42.96 254 LR LR 22 12 38.3
comp=Z,367nm,21.1s,baz=48,slow=35
SPUT South Promonto 43.32 86 P **P** 21 55 31.0 +0.5
ZAK Zakamensk 43.35 294 *e*P **P** 21 55 30.0 -0.6
ZAK pmax pmax
comp=Z,11nm,1.3s
ULN Ulaanbaatar 43.39 289 P **P** 21 55 30.0 -1.0
ULN IAmb IAmb 21 55 59.5
comp=Z,16nm,1.4s
ULN Ulaanbaatar 43.39 289*ce*P **P** 21 55 30.2 -0.8
ULN pmax pmax
comp=Z,9.0nm,1.3s
TPH Tonopah 43.42 93 P **P** 21 55 31.0 -0.4
TPH Tonopah 43.42 93 P **P** 21 55 31.0 -0.4
TPH pmax pmax
comp=Z,38nm,1.1s
MOY Mondy 43.48 297 *e*P **P** 21 55 31.3 -0.3
MOY pmax pmax
comp=Z,50nm,2.1s
HWUT Hardware Ranch 43.53 85 P **P** 21 55 32.7 +0.5
HWUT IAmb IAmb 21 55 37.5
comp=Z,15nm,1.2s
PD31 Pinedale Array 43.66 82 P **P** 21 55 32.9 -0.4
PD31 IAmb IAmb 21 55 39.5
comp=Z,10nm,1.2s
PDAR Pinedale Array 43.66 82 P **P** 21 55 34.0 +0.7
PDAR Pinedale Array 43.66 82 P **P** 21 55 33.6 +0.3
comp=Z,1.8nm,0.6s,baz=316,slow=5.7,SNR=16
PDAR LR LR 22 15 07.2
comp=Z,277nm,18.1s,baz=332,slow=38
comp=Z,1.8nm,0.6s
SONM Songino Array 43.72 289 P P 21 55 31.8 -1.8
SONM Songino Array 43.72 289 P **P** 21 55 33.5 -0.1
comp=Z,1.8nm,0.6s,baz=47,slow=8.4,SNR=13
SONM PcP **PP** 21 57 20.6 +5.6
comp=Z,1.5nm,0.8s,baz=41,slow=5.0,SNR=1.7
SONM LR LR 22 16 06.2
comp=Z,2μm,18.1s,baz=46,slow=39
comp=Z,1.8nm,0.6s
DUG Dugway, Tooele 43.98 87 P **P** 21 55 34.9 -0.9
DUG Dugway, Tooele 43.98 87 P **P** 21 55 34.9 -0.9
DUG pmax pmax
comp=Z,5.0nm,0.9s
GMN Gold Mountain 44.01 93 P **P** 21 55 35.9 -0.2
R11B Troy Canyon, C 44.02 91 P **P** 21 55 36.2 0.0
R11B Troy Canyon, C 44.02 91 P **P** 21 55 35.6 -0.6
baz=321
SPR3 Spring Creek 3 44.14 89 P **P** 21 55 36.8 -0.5
SPR3 IAmb IAmb 21 55 43.2
comp=Z,11nm,1.3s
JLU Jordanelle 44.35 85 P **P** 21 55 39.0 +0.1
SUMG Summit 44.43 16 P **P** 21 55 38.5 -0.7
SUMG IAmb IAmb 21 56 05.8
comp=Z,7.8nm,1.0s
SUMG Summit 44.43 16 P **P** 21 55 38.5 -0.7
SUMG pmax pmax
comp=Z,8.0nm,1.0s
SUMG Summit 44.43 16 *i*P **P** 21 55 38.7 -0.5
S11A Rachel 44.49 92 P **P** 21 55 40.3 +0.4
ULM Lac du Bonnet 44.70 65 P **P** 21 55 39.2 -2.0
ULM IAmb IAmb 21 55 45.5
comp=Z,7.0nm,0.7s
ULM Lac du Bonnet 44.70 65 P **P** 21 55 40.7 -0.5
comp=Z,6.7nm,0.6s,baz=311,slow=7.5,SNR=13
ULM LR LR 22 15 09.1
comp=Z,780nm,19.5s,baz=330,slow=37
comp=Z,6.7nm,0.6s
MDND Maddock 44.72 69 P **P** 21 55 41.3 -0.1
WCT Wildcat Mounta 44.72 93 P **P** 21 55 42.5 +0.9
BSUT Blindstream Ca 44.74 85 P **P** 21 55 42.9 +0.8
BSUT IAmb IAmb 21 55 47.4
comp=Z,12nm,0.9s
PSUT Pine Spring 44.74 89 P **P** 21 55 42.0 +0.1
PSUT IAmb IAmb 21 55 47.1
comp=Z,6.2nm,1.0s
BJT Baijiatuau 44.76 274 P **P** 21 55 40.2 -1.6
BJT IAmb IAmb 21 55 44.7
comp=Z,5.9nm,0.7s
BJT Baijiatuau 44.76 274 P **P** 21 55 40.2 -1.6
BJT pmax pmax
comp=Z,6.0nm,0.7s
PRN Pahroc Range 45.02 91 P **P** 21 55 43.7 -0.4
PRN IAmb IAmb 21 55 49.9
comp=Z,7.2nm,0.9s
GWY Greenwater Val 45.17 94 P **P** 21 55 45.1 -0.3

GWY IAmb IAmb 21 55 50.3
comp=Z,7.5nm,0.8s
FRB Frobisher Bay 45.18 36 LR LR 22 17 54.5
comp=Z,903nm,18.1s,baz=316,slow=40
K22A Casper 45.23 80 P **P** 21 55 45.6 -0.2
RDMU Red Mountain 45.30 84 P **P** 21 55 46.7 +0.3
RDMU IAmb IAmb 21 55 52.5
comp=Z,15nm,1.4s
RSSD Black Hills 45.34 76 P **P** 21 55 45.5 -1.2
RSSD Black Hills 45.34 76 P **P** 21 55 45.5 -1.2
RSSD pmax pmax
comp=Z,4.0nm,0.9s
TCRU Three Creeks R 45.38 88 P **P** 21 55 45.6 -1.5
TCRU IAmb IAmb 21 55 53.7
comp=Z,8.6nm,1.0s
TMUT Trail Mountain 45.47 86 P **P** 21 55 46.4 -1.4
TMUT IAmb IAmb 21 55 52.9
comp=Z,8.5nm,0.9s
MVU Marysvale 45.58 88 P **P** 21 55 48.2 -0.4
MSU Marysvale 45.59 88 P **P** 21 55 48.2 -0.5
MSU Marysvale 45.59 88 P **P** 21 55 48.2 -0.5
P18A Preston Nutter 45.69 85 P **P** 21 55 48.8 -0.8
P18A IAmb IAmb 21 55 56.1
comp=Z,6.0nm,0.8s
Q16A Castle Valley 45.77 87 P **P** 21 55 50.4 +0.3
Q16A IAmb IAmb 21 55 55.4
comp=Z,14nm,1.2s
GSC Goldstone, Bar 45.81 95 P **P** 21 55 49.2 -1.0
GSC IAmb IAmb 21 55 55.4
comp=Z,12nm,1.1s
GSC Goldstone, Bar 45.81 95 P **P** 21 55 49.3 -1.0
GSC pmax pmax
comp=Z,12nm,1.1s
SRU San Rafael Swe 45.95 86 P **P** 21 55 51.8 +0.3
SRU San Rafael Swe 45.95 86 P **P** 21 55 51.8 +0.3
SRU pmax pmax
comp=Z,22nm,0.8s
AGMN Agassiz Nation 46.11 66 P **P** 21 55 52.1 -0.4
O20A White River Ci 46.29 83 P **P** 21 55 53.7 -0.5
O20A IAmb IAmb 21 56 29.6
comp=Z,8.4nm,0.9s
HHC Hu-ho-hao-te 46.40 278 *e*P **P** 21 55 54.8 -0.1
HHC pmax pmax
comp=Z,25nm,1.3s
HHC pmax pmax
comp=Z,110nm,6.1s
HHC LR LR
comp=Z,720nm,16.0s
HHC LR LR
comp=Z,860nm,15.1s
HHC LR LR
comp=Z,1μm,16.3s
KNB Kanab 46.43 90 P **P** 21 55 53.5 -1.8
KNB IAmb IAmb 21 56 00.6
comp=Z,5.4nm,0.8s
KNB Kanab 46.43 90 P **P** 21 55 53.5 -1.8
KNB pmax pmax
comp=Z,5.0nm,0.8s
V12A Nelson 46.44 93 P **P** 21 55 54.8 -0.5
V12A IAmb IAmb 21 56 00.7
comp=Z,8.6nm,1.0s
SFJD Kangerlussuaq 47.13 25 LR LR 22 18 49.5
comp=Z,298nm,19.0s,baz=340,slow=40
TIA Tai'an 47.23 270 P **P** 21 56 01.5 +0.1
TIA S **S** 22 02 56.5 +2.3
TIA pmax pmax
comp=Z,12nm,1.4s
TIA LR LR
comp=Z,850nm,17.7s
TIA LR LR
comp=Z,1μm,18.2s
TIA LR LR
comp=Z,1μm,18.9s
PFO Pinyon Flats O 47.33 96 LR LR 22 14 19.6
comp=Z,1μm,19.6s,baz=310,slow=34
BTO Baotou 47.34 279 *e*P P 21 55 58.5 -3.8
BTO pP pP 21 56 03.3 -2.1
BTO sP sP 21 56 05.8 -0.8
BTO S **S** 22 02 52.0 -3.8
BTO pmax pmax
comp=Z,8.0nm,1.0s
BTO pmax pmax
comp=Z,370nm,5.2s
BTO LR LR
comp=Z,3μm,19.7s
BTO LR LR
comp=Z,2μm,18.5s
BTO LR LR
comp=Z,3μm,18.4s
ICESG Greenland Ices 47.36 19 *e*P **P** 21 56 00.9 -1.5
W13A Hualapai Mount 47.41 92 P **P** 21 56 03.2 +0.2
W13A IAmb IAmb 21 56 07.6
comp=Z,3.6nm,0.8s
HNS HongShan 47.50 273 ⇓P **P** 21 56 03.5 +0.1
HNS PP **PP** 21 57 57.0 +2.4
HNS PcS PcS 22 01 23.5 -5.2
HNS S **S** 22 02 59.0 +1.1
HNS SS **SS** 22 06 21.0 -4.3
HNS pmax pmax
comp=Z,23nm,1.6s
HNS LR LR
comp=Z,1μm,20.0s
HNS LR LR
comp=Z,840nm,19.6s
HNS LR LR
comp=Z,770nm,24.3s
BLYC Blythe 48.17 94 P **P** 21 56 08.8 +0.2
MVCO Mesa Verde 48.43 86 P **P** 21 56 11.0 +0.1
MVCO IAmb IAmb 21 56 15.2
comp=Z,4.2nm,0.7s
ZAA0 Zalesovo Array 48.58 309 P **P** 21 56 09.7 -1.9
ZAA0 IAmb IAmb 21 56 14.9
comp=Z,4.2nm,0.9s
ZALV Zalesovo Beam 48.58 309 P **P** 21 56 10.5 -1.1
ZALV Zalesovo Beam 48.58 309 P **P** 21 56 11.3 -0.2
comp=Z,1.9nm,0.5s,baz=30,slow=6.5,SNR=9.7
ZALV LR LR 22 18 19.7
comp=Z,1μm,18.5s,baz=32,slow=38
comp=Z,1.9nm,0.5s
ZALV Zalesovo Beam 48.58 309 *i*P **P** 21 56 11.6 +0.1
ZALV pmax pmax
comp=Z,2.0nm,0.5s
S22A 4UR Ranch, Cre 48.83 84 P **P** 21 56 14.1 -0.1
S22A IAmb IAmb 21 56 19.5
comp=Z,7.3nm,0.9s
S22A 4UR Ranch, Cre 48.83 84 P **P** 21 56 13.6 -0.5
baz=322
ARCES ARCESS Array B 49.33 349 P **P** 21 56 15.9 -1.2
comp=Z,2.5nm,0.9s,baz=16,slow=6.4,SNR=4.5
ARCES LR LR 22 19 45.5
comp=Z,923nm,18.2s,baz=4.5,slow=39
comp=Z,2.5nm,0.9s
JOW Kunigami 49.44 252 LR LR 22 17 12.5
comp=Z,233nm,21.1s,baz=46,slow=36
T25A Trinidad 50.50 83 P **P** 21 56 27.0 +0.2
baz=322
LYN LuoYang 50.86 273 P **P** 21 56 29.3 +0.1
LYN pmax pmax
comp=Z,77nm,1.0s
LYN LR LR
comp=Z,1μm,16.5s
LYN LR LR
comp=Z,1μm,17.2s
LYN LR LR
comp=Z,1μm,17.9s
ANMO Albuquerque 51.23 86 LR LR 22 20 25.9
comp=Z,467nm,18.7s,baz=157,slow=39
ANMO Albuquerque 51.23 86*ce*P **P** 21 56 36.1 +3.9
ANMO pmax pmax
comp=Z,1.0nm,1.1s
SCHQ Schefferville 52.73 43 P **P** 21 56 41.2 -1.7
comp=Z,5.5nm,0.8s,baz=303,slow=9.2,SNR=4.3
SCHQ LR LR 22 22 28.9
comp=Z,778nm,19.3s,baz=333,slow=40
comp=Z,5.5nm,0.8s
XAN Xi'an 53.03 275 P **P** 21 56 45.0 -0.4
XAN S **S** 22 04 18.0 +3.0
XAN pmax pmax
comp=Z,29nm,1.4s
XAN pmax pmax
comp=Z,200nm,6.5s
XAN LR LR
comp=Z,2μm,19.1s
XAN LR LR
comp=Z,2μm,19.4s
XAN LR LR

comp=Z,51μm,20.8s
WHN Wuhan 53.16 268 ⇓P **P 21 56 47.0 +0.7**
WHN LR LR
comp=Z,1μm,12.6s
WHN LR LR
comp=Z,2μm,16.4s
WHN LR LR
comp=Z,2μm,17.0s
GTA Gaotai 53.21 286 *e*P **P 21 56 45.8 -1.0**
GTA pmax pmax
comp=Z,11nm,1.5s
GTA LR LR
comp=Z,850nm,16.7s
GTA LR LR
comp=Z,930nm,16.7s
GTA LR LR
comp=Z,900nm,18.2s
KURK Kurchatov 53.48 310 P **P 21 56 48.1 -0.4**
KURK Kurchatov 53.48 310 P **P 21 56 49.3 +0.9**
ZSN Zaisan 53.59 303 *e*P **P 21 56 49.7 +0.3**
comp=Z,13nm,0.7s
ZSN Zaisan 53.59 303 *e*P **P 21 56 49.6 +0.3**
ZSN pmax pmax
comp=Z,13nm,0.7s
KURBB Kurchatov Arra 53.59 310 P **P 21 56 49.3 +0.1**
comp=Z,10nm,0.8s,baz=42,slow=7.9,SNR=41
KURBB LR LR 22 21 36.2
comp=Z,2μm,18.6s,baz=110,slow=38
comp=Z,10nm,0.8s
LZH Lanzhou 53.89 281 P **P 21 56 51.8 -0.1**
LZH sP pP 21 56 58.3 +3.3
LZH pmax pmax
comp=Z,36nm,1.1s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,1μm,18.0s
LZH LR LR
comp=Z,930nm,16.0s
BORG Borgarnes 53.94 12 LR LR 22 21 27.2
comp=Z,417nm,18.9s,baz=356,slow=38
BVAR Borovoye Array 54.59 317 P **P 21 56 56.9 +0.4**
BVAR LR LR 22 21 46.2
comp=Z,11nm,0.8s,baz=46,slow=8.5,SNR=33
comp=Z,1μm,18.4s,baz=35,slow=38
comp=Z,11nm,0.8s
BRVK Borovoye 54.59 317 P **P 21 56 56.7 +0.2**
BRVK Borovoye 54.59 317 *ce*P **P 21 56 57.1 +0.6**
BRVK pmax pmax
comp=Z,28nm,1.5s
MK31 Makanchi Array 55.17 304 P **P 21 57 00.0 -0.9**
MK31 IAmb IAmb 21 57 32.5
comp=Z,11nm,1.2s
MK31 Makanchi Array 55.17 304 P **P 21 57 00.0 -0.9**
MK31 pmax pmax
comp=Z,11nm,1.3s
MKAR Makanchi Array 55.17 304 P **P 21 57 00.3 -0.5**
comp=Z,2.7nm,0.5s,baz=33,slow=5.3,SNR=20
MKAR LR LR 22 23 19.7
comp=Z,734nm,18.5s,baz=18,slow=39
comp=Z,2.7nm,0.5s
WMOK Wichita Mounta 55.17 80 P **P 21 57 02.0 +1.0**
WMOK IAmb IAmb 21 57 39.2
comp=Z,10.0nm,1.3s
WMOK Wichita Mounta 55.17 80 P **P 21 57 02.0 +1.0**
WMOK pmax pmax
comp=Z,10.0nm,1.3s
WMQ Urumqi 55.27 299 *e*P **P 21 57 02.3 +0.7**
WMQ pmax pmax
comp=Z,25nm,1.1s
WMQ LR LR
comp=Z,1μm,14.7s
WMQ LR LR
comp=Z,820nm,15.9s
WMQ LR LR
comp=Z,670nm,23.3s
ARTI Arti 55.46 326 P **P 21 57 01.5 -1.3**
ARTI Arti 55.46 326 LR LR 22 24 48.8
comp=Z,965nm,18.1s,baz=23,slow=40
ARTI Arti 55.46 326 *d* iP **P 21 57 02.9 +0.1**
ARTI S **S 22 04 47.9 +0.7**
ARTI SS **SS 22 08 29.9 -1.1**
ARTI pmax pmax
comp=Z,51nm,5.3s
ARTI MLR MLR
comp=Z,934nm,16.0s
R40A Maddies Statio 55.47 72 P **P 21 57 02.4 -0.7**
R40A IAmb IAmb 21 57 17.2
comp=Z,8.4nm,1.0s
KLMR Klimovskoe 55.74 339 *e*P P 21 56 59.5 -5.2
KLMR pmax pmax
comp=Z,41nm,2.0s
KIRV Kirov 55.80 332 LR LR 22 23 09.7
comp=Z,2μm,20.7s,baz=26,slow=38
FINES FINESS Array B 57.14 347 P **P 21 57 13.6 -1.1**
comp=Z,10nm,1.1s,baz=23,slow=7.5,SNR=6.8
FINES LR LR 22 25 11.2
comp=Z,821nm,18.8s,baz=36,slow=40
comp=Z,10nm,1.1s
PBMO Poplar Bluff 57.55 72 P **P 21 57 17.4 -0.5**
CD2 Chengdu 58.11 277 P **P 21 57 21.8 -0.2**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 LR LR
comp=Z,410nm,13.3s
CD2 LR LR
comp=Z,800nm,14.0s
CD2 LR LR
comp=Z,660nm,14.0s
JCT Junction City 58.12 84 P **P 21 57 22.7 +0.6**
JCT Junction City 58.12 84 P **P 21 57 22.7 +0.6**
JCT pmax pmax
comp=Z,13nm,0.7s
LPIG La Paz 58.19 97 LR LR 22 20 43.2
comp=Z,287nm,18.3s,baz=324,slow=34
TDK Taldyqorghan 58.21 306 *e*P **P 21 57 23.0 +0.6**
TDK Taldyqorghan 58.21 306 *e*P **P 21 57 23.0 +0.6**
DRIO Del Rio 58.59 85 P **P 21 57 25.0 -0.3**
NOA NORSAR Array B 58.72 355 P **P 21 57 24.4 -1.4**
comp=Z,1.1nm,0.7s,baz=359,slow=6.8,SNR=4.2
comp=Z,1.1nm,0.7s
SHLS Shalkode 59.30 304 *e*P **P 21 57 29.3 -0.9**
comp=Z,16nm,1.2s
SHLS Shalkode 59.30 304 *e*P **P 21 57 29.3 -0.9**
SHLS pmax pmax
comp=Z,16nm,1.2s
WVT Waverly 59.30 70 P **P 21 57 30.2 +0.1**
WVT Waverly 59.30 70 P **P 21 57 30.2 +0.1**
WVT pmax pmax
comp=Z,8.0nm,0.7s
UZB Uzynbulak 59.49 304 *e*P **P 21 57 31.7 +0.2**
UZB Uzynbulak 59.49 304 *e*P **P 21 57 31.7 +0.2**
HFS Hagfors 59.50 353 P **P 21 57 29.6 -1.5**
comp=Z,2.7nm,0.9s,baz=44,slow=4.5,SNR=6.1
comp=Z,2.7nm,0.9s
ZHN Zhinishke 59.71 305 *e*P **P 21 57 33.4 +0.3**
comp=Z,6.3nm,0.9s
ZHN Zhinishke 59.71 305 *e*P **P 21 57 33.3 +0.3**
ZHN pmax pmax
comp=Z,6.0nm,0.9s
SATY Saty 59.82 305 *e*P **P 21 57 34.3 +0.5**
comp=Z,6.0nm,1.2s
SATY Saty 59.82 305 *e*P **P 21 57 34.3 +0.5**
SATY pmax pmax
comp=Z,6.0nm,1.2s
BTLS Baital 59.90 309 *e*P **P 21 57 34.5 +0.3**
BTLS Baital 59.90 309 *e*P **P 21 57 34.4 +0.3**
MDOK Medeo 60.28 306 *e*P **P 21 57 37.3 +0.3**
MDOK Medeo 60.28 306 *e*P **P 21 57 37.3 +0.3**
TNSS Tian-Shan 60.43 306 *e*P **P 21 57 38.1 -0.2**
TNSS Tian-Shan 60.43 306 *e*P **P 21 57 38.1 -0.2**
AKTO Aktyubinsk 60.79 323 LR LR 22 27 43.4
comp=Z,867nm,18.7s,baz=341,slow=40
SWET Sewanee 60.94 69 P **P 21 57 41.2 -0.2**
WUS Wushi 61.03 303 P **P 21 57 40.5 -1.5**
ABKAR Akbulak array 61.23 321 P **P 21 57 42.4 -0.8**
TKL Tuckaleechee C 61.57 68 LR LR 22 25 44.1
comp=Z,1μm,18.3s,baz=334,slow=37
OBN Obninsk 61.69 338 LR LR 22 26 33.6
comp=Z,904nm,21.6s,baz=18,slow=38
OBN Obninsk 61.69 338 ⇑ *i* P **P 21 57 46.2 +0.1**
OBN *SP **pP 21 57 52.0 +2.8**
OBN *i* 21 58 20.5
OBN *e* 22 00 00.2
OBN *e*S S 22 05 56.0 -12
OBN pmax pmax
comp=Z,51nm,2.9s
AAK Ala-Archa 61.74 307 P **P 21 57 45.7 -1.2**
AAK Ala-Archa 61.74 307 LR LR 22 26 43.4
comp=Z,2μm,18.0s,baz=25,slow=38
AAK Ala-Archa 61.74 307 *ce*P **P 21 57 48.9 +2.0**
AAK pmax pmax
comp=Z,14nm,1.3s
PZH PanZhiHua 62.74 276 P **P 21 57 52.5 -1.2**
PZH S **S 22 06 19.5 -2.9**
PZH pmax pmax
comp=Z,20nm,1.2s
PZH pmax pmax
comp=Z,170nm,7.7s
PZH LR LR
comp=Z,510nm,17.7s
PZH LR LR
comp=Z,610nm,18.1s
PZH LR LR
comp=Z,500nm,15.7s
DZA Taraz 62.76 309 *e*P **P 21 57 53.9 +0.3**
DZA Taraz 62.76 309 *e*P **P 21 57 53.9 +0.3**
KKAR Karatay Array 62.89 310 P **P 21 57 52.9 -1.6**
KKAR IAmb IAmb 21 58 35.8
comp=Z,7.8nm,1.1s
KKAR Karatay Array 62.89 310 P P 21 57 52.0 -2.4
KKAR Karatay Array 62.89 310 P P 21 57 52.0 -2.4
KKAR pmax pmax
comp=Z,8.0nm,1.2s
BRLS Borolday 63.21 311 *e*P **P 21 57 58.6 +2.0**
BRLS Borolday 63.21 311 *e*P **P 21 57 58.5 +2.0**
KMI Kunming 63.39 274 ⇓P **P 21 57 57.8 -0.4**
KMI pmax pmax
comp=Z,7.0nm,1.1s
KSH Kashi 63.78 304 P **P 21 58 04.5 +4.0**
KSH pmax pmax
comp=Z,9.0nm,1.4s
KSH LR LR
comp=Z,2μm,21.3s
KSH LR LR
comp=Z,3μm,19.9s
KSH LR LR
comp=Z,2μm,16.5s
IUG Iuzhnay 63.90 310 *e*P **P 21 58 01.5 +0.3**
comp=Z,6.6nm,0.7s
IUG Iuzhnay 63.90 310 *e*P **P 21 58 01.5 +0.3**
IUG pmax pmax
comp=Z,7.0nm,0.7s
EKA Eskdalemuir Ar 64.56 3 P **P 21 58 04.5 -0.7**
comp=Z,1.1nm,0.6s,baz=358,slow=5.0,SNR=3.9
comp=Z,1.1nm,0.6s
QIZ Qiongzhong 64.99 265 P P 21 58 06.3 -2.2
QIZ S **S 22 06 49.8 -0.5**
QIZ LR LR
comp=Z,310nm,13.9s
QIZ LR LR
comp=Z,500nm,14.9s
QIZ LR LR
comp=Z,620nm,20.7s
LSA Lhasa 65.23 287 P **P 21 58 10.5 0.0**
LSA Lhasa 65.23 287 P **P 21 58 10.5 0.0**
LSA pmax pmax
comp=Z,13nm,0.9s
SLVN Son La 65.99 271 P **P 21 58 14.7 -0.3**
SLVN IAmb IAmb 21 58 16.5
comp=Z,4.9nm,0.9s
GAR Garm 66.50 308 P **P 21 58 17.5 -0.6**
AKASG Malin Array Be 67.17 342 P **P 21 58 20.7 -1.4**
AKASG IAmb IAmb 21 58 44.9
comp=Z,5.6nm,1.2s
AKASG Malin Array Be 67.17 342 P **P 21 58 20.0 -2.0**
comp=Z,1.5nm,0.6s,baz=18,slow=6.1,SNR=5.8
AKASG LR LR 22 31 09.0
comp=Z,769nm,20.1s,baz=27,slow=39
comp=Z,1.5nm,0.6s
AKASG Malin Array Be 67.17 342 P **P 21 58 20.7 -1.4**
AKASG pmax pmax
comp=Z,6.0nm,1.3s
AKBB Malin Array Si 67.17 342 P **P 21 58 21.1 -1.0**
AKBB Malin Array Si 67.17 342 P **P 21 58 21.1 -1.0**
AKBB pmax pmax
comp=Z,25nm,1.4s
KIEV Kiev 67.18 342 P **P 21 58 21.2 -0.9**
KIEV Kiev 67.18 342 P **P 21 58 21.2 -0.9**
KIEV pmax pmax
comp=Z,21nm,1.4s
SIMJ Simiganj 67.30 309 P **P 21 58 22.4 -0.8**
CLL Collm 68.34 353 *e*P P 21 58 27.0 -2.4
CLL MLR MLR
comp=Z,500nm,19.9s
CLL Collm 68.34 353 *e*Px Px 21 58 27.0
CLL *ex* x 21 58 44.0
CLL AMS AMS 22 31 00.0
comp=N,400nm,21.5s
CLL AMS AMS 22 31 00.0
comp=E,600nm,19.7s
CLL AMS AMS 22 33 00.0
comp=Z,500nm,19.9s
OJC Ojcow 68.86 348 P **P 21 58 34.2 +1.5**
OJC Ojcow 68.86 348 P **P 21 58 34.2 +1.5**
OJC pmax pmax
comp=Z,18nm,1.4s
NIL Nilore 69.93 303 P **P 21 58 39.2 -0.4**
NIL Nilore 69.93 303 P **P 21 58 39.2 -0.4**
NIL pmax pmax
comp=Z,20nm,1.0s
PHRA Phrae 70.21 273 P **P 21 58 40.9 -0.6**
KHC Kasperske Hory 70.47 352 *e*P **P 21 58 41.5 -1.2**
KHC *ex* x 21 59 10.0
KHC Kasperske Hory 70.47 352 *e*P **P 21 58 41.5 -1.2**
KHC *e* 21 59 10.0
CHTO Chiang Mai 70.58 274 P P 21 58 41.5 -2.2
CHTO IAmb IAmb 21 58 47.3
comp=Z,4.5nm,1.1s
CHTO Chiang Mai 70.58 274 P P 21 58 41.5 -2.2
MAK Makhachkala 70.60 326 *c* iP P 21 58 37.7 -5.8
MAK *e* 22 01 15.4
MAK *e*PPP PPP 22 03 00.5
MAK *e*S S 22 07 48.7 -8.1
MAK *e*SS **SS 22 12 27.4 +0.3**
MAK pmax pmax
comp=Z,758nm,1.3s
MAK MLR MLR
comp=Z,1μm,19.0s
VYHS Vyhne 70.67 348 *e*P P 21 58 49.6 +5.7
VYHS Vyhne 70.67 348 *e*P P 21 58 49.6 +5.7
GERES GERESS Array B 70.75 352 P **P 21 58 43.4 -1.1**
GERES GERESS Array B 70.75 352 P **P 21 58 43.7 -0.8**
comp=Z,1.0nm,0.6s,baz=2.5,slow=12,SNR=4.5
comp=Z,1.0nm,0.6s
BURAR Bucovina Array 70.77 344 P **P 21 58 44.0 -0.6**
BURAR IAmb IAmb 21 59 08.2
comp=Z,4.8nm,1.1s
KBL Kabul 70.87 307 P **P 21 58 44.6 -1.0**
KBL IAmb IAmb 21 59 15.8
comp=Z,7.4nm,0.9s
KBL Kabul 70.87 307 P **P 21 58 44.6 -1.0**
KBL pmax pmax
comp=Z,7.0nm,1.0s
CM31 Chiang Mai Arr 70.89 274 P **P 21 58 44.9 -0.7**
CMAR Chiang Mai Arr 70.89 274 P **P 21 58 44.1 -1.5**
CMAR Chiang Mai Arr 70.89 274 P **P 21 58 45.3 -0.3**
comp=Z,1.6nm,0.4s,baz=21,slow=6.9,SNR=6.6
CMAR LR LR 22 31 23.2
comp=Z,284nm,21.2s,baz=25,slow=37
comp=Z,1.6nm,0.4s
KIV Kislovodsk 70.92 330 P **P 21 58 44.4 -1.2**
KIV Kislovodsk 70.92 330 *e*P **P 21 58 45.1 -0.5**
KIV pmax pmax
comp=Z,8.0nm,1.0s
MODS Modra-Piesok 70.93 350 *e*P P 21 58 51.5 +6.0
MODS Modra-Piesok 70.93 350 *e*P P 21 58 51.5 +6.0
PSZ Piszkesteto 71.13 348 P **P 21 58 46.4 -0.4**
PSZ Piszkesteto 71.13 348 P **P 21 58 46.4 -0.4**
PSZ pmax pmax
comp=Z,14nm,1.4s
CONA Conrad Observa 71.50 350 *e*pP **P 21 58 52.4 +3.3**
comp=Z,7.5nm,1.2s
MOA Molln 71.70 352 *e*pP **P 21 58 54.2 +4.1**
comp=Z,6.4nm,1.1s
CMIG Matias Romero 71.75 88 LR LR 22 29 15.5
comp=Z,262nm,19.6s,baz=22,slow=35
HNR Honiara 71.82 203 LR LR 22 25 28.8
comp=Z,272nm,21.9s,baz=9.5,slow=32
BIOA Bad Ischl, Aus 71.90 352 *i* pP **P 21 58 53.4 +2.0**
comp=Z,6.9nm,1.5s
SOC Sochi 71.98 332 *e*P **P 21 58 50.4 -1.5**
SOC *e* 22 01 26.0
SOC *e*PPP PPP 22 03 14.0
SOC *e*S **S 22 08 11.7 -1.2**
SOC *e*SSS SSS 22 15 56.7
SOC MLR MLR
comp=Z,733nm,18.0s
LESA Schwarzleotal 72.23 353 *e*pP **P 21 58 55.0 +1.6**
comp=Z,6.2nm,1.4s
WATA Walderalm 72.39 353 *e*pP **P 21 58 56.0 +1.6**
comp=Z,7.6nm,0.9s
WTTA Wattenberg 72.45 353 *e*pP **P 21 58 56.6 +1.7**
comp=Z,12nm,1.3s
MLR Muntele Rosu 72.75 343 LR LR 22 35 25.4
comp=Z,712nm,18.1s,baz=357,slow=40
ABTA Abfaltersbach 72.92 353 *i* pP **P 21 58 59.4 +1.9**
comp=Z,13nm,1.5s
OBKA Obir 73.01 351 *i* pP **P 21 59 02.0 +3.9**
comp=Z,21nm,1.3s
HRA Herat 73.63 312 P **P 21 59 01.6 -0.4**
HRA IAmb IAmb 21 59 44.2
comp=Z,9.4nm,1.1s
GNI Garni 73.97 327 LR LR 22 37 03.5
comp=Z,781nm,18.9s,baz=56,slow=40
BRTR Keskin Array B 77.00 336 P **P 21 59 20.6 -0.7**
comp=Z,1.5nm,1.0s,baz=353,slow=4.4,SNR=2.4
comp=Z,1.5nm,1.0s
ESDC Sonseca Array 80.18 5 P **P 21 59 38.5 -0.2**
ESDC IAmb IAmb 21 59 49.0
comp=Z,8.4nm,1.4s
ESDC Sonseca Array 80.18 5 P **P 21 59 37.8 -0.9**
comp=Z,1.5nm,0.7s,baz=358,slow=5.9,SNR=13
comp=Z,1.5nm,0.7s
PPT Papeete 80.92 153 LR LR 22 28 40.5
comp=Z,174nm,20.8s,baz=326,slow=30
PPT2 Papeete2 80.94 153 *e*LR LR 22 24 48.0
comp=Z,481nm,24.5s
PPT2 *e*LR LR 22 24 57.6
comp=Z,455nm,34.2s
VAE Valguarnera 82.00 350 LR LR 22 37 29.6
comp=Z,227nm,21.3s,baz=60,slow=37
JTS Las Juntas de 82.48 83 LR LR 22 42 27.3
comp=Z,148nm,18.3s,baz=312,slow=40
RAR Rarotonga 82.59 163 LR LR 22 29 40.0
comp=Z,421nm,19.5s,baz=318,slow=31
MMAI Mount Meron Ar 83.06 332 LR LR 22 39 30.8
comp=Z,459nm,19.6s,baz=354,slow=38
DZM Mont Dzumac 83.16 195 *e*LR LR 22 26 01.8
comp=Z,1μm,24.2s
PSI Prapat 84.31 266 LR LR 22 45 48.5
comp=Z,94nm,18.5s,baz=354,slow=41
ELAT Elat 86.38 332 LR LR 22 41 24.6
comp=Z,300nm,18.9s,baz=60,slow=38
TBI Tubuai 86.54 154 *e*LR LR 22 27 28.3
comp=Z,1μm,28.0s
TBI *e*LR LR 22 27 29.1
comp=Z,2μm,25.8s
WRA Warramunga Arr 88.93 224 P **P 22 00 22.8 -0.1**
comp=Z,1.1nm,0.8s,baz=28,slow=5.3,SNR=5.8
comp=Z,1.1nm,0.8s
WRA Warramunga Arr 88.93 224 *i* P **P 22 00 24.1 +1.2**
WRA pmax pmax
comp=Z,1.0nm,0.8s
SDV Santo Domingo 90.61 71 LR LR 22 42 14.2
comp=Z,339nm,21.4s,baz=341,slow=36
PCRV Puerto La Cruz 92.24 65 LR LR 22 46 16.0
comp=Z,182nm,18.2s,slow=38
ROSC El Rosal 92.39 76 LR LR 22 46 13.2
comp=Z,234nm,19.1s,baz=64,slow=38
ASAR Alice Springs 92.52 223 P **P 22 00 39.4 -0.2**
comp=Z,0.4nm,0.8s,baz=20,slow=4.7,SNR=3.1
comp=Z,0.4nm,0.8s
STKA Stephens Creek 97.80 214 LR LR 22 40 32.7
comp=Z,226nm,21.4s,baz=233,slow=32
URZ Urewera 98.37 184 LR LR 22 36 05.0
comp=Z,138nm,21.3s,baz=250,slow=30
QSPA South Pole Qui 150.15 180 PKPbc **PKPdf 22 07 17.2 +4.4**
comp=Z,6.1nm,0.7s,baz=307,slow=1.3,SNR=8.3

NEIC ***30*** *21:50:43.2±1.6, 61°.45N±0°.03×149°.90W±0°.01, h36km±7km, Error ellipse: s-maj=4.0km s-min=0.6km az=168.0*

AEIC 30 21:50:43.5±1.4, 61°.45N±0°.03×149°.92W±0°.03, h32km±7km, ML2.6, ML2.8/68(NEIC), Error ellipse: s-maj=3.8km s-min=2.1km az=175.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.32**	**343**		Pb	21 50 50.8	-0.7
M22K				Sg	Sn	21 50 57.5	0.0
M22K				IAML		21 50 58.2	
comp=E,710nm,0.4s							
RC01	**Rabbit Creek A**	**0.37**	**166**		Pb	21 50 51.2	-0.9
RC01					Sb	21 50 58.3	+0.3
SUA	**Susitna One**	**0.40**	**273**	Pg	Pb	21 50 52.1	-0.5
SUA					Sn	21 50 59.4	-0.1
PMR	**Palmer**	**0.41**	**68**		Pb	21 50 50.2	-2.4
PMR					Pn	21 50 51.7	-1.4
PMR					Sb	21 50 58.6	-0.2
GHO	**Glory Hole Cre**	**0.58**	**55**		Pb	21 50 54.2	-1.2
GHO				Sg	Sb	21 51 03.2	-0.3
GHO				IAML		21 51 04.0	
comp=E,401nm,0.5s							
KNK	**Knik Glacier**	**0.70**	**92**		Pn	21 50 56.1	-1.2
KNK					Sb	21 51 06.6	-0.3
SML	**Sawmill**	**0.84**	**64**		Sn	21 51 10.0	-0.4
SML	**Sawmill**	**0.84**	**64**		Pn	21 50 57.7	-1.4
CAPN	**Captain Cook N**	**0.91**	**222**	Pn	Pn	21 50 58.9	-1.0
CAPN				IAML		21 51 30.6	
comp=N,402nm,0.8s							
STLK	**Strandline Lak**	**0.92**	**274**		Pn	21 50 59.3	-0.9
STLK					Sn	21 51 12.1	-0.2
SKT	**Skwentna**	**0.94**	**306**		Pn	21 50 59.1	-1.4
SLKM	**Skilak Lake**	**0.95**	**189**		Pn	21 50 59.7	-0.9
SLKM				IAML		21 51 29.1	
comp=N,256nm,0.1s							
SLKM				IAML		21 51 29.5	
comp=E,201nm,0.3s							
SLKM	**Skilak Lake**	**0.95**	**189**		Sn	21 51 13.5	+0.3
PWL	**Port Wells**	**0.97**	**127**		Pn	21 50 60.0	-0.9
PWL	**Port Wells**	**0.97**	**127**	IAML		21 51 16.2	
comp=E,255nm,0.4s							
PWL				IAML		21 51 16.3	
comp=N,229nm,0.3s							
O22K	**Cooper Landing**	**0.97**	**174**		Pn	21 51 00.9	+0.1
O22K					Sn	21 51 13.7	+0.2
O22K				IAML		21 51 14.6	
comp=N,303nm,0.3s							
O22K				IAML		21 51 30.6	
comp=E,228nm,0.7s							
CUT	**Chulitna**	**0.98**	**350**	Pn	Pn	21 50 59.8	-1.2
CUT				IAML		21 51 15.8	
comp=E,295nm,0.4s							
SPCG	**Spurr Capps Gl**	**1.02**	**262**		Pn	21 51 01.0	-0.7
SPCP	**Crater Peak Br**	**1.09**	**261**		Pn	21 51 02.0	-0.7
M23K	**Glacier View**	**1.10**	**71**		Pn	21 51 01.9	-0.8
SPCR	**Spurr Chakacha**	**1.13**	**258**		Pn	21 51 02.0	-1.2
SPCR	**Spurr Chakacha**	**1.13**	**258**		Pn	21 51 02.0	-1.1
SCM	**Sheep Creek Mo**	**1.30**	**71**		Pn	21 51 04.8	-0.7
GLI	**Glacier Island**	**1.48**	**111**		Pn	21 51 06.8	-1.1
RDT	**Redoubt**	**1.49**	**235**		Pn	21 51 07.2	-0.9
M20K	**Styx River**	**1.59**	**287**	Pn	Pn	21 51 08.8	-0.8
M20K				IAML		21 52 00.8	
comp=N,90nm,0.8s							
BRLK	**Bradley Lake**	**1.75**	**196**	Pn	Pn	21 51 12.0	+0.3
FID	**Port Fidalgo**	**1.81**	**111**		Pn	21 51 11.2	-1.3
M24K	**Tolsona, Glenn**	**1.90**	**68**	Pn	Pn	21 51 13.9	+0.2
KLU	**Klutina**	**1.92**	**87**	Pn	Pn	21 51 12.6	-1.4
HIN	**Hinchinbrook I**	**1.97**	**121**	Pn	Pn	21 51 15.1	+0.4
HOM	**Homer**	**1.98**	**206**	Pn	Pn	21 51 14.2	-0.5
DHY	**Denali Highway**	**2.02**	**35**	Pn	Pn	21 51 15.2	-0.3
RND	**Reindeer**	**2.03**	**14**	Pn	Pn	21 51 14.9	-0.6
RND				IAML		21 52 15.8	
comp=E,47nm,0.4s							
CNPM	**China Poot**	**2.03**	**199**	Pn	Pn	21 51 15.8	+0.3
ILSW	**Iliamna Southw**	**2.16**	**229**	Pn	Pn	21 51 16.9	-0.4
ILSW				IAML		21 52 16.9	
comp=N,42nm,0.4s							
ILSW				IAML		21 52 17.9	
comp=E,61nm,0.9s							
KTH	**Kantishna Hill**	**2.17**	**348**	Pn	Pn	21 51 16.5	-0.9
KTH				IAML		21 52 17.5	
comp=N,56nm,0.5s							
KTH				IAML		21 52 18.4	
comp=E,49nm,1.0s							

M19K	**Big River Lodg**	**2.18 284**	Pn	Pn	21 51 17.2	-0.3
M19K			IAML		21 52 23.6	
	comp=N,42nm,0.5s					
M19K			IAML		21 52 28.5	
	comp=E,46nm,1.1s					
P19K	**Oil Pt**	**2.43 224**	Pn	Pn	21 51 22.7	+1.7
L19K	**White Mountain**	**2.46 290**	Pn	Pn	21 51 22.1	+0.8
L19K			IAML		21 52 37.6	
	comp=E,37nm,1.1s					
L19K			IAML		21 52 39.0	
	comp=N,32nm,1.0s					
N25K	**Chitina, Valde**	**2.56 84**	Pn	Pn	21 51 20.8	-1.9
SVW2	**Sparrevohn**	**2.76 265**	Pn	Pn	21 51 24.5	-1.0
GLB	**Gilahina Butte**	**2.94 87**	Pn	Pn	21 51 28.4	+0.5
GLB			IAML		21 52 41.0	
	comp=E,26nm,1.2s					

*NEIC **30** 21:52:25.7±1.1, 61°.39N±0°.02×150°.07W±0°.04, h33km±9km, Error ellipse: s-maj=3.3km s-min=1.9km az=218.0*

AEIC 30 21:52:26.6±1.2, 61°.39N±0°.02×150°.06W±0°.03, h33km±7km, ML2.6, ML2.8/72(NEIC), Error ellipse: s-maj=3.3km s-min=2.1km az=173.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.34**	**283**		Pb	21 52 33.4	-1.6
SUA					Sb	21 52 41.3	+0.6
SUA				IAML		21 52 41.8	
	comp=E,887nm,0.8s						
SUA				IAML		21 52 42.3	
	comp=N,680nm,0.8s						
RC01	**Rabbit Creek A**	**0.34**	**152**	Pg	Pb	21 52 33.1	-1.8
RC01					Sn	21 52 40.9	+0.3
M22K	**Willow**	**0.37**	**356**		Pb	21 52 34.2	-1.0
M22K	**Willow**	**0.37**	**356**		Sn	21 52 41.4	0.0
M22K	**Willow**	**0.37**	**356**	IAML		21 52 41.7	
	comp=E,795nm,0.3s						
M22K				IAML		21 52 41.8	
	comp=N,601nm,0.4s						
PMR	**Palmer**	**0.49**	**65**		Sb	21 52 43.6	-0.6
PMR	**Palmer**	**0.49**	**65**		Pb	21 52 35.8	-1.3
PMR	**Palmer**	**0.49**	**65**	IAML		21 52 44.4	
	comp=E,569nm,0.5s						
PMR				IAML		21 52 44.4	
	comp=N,757nm,0.4s						
GHO	**Glory Hole Cre**	**0.67**	**54**		Sb	21 52 48.7	-0.3
GHO	**Glory Hole Cre**	**0.67**	**54**		Pn	21 52 38.2	-1.5
GHO	**Glory Hole Cre**	**0.67**	**54**	IAML		21 52 49.3	
	comp=N,437nm,0.4s						
GHO				IAML		21 52 49.5	
	comp=E,889nm,0.3s						
KNK	**Knik Glacier**	**0.77**	**88**		Sb	21 52 52.1	+0.2
KNK				IAML		21 52 53.3	
	comp=N,243nm,0.2s						
KNK				IAML		21 52 53.4	
	comp=E,276nm,0.3s						
KNK	**Knik Glacier**	**0.77**	**88**		Pn	21 52 40.1	-1.1
CAPN	**Captain Cook N**	**0.82**	**221**	Pn	Pn	21 52 41.9	+0.1
STLK	**Strandline Lak**	**0.86**	**278**		Pn	21 52 41.5	-0.9
STLK					Sn	21 52 53.4	-0.4
STLK				IAML		21 52 54.0	
	comp=E,176nm,0.3s						
SLKM	**Skilak Lake**	**0.89**	**185**		Pn	21 52 42.2	-0.6
SLKM				IAML		21 52 56.6	
	comp=N,269nm,0.1s						
SKT	**Skwentna**	**0.92**	**311**		Pn	21 52 41.7	-1.5
SKT	**Skwentna**	**0.92**	**311**		Sn	21 52 54.7	-0.5
SKT				IAML		21 52 55.1	
	comp=E,331nm,0.4s						
O22K	**Cooper Landing**	**0.93**	**170**		Pn	21 52 42.3	-1.0
SML	**Sawmill**	**0.93**	**62**		Pn	21 52 42.0	-1.4
SML					Sn	21 52 55.4	-0.1
SML	**Sawmill**	**0.93**	**62**	IAML		21 52 57.5	
	comp=N,213nm,0.3s						
SPCG	**Spurr Capps Gl**	**0.95**	**265**		Pn	21 52 42.7	-1.0
PWL	**Port Wells**	**0.99**	**122**		Pn	21 52 43.4	-0.8
PWL					Sb	21 52 57.8	-0.4
SPCP	**Crater Peak Br**	**1.02**	**264**		Pn	21 52 43.9	-0.8
CUT	**Chulitna**	**1.02**	**355**		Pn	21 52 43.6	-1.0
CUT	**Chulitna**	**1.02**	**355**	IAML		21 53 00.9	
	comp=N,306nm,0.3s						
SPCR	**Spurr Chakacha**	**1.05**	**261**		Pn	21 52 44.0	-1.1
SPCR	**Spurr Chakacha**	**1.05**	**261**		Pn	21 52 44.0	-1.1
M23K	**Glacier View**	**1.19**	**69**		Pn	21 52 46.3	-0.6
SPWE	**Spurr West**	**1.21**	**266**		Pn	21 52 46.6	-0.6
SCM	**Sheep Creek Mo**	**1.38**	**70**		Pn	21 52 49.0	-0.5
SCM				IAML		21 53 09.1	
	comp=N,178nm,0.7s						
SCM				IAML		21 53 09.7	
	comp=E,164nm,0.5s						
RDT	**Redoubt**	**1.41**	**235**		Pn	21 52 49.0	-0.9
GLI	**Glacier Island**	**1.53**	**108**		Pn	21 52 50.4	-1.2
GLI	**Glacier Island**	**1.53**	**108**	IAML		21 53 11.8	
	comp=N,108nm,0.6s						
GLI				IAML		21 53 12.0	
	comp=E,125nm,0.2s						
M20K	**Styx River**	**1.55**	**290**	Pn	Pn	21 52 50.7	-1.2
WAT7	**Susitna Watana**	**1.56**	**21**		Pn	21 52 51.7	-0.4
RDJH	**Redoubt Jeurge**	**1.56**	**240**		Pn	21 52 51.5	-0.6
WAT6	**Susitna Watana**	**1.62**	**41**		Pn	21 52 52.5	-0.4
RDWB	**Redoubt West**	**1.63**	**238**		Pn	21 52 52.4	-0.7
RED	**Redoubt Volcan**	**1.64**	**235**		Pn	21 52 52.4	-0.8
BRLK	**Bradley Lake**	**1.68**	**194**		Sn	21 53 14.1	0.0
BRLK				IAML		21 53 17.8	
	comp=N,88nm,0.1s						
BRLK	**Bradley Lake**	**1.68**	**194**		Pn	21 52 53.0	-0.7
BRSE	**Bradley Lake S**	**1.69**	**192**		Pn	21 52 52.5	-1.2
FID	**Port Fidalgo**	**1.86**	**109**	Pn	Pn	21 52 55.1	-1.0
FID				IAML		21 53 27.5	
	comp=N,79nm,0.4s						
FID				IAML		21 53 28.3	
	comp=E,79nm,0.6s						
HOM	**Homer**	**1.91**	**205**	Pn	Pn	21 52 56.0	-0.7
CNPM	**China Poot**	**1.96**	**198**	Pn	Pn	21 52 56.5	-0.9
CNPM				IAML		21 53 24.6	
	comp=E,92nm,0.7s						
CNPM				IAML		21 53 26.4	
	comp=N,67nm,0.3s						
M24K	**Tolsona, Glenn**	**1.98**	**67**		Pn	21 52 56.2	-1.7
M24K				IAML		21 53 28.2	
	comp=E,105nm,0.8s						
M24K				IAML		21 53 32.2	
	comp=N,82nm,1.1s						
KLU	**Klutina**	**1.99**	**85**	Pn	Pn	21 52 56.9	-1.0
KLU				IAML		21 53 32.7	
	comp=E,41nm,0.2s						
HIN	**Hinchinbrook I**	**2.00**	**118**	Pn	Pn	21 52 57.2	-1.0
HIN				IAML		21 53 28.4	
	comp=N,89nm,0.7s						
HIN				IAML		21 53 31.8	
	comp=E,98nm,0.8s						
ILSW	**Iliamna Southw**	**2.07**	**228**	Pn	Pn	21 52 59.3	+0.2
ILSW				IAML		21 54 22.6	
	comp=N,56nm,1.0s						
RND	**Reindeer**	**2.10**	**15**	Pn	Pn	21 52 59.1	-0.3
DHY	**Denali Highway**	**2.11**	**35**	Pn	Pn	21 52 59.4	-0.3
DHY				IAML		21 53 31.2	
	comp=E,53nm,0.8s						
DHY				IAML		21 53 31.3	
	comp=N,48nm,0.8s						
M19K	**Big River Lodg**	**2.13**	**286**	Pn	Pn	21 52 59.2	-0.7
N19K	**Bonanza Creek**	**2.22**	**257**	Pn	Pn	21 53 01.0	-0.2
N19K				IAML		21 54 05.4	
	comp=E,40nm,1.1s						
P19K	**Oil Pt**	**2.34**	**223**	Pn	Pn	21 53 04.3	+1.5
L19K	**White Mountain**	**2.41**	**291**	Pn	Pn	21 53 03.5	-0.3
N25K	**Chitina, Valde**	**2.63**	**83**	Pn	Pn	21 53 07.3	+0.6
N25K				IAML		21 54 41.5	
	comp=N,23nm,0.5s						
N18K	**Kilae Creek**	**2.92**	**258**	Pn	Pn	21 53 10.0	-0.7
N18K				IAML		21 54 00.6	
	comp=E,35nm,1.1s						
GLB	**Gilahina Butte**	**3.01**	**86**	Pn	Pn	21 53 13.6	+1.7
GLB				IAML		21 54 52.1	
	comp=N,20nm,0.6s						
Q19K	**Cape Douglas,**	**3.05**	**218**	Pn	Pn	21 53 13.4	+0.9
VRDI	**Verde Repeater**	**3.19**	**90**	Pn	Pn	21 53 16.6	+2.0

*NEIC **30** 21:53:20.8±1.3, 61°.36N±0°.02×150°.02W±0°.05, h41km±8km, Error ellipse: s-maj=3.6km s-min=3.1km az=208.0*

AEIC 30 21:53:21.4±1.3, 61°.37N±0°.03×150°.03W±0°.06, h40km±8km, ML2.6, ML2.8/72(NEIC), Error ellipse: s-maj=4.0km s-min=3.7km az=113.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.31**	**153**		Pn	21 53 29.0	-0.8
RC01					Sn	21 53 35.6	-0.1
RC01				IAML		21 53 36.0	
	comp=E,659nm,0.3s						
RC01				IAML		21 53 36.9	
	comp=N,824nm,0.2s						
SUA	**Susitna One**	**0.36**	**286**		Pn	21 53 29.9	-0.5
SUA					Sn	21 53 37.3	+0.5
SUA				IAML		21 53 38.2	
	comp=N,692nm,0.7s						
M22K	**Willow**	**0.39**	**354**	Pn	Pn	21 53 30.0	-0.7
M22K				IAML		21 53 38.4	
	comp=N,533nm,0.3s						
M22K				IAML		21 53 42.0	
	comp=E,614nm,0.5s						
M22K	**Willow**	**0.39**	**354**		Sn	21 53 37.5	+0.3
PMR	**Palmer**	**0.49**	**62**		Pn	21 53 30.9	-1.0
PMR				IAML		21 53 39.6	
	comp=N,396nm,0.5s						
GHO	**Glory Hole Cre**	**0.67**	**52**		Pn	21 53 33.8	-0.7
GHO					Sn	21 53 43.8	-0.1
GHO				IAML		21 53 45.0	
	comp=E,540nm,0.6s						
GHO				IAML		21 53 46.0	
	comp=N,374nm,0.2s						
KNK	**Knik Glacier**	**0.76**	**86**		Pn	21 53 35.0	-0.6
KNK					Sn	21 53 46.4	+0.4
KNK				IAML		21 53 48.6	
	comp=E,322nm,0.4s						
KNK				IAML		21 53 49.0	
	comp=N,501nm,0.4s						
CAPN	**Captain Cook N**	**0.81**	**223**	Pn	Pn	21 53 36.6	+0.3
SLKM	**Skilak Lake**	**0.87**	**186**		Pn	21 53 36.1	-1.0
SLKM				IAML		21 53 49.5	
	comp=N,329nm,0.3s						
SLKM				IAML		21 53 49.8	
	comp=E,287nm,0.5s						
SLKM	**Skilak Lake**	**0.87**	**186**		Sn	21 53 49.0	+0.4
STLK	**Strandline Lak**	**0.88**	**280**		Pn	21 53 36.8	-0.6
STLK					Sn	21 53 49.2	+0.3
STLK	**Strandline Lak**	**0.88**	**280**	IAML		21 53 49.7	
	comp=E,400nm,0.3s						
O22K	**Cooper Landing**	**0.90**	**170**		Pn	21 53 36.6	-1.0
SML	**Sawmill**	**0.93**	**61**		Pn	21 53 36.9	-1.1
SML					Sn	21 53 50.2	+0.1
SKT	**Skwentna**	**0.94**	**311**		Pn	21 53 37.4	-0.9
SKT					Sn	21 53 50.6	0.0
SPCG	**Spurr Capps Gl**	**0.96**	**266**		Pn	21 53 37.8	-0.7
SPCG					Sn	21 53 51.4	+0.3
PWL	**Port Wells**	**0.97**	**121**		Pn	21 53 37.9	-0.7
SPCP	**Crater Peak Br**	**1.03**	**265**		Pn	21 53 38.9	-0.6
SPCP					Sn	21 53 53.5	+0.7
CUT	**Chulitna**	**1.05**	**354**		Pn	21 53 38.6	-1.0
CUT	**Chulitna**	**1.05**	**354**	IAML		21 53 54.3	
	comp=E,327nm,0.3s						
SPCR	**Spurr Chakacha**	**1.06**	**262**		Pn	21 53 39.1	-0.8
SPCR	**Spurr Chakacha**	**1.06**	**262**		Pn	21 53 39.0	-0.9
M23K	**Glacier View**	**1.18**	**68**		Pn	21 53 41.1	-0.3
SEW	**Seward**	**1.30**	**167**		Pn	21 53 43.1	+0.1
SCM	**Sheep Creek Mo**	**1.38**	**69**		Sn	21 54 01.5	+0.4
SCM				IAML		21 54 03.2	
	comp=E,162nm,0.6s						
SCM				IAML		21 54 04.1	
	comp=N,180nm,0.7s						
SCM	**Sheep Creek Mo**	**1.38**	**69**		Pn	21 53 43.8	-0.4
RDT	**Redoubt**	**1.40**	**237**		Pn	21 53 43.7	-0.8
GLI	**Glacier Island**	**1.51**	**108**	Pn	Pn	21 53 44.7	-1.2
GLI				IAML		21 54 08.6	
	comp=N,137nm,0.2s						
RDJH	**Redoubt Jeurge**	**1.56**	**241**		Pn	21 53 45.9	-0.8
M20K	**Styx River**	**1.57**	**291**		Pn	21 53 46.5	-0.3
M20K					Sn	21 54 07.3	+1.3
RDSO	**Redoubt South**	**1.61**	**237**		Pn	21 53 46.7	-0.8
RDWB	**Redoubt West**	**1.63**	**239**		Pn	21 53 47.1	-0.7
RED	**Redoubt Volcan**	**1.64**	**236**		Pn	21 53 47.0	-0.8
BRLK	**Bradley Lake**	**1.66**	**195**		Pn	21 53 46.5	-1.6
BRLK				IAML		21 54 14.4	
	comp=E,81nm,0.1s						
FID	**Port Fidalgo**	**1.83**	**108**		Pn	21 53 48.8	-1.6
FID	**Port Fidalgo**	**1.83**	**108**	IAML		21 54 16.7	
	comp=N,92nm,0.3s						
FID				IAML		21 54 20.6	
	comp=E,102nm,0.3s						
CNPM	**China Poot**	**1.94**	**198**	Pn	Pn	21 53 52.8	+1.0
CNPM				IAML		21 54 18.7	
	comp=E,86nm,0.6s						
CNPM				IAML		21 54 20.8	
	comp=N,63nm,0.4s						
KLU	**Klutina**	**1.98**	**85**	Pn	Pn	21 53 51.7	-0.7
KLU				IAML		21 54 27.5	
	comp=N,60nm,0.4s						
M24K	**Tolsona, Glenn**	**1.98**	**66**	Pn	Pn	21 53 52.8	+0.4
M24K				IAML		21 54 28.6	
	comp=N,68nm,0.9s						
M24K				IAML		21 55 12.4	
	comp=E,104nm,0.8s						
HIN	**Hinchinbrook I**	**1.98**	**118**	Pn	Pn	21 53 53.9	+1.5
ILSW	**Iliamna Southw**	**2.07**	**229**	Pn	Pn	21 53 53.7	0.0
ILSW				IAML		21 54 30.3	
	comp=E,64nm,1.5s						
DHY	**Denali Highway**	**2.12**	**35**		Pn	21 53 54.6	+0.2
DHY				IAML		21 54 26.7	
	comp=E,50nm,0.3s						
RND	**Reindeer**	**2.12**	**14**		Pn	21 53 53.7	-0.7
M19K	**Big River Lodg**	**2.15**	**286**	Pn	Pn	21 53 54.8	0.0
M19K				IAML		21 54 34.1	
	comp=E,50nm,1.4s						
M19K				IAML		21 54 35.3	
	comp=N,62nm,1.4s						
N19K	**Bonanza Creek**	**2.23**	**258**	Pn	Pn	21 53 55.2	-0.7
N19K				IAML		21 54 33.3	
	comp=E,53nm,1.4s						
KTH	**Kantishna Hill**	**2.23**	**350**	Pn	Pn	21 53 56.2	+0.2
KTH				IAML		21 55 18.8	
	comp=N,66nm,1.5s						
KTH				IAML		21 55 21.1	
	comp=E,51nm,1.4s						
L19K	**White Mountain**	**2.43**	**292**	Pn	Pn	21 53 58.9	+0.2
L19K				IAML		21 54 16.6	
	comp=E,46nm,1.4s						
N25K	**Chitina, Valde**	**2.62**	**82**	Pn	Pn	21 54 02.1	+0.9
SVW2	**Sparrevohn**	**2.70**	**267**	Pn	Pn	21 54 00.9	-1.4
K20K	**Telida**	**2.75**	**318**	Pn	Pn	21 54 03.5	+0.6
K20K				IAML		21 54 41.8	
	comp=N,31nm,1.4s						
N18K	**Kilae Creek**	**2.93**	**259**	Pn	Pn	21 54 04.7	-0.8
N18K				IAML		21 55 38.4	
	comp=E,30nm,1.4s						
Q19K	**Cape Douglas,**	**3.04**	**218**	Pn	Pn	21 54 07.0	0.0
WRH	**Wood River Hil**	**3.24**	**15**	Pn	Pn	21 54 07.1	-2.6

*NEIC **30** 21:54:15.3±0.6, 61°.46N±0°.02×149°.93W±0°.04, h55km±6km, Error ellipse: s-maj=4.1km s-min=1.5km az=140.0*

AEIC 30 21:54:15.9±0.9, 61°.46N±0°.02×149°.93W±0°.05, h50km±5km, ML2.6, ML2.9/64(NEIC), Error ellipse: s-maj=3.5km s-min=3.2km az=224.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.31**	**343**		Pn	21 54 24.3	-0.8
M22K				Sn	Sn	21 54 32.0	+0.3
M22K				IAML		21 54 37.7	
	comp=N,518nm,0.3s						
RC01	**Rabbit Creek A**	**0.38**	**166**		Pn	21 54 25.2	-0.6
RC01					Sn	21 54 33.2	+0.4
RC01				IAML		21 54 34.2	
	comp=N,662nm,0.3s						
RC01				IAML		21 54 35.2	
	comp=E,652nm,0.2s						
SUA	**Susitna One**	**0.39**	**272**		Pn	21 54 25.7	-0.4
SUA					Sn	21 54 33.6	+0.3
SUA				IAML		21 54 34.0	
	comp=N,631nm,0.7s						
PMR	**Palmer**	**0.41**	**70**		Pn	21 54 25.4	-0.7
PMR					Sn	21 54 33.3	0.0
PMR				IAML		21 54 33.7	
	comp=E,460nm,0.2s						
PMR				IAML		21 54 33.9	
	comp=N,556nm,0.1s						
GHO	**Glory Hole Cre**	**0.58**	**56**		Pn	21 54 27.6	-0.5
GHO					Sn	21 54 37.0	0.0
KNK	**Knik Glacier**	**0.71**	**93**		Pn	21 54 29.5	-0.3
KNK					Sn	21 54 40.2	+0.4
KNK				IAML		21 54 42.0	
	comp=N,457nm,0.5s						
SML	**Sawmill**	**0.84**	**64**		Pn	21 54 30.9	-0.6
SML				Sn	Sn	21 54 42.9	-0.1
SML				IAML		21 54 44.5	
	comp=N,262nm,0.5s						
CAPN	**Captain Cook N**	**0.91**	**221**	Pn	Pn	21 54 31.9	-0.4
CAPN				Sn	Sn	21 54 44.6	+0.2
STLK	**Strandline Lak**	**0.91**	**274**	Pn	Pn	21 54 32.0	-0.5
STLK				Sn	Sn	21 54 44.8	+0.1
STLK				IAML		21 54 45.2	
	comp=E,332nm,0.4s						
STLK				IAML		21 54 45.3	
	comp=N,429nm,0.3s						
SKT	**Skwentna**	**0.93**	**305**	Sn	Sn	21 54 44.6	-0.3
SKT				IAML		21 54 44.8	
	comp=E,410nm,0.4s						
SKT	**Skwentna**	**0.93**	**305**		Pn	21 54 31.7	-0.9
SLKM	**Skilak Lake**	**0.96**	**189**		Pn	21 54 32.3	-0.7
SLKM	**Skilak Lake**	**0.96**	**189**	Sn	Sn	21 54 45.5	-0.2
SLKM				IAML		21 54 46.1	
	comp=E,280nm,0.3s						
SLKM				IAML		21 54 46.4	
	comp=N,427nm,0.2s						
CUT	**Chulitna**	**0.97**	**351**		Pn	21 54 32.3	-0.8
PWL	**Port Wells**	**0.98**	**127**		Pn	21 54 32.9	-0.4
PWL	**Port Wells**	**0.98**	**127**	IAML		21 54 47.9	
	comp=E,373nm,0.4s						
O22K	**Cooper Landing**	**0.98**	**174**		Pn	21 54 31.9	-1.4
SPCG	**Spurr Capps Gl**	**1.02**	**262**		Pn	21 54 33.6	-0.4
SPCP	**Crater Peak Br**	**1.09**	**261**		Pn	21 54 34.7	-0.2
SPCR	**Spurr Chakacha**	**1.13**	**258**		Pn	21 54 34.7	-0.7
SPCR	**Spurr Chakacha**	**1.13**	**258**		Pn	21 54 34.8	-0.6
SCM	**Sheep Creek Mo**	**1.30**	**72**		Pn	21 54 37.1	-0.5
SCM	**Sheep Creek Mo**	**1.30**	**72**	IAML		21 54 56.5	
	comp=E,181nm,0.5s						
GLI	**Glacier Island**	**1.49**	**112**	Pn	Pn	21 54 39.0	-1.2
M20K	**Styx River**	**1.59**	**287**	Pn	Pn	21 54 41.1	-0.5
RDWB	**Redoubt West**	**1.72**	**237**		Pn	21 54 42.5	-0.9
BRLK	**Bradley Lake**	**1.76**	**196**	Pn	Pn	21 54 43.7	-0.2
FID	**Port Fidalgo**	**1.82**	**111**	Pn	Pn	21 54 43.9	-0.8
FID				IAML		21 55 07.3	
	comp=E,73nm,0.6s						
M24K	**Tolsona, Glenn**	**1.90**	**68**	Pn	Pn	21 54 45.4	-0.5
M24K				IAML		21 55 19.0	
	comp=N,73nm,0.9s						
KLU	**Klutina**	**1.92**	**87**	Pn	Pn	21 54 45.9	-0.3
KLU				IAML		21 56 04.5	
	comp=E,68nm,0.3s						
KTH	**Kantishna Hill**	**2.16**	**348**	Pn	Pn	21 54 48.0	-1.4
KTH				IAML		21 55 29.1	
	comp=E,61nm,0.8s						
KTH				IAML		21 55 30.4	
	comp=N,49nm,0.9s						
CAST	**Castle Rocks**	**2.21**	**334**	Pn	Pn	21 54 49.2	-0.9
CAST				IAML		21 56 12.3	
	comp=E,50nm,0.7s						
CAST				IAML		21 56 12.7	
	comp=N,87nm,0.4s						
N19K	**Bonanza Creek**	**2.30**	**256**	Pn	Pn	21 54 50.8	-0.6
N19K				IAML		21 56 22.7	
	comp=E,60nm,0.6s						
L19K	**White Mountain**	**2.45**	**289**	Pn	Pn	21 54 52.7	-0.6
L19K				IAML		21 56 06.2	
	comp=N,55nm,0.3s						
L19K				IAML		21 56 06.4	
	comp=E,78nm,0.5s						
BPAW	**Bear Paw Mtn.**	**2.70**	**350**	Pn	Pn	21 54 56.4	-0.3
BPAW				IAML		21 56 44.0	
	comp=N,49nm,0.8s						
K20K	**Telida**	**2.71**	**317**	Pn	Pn	21 54 55.9	-1.0
K20K				IAML		21 56 47.2	
	comp=E,43nm,0.6s						
K20K				IAML		21 56 47.3	
	comp=N,35nm,1.1s						
WRH	**Wood River Hil**	**3.14**	**15**	Pn	Pn	21 55 03.6	+0.8
WRH				IAML		21 57 01.9	
	comp=N,24nm,0.7s						
WRH				IAML		21 57 11.5	
	comp=E,28nm,0.5s						
NEA2	**Nenana**	**3.17**	**7**	Pn	Pn	21 55 03.2	-0.1
G24K	**Hadweenzic Riv**	**5.38**	**10**	IAML		21 59 14.3	
	comp=E,3.9nm,0.8s						

*NEIC **30** 21:55:28.3±1.1, 61°.41N±0°.03×150°.08W±0°.05, h41km±4km, Error ellipse: s-maj=3.9km s-min=3.3km az=179.0*

AEIC 30 21:55:28.7±1.2, 61°.40N±0°.03×150°.07W±0°.02, h40km±6km, ML3.2, ML3.4/100(NEIC), Error ellipse: s-maj=4.0km s-min=1.3km az=183.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.33**	**281**		Pn	21 55 36.8	-0.7
SUA					Sn	21 55 43.9	+0.3
SUA				IAML		21 55 44.3	
	comp=E,4μm,0.7s						
SUA				IAML		21 55 44.7	
	comp=N,3μm,0.8s						
SUA	**Susitna One**	**0.33**	**281**	P	Pn	21 55 36.7	-0.7
	baz=100						
SUA				S	Sn	21 55 44.1	+0.4
	baz=100						
M22K	**Willow**	**0.35**	**356**		Pn	21 55 36.6	-0.9
M22K					Sn	21 55 44.0	+0.3
M22K				IAML		21 55 44.4	
	comp=E,4μm,0.6s						
M22K				IAML		21 55 44.8	
	comp=N,3μm,0.6s						
M22K	**Willow**	**0.35**	**356**	P	Pn	21 55 36.6	-0.9
	baz=176						
M22K				S	Sn	21 55 44.2	+0.4
	baz=176						
RC01	**Rabbit Creek A**	**0.35**	**153**		Pn	21 55 36.7	-0.9
RC01					Sn	21 55 43.6	-0.3
RC01				IAML		21 55 43.8	
	comp=N,2μm,0.2s						
RC01				IAML		21 55 48.3	
	comp=E,2μm,0.2s						
RC01	**Rabbit Creek A**	**0.35**	**153**	P	Pn	21 55 37.2	-0.4
	baz=333						
RC01				S	Sn	21 55 43.6	-0.3
	baz=333						
PMR	**Palmer**	**0.49**	**67**	Pn	Pn	21 55 38.1	-1.2
PMR					Sn	21 55 46.3	-0.4
PMR				IAML		21 55 46.8	
	comp=E,2μm,0.4s						
PMR				IAML		21 55 46.9	
	comp=N,3μm,0.5s						
PMR	**Palmer**	**0.49**	**67**	P	Pn	21 55 38.1	-1.2
	baz=248						
PMR				S	Sn	21 55 46.3	-0.4
	baz=248						
GHO	**Glory Hole Cre**	**0.66**	**56**	Pn	Pn	21 55 40.6	-1.1
GHO					Sn	21 55 50.7	-0.3
KNK	**Knik Glacier**	**0.78**	**89**		Pn	21 55 42.4	-0.8
KNK	**Knik Glacier**	**0.78**	**89**		Sn	21 55 54.2	+0.5
KNK	**Knik Glacier**	**0.78**	**89**	P	Pn	21 55 42.4	-0.8
	baz=270						
KNK				S	Sn	21 55 54.3	+0.6
	baz=270						
CAPN	**Captain Cook N**	**0.83**	**220

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	baz=245						
SML				S	Sn	21 55 57.4	0.0
	baz=245						
O22K	**Cooper Landing**	**0.94**	**169**		Pn	21 55 44.6	-0.8
O22K					Sn	21 55 58.2	+0.6
O22K	**Cooper Landing**	**0.94**	**169**	IAML		21 55 59.7	
	comp=N,3μm,0.4s						
O22K				IAML		21 56 01.4	
	comp=E,2μm,0.3s						
O22K	**Cooper Landing**	**0.94**	**169**	P	Pn	21 55 44.6	-0.8
	baz=350						
O22K				S	Sn	21 55 58.2	+0.6
	baz=350						
SPCG	**Spurr Capps Gl**	**0.94**	**264**		Pn	21 55 44.9	-0.7
SPCG					Sn	21 55 57.9	-0.1
PWL	**Port Wells**	**1.00**	**122**		Pn	21 55 45.9	-0.5
PWL	**Port Wells**	**1.00**	**122**	P	Pn	21 55 45.8	-0.5
	baz=304						
CUT	**Chulitna**	**1.01**	**355**		Pn	21 55 45.7	-0.7
CUT	**Chulitna**	**1.01**	**355**	IAML		21 56 00.3	
	comp=E,2μm,0.2s						
CUT				IAML		21 56 02.0	
	comp=N,1μm,0.4s						
CUT	**Chulitna**	**1.01**	**355**	P	Pn	21 55 45.7	-0.7
	baz=175						
SPCP	**Crater Peak Br**	**1.01**	**263**		Pn	21 55 46.0	-0.6
N20K	**Mount Spurr**	**1.05**	**260**	P	Pn	21 55 46.3	-0.8
	baz=78						
SPCR	**Spurr Chakacha**	**1.05**	**260**		Pn	21 55 46.3	-0.8
SPCR	**Spurr Chakacha**	**1.05**	**260**		Pn	21 55 46.2	-0.9
SPCR	**Spurr Chakacha**	**1.05**	**260**	P	Pn	21 55 46.2	-0.9
	baz=78						
CKL	**Chakachamna La**	**1.11**	**260**		Pn	21 55 47.1	-0.8
M23K	**Glacier View**	**1.19**	**70**		Pn	21 55 48.2	-0.6
M23K	**Glacier View**	**1.19**	**70**	P	Pn	21 55 48.2	-0.6
	baz=252						
SEW	**Seward**	**1.34**	**167**		Pn	21 55 50.8	-0.1
SEW	**Seward**	**1.34**	**167**	P	Pn	21 55 50.8	-0.1
	baz=347						
SCM	**Sheep Creek Mo**	**1.38**	**71**	Pn	Pn	21 55 51.2	-0.3
SCM	**Sheep Creek Mo**	**1.38**	**71**	P	Pn	21 55 51.2	-0.3
	baz=253						
RDT	**Redoubt**	**1.41**	**235**		Pn	21 55 51.0	-1.0
GLI	**Glacier Island**	**1.54**	**109**	Pn	Pn	21 55 52.3	-1.3
GLI	**Glacier Island**	**1.54**	**109**	P	Pn	21 55 52.5	-1.1
	baz=291						
M20K	**Styx River**	**1.54**	**290**		Pn	21 55 53.9	+0.2
RDJH	**Redoubt Jeurge**	**1.56**	**240**		Pn	21 55 53.4	-0.7
RDSO	**Redoubt South**	**1.61**	**235**		Pn	21 55 54.1	-0.8
RED	**Redoubt Volcan**	**1.65**	**234**		Pn	21 55 54.3	-0.9
BRLK	**Bradley Lake**	**1.69**	**194**		Pn	21 55 54.9	-0.9
BRSE	**Bradley Lake S**	**1.70**	**191**		Pn	21 55 54.6	-1.2
BRSE	**Bradley Lake S**	**1.70**	**191**	P	Pn	21 55 54.6	-1.3
	baz=11						
O20K	**Slope Mountain**	**1.82**	**224**		Pn	21 55 57.5	-0.1
O20K	**Slope Mountain**	**1.82**	**224**	P	Pn	21 55 57.5	-0.1
	baz=42						
FID	**Port Fidalgo**	**1.87**	**109**	Pn	Pn	21 55 56.7	-1.4
HOM	**Homer**	**1.92**	**205**		Pn	21 55 57.7	-1.1
CNPM	**China Poot**	**1.97**	**198**		Pn	21 55 58.1	-1.5
M24K	**Tolsona, Glenn**	**1.98**	**67**	Pn	Pn	21 56 00.1	+0.3
M24K				IAML		21 56 29.0	
	comp=N,303nm,0.6s						
KLU	**Klutina**	**2.00**	**86**	Pn	Pn	21 55 59.9	-0.1
HIN	**Hinchinbrook I**	**2.02**	**119**	Pn	Pn	21 56 00.1	-0.1
ILS	**Iliamna Low So**	**2.07**	**227**		Pn	21 56 00.9	-0.1
ILSW	**Iliamna Southw**	**2.08**	**228**	Pn	Pn	21 56 00.9	-0.2
RND	**Reindeer**	**2.09**	**15**	Pn	Pn	21 56 01.7	+0.4
L20K	**Farewell, AK**	**2.10**	**303**		Pn	21 56 00.9	-0.4
L20K	**Farewell, AK**	**2.10**	**303**	P	Pn	21 56 00.9	-0.4
	baz=119						
DHY	**Denali Highway**	**2.10**	**36**	Pn	Pn	21 56 01.8	+0.3
M19K	**Big River Lodg**	**2.12**	**286**		Pn	21 56 01.2	-0.4
M19K	**Big River Lodg**	**2.12**	**286**	P	Pn	21 56 01.2	-0.4
	baz=102						
KTH	**Kantishna Hill**	**2.19**	**350**	Pn	Pn	21 56 02.9	+0.2
N19K	**Bonanza Creek**	**2.22**	**256**		Pn	21 56 02.6	-0.5
N19K	**Bonanza Creek**	**2.22**	**256**	P	Pn	21 56 02.7	-0.4
	baz=73						
CAST	**Castle Rocks**	**2.23**	**336**	Pn	Pn	21 56 02.3	-0.8
P19K	**Oil Pt**	**2.35**	**223**		Pn	21 56 05.1	+0.3
L19K	**White Mountain**	**2.40**	**291**		Pn	21 56 05.1	-0.4
L19K	**White Mountain**	**2.40**	**291**	P	Pn	21 56 05.1	-0.4
	baz=107						
O19K	**Port Alsworth**	**2.41**	**242**		Pn	21 56 05.3	-0.3
O19K	**Port Alsworth**	**2.41**	**242**	IAML		21 56 39.8	
	comp=N,307nm,0.5s						
O19K				IAML		21 56 41.4	
	comp=E,292nm,0.4s						
O19K	**Port Alsworth**	**2.41**	**242**	P	Pn	21 56 05.3	-0.3
	baz=58						
HARP	**HAARP**	**2.53**	**65**		Pn	21 56 07.0	-0.3
HARP	**HAARP**	**2.53**	**65**	P	Pn	21 56 07.0	-0.3
	baz=249						
N25K	**Chitina, Valde**	**2.63**	**83**	Pn	Pn	21 56 08.8	+0.1
N25K	**Chitina, Valde**	**2.63**	**83**	P	Pn	21 56 08.4	-0.3
	baz=268						
SVW2	**Sparrevohn**	**2.68**	**266**	Pn	Pn	21 56 08.6	-0.7
K20K	**Telida**	**2.70**	**318**	Pn	Pn	21 56 08.7	-0.9
Q23K	**Middleton Isla**	**2.71**	**135**	Pn	Pn	21 56 09.8	+0.1
BPAW	**Bear Paw Mtn.**	**2.74**	**352**	Pn	Pn	21 56 09.1	-1.1
BWN	**Browne**	**2.79**	**5**	Pn	Pn	21 56 11.8	+1.0
BWN				IAML		21 57 05.7	
	comp=E,167nm,1.1s						
BWN				IAML		21 57 13.6	
	comp=N,209nm,1.2s						
RAGM	**Ragged Mountai**	**2.83**	**109**	Pn	Pn	21 56 11.9	+0.5
N18K	**Kilae Creek**	**2.92**	**258**	Pn	Pn	21 56 11.9	-0.7
O18K	**Koktuh Hills**	**2.97**	**241**	Pn	Pn	21 56 11.2	-2.1
O18K				IAML		21 57 15.9	
	comp=N,72nm,0.9s						
GLB	**Gilahina Butte**	**3.01**	**87**		Pn	21 56 12.9	-1.0
SYI	**Shuyak Island**	**3.04**	**204**	Pn	Pn	21 56 13.3	-0.9
Q19K	**Cape Douglas,**	**3.06**	**217**	Pn	Pn	21 56 14.8	+0.3
VRDI	**Verde Repeater**	**3.20**	**90**	IAML		21 57 10.0	
	comp=N,65nm,1.1s						
MCARA	**McCarthy VSAT**	**3.39**	**87**	IAML		21 57 16.0	
	comp=E,121nm,1.2s						
MCARA				IAML		21 57 16.5	
	comp=N,131nm,1.0s						
TGL	**Tana Glacier**	**3.58**	**97**	IAML		21 57 16.6	
	comp=N,75nm,1.1s						
TGL				IAML		21 57 26.9	
	comp=E,72nm,0.6s						

*UPP **30** 22:10:20.9±0.0, 67°.82N×20°.22E, h0km, ML2.6, Confirmed Induced event*
*IDC **30** 22:10:21.8±1.2, 67°.85N×20°.60E, h0km, mbtmp3.2/4, ML1.9/4, Error ellipse: s-maj=23.3km s-min=7.8km az=122.0*
ISC 30 22:10:21.0±1.1, 67°.81N±0°.03×20°.26E±0°.04, h0km, n16, σ0.52/17, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**11**	P	**Pg**	**22 10 23.9**	**+0.1**
KUA				S	**Sg**	**22 10 25.9**	**+0.2**
RATU	**Laukkuluspa**	**0.26**	**273**	P	**Pg**	**22 10 25.7**	**-0.2**
KOVU	**Salmi**	**0.42**	**355**	P	**Pg**	**22 10 28.6**	**-0.3**
LANU	**Lannavaara**	**0.70**	**69**	P	**Pg**	**22 10 34.2**	**0.0**
DUNU	**Dundret**	**0.70**	**170**	P	**Pg**	**22 10 34.3**	**-0.1**
MASU	**Masugnsbyn**	**0.75**	**117**	P	**Pg**	**22 10 35.6**	**+0.2**
SALU	**Saltoluokta**	**0.80**	**238**	P	**Pg**	**22 10 35.8**	**-0.4**
KIF	**Kilpisjarvi**	**1.22**	**9**	*e*P	**Pg**	**22 10 43.8**	**-0.5**
PAJU	**Pajala**	**1.35**	**124**	P	**Pg**	**22 10 46.2**	**-0.7**
HEF	**Hetta**	**1.41**	**63**	*e*P	**Pn**	**22 10 47.0**	**-0.8**
ERTU	**Ertsjaerv**	**1.47**	**148**	P	**Pn**	**22 10 48.1**	**-0.5**
HARU	**Harads**	**1.68**	**170**	P	**Pn**	**22 10 51.6**	**+0.1**
ARCES	**ARCESS Array B**	**2.58**	**45**	Pn	**Pn**	**22 11 04.2**	**+0.2**
	0.4nm,0.3s,baz=229,slow=15,SNR=44						
ARCES				Lg	Lg	22 11 38.9	
	1.6nm,0.3s,baz=229,slow=24,SNR=19						
	0.9nm,0.2s						
FINES	**FINESS Array B**	**6.86**	**156**	Pn	**Pn**	**22 12 03.7**	**+1.1**
	0.1nm,0.3s,baz=349,slow=14,SNR=1.3						
FINES				Lg	Lg	22 13 56.7	
	0.2nm,0.3s,baz=341,slow=28,SNR=2.9						
	2.1nm,0.9s						
NOA	**NORSAR Array B**	**7.83**	**214**	Pn	**Pn**	**22 12 16.6**	**+0.6**
	baz=28,slow=11,SNR=3.1						
	0.6nm,0.8s						
HFS	**Hagfors**	**8.22**	**204**	Pn	**Pn**	**22 12 21.0**	**-0.3**
	baz=22,slow=16,SNR=2.1						
	6.1nm,1.0s						

*NEIC **30** 22:18:44.0±1.6, 61°.45N±0°.01×149°.99W±0°.05, h46km±5km, Error ellipse: s-maj=3.4km s-min=1.6km az=96.0*
AEIC 30 22:18:44.3±1.4, 61°.44N±0°.03×149°.97W±0°.03, h46km±5km, ML2.6, ML2.8/90(NEIC), Error ellipse: s-maj=4.7km s-min=1.7km az=169.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.32**	**347**		Pn	22 18 52.2	-1.1
M22K					Sn	22 18 59.3	-0.3
RC01	**Rabbit Creek A**	**0.37**	**162**		Pn	22 18 53.0	-0.7
RC01	**Rabbit Creek A**	**0.37**	**162**		Sn	22 19 00.8	+0.4
RC01	**Rabbit Creek A**	**0.37**	**162**	IAML		22 19 01.7	
	comp=N,1μm,0.2s						
RC01				IAML		22 19 01.7	
	comp=E,1μm,0.2s						
SUA	**Susitna One**	**0.37**	**274**		Pn	22 18 53.1	-0.8
SUA					Sn	22 19 00.8	0.0
SUA	**Susitna One**	**0.37**	**274**	IAML		22 19 01.1	
	comp=N,593nm,0.5s						
SUA				IAML		22 19 01.1	
	comp=E,618nm,0.8s						
PMR	**Palmer**	**0.43**	**69**		Pn	22 18 53.4	-1.0
PMR					Sn	22 19 01.1	-0.5
PMR				IAML		22 19 01.9	
	comp=N,582nm,0.2s						
PMR				IAML		22 19 02.0	
	comp=E,423nm,0.2s						
GHO	**Glory Hole Cre**	**0.60**	**56**		Pn	22 18 55.9	-0.8
GHO	**Glory Hole Cre**	**0.60**	**56**		Sn	22 19 05.7	+0.2
GHO				IAML		22 19 06.7	
	comp=E,417nm,0.2s						
GHO				IAML		22 19 07.1	
	comp=N,588nm,0.2s						
KNK	**Knik Glacier**	**0.73**	**91**		Pn	22 18 57.8	-0.5
KNK					Sn	22 19 09.3	+0.9
KNK	**Knik Glacier**	**0.73**	**91**	IAML		22 19 11.6	
	comp=E,346nm,0.3s						
SML	**Sawmill**	**0.87**	**64**		Pn	22 18 59.4	-0.8
SML					Sn	22 19 11.6	-0.1
SML	**Sawmill**	**0.87**	**64**	IAML		22 19 12.7	
	comp=N,388nm,0.3s						
SML				IAML		22 19 13.3	
	comp=E,309nm,0.6s						
CAPN	**Captain Cook N**	**0.89**	**221**	Pn	Pn	22 19 00.6	+0.3
STLK	**Strandline Lak**	**0.90**	**275**		Pn	22 18 59.9	-0.6
STLK					Sn	22 19 12.3	-0.1
STLK				IAML		22 19 12.8	
	comp=N,364nm,0.4s						
STLK				IAML		22 19 13.3	
	comp=E,180nm,0.2s						
SKT	**Skwentna**	**0.92**	**307**		Pn	22 18 59.8	-1.1
SKT					Sn	22 19 12.4	-0.6
SKT	**Skwentna**	**0.92**	**307**	IAML		22 19 12.9	
	comp=N,279nm,0.3s						
SKT				IAML		22 19 14.5	
	comp=E,243nm,0.3s						
SLKM	**Skilak Lake**	**0.94**	**188**		Pn	22 19 00.5	-0.6
SLKM	**Skilak Lake**	**0.94**	**188**	IAML		22 19 15.5	
	comp=N,363nm,0.1s						
SLKM				IAML		22 19 16.4	
	comp=E,361nm,0.3s						
O22K	**Cooper Landing**	**0.97**	**173**		Pn	22 19 00.8	-0.6
CUT	**Chulitna**	**0.98**	**352**		Pn	22 19 00.9	-0.7
PWL	**Port Wells**	**0.98**	**126**		Pn	22 19 01.4	-0.3
PWL					Sn	22 19 15.7	+1.2
SPCP	**Crater Peak Br**	**1.07**	**262**		Pn	22 19 02.6	-0.3
SPCR	**Spurr Chakacha**	**1.11**	**258**		Pn	22 19 02.9	-0.5
SPCR	**Spurr Chakacha**	**1.11**	**258**		Pn	22 19 02.8	-0.6
M23K	**Glacier View**	**1.13**	**71**		Pn	22 19 03.3	-0.4
SPNN	**North Nagishla**	**1.31**	**268**		Pn	22 19 06.2	-0.1
SCM	**Sheep Creek Mo**	**1.32**	**71**		Pn	22 19 06.1	-0.2
SEW	**Seward**	**1.36**	**169**		Pn	22 19 06.7	-0.1
RDT	**Redoubt**	**1.47**	**235**		Pn	22 19 07.2	-1.1
WAT7	**Susitna Watana**	**1.50**	**20**		Pn	22 19 08.4	-0.3
GLI	**Glacier Island**	**1.50**	**111**		Pn	22 19 07.8	-0.9
GLI	**Glacier Island**	**1.50**	**111**	IAML		22 19 34.5	
	comp=E,136nm,0.5s						
GLI				IAML		22 19 59.1	
	comp=N,97nm,0.2s						
WAT1	**Susitna Watana**	**1.55**	**25**		Pn	22 19 09.1	-0.3
M20K	**Styx River**	**1.57**	**288**		Pn	22 19 09.4	-0.4
M20K	**Styx River**	**1.57**	**288**	IAML		22 19 32.0	
	comp=N,66nm,1.0s						
M20K				IAML		22 19 32.2	
	comp=E,104nm,0.8s						
BRLK	**Bradley Lake**	**1.74**	**195**	Pn	Pn	22 19 12.2	+0.2
BRLK				IAML		22 19 38.2	
	comp=E,65nm,0.5s						
BRLK				IAML		22 19 39.2	
	comp=N,65nm,0.4s						
PPLA	**Purkeypile**	**1.79**	**326**		Pn	22 19 12.4	-0.5
FID	**Port Fidalgo**	**1.83**	**111**		Pn	22 19 12.0	-1.3
FID	**Port Fidalgo**	**1.83**	**111**	IAML		22 19 43.8	
	comp=N,86nm,0.3s						
FID				IAML		22 19 44.4	
	comp=E,74nm,0.3s						
P23K	**Montague Islan**	**1.92**	**138**		Pn	22 19 12.8	-1.6
M24K	**Tolsona, Glenn**	**1.93**	**68**	Pn	Pn	22 19 15.1	+0.5
M24K				IAML		22 19 47.6	
	comp=N,82nm,0.7s						
KLU	**Klutina**	**1.94**	**87**		Pn	22 19 13.8	-1.0
KLU	**Klutina**	**1.94**	**87**	IAML		22 19 48.0	
	comp=N,56nm,0.4s						
KLU				IAML		22 19 48.3	
	comp=E,45nm,0.3s						
HOM	**Homer**	**1.97**	**206**	Pn	Pn	22 19 16.4	+1.4
HIN	**Hinchinbrook I**	**1.99**	**120**		Pn	22 19 14.5	-0.9
HIN	**Hinchinbrook I**	**1.99**	**120**	IAML		22 19 47.6	
	comp=N,61nm,0.7s						
HIN				IAML		22 19 51.4	
	comp=E,67nm,0.6s						
CNPM	**China Poot**	**2.02**	**199**	Pn	Pn	22 19 16.3	+0.5
CNPM				IAML		22 19 44.5	
	comp=N,49nm,0.4s						
CNPM				IAML		22 19 45.6	
	comp=E,52nm,0.6s						
TRF	**Thorofare Moun**	**2.02**	**356**		Pn	22 19 15.4	-0.6
TRF	**Thorofare Moun**	**2.02**	**356**	IAML		22 19 43.7	
	comp=E,68nm,0.6s						
TRF				IAML		22 19 44.1	
	comp=N,69nm,0.9s						
DHY	**Denali Highway**	**2.04**	**35**		Pn	22 19 16.4	+0.1
RND	**Reindeer**	**2.04**	**14**	Pn	Pn	22 19 16.0	-0.2
DIV	**Divide**	**2.05**	**97**		Pn	22 19 15.2	-1.1
ILSW	**Iliamna Southw**	**2.14**	**228**	Pn	Pn	22 19 18.0	+0.4
ILSW				IAML		22 19 54.1	
	comp=E,32nm,1.5s						
M19K	**Big River Lodg**	**2.16**	**284**	Pn	Pn	22 19 17.5	-0.3
KTH	**Kantishna Hill**	**2.17**	**349**	Pn	Pn	22 19 18.1	+0.2
KTH				IAML		22 19 46.0	
	comp=E,68nm,0.4s						
CAST	**Castle Rocks**	**2.22**	**335**	Pn	Pn	22 19 18.8	+0.3
N19K	**Bonanza Creek**	**2.28**	**256**	Pn	Pn	22 19 19.4	-0.1
P19K	**Oil Pt**	**2.41**	**223**	Pn	Pn	22 19 22.8	+1.6
L19K	**White Mountain**	**2.44**	**290**		Pn	22 19 22.0	+0.5
N25K	**Chitina, Valde**	**2.58**	**84**	Pn	Pn	22 19 24.8	+1.2
N25K				IAML		22 20 03.4	
	comp=N,33nm,0.8s						
K20K	**Telida**	**2.71**	**317**	Pn	Pn	22 19 25.0	-0.3
K20K				IAML		22 20 03.7	
	comp=E,36nm,0.7s						
K20K				IAML		22 20 03.9	
	comp=N,24nm,0.6s						
BPAW	**Bear Paw Mtn.**	**2.71**	**351**	Pn	Pn	22 19 24.4	-0.9
BPAW				IAML		22 20 12.2	
	comp=E,22nm,0.6s						
BWN	**Browne**	**2.75**	**5**	Pn	Pn	22 19 26.8	+1.0
BWN				IAML		22 20 16.9	
	comp=E,46nm,0.9s						
BWN				IAML		22 20 19.4	
	comp=N,42nm,1.3s						
RAGM	**Ragged Mountai**	**2.79**	**110**	Pn	Pn	22 19 27.6	+1.2
GLB	**Gilahina Butte**	**2.96**	**87**		Pn	22 19 30.6	+1.8
GLB				IAML		22 20 14.6	
	comp=N,20nm,0.7s						
N18K	**Kilae Creek**	**2.98**	**258**	Pn	Pn	22 19 28.0	-0.9
O18K	**Koktuh Hills**	**3.03**	**241**	Pn	Pn	22 19 29.8	+0.1
O18K				IAML		22 20 33.3	
	comp=N,21nm,1.4s						
O18K				IAML		22 20 33.5	
	comp=E,16nm,0.9s						
SYI	**Shuyak Island**	**3.09**	**204**	Pn	Pn	22 19 32.4	+2.0
SYI				IAML		22 20 19.5	
	comp=E,28nm,1.4s						
SYI				IAML		22 21 20.4	
	comp=N,26nm,1.5s						
Q19K	**Cape Douglas,**	**3.12**	**218**	Pn	Pn	22 19 32.9	+2.0

*NEIC **30** 22:19:12.8±1.1, 61°.56N±0°.03×150°.00W±0°.04, h58km±6km, Error ellipse: s-maj=4.6km s-min=2.8km az=168.0*
AEIC 30 22:19:13.3±1.1, 61°.55N±0°.03×150°.02W±0°.04, h56km±5km, ML2.4, ML2.6/62(NEIC), Error ellipse: s-maj=4.5km s-min=1.9km az=151.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.20**	**346**	Pn	Pn	22 19 22.1	-0.3
M22K					Sn	22 19 28.8	0.0
M22K				IAML		22 19 29.2	
	comp=E,812nm,0.3s						
M22K				IAML		22 19 29.7	
	comp=N,543nm,0.3s						
SUA	**Susitna One**	**0.36**	**256**		Sn	22 19 31.1	-0.1
SUA	**Susitna One**	**0.36**	**256**	Pn	Pn	22 19 23.4	-0.3
SUA				IAML		22 19 44.0	
	comp=E,162nm,0.1s						
SUA				IAML		22 19 44.2	
	comp=N,189nm,0.2s						
PMR	**Palmer**	**0.43**	**85**		Pn	22 19 23.4	-0.8
PMR					Sn	22 19 31.6	-0.3
PMR	**Palmer**	**0.43**	**85**	IAML		22 19 32.5	
	comp=N,239nm,0.2s						
PMR				IAML		22 19 32.5	
	comp=E,211nm,0.3s						
RC01	**Rabbit Creek A**	**0.49**	**164**		Pn	22 19 24.1	-0.7
RC01					Sn	22 19 33.3	+0.2
RC01	**Rabbit Creek A**	**0.49**	**164**	IAML		22 19 33.4	
	comp=E,334nm,0.3s						
RC01				IAML		22 19 34.0	
	comp=N,719nm,0.1s						
GHO	**Glory Hole Cre**	**0.57**	**67**		Pn	22 19 25.3	-0.5
GHO					Sn	22 19 34.8	0.0
GHO				IAML		22 19 55.1	
	comp=N,203nm,0.4s						
GHO				IAML		22 19 55.1	
	comp=E,266nm,0.5s						
KNK	**Knik Glacier**	**0.76**	**100**		Pn	22 19 27.7	-0.4
KNK				IAML		22 19 40.8	
	comp=E,245nm,0.3s						
KNK				IAML		22 19 40.9	
	comp=N,237nm,0.4s						
SKT	**Skwentna**	**0.84**	**301**		Pn	22 19 28.3	-0.8
SKT	**Skwentna**	**0.84**	**301**		Sn	22 19 40.2	-0.4
SML	**Sawmill**	**0.84**	**72**		Pn	22 19 28.7	-0.5
CUT	**Chulitna**	**0.86**	**352**	Pn	Pn	22 19 28.7	-0.7
CUT					Sn	22 19 41.4	+0.2
CUT				IAML		22 19 42.1	
	comp=E,211nm,0.6s						
CUT				IAML		22 20 07.0	
	comp=N,166nm,0.3s						
STLK	**Strandline Lak**	**0.87**	**267**	Pn	Pn	22 19 28.9	-0.7
STLK					Sn	22 19 41.6	0.0
CAPN	**Captain Cook N**	**0.96**	**215**	Pn	Pn	22 19 30.9	+0.2
SPCG	**Spurr Capps Gl**	**1.00**	**256**		Sn	22 19 44.8	+0.3
SLKM	**Skilak Lake**	**1.05**	**185**		Pn	22 19 31.5	-0.4
SLKM				IAML		22 20 17.4	
	comp=E,214nm,0.3s						
PWL	**Port Wells**	**1.07**	**130**		Pn	22 19 31.7	-0.5
PWL	**Port Wells**	**1.07**	**130**	IAML		22 20 06.7	
	comp=E,230nm,0.3s						
M24K	**Tolsona, Glenn**	**1.91**	**71**	Pn	Pn	22 19 41.4	-2.1
M24K				IAML		22 19 57.5	
	comp=E,80nm,1.1s						
M24K				IAML		22 20 50.4	
	comp=N,56nm,0.6s						
RND	**Reindeer**	**1.94**	**16**		Pn	22 19 42.6	-1.3
KTH	**Kantishna Hill**	**2.05**	**349**	Pn	Pn	22 19 45.4	-0.1
KTH				IAML		22 20 51.2	
	comp=N,34nm,0.5s						
KTH				IAML		22 20 52.3	
	comp=E,34nm,0.5s						
HOM	**Homer**	**2.06**	**204**	Pn	Pn	22 19 42.2	-3.3
HIN	**Hinchinbrook I**	**2.07**	**123**	Pn	Pn	22 19 45.9	+0.2
HIN				IAML		22 20 51.0	
	comp=E,43nm,1.1s						
HIN				IAML		22 20 52.6	
	comp=N,45nm,0.6s						
CAST	**Castle Rocks**	**2.10**	**334**	Pn	Pn	22 19 46.1	0.0
CAST				IAML		22 20 02.5	
	comp=N,27nm,0.6s						
M19K	**Big River Lodg**	**2.11**	**281**	Pn	Pn	22 19 47.0	+0.8
CNPM	**China Poot**	**2.12**	**197**		Pn	22 19 43.8	-2.6
CNPM				IAML		22 20 48.1	
	comp=N,54nm,0.7s						
CNPM				IAML		22 20 48.6	
	comp=E,54nm,0.5s						
ILSW	**Iliamna Southw**	**2.20**	**226**	Pn	Pn	22 19 47.1	-0.4
ILSW				IAML		22 20 51.1	
	comp=E,31nm,0.7s						
ILSW				IAML		22 21 09.7	
	comp=N,36nm,0.9s						
N19K	**Bonanza Creek**	**2.29**	**253**	Pn	Pn	22 19 50.4	+1.7
L19K	**White Mountain**	**2.38**	**287**	Pn	Pn	22 19 49.5	-0.3
P19K	**Oil Pt**	**2.48**	**221**	Pn	Pn	22 19 51.3	0.0
N25K	**Chitina, Valde**	**2.59**	**86**	Pn	Pn	22 19 52.1	-0.8
N25K				IAML		22 21 19.6	
	comp=E,19nm,0.2s						
BPAW	**Bear Paw Mtn.**	**2.59**	**351**		Pn	22 19 53.3	+0.5
K20K	**Telida**	**2.61**	**316**		Pn	22 19 51.8	-1.2
K20K				IAML		22 20 16.9	
	comp=N,17nm,0.7s						
K20K				IAML		22 20 17.5	
	comp=E,17nm,0.7s						
BWN	**Browne**	**2.64**	**5**	Pn	Pn	22 19 53.3	-0.1
BWN				IAML		22 20 46.6	
	comp=N,40nm,0.9s						
Q23K	**Middleton Isla**	**2.80**	**138**	Pn	Pn	22 19 56.2	+0.7
RAGM	**Ragged Mountai**	**2.86**	**112**	Pn	Pn	22 19 56.5	+0.1
NEA2	**Nenana**	**3.08**	**8**	Pn	Pn	22 19 58.0	-1.4

*NEIC **30** 22:23:02.6±0.8, 61°.49N±0°.02×149°.73W±

PWL	**Port Wells**	**0.92 133**		Pn	22 23 19.4	-0.6
PWL				Sn	22 23 32.4	+0.2
PWL	**Port Wells**	**0.92 133**	IAML		22 23 33.5	
	comp=E,378nm,0.2s					
PWL			IAML		22 23 34.2	
	comp=N,355nm,0.5s					
CUT	**Chulitna**	**0.95 344**		Pn	22 23 19.8	-0.6
CUT				Sn	22 23 33.1	+0.2
SKT	**Skwentna**	**0.99 300**		Sn	22 23 33.8	-0.2
SKT	**Skwentna**	**0.99 300**	Pn	Pn	22 23 20.2	-0.7
SKT	**Skwentna**	**0.99 300**	IAML		22 23 35.8	
	comp=E,229nm,0.5s					
SKT			IAML		22 23 36.2	
	comp=N,188nm,0.3s					
SLKM	**Skilak Lake**	**1.02 194**		Sn	22 23 33.9	-0.6
SPCG	**Spurr Capps Gl**	**1.13 261**		Sn	22 23 37.4	+0.1
M24K	**Tolsona, Glenn**	**1.79 68**	Pn	Pn	22 23 30.6	-1.1
KLU	**Klutina**	**1.82 88**	Pn	Pn	22 23 31.7	-0.4
KLU			IAML		22 23 47.3	
	comp=E,102nm,0.6s					
KLU			IAML		22 23 54.5	
	comp=N,97nm,0.7s					
HIN	**Hinchinbrook I**	**1.91 124**	Pn	Pn	22 23 33.2	-0.1
HIN			IAML		22 23 48.6	
	comp=N,163nm,0.7s					
DHY	**Denali Highway**	**1.93 33**	Pn	Pn	22 23 33.3	-0.4
DHY			IAML		22 23 50.6	
	comp=E,96nm,0.5s					
RND	**Reindeer**	**1.96 11**	Pn	Pn	22 23 35.2	+1.1
KTH	**Kantishna Hill**	**2.14 345**	Pn	Pn	22 23 34.9	-1.7
KTH			IAML		22 24 03.0	
	comp=E,119nm,1.0s					
CAST	**Castle Rocks**	**2.23 331**	Pn	Pn	22 23 37.9	+0.3
CAST			IAML		22 23 54.7	
	comp=E,104nm,0.9s					
CAST			IAML		22 23 55.8	
	comp=N,62nm,0.7s					
N25K	**Chitina, Valde**	**2.45 85**	Pn	Pn	22 23 43.1	+2.3
N25K			IAML		22 24 03.7	
	comp=N,80nm,0.7s					
N25K			IAML		22 24 08.2	
	comp=E,57nm,0.5s					
P19K	**Oil Pt**	**2.53 225**	Pn	Pn	22 23 41.4	-0.5
L19K	**White Mountain**	**2.54 288**	Pn	Pn	22 23 40.9	-0.9
BPAW	**Bear Paw Mtn.**	**2.68 348**	Pn	Pn	22 23 43.5	-0.4
BPAW			IAML		22 24 05.1	
	comp=E,51nm,0.4s					
SVW2	**Sparrevohn**	**2.86 265**	Pn	Pn	22 23 46.1	-0.1
SVW2			IAML		22 24 18.4	
	comp=E,33nm,0.8s					
N18K	**Kilae Creek**	**3.11 258**	Pn	Pn	22 23 49.5	-0.2
N18K			IAML		22 24 13.1	
	comp=N,33nm,0.8s					
N18K			IAML		22 24 16.3	
	comp=E,24nm,0.7s					
NEA2	**Nenana**	**3.13 5**	IAML		22 24 17.7	
	comp=N,38nm,0.8s					

BEO ***30*** *22:28:13.7±0.6, 40.°29N×21.°60E, h4km±2km, ML3.7/10*
IDC ***30*** *22:28:14.1±0.9, 40.°46N×21.°48E, h0km, mb3.8/10, mbtmp3.8/17, ML3.6/6, Error ellipse: s-maj=15.0km s-min=11.6km az=152.0*
NAO ***30*** *22:28:14.4, 40.°22N×20.°75E, h10km, mb3.9*
AFAD ***30*** *22:28:15.0±0.0, 40.°72N×21.°80E, h24km±33km, MW4.2*
TIR ***30*** *22:28:16.1, 40.°53N×21.°61E, h26km±1km, Md3.8, Ml4.0*
THE ***30*** *22:28:16.9, 40.°47N×21.°58E, h7km, ML3.8/17, Error ellipse: s-maj=1.0km s-min=0.5km az=193.0*
PDG ***30*** *22:28:16.5±0.1, 40.°45N×21.°66E, h19km, ML3.8/13, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
ATH ***30*** *22:28:16.9, 40.°46N×21.°59E, h11km±1km, ML3.8/16, Error ellipse: s-maj=1.5km s-min=0.7km az=272.0*
NEIC ***30*** *22:28:16.4±1.8, 40.°47N±0.°05×21.°61E±0.°06, h10km±1km, mb4.2/14, Error ellipse: s-maj=8.7km s-min=7.7km az=350.0*
SKO ***30*** *22:28:17.2, 40.°44N×21.°57E, h13km, ML3.8*
SOF ***30*** *22:28:18.3, 40.°59N±0.°02×21.°87E±0.°02, h11km±4km, MD3.6/8*
PRU ***30*** *22:28:24.0, 40.°70N×20.°94E, h10km, M4.2*
ISC 30 22:28:16.5±0.8**, 40.°47N**±0.°01×**21.°58E**±0.°01**, h17**km±5km**, n287,** σ1§**50**/392**, mb4.0**/16**, 32C-23D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.22 138**		P	**Pg**	**22 28 21.2**	**-0.5**
KZN				S	**Sb**	**22 28 25.4**	**-0.4**
	117μm,0.6s						
KZN	**Kozani**	**0.22 138**		P	**Pg**	**22 28 21.2**	**-0.5**
KZN				S	**Sg**	**22 28 25.1**	**-0.1**
KZN				AML	AML	22 28 26.3	
KZN				AML	AML	22 28 26.5	
FNA	**Florina**	**0.35 334**		P	**Pg**	**22 28 23.8**	**0.0**
FNA				S	**Sg**	**22 28 28.5**	**-0.3**
FNA				*i* AML	AML	22 28 30.0	
	comp=N,7μm,0.5s						
FNA	**Florina**	**0.35 334**		AMP			
	comp=E,34nm,0.3s,baz=327						
FNA	**Florina**	**0.35 334**			**Pg**	**22 28 23.9**	**+0.1**
FNA				Sg	**Sb**	**22 28 29.8**	**+0.2**
FNA	**Florina**	**0.35 334**		P	**Pg**	**22 28 23.8**	**0.0**
FNA				S	**Sg**	**22 28 29.1**	**+0.3**
	comp=E,44μm,0.4s						
FNA	**Florina**	**0.35 334**		*e*Pg	**Pg**	**22 28 23.8**	**0.0**
FNA				*e*Sg	**Sb**	**22 28 29.5**	**-0.1**
FNA	**Florina**	**0.35 334**		⇑*i*Pg	**Pg**	**22 28 23.9**	**+0.1**
FNA				*i* Sg	**Sb**	**22 28 29.6**	**-0.1**
FNA	**Florina**	**0.35 334**		P	**Pg**	**22 28 23.8**	**0.0**
FNA				S	**Sg**	**22 28 29.2**	**+0.3**
FNA				AML	AML	22 28 29.6	
	comp=E,86894μm,0.3s						
FNA				AML	AML	22 28 30.9	
	comp=N,87413μm,0.5s						
PENT	**Pentalofos**	**0.43 231**		P	**Pg**	**22 28 25.0**	**-0.4**
PENT				S	**Sg**	**22 28 31.8**	**+0.5**
PENT	**Pentalofos**	**0.43 231**		P	**Pg**	**22 28 24.9**	**-0.4**
PENT				S	**Sg**	**22 28 31.8**	**+0.5**
KPRO	**Kipourio**	**0.54 198**		P	**Pg**	**22 28 26.8**	**-0.5**
KPRO				S	**Sb**	**22 28 35.6**	**+0.5**
	comp=N,15μm,0.4s						
KPRO	**Kipourio**	**0.54 198**		P	**Pg**	**22 28 27.1**	**-0.2**
KPRO				S	**Sg**	**22 28 34.4**	**-0.1**
KPRO				AML	AML	22 28 41.4	
	comp=E,35585μm,0.5s						
KPRO				AML	AML	22 28 42.1	
	comp=N,13453μm,0.4s						
KBN	**Korca**	**0.62 285**		AMP			
	comp=E,36nm,0.7s,baz=279						
LIT	**Litokhoron**	**0.79 118**		P	**Pb**	**22 28 31.5**	**-0.3**
LIT				S	**Sn**	**22 28 43.2**	**-1.1**
LIT				*i* AML	AML	22 28 46.0	
	comp=E,8μm,0.4s						
LIT	**Litokhoron**	**0.79 118**		Pn	**Pg**	**22 28 32.2**	**+0.3**
LIT					**Sn**	**22 28 43.9**	**-0.3**
LIT	**Litokhoron**	**0.79 118**		P	**Pb**	**22 28 31.6**	**-0.2**
LIT				S	**Sn**	**22 28 44.0**	**-0.3**
	comp=E,12μm,0.3s						
LIT	**Litokhoron**	**0.79 118**		⇑*i*Pg	**Pb**	**22 28 31.2**	**-0.6**
LIT				*i* Sg	**Sn**	**22 28 44.4**	**+0.1**
LSK	**Leskovik**	**0.81 247**		P	**Pb**	**22 28 31.2**	**-1.1**
LSK				S	**Sg**	**22 28 43.6**	**+0.5**
LSK				AMP			
	comp=E,44nm,0.7s,baz=245						
LSK	**Leskovik**	**0.81 247**		P	**Pb**	**22 28 31.6**	**-0.6**
LSK				S	**Sg**	**22 28 43.7**	**+0.6**
	comp=E,12μm,0.6s						
OHR	**Ohrid**	**0.87 318**		*e*Pg	**Pb**	**22 28 33.0**	**-0.2**
OHR				*e*Sg	**Sn**	**22 28 46.1**	**-0.3**
OHR				*e*Sg	**Sg**	**22 28 47.1**	**+2.1**
OHR	**Ohrid**	**0.87 318**		*i* Pg	**Pb**	**22 28 32.7**	**-0.6**
OHR				*i* Sg	**Sn**	**22 28 48.0**	**+1.5**
OHR				*e*Lg	Lg	22 28 49.4	
	comp=N,3μm,0.5s						
OHR				*e*Lg	Lg	22 28 49.9	
	comp=E,4μm,0.4s						
TYRN	**Tyrnavos**	**0.91 146**		P	**Pb**	**22 28 33.5**	**-0.3**
TYRN				S	**Sn**	**22 28 47.8**	**+0.6**
	comp=E,11μm,0.8s						
TYRN	**Tyrnavos**	**0.91 146**		P	**Pb**	**22 28 33.6**	**-0.3**
TYRN				S	**Sn**	**22 28 46.5**	**-0.7**
THL	**Klokotos Trika**	**0.96 160**		P	**Pb**	**22 28 34.0**	**-0.7**
THL				S	**Sg**	**22 28 47.8**	**0.0**
	comp=E,7μm,0.7s						
THL	**Klokotos Trika**	**0.96 160**		P	**Pb**	**22 28 34.4**	**-0.4**
THL				S	**Sn**	**22 28 48.1**	**-0.4**
THL				AML	AML	22 28 51.0	
	comp=N,10008μm,0.7s						
THL				AML	AML	22 28 51.8	
	comp=E,15897μm,0.7s						
JAN	**Janina**	**0.98 215**		P	**Pb**	**22 28 34.4**	**-0.7**
JAN	**Janina**	**0.98 215**		P	**Pb**	**22 28 34.6**	**-0.5**
JAN				S	**Sn**	**22 28 49.6**	**+0.4**
JAN				AML	AML	22 28 56.0	
	comp=E,4023μm,0.5s						
JAN				AML	AML	22 28 57.4	
	comp=N,5028μm,0.5s						
LRSO	**Larissa Observ**	**1.01 142**		P	**Pb**	**22 28 35.5**	**-0.1**
LRSO				S	**Sn**	**22 28 50.9**	**+1.1**
	comp=N,14μm,0.7s						
LRSO	**Larissa Observ**	**1.01 142**		P	**Pn**	**22 28 35.7**	**-0.2**
LRSO				S	**Sn**	**22 28 49.4**	**-0.4**
LRSO				AML	AML	22 28 56.5	
	comp=E,24559μm,0.5s						
LRSO				AML	AML	22 29 00.6	
	comp=N,36383μm,0.9s						
THE	**Thessaloniki**	**1.07 81**		AMP			
	comp=E,6.3nm,0.6s,baz=83						
THE	**Thessaloniki**	**1.07 81**		P	**Pn**	**22 28 36.8**	**+0.1**
THE				S	**Sg**	**22 28 51.0**	**-0.1**
	comp=E,2μm,0.7s						
THE	**Thessaloniki**	**1.07 81**		P	**Pg**	**22 28 37.0**	**-0.2**
THE				S	**Sg**	**22 28 51.1**	**-0.1**
THE				AML	AML	22 28 52.3	
	comp=E,3313μm,0.6s						
THE				AML	AML	22 28 55.4	
	comp=N,4372μm,0.5s						
VAY	**Valandovo**	**1.14 41**		*e*Pg	**Pg**	**22 28 38.3**	**-0.1**
VAY				*e*Sg	**Sg**	**22 28 54.7**	**+1.4**
VAY	**Valandovo**	**1.14 41**		⇓*i*Pg	**Pg**	**22 28 38.2**	**-0.3**
VAY				*i* Sg	**Sg**	**22 28 54.3**	**+1.0**
VAY				*e*Lg	Lg	22 28 57.9	
	comp=E,1μm,0.6s						
VAY				*e*Lg	Lg	22 28 58.5	
	comp=N,2μm,0.7s						
HORT	**Hortiatis**	**1.17 83**		P	**Pb**	**22 28 38.4**	**+0.1**
HORT				S	**Sg**	**22 28 53.8**	**-0.5**
	comp=N,4μm,0.6s						
HORT	**Hortiatis**	**1.17 83**		P	**Pb**	**22 28 38.4**	**+0.1**
HORT				S	**Sg**	**22 28 54.6**	**+0.3**
HORT				AML	AML	22 28 57.4	
	comp=E,5500μm,0.7s						
HORT				AML	AML	22 28 58.0	
	comp=N,9470μm,0.4s						
KNT	**Kendrikon**	**1.22 55**		P	**Pb**	**22 28 39.2**	**+0.1**
KNT				S	**Sg**	**22 28 56.9**	**+1.0**
	comp=N,988nm,0.5s						
KNT	**Kendrikon**	**1.22 55**		⇓*i*Pg	**Pb**	**22 28 39.2**	**+0.1**
KNT				*i* Sg	**Sg**	**22 28 56.9**	**+1.0**
SRN	**Sarande**	**1.34 245**		P	**Pb**	**22 28 41.8**	**+0.6**
SRN				S	**Sg**	**22 29 03.3**	**+3.4**
SRN				AMP			
	comp=N,6.6nm,0.7s,baz=243						
SRN	**Sarande**	**1.34 245**		P	**Pb**	**22 28 41.9**	**+0.6**
SRN				S	**Sg**	**22 29 00.5**	**+0.6**
	comp=N,2μm,0.5s						
SOH	**Sokhos**	**1.40 75**		P	**Pb**	**22 28 42.0**	**-0.1**
SOH				S	**Sg**	**22 29 02.1**	**+0.5**
	comp=N,2μm,0.5s						
SOH	**Sokhos**	**1.40 75**		⇓*i*Pg	**Pb**	**22 28 41.8**	**-0.4**
SOH				*i* Sg	**Sg**	**22 29 02.4**	**+0.8**
SOH	**Sokhos**	**1.40 75**		P	**Pb**	**22 28 42.0**	**-0.1**
SOH				S	**Sb**	**22 28 60.0**	**+0.2**
SOH				AML	AML	22 29 09.2	
	comp=N,3570μm,0.6s						
SOH				AML	AML	22 29 09.4	
	comp=E,4255μm,0.4s						
PLG	**Polygyros**	**1.43 93**		P	**Pb**	**22 28 43.0**	**+0.3**
PLG				S	**Sb**	**22 29 01.2**	**+0.6**
	comp=E,2μm,0.8s						
PLG	**Polygyros**	**1.43 93**		P	**Pb**	**22 28 42.8**	**+0.1**
PLG				S	**Sb**	**22 29 01.4**	**+0.7**
PLG				AML	AML	22 29 03.2	
	comp=N,4208μm,0.8s						
PLG				AML	AML	22 29 05.3	
	comp=E,3562μm,0.9s						
MAKR	**Makrakomi, Fth**	**1.52 163**		P	**Pb**	**22 28 43.6**	**-0.6**
MAKR				S	**Sb**	**22 29 04.0**	**+0.9**
	comp=E,7μm,0.9s						
MAKR	**Makrakomi, Fth**	**1.52 163**		P	**Pb**	**22 28 43.8**	**-0.3**
MAKR				S	**Sb**	**22 29 03.4**	**+0.3**
MAKR				AML	AML	22 29 11.6	
	comp=N,11389μm,1.0s						
MAKR				AML	AML	22 29 15.8	
	comp=E,15228μm,0.8s						
KEK	**Kerkira**	**1.56 242**		Pn	**Pb**	**22 28 45.6**	**+0.7**
KEK	**Kerkira**	**1.56 242**		P	**Pb**	**22 28 45.9**	**+1.0**
KEK				S	**Sg**	**22 29 06.4**	**-0.4**
	comp=E,1μm,0.9s						
KEK	**Kerkira**	**1.56 242**		P	**Pb**	**22 28 45.9**	**+1.0**
KEK				S	**Sg**	**22 29 06.0**	**-0.9**
KEK				AML	AML	22 29 14.0	
	comp=N,2695μm,0.7s						
KEK				AML	AML	22 29 16.8	
	comp=E,1790μm,0.4s						
EVR	**Evrytania**	**1.56 173**		P	**Pg**	**22 28 45.8**	**-0.8**
EVR	**Evrytania**	**1.56 173**		P	**Pg**	**22 28 45.7**	**-0.8**
EVR				S	**Sb**	**22 29 05.5**	**+1.0**
EVR				AML	AML	22 29 12.4	
	comp=N,6699μm,0.3s						
EVR				AML	AML	22 29 13.9	
	comp=E,5454μm,0.4s						
TIR	**Tirane**	**1.57 305**		P	**Pb**	**22 28 45.6**	**+0.6**
TIR				S	**Sg**	**22 29 06.8**	**-0.3**
TIR				AMP			
	comp=E,3.8nm,0.6s,baz=303						
TIR	**Tirane**	**1.57 305**			**Pb**	**22 28 44.9**	**-0.1**
TIR	**Tirane**	**1.57 305**		*e*Pg	**Pn**	**22 28 44.0**	**+0.4**
TIR				*e*Sg	**Sg**	**22 29 07.3**	**+0.3**
TIR	**Tirane**	**1.57 305**		⇑P	**Pb**	**22 28 45.2**	**+0.1**
VLO	**Vlora**	**1.59 271**		P	**Pg**	**22 28 46.7**	**-0.3**
VLO				S	**Sg**	**22 29 07.1**	**-0.6**
VLO				AMP			
	comp=E,26nm,0.5s,baz=269						
PEHC	**Pehcevo**	**1.65 37**		⇓*i*Pn	**Pb**	**22 28 45.8**	**-0.7**
PEHC				*i* Sg	**Sg**	**22 29 09.7**	**+0.1**
PEHC				*e*Lg	Lg	22 29 21.8	
	comp=N,2μm,1.1s						
PEHC				*e*Lg	Lg	22 29 22.1	
	comp=E,971nm,1.0s						
SRS	**Serrai**	**1.66 66**		P	**Pn**	**22 28 45.1**	**+0.2**
SRS	**Serrai**	**1.66 66**		*e*Pg	**Pn**	**22 28 45.2**	**+0.3**
SRS				*e*Sg	**Sb**	**22 29 07.5**	**+0.2**
SRS	**Serrai**	**1.66 66**		⇓*i*Pn	**Pn**	**22 28 45.1**	**+0.3**
SRS				*i* Sg	**Sg**	**22 29 09.1**	**-0.9**
SRS	**Serrai**	**1.66 66**		P	**Pb**	**22 28 45.7**	**-0.9**
XOR	**Xorichti**	**1.66 131**		P	**Pn**	**22 28 45.1**	**+0.2**
PAIG	**Paliouri**	**1.70 108**		P	**Pn**	**22 28 45.4**	**0.0**
PAIG				S	**Sn**	**22 29 07.2**	**+0.5**
	comp=E,1μm,0.8s						
NEO	**Neokhori**	**1.72 132**		P	**Pb**	**22 28 47.1**	**-0.5**
NEO				S	**Sb**	**22 29 10.1**	**+1.1**
NEO				AML	AML	22 29 20.2	
	comp=E,10714μm,0.5s						
NEO				AML	AML	22 29 20.4	
	comp=N,9382μm,0.6s						
TSLK	**Tsoukalades, L**	**1.79 204**		P	**Pb**	**22 28 49.1**	**+0.3**
KKB	**Krupnik**	**1.80 40**		*i* P	**Pn**	**22 28 47.9**	**+1.1**
KKB				S	**Sn**	**22 29 08.9**	**-0.4**
KKB	**Krupnik**	**1.80 40**		⇓*i*Pn	**Pn**	**22 28 47.8**	**+1.0**
KKB				*i* Sg	**Sg**	**22 29 17.4**	**+2.8**
LKD2	**Lefkada island**	**1.82 203**		AMP			
	comp=E,3.9nm,0.5s,baz=204						
LKD2	**Lefkada island**	**1.82 203**		P	**Pb**	**22 28 49.7**	**+0.3**
LKD2	**Lefkada island**	**1.82 203**		P	**Pb**	**22 28 49.8**	**+0.4**
OUR	**Ouranopolis**	**1.84 93**		P	**Pn**	**22 28 47.9**	**+0.6**
OUR	**Ouranopolis**	**1.84 93**		P	**Pb**	**22 28 49.5**	**-0.2**
KOKK	**Kokkinochori,**	**1.88 79**		P	**Pn**	**22 28 48.5**	**+0.7**
NYDR	**Nydri-Lefkada**	**1.88 201**		P	**Pb**	**22 28 50.4**	**0.0**
NYDR	**Nydri-Lefkada**	**1.88 201**		P	**Pb**	**22 28 50.4**	**0.0**
ANX	**Ano Chora**	**1.89 172**		P	**Pb**	**22 28 49.5**	**-1.1**
AXAR	**Agios Charalam**	**1.90 154**		P	**Pn**	**22 28 49.0**	**+0.9**
NVR	**Nevrokopi**	**1.94 62**		P	**Pb**	**22 28 50.3**	**-1.1**
NVR	**Nevrokopi**	**1.94 62**		P	**Pb**	**22 28 50.5**	**-0.9**
MMB	**Musomishta**	**1.96 56**		*i* P	**Pn**	**22 28 49.4**	**+0.3**
MMB				S	**Sn**	**22 29 14.5**	**+1.1**
MMB	**Musomishta**	**1.96 56**		⇓*i*Pn	**Pn**	**22 28 49.7**	**+0.6**
EVGI	**Lefkada island**	**1.98 201**		P	**Pb**	**22 28 51.5**	**-0.6**
PUK	**Puka**	**2.02 322**		P	**Pb**	**22 28 51.7**	**-1.2**
PUK				S	**Sb**	**22 29 18.1**	**+0.4**
PUK	**Puka**	**2.02 322**			**Pb**	**22 28 51.6**	**-1.2**
BOSS	**Bosilegrad**	**2.13 18**		*e*Pn	**Pn**	**22 28 52.4**	**+1.0**
BOSS				*e*Sn	**Sb**	**22 29 22.1**	**+1.1**
AOS2	**Alonissos-2**	**2.19 126**		P	**Pb**	**22 28 55.8**	**+0.2**
AOS2				S	**Sb**	**22 29 23.5**	**+1.1**
AOS2				AML	AML	22 29 30.8	
	comp=E,1211μm,0.6s						
AOS2				AML	AML	22 29 32.9	
	comp=N,1920μm,0.8s						
BCI	**Bajram Curri**	**2.21 330**		P	**Pn**	**22 28 54.2**	**+1.8**
BCI				S	**Sb**	**22 29 22.6**	**-0.6**
AXS	**Araxos**	**2.28 184**		P	**Pn**	**22 28 50.4**	**-2.9**
ULC	**Ulcinj**	**2.31 311**		P	**Pb**	**22 28 56.4**	**-1.3**
ULC	**Ulcinj**	**2.31 311**	⇓*i*Pn		**Pb**	**22 28 56.2**	**-1.6**
ULC	**Ulcinj**	**2.31 311**	⇓*i*Pn		**Pb**	**22 28 56.1**	**-1.6**
ULC			*i* Sn		**Sb**	**22 29 25.5**	**-0.4**
BARS	**Barje**	**2.35 4**	*e*Pn		**Pn**	**22 28 55.3**	**+0.9**
BARS			*e*Sn		**Sb**	**22 29 27.2**	**0.0**
BARS	**Barje**	**2.35 4**	⇓*i*Pn		**Pn**	**22 28 55.5**	**+1.2**
BARS			*i* Sg		**Sg**	**22 29 33.2**	**+1.1**
SCTE	**Santa Cesarea**	**2.41 262**		P	**Pn**	**22 28 56.3**	**+1.1**
SCTE				S	**Sb**	**22 29 29.8**	**+0.9**
SCTE	**Santa Cesarea**	**2.41 262**			**Pn**	**22 28 56.3**	**+1.1**
PLNA	**Plana**	**2.44 34**	*i* P		**Pn**	**22 28 56.7**	**+1.0**
PVY	**Plav**	**2.45 331**	⇑*i*Pn		**Pn**	**22 28 57.4**	**+1.6**
PVY			*i* Sn		**Sb**	**22 29 28.0**	**-2.0**
VTS	**Vitosha**	**2.48 30**	*i* P		**Pn**	**22 28 57.1**	**+0.8**
VTS			*e*S		**Sn**	**22 29 26.6**	**+0.3**
DRME	**Dracevica, Mon**	**2.49 314**	⇓*i*Pn		**Pn**	**22 28 58.6**	**+2.4**
DRME			*i* Sn		**Sb**	**22 29 31.2**	**+0.1**
TRAN	**Tran**	**2.50 18**	*i* P		**Pn**	**22 28 58.1**	**+1.7**
TRAN			*e*S		**Sn**	**22 29 27.7**	**+1.2**
PDG	**Podgorica**	**2.62 319**			**Pn**	**22 29 00.1**	**+2.0**
PDG	**Podgorica**	**2.62 319**	*e*Pn		**Pn**	**22 29 00.4**	**+2.3**
PDG			*e*Sn		**Sb**	**22 29 33.2**	**-1.8**
PDG	**Podgorica**	**2.62 319**	*e*Pn		**Pn**	**22 29 00.5**	**+2.3**
PDG	**Podgorica**	**2.62 319**	⇑P		**Pn**	**22 29 00.4**	**+2.3**
PDG	**Podgorica**	**2.62 319**	⇑*i*Pn		**Pn**	**22 28 59.8**	**+1.7**
PDG			*i* Sn		**Sn**	**22 29 32.2**	**+2.7**
RZN	**Rozhen**	**2.68 62**	*i* P		**Pn**	**22 29 00.2**	**+1.1**
RZN			S		**Sn**	**22 29 29.9**	**-1.4**
BEY	**Berane**	**2.71 333**	P		**Pn**	**22 29 01.4**	**+2.0**
BEY	**Berane**	**2.71 333**	⇑*i*Pn		**Pn**	**22 29 01.2**	**+1.8**
IVA	**Berane**	**2.71 333**	⇑*i*Pn		**Pn**	**22 29 00.9**	**+1.5**
IVA			*i* Sn		**Sn**	**22 29 34.9**	**+3.0**
BUM	**Brajici-Budva**	**2.73 313**	P		**Pn**	**22 29 01.9**	**+2.3**
BUM	**Brajici-Budva**	**2.73 313**	⇑*i*Pn		**Pn**	**22 29 01.3**	**+1.7**
BUM			*i* Sn		**Sb**	**22 29 35.8**	**-2.2**
SELS	**Selova**	**2.77 353**	*e*Pn		**Pn**	**22 29 01.3**	**+1.2**
KOME	**Kolasin**	**2.84 328**	⇑*i*Pn		**Pn**	**22 29 03.4**	**+2.3**
KOME			*i* Sn		**Sn**	**22 29 38.1**	**+3.1**
CEME	**Cevo**	**2.88 317**	⇓*i*Pn		**Pn**	**22 29 03.5**	**+1.8**
CEME			*i* Sn		**Sn**	**22 29 39.4**	**+3.4**
ZAPS	**Zavoj**	**2.91 15**	*e*Pn		**Pn**	**22 29 03.4**	**+1.3**
NKME	**Niksic**	**3.02 320**	⇑*i*Pn		**Pn**	**22 29 05.6**	**+2.0**
NKME			*i* Sn		**Sn**	**22 29 42.1**	**+2.6**
SJES	**Sjenica**	**3.04 337**	*e*Pn		**Pn**	**22 29 05.3**	**+1.4**
SJES	**Sjenica**	**3.04 337**	*e*Pn		**Pn**	**22 29 05.4**	**+1.5**
HCY	**Herceg Novi**	**3.05 311**	P		**Pn**	**22 29 06.2**	**+2.3**
HCY	**Herceg Novi**	**3.05 311**	*e*Pn		**Pn**	**22 29 05.5**	**+1.6**
HCY	**Herceg Novi**	**3.05 311**	⇓*i*Pn		**Pn**	**22 29 05.5**	**+1.6**
HCY			*i* Sn		**Sn**	**22 29 43.3**	**+3.3**
KDZ	**Kurdzhali**	**3.07 67**	*i* P		**Pn**	**22 29 05.0**	**+0.7**
KDZ			S		**Sn**	**22 29 39.6**	**-1.0**
RDO	**Rodhopi**	**3.08 76**			**Pn**	**22 29 04.3**	**0.0**
BOVS	**Bovan**	**3.17 2**	*e*Pn		**Pn**	**22 29 05.9**	**+0.4**
BOVS	**Bovan**	**3.17 2**	⇓P		**Pn**	**22 29 05.9**	**+0.4**
BLKB	**Belogradchik**	**3.25 14**	⇑P		**Pn**	**22 29 08.6**	**+1.8**
IVAS	**Ivanjica**	**3.28 342**	*e*Pn		**Pn**	**22 29 07.7**	**+0.5**
PLE	**Pljevlja**	**3.29 331**	P		**Pn**	**22 29 10.9**	**+3.5**
PLE	**Pljevlja**	**3.29 331**	⇓*i*Pn		**Pn**	**22 29 09.2**	**+1.8**
PLE			*i* Sn		**Sn**	**22 29 49.0**	**+2.8**
ITM	**Ithomi**	**3.30 175**	Pn		**Pn**	**22 29 08.9**	**+1.6**
TREB	**Trebinje**	**3.30 314**	*e*Pn		**Pn**	**22 29 08.5**	**+1.1**
MPEP	**Malo Peshtene**	**3.31 29**	*e*P		**Pn**	**22 29 09.3**	**+1.8**
GOAD	**anakkale-G¶**	**3.33 94**	P		**Pn**	**22 29 05.9**	**-1.8**
BRY	**Bratogost**	**3.33 318**	P		**Pn**	**22 29 10.1**	**+2.1**
BRY	**Bratogost**	**3.33 318**	*e*Pn		**Pn**	**22 29 09.9**	**+2.0**
BRY	**Bratogost**	**3.33 318**	⇑*i*Pn		**Pn**	**22 29 09.5**	**+1.6**
BRY			*i* Sn		**Sn**	**22 29 49.5**	**+2.3**
ZAGS	**Zajecar**	**3.38 8**	*e*Pn		**Pn**	**22 29 08.7**	**+0.3**
UPM	**Unac-Piva**	**3.38 325**	*e*Pn		**Pn**	**22 29 11.8**	**+3.1**
UPM	**Unac-Piva**	**3.38 325**	⇑*i*Pn		**Pn**	**22 29 10.6**	**+1.9**
UPM			*i* Sn		**Sn**	**22 29 50.7**	**+2.1**
ALN	**Alexandroupoli**	**3.42 81**	P		**Pn**	**22 29 07.5**	**-1.5**
ALN			S		**Sn**	**22 29 47.2**	**-2.1**

MARR Marisel-Cluj 6.30 10 ⇓P Pn 22 29 50.8 +2.0
GRER 6.31 37 ⇑P Pn 22 29 51.2 +2.5
BISRR Bisoca 6.32 35 ⇑P Pn 22 29 51.5 +2.6
VAE Valguarnera 6.33 244 Pn **Pn 22 29 49.1 0.0**
comp=N,13nm,1.1s,baz=89,slow=18,SNR=3.0
VAE Sn **Sn 22 31 00.9 -0.2**
comp=N,1.0nm,0.3s,baz=132,slow=19,SNR=1.8
COVR Voineasa-Covas 6.35 31 ⇓P Pn 22 29 51.5 +2.2
DRGR 6.37 7 ⇑P Pn 22 29 51.1 +1.4
CJR Cluj-Napoca 6.41 13 ⇑P Pn 22 29 51.8 +1.6
SPBR Spulber 6.49 34 ⇓P Pn 22 29 53.5 +2.3
RAFF Raffo Rosso 6.50 242 Pn **Pn 22 29 51.4 0.0**
PLOR Plostina 6.53 33 ⇑P Pn 22 29 54.3 +2.5
VRI Vrincioaia 6.58 33 ⇑P Pn 22 29 54.8 +2.4
KARP Karpathos 6.60 136 Pn **Pn 22 29 53.7 +1.0**
ARG Arkhangelos 6.67 127 Pn **Pn 22 29 53.9 +0.2**
GUMA Gualdo di Mace 6.69 295 Pn **Pn 22 29 55.3 +1.4**
NRCA Norcia 6.76 293 Pn **Pn 22 29 55.9 +0.8**
BOJS Bojanci 6.84 319 *e*Pn **Pn 22 29 56.3 +0.3**
FDMO Fiordimonte 6.85 295 Pn 22 29 56.2 0.0
BEHE Becsehely 6.94 331 Pn **Pn 22 29 58.3 +0.9**
CRES Cresnjevec Ost 6.98 322 *e*Pn **Pn 22 29 58.3 +0.4**
CEY Cerknica 7.42 318 *e*Pn **Pn 22 30 04.6 +0.6**
ELL Elmali 7.50 117 Pn **Pn 22 30 05.2 -0.1**
PSZ Piszkesteto 7.54 351 Pn 22 30 06.1 +0.3
PSZ Piszkesteto 7.54 351 ⇓P **Pn 22 30 07.7 +2.0**
BURAR Bucovina Array 7.61 19 Pn **Pn 22 30 07.2 +0.6**
BUR08 Bucovina Ar. S 7.63 19 Pn **Pn 22 30 08.4 +1.5**
SOKA Soboth 7.81 325 *i* Pn **Pn 22 30 10.0 +0.6**
comp=N,7.0nm,0.4s,SNR=8.3
SOKA *i* Sn **Sn 22 31 33.6 -3.9**
comp=N,1.8nm,0.5s
OBKA Obir 7.91 322 *e*Pn **Pn 22 30 12.0 +1.3**
comp=N,5.4nm,0.7s,SNR=5.4
OBKA *i* Sn **Sn 22 31 41.1 +1.3**
comp=N,13nm,0.6s
OBKA Obir 7.91 322 *e*Pn **Pn 22 30 10.0 -0.7**
SABO M.te Sabotino 8.01 316 Pn **Pn 22 30 12.3 +0.1**
KECS Kecovo 8.05 355 *e*PN **Pn 22 30 16.8 +4.2**
KECS *e*SN **Sn 22 31 45.1 +1.9**
ARSA Arzberg 8.06 329 *i* Pn **Pn 22 30 14.5 +1.6**
comp=N,5.2nm,0.4s,SNR=6.8
ARSA *i* Sn **Sn 22 31 43.5 -0.1**
comp=N,1.9nm,0.4s
RONA Rosalia, Austr 8.16 334 *i* Pn **Pn 22 30 16.4 +2.2**
comp=N,2.2nm,0.5s
RONA *i* Sn **Sn 22 31 51.0 +4.9**
comp=N,4.2nm,0.5s
VYHS Vyhne 8.26 347 *e*PN **Pn 22 30 17.9 +2.4**
VYHS *e*SN **Sn 22 31 44.8 -3.5**
PRED Cave del Predi 8.34 318 Pn **Pn 22 30 16.4 -0.3**
KOLS Kolonicke sedl 8.48 3 *e*PN Pn 22 30 24.5 +6.0
MODS Modra-Piesok 8.48 340 *e*PN **Pn 22 30 20.8 +2.3**
MODS *e*SN **Sn 22 31 49.6 -4.2**
CONA Conrad Observa 8.51 333 *i* Pn **Pn 22 30 21.9 +2.9**
comp=N,2.6nm,0.7s
ZCCA Zocca 8.75 300 Pn **Pn 22 30 25.9 +3.6**
TEOL Teolo 8.76 307 Pn 22 30 23.1 +0.7
CIMO Cimolais 8.85 314 Pn **Pn 22 30 23.0 -0.5**
KBA Koelnbreinsper 8.89 321 *e*Pn **Pn 22 30 25.2 +0.9**
comp=N,6.6nm,1.0s
MOA Molln 9.05 327 *e*Pn **Pn 22 30 28.2 +1.8**
comp=N,5.7nm,0.8s,SNR=8.0
MOA *i* Sn **Sn 22 32 07.8 -0.1**
comp=N,3.1nm,0.6s
ABTA Abfaltersbach 9.09 317 *e*Pn **Pn 22 30 27.5 +0.6**
comp=N,4.1nm,0.5s,SNR=6.6
ABTA *e*Sn **Sn 22 32 06.8 -2.0**
comp=N,15nm,0.7s
CTI Castel Tesino 9.14 311 Pn 22 30 27.4 -0.2
BIOA Bad Ischl, Aus 9.20 324 *e*Pn **Pn 22 30 29.8 +1.4**
comp=N,2.9nm,0.4s,SNR=4.8
BIOA *i* Sn **Sn 22 32 10.6 -0.9**
comp=N,6.0nm,0.7s
BRTR Keskin Array B 9.27 91 Pn **Pn 22 30 30.4 +0.8**
BRTR Keskin Array B 9.27 91 Pn **Pn 22 30 31.5 +1.9**
comp=N,0.1nm,0.3s,baz=265,slow=12,SNR=5.4
comp=N,0.4nm,0.5s
MAUC Maruska 9.28 345 *e*PN **Pn 22 30 32.8 +3.3**
LESA Schwarzleotal 9.46 320 *i* Pn **Pn 22 30 33.2 +1.2**
comp=N,2.8nm,0.5s
LESA *e*Sn **Sn 22 32 15.2 -2.7**
comp=N,6.7nm,0.9s
VRAC Vranov 9.52 340 Pn **Pn 22 30 31.9 -0.8**
comp=N,0.1nm,0.3s,baz=171,slow=13,SNR=4.7
comp=N,2.8nm,0.8s
VRAC Vranov 9.52 340 ⇑P **Pn 22 30 34.5 +1.8**
CKRC Cesky Krumlov 9.82 331 *e*PN **Pn 22 30 39.8 +2.9**
WTTA Wattenberg 9.88 317 *e*Pn **Pn 22 30 39.1 +1.3**
comp=N,3.8nm,0.5s
WTTA *i* Sn **Sn 22 32 25.7 -2.7**
comp=N,13nm,0.7s
WATA Walderalm 9.95 317 *i* Pn **Pn 22 30 40.0 +1.1**
comp=N,6.5nm,0.5s
WATA *e*Sn **Sn 22 32 27.6 -2.6**
comp=N,11nm,0.6s
GERES GERESS Array B 10.07 329 Pn **Pn 22 30 41.4 +0.9**
comp=N,0.2nm,0.3s,baz=134,slow=11,SNR=5.9
comp=N,1.0nm,0.5s
SQTA Sankt Quirin 10.08 315 *e*Pn **Pn 22 30 41.7 +1.2**
comp=N,3.0nm,0.3s,SNR=5.2
SQTA *i* Sn **Sn 22 32 31.1 -2.0**
comp=N,7.4nm,0.6s
MOTA Moosalm 10.21 316 *e*Pn **Pn 22 30 42.4 +0.1**
comp=N,5.1nm,0.6s
MOTA *e*Sn **Sn 22 32 33.1 -3.4**
comp=N,15nm,1.0s
FETA Feichten 10.22 313 *i* Pn **Pn 22 30 43.3 +0.8**
comp=N,2.5nm,0.7s
FETA *e*Sn **Sn 22 32 33.0 -3.6**
comp=N,2.7nm,0.5s
KHC Kasperske Hory 10.35 329 Pn 22 30 45.4 +1.2
KHC Kasperske Hory 10.35 329 *e*PN **Pn 22 30 45.6 +1.4**
KHC *e*SN **Sn 22 32 42.5 +2.7**
RETA Reutte 10.48 316 *i* Pn **Pn 22 30 46.3 +0.4**
comp=N,0.6nm,0.3s
RETA *i* Sn **Sn 22 32 39.0 -3.9**
comp=N,5.6nm,0.5s
DAVOX Davos/Dischmat 10.56 311 Pn **Pn 22 30 48.0 +0.8**
comp=N,0.4nm,0.3s,baz=151,slow=15,SNR=7.9
DAVOX Sn **Sn 22 32 41.2 -4.0**
comp=N,0.2nm,0.3s,baz=169,slow=22,SNR=2.7
comp=N,2.9nm,0.7s
DAVA Damuels 10.84 313 *e*Pn **Pn 22 30 53.4 +2.4**
comp=N,2.4nm,0.5s
DAVA *i* Sn **Sn 22 32 49.4 -2.6**
comp=N,6.2nm,0.6s
ESBB Sonseca Array 19.55 276 P **Pn 22 32 44.3 -0.3**
ESDC Sonseca Array 19.55 276 P **P 22 32 42.4 -0.9**
comp=N,0.1nm,0.3s,baz=76,slow=12,SNR=2.2
comp=N,0.6nm,1.0s
PAB San Pablo 19.86 276 P **P 22 32 46.7 -0.1**
HFS Hagfors 20.29 349 P **P 22 32 51.3 +0.1**
comp=N,3.2nm,0.7s,baz=157,slow=16,SNR=1.8
comp=N,3.2nm,0.7s
FINES FINESS Array B 21.18 6 P **P 22 33 00.3 -0.5**
FINES FINESS Array B 21.18 6 P **P 22 32 59.8 -1.0**
comp=N,6.6nm,1.0s,baz=168,slow=13,SNR=6.4
comp=N,6.6nm,1.0s
NC602 NORSAR Array S 21.22 346 P **P 22 32 59.7 -1.5**
NC602 IAmb IAmb 22 33 09.7
comp=Z,10.0nm,0.8s
BELG Belogornoye 21.42 47 P **P 22 33 04.0 +0.6**
comp=Z,28nm,1.0s,baz=208,slow=2.2,SNR=8.4
comp=Z,28nm,1.0s
NAO01 NORSAR Array S 21.44 346 P **P 22 33 04.0 +0.4**
NC405 NORSAR Array S 21.54 347 P **P 22 33 05.2 +0.5**
NB201 NORSAR Array S 21.56 346 P **P 22 33 04.8 0.0**
NB201 IAmb IAmb 22 33 06.1
comp=Z,10nm,0.8s
NB2 NORSAR Subarra 21.56 346 P **P 22 33 04.4 -0.5**
comp=Z,5.2nm,0.8s,baz=160,slow=11
NOA NORSAR Array B 21.56 346 P **P 22 33 04.5 -0.5**
comp=Z,2.8nm,0.7s,baz=160,slow=11,SNR=8.7
comp=Z,2.8nm,0.7s
NBO00 NORSAR Array S 21.63 346 P **P 22 33 05.8 +0.1**
NBO00 IAmb IAmb 22 33 10.7
comp=Z,9.8nm,1.0s
NC303 NORSAR Array S 21.71 347 P **P 22 33 07.1 +0.7**
NC303 IAmb IAmb 22 33 13.7
comp=Z,13nm,0.8s
NC204 NORSAR Array S 21.86 346 P **P 22 33 08.3 +0.1**
EKA Eskdalemuir Ar 22.11 321 P **P 22 33 10.3 -0.4**
comp=Z,1.7nm,0.6s,baz=114,slow=8.9,SNR=5.9
comp=Z,1.7nm,0.6s
ESK Eskdalemuir 22.12 320 P **P 22 33 10.5 -0.4**

TORD Torodi Ar. Bea 32.33 218 P **P 22 34 45.0 +0.2**
comp=Z,1.2nm,0.7s,baz=34,slow=9.4,SNR=13
comp=Z,1.2nm,0.7s
BVAR Borovoye Array 35.04 52 P **P 22 35 10.0 +1.8**
comp=Z,0.7nm,0.8s,baz=279,slow=12,SNR=2.6
comp=Z,0.7nm,0.8s
KKAR Karatay Array 36.17 69 P **P 22 35 18.6 +0.6**
DBIC Dimbokro 41.13 222 P **P 22 35 59.6 -0.2**
DBIC IAmb IAmb 22 36 19.3
comp=Z,4.1nm,0.9s
MAKZ Makanchi 43.22 61 P **P 22 36 14.5 -2.1**
MAKZ IAmb IAmb 22 36 15.5
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 43.43 61 P **P 22 36 18.8 +0.5**
MK31 IAmb IAmb 22 36 20.9
comp=Z,3.2nm,1.0s
MKAR Makanchi Array 43.43 61 P **P 22 36 18.4 +0.1**
comp=Z,1.0nm,0.6s,baz=277,slow=7.2,SNR=8.5
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 43.57 50 P **P 22 36 19.0 -0.3**
comp=Z,0.7nm,0.5s,baz=270,slow=8.4,SNR=3.7
comp=Z,0.7nm,0.5s
SCHQ Schefferville 57.35 317 P **P 22 38 03.1 -0.3**
YKA Yellowknife Ar 71.52 340 P **P 22 39 35.5 -0.4**
comp=Z,0.3nm,0.6s,baz=35,slow=5.7,SNR=6.7
comp=Z,0.3nm,0.6s

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*NOU **30** 22:32:26.6, 26°.25S×178°.78E, h621km, mb4.8/64, South of Fiji Islands*
*IDC **30** 22:32:26.9±0.7, 26°.32S×178°.30E, h586km±7km, mb4.1/16, mbtmp5.0/19, Error ellipse: s-maj=9.8km s-min=8.3km az=65.0*
*NEIC **30** 22:32:27.8±2.0, 26°.4S±0°.1×178°.5E±0°.1, h599km±8km, mb4.9/32, Error ellipse: s-maj=15.9km s-min=14.7km az=216.0*
ISC 30 22:32:26.8±0.5, 26°.40S±0°.05×178°.45E±0°.06, h590km±5km, n231, σ1§69/265, mb4.8/57, 9C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
RIZ	**Raoul Island**	**4.28**	**132**	P		**P**	**22 33 56.0**	**+2.6**
RAO	**Raoul Island**	**4.29**	**132**	P		**P**	**22 33 56.0**	**+2.5**
	3μm,0.5s,baz=266,slow=1.8,SNR=25							
RAO				S		**S**	**22 35 03.4**	**-1.0**
	141nm,0.3s,baz=45,slow=18,SNR=0.8							
RAO	**Raoul Island**	**4.29**	**132**	P		**P**	**22 33 55.9**	**+2.5**
GLKZ	**Green Lake**	**4.29**	**132**	P		**P**	**22 33 55.5**	**+2.0**
MSVF	**Nonsavu**	**8.63**	**357**	P		**P**	**22 34 31.4**	**-0.7**
	5.4nm,0.3s,baz=146,slow=12,SNR=13							
MSVF				S		**S**	**22 36 12.6**	**-2.1**
	15nm,0.9s,baz=213,slow=23,SNR=6.0							
MSVF	**Nonsavu**	**8.63**	**357**	P		**P**	**22 34 32.1**	**0.0**
WCZ	**Waipu Caves**	**10.14**	**199**	P		**P**	**22 34 50.5**	**+4.0**
KUZ	**Kuaotunu**	**10.57**	**192**	P		**P**	**22 34 51.8**	**+0.9**
KUZ	**Kuaotunu**	**10.57**	**192**	P		**P**	**22 34 54.2**	**+3.3**
MARNC	**Mare, Loyalty**	**10.71**	**295**	P		**P**	**22 34 54.1**	**+1.5**
MKAZ	**Moumakai**	**11.03**	**194**	P		**P**	**22 34 58.6**	**+3.1**
MXZ	**Matakaoa Point**	**11.13**	**181**	P		**P**	**22 34 55.2**	**-1.3**
MXZ	**Matakaoa Point**	**11.13**	**181**	P		**P**	**22 34 57.4**	**+0.9**
HAZ	**Te Kaha**	**11.34**	**183**	P		**P**	**22 34 57.4**	**-1.2**
HAZ				S		**S**	**22 36 57.6**	**-5.8**
WMGZ	**Waiomatatini S**	**11.39**	**180**	P		**P**	**22 34 58.0**	**-1.1**
WMGZ				S		**S**	**22 36 58.2**	**-6.1**
YATNC	**Mamie plateau,**	**11.40**	**290**	P		**P**	**22 35 01.2**	**+1.7**
PKGZ	**Pakihiroa**	**11.44**	**181**	P		**P**	**22 34 57.9**	**-1.7**
PKGZ				S		**S**	**22 36 59.6**	**-5.7**
TGRZ	**Tauranga**	**11.45**	**189**	P		**P**	**22 35 03.6**	**+4.0**
TOZ	**Tahuroa Road**	**11.57**	**192**	P		**P**	**22 35 03.6**	**+2.7**
TOZ	**Tahuroa Road**	**11.57**	**192**	P		**P**	**22 35 03.1**	**+2.2**
PUZ	**Puketiti**	**11.64**	**181**	P		**P**	**22 35 00.2**	**-1.5**
PUZ				S		**S**	**22 37 02.6**	**-6.4**
ONTNC	**Ouen Toro**	**11.67**	**288**			**P**	**22 35 03.4**	**+1.2**
TWGZ	**Tauwhareparae**	**11.75**	**182**	P		**P**	**22 35 01.5**	**-1.4**
TWGZ				S		**S**	**22 37 07.0**	**-4.1**
DZM	**Mont Dzumac**	**11.77**	**289**	P		**P**	**22 35 04.7**	**+1.3**
	125nm,0.6s,baz=107,slow=12,SNR=133							
DZM	**Mont Dzumac**	**11.77**	**289**	P		**P**	**22 35 04.9**	**+1.5**
NOUC	**Port Laguerre**	**11.88**	**289**	P		**P**	**22 35 05.9**	**+1.6**
URZ	**Urewera**	**11.88**	**185**	P		**P**	**22 35 03.9**	**-0.2**
	30nm,0.3s,baz=342,slow=1.9,SNR=34							
URZ				S		**S**	**22 37 07.9**	**-5.5**
	53nm,0.7s,baz=287,slow=19,SNR=12							
URZ	**Urewera**	**11.88**	**185**	P		**P**	**22 35 03.7**	**-0.4**
URZ				S		**S**	**22 37 07.1**	**-6.4**
URZ	**Urewera**	**11.88**	**185**	P		**P**	**22 35 05.4**	**+1.3**
MWZ	**Matawai**	**11.93**	**184**	P		**P**	**22 35 03.8**	**-0.8**
MWZ				S		**S**	**22 37 09.2**	**-5.2**
TKGZ	**Te Karaka**	**12.02**	**182**	P		**P**	**22 35 07.2**	**+1.8**
TKGZ				S		**S**	**22 37 09.9**	**-6.1**
CNGZ	**Carnagh Statio**	**12.05**	**181**	P		**P**	**22 35 06.0**	**+0.2**
CNGZ				S		**S**	**22 37 20.1**	**+3.5**
RTZ	**Ruatahuna**	**12.25**	**185**	P		**P**	**22 35 09.6**	**+1.7**
ALRZ	**Allen Road**	**12.26**	**188**	P		**P**	**22 35 09.8**	**+1.9**
RIGZ	**Rimuhau**	**12.29**	**183**	P		**P**	**22 35 08.0**	**-0.2**
RIGZ				S		**S**	**22 37 14.1**	**-7.0**
HIZ	**Hauiti**	**12.46**	**193**	P		**P**	**22 35 13.2**	**+3.3**
HIZ	**Hauiti**	**12.46**	**193**	P		**P**	**22 35 12.0**	**+2.1**
BKZ	**Black Stump Fm**	**12.84**	**187**	P		**P**	**22 35 12.8**	**-1.1**
BKZ	**Black Stump Fm**	**12.84**	**187**	P		**P**	**22 35 14.8**	**+0.9**
DVP	**Devils Point**	**12.84**	**310**	P		**P**	**22 35 15.3**	**+1.2**
NIUE	**Niue**	**12.96**	**58**	P		**P**	**22 35 15.0**	**-0.3**
KHEZ	**Kahui Hut**	**13.39**	**195**	P		**P**	**22 35 21.4**	**+1.9**
KOUNC	**Koumac, New Ca**	**14.24**	**291**	P		**P**	**22 35 28.6**	**+0.4**
KOUNC	**Koumac, New Ca**	**14.24**	**291**	P		**P**	**22 35 28.9**	**+0.7**
BFZ	**Birch Farm**	**14.36**	**187**	P		**P**	**22 35 28.2**	**-0.9**
BFZ	**Birch Farm**	**14.36**	**187**	P		**P**	**22 35 28.2**	**-0.9**
MRZ	**Mangatainoka R**	**14.42**	**189**	P		**P**	**22 35 29.1**	**-0.5**
VLAKA	**Lakatoro**	**14.50**	**313**	P		**P**	**22 35 31.3**	**+0.5**
TCW	**Tory Channel**	**15.17**	**192**	P		**P**	**22 35 37.4**	**+0.8**
SNZO	**South Karori**	**15.19**	**191**	P		**P**	**22 35 37.3**	**+0.4**
SNZO	**South Karori**	**15.19**	**191**	P		**P**	**22 35 36.4**	**-0.4**
QRZ	**Quartz Range**	**15.21**	**197**	P		**P**	**22 35 39.1**	**+2.1**
QRZ	**Quartz Range**	**15.21**	**197**	P		**P**	**22 35 38.8**	**+1.8**
MSWZ	**Moikau Station**	**15.21**	**189**	P		**P**	**22 35 36.9**	**-0.2**
BHW	**Baring Head**	**15.26**	**190**	P		**P**	**22 35 37.8**	**+0.3**
TKNZ	**Takaka Hill**	**15.29**	**196**	P		**P**	**22 35 38.9**	**+1.1**
NNZ	**Nelson**	**15.37**	**195**	P		**P**	**22 35 39.5**	**+1.0**
CMWZ	**Cape Campbell**	**15.71**	**192**	P		**P**	**22 35 42.6**	**+1.0**
BSWZ	**Blackbirch Sta**	**15.74**	**193**	P		**P**	**22 35 43.1**	**+1.2**
THZ	**Tophouse**	**15.99**	**195**	P		**P**	**22 35 45.4**	**+1.0**
KHZ	**Kahutara**	**16.48**	**193**	P		**P**	**22 35 50.1**	**+1.4**
LTZ	**Lake Taylor**	**17.11**	**196**	P		**P**	**22 35 55.2**	**+0.6**
AMCZ	**Amberley**	**17.40**	**194**	P		**P**	**22 35 57.5**	**+0.5**
LHI	**Lord Howe Isla**	**17.71**	**249**	P		**P**	**22 36 01.6**	**+1.4**
CTZ	**Chatham Island**	**17.76**	**168**	P		**P**	**22 36 00.4**	**+0.1**
MQZ	**McQueen's Vall**	**17.90**	**194**	P		**P**	**22 36 02.7**	**+1.0**
RPZ	**Rata Peaks**	**18.29**	**197**	P		**P**	**22 36 05.3**	**0.0**
RPZ	**Rata Peaks**	**18.29**	**197**	P		**P**	**22 36 05.0**	**-0.3**
	48nm,0.4s,baz=314,slow=0.5,SNR=27							
RPZ				S		**S**	**22 39 03.8**	**+1.1**
	13nm,1.0s,baz=91,slow=23,SNR=1.6							
RPZ	**Rata Peaks**	**18.29**	**197**	P		**P**	**22 36 05.8**	**+0.5**
JCZ	**Jackson Bay**	**19.30**	**201**	P		**P**	**22 36 15.4**	**+0.9**
ODZ	**Otahua Downs**	**19.64**	**197**	P		**P**	**22 36 17.7**	**+0.2**
ODZ	**Otahua Downs**	**19.64**	**197**	P		**P**	**22 36 17.2**	**-0.3**
WKZ	**Wanaka**	**19.90**	**200**	P		**P**	**22 36 19.9**	**0.0**
DCZ	**Deep Cove**	**21.07**	**203**	P		**P**	**22 36 31.3**	**+0.9**
SYZ	**Scrubby Hill**	**21.42**	**198**	P		**P**	**22 36 33.9**	**+0.5**
PYZ	**Puysegur Point**	**21.85**	**202**	P		**P**	**22 36 37.9**	**+0.5**
PYZ	**Puysegur Point**	**21.85**	**202**	P		**P**	**22 36 37.8**	**+0.5**
HURO	**Huro Makira**	**22.27**	**312**	P		**P**	**22 36 40.6**	**-0.9**
ALEG	**Aligegeo Malai**	**24.33**	**313**	P		**P**	**22 36 59.2**	**-0.5**
HNR	**Honiara**	**24.33**	**311**	P		**P**	**22 36 58.6**	**-1.2**
HNR	**Honiara**	**24.33**	**311**	P		**P**	**22 36 57.8**	**-2.0**
	119nm,0.6s,baz=191,slow=5.2,SNR=7.0							
	119nm,0.6s							
MGCD	**Mangrove Creek**	**24.64**	**247**	P		**P**	**22 37 04.7**	**+2.4**
TATA	**Tatamba Isabel**	**25.19**	**312**	P		**P**	**22 37 06.5**	**-0.8**
CNB	**Canberra Magne**	**26.43**	**243**	P		**P**	**22 37 19.9**	**+1.8**
GLAD	**Gladstone**	**29.04**	**232**	P		**P**	**22 37 42.3**	**+1.7**
CMSA	**Cobar Meteorol**	**29.05**	**252**	P		**P**	**22 37 42.2**	**+1.3**
TOO	**Toolangi**	**29.95**	**240**			**P**	**22 37 50.6**	**+1.9**
TOO				P		IAmb	IAmb	22 37 50.9
	comp=Z,13nm,0.7s							
MOO	**Moorlands**	**30.14**	**230**	P		**P**	**22 37 52.3**	**+2.2**
CTAO	**Charters Tower**	**30.19**	**275**	P		**P**	**22 37 51.6**	**+0.7**
CTAO	**Charters Tower**	**30.19**	**275**	P		**P**	**22 37 51.9**	**+1.0**
CTAO	**Charters Tower**	**30.19**	**275**	P		**P**	**22 37 51.8**	**+0.9**
TAU	**Tasmania Unive**	**30.23**	**229**			**P**	**22 37 53.0**	**+2.2**
TAU				P		IAmb	IAmb	22 37 53.2
	comp=Z,42nm,0.8s							

TAU Tasmania Unive 30.23 229 P **P 22 37 52.9 +2.1**
TAU Tasmania Unive 30.23 229 P **P 22 37 52.8 +2.0**
QLP Quilpie 30.58 262 P **P 22 37 54.4 +0.3**
BRAT Ballarat 31.16 241 P **P 22 38 00.8 +1.9**
STKA Stephens Creek 32.55 252 P **P 22 38 12.0 +1.2**
STKA Stephens Creek 32.55 252 P **P 22 38 10.9 +0.1**
comp=Z,6.9nm,0.4s,baz=98,slow=11,SNR=34
STKA PcP **PcP 22 40 39.8 +0.6**
comp=Z,2.3nm,0.7s,baz=3.4,slow=5.0,SNR=3.4
STKA S **S 22 42 43.4 -2.2**
comp=Z,2.0nm,0.7s,baz=99,slow=2.1,SNR=2.0
comp=Z,6.9nm,0.4s
STKA Stephens Creek 32.55 252 P **P 22 38 12.0 +1.2**
MTSU Mount Surprise 32.57 278 P **P 22 38 12.3 +1.2**
ARPS Mount Arapiles 32.69 242 P **P 22 38 13.5 +1.6**
INKA Innaminka 33.52 259 P **P 22 38 20.5 +1.5**
PMG Port Moresby 34.10 294 P **P 22 38 24.1 +0.2**
PMG Port Moresby 34.10 294 P **P 22 38 23.4 -0.5**
comp=Z,44nm,0.7s,baz=122,slow=6.1,SNR=29
comp=Z,44nm,0.7s
PMG Port Moresby 34.10 294 P **P 22 38 23.8 -0.2**
HTT Hallett 34.82 249 P **P 22 38 30.7 +0.9**
COEN Coen 35.23 284 P **P 22 38 34.0 +0.7**
COEN Coen 35.23 284 P **P 22 38 34.3 +0.9**
LCRK Leigh Creek 35.49 254 P **P 22 38 36.2 +0.9**
QIS Mount Isa 36.01 271 P **P 22 38 40.2 +0.4**
BBOO Buckleboo 37.22 250 P **P 22 38 49.6 +0.1**
BBOO IAmb IAmb 22 38 50.5
comp=Z,29nm,0.8s
BBOO Buckleboo 37.22 250 P **P 22 38 49.8 +0.3**
OOD Oodnadatta 37.96 258 P **P 22 38 56.8 +1.2**
MULG Mulgathing 39.08 254 P **P 22 39 04.8 +0.2**
AS01 Alice Springs 40.27 264 P **P 22 39 14.4 +0.2**
AS31 Alice Springs 40.31 264 P **P 22 39 14.8 +0.2**
ASAR Alice Springs 40.31 264 P **P 22 39 14.1 -0.4**
ASAR Alice Springs 40.31 264 P **P 22 39 14.7 +0.1**
comp=Z,6.5nm,0.5s,baz=88,slow=7.3,SNR=128
ASAR PcP **PcP 22 41 02.6 -0.7**
comp=Z,2.9nm,0.8s,baz=111,slow=7.5,SNR=4.9
ASAR S **S 22 44 38.6 -2.4**
comp=Z,7.1nm,0.7s,baz=104,slow=17,SNR=15
comp=Z,6.5nm,0.5s
WR0 Warramunga Arr 40.73 270 P **P 22 39 17.4 -0.4**
WR0 IAmb IAmb 22 39 18.5
comp=Z,28nm,1.1s
WB2 Warramunga Arr 40.90 270 IAmb IAmb 22 39 19.9
comp=Z,28nm,0.9s
WRAB Tennant Creek 40.90 270 P **P 22 39 18.7 -0.5**
WRAB IAmb IAmb 22 39 19.8
comp=Z,25nm,0.9s
WRA Warramunga Arr 40.91 270 P **P 22 39 17.9 -1.5**
WRA Warramunga Arr 40.91 270 P **P 22 39 18.9 -0.4**
comp=Z,27nm,0.9s,baz=103,slow=7.6,SNR=218
WRA PcP **pwP 22 41 04.9 +0.3**
comp=Z,1.7nm,0.7s,baz=104,slow=7.9,SNR=4.7
WRA ScP **ScP 22 43 59.0 -0.5**
comp=Z,0.9nm,0.7s,baz=110,slow=3.9,SNR=3.8
WRA S **S 22 44 47.2 -2.5**
comp=Z,4.6nm,0.9s,baz=103,slow=14,SNR=16
comp=Z,27nm,0.9s
WB0 Warramunga Arr 40.92 270 IAmb IAmb 22 39 19.9
comp=Z,29nm,0.8s
JAY Jayapura 43.30 297 P **P 22 39 36.9 -1.2**
comp=Z,33nm,0.9s
GENI Genyem 43.68 296 P **P 22 39 39.1 -1.9**
comp=Z,104nm,1.0s
FORT Forrest 44.17 252 P **P 22 39 44.1 -0.5**
FORT Forrest 44.17 252 P **P 22 39 44.3 -0.3**
WRKA Warakurna 44.98 260 P **P 22 39 50.6 -0.3**
KDU Kakadu 45.19 278 P **P 22 39 52.0 -0.6**
DRV Dumont d'Urvil 46.73 200 P **P 22 40 04.0 +0.6**
KNRA Kununurra 47.34 273 IAmb IAmb 22 40 09.9
comp=Z,38nm,0.9s
FITZ Fitzroy Crossi 49.30 268 P **P 22 40 23.0 -0.2**
FAKI Fak Fak 50.04 290 P **P 22 40 27.7 -1.0**
FAKI IAmb IAmb 22 40 44.1
comp=Z,46nm,1.2s
FAKI Fak Fak 50.04 290 P **P 22 40 28.6 -0.1**
VNDA Vanda 51.79 185 P **P 22 40 42.0 +1.6**
VNDA Vanda 51.79 185 P **P 22 40 42.1 +1.8**
comp=Z,9.2nm,0.5s,baz=4.3,slow=8.2,SNR=118
comp=Z,9.2nm,0.5s
VNDA Vanda 51.79 185 P **P 22 40 42.0 +1.6**
VNDA PcP **PcP 22 41 44.0 +0.9**
VNDA ScP **ScP 22 44 44.2 +0.2**
SBA Scott Base 51.81 183 P 22 40 43.3 +2.7
SBA IAmb IAmb 22 40 44.5
comp=Z,74nm,0.9s
SBA Scott Base 51.81 183 P **P 22 40 43.2 +2.7**
SBA PcP **PcP 22 41 44.8 +1.6**
SWI Sorong 51.98 291 P **P 22 40 42.5 -0.2**
KLBR Kellerberrin 52.76 249 P **P 22 40 48.0 -0.1**
NWAO Narrogin (SRO) 52.96 247 P **P 22 40 48.9 -0.6**
NWAO Narrogin (SRO) 52.96 247 P **P 22 40 48.7 -0.8**
MEEK Meekatharra 53.09 255 P **P 22 40 50.4 -0.2**
SOEI Soe 53.72 277 P **P 22 40 55.9 +0.6**
SOEI IAmb IAmb 22 41 12.2
comp=Z,29nm,0.8s
SOEI Soe 53.72 277 P **P 22 40 55.4 +0.2**
comp=Z,47nm,0.9s
BLDU Ballidu 53.83 250 P **P 22 40 55.4 -0.3**
MUN Mundaring 53.98 248 P **P 22 40 56.9 +0.2**
BATI Baumata 54.06 277 P **P 22 40 59.1 +1.5**
comp=Z,27nm,0.6s
MORW Morawa 54.74 252 P **P 22 41 01.5 -0.5**
MORW Morawa 54.74 252 P **P 22 41 01.8 -0.3**
SANI Sanana 55.82 287 P **P 22 41 08.8 -0.9**
comp=Z,36nm,0.8s
CCD Concordia, Ant 55.96 195 P **P 22 41 10.9 +0.7**
CCD PcP **PcP 22 41 59.3 -0.6**
CCD ScP **ScP 22 45 02.2 -0.7**
TNTI Ternate 56.12 290 P **P 22 41 10.1 -1.7**
comp=Z,32nm,0.9s
CASY Casey 57.26 206 P **P 22 41 19.1 +0.4**
CASY IAmb IAmb 22 41 19.9
comp=Z,61nm,0.8s
CASY Casey 57.26 206 P **P 22 41 19.0 +0.2**
CASY ScP **ScP 22 45 04.5 -3.8**
KDI Kendari 57.80 283 P **P 22 41 21.4 -1.9**
comp=Z,19nm,0.9s
BKSI Bulukumba 59.36 280 P **P 22 41 31.9 -1.8**
comp=Z,33nm,0.8s
PLAI Plampang 59.90 275 P **P 22 41 36.9 -0.4**
PLAI Plampang 59.90 275 P **P 22 41 36.3 -1.0**
comp=Z,42nm,0.8s
SPSI Sidrap Palu 60.30 281 P **P 22 41 39.8 -0.2**
comp=Z,16nm,0.8s
TOLI2 Tolitoli 61.90 287 P **P 22 41 49.1 -1.3**
TOLI2 Tolitoli 61.90 287 P **P 22 41 50.4 0.0**
**JAGI Jajag, Banyuwa 63.

USRK	**Ussuriysk Ar.**	**82.12 328**	P	**P**		**22 43 46.2**	**-0.2**
	comp=Z,12nm,0.8s,baz=129,slow=3.9,SNR=23						
	comp=Z,12nm,0.8s						
SNAA	**Sanae**	**82.19 180**		**P**		**22 43 46.7**	**+0.1**
SNAA			IAmb	IAmb		22 43 47.7	
	comp=Z,36nm,0.7s						
SNAA	**Sanae**	**82.19 180**	⇑P	**P**		**22 43 46.7**	**+0.1**
	comp=Z,870nm,0.6s						
SNAA	**Sanae**	**82.19 180**	P	**P**		**22 43 46.7**	**+0.1**
	comp=Z,35nm,0.6s,baz=208,slow=7.8,SNR=329						
	comp=Z,35nm,0.6s						
VNA3	**Neumayer Olymp**	**82.46 177**	⇑P	**P**		**22 43 48.0**	**+0.1**
	comp=Z,90nm,0.8s						
VNA2	**Neumayer--Watz**	**82.86 178**	⇑P	**P**		**22 43 50.2**	**+0.3**
	comp=Z,49nm,0.6s,baz=180,slow=5.2						
VNA1	**Neumayer--Stat**	**83.11 178**	⇑P	**P**		**22 43 51.4**	**+0.4**
	comp=Z,21nm,0.7s						
WHN	**Wuhan**	**83.44 309**	⇑P	**P**		**22 43 53.8**	**+0.5**
TIA	**Tai'an**	**84.96 315**	P	**P**		**22 44 01.0**	**+0.3**
TIA			pmax	pmax			
	comp=Z,15nm,1.0s						
CN2	**Changchun**	**85.08 325**	*e*P	**P**		**22 44 00.3**	**-0.8**
CN2			*e*S	**S**		**22 53 41.5**	**-0.6**
CN2			pmax	pmax			
	comp=Z,20nm,1.2s						
LL02	**Futaleuf**	**85.38 136**	P	**P**		**22 44 04.2**	**+1.3**
LL02			IAmb	IAmb		22 44 05.2	
	comp=Z,21nm,0.7s						
BNX	**BinXian**	**85.46 327**	⇑P	**P**		**22 44 02.5**	**-0.4**
BNX			pmax	pmax			
	comp=Z,10.0nm,0.8s						
LYN	**LuoYang**	**87.04 311**	*e*P	**P**		**22 44 11.8**	**+1.2**
LYN			pmax	pmax			
	comp=Z,19nm,0.5s						
HNS	**HongShan**	**87.22 314**	⇑P	**P**		**22 44 12.3**	**+0.9**
HNS			pmax	pmax			
	comp=Z,9.0nm,1.3s						
NVAR	**Mina Array Bea**	**87.51 45**	P	**P**		**22 44 14.0**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=224,slow=5.5,SNR=3.8						
	comp=Z,0.9nm,0.8s						
PLCA	**Paso Flores**	**87.52 135**	P	**P**		**22 44 14.7**	**+1.7**
	comp=Z,7.4nm,1.0s,baz=248,slow=5.4,SNR=5.9						
	comp=Z,7.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**89.09 291**	P	**P**		**22 44 22.0**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=124,slow=3.0,SNR=5.7						
CMAR			PP	**PP**		**22 48 02.3**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=128,slow=5.9,SNR=5.5						
	comp=Z,0.6nm,0.3s						
XAN	**Xi'an**	**89.20 309**	P	**P**		**22 44 21.5**	**+0.7**
XAN			pmax	pmax			
	comp=Z,12nm,0.7s						
KMI	**Kunming**	**89.20 299**	⇑P	**P**		**22 44 21.5**	**+0.3**
KMI			pmax	pmax			
	comp=Z,7.0nm,0.9s						
XLT	**XiLinHaoTe**	**90.28 320**	*e*P	**P**		**22 44 25.8**	**+0.2**
XLT			pP	pwP		22 46 36.5	-1.4
XLT			pmax	pmax			
	comp=Z,8.0nm,0.8s						
PZH	**PanZhiHua**	**90.66 299**	P	**P**		**22 44 27.8**	**0.0**
PZH			pmax	pmax			
	comp=Z,10.0nm,0.6s						
PZH			pmax	pmax			
	comp=Z,200nm,7.7s						
HHC	**Hu-ho-hao-te**	**91.21 316**	*e*P	**P**		**22 44 29.8**	**-0.2**
HHC			pmax	pmax			
	comp=Z,6.0nm,0.8s						
HHC			pmax	pmax			
	comp=Z,99nm,4.2s						
CD2	**Chengdu**	**91.29 304**	P	**P**		**22 44 31.5**	**+1.0**
CD2			pmax	pmax			
	comp=Z,10.0nm,0.7s						
GTA	**Gaotai**	**98.21 310**	*e*P	**P**		**22 45 02.8**	**+1.0**
GTA			pmax	pmax			
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**112.80 312**	PKKPbc	PKKPbc		23 00 47.4	+0.1
	comp=Z,0.6nm,0.5s,baz=284,slow=3.4,SNR=6.1						
RES	**Resolute Bay**	**114.35 17**	PKP	PKPdf		22 49 58.1	-1.2
	comp=Z,0.6nm,0.4s,baz=212,slow=5.1,SNR=4.6						
KURBB	**Kurchatov Arra**	**116.06 316**	PKP	**PKPdf**		**22 50 01.8**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=111,slow=1.8,SNR=4.2						
KURBB			SKP			22 52 43.1	
	comp=Z,1.1nm,0.7s,baz=110,slow=1.8,SNR=9.8						
KURBB			PKKPbc	**PKKPbc**		**23 00 36.4**	**0.0**
	comp=Z,0.9nm,0.7s,baz=276,slow=3.8,SNR=8.3						
BDFB	**Brasilia**	**118.47 127**	PKP	**PKiKP**		**22 50 09.0**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=236,slow=7.8,SNR=3.4						
BOSA	**Boshof**	**119.55 207**	PKP	**PKiKP**		**22 50 11.1**	**0.0**
	comp=Z,6.5nm,1.1s,baz=146,slow=6.6,SNR=4.9						
BVAR	**Borovoye Array**	**121.36 318**	PKP	**PKPdf**		**22 50 12.5**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=135,slow=0.2,SNR=6.2						
BVAR			SKP			22 52 54.0	
	comp=Z,1.3nm,0.6s,baz=48,slow=2.2,SNR=5.1						
ARCES	**ARCESS Array B**	**134.02 347**	SKPbc	**SKPbc**		**22 53 11.6**	**-0.1**
	comp=Z,7.6nm,1.0s,baz=23,slow=2.0,SNR=5.6						
FINES	**FINESS Array B**	**140.32 340**	PKhKP	PKPpre		22 50 41.2	
	comp=Z,9.7nm,1.1s,baz=47,slow=3.8,SNR=15						
FINES			PKP	**PKPdf**		**22 50 49.4**	**+0.6**
	comp=Z,3.9nm,1.0s,baz=90,slow=5.7,SNR=1.3						
FINES			SKPbc	**SKPbc**		**22 53 29.7**	**-0.4**
	comp=Z,7.9nm,0.9s,baz=47,slow=3.9,SNR=6.4						
NB2	**NORSAR Subarra**	**144.30 349**	PKP	PKPbc		22 50 55.4	-0.5
	comp=Z,0.9nm,0.4s,baz=17,slow=2.6						
NB2			SKPa			22 53 39.7	
	comp=Z,1.1nm,0.7s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**144.30 349**	PKP	PKPbc		22 50 55.1	-0.7
	comp=Z,5.7nm,1.0s,baz=15,slow=2.3,SNR=7.7						
NOA			SKPbc	**SKPbc**		**22 53 39.2**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=345,slow=1.1,SNR=3.9						
HFS	**Hagfors**	**144.68 347**	PKP	**PKPdf**		**22 50 55.9**	**-0.6**
	comp=Z,4.3nm,0.3s,baz=70,slow=2.5,SNR=48						
AKASG	**Malin Array Be**	**146.24 324**	PKPbc	**PKPbc**		**22 51 01.4**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=49,slow=4.4,SNR=17						
AKASG			SKPbc	**SKiKP**		**22 53 44.5**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=54,slow=2.2,SNR=5.8						
MMAI	**Mount Meron Ar**	**147.36 291**	PKPbc	**PKiKP**		**22 51 06.3**	**-0.7**
	comp=Z,3.7nm,0.6s,baz=74,slow=6.2,SNR=16						
BRTR	**Keskin Array B**	**147.87 303**	PKPbc	**PKPbc**		**22 51 05.9**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=135,slow=3.3,SNR=4.8						
KOLS	**Kolonicke sedl**	**150.87 327**	*e*PKP	**PKiKP**		**22 51 14.2**	**+0.5**
DPC	**Dobruska-Polom**	**152.43 335**	*e*PKPAB	**PKPab**		**22 51 30.4**	**+0.4**
CLL	**Collm**	**152.77 340**	*i* PKPbc	**PKiKP**		**22 51 18.5**	**+1.0**
	comp=Z,11nm,1.5s						
CLL			*i* PKPab	**PKPab**		**22 51 31.1**	**-0.2**
	comp=Z,6.0nm,0.7s						
CLL			*e*pPKPbc	**pPKPbc**		**22 53 32.0**	**+0.1**
CLL			*e*pPKPab	**pPKPab**		**22 53 40.0**	**+0.2**
VYHS	**Vyhne**	**152.80 330**	*e*PKP	**PKPab**		**22 51 31.8**	**+0.2**
ZVC	**Zvikov**	**153.97 336**	*e*PKPAB	**PKPab**		**22 51 36.9**	**+0.4**
KHC	**Kasperske Hory**	**154.44 337**	*e*PKPAB	**PKPab**		**22 51 38.7**	**0.0**
GERES	**GERESS Array B**	**154.64 336**	PKPab	**PKPab**		**22 51 39.3**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=46,slow=5.8,SNR=5.5						
DBIC	**Dimbokro**	**160.13 170**	PKP	**PKPdf**		**22 51 19.3**	**-0.9**
	comp=Z,5.8nm,1.0s,baz=127,slow=5.1,SNR=5.0						
DBIC			PKPab	**PKPab**		**22 52 04.3**	**+0.3**
	comp=Z,8.0nm,0.8s,baz=179,slow=2.4,SNR=6.1						
TORD	**Torodi Ar. Bea**	**166.47 194**		**PKPdf**		**22 51 25.5**	**-0.5**
TORD				**PKPab**		**22 52 32.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**166.47 194**	PKP	**PKPdf**		**22 51 25.0**	**-1.0**
	comp=Z,2.4nm,0.9s,baz=123,slow=1.7,SNR=12						
TORD			PKPab	**PKPab**		**22 52 31.7**	**-0.2**
	comp=Z,11nm,0.7s,baz=161,slow=3.0,SNR=41						
TORD			PP	**PP**		**22 56 21.2**	**+1.5**
	comp=Z,1.6nm,0.9s,baz=180,slow=1.6,SNR=5.4						
ESDC	**Sonseca Array**	**166.61 8**	PKP	**PKPdf**		**22 51 24.8**	**-0.7**
	comp=Z,0.7nm,1.0s,baz=14,slow=1.5,SNR=2.3						

*IDC **30** 22:43:18.9±1.6, 13°.29N×87°.77W, h0km, mb3.5/4, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=89.3km s-min=17.6km az=49.0*
*SNET **30** 22:43:24.7±1.3, 12°.73N×88°.41W, h46km, ML4.1*
*CATAC **30** 22:43:25.1±0.3, 12°.72N×88°.41W, h39km±5km, ML4.1*
ISC 30 22:43:24.6±1.1, 12°.71N±0°.05×88°.43W±0°.03, h53km±11km, n104, σ0.56/174, mb3.3/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.72**	**11**	*e*P		**Pn**	**22 43 39.0**	**+0.1**
VSM	**San Miguel**	**0.73**	**12**	*e*P		**Pn**	**22 43 39.4**	**+0.2**
RANC	**El Ranchito**	**0.73**	**11**	*e*P		**Pn**	**22 43 39.3**	**+0.1**
RANC	**El Ranchito**	**0.73**	**11**	*i* P		**Pn**	**22 43 39.4**	**+0.3**
RANC				IAML			22 43 39.5	
	comp=Z,7μm,1.0s							
RANC				*i* S		**Sn**	**22 43 49.8**	**+0.2**
BLLM	**Bellamira**	**0.75**	**15**	*e*P		**Pn**	**22 43 39.3**	**0.0**
PACA	**Pacayal**	**0.76**	**8**	*e*P		**Pn**	**22 43 39.6**	**+0.2**
PACA				*e*S		**Sn**	**22 43 50.2**	**0.0**
PACA	**Pacayal**	**0.76**	**8**	*i* P		**Pn**	**22 43 39.8**	**+0.3**
PACA				*i* S		**Sn**	**22 43 50.3**	**0.0**
PACA				IAML			22 43 51.7	
	comp=Z,42μm,1.0s							
TECA	**Tecapa**	**0.78**	**355**	*e*P		**Pn**	**22 43 39.6**	**-0.2**
TECA				*e*P		**Pn**	**22 43 39.6**	**-0.2**
TECA				*e*S		**Sn**	**22 43 49.7**	**-1.1**
LCND	**La Caada**	**0.80**	**42**	*e*P		**Pn**	**22 43 39.2**	**-0.6**
LCND				*e*P			22 43 39.5	
LCND	**La Caada**	**0.80**	**42**	*i* P		**Pn**	**22 43 39.6**	**-0.2**
LCND				IAML			22 43 40.9	
	comp=Z,3μm,1.0s							
LCND				*i* S		**Sn**	**22 43 50.9**	**+0.1**
CNRM	**Centro Naciona**	**0.80**	**19**	*i* P		**Pn**	**22 43 40.1**	**+0.2**
CNRM				*i* S		**Sn**	**22 43 52.0**	**+1.0**
CNRM				IAML			22 44 04.9	
	comp=Z,11μm,1.0s							
CNCH	**Conchagua**	**0.81**	**46**	*e*P		**Pn**	**22 43 40.3**	**+0.1**
CNCH				*e*S		**Sn**	**22 43 51.8**	**+0.4**
CNCH	**Conchagua**	**0.81**	**46**	*i* P		**Pn**	**22 43 40.2**	**+0.1**
CNCH				*i* S		**Sn**	**22 43 51.3**	**-0.1**
CNCH				IAML			22 43 58.3	
	comp=Z,8μm,1.0s							
TECO	**Alcaldia de Te**	**0.89**	**338**	*e*P		**Pn**	**22 43 40.4**	**-0.6**
TECO	**Alcaldia de Te**	**0.89**	**338**	*i* P		**Pn**	**22 43 41.1**	**+0.1**
TECO				*i* S		**Sn**	**22 43 52.9**	**-0.1**
TECO				IAML			22 43 57.1	
	comp=Z,2μm,1.0s							
CSGN	**Cosiguina Volc**	**0.89**	**73**	*i* P		**Pn**	**22 43 41.3**	**+0.2**
CSGN				*i* S		**Sn**	**22 43 53.6**	**+0.4**
CSGN				IAML			22 43 57.0	
	comp=Z,1μm,1.0s							
PQSS	**Presa 15 de Se**	**0.92**	**352**	*e*P		**Pn**	**22 43 41.5**	**+0.1**
PQSS	**Presa 15 de Se**	**0.92**	**352**	*i* P		**Pn**	**22 43 41.5**	**+0.1**
PQSS				*i* S		**Sn**	**22 43 54.3**	**+0.7**
PQSS				IAML			22 43 54.6	
	comp=Z,7μm,1.0s							
POTN	**Potosi Cosigui**	**0.95**	**72**	*i* P		**Pn**	**22 43 42.0**	**+0.2**
POTN				*i* S		**Sn**	**22 43 54.7**	**+0.3**
POTN				IAML			22 43 55.2	
	comp=Z,2μm,1.0s							
SNVI	**San Vicente**	**0.98**	**336**	*e*P		**Pn**	**22 43 42.4**	**+0.1**
UESV	**Universidad de**	**0.98**	**340**	*e*P		**Pn**	**22 43 42.3**	**0.0**
UESV	**Universidad de**	**0.98**	**340**	*i* P		**Pn**	**22 43 42.2**	**0.0**
UESV				*i* S		**Sn**	**22 43 55.6**	**+0.3**
UESV				IAML			22 43 57.9	
	comp=Z,3μm,1.0s							
COEG	**Centro de Oper**	**1.00**	**334**	*e*P		**Pn**	**22 43 42.6**	**0.0**
COEG	**Centro de Oper**	**1.00**	**334**	*i* P		**Pn**	**22 43 42.8**	**+0.2**
COEG				*i* S		**Sn**	**22 43 56.2**	**+0.4**
COEG				IAML			22 43 58.3	
	comp=Z,5μm,1.0s							
SCLA	**Alcaldia de Sa**	**1.03**	**344**	*e*P		**Pn**	**22 43 43.3**	**+0.4**
SCLA				*e*S		**Sn**	**22 43 56.2**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.03**	**344**	*i* P		**Pn**	**22 43 43.6**	**+0.7**
SCLA				IAML			22 43 43.9	
	comp=Z,2μm,1.0s							
SCLA				*i* S		**Sn**	**22 43 57.5**	**+1.2**
CAHU	**Cacacuatique**	**1.08**	**12**	*e*P		**Pn**	**22 43 43.8**	**+0.1**
LFRS	**El Faro**	**1.09**	**326**	*e*P		**Pn**	**22 43 43.9**	**0.0**
PAVA	**Las Pavas**	**1.11**	**334**	*e*P		**Pn**	**22 43 44.3**	**+0.2**
PAVA				*e*S		**Sn**	**22 43 58.4**	**0.0**
PAVA	**Las Pavas**	**1.11**	**334**	*i* P		**Pn**	**22 43 44.7**	**+0.6**
PAVA				*i* S		**Sn**	**22 43 59.5**	**+1.0**
PAVA				IAML			22 44 00.2	
	comp=Z,13μm,1.0s							
PANCS	**Alcalda de**	**1.15**	**321**	*i* P		**Pn**	**22 43 44.9**	**+0.3**
PANCS				*i* S		**Sn**	**22 43 59.2**	**-0.2**
PANCS				IAML			22 44 00.8	
	comp=Z,4μm,1.0s							
LALI	**Alcalda de L**	**1.16**	**312**	*e*P		**Pn**	**22 43 44.7**	**+0.1**
LALI				*e*S		**Sn**	**22 43 59.3**	**-0.1**
LALI	**Alcalda de L**	**1.16**	**312**	*i* P		**Pn**	**22 43 44.7**	**+0.1**
LALI				*i* S		**Sn**	**22 43 59.7**	**+0.3**
LALI				IAML			22 44 05.5	
	comp=Z,520nm,1.0s							
LOMA	**Loma Larga**	**1.18**	**322**	*e*P		**Pn**	**22 43 45.1**	**+0.2**
LOMA	**Loma Larga**	**1.18**	**322**	*i* P		**Pn**	**22 43 45.2**	**+0.2**
LOMA				*i* S		**Sn**	**22 44 00.3**	**+0.3**
LOMA				IAML			22 44 02.4	
	comp=Z,4μm,1.0s							
AEIL	**Aeropuerto Ilo**	**1.19**	**326**	*e*P		**Pn**	**22 43 45.5**	**+0.5**
UDBS	**Universidad Do**	**1.22**	**325**	*e*P		**Pn**	**22 43 46.4**	**+0.8**
UDBS	**Universidad Do**	**1.22**	**325**	*i* P		**Pn**	**22 43 46.3**	**+0.8**
UDBS				*i* S		**Sn**	**22 44 01.1**	**+0.1**
UDBS				IAML			22 44 06.3	
	comp=Z,2μm,1.0s							
IGN	**Direccin Gen**	**1.23**	**324**	*e*P		**Pn**	**22 43 46.0**	**+0.4**
IGN	**Direccin Gen**	**1.23**	**324**	*i* P		**Pn**	**22 43 45.7**	**+0.1**
IGN				*i* S		**Sn**	**22 44 02.0**	**+0.8**
IGN				IAML			22 44 06.1	
	comp=Z,11μm,1.0s							
UTEC	**Universidad Te**	**1.24**	**323**	*i* P		**Pn**	**22 43 46.2**	**+0.5**
UTEC				*i* S		**Sn**	**22 44 01.4**	**0.0**
UTEC				IAML			22 44 10.6	
	comp=Z,3μm,1.0s							
SNET	**Serv Nac Est T**	**1.24**	**321**	*e*P		**Pn**	**22 43 46.5**	**+0.7**
SNET	**Serv Nac Est T**	**1.24**	**321**	*i* P		**Pn**	**22 43 46.2**	**+0.4**
SNET				*i* S		**Sn**	**22 44 01.6**	**0.0**
SNET				IAML			22 44 05.1	
	comp=Z,3μm,1.0s							
SEMO	**Seminario San**	**1.25**	**322**	*i* P		**Pn**	**22 43 46.8**	**+0.9**
SEMO				IAML			22 43 47.3	
	comp=Z,5μm,1.0s							
SEMO				*i* S		**Sn**	**22 44 01.9**	**+0.1**
UESS	**Universidad de**	**1.25**	**323**	*e*P		**Pn**	**22 43 46.3**	**+0.4**
ITCA	**Escuela Especi**	**1.26**	**319**	*i* P		**Pn**	**22 43 46.2**	**+0.1**
ITCA				*i* S		**Sn**	**22 44 02.4**	**+0.3**
ITCA				IAML			22 44 09.7	
	comp=Z,5μm,1.0s							
UEES	**Universidad Ev**	**1.27**	**322**	*e*P		**Pn**	**22 43 46.8**	**+0.6**
UEES	**Universidad Ev**	**1.27**	**322**	*i* P		**Pn**	**22 43 46.9**	**+0.7**
UEES				*i* S		**Sn**	**22 44 02.6**	**+0.3**
UEES				IAML			22 44 05.0	
	comp=Z,2μm,1.0s							
EVIJ	**El Viejo**	**1.28**	**92**	*i* P		**Pn**	**22 43 47.0**	**+0.8**
EVIJ				*i* S		**Sn**	**22 44 02.2**	**-0.2**
EVIJ				IAML			22 44 07.7	
	comp=Z,7μm,1.0s							
PIC2	**El Picacho**	**1.30**	**322**	*e*P		**Pn**	**22 43 47.4**	**+0.6**
BOQS	**Boqueron**	**1.31**	**321**	*e*P		**Pn**	**22 43 47.4**	**+0.5**
BOQS				*e*S		**Sn**	**22 44 04.0**	**+0.6**
PMON	**Piamonte**	**1.31**	**319**	*e*P		**Pn**	**22 43 47.3**	**+0.5**
PMON	**Piamonte**	**1.31**	**319**	*i* P		**Pn**	**22 43 47.3**	**+0.5**
PMON				*i* S		**Sn**	**22 44 04.2**	**+0.8**
PMON				IAML			22 44 08.9	
	comp=Z,5μm,1.0s							
CRIN	**San Cristobal**	**1.35**	**90**	*i* P		**Pn**	**22 43 47.6**	**+0.4**
CRIN				*i* S		**Sn**	**22 44 05.0**	**+0.9**
CRIN				IAML			22 44 12.3	
	comp=Z,8μm,1.0s							
JAYA	**Jayaque - finc**	**1.36**	**314**	*e*P		**Pn**	**22 43 47.8**	**+0.3**
JAYA				*e*S		**Sn**	**22 44 03.9**	**-0.8**
JAYA	**Jayaque - finc**	**1.36**	**314**	*i* P		**Pn**	**22 43 47.7**	**+0.2**
JAYA				*i* S		**Sn**	**22 44 04.4**	**-0.2**
JAYA				IAML			22 44 06.4	
	comp=Z,5μm,1.0s							
PKGN	**Cerro Pekin**	**1.42**	**91**	*i* P		**Pn**	**22 43 48.7**	**+0.6**
PKGN				*i* S		**Sn**	**22 44 06.3**	**+0.5**
PKGN				IAML			22 44 12.6	
	comp=Z,12μm,1.0s							
CEDA	**San Andres**	**1.43**	**319**	*i* P		**Pn**	**22 43 48.5**	**+0.1**
CEDA				*i* S		**Sn**	**22 44 07.2**	**+1.0**
CEDA				IAML			22 44 21.4	
	comp=Z,4μm,1.0s							
LLGN	**La Laguna**	**1.53**	**341**	*e*P		**Pn**	**22 43 49.7**	**0.0**
LLGN	**La Laguna**	**1.53**	**341**	*i* P		**Pn**	**22 43 49.6**	**-0.1**
LLGN				*i* S		**Sn**	**22 44 08.8**	**+0.3**
LLGN				IAML			22 44 12.8	
	comp=Z,540nm,1.0s							
HERN	**Volcan Telica**	**1.57**	**93**	*i* P		**Pn**	**22 43 49.7**	**-0.5**
HERN				*i* S		**Sn**	**22 44 09.2**	**-0.2**
HERN				IAML			22 44 12.5	
	comp=Z,3μm,1.0s							
CEVE	**Cerro Verde**	**1.61**	**314**	*e*		**Pn**	**22 43 51.6**	**+0.7**
CEVE				*e*P		**Pn**	**22 43 51.6**	**+0.7**
CEVE	**Cerro Verde**	**1.61**	**314**	*i* P		**Pn**	**22 43 51.4**	**+0.5**
CEVE				*i* S		**Sn**	**22 44 11.1**	**+0.5**
CEVE				IAML			22 44 24.5	
	comp=Z,2μm,1.0s							
SBLS	**San Blas**	**1.61**	**314**	*e*P		**Pn**	**22 43 51.8**	**+0.8**
PACN	**Al O del Volca**	**1.62**	**97**	*i* P		**Pn**	**22 43 50.1**	**-0.7**
PACN				*i* S		**Sn**	**22 44 10.6**	**+0.1**
PACN				IAML			22 44 15.1	
	comp=Z,3μm,1.0s							
SNJE	**San Jose**	**1.62**	**315**	*e*P		**Pn**	**22 43 51.5**	**+0.5**
PLRN	**Geotermica Pol**	**1.63**	**94**	*i* P		**Pn**	**22 43 51.8**	**+0.8**
PLRN				*i* S		**Sn**	**22 44 10.9**	**0.0**
UNIC	**Universidad Ca**	**1.67**	**319**	*i* P		**Pn**	**22 43 52.1**	**+0.5**
UNIC				*i* S		**Sn**	**22 44 12.6**	**+0.7**
UNIC				IAML			22 44 16.1	
	comp=Z,350nm,1.0s							
RTR	**El Retiro**	**1.67**	**315**	*e*P		**Pn**	**22 43 52.9**	**+1.2**
CNGA	**Al SSO del Vol**	**1.70**	**97**	*i* P		**Pn**	**22 43 52.2**	**+0.2**
CNGA				*i* S		**Sn**	**22 44 13.2**	**+0.5**
CNGA				IAML			22 44 24.9	
	comp=Z,2μm,1.0s							
MACN	**El Madrono**	**1.73**	**98**	*i* P		**Pn**	**22 43 53.1**	**+0.7**
MACN				*i* S		**Sn**	**22 44 14.6**	**+1.1**
MACN				IAML			22 44 25.4	
	comp=Z,730nm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.75**	**40**	*i* P		**Pn**	**22 43 53.4**	**+0.6**
TGUH				*i* S		**Sn**	**22 44 15.0**	**+1.0**
TGUH				IAML			22 44 21.8	
	comp=Z,610nm,1.0s							
NUBE	**Las Nubes**	**1.77**	**312**	*e*P		**Pn**	**22 43 53.6**	**+0.6**
NUBE				*e*S		**Sn**	**22 44 14.1**	**-0.3**
NUBE	**Las Nubes**	**1.77**	**312**	*i* P		**Pn**	**22 43 53.7**	**+0.7**
NUBE				*i* S		**Sn**	**22 44 14.6**	**+0.1**
NUBE				IAML			22 44 15.7	
	comp=Z,1μm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.80**	**100**	*i* P		**Pn**	**22 43 53.4**	**+0.1**
LEVN				*i* S		**Sn**	**22 44 14.5**	**-0.5**
LEVN				IAML			22 44 24.2	
	comp=Z,2μm,1.0s							
LOAL	**Lomas de Alarc**	**1.83**	**314**	*i* P		**Pn**	**22 43 54.0**	**+0.2**
LOAL				*i* S		**Sn**	**22 44 17.1**	**+1.2**
LOAL				IAML			22 44 49.7	
	comp=Z,2μm,1.0s							
MOMN	**Momotombo**	**1.87**	**99**	*i* P		**Pn**	**22 43 54.9**	**+0.6**
MOMN				*i* S		**Sn**	**22 44 17.4**	**+0.5**
MOMN				IAML			22 44 22.9	
	comp=Z,49nm,1.0s							
MTO3	**Montecristo**	**1.91**	**332**	*e*P		**Pn**	**22 43 55.3**	**+0.3**
MTO3	**Montecristo**	**1.91**	**332**	*i* P		**Pn**	**22 43 55.5**	**+0.5**
MTO3				*i* S		**Sn**	**22 44 18.7**	**+0.8**
MTO3				IAML			22 44 33.7	
	comp=Z,270nm,1.0s							
MOM2	**El Cardon**	**1.92**	**98**	*i* P		**Pn**	**22 43 55.8**	**+0.8**
MOM2				*i* S		**Sn**	**22 44 18.8**	**+0.8**
MOM2				IAML			22 44 22.6	
	comp=Z,610nm,1.0s							
YUSH	**Yuscaran**	**1.98**	**51**	*i* P		**Pn**	**22 43 56.0**	**+0.1**
YUSH				*i* S		**Sn**	**22 44 20.1**	**+0.5**
BRAN	**Las Pilas**	**2.03**	**89**	*i* P		**Pn**	**22 43 58.3**	**+1.8**
BRAN				*i* S		**Sn**	**22 44 22.8**	**+2.1**
BRAN				IAML			22 44 43.8	
	comp=Z,1μm,1.0s							
ESQI	**Esquipulas**	**2.04**	**334**	*e*P		**Pn**	**22 43 57.6**	**+0.9**
LIMN	**Finca el Limon**	**2.05**	**80**	*i* P		**Pn**	**22 43 57.1**	**+0.3**
LIMN				IAML			22 44 27.5	
	comp=Z,480nm,1.0s							
APQ2	**Apoyeque**	**2.12**	**104**	*i* P		**Pn**	**22 43 58.3**	**+0.6**
APQ2				*i* S		**Sn**	**22 44 23.5**	**+0.6**
APQ2				IAML			22 44 34.8	
	comp=Z,1μm,1.0s							
ABCN	**Banco Central**	**2.15**	**105**	*i* P		**Pn**	**22 43 57.9**	**-0.3**
ABCN				*i* S		**Sn**	**22 44 23.7**	**0.0**
ABCN				IAML			22 45 18.9	
	comp=Z,7μm,1.0s							
**

baz=107
SUA S Sn 23 03 08.8 +0.4
baz=107
M22K Willow 0.40 354 Pn 23 03 01.5 -0.3
M22K Sn 23 03 08.9 0.0
M22K Willow 0.40 354 P Pn 23 03 01.4 -0.5
baz=174
M22K S Sn 23 03 09.0 +0.1
baz=174
PMR Palmer 0.49 61 Pn 23 03 02.8 -0.1
PMR Sn 23 03 10.8 0.0
PMR IAML 23 03 11.5
comp=N,5μm,0.5s
PMR IAML 23 03 11.9
comp=E,3μm,0.4s
PMR Palmer 0.49 61 P Pn 23 03 02.8 -0.1
baz=242
PMR S Sn 23 03 11.1 +0.4
baz=242
GHO Glory Hole Cre 0.68 51 Pn 23 03 05.4 0.0
GHO Sn 23 03 15.7 +0.7
GHO IAML 23 03 18.1
comp=N,4μm,0.2s
KNK Knik Glacier 0.76 85 Pn 23 03 06.9 +0.4
KNK Sn 23 03 17.8 +0.9
KNK IAML 23 03 20.5
comp=E,3μm,0.4s
KNK IAML 23 03 20.6
comp=N,3μm,0.5s
KNK Knik Glacier 0.76 85 P Pn 23 03 07.1 +0.6
baz=266
CAPN Captain Cook N 0.80 223 Pn 23 03 08.7 +1.8
CAPN Sn Sn 23 03 20.9 +3.1
CAPN Captain Cook N 0.80 223 P Pn 23 03 08.9 +2.0
baz=42
SLKM Skilak Lake 0.85 186 Pn 23 03 07.7 0.0
SLKM Sn Sn 23 03 20.5 +1.3
SLKM IAML 23 03 22.4
comp=N,3μm,0.4s
STLK Strandline Lak 0.88 280 Pn 23 03 08.5 +0.4
STLK Sn Sn 23 03 20.5 +0.7
O22K Cooper Landing 0.89 170 Pn 23 03 08.5 +0.4
O22K Sn Sn 23 03 21.6 +1.7
O22K Cooper Landing 0.89 170 P Pn 23 03 08.6 +0.4
baz=350
SML Sawmill 0.93 60 Pn 23 03 09.0 +0.2
SML Sn 23 03 21.9 +0.9
SML IAML 23 03 24.4
comp=N,2μm,0.6s
SML IAML 23 03 24.9
comp=E,2μm,0.5s
SML Sawmill 0.93 60 P Pn 23 03 08.9 +0.2
baz=242
SKT Skwentna 0.95 312 Pn 23 03 09.0 0.0
SKT Sn 23 03 22.0 +0.6
SKT IAML 23 03 22.6
comp=E,3μm,0.5s
SKT Skwentna 0.95 312 P Pn 23 03 08.9 -0.1
baz=131
SKT S Sn 23 03 22.1 +0.6
baz=131
SPCG Spurr Capps Gl 0.96 267 Pn 23 03 09.7 +0.5
PWL Port Wells 0.96 120 Pn 23 03 09.7 +0.6
PWL Sn Sn 23 03 23.4 +1.7
PWL Port Wells 0.96 120 P Pn 23 03 09.9 +0.8
baz=302
CUT Chulitna 1.06 354 Pn 23 03 10.7 +0.3
CUT Chulitna 1.06 354 P Pn 23 03 10.7 +0.3
baz=174
M23K Glacier View 1.19 67 P Pn 23 03 12.9 +0.7
baz=249
SEW Seward 1.29 167 P Pn 23 03 14.5 +1.0
baz=347
SCM Sheep Creek Mo 1.38 68 Pn 23 03 15.8 +0.9
SCM Sheep Creek Mo 1.38 68 P Pn 23 03 15.8 +0.9
baz=251
GLI Glacier Island 1.50 107 Pn 23 03 17.0 +0.6
GLI IAML 23 03 39.8
comp=N,1μm,0.4s
GLI Glacier Island 1.50 107 P Pn 23 03 17.1 +0.6
baz=290
RDJH Redoubt Jeurge 1.55 242 Pn 23 03 18.0 +0.7
M20K Styx River 1.57 291 Pn 23 03 18.9 +1.4
M20K IAML 23 03 41.2
comp=N,724nm,1.0s
M20K IAML 23 03 41.7
comp=E,723nm,0.6s
WAT7 Susitna Watana 1.58 20 Pn 23 03 18.6 +1.0
WAT1 Susitna Watana 1.64 25 Pn 23 03 19.4 +1.0
WAT1 Susitna Watana 1.64 25 P Pn 23 03 19.4 +1.0
baz=206
WAT6 Susitna Watana 1.64 40 P Pn 23 03 19.4 +0.9
baz=222
BRLK Bradley Lake 1.65 195 Pn 23 03 19.3 +0.8
BRLK IAML 23 03 43.8
comp=E,1μm,0.5s
BRLK IAML 23 03 44.8
comp=N,782nm,0.3s
BRSE Bradley Lake S 1.66 193 P Pn 23 03 19.1 +0.5
baz=12
O20K Slope Mountain 1.81 226 Pn 23 03 22.1 +1.5
O20K Slope Mountain 1.81 226 P Pn 23 03 22.1 +1.5
baz=44
FID Port Fidalgo 1.83 108 Pn 23 03 20.8 -0.1
FID IAML 23 03 49.8
comp=E,946nm,0.3s
FID IAML 23 03 52.8
comp=N,1μm,0.6s
PPLA Purkeypile 1.85 328 Pn 23 03 22.5 +1.1
PPLA Purkeypile 1.85 328 P Pn 23 03 22.5 +1.1
baz=146
P23K Montague Islan 1.88 135 Pn 23 03 21.5 -0.1
P23K Montague Islan 1.88 135 P Pn 23 03 21.5 -0.1
baz=318
HOM Homer 1.88 206 Pn 23 03 22.7 +1.1
HOM Homer 1.88 206 P Pn 23 03 22.7 +1.1
baz=24
CNPM China Poot 1.93 199 Pn Pn 23 03 23.1 +0.8
CNPM IAML 23 03 51.8
comp=N,895nm,0.4s
CNPM IAML 23 03 54.5
comp=E,850nm,0.5s
HIN Hinchinbrook I 1.98 118 Pn 23 03 23.0 0.0
KLU Klutina 1.98 84 Pn 23 03 23.7 +0.6
KLU IAML 23 03 56.0
comp=E,494nm,0.8s
KLU IAML 23 03 58.7
comp=N,723nm,0.4s
KLU Klutina 1.98 84 P Pn 23 03 23.7 +0.6
baz=268
M24K Tolsona, Glenn 1.98 66 Pn Pn 23 03 24.9 +1.8
M24K IAML 23 03 59.0
comp=N,780nm,0.9s
M24K Tolsona, Glenn 1.98 66 P Pn 23 03 24.9 +1.8
baz=249
ILSW Iliamna Southw 2.06 229 Pn 23 03 25.2 +1.0
DIV Divide 2.07 94 Pn 23 03 25.0 +0.7
TRF Thorofare Moun 2.11 357 IAML 23 04 04.0
comp=N,467nm,0.6s
TRF IAML 23 04 06.5
comp=E,372nm,0.8s
TRF Thorofare Moun 2.11 357 P Pn 23 03 25.8 +0.9
baz=177
DHY Denali Highway 2.13 35 Pn Pn 23 03 26.8 +1.6
DHY IAML 23 03 58.1
comp=N,531nm,0.7s
DHY IAML 23 03 59.8
comp=E,592nm,0.4s
DHY Denali Highway 2.13 35 P Pn 23 03 26.7 +1.6
baz=217
RND Reindeer 2.13 14 Pn 23 03 26.2 +1.1
RND IAML 23 03 56.3
comp=E,400nm,0.4s
RND IAML 23 03 56.5
comp=N,342nm,0.5s
M19K Big River Lodg 2.15 287 Pn 23 03 26.3 +1.0
M19K IAML 23 04 07.6
comp=E,295nm,0.8s
M19K Big River Lodg 2.15 287 P Pn 23 03 26.4 +1.0
baz=103
EYAK Cordova Ski Ar 2.24 109 P Pn 23 03 26.7 +0.2
baz=293
KTH Kantishna Hill 2.25 350 Pn 23 03 27.9 +1.2
KTH IAML 23 03 58.3
comp=N,281nm,0.5s
KTH IAML 23 04 19.5
comp=E,351nm,0.7s
CAST Castle Rocks 2.28 336 Pn 23 03 28.3 +1.2
CAST IAML 23 04 10.9
comp=E,296nm,0.8s
CAST Castle Rocks 2.28 336 P Pn 23 03 28.4 +1.3
baz=154
P19K Oil Pt 2.33 224 Pn 23 03 29.1 +1.3
P19K Oil Pt 2.33 224 P Pn 23 03 29.5 +1.7
baz=41
L19K White Mountain 2.44 292 Pn Pn 23 03 30.4 +1.1
HARP HAARP 2.54 63 Pn 23 03 32.5 +1.9
HARP HAARP 2.54 63 P Pn 23 03 32.5 +1.9
baz=248
N25K Chitina, Valde 2.62 82 Pn Pn 23 03 32.6 +0.8
N25K IAML 23 04 15.3
comp=E,252nm,0.6s
N25K IAML 23 04 16.7
comp=N,302nm,0.8s
BMRM Bremner River 2.66 96 P Pn 23 03 32.6 +0.2
baz=281
SVW2 Sparrevohn 2.70 267 Pn Pn 23 03 33.6 +0.7
K20K Telida 2.75 319 Pn 23 03 34.7 +1.1
BPAW Bear Paw Mtn. 2.79 351 Pn Pn 23 03 34.4 +0.3
BPAW Bear Paw Mtn. 2.79 351 P Pn 23 03 34.6 +0.5
baz=170
BWN Browne 2.84 5 Pn 23 03 38.2 +3.4
N18K Kilae Creek 2.93 259 Pn Pn 23 03 36.8 +0.7
N18K IAML 23 04 11.5
comp=N,189nm,0.6s
O18K Koktuh Hills 2.96 242 Pn Pn 23 03 36.9 +0.4
O18K IAML 23 04 38.6
comp=E,171nm,1.1s
O18K IAML 23 04 39.1
comp=N,152nm,1.1s
O18K Koktuh Hills 2.96 242 P Pn 23 03 37.1 +0.6
baz=57
GLB Gilahina Butte 2.99 86 Pn Pn 23 03 38.0 +1.0
GLB IAML 23 04 24.4
comp=N,247nm,0.4s
GLB IAML 23 04 25.0
comp=E,143nm,0.6s
SYI Shuyak Island 3.00 204 Pn Pn 23 03 37.9 +0.9
SYI IAML 23 04 21.9
comp=N,175nm,0.6s
SYI IAML 23 04 21.9
comp=E,218nm,0.7s
Q20K Shuyak Island 3.00 204 P Pn 23 03 38.0 +1.0
baz=22
Q19K Cape Douglas, 3.03 218 P Pn 23 03 38.6 +1.2
baz=35
VRDI Verde Repeater 3.18 89 Pn Pn 23 03 39.9 +0.3
VRDI IAML 23 04 34.4
comp=N,179nm,0.8s
P18K Big Mountain, 3.25 235 Pn 23 03 40.8 +0.4
WRH Wood River Hil 3.25 15 IAML 23 04 35.5
comp=E,142nm,1.2s
WRH IAML 23 04 40.7
comp=N,136nm,0.7s
NEA2 Nenana 3.28 7 IAML 23 04 37.6
comp=N,234nm,0.8s
NEA2 IAML 23 04 37.8
comp=E,169nm,0.8s
NEA2 Nenana 3.28 7 P Pn 23 03 43.2 +2.4
baz=188
MCARA McCarthy VSAT 3.37 86 Pn 23 03 45.4 +3.3
MCARA McCarthy VSAT 3.37 86 P Pn 23 03 46.7 +4.6
baz=273
HDA Harding Lake 3.38 23 Pn 23 03 44.1 +2.0
HDA IAML 23 04 39.4
comp=E,241nm,1.3s
HDA IAML 23 04 42.9
comp=N,231nm,0.8s
RIDG Independent Ri 3.39 43 Pn Pn 23 03 45.9 +3.5
RIDG IAML 23 04 39.9
comp=N,264nm,0.8s
J20K Nowinta River 3.41 328 IAML 23 04 24.1
comp=E,142nm,0.5s
J20K IAML 23 04 49.9
comp=N,157nm,0.8s
J20K Nowinta River 3.41 328 P Pn 23 03 43.1 +0.6
baz=144
CCB Clear Creek Bu 3.46 16 IAML 23 04 43.6
comp=E,113nm,0.6s
M26K Nabesna, AK 3.49 69 IAML 23 04 44.7
comp=N,180nm,0.7s
M26K IAML 23 04 49.5
comp=E,136nm,0.6s
TGL Tana Glacier 3.55 97 IAML 23 04 41.9
comp=N,216nm,0.8s
TGL IAML 23 04 47.4
comp=E,197nm,0.5s
M17K Holitna River 3.56 274 IAML 23 04 57.1
comp=N,230nm,0.9s
N17K Nushagak Hills 3.59 260 IAML 23 04 27.4
comp=N,96nm,0.7s
N17K IAML 23 04 28.1
comp=E,141nm,0.8s
COLA College 3.67 15 Pn 23 03 48.3 +2.2
Q18K Katmai Hardscr 3.69 225 P Pn 23 03 48.5 +2.0
baz=40
J19K Poorman 3.69 318 Pn 23 03 47.4 +0.9
ILAR Eielson Array 3.72 21 P Pn 23 03 48.3 +1.5
comp=E,5.4nm,0.3s,baz=207,slow=14,SNR=18
ILAR S Sn 23 04 29.2 0.0
comp=E,14nm,0.6s,baz=206,slow=25,SNR=6.4
comp=E,7.1nm,0.5s
KDAK Kodiak Island 3.81 201 Pn Pn 23 03 47.5 -0.6
KDAK IAML 23 04 49.1
comp=E,98nm,1.0s
KDAK IAML 23 04 52.1
comp=E,98nm,1.0s
KDAK Kodiak Island 3.81 201 P Pn 23 03 47.3 -0.8
comp=E,3.4nm,0.3s,baz=266,slow=13,SNR=26
KDAK S Sn 23 04 29.0 -2.6
comp=E,25nm,0.4s,baz=284,slow=17,SNR=5.5
KDAK Lg Lg 23 04 44.8
comp=E,7.4nm,0.3s,baz=90,slow=20,SNR=5.8
comp=E,7.0nm,0.3s
I23K Minto, Yukon-K 3.82 4 IAML 23 04 54.0
comp=E,86nm,0.9s
I23K IAML 23 04 59.9
comp=N,122nm,0.8s
I23K Minto, Yukon-K 3.82 4 P Pn 23 03 50.4 +2.2
baz=185
O17K Koliganek Bris 3.83 249 P Pn 23 03 49.4 +1.0
baz=62
SCRK Sand Creek 3.83 44 Pn Pn 23 03 50.0 +1.6
SCRK IAML 23 04 53.3
comp=E,163nm,0.7s
SCRK IAML 23 04 55.8
comp=N,106nm,1.2s
P17K Kvichak River 3.86 239 P Pn 23 03 49.8 +1.1
baz=53
J25K Salcha River, 3.90 31 IAML 23 04 43.8
comp=N,148nm,0.6s
I21K Tanana 3.94 348 IAML 23 05 03.7
comp=N,65nm,1.2s
I21K Tanana 3.94 348 P Pn 23 03 51.4 +1.6
baz=166
POKR Poker Plat Res 3.96 16 IAML 23 04 58.7
comp=N,76nm,0.6s
POKR IAML 23 04 59.9
comp=E,115nm,0.7s
POKR Poker Plat Res 3.96 16 P Pn 23 03 52.0 +1.9
baz=198
M27K Edge Creek, AK 3.99 72 IAML 23 05 08.2
comp=N,78nm,0.8s
GRNC Granite Creek 4.07 95 IAML 23 05 02.5
comp=N,82nm,0.5s
K17K Iditarod 4.13 293 IAML 23 05 10.9
comp=N,74nm,1.4s
K17K IAML 23 05 16.2
comp=E,120nm,1.1s
MESA MESA 4.14 103 IAML 23 05 00.8
comp=E,128nm,0.4s
MESA IAML 23 05 08.4
comp=N,140nm,0.9s
L27K Beaver Creek, 4.21 62 IAML 23 05 05.8
comp=N,61nm,0.9s
BCAR Beaver Creek A 4.22 62 Pn Pn 23 03 54.8 +1.0
CTG Chitna Glacier 4.23 91 P Pn 23 03 55.5 +1.5
baz=279
CTGM Chitina Glacie 4.23 91 IAML 23 05 07.8
comp=N,61nm,0.6s
M16K Timber Creek 4.33 270 IAML 23 05 15.3
comp=N,62nm,1.5s
O16K Kokwok River B 4.36 250 IAML 23 05 26.3
comp=N,61nm,1.3s
LOGN Logan Glacier 4.42 93 IAML 23 05 06.9
comp=E,50nm,0.7s
LOGN IAML 23 05 08.9
comp=N,50nm,0.7s
OHAK Old Harbor 4.47 203 Pn Pn 23 03 56.0 -1.1
OHAK IAML 23 05 07.4
comp=N,46nm,1.0s
OHAK IAML 23 05 09.3
comp=E,58nm,1.4s
H21K Melozitna Rive 4.49 345 IAML 23 05 18.8
comp=E,46nm,0.8s
L16K Owhat River 4.54 279 P Pn 23 03 58.7 +0.7
baz=90
H24K Noodor Dome 4.60 11 IAML 23 05 34.2
comp=E,48nm,1.0s
H24K IAML 23 05 36.3
comp=N,43nm,1.1s
P16K Nushagak River 4.61 243 P Pn 23 04 00.5 +1.6
baz=56
PRP Porcupine Dome 4.64 24 IAML 23 05 02.9
comp=E,72nm,0.5s
PRP IAML 23 05 03.2
comp=N,94nm,0.7s
PRP Porcupine Dome 4.64 24 P Pn 23 04 02.5 +2.9
baz=208
J17K VABM Dome 4.68 300 Pn Pn 23 04 00.6 +0.6
J17K VABM Dome 4.68 300 P Pn 23 04 01.0 +1.0
baz=112
IMAR Indian Mountai 4.93 342 Pn Pn 23 04 03.9 +0.4
YUK8 Steele Glacier 4.95 86 P Pn 23 04 04.6 +0.7
baz=275
N15K Kwethluk River 5.08 261 IAML 23 05 35.4
comp=E,59nm,0.8s
N15K IAML 23 05 46.6
comp=N,48nm,1.3s
H19K Roundabout Mou 5.08 328 IAML 23 05 39.8
comp=N,32nm,1.1s
H19K IAML 23 05 47.6
comp=E,37nm,1.3s
J16K Anvik River 5.29 296 IAML 23 05 41.1
comp=N,30nm,1.2s
J16K Anvik River 5.29 296 P Pn 23 04 09.2 +0.8
baz=107
I17K Unalakleet 5.54 302 P Pn 23 04 13.3 +1.6
baz=112
DAWY Dawson 5.60 56 Pn Pn 23 04 14.8 +2.2
M14K Bethel 5.83 269 P Pn 23 04 17.2 +1.6
baz=79
BMAR Burnt Mountain 6.54 19 Pn Pn 23 04 27.1 +1.6
F25K Christian Rive 6.54 15 P Pn 23 04 27.6 +2.0
baz=199
INK Inuvik 9.87 38 P Pn 23 05 13.7 +2.8
comp=N,3.0nm,1.0s,baz=227,slow=14,SNR=5.5
INK S Sn 23 07 04.2 +4.1
comp=N,2.2nm,0.5s,baz=176,slow=22,SNR=4.7
YKA Yellowknife Ar 16.59 71 P Pn 23 06 41.9 +1.0
comp=N,0.2nm,0.3s,baz=284,slow=10,SNR=8.8
comp=N,0.2nm,0.5s
ULM Lac du Bonnet 31.46 86 P P 23 09 09.0 +0.3
comp=N,1.8nm,0.7s,baz=305,slow=10,SNR=3.2
comp=N,1.8nm,0.7s
ASAJ Asahikawa 42.15 278 LR LR 23 28 34.3
comp=N,62nm,21.9s,baz=130,slow=37
TXAR Lajitas Array 44.16 115 P P 23 10 55.3 -0.6
comp=N,0.4nm,0.7s,baz=266,slow=13,SNR=2.5
comp=N,0.4nm,0.7s
ARCES ARCESS Array B 49.36 2 P P 23 11 34.7 -1.3
comp=N,5.9nm,1.1s,baz=28,slow=12,SNR=1.7
comp=N,5.9nm,1.1s
FINES FINESS Array B 57.49 2 P P 23 12 34.6 -0.9
comp=N,4.9nm,0.9s,baz=326,slow=6.7,SNR=5.5
comp=N,4.9nm,0.9s
EKA Eskdalemuir Ar 60.76 21 P P 23 12 57.9 -0.4
comp=N,2.9nm,0.9s,baz=330,slow=5.6,SNR=4.5
comp=N,2.9nm,0.9s
BVAR Borovoye Array 61.53 334 P P 23 13 02.6 -0.9
comp=N,0.9nm,0.6s,baz=56,slow=8.6,SNR=6.3
comp=N,0.9nm,0.6s
KURBB Kurchatov Arra 61.81 327 P P 23 13 03.9 -1.6
comp=N,0.4nm,0.3s,baz=30,slow=6.6,SNR=2.7
comp=N,0.4nm,0.3s
MKAR Makanchi Array 64.26 323 P P 23 13 19.8 -2.0
comp=N,0.3nm,0.5s,baz=29,slow=6.2,SNR=6.3
comp=N,0.3nm,0.5s
GERES GERESS Array B 69.38 11 P P 23 13 54.8 +0.4
comp=N,0.4nm,0.5s,baz=29,slow=2.2,SNR=2.5
comp=N,0.4nm,0.5s
ESDC Sonseca Array 75.60 26 P P 23 14 31.0 -0.6
comp=N,0.8nm,0.8s,baz=317,slow=6.9,SNR=4.4
comp=N,0.8nm,0.8s
QSPA South Pole Qui 151.16 180 PKPbc PKPbc 23 22 37.6 -0.7
comp=N,0.8nm,0.5s,baz=50,slow=6.1,SNR=2.4

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*IDC **30** 23:05:20.0±0.5, 27°.44S×72°.98E, h0km, mb4.3/18, mbtmp4.3/18, MS3.9/10, Error ellipse: s-maj=18.6km s-min=14.0km az=70.0*
*NEIC **30** 23:05:21.8±1.3, 27°.47S±0°.09×73°.00E±0°.10, h10km±1km, mb4.7/61, Error ellipse: s-maj=17.5km s-min=12.9km az=217.0*
ISC 30 23:05:21.3±0.4, 27°.42S±0°.07×73°.07E±0°.09, h10km, n108, σ0°91/91, mb4.5/42, MS4.0/10, 5C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AIS	**Amsterdam Isla**	**11.02**	**161**	Pn	**Pn**	**23 07 59.2**	**+0.2**
H08S2	**Diego Garcia H**	**19.67**	**358**	T	T	23 29 58.6	
baz=179,slow=75,SNR=574							
H08S1	**Diego Carcia H**	**19.68**	**358**	T	T	23 30 07.8	
baz=179,slow=75,SNR=346							
H08S3	**Diego Garcia H**	**19.69**	**358**	T	T	23 29 60.0	
baz=179,slow=75,SNR=591							
H04N2	**CROZET ISLANDS**	**25.16**	**216**	T	T	23 36 55.8	
baz=50,slow=74,SNR=3695							
H04N1	**CROZET ISLANDS**	**25.17**	**216**	T	T	23 36 56.1	
baz=50,slow=74,SNR=5294							
H04N3	**CROZET ISLANDS**	**25.18**	**216**	T	T	23 36 50.6	
baz=50,slow=74,SNR=3658							
H04S1	**CROZET ISLANDS**	**25.55**	**215**	T	T	23 37 22.9	
baz=48,slow=76,SNR=120							
H04S3	**CROZET ISLANDS**	**25.56**	**215**	T	T	23 37 19.3	
baz=48,slow=76,SNR=352							
H04S2	**CROZET ISLANDS**	**25.57**	**215**	T	T	23 37 20.5	
baz=48,slow=76,SNR=172							
XMIS	**Christmas Isla**	**34.97**	**68**	P	**P**	**23 12 12.8**	**-1.2**
H01W2	**Cape Leeuwin H**	**35.73**	**112**	T	T	23 50 04.4	
baz=271,slow=74,SNR=87							
H01W3	**Cape Leeuwin H**	**35.73**	**112**	T	T	23 50 04.5	
baz=271,slow=74,SNR=89							
H01W1	**Cape Leeuwin H**	**35.75**	**112**	T	T	23 50 05.6	
baz=271,slow=74,SNR=109							
GSI	**Gunungsitoli**	**37.03**	**44**	P	**P**	**23 12 30.4**	**-1.2**
GSI				IAmb	IAmb	23 12 33.8	
comp=Z,12nm,1.0s							
MORW	**Morawa**	**37.74**	**103**	P	**P**	**23 12 38.3**	**+0.7**
MORW				IAmb	IAmb	23 12 56.8	
comp=Z,29nm,1.5s							
NWAO	**Narrogin (SRO)**	**38.37**	**109**	P	**P**	**23 12 44.0**	**+1.2**
NWAO				IAmb	IAmb	23 12 54.0	
comp=Z,47nm,1.2s							
MAW	**Mawson**	**40.68**	**186**	P	**P**	**23 13 00.9**	**-0.6**
comp=Z,5.9nm,0.9s,baz=27,slow=13,SNR=7.3							
MAW				LR	LR	23 26 45.7	
comp=Z,309nm,19.8s,baz=309,slow=32							
comp=Z,5.9nm,0.9s							
SMRI	**Semarang**	**40.80**	**67**	P	**P**	**23 13 03.5**	**+0.2**
KIBK	**Kibwezi**	**41.76**	**301**	P	**P**	**23 13 10.0**	**-1.2**
KMBO	**Kilima Mbogo**	**43.14**	**301**	P	**P**	**23 13 22.7**	**+0.1**
KMBO	**Kilima Mbogo**	**43.14**	**301**	P	**P**	**23 13 23.5**	**+0.9**
comp=Z,4.6nm,0.8s,baz=101,slow=6.8,SNR=18							
comp=Z,4.6nm,0.8s							
LODK	**Lodwar**	**47.55**	**304**	P	**P**	**23 13 57.2**	**-0.2**
LODK				IAmb	IAmb	23 14 00.2	
comp=Z,5.0nm,1.1s							
CM31	**Chiang Mai Arr**	**52.05**	**32**	P	**P**	**23 14 31.6**	**+0.1**
CM31				IAmb	IAmb	23 14 43.6	
comp=Z,8.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**52.05**	**32**	P	**P**	**23 14 32.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**52.05**	**32**	P	**P**	**23 14 33.5**	**+2.0**
comp=Z,1.6nm,0.3s,baz=216,slow=7.9,SNR=22							
CMAR				LR	LR	23 33 54.8	
comp=Z,80nm,19.4s,baz=200,slow=33							
comp=Z,1.6nm,0.3s							
CHTO	**Chiang Mai**	**52.36**	**31**	P	**P**	**23 14 33.5**	**-0.3**
PHRA	**Phrae**	**52.70**	**33**	P	**P**	**23 14 36.2**	**0.0**
KKM	**Kota Kinabalu**	**53.34**	**58**	P	**P**	**23 14 41.2**	**0.0**

ASAR	**Alice Springs**	**54.55**	**101**	P	**P**	**23 14 51.0**	**+0.9**
	comp=Z,4.7nm,0.9s,baz=248,slow=6.5,SNR=29						
ASAR				PcP	**PcP**	**23 15 54.1**	**+0.8**
	comp=Z,0.1nm,0.6s,baz=232,slow=2.6,SNR=2.2						
	comp=Z,4.7nm,0.9s						
AS31	**Alice Springs**	**54.55**	**101**	P	**P**	**23 14 49.9**	**-0.1**
SHL	**Shillong**	**55.71**	**21**	P	**P**	**23 14 59.0**	**+0.7**
MTN	**Manton Dam**	**55.96**	**87**	P	**P**	**23 14 59.6**	**-0.6**
MTN				IAmb	IAmb	23 15 02.9	
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**56.13**	**97**	P	**P**	**23 15 02.5**	**+1.0**
	comp=Z,7.8nm,1.0s,baz=253,slow=7.2,SNR=27						
WRA				PcP	**PcP**	**23 16 00.3**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=247,slow=2.1,SNR=5.6						
	comp=Z,7.8nm,1.0s						
WB2	**Warramunga Arr**	**56.15**	**97**	P	**P**	**23 15 01.2**	**-0.4**
WB2				IAmb	IAmb	23 15 04.0	
	comp=Z,8.0nm,1.1s						
WRAB	**Tennant Creek**	**56.15**	**97**	P	**P**	**23 15 01.5**	**0.0**
WRAB				IAmb	IAmb	23 15 04.5	
	comp=Z,6.4nm,1.0s						
WB0	**Warramunga Arr**	**56.24**	**96**	P	**P**	**23 15 02.3**	**+0.1**
WB0				IAmb	IAmb	23 15 05.0	
	comp=Z,7.3nm,0.9s						
WR0	**Warramunga Arr**	**56.31**	**97**	P	**P**	**23 15 02.7**	**+0.1**
WR0				IAmb	IAmb	23 15 05.1	
	comp=Z,10nm,1.0s						
RAYN	**Ar Rayn**	**57.21**	**330**	P	**P**	**23 15 08.7**	**-0.2**
RAYN				IAmb	IAmb	23 15 10.5	
	comp=Z,5.9nm,0.9s						
TROLL	**Troll, Antarti**	**58.17**	**200**	⇑P	**P**	**23 15 16.5**	**+1.3**
	comp=Z,198nm,0.9s						
STKA	**Stephens Creek**	**58.83**	**112**	P	**P**	**23 15 20.0**	**-0.3**
STKA	**Stephens Creek**	**58.83**	**112**	P	**P**	**23 15 20.8**	**+0.4**
	comp=Z,3.5nm,1.0s,baz=250,slow=6.9,SNR=3.9						
	comp=Z,3.5nm,1.0s						
LSA	**Lhasa**	**59.38**	**18**	P	**P**	**23 15 25.0**	**+0.5**
LSA				IAmb	IAmb	23 15 36.1	
	comp=Z,7.3nm,1.4s						
SNAA	**Sanae**	**59.80**	**201**	P	**P**	**23 15 27.0**	**+0.6**
SNAA				IAmb	IAmb	23 15 30.7	
	comp=Z,5.0nm,1.0s						
SNAA	**Sanae**	**59.80**	**201**	⇑P	**P**	**23 15 27.4**	**+1.0**
SNAA	**Sanae**	**59.80**	**201**	P	**P**	**23 15 27.1**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=102,slow=8.6,SNR=12						
	comp=Z,3.0nm,0.8s						
NIL	**Nilore**	**60.73**	**0**	P	**P**	**23 15 33.6**	**+0.4**
NIL				IAmb	IAmb	23 15 57.9	
	comp=Z,4.2nm,1.1s						
TAU	**Tasmania Unive**	**60.79**	**126**	P	**P**	**23 15 33.1**	**-0.5**
VNA2	**Neumayer--Watz**	**61.25**	**202**	⇑P	**P**	**23 15 38.5**	**+2.3**
	baz=87,slow=4.3						
VNA1	**Neumayer--Stat**	**61.54**	**202**	⇑P	P	23 15 48.7	+11
KBL	**Kabul**	**61.74**	**356**	P	**P**	**23 15 40.8**	**+0.6**
KBL				IAmb	IAmb	23 15 43.2	
	comp=Z,3.7nm,0.9s						
VNA3	**Neumayer Olymp**	**61.98**	**201**	⇑P	**P**	**23 15 43.3**	**+2.1**
QSPA	**South Pole Qui**	**62.72**	**180**	P	**P**	**23 15 45.9**	**-0.5**
QSPA				IAmb	IAmb	23 15 47.4	
	comp=Z,10nm,1.0s						
QSPA	**South Pole Qui**	**62.72**	**180**	P	**P**	**23 15 46.2**	**-0.2**
	comp=Z,9.5nm,1.0s,baz=295,slow=4.3,SNR=22						
	comp=Z,9.5nm,1.0s						
VNDA	**Vanda**	**63.18**	**166**	P	**P**	**23 15 48.8**	**-0.3**
VNDA	**Vanda**	**63.18**	**166**	P	**P**	**23 15 48.9**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=270,slow=8.4,SNR=10						
	comp=Z,1.6nm,0.9s						
SIMJ	**Simiganj**	**65.84**	**357**	P	**P**	**23 16 07.6**	**+0.6**
SIMJ				IAmb	IAmb	23 16 11.5	
	comp=Z,7.0nm,1.4s						
GAR	**Garm**	**66.12**	**358**	P	**P**	**23 16 08.9**	**+0.1**
GAR				IAmb	IAmb	23 16 29.3	
	comp=Z,8.6nm,1.2s						
CTA	**Charters Tower**	**66.54**	**101**	LR	LR	23 43 09.6	
	comp=Z,68nm,19.2s,baz=262,slow=34						
BELA	**Belgrano 2**	**67.01**	**193**	P	**P**	**23 16 14.8**	**+0.8**
ARSB	**Arslanbob**	**68.39**	**360**	P	**P**	**23 16 22.9**	**-0.4**
GHAJ	**Ghor Haditha**	**68.48**	**326**	P	**P**	**23 16 23.6**	**-0.1**
GHAJ				IAmb	IAmb	23 16 28.9	
	comp=Z,9.2nm,0.9s						
WUS	**Wushi**	**68.51**	**5**	P	**P**	**23 16 24.8**	**+0.9**
WUS				IAmb	IAmb	23 16 37.1	
	comp=Z,5.0nm,1.1s						
AAK	**Ala-Archa**	**69.72**	**1**	P	**P**	**23 16 32.9**	**+1.4**
MMAI	**Mount Meron Ar**	**69.95**	**327**	P	**P**	**23 16 34.0**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=182,slow=5.8,SNR=4.1						
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**70.21**	**358**	P	**P**	**23 16 34.5**	**+0.2**
PMG	**Port Moresby**	**71.65**	**91**	P	**P**	**23 16 43.0**	**-0.7**
PMG				IAmb	IAmb	23 16 46.9	
	comp=Z,11nm,1.1s						
GURO	**Guroymak-BITLI**	**71.76**	**335**	P	**P**	**23 16 44.2**	**+0.2**
GNI	**Garni**	**72.21**	**338**	P	**P**	**23 16 46.8**	**+0.2**
MK31	**Makanchi Array**	**74.33**	**7**	P	**P**	**23 16 59.8**	**+0.9**
MK31				IAmb	IAmb	23 17 13.7	
	comp=Z,7.0nm,1.2s						
MKAR	**Makanchi Array**	**74.33**	**7**	P	**P**	**23 16 58.2**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=198,slow=7.3,SNR=6.1						
	comp=Z,1.4nm,0.8s						
WKZ	**Wanaka**	**75.15**	**133**	P	**P**	**23 17 04.5**	**+0.5**
BR131	**Keskin Array S**	**76.23**	**330**	P	**P**	**23 17 10.0**	**-0.1**
BR131				IAmb	IAmb	23 17 11.4	
	comp=Z,4.2nm,0.8s						
BRTR	**Keskin Array B**	**76.23**	**330**	P	**P**	**23 17 10.7**	**+0.6**
BRTR	**Keskin Array B**	**76.23**	**330**	P	**P**	**23 17 10.2**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=154,slow=6.2,SNR=14						
	comp=Z,2.2nm,0.7s						
ABKAR	**Akbulak array**	**77.22**	**351**	P	**P**	**23 17 15.1**	**-0.2**
KURBB	**Kurchatov Arra**	**77.85**	**4**	P	**P**	**23 17 18.2**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=200,slow=5.9,SNR=6.0						
	comp=Z,0.8nm,0.8s						
BSWZ	**Blackbirch Sta**	**79.70**	**132**	P	**P**	**23 17 27.0**	**-2.5**
TORD	**Torodi Ar. Bea**	**80.03**	**290**	P	**P**	**23 17 30.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**80.03**	**290**	P	**P**	**23 17 31.5**	**0.0**
	comp=Z,2.9nm,0.8s,baz=102,slow=4.7,SNR=18						
TORD				LR	LR	23 52 27.4	
	comp=Z,55nm,18.4s,baz=154,slow=35						
	comp=Z,2.9nm,0.8s						
BVAR	**Borovoye Array**	**80.14**	**358**	P	**P**	**23 17 30.6**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=145,slow=5.3,SNR=3.3						
	comp=Z,0.8nm,0.7s						
BHW	**Baring Head**	**80.50**	**132**	P	**P**	**23 17 33.9**	**+0.1**
SONM	**Songino Array**	**80.68**	**22**	P	**P**	**23 17 34.4**	**-0.1**
SONM				IAmb	IAmb	23 17 48.2	
	comp=Z,6.4nm,1.4s						
ULN	**Ulaanbaatar**	**80.93**	**22**	P	**P**	**23 17 36.3**	**+0.4**
ULN				IAmb	IAmb	23 17 49.2	
	comp=Z,4.3nm,0.9s						
JNU	**Nakatsue**	**81.47**	**46**	LR	LR	23 51 50.0	
	comp=Z,50nm,19.7s,baz=84,slow=34						
ZALV	**Zalesovo Beam**	**81.67**	**7**	P	**P**	**23 17 38.5**	**-0.9**
ZALV	**Zalesovo Beam**	**81.67**	**7**	P	**P**	**23 17 39.0**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=180,slow=3.7,SNR=4.5						
	comp=Z,0.9nm,0.5s						
HIZ	**Hauiti**	**81.86**	**129**	P	**P**	**23 17 39.8**	**-1.3**
PMSA	**Palmer Station**	**82.26**	**197**	P	**P**	**23 17 42.2**	**-0.4**
DBIC	**Dimbokro**	**82.42**	**282**	LR	LR	23 51 53.8	
	comp=Z,78nm,20.1s,baz=148,slow=34						
KSAR	**Wonju Array Be**	**82.51**	**41**	P	**P**	**23 17 43.5**	**-0.7**
BELG	**Belogornoye**	**82.53**	**345**	LR	LR	23 52 24.6	
	comp=Z,113nm,21.6s,baz=157,slow=34						
KSRS	**Korea Array**	**82.54**	**41**	P	**P**	**23 17 45.4**	**+1.1**
	comp=Z,2.3nm,0.8s,baz=235,slow=5.4,SNR=5.3						
KSRS				LR	LR	23 53 34.4	
	comp=Z,70nm,19.1s,baz=175,slow=35						
	comp=Z,2.3nm,0.8s						
ARTI	**Arti**	**84.40**	**352**	P	**P**	**23 17 54.6**	**+1.1**
ARTI				IAmb	IAmb	23 18 05.4	
	comp=Z,5.2nm,1.0s						
MXZ	**Matakaoa Point**	**84.70**	**130**	P	**P**	**23 17 55.9**	**+0.2**
AKASG	**Malin Array Be**	**86.89**	**334**	P	**P**	**23 18 05.7**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=139,slow=4.4,SNR=8.3						
	comp=Z,1.9nm,0.8s						
MJAR	**Matsushiro Arr**	**88.32**	**47**	LR	LR	23 56 49.2	
	comp=Z,59nm,19.4s,baz=70,slow=35						
USRK	**Ussuriysk Ar.**	**89.32**	**38**	LR	LR	23 55 48.4	
	comp=Z,55nm,20.9s,baz=289,slow=34						
MG03	**Isla Dawson**	**93.13**	**201**	P	**P**	**23 18 35.7**	**+0.2**
GO10	**Punta Arenas**	**93.90**	**201**	P	**P**	**23 18 38.7**	**-0.4**
GRA1	**Grafenberg Arr**	**94.35**	**325**	P	**P**	**23 18 39.1**	**-1.8**
BFO	**Black Forest**	**95.05**	**323**	P	**P**	**23 18 44.9**	**+0.7**
BFO				IAmb	IAmb	23 18 48.4	
	comp=Z,5.9nm,1.3s						
NC405	**NORSAR Array S**	**101.16**	**334**	Pdif	**Pdif**	**23 19 10.8**	**-0.6**
VAO	**Valinhos**	**103.41**	**235**	Pdif	**Pdif**	**23 19 20.8**	**-1.8**
BO01	**Tunca**	**109.77**	**211**	Pdif	**Pdif**	**23 19 48.1**	**-2.4**
MT13	**San Alfonso**	**109.94**	**212**	Pdif	**Pdif**	**23 19 50.8**	**-0.7**
MT05	**Renca**	**110.44**	**212**	Pdif	**Pdif**	**23 19 51.0**	**-2.7**
YKA	**Yellowknife Ar**	**144.56**	**6**	PKP	**PKPab**	**23 24 55.7**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=341,slow=3.6,SNR=9.0						

*IDC **30** 23:07:40.4±0.6, 61°.80N×150°.11W, h0km, mb4.1/18, mbtmp4.0/22, ML3.3/4, Error ellipse: s-maj=11.3km s-min=10.3km az=103.0*

*NEIC **30** 23:07:46.9, 61°.47N×150°.03W, h21km*

*NEIC **30** 23:07:47.2±0.8, 61°.54N±0°.02×149°.88W±0°.05, h47km±4km, Error ellipse: s-maj=3.3km s-min=3.1km az=159.0, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=1.64; Mθθ0.16; Mφφ 1.48; Mrθ0.26; Mθφ-0.39; Mφr1.38; Fault plane solution: M0 2.14000×10^15 NP1: φs180.71000°, δ65.74000°, λ-77.23000°. NP2: φs331.84000°, δ27.24000°, λ-116.11000°. Principal axes: T 2.0429, Plg20.0000°, Azm261.0000°; N 0.1792, Plg12.0000°, Azm355.0000°; P -2.2221, Plg67.0000°, Azm114.0000°;*

*AEIC **30** 23:07:48.0±0.7, 61°.53N±0°.02×149°.95W±0°.05, h40km±6km, ML4.1, mb4.4/31(NEIC), ML4.2/188(NEIC), Mwr4.2/50(NEIC) Error ellipse: s-maj=3.5km s-min=3.2km az=149.0*

ISC 30 23:07:47.0±0.6, 61°.55N±0°.03×149°.94W±0°.02, h50km±5km, n352, σ1°03/332, mb4.2/54, 1D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.22**	**338**	Pn	**Pn**	**23 07 55.1**	**-0.4**
M22K				Sn	**Sn**	**23 08 01.4**	**-0.1**
M22K	**Willow**	**0.22**	**338**	P	**Pn**	**23 07 55.1**	**-0.4**
	baz=159						
M22K				S	**Sn**	**23 08 02.0**	**+0.5**
	baz=159						
PMR	**Palmer**	**0.39**	**83**		**Pn**	**23 07 56.5**	**-0.5**
PMR				Sn	**Sn**	**23 08 04.0**	**-0.2**
PMR				IAML		23 08 04.5	
	comp=N,27μm,0.4s						
PMR	**Palmer**	**0.39**	**83**	P	**Pn**	**23 07 56.4**	**-0.5**
	baz=262						
PMR				S	**Sn**	**23 08 04.1**	**-0.1**
	baz=262						
SUA	**Susitna One**	**0.40**	**258**		**Pn**	**23 07 57.1**	**-0.1**
SUA					**Sn**	**23 08 04.8**	**+0.2**
SUA	**Susitna One**	**0.40**	**258**	P	**Pn**	**23 07 57.0**	**-0.2**
	baz=79						
SUA				S	**Sn**	**23 08 04.7**	**+0.2**
	baz=79						
RC01	**Rabbit Creek A**	**0.47**	**168**		**Pn**	**23 07 57.3**	**-0.6**
RC01				Sn	**Sn**	**23 08 05.5**	**-0.3**
RC01				IAML		23 08 06.7	
	comp=E,23μm,0.3s						
RC01				IAML		23 08 06.8	
	comp=N,20μm,0.4s						
RC01	**Rabbit Creek A**	**0.47**	**168**	P	**Pn**	**23 07 57.3**	**-0.6**
	baz=347						
RC01				S	**Sn**	**23 08 05.6**	**-0.1**
	baz=347						
GHO	**Glory Hole Cre**	**0.54**	**65**		**Pn**	**23 07 58.6**	**-0.2**
GHO				Sn	**Sn**	**23 08 07.9**	**+0.7**
KNK	**Knik Glacier**	**0.72**	**100**		**Sn**	**23 08 12.0**	**+0.7**
KNK	**Knik Glacier**	**0.72**	**100**	P	**Pn**	**23 08 01.2**	**+0.1**
	baz=280						
KNK				S	**Sn**	**23 08 12.0**	**+0.7**
	baz=280						
SML	**Sawmill**	**0.81**	**71**		**Pn**	**23 08 02.1**	**-0.2**
SML				Sn	**Sn**	**23 08 13.5**	**+0.1**
SML				IAML		23 08 15.8	
	comp=N,9μm,0.7s						
SML				IAML		23 08 16.5	
	comp=E,6μm,0.7s						
SML	**Sawmill**	**0.81**	**71**	P	**Pn**	**23 08 02.0**	**-0.2**
	baz=251						
SML				S	**Sn**	**23 08 13.8**	**+0.4**
	baz=251						
SKT	**Skwentna**	**0.87**	**301**		**Pn**	**23 08 02.8**	**-0.2**
SKT				IAML		23 08 15.5	
	comp=E,14μm,0.4s						
SKT	**Skwentna**	**0.87**	**301**		**Sn**	**23 08 15.1**	**+0.3**
SKT	**Skwentna**	**0.87**	**301**	P	**Pn**	**23 08 02.9**	**-0.2**
	baz=120						
SKT				S	**Sn**	**23 08 15.1**	**+0.3**
	baz=120						
CUT	**Chulitna**	**0.87**	**350**		**Pn**	**23 08 03.1**	**+0.2**
CUT				Sn	**Sn**	**23 08 15.3**	**+0.6**
CUT	**Chulitna**	**0.87**	**350**	P	**Pn**	**23 08 03.2**	**+0.2**
	baz=170						
CUT				S	**Sn**	**23 08 15.7**	**+0.9**
	baz=170						
STLK	**Strandline Lak**	**0.91**	**268**		**Pn**	**23 08 03.6**	**+0.1**
STLK	**Strandline Lak**	**0.91**	**268**		**Sn**	**23 08 16.0**	**+0.3**
CAPN	**Captain Cook N**	**0.98**	**217**		**Pn**	**23 08 05.6**	**+1.3**
CAPN				Sn	**Sn**	**23 08 20.5**	**+3.3**
SPCG	**Spurr Capps Gl**	**1.03**	**256**		**Sn**	**23 08 19.7**	**+1.0**
PWL	**Port Wells**	**1.04**	**131**		**Sn**	**23 08 19.7**	**+0.9**
PWL	**Port Wells**	**1.04**	**131**	P	**Pn**	**23 08 05.5**	**+0.2**
	baz=312						
PWL				S	**Sn**	**23 08 19.7**	**+0.9**
	baz=312						
SLKM	**Skilak Lake**	**1.05**	**188**		**Pn**	**23 08 05.1**	**-0.4**
SLKM				IAML		23 08 20.2	
	comp=E,5μm,0.5s						
O22K	**Cooper Landing**	**1.08**	**174**		**Pn**	**23 08 05.3**	**-0.3**
O22K	**Cooper Landing**	**1.08**	**174**	P	**Pn**	**23 08 05.4**	**-0.3**
	baz=354						
M23K	**Glacier View**	**1.08**	**76**		**Sn**	**23 08 21.7**	**+1.9**
M23K	**Glacier View**	**1.08**	**76**	P	**Pn**	**23 08 06.0**	**+0.2**
	baz=257						
M23K				S	**Sn**	**23 08 21.7**	**+1.9**
	baz=257						
SPCP	**Crater Peak Br**	**1.10**	**256**		**Pn**	**23 08 06.5**	**+0.3**
N20K	**Mount Spurr**	**1.15**	**253**	P	**Pn**	**23 08 06.9**	**+0.2**
	baz=72						
N20K				S	**Sn**	**23 08 22.0**	**+0.6**
	baz=72						
SPCR	**Spurr Chakacha**	**1.15**	**253**		**Pn**	**23 08 07.0**	**+0.2**
SPCR					**Sn**	**23 08 22.4**	**+1.0**
SPCR	**Spurr Chakacha**	**1.15**	**253**		**Pn**	**23 08 06.9**	**+0.2**
SPCR					**Sn**	**23 08 22.1**	**+0.6**
SPCR	**Spurr Chakacha**	**1.15**	**253**	P	**Pn**	**23 08 07.0**	**+0.2**
	baz=72						
SPCR				S	**Sn**	**23 08 22.4**	**+1.0**
	baz=72						
SCM	**Sheep Creek Mo**	**1.28**	**76**		**Sn**	**23 08 26.6**	**+2.0**
SCM	**Sheep Creek Mo**	**1.28**	**76**	Pn	**Pn**	**23 08 09.0**	**+0.4**
SCM	**Sheep Creek Mo**	**1.28**	**76**	IAML		23 08 27.9	
	comp=E,20μm,0.8s						
SCM				IAML		23 08 28.6	
	comp=N,9μm,0.7s						
SCM	**Sheep Creek Mo**	**1.28**	**76**	P	**Pn**	**23 08 09.1**	**+0.5**
	baz=258						
SCM				S	**Sn**	**23 08 26.6**	**+2.0**
	baz=258						
WAT1	**Susitna Watana**	**1.44**	**26**		**Pn**	**23 08 11.6**	**+0.8**
WAT1	**Susitna Watana**	**1.44**	**26**	P	**Pn**	**23 08 11.5**	**+0.8**
	baz=207						
WAT6	**Susitna Watana**	**1.47**	**44**	P	**Pn**	**23 08 11.8**	**+0.7**
	baz=226						
SEW	**Seward**	**1.47**	**170**		**Pn**	**23 08 11.9**	**+0.8**
SEW	**Seward**	**1.47**	**170**	P	**Pn**	**23 08 11.9**	**+0.8**
	baz=351						
GLI	**Glacier Island**	**1.53**	**115**	Pn	**Pn**	**23 08 11.8**	**-0.2**
GLI				IAML		23 08 37.2	
	comp=E,4μm,0.7s						
GLI	**Glacier Island**	**1.53**	**115**	P	**Pn**	**23 08 11.7**	**-0.2**
	baz=297						
RDT	**Redoubt**	**1.55**	**232**		**Pn**	**23 08 12.2**	**0.0**
M20K	**Styx River**	**1.56**	**284**		**Pn**	**23 08 13.2**	**+0.8**
M20K	**Styx River**	**1.56**	**284**	IAML		23 08 35.0	
	comp=N,2μm,0.5s						
M20K				IAML		23 08 36.2	
	comp=E,3μm,1.0s						
M20K	**Styx River**	**1.56**	**284**	P	**Pn**	**23 08 13.2**	**+0.8**
	baz=102						
RDJH	**Redoubt Jeurge**	**1.69**	**237**		**Pn**	**23 08 14.5**	**+0.3**
PPLA	**Purkeypile**	**1.71**	**323**		**Pn**	**23 08 15.1**	**+0.5**
PPLA	**Purkeypile**	**1.71**	**323**	P	**Pn**	**23 08 15.1**	**+0.5**
	baz=142						
BRLK	**Bradley Lake**	**1.85**	**195**		**Pn**	**23 08 16.8**	**+0.5**
BRLK	**Bradley Lake**	**1.85**	**195**	IAML		23 08 43.3	
	comp=N,2μm,0.4s						
BRLK				IAML		23 08 44.3	
	comp=E,2μm,0.6s						
BRSE	**Bradley Lake S**	**1.85**	**193**		**Pn**	**23 08 16.5**	**+0.1**
BRSE	**Bradley Lake S**	**1.85**	**193**	P	**Pn**	**23 08 16.5**	**+0.1**
	baz=12						
M24K	**Tolsona, Glenn**	**1.87**	**71**		**Pn**	**23 08 18.2**	**+1.6**
M24K	**Tolsona, Glenn**	**1.87**	**71**	P	**Pn**	**23 08 17.9**	**+1.3**
	baz=254						
TRF	**Thorofare Moun**	**1.92**	**355**		**Pn**	**23 08 18.0**	**+0.6**
TRF	**Thorofare Moun**	**1.92**	**355**	IAML		23 08 46.0	
	comp=N,2μm,0.6s						
TRF				IAML		23 08 54.7	
	comp=E,2μm,0.9s						
TRF	**Thorofare Moun**	**1.92**	**355**	P	**Pn**	**23 08 18.0**	**+0.6**
	baz=175						
KLU	**Klutina**	**1.93**	**90**		**Pn**	**23 08 17.5**	**+0.1**
KLU				IAML		23 08 51.1	
	comp=N,2μm,0.4s						
KLU				IAML		23 08 52.9	
	comp=E,2μm,0.9s						
KLU	**Klutina**	**1.93**	**90**	P	**Pn**	**23 08 17.5**	**+0.1**
	baz=273						
RND	**Reindeer**	**1.93**	**15**		**Pn**	**23 08 18.4**	**+1.0**
RND				IAML		23 08 55.1	
	comp=N,1μm,0.9s						
DHY	**Denali Highway**	**1.94**	**37**		**Pn**	**23 08 18.6**	**+0.9**
DHY				IAML		23 08 45.4	
	comp=E,2μm,0.6s						
DHY				IAML		23 08 48.0	
	comp=N,2μm,0.6s						
DHY	**Denali Highway**	**1.94**	**37**	P	**Pn**	**23 08 18.4**	**+0.7**
	baz=219						
O20K	**Slope Mountain**	**1.97**	**223**	P	**Pn**	**23 08 18.6**	**+0.6**
	baz=41						
P23K	**Montague Islan**	**1.99**	**140**		**Pn**	**23 08 18.5**	**+0.3**
P23K	**Montague Islan**	**1.99**	**140**	P	**Pn**	**23 08 18.5**	**+0.3**
	baz=322						
HIN	**Hinchinbrook I**	**2.04**	**123**		**Pn**	**23 08 18.3**	**-0.6**
HIN				IAML		23 08 53.8	
	comp=N,3μm,1.0s						
DIV	**Divide**	**2.05**	**100**		**Pn**	**23 08 19.1**	**0.0**
KTH	**Kantishna Hill**	**2.06**	**348**		**Pn**	**23 08 20.0**	**+0.7**
KTH	**Kantishna Hill**	**2.06**	**348**	IAML		23 08 47.1	
	comp=E,3μm,0.5s						
KTH				IAML		23 08 49.3	
	comp=N,2μm,0.6s						
HOM	**Homer**	**2.07**	**205**		**Pn**	**23 08 19.3**	**0.0**
L20K	**Farewell, AK**	**2.08**	**298**		**Pn**	**23 08 20.0**	**+0.6**
L20K	**Farewell, AK**	**2.08**	**298**	P	**Pn**	**23 08 20.0**	**+0.6**
	baz=115						
CAST	**Castle Rocks**	**2.12**	**333**	Pn	**Pn**	**23 08 20.7**	**+0.6**
CAST				IAML		23 08 47.6	
	comp=E,1μm,0.5s						
CAST	**Castle Rocks**	**2.12**	**333**	P	**Pn**	**23 08 20.5**	**+0.5**
	baz=151						
CNPM	**China Poot**	**2.13**	**198**	Pn	**Pn**	**23 08 20.1**	**+0.1**
CNPM				IAML		23 08 51.3	
	comp=E,2μm,0.5s						
CNPM				IAML		23 08 51.8	
	comp=N,2μm,0.4s						
M19K	**Big River Lodg**	**2.15**	**282**		**Pn**	**23 08 20.7**	**+0.4**
M19K				IAML		23 08 51.3	
	comp=E,1μm,0.6s						
M19K	**Big River Lodg**	**2.15**	**282**	P	**Pn**	**23 08 20.7**	**+0.4**
	baz=98						
ILSW	**Iliamna Southw**	**2.22**	**226**		**Pn**	**23 08 21.2**	**-0.2**
MCK	**McKinley**	**2.24**	**12**		**Pn**	**23 08 22.8**	**+1.2**
MCK	**McKinley**	**2.24**	**12**	P	**Pn**	**23 08 22.8**	**+1.2**
	baz=192						
EYAK	**Cordova Ski Ar**	**2.27**	**114**		**Pn**	**23 08 22.9**	**+0.9**
EYAK	**Cordova Ski Ar**	**2.27**	**114**	P	**Pn**	**23 08 22.9**	**+0.9**
	baz=298						
N19K	**Bonanza Creek**	**2.32**	**253**		**Pn**	**23 08 23.3**	**+0.5**
N19K	**Bonanza Creek**	**2.32**	**253**	IAML		23 08 59.7	
	comp=N,950nm,0.9s						
N19K	**Bonanza Creek**	**2.32**	**253**	P	**Pn**	**23 08 23.3**	**+0.5**
	baz=70						
L19K	**White Mountain**	**2.41**	**287**		**Pn**	**23 08 24.7**	**+0.7**
L19K	**White Mountain**	**2.41**	**287**	IAML		23 09 09.1	
	comp=N,838nm,1.3s						
L19K				IAML		23 09 10.8	
	comp=E,999nm,0.5s						
L19K	**White Mountain**	**2.41**	**287**	P	**Pn**	**23 08 24.7**	**+0.7**
	baz=104						
P19K	**Oil Pt**	**2.50**	**222**		**Pn**	**23 08 25.9**	**+0.8**
P19K				IAML		23 09 17.8	
	comp=E,2μm,0.9s						
P19K	**Oil Pt**	**2.50**	**222**	P	**Pn**	**23 08 25.6**	**+0.5**
	baz=39						
O19K	**Port Alsworth**	**2.54**	**240**		**Pn**	**23 08 26.1**	**+0.5**
O19K	**Port Alsworth**	**2.54**	**240**	P	**Pn**	**23 08 26.1**	**+0.5**
	baz=56						
N25K	**Chitina, Valde**	**2.56**	**86**		**Pn**	**23 08 26.9**	**+0.9**
N25K				IAML		23 09 06.7	
	comp=N,2μm,0.5s						
N25K				IAML		23 09 07.3	
	comp=E,927nm,0.5s						
N25K	**Chitina, Valde**	**2.56**	**86**	P	**Pn**	**23 08 26.8**	**+0.9**
	baz=271						
CHUM	**Lake Minchumin**	**2.59**	**336**		**Pn**	**23 08 27.1**	**+0.8**
CHUM	**Lake Minchumin**	**2.59**	**336**	P	**Pn**	**23 08 27.1**	**+0.8**
	baz=154						
BPAW	**Bear Paw Mtn.**	**2.61**	**

RIDG	Independent Ri	3.22	45	P	Pn	23 08 35.6 +0.5
	baz=229					
L18K	Granite Mounta	3.27	285		Pn	23 08 36.0 +0.4
L18K	Granite Mounta	3.27	285	IAML		23 09 37.2
	comp=N,552nm,0.9s					
L18K	Granite Mounta	3.27	285	P	Pn	23 08 36.0 +0.4
	baz=99					
J20K	Nowinta River	3.27	326		Pn	23 08 36.0 +0.4
J20K	Nowinta River	3.27	326	IAML		23 09 19.8
	comp=N,497nm,0.6s					
J20K				IAML		23 09 30.1
	comp=E,615nm,0.5s					
J20K	Nowinta River	3.27	326	P	Pn	23 08 36.0 +0.4
	baz=142					
MCARA	McCarthy VSAT	3.32	90	IAML		23 09 49.1
	comp=E,1μm,0.7s					
P18K	Big Mountain,	3.40	233	Pn	Pn	23 08 36.9 -0.6
P18K	Big Mountain,	3.40	233	P	Pn	23 08 37.7 +0.2
	baz=48					
L26K	Log Cabin Wild	3.42	61		Pn	23 08 39.5 +1.7
DOT	Dot Lake	3.44	50		Pn	23 08 38.5 +0.5
COLA	College	3.47	15	Pn	Pn	23 08 38.7 +0.3
COLA	College	3.47	15		Pn	23 08 38.9 +0.5
MLY	Manley	3.52	354		Pn	23 08 39.5 +0.5
MLY	Manley	3.52	354	P	Pn	23 08 39.5 +0.5
	baz=174					
ILAR	Eielson Array	3.52	22	Pg	Pn	23 08 39.3 +0.2
	comp=E,8.0nm,0.3s,baz=206,slow=14,SNR=22					
ILAR				Lg	Lg	23 09 23.4
	comp=E,20nm,0.3s,baz=209,slow=16,SNR=6.4					
TGL	Tana Glacier	3.54	100		Pn	23 08 40.0 +0.6
TGL				IAML		23 09 37.9
	comp=N,672nm,0.4s					
TGL				IAML		23 09 41.4
	comp=E,909nm,0.7s					
BGLC	Bering Glacier	3.56	111		Pn	23 08 39.9 +0.3
BGLC	Bering Glacier	3.56	111	P	Pn	23 08 39.9 +0.3
	baz=296					
J19K	Poorman	3.58	316		Pn	23 08 40.6 +0.6
J19K	Poorman	3.58	316	IAML		23 09 38.3
	comp=N,475nm,0.7s					
J19K				IAML		23 09 40.4
	comp=E,609nm,0.9s					
J19K	Poorman	3.58	316	P	Pn	23 08 40.6 +0.6
	baz=131					
M17K	Holitna River	3.60	271		Pn	23 08 40.7 +0.5
M17K	Holitna River	3.60	271	IAML		23 09 43.7
	comp=N,898nm,0.8s					
M17K	Holitna River	3.60	271	P	Pn	23 08 40.7 +0.5
	baz=85					
PTPK	Patty Peak	3.62	92		Pn	23 08 41.0 +0.4
I23K	Minto, Yukon-K	3.62	4	IAML		23 09 49.4
	comp=N,329nm,0.8s					
I23K	Minto, Yukon-K	3.62	4	P	Pn	23 08 41.2 +0.7
	baz=184					
SCRK	Sand Creek	3.67	46	Pn	Pn	23 08 43.2 +2.0
SCRK				IAML		23 09 40.6
	comp=N,363nm,0.8s					
SCRK				IAML		23 09 43.2
	comp=E,476nm,0.8s					
N17K	Nushagak Hills	3.67	257		Pn	23 08 41.4 +0.3
N17K	Nushagak Hills	3.67	257	IAML		23 09 43.7
	comp=N,293nm,0.6s					
N17K	Nushagak Hills	3.67	257	P	Pn	23 08 41.4 +0.3
	baz=71					
J18K	Innoko River	3.68	304		Pn	23 08 42.0 +0.6
J18K	Innoko River	3.68	304	P	Pn	23 08 42.0 +0.6
	baz=119					
J25K	Salcha River,	3.71	32	IAML		23 09 32.4
	comp=E,645nm,0.5s					
J25K				IAML		23 09 33.8
	comp=N,631nm,0.5s					
KIAG	Kiagna River	3.72	96		Pn	23 08 42.3 +0.3
POKR	Poker Plat Res	3.76	16	IAML		23 09 54.7
	comp=N,309nm,0.7s					
POKR				IAML		23 09 56.4
	comp=E,286nm,0.8s					
POKR	Poker Plat Res	3.76	16	P	Pn	23 08 43.1 +0.8
	baz=199					
I21K	Tanana	3.76	347		Pn	23 08 43.5 +1.1
I21K	Tanana	3.76	347	P	Pn	23 08 43.5 +1.1
	baz=165					
I20K	Naaghedeneel	3.85	330		Pn	23 08 44.4 +0.8
I20K	Naaghedeneel	3.85	330	P	Pn	23 08 44.4 +0.8
	baz=146					
KAHC	Katmai Hardscr	3.86	223		Pn	23 08 44.1 +0.3
KAHC	Katmai Hardscr	3.86	223	P	Pn	23 08 44.1 +0.3
	baz=39					
Q18K	Katmai Hardscr	3.86	223	P	Pn	23 08 44.0 +0.1
	baz=39					
O17K	Koliganek Bris	3.94	246		Pn	23 08 45.4 +0.5
O17K	Koliganek Bris	3.94	246	P	Pn	23 08 45.4 +0.5
	baz=50					
P17K	Kvichak River	4.00	237	P	Pn	23 08 45.8 +0.2
	baz=51					
L17K	Donlin	4.00	282		Pn	23 08 46.0 +0.3
L17K	Donlin	4.00	282	P	Pn	23 08 46.0 +0.3
	baz=95					
KDAK	Kodiak Island	4.01	201		Pn	23 08 45.9 +0.2
KDAK	Kodiak Island	4.01	201	IAML		23 09 56.3
	comp=E,233nm,1.0s					
KDAK	Kodiak Island	4.01	201	Pn	Pn	23 08 44.2 -1.6
	comp=E,4.8nm,0.3s,baz=133,slow=16,SNR=16					
KDAK				Sn	Sn	23 09 28.0 -3.4
	comp=E,16nm,0.3s,baz=48,slow=16,SNR=4.1					
KDAK				Lg	Lg	23 09 46.5
	comp=E,11nm,0.3s,baz=342,slow=20,SNR=6.6					
	comp=E,12nm,0.4s					
GRNC	Granite Creek	4.05	98	IAML		23 09 58.1
	comp=N,337nm,0.5s					
GRNC				IAML		23 10 00.0
	comp=E,218nm,0.8s					
K17K	Iditarod	4.10	290		Pn	23 08 47.0 0.0
K17K				IAML		23 09 58.5
	comp=N,366nm,1.1s					
K17K				IAML		23 10 03.5
	comp=E,331nm,1.2s					
K17K	Iditarod	4.10	290	P	Pn	23 08 47.6 +0.6
	baz=103					
MESA	MESA	4.14	106		Pn	23 08 47.9 +0.1
MESA	MESA	4.14	106	IAML		23 09 55.9
	comp=E,462nm,0.8s					
MESA				IAML		23 10 02.0
	comp=N,460nm,0.8s					
MESA	MESA	4.14	106	P	Pn	23 08 47.9 +0.1
	baz=293					
J26L	Joseph Creek	4.15	42	IAML		23 09 42.0
	comp=N,521nm,0.6s					
CTGM	Chitina Glacie	4.20	94		Pn	23 08 49.8 +1.3
CTGM				IAML		23 09 56.2
	comp=N,252nm,0.6s					
KELA	Mount Kelaz	4.27	226		Pn	23 08 49.5 +0.1
H21K	Melozitna Rive	4.32	344		Pn	23 08 50.9 +0.8
H21K	Melozitna Rive	4.32	344	P	Pn	23 08 50.9 +0.8
	baz=162					
ANCK	Angle Creek	4.37	222		Pn	23 08 51.1 +0.3
M16K	Timber Creek	4.38	267		Pn	23 08 51.4 +0.5
M16K	Timber Creek	4.38	267	IAML		23 10 12.2
	comp=E,171nm,1.3s					
M16K	Timber Creek	4.38	267	P	Pn	23 08 51.4 +0.5
	baz=79					
LOGN	Logan Glacier	4.39	96		Pn	23 08 52.0 +0.9
LOGN				IAML		23 10 06.8
	comp=N,292nm,0.9s					
LOGN				IAML		23 10 12.4
	comp=E,246nm,1.2s					
N16K	Nishlik Lake	4.43	260		Pn	23 08 52.0 +0.4
N16K	Nishlik Lake	4.43	260	P	Pn	23 08 52.0 +0.4
	baz=72					
PRP	Porcupine Dome	4.45	24	IAML		23 09 53.3
	comp=N,257nm,0.7s					
PRP				IAML		23 10 01.8
	comp=E,261nm,0.8s					
CNTC	Contact Creek	4.45	225		Pn	23 08 52.1 +0.1
Q17K	Contact Creek	4.45	225	P	Pn	23 08 52.1 +0.1
	baz=40					
O16K	Kokwok River B	4.47	248		Pn	23 08 52.5 +0.3
O16K	Kokwok River B	4.47	248	IAML		23 10 13.2
	comp=E,202nm,1.0s					
O16K				IAML		23 10 26.1
	comp=N,210nm,1.1s					
O16K	Kokwok River B	4.47	248	P	Pn	23 08 52.5 +0.3
	baz=61					
KJL	Kejulik	4.51	222		Pn	23 08 53.1 +0.3
YUK3	Moose Creek	4.53	83		Pn	23 08 53.4 +0.3
YUK3	Moose Creek	4.53	83	P	Pn	23 08 53.4 +0.3
	baz=271					
H20K	Anotleneega Mo	4.53	333		Pn	23 08 53.6 +0.6
H20K	Anotleneega Mo	4.53	333	P	Pn	23 08 53.6 +0.6
	baz=149					
L16K	Owhat River	4.55	276	IAML		23 10 21.8
	comp=E,168nm,0.8s					
L16K				IAML		23 10 23.2
	comp=N,220nm,0.8s					
L16K	Owhat River	4.55	276	P	Pn	23 08 53.3 +0.1
	baz=88					
J17K	VABM Dome	4.63	298		Pn	23 08 54.5 +0.3
J17K	VABM Dome	4.63	298	IAML		23 10 17.2
	comp=N,210nm,1.1s					
J17K				IAML		23 10 22.2
	comp=E,193nm,0.8s					
J17K	VABM Dome	4.63	298	P	Pn	23 08 54.5 +0.3
	baz=110					
OHAK	Old Harbor	4.66	203	Pn	Pn	23 08 54.5 -0.3
OHAK	Old Harbor	4.66	203	P	Pn	23 08 54.4 -0.3
	baz=20					
P16K	Nushagak River	4.73	241	P	Pn	23 08 56.2 +0.5
	baz=54					
YUK8	Steele Glacier	4.90	89		Pn	23 08 59.7 +1.5
YUK8	Steele Glacier	4.90	89	P	Pn	23 08 59.7 +1.5
	baz=277					
PCA	Pinnacle	4.96	103		Pn	23 08 58.5 -0.4
PINM	Pinnacle	4.96	103	P	Pn	23 08 58.5 -0.4
	baz=291					
PLK4	Peulik 4	5.10	223	Pn	Pn	23 09 01.0 +0.1
PLK4				IAML		23 10 44.8
	comp=E,206nm,1.2s					
PLK4				IAML		23 10 51.3
	comp=N,217nm,1.2s					
G21K	Allakaket	5.23	344	IAML		23 10 04.2
	comp=E,191nm,0.6s					
G21K				IAML		23 10 04.7
	comp=N,132nm,0.7s					
H18K	Honhosa River	5.24	317	IAML		23 10 35.6
	comp=E,124nm,0.8s					
H18K				IAML		23 10 40.6
	comp=N,116nm,1.4s					
J16K	Anvik River	5.25	294	Pn	Pn	23 09 02.3 -0.5
J16K				IAML		23 10 36.0
	comp=N,115nm,0.9s					
J16K				IAML		23 10 38.8
	comp=E,98nm,0.7s					
J16K	Anvik River	5.25	294	P	Pn	23 09 02.9 +0.1
	baz=105					
G24K	Hadweenzic Riv	5.28	11	IAML		23 10 45.4
	comp=N,108nm,1.4s					
BCPM	Bancas Point	5.30	103	IAML		23 10 23.4
	comp=E,164nm,0.7s					
BCPM				IAML		23 10 38.3
	comp=N,180nm,0.9s					
YUK4	Talbot Arm	5.42	87	P	Pn	23 09 05.6 +0.3
	baz=276					
DAWY	Dawson	5.46	58	Pn	Pn	23 09 07.7 +2.0
DAWY	Dawson	5.46	58	P	Pn	23 09 06.1 +0.4
	baz=247					
I17K	Unalakleet	5.47	300	P	Pn	23 09 06.7 +0.9
	baz=111					
YUK6	Outpost Mounta	5.62	91		Pn	23 09 08.3 +0.2
YUK6	Outpost Mounta	5.62	91	P	Pn	23 09 08.3 +0.2
	baz=281					
COLD	Coldfoot	5.70	359		Pn	23 09 09.5 +0.5
COLD	Coldfoot	5.70	359	P	Pn	23 09 09.5 +0.5
	baz=179					
M14K	Bethel	5.88	267	Pn	Pn	23 09 11.3 0.0
M14K	Bethel	5.88	267	P	Pn	23 09 11.9 +0.6
	baz=77					
HYT	Haines Junctio	6.06	91		Pn	23 09 15.0 +1.0
HYT	Haines Junctio	6.06	91	P	Pn	23 09 13.7 -0.3
	baz=282					
P29M	Windy Craggy	6.31	102		Pn	23 09 17.8 +0.4
E23K	Chandalar	6.54	1	Pn	Pn	23 09 23.2 +2.7
F18K	Selawik	6.62	324		Pn	23 09 21.5 +0.1
F18K	Selawik	6.62	324	P	Pn	23 09 21.5 +0.1
	baz=136					
E19K	Redstone River	6.71	335		Pn	23 09 23.6 +0.8
E19K	Redstone River	6.71	335	P	Pn	23 09 23.6 +0.8
	baz=149					
O30N	Mendenhall	6.75	91	Pn	Pn	23 09 24.0 +0.6
N31M	Braeburn, Yuko	6.78	84		Pn	23 09 25.1 +1.4
TOLK	Toolik Lake Re	7.12	1	Pn	Pn	23 09 31.5 +3.0
TOLK	Toolik Lake Re	7.12	1	P	Pn	23 09 30.1 +1.6
	baz=181					
WHY	Whitehorse	7.35	90	Pn	Pn	23 09 32.5 +0.8
M31M	Drury Creek, Y	7.38	78	Pn	Pn	23 09 34.0 +1.9
F28M	Old Crow	7.46	31		Pn	23 09 33.5 +0.4
F28M	Old Crow	7.46	31	P	Pn	23 09 33.5 +0.4
	baz=220					
EPYK	Eagle Plains	7.56	45	Pn	Pn	23 09 36.1 +1.6
E17K	Hotham Inlet	7.57	322		Pn	23 09 35.0 +0.5
E17K	Hotham Inlet	7.57	322	P	Pn	23 09 35.0 +0.5
	baz=132					
F15K	North Star Dit	7.75	309		Pn	23 09 38.1 +1.1
H31M	Peel River	8.13	52	Pn	Pn	23 09 45.6 +3.4
P32M	Atlin	8.23	97	Pn	Pn	23 09 45.4 +1.8
R32K	Eaglecrest	8.41	106	Pn	Pn	23 09 46.2 +0.2
P33M	Teslin, Yukon	8.46	92	Pn	Pn	23 09 46.8 -0.1
RDOG	Red Dog Mine	8.54	325	Pn	Pn	23 09 49.8 +1.9
G31M	Satah River	8.68	45	Pn	Pn	23 09 51.3 +1.6
G31M	Satah River	8.68	45	P	Pn	23 09 49.7 0.0
	baz=239					
SIT	Sitka	8.72	115	Pn	Pn	23 09 50.9 +0.6
S32K	Kiliinsoo	8.81	111	Pn	Pn	23 09 51.6 +0.1
F31M	Tsiigehtchic	9.13	43	Pn	Pn	23 09 57.8 +1.9
INK	Inuvik	9.69	39	Pn	Pn	23 10 05.2 +1.7
INK	Inuvik	9.69	39	Pn	Pn	23 10 00.9 -2.6
	comp=N,0.1nm,0.3s,baz=210,slow=13,SNR=3.4					
INK				Sn	Sn	23 11 44.0 -6.7
	baz=203,slow=21,SNR=1.1					
INK				Lg	Lg	23 12 42.5
	baz=270,slow=15					
	comp=N,1.4nm,0.6s					
U33K	Whale Pass	10.26	115	Pn	Pn	23 10 11.6 +0.2
DLBC	Dease Lake	10.44	99	Pn	Pn	23 10 14.3 +0.4
DLBC	Dease Lake	10.44	99	Pn	Pn	23 10 14.6 +0.7
	comp=N,0.1nm,0.3s,baz=318,slow=16,SNR=1.5					
DLBC				Sn	Sn	23 12 12.3 +3.1
	comp=N,0.1nm,0.3s,baz=275,slow=24,SNR=1.4					
	comp=N,2.6nm,0.8s					
CRAG	Craig	10.68	117	Pn	Pn	23 10 15.1 -2.0
T35M	Bob Quinn	11.05	106		Pn	23 10 22.9 +0.8
DIB	Dawson Inlet,	12.56	124	Pn	Pn	23 10 44.6 +1.9
GRNB	Grenville Isla	13.13	117	Pn	Pn	23 10 52.7 +2.1
C36M	Paulatuk	13.19	43	Pn	Pn	23 10 50.5 -0.6
ATKA	Atka Island	16.13	246	Pn	P	23 11 32.2 -0.3
YKA	Yellowknife Ar	16.48	71	Pn	Pn	23 11 30.8 -3.6
	comp=N,0.1nm,0.3s,baz=214,slow=17,SNR=2.2					
	comp=N,0.3nm,0.6s					
NEW	Newport	22.77	111	P	P	23 12 46.0 +1.0
NEW				IAmb	IAmb	23 12 47.2
	comp=Z,8.5nm,1.1s					
I07A	Izee	25.02	120	P	P	23 13 08.2 +2.1
I07A				IAmb	IAmb	23 13 10.1
	comp=Z,7.5nm,0.9s					
BMO	Blue Mountains	25.32	116	P	P	23 13 09.3 +0.5
OVMT	Ovando	25.53	108	P	P	23 13 10.9 +0.2
PLID	Pearl Lake	25.70	114	P	P	23 13 12.8 +0.4
LYMT	Lyon Mountain	25.93	107	P	P	23 13 14.7 +0.3
EGMT	Eagleton	26.33	102	IAmb	IAmb	23 13 19.7
	comp=Z,11nm,0.8s					
FCC	Fort Churchill	27.21	71	P	P	23 13 25.3 -0.3
FCC				IAmb	IAmb	23 13 26.9
	comp=Z,8.7nm,1.0s					
HLID	Hailey	27.61	114	P	P	23 13 29.8 +0.3
YHL	Hebgen Lake	28.03	109	P	P	23 13 34.0 +0.6
YNE	Yellowstone No	28.45	107	P	P	23 13 38.2 +1.1
YNE				IAmb	IAmb	23 13 39.1
	comp=Z,6.5nm,1.0s					
RLMT	Red Lodge	28.70	106	P	P	23 13 41.2 +2.0
RLMT				IAmb	IAmb	23 13 42.4
	comp=Z,8.4nm,0.9s					
TPAW	Teton Pass	29.20	110	P	P	23 13 44.9 +1.1
TPAW				IAmb	IAmb	23 13 46.3
	comp=Z,5.2nm,0.9s					
ELK	Elko	29.55	119	P	P	23 13 48.7 +1.8
HVU	Hansel Valley	29.76	114	IAmb	IAmb	23 13 51.1
	comp=Z,4.7nm,0.9s					
NVAR	Mina Array Bea	30.27	125	P	P	23 13 54.9 +1.6
	comp=Z,1.4nm,0.6s,baz=331,slow=8.5,SNR=7.0					
	comp=Z,1.4nm,0.6s					
PDAR	Pinedale Array	30.39	109	P	P	23 13 55.3 +1.0
	comp=Z,1.4nm,0.6s,baz=325,slow=7.2,SNR=8.2					
	comp=Z,1.4nm,0.6s					
ULM	Lac du Bonnet	31.41	86	IAmb	IAmb	23 14 04.0
	comp=Z,6.9nm,0.9s					
ULM	Lac du Bonnet	31.41	86	P	P	23 14 03.0 +0.1
	comp=Z,5.4nm,0.8s,baz=298,slow=8.4,SNR=9.9					
	comp=Z,5.4nm,0.8s					
BSUT	Blindstream Ca	31.65	113	IAmb	IAmb	23 14 07.9
	comp=Z,5.9nm,1.0s					
Q16A	Castle Valley	32.81	116	P	P	23 14 16.7 +1.3
Q16A				IAmb	IAmb	23 14 18.7
	comp=Z,6.5nm,1.1s					
NEEM	North Greenlan	32.81	24	*i* P	P	23 14 14.8 -0.5
NEEM				IAmb	IAmb	23 14 15.7
	comp=Z,2.9nm,0.7s					
SRU	San Rafael Swe	32.93	115	IAmb	IAmb	23 14 18.8
	comp=Z,6.5nm,0.8s					
LCMT	Little Creek M	33.53	120	IAmb	IAmb	23 14 24.2
	comp=Z,3.8nm,0.9s					
ILULI	Ilulissat	37.46	35	*i* P	P	23 14 53.1 -1.8
ILULI				IAmb	IAmb	23 14 54.5
	comp=Z,20nm,0.8s					
SUMG	Summit	38.35	27	*i* P	P	23 15 02.0 -0.8
SUMG				IAmb	IAmb	23 15 03.6
	comp=Z,1.9nm,0.7s					
SFJD	Kangerlussuaq	39.04	38	*i* P	P	23 15 08.4 +0.3
SFJD				IAmb	IAmb	23 15 09.5
	comp=Z,7.1nm,0.8s					
SPITS	Spitsbergen Ar	40.27	4	P	P	23 15 17.3 -1.0
	comp=Z,8.4nm,0.9s,baz=37,slow=8.5,SNR=4.4					
	comp=Z,8.4nm,0.9s					
ICESG	Greenland Ices	40.56	31	*i* P	P	23 15 20.4 -0.8
ICESG				IAmb	IAmb	23 15 22.8
	comp=Z,8.3nm,0.7s					
DY2G	Dye2	40.66	37	*i* P	P	23 15 21.3 -0.6
DY2G				IAmb	IAmb	23 15 23.4
	comp=Z,4.2nm,0.6s					
WMOK	Wichita Mounta	41.81	106	IAmb	IAmb	23 15 32.7
	comp=Z,3.7nm,0.8s					
U38A	Gravette	42.47	100	IAmb	IAmb	23 15 36.4
	comp=Z,5.6nm,0.6s					
TXAR	Lajitas Array	44.20	115	P	P	23 15 51.8 +0.9
	comp=Z,1.1nm,0.7s,baz=233,slow=0.6,SNR=8.9					
	comp=Z,1.1nm,0.7s					
BNX	BinXian	47.97	291	⇓P	P	23 16 22.5 +2.3
BNX				pmax	pmax	
	comp=Z,8.0nm,1.8s					
KSRS	Korea Array	54.29	284	P	P	23 17 06.8 -0.9
	comp=Z,1.3nm,0.5s,baz=31,slow=7.7,SNR=4.5					
	comp=Z,1.3nm,0.5s					
SONM	Songino Array	55.08	307	P	P	23 17 12.7 -0.8
	comp=Z,1.3nm,0.7s,baz=37,slow=7.4,SNR=7.6					
	comp=Z,1.3nm,0.7s					
NOA	NORSAR Array B	56.89	11	P	P	23 17 24.6 -1.5
	comp=Z,0.5nm,0.6s,baz=343,slow=7.7,SNR=1.4					
	comp=Z,0.5nm,0.6s					
ZALV	Zalesovo Beam	56.99	325	P	P	23 17 26.0 -0.8
	comp=Z,0.4nm,0.3s,baz=12,slow=15,SNR=2.0					
	comp=Z,0.4nm,0.3s					
FINES	FINESS Array B	57.29	2	P	P	23 17 27.2 -1.6
	comp=Z,4.0nm,1.0s,baz=2.4,slow=3.3,SNR=4.5					
	comp=Z,4.0nm,1.0s					
HFS	Hagfors	57.99	10	P	P	23 17 32.3 -1.5
	comp=Z,3.9nm,0.9s,baz=14,slow=3.3,SNR=6.6					
	comp=Z,3.9nm,0.9s					
HHC	Hu-ho-hao-te	58.78	299	*e*P	P	23 17 44.8 +5.1
HHC				pmax	pmax	
	comp=Z,5.0nm,0.6s					
HHC				pmax	pmax	
	comp=Z,83nm,4.0s					
EKA	Eskdalemuir Ar	60.56	21	P	P	23 17 51.0 -0.5
	comp=Z,0.9nm,0.4s,baz=328,slow=5.8,SNR=9.8					
	comp=Z,0.9nm,0.4s					
BVAR	Borovoye Array	61.37	334	P	P	23 17 55.7 -1.5
	comp=Z,0.7nm,0.4s,baz=38,slow=7.5,SNR=6.5					
	comp=Z,0.7nm,0.4s					
KURBB	Kurchatov Arra	61.67	327	P	P	23 17 57.5 -1.7
	comp=Z,0.4nm,0.5s,baz=29,slow=6.5,SNR=2.7					
	comp=Z,0.4nm,0.5s					
MKAR	Makanchi Array	64.13	323	P	P	23 18 13.7 -2.0
	comp=Z,0.7nm,0.7s,baz=22,slow=5.4,SNR=4.7					
	comp=Z,0.7nm,0.7s					
WMQ	Urumqi	65.16	318	*e*P	P	23 18 29.0 +6.6
WMQ				LR	LR	
	comp=N,860nm,23.7s					
WMQ				LR	LR	
	comp=E,870nm,23.7s					
AKASG	Malin Array Be	68.10	1	P	P	23 18 39.7 -1.2
	comp=E,3.6nm,0.5s,baz=1.8,slow=6.3,SNR=18					
	comp=E,3.6nm,0.5s					
STHS	Stebnicka Huta	69.16	6	*e*P	P	23 18 47.1 -0.5
KOLS	Kolonicke sedl	69.69	5	*e*P	P	23 18 51.5 +0.6
MOA	Molln	70.22	11	*e*P	P	23 18 54.8 +0.6
	comp=E,7.3nm,1.7s					
CONA	Conrad Observa	70.28	10	*i* P	P	23 18 54.7 +0.1
	comp=E,3.8nm,0.9s					
DAVA	Damuels	70.31	14	*i* P	P	23 18 54.8 -0.1
	comp=E,0.6nm,0.3s					
MOTA	Moosalm	70.39	14	*i* P	P	23 18 56.2 +0.8
	comp=E,1.9nm,0.8s					
WATA	Walderalm	70.45	13	*i* P	P	23 18 55.8 +0.1
	comp=E,0.9nm,0.4s					
SQTA	Sankt Quirin	70.52	14	*i* P	P	23 18 56.3 +0.2
	comp=E,1.6nm,0.4s					
WTTA	Wattenberg	70.53	13	*i* P	P	23 18 56.5 +0.3
	comp=E,0.7nm,0.3s					
RONA	Rosalia, Austr	70.54	10	*i* P	P	23 18 56.0 -0.1
	comp=E,3.1nm,0.7s					
FETA	Feichten	70.67	14	*i* P	P	23 18 58.0 +0.9
	comp=E,5.0nm,1.5s					
KBA	Koelnbreinsper	70.89	12	*i* P	P	23 18 59.0 +0.6
	comp=E,4.9nm,0.7s					
ARSA	Arzberg	70.92	10	*i* P	P	23 18 58.7 +0.3
	comp=E,1.9nm,0.7s					
SOKA	Soboth	71.45	11	*i* P	P	23 19 02.8 +1.1
	comp=E,0.9nm,0.5s					
OBKA	Obir	71.57	11	*i* P	P	23 19 02.4 0.0
	comp=E,7.4nm,0.8s					
PZH	PanZhiHua	75.24	298	P	P	23 19 28.0 +3.6
PZH				pmax	pmax	
	comp=Z,10.0nm,0.5s					
PZH				pmax	pmax	
	comp=Z,110nm,5.4s					
ESDC	Sonseca Array	75.41	27	P	P	23 19 24.8 -0.3
	comp=Z,1.3nm,0.7s,baz=343,slow=5.4,SNR=9.3					
	comp=Z,1.3nm,0.7s					
KEST	Kesra	81.61	17	P	P	23 19 59.4 +0.1
	comp=Z,5.0nm,1.1s,baz=358,slow=10,SNR=2.6					
	comp=Z,5.0nm,1.1s					
QSPA	South Pole Qui	151.36	180	PKPbc	PKPbc	23 27 32.4 -0.9
	comp=Z,4.4nm,0.7s,baz=16,slow=0.5,SNR=14					

NEIC ***30*** *23:12:06.5±1.3,61°.54N±0°.02×149°.92W±0°.04,h44km±5km, Error ellipse: s-maj=3.4km s-min=2.3km az=151.0*
AEIC ***30*** *23:12:07.1±1.3,61°.52N±0°.03×149°.94W±0°.06,h41km±6km, ML3.1,ML3.4/74(NEIC), Error ellipse: s-maj=4.8km s-min=3.0km az=136.0*

ISC 30 23:12:07.0±1.2,61°.54N±0°.03×149°.94W±0°.02,h41km±8km, n76,σ0°66/82,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.23	339		Pn	23 12 14.1	-0.5

baz=260
RC01 Rabbit Creek A 0.46 167 Pn 23 12 16.4 -0.8
RC01 **Sn 23 12 24.5 +0.1**
RC01 Rabbit Creek A 0.46 167 P **Pn 23 12 16.3 -1.0**
baz=348
RC01 S **Sn 23 12 24.6 +0.2**
baz=348
GHO Glory Hole Cre 0.54 64 Pn 23 12 17.6 -0.8
GHO **Sn 23 12 26.8 +0.3**
GHO IAML 23 12 27.1
comp=E,2μm,0.4s
GHO IAML 23 12 27.6
comp=N,2μm,0.4s
KNK Knik Glacier 0.72 99 Pn 23 12 20.1 -0.7
KNK Knik Glacier 0.72 99 IAML 23 12 33.4
comp=E,1μm,0.2s
KNK IAML 23 12 33.6
comp=N,1μm,0.4s
KNK Knik Glacier 0.72 99 P **Pn 23 12 20.1 -0.7**
baz=280
SML Sawmill 0.82 70 Pn 23 12 21.0 -1.0
SML **Sn 23 12 32.8 -0.2**
SML Sawmill 0.82 70 P **Pn 23 12 21.0 -1.0**
baz=250
SML S **Sn 23 12 32.8 -0.2**
baz=250
SKT Skwentna 0.88 301 Pn 23 12 21.9 -1.0
SKT **Sn 23 12 34.1 -0.4**
SKT Skwentna 0.88 301 IAML 23 12 34.4
comp=E,967nm,0.4s
SKT Skwentna 0.88 301 P **Pn 23 12 21.9 -1.0**
baz=120
SKT S **Sn 23 12 34.1 -0.4**
baz=120
CUT Chulitna 0.89 350 Pn 23 12 22.2 -0.7
CUT Chulitna 0.89 350 Sn **Sn 23 12 34.2 -0.4**
CUT IAML 23 12 36.8
comp=N,1μm,0.2s
CUT Chulitna 0.89 350 P **Pn 23 12 22.2 -0.7**
baz=170
STLK Strandline Lak 0.91 269 Pn 23 12 22.7 -0.7
STLK **Sn 23 12 35.0 -0.3**
STLK Strandline Lak 0.91 269 IAML 23 12 35.9
comp=N,1μm,0.3s
STLK IAML 23 12 35.9
comp=E,865nm,0.3s
CAPN Captain Cook N 0.97 218 Pn **Pn 23 12 23.8 -0.2**
SPCG Spurr Capps Gl 1.03 257 Pn 23 12 24.7 -0.4
PWL Port Wells 1.03 130 Pn 23 12 24.3 -0.7
PWL Port Wells 1.03 130 P **Pn 23 12 24.3 -0.7**
baz=311
SLKM Skilak Lake 1.04 188 Pn 23 12 24.2 -0.9
SLKM Skilak Lake 1.04 188 IAML 23 12 39.0
comp=E,736nm,0.5s
O22K Cooper Landing 1.06 174 Pn 23 12 24.5 -0.8
O22K Cooper Landing 1.06 174 IAML 23 12 41.3
comp=N,1μm,0.3s
O22K IAML 23 12 46.9
comp=E,974nm,0.4s
O22K Cooper Landing 1.06 174 P **Pn 23 12 24.5 -0.8**
baz=354
M23K Glacier View 1.09 75 Pn 23 12 25.1 -0.7
M23K Glacier View 1.09 75 P **Pn 23 12 25.0 -0.7**
baz=257
SPCP Crater Peak Br 1.10 257 Pn 23 12 25.6 -0.4
N20K Mount Spurr 1.14 254 P **Pn 23 12 25.8 -0.7**
baz=72
SPCR Spurr Chakacha 1.14 254 Pn 23 12 25.8 -0.7
SPCR Spurr Chakacha 1.14 254 Pn 23 12 26.0 -0.6
SPCR Spurr Chakacha 1.14 254 P **Pn 23 12 26.0 -0.6**
baz=72
SCM Sheep Creek Mo 1.28 75 Pn 23 12 28.1 -0.4
SCM Sheep Creek Mo 1.28 75 P **Pn 23 12 28.1 -0.4**
baz=257
WAT1 Susitna Watana 1.45 26 Pn 23 12 30.6 -0.2
WAT1 Susitna Watana 1.45 26 P **Pn 23 12 30.6 -0.2**
baz=207
WAT6 Susitna Watana 1.48 44 Pn 23 12 30.8 -0.4
WAT6 Susitna Watana 1.48 44 P **Pn 23 12 30.8 -0.4**
baz=225
GLI Glacier Island 1.53 114 Pn 23 12 30.7 -1.1
GLI Glacier Island 1.53 114 IAML 23 12 55.9
comp=E,383nm,0.7s
GLI Glacier Island 1.53 114 P **Pn 23 12 30.7 -1.1**
baz=296
RDT Redoubt 1.54 232 Pn 23 12 31.2 -0.8
M20K Styx River 1.56 284 Pn 23 12 32.5 +0.2
M20K Styx River 1.56 284 IAML 23 13 24.0
comp=E,584nm,0.6s
M20K Styx River 1.56 284 P **Pn 23 12 32.5 +0.2**
baz=102
RDJH Redoubt Jeurge 1.68 237 Pn 23 12 33.4 -0.6
RDWB Redoubt West 1.76 235 Pn 23 12 34.5 -0.6
RED Redoubt Volcan 1.78 232 Pn 23 12 34.8 -0.5
BRLK Bradley Lake 1.84 195 Pn **Pn 23 12 36.3 +0.3**
FID Port Fidalgo 1.86 114 Pn **Pn 23 12 35.7 -0.6**
M24K Tolsona, Glenn 1.88 71 Pn 23 12 37.1 +0.4
M24K Tolsona, Glenn 1.88 71 IAML 23 13 04.3
comp=E,393nm,0.7s
M24K IAML 23 13 08.1
comp=N,255nm,0.6s
M24K Tolsona, Glenn 1.88 71 P **Pn 23 12 37.1 +0.4**
baz=254
KLU Klutina 1.93 90 Pn **Pn 23 12 37.3 0.0**
DHY Denali Highway 1.96 37 Pn **Pn 23 12 37.7 -0.1**
HIN Hinchinbrook I 2.03 123 Pn **Pn 23 12 40.0 +1.3**
HOM Homer 2.06 205 Pn **Pn 23 12 40.2 +1.1**
KTH Kantishna Hill 2.08 348 Pn **Pn 23 12 39.7 +0.3**
CNPM China Poot 2.12 198 Pn **Pn 23 12 40.3 +0.5**
M19K Big River Lodg 2.15 282 Pn **Pn 23 12 39.7 -0.6**
ILSW Iliamna Southw 2.21 227 Pn **Pn 23 12 41.0 -0.2**
ILSW IAML 23 13 59.5
comp=E,174nm,0.6s
N19K Bonanza Creek 2.32 254 Pn **Pn 23 12 42.5 -0.1**
L19K White Mountain 2.42 288 Pn **Pn 23 12 43.5 -0.5**
P19K Oil Pt 2.49 222 Pn **Pn 23 12 45.5 +0.5**
N25K Chitina, Valde 2.56 86 Pn **Pn 23 12 46.8 +0.8**
N25K IAML 23 14 15.8
comp=N,204nm,0.3s
N25K IAML 23 14 16.2
comp=E,135nm,0.7s
BPAW Bear Paw Mtn. 2.62 350 Pn **Pn 23 12 47.5 +0.8**
BPAW IAML 23 14 26.2
comp=E,137nm,0.5s
SVW2 Sparrevohn 2.75 263 Pn **Pn 23 12 47.9 -0.7**
GLB Gilahina Butte 2.94 89 Pn **Pn 23 12 52.3 +1.1**
N18K Kilae Creek 3.01 256 Pn **Pn 23 12 51.3 -0.8**
O18K Koktuh Hills 3.09 239 Pn **Pn 23 12 53.5 +0.3**
O18K IAML 23 14 47.5
comp=N,85nm,1.1s

*NEIC **30** 23:12:56.9±1.3, 61°.50N±0°.02×149°.95W±0°.05, h41km±4km, Error ellipse: s-maj=3.3km s-min=3.0km az=143.0*
*AEIC **30** 23:12:57.4±1.1, 61°.49N±0°.03×149°.93W±0°.05, h41km±4km, ML3.5, ML3.7/90(NEIC), Error ellipse: s-maj=3.7km s-min=3.2km az=162.0*
ISC 30 23:12:57.2±1.2, 61°.49N±0°.03×149°.95W±0°.02, h40km±8km, n85, σ0°65/93, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.28**	**342**			**Pn**	**23 13 04.7**	**-0.5**
M22K						**Sn**	**23 13 11.5**	**+0.7**
M22K				IAML			23 13 12.0	
comp=E,8μm,0.7s								
M22K				IAML			23 13 14.2	
comp=N,6μm,0.5s								
M22K	**Willow**	**0.28**	**342**	P		**Pn**	**23 13 04.7**	**-0.5**
baz=161								
M22K				S		**Sn**	**23 13 11.7**	**+1.0**
baz=161								
SUA	**Susitna One**	**0.39**	**266**			**Pn**	**23 13 06.3**	**-0.4**
SUA						**Sn**	**23 13 13.9**	**+0.7**
SUA				IAML			23 13 14.4	
comp=E,8μm,0.5s								
SUA	**Susitna One**	**0.39**	**266**	P		**Pn**	**23 13 06.2**	**-0.4**
baz=86								
SUA				S		**Sn**	**23 13 14.0**	**+0.9**
baz=86								
PMR	**Palmer**	**0.40**	**75**			**Pn**	**23 13 06.0**	**-0.7**
PMR						**Sn**	**23 13 13.6**	**+0.3**
PMR				IAML			23 13 13.9	
comp=N,5μm,0.4s								
PMR				IAML			23 13 14.0	
comp=E,4μm,0.3s								
PMR	**Palmer**	**0.40**	**75**	P		**Pn**	**23 13 05.9**	**-0.7**
baz=255								
PMR				S		**Sn**	**23 13 13.6**	**+0.3**
baz=255								
RC01	**Rabbit Creek A**	**0.42**	**166**			**Pn**	**23 13 06.3**	**-0.6**
RC01				Sn		**Sn**	**23 13 13.6**	**0.0**
RC01				IAML			23 13 14.2	
comp=E,3μm,0.2s								
RC01				IAML			23 13 15.1	
comp=N,4μm,0.2s								
RC01	**Rabbit Creek A**	**0.42**	**166**	P		**Pn**	**23 13 06.2**	**-0.7**
baz=347								
GHO	**Glory Hole Cre**	**0.56**	**60**			**Pn**	**23 13 08.2**	**-0.7**
GHO						**Sn**	**23 13 17.4**	**+0.2**
GHO				IAML			23 13 17.9	
comp=E,4μm,0.5s								
GHO				IAML			23 13 18.3	
comp=N,5μm,0.4s								
KNK	**Knik Glacier**	**0.72**	**96**			**Pn**	**23 13 10.4**	**-0.6**
KNK						**Sn**	**23 13 21.8**	**+1.0**
KNK				IAML			23 13 23.9	
comp=E,5μm,0.3s								
KNK	**Knik Glacier**	**0.72**	**96**	P		**Pn**	**23 13 10.4**	**-0.6**
baz=277								
KNK				S		**Sn**	**23 13 21.9**	**+1.0**
baz=277								
SML	**Sawmill**	**0.83**	**67**			**Pn**	**23 13 11.6**	**-1.0**
SML	**Sawmill**	**0.83**	**67**			**Sn**	**23 13 23.9**	**+0.2**
SML				IAML			23 13 26.4	
comp=E,2μm,0.8s								
SML				IAML			23 13 26.8	
comp=N,2μm,0.6s								
SML	**Sawmill**	**0.83**	**67**	P		**Pn**	**23 13 11.6**	**-1.0**
baz=248								
SML				S		**Sn**	**23 13 24.0**	**+0.4**
baz=248								
SKT	**Skwentna**	**0.90**	**304**			**Pn**	**23 13 12.6**	**-0.9**
SKT						**Sn**	**23 13 25.2**	**-0.1**
SKT	**Skwentna**	**0.90**	**304**	P		**Pn**	**23 13 12.6**	**-0.9**
baz=122								
SKT				S		**Sn**	**23 13 25.2**	**-0.1**
baz=122								
STLK	**Strandline Lak**	**0.91**	**271**			**Pn**	**23 13 13.2**	**-0.4**
STLK						**Sn**	**23 13 25.7**	**+0.2**
STLK				IAML			23 13 26.4	
comp=E,2μm,0.6s								
CUT	**Chulitna**	**0.93**	**351**			**Pn**	**23 13 13.0**	**-0.8**
CUT	**Chulitna**	**0.93**	**351**	P		**Pn**	**23 13 13.0**	**-0.8**
baz=170								
CAPN	**Captain Cook N**	**0.93**	**219**	Pn		**Pn**	**23 13 14.3**	**+0.5**
CAPN				Sn			23 13 14.5	-11
CAPN	**Captain Cook N**	**0.93**	**219**	P		**Pn**	**23 13 14.5**	**+0.7**
baz=39								
SLKM	**Skilak Lake**	**1.00**	**188**			**Pn**	**23 13 14.1**	**-0.7**
SLKM	**Skilak Lake**	**1.00**	**188**	IAML			23 13 29.4	
comp=N,2μm,0.2s								
PWL	**Port Wells**	**1.01**	**128**			**Pn**	**23 13 14.4**	**-0.5**
PWL	**Port Wells**	**1.01**	**128**	Sn		**Sn**	**23 13 28.3**	**+0.5**
PWL	**Port Wells**	**1.01**	**128**	P		**Pn**	**23 13 14.4**	**-0.5**
baz=310								
SPCG	**Spurr Capps Gl**	**1.02**	**260**			**Pn**	**23 13 15.0**	**-0.2**
O22K	**Cooper Landing**	**1.02**	**174**			**Sn**	**23 13 29.4**	**+1.3**
O22K	**Cooper Landing**	**1.02**	**174**			**Pn**	**23 13 14.3**	**-0.7**
O22K	**Cooper Landing**	**1.02**	**174**	P		**Pn**	**23 13 14.3**	**-0.7**
baz=354								
SPCP	**Crater Peak Br**	**1.09**	**259**			**Pn**	**23 13 15.9**	**-0.2**
M23K	**Glacier View**	**1.10**	**73**			**Pn**	**23 13 15.7**	**-0.5**
M23K	**Glacier View**	**1.10**	**73**	P		**Pn**	**23 13 15.7**	**-0.5**
baz=255								
N20K	**Mount Spurr**	**1.13**	**256**	P		**Pn**	**23 13 16.1**	**-0.5**
baz=74								
SPCR	**Spurr Chakacha**	**1.13**	**256**			**Pn**	**23 13 16.1**	**-0.5**
SPCR	**Spurr Chakacha**	**1.13**	**256**			**Pn**	**23 13 16.1**	**-0.5**
SPCR	**Spurr Chakacha**	**1.13**	**256**	P		**Pn**	**23 13 16.1**	**-0.5**
baz=74								
SCM	**Sheep Creek Mo**	**1.29**	**74**			**Pn**	**23 13 18.6**	**-0.3**
SCM	**Sheep Creek Mo**	**1.29**	**74**	P		**Pn**	**23 13 18.6**	**-0.3**
baz=256								
WAT7	**Susitna Watana**	**1.44**	**20**			**Pn**	**23 13 20.8**	**-0.2**
WAT1	**Susitna Watana**	**1.49**	**25**			**Pn**	**23 13 21.5**	**-0.1**
WAT1	**Susitna Watana**	**1.49**	**25**	P		**Pn**	**23 13 21.5**	**-0.1**
baz=206								
WAT6	**Susitna Watana**	**1.51**	**43**			**Pn**	**23 13 21.6**	**-0.3**
WAT6	**Susitna Watana**	**1.51**	**43**	P		**Pn**	**23 13 21.6**	**-0.3**
baz=224								
GLI	**Glacier Island**	**1.51**	**113**			**Pn**	**23 13 20.7**	**-1.1**
GLI	**Glacier Island**	**1.51**	**113**	IAML			23 13 46.7	
comp=N,1μm,0.5s								
GLI	**Glacier Island**	**1.51**	**113**	P		**Pn**	**23 13 20.7**	**-1.1**
baz=295								
RDT	**Redoubt**	**1.51**	**234**			**Pn**	**23 13 21.3**	**-0.5**
M20K	**Styx River**	**1.57**	**286**			**Pn**	**23 13 22.8**	**+0.1**
M20K	**Styx River**	**1.57**	**286**	IAML			23 13 45.0	
comp=E,871nm,0.9s								
M20K				IAML			23 13 45.3	
comp=N,481nm,0.6s								
M20K	**Styx River**	**1.57**	**286**	P		**Pn**	**23 13 22.8**	**+0.1**
baz=103								
RDJH	**Redoubt Jeurge**	**1.66**	**238**			**Pn**	**23 13 23.5**	**-0.4**
RDWB	**Redoubt West**	**1.73**	**236**			**Pn**	**23 13 24.3**	**-0.7**
RED	**Redoubt Volcan**	**1.75**	**233**			**Pn**	**23 13 24.4**	**-0.8**
BRLK	**Bradley Lake**	**1.79**	**195**	Pn		**Pn**	**23 13 26.3**	**+0.6**
BRLK				IAML			23 13 51.0	
comp=E,761nm,0.5s								
BRLK				IAML			23 13 51.5	
comp=N,553nm,0.7s								
FID	**Port Fidalgo**	**1.84**	**112**			**Pn**	**23 13 25.3**	**-1.0**
FID	**Port Fidalgo**	**1.84**	**112**	IAML			23 13 57.4	
comp=N,799nm,0.4s								
FID				IAML			23 13 58.4	
comp=E,1μm,0.4s								
M24K	**Tolsona, Glenn**	**1.89**	**69**	Pn		**Pn**	**23 13 26.6**	**-0.5**
M24K				IAML			23 13 55.4	
comp=N,703nm,0.3s								
KLU	**Klutina**	**1.93**	**88**			**Pn**	**23 13 27.3**	**-0.3**
KLU	**Klutina**	**1.93**	**88**	IAML			23 13 58.2	
comp=E,436nm,0.3s								
KLU				IAML			23 13 59.2	
comp=N,562nm,0.5s								
KLU	**Klutina**	**1.93**	**88**	P		**Pn**	**23 13 27.3**	**-0.3**
baz=272								
RND	**Reindeer**	**1.99**	**14**	Pn		**Pn**	**23 13 28.4**	**0.0**
DHY	**Denali Highway**	**1.99**	**36**	Pn		**Pn**	**23 13 28.2**	**-0.3**
DHY				IAML			23 13 59.5	
comp=E,361nm,0.6s								
DHY				IAML			23 14 00.1	
comp=N,306nm,0.4s								
HIN	**Hinchinbrook I**	**2.01**	**122**	Pn		**Pn**	**23 13 28.3**	**-0.3**
HIN				IAML			23 14 01.9	
comp=N,682nm,0.9s								
HIN				IAML			23 14 04.3	
comp=E,714nm,0.6s								
HOM	**Homer**	**2.02**	**205**			**Pn**	**23 13 28.9**	**+0.1**
CNPM	**China Poot**	**2.07**	**198**	Pn		**Pn**	**23 13 29.7**	**+0.1**
CNPM				IAML			23 13 57.4	
comp=N,542nm,0.7s								
CNPM				IAML			23 13 57.7	
comp=E,565nm,0.8s								
KTH	**Kantishna Hill**	**2.12**	**348**	Pn		**Pn**	**23 13 30.4**	**+0.2**
KTH				IAML			23 13 58.4	
comp=E,247nm,0.5s								
KTH				IAML			23 14 01.3	
comp=N,303nm,0.5s								
M19K	**Big River Lodg**	**2.16**	**283**	Pn		**Pn**	**23 13 30.2**	**-0.5**
M19K				IAML			23 13 58.9	
comp=E,225nm,0.8s								
CAST	**Castle Rocks**	**2.17**	**334**	Pn		**Pn**	**23 13 31.1**	**+0.2**
ILSW	**Iliamna Southw**	**2.18**	**227**			**Pn**	**23 13 30.1**	**-1.0**
N19K	**Bonanza Creek**	**2.30**	**255**	Pn		**Pn**	**23 13 31.7**	**-1.0**
L19K	**White Mountain**	**2.43**	**289**	Pn		**Pn**	**23 13 33.2**	**-1.2**
L19K				IAML			23 14 05.3	
comp=E,189nm,0.6s								
P19K	**Oil Pt**	**2.46**	**223**	Pn		**Pn**	**23 13 34.6**	**-0.2**
P19K				IAML			23 14 16.1	
comp=E,522nm,0.5s								
P19K				IAML			23 14 16.6	
comp=N,487nm,0.4s								
O19K	**Port Alsworth**	**2.50**	**241**	Pn		**Pn**	**23 13 34.6**	**-0.8**
O19K				IAML			23 14 05.2	
comp=E,533nm,0.4s								
N25K	**Chitina, Valde**	**2.56**	**85**	Pn		**Pn**	**23 13 37.1**	**+0.9**
N25K				IAML			23 15 19.9	
comp=N,227nm,0.8s								
BPAW	**Bear Paw Mtn.**	**2.66**	**350**	Pn		**Pn**	**23 13 38.0**	**+0.4**
K20K	**Telida**	**2.68**	**316**	Pn		**Pn**	**23 13 37.1**	**-0.8**
K20K				IAML			23 14 16.7	
comp=E,184nm,0.6s								
SVW2	**Sparrevohn**	**2.75**	**264**	Pn		**Pn**	**23 13 38.0**	**-0.8**
GLB	**Gilahina Butte**	**2.95**	**88**	Pn		**Pn**	**23 13 42.2**	**+0.7**
GLB				IAML			23 14 26.7	
comp=N,217nm,0.8s								
GLB				IAML			23 14 27.1	
comp=E,128nm,0.5s								
N18K	**Kilae Creek**	**3.00**	**257**	Pn		**Pn**	**23 13 41.3**	**-0.9**
O18K	**Koktuh Hills**	**3.07**	**240**	Pn		**Pn**	**23 13 41.9**	**-1.2**
WRH	**Wood River Hil**	**3.11**	**15**	Pn		**Pn**	**23 13 43.4**	**-0.3**
KAIM	**Kayak Island**	**3.14**	**118**	Pn		**Pn**	**23 13 42.9**	**-1.2**
KAIM				IAML			23 14 34.5	
comp=E,142nm,1.0s								
KAIM				IAML			23 14 43.2	
comp=N,149nm,0.9s								
SYI	**Shuyak Island**	**3.14**	**204**	Pn		**Pn**	**23 13 43.4**	**-0.7**
SYI				IAML			23 14 30.3	
comp=E,99nm,0.5s								
SYI				IAML			23 14 32.8	
comp=N,139nm,0.5s								
MENT	**Mentasta**	**3.26**	**61**	IAML			23 14 45.8	
comp=E,270nm,0.7s								

*NEIC **30** 23:14:00.9±1.4, 61°.51N±0°.02×149°.94W±0°.05, h40km±6km, Error ellipse: s-maj=3.4km s-min=3.1km az=160.0*
*AEIC **30** 23:14:01.3±1.4, 61°.50N±0°.03×149°.94W±0°.05, h39km±6km, ML3.4, ML3.5/70(NEIC), Error ellipse: s-maj=4.0km s-min=3.3km az=187.0*
ISC 30 23:13:60.0±1.3, 61°.49N±0°.02×149°.92W±0°.02, h21km±5km, n59, σ0°45/70, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.28**	**340**			**Pn**	**23 14 08.6**	**-0.2**
M22K						**Sn**	**23 14 15.0**	**+0.7**
M22K				IAML			23 14 15.9	
comp=N,7μm,0.6s								
M22K	**Willow**	**0.28**	**340**	P		**Pn**	**23 14 08.4**	**-0.3**
baz=161								
M22K				S		**Sn**	**23 14 15.1**	**+0.7**
baz=161								
PMR	**Palmer**	**0.39**	**75**			**Pn**	**23 14 09.7**	**-0.6**
PMR						**Sn**	**23 14 17.2**	**+0.1**
PMR				IAML			23 14 17.7	
comp=E,3μm,0.3s								
PMR				IAML			23 14 17.8	
comp=N,3μm,0.3s								
PMR	**Palmer**	**0.39**	**75**	P		**Pn**	**23 14 09.8**	**-0.6**
baz=256								
PMR				S		**Sn**	**23 14 17.2**	**+0.1**
baz=256								
SUA	**Susitna One**	**0.40**	**266**			**Pn**	**23 14 10.1**	**-0.4**
SUA						**Sn**	**23 14 17.7**	**+0.2**
SUA				IAML			23 14 18.2	
comp=N,5μm,0.6s								
SUA				IAML			23 14 18.6	
comp=E,5μm,0.7s								
SUA	**Susitna One**	**0.40**	**266**	P		**Pn**	**23 14 10.1**	**-0.4**
baz=85								
SUA				S		**Sn**	**23 14 17.8**	**+0.4**
baz=85								
RC01	**Rabbit Creek A**	**0.41**	**168**			**Pn**	**23 14 10.1**	**-0.5**
RC01						**Sn**	**23 14 17.7**	**0.0**
RC01				IAML			23 14 18.6	
comp=N,3μm,0.2s								
RC01	**Rabbit Creek A**	**0.41**	**168**	P		**Pn**	**23 14 10.1**	**-0.5**
baz=347								
RC01				S		**Sn**	**23 14 18.0**	**+0.3**
baz=347								
GHO	**Glory Hole Cre**	**0.55**	**59**			**Pn**	**23 14 12.0**	**-0.6**
GHO						**Sn**	**23 14 21.3**	**+0.1**
GHO				IAML			23 14 22.4	
comp=N,2μm,0.3s								
GHO				IAML			23 14 22.8	
comp=E,2μm,0.3s								
KNK	**Knik Glacier**	**0.71**	**96**	Pn		**Pn**	**23 14 14.2**	**-0.5**
KNK						**Sn**	**23 14 25.1**	**+0.1**
KNK				IAML			23 14 27.6	
comp=E,3μm,0.4s								
SML	**Sawmill**	**0.82**	**67**			**Pb**	**23 14 15.4**	**-0.1**
SML				Sn		**Sn**	**23 14 27.4**	**-0.4**
SML				IAML			23 14 30.3	
comp=N,2μm,0.7s								
SML				IAML			23 14 30.3	
comp=E,1μm,0.6s								
SML	**Sawmill**	**0.82**	**67**	P		**Pb**	**23 14 15.4**	**-0.1**
baz=249								
SKT	**Skwentna**	**0.91**	**303**	Pn		**Pb**	**23 14 16.6**	**-0.4**
SKT						**Sb**	**23 14 28.8**	**+0.1**
SKT				IAML			23 14 29.4	
comp=N,2μm,0.2s								
SKT	**Skwentna**	**0.91**	**303**	S		**Sb**	**23 14 28.8**	**+0.1**
baz=122								
STLK	**Strandline Lak**	**0.92**	**271**			**Pb**	**23 14 17.0**	**-0.2**
STLK						**Sb**	**23 14 29.5**	**+0.5**
STLK				IAML			23 14 30.2	
comp=E,2μm,0.6s								
CUT	**Chulitna**	**0.93**	**350**			**Pb**	**23 14 17.0**	**-0.3**
CUT	**Chulitna**	**0.93**	**350**	P		**Pb**	**23 14 16.9**	**-0.5**
baz=170								
CAPN	**Captain Cook N**	**0.94**	**220**	Pn		**Pn**	**23 14 18.3**	**+0.5**
PWL	**Port Wells**	**1.00**	**129**			**Pb**	**23 14 18.3**	**-0.2**
PWL	**Port Wells**	**1.00**	**129**	IAML			23 14 32.7	
comp=N,2μm,0.6s								
PWL				IAML			23 14 34.9	
comp=E,2μm,0.5s								
PWL	**Port Wells**	**1.00**	**129**	P		**Pb**	**23 14 18.3**	**-0.2**
baz=310								
SLKM	**Skilak Lake**	**1.00**	**189**			**Pb**	**23 14 18.2**	**-0.3**
SLKM	**Skilak Lake**	**1.00**	**189**	IAML			23 14 32.5	
comp=E,2μm,0.5s								
SLKM				IAML			23 14 35.0	
comp=N,1μm,0.2s								
O22K	**Cooper Landing**	**1.02**	**175**			**Pb**	**23 14 18.6**	**-0.2**
O22K	**Cooper Landing**	**1.02**	**175**	P		**Pb**	**23 14 18.6**	**-0.2**
baz=354								
SPCG	**Spurr Capps Gl**	**1.03**	**260**			**Pb**	**23 14 18.6**	**-0.5**
M23K	**Glacier View**	**1.09**	**73**			**Pn**	**23 14 19.9**	**-0.1**
M23K	**Glacier View**	**1.09**	**73**	P		**Pn**	**23 14 19.8**	**-0.1**
baz=255								
SPCP	**Crater Peak Br**	**1.10**	**259**			**Pn**	**23 14 19.8**	**-0.4**
N20K	**Mount Spurr**	**1.14**	**256**	P		**Pn**	**23 14 20.0**	**-0.7**
baz=74								
SPCR	**Spurr Chakacha**	**1.14**	**256**			**Pn**	**23 14 20.0**	**-0.6**
SPCR	**Spurr Chakacha**	**1.14**	**256**			**Pn**	**23 14 20.1**	**-0.6**
SPCR	**Spurr Chakacha**	**1.14**	**256**	P		**Pn**	**23 14 20.1**	**-0.6**
baz=74								
SCM	**Sheep Creek Mo**	**1.28**	**73**			**Pn**	**23 14 22.4**	**-0.3**
SCM	**Sheep Creek Mo**	**1.28**	**73**	P		**Pn**	**23 14 22.4**	**-0.3**
baz=256								
WAT7	**Susitna Watana**	**1.44**	**20**			**Pn**	**23 14 24.6**	**-0.3**
GLI	**Glacier Island**	**1.50**	**113**	Pn		**Pn**	**23 14 24.9**	**-0.7**
GLI				IAML			23 14 49.5	
comp=E,750nm,0.5s								
GLI				IAML			23 14 49.5	
comp=N,720nm,0.6s								
RDT	**Redoubt**	**1.52**	**234**			**Pn**	**23 14 25.1**	**-0.8**
M20K	**Styx River**	**1.58**	**286**	Pn		**Pn**	**23 14 26.7**	**0.0**
M20K				IAML			23 14 49.5	
comp=E,467nm,0.8s								
RDJH	**Redoubt Jeurge**	**1.67**	**238**			**Pn**	**23 14 27.6**	**-0.4**
RDSO	**Redoubt South**	**1.73**	**234**			**Pn**	**23 14 28.0**	**-0.8**
BRLK	**Bradley Lake**	**1.80**	**196**	Pn		**Pn**	**23 14 30.2**	**+0.5**
BRLK				IAML			23 14 55.5	
comp=N,386nm,0.7s								
BRLK				IAML			23 14 56.5	
comp=E,393nm,0.5s								
FID	**Port Fidalgo**	**1.83**	**113**	Pn		**Pn**	**23 14 29.6**	**-0.5**
FID				IAML			23 14 59.8	
comp=N,390nm,0.3s								
FID				IAML			23 15 00.4	
comp=E,384nm,0.4s								
M24K	**Tolsona, Glenn**	**1.88**	**69**	Pn		**Pn**	**23 14 31.3**	**+0.5**
M24K				IAML			23 14 58.9	
comp=N,453nm,0.2s								
KLU	**Klutina**	**1.92**	**88**	Pn		**Pn**	**23 14 30.9**	**-0.5**
KLU				IAML			23 14 58.8	
comp=N,384nm,0.3s								

DHY				IAML		23 15 00.4	
	comp=E,225nm,0.5s						
RND	**Reindeer**	**1.98**	**14**	Pn	**Pn**	**23 14 32.9**	**+0.6**
HIN	**Hinchinbrook I**	**2.00**	**122**	Pn	**Pn**	**23 14 32.6**	**+0.1**
HIN				IAML		23 15 06.6	
	comp=E,372nm,0.7s						
HIN				IAML		23 15 10.5	
	comp=N,300nm,0.7s						
HOM	**Homer**	**2.03**	**206**	Pn	**Pn**	**23 14 33.3**	**+0.6**
CNPM	**China Poot**	**2.08**	**199**	Pn	**Pn**	**23 14 34.0**	**+0.5**
CNPM				IAML		23 15 01.8	
	comp=E,271nm,0.8s						
CNPM				IAML		23 15 03.6	
	comp=N,327nm,0.4s						
KTH	**Kantishna Hill**	**2.12**	**348**	Pn	**Pn**	**23 14 34.2**	**0.0**
KTH				IAML		23 15 16.6	
	comp=N,206nm,0.8s						
M19K	**Big River Lodg**	**2.17**	**283**	Pn	**Pn**	**23 14 34.6**	**-0.1**
ILSW	**Iliamna Southw**	**2.19**	**228**	Pn	**Pn**	**23 14 34.9**	**-0.2**
N19K	**Bonanza Creek**	**2.31**	**255**	Pn	**Pn**	**23 14 36.7**	**-0.2**
L19K	**White Mountain**	**2.44**	**289**	Pn	**Pn**	**23 14 37.7**	**-0.8**
P19K	**Oil Pt**	**2.46**	**223**	Pn	**Pn**	**23 14 39.7**	**+0.8**
P19K				IAML		23 15 18.4	
	comp=E,340nm,0.6s						
P19K				IAML		23 15 34.7	
	comp=N,261nm,0.7s						
N25K	**Chitina, Valde**	**2.55**	**85**	Pn	**Pn**	**23 14 40.9**	**+0.8**
SYI	**Shuyak Island**	**3.15**	**204**	Pn	**Pn**	**23 14 48.1**	**-0.1**
Q19K	**Cape Douglas,**	**3.17**	**217**	Pn	**Pn**	**23 14 48.4**	**-0.1**

*TRN **30** 23:17:54.8, 18.′06N×63.′23W, h111km, MD4.2, West of Saint Martin.*
*IDC **30** 23:17:54.8±3.2, 18.′11N×63.′21W, h80km±31km, mb3.5/9, mbtmp3.9/11, Error ellipse: s-maj=31.4km s-min=18.8km az=37.0*
ISC 30 23:17:56.8±0.8, 17.′96N±0.′08×63.′32W±0.′05, h103km±8km, n30, σ1.9±36/40, mb3.8/9, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**0.83**	**138**	*e*P	**Pn**	**23 18 16.6**	**+0.8**
SKI				*e*S	**Sn**	**23 18 31.2**	**+1.1**
SKOC	**St. Kitts, UWI**	**0.87**	**140**	*e*P	**Pn**	**23 18 16.2**	**+0.1**
SKOC				*e*S	**Sn**	**23 18 32.4**	**+1.8**
ANWB	**Willy Bob**	**1.49**	**101**	*i* P	**Pn**	**23 18 22.6**	**-0.5**
ANWB				*e*S	**Sn**	**23 18 41.5**	**-1.6**
MBFL	**Flemmings, Mon**	**1.60**	**139**	*e*P	**Pn**	**23 18 25.2**	**+0.7**
MBFL				*e*S	**Sn**	**23 18 46.2**	**+0.6**
MBWH		**1.62**	**138**	*e*P	**Pn**	**23 18 25.2**	**+0.4**
MBWH				*e*S	**Sn**	**23 18 46.0**	**0.0**
ANBD	**Bethesda, Anti**	**1.74**	**121**	*i* P	**Pn**	**23 18 25.6**	**-0.6**
ANBD				*e*S	**Sn**	**23 18 47.7**	**-0.9**
TBG	**Guadaloupe-3**	**2.64**	**142**	*e*	**Pn**	**23 18 33.6**	**-4.2**
TBG	**Guadaloupe-3**	**2.64**	**142**	*e*P	**Pn**	**23 18 38.8**	**+0.9**
SJG	**San Juan**	**2.70**	**274**	P	**Pn**	**23 18 38.2**	**-0.3**
	274nm,0.6s,baz=93,slow=11,SNR=108						
SJG				S	**Sn**	**23 19 10.8**	**0.0**
	113nm,0.6s,baz=311,slow=20,SNR=9.0						
SJG	**San Juan**	**2.70**	**274**	*e*P	**Pn**	**23 18 39.1**	**+0.6**
SJG				*e*S	**Sn**	**23 19 11.0**	**+0.3**
AOPR	**Arecibo Observ**	**3.29**	**277**	*e*P	**Pn**	**23 18 47.1**	**+0.7**
AOPR				*e*S	**Sn**	**23 19 25.3**	**+0.4**
ILAM	**Ilet Lapin Mar**	**3.94**	**143**	*e*P	**Pn**	**23 18 55.2**	**-0.1**
ILAM				*e*S	**Sn**	**23 19 39.3**	**-1.4**
BIM	**Bigot**	**4.05**	**147**	*e*P	**Pn**	**23 18 56.8**	**0.0**
BIM	**Bigot**	**4.05**	**147**	*e*S	**Sn**	**23 19 42.1**	**-1.2**
SLBI	**Saint Lucia, B**	**4.52**	**150**	*e*P	**Pn**	**23 19 02.5**	**-0.5**
SLBI	**Saint Lucia, B**	**4.52**	**150**	*e*S	**Sn**	**23 19 53.4**	**-1.1**
SLAC	**Saint Lucia, A**	**4.67**	**150**	*e*P	**Pn**	**23 19 06.4**	**+1.4**
SLAC	**Saint Lucia, A**	**4.67**	**150**	*e*S	**Sn**	**23 19 55.6**	**-2.5**
SDDR	**Presa de Saban**	**7.63**	**279**	*e*P	**Pn**	**23 19 45.0**	**-0.3**
SDDR	**Presa de Saban**	**7.63**	**279**	*e*S	**Sn**	**23 21 06.3**	**-3.9**
MDP	**Montagnes des**	**16.50**	**139**	P	**Pn**	**23 21 41.1**	**-1.1**
	6.5nm,0.7s,baz=315,slow=21,SNR=4.5						
LPAZ	**La Paz**	**34.36**	**188**	P	**P**	**23 24 36.3**	**+1.7**
	0.9nm,0.5s,baz=88,slow=4.5,SNR=4.1						
	0.9nm,0.5s						
TXAR	**Lajitas Array**	**38.48**	**295**	P	**P**	**23 25 10.5**	**+1.4**
	0.2nm,0.5s,baz=116,slow=8.1,SNR=1.9						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**46.20**	**313**	P	**P**	**23 26 11.5**	**-0.1**
	0.9nm,0.6s,baz=118,slow=9.7,SNR=1.8						
	0.9nm,0.6s						
NVAR	**Mina Array Bea**	**51.78**	**305**	P	**P**	**23 26 54.8**	**+0.5**
	0.7nm,0.6s,baz=76,slow=10,SNR=2.6						
	0.7nm,0.6s						
YKA	**Yellowknife Ar**	**56.78**	**334**	P	**P**	**23 27 29.1**	**-0.7**
	0.8nm,0.6s,baz=112,slow=7.0,SNR=8.0						
	0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**62.55**	**84**	P	**P**	**23 28 09.6**	**-0.6**
	0.4nm,0.8s,baz=289,slow=4.4,SNR=1.9						
	0.4nm,0.8s						
ILAR	**Eielson Array**	**71.18**	**333**	P	**P**	**23 29 03.3**	**-0.9**
	1.0nm,0.7s,baz=89,slow=3.8,SNR=3.2						
	1.0nm,0.7s						
ARCES	**ARCESS Array B**	**72.92**	**22**	P	**P**	**23 29 14.6**	**+0.2**
	1.4nm,0.8s,baz=330,slow=7.0,SNR=4.9						
	1.4nm,0.8s						
FINES	**FINESS Array B**	**74.12**	**30**	P	**P**	**23 29 21.6**	**+0.1**
	1.4nm,0.8s,baz=297,slow=8.4,SNR=3.5						
	1.4nm,0.8s						

*NEIC **30** 23:20:08.1±1.7, 61.′41N±0.′02×150.′08W±0.′05, h36km±6km, Error ellipse: s-maj=3.4km s-min=2.5km az=114.0*
AEIC 30 23:20:08.6±1.5, 61.′43N±0.′03×150.′06W±0.′05, h36km±6km, ML2.4, ML2.7/88(NEIC), Error ellipse: s-maj=4.1km s-min=3.3km az=183.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.33**	**355**		Pn	23 20 16.2	-0.6
M22K					Sn	23 20 23.2	-0.4
M22K				IAML		23 20 23.8	
	comp=N,619nm,0.4s						
SUA	**Susitna One**	**0.33**	**276**		Pn	23 20 16.4	-0.6
SUA					Sn	23 20 23.4	-0.6
SUA				IAML		23 20 23.8	
	comp=E,493nm,0.8s						
RC01	**Rabbit Creek A**	**0.38**	**155**		Pn	23 20 16.4	-0.9
RC01					Sn	23 20 23.1	-1.0
RC01				IAML		23 20 23.2	
	comp=N,366nm,0.3s						
PMR	**Palmer**	**0.48**	**70**		Pn	23 20 17.8	-1.0
PMR					Sn	23 20 25.8	-0.1
GHO	**Glory Hole Cre**	**0.64**	**57**		Pn	23 20 20.4	-1.0
GHO				IAML		23 20 31.6	
	comp=E,310nm,0.6s						
GHO	**Glory Hole Cre**	**0.64**	**57**		Sn	23 20 31.0	+0.7
KNK	**Knik Glacier**	**0.77**	**91**		Pn	23 20 22.1	-0.8
KNK					Sn	23 20 34.4	+1.1
KNK	**Knik Glacier**	**0.77**	**91**	IAML		23 20 35.5	
	comp=N,196nm,0.4s						
CAPN	**Captain Cook N**	**0.85**	**219**		Pn	23 20 23.3	-0.6
STLK	**Strandline Lak**	**0.85**	**275**	IAML		23 20 35.9	
	comp=E,168nm,0.3s						
STLK	**Strandline Lak**	**0.85**	**275**		Pn	23 20 23.5	-0.7
STLK					Sn	23 20 35.3	-0.2
SKT	**Skwentna**	**0.89**	**309**		Pn	23 20 23.8	-0.9
SKT					Sn	23 20 36.5	+0.1
SKT	**Skwentna**	**0.89**	**309**	IAML		23 20 36.8	
	comp=N,288nm,0.5s						
SKT				IAML		23 20 37.1	
	comp=E,211nm,0.4s						
SML	**Sawmill**	**0.91**	**65**		Pn	23 20 23.9	-1.0
SML	**Sawmill**	**0.91**	**65**		Sn	23 20 37.4	+0.6
SLKM	**Skilak Lake**	**0.93**	**185**	IAML		23 20 37.8	
	comp=E,288nm,0.4s						
SLKM				IAML		23 20 38.2	
	comp=N,213nm,0.1s						
SLKM	**Skilak Lake**	**0.93**	**185**		Pn	23 20 24.3	-0.9
SLKM					Sn	23 20 37.0	-0.2
SPCG	**Spurr Capps Gl**	**0.95**	**263**		Pn	23 20 24.8	-0.7
SPCG					Sn	23 20 37.7	-0.2
O22K	**Cooper Landing**	**0.97**	**170**		Pn	23 20 24.7	-0.8
O22K					Sn	23 20 38.3	+0.3
CUT	**Chulitna**	**0.98**	**354**	Pn	Pn	23 20 25.7	-0.2
PWL	**Port Wells**	**1.01**	**124**		Sn	23 20 40.0	+0.8
PWL	**Port Wells**	**1.01**	**124**	Pn	Pn	23 20 25.1	-1.2
PWL	**Port Wells**	**1.01**	**124**	IAML		23 20 40.6	
	comp=N,490nm,0.4s						
PWL				IAML		23 20 41.9	
	comp=E,526nm,0.5s						
SPCP	**Crater Peak Br**	**1.02**	**262**		Pn	23 20 25.8	-0.7
SPCR	**Spurr Chakacha**	**1.06**	**258**		Pn	23 20 25.8	-1.1
SPCR	**Spurr Chakacha**	**1.06**	**258**		Pn	23 20 26.0	-1.0
M23K	**Glacier View**	**1.17**	**71**		Pn	23 20 28.1	-0.4
SCM	**Sheep Creek Mo**	**1.37**	**72**		Pn	23 20 31.0	-0.2
M20K	**Styx River**	**1.53**	**289**	Pn	Pn	23 20 33.1	-0.3
M20K				IAML		23 21 30.0	
	comp=E,108nm,0.6s						
GLI	**Glacier Island**	**1.54**	**110**		Pn	23 20 32.4	-1.1
GLI				IAML		23 20 55.7	
	comp=N,89nm,0.4s						
GLI				IAML		23 20 56.5	
	comp=E,87nm,0.5s						
BRLK	**Bradley Lake**	**1.72**	**194**		Pn	23 20 34.3	-1.7
BRLK				IAML		23 20 59.8	
	comp=N,71nm,0.2s						
BRLK				IAML		23 21 00.3	
	comp=E,82nm,0.5s						
FID	**Port Fidalgo**	**1.87**	**110**		Pn	23 20 35.8	-2.2
FID				IAML		23 21 05.2	
	comp=E,53nm,0.6s						
FID				IAML		23 21 09.6	
	comp=N,54nm,0.6s						
HOM	**Homer**	**1.94**	**204**	Pn	Pn	23 20 40.2	+1.2
M24K	**Tolsona, Glenn**	**1.97**	**68**		Pn	23 20 40.4	+0.9
M24K				IAML		23 21 59.0	
	comp=E,66nm,0.6s						
M24K				IAML		23 21 59.1	
	comp=N,53nm,0.6s						
KLU	**Klutina**	**1.99**	**86**		Pn	23 20 39.5	-0.2
KLU				IAML		23 21 58.9	
	comp=E,39nm,0.3s						
KLU				IAML		23 21 59.8	
	comp=N,68nm,0.4s						
CNPM	**China Poot**	**2.00**	**197**	Pn	Pn	23 20 39.5	-0.2
CNPM				IAML		23 21 05.9	
	comp=E,59nm,1.0s						
CNPM				IAML		23 21 08.5	
	comp=N,66nm,0.4s						
HIN	**Hinchinbrook I**	**2.02**	**119**	Pn	Pn	23 20 41.1	+1.0
HIN				IAML		23 21 10.8	
	comp=N,69nm,0.9s						
HIN				IAML		23 21 15.5	
	comp=E,64nm,1.0s						
RND	**Reindeer**	**2.06**	**15**	Pn	Pn	23 20 41.5	+0.8
RND				IAML		23 22 01.1	
	comp=N,34nm,0.5s						
DHY	**Denali Highway**	**2.08**	**36**	Pn	Pn	23 20 41.5	+0.6
DHY				IAML		23 22 03.4	
	comp=N,37nm,0.5s						
ILSW	**Iliamna Southw**	**2.10**	**228**	Pn	Pn	23 20 40.2	-1.0
M19K	**Big River Lodg**	**2.12**	**285**	Pn	Pn	23 20 40.9	-0.5
KTH	**Kantishna Hill**	**2.17**	**350**	Pn	Pn	23 20 43.6	+1.4
CAST	**Castle Rocks**	**2.21**	**336**	Pn	Pn	23 20 42.4	-0.3
CAST				IAML		23 22 06.2	
	comp=E,34nm,0.3s						
N19K	**Bonanza Creek**	**2.23**	**256**	Pn	Pn	23 20 42.6	-0.5
P19K	**Oil Pt**	**2.37**	**223**	Pn	Pn	23 20 46.2	+1.2
L19K	**White Mountain**	**2.40**	**290**	Pn	Pn	23 20 45.6	+0.4
O19K	**Port Alsworth**	**2.43**	**241**	Pn	Pn	23 20 44.1	-1.5
N25K	**Chitina, Valde**	**2.62**	**84**		Pn	23 20 49.1	+0.6
N25K				IAML		23 22 23.3	
	comp=E,30nm,0.5s						
K20K	**Telida**	**2.69**	**318**	Pn	Pn	23 20 49.8	+0.6
K20K				IAML		23 22 36.0	
	comp=E,22nm,0.6s						
SVW2	**Sparrevohn**	**2.69**	**265**	Pn	Pn	23 20 48.7	-0.6
SVW2				IAML		23 22 29.9	
	comp=N,30nm,1.1s						
SVW2				IAML		23 22 35.9	
	comp=E,18nm,0.7s						
BPAW	**Bear Paw Mtn.**	**2.71**	**351**	Pn	Pn	23 20 48.6	-1.1
BPAW				IAML		23 22 31.4	
	comp=N,22nm,0.9s						
BPAW				IAML		23 22 31.9	
	comp=E,28nm,0.4s						
RAGM	**Ragged Mountai**	**2.83**	**109**	Pn	Pn	23 20 52.1	+0.8
N18K	**Kilae Creek**	**2.93**	**258**	Pn	Pn	23 20 51.7	-0.9
N18K				IAML		23 22 45.2	
	comp=E,15nm,0.7s						
O18K	**Koktuh Hills**	**2.99**	**240**		Pn	23 20 52.5	-0.9
O18K				IAML		23 22 52.9	
	comp=N,18nm,0.9s						
GLB	**Gilahina Butte**	**3.00**	**87**	Pn	Pn	23 20 53.2	-0.4
GLB				IAML		23 22 34.8	
	comp=N,29nm,0.4s						
GLB				IAML		23 22 41.2	
	comp=E,22nm,0.6s						
SYI	**Shuyak Island**	**3.06**	**203**		Pn	23 20 54.6	+0.2
SYI				IAML		23 22 37.4	
	comp=E,26nm,1.2s						
SYI				IAML		23 22 52.9	
	comp=N,17nm,1.0s						
Q19K	**Cape Douglas,**	**3.08**	**217**	Pn	Pn	23 20 55.2	+0.6

*NEIC **30** 23:23:48.8±1.3, 61.′46N±0.′03×150.′00W±0.′05, h43km±6km, Error ellipse: s-maj=4.0km s-min=3.3km az=212.0*
AEIC 30 23:23:49.4±1.2, 61.′45N±0.′03×149.′97W±0.′04, h40km±6km, ML2.6, ML2.9/84(NEIC), Error ellipse: s-maj=4.9km s-min=2.9km az=191.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.31**	**346**		Pn	23 23 56.7	-1.1
M22K					Sn	23 24 03.7	0.0
SUA	**Susitna One**	**0.38**	**273**		Pn	23 23 58.0	-0.7
SUA					Sn	23 24 05.5	+0.4
RC01	**Rabbit Creek A**	**0.38**	**163**		Pn	23 23 58.0	-0.6
RC01					Sn	23 24 05.6	+0.6
RC01				IAML		23 24 06.3	
	comp=E,928nm,0.2s						
GHO	**Glory Hole Cre**	**0.59**	**56**		Pn	23 24 00.4	-1.0
GHO					Sn	23 24 09.9	-0.1
GHO	**Glory Hole Cre**	**0.59**	**56**	IAML		23 24 10.7	
	comp=N,484nm,0.4s						
GHO				IAML		23 24 10.7	
	comp=E,564nm,0.5s						
KNK	**Knik Glacier**	**0.72**	**92**		Pn	23 24 02.5	-0.7
KNK					Sn	23 24 14.1	+0.9
KNK	**Knik Glacier**	**0.72**	**92**	IAML		23 24 15.4	
	comp=E,492nm,0.3s						
KNK				IAML		23 24 15.7	
	comp=N,584nm,0.2s						
SML	**Sawmill**	**0.86**	**65**		Pn	23 24 03.8	-1.3
CAPN	**Captain Cook N**	**0.90**	**221**		Pn	23 24 04.2	-1.2
STLK	**Strandline Lak**	**0.90**	**274**		Sn	23 24 17.1	-0.3
STLK	**Strandline Lak**	**0.90**	**274**	Pn	Pn	23 24 03.6	-1.9
STLK				IAML		23 24 17.7	
	comp=N,254nm,0.3s						
STLK				IAML		23 24 17.7	
	comp=E,202nm,0.3s						
SKT	**Skwentna**	**0.92**	**306**		Pn	23 24 04.5	-1.3
SKT					Sn	23 24 17.0	-0.8
SKT	**Skwentna**	**0.92**	**306**	IAML		23 24 17.3	
	comp=E,434nm,0.5s						
SLKM	**Skilak Lake**	**0.95**	**188**		Pn	23 24 05.6	-0.6
SLKM	**Skilak Lake**	**0.95**	**188**	IAML		23 24 20.7	
	comp=E,289nm,0.2s						
SLKM				IAML		23 24 21.3	
	comp=N,225nm,0.2s						
CUT	**Chulitna**	**0.97**	**352**		Pn	23 24 05.4	-1.1
CUT					Sn	23 24 18.7	-0.3
O22K	**Cooper Landing**	**0.98**	**173**		Pn	23 24 06.0	-0.6
O22K					Sn	23 24 20.0	+0.8
PWL	**Port Wells**	**0.99**	**126**		Pn	23 24 06.5	-0.3
SPCG	**Spurr Capps Gl**	**1.00**	**262**		Pn	23 24 06.5	-0.5
SPCP	**Crater Peak Br**	**1.07**	**261**		Pn	23 24 07.7	-0.3
SPCR	**Spurr Chakacha**	**1.11**	**258**		Pn	23 24 07.8	-0.6
SPCR	**Spurr Chakacha**	**1.11**	**258**		Pn	23 24 07.8	-0.7
M23K	**Glacier View**	**1.12**	**71**		Pn	23 24 08.1	-0.5
SCM	**Sheep Creek Mo**	**1.32**	**72**		Pn	23 24 10.9	-0.4
SCM					Sn	23 24 28.7	+1.0
SCM				IAML		23 24 30.5	
	comp=N,163nm,0.4s						
SEW	**Seward**	**1.37**	**169**		Pn	23 24 10.9	-1.1
RDT	**Redoubt**	**1.48**	**235**		Pn	23 24 12.8	-0.7
WAT7	**Susitna Watana**	**1.48**	**20**		Pn	23 24 13.2	-0.5
GLI	**Glacier Island**	**1.50**	**111**		Pn	23 24 12.9	-0.9
GLI	**Glacier Island**	**1.50**	**111**	IAML		23 24 37.3	
	comp=E,155nm,0.4s						
GLI				IAML		23 24 37.9	
	comp=N,157nm,0.3s						
WAT1	**Susitna Watana**	**1.54**	**25**		Pn	23 24 13.9	-0.4
WAT6	**Susitna Watana**	**1.55**	**42**		Pn	23 24 14.1	-0.4
M20K	**Styx River**	**1.57**	**287**		Pn	23 24 14.7	-0.1
M20K	**Styx River**	**1.57**	**287**	IAML		23 24 36.8	
	comp=E,123nm,0.7s						
RDJH	**Redoubt Jeurge**	**1.63**	**239**		Pn	23 24 15.2	-0.4
RDWB	**Redoubt West**	**1.70**	**237**		Pn	23 24 16.1	-0.5
RED	**Redoubt Volcan**	**1.72**	**234**		Pn	23 24 16.3	-0.5
BRLK	**Bradley Lake**	**1.75**	**195**		Sn	23 24 40.1	+1.8
BRLK	**Bradley Lake**	**1.75**	**195**		Pn	23 24 16.4	-0.8
PPLA	**Purkeypile**	**1.79**	**325**		Pn	23 24 17.5	-0.3
FID	**Port Fidalgo**	**1.83**	**111**		Pn	23 24 17.4	-1.0
FID	**Port Fidalgo**	**1.83**	**111**	IAML		23 25 29.6	
	comp=N,100nm,0.4s						
M24K	**Tolsona, Glenn**	**1.92**	**68**		Pn	23 24 20.3	+0.7
P23K	**Montague Islan**	**1.93**	**138**		Pn	23 24 18.0	-1.6
KLU	**Klutina**	**1.94**	**87**	Pn	Pn	23 24 18.8	-1.1
HOM	**Homer**	**1.98**	**205**	Pn	Pn	23 24 19.6	-0.7
HIN	**Hinchinbrook I**	**1.99**	**120**		Pn	23 24 18.5	-2.1
HIN				IAML		23 24 54.1	
	comp=N,91nm,0.5s						
CNPM	**China Poot**	**2.03**	**199**	Pn	Pn	23 24 22.9	+1.8
RND	**Reindeer**	**2.03**	**14**	Pn	Pn	23 24 20.4	-0.7
DHY	**Denali Highway**	**2.03**	**35**	Pn	Pn	23 24 22.4	+1.2
DHY				IAML		23 25 37.5	
	comp=N,60nm,0.5s						
ILSW	**Iliamna Southw**	**2.15**	**228**	Pn	Pn	23 24 21.8	-0.9
ILSW				IAML		23 25 32.6	
	comp=E,53nm,0.8s						
KTH	**Kantishna Hill**	**2.16**	**349**	Pn	Pn	23 24 22.9	+0.1
KTH				IAML		23 24 51.1	
	comp=N,74nm,0.6s						
KTH				IAML		23 25 34.0	
	comp=E,62nm,0.7s						
M19K	**Big River Lodg**	**2.16**	**284**		Pn	23 24 22.1	-0.7
CAST	**Castle Rocks**	**2.21**	**334**		Pn	23 24 23.4	-0.1
N19K	**Bonanza Creek**	**2.28**	**256**	Pn	Pn	23 24 23.9	-0.7
P19K	**Oil Pt**	**2.42**	**223**	Pn	Pn	23 24 26.4	0.0
L19K	**White Mountain**	**2.43**	**290**		Pn	23 24 26.1	-0.4
N25K	**Chitina, Valde**	**2.58**	**84**	Pn	Pn	23 24 28.9	+0.3
N25K				IAML		23 25 50.9	
	comp=N,54nm,0.6s						
N25K				IAML		23 25 51.4	
	comp=E,32nm,0.4s						
BPAW	**Bear Paw Mtn.**	**2.70**	**350**	Pn	Pn	23 24 29.8	-0.4
K20K	**Telida**	**2.71**	**317**	Pn	Pn	23 24 29.7	-0.6
K20K				IAML		23 25 50.1	
	comp=E,35nm,0.7s						
SVW2	**Sparrevohn**	**2.73**	**265**	Pn	Pn	23 24 29.7	-1.0
BWN	**Browne**	**2.74**	**5**	Pn	Pn	23 24 29.8	-1.0
RAGM	**Ragged Mountai**	**2.79**	**110**	Pn	Pn	23 24 31.1	-0.5
GLB	**Gilahina Butte**	**2.96**	**87**	Pn	Pn	23 24 34.0	+0.2
GLB				IAML		23 26 04.4	
	comp=E,27nm,0.5s						
GLB				IAML		23 26 06.2	
	comp=N,38nm,0.8s						
N18K	**Kilae Creek**	**2.98**	**258**	Pn	Pn	23 24 33.1	-1.0
N18K				IAML		23 25 48.9	
	comp=N,23nm,0.8s						
N18K				IAML		23 25 49.2	
	comp=E,22nm,0.9s						
O18K	**Koktuh Hills**	**3.04**	**241**	Pn	Pn	23 24 35.8	+0.9
O18K				IAML		23 26 01.1	
	comp=E,21nm,0.8s						
O18K				IAML		23 26 18.0	
	comp=N,24nm,1.1s						
SYI	**Shuyak Island**	**3.10**	**204**	Pn	Pn	23 24 35.7	0.0
SYI				IAML		23 26 01.3	
	comp=E,36nm,0.8s						
SYI				IAML		23 26 01.6	
	comp=N,31nm,1.1s						

*NEIC **30** 23:28:32.6±2.0, 61.′27N±0.′02×150.′03W±0.′06, h46km±7km, Error ellipse: s-maj=4.3km s-min=3.3km az=86.0*
AEIC 30 23:28:33.3±1.7, 61.′25N±0.′02×150.′04W±0.′05, h31km±3km, ML2.6, ML2.8/70(NEIC), Error ellipse: s-maj=3.8km s-min=3.0km az=99.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.22**	**137**		Pb	23 28 40.0	+0.2
RC01				IAML		23 28 46.9	
	comp=N,886nm,0.2s						
RC01	**Rabbit Creek A**	**0.22**	**137**		Sn	23 28 45.9	+1.0
SUA	**Susitna One**	**0.40**	**303**		Pb	23 28 41.8	-0.5
SUA					Sn	23 28 50.3	+0.7
M22K	**Willow**	**0.51**	**356**		Pb	23 28 42.7	-1.2
M22K					Sb	23 28 50.9	-0.2
CAPN	**Captain Cook N**	**0.72**	**229**	Pn	Pn	23 28 46.1	-1.2
SLKM	**Skilak Lake**	**0.75**	**187**		Pn	23 28 46.5	-1.2
SLKM				IAML		23 28 58.9	
	comp=N,340nm,0.2s						
SLKM				IAML		23 28 59.2	
	comp=E,516nm,0.4s						
SLKM	**Skilak Lake**	**0.75**	**187**		Sb	23 28 57.4	-0.4
GHO	**Glory Hole Cre**	**0.75**	**45**		Pn	23 28 46.1	-1.7
GHO				IAML		23 29 11.9	
	comp=N,557nm,0.5s						
GHO	**Glory Hole Cre**	**0.75**	**45**		Sb	23 28 56.8	-1.1
KNK	**Knik Glacier**	**0.78**	**77**		Sb	23 28 58.0	-0.7
KNK	**Knik Glacier**	**0.78**	**77**		Pn	23 28 46.3	-1.8
O22K	**Cooper Landing**	**0.78**	**168**		Pn	23 28 46.8	-1.3
O22K					Sn	23 28 58.9	+0.2
O22K	**Cooper Landing**	**0.78**	**168**	IAML		23 29 00.8	
	comp=N,491nm,0.4s						
STLK	**Strandline Lak**	**0.90**	**287**		Pn	23 28 48.6	-1.2
PWL	**Port Wells**	**0.92**	**114**		Pn	23 28 48.6	-1.4
SML	**Sawmill**	**0.99**	**55**	IAML		23 29 05.5	
	comp=E,230nm,0.5s						
SKT	**Skwentna**	**1.02**	**317**		Sn	23 29 04.3	-0.5
SKT	**Skwentna**	**1.02**	**317**		Pn	23 28 50.2	-1.3
SKT

BPAW	**Bear Paw Mtn.**	**2.90 352**	Pn	Pn	23 29 17.0	-0.2
BPAW			IAML		23 31 01.5	
	comp=E,22nm,0.5s					
SYI	**Shuyak Island**	**2.90 205**	Pn	Pn	23 29 16.1	-1.1
SYI			IAML		23 31 01.4	
	comp=E,48nm,1.3s					
SYI			IAML		23 31 02.5	
	comp=N,39nm,1.4s					
N18K	**Kilae Creek**	**2.91 261**	Pn	Pn	23 29 17.9	+0.5
O18K	**Koktuh Hills**	**2.91 244**	Pn	Pn	23 29 18.8	+1.5
O18K			IAML		23 31 15.2	
	comp=N,23nm,1.1s					
Q19K	**Cape Douglas,**	**2.94 219**	Pn	Pn	23 29 18.0	+0.1
BWN	**Browne**	**2.95 5**	Pn	Pn	23 29 17.9	0.0
KAIM	**Kayak Island**	**3.07 113**	Pn	Pn	23 29 17.2	-2.4
KAIM			IAML		23 31 23.0	
	comp=N,40nm,1.4s					
KAIM			IAML		23 31 23.0	
	comp=E,37nm,1.2s					

*NEIC **30** 23:28:50.0±1.3, 61°.44N±0°.02×149°.98W±0°.05, h45km±5km, Error ellipse: s-maj=4.1km s-min=1.4km az=52.0*

AEIC 30 23:28:50.2±1.2, 61°.44N±0°.03×150°.00W±0°.05, h44km±4km, ML2.6, ML2.9/68(NEIC), Error ellipse: s-maj=4.5km s-min=3.5km az=186.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.32**	**350**		Pn	23 28 58.1	-0.9
M22K					Sn	23 29 05.5	+0.4
M22K				IAML		23 29 10.2	
	comp=E,1μm,0.5s						
SUA	**Susitna One**	**0.36**	**274**		Pn	23 28 59.0	-0.5
SUA					Sn	23 29 06.7	+0.6
SUA				IAML		23 29 07.2	
	comp=E,834nm,0.8s						
SUA				IAML		23 29 07.7	
	comp=N,715nm,0.7s						
RC01	**Rabbit Creek A**	**0.37**	**160**		Pn	23 28 59.0	-0.6
RC01					Sn	23 29 06.0	-0.2
RC01				IAML		23 29 06.6	
	comp=N,1μm,0.2s						
RC01				IAML		23 29 06.8	
	comp=E,882nm,0.2s						
GHO	**Glory Hole Cre**	**0.61**	**57**		Pn	23 29 01.6	-1.1
GHO					Sn	23 29 11.4	-0.2
KNK	**Knik Glacier**	**0.74**	**91**		Pn	23 29 03.5	-0.9
KNK	**Knik Glacier**	**0.74**	**91**		Sn	23 29 14.7	+0.2
KNK				IAML		23 29 17.1	
	comp=E,585nm,0.4s						
SML	**Sawmill**	**0.88**	**64**		Pn	23 29 04.8	-1.4
SML					Sn	23 29 18.1	+0.1
SML				IAML		23 29 18.9	
	comp=E,216nm,0.9s						
SML				IAML		23 29 19.3	
	comp=N,205nm,0.2s						
STLK	**Strandline Lak**	**0.88**	**275**		Pn	23 29 06.0	-0.3
STLK				Sn	Sn	23 29 18.3	+0.4
STLK				IAML		23 29 19.6	
	comp=E,350nm,0.4s						
SKT	**Skwentna**	**0.91**	**307**		Sn	23 29 18.7	+0.2
SKT	**Skwentna**	**0.91**	**307**	Pn	Pn	23 29 06.0	-0.6
SKT	**Skwentna**	**0.91**	**307**	IAML		23 29 19.1	
	comp=N,319nm,0.2s						
SKT				IAML		23 29 20.4	
	comp=E,248nm,0.4s						
CUT	**Chulitna**	**0.98**	**353**		Pn	23 29 07.0	-0.5
CUT	**Chulitna**	**0.98**	**353**	IAML		23 29 21.5	
	comp=E,376nm,0.3s						
CUT				IAML		23 29 22.3	
	comp=N,216nm,0.2s						
PWL	**Port Wells**	**1.00**	**125**		Pn	23 29 06.7	-1.1
PWL					Sn	23 29 20.5	-0.1
PWL				IAML		23 29 21.0	
	comp=E,422nm,0.5s						
SCM	**Sheep Creek Mo**	**1.34**	**72**		Pn	23 29 11.9	-0.5
SCM				Sn	Sn	23 29 29.2	+0.1
SCM				IAML		23 29 31.3	
	comp=E,206nm,0.6s						
SCM				IAML		23 29 31.8	
	comp=N,206nm,0.8s						
GLI	**Glacier Island**	**1.52**	**110**		Pn	23 29 14.4	-0.5
GLI				IAML		23 30 16.8	
	comp=E,222nm,0.5s						
GLI				IAML		23 30 16.9	
	comp=N,212nm,0.4s						
M20K	**Styx River**	**1.56**	**288**		Pn	23 29 15.6	+0.1
BRLK	**Bradley Lake**	**1.74**	**195**		Pn	23 29 17.4	-0.5
FID	**Port Fidalgo**	**1.85**	**110**		Pn	23 29 18.6	-0.8
FID				IAML		23 30 31.5	
	comp=E,140nm,0.3s						
M24K	**Tolsona, Glenn**	**1.94**	**68**	Pn	Pn	23 29 20.5	-0.2
KLU	**Klutina**	**1.96**	**87**		Pn	23 29 20.4	-0.6
KLU				IAML		23 30 34.7	
	comp=E,84nm,0.5s						
HIN	**Hinchinbrook I**	**2.00**	**120**	Pn	Pn	23 29 21.1	-0.5
CNPM	**China Poot**	**2.01**	**198**	Pn	Pn	23 29 22.4	+0.7
DHY	**Denali Highway**	**2.05**	**36**		Pn	23 29 22.0	-0.3
ILSW	**Iliamna Southw**	**2.12**	**228**	Pn	Pn	23 29 23.4	+0.1
ILSW				IAML		23 30 06.7	
	comp=N,50nm,0.9s						
ILSW				IAML		23 30 32.7	
	comp=E,51nm,1.1s						
M19K	**Big River Lodg**	**2.14**	**284**	Pn	Pn	23 29 22.9	-0.6
KTH	**Kantishna Hill**	**2.17**	**349**	Pn	Pn	23 29 22.4	-1.4
CAST	**Castle Rocks**	**2.21**	**335**	Pn	Pn	23 29 24.6	+0.2
N19K	**Bonanza Creek**	**2.26**	**256**	Pn	Pn	23 29 25.6	+0.4
P19K	**Oil Pt**	**2.40**	**223**	Pn	Pn	23 29 26.9	-0.1
L19K	**White Mountain**	**2.42**	**290**		Pn	23 29 27.2	-0.1
N25K	**Chitina, Valde**	**2.59**	**84**		Pn	23 29 30.0	+0.3
N25K				IAML		23 30 56.3	
	comp=E,48nm,0.5s						
K20K	**Telida**	**2.70**	**317**	Pn	Pn	23 29 30.7	-0.4
SVW2	**Sparrevohn**	**2.72**	**265**	Pn	Pn	23 29 31.0	-0.3
RAGM	**Ragged Mountai**	**2.81**	**110**	Pn	Pn	23 29 33.4	+0.8
N18K	**Kilae Creek**	**2.96**	**258**	Pn	Pn	23 29 33.3	-1.4
GLB	**Gilahina Butte**	**2.98**	**87**		Pn	23 29 35.5	+0.6
VRDI	**Verde Repeater**	**3.17**	**91**	Pn	Pn	23 29 38.6	+1.0

*NEIC **30** 23:30:51.4±1.3, 61°.49N±0°.01×149°.90W±0°.04, h34km±9km, Error ellipse: s-maj=3.0km s-min=2.1km az=94.0*

AEIC 30 23:30:52.1±1.1, 61°.51N±0°.02×149°.89W±0°.04, h32km±7km, ML2.5, ML2.7/62(NEIC), Error ellipse: s-maj=3.2km s-min=1.6km az=124.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	**Willow**	**0.27**	**336**		Pb	23 30 58.9	-0.4
SUA	**Susitna One**	**0.41**	**265**		Pb	23 31 00.7	-0.7
SUA	**Susitna One**	**0.41**	**265**		Sn	23 31 08.2	-0.4
SUA				IAML		23 31 08.7	
	comp=N,633nm,0.7s						
SUA				IAML		23 31 08.7	
	comp=E,890nm,0.6s						
RC01	**Rabbit Creek A**	**0.42**	**170**		Pb	23 31 00.5	-0.9
RC01	**Rabbit Creek A**	**0.42**	**170**		Sb	23 31 07.6	-0.2
RC01				IAML		23 31 08.3	
	comp=E,713nm,0.3s						
RC01				IAML		23 31 08.7	
	comp=N,646nm,0.2s						
GHO	**Glory Hole Cre**	**0.53**	**59**		Pb	23 31 02.1	-1.0
GHO					Sb	23 31 10.7	-0.1
GHO	**Glory Hole Cre**	**0.53**	**59**	IAML		23 31 11.1	
	comp=E,574nm,0.4s						
GHO				IAML		23 31 12.2	
	comp=N,550nm,0.1s						
KNK	**Knik Glacier**	**0.69**	**97**		Pn	23 31 04.3	-1.4
KNK					Sb	23 31 15.0	-0.1
KNK	**Knik Glacier**	**0.69**	**97**	IAML		23 31 18.1	
	comp=N,359nm,0.5s						
KNK				IAML		23 31 18.4	
	comp=E,351nm,0.3s						
SML	**Sawmill**	**0.80**	**67**		Pn	23 31 05.7	-1.6
SML					Sn	23 31 17.3	-0.8
SML	**Sawmill**	**0.80**	**67**	IAML		23 31 19.8	
	comp=E,185nm,0.9s						
SKT	**Skwentna**	**0.92**	**302**		Pn	23 31 07.4	-1.4
SKT					Sn	23 31 20.1	-0.8
SKT	**Skwentna**	**0.92**	**302**	IAML		23 31 21.2	
	comp=E,334nm,0.4s						
CUT	**Chulitna**	**0.92**	**349**		Pn	23 31 07.8	-1.0
CUT					Sn	23 31 20.5	-0.4
STLK	**Strandline Lak**	**0.93**	**270**	IAML		23 31 21.2	
	comp=N,245nm,0.3s						
STLK	**Strandline Lak**	**0.93**	**270**		Pn	23 31 08.0	-1.1
STLK					Sn	23 31 20.4	-1.0
CAPN	**Captain Cook N**	**0.96**	**220**	Pn	Pn	23 31 08.6	-0.7
PWL	**Port Wells**	**0.99**	**130**		Sn	23 31 22.9	+0.1
PWL	**Port Wells**	**0.99**	**130**	Pn	Pn	23 31 09.4	-0.5
PWL	**Port Wells**	**0.99**	**130**	IAML		23 31 24.3	
	comp=E,392nm,0.2s						
PWL				IAML		23 31 24.5	
	comp=N,458nm,0.5s						
SLKM	**Skilak Lake**	**1.01**	**189**		Pn	23 31 08.9	-1.2
SLKM	**Skilak Lake**	**1.01**	**189**	IAML		23 31 23.6	
	comp=E,208nm,0.5s						
SLKM				IAML		23 31 24.1	
	comp=N,209nm,0.2s						
O22K	**Cooper Landing**	**1.03**	**175**	Pn	Pn	23 31 08.8	-1.5
SPCG	**Spurr Capps Gl**	**1.05**	**259**		Pn	23 31 09.8	-0.9
M23K	**Glacier View**	**1.07**	**73**		Pn	23 31 10.1	-0.8
SPCP	**Crater Peak Br**	**1.12**	**259**		Pn	23 31 10.9	-0.8
SPCR	**Spurr Chakacha**	**1.16**	**256**		Pn	23 31 11.1	-1.1
SCM	**Sheep Creek Mo**	**1.27**	**74**	Pn	Pn	23 31 12.7	-0.9
SCM				IAML		23 31 31.2	
	comp=E,182nm,0.4s						
SCM				IAML		23 31 31.7	
	comp=N,138nm,1.0s						
GLI	**Glacier Island**	**1.49**	**114**	Pn	Pn	23 31 15.2	-1.4
M20K	**Styx River**	**1.59**	**285**	Pn	Pn	23 31 17.6	-0.5
BRLK	**Bradley Lake**	**1.81**	**196**	Pn	Pn	23 31 20.6	-0.5
BRLK				IAML		23 31 46.0	
	comp=N,55nm,0.5s						
FID	**Port Fidalgo**	**1.82**	**113**	Pn	Pn	23 31 19.9	-1.3
FID				IAML		23 31 43.2	
	comp=N,117nm,0.4s						
M24K	**Tolsona, Glenn**	**1.86**	**69**	Pn	Pn	23 31 22.1	+0.3
KLU	**Klutina**	**1.90**	**89**	Pn	Pn	23 31 21.3	-1.1
KLU				IAML		23 31 48.2	
	comp=N,61nm,0.3s						
KLU				IAML		23 31 52.5	
	comp=E,52nm,0.3s						
DHY	**Denali Highway**	**1.97**	**36**	Pn	Pn	23 31 21.4	-1.9
DHY				IAML		23 31 51.0	
	comp=E,46nm,0.4s						
DHY				IAML		23 31 51.6	
	comp=N,49nm,0.3s						
RND	**Reindeer**	**1.97**	**14**	Pn	Pn	23 31 22.2	-1.1
HIN	**Hinchinbrook I**	**1.99**	**122**	Pn	Pn	23 31 22.0	-1.5
HIN				IAML		23 31 52.9	
	comp=N,85nm,1.0s						
KTH	**Kantishna Hill**	**2.11**	**347**	Pn	Pn	23 31 25.4	+0.2
KTH				IAML		23 31 53.1	
	comp=E,58nm,0.6s						
KTH				IAML		23 31 53.4	
	comp=N,45nm,0.5s						
M19K	**Big River Lodg**	**2.18**	**283**	Pn	Pn	23 31 25.6	-0.6
L19K	**White Mountain**	**2.45**	**288**	Pn	Pn	23 31 29.1	-0.7
N25K	**Chitina, Valde**	**2.54**	**85**	Pn	Pn	23 31 30.7	-0.4
N25K				IAML		23 32 08.3	
	comp=N,31nm,0.5s						
K20K	**Telida**	**2.69**	**316**	Pn	Pn	23 31 30.7	-2.5
GLB	**Gilahina Butte**	**2.92**	**89**	Pn	Pn	23 31 37.8	+1.5
GLB				IAML		23 32 20.4	
	comp=N,20nm,0.9s						
GLB				IAML		23 32 25.0	
	comp=E,16nm,0.8s						
O18K	**Koktuh Hills**	**3.10**	**240**	Pn	Pn	23 31 39.1	+0.4
O18K				IAML		23 32 01.4	
	comp=E,17nm,1.1s						
O18K				IAML		23 32 04.3	
	comp=N,16nm,0.9s						
SYI	**Shuyak Island**	**3.16**	**204**	Pn	Pn	23 31 40.7	+1.1
SYI				IAML		23 32 25.9	
	comp=E,19nm,1.2s						
SYI				IAML		23 32 30.3	
	comp=N,16nm,1.1s						

*IDC **30** 23:40:36.8±1.1, 36°.45N×28°.69E, h0km, mb3.7/5, mbtmp3.7/11, ML3.7/6, MS3.3/3, Error ellipse: s-maj=19.9km s-min=19.1km az=71.0*

*ISK **30** 23:40:41.4, 36°.52N×28°.69E, h19km, ML3.7/27*

*AFAD **30** 23:40:41.8±0.0, 36°.53N×28°.67E, h7km±3km, MW3.8*

*ATH **30** 23:40:41.5, 36°.46N×28°.76E, h17km±4km, ML3.6/7, Manual Solution by E.Daskalaki First location: 2018/11/30 23:42:13, This location: 2019/02/05 12:39:34 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 2 km*

*GII **30** 23:40:41.9±0.2, 36°.32N±0°.01×28°.879E±0°.004, h20km, Mws3.1, confirmed*

*NIC **30** 23:40:41.3, 36°.30N×28°.82E, h11km±3km, Ml3.2/9*

*THE **30** 23:40:42.3, 36°.54N×28°.61E, h2km±1km, ML3.5/3, Error ellipse: s-maj=2.4km s-min=0.7km az=103.0*

ISC 30 23:40:40.3±0.9, 36°.44N±0°.02×28°.72E±0°.02, h18km±3km, n190, σ1§38/239, mb3.5/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.35**	**56**	P	**Pg**	**23 40 48.7**	**+1.0**
FETY				S	**Sb**	**23 40 55.0**	**+1.8**
FETY	**Fethiye**	**0.35**	**56**	Pg	**Pb**	**23 40 48.9**	**+0.9**
FETY				Sg	**Sb**	**23 40 54.8**	**+1.6**
DALY	**Dalyan (Mula)**	**0.38**	**351**	Pg	**Pg**	**23 40 48.5**	**+0.3**
DALY				Sg	**Sg**	**23 40 53.5**	**0.0**
IZZE	**Mula-Seydike**	**0.40**	**91**	P	**Pn**	**23 40 50.8**	**-0.4**
RODB	**Rodos**	**0.41**	**271**	P	**Pb**	**23 40 50.4**	**+1.4**
RODB				S	**Sb**	**23 40 56.9**	**+2.1**
SABU	**Mula-Dalaman**	**0.43**	**27**	P	**Pg**	**23 40 49.6**	**+0.5**
SABU				S	**Sg**	**23 40 55.6**	**+0.5**
SABU				*i* AML	AML	23 40 58.0	
	comp=N,7μm,0.7s						
MRSB	**Marmaris-Mugla**	**0.50**	**303**	Pg	**Pb**	**23 40 51.3**	**+0.7**
TURN	**Turunc**	**0.51**	**311**	P	**Pb**	**23 40 50.8**	**+0.1**
TURN				S	**Sb**	**23 40 57.5**	**-0.2**
TURN				*i* AML	AML	23 40 58.0	
	comp=N,1μm,0.5s						
TURN	**Turunc**	**0.51**	**311**	Pg	**Pb**	**23 40 50.6**	**-0.1**
TURN				Sg	**Sb**	**23 40 57.6**	**-0.2**
ARG	**Arkhangelos**	**0.53**	**245**	Pg	**Pg**	**23 40 52.3**	**+1.2**
ARG	**Arkhangelos**	**0.53**	**245**	P	**Pg**	**23 40 52.2**	**+1.2**
ARG				S	**Sb**	**23 41 00.3**	**+1.9**
	4μm,0.6s						
ARG	**Arkhangelos**	**0.53**	**245**	P	**Pg**	**23 40 52.2**	**+1.2**
ARG				S	**Sn**	**23 41 01.1**	**-0.4**
ARG				AML	AML	23 41 04.9	
	5.4nm,0.3s						
ARG				AML	AML	23 41 05.1	
	8.2nm,0.6s						
ARG	**Arkhangelos**	**0.53**	**245**	P	**Pg**	**23 40 52.0**	**+1.0**
ARG				S	**Sb**	**23 41 00.4**	**+1.9**
CAME	**Cameli-Denizli**	**0.68**	**43**	Pg	**Pb**	**23 40 54.4**	**+0.7**
AKAS	**Kas**	**0.74**	**106**	P	**Pn**	**23 40 57.3**	**+1.3**
AKAS				S	**Sn**	**23 41 09.8**	**+3.0**
AKAS				*i* AML	AML	23 41 14.0	
	comp=E,4μm,0.8s						
AKAS	**Kas**	**0.74**	**106**	Pg	**Pn**	**23 40 57.5**	**+1.5**
KSL	**Kastellorizon**	**0.75**	**113**	P	**Pn**	**23 40 56.2**	**+0.2**
KSL				S	**Sn**	**23 41 06.2**	**-0.7**
YER	**Yerkesik**	**0.78**	**333**	Pg	**Pb**	**23 40 55.3**	**-0.1**
YER				Sg	**Sb**	**23 41 05.4**	**-0.1**
YER	**Yerkesik**	**0.78**	**333**	P	**Pb**	**23 40 55.2**	**-0.1**
YER				S	**Sb**	**23 41 04.6**	**-0.9**
KNIK	**Mula-Seydike**	**0.79**	**59**	P	**Pb**	**23 40 56.6**	**+1.0**
KNIK				S	**Sn**	**23 41 08.4**	**+0.3**
KNIK				*i* AML	AML	23 41 13.0	
	comp=E,2μm,0.5s						
KNIK				*i* AML	AML	23 41 14.0	
	comp=N,2μm,0.6s						
CAEL	**Denizli, Camel**	**0.83**	**35**	P	**Pb**	**23 40 56.7**	**+0.4**
DNZT	**Denizli-Tavas-**	**0.87**	**16**	P	**Pb**	**23 40 57.3**	**+0.4**
DNZT				P	**Pg**	**23 40 57.6**	**+0.3**
DNZT				S	**Sb**	**23 41 08.4**	**+0.2**
DNZT				*i* AML	AML	23 41 11.0	
	comp=E,853nm,0.8s						
MULA	**Mugla, Merkez-**	**0.87**	**338**	P	**Pb**	**23 40 57.2**	**+0.2**
MULA				S	**Sb**	**23 41 07.3**	**-1.1**
MULA				*i* AML	AML	23 41 08.0	
	comp=E,3μm,0.7s						
DATC	**Datca-Mugla**	**0.91**	**291**	Pg	**Pb**	**23 40 58.8**	**+1.2**
DAT	**Datca**	**0.97**	**287**	P	**Pb**	**23 40 59.4**	**+0.8**
DAT	**Datca**	**0.97**	**287**	Pg	**Pb**	**23 40 59.4**	**+0.8**
DAT	**Datca**	**0.97**	**287**	P	**Pb**	**23 40 59.2**	**+0.6**
DAT				S	**Sb**	**23 41 11.6**	**+0.6**
DEMR	**Demre-Antalya**	**0.98**	**102**	Pg	**Pg**	**23 41 00.9**	**+1.6**
ELL	**Elmali**	**1.00**	**72**	Pg	**Pg**	**23 41 00.7**	**+0.9**
ELL	**Elmali**	**1.00**	**72**	P	**Pb**	**23 40 59.8**	**+0.6**
ELL				AML	AML	23 41 19.2	
	28nm,0.6s						
ELL				AML	AML	23 41 19.6	
	34nm,0.6s						
ELL	**Elmali**	**1.00**	**72**	P	**Pb**	**23 40 59.5**	**+0.3**
ELL				S	**Sb**	**23 41 13.1**	**+1.0**
TAVA	**DENIZLI_Tavas**	**1.03**	**8**	P	**Pb**	**23 40 59.7**	**0.0**
TAVA				S	**Sb**	**23 41 13.9**	**+1.0**
TAVA				*i* AML	AML	23 41 17.0	
	comp=E,2μm,0.6s						
YAZI	**Mula-Dat§a-**	**1.05**	**283**	P	**Pb**	**23 41 00.6**	**+0.6**
YAZI				S	**Sb**	**23 41 12.9**	**-0.5**
YAZI				*i* AML	AML	23 41 18.0	
	comp=N,527nm,0.4s						
APMY	**Acipayam-Deniz**	**1.13**	**24**	Pg	**Pn**	**23 41 01.5**	**+0.3**
BDRM	**Kayabasi**	**1.20**	**301**	P	**Pn**	**23 41 02.5**	**+0.3**
DNIZ	**Denizli-Tavas-**	**1.21**	**12**	P	**Pn**	**23 41 02.7**	**+0.4**
DNIZ				S	**Sb**	**23 41 19.0**	**+1.1**
DNIZ				*i* AML	AML	23 41 21.0	
	comp=E,2μm,0.5s						
BODT	**Bodrum**	**1.29**	**299**	Pn	**Pn**	**23 41 04.4**	**+0.9**
BODT	**Bodrum**	**1.29**	**299**	P	**Pn**	**23 41 04.0**	**+0.5**
BODT				S	**Sn**	**23 41 20.5**	**+0.2**
AKUM	**Antalya-Kumluc**	**1.31**	**95**	P	**Pg**	**23 41 06.4**	**+0.8**
YKAV	**Yalikavak-Bodr**	**1.34**	**301**	Pn	**Pn**	**23 41 04.4**	**+0.3**
ESEN	**Aydn-Nazilli**	**1.39**	**348**	P	**Pn**	**23 41 05.6**	**+0.9**
ESEN				S	**Sn**	**23 41 20.2**	**-2.4**
ESEN				*i* AML	AML	23 41 24.0	
	comp=E,632nm,0.6s						
KORT	**Korkueli**	**1.42**	**66**	P	**Pg**	**23 41 07.8**	**+0.1**
KORT				S	**Sg**	**23 41 29.4**	**+3.1**
KORT				*i* AML	AML	23 41 32.0	
	comp=E,2μm,0.6s						
KORT	**Korkueli**	**1.42**	**66**	Pn	**Pb**	**23 41 07.1**	**+0.8**
INCE	**Denizli-Bozkur**	**1.44**	**28**	P	**Pn**	**23 41 06.9**	**+1.4**
KEMT	**Kemer-ANTALYA**	**1.48**	**83**	Pn	**Pb**	**23 41 08.4**	**+1.1**
KLNA	**Kalymnos**	**1.50**	**291**	P	**Pn**	**23 41 07.4**	**+1.2**
KLNA				S	**Sb**	**23 41 27.4**	**+1.1**
KARP	**Karpathos**	**1.55**	**235**	Pn	**Pb**	**23 41 08.9**	**+0.3**
KARP	**Karpathos**	**1.55**	**235**	P	**Pb**	**23 41 08.8**	**+0.3**
KARP				S	**Sg**	**23 41 30.2**	**-0.2**
	2μm,0.8s						
KARP	**Karpathos**	**1.55**	**235**	P	**Pb**	**23 41 09.1**	**+0.6**
KARP	**Karpathos**	**1.55**	**235**	P	**Pb**	**23 41 08.9**	**+0.3**
KARP				S	**Sg**	**23 41 29.7**	**-0.8**
KARP				AML	AML	23 41 34.1	
	3.5nm,0.5s						
KARP				AML	AML	23 41 35.7	
	3.8nm,0.9s						
KARP	**Karpathos**	**1.55**	**235**	P	**Pb**	**23 41 08.8**	**+0.3**
KARP				S	**Sb**	**23 41 28.7**	**+0.8**
NAZL	**Nazilli-Aydin**	**1.56**	**347**	Pn	**Pn**	**23 41 08.7**	**+1.6**
DDIM	**Aydin, Didim**	**1.56**	**311**	P	**Pn**	**23 41 07.6**	**+0.4**
DDIM				S	**Sn**	**23 41 27.1**	**+0.3**
DDIM				*i* AML	AML	23 41 30.0	
	comp=N,944nm,1.1s						
ANTB	**Antalya**	**1.62**	**73**	Pn	**Pb**	**23 41 10.2**	**+0.6**
BRDR	**BURDUR-Merkez**	**1.65**	**40**	P	**Pn**	**23 41 09.8**	**+1.4**
BRDR				S	**Sg**	**23 41 33.6**	**+0.1**
BRDR				*i* AML	AML	23 41 37.0	
	comp=E,1μm,0.7s						
BUCA	**Burdur, Bucak-**	**1.71**	**59**	P	**Pb**	**23 41 11.8**	**+0.4**
GCAM	**G?zelcaml?**	**1.73**	**317**	P	**Pn**	**23 41 10.4**	**+0.9**
GCAM				S	**Sn**	**23 41 31.1**	**0.0**
GCAM				*i* AML	AML	23 41 33.0	
	comp=N,691nm,0.6s						
GCAM	**G?zelcaml?**	**1.73**	**317**	Pn	**Pn**	**23 41 11.1**	**+1.6**
IZMR	**zmir-demi**	**1.80**	**340**	P	**Pn**	**23 41 10.9**	**+0.5**
BCK	**Bucak**	**1.81**	**55**	Pn	**Pn**	**23 41 12.3**	**+1.7**
BASM	**Basmaki-Afyon**	**1.81**	**35**	Pn	**Pn**	**23 41 11.7**	**+1.0**
SMG	**Samos**	**1.97**	**310**	P	**Pn**	**23 41 13.2**	**+0.4**
SMG				S	**Sn**	**23 41 37.9**	**+0.9**
	1μm,0.5s						
SMG	**Samos**	**1.97**	**310**	P	**Pn**	**23 41 13.5**	**+0.7**
SMG				S	**Sn**	**23 41 38.5**	**+1.5**
ISP	**Isparta**	**1.99**	**46**	Pn	**Pn**	**23 41 14.5**	**+1.3**
ISP	**Isparta**	**1.99**	**46**	P	**Pn**	**23 41 14.5**	**+1.3**
ISP	**Isparta**	**1.99**	**46**	P	**Pn**	**23 41 14.0**	**+0.9**
PASA	**Karahalli, USA**	**2.00**	**18**	P	**Pn**	**23 41 13.4**	**+0.2**
PASA				S	**Sn**	**23 41 37.5**	**-0.3**
KULA	**Kula-Manisa**	**2.07**	**359**	Pn	**Pn**	**23 41 14.4**	**+0.2**
KULA	**Kula-Manisa**	**2.07**	**359**	P	**Pn**	**23 41 14.3**	**+0.1**
KULA				S	**Sn**	**23 41 40.6**	**+1.1**
GMLD	**Gumuldur**	**2.18**	**319**	Pn	**Pn**	**23 41 17.3**	**+1.7**
GOMA	**Golmarmara-Man**	**2.35**	**344**	Pn	**Pn**	**23 41 18.6**	**+0.6**
BLCB	**Balcova**	**2.36**	**326**	Pn	**Pn**	**23 41 18.9**	**+0.8**
ZKR	**Zakros**	**2.43**	**238**	P	**Pn**	**23 41 20.9**	**+1.8**
ZKR				S	**Sb**	**23 41 51.7**	**-1.5**
ZKR				AML	AML	23 42 07.0	
	0.4nm,1.2s						
ZKR				AML	AML	23 42 13.4	
	0.8nm,0.8s						
ZKR	**Zakros**	**2.43**	**238**	P	**Pn**	**23 41 21.4**	**+2.3**
GORD	**Gordes-Manisa**	**2.50**	**350**	Pn	**Pn**	**23 41 20.2**	**+0.1**
DKL	**Dikili**	**2.99**	**332**	P	**Pn**	**23 41 27.5**	**+0.7**
AKMS	**Akamas**	**3.26**	**115**	P	**Pn**	**23 41 31.0**	**+0.4**
AKMS				S	**Sn**	**23 42 08.8**	**-0.1**
AKMS				AML	AML	23 42 15.3	
	0.3nm,0.6s						
AKMS				AML	AML	23 42 18.1	
	0.2nm,0.4s						
ALFC	**Alefka**	**3.40**	**111**	P	**Pn**	**23 41 32.5**	**0.0**
ALFC				S	**Sn**	**23 42 13.0**	**+0.6**
ALFC				AML	AML	23 42 13.7	
	0.2nm,0.5s						
ALFC				AML	AML	23 42 21.0	
	0.2nm,0.4s						
PRK	**Paraskevi**	**3.41**	**326**	P	**Pn**	**23 41 33.5**	**+1.1**
PRK				S	**Sn**	**23 42 13.5**	**+1.1**
NATA	**Nata**	**3.55**	**117**	P	**Pn**	**23 41 35.1**	**+0.6**
NATA	

KLV	Kalavryta, Ach	5.48 289	P	Pn	23 42 04.1	+3.0
KOKK	Kokkinochori,	5.72 321	P	Pn	23 42 05.7	+1.4
ANX	Ano Chora	5.82 294	P	Pn	23 42 08.2	+2.5
HORT	Hortiatis	6.05 315	P	Pn	23 42 11.4	+2.5
SOH	Sokhos	6.06 318	P	Pn	23 42 11.3	+2.3
TYRN	Tyrnavos	6.07 304	P	Pn	23 42 10.8	+1.7
NVR	Nevrokopi	6.19 324	P	Pn	23 42 13.1	+2.2
HNTI	Hanita	6.28 120	P	Pn	23 42 11.2	-0.8
HNTI	Hanita	6.28 120	S	Sn	23 43 20.9	-2.4
HNTI	Hanita	6.28 120	P	Pn	23 42 11.5	-0.5
OFRI	`Ofer	6.42 125	P	Pn	23 42 13.0	-1.0
OFRI	`Ofer	6.42 125	S	Sn	23 43 24.3	-2.5
OFRI	`Ofer	6.42 125	P	Pn	23 42 13.4	-0.6
MMA0	Mount Meron ar	6.47 120	P	Pn	23 42 14.4	-0.4
MMA0B	Mount Meron ar	6.47 120	P	Pn	23 42 14.2	-0.5
MMA0B	Mount Meron ar	6.47 120	S	Sn	23 43 26.1	-2.1
MMA3	Mount Meron ar	6.47 120	P	Pn	23 42 14.3	-0.5
MMAI	Mount Meron Ar	6.47 120	Pn	Pn	23 42 14.1	-0.7
	7.9nm,0.3s,baz=304,slow=13,SNR=93					
MMAI			Sn	Sn	23 43 25.8	-2.4
	4.9nm,0.3s,baz=305,slow=23,SNR=6.0					
	11nm,0.4s					
KNT	Kendrikon	6.55 318	P	Pn	23 42 18.0	+2.3
GEM	Giv'at Ha'Em	6.55 117	P	Pn	23 42 15.5	-0.3
GEM	Giv'at Ha'Em	6.55 117	S	Sn	23 43 27.6	-2.5
GEM	Giv'at Ha'Em	6.55 117	P	Pn	23 42 15.3	-0.4
NATI	Neve Ativ	6.58 117	P	Pn	23 42 15.6	-0.5
NATI	Neve Ativ	6.58 117	S	Sn	23 43 28.6	-2.0
NATI	Neve Ativ	6.58 117	P	Pn	23 42 15.7	-0.4
SLTI	Sal'it	6.70 127	P	Pn	23 42 17.7	-0.1
SLTI	Sal'it	6.70 127	P	Pn	23 42 16.7	-1.1
SLTI	Sal'it	6.70 127	S	Sn	23 43 30.9	-2.7
KSHT	Keshet	6.78 119	S	Sn	23 43 33.4	-2.3
KSHT	Keshet	6.78 119	P	Pn	23 42 18.5	-0.4
MMLI	Mount Malkishu	6.82 124	P	Pn	23 42 19.1	-0.4
MMLI	Mount Malkishu	6.82 124	S	Sn	23 43 34.2	-2.6
SHMJ	Saham	6.89 121	P	Pn	23 42 21.3	+0.9
QRNJ	Al-Qirein	6.99 124	P	Pn	23 42 21.4	-0.3
HMDT	Nahal Hemdat	7.01 125	P	Pn	23 42 22.1	+0.1
HMDT	Nahal Hemdat	7.01 125	S	Sn	23 43 38.7	-2.5
HMDT	Nahal Hemdat	7.01 125	P	Pn	23 42 21.7	-0.3
AMAZ	Amatzia	7.10 132	P	Pn	23 42 22.7	-0.6
AMAZ	Amatzia	7.10 132	P	Pn	23 42 22.8	-0.5
AMAZ	Amatzia	7.10 132	S	Sn	23 43 40.9	-2.6
UJAP	Al Uja	7.16 127	P	Pn	23 42 23.4	-0.6
UJAP	Al Uja	7.16 127	S	Sn	23 43 42.2	-2.7
KZIT	Kziot	7.27 138	P	Pn	23 42 25.3	-0.3
KZIT	Kziot	7.27 138	P	Pn	23 42 25.0	-0.6
KZIT	Kziot	7.27 138	S	Sn	23 43 45.0	-2.7
YTIR	Yattir	7.34 132	P	Pn	23 42 26.0	-0.7
YTIR	Yattir	7.34 132	S	Sn	23 43 47.2	-2.4
YTIR	Yattir	7.34 132	P	Pn	23 42 26.1	-0.5
DSI	Dead Sea	7.36 129	P	Pn	23 42 26.2	-0.6
DSI	Dead Sea	7.36 129	S	Sn	23 43 47.9	-1.9
DSI	Dead Sea	7.36 129	P	Pn	23 42 26.2	-0.6
MSBI	Mazada	7.52 131	P	Pn	23 42 28.3	-0.7
MSBI	Mazada	7.52 131	P	Pn	23 42 28.4	-0.6
MSBI	Mazada	7.52 131	S	Sn	23 43 51.3	-2.6
GHAJ	Ghor Haditha	7.66 130	P	Pn	23 42 30.3	-0.6
GHAJ	Ghor Haditha	7.66 130	P	Pn	23 42 30.3	-0.6
GHAJ	Ghor Haditha	7.66 130	S	Sn	23 43 54.5	-2.7
ZFRI	Zfri	7.97 136	P	Pn	23 42 34.8	-0.4
ZFRI	Zfri	7.97 136	P	Pn	23 42 33.9	-1.3
ZFRI	Zfri	7.97 136	S	Sn	23 44 02.0	-2.9
ASF	Jabal al Asfar	7.99 120	Pn	Pn	23 42 35.9	+0.3
	0.3nm,0.3s,baz=242,slow=2.1,SNR=4.9					
	1.2nm,0.3s					
PRNI	Paran	8.03 137	P	Pn	23 42 35.0	-1.0
PRNI	Paran	8.03 137	S	Sn	23 44 04.2	-2.2
PRNI	Paran	8.03 137	P	Pn	23 42 35.5	-0.6
KRMI	Paran Flat	8.06 140	P	Pn	23 42 35.9	-0.7
KRMI	Paran Flat	8.06 140	S	Sn	23 44 05.0	-2.3
HRFI	Mount Harif	8.29 139	P	Pn	23 42 39.0	-0.7
HRFI	Mount Harif	8.29 139	S	Sn	23 44 10.2	-2.7
HRFI	Mount Harif	8.29 139	P	Pn	23 42 39.0	-0.7
MBRI	Mt Berech	8.42 140	P	Pn	23 42 41.0	-0.5
MBRI	Mt Berech	8.42 140	P	Pn	23 42 41.1	-0.3
MBRI	Mt Berech	8.42 140	S	Sn	23 44 13.6	-2.5
EIL	Elat	8.54 141	Pn	Pn	23 42 41.3	-1.8
	0.8nm,0.3s,baz=1.6,slow=4.9,SNR=9.6					
EIL			Sn	Sn	23 44 11.6	-7.3
	0.3nm,0.3s,baz=349,slow=17,SNR=1.7					
	2.0nm,0.3s					
EIL	Elat	8.54 141	P	Pn	23 42 42.3	-0.7
EIL	Elat	8.54 141	S	Sn	23 44 16.5	-2.4
EIL	Elat	8.54 141	P	Pn	23 42 42.3	-0.7
MLR	Muntele Rosu	9.28 348	Pn	Pn	23 42 54.0	+0.8
	0.3nm,0.3s,baz=221,slow=11,SNR=6.5					
	3.6nm,0.9s					
VRAC	Vranov	15.61 329	LR	LR	23 51 28.4	
	comp=Z,119nm,19.6s,baz=174,slow=42					
GERES	GERESS Array B	16.57 323	Pn	Pn	23 44 30.5	-1.2
	0.1nm,0.3s,baz=82,slow=13,SNR=1.6					
GERES			LR	LR	23 51 59.4	
	comp=Z,134nm,20.9s,baz=58,slow=41					
	0.2nm,0.3s					
FINES	FINESS Array B	25.08 357	P	P	23 46 02.6	-0.8
	4.5nm,0.7s,baz=164,slow=7.5,SNR=6.7					
	4.5nm,0.7s					
TORD	Torodi Ar. Bea	33.55 233	P	P	23 47 18.4	-0.8
	1.4nm,0.7s,baz=29,slow=11,SNR=11					
	1.4nm,0.7s					
KURBB	Kurchatov Arra	38.05 52	P	P	23 47 57.0	-0.5
	0.4nm,0.7s,baz=355,slow=6.5,SNR=2.6					
	0.4nm,0.7s					
MKAR	Makanchi Array	40.64 58	P	P	23 48 18.1	-1.1
	0.8nm,0.7s,baz=268,slow=7.2,SNR=4.3					
	0.8nm,0.7s					
SONM	Songino Array	56.42 52	P	P	23 50 20.2	-0.6
	0.2nm,0.4s,baz=336,slow=3.2,SNR=1.6					
	0.2nm,0.4s					

*NEIC **30** 23:41:36.6±0.9, 61°.37N±0°.03×150°.07W±0°.05, h40km±9km, Error ellipse: s-maj=3.8km s-min=3.3km az=181.0*

AEIC 30 23:41:37.1±1.1, 61°.38N±0°.02×150°.06W±0°.04, h35km±6km, ML2.3, ML2.5/74(NEIC), Error ellipse: s-maj=3.2km s-min=1.9km az=222.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	Rabbit Creek A	0.33 151		Pg	Pb	23 41 44.6	-0.8
RC01				IAML		23 41 52.2	
	comp=N,492nm,0.1s						
RC01				IAML		23 41 52.3	
	comp=E,631nm,0.1s						
SUA	Susitna One	0.34 285			Pb	23 41 45.2	-0.5
SUA					Sb	23 41 52.3	+0.7
M22K	Willow	0.38 356			Pb	23 41 45.2	-0.8
M22K					Sb	23 41 52.6	+0.4
M22K				IAML		23 41 55.6	
	comp=N,466nm,0.3s						
GHO	Glory Hole Cre	0.67 53			Pn	23 41 49.0	-1.2
GHO					Sn	23 41 59.2	-0.4
KNK	Knik Glacier	0.77 87			Pn	23 41 50.7	-0.9
KNK					Sn	23 42 02.0	+0.1
KNK				IAML		23 42 03.8	
	comp=N,146nm,0.5s						
KNK				IAML		23 42 04.0	
	comp=E,160nm,0.4s						
CAPN	Captain Cook N	0.81 222		Pn	Pn	23 41 51.3	-0.7
STLK	Strandline Lak	0.86 279			Sn	23 42 04.0	-0.3
STLK	Strandline Lak	0.86 279			Pn	23 41 52.1	-0.7
STLK				IAML		23 42 05.4	
	comp=E,127nm,0.3s						
STLK				IAML		23 42 05.4	
	comp=N,166nm,0.4s						
SLKM	Skilak Lake	0.88 185			Sn	23 42 04.5	+0.1
SLKM	Skilak Lake	0.88 185			Pn	23 41 52.1	-0.9
SLKM				IAML		23 42 05.9	
	comp=N,194nm,0.2s						
SLKM				IAML		23 42 07.2	
	comp=E,180nm,0.3s						
O22K	Cooper Landing	0.91 170			Pn	23 41 52.5	-0.9
SKT	Skwentna	0.93 311			Pn	23 41 52.5	-1.2
SKT					Sn	23 42 05.4	-0.4
SKT	Skwentna	0.93 311		IAML		23 42 05.9	
	comp=N,157nm,0.4s						
SKT				IAML		23 42 05.9	
	comp=E,138nm,0.5s						
SML	Sawmill	0.93 62			Pn	23 41 52.8	-1.1
SML					Sn	23 42 05.7	-0.2
SML	Sawmill	0.93 62		IAML		23 42 06.9	
	comp=E,118nm,0.8s						
SML				IAML		23 42 07.1	
	comp=N,97nm,0.3s						
SPCG	Spurr Capps Gl	0.95 266			Pn	23 41 53.5	-0.6
SPCG					Sn	23 42 06.9	+0.4
PWL	Port Wells	0.98 121			Pn	23 41 53.9	-0.6
PWL					Sb	23 42 07.9	-0.5
PWL	Port Wells	0.98 121		IAML		23 42 09.3	
	comp=N,188nm,0.3s						
PWL				IAML		23 42 10.6	
	comp=E,204nm,0.3s						
SPCP	Crater Peak Br	1.02 265			Pn	23 41 54.6	-0.4
CUT	Chulitna	1.04 355			Pn	23 41 54.2	-1.0
SPCR	Spurr Chakacha	1.05 261			Pn	23 41 54.7	-0.8
SPCR	Spurr Chakacha	1.05 261			Pn	23 41 54.7	-0.8
M23K	Glacier View	1.19 68			Pn	23 41 56.6	-0.7
SEW	Seward	1.31 167			Pn	23 41 58.2	-0.7
SCM	Sheep Creek Mo	1.38 69			Sn	23 42 18.4	+1.2
SCM				IAML		23 42 19.4	
	comp=E,82nm,0.8s						
SCM	Sheep Creek Mo	1.38 69			Pn	23 41 59.6	-0.4
RDT	Redoubt	1.40 236			Pn	23 41 59.4	-0.9
GLI	Glacier Island	1.52 108			Sn	23 42 20.9	+0.5
GLI				IAML		23 42 23.1	
	comp=N,68nm,0.3s						
GLI				IAML		23 42 25.1	
	comp=E,78nm,0.5s						
GLI	Glacier Island	1.52 108			Pn	23 42 00.7	-1.1
M20K	Styx River	1.55 290		Pn	Pn	23 42 01.7	-0.7
M20K				IAML		23 42 24.6	
	comp=N,60nm,0.9s						
M20K				IAML		23 42 24.7	
	comp=E,42nm,0.8s						
RDJH	Redoubt Jeurge	1.55 241			Pn	23 42 01.4	-1.0
WAT7	Susitna Watana	1.57 21			Pn	23 42 02.3	-0.3
BRLK	Bradley Lake	1.67 195			Pn	23 42 03.1	-0.8
BRLK	Bradley Lake	1.67 195		IAML		23 42 28.2	
	comp=N,50nm,0.1s						
BRLK				IAML		23 42 28.8	
	comp=E,50nm,0.2s						
BRSE	Bradley Lake S	1.67 192			Pn	23 42 02.8	-1.1
O20K	Slope Mountain	1.81 225			Pn	23 42 05.8	-0.1
PPLA	Purkeypile	1.82 328			Pn	23 42 05.7	-0.5
FID	Port Fidalgo	1.85 108			Pn	23 42 04.9	-1.5
FID	Port Fidalgo	1.85 108		IAML		23 43 13.8	
	comp=N,43nm,0.3s						
HOM	Homer	1.89 205		Pn	Pn	23 42 06.4	-0.5
CNPM	China Poot	1.95 198			Sn	23 42 29.7	-1.3
CNPM				IAML		23 42 36.3	
	comp=N,61nm,0.4s						
CNPM	China Poot	1.95 198			Pn	23 42 06.8	-0.9
M24K	Tolsona, Glenn	1.99 67		Pn	Pn	23 42 08.4	0.0
KLU	Klutina	1.99 85		Pn	Pn	23 42 08.3	-0.1
IVE	Iliamna Volcan	1.99 228			Pn	23 42 08.0	-0.5
HIN	Hinchinbrook I	2.00 118			Pn	23 42 08.6	+0.2
HIN				IAML		23 42 39.2	
	comp=N,56nm,0.9s						
HIN				IAML		23 42 44.4	
	comp=E,59nm,1.1s						
ILS	Iliamna Low So	2.05 227			Pn	23 42 09.1	-0.2
ILSW	Iliamna Southw	2.06 229		Pn	Pn	23 42 08.6	-0.8
TRF	Thorofare Moun	2.08 357		Pn	Pn	23 42 10.0	+0.2
TRF				IAML		23 42 48.8	
	comp=N,29nm,0.7s						
RND	Reindeer	2.11 15		Pn	Pn	23 42 09.4	-0.7
DHY	Denali Highway	2.12 35			Pn	23 42 08.5	-1.7
DHY				IAML		23 42 41.4	
	comp=E,26nm,0.4s						
DHY				IAML		23 42 41.5	
	comp=N,23nm,0.8s						
M19K	Big River Lodg	2.13 286			Pn	23 42 09.8	-0.5
KTH	Kantishna Hill	2.22 350			Pn	23 42 11.2	-0.4
KTH				IAML		23 42 39.9	
	comp=N,29nm,0.3s						
N19K	Bonanza Creek	2.22 257		Pn	Pn	23 42 10.6	-1.0
CAST	Castle Rocks	2.26 336			Pn	23 42 11.8	-0.2
P19K	Oil Pt	2.33 224		Pn	Pn	23 42 13.2	+0.1
L19K	White Mountain	2.42 292			Pn	23 42 13.6	-0.6
MCK	McKinley	2.42 12		Pn	Pn	23 42 13.8	-0.5
PAX	Paxson	2.68 51		Pn	Pn	23 42 17.5	-0.4
MID	Middleton Isla	2.69 135			Pn	23 42 18.0	+0.2
K20K	Telida	2.73 319		Pn	Pn	23 42 17.6	-0.9
K20K				IAML		23 43 09.8	
	comp=N,15nm,0.5s						
K20K				IAML		23 43 10.6	
	comp=E,20nm,0.6s						
BPAW	Bear Paw Mtn.	2.77 352		Pn	Pn	23 42 18.1	-0.9
BPAW				IAML		23 42 57.7	
	comp=E,22nm,0.5s						
BPAW				IAML		23 42 58.0	
	comp=N,20nm,0.8s						

*NEIC **30** 23:42:19.2±1.2, 61°.48N±0°.03×149°.96W±0°.05, h39km±4km, Error ellipse: s-maj=3.9km s-min=3.7km az=206.0*

AEIC 30 23:42:19.9±1.1, 61°.47N±0°.02×149°.95W±0°.04, h32km±1km, ML2.4, ML2.6/48(NEIC), Error ellipse: s-maj=3.1km s-min=3.0km az=202.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.30 344			Pb	23 42 26.8	-0.7
M22K				Sg	Sn	23 42 33.3	-0.1
M22K				IAML		23 42 34.1	
	comp=N,795nm,0.6s						
SUA	Susitna One	0.39 270			Pb	23 42 28.2	-0.6
SUA					Sn	23 42 35.6	0.0
SUA				IAML		23 42 36.6	
	comp=N,439nm,0.6s						
RC01	Rabbit Creek A	0.39 165		Sg	Sb	23 42 35.1	+0.4
RC01				IAML		23 42 35.4	
	comp=E,460nm,0.3s						
RC01				IAML		23 42 36.3	
	comp=N,374nm,0.2s						
RC01	Rabbit Creek A	0.39 165			Pb	23 42 27.9	-0.8
GHO	Glory Hole Cre	0.58 57			Pb	23 42 30.5	-1.1
GHO					Sb	23 42 39.8	+0.1
GHO	Glory Hole Cre	0.58 57		IAML		23 42 40.6	
	comp=E,302nm,0.4s						
KNK	Knik Glacier	0.72 94			Pn	23 42 32.5	-1.2
KNK	Knik Glacier	0.72 94		IAML		23 42 46.2	
	comp=E,268nm,0.2s						
KNK				IAML		23 42 46.9	
	comp=N,380nm,0.6s						
SML	Sawmill	0.84 65			Pn	23 42 34.1	-1.4
SML	Sawmill	0.84 65		IAML		23 42 47.4	
	comp=E,135nm,0.8s						
STLK	Strandline Lak	0.91 273		IAML		23 42 47.9	
	comp=E,189nm,0.3s						
STLK				IAML		23 42 48.0	
	comp=N,267nm,0.3s						
STLK	Strandline Lak	0.91 273			Pn	23 42 35.2	-1.2
STLK					Sn	23 42 47.7	-0.8
SKT	Skwentna	0.92 305			Sn	23 42 47.4	-1.2
CUT	Chulitna	0.95 351			Sn	23 42 48.6	-0.9
CUT	Chulitna	0.95 351		Pn	Pn	23 42 35.8	-1.2
CUT	Chulitna	0.95 351		IAML		23 42 51.3	
	comp=E,357nm,0.4s						
CUT				IAML		23 42 51.7	
	comp=N,236nm,0.3s						
SLKM	Skilak Lake	0.97 188		IAML		23 42 51.2	
	comp=E,159nm,0.5s						
SLKM				IAML		23 42 51.5	
	comp=N,133nm,0.2s						
SLKM	Skilak Lake	0.97 188			Pn	23 42 36.3	-1.0
SLKM					Sn	23 42 49.9	0.0
PWL	Port Wells	0.99 127			Pn	23 42 36.4	-1.1
PWL	Port Wells	0.99 127		Sn	Sn	23 42 50.5	+0.1
O22K	Cooper Landing	0.99 174			Pn	23 42 36.5	-1.0
O22K					Sn	23 42 50.1	-0.3
SPCG	Spurr Capps Gl	1.01 261			Pn	23 42 37.0	-0.9
SPCP	Crater Peak Br	1.08 260			Pn	23 42 38.1	-0.8
SPCP					Sn	23 42 52.4	-0.5
M23K	Glacier View	1.11 72			Pn	23 42 38.6	-0.5
SPCR	Spurr Chakacha	1.12 257			Pn	23 42 38.1	-1.3
SPCR	Spurr Chakacha	1.12 257			Pn	23 42 38.3	-1.2
SCM	Sheep Creek Mo	1.30 72		Sn	Sn	23 42 58.9	+0.7
SCM	Sheep Creek Mo	1.30 72			Pn	23 42 41.1	-0.8
RDT	Redoubt	1.50 234			Pn	23 42 43.3	-1.2
GLI	Glacier Island	1.50 112			Pn	23 42 43.4	-1.1
GLI	Glacier Island	1.50 112		IAML		23 43 07.4	
	comp=E,117nm,0.4s						
GLI				IAML		23 43 07.6	
	comp=N,90nm,0.3s						
M20K	Styx River	1.58 287			Pn	23 42 45.3	-0.4
RDJH	Redoubt Jeurge	1.65 239			Pn	23 42 45.6	-1.1
RDWB	Redoubt West	1.72 236			Pn	23 42 46.7	-1.0
FID	Port Fidalgo	1.83 112		Pn	Pn	23 42 46.9	-2.1
FID				IAML		23 43 12.2	
	comp=E,56nm,0.6s						
FID				IAML		23 43 19.0	
	comp=N,63nm,0.6s						
M24K	Tolsona, Glenn	1.90 69		Pn	Pn	23 42 49.2	-0.9
KLU	Klutina	1.93 87			Pn	23 42 49.6	-0.9
KLU				IAML		23 43 17.9	
	comp=E,33nm,0.4s						
KLU				IAML		23 43 17.9	
	comp=N,53nm,0.3s						
HIN	Hinchinbrook I	1.99 121		Pn	Pn	23 42 51.3	0.0
HIN				IAML		23 43 25.4	
	comp=N,56nm,0.9s						
HIN				IAML		23 43 26.4	
	comp=E,58nm,0.8s						
L20K	Farewell, AK	2.12 300			Pn	23 42 52.4	-0.6
KTH	Kantishna Hill	2.14 348			Pn	23 42 53.1	-0.4
KTH				IAML		23 43 21.4	
	comp=E,38nm,0.5s						
L19K	White Mountain	2.44 289			Pn	23 42 57.0	-0.5
RAGM	Ragged Mountai	2.79 110		Pn	Pn	23 43 02.8	+0.5
GLB	Gilahina Butte	2.95 88		Pn	Pn	23 43 04.5	+0.1
GLB				IAML		23 44 40.9	
	comp=N,13nm,0.7s						
N18K	Kilae Creek	3.00 257		Pn	Pn	23 43 03.8	-1.3
VRDI	Verde Repeater	3.14 92		Pn	Pn	23 43 07.6	+0.5

*BER **30** 23:45:43.1±0.4, 71°.55N×10°.65W, h0km±338km, mb(Pn)3.7, ML2.7, Confirmed Earthquake*

*DNK **30** 23:45:45.8±3.3, 71°.73N×12°.52W, h0km±40km, ML1.2*

ISC 30 23:45:39.0±0.9, 71°.61N±0°.07×11°.17W±0°.06, h10km, n10, σ2°33/17, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	Jan Mayen	1.05 130		eP	Pb	23 45 59.7	+0.6
JMI				eS	Sb	23 46 12.1	-0.7
JMI				IAML		23 46 12.9	
	comp=Z,167nm,0.3s						
JNW	Jan Mayen West	1.06 122		eP	Pb	23 45 59.9	+0.6
JNW				eS	Sg	23 46 12.1	-0.9
JNW				IAML		23 46 15.2	
	comp=Z,168nm,0.3s						
JMIC	Jan Mayen	1.06 125		eP	Pb	23 45 59.8	+0.4
JMIC				eS	Sg	23 46 12.0	-1.2
JMIC				IAML		23 46 12.7	
	comp=Z,180nm,0.5s						
JMIC	Jan Mayen	1.06 125		i P	Pn	23 46 11.8	+12
JNE	Jan Mayen East	1.12 123		eP	Pg	23 46 00.6	+0.2
JNE				eS	Sg	23 46 13.4	-1.5
JNE				IAML		23 46 16.0	
	comp=Z,226nm,0.3s						
SCO	Scoresbysund	3.69 257		i P	Pn	23 46 38.1	+2.1
SCO				eS	Sn	23 47 17.4	-2.1
DBG	Daneborg	3.79 320		i P	Pn	23 46 39.2	+1.9
DBG				i S	Sn	23 47 17.6	-4.4
DAG	Danmarks Havn	5.57 342		i P	Pn	23 47 04.6	+3.0
DAG				eS	Sn	23 48 04.1	-1.6
DAG				IAML		23 48 06.6	
	comp=Z,1.2nm,0.2s						
SUMG	Summit	8.42 289		eP	Pn	23 47 42.8	+1.7
NOR	Nord	10.12 355		i P	Pn	23 48 07.1	+3.1
NOR				eS	Sn	23 49 53.4	-3.9
NOR				IAML		23 49 59.6	
	comp=Z,0.5nm,0.3s						

*IDC **30** 23:50:02.6±1.7, 61°.41N×150°.29W, h47km±19km, mb3.2/5, mbtmp3.4/9, ML3.2/4, Error ellipse: s-maj=24.2km s-min=14.1km az=112.0*

*NEIC **30** 23:50:03.8±1.5, 61°.50N±0°.03×149°.94W±0°.05, h42km±2km, Error ellipse: s-maj=3.8km s-min=3.3km az=159.0*

*AEIC **30** 23:50:04.5±1.4, 61°.48N±0°.03×149°.91W±0°.04, h30km±2km, ML3.5, ML3.7/176(NEIC), Error ellipse: s-maj=4.0km s-min=2.8km az=177.0*

ISC 30 23:50:03.2±0.8, 61°.48N±0°.03×149°.92W±0°.02, h45km±6km, n113, σ1°06/95, mb3.5/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
M22K	Willow	0.29 341			Pn	23 50 11.1	-0.7
M22K				Sg	Sn	23 50 18.0	+0.2
M22K				IAML		23 50 18.7	
	comp=N,7μm,0.5s						
M22K	Willow	0.29 341		P	Pn	23 50 11.4	-0.3
	baz=161						
M22K				S	Sn	23 50 17.9	+0.2
	baz=161						
SUA	Susitna One	0.40 268			Pn	23 50 13.2	+0.1
SUA				Sg	Sn	23 50 20.8	+0.8
SUA	Susitna One	0.40 268		P	Pn	23 50 13.1	+0.1
	baz=87						
SUA				S	Sn	23 50 20.8	+0.8
	baz=87						
RC01	Rabbit Creek A	0.40 167			Pn	23 50 12.1	-0.8
RC01				Sg	Sn	23 50 20.4	+0.6
RC01	Rabbit Creek A	0.40 167		P	Pn	23 50 13.0	0.0
	baz=347						
RC01				S	Sn	23 50 20.4	+0.6
	baz=347						
GHO	Glory Hole Cre	0.56 58			Pn	23 50 14.9	0.0
GHO				Sn	Sn	23 50 23.7	+0.4
GHO				IAML		23 50 24.7	
	comp=N,6μm,0.5s						
GHO				IAML		23 50 24.9	
	comp=E,5μm,1.0s						
KNK	Knik Glacier	0.70 95			Pn	23 50 17.0	+0.2
KNK					Sn	23 50 27.2	+0.6
KNK	Knik Glacier	0.70 95		IAML		23 50 30.2	
	comp=N,4μm,0.4s						
KNK				IAML		23 50 31.4	
	comp=E,3μm,0.5s						
KNK	Knik Glacier	0.70 95		P	Pn	23 50 17.0	+0.2
	baz=276						
KNK				S	Sn	23 50 27.2	+0.6
	baz=276						
SML	Sawmill	0.82 66			Pn	23 50 18.3	-0.1
SML	Sawmill	0.82 66		P	Pn	23 50 18.3	-0.1
	baz=248						
SKT	Skwentna	0.92 304			Pn	23 50 19.5	-0.1
SKT					Sn	23 50 31.8	+0.1
SKT	Skwentna	0.92 304		IAML		23 50 32.5	
	comp=E,2μm,0.4s						
SKT	Skwentna	0.92 304		P	Pn	23 50 19.5	-0.1
	baz=122						
SKT				S	Sn	23 50 31.8	+0.1
	baz=122						
STLK	Strandline Lak	0.92 272			Pn	23 50 20.1	+0.3
STLK					Sn	23 50 32.5	+0.7
CAPN	Captain Cook N	0.93 221		Pn	Pn	23 50 21.3	+1.5
CAPN				IAML		23 50 41.1	
	comp=E,4μm,0.4s				

	baz=74						
SPCR	Spurr Chakacha	1.14	257			Pn	23 50 23.1 +0.4
SCM	Sheep Creek Mo	1.28	73			Pn	23 50 25.4 +0.7
SCM	Sheep Creek Mo	1.28	73	IAML			23 50 44.1
	comp=N,1μm,0.7s						
SCM				IAML			23 50 45.0
	comp=E,2μm,0.7s						
SCM	Sheep Creek Mo	1.28	73	P		Pn	23 50 25.4 +0.7
	baz=255						
WAT7	Susitna Watana	1.45	20			Pn	23 50 27.8 +0.8
GLI	Glacier Island	1.49	113			Pn	23 50 27.9 +0.4
GLI	Glacier Island	1.49	113	IAML			23 50 48.2
	comp=N,2μm,0.3s						
GLI	Glacier Island	1.49	113	P		Pn	23 50 27.9 +0.4
	baz=295						
WAT1	Susitna Watana	1.50	25			Pn	23 50 28.3 +0.7
WAT1	Susitna Watana	1.50	25	P		Pn	23 50 28.3 +0.7
	baz=206						
WAT6	Susitna Watana	1.51	42			Pn	23 50 28.6 +0.7
WAT6	Susitna Watana	1.51	42	P		Pn	23 50 28.6 +0.7
	baz=224						
RDT	Redoubt	1.52	234			Pn	23 50 28.3 +0.4
M20K	Styx River	1.58	286			Pn	23 50 29.8 +0.9
M20K				IAML			23 51 28.6
	comp=E,999nm,0.8s						
BRLK	Bradley Lake	1.79	196			Pn	23 50 32.2 +0.7
BRLK				IAML			23 50 59.4
	comp=N,618nm,0.4s						
BRLK				IAML			23 50 59.7
	comp=E,802nm,0.5s						
FID	Port Fidalgo	1.82	112			Pn	23 50 32.4 +0.4
FID				IAML			23 50 56.1
	comp=N,1μm,0.3s						
M24K	Tolsona, Glenn	1.89	69	IAML			23 51 01.8
	comp=E,1μm,0.8s						
M24K				IAML			23 51 07.8
	comp=N,563nm,1.1s						
KLU	Klutina	1.92	88			Pn	23 50 33.8 +0.5
KLU				IAML			23 50 59.0
	comp=N,608nm,0.6s						
HIN	Hinchinbrook I	1.99	122			Pn	23 50 34.9 +0.6
HIN				IAML			23 51 07.2
	comp=E,700nm,1.0s						
DHY	Denali Highway	1.99	35			Pn	23 50 35.9 +1.4
RND	Reindeer	2.00	14			Pn	23 50 35.8 +1.3
CNPM	China Poot	2.07	199			Pn	23 50 36.1 +0.8
CNPM				IAML			23 51 05.5
	comp=E,554nm,0.7s						
CNPM				IAML			23 51 07.4
	comp=N,464nm,0.4s						
L20K	Farewell, AK	2.12	300			Pn	23 50 37.0 +0.9
L20K	Farewell, AK	2.12	300	P		Pn	23 50 37.0 +0.9
	baz=116						
KTH	Kantishna Hill	2.13	348			Pn	23 50 38.2 +1.9
KTH				IAML			23 52 04.6
	comp=E,467nm,0.5s						
KTH				IAML			23 52 04.9
	comp=N,378nm,0.9s						
ILSW	Iliamna Southw	2.18	228			Pn	23 50 37.2 +0.1
CAST	Castle Rocks	2.19	334			Pn	23 50 38.9 +1.9
CAST				IAML			23 51 46.5
	comp=N,450nm,0.4s						
N19K	Bonanza Creek	2.31	255			Pn	23 50 40.1 +1.3
N19K				IAML			23 52 09.9
	comp=N,443nm,0.6s						
L19K	White Mountain	2.45	289	Pn		Pn	23 50 41.7 +1.1
L19K				IAML			23 52 10.0
	comp=E,324nm,0.6s						
P19K	Oil Pt	2.46	223			Pn	23 50 42.0 +1.3
O19K	Port Alsworth	2.51	241			Pn	23 50 41.7 +0.3
N25K	Chitina, Valde	2.55	85	Pn		Pn	23 50 43.3 +1.3
N25K				IAML			23 52 21.2
	comp=E,258nm,0.5s						
N25K				IAML			23 52 23.3
	comp=N,343nm,0.6s						
N25K	Chitina, Valde	2.55	85	P		Pn	23 50 43.1 +1.0
	baz=270						
BPAW	Bear Paw Mtn.	2.67	350	Pn		Pn	23 50 45.1 +1.4
K20K	Telida	2.70	316			Pn	23 50 45.0 +1.0
K20K				IAML			23 52 23.5
	comp=E,230nm,0.7s						
BWN	Browne	2.71	4			Pn	23 50 45.9 +1.7
SVW2	Sparrevohn	2.76	264	Pn		Pn	23 50 45.4 +0.5
RAGM	Ragged Mountai	2.78	111			Pn	23 50 51.1 +5.9
GLB	Gilahina Butte	2.93	88	Pn		Pn	23 50 50.3 +3.1
GLB				IAML			23 52 36.2
	comp=E,187nm,0.7s						
O18K	Koktuh Hills	3.07	240			Pn	23 50 50.6 +1.5
WRH	Wood River Hil	3.12	15	IAML			23 52 43.2
	comp=E,250nm,1.0s						
VRDI	Verde Repeater	3.12	92	IAML			23 52 37.2
	comp=N,224nm,0.5s						
SYI	Shuyak Island	3.13	204			Pn	23 50 53.0 +3.0
L18K	Granite Mounta	3.29	286	IAML			23 52 49.9
	comp=E,156nm,1.0s						
L18K				IAML			23 52 57.5
	comp=N,176nm,0.9s						
CCB	Clear Creek Bu	3.32	16	IAML			23 52 48.8
	comp=E,167nm,1.0s						
M26K	Nabesna, AK	3.40	71	IAML			23 52 58.2
	comp=N,221nm,0.7s						
M26K				IAML			23 53 00.1
	comp=E,172nm,0.8s						
M26K	Nabesna, AK	3.40	71	P		Pn	23 50 55.0 +1.4
	baz=257						
L26K	Log Cabin Wild	3.44	60	IAML			23 52 57.6
	comp=N,243nm,0.6s						
TGL	Tana Glacier	3.52	99	IAML			23 52 55.0
	comp=E,220nm,1.1s						
ILAR	Eielson Array	3.58	21	P		Pn	23 50 57.1 +1.1
	comp=E,4.6nm,0.3s,baz=196,slow=14,SNR=24						
	comp=E,5.8nm,0.3s						
J19K	Poorman	3.64	316	IAML			23 52 54.2
	comp=E,150nm,1.0s						
J19K				IAML			23 52 55.9
	comp=N,170nm,0.9s						
I23K	Minto, Yukon-K	3.69	4	IAML			23 53 05.5
	comp=N,127nm,1.4s						
I23K				IAML			23 53 17.1
	comp=E,113nm,1.0s						
SCRK	Sand Creek	3.71	45	IAML			23 52 59.2
	comp=N,163nm,0.6s						
J18K	Innoko River	3.73	305	IAML			23 52 40.6
	comp=N,101nm,0.5s						
J25K	Salcha River,	3.76	31	IAML			23 52 53.3
	comp=E,189nm,0.5s						
J25K				IAML			23 52 54.1
	comp=N,160nm,0.5s						
POKR	Poker Plat Res	3.82	16	IAML			23 53 11.4
	comp=N,100nm,0.8s						
POKR				IAML			23 53 17.4
	comp=E,94nm,0.8s						
I21K	Tanana	3.83	347	IAML			23 53 06.8
	comp=N,93nm,0.8s						
I21K				IAML			23 53 19.8
	comp=E,103nm,0.8s						
KDAK	Kodiak Island	3.95	201	P		Pn	23 51 00.1 -1.0
	comp=E,1.2nm,0.3s,baz=16,slow=2.9,SNR=2.1						
KDAK				S		Sn	23 51 42.5 -3.6
	comp=E,17nm,0.5s,baz=51,slow=6.5,SNR=5.5						
	comp=E,4.0nm,0.4s						
GRNC	Granite Creek	4.03	97	IAML			23 53 04.2
	comp=N,119nm,0.5s						
K17K	Iditarod	4.13	291	IAML			23 53 16.3
	comp=N,128nm,1.3s						
CTGM	Chitina Glacie	4.18	93	IAML			23 53 12.3
	comp=N,77nm,0.6s						
LOGN	Logan Glacier	4.37	95	IAML			23 53 17.5
	comp=N,81nm,0.5s						
LOGN				IAML			23 53 30.2
	comp=E,83nm,0.9s						
M16K	Timber Creek	4.39	268	IAML			23 53 20.9
	comp=N,75nm,1.0s						
M16K				IAML			23 53 27.8
	comp=E,68nm,1.3s						
H24K	Noodor Dome	4.47	11	IAML			23 53 33.7
	comp=E,59nm,1.2s						
PRP	Porcupine Dome	4.50	24	IAML			23 53 11.7
	comp=E,102nm,0.5s						
PRP				IAML			23 53 12.4
	comp=N,104nm,0.6s						
L16K	Owhat River	4.57	277	IAML			23 53 31.2
	comp=E,65nm,1.3s						
L16K				IAML			23 53 40.0
	comp=N,57nm,1.0s						
L16K	Owhat River	4.57	277	P		Pn	23 51 10.5 +0.8
	baz=89						
J17K	VABM Dome	4.67	298	IAML			23 53 40.3
	comp=E,54nm,0.9s						
J17K				IAML			23 53 47.3
	comp=N,50nm,1.1s						
H19K	Roundabout Mou	5.00	327	IAML			23 53 45.4
	comp=E,58nm,1.5s						
H19K				IAML			23 53 52.6
	comp=N,57nm,1.4s						
J16K	Anvik River	5.29	295	IAML			23 54 09.6
	comp=E,31nm,1.2s						
H18K	Honhosa River	5.30	318	IAML			23 53 57.9
	comp=E,36nm,1.1s						
H18K				IAML			23 54 04.6
	comp=N,38nm,1.0s						
G24K	Hadweenzic Riv	5.35	10	IAML			23 53 59.8
	comp=N,38nm,0.9s						
G24K				IAML			23 54 02.1
	comp=E,32nm,1.0s						
L15K	Ungalak Mounta	5.53	277	P		Pn	23 51 23.7 +0.9
	baz=87						
G18K	Tagagawik	5.89	323	P		Pn	23 51 28.8 +1.0
	baz=135						
INK	Inuvik	9.74	38	P		Pn	23 52 22.1 +1.7
	comp=E,0.2nm,0.3s,baz=317,slow=6.2,SNR=3.6						
	comp=E,0.8nm,0.2s						
YKA	Yellowknife Ar	16.50	71	P		P	23 53 53.5 +0.5
	comp=E,0.1nm,0.3s,baz=283,slow=11,SNR=2.5						
	comp=E,0.2nm,0.5s						
PDAR	Pinedale Array	30.36	109	P		P	23 56 11.6 +1.0
	comp=E,0.1nm,0.5s,baz=356,slow=2.7,SNR=1.8						
	comp=E,0.1nm,0.5s						
TXAR	Lajitas Array	44.16	115	P		P	23 58 07.0 -0.3
	comp=E,0.1nm,0.5s,baz=287,slow=9.2,SNR=2.3						
	comp=E,0.1nm,0.5s						
SONM	Songino Array	55.13	307	P		P	23 59 30.8 +0.3
	comp=E,0.2nm,0.4s,baz=39,slow=7.4,SNR=2.1						
	comp=E,0.2nm,0.4s						
MKAR	Makanchi Array	64.19	323	P		P	00 00 30.2 -2.6
	comp=E,0.8nm,0.8s,baz=52,slow=7.9,SNR=3.0						
	comp=E,0.8nm,0.8s						
AKASG	Malin Array Be	68.17	1	P		P	00 00 57.0 -1.1
	comp=E,0.5nm,0.4s,baz=2.7,slow=6.3,SNR=3.3						
	comp=E,0.5nm,0.4s						
QSPA	South Pole Qui	151.29	180	PKPbc		PKPbc	00 09 49.3 -0.6
	comp=E,0.4nm,0.3s,baz=136,slow=1.0,SNR=2.2						

*IDC **30** 23:50:53.0±0.9, 61°.69N×150°.54W, h0km, mb3.6/5, mbtmp3.6/9, ML3.3/4, Error ellipse: s-maj=21.8km s-min=12.7km az=116.0*

*NEIC **30** 23:51:00.8±1.5, 61°.43N±0°.03×149°.99W±0°.04, h51km±7km, ML3.9/106, Error ellipse: s-maj=4.0km s-min=2.7km az=159.0*

ISC 30 23:51:00.6±0.8, 61°.40N±0°.02×149°.98W±0°.02, h50km±6km, n106, σ1.9 38/131, mb3.6/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RC01	Rabbit Creek A	0.33	159	Pn		Pn	23 51 10.2	+0.1
RC01				Sn		Sn	23 51 17.4	+0.6
RC01				IAML			23 51 18.0	
	comp=N,11μm,0.3s							
RC01				IAML			23 51 20.9	
	comp=E,9μm,0.3s							
RC01	Rabbit Creek A	0.33	159	P		Pn	23 51 09.9	-0.1
	baz=340							
RC01				S		Sn	23 51 16.9	+0.1
	baz=340							
M22K	Willow	0.36	350	Pn		Pn	23 51 10.2	-0.1
M22K				IAML			23 51 18.5	
	comp=N,8μm,0.4s							
M22K				IAML			23 51 18.6	
	comp=E,9μm,0.5s							
M22K	Willow	0.36	350	P		Pn	23 51 10.3	-0.1
	baz=169							
SUA	Susitna One	0.37	281	Pn		Pn	23 51 10.9	+0.3
SUA				Sn		Sn	23 51 18.6	+0.9
SUA	Susitna One	0.37	281	P		Pn	23 51 10.7	+0.1
	baz=95							
SUA				S		Sn	23 51 18.3	+0.5
	baz=95							
GHO	Glory Hole Cre	0.63	53	Pn		Pn	23 51 13.7	+0.1
GHO				Sn		Sn	23 51 24.4	+1.4
GHO				IAML			23 51 25.0	
	comp=N,8μm,0.2s							
KNK	Knik Glacier	0.73	88	Pn		Pn	23 51 14.8	0.0
KNK				Sn		Sn	23 51 25.5	+0.4
KNK				IAML			23 51 27.9	
	comp=E,4μm,0.4s							
KNK				IAML			23 51 28.8	
	comp=N,5μm,0.6s							
KNK	Knik Glacier	0.73	88	P		Pn	23 51 15.5	+0.7
	baz=272							
KNK				S		Sn	23 51 26.8	+1.6
	baz=272							
CAPN	Captain Cook N	0.85	223	Pn		Pn	23 51 17.3	+1.1
CAPN				Sn		Sn	23 51 30.5	+2.9
SML	Sawmill	0.89	62			Pn	23 51 16.7	-0.2
SML				Sn		Sn	23 51 29.8	+1.0
SML				IAML			23 51 32.4	
	comp=N,3μm,0.5s							
SML				IAML			23 51 32.5	
	comp=E,4μm,0.8s							
SML	Sawmill	0.89	62	P		Pn	23 51 17.3	+0.4
	baz=245							
SML				S		Sn	23 51 30.1	+1.2
	baz=245							
STLK	Strandline Lak	0.90	277			Pn	23 51 16.9	-0.1
STLK				Sn		Sn	23 51 29.9	+0.9
STLK				IAML			23 51 33.0	
	comp=E,3μm,0.8s							
SLKM	Skilak Lake	0.90	188			Pn	23 51 17.0	+0.1
SLKM				Sn		Sn	23 51 29.2	+0.2
SLKM				IAML			23 51 30.9	
	comp=N,3μm,0.6s							
SLKM				IAML			23 51 33.6	
	comp=E,3μm,0.4s							
O22K	Cooper Landing	0.93	172	Pn		Pn	23 51 17.3	+0.1
O22K						Sn	23 51 30.6	+1.1
O22K	Cooper Landing	0.93	172	P		Pn	23 51 17.4	+0.1
	baz=352							
O22K				S		Sn	23 51 30.7	+1.1
	baz=352							
SKT	Skwentna	0.94	309	Pn		Pn	23 51 17.7	+0.1
SKT				Sn		Sn	23 51 30.7	+0.6
SKT	Skwentna	0.94	309	P		Pn	23 51 18.0	+0.5
	baz=126							
SKT				S		Sn	23 51 31.0	+1.0
	baz=126							
PWL	Port Wells	0.96	123	Pn		Pn	23 51 18.3	+0.5
PWL				Sn		Sn	23 51 32.4	+1.9
PWL	Port Wells	0.96	123	P		Pn	23 51 18.5	+0.7
	baz=306							
PWL				S		Sn	23 51 32.2	+1.7
	baz=306							
CUT	Chulitna	1.02	353	Pn		Pn	23 51 17.6	-1.0
CUT				Sn		Sn	23 51 32.5	+0.7
CUT	Chulitna	1.02	353	P		Pn	23 51 19.3	+0.7
	baz=172							
N20K	Mount Spurr	1.09	261	P		Pn	23 51 20.0	+0.3
	baz=77							
SPCR	Spurr Chakacha	1.09	261	P		Pn	23 51 20.0	+0.4
	baz=77							
M23K	Glacier View	1.15	69	P		Pn	23 51 21.4	+1.0
	baz=252							
SEW	Seward	1.32	168	Pn		Pn	23 51 24.2	+1.6
SEW				Sn		Sn	23 51 41.9	+2.9
SCM	Sheep Creek Mo	1.34	70	Pn		Pn	23 51 24.0	+1.0
SCM				Sn		Sn	23 51 42.0	+2.2
SCM				IAML			23 51 43.5	
	comp=E,2μm,0.3s							
SCM				IAML			23 51 44.3	
	comp=N,2μm,0.8s							
SCM	Sheep Creek Mo	1.34	70	P		Pn	23 51 24.2	+1.2
	baz=254							
GLI	Glacier Island	1.49	109	Pn		Pn	23 51 25.1	+0.1
GLI				Sn		Sn	23 51 44.1	+0.8
GLI				IAML			23 51 50.0	
	comp=N,2μm,0.4s							
GLI	Glacier Island	1.49	109	P		Pn	23 51 25.5	+0.5
	baz=293							
M20K	Styx River	1.58	289	Pn		Pn	23 51 26.9	+0.6
M20K				Sn		Sn	23 51 48.3	+2.7
M20K				IAML			23 51 49.3	
	comp=N,1μm,1.0s							
M20K				IAML			23 51 49.4	
	comp=E,1μm,0.8s							
M20K	Styx River	1.58	289	P		Pn	23 51 28.1	+1.8
	baz=106							
WAT1	Susitna Watana	1.59	24	P		Pn	23 51 28.2	+1.8
	baz=206							
WAT6	Susitna Watana	1.59	41	P		Pn	23 51 28.0	+1.5
	baz=224							
BRLK	Bradley Lake	1.70	196			Pn	23 51 28.5	+0.7
BRLK				Sn		Sn	23 51 50.4	+2.1
BRLK				IAML			23 51 52.6	
	comp=E,2μm,0.5s							
BRLK				IAML			23 51 53.9	
	comp=N,766nm,0.3s							
FID	Port Fidalgo	1.82	109	Pn		Pn	23 51 28.8	-0.7
FID				Sn		Sn	23 51 51.4	+0.1
FID				IAML			23 51 53.8	
	comp=E,2μm,0.7s							
FID				IAML			23 51 57.8	
	comp=N,2μm,0.5s							
PPLA	Purkeypile	1.83	326	Pn		Pn	23 51 29.4	-0.3
HOM	Homer	1.93	206	Pn		Pn	23 51 30.5	-0.4
M24K	Tolsona, Glenn	1.95	67	Pn		Pn	23 51 31.5	+0.3
M24K				IAML			23 52 03.3	
	comp=E,1μm,1.0s							
M24K				IAML			23 52 07.3	
	comp=N,907nm,0.6s							
M24K	Tolsona, Glenn	1.95	67	P		Pn	23 51 33.1	+1.9
	baz=251							
KLU	Klutina	1.95	85	Pn		Pn	23 51 31.4	0.0
KLU				IAML			23 52 06.3	
	comp=N,698nm,0.4s							
HIN	Hinchinbrook I	1.97	119	Pn		Pn	23 51 32.1	+0.5
HIN				IAML			23 52 05.4	
	comp=N,1μm,1.0s							
CNPM	China Poot	1.98	199	Pn		Pn	23 51 32.5	+0.9
CNPM				IAML			23 52 00.1	
	comp=E,1μm,0.6s							
CNPM				IAML			23 52 01.8	
	comp=N,1μm,0.4s							
DIV	Divide	2.05	96	Pn		Pn	23 51 32.6	-0.1
DIV				Sn		Sn	23 51 58.1	+1.0
DHY	Denali Highway	2.08	35	Pn		Pn	23 51 32.7	-0.4
DHY				IAML			23 52 05.4	
	comp=N,760nm,0.5s							
DHY				IAML			23 52 06.3	
	comp=E,735nm,0.5s							
ILSW	Iliamna Southw	2.10	229	Pn		Pn	23 51 33.0	-0.4
ILSW				Sn		Sn	23 51 59.6	+1.2
ILSW				IAML			23 52 03.8	
	comp=E,637nm,0.8s							
M19K	Big River Lodg	2.17	286	Pn		Pn	23 51 34.0	-0.2
M19K	Big River Lodg	2.17	286	P		Pn	23 51 35.4	+1.2
	baz=101							
KTH	Kantishna Hill	2.21	349	Pn		Pn	23 51 33.6	-1.2
KTH				IAML			23 52 07.3	
	comp=E,540nm,0.6s							
KTH				IAML			23 52 09.3	
	comp=N,574nm,0.8s							
EYAK	Cordova Ski Ar	2.23	111	Pn		Pn	23 51 35.6	+0.6
N19K	Bonanza Creek	2.26	257	Pn		Pn	23 51 35.3	-0.2
P19K	Oil Pt	2.38	224	Pn		Pn	23 51 37.3	+0.3
MCK	McKinley	2.40	11	Pn		Pn	23 51 36.9	-0.4
O19K	Port Alsworth	2.44	242	Pn		Pn	23 51 38.7	+0.8
L19K	White Mountain	2.44	291	Pn		Pn	23 51 37.9	-0.1
L19K				IAML			23 52 23.1	
	comp=E,388nm,0.6s							
L19K	White Mountain	2.44	291	P		Pn	23 51 39.3	+1.3
	baz=106							
SVW2	Sparrevohn	2.72	266	Pn		Pn	23 51 42.1	+0.3
K20K	Telida	2.74	318	Pn		Pn	23 51 42.3	+0.3
BWN	Browne	2.80	5	Pn		Pn	23 51 41.0	-1.8
BWN				IAML			23 52 34.8	
	comp=N,603nm,0.9s							
BWN				IAML			23 52 44.3	
	comp=E,524nm,1.1s							
M18K	Stony River	2.81	275	P		Pn	23 51 44.0	+1.1
	baz=89							
N18K	Kilae Creek	2.96	259	Pn		Pn	23 51 44.5	-0.6
N18K				IAML			23 52 20.1	
	comp=N,309nm,0.6s							
O18K	Koktuh Hills	3.00	241	Pn		Pn	23 51 46.2	+0.6
O18K				IAML			23 52 31.5	
	comp=E,229nm,0.8s							
O18K				IAML			23 52 37.1	
	comp=N,248nm,0.6s							
SYI	Shuyak Island	3.04	204	Pn		Pn	23 51 46.9	+0.8
SYI				IAML			23 52 33.7	
	comp=N,223nm,0.6s							
SYI				IAML			23 52 36.4	
	comp=E,263nm,1.0s							
Q19K	Cape Douglas,	3.08	218	Pn		Pn	23 51 45.9	-0.7
TTA	Tatalina	3.22	301	Pn		Pn	23 51 49.0	+0.3
TTA	Tatalina	3.22	301	P		Pn	23 51 49.4	+0.7
	baz=115							
NEA2	Nenana	3.24	7			Sn	23 52 12.0	-14
L18K	Granite Mounta	3.29	287	Pn		Pn	23 51 49.7	+0.2
P18K	Big Mountain,	3.29	235	Pn		Pn	23 51 50.2	+0.6
J20K	Nowinta River	3.38	327	Pn		Pn	23 51 54.6	+3.8
J20K				IAML			23 52 31.9	
	comp=E,211nm,0.5s							
J20K				IAML			23 52 56.4	
	comp=N,188nm,0.8s							
M17K	Holitna River	3.58	273	Pn		Pn	23 51 54.0	+0.5
M17K				IAML			23 53 01.6	
	comp=E,308nm,0.8s							
N17K	Nushagak Hills	3.62	259	Pn		Pn	23 51 53.9	-0.1
N17K				IAML			23 52 36.2	
	comp=E,204nm,0.7s							
N17K				IAML			23 52 53.3	
	comp=N,166nm,1.0s							
ILAR	Eielson Array	3.67	21	Pn		Pn	23 51 44.3	-10
	comp=N,7.8nm,0.3s,baz=218,slow=28,SNR=2.3							
ILAR				Lg		Lg	23 52 42.8	
	comp=N,12nm,0.3s,baz=239,slow=3.2,SNR=7.1							
	comp=N,6.7nm,0.3s							
J18K	Innoko River	3.76	307	Pn		Pn	23 51 56.7	+0.8
J18K	Innoko River	3.76	307	P		Pn	23 51 57.6	+1.7
	baz=120							
I23K	Minto, Yukon-K	3.78	4	P		Pn	23 51 58.7	+2.5
	baz=185							
KDAK	Kodiak Island	3.86	201	Pn		Pn	23 51 53.8	-3.5
	comp=N,3.9nm,0.3s,baz=300,slow=0.9,SNR=4.5							
KDAK				Sn		Sn	23 52 39.5	-1.7
	comp=N,5.7nm,0.3s,baz=45,slow=10.0,SNR=2.0							
KDAK				Lg		Lg	23 52 53.9	
	comp=N,6.5nm,0.3s,baz=77,slow=22,SNR=2.0							
	comp=N,24nm,0.6s							
K17K	Iditarod	4.13	292	Pn		Pn	23 52 01.7	+0.7
K17K				IAML			23 53 22.7	
	comp=N,125nm,1.0s							
K17K				IAML			23 53 28.1	
	comp=E,156nm,0.8s							
M16K	Timber Creek	4.36	269			Pn	23 52 05.3	+1.1
O16K	Kokwok River B	4.40	249	Pn		Pn	23 52 05.5	+0.8
O16K				IAML			23 53 20.0	
	comp=E,83nm,0.7s							
O16K				IAML			23 53 23.5	
	comp=N,91nm,1.1s							
L16K	Owhat River	4.55	278	Pn		Pn	23 52 07.6	+0.7
PLK4	Peulik 4	4.98	224	Pn		Pn	23 52 17.2	+4.4
PLK4				IAML			23 53 16.4	
	comp=E,74nm,1.2s							
PLK4				IAML			23 53 47.2	
	comp=N,85nm,1.1s							
N15K	Kwethluk River	5.11	261	Pn		Pn	23 52 15.8	+1.4
N15K				IAML			23 53 45.4	
	comp=E,117nm,1.1s							
BCPM	Bancas Point	5.29	101	IAML			23 53 44.5	
	comp=E,56nm,0.9s							
BCPM				IAML			23 53 50.5	
	comp=N,50nm,0.8s							
J16K	Anvik River	5.30	296	IAML			23 53 56.9	
	comp=N,35nm,1.0s							
J16K				IAML			23 53 57.6	
	comp=E,29nm,0.8s							
L15K	Ungalak Mounta	5.51	278	P		Pn	23 52 20.9	+1.0
	baz=88							
I17K	Unalakleet	5.54	301	P		Pn	23 52 21.5	+1.3
	baz=112							
M14K	Bethel	5.85	269	P		Pn	23 52 25.7	+1.1
	baz=78

K13K	**Kusilvak Mount**	**7.01**	**281**	Pn	**Pn**	**23 52 40.5**	**+0.1**
F17K	**Baldwin Pennin**	**7.09**	**320**	Pn	**Pn**	**23 52 44.0**	**+2.5**
F15K	**North Star Dit**	**7.84**	**310**	Pn	**Pn**	**23 52 54.5**	**+2.7**
M11K	**Mekoryuk**	**7.97**	**270**	Pn	**Pn**	**23 52 54.5**	**+0.8**
INK	**Inuvik**	**9.82**	**38**	Pn	**Pn**	**23 53 16.8**	**-2.1**
	comp=E,0.2nm,0.3s,baz=198,slow=3.2,SNR=1.7						
INK				Sn	**Sn**	**23 55 08.0**	**+0.5**
	comp=E,0.4nm,0.3s,baz=314,slow=17,SNR=1.5						
	comp=E,0.9nm,0.2s						
YKA	**Yellowknife Ar**	**16.55**	**71**	Pn	**Pn**	**23 54 48.7**	**-0.1**
	comp=E,0.1nm,0.3s,baz=282,slow=10,SNR=3.0						
	comp=E,0.7nm,0.9s						
SHEM	**Shemya Is, Ala**	**21.11**	**262**	P	**P**	**23 55 35.1**	**-5.5**
	comp=E,22nm,0.4s,baz=60,slow=5.4,SNR=5.2						
NVAR	**Mina Array Bea**	**30.20**	**125**	P	**P**	**23 57 08.1**	**+1.9**
	comp=E,0.4nm,0.5s,baz=304,slow=8.6,SNR=2.5						
	comp=E,0.4nm,0.5s						
PDAR	**Pinedale Array**	**30.36**	**109**	P	**P**	**23 57 09.9**	**+2.3**
	comp=E,0.3nm,0.6s,baz=319,slow=6.5,SNR=4.1						
	comp=E,0.3nm,0.6s						
ULM	**Lac du Bonnet**	**31.44**	**86**	P	**P**	**23 57 17.4**	**+0.8**
	comp=E,0.8nm,0.4s,baz=331,slow=13,SNR=2.0						
	comp=E,0.8nm,0.4s						
MKAR	**Makanchi Array**	**64.24**	**323**	P	**P**	**00 01 28.4**	**-1.5**
	comp=E,0.2nm,0.5s,baz=50,slow=8.5,SNR=1.1						
	comp=E,0.2nm,0.5s						
AKASG	**Malin Array Be**	**68.25**	**1**	P	**P**	**00 01 54.2**	**-1.3**
	comp=E,0.7nm,0.6s,baz=3.3,slow=6.8,SNR=2.3						
	comp=E,0.7nm,0.6s						
QSPA	**South Pole Qui**	**151.20**	**180**	PKPbc	**PKPbc**	**00 10 46.2**	**-0.3**
	comp=E,1.2nm,0.6s,baz=104,slow=4.2,SNR=5.7						

NEIC 30 23:56:05.5±0.7, 37°36N±0°01×97°97W±0°02, h6km±2km, mb_Lg3.2/64, ML3.4/32, Error ellipse: s-maj=2.4km s-min=1.8km az=86.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAN12	**Harper NE Stat**	**0.06**	**197**		Pg	23 56 07.4	+0.3
KAN12				Sg	Sg	23 56 08.7	+0.4
KAN12				IAML		23 56 09.6	
	comp=N,22µm,0.3s						
KAN08	**Anthony NE Sta**	**0.13**	**179**		Pg	23 56 08.7	+0.5
KAN08				Sg	Sg	23 56 10.8	+0.7
KAN01	**Argonia South**	**0.27**	**140**		Pg	23 56 11.4	+0.6
KAN01				Sg	Sg	23 56 15.3	+1.0
KAN17	**Caldwell West**	**0.36**	**152**		Pg	23 56 12.9	+0.4
KAN17				Sg	Sg	23 56 16.9	-0.2
KAN17				IAML		23 56 18.3	
	comp=E,3µm,0.3s						
KS20	**Mayfield South**	**0.36**	**111**		Pg	23 56 13.2	+0.7
KS20				Sg	Sg	23 56 18.3	+1.0
KS20				IAML		23 56 18.6	
	comp=E,4µm,0.4s						
KAN09	**Caldwell North**	**0.36**	**128**		Pg	23 56 13.2	+0.6
KAN09				Sg	Sg	23 56 18.2	+0.9
KAN09				IAML		23 56 18.6	
	comp=N,5µm,0.2s						
KAN14	**Manchester OK**	**0.40**	**179**	Pg	Pg	23 56 13.7	+0.4
KAN14				Sg	Sg	23 56 19.4	+0.8
KAN14				IAML		23 56 19.5	
	comp=E,3µm,0.3s						
GC02	**Grant County #**	**0.51**	**170**	Pg	Pg	23 56 15.8	+0.4
GC02				Sg	Sg	23 56 22.9	+0.8
KAN13	**South Haven SW**	**0.53**	**131**		Pg	23 56 16.1	+0.4
KAN13				Sg	Sg	23 56 23.4	+0.9
KAN13				IAML		23 56 23.7	
	comp=N,2µm,0.3s						
BLOK	**Blackwell**	**0.85**	**134**		Pg	23 56 21.4	-0.5
BLOK					Sg	23 56 33.6	+0.6
CROK	**Carrier**	**0.85**	**180**		Pg	23 56 21.8	-0.1
CROK				IAML		23 56 41.8	
	comp=N,1µm,0.3s						
NOKA	**Waynoka**	**1.05**	**227**	Pg	Pg	23 56 25.4	-0.3
NOKA					Sb	23 56 39.9	-0.4
NOKA				IAML		23 56 42.3	
	comp=E,817nm,0.2s						
NOKA				IAML		23 56 48.4	
	comp=N,931nm,0.3s						
R32A	**Long Quarter,**	**1.21**	**331**		Pg	23 56 28.1	-0.7
R32A				IAML		23 56 49.4	
	comp=N,888nm,0.3s						
R32A				IAML		23 56 49.9	
	comp=E,734nm,0.2s						
T35A	**Sooner Cattle**	**1.25**	**110**		Pg	23 56 29.3	-0.2
T35A				IAML		23 56 48.3	
	comp=E,866nm,0.4s						
OK048	**Pawnee Station**	**1.25**	**138**		Pg	23 56 29.2	-0.3
OK048				IAML		23 56 50.0	
	comp=E,587nm,0.3s						
OK048				IAML		23 56 50.1	
	comp=E,771nm,0.2s						
QUOK	**Quay**	**1.56**	**139**		Pb	23 56 34.4	-0.5
OK029	**Liberty Lake**	**1.61**	**165**		Pb	23 56 35.6	-0.2
OK052	**Battle Ridge R**	**1.66**	**145**		Pb	23 56 35.9	-0.6
OK031	**S. Brethren Rd**	**1.67**	**147**		Pb	23 56 36.1	-0.7
ELIS	**Ellis County**	**1.73**	**222**		Pb	23 56 37.6	-0.2
ADOK	**Arcadia Dam**	**1.77**	**164**	Pn	Pn	23 56 37.5	+0.7
DEOK	**Depew**	**1.92**	**141**	Pn	Pn	23 56 39.7	+0.8
OKCSW	**OKLAHOMA CITY**	**2.00**	**167**		Pn	23 56 40.5	+0.6
CBKS	**Cedar Bluff**	**2.01**	**317**		Pn	23 56 41.0	+0.8
KSU1	**Kansas State U**	**2.04**	**31**		Pn	23 56 40.9	+0.4
KSU1				IAmb_Lg		23 57 13.6	
	comp=Z,116nm,0.7s						
TUL3	**Leonard**	**2.27**	**129**		Pb	23 56 46.0	-1.0
TUL3				IAmb_Lg		23 57 19.0	
	comp=Z,91nm,0.8s						
W35A	**Tecumseh**	**2.37**	**158**	Pn	Pn	23 56 45.9	+0.9
RLO	**Rose Lookout**	**2.65**	**116**		Pn	23 56 49.9	+1.0
WMOK	**Wichita Mounta**	**2.69**	**194**	Pn	Pn	23 56 51.0	+1.6
WMOK					Pb	23 56 52.1	-2.2
X34A	**Smith Ranch, M**	**2.75**	**178**		Pn	23 56 52.2	+1.9
SMWD	**Samnorwood**	**2.90**	**220**		Pn	23 56 53.4	+1.1
U38A	**Gravette**	**3.02**	**107**	IAmb_Lg		23 57 47.8	
	comp=Z,92nm,0.8s						
HHAR	**Hobbs**	**3.41**	**107**	IAmb_Lg		23 58 01.5	
	comp=Z,61nm,0.8s						
LOOK	**Love County**	**3.42**	**169**	Pn	Pn	23 57 02.0	+2.6
WTFS	**Witchita Falls**	**3.61**	**187**		Pn	23 57 03.5	+1.5
S39A	**Bolivar**	**3.71**	**83**	IAmb_Lg		23 58 08.8	
	comp=Z,40nm,0.9s						
AMTX	**Amarillo**	**3.89**	**232**		Pn	23 57 08.3	+2.4
AMTX				IAmb_Lg		23 58 14.5	
	comp=Z,34nm,0.9s						
RTBA	**Rita Blanca**	**3.93**	**258**		Pn	23 57 05.6	-0.9
N35A	**Tabor**	**3.94**	**27**		Pn	23 57 06.2	-0.3
Z35A	**Perchaven, San**	**4.06**	**171**	IAmb_Lg		23 58 25.6	
	comp=Z,42nm,1.1s						
DKNS	**Dickens**	**4.40**	**214**	IAmb_Lg		23 58 31.0	
	comp=Z,36nm,0.8s						
MIAR	**Mount Ida**	**4.54**	**127**	IAmb_Lg		23 58 37.9	
	comp=Z,47nm,1.0s						
MGMO	**Mountain Grove**	**4.56**	**91**	IAmb_Lg		23 58 37.5	
	comp=Z,47nm,0.8s						
R40A	**Maddies Statio**	**4.61**	**77**	IAmb_Lg		23 58 31.5	
	comp=Z,29nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.93**	**106**	IAmb_Lg		23 58 41.3	
	comp=Z,34nm,0.8s						
N38A	**Joes South For**	**5.04**	**46**	IAmb_Lg		23 58 52.7	
	comp=Z,28nm,0.8s						
X40A	**Basin Creek Fa**	**5.06**	**123**	IAmb_Lg		23 58 51.9	
	comp=Z,40nm,0.9s						
P40A	**Paris**	**5.13**	**63**	IAmb_Lg		23 58 54.4	
	comp=Z,28nm,0.9s						
T25A	**Trinidad**	**5.14**	**270**	IAmb_Lg		23 58 52.2	
	comp=Z,51nm,0.8s						
UALR	**University of**	**5.24**	**118**	IAmb_Lg		23 59 03.7	
	comp=Z,40nm,1.1s						
CCM	**Cathedral Cave**	**5.38**	**81**	IAmb_Lg		23 58 57.0	
	comp=Z,26nm,0.7s						
K30B	**Basset**	**5.46**	**347**	IAmb_Lg		23 59 08.3	
	comp=Z,40nm,0.9s						
T42A	**Van Buren**	**5.50**	**91**	IAmb_Lg		23 59 04.4	
	comp=Z,32nm,0.8s						
LCAR	**Lake Charles**	**5.63**	**101**	IAmb_Lg		23 59 04.1	
	comp=Z,32nm,0.8s						
SCIA	**State Center**	**5.84**	**37**	IAmb_Lg		23 59 19.4	
	comp=Z,41nm,0.8s						
SGCY	**Sterling City**	**6.02**	**206**	IAmb_Lg		23 59 31.7	
	comp=Z,33nm,0.9s						
FVM	**French Village**	**6.02**	**82**	IAmb_Lg		23 59 16.9	
	comp=Z,27nm,0.9s						
PBMO	**Poplar Bluff**	**6.06**	**93**	IAmb_Lg		23 59 31.6	
	comp=Z,37nm,0.8s						
SLM	**Saint Louis**	**6.24**	**76**	IAmb_Lg		23 59 23.1	
	comp=Z,31nm,0.8s						
S44A	**Carbondale**	**6.94**	**85**	IAmb_Lg		23 59 47.7	
	comp=Z,38nm,0.8s						
P43A	**Skaggs, Pawnee**	**7.01**	**68**	IAmb_Lg		23 59 55.2	
	comp=Z,33nm,0.8s						
L40A	**Anamosa**	**7.01**	**46**	IAmb_Lg		23 59 53.2	
	comp=Z,32nm,0.7s						
JCT	**Junction City**	**7.03**	**193**	IAmb_Lg		23 59 58.9	
	comp=Z,28nm,0.8s						
L42A	**Oliver, Polo**	**7.91**	**52**	IAmb_Lg		00 00 23.0	
	comp=Z,25nm,0.9s						

*NEIC **30** 23:59:50.7±2.2, 61°47N±0°03×149°96W±0°04, h27km±10km, Error ellipse: s-maj=4.0km s-min=3.0km az=163.0*

AEIC 30 23:59:50.2±1.6, 61°45N±0°02×150°09W±0°03, h20km±5km, ML3.3, ML3.3/58(NEIC), Error ellipse: s-maj=2.7km s-min=1.2km az=217.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
M22K	**Willow**	**0.30**	**357**		Pb	23 59 58.2	+1.3
M22K				Sg	Sn	00 00 04.6	-0.7
SUA	**Susitna One**	**0.32**	**273**	Pg	Pn	23 59 59.1	-0.7
SUA				Sg	Sn	00 00 06.8	+0.9
RC01	**Rabbit Creek A**	**0.40**	**155**		Pb	23 59 59.6	+1.0
RC01				Sg	Sb	00 00 05.7	+1.5
GHO	**Glory Hole Cre**	**0.64**	**59**		Pb	00 00 02.4	-0.4
KNK	**Knik Glacier**	**0.79**	**92**		Pb	00 00 04.8	-0.4
KNK				IAML		00 00 31.1	
	comp=N,664nm,0.4s						
KNK				IAML		00 00 31.3	
	comp=E,638nm,0.4s						
STLK	**Strandline Lak**	**0.84**	**274**		Pg	00 00 06.5	-0.1
CAPN	**Captain Cook N**	**0.86**	**218**	Pg	Pg	00 00 06.7	-0.2
CAPN				IAML		00 00 36.5	
	comp=E,766nm,0.8s						
CAPN				IAML		00 00 38.2	
	comp=N,776nm,1.2s						
SKT	**Skwentna**	**0.87**	**308**		Pb	00 00 05.9	-0.7
SML	**Sawmill**	**0.91**	**66**		Pb	00 00 06.2	-1.1
SLKM	**Skilak Lake**	**0.95**	**184**	Pn	Pn	00 00 08.2	-0.2
O22K	**Cooper Landing**	**0.99**	**169**		Pg	00 00 09.2	-0.2
O22K					Sg	00 00 22.8	+0.4
PWL	**Port Wells**	**1.04**	**124**		Pb	00 00 08.5	-0.9
SCM	**Sheep Creek Mo**	**1.37**	**73**		Pn	00 00 13.3	-1.0
M20K	**Styx River**	**1.52**	**288**		Pn	00 00 16.5	+0.3
M20K				IAML		00 00 59.8	
	comp=E,385nm,0.7s						
M20K				IAML		00 01 01.0	
	comp=N,446nm,0.9s						
GLI	**Glacier Island**	**1.56**	**110**		Sn	00 00 35.5	-0.9
FID	**Port Fidalgo**	**1.89**	**110**		Pn	00 00 20.6	-0.7
M24K	**Tolsona, Glenn**	**1.97**	**69**	Pn	Pn	00 00 22.6	+0.1
KLU	**Klutina**	**2.00**	**87**		Pn	00 00 22.3	-0.6
HIN	**Hinchinbrook I**	**2.05**	**120**		Pn	00 00 24.7	+1.3
M19K	**Big River Lodg**	**2.10**	**284**		Pn	00 00 24.0	-0.2
M19K				IAML		00 01 18.7	
	comp=E,129nm,0.8s						
M19K				IAML		00 01 29.2	
	comp=N,175nm,0.7s						
KTH	**Kantishna Hill**	**2.15**	**350**		Pn	00 00 24.9	+0.1
CAST	**Castle Rocks**	**2.18**	**336**	Pn	Pn	00 00 25.1	-0.2
CAST				IAML		00 01 32.3	
	comp=E,154nm,1.0s						
L19K	**White Mountain**	**2.38**	**290**		Pn	00 00 27.9	-0.2
L19K				IAML		00 01 35.5	
	comp=N,154nm,1.0s						
N25K	**Chitina, Valde**	**2.63**	**84**	Pn	Pn	00 00 32.7	+1.1
K20K	**Telida**	**2.66**	**318**		Pn	00 00 31.5	-0.5
J20K	**Nowinta River**	**3.31**	**328**	IAML		00 01 43.5	
	comp=N,91nm,0.6s						
J20K				IAML		00 02 09.5	
	comp=E,68nm,0.6s						
J19K	**Poorman**	**3.60**	**317**	IAML		00 02 05.8	
	comp=E,48nm,0.9s						
J19K				IAML		00 02 23.9	
	comp=N,43nm,1.0s						
H21K	**Melozitna Rive**	**4.39**	**345**	IAML		00 02 39.7	
	comp=E,23nm,0.8s						
H21K				IAML		00 02 53.3	
	comp=N,18nm,0.9s						
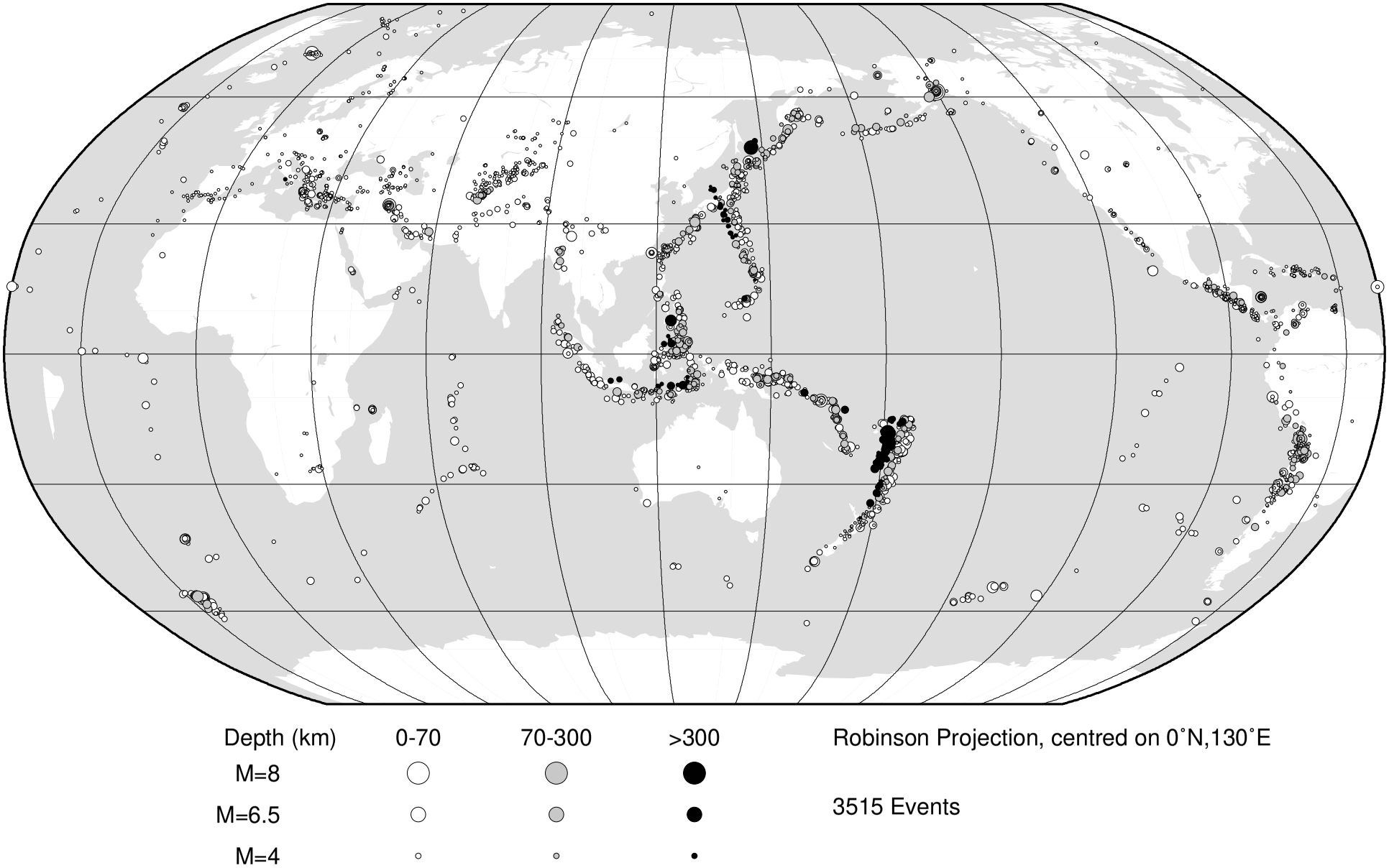
ISC Computed Locations for November 2018